Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°70S×179°55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°76S×179°70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:41.7±1.4,**22°1S**±0°2×**179°3W**±0°2,**h600**km,**n22,**
σ1§55/24,**mb4.4**/9,**1C,South of Fiji Islands**

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*IDC **01** 00:08:22.4±4.3, 3°.10S×103°.50E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=243.6km s-min=21.3km az=52.0*
*DJA **01** 00:08:25.7±0.3, 4°.S±3°×10°.3E±°, h58km±5km, M4.4/11, mb4.5/4, MLv4.3/11*
ISC 01 00:08:24.1±0.9, 3.77S±0°.08×103°.01E±0°.09, h30km, n14, σ2§03/17, mb3.7/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.59**	**185**	**Pn**		**00 08 37.5**	**+1.0**
MNAI				S	**Sb**	**00 08 45.0**	**+0.8**
LWLI	**Liwa**	**1.62**	**140**	P	**Pn**	**00 08 50.8**	**0.0**
KASI	**Kota Agung**	**2.29**	**140**	P	**Pn**	**00 08 59.9**	**+0.1**
KASI				S	**Sn**	**00 09 24.5**	**-2.6**
PPSI	**Pulau Pagai**	**3.15**	**288**	P	**Pn**	**00 09 13.2**	**+1.5**
PPSI				S	**Sn**	**00 09 46.9**	**-1.5**
PDSI	**Padang**	**3.81**	**318**	P	**Pb**	**00 09 26.9**	**-3.8**
SISI	**Saibi**	**4.60**	**302**	P	**Pn**	**00 09 34.1**	**+2.4**
PBSI	**Pulau Batu** 100nm,1.3s	**5.99**	**308**	P	**Pn**	**00 09 53.4**	**+2.6**
GSI	**Gunungsitoli**	**7.41**	**313**	P	**Pn**	**00 10 12.7**	**+2.5**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=301,slow=8.8,SNR=1.9 0.3nm,0.5s	**34.51**	**120**	P	**P**	**00 15 12.2**	**+2.2**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=300,slow=7.7,SNR=9.2 0.4nm,0.5s	**35.79**	**126**	P	**P**	**00 15 23.4**	**+2.4**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=148,slow=7.1,SNR=5.5 0.5nm,0.7s	**53.57**	**342**	P	**P**	**00 17 42.3**	**0.0**
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=150,slow=6.8,SNR=4.5 0.3nm,0.3s	**58.12**	**342**	P	**P**	**00 18 14.2**	**-0.6**
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=166,slow=7.2,SNR=4.3 1.0nm,0.5s	**59.49**	**348**	P	**P**	**00 18 23.8**	**-0.4**
BVAR	**Borovoye Array** 0.4nm,0.4s,baz=138,slow=6.6,SNR=2.5 0.4nm,0.4s	**62.89**	**339**	P	**P**	**00 18 46.4**	**-1.0**

*NEIC **01** 00:34:54.8±1.1, 19°.0N±0°.2×64°.3W±0°.1, h35km±2km, ML2.6/20, Md3.6/4(RSPR), Error ellipse: s-maj=34.9km s-min=15.2km az=153.0*
*RSPR **01** 00:34:57.3, 18°.92N×64°.34W, h44km±16km, MD3.6/4*
ISC 01 00:34:49.2±2.6, 18°.8N±0°.3×64°.19W±0°.06, h3km±14km, n23, σ1§36/29, 7C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.71**	**247**	↑eP	**Pg**	**00 35 22.8**	**+0.8**
HUMP	**Col San Antoni**	**1.71**	**247**	eS	**Sn**	**00 35 42.1**	**-0.2**
HUMP	**Col San Antoni**	**1.71**	**247**		**Pg**	**00 35 22.5**	**+0.5**
HUMP					**Sn**	**00 35 41.9**	**-0.4**
HUMP				IAML		00 35 47.9	
	comp=E,58nm,0.4s						
GCPR	**Guaynabo City**	**1.86**	**254**	Pn	**Pb**	**00 35 23.3**	**-0.6**
SJG	**San Juan**	**1.99**	**250**	Pn	**Pb**	**00 35 25.6**	**-0.5**
SJG				IAML		00 35 55.0	
	comp=E,32nm,0.6s						
EMPR	**Esperanza - Ma**	**2.24**	**262**	↑eP	**Pb**	**00 35 29.1**	**-1.3**
EMPR	**Esperanza - Ma**	**2.24**	**262**		**Pb**	**00 35 28.9**	**-1.4**
CELP	**Cerrillos**	**2.38**	**252**	↑eP	**Pb**	**00 35 31.6**	**-1.2**
CELP	**Cerrillos**	**2.38**	**252**	eS	**Sn**	**00 35 58.6**	**-0.4**
CELP	**Cerrillos**	**2.38**	**252**		**Pb**	**00 35 31.0**	**-1.8**
CELP					**Sn**	**00 35 58.0**	**-0.9**
CELP				IAML		00 36 05.3	
	comp=N,22nm,0.5s						
OBIP	**Obispado Ponce**	**2.42**	**252**	↑eP	**Pb**	**00 35 32.5**	**-0.8**
OBIP	**Obispado Ponce**	**2.42**	**252**	eS	**Sn**	**00 35 59.2**	**-0.6**
OBIP	**Obispado Ponce**	**2.42**	**252**		**Pb**	**00 35 31.5**	**-1.9**
OBIP				Sn	**Sn**	**00 36 00.4**	**+0.6**
OBIP				IAML		00 36 03.2	
	comp=E,33nm,1.1s						
OBIP				IAML		00 36 12.0	
	comp=N,22nm,1.3s						
UUPR	**Utuado, UPR, P**	**2.46**	**257**	↑eP	**Pn**	**00 35 31.9**	**+1.6**
UUPR	**Utuado, UPR, P**	**2.46**	**257**		**Pn**	**00 35 31.6**	**+1.4**
AOPR	**Arecibo Observ**	**2.48**	**259**	eS	**Sn**	**00 36 00.8**	**-0.5**
AOPR	**Arecibo Observ**	**2.48**	**259**	Pn	**Pn**	**00 35 31.8**	**+1.4**
AOPR					**Sn**	**00 35 59.9**	**-1.3**
AOPR				IAML		00 36 22.9	
	comp=N,48nm,0.5s						
AOPR	**Arecibo Observ**	**2.48**	**259**	eP	**Pn**	**00 35 31.3**	**+0.9**
AOPR				eS	**Sn**	**00 36 01.8**	**+0.6**
MLPR	**Magueyes Islan**	**2.84**	**253**	↑eP	**Pb**	**00 35 37.9**	**-2.6**
MLPR	**Magueyes Islan**	**2.84**	**253**		**Pn**	**00 35 37.0**	**+1.6**
MLPR				IAML		00 36 17.3	
	comp=N,16nm,1.1s						
MLPR				IAML		00 36 28.9	
	comp=E,22nm,1.4s						
CRPR	**Cabo Rojo, PR**	**2.89**	**254**	↑eP	**Pb**	**00 35 38.6**	**-2.7**
CRPR	**Cabo Rojo, PR**	**2.89**	**254**		**Pn**	**00 35 38.1**	**+2.1**
CRPR				IAML		00 36 01.3	
	comp=E,18nm,1.4s						
CRPR				IAML		00 36 18.7	
	comp=N,16nm,0.9s						
ANBD	**Bethesda, Anti**	**2.91**	**127**	eP	**Pg**	**00 35 45.0**	**+0.1**
ANBD				eS	**Sn**	**00 36 11.7**	**-0.1**

*IDC **01** 00:35:39.4±1.1, 12°.89N×51°.00E, h0km, mb3.8/13, mbtmp3.8/14, ML3.1/1, MS3.6/24, Error ellipse: s-maj=26.4km s-min=20.6km az=165.0*
*OMAN **01** 00:35:43.1±0.6, 13°.56N×50°.66E, h10km, mb3.8/4, ms3.5/4, Error ellipse: s-maj=10.3km s-min=5.4km az=118.0*
*NEIC **01** 00:35:44.0±1.2, 13°.3N±0°.1×51°.0E±0°.1, h10km±1km, mb4.4/16, Error ellipse: s-maj=22.1km s-min=15.5km az=157.0*
ISC 01 00:35:43.7±0.7, 13°.37N±0°.08×50°.86E±0°.07, h12km, n74, σ1§49/63, mb4.1/18, MS3.5/24, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut** SNR=7.7	**4.61**	**30**	P	**Pn**	**00 36 53.4**	**+0.2**
ABTO				S	**Sn**	**00 37 46.0**	**-0.7**
RBK	**Rabkut** SNR=7.2	**5.22**	**38**	P	**Pn**	**00 37 02.5**	**+0.8**
RBK				S	**Sn**	**00 38 03.4**	**+1.4**
WHFO	**Wadi Hawf** SNR=19	**5.32**	**31**	P	**Pn**	**00 37 03.0**	**0.0**
WHFO				S	**Sn**	**00 38 02.9**	**-1.5**
DMTO	**DMTO** SNR=18	**5.85**	**42**	P	**Pn**	**00 37 11.1**	**+0.9**
DMTO				S	**Sn**	**00 38 18.0**	**+0.8**
DOK	**Doka** SNR=15	**6.09**	**31**	P	**Pn**	**00 37 13.9**	**+0.3**
SHAO	**Shalim**	**6.51**	**44**	P	**Pn**	**00 37 20.2**	**+0.7**
ATD	**Arta Tunnel**	**8.04**	**258**		**Pn**	**00 37 40.4**	**-0.1**
ATD	**Arta Tunnel** 0.2nm,0.3s,baz=96,slow=19,SNR=13	**8.04**	**258**	Pn	**Pn**	**00 37 39.6**	**-0.9**
ATD				LR	LR	00 40 01.1	
	comp=Z,27nm,20.6s,baz=108,slow=32 0.5nm,0.3s						
DQM	**DQM**	**9.14**	**44**	P	**Pn**	**00 37 56.3**	**+0.9**
MZR	**Muzera**	**9.90**	**14**	P	**Pn**	**00 38 05.0**	**-0.9**
MHTO	**MHTO**	**10.17**	**41**	P	**Pn**	**00 38 10.3**	**+0.7**
MHTO				P	**Pn**	**00 38 10.3**	**+0.7**
BSY	**Bisya**	**11.10**	**32**	P	**Pn**	**00 38 21.7**	**-0.7**
BSY				P	**Pn**	**00 38 21.7**	**-0.7**
RAYN	**Ar Rayn**	**11.30**	**334**	Pn	**Pn**	**00 38 24.3**	**-0.9**
TRNA	**Turayna**	**11.31**	**2**	P	**Pn**	**00 38 22.2**	**-3.0**
SMRA	**Abu-Samra**	**11.32**	**360**	P	**Pn**	**00 38 22.9**	**-2.4**
SMDO	**Samad**	**11.81**	**34**	P	**Pn**	**00 38 32.2**	**+0.1**
SMDO				P	**Pn**	**00 38 32.2**	**+0.1**
HOQ	**Hoqain**	**11.86**	**30**	P	**Pn**	**00 38 32.3**	**-0.4**
ASUD	**Al Ashush, Dub**	**11.97**	**20**	P	**Pn**	**00 38 34.6**	**+0.4**
WBK	**Wadi Bani Khal**	**11.99**	**39**	P	**Pn**	**00 38 34.3**	**-0.3**
WSAR	**Wadi Sarin**	**12.27**	**36**	LR	LR	00 43 17.3	
	comp=Z,516nm,18.2s,baz=236,slow=36						
UOSS	**Minazif**	**12.57**	**23**	Pn	**Pn**	**00 38 38.5**	**-4.0**
UOSS	**Minazif**	**12.57**	**23**	P	**Pn**	**00 38 40.7**	**-1.7**
MSEY	**Mahe Island**	**18.50**	**165**	P	**Pn**	**00 40 02.3**	**+2.2**
EIL	**Elat**	**21.92**	**320**	LR	LR	00 48 35.6	
	comp=Z,136nm,19.5s,baz=98,slow=35						
HRA	**Herat**	**23.33**	**24**	P	**P**	**00 40 52.4**	**+0.3**
HRA				IAmb	IAmb	00 41 04.8	
	comp=Z,15nm,1.2s						
MMAI	**Mount Meron Ar** comp=Z,92nm,19.4s,baz=98,slow=36	**24.12**	**327**	LR	LR	00 50 12.1	
MBAR	**Mbarara**	**24.30**	**237**	LR	LR	00 50 19.0	
	comp=Z,12nm,18.9s,baz=60,slow=36						
GEYT	**Alibeck**	**25.30**	**14**		**P**	**00 41 09.6**	**-0.5**
GEYT				IAmb	IAmb	00 41 16.6	
	comp=Z,7.8nm,1.1s						
GEYT	**Alibeck**	**25.30**	**14**	P	**P**	**00 41 12.8**	**+2.6**
	comp=Z,3.6nm,0.8s,baz=206,slow=9.9,SNR=8.7						
GEYT				LR	LR	00 53 13.7	
	comp=Z,444nm,18.6s,baz=182,slow=41 comp=Z,3.6nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**25.30**	**14**	P	**P**	**00 41 09.3**	**-0.8**
GYA0B				IAmb	IAmb	00 41 17.1	
	comp=Z,15nm,1.4s						
GNI	**Garni**	**27.22**	**350**	P	**P**	**00 41 27.7**	**0.0**
GNI				IAmb	IAmb	00 41 43.3	
	comp=Z,14nm,1.2s						
GNI	**Garni**	**27.22**	**350**	LR	LR	00 54 05.1	
	comp=Z,228nm,21.1s,baz=171,slow=40						
PALK	**Pallekele**	**29.95**	**99**	LR	LR	00 51 58.4	
	comp=Z,50nm,18.0s,baz=337,slow=33						
CHGR	**Chuyangaron**	**29.96**	**29**	P	**P**	**00 41 51.0**	**-1.0**
BRTR	**Keskin Array B**	**30.32**	**333**	P	**P**	**00 41 57.8**	**+2.5**
	comp=Z,0.2nm,0.4s,baz=134,slow=10,SNR=2.2						
BRTR				LR	LR	00 54 59.6	
	comp=Z,79nm,18.1s,baz=153,slow=38 comp=Z,0.2nm,0.4s						
KBZ	**Khabaz**	**31.02**	**349**	P	**P**	**00 42 04.3**	**+3.1**
	comp=Z,2.5nm,0.9s,baz=139,slow=4.5,SNR=4.5						
KBZ				LR	LR	00 57 00.9	
	comp=Z,194nm,19.1s,baz=162,slow=41 comp=Z,2.5nm,0.9s						
OPO	**Ambohidratompo**	**31.94**	**187**	LR	LR	00 52 48.1	
	comp=Z,78nm,21.1s,baz=183,slow=33						
KKAR	**Karatay Array**	**34.13**	**26**	P	**P**	**00 42 29.0**	**+0.5**
ABKAR	**Akbulak array**	**36.56**	**10**	P	**P**	**00 42 49.7**	**+0.5**
ABKAR	**Akbulak array**	**36.56**	**10**	P	**P**	**00 42 49.8**	**+0.5**
ABKAR				IAmb	IAmb	00 43 02.2	
	comp=Z,4.0nm,1.2s						
TARG	**Taragay, Kyrgy**	**36.70**	**35**	P	**P**	**00 42 50.0**	**-1.1**
TARG				IAmb	IAmb	00 42 57.8	
	comp=Z,3.7nm,1.0s						
AKTO	**Aktyubinsk**	**37.42**	**8**	LR	LR	01 01 40.7	
	comp=Z,166nm,19.1s,baz=38,slow=41						
MLR	**Muntele Rosu**	**38.36**	**331**	LR	LR	01 00 25.6	
	comp=Z,77nm,18.9s,baz=116,slow=38						
BELG	**Belogornoye**	**39.01**	**357**	LR	LR	01 03 07.0	
	comp=Z,78nm,20.7s,baz=277,slow=42						
AKASG	**Malin Array Be**	**41.19**	**339**	P	**P**	**00 43 29.2**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=148,slow=7.1,SNR=2.1						
AKASG				LR	LR	01 04 00.7	
	comp=Z,41nm,18.3s,baz=58,slow=41 comp=Z,2.1nm,0.6s						
MK31	**Makanchi Array**	**42.48**	**32**	P	**P**	**00 43 38.7**	**0.0**
MKAR	**Makanchi Array**	**42.48**	**32**	P	**P**	**00 43 38.7**	**-0.1**
MKAR	**Makanchi Array**	**42.48**	**32**	P	**P**	**00 43 39.9**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=218,slow=6.8,SNR=3.6						
MKAR				LR	LR	01 03 34.2	
	comp=Z,54nm,20.7s,baz=234,slow=39 comp=Z,0.3nm,0.4s						
BRVK	**Borovoye**	**42.51**	**17**	P	**P**	**00 43 39.3**	**+0.5**
BVAR	**Borovoye Array**	**42.51**	**17**	P	**P**	**00 43 39.3**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=178,slow=4.5,SNR=5.8						
BVAR				PcP	**PcP**	**00 45 32.1**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=212,slow=5.3,SNR=4.5						
BVAR				LR	LR	01 03 55.6	
	comp=Z,100nm,20.1s,baz=203,slow=40 comp=Z,0.9nm,0.5s						
ARU	**Arti**	**43.38**	**6**	LR	LR	01 05 07.8	
	comp=Z,71nm,19.8s,baz=154,slow=40						
KURBB	**Kurchatov Arra**	**43.44**	**25**	P	**P**	**00 43 45.5**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=221,slow=7.5,SNR=4.1 comp=Z,0.5nm,0.7s						
TAM	**Tamanrasset**	**43.96**	**289**	P	**P**	**00 43 52.5**	**+1.3**
TAM				IAmb	IAmb	00 43 55.4	
	comp=Z,3.6nm,1.0s						
KIRV	**Kirov**	**45.15**	**359**	LR	LR	01 06 16.5	
	comp=Z,96nm,18.8s,baz=173,slow=40						
VRAC	**Vranov**	**45.56**	**329**	LR	LR	01 06 30.2	
	comp=Z,28nm,18.7s,baz=124,slow=40						
TSUM	**Tsumeb**	**46.07**	**226**	LR	LR	01 03 51.8	
	comp=Z,105nm,18.2s,baz=41,slow=37						
CMAR	**Chiang Mai Arr**	**46.41**	**77**	P	**P**	**00 44 09.0**	**-1.5**
TOA0	**Torodi Ar. Sit**	**47.79**	**276**	P	**P**	**00 44 22.6**	**+1.2**
TORD	**Torodi Ar. Bea**	**47.79**	**276**	P	**P**	**00 44 22.5**	**+1.1**
TORD				IAmb	IAmb	00 44 27.1	
	comp=Z,3.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**47.79**	**276**	P	**P**	**00 44 20.2**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=80,slow=7.7,SNR=11 comp=Z,1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**48.51**	**26**	P	**P**	**00 44 26.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=243,slow=9.8,SNR=3.6 comp=Z,0.4nm,0.3s						
BOSA	**Boshof**	**48.53**	**210**	LR	LR	01 04 14.6	
	comp=Z,63nm,18.6s,baz=28,slow=36						
FINES	**FINESS Array B**	**51.24**	**345**	LR	LR	01 10 26.1	
	comp=Z,40nm,18.6s,baz=139,slow=40						
SUR	**Sutherland**	**53.82**	**212**	LR	LR	01 07 08.9	
	comp=Z,57nm,19.7s,baz=351,slow=35						
ESDC	**Sonseca Array**	**54.63**	**309**	P	**P**	**00 45 13.7**	**+1.2**
ESDC				IAmb	IAmb	00 45 26.0	
	comp=Z,5.0nm,1.4s						
ESDC	**Sonseca Array**	**54.63**	**309**	P	**P**	**00 45 12.4**	**-0.1**
	comp=Z,1.9nm,1.1s,baz=80,slow=5.8,SNR=11 comp=Z,1.9nm,1.1s						
NOA	**NORSAR Array B**	**55.57**	**338**	LR	LR	01 12 44.5	
	comp=Z,37nm,18.5s,baz=195,slow=40						
SONM	**Songino Array**	**57.26**	**41**	P	**P**	**00 45 31.1**	**-0.1**
SONM	**Songino Array**	**57.26**	**41**	P	**P**	**00 45 30.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=243,slow=6.3,SNR=1.2 comp=Z,0.2nm,0.3s						
ARCES	**ARCESS Array B**	**58.37**	**350**	LR	LR	01 13 48.9	
	comp=Z,96nm,19.8s,baz=116,slow=39						
WRA	**Warramunga Arr**	**88.50**	**111**	P	**P**	**00 48 33.6**	**-3.1**
	comp=Z,1.9nm,1.0s,baz=292,slow=3.9,SNR=6.9 comp=Z,1.9nm,1.0s						
ASAR	**Alice Springs**	**89.06**	**114**	P	**P**	**00 48 37.3**	**-2.1**
ASAR	**Alice Springs**	**89.06**	**114**	P	**P**	**00 48 35.6**	**-3.7**
	comp=Z,0.2nm,0.7s,baz=282,slow=4.6,SNR=2.4 comp=Z,0.2nm,0.7s						
NVAR	**Mina Array Bea**	**127.49**	**349**	PKP	**PKPdf**	**00 54 46.1**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=54,slow=1.6,SNR=1.1						

*NEIC **01** 00:41:57.6±0.9, 18°.98N±0°.09×64°.4W±0°.1, h35km±2km, ML2.6/24, Md3.6/3(RSPR), Error ellipse: s-maj=18.2km s-min=13.2km az=120.0*
RSPR 01 00:41:58.5, 19°.23N×64°.47W, h46km±22km, MD3.6/3, 8C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.70**	**231**	↑eP	Pn	00 42 24.2	-1.5
HUMP	**Col San Antoni**	**1.70**	**231**	eS	Sn	00 42 45.2	-1.0
HUMP	**Col San Antoni**	**1.70**	**231**		Pn	00 42 24.1	-1.6
HUMP					Sn	00 42 43.4	-2.8
HUMP				IAML		00 42 50.5	
	comp=E,49nm,0.1s						
HUMP				IAML		00 42 51.2	
	comp=N,50nm,0.4s						
GCPR	**Guaynabo City**	**1.78**	**239**	↑eP	Pn	00 42 25.5	-1.3
GCPR	**Guaynabo City**	**1.78**	**239**		Pn	00 42 25.0	-1.8
SJG	**San Juan**	**1.94**	**235**	Pn	Pn	00 42 27.3	-1.8
SJG				IAML		00 43 02.7	
	comp=N,32nm,0.4s						
EMPR	**Esperanza - Ma**	**2.09**	**249**	↑eP	Pn	00 42 30.8	-0.3
EMPR	**Esperanza - Ma**	**2.09**	**249**	eS	Sn	00 42 54.6	-1.3
EMPR	**Esperanza - Ma**	**2.09**	**249**		Pn	00 42 30.6	-0.5
EMPR					Sn	00 42 57.1	+1.2
CELP	**Cerrillos**	**2.31**	**241**	↑eP	Pn	00 42 32.8	-1.3
CELP	**Cerrillos**	**2.31**	**241**	eS	Sn	00 43 00.7	-0.5
CELP	**Cerrillos**	**2.31**	**241**		Pn	00 42 32.8	-1.3
CELP					Sn	00 42 59.3	-1.9
AOPR	**Arecibo Observ**	**2.33**	**248**	↑eP	Pn	00 42 34.0	-0.5
AOPR	**Arecibo Observ**	**2.33**	**248**	eS	Sn	00 43 01.6	-0.3
AOPR	**Arecibo Observ**	**2.33**	**248**		Pn	00 42 33.3	-1.2
AOPR					Sn	00 43 01.3	-0.6
AOPR				IAML		00 43 16.1	
	comp=N,53nm,0.5s						
UUPR	**Utuado, UPR, P**	**2.34**	**246**	↓eP	Pn	00 42 33.7	-0.8
UUPR	**Utuado, UPR, P**	**2.34**	**246**	eS	Sn	00 43 01.2	-0.9
UUPR	**Utuado, UPR, P**	**2.34**	**246**		Pn	00 42 33.3	-1.2
OBIP	**Obispado Ponce**	**2.34**	**240**	↑eP	Pn	00 42 33.6	-0.9
OBIP	**Obispado Ponce**	**2.34**	**240**		Pn	00 42 33.6	-0.9
OBIP				IAML		00 43 08.7	
	comp=E,25nm,0.6s						
AGPR	**Aguadilla, PR**	**2.61**	**254**	Pn	Pn	00 42 36.8	-1.5
AGPR				IAML		00 44 13.4	
	comp=E,52nm,1.2s						
PRSN	**Puerto Rico Se**	**2.73**	**249**	Pn	Pn	00 42 40.2	+0.3
PRSN				IAML		00 43 24.4	
	comp=E,39nm,0.4s						
PRSN				IAML		00 43 26.4	
	comp=N,30nm,0.3s						
MLPR	**Magueyes Islan**	**2.74**	**243**	↑eP	Pn	00 42 39.5	-0.5
MLPR	**Magueyes Islan**	**2.74**	**243**		Pn	00 42 38.9	-1.1
MLPR				IAML		00 43 16.0	
	comp=E,19nm,1.5s						
MLPR				IAML		00 43 49.7	
	comp=N,18nm,1.5s						
CRPR	**Cabo Rojo, PR**	**2.78**	**245**	↑eP	Pn	00 42 40.3	-0.3
CRPR	**Cabo Rojo, PR**	**2.78**	**245**	eS	Sn	00 43 12.1	-0.9
CRPR	**Cabo Rojo, PR**	**2.78**	**245**		Pn	00 42 40.0	-0.5
CRPR				IAML		00 43 21.9	
	comp=E,16nm,1.0s						
CRPR				IAML		00 44 30.9	
	comp=N,15nm,1.4s						
SDDR	**Presa de Saban**	**6.45**	**269**	Pn	Pn	00 43 31.2	+0.2

*NEIC **01** 00:50:18.1±0.5, 19°.401N±0°.009×155°.266W±0°.009, h1km±10km, ML3.1/23, Error ellipse: s-maj=1.7km s-min=0.9km az=136.0*
*IDC **01** 00:50:18.4±20.0, 19°.38N×155°.07W, h0km, mb3.4/3, mbtmp3.4/3, MS4.1/2, Error ellipse: s-maj=420.7km s-min=60.8km az=36.0*
ISC 01 00:50:18.5±1.0, 19°.41N±0°.05×155°.26W±0°.04, h10km, n18, σ1§48/17, mb3.5/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**270**		**Pg**	**00 50 17.7**	**-2.8**
HATHI	**Halema'uma'u T**	**0.01**	**332**		**Pg**	**00 50 18.7**	**-1.7**
UWE	**Uwekahuna**	**0.04**	**284**		**Pg**	**00 50 18.3**	**-2.3**
UWE				IAML		00 50 19.7	
	comp=E,23μm,0.4s						
PUH	**Pauahi**	**0.05**	**136**		**Pg**	**00 50 19.0**	**-1.7**
PUH				IAML		00 50 19.9	
	comp=E,12μm,1.1s						
PUH				IAML		00 50 20.1	
	comp=N,21μm,1.4s						
RSD	**Rainshed**	**0.06**	**337**	Pg	**Pg**	**00 50 19.1**	**-1.7**
RSD				IAML		00 50 20.4	
	comp=N,14μm,0.9s						
KNHH	**Kane Nui o Ham**	**0.09**	**112**	Pg	**Pg**	**00 50 20.0**	**-1.1**
STCH	**Steam Cracks**	**0.12**	**102**	Pg	**Pg**	**00 50 20.6**	**-0.9**
STCH				IAML		00 50 24.7	
	comp=E,9μm,0.6s						
STCH				IAML		00 50 24.8	
	comp=N,14μm,0.8s						
HLP	**Hilina Pali**	**0.13**	**204**	Pg	**Pg**	**00 50 20.6**	**-1.0**
MLH	**Mauna Loa**	**0.15**	**303**	Pg	**Pg**	**00 50 21.4**	**-0.7**
MLH				IAML		00 50 22.9	
	comp=N,5μm,0.8s						
MLH				IAML		00 50 24.9	
	comp=E,7μm,1.0s						
JOKA	**Jonika Flow**	**0.24**	**85**	Pg	**Pg**	**00 50 22.4**	**-1.1**
KHU	**Kahuku**	**0.38**	**244**	Pg	**Pg**	**00 50 25.1**	**-0.9**
KHU				IAML		00 50 30.1	
	comp=E,4μm,1.2s						
KHU				IAML		00 50 33.6	
	comp=N,4μm,1.1s						
HPO	**Honuapo**	**0.43**	**221**	Pg	**Pg**	**00 50 26.1**	**-0.8**
HUH	**Hualalai**	**0.61**	**296**	Pg	**Pg**	**00 50 30.0**	**-0.5**
HUH				Sg	**Sg**	**00 50 37.9**	**-0.6**
ELK	**Elko**	**40.18**	**49**	LR	LR	01 13 25.4	
	comp=N,143nm,18.9s,baz=214,slow=35						
PDAR	**Pinedale Array**	**44.85**	**48**	P	**P**	**00 58 33.7**	**+0.5**
	comp=N,0.2nm,0.4s,baz=237,slow=11,SNR=2.9 comp=N,0.2nm,0.4s						
ILAR	**Eielson Array**	**45.68**	**5**	P	**P**	**00 58 40.8**	**+1.5**
	comp=N,0.5nm,0.8s,baz=197,slow=9.1,SNR=4.4 comp=N,0.5nm,0.8s						
TXAR	**Lajitas Array**	**47.70**	**68**	P	**P**	**00 58 55.9**	**+0.2**
	comp=N,0.8nm,0.9s,baz=269,slow=5.6,SNR=7.4 comp=N,0.8nm,0.9s						
GUMO	**Guam**	**57.47**	**274**	LR	LR	01 20 54.6	
	comp=N,289nm,21.8s,baz=82,slow=32						

*NEIC **01** 00:51:12.9, 19°.61N×155°.28W, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-9.32; $M_{\theta\theta}$2.97; $M_{\phi\phi}$6.35; $M_{r\theta}$-2.11; $M_{\theta\phi}$3.83; $M_{\phi r}$2.24; Fault plane solution: $M_0$9.53000×10^{16} NP1: ϕ_s197.76000°, δ49.41000°, λ-110.74000°. NP2: ϕ_s47.95000°, δ44.75000°, λ-67.55000°. Principal axes: T 8.8757, Plg2.0000°, Azm302.0000°; N 1.3093, Plg16.0000°, Azm212.0000°; P -10.1850, Plg74.0000°, Azm41.0000°;*
*NEIC **01** 00:51:12.9, 19°.41N×155°.28W, h12km*
*HVO **01** 00:51:12.9±0.9, 19°.410N±0°.004×155°.282W±0°.004, h-1km, ML4.0/39, mb4.7/38(NEIC), ML3.8/40(NEIC), Mww5.3/18(NEIC), Error ellipse: s-maj=0.7km s-min=0.6km az=191.0*
*NEIC **01** 00:51:13.1±0.8, 19°.415N±0°.004×155°.298W±0°.008, h4km±1km, Error ellipse: s-maj=1.0km s-min=0.6km az=78.0*
*IDC **01** 00:51:15.8±1.4, 19°.83N×155°.35W, h0km, mb3.9/12, mbtmp3.9/12, MS4.5/46, Error ellipse: s-maj=42.2km s-min=22.6km az=166.0*
*BJI **01** 00:51:16.1±0.0, 19°.36N×155°.95W, h8km, mb5.0/9, mB5.6/19, Ms5.1/23, Ms7 4.9/24*
**ISC 01 00:51:13.6±0.9, 19°.43N±0°.03×155°.28W±0°.03, h3km±4km, n136, σ1§75/93, mb4.7/35, MS4.6/57

PAH	Pahoa	0.32	79	Pg	Pg	00 51 19.9	+0.1
POHA	Pohakuloa	0.40	324	Pg	Pg	00 51 21.6	+0.3
HPO	Honuapo	0.42	217		Pg	00 51 21.7	0.0
HUH	Hualalai	0.58	296	Pg	Pg	00 51 25.1	+0.4
I59US	HAWAII INFRASO	0.60	286	Pg	Pg	00 51 25.0	-0.1
	baz=113,slow=28						
I59US				I	I	00 54 33.3	
	comp=E,0.1nm,0.9s,baz=108,slow=316,SNR=2.3						
HPAH	Hawaii Prepara	0.71	327	Pg	Pg	00 51 25.9	-1.3
XMAS	Kiritimati	17.41	187		Pn	00 55 18.3	+0.7
H11N3	WAKE ISLAND Hy	35.58	277	T	T	01 35 22.0	
	baz=84,slow=73,SNR=29						
H11N2	WAKE ISLAND Hy	35.59	277	T	T	01 35 20.7	
	baz=84,slow=73,SNR=30						
H11N1	WAKE ISLAND Hy	35.59	277	T	T	01 35 22.0	
	baz=84,slow=73,SNR=18						
H11S2	WAKE ISLAND Hy	35.91	275	T	T	01 35 47.4	
	baz=83,slow=74,SNR=9.1						
H11S1	WAKE ISLAND Hy	35.92	275	T	T	01 35 48.2	
	baz=83,slow=74,SNR=5.4						
H11S3	WAKE ISLAND Hy	35.93	275	T	T	01 35 49.1	
	baz=83,slow=74,SNR=5.6						
ISA	Isabella, Lake	36.17	56	P	P	00 58 16.6	-1.0
ISA				IAmb	IAmb	00 58 33.4	
	comp=Z,38nm,1.9s						
WAKR	Walker	36.37	51	P	P	00 58 19.4	0.0
WAKR				IAmb	IAmb	00 58 26.4	
	comp=Z,23nm,1.6s						
CCAC	Calif City Air	36.39	57	P	P	00 58 19.8	+0.4
DSP	Deep Springs	37.08	53	P	P	00 58 23.9	-1.2
DSP				IAmb	IAmb	00 58 41.6	
	comp=Z,35nm,1.9s						
J05D	Fort Rock, OR	37.16	43	P	P	00 58 24.2	-1.8
J05D				IAmb	IAmb	00 58 57.1	
	comp=Z,28nm,1.8s						
NVAR	Mina Array Bea	37.17	51	P	P	00 58 24.1	-2.1
NVAR	Mina Array Bea	37.17	51	P	P	00 58 27.9	+1.6
	comp=Z,0.4nm,0.6s,baz=241,slow=11,SNR=2.5						
	comp=Z,0.4nm,0.6s						
PPT	Papeete	37.19	171	LR	LR	01 09 59.9	
	comp=Z,1μm,19.4s,baz=343,slow=30						
PPT2	Papeete2	37.21	171	*e*P	P	00 58 24.0	-2.5
	comp=Z,90nm,23.5s						
PPT2				*e*S	S	01 04 15.3	+1.0
	comp=Z,380nm,25.0s						
PPT2				*e*LR	LR	01 08 24.2	
	comp=Z,3μm,27.0s						
PPT2				*e*LR	LR	01 08 24.5	
	comp=Z,3μm,25.2s						
PMD	Palm Desert	37.35	60	P	P	00 58 25.6	-1.9
PMD				IAmb	IAmb	00 58 59.5	
	comp=Z,31nm,2.0s						
GSC	Goldstone, Bar	37.39	57	P	P	00 58 25.8	-2.1
GMN	Gold Mountain	37.59	54	P	P	00 58 29.6	-0.3
H02S1	DAWSON INLET T	38.05	22	T	T	01 38 36.3	
KDAK	Kodiak Island	38.35	2	LR	LR	01 10 43.6	
	comp=Z,985nm,21.6s,baz=207,slow=31						
WVOR	Wild Horse Val	38.48	45	P	P	00 58 36.5	-0.6
WVOR				IAmb	IAmb	00 58 53.6	
	comp=Z,25nm,1.9s						
SYI	Shuyak Island	39.19	2	P	P	00 58 42.4	-0.3
SYI				IAmb	IAmb	00 58 50.0	
	comp=Z,60nm,1.9s						
RAR	Rarotonga	40.63	186	LR	LR	01 12 00.1	
	comp=Z,677nm,19.3s,baz=3.0,slow=30						
SHEM	Shemya Is, Ala	40.85	332	LR	LR	01 12 29.8	
	comp=Z,972nm,21.5s,baz=134,slow=32						
L19K	White Mountain	42.71	0	P	P	00 59 09.8	-1.9
TBI	Tubuai	42.90	172	*e*P	P	00 59 01.8	-12
TBI	comp=Z,927nm,42.2s						
TBI				*e*S	S	01 05 39.7	+0.6
	comp=Z,1μm,24.5s						
TBI				*e*LR	LR	01 10 59.6	
	comp=Z,12μm,28.8s						
TBI				*e*LR	LR	01 11 02.1	
	comp=Z,2μm,28.0s						
DHY	Denali Highway	43.95	5	P	P	00 59 20.1	-1.8
DHY				IAmb	IAmb	00 59 32.8	
	comp=Z,12nm,1.2s						
RND	Reindeer	44.16	4	P	P	00 59 22.4	-1.1
KTH	Kantishna Hill	44.19	3	P	P	00 59 23.1	-0.6
MENT	Mentasta	44.20	8	P	P	00 59 23.9	+0.2
MENT				IAmb	IAmb	01 00 39.5	
	comp=Z,25nm,1.9s						
SNOW	Snow King Moun	44.23	47	P	P	00 59 24.8	+0.2
SNOW				IAmb	IAmb	00 59 40.9	
	comp=Z,31nm,1.6s						
BPAW	Bear Paw Mtn.	44.73	3	IAmb	IAmb	00 59 35.2	
	comp=Z,15nm,1.4s						
PDAR	Pinedale Array	44.86	48	P	P	00 59 29.1	-0.4
	comp=Z,0.6nm,0.9s,baz=283,slow=5.2,SNR=3.3						
	comp=Z,0.6nm,0.9s						
CCB	Clear Creek Bu	45.47	5	IAmb	IAmb	00 59 44.1	
	comp=Z,12nm,1.2s						
J25K	Salcha River,	45.64	6	IAmb	IAmb	00 59 41.2	
	comp=Z,9.2nm,1.1s						
ILAR	Eielson Array	45.66	5	P	P	00 59 33.9	-1.4
ILAR	Eielson Array	45.66	5	P	P	00 59 34.9	-0.4
	comp=Z,1.1nm,0.9s,baz=190,slow=8.1,SNR=9.8						
ILAR				PcP	PcP	01 01 15.7	+2.3
	comp=Z,0.3nm,0.8s,baz=205,slow=4.0,SNR=1.7						
	comp=Z,1.1nm,0.9s						
MLY	Manley	45.67	3	P	P	00 59 34.0	-1.4
I23K	Minto, Yukon-K	45.86	3	IAmb	IAmb	00 59 48.6	
	comp=Z,18nm,1.6s						
PRP	Porcupine Dome	46.51	6	P	P	00 59 40.6	-1.6
PRP				IAmb	IAmb	00 59 50.0	
	comp=Z,9.9nm,1.2s						
G23K	Bananza Creek	47.38	3	IAmb	IAmb	00 59 58.1	
	comp=Z,16nm,1.9s						
TXAR	Lajitas Array	47.71	68	P	P	00 59 53.5	+1.5
	comp=Z,4.2nm,1.1s,baz=252,slow=5.8,SNR=28						
	comp=Z,4.2nm,1.1s						
BMAR	Burnt Mountain	48.47	5	P	P	00 59 56.0	-1.2
G29M	Pine Creek	48.75	9	P	P	00 59 57.7	-1.7
PETK	Petropavlovsk-	49.33	324	P	P	01 00 03.6	-0.4
	comp=Z,2.5nm,1.1s,baz=99,slow=17,SNR=2.3						
PETK				LR	LR	01 18 06.6	
	comp=Z,840nm,20.3s,baz=111,slow=33						
	comp=Z,2.5nm,1.1s						
G31M	Satah River	49.37	11	IAmb	IAmb	01 00 10.9	
	comp=Z,8.6nm,0.9s						
F31M	Tsiigehtchic	49.93	11	IAmb	IAmb	01 00 18.7	
	comp=Z,20nm,1.2s						
INK	Inuvik	50.74	10	IAmb	IAmb	01 00 23.0	
	comp=Z,8.4nm,1.0s						
INK	Inuvik	50.74	10	LR	LR	01 19 51.4	
	comp=Z,492nm,18.8s,baz=184,slow=34						
YKA	Yellowknife Ar	51.30	23	P	P	01 00 18.1	-0.6
	comp=Z,0.8nm,1.0s,baz=190,slow=7.6,SNR=3.8						
	comp=Z,0.8nm,1.0s						
ECSD	EROS Data Cent	54.30	50	P	P	01 00 40.1	-1.2
ECSD				IAmb	IAmb	01 00 49.5	
	comp=Z,6.9nm,1.1s						
MA2	Magadan	55.44	330	LR	LR	01 20 17.2	
	comp=Z,873nm,21.9s,baz=116,slow=32						
DZM	Mont Dzumac	55.69	224	*e*S	S	01 08 37.0	-2.0
	comp=Z,236nm,24.5s						
DZM				*e*SS	SS	01 12 30.2	+5.5
	comp=Z,256nm,29.9s						
DZM				*e*LR	LR	01 16 57.4	
	comp=Z,338nm,26.4s						
ULM	Lac du Bonnet	55.81	42	P	P	01 00 54.1	+2.0
	comp=Z,2.8nm,0.8s,baz=296,slow=13,SNR=2.7						
	comp=Z,2.8nm,0.8s						
SEY	Seymchan	56.09	334	LR	LR	01 20 18.1	
	comp=Z,504nm,21.2s,baz=146,slow=31						
ASAJ	Asahikawa	56.82	310	LR	LR	01 20 06.9	
	comp=Z,1μm,21.8s,baz=126,slow=31						
MJAR	Matsushiro Arr	60.06	302	P	P	01 01 22.4	+0.1
	comp=Z,0.3nm,0.4s,baz=83,slow=18,SNR=0.8						
	comp=Z,0.3nm,0.4s						
RES	Resolute Bay	63.72	15	LR	LR	01 25 32.3	
	comp=Z,446nm,21.7s,baz=220,slow=32						
RPN	Rapa Nui	64.23	135	LR	LR	01 22 28.2	
	comp=Z,522nm,21.2s,baz=317,slow=29						
USRK	Ussuriysk Ar.	64.45	310	LR	LR	01 25 00.6	
	comp=Z,570nm,20.9s,baz=82,slow=32						
KLR	Kul'dur	64.47	316	LR	LR	01 25 12.6	
	comp=Z,382nm,20.8s,baz=118,slow=32						
YAK	Yakutsk	66.01	330	LR	LR	01 26 54.8	
	comp=Z,876nm,21.9s,baz=96,slow=33						
JNU	Nakatsue	66.40	298	LR	LR	01 30 23.8	
	comp=Z,328nm,18.2s,baz=91,slow=36						
SADO	Sadowa	66.85	49	LR	LR	01 30 53.4	
	comp=Z,50nm,19.4s,baz=286,slow=36						
TIXI	Tiksi	67.25	341	LR	LR	01 31 04.5	
	comp=Z,329nm,19.5s,baz=140,slow=36						
JTS	Las Juntas de	68.20	86	LR	LR	01 24 41.4	
	comp=Z,322nm,21.0s,baz=293,slow=29						
DL2	Dalian	72.81	306	P	P	01 02 48.0	+4.2
DL2				pmax	pmax		
	comp=Z,24nm,1.3s						
DL2				pmax	pmax		
	comp=Z,640nm,5.9s						
DL2				LR	LR		
	comp=Z,300nm,17.2s						
DL2				LR	LR		
	comp=Z,250nm,26.6s						
DL2				LR	LR		
	comp=Z,940nm,29.2s						
DAV	Davao City (W)	77.47	273	LR	LR	01 31 22.8	
	comp=Z,236nm,21.6s,baz=78,slow=31						
SFJD	Kangerlussuaq	77.87	23	LR	LR	01 33 33.8	
	comp=Z,322nm,21.5s,baz=283,slow=33						
HNS	HongShan	78.47	306	‖P	P	01 03 21.0	+4.7
HNS				PP	PP	01 06 18.5	+5.1
HNS				pmax	pmax		
	comp=Z,490nm,5.7s						
HNS				LR	LR		
	comp=Z,210nm,18.3s						
HNS				LR	LR		
	comp=Z,280nm,19.9s						
HNS				LR	LR		
	comp=Z,450nm,24.5s						
QZH	Quanzhou	78.66	293	*e*P	P	01 03 14.2	-3.3
QZH				S	S	01 13 14.3	-1.6
QZH				LR	LR		
	comp=Z,410nm,20.6s						
QZH				LR	LR		
	comp=Z,430nm,19.7s						
QZH				LR	LR		
	comp=Z,380nm,22.3s						
STKA	Stephens Creek	79.09	231	LR	LR	01 32 46.7	
	comp=Z,164nm,21.5s,baz=26,slow=31						
WRA	Warramunga Arr	79.28	244	LR	LR	01 33 20.7	
	comp=Z,296nm,21.8s,baz=46,slow=32						
HHC	Hu-ho-hao-te	79.86	310	*e*P	P	01 03 21.4	-2.6
HHC				PP	PP	01 06 24.9	-0.1
HHC				S	S	01 13 24.1	-4.2
HHC				SS	SS	01 18 37.3	+0.3
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,320nm,5.5s						
HHC				LR	LR		
	comp=Z,180nm,16.0s						
HHC				LR	LR		
	comp=Z,380nm,17.6s						
HHC				LR	LR		
	comp=Z,450nm,16.8s						
ROSC	El Rosal	79.90	88	LR	LR	01 29 56.1	
	comp=Z,165nm,20.7s,baz=260,slow=29						
ATAH	Atahualpa	80.12	101	LR	LR	01 32 19.3	
	comp=Z,263nm,18.4s,baz=285,slow=31						
NRIK	Noril'sk	81.01	341	P	P	01 03 30.7	+1.3
	comp=Z,2.1nm,0.8s,baz=155,slow=5.3,SNR=1.6						
NRIK				LR	LR	01 37 46.6	
	comp=Z,284nm,21.7s,baz=22,slow=35						
	comp=Z,2.1nm,0.8s						
LYN	LuoYang	81.02	303	P	P	01 03 32.9	+2.7
LYN				PP	PP	01 06 38.4	+3.7
LYN				S	S	01 13 40.1	-0.4
LYN				pmax	pmax		
	comp=Z,600nm,8.2s						
LYN				LR	LR		
	comp=Z,200nm,13.1s						
LYN				LR	LR		
	comp=Z,560nm,20.3s						
LYN				LR	LR		
	comp=Z,820nm,21.0s						
ASAR	Alice Springs	81.23	241	P	P	01 03 34.9	+3.4
	comp=Z,0.5nm,0.7s,baz=51,slow=6.6,SNR=4.4						
ASAR				LR	LR	01 38 51.3	
	comp=Z,150nm,18.5s,baz=50,slow=35						
	comp=Z,0.5nm,0.7s						
SONM	Songino Array	81.24	318	P	P	01 03 32.2	+0.9
	comp=Z,0.3nm,0.4s,baz=106,slow=1.4,SNR=2.1						
SONM				LR	LR	01 37 30.6	
	comp=Z,422nm,20.7s,baz=61,slow=34						
	comp=Z,0.3nm,0.4s						
SDV	Santo Domingo	82.09	83	LR	LR	01 34 44.0	
	comp=Z,150nm,21.8s,baz=241,slow=32						
SPITS	Spitsbergen Ar	82.47	2	LR	LR	01 36 22.7	
	comp=Z,188nm,21.2s,baz=324,slow=33						
NNA	Nana	83.29	105	LR	LR	01 31 39.5	
	comp=Z,319nm,21.5s,baz=304,slow=29						
KAPI	Kappang	86.92	264	LR	LR	01 39 07.5	
	comp=Z,84nm,19.8s,baz=84,slow=33						
JMIC	Jan Mayen	86.92	10	LR	LR	01 39 42.4	
	comp=Z,134nm,21.6s,baz=238,slow=34						
LZH	Lanzhou	87.15	307	P	P	01 04 02.8	+1.2
LZH				S	S	01 14 41.5	-0.9
LZH				pmax	pmax		
	comp=Z,440nm,9.3s						
LZH				LR	LR		
	comp=Z,270nm,18.5s						
LZH				LR	LR		
	comp=Z,320nm,20.3s						
LZH				LR	LR		
	comp=Z,600nm,22.0s						
QIZ	Qiongzhong	88.20	289	P	P	01 04 08.9	+2.1
QIZ				PP	PP	01 07 33.8	+0.1
QIZ				SS	SS	01 20 39.0	-2.2
QIZ				pmax	pmax		
	comp=Z,340nm,7.3s						
QIZ				LR	LR		
	comp=Z,240nm,17.8s						
QIZ				LR	LR		
	comp=Z,150nm,12.3s						
QIZ				LR	LR		
	comp=Z,270nm,19.8s						
GTA	Gaotai	88.79	312	*e*P	P	01 04 15.9	+6.5
GTA				pmax	pmax		
	comp=Z,320nm,7.0s						
GTA				LR	LR		
	comp=Z,260nm,20.0s						
GTA				LR	LR		
	comp=Z,240nm,23.3s						
GTA				LR	LR		
	comp=Z,500nm,22.2s						
BORG	Borgarnes	88.98	18	LR	LR	01 40 44.4	
	comp=Z,107nm,21.9s,baz=324,slow=34						
CD2	Chengdu	89.15	302	P	P	01 04 09.0	-2.1
CD2				pmax	pmax		
	comp=Z,250nm,7.2s						
CD2				LR	LR		
	comp=Z,350nm,19.8s						
CD2				LR	LR		
	comp=Z,440nm,22.6s						
CD2				LR	LR		
	comp=Z,350nm,25.7s						
ZALV	Zalesovo Beam	90.65	329	P	P	01 04 16.6	-1.0
ZALV	Zalesovo Beam	90.65	329	LR	LR	01 43 00.0	
	comp=Z,489nm,20.5s,baz=62,slow=34						
ARCES	ARCESS Array B	91.28	360	P	P	01 04 20.0	-0.2
	comp=Z,3.0nm,0.8s,baz=343,slow=5.8,SNR=1.7						
ARCES				LR	LR	01 41 07.3	
	comp=Z,170nm,21.9s,baz=357,slow=33						
	comp=Z,3.0nm,0.8s						
PZH	PanZhiHua	92.47	299	P	P	01 04 25.4	-1.3
PZH				SKS	SKSac	01 15 02.9	+1.1
PZH				S	S	01 15 28.2	-3.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,180nm,6.3s						
PZH				LR	LR		
	comp=Z,130nm,19.6s						
PZH				LR	LR		
	comp=Z,220nm,20.0s						
PZH				LR	LR		
	comp=Z,370nm,21.6s						
LPAZ	La Paz	92.70	106	LR	LR	01 38 22.3	
	comp=Z,177nm,21.6s,baz=290,slow=30						
LVC	Limon Verde	94.09	112	LR	LR	01 37 59.1	
	comp=Z,370nm,19.6s,baz=285,slow=30						
WMQ	Urumqi	94.71	320	*e*P	P	01 04 35.6	-1.1
WMQ				LR	LR		
	comp=Z,510nm,16.5s						
WMQ				LR	LR		
	comp=Z,240nm,21.7s						
WMQ				LR	LR		
	comp=Z,410nm,24.2s						
KURBB	Kurchatov Arra	95.74	329	LR	LR	01 45 41.2	
	comp=Z,470nm,21.8s,baz=87,slow=34						
MKAR	Makanchi Array	96.17	324	LR	LR	01 45 25.7	
	comp=Z,346nm,21.8s,baz=64,slow=34						
BVAR	Borovoye Array	97.75	334	LR	LR	01 49 29.5	
	comp=Z,165nm,20.1s,baz=50,slow=36						
NWAO	Narrogin (SRO)	98.28	238	LR	LR	01 42 37.6	
	comp=Z,78nm,21.0s,baz=125,slow=31						
SIV	San Ignacio	99.04	104	LR	LR	01 43 03.3	
	comp=Z,379nm,19.7s,baz=294,slow=31						
NOA	NORSAR Array B	99.08	7	LR	LR	01 47 05.8	
	comp=Z,125nm,20.9s,baz=325,slow=34						
ARU	Arti	99.23	342	LR	LR	01 50 20.9	
	comp=Z,427nm,21.4s,baz=44,slow=36						
KIRV	Kirov	99.64	347	LR	LR	01 52 40.1	
	comp=Z,288nm,19.7s,baz=27,slow=37						
HFS	Hagfors	100.22	6	LR	LR	01 47 14.7	
	comp=Z,180nm,22.0s,baz=1.0,slow=34						

*IDC **01** 01:20:12.6±0.6, 8.°14S×75.°65W, h0km, mb4.0/13, mbtmp4.0/18, ML3.6/5, MS3.6/5, Error ellipse: s-maj=20.4km s-min=12.3km az=37.0*

*NEIC **01** 01:20:19.4±1.9, 8.°30S±0.°07×75.°82W±0.°07, h39km±8km, mb4.6/41, Error ellipse: s-maj=11.0km s-min=8.7km az=219.0*

*VAO **01** 01:20:20.8±0.5, 8.°27S×75.°63W, h56km±4km, mb4.7*

ISC 01 01:20:17.9±0.6, 8.°28S±0.°05×75.°73W±0.°05, h33km±2km, h33km:pP-P, n87, σ1.9°27/103, mb4.6/30, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	Atahualpa	2.88	293	Pn	Pn	01 21 02.0	+0.2
	76nm,0.3s,baz=112,slow=4.9,SNR=73						
ATAH				Lg	Lg	01 21 42.4	
	79nm,0.3s,baz=108,slow=20,SNR=14						
ATAH				LR	LR	01 22 31.3	
	comp=Z,589nm,21.9s,baz=127,slow=48						
	56nm,0.3s						
CZSB	Cruzeiro do Su	3.05	80	Pn	Pn	01 21 07.4	+3.6
CZSB	Cruzeiro do Su	3.05	80	*e*P	Pn	01 21 06.1	+2.4
CZSB				*e*S	Sn	01 21 40.6	+1.5
NNA	Nana	3.84	196	Pn	Pn	01 21 17.0	+2.2
NNA	Nana	3.84	196	Pn	Pn	01 21 16.7	+1.9
	9.3nm,0.3s,baz=354,slow=10,SNR=14						
NNA				Sn	Sn	01 22 00.7	+1.9
	25nm,0.3s,baz=252,slow=20,SNR=7.2						
NNA				Lg	Lg	01 22 13.1	
	42nm,0.3s,baz=325,slow=12,SNR=7.4						
NNA				LR	LR	01 22 53.5	
	comp=Z,332nm,19.2s,baz=27,slow=40						
	14nm,0.3s						
ARNL	Arenillas	6.38	317	Pn	Pn	01 21 49.3	-0.4
ARNL					Sn	01 22 58.4	-3.1
TBTG	Tabatinga, AM	7.07	55	Pn	Pn	01 22 02.0	+2.8
TBTG	Tabatinga, AM	7.07	55	*e*P	Pn	01 21 59.9	+0.7
TBTG				*e*S	Sn	01 23 19.2	+0.7
SLOR	San Lorenzo -	7.99	340	Pn	Pn	01 22 13.7	+1.5
ANTS	Antisana-Sarah	8.11	342		Pn	01 22 15.4	+1.5
PULU	Pululahua	8.70	341	Pn	Pn	01 22 24.1	+2.2
IMBA	Imbabura, San	8.85	344	Pn	Pn	01 22 26.3	+2.4
OTAV	Otavalo	8.89	342	Pn	Pn	01 22 25.4	+0.9
OTAV	Otavalo	8.89	342	*e*P	Pn	01 22 27.0	+2.6
OTAV				*e*S	Sn	01 24 06.0	+2.2
TULM	Tulcn-Chalpat	9.17	347		Pn	01 22 30.0	+1.7
ETMB	Extrema	9.52	100	Pn	Pn	01 22 33.3	+0.5
ETMB	Extrema	9.52	100	*e*P	Pn	01 22 33.0	+0.3
ETMB				*e*S	Sn	01 24 18.3	-0.4
LPAZ	La Paz	10.88	138		Pn	01 22 53.4	+1.4
LPAZ	La Paz	10.88	138	Pn	Pn	01 22 50.6	-1.4
	0.1nm,0.3s,baz=345,slow=9.2,SNR=2.3						
LPAZ				Lg	Lg	01 25 56.1	
	0.7nm,0.3s,baz=23,slow=25,SNR=2.1						
	0.5nm,0.6s						
TEFE	Tefe	12.01	67	*e*P	Pn	01 23 07.7	+0.8
TEFE				*e*S	Sn	01 25 20.0	+0.2
SAML	Samuel	12.42	94	Pn	Pn	01 23 11.7	-0.8
SAML	Samuel	12.42	94	*e*P	Pn	01 23 11.3	-1.3
ROSC	El Rosal	13.11	6	Pn	Pn	01 23 17.1	-5.1
	1.7nm,0.3s,baz=271,slow=22,SNR=1.9						
ROSC				Lg	Lg	01 27 10.1	
	1.7nm,0.3s,baz=156,slow=20,SNR=1.7						
	4.2nm,0.4s						
MACA	Manacapuru-AM	15.81	72	*e*P	Pn	01 23 58.8	+0.7
MACA				*e*S	Sn	01 26 52.4	0.0
VILB	Vilhena	15.95	108	P	P	01 24 04.1	+0.8
SIV	San Ignacio	16.24	120	Pn	Pn	01 24 01.4	-2.4
	0.1nm,0.3s,baz=291,slow=12,SNR=12						
SIV				Lg	Lg	01 28 45.4	
	0.1nm,0.3s,baz=197,slow=19,SNR=1.4						
SIV				LR	LR	01 30 45.1	
	comp=Z,198nm,18.6s,baz=296,slow=39						
	1.6nm,0.3s						
BBSD	Serra de San D	17.19	122	*e*P	Pn	01 24 16.5	+0.8
BBSD				*ep*P	pP	01 24 26.6	+0.9
BBSD				*e*S	Sn	01 27 26.1	+0.1
PTLB	Pontes e Lacer	17.72	115	P	P	01 24 24.0	+1.1
PTLB	Pontes e Lacer	17.72	115	*e*P	P	01 24 23.0	+0.1
PTLB				*ep*P	sP	01 24 33.2	-3.0
PTLB				*e*S	Sn	01 27 39.0	0.0
BAUV	El Baul	18.75	24		Pn	01 24 36.0	+1.2
BAUV				IAmb	IAmb	01 24 39.6	
	comp=Z,30nm,0.6s						
PDRB	Porto dos Gac	19.00	102	*e*P	Pn	01 24 38.0	0.0
PDRB				*e*S	Sn	01 28 09.6	-0.4
NPGB	Novo Progresso	20.23	88	*e*P	P	01 24 50.6	+0.2
NPGB				*e*S	S	01 28 33.9	-2.0
ITTB	Itaituba	20.25	80	*e*P	P	01 24 50.5	-0.2
PCRV	Puerto La Cruz	21.41	31	P	P	01 25 00.7	-2.4
	comp=Z,9.4nm,1.0s,baz=172,slow=14,SNR=1.7						
	comp=Z,9.4nm,1.0s						
AQDB	Aquidauana	22.84	124	P	P	01 25 19.3	+0.8
MCPB	Macapa, AP	24.86	73	*e*P	P	01 25 38.4	+0.6
CPUP	Villa Florida	25.05	138	P	P	01 25 39.4	0.0
	comp=Z,1.0nm,0.7s,baz=281,slow=11,SNR=3.5						
	comp=Z,1.0nm,0.7s						
RPN	Rapa Nui	36.91	235	LR	LR	01 40 16.8	
	comp=Z,134nm,18.5s,baz=37,slow=32						
DRIO	Del Rio	44.49	328	P	P	01 28 26.7	+0.4
V52A	Sevierville	44.51	351	P	P	01 28 26.2	-0.1
V48A	Smith Brothers	45.02	347	P	P	01 28 29.5	-0.9
V48A				IAmb	IAmb	01 28 30.6	
	comp=Z,3.9nm,0.7s						
T59A	Double "B" Far	45.05	358	P	P	01 28 31.0	+0.5
T57A	Hurt	45.16	356	P	P	01 28 32.1	+0.6
T57A				IAmb	IAmb	01 28 33.1	
	comp=Z,12nm,1.1s						
SAND	Sanderson	45.71	327	P	P	01 28 36.8	+0.8
S57A	Dark Hollow, R	45.90	356	P	P	01 28 38.2	+0.8
S57A				IAmb	IAmb	01 28 39.3	
	comp=Z,9.1nm,0.8s						
R58B	Mineral	46.05	358	P	P	01 28 39.4	+0.9
TXAR	Lajitas Array	46.07	325	P	P	01 28 39.1	+0.1
TXAR	Lajitas Array	46.07	325	P	P	01 28 38.8	-0.2
	comp=Z,0.6nm,0.6s,baz=151,slow=8.4,SNR=10						
TXAR				PcP	PcP	01 30 14.8

comp=Z,0.6nm,0.8s,baz=147,slow=8.8,SNR=3.8
comp=Z,0.6nm,0.8s
MFID Camas Ranch 63.02 328 P P 01 30 42.5 +0.6
MFID pP 01 30 53.5 +1.2
I07A Izee 65.43 327 P P 01 30 58.2 +0.5
I07A IAmb IAmb 01 30 59.2
comp=Z,3.8nm,0.8s
I07A pP 01 31 09.3 +1.2
DBIC Dimbokro 72.20 80 P P 01 31 40.1 -0.1
comp=Z,3.6nm,0.6s,baz=254,slow=4.3,SNR=11
comp=Z,3.6nm,0.6s
YKA Yellowknife Ar 76.64 343 P P 01 32 04.8 -0.2
comp=Z,0.4nm,0.7s,baz=141,slow=6.0,SNR=4.1
comp=Z,0.4nm,0.7s
TOA0 Torodi Ar. Sit 79.77 75 P P 01 32 23.4 0.0
TOA0 IAmb IAmb 01 32 24.5
comp=Z,4.5nm,0.8s
TORD Torodi Ar. Bea 79.77 75 P P 01 32 23.6 +0.1
TORD IAmb IAmb 01 32 24.8
comp=Z,4.0nm,0.6s
TORD Torodi Ar. Bea 79.77 75 P P 01 32 23.9 +0.4
comp=Z,4.4nm,0.6s,baz=282,slow=5.1,SNR=11
TORD LR LR 02 08 08.0
comp=Z,108nm,19.1s,baz=332,slow=36
comp=Z,4.4nm,0.6s
ESDC Sonseca Array 81.49 48 P P 01 32 30.9 -1.3
comp=Z,1.1nm,0.9s,baz=252,slow=6.2,SNR=7.7
comp=Z,1.1nm,0.9s
QSPA South Pole Qui 81.83 180 P P 01 32 33.9 +0.3
comp=Z,1.3nm,0.6s,baz=160,slow=1.0,SNR=8.7
comp=Z,1.3nm,0.6s
L29M L29M 85.35 336 IAmb IAmb 01 32 53.0
comp=Z,3.8nm,0.8s
M27K Edge Creek, AK 86.55 335 P P 01 32 58.0 +0.4
M27K pP 01 33 08.8 +0.3
M27K IAmb IAmb 01 33 09.5
comp=Z,4.1nm,0.9s
BCAR Beaver Creek A 86.82 335 P P 01 32 59.6 +0.9
BCAR pP pP 01 33 10.3 +0.7
L27K Beaver Creek, 86.83 335 P P 01 32 59.6 +0.7
L27K pP 01 33 10.0 +0.3
L27K IAmb IAmb 01 33 10.7
comp=Z,3.7nm,0.9s
EKA Eskdalemuir Ar 87.02 33 P P 01 32 58.5 -1.4
comp=Z,0.9nm,0.7s,baz=228,slow=5.7,SNR=4.3
comp=Z,0.9nm,0.7s
EGAK Eagle 87.30 337 IAmb IAmb 01 33 12.5
comp=Z,3.9nm,1.0s
K27K Chicken 87.34 336 IAmb IAmb 01 33 13.1
comp=Z,7.3nm,1.2s
KLU Klutina 87.97 333 pP pP 01 33 15.6 +0.3
SCRK Sand Creek 88.09 336 P P 01 33 05.3 +0.4
SCRK pP 01 33 16.4 +0.5
SCRK IAmb IAmb 01 33 16.8
comp=Z,3.2nm,1.0s
J26L Joseph Creek 88.13 336 P P 01 33 05.3 +0.2
J26L pP 01 33 16.3 +0.3
J26L IAmb IAmb 01 33 17.1
comp=Z,3.9nm,0.8s
ILAR Eielson Array 89.56 336 P P 01 33 11.5 -0.2
comp=Z,0.4nm,0.8s,baz=176,slow=1.8,SNR=5.6
comp=Z,0.4nm,0.8s
MDM Murphy Dome 90.16 336 pP 01 33 25.2 -0.2
H24K Noodor Dome 90.31 337 P P 01 33 15.5 +0.2
H24K pP 01 33 26.6 +0.5
H24K IAmb IAmb 01 33 26.9
comp=Z,3.2nm,1.1s
ZALV Zalesovo Beam 131.84 15 PKP PKPdf 01 39 26.2 -1.5
comp=Z,0.7nm,0.4s,baz=298,slow=3.2,SNR=4.3
ASAR Alice Springs 137.03 222 PKP PKPdf 01 39 38.3 -0.1
comp=Z,0.5nm,0.9s,baz=47,slow=2.6,SNR=2.8
MKAR Makanchi Array 137.27 22 PKP PKPdf 01 39 36.5 -1.6
comp=Z,0.6nm,0.8s,baz=10,slow=6.8,SNR=3.7
WRA Warramunga Arr 139.22 226 PKP PKPdf 01 39 40.5 -2.0
comp=Z,0.6nm,0.8s,baz=136,slow=1.6,SNR=3.3

TRN 01 01:32:27.4, 15°.73N×60°.61W, h31km, MD3.7, Far North-east of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**0.99**	**195**	*e*P	Pb	01 32 45.9	0.0
ILAM				*e*S	Sb	01 32 59.8	+1.1
TBG	**Guadaloupe-3**	**1.00**	**277**	*e*P	Pb	01 32 46.5	+0.3
TBG				*e*S	Sb	01 32 59.8	+0.7
SVN	**Savane Anatole**	**1.04**	**211**	*e*P	Pb	01 32 46.8	0.0
SVN				*e*S	Sb	01 33 01.7	+1.6
BIM	**Bigot**	**1.29**	**200**	*e*P	Pb	01 32 50.5	-0.6
BIM				*e*S	Sb	01 33 07.7	+0.4
ANBD	**Bethesda, Anti**	**1.71**	**320**	*e*P	Pn	01 32 56.3	+1.1
ANBD				*e*S	Sb	01 33 18.0	-1.4
SLBI	**Saint Lucia, B**	**1.74**	**192**	*e*P	Pn	01 32 57.0	+1.5
SLBI				*e*S	Sn	01 33 18.0	+1.4
MBFL	**Flemmings, Mon**	**1.84**	**303**	*e*P	Pn	01 32 58.3	+1.3
MBFL				*e*S	Sb	01 33 22.3	-0.8
SLB	**Belfond**	**1.94**	**192**	*e*P	Pn	01 33 00.2	+1.9
SLB				*e*S	Sn	01 33 23.5	+1.8
SVB	**Belmont**	**2.52**	**194**	*e*P	Pn	01 33 08.2	+1.9
SVB				*e*S	Sn	01 33 38.0	+1.9

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*NEIC **01** 01:49:14.3±1.3, 18°.69S±0°.10×169°.4E±0°.1, h238km±8km, mb4.4/38, Error ellipse: s-maj=16.3km s-min=14.1km az=97.0*
*IDC **01** 01:49:14.2±2.5, 18°.71S×169°.25E, h242km±23km, mb3.7/12, mbtmp4.3/13, Error ellipse: s-maj=19.2km s-min=14.4km az=80.0*
*NOU **01** 01:49:15.4, 18°.64S×169°.13E, h231km, mb4.6/39, Vanuatu Islands*

ISC 01 01:49:14.4±0.5, 18°.72S±0°.06×169°.28E±0°.07, h240km, n108, σ1§06/109, mb4.4/36, 5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.43**	**313**	P	**Pn**	**01 49 51.0**	**-0.3**
LIFNC	**LIFOU**	**2.81**	**223**	P	**Pn**	**01 50 03.3**	**-0.9**
LIFNC	**LIFOU**	**2.81**	**223**		**Pn**	**01 50 03.6**	**-0.6**
LIFNC				Sn	**S**	01 50 42.2	-1.3
MARNC	**Mare, Loyalty**	**2.99**	**203**	P	**Pn**	**01 50 05.4**	**-0.8**
YATNC	**Mamie plateau,**	**4.01**	**214**	P	**Pn**	**01 50 16.9**	**-1.0**
PINNC	**Pines Island,**	**4.24**	**204**	P	**Pn**	**01 50 20.7**	**+0.1**
PINNC	**Pines Island,**	**4.24**	**204**		**Pn**	**01 50 20.9**	**+0.3**
DZM	**Mont Dzumac**	**4.27**	**218**	P	**Pn**	**01 50 21.3**	**+0.2**
DZM	**Mont Dzumac**	**4.27**	**218**		**Pn**	**01 50 21.5**	**+0.4**
DZM	**Mont Dzumac**	**4.27**	**218**	P	**Pn**	**01 50 20.8**	**-0.3**
29nm,0.3s,baz=3.2,slow=23,SNR=70
OUENC Ouen Island, N 4.34 211 P Pn 01 50 22.7 +0.9
OUENC Ouen Island, N 4.34 211 Pn 01 50 22.6 +0.8
NOUC Port Laguerre 4.38 219 P Pn 01 50 22.8 +0.5
ONTNC Ouen Toro 4.45 216 P Pn 01 50 23.8 +0.7
ONTNC Ouen Toro 4.45 216 Pn 01 50 23.9 +0.8
KOUNC Koumac, New Ca 5.05 248 P Pn 01 50 31.4 +0.9
KOUNC Koumac, New Ca 5.05 248 Pn 01 50 32.1 +1.6
MSVF Nonsavu 8.39 85 P Pn 01 51 15.4 +2.6
NFK Norfolk Island 10.35 187 P P 01 51 41.2 -2.1
EIDS Eidsvold 18.12 245 P Pn 01 53 10.8 -1.1
EIDS Eidsvold 18.12 245 Pn 01 53 11.2 -0.7
EIDS IAmb IAmb 01 53 14.7
comp=Z,12nm,0.7s
ARMA Armidale 19.81 231 P Pn 01 53 29.6 -2.3
ARMA Armidale 19.81 231 P P 01 53 29.5 +2.3
URZ Urewera 20.64 162 P P 01 53 36.3 +0.5
comp=Z,4.1nm,0.8s,baz=263,slow=8.1,SNR=1.8
comp=Z,4.1nm,0.8s
BKZ Black Stump Fm 21.32 164 P P 01 53 45.1 +2.3
BKZ Black Stump Fm 21.32 164 P P 01 53 44.1 +1.4
BKZ IAmb IAmb 01 53 44.8
comp=Z,8.8nm,1.0s
MGCD Mangrove Creek 21.75 225 P P 01 53 48.8 +1.8
CTAO Charters Tower 21.76 263 P P 01 53 48.6 +1.4
CTAO Charters Tower 21.76 263 P P 01 53 48.0 +0.8
MRZ Mangatainoka R 22.53 167 P P 01 53 52.5 -1.5
MRZ IAmb IAmb 01 53 57.4
comp=Z,7.7nm,0.7s
TUWZ Tuamarina 22.99 171 P P 01 53 58.3 +0.1
BHW Baring Head 23.12 169 P P 01 53 59.5 +0.3
THZ Tophouse 23.18 173 P P 01 54 01.5 +1.5
MSWZ Moikau Station 23.19 169 P P 01 54 00.6 +0.5
PLWZ Palliser 23.34 169 P P 01 54 01.1 -0.3
KHZ Kahutara 23.90 172 P P 01 54 10.6 +4.2
CNB Canberra Magne 24.18 223 P P 01 54 10.8 +1.7
CAN Canberra 24.42 223 P P 01 54 13.2 +1.9
CMSA Cobar Meteorol 24.82 234 P P 01 54 15.6 +0.7
LBZ Lake Benmore 25.61 179 P P 01 54 22.7 +0.9
LBZ IAmb IAmb 01 54 32.1
comp=Z,16nm,1.2s
QIS Mount Isa 28.00 261 P P 01 54 44.3 +0.9
TOO Toolangi 28.03 223 P P 01 54 44.0 +0.5
TOO IAmb IAmb 01 54 45.3
comp=Z,10nm,1.1s
STKA Stephens Creek 28.16 237 P P 01 54 46.0 +1.3
STKA Stephens Creek 28.16 237 P P 01 54 46.1 +1.3
STKA Stephens Creek 28.16 237 P P 01 54 44.2 -0.5
comp=Z,15nm,0.7s,baz=66,slow=8.2,SNR=31
comp=Z,15nm,0.7s
GLAD Gladstone 28.72 215 P P 01 54 51.2 +1.7
comp=Z,19nm,0.8s
MOO Moorlands 30.18 214 P P 01 55 03.8 +1.4
LCRK Leigh Creek 30.47 242 P P 01 55 05.6 +0.5
HTT Hallett 30.82 236 P P 01 55 08.8 +0.6
OOD Oodnadatta 32.08 247 P P 01 55 19.8 +0.6
WR0 Warramunga Arr 32.77 262 P P 01 55 25.0 -0.4
WR0 IAmb IAmb 01 55 25.3
comp=Z,5.3nm,0.6s
BBOO Buckleboo 32.89 238 P P 01 55 26.8 +0.6
BBOO Buckleboo 32.89 238 P P 01 55 26.8 +0.6
WB0 Warramunga Arr 32.92 262 P P 01 55 26.2 -0.4
WB2 Warramunga Arr 32.95 262 P P 01 55 26.2 -0.7
WB2 IAmb IAmb 01 55 27.0
comp=Z,8.7nm,0.8s
WRAB Tennant Creek 32.95 262 P P 01 55 25.5 -1.4
WRA Warramunga Arr 32.96 262 P P 01 55 25.4 -1.6
WRA Warramunga Arr 32.96 262 P P 01 55 25.4 -1.6
comp=Z,6.8nm,0.7s,baz=96,slow=8.2,SNR=66
WRA PcP **PcP 01 58 04.7 -0.6**
comp=Z,0.9nm,1.0s,baz=101,slow=0.9,SNR=3.9
comp=Z,6.8nm,0.7s
AS01 Alice Springs 33.25 255 P P 01 55 29.6 +0.1
AS31 Alice Springs 33.30 255 P P 01 55 29.9 0.0
ASAR Alice Springs 33.30 255 P P 01 55 29.8 -0.1
ASAR Alice Springs 33.30 255 P P 01 55 29.3 -0.6
comp=Z,49nm,0.6s,baz=83,slow=8.8,SNR=706
ASAR PcP **PcP 01 58 04.9 -1.3**
comp=Z,0.7nm,0.9s,baz=116,slow=4.2,SNR=2.6
MULG Mulgathing 33.93 243 P P 01 55 35.4 +0.2
KDU Kakadu 35.89 274 P P 01 55 51.8 -0.3
comp=Z,19nm,1.1s
MTN Manton Dam 37.12 273 P P 01 56 02.6 +0.1
MTN Manton Dam 37.12 273 P P 01 56 02.4 -0.1
WRKA Warakurna 38.44 253 P P 01 56 13.5 0.0
FORT Forrest 39.11 244 P P 01 56 18.9 0.0
FORT Forrest 39.11 244 P P 01 56 19.1 +0.3
FORT IAmb IAmb 01 56 23.6
comp=Z,16nm,0.8s
FAKI Fak Fak 39.49 289 P P 01 56 21.6 -0.6
FAKI IAmb IAmb 01 56 27.9
comp=Z,19nm,1.1s
FITZ Fitzroy Crossi 41.34 264 P P 01 56 37.4 +0.1
PSA00 Pilbara Seismi 46.35 258 P P 01 57 18.0 +1.0
MBWA Marble Bar 46.50 258 P P 01 57 18.5 +0.3
MEEK Meekatharra 47.16 251 P P 01 57 23.3 0.0
VNDA Vanda 58.95 182 P P 01 58 47.6 -0.6
comp=Z,0.8nm,0.9s,baz=326,slow=8.2,SNR=3.9
comp=Z,0.8nm,0.9s
SBA Scott Base 59.19 181 P P 01 58 51.0 +1.2
MJAR Matsushiro Arr 62.31 332 P P 01 59 11.2 -0.2
comp=Z,0.6nm,0.5s,baz=176,slow=6.9,SNR=4.4
comp=Z,0.6nm,0.5s
NJ2 Nanjing 69.86 316 *e*P P 01 59 51.7 -7.7
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
QSPA South Pole Qui 71.33 180 P P 02 00 07.9 -0.1
QSPA IAmb IAmb 02 00 08.9
comp=Z,6.3nm,0.9s
QSPA South Pole Qui 71.33 180 P P 02 00 07.4 -0.5
comp=Z,4.9nm,0.9s,baz=14,slow=1.2,SNR=20
comp=Z,4.9nm,0.9s
PETK Petropavlovsk- 72.22 353 P P 02 00 13.0 -0.1
comp=Z,6.0nm,0.8s,baz=156,slow=7.8,SNR=15
comp=Z,6.0nm,0.8s
MAW Mawson 78.93 202 P P 02 00 52.0 +1.0
comp=Z,5.0nm,0.9s,baz=97,slow=4.3,SNR=6.8
comp=Z,5.0nm,0.9s
PZH PanZhiHua 79.46 303 P P 02 00 49.3 -5.5
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
BELA Belgrano 2 82.61 175 P P 02 01 09.4 -1.0
BELA IAmb IAmb 02 01 09.9
comp=Z,4.8nm,0.6s
P18K Big Mountain, 83.06 17 P P 02 01 12.2 -0.6
P18K IAmb IAmb 02 01 14.1
comp=Z,10nm,0.9s
Q19K Cape Douglas, 83.14 18 P P 02 01 12.5 -0.7
Q19K IAmb IAmb 02 01 14.3
comp=Z,10nm,0.9s
SYI Shuyak Island 83.26 19 P P 02 01 13.1 -0.6
SYI IAmb IAmb 02 01 15.3
comp=Z,5.7nm,0.9s
O18K Koktuh Hills 83.45 17 P P 02 01 14.3 -0.4
O18K IAmb IAmb 02 01 15.7
comp=Z,7.3nm,1.1s
M16K Timber Creek 83.46 15 P P 02 01 14.5 -0.2
M16K IAmb IAmb 02 01 17.1
comp=Z,6.5nm,0.9s
L16K Owhat River 83.94 14 P P 02 01 17.4 +0.3
L16K IAmb IAmb 02 01 19.0
comp=Z,5.4nm,1.1s
N18K Kilae Creek 83.96 16 P P 02 01 17.2 -0.1
M17K Holitna River 84.17 15 P P 02 01 18.1 -0.2
M17K IAmb IAmb 02 01 20.7
comp=Z,5.2nm,0.9s
L18K Granite Mounta 85.05 15 P P 02 01 23.4 +0.7
J16K Anvik River 85.06 13 P P 02 01 23.6 +0.9
J16K IAmb IAmb 02 01 25.4
comp=Z,6.9nm,0.8s
L19K White Mountain 85.49 16 P P 02 01 24.8 -0.1
J18K Innoko River 86.10 15 P P 02 01 28.2 +0.3
G16K Koyuk River 86.59 11 P P 02 01 30.3 +0.2
ELIB Princess Elisa 86.66 190 *d*P P **02 01 30.3 -0.5**
comp=Z,2.6nm,1.0s
SONM Songino Array 86.83 323 P P 02 01 32.3 +0.4
comp=Z,0.8nm,0.8s,baz=142,slow=3.4,SNR=3.7
comp=Z,0.8nm,0.8s
TROLL Troll, Antarti 89.06 184 ⇓P P **02 01 41.6 -0.6**
comp=Z,372nm,0.6s
SNAA Sanae 89.68 182 P P 02 01 44.5 -0.5
SNAA IAmb IAmb 02 01 44.7
comp=Z,2.5nm,0.7s
SNAA Sanae 89.68 182 ⇓P P **02 01 44.0 -1.0**
comp=Z,74nm,0.6s
SNAA Sanae 89.68 182 P P 02 01 44.1 -0.9
comp=Z,2.4nm,0.6s,baz=203,slow=6.5,SNR=21
comp=Z,2.4nm,0.6s
ILAR Eielson Array 89.72 17 P P 02 01 43.5 -1.5
comp=Z,0.6nm,0.8s,baz=238,slow=5.3,SNR=6.0
comp=Z,0.6nm,0.8s
VNA3 Neumayer Olymp 90.27 180 ⇓P P **02 01 46.6 -1.0**
comp=Z,12nm,0.7s
VNA2 Neumayer--Watz 90.56 181 ⇓P P **02 01 48.0 -1.0**
comp=Z,6.3nm,0.6s,baz=184,slow=4.6
TXAR Lajitas Array 96.48 61 P P 02 02 14.9 -2.1
comp=Z,0.2nm,0.7s,baz=193,slow=7.4,SNR=2.4
comp=Z,0.2nm,0.7s
YKA Yellowknife Ar 100.19 27 P Pdif 02 02 33.1 +0.5
comp=Z,0.5nm,0.8s,baz=256,slow=4.3,SNR=4.2

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*IDC **01** 02:16:17.8±3.6, 60°.65S×26°.98W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=111.6km s-min=42.4km az=1.0*

ISC 01 02:16:18.6±0.9, 61°.0S±0°.2×27°.2W±0°.3, h10km, n9, σ3§55/13, mb4.0/3, 9C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.31**	**150**	⇑P	**Pn**	**02 19 18.0**	**+4.3**
comp=Z,28nm,0.3s
VNA1 ⇑S **Sn 02 21 29.0 -1.7**
comp=Z,1.3nm,0.7s
VNA3 Neumayer Olymp 12.40 153 ⇑P **Pn 02 19 19.0 +4.1**
comp=Z,14nm,0.3s
VNA3 ⇑S **Sn 02 21 27.3 -5.7**
comp=Z,0.2nm,0.2s
VNA2 Neumayer--Watz 12.71 150 ⇑P **Pn 02 19 22.8 +3.6**
comp=Z,2.2nm,0.3s,baz=303,slow=16
VNA2 ⇑S **Sn 02 21 36.6 -3.9**
comp=Z,0.7nm,0.7s,baz=318,slow=16
SNAA Sanae 14.33 148 ⇑P **Pn 02 19 45.5 +4.3**
comp=Z,106nm,0.5s
SNAA ⇑S **Sn 02 22 17.3 -2.6**
comp=Z,7.4nm,0.4s
TROLL Troll, Antarti 15.93 146 ⇑P **P 02 20 06.2 -0.1**
comp=Z,58nm,0.5s
CPUP Villa Florida 40.25 316 P P 02 23 54.5 -0.8
comp=Z,0.7nm,0.6s,baz=165,slow=6.8,SNR=3.8
comp=Z,0.7nm,0.6s
LPAZ La Paz 53.36 308 P P 02 25 38.3 -0.5
comp=Z,0.8nm,0.5s,baz=155,slow=7.1,SNR=8.2
comp=Z,0.8nm,0.5s
TORD Torodi Ar. Bea 77.40 29 P P 02 28 12.4 -1.2
comp=Z,0.8nm,0.6s,baz=203,slow=6.1,SNR=17
comp=Z,0.8nm,0.6s
ILAR Eielson Array 153.19 304 PKPbc **PKiKP 02 36 15.5 +0.5**
comp=Z,0.2nm,0.9s,baz=103,slow=2.4,SNR=1.5

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*IDC **01** 02:21:55.8±2.0, 43°.68N×145°.36E, h102km±18km, mb4.1/29, mbtmp4.4/36, MS2.7/1, Error ellipse: s-maj=14.3km s-min=11.4km az=140.0*
*MOS **01** 02:21:58.5±1.0, 43°.59N×145°.24E, h140km, mb4.6/41, Error ellipse: s-maj=6.8km s-min=4.7km az=110.2*
*JMA **01** 02:22:00.1±0.1, 43°.5N±0°.5×145°.3E±0°.8, h131km±1km, MD4.3/39, MW4.2/39, NEMURO REGION*
JMA Felt II J1 at NEMURO REGION .
*NIED **01** 02:22:00.1, 43°.52N×145°.28E, h131km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.04; Mθθ=1.16; Mφφ=-1.12; Mrθ=0.82; Mθφ=-0.21; Mφr=0.93; Fault plane solution: M0=1.69000×10^15 NP1: φs=230.00000°, δ=88.00000°, λ=-134.00000°. NP2: φs=138.00000°, δ=44.00000°, λ=-3.00000°.*
*SKHL **01** 02:22:00.3±0.3, 43°.60N×145°.20E, h136km±7km, mb4.9/7, mbv5.3/2, msh5.2/4, msha5.8/4*
*NEIC **01** 02:22:01.2±1.9, 43°.53N±0°.10×145°.1E±0°.1, h147km±8km, mb4.4/140, Error ellipse: s-maj=15.3km s-min=13.3km az=52.0*

ISC 01 02:21:59.3±0.5, 43°.58N±0°.04×145°.29E±0°.04, h136km±3km, n658, σ1§10/644, mb4.5/170, 31C-31D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNSB	**Nemuroshibetsu**	**0.28**	**313**	⇓*i*P	**Pn**	**02 22 18.8**	**+0.6**
JNSB ⇓S **Sn 02 22 32.8 +0.4**
JNSB Nemuroshibetsu 0.28 313 A A 02 22 18.8
comp=E,20nm,0.6s,comp=N,27nm,1.7s
JRA Rausu 0.38 341 ⇓*i*P **Pn 02 22 19.0 +0.5**
JRA ⇓S **Sn 02 22 32.9 -0.1**
JRA Rausu 0.38 341 A A 02 22 19.0
comp=E,17nm,1.5s,comp=N,9.0nm,0.9s
NMR Nemuro--Hokkai 0.38 124 *e*P **Pn 02 22 18.5 0.0**
NMR *e*S **Sn 02 22 32.0 -1.0**
NMR Nemuro--Hokkai 0.38 124 ⇑*i*PN **Pn 02 22 18.5 0.0**
NMR *e*S **Sn 02 22 31.6 -1.4**
NEM2 Nemuro 2 0.39 123 *i*P **Pn 02 22 18.5 -0.1**
NEM2 *i*S **Sn 02 22 31.9 -1.1**
NEM2 Nemuro 2 0.39 123 A A 02 22 18.5
comp=E,11nm,0.5s,comp=N,24nm,0.3s
JNK Nakash 0.42 271 ⇓*i*P **Pn 02 22 18.9 +0.3**
JNK ⇓S **Sn 02 22 32.9 -0.5**
JNK Nakash 0.42 271 A A 02 22 18.9
comp=E,34nm,0.8s,comp=N,27nm,1.0s
JKHN Kushirohamanak 0.51 191 *i*P **Pn 02 22 19.1 0.0**
JKHN S **Sn 02 22 33.6 -0.5**
JKHN Kushirohamanak 0.51 191 A A 02 22 19.1
comp=E,58nm,0.4s,comp=N,70nm,0.5s
RUSJ Misakicho 0.52 356 ⇓*i*PN **Pn 02 22 19.8 +0.6**
RUSJ *e*S **Sn 02 22 34.8 +0.5**
YUK Yuzh-Kuril'sk 0.61 42 *i*P **Pn 02 22 20.4 +0.7**
YUK AMB AMB 02 22 22.5
comp=N,1μm,0.2s
YUK *e*S **Sn 02 22 35.7 +0.5**
YUK A A 02 22 38.6
comp=N,3μm,0.4s
YUK A A 02 22 38.6
comp=N,6μm,0.4s
YUK Yuzh-Kuril'sk 0.61 42*c i*PN **Pn 02 22 20.4 +0.7**
YUK *e*S **Sn 02 22 35.5 +0.3**
YUK pmax pmax
comp=N,152nm,0.2s
YUK pmax pmax
comp=Z,1μm,0.2s
YUK smax smax
comp=N,3μm,0.2s
YUK smax smax
comp=E,6μm,0.4s
YUK smax smax
comp=E,239nm,0.4s
AKK Akkeshi 0.65 210 *e*P **Pn 02 22 19.8 -0.2**
JAK Akkeshi 0.73 217 *i*P **Pn 02 22 20.5 0.0**
JAK S **Sn 02 22 35.7 -0.9**
JAK Akkeshi 0.73 217 A A 02 22 20.5
comp=E,50nm,0.3s,comp=N,36nm,1.0s
JTKR Abashiri--Toko 1.08 292 ⇓*i*P **Pn 02 22 23.9 +0.5**
JAR Ashorobuto 1.15 256 ⇓*i*P **Pn 02 22 24.7 +0.6**
JAR ⇓S **Sn 02 22 42.6 -0.4**
JAR Ashorobuto 1.15 256 A A 02 22 24.7
comp=E,18nm,0.5s,comp=N,17nm,1.7s
SHO Shikotan 1.15 75 *e*P **Pn 02 22 24.5 +0.3**
SHO AMB AMB 02 22 27.2
comp=N,150nm,0.3s
SHO *e*S **Sn 02 22 42.4 -0.7**
SHO A A 02 22 43.3
comp=N,5μm,0.5s
SHO A A 02 22 43.3
comp=N,4μm,0.5s
SHO Shikotan 1.15 75 *e*PN **Pn 02 22 24.4 +0.3**
SHO *e*S **Sn 02 22 42.3 -0.8**
SHO pmax pmax
comp=E,109nm,0.4s
SHO pmax pmax
comp=Z,114nm,0.4s
SHO pmax pmax
comp=N,33nm,0.2s
SHO smax smax
comp=E,4μm,0.5s
SHO smax smax
comp=N,5μm,0.4s
JOB Onbets 1.26 238 ⇓*i*P **Pn 02 22 25.7 +0.4**
JOB ⇓S **Sn 02 22 44.4 -0.7**
JOB Onbets 1.26 238 A A 02 22 25.7
comp=E,26nm,1.3s,comp=N,22nm,0.4s
JMP Maruseppu 1.46 288 ⇓*i*P **Pn 02 22 27.9 +0.5**
JMP Maruseppu 1.46 288 A A 02 22 27.9
comp=E,2.0nm,0.9s,comp=N,2.0nm,0.3s
JCH Churui 1.71 236 ⇓*i*P **Pn 02 22 30.2 0.0**
JCH ⇓S **Sn 02 22 51.8 -2.0**
JCH Churui 1.71 236 A A 02 22 30.2
comp=E,11nm,0.5s,comp=N,15nm,0.7s
JKK2 Kamakawa 2 1.87 280 ⇓*i*P **Pn 02 22 32.8 +0.8**
JTHR Tokachihiroo 1.95 229 A A 02 22 33.3
comp=E,5.0nm,1.1s,comp=N,3.0nm,0.3s
JFR Furan 2.01 259 ⇓*i*P **Pn 02 22 34.1 +0.4**
JKA Kamikawa-asahi 2.02 286 Pn **Pn 02 22 35.1 +1.3**
ASAJ Asahikawa 2.02 286 P **Pn 02 22 34.9 +1.0**
comp=N,2μm,0.3s,baz=102,slow=7.1,SNR=8068
ASAJ S **Sn 02 23 00.9 +0.6**
comp=N,353nm,0.8s,baz=126,slow=19,SNR=3.7
ASAJ LR LR 02 23 16.8
comp=N,156nm,18.8s,baz=142,slow=40
ASAJ Asahikawa 2.02 286 PN **Pn 02 22 35.2 +1.3**
ASAJ Asahikawa 2.02 286 ⇓*i*P **Pn 02 22 35.1 +1.3**
JEM Erimo 2.22 226 P **Pn 02 22 37.3 +1.0**
ERM Erimo 2.22 226 P **Pn 02 22 37.4 +1.1**
ERM Erimo 2.22 226 Pn **Pn 02 22 36.9 +0.6**
ERM Erimo 2.22 226*d i*PN **Pn 02 22 37.2 +0.9**
JNBK Urakawa-nobuka 2.27 236 A A 02 22 37.4
comp=E,4.0nm,0.4s,comp=N,5.0nm,0.3s
KUR Kuril'sk 2.48 47 *i*P **Pn 02 22 41.4 +2.0**
KUR AMB AMB 02 22 41.6
comp=N,270nm,0.3s
KUR *i*S **Sn 02 23 12.4 +2.1**
KUR A A 02 23 14.0
comp=N,2μm,2.0s
KUR A A 02 23 14.0
comp=N,1μm,2.0s
KUR A A 02 23 16.7
comp=N,550nm,0.4s
KUR A A 02 23 16.7
comp=N,530nm,0.4s
KUR Kuril'sk 2.48 47*d i*PN **Pn 02 22 41.4 +2.0**
KUR *i*S **Sn 02 23 12.6 +2.3**

KUR pmax pmax
comp=E,41nm,0.3s
KUR pmax pmax
comp=Z,175nm,0.3s
KUR pmax pmax
comp=N,36nm,0.2s
KUR smax smax
comp=N,543nm,0.5s
KUR smax smax
comp=E,142nm,0.4s
YSS Yuzh-Sakhalins 3.82 333 *e*P **Pn 02 22 57.4 +0.7**
YSS *e*S **Sn 02 23 40.9 -0.4**
YSS A A 02 23 43.4
comp=E,500nm,2.0s
YSS A A 02 23 43.4
comp=E,500nm,2.0s
YSS Yuzh-Sakhalins 3.82 333 *e*PN **Pn 02 22 57.3 +0.6**
YSS *e*S **Sn 02 23 41.3 0.0**
YSS pmax pmax
comp=Z,100nm,4.0s
YSS pmax pmax
comp=Z,20nm,0.7s
YSS smax smax
comp=N,500nm,2.4s
YSS smax smax
comp=E,500nm,1.9s
YSS smax smax
comp=N,190nm,0.8s
YSS smax smax
comp=E,190nm,0.9s
JTM Tenmabayashi 4.20 230 P **Pn 02 23 00.7 -1.2**
JTM Tenmabayashi 4.20 230 Pn **Pn 02 23 00.4 -1.5**
UGL Uglegorsk 5.93 339 *e*P **Pn 02 23 25.8 +1.0**
UGL AMB AMB 02 23 32.1
comp=E,50nm,0.7s
TEY Ternei 6.40 286 *e*P **Pn 02 23 30.8 -0.4**
TEY AMB AMB 02 23 31.8
comp=E,30nm,0.6s
TEY AMB AMB 02 23 32.0
comp=E,100nm,1.0s
TEY Ternei 6.40 286⇑ *e*PN **Pn 02 23 30.5 -0.7**
TEY pmax pmax
comp=E,30nm,0.9s
TEY pmax pmax
comp=Z,30nm,0.9s
TEY pmax pmax
comp=Z,100nm,1.0s
TEY pmax pmax
comp=N,20nm,0.7s
JMM Marumori 6.65 212 P **Pn 02 23 33.5 -1.1**
JMM Marumori 6.65 212 **Pn 02 23 35.0 +0.4**
TYV Tymovskoe 7.50 347 *e*P **Pn 02 23 46.8 +0.9**
TYV *e*S **Sn 02 25 08.8 -0.6**
TYV Tymovskoe 7.50 347 *e*PN **Pn 02 23 46.8 +0.9**
TYV *e*S **Sn 02 25 04.6 -4.8**
TYV pmax pmax
comp=Z,7.0nm,1.0s
TYV pmax pmax
comp=Z,100nm,4.5s
TYV smax smax
comp=E,100nm,2.8s
TYV smax smax
comp=E,7.0nm,1.7s
MJAR Matsushiro Arr 8.88 220 P **Pn 02 24 03.7 -0.9**
comp=E,2.4nm,0.5s,baz=29,slow=13,SNR=13
MJAR S **Sn 02 25 43.6 +0.6**
comp=E,1.1nm,0.3s,baz=312,slow=16,SNR=5.2
MJB9 Matsu-Tunnel 8.88 220 Pn **Pn 02 24 05.0 +0.5**
MAJO Matsushiro 8.88 220 P **Pn 02 24 05.3 +0.7**
MAJO Matsushiro 8.88 220 Pn **Pn 02 24 04.8 +0.2**
MAJO Matsushiro 8.88 220 *de*PN **Pn 02 24 04.4 -0.2**
USA0B Ussuriysk Arra 9.63 278 Pn **Pn 02 24 13.3 -1.2**
USA0B Ussuriysk Arra 9.63 278 *oe*PN **Pn 02 24 14.0 -0.5**
USRK Ussuriysk Ar. 9.63 278 **Pn 02 24 13.2 -1.3**
USRK Ussuriysk Ar. 9.63 278 P **Pn 02 24 13.0 -1.5**
comp=E,4.6nm,0.8s,baz=93,slow=13,SNR=10
USRK Ussuriysk Ar. 9.63 278 PN **Pn 02 24 13.2 -1.3**
VLA Vladivostok 9.78 272⇑ *e*PN **Pn 02 24 16.6 +0.1**
JGF Kuroka 10.05 220 P **Pn 02 24 20.2 0.0**
JGF Kuroka 10.05 220 Pn **Pn 02 24 19.6 -0.5**
SKR Severo-Kuril's 10.23 42 *e*P **Pn 02 24 22.9 +0.5**
SKR AMB AMB 02 24 38.5
comp=E,300nm,2.5s
SKR *e*S **Sn 02 26 12.5 -2.8**
SKR A A 02 26 17.7
comp=E,250nm,2.0s
SKR A A 02 26 17.7
comp=E,340nm,2.0s
SKR Severo-Kuril's 10.23 42 *e*PN Pn 02 24 34.5 +12
SKR pmax pmax
comp=Z,300nm,2.5s
SKR MLR MLR
comp=Z,200nm,16.0s
MSHR Mys Shultsa 10.39 269⇑ *e*PN **Pn 02 24 25.3 +0.6**
INU Inuyama 10.41 221 Pn **Pn 02 24 24.9 -0.1**
PSTR Posyet 10.64 270 *e*P **Pn 02 24 27.8 -0.1**
PSTR Posyet 10.64 270 *de*PN **Pn 02 24 27.8 -0.1**
KLR Kul'dur 10.92 306 P **Pn 02 24 31.4 -0.2**
comp=Z,1.1nm,0.4s,baz=117,slow=14,SNR=4.2
KLR Kul'dur 10.92 306 *e*P **Pn 02 24 31.0 -0.6**
KLR Kul'dur 10.92 306⇑ *e*PN **Pn 02 24 31.0 -0.6**
KLR pmax pmax
comp=Z,1.0nm,0.9s
JHJ2 Mitsune 11.30 204 P **Pn 02 24 35.4 -1.4**
JHJ2 Mitsune 11.30 204 Pn **Pn 02 24 35.8 -1.0**
JHJ Hachijo jima 2 11.30 204 P **Pn 02 24 34.6 -2.2**
comp=Z,34nm,0.3s,baz=68,slow=16,SNR=11
JHJ S Sn 02 26 31.7 -10
comp=Z,48nm,0.5s,baz=14,slow=8.3,SNR=7.6
PETK Petropavlovsk- 12.59 36 P **Pn 02 24 51.3 -2.2**
comp=Z,1.8nm,0.6s,baz=224,slow=10,SNR=8.5
KSRS Korea Array 14.55 251 P **Pn 02 25 17.0 -1.6**
comp=Z,2.4nm,0.8s,baz=65,slow=13,SNR=7.8
ZEA Zeya 15.62 317 *e*P **Pn 02 25 31.0 -0.8**
ZEA Zeya 15.62 317 *e*P **Pn 02 25 32.1 +0.3**
ZEA pmax pmax
comp=N,20nm,0.5s
ZEA pmax pmax
comp=Z,20nm,0.6s
MA2 Magadan 16.36 10 P **Pn 02 25 36.7 -4.1**
comp=Z,4.3nm,0.6s,baz=142,slow=18,SNR=2.0
MA2 Magadan 16.36 10 *e*P **Pn 02 25 41.4 +0.5**
MA2 Magadan 16.36 10⇓ *e*P **Pn 02 25 41.4 +0.5**
MA2 pmax pmax
comp=Z,12nm,0.7s
SEY Seymchan 19.82 10 P **P 02 26 15.0 -4.0**
comp=Z,3.4nm,0.3s,baz=204,slow=7.7,SNR=12
SEY Seymchan 19.82 10 *ce*P **P 02 26 18.3 -0.6**
SEY pmax pmax
comp=Z,5.0nm,0.7s
YAK Yakutsk 20.64 339 P **P 02 26 25.1 -2.7**
comp=Z,25nm,0.3s,baz=146,slow=3.2,SNR=9.3
comp=Z,25nm,0.3s
XLT XiLinHaoTe 21.07 281 *e*P **P 02 26 33.8 +1.2**
XLT pP pP 02 26 58.1 +0.8
XLT sP sP 02 27 18.7 +4.2
XLT pmax pmax
comp=Z,7.0nm,0.7s
XLT pmax pmax
comp=Z,73nm,5.1s
HHC Hu-ho-hao-te 25.03 275 *e*P **P 02 27 12.0 +1.2**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,57nm,4.4s
HHC LR LR
comp=N,120nm,13.8s
HHC LR LR
comp=E,87nm,14.5s
HHC LR LR
comp=Z,75nm,13.5s
ULN Ulaanbaatar 26.85 293 P **P 02 27 28.1 +1.1**
ULN Ulaanbaatar 26.85 293 *e*P **P 02 27 28.0 +0.9**
ULN Ulaanbaatar 26.85 293 *de*P **P 02 27 28.0 +0.9**
ULN pmax pmax
comp=Z,17nm,0.8s
BILL Bilibino 26.91 17 *e*P **P 02 27 28.2 +1.0**
BILL Bilibino 26.91 17⇑ *e*P **P 02 27 28.2 +1.0**
BILL pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 27.29 293 P **P 02 27 30.5 -0.6**
comp=Z,32nm,0.8s,baz=84,slow=8.5,SNR=95
comp=Z,32nm,0.8s
ZAK Zakamensk 29.14 298 *e*P **P 02 27 47.9 +0.5**
ZAK Zakamensk 29.14 298 *e*P **P 02 27 47.9 +0.5**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
H11N2 WAKE ISLAND Hy 29.89 136 T T 02 59 18.3
baz=328,slow=75,SNR=372
H11N1 WAKE ISLAND Hy 29.90 136 T T 02 59 18.1
baz=328,slow=75,SNR=276
H11N3 WAKE ISLAND Hy 29.91 136 T T 02 59 18.6
baz=328,slow=75,SNR=264
H11S1 WAKE ISLAND Hy 30.82 137 T T 03 00 22.7
baz=329,slow=76,SNR=597
H11S3 WAKE ISLAND Hy 30.83 138 T T 03 00 24.1
baz=329,slow=76,SNR=409
SPIA Saint Paul Isl 30.84 48 P **P 02 28 02.8 +0.8**
baz=263
H11S2 WAKE ISLAND Hy 30.84 137 T T 03 00 26.5
baz=329,slow=76,SNR=393
NIKH Nikolski High 31.44 56 P **P 02 28 08.2 +0.8**
baz=271
GAMB Gambell 31.62 35 P **P 02 28 10.0 +1.2**
baz=251
UNV Unalaska Valle 32.82 55 P **P 02 28 20.9 +1.4**
baz=272
M11K Mekoryuk 33.34 43 P **P 02 28 24.8 +0.9**
baz=262
TNA Tin City 33.73 33 P **P 02 28 28.2 +1.0**
baz=253
K13K Kusilvak Mount 34.31 40 P **P 02 28 33.2 +0.9**
baz=261
F14K Arctic Creek 34.34 34 P **P 02 28 33.8 +1.3**
baz=254
ANM Nome 34.50 35 P **P 02 28 35.0 +1.1**
baz=257
M13K Dall Lake 34.75 43 P **P 02 28 37.6 +1.6**
baz=265
J14K Nanvaranak Lak 34.95 39 P **P 02 28 38.2 +0.5**
baz=261
F15K North Star Dit 35.07 34 P **P 02 28 39.2 +0.4**
baz=256
G15K Niukluk 35.16 35 P **P 02 28 39.8 +0.3**
baz=258
L14K Kuka Creek 35.17 41 P **P 02 28 39.8 +0.2**
baz=264
S12K Black Hills 35.33 51 P **P 02 28 42.3 +1.2**
baz=273
M14K Bethel 35.47 42 P **P 02 28 43.0 +0.9**
baz=266
C16K Lisburne Hills 35.53 29 P **P 02 28 43.3 +0.7**
C16K IAmb IAmb 02 28 43.8
comp=Z,9.0nm,0.9s
C16K Lisburne Hills 35.53 29 P **P 02 28 42.7 0.0**
baz=252
N14K Kuskokwak Cree 35.55 44 P **P 02 28 43.3 +0.4**
baz=267
O14K Tigyukauivet M 35.73 45 P **P 02 28 44.7 +0.3**
baz=268
L15K Ungalak Mounta 35.78 41 P **P 02 28 45.6 +0.8**
baz=265
K15K Wolf Creek Mou 35.82 40 P **P 02 28 45.4 +0.2**
baz=264
H16K Elim 35.84 36 P **P 02 28 46.7 +1.4**
baz=260
G16K Koyuk River 35.93 34 P **P 02 28 46.7 +0.6**
baz=259
M15K Kasigluk River 36.09 43 P **P 02 28 47.8 +0.3**
baz=267
D17K Noatak River 36.18 30 P **P 02 28 48.9 +0.7**
baz=255
J16K Anvik River 36.35 38 P **P 02 28 50.6 +0.9**
baz=263
N15K Kwethluk River 36.36 43 P **P 02 28 52.5 +2.7**
N15K IAmb IAmb 02 28 54.3
comp=Z,7.6nm,1.0s
N15K Kwethluk River 36.36 43 P **P 02 28 50.9 +1.1**
baz=268
C17K DeLong Mountai 36.36 29 P **P 02 28 49.9 +0.2**
baz=254
I17K Unalakleet 36.39 37 P **P 02 28 51.2 +1.2**
I17K Unalakleet 36.39 37 P **P 02 28 50.8 +0.8**
baz=262
O15K Ungalikthiuk R 36.47 45 P **P 02 28 51.8 +1.0**
baz=270
E17K Hotham Inlet 36.50 32 P **P 02 28 52.2 +1.2**
baz=257
F17K Baldwin Pennin 36.59 33 P **P 02 28 52.1 +0.5**
baz=258
G17K Kiwalik Mounta 36.65 34 P **P 02 28 53.0 +0.7**
baz=260,SNR=5.3
S14K Fog Glacier 36.70 50 P **P 02 28 53.3 +0.4**
baz=274
L16K Owhat River 36.73 41 P **P 02 28 54.4 +1.5**
L16K IAmb IAmb 02 28 56.3
comp=Z,4.5nm,0.7s
L16K Owhat River 36.73 41 P **P 02 28 53.0 +0.1**
baz=267,SNR=6.3
CHNA Chernabura Isl 36.80 52 P **P 02 28 53.4 -0.1**
baz=276
H17K Granite Mounta 36.87 35 P **P 02 28 54.1 -0.1**
baz=262
M16K Timber Creek 36.95 42 P **P 02 28 55.1 +0.3**
baz=268
N16K Nishlik Lake 37.02 43 P **P 02 28 55.5 0.0**
baz=269
E18K Tukpahlearik C 37.04 31 P **P 02 28 54.6 -0.9**
baz=258
J17K VABM Dome 37.05 38 P **P 02 28 57.8 +2.2**
J17K IAmb IAmb 02 28 59.6
comp=Z,8.1nm,0.8s
J17K VABM Dome 37.05 38 P **P 02 28 55.3 -0.3**
baz=265,SNR=6.1
B18K Kokolik River 37.09 28 P **P 02 28 55.3 -0.5**
baz=254
C18K Utukok River 37.11 29 P **P 02 28 56.8 +0.6**
C18K Utukok River 37.11 29 P **P 02 28 55.6 -0.5**
baz=256,SNR=7.0
F18K Selawik 37.25 33 P **P 02 28 56.5 -0.7**
baz=260
L17K Donlin 37.31 40 P **P 02 28 58.3 +0.4**
baz=267
K17K Iditarod 37.35 39 P **P 02 29 01.1 +3.0**
K17K IAmb IAmb 02 29 02.0
comp=Z,7.5nm,0.8s
K17K Iditarod 37.35 39 P **P 02 28 58.4 +0.3**
baz=266,SNR=8.1
O16K Kokwok River B 37.36 44 P **P 02 28 59.9 +1.7**
G18K Tagagawik 37.53 34 P **P 02 29 01.1 +1.4**
G18K IAmb IAmb 02 29 02.3
comp=Z,8.0nm,0.8s
G18K Tagagawik 37.53 34 P **P 02 28 59.8 +0.1**
baz=262,SNR=11
H18K Honhosa River 37.55 35 P **P 02 29 01.5 +1.6**
H18K IAmb IAmb 02 29 02.3
comp=Z,14nm,1.4s
H18K Honhosa River 37.55 35 P **P 02 29 00.2 +0.3**
baz=263,SNR=5.4
M17K Holitna River 37.70 41 P **P 02 29 03.7 +2.6**
M17K IAmb IAmb 02 29 05.4
comp=Z,6.4nm,0.8s
M17K Holitna River 37.70 41 P **P 02 29 01.3 +0.2**
baz=269
C19K Lookout Ridge 37.78 29 P **P 02 29 02.6 +0.8**
C19K IAmb IAmb 02 29 03.5
comp=Z,9.7nm,0.9s
C19K Lookout Ridge 37.78 29 P **P 02 29 02.1 +0.3**
baz=257,SNR=6.3
N17K Nushagak Hills 37.81 43 P **P 02 29 04.2 +2.1**
N17K Nushagak Hills 37.81 43 P **P 02 29 02.6 +0.6**
baz=270
O17K Koliganek Bris 37.86 44 P **P 02 29 02.2 -0.3**
baz=271
F19K Shaleruckik Mo 38.02 33 P **P 02 29 04.8 +1.1**
F19K Shaleruckik Mo 38.02 33 P **P 02 29 03.8 0.0**
baz=262,SNR=5.8
L18K Granite Mounta 38.07 40 P **P 02 29 06.8 +2.5**
L18K IAmb IAmb 02 29 08.9
comp=Z,11nm,1.3s
L18K Granite Mounta 38.07 40 P **P 02 29 04.1 -0.1**
baz=268,SNR=8.0
J18K Innoko River 38.12 38 P **P 02 29 06.6 +2.0**
J18K IAmb IAmb 02 29 08.0
comp=Z,5.6nm,1.0s
J18K Innoko River 38.12 38 P **P 02 29 04.2 -0.4**
baz=267,SNR=6.0
GCSA Galena City Sc 38.14 36 P **P 02 29 05.1 +0.4**
baz=265
D19K Kuna River 38.18 30 P **P 02 29 06.0 +0.9**
D19K Kuna River 38.18 30 P **P 02 29 04.8 -0.3**
baz=259,SNR=9.9
G19K Purcell Mounta 38.20 34 P **P 02 29 06.7 +1.4**
G19K Purcell Mounta 38.20 34 P **P 02 29 05.8 +0.6**
baz=263,SNR=6.0
E19K Redstone River 38.33 32 P **P 02 29 07.7 +1.4**
E19K IAmb IAmb 02 29 08.4
comp=Z,7.3nm,0.8s
E19K Redstone River 38.33 32 P **P 02 29 06.6 +0.3**
baz=261,SNR=12
H19K Roundabout Mou 38.39 35 P **P 02 29 08.5 +1.7**
H19K Roundabout Mou 38.39 35 P **P 02 29 07.4 +0.6**
baz=264,SNR=21
N18K Kilae Creek 38.45 43 P **P 02 29 10.7 +3.2**
N18K Kilae Creek 38.45 43 P **P 02 29 07.7 +0.3**
baz=271
M18K Stony River 38.47 41 P **P 02 29 07.9 +0.3**
baz=270
Q17K Contact Creek 38.55 47 P **P 02 29 08.7 +0.3**
baz=274
J19K Poorman 38.63 37 P **P 02 29 10.6 +1.7**
J19K Poorman 38.63 37 P **P 02 29 09.1 +0.2**
baz=267,SNR=6.5
NRIK Noril'sk 38.75 331 P **P 02 29 08.6 -1.2**
NRIK IAmb IAmb 02 29 09.0
comp=Z,3.6nm,0.4s
NRIK Noril'sk 38.75 331 P **P 02 29 07.3 -2.5**
comp=Z,2.7nm,0.4s,baz=141,slow=3.4,SNR=5.4
comp=Z,2.7nm,0.4s
NRIK Noril'sk 38.75 331 P **P 02 29 08.6 -1.2**
NRIK pmax pmax
comp=Z,4.0nm,0.4s
D20K Etivluk River 38.76 30 P **P 02 29 09.6 -0.3**
baz=260,SNR=20
O18K Koktuh Hills 38.81 44 P **P 02 29 10.5 0.0**
baz=273
B20K Meade River 38.82 28 P **P 02 29 10.9 +0.6**
B20K Meade River 38.82 28 P **P 02 29 09.7 -0.6**
baz=258,SNR=6.8
P18K Big Mountain, 38.83 45 P **P 02 29 11.0 +0.4**
baz=273
E20K Nigu River 38.84 30 P **P 02 29 10.5 -0.1**
baz=261,SNR=15
F20K Avaraart Lake 38.85 32 P **P 02 29 11.6 +0.9**
F20K Avaraart Lake 38.85 32 P **P 02 29 10.8 +0.1**
baz=263
L19K White Mountain 38.93 40 P **P 02 29 10.8 -0.7**
baz=270
Q18K Katmai Hardscr 38.99 46 P **P 02 29 12.4 +0.4**
baz=274
PZH PanZhiHua 39.02 259 P **P 02 29 14.0 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
H20K Anotleneega Mo 39.04 35 P **P 02 29 12.5 +0.2**
baz=266,SNR=13
N19K Bonanza Creek 39.13 42 P **P 02 29 13.4 +0.2**
baz=272
M19K Big River Lodg 39.15 41 P **P 02 29 13.9 +0.6**
baz=271
I20K Naaghedeneel 39.17 36 P **P 02 29 15.8 +2.5**
I20K IAmb IAmb 02 29 16.8
comp=Z,5.4nm,0.6s
I20K Naaghedeneel 39.17 36 P **P 02 29 13.9 +0.6**
baz=267
J20K Nowinta River 39.28 37 P **P 02 29 16.5 +2.2**
J20K Nowinta River 39.28 37 P **P 02 29 15.1 +0.7**
baz=268,SNR=16
K20K Telida 39.30 38 P **P 02 29 17.8 +3.3**
K20K IAmb IAmb 02 29 17.9
comp=Z,4.4nm,0.8s
K20K Telida 39.30 38 P **P 02 29 15.7 +1.2**
baz=269,SNR=6.2
R18K Karluk 39.38 48 P **P 02 29 16.1 +1.0**
baz=276
L20K Farewell, AK 39.39 40 P **P 02 29 15.5 +0.2**
baz=271
C21K Knifeblade Rid 39.48 29 P **P 02 29 15.8 -0.1**
baz=262,SNR=8.0
IMAR Indian Mountai 39.54 34 P **P 02 29 17.5 +1.1**
B21K Ikpikpuk River 39.62 28 P **P 02 29 18.2 +1.3**
B21K Ikpikpuk River 39.62 28 P **P 02 29 16.6 -0.4**
baz=261,SNR=7.9
SII Sitkinak Islan 39.64 49 P **P 02 29 17.0 -0.4**
baz=278
Q19K Cape Douglas, 39.67 45 P **P 02 29 18.9 +1.3**
Q19K IAmb IAmb 02 29 36.5
comp=Z,11nm,1.2s
Q19K Cape Douglas, 39.67 45 P **P 02 29 18.0 +0.3**
baz=275
G21K Allakaket 39.67 33 IAmb IAmb 02 29 20.5
comp=Z,6.0nm,0.9s
G21K Allakaket 39.67 33 P **P 02 29 17.1 -0.4**
baz=266,SNR=9.6
E21K Killik River 39.68 30 IAmb IAmb 02 29 19.0
comp=Z,5.9nm,0.9s
E21K Killik River 39.68 30 P **P 02 29 17.0 -0.6**
baz=263
A22K Sinclair Lake 39.73 26 P **P 02 29 17.7 -0.2**
baz=259
F21K Alatna River 39.74 32 IAmb IAmb 02 29 20.8
comp=Z,3.7nm,0.7s
F21K Alatna River 39.74 32 P **P 02 29 18.2 +0.1**
baz=265,SNR=9.2
M20K Styx River 39.75 41 P **P 02 29 21.0 +2.7**
M20K Styx River 39.75 41 P **P 02 29 17.9 -0.4**
baz=272
P19K Oil Pt 39.82 44 P **P 02 29 19.1 +0.2**
baz=275
H21K Melozitna Rive 39.91 35 IAmb IAmb 02 29 21.9
comp=Z,4.2nm,0.8s
H21K Melozitna Rive 39.91 35 P **P 02 29 19.7 +0.2**
baz=268,SNR=10.0
ZAA0 Zalesovo Array 40.02 307 P **P 02 29 20.5 -0.1**
ZAA0 IAmb IAmb 02 29 22.0
comp=Z,5.9nm,0.9s
ZALV Zalesovo Beam 40.02 307 P **P 02 29 20.2 -0.3**
ZALV Zalesovo Beam 40.02 307 P **P 02 29 19.5 -1.1**
comp=Z,5.1nm,0.7s,baz=90,slow=9.3,SNR=16
ZALV PcP **PcP 02 31 23.4 +0.7**
comp=Z,2.0nm,0.6s,baz=103,slow=3.2,SNR=5.2
comp=Z,5.1nm,0.7s
ZALV Zalesovo Beam 40.02 307 P **P 02 29 20.2 -0.3**
OHAK Old Harbor 40.05 48 P **P 02 29 21.6 +0.9**
OHAK IAmb IAmb 02 29 50.9
comp=Z,9.8nm,1.4s
OHAK Old Harbor 40.05 48 P **P 02 29 20.4 -0.3**
baz=277
CHUM Lake Minchumin 40.09 38 P **P 02 29 21.1 +0.2**
baz=270
O20K Slope Mountain 40.10 43 P **P 02 29 21.0 -0.2**
baz=275
B22K Teshekpuk Lake 40.13 27 P **P 02 29 21.4 +0.2**
baz=262
CAST Castle Rocks 40.20 38 IAmb IAmb 02 29 25.6
comp=Z,7.9nm,0.8s
CAST Castle Rocks 40.20 38 P **P 02 29 22.0 +0.1**
baz=271
D22K Ayikyak River 40.20 30 IAmb IAmb 02 29 23.7
comp=Z,7.6nm,0.8s
D22K Ayikyak River 40.20 30 P **P 02 29 21.8 0.0**
baz=264
N20K Mount Spurr 40.22 42 P **P 02 29 22.9 +0.7**
baz=274
SPCR Spurr Chakacha 40.22 42 P **P 02 29 22.9 +0.7**
baz=274
I21K Tanana 40.24 36 P **P 02 29 23.0 +0.8**
baz=269
F22K John River 40.27 32 P **P 02 29 23.1 +0.7**
baz=266
KDAK Kodiak Island 40.35 47 P **P 02 29 24.2 +1.0**
KDAK Kodiak Island 40.35 47 P **P 02 29 23.3 +0.2**
baz=277
KDAK Kodiak Island 40.35 47 P **P 02 29 24.2 +1.0**
KDAK pmax pmax
comp=Z,6.0nm,1.2s
Q20K Shuyak Island 40.35 46 P **P 02 29 23.2 0.0**
baz=276
SYI Shuyak Island 40.35 46 P **P 02 29 24.0 +0.8**
SYI IAmb IAmb 02 29 30.7
comp=Z,16nm,1.5s
E22K Anaktuvuk Pass 40.45 31 P **P 02 29 23.7 -0.3**
baz=266
G22K Bettles 40.49 33 P **P 02 29 25.0 +0.8**
baz=268
H22K Ishtalitna Cre 40.51 34 P **P 02 29 25.1 +0.7**
baz=269,SNR=8.1
BPAW Bear Paw Mtn. 40.67 37 P **P 02 29 26.1 +0.3**

	baz=271						
KTH	**Kantishna Hill**	40.71	38	P	P	02 29 28.6	+2.4
MLY	**Manley**	40.77	36	P	P	02 29 27.2	+0.6
	baz=270,SNR=6.1						
CNPM	**China Poot**	40.85	44	P	P	02 29 29.1	+1.9
CNPM				IAmb	IAmb	02 29 32.3	
	comp=Z,13nm,1.1s						
SUA	**Susitna One**	40.91	41	P	P	02 29 30.0	+2.1
SUA				IAmb	IAmb	02 29 30.0	
	comp=Z,12nm,1.2s						
SUA	**Susitna One**	40.91	41	P	P	02 29 28.3	+0.4
	baz=274						
D23K	**Nanushuk River**	40.93	30	P	P	02 29 28.2	+0.4
	baz=266						
COLD	**Coldfoot**	41.02	32	P	P	02 29 29.6	+1.1
	baz=268						
C23K	**Itkillik River**	41.02	28	IAmb	IAmb	02 29 30.1	
	comp=Z,9.4nm,0.8s						
C23K	**Itkillik River**	41.02	28	P	P	02 29 29.1	+0.6
	baz=265						
CUT	**Chulitna**	41.07	40	P	P	02 29 29.4	+0.4
	baz=274						
BRSE	**Bradley Lake S**	41.07	44	P	P	02 29 29.9	+0.7
	baz=276						
G23K	**Bananza Creek**	41.07	33	P	P	02 29 29.2	+0.1
	baz=269,SNR=8.7						
H23K	**Yukon River**	41.26	35	IAmb	IAmb	02 29 34.0	
	comp=Z,6.3nm,0.8s						
H23K	**Yukon River**	41.26	35	P	P	02 29 31.7	+1.1
	baz=271,SNR=11						
E23K	**Chandalar**	41.27	31	P	P	02 29 31.6	+0.9
	baz=268,SNR=10						
TOLK	**Toolik Lake Re**	41.31	30	P	P	02 29 31.0	0.0
	baz=267,SNR=8.2						
I23K	**Minto, Yukon-K**	41.35	36	P	P	02 29 31.5	+0.2
	baz=272,SNR=9.9						
RC01	**Rabbit Creek A**	41.43	42	P	P	02 29 32.9	+1.0
	baz=276						
NEA2	**Nenana**	41.49	36	P	P	02 29 33.0	+0.5
	baz=272,SNR=20						
O22K	**Cooper Landing**	41.50	43	P	P	02 29 33.0	+0.5
	baz=276						
MCK	**McKinley**	41.59	38	P	P	02 29 34.0	+0.7
	baz=274						
D24K	**Happy Valley**	41.61	29	P	P	02 29 34.5	+1.2
	baz=267,SNR=17						
RND	**Reindeer**	41.65	38	IAmb	IAmb	02 29 36.4	
	comp=Z,5.0nm,0.7s						
RND	**Reindeer**	41.65	38	P	P	02 29 34.9	+1.1
PMR	**Palmer**	41.67	41	P	P	02 29 36.3	+2.4
PMR	**Palmer**	41.67	41	P	P	02 29 34.5	+0.6
	baz=276						
PMR	**Palmer**	41.67	41	P	P	02 29 36.3	+2.4
PMR				pmax	pmax		
	comp=Z,9.0nm,1.5s						
SEW	**Seward**	41.67	43	P	P	02 29 34.2	+0.2
	baz=277						
C24K	**Franklin Bluff**	41.68	29	P	P	02 29 34.1	+0.2
	baz=267						
E24K	**Your Creek**	41.69	31	IAmb	IAmb	02 29 36.3	
	comp=Z,6.9nm,0.7s						
E24K	**Your Creek**	41.69	31	P	P	02 29 34.8	+0.7
	baz=269,SNR=14						
GHO	**Glory Hole Cre**	41.75	41	P	P	02 29 35.7	+1.0
GHO				IAmb	IAmb	02 29 38.0	
	comp=Z,5.3nm,0.6s						
WAT1	**Susitna Watana**	41.83	39	P	P	02 29 36.2	+0.9
	baz=275						
MDM	**Murphy Dome**	41.83	36	IAmb	IAmb	02 29 38.6	
	comp=Z,5.5nm,0.7s						
F24K	**Squaw Lake**	41.91	32	P	P	02 29 36.4	+0.4
	baz=270,SNR=6.8						
WRH	**Wood River Hil**	41.92	37	IAmb	IAmb	02 29 39.4	
	comp=Z,4.1nm,0.5s						
H24K	**Noodor Dome**	41.95	34	IAmb	IAmb	02 29 39.0	
	comp=Z,13nm,1.4s						
H24K	**Noodor Dome**	41.95	34	P	P	02 29 37.2	+1.0
	baz=272,SNR=12						
COLA	**College**	42.00	36	P	P	02 29 37.4	+0.9
	baz=273						
COLA	**College**	42.00	36*d*	*i*P	P	02 29 38.3	+1.8
COLA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KNK	**Knik Glacier**	42.01	41	P	P	02 29 37.6	+0.9
	baz=276						
SML	**Sawmill**	42.02	41	P	P	02 29 38.9	+2.0
SML				IAmb	IAmb	02 29 40.8	
	comp=Z,8.7nm,0.8s						
SML	**Sawmill**	42.02	41	P	P	02 29 38.1	+1.2
	baz=276,SNR=5.4						
SML	**Sawmill**	42.02	41	P	P	02 29 38.9	+2.0
SML				pmax	pmax		
	comp=Z,9.0nm,0.8s						
G24K	**Hadweenzic Riv**	42.09	33	P	P	02 29 37.9	+0.6
	baz=271,SNR=12						
POKR	**Poker Plat Res**	42.16	36	P	P	02 29 40.1	+2.2
POKR				IAmb	IAmb	02 29 40.7	
	comp=Z,9.4nm,0.9s						
POKR	**Poker Plat Res**	42.16	36	P	P	02 29 38.6	+0.7
	baz=273						
WAT6	**Susitna Watana**	42.22	39	P	P	02 29 39.3	+0.6
	baz=276						
M23K	**Glacier View**	42.31	41	P	P	02 29 40.0	+0.8
	baz=277						
DHY	**Denali Highway**	42.34	39	IAmb	IAmb	02 29 42.3	
	comp=Z,6.0nm,0.8s						
DHY	**Denali Highway**	42.34	39	P	P	02 29 40.5	+1.0
	baz=276,SNR=6.5						
HDA	**Harding Lake**	42.42	37	P	P	02 29 40.8	+0.8
	baz=274,SNR=8.5						
IL31		42.42	36	IAmb	IAmb	02 29 42.5	
	comp=Z,6.0nm,0.5s						
ILAR	**Eielson Array**	42.42	36	P	P	02 29 41.5	+1.5
ILAR	**Eielson Array**	42.42	36	P	P	02 29 39.7	-0.3
	comp=Z,3.0nm,0.5s,baz=263,slow=6.2,SNR=74						
	comp=Z,3.0nm,0.5s						
ILAR	**Eielson Array**	42.42	36	P	P	02 29 41.5	+1.5
IL03	**Eielson Array**	42.43	36	P	P	02 29 41.9	+1.8
D25K	**Kavik River**	42.48	29	P	P	02 29 41.3	+0.8
D25K	**Kavik River**	42.48	29	P	P	02 29 41.0	+0.5
	baz=270,SNR=25						
SCM	**Sheep Creek Mo**	42.50	40	P	P	02 29 41.2	+0.5
	baz=277						
G25K	**Bearman Lake**	42.63	33	P	P	02 29 42.6	+1.0
	baz=273						
P23K	**Montague Islan**	42.71	43	P	P	02 29 42.7	+0.4
	baz=279						
GLI	**Glacier Island**	42.73	42	P	P	02 29 43.0	+0.5
	baz=278						
H25L	**Birch Creek**	42.77	34	P	P	02 29 43.9	+1.2
	baz=273						
F25K	**Christian Rive**	42.77	32	P	P	02 29 43.9	+1.0
	baz=272,SNR=6.4						
E25K	**Arctic Village**	42.79	31	P	P	02 29 44.2	+1.2
	baz=272						
PRP	**Porcupine Dome**	42.94	35	P	P	02 29 45.3	+1.0
	baz=274,SNR=18						
K24K	**Donnelly Dome**	42.98	37	P	P	02 29 45.0	+0.4
	baz=276,SNR=6.4						
C26K	**Camden Bay**	43.00	28	P	P	02 29 45.5	+0.9
	baz=270						
M24K	**Tolsona, Glenn**	43.00	40	P	P	02 29 45.2	+0.4
	baz=278						
J25K	**Salcha River,**	43.08	36	P	P	02 29 46.5	+1.1
J25K	**Salcha River,**	43.08	36	P	P	02 29 46.2	+0.8
	baz=276						
BMAR	**Burnt Mountain**	43.19	32	P	P	02 29 48.3	+2.1
KLU	**Klutina**	43.20	41	P	P	02 29 49.8	+3.3
KLU				IAmb	IAmb	02 29 51.6	
	comp=Z,13nm,1.4s						
KLU	**Klutina**	43.20	41	P	P	02 29 47.5	+1.0
	baz=278						
PAX	**Paxson**	43.22	39	P	P	02 29 47.8	+1.2
	baz=277						
Q23K	**Middleton Isla**	43.33	44	P	P	02 29 47.5	+0.2
	baz=280						
F26K	**Sheenjek River**	43.34	32	P	P	02 29 48.6	+1.2
	baz=273,SNR=12						
C27K	**Jago River**	43.42	29	P	P	02 29 48.3	+0.3
	baz=272,SNR=19						
EYAK	**Cordova Ski Ar**	43.43	42	P	P	02 29 47.9	-0.3
	baz=280						
HARP	**HAARP**	43.44	39	P	P	02 29 48.3	+0.1
	baz=278						
MK31	**Makanchi Array**	43.47	297	IAmb	IAmb	02 29 51.7	
	comp=Z,5.6nm,0.8s						
MK31	**Makanchi Array**	43.47	297*c*	*i*P	P	02 29 49.2	+0.5
MKAR	**Makanchi Array**	43.47	297	P	P	02 29 49.1	+0.4
	comp=Z,3.4nm,0.5s,baz=58,slow=3.4,SNR=35						
	comp=Z,3.4nm,0.5s						
MKAR	**Makanchi Array**	43.47	297	*e*P	P	02 29 49.2	+0.5
MKAR	**Makanchi Array**	43.47	297	P	P	02 29 49.2	+0.5
G26K	**Porcupine Rive**	43.53	33	P	P	02 29 49.2	+0.4
	baz=274,SNR=13						
MAKZ	**Makanchi**	43.66	297	P	P	02 29 50.9	+0.6
MAKZ				IAmb	IAmb	02 29 53.3	
	comp=Z,8.1nm,0.8s						
MAKZ	**Makanchi**	43.66	297	P	P	02 29 50.9	+0.6
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SCRK	**Sand Creek**	43.75	37	P	P	02 29 50.9	0.0
	baz=277,SNR=17						
N25K	**Chitina, Valde**	43.81	40	P	P	02 29 51.3	0.0
	baz=279						
J26L	**Joseph Creek**	43.87	36	P	P	02 29 52.8	+1.0
J26L	**Joseph Creek**	43.87	36	P	P	02 29 52.5	+0.8
	baz=277,SNR=7.6						
BMRM	**Bremner River**	43.92	41	P	P	02 29 52.1	0.0
	baz=280						
I26K	**Coal Creek Min**	43.95	35	P	P	02 29 53.3	+1.1
	baz=277						
MENT	**Mentasta**	44.01	38	P	P	02 29 55.8	+3.0
MENT				IAmb	IAmb	02 29 57.4	
	comp=Z,11nm,1.5s						
L26K	**Log Cabin Wild**	44.17	38	P	P	02 29 54.9	+0.8
	baz=279						
KAIM	**Kayak Island**	44.20	43	P	P	02 29 55.0	+0.7
	baz=281						
GLB	**Gilahina Butte**	44.22	41	P	P	02 29 57.9	+3.4
E27K	**Coleen River**	44.27	31	P	P	02 29 55.3	+0.5
	baz=275						
G27K	**Doyon Strip**	44.38	33	P	P	02 29 56.5	+0.8
	baz=276						
D27M	**Malcolm River**	44.41	29	P	P	02 29 57.1	+1.1
	baz=275						
VRDI	**Verde Repeater**	44.42	41	P	P	02 29 58.1	+1.8
M26K	**Nabesna, AK**	44.43	39	P	P	02 29 57.2	+1.0
	baz=280						
H27K	**Steamboat Moun**	44.50	34	P	P	02 29 57.1	+0.4
	baz=277,SNR=9.9						
KURK	**Kurchatov**	44.50	304	P	P	02 29 57.2	+0.4
KURK	**Kurchatov**	44.50	304	*e*P	P	02 29 57.1	+0.3
KURK	**Kurchatov**	44.50	304*c*	*i*P	P	02 29 57.1	+0.3
KURK				pmax	pmax		
	comp=Z,25nm,1.7s						
I27K	**Kandik River**	44.55	35	P	P	02 29 58.1	+1.0
	baz=278,SNR=5.1						
K27K	**Chicken**	44.58	37	P	P	02 29 57.8	+0.5
	baz=279						
KURBB	**Kurchatov Arra**	44.59	304	P	P	02 29 57.5	0.0
	comp=Z,6.0nm,0.5s,baz=83,slow=10,SNR=74						
KURBB				PcP	PcP	02 31 38.7	+0.7
	comp=Z,0.9nm,0.6s,baz=79,slow=3.6,SNR=3.4						
	comp=Z,6.0nm,0.5s						
KURBB	**Kurchatov Arra**	44.59	304	P	P	02 29 57.7	+0.2
MCARA	**McCarthy VSAT**	44.60	41	P	P	02 29 59.0	+1.5
	baz=281						
CRQM	**Cirque**	44.66	42	P	P	02 30 02.5	+4.3
CRQM				IAmb	IAmb	02 30 45.5	
	comp=Z,3.8nm,0.6s						
CRQE	**Cirque**	44.69	42	P	P	02 29 59.1	+0.8
	baz=281						
L27K	**Beaver Creek,**	44.85	38	IAmb	IAmb	02 30 04.2	
	comp=Z,14nm,1.4s						
L27K	**Beaver Creek,**	44.85	38	P	P	02 30 00.0	+0.6
	baz=280,SNR=14						
EGAK	**Eagle**	44.86	36	IAmb	IAmb	02 30 02.3	
	comp=Z,14nm,1.2s						
EGAK	**Eagle**	44.86	36	P	P	02 30 00.4	+1.0
	baz=279,SNR=9.7						
WAX	**Waxell Ridge**	44.86	42	P	P	02 30 00.8	+1.1
WAX				IAmb	IAmb	02 30 33.9	
	comp=Z,7.6nm,0.8s						
BCAR	**Beaver Creek A**	44.86	38	P	P	02 30 01.5	+1.9
SNH	**Sunshine Point**	44.92	42	P	P	02 30 02.2	+2.0
M27K	**Edge Creek, AK**	44.95	39	P	P	02 30 01.2	+0.8
	baz=281,SNR=8.8						
F28M	**Old Crow**	44.98	32	P	P	02 30 01.6	+1.1
	baz=277,SNR=5.3						
E28M	**Babbage River**	44.99	30	IAmb	IAmb	02 30 02.7	
	comp=Z,3.9nm,0.6s						
E28M	**Babbage River**	44.99	30	P	P	02 30 00.9	+0.5
	baz=277,SNR=5.6						
ISLE	**Juniper Island**	45.08	42	P	P	02 30 03.9	+2.5
I28M	**Miner Creek**	45.26	35	IAmb	IAmb	02 30 06.0	
	comp=Z,6.7nm,0.7s						
I28M	**Miner Creek**	45.26	35	P	P	02 30 03.6	+0.8
	baz=279,SNR=20						
CTG	**Chitna Glacier**	45.48	41	P	P	02 30 04.7	+0.1
	baz=283						
CTGM	**Chitina Glacie**	45.48	41	P	P	02 30 08.2	+3.5
CTGM				IAmb	IAmb	02 30 09.9	
	comp=Z,5.8nm,0.5s						
E29M	**Blow River**	45.61	30	P	P	02 30 05.9	+0.6
	baz=278						
YUK3	**Moose Creek**	45.72	40	P	P	02 30 07.1	+0.5
	baz=282						
DAWY	**Dawson**	45.73	36	P	P	02 30 08.5	+2.0
DAWY	**Dawson**	45.73	36	P	P	02 30 07.6	+1.2
	baz=281						
H29M	**Whitestone**	45.77	33	IAmb	IAmb	02 30 10.2	
	comp=Z,6.2nm,0.7s						
H29M	**Whitestone**	45.77	33	P	P	02 30 07.7	+1.0
	baz=280						
G29M	**Pine Creek**	45.79	32	IAmb	IAmb	02 30 10.1	
	comp=Z,6.1nm,0.8s						
G29M	**Pine Creek**	45.79	32	P	P	02 30 07.7	+0.9
	baz=280,SNR=6.2						
I29M	**Ogilvie Camp,**	45.95	35	IAmb	IAmb	02 30 10.6	
	comp=Z,5.1nm,0.7s						
I29M	**Ogilvie Camp,**	45.95	35	P	P	02 30 08.4	+0.3
	baz=281,SNR=11						
YUK8	**Steele Glacier**	46.16	40	P	P	02 30 10.4	+0.4
	baz=284						
PINM	**Pinnacle**	46.20	42	P	P	02 30 10.5	+0.3
	baz=284						
EPYK	**Eagle Plains**	46.40	33	IAmb	IAmb	02 30 14.9	
	comp=Z,9.4nm,0.8s						
EPYK	**Eagle Plains**	46.40	33	P	P	02 30 12.3	+0.7
	baz=281,SNR=7.3						
G30M	**tAoh Zraii Nji**	46.48	32	IAmb	IAmb	02 30 14.7	
	comp=Z,5.5nm,0.7s						
G30M	**tAoh Zraii Nji**	46.48	32	P	P	02 30 13.2	+0.9
	baz=281,SNR=5.8						
L29M	**L29M**	46.49	38	IAmb	IAmb	02 30 17.5	
	comp=Z,9.0nm,1.0s						
L29M	**L29M**	46.49	38	P	P	02 30 12.9	+0.6
	baz=283,SNR=11						
M29M	**Somme Creek**	46.49	39	P	P	02 30 15.1	+2.6
M29M	**Somme Creek**	46.49	39	P	P	02 30 12.6	+0.2
	baz=283						
F30M	**Barrier River**	46.52	31	P	P	02 30 12.9	+0.4
	baz=281,SNR=11						
K29M	**Barlow Dome**	46.59	37	P	P	02 30 13.7	+0.5
	baz=283,SNR=6.5						
YUK4	**Talbot Arm**	46.66	40	P	P	02 30 14.2	+0.3
	baz=284						
PNL	**Peninsula**	46.73	42	P	P	02 30 14.4	+0.2
	baz=285						
I30M	**Mount Dempster**	46.77	35	IAmb	IAmb	02 30 17.2	
	comp=Z,8.2nm,0.6s						
I30M	**Mount Dempster**	46.77	35	P	P	02 30 16.0	+1.4
	baz=282,SNR=22						
YUK6	**Outpost Mounta**	46.90	41	P	P	02 30 17.1	+1.3
	baz=285						
J30M	**Hart River**	46.93	35	P	P	02 30 17.1	+1.2
	baz=283						
M30M	**Minto, Yukon**	47.21	38	P	P	02 30 19.2	+1.3
	baz=285						
INK	**Inuvik**	47.22	30	IAmb	IAmb	02 30 20.3	
	comp=Z,14nm,1.2s						
INK	**Inuvik**	47.22	30	P	P	02 30 18.5	+0.6
	baz=282,SNR=11						
INK	**Inuvik**	47.22	30	P	P	02 30 18.0	+0.1
INK				pmax	pmax		
	comp=Z,13nm,0.8s						
G31M	**Satah River**	47.24	32	IAmb	IAmb	02 30 20.7	
	comp=Z,6.8nm,0.6s						
G31M	**Satah River**	47.24	32	P	P	02 30 18.8	+0.8
	baz=283,SNR=7.7						
F31M	**Tsiigehtchic**	47.33	31	IAmb	IAmb	02 30 21.3	
	comp=Z,6.4nm,0.7s						
F31M	**Tsiigehtchic**	47.33	31	P	P	02 30 19.7	+1.0
	baz=283						
HYT	**Haines Junctio**	47.34	41	P	P	02 30 21.9	+2.9
HYT				IAmb	IAmb	02 30 24.4	
	comp=Z,7.7nm,0.7s						
HYT	**Haines Junctio**	47.34	41	P	P	02 30 20.1	+1.1
	baz=286,SNR=11						
N30M	**Aishikik Lake**	47.36	40	P	P	02 30 19.7	+0.6
	baz=285						
H31M	**Peel River**	47.47	33	P	P	02 30 19.7	-0.2
	baz=284,SNR=14						
P29M	**Windy Craggy**	47.55	42	P	P	02 30 23.5	+2.8
P29M				IAmb	IAmb	02 30 26.6	
	comp=Z,6.7nm,0.8s						
P29M	**Windy Craggy**	47.55	42	P	P	02 30 21.3	+0.7
	baz=286						
P30M	**Million Dollar**	47.79	41	P	P	02 30 22.7	+0.2
	baz=287						
N31M	**Braeburn, Yuko**	47.96	39	P	P	02 30 24.3	+0.6
	baz=286						
O30N	**Mendenhall**	48.02	40	P	P	02 30 24.2	0.0
	baz=287						
PLBC	**Pleasant Camp**	48.27	42	P	P	02 30 27.4	+1.3
	baz=288						
M31M	**Drury Creek, Y**	48.39	38	P	P	02 30 27.9	+0.9
	baz=287						
BVA0	**Borovoye Array**	48.56	309	*i* P	P	02 30 28.9	+0.4
BVAR	**Borovoye Array**	48.56	309	P	P	02 30 28.9	+0.4
	comp=Z,2.9nm,0.3s,baz=84,slow=9.8,SNR=48						
BVAR				PcP	PcP	02 31 52.7	+0.7
	comp=Z,1.3nm,0.4s,baz=58,slow=3.7,SNR=4.5						
	comp=Z,2.9nm,0.3s						
BRVK	**Borovoye**	48.61	309	P	P	02 30 29.8	+1.0
BRVK				IAmb	IAmb	02 30 30.2	
	comp=Z,11nm,1.1s						
BRVK	**Borovoye**	48.61	309	*e*P	P	02 30 29.0	+0.2
BRVK	**Borovoye**	48.61	309*c*	*i*P	P	02 30 29.0	+0.2
BRVK				pmax	pmax		
	comp=Z,15nm,1.7s						
WHY	**Whitehorse**	48.62	40	P	P	02 30 29.0	+0.1
	baz=288						
S31K	**Pelican**	48.80	44	P	P	02 30 30.7	+0.6
	baz=289						
A36M	**Sachs Harbour**	49.08	24	P	P	02 30 33.6	+1.5
A36M				IAmb	IAmb	02 30 33.8	
	comp=Z,3.6nm,0.7s						
A36M	**Sachs Harbour**	49.08	24	P	P	02 30 32.8	+0.7
	baz=286						
BOOM	**Boomskoye usch**	49.32	294	IAmb	IAmb	02 30 36.5	
	comp=Z,5.7nm,0.7s						
BOOM	**Boomskoye usch**	49.32	294	P	P	02 30 35.4	+0.8
BOOM				pmax	pmax		
	comp=Z,9.0nm,0.6s						
P32M	**Atlin**	49.51	41	P	P	02 30 35.0	-0.6
	baz=289						
SIT	**Sitka**	49.57	45	P	P	02 30 36.6	+0.6
	baz=290						
P33M	**Teslin, Yukon**	49.73	40	P	P	02 30 37.4	+0.1
	baz=290						
C36M	**Paulatuk**	50.25	27	P	P	02 30 41.8	+0.8
C36M	**Paulatuk**	50.25	27	P	P	02 30 41.3	+0.3
	baz=289						
Q32M	**Nakina River**	50.42	42	P	P	02 30 43.1	+0.4
	baz=291						
KSH	**Kashi**	50.66	291	P	P	02 30 47.0	+2.3
KSH				pP	pP	02 31 17.8	+1.7
R33M	**Jennings River**	50.89	41	P	P	02 30 46.7	+0.6
	baz=292						
U33K	**Whale Pass**	51.05	45	P	P	02 30 48.2	+1.1
	baz=293						
CRAG	**Craig**	51.30	46	P	P	02 30 50.2	+1.2
	baz=293						
WRAK	**Wrangell Islan**	51.33	45	P	P	02 30 50.4	+1.2
	baz=293						
ARSB	**Arslanbob**	51.82	294	P	P	02 30 54.8	+1.5
ARSB	**Arslanbob**	51.82	294	P	P	02 30 54.8	+1.5
ARSB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SVE	**Sverdlovsk**	52.34	316*d*	*i*P	P	02 30 57.1	+0.4
SVE				pmax	pmax		
	comp=Z,19nm,0.9s						
KK31	**Karatay Array**	52.60	297	IAmb	IAmb	02 31 02.8	
	comp=Z,2.7nm,0.6s						
KK31	**Karatay Array**	52.60	297	*i* P	P	02 30 58.8	-0.1
KKAR	**Karatay Array**	52.60	297	P	P	02 30 59.2	+0.3
KKAR				IAmb	IAmb	02 31 02.8	
	comp=Z,2.7nm,0.6s						
KKAR	**Karatay Array**	52.60	297	P	P	02 30 59.4	+0.5
KKAR	**Karatay Array**	52.60	297	P	P	02 30 59.4	+0.5
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TRKS	**Terek-Say**	52.93	295	P	P	02 31 01.9	+0.3
EUNU	**Eureka**	53.26	10	P	P	02 31 03.6	+0.4
ARU	**Arti**	53.54	316	P	P	02 31 05.6	0.0
ARU	**Arti**	53.54	316*c*	*i*P	P	02 31 05.4	-0.2
ARU				*PP	pP	02 31 38.2	+1.1
ARU				S	S	02 38 28.4	+0.7
ARU				SS	SKiKP	02 42 04.7	-1.1
ARU				pmax	pmax		
	comp=Z,13nm,1.0s						
ARU	**Arti**	53.54	316	P	P	02 31 04.6	-1.0
	comp=Z,17nm,1.0s						
HMH	**Humu'ula Sheep**	54.57	96	P	P	02 31 13.9	0.0
SPITS	**Spitsbergen Ar**	54.69	349	P	P	02 31 12.3	-1.3
	comp=Z,4.4nm,0.8s,baz=57,slow=9.3,SNR=8.8						
SPITS				PcP	PcP	02 32 13.4	-1.2
	comp=Z,12nm,1.0s,baz=60,slow=12,SNR=2.5						
	comp=Z,4.4nm,0.8s						
NOR	**Nord**	54.70	357	*i* P	P	02 31 09.6	-4.0
NOR				IAmb	IAmb	02 31 13.6	
	comp=Z,4.2nm,1.0s						
RES	**Resolute Bay**	55.51	16	P	P	02 31 19.8	+0.3
RES				pmax	pmax		
	comp=Z,25nm,0.8s						
CHGR	**Chuyangaron**	55.69	293	P	P	02 31 21.8	+0.4
CHGR	**Chuyangaron**	55.69	293	P	P	02 31 21.8	+0.4
CHGR				pmax	pmax		
	comp=Z,15nm,0.7s						
SIMJ	**Simiganj**	55.79	293	P	P	02 31 21.6	-0.6
SIMJ				IAmb	IAmb	02 31 23.1	
	comp=Z,5.7nm,0.8s						
AB31	**Akbulak array**	56.11	308	*i* P	P	02 31 24.8	+0.7
ABKAR	**Akbulak array**	56.11	308	P	P	02 31 24.8	+0.6
YKA	**Yellowknife Ar**	56.69	33	P	P	02 31 28.5	+0.5
	comp=Z,2.1nm,0.7s,baz=304,slow=7.0,SNR=25						
	comp=Z,2.1nm,0.7s						
KIRV	**Kirov**	56.89	322*c*	*e*P	P	02 31 29.5	0.0
LVZ	**Lovozero**	57.39	335	P	P	02 31 33.1	+0.2
LVZ	**Lovozero**	57.39	335	P	P	02 31 33.1	+0.2
LVZ				pmax	pmax		
	comp=Z,19nm,1.1s						
VADS	**Vadso**	57.53	339	*e*P	P	02 31 34.4	+0.5
KEV	**Kevo**	58.39	339	P	P	02 31 39.5	-0.3
KEV	**Kevo**	58.39	339	P	P	02 31 39.5	-0.3
KEV				pmax	pmax		
	comp=Z,27nm,1.2s						
NEEM	**North Greenlan**	58.82	4	*i* P	P	02 31 42.2	-0.8
NEEM				IAmb	IAmb	02 31 44.5	

comp=Z,19nm,0.8s
GEYT Alibeck 63.33 298 P P 02 32 13.0 -0.7
comp=Z,1.4nm,0.4s,baz=64,slow=3.4,SNR=4.4
comp=Z,1.4nm,0.4s
WRA Warramunga Arr 64.01 191 P P 02 32 18.4 +0.2
comp=Z,2.6nm,0.9s,baz=8.9,slow=7.0,SNR=6.9
comp=Z,2.6nm,0.9s
SUMG Summit 64.11 1 P P 02 32 19.6 +0.8
SUMG Summit 64.11 1 P P 02 32 19.6 +0.8
SUMG pmax pmax
comp=Z,20nm,0.8s
SUMG Summit 64.11 1 *i* P **P 02 32 18.9 +0.1**
SUMG IAmb IAmb 02 32 20.4
comp=Z,19nm,0.7s
MOR8 Moi Rana 64.24 340 *eP* **P 02 32 18.2 -1.1**
MOR8 IAmb IAmb 02 32 19.1
comp=Z,26nm,0.7s
KEF Keuruu 64.29 333 *eP* **P 02 32 19.4 -0.1**
VAF Ylistaro 64.35 335 *eP* **P 02 32 20.4 +0.5**
FIA1 FINESS Array S 64.40 332 P **P 02 32 20.8 +0.5**
FINES FINESS Array B 64.40 332 P **P 02 32 20.5 +0.2**
FINES FINESS Array B 64.40 332 P **P 02 32 20.1 -0.2**
comp=Z,16nm,0.5s,baz=44,slow=7.5,SNR=224
comp=Z,16nm,0.5s
FINES FINESS Array B 64.40 332 P **P 02 32 20.5 +0.2**
OBN Obninsk 64.64 323 *eP* **P 02 32 23.6 +1.6**
OBN Obninsk 64.64 323⇑ *eP* **P 02 32 23.6 +1.6**
OBN pmax pmax
comp=Z,7.0nm,1.4s
VRH Novokhopyorsk 64.74 317 *eP* **P 02 32 21.2 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 65.20 320 *eP* **P 02 32 24.2 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VORR Voronezh 65.66 319 *eP* **P 02 32 28.2 -0.4**
VORR pmax pmax
comp=Z,20nm,0.4s
MEF Metsahovi 65.86 332 *eP* **P 02 32 30.0 +0.3**
SCO Scoresbysund 65.87 355 P **P 02 32 30.6 +1.0**
SCO Scoresbysund 65.87 355 P **P 02 32 30.6 +1.0**
SCO pmax pmax
comp=Z,46nm,1.3s
VSR Storozhevoye 65.97 319 *eP* **P 02 32 29.1 -1.5**
VSR pmax pmax
comp=Z,10.0nm,0.4s
VORD Divnogorie 66.08 318 *eP* **P 02 32 30.6 -0.7**
VORD pmax pmax
comp=Z,8.0nm,0.6s
RAF Rauma 66.14 334 *eP* **P 02 32 31.6 +0.1**
NSS Namsos 66.18 340 *eP* **P 02 32 32.5 +0.7**
NSS IAmb IAmb 02 32 32.9
comp=Z,6.8nm,0.8s
FFC Flin Flon 66.63 36 P **P 02 32 35.8 +1.1**
FFC IAmb IAmb 02 32 38.2
comp=Z,6.5nm,1.4s
FFC Flin Flon 66.63 36 P **P 02 32 35.8 +1.1**
FFC pmax pmax
comp=Z,7.0nm,1.4s
MTSE Matsula 67.17 331 *eP* **P 02 32 38.6 +0.5**
ICESG Greenland Ices 67.59 2 *i* P **P 02 32 41.7 +0.7**
ICESG IAmb IAmb 02 32 43.1
comp=Z,17nm,0.7s
BOZ Bozeman (W) 68.05 48 P **P 02 32 44.6 +0.5**
baz=310
ISAL Salakas 68.64 328 *eP* **P 02 32 48.9 +1.6**
MNK Minsk 68.72 326 *i* P **P 02 32 47.0 -0.9**
MNK *i* *PP **pP 02 33 21.0 0.0**
MNK *i* 02 35 20.2
MNK *i* PPP PPP 02 37 01.4
MNK *i* S **S 02 41 39.1 -0.7**
MNK *i* *SS **sS 02 42 38.4 +1.6**
MNK *i* SS **SS 02 46 07.3 +1.2**
MNK pmax pmax
comp=N,21nm,1.0s
MNK pmax pmax
comp=Z,20nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK MLR MLR
comp=Z,172nm,21.0s
MNK MLR MLR
comp=E,699nm,20.0s
MNK MLR MLR
comp=N,2μm,19.0s
IIGN Ignalina 68.76 328 *eP* **P 02 32 49.4 +1.3**
NVAR Mina Array Bea 68.80 57 P **P 02 32 47.4 -1.6**
comp=N,0.3nm,0.6s,baz=291,slow=7.8,SNR=2.0
comp=N,0.3nm,0.6s
KIV Kislovodsk 68.86 311 *eP* **P 02 32 50.8 +1.7**
KIV Kislovodsk 68.86 311 *eP* **P 02 32 50.7 +1.7**
KIV pmax pmax
comp=Z,15nm,0.9s
KIV MLR MLR
comp=Z,30nm,17.0s
KBZ Khabaz 68.89 311 P **P 02 32 49.9 +0.8**
comp=Z,7.2nm,0.6s,baz=65,slow=4.0,SNR=18
comp=Z,7.2nm,0.6s
KBZ Khabaz 68.89 311 *eP* **P 02 32 50.5 +1.4**
KBZ Khabaz 68.89 311 *d iP* **P 02 32 50.5 +1.4**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
ERBR Yeremizino-Bor 68.90 313 *eP* **P 02 32 50.2 +1.1**
ERBR *e*PP **pP 02 33 21.7 -0.6**
ERBR pmax pmax
comp=Z,21nm,0.6s
MLAC Mammoth, Mammo 68.98 58 P **P 02 32 50.7 +0.7**
baz=309
DOMB Dombas 68.99 340 *eP* **P 02 32 49.9 +0.5**
SHA1 Shidzhatmaz 69.02 311⇑ *eP* **P 02 32 51.2 +1.0**
NC303 NORSAR Array S 69.07 338 IAmb IAmb 02 32 50.6
comp=Z,5.5nm,1.0s
SFJD Kangerlussuaq 69.08 7 *eP* **P 02 32 49.6 -0.2**
NB2 NORSAR Subarra 69.26 338 P **P 02 32 51.1 -0.1**
comp=Z,3.1nm,0.3s,baz=32,slow=6.5
NB2 NORSAR Subarra 69.26 338 P **P 02 32 51.1 -0.1**
baz=32,slow=6.5
NOA NORSAR Array B 69.26 338 P **P 02 32 51.3 +0.2**
comp=Z,4.2nm,0.5s,baz=34,slow=6.4,SNR=83
comp=Z,4.2nm,0.5s
HFS Hagfors 69.31 336 P **P 02 32 51.5 +0.1**
comp=Z,9.8nm,0.4s,baz=45,slow=6.5,SNR=124
comp=Z,9.8nm,0.4s
H17A Grant Village 69.41 48 P **P 02 32 52.9 +0.3**
baz=311
NC602 NORSAR Array S 69.43 338 *eP* **P 02 32 52.0 -0.1**
NORES NORESS Array B 69.43 338 P **P 02 32 52.1 0.0**
PABE Paberze 69.51 329 *eP* **P 02 32 53.2 +0.5**
PBUR Paburge 69.87 330 *eP* **P 02 32 57.1 +2.2**
DY2G Dye2 69.92 5 *i* P **P 02 32 54.9 -0.4**
DY2G IAmb IAmb 02 32 56.7
comp=Z,6.8nm,0.7s
VES Vestal, Richgr 69.96 59 P **P 02 32 56.5 +0.7**
baz=310
GRAC Grapevine Rang 70.29 58 P **P 02 32 59.1 +1.2**
baz=310
SKAR Skarslia 70.34 339 *eP* **P 02 32 58.7 +1.0**
HYA Hoyanger 70.45 340 *eP* **P 02 32 59.1 +0.7**
HYA IAmb IAmb 02 32 59.9
comp=Z,14nm,0.7s
AKASG Malin Array Be 70.91 323 P **P 02 33 01.2 0.0**
comp=Z,6.3nm,0.5s,baz=41,slow=6.3,SNR=7.2
comp=Z,6.3nm,0.5s
AKBB Malin Array Si 70.91 323 *ceP* **P 02 33 01.2 -0.1**
AKBB Malin Array Si 70.91 323 P **P 02 33 00.6 -0.7**
AK04 Malin Array Si 70.92 323 P **P 02 33 00.9 -0.4**
KIEV Kiev 70.92 323 ⇓P **P 02 33 01.7 +0.3**
KIEV Kiev 70.92 323 P **P 02 33 01.3 0.0**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 70.92 323 P **P 02 33 00.6 -0.7**
comp=Z,37nm,0.9s
PDAR Pinedale Array 71.04 49 P **P 02 33 02.9 +0.4**
comp=Z,0.5nm,0.5s,baz=241,slow=0.9,SNR=7.3
comp=Z,0.5nm,0.5s
ANN Anapa 71.11 314 *eP* **P 02 33 01.4 -1.2**
ANN *e*PP **pP 02 33 35.5 -0.5**
ANN pmax pmax
comp=Z,73nm,1.5s
MI30 MI30,Zelenitsa 71.33 323 P **P 02 33 03.5 -0.3**
BER Bergen 71.34 340 *eP* **P 02 33 04.8 +1.1**
BER IAmb IAmb 02 33 05.2
comp=Z,12nm,0.9s
ODD1 Odda 71.43 339 *eP* **P 02 33 05.4 +1.1**
RNPP9 Sopachiv 71.81 325 P **P 02 33 06.2 -0.5**

LUBAR Lubar, Ukraine 72.12 323 P **P 02 33 08.7 +0.1**
KMY Karmoy 72.39 340 *eP* **P 02 33 11.2 +1.2**
KMY IAmb IAmb 02 33 12.0
comp=Z,7.6nm,0.7s
ULM Lac du Bonnet 72.44 36 P **P 02 33 10.4 0.0**
comp=Z,1.8nm,0.7s,baz=337,slow=7.7,SNR=2.4
comp=Z,1.8nm,0.7s
SNART Snartemo 72.64 338 *eP* **P 02 33 12.8 +1.3**
SORM Soroca 73.17 321 ⇑P **P 02 33 15.0 +0.2**
KMPD K-Podol'skiy 73.70 323 P **P 02 33 17.5 -0.4**
MILM Milestii Mici 73.86 320 *eP* **P 02 33 18.0 -0.8**
comp=Z,17nm,0.6s
MILM Milestii Mici 73.86 320 *eP* **P 02 33 18.0 -0.8**
MILM pmax pmax
comp=Z,17nm,0.6s
KWP Kalwaria Pacla 74.49 325 *eP* **P 02 33 24.7 +2.2**
KWP Kalwaria Pacla 74.49 325 P **P 02 33 24.2 +1.7**
KWP pmax pmax
comp=Z,17nm,0.9s
BURAR Bucovina Array 74.96 323 ⇑P **P 02 33 26.2 +0.8**
OJC Ojcow 75.20 327 *eP* **P 02 33 27.5 +1.0**
OJC Ojcow 75.20 327 P **P 02 33 27.7 +1.1**
OJC pmax pmax
comp=Z,15nm,1.0s
KOLS Kolonicke sedl 75.21 325 *eP* **P 02 33 28.8 +2.1**
KOLS pmax pmax
comp=Z,6.0nm,0.6s
KOLS Kolonicke sedl 75.21 325 *eP* **P 02 33 28.8 +2.1**
STHS Stebnicka Huta 75.26 326 *eP* **P 02 33 27.8 +0.9**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 75.26 326 *eP* **P 02 33 27.8 +0.9**
CRVS Cervenica-Dubn 75.57 326 *eP* **P 02 33 29.8 +1.1**
CRVS pmax pmax
comp=Z,6.0nm,0.8s
CRVS Cervenica-Dubn 75.57 326 *eP* **P 02 33 29.8 +1.1**
NIE Niedzica 75.64 326 P **P 02 33 30.6 +1.5**
NIE pmax pmax
comp=Z,4.0nm,1.0s
LANS Liptovska Anna 76.18 327 *eP* **P 02 33 34.3 +2.1**
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 76.18 327 *eP* **P 02 33 34.3 +2.1**
OSTC Ostas 76.30 329 *eP* **P 02 33 33.5 +0.7**
OSTC Ostas 76.30 329 *eP* **P 02 33 33.5 +0.7**
CHVC Chvalec 76.33 329 *eP* **P 02 33 34.0 +1.0**
CHVC Chvalec 76.33 329 *eP* **P 02 33 34.0 +1.0**
CJR Cluj-Napoca 76.36 323 ⇑P **P 02 33 34.9 +1.6**
DPC Dobruska-Polom 76.43 329 *eP* **P 02 33 34.3 +0.7**
DPC Dobruska-Polom 76.43 329 *eP* **P 02 33 34.3 +0.7**
MORC Moravsky Berou 76.43 328 ⇑P **P 02 33 34.8 +1.1**
MORC Moravsky Berou 76.43 328 *eP* **P 02 33 34.5 +0.9**
MAUC Maruska 76.65 328 *eP* **P 02 33 36.1 +1.2**
BRTR Keskin Array B 76.67 313 P **P 02 33 35.9 +0.6**
comp=Z,0.8nm,0.7s,baz=90,slow=3.7,SNR=6.3
comp=Z,0.8nm,0.7s
VOIR 76.70 321 ⇓P **P 02 33 36.1 +0.9**
CLL Collm 76.83 332 ⇑*iP* **P 02 33 35.9 +0.2**
comp=Z,7.0nm,0.9s
CLL *i* x x 02 33 38.3
comp=Z,5.0nm,0.4s
CLL AMS AMS 05 57 00.0
comp=Z,100nm,19.8s
CLL Collm 76.83 332 P **P 02 33 36.1 +0.4**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 76.83 332 P **P 02 33 35.2 -0.5**
PSZ Piszkesteto 76.99 326 ⇑P **P 02 33 38.0 +1.3**
PSZ Piszkesteto 76.99 326 P **P 02 33 38.1 +1.3**
PSZ pmax pmax
comp=Z,5.0nm,0.8s
JAVC Velka Javorina 77.12 328 *eP* **P 02 33 39.4 +1.9**
VRAC Vranov 77.17 328 ⇑P **P 02 33 38.7 +1.0**
VRAC Vranov 77.17 328 *eP* **P 02 33 38.8 +1.0**
VRAC Vranov 77.17 328 P **P 02 33 37.9 +0.2**
VRAC pmax pmax
comp=Z,6.0nm,1.7s
GOPC GO Pecny, Ondr 77.35 330 *eP* **P 02 33 40.0 +1.3**
GOPC GO Pecny, Ondr 77.35 330 *eP* **P 02 33 40.0 +1.3**
PRU Pruhonice 77.38 330 *eP* **P 02 33 39.3 +0.4**
PRU Pruhonice 77.38 330 *eP* **P 02 33 39.3 +0.4**
KRUC Moravsky 77.45 328 *eP* **P 02 33 40.3 +1.0**
KRUC Moravsky 77.45 328 P **P 02 33 40.5 +1.2**
KRUC pmax pmax
comp=Z,6.0nm,0.8s
SIRR Siria 77.55 324 ⇑P **P 02 33 41.4 +1.5**
GZR Gura Zlata 77.75 323 ⇑P **P 02 33 41.8 +0.7**
SURR Surduc 77.75 323 ⇑P **P 02 33 42.5 +1.5**
EKA Eskdalemuir Ar 77.88 342 P **P 02 33 42.1 +0.6**
comp=Z,4.7nm,0.6s,baz=47,slow=12,SNR=3.4
comp=Z,4.7nm,0.6s
ZVC Zvikov 77.96 330 *eP* **P 02 33 43.2 +1.1**
BZS Buzias 78.08 323 ⇓P **P 02 33 43.6 +0.8**
SCHQ Schefferville 78.21 18 P **P 02 33 43.8 +0.3**
comp=Z,1.5nm,0.4s,baz=346,slow=4.6,SNR=6.7
comp=Z,1.5nm,0.4s
CKRC Cesky Krumlov 78.43 329 *eP* **P 02 33 45.1 +0.4**
CKRC Cesky Krumlov 78.43 329 *eP* **P 02 33 45.1 +0.4**
KHC Kasperske Hory 78.44 330 *eP* **P 02 33 44.9 +0.1**
KHC Kasperske Hory 78.44 330 *deP* **P 02 33 46.0 +1.2**
KHC pmax pmax
comp=Z,10.0nm,0.8s
CONA Conrad Observa 78.58 328 *i* P **P 02 33 46.9 +1.2**
comp=Z,2.1nm,0.6s
RONA Rosalia, Austr 78.60 328 *i* P **P 02 33 47.1 +1.4**
comp=Z,3.2nm,0.7s
GERES GERESS Array B 78.64 330 P **P 02 33 46.4 +0.4**
comp=Z,0.5nm,0.4s,baz=31,slow=8.1,SNR=5.1
comp=Z,0.5nm,0.4s
WET Wettzell 78.68 330 P **P 02 33 47.6 +1.5**
WET pmax pmax
comp=Z,4.0nm,0.8s
MDVR Moldovita 78.70 323 ⇑P **P 02 33 46.8 +0.5**
MORH Mrgy, Hungar 78.86 325 ⇑P **P 02 33 47.4 +0.3**
MOA Molin 79.25 329 *i* P **P 02 33 50.1 +0.8**
comp=Z,1.5nm,0.7s
ARSA Arzberg 79.27 328 *eP* **P 02 33 50.6 +1.3**
comp=Z,3.0nm,1.2s
BIOA Bad Ischl, Aus 79.62 329 *i* P **P 02 33 52.5 +1.2**
comp=Z,4.4nm,1.1s
LESA Schwarzleotal 80.20 330 *i* P **P 02 33 55.6 +1.1**
comp=Z,1.9nm,0.6s
KBA Koelnbreinsper 80.24 329 *i* P **P 02 33 56.2 +1.4**
comp=Z,3.6nm,0.6s
OBKA Obir 80.26 328 *eP* **P 02 33 55.9 +1.1**
comp=Z,2.5nm,0.7s
NWAO Narrogin (SRO) 80.35 204 P **P 02 33 56.0 +1.0**
comp=Z,9.4nm,0.9s,baz=98,slow=2.5,SNR=2.3
comp=Z,9.4nm,0.9s
MMAI Mount Meron Ar 80.51 307 P **P 02 33 57.1 +0.8**
comp=Z,2.9nm,0.6s,baz=39,slow=6.8,SNR=5.6
comp=Z,2.9nm,0.6s
WATA Walderalm 80.68 330 *i* P **P 02 33 57.9 +0.8**
comp=Z,4.7nm,1.0s
WTTA Wattenberg 80.72 330 *i* P **P 02 33 58.1 +0.8**
comp=Z,6.0nm,0.7s
MOTA Moosalm 80.84 330 *i* P **P 02 33 58.7 +0.7**
comp=Z,3.5nm,0.9s
RETA Reutte 80.84 331 *i* P **P 02 33 59.1 +1.3**
comp=Z,3.8nm,1.1s
SQTA Sankt Quirin 80.91 330 *i* P **P 02 33 59.1 +0.8**
comp=Z,3.2nm,0.9s
FETA Feichten 81.25 330 *eP* **P 02 34 01.4 +1.3**
comp=Z,3.1nm,1.1s
DAVA Damuels 81.32 331 *eP* **P 02 34 01.3 +0.8**
comp=Z,4.2nm,0.9s
PDG Podgorica 81.65 323 ⇑P **P 02 34 02.4 +0.4**
TXAR Lajitas Array 83.86 55 P **P 02 34 12.0 -1.8**
comp=Z,0.2nm,0.4s,baz=309,slow=2.4,SNR=5.4
comp=Z,0.2nm,0.4s
ESDC Sonseca Array 92.59 337 P **P 02 34 54.4 -1.0**
comp=Z,0.5nm,0.7s,baz=12,slow=4.3,SNR=7.3
comp=Z,0.5nm,0.7s

IGQ 01 02:23:46.4±0.0, 0°8S±0°2×91°1W±0°2, h0km, M4.3/13,
Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCH1	**Volcn Chico**	**0.07**	**35**	P	Pg	02 23 47.8	+0.1
PVIL	**Puerto Villami**	**0.21**	**121**	P	Pg	02 23 49.3	-1.1
CEAZ	**Cerra Azul, Ca**	**0.28**	**277**	P	Pg	02 23 52.7	+1.1
FER2	**Fernandina2, P**	**0.46**	**323**	P	Pb	02 23 56.6	-0.8
FER1	**Fernandina1, P**	**0.47**	**318**	P	Pn	02 23 59.3	-1.0
PAYG	**Puerto Ayora**	**0.86**	**79**	P	Pg	02 24 03.0	0.0
ALCE	**Alcedo, Punta**	**0.93**	**295**	P	Pg	02 23 55.8	-8.3

*NEIC **01** 02:27:39.5±0.8, 33°62S±0°08×136°8E±0°1, h10km±2km, ML3.9/2, Error ellipse: s-maj=20.7km s-min=7.1km az=51.0*
*NOU **01** 02:27:39.8, 33°70S×136°64E, h0km, MLv4.4/11, Near Coast of South Australia*
*IDC **01** 02:27:43.5±6.7, 33°01S×136°71E, h0km, mbtmp3.4/3, ML3.6/3, Error ellipse: s-maj=73.7km s-min=23.6km az=20.0*
ISC 01 02:27:39.1±1.3, 33°55S±0°10×136°69E±0°07, h10km, n26, σ2°27/29, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**0.91**	**324**	P	**Pn**	**02 28 00.1**	**+2.2**
BBOO	**Buckleboo**	**0.91**	**324**	Pg	**Pn**	**02 27 60.0**	**+2.1**
BBOO				Sg	**Sb**	**02 28 12.0**	**+3.0**
BBOO				IAML		02 28 14.5	
BBOO	comp=N,3μm,0.3s			IAML		02 28 14.7	
WHYH	**Whyalla**	**0.91**	**56**	P	**Pn**	**02 28 00.1**	**+2.2**
PTPS	**Port Pirie**	**1.16**	**71**	P	**Pn**	**02 28 04.3**	**+3.0**
HTT	**Hallett**	**1.87**	**87**	P	**Pb**	**02 28 13.5**	**+0.1**
LCRK	**Leigh Creek**	**3.35**	**23**	P	**Pn**	**02 28 35.0**	**+3.4**
MULG	**Mulgathing**	**3.95**	**325**	P	**Pn**	**02 28 43.0**	**+3.2**
STKA	**Stephens Creek**	**4.46**	**69**	P	**Pn**	**02 28 49.8**	**+3.0**
STKA	**Stephens Creek**	**4.46**	**69**	Pn	**Pn**	**02 28 46.6**	**-0.2**
STKA	**Stephens Creek**	**4.46**	**69**	Pn	**Pn**	**02 28 50.3**	**+3.5**
STKA	comp=E,1.8nm,0.3s,baz=252,slow=12,SNR=15			Sn	**Sn**	**02 29 38.8**	**0.0**
STKA	comp=E,6.3nm,0.3s,baz=254,slow=19,SNR=7.4			Lg	Lg	02 29 59.7	
ARPS	**Mount Arapiles**	**5.30**	**129**	P	**Pn**	**02 28 59.5**	**+1.1**
INKA	**Innaminka**	**6.76**	**32**	P	**Pn**	**02 29 20.5**	**+2.1**
FORT	**Forrest**	**7.82**	**288**	P	**Pn**	**02 29 34.5**	**+1.6**
FORT	**Forrest**	**7.82**	**288**	Pn	**Pn**	**02 29 34.2**	**+1.3**
CMSA	**Cobar Meteorol**	**7.86**	**78**	P	**Pn**	**02 29 35.6**	**+2.1**
TOO	**Toolangi**	**8.22**	**122**	Pn	**Pn**	**02 29 36.9**	**-1.5**
ASAR	**Alice Springs**	**10.14**	**345**	Pn	**Pn**	**02 30 05.1**	**+0.2**
ASAR	**Alice Springs**	**10.14**	**345**	Pn	**Pn**	**02 30 04.3**	**-0.6**
ASAR	comp=E,0.3nm,0.3s,baz=162,slow=12,SNR=15			Sn	**Sn**	**02 31 54.2**	**-4.5**
AS31	**Alice Springs**	**10.15**	**345**	Pn	**Pn**	**02 30 06.8**	**+1.9**
CAN	**Canberra**	**10.32**	**103**	Pn	**Pn**	**02 30 06.1**	**-1.2**
WR0	**Warramunga Arr**	**13.67**	**351**	Pn	**Pn**	**02 30 52.1**	**-1.0**
WB2	**Warramunga Arr**	**13.71**	**351**	Pn	**Pn**	**02 30 52.0**	**-1.7**
WRA	**Warramunga Arr**	**13.71**	**351**	Pn	**Pn**	**02 30 51.8**	**-1.9**
WRA	**Warramunga Arr**	**13.71**	**351**	Pn	**Pn**	**02 30 52.0**	**-1.6**
WRA	comp=E,0.4nm,0.3s,baz=167,slow=13,SNR=19			Sn	Sn	02 33 18.0	-8.1
WB0	**Warramunga Arr**	**13.88**	**351**	Pn	**Pn**	**02 30 54.1**	**-1.8**
FITZ	**Fitzroy Crossi**	**18.30**	**325**	P	**Pn**	**02 31 51.4**	**-1.7**

*IDC **01** 02:44:24.0±1.2, 29°75N×142°25E, h0km, mb3.6/9, mbtmp3.6/11, ML3.2/2, MS2.7/1, Error ellipse: s-maj=44.4km s-min=17.8km az=76.0*
*JMA **01** 02:44:28.3±0.7, 30°N±3°×14°3E±°, h99km, MV3.5/20, NEAR TORISHIMA IS*
ISC 01 02:44:28.1±0.9, 29°73N±0°06×142°4E±0°2, h35km, n19, σ1°79/24, mb3.8/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.63**	**183**	Pn	Pn	02 45 00.1	-8.0
JCJ	2.5nm,0.3s,baz=288,slow=20,SNR=1.7 comp=Z,138nm,19.3s,baz=115,slow=24			LR	LR	02 45 26.7	
JCJ	11nm,0.3s,baz=301,slow=20,SNR=2.0			Sn	**Sn**	**02 45 34.5**	**-4.3**
JHJ	**Hachijo jima 2**	**4.03**	**328**	Pn	**Pn**	**02 45 26.0**	**-1.4**
JHJ	6.5nm,0.3s,baz=99,slow=22,SNR=9.2 5.4nm,0.3s,baz=66,slow=16,SNR=1.8 19nm,0.3s			Sn	**Sn**	**02 46 10.2**	**-3.1**
BSO1	**Boso 1**	**5.05**	**347**	P	**Pn**	**02 45 39.8**	**-1.0**
BSO1				*e*S	**Sn**	**02 46 35.9**	**-1.6**
BSO3	**Boso 3**	**5.29**	**343**	*e*P	**Pn**	**02 45 43.6**	**-0.7**
JOD2	**Odawara 2**	**6.17**	**334**	*e*P	**Pn**	**02 45 58.0**	**+1.3**
JHU	**Hanno**	**6.63**	**338**	P	**Pn**	**02 46 03.0**	**0.0**
JRY	**Ryogami san**	**6.91**	**336**	P	**Pn**	**02 46 07.3**	**+0.4**
JRY				*e*S	**Sn**	**02 47 23.4**	**-0.8**
JAG	**Ashikaga**	**7.11**	**341**	P	**Pn**	**02 46 09.2**	**-0.4**
JAG				*e*S	**Sn**	**02 47 26.3**	**-2.7**
MJAR	**Matsushiro Arr**	**7.63**	**334**	Pn	**Pn**	**02 46 16.1**	**-0.7**
MJAR	0.3nm,0.3s,baz=160,slow=11,SNR=16 0.1nm,0.3s,baz=128,slow=12,SNR=1.8 1.6nm,0.3s			Sn	**Sn**	**02 47 40.6**	**-1.5**
JMK	**Ichinoseki**	**9.25**	**354**	*e*P	**Pn**	**02 46 35.4**	**-3.5**
JMK				*e*S	Sn	02 48 14.0	-7.6
KLR	**Kul'dur**	**21.09**	**340**	P	**P**	**02 49 10.7**	**+1.4**
SONM	0.7nm,0.5s,baz=157,slow=12,SNR=4.7 0.7nm,0.5s **Songino Array**	**32.97**	**313**	P	**P**	**02 51 00.3**	**+0.6**
MKAR	0.9nm,0.8s,baz=103,slow=6.4,SNR=4.6 0.9nm,0.8s **Makanchi Array**	**48.95**	**308**	P	**P**	**02 53 10.8**	**-0.1**
WRA	0.6nm,0.7s,baz=95,slow=9.9,SNR=4.9 0.6nm,0.7s **Warramunga Arr**	**49.99**	**190**	P	**P**	**02 53 20.1**	**+1.1**
KURBB	0.5nm,0.4s,baz=8.1,slow=7.9,SNR=11 0.5nm,0.4s **Kurchatov Arra**	**51.34**	**313**	P	**P**	**02 53 29.0**	**+0.1**
ASAR	0.9nm,0.7s,baz=92,slow=7.4,SNR=8.5 0.9nm,0.7s **Alice Springs**	**53.71**	**190**	P	**P**	**02 53 47.9**	**+1.2**
ILAR	0.2nm,0.5s,baz=5.9,slow=5.2,SNR=4.8 0.2nm,0.5s **Eielson Array**	**55.34**	**29**	P	**P**	**02 53 58.9**	**+0.9**
BVAR	0.2nm,0.7s,baz=267,slow=6.6,SNR=1.8 0.2nm,0.7s **Borovoye Array**	**56.23**	**316**	P	**P**	**02 54 04.7**	**0.0**
FINES	0.4nm,0.4s,baz=72,slow=6.2,SNR=2.9 0.4nm,0.4s **FINESS Array B**	**75.66**	**334**	P	**P**	**02 56 11.0**	**+1.6**
	2.5nm,1.0s,baz=53,slow=6.2,SNR=1.9 2.5nm,1.0s						

IDC 01 02:57:31.8±2.8, 20°25N×123°00E, h0km, mb3.4/5,
mbtmp3.4/5, MS3.4/1, Error ellipse: s-maj=245.5km
s-min=21.0km az=64.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**18.84**	**65**	LR	LR	03 09 16.9	
WRA	comp=Z,103nm,18.2s,baz=118,slow=37 **Warramunga Arr**	**41.46**	**164**	P	P	03 05 20.1	-0.5
MKAR	0.7nm,0.7s,baz=344,slow=9.1,SNR=6.4 0.7nm,0.7s **Makanchi Array**	**42.35**	**318**	P	P	03 05 27.9	+0.3
ZALV	0.2nm,0.5s,baz=120,slow=8.7,SNR=2.0 0.2nm,0.5s **Zalesovo Beam**	**44.45**	**329**	P	P	03 05 43.5	-0.9
ASAR	0.4nm,0.4s,baz=116,slow=8.6,SNR=1.9 0.4nm,0.4s **Alice Springs**	**44.93**	**166**	P	P	03 05 48.8	+0.2
KURBB	0.5nm,0.7s,baz=347,slow=7.6,SNR=8.3 0.5nm,0.7s **Kurchatov Arra**	**46.20**	**322**	P	P	03 05 58.5	+0.1
	0.3nm,0.5s,baz=112,slow=8.6,SNR=4.3 0.3nm,0.5s						

*NEIC **01** 02:58:14.0±0.5, 35°893N±0°009×97°28W±0°01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=223.0*
TUL 01 02:58:14.2±0.5, 35°889N±0°009×97°28W±0°01, h6km±1km,
ML3.2, mb_Lg3.1/116(NEIC), ML3.2/44(NEIC), Error
ellipse: s-maj=1.4km s-min=1.3km az=116.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.17**	**237**	Pg	Pg	02 58 17.9	+0.3
OK029				IAML		02 58 20.8	

	10μm,0.4s					
ADOK	Arcadia Dam	0.25	197	Pg	Pg	02 58 19.4 +0.3
ADOK				Sg	Sg	02 58 23.1 +0.8
OK031	S. Brethren Rd	0.37	80	Pg	Pg	02 58 21.6 +0.3
OK031				Sg	Sg	02 58 26.8 +0.6
OK031				IAML		02 58 27.2
	2μm,0.4s					
OK031				IAML		02 58 27.7
	2μm,0.3s					
OK052	Battle Ridge R	0.40	75	Pg	Pg	02 58 22.3 +0.3
OK052				Sg	Sg	02 58 27.8 +0.5
OK052				IAML		02 58 28.4
	2μm,0.3s					
OK052				IAML		02 58 28.6
	3μm,0.3s					
OKCSW	OKLAHOMA CITY	0.50	195	Pg	Pg	02 58 23.9 +0.1
OKCSW				IAML		02 58 31.5
	comp=E,3μm,0.5s					
OKCSW				IAML		02 58 31.7
	comp=N,3μm,0.4s					
OKCSW				Sg	Sg	02 58 31.0 +0.7
QUOK	Quay	0.55	59	Pg	Pg	02 58 24.9 +0.2
QUOK				Sg	Sg	02 58 32.2 +0.4
QUOK				IAML		02 58 33.9
	comp=N,2μm,0.2s					
QUOK				IAML		02 58 34.0
	comp=E,1μm,0.2s					
OK048	Pawnee Station	0.59	27	Pg	Pg	02 58 25.7 0.0
OK048				Sg	Sg	02 58 33.8 +0.4
OK048				IAML		02 58 34.2
	comp=E,1μm,0.6s					
FNO	Franklin	0.64	189	Pg	Pg	02 58 26.2 -0.3
FNO				Sg	Sg	02 58 35.2 +0.4
FNO				IAML		02 58 39.3
	comp=E,736nm,0.1s					
DEOK	Depew	0.64	94	Pg	Pg	02 58 26.4 -0.1
DEOK				Sg	Sg	02 58 35.0 +0.2
DEOK				IAML		02 58 35.9
	comp=E,1μm,0.4s					
OK051	E0350 and S346	0.71	30	Pg	Pg	02 58 27.9 -0.1
OK051				IAML		02 58 38.2
	comp=E,1μm,0.2s					
OK051				IAML		02 58 41.0
	comp=E,874nm,0.2s					
W35A	Tecumseh	0.81	155	Pg	Pg	02 58 29.1 -0.6
W35A				IAML		02 58 43.4
	comp=E,1μm,0.7s					
CROK	Carrier	0.84	318	Pg	Pg	02 58 30.3 0.0
GC02	Grant County #	1.07	334	Pg	Pg	02 58 34.0 -0.7
KAN13	South Haven SW	1.13	352	Pg	Pg	02 58 35.4 -0.5
CSTR	Hydro, Custer	1.17	258	Pg	Pg	02 58 36.0 -0.6
OK032	Salt Plains WL	1.18	321	Pg	Pg	02 58 36.3 -0.6
KAN14	Manchester OK	1.20	333	Pg	Pg	02 58 36.5 -0.7
TUL3	Leonard	1.21	89		Pg	02 58 36.0 -1.4
TUL3				IAmb_Lg		02 58 55.0
	comp=Z,147nm,1.1s					
KAN17	Caldwell West	1.22	342		Pg	02 58 36.7 -0.8
KAN09	Caldwell North	1.27	348		Pn	02 58 37.7 -0.8
KAN05	Bluff City Nor	1.31	339		Pn	02 58 38.4 -0.6
KAN01	Argonia South	1.32	343		Pn	02 58 38.6 -0.5
OK038	West end E0370	1.32	297		Pn	02 58 38.3 -0.9
X34A	Smith Ranch, M	1.36	199		Pn	02 58 39.7 -0.1
OK035	E0210 Rd and N	1.41	306		Pn	02 58 39.8 -0.7
KAN06	Argonia West S	1.43	341		Pn	02 58 40.3 -0.5
KAN08	Anthony NE Sta	1.45	338		Pn	02 58 40.4 -0.5
U32A	Winter Ranch,	1.48	290		Pn	02 58 40.9 -0.4
KAN12	Harper NE Stat	1.52	338		Pn	02 58 42.0 +0.1
NOKA	Waynoka	1.53	300		Pn	02 58 41.8 -0.3
WMOK	Wichita Mounta	1.68	227		Pn	02 58 44.1 0.0
RLO	Rose Lookout	1.85	81	Pn	Pn	02 58 46.6 +0.1
LOOK	Love County	1.89	177	Pn	Pn	02 58 47.5 +0.4
LOOK				IAmb_Lg		02 59 18.2
	comp=Z,76nm,0.9s					
X37A	Clayton	2.03	129	Pn	Pn	02 58 49.2 +0.3
WTFS	Witchita Falls	2.33	205	Pn	Pn	02 58 54.0 +0.9
U38A	Gravette	2.41	76	Pn	Pn	02 58 54.4 +0.3
U38A				IAmb_Lg		02 59 31.2
	comp=Z,65nm,0.7s					
SMWD	Samnorwood	2.54	253	Pn	Pn	02 58 56.1 +0.1
Z35A	Perchaven, San	2.55	179	Pn	Pn	02 58 56.5 +0.4
HHAR	Hobbs	2.74	81	Pn	Pn	02 58 58.4 -0.3
R32A	Long Quarter,	2.77	336	Pn	Pn	02 58 58.7 -0.5
PLPT	Palo Pinto	3.19	196	Pn	Pn	02 59 04.6 -0.3
PLPT				IAmb_Lg		03 00 00.1
	comp=Z,41nm,1.1s					
FW07	Weatherford	3.21	188	Pn	Pn	02 59 04.7 -0.4
Z38A	Mt. Pleasant	3.24	143	Pn	Pn	02 59 06.0 +0.5
Z38A				IAmb_Lg		03 00 02.3
	comp=Z,72nm,0.7s					
KSU1	Kansas State U	3.25	9	Pn	Pn	02 59 05.9 +0.2
KSU1				IAmb_Lg		03 00 01.0
	comp=Z,41nm,0.8s					
MIAR	Mount Ida	3.32	113	Pn	Pn	02 59 07.8 +1.2
MIAR				IAmb_Lg		03 00 06.3
	comp=Z,52nm,0.7s					
APMT	Aspermont	3.47	223	Pn	Pn	02 59 09.3 +0.6
CBKS	Cedar Bluff	3.51	327	IAmb_Lg		03 00 13.6
	comp=Z,45nm,0.9s					
S39A	Bolivar	3.65	59	Pn	Pn	02 59 12.1 +0.8
S39A				IAmb_Lg		03 00 08.8
	comp=Z,41nm,0.8s					
DKNS	Dickens	3.73	235	Pn	Pn	02 59 13.5 +1.2
AMTX	Amarillo	3.73	256	Pn	Pn	02 59 12.6 +0.2
AMTX				IAmb_Lg		03 00 15.3
	comp=Z,71nm,0.8s					
ABTX	Abilene, Hawle	3.80	212	IAmb_Lg		03 00 15.3
	comp=Z,37nm,0.9s					
X40A	Basin Creek Fa	3.90	110	Pn	Pn	02 59 15.6 +0.9
X40A				IAmb_Lg		03 00 21.3
	comp=Z,49nm,0.9s					
237A	Washetta, Mont	4.07	162	Pn	Pn	02 59 16.1 -0.8
WLAR	White Oak Lake	4.08	121	IAmb_Lg		03 00 24.7
	comp=Z,40nm,0.9s					
SN07	Snyder 07	4.08	228	IAmb_Lg		03 00 26.6
	comp=Z,65nm,0.9s					
WHAR	Wooly Hollow	4.11	97	Pn	Pn	02 59 18.3 +0.7
WHAR				IAmb_Lg		03 00 34.3
	comp=Z,37nm,0.8s					
FCAR	Ozark Folk Cen	4.19	88	Pn	Pn	02 59 19.6 +1.0
FCAR				IAmb_Lg		03 00 33.4
	comp=Z,32nm,1.0s					
UALR	University of	4.19	104	Pn	Pn	02 59 20.7 +2.1
Z41A	Richland Creek	4.53	124	IAmb_Lg		03 00 47.8
	comp=Z,32nm,0.7s					
R40A	Maddies Statio	4.67	58	IAmb_Lg		03 00 41.5
	comp=Z,57nm,0.7s					
BRDY	Brady	4.81	198	Pn	Pn	02 59 26.7 -0.4
BRDY				IAmb_Lg		03 00 45.4
	comp=Z,62nm,0.9s					
CCAR	Cane Creek	4.94	112	IAmb_Lg		03 00 55.7
	comp=Z,32nm,0.9s					
LCAR	Lake Charles	4.97	86	IAmb_Lg		03 00 56.3
	comp=Z,26nm,0.9s					
435B	Jarrell	5.10	183	Pn	Pn	02 59 29.2 -1.9
435B				IAmb_Lg		03 01 01.9
	comp=Z,24nm,0.7s					
T42A	Van Buren	5.12	75	IAmb_Lg		03 01 04.8
	comp=Z,37nm,0.8s					
KSCO	Kaye Shedlock'	5.27	308	IAmb_Lg		03 01 11.1
	comp=Z,38nm,0.7s					
CCM	Cathedral Cave	5.30	64	Pn	Pn	02 59 33.5 -0.3
CCM				IAmb_Lg		03 01 07.5
	comp=Z,34nm,0.8s					
HBAR	Harrisburg	5.40	92	IAmb_Lg		03 01 11.1
	comp=Z,52nm,0.8s					
ODSA	Odessa	5.77	231	IAmb_Lg		03 01 22.8
	comp=Z,38nm,1.2s					
JCT	Junction City	5.79	202	IAmb_Lg		03 01 26.0
	comp=Z,43nm,0.9s					
143A	Socs Landing,	5.81	121	IAmb_Lg		03 01 30.3
	comp=Z,24nm,0.8s					
T25A	Trinidad	5.88	284	Pn	Pn	02 59 41.6 -0.3
T25A				IAmb_Lg		03 01 22.7
	comp=Z,30nm,0.8s					
FVM	French Village	5.88	67	IAmb_Lg		03 01 26.6
	comp=Z,20nm,0.8s					
OZNA	Ozona	5.91	214	Pn	Pn	02 59 42.8 +0.5
OZNA				IAmb_Lg		03 01 34.5
	comp=Z,28nm,0.8s					
PEBM	Pemiscott Bayo	6.02	86	IAmb_Lg		03 01 26.7
	comp=Z,48nm,0.8s					
L34A	Svendsen Farm,	6.11	6	IAmb_Lg		03 01 33.3
	comp=Z,44nm,0.9s					
OGNE	Ogallala	6.28	325	IAmb_Lg		03 01 44.4
	comp=Z,41nm,0.8s					
CGM3	Cape Girardeau	6.29	75	IAmb_Lg		03 01 35.1
	comp=Z,29nm,0.9s					
MNHN	Monahans	6.44	227	IAmb_Lg		03 01 44.7
	comp=Z,20nm,0.9s					
HNDO	Hondo	6.56	195	Pn	Pn	02 59 50.0 -1.3
HNDO				IAmb_Lg		03 01 42.4
	comp=Z,35nm,0.8s					
OXF	Oxford	6.59	100	Pn	Pn	02 59 50.4 -1.2
OXF				IAmb_Lg		03 01 52.4
	comp=Z,30nm,1.1s					
SCIA	State Center	6.79	27	IAmb_Lg		03 01 52.7
	comp=Z,27nm,0.8s					
SDCO	Great Sand Dun	6.85	288	Pn	Pn	02 59 56.4 +1.0
SDCO				IAmb_Lg		03 01 56.6
	comp=Z,24nm,1.2s					
Q24A	Divide	6.97	298	Pn	Pn	02 59 58.2 +1.1
Q24A				IAmb_Lg		03 02 07.7
	comp=Z,17nm,0.8s					
K30B	Basset	7.01	346	IAmb_Lg		03 02 10.3
	comp=Z,32nm,0.8s					
DRIO	Del Rio	7.03	204	IAmb_Lg		03 02 00.4
	comp=Z,19nm,1.0s					
PECS	Pecos	7.10	232	IAmb_Lg		03 02 09.6
	comp=Z,31nm,1.3s					
L40A	Anamosa	7.76	36	IAmb_Lg		03 02 28.3
	comp=Z,20nm,0.8s					
USIN	University of	7.98	72	IAmb_Lg		03 02 35.0
	comp=Z,28nm,0.9s					
Y22D	IRIS PASSCAL I	8.12	260	IAmb_Lg		03 02 48.0
	comp=Z,23nm,0.7s					
N23A	Red Feather La	8.44	309	IAmb_Lg		03 02 46.6
	comp=Z,26nm,0.9s					
L42A	Oliver, Polo	8.51	42	IAmb_Lg		03 02 52.5
	comp=Z,26nm,0.7s					
I37A	Lemond, Waseca	8.64	19	IAmb_Lg		03 03 10.0
	comp=Z,13nm,0.8s					
I40A	Norwalk	9.49	31	IAmb_Lg		03 03 17.8
	comp=Z,14nm,0.8s					
K43A	Burlington	9.71	43	IAmb_Lg		03 03 27.7
	comp=Z,22nm,0.8s					

*SDD **01** 03:02:13.6±2.0, 18.°96N×64.°37W, h17km±999km, MD4.0, ML3.4, MW3.7*
*NEIC **01** 03:02:17.7±1.5, 19.°02N±0.°06×64.°33W±0.°03, h35km±2km, ML3.5/32, Md3.8/13(RSPR), Error ellipse: s-maj=11.8km s-min=3.1km az=333.0*
*RSPR **01** 03:02:18.2, 19.°04N×64.°28W, h39km±27km, MD3.8/13*
ISC 01 03:02:16.5±3.2, 18.°9N±0.°1×64.°45W±0.°06, h1km±22km, n52, σ1°02/59, 12C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	Col San Antoni	1.54	239⇑	eP	Pn	03 02 44.9	-0.1
HUMP	Col San Antoni	1.54	239	eS	Sn	03 03 06.1	+0.4
HUMP	Col San Antoni	1.54	239		Pn	03 02 44.8	-0.3
HUMP					Sn	03 03 04.6	-1.1
HUMP				IAML		03 03 12.6
	comp=N,319nm,0.7s					
SMRT	St. Maarten	1.58	124		Pn	03 02 42.5	-3.1
SMRT				IAML		03 03 19.3
	comp=E,425nm,0.7s					
GCPR	Guaynabo City	1.67	248⇑	eP	Pn	03 02 46.1	-0.7
GCPR	Guaynabo City	1.67	248	eS	Sn	03 03 08.1	-0.7
GCPR	Guaynabo City	1.67	248	Pn	Pn	03 02 45.7	-1.1
GCPR					Sn	03 03 06.6	-2.2
GCPR				IAML		03 03 11.4
	comp=E,274nm,0.7s					
SABA	Saba	1.74	138	Pn	Pn	03 02 44.3	-3.5
SJG	San Juan	1.81	243⇑	eP	Pn	03 02 48.5	-0.2
SJG	San Juan	1.81	243	eS	Sn	03 03 11.7	-0.5
SJG	San Juan	1.81	243	Pn	Pn	03 02 47.2	-1.5
SJG				IAML		03 03 29.6
	comp=E,266nm,0.9s					
EMPR	Esperanza - Ma	2.02	257⇑	eP	Pn	03 02 51.3	-0.3
EMPR	Esperanza - Ma	2.02	257	eS	Sn	03 03 17.1	-0.4
EMPR	Esperanza - Ma	2.02	257	Pn	Pn	03 02 50.1	-1.5
EMPR				Sn	Sn	03 03 16.0	-1.5
EMPR				IAML		03 03 26.1
	comp=E,661nm,0.8s					
EMPR				IAML		03 03 32.4
	comp=N,600nm,0.6s					
CELP	Cerrillos	2.19	247⇑	eP	Pn	03 02 53.7	-0.2
CELP	Cerrillos	2.19	247	eS	Sn	03 03 21.5	-0.2
CELP	Cerrillos	2.19	247	Pn	Pn	03 02 53.5	-0.6
CELP				Sn	Sn	03 03 20.3	-1.5
CELP				IAML		03 03 25.1
	comp=E,195nm,0.6s					
CELP				IAML		03 03 25.2
	comp=N,222nm,0.7s					
CELP	Cerrillos	2.19	247	ePg	Pn	03 02 53.8	-0.2
CELP				eSg	Sn	03 03 21.3	-0.5
CELP				eSg	Sg	03 03 22.2	-4.7
OBIP	Obispado Ponce	2.23	247⇑	eP	Pn	03 02 54.6	+0.2
OBIP	Obispado Ponce	2.23	247	eS	Sn	03 03 22.4	-0.2
OBIP	Obispado Ponce	2.23	247	Pn	Pn	03 02 54.1	-0.4
OBIP				Sn	Sn	03 03 21.2	-1.4
OBIP				IAML		03 03 26.1
	comp=E,229nm,0.7s					
OBIP				IAML		03 03 41.7
	comp=N,194nm,0.9s					
UUPR	Utuado, UPR, P	2.25	253⇑	eP	Pn	03 02 54.6	-0.3
UUPR	Utuado, UPR, P	2.25	253	Pn	Pn	03 02 54.3	-0.6
AOPR	Arecibo Observ	2.26	255⇑	eP	Pn	03 02 54.0	-1.0
AOPR	Arecibo Observ	2.26	255	Pn	Pn	03 02 53.3	-1.6
AOPR	Arecibo Observ	2.26	255	ePg	Pn	03 02 54.0	-1.0
AOPR				IAML		03 03 37.3
	comp=N,517nm,0.4s					
AOPR	Arecibo Observ	2.26	255	eP	Pn	03 02 53.8	-1.1
AOPR				eS	Sn	03 03 25.8	+2.3
GBPR	Guanica, Bosqu	2.49	248⇑	eP	Pn	03 02 58.9	+0.7
GBPR	Guanica, Bosqu	2.49	248	eS	Sn	03 03 29.9	+0.7
GBPR	Guanica, Bosqu	2.49	248		Pn	03 02 58.9	+0.7
GBPR					Sn	03 03 29.9	+0.7
AGPR	Aguadilla, PR	2.56	260⇑	eP	Pn	03 02 58.5	-0.6
AGPR	Aguadilla, PR	2.56	260	eS	Sn	03 03 31.4	+0.5
AGPR	Aguadilla, PR	2.56	260	Pn	Pn	03 02 58.1	-1.0
AGPR				Sn	Sn	03 03 30.8	-0.2
AGPR				IAML		03 03 43.7
	comp=E,179nm,1.2s					
AGPR				IAML		03 03 45.2
	comp=N,173nm,1.1s					
AGPR	Aguadilla, PR	2.56	260	ePg	Pn	03 02 58.3	-0.8
AGPR				eSg	Sn	03 03 32.5	+1.6
AGPR				IAML		03 03 51.3
	comp=N,148nm,0.9s					
LSP	Las Mesas	2.61	254⇑	eP	Pn	03 03 00.4	+0.6
LSP	Las Mesas	2.61	254		Pn	03 03 00.4	+0.6
MLPR	Magueyes Islan	2.64	249⇑	eP	Pn	03 03 00.8	+0.6
MLPR	Magueyes Islan	2.64	249	eS	Sn	03 03 33.6	+0.8
MLPR	Magueyes Islan	2.64	249		Pn	03 03 00.4	+0.3
MLPR				Sn	Sn	03 03 32.2	-0.6
MLPR	Magueyes Islan	2.64	249	ePg	Pn	03 03 00.2	0.0
MLPR				eSg	Sn	03 03 33.4	+0.6
MLPR				eSg	Sg	03 03 36.6	-4.7
MLPR				IAML		03 03 40.9
	comp=N,80nm,1.1s					
PRSN	Puerto Rico Se	2.65	255	Pn	Pn	03 02 59.1	-1.2
PRSN				IAML		03 03 46.7
	comp=N,205nm,0.3s					
PRSN				IAML		03 03 47.0
	comp=E,208nm,0.4s					
PRSN	Puerto Rico Se	2.65	255	ePg	Pn	03 03 01.2	+0.9
PRSN				eSg	Sn	03 03 36.9	+3.9
PRSN				IAML		03 03 46.6
	comp=N,196nm,0.3s					
CRPR	Cabo Rojo, PR	2.68	250⇑	eP	Pn	03 03 00.6	-0.2
CRPR	Cabo Rojo, PR	2.68	250	eS	Sn	03 03 33.6	-0.3
CRPR	Cabo Rojo, PR	2.68	250	Pn	Pn	03 03 00.5	-0.3
CRPR				Sn	Sn	03 03 32.9	-1.1
CRPR				IAML		03 03 43.5
	comp=E,126nm,0.8s					
CRPR	Cabo Rojo, PR	2.68	250	ePg	Pn	03 02 59.4	-1.4
CRPR				eSg	Sn	03 03 36.2	+2.3
CRPR				eSg	Sg	03 03 36.5	-6.3
CRPR				IAML		03 04 04.2
	comp=N,126nm,0.9s					
MBFL	Flemmings, Mon	3.05	135	eP	Pb	03 03 12.2	+0.7
MBFL				eS	Sg	03 03 53.9	-0.6
ANBD	Bethesda, Anti	3.17	126	eP	Pn	03 03 08.1	+0.5
ANBD				eS	Sn	03 03 45.2	-0.8
PCDR	Punta Cana, DR	3.75	264	Pn	Pn	03 03 14.9	-0.5
PCDR				IAML		03 04 32.0
	comp=E,100nm,1.8s					
CBE	Ff, Capester	3.94	136	Pn	Pn	03 03 15.2	-2.8
SDDR	Presa de Saban	6.47	272		Pn	03 03 52.0	-0.9
HATO	Hato, Curacao	7.99	214	Pn	Pn	03 04 13.8	-0.1

*SJA **01** 03:02:45.8±0.7, 32.°41S×67.°56W, h16km±3km, ML4.5, MW4.2*
*IDC **01** 03:02:47.3±4.6, 32.°35S×67.°37W, h32km±33km, mb4.1/12, mbtmp4.2/16, ML4.0/4, MS3.4/6, Error ellipse: s-maj=22.4km s-min=15.3km az=85.0*
*VAO **01** 03:02:48.4±1.0, 32.°57S×67.°38W, h62km±5km, mb4.4*
*NEIC **01** 03:02:48.5±2.3, 32.°32S±0.°05×67.°45W±0.°06, h35km±3km, mb4.7/53, Mwr4.1/50, Error ellipse: s-maj=7.4km s-min=6.8km az=89.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.70; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$-1.59; $M_{r\theta}$-0.22; $M_{r\phi}$-0.32; $M_{\theta\phi}$0.15; Fault plane solution: $M_0$1.70000×10^{15} NP1:ϕ_s199.28000°, δ43.74000°, λ101.23000°. NP2:ϕ_s3.92000°, δ47.30000°, λ79.45000°. Principal axes: T 1.7391, Plg82.0000°, Azm204.0000°; N -0.0763, Plg8.0000°, Azm11.0000°; P -1.6628, Plg2.0000°, Azm101.0000°;*
*NEIC **01** 03:02:49.8, 32.°36S×67.°48W, h42km*
ISC 01 03:02:48.5±0.8, 32.°38S±0.°04×67.°44W±0.°04, h45km±8km, n223, σ1°35/231, mb4.6/36, MS3.3/3, 4C, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	Cerro Valdivia	1.07	299	eP	Pn	03 03 05.6	-1.5
SJA	San Juan	1.28	312	eP	Pn	03 03 09.8	-0.2
SJA				eS	Sn	03 03 26.3	+0.3
SJA				IAML		03 03 27.6
	comp=Z,9μm,0.4s					
ZON	Zonda	1.34	308		Pn	03 03 10.3	-0.6
ZON				Sn	Sn	03 03 27.3	-0.3
ZON	Zonda	1.34	308	eP	Pn	03 03 10.3	-0.6
ZON				eS	Sn	03 03 28.0	+0.4
ZON				IAML		03 03 29.2
	comp=Z,9μm,0.2s					
RTLL	Cerro Villicun	1.37	320	eP	Pn	03 03 11.1	-0.2
MRA	San Martin	1.46	92	eP	Pn	03 03 15.2	+2.7
MRA				eS	Sn	03 03 36.8	+6.3
MRA				IAML		03 03 39.7
	comp=Z,6μm,0.6s					
RTLS	Leoncito	1.68	290	eP	Pn	03 03 15.7	0.0
RTLS				eS	Sn	03 03 38.5	+2.2
RTLS				IAML		03 03 39.9
	comp=Z,10μm,0.8s					
DOCA	Reserva Natura	2.00	315	eP	Pn	03 03 20.6	+0.3
DOCA				eS	Sn	03 03 47.5	+3.3
ACCO	Cerro Coronel	2.27	322	eP	Pn	03 03 25.2	+1.4
ACCO				eS	Sn	03 03 58.4	+7.7
MT08	Bocatoma Ro	2.41	243		Pn	03 03 26.7	+1.0
MT08				Sn	Sn	03 03 58.5	+4.4
MT08	Bocatoma Ro	2.41	243	eP	Pn	03 03 26.7	+1.0
MT08				*i* S	Sn	03 03 57.1	+3.0
MT08				IAML		03 04 03.3
	comp=N,2μm,0.3s					
MT04	Ro Olivares	2.49	245	eP	Pn	03 03 27.0	+0.2
MT04				*i* S	Sn	03 04 02.2	+6.2
MT04				IAML		03 04 03.5
	comp=N,1μm,0.2s					
RFA	San Rafael	2.53	200	eP	Pn	03 03 26.8	-0.4
RFA				eS	Sn	03 04 05.3	+8.5
RFA				IAML		03 04 12.3
	comp=Z,3μm,0.4s					
FCH	Farellones	2.58	248	eP	Pn	03 03 29.1	+1.1
FCH				*i* S	Sn	03 04 04.8	+6.4
ACDV	Cuesta del Vie	2.63	326	eP	Pn	03 03 30.2	+1.5
ACDV				eS	Sn	03 04 02.7	+3.2
TCA	Tanti	2.63	67	eP	Pn	03 03 41.5	+13
TCA				eS	Sn	03 04 12.5	+13
VA03	San Esteban	2.66	261	Pn	Pn	03 03 29.6	+0.7
VA03				Sn	Sn	03 04 03.2	+3.3
VA03	San Esteban	2.66	261	eP	Pn	03 03 30.4	+1.5
VA03				eS	Sn	03 04 06.8	+6.9
VA03				IAML		03 04 08.6
	comp=Z,3μm,0.5s					
VA03	San Esteban	2.66	261	eP	Pn	03 03 29.9	+1.0
LMEL	Las Melosas	2.74	237	Pn	Pn	03 03 30.9	+0.7
LMEL	Las Melosas	2.74	237	eP	Pn	03 03 31.1	+0.9
LMEL				eS	Sn	03 04 09.6	+7.5
MT13	San Alfonso	2.75	240	Pn	Pn	03 03 30.0	-0.3
MT13	San Alfonso	2.75	240	eP	Pn	03 03 31.3	+1.1
MT10	Hacienda Santa	2.75	250	eP	Pn	03 03 31.6	+1.2
MT14	Cerro Cal¡n	2.79	248	eP	Pn	03 03 32.6	+1.8
MT14				*i* S	Sn	03 04 10.5	+7.2
MT16	CCHEN	2.79	247		Pn	03 03 32.7	+1.9
MT16	CCHEN	2.79	247	eP	Pn	03 03 34.1	+3.3
MT03	Universidad Ad	2.81	246	Pn	Pn	03 03 32.3	+1.2
MT03	Universidad Ad	2.81	246	eP	Pn	03 03 32.5	+1.4
AROD	Rodeo	2.81	321	eP	Pn	03 03 33.1	+1.8
AROD				eS	Sn	03 04 10.1	+5.9
PEL	Peldehue	2.84	254	Pn	Pn	03 03 31.9	+0.6
PEL	Peldehue	2.84	254	eP	Pn	03 03 32.1	+0.7
PEL				eS	Sn	03 04 12.5	+8.1
MT12	Pirque	2.94	242	eP	Pn	03 03 33.4	+0.7
MT12				*i* S	Sn	03 04 15.8	+8.9
MT05	Renca	2.95	249		Pn	03 03 34.8	+1.9
MT05	Renca	2.95	249	eP	Pn	03 03 35.5	+2.5
ACLC	CERRO LA CRUZ	2.98	8	eP	Pn	03 03 35.3	+1.9
ACLC				eS	Sn	03 04 20.6	+13
ACLC				eS		03 04 28.2
ROCH	El Roble	3.07	258	eP	Pn	03 03 36.2	+1.5
ROC1	El Roble	3.07	258	eP	Pn	03 03 34.7	-0.1
ROC1				eS	Sn	03 04 12.7	+2.3
BO04	La Punta	3.10	238	Pn	Pn	03 03 36.6	+1.6
CO03	El Pedregal	3.17	298	Pn	Pn	03 03 37.5	+1.5
CO03	El Pedregal	3.17	298	eP	Pn	03 03 37.5	+1.5
CO03				eS	Sn	03 04 19.6	+6.9
CO03				IAML		03 04 35.8
	comp=Z,2μm,0.5s					
CO03	El Pedregal	3.17	298	eP	Pn	03 03 37.6	+1.5
CO03				*i* S	Sn	03 04 14.9	+2.3
MT02	Curacav	3.23	253	Pn	Pn	03 03 36.5	-0.2
MT02	Curacav	3.23	253	eP	Pn	03 03 37.1	+0.3
MT02				eS	Sn	03 04 15.7	+1.7
MT02	Curacav	3.23	253	eP	Pn	03 03 37.1	+0.3
CO02	Combarbal	3.25	290	Pn	Pn	03 03 37.6	+0.5
CO02	Combarbal	3.25	290	eP	Pn	03 03 38.2	+1.1
CO02				e

AC05	**El Transito**	**4.30**	**325**	*eP*	**Pn**	**03 03 53.5 +1.9**
AC05				*eS*	Sn	03 04 57.6 +17
AC05				IAML		03 05 06.3
comp=Z,402nm,1.4s						
GO05	**Huala**	**4.57**	**234**	Pn	**Pn**	**03 03 55.2 +0.1**
ML02	**Panimavida**	**4.72**	**223**	Pn	**Pn**	**03 03 58.5 +1.4**
AC04	**Llanos de Chal**	**5.22**	**322**	Pn	**Pn**	**03 04 05.6 +1.5**
GO03	**Copiap**	**5.35**	**332**	Pn	**Pn**	**03 04 05.3 -0.6**
AC06	**Mina Casimiro**	**5.61**	**332**	Pn	**Pn**	**03 04 09.9 +0.4**
BI05	**Punta Hualpn**	**6.44**	**226**	Pn	**Pn**	**03 04 18.1 -2.6**
AC01	**Pan de Azucar**	**6.80**	**335**	Pn	**Pn**	**03 04 26.3 +0.6**
TRQA	**Tornquist**	**7.21**	**143**	Pn	**Pn**	**03 04 31.9 +0.6**
GO02	**Mina Guanaco**	**7.44**	**345**	Pn	**Pn**	**03 04 35.5 +0.7**
GO06	**Curarrehue**	**7.89**	**203**	Pn	**Pn**	03 04 43.4 +2.6
PB14	**IPOC Station P**	**8.16**	**341**	Pn	**Pn**	**03 04 45.8 +1.1**
PSAL	**Palomas, Salto**	**8.47**	**84**	*eP*	**Pn**	**03 04 49.1 +0.4**
PSAL				*eS*	**Sn**	**03 06 20.6 -2.4**
PLCA	**Paso Flores**	**8.70**	**196**	Pn	Pn	03 04 55.8 +4.0
PLCA	**Paso Flores**	**8.70**	**196**	Pn	Pn	03 04 55.6 +3.9
comp=Z,2.0nm,0.3s,baz=8.9,slow=12,SNR=73						
PLCA				Lg	Lg	03 07 21.3
comp=Z,1.4nm,0.3s,baz=86,slow=17,SNR=2.6						
PLCA				LR	LR	03 08 41.9
comp=Z,164nm,19.8s,baz=26,slow=41						
LR04	**Corral**	**8.91**	**211**	Pn	**Pn**	**03 04 54.2 -0.4**
PB10	**IPOC Station P**	**9.26**	**342**	Pn	**Pn**	**03 04 59.9 +0.5**
PB15	**IPOC Station P**	**9.32**	**348**	Pn	**Pn**	**03 05 00.2 -0.2**
ITQB	**Itaqui**	**9.66**	**77**	Pn	**Pn**	**03 05 05.1 +0.1**
ITQB	**Itaqui**	**9.66**	**77**	*eP*	**Pn**	**03 05 04.8 -0.2**
TBOT	**Tacuaremb**	**9.79**	**89**	*eP*	**Pn**	**03 05 06.6 0.0**
PB05	**IPOC Station P**	**9.80**	**345**	Pn	**Pn**	**03 05 06.7 -0.3**
LVC	**Limon Verde**	**9.82**	**352**	Pn	**Pn**	**03 05 06.7 -0.8**
LVC	**Limon Verde**	**9.82**	**352**	Pn	**Pn**	**03 05 06.5 -1.0**
comp=Z,1.4nm,0.3s,baz=153,slow=6.4,SNR=9.7						
LVC				Lg	Lg	03 07 59.3
comp=Z,1.4nm,0.3s,baz=298,slow=3.3,SNR=2.9						
LVC				LR	LR	03 09 15.3
comp=Z,307nm,21.9s,baz=176,slow=40						
comp=Z,2.6nm,0.3s						
LVC	**Limon Verde**	**9.82**	**352**	*eP*	**Pn**	**03 05 07.2 -0.3**
LVC				*eS*	**Sn**	**03 07 01.7 +5.0**
PB06	**IPOC Station P**	**9.82**	**348**	Pn	**Pn**	**03 05 06.0 -1.3**
PB04	**IPOC Station P**	**10.30**	**346**	Pn	**Pn**	**03 05 12.2 -1.6**
RODS	**Rosario do Sul**	**10.66**	**82**	*eP*	**Pn**	**03 05 18.0 -0.6**
RODS				*eS*	**Sn**	**03 07 16.3 -0.3**
PB09	**IPOC Station P**	**10.67**	**351**	Pn	**Pn**	**03 05 17.6 -1.3**
CPUP	**Villa Florida**	**10.68**	**58**	Pn	**Pn**	**03 05 17.6 -1.3**
CPUP	**Villa Florida**	**10.68**	**58**	Pn	**Pn**	**03 05 17.4 -1.5**
comp=Z,0.4nm,0.3s,baz=237,slow=13,SNR=8.7						
CPUP				Lg	Lg	03 08 25.8
comp=Z,1.6nm,0.3s,baz=329,slow=17,SNR=1.1						
CPUP				LR	LR	03 10 04.8
comp=Z,260nm,18.6s,baz=205,slow=41						
comp=Z,1.6nm,0.5s						
PLTB	**Pedras Altas**	**11.75**	**91**	Pn	**Pn**	**03 05 32.8 -0.8**
PLTB	**Pedras Altas**	**11.75**	**91**	*eP*	**Pn**	**03 05 32.8 -0.8**
CPSB	**Cacapava Do Su**	**12.12**	**84**	*eP*	**Pn**	**03 05 36.1 -2.5**
CRSM	**Crissiumal (Br**	**12.60**	**71**	*eP*	**Pn**	**03 05 45.4 +0.3**
PB11	**IPOC Station P**	**12.73**	**350**	Pn	Pn	03 05 41.5 -5.5
GO01	**Chusmiza**	**12.76**	**352**	Pn	**Pn**	**03 05 46.1 -1.7**
ALGR	**Alto Alegre (B**	**12.92**	**78**	*eP*	**Pn**	**03 05 48.5 -1.0**
ITAB	**Concordia**	**14.24**	**73**	Pn	**Pn**	**03 06 05.9 -1.6**
ITAB	**Concordia**	**14.24**	**73**	*eP*	**Pn**	**03 06 06.7 -0.8**
CNLB	**Canela**	**14.57**	**82**	*eP*	**Pn**	**03 06 12.5 +0.6**
PTGB	**Pitanga**	**15.51**	**64**	*eP*	**Pn**	**03 06 25.8 +1.6**
AQDB	**Aquidauana**	**15.83**	**44**	*eP*	**Pn**	**03 06 29.2 +0.8**
LPAZ	**La Paz**	**16.04**	**358**	Pn	**Pn**	**03 06 29.9 -1.6**
LPAZ	**La Paz**	**16.04**	**358**	Pn	**Pn**	**03 06 31.2 -0.3**
comp=Z,0.3nm,0.3s,baz=190,slow=17,SNR=6.1						
comp=Z,1.3nm,0.5s						
LPAZ	**La Paz**	**16.04**	**358**	*eP*	**P**	**03 06 33.5 -0.9**
TRCB	**Terra Rica**	**16.22**	**58**	*eP*	**Pn**	**03 06 33.7 +0.4**
LDASE	**Londrina, Braz**	**16.97**	**62**	*eP*	**Pn**	**03 06 42.0 -0.7**
SIV	**San Ignacio**	**17.31**	**21**	P	**Pn**	**03 06 45.4 -1.7**
baz=200,slow=10,SNR=42						
comp=Z,6.4nm,0.7s						
PCMB	**Pacaembu**	**17.95**	**57**	*eP*	**Pn**	**03 06 54.4 -0.5**
FRTB	**Fartura**	**18.17**	**65**	*eP*	**P**	**03 06 57.8 +0.4**
PTLB	**Pontes e Lacer**	**18.47**	**26**	P	**P**	**03 07 00.9 +0.2**
PTLB	**Pontes e Lacer**	**18.47**	**26**	*eP*	**P**	**03 07 00.8 +0.2**
SALV	**Santo Antonio**	**19.57**	**36**	*eP*	**P**	**03 07 12.7 0.0**
SPB	**Sao Paulo**	**19.70**	**69**	*eP*	**P**	**03 07 12.7 -1.4**
ITRB	**Iturama**	**19.84**	**55**	*eP*	**P**	**03 07 15.7 0.0**
RCLB	**Rio Claro- Sao**	**20.24**	**66**	*eP*	**P**	**03 07 19.9 -0.2**
VAO	**Valinhos**	**20.37**	**68**	P	**P**	**03 07 22.4 +1.0**
VAO	**Valinhos**	**20.37**	**68**	*eP*	**P**	**03 07 20.4 -1.0**
VILB	**Vilhena**	**20.45**	**21**	P	**P**	**03 07 21.8 -0.4**
VILB	**Vilhena**	**20.45**	**21**	*eP*	**P**	**03 07 22.1 -0.1**
PARB	**Paraibuna**	**21.26**	**70**	*eP*	**P**	**03 07 29.5 -1.6**
ARAG	**Araguaiana, MT**	**21.85**	**44**	*eP*	**P**	**03 07 37.1 -0.2**
NNA	**Nana**	**22.07**	**335**	LR	LR	03 15 12.1
comp=Z,72nm,21.9s,baz=142,slow=34						
ETMB	**Extrema**	**22.49**	**3**	P	**P**	**03 07 44.5 +0.4**
ETMB	**Extrema**	**22.49**	**3**	*eP*	**P**	**03 07 43.9 -0.2**
IPMB	**Ipameri, GO**	**22.49**	**55**	*eP*	**P**	**03 07 43.0 -1.4**
MAN01	**Ángra dos Reis**	**22.82**	**71**	*eP*	**P**	**03 07 45.1 -2.6**
PDRB	**Porto dos Gac**	**22.90**	**28**	*eP*	**P**	**03 07 46.7 -1.9**
BSCB	**Bom Sucesso**	**23.16**	**66**	*eP*	**P**	**03 07 49.5 -1.7**
PMNB	**Patos De Minas**	**23.39**	**59**	*eP*	**P**	**03 07 51.0 -2.4**
SAML	**Samuel**	**23.65**	**11**	P	**P**	**03 07 56.5 +0.7**
SAML	**Samuel**	**23.65**	**11**	*eP*	**P**	**03 07 56.1 +0.3**
BDFB	**Brasilia**	**24.27**	**51**	P	**P**	**03 08 01.3 -0.4**
BDFB	**Brasilia**	**24.27**	**51**	P	**P**	**03 08 00.3 -1.5**
comp=Z,2.3nm,0.5s,baz=216,slow=8.5,SNR=8.6						
BDFB				LR	LR	03 18 36.4
comp=Z,98nm,19.1s,baz=313,slow=39						
comp=Z,2.3nm,0.5s						
DUB01	**Friburgo-RJ**	**24.48**	**71**	*eP*	**P**	**03 08 01.4 -2.1**
CZSB	**Cruzeiro do Su**	**25.02**	**348**	P	**P**	**03 08 09.1 +0.7**
CZSB				IAmb	IAmb	03 08 10.0
comp=Z,11nm,0.7s						
CZSB	**Cruzeiro do Su**	**25.02**	**348**	*eP*	**P**	**03 08 08.6 +0.3**
SNDB	**Serra Nova Dou**	**25.16**	**40**	*eP*	**P**	**03 08 08.5 -1.1**
CAM01	**Campos-RJ**	**25.18**	**72**	*eP*	**P**	**03 08 07.2 -2.6**
DIAM	**Diamantina, MG**	**25.58**	**62**	*eP*	**P**	**03 08 11.7 -1.9**
JANB	**Januaria**	**27.21**	**56**	*eP*	**P**	**03 08 27.3 -0.9**
NPGB	**Novo Progresso**	**27.61**	**27**	*eP*	**P**	**03 08 31.1 -0.7**
TEFE	**Tefe**	**28.84**	**6**	*eP*	**P**	**03 08 42.6 -0.1**
PMSA	**Palmer Station**	**32.48**	**177**	P	**P**	**03 09 15.3 +0.9**
BOAV	**Boa Vista**	**35.20**	**12**	P	**P**	**03 09 38.3 -0.2**
BOAV				IAmb	IAmb	03 09 39.5
comp=Z,4.9nm,0.7s						
SMAI	**San Martin Ant**	**35.79**	**180**	P	**P**	**03 09 42.9 0.0**
SMAI				IAmb	IAmb	03 09 45.0
comp=Z,8.8nm,0.6s						
ROSC	**El Rosal**	**37.59**	**349**	P	**P**	**03 09 57.1 -2.2**
ROSC				IAmb	IAmb	03 09 57.7
comp=Z,7.5nm,0.5s						
GRGR	**Grenville**	**44.61**	**8**	P	**P**	**03 10 56.6 +0.1**
VNA3	**Neumayer Olymp**	**49.43**	**159**	⇑P	**P**	**03 11 33.9 +0.4**
comp=Z,2.3nm,0.5s						
VNA2	**Neumayer--Watz**	**50.04**	**158**	⇑P	**P**	**03 11 38.5 +0.3**
comp=Z,3.5nm,0.6s,baz=286,slow=7.9						
OBIP	**Obispado Ponce**	**50.15**	**1**	P	**P**	**03 11 38.1 -1.3**
CELP	**Cerrillos**	**50.18**	**1**	P	**P**	**03 11 38.9 -0.8**
SDDR	**Presa de Saban**	**51.21**	**355**	P	**P**	**03 11 48.8 +1.3**
SDDR				IAmb	IAmb	03 11 55.4
comp=Z,7.0nm,0.8s						
SNAA	**Sanae**	**51.65**	**159**	P	**P**	**03 11 50.4 +0.1**
SNAA				IAmb	IAmb	03 12 03.5
comp=Z,3.6nm,0.7s						
SNAA	**Sanae**	**51.65**	**159**	⇑P	**P**	**03 11 50.8 +0.5**
comp=Z,54nm,0.6s						
SNAA	**Sanae**	**51.65**	**159**	P	**P**	**03 11 50.3 0.0**
comp=Z,1.6nm,0.3s,baz=253,slow=6.7,SNR=21						
comp=Z,1.6nm,0.3s						
TROLL	**Troll, Antarti**	**53.37**	**159**	⇑P	**P**	**03 12 03.7 +0.6**
comp=Z,333nm,0.8s						
TEIG	**Tepich**	**55.99**	**336**	P	**P**	**03 12 22.0 -0.4**
SOR	**Soroa**	**56.85**	**343**	P	**P**	**03 12 27.8 -0.8**
SOR				IAmb	IAmb	03 12 35.2
comp=Z,7.0nm,1.1s						
QSPA	**South Pole Qui**	**57.85**	**180**	P	**P**	**03 12 35.6 +0.3**
QSPA				IAmb	IAmb	03 12 49.2
comp=Z,8.8nm,1.1s						
QSPA	**South Pole Qui**	**57.85**	**180**	P	**P**	**03 12 35.4 +0.1**
comp=Z,4.0nm,0.5s,baz=162,slow=5.2,SNR=64						
comp=Z,4.0nm,0.5s						
656A	**Willston**	**63.06**	**345**	P	**P**	**03 13 10.4 -0.6**
SBA	**Scott Base**	**65.41**	**191**	P	**P**	**03 13 26.4 +0.5**
VNDA	**Vanda**	**66.41**	**190**	P	**P**	**03 13 33.7 +1.3**
VNDA	**Vanda**	**66.41**	**190**	P	**P**	**03 13 33.5 +1.1**
comp=Z,0.9nm,0.7s,baz=133,slow=6.4,SNR=9.0						
comp=Z,0.9nm,0.7s						
GOGA	**Godfrey**	**67.17**	**345**	P	**P**	**03 13 37.0 -0.6**
GOGA				IAmb	IAmb	03 13 49.0
comp=Z,3.4nm,0.9s						
Y52A	**Lilburn**	**67.73**	**345**	P	**P**	**03 13 40.7 -0.4**
Y52A				IAmb	IAmb	03 13 41.0
comp=Z,5.4nm,0.6s						
W57A	**Gilead**	**68.21**	**349**	P	**P**	**03 13 43.9 -0.2**
W57A				IAmb	IAmb	03 13 56.1
comp=Z,5.6nm,0.8s						
X51A	**Calhoun**	**68.58**	**345**	P	**P**	**03 13 45.8 -0.7**
V58A	**Windy Hill, Pi**	**68.70**	**350**	P	**P**	**03 13 47.0 -0.2**
V58A				IAmb	IAmb	03 13 47.6
comp=Z,4.3nm,0.7s						
Y45A	**Yeager Farm, C**	**69.11**	**340**	P	**P**	**03 13 49.7 0.0**
SWET	**Sewanee**	**69.45**	**344**	P	**P**	**03 13 51.3 -0.6**
SWET				IAmb	IAmb	03 13 52.1
comp=Z,8.3nm,0.9s						
BRDY	**Brady**	**70.02**	**332**	P	**P**	**03 13 55.3 -0.2**
BRDY				IAmb	IAmb	03 13 56.3
comp=Z,4.3nm,0.9s						
TXAR	**Lajitas Array**	**70.36**	**327**	P	**P**	**03 13 57.7 0.0**
comp=Z,1.3nm,0.7s,baz=148,slow=8.0,SNR=21						
comp=Z,1.3nm,0.7s						
TX31	**Lajitas Ar. Si**	**70.36**	**327**	P	**P**	**03 13 57.7 0.0**
OZNA	**Ozona**	**70.58**	**330**	P	**P**	**03 13 58.8 -0.2**
OZNA				IAmb	IAmb	03 13 59.9
comp=Z,7.6nm,0.7s						
U49A	**Red Boiling Sp**	**70.66**	**344**	P	**P**	**03 13 58.3 -0.9**
U49A				IAmb	IAmb	03 13 58.8
comp=Z,2.4nm,0.6s						
WVT	**Waverly**	**70.78**	**343**	P	**P**	**03 13 59.4 -0.7**
DBIC	**Dimbokro**	**71.00**	**69**	P	**P**	**03 14 02.5 +0.6**
DBIC	**Dimbokro**	**71.00**	**69**	P	**P**	**03 14 01.8 -0.1**
comp=Z,12nm,1.0s,baz=221,slow=5.5,SNR=5.3						
comp=Z,12nm,1.0s						
R55A	**Marlinton**	**71.29**	**349**	P	**P**	**03 14 03.1 0.0**
R55A				IAmb	IAmb	03 14 04.5
comp=Z,8.4nm,0.8s						
LCAR	**Lake Charles**	**71.63**	**340**	P	**P**	**03 14 04.9 -0.2**
LCAR				IAmb	IAmb	03 14 05.5
comp=Z,6.3nm,0.6s						
MNHN	**Monahans**	**71.65**	**329**	P	**P**	**03 14 05.3 -0.2**
MNHN				IAmb	IAmb	03 14 06.5
comp=Z,7.8nm,0.7s						
FCAR	**Ozark Folk Cen**	**71.75**	**339**	P	**P**	**03 14 05.3 -0.5**
PBMO	**Poplar Bluff**	**72.08**	**341**	P	**P**	**03 14 07.3 -0.5**
VHRN	**Van Horn**	**72.19**	**327**	P	**P**	**03 14 08.5 -0.3**
APMT	**Aspermont**	**72.25**	**332**	P	**P**	**03 14 08.8 -0.3**
APMT				IAmb	IAmb	03 14 09.7
comp=Z,8.0nm,0.6s						
CCM	**Cathedral Cave**	**73.51**	**341**	P	**P**	**03 14 15.9 -0.3**
CCM				IAmb	IAmb	03 14 16.3
comp=Z,4.7nm,0.6s						
MAW	**Mawson**	**73.58**	**162**	P	**P**	**03 14 16.8 +0.3**
comp=Z,1.2nm,0.4s,baz=228,slow=11,SNR=4.6						
comp=Z,1.2nm,0.4s						
P40A	**Paris**	**75.11**	**341**	P	**P**	**03 14 24.9 -0.6**
P40A				IAmb	IAmb	03 14 25.9
comp=Z,7.3nm,0.7s						
PKME	**Peaks-Kenny Pk**	**77.30**	**359**	P	**P**	**03 14 38.4 +0.6**
BOSA	**Boshof**	**77.35**	**116**	P	**P**	**03 14 39.5 +0.6**
BOSA				IAmb	IAmb	03 14 55.5
comp=Z,8.3nm,1.1s						
BOSA	**Boshof**	**77.35**	**116**	P	**P**	**03 14 38.9 -0.1**
comp=Z,4.2nm,1.0s,baz=233,slow=5.6,SNR=6.9						
comp=Z,4.2nm,1.0s						
LBTB	**Lobatse**	**79.43**	**113**	P	**P**	**03 14 50.7 +0.3**
LBTB				IAmb	IAmb	03 14 51.4
comp=Z,4.3nm,0.6s						
TOA0	**Torodi Ar. Sit**	**80.03**	**68**	P	**P**	**03 14 53.8 +0.2**
TOA0				IAmb	IAmb	03 15 07.0
comp=Z,6.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**80.03**	**68**	P	**P**	**03 14 54.4 +0.8**
TORD				IAmb	IAmb	03 15 06.9
comp=Z,5.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**80.03**	**68**	P	**P**	**03 14 53.8 +0.2**
comp=Z,4.3nm,0.8s,baz=290,slow=8.2,SNR=34						
comp=Z,4.3nm,0.8s						
D41A	**Chassel**	**81.34**	**346**	P	**P**	**03 15 00.3 +0.5**
DRLN	**Deer Lake**	**81.76**	**7**	P	**P**	**03 15 02.7 +0.7**
PDAR	**Pinedale Array**	**84.17**	**330**	LR	LR	03 52 52.2
comp=Z,16nm,18.2s,baz=42,slow=36						
NVAR	**Mina Array Bea**	**84.87**	**322**	P	**P**	**03 15 20.2 +1.7**
comp=Z,0.3nm,0.5s,baz=164,slow=7.7,SNR=3.5						
comp=Z,0.3nm,0.5s						
SCHQ	**Schefferville**	**86.86**	**0**	P	**P**	**03 15 26.4 -1.3**
comp=Z,1.3nm,0.5s,baz=242,slow=4.7,SNR=3.7						
comp=Z,1.3nm,0.5s						
ESDC	**Sonseca Array**	**92.71**	**44**	P	**P**	**03 15 56.7 +1.0**
comp=Z,0.4nm,0.9s,baz=256,slow=3.8,SNR=2.7						
comp=Z,0.4nm,0.9s						
YKA	**Yellowknife Ar**	**101.83**	**340**	P	**Pdif**	**03 16 34.9 -1.3**
comp=Z,0.2nm,0.7s,baz=129,slow=5.6,SNR=3.2						
WRA	**Warramunga Arr**	**123.95**	**205**	PKP	**PKPdf**	**03 21 41.6 -0.7**
comp=Z,0.9nm,0.5s,baz=169,slow=1.6,SNR=2.0						
BVAR	**Borovoye Array**	**143.47**	**43**	PKP	PKPbc	03 22 15.4 +0.5
comp=Z,0.4nm,0.4s,baz=307,slow=2.1,SNR=3.2						
KURBB	**Kurchatov Arra**	**149.04**	**44**	PKPbc	**PKiKP**	**03 22 32.1 -0.3**
comp=Z,7.8nm,0.7s,baz=296,slow=3.2,SNR=53						
KURK	**Kurchatov**	**149.06**	**44**		**PKPbc**	**03 22 31.8 +0.5**
ZAA0	**Zalesovo Array**	**150.76**	**34**	PKPbc	**PKiKP**	**03 22 36.1 +0.2**
ZALV	**Zalesovo Beam**	**150.76**	**34**	PKPbc	**PKPbc**	**03 22 35.1 -0.1**
ZALV	**Zalesovo Beam**	**150.76**	**34**	PKPbc	**PKPbc**	**03 22 35.8 +0.5**
comp=Z,12nm,0.6s,baz=304,slow=2.9,SNR=43						
MK31	**Makanchi Array**	**152.79**	**49**	PKPbc	**PKPbc**	**03 22 40.3 +0.1**
MKAR	**Makanchi Array**	**152.79**	**49**	PKPbc	**PKPbc**	**03 22 40.3 +0.1**
comp=Z,2.1nm,0.7s,baz=301,slow=1.8,SNR=16						

IDC 01 03:06:18.1±2.1, 6°28S×130°67E, h0km, mb3.6/2, mbtmp3.5/4, ML3.5/2, MS2.8/1, Error ellipse: s-maj=137.9km s-min=30.0km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**10.94**	**276**	LR	LR	03 14 08.9	
comp=Z,49nm,19.0s,baz=248,slow=43							
WRA	**Warramunga Arr**	**14.04**	**166**	Pn	Pn	03 09 36.7	-1.8
0.2nm,0.3s,baz=348,slow=13,SNR=11							
WRA				Sn	Sn	03 12 04.7	-11
0.7nm,0.3s,baz=351,slow=23,SNR=9.1							
0.4nm,0.3s							
ASAR	**Alice Springs**	**17.56**	**170**	P	P	03 10 26.0	+0.3
0.2nm,0.3s,baz=353,slow=14,SNR=7.8							
ASAR				S	Sn	03 13 29.6	-11
0.4nm,0.6s,baz=346,slow=25,SNR=2.3							
0.4nm,0.5s							
MKAR	**Makanchi Array**	**68.00**	**326**	P	P	03 17 19.6	+0.4
0.5nm,0.4s,baz=121,slow=6.9,SNR=7.4							
0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**72.25**	**328**	P	P	03 17 44.6	-0.6
0.2nm,0.5s,baz=127,slow=4.5,SNR=2.6							
0.2nm,0.5s							

KRSC 01 03:11:09.2±1.4, 55°01N×164°83E, h51km±24km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.69**	**73**	*eP*	Pn	03 11 23.6	+0.9
BKI				*eS*	Sn	03 11 33.4	+0.8
KBTR	**Krutoberegovo**	**1.66**	**317**	*eP*	Pn	03 11 35.8	0.0
KBG	**Krutoberegovo**	**1.73**	**317**	*eP*	Pn	03 11 37.4	+0.6
MKZ	**Mys Kozlova**	**1.85**	**257**	*eP*	Pn	03 11 40.9	+2.6
MKZ				*eS*	Sn	03 12 02.1	+1.6
ZLN	**Zelenaya**	**2.50**	**295**	*eP*	Pn	03 11 50.8	+3.4
ZLN				*eS*	Sn	03 12 21.2	+4.4
BZGR	**Bezymyannyi-Gr**	**2.53**	**293**	*eP*	Pn	03 11 50.7	+2.9
BZGR				*eS*	Sn	03 12 22.2	+4.7
TUMD	**Tumrok D**	**2.55**	**276**	*eP*	Pn	03 11 51.6	+3.6
TUMD				*eS*	Sn	03 12 20.8	+3.0
CIRR	**Tsirk**	**2.57**	**297**	*eP*	Pn	03 11 51.3	+2.9
LGNR	**Loginova**	**2.59**	**296**	*eP*	Pn	03 11 51.7	+3.0
BZP	**Bezymyannyi-Pe**	**2.60**	**292**	*eP*	Pn	03 11 51.7	+2.8
BZMR	**Bezymyannaya**	**2.64**	**292**	*eP*	Pn	03 11 52.3	+3.0
BZMR				*eS*	Sn	03 12 25.1	+4.9
SRKR	**Sorokina**	**2.64**	**310**	*eP*	Pn	03 11 52.9	+3.6
BZWR	**Bezymyannyi-We**	**2.64**	**293**	*eP*	Pn	03 11 52.9	+3.5
BZWR				*eS*	Sn	03 12 24.9	+4.5
TUMR	**Tumrok**	**2.70**	**278**	*eP*	Pn	03 11 54.1	+3.9
TUMR				*eS*	Sn	03 12 26.7	+5.0
KLY	**Klyuchi**	**2.70**	**301**	*eP*	Pn	03 11 51.5	+1.5
KLY				*eS*	Sn	03 12 22.2	+0.7
KRSR	**Krestovskiy**	**2.70**	**298**	*eP*	Pn	03 11 52.1	+2.0
KRSR				*eS*	Sn	03 12 23.8	+2.1
KIRR	**Kirishev**	**2.72**	**292**	*eP*	Pn	03 11 53.9	+3.4
KIRR				*eS*	Sn	03 12 26.8	+4.6
KMNR	**Kamenistaya**	**2.72**	**288**	*eP*	Pn	03 11 54.5	+4.0
KMNR				*eS*	Sn	03 12 26.9	+4.7
KPT	**Kopyto**	**2.79**	**292**	*eP*	Pn	03 11 54.8	+3.4
KOZ	**Kozyrevsk**	**3.01**	**292**	*eP*	Pn	03 11 58.2	+4.0
KOZ				*eS*	Sn	03 12 34.4	+5.4
SRDR	**Sredinnyy**	**3.18**	**296**	*eP*	Pn	03 12 00.8	+4.2
SRDR				*eS*	Sn	03 12 37.6	+4.4
KII	**Karymskiy**	**3.28**	**255**	*eP*	Pn	03 12 03.0	+4.9
KII				*eS*	Sn	03 12 39.6	+3.7
SPN	**Mys Shipunski**	**3.42**	**238**	*eP*	Pn	03 12 03.4	+3.5
SPN				*eS*	Sn	03 12 41.0	+1.9
ESO	**Esso**	**3.61**	**287**	*eP*	Pn	03 12 05.5	+3.0
ESO				*eS*	Sn	03 12 46.5	+2.8
NLC	**Nalytchevo**	**3.72**	**243**	*eS*	Sn	03 12 48.6	+2.2
SMAR	**Somma**	**3.95**	**246**	*eP*	Pn	03 12 12.4	+5.0
SMAR				*eS*	Sn	03 12 55.1	+2.5
KRER	**Koryakskii**	**3.96**	**247**	*eP*	Pn	03 12 11.9	+4.4
KRER				*eS*	Sn	03 12 55.9	+3.1
UGLR	**Uglovaya**	**3.97**	**245**	*eP*	Pn	03 12 12.8	+5.2
UGLR				*eS*	Sn	03 12 56.5	+3.7
AVH	**Avacha**	**3.98**	**246**	*eP*	Pn	03 12 12.5	+4.8
AVH				*eS*	Sn	03 12 56.7	+3.6
KRX	**Arik**	**3.99**	**248**	*eP*	Pn	03 12 12.6	+4.7
KRX				*eS*	Sn	03 12 55.8	+2.5
KOK	**Koryaka**	**4.03**	**247**	*eP*	Pn	03 12 13.5	+5.2
KOK				*eS*	Sn	03 12 57.6	+3.4
PET	**Petropavlovsk**	**4.15**	**244**	*eS*	Sn	03 12 59.7	+2.7
GNL	**Ganaly**	**4.24**	**255**	*eP*	Pn	03 12 15.2	+4.0
OSSR	**Ossora**	**4.36**	**348**	*eP*	Pn	03 12 15.0	+2.3
KRMR	**Karymshinskiy**	**4.52**	**244**	*eS*	Sn	03 13 10.6	+4.5
MTVR	**Mutnovka**	**4.69**	**240**	*eP*	Pn	03 12 21.6	+4.2
MTVR				*eS*	Sn	03 13 12.7	+2.2
GRL	**Gorelyy**	**4.70**	**241**	*eP*	Pn	03 12 21.0	+3.4
ASAK	**Asacha**	**4.88**	**240**	*eP*	Pn	03 12 23.9	+3.8
ASAK				*eS*	Sn	03 13 18.4	+3.1
KDTR	**Khodutka, Kamc**	**5.16**	**234**	*eP*	Pn	03 12 25.2	+1.6

*IDC **01** 03:16:14.0±0.8, 6°38S×143°05E, h0km, mb3.8/10, mbtmp3.8/13, ML4.1/2, MS3.3/11, Error ellipse: s-maj=34.0km s-min=15.9km az=91.0*

ISC 01 03:16:18.9±0.7, 6°56S±0°08×142°98E±0°10, h35km, n19, σ2s00/16, mb3.7/10, MS3.3/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.02**	**125**	Pn	**Pn**	**03 17 30.5**	**-1.2**
10nm,0.3s,baz=330,slow=1.2,SNR=6.4							
PMG				Sn	**Sn**	**03 18 28.1**	**-0.4**
10nm,0.3s,baz=253,slow=17,SNR=6.8							
WRA	**Warramunga Arr**	**15.73**	**211**	Pn	**Pn**	**03 19 57.7**	**-0.3**
0.7nm,0.3s,baz=27,slow=13,SNR=17							
WRA		

CELP	**Cerrillos**	**2.25 243**	*e*S		**Sn**	**03 18 29.8**	**-0.6**
CELP	**Cerrillos**	**2.25 243**	Pn		**Pn**	**03 18 04.2**	**+0.4**
CELP			Sn		**Sn**	**03 18 29.1**	**-1.3**
CELP			IAML			03 18 52.3	
	comp=E,18nm,2.4s						
CELP			IAML			03 19 05.7	
	comp=N,20nm,2.8s						
OBIP	**Obispado Ponce**	**2.29 242**	Pn		**Pn**	**03 18 04.5**	**+0.3**
OBIP			IAML			03 18 47.6	
	comp=N,24nm,2.6s						
OBIP			IAML			03 18 50.4	
	comp=E,19nm,2.4s						
AOPR	**Arecibo Observ**	**2.29 250**	Pn		**Pn**	**03 18 03.2**	**-1.1**
AOPR			IAML			03 18 40.1	
	comp=E,71nm,0.4s						
AOPR			IAML			03 18 46.4	
	comp=N,41nm,1.1s						
AOPR	**Arecibo Observ**	**2.29 250**	*e*P		**Pn**	**03 18 04.7**	**+0.4**
AOPR			*e*S		**Sn**	**03 18 32.7**	**+1.3**
UUPR	**Utuado, UPR, P**	**2.30 248**	Pn		**Pn**	**03 18 02.6**	**-1.8**
AGPR	**Aguadilla, PR**	**2.58 256**	Pn		**Pn**	**03 18 08.3**	**0.0**
MLPR	**Magueyes Islan**	**2.70 245**	Pn		**Pn**	**03 18 10.6**	**+0.8**
MLPR			IAML			03 18 38.0	
	comp=E,28nm,2.2s						
MLPR			IAML			03 19 57.6	
	comp=N,22nm,2.5s						
CRPR	**Cabo Rojo, PR**	**2.74 246**	Pn		**Pn**	**03 18 10.2**	**-0.1**
CRPR			IAML			03 18 42.1	
	comp=N,31nm,2.1s						
CRPR			IAML			03 18 44.0	
	comp=E,33nm,2.8s						
ANBD	**Bethesda, Anti**	**3.31 128**	*e*P		**Pn**	**03 18 18.7**	**+0.5**
ANBD			*e*S		**Sn**	**03 18 55.7**	**-0.6**
SDDR	**Presa de Saban**	**6.44 270**	Pn		**Pn**	**03 19 01.1**	**-0.3**

NAM 01 03:18:37.3±1.6, 19°.82S×14°.57E, h6^{km}±8^{km}, ML0.1, 4C-1D, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ST9N	**ST9**	**0.03**	**319**⇑	*i*P	Pg	03 18 38.4	-0.3
ST9N				*i* S	Sg	03 18 39.7	0.0
ST9N				IAML		03 18 40.1	
	comp=Z,3.0nm,0.3s						
ST9N	**ST9**	**0.03**	**319**	*i* P	Pg	03 18 39.5	+0.8
ST9N				*i* S	Sg	03 18 39.9	+0.2
ST1N	**ST1**	**0.10**	**26**⇓	*i*P	Pg	03 18 39.0	-0.5
ST1N				IAML		03 18 40.9	
	comp=Z,5.5nm,0.3s						
ST1N	**ST1**	**0.10**	**26**⇑	*i*P	Pg	03 18 38.9	-0.6
ST1N				*i* S	Sg	03 18 40.6	-0.5
ST1N				IAML		03 18 40.8	
	comp=Z,5.5nm,0.3s						
ST3N	**ST3**	**0.10**	**321**	*i* P	Pg	03 18 35.5	-4.2
ST3N				*i* S	Sg	03 18 41.1	-0.2
ST3N				AMP		03 18 41.5	
	comp=Z,8.2nm,1.4s						
ST3N	**ST3**	**0.10**	**321**	*i* P	Pg	03 18 40.8	+1.2
ST3N				*i* S	Sg	03 18 41.4	+0.1
ST3N				AMP		03 18 42.1	
	comp=Z,8.4nm,0.3s						
ST2N	**ST2**	**0.11**	**165**⇑	*i*P	Pg	03 18 39.3	-0.5
ST2N				*i* S	Sg	03 18 41.2	-0.2
ST2N				IAML		03 18 41.5	
	comp=Z,1.6nm,0.3s						
ST2N	**ST2**	**0.11**	**165**	*i* P	Pg	03 18 39.6	-0.2
ST2N				*i* S	Sg	03 18 41.5	0.0
ST2N				AMP		03 18 41.6	
	comp=Z,9.5nm,0.3s						
ST6N	**ST6**	**0.16**	**278**	*i* P	Pg	03 18 40.0	-0.6
ST6N				*i* S	Sg	03 18 42.5	-0.4
ST5N	**ST5**	**0.18**	**80**⇑	*i*P	Pg	03 18 42.0	+1.0
ST5N				IAML		03 18 42.9	
	comp=Z,1.5nm,0.3s						
ST5N	**ST5**	**0.18**	**80**	*i* P	Pg	03 18 42.1	+1.1
ST5N				*i* S	Sg	03 18 43.0	-0.5
ST10N	**ST10**	**0.24**	**225**	*i* P	Pg	03 18 41.5	-0.6
ST10N				IAML		03 18 46.1	
	comp=Z,0.7nm,0.3s						
ST10N	**ST10**	**0.24**	**225**	*i* P	Pg	03 18 42.1	0.0
ST10N				*i* S	Sg	03 18 45.5	+0.1

*NEIC **01** 03:39:38.4±1.5, 19°.24N±0°.09×64°.56W±0°.03, h35^{km}±2^{km}, ML3.8/40, Md3.7/17(RSPR), Error ellipse: s-maj=14.8km s-min=4.3km az=357.0*
*RSPR **01** 03:39:38.1, 19°.24N×64°.53W, h86^{km}±10^{km}, MD3.7/17*
ISC 01 03:39:35.8±3.7, 19°.2N±0°.1×64°.53W±0°.04, h12^{km}±27^{km}, n63, σ0.96/78, 12C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.61**	**231**⇑	*e*P	**Pn**	**03 40 04.0**	**-0.1**
HUMP	**Col San Antoni**	**1.61**	**231**	*e*S	**Sn**	**03 40 24.6**	**-0.3**
HUMP	**Col San Antoni**	**1.61**	**231**		**Pn**	**03 40 04.0**	**-0.1**
HUMP					**Sn**	**03 40 24.0**	**-0.8**
HUMP				IAML		03 40 33.7	
	comp=E,863nm,0.4s						
GCPR	**Guaynabo City**	**1.70**	**240**⇑	*e*P	**Pn**	**03 40 04.7**	**-0.7**
GCPR	**Guaynabo City**	**1.70**	**240**	*e*S	**Sn**	**03 40 27.8**	**+0.8**
GCPR	**Guaynabo City**	**1.70**	**240**		**Pn**	**03 40 04.7**	**-0.7**
GCPR					**Sn**	**03 40 25.9**	**-1.1**
GCPR				IAML		03 40 32.0	
	comp=E,841nm,0.5s						
SMRT	**St. Maarten**	**1.77**	**128**⇓	*e*P	**Pn**	**03 40 06.8**	**+0.5**
SMRT	**St. Maarten**	**1.77**	**128**	*e*S	**Sb**	**03 40 31.2**	**+0.7**
SMRT	**St. Maarten**	**1.77**	**128**		**Pn**	**03 40 06.8**	**+0.5**
SMRT				Sn	**Sn**	**03 40 29.5**	**+0.6**
SMRT				IAML		03 40 38.8	
	comp=E,1μm,0.4s						
SMRT				IAML		03 40 43.6	
	comp=N,899nm,0.4s						
SJG	**San Juan**	**1.86**	**236**⇑	*e*P	**Pn**	**03 40 07.5**	**0.0**
SJG	**San Juan**	**1.86**	**236**	*e*S	**Sn**	**03 40 31.1**	**+0.1**
SJG	**San Juan**	**1.86**	**236**		**Pn**	**03 40 07.1**	**-0.4**
SABA	**Saba**	**1.96**	**141**	Pn	**Pb**	**03 40 11.0**	**-0.5**
EMPR	**Esperanza - Ma**	**2.01**	**250**⇑	*e*P	**Pn**	**03 40 09.9**	**+0.3**
EMPR	**Esperanza - Ma**	**2.01**	**250**	*e*S	**Sn**	**03 40 35.4**	**+0.7**
EMPR	**Esperanza - Ma**	**2.01**	**250**	Pn	**Pn**	**03 40 09.2**	**-0.4**
EMPR				Sn	**Sn**	**03 40 34.2**	**-0.6**
EMPR				IAML		03 40 43.5	
	comp=N,1μm,0.7s						
EMPR				IAML		03 40 44.9	
	comp=E,1μm,0.6s						
CELP	**Cerrillos**	**2.22**	**241**⇑	*e*P	**Pn**	**03 40 13.0**	**+0.4**
CELP	**Cerrillos**	**2.22**	**241**	*e*S	**Sn**	**03 40 40.4**	**+0.3**
CELP	**Cerrillos**	**2.22**	**241**	Pn	**Pn**	**03 40 12.1**	**-0.5**
CELP				Sn	**Sn**	**03 40 37.9**	**-2.2**
CELP				IAML		03 40 44.0	
	comp=N,555nm,0.9s						
CELP				IAML		03 40 44.9	
	comp=E,512nm,0.7s						
AOPR	**Arecibo Observ**	**2.26**	**249**⇑	*e*P	**Pn**	**03 40 13.6**	**+0.5**
AOPR	**Arecibo Observ**	**2.26**	**249**	*e*S	**Sn**	**03 40 41.6**	**+0.7**
AOPR	**Arecibo Observ**	**2.26**	**249**		**Pn**	**03 40 13.2**	**+0.1**
AOPR					**Sn**	**03 40 39.9**	**-1.0**
AOPR				IAML		03 40 49.9	
	comp=N,830nm,0.3s						
AOPR	**Arecibo Observ**	**2.26**	**249**	*e*P	**Pn**	**03 40 13.1**	**+0.1**
AOPR				*e*S	**Sn**	**03 40 37.6**	**-3.3**
OBIP	**Obispado Ponce**	**2.26**	**241**⇓	*e*P	**Pn**	**03 40 13.9**	**+0.8**
OBIP	**Obispado Ponce**	**2.26**	**241**		**Pn**	**03 40 13.3**	**+0.3**
OBIP					**Sn**	**03 40 41.1**	**+0.2**
OBIP				IAML		03 40 45.0	
	comp=E,615nm,0.9s						
OBIP				IAML		03 40 45.0	
	comp=N,435nm,0.9s						
UUPR	**Utuado, UPR, P**	**2.26**	**247**⇑	*e*P	**Pn**	**03 40 13.7**	**+0.6**
UUPR	**Utuado, UPR, P**	**2.26**	**247**	*e*S	**Sn**	**03 40 42.4**	**+1.3**
UUPR	**Utuado, UPR, P**	**2.26**	**247**	Pn	**Pn**	**03 40 12.9**	**-0.3**
GBPR	**Guanica, Bosqu**	**2.52**	**242**⇑	*e*P	**Pn**	**03 40 17.8**	**+1.1**
GBPR	**Guanica, Bosqu**	**2.52**	**242**		**Pn**	**03 40 17.8**	**+1.1**
GBPR					**Sn**	**03 40 48.8**	**+1.4**
AGPR	**Aguadilla, PR**	**2.54**	**255**⇓	*e*P	**Pn**	**03 40 17.2**	**+0.3**
AGPR	**Aguadilla, PR**	**2.54**	**255**	*e*S	**Sn**	**03 40 47.3**	**-0.6**
AGPR	**Aguadilla, PR**	**2.54**	**255**	Pn	**Pn**	**03 40 16.8**	**-0.2**
AGPR				Sn	**Sn**	**03 40 46.2**	**-1.6**
AGPR				IAML		03 40 57.4	
	comp=N,414nm,0.6s						
AGPR				IAML		03 41 08.4	
	comp=E,336nm,0.6s						
LSP	**Las Mesas**	**2.61**	**248**⇑	*e*P	**Pn**	**03 40 18.3**	**+0.3**
LSP	**Las Mesas**	**2.61**	**248**	*e*S	**Sn**	**03 40 50.5**	**+0.8**
LSP	**Las Mesas**	**2.61**	**248**		**Pn**	**03 40 18.3**	**+0.3**
LSP					**Sn**	**03 40 50.5**	**+0.8**
PRSN	**Puerto Rico Se**	**2.65**	**250**⇑	*e*P	**Pn**	**03 40 19.7**	**+1.3**
PRSN	**Puerto Rico Se**	**2.65**	**250**	*e*S	**Sn**	**03 40 51.4**	**+0.9**
PRSN	**Puerto Rico Se**	**2.65**	**250**	Pn	**Pn**	**03 40 18.4**	**0.0**
PRSN				Sn	**Sn**	**03 40 49.3**	**-1.2**
PRSN				IAML		03 40 59.3	
	comp=N,545nm,0.3s						
PRSN				IAML		03 41 01.8	
	comp=E,435nm,0.3s						
MLPR	**Magueyes Islan**	**2.66**	**244**⇑	*e*P	**Pn**	**03 40 19.6**	**+1.0**
MLPR	**Magueyes Islan**	**2.66**	**244**	*e*S	**Sn**	**03 40 51.8**	**+0.9**
MLPR	**Magueyes Islan**	**2.66**	**244**	Pn	**Pn**	**03 40 19.1**	**+0.5**
MLPR					**Sn**	**03 40 50.5**	**-0.4**
CRPR	**Cabo Rojo, PR**	**2.70**	**245**⇑	*e*P	**Pn**	**03 40 19.8**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.70**	**245**	*e*S	**Sn**	**03 40 52.7**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.70**	**245**	Pn	**Pn**	**03 40 19.6**	**+0.5**
CRPR				Sn	**Sn**	**03 40 51.7**	**-0.1**
MBFL	**Flemmings, Mon**	**3.26**	**137**	*e*P	**Pn**	**03 40 27.4**	**+0.5**
ANBD	**Bethesda, Anti**	**3.37**	**128**	*e*P	**Pn**	**03 40 27.1**	**-1.2**
ANBD				*e*S	**Sn**	**03 41 04.7**	**-3.6**
PCDR	**Punta Cana, DR**	**3.70**	**261**	Pn	**Pn**	**03 40 33.2**	**+0.3**
PCDR				IAML		03 41 38.2	
	comp=E,120nm,1.3s						
PCDR				IAML		03 41 49.0	
	comp=N,205nm,0.9s						
GDHS	**Morne Mazeau,**	**3.90**	**137**	Pn	**Pn**	**03 40 35.6**	**-0.1**
ABD	**La Joyeuse, An**	**3.94**	**132**	Pn	**Pn**	**03 40 37.9**	**+1.7**
ABD				IAML		03 42 51.7	
	comp=N,173nm,2.6s						
ABD				IAML		03 42 56.6	
	comp=E,206nm,2.4s						
CBE	**Ff, Capester**	**4.15**	**137**		**Pn**	**03 40 39.5**	**+0.3**
TBG	**Guadaloupe-3**	**4.29**	**140**	*e*P	**Pn**	**03 40 41.6**	**+0.6**
GDSD	**La Dsirade Is**	**4.35**	**130**	Pn	**Pn**	**03 40 40.9**	**-1.0**
GDSD				IAML		03 42 03.3	
	comp=N,69nm,1.9s						
MAGL	**Barre de l'ile**	**4.45**	**135**	Pn	**Pn**	**03 40 43.3**	**+0.1**
FDF	**Fort de France**	**5.47**	**143**	Pn	**Pn**	**03 40 58.5**	**+1.3**
SC01	**Santiago de lo**	**5.86**	**274**		**Pn**	**03 41 02.4**	**-0.2**
SDDR	**Presa de Saban**	**6.39**	**269**⇓	*e*P	**Pn**	**03 41 11.2**	**+1.3**
SDDR	**Presa de Saban**	**6.39**	**269**		**Pn**	**03 41 10.7**	**+0.7**
SDDR	**Presa de Saban**	**6.39**	**269**	*e*P	**Pn**	**03 41 10.2**	**+0.3**
SDDR	**Presa de Saban**	**6.39**	**269**	*e*S	**Sn**	**03 42 22.1**	**-0.8**
GRTK	**Grand Turk**	**6.62**	**292**	Pn	**Pn**	**03 41 12.3**	**-0.7**
PAPH	**Port-au-Prince**	**7.38**	**266**	Pn	**Pn**	**03 41 23.5**	**-0.1**
AUA1	**Aruba**	**8.46**	**219**	Pn	**Pn**	**03 41 37.9**	**-0.4**

*NIED **01** 03:42:09.0, 34°.86N×135°.61E, h12^{km}, MW3.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{13}Nm; M_{rr}7.09; $M_{\theta\theta}$0.57; $M_{\phi\phi}$-7.67; $M_{r\theta}$1.33; $M_{\theta\phi}$-3.61; $M_{\phi r}$1.98; Fault plane solution: $M_0$8.41000×10^{13} NP1:ϕ_b26.00000°, δ53.00000°, λ97.00000°. NP2:ϕ_s195.00000°, δ37.00000°, λ81.00000°.*
JMA 01 03:42:09.0±0.0, 34°.86N±0°.08×135°.6E±0°.1, h12^{km}, MV3.5/20, 13D, KYOTO OSAKA BORDER REG, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHE	**Heguri**	**0.21**	**163**	*i* P	Pg	03 42 13.5	0.0
JHE				S	Sg	03 42 16.8	+0.2
JWT	**Wachi**	**0.46**	**338**⇓	*i*P	Pg	03 42 18.0	0.0
JWT				⇓S	Sg	03 42 23.9	-0.2
JWY	**Kouya**	**0.64**	**181**⇓	*i*P	Pg	03 42 21.1	-0.3
JWY				⇓S	Sg	03 42 29.5	-0.3
JKS	**Kasai**	**0.64**	**281**⇓	*i*P	Pg	03 42 21.2	-0.2
JKS				⇓S	Sg	03 42 29.7	-0.2
TSUJ	**Tsu 2**	**0.68**	**102**⇓	*i*P	Pg	03 42 21.7	-0.5
TSUJ				⇓S	Sg	03 42 31.1	-0.2
JAWN	**Awajishima-nag**	**0.69**	**238**	P	Pg	03 42 22.0	-0.3
JAWN				S	Sg	03 42 31.3	-0.1
JKN2	**Miekihoku**	**0.83**	**138**⇓	*i*P	Pg	03 42 24.2	-0.7
JKN2				⇓S	Sg	03 42 35.0	-0.7
JKY	**Yasaka**	**0.87**	**332**⇓	*i*P	Pg	03 42 25.5	-0.4
JKY				⇓S	Sg	03 42 36.7	-0.5
JIE	**Ise**	**1.02**	**117**⇓	*i*P	Pb	03 42 27.1	-1.5
JWM	**Minabe**	**1.03**	**192**	P	Pb	03 42 28.1	-0.6
JTNC	**Tanabenakahech**	**1.04**	**180**	P	Pb	03 42 28.4	-0.4
JTNC				S	Sb	03 42 42.3	-0.2

GUC 01 03:45:13.8±0.8, 31°.50S×71°.70W, h33^{km}±2^{km}, ML3.6, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.67**	**64**⇓	*i*P	Pn	03 45 26.5	-0.5
CO02				*i* S	Sb	03 45 35.9	-0.5
CO02				IAML		03 45 40.8	
	comp=N,9μm,0.1s						
CO06	**Fray Jorge**	**0.82**	**4**	*e*P	Pn	03 45 28.9	-0.2
CO06				*i* S	Sn	03 45 39.9	-0.3
CO06				IAML		03 45 42.6	
	comp=N,3μm,0.2s						
CO03	**El Pedregal**	**1.09**	**53**⇓	*e*P	Pn	03 45 32.9	+0.1
CO03				*i* S	Sb	03 45 47.7	-0.5
CO03				IAML		03 45 51.5	
	comp=E,1μm,0.3s						
VA06	**Catapilco**	**1.11**	**162**	*e*P	Pn	03 45 33.5	+0.5
VA06				*i* S	Sn	03 45 47.9	+0.7
VA06				IAML		03 45 50.2	
	comp=N,4μm,0.4s						
VA01	**Torpederas**	**1.52**	**178**	*i* S	Sn	03 45 56.0	-1.2
GO04	**Tololo Observa**	**1.53**	**31**⇓	*e*P	Pn	03 45 40.3	+1.2
GO04				*i* S	Sb	03 46 00.1	-0.8
GO04				IAML		03 46 03.8	
	comp=E,2μm,0.5s						
ROCH	**El Roble**	**1.58**	**158**⇓	*e*P	Pb	03 45 41.1	-1.4
ROCH				*i* S	Sb	03 46 01.7	-0.6
ROCH				IAML		03 46 07.5	
	comp=N,981nm,0.6s						
VA03	**San Esteban**	**1.59**	**143**⇑	*i*P	Pb	03 45 41.7	-1.1
VA03				*e*S	Sb	03 46 02.1	-0.4
VA03				IAML		03 46 04.9	
	comp=E,2μm,0.1s						
CO05	**La Serena**	**1.63**	**14**	*e*P	Pn	03 45 41.2	+1.1
CO05				*i* S	Sb	03 46 02.8	-0.5
CO05				IAML		03 46 09.8	
	comp=N,542nm,0.4s						
MT02	**Curacav**	**1.82**	**165**	*e*P	Pn	03 45 43.5	+0.7
MT02				*i* S	Sb	03 46 08.2	-0.7
PEL	**Peldehue**	**1.85**	**153**⇑	*e*P	Pn	03 45 45.0	+1.8
PEL				*i* S	Sb	03 46 08.7	-1.1
PEL				IAML		03 46 14.3	
	comp=E,455nm,0.2s						
MT10	**Hacienda Santa**	**2.02**	**151**	*e*P	Pn	03 45 47.6	+1.9
MT10				*e*S	Sb	03 46 13.0	-1.9
CO01	**Juntas del Tor**	**2.05**	**43**	*e*P	Pn	03 45 48.4	+2.2
CO01				*i* S	Sb	03 46 14.4	-1.4
CO01				IAML		03 46 17.2	
	comp=E,283nm,0.2s						
MT05	**Renca**	**2.05**	**157**	*e*P	Pb	03 45 48.4	-2.1
MT05				*i* S	Sb	03 46 13.4	-2.3
MT05				IAML		03 46 21.3	
	comp=E,822nm,0.2s						
MT14	**Cerro Calıın**	**2.13**	**153**	*e*P	Pb	03 45 49.6	-2.2
MT14				*i* S	Sb	03 46 16.2	-1.7
MT14				IAML		03 46 25.4	
	comp=E,600nm,0.4s						
VA05	**Santo Domingo**	**2.15**	**178**	*e*P	Pn	03 45 48.7	+1.4
VA05				*i* S	Sn	03 46 13.1	+0.2
MT16	**CCHEN**	**2.17**	**153**	*e*P	Pn	03 45 49.5	+1.9
MT16				*i* S	Sb	03 46 16.4	-2.4
MT16				IAML		03 46 26.8	
	comp=N,230nm,0.5s						
FCH	**Farellones**	**2.18**	**147**	*e*P	Pn	03 45 50.1	+2.1
FCH				*i* S	Sb	03 46 18.4	-1.1
FCH				IAML		03 46 21.8	
	comp=E,332nm,0.1s						
MT03	**Universidad Ad**	**2.23**	**153**	*e*P	Pn	03 45 50.4	+1.9
MT03				*i* S	Sb	03 46 18.4	-2.3
MT03				IAML		03 46 26.4	
	comp=E,719nm,0.1s						
MT04	**Ro Olivares**	**2.31**	**146**	*e*P	Pn	03 45 52.1	+2.3
MT04				*i* S	Sb	03 46 21.2	-2.1
MT04				IAML		03 46 28.7	
	comp=E,292nm,0.4s						
MT09	**Talagante**	**2.35**	**165**	*e*P	Pn	03 45 51.9	+1.7
MT09				*i* S	Sn	03 46 19.6	+1.7
MT09				IAML		03 46 28.4	
	comp=E,393nm,0.4s						
MT01	**Popeta**	**2.39**	**171**	*e*P	Pn	03 45 51.5	+0.9
MT01				*i* S	Sn	03 46 19.3	+0.6
MT08	**Bocatoma Ro**	**2.41**	**144**	*e*P	Pb	03 45 54.4	-2.2
MT08				*i* S	Sb	03 46 25.4	-0.6
MT12	**Pirque**	**2.43**	**157**	*e*P	Pn	03 45 53.0	+1.8
MT12				*i* S	Sn	03 46 22.8	+2.9
MT12				IAML		03 46 34.9	
	comp=E,520nm,0.5s						
MT13	**San Alfonso**	**2.54**	**152**	*e*P	Pn	03 45 54.9	+2.2
MT13				*i* S	Sn	03 46 25.5	+3.0
MT13				IAML		03 46 37.8	
	comp=E,420nm,0.4s						
BO04	**La Punta**	**2.65**	**160**	*e*P	Pn	03 45 56.0	+1.7
BO04				*i* S	Sn	03 46 27.3	+2.1
BO04				IAML		03 46 35.9	
	comp=E,266nm,0.2s						
LMEL	**Las Melosas**	**2.66**	**152**⇑	*e*P	Pn	03 45 56.6	+2.1
LMEL				*i* S	Sn	03 46 29.1	+3.5
LMEL				IAML		03 46 40.8	
	comp=N,448nm,0.3s						
AC05	**El Transito**	**2.93**	**25**	*e*P	Pn	03 46 00.5	+2.3
AC05				*i* S	Sn	03 46 35.2	+2.9
AC05				IAML		03 46 49.9	
	comp=N,233nm,0.5s						
BO01	**Tunca**	**2.93**	**170**	*e*P	Pn	03 45 59.2	+1.1
AC04	**Llanos de Chal**	**3.33**	**10**	*e*P	Pn	03 46 04.4	+0.9
BO02	**Sierra Bellavi**	**3.37**	**167**	*e*P	Pn	03 46 06.0	+1.7
BO02				IAML		03 47 01.6	
	comp=E,200nm,0.2s						
GO05	**Huala**	**3.51**	**183**	*e*P	Pn	03 46 05.7	-0.3
VCA	**Vinchina**	**4.09**	**49**	*e*P	Pn	03 46 19.4	+5.2
GO03	**Copiap**	**4.10**	**19**	*e*P	Pn	03 46 14.7	+0.6
AC06	**Mina Casimiro**	**4.29**	**16**	*e*P	Pn	03 46 17.4	+0.6
CYA	**Choya**	**5.96**	**61**	*e*P	Pn	03 46 41.3	+1.6
CYA				*i* S	Sn	03 47 47.1	+0.3

*NEIC **01** 03:56:55.6±0.8, 19°.00N±0°.09×64°.31W±0°.04, h35^{km}±2^{km}, ML2.6/20, Md3.3/3(RSPR), Error ellipse: s-maj=16.6km s-min=3.1km az=338.0*
RSPR 01 03:56:56.1, 18°.88N×64°.23W, h61^{km}±16^{km}, MD3.3/3, 5C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**1.38**	**127**	Pn	Pn	03 57 19.5	+0.4
SMRT				IAML		03 57 49.1	
	comp=N,72nm,0.2s						
SMRT				IAML		03 58 08.4	
	comp=E,107nm,0.1s						
HUMP	**Col San Antoni**	**1.70**	**245**⇑	*e*P	Pn	03 57 22.9	-0.6
HUMP	**Col San Antoni**	**1.70**	**245**	*e*S	Sn	03 57 43.2	-1.0
HUMP	**Col San Antoni**	**1.70**	**245**		Pn	03 57 22.5	-1.0
HUMP					Sn	03 57 42.6	-1.6
HUMP				IAML		03 57 48.9	
	comp=E,43nm,0.2s						
HUMP				IAML		03 57 49.4	
	comp=N,42nm,0.3s						
GCPR	**Guaynabo City**	**1.85**	**252**⇓	*e*P	Pn	03 57 24.2	-1.2
GCPR	**Guaynabo City**	**1.85**	**252**	*e*S	Sn	03 57 47.4	-0.3
GCPR	**Guaynabo City**	**1.85**	**252**	Pn	Pn	03 57 23.4	-2.1
GCPR				Sn	Sn	03 57 46.2	-1.5
SJG	**San Juan**	**1.97**	**247**⇑	*e*P	Pn	03 57 26.8	-0.4
SJG	**San Juan**	**1.97**	**247**	*e*S	Sn	03 57 50.1	-0.7
SJG	**San Juan**	**1.97**	**247**	Pn	Pn	03 57 26.5	-0.7
EMPR	**Esperanza - Ma**	**2.21**	**260**⇑	*e*P	Pn	03 57 29.6	-0.8
EMPR	**Esperanza - Ma**	**2.21**	**260**	Pn	Pn	03 57 28.5	-1.9
EMPR				IAML		03 58 04.5	
	comp=N,83nm,1.4s						
CELP	**Cerrillos**	**2.37**	**251**	Pn	Pn	03 57 31.6	-1.0
CELP				IAML		03 58 41.6	
	comp=N,22nm,3.0s						
OBIP	**Obispado Ponce**	**2.40**	**250**⇑	*e*P	Pn	03 57 32.6	-0.5
OBIP	**Obispado Ponce**	**2.40**	**250**	Pn	Pn	03 57 31.9	-1.1
OBIP				IAML		03 58 08.0	
	comp=N,23nm,2.5s						
OBIP				IAML		03 58 22.2	
	comp=E,22nm,3.1s						
UUPR	**Utuado, UPR, P**	**2.44**	**256**	Pn	Pn	03 57 32.5	-1.1
AOPR	**Arecibo Observ**	**2.45**	**258**	Pn	Pn	03 57 31.7	-2.0
MLPR	**Magueyes Islan**	**2.82**	**252**⇑	*e*P	Pn	03 57 38.3	-0.4
MLPR	**Magueyes Islan**	**2.82**	**252**	Pn	Pn	03 57 37.6	-1.1

WEL 01 04:00:15.6±0.4, 43°.S±2°.×17°.5E±°., h33^{km}, M3.1/26, ML3.5/43, MLv3.1/26, Error ellipse: s-maj=0.0km s-min=0.0km az=131.4, confirmed, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIKS	**Kaikoura**	**1.15**	**285**	S	Sb	04 00 51.2	-0.2
PLWZ	**Palliser**	**1.17**	**3**	P	Pn	04 00 36.4	+0.8
PLWZ				S	Sn	04 00 51.1	+0.5
CMWZ	**Cape Campbell**	**1.22**	**324**	S	Sb	04 00 54.4	+0.7
KHZ	**Kahutara**	**1.25**	**285**	P	Pn	04 00 37.0	+0.3
KHZ				S	Sn	04 00 52.7	+0.2
MSWZ	**Moikau Station**	**1.33**	**2**

TSZ	**Takapari Road**	**2.75**	**13**	P	Pn	04 00 57.9	+0.6
TSZ				S	Sn	04 01 28.4	-0.9
INZ	**Inchbonnie**	**2.75**	**269**	P	Pn	04 00 59.4	+2.0
MHCZ	**Mount Hutt**	**2.76**	**252**	P	Pn	04 00 58.3	+0.8
MHCZ				S	Sn	04 01 27.6	-2.1
WPHZ	**Waipukurau**	**2.84**	**20**	P	Pn	04 00 58.6	+0.1
WPHZ				S	Sn	04 01 30.3	-1.3
PNHZ	**Pukenui**	**2.93**	**16**	P	Pn	04 01 00.2	+0.4
PNHZ				S	Sn	04 01 33.1	-0.8
ARCZ	**Arundel**	**3.16**	**246**	P	Pn	04 01 03.9	+0.9
ARCZ				S	Sn	04 01 37.0	-2.5
RPZ	**Rata Peaks**	**3.17**	**251**	P	Pn	04 01 04.4	+1.3
RPZ				S	Sn	04 01 37.7	-2.0
KRHZ	**Kereru**	**3.22**	**17**	P	Pn	04 01 03.9	0.0
KRHZ				S	Sn	04 01 39.7	-1.4
KWHZ	**Kaweka Forest**	**3.45**	**16**	P	Pn	04 01 07.6	+0.6
KWHZ				S	Sn	04 01 45.4	-1.3
TMZ	**Timaru**	**3.45**	**240**	P	Pn	04 01 07.5	+0.6
TMZ				S	Sn	04 01 43.2	-3.4
WHVZ	**Whangaehu Hut**	**3.47**	**5**	P	Pn	04 01 09.8	+2.3
FWVZ	**Far West T-bar**	**3.50**	**5**	P	Pn	04 01 09.9	+2.1
OTVZ	**Oturere**	**3.59**	**6**	P	Pn	04 01 11.2	+2.1
OTVZ				S	Sn	04 01 50.6	+0.2
NNVZ	**North Ngauruho**	**3.62**	**5**	P	Pn	04 01 11.9	+2.5
ETVZ	**East Tongariro**	**3.63**	**7**	P	Pn	04 01 11.6	+2.1
WTVZ	**West Tongariro**	**3.64**	**5**	P	Pn	04 01 11.8	+2.2
TMVZ	**Te Maari**	**3.65**	**6**	P	Pn	04 01 11.8	+2.1
TMVZ				S	Sn	04 01 50.5	-1.2
NTVZ	**North Tongarir**	**3.66**	**6**	P	Pn	04 01 11.9	+1.9
NTVZ				S	Sn	04 01 52.1	+0.1
KRVZ	**Karewarewa**	**3.66**	**6**	P	Pn	04 01 12.5	+2.5
BKZ	**Black Stump Fm**	**3.71**	**16**	P	Pn	04 01 10.7	+0.1
LBZ	**Lake Benmore**	**3.98**	**244**	P	Pn	04 01 15.5	+1.2
FOZ	**Fox Glacier**	**4.00**	**257**	P	Pn	04 01 16.7	+2.2
ODZ	**Otahua Downs**	**4.00**	**233**	P	Pn	04 01 14.9	+0.4
HIZ	**Hauiti**	**4.23**	**357**	P	Pn	04 01 20.4	+2.7
MWZ	**Matawai**	**4.75**	**23**	P	Pn	04 01 23.6	-1.3
EAZ	**Earnscleugh**	**4.91**	**238**	P	Pn	04 01 27.7	+0.6
CTZ	**Chatham Island**	**6.07**	**102**	P	Pn	04 01 41.2	-1.8

*IDC **01** 04:23:13.6±0.8,56°.35N×148°.51W,h0km,mb3.7/17,*
mbtmp3.8/22,ML3.7/5,MS3.4/42,Error ellipse:
s-maj=22.1km s-min=13.1km az=38.0
*NEIC **01** 04:23:14.5±1.7,56°.30N±0°.08×148°.40W±0°.10,h19km±6km,*
mb4.2/2,ML4.2/84,ML3.9(AEIC),Error ellipse:
s-maj=11.8km s-min=7.3km az=164.0
*AEIC **01** 04:23:18.6±1.6,56°.37N±0°.08×148°.41W±0°.08,h12km±5km,*
Error ellipse: s-maj=11.2km s-min=6.6km az=170.0
ISC 01 04:23:14.7±0.6,**56°.45N**±0°.07×**148°.43W**±0°.04,**h10**km,
n438,σ1$09/418,**mb3.8**/16,**MS3.4**/37,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.63**	**302**		**Pn**	**04 23 56.1**	**-1.0**
KDAK					**Sn**	**04 24 26.0**	**-3.1**
KDAK	**Kodiak Island**	**2.63**	**302**	S	**Sn**	**04 24 26.5**	**-2.5**
	baz=120						
KDAK	**Kodiak Island**	**2.63**	**302**	Pn	**Pn**	**04 23 56.5**	**-0.6**
	24nm,0.3s,baz=147,slow=5.3,SNR=182						
KDAK				Sn	**Sn**	**04 24 26.3**	**-2.8**
	57nm,0.3s,baz=191,slow=4.6,SNR=7.6						
KDAK				LR	LR	04 24 38.6	
	comp=Z,350nm,21.4s,baz=143,slow=32						
	48nm,0.3s						
OHAK	**Old Harbor**	**2.78**	**288**	P	**Pn**	**04 23 58.4**	**-0.8**
OHAK	**Old Harbor**	**2.78**	**288**	Pn	**Pn**	**04 23 57.1**	**-2.1**
OHAK				Sn	**Sn**	**04 24 28.1**	**-4.6**
OHAK	**Old Harbor**	**2.78**	**288**	P	**Pn**	**04 23 57.8**	**-1.4**
	baz=106						
OHAK				S	**Sn**	**04 24 28.9**	**-3.8**
	baz=106						
SYI	**Shuyak Island**	**3.04**	**317**	Pn	**Pn**	**04 24 02.4**	**-0.4**
SYI				Sn	**Sn**	**04 24 38.1**	**-1.2**
Q20K	**Shuyak Island**	**3.04**	**317**	P	**Pn**	**04 24 02.7**	**-0.2**
	baz=135						
Q20K				S	**Sn**	**04 24 37.9**	**-1.4**
	baz=135						
SII	**Sitkinak Islan**	**3.19**	**274**	P	**Pn**	**04 24 04.0**	**-0.9**
SII	**Sitkinak Islan**	**3.19**	**274**	Pn	**Pn**	**04 24 02.4**	**-2.4**
SII				IAML		04 24 39.7	
	comp=N,409nm,0.9s						
SII				IAML		04 24 40.0	
	comp=E,392nm,0.9s						
SII	**Sitkinak Islan**	**3.19**	**274**	P	**Pn**	**04 24 03.9**	**-1.0**
	baz=91						
MID	**Middleton Isla**	**3.19**	**20**	P	**Pn**	**04 24 05.0**	**+0.1**
MID	**Middleton Isla**	**3.19**	**20**	Pn	**Pn**	**04 24 03.8**	**-1.1**
MID				Sn	**Sn**	**04 24 38.6**	**-4.3**
MID				IAML		04 24 43.0	
	comp=N,321nm,0.7s						
MID				IAML		04 24 43.2	
	comp=E,316nm,0.5s						
Q23K	**Middleton Isla**	**3.19**	**19**	Pn	**Pn**	**04 24 04.8**	**-0.1**
Q23K				Sn	**Sn**	**04 24 39.2**	**-3.7**
Q23K				IAML		04 24 43.0	
	comp=E,362nm,0.8s						
Q23K	**Middleton Isla**	**3.19**	**19**	P	**Pn**	**04 24 04.5**	**-0.3**
	baz=201						
Q23K				S	**Sn**	**04 24 39.7**	**-3.2**
	baz=201						
CNPM	**China Poot**	**3.43**	**335**	Pn	**Pn**	**04 24 07.6**	**-0.6**
CNPM				Sn	**Sn**	**04 24 47.2**	**-1.6**
CNPM				IAML		04 24 54.9	
	comp=N,274nm,0.7s						
R18K	**Karluk**	**3.48**	**291**		**Pn**	**04 24 08.1**	**-0.7**
R18K				IAML		04 24 53.3	
	comp=E,676nm,0.4s						
R18K				IAML		04 24 53.6	
	comp=N,703nm,0.4s						
R18K	**Karluk**	**3.48**	**291**	P	**Pn**	**04 24 08.3**	**-0.5**
	baz=108						
BRSE	**Bradley Lake S**	**3.53**	**341**		**Pn**	**04 24 09.2**	**-0.3**
BRSE	**Bradley Lake S**	**3.53**	**341**	P	**Pn**	**04 24 09.2**	**-0.3**
	baz=159						
BRLK	**Bradley Lake**	**3.57**	**340**	Pn	**Pn**	**04 24 09.7**	**-0.5**
BRLK				IAML		04 24 56.2	
	comp=N,253nm,0.6s						
BRLK				IAML		04 24 58.6	
	comp=E,251nm,0.6s						
P23K	**Montague Islan**	**3.60**	**8**		**Pn**	**04 24 10.5**	**0.0**
P23K					**Sn**	**04 24 50.9**	**-2.2**
P23K	**Montague Islan**	**3.60**	**8**	P	**Pn**	**04 24 10.5**	**0.0**
	baz=189						
P23K				S	**Sn**	**04 24 50.9**	**-2.2**
	baz=189						
HOM	**Homer**	**3.65**	**333**	Pn	**Pn**	**04 24 11.5**	**+0.4**
HOM				IAML		04 25 08.3	
	comp=E,604nm,1.1s						
HOM	**Homer**	**3.65**	**333**	P	**Pn**	**04 24 11.2**	**+0.1**
	baz=151						
SEW	**Seward**	**3.71**	**352**	Pn	**Pn**	**04 24 11.6**	**-0.4**
SEW	**Seward**	**3.71**	**352**	P	**Pn**	**04 24 11.7**	**-0.3**
	baz=171						
Q19K	**Cape Douglas,**	**3.75**	**314**	Pn	**Pn**	**04 24 12.8**	**+0.3**
Q19K				IAML		04 25 08.5	
	comp=N,589nm,0.9s						
Q19K	**Cape Douglas,**	**3.75**	**314**	P	**Pn**	**04 24 12.8**	**+0.3**
	baz=130						
KAHG	**Katmai Hook Gl**	**3.89**	**304**		**Pn**	**04 24 15.0**	**+0.5**
AU22	**Augustine Moun**	**3.94**	**320**		**Pn**	**04 24 15.8**	**+0.7**
AU2	**Augustine Isla**	**3.94**	**320**		**Pn**	**04 24 15.8**	**+0.7**
AUL	**Augustine Lava**	**3.97**	**320**		**Pn**	**04 24 16.5**	**+0.9**
CHIR	**Chirikof Islan**	**4.07**	**264**	Pn	**Pn**	**04 24 15.1**	**-1.9**
CHIR				IAML		04 25 05.8	
	comp=E,202nm,0.8s						
CHIR	**Chirikof Islan**	**4.07**	**264**	P	**Pn**	**04 24 15.4**	**-1.5**
	baz=79						
KAIM	**Kayak Island**	**4.09**	**30**	Pn	**Pn**	**04 24 16.6**	**-0.5**
KAIM				IAML		04 25 09.9	
	comp=E,256nm,0.6s						
KAIM				IAML		04 25 10.8	
	comp=N,313nm,0.5s						
KAIM	**Kayak Island**	**4.09**	**30**	P	**Pn**	**04 24 17.3**	**+0.1**
	baz=212						
HIN	**Hinchinbrook I**	**4.09**	**14**	Pn	**Pn**	**04 24 17.1**	**-0.2**
P19K	**Oil Pt**	**4.10**	**324**	Pn	**Pn**	**04 24 17.1**	**-0.3**
P19K				IAML		04 25 13.4	
	comp=N,443nm,0.6s						
P19K	**Oil Pt**	**4.10**	**324**	P	**Pn**	**04 24 17.7**	**+0.3**
	baz=140						
Q22K	**Cooper Landing**	**4.11**	**351**	Pn	**Pn**	**04 24 17.4**	**0.0**
ACHA	**Angle Creek He**	**4.13**	**298**	Pn	**Pn**	**04 24 18.1**	**+0.2**
KABU	**Katmai Buttres**	**4.14**	**299**	Pn	**Pn**	**04 24 18.1**	**+0.1**
KABU				IAML		04 25 11.0	
	comp=E,159nm,0.7s						
KAHC	**Katmai Hardscr**	**4.17**	**305**		**Pn**	**04 24 18.9**	**+0.5**
Q18K	**Katmai Hardscr**	**4.17**	**305**	P	**Pn**	**04 24 19.0**	**+0.5**
	baz=120						
SLKM	**Skilak Lake**	**4.18**	**348**		**Pn**	**04 24 18.6**	**+0.2**
KVTA	**Katmai Vly 10**	**4.19**	**300**		**Pn**	**04 24 19.3**	**+0.7**
ANCK	**Angle Creek**	**4.21**	**298**	Pn	**Pn**	**04 24 19.9**	**+0.9**
O20K	**Slope Mountain**	**4.26**	**331**		**Pn**	**04 24 20.0**	**+0.3**
O20K	**Slope Mountain**	**4.26**	**331**	P	**Pn**	**04 24 20.0**	**+0.3**
	baz=147						
IVE	**Iliamna Volcan**	**4.32**	**328**		**Pn**	**04 24 20.3**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.35**	**18**	P	**Pn**	**04 24 21.5**	**+0.8**
EYAK	**Cordova Ski Ar**	**4.35**	**18**	Pn	**Pn**	**04 24 20.5**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.35**	**18**	P	**Pn**	**04 24 21.1**	**+0.3**
	baz=200						
SUCK	**Suckling Hills**	**4.39**	**32**	Pn	**Pn**	**04 24 21.3**	**-0.1**
SUCK				IAML		04 25 12.5	
	comp=N,349nm,0.6s						
SUCK				IAML		04 25 32.5	
	comp=E,204nm,0.8s						
RAGM	**Ragged Mountai**	**4.42**	**25**	Pn	**Pn**	**04 24 21.9**	**+0.1**
CNTC	**Contact Creek**	**4.43**	**297**		**Pn**	**04 24 22.6**	**+0.6**
Q17K	**Contact Creek**	**4.43**	**297**	P	**Pn**	**04 24 22.6**	**+0.6**
	baz=112						
FID	**Port Fidalgo**	**4.44**	**13**	Pn	**Pn**	**04 24 22.0**	**0.0**
FID				IAML		04 25 11.5	
	comp=E,211nm,0.5s						
FID				IAML		04 25 16.3	
	comp=N,170nm,0.5s						
NICHA	**Nichawak Mount**	**4.47**	**30**		**Pn**	**04 24 22.6**	**+0.1**
HMT	**Hamilton**	**4.48**	**28**	Pn	**Pn**	**04 24 22.7**	**+0.2**
GLI	**Glacier Island**	**4.50**	**8**	Pn	**Pn**	**04 24 22.6**	**-0.3**
GLI				IAML		04 25 13.9	
	comp=E,243nm,0.5s						
GLI				IAML		04 25 13.9	
	comp=N,118nm,0.7s						
GLI	**Glacier Island**	**4.50**	**8**	P	**Pn**	**04 24 23.3**	**+0.4**
	baz=189						
CAPN	**Captain Cook N**	**4.56**	**343**	Pn	**Pn**	**04 24 24.4**	**+0.7**
BGLC	**Bering Glacier**	**4.58**	**34**		**Pn**	**04 24 24.6**	**+0.7**
BGLC	**Bering Glacier**	**4.58**	**34**	P	**Pn**	**04 24 24.6**	**+0.7**
	baz=218						
GOAT	**Goat Mountain**	**4.58**	**24**		**Pn**	**04 24 24.6**	**+0.6**
RED	**Redoubt Volcan**	**4.59**	**332**		**Pn**	**04 24 23.8**	**-0.3**
RDSO	**Redoubt South**	**4.61**	**332**		**Pn**	**04 24 24.1**	**-0.4**
RSO	**Redoubt South**	**4.62**	**332**	Pn	**Pn**	**04 24 24.9**	**+0.2**
RDT	**Redoubt**	**4.63**	**335**		**Pn**	**04 24 24.4**	**-0.3**
RDWB	**Redoubt West**	**4.67**	**332**		**Pn**	**04 24 24.6**	**-0.6**
P18K	**Big Mountain,**	**4.67**	**312**	Pn	**Pn**	**04 24 23.9**	**-1.4**
P18K	**Big Mountain,**	**4.67**	**312**	P	**Pn**	**04 24 25.0**	**-0.3**
	baz=127						
GRIN	**Grindle Hills**	**4.70**	**33**		**Pn**	**04 24 25.6**	**+0.1**
RC01	**Rabbit Creek A**	**4.71**	**352**	Pn	**Pn**	**04 24 26.1**	**+0.4**
RC01				IAML		04 25 21.7	
	comp=E,135nm,0.6s						
RC01				IAML		04 25 22.3	
	comp=N,162nm,0.5s						
RC01	**Rabbit Creek A**	**4.71**	**352**	P	**Pn**	**04 24 25.9**	**+0.3**
	baz=171						
NCT	**North Crescent**	**4.75**	**332**		**Pn**	**04 24 26.1**	**-0.3**
SNH	**Sunshine Point**	**4.77**	**36**	Pn	**Pn**	**04 24 26.9**	**+0.3**
SNH				IAML		04 25 22.6	
	comp=E,194nm,0.7s						
SNH				IAML		04 25 31.0	
	comp=N,185nm,0.6s						
FIS	**Fire Island**	**4.80**	**350**	Pn	**Pn**	**04 24 28.3**	**+1.3**
KHIT	**Khitrov Hills**	**4.85**	**32**		**Pn**	**04 24 27.7**	**0.0**
O19K	**Port Alsworth**	**4.88**	**323**	Pn	**Pn**	**04 24 28.9**	**+1.0**
DIV	**Divide**	**4.90**	**15**	Pn	**Pn**	**04 24 28.5**	**+0.1**
O18K	**Koktuh Hills**	**4.96**	**316**	Pn	**Pn**	**04 24 28.6**	**-0.5**
O18K	**Koktuh Hills**	**4.96**	**316**	P	**Pn**	**04 24 28.8**	**-0.3**
	baz=131						
BMRM	**Bremner River**	**4.96**	**22**	Pn	**Pn**	**04 24 29.1**	**-0.1**
BMRM	**Bremner River**	**4.96**	**22**	P	**Pn**	**04 24 29.3**	**+0.2**
	baz=205						
WAX	**Waxell Ridge**	**4.97**	**34**	Pn	**Pn**	**04 24 29.7**	**+0.4**
KNK	**Knik Glacier**	**4.98**	**360**	Pn	**Pn**	**04 24 29.9**	**+0.4**
KNK				IAML		04 25 32.2	
	comp=E,123nm,0.9s						
KNK				IAML		04 25 36.0	
	comp=N,104nm,0.6s						
KNK	**Knik Glacier**	**4.98**	**360**	P	**Pn**	**04 24 29.6**	**+0.1**
	baz=180						
BARK	**Barkley Ridge**	**5.05**	**36**		**Pn**	**04 24 30.7**	**+0.2**
MESA	**MESA**	**5.07**	**40**	Pn	**Pn**	**04 24 30.8**	**0.0**
MESA				IAML		04 25 32.4	
	comp=N,195nm,0.5s						
MESA				IAML		04 25 37.2	
	comp=E,141nm,0.8s						
MESA	**MESA**	**5.07**	**40**	P	**Pn**	**04 24 31.5**	**+0.7**
	baz=224						
P17K	**Kvichak River**	**5.09**	**306**		**Pn**	**04 24 31.1**	**+0.2**
P17K	**Kvichak River**	**5.09**	**306**	P	**Pn**	**04 24 31.1**	**+0.2**
	baz=120						
SPU	**Mount Spurr**	**5.11**	**340**	Pn	**Pn**	**04 24 31.1**	**-0.2**
CRQM	**Cirque**	**5.13**	**30**	Pn	**Pn**	**04 24 31.7**	**-0.1**
CRQM				IAML		04 25 32.6	
	comp=E,160nm,0.7s						
CRQM				IAML		04 25 34.1	
	comp=N,214nm,0.7s						
CRQE	**Cirque**	**5.14**	**31**	P	**Pn**	**04 24 31.6**	**-0.2**
	baz=215						
SUA	**Susitna One**	**5.17**	**348**	Pn	**Pn**	**04 24 32.3**	**+0.1**
SUA				IAML		04 25 38.8	
	comp=E,74nm,1.1s						
SUA	**Susitna One**	**5.17**	**348**	P	**Pn**	**04 24 32.0**	**-0.2**
	baz=166						
PMR	**Palmer**	**5.18**	**356**	P	**Pn**	**04 24 32.7**	**+0.6**
PMR	**Palmer**	**5.18**	**356**	Pn	**Pn**	**04 24 32.5**	**+0.4**
PMR				IAML		04 25 32.6	
	comp=N,104nm,0.6s						
PMR				IAML		04 25 37.4	
	comp=E,87nm,0.7s						
PMR	**Palmer**	**5.18**	**356**	P	**Pn**	**04 24 32.2**	**+0.1**
	baz=176						
SPCG	**Spurr Capps Gl**	**5.21**	**341**		**Pn**	**04 24 32.9**	**+0.3**
SPCP	**Crater Peak Br**	**5.21**	**340**		**Pn**	**04 24 33.1**	**+0.5**
CGLM	**Capps Glacier**	**5.22**	**341**		**Pn**	**04 24 33.1**	**+0.3**
TGL	**Tana Glacier**	**5.22**	**32**	Pn	**Pn**	**04 24 33.1**	**+0.3**
TGL				IAML		04 25 35.4	
	comp=E,141nm,0.5s						
TGL				IAML		04 25 37.0	
	comp=N,140nm,0.9s						
KLU	**Klutina**	**5.23**	**13**	Pn	**Pn**	**04 24 33.0**	**+0.2**
KLU	**Klutina**	**5.23**	**13**	P	**Pn**	**04 24 33.2**	**+0.3**
	baz=195						
SPBG	**Spurr Blockage**	**5.24**	**339**		**Pn**	**04 24 33.3**	**+0.2**
ISLE	**Juniper Island**	**5.25**	**35**	Pn	**Pn**	**04 24 33.4**	**+0.1**
ISLE				IAML		04 25 36.6	
	comp=N,148nm,0.8s						
ISLE				IAML		04 25 36.6	
	comp=E,127nm,1.0s						
YAH	**Yahtse**	**5.27**	**39**	Pn	**Pn**	**04 24 33.9**	**+0.3**
YAH				IAML		04 25 38.4	
	comp=E,69nm,0.7s						
YAH				IAML		04 25 39.2	
	comp=N,91nm,0.6s						
GHO	**Glory Hole Cre**	**5.35**	**358**	Pn	**Pn**	**04 24 35.5**	**+0.9**
STLK	**Strandline Lak**	**5.37**	**342**		**Pn**	**04 24 35.2**	**+0.4**
M23K	**Glacier View**	**5.38**	**4**		**Pn**	**04 24 35.9**	**+1.0**
M23K	**Glacier View**	**5.38**	**4**	P	**Pn**	**04 24 35.9**	**+1.0**
	baz=184						
SML	**Sawmill**	**5.38**	**1**	Pn	**Pn**	**04 24 35.1**	**+0.1**
SML	**Sawmill**	**5.38**	**1**	P	**Pn**	**04 24 36.1**	**+1.1**
	baz=180						
N19K	**Bonanza Creek**	**5.40**	**327**	Pn	**Pn**	**04 24 34.6**	**-0.7**
N19K	**Bonanza Creek**	**5.40**	**327**	P	**Pn**	**04 24 35.1**	**-0.2**
	baz=142						
SPNN	**North Nagishla**	**5.41**	**338**		**Pn**	**04 24 36.0**	**+0.6**
SCM	**Sheep Creek Mo**	**5.43**	**6**	Pn	**Pn**	**04 24 37.0**	**+1.3**
SCM	**Sheep Creek Mo**	**5.43**	**6**	P	**Pn**	**04 24 36.5**	**+0.8**
	baz=186						
VRDI	**Verde Repeater**	**5.45**	**26**	Pn	**Pn**	**04 24 36.2**	**+0.1**
SAMH	**Samovar Hills**	**5.47**	**44**		**Pn**	**04 24 36.6**	**+0.4**
KIAG	**Kiagna River**	**5.50**	**33**		**Pn**	**04 24 36.9**	**+0.2**
GRNC	**Granite Creek**	**5.54**	**36**	Pn	**Pn**	**04 24 37.7**	**+0.4**
N25K	**Chitina, Valde**	**5.54**	**19**	Pn	**Pn**	**04 24 38.0**	**+0.8**
N25K	**Chitina, Valde**	**5.54**	**19**	P	**Pn**	**04 24 38.2**	**+0.9**
	baz=202						
CHGN	**Chignik**	**5.55**	**273**	Pn	**Pn**	**04 24 37.0**	**-0.2**
GLB	**Gilahina Butte**	**5.55**	**24**	Pn	**Pn**	**04 24 37.5**	**+0.1**
PCA	**Pinnacle**	**5.66**	**46**	Pn	**Pn**	**04 24 38.6**	**-0.1**
PINM	**Pinnacle**	**5.66**	**46**	P	**Pn**	**04 24 39.0**	**+0.2**
	baz=233						
O17K	**Koliganek Bris**	**5.67**	**310**		**Pn**	**04 24 38.9**	**0.0**
O17K	**Koliganek Bris**	**5.67**	**310**	P	**Pn**	**04 24 38.9**	**0.0**
	baz=123						
PTPK	**Patty Peak**	**5.68**	**31**		**Pn**	**04 24 39.6**	**+0.4**
MCARA	**McCarthy VSAT**	**5.69**	**27**	Pn	**Pn**	**04 24 39.4**	**+0.2**
MCARA	**McCarthy VSAT**	**5.69**	**27**	P	**Pn**	**04 24 39.7**	**+0.5**
	baz=211						
P16K	**Nushagak River**	**5.74**	**301**		**Pn**	**04 24 40.1**	**+0.3**
P16K	**Nushagak River**	**5.74**	**301**	P	**Pn**	**04 24 40.1**	**+0.3**
	baz=113						
N18K	**Kilae Creek**	**5.76**	**321**	Pn	**Pn**	**04 24 39.9**	**-0.2**
N18K	**Kilae Creek**	**5.76**	**321**	P	**Pn**	**04 24 40.0**	**-0.2**
	baz=135						
SKT	**Skwentna**	**5.78**	**345**	Pn	**Pn**	**04 24 41.0**	**+0.6**
SKT	**Skwentna**	**5.78**	**345**	P	**Pn**	**04 24 41.1**	**+0.7**
	baz=163						
PNL	**Peninsula**	**5.78**	**52**		**Pn**	**04 24 40.7**	**+0.2**
PNL	**Peninsula**	**5.78**	**52**	P	**Pn**	**04 24 40.7**	**+0.2**
	baz=239						
M24K	**Tolsona, Glenn**	**5.80**	**11**	Pn	**Pn**	**04 24 42.1**	**+1.4**
M24K	**Tolsona, Glenn**	**5.80**	**11**	P	**Pn**	**04 24 41.4**	**+0.7**
	baz=192						
BCPM	**Bancas Point**	**5.83**	**49**	Pn	**Pn**	**04 24 41.6**	**+0.5**
CTG	**Chitna Glacier**	**5.85**	**36**	P	**Pn**	**04 24 41.7**	**+0.2**
	baz=222						
CTGM	**Chitina Glacie**	**5.85**	**36**	Pn	**Pn**	**04 24 41.6**	**+0.1**
LOGN	**Logan Glacier**	**5.86**	**38**	Pn	**Pn**	**04 24 41.8**	**+0.2**
WACK	**Wrangell Chich**	**5.94**	**19**		**Pn**	**04 24 43.5**	**+0.6**
SVW2	**Sparrevohn**	**5.96**	**324**	P	**Pn**	**04 24 44.2**	**+1.3**
SVW2	**Sparrevohn**	**5.96**	**324**	Pn	**Pn**	**04 24 42.5**	**-0.4**
M20K	**Styx River**	**5.96**	**338**	Pn	**Pn**	**04 24 42.2**	**-0.8**
M20K	**Styx River**	**5.96**	**338**	P	**Pn**	**04 24 43.0**	**0.0**
	baz=154						
O16K	**Kokwok River B**	**6.03**	**306**	Pn	**Pn**	**04 24 43.8**	**0.0**
O16K	**Kokwok River B**	**6.03**	**306**	P	**Pn**	**04 24 43.7**	**0.0**
	baz=118						
CUT	**Chulitna**	**6.05**	**352**	Pn	**Pn**	**04 24 45.3**	**+1.2**
O28M	**Mount Upton**	**6.11**	**41**		**Pn**	**04 24 45.5**	**+0.3**
O28M	**Mount Upton**	**6.11**	**41**	P	**Pn**	**04 24 45.5**	**+0.3**
	baz=228						
N17K	**Nushagak Hills**	**6.15**	**315**	Pn	**Pn**	**04 24 44.9**	**-0.6**
N17K	**Nushagak Hills**	**6.15**	**315**	P	**Pn**	**04 24 45.1**	**-0.4**
	baz=128						
WAT6	**Susitna Watana**	**6.17**	**3**		**Pn**	**04 24 46.5**	**+0.7**
WAT6	**Susitna Watana**	**6.17**	**3**	P	**Pn**	**04 24 46.5**	**+0.7**
	baz=183						
M19K	**Big River Lodg**	**6.27**	**333**	Pn	**Pn**	**04 24 46.8**	**-0.4**
M19K	**Big River Lodg**	**6.27**	**333**	P	**Pn**	**04 24 46.9**	**-0.3**
	baz=148						
M18K	**Stony River**	**6.34**	**326**		**Pn**	**04 24 47.4**	**-0.7**
M18K	**Stony River**	**6.34**	**326**	P	**Pn**	**04 24 47.4**	**-0.7**
	baz=140						
WAT1	**Susitna Watana**	**6.41**	**360**		**Pn**	**04 24 49.9**	**+0.8**
WAT1	**Susitna Watana**	**6.41**	**360**	P	**Pn**	**04 24 49.8**	**+0.8**
	baz=179						
WAT7	**Susitna Watana**	**6.41**	**358**		**Pn**	**04 24 50.2**	**+1.0**
O29M	**Mount Kennedy**	**6.47**	**49**	Pn	**Pn**	**04 24 50.5**	**+0.6**
O29M	**Mount Kennedy**	**6.47**	**49**	P	**Pn**	**04 24 50.0**	**0.0**
	baz=237						
P29M	**Windy Craggy**	**6.51**	**56**	Pn	**Pn**	**04 24 50.0**	**-0.5**
P29M	**Windy Craggy**	**6.51**	**56**	P	**Pn**	**04 24 50.5**	**0.0**
	baz=245						
CHNA	**Chernabura Isl**	**6.52**	**260**	P	**Pn**	**04 24 48.9**	**-1.6**
	baz=72						
CNBA	**Chernabura Isl**	**6.52**	**260**	Pn	**Pn**	**04 24 49.0**	**-1.6**
L19K	**White Mountain**	**6.62**	**333**	Pn	**Pn**	**04 24 50.8**	**-1.2**
L19K	**White Mountain**	**6.62**	**333**	P	**Pn**	**04 24 51.6**	**-0.4**
	baz=148						
O15K	**Ungalikthiuk R**	**6.67**	**299**		**Pn**	**04 24 53.2**	**+0.5**
O15K	**Ungalikthiuk R**	**6.67**	**299**	P	**Pn**	**04 24 53.2**	**+0.5**
	baz=110						
DHY	**Denali Highway**	**6.67**	**4**	Pn	**Pn**	**04 24 54.0**	**+1.2**
DHY	**Denali Highway**	**6.67**	**4**	P	**Pn**	**04 24 53.9**	**+1.1**
	baz=185						
PAX	**Paxson**	**6.71**	**12**	Pn	**Pn**	**04 24 54.9**	**+1.6**
PAX	**Paxson**	**6.71**	**12**	P	**Pn**	**04 24 54.2**	**+0.9**
	baz=194						
YUK3	**Moose Creek**	**6.74**	**34**		**Pn**	**04 24 54.6**	**+0.9**
YUK3	**Moose Creek**	**6.74**	**34**	P	**Pn**	**04 24 54.6**	**+0.9**
	baz=220					

M29M	Somme Creek	7.87	36	P		Pn		04 25 09.9	+0.8
	baz=224							
SCRK	Sand Creek	7.87	14	Pn		Pn		04 25 10.5	+1.3
HDA	Harding Lake	8.03	5	Pn		Pn		04 25 11.6	+0.4
K17K	Iditarod	8.03	326	Pn		Pn		04 25 10.9	-0.3
K17K	Iditarod	8.03	326	P		Pn		04 25 11.1	-0.1
	baz=137							
WRH	Wood River Hil	8.06	1	Pn		Pn		04 25 12.3	+0.8
J18K	Innoko River	8.17	333	Pn		Pn		04 25 12.5	-0.6
J18K	Innoko River	8.17	333	P		Pn		04 25 13.3	+0.2
	baz=146							
NEA2	Nenana	8.18	358	Pn		Pn		04 25 14.0	+0.7
NEA2	Nenana	8.18	358	P		Pn		04 25 13.9	+0.5
	baz=177							
K27K	Chicken	8.23	20	Pn		Pn		04 25 15.2	+1.2
CCB	Clear Creek Bu	8.24	2	Pn		Pn		04 25 14.9	+0.9
WHY	Whitehorse	8.25	54	Pn		Pn		04 25 15.3	+1.0
J20K	Nowinta River	8.26	342	Pn		Pn		04 25 13.7	-0.7
J20K	Nowinta River	8.26	342	P		Pn		04 25 14.8	+0.5
	baz=158							
N31M	Braeburn, Yuko	8.26	47	Pn		Pn		04 25 15.3	+0.9
N31M	Braeburn, Yuko	8.26	47	P		Pn		04 25 14.9	+0.5
	baz=237							
M14K	Bethel	8.27	307	Pn		Pn		04 25 14.9	+0.4
J25K	Salcha River,	8.33	9	Pn		Pn		04 25 15.6	+0.1
J19K	Poorman	8.37	338	Pn		Pn		04 25 15.6	-0.3
J19K	Poorman	8.37	338	P		Pn		04 25 15.8	-0.1
	baz=152							
IL31		8.39	5	Pn		Pn		04 25 16.3	+0.2
ILAR	Eielson Array	8.39	5	Pn		Pn		04 25 16.7	+0.5
ILAR	Eielson Array	8.39	5	Pn		Pn		04 25 16.6	+0.4
	comp=N,0.6nm,0.3s,baz=188,slow=14,SNR=23							
ILAR				Sn		Sn		04 26 46.4	-4.5
	comp=N,1.2nm,0.3s,baz=182,slow=22,SNR=7.6							
ILAR				LR		LR		04 28 44.4	
	comp=N,178nm,18.3s,baz=256,slow=39							
	comp=N,1.4nm,0.4s							
P32M	Atlin	8.42	62	Pn		Pn		04 25 16.5	-0.2
P32M	Atlin	8.42	62	P		Pn		04 25 16.0	-0.7
	baz=254							
J26L	Joseph Creek	8.43	15	Pn		Pn		04 25 17.9	+1.1
J26L	Joseph Creek	8.43	15	P		Pn		04 25 17.4	+0.6
	baz=198							
L29M	L29M	8.46	34	Pn		Pn		04 25 17.9	+0.7
L29M	L29M	8.46	34	P		Pn		04 25 17.9	+0.7
	baz=222							
COLA	College	8.46	2	P		Pn		04 25 18.4	+1.3
COLA	College	8.46	2	Pn		Pn		04 25 18.2	+1.1
L15K	Ungalak Mounta	8.52	313			Pn		04 25 18.4	+0.5
L15K	Ungalak Mounta	8.52	313	P		Pn		04 25 18.4	+0.5
	baz=122							
M30M	Minto, Yukon	8.52	39	Pn		Pn		04 25 18.8	+0.7
U33K	Whale Pass	8.53	86	Pn		Pn		04 25 14.2	-3.9
MDM	Murphy Dome	8.54	1	Pn		Pn		04 25 19.3	+1.0
CRAG	Craig	8.65	90	P		Pn		04 25 16.6	-3.1
CRAG	Craig	8.65	90	Pn		Pn		04 25 16.3	-3.4
MLY	Manley	8.69	354	Pn		Pn		04 25 20.6	+0.3
MLY	Manley	8.69	354	P		Pn		04 25 20.2	-0.1
	baz=172							
POKR	Poker Plat Res	8.72	3	Pn		Pn		04 25 20.8	+0.2
I23K	Minto, Yukon-K	8.74	357	Pn		Pn		04 25 21.4	+0.4
I23K	Minto, Yukon-K	8.74	357	P		Pn		04 25 21.3	+0.3
	baz=177							
J17K	VABM Dome	8.77	327	Pn		Pn		04 25 20.0	-1.4
J17K	VABM Dome	8.77	327	P		Pn		04 25 21.2	-0.2
	baz=138							
ISLZ	Isanotski Laza	8.82	265			Pn		04 25 21.0	-1.2
L14K	Kuka Creek	8.85	310	Pn		Pn		04 25 23.4	+1.0
L14K	Kuka Creek	8.85	310	P		Pn		04 25 22.9	+0.5
	baz=118							
DAWY	Dawson	8.86	27	Pn		Pn		04 25 22.3	-0.3
K15K	Wolf Creek Mou	8.88	317	Pn		Pn		04 25 23.1	+0.1
K15K	Wolf Creek Mou	8.88	317	P		Pn		04 25 23.0	+0.1
	baz=126							
I20K	Naaghedeneel	8.88	343			Pn		04 25 23.5	+0.6
I21K	Tanana	8.93	350	Pn		Pn		04 25 23.1	-0.4
SSLS	Shishaldin Sou	8.99	265			Pn		04 25 23.9	-0.5
Q32M	Nakina River	9.01	67	Pn		Pn		04 25 25.2	+0.3
Q32M	Nakina River	9.01	67	P		Pn		04 25 24.7	-0.2
	baz=260							
P33M	Teslin, Yukon	9.04	59	Pn		Pn		04 25 25.1	0.0
P33M	Teslin, Yukon	9.04	59	P		Pn		04 25 24.9	-0.2
	baz=252							
EGAK	Eagle	9.09	20	Pn		Pn		04 25 27.4	+1.7
J16K	Anvik River	9.18	323	Pn		Pn		04 25 26.2	-0.7
K29M	Barlow Dome	9.19	32	Pn		Pn		04 25 27.6	+0.3
K29M	Barlow Dome	9.19	32	P		Pn		04 25 27.7	+0.5
	baz=221							
M31M	Drury Creek, Y	9.20	45	Pn		Pn		04 25 28.2	+0.9
PRP	Porcupine Dome	9.21	8	Pn		Pn		04 25 28.3	+0.8
N32M	Quiet Lake	9.25	53	Pn		Pn		04 25 28.7	+0.7
I26K	Coal Creek Min	9.25	14	Pn		Pn		04 25 29.7	+1.7
WESE	West Dahl East	9.39	265			Pn		04 25 29.2	-0.7
H23K	Yukon River	9.43	357	Pn		Pn		04 25 30.9	+0.6
H23K	Yukon River	9.43	357	P		Pn		04 25 31.0	+0.6
	baz=176							
H24K	Noodor Dome	9.43	1	Pn		Pn		04 25 31.2	+0.7
H24K	Noodor Dome	9.43	1	P		Pn		04 25 31.2	+0.7
	baz=182							
H21K	Melozitna Rive	9.48	349	Pn		Pn		04 25 30.9	-0.2
H21K	Melozitna Rive	9.48	349	P		Pn		04 25 31.3	+0.2
	baz=165							
V35K	Ketchikan	9.52	90	Pn		Pn		04 25 29.4	-2.2
H22K	Ishtalitna Cre	9.59	353			Pn		04 25 32.8	+0.2
H22K	Ishtalitna Cre	9.59	353	P		Pn		04 25 32.8	+0.2
	baz=170							
H20K	Anotleneega Mo	9.60	344			Pn		04 25 32.9	+0.2
H20K	Anotleneega Mo	9.60	344	P		Pn		04 25 32.9	+0.2
	baz=158							
R33M	Jennings River	9.75	65	Pn		Pn		04 25 35.2	+0.3
R33M	Jennings River	9.75	65	P		Pn		04 25 34.1	-0.8
	baz=260							
DIB	Dawson Inlet,	9.76	103	Pn		Pn		04 25 33.6	-1.3
H19K	Roundabout Mou	9.90	340	Pn		Pn		04 25 38.4	+1.6
IMAR	Indian Mountai	9.90	347	Pn		Pn		04 25 36.2	-0.7
J14K	Nanvaranak Lak	9.91	316	Pn		Pn		04 25 36.3	-0.8
I28M	Miner Creek	9.92	21	Pn		Pn		04 25 38.2	+0.9
I28M	Miner Creek	9.92	21	P		Pn		04 25 37.5	+0.2
	baz=208							
K13K	Kusilvak Mount	9.96	310	Pn		Pn		04 25 38.9	+1.2
H18K	Honhosa River	9.98	335	Pn		Pn		04 25 37.6	-0.3
H18K	Honhosa River	9.98	335	P		Pn		04 25 38.2	+0.3
	baz=147							
J30M	Hart River	10.09	31	Pn		Pn		04 25 40.4	+0.9
DLBC	Dease Lake	10.12	71	Pn		Pn		04 25 40.0	+0.1
DLBC	Dease Lake	10.12	71	Pn		Pn		04 25 40.5	+0.6
	comp=N,0.9nm,0.3s,baz=265,slow=11,SNR=9.8							
DLBC				Sn		Sn		04 27 28.6	-4.7
	comp=N,0.6nm,0.3s,baz=16,slow=25,SNR=2.4							
	comp=N,2.2nm,0.4s							
I29M	Ogilvie Camp,	10.20	25	Pn		Pn		04 25 40.6	-0.3
AKLV	Akutan Long Va	10.25	264	Pn		Pn		04 25 39.5	-2.2
FYU	Fort Yukon	10.27	7	Pn		Pn		04 25 41.0	-0.8
LVA	Lava Point	10.29	265	Pn		Pn		04 25 41.1	-1.2
G23K	Bananza Creek	10.33	356	Pn		Pn		04 25 43.4	+0.7
G21K	Allakaket	10.39	349	Pn		Pn		04 25 43.8	+0.3
I30M	Mount Dempster	10.57	29	Pn		Pn		04 25 48.1	+2.1
G19K	Purcell Mounta	10.57	341	Pn		Pn		04 25 47.3	+1.3
UNV	Unalaska Valle	10.66	263	P		Pn		04 25 45.4	-1.9
G18K	Tagagawik	10.67	337	Pn		Pn		04 25 45.6	-1.7
H29M	Whitestone	10.91	22	Pn		Pn		04 25 50.5	-0.2
F21K	Alatna River	11.07	350	Pn		Pn		04 25 53.1	+0.2
F24K	Squaw Lake	11.12	1	Pn		Pn		04 25 55.7	+2.1
BMAR	Burnt Mountain	11.17	8	Pn		Pn		04 25 54.4	+0.2
F20K	Avaraart Lake	11.18	345	Pn		Pn		04 25 54.5	+0.2
F19K	Shaleruckik Mo	11.31	341	Pn		Pn		04 25 55.8	-0.3
H31M	Peel River	11.56	30	Pn		Pn		04 26 01.5	+1.8
G29M	Pine Creek	11.58	21	Pn		Pn		04 26 02.3	+2.4
E24K	Your Creek	11.67	360	Pn		Pn		04 26 01.6	+0.5
F17K	Baldwin Pennin	11.72	334	Pn		Pn		04 26 01.7	0.0
E19K	Redstone River	11.78	343	Pn		Pn		04 26 03.2	+0.6
E25K	Arctic Village	11.79	5	Pn		Pn		04 26 03.9	+1.1
E22K	Anaktuvuk Pass	11.84	354	Pn		Pn		04 26 05.0	+1.7
F28M	Old Crow	11.89	16	Pn		Pn		04 26 06.7	+2.7
G30M	tAoh Zraii Nji	12.02	24	Pn		Pn		04 26 09.8	+4.0
TOLK	Toolik Lake Re	12.25	358	Pn		Pn		04 26 08.8	-0.3
E21K	Killik River	12.30	350	Pn		Pn		04 26 10.2	+0.5
E18K	Tukpahlearik C	12.38	338	Pn		Pn		04 26 11.5	+0.8
G31M	Satah River	12.43	27	Pn		Pn		04 26 14.4	+3.0
BBB	Bella Bella	12.59	101	LR		LR		04 29 57.5	
	comp=N,254nm,19.4s,baz=321,slow=32							
D19K	Kuna River	12.87	344	Pn		Pn		04 26 18.3	+0.9
D25K	Kavik River	12.96	3	Pn		Pn		04 26 20.9	+2.3
F31M	Tsiigehtchic	12.97	26	Pn		Pn		04 26 18.6	-0.1
C23K	Itkillik River	13.48	357	Pn		Pn		04 26 27.3	+1.6
C18K	Utukok River	13.54	340	Pn		Pn		04 26 27.4	+0.8
C19K	Lookout Ridge	13.65	343	Pn		Pn		04 26 28.8	+0.6
INK	Inuvik	13.70	24	Pn		Pn		04 26 28.6	-0.2
INK	Inuvik	13.70	24	Pn		Pn		04 26 29.7	+1.0
	comp=N,0.1nm,0.3s,baz=215,slow=13,SNR=6.9							
INK				LR		LR		04 32 07.9	
	comp=N,195nm,18.4s,baz=168,slow=39							
	comp=N,6.4nm,1.0s							
B20K	Meade River	14.14	348	Pn		Pn		04 26 35.1	+0.4
C16K	Lisburne Hills	14.15	334	Pn		Pn		04 26 35.0	+0.2
ADK	Adak	17.09	266	Pn		Pn		04 27 11.7	-1.7
ADK				IAmb		IAmb		04 27 32.4	
	comp=Z,24nm,1.3s							
YKA	Yellowknife Ar	18.06	57			Pn		04 27 25.1	-0.2
YKA	Yellowknife Ar	18.06	57	P		P		04 27 26.6	+0.8
	comp=Z,0.1nm,0.3s,baz=263,slow=11,SNR=18							
YKA				LR		LR		04 34 12.8	
	comp=Z,159nm,19.2s,baz=290,slow=36							
	comp=Z,3.4nm,0.9s							
A36M	Sachs Harbour	18.34	23	P		P		04 27 30.1	+1.2
A36M				IAmb		IAmb		04 27 40.2	
	comp=Z,20nm,0.9s							
NEW	Newport	20.65	100	P		P		04 27 55.0	+0.7
	comp=Z,1.3nm,0.9s,baz=296,slow=13,SNR=1.4							
NEW				LR		LR		04 34 50.4	
	comp=Z,97nm,18.9s,baz=304,slow=34							
	comp=Z,1.3nm,0.9s							
SHEM	Shemya Is, Ala	21.84	276	LR		LR		04 36 35.3	
	comp=Z,38nm,19.9s,baz=340,slow=37							
YBH	Yreka Blue Hor	22.19	121	P		P		04 28 12.1	+1.2
	comp=Z,2.4nm,0.8s,baz=217,slow=6.6,SNR=3.7							
YBH				LR		LR		04 34 37.7	
	comp=Z,191nm,20.9s,baz=312,slow=31							
	comp=Z,2.4nm,0.8s							
ELK	Elko	26.65	112	LR		LR		04 37 42.4	
	comp=Z,70nm,21.8s,baz=316,slow=33							
NVAR	Mina Array Bea	26.88	119	P		P		04 28 54.9	-0.8
	comp=Z,0.1nm,0.3s,baz=320,slow=8.3,SNR=2.2							
NVAR				LR		LR		04 37 35.9	
	comp=Z,124nm,20.7s,baz=271,slow=32							
	comp=Z,0.1nm,0.3s							
RES	Resolute Bay	27.20	28	LR		LR		04 40 29.9	
	comp=Z,123nm,18.2s,baz=294,slow=38							
PDAR	Pinedale Array	28.24	102	P		P		04 29 09.3	+1.5
	comp=Z,0.2nm,0.5s,baz=259,slow=7.3,SNR=1.7							
PDAR				LR		LR		04 39 01.7	
	comp=Z,22nm,20.1s,baz=306,slow=34							
	comp=Z,0.2nm,0.5s							
PETK	Petropavlovsk-	30.58	287	LR		LR		04 42 08.1	
	comp=Z,17nm,20.2s,baz=84,slow=37							
MA2	Magadan	31.38	301	LR		LR		04 43 40.9	
	comp=Z,68nm,18.9s,baz=101,slow=39							
PFO	Pinyon Flats O	31.64	123	LR		LR		04 40 05.2	
	comp=Z,112nm,20.3s,baz=19,slow=32							
ANMO	Albuquerque	35.58	109	LR		LR		04 43 41.6	
	comp=Z,64nm,18.2s,baz=56,slow=34							
TIXI	Tiksi	35.79	328	LR		LR		04 46 49.3	
	comp=Z,45nm,18.1s,baz=130,slow=40							
FRB	Frobisher Bay	37.98	45	LR		LR		04 46 23.0	
	comp=Z,170nm,18.1s,baz=270,slow=36							
YAK	Yakutsk	39.61	313	LR		LR		04 47 07.3	
	comp=Z,66nm,21.0s,baz=46,slow=36							
TXAR	Lajitas Array	41.44	112	P		P		04 31 01.1	-0.3
	comp=Z,0.1nm,0.6s,baz=312,slow=14,SNR=2.2							
TXAR				LR		LR		04 47 23.4	
	comp=Z,43nm,19.2s,baz=302,slow=35							
	comp=Z,0.1nm,0.6s							
SFJD	Kangerlussuaq	42.69	35	LR		LR		04 48 45.8	
	comp=Z,96nm,20.0s,baz=302,slow=36							
SCHQ	Schefferville	43.51	56	LR		LR		04 49 24.5	
	comp=Z,80nm,18.7s,baz=328,slow=36							
ASAJ	Asahikawa	43.91	284	LR		LR		04 51 03.9	
	comp=Z,32nm,19.4s,baz=320,slow=38							
KLR	Kul'dur	46.18	297	LR		LR		04 53 14.1	
	comp=Z,39nm,18.6s,baz=62,slow=39							
TKL	Tuckaleechee C	47.45	87	LR		LR		04 51 51.9	
	comp=Z,114nm,18.5s,baz=334,slow=36							
NRIK	Noril'sk	48.14	337	P		P		04 31 54.8	+0.6
	comp=Z,2.0nm,0.4s,baz=95,slow=6.8,SNR=2.0							
NRIK				LR		LR		04 55 55.4	
	comp=Z,85nm,18.8s,baz=173,slow=41							
	comp=Z,2.0nm,0.4s							
H11N2	WAKE ISLAND Hy	49.37	241	T		T		05 25 50.1	
	baz=30,slow=76,SNR=14							
H11N3	WAKE ISLAND Hy	49.38	241	T		T		05 25 50.5	
	baz=30,slow=76,SNR=19							
H11N1	WAKE ISLAND Hy	49.39	241	T		T		05 25 47.9	
	baz=30,slow=76,SNR=8.8							
JMIC	Jan Mayen	49.73	16	LR		LR		04 54 20.2	
	comp=Z,39nm,19.9s,baz=158,slow=38							
H11S1	WAKE ISLAND Hy	50.51	240	T		T		05 27 16.2	
	baz=29,slow=76,SNR=20							
H11S2	WAKE ISLAND Hy	50.53	240	T		T		05 27 19.0	
	baz=29,slow=76,SNR=14							
H11S3	WAKE ISLAND Hy	50.53	240	T		T		05 27 21.9	
	baz=29,slow=76,SNR=10							
MJAR	Matsushiro Arr	51.60	280	LR		LR		04 54 44.3	
	comp=Z,17nm,20.1s,baz=52,slow=37							
BORG	Borgarnes	52.59	26	LR		LR		04 54 59.9	
	comp=Z,32nm,18.5s,baz=319,slow=36							
SONM	Songino Array	58.89	311	P		P		04 33 14.5	+0.9
	comp=Z,1.2nm,0.8s,baz=52,slow=7.7,SNR=7.0							
SONM				LR		LR		04 59 20.4	
	comp=Z,74nm,18.6s,baz=64,slow=37							
	comp=Z,1.2nm,0.8s							
ZALV	Zalesovo Beam	61.68	327	P		P		04 33 31.4	-0.9
	comp=Z,0.8nm,0.6s,baz=46,slow=11,SNR=2.4							
ZALV				LR		LR		05 02 35.8	
	comp=Z,26nm,20.5s,baz=71,slow=38							
	comp=Z,0.8nm,0.6s							
NOA	NORSAR Array B	61.77	11	P		P		04 33 32.8	-0.1
	comp=Z,0.4nm,0.7s,baz=317,slow=19,SNR=2.4							
NOA				LR		LR		05 02 22.4	
	comp=Z,13nm,19.0s,baz=355,slow=38							
	comp=Z,0.4nm,0.7s							
FINES	FINESS Array B	62.37	3	P		P		04 33 38.6	+1.7
	comp=Z,0.9nm,0.7s,baz=36,slow=12,SNR=2.1							
	comp=Z,0.9nm,0.7s							
HFS	Hagfors	62.91	10	LR		LR		05 02 14.3	
	comp=Z,24nm,19.1s,baz=336,slow=37							
KIRV	Kirov	64.43	350	LR		LR		05 05 40.9	
	comp=Z,25nm,19.3s,baz=21,slow=40							
ARU	Arti	65.38	344	LR		LR		05 06 49.4	
	comp=Z,23nm,18.1s,baz=30,slow=40							
BVAR	Borovoye Array	66.33	336	P		P		04 34 04.2	+1.3
	comp=Z,1.3nm,0.6s,baz=40,slow=5.8,SNR=8.5							
BVAR				LR		LR		05 07 27.0	
	comp=Z,38nm,18.3s,baz=21,slow=40							
	comp=Z,1.3nm,0.6s							
KURBB	Kurchatov Arra	66.44	329	P		P		04 34 04.1	+0.4
	comp=Z,1.2nm,0.2s,baz=33,slow=6.5,SNR=2.1							
KURBB				LR		LR		05 06 46.6	
	comp=Z,37nm,19.1s,baz=172,slow=39							
	comp=Z,1.2nm,0.2s							
MKAR	Makanchi Array	68.73	325	P		P		04 34 18.7	+0.4
	comp=Z,0.2nm,0.5s,baz=46,slow=8.7,SNR=3.0							
MKAR				LR		LR		05 08 25.6	
	comp=Z,36nm,18.5s,baz=39,slow=39							
	comp=Z,0.2nm,0.5s							
PPT2	Papeete2	73.75	181	eLR		LR		04 57 14.1	
	comp=Z,36nm,23.2s							
VRAC	Vranov	73.88	10	LR		LR		05 09 44.9	
	comp=Z,6.6nm,19.6s,baz=6.5,slow=38							
GERES	GERESS Array B	74.03	12	LR		LR		05 12 08.7	
	comp=Z,20nm,18.4s,baz=270,slow=40							
DAVOX	Davos/Dischmat	75.55	15	LR		LR		05 12 12.2	
	comp=Z,10nm,20.2s,baz=257,slow=39							
ESDC	Sonseca Array	79.63	27	P		P		04 35 23.6	+1.6
	comp=Z,0.2nm,0.7s,baz=339,slow=5.2,SNR=2.3							
	comp=Z,0.2nm,0.7s							
KBZ	Khabaz	79.74	352	P		P		04 35 23.9	+1.5
	comp=Z,1.1nm,0.8s,baz=299,slow=6.0,SNR=2.0							
	comp=Z,1.1nm,0.8s							
GEYT	Alibeck	83.32	339	P		P		04 35 43.9	+2.4
	comp=Z,0.9nm,0.5s,baz=5.7,slow=2.9,SNR=1.8							
	comp=Z,0.9nm,0.5s							
BRTR	Keskin Array B	84.18	358	P		P		04 35 46.7	+0.7
	comp=Z,0.4nm,0.7s,baz=129,slow=25,SNR=1.9							
	comp=Z,0.4nm,0.7s							
DZM	Mont Dzumac	86.97	221	eLR		LR		05 03 26.8	
	comp=Z,45nm,23.4s							
KAPI	Kappang	95.15	269	LR		LR		05 15 54.3	
	comp=Z,69nm,21.3s,baz=28,slow=33							
QSPA	South Pole Qui	146.24	180	PKPbc		PKPbc		04 42 53.6	-0.2
	comp=Z,1.9nm,0.7s,baz=84,slow=0.2,SNR=16							

*IDC **01** 04:24:55.4±1.9, 15°.13S×74°.17W, h62km±20km, mb3.7/6, mbtmp4.1/12, MS2.8/2, Error ellipse: s-maj=24.6km s-min=12.9km az=52.0*
*NEIC **01** 04:24:56.3±2.4, 15°.11S±0°.08×74°.3W±0°.1, h70km±17km, mb4.3/20, Error ellipse: s-maj=16.4km s-min=9.9km az=58.0*
*VAO **01** 04:24:58.2±0.9, 15°.06S×73°.86W, h51km±5km, mb4.3*
ISC 01 04:24:57.2±0.5, 15°.11S±0°.05×74°.19W±0°.07, h89km, n101, σ1.53/101, mb4.1/10, 5D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	4.04	320	Pn	Pn	04 25 55.3	-1.6
NNA	Nana	4.04	320	P	Pn	04 25 55.5	-1.4
	68nm,0.3s,baz=129,slow=10,SNR=24						
NNA				S	Sn	04 26 41.5	-1.6
	151nm,0.4s,baz=213,slow=18,SNR=4.4						
NNA				LR	LR	04 27 30.8	
	comp=Z,68nm,19.5s,baz=159,slow=38						
PB18	Visviri	5.15	119		Pn	04 26 14.9	+2.6
LPAZ	La Paz	5.95	102	Pn	Pn	04 26 25.2	+1.8
LPAZ	La Paz	5.95	102	P	Pn	04 26 25.9	+2.5
	34nm,0.5s,baz=287,slow=7.8,SNR=212						
LPAZ				S	Sn	04 27 28.9	-1.6
	10nm,0.5s,baz=80,slow=25,SNR=1.2						
PB11	IPOC Station P	6.33	138	Pn	Pn	04 26 26.9	-1.3
HMBC	Humberstone	6.57	142		Pn	04 26 30.1	-1.3
GO01	Chusmiza	6.58	134		Pn	04 26 30.9	-0.9
TA01	Diego Aracena	6.63	145		Pn	04 26 31.1	-1.0
PATCX	Punta Patache	6.85	146	Pn	Pn	04 26 33.2	-2.0
CZSB	Cruzeiro do Su	7.48	11	Pn	Pn	04 26 43.1	-0.7
CZSB	Cruzeiro do Su	7.48	11	eP	Pn	04 26 43.4	-0.4
PB04	IPOC Station P	8.14	153	Pn	Pn	04 26 51.0	-1.8
PB09	IPOC Station P	8.14	146	Pn	Pn	04 26 52.4	-0.4
PB05	IPOC Station P	8.57	155	Pn	Pn	04 26 56.1	-2.6
PB06	IPOC Station P	8.72	151		Pn	04 26 59.5	-1.3
ATAH	Atahualpa	8.94	332	P	Pn	04 27 03.4	-0.6
	3.8nm,0.5s,baz=33,slow=11,SNR=2.4						
ATAH				S	Sn	04 28 40.4	-2.8
	8.9nm,0.6s,baz=73,slow=18,SNR=1.6						
LVC	Limon Verde	8.97	147	Pn	Pn	04 27 03.9	-0.5
LVC	Limon Verde	8.97	147	P	Pn	04 27 03.0	-1.4
	7.1nm,0.3s,baz=336,slow=7.5,SNR=27						
LVC				S	Sn	04 28 37.7	-6.3
	42nm,0.4s,baz=99,slow=12,SNR=15						
LVC	Limon Verde	8.97	147	eP	Pn	04 27 03.0	-1.4
PB10	IPOC Station P	9.03	158	Pn	Pn	04 27 02.2	-2.6
PB15	IPOC Station P	9.20	152		Pn	04 27 05.7	-1.6
ETMB	Extrema	9.40	57	Pn	Pn	04 27 09.3	-0.6
JIR01	Jirau	10.72	60	eP	Pn	04 27 26.9	-1.0
GO02	Mina Guanaco	10.89	157		Pn	04 27 29.8	-0.7
AC01	Pan de Azucar	11.48	164	Pn	Pn	04 27 36.4	-1.7
TBTG	Tabatinga, AM	11.65	22	eP	Pn	04 27 40.4	-0.1
TBTG				eS	Sn	04 29 45.6	-3.1
SAML	Samuel	12.38	62	Pn	Pn	04 27 48.0	-2.3
SAML	Samuel	12.38	62	eP	Pn	04 27 48.1	-2.3
SIV	San Ignacio	12.67	96	P	Pn	04 27 52.1	-2.1
	5.4nm,0.5s,baz=271,slow=12,SNR=43						
AC06	Mina Casimiro	12.70	164	Pn	Pn	04 27 53.4	-1.1
BBSD	Serra de San D	13.21	101	eP	Pn	04 27 57.5	-3.9
VBST	Vila Bela da S	13.72	89	eP	Pn	04 28 05.3	-2.7
VILB	Vilhena	13.

comp=Z,109nm,0.8s
QSPA South Pole Qui 75.04 180 P P 04 36 29.9 +0.8
comp=Z,1.9nm,0.9s,baz=316,slow=2.5,SNR=11
comp=Z,1.9nm,0.9s
TORD Torodi Ar. Bea 80.16 73 P P 04 36 59.0 +0.6
comp=Z,0.9nm,0.9s,baz=274,slow=5.2,SNR=7.6
comp=Z,0.9nm,0.9s

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*JMA **01** 04:39:47.6±0.1,41°.5N±0°.4×142°.0E±0°.7,h62km±1km, MV3.3/34,E OFF AOMORI PREF*
*IDC **01** 04:39:50.4±2.1,41°.60N×141°.78E,h82km±14km,mb3.6/11, mbtmp3.8/15,Error ellipse: s-maj=26.8km s-min=13.4km az=128.0*
ISC 01 04:39:47.9±0.8,41°.48N±0°.04×141°.96E±0°.05,h65km±7km, n38,σ0$90/44,mb4.0/11,15D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.51**	**246**	⇓P	**Pn**	**04 40 00.3**	**-0.1**
JAHD				⇓S	**Sn**	**04 40 09.9**	**+0.4**
JARK	**Aomorirokkasho**	**0.65**	**224**	⇓P	**Pn**	**04 40 01.4**	**-0.5**
JARK				⇓S	**Sn**	**04 40 11.4**	**-0.7**
JOT	**Ohata**	**0.69**	**263**	⇓P	**Pn**	**04 40 02.0**	**-0.3**
JOT				⇓S	**Sn**	**04 40 13.0**	**0.0**
JKB	**Kayabe**	**0.81**	**301**	⇓iP	**Pn**	**04 40 03.2**	**-0.6**
JKB				⇓S	**Sn**	**04 40 14.7**	**-0.7**
JTM	**Tenmabayashi**	**0.96**	**225**	⇓iP	**Pn**	**04 40 05.8**	**+0.1**
JTM				⇓S	**Sn**	**04 40 18.9**	**0.0**
JNBK	**Urakawa-nobuka**	**1.00**	**36**	P	**Pn**	**04 40 05.3**	**-0.9**
JEM	**Erimo**	**1.05**	**59**	*i* P	**Pn**	**04 40 06.2**	**-0.6**
JEM				S	**Sn**	**04 40 20.6**	**-0.2**
JIAM	**Iburiatsuma**	**1.15**	**359**	P	**Pn**	**04 40 08.5**	**+0.4**
JIAM				S	**Sn**	**04 40 23.5**	**+0.4**
JANG	**Nango**	**1.15**	**197**	*i* P	**Pn**	**04 40 07.6**	**-0.5**
JANG				S	**Sn**	**04 40 22.6**	**-0.6**
JSR	**Shiriuchi**	**1.16**	**273**	P	**Pn**	**04 40 08.2**	**0.0**
JNB	**Noboribetsu**	**1.21**	**326**	⇓iP	**Pn**	**04 40 08.1**	**-0.8**
JNB				⇓S	**Sn**	**04 40 23.6**	**-0.9**
JBT2	**Biratori 2**	**1.34**	**13**	P	**Pn**	**04 40 10.5**	**-0.1**
JBT2				S	**Sn**	**04 40 27.7**	**+0.2**
JYM2	**Yakumo 2**	**1.35**	**299**	⇓iP	**Pn**	**04 40 11.1**	**+0.4**
JEW	**Eniwo**	**1.42**	**345**	⇓iP	**Pn**	**04 40 11.7**	**0.0**
JEW				⇓S	**Sn**	**04 40 29.5**	**+0.1**
JOMM	**Oshimamatsumae**	**1.47**	**273**	P	**Pn**	**04 40 12.2**	**-0.1**
JCH	**Churui**	**1.55**	**42**	*i* P	**Pn**	**04 40 13.6**	**+0.3**
ASAJ	**Asahikawa**	**2.68**	**10**	P	**Pn**	**04 40 29.5**	**+0.8**
	18nm,0.4s,baz=220,slow=9.4,SNR=56						
ASAJ				S	**Sn**	**04 41 01.4**	**+1.3**
	48nm,0.8s,baz=11,slow=28,SNR=10.0						
MJAR	**Matsushiro Arr**	**5.73**	**212**	P	**Pn**	**04 41 13.0**	**+2.6**
	0.9nm,0.4s,baz=22,slow=14,SNR=4.3						
USRK	**Ussuriysk Ar.**	**7.82**	**294**	P	**Pn**	**04 41 38.9**	**0.0**
	1.2nm,0.5s,baz=101,slow=14,SNR=2.3						
KSRS	**Korea Array**	**11.57**	**254**	P	**Pn**	**04 42 33.5**	**+3.4**
	1.0nm,0.5s,baz=66,slow=14,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**30.31**	**128**	T	T	05 18 19.5	
	baz=322,slow=76,SNR=23						
H11N1	**WAKE ISLAND Hy**	**30.32**	**128**	T	T	05 18 23.3	
	baz=322,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**30.33**	**128**	T	T	05 18 21.2	
	baz=322,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**31.15**	**130**	T	T	05 19 22.6	
	baz=323						
H11S3	**WAKE ISLAND Hy**	**31.16**	**130**	T	T	05 19 28.9	
	baz=323,slow=74						
H11S2	**WAKE ISLAND Hy**	**31.17**	**130**	T	T	05 19 22.9	
	baz=323,slow=74						
ZALV	**Zalesovo Beam**	**39.36**	**308**	P	**P**	**04 47 09.5**	**-1.2**
	1.3nm,0.6s,baz=96,slow=8.7,SNR=4.5						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**42.26**	**298**	P	**P**	**04 47 34.1**	**-0.7**
	0.4nm,0.5s,baz=85,slow=10,SNR=4.7						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**43.72**	**304**	P	**P**	**04 47 44.9**	**-1.6**
	2.3nm,0.2s,baz=78,slow=8.9,SNR=2.1						
	2.3nm,0.2s						
ILAR	**Eielson Array**	**45.56**	**35**	P	**P**	**04 48 01.6**	**+0.7**
	0.9nm,0.9s,baz=279,slow=8.0,SNR=10						
	0.9nm,0.9s						
BVAR	**Borovoye Array**	**47.99**	**310**	P	**P**	**04 48 19.4**	**-0.6**
	1.1nm,0.6s,baz=71,slow=9.0,SNR=5.2						
	1.1nm,0.6s						
YKA	**Yellowknife Ar**	**59.78**	**32**	P	**P**	**04 49 46.1**	**+0.3**
	0.2nm,0.7s,baz=260,slow=6.8,SNR=2.7						
	0.2nm,0.7s						
GEYT	**Alibeck**	**62.12**	**297**	P	**P**	**04 50 01.9**	**-0.3**
	1.3nm,0.6s,baz=145,slow=3.5,SNR=2.6						
	1.3nm,0.6s						
FINES	**FINESS Array B**	**65.10**	**332**	P	**P**	**04 50 21.0**	**-0.3**
	2.3nm,0.8s,baz=50,slow=10,SNR=6.6						
	2.3nm,0.8s						
HFS	**Hagfors**	**70.23**	**335**	P	**P**	**04 50 53.0**	**-0.6**
	2.0nm,0.8s,baz=60,slow=5.8,SNR=4.6						
	2.0nm,0.8s						
NOA	**NORSAR Array B**	**70.27**	**337**	P	**P**	**04 50 53.7**	**-0.2**
	0.5nm,0.7s,baz=40,slow=6.3,SNR=3.3						
	0.5nm,0.7s						
AKASG	**Malin Array Be**	**71.06**	**322**	P	**P**	**04 50 58.1**	**-0.7**
	0.5nm,0.3s,baz=42,slow=6.7,SNR=2.8						
	0.5nm,0.3s						
SNAA	**Sanae**	**145.10**	**199**	PKPbc	**PKPab**	**04 59 16.0**	**-0.4**
	0.6nm,0.8s,baz=90,slow=5.1,SNR=1.9						

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*OSPL **01** 05:00:43.7±2.2,19°.31N×64°.36W,h0km±285km,ML3.7*
*RSPR **01** 05:00:44.0,19°.27N×64°.28W,h44km±21km,MD3.8/15*
*NEIC **01** 05:00:46.8±0.7,19°.09N±0°.06×64°.50W±0°.04,h35km±2km, ML3.6/34,Md3.8/15(RSPR),Error ellipse: s-maj=11.6km s-min=3.1km az=325.0*
ISC 01 05:00:47.1±1.9,19°.2N±0°.1×64°.49W±0°.05,h42km,n56, σ1$32/61,15C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.65**	**232**	⇑*e*P	**Pn**	**05 01 12.5**	**-1.0**
HUMP	**Col San Antoni**	**1.65**	**232**	*e*S	**Sn**	**05 01 35.1**	**+1.6**
HUMP	**Col San Antoni**	**1.65**	**232**		**Pn**	**05 01 12.3**	**-1.2**
HUMP				IAML		05 01 38.0	
	comp=E,462nm,0.5s						
GCPR	**Guaynabo City**	**1.74**	**241**	⇑*e*P	**Pn**	**05 01 13.4**	**-1.4**
GCPR	**Guaynabo City**	**1.74**	**241**	*e*S	**Sn**	**05 01 36.3**	**+0.6**
GCPR	**Guaynabo City**	**1.74**	**241**		**Pn**	**05 01 13.1**	**-1.7**
GCPR				IAML		05 01 38.7	
	comp=E,391nm,0.6s						
SMRT	**St. Maarten**	**1.74**	**129**		**Pn**	**05 01 13.8**	**-1.0**
SMRT				IAML		05 01 47.6	
	comp=E,690nm,0.5s						
SMRT				IAML		05 01 50.1	
	comp=N,531nm,0.6s						
SJG	**San Juan**	**1.90**	**237**	⇑*e*P	**Pn**	**05 01 15.7**	**-1.2**
SJG	**San Juan**	**1.90**	**237**	*e*S	**Sn**	**05 01 41.8**	**+2.2**
SJG	**San Juan**	**1.90**	**237**		**Pn**	**05 01 15.8**	**-1.2**
SJG	**San Juan**	**1.90**	**237**	*e*P	**Pn**	**05 01 15.3**	**-1.6**
SJG				*e*S	**Sn**	**05 01 39.8**	**+0.2**
SABA	**Saba**	**1.94**	**142**	Pn	**Pn**	**05 01 16.5**	**-1.1**
SABA				IAML		05 02 05.8	
	comp=N,320nm,0.7s						
EMPR	**Esperanza - Ma**	**2.05**	**251**	⇑*e*P	**Pn**	**05 01 18.1**	**-1.0**
EMPR	**Esperanza - Ma**	**2.05**	**251**	*e*S	**Sn**	**05 01 44.8**	**+1.3**
EMPR	**Esperanza - Ma**	**2.05**	**251**		**Pn**	**05 01 18.2**	**-1.0**
EMPR				IAML		05 01 52.9	
	comp=E,644nm,0.7s						
EMPR				IAML		05 01 54.4	
	comp=N,613nm,0.7s						
CELP	**Cerrillos**	**2.26**	**242**	⇑*e*P	**Pn**	**05 01 21.2**	**-0.8**
CELP	**Cerrillos**	**2.26**	**242**	*e*S	**Sn**	**05 01 50.0**	**+1.3**
CELP	**Cerrillos**	**2.26**	**242**		**Pn**	**05 01 21.2**	**-0.8**
CELP				IAML		05 01 55.5	
	comp=E,232nm,0.5s						
CELP				IAML		05 01 55.9	
	comp=N,281nm,0.7s						
AOPR	**Arecibo Observ**	**2.30**	**250**	⇑*e*P	**Pn**	**05 01 21.3**	**-1.2**
AOPR	**Arecibo Observ**	**2.30**	**250**		**Pn**	**05 01 21.3**	**-1.2**
AOPR				IAML		05 02 04.6	
	comp=N,570nm,0.8s						
AOPR	**Arecibo Observ**	**2.30**	**250**	*e*P	**Pn**	**05 01 21.3**	**-1.2**
AOPR				*e*S	**Sn**	**05 01 47.8**	**-1.8**
OBIP	**Obispado Ponce**	**2.30**	**241**	⇑*e*P	**Pn**	**05 01 21.6**	**-0.9**
OBIP	**Obispado Ponce**	**2.30**	**241**	*e*S	**Sn**	**05 01 51.1**	**+1.5**
OBIP	**Obispado Ponce**	**2.30**	**241**		**Pn**	**05 01 21.8**	**-0.7**
OBIP				IAML		05 01 54.9	
	comp=E,234nm,0.6s						
OBIP				IAML		05 02 09.9	
	comp=N,232nm,0.9s						
UUPR	**Utuado, UPR, P**	**2.31**	**247**	⇑*e*P	**Pn**	**05 01 21.4**	**-1.2**
UUPR	**Utuado, UPR, P**	**2.31**	**247**		**Pn**	**05 01 21.5**	**-1.2**
GBPR	**Guanica, Bosqu**	**2.56**	**243**	⇑*e*P	**Pn**	**05 01 26.1**	**0.0**
GBPR	**Guanica, Bosqu**	**2.56**	**243**		**Pn**	**05 01 26.1**	**0.0**
AGPR	**Aguadilla, PR**	**2.58**	**255**	⇑*e*P	**Pn**	**05 01 25.6**	**-0.8**
AGPR	**Aguadilla, PR**	**2.58**	**255**	*e*S	**Sn**	**05 01 58.2**	**+1.7**
AGPR	**Aguadilla, PR**	**2.58**	**255**		**Pn**	**05 01 25.3**	**-1.1**
AGPR				IAML		05 02 17.8	
	comp=N,206nm,0.8s						
AGPR				IAML		05 02 19.8	
	comp=E,211nm,0.7s						
AGPR	**Aguadilla, PR**	**2.58**	**255**	*i* P	**Pn**	**05 01 25.5**	**-0.9**
AGPR				IAML		05 02 06.0	
	comp=Z,153nm,1.5s						
LSP	**Las Mesas**	**2.66**	**249**	⇑*e*P	**Pn**	**05 01 27.3**	**-0.2**
LSP	**Las Mesas**	**2.66**	**249**		**Pn**	**05 01 27.3**	**-0.2**
PRSN	**Puerto Rico Se**	**2.69**	**250**	⇑*e*P	**Pn**	**05 01 28.7**	**+0.8**
PRSN	**Puerto Rico Se**	**2.69**	**250**	*e*S	**Sn**	**05 02 01.0**	**+1.8**
PRSN	**Puerto Rico Se**	**2.69**	**250**		**Pn**	**05 01 26.9**	**-1.0**
PRSN				IAML		05 02 07.8	
	comp=N,211nm,0.4s						
PRSN				IAML		05 02 13.2	
	comp=E,288nm,0.4s						
MLPR	**Magueyes Islan**	**2.70**	**244**	⇑*e*P	**Pn**	**05 01 27.6**	**-0.4**
MLPR	**Magueyes Islan**	**2.70**	**244**	*e*S	**Sn**	**05 02 01.0**	**+1.5**
MLPR	**Magueyes Islan**	**2.70**	**244**		**Pn**	**05 01 27.6**	**-0.4**
CRPR	**Cabo Rojo, PR**	**2.74**	**246**	⇑*e*P	**Pn**	**05 01 28.0**	**-0.6**
CRPR	**Cabo Rojo, PR**	**2.74**	**246**	*e*S	**Sn**	**05 02 02.2**	**+1.7**
CRPR	**Cabo Rojo, PR**	**2.74**	**246**		**Pn**	**05 01 27.9**	**-0.6**
CRPR	**Cabo Rojo, PR**	**2.74**	**246**	*i* P	**Pn**	**05 01 28.7**	**+0.1**
CRPR				*e*S	**Sn**	**05 02 03.8**	**+3.3**
CRPR				IAML		05 02 16.3	
	comp=Z,239nm,0.8s						
MBFL	**Flemmings, Mon**	**3.23**	**138**	*e*P	**Pn**	**05 01 36.2**	**+0.8**
ANBD	**Bethesda, Anti**	**3.34**	**129**	*e*P	**Pn**	**05 01 35.0**	**-1.7**
ANBD				*e*S	**Sn**	**05 02 12.7**	**-2.4**
PCDR	**Punta Cana, DR**	**3.75**	**261**	⇑*e*P	**Pn**	**05 01 42.5**	**+0.1**
PCDR	**Punta Cana, DR**	**3.75**	**261**		**Pn**	**05 01 41.4**	**-1.0**
PCDR				IAML		05 02 47.5	
	comp=N,226nm,2.2s						
PCDR				IAML		05 03 36.4	
	comp=E,112nm,2.2s						
PCDR	**Punta Cana, DR**	**3.75**	**261**	*i* P	**Pn**	**05 01 42.9**	**+0.5**
CBE	**Ff, Capester**	**4.12**	**138**	Pn	**Pn**	**05 01 47.0**	**-0.7**
MAGL	**Barre de l'ile**	**4.42**	**136**	Pn	**Pn**	**05 01 49.3**	**-2.4**
SDDR	**Presa de Saban**	**6.44**	**269**		**Pn**	**05 02 18.6**	**-0.9**
SDDR	**Presa de Saban**	**6.44**	**269**	*i* P	**Pn**	**05 02 19.5**	**+0.1**
SDDR				*e*S	**Sn**	**05 03 28.7**	**-3.0**
SDDR				IAML		05 03 49.5	
	comp=Z,18nm,2.9s						
SDDR	**Presa de Saban**	**6.44**	**269**	*e*P	**Pn**	**05 02 19.2**	**-0.2**
SDDR	**Presa de Saban**	**6.44**	**269**	*e*S	**Sn**	**05 03 30.8**	**-0.9**
AUA1	**Aruba**	**8.49**	**220**	Pn	**Pn**	**05 02 46.0**	**-1.6**

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*BJI **01** 05:02:44.7±0.0,11°.62N×125°.43E,h81km,mb4.8/62, mB4.8/19,Ms4.0/16,Ms7 3.9/20*
*IDC **01** 05:02:44.1±0.4, 11°.78N×125°.19E,h42km±3km,mb4.4/28, mbtmp4.6/30,ML4.2/2,MS3.6/19,Error ellipse: s-maj=18.3km s-min=8.9km az=76.0*
*NEIC **01** 05:02:47.1±1.1, 11°.80N±0°.07×125°.2E±0°.1,h63km±7km, mb4.9/86,Error ellipse: s-maj=15.3km s-min=10.1km az=76.0*
*DJA **01** 05:02:53.6±2.7, 12°N±12°×12°6E±1°4,h146km±22km, M4.7/12,mB4.9/2,mb4.7/12,Mw(mB)4.2/2*
ISC 01 05:02:44.9±0.3,11°.80N±0°.04×125°.26E±0°.06,h49km±2km, h49km:pP-P,n560,σ1$05/578,mb4.8/110,MS3.5/22, 10C-7D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.71**	**176**	Pn	**Pn**	**05 03 56.4**	**+3.0**
DAV	**Davao City (W)**	**4.71**	**176**	P	**Pn**	**05 03 53.7**	**+0.2**
	28nm,0.3s,baz=79,slow=19,SNR=1.6						
DAV				S	**Sn**	**05 04 49.8**	**+3.0**
	171nm,0.4s,baz=31,slow=17,SNR=4.5						
DAV				LR	LR	05 06 14.9	
	comp=Z,1μm,20.7s,baz=12,slow=45						
	93nm,0.4s						
MYLDM	**Lahad Datu**	**9.38**	**226**	Pn	**Pn**	**05 04 58.2**	**+0.8**
TNTI	**Ternate**	**11.15**	**169**	Pn	**Pn**	**05 05 22.6**	**+0.8**
GTOI	**Gorontalo**	**11.31**	**192**	P	Pn	05 05 35.5	+12
	17nm,1.0s						
TOLI2	**Tolitoli**	**11.51**	**203**	Pn	**Pn**	**05 05 28.4**	**+1.8**
YULB	**Yu-li**	**12.13**	**342**	Pn	**Pn**	**05 05 36.5**	**+1.4**
SMKI	**Samarinda**	**14.56**	**214**	P	P	05 06 19.2	+5.7
SBUM	**Sibu**	**15.92**	**235**	Pn	**Pn**	**05 06 26.4**	**+0.6**
FAKI	**Fak Fak**	**16.19**	**154**		**Pn**	**05 06 30.1**	**+0.9**
QIZ	**Qiongzhong**	**16.50**	**298**	P	**Pn**	**05 06 35.1**	**+1.9**
QIZ				S	**Sn**	**05 09 38.8**	**+3.3**
QIZ				LR	LR		
	comp=N,160nm,12.9s						
QIZ				LR	LR		
	comp=E,230nm,17.0s						
QIZ				LR	LR		
	comp=Z,260nm,17.9s						
KAPI	**Kappang**	**17.58**	**198**	P	**Pn**	**05 06 47.5**	**+1.0**
KAPI	**Kappang**	**17.58**	**198**	P	**Pn**	**05 06 45.3**	**-1.2**
	0.2nm,0.3s,baz=307,slow=15,SNR=2.0						
	5.9nm,0.8s						
GUMO	**Guam**	**19.21**	**83**	LR	LR	05 12 47.3	
	comp=Z,164nm,21.3s,baz=293,slow=31						
GULI	**GuiLin**	**19.45**	**316**	P	**P**	**05 07 09.1**	**+1.5**
NJ2	**Nanjing**	**21.00**	**345**	⇓P	**P**	**05 07 26.0**	**+1.7**
NJ2				pP	**sP**	**05 07 44.7**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,27nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,220nm,3.5s						
WHN	**Wuhan**	**21.22**	**333**	⇓P	**P**	**05 07 29.1**	**+2.4**
WHN				pmax	pmax		
	comp=Z,62nm,1.0s						
SOEI	**Soe**	**21.43**	**183**	P	**P**	**05 07 30.8**	**+1.6**
SOEI				IAmb	IAmb	05 07 43.2	
	comp=Z,110nm,1.7s						
JNU	**Nakatsue**	**21.84**	**13**	P	**P**	**05 07 33.8**	**+0.5**
JNU				IAmb	IAmb	05 07 48.6	
	comp=Z,106nm,1.8s						
JNU	**Nakatsue**	**21.84**	**13**	P	**P**	**05 07 33.1**	**-0.2**
	comp=Z,15nm,0.8s,baz=150,slow=5.7,SNR=7.8						
JNU				LR	LR	05 15 21.6	
	comp=Z,78nm,21.3s,baz=180,slow=35						
	comp=Z,15nm,0.8s						
JCJ	**Chichijima**	**22.01**	**44**	LR	LR	05 14 36.2	
	comp=Z,188nm,20.7s,baz=111,slow=32						
GYA	**Guiyang**	**22.79**	**312**	⇓P	**P**	**05 07 45.3**	**+1.6**
GYA				sP	sP	05 08 12.2	+11
GYA				S	**S**	**05 11 43.3**	**-6.1**
GYA				pmax	pmax		
	comp=Z,19nm,1.0s						
GYA				pmax	pmax		
	comp=Z,100nm,3.1s						
GYA				LR	LR		
	comp=Z,200nm,11.2s						
GYA				LR	LR		
	comp=Z,210nm,16.9s						
GYA				LR	LR		
	comp=Z,220nm,17.2s						
JAGI	**Jajag, Banyuwa**	**22.97**	**209**	P	**P**	**05 07 45.6**	**+0.2**
JAGI				IAmb	IAmb	05 08 10.5	
	comp=Z,87nm,1.4s						
JMN	**Monobe**	**23.21**	**18**	P	**P**	**05 07 48.2**	**+0.5**
ENH	**Enshi**	**23.50**	**324**	P	**P**	**05 07 50.6**	**+0.1**
ENH				IAmb	IAmb	05 07 51.8	
	comp=Z,30nm,1.0s						
SMRI	**Semarang**	**23.83**	**219**	P	**P**	**05 07 53.8**	**+0.1**
PHRA	**Phrae**	**25.05**	**288**	P	**P**	**05 08 04.2**	**-0.6**
JHJ	**Hachijo jima 2**	**25.05**	**30**	LR	LR	05 16 11.7	
	comp=Z,121nm,21.5s,baz=308,slow=32						
KMI	**Kunming**	**25.09**	**305**	⇑P	**P**	**05 08 06.4**	**+1.0**
KMI				pmax	pmax		
	comp=Z,19nm,1.3s						
KMI				pmax	pmax		
	comp=Z,96nm,4.0s						
KMI				LR	LR		
	comp=Z,140nm,16.3s						
KMI				LR	LR		
	comp=Z,180nm,16.4s						
KMI				LR	LR		
	comp=Z,190nm,17.8s						
MTN	**Manton Dam**	**25.16**	**166**	P	**P**	**05 08 05.8**	**-0.1**
CRAI	**Chiangrai**	**25.32**	**292**	P	**P**	**05 08 07.5**	**+0.2**
CRAI				IAmb	IAmb	05 08 10.7	
	comp=Z,29nm,1.0s						
TIA	**Tai'an**	**25.39**	**345**	P	**P**	**05 08 07.6**	**-0.2**
TIA				pmax	pmax		
	comp=Z,12nm,0.8s						
LYN	**LuoYang**	**25.47**	**335**	P	**P**	**05 08 09.3**	**+0.8**
LYN				sS	sS	05 12 58.6	+5.0
LYN				pmax	pmax		
	comp=Z,37nm,0.5s						
LYN				pmax	pmax		
	comp=Z,200nm,4.5s						
JSG	**Sagara**	**25.63**	**25**	P	**P**	**05 08 10.1**	**+0.1**
KSAR	**Wonju Array Be**	**25.64**	**5**	P	**P**	**05 08 09.8**	**-0.2**
KSRS	**Korea Array**	**25.66**	**5**	P	**P**	**05 08 10.7**	**+0.6**
	comp=Z,5.6nm,0.8s,baz=182,slow=10,SNR=24						
KSRS				LR	LR	05 18 21.3	
	comp=Z,81nm,20.7s,baz=190,slow=36						
	comp=Z,5.6nm,0.8s						
KS19	**Wonju Array Si**	**25.70**	**5**	P	**P**	**05 08 10.6**	**+0.1**
KS19				IAmb	IAmb	05 08 25.1	
	comp=Z,95nm,1.9s						
JGF	**Kuroka**	**26.11**	**23**	P	**P**	**05 08 14.1**	**-0.2**
CM31	**Chiang Mai Arr**	**26.23**	**288**	P	**P**	**05 08 16.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**26.23**	**288**	P	**P**	**05 08 14.8**	**-0.8**
CHTO	**Chiang Mai**	**26.30**	**289**	P	**P**	**05 08 15.8**	**-0.4**
PZH	**PanZhiHua**	**26.53**	**307**	P	**P**	**05 08 18.8**	**+0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,50nm,5.3s						
XAN	**Xi'an**	**26.69**	**329**	⇑P	**P**	**05 08 19.2**	**-0.4**
XAN				pmax	pmax		
	comp=Z,59nm,1.0s						
HNS	**HongShan**	**27.20**	**341**	⇑P	**P**	**05 08 24.3**	**+0.3**
HNS				pmax	pmax		
	comp=Z,25nm,1.0s						
MJAR	**Matsushiro Arr**	**27.26**	**23**	P	**P**	**05 08 23.4**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=195,slow=9.2,SNR=8.2						
MJAR				PcP	**PcP**	**05 11 43.9**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=161,slow=3.4,SNR=5.2						
MJAR				LR	LR	05 17 24.1	
	comp=Z,138nm,21.3s,baz=202,slow=32						
	comp=Z,2.0nm,0.8s						
CD2	**Chengdu**	**27.52**	**317**	P	**P**	**05 08 25.1**	**-2.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2				LR	LR		
	comp=Z,290nm,16.5s						
CD2				LR	LR		
	comp=Z,340nm,13.3s						
CD2				LR	LR		
	comp=Z,320nm,17.1s						
TNCH	**TengChong**	**28.51**	**301**	*e*P	**P**	**05 08 38.1**	**+2.0**
TNCH				pmax	pmax		
	comp=Z,25nm,0.4s						
BJT	**Baijiatuau**	**29.24**	**346**	P	**P**	**05 08 42.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**29.71**	**179**	P	**P**	**05 08 45.5**	**-1.0**
LZH	**Lanzhou**	**30.97**	**325**	*e*P	**P**	**05 08 59.7**	**+2.0**
LZH				sP	sP	05 09 25.6	+9.2
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
COEN	**Coen**	**31.15**	**145**	P	**P**	**05 08 58.8**	**-0.5**
COEN				IAmb	IAmb	05 09 26.6	
	comp=Z,15nm,1.1s						
HHC	**Hu-ho-hao-te**	**31.35**	**340**	*e*P	**P**	**05 09 04.7**	**+3.7**
HHC				pmax	pmax		
	comp=Z,20nm,0.5s						
HHC				pmax	pmax		
	comp=Z,64nm,4.9s						
HHC				LR	LR		
	comp=Z,84nm,14.5s						
HHC				LR	LR		
	comp=Z,99nm,14.5s						
HHC				LR	LR		
	comp=Z,140nm,14.6s						
WB0	**Warramunga Arr**	**32.63**	**164**	P	**P**	**05 09 11.4**	**-0.8**
WB0				IAmb	IAmb	05 09 28.8	
	comp=Z,37nm,1.9s						
WRA	**Warramunga Arr**	**32.78**	**164**	P	**P**	**05 09 12.1**	**-1.5**
WRA	**Warramunga Arr**	**32.78**	**164**	P	**P**	**05 09 12.5**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=346,slow=9.3,SNR=11						
WRA				PcP	**PcP**	**05 11 56.9**	**-1.2**
	comp=Z,3.4nm,0.6s,baz=340,slow=3.2,SNR=12						
	comp=Z,1.2nm,0.7s						
USA0B	**Ussuriysk Arra**	**32.80**	**9**	P	**P**	**05 09 13.8**	**+0.3**
USA0B				IAmb	IAmb	05 09 15.4	
	comp=Z,9.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**32.80**	**9**	P	**P**	**05 09 13.6**	**0.0**
USRK	**Ussuriysk Ar.**	**32.80**	**9**	P	**P**	**05 09 13.8**	**+0.3**
	comp=Z,8.6nm,0.7s,baz=160,slow=5.8,SNR=14						
USRK				LR	LR	05 21 02.8	
	comp=Z,51nm,21.6s,baz=159,slow=34						
	comp=Z,8.6nm,0.7s						
MDJ	**Mudanjiang**	**32.91**	**6**	P	**P**	**05 09 15.6**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,12nm,1.4s						
XLT	**XiLinHaoTe**	**32.95**	**348**	*e*P	**P**	**05 09 15.1**	**+0.1**
XLT				pmax	pmax		
	comp=Z,11nm,0.8s						
XLT				pmax	pmax		
	comp=Z,96nm,4.1s						
SHL	**Shillong**	**34.34**	**298**	P	**P**	**05 09 27.2**	**-0.2**
SHL				IAmb	IAmb	05 09 30.3	
	comp=Z,21nm,0.9s						
ASAJ	**Asahikawa**	**35.50**	**22**	LR	LR	05 23 47.1	
	comp=Z,39nm,20.3s,baz=

NWAO	Narrogin (SRO)	45.13	190	LR	LR	05 33 20.6	
	comp=Z,29nm,18.6s,baz=238,slow=41						
WMQ	Urumqi	45.42	322	eP	P	05 11 00.3	+1.3
BBOO	Buckleboo	45.54	167	P	P	05 10 59.8	-0.1
STKA	Stephens Creek	46.16	161	P	P	05 11 04.8	0.0
STKA	Stephens Creek	46.16	161	P	P	05 11 05.3	+0.5
	comp=Z,13nm,0.7s,baz=334,slow=8.3,SNR=29						
STKA				PcP	PcP	05 12 39.7	-0.4
	comp=Z,1.2nm,0.4s,baz=346,slow=6.0,SNR=3.0						
	comp=Z,13nm,0.7s						
PEA0B	Petropavlovsk-	48.68	26	P	P	05 11 25.3	+1.1
PEA0B				IAmb	IAmb	05 11 26.3	
	comp=Z,14nm,0.9s						
PETK	Petropavlovsk-	48.68	26	P	P	05 11 24.9	+0.7
PETK	Petropavlovsk-	48.68	26	P	P	05 11 25.5	+1.3
	comp=Z,6.4nm,0.7s,baz=190,slow=4.0,SNR=19						
PETK				PcP	PcP	05 12 48.6	-0.3
	comp=Z,2.0nm,0.6s,baz=222,slow=2.7,SNR=2.9						
	comp=Z,6.4nm,0.7s						
MK31	Makanchi Array	50.22	322	P	P	05 11 36.4	+0.3
MK31				IAmb	IAmb	05 11 37.8	
	comp=Z,14nm,0.8s						
MKAR	Makanchi Array	50.22	322	P	P	05 11 36.5	+0.5
MKAR	Makanchi Array	50.22	322	P	P	05 11 36.8	+0.7
	comp=Z,14nm,0.7s,baz=121,slow=8.5,SNR=119						
MKAR				PcP	PcP	05 12 54.3	-0.3
	comp=Z,4.5nm,0.7s,baz=116,slow=4.9,SNR=5.3						
MKAR				LR	LR	05 34 36.2	
	comp=Z,58nm,19.9s,baz=104,slow=38						
	comp=Z,14nm,0.7s						
YAK	Yakutsk	50.25	3	P	P	05 11 36.5	+0.6
YAK	Yakutsk	50.25	3	P	P	05 11 36.1	+0.1
YAK				pP	pP	05 11 47.9	-1.4
YAK				sP	sP	05 11 53.8	-1.2
MAKZ	Makanchi	50.41	322	P	P	05 11 38.0	+0.5
MAKZ				IAmb	IAmb	05 11 39.3	
	comp=Z,16nm,1.1s						
MAKZ	Makanchi	50.41	322	P	P	05 11 38.2	+0.7
MAKZ				pP	pP	05 11 50.6	-0.3
KSH	Kashi	51.48	311	P	P	05 11 48.0	+2.2
KSH				pP	pP	05 12 03.7	+4.4
KSH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CAN	Canberra	51.97	155	P	P	05 11 51.2	+1.9
CAN				IAmb	IAmb	05 12 02.6	
	comp=Z,32nm,1.5s						
NIL	Nilore	52.06	304	P	P	05 11 50.3	+0.2
NIL				pP	pP	05 12 02.2	-1.4
BOOM	Boomskoye usch	52.50	315	P	P	05 11 53.2	-0.2
BOOM				IAmb	IAmb	05 13 17.1	
	comp=Z,5.2nm,0.7s						
DZM	Mont Dzumac	52.58	130	eLR	LR	05 27 07.8	
	comp=Z,100nm,28.0s						
DZM	Mont Dzumac	52.58	130	P	P	05 11 54.5	+0.4
DZM				IAmb	IAmb	05 12 13.8	
	comp=Z,19nm,1.0s						
DZM	Mont Dzumac	52.58	130	P	P	05 11 55.1	+1.0
DZM				pP	pP	05 12 07.3	-0.2
DZM				sP	sP	05 12 12.7	-0.4
TOO	Toolangi	52.65	160	P	P	05 11 55.4	+1.1
ZAA0	Zalesovo Array	52.82	331	P	P	05 11 54.9	-0.4
ZAA0				IAmb	IAmb	05 11 56.2	
	comp=Z,11nm,0.8s						
ZALV	Zalesovo Beam	52.82	331	P	P	05 11 54.9	-0.4
ZALV	Zalesovo Beam	52.82	331	P	P	05 11 55.1	-0.2
	comp=Z,11nm,0.8s,baz=118,slow=7.0,SNR=45						
ZALV				LR	LR	05 35 28.6	
	comp=Z,46nm,18.8s,baz=123,slow=37						
	comp=Z,11nm,0.8s						
ARSB	Arslanbob	54.21	313	P	P	05 12 05.0	-0.9
KURK	Kurchatov	54.26	325	P	P	05 12 06.1	+0.2
KURK	Kurchatov	54.26	325	P	P	05 12 06.6	+0.7
KURK				sP	pP	05 12 23.6	+4.2
KURBB	Kurchatov Arra	54.26	325	P	P	05 12 06.5	+0.6
	comp=Z,28nm,0.7s,baz=125,slow=7.1,SNR=96						
	comp=Z,28nm,0.7s						
GAR	Garm	55.56	309	P	P	05 12 16.0	+0.3
KBL	Kabul	55.66	304	P	P	05 12 16.3	-0.3
KBL				IAmb	IAmb	05 12 17.4	
	comp=Z,11nm,0.8s						
CHGR	Chuyangaron	56.36	309	P	P	05 12 21.7	+0.3
CHGR				IAmb	IAmb	05 12 23.2	
	comp=Z,18nm,0.8s						
KK31	Karatay Array	56.48	314	P	P	05 12 21.4	-0.7
KK31				IAmb	IAmb	05 12 23.2	
	comp=Z,8.5nm,0.9s						
KKAR	Karatay Array	56.48	314	P	P	05 12 21.7	-0.4
KKAR	Karatay Array	56.48	314	P	P	05 12 22.0	-0.1
KKAR				IAmb	IAmb	05 12 23.2	
	comp=Z,8.5nm,0.9s						
BVAR	Borovoye Array	59.85	325	P	P	05 12 45.7	+0.2
	comp=Z,13nm,0.7s,baz=123,slow=9.4,SNR=76						
	comp=Z,13nm,0.7s						
TIXI	Tiksi	59.85	1	P	P	05 12 44.9	-0.2
BRVK	Borovoye	59.92	325	P	P	05 12 45.8	-0.2
BRVK	Borovoye	59.92	325	P	P	05 12 46.2	+0.3
BRVK				pP	pP	05 12 58.7	-1.0
BILL	Bilibino	62.22	16	P	P	05 13 01.6	+0.4
BILL				IAmb	IAmb	05 13 02.6	
	comp=Z,21nm,1.2s						
NRIK	Noril'sk	62.30	346	P	P	05 13 01.5	-0.3
NRIK				IAmb	IAmb	05 13 03.0	
	comp=Z,10.0nm,0.9s						
NRIK	Noril'sk	62.30	346	P	P	05 13 01.4	-0.3
	comp=Z,7.8nm,0.8s,baz=134,slow=8.3,SNR=9.7						
	comp=Z,7.8nm,0.8s						
GEYT	Alibeck	64.84	306	P	P	05 13 19.7	+0.5
GEYT	Alibeck	64.84	306	P	P	05 13 19.0	-0.2
	comp=Z,2.4nm,0.6s,baz=101,slow=4.6,SNR=3.9						
GEYT				PcP	PcP	05 13 51.7	-0.5
	comp=Z,4.3nm,0.9s,baz=172,slow=13,SNR=4.3						
	comp=Z,2.4nm,0.6s						
ABKAR	Akbulak array	65.08	319	P	P	05 13 19.9	-0.5
ABKAR	Akbulak array	65.08	319	P	P	05 13 19.7	-0.7
ABKAR				IAmb	IAmb	05 13 21.2	
	comp=Z,11nm,0.8s						
NIKH	Nikolski High	66.19	37	P	P	05 13 27.8	+0.3
	baz=258						
SPIA	Saint Paul Isl	66.42	32	P	P	05 13 29.7	+0.9
	baz=255						
P08K	Saint George I	66.64	33	P	P	05 13 31.4	+1.1
	baz=256						
ARU	Arti	67.41	326	P	P	05 13 34.4	-0.8
ARU	Arti	67.41	326	P	P	05 13 34.4	-0.8
	comp=Z,35nm,0.7s						
ARU	Arti	67.41	326	P	P	05 13 34.6	-0.6
ARU				pP	pP	05 13 47.5	-1.7
UNV	Unalaska Valle	67.74	36	P	P	05 13 38.0	+0.7
	baz=259						
LBZ	Lake Benmore	69.18	147	P	P	05 13 46.1	-0.3
RPZ	Rata Peaks	69.20	146	P	P	05 13 47.3	+0.8
M11K	Mekoryuk	69.25	30	P	P	05 13 47.0	+0.4
	baz=257						
LTZ	Lake Taylor	69.26	145	P	P	05 13 47.3	+0.3
GVZ	Greta Valley S	69.81	145	P	P	05 13 51.0	+0.6
K13K	Kusilvak Mount	70.32	28	P	P	05 13 53.6	+0.4
	baz=258						
S12K	Black Hills	70.58	35	P	P	05 13 54.7	-0.2
	baz=262						
L14K	Kuka Creek	71.13	29	P	P	05 13 58.9	+0.8
	baz=260						
G15K	Niukluk	71.25	25	P	P	05 13 59.1	+0.3
	baz=257						
M14K	Bethel	71.38	30	P	P	05 13 59.6	0.0
M14K				IAmb	IAmb	05 14 29.5	
	comp=Z,10.0nm,0.9s						
M14K	Bethel	71.38	30	P	P	05 14 00.5	+0.9
	baz=261						
N14K	Kuskokwak Cree	71.38	31	P	P	05 14 00.3	+0.7
	baz=261						
O14K	Tigyukauivet M	71.50	31	P	P	05 14 00.4	+0.1
	baz=262						
C16K	Lisburne Hills	71.53	22	P	P	05 14 00.9	+0.5
C16K	Lisburne Hills	71.53	22	P	P	05 14 00.6	+0.2
	baz=255						
L15K	Ungalak Mounta	71.75	29	P	P	05 14 01.8	0.0
	baz=261						
K15K	Wolf Creek Mou	71.83	28	P	P	05 14 02.3	0.0
	baz=261						
CHNA	Chernabura Isl	71.89	36	P	P	05 14 02.4	-0.3
	baz=265						
H16K	Elim	71.93	26	P	P	05 14 03.4	+0.5
	baz=259						
M15K	Kasigluk River	71.99	30	P	P	05 14 03.5	+0.2
	baz=262						
G16K	Koyuk River	72.03	25	P	P	05 14 03.7	+0.3
	baz=259						
S14K	Fog Glacier	72.05	35	P	P	05 14 03.5	-0.4
	baz=264						
N15K	Kwethluk River	72.21	30	P	P	05 14 04.9	+0.3
	baz=263						
D17K	Noatak River	72.22	22	P	P	05 14 04.8	+0.3
	baz=257						
O15K	Ungalikthiuk R	72.22	31	P	P	05 14 04.6	-0.1
	baz=263						
C17K	DeLong Mountai	72.36	22	P	P	05 14 05.2	-0.2
	baz=257						
RDOG	Red Dog Mine	72.36	22	P	P	05 14 05.7	+0.3
	baz=258						
J16K	Anvik River	72.41	27	P	P	05 14 05.8	0.0
	baz=261						
I17K	Unalakleet	72.47	27	P	P	05 14 06.3	+0.2
	baz=261						
E17K	Hotham Inlet	72.57	23	P	P	05 14 06.5	-0.2
	baz=259						
F17K	Baldwin Pennin	72.67	24	P	P	05 14 06.8	-0.4
	baz=260						
CHGN	Chignik	72.68	35	P	P	05 14 07.3	-0.2
	baz=265						
L16K	Owhat River	72.71	29	P	P	05 14 07.4	-0.2
	baz=263						
G17K	Kiwalik Mounta	72.75	25	P	P	05 14 07.0	-0.8
	baz=260						
M16K	Timber Creek	72.87	30	P	P	05 14 08.7	+0.1
	baz=263						
N16K	Nishlik Lake	72.90	30	P	P	05 14 09.0	+0.2
	baz=264						
H17K	Granite Mounta	72.97	25	P	P	05 14 09.1	+0.1
	baz=261						
B18K	Kokolik River	73.03	21	P	P	05 14 09.7	+0.3
	baz=258						
E18K	Tukpahlearik C	73.10	23	P	P	05 14 10.2	+0.5
E18K				IAmb	IAmb	05 14 12.1	
	comp=Z,9.9nm,0.8s						
E18K	Tukpahlearik C	73.10	23	P	P	05 14 09.9	+0.1
	baz=260						
C18K	Utukok River	73.11	22	P	P	05 14 10.7	+0.8
C18K	Utukok River	73.11	22	P	P	05 14 10.3	+0.4
	baz=259						
J17K	VABM Dome	73.11	27	P	P	05 14 10.4	+0.5
	baz=262						
O16K	Kogok River B	73.15	31	P	P	05 14 10.6	+0.4
	baz=264						
L17K	Donlin	73.31	28	P	P	05 14 11.5	+0.4
	baz=264						
F18K	Selawik	73.33	24	P	P	05 14 11.4	+0.3
	baz=261						
K17K	Iditarod	73.38	28	P	P	05 14 11.9	+0.4
	baz=263						
A19K	Wainwright	73.45	20	P	P	05 14 12.2	+0.4
	baz=259						
G18K	Tagagawik	73.62	25	P	P	05 14 13.5	+0.5
	baz=262						
M17K	Holitna River	73.64	29	P	P	05 14 14.0	+0.9
M17K	Holitna River	73.64	29	P	P	05 14 13.7	+0.6
	baz=265						
H18K	Honhosa River	73.65	25	P	P	05 14 13.7	+0.6
	baz=263						
O17K	Koliganek Bris	73.67	31	P	P	05 14 13.8	+0.6
	baz=265						
N17K	Nushagak Hills	73.68	30	P	P	05 14 13.7	+0.3
N17K	Nushagak Hills	73.68	30	P	P	05 14 13.9	+0.6
	baz=265						
C19K	Lookout Ridge	73.76	21	P	P	05 14 14.6	+0.8
C19K				IAmb	IAmb	05 14 16.3	
	comp=Z,10nm,0.8s						
C19K	Lookout Ridge	73.76	21	P	P	05 14 14.5	+0.8
	baz=260						
P17K	Kvichak River	73.96	32	P	P	05 14 14.5	-0.4
	baz=266						
L18K	Granite Mounta	74.07	28	P	P	05 14 16.0	+0.4
	baz=265						
F19K	Shaleruckik Mo	74.10	24	P	P	05 14 15.8	+0.1
	baz=263						
J18K	Innoko River	74.17	27	P	P	05 14 17.0	+0.8
	baz=265						
Q17K	Contact Creek	74.19	33	P	P	05 14 16.6	+0.2
	baz=267						
D19K	Kuna River	74.20	22	P	P	05 14 16.9	+0.7
D19K				IAmb	IAmb	05 14 18.2	
	comp=Z,14nm,0.8s						
D19K	Kuna River	74.20	22	P	P	05 14 16.8	+0.5
	baz=262,SNR=5.1						
CHIR	Chirikof Islan	74.22	35	P	P	05 14 17.0	+0.5
	baz=268						
G19K	Purcell Mounta	74.29	24	P	P	05 14 17.3	+0.5
	baz=264						
N18K	Kilae Creek	74.33	30	P	P	05 14 17.5	+0.3
	baz=266						
E19K	Redstone River	74.39	23	P	P	05 14 17.8	+0.4
	baz=263						
M18K	Stony River	74.42	29	P	P	05 14 18.6	+0.9
	baz=266						
H19K	Roundabout Mou	74.49	25	P	P	05 14 18.8	+0.9
H19K				IAmb	IAmb	05 14 19.7	
	comp=Z,7.9nm,0.7s						
H19K	Roundabout Mou	74.49	25	P	P	05 14 18.0	+0.1
	baz=264						
P18K	Big Mountain,	74.59	31	P	P	05 14 19.2	+0.5
	baz=267						
O18K	Koktuh Hills	74.62	31	P	P	05 14 19.3	+0.4
O18K				IAmb	IAmb	05 14 20.9	
	comp=Z,17nm,0.8s						
O18K	Koktuh Hills	74.62	31	P	P	05 14 19.3	+0.4
	baz=267						
Q18K	Katmai Hardscr	74.67	32	P	P	05 14 19.4	+0.1
	baz=268						
J19K	Poorman	74.70	27	P	P	05 14 19.6	+0.4
	baz=266						
B20K	Meade River	74.74	20	P	P	05 14 19.8	+0.5
	baz=262						
D20K	Etivluk River	74.77	22	P	P	05 14 20.0	+0.4
	baz=263,SNR=6.5						
E20K	Nigu River	74.88	22	P	P	05 14 20.6	+0.3
	baz=264,SNR=5.7						
R18K	Karluk	74.92	33	P	P	05 14 21.3	+0.8
	baz=268						
L19K	White Mountain	74.93	29	P	P	05 14 21.2	+0.6
L19K	White Mountain	74.93	29	P	P	05 14 21.5	+0.9
	baz=267						
F20K	Avaraart Lake	74.93	23	P	P	05 14 21.3	+0.9
	baz=265						
N19K	Bonanza Creek	75.03	30	P	P	05 14 21.4	+0.1
	baz=267						
SII	Sitkinak Islan	75.04	34	P	P	05 14 22.3	+0.9
	baz=269						
M19K	Big River Lodg	75.13	29	P	P	05 14 19.4	-2.3
	baz=267						
H20K	Anotleneega Mo	75.14	25	P	P	05 14 22.1	+0.4
	baz=266						
I20K	Naaghedeneel	75.26	26	P	P	05 14 22.7	+0.3
	baz=266						
K20K	Telida	75.35	27	P	P	05 14 22.3	-0.7
	baz=267						
J20K	Nowinta River	75.36	27	P	P	05 14 23.0	0.0
	baz=267						
Q19K	Cape Douglas,	75.39	32	P	P	05 14 23.3	0.0
	baz=269						
L20K	Farewell, AK	75.40	28	P	P	05 14 23.8	+0.5
	baz=268						
C21K	Knifeblade Rid	75.47	21	P	P	05 14 24.8	+1.2
	baz=265						
OHAK	Old Harbor	75.55	34	P	P	05 14 25.1	+1.0
	baz=269						
B21K	Ikpikpuk River	75.58	21	P	P	05 14 24.5	+0.4
	baz=265						
A22K	Sinclair Lake	75.59	19	P	P	05 14 25.5	+1.3
	baz=264						
P19K	Oil Pt	75.62	31	P	P	05 14 25.4	+0.8
	baz=269						
IMAR	Indian Mountai	75.64	25	P	P	05 14 25.0	+0.4
E21K	Killik River	75.71	22	P	P	05 14 25.8	+0.8
	baz=266						
M20K	Styx River	75.72	29	P	P	05 14 25.7	+0.4
	baz=268						
G21K	Allakaket	75.76	24	P	P	05 14 25.8	+0.5
G21K	Allakaket	75.76	24	P	P	05 14 26.7	+1.4
	baz=267						
F21K	Alatna River	75.81	23	P	P	05 14 26.9	+1.3
	baz=267						
KDAK	Kodiak Island	75.93	33	P	P	05 14 26.4	0.0
KDAK				IAmb	IAmb	05 14 27.6	
	comp=Z,40nm,1.7s						
KDAK	Kodiak Island	75.93	33	P	P	05 14 27.4	+1.1
	baz=270						
O20K	Slope Mountain	75.93	31	P	P	05 14 27.5	+1.1
	baz=269						
H21K	Melozitna Rive	76.01	25	P	P	05 14 27.7	+1.0
	baz=268						
Q20K	Shuyak Island	76.03	32	P	P	05 14 27.5	+0.5
	baz=270						
SYI	Shuyak Island	76.03	32	P	P	05 14 26.5	-0.4
SYI				IAmb	IAmb	05 14 28.4	
	comp=Z,7.2nm,0.7s						
B22K	Teshekpuk Lake	76.05	20	P	P	05 14 27.9	+1.2
	baz=266						
RAYN	Ar Rayn	76.09	291	P	P	05 14 27.1	-0.9
RAYN				IAmb	IAmb	05 14 28.3	
	comp=Z,22nm,0.8s						
PPLA	Purkeypile	76.19	28	P	P	05 14 28.9	+0.9
	baz=269						
D22K	Ayikyak River	76.21	22	P	P	05 14 29.0	+1.2
	baz=267						
CAST	Castle Rocks	76.25	27	P	P	05 14 29.0	+0.8
	baz=269						
F22K	John River	76.33	23	P	P	05 14 28.8	+0.2
	baz=268						
I21K	Tanana	76.33	26	P	P	05 14 29.1	+0.6
	baz=268						
KBZ	Khabaz	76.45	312	P	P	05 14 29.4	-0.2
	comp=Z,4.7nm,0.9s,baz=98,slow=3.2,SNR=8.0						
	comp=Z,4.7nm,0.9s						
SKT	Skwentna	76.48	29	P	P	05 14 30.2	+0.7
	baz=270						
E22K	Anaktuvuk Pass	76.50	22	P	P	05 14 30.3	+0.8
	baz=268						
G22K	Bettles	76.58	24	P	P	05 14 30.9	+1.1
	baz=268						
KIV	Kislovodsk	76.59	313	⇓P	P	05 14 31.0	+0.4
KIV	Kislovodsk	76.59	313	P	P	05 14 30.6	0.0
	comp=Z,19nm,0.8s						
H22K	Ishtalitna Cre	76.60	25	P	P	05 14 31.3	+1.2
	baz=269						
CAPN	Captain Cook N	76.66	30	P	P	05 14 31.2	+0.8
	baz=270						
BPAW	Bear Paw Mtn.	76.74	27	P	P	05 14 31.4	+0.5
	baz=270						
SUA	Susitna One	76.86	29	P	P	05 14 32.2	+0.5
	baz=270						
MLY	Manley	76.86	26	P	P	05 14 32.3	+0.7
MLY	Manley	76.86	26	P	P	05 14 31.9	+0.4
	baz=270						
BRSE	Bradley Lake S	76.88	31	P	P	05 14 32.0	+0.2
	baz=271						
D23K	Nanushuk River	76.94	22	P	P	05 14 31.9	0.0
	baz=269						
C23K	Itkillik River	76.98	21	P	P	05 14 32.1	0.0
	baz=269						
COLD	Coldfoot	77.09	23	P	P	05 14 33.3	+0.5
	baz=270						
G23K	Bananza Creek	77.16	24	P	P	05 14 33.4	+0.2
	baz=270						
E23K	Chandalar	77.32	23	P	P	05 14 34.3	+0.1
	baz=270						
TOLK	Toolik Lake Re	77.34	22	P	P	05 14 34.5	+0.3
	baz=270						
RC01	Rabbit Creek A	77.35	30	P	P	05 14 35.3	+0.9
	baz=271						
H23K	Yukon River	77.36	25	P	P	05 14 34.7	+0.4
	baz=271						
I23K	Minto, Yukon-K	77.44	26	P	P	05 14 34.9	+0.1
	baz=271						
SEW	Seward	77.52	31	P	P	05 14 35.1	-0.2
	baz=272						
NEA2	Nenana	77.58	26	P	P	05 14 36.3	+0.7
NEA2				IAmb	IAmb	05 14 37.0	
	comp=Z,6.2nm,0.7s						
NEA2	Nenana	77.58	26	P	P	05 14 35.4	-0.2
	baz=271						
D24K	Happy Valley	77.61	21	P	P	05 14 35.3	-0.3
	baz=270						
PMR	Palmer	77.63	29	P	P	05 14 35.7	-0.2
	baz=272						
C24K	Franklin Bluff	77.64	21	P	P	05 14 35.8	0.0
	baz=270						
MCK	McKinley	77.66	27	P	P	05 14 36.4	+0.4
	baz=272						
E24K	Your Creek	77.74	23	P	P	05 14 37.3	+0.8
	baz=271						
WAT1	Susitna Watana	77.86	28	P	P	05 14 36.6	-0.6
	baz=272						
KNK	Knik Glacier	77.96	29	P	P	05 14 37.7	0.0
	baz=272						
F24K	Squaw Lake	77.98	23	P	P	05 14 38.7	+0.9
F24K	Squaw Lake	77.98	23	P	P	05 14 37.8	-0.1
	baz=272,SNR=6.0						
SML	Sawmill	78.00	29	P	P	05 14 38.6	+0.5
	baz=272						
H24K	Noodor Dome	78.04	25	P	P	05 14 38.2	0.0
	baz=272						
COLA	College	78.09	26	P	P	05 14 38.8	+0.4
	baz=272						
G24K	Hadweenzic Riv	78.17	24	P	P	05 14 39.3	+0.4
	baz=272						
WAT6	Susitna Watana	78.24	28	P	P	05 14 39.8	+0.3
	baz=273						
POKR	Poker Plat Res	78.26	26	P	P	05 14 39.3	-0.1
	baz=273						
M23K	Glacier View	78.29	29	P	P	05 14 40.3	+0.7
	baz=273						
DHY	Denali Highway	78.38	28	P	P	05 14 39.5	-0.7
	baz=273						
D25K	Kavik River	78.47	21	P	P	05 14 40.4	-0.1
	baz=273						
SCM	Sheep Creek Mo	78.47	29	P	P	05 14 40.2	-0.4
	baz=273						
HDA	Harding Lake	78.50	26	P	P	05 14 40.6	-0.1
	baz=273						
ILAR	Eielson Array	78.51	26	P	P	05 14 40.6	-0.1
	comp=Z,1.7nm,0.7s,baz=242,slow=5.4,SNR=18						
ILAR				pP	PcP	05 14 53.1	+3.5
	comp=Z,1.6nm,0.8s,baz=235,slow=6.1,SNR=7.2						
	comp=Z,1.7nm,0.7s						
P23K	Montague Islan	78.55	31	P	P	05 14 40.7	-0.4
	baz=274						
GLI	Glacier Island	78.65	30	P	P	05 14 41.8	+0.2
	baz=274						
G25K	Bearman Lake	78.72	24	P	P	05 14 42.1	+0.3
	baz=274						
E25K	Arctic Village	78.83	22	P	P	05 14 42.5	0.0
	baz=274						
F25K	Christian Rive	78.84	23	P	P	05 14 42.2	-0.3
	baz=274,SNR=5.2						
H25L	Birch Creek	78.86	24	P	P	05 14 43.6	+1.0
	baz=274						
C26K	Camden Bay	78.95	21	P	P	05 14 43.5	+0.5
	baz=274						
M24K	Tolsona, Glenn	79.00	29	P	P	05 14 44.9	+1.3
M24K				IAmb	IAmb	05 14 47.2	
	comp=Z,16nm,0.7s						
M24K	Tolsona, Glenn	79.00	29	P	P	05 14 43.5	-0.1
	baz=274						
PRP	Porcupine Dome	79.03	25	P	P	05 14 43.7	0.0
	baz=274						
K24K	Donnelly Dome	79.05	27	P	P	05 14 44.2	+0.4
	baz=274						
Q23K	Middleton Isla	79.12	31	P	P	05 14 44.5	+0.4
	baz=275						
J25K	Salcha River,	79.17	26	P	P	05 14 44.1	-0.3
	baz=275						
KLU	Klutina	79.17	29	P	P	05 14 44.8	+0.3
	baz=275						
PAX	Paxson	79.26	28	P	P	05 14 45.1	+0.1
	baz=275						
BMAR	Burnt Mountain	79.26	23	P	P	05 14 45.9	+1.0
EYAK	Cordova Ski Ar	79.33	30	P	P	05 14 45.5	+0.2
	baz=275						
C27K	Jago River	79.39	21	P	P	05 14 46.1	+0.6
	baz=275						
F26K	Sheenjek River	79.40	23	P	P	05 14 45.9	+0.2
	baz=275						
HARP	HAARP	79.45	28	P	P	05 14 45.8	-0.2
	baz=275						
G26K	Porcupine Rive	79.61	24	P	P	05 14 46.8	+0.1
	baz=276						
N25K	Chitina, Valde	79.79	29	P	P	05 14 48.0	+0.1
	baz=276						

baz=276
I26K Coal Creek Min 80.04 25 P P 05 14 49.3 +0.2
baz=276
KAIM Kayak Island 80.05 31 P P 05 14 49.3 +0.1
baz=276
GLB Gilahina Butte 80.18 29 P P 05 14 49.7 -0.2
L26K Log Cabin Wild 80.22 28 P P 05 14 50.7 +0.6
baz=277
E27K Coleen River 80.31 22 P P 05 14 51.5 +1.0
baz=277
D27M Malcolm River 80.40 21 P P 05 14 51.9 +0.9
baz=278
M26K Nabesna, AK 80.45 28 P P 05 14 52.1 +0.7
baz=277
G27K Doyon Strip 80.46 24 P P 05 14 51.9 +0.5
baz=278
MCARA McCarthy VSAT 80.56 29 P P 05 14 52.5 +0.5
baz=277
H27K Steamboat Moun 80.59 24 P P 05 14 53.0 +0.9
baz=278
CRQE Cirque 80.61 30 P P 05 14 52.5 +0.1
baz=277
I27K Kandik River 80.64 25 P P 05 14 53.0 +0.6
baz=278,SNR=6.0
K27K Chicken 80.66 26 P P 05 14 52.8 +0.4
baz=278
L27K Beaver Creek, 80.90 27 P P 05 14 54.8 +1.0
baz=278
EGAK Eagle 80.95 26 P P 05 14 54.6 +0.7
baz=278
M27K Edge Creek, AK 80.97 28 P P 05 14 54.3 0.0
baz=278
E28M Babbage River 81.00 22 P P 05 14 55.1 +0.9
baz=279
F28M Old Crow 81.04 23 P P 05 14 55.1 +0.7
F28M Old Crow 81.04 23 P P 05 14 55.2 +0.7
baz=279
MESA MESA 81.25 30 P P 05 14 55.6 -0.2
baz=278
I28M Miner Creek 81.36 25 P P 05 14 57.0 +0.7
baz=279,SNR=6.6
CTG Chitna Glacier 81.43 30 P P 05 14 57.4 +0.6
baz=279
E29M Blow River 81.64 22 P P 05 14 58.4 +0.9
baz=281
YUK3 Moose Creek 81.72 29 P P 05 14 58.5 +0.1
baz=279
DAWY Dawson 81.82 26 P P 05 14 59.2 +0.5
baz=280
H29M Whitestone 81.86 24 P P 05 14 59.7 +1.0
baz=281
G29M Pine Creek 81.86 23 P P 05 14 59.5 +0.7
G29M IAmb IAmb 05 15 00.6
comp=Z,22nm,1.4s
G29M Pine Creek 81.86 23 P P 05 14 58.9 +0.2
baz=281
O28M Mount Upton 82.02 30 P P 05 15 00.1 +0.1
baz=280
I29M Ogilvie Camp, 82.04 25 P P 05 14 59.7 -0.1
baz=281
PINM Pinnacle 82.10 30 P P 05 15 00.4 +0.2
baz=280
YUK8 Steele Glacier 82.13 29 P P 05 15 00.6 0.0
baz=280
SPA0 Spitsbergen Ar 82.33 349 eP P 05 15 01.3 +0.3
SPITS Spitsbergen Ar 82.33 349 P P 05 15 01.1 +0.1
comp=Z,15nm,0.8s,baz=95,slow=9.3,SNR=12
SPITS pP **pP 05 15 14.4 -1.0**
comp=Z,23nm,1.0s,baz=95,slow=7.6,SNR=3.5
comp=Z,15nm,0.8s
ARCES ARCESS Array B 82.43 340 P P 05 15 01.5 -0.2
ARCES ARCESS Array B 82.43 340 P P 05 15 01.8 +0.1
comp=Z,23nm,0.7s,baz=77,slow=6.9,SNR=49
comp=Z,23nm,0.7s
EPYK Eagle Plains 82.48 24 P P 05 15 02.2 +0.1
baz=282
M29M Somme Creek 82.53 28 P P 05 15 02.8 +0.3
baz=281,SNR=8.3
G30M tAoh Zraii Nji 82.55 23 P P 05 15 02.6 +0.2
baz=282
L29M L29M 82.55 27 P P 05 15 02.4 -0.1
baz=281,SNR=8.4
F30M Barrier River 82.57 22 P P 05 15 03.5 +1.1
baz=283
PNL Peninsula 82.60 31 P P 05 15 03.5 +0.7
baz=281
YUK4 Talbot Arm 82.65 29 P P 05 15 04.1 +0.9
baz=281
K29M Barlow Dome 82.67 26 P P 05 15 04.5 +1.3
baz=282
HAMF Hammerfest 82.76 341 eP P 05 15 03.4 0.0
I30M Mount Dempster 82.86 25 P P 05 15 04.9 +0.8
baz=282
YUK6 Outpost Mounta 82.87 29 P P 05 15 05.8 +1.4
baz=281
O29M Mount Kennedy 82.89 30 P P 05 15 04.5 +0.1
baz=281
HSPB Hornsund (broa 82.93 348 eP P 05 15 04.5 +0.3
J30M Hart River 83.03 25 P P 05 15 05.4 +0.4
baz=283
INK Inuvik 83.24 22 P P 05 15 06.5 +0.7
baz=285
M30M Minto, Yukon 83.26 28 P P 05 15 07.2 +1.0
M30M Minto, Yukon 83.26 28 P P 05 15 07.0 +0.8
baz=282
HYT Haines Junctio 83.30 29 P P 05 15 06.9 +0.3
baz=282
G31M Satah River 83.31 23 P P 05 15 06.9 +0.6
baz=284
N30M Aishikik Lake 83.36 29 P P 05 15 06.4 -0.4
baz=282
F31M Tsiigehtchic 83.38 22 P P 05 15 06.5 0.0
baz=285
P29M Windy Craggy 83.44 31 P P 05 15 07.6 +0.4
baz=282
H31M Peel River 83.56 24 P P 05 15 07.3 -0.3
baz=284
MMAI Mount Meron Ar 83.56 302 P P 05 15 07.8 -0.5
comp=Z,0.7nm,0.3s,baz=78,slow=4.4,SNR=4.9
MMAI pP **pP 05 15 21.4 -1.3**
comp=Z,3.2nm,0.6s,baz=48,slow=6.8,SNR=3.5
comp=Z,0.7nm,0.3s
P30M Million Dollar 83.72 30 P P 05 15 08.0 -0.6
baz=283
BRTR Keskin Array B 83.80 309 P P 05 15 09.3 -0.2
BRTR Keskin Array B 83.80 309 P P 05 15 08.8 -0.8
comp=Z,2.7nm,0.7s,baz=107,slow=4.2,SNR=19
BRTR pP **pP 05 15 22.2 -1.7**
comp=Z,1.2nm,0.4s,baz=143,slow=3.8,SNR=4.4
comp=Z,2.7nm,0.7s
BR104 Keskin Array S 83.81 309 P P 05 15 08.1 -1.5
comp=Z,4.2nm,0.8s
BR106 Keskin Array S 83.82 309 P P 05 15 08.9 -0.7
comp=Z,3.8nm,0.8s,comp=Z,34nm
BR105 Keskin Array S 83.82 309 P P 05 15 08.8 -0.9
comp=Z,5.0nm,0.8s,comp=Z,39nm
N31M Braeburn, Yuko 83.97 28 P P 05 15 10.3 +0.4
baz=284,SNR=6.0
O30N Mendenhall 83.99 29 P P 05 15 10.0 +0.1
baz=283
FINES FINESS Array B 84.08 332 P P 05 15 10.0 -0.3
FINES FINESS Array B 84.08 332 P P 05 15 09.6 -0.7
comp=Z,14nm,0.9s,baz=116,slow=8.7,SNR=16
FINES pP **pP 05 15 23.2 -1.4**
comp=Z,8.0nm,0.7s,baz=108,slow=4.8,SNR=6.3
FINES LR LR 05 57 20.4
comp=Z,110nm,18.0s,baz=246,slow=39
comp=Z,14nm,0.9s
PLBC Pleasant Camp 84.16 31 P P 05 15 10.7 -0.1
baz=283
M31M Drury Creek, Y 84.44 28 P P 05 15 12.1 0.0
baz=285
S31K Pelican 84.57 32 P P 05 15 12.7 -0.1
baz=284
WHY Whitehorse 84.59 29 P P 05 15 14.3 +1.3
WHY IAmb IAmb 05 15 15.5
comp=Z,11nm,0.9s
WHY Whitehorse 84.59 29 P P 05 15 13.4 +0.3
baz=284,SNR=12
TRO Tromso 84.61 340 eP P 05 15 12.4 -0.4
SKAG Skagway 84.67 30 P P 05 15 13.5 +0.2
baz=284
AK09 Malin Array Si 84.74 320 P P 05 15 13.1 -0.8
AK08 Malin Array Si 84.76 321 P P 05 15 12.9 -1.0
AK03 Malin Array Si 84.76 321 P P 05 15 12.7 -1.2
AKASG Malin Array Be 84.76 321 P P 05 15 12.9 -1.1
comp=Z,9.9nm,0.8s,baz=65,slow=4.8,SNR=6.2
AKASG pP **pP 05 15 25.9 -2.4**
comp=Z,6.8nm,0.7s,baz=65,slow=4.1,SNR=11
comp=Z,9.9nm,0.8s
AKBB Malin Array Si 84.76 321 P P 05 15 12.9 -1.1
AK10 Malin Array Si 84.77 320 P P 05 15 13.0 -1.0
AK01 Malin Array Si 84.77 321 P P 05 15 12.9 -1.1
KIEV Kiev 84.77 321 ⇑P P 05 15 12.9 -1.1
KIEV Kiev 84.77 321 P P 05 15 12.9 -1.1
comp=Z,82nm,1.2s
AK02 Malin Array Si 84.78 321 P P 05 15 12.8 -1.3
AK05 Malin Array Si 84.79 320 P P 05 15 13.1 -1.0
AK04 Malin Array Si 84.79 321 P P 05 15 13.1 -1.0
AK11 Malin Array Si 84.80 321 P P 05 15 12.8 -1.4
AK07 Malin Array Si 84.81 320 P P 05 15 13.1 -1.1
AK23 Malin Array Si 84.81 321 P P 05 15 13.3 -0.9
AK12 Malin Array Si 84.82 321 P P 05 15 13.1 -1.1
AK22 Malin Array Si 84.84 321 P P 05 15 13.2 -1.2
AK14 Malin Array Si 84.85 321 P P 05 15 13.2 -1.2
AK18 Malin Array Si 84.86 321 P P 05 15 13.3 -1.1
AK21 Malin Array Si 84.86 321 P P 05 15 13.3 -1.2
AK13 Malin Array Si 84.88 321 P P 05 15 13.5 -1.1
AK20 Malin Array Si 84.89 321 P P 05 15 13.4 -1.2
AK19 Malin Array Si 84.89 321 P P 05 15 13.6 -1.0
CSS Mathiatis 84.91 305 P P 05 15 14.9 -0.2
CSS Mathiatis 84.91 305 P P 05 15 14.4 -0.7
comp=Z,51nm,0.8s,comp=Z,451nm
BAL3X Bal3x, Balta 85.10 318 P P 05 15 15.0 -0.7
PURM Purcari 85.21 316 P P 05 15 15.7 -0.6
comp=Z,47nm,0.6s,comp=Z,5μm
N32M Quiet Lake 85.31 28 P P 05 15 17.0 +0.4
baz=286,SNR=7.9
R32K Eaglecrest 85.37 31 P P 05 15 17.1 +0.2
baz=285
MI30 MI30,Zelenitsa 85.39 321 P P 05 15 16.2 -0.9
P32M Atlin 85.43 30 P P 05 15 17.0 -0.2
baz=285
S32K Kilisnoo 85.55 32 P P 05 15 17.6 -0.1
baz=285
MI29 MI29, Kamyanyy 85.68 320 P P 05 15 17.8 -0.8
P33M Teslin, Yukon 85.70 29 P P 05 15 18.2 -0.4
baz=286
LUBAR Lubar, Ukraine 85.85 320 P P 05 15 18.4 -1.0
SORM Soroca 85.88 318 ⇑P P 05 15 18.5 -1.1
SORM Soroca 85.88 318 P P 05 15 18.2 -1.4
comp=Z,21nm,0.9s
C36M Paulatuk 86.14 19 P P 05 15 20.5 0.0
baz=293
STEI Steigen 86.48 339 eP P 05 15 20.7 -1.5
RNPP9 Sopachiv 86.64 322 P P 05 15 22.7 -0.6
FAUS Fauske 86.68 339 eP P 05 15 21.0 -2.1
CFR Carcaliu 86.69 315 ⇓P P 05 15 23.3 -0.4
RNPP5 Staryi Chortor 86.69 322 P P 05 15 22.7 -0.8
R33M Jennings River 86.83 30 P P 05 15 23.8 -0.5
baz=288
TESR Tescani 87.38 317 ⇑P P 05 15 26.5 -0.5
TESR Tescani 87.38 317 P P 05 15 25.9 -1.1
comp=Z,20nm,1.2s
MOR8 Moi Rana 87.47 338 eP P 05 15 24.8 -2.2
PLOR5 Plostina Array 87.54 316 P P 05 15 26.9 -0.9
comp=Z,9.8nm,1.1s
PLOR3 Plostina Array 87.55 316 P P 05 15 26.8 -1.1
V35K Ketchikan 87.73 34 P P 05 15 28.4 0.0
baz=287
BURAR Bucovina Array 88.05 318 ⇑P P 05 15 30.0 -0.4
BURAR Bucovina Array 88.05 318 P P 05 15 29.6 -0.8
BURAR IAmb IAmb 05 15 30.8
comp=Z,4.9nm,0.7s
BUR08 Bucovina Ar. S 88.05 318 P P 05 15 29.8 -0.5
BUR08 IAmb IAmb 05 15 31.0
comp=Z,5.5nm,0.8s
MLR Muntele Rosu 88.11 316 ⇑P P 05 15 29.9 -0.9
MLR Muntele Rosu 88.11 316 LR LR 05 59 38.1
comp=Z,105nm,21.4s,baz=328,slow=39
PPT2 Papeete2 88.98 108 eLR LR 05 44 01.1
comp=Z,91nm,30.8s
MARR Marisel-Cluj 89.69 318 ⇓P P 05 15 38.0 -0.1
DRGR 89.92 318 ⇑P P 05 15 38.4 -0.7
CRVS Cervenica-Dubn 90.08 320 eP P 05 15 39.8 +0.1
CRVS epP **pP 05 15 53.1 -1.1**
HFS Hagfors 90.25 332 P P 05 15 39.1 -1.1
comp=Z,3.8nm,0.8s,baz=95,slow=3.3,SNR=9.9
HFS pP **pP 05 15 51.9 -2.7**
comp=Z,3.6nm,0.8s,baz=95,slow=3.7,SNR=5.1
comp=Z,3.8nm,0.8s
SIRR Siria 90.77 318 ⇓P P 05 15 42.8 -0.2
NB2 NORSAR Subarra 90.96 334 P P 05 15 41.7 -1.9
comp=Z,2.9nm,0.8s,baz=63,slow=4.6
NB2 NORSAR Subarra 90.96 334 P P 05 15 41.7 -1.9
baz=63,slow=4.6
NOA NORSAR Array B 90.96 334 P P 05 15 42.0 -1.6
comp=Z,2.6nm,0.7s,baz=63,slow=4.7,SNR=19
NOA pP **pP 05 15 55.0 -3.0**
comp=Z,2.4nm,0.8s,baz=64,slow=4.6,SNR=7.6
comp=Z,2.6nm,0.7s
NC204 NORSAR Array S 91.05 334 P P 05 15 43.0 -1.0
VNDA Vanda 91.56 173 P P 05 15 45.5 -0.3
comp=Z,3.8nm,1.0s,baz=316,slow=6.4,SNR=18
VNDA pP **pP 05 15 58.7 -1.6**
comp=Z,4.0nm,0.9s,baz=296,slow=3.4,SNR=7.4
comp=Z,3.8nm,1.0s
IDI Anoyia 91.57 306 LR LR 06 03 29.3
comp=Z,89nm,19.7s,baz=296,slow=40
SKAR Skarslia 92.39 334 eP P 05 15 50.1 -0.1
YKA Yellowknife Ar 92.77 24 P P 05 15 52.1 +0.3
comp=Z,1.0nm,0.9s,baz=298,slow=4.9,SNR=9.2
comp=Z,1.0nm,0.9s
RONA Rosalia, Austr 93.74 320 eP P 05 15 56.8 +0.1
comp=Z,1.0nm,0.4s
CONA Conrad Observa 93.92 321 iP P 05 15 57.3 -0.3
comp=Z,0.3nm,0.3s
KMY Karmoy 94.46 333 eP P 05 15 59.6 -0.1
GERES GERESS Array B 94.89 322 P P 05 16 01.6 -0.4
comp=Z,0.9nm,0.7s,baz=92,slow=8.0,SNR=4.5
comp=Z,0.9nm,0.7s
MOA Molln 94.94 321 iP P 05 16 02.0 -0.2
comp=Z,3.1nm,0.7s
OBKA Obir 95.29 320 eP P 05 16 03.0 -1.0
comp=Z,1.7nm,0.6s
LESA Schwarzleotal 96.10 321 eP P 05 16 06.6 -1.0
comp=Z,1.0nm,0.4s
ABTA Abfaltersbach 96.48 320 iP P 05 16 07.7 -1.7
comp=Z,1.5nm,0.6s
WTTA Wattenberg 96.81 321 iP P 05 16 09.5 -1.4
comp=Z,1.9nm,0.6s
WATA Walderalm 96.81 321 iP P 05 16 09.5 -1.4
comp=Z,0.5nm,0.2s
SQTA Sankt Quirin 97.09 321 iP P 05 16 10.9 -1.2
comp=Z,0.9nm,0.4s
MOTA Moosalm 97.10 321 iP P 05 16 11.0 -1.2
comp=Z,1.5nm,0.6s
FETA Feichten 97.47 321 eP P 05 16 13.1 -0.8
comp=Z,1.9nm,0.8s
FUORN Ofenpass-Fuorn 97.93 321 P P 05 16 15.7 -0.4
FUORN IAmb IAmb 05 16 16.7
comp=Z,3.1nm,0.8s
NEW Newport 98.75 37 P P 05 16 18.7 -0.7
baz=299
GMRC Granite Mounta 106.04 48 P PKiKP 05 21 03.1 -1.2
baz=297
IKP In-Ko-Pah, Jac 106.66 51 P PKiKP 05 21 07.9 +2.4
baz=296
IRM Iron Mountain 106.71 49 P PKiKP 05 21 06.9 +1.4
baz=297
SWSC Sam W. Stewart 106.77 50 P PKiKP 05 21 03.9 -1.6
baz=297
K22A Casper 108.04 38 P PKiKP 05 21 06.7 -1.2
baz=306
O20A White River Ci 108.42 41 P PKiKP 05 21 10.0 +1.3
baz=304
MDND Maddock 108.50 30 P PKiKP 05 21 09.6 +1.2
baz=313
RSSD Black Hills 108.60 35 P PKiKP 05 21 10.8 +1.9
baz=309
WUAZ Wupatki 108.77 46 P PKiKP 05 21 11.2 +1.8
baz=300
N23A Red Feather La 109.43 39 P PKiKP 05 21 12.9 +2.3
baz=306
214A Organ Pipe Nat 109.46 50 P PKiKP 05 21 13.6 +2.9
baz=298
MVCO Mesa Verde 109.87 43 P PKiKP 05 21 14.3 +2.8
baz=303
AGMN Agassiz Nation 109.96 28 P PKiKP 05 21 12.3 +1.2
baz=317
W18A Petrified Fore 110.13 46 P PKiKP 05 21 12.7 +0.7
baz=302
S22A 4UR Ranch, Cre 110.68 42 P PKiKP 05 21 13.7 +0.6
baz=304
TUC Tucson 110.80 49 P PKiKP 05 21 14.5 +1.3
baz=300
Q24A Divide 111.05 40 P PKiKP 05 21 16.0 +2.2
baz=306
SUSD Miller 111.16 32 P PKiKP 05 21 15.6 +2.1
baz=313
SDCO Great Sand Dun 111.54 41 P PKiKP 05 21 15.9 +1.1
baz=306
T25A Trinidad 112.60 41 P PKiKP 05 21 18.9 +2.2
baz=306
121A Cookes Peak, D 112.86 47 P PKiKP 05 21 20.5 +3.2
baz=302
ECSD EROS Data Cent 112.86 32 P PKiKP 05 21 19.9 +3.1
baz=315
SPMN Marine on St. 113.65 28 P PKiKP 05 21 21.9 +3.7
baz=319
MNTX Cornudas Mount 115.03 47 P PKiKP 05 21 17.4 -3.8
baz=304
MSTX Muleshoe 115.54 43 P PKiKP 05 21 21.7 -0.5
baz=306
AMTX Amarillo 115.72 42 P PKiKP 05 21 20.3 -2.3
baz=308
SCIA State Center 115.91 31 P PKiKP 05 21 20.8 -1.8
baz=318
KSU1 Kansas State U 116.09 35 P PKiKP 05 21 21.9 -1.2
baz=314
JFWS Jewell Farm 116.60 29 P PKPdf 05 21 22.8 -1.1
baz=321
TXAR Lajitas Array 117.56 48 PKP **PKPdf 05 21 26.1 -0.1**
comp=Z,1.1nm,0.6s,baz=243,slow=0.8,SNR=20
TXAR pPKP **pPKPdf 05 21 39.2 -2.0**
comp=Z,0.7nm,0.5s,baz=354,slow=0.6,SNR=8.4
WMOK Wichita Mounta 117.67 40 P PKPdf 05 21 25.7 -0.6
baz=310
L44A Lake County Fo 118.25 27 P PKPdf 05 21 27.0 0.0
baz=323
ABTX Abilene, Hawle 118.44 43 P PKPdf 05 21 26.5 -1.3
baz=308
TUL3 Leonard 118.74 37 P PKPdf 05 21 26.5 -1.7
baz=313
TORD Torodi Ar. Bea 118.78 292 PKP **PKPdf 05 21 27.2 -1.6**
comp=Z,0.6nm,0.9s,baz=2.9,slow=2.9,SNR=1.9
HDIL Hopedale 118.87 30 P PKPdf 05 21 25.5 -2.9
baz=321
JCT Junction City 119.64 45 P PKPdf 05 21 28.5 -1.7
baz=307
CCM Cathedral Cave 119.78 33 P PKPdf 05 21 28.9 -1.2
baz=318
SFIN Lafayette 120.05 28 P PKPdf 05 21 30.1 -0.5
baz=323
WHTX Lake Whitney, 120.28 42 P PKPdf 05 21 30.2 -1.1
baz=310
435B Jarrell 120.96 43 P PKPdf 05 21 31.5 -1.1
baz=309
MIAR Mount Ida 120.99 37 P PKPdf 05 21 31.8 -0.8
baz=314
O48B Farmland 121.03 27 P PKPdf 05 21 31.3 -1.2
baz=325
LONY Lake Ozonia 121.03 16 P PKPdf 05 21 31.9 -0.5
baz=337
833A Chaparral WMA, 121.21 46 P PKPdf 05 21 31.8 -1.4
baz=307
ERPA Erie 121.55 22 P PKPdf 05 21 32.2 -1.2
baz=331
PKME Peaks-Kenny Pk 121.70 12 P PKPdf 05 21 33.9 +0.3
baz=343
M53A WI Miller and 121.88 23 P PKPdf 05 21 33.1 -1.0
baz=330
ACSO Alum Creek Sta 121.98 25 P PKPdf 05 21 34.4 0.0
baz=327
WCI Wyandotte Cave 122.14 29 P PKPdf 05 21 34.3 -0.3
baz=323
NATX Nacogdoches 122.23 40 P PKPdf 05 21 34.0 -1.0
baz=312
O53A New Philadelph 122.69 24 P PKPdf 05 21 35.7 0.0
baz=329
BINY Binghamton 122.83 19 P PKPdf 05 21 35.8 -0.1
baz=335
P52A Corning 122.84 25 P PKPdf 05 21 35.5 -0.5
baz=328
WVT Waverly 123.02 32 P PKPdf 05 21 35.1 -1.3
baz=321
OXF Oxford 123.40 34 P PKPdf 05 21 37.3 +0.1
baz=318
L61B Northampton 123.56 16 P PKPdf 05 21 37.2 -0.1
baz=339
SSPA Standing Stone 123.60 21 P PKPdf 05 21 37.0 -0.5
baz=333
MCWV Mont Chateau 123.73 23 P PKPdf 05 21 37.4 -0.4
baz=330
HRV Adam Dziewonsk 123.80 15 P PKPdf 05 21 37.6 -0.2
baz=340
PAL Palisades 124.55 18 P PKPdf 05 21 39.3 +0.1
baz=337
TZTN Tazewell 124.78 28 P PKPdf 05 21 39.8 0.0
baz=325
BLA Blacksburg 125.60 25 P PKPdf 05 21 41.2 -0.3
baz=329
LRAL Lakeview Retre 125.83 34 P PKPdf 05 21 42.1 +0.2
baz=320
CBN Corbin Frederi 125.94 22 P PKPdf 05 21 42.2 +0.3
baz=332
KMSC Kings Mountain 126.95 27 P PKPdf 05 21 44.4 +0.4
baz=327
BRAL Brewton 127.21 35 P PKPdf 05 21 44.9 +0.3
baz=319
GOGA Godfrey 127.36 30 P PKPdf 05 21 44.8 -0.1
baz=324
TIGA Tifton 128.87 32 P PKPdf 05 21 48.2 +0.4
baz=323
NHSC New Hope 129.18 28 P PKPdf 05 21 49.1 +0.8
baz=327
DWPF Disney Wildern 132.65 33 P PKPdf 05 21 55.9 +0.9
baz=323
PLCA Paso Flores 147.99 157 PKPbc **PKPbc 05 22 25.0 -0.4**
comp=Z,6.7nm,0.8s,baz=234,slow=2.7,SNR=13
CPUP Villa Florida 165.34 171 PKPab **PKPab 05 23 42.0 -0.3**
comp=Z,2.1nm,1.0s,baz=89,slow=0.5,SNR=4.4
LPAZ La Paz 166.26 110 PKP **PKPdf 05 22 45.1 -1.4**
comp=Z,1.0nm,1.0s,baz=355,slow=7.3,SNR=2.7
LPAZ PKPab **PKPab 05 23 48.2 +0.5**
comp=Z,1.2nm,0.8s,baz=192,slow=1.7,SNR=4.8
BDFB Brasilia 172.43 239 PKPab **PKPab 05 24 13.3 -1.0**
comp=Z,0.6nm,0.3s,baz=164,slow=7.7,SNR=3.3

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*IDC **01** 05:03:35.3±0.7, 18°.93N×105°.33W, h0km, mb4.2/16, mbtmp4.2/20, ML3.9/4, MS3.9/47, Error ellipse: s-maj=19.5km s-min=13.2km az=55.0*

*NEIC **01** 05:03:37.6±1.8, 18°.94N±0°.09×105°.33W±0°.08, h10km±1km, mb4.7/71, Error ellipse: s-maj=15.2km s-min=11.5km az=202.0*

*GCMT **01** 05:03:40.6±0.3, 19°.15N±0°.01×105°.30W±0°.02, h25km±1km, MW5.0/94, Moment Tensor Solution. s48,c58; s94,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.15±.11; $M_{\theta\theta}$=-1.93±.09; $M_{\phi\phi}$=2.08±.09; $M_{r\theta}$=0.46±.21; $M_{r\phi}$=-2.90±.09; $M_{\theta\phi}$=0.89±.19; Best double couple: M_0=3.66600×10^{16} NP1:ϕ_s=197.00000°, δ=87.00000°, λ=-16.00000°. NP2: ϕ_s=288.00000°, δ=74.00000°, λ=-177.00000°. Principal axes: T 3.6880, Plg9.0000°, Azm243.0000°; N -0.0450, Plg74.0000°, Azm6.0000°; P -3.6440, Plg13.0000°, Azm151.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MEX **01** 05:03:40.0±1.3, 19°.08N×105°.26W, h16km±999km, MD4.8*

ISC 01 05:03:35.8±1.4, 18°.92N±0°.04×105°.18W±0°.03, h4km±8km, n636, σ1§64/647, mb4.6/46, MS4.0/44, 1D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIHU	**Emiliano Zapat**	**0.54**	**150**	*i* P	**Pb**	**05 03 48.0**	**0.0**
CIHU				*i* S	**Sb**	**05 03 55.5**	**-0.6**
CJM	**Chamela**	**0.59**	**12**	*i* P	**Pg**	**05 03 47.3**	**0.0**
CJM				*e*S	**Sg**	**05 03 53.9**	**-1.1**
CDAR	**Ciudad de Arme**	**1.10**	**89**	*i* P	**Pg**	**05 03 57.4**	**+0.3**
CDAR				*i* S	**Sg**	**05 04 11.3**	**-0.1**
CEGR	**Campo Tres**	**1.33**	**69**	*i* P	**Pn**	**05 04 01.0**	**-0.4**
CEGR				*e*S	**Sg**	**05 04 13.9**	**-4.9**
COIG	**Colima**	**1.43**	**79**	*i* P	**Pn**	**05 04 02.3**	**-0.3**
COIG				*e*S	**Sb**	**05 04 20.0**	**-1.8**
MNGA	**Volcan de Coli**	**1.57**	**69**	*i* P	**Pn**	**05 04 05.2**	**+0.5**
MNGA				*e*S	**Sn**	**05 04 26.7**	**+1.0**
SOMAC	**Volcano de Col**	**1.58**	**67**	*i* P	**Pn**	**05 04 05.4**	**+0.4**

SOMAC eS Sn 05 04 26.2 0.0
INCO Volcan de Coli 1.60 68 *i* P Pn 05 04 05.8 +0.4
INCO *i* S Sg 05 04 29.2 +1.7
JUBC Volcan de Coli 1.63 68 *i* P Pn 05 04 06.3 +0.7
JUBC eS Sn 05 04 26.6 -0.6
PUVA Puert Vallarta 1.70 359 *eP* Pn 05 04 04.2 -2.1
PUVA *i* S Sn 05 04 23.6 -4.9
MMIG Aquila 1.85 109 *eP* Pn 05 04 08.3 0.0
MMIG *i* S Sn 05 04 31.2 -0.9
ANIG Ahuacatlan 2.21 16 *eP* Pn 05 04 11.9 -1.6
ANIG *i* S Sn 05 04 39.6 -1.8
TON2 Tonala 2.50 47 *eP* Pn 05 04 15.4 -2.0
TON2 *i* S Sb 05 04 51.1 -1.5
TEPI Tepic 2.60 5 *eP* Pb 05 04 22.4 -0.8
TEPI *i* S Sn 05 04 51.2 +0.1
UON La Union 3.33 106 *i* P Pb 05 04 33.3 -2.1
UON *i* S Sn 05 05 08.3 -0.4
ZIIG Zihuatanejo 3.76 110 *eP* Pn 05 04 36.6 +2.0
ZIIG eS Sn 05 05 16.9 -2.5
MOIG Morelia 3.84 78 Pn 05 04 37.6 +1.6
MOIG Morelia 3.84 78 *eP* Pn 05 04 37.8 +1.8
MOIG eS Sn 05 05 15.4 -6.3
PET2 Petatlan 3.97 110 *i* P Pn 05 04 40.3 +2.8
PET2 eS Sn 05 05 21.5 -3.0
AAIG Aguscalientes 4.01 40 *eP* Pn 05 04 38.3 0.0
AAIG eS Sn 05 05 26.2 +0.2
MAIG Mazatlaan 4.41 345 *eP* Pn 05 04 41.0 -2.5
MAIG eS Sn 05 05 25.1 -10
ZAIG Zacatecas 4.54 32 Pn Pn 05 04 46.9 +1.1
ZAIG Zacatecas 4.54 32 *eP* Pn 05 04 46.2 +0.5
ZAIG eS Sn 05 05 36.3 -2.9
ARIG Puente Sto Nin 4.62 97 *eP* Pn 05 04 48.7 +2.1
ARIG eS Sn 05 05 40.8 0.0
JRQG Juriquilla Cam 4.79 67 Pn 05 04 51.4 +2.3
CAIG El Cayaco 5.03 111 *eP* Pn 05 04 54.9 +2.8
CAIG eS Sn 05 05 50.3 -0.4
ACIG Acambay 5.11 77 *eP* Pn 05 04 55.4 +2.0
ACIG eS Sb 05 06 08.8 +1.0
TOVM TOLUCA 5.21 85 *eP* Pn 05 04 58.7 +3.8
TOVM eS Sn 05 06 02.1 +6.4
MEIG Mezcala 5.37 100 *eP* Pn 05 04 59.9 +3.1
MEIG eS Sn 05 05 59.3 +0.1
MAVM Malinalco, Edo 5.38 89 *i* P Pn 05 04 59.8 +2.7
MAVM eS Sn 05 06 01.3 +1.6
PLIG Platanillo 5.41 95 *eP* Pn 05 05 00.6 +3.2
PLIG eS Sn 05 05 59.2 -0.9
H06E1 SOCORRO T-PHAS 5.45 269 Pn Pn 05 04 55.9 -2.0
H06E1 Sn Sn 05 05 50.2 -11
H06E1 T T 05 10 48.4
SNR=68
H06S1 SOCORRO T 5.48 269 T T 05 10 47.6
SNR=8.4
INVM La Marquesa 5.49 85 *eP* Pn 05 04 59.7 +0.8
H06N1 SOCORRO T-PHAS 5.50 270 Pn Pn 05 04 57.2 -1.4
H06N1 T T 05 10 47.0
SNR=23
AOVM Tlapan 5.55 85 *eP* Pn 05 05 02.8 +3.1
AOVM eS Sb 05 06 21.4 +0.7
DAIG Los Arroyos 5.59 109 *eP* Pn 05 05 02.9 +3.1
DAIG *i* S Sn 05 06 02.5 -2.1
CJVM Cuajimalpa 5.59 85 *eP* Pn 05 05 01.9 +1.8
CJVM eS Sn 05 06 11.6 +6.7
UNM Universidad Na 5.69 85 Pn Pn 05 05 04.8 +3.4
BJVM Benito Juarez 5.70 84 *eP* Pn 05 05 04.2 +2.7
BJVM eS Sn 05 06 13.5 +5.9
RPIG Rio Verde 5.70 58 *i* P Pn 05 05 03.4 +2.0
RPIG *i* S Sn 05 06 14.7 +7.4
TLVM San Miguel Top 5.70 86 *i* P Pn 05 05 05.6 +3.9
TLVM eS Sn 05 06 14.2 +6.3
XCVM Xochimilco 5.74 86 *eP* Pn 05 05 06.5 +4.4
XCVM ⇓*eS* Sb 05 06 23.3 -2.8
XCVM eS Sn 05 06 23.7 +15
VRVM Mexico City 5.75 84 *i* P Pn 05 05 06.1 +3.8
VRVM eS Sn 05 06 10.0 +1.1
PBVM Pinon 5.78 84 *i* P Pn 05 05 04.3 +1.8
PBVM eS Sn 05 06 10.3 +1.1
YAIG Yautepec 5.79 90 *eP* Pn 05 05 06.4 +3.7
YAIG eS Sn 05 06 11.4 +1.9
MPVM San Francisco 5.84 86 *eP* Pn 05 05 08.6 +5.1
MPVM eS Sn 05 06 11.1 0.0
THVM De Xico 5.88 85 *i* P Pn 05 05 06.2 +2.1
THVM eS Sn 05 06 13.8 +1.8
DEIG Demacu 5.95 76 *i* P Pn 05 05 07.2 +2.2
DEIG eS Sn 05 06 13.8 -0.1
PDIG Papasquiaro 6.10 358 *eP* Pn 05 05 07.5 +0.5
PDIG eS Sn 05 06 08.2 -9.1
VTVM Tizayuca 6.11 81 *eP* Pn 05 05 09.0 +1.8
SSIG Sanalona 6.15 343 *i* P Pn 05 05 07.0 -0.5
SSIG *i* S Sn 05 06 11.9 -6.5
CRIG Cruz Grande 6.15 110 *eP* Pn 05 05 10.9 +3.3
CRIG eS Sn 05 06 12.6 -5.9
TLIG Tlapa 6.42 101 Pn Pn 05 05 14.8 +3.3
TLIG Tlapa 6.42 101 *eP* Pn 05 05 15.1 +3.7
TLIG eS Sn 05 06 22.2 -3.1
MGIG Malinaltepec 6.45 104 *eP* Pn 05 05 15.7 +3.9
MGIG eS Sn 05 06 25.4 -0.5
FTIG Fresnillo de T 6.76 97 *eP* Pn 05 05 19.8 +3.7
FTIG eS Sn 05 06 32.5 -1.1
CTUV Llano Grande 6.89 67 *i* P Pn 05 05 19.7 +1.9
GTIG Gomez Farias 6.97 53 *eP* Pn 05 05 20.3 +1.5
GTIG eS Sn 05 06 38.2 -0.3
HLIG Huajuapan de L 7.08 98 *eP* Pn 05 05 24.0 +3.5
HLIG eS Sn 05 06 38.8 -2.9
PNIG Pinotepa 7.17 109 *eP* Pn 05 05 25.3 +3.7
PNIG *i* S Sn 05 06 39.6 -4.1
TXIG Tlaxiaco 7.24 102 *i* P Pn 05 05 26.3 +3.6
TXIG eS Sn 05 06 43.5 -2.2
CXUV Coxquihui 7.26 79 *i* P Pn 05 05 27.0 +4.1
TPIG Tehuac#an 7.42 93 *eP* Pn 05 05 29.3 +4.1
TPIG eS Sn 05 06 45.7 -4.3
YOIG Yosondua 7.55 105 *i* P Pn 05 05 31.1 +4.0
YOIG eS Sn 05 06 49.3 -4.0
TSIG Topolobambo 7.55 332 *i* P Pn 05 05 28.0 +1.2
TSIG eS Sn 05 06 51.8 -1.0
TOIG Toxpalan 7.74 95 *eP* Pn 05 05 33.5 +4.0
JAUV Jalcomulco 7.93 85 *i* P Pn 05 05 35.9 +3.9
LNIG Linares 7.97 41 *eP* Pn 05 05 32.5 0.0
LNIG eS Sn 05 07 04.4 +1.2
HPIG 7.99 357 Pn 05 05 34.4 +1.4
HPIG 7.99 357 *eP* Pn 05 05 37.8 +4.8
MNIG Monterrey 8.05 33 *eP* Pn 05 05 34.4 +0.7
MNIG eS Sn 05 07 04.5 -0.8
PEIG Puerto Escondi 8.19 110 *eP* Pn 05 05 39.8 +4.1
PEIG eS Sn 05 07 02.2 -6.6
VHO Vista Hermosa 8.24 102 *i* P Pn 05 05 40.8 +4.4
VHO eS Sn 05 07 09.9 -0.2
LVIG Laguna Verde 8.31 83 *eP* Pn 05 05 37.7 +0.5
LVIG eS Sn 05 07 12.9 +1.4
CSIG Choix 8.41 340 *i* P Pn 05 05 39.5 +1.0
CSIG eS Sn 05 07 09.0 -5.0
BCIG La Boquilla 8.59 359 *eP* Pn 05 05 41.6 +0.5
BCIG eS Sn 05 07 22.6 +3.9
NEUV Arroyo Zacate 8.98 96 *i* P Pn 05 05 48.9 +2.4
NEUV eS Sn 05 07 26.0 -2.2
HUIG Huatulco 9.21 108 *i* P Pn 05 05 54.3 +4.8
HUIG eS Sn 05 07 28.0 -5.7
CMIG Matias Romero 9.96 99 Pn Pn 05 06 03.5 +3.7
4.9nm,0.3s,baz=304,slow=11,SNR=50
CMIG Lg Lg 05 08 47.1
baz=360,slow=21
CMIG LR LR 05 10 34.8
comp=Z,788nm,19.8s,baz=281,slow=42
20nm,0.5s
CMIG Matias Romero 9.96 99 *eP* Pn 05 06 03.4 +3.6
CMIG eS Sn 05 07 59.8 +7.6
TX31 Lajitas Ar. Si 10.46 7 Pn Pn 05 06 08.2 +1.4
TXAR Lajitas Array 10.46 7 Pn Pn 05 06 08.4 +1.6
TXAR Lajitas Array 10.46 7 Pn Pn 05 06 08.8 +2.0
0.1nm,0.3s,baz=192,slow=13,SNR=13
TXAR Lg Lg 05 09 05.0
0.1nm,0.3s,baz=180,slow=25,SNR=4.4
1.4nm,0.9s
SRIG Santa Rosalia 10.59 323 Pn 05 06 09.6 +1.1
SRIG Santa Rosalia 10.59 323 *i* P Pn 05 06 10.9 +2.5
UXUV UXUV 10.61 97 *i* P Pn 05 06 11.6 +2.9
UXUV eS Sn 05 08 06.5 -1.6
833A Chaparral WMA, 10.76 28 Pn 05 06 12.1 +1.4
833A Chaparral WMA, 10.76 28 P Pn 05 06 10.4 -0.4
baz=211
DRIO Del Rio 11.25 21 Pn Pn 05 06 17.6 0.0

SAND Sanderson 11.34 14 Pn Pn 05 06 19.7 +1.0
HSIG 11.35 333 Pn Pn 05 06 18.5 -0.4
HSIG 11.35 333 *eP* Pn 05 06 20.7 +1.8
ALPN Alpine 11.49 7 Pn Pn 05 06 21.2 +0.2
TGIG 11.68 99 *eP* Pn 05 06 27.1 +3.7
TGIG eS Sn 05 08 36.8 +2.5
CGIG 11.68 348 *eP* Pn 05 06 27.3 +3.8
CGIG eS Sn 05 08 35.6 +1.1
VHRN Van Horn 11.82 1 Pn 05 06 27.0 +1.6
HNDO Hondo 11.85 26 Pn 05 06 26.8 +1.1
PCIG 11.86 104 *eP* Pn 05 06 30.5 +4.6
735A Kenedy 11.97 33 Pn 05 06 28.8 +1.5
JCT Junction City 12.50 22 Pn Pn 05 06 35.8 +1.2
JCT Junction City 12.50 22 P Pn 05 06 35.0 +0.3
baz=205,SNR=7.8
OZNA Ozona 12.50 16 Pn Pn 05 06 36.5 +1.9
CCIG Comitan 12.71 100 Pn 05 06 40.6 +3.0
CCIG Comitan 12.71 100 *eP* Pn 05 06 41.2 +3.6
CCIG *i* S Sn 05 09 02.4 +2.6
MNTX Cornudas Mount 12.73 359 P Pn 05 06 37.6 -0.1
baz=180
EPT El Paso 12.86 355 Pn Pn 05 06 39.9 +0.3
319A Douglas 12.95 344 Pn 05 06 40.3 -0.5
ODSA Odessa 13.36 10 Pn Pn 05 06 46.7 +0.3
SGCY Sterling City 13.45 15 Pn Pn 05 06 49.5 +1.9
BRDY Brady 13.52 23 Pn Pn 05 06 49.6 +1.1
HUEH Huehuetenango 13.55 103 Pn Pn 05 06 51.3 +2.1
435B Jarrell 13.67 29 Pn Pn 05 06 50.3 -0.2
435B Jarrell 13.67 29 P Pn 05 06 50.1 -0.5
baz=212
121A Cookes Peak, D 13.76 351 Pn Pn 05 06 52.3 +0.4
121A Cookes Peak, D 13.76 351 P Pn 05 06 52.4 +0.4
baz=170
HKT Hockley 13.89 36 Pn 05 06 53.3 -0.1
DUN6 Lazy B Ranch 14.03 346 Pn 05 06 54.5 -1.1
TUC Tucson 14.26 340 Pn 05 07 00.4 +1.7
TUC Tucson 14.26 340 P Pn 05 07 00.4 +1.7
baz=159
TUC Tucson 14.26 340 *eP* Pn 05 07 01.1 +2.4
TUC *i* S Pn 05 07 01.9 +3.2
SN05 Snyder 5 14.43 15 Pn Pn 05 07 01.3 +0.3
POST Post 14.47 12 Pn Pn 05 07 01.2 -0.4
ABTX Abilene, Hawle 14.53 19 Pn 05 07 02.8 +0.4
ABTX Abilene, Hawle 14.53 19 P Pn 05 07 03.7 +1.4
baz=202,SNR=6.6
SN07 Snyder 07 14.63 14 Pn 05 07 04.4 +0.7
PIX Pinacate 14.64 331 Pn 05 07 03.4 -0.4
214A Organ Pipe Nat 14.69 334 Pn 05 07 04.9 +0.3
214A Organ Pipe Nat 14.69 334 P Pn 05 07 06.4 +1.8
baz=151,SNR=9.3
PETF Flores 14.71 95 Pn Pn 05 07 06.4 +1.6
WHTX Lake Whitney, 14.76 27 Pn 05 07 06.2 +0.7
WHTX Lake Whitney, 14.76 27 P Pn 05 07 05.9 +0.4
baz=210
APMT Aspermont 15.05 17 Pn 05 07 08.7 -0.7
MSTX Muleshoe 15.14 8 Pn 05 07 11.0 +0.2
MSTX IAmb IAmb 05 07 18.3
comp=Z,39nm,1.1s
MSTX Muleshoe 15.14 8 P Pn 05 07 10.2 -0.5
baz=189,SNR=8.6
PLPT Palo Pinto 15.15 23 Pn 05 07 10.9 +0.2
PLPT IAmb IAmb 05 07 16.5
comp=Z,76nm,1.3s
113A Mohawk Valley, 15.80 332 Pn Pn 05 07 19.0 -0.2
113A IAmb IAmb 05 07 34.3
comp=Z,50nm,1.1s
MTO3 Montecristo 15.80 104 Pn 05 07 21.3 +1.7
NATX Nacogdoches 15.92 35 P Pn 05 07 20.7 -0.1
baz=219,SNR=9.1
TEIG Tepich 15.98 83 Pn Pn 05 07 21.9 +0.3
comp=Z,1.9nm,0.3s,baz=287,slow=1.6,SNR=12
TEIG LR LR 05 13 53.2
comp=Z,430nm,20.6s,baz=254,slow=38
comp=Z,12nm,0.7s
ANMO Albuquerque 16.01 356 P Pn 05 07 22.4 +0.3
baz=176
ANMO Albuquerque 16.01 356 Pn P 05 07 26.4 +0.7
comp=Z,0.1nm,0.3s,baz=241,slow=8.5,SNR=13
ANMO Lg Lg 05 12 02.4
baz=316,slow=16,SNR=1.7
ANMO LR LR 05 13 39.5
comp=Z,1μm,18.0s,baz=272,slow=38
AMTX Amarillo 16.20 10 P Pn 05 07 24.6 +0.1
baz=192
X16A Lo Mia Camp, P 16.41 341 P P 05 07 28.9 -1.3
Y14A Wickenburg 16.51 337 Pn Pn 05 07 28.5 0.0
GLA Glamis 16.52 330 P P 05 07 30.0 -1.3
GLA IAmb IAmb 05 07 42.9
comp=Z,66nm,1.4s
GLA Glamis 16.52 330 P P 05 07 30.0 -1.3
baz=147
CCX Cicese 16.54 323 Pn Pn 05 07 27.5 -1.1
LOOK Love County 16.62 24 Pn 05 07 29.4 -0.4
LOOK IAmb IAmb 05 08 10.1
comp=Z,57nm,1.4s
W18A Petrified Fore 16.64 347 Pn 05 07 30.9 +0.7
W18A Petrified Fore 16.64 347 P Pn 05 07 30.8 +0.7
baz=165
SMWD Samnorwood 16.71 14 Pn Pn 05 07 30.4 -0.5
WMOK Wichita Mounta 16.75 19 Pn Pn 05 07 30.2 -1.2
WMOK Wichita Mounta 16.75 19 P Pn 05 07 31.9 +0.5
baz=202,SNR=17
IKP In-Ko-Pah, Jac 16.83 326 P P 05 07 34.2 -0.6
baz=142,SNR=5.8
SWSC Sam W. Stewart 16.91 328 P P 05 07 35.1 -0.4
baz=144,SNR=7.8
X34A Smith Ranch, M 16.93 21 Pn Pn 05 07 33.2 -0.5
X34A IAmb IAmb 05 07 37.4
comp=Z,71nm,1.0s
Z38A Mt. Pleasant 16.95 31 P Pn 05 07 33.8 -0.1
Z38A IAmb IAmb 05 07 37.5
comp=Z,71nm,1.4s
BLYC Blythe 16.97 332 Pn 05 07 34.4 +0.2
BLYC IAmb IAmb 05 07 44.0
comp=Z,71nm,1.4s
TJIG Tijuana 16.97 325 *i* P P 05 07 34.9 -1.3
MONP2 Monument Peak 17.19 326 P P 05 07 39.3 +0.5
baz=142,SNR=7.6
PDMCI Parker Dam,Lak 17.28 334 P P 05 07 39.6 0.0
baz=151,SNR=7.1
BC3 Big Chuckawall 17.31 330 P P 05 07 40.4 +0.3
baz=146,SNR=20
WUAZ Wupatki 17.42 343 P P 05 07 40.7 -0.7
baz=161,SNR=24
109C Camp Elliot, M 17.55 325 P P 05 07 43.0 +0.4
baz=140
IRM Iron Mountain 17.59 332 P P 05 07 44.0 +0.9
baz=148,SNR=36
TPFO Pinon Flats 17.76 328 P P 05 07 46.0 +0.9
baz=143,SNR=24
PFO Pinyon Flats O 17.77 328 P P 05 07 45.7 +0.5
baz=143,SNR=7.6
PFO Pinyon Flats O 17.77 328 P Pn 05 07 43.4 -1.0
baz=153,slow=12,SNR=10
comp=Z,4.4nm,0.9s
TGUH Tegucigalpa,Un 17.83 103 P P 05 07 48.8 +2.8
TGUH IAmb IAmb 05 07 58.2
comp=Z,90nm,1.5s
BELC Belle Mtn. Jos 17.86 329 P P 05 07 47.0 +0.9
baz=145,SNR=12
W13A Hualapai Mount 17.87 336 P P 05 07 46.9 +0.5
NEE2 Needles Airpor 17.88 334 P Pn 05 07 45.3 -0.2
baz=150
Z41A Richland Creek 18.07 35 P Pn 05 07 46.7 -1.2
Z41A IAmb IAmb 05 08 09.9
comp=Z,46nm,1.2s
MURC Murrieta 18.14 326 P P 05 07 50.1 +0.9
baz=141
T25A Trinidad 18.17 2 P Pn 05 07 49.3 0.0
T25A Trinidad 18.17 2 P Pn 05 07 48.5 -0.8
baz=183
U32A Winter Ranch, 18.23 16 Pn 05 07 49.1 -0.7
U32A IAmb IAmb 05 07 50.8
comp=Z,30nm,0.8s
WLAR White Oak Lake 18.23 34 P Pn 05 07 49.1 -0.8
WLAR IAmb IAmb 05 07 56.9
comp=Z,50nm,1.1s
GMRC Granite Mounta 18.34 332 P P 05 07 51.9 +0.4
baz=147,SNR=18
SCI2 San Clemente I 18.43 322 P P 05 07 53.7 +1.4
baz=137
MVCO Mesa Verde 18.46 352 P P 05 07 53.6 +0.8
baz=170,SNR=8.9
BBRC Big Bear Solar 18.52 328 P Pn 05 07 53.7 +0.1
baz=143

CIS Catalina Islan 18.66 323 P Pn 05 07 55.1 -0.1
baz=138
MIAR Mount Ida 18.67 31 P Pn 05 07 55.4 +0.2
baz=217
VBMS Vicksburg 18.69 42 P P 05 07 55.3 +0.2
baz=229
HEC Hector,Ludlow 18.69 330 P Pn 05 07 56.1 +0.5
baz=146
SDCO Great Sand Dun 18.76 359 P Pn 05 07 56.5 -0.1
baz=180
S22A 4UR Ranch, Cre 18.82 356 P Pn 05 07 58.4 +1.1
baz=176,SNR=13
FMP Fort Macarthur 18.82 324 P Pn 05 07 57.4 +0.3
baz=139
TUL3 Leonard 18.85 24 P P 05 07 56.0 -0.8
baz=209,SNR=22
BFSC Mount Baldy Ra 18.88 326 P Pn 05 07 57.5 -0.4
baz=141
TUQ Turquoise Moun 19.01 332 P Pn 05 08 00.6 +1.2
baz=148
SNCC San Nicolas Is 19.20 321 P Pn 05 08 02.6 +1.0
baz=135
DECC Green Verdugo 19.25 325 P Pn 05 08 01.9 -0.4
baz=140
GSC Goldstone, Bar 19.30 330 P Pn 05 08 03.4 +0.5
baz=145,SNR=12
SHOC Shoshone, Teco 19.55 332 P Pn 05 08 06.4 +0.5
baz=148
EDW2 Edwards Air Fo 19.55 327 P Pn 05 08 05.0 -0.9
baz=142
SCZ2 Santa Cruz Isl 19.79 322 P Pn 05 08 07.7 -1.0
baz=136
LRMC Laurel Mtn Rad 19.86 329 P Pn 05 08 09.1 -0.6
baz=143,SNR=6.2
Q24A Divide 19.98 0 P P 05 08 09.9 +0.4
baz=180
KSCO Kaye Shedlock' 20.15 6 P P 05 08 12.0 +0.8
baz=187
SBC Santa Barbara 20.16 323 P Pn 05 08 12.8 -0.2
baz=137
ARVC Arvin 20.18 326 P Pn 05 08 12.6 -0.7
baz=140,SNR=5.3
MPMC Manual Prospec 20.24 330 P P 05 08 12.9 +0.6
baz=145,SNR=22
FURC Furnace Creek, 20.29 332 P Pn 05 08 14.1 -0.4
baz=147,SNR=11
CBKS Cedar Bluff 20.38 12 P P 05 08 13.3 -0.4
baz=195
ISA Isabella, Lake 20.41 328 P Pn 05 08 15.3 -0.7
baz=142,SNR=5.4
BRAL Brewton 20.42 50 P P 05 08 13.7 -0.4
baz=238
TPNV Topopah Spring 20.43 334 P Pn 05 08 16.1 -0.2
baz=149,SNR=24
PKM Mcpherson Peak 20.54 324 P Pn 05 08 16.6 -1.1
baz=137,SNR=5.5
TCRU Three Creeks R 20.62 344 P Pn 05 08 18.0 -0.7
TCRU IAmb IAmb 05 08 42.5
comp=Z,27nm,1.1s
CWC Cottonwood Cre 20.83 330 P Pn 05 08 20.3 -0.7
baz=144
VES Vestal, Richgr 20.86 327 P Pn 05 08 20.3 -1.0
baz=141,SNR=6.6
OXF Oxford 20.92 39 P P 05 08 18.0 -1.5
baz=226,SNR=8.5
GRAC Grapevine Rang 20.95 332 P Pn 05 08 20.9 -1.4
baz=146
SMMC Simmler 20.95 324 P Pn 05 08 20.9 -1.5
baz=138
P17A Butcher Ranch, 21.04 348 P P 05 08 21.4 +0.4
P17A IAmb IAmb 05 08 28.8
comp=Z,46nm,1.1s
O20A White River Ci 21.31 354 P P 05 08 25.2 +1.3
O20A White River Ci 21.31 354 P P 05 08 23.9 0.0
baz=172,SNR=13
JTS Las Juntas de 21.35 111 P P 05 08 26.5 +2.2
comp=Z,3.9nm,0.8s,baz=306,slow=15,SNR=2.0
JTS LR LR 05 16 03.7
comp=Z,395nm,20.9s,baz=293,slow=35
comp=Z,3.9nm,0.8s
R11B Troy Canyon, C 21.38 337 P P 05 08 24.7 +0.1
baz=152,SNR=30
VOG Valley Oaks Go 21.38 327 P P 05 08 24.8 +0.3
baz=141
S39A Bolivar 21.38 27 P P 05 08 22.4 -2.1
S39A IAmb IAmb 05 08 28.0
comp=Z,37nm,1.1s
TIN Tinemaha, Big 21.39 330 P P 05 08 25.6 +0.9
baz=145
250A Grady 21.42 49 P P 05 08 23.5 -1.4
KSU1 Kansas State U 21.44 18 P P 05 08 24.3 -0.8
baz=203,SNR=14
LRAL Lakeview Retre 21.51 46 P P 05 08 25.1 -0.7
baz=234,SNR=25
N23A Red Feather La 21.91 358 P P 05 08 30.5 +0.1
baz=178,SNR=12
OGNE Ogallala 22.12 6 P P 05 08 32.0 -0.5
baz=188
MLAC Mammoth, Mammo 22.14 330 P P 05 08 32.8 -0.1
baz=144
DUG Dugway, Tooele 22.20 344 P P 05 08 33.6 +0.2
baz=161,SNR=8
NVAR Mina Array Bea 22.55 332 P P 05 08 39.1 +1.9
NVAR Mina Array Bea 22.55 332 P P 05 08 38.3 +1.1
comp=Z,1.8nm,0.7s,baz=165,slow=12,SNR=14
NVAR LR LR 05 17 13.1
comp=Z,192nm,19.0s,baz=104,slow=36
comp=Z,1.8nm,0.7s
CCM Cathedral Cave 22.61 30 P P 05 08 35.9 -1.8
baz=217
WVT Waverly 22.97 38 P P 05 08 40.4 -1.0
baz=226
TIGA Tifton 23.12 53 P P 05 08 42.1 -1.0
baz=243
SPUT South Promonto 23.17 346 P P 05 08 44.6 +1.0
CMB Columbia Colle 23.21 328 P P 05 08 45.4 +1.5
CMB IAmb IAmb 05 08 53.9
comp=Z,18nm,1.1s
ELK Elko 23.41 340 LR LR 05 17 33.2
comp=Z,203nm,19.4s,baz=164,slow=36
YERR Yerington 23.42 332 P P 05 08 47.5 +1.3
YERR IAmb IAmb 05 08 57.0
comp=Z,16nm,1.0s
DWPF Disney Wildern 23.58 63 P P 05 08 46.8 -1.0
baz=252
K22A Casper 23.69 358 P P 05 08 48.2 -0.6
baz=177,SNR=7.5
HVU Hansel Valley 23.69 346 P P 05 08 49.0 +0.1
HVU IAmb IAmb 05 09 02.4
comp=Z,17nm,0.9s
BW06 Boulder Array 24.06 352 P P 05 08 52.2 -0.3
baz=170,SNR=6.8
PDAR Pinedale Array 24.06 352 P P 05 08 52.2 -0.3
comp=Z,2.9nm,0.6s,baz=162,slow=10,SNR=37
PDAR LR LR 05 18 16.8
comp=Z,457nm,20.1s,baz=166,slow=37
comp=Z,2.9nm,0.6s
GOGA Godfrey 24.18 49 P P 05 08 51.6 -1.8
baz=239
REDW Red Top Meadow 24.84 350 P P 05 08 59.8 +0.2
TPAW Teton Pass 24.98 350 P P 05 09 01.3 +0.5
SCIA State Center 25.08 21 P P 05 09 00.1 -1.3
baz=208
RSSD Black Hills 25.15 2 P P 05 09 01.3 -1.0
baz=183
WCI Wyandotte Cave 25.31 37 P P 05 09 02.1 -1.5
baz=226
HODGE Hodges 25.46 49 P P 05 09 04.5 -0.5
HODGE IAmb IAmb 05 09 05.7
comp=Z,29nm,1.0s
HDIL Hopedale 25.52 29 P P 05 09 03.3 -2.1
baz=217
ECSD EROS Data Cent 25.77 14 P P 05 09 07.6 -0.2
baz=199
HLID Hailey 25.77 344 P P 05 09 08.6 +0.6
baz=160,SNR=9.9
H17A Grant Village 25.80 351 P P 05 09 07.2 -1.1
baz=169
TZTN Tazewell 25.88 43 P P 05 09 06.6 -2.2
baz=233,SNR=10
SUSD Miller 25.98 10 P P 05 09 09.2 -0.5
baz=194
RLMT Red Lodge 26.35 353 P P 05 09 13.4 +0.2
baz=172
SFIN Lafayette 26.44 32 P P 05 09 12.7 -1.1
baz=222
NHSC New Hope 26.45 53 P P 05 09 12.9 -1.1
baz=244

KMSC **Kings Mountain** 26.59 48 P P 05 09 13.8 -1.5
baz=239,SNR=9.3
JFWS **Jewell Farm** 27.05 25 P P 05 09 18.8 -0.5
baz=213,SNR=13
P49A **Miami Univ. Ec** 27.10 36 P P 05 09 18.3 -1.5
baz=227
BOZ **Bozeman (W)** 27.14 350 P P 05 09 19.1 -1.2
baz=167,SNR=17
YBH **Yreka Blue Hor** 27.21 330 LR LR 05 19 38.9
comp=Z,202nm,18.5s,baz=146,slow=36
O48B **Farmland** 27.36 35 P P 05 09 20.2 -1.9
baz=225
L44A **Lake County Fo** 27.44 29 P P 05 09 21.6 -1.2
baz=218
SPMN **Marine on St.** 28.18 19 P P 05 09 28.4 -1.0
baz=206
BLA **Blacksburg** 28.31 45 P P 05 09 29.1 -1.7
baz=237,SNR=8.9
ACSO **Alum Creek Sta** 28.56 37 P P 05 09 31.8 -1.0
baz=229
P52A **Corning** 28.66 39 P P 05 09 32.9 -0.9
baz=231
MSO **Missoula** 28.75 347 P P 05 09 33.6 -1.1
baz=163,SNR=12
F10A **Beach Ranch, E** 28.77 342 P P 05 09 35.2 +0.5
F10A IAmb IAmb 05 09 49.7
comp=Z,9.6nm,1.0s
MDND **Maddock** 29.21 8 P P 05 09 38.2 -0.4
baz=191
EGMT **Eagleton** 29.27 354 P P 05 09 38.4 -0.7
baz=171,SNR=9.0
O53A **New Philadelph** 29.60 39 P P 05 09 40.3 -1.8
baz=231
AAM **Ann Arbor** 29.61 33 P P 05 09 39.9 -2.2
baz=225
MCWV **Mont Chateau** 30.08 41 P P 05 09 44.4 -1.9
baz=234
AGMN **Agassiz Nation** 30.27 12 P P 05 09 47.0 -0.9
baz=198,SNR=6.4
M53A **WI Miller and** 30.67 38 P P 05 09 49.3 -2.3
baz=230
NEW **Newport** 30.84 344 P P 05 09 52.2 -0.9
baz=158
NEW **Newport** 30.84 344 LR LR 05 22 14.5
comp=Z,252nm,20.4s,baz=164,slow=36
CBN **Corbin Frederi** 30.89 46 P P 05 09 51.5 -2.0
baz=239
EYMN **Ely** 31.03 18 P P 05 09 53.0 -1.6
baz=206,SNR=7.3
SSPA **Standing Stone** 31.86 41 P P 05 10 00.4 -1.7
baz=235
OTAV **Otavalo** 32.13 122 P P 05 10 05.9 +0.7
OTAV IAmb IAmb 05 10 17.5
comp=Z,22nm,1.5s
ULM **Lac du Bonnet** 32.13 11 P P 05 10 03.1 -1.2
comp=Z,1.9nm,0.8s,baz=102,slow=3.6,SNR=3.5
ULM LR LR 05 21 40.8
comp=Z,205nm,21.6s,baz=202,slow=34
comp=Z,1.9nm,0.8s
SADO **Sadowa** 33.69 34 LR LR 05 23 16.6
comp=Z,246nm,21.0s,baz=246,slow=35
BINY **Binghamton** 33.93 40 P P 05 10 18.2 -1.9
baz=236
PAL **Palisades** 34.61 44 P P 05 10 24.2 -1.9
baz=240
SDV **Santo Domingo** 34.92 102 LR LR 05 25 56.7
comp=Z,329nm,20.1s,baz=34,slow=38
L61B **Northampton** 36.13 42 P P 05 10 37.2 -1.9
baz=240
LONY **Lake Ozonia** 36.15 38 P P 05 10 37.2 -2.1
baz=235
HRV **Adam Dziewonsk** 36.88 43 P P 05 10 43.7 -1.8
baz=241
ATAH **Atahualpa** 36.98 132 LR LR 05 22 55.0
comp=Z,305nm,19.4s,baz=317,slow=31
M65A **Busby, Falmout** 37.04 45 P P 05 10 45.5 -1.3
baz=243
LBNH **Lisbon** 37.53 40 P P 05 10 48.7 -2.3
baz=239
BBB **Bella Bella** 37.75 337 LR LR 05 26 09.7
comp=Z,113nm,18.6s,baz=140,slow=36
PKME **Peaks-Kenny Pk** 39.66 40 P P 05 11 07.7 -1.3
baz=240
PCRV **Puerto La Cruz** 40.11 97 LR LR 05 28 04.7
comp=Z,213nm,21.7s,slow=36
V35K **Ketchikan** 41.51 337 P P 05 11 23.3 -0.7
baz=141
NNA **Nana** 41.51 136 LR LR 05 25 04.3
comp=Z,142nm,21.1s,baz=328,slow=31
CZSB **Cruzeiro do Su** 41.55 127 P P 05 11 26.1 +1.3
CZSB IAmb IAmb 05 11 37.4
comp=Z,40nm,1.4s
CRAG **Craig** 42.17 337 P P 05 11 26.8 -2.7
baz=139
T35M **Bob Quinn** 42.34 340 P P 05 11 29.4 -1.5
baz=144
U33K **Whale Pass** 42.66 337 P P 05 11 32.2 -1.2
baz=139
DLBC **Dease Lake** 43.46 341 P P 05 11 40.5 +0.6
baz=145
DLBC **Dease Lake** 43.46 341 LR LR 05 28 27.8
comp=Z,224nm,19.9s,baz=102,slow=34
YKA **Yellowknife Ar** 44.03 354 P P 05 11 43.5 -0.8
comp=Z,4.6nm,0.9s,baz=166,slow=7.5,SNR=40
YKA PcP PcP 05 13 29.8 0.0
comp=Z,0.7nm,1.0s,baz=156,slow=3.2,SNR=3.4
comp=Z,4.6nm,0.9s
SIT **Sitka** 44.18 337 P P 05 11 46.1 +0.5
baz=137
S32K **Killisnoo** 44.21 338 P P 05 11 46.6 +0.7
baz=138
R33M **Jennings River** 44.52 341 P P 05 11 49.3 +0.7
baz=144
Q32M **Nakina River** 44.58 340 P P 05 11 50.7 +1.6
Q32M IAmb IAmb 05 12 00.3
comp=Z,9.7nm,1.1s
Q32M **Nakina River** 44.58 340 P P 05 11 50.6 +1.6
baz=142
R32K **Eaglecrest** 44.80 338 P P 05 11 52.0 +1.5
baz=139
S31K **Pelican** 45.17 337 P P 05 11 55.3 +1.7
baz=137
P32M **Atlin** 45.53 340 P P 05 11 57.0 +0.5
baz=141
P33M **Teslin, Yukon** 45.74 341 P P 05 11 58.9 +0.8
baz=142
RPN **Rapa Nui** 45.95 185 LR LR 05 26 29.9
comp=Z,54nm,19.7s,baz=71,slow=30
SKAG **Skagway** 45.97 339 P P 05 12 00.9 +1.0
baz=139
SCHQ **Schefferville** 46.18 30 P P 05 12 03.5 +1.9
comp=Z,5.6nm,0.9s,baz=240,slow=6.1,SNR=6.2
comp=Z,5.6nm,0.9s
PLBC **Pleasant Camp** 46.32 339 P P 05 12 03.3 +0.7
baz=138
N32M **Quiet Lake** 46.56 342 P P 05 12 04.8 +0.2
baz=143
WHY **Whitehorse** 46.73 340 P P 05 12 06.1 +0.1
baz=140
P29M **Windy Craggy** 46.93 338 P P 05 12 07.4 -0.1
baz=136
P30M **Million Dollar** 47.01 339 P P 05 12 07.8 -0.3
baz=137
O30N **Mendenhall** 47.20 340 P P 05 12 09.7 +0.1
baz=139
PNL **Peninsula** 47.55 337 P P 05 12 12.0 -0.3
baz=134
N31M **Braeburn, Yuko** 47.65 341 P P 05 12 13.5 +0.5
baz=140
O29M **Mount Kennedy** 47.70 338 P P 05 12 14.0 +0.4
baz=135
HYT **Haines Junctio** 47.71 339 P P 05 12 14.0 +0.4
baz=137
M31M **Drury Creek, Y** 47.78 342 P P 05 12 15.1 +1.1
baz=142
N30M **Aishikik Lake** 48.04 340 P P 05 12 16.8 +0.7
baz=138
YUK6 **Outpost Mounta** 48.09 339 P P 05 12 17.1 +0.3
baz=136
PINM **Pinnacle** 48.16 337 P P 05 12 17.5 +0.4
baz=133
YUK4 **Talbot Arm** 48.47 339 P P 05 12 20.3 +0.6
baz=136,SNR=5.5
O28M **Mount Upton** 48.60 338 P P 05 12 20.9 +0.2
baz=134,SNR=7.3
M30M **Minto, Yukon** 48.78 341 P P 05 12 22.9 +1.0
baz=139
YUK8 **Steele Glacier** 48.81 339 P P 05 12 23.0 +0.7
baz=135,SNR=5.2
MESA **MESA** 48.84 337 P P 05 12 23.0 +0.5
baz=131
CTG **Chitna Glacier** 49.15 338 P P 05 12 25.1 +0.3
baz=133
M29M **Somme Creek** 49.21 340 P P 05 12 25.6 +0.4
M29M IAmb IAmb 05 12 35.2
comp=Z,6.5nm,0.9s
M29M **Somme Creek** 49.21 340 P P 05 12 25.2 0.0
baz=137,SNR=5.5
YUK3 **Moose Creek** 49.39 339 P P 05 12 27.2 +0.5
baz=134
L29M **L29M** 49.59 341 P P 05 12 29.4 +1.3
L29M **L29M** 49.59 341 P P 05 12 28.3 +0.3
baz=138,SNR=18
KAIM **Kayak Island** 49.64 335 P P 05 12 29.6 +1.3
baz=128
CRQE **Cirque** 49.65 337 P P 05 12 29.6 +1.0
baz=130
K29M **Barlow Dome** 49.96 342 P P 05 12 31.9 +1.0
K29M IAmb IAmb 05 12 41.0
comp=Z,13nm,0.9s
K29M **Barlow Dome** 49.96 342 P P 05 12 31.2 +0.4
baz=139,SNR=17
BVCY **Beaver Creek** 49.97 339 P P 05 12 31.5 +0.6
baz=134
MCARA **McCarthy VSAT** 50.03 337 P P 05 12 32.1 +0.7
baz=131
J30M **Hart River** 50.18 343 P P 05 12 33.1 +0.6
baz=141
M27K **Edge Creek, AK** 50.28 339 P P 05 12 34.0 +0.7
baz=133,SNR=7.2
BMRM **Bremner River** 50.36 336 P P 05 12 34.6 +0.8
baz=129
LPAZ **La Paz** 50.52 131 P P 05 12 36.6 +0.4
comp=Z,0.5nm,0.7s,baz=310,slow=3.9,SNR=2.0
LPAZ LR LR 05 31 49.9
comp=Z,128nm,21.9s,baz=312,slow=34
comp=Z,0.5nm,0.7s
EYAK **Cordova Ski Ar** 50.54 335 P P 05 12 35.6 +0.4
baz=127
H31M **Peel River** 50.63 345 P P 05 12 36.0 +0.1
baz=144
DAWY **Dawson** 50.68 341 P P 05 12 37.1 +0.9
baz=137
I30M **Mount Dempster** 50.69 344 P P 05 12 36.8 +0.3
I30M IAmb IAmb 05 12 45.7
comp=Z,5.9nm,0.9s
I30M **Mount Dempster** 50.69 344 P P 05 12 37.3 +0.9
baz=141
M26K **Nabesna, AK** 50.70 338 P P 05 12 37.3 +0.9
baz=132
L27K **Beaver Creek,** 50.74 339 P P 05 12 37.7 +0.9
L27K **Beaver Creek,** 50.74 339 P P 05 12 37.6 +0.9
baz=133
N25K **Chitina, Valde** 50.76 337 P P 05 12 37.7 +0.7
baz=129
P23K **Montague Islan** 50.88 334 P P 05 12 39.0 +1.2
baz=125
FID **Port Fidalgo** 50.95 335 P P 05 12 39.7 +1.4
KLU **Klutina** 51.18 336 P P 05 12 40.8 +0.6
baz=128
FRB **Frobisher Bay** 51.21 20 LR LR 05 36 53.7
comp=Z,185nm,19.6s,baz=216,slow=39
L26K **Log Cabin Wild** 51.23 339 P P 05 12 40.4 0.0
baz=132
GLI **Glacier Island** 51.27 335 P P 05 12 41.1 +0.4
baz=126
I29M **Ogilvie Camp,** 51.33 343 P P 05 12 42.1 +1.0
baz=139
HARP **HAARP** 51.46 338 P P 05 12 41.9 -0.2
baz=129
K27K **Chicken** 51.49 340 P P 05 12 42.4 +0.2
baz=134
G31M **Sasah River** 51.52 346 P P 05 12 43.0 +0.7
baz=144,SNR=11
M24K **Tolsona, Glenn** 51.66 337 P P 05 12 44.0 +0.4
baz=128
EPYK **Eagle Plains** 51.67 344 P P 05 12 44.5 +0.8
baz=141
EGAK **Eagle** 51.73 341 P P 05 12 44.0 0.0
EGAK IAmb IAmb 05 12 53.5
comp=Z,7.8nm,0.8s
EGAK **Eagle** 51.73 341 P P 05 12 44.1 +0.1
baz=135,SNR=7.7
C36M **Paulatuk** 51.75 352 P P 05 12 44.0 -0.1
baz=157
SEW **Seward** 51.80 334 P P 05 12 44.6 0.0
baz=123
F31M **Tsiigehtchic** 51.82 346 P P 05 12 44.5 -0.1
baz=145
I28M **Miner Creek** 51.85 342 P P 05 12 45.9 +0.8
I28M IAmb IAmb 05 13 00.1
comp=Z,5.9nm,1.0s
I28M **Miner Creek** 51.85 342 P P 05 12 46.0 +0.9
baz=137,SNR=5.4
SCM **Sheep Creek Mo** 51.93 336 P P 05 12 46.9 +1.2
baz=126
PAX **Paxson** 51.94 338 P P 05 12 46.3 +0.6
baz=129
H29M **Whitestone** 51.99 344 P P 05 12 46.1 +0.1
H29M IAmb IAmb 05 13 01.9
comp=Z,6.6nm,0.9s
H29M **Whitestone** 51.99 344 P P 05 12 46.7 +0.7
baz=139
KDAK **Kodiak Island** 52.02 330 P P 05 12 46.5 +0.2
baz=118
KDAK **Kodiak Island** 52.02 330 LR LR 05 33 10.8
comp=Z,75nm,18.5s,baz=138,slow=34
G30M **tAoh Zraii Nji** 52.03 345 P P 05 12 46.9 +0.6
baz=142
SCRK **Sand Creek** 52.08 339 P P 05 12 47.7 +0.9
baz=131,SNR=6.6
OHAK **Old Harbor** 52.10 329 P P 05 12 48.2 +1.2
baz=117
O22K **Cooper Landing** 52.12 334 P P 05 12 48.1 +1.1
baz=123
KNK **Knik Glacier** 52.12 335 P P 05 12 47.3 +0.2
baz=125
BRSE **Bradley Lake S** 52.16 333 P P 05 12 47.4 0.0
baz=121
CNPM **China Poot** 52.26 332 P P 05 12 47.5 -0.6
CNPM IAmb IAmb 05 12 58.7
comp=Z,15nm,1.0s
J26L **Joseph Creek** 52.29 340 P P 05 12 48.2 -0.2
J26L IAmb IAmb 05 12 58.4
comp=Z,14nm,0.9s
J26L **Joseph Creek** 52.29 340 P P 05 12 48.0 -0.3
baz=132,SNR=13
SML **Sawmill** 52.30 336 P P 05 12 48.4 0.0
SML **Sawmill** 52.30 336 P P 05 12 48.1 -0.3
baz=125
Q20K **Shuyak Island** 52.33 331 P P 05 12 48.9 +0.3
baz=119
F30M **Barrier River** 52.43 346 P P 05 12 49.3 +0.1
baz=143
G29M **Pine Creek** 52.43 344 P P 05 12 49.8 +0.6
baz=140
I27K **Kandik River** 52.45 342 P P 05 12 50.5 +1.0
baz=135
RC01 **Rabbit Creek A** 52.45 335 P P 05 12 50.3 +0.9
baz=123
PMR **Palmer** 52.49 335 P P 05 12 50.3 +0.5
baz=124
INK **Inuvik** 52.49 347 P P 05 12 49.9 +0.3
baz=146,SNR=13
INK **Inuvik** 52.49 347 LR LR 05 37 49.0
comp=Z,146nm,20.6s,baz=192,slow=39
HOM **Homer** 52.51 332 P P 05 12 50.0 +0.1
baz=120
WAT6 **Susitna Watana** 52.52 337 P P 05 12 50.3 +0.1
baz=126
K24K **Donnelly Dome** 52.57 339 P P 05 12 50.9 +0.6
baz=129,SNR=5.7
DHY **Denali Highway** 52.69 337 P P 05 12 52.0 +0.6
baz=127
I26K **Coal Creek Min** 52.71 341 P P 05 12 51.5 +0.2
baz=133
R18K **Karluk** 52.82 329 P P 05 12 52.8 +0.6
baz=116
H27K **Steamboat Moun** 52.87 342 P P 05 12 53.8 +1.2
baz=136
J25K **Salcha River,** 52.95 340 P P 05 12 54.5 +1.3
baz=130,SNR=6.7
M22K **Willow** 52.97 335 P P 05 12 53.9 +0.7
WAT1 **Susitna Watana** 52.97 337 P P 05 12 54.6 +1.2
baz=126
MDP **Montagnes des** 52.98 98 LR LR 05 37 46.8
comp=Z,87nm,19.4s,baz=304,slow=39
Q19K **Cape Douglas,** 53.05 331 P P 05 12 54.2 +0.2
baz=118
SUA **Susitna One** 53.07 335 P P 05 12 54.6 +0.5
baz=122
O20K **Slope Mountain** 53.15 333 P P 05 12 54.5 -0.3
baz=120
P19K **Oil Pt** 53.21 332 P P 05 12 55.0 -0.1
baz=119
G27K **Doyon Strip** 53.32 343 P P 05 12 56.1 +0.2
baz=136,SNR=6.0
HDA **Harding Lake** 53.35 339 P P 05 12 56.3 +0.3
baz=128,SNR=6.1
CUT **Chulitna** 53.39 336 P P 05 12 56.5 +0.2
baz=124
RSO **Redoubt South** 53.39 333 P P 05 12 57.3 +0.6
F28M **Old Crow** 53.43 344 P P 05 12 57.2 +0.5
F28M **Old Crow** 53.43 344 P P 05 12 57.2 +0.5
baz=138,SNR=16
E29M **Blow River** 53.53 346 P P 05 12 58.1 +0.7
baz=141
ILAR **Eielson Array** 53.56 339 P P 05 12 57.6 +0.1
comp=Z,4.0nm,1.0s,baz=153,slow=5.9,SNR=32
ILAR LR LR 05 35 17.0
comp=Z,102nm,19.4s,baz=113,slow=36
comp=Z,4.0nm,1.0s
Q18K **Katmai Hardscr** 53.56 330 P P 05 12 57.9 0.0
baz=116
PRP **Porcupine Dome** 53.59 340 P P 05 12 57.4 -0.6
baz=131,SNR=20
MCK **McKinley** 53.64 338 P P 05 12 58.4 +0.1
baz=126
SKT **Skwentna** 53.66 335 P P 05 12 58.5 +0.1
baz=122,SNR=7.0
Q17K **Contact Creek** 53.81 330 P P 05 12 58.8 -0.9
baz=115
COLA **College** 53.95 339 P P 05 13 00.6 +0.2
baz=128
POKR **Poker Plat Res** 53.95 339 P P 05 13 01.1 +0.6
baz=128
P18K **Big Mountain,** 53.99 331 P P 05 13 00.8 -0.1
baz=116
G26K **Porcupine Rive** 54.02 342 P P 05 13 01.1 +0.2
baz=133,SNR=5.6
E28M **Babbage River** 54.09 345 P P 05 13 00.9 -0.6
baz=139
H25L **Birch Creek** 54.17 341 P P 05 13 01.7 -0.3
baz=131,SNR=5.8
O18K **Koktuh Hills** 54.19 332 P P 05 13 02.5 +0.2
baz=117
NEA2 **Nenana** 54.20 338 P P 05 13 01.9 -0.3
baz=126,SNR=7.6
M20K **Styx River** 54.26 334 P P 05 13 02.6 -0.3
baz=120
E27K **Coleen River** 54.30 344 P P 05 13 02.5 -0.5
baz=136,SNR=7.1
N19K **Bonanza Creek** 54.31 333 P P 05 13 03.4 +0.1
baz=118,SNR=5.5
A36M **Sachs Harbour** 54.35 352 P P 05 13 02.7 -0.5
baz=157,SNR=8.1
LVC **Limon Verde** 54.40 138 LR LR 05 31 25.6
comp=Z,71nm,20.9s,baz=328,slow=31
PPLA **Purkeypile** 54.40 336 P P 05 13 04.2 +0.2
baz=122
CHNA **Chernabura Isl** 54.44 325 P P 05 13 04.2 +0.1
baz=109
D28M **Stokes Point** 54.45 346 P P 05 13 04.3 +0.3
baz=140
P17K **Kvichak River** 54.47 330 P P 05 13 04.6 +0.3
baz=115
H24K **Noodor Dome** 54.55 340 P P 05 13 05.3 +0.5
H24K **Noodor Dome** 54.55 340 P P 05 13 05.5 +0.7
baz=128,SNR=9.7
G25K **Bearman Lake** 54.58 341 P P 05 13 05.4 +0.4
baz=131,SNR=6.1
BPAW **Bear Paw Mtn.** 54.60 337 P P 05 13 04.7 -0.6
baz=124,SNR=5.3
I23K **Minto, Yukon-K** 54.62 339 P P 05 13 05.7 +0.4
baz=126
F26K **Sheenjek River** 54.63 343 P P 05 13 05.4 0.0
baz=133,SNR=7.8
CAST **Castle Rocks** 54.64 336 P P 05 13 05.4 -0.1
baz=122
M19K **Big River Lodg** 54.79 334 P P 05 13 06.4 -0.2
baz=119
L20K **Farewell, AK** 54.86 335 P P 05 13 07.2 0.0
baz=120,SNR=7.2
N18K **Kilae Creek** 54.86 332 P P 05 13 07.2 0.0
baz=116
S14K **Fog Glacier** 54.90 326 P P 05 13 07.2 -0.4
baz=110
D27M **Malcolm River** 54.91 345 P P 05 13 07.9 +0.4
baz=138
G24K **Hadweenzic Riv** 54.96 341 P P 05 13 07.5 -0.3
baz=129,SNR=8.3
CHUM **Lake Minchumin** 54.97 337 P P 05 13 08.1 +0.2
baz=122
F25K **Christian Rive** 54.99 342 P P 05 13 08.1 +0.1
baz=132,SNR=11
O17K **Koliganek Bris** 55.01 331 P P 05 13 08.3 +0.1
baz=115
MLY **Manley** 55.03 338 P P 05 13 08.0 -0.4
baz=125,SNR=5.5
H23K **Yukon River** 55.09 339 P P 05 13 08.8 +0.1
baz=126,SNR=6.8
L19K **White Mountain** 55.11 334 P P 05 13 09.3 +0.3
baz=119,SNR=8.6
P16K **Nushagak River** 55.13 330 P P 05 13 09.4 +0.3
baz=113
M18K **Stony River** 55.20 333 P P 05 13 09.3 -0.3
baz=117
E25K **Arctic Village** 55.32 343 P P 05 13 09.6 -0.8
baz=132
K20K **Telida** 55.37 336 P P 05 13 10.7 -0.1
baz=120,SNR=6.6
N17K **Nushagak Hills** 55.37 332 P P 05 13 10.7 -0.2
baz=115
O16K **Kokwok River B** 55.40 330 P P 05 13 10.9 -0.2
baz=114
I21K **Tanana** 55.55 338 P P 05 13 11.7 -0.4
baz=123
SIV **San Ignacio** 55.56 126 LR LR 05 34 39.8
comp=Z,123nm,20.3s,baz=296,slow=34
F24K **Squaw Lake** 55.60 342 P P 05 13 12.7 +0.2
F24K IAmb IAmb 05 13 36.8
comp=Z,4.4nm,0.9s
F24K **Squaw Lake** 55.60 342 P P 05 13 11.9 -0.5
baz=129
H22K **Ishtalitna Cre** 55.74 339 P P 05 13 13.4 0.0
baz=124,SNR=5.4
G23K **Bananza Creek** 55.77 340 P P 05 13 13.6 -0.1
G23K IAmb IAmb 05 13 22.8
comp=Z,9.4nm,1.0s
G23K **Bananza Creek** 55.77 340 P P 05 13 13.3 -0.4
baz=126,SNR=5.5
J20K **Nowinta River** 55.81 336 P P 05 13 13.5 -0.5
J20K **Nowinta River** 55.81 336 P P 05 13 13.7 -0.3
baz=120,SNR=7.7
M17K **Holitna River** 55.85 333 P P 05 13 13.7 -0.6
M17K IAmb IAmb 05 13 24.1
comp=Z,12nm,0.9s
M17K **Holitna River** 55.85 333 P P 05 13 13.8 -0.6
baz=115
C27K **Jago River** 55.86 345 P P 05 13 14.3 0.0
baz=135
L18K **Granite Mounta** 55.89 334 P P 05 13 13.8 -0.7
L18K **Granite Mounta** 55.89 334 P P 05 13 14.3 -0.3
baz=117,SNR=6.0
S12K **Black Hills** 56.05 325 P P 05 13 15.6 -0.2
baz=107
O15K **Ungalikthiuk R** 56.06 330 P P 05 13 15.4 -0.4
baz=112
N16K **Nishlik Lake** 56.06 331 P P 05 13 16.3 +0.4
baz=114
RES **Resolute Bay** 56.07 3 LR LR 05 38 17.1
comp=Z,589nm,18.3s,baz=188,slow=37
H21K **Melozitna Rive** 56.10 338 P P 05 13 15.9 -0.2
H21K **Melozitna Rive** 56.10 338 P P 05 13 16.1 0.0
baz=123,SNR=11
E24K **Your Creek** 56.13 342 P P 05 13 15.8 -0.4
baz=129
COLD **Coldfoot** 56.13 341 P P 05 13 16.1 -0.1
baz=126
I20K **Naaghedeneel** 56.25 337 P P 05 13 16.7 -0.4
baz=120,SNR=5.6
J19K **Poorman** 56.29 336 P P 05 13 17.0 -0.4
baz=119,SNR=7.4
D25K **Kavik River** 56.34 344 P P 05 13 16.9 -0.8

	baz=132						
C26K	Camden Bay	56.37 345	P	P	05 13 17.1	-0.7	
	baz=134						
G22K	Bettles	56.37 340	P	P	05 13 18.3	+0.4	
	baz=125						
M16K	Timber Creek	56.37 332	P	P	05 13 18.2	+0.2	
	baz=114						
E23K	Chandalar	56.45 342	P	P	05 13 18.3	-0.3	
	baz=128,SNR=18						
J18K	Innoko River	56.47 335	P	P	05 13 18.6	-0.1	
	baz=117,SNR=8.5						
L17K	Donlin	56.54 333	P	P	05 13 19.2	0.0	
	baz=115						
N15K	Kwethluk River	56.56 331	P	P	05 13 19.7	+0.4	
	baz=112						
FALS	False Pass	56.56 324	P	P	05 13 19.8	+0.4	
	baz=106						
PPT	Papeete	56.73 233	LR	LR	05 31 14.8		
	comp=Z,87nm,20.0s,baz=6.0,slow=29						
PPT2	Papeete2	56.75 233	eS	S	05 21 26.5	+11	
	comp=Z,102nm,27.2s						
PPT2			eSS	SS	05 25 08.5	+5.1	
	comp=Z,59nm,27.5s						
PPT2			eLR	LR	05 29 50.8		
	comp=Z,222nm,27.8s						
PPT2			eLR	LR	05 29 57.8		
	comp=Z,213nm,23.5s						
H20K	Anotleneega Mo	56.75 338	P	P	05 13 20.9	+0.2	
	baz=120,SNR=5.6						
O14K	Tigyukauivet M	56.78 329	P	P	05 13 22.3	+1.4	
	baz=110						
K17K	Iditarod	56.78 334	P	P	05 13 21.9	+0.9	
	baz=115						
TOLK	Toolik Lake Re	56.79 342	P	P	05 13 21.6	+0.6	
	baz=128,SNR=5.4						
G21K	Allakaket	56.81 339	P	P	05 13 22.3	+1.3	
	baz=122						
L16K	Owhat River	56.87 332	P	P	05 13 23.2	+1.6	
	baz=114						
D24K	Happy Valley	56.90 343	P	P	05 13 22.6	+0.9	
	baz=129						
F22K	John River	56.92 340	P	P	05 13 22.0	+0.2	
	baz=124						
M15K	Kasigluk River	57.02 331	P	P	05 13 23.1	+0.5	
	baz=112						
E22K	Anaktuvuk Pass	57.16 341	P	P	05 13 23.9	+0.3	
	baz=125						
F21K	Alatna River	57.18 340	P	P	05 13 24.5	+0.8	
	baz=123,SNR=6.9						
N14K	Kuskokwak Cree	57.21 330	P	P	05 13 24.7	+0.8	
	baz=110						
D23K	Nanushuk River	57.31 342	P	P	05 13 26.3	+1.7	
	baz=127						
H19K	Roundabout Mou	57.34 337	P	P	05 13 26.1	+1.3	
	baz=119,SNR=6.3						
J17K	VABM Dome	57.39 334	P	P	05 13 24.9	-0.3	
	baz=115						
M14K	Bethel	57.63 331	P	P	05 13 26.8	0.0	
	baz=110						
L15K	Ungalak Mounta	57.75 332	P	P	05 13 27.9	+0.2	
	baz=112						
H03N2	Juan Fernandez	57.78 154	T	T	06 16 21.8		
	baz=325,slow=74,SNR=29						
H03N1	Juan Fernandez	57.79 154	T	T	06 16 23.1		
	baz=325,slow=74,SNR=54						
H03N3	Juan Fernandez	57.80 154	T	T	06 16 20.6		
	baz=325,slow=74,SNR=51						
C23K	Itkillik River	57.82 343	P	P	05 13 28.2	+0.1	
C23K	Itkillik River	57.82 343	P	P	05 13 27.7	-0.4	
	baz=127,SNR=5.4						
F20K	Avaraart Lake	57.84 339	P	P	05 13 28.8	+0.5	
	baz=120						
D22K	Ayikyak River	57.85 342	P	P	05 13 28.5	+0.1	
	baz=125						
G19K	Purcell Mounta	57.87 338	P	P	05 13 28.2	-0.3	
	baz=118,SNR=8.6						
H18K	Honhosa River	57.88 336	P	P	05 13 28.2	-0.5	
	baz=117						
J16K	Anvik River	57.98 334	P	P	05 13 29.3	0.0	
J16K			IAmb	IAmb	05 13 39.2		
	comp=Z,12nm,1.1s						
J16K	Anvik River	57.98 334	P	P	05 13 28.5	-0.8	
	baz=113						
K15K	Wolf Creek Mou	57.99 333	P	P	05 13 29.1	-0.3	
	baz=112						
E21K	Killik River	58.00 341	P	P	05 13 29.9	+0.4	
	baz=123						
UNV	Unalaska Valle	58.08 322	P	P	05 13 30.1	0.0	
	baz=102						
M13K	Dall Lake	58.16 330	P	P	05 13 31.0	+0.4	
	baz=109						
L14K	Kuka Creek	58.16 331	P	P	05 13 30.8	+0.2	
	baz=110						
I17K	Unalakleet	58.25 335	P	P	05 13 30.9	-0.3	
	baz=114						
G18K	Tagagawik	58.32 337	P	P	05 13 31.1	-0.6	
G18K			IAmb	IAmb	05 13 40.6		
	comp=Z,4.9nm,1.1s						
G18K	Tagagawik	58.32 337	P	P	05 13 31.1	-0.6	
	baz=117						
H17K	Granite Mounta	58.38 336	P	P	05 13 31.6	-0.4	
	baz=115,SNR=5.8						
F19K	Shaleruckik Mo	58.44 338	P	P	05 13 31.6	-0.8	
F19K	Shaleruckik Mo	58.44 338	P	P	05 13 31.4	-1.1	
	baz=118,SNR=6.5						
E19K	Redstone River	58.55 339	P	P	05 13 34.0	+0.7	
	baz=119						
E20K	Nigu River	58.60 340	P	P	05 13 33.6	-0.1	
	baz=121						
C21K	Knifeblade Rid	58.64 341	P	P	05 13 33.6	-0.2	
	baz=123,SNR=6.7						
B21K	Ikpikpuk River	58.84 342	P	P	05 13 35.7	+0.5	
	baz=123						
G17K	Kiwalik Mounta	58.89 336	P	P	05 13 36.2	+0.5	
	baz=114						
B22K	Teshekpuk Lake	58.90 343	P	P	05 13 36.3	+0.7	
	baz=125						
D20K	Etivluk River	58.97 341	P	P	05 13 37.0	+0.8	
	baz=120,SNR=7.4						
F18K	Selawik	58.99 338	P	P	05 13 37.8	+1.4	
	baz=116						
J14K	Nanvaranak Lak	59.03 333	P	P	05 13 37.6	+1.0	
	baz=110						
H16K	Elim	59.17 335	P	P	05 13 38.6	+1.1	
	baz=112						
K13K	Kusilvak Mount	59.25 332	P	P	05 13 38.7	+0.5	
	baz=109						
NIKH	Nikolski High	59.30 321	P	P	05 13 39.2	+0.5	
	baz=100						
D19K	Kuna River	59.34 340	P	P	05 13 38.3	-0.5	
D19K	Kuna River	59.34 340	P	P	05 13 39.6	+0.8	
	baz=119						
G16K	Koyuk River	59.50 336	P	P	05 13 39.4	-0.5	
	baz=113						
M11K	Mekoryuk	59.51 330	P	P	05 13 40.4	+0.4	
	baz=106						
F17K	Baldwin Pennin	59.51 337	P	P	05 13 39.4	-0.5	
	baz=114						
E18K	Tukpahlearik C	59.69 338	P	P	05 13 41.4	+0.2	
E18K	Tukpahlearik C	59.69 338	P	P	05 13 41.5	+0.4	
	baz=116,SNR=7.1						
A22K	Sinclair Lake	59.70 343	P	P	05 13 40.9	-0.2	
	baz=123						
B20K	Meade River	59.79 342	P	P	05 13 42.2	+0.4	
	baz=120						
E17K	Hotham Inlet	59.98 338	P	P	05 13 43.4	+0.3	
	baz=114						
G15K	Niukluk	60.02 335	P	P	05 13 44.4	+0.9	
	baz=111						
C19K	Lookout Ridge	60.10 340	P	P	05 13 44.6	+0.5	
	baz=118,SNR=6.6						
TBI	Tubuai	60.27 228	eS	S	05 22 03.8	+3.0	
TBI			eLR	LR	05 31 33.1		
	comp=Z,864nm,35.0s						
	comp=Z,1μm,24.2s						
A21K	Barrow	60.32 343	P	P	05 13 45.8	+0.4	
	baz=122						
P08K	Saint George I	60.34 325	P	P	05 13 45.8	+0.1	
	baz=101						
ANM	Nome	60.41 334	P	P	05 13 45.6	-0.6	
	baz=109						
C18K	Utukok River	60.42 340	P	P	05 13 45.5	-0.8	
	baz=116						
F15K	North Star Dit	60.51 336	P	P	05 13 47.0	+0.2	
	baz=111						
D17K	Noatak River	60.67 338	P	P	05 13 48.7	+0.8	
	baz=113						
B18K	Kokolik River	60.93 340	P	P	05 13 50.2	+0.6	
	baz=115						
C17K	DeLong Mountai	61.01 339	P	P	05 13 50.8	+0.5	
	baz=114						
A19K	Wainwright	61.06 341	P	P	05 13 51.0	+0.5	
	baz=117						
F14K	Arctic Creek	61.09 335	P	P	05 13 51.7	+0.9	
	baz=109						
C16K	Lisburne Hills	61.68 338	P	P	05 13 54.7	0.0	
	baz=111						
TNA	Tin City	61.75 335	P	P	05 13 55.6	+0.4	
	baz=107						
GAMB	Gambell	62.86 333	P	P	05 14 03.0	+0.4	
	baz=103						
CPUP	Villa Florida	64.66 133	P	P	05 14 16.3	+1.2	
	comp=Z,1.4nm,0.8s,baz=300,slow=5.4,SNR=4.3						
CPUP			LR	LR	05 41 15.0		
	comp=Z,89nm,19.2s,baz=332,slow=35						
	comp=Z,1.4nm,0.8s						
BDFB	Brasilia	65.91 118	P	P	05 14 24.7	+1.1	
	comp=Z,1.2nm,0.5s,baz=301,slow=9.2,SNR=6.2						
	comp=Z,1.2nm,0.5s						
RAR	Rarotonga	66.68 236	LR	LR	05 34 49.7		
	comp=Z,177nm,21.9s,baz=110,slow=28						
PLCA	Paso Flores	67.51 152	P	P	05 14 34.1	+0.9	
	comp=Z,1.4nm,0.8s,baz=294,slow=6.5,SNR=3.3						
PLCA			LR	LR	05 36 50.1		
	comp=Z,104nm,21.3s,baz=357,slow=30						
	comp=Z,1.4nm,0.8s						
SHEM	Shemya Is, Ala	69.60 320	LR	LR	05 38 59.2		
	comp=Z,22nm,20.9s,baz=114,slow=31						
BORG	Borgarnes	70.45 27	LR	LR	05 43 24.9		
	comp=Z,101nm,21.7s,baz=279,slow=34						
BILL	Bilibino	72.09 337	P	P	05 15 00.9	-0.1	
RCBR	Riachuelo	72.50 103	LR	LR	05 48 13.6		
	comp=Z,122nm,18.6s,baz=154,slow=37						
PETK	Petropavlovsk-	79.26 322	P	P	05 15 41.8	-0.6	
	comp=Z,3.6nm,0.9s,baz=77,slow=7.9,SNR=6.0						
PETK			LR	LR	05 43 38.3		
	comp=Z,25nm,19.8s,baz=80,slow=30						
	comp=Z,3.6nm,0.9s						
EKA	Eskdalemuir Ar	81.27 34	P	P	05 15 53.3	+0.2	
	comp=Z,9.3nm,1.1s,baz=295,slow=4.2,SNR=12						
	comp=Z,9.3nm,1.1s						
H11S1	WAKE ISLAND Hy	82.47 287	T	T	06 47 08.7		
	baz=73						
H11S2	WAKE ISLAND Hy	82.47 287	T	T	06 47 07.4		
	baz=73,slow=74						
H11S3	WAKE ISLAND Hy	82.48 287	T	T	06 47 08.1		
	baz=73,slow=74						
PCAB	Cabril	82.80 48	eP	P	05 16 04.5	+3.0	
PCAS	Casmilo, Conde	82.99 50	eP	P	05 16 04.2	+1.7	
POLO	Lamas de Olo	83.07 49	eP	P	05 16 04.3	+1.2	
	comp=Z,18nm,1.7s						
PMTG	Montargil	83.51 51	eP	P	05 16 06.5	+1.3	
MTE	Manteigas	83.57 50	eP	P	05 16 06.5	+0.9	
	comp=Z,26nm,1.3s						
PNCL	Nicolau / Gran	83.59 52	eP	P	05 16 07.1	+1.4	
	comp=Z,27nm,1.7s						
PBRG	Braganca	83.67 48	eP	P	05 16 07.4	+1.3	
PCBR	Castelo Branco	83.80 50	eP	P	05 16 08.7	+2.0	
	comp=Z,21nm,1.6s						
EVO	Evora	83.84 52	eP	P	05 16 07.9	+1.0	
	comp=Z,23nm,1.7s						
PMRV	Marv??o	84.00 50	eP	P	05 16 07.8	0.0	
	comp=Z,29nm,1.8s						
PVAQ	Vaqueiros	84.43 52	eP	P	05 16 11.5	+1.5	
PBAR	Barrancos	84.68 52	eP	P	05 16 12.5	+1.3	
	comp=Z,25nm,1.6s						
RAO	Raoul Island	84.91 237	LR	LR	05 44 24.4		
	comp=Z,60nm,21.0s,baz=64,slow=29						
NB2	NORSAR Subarra	85.60 26	P	P	05 16 15.2	-0.2	
	comp=Z,3.4nm,0.8s,baz=301,slow=5.1						
NOA	NORSAR Array B	85.60 26	P	P	05 16 16.1	+0.7	
	comp=Z,2.0nm,0.9s,baz=320,slow=6.0,SNR=6.7						
	comp=Z,2.0nm,0.9s						
ESDC	Sonseca Array	86.40 49	P	P	05 16 20.1	+0.3	
	comp=Z,3.5nm,1.0s,baz=303,slow=5.0,SNR=15						
ESDC			LR	LR	05 56 51.6		
	comp=Z,86nm,18.1s,baz=291,slow=37						
	comp=Z,3.5nm,1.0s						
YAK	Yakutsk	88.44 337	LR	LR	05 59 00.6		
	comp=Z,48nm,18.8s,baz=32,slow=38						
FINES	FINESS Array B	90.99 21	P	P	05 16 40.9	-0.2	
	comp=Z,1.6nm,0.7s,baz=315,slow=1.1,SNR=1.6						
	comp=Z,1.6nm,0.7s						
NRIK	Noril'sk	91.52 356	LR	LR	05 59 22.6		
	comp=Z,66nm,21.3s,baz=357,slow=37						
URZ	Urewera	92.30 230	LR	LR	05 48 48.3		
	comp=Z,90nm,20.5s,baz=30,slow=29						
DZM	Mont Dzumac	95.48 249	eLR	LR	05 47 54.1		
	comp=Z,309nm,27.3s						
DZM	Mont Dzumac	95.48 249	LR	LR	05 51 59.5		
	comp=Z,85nm,18.4s,baz=212,slow=30						
DBIC	Dimbokro	97.54 80	LR	LR	05 58 20.3		
	comp=Z,68nm,19.5s,baz=291,slow=34						
KEST	Kesra	97.60 48	LR	LR	06 03 45.6		
	comp=Z,56nm,18.0s,baz=276,slow=37						
RPZ	Rata Peaks	98.48 227	LR	LR	05 54 25.3		
	comp=Z,106nm,18.4s,baz=156,slow=31						
MJAR	Matsushiro Arr	98.66 313	LR	LR	05 55 26.6		
	comp=Z,28nm,20.4s,baz=66,slow=32						
OBN	Obninsk	99.40 21	LR	LR	06 01 31.7		
	comp=Z,111nm,18.2s,baz=350,slow=35						
KIRV	Kirov	99.98 13	LR	LR	06 05 21.4		
	comp=Z,100nm,18.7s,baz=348,slow=37						
WRA	Warramunga Arr	124.13 258	PKP	PKPdf	05 22 35.9	-0.6	
	comp=Z,1.1nm,1.0s,baz=59,slow=1.4,SNR=6.5						
ASAR	Alice Springs	125.07 254	PKP	PKPdf	05 22 37.0	-1.2	
	comp=Z,0.9nm,0.9s,baz=116,slow=1.7,SNR=4.6						

RSPR ***01*** *05:33:47.8, 19°.00N×64°.51W, h102km±8km, MD3.2/6*
NEIC ***01*** *05:33:48.2±1.7, 19°.1N±0°.1×64°.71W±0°.06, h10km±2km, ML2.6/22, Md3.2/6(RSPR), Error ellipse: s-maj=24.8km s-min=4.4km az=336.0*
SDD ***01*** *05:33:50.1±2.4, 20°.45N×67°.80W, h85km±474km, MD3.6, ML2.8, MW2.8*

ISC 01 05:33:46.5±2.6, 19°.2N±0°.2×64°.43W±0°.07, h35km, n40, σ0s80/38, 7C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	Col San Antoni	1.71 232	⇑	eP	Pn	05 34 13.7	-0.2
HUMP	Col San Antoni	1.71 232		eS	Sn	05 34 35.0	+0.4
HUMP	Col San Antoni	1.71 232			Pn	05 34 13.7	-0.2
HUMP	Col San Antoni	1.71 232		IAML		05 34 41.6	
	comp=N,73nm,0.4s						
HUMP				IAML		05 34 43.0	
	comp=E,97nm,0.2s						
GCPR	Guaynabo City	1.81 241	⇓	eP	Pn	05 34 14.9	-0.3
GCPR	Guaynabo City	1.81 241		eS	Sn	05 34 37.2	+0.4
GCPR	Guaynabo City	1.81 241			Pn	05 34 14.5	-0.6
SJG	San Juan	1.96 237	⇑	eP	Pn	05 34 17.6	+0.3
SJG	San Juan	1.96 237		eS	Sn	05 34 41.2	+0.5
SJG	San Juan	1.96 237		Pn	Pn	05 34 16.8	-0.5
EMPR	Esperanza - Ma	2.12 250	⇑	eP	Pn	05 34 19.7	+0.3
EMPR	Esperanza - Ma	2.12 250		eS	Sn	05 34 46.3	+1.7
EMPR	Esperanza - Ma	2.12 250			Pn	05 34 18.5	-0.9
CELP	Cerrillos	2.33 241	⇑	eP	Pn	05 34 22.4	+0.1
CELP	Cerrillos	2.33 241		eS	Sn	05 34 48.5	-1.3
CELP	Cerrillos	2.33 241			Pn	05 34 22.4	+0.1
CELP	Cerrillos	2.33 241		IAML		05 34 53.7	
	comp=E,33nm,0.8s						
CELP				IAML		05 34 59.4	
	comp=N,33nm,1.1s						
AOPR	Arecibo Observ	2.37 249	⇑	eP	Pn	05 34 23.0	+0.2
AOPR	Arecibo Observ	2.37 249		eS	Sn	05 34 51.0	+0.3
AOPR	Arecibo Observ	2.37 249			Pn	05 34 22.9	0.0
AOPR				IAML		05 34 58.0	
	comp=N,73nm,0.3s						
AOPR	Arecibo Observ	2.37 249		iP	Pn	05 34 23.2	+0.3
AOPR				iS	Sn	05 34 51.0	+0.3
AOPR				IAML		05 34 58.9	
	comp=N,63nm,0.5s						
AOPR	Arecibo Observ	2.37 249		eP	Pn	05 34 23.1	+0.2
OBIP	Obispado Ponce	2.37 241	⇓	eP	Pn	05 34 23.0	+0.1
OBIP	Obispado Ponce	2.37 241		eS	Sn	05 34 50.2	-0.5
OBIP	Obispado Ponce	2.37 241			Pn	05 34 23.0	+0.1
OBIP	Obispado Ponce	2.37 241		IAML		05 34 54.9	
	comp=E,43nm,0.7s						
AGPR	Aguadilla, PR	2.65 254		Pn	Pn	05 34 25.0	-1.7
PRSN	Puerto Rico Se	2.76 250		Pn	Pn	05 34 29.5	+1.2
PRSN				IAML		05 35 09.5	
	comp=E,38nm,0.4s						
PRSN				IAML		05 35 18.0	
	comp=N,44nm,0.3s						
PRSN	Puerto Rico Se	2.76 250		iP	Pn	05 34 23.4	-4.8
PRSN				iS	Sn	05 34 51.3	-9.0
PRSN				IAML		05 35 18.0	
	comp=N,43nm,0.3s						
MLPR	Magueyes Islan	2.77 244	⇑	eP	Pn	05 34 28.7	+0.2
MLPR	Magueyes Islan	2.77 244		eS	Sn	05 34 59.1	-1.6
MLPR	Magueyes Islan	2.77 244			Pn	05 34 28.9	+0.5
MLPR				IAML		05 35 18.8	
	comp=E,24nm,2.3s						
MLPR				IAML		05 35 35.7	
	comp=N,30nm,2.2s						
MLPR	Magueyes Islan	2.77 244		iP	Pn	05 34 29.4	+1.0
MLPR				IAML		05 35 35.1	
	comp=N,29nm,2.2s						
CRPR	Cabo Rojo, PR	2.81 245	⇑	eP	Pn	05 34 29.4	+0.5
CRPR	Cabo Rojo, PR	2.81 245		eS	Sn	05 35 01.2	-0.5
CRPR	Cabo Rojo, PR	2.81 245			Pn	05 34 29.4	+0.5
CRPR				IAML		05 35 24.5	
	comp=N,31nm,1.9s						
CRPR				IAML		05 35 34.6	
	comp=E,30nm,1.9s						
CRPR	Cabo Rojo, PR	2.81 245		iP	Pn	05 34 27.2	-1.7
CRPR				IAML		05 35 24.2	
	comp=N,44nm,1.9s						
ANBD	Bethesda, Anti	3.32 130		eP	Pn	05 34 36.7	+0.8
ANBD				eS	Sn	05 35 14.6	+0.4
SDDR	Presa de Saban	6.49 269		Pn	Pn	05 35 20.9	+1.2
SDDR	Presa de Saban	6.49 269		iS	Pn	05 35 20.2	+0.6
SDDR				IAML		05 35 57.1	
	comp=N,16nm,2.7s						

NAO ***01*** *05:39:36.8, 36°.21N×24°.02E, h33km, mb3.5*
ATH ***01*** *05:39:44.5, 36°.66N×21°.35E, h8km±1km, ML3.7/22, Manual Solution by A.Papageorgiou This location: 2020/06/12 14:23:48 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
THE ***01*** *05:39:44.1, 36°.67N×21°.31E, h0km±1km, ML3.6/14, Error ellipse: s-maj=1.6km s-min=0.6km az=203.0*
IDC ***01*** *05:39:45.6±1.2, 37°.35N×21°.66E, h0km, mb3.6/11, mbtmp3.6/17, ML3.5/5, MS3.0/3, Error ellipse: s-maj=20.2km s-min=17.0km az=36.0*

ISC 01 05:39:43.0±1.4, 36°.62N±0°.04×21°.29E±0°.04, h13km±8km, n137, σ1s40/162, mb3.6/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.46	53	P	Pg	05 39 52.4	+0.3
PYL				S	Sg	05 39 58.0	-0.2
	28μm,0.4s						
PYL	PYLOS	0.46	53	P	Pg	05 39 52.4	+0.3
PYL				S	Sg	05 39 57.5	-0.7
ITM	Ithomi	0.76	42	P	Pg	05 39 57.2	-0.5
ITM				S	Sg	05 40 07.5	-0.2
	12μm,0.6s						
ITM	Ithomi	0.76	42	P	Pg	05 39 57.4	-0.3
ITM				S	Sg	05 40 07.7	-0.1
LTHK	Lithakia	1.14	342	P	Pg	05 40 04.9	-0.1
LTHK				S	Sb	05 40 21.2	+1.7
	3μm,0.6s						
LTHK	Lithakia	1.14	342	P	Pg	05 40 04.9	-0.1
LTHK				S	Sb	05 40 20.9	+1.5
VLI	Veliai	1.33	85	P	Pn	05 40 08.0	+0.6
VLI				S	Sn	05 40 27.5	+2.5
	1μm,0.7s						
VLI	Veliai	1.33	85	P	Pn	05 40 08.5	+1.1
VLI				S	Sn	05 40 26.8	+1.9
MNVA	Monemvasia	1.41	87	P	Pg	05 40 10.7	+0.6
RLS	Riolos of Patr	1.44	6	P	Pn	05 40 09.3	+0.4
RLS				S	Sg	05 40 30.2	+0.7
	2μm,1.1s						
RLS	Riolos of Patr	1.44	6	P	Pn	05 40 10.3	+1.4
RLS				S	Sg	05 40 29.6	+0.1
RTZL	Ratzakli, Kefa	1.51	344	P	Pn	05 40 11.2	+1.4
RTZL				S	Sg	05 40 32.5	+0.9
GUR	Goura	1.56	32	P	Pn	05 40 10.8	+0.2
GUR				S	Sg	05 40 33.0	-0.3
	3μm,0.6s						
GUR	Goura	1.56	32	P	Pn	05 40 11.2	+0.6
GUR				S	Sn	05 40 31.8	+1.0
KLV	Kalavryta, Ach	1.58	26	P	Pn	05 40 11.3	+0.5
KLV				S	Sg	05 40 33.5	-0.4
	972nm,0.9s						
KLV	Kalavryta, Ach	1.58	26	P	Pn	05 40 11.4	+0.5
KLV				S	Sb	05 40 32.4	+0.3
PSDA	Pessada-Kefalo	1.59	340	P	Pn	05 40 11.5	+0.6
PSDA				S	Sb	05 40 34.3	+2.0
	1μm,0.7s						
PSDA	Pessada-Kefalo	1.59	340	P	Pn	05 40 12.3	+1.4
PSDA				S	Sb	05 40 33.7	+1.4
VLS	Valsamata	1.65	341	P	Pn	05 40 13.1	+1.4
VLS				S	Sb	05 40 35.8	+1.8
	868nm,0.6s						
VLS	Valsamata	1.65	341	P	Pn	05 40 13.1	+1.4
VLS				S	Sb	05 40 35.2	+1.2
KRND	KRANIDI	1.68	62	P	Pn	05 40 13.1	+1.0
KRND				S	Sg	05 40 36.8	-0.1
	1μm,0.8s						
KRND	KRANIDI	1.68	62	P	Pn	05 40 13.1	+1.0
KRND				S	Sn	05 40 34.5	+1.0
UPR	University Cam	1.71	13	P	Pn	05 40 13.5	+1.0
UPR				S	Sb	05 40 36.9	+1.2
ALIK	Aliki, Aigiali	1.76	22	P	Pb	05 40 15.7	+0.5
ALIK				S	Sg	05 40 38.7	-1.1
DMLN	Damoulianata-K	1.77	336	P	Pn	05 40 14.5	+1.1
DMLN				S	Sb	05 40 38.9	+1.4
	2μm,0.6s						
DMLN	Damoulianata-K	1.77	336	P	Pn	05 40 15.2	+1.8
DMLN				S	Sn	05 40 37.9	+2.1
ANKY	Antikythira Is	1.79	114	P	Pn	05 40 16.2	+2.5
ANKY				S	Sg	05 40 40.5	-0.3
ANKY	Antikythira Is	1.79	114	P	Pn	05 40 16.2	+2.5
ANKY				S	Sn	05 40 37.7	+1.3
EFP	Efpalio	1.87	15	P	Pn	05 40 16.8	+2.0
EFP				S	Sb	05 40 40.3	0.0
	955nm,0.8s						
EFP	Efpalio	1.87	15	P	Pn	05 40 16.4	+1.6
EFP				S	Sn	05 40 39.6	+1.3
KALE	Kalithea	1.89	21	P	Pn	05 40 16.9	+1.7
KALE				S	Sn	05 40 40.4	+1.5
	1μm,0.6s						
KALE	Kalithea	1.89	21	P	Pn	05 40 16.7	+1.5
KALE				S	Sn	05 40 40.1	+1.1
LOUT	Loutraki	1.92	44	P	Pn	05 40 16.4	+1.0
LOUT				S	Sb	05 40 42.5	+0.8
	2μm,0.8s						
PVO	Paravola	2.00	5	P	Pn	05 40 19.1	+2.5
ANX	Ano Chora	2.03	14	P	Pn	05 40 19.5	+2.4
ANX	Ano Chora	2.03	14	P	Pn	05 40 18.2	+1.1
EVGI	Lefkada island	2.06	346	P	Pn	05 40 19.0	+1.6
EVGI	Lefkada island	2.06	346	P	Pn	05 40 19.3	+2.0
NYDR	Nydri-Lefkada	2.14	348	P	Pn	05 40 20.5	+2.0
NYDR	Nydri-Lefkada	2.14	348	P	Pn	05 40 20.5	+2.0
LKD2	Lefkada island	2.22	347	P	Pn	05 40 20.8	+1.2
LKD2	Lefkada island	2.22	347	P	Pn	05 40 22.0	+2.4
VILL	Villia	2.23	46	P	Pn	05 40 20.0	+0.2
VIL2	Platees	2.24	44	P	Pn	05 40 20.6	+0.7
TSLK	Tsoukalades, L	2.26

DION	Dionisos Attik	2.56	55	P		Pn	05 40 25.5	+1.2
THL	Klokotos Trika	3.00	11	P		Pn	05 40 31.6	+1.4
THL	Klokotos Trika	3.00	11	P		Pn	05 40 31.7	+1.5
IGT	Igoumenitsa	3.00	346	P		Pn	05 40 31.2	+0.8
TYRN	Tyrnavos	3.17	13	P		Pn	05 40 33.8	+1.1
TYRN	Tyrnavos	3.17	13	P		Pn	05 40 34.0	+1.3
IDI	Anoyia	3.21	113	Pn		Pn	05 40 37.1	+3.8
	5.4nm,0.5s,baz=309,slow=18,SNR=13							
IDI				Sn		Sn	05 41 11.9	+0.4
	3.4nm,0.3s,baz=315,slow=20,SNR=6.4							
KPRO	Kipourio	3.33	1	P		Pn	05 40 37.2	+2.3
SRN	Sarande	3.41	343	P		Pn	05 40 36.8	+0.9
APE	Apeiranthos	3.44	81	P		Pn	05 40 36.3	0.0
APE	Apeiranthos	3.44	81	P		Pn	05 40 38.0	+1.7
LSK	Leskovik	3.56	352	P		Pn	05 40 39.9	+1.8
FNA	Florina	4.16	1	P		Pn	05 40 46.8	+0.5
CHOS	Chios island	4.18	64	P		Pn	05 40 46.7	+0.1
OHR	Ohrid	4.50	355	*i* Pn		Pn	05 40 52.6	+1.6
KNT	Kendrikon	4.71	15	P		Pn	05 40 54.8	+1.0
SRS	Serrai	4.84	21	P		Pn	05 40 56.1	+0.5
STIP	Stip	5.12	8	*i* Pn		Pn	05 41 01.5	+2.1
NVR	Nevrokopi	5.13	22	P		Pn	05 41 01.1	+1.5
DRME	Dracevica, Mon	5.79	344	*e*Pn		Pn	05 41 06.9	-1.8
PDG	Podgorica	6.01	345	*e*Pn		Pn	05 41 10.6	-1.0
HCY	Herceg Novi	6.21	341	*e*Pn		Pn	05 41 12.8	-1.5
TREB	Trebinje	6.50	341	*e*Pn		Pn	05 41 16.0	-2.3
DBRK	Dubrovnik	6.51	339	*e*Pn		Pn	05 41 17.5	-1.0
BRY	Bratogost	6.62	342	*e*Pn		Pn	05 41 18.6	-1.6
SJES	Sjenica	6.71	352	*e*Pn		Pn	05 41 20.1	-1.3
UPM	Unac-Piva	6.82	345	*e*Pn		Pn	05 41 22.3	-0.7
STON	Ston	6.83	337	*e*Pn		Pn	05 41 21.2	-1.6
STON	Ston	6.83	337	*e*Pn		Pn	05 41 20.2	-2.6
BBLS	Lazi&#263i	7.38	349	*e*Pn		Pn	05 41 29.4	-1.1
HVAR	Hvar	7.53	332	*e*Pn		Pn	05 41 31.6	-0.9
RICI	Ricice	7.57	336	*e*Pn		Pn	05 41 32.0	-1.0
RICI				Sn		Sn	05 42 50.9	-7.8
HAPS	Han Pijesak,BI	7.67	347	*e*Pn		Pn	05 41 31.1	-3.4
ZIRJ	Zirje	8.24	330	*e*Pn		Pn	05 41 41.2	-1.1
KIJV	Kijevo	8.26	335	*e*Pn		Pn	05 41 42.4	-0.2
MORI	Morici	8.40	331	*e*Pn		Pn	05 41 44.2	-0.2
MGRS	Mrkonjic Grad	8.42	339	*e*Pn		Pn	05 41 45.0	+0.3
FRGS	Fruska Gora	8.60	353	*e*Pn		Pn	05 41 40.6	-6.6
A050A	Klekovaca	8.64	337	*e*Pn		Pn	05 41 47.5	-0.4
BLY	Banja Luka	8.70	340	*e*Pn		Pn	05 41 45.1	-3.4
DUGI	Dugi Otok	8.76	329	*e*Pn		Pn	05 41 49.4	-0.1
UDBI	Udbina	8.94	334	*e*Pn		Pn	05 41 53.2	+1.2
VIRC	Vir	9.01	330	*e*Pn		Pn	05 41 52.8	0.0
NVLJ	Novalja	9.31	330	*e*Pn		Pn	05 41 56.5	-0.4
MLR	Muntele Rosu	9.53	20	Pn		Pn	05 41 54.0	-6.1
	0.2nm,0.3s,baz=171,slow=11,SNR=3.0							
	0.8nm,0.6s							
KEST	Kesra	9.69	268	LR		LR	05 46 24.5	
	comp=Z,81nm,19.2s,baz=276,slow=40							
BOJS	Bojanci	9.97	335	*e*Pn		Pn	05 42 04.7	-1.3
CRES	Cresnjev	10.19	336	*e*Pn		Pn	05 42 06.4	-2.5
BRTR	Keskin Array B	10.21	69	Pn		Pn	05 42 07.0	-2.4
	0.1nm,0.3s,baz=135,slow=55,SNR=2.4							
BRTR				LR		LR	05 46 58.5	
	comp=Z,85nm,18.6s,baz=257,slow=45							
	0.2nm,0.3s							
CEY	Cerknica	10.47	333	*e*Pn		Pn	05 42 12.4	-0.4
OBKA	Obir	11.09	335	*e*Pn		Pn	05 42 21.0	-0.3
	1.9nm,0.5s							
OBKA	Obir	11.09	335	*e*Pn		Pn	05 42 21.7	+0.3
ABTA	Abfaltersbach	12.05	330	*e*Pn		Pn	05 42 36.4	+1.9
	1.5nm,0.4s							
MOA	Molln	12.36	337	*e*Pn		Pn	05 42 38.5	-0.2
	1.0nm,0.3s							
LESA	Schwarzleotal	12.54	332	*e*Pn		Pn	05 42 41.1	-0.1
	0.4nm,0.3s							
DAVOX	Davos/Dischmat	13.24	324	Pn		Pn	05 42 48.6	-2.3
	0.1nm,0.3s,baz=321,slow=22,SNR=1.5							
DAVOX				Sn		Sn	05 45 07.8	-10
	0.1nm,0.3s,baz=313,slow=24,SNR=1.7							
	0.5nm,0.5s							
GERES	GERESS Array B	13.42	338	Pn		Pn	05 42 51.2	-2.0
	0.2nm,0.3s,baz=153,slow=12,SNR=2.1							
GERES				Sn		Sn	05 45 11.4	-11
	0.2nm,0.3s,baz=64,slow=23,SNR=1.9							
	0.3nm,0.3s							
AKASG	Malin Array Be	15.19	20	Pn		Pn	05 43 09.5	-7.6
	0.3nm,0.3s,baz=207,slow=11,SNR=2.3							
	1.5nm,0.5s							
KBZ	Khabaz	17.95	60	LR		LR	05 52 09.2	
	comp=Z,57nm,20.1s,baz=130,slow=43							
ESDC	Sonseca Array	20.07	286	P		Pn	05 44 20.7	+2.7
	0.3nm,0.7s,baz=79,slow=12,SNR=2.8							
	0.3nm,0.7s							
HFS	Hagfors	24.03	351	P		P	05 44 54.8	-2.7
	3.0nm,0.7s,baz=166,slow=14,SNR=9.2							
	3.0nm,0.7s							
FINES	FINESS Array B	25.03	5	P		P	05 45 05.0	-1.5
	2.5nm,0.6s,baz=172,slow=11,SNR=17							
	2.5nm,0.6s							
EKA	Eskdalemuir Ar	25.05	326	P		P	05 45 08.3	+1.5
	1.2nm,0.8s,baz=127,slow=10,SNR=4.7							
	1.2nm,0.8s							
NB2	NORSAR Subarra	25.26	348	P		P	05 45 07.5	-1.2
	comp=Z,0.7nm,0.6s,baz=156,slow=9.3							
NOA	NORSAR Array B	25.26	348	P		P	05 45 07.5	-1.2
	comp=Z,0.7nm,0.6s,baz=157,slow=9.0,SNR=8.2							
	comp=Z,0.7nm,0.6s							
TORD	Torodi Ar. Bea	29.24	222	P		P	05 45 56.1	+11
	comp=Z,0.3nm,0.6s,baz=7.0,slow=9.9,SNR=2.0							
	comp=Z,0.3nm,0.6s							
BVAR	Borovoye Array	37.67	48	P		P	05 46 57.9	0.0
	comp=Z,0.4nm,0.4s,baz=286,slow=5.4,SNR=2.5							
	comp=Z,0.4nm,0.4s							
SPITS	Spitsbergen Ar	41.72	358	P		P	05 47 29.1	-2.1
	comp=Z,1.6nm,0.5s,baz=186,slow=14,SNR=7.8							
	comp=Z,1.6nm,0.5s							
KURBB	Kurchatov Arra	42.68	52	P		P	05 47 38.4	-1.0
	comp=Z,0.5nm,0.4s,baz=280,slow=8.8,SNR=4.7							
	comp=Z,0.5nm,0.4s							
MKAR	Makanchi Array	45.61	57	P		P	05 48 02.9	-0.1
	comp=Z,0.3nm,0.5s,baz=262,slow=8.4,SNR=2.6							
	comp=Z,0.3nm,0.5s							
ZALV	Zalesovo Beam	46.29	47	P		P	05 48 07.4	-0.7
	comp=Z,0.9nm,0.4s,baz=266,slow=12,SNR=4.3							
	comp=Z,0.9nm,0.4s							

AEIC ***01*** *05:41:30.1±1.0,51°.9N±0°.1×179°.73W±0°.07,h145km±4km, Error ellipse: s-maj=15.2km s-min=6.4km az=176.0*

NEIC 01 05:41:30.7±0.9,51°.91N±0°.07×179°.78W±0°.07, h147km±5km,mb3.4/11,ML2.8(AEIC)**, Error ellipse: s-maj=10.8km s-min=5.9km az=160.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEPE	Semis' Perret	0.36	280		Pn	05 41 51.1	+0.1
CEPE					Sn	05 42 06.3	-0.2
CESW	Semis' Southwe	0.41	269		Pn	05 41 51.4	+0.2
CESW					Sn	05 42 06.4	-0.4
CEAP	Semis' Anvil P	0.41	284		Pn	05 41 51.5	+0.3
GANO	Gareloi North	0.61	98		Pn	05 41 52.1	-0.2
GANO					Sn	05 42 08.6	-0.1
GANE	Gareloi Northe	0.63	98		Pn	05 41 52.3	-0.1
GAEA	Gareloi East	0.65	101		Pn	05 41 52.8	+0.3
GAEA					Sn	05 42 09.1	0.0
AMKA	Amchitka	0.78	228		Pn	05 41 53.4	+0.1
AMKA					Sn	05 42 10.1	-0.5
LSPA	Little Sitkin	1.02	273		Pn	05 41 55.6	+0.3
LSSE	Little Sitkin	1.02	272		Pn	05 41 55.6	+0.3
TANO	Tanaga North	1.03	89		Pn	05 41 55.4	+0.1
LSNW	Little Sitkin	1.05	274		Pn	05 41 55.6	0.0
TASE	Tanaga Southea	1.08	93		Pn	05 41 55.6	-0.3
TAFP	Tanaga Falls P	1.11	90		Pn	05 41 55.8	-0.3
KICM	Kanaga Island	1.60	89		Pn	05 42 00.9	-0.2
KIWB	Kanaga Island	1.63	91	Pn	Pn	05 42 00.8	-0.6
KINC	Kanaga Island	1.64	88		Pn	05 42 01.1	-0.4
ADK	Adak	1.92	89		Pn	05 42 03.8	-0.8
GSTR	Great Sitkin T	2.31	84		Pn	05 42 08.6	-0.7
ATKA	Atka Island	3.46	83		Pn	05 42 23.6	-0.1
KOFP	Korovin Flat P	3.53	82		Pn	05 42 24.7	0.0
CLCO	Concord Point,	6.23	78		Pn	05 43 00.8	+0.5
NIKH	Nikolski High	6.77	77		Pn	05 43 07.4	0.0
UNV	Unalaska Valle	8.27	71	Pn	Pn	05 43 27.2	-0.2
LVA	Lava Point	8.59	69	Pn	Pn	05 43 33.5	+1.7
AKGG	Akutan Green G	8.62	69	Pn	Pn	05 43 31.2	-1.0
S12K	Black Hills	11.14	63	Pn	Pn	05 44 06.2	+0.6
CNBA	Chernabura Isl	12.40	68	Pn	Pn	05 44 19.0	-3.1
O18K	Koktuh Hills	15.84	50		P	05 45 07.2	+1.1
O18K					IAmb	IAmb	05 45 18.8	
	comp=Z,3.0nm,1.1s							
L18K	Granite Mounta	16.16	41		P	P	05 45 09.7	+0.1
L18K					IAmb	IAmb	05 45 31.2	
	comp=Z,1.8nm,1.1s							
L19K	White Mountain	16.90	43	P	P	P	05 45 17.3	-0.5
L19K					IAmb	IAmb	05 45 25.0	
	comp=Z,2.0nm,1.1s							
RSO	Redoubt South	17.20	50	P	P	P	05 45 20.1	-1.1
J20K	Nowinta River	18.14	37	P	Pn	Pn	05 45 32.5	-0.4
IMAR	Indian Mountai	19.25	33	P	P	P	05 45 42.6	-0.8
NEA2	Nenana	20.29	39	P	P	P	05 45 54.4	-0.1
NEA2					IAmb	IAmb	05 46 22.8	
	comp=Z,2.0nm,1.2s							
G23K	Bananza Creek	20.91	34	P	P	P	05 46 01.8	+0.5
G23K					IAmb	IAmb	05 46 04.4	
	comp=Z,1.0nm,0.7s							
H24K	Noodor Dome	21.27	37	P	P	P	05 46 05.4	+0.3
H24K					IAmb	IAmb	05 46 08.6	
	comp=Z,2.0nm,1.1s							
J25K	Salcha River,	21.78	41	P	P	P	05 46 09.4	-1.1
J26L	Joseph Creek	22.48	42	P	P	P	05 46 16.5	-1.1
BCAR	Beaver Creek A	22.90	46	P	P	P	05 46 21.4	-0.1
BMAR	Burnt Mountain	23.14	34		P	P	05 46 23.7	+0.1
I28M	Miner Creek	24.23	41	P	P	P	05 46 32.8	-0.8
I28M					IAmb	IAmb	05 46 34.9	
	comp=Z,0.8nm,0.7s							
D27M	Malcolm River	25.11	32	P	P	P	05 46 42.3	+0.8

IDC ***01*** *05:57:35.2±0.6,33°.66S×77°.56E,h0km,mb4.3/24, mbtmp4.3/24,MS4.1/34,Error ellipse: s-maj=24.2km s-min=17.5km az=78.0*

NEIC ***01*** *05:57:36.8±1.1,33°.63S±0°.10×77°.9E±0°.1,h10km±1km, mb4.8/31,Error ellipse: s-maj=19.1km s-min=16.1km az=93.0*

GCMT ***01*** *05:57:38.8±0.2,33°.65S±0°.01×77°.46E±0°.02,h12km, MW4.9/113,Moment Tensor Solution. s36,c40; s113,c156; Duration: 0 Moment tensor: Scale 1016Nm; Mrr0.22±.08; Mθθ-2.65±.07; Mφφ2.43±.07; Mrθ2.19±.23; Mrφ0.32±.08; Mθφ-0.46±.22; Best double couple: M=3.20100×1016 NP1:φs=319.00000°,δ80.00000°, λ-149.00000°. NP2:φs=223.00000°,δ60.00000°, λ-12.00000°. Principal axes: T 2.5280, Plg13.0000°, Azm88.0000°; N 1.3440, Plg58.0000°, Azm336.0000°; P -3.8740, Plg29.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 05:57:36.6±0.4,33°.62S±0°.07×77°.83E±0°.10,h10km,n99, σ0°.94/66,mb4.6/42,MS4.2/36,4C,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	Amsterdam Isla	4.17	183	Pn	Pn	05 58 40.4	0.0
H04N2	CROZET ISLANDS	23.45	230	T	T	06 26 48.3	
	baz=67,slow=74,SNR=1701						
H04N1	CROZET ISLANDS	23.47	230	T	T	06 26 50.6	
	baz=67,slow=74,SNR=1414						
H04N3	CROZET ISLANDS	23.47	230	T	T	06 26 47.8	
	baz=67,slow=74,SNR=1758						
H04S1	CROZET ISLANDS	23.66	228	T	T	06 27 04.6	
	baz=65,slow=76,SNR=100						
H04S3	CROZET ISLANDS	23.67	228	T	T	06 27 04.2	
	baz=65,slow=76,SNR=130						
H04S2	CROZET ISLANDS	23.68	228	T	T	06 27 05.9	
	baz=65,slow=76,SNR=108						
H08S2	Diego Garcia H	26.32	348	T	T	06 30 21.4	
	baz=171,slow=76,SNR=606						
H08S1	Diego Garcia H	26.32	348	T	T	06 30 21.8	
	baz=171,slow=76,SNR=636						
H08S3	Diego Garcia H	26.34	348	T	T	06 30 23.0	
	baz=171,slow=76,SNR=801						
OPO	Ambohidratompo	31.19	291	LR	LR	06 13 08.8	
	comp=Z,215nm,20.9s,baz=14,slow=30						
NWAO	Narrogin (SRO)	32.82	100	P	P	06 04 09.7	-0.6
XMIS	Christmas Isla	34.37	54	P	P	06 04 22.2	-1.8
MAW	Mawson	35.12	190	P	P	06 04 30.1	+0.3
	2.2nm,0.8s,baz=359,slow=9.3,SNR=2.4						
MAW				LR	LR	06 15 27.1	
	comp=Z,412nm,19.7s,baz=50,slow=31						
	2.2nm,0.8s						
PALK	Pallekele	40.76	4	LR	LR	06 18 07.7	
	comp=Z,468nm,20.7s,baz=280,slow=30						
BOSA	Boshof	44.89	262	LR	LR	06 20 59.8	
	comp=Z,447nm,18.2s,baz=116,slow=31						
MATP	Matopo	45.47	274	LR	LR	06 21 30.4	
	comp=Z,341nm,21.8s,baz=62,slow=32						
KAPI	Kappang	48.21	63	LR	LR	06 23 21.6	
	comp=Z,133nm,21.3s,baz=206,slow=32						
LSZ	Lusaka	48.26	280	P	P	06 06 18.1	0.0
LSZ					IAmb	IAmb	06 06 27.0	
	comp=Z,15nm,1.2s						
SOEI	Soe	48.73	72	P	P	06 06 20.4	-1.4
ASAR	Alice Springs	49.69	94	P	P	06 06 28.1	-0.8
ASAR	Alice Springs	49.69	94	P	P	06 06 30.9	+1.9
	comp=Z,1.9nm,1.0s,baz=247,slow=6.9,SNR=3.4						
ASAR				LR	LR	06 26 10.6	
	comp=Z,305nm,18.9s,baz=260,slow=34						
	comp=Z,1.9nm,1.0s						
KMBO	Kilima Mbogo	49.88	302	P	P	06 06 30.1	-0.6
KMBO					IAmb	IAmb	06 06 40.4	
	comp=Z,7.7nm,1.1s						
WRA	Warramunga Arr	51.68	90	P	P	06 06 43.5	-0.6
WRA	Warramunga Arr	51.68	90	P	P	06 06 46.0	+2.0
	comp=Z,1.5nm,0.8s,baz=245,slow=7.4,SNR=4.6						
WRA				LR	LR	06 25 53.1	
	comp=Z,318nm,21.7s,baz=216,slow=33						
	comp=Z,1.5nm,0.8s						
WB2	Warramunga Arr	51.69	90	P	P	06 06 43.2	-1.0
WB2					IAmb	IAmb	06 06 52.6	
	comp=Z,14nm,1.3s						
STKA	Stephens Creek	52.88	107	LR	LR	06 26 21.0	
	comp=Z,401nm,19.6s,baz=215,slow=32						
TROLL	Troll, Antarti	53.87	202	⇑P	P	06 07 01.4	+1.8
	comp=Z,232nm,0.9s						
LODK	Lodwar	54.42	304	P	P	06 07 03.6	-0.7
LODK					IAmb	IAmb	06 07 06.9	
	comp=Z,14nm,1.4s						
MBAR	Mbarara	54.98	297	P	P	06 07 07.5	-1.0
MBAR	Mbarara	54.98	297	LR	LR	06 25 57.8	
	comp=Z,241nm,21.9s,baz=91,slow=31						
TSUM	Tsumeb	55.14	269	LR	LR	06 27 31.5	
	comp=Z,523nm,18.6s,baz=148,slow=33						
SNAA	Sanae	55.55	202	P	P	06 07 11.4	-0.3
SNAA	Sanae	55.55	202	⇑P	P	06 07 13.9	+2.2
	comp=Z,54nm,0.9s						
SNAA	Sanae	55.55	202	P	P	06 07 10.1	-1.7
	comp=Z,1.6nm,1.0s,baz=141,slow=11,SNR=2.1						
SNAA				LR	LR	06 25 58.9	
	comp=Z,84nm,21.8s,baz=89,slow=31						
	comp=Z,1.6nm,1.0s						
ATD	Arta Tunnel	55.90	317	LR	LR	06 26 45.2	
	comp=Z,4.6nm,19.5s,baz=182,slow=31						
VNDA	Vanda	56.16	165	LR	LR	06 28 59.8	
	comp=Z,654nm,19.4s,baz=272,slow=34						
QSPA	South Pole Qui	56.53	180	P	P	06 07 18.9	0.0
QSPA					IAmb	IAmb	06 07 24.9	
	comp=Z,15nm,1.4s						
QSPA	South Pole Qui	56.53	180	P	P	06 07 18.5	-0.4
	comp=Z,3.5nm,0.9s,baz=210,slow=1.1,SNR=13						
QSPA				LR	LR	06 29 28.6	
	comp=Z,168nm,18.7s,baz=313,slow=34						
	comp=Z,3.5nm,0.9s						
VNA2	Neumayer--Watz	57.09	203	⇑P	P	06 07 22.0	-0.7
	comp=Z,1.9nm,0.9s,baz=38,slow=1.8						
SBA	Scott Base	57.19	165	P	P	06 07 23.4	+0.2
CRAI	Chiangrai	57.70	25	P	P	06 07 26.6	-0.9
CRAI					IAmb	IAmb	06 07 47.4	
	comp=Z,13nm,1.4s						
VNA3	Neumayer Olymp	57.77	202	⇑P	P	06 07 26.8	-0.7
	comp=Z,3.4nm,0.8s						
WSAR	Wadi Sarin	59.43	339	LR	LR	06 28 14.7	
	comp=Z,184nm,21.2s,baz=158,slow=31						
DAV	Davao City (W)	60.70	57	LR	LR	06 31 12.5	
	comp=Z,55nm,21.4s,baz=172,slow=33						
BELA	Belgrano 2	61.88	193	P	P	06 07 55.3	-0.3
BELA					IAmb	IAmb	06 08 07.7	
	comp=Z,9.2nm,1.1s						
LSA	Lhasa	64.23	13	P	P	06 08 12.6	+0.3
RAYN	Ar Rayn	64.63	327	P	P	06 08 14.3	-0.2
RAYN					IAmb	IAmb	06 08 30.8	
	comp=Z,11nm,1.2s							
PMG	Port Moresby	67.66	86	LR	LR	06 38 04.4	
	comp=Z,607nm,18.2s,baz=227,slow=36						
SIMJ	Simiganj	72.38	353	P	P	06 09 03.1	+0.4
SIMJ					IAmb	IAmb	06 09 29.8	
	comp=Z,10nm,1.2s						
GAR	Garm	72.59	354	P	P	06 09 04.0	0.0
GAR					IAmb	IAmb	06 09 13.0	
	comp=Z,11nm,0.9s						
LZH	Lanzhou	73.49	22	*e*P	P	06 09 11.1	+1.7
LZH				pP	pwP	06 09 20.3	+4.3
LZH				pmax	pmax		
	comp=Z,18nm,1.6s						
GEYT	Alibeck	73.51	344	P	P	06 09 08.8	-0.6
	comp=Z,1.1nm,0.6s,baz=211,slow=5.0,SNR=1.3						
	comp=Z,1.1nm,0.6s						
ARSB	Arslanbob	74.71	356	P	P	06 09 16.8	+0.4
EIL	Elat	74.89	322	P	P	06 09 17.1	-0.4
	comp=Z,4.1nm,0.7s,baz=138,slow=3.1,SNR=2.4						
EIL				LR	LR	06 38 23.1	
	comp=Z,108nm,18.0s,baz=66,slow=33						
	comp=Z,4.1nm,0.7s						
GTA	Gaotai	75.47	17	*e*P	P	06 09 26.3	+5.5
GTA				sP	PcP	06 09 36.3	+2.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BOOM	Boomskoye usch	75.76	359	P	P	06 09 23.4	+0.9
ASF	Jabal al Asfar	75.96	325	P	P	06 09 24.0	+0.2
	comp=Z,1.7nm,0.3s,baz=72,slow=0.0,SNR=6.5						
	comp=Z,1.7nm,0.3s						
URZ	Urewera	76.47	127	LR	LR	06 35 10.0	
	comp=Z,97nm,20.8s,baz=28,slow=29						
KK31	Karatay Array	76.65	354	P	P	06 09 27.8	+0.4
KKAR	Karatay Array	76.65	354	P	P	06 09 28.1	+0.8
KKAR					IAmb	IAmb	06 09 41.8	
	comp=Z,27nm,1.3s						
KKAR	Karatay Array	76.65	354	P	P	06 09 28.2	+0.8
MMAI	Mount Meron Ar	77.37	324	P	P	06 09 31.6	-0.1
	comp=Z,1.1nm,0.4s,baz=172,slow=7.5,SNR=3.7						
MMAI				LR	LR	06 40 14.5	
	comp=Z,87nm,18.3s,baz=83,slow=33						
	comp=Z,1.1nm,0.4s						
PMSA	Palmer Station	77.49	196	LR	LR	06 44 06.5	
	comp=Z,94nm,18.1s,baz=134,slow=36						
HNR	Honiara	78.31	94	LR	LR	06 41 39.1	
	comp=Z,3μm,20.2s,baz=272,slow=34						
GUMO	Guam	79.17	66	LR	LR	06 46 12.6	
	comp=Z,21nm,18.5s,baz=100,slow=37						
GNI	Garni	79.52	335	P	P	06 09 43.4	-0.1
	comp=Z,3.9nm,0.5s,baz=101,slow=3.1,SNR=4.4						
GNI				LR	LR	06 43 02.0	
	comp=Z,117nm,18.9s,baz=147,slow=34						
	comp=Z,3.9nm,0.5s						
MAKZ	Makanchi	80.15	3	P	P	06 09 46.6	0.0
MAKZ					IAmb	IAmb	06 10 05.6	
	comp=Z,9.5nm,1.4s						
MK31	Makanchi Array	80.15	3	P	P	06 09 46.2	-0.4
MKAR	Makanchi Array	80.15	3	P	P	06 09 46.1	-0.5
	comp=Z,3.3nm,0.9s,baz=168,slow=6.2,SNR=16						
	comp=Z,3.3nm,0.9s						
KBZ	Khabaz	83.32	335	P	P	06 10 04.5	+1.1
	comp=Z,0.4nm,0.3s,baz=127,slow=5.1,SNR=1.1						
KBZ				LR	LR	06 44 14.6	
	comp=Z,42nm,20.0s,baz=160,slow=34						
	comp=Z,0.4nm,0.3s						
BRTR	Keskin Array B	83.65	327	P	P	06 10 05.0	-0.3
	comp=Z,0.8nm,0.7s,baz=170,slow=7.5,SNR=4.5						
BRTR				LR	LR	06 43 33.3	
	comp=Z,46nm,19.4s,baz=139,slow=33						
	comp=Z,0.8nm,0.7s						
KURBB	Kurchatov Arra	83.88	0	P	P	06 10 06.2	+0.2
	comp=Z,1.7nm,0.9s,baz=190,slow=5.0,SNR=14						
	comp=Z,1.7nm,0.9s						
KURK	Kurchatov	83.97	1	P	P	06 10 07.1	+0.6
KURK					IAmb	IAmb	06 10 22.4	
	comp=Z,20nm,1.4s						
ABKAR	Akbulak array	84.03	348	P	P	06 10 07.0	+0.1
IDI	Anoyia	84.58	319	P	P	06 10 09.8	-0.3
	comp=Z,4.0nm,0.9s,baz=90,slow=6.1,SNR=2.2						
	comp=Z,4.0nm,0.9s						
KSRS	Korea Array	84.70	38	P	P	06 10 11.4	+0.8
	comp=Z,0.4nm,0.4s,baz=214,slow=6.3,SNR=2.6						
KSRS				LR	LR	06 46 18.8	
	comp=Z,33nm,19.7s,baz=205,slow=34						
	comp=Z,0.4nm,0.4s						
SONM	Songino Array	85.04	19	P	P	06 10 12.7	+0.5
SONM					IAmb	IAmb	06 10 28.3	
	comp=Z,5.0nm,1.2s						
SONM	Songino Array	85.04	19	P	P	06 10 12.9	+0.7
	comp=Z,1.3nm,0.9s,baz=209,slow=3.5,SNR=6.3						
SONM				LR	LR	06 46 09.0	
	comp=Z,158nm,21.2s,baz=230,slow=34						
	comp=Z,1.3nm,0.9s						
AKTO	Aktyubinsk	85.51	347	P	P	06 10 13.8	-0.4
	comp=Z,1.6nm

JAGI				S	Sn	06 01 13.0	-3.6
ABJI	**Asem Bagus**	2.03	293	P	Pn	06 00 50.3	-0.7
GRJI	**Gresik**	3.98	295	P	Pn	06 01 16.1	+0.6
PWJI	**Pagerwojo**	4.31	277	P	Pn	06 01 18.3	-1.6
BWJI	**Bawean**	4.39	308	P	Pn	06 01 20.7	-0.3
BASI	**Baing, Sumba**	4.68	110	P	Pn	06 01 22.7	-2.0
KAPI	**Kappang**	5.08	46	P	Pn	06 01 30.8	+0.8
KAPI	**Kappang**	5.08	46	Pn	Pn	06 01 26.5	-3.5
KAPI	**Kappang**	5.08	46	P	Pn	06 01 30.8	+0.8
31nm,0.6s,baz=224,slow=8.8,SNR=13							
KAPI				S	Sn	06 02 28.1	0.0
9.4nm,0.5s,baz=255,slow=22,SNR=1.1							
BKSI	**Bulukumba**	5.14	51	P	Pn	06 01 30.6	-0.3
48nm,0.6s,723nm0.2nm							
EDFI	**Ende, Flores**	5.51	92	P	Pn	06 01 33.5	-2.3
49nm,0.5s,3μm0.4nm							
UGM	**Wanagama**	5.58	277	P	Pn	06 01 36.9	+0.2
UGM	**Wanagama**	5.58	277	Pn	Pn	06 01 35.9	-0.8
UGM	**Wanagama**	5.58	277	P	Pn	06 01 36.0	-0.8
MMRI	**Maumere**	6.05	91	P	Pn	06 01 41.9	-1.0
MMRI	**Maumere**	6.05	91	Pn	Pn	06 01 37.4	-5.5
MMRI	**Maumere**	6.05	91	P	Pn	06 01 41.8	-1.1
KPJI	**Karang Pucung**	7.23	280	P	Pn	06 01 58.3	-0.4
BBJI	**Bungbulang**	8.46	277	P	Pn	06 02 15.2	0.0
SBUM	**Sibu**	11.65	340	Pn	Pn	06 02 56.0	-1.3
MBWA	**Marble Bar**	12.96	165	Pn	Pn	06 03 11.4	-2.8
FITZ	**Fitzroy Crossi**	13.21	137	P	Pn	06 03 15.7	-1.8
21nm,0.7s							
FITZ	**Fitzroy Crossi**	13.21	137	Pn	Pn	06 03 15.2	-2.3
PSA00	**Pilbara Seismi**	13.38	165	P	Pn	06 03 18.0	-1.6
PSA00	**Pilbara Seismi**	13.38	165	Pn	Pn	06 03 17.2	-2.4
PSA00	**Pilbara Seismi**	13.38	165	Pn	Pn	06 03 17.4	-2.2
GIRL	**Giralia**	14.07	187	P	Pn	06 03 28.0	-0.4
GIRL	**Giralia**	14.07	187	Pn	Pn	06 03 26.7	-1.6
KNRA	**Kununurra**	14.21	121	Pn	Pn	06 03 28.8	-1.4
MTN	**Manton Dam**	15.34	107	Pn	Pn	06 03 42.0	-2.3
MTN				IAmb	IAmb	06 03 52.2	
comp=Z,18nm,1.0s							
FAKI	**Fak Fak**	17.01	72		P	06 04 02.1	-2.0
FAKI				IAmb	IAmb	06 04 12.1	
comp=Z,17nm,1.1s							
MORW	**Morawa**	20.35	180	P	P	06 04 42.0	+1.8
MORW				IAmb	IAmb	06 04 45.3	
comp=Z,9.4nm,0.9s							
WB0	**Warramunga Arr**	20.88	124	P	P	06 04 45.8	-0.2
WB0				IAmb	IAmb	06 05 05.0	
comp=Z,3.7nm,0.7s							
WRA	**Warramunga Arr**	20.92	125	P	P	06 04 46.2	-0.2
WRA	**Warramunga Arr**	20.92	125	P	P	06 04 46.6	+0.1
comp=Z,1.3nm,0.4s,baz=296,slow=13,SNR=36							
WRA				S	S	06 08 32.5	+1.0
comp=Z,1.2nm,0.6s,baz=295,slow=24,SNR=1.8							
comp=Z,1.3nm,0.4s							
WB2	**Warramunga Arr**	20.93	125	P	P	06 04 46.5	-0.1
WB2				IAmb	IAmb	06 04 49.2	
comp=Z,8.3nm,1.1s							
WR0	**Warramunga Arr**	21.09	124	P	P	06 04 48.0	-0.3
WR0				IAmb	IAmb	06 04 53.9	
comp=Z,3.5nm,0.8s							
AS31	**Alice Springs**	22.67	133	P	P	06 05 03.9	-0.5
ASAR	**Alice Springs**	22.67	133	P	P	06 05 04.2	-0.3
ASAR	**Alice Springs**	22.67	133	P	P	06 05 05.0	+0.5
comp=Z,2.9nm,0.5s,baz=307,slow=9.1,SNR=57							
ASAR				PcP	PcP	06 08 52.5	+0.7
comp=Z,0.5nm,0.4s,baz=313,slow=1.3,SNR=5.4							
comp=Z,2.9nm,0.5s							
NWAO	**Narrogin (SRO)**	24.22	178	P	P	06 05 19.5	+1.1
NWAO	**Narrogin (SRO)**	24.22	178	P	P	06 05 19.5	+1.1
comp=Z,5.9nm,0.4s,baz=353,slow=7.4,SNR=16							
comp=Z,5.9nm,0.4s							
FORT	**Forrest**	24.72	155	P	P	06 05 24.4	+1.5
COEN	**Coen**	27.05	104	P	P	06 05 45.6	+1.5
COEN				IAmb	IAmb	06 05 50.0	
comp=Z,10nm,1.0s							
QIZ	**Qiongzhong**	28.15	347	P	P	06 05 54.6	+0.8
STKA	**Stephens Creek**	33.11	138	P	P	06 06 38.5	+1.2
STKA	**Stephens Creek**	33.11	138	P	P	06 06 38.0	+0.6
comp=Z,2.4nm,0.4s,baz=319,slow=9.8,SNR=3.9							
comp=Z,2.4nm,0.4s							
YHNB	**Yeheng**	33.47	9	P	P	06 06 41.5	+0.8
KSRS	**Korea Array**	47.13	13	P	P	06 08 33.1	+0.5
comp=Z,1.9nm,0.7s,baz=192,slow=7.5,SNR=8.6							
comp=Z,1.9nm,0.7s							
MJAR	**Matsushiro Arr**	49.48	23	P	P	06 08 49.7	-0.9
comp=Z,2.3nm,0.7s,baz=196,slow=8.5,SNR=13							
comp=Z,2.3nm,0.7s							
SONM	**Songino Array**	56.85	352	P	P	06 09 44.4	-0.1
comp=Z,1.7nm,0.7s,baz=173,slow=9.5,SNR=9.0							
comp=Z,1.7nm,0.7s							
ASAJ	**Asahikawa**	57.70	22	P	P	06 09 49.9	-0.5
comp=Z,2.6nm,0.5s,baz=259,slow=4.4,SNR=8.1							
comp=Z,2.6nm,0.5s							
CASY	**Casey**	57.71	183	P	P	06 09 51.4	+1.3
MKAR	**Makanchi Array**	62.85	335	P	P	06 10 24.2	-1.2
comp=Z,0.7nm,0.4s,baz=150,slow=6.6,SNR=10.0							
comp=Z,0.7nm,0.4s							
MAW	**Mawson**	68.65	199	P	P	06 11 02.6	+0.5
comp=Z,1.2nm,0.4s,baz=151,slow=7.8,SNR=3.1							
comp=Z,1.2nm,0.4s							
BVAR	**Borovoye Array**	72.64	333	P	P	06 11 25.1	-1.4
comp=Z,0.7nm,0.3s,baz=156,slow=7.4,SNR=4.0							
comp=Z,0.7nm,0.3s							
VNDA	**Vanda**	72.83	171	P	P	06 11 29.4	+2.1
VNDA	**Vanda**	72.83	171	P	P	06 11 28.6	+1.3
comp=Z,1.0nm,0.6s,baz=313,slow=8.3,SNR=7.6							
comp=Z,1.0nm,0.6s							
SBA	**Scott Base**	73.85	170	P	P	06 11 36.1	+2.8
ABKAR	**Akbulak array**	75.62	326	P	P	06 11 42.5	-1.5
ABKAR				IAmb	IAmb	06 11 43.5	
comp=Z,2.3nm,1.0s							
QSPA	**South Pole Qui**	81.38	180	P	P	06 12 17.0	+1.5
QSPA				IAmb	IAmb	06 12 20.9	
comp=Z,3.0nm,1.1s							
QSPA	**South Pole Qui**	81.38	180	P	P	06 12 16.4	+1.0
comp=Z,2.0nm,1.0s,baz=247,slow=6.2,SNR=3.0							
comp=Z,2.0nm,1.0s							
SNAA	**Sanae**	90.60	196	P	P	06 13 02.6	+2.1
comp=Z,1.1nm,0.4s,baz=200,slow=7.3,SNR=15							
comp=Z,1.1nm,0.4s							
CPUP	**Villa Florida**	144.69	190	PKP	PKPdf	06 19 36.1	+0.9
comp=Z,4.4nm,0.5s,baz=176,slow=2.1,SNR=23							
BDFB	**Brasilia**	151.23	213	PKPbc	PKiKP	06 19 53.5	+0.6
comp=Z,1.5nm,0.5s,baz=131,slow=5.3,SNR=3.9							
LPAZ	**La Paz**	154.91	170	PKPab	PKPab	06 20 16.7	0.0
comp=Z,1.3nm,0.7s,baz=185,slow=4.6,SNR=6.2							

*IDC **01** 06:01:28.0±0.8, 51°.26S×139°.17E, h0km, mb4.1/5, mbtmp4.1/6, ML4.1/1, MS3.7/4, Error ellipse: s-maj=61.8km s-min=17.0km az=87.0*
*NEIC **01** 06:01:29.9±1.8, 51°.28S±0°.08×139°.3E±0°.3, h10km±1km, mb4.3/17, Error ellipse: s-maj=29.4km s-min=4.1km az=115.0*
ISC 01 06:01:29.7±0.5,**51°.28S**±0°.08×**139°.3E**±0°.1,**h10**km,**n65**, σ0s**94**/51,**mb4.3**/11,**MS3.7**/3,**4C**,**Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	**Toolangi**	14.40	20	Pn	Pn	06 04 53.2	-0.3
ARPS	**Mount Arapiles**	14.62	8	P	P	06 05 08.3	+5.4
CAN	**Canberra**	17.43	28	P	Pn	06 05 31.4	-1.4
BBOO	**Buckleboo**	18.61	352	P	P	06 05 46.1	-0.9
BBOO				IAmb	IAmb	06 06 00.9	
comp=Z,7.2nm,0.9s							
STKA	**Stephens Creek**	19.46	6	P	Pn	06 06 00.9	+3.2
STKA	**Stephens Creek**	19.46	6	P	P	06 05 56.3	-0.2
STKA	**Stephens Creek**	19.46	6	P	P	06 05 56.9	+0.4
comp=Z,0.3nm,0.3s,baz=194,slow=13,SNR=4.2							
STKA				LR	LR	06 12 14.6	
comp=Z,239nm,19.8s,baz=192,slow=33							
comp=Z,3.3nm,0.6s							
WHZ	**Wether Hill Ro**	19.66	85	P	P	06 05 59.1	+0.7
WHZ				IAmb	IAmb	06 06 03.1	
comp=Z,27nm,1.2s							
MLZ	**Mavora Lakes**	20.00	84	P	P	06 06 03.1	+0.8
CMSA	**Cobar Meteorol**	20.29	16	P	Pn	06 06 12.1	+4.6
LCRK	**Leigh Creek**	20.83	357	P	Pn	06 06 14.8	+1.1
CASY	**Casey**	20.86	213	P	P	06 06 12.1	+0.8
CASY				IAmb	IAmb	06 06 18.9	
comp=Z,10nm,0.8s							
MULG	**Mulgathing**	21.33	348	P	P	06 06 17.0	+0.3
ARMA	**Armidale**	22.79	29	P	P	06 06 31.4	-1.0
ARMA				IAmb	IAmb	06 06 38.0	
comp=Z,11nm,1.0s							
INKA	**Innaminka**	23.54	3	P	P	06 06 42.0	+2.1
QLP	**Quilpie**	24.95	11	P	P	06 06 55.3	+2.2
VNDA	**Vanda**	27.67	170	P	P	06 07 17.3	+0.1
VNDA				IAmb	IAmb	06 07 32.5	
comp=Z,5.9nm,1.1s							
VNDA	**Vanda**	27.67	170	P	P	06 07 17.0	-0.2
comp=Z,2.0nm,0.9s,baz=314,slow=8.7,SNR=8.1							
comp=Z,2.0nm,0.9s							
ASAR	**Alice Springs**	27.88	349	P	P	06 07 18.4	-1.2
comp=Z,1.1nm,0.6s,baz=173,slow=8.9,SNR=7.2							
ASAR				PcP	PcP	06 10 34.3	-0.9
comp=Z,0.5nm,0.6s,baz=169,slow=1.9,SNR=2.1							
comp=Z,1.1nm,0.6s							
AS31	**Alice Springs**	27.88	349	P	P	06 07 19.1	-0.5
SBA	**Scott Base**	28.54	168	P	P	06 07 25.7	+0.8
SBA				IAmb	IAmb	06 07 28.8	
comp=Z,3.4nm,1.0s							
URZ	**Urewera**	29.51	79	LR	LR	06 18 23.0	
comp=Z,138nm,18.1s,baz=9.5,slow=34							
WR0	**Warramunga Arr**	31.48	351	P	P	06 07 51.8	+0.3
WR0				IAmb	IAmb	06 08 09.7	
comp=Z,5.8nm,1.1s							
WB2	**Warramunga Arr**	31.51	351	P	P	06 07 51.3	-0.5
WRA	**Warramunga Arr**	31.51	351	P	P	06 07 50.9	-0.9
WRA	**Warramunga Arr**	31.51	351	P	P	06 07 50.9	-0.9
comp=Z,2.3nm,0.8s,baz=178,slow=8.0,SNR=9.8							
comp=Z,2.3nm,0.8s							
WB0	**Warramunga Arr**	31.68	351	P	P	06 07 53.5	+0.2
WB0				IAmb	IAmb	06 07 55.2	
comp=Z,4.6nm,0.8s							
QSPA	**South Pole Qui**	38.84	180	P	P	06 08 55.5	+0.9
QSPA				IAmb	IAmb	06 09 02.2	
comp=Z,9.6nm,1.0s							
QSPA	**South Pole Qui**	38.84	180	P	P	06 08 54.9	+0.3
comp=Z,5.1nm,0.7s,baz=1.2,slow=3.5,SNR=16							
comp=Z,5.1nm,0.7s							
MTN	**Manton Dam**	38.90	347	P	P	06 08 56.1	+0.8
BELA	**Belgrano 2**	51.06	182		P	06 10 31.5	+0.1
TROLL	**Troll, Antarti**	53.31	195	⇑P	P	06 10 47.6	-0.7
comp=Z,94nm,0.9s							
H04S1	**CROZET ISLANDS**	54.14	238	T	T	07 09 53.7	
baz=128,slow=75,SNR=156							
H04S2	**CROZET ISLANDS**	54.14	238	T	T	07 09 55.5	
baz=128,slow=75,SNR=179							
H04S3	**CROZET ISLANDS**	54.16	238	T	T	07 09 54.9	
baz=128,slow=75,SNR=192							
SNAA	**Sanae**	54.45	194	⇑P	P	06 10 55.8	-0.8
comp=Z,43nm,1.1s							
SNAA	**Sanae**	54.45	194	P	P	06 10 55.8	-0.8
comp=Z,1.6nm,0.9s,baz=178,slow=12,SNR=4.3							
comp=Z,1.6nm,0.9s							
VNA2	**Neumayer--Watz**	55.78	193	⇑P	P	06 11 05.6	-0.6
comp=Z,2.5nm,0.6s,baz=142,slow=7.9							
VNA3	**Neumayer Olymp**	55.78	192	⇑P	P	06 11 04.6	-1.6
comp=Z,2.9nm,0.8s							
H08S2	**Diego Garcia H**	69.61	284	T	T	07 28 33.0	
baz=142,slow=76,SNR=40							
H08S1	**Diego Garcia H**	69.62	284	T	T	07 28 33.9	
baz=142,slow=76,SNR=29							
H08S3	**Diego Garcia H**	69.63	284	T	T	07 28 34.5	
baz=142,slow=76,SNR=49							
SUR	**Sutherland**	80.70	229	LR	LR	06 43 35.4	
comp=Z,50nm,18.0s,baz=126,slow=31							
H03S1	**Juan Fernandez**	88.83	149	T	T	07 53 35.3	
baz=200,slow=74,SNR=44							
H03S2	**Juan Fernandez**	88.83	149	T	T	07 53 34.9	
baz=200,slow=74,SNR=33							
H03S3	**Juan Fernandez**	88.85	149	T	T	07 53 34.8	
baz=200,slow=74,SNR=32							
ASAJ	**Asahikawa**	95.06	2	LR	LR	07 01 39.0	
comp=Z,26nm,19.0s,baz=182,slow=38							
NVAR	**Mina Array Bea**	126.01	71	PKP	PKPdf	06 20 31.9	+0.2
comp=Z,0.2nm,0.5s,baz=228,slow=3.5,SNR=2.4							
ARSA	**Arzberg**	143.83	286	*e*PKP	PKPdf	06 21 03.2	-1.0
comp=Z,0.5nm,0.3s							
MYKA	**Terra Mystica**	144.68	284	*e*PKP	PKPab	06 21 04.7	+0.1
comp=Z,1.5nm,0.5s							
ARCES	**ARCESS Array B**	144.83	326	PKP	PKPab	06 21 04.2	-0.1
comp=Z,1.4nm,0.5s,baz=86,slow=3.4,SNR=17							
MOA	**Molln**	144.86	287	*i* PKP	PKPab	06 21 04.4	-0.7
comp=Z,0.4nm,0.3s							
KBA	**Koelnbreinsper**	145.07	285	*e*PKP	PKPdf	06 21 07.0	+0.4
comp=Z,2.1nm,0.5s							
LESA	**Schwarzleotal**	145.63	285	*e*PKP	PKPdf	06 21 06.8	-0.6
comp=Z,0.3nm,0.3s							
GERES	**GERESS Array B**	145.64	288	PKPbc	PKPdf	06 21 07.4	0.0
comp=Z,1.5nm,0.8s,baz=146,slow=5.8,SNR=5.7							
ULM	**Lac du Bonnet**	145.81	70	PKPbc	PKPdf	06 21 07.0	-0.6
comp=Z,2.4nm,0.8s,baz=336,slow=8.9,SNR=3.3							
WTTA	**Wattenberg**	146.19	284	*i* PKP	PKPbc	06 21 09.6	0.0
comp=Z,0.2nm,0.2s							
SPITS	**Spitsbergen Ar**	146.28	342	PKPbc	PKPbc	06 21 08.9	+0.1
comp=Z,3.3nm,0.6s,baz=316,slow=3.5,SNR=5.5							
SQTA	**Sankt Quirin**	146.43	284	*e*PKP	PKPdf	06 21 09.6	+0.7
comp=Z,1.4nm,0.4s							
MOTA	**Moosalm**	146.55	284	*e*PKP	PKPdf	06 21 09.8	+0.7
comp=Z,3.4nm,0.7s							
FETA	**Feichten**	146.64	283	*e*PKP	PKPbc	06 21 10.3	-0.6
comp=Z,2.0nm,0.7s							
RETA	**Reutte**	146.82	284	*i* PKP	PKPbc	06 21 10.7	-0.6
comp=Z,0.4nm,0.2s							
DAVA	**Damuels**	147.27	283	*e*PKP	PKPbc	06 21 12.1	-0.6
comp=Z,1.4nm,0.4s							
HFS	**Hagfors**	148.93	308	PKPbc	PKPbc	06 21 15.9	-0.5
comp=Z,2.3nm,0.8s,baz=96,slow=5.8,SNR=2.1							
ESDC	**Sonseca Array**	152.01	260	PKPbc	PKPbc	06 21 24.1	-0.4
comp=Z,0.8nm,0.6s,baz=80,slow=0.7,SNR=7.3							

*IDC **01** 06:05:35.9±1.0, 1°.44N×128°.55E, h0km, mb4.0/10, mbtmp4.0/10, Error ellipse: s-maj=45.2km s-min=19.0km az=83.0*
*DJA **01** 06:05:38.6±0.4, 1°N±5°×12°9E±°, h10km, M4.1/10, mb4.1/2, mB4.4/2, MLv4.1/10, Mw(mB)3.6/2*
*NEIC **01** 06:05:42.3±1.2, 1°.1N±0°.1×128°.74E±0°.06, h59km±9km, mb4.3/16, Error ellipse: s-maj=17.6km s-min=5.4km az=202.0*
ISC 01 06:05:36.7±0.6,**1°.26N**±0°.08×**128°.89E**±0°.07,**h10**km,**n46**, σ1s**55**/41,**mb4.2**/17,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	1.59	252		Pn	06 06 05.7	+0.7
TNTI	**Ternate**	1.59	252	P	Pn	06 06 05.9	+0.9
TNTI				S	Sn	06 06 26.5	+0.9
LBMI	**Labuha**	2.33	216	P	Pn	06 06 15.2	0.0
SWI	**Sorong**	3.17	132	P	Pn	06 06 28.8	+2.1
SANI	**Sanana**	4.38	221	P	Pn	06 06 43.2	-0.1
KMSI	**Cibinong**	4.95	262	P	Pn	06 06 53.1	+1.9
FAKI	**Fak Fak**	5.34	141		Pn	06 06 58.6	+2.0
FAKI	**Fak Fak**	5.34	141	P	Pn	06 06 58.8	+2.2
GTOI	**Gorontalo**	5.91	264	P	Pn	06 07 06.5	+2.1
12nm,0.9s,158nm0.0nm							
LUWI	**Luwuk**	6.53	250	Pn	Pn	06 07 12.8	-0.1
TOLI2	**Tolitoli**	8.10	269	Pn	Pn	06 07 35.2	+0.6
COEN	**Coen**	20.71	137	P	P	06 10 16.5	-0.9
COEN				IAmb	IAmb	06 10 26.7	
comp=Z,13nm,1.1s							
WRA	**Warramunga Arr**	21.73	166	P	P	06 10 25.5	-2.9
WRA	**Warramunga Arr**	21.73	166	P	P	06 10 30.5	+2.1
comp=Z,1.3nm,0.7s,baz=346,slow=13,SNR=3.5							
comp=Z,1.3nm,0.7s							
ASAR	**Alice Springs**	25.25	169	P	P	06 11 07.2	+3.9
comp=Z,0.8nm,0.6s,baz=348,slow=9.9,SNR=4.8							
comp=Z,0.8nm,0.6s							
KSRS	**Korea Array**	36.03	359	P	P	06 12 37.9	-0.4
comp=Z,2.4nm,0.6s,baz=178,slow=9.6,SNR=13							
comp=Z,2.4nm,0.6s							
MJAR	**Matsushiro Arr**	36.16	13	P	P	06 12 37.3	-2.1
comp=Z,2.2nm,0.7s,baz=185,slow=9.5,SNR=8.9							
comp=Z,2.2nm,0.7s							
MAJO	**Matsushiro**	36.16	13	P	P	06 12 37.2	-2.2
MAJO				IAmb	IAmb	06 12 39.8	
comp=Z,4.2nm,0.8s							
MJB9	**Matsu-Tunnel**	36.16	13	P	P	06 12 37.9	-1.5
MJB9				IAmb	IAmb	06 12 40.8	
comp=Z,4.1nm,0.7s							
JSD	**Sado**	37.60	12	P	P	06 12 52.5	+0.8
JMM	**Marumori**	38.05	15	P	P	06 12 56.2	+0.8
H11S3	**WAKE ISLAND Hy**	40.84	63	T	T	06 57 08.8	
baz=249,slow=75,SNR=18							
H11S2	**WAKE ISLAND Hy**	40.86	63	T	T	06 57 09.6	
baz=249,slow=75,SNR=9.3							
H11S1	**WAKE ISLAND Hy**	40.86	63	T	T	06 57 09.7	
baz=249,slow=75,SNR=7.7							
H11N1	**WAKE ISLAND Hy**	41.46	61	T	T	06 58 04.6	
baz=248,slow=75,SNR=28							
H11N2	**WAKE ISLAND Hy**	41.47	61	T	T	06 57 52.9	
baz=248,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy**	41.48	61	T	T	06 57 54.1	
baz=248,slow=75,SNR=19							
USRK	**Ussuriysk Ar.**	42.85	3	P	P	06 13 34.7	-0.3
comp=Z,3.2nm,0.8s,baz=176,slow=5.5,SNR=5.2							
comp=Z,3.2nm,0.8s							
ASAJ	**Asahikawa**	44.38	14	P	P	06 13 47.3	-0.2
comp=Z,2.5nm,0.7s,baz=221,slow=9.3,SNR=2.8							
comp=Z,2.5nm,0.7s							
KLR	**Kul'dur**	47.86	3	P	P	06 14 15.8	+1.1
comp=Z,0.7nm,0.4s,baz=202,slow=5.4,SNR=2.2							
comp=Z,0.7nm,0.4s							
PEA0B	**Petropavlovsk-**	56.94	20	P	P	06 15 21.3	-0.8
PETK	**Petropavlovsk-**	56.94	20	P	P	06 15 22.1	0.0
PETK	**Petropavlovsk-**	56.94	20	P	P	06 15 22.8	+0.7
comp=Z,1.7nm,0.7s,baz=215,slow=4.9,SNR=5.3							
comp=Z,1.7nm,0.7s							
MK31	**Makanchi Array**	60.80	325	P	P	06 15 47.7	-1.5
MKAR	**Makanchi Array**	60.80	325	P	P	06 15 47.8	-1.3
MKAR	**Makanchi Array**	60.80	325	P	P	06 15 47.6	-1.5
comp=Z,0.7nm,0.3s,baz=114,slow=7.9,SNR=16							
comp=Z,0.7nm,0.3s							
MAKZ	**Makanchi**	60.99	325	P	P	06 15 49.2	-1.2
KURBB	**Kurchatov Arra**	64.97	327	P	P	06 16 14.7	-2.1
comp=Z,0.8nm,0.5s,baz=127,slow=6.0,SNR=9.8							
comp=Z,0.8nm,0.5s							
CASY	**Casey**	68.66	188	P	P	06 16 38.0	-2.0
CASY				IAmb	IAmb	06 16 54.3	
comp=Z,3.0nm,0.9s							
C19K	**Lookout Ridge**	82.30	20	P	P	06 17 59.9	+1.5
C19K				IAmb	IAmb	06 18 01.9	
comp=Z,4.2nm,1.1s							
G19K	**Purcell Mounta**	82.43	23	P	P	06 17 59.9	+0.9
G19K				IAmb	IAmb	06 18 00.4	
comp=Z,2.2nm,0.7s							
Q19K	**Cape Douglas,**	82.47	31	P	P	06 17 58.9	-0.5
H19K	**Roundabout Mou**	82.53	24	P	P	06 18 00.8	+1.3
D19K	**Kuna River**	82.65	21	P	P	06 18 01.1	+1.0
D19K				IAmb	IAmb	06 18 01.9	
comp=Z,4.5nm,1.1s							
KDAK	**Kodiak Island**	82.83	32	P	P	06 18 01.7	+0.5
KDAK				IAmb	IAmb	06 18 22.9	
comp=Z,4.1nm,1.1s							
IMAR	**Indian Mountai**	83.72	24	P	P	06 18 06.7	+1.0

*BJI **01** 06:28:53.1±0.0, 20°.12S×178°.06W, h605km, mb5.1/53, mB4.9/17*
*MOS **01** 06:28:54.1±0.9, 20°.41S×178°.46W, h611km, mb5.0/28, Error ellipse: s-maj=10.4km s-min=8.7km az=112.6*
*IDC **01** 06:28:54.7±0.5, 20°.35S×178°.56W, h602km±6km, mb4.1/18, mbtmp5.1/20, Error ellipse: s-maj=10.5km s-min=8.5km az=144.0*
*NOU **01** 06:28:54.9, 20°.43S×178°.40W, h604km, mb5.1/103, Fiji Islands Region*
*NEIC **01** 06:28:54.3±1.7, 20°.41S±0°.10×178°.46W±0°.09, h599km±6km, mb5.0/118, Error ellipse: s-maj=14.0km s-min=12.3km az=182.0*
*GCMT **01** 06:28:55.3±0.5, 20°.32S±0°.05×178°.70W±0°.04, h602km±3km, MW5.2/63, Moment Tensor Solution. s63,c76; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.69±.29; $M_{\theta\theta}$1.82±.59; $M_{\phi\phi}$2.87±.54; $M_{r\theta}$-3.02±.61; $M_{r\phi}$0.79±.48; $M_{\theta\phi}$-7.19±.52; Best double couple: $M_0$8.75900×10^{16} NP1:φs23.00000°, δ76.00000°, λ-91.00000°. NP2:φs208.00000°, δ14.00000°, λ-85.00000°. Principal axes: T 8.0530, Plg31.0000°, Azm114.0000°; N 1.4120, Plg1.0000°, Azm24.0000°; P -9.4650, Plg59.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 01 06:28:54.6±0.3,**20°.41S**±0°.04×**178°.43W**±0°.05, **h606**km±3km,**h607**km:**pP-P**,**n1027**,σ0s**96**/1110,**mb4.9**/141, **74C-74D**,

CNB Canberra Magne 31.95 235 P **P** **06 34 33.1 +0.5**
CAN Canberra 32.23 236 P **P** **06 34 34.9 -0.1**
CAN IAmb IAmb 06 34 37.2
comp=Z,27nm,1.3s
CAN Canberra 32.23 236 P **P** **06 34 34.9 -0.1**
CAN pmax pmax
comp=Z,27nm,1.3s
CAN Canberra 32.23 236 P **P** **06 34 35.5 +0.5**
AUSMG Snowy Mountain 32.89 234 P **P** **06 34 41.5 +0.9**
CTAO Charters Tower 33.10 264 P **P** **06 34 42.3 -0.2**
CTAO Charters Tower 33.10 264 P **P** **06 34 42.1 -0.3**
CTAO IAmb IAmb 06 34 43.7
comp=Z,60nm,1.1s
CTAO Charters Tower 33.10 264 P **P** **06 34 42.2 -0.3**
CTAO pmax pmax
comp=Z,60nm,1.1s
CTAO Charters Tower 33.10 264 P **P** **06 34 42.4 0.0**
CTAO PcP **PcP** **06 37 07.6 +0.3**
CTAO ScP **ScP** **06 39 58.0 +3.0**
CMSA Cobar Meteorol 33.97 244 P **P** **06 34 50.6 +1.0**
QLP Quilpie 34.70 253 P **P** **06 34 56.3 +0.5**
KAVG Kavieng 34.85 297 P **P** **06 34 57.2 +0.1**
PMG Port Moresby 34.93 283 P **P** **06 34 58.1 +0.4**
PMG Port Moresby 34.93 283 P **P** **06 34 58.2 +0.4**
PMG pmax pmax
comp=Z,116nm,0.9s
PMG Port Moresby 34.93 283 P **P** **06 34 58.0 +0.2**
PMG ScP **ScP** **06 40 02.5 +0.9**
MTSU Mount Surprise 35.19 267 P **P** **06 35 00.2 +0.2**
TOO Toolangi 35.63 233 P **P** **06 35 03.8 +0.5**
TOO Toolangi 35.63 233 P **P** **06 35 03.1 -0.1**
TOO IAmb IAmb 06 35 04.3
comp=Z,27nm,1.0s
TOO Toolangi 35.63 233 P **P** **06 35 03.2 -0.1**
TOO pmax pmax
comp=Z,27nm,1.0s
COEN Coen 37.18 274 P **P** **06 35 16.4 +0.2**
COEN Coen 37.18 274 P **P** **06 35 16.1 -0.1**
STKA Stephens Creek 37.47 244 P **P** **06 35 19.2 +0.8**
STKA Stephens Creek 37.47 244 P **P** **06 35 18.2 -0.2**
STKA Stephens Creek 37.47 244 P **P** **06 35 18.9 +0.6**
comp=Z,19nm,0.5s,baz=93,slow=10,SNR=36
STKA PcP **PcP** **06 37 20.5 +0.3**
comp=Z,4.8nm,0.8s,baz=48,slow=7.8,SNR=2.5
comp=Z,19nm,0.5s
STKA Stephens Creek 37.47 244*d iP* **P** **06 35 18.7 +0.3**
INKA Innaminka 37.85 251 P **P** **06 35 21.9 +0.4**
MANU Manus Island 38.04 294 P **P** **06 35 24.6 +1.3**
ARPS Mount Arapiles 38.20 236 P **P** **06 35 24.7 +0.5**
QIS Mount Isa 39.23 262 P **P** **06 35 33.1 +0.3**
HTT Hallett 39.91 242 P **P** **06 35 38.5 +0.4**
LCRK Leigh Creek 40.20 247 P **P** **06 35 41.6 +1.2**
WHYH Whyalla 40.98 243 P **P** **06 35 47.2 +0.7**
TABU Tabubil 41.97 285 P **P** **06 35 55.4 +0.8**
WAKE Wake Island 42.07 339 P **P** **06 35 54.9 -0.2**
WAKE Wake Island 42.07 339 P **P** **06 35 54.7 -0.4**
WAKE pP **pP** **06 37 38.6 -0.4**
BBOO Buckleboo 42.23 243 P **P** **06 35 56.0 -0.2**
BBOO Buckleboo 42.23 243 P **P** **06 35 56.1 -0.2**
BBOO IAmb IAmb 06 35 57.3
comp=Z,54nm,0.8s
OOD Oodnadatta 42.33 251 P **P** **06 35 57.7 +0.6**
MULG Mulgathing 43.78 247 P **P** **06 36 08.7 +0.3**
WR0 Warramunga Arr 44.03 262 P **P** **06 36 09.4 -1.0**
WR0 IAmb IAmb 06 36 11.5
comp=Z,43nm,0.9s
GENI Genyem 44.08 288 P **P** **06 36 11.5 +0.7**
AS01 Alice Springs 44.11 257 P **P** **06 36 11.1 +0.1**
AS31 Alice Springs 44.15 257 P **P** **06 36 10.8 -0.5**
AS31 IAmb IAmb 06 36 12.6
comp=Z,32nm,1.0s
ASAR Alice Springs 44.15 257 P **P** **06 36 10.9 -0.4**
ASAR Alice Springs 44.15 257 P **P** **06 36 11.2 -0.1**
comp=Z,91nm,0.8s,baz=87,slow=8.5,SNR=454
ASAR PcP **PcP** **06 37 42.6 0.0**
comp=Z,17nm,0.8s,baz=99,slow=4.1,SNR=15
ASAR ScP **ScP** **06 40 39.5 +1.9**
comp=Z,3.5nm,0.9s,baz=105,slow=4.3,SNR=5.6
ASAR S **S** **06 41 59.1 -2.6**
comp=Z,3.3nm,0.8s,baz=94,slow=15,SNR=10
comp=Z,91nm,0.8s
ASAR Alice Springs 44.15 257 P **P** **06 36 10.9 -0.4**
WB0 Warramunga Arr 44.19 262 P **P** **06 36 11.2 -0.5**
WB2 Warramunga Arr 44.20 262 P **P** **06 36 10.7 -1.0**
WRAB Tennant Creek 44.21 262 P **P** **06 36 11.3 -0.5**
WRAB Tennant Creek 44.21 262*d iP* **P** **06 36 11.0 -0.8**
WRAB pmax pmax
comp=Z,74nm,1.0s
WRA Warramunga Arr 44.22 262 P **P** **06 36 11.1 -0.8**
comp=Z,24nm,0.3s,baz=97,slow=7.7,SNR=574
WRA PcP **PcP** **06 37 43.1 +0.2**
comp=Z,11nm,1.0s,baz=95,slow=3.8,SNR=6.6
WRA ScP **ScP** **06 40 39.2 +1.3**
comp=Z,2.5nm,0.9s,baz=93,slow=4.4,SNR=4.9
WRA S **S** **06 42 00.1 -2.7**
comp=Z,1.9nm,0.9s,baz=90,slow=11,SNR=5.5
comp=Z,24nm,0.3s
KDU Kakadu 47.55 271 P **P** **06 36 37.1 0.0**
MTN Manton Dam 48.76 271 P **P** **06 36 46.4 +0.3**
MTN Manton Dam 48.76 271 P **P** **06 36 45.1 -1.0**
FORT Forrest 48.96 247 P **P** **06 36 48.5 +1.2**
FORT Forrest 48.96 247 P **P** **06 36 46.7 -0.6**
DRS Darwin Rock St 49.09 271 P **P** **06 36 48.4 -0.1**
WRKA Warakurna 49.10 254 P **P** **06 36 48.5 0.0**
GUMO Guam 49.43 310 P **P** **06 36 50.2 -0.7**
GUMO Guam 49.43 310 P **P** **06 36 50.2 -0.7**
GUMO pmax pmax
comp=Z,541nm,1.6s
GUMO Guam 49.43 310 P **P** **06 36 50.5 -0.5**
KNRA Kununurra 50.27 266 P **P** **06 36 56.4 -0.7**
FAKI Fak Fak 51.09 283 P **P** **06 37 03.0 -0.1**
FAKI Fak Fak 51.09 283 P **P** **06 37 02.0 -1.1**
FAKI IAmb IAmb 06 37 03.8
comp=Z,95nm,1.2s
FAKI Fak Fak 51.09 283 P **P** **06 37 02.8 -0.3**
comp=Z,85nm,1.2s
FITZ Fitzroy Crossi 52.64 262 P **P** **06 37 14.2 +0.1**
FITZ Fitzroy Crossi 52.64 262 P **P** **06 37 13.7 -0.4**
SWI Sorong 52.83 285 P **P** **06 37 15.6 +0.1**
SWI Sorong 52.83 285 P **P** **06 37 15.6 +0.1**
SWI pmax pmax
comp=Z,340nm,0.9s
DRV Dumont d'Urvil 53.31 199 P **P** **06 37 18.3 +0.3**
DRV PcP **PcP** **06 38 15.9 +0.5**
DRV ScP **ScP** **06 41 16.6 +0.9**
SOEI Soe 56.10 272 P **P** **06 37 39.6 +1.1**
SOEI Soe 56.10 272 P **P** **06 37 39.1 +0.7**
SOEI Soe 56.10 272 P **P** **06 37 39.5 +1.1**
TNTI Ternate 57.05 285 P **P** **06 37 45.2 +0.4**
TNTI Ternate 57.05 285 P **P** **06 37 44.5 -0.3**
TNTI IAmb IAmb 06 37 45.8
comp=Z,114nm,1.0s
TNTI Ternate 57.05 285 P **P** **06 37 44.9 +0.1**
comp=Z,119nm,1.0s
SANI Sanana 57.17 281 P **P** **06 37 46.0 +0.4**
SANI Sanana 57.17 281 P **P** **06 37 45.1 -0.5**
comp=Z,107nm,0.9s,comp=Z,1µm
PSA00 Pilbara Seismi 57.30 257 P **P** **06 37 45.9 -0.5**
PSA00 Pilbara Seismi 57.30 257 P **P** **06 37 45.6 -0.8**
MBWA Marble Bar 57.48 257 P **P** **06 37 48.0 +0.3**
MBWA Marble Bar 57.48 257 P **P** **06 37 47.1 -0.6**
MBWA IAmb IAmb 06 37 48.0
comp=Z,42nm,0.8s
MBWA Marble Bar 57.48 257 P **P** **06 37 47.0 -0.6**
MBWA PcP **PcP** **06 38 33.0 +0.2**
MBWA pP **pP** **06 39 42.0 +0.5**
MEEK Meekatharra 57.57 251 P **P** **06 37 48.1 -0.1**
SBA Scott Base 57.94 184 P **P** **06 37 52.1 +2.4**
SBA Scott Base 57.94 184 P **P** **06 37 52.1 +2.4**
SBA pmax pmax
comp=Z,16nm,1.6s
VNDA Vanda 57.97 185 P **P** **06 37 51.5 +1.6**
VNDA Vanda 57.97 185 P **P** **06 37 51.9 +2.0**
comp=Z,0.3nm,0.4s,baz=18,slow=7.5,SNR=8.1
VNDA PcP **PcP** **06 38 34.2 +0.6**
comp=Z,1.3nm,0.8s,baz=306,slow=3.5,SNR=5.0
VNDA ScP **ScP** **06 41 36.8 +0.6**
comp=Z,0.8nm,0.6s,baz=333,slow=4.5,SNR=3.2
VNDA Vanda 57.97 185 P **P** **06 37 51.5 +1.6**
VNDA pmax pmax
comp=Z,15nm,1.9s
VNDA Vanda 57.97 185 P **P** **06 37 51.6 +1.6**
VNDA PcP **PcP** **06 38 34.9 +1.3**
VNDA pP **pP** **06 39 48.8 +3.7**
VNDA ScP **ScP** **06 41 36.5 +0.3**
NWAO Narrogin (SRO) 58.05 243 P **P** **06 37 51.7 +0.4**
NWAO Narrogin (SRO) 58.05 243 P **P** **06 37 51.6 +0.3**
NWAO Narrogin (SRO) 58.05 243 P **P** **06 37 51.1 -0.2**
NWAO PcP **PcP** **06 38 34.8 0.0**
MMRI Maumere 58.35 272 P **P** **06 37 52.9 -0.7**
MMRI IAmb IAmb 06 37 54.0
comp=Z,79nm,0.9s
EDFI Ende, Flores 58.83 272 P **P** **06 37 56.3 -0.6**
comp=Z,85nm,0.8s,comp=Z,793nm
MORW Morawa 59.49 248 P **P** **06 38 01.3 +0.3**
MORW Morawa 59.49 248 P **P** **06 38 00.3 -0.7**
LUWI Luwuk 60.52 281 P **P** **06 38 09.3 +1.3**
LUWI Luwuk 60.52 281 P **P** **06 38 08.4 +0.4**
LUWI IAmb IAmb 06 38 09.5
comp=Z,145nm,1.0s
LUWI Luwuk 60.52 281 P **P** **06 38 08.6 +0.6**
comp=Z,160nm,1.2s,comp=Z,2µm
BKSI Bulukumba 61.42 275 P **P** **06 38 13.2 -0.7**
comp=Z,26nm,0.9s
GIRL Giralia 62.19 255 P **P** **06 38 19.1 +0.4**
CCD Concordia, Ant 62.46 194 P **P** **06 38 20.8 +0.8**
CCD PcP **PcP** **06 38 52.2 -0.2**
CCD pP **pwP** **06 40 20.8 +0.6**
PLAI Plampang 62.47 271 P **P** **06 38 20.2 -0.5**
PLAI Plampang 62.47 271 P **P** **06 38 20.2 -0.5**
comp=Z,161nm,1.0s
TOLI2 Tolitoli 63.19 282 P **P** **06 38 25.8 +0.5**
TOLI2 Tolitoli 63.19 282 P **P** **06 38 24.4 -1.0**
TOLI2 IAmb IAmb 06 38 25.9
comp=Z,44nm,0.9s
TWSI Taliwang, Sumb 63.34 270 P **P** **06 38 26.0 -0.2**
comp=Z,116nm,0.9s,comp=Z,1µm
MPSI Mapaga 63.70 281 P **P** **06 38 28.0 -0.6**
comp=Z,71nm,1.0s,comp=Z,1µm
CASY Casey 63.88 205 P **P** **06 38 29.1 +0.4**
CASY Casey 63.88 205 P **P** **06 38 29.0 +0.3**
CASY pP **pwP** **06 40 29.3 -0.8**
JAGI Jajag, Banyuwa 65.98 270 P **P** **06 38 43.5 +0.6**
JAGI Jajag, Banyuwa 65.98 270 P **P** **06 38 41.9 -1.0**
JAGI IAmb IAmb 06 38 42.4
comp=Z,51nm,0.8s
JAGI Jajag, Banyuwa 65.98 270 P **P** **06 38 41.5 -1.4**
comp=Z,81nm,0.9s
JHJ2 Mitsune 66.50 322 P **P** **06 38 46.3 +0.7**
JHJ2 Mitsune 66.50 322 P **P** **06 38 45.3 -0.3**
PWJI Pagerwojo 68.33 269 P **P** **06 39 01.5 +4.3**
JSG Sagara 68.56 323 P **P** **06 38 58.8 +0.7**
JSG Sagara 68.56 323 P **P** **06 38 58.4 +0.3**
JMM Marumori 69.50 327 P **P** **06 39 03.9 +0.3**
JMM Marumori 69.50 327 P **P** **06 39 02.9 -0.7**
JMM IAmb IAmb 06 39 04.7
comp=Z,55nm,0.9s
UGM Wanagama 69.56 269 P **P** **06 39 04.2 -0.5**
QSPA South Pole Qui 69.66 180 P **P** **06 39 05.7 +1.3**
QSPA South Pole Qui 69.66 180 P **P** **06 39 05.6 +1.3**
comp=Z,1.6nm,0.4s,baz=144,slow=1.5,SNR=50
QSPA pP **pP** **06 41 06.4 +0.7**
comp=Z,1.6nm,0.9s,baz=0.3,slow=2.5,SNR=1.5
comp=Z,1.6nm,0.4s
QSPA South Pole Qui 69.66 180 P **P** **06 39 05.5 +1.1**
QSPA pP **pwP** **06 41 07.6 -0.4**
JGF Kuroka 69.70 323 P **P** **06 39 05.3 +0.4**
JGF Kuroka 69.70 323 P **P** **06 39 04.8 -0.2**
INU Inuyama 69.71 322 P **P** **06 39 05.5 +0.5**
INU Inuyama 69.71 322 P **P** **06 39 04.3 -0.7**
INU IAmb IAmb 06 39 06.0
comp=Z,21nm,0.9s
INU Inuyama 69.71 322 P **P** **06 39 04.9 -0.1**
MJAR Matsushiro Arr 69.90 324 P **P** **06 39 05.6 -0.5**
comp=Z,22nm,0.7s,baz=155,slow=5.6,SNR=99
comp=Z,22nm,0.7s
MAJO Matsushiro 69.90 324 P **P** **06 39 06.2 +0.1**
MAJO Matsushiro 69.90 324 P **P** **06 39 05.6 -0.5**
MAJO IAmb IAmb 06 39 06.8
comp=Z,32nm,0.7s
MAJO Matsushiro 69.90 324 P **P** **06 39 05.6 -0.5**
MAJO pmax pmax
comp=Z,32nm,0.7s
MAJO Matsushiro 69.90 324 P **P** **06 39 05.9 -0.2**
MAJO PcP **PcP** **06 39 23.8 +0.2**
MJB9 Matsu-Tunnel 69.90 324 P **P** **06 39 06.5 +0.4**
MJB9 IAmb IAmb 06 39 07.8
comp=Z,30nm,0.7s
KPJI Karang Pucung 71.24 269 P **P** **06 39 14.4 -0.1**
comp=Z,36nm,1.0s
STKI Sintang 71.40 277 P **P** **06 39 16.6 +1.2**
AMKA Amchitka 71.50 358 P **P** **06 39 14.2 -0.9**
ERM Erimo 71.55 331 P **P** **06 39 17.5 +2.0**
ERM Erimo 71.55 331 P **P** **06 39 14.5 -1.0**
ERM IAmb IAmb 06 39 19.1
comp=Z,19nm,0.8s
ERM Erimo 71.55 331*de*P **P** **06 39 18.1 +2.6**
ERM pmax pmax
comp=Z,37nm,1.7s
ERM Erimo 71.55 331 P **P** **06 39 18.0 +2.4**
ERM PcP **PcP** **06 39 33.4 +2.9**
JEM Erimo 71.55 331 P **P** **06 39 17.4 +1.9**
JTM Tenmabayashi 71.58 329 P **P** **06 39 16.4 +0.6**
JTM Tenmabayashi 71.58 329 P **P** **06 39 15.8 +0.1**
JTM IAmb IAmb 06 39 17.1
comp=Z,52nm,0.7s
JNU Nakatsue 71.93 317 P **P** **06 39 19.8 +1.7**
JNU Nakatsue 71.93 317 P **P** **06 39 16.8 -1.3**
JNU IAmb IAmb 06 39 19.1
comp=Z,66nm,1.0s
KIWB Kanaga Island 71.96 1 P **P** **06 39 16.9 -0.8**
ADK Adak 71.99 1 P **P** **06 39 18.0 +0.1**
ADK Adak 71.99 1 P **P** **06 39 17.2 -0.7**
ADK Adak 71.99 1 P **P** **06 39 17.2 -0.7**
ADK pmax pmax
comp=Z,89nm,0.7s
GSTR Great Sitkin T 72.22 2 P **P** **06 39 18.7 -0.5**
ATKA Atka Island 72.39 3 P **P** **06 39 19.5 -0.7**
ATKA Atka Island 72.39 3 P **P** **06 39 19.0 -1.1**
BBJI Bungbulang 72.40 268 P **P** **06 39 20.9 -0.4**
LEM Lembang 72.64 269 P **P** **06 39 23.2 +0.5**
LEM pmax pmax
comp=Z,156nm,1.0s
CNJI Cibinong 72.94 268 P **P** **06 39 24.1 -0.2**
comp=Z,58nm,1.2s
TWGBT Beinan 72.98 303 P **P** **06 39 23.3 -1.0**
TWG Pinlang 72.99 303 P **P** **06 39 22.4 -2.0**
TWG IAmb IAmb 06 39 23.6
comp=Z,46nm,0.6s
YULB Yu-li 73.11 304 P **P** **06 39 25.4 +0.4**
YULB Yu-li 73.11 304 P **P** **06 39 22.9 -2.2**
YULB IAmb IAmb 06 39 24.8
comp=Z,22nm,0.7s
NACB Ninganchiao 73.29 304 P **P** **06 39 26.9 +0.9**
NACB Ninganchiao 73.29 304 P **P** **06 39 25.3 -0.7**
NACB IAmb IAmb 06 39 26.3
comp=Z,87nm,1.1s
CLES Cleveland East 73.30 5 P **P** **06 39 25.2 -0.1**
JKA Kamikawa-asahi 73.45 332 P **P** **06 39 27.1 +0.6**
ASAJ Asahikawa 73.45 332 P **P** **06 39 27.1 +0.6**
ASAJ pmax pmax
comp=Z,106nm,1.0s
NIKH Nikolski High 73.54 6 P **P** **06 39 26.8 +0.1**
NIKH Nikolski High 73.54 6 P **P** **06 39 25.9 -0.8**
baz=189,SNR=16
DBJI Dramaga 73.54 269 P **P** **06 39 27.7 0.0**
comp=Z,167nm,1.0s
SSLB Suanglung 73.59 304 P **P** **06 39 27.2 -0.5**
SSLB Suanglung 73.59 304 P **P** **06 39 26.2 -1.5**
SSLB IAmb IAmb 06 39 27.4
comp=Z,42nm,0.8s
TPUB Ta-pu 73.59 303 P **P** **06 39 27.5 -0.2**
TPUB Ta-pu 73.59 303 P **P** **06 39 26.5 -1.3**
YHNB Yeheng 73.72 305 P **P** **06 39 29.2 +0.7**
TATO Taipei 73.80 305 P **P** **06 39 28.1 -0.7**
SKR Severo-Kuril's 74.26 343⇑*e*P **P** **06 39 30.8 0.0**
UNV Unalaska Valle 74.66 7 P **P** **06 39 32.3 -0.7**
UNV Unalaska Valle 74.66 7 P **P** **06 39 32.2 -0.8**
baz=192,SNR=16
YSS Yuzh-Sakhalins 75.63 334 P **P** **06 39 40.2 +1.6**
YSS Yuzh-Sakhalins 75.63 334*k iP* **P** **06 39 39.5 +0.9**
YSS pmax pmax
comp=Z,50nm,0.8s
YSS pmax pmax
comp=Z,200nm,5.1s
PET Petropavlovsk 75.78 346 P **P** **06 39 38.8 -0.4**
comp=Z,28nm,1.2s
KASI Kota Agung 76.00 269 P **P** **06 39 41.2 -0.2**
QZH Quanzhou 76.03 304⇓*i iP* **P** **06 39 41.7 +0.5**
QZH pmax pmax
comp=Z,84nm,1.0s
FALS False Pass 76.05 9 P **P** **06 39 39.8 -0.9**
FALS False Pass 76.05 9 P **P** **06 39 39.6 -1.0**
FALS IAmb IAmb 06 39 41.1
comp=Z,36nm,0.6s
FALS False Pass 76.05 9 P **P** **06 39 39.7 -0.9**
baz=194,SNR=5.6
PEA0B Petropavlovsk- 76.08 345 P **P** **06 39 40.8 -0.2**
PEA0B Petropavlovsk- 76.08 345*ce*P **P** **06 39 41.1 +0.2**
PETK Petropavlovsk- 76.08 345 P **P** **06 39 40.4 -0.5**
PETK Petropavlovsk- 76.08 345 P **P** **06 39 40.2 -0.7**
comp=Z,46nm,0.8s,baz=128,slow=7.1,SNR=94
comp=Z,46nm,0.8s
PETK Petropavlovsk- 76.08 345 P **P** **06 39 40.4 -0.5**
TJN Taejon 76.23 318*ce*P **P** **06 39 44.5 +2.4**
KSRS Korea Array 76.55 319 P **P** **06 39 44.6 +0.8**
comp=Z,13nm,0.7s,baz=135,slow=6.1,SNR=42
comp=Z,13nm,0.7s
KSAR Wonju Array Be 76.57 319 P **P** **06 39 44.9 +0.9**
KSAR Wonju Array Be 76.57 319 P **P** **06 39 44.9 +0.9**
KS19 Wonju Array Si 76.62 319 P **P** **06 39 44.1 -0.1**
KS19 IAmb IAmb 06 39 45.9
comp=Z,53nm,1.4s
CNBA Chernabura Isl 76.64 11 P **P** **06 39 43.3 -0.5**
CHNA Chernabura Isl 76.65 11 P **P** **06 39 42.9 -1.0**
baz=198
SDPT Sand Point 76.99 10 P **P** **06 39 43.6 -2.1**
baz=197
S12K Black Hills 77.07 9 P **P** **06 39 45.6 -0.6**
S12K IAmb IAmb 06 39 46.5
comp=Z,69nm,0.7s
S12K Black Hills 77.07 9 P **P** **06 39 45.6 -0.6**
baz=196,SNR=16
INCN Inchon 77.37 318 P **P** **06 39 48.2 -0.2**
INCN IAmb IAmb 06 39 50.1
comp=Z,38nm,1.0s
INCN Inchon 77.37 318 P **P** **06 39 48.2 -0.2**
INCN pmax pmax
comp=Z,38nm,1.0s
SNCC San Nicolas Is 77.48 47 P **P** **06 39 48.9 -0.1**
baz=235
SPIA Saint Paul Isl 77.59 5 P **P** **06 39 50.5 +1.5**
baz=188
UGL Uglegorsk 77.60 335 *e*P **P** **06 39 49.7 +0.5**
UGL pmax pmax
comp=Z,140nm,0.8s
SCI2 San Clemente I 78.00 48 P **P** **06 39 51.6 -0.2**
baz=236
MSHR Mys Shultsa 78.01 324*ce*P **P** **06 39 53.0 +1.4**
MSHR pmax pmax
comp=Z,53nm,1.3s
S14K Fog Glacier 78.04 11 P **P** **06 39 51.7 +0.2**
baz=198
PKM Mcpherson Peak 78.22 46 P **P** **06 39 53.9 +0.8**
baz=235
CHGN Chignik 78.26 11 P **P** **06 39 52.4 -0.2**
CHGN IAmb IAmb 06 39 53.2
comp=Z,43nm,0.8s
CHGN Chignik 78.26 11 P **P** **06 39 52.1 -0.4**
baz=199,SNR=7.5
CHIR Chirikof Islan 78.36 13 P **P** **06 39 53.3 +0.2**
CHIR IAmb IAmb 06 39 54.1
comp=Z,62nm,0.8s
CHIR Chirikof Islan 78.36 13 P **P** **06 39 53.1 -0.1**
baz=202
USRK Ussuriysk Ar. 78.66 326 P **P** **06 39 55.4 +0.4**
USRK Ussuriysk Ar. 78.66 326 P **P** **06 39 55.7 +0.6**
comp=Z,33nm,0.8s,baz=126,slow=3.2,SNR=56
comp=Z,33nm,0.8s
USRK Ussuriysk Ar. 78.66 326 P **P** **06 39 55.4 +0.4**
USA0B Ussuriysk Arra 78.66 326 P **P** **06 39 55.4 +0.4**
USA0B IAmb IAmb 06 39 57.1
comp=Z,48nm,0.9s
USA0B Ussuriysk Arra 78.66 326*d iP* **P** **06 39 55.8 +0.8**
TYV Tymovskoe 78.79 336 *e*P **P** **06 39 56.2 +0.7**
TYV pmax pmax
comp=Z,100nm,1.9s
TYV pmax pmax
comp=Z,39nm,1.1s
DECC Green Verdugo 78.86 47 P **P** **06 39 57.1 +0.7**
baz=236
KMRM Mail Ridge 78.94 40 P **P** **06 39 58.0 +1.3**
KMRM IAmb IAmb 06 40 00.0
comp=Z,45nm,0.8s
109C Camp Elliot, M 78.97 49 P **P** **06 39 58.0 +1.1**
baz=237
ARVC Arvin 79.02 46 P **P** **06 39 57.3 +0.2**
baz=235
BTDF Bukit Timah Da 79.05 276 P **P** **06 39 58.9 +1.1**
VES Vestal, Richgr 79.25 45 P **P** **06 39 58.4 +0.1**
baz=235,SNR=6.8
MURC Murrieta 79.29 48 P **P** **06 39 59.6 +0.9**
baz=237
BFSC Mount Baldy Ra 79.32 47 P **P** **06 39 58.9 -0.1**
baz=236
SII Sitkinak Islan 79.35 13 P **P** **06 39 59.1 +0.7**
SII Sitkinak Islan 79.35 13 P **P** **06 39 58.6 +0.2**
SII IAmb IAmb 06 39 59.6
comp=Z,86nm,0.8s
SII Sitkinak Islan 79.35 13 P **P** **06 39 58.6 +0.2**
baz=203,SNR=8.3
EDW2 Edwards Air Fo 79.44 47 P **P** **06 40 01.4 +1.9**
baz=236
MONP2 Monument Peak 79.45 49 P **P** **06 40 00.2 +0.5**
baz=237,SNR=8.4
NJ2 Nanjing 79.51 310⇑*i iP* **P** **06 40 00.8 +1.0**
NJ2 pmax pmax
comp=Z,35nm,1.1s
NJ2 pmax pmax
comp=Z,210nm,6.3s
IKP In-Ko-Pah, Jac 79.54 49 P **P** **06 40 00.8 +0.7**
baz=238,SNR=5.9
ISA Isabella, Lake 79.56 46 P **P** **06 40 01.4 +1.3**
baz=236
CMB Columbia Colle 79.67 43 P **P** **06 40 01.5 +0.9**
CMB Columbia Colle 79.67 43 P **P** **06 40 01.5 +0.9**
CMB pmax pmax
comp=Z,7.0nm,0.9s
BELA Belgrano 2 79.70 173 P **P** **06 40 00.1 0.0**
PFO Pinyon Flats O 79.81 48 P **P** **06 40 02.5 +1.0**
baz=237
PFO Pinyon Flats O 79.81 48 *i* P **P** **06 39 59.2 -2.3**
PFO pmax pmax
comp=Z,14nm,2.2s
TPFO Pinon Flats 79.81 48 P **P** **06 40 02.5 +1.0**
baz=237
AFDM Forest Hills D 79.84 42 P **P** **06 40 02.0 +0.6**
SWSC Sam W. Stewart 79.92 49 P **P** **06 40 01.8 -0.1**
baz=238
LRMC Laurel Mtn Rad 79.99 46 P **P** **06 40 03.1 +0.7**
baz=236
OHAK Old Harbor 80.15 14 P **P** **06 40 03.1 +0.6**
OHAK Old Harbor 80.15 14 P **P** **06 40 02.4 -0.1**
OHAK IAmb IAmb 06 40 03.9
comp=Z,56nm,1.5s
OHAK Old Harbor 80.15 14 P **P** **06 40 02.9 +0.4**
baz=204,SNR=11
MDJ Mudanjiang 80.21 325 P **P** **06 40 04.0 +0.8**
MDJ Mudanjiang 80.21 325 P **P** **06 40 04.2 +1.0**
MDJ pmax pmax
comp=Z,62nm,1.0s
R18K Karluk 80.22 13 P **P** **06 40 03.5 +0.6**
baz=203
CWC Cottonwood Cre 80.26 45 P **P** **06 40 03.9 +0.1**
baz=236
MDPB Devils Postpil 80.28 44 P **P** **06 40 05.0 +1.0**
BELC Belle Mtn. Jos 80.34 48 P **P** **06 40 05.7 +1.4**
baz=237,SNR=6.8
MPMC Manual Prospec 80.44 46 P **P** **06 40 05.7 +0.9**
baz=236,SNR=8.2
YBH Yreka Blue Hor 80.47 39 P **P** **06 40 05.8 +1.1**
YBH Yreka Blue Hor 80.47 39 P **P** **06 40 05.8 +1.1**
YBH pmax pmax
comp=Z,16nm,0.8s
GSC Goldstone, Bar 80.49 47 P **P** **06 40 05.4 +0.4**
baz=237
TIN Tinemaha, Big 80.50 45 P **P** **06 40 05.9 +0.9**
baz=236
BC3 Big Chuckawall 80.54 49 P **P** **06 40 06.0 +0.7**
baz=238
WAKR Walker 80.55 43 P **P** **06 40 06.5 +1.2**
HEC Hector,Ludlow 80.56 47 P **P** **06 40 06.2 +0.9**
baz=237

Q17K	**Contact Creek**	80.58	12	P	P	06 40 04.7 -0.1
	baz=201,SNR=43					
ANCK	**Angle Creek**	80.59	12	P	P	06 40 04.8 -0.1
ANCK				IAmb	IAmb	06 40 05.7
	comp=Z,40nm,0.9s					
O14K	**Tigyukauivet M**	80.61	9	P	P	06 40 04.4 -0.5
	baz=196					
MPK	**Martis Peak**	80.63	42	P	P	06 40 07.9 +2.0
MPK				IAmb	IAmb	06 40 08.8
	comp=Z,47nm,1.3s					
GLA	**Glamis**	80.67	50	P	P	06 40 07.2 +1.3
	baz=238					
KABU	**Katmai Buttres**	80.70	12	P	P	06 40 05.7 +0.2
O15K	**Ungalikthiuk R**	80.76	10	P	P	06 40 05.1 -0.5
	baz=198					
KDAK	**Kodiak Island**	80.82	14	P	P	06 40 05.5 -0.4
KDAK				IAmb	IAmb	06 40 07.4
	comp=Z,120nm,1.8s					
KDAK	**Kodiak Island**	80.82	14	P	P	06 40 06.1 +0.1
	baz=204					
KDAK	**Kodiak Island**	80.82	14	*i* P	P	06 40 05.8 -0.2
KDAK				pmax	pmax	
	comp=Z,73nm,1.6s					
Q16K	**King Salmon**	80.82	11	P	P	06 40 06.1 +0.2
	baz=201,SNR=14					
DSP	**Deep Springs**	80.85	45	P	P	06 40 07.7 +1.1
HUMO	**Hull Mountain**	80.87	38	P	P	06 40 07.4 +0.8
P16K	**Nushagak River**	80.92	11	P	P	06 40 05.6 -0.8
	baz=199,SNR=8.3					
YERR	**Yerington**	80.95	43	P	P	06 40 08.2 +0.8
YERR				IAmb	IAmb	06 40 09.4
	comp=Z,39nm,1.4s					
GMRC	**Granite Mounta**	81.00	48	P	P	06 40 08.1 +0.4
	baz=238,SNR=5.9					
L04D	**Klamath Falls**	81.00	39	P	P	06 40 08.6 +1.1
L04D				IAmb	IAmb	06 40 09.8
	comp=Z,24nm,0.8s					
IRM	**Iron Mountain**	81.03	49	P	P	06 40 08.8 +1.1
	baz=238,SNR=6.7					
GRAC	**Grapevine Rang**	81.04	45	P	P	06 40 08.9 +1.2
GRAC	**Grapevine Rang**	81.04	45	P	P	06 40 09.4 +1.7
	baz=236,SNR=12					
GWY	**Greenwater Val**	81.06	46	P	P	06 40 08.6 +0.6
FURC	**Furnace Creek,**	81.09	46	P	P	06 40 09.1 +1.3
	baz=236,SNR=5.9					
Q18K	**Katmai Hardscr**	81.11	12	P	P	06 40 07.1 -0.5
	baz=202,SNR=40					
M11K	**Mekoryuk**	81.11	6	P	P	06 40 08.3 +0.9
	baz=192					
TUQ	**Turquoise Moun**	81.17	47	P	P	06 40 08.8 +0.3
	baz=237					
SHOC	**Shoshone, Teco**	81.18	47	P	P	06 40 08.6 +0.2
	baz=237					
N14K	**Kuskokwak Cree**	81.20	8	P	P	06 40 08.7 +0.8
	baz=196,SNR=14					
NVAR	**Mina Array Bea**	81.23	44	P	P	06 40 09.8 +0.9
NVAR	**Mina Array Bea**	81.23	44	P	P	06 40 10.1 +1.2
	comp=Z,6.3nm,0.7s,baz=225,slow=8.5,SNR=61					
NVAR				pP	pP	06 42 15.5 +0.1
	comp=Z,0.2nm,0.7s,baz=230,slow=5.6,SNR=1.9					
	comp=Z,6.3nm,0.7s					
GRNR	**Gornyy**	81.24	333 ⇓ *i* P		P	06 40 09.3 +1.0
GRNR				pmax	pmax	
	comp=Z,30nm,1.1s					
PAHR	**Pah Rah Range**	81.28	42	P	P	06 40 09.8 +0.9
P17K	**Kvichak River**	81.35	11	P	P	06 40 08.7 +0.1
	baz=201,SNR=34					
WCT	**Wildcat Mounta**	81.43	46	P	P	06 40 10.3 +0.6
O16K	**Kokwok River B**	81.43	10	P	P	06 40 08.1 -1.0
O16K				IAmb	IAmb	06 40 09.3
	comp=Z,34nm,0.8s					
O16K	**Kokwok River B**	81.43	10	P	P	06 40 08.5 -0.5
	baz=199,SNR=21					
M13K	**Dall Lake**	81.46	8	P	P	06 40 10.7 +1.6
	baz=194					
MAW	**Mawson**	81.52	200	P	P	06 40 09.1 -0.4
	comp=Z,6.2nm,1.0s,baz=123,slow=3.5,SNR=7.6					
MAW				pP	pP	06 42 16.2 0.0
	comp=Z,3.7nm,0.9s,baz=110,slow=7.9,SNR=3.6					
	comp=Z,6.2nm,1.0s					
MAW	**Mawson**	81.52	200	P	P	06 40 09.6 +0.1
214A	**Organ Pipe Nat**	81.57	52	P	P	06 40 10.6 +0.1
	baz=240					
Q20K	**Shuyak Island**	81.62	13	P	P	06 40 10.4 +0.4
	baz=205,SNR=17					
Q19K	**Cape Douglas,**	81.64	13	P	P	06 40 10.2 0.0
	baz=203,SNR=13					
N15K	**Kwethluk River**	81.66	9	P	P	06 40 11.2 +0.9
	baz=197,SNR=18					
P18K	**Big Mountain,**	81.76	12	P	P	06 40 10.5 -0.3
	baz=202,SNR=31					
TPNV	**Topopah Spring**	81.76	46	P	P	06 40 12.6 +1.1
	baz=237,SNR=16					
O17K	**Koliganek Bris**	81.77	11	P	P	06 40 10.4 -0.4
	baz=200,SNR=14					
PDMCI	**Parker Dam,Lak**	81.81	49	P	P	06 40 12.0 +0.4
	baz=238					
M14K	**Bethel**	81.96	8	P	P	06 40 12.4 +0.7
	baz=196,SNR=16					
CN2	**Changchun**	81.98	323	*e*P	P	06 40 12.4 +0.1
CN2				pmax	pmax	
	comp=Z,10.0nm,0.4s					
WHN	**Wuhan**	82.07	307	⇑P	P	06 40 14.0 +1.0
WHN				pmax	pmax	
	comp=Z,140nm,1.4s					
M15K	**Kasigluk River**	82.08	9	P	P	06 40 13.2 +0.8
	baz=197,SNR=34					
BNX	**BinXian**	82.12	325	⇑P	P	06 40 12.8 -0.1
BNX				pmax	pmax	
	comp=Z,52nm,0.7s					
BNX				pmax	pmax	
	comp=Z,160nm,3.7s					
N16K	**Nishlik Lake**	82.16	10	P	P	06 40 13.8 +1.0
	baz=199,SNR=36					
O18K	**Koktuh Hills**	82.19	12	P	P	06 40 12.9 -0.1
	baz=202,SNR=56					
KLR	**Kul'dur**	82.24	330	*ce*P	P	06 40 14.2 +0.8
KLR				pmax	pmax	
	comp=Z,24nm,1.3s					
P19K	**Oil Pt**	82.39	13	P	P	06 40 13.8 -0.2
	baz=204,SNR=7.7					
L14K	**Kuka Creek**	82.44	8	P	P	06 40 14.8 +0.7
	baz=195,SNR=18					
N17K	**Nushagak Hills**	82.47	10	P	P	06 40 14.4 +0.1
	baz=200,SNR=7.8					
M16K	**Timber Creek**	82.65	9	P	P	06 40 16.5 +1.3
	baz=198,SNR=37					
O19K	**Port Alsworth**	82.68	12	P	P	06 40 15.1 -0.2
	baz=203					
IPM	**Ipoh**	82.72	278	P	P	06 40 17.4 +0.7
UBPT	**Khong Chiam**	82.72	289	P	P	06 40 18.4 +1.8
HOM	**Homer**	82.73	13	P	P	06 40 15.9 +0.3
	baz=205					
GULI	**GuiLin**	82.75	300	P	P	06 40 17.5 +1.0
K13K	**Kusilvak Mount**	82.79	7	P	P	06 40 16.8 +0.9
	baz=193,SNR=17					
N18K	**Kilae Creek**	82.84	11	P	P	06 40 15.9 -0.3
	baz=201,SNR=13					
O20K	**Slope Mountain**	82.91	13	P	P	06 40 16.3 -0.3
	baz=204					
L15K	**Ungalak Mounta**	82.92	8	P	P	06 40 16.9 +0.4
	baz=196,SNR=20					
R11B	**Troy Canyon, C**	82.97	45	P	P	06 40 18.2 +0.7
	baz=237,SNR=5.7					
BRSE	**Bradley Lake S**	83.01	14	P	P	06 40 17.2 +0.2
	baz=206,SNR=17					
N19K	**Bonanza Creek**	83.22	12	P	P	06 40 17.7 -0.5
	baz=202,SNR=17					
L16K	**Owhat River**	83.23	9	P	P	06 40 18.8 +0.8
	baz=198,SNR=16					
TUC	**Tucson**	83.24	52	P	P	06 40 20.7 +1.8
	baz=241					
M17K	**Holitna River**	83.25	10	P	P	06 40 19.4 +1.3
	baz=200,SNR=23					
WVOR	**Wild Horse Val**	83.32	40	P	P	06 40 20.5 +1.3
WVOR				pmax	pmax	
	comp=Z,12nm,1.1s					
KULM	**Kulim**	83.36	278	P	P	06 40 19.5 -0.4
KULM				IAmb	IAmb	06 40 21.6
	comp=Z,32nm,0.8s					
NLWA	**Neilton Lookou**	83.38	34	P	P	06 40 20.5 +1.3
NLWA				IAmb	IAmb	06 40 21.6
	comp=Z,20nm,1.0s					
K15K	**Wolf Creek Mou**	83.51	8	P	P	06 40 19.9 +0.5
	baz=196,SNR=23					
MA2	**Magadan**	83.59	345	P	P	06 40 20.9 +1.0
MA2	**Magadan**	83.59	345	*ce*P	P	06 40 19.7 -0.2
MA2				pmax	pmax	
	comp=Z,61nm,1.7s					
MA2	**Magadan**	83.59	345	P	P	06 40 19.2 -0.7
	comp=Z,50nm,1.0s					
M18K	**Stony River**	83.61	11	P	P	06 40 20.1 +0.1
	baz=201,SNR=19					
SEW	**Seward**	83.62	14	P	P	06 40 19.7 -0.4
	baz=207,SNR=9.2					
J14K	**Nanvaranak Lak**	83.71	7	P	P	06 40 20.8 +0.4
	baz=194					
X16A	**Lo Mia Camp, P**	83.79	50	P	P	06 40 22.8 +1.0
L17K	**Donlin**	83.81	9	P	P	06 40 21.9 +1.0
	baz=199,SNR=9.8					
CAPN	**Captain Cook N**	83.84	13	P	P	06 40 22.0 +0.9
	baz=206					
O22K	**Cooper Landing**	83.90	14	P	P	06 40 21.1 -0.3
	baz=207					
319A	**Douglas**	83.91	53	P	P	06 40 23.9 +1.6
319A				IAmb	IAmb	06 40 25.3
	comp=Z,13nm,0.6s					
J08A	**Circle Bar Ran**	83.95	39	P	P	06 40 23.1 +0.8
J08A				IAmb	IAmb	06 40 24.6
	comp=Z,26nm,1.3s					
P23K	**Montague Islan**	84.01	15	P	P	06 40 21.9 -0.1
	baz=209					
N20K	**Mount Spurr**	84.02	12	P	P	06 40 21.2 -0.9
	baz=205,SNR=5.3					
SPCR	**Spurr Chakacha**	84.02	12	P	P	06 40 18.2 -3.9
	baz=205					
GAMB	**Gambell**	84.07	3	P	P	06 40 22.6 +0.4
	baz=186					
SPR3	**Spring Creek 3**	84.14	45	P	P	06 40 23.8 +0.2
L18K	**Granite Mounta**	84.14	10	P	P	06 40 22.3 -0.3
L18K				IAmb	IAmb	06 40 24.4
	comp=Z,22nm,0.8s					
L18K	**Granite Mounta**	84.14	10	P	P	06 40 23.4 +0.8
	baz=200,SNR=28					
U15A	**North Rim**	84.20	48	P	P	06 40 25.0 +1.2
U15A				IAmb	IAmb	06 40 26.3
	comp=Z,14nm,0.6s					
M19K	**Big River Lodg**	84.25	11	P	P	06 40 22.9 -0.2
	baz=203					
K17K	**Iditarod**	84.36	9	P	P	06 40 23.9 +0.3
	baz=199,SNR=5.7					
L19K	**White Mountain**	84.42	11	P	P	06 40 23.9 -0.1
	baz=202,SNR=28					
RC01	**Rabbit Creek A**	84.44	14	P	P	06 40 23.8 -0.2
	baz=207,SNR=8.9					
M20K	**Styx River**	84.46	12	P	P	06 40 23.4 -0.8
	baz=204					
ELK	**Elko**	84.49	43	P	P	06 40 25.8 +0.7
SUA	**Susitna One**	84.56	13	P	P	06 40 24.5 -0.3
	baz=206,SNR=14					
J16K	**Anvik River**	84.58	8	P	P	06 40 24.4 -0.3
J16K				IAmb	IAmb	06 40 26.4
	comp=Z,37nm,1.6s					
J16K	**Anvik River**	84.58	8	P	P	06 40 25.3 +0.6
	baz=197,SNR=7.0					
KAIM	**Kayak Island**	84.71	16	P	P	06 40 26.1 +0.7
	baz=212					
CRAG	**Craig**	84.79	24	P	P	06 40 26.7 +0.9
	baz=222					
GSI	**Gunungsitoli**	84.82	273	P	P	06 40 28.2 +1.1
GLI	**Glacier Island**	84.86	15	P	P	06 40 25.7 -0.4
GLI	**Glacier Island**	84.86	15	P	P	06 40 25.9 -0.2
	baz=209,SNR=14					
SKT	**Skwentna**	84.86	12	P	P	06 40 24.8 -1.3
	baz=205,SNR=6.6					
L20K	**Farwell, AK**	84.87	11	P	P	06 40 26.0 -0.2
	baz=203,SNR=14					
J17K	**VABM Dome**	84.90	9	P	P	06 40 26.5 +0.3
	baz=198,SNR=7.8					
EYAK	**Cordova Ski Ar**	84.90	16	P	P	06 40 28.2 +1.9
EYAK	**Cordova Ski Ar**	84.90	16	P	P	06 40 25.9 -0.4
	baz=211,SNR=7.3					
M22K	**Willow**	84.95	13	P	P	06 40 26.3 -0.2
	baz=206,SNR=14					
KNK	**Knik Glacier**	85.01	14	P	P	06 40 26.7 -0.2
	baz=208,SNR=11					
HEH	**HeiHe**	85.02	329	*e*P	P	06 40 27.1 0.0
HEH				pmax	pmax	
	comp=Z,29nm,0.7s					
PMR	**Palmer**	85.02	14	P	P	06 40 26.8 -0.1
PMR	**Palmer**	85.02	14	P	P	06 40 26.7 -0.1
	baz=207,SNR=14					
I17K	**Unalakleet**	85.15	8	P	P	06 40 27.9 +0.5
	baz=197					
BGLC	**Bering Glacier**	85.18	17	P	P	06 40 29.1 +1.5
	baz=213					
HNS	**HongShan**	85.19	313	⇓P	P	06 40 29.0 +0.8
HNS				pmax	pmax	
	comp=Z,36nm,1.2s					
V35K	**Ketchikan**	85.27	25	P	P	06 40 29.2 +1.1
	baz=223					
U33K	**Whale Pass**	85.28	24	P	P	06 40 29.2 +1.1
	baz=222					
ANM	**Nome**	85.30	6	P	P	06 40 28.3 +0.1
	baz=192					
J18K	**Innoko River**	85.31	10	P	P	06 40 28.1 -0.1
	baz=200,SNR=20					
LYN	**LuoYang**	85.39	309	P	P	06 40 30.3 +1.0
LYN				S	S	06 50 18.3 +7.5
LYN				pmax	pmax	
	comp=Z,100nm,0.9s					
LYN				pmax	pmax	
	comp=Z,160nm,5.2s					
SML	**Sawmill**	85.39	14	P	P	06 40 28.0 -0.7
	baz=208					
CUT	**Chulitna**	85.51	13	P	P	06 40 28.9 -0.2
	baz=206,SNR=8.4					
M23K	**Glacier View**	85.51	14	P	P	06 40 28.9 -0.3
	baz=209,SNR=6.5					
SRIT	**Nakonsritamara**	85.52	281	P	P	06 40 32.2 +1.8
BJT	**Baijiatuau**	85.54	316	P	P	06 40 31.6 +1.8
BJT	**Baijiatuau**	85.54	316	P	P	06 40 30.2 +0.4
BJI	**Beijing**	85.54	316	P	P	06 40 30.3 +0.5
BJI				PcP	PcP	06 40 31.8 +0.1
BJI				pmax	pmax	
	comp=Z,11nm,0.8s					
BMRM	**Bremner River**	85.55	16	P	P	06 40 29.5 0.0
	baz=212,SNR=13					
PPLA	**Purkeypile**	85.57	12	P	P	06 40 29.1 -0.6
	baz=205					
S31K	**Pelican**	85.58	21	P	P	06 40 30.0 +0.5
	baz=219					
WAX	**Waxell Ridge**	85.58	17	P	P	06 40 29.5 -0.1
WAX				IAmb	IAmb	06 40 31.2
	comp=Z,32nm,0.8s					
121A	**Cookes Peak, D**	85.58	53	P	P	06 40 31.6 +1.1
	baz=242,SNR=5.1					
MESA	**MESA**	85.60	17	P	P	06 40 30.6 +0.7
	baz=214,SNR=9.1					
SCM	**Sheep Creek Mo**	85.64	14	P	P	06 40 29.9 0.0
SCM	**Sheep Creek Mo**	85.64	14	P	P	06 40 29.9 0.0
	baz=209,SNR=34					
SCM	**Sheep Creek Mo**	85.64	14	P	P	06 40 29.9 0.0
SCM				pmax	pmax	
	comp=Z,58nm,0.7s					
K20K	**Telida**	85.65	11	P	P	06 40 29.8 0.0
	baz=203,SNR=24					
ENH	**Enshi**	85.66	304	P	P	06 40 31.5 +0.8
KLU	**Klutina**	85.68	15	P	P	06 40 30.0 -0.1
	baz=210,SNR=9.7					
H16K	**Elim**	85.69	7	P	P	06 40 30.2 +0.3
	baz=195					
CRQE	**Cirque**	85.77	17	P	P	06 40 30.5 -0.1
	baz=213,SNR=11					
DUG	**Dugway, Tooele**	85.77	44	P	P	06 40 31.7 +0.5
	baz=239					
S32K	**Killisnoo**	85.77	22	P	P	06 40 31.2 +0.7
	baz=221					
WRAK	**Wrangell Islan**	85.79	24	P	P	06 40 31.4 +0.8
	baz=223					
G15K	**Niukluk**	85.85	6	P	P	06 40 30.8 +0.1
	baz=194,SNR=9.5					
PNL	**Peninsula**	85.92	19	P	P	06 40 31.5 +0.3
PNL	**Peninsula**	85.92	19	P	P	06 40 31.6 +0.4
	baz=216,SNR=9.9					
J19K	**Poorman**	85.98	10	P	P	06 40 31.8 +0.4
	baz=201,SNR=11					
PINM	**Pinnacle**	86.01	18	P	P	06 40 31.6 -0.1
	baz=216,SNR=5.3					
CAST	**Castle Rocks**	86.07	12	P	P	06 40 30.4 -1.4
	baz=205,SNR=52					
TNA	**Tin City**	86.07	4	P	P	06 40 31.2 -0.5
	baz=190					
R31K	**City Hall, Gus**	86.09	21	P	P	06 40 32.1 +0.1
	baz=220					
N25K	**Chitina, Valde**	86.10	15	P	P	06 40 32.0 -0.1
N25K	**Chitina, Valde**	86.10	15	P	P	06 40 32.4 +0.3
	baz=212,SNR=24					
F14K	**Arctic Creek**	86.11	5	P	P	06 40 32.1 +0.1
	baz=191					
M24K	**Tolsona, Glenn**	86.15	15	P	P	06 40 32.6 +0.3
	baz=210,SNR=6.0					
SEY	**Seymchan**	86.19	347	*ce*P	P	06 40 32.6 +0.2
SEY				pmax	pmax	
	comp=Z,92nm,1.7s					
WAT6	**Susitna Watana**	86.20	14	P	P	06 40 32.6 -0.1
	baz=209,SNR=21					
WAT1	**Susitna Watana**	86.25	13	P	P	06 40 32.2 -0.5
	baz=208					
GYA	**Guiyang**	86.25	300	⇓P	P	06 40 34.1 +0.4
GYA				pmax	pmax	
	comp=Z,23nm,0.9s					
H17K	**Granite Mounta**	86.26	8	P	P	06 40 32.3 -0.3
	baz=197					
MCARA	**McCarthy VSAT**	86.31	16	P	P	06 40 33.0 -0.1
	baz=213,SNR=6.5					
J20K	**Nowinta River**	86.40	10	P	P	06 40 33.4 +0.1
	baz=203,SNR=14					
LOGN	**Logan Glacier**	86.40	17	P	P	06 40 33.8 +0.1
LOGN				IAmb	IAmb	06 40 35.0
	comp=Z,52nm,1.4s					
P29M	**Windy Craggy**	86.40	19	P	P	06 40 34.3 +0.8
	baz=218,SNR=9.6					
R32K	**Eaglecrest**	86.40	22	P	P	06 40 34.2 +0.7
	baz=221					
G16K	**Koyuk River**	86.41	7	P	P	06 40 33.4 0.0
	baz=195					
CTG	**Chitna Glacier**	86.42	17	P	P	06 40 34.0 +0.3
	baz=214,SNR=9.2					
CHUM	**Lake Minchumin**	86.45	11	P	P	06 40 32.6 -0.9
	baz=204,SNR=8.2					
GCSA	**Galena City Sc**	86.49	9	P	P	06 40 33.5 -0.2
	baz=200					
HLID	**Hailey**	86.52	41	P	P	06 40 36.1 +1.5
	baz=238,SNR=17					
O28M	**Mount Upton**	86.58	18	P	P	06 40 34.7 0.0
	baz=216,SNR=19					
HARP	**HAARP**	86.64	15	P	P	06 40 34.3 -0.3
	baz=211,SNR=5.3					
H18K	**Honhosa River**	86.67	8	P	P	06 40 34.2 -0.5
	baz=199					
O29M	**Mount Kennedy**	86.68	19	P	P	06 40 35.5 +0.6
	baz=217					
ELIB	**Princess Elisa**	86.69	187	*d*P	P	06 40 34.6 -0.4
	comp=Z,12nm,0.8s					
ELIB				*d*pP	pP	06 42 47.9 +3.6
ELIB				*dx*	x	06 43 26.9
PLBC	**Pleasant Camp**	86.69	20	P	P	06 40 35.5 +0.7
	baz=219,SNR=11					
RND	**Reindeer**	86.70	13	P	P	06 40 34.5 -0.4
G17K	**Kiwalik Mounta**	86.71	7	P	P	06 40 34.6 -0.2
	baz=197,SNR=6.8					
DHY	**Denali Highway**	86.72	14	P	P	06 40 34.9 -0.2
	baz=209,SNR=12					
BPAW	**Bear Paw Mtn.**	86.89	12	P	P	06 40 35.2 -0.5
	baz=206,SNR=7.0					
I20K	**Naaghedeneel**	86.92	10	P	P	06 40 36.0 +0.2
	baz=202,SNR=6.0					
MCK	**McKinley**	86.97	13	P	P	06 40 35.5 -0.5
	baz=208,SNR=22					
MCK	**McKinley**	86.97	13	P	P	06 40 35.3 -0.8
T35M	**Bob Quinn**	87.00	24	P	P	06 40 36.7 +0.3
	baz=224					
MNTX	**Cornudas Mount**	87.02	55	P	P	06 40 38.2 +1.1
	baz=244,SNR=11					
P30M	**Million Dollar**	87.03	19	P	P	06 40 37.4 +0.9
	baz=218					
SKAG	**Skagway**	87.03	20	P	P	06 40 37.7 +1.3
	baz=220					
PAX	**Paxson**	87.06	14	P	P	06 40 36.0 -0.6
	baz=211,SNR=10.0					
YUK8	**Steele Glacier**	87.12	18	P	P	06 40 37.9 +0.7
	baz=216,SNR=19					
M26K	**Nabesna, AK**	87.18	16	P	P	06 40 37.6 +0.5
	baz=213,SNR=14					
YUK6	**Outpost Mounta**	87.25	18	P	P	06 40 38.3 +0.6
	baz=217,SNR=11					
H19K	**Roundabout Mou**	87.29	9	P	P	06 40 37.8 +0.3
	baz=201,SNR=22					
YUK3	**Moose Creek**	87.33	17	P	P	06 40 38.6 +0.5
	baz=215,SNR=66					
G18K	**Tagagawik**	87.34	8	P	P	06 40 37.4 -0.3
G18K	**Tagagawik**	87.34	8	P	P	06 40 37.3 -0.5
	baz=198,SNR=11					
S34M	**Telegraph Cree**	87.34	23	P	P	06 40 39.1 +1.2
	baz=224,SNR=15					
TXAR	**Lajitas Array**	87.34	57	P	P	06 40 40.4 +1.7
	comp=Z,5.4nm,0.8s,baz=217,slow=6.8,SNR=78					
TXAR				pP	pP	06 42 49.4 +1.6
	comp=Z,3.6nm,1.1s,baz=208,slow=5.0,SNR=9.0					
TXAR				PKKPbc	PKKPbc	06 58 25.3 -0.1
	comp=Z,0.4nm,0.8s,baz=131,slow=2.5,SNR=5.0					
	comp=Z,5.4nm,0.8s					
ZEA	**Zeya**	87.35	331	*e*P	P	06 40 38.4 +0.3
ZEA				pmax	pmax	
	comp=Z,10.0nm,0.9s					
HYT	**Haines Junctio**	87.42	19	P	P	06 40 38.9 +0.5
	baz=218,SNR=13					
M27K	**Edge Creek, AK**	87.43	16	P	P	06 40 38.8 +0.4
	baz=214,SNR=33					
MENT	**Mentasta**	87.45	15	P	P	06 40 39.0 +0.6
YUK4	**Talbot Arm**	87.49	18	P	P	06 40 39.8 +1.0
	baz=217,SNR=16					
H20K	**Anotleneega Mo**	87.50	10	P	P	06 40 38.5 0.0
	baz=202,SNR=27					
NEW	**Newport**	87.53	36	P	P	06 40 39.4 +0.2
	baz=235,SNR=6.2					
NEW	**Newport**	87.53	36	P	P	06 40 39.3 +0.2
NEW				pmax	pmax	
	comp=Z,7.0nm,1.1s					
F17K	**Baldwin Pennin**	87.55	7	P	P	06 40 38.7 +0.1
	baz=196					
XLT	**XiLinHaoTe**	87.61	319	*e*P	P	06 40 39.6 0.0
XLT				pP	pP	06 42 49.4 +0.6
XLT				PP	PP	06 44 13.0 -3.8
XLT				pmax	pmax	
	comp=Z,20nm,0.9s					
XLT				pmax	pmax	
	comp=Z,120nm,4.3s					
L26K	**Log Cabin Wild**	87.62	15	P	P	06 40 39.6 +0.4
	baz=213,SNR=11					
ANMO	**Albuquerque**	87.66	51	P	P	06 40 40.4 +0.1
	baz=243					
ANMO	**Albuquerque**	87.66	51	*i* P	P	06 40 38.7 -1.5
ANMO				pmax	pmax	
	comp=Z,6.0nm,1.2s					
P32M	**Atlin**	87.67	21	P	P	06 40 40.2 +0.7
	baz=221					
I21K	**Tanana**	87.69	11	P	P	06 40 39.6 +0.2
I21K				IAmb	IAmb	06 40 40.1
	comp=Z,33nm,0.8s					
I21K	**Tanana**	87.69	11	P	P	06 40 39.2 -0.2
	baz=205					
Q32M	**Nakina River**	87.69	22	P	P	06 40 40.7 +0.9
	baz=223,SNR=9.5					
NEA2	**Nenana**	87.71	12	P	P	06 40 38.5 -1.0
	baz=207,SNR=28					
K24K	**Donnelly Dome**	87.71	14	P	P	06 40 39.6 0.0
	baz=210,SNR=20					
XAN	**Xi'an**	87.76	308	⇓P	P	06 40 41.2 +0.7
XAN				pmax	pmax	
	comp=Z,83nm,1.0s					
G19K	**Purcell Mounta**	87.78	9	P	P	06 40 40.0 +0.2
	baz=200,SNR=19					
MLY	**Manley**	87.78	11	P	P	06 40 39.1 -0.8
	baz=206,SNR=46					
O30N	**Mendenhall**	87.80	19	P	P	06 40 40.8 +0.7
	baz=219,SNR=22					
TROLL	**Troll, Antarti**	87.82	180	⇑P	P	06 40 40.3 0.0
	comp=Z,173nm,0.7s					
TROLL				⇑pP	pwP	06 42 51.0 -0.8
	comp=Z,265nm,0.9s					

SRDT	SRDT	88.05	286		P	P	06 40 43.8	+1.6
WHY	Whitehorse	88.10	20		P	P	06 40 42.0	+0.4
	baz=220,SNR=19							
E17K	Hotham Inlet	88.10	6		P	P	06 40 40.9	-0.4
	baz=196,SNR=5.2							
SNAA	Sanae	88.11	179		⇑P	P	06 40 42.0	+0.5
	comp=Z,43nm,1.0s							
SNAA					⇑pP	pwP	06 42 53.8	+0.5
	comp=Z,42nm,1.1s							
SNAA	Sanae	88.11	179		P	P	06 40 40.8	-0.7
	comp=Z,1.2nm,0.7s,baz=215,slow=9.8,SNR=6.7							
SNAA					pP	pP	06 42 51.9	+0.8
	comp=Z,1.9nm,1.0s,baz=162,slow=12,SNR=3.7							
	comp=Z,1.2nm,0.7s							
SNAA	Sanae	88.11	179	*i*	P	P	06 40 39.7	-1.9
SNAA					pmax	pmax		
	comp=Z,17nm,3.6s							
DLBC	Dease Lake	88.12	23		P	P	06 40 42.3	+0.7
DLBC					IAmb	IAmb	06 40 43.7	
	comp=Z,11nm,0.9s							
DLBC	Dease Lake	88.12	23		P	P	06 40 42.6	+1.0
	baz=225,SNR=8.7							
I23K	Minto, Yukon-K	88.15	12		P	P	06 40 40.7	-0.8
	baz=207,SNR=14							
COLA	College	88.20	13		P	P	06 40 41.7	0.0
COLA	College	88.20	13		P	P	06 40 41.1	-0.7
	baz=208							
COLA	College	88.20	13	*e*	P	P	06 40 40.8	-0.9
COLA					pmax	pmax		
	comp=Z,45nm,0.9s							
VNA3	Neumayer Olymp	88.26	176		⇑P	P	06 40 41.6	-0.6
	comp=Z,10nm,0.6s							
VNA3					⇑pP	pP	06 42 52.4	+0.9
	comp=Z,5.6nm,0.8s							
SCRK	Sand Creek	88.27	14		P	P	06 40 42.1	-0.2
	baz=212,SNR=26							
ILAR	Eielson Array	88.31	13		P	P	06 40 41.6	-0.7
	comp=Z,13nm,0.8s,baz=222,slow=5.6,SNR=171							
ILAR					pP	pP	06 42 51.8	-0.1
	comp=Z,1.9nm,1.0s,baz=219,slow=3.8,SNR=5.8							
ILAR					PP	PP	06 44 22.6	+0.8
	comp=Z,1.4nm,0.8s,baz=223,slow=7.5,SNR=5.8							
	comp=Z,13nm,0.8s							
ILAR	Eielson Array	88.31	13		P	P	06 40 41.7	-0.6
F19K	Shaleruckik Mo	88.34	8		P	P	06 40 42.2	-0.1
F19K					IAmb	IAmb	06 40 43.2	
	comp=Z,16nm,0.8s							
F19K	Shaleruckik Mo	88.34	8		P	P	06 40 42.4	0.0
	baz=199,SNR=22							
HIA	Hailar	88.39	325		P	P	06 40 43.0	0.0
HIA					IAmb	IAmb	06 40 44.1	
	comp=Z,21nm,1.0s							
HIA	Hailar	88.39	325	*i*	P	P	06 40 42.6	-0.4
HIA					pmax	pmax		
	comp=Z,21nm,1.0s							
M29M	Somme Creek	88.42	17		P	P	06 40 43.4	+0.4
M29M					IAmb	IAmb	06 40 44.6	
	comp=Z,29nm,0.8s							
M29M	Somme Creek	88.42	17		P	P	06 40 43.7	+0.7
	baz=217,SNR=58							
P33M	Teslin, Yukon	88.44	21		P	P	06 40 43.5	+0.4
	baz=222,SNR=8.1							
H22K	Ishtalitna Cre	88.45	11		P	P	06 40 43.0	0.0
	baz=205,SNR=64							
N31M	Braeburn, Yuko	88.46	19		P	P	06 40 43.6	+0.5
N31M					IAmb	IAmb	06 40 44.8	
	comp=Z,28nm,0.9s							
N31M	Braeburn, Yuko	88.46	19		P	P	06 40 43.4	+0.3
	baz=220,SNR=22							
R33M	Jennings River	88.47	22		P	P	06 40 44.3	+0.9
	baz=224,SNR=10							
J25K	Salcha River,	88.50	14		P	P	06 40 43.1	-0.2
J25K					IAmb	IAmb	06 40 44.0	
	comp=Z,17nm,0.8s							
J25K	Salcha River,	88.50	14		P	P	06 40 43.2	-0.1
	baz=211,SNR=30							
POKR	Poker Plat Res	88.50	13		P	P	06 40 42.4	-0.8
	baz=209,SNR=8.5							
MSO	Missoula	88.54	38		P	P	06 40 43.8	-0.1
	baz=238							
E18K	Tukpahlearik C	88.56	7		P	P	06 40 43.5	+0.1
	baz=197,SNR=15							
D17K	Noatak River	88.58	6		P	P	06 40 43.9	+0.5
	baz=194,SNR=7.7							
S22A	4UR Ranch, Cre	88.66	49		P	P	06 40 45.9	+1.0
	baz=243,SNR=6.1							
G21K	Allakaket	88.66	10		P	P	06 40 44.1	+0.2
	baz=203,SNR=39							
VNA2	Neumayer--Watz	88.70	177		⇑P	P	06 40 44.4	+0.2
	comp=Z,7.7nm,0.6s,baz=189,slow=4.3							
VNA2					⇑pP	pP	06 42 53.3	-0.6
	comp=Z,1.5nm,0.6s,baz=42,slow=37							
H23K	Yukon River	88.72	11		P	P	06 40 43.3	-0.9
	baz=207,SNR=8.2							
K27K	Chicken	88.77	15		P	P	06 40 45.1	+0.7
	baz=214							
O20A	White River Ci	88.78	46		P	P	06 40 44.8	-0.5
	baz=242,SNR=6.1							
NVL	N'lazarevskaya	88.79	183	⇓*i*	P	P	06 40 43.7	-0.9
NVL					pmax	pmax		
	comp=Z,13nm,0.7s							
J26L	Joseph Creek	88.81	14		P	P	06 40 45.4	+0.6
	baz=212,SNR=61							
F20K	Avaraart Lake	88.83	9		P	P	06 40 44.9	+0.3
	baz=201							
BILL	Bilibino	88.90	354	⇓*i*	P	P	06 40 44.7	-0.3
BILL				*e*			06 44 24.9	
BILL					pmax	pmax		
	comp=Z,14nm,1.1s							
VNA1	Neumayer--Stat	88.93	177		⇑P	P	06 40 45.2	0.0
	comp=Z,6.8nm,0.9s							
VNA1					⇑pP	pP	06 42 55.1	0.0
	comp=Z,4.9nm,0.8s							
RDOG	Red Dog Mine	88.94	6		P	P	06 40 45.4	+0.2
	baz=195							
C16K	Lisburne Hills	88.94	5		P	P	06 40 46.1	+1.0
	baz=192							
KMI	Kunming	88.95	297		⇓P	P	06 40 48.1	+1.6
KMI					pmax	pmax		
	comp=Z,39nm,0.8s							
KMI					pmax	pmax		
	comp=Z,100nm,4.1s							
HHC	Hu-ho-hao-te	89.00	315	*e*	P	P	06 40 46.7	+0.5
HHC					pmax	pmax		
	comp=Z,25nm,0.9s							
HHC					pmax	pmax		
	comp=Z,68nm,5.2s							
E19K	Redstone River	89.00	8		P	P	06 40 45.5	0.0
	baz=200,SNR=45							
M30M	Minto, Yukon	89.00	18		P	P	06 40 45.7	+0.1
M30M	Minto, Yukon	89.00	18		P	P	06 40 46.1	+0.5
	baz=218,SNR=56							
H24K	Noodor Dome	89.05	12		P	P	06 40 44.5	-1.2
	baz=208,SNR=7.4							
N32M	Quiet Lake	89.05	20		P	P	06 40 46.5	+0.6
	baz=222							
L29M	L29M	89.05	17		P	P	06 40 46.5	+0.7
	baz=217,SNR=55							
FLWY	Flagg Ranch	89.09	42		P	P	06 40 47.4	+0.7
FLWY					IAmb	IAmb	06 40 49.2	
	comp=Z,12nm,0.8s							
BW06	Boulder Array	89.17	43		P	P	06 40 47.4	+0.3
	baz=241,SNR=16							
PDAR	Pinedale Array	89.17	43		P	P	06 40 47.6	+0.5
	comp=Z,6.2nm,0.6s,baz=209,slow=3.7,SNR=74							
PDAR					pP	pP	06 42 57.3	+0.5
	comp=Z,0.2nm,0.5s,baz=270,slow=0.5,SNR=2.2							
PDAR					PKKPbc	PKKPbc	06 58 20.5	-1.2
	comp=Z,0.6nm,0.8s,baz=108,slow=4.8,SNR=4.6							
	comp=Z,6.2nm,0.6s							
PRP	Porcupine Dome	89.25	13		P	P	06 40 46.3	-0.5
	baz=211,SNR=29							
BOZ	Bozeman (W)	89.28	40		P	P	06 40 48.2	+0.8
BOZ	Bozeman (W)	89.28	40		P	P	06 40 48.5	+1.0
	baz=240,SNR=12							
BOZ	Bozeman (W)	89.28	40		P	P	06 40 48.2	+0.8
BOZ					pmax	pmax		
	comp=Z,7.0nm,0.9s							
F21K	Alatna River	89.32	9		P	P	06 40 46.8	-0.2
	baz=203,SNR=16							
H17A	Grant Village	89.32	42		P	P	06 40 49.1	+1.3
	baz=240,SNR=5.2							
C17K	DeLong Mountai	89.32	6		P	P	06 40 46.6	-0.3
	baz=194							
G22K	Bettles	89.36	10		P	P	06 40 47.4	+0.3
	baz=205							
G23K	Bananza Creek	89.43	11		P	P	06 40 47.5	0.0
	baz=206,SNR=14							
M31M	Drury Creek, Y	89.43	19		P	P	06 40 47.5	-0.1
	baz=221,SNR=7.1							
DAWY	Dawson	89.48	16		P	P	06 40 48.2	+0.4
	baz=216,SNR=42							
I26K	Coal Creek Min	89.59	14		P	P	06 40 48.4	+0.2
	baz=213,SNR=26							
SDCO	Great Sand Dun	89.60	49		P	P	06 40 49.8	+0.5
	baz=244							
EGAK	Eagle	89.62	15		P	P	06 40 47.3	-1.0
EGAK					IAmb	IAmb	06 40 49.5	
	comp=Z,26nm,0.9s							
EGAK	Eagle	89.62	15		P	P	06 40 48.6	+0.2
	baz=215,SNR=40							
PLCA	Paso Flores	89.63	134		P	P	06 40 50.7	+1.5
	comp=Z,2.7nm,0.8s,baz=209,slow=5.9,SNR=5.0							
	comp=Z,2.7nm,0.8s							
C18K	Utukok River	89.68	6		P	P	06 40 48.3	-0.4
	baz=196							
F22K	John River	89.78	10		P	P	06 40 49.1	+0.1
	baz=204							
K29M	Barlow Dome	89.80	17		P	P	06 40 49.9	+0.5
	baz=218,SNR=37							
H25L	Birch Creek	89.84	13		P	P	06 40 48.3	-1.0
	baz=210,SNR=5.9							
COLD	Coldfoot	89.86	11		P	P	06 40 50.0	+0.5
	baz=206,SNR=27							
D19K	Kuna River	89.88	7		P	P	06 40 49.6	+0.1
	baz=199,SNR=20							
G24K	Hadweenzic Riv	89.89	12		P	P	06 40 48.9	-0.7
	baz=209,SNR=5.8							
E20K	Nigu River	89.89	8		P	P	06 40 50.0	+0.3
	baz=201,SNR=46							
BTO	Baotou	89.93	314	*e*	P	P	06 40 52.3	+1.8
BTO					pmax	pmax		
	comp=Z,36nm,1.0s							
BTO					pmax	pmax		
	comp=Z,240nm,4.7s							
MSTX	Muleshoe	89.98	54		P	P	06 40 50.7	-0.2
	baz=245							
J29N	Klondike Camp	90.10	16		P	P	06 40 51.4	+0.7
	baz=217							
T25A	Trinidad	90.11	50		P	P	06 40 51.9	+0.3
	baz=244							
I27K	Kandik River	90.19	14		P	P	06 40 51.1	+0.1
	baz=214,SNR=11							
G25K	Bearman Lake	90.21	12		P	P	06 40 51.4	+0.4
	baz=210							
TOAD	Toad River Com	90.23	25		P	P	06 40 52.4	+1.1
	baz=229,SNR=13							
D20K	Etivluk River	90.27	8		P	P	06 40 51.6	+0.3
	baz=200,SNR=25							
C19K	Lookout Ridge	90.29	7		P	P	06 40 51.5	+0.1
C19K					IAmb	IAmb	06 40 52.8	
	comp=Z,30nm,1.0s							
C19K	Lookout Ridge	90.29	7		P	P	06 40 51.9	+0.4
	baz=198							
PZH	PanZhiHua	90.31	298		P	P	06 40 53.7	+1.1
PZH					pmax	pmax		
	comp=Z,20nm,1.0s							
PZH					pmax	pmax		
	comp=Z,90nm,5.1s							
B18K	Kokolik River	90.31	6		P	P	06 40 51.9	+0.5
	baz=196							
E21K	Killik River	90.37	9		P	P	06 40 51.5	-0.3
	baz=203							
E22K	Anaktuvuk Pass	90.42	10		P	P	06 40 52.2	+0.1
	baz=205							
I28M	Miner Creek	90.47	15		P	P	06 40 52.4	-0.1
	baz=216,SNR=19							
RLMT	Red Lodge	90.49	41		P	P	06 40 54.3	+1.2
	baz=241							
F24K	Squaw Lake	90.53	11		P	P	06 40 53.1	+0.5
	baz=208,SNR=8.8							
N23A	Red Feather La	90.69	46		P	P	06 40 54.7	+0.4
	baz=243,SNR=6.2							
J30M	Hart River	90.70	17		P	P	06 40 53.7	+0.2
	baz=219,SNR=9.9							
E23K	Chandalar	90.71	10		P	P	06 40 53.6	+0.2
	baz=207,SNR=14							
H27K	Steamboat Moun	90.73	14		P	P	06 40 54.0	+0.4
	baz=214,SNR=17							
G26K	Porcupine Rive	90.84	13		P	P	06 40 54.4	+0.5
	baz=212,SNR=27							
JCT	Junction City	90.87	58		P	P	06 40 54.9	-0.1
	baz=247							
E24K	Your Creek	90.92	11		P	P	06 40 54.3	0.0
	baz=208							
C21K	Knifeblade Rid	90.92	8		P	P	06 40 54.7	+0.4
	baz=202							
D22K	Ayikyak River	90.97	9		P	P	06 40 54.9	+0.4
	baz=204,SNR=7.9							
F25K	Christian Rive	91.02	12		P	P	06 40 55.3	+0.5
	baz=210,SNR=7.8							
K22A	Casper	91.09	45		P	P	06 40 56.6	+0.7
	baz=243							
AMTX	Amarillo	91.18	53		P	P	06 40 57.0	+0.6
	baz=246							
G27K	Doyon Strip	91.19	14		P	P	06 40 55.6	0.0
	baz=214,SNR=6.0							
I30M	Mount Dempster	91.19	16		P	P	06 40 55.9	+0.1
	baz=219,SNR=20							
A19K	Wainwright	91.20	6		P	P	06 40 54.9	-0.6
	baz=196							
TOLK	Toolik Lake Re	91.24	10		P	P	06 40 55.6	-0.2
	baz=207,SNR=5.4							
D23K	Nanushuk River	91.35	10		P	P	06 40 56.8	+0.5
	baz=206							
B21K	Ikpikpuk River	91.38	8		P	P	06 40 56.4	+0.1
	baz=202							
F26K	Sheenjek River	91.41	12		P	P	06 40 56.7	+0.1
	baz=212,SNR=6.5							
B20K	Meade River	91.42	7		P	P	06 40 56.7	+0.2
	baz=200							
H29M	Whitestone	91.47	15		P	P	06 40 56.9	0.0
	baz=217,SNR=19							
E25K	Arctic Village	91.49	12		P	P	06 40 57.4	+0.4
	baz=211,SNR=7.6							
EGMT	Eagleton	91.60	39		P	P	06 40 58.6	+0.6
	baz=241							
D24K	Happy Valley	91.82	10		P	P	06 40 58.7	+0.3
	baz=208							
ABTX	Abilene, Hawle	91.83	56		P	P	06 40 58.5	-0.9
	baz=247							
YAK	Yakutsk	91.88	338	*e*	P	P	06 40 58.1	-0.7
YAK					pmax	pmax		
	comp=Z,37nm,0.8s							
YAK					pmax	pmax		
	comp=N,3.0nm,0.9s							
YAK					pmax	pmax		
	comp=E,4.0nm,1.0s							
EPYK	Eagle Plains	92.00	16		P	P	06 40 59.7	+0.3
	baz=219,SNR=8.3							
G29M	Pine Creek	92.11	15		P	P	06 40 59.7	-0.1
	baz=218,SNR=8.1							
C23K	Itkillik River	92.15	9		P	P	06 41 00.2	+0.3
	baz=206							
H31M	Peel River	92.19	17		P	P	06 41 00.4	+0.2
	baz=221							
B22K	Teshekpuk Lake	92.20	8		P	P	06 41 00.2	+0.1
	baz=203							
F28M	Old Crow	92.25	14		P	P	06 41 00.7	+0.2
	baz=216,SNR=5.5							
E27K	Coleen River	92.34	13		P	P	06 41 01.2	+0.3
	baz=214,SNR=5.5							
D25K	Kavik River	92.39	11		P	P	06 41 00.8	-0.3
	baz=210							
LZH	Lanzhou	92.39	308	⇓P		P	06 41 03.0	+0.9
LZH					pmax	pmax		
	comp=E,35nm,1.2s							
G30M	tAoh Zraii Nji	92.61	15		P	P	06 41 01.6	-0.5
	baz=219,SNR=20							
A22K	Sinclair Lake	92.62	7		P	P	06 41 02.2	+0.2
	baz=202							
A21K	Barrow	92.73	7		P	P	06 41 04.3	+1.9
	baz=200							
G31M	Satah River	93.05	16		P	P	06 41 03.6	-0.4
	baz=221,SNR=17							
E28M	Babbage River	93.13	13		P	P	06 41 04.5	0.0
	baz=216,SNR=8.9							
C27K	Jago River	93.13	12		P	P	06 41 04.5	+0.1
	baz=212,SNR=10.0							
C26K	Camden Bay	93.16	11		P	P	06 41 05.1	+0.6
	baz=211							
F30M	Barrier River	93.20	15		P	P	06 41 05.9	+1.1
	baz=220							
WHTX	Lake Whitney,	93.31	57		P	P	06 41 06.6	+0.5
	baz=248							
D27M	Malcolm River	93.35	13		P	P	06 41 05.8	+0.3
	baz=215							
F31M	Tsiigehtchic	93.58	16		P	P	06 41 06.3	-0.1
	baz=221,SNR=14							
INK	Inuvik	94.29	15		P	P	06 41 09.2	-0.5
	baz=222							
INK	Inuvik	94.29	15		P	P	06 41 08.9	-0.8
ULN	Ulaanbaatar	95.03	319	*ce*	P	P	06 41 13.6	-0.2
ULN					pmax	pmax		
	comp=Z,14nm,1.7s							
SONM	Songino Array	95.42	319		P	P	06 41 14.6	-0.9
	comp=Z,1.9nm,0.8s,baz=132,slow=4.4,SNR=8.9							
SONM					PP	PP	06 45 14.4	-2.8
	comp=Z,1.0nm,0.7s,baz=134,slow=8.3,SNR=3.3							
	comp=Z,1.9nm,0.8s							
YKA	Yellowknife Ar	96.60	25		P	P	06 41 20.2	0.0
	comp=Z,1.1nm,0.7s,baz=245,slow=4.3,SNR=12							
YKA					PKIKP	PKiKP	06 45 53.6	+0.5
	comp=Z,0.1nm,0.6s,baz=10,slow=0.7,SNR=3.9							
	comp=Z,1.1nm,0.7s							
GTA	Gaotai	96.60	309	*e*	P	P	06 41 21.5	+0.5
GTA					pmax	pmax		
	comp=Z,5.0nm,1.2s							
LPAZ	La Paz	102.47	113		PKKPbc	PKKPbc	06 57 45.1	-0.9
	comp=Z,0.3nm,0.5s,baz=19,slow=2.6,SNR=3.9							
ZAA0	Zalesovo Array	110.17	321		PKiKP	PKiKP	06 46 16.7	-1.5
ZALV	Zalesovo Beam	110.17	321		Pdiff	Pdif	06 42 19.9	-0.8
	comp=Z,0.3nm,0.3s,baz=88,slow=7.4,SNR=1.6							
ZALV					PKiKP	PKiKP	06 46 16.9	-1.3
	comp=Z,4.2nm,0.6s,baz=154,slow=1.6,SNR=25							
MK31	Makanchi Array	110.84	313		PKiKP	PKiKP	06 46 18.5	-1.3
MK31	Makanchi Array	110.84	313	*c i*	PKIKP	PKiKP	06 46 18.7	-1.1
MKAR	Makanchi Array	110.84	313		Pdiff	Pdif	06 42 24.4	+0.3
	comp=Z,0.8nm,0.8s,baz=90,slow=4.3,SNR=6.0							
MKAR					PKiKP	PKiKP	06 46 18.5	-1.3
	comp=Z,4.4nm,0.7s,baz=73,slow=1.4,SNR=45							
KURK	Kurchatov	113.66	317		PKiKP	PKiKP	06 46 23.8	-1.2
KURK	Kurchatov	113.66	317	*c i*	PKIKP	PKiKP	06 46 24.0	-1.0
KURK					pmax	pmax		
	comp=Z,10.0nm,0.8s							
KURBB	Kurchatov Arra	113.71	317		PKiKP	PKiKP	06 46 23.9	-1.2
	comp=Z,6.3nm,0.7s,baz=95,slow=1.9,SNR=66							
KURBB					PP	PP	06 47 25.6	-4.3
	comp=Z,1.8nm,0.9s,baz=91,slow=6.5,SNR=6.2							
KURBB					SKP		06 49 04.7	
	comp=Z,1.2nm,0.8s,baz=96,slow=2.0,SNR=5.8							
KSH	Kashi	114.51	305		PKP	PKPdf	06 46 27.1	-0.1
NEEM	North Greenlan	117.56	11	*i*	P	PKPdf	06 46 30.7	-1.5
BVAR	Borovoye Array	118.75	320		PKP	PKPdf	06 46 33.9	-0.9
	comp=Z,8.5nm,0.4s,baz=89,slow=1.7,SNR=77							
BVAR					PP	PP	06 48 00.0	-4.4
	comp=Z,1.7nm,0.8s,baz=76,slow=6.1,SNR=3.4							
BVAR					SKP		06 49 14.1	
	comp=Z,3.3nm,0.9s,baz=90,slow=3.0,SNR=4.8							
BRVK	Borovoye	118.81	320	*c i*	PKIKP	PKPdf	06 46 34.2	-0.6
BRVK					pmax	pmax		
	comp=Z,18nm,1.0s							
ILULI	Ilulissat	121.79	20	*i*	P	PKPdf	06 46 39.0	-1.1
DAG	Danmarks Havn	122.68	5	*i*	P	PKPdf	06 46 40.0	-1.6
SVE	Sverdlovsk	123.69	325	*e*	PKIKP	PKPdf	06 46 43.8	-0.3
SVE					pmax	pmax		
	comp=Z,22nm,0.9s							
DY2G	Dye2	124.77	21	*i*	P	PKPdf	06 46 45.4	-0.8
DBG	Daneborg	124.79	7	*i*	P	PKPdf	06 46 44.0	-1.7
ARU	Arti	124.90	325		PKPdf	PKPdf	06 46 45.7	-0.7
ARU	Arti	124.90	325		PKP	PKPdf	06 46 46.3	-0.1
	comp=Z,15nm,0.6s,baz=100,slow=1.2,SNR=26							
ARU	Arti	124.90	325	*i*	PKIKP	PKPdf	06 46 46.0	-0.4
ARU							06 48 42.9	
ARU							06 53 00.7	
ICESG	Greenland Ices	125.23	17	*i*	P	PKPdf	06 46 45.7	-1.4
ABKAR	Akbulak array	125.74	317		PKPdf	PKPdf	06 46 47.5	-0.8
BOSA	Boshof	126.17	206		PKP	PKPdf	06 46 49.9	-0.1
	comp=Z,4.1nm,0.9s,baz=91,slow=5.2,SNR=4.5							
IVI	Ivigtut	126.64	27	*i*	P	PKPdf	06 46 48.0	-1.6
AKTO	Aktyubinsk	126.73	318		PKP	PKPdf	06 46 50.0	-0.1
	comp=Z,12nm,0.8s,baz=54,slow=1.5,SNR=35							
GEYT	Alibeck	128.40	303		PKPdf	PKPdf	06 46 53.5	-0.3
GEYT	Alibeck	128.40	303		PKP	PKPdf	06 46 53.8	0.0
	comp=Z,8.6nm,0.7s,baz=180,slow=2.9,SNR=15							
GEYT					PP	PP	06 49 06.1	-2.6
	comp=Z,3.5nm,0.9s,baz=63,slow=4.2,SNR=6.6							
GEYT	Alibeck	128.40	303		PKIKP	PKPdf	06 46 53.5	-0.3
KIRV	Kirov	128.68	330		PKP	PKPdf	06 46 53.1	-0.4
	comp=Z,27nm,0.5s,baz=173,slow=4.4,SNR=9.1							
APA	Apatity	128.75	345	⇓*i*	PKIKP	PKPdf	06 46 51.9	-1.5
APA				*i*			06 49 08.6	
APA					pmax	pmax		
	comp=Z,8.0nm,0.7s							
ARA0	ARCESS Array S	128.76	349	*e*	PKPdf	PKPdf	06 46 52.5	-0.9
ARCES	ARCESS Array B	128.76	349		PKP	PKPdf	06 46 52.8	-0.7
	comp=Z,6.3nm,0.6s,baz=43,slow=1.3,SNR=22							
KLMR	Klimovskoe	131.63	336	*e*	PKIKP	PKPdf	06 46 58.4	-0.7
KLMR				*e*			06 49 15.0	
KLMR					pmax	pmax		
	comp=Z,20nm,1.1s							
STEI	Steigen	131.71	353	*e*	PKPdf	PKPdf	06 46 58.0	-1.1
FAUS	Fauske	132.23	353	*e*	PKPdf	PKPdf	06 46 59.5	-0.5
BELG	Belogornoye	132.29	323		PKP	PKPdf	06 47 00.2	-0.4
	comp=Z,49nm,0.9s,baz=188,slow=4.6,SNR=14							
BELG					SKPbc	SKPbc	06 49 31.9	+0.4
	comp=Z,47nm,1.0s,baz=192,slow=1.3,SNR=17							
BELG	Belogornoye	132.29	323	*i*	PKIKP	PKPdf	06 46 59.3	-1.2
MOR8	Moi Rana	133.49	353	*e*	PKPdf	PKPdf	06 46 59.1	-3.4
STOK	Stokkvaagen	133.49	354	*e*	PKPdf	PKPdf	06 47 02.1	-0.2
FINES	FINESS Array B	135.57	343		PKP	PKPdf	06 47 06.1	-0.3
	comp=Z,4.9nm,0.6s,baz=86,slow=2.5,SNR=6.3							
FINES					SKPbc	SKPbc	06 49 41.6	-0.1
	comp=Z,7.2nm,1.0s,baz=72,slow=4.5,SNR=5.5							
FINES					SKPab	SKPab	06 49 48.0	+0.5
	comp=Z,5.6nm,0.9s,baz=41,slow=6.1,SNR=5.4							
VRH	Novokhopyorsk	136.10	324	*e*	PKIKP	PKPdf	06 47 06.8	-0.9
VRH					pmax	pmax		
	comp=Z,10.0nm,1.4s							
OBN	Obninsk	136.48	331		SKPbc	SKPbc	06 49 46.2	+1.6
	comp=Z,15n

GURO Guroymak-BITLI 140.78 306 PKPdf PKPpre 06 47 12.4
KMY Karmoy 141.15 357 *e*PKPdf PKPpre 06 47 11.5
HOMB Homborsund 141.85 354 *e*PKPdf PKPpre 06 47 13.7
LINV Loch Inver, As 141.98 6 *e*P PKPpre 06 47 14.1
SUW Suwalki 142.61 339 *e*PKP PKPpre 06 47 16.8
MCD Coleburn Disti 142.70 4 *e*P PKPpre 06 47 15.8
KPL Plockton 142.73 6 *e*P PKPpre 06 47 16.5
AKASG Malin Array Be 142.74 331 PKhKP PKPpre 06 47 16.4
comp=Z,46nm,0.6s,baz=42,slow=4.4,SNR=57
KIEV Kiev 142.75 331 ⇑P **PKPdf 06 47 16.9 -2.9**
DRUM Mains of Drumt 143.42 4 *e*P PKPab 06 47 18.5 -1.0
MUD Monsted U'grnd 143.56 353 *i*P PKPab 06 47 19.2 -0.7
SIM Simferopol' 143.66 320 *i*PKIKP PKPbc 06 47 20.7 0.0
SIM pmax pmax
comp=Z,165nm,0.8s
SIM pmax pmax
comp=Z,35nm,0.6s
INVG Invergeldie, C 143.79 5 *e*P PKPbc 06 47 20.0 -0.7
LAWE Loch Awe, Argy 143.82 7 *e*P PKPbc 06 47 19.7 -1.1
COP Copenhagen 143.84 350 *i*P PKPbc 06 47 20.0 -0.8
BSD Bornholm Skovb 143.91 347 *i*P PKPbc 06 47 20.0 -1.1
PGBU Glenifferbraes 144.36 6 *e*P **PKPdf 06 47 21.6 -0.8**
ESY Stoneypath 144.40 4 *e*P **PKPdf 06 47 21.6 -0.9**
DIKM Dikmen 144.53 314 ⇑P **PKPab 06 47 24.1 -0.1**
MBAR Mbarara 144.63 237 PKPdf **PKPdf 06 47 23.8 -0.7**
MBAR Mbarara 144.63 237 PKIKP **PKPdf 06 47 23.8 -0.7**
IDGL Inch Island, C 144.71 9 *e*P **PKPdf 06 47 23.1 +0.1**
CLGH Cloghs, Cushen 144.89 8 *e*P PKPbc 06 47 24.1 -0.1
SORM Soroca 144.92 328 ⇑P PKPbc 06 47 24.2 -0.2
EKA Eskdalemuir Ar 144.94 5 PKP **PKPdf 06 47 23.6 +0.1**
comp=Z,19nm,0.8s,baz=340,slow=3.0,SNR=42
ESK Eskdalemuir 144.96 5 *e*P **PKPdf 06 47 23.7 +0.2**
GKP Gorka Klasztor 145.04 344 *e*PKP **PKPbc 06 47 24.7 +0.1**
NEWG New Galloway 145.07 6 *e*P **PKPdf 06 47 24.1 +0.5**
PURM Purcari 145.18 325 ⇑P **PKPbc 06 47 25.5 +0.3**
BZK Bozkurt 145.22 315 ⇑P **PKPbc 06 47 26.0 +0.5**
BEL Belsk 145.23 339 *e*PKP **PKPbc 06 47 25.6 +0.4**
KIS Kishinev 145.44 326 *e*PKP **PKPbc 06 47 25.4 -0.6**
comp=Z,80nm,0.8s
KIS Kishinev 145.44 326 *de*PKIKP **PKPbc 06 47 25.4 -0.6**
KIS pmax pmax
comp=Z,80nm,0.8s
MILM Milestii Mici 145.49 326 ⇓P **PKPbc 06 47 25.8 -0.4**
MILM Milestii Mici 145.49 326 ⇓*i*PKP **PKPbc 06 47 25.5 -0.6**
comp=Z,180nm,1.1s
MILM Milestii Mici 145.49 326 *d i*PKIKP **PKPbc 06 47 25.5 -0.6**
MILM pmax pmax
comp=Z,180nm,1.1s
EDMD Edmundbyers 145.53 4 *e*P **PKPbc 06 47 25.3 -0.7**
KESW Keswick, Cumbr 145.69 5 *e*P **PKPbc 06 47 26.4 -0.1**
BSEG Bad Segeberg 145.87 351 *e*PKPbc 06 47 27.1
baz=18,slow=2.4
IOMK Kirk Michael 145.88 6 *e*P **PKPbc 06 47 26.3 -0.7**
ILTH Belurgan, Co L 145.90 8 *e*P **PKPdf 06 47 25.8 +0.7**
WIM Isle of Man 145.98 7 *e*P **PKPbc 06 47 26.6 -0.7**
GDLE Glaisdale, N Y 145.99 2 *e*P **PKPbc 06 47 26.9 -0.4**
KWP Kalwaria Pacla 146.33 335 *e*PKP **PKPbc 06 47 29.4 +1.0**
HPK Haverah Park 146.42 3 *e*P **PKPbc 06 47 27.8 -0.7**
BRTR Keskin Array B 146.48 312 PKP **PKPdf 06 47 26.6 -0.1**
comp=Z,16nm,0.7s,baz=135,slow=3.1,SNR=73
BRTR PKPbc **PKPbc 06 47 29.0 -0.3**
comp=Z,16nm,0.7s,baz=128,slow=3.2,SNR=60
VLDR Vladesti 146.58 326 ⇑P **PKPbc 06 47 29.8 +0.7**
TLCR 146.60 324 ⇑P **PKPbc 06 47 29.5 +0.2**
RUE Ruedersdorf 146.61 346 *e*PKPbc 06 47 29.3
baz=18,slow=2.4
SCTR Scanteiesti 146.73 325 ⇑P **PKPbc 06 47 30.2 +0.6**
BURAR Bucovina Array 146.78 330 ⇑P **PKiKP 06 47 30.9 -0.9**
GHRR 146.79 326 ⇑P **PKiKP 06 47 30.9 -0.8**
WLF1 Llynfaes 146.85 7 *e*P **PKPdf 06 47 27.9 +1.2**
TESR Tescani 146.87 328 ⇓P **PKPbc 06 47 29.1 -0.9**
NEGRR Negrea 146.88 325 ⇓P **PKiKP 06 47 31.0 -0.8**
OJC Ojcow 146.93 338 *e*PKP **PKPbc 06 47 29.1 -0.9**
IZVR Izvoarele 146.94 325 ⇑P **PKPbc 06 47 30.7 +0.6**
TUDR 146.96 325 ⇓P **PKiKP 06 47 31.3 -0.7**
LBWR Ladybower, Pea 146.97 4 *e*P **PKPbc 06 47 29.6 -0.4**
CFR Carcaliu 146.98 325 ⇓P **PKPbc 06 47 30.2 0.0**
LMK Market Rasen 146.98 2 *e*P **PKPbc 06 47 29.3 -0.7**
ANTO Ankara 147.00 313 ⇓P **PKPbc 06 47 31.0 +0.4**
TPGR Topolog 147.02 324 ⇓P **PKiKP 06 47 31.5 -0.7**
KOLS Kolonicke sedl 147.06 335 *e*PKIKP **PKPdf 06 47 27.7 +0.5**
KOLS *e* 06 47 34.3
KOLS Kolonicke sedl 147.06 335 *e*PKP **PKPdf 06 47 27.7 +0.5**
KOLS *e* 06 47 31.0
KOLS *e* 06 47 34.3
STHS Stebnicka Huta 147.07 336 *e*PKP2 **PKPbc 06 47 29.9 -0.5**
STHS Stebnicka Huta 147.07 336 *e*PKP **PKPbc 06 47 29.9 -0.5**
STHS *e* 06 47 34.3
RETH Rethem/Aller, 147.17 351 *e*PKPbc 06 47 30.6
baz=18,slow=2.4
STNC Stoke 147.24 4 *e*P **PKPbc 06 47 30.6 -0.1**
FLTG Flechtingen 147.26 349 *e*PKPbc 06 47 30.5
baz=18,slow=2.4
VRI Vrincioaia 147.27 327 ⇑P **PKPbc 06 47 31.2 +0.1**
NRDL Niedersach Rie 147.29 350 *e*PKPbc 06 47 30.9
baz=18,slow=2.4
PLOR Plostina 147.32 327 ⇑P **PKPbc 06 47 31.3 +0.1**
FOEL Foel Wylfa 147.37 5 *e*P **PKPbc 06 47 30.6 -0.5**
HARR Harsova 147.40 324 ⇓P **PKPbc 06 47 32.1 +0.7**
CRVS Cervenica-Dubn 147.40 335 *e*PKP2 **PKPbc 06 47 31.3 0.0**
CRVS Cervenica-Dubn 147.40 335 *e* **PKPab 06 47 36.0 +0.6**
CRVS Cervenica-Dubn 147.40 335 *e*PKP **PKPbc 06 47 31.3 0.0**
MMAI Mount Meron Ar 147.42 300 PKPbc **PKPbc 06 47 32.4 +0.5**
comp=Z,51nm,0.7s,baz=61,slow=3.9,SNR=60
MMAI PKPab **PKPab 06 47 37.0 +0.9**
comp=Z,12nm,0.7s,baz=76,slow=3.5,SNR=5.3
NIE Niedzica 147.42 337 *e*PKP **PKiKP 06 47 32.8 -0.1**
MFTR Murfatlar 147.44 323 ⇑P **PKiKP 06 47 32.2 -0.8**
BISRR Bisoca 147.49 326 ⇑P **PKPbc 06 47 32.2 +0.5**
TURR Turia 147.50 328 ⇓P **PKPbc 06 47 31.8 +0.1**
BMR Baia Mare 147.52 332 ⇑P **PKPbc 06 47 32.2 +0.5**
COVR Voineasa-Covas 147.55 327 ⇑P **PKPbc 06 47 31.7 -0.1**
ARCR ARCALIA 147.57 330 ⇑P **PKiKP 06 47 32.5 -0.7**
MANR Mangalia 147.57 322 ⇑P **PKiKP 06 47 32.6 -0.7**
OZUR 147.59 328 ⇑P **PKPbc 06 47 32.6 +0.6**
CWF Charnwood Fore 147.65 3 *e*P **PKPbc 06 47 31.1 -0.7**
BOSR Bodos 147.67 328 ⇑P **PKPbc 06 47 32.2 +0.1**
WACR West Acre 147.73 1 *e*P **PKPbc 06 47 30.5 -1.5**
OSTC Ostas 147.76 342 ⇑*e*PKP **PKiKP 06 47 32.9 -0.7**
OSTC Ostas 147.76 342 *e*PKP2 **PKiKP 06 47 32.9 -0.7**
HLM1 Long Mynd 147.76 5 *e*P **PKPbc 06 47 30.9 -1.1**
CHVC Chvalec 147.78 343 *e*PKPDF **PKPdf 06 47 28.8 +0.4**
CHVC ⇑*e*PKP **PKPbc 06 47 32.3 +0.1**
CHVC Chvalec 147.78 343 *e*PKIKP **PKPdf 06 47 28.8 +0.4**
IBBN Ibbenburen 147.80 353 *e*PKPbc 06 47 32.3
baz=18,slow=2.4
OKC Ostrava-Krasne 147.81 340 ⇑*e*PKP **PKPbc 06 47 32.4 +0.1**
OKC Ostrava-Krasne 147.81 340 *e*PKP2 **PKPbc 06 47 32.4 +0.1**
UPC Upice 147.86 343 ⇑*e*PKP **PKPbc 06 47 32.8 +0.4**
UPC Upice 147.86 343 *e*PKP2 **PKPbc 06 47 32.8 +0.4**
ISR Istrita 147.87 326 ⇓P **PKiKP 06 47 33.6 -0.4**
DOPR Dopca 147.88 328 ⇑P **PKiKP 06 47 33.5 -0.5**
CLL Collm 147.88 346 *e*PKPdf **PKPdf 06 47 29.0 +0.5**
comp=Z,11nm,1.2s
CLL ⇓*i*PKPbc **PKPbc 06 47 32.5 +0.1**
comp=Z,100nm,0.8s
CLL ⇑*i*PKPab **PKPab 06 47 37.1 -0.1**
comp=Z,42nm,0.8s
CLL *e*pPKPab **pPKPab 06 49 51.0 +0.2**
CLL *e*PP **PP 06 51 03.0 -2.8**
CLL Collm 147.88 346 *e*PKPbc 06 47 32.4
baz=18,slow=2.4
CLZ Clausthal 147.88 350 *e*PKPbc 06 47 32.6
baz=18,slow=2.4
DPC Dobruska-Polom 147.92 342 ⇑*e*PKP **PKPbc 06 47 33.1 +0.5**
DPC Dobruska-Polom 147.92 342 *e*PKP2 **PKPbc 06 47 33.1 +0.5**
MLR Muntele Rosu 147.93 327 ⇓P **PKPbc 06 47 32.4 -0.5**
MLR Muntele Rosu 147.93 327 PKPbc **PKPbc 06 47 32.4 -0.5**
comp=Z,29nm,0.8s,baz=4.6,slow=3.9,SNR=36
LANS Liptovska Anna 147.94 338 *e*PKP2 **PKiKP 06 47 34.1 +0.1**
LANS Liptovska Anna 147.94 338 *e* **PKPab 06 47 38.9 +1.2**
LANS Liptovska Anna 147.94 338 *e*PKP **PKiKP 06 47 34.1 +0.1**
KRLC Kraliky 148.03 341 *e*PKPDF **PKPdf 06 47 29.2 +0.4**
KRLC ⇑*e*PKP **PKPbc 06 47 33.2 +0.3**
KRLC Kraliky 148.03 341 *e*PKHKP PKPpre 06 47 29.2
MORC Moravsky Berou 148.05 340 ⇑P **PKPbc 06 47 33.5 +0.5**
MORC Moravsky Berou 148.05 340 *e*PKP **PKPbc 06 47 33.0 0.0**
BRG Berggiesshubel 148.07 345 *e*PKHKP PKPpre 06 47 29.0
BRG pmax pmax
comp=Z,12nm,1.3s
BRG Berggiesshubel 148.07 345 *e*PKPbc 06 47 33.2
baz=18,slow=2.4

KECS Kecovo 148.12 336 *e*PKP2 **PKiKP 06 47 34.0 -0.3**
KECS Kecovo 148.12 336 *e* **PKPab 06 47 39.1 +0.8**
KECS Kecovo 148.12 336 *e*PKP **PKiKP 06 47 34.0 -0.3**
RSBS Rosebush, Pemb 148.13 7 *e*P **PKPbc 06 47 31.6 -1.4**
CJR Cluj-Napoca 148.19 331 ⇑P **PKPbc 06 47 33.9 +0.5**
NEUB Neuenburg 148.23 348 *e*PKPbc 06 47 33.6
baz=18,slow=2.4
PVCC Panska Ves 148.23 344 ⇑*e*PKP **PKPbc 06 47 33.7 +0.4**
PVCC Panska Ves 148.23 344 *e*PKP2 **PKPbc 06 47 33.7 +0.4**
GTTG Gottingen 148.23 350 *e*PKPbc 06 47 33.5
baz=18,slow=2.4
MCH1 Michaelchurch 148.27 5 *e*P **PKPbc 06 47 32.4 -1.0**
SULR 148.31 325 ⇓P **PKiKP 06 47 34.2 -0.6**
MAUC Maruska 148.32 340 ⇑*e*PKP **PKiKP 06 47 34.3 -0.5**
ELMS Elmsett, Ipswi 148.37 1 *e*P **PKPbc 06 47 32.8 -0.8**
VOIR 148.42 328 ⇑P **PKPbc 06 47 34.2 +0.1**
MARR Marisel-Cluj 148.44 331 ⇓P **PKPbc 06 47 33.6 -0.5**
MONM Monmouth 148.44 5 *e*P **PKPbc 06 47 33.0 -0.8**
DRGR 148.54 332 ⇓P **PKiKP 06 47 34.9 -0.5**
ARR Arges 148.68 328 ⇑P **PKiKP 06 47 35.9 +0.3**
PRU Pruhonice 148.73 344 ⇑*e*PKP **PKPbc 06 47 34.8 +0.2**
PRU *e*PKPAB **PKPab 06 47 41.4 +0.6**
PRU Pruhonice 148.73 344 *e*PKP2 **PKPbc 06 47 34.8 +0.2**
GOPC GO Pecny, Ondr 148.74 343 ⇑*e*PKP **PKPbc 06 47 34.6 0.0**
GOPC GO Pecny, Ondr 148.74 343 *e*PKHKP PKPpre 06 47 34.6
VRAC Vranov 148.76 341 ⇑P **PKiKP 06 47 35.3 -0.4**
VRAC Vranov 148.76 341 *e*PKP **PKPbc 06 47 34.7 0.0**
VRAC Vranov 148.76 341 PKPbc **PKPbc 06 47 34.9 +0.3**
comp=Z,19nm,1.0s,baz=46,slow=1.0,SNR=26
VRAC PKPab **PKPab 06 47 41.6 +0.6**
comp=Z,17nm,0.9s,baz=29,slow=5.5,SNR=12
KASTN Kahler Asten 148.80 352 *e*PKPbc
baz=18,slow=2.4 06 47 34.8
MOX Moxa 148.80 348 *e*PKPbc 06 47 34.7
baz=18,slow=2.4
JAVC Velka Javorina 148.81 339 *e*PKP **PKiKP 06 47 35.9 +0.1**
PSZ Piszkesteto 148.81 336 ⇑P **PKPbc 06 47 35.3 +0.4**
TANN Tannenbergstha 148.84 346 *e*PKPbc
baz=18,slow=2.4 06 47 35.1
UBBA Unterbreizbach 148.93 350 *e*PKPbc 06 47 34.7
baz=18,slow=2.4
KRUC Moravsky 149.04 341 *e*PKP **PKPbc 06 47 35.5 +0.2**
LOT Lotru 149.04 329 ⇓P **PKPbc 06 47 35.5 -0.2**
WOL Wolverton 149.08 3 *e*P **PKPbc 06 47 35.0 -0.3**
HUMR Humele 149.09 326 ⇓P **PKPbc 06 47 35.6 0.0**
DEV Deva 149.13 330 ⇑P **PKPbc 06 47 35.9 +0.3**
SMOL Smolenice 149.19 339 *e*PKP2 **PKiKP 06 47 37.6 +1.0**
MANZ Manzenberg 149.32 347 *e*PKPbc 06 47 36.2
baz=18,slow=2.4
ELSH Elham, Standar 149.32 1 *e*P **PKPbc 06 47 35.3 -0.6**
ZVC Zvikov 149.33 344 ⇑*e*PKP **PKPbc 06 47 36.2 +0.2**
ZVC *e*PKPAB **PKPab 06 47 42.5 -0.8**
MODS Modra-Piesok 149.36 339 *e*PKP2 **PKiKP 06 47 37.0 +0.1**
MODS Modra-Piesok 149.36 339 *e*PKP **PKiKP 06 47 37.0 +0.1**
SIRR Siria 149.40 332 ⇑P **PKiKP 06 47 36.9 -0.2**
SRO Srobarova 149.49 338 *e*PKP2 **PKiKP 06 47 37.4 +0.3**
SRO Srobarova 149.49 338 *e*PKP **PKiKP 06 47 37.4 +0.3**
SRO *e* 06 47 45.2
BEBN Eben Emael 149.50 355 *d*PKPbc **PKPbc 06 47 36.1 -0.2**
BEBN *d*PKP **PKPab 06 47 43.8 -0.2**
ROTZ Rotzenmuhle 149.50 346 *e*PKPbc 06 47 36.4
baz=18,slow=2.4
GZR Gura Zlata 149.56 330 ⇓P **PKiKP 06 47 37.2 -0.3**
ZST Bratislava 149.57 339 *e*PKHKP PKPpre 06 47 37.2
ZST Bratislava 149.57 339 *e*PKP **PKiKP 06 47 37.2 -0.1**
ZST *e* 06 47 45.8
SURR Surduc 149.59 331 ⇓P **PKPbc 06 47 36.8 -0.1**
AHRW Bad Neuenahr-A 149.62 353 *e*PKPbc 06 47 37.3
baz=18,slow=2.4
MEM Membach 149.66 354 *d*PKPdf **PKPdf 06 47 31.6 +0.2**
MEM *d*PKPbc **PKPbc 06 47 36.3 -0.4**
BTNL Ternell 149.67 354 *d*PKPdf **PKPdf 06 47 31.5 +0.1**
BTNL *d*PKPbc **PKPbc 06 47 36.4 -0.4**
ELND Elena 149.67 323 ⇓P **PKPbc 06 47 37.2 +0.1**
BSTI Sart Tilman 149.72 355 *d*PKPbc **PKPbc 06 47 36.6 -0.3**
TNS Taunus Mts 149.75 351 *e*PKPbc 06 47 37.1
baz=18,slow=2.4
KHC Kasperske Hory 149.77 344 *e*PKPDF **PKPdf 06 47 31.5 -0.1**
KHC ⇑*e*PKP **PKPbc 06 47 37.4 +0.3**
KHC *e*PKPAB **PKPab 06 47 46.0 +0.8**
KHC Kasperske Hory 149.77 344 *e*PKIKP **PKPdf 06 47 31.5 -0.1**
KHC *e* 06 47 46.0
GRF Grafenberg Arr 149.78 348 *e*PKPbc 06 47 37.3
baz=18,slow=2.4
CKRC Cesky Krumlov 149.86 343 *e*PKPDF **PKPdf 06 47 31.9 +0.1**
CKRC ⇑*e*PKP **PKPbc 06 47 37.5 +0.2**
CKRC Cesky Krumlov 149.86 343 *e*PKHKP PKPpre 06 47 31.9
SRE Strehaia 149.89 328 ⇑P **PKiKP 06 47 38.1 0.0**
BCLA Clavier 149.91 355 *d*PKPbc **PKPbc 06 47 37.1 -0.2**
BCLA *d*PKP **PKPab 06 47 45.0 -0.7**
BHOU Houvegnez 149.91 354 *d*PKPdf **PKPdf 06 47 32.0 +0.2**
BHOU *d*PKPbc **PKPbc 06 47 37.5 +0.1**
BHOU *d*PKP **PKPab 06 47 45.8 +0.1**
BZS Buzias 149.93 331 ⇓P **PKPbc 06 47 37.6 +0.1**
WET Wettzell 149.93 345 *e*PKPbc 06 47 37.4
baz=18,slow=2.4
BGES Gesves 149.96 356 *d*PKPbc **PKPbc 06 47 37.1 -0.4**
BGES *d*PKP **PKPab 06 47 45.2 -0.6**
GERES GERESS Array B 150.00 344 PKP **PKPdf 06 47 31.8 -0.3**
comp=Z,1.3nm,0.8s,baz=95,slow=2.2,SNR=4.1
GERES PKPbc **PKPbc 06 47 37.9 +0.1**
comp=Z,17nm,0.8s,baz=116,slow=6.1,SNR=9.1
GERES pPKPab **pPKPab 06 49 58.5 -0.7**
comp=Z,1.6nm,0.8s,baz=311,slow=6.9,SNR=3.4
GEC2 GERESS Array S 150.00 344 *e*PKPbc 06 47 37.6
baz=18,slow=2.4
BMRD Maredsous 150.06 356 *d*PKPbc **PKPbc 06 47 37.7 0.0**
HERR Herculane 150.11 329 ⇓P **PKPbc 06 47 37.8 -0.2**
RCHB Rochefort 150.17 355 *d*PKPbc **PKPbc 06 47 37.7 -0.2**
CONA Conrad Observa 150.21 340 *i*PKP **PKPbc 06 47 38.3 +0.1**
comp=Z,17nm,0.7s,SNR=13
CONA *e*PKP **PKPab 06 47 47.6 +0.5**
comp=Z,12nm,0.7s
RONA Rosalia, Austr 150.27 340 *i*PKP **PKPbc 06 47 38.4 +0.1**
comp=Z,20nm,0.6s,SNR=16
RONA *e*PKP **PKPab 06 47 47.8 +0.4**
comp=Z,20nm,0.8s
DOU Dourbes 150.28 356 *d*PKPbc **PKPbc 06 47 38.0 -0.2**
DOU *d*PKP **PKPab 06 47 46.6 -0.6**
MDVR Moldovita 150.52 330 ⇑P **PKPbc 06 47 39.2 +0.1**
WLF Walferdange 150.58 354 *d*PKPbc **PKiKP 06 47 39.2 -0.2**
WLF *d*PKP **PKPab 06 47 48.4 -0.1**
WLF Walferdange 150.58 354 *e*PKPbc 06 47 39.5
baz=18,slow=2.4
MORH Mrgy, Hungar 150.70 335 ⇑P **PKiKP 06 47 39.5 -0.2**
MOA Molln 150.76 342 *i*PKP **PKPbc 06 47 39.0 -0.4**
comp=Z,8.0nm,0.6s,SNR=7.4
MOA *e*PKP **PKPab 06 47 49.7 +0.3**
comp=Z,14nm,1.2s
ARSA Arzberg 150.92 340 *i*PKP **PKPbc 06 47 39.2 -0.6**
comp=Z,3.4nm,0.7s
BIOA Bad Ischl, Aus 151.08 343 *i*PKP **PKPbc 06 47 39.5 -0.6**
comp=Z,12nm,0.6s,SNR=6.1
BIOA *i*PKP **PKPab 06 47 51.3 +0.6**
comp=Z,18nm,0.7s
FRGS Fruska Gora 151.08 333 ⇓P **PKPbc 06 47 40.1 -0.2**
FRGS Fruska Gora 151.08 333 ⇓*i*P **PKPbc 06 47 39.8 -0.5**
FUR Furstenfeldbru 151.22 346 *e*PKPbc 06 47 40.4
baz=18,slow=2.4
RJOB Jochberg 151.26 344 *e*PKPbc 06 47 40.2
baz=18,slow=2.4
KOGS Kog 151.38 339 *i*PKPbc **PKPbc 06 47 40.1 -0.7**
KOGS *i*PKPab **PKPab 06 47 51.7 -0.3**
LESA Schwarzleotal 151.58 344 *i*PKP **PKPbc 06 47 40.7 -0.7**
comp=Z,13nm,0.6s
LESA *i*PKP **PKPab 06 47 53.3 +0.4**
comp=Z,24nm,0.9s
SOKA Soboth 151.58 340 *i*PKP **PKPbc 06 47 40.6 -0.8**
comp=Z,21nm,1.0s
SOKA *i*PKP **PKPab 06 47 52.9 0.0**
comp=Z,20nm,1.4s
KALN Kalnik 151.58 338 *i*P **PKPbc 06 47 40.4 -0.9**
BFO Black Forest 151.61 350 *e*PKPbc 06 47 41.0
baz=18,slow=2.4
TEKS Tekeris 151.68 332 ⇓*i*P **PKPbc 06 47 41.0 -0.6**
LOBO Lobor 151.70 338 *i*P **PKPbc 06 47 40.6 -1.0**
KBA Koelnbreinsper 151.72 343 *i*PKP **PKPbc 06 47 40.7 -1.1**
comp=Z,16nm,0.9s,SNR=5.3
KBA *i*PKP **PKPab 06 47 53.6 0.0**
comp=Z,16nm,0.7s
OBKA Obir 151.88 341 *i*PKP **PKPbc 06 47 41.7 -0.4**
comp=Z,4.1nm,0.7s
OBKA *e*PKP **PKPab 06 47 54.1 -0.2**
comp=Z,4.3nm,0.8s
OBKA Obir 151.88 341 *e*P **PKPbc 06 47 39.6 -2.5**
MOSL Moslavina 151.92 337 *i*P **PKPbc 06 47 41.6 -0.6**
UBR Ueberruh 151.93 348 *e*PKPbc 06 47 41.8
baz=18,slow=2.4
WATA Walderalm 151.93 345 *i*PKP **PKPbc 06 47 41.7 -0.6**
comp=Z,7.6nm,0.5s,SNR=7.1
WATA *i*PKP **PKPab 06 47 54.3 -0.2**
comp=Z,16nm,0.8s
RETA Reutte 151.97 347 *e*PKP **PKPbc 06 47 41.8 -0.4**
comp=Z,5.3nm,0.6s,SNR=5.3
RETA *i*PKP **PKPab 06 47 54.6 0.0**
comp=Z,12nm,0.8s
WTTA Wattenberg 151.99 345 *i*PKP **PKPbc 06 47 42.1 -0.3**
comp=Z,13nm,0.4s,SNR=8.3
WTTA *i*PKP **PKPab 06 47 54.9 +0.1**
comp=Z,22nm,0.7s
MOTA Moosalm 152.03 346 *i*PKP **PKPbc 06 47 41.8 -0.6**
comp=Z,19nm,0.8s,SNR=6.4
MOTA *i*PKP **PKPab 06 47 54.7 -0.2**
comp=Z,19nm,0.9s
MYKA Terra Mystica 152.04 342 *i*PKP **PKPbc 06 47 41.3 -1.1**
comp=Z,7.9nm,0.5s
MYKA *e*PKP **PKPab 06 47 54.1 -0.8**
comp=Z,8.1nm,0.6s
SQTA Sankt Quirin 152.13 346 *e*PKP **PKPbc 06 47 42.2 -0.4**
comp=Z,9.5nm,0.6s,SNR=5.8
CRES Cresnjev 152.19 339 *e*P **PKPbc 06 47 42.1 -0.6**
ABTA Abfaltersbach 152.25 344 *i*PKP **PKPbc 06 47 41.9 -1.0**
comp=Z,31nm,0.7s,SNR=8.1
ABTA *i*PKP **PKPab 06 47 55.2 -0.5**
comp=Z,24nm,0.8s
BBLS Lazi&#263i 152.28 332 ⇓*i*P **PKPdf 06 47 34.5 -1.1**
HAPS Han Pijesak,Bl 152.30 332 ⇓*i*P **PKPbc 06 47 42.9 -0.2**
LJU Ljubljana 152.30 340 *i*PKPbc **PKPbc 06 47 42.5 -0.4**
DAVA Damuels 152.35 348 *e*PKP **PKPbc 06 47 42.8 -0.4**
comp=Z,17nm,1.1s
DAVA *e*PKP **PKPab 06 47 55.9 -0.4**
comp=Z,16nm,1.1s
CRNS Crni Vrh 152.35 341 *i*PKPbc **PKPbc 06 47 42.4 -0.7**
FETA Feichten 152.42 346 *i*PKP **PKPbc 06 47 43.1 -0.2**
comp=Z,18nm,0.8s
FETA *i*PKP **PKPab 06 47 56.6 0.0**
comp=Z,19nm,1.2s
SJES Sjenica 152.49 330 ⇓*i*P **PKPdf 06 47 35.2 -0.8**
RUDO Rudo 152.49 331 *e*P **PKPbc 06 47 41.9 -1.5**
BLY Banja Luka 152.49 335 ⇓*i*P **PKPbc 06 47 42.9 -0.4**
BOJS Bojanci 152.54 339 *e*P **PKPdf 06 47 35.6 -0.3**
CEY Cerknica 152.61 340 *e*P **PKPbc 06 47 42.7 -0.9**
MGRS Mrkonjic Grad 152.81 335 *e*P **PKPbc 06 47 43.7 -0.4**
DAVOX Davos/Dischmat 152.83 347 PKP **PKPdf 06 47 36.6 +0.1**
comp=Z,5.0nm,0.8s,baz=20,slow=2.2,SNR=12
DAVOX PKPbc **PKiKP 06 47 44.6 +0.3**
comp=Z,20nm,0.6s,baz=78,slow=2.0,SNR=28
DAVOX PKPab **PKPab 06 47 58.2 -0.2**
comp=Z,9.8nm,0.7s,baz=296,slow=2.6,SNR=5.5
SKDS Skadanscina 152.91 341 ⇓*i*P **PKPdf 06 47 37.5 +1.1**
UPM Unac-Piva 153.02 331 *e*P **PKPbc 06 47 43.6 -1.2**
CTI Castel Tesino 153.12 344 PKPdf **PKPdf 06 47 35.6 -1.2**
CTI PKPbc **PKPbc 06 47 44.4 -0.4**
CTI PKPab **PKPab 06 47 59.1 -0.4**
CTI Castel Tesino 153.12 344 PKP2 **PKPab 06 47 59.1 -0.4**
CTI 07 47 35.7
UDBI Udbina 153.21 337 *i*P **PKPbc 06 47 44.4 -0.6**
BRY Bratogost 153.43 331 *e*P **PKPbc 06 47 43.6 -2.0**
PDG Podgorica 153.46 330 ⇓*i*P **PKPbc 06 47 44.7 -0.8**
RICI Ricice 153.55 334 *i*P **PKPbc 06 47 44.4 -1.3**
TREB Trebinje 153.66 331 *e*P **PKPbc 06 47 44.2 -1.7**
VIRC Vir 153.67 338 *i*P **PKPbc 06 47 44.2 -1.6**
DRME Dracevica, Mon 153.68 330 *e*P **PKPbc 06 47 44.7 -1.3**
DBRK Dubrovnik 153.79 332 *i*P **PKPbc 06 47 45.0 -1.2**
MORI Morici 153.80 336 *i*P **PKPbc 06 47 45.1 -1.0**
HCY Herceg Novi 153.80 331 *e*P **PKPbc 06 47 44.6 -1.7**
STON Ston 153.82 332 ⇓*i*P **PKPbc 06 47 44.5 -1.7**
IDI Anoyia 154.69 311 PKP **PKPdf 06 47 39.1 -0.2**
comp=Z,6.6nm,1.0s,baz=348,slow=4.1,SNR=3.7
IDI PKPbc **PKPbc 06 47 49.0 +0.6**
comp=Z,5.5nm,0.6s,baz=332,slow=8.6,SNR=8.2
IDI PKPab **PKPab 06 48 06.2 -0.5**
comp=Z,7.2nm,0.6s,baz=254,slow=7.3,SNR=3.9
PGAV Gavieira, Arco 156.95 19 *e*PKPdf **PKPdf 06 47 42.5 +0.4**
TIP Timpagrande 157.18 328 PKPdf **PKPdf 06 47 41.2 -1.2**
TIP PKPab **PKPab 06 48 17.4 +0.1**
PBRG Braganca 157.53 16 *e*PKPab **PKPab 06 48 18.9 +0.3**
POLO Lamas de Olo 157.63 19 *e*PKPdf **PKPdf 06 47 43.7 +0.8**
POLO Lamas de Olo 157.63 19 *e*PKPab **PKPab 06 48 22.7 +3.6**
PVIS Viseu 158.20 20 *e*PKPab **PKPab 06 48 22.0 +0.4**
PCAS Casmilo, Conde 158.60 22 *e*PKPdf **PKPdf 06 47 43.9 -0.1**
PCAS Casmilo, Conde 158.60 22 *e*PKPab **PKPab 06 48 23.4 +0.1**
PSBE So Bento 158.97 23 *e*PKPdf **PKPdf 06 47 43.5 -1.0**
PSBE So Bento 158.97 23 *e*PKPab **PKPab 06 48 25.0 +0.1**
PCBR Castelo Branco 159.13 20 *e*PKPdf **PKPdf 06 47 45.4 +0.8**
PMRV Marv??o 159.53 20 *e*PKPdf **PKPdf 06 47 45.4 +0.3**
PMTG Montargil 159.57 22 *e*PKPdf **PKPdf 06 47 46.9 +1.8**
PMTG Montargil 159.57 22 *e*PKPab **PKPab 06 48 26.8 -0.7**
EVO Evora 160.13 23 *e*PKPdf **PKPdf 06 47 46.3 +0.5**
EVO Evora 160.13 23 *e*PKPab **PKPab 06 48 30.1 +0.1**
ESDC Sonseca Array 160.22 13 PKP **PKPdf 06 47 45.4 -0.5**
comp=Z,0.8nm,0.8s,baz=338,slow=2.8,SNR=6.2
ESDC PKPab **PKPab 06 48 30.4 0.0**
comp=Z,9.1nm,1.1s,baz=344,slow=4.0,SNR=24
ESDC PP **PP 06 52 13.8 -0.1**
comp=Z,1.5nm,1.1s,baz=344,slow=4.6,SNR=5.1
PNCL Nicolau / Gran 160.30 24 *e*PKPdf **PKPdf 06 47 46.8 +0.9**
PNCL Nicolau / Gran 160.30 24 *e*PKPab **PKPab 06 48 30.7 0.0**
PBEJ Beja 160.63 23 *e*PKPdf **PKPdf 06 47 47.1 +0.8**
MESJ Messejana 160.66 24 *e*PKPdf **PKPdf 06 47 47.0 +0.6**
MESJ Messejana 160.66 24 *e*PKPab **PKPab 06 48 32.2 -0.1**
PBAR Barrancos 160.78 21 *e*PKPdf **PKPdf 06 47 47.4 +0.9**
PBAR Barrancos 160.78 21 *e*PKPab **PKPab 06 48 33.3 +0.5**
MORF Marmelete 160.95 26 *e*PKPdf **PKPdf 06 47 47.7 +1.0**
PVAQ Vaqueiros 161.23 24 *e*PKPab **PKPab 06 48 35.5 +0.7**
KEST Kesra 163.27 338 PKPab **PKPab 06 48 44.0 0.0**
comp=Z,6.8nm,0.8s,baz=320,slow=3.6,SNR=7.9
TORD Torodi Ar. Bea 172.78 181 PKP **PKPdf 06 47 54.5 -1.5**
comp=Z,3.8nm,0.9s,baz=1.7,slow=0.8,SNR=13
TORD PKPab **PKPab 06 49 26.4 +0.2**
comp=Z,1.4nm,0.9s,baz=141,slow=2.5,SNR=4.1

ROM 01 06:45:04.1±0.0, 42°.775N±0°.002×13°.126E±0°.004,
h10km, ML0.9/7, 1C, Error ellipse: s-maj=0.2km
**s-min=0.2km az=105.0,

*GCG **01** 07:03:19.3±0.7, 13°.39N×88°.22W, h186km±60km, MD4.2*
*SNET **01** 07:03:20.0±1.2, 13°.39N×88°.25W, h156km±8km, ML3.1*
*CATAC **01** 07:03:22.2±0.4, 13°.31N×88°.26W, h135km±4km, ML3.2*

ISC 01 07:03:22.6±1.5, 13°.29N±0°.09×88°.27W±0°.05, h140km±8km, n43, σ0ˢ.95/61, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarˌn**	**0.04**	**151**	*i* P	**Pn**	**07 03 40.8**	**-0.8**
JUCU	**Jucuarˌn**	**0.04**	**151**	*i* P	**Pn**	**07 03 40.8**	**-0.8**
JUCU				IAML		07 04 03.8	
	comp=Z,470nm,1.0s						
PACA	**Pacayal**	**0.19**	**343**	*e*P	**Pn**	**07 03 41.4**	**-0.4**
PACA	**Pacayal**	**0.19**	**343**	*i* P	**Pn**	**07 03 41.8**	**0.0**
PACA				IAML		07 04 08.4	
	comp=Z,2μm,1.0s						
CNRM	**Centro Naciona**	**0.21**	**26**	*i* P	**Pn**	**07 03 41.1**	**-0.6**
CNRM				IAML		07 03 41.1	
	comp=Z,3μm,1.0s						
INTP	**Intipuca**	**0.22**	**113**	*e*P	**Pn**	**07 03 41.3**	**-0.5**
INTP				*e*S	**Sn**	**07 03 58.6**	**+2.4**
INTP				IAML		07 04 02.5	
	comp=Z,76nm,0.2s						
LCND	**La Caada**	**0.37**	**86**	*i* P	**Pn**	**07 03 41.8**	**-0.4**
LCND				IAML		07 03 42.0	
	comp=Z,961nm,0.4s						
LCND	**La Caada**	**0.37**	**86**	*i* P	**Pn**	**07 03 41.8**	**-0.4**
LCND				IAML		07 03 41.9	
	comp=Z,2μm,1.0s						
LCND				*i* S	**Sn**	**07 03 57.4**	**+0.4**
CNCH	**Conchagua**	**0.42**	**91**	*e*P	**Pn**	**07 03 42.1**	**-0.5**
CNCH				*e*S	**Sn**	**07 03 59.9**	**+2.3**
CNCH	**Conchagua**	**0.42**	**91**	*i* P	**Pn**	**07 03 41.8**	**-0.8**
CNCH				IAML		07 03 42.3	
	comp=Z,1μm,1.0s						
PQSS	**Presa 15 de Se**	**0.44**	**320**	*i* P	**Pn**	**07 03 41.9**	**-0.6**
PQSS				IAML		07 04 15.1	
	comp=Z,700nm,1.0s						
TECO	**Alcaldia de Te**	**0.56**	**297**	*i* P	**Pn**	**07 03 42.3**	**-0.9**
TECO				*i* S	**Sn**	**07 03 59.3**	**+0.5**
TECO				IAML		07 04 09.4	
	comp=Z,560nm,1.0s						
AMPH	**Amapala**	**0.59**	**90**	*e*P	**Pn**	**07 03 42.9**	**-0.4**
AMPH				*e*S	**Sn**	**07 03 59.3**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.61**	**313**	*i* P	**Pn**	**07 03 43.0**	**-0.5**
SCLA				IAML		07 03 43.3	
	comp=Z,540nm,1.0s						
SCLA				*i* S	**Sn**	**07 03 59.5**	**+0.1**
UESV	**Universidad de**	**0.62**	**305**	*i* P	**Pn**	**07 03 42.9**	**-0.6**
UESV				*i* S	**Sn**	**07 03 58.9**	**-0.5**
UESV				IAML		07 04 09.6	
	comp=Z,470nm,1.0s						
PAVA	**Las Pavas**	**0.78**	**303**	*e*P	**Pn**	**07 03 44.0**	**-0.7**
PAVA	**Las Pavas**	**0.78**	**303**	*i* P	**Pn**	**07 03 44.1**	**-0.7**
PAVA				*i* S	**Sn**	**07 04 03.1**	**+1.5**
PAVA				IAML		07 04 13.0	
	comp=Z,820nm,1.0s						
LOMA	**Loma Larga**	**0.95**	**292**	*e*P	**Pn**	**07 03 45.5**	**-0.6**
LOMA	**Loma Larga**	**0.95**	**292**	*i* P	**Pn**	**07 03 45.7**	**-0.4**
LOMA				*i* S	**Sn**	**07 04 04.4**	**+0.4**
LOMA				IAML		07 04 14.0	
	comp=Z,880nm,1.0s						
UDBS	**Universidad Do**	**0.96**	**296**	*i* P	**Pn**	**07 03 47.0**	**+0.8**
UDBS				IAML		07 03 58.2	
	comp=Z,590nm,1.0s						
PMON	**Piamonte**	**1.10**	**293**	*i* P	**Pn**	**07 03 46.9**	**-0.6**
PMON				*i* S	**Sn**	**07 04 04.9**	**-1.5**
PMON				IAML		07 04 21.7	
	comp=Z,820nm,1.0s						
JAYA	**Jayaque - finc**	**1.21**	**288**	*e*P	**Pn**	**07 03 47.6**	**-1.0**
JAYA				*e*S	**Sn**	**07 04 08.2**	**-0.1**
JAYA	**Jayaque - finc**	**1.21**	**288**	*i* P	**Pn**	**07 03 47.2**	**-1.3**
JAYA				*i* S	**Sn**	**07 04 08.3**	**0.0**
JAYA				IAML		07 04 09.8	
	comp=Z,2μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.23**	**51**	*i* P	**Pn**	**07 03 48.2**	**-0.6**
TGUH				IAML		07 03 48.2	
	comp=Z,140nm,1.0s						
TGUH				*i* S	**Sn**	**07 04 08.3**	**-0.4**
CRIN	**San Cristobal**	**1.32**	**116**	*i* P	**Pn**	**07 03 49.5**	**-0.1**
CRIN				IAML		07 04 17.8	
	comp=Z,2μm,1.0s						
PKGN	**Cerro Pekin**	**1.40**	**116**	*i* P	**Pn**	**07 03 50.0**	**-0.3**
PKGN				IAML		07 04 22.2	
	comp=Z,3μm,1.0s						
CEVE	**Cerro Verde**	**1.43**	**292**	*e*P	**Pn**	**07 03 49.4**	**-1.5**
UNIC	**Universidad Ca**	**1.43**	**299**	*i* P	**Pn**	**07 03 49.5**	**-1.2**
UNIC				IAML		07 04 03.2	
	comp=Z,140nm,1.0s						
MTO3	**Montecristo**	**1.54**	**316**	*i* P	**Pn**	**07 03 51.2**	**-0.9**
MTO3	**Montecristo**	**1.54**	**316**	*i* P	**Pn**	**07 03 50.8**	**-1.2**
MTO3				IAML		07 03 51.3	
	comp=Z,200nm,1.0s						
NUBE	**Las Nubes**	**1.59**	**293**	*e*P	**Pn**	**07 03 51.5**	**-1.1**
NUBE	**Las Nubes**	**1.59**	**293**	*i* P	**Pn**	**07 03 51.3**	**-1.3**
NUBE				*i* S	**Sn**	**07 04 14.7**	**-0.8**
NUBE				IAML		07 04 21.6	
	comp=Z,330nm,1.0s						
LIMN	**Finca el Limon**	**1.86**	**97**	*i* P	**Pn**	**07 03 55.0**	**-0.6**
LIMN				IAML		07 03 55.5	
	comp=Z,81nm,1.0s						
COPN	**Copaltepe**	**1.97**	**124**	*i* P	**Pn**	**07 03 56.4**	**-0.4**
COPN				IAML		07 04 25.4	
	comp=Z,400nm,1.0s						
SAPS	**Ciudad Sandino**	**2.13**	**121**	*i* P	**Pn**	**07 03 58.2**	**-0.5**
SAPS				*i* S	**Sn**	**07 04 27.1**	**+0.7**
SAPS				IAML		07 04 31.9	
	comp=Z,1μm,1.0s						
MRL	**Marmol**	**2.25**	**323**	*e*P	**Pn**	**07 04 00.7**	**+0.3**
NBG	**Las Nubes**	**2.40**	**303**	*e*P	**Pn**	**07 04 02.4**	**+0.2**
NADN	**Granada**	**2.66**	**125**	*i* P	**Pn**	**07 04 05.1**	**-0.2**
NADN				*i* S	**Sn**	**07 04 37.7**	**-0.5**
NADN				IAML		07 04 39.1	
	comp=Z,580nm,1.0s						
BOAB	**BOACO BROADBAN**	**2.67**	**108**	*i* P	**Pn**	**07 04 04.7**	**-0.7**
BOAB				IAML		07 04 42.0	
	comp=Z,44nm,1.0s						
FUG	**Fuego 3**	**2.76**	**295**	*e*P	**Pn**	**07 04 06.8**	**+0.2**
FUG				*e*S	**Sn**	**07 04 44.0**	**+3.4**
ACON	**Acoyapa**	**3.29**	**113**	IAML		07 04 11.4	
	comp=Z,160nm,1.0s						
ACON				*i* P	**Pn**	**07 04 12.5**	**-0.8**
SULM	**Suchitepequez,**	**3.36**	**288**	*e*P	**Pn**	**07 04 14.5**	**+0.2**
STG3	**Santiaguito 3,**	**3.51**	**294**	*e*P	**Pn**	**07 04 16.1**	**-0.2**
STG3				*e*S	**Sn**	**07 04 58.1**	**+0.3**

*RSPR **01** 07:10:56.3, 18°.02N×68°.71W, h80km±5km, MD3.5/17*
*NEIC **01** 07:10:57±0.7, 18°.0N±0°.2×68°.62W±0°.06, h70km±17km, ML2.8/32, Md3.5/17(RSPR), Error ellipse: s-maj=24.5km s-min=7.0km az=191.0*
*SDD **01** 07:10:57.6±2.0, 18°.34N×68°.56W, h95km±10km, MD3.4, ML2.9, MW3.2*
*OSPL **01** 07:10:57.0±2.0, 17°.76N×68°.63W, h14km±13km, ML2.6*

ISC 01 07:10:57.9±1.3, 18°.23N±0°.09×68°.58W±0°.03, h83km±8km, n56, σ1ˢ.16/72, 18C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**0.19**	**260**	‖*e*Pg	**Pn**	**07 11 10.2**	**+0.2**
SADR				⇑*e*Sg	**Sn**	**07 11 20.9**	**+1.9**
SADR				IAML		07 11 20.9	
	comp=E,319nm,0.2s						
SADR				IAML		07 11 23.4	
	comp=N,338nm,0.3s						
SADR				IAML		07 11 23.4	
	comp=N,297nm,0.3s						
PCDR	**Punta Cana, DR**	**0.34**	**33**	⇑*e*P	**Pn**	**07 11 10.3**	**-0.4**
PCDR	**Punta Cana, DR**	**0.34**	**33**		**Pn**	**07 11 10.4**	**-0.4**
PCDR					**Sn**	**07 11 21.4**	**+1.0**
PCDR				IAML		07 11 22.7	
	comp=E,232nm,0.5s						
PCDR				IAML		07 11 22.7	
	comp=N,426nm,0.7s						
PCDR	**Punta Cana, DR**	**0.34**	**33**	⇑*e*Pg	**Pn**	**07 11 10.4**	**-0.4**
PCDR				IAML		07 11 22.6	
	comp=E,215nm,0.6s						
PCDR				IAML		07 11 22.6	
	comp=N,377nm,0.6s						
PCDR	**Punta Cana, DR**	**0.34**	**33**	*i* P	**Pn**	**07 11 10.4**	**-0.4**
PCDR				*e*S	**Sn**	**07 11 21.3**	**+1.0**
PCDR				IAML		07 11 24.0	
	comp=Z,210nm,0.7s						
HIDR	**Higuey Centro**	**0.39**	**340**	⇑*e*Pg	**Pn**	**07 11 10.1**	**-1.0**
HIDR				⇑*e*Sg	**Sn**	**07 11 20.4**	**-0.4**
HIDR				IAML		07 11 21.4	
	comp=E,2μm,0.2s						
HIDR				IAML		07 11 21.6	
	comp=N,2μm,0.2s						
MIDR	**Miches**	**0.88**	**330**	*e*Pg	**Pn**	**07 11 13.9**	**-1.8**
MIDR				*e*Sg	**Sn**	**07 11 27.8**	**-1.2**
MIDR				IAML		07 11 28.8	
	comp=N,72nm,0.2s						
HATOM	**Hato Mayor del**	**0.94**	**306**	‖*e*Pg	**Pn**	**07 11 14.7**	**-1.8**
HATOM				⇓*e*Sg	**Sn**	**07 11 28.8**	**-1.7**
HATOM				IAML		07 11 29.0	
	comp=N,58nm,0.2s						
HATOM				IAML		07 11 30.1	
	comp=E,55nm,0.6s						
SDD	**Santo Domingo**	**1.29**	**281**	Pn	**Pn**	**07 11 19.6**	**-1.0**
PRSN	**Puerto Rico Se**	**1.36**	**90**		**Pn**	**07 11 21.5**	**-0.1**
PRSN				IAML		07 11 47.2	
	comp=E,88nm,0.3s						
PRSN				IAML		07 11 48.0	
	comp=N,122nm,0.3s						
AGPR	**Aguadilla, PR**	**1.42**	**80**	⇑*e*P	**Pn**	**07 11 22.3**	**-0.1**
AGPR	**Aguadilla, PR**	**1.42**	**80**	*e*S	**Sn**	**07 11 43.3**	**+2.6**
AGPR	**Aguadilla, PR**	**1.42**	**80**		**Pn**	**07 11 22.1**	**-0.1**
AGPR					**Sn**	**07 11 43.0**	**+2.3**
AGPR				IAML		07 11 45.0	
	comp=E,138nm,0.4s						
AGPR				IAML		07 11 45.3	
	comp=N,111nm,0.5s						
AGPR	**Aguadilla, PR**	**1.42**	**80**	*e*Pg	**Pn**	**07 11 21.9**	**-0.4**
AGPR				IAML		07 11 46.9	
	comp=N,95nm,0.4s						
AGPR	**Aguadilla, PR**	**1.42**	**80**	*i* P	**Pn**	**07 11 22.2**	**-0.1**
AGPR				*e*S	**Sn**	**07 11 42.0**	**+1.3**
AGPR				IAML		07 11 45.0	
	comp=Z,74nm,1.4s						
CRPR	**Cabo Rojo, PR**	**1.42**	**99**	⇑*e*P	**Pn**	**07 11 21.3**	**-1.0**
CRPR	**Cabo Rojo, PR**	**1.42**	**99**		**Pn**	**07 11 21.2**	**-1.0**
CRPR					**Sn**	**07 11 40.2**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.42**	**99**	*e*Pg	**Pn**	**07 11 21.3**	**-1.0**
CRPR				IAML		07 11 48.5	
	comp=N,46nm,2.4s						
CRPR	**Cabo Rojo, PR**	**1.42**	**99**	*i* P	**Pn**	**07 11 21.5**	**-0.8**
CRPR				*e*S	**Sn**	**07 11 40.2**	**-0.4**
CRPR				IAML		07 11 41.3	
	comp=Z,49nm,1.8s						
LSP	**Las Mesas**	**1.42**	**92**	⇑*e*P	**Pn**	**07 11 22.7**	**+0.3**
LSP	**Las Mesas**	**1.42**	**92**		**Pn**	**07 11 22.7**	**+0.3**
MLPR	**Magueyes Islan**	**1.48**	**100**	⇑*e*P	**Pn**	**07 11 22.1**	**-1.0**
MLPR	**Magueyes Islan**	**1.48**	**100**	*e*S	**Sn**	**07 11 42.2**	**0.0**
MLPR	**Magueyes Islan**	**1.48**	**100**		**Pn**	**07 11 21.6**	**-1.5**
MLPR					**Sn**	**07 11 42.1**	**0.0**
DR08	**Loma La Naviza**	**1.55**	**298**	*e*Pg	**Pn**	**07 11 22.6**	**-1.4**
DR08				IAML		07 11 44.0	
	comp=N,2μm,0.1s						
DR08				IAML		07 11 48.1	
	comp=E,1μm,0.1s						
BANI	**BANI**	**1.70**	**276**	*e*Pg	**Pn**	**07 11 25.9**	**-0.1**
BANI				IAML		07 11 54.2	
	comp=N,141nm,0.5s						
BANI				IAML		07 11 55.4	
	comp=E,82nm,0.1s						
AOPR	**Arecibo Observ**	**1.74**	**86**	⇑*e*P	**Pn**	**07 11 26.6**	**0.0**
AOPR	**Arecibo Observ**	**1.74**	**86**	*e*S	**Sn**	**07 11 50.0**	**+1.7**
AOPR	**Arecibo Observ**	**1.74**	**86**		**Pn**	**07 11 26.5**	**0.0**
AOPR					**Sn**	**07 11 49.5**	**+1.3**
UUPR	**Utuado, UPR, P**	**1.77**	**89**	⇑*e*P	**Pn**	**07 11 27.3**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.77**	**89**	*e*S	**Sn**	**07 11 51.0**	**+2.2**
UUPR	**Utuado, UPR, P**	**1.77**	**89**		**Pn**	**07 11 26.3**	**-0.6**
UUPR					**Sn**	**07 11 49.2**	**+0.3**
OBIP	**Obispado Ponce**	**1.89**	**95**	⇑*e*P	**Pn**	**07 11 27.2**	**-1.2**
OBIP	**Obispado Ponce**	**1.89**	**95**	*e*S	**Sn**	**07 11 52.4**	**+0.8**
OBIP	**Obispado Ponce**	**1.89**	**95**		**Pn**	**07 11 27.0**	**-1.4**
CELP	**Cerrillos**	**1.91**	**94**	⇑*e*P	**Pn**	**07 11 27.9**	**-0.9**
CELP	**Cerrillos**	**1.91**	**94**	*e*S	**Sn**	**07 11 51.1**	**-1.1**
CELP	**Cerrillos**	**1.91**	**94**		**Pn**	**07 11 27.6**	**-1.1**
CELP				IAML		07 11 57.3	
	comp=N,44nm,0.4s						
EMPR	**Esperanza - Ma**	**1.96**	**82**	⇑*e*P	**Pn**	**07 11 29.1**	**-0.3**
EMPR	**Esperanza - Ma**	**1.96**	**82**	*e*S	**Sn**	**07 11 54.2**	**+0.7**
EMPR	**Esperanza - Ma**	**1.96**	**82**		**Pn**	**07 11 29.1**	**-0.3**
EMPR				IAML		07 11 46.0	
	comp=N,95nm,2.1s						
EMPR					**Sn**	**07 11 54.1**	**+0.7**
ABDR	**Alto Bandera**	**2.03**	**287**	*e*Pg	**Pn**	**07 11 30.9**	**+0.3**
ABDR				IAML		07 12 01.3	
	comp=N,103nm,0.2s						
SJG	**San Juan**	**2.31**	**92**	⇑*e*P	**Pn**	**07 11 34.0**	**-0.1**
SJG	**San Juan**	**2.31**	**92**	*e*S	**Sn**	**07 12 02.2**	**+0.4**
SJG	**San Juan**	**2.31**	**92**		**Pn**	**07 11 33.5**	**-0.6**
SJG				IAML		07 12 03.2	
	comp=N,51nm,0.7s						
SJG				IAML		07 12 05.1	
	comp=N,42nm,0.2s						
SC01	**Santiago de lo**	**2.36**	**301**		**Pn**	**07 11 35.0**	**+0.3**
GCPR	**Guaynabo City**	**2.37**	**88**	⇑*e*P	**Pn**	**07 11 34.5**	**-0.4**
GCPR	**Guaynabo City**	**2.37**	**88**		**Pn**	**07 11 34.3**	**-0.6**
GCPR				IAML		07 12 06.1	
	comp=E,27nm,0.6s						
GCPR				IAML		07 12 07.7	
	comp=N,32nm,0.6s						
PODR	**Polo**	**2.57**	**269**	*e*Pg	**Pn**	**07 11 35.4**	**-2.3**
PODR				IAML		07 12 19.5	
	comp=N,48nm,1.8s						
HUMP	**Col San Antoni**	**2.60**	**91**	⇑*e*P	**Pn**	**07 11 37.2**	**-0.7**
HUMP	**Col San Antoni**	**2.60**	**91**	*e*S	**Sn**	**07 12 07.2**	**-1.4**
HUMP	**Col San Antoni**	**2.60**	**91**	Pn	**Pn**	**07 11 37.0**	**-0.9**
HUMP					**Sn**	**07 12 07.1**	**-1.5**
HUMP				IAML		07 12 12.6	
	comp=E,39nm,0.2s						
HUMP				IAML		07 12 13.5	
	comp=N,37nm,0.2s						
SDDR	**Presa de Saban**	**2.67**	**287**	⇑*e*P	**Pn**	**07 11 39.1**	**+0.2**
SDDR	**Presa de Saban**	**2.67**	**287**	*e*S	**Sn**	**07 12 14.1**	**+3.5**
SDDR	**Presa de Saban**	**2.67**	**287**		**Pn**	**07 11 38.4**	**-0.6**
SDDR				IAML		07 12 16.8	
	comp=N,24nm,0.5s						
SDDR				IAML		07 12 19.1	
	comp=N,34nm,0.8s						
SDDR	**Presa de Saban**	**2.67**	**287**	*i* P	**Pn**	**07 11 40.6**	**+1.6**
SDDR				*e*S	**Sn**	**07 12 12.2**	**+1.6**
SDDR				IAML		07 12 19.1	
	comp=Z,18nm,0.5s						

*HVO **01** 07:22:49.6±0.7, 19°.339N±0°.005×155°.295W±0°.008, h0km±6km, ML3.8/15, ML3.2/38(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=101.0*
*NEIC **01** 07:22:50.3±0.8, 19°.338N±0°.009×155°.299W±0°.005, h5km±2km, Error ellipse: s-maj=1.3km s-min=0.5km az=165.0*
*IDC **01** 07:23:03.3±1.5, 20°.90N×154°.27W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=58.7km s-min=23.7km az=140.0*

ISC 01 07:22:50.8±0.9, 19°.35N±0°.03×155°.29W±0°.03, h6km±4km, n37, σ0ˢ.87/39, mb3.7/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDHHI	**Sand Hill**	**0.04**	**357**		**Pg**	**07 22 51.5**	**-0.8**
SDHHI					**Sg**	**07 22 53.6**	**+0.3**
RIM	**Rim**	**0.04**	**22**		**Pg**	**07 22 51.7**	**-0.7**
KKO	**Keanakakoˇi**	**0.05**	**29**		**Pg**	**07 22 51.9**	**-0.6**
KKO					**Sg**	**07 22 54.1**	**+0.5**
WRMHI	**West Rim**	**0.05**	**352**		**Pg**	**07 22 52.0**	**-0.5**
WRMHI					**Sg**	**07 22 54.1**	**+0.5**
HLP	**Hilina Pali**	**0.06**	**195**		**Pg**	**07 22 51.1**	**-1.4**
OBL	**Observatory Le**	**0.06**	**7**		**Pg**	**07 22 52.4**	**-0.2**
BYL	**Byron's Ledge**	**0.07**	**27**		**Pg**	**07 22 52.2**	**-0.4**
BYL				IAML		07 22 53.5	
	comp=N,11μm,1.1s						
UWE	**Uwekahuna**	**0.07**	**359**		**Pg**	**07 22 52.2**	**-0.5**
UWB	**Uwekahuna B**	**0.07**	**11**		**Pg**	**07 22 52.5**	**-0.3**
HATHI	**Halemaˇumaˇu T**	**0.07**	**23**		**Pg**	**07 22 52.4**	**-0.4**
HATHI				IAML		07 22 54.0	
	comp=N,17μm,0.8s						
HATHI				IAML		07 22 54.1	
	comp=E,15μm,1.0s						
PUH	**Pauahi**	**0.07**	**74**		**Pg**	**07 22 52.0**	**-0.7**
PUH				IAML		07 22 53.3	
	comp=E,17μm,0.6s						
PUH				IAML		07 22 53.4	
	comp=N,12μm,0.5s						
SBLHI	**Steaming Bluff**	**0.08**	**17**		**Pg**	**07 22 52.6**	**-0.2**
RSD	**Rainshed**	**0.11**	**7**		**Pg**	**07 22 52.8**	**-0.5**
RSD				IAML		07 22 55.5	
	comp=N,8μm,1.2s						
KNHH	**Kane Nui o Ham**	**0.12**	**77**		**Pg**	**07 22 52.7**	**-0.7**
HTC	**Hot Caves**	**0.15**	**221**		**Pg**	**07 22 53.4**	**-0.6**
STCH	**Steam Cracks**	**0.16**	**79**		**Pg**	**07 22 53.5**	**-0.7**
STCH				IAML		07 22 57.8	
	comp=E,8μm,1.1s						
MLH	**Mauna Loa**	**0.17**	**328**		**Pg**	**07 22 54.3**	**0.0**
MLH				IAML		07 22 58.6	
	comp=E,7μm,1.0s						
MLH				IAML		07 22 59.1	
	comp=N,8μm,1.3s						
NPOC	**North of Puˇu**	**0.18**	**77**		**Pg**	**07 22 53.9**	**-0.5**
JCUZ	**Jacuzzi**	**0.18**	**80**		**Pg**	**07 22 54.0**	**-0.5**
JOKA	**Jonika Flow**	**0.28**	**74**		**Pg**	**07 22 55.3**	**-1.1**
JOKA				IAML		07 23 01.7	
	comp=E,3μm,1.0s						
HMH	**Humuˇula Sheep**	**0.31**	**324**		**Pg**	**07 22 56.7**	**-0.3**
HMH				IAML		07 23 05.4	
	comp=E,3μm,1.3s						
HMH				IAML		07 23 07.0	
	comp=N,4μm,1.4s						
MWH	**Mokuˇaweowe**	**0.32**	**295**		**Pg**	**07 22 56.6**	**-0.6**
KHU	**Kahuku**	**0.32**	**251**	Pg	**Pg**	**07 22 56.5**	**-0.7**
KHU				IAML		07 23 05.5	
	comp=E,3μm,1.0s						
KHU				IAML		07 23 06.9	
	comp=N,2μm,1.4s						
MLOA	**Mauna Loa Obse**	**0.32**	**304**	Pg	**Pg**	**07 22 56.9**	**-0.4**
PAH	**Pahoa**	**0.35**	**67**	Pg	**Pg**	**07 22 56.2**	**-1.5**
HPO	**Honuapo**	**0.36**	**223**	Pg	**Pg**	**07 22 57.7**	**-0.1**
ALEP	**Alea Permanent**	**0.38**	**299**		**Pg**	**07 22 57.6**	**-0.8**
POHA	**Pohakuloa**	**0.46**	**331**		**Pg**	**07 22 58.9**	**-1.0**
POHA				IAML		07 23 15.0	
	comp=N,2μm,1.6s						
POHA				IAML		07 23 15.6	
	comp=N,2μm,1.2s						
CPH	**Captain Cook**	**0.61**	**283**		**Pg**	**07 23 02.1**	**-0.4**
HUH	**Hualalai**	**0.61**	**303**		**Pg**	**07 23 02.0**	**-0.6**
I59US	**HAWAII INFRASO**	**0.61**	**293**	Pg	Pn	07 23 40.0	+34
	baz=114,slow=72						
HPAH	**Hawaii Prepara**	**0.77**	**331**	Pg	**Pg**	**07 23 04.3**	**-1.4**
MHA	**Mahukona**	**1.01**	**325**	Pg	**Pg**	**07 23 07.5**	**-2.7**
HLK	**Haleakala**	**1.66**	**327**	Pn	**Pn**	**07 23 20.0**	**-0.8**
PDAR	**Pinedale Array**	**44.91**	**48**	P	**P**	**07 31 07.5**	**+0.8**
	comp=N,1.0nm,1.2s,baz=236,slow=6.1,SNR=4.2						
	comp=N,1.0nm,1.2s						
ILAR	**Eielson Array**	**45.74**	**5**	P	**P**	**07 31 12.7**	**0.0**
	comp=N,0.9nm,1.1s,baz=192,slow=6.3,SNR=5.2						
	comp=N,0.9nm,1.1s						
TXAR	**Lajitas Array**	**47.75**	**68**	P	**P**	**07 31 30.2**	**+1.1**
	comp=N,1.0nm,1.0s,baz=244,slow=5.9,SNR=7.5						
	comp=N,1.0nm,1.0s						

*STR **01** 07:32:14.1±0.7, 44°.N±4°.×1°.1E±°, h2km, MLv3.8/30, Error ellipse: s-maj=0.0km s-min=0.0km az=65.2, preliminary*
*IDC **01** 07:32:14.9±1.0, 44°.20N×10°.65E, h0km, mb3.6/6, mbtmp3.7/12, ML3.8/6, MS2.8/4, Error ellipse: s-maj=24.1km s-min=11.8km az=125.0*
*LDG **01** 07:32:16.8±0.2, 44°.22N×10°.60E, h16km, Ml3.8/33, Error ellipse: s-maj=3.8km s-min=2.7km az=50.0*
*BGR **01** 07:32:16.2±0.7, 44°.00N×10°.63E, h10km, ML3.9/14, Error ellipse: s-maj=12.2km s-min=6.7km az=12.0*
*ROM **01** 07:32:16.7±0.1, 44°.180N±0°.003×10°.548E±0°.003, h14km, ML3.6/292, Error ellipse: s-maj=0.3km s-min=0.1km az=29.0*
*GEN **01** 07:32:16.1, 44°.21N×10°.57E, h16km, Ml3.6*
*PRU **01** 07:32:17.4, 44°.17N×10°.65E, h15km*

ISC 01 07:32:16.3±0.7, 44°.18N±0°.01×10°.56E±0°.01, h16km±4km, n291, σ1ˢ.93/404, mb3.8/6, 20C-18D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARO	**Sassorosso**	**0.11**	**273**	⇑P	**Pb**	**07 32 20.2**	**+0.1**
SARO				S	**Sg**	**07 32 22.7**	**+0.3**
SARO				AML	AML		
SARO				AML	AML		
SARO	**Sassorosso**	**0.11**	**273**	P	**Pb**	**07 32 20.3**	**+0.1**
SARO				S	**Sg**	**07 32 22.8**	**+0.3**
BDI	**Bagni Di Lucca**	**0.12**	**166**	⇑P	**Pb**	**07 32 20.5**	**+0.3**
BDI				S	**Sb**	**07 32 23.4**	**+0.6**
BDI				AML	AML		
	comp=N,91700μm,0.6s						
BDI				AML	AML		
BDI				AML	AML		
	comp=E,71450μm,0.5s						
BDI				AML	AML		
	comp=E,64700μm,1.0s						
BDI	**Bagni Di Lucca**	**0.12**	**166**	P	**Pb**	**07 32 20.5**	**+0.3**
BDI				S	**Sb**	**07 32 23.4**	**+0.6**
VLC	**Villacollemand**	**0.12**	**262**	⇑P	**Pb**	**07 32 20.5**	**+0.2**
VLC				S	**Sb**	**07 32 23.3**	**+0.3**
VLC				AML	AML		
	comp=N,80050μm,0.4s						
VLC				AML	AML		
	comp=E,65900μm,0.2s						
VLC				AML	AML		
	comp=N,80100μm,0.4s						
VLC				AML	AML		
	comp=N,82200μm,0.4s						
VLC				AML	AML		
	comp=E,67800μm,0.2s						
VLC	**Villacollemand**	**0.12**	**262**	P	**Pb**	**07 32 20.5**	**+0.2**
VLC				S	**Sb**	**07 32 23.3**	**+0.3**
CARD	**Cardoso**	**0.16**	**200**	⇑P	**Pb**	**07 32 21.1**	**+0.1**
CARD				S

EQUI				AML	AML	
	comp=E,10025µm,0.7s					
EQUI	**Equi**	**0.29 268**		P	**Pg**	**07 32 22.5 0.0**
EQUI				S	**Sg**	**07 32 27.0 +0.2**
FIVI	**Fivizzano**	**0.32 281**		P	**Pg**	**07 32 23.2 +0.2**
FIVI				S	**Sg**	**07 32 28.2 +0.6**
FIVI	**Fivizzano**	**0.32 281**		P	**Pg**	**07 32 23.2 +0.2**
FIVI				S	**Sg**	**07 32 28.1 +0.6**
CRRA	**Carrara**	**0.34 255**		P	**Pb**	**07 32 23.8 -0.1**
CRRA				S	**Sb**	**07 32 29.0 0.0**
ZCCA	**Zocca**	**0.35**	**60**	⇑P	**Pb**	**07 32 24.5 +0.3**
ZCCA				AML	AML	
	comp=E,28500µm,1.3s					
ZCCA				AML	AML	
	comp=N,21850µm,1.4s					
ZCCA				AML	AML	
	comp=N,21800µm,1.4s					
ZCCA				AML	AML	
	comp=N,26800µm,0.5s					
ZCCA				AML	AML	
	comp=N,21800µm,0.6s					
ZCCA				AML	AML	
	comp=E,26650µm,1.3s					
ZCCA				AML	AML	
	comp=E,28500µm,1.3s					
ZCCA	**Zocca**	**0.35**	**60**	P	**Pb**	**07 32 24.5 +0.3**
ZCCA				S	**Sn**	**07 32 31.4 -2.0**
MTCR	**Monte La Croce**	**0.35 115**		⇑P	**Pb**	**07 32 24.0 -0.3**
MTCR				S	**Sb**	**07 32 29.5 -0.1**
MTCR				AML	AML	
	comp=N,19550µm,0.5s					
MTCR				AML	AML	
	comp=E,11950µm,0.1s					
MTCR	**Monte La Croce**	**0.35 115**		P	**Pb**	**07 32 24.0 -0.3**
MTCR				S	**Sb**	**07 32 29.4 -0.1**
A306A	**Viano (RE)**	**0.36**	**4**	⇑P	**Pb**	**07 32 24.6 +0.3**
BRME	**Brasimone**	**0.41**	**97**	P	**Pb**	**07 32 24.8 -0.3**
FNVD	**Fontana Vidola**	**0.41**	**91**	⇑P	**Pb**	**07 32 24.7 -0.5**
FNVD				S	**Sb**	**07 32 31.1 -0.1**
FNVD				AML	AML	
	comp=N,12100µm,1.6s					
FNVD				AML	AML	
	comp=E,23000µm,0.6s					
FNVD				AML	AML	
	comp=N,12100µm,0.4s					
AULA	**Aulla**	**0.42 274**		P	**Pb**	**07 32 25.3 0.0**
AULA				S	**Sg**	**07 32 31.1 +0.5**
BGNO	**Bagnone**	**0.43 290**		P	**Pb**	**07 32 25.5 0.0**
BGNO				S	**Sb**	**07 32 31.9 +0.1**
NEVI	**Neviano degli**	**0.44 337**		P	**Pb**	**07 32 26.6 +0.9**
NEVI				AML	AML	
	comp=E,15950µm,0.4s					
NEVI				AML	AML	
	comp=E,16000µm,0.4s					
NEVI				AML	AML	
	comp=N,29600µm,1.6s					
NEVI				AML	AML	
	comp=E,16000µm,1.6s					
NEVI				AML	AML	
	comp=N,29600µm,0.4s					
NEVI	**Neviano degli**	**0.44 337**		P	**Pn**	**07 32 27.2 -0.8**
MPPT	**Montemurlo**	**0.44 120**		⇑P	**Pb**	**07 32 25.4 -0.3**
MPPT				S	**Sb**	**07 32 32.2 0.0**
MPPT				AML	AML	
	comp=E,11250µm,0.9s					
MPPT				AML	AML	
	comp=N,8895µm,0.9s					
PII	**Pisa**	**0.46 183**		⇑P	**Pb**	**07 32 26.0 0.0**
PII				S	**Sb**	**07 32 32.6 +0.1**
PII				AML	AML	
	comp=N,16450µm,0.2s					
PII				AML	AML	
	comp=E,23450µm,0.3s					
PII	**Pisa**	**0.46 183**		P	**Pb**	**07 32 26.0 0.0**
PII				S	**Sb**	**07 32 32.7 +0.3**
GRAM	**Graiana**	**0.47 312**		⇑P	**Pg**	**07 32 25.7 -0.1**
GRAM				S	**Sb**	**07 32 32.8 -0.2**
GRAM				AML	AML	
	comp=N,18250µm,0.3s					
GRAM				AML	AML	
	comp=E,40950µm,0.3s					
GRAM	**Graiana**	**0.47 312**		P	**Pg**	**07 32 25.7 -0.1**
GRAM				S	**Sb**	**07 32 33.0 -0.1**
MOCL	**Monte Cuccoli**	**0.48 111**		⇓P	**Pb**	**07 32 26.1 -0.3**
MOCL				S	**Sb**	**07 32 34.1 +0.8**
MOCL				AML	AML	
	comp=E,10440µm,1.0s					
MOCL				AML	AML	
	comp=N,10410µm,0.6s					
MOCL				AML	AML	
	comp=N,10410µm,1.4s					
CRMI	**Carmignano**	**0.49 142**		⇑P	**Pb**	**07 32 26.4 -0.2**
CRMI				S	**Sb**	**07 32 33.7 +0.2**
CRMI				AML	AML	
	comp=N,5590µm,0.9s					
CRMI				AML	AML	
	comp=E,5780µm,0.6s					
CRMI				AML	AML	
	comp=E,5580µm,0.6s					
CRMI				AML	AML	
	comp=N,5595µm,0.9s					
CRMI				AML	AML	
	comp=N,5900µm,0.9s					
CRMI				AML	AML	
	comp=N,5900µm,1.1s					
CRMI				AML	AML	
	comp=N,5595µm,1.1s					
CRMI				AML	AML	
	comp=E,5580µm,1.4s					
CRMI				AML	AML	
	comp=E,5780µm,1.4s					
PRT	**Prato-Toscana**	**0.49 127**		P	**Pg**	**07 32 22.4 -3.7**
PRT				S	**Sg**	**07 32 26.6 -6.1**
PLMA	**Palmaria, Port**	**0.52 256**		⇑P	**Pg**	**07 32 27.1 +0.3**
PLMA				S	**Sg**	**07 32 34.1 +0.3**
PLMA				AML	AML	
	comp=E,7530µm,0.6s					
PLMA				AML	AML	
	comp=N,5745µm,0.1s					
PLMA				AML	AML	
	comp=E,7530µm,1.4s					
PLMA	**Palmaria, Port**	**0.52 256**		P	**Pg**	**07 32 27.1 +0.3**
PLMA				S	**Sb**	**07 32 34.7 +0.3**
MODE	**Modena**	**0.53**	**32**	P	**Pn**	**07 32 28.1 -1.2**
LSPI	**La Spezia**	**0.55 262**		P	**Pb**	**07 32 27.8 +0.4**
LSPI				S	**Sb**	**07 32 35.1 +0.1**
PRMA	**PARMA**	**0.61 343**		P	**Pb**	**07 32 29.2 +0.6**
PRMA	**PARMA**	**0.61 343**		P	**Pb**	**07 32 29.2 +0.6**
PRMA				S	**Sn**	**07 32 39.4 -0.4**
MTRZ	**Monterenzio**	**0.68**	**73**	P	**Pb**	**07 32 29.8 -0.1**
MTRZ	**Monterenzio**	**0.68**	**73**	P	**Pb**	**07 32 30.1 +0.2**
A319A	**Santa Luce (PI**	**0.70 179**		⇑P	**Pn**	**07 32 30.8 -0.8**
A319A				S	**Sn**	**07 32 40.7 -1.3**
RAVA	**Ravarino**	**0.70**	**35**	P	**Pn**	**07 32 31.5 -0.1**
RAVA				AML	AML	
	comp=E,8300µm,0.9s					
RAVA				AML	AML	
	comp=N,9790µm,0.7s					
RAVA				AML	AML	
	comp=E,8300µm,1.1s					
CAVE	**Cavezzo**	**0.76**	**25**	P	**Pg**	**07 32 31.3 +0.2**
CAVE				AML	AML	
	comp=N,15550µm,0.5s					
CAVE				AML	AML	
	comp=E,10375µm,0.4s					
CAVE	**Cavezzo**	**0.76**	**25**	P	**Pn**	**07 32 32.5 +0.2**
MSSA	**Maissana**	**0.76 281**		⇑P	**Pb**	**07 32 31.1 -0.1**
MSSA				S	**Sb**	**07 32 41.3 0.0**
MSSA				AML	AML	
	comp=E,3445µm,0.3s					
MSSA				AML	AML	
	comp=N,4165µm,0.5s					
MSSA				AML	AML	
	comp=E,3440µm,0.3s					
MSSA	**Maissana**	**0.76 281**		P	**Pb**	**07 32 31.0 -0.1**
MSSA				S	**Sg**	**07 32 42.0 +0.8**
RUFI	**Rufina**	**0.77 116**		P	**Pg**	**07 32 31.2 0.0**
RUFI				S	**Sn**	**07 32 42.3 -1.3**
RUFI				AML	AML	
	comp=N,4090µm,0.7s					
RUFI				AML	AML	
	comp=N,4090µm,1.3s					
RUFI				AML	AML	
	comp=E,2425µm,0.5s					
RUFI	**Rufina**	**0.77 116**		P	**Pg**	**07 32 31.2 0.0**
RUFI				S	**Sn**	**07 32 42.9 -0.8**
FIU	**Minerbio Fiu**	**0.81**	**55**	AML	AML	
	comp=E,5080µm,0.4s					
FIU				AML	AML	
	comp=N,6470µm,0.9s					
OSSC	**Osservatorio P**	**0.82 142**		⇑P	**Pg**	**07 32 32.4 +0.1**
OSSC				S	**Sn**	**07 32 44.5 -0.5**
OSSC				AML	AML	
	comp=E,4905µm,0.9s					
OSSC				AML	AML	
	comp=N,7775µm,0.7s					
OSSC				AML	AML	
	comp=E,4900µm,0.9s					
OSSC				AML	AML	
	comp=N,4810µm,0.9s					
OSSC				AML	AML	
	comp=E,7740µm,0.7s					
OSSC				AML	AML	
	comp=N,7770µm,0.7s					
OSSC				AML	AML	
	comp=N,4810µm,1.1s					
OSSC				AML	AML	
	comp=E,4900µm,1.1s					
OSSC	**Osservatorio P**	**0.82 142**		P	**Pg**	**07 32 32.5 +0.1**
LMD	**Lutirano**	**0.83**	**97**	P	**Pn**	**07 32 33.0 -0.3**
LMD				AML	AML	
	comp=E,1725µm,0.6s					
LMD				AML	AML	
	comp=N,1985µm,0.7s					
LMD				AML	AML	
	comp=N,1985µm,1.3s					
LMD				AML	AML	
	comp=E,1725µm,1.4s					
LMD	**Lutirano**	**0.83**	**97**	P	**Pn**	**07 32 33.1 -0.3**
IMOL	**Imola, Italy**	**0.87**	**78**	AML	AML	
	comp=E,3915µm,0.6s					
IMOL				AML	AML	
	comp=N,3255µm,1.6s					
IMOL				AML	AML	
	comp=N,3690µm,1.0s					
IMOL				AML	AML	
	comp=E,3910µm,0.7s					
IMOL				AML	AML	
	comp=N,3690µm,1.0s					
CSNT	**Castellina Chi**	**0.88 143**		P	**Pg**	**07 32 33.5 0.0**
CSNT				S	**Sn**	**07 32 45.9 -0.7**
GORR	**Gorreto**	**1.00 296**		Sg	**Sb**	**07 32 48.5 +0.3**
GORR	**Gorreto**	**1.00 296**		Pg	**Pb**	**07 32 34.5 -0.8**
BRSN	**Barisano**	**1.10**	**84**	AML	AML	
	comp=N,6935µm,1.0s					
BRSN				AML	AML	
	comp=E,5195µm,0.6s					
BRSN				AML	AML	
	comp=N,6185µm,1.1s					
BRSN				AML	AML	
	comp=E,4935µm,0.8s					
BRSN				AML	AML	
	comp=N,6185µm,0.9s					
BRSN				AML	AML	
	comp=E,4935µm,1.2s					
BRSN				AML	AML	
	comp=E,5195µm,1.4s					
GENL	**Genova Univers**	**1.16 282**		P	**Pg**	**07 32 38.8 +0.1**
GENL				S	**Sn**	**07 32 53.6 +0.2**
RNCA	**Ronca, Sant'Ol**	**1.19 285**		Sg	**Sb**	**07 32 53.9 +0.3**
RNCA	**Ronca, Sant'Ol**	**1.19 285**		Pg	**Pn**	**07 32 37.2 -1.1**
GNV	**Genova**	**1.19 283**		P	**Pb**	**07 32 38.9 +0.3**
GNV				S	**Sg**	**07 32 55.1 +0.1**
PCP	**Piancastagn**	**1.49 285**		Pg	**Pn**	**07 32 42.4 -0.1**
PCP	**Piancastagn**	**1.49 285**		Sn	**Sb**	**07 33 03.3 +1.1**
MORSI	**Morsiglia**	**1.50 216**		Pg	**Pn**	**07 32 41.7 -0.8**
SF04	**Casetta**	**1.56 149**		AML	AML	
	comp=E,495µm,0.4s					
SF04				AML	AML	
	comp=E,495µm,1.6s					
SF04				AML	AML	
	comp=N,456µm,1.2s					
PIEI	**Pieia**	**1.57 113**		AML	AML	
	comp=N,456µm,1.2s					
PIEI				AML	AML	
	comp=E,442µm,0.5s					
MILN	**Milano**	**1.61 325**		AML	AML	
	comp=E,7930µm,0.6s					
MILN				AML	AML	
	comp=E,7410µm,0.6s					
MILN				AML	AML	
	comp=E,7930µm,1.4s					
MILN				AML	AML	
	comp=E,7410µm,1.4s					
MILN				AML	AML	
	comp=N,4305µm,1.0s					
MILN				AML	AML	
	comp=N,5270µm,0.5s					
ZONE	**Zone**	**1.62 349**		AML	AML	
	comp=N,3605µm,1.4s					
ZONE				AML	AML	
	comp=E,487µm,0.5s					
ZONE				AML	AML	
	comp=N,838µm,0.7s					
ZONE				AML	AML	
	comp=E,1790µm,0.5s					
ZONE				AML	AML	
	comp=N,2855µm,0.6s					
ZONE				AML	AML	
	comp=N,903µm,0.6s					
ZONE				AML	AML	
	comp=N,3605µm,0.6s					
ZONE				AML	AML	
	comp=E,2845µm,0.9s					
ZONE				AML	AML	
	comp=E,690µm,0.9s					
ZONE				AML	AML	
	comp=N,903µm,1.4s					
CANO	**Canova, Maglio**	**1.67 272**		Pn	**Pn**	**07 32 44.5 -0.4**
CANO	**Canova, Maglio**	**1.67 272**		Sn	**Sn**	**07 33 05.3 -0.7**
ATFO	**Monte Foce - G**	**1.67 118**		AML	AML	
	comp=N,501µm,0.5s					
ATFO				AML	AML	
	comp=E,1037µm,1.1s					
MPAG	**Monte Paganucc**	**1.68 108**		AML	AML	
	comp=E,490µm,1.4s					
MPAG				AML	AML	
	comp=E,490µm,0.6s					
MPAG				AML	AML	
	comp=N,580µm,1.2s					
ROTM	**Rocchetta Tana**	**1.71 294**		Pn	**Pn**	**07 32 46.0 +0.5**
RORO	**Rocca Rossa**	**1.79 269**		Pn	**Pn**	**07 32 46.0 -0.6**
RORO	**Rocca Rossa**	**1.79 269**		Sn	**Sn**	**07 33 07.7 -1.3**
MMUR	**Monte Murano**	**1.91 112**		AML	AML	
	comp=E,708µm,1.0s					
MMUR				AML	AML	
	comp=N,840µm,0.7s					
GBOS	**Grotte di Boss**	**1.96 273**		Pn	**Pn**	**07 32 49.0 +0.2**
GBOS	**Grotte di Boss**	**1.96 273**		Sn	**Sn**	**07 33 13.1 0.0**
PGF	**Pioggiola**	**1.99 215**		*e*P	**Pn**	**07 32 50.4 +1.1**
PGF	**Pioggiola**	**1.99 215**		*e*Pg	**Pg**	**07 32 53.8 -0.6**
PGF				*e*Sn	**Sn**	**07 33 11.3 -2.6**
	comp=N,263nm,0.7s					
PGF	**Pioggiola**	**1.99 215**		AML	AML	
	comp=E,386µm,0.6s					
PGF				AML	AML	
	comp=N,560µm,0.9s					
PGF	**Pioggiola**	**1.99 215**		Pn	**Pn**	**07 32 49.1 -0.2**
PGF	**Pioggiola**	**1.99 215**		Sn	**Sn**	**07 33 12.8 -1.0**
SAOF	**Saorge**	**2.17 266**		Pn	**Pn**	**07 32 51.8 0.0**
SAOF				Sn	**Sn**	**07 33 18.1 -0.3**
BURY	**Giardini Botan**	**2.20 261**		Pn	**Pn**	**07 32 51.8 -0.4**
BURY	**Giardini Botan**	**2.20 261**		Sn	**Sn**	**07 33 17.8 -1.2**
CSP1	**Cessapalombo**	**2.21 119**		AML	AML	
	comp=E,284µm,0.8s					
CSP1				AML	AML	
	comp=N,180µm,0.6s					
CSP1				AML	AML	
	comp=N,180µm,1.4s					
ENR	**Entracque**	**2.26 272**		Pn	**Pn**	**07 32 53.6 +0.6**
ENR	**Entracque**	**2.26 272**		Sn	**Sn**	**07 33 21.2 +0.6**
GAVE	**Gavelli**	**2.26 130**		AML	AML	
GAVE				AML	AML	
	comp=E,557µm,0.4s					
GAVE				AML	AML	
GAVE				AML	AML	
	comp=E,517µm,0.9s					
GAVE				AML	AML	
	comp=N,637µm,0.5s					
GAVE				AML	AML	
	comp=E,517µm,1.1s					
GAVE				AML	AML	
	comp=N,637µm,1.5s					
SBF	**Sospel**	**2.27 263**		*e*P	**Pn**	**07 32 54.4 +1.2**
SBF				*e*Sn	**Sn**	**07 33 18.1 -2.8**
	comp=N,599nm,0.6s					
SMPL	**Sampolo**	**2.28 205**		Pn	**Pn**	**07 32 53.3 0.0**
SMPL				Sn	**Sn**	**07 33 20.5 -0.5**
TURF	**col de Turini**	**2.29 266**		Pn	**Pn**	**07 32 53.4 -0.1**
TURF				Sn	**Sn**	**07 33 21.1 -0.4**
MON	**Monaco**	**2.31 260**		Pn	**Pn**	**07 32 53.9 +0.4**
ESCA	**l'Escarene**	**2.32 263**		Pn	**Pn**	**07 32 53.6 -0.3**
ESCA				Sn	**Sn**	**07 33 21.4 -0.7**
STV	**Sant Anna di V**	**2.32 273**		Pn	**Pn**	**07 32 54.3 +0.3**
STV	**Sant Anna di V**	**2.32 273**		Sn	**Sn**	**07 33 22.5 +0.3**
SPIF	**crte de Spivo**	**2.39 268**		Pn	**Pn**	**07 32 55.7 +0.8**
SPIF				Sn	**Sn**	**07 33 24.7 +0.6**
TRAV	**Traversella**	**2.40 305**		Pn	**Pn**	**07 32 55.9 +0.9**
TRAV	**Traversella**	**2.40 305**		Sn	**Sb**	**07 33 27.2 -1.4**
BHB	**Bricherasio**	**2.45 287**		Pn	**Pn**	**07 32 55.9 +0.3**
MVIF	**Mont Vial**	**2.47 265**		Pn	**Pn**	**07 32 56.1 +0.1**
MVIF				Sn	**Sn**	**07 33 26.3 +0.4**
PZZ	**Stroppo**	**2.49 279**		Pn	**Pn**	**07 32 56.1 -0.2**
ISO	**Isola**	**2.52 271**		Pn	**Pn**	**07 32 57.7 +1.1**
ISO				Sn	**Sn**	**07 33 27.8 +0.7**
RSP	**Reno Superiore**	**2.54 294**		Pn	**Pn**	**07 32 57.4 +0.4**
SMA1	**SAN MARTINO**	**2.55 126**		AML	AML	
	comp=E,426µm,0.6s					
SMA1				AML	AML	
	comp=N,413µm,0.9s					
CIRO	**Champorcher**	**2.56 305**		Pn	**Pn**	**07 32 58.0 +0.7**
CIRO	**Champorcher**	**2.56 305**		Sn	**Sn**	**07 33 28.1 -0.2**
RM33	**Pellescritta (**	**2.56 130**		AML	AML	
	comp=E,294µm,1.5s					
RM33				AML	AML	
	comp=E,294µm,0.5s					
RM33				AML	AML	
	comp=N,213µm,0.7s					
DAVOX	**Davos/Dischmat**	**2.65 350**		Pn	**Pn**	**07 33 00.4 +1.9**
	comp=N,41nm,0.3s,baz=168,slow=11,SNR=354					
DAVOX				Sn	**Sb**	**07 33 33.8 -1.9**
	comp=N,21nm,0.3s,baz=155,slow=20,SNR=3.2					
DAVOX				LR	LR	07 34 23.3
	comp=N,190nm,19.6s,baz=264,slow=49					
	comp=N,80nm,0.4s					
CALF	**Calern**	**2.66 262**		Pn	**Pn**	**07 32 58.4 -0.2**
CALF				Sn	**Sn**	**07 33 29.8 -0.7**
SURF	**Saint Ours**	**2.70 278**		Pn	**Pn**	**07 32 59.7 +0.5**
TERO	**Teramo**	**2.71 124**		AML	AML	
	comp=N,280µm,0.6s					
TERO				AML	AML	
	comp=E,198µm,0.6s					
ENAUX	**Enaux**	**2.72 270**		Pn	**Pn**	**07 32 59.0 -0.5**
ENAUX				Sn	**Sn**	**07 33 31.4 -0.7**
JAUF	**Jausiers**	**2.75 277**		Pn	**Pn**	**07 33 00.0 +0.2**
LSD	**Lago del Serru**	**2.75 299**		AML	AML	
	comp=E,214µm,0.9s					
LSD				AML	AML	
	comp=N,226µm,1.0s					
LSD				AML	AML	
	comp=E,214µm,1.1s					
LSD	**Lago del Serru**	**2.75 299**		Pn	**Pn**	**07 33 00.6 +0.6**
LSD	**Lago del Serru**	**2.75 299**		Sn	**Sn**	**07 33 34.4 +1.3**
MBDF	**Montbardon**	**2.77 283**		*e*P	**Pn**	**07 33 00.8 +0.7**
MBDF				*e*Sn	**Sn**	**07 33 29.4 -3.8**
	comp=E,140nm,0.5s					
RRL	**Rocca Remolon**	**2.79 287**		AML	AML	
	comp=N,199µm,0.7s					
RRL				AML	AML	
	comp=E,272µm,0.9s					
RRL				AML	AML	
	comp=E,272µm,1.1s					
RRL	**Rocca Remolon**	**2.79 287**		Pn	**Pn**	**07 32 60.0 -0.6**
EMBD	**Embd, Matterta**	**2.81 318**		Pn	**Pn**	**07 33 00.6 0.0**
SKDS	**Skadanscina**	**2.81**	**60**	*e*Pn	**Pn**	**07 33 00.3 -0.3**
ROSI	**Rosskopf**	**2.81**	**12**	AML	AML	
	comp=N,1790µm,0.8s					
ROSI				AML	AML	
	comp=E,1350µm,0.6s					
ROSI				AML	AML	
	comp=N,1790µm,1.2s					
CREF	**Crivoux**	**2.85 279**		Pn	**Pn**	**07 33 02.2 +1.0**
FETA	**Feichten**	**2.85**	**2**	*e*Pn	**Pn**	**07 33 02.5 +1.3**
	comp=N,34nm,0.4s,SNR=36					
FETA				Sn	**Sb**	**07 33 38.6 -2.8**
	comp=N,77nm,0.7s					
ABTA	**Abfaltersbach**	**2.92**	**27**	*e*Pn	**Pn**	**07 33 03.2 +1.1**
	comp=N,5.8nm,0.2s,SNR=14					
ABTA				Sn	**Sn**	**07 33 39.0 +2.2**
	comp=N,96nm,0.6s					
DIX	**Grande Dixence**	**2.93 312**		Pn	**Pn**	**07 33 03.6 +1.1**
PLONS	**Plons/SG**	**2.99 344**		*e*Pn	**Pb**	**07 33 06.2 -2.9**
LPG	**La Plagne**	**3.01 297**		*e*P	**Pn**	**07 33 04.9 +1.3**
LPG	**La Plagne**	**3.01 297**		*e*Pg	**Pg**	**07 33 12.1 -1.9**
LPG				*e*Sn	**Sn**	**07 33 35.3 -4.2**
	comp=N,258nm,0.7s					
TRIGF	**Trigance**	**3.03 263**		Pn	**Pn**	**07 33 03.8 +0.2**
TRIGF				Sn	**Sn**	**07 33 39.7 +0.1**
LPL	**La Plagne**	**3.03 298**		*e*P	**Pn**	**07 33 04.9 +1.1**
LPL	**La Plagne**	**3.03 298**		*e*Pg	**Pb**	**07 33 12.3 +2.3**
LPL				*e*Sn	**Sn**	**07 33 35.7 -4.2**
	comp=N,108nm,0.5s					
LMR	**La Mourre**	**3.05 255**		*e*P	**Pn**	**07 33 05.4 +1.5**
LMR				*e*Sn	**Sn**	**07 33 36.6 -3.4**
	comp=N,67nm,0.3s					
OGDI	**Digne**	**3.06 270**		Pn	**Pn**	**07 33 07.2 +3.0**
SQTA	**Sankt Quirin**	**3.08**	**8**	*i* Pn	**Pn**	**07 33 06.3 +1.9**
	comp=N,35nm,0.3s,SNR=88					
SQTA				*e*Sn	**Sn**	**07 33 44.1 +3.2**
	comp=N,464nm,0.6s					
DAVA	**Damuels**	**3.15 352**		*i* Pn	**Pn**	**07 33 08.2 +2.9**
	comp=N,51nm,0.4s,SNR=47					
DAVA				*e*Sn	**Sn**	**07 33 45.5 +3.0**
	comp=N,225nm,0.5s					
DAVA	**Damuels**	**3.15 352**		*e*Pn	**Pn**	**07 33 08.2 +2.9**
CEY	**Cerknica**	**3.16**	**59**	*e*Pn	**Pn**	**07 33 05.2 -0.2**
WTTA	**Wattenberg**	**3.18**	**13**	*i* Pn	**Pn**	**07 33 07.5 +1.8**
	comp=N,177nm,0.3s,SNR=65					
WTTA				*e*Sn	**Sn**	**07 33 44.0 +0.6**
	comp=N,318nm,0.6s					
MOTA	**Moosalm**	**3.19**	**7**	*i* Pn	**Pn**	**07 33 08.4 +2.5**
	comp=N,109nm,0.5s,SNR=105					
MOTA				*e*Sn	**Sn**	**07 33 46.5 +2.8**
	comp=N,230nm,0.6s					
OBER	**Oberstdorf**	**3.23 357**		*e*Pn	**Pn**	**07 33 09.4 +2.9**
WATA	**Walderalm**	**3.24**	**12**	*i* Pn	**Pn**	**07 33 08.8 +2.3**
	comp=N,52nm,0.3s,SNR=34					
WATA				*e*Sn	**Sn**	**07 33 45.8 +0.9**
	comp=N,148nm,0.6s					
BLAF	**les Blancs**	**3.26 268**		Pn	**Pn**	**07 33 07.5 +0.7**
MYKA	**Terra Mystica**	**3.28**	**40**	*i* Pn	**Pn**	**07 33 07.6 +0.5**
	comp=N,4.0nm,0.2s					
MYKA				*e*Sn	**Sn**	**07 33 46.8 +1.1**
	comp=N,50nm,0.5s					
RETA	**Reutte**	**3.31**	**2**	*i* Pn	**Pn**	**07 33 09.9 +2.4**
	comp=N,29nm,0.3s,SNR=28					
RETA				*e*Sn	**Sn**	**07 33 48.6 +2.1**
	comp=N,96nm,0.8s					
PART	**Garmisch-Parte**	**3.34**	**6**	*e*Pn	**Pn**	**07 33 10.4 +2.5**
PART				*e*Sn	**Sn**	**07 33 47.6 +0.3**
LPEL	**Lama dei Pelig**	**3.40 127**		AML	AML	
	comp=N,94µm,1.0s					
LPEL				AML	AML	
	comp=N,94µm,1.0s					
LPEL				AML	AML	
	comp=E,108µm,0.9s					
ORIF	**Oris-en-Rattie**	**3.42 284**		*e*P	**Pn**	**07 33 10.9 +1.8**
ORIF				*e*Sn	**Sn**	**07 33 45.0 -4.4**
	comp=E,145nm,0.7s					
ORIF				*e*Sg	**Sg**	**07 34 04.4 -1.9**
WILA	**Wila**	**3.44 341**		*e*Pn	**Pn**	**07 33 11.2 +1.9**
WILA				*e*Sn	**Sn**	**07 33 51.8 +2.2**
KBA	**Koelnbreinsper**	**3.50**	**33**	*i* Pn	**Pn**	**07 33 11.8 +1.7**
	comp=E,3.5nm,0.2s					
UBR	**Ueberruh**	**3.52 355**		*e*Pn	**Pn**	**07 33 12.6 +2.2**
UBR				*e*Sn	**Sn**	**07 33 53.5 +1.9**
LESA	**Schwarzleotal**	**3.57**	**24**	*i* Pn	**Pn**	**07 33 13.0 +2.0**
	comp=E,21nm,0.2s					
LESA				*e*Sn	**Sn**	**07 33 55.8 +2.8**
	comp=E,165nm,0.8s					
BOJS	**Bojanci**	**3.59**	**67**	AML	AML	
	comp=E,376µm,1.3s					
BOJS				AML	AML	
	comp=N,470µm,1.0s					
BOJS	**Bojanci**	**3.59**	**67**	*e*Pn	**Pn**	**07 33 11.3 0.0**
SMRF	**Simiane la Rot**	**3.60 269**		*e*P	**Pn**	**07 33 12.8 +1.4**

SMRF *e*Sn **Sn** **07 33 49.3 -4.2**
comp=N,73nm,0.6s
OBKA Obir 3.66 49 *e*Pn **Pn** **07 33 12.1 -0.2**
comp=N,5.4nm,0.2s
OBKA *e*Sn **Sn** **07 33 54.4 -0.7**
comp=N,141nm,0.8s
OBKA Obir 3.66 49 *e*Pn **Pn** **07 33 12.2 0.0**
OBKA Obir 3.66 49 *e*Pn **Pn** **07 33 13.2 +0.9**
OBKA *e*Sn **Sn** **07 33 53.8 -1.2**
BALST Balsthal 3.74 329 *e*Pn **Pn** **07 33 14.9 +1.6**
BALST *e*Sn **Sn** **07 33 57.8 +0.7**
SULZ Cheisacher 3.76 334 *e*Pn **Pn** **07 33 15.0 +1.4**
SULZ *e*Sn **Sn** **07 33 58.4 +0.8**
CRES Cresnjev 3.85 63 *e*Pn **Pn** **07 33 15.2 +0.4**
SLE Schleitheim 3.87 339 *e*Pn **Pn** **07 33 15.9 +0.9**
RJOB Jochberg 3.89 23 *e*Pn **Pn** **07 33 17.3 +1.9**
SGG Gregorio Mates 3.96 133 AML AML
comp=N,49µm,1.3s
SGG AML AML
comp=E,50µm,0.6s
CABF La Chapelle 3.98 309 *e*P **Pn** **07 33 18.0 +1.3**
CABF *e*Sn **Sn** **07 33 58.0 -5.0**
comp=E,225nm,1.0s
FUR Furstenfeldbru 4.02 7 *e*Pn **Pn** **07 33 18.6 +1.4**
SOKA Soboth 4.02 50 *i*Pn **Pn** **07 33 17.7 +0.4**
comp=E,5.1nm,0.3s,SNR=7.7
SOKA *e*Sn **Sn** **07 34 03.1 -1.0**
comp=E,38nm,0.8s
BIOA Bad Ischl, Aus 4.12 30 *i*Pn **Pn** **07 33 19.5 +0.9**
comp=E,7.6nm,0.2s,SNR=8.3
BIOA *e*Sn **Sn** **07 34 06.9 +0.5**
comp=E,73nm,0.7s
VIVF Saint-Julien-I 4.26 281 *e*P **Pn** **07 33 22.0 +1.5**
VIVF *e*Sn **Sn** **07 34 04.7 -5.3**
comp=E,31nm,0.7s
A050A Klekovaca 4.30 84 *e*Pn **Pn** **07 33 22.9 +1.8**
BFO Black Forest 4.43 340 *e*Pn **Pn** **07 33 23.4 +0.6**
BFO *e*Sn **Sn** **07 34 11.1 -3.0**
HINF Hinteralfeld 4.46 326 *e*P **Pn** **07 33 24.4 +1.1**
HINF *e*Sn **Sn** **07 34 09.4 -5.5**
comp=E,115nm,0.5s
MOA Molln 4.49 34 *i*Pn **Pn** **07 33 24.6 +1.0**
comp=E,10nm,0.2s,SNR=11
MOA *e*Sn **Sn** **07 34 16.1 +0.6**
comp=E,96nm,0.9s
ARSA Arzberg 4.64 47 *i*Pn **Pn** **07 33 26.0 +0.3**
comp=E,24nm,0.3s,SNR=20
ARSA *e*Sn **Sn** **07 34 17.1 -2.1**
comp=E,36nm,0.7s
ARSA Arzberg 4.64 47 AML AML
comp=E,73µm,0.6s
ARSA AML AML
comp=N,80µm,0.6s
ARSA Arzberg 4.64 47 *e*Pn **Pn** **07 33 26.1 +0.3**
ARSA *e*Sn **Sn** **07 34 16.1 -3.1**
MGRS Mrkonjic Grad 4.69 85 *e*Pn **Pn** **07 33 26.6 +0.2**
BLY Banja Luka 4.78 81 *e*Pn **Pn** **07 33 28.7 +1.1**
CDF Champ du Feu 4.81 333 *e*P **Pn** **07 33 28.2 +0.1**
CDF *e*Sn **Sn** **07 34 17.7 -5.7**
comp=N,83nm,0.4s
HAU Haudompre 4.82 324 *e*P **Pn** **07 33 28.7 +0.5**
HAU *e*Sn **Sn** **07 34 18.0 -5.6**
comp=N,250nm,0.4s
LASF Ste Croix 4.83 271 *e*P **Pn** **07 33 28.9 +0.6**
LASF *e*Sn **Sn** **07 34 18.8 -5.0**
comp=N,18nm,0.5s
GEC2 GERESS Array S 5.15 24 *e*Pn **Pn** **07 33 33.1 +0.3**
GERES GERESS Array B 5.15 24 Pn **Pn** **07 33 33.0 +0.3**
comp=N,4.8nm,0.3s,baz=203,slow=12,SNR=92
GERES Sn **Sn** **07 34 31.3 -0.6**
comp=N,7.2nm,0.3s,baz=206,slow=21,SNR=10
comp=N,6.8nm,0.3s
WET Wettzell 5.22 17 *e*Pn **Pn** **07 33 33.9 +0.3**
WET *e*Sn **Sn** **07 34 31.2 -2.3**
CONA Conrad Observa 5.26 43 *i*Pn **Pn** **07 33 34.8 +0.4**
comp=N,5.1nm,0.3s,SNR=10
CONA *e*Sn **Sn** **07 34 35.2 +0.6**
comp=N,51nm,0.7s
CKRC Cesky Krumlov 5.32 28 *e*PN **Pn** **07 33 35.5 +0.5**
CKRC *e*SN **Sn** **07 34 35.0 -0.9**
RONA Rosalia, Austr 5.33 47 *i*Pn **Pn** **07 33 35.5 +0.3**
comp=N,33nm,0.5s,SNR=13
RONA *e*Sn **Sn** **07 34 34.8 -1.5**
comp=N,31nm,0.6s
SMF Signal de Mont 5.33 300 *e*P **Pn** **07 33 37.2 +2.0**
SMF *e*Sn **Sn** **07 34 30.4 -5.9**
comp=N,54nm,0.6s
STON Ston 5.36 102 *e*Pn **Pn** **07 33 37.3 +1.8**
KHC Kasperske Hory 5.37 22 *e*PN **Pn** **07 33 36.2 +0.4**
KHC *e*x x 07 34 00.0
KHC *e*SN **Sn** **07 34 35.1 -2.2**
PAGF Fort de Pagny 5.51 324 *e*P **Pn** **07 33 39.0 +1.4**
baz=140
PAGF *e*Sn **Sn** **07 34 34.2 -6.4**
comp=N,148nm,0.8s
SFTF Sexfontaines 5.56 318 *e*P **Pn** **07 33 39.9 +1.6**
baz=135
SFTF *e*Sn **Sn** **07 34 35.6 -6.2**
comp=N,76nm,0.8s
LOR Lormes 5.62 306 *e*P **Pn** **07 33 40.7 +1.6**
baz=122
LOR *e*Sn **Sn** **07 34 36.9 -6.4**
comp=N,38nm,0.5s
AVF Avril sur Loir 5.70 300 *e*Pn **Pn** **07 33 41.0 +0.8**
AVF *e*Sn **Sn** **07 34 39.2 -6.1**
comp=N,29nm,0.7s
ROTZ Rotzenmuhle 5.70 11 *e*Pn **Pn** **07 33 39.6 -0.7**
SSF Saint Saulge 5.72 303 *e*P **Pn** **07 33 42.4 +1.8**
SSF Saint Saulge 5.72 303 *e*Pg **Pg** **07 34 01.9 -4.0**
SSF *e*Sn **Sn** **07 34 39.5 -6.4**
comp=N,21nm,0.5s
MEZF Maizieres J'vi 5.76 321 *e*P **Pn** **07 33 42.5 +1.4**
MEZF *e*Sn **Sn** **07 34 43.8 -3.0**
comp=N,67nm,0.8s
ZVC Zvikov 5.82 24 *e*PN **Pn** **07 33 42.9 +1.0**
TREB Trebinje 5.86 102 *e*Pn **Pn** **07 33 43.4 +1.0**
MANZ Manzenberg 5.91 10 *e*Pn **Pn** **07 33 42.3 -0.8**
BGF Bois d'Agland 5.93 296 *e*P **Pn** **07 33 45.5 +2.1**
BGF *e*Sn **Sn** **07 34 47.2 -3.8**
comp=N,31nm,0.5s
BRY Bratogost 5.94 100 *e*Pn **Pn** **07 33 46.0 +2.3**
HAPS Han Pijesak,Bl 6.04 88 *e*Pn **Pn** **07 33 46.6 +1.5**
HCY Herceg Novi 6.04 104 *e*Pn **Pn** **07 33 47.5 +2.5**
ZST Bratislava 6.07 46 *e*PN **Pn** **07 33 45.4 +0.2**
ZST *e*SN **Sn** **07 34 52.1 -2.2**
MTLF Montolieu 6.10 265 *e*P **Pn** **07 33 46.8 +1.1**
MTLF *e*Sn **Sn** **07 34 49.5 -5.6**
comp=N,26nm,0.5s
CAF Calviac 6.12 280 *e*P **Pn** **07 33 46.8 +0.8**
CAF *e*Sn **Sn** **07 34 49.1 -6.5**
comp=N,7.9nm,0.6s
UPM Unac-Piva 6.13 96 *e*Pn **Pn** **07 33 49.0 +2.7**
TNS Taunus Mts 6.22 347 *e*Pn **Pn** **07 33 48.3 +0.9**
TCF Toulx Ste Croi 6.26 293 *e*P **Pn** **07 33 50.6 +2.6**
TCF *e*Sn **Sn** **07 34 54.3 -4.9**
comp=N,22nm,0.6s
WLF Walferdange 6.26 333 *d*P **Pn** **07 33 50.9 +2.9**
WLF *d*S **Sn** **07 35 01.0 +1.9**
MODS Modra-Piesok 6.27 46 *e*PN **Pn** **07 33 48.2 +0.1**
MODS *e*SN **Sn** **07 34 56.7 -2.6**
KRUC Moravsky 6.33 37 *e*PN **Pn** **07 33 48.2 -0.6**
KRUC *e*SN **Sn** **07 34 57.8 -2.9**
HYF Humbligny 6.34 302 *e*P **Pn** **07 33 51.2 +2.1**
BBLS Lazi&#263i 6.39 90 *e*Pn **Pn** **07 33 51.1 +1.3**
RUDO Rudo 6.39 92 *e*Pn **Pn** **07 33 49.5 -0.3**
PRU Pruhonice 6.42 24 *e*PN **Pn** **07 33 50.4 +0.3**
GOPC GO Pecny, Ondr 6.42 25 *e*PN **Pn** **07 33 50.7 +0.5**
PRA Prague 6.46 23 *e*PN **Pn** **07 33 51.9 +1.2**
MOX Moxa 6.51 6 *e*Pn **Pn** **07 33 50.0 -1.4**
RJF Les Rejaudoux 6.54 283 *e*P **Pn** **07 33 54.0 +2.2**
PDG Podgorica 6.58 102 *e*Pn **Pn** **07 33 53.3 +1.0**
VRAC Vranov 6.60 37 *e*PN **Pn** **07 33 51.7 -0.9**
VRAC *e*SN **Sn** **07 35 04.6 -2.8**
VRAC Vranov 6.60 37 Pn **Pn** **07 33 52.3 -0.3**
comp=N,0.8nm,0.3s,baz=230,slow=13,SNR=5.2
VRAC Sn **Sn** **07 35 05.4 -2.0**
comp=N,0.8nm,0.3s,baz=293,slow=21,SNR=8.6
VRAC Lg Lg 07 35 51.5
comp=N,0.4nm,0.3s,baz=302,slow=23,SNR=1.6
VRAC LR LR 07 37 14.0
comp=N,59nm,20.4s,baz=214,slow=46
comp=N,3.6nm,0.4s
DRME Dracevica, Mon 6.61 105 *e*Pn **Pn** **07 33 53.9 +1.1**
FRGS Fruska Gora 6.67 78 *e*Pn **Pn** **07 33 53.8 +0.2**

HSKC Hora Svate Kat 6.72 16 *e*PN **Pn** **07 33 54.1 -0.2**
JAVC Velka Javorina 6.78 44 *e*PN **Pn** **07 33 56.0 +0.9**
RICC Richard 6.81 19 *e*PN **Pn** **07 33 55.1 -0.3**
SJES Sjenica 6.88 94 *e*Pn **Pn** **07 33 57.7 +1.1**
BHOU Hounegnez 6.91 335 *d*P **Pn** **07 33 59.4 +2.6**
BHOU *d*S **Sn** **07 35 15.5 +0.4**
PVCC Panska Ves 6.91 22 *e*PN **Pn** **07 33 57.2 +0.3**
RCHB Rochefort 7.00 331 *d*P **Pn** **07 33 58.9 +0.9**
RCHB *d*S **Sn** **07 35 13.5 -3.7**
LFF La Frestale 7.05 280 *e*P **Pn** **07 34 00.2 +1.4**
BRG Berggiesshubel 7.08 18 *i*P **Pn** **07 33 59.0 -0.1**
BRG Amp 07 34 00.7
comp=Z,25nm,0.4s
BRG S **Sn** **07 35 16.6 -2.7**
BRG r 07 35 51.9
BRG Amp 07 36 15.2
comp=Z,14nm,0.9s
BRG Amp 07 36 54.0
comp=N,0.1nm,10.4s
BRG Amp 07 37 13.0
comp=E,0.1nm,11.7s
BRG Amp 07 37 14.0
comp=Z,0.2nm,13.4s
BTNL Ternell 7.08 336 *d*PP Pn 07 34 06.2 +7.0
GIVF Givet 7.10 329 *e*P **Pn** **07 34 01.0 +1.6**
GIVF Givet 7.10 329 *e*Pg Pg 07 34 26.6 -5.5
GIVF *e*Sn **Sn** **07 35 14.3 -5.4**
comp=Z,33nm,0.7s
MEM Membach 7.14 336 *d*P **Pn** **07 34 03.1 +3.2**
MEM *d*S **Sn** **07 35 20.8 +0.2**
DOU Dourbes 7.18 328 *d*P **Pn** **07 34 03.0 +2.4**
DOU *d*S **Sn** **07 35 20.2 -1.5**
BCLA Clavier 7.19 332 *d*P **Pn** **07 34 04.3 +3.6**
BGES Gesves 7.24 331 *d*P **Pn** **07 34 03.4 +2.1**
BGES *d*S **Sn** **07 35 23.4 +0.4**
BSTI Sart Tilman 7.25 334 *d*P **Pn** **07 34 04.0 +2.5**
BMRD Maredsous 7.28 329 *d*P **Pb** **07 34 21.0 -1.3**
BMRD *d*SbSb Sn 07 35 33.4 +9.2
BAIF Baives 7.30 326 *e*P **Pn** **07 34 04.6 +2.4**
BAIF *e*Sn **Sn** **07 35 16.8 -7.9**
comp=Z,33nm,1.0s
DPC Dobruska-Polom 7.31 30 *e*PN **Pn** **07 34 01.8 -0.6**
CLL Collm 7.32 12 *e*Pn **Pn** **07 34 02.0 -0.5**
CLL *e*x x 07 34 10.0
CLL *e*(Pg) **Pg** **07 34 37.0 +0.6**
CLL *e*Sn **Sn** **07 35 21.0 -4.2**
CLL *e*Sb **Sb** **07 35 51.0 +1.1**
CLL *e*Sg **Sg** **07 36 08.0 -3.1**
comp=Z,27nm,1.0s
UPC Upice 7.33 28 *e*PN **Pn** **07 34 02.1 -0.6**
MORC Moravsky Berou 7.36 38 *e*PN **Pn** **07 34 02.0 -1.1**
MORC *e*SN **Sn** **07 35 23.1 -3.1**
CHVC Chvalec 7.42 28 *e*PN **Pn** **07 34 03.3 -0.5**
EPF Esparros 7.50 265 *e*P **Pn** **07 34 05.8 +0.7**
EPF *e*Sn **Sn** **07 35 23.4 -6.4**
comp=Z,6.1nm,0.7s
EPF *e*Pg
comp=Z,0.4nm,0.2s
MFF Saint Martin d 7.92 292 *e*Pn **Pn** **07 34 07.8 -2.8**
MFF Saint Martin d 7.92 292 *e*P **Pn** **07 34 13.2 +2.6**
ETSF Etsaut 8.18 265 *e*Pn **Pn** **07 34 11.6 -2.7**
ETSF Etsaut 8.18 265 *e*P **Pn** **07 34 17.4 +3.1**
ETSF *e*Sn **Sn** **07 35 41.8 -4.6**
comp=Z,4.2nm,0.6s
KEST Kesra 8.49 187 Pn Pn 07 34 23.7 +5.1
comp=Z,0.4nm,0.3s,baz=290,slow=4.5,SNR=6.4
LDF La Druitiere 8.60 305 *e*P **Pn** **07 34 22.5 +2.5**
SJPF Ste Jean 8.61 267 *e*Pn **Pn** **07 34 20.1 -0.1**
FLN La Foliniere 8.89 305 *e*P **Pn** **07 34 26.7 +2.7**
GRR Gorron 8.95 302 *e*P **Pn** **07 34 27.9 +3.0**
SGMF Saint Gilles 9.96 299 *e*Pn **Pn** **07 34 38.5 -0.1**
QUIF Quistinic 10.24 296 *e*P **Pn** **07 34 43.0 +0.5**
ROSF Rostrenen 10.44 298 *e*Pn **Pn** **07 34 42.4 -2.8**
ESDC Sonseca Array 11.71 252 Pn **Pn** **07 35 02.8 +0.1**
comp=Z,0.1nm,0.3s,baz=62,slow=11,SNR=7.1
comp=Z,0.5nm,0.5s
EKA Eskdalemuir Ar 14.22 327 Pn **Pn** **07 35 37.8 +0.9**
baz=140,slow=14
comp=Z,0.3nm,0.3s
HFS Hagfors 16.09 6 Pn **P** **07 36 04.7 -0.2**
comp=Z,0.1nm,0.3s,baz=191,slow=14,SNR=4.2
HFS LR LR 07 42 06.0
comp=Z,47nm,18.5s,baz=181,slow=37
NOA NORSAR Array B 16.89 1 Pn **P** **07 36 14.0 +0.1**
baz=180,slow=12,SNR=4.1
NOA LR LR 07 43 41.0
comp=Z,32nm,20.1s,baz=200,slow=41
FINES FINESS Array B 19.58 23 P **Pn** **07 36 43.9 -0.8**
comp=Z,0.2nm,0.3s,baz=189,slow=11,SNR=6.8
comp=Z,3.2nm,0.8s
TORD Torodi Ar. Bea 31.84 197 P **P** **07 38 41.5 +1.0**
comp=Z,0.5nm,0.6s,baz=1.3,slow=9.6,SNR=2.7
comp=Z,0.5nm,0.6s
KURBB Kurchatov Arra 44.99 57 P **P** **07 40 31.9 +1.4**
comp=Z,0.3nm,0.6s,baz=300,slow=8.1,SNR=1.9
comp=Z,0.3nm,0.6s
MKAR Makanchi Array 48.73 60 P **P** **07 41 01.6 +1.7**
comp=Z,0.9nm,0.6s,baz=285,slow=6.7,SNR=12
comp=Z,0.9nm,0.6s
YKA Yellowknife Ar 65.00 335 P **P** **07 42 56.1 +1.1**
comp=Z,0.7nm,0.7s,baz=42,slow=6.3,SNR=8.9
comp=Z,0.7nm,0.7s
ILAR Eielson Array 69.96 350 P **P** **07 43 27.9 +1.6**
comp=Z,0.3nm,0.9s,baz=1.8,slow=8.7,SNR=5.7
comp=Z,0.3nm,0.9s
TXAR Lajitas Array 85.37 307 P **P** **07 44 54.3 +1.3**
comp=Z,1.0nm,1.1s,baz=76,slow=1.5,SNR=5.9
comp=Z,1.0nm,1.1s
ASAR Alice Springs 129.78 85 PKP **PKPdf** **07 51 24.5 -0.4**
comp=Z,0.2nm,0.5s,baz=314,slow=1.8,SNR=1.3

ROM 01 07:33:17.8±0.1, 44°204N±0°004×10°578E±0°006,
h10km, ML2.5/16, Error ellipse: s-maj=0.5km
s-min=0.4km az=230.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARO	**Sassorosso**	**0.13**	**261**	P	Pg	07 33 21.3	+0.4
SARO				S	Sg	07 33 23.9	+0.8
SARO				AML	AML		
	comp=E,3185µm,0.3s						
SARO				AML	AML		
	comp=N,3065µm,0.5s						
BDI	**Bagni Di Lucca**	**0.14**	**174**	P	Pg	07 33 21.6	+0.5
BDI				S	Sg	07 33 24.6	+1.2
BDI				AML	AML		
	comp=N,4010µm,0.3s						
BDI				AML	AML		
	comp=N,4550µm,0.3s						
BDI				AML	AML		
	comp=E,2860µm,0.4s						
BDI				AML	AML		
	comp=E,2350µm,0.5s						
VLC	**Villacollemand**	**0.14**	**252**	P	Pg	07 33 21.5	+0.5
VLC				S	Sg	07 33 24.5	+1.1
VLC				AML	AML		
	comp=E,2375µm,0.2s						
VLC				AML	AML		
	comp=E,2423µm,0.1s						
VLC				AML	AML		
	comp=N,946µm,0.1s						
VLC				AML	AML		
	comp=N,1021µm,0.1s						
GSCL	**Gusciola**	**0.15**	**3**	P	Pg	07 33 21.5	+0.4
GSCL				S	Sg	07 33 24.2	+0.7
GSCL				AML	AML		
	comp=E,2757µm,0.2s						
GSCL				AML	AML		
	comp=N,7052µm,0.2s						
CARD	**Cardoso**	**0.19**	**201**	P	Pg	07 33 22.1	+0.3
CARD				S	Sg	07 33 25.7	+1.1
CARD				AML	AML		
	comp=E,2703µm,0.1s						
CARD				AML	AML		
	comp=N,1724µm,0.1s						
POPM	**Popiglio**	**0.20**	**141**	P	Pg	07 33 22.6	+0.6
POPM				S	Sg	07 33 26.6	+1.6
POPM				AML	AML		
	comp=E,2625µm,0.5s						
POPM				AML	AML		
	comp=N,2655µm,0.2s						
MAIM	**Mastiano**	**0.30**	**192**	P	Pb	07 33 24.5	-0.7
EQUI	**Equi**	**0.31**	**263**	P	Pg	07 33 24.2	+0.3
FIVI	**Fivizzano**	**0.33**	**276**	P	Pg	07 33 24.6	+0.4
MTCR	**Monte La Croce**	**0.35**	**120**	P	Pg	07 33 25.3	+0.5
FNVD	**Fontana Vidola**	**0.39**	**95**	P	Pb	07 33 26.4	-0.5
MPPT	**Montemurlo**	**0.44**	**124**	P	Pb	07 33 27.3	-0.4
GRAM	**Graiana**	**0.47**	**308**	P	Pg	07 33 27.2	+0.3
GRAM				S	Sb	07 33 34.6	-0.4
MOCL	**Monte Cuccoli**	**0.48**	**114**	P	Pb	07 33 28.0	-0.3
MOCL				S	Sg	07 33 33.6	+0.2
PII	**Pisa**	**0.48**	**185**	P	Pg	07 33 27.2	+0.1
PII				S	Sg	07 33 34.2	+0.7
CRMI	**Carmignano**	**0.50**	**146**	P	Pg	07 33 28.0	+0.5
PLMA	**Palmaria, Port**	**0.55**	**254**	P	Pb	07 33 28.9	-0.5

ROM 01 07:33:40.2±0.1, 44°206N±0°003×10°560E±0°004,
h14km±1km, ML2.6/19, 1C, Error ellipse: s-maj=0.3km
s-min=0.1km az=210.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARO	**Sassorosso**	**0.12**	**259**	P	Pg	07 33 43.9	+0.2
SARO				S	Sb	07 33 46.5	-0.5
SARO				AML	AML		
	comp=N,3732µm,0.3s						
SARO				AML	AML		
	comp=E,4491µm,0.2s						
VLC	**Villacollemand**	**0.13**	**249**	P	Pb	07 33 44.2	-0.3
VLC				S	Sb	07 33 47.2	-0.2
VLC				AML	AML		
	comp=N,1810µm,0.2s						
VLC				AML	AML		
	comp=N,1805µm,0.2s						
VLC				AML	AML		
	comp=E,3480µm,0.1s						
VLC				AML	AML		
	comp=N,1649µm,0.2s						
BDI	**Bagni Di Lucca**	**0.15**	**169**	P	Pg	07 33 44.3	+0.2
BDI				S	Sg	07 33 47.1	+0.5
BDI				AML	AML		
	comp=N,7630µm,0.3s						
BDI				AML	AML		
	comp=N,7880µm,0.3s						
BDI				AML	AML		
	comp=E,3455µm,1.3s						
BDI				AML	AML		
	comp=E,4120µm,0.2s						
BDI				AML	AML		
	comp=E,3455µm,0.7s						
GSCL	**Gusciola**	**0.15**	**8**	⇑P	Pg	07 33 44.2	+0.2
GSCL				S	Sg	07 33 46.9	+0.3
GSCL				AML	AML		
	comp=E,3385µm,0.3s						
CARD	**Cardoso**	**0.19**	**197**	P	Pg	07 33 44.8	+0.2
CARD				S	Sg	07 33 48.2	+0.6
CARD				AML	AML		
	comp=E,4790µm,0.1s						
CARD				AML	AML		
	comp=N,4915µm,0.3s						
POPM	**Popiglio**	**0.21**	**139**	P	Pg	07 33 45.3	+0.3
POPM				S	Sb	07 33 49.3	-0.5
POPM				AML	AML		
	comp=N,8060µm,0.2s						
POPM				AML	AML		
	comp=E,6440µm,0.3s						
EQUI	**Equi**	**0.29**	**262**	P	Pg	07 33 46.4	0.0
EQUI				S	Sg	07 33 50.9	+0.3
MAIM	**Mastiano**	**0.30**	**190**	P	Pg	07 33 46.6	+0.2
MAIM				S	Sg	07 33 51.2	+0.7
FIVI	**Fivizzano**	**0.31**	**276**	P	Pb	07 33 47.8	+0.2
FIVI				S	Sb	07 33 51.9	-0.6
A306A	**Viano (RE)**	**0.33**	**5**	P	Pg	07 33 47.0	-0.1
ZCCA	**Zocca**	**0.33**	**64**	P	Pb	07 33 47.7	-0.3
MTCR	**Monte La Croce**	**0.36**	**119**	P	Pg	07 33 47.8	+0.1
MTCR				S	Sg	07 33 53.2	+0.6
MTCR				AML	AML		
	comp=N,983µm,0.3s						
MTCR				AML	AML		
	comp=E,815µm,0.2s						
FNVD	**Fontana Vidola**	**0.41**	**95**	P	Pg	07 33 48.6	+0.2
FNVD				S	Sb	07 33 55.1	-0.3
GRAM	**Graiana**	**0.46**	**309**	P	Pg	07 33 49.6	+0.3
PII	**Pisa**	**0.48**	**183**	P	Pg	07 33 49.9	+0.1
PII				S	Sg	07 33 56.6	+0.4
PII				AML	AML		
	comp=N,1260µm,0.5s						
PII				AML	AML		
	comp=E,1295µm,0.2s						
MOCL	**Monte Cuccoli**	**0.49**	**114**	P	Pg	07 33 50.0	+0.1
MOCL				S	Sb	07 33 57.3	-0.4
MOCL				AML	AML		
	comp=E,382µm,0.3s						
MOCL				AML	AML		
	comp=N,373µm,0.3s						
CRMI	**Carmignano**	**0.51**	**144**	P	Pb	07 33 50.6	-0.3
CRMI				S	Sb	07 33 57.8	-0.5
PLMA	**Palmaria, Port**	**0.53**	**253**	P	Pg	07 33 50.9	+0.2
PLMA				S	Sg	07 33 58.2	+0.3
A319A	**Santa Luce (PI**	**0.73**	**179**	P	Pb	07 33 54.6	-0.1
A319A				S	Sb	07 34 04.8	+0.3

ROM 01 07:34:19.6±0.1, 44°200N±0°004×10°566E±0°005,
h12km±1km, ML2.2/25, 1C, Error ellipse: s-maj=0.5km
s-min=0.1km az=31.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARO	**Sassorosso**	**0.12**	**262**	P	Pg	07 34 23.3	+0.4
SARO				S	Sg	07 34 25.9	+0.7
SARO				AML	AML		
	comp=E,1570µm,0.5s						
SARO				AML	AML		
	comp=N,2515µm,0.6s						
SARO				AML	AML		
	comp=E,1570µm,1.5s						
VLC	**Villacollemand**	**0.14**	**253**	P	Pg	07 34 23.6	+0.5
VLC				S	Sg	07 34 26.5	+1.0
VLC				AML	AML		
	comp=E,859µm,0.1s						
VLC				AML	AML		
	comp=N,875µm,0.6s						
VLC				AML	AML		
	comp=N,876µm,0.6s						
VLC				AML	AML		
	comp=N,828µm,0.6s						
VLC				AML	AML		
	comp=E,890µm,0.1s						
BDI	**Bagni Di Lucca**	**0.14**	**171**	P	Pg	07 34 23.6	+0.5
BDI				S	Sg	07 34 26.5	+0.9
BDI				AML	AML		
	comp=E,1560µm,0.1s						
BDI				AML	AML		
	comp=N,2165µm,0.3s						
BDI				AML	AML		
	comp=E,1560µm,0.1s						
BDI				AML	AML		
	comp=E,1810µm,0.1s						
BDI				AML	AML		
	comp=N,2375µm,0.3s						
GSCL	**Gusciola**	**0.15**	**6**	⇑P	Pg	07 34 23.5	+0.2
GSCL				S	Sg	07 34 26.2	+0.3
GSCL				AML	AML		
	comp=E,1365µm,0.1s						
GSCL				AML	AML		
	comp=N,3360µm,0.2s						
CARD	**Cardoso**	**0.18**	**199**	P	Pg	07 34 24.1	+0.4
CARD				S	Sg	07 34 27.5	+0.9
CARD				AML	AML		
	comp=E,2545µm,0.1s						
CARD				AML	AML		
	comp=N,1440µm,0.5s						
CARD				AML	AML		
	comp=N,1440µm,1.5s						
POPM	**Popiglio**	**0.21**	**138**	P	Pg	07 34 24.7	+0.5
POPM				S	Sg	07 34 28.2	+0.9
POPM				AML	AML		
	comp=N,2430µm,0.8s						
POPM				AML	AML		
	comp=E,3075µm,0.7s						
POPM				AML	AML		
	comp=E,3075µm,1.3s						
POPM				AML	AML		
	comp=N,2430µm,1.2s						
MAIM	**Mastiano**	**0.29**	**191**	P	Pg	07 34 25.8	+0.2
MAIM				S	Sg	07 34 30.5	+0.9
MAIM				AML	AML		

	comp=E,205μm,0.1s					
MAIM				AML	AML	
	comp=N,200μm,0.1s					
EQUI	**Equi**	**0.30 264**		P	Pg	07 34 25.7 0.0
EQUI				S	Sg	07 34 30.3 +0.5
EQUI				AML	AML	
	comp=N,230μm,0.1s					
EQUI				AML	AML	
	comp=E,162μm,0.1s					
FIVI	**Fivizzano**	**0.32 277**		P	Pg	07 34 26.1 0.0
FIVI				S	Sg	07 34 30.9 +0.4
ZCCA	**Zocca**	**0.33 63**		P	Pb	07 34 27.6 0.0
MTCR	**Monte La Croce**	**0.36 119**		P	Pg	07 34 27.1 +0.3
MTCR				S	Sg	07 34 32.3 +0.6
MTCR				AML	AML	
	comp=N,470μm,1.2s					
MTCR				AML	AML	
	comp=E,460μm,1.2s					
FNVD	**Fontana Vidola**	**0.40 94**		P	Pg	07 34 27.8 +0.2
FNVD				S	Sb	07 34 34.1 -0.7
MPPT	**Montemurlo**	**0.45 122**		P	Pg	07 34 28.7 +0.2
MPPT				S	Sb	07 34 35.3 -0.8
GRAM	**Graiana**	**0.46 309**		P	Pg	07 34 28.7 -0.1
GRAM				S	Sb	07 34 35.9 -0.7
GRAM				AML	AML	
	comp=E,589μm,0.3s					
GRAM				AML	AML	
	comp=N,315μm,0.2s					
GRAM				AML	AML	
	comp=N,315μm,1.8s					
PII	**Pisa**	**0.48 184**		P	Pg	07 34 29.3 +0.3
PII				S	Sb	07 34 36.4 -0.5
MOCL	**Monte Cuccoli**	**0.48 114**		P	Pg	07 34 29.4 +0.2
MOCL				S	Sb	07 34 36.6 -0.5
MOCL				AML	AML	
	comp=E,274μm,1.0s					
MOCL				AML	AML	
	comp=N,264μm,1.0s					
CRMI	**Carmignano**	**0.50 144**		P	Pg	07 34 29.8 +0.3
CRMI				S	Sb	07 34 37.0 -0.6
PLMA	**Palmaria, Port**	**0.54 254**		P	Pg	07 34 30.5 +0.3
PLMA				S	Sg	07 34 37.7 +0.5
MSSA	**Maissana**	**0.76 279**		P	Pg	07 34 34.5 +0.1
MSSA				S	Sb	07 34 45.2 0.0
RUFI	**Rufina**	**0.77 118**		P	Pg	07 34 34.6 +0.1

*STR **01** 07:38:35.3±1.4, 44°N±6°×1°1E±°, h3km, MLv3.0/19, Error ellipse: s-maj=0.0km s-min=0.0km az=90.3, preliminary*
*GEN **01** 07:38:41.5, 44.21N×10.58E, h17km±1km, Ml2.7*
ROM 01 07:38:42.0±0.1, 44.204N±0.004×10.569E±0.005, h14km±1km, ML2.6/8, 2C, Error ellipse: s-maj=0.5km s-min=0.1km az=192.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARO	**Sassorosso**	**0.12 261**		P	Pg	07 38 45.7	+0.2
SARO				S	Sg	07 38 48.3	+0.4
SARO				AML	AML		
	comp=E,14500μm,0.3s						
SARO				AML	AML		
	comp=N,20450μm,0.6s						
SARO				AML	AML		
	comp=E,14500μm,0.3s						
SARO				AML	AML		
	comp=N,20450μm,0.6s						
SARO				AML	AML		
	comp=E,14500μm,0.3s						
SARO				AML	AML		
	comp=N,20450μm,0.6s						
SARO				AML	AML		
	comp=E,5888μm,0.4s						
SARO	**Sassorosso**	**0.12 261**		P	Pg	07 38 45.7	+0.2
SARO				S	Sg	07 38 48.3	+0.5
VLC	**Villacollemand**	**0.14 251**		P	Pb	07 38 46.0	-0.4
VLC				S	Sb	07 38 48.9	-0.4
VLC				AML	AML		
	comp=E,6595μm,0.2s						
VLC				AML	AML		
	comp=N,6570μm,0.4s						
VLC				AML	AML		
	comp=E,6575μm,0.2s						
VLC				AML	AML		
	comp=N,6560μm,0.4s						
VLC				AML	AML		
	comp=E,6595μm,0.2s						
VLC				AML	AML		
	comp=N,6570μm,0.4s						
VLC				AML	AML		
	comp=E,6575μm,0.2s						
VLC				AML	AML		
	comp=N,6560μm,0.4s						
VLC				AML	AML		
	comp=N,2059μm,0.3s						
VLC				AML	AML		
	comp=E,3892μm,0.3s						
VLC	**Villacollemand**	**0.14 251**		P	Pb	07 38 46.0	-0.4
VLC				S	Sb	07 38 49.0	-0.3
BDI	**Bagni Di Lucca**	**0.14 172**		P	Pg	07 38 46.0	+0.3
BDI				S	Sb	07 38 49.0	-0.5
BDI				AML	AML		
	comp=E,17450μm,0.8s						
BDI				AML	AML		
	comp=N,16350μm,0.3s						
BDI				AML	AML		
	comp=E,17750μm,0.8s						
BDI				AML	AML		
	comp=N,18450μm,0.3s						
BDI				AML	AML		
	comp=E,17450μm,0.8s						
BDI				AML	AML		
	comp=N,16350μm,0.3s						
BDI				AML	AML		
	comp=E,17750μm,0.8s						
BDI				AML	AML		
	comp=N,18450μm,0.3s						
BDI				AML	AML		
	comp=E,15950μm,0.3s						
BDI				AML	AML		
	comp=N,15750μm,0.3s						
BDI				AML	AML		
	comp=E,16500μm,0.3s						
BDI				AML	AML		
	comp=N,17400μm,0.1s						
BDI	**Bagni Di Lucca**	**0.14 172**		P	Pg	07 38 45.2	-0.5
BDI				S	Sb	07 38 49.0	-0.5
GSCL	**Gusciola**	**0.15 5**		⇑P	Pg	07 38 46.0	+0.2
GSCL				S	Sg	07 38 48.7	+0.4
GSCL				AML	AML		
	comp=E,13700μm,0.2s						
GSCL				AML	AML		
	comp=N,25500μm,0.2s						
GSCL				AML	AML		
	comp=E,13700μm,0.2s						
GSCL				AML	AML		
	comp=N,25500μm,0.2s						
GSCL				AML	AML		
	comp=E,13700μm,0.2s						
GSCL				AML	AML		
	comp=N,25500μm,0.2s						
GSCL				AML	AML		
	comp=N,18082μm,0.2s						
GSCL				AML	AML		
	comp=E,4550μm,0.2s						
GSCL	**Gusciola**	**0.15 5**		P	Pg	07 38 46.0	+0.2
GSCL				S	Sg	07 38 48.7	+0.4
CARD	**Cardoso**	**0.19 199**		P	Pg	07 38 46.5	+0.2
CARD				S	Sb	07 38 50.1	-0.6
CARD				AML	AML		
	comp=E,7145μm,0.4s						
CARD				AML	AML		
	comp=N,6160μm,0.3s						
CARD				AML	AML		
	comp=E,7145μm,0.4s						
CARD				AML	AML		
	comp=N,6160μm,0.3s						
CARD				AML	AML		
	comp=E,7145μm,0.4s						
CARD				AML	AML		
	comp=N,6160μm,0.3s						
CARD				AML	AML		
	comp=E,2243μm,0.1s						
CARD	**Cardoso**	**0.19 199**		P	Pg	07 38 46.4	+0.1
CARD				S	Sb	07 38 50.1	-0.6
POPM	**Popiglio**	**0.21 139**		P	Pb	07 38 47.1	-0.4
POPM				S	Sb	07 38 51.0	-0.3
POPM				AML	AML		
	comp=E,25800μm,0.4s						
POPM				AML	AML		
	comp=N,24750μm,0.2s						
POPM				AML	AML		
	comp=E,25800μm,0.4s						
POPM				AML	AML		
	comp=N,24750μm,0.2s						
POPM				AML	AML		
	comp=E,25800μm,0.4s						
POPM				AML	AML		
	comp=N,24750μm,0.2s						
POPM				AML	AML		
	comp=E,6777μm,0.3s						
POPM	**Popiglio**	**0.21 139**		P	Pg	07 38 46.8	+0.1
POPM				S	Sb	07 38 51.0	-0.3
MAIM	**Mastiano**	**0.29 191**		P	Pg	07 38 48.1	0.0
MAIM				S	Sg	07 38 53.0	+0.7
MAIM				AML	AML		
	comp=E,1485μm,0.3s						
MAIM				AML	AML		
	comp=N,1300μm,0.9s						
MAIM				AML	AML		
	comp=E,1485μm,0.3s						
MAIM				AML	AML		
	comp=N,1300μm,0.9s						
MAIM				AML	AML		
	comp=E,1485μm,0.3s						
MAIM				AML	AML		
	comp=N,1300μm,0.9s						
MAIM	**Mastiano**	**0.29 191**		P	Pg	07 38 48.2	+0.1
MAIM				S	Sb	07 38 53.0	-0.7
EQUI	**Equi**	**0.30 263**		P	Pg	07 38 48.2	0.0
EQUI				S	Sg	07 38 52.5	+0.1
EQUI				AML	AML		
	comp=E,1290μm,0.9s						
EQUI				AML	AML		
	comp=N,1855μm,0.4s						
EQUI				AML	AML		
	comp=E,1290μm,0.9s						
EQUI				AML	AML		
	comp=N,1855μm,0.4s						
EQUI	**Equi**	**0.30 263**		P	Pg	07 38 48.1	-0.1
EQUI				S	Sg	07 38 52.6	+0.2
FIVI	**Fivizzano**	**0.32 277**		P	Pg	07 38 48.8	+0.3
FIVI				AML	AML		
	comp=N,1123μm,0.3s						
ZCCA	**Zocca**	**0.33 63**		AML	AML		
	comp=N,4315μm,0.4s						
ZCCA				AML	AML		
	comp=E,4755μm,1.3s						
ZCCA				AML	AML		
	comp=N,3555μm,0.5s						
ZCCA				AML	AML		
	comp=E,4455μm,1.3s						
ZCCA				AML	AML		
	comp=N,4315μm,0.4s						
ZCCA				AML	AML		
	comp=E,4755μm,1.3s						
ZCCA				AML	AML		
	comp=N,3555μm,0.5s						
ZCCA				AML	AML		
	comp=E,4455μm,1.3s						
ZCCA	**Zocca**	**0.33 63**		P	Pb	07 38 50.1	+0.4
ZCCA				S	Sn	07 38 57.1	-1.9
MTCR	**Monte La Croce**	**0.36 120**		⇑P	Pg	07 38 49.5	+0.3
MTCR				AML	AML		
	comp=E,3235μm,0.4s						
MTCR				AML	AML		
	comp=N,3690μm,0.5s						
MTCR				AML	AML		
	comp=E,3235μm,0.4s						
MTCR				AML	AML		
	comp=N,3690μm,0.5s						
MTCR				AML	AML		
	comp=E,3235μm,0.4s						
MTCR				AML	AML		
	comp=N,3695μm,0.5s						
MTCR	**Monte La Croce**	**0.36 120**		P	Pg	07 38 49.5	+0.2
FNVD	**Fontana Vidola**	**0.40 95**		P	Pg	07 38 50.2	+0.1
FNVD				AML	AML		
	comp=E,1815μm,0.9s						
FNVD				AML	AML		
	comp=N,2015μm,1.0s						
FNVD				AML	AML		
	comp=E,1815μm,0.9s						
FNVD				AML	AML		
	comp=N,2015μm,1.0s						
MPPT	**Montemurlo**	**0.45 123**		P	Pg	07 38 51.0	+0.1
MPPT				AML	AML		
	comp=E,2080μm,1.0s						
MPPT				AML	AML		
	comp=N,2075μm,0.4s						
MPPT				AML	AML		
	comp=E,2080μm,1.0s						
MPPT				AML	AML		
	comp=N,2075μm,0.4s						
MPPT				AML	AML		
	comp=E,2080μm,1.0s						
MPPT				AML	AML		
	comp=N,2075μm,0.4s						
GRAM	**Graiana**	**0.46 309**		P	Pg	07 38 51.2	0.0
GRAM				AML	AML		
	comp=E,2935μm,0.3s						
GRAM				AML	AML		
	comp=N,1815μm,0.3s						
GRAM				AML	AML		
	comp=E,2935μm,0.3s						
GRAM				AML	AML		
	comp=N,1815μm,0.3s						
GRAM	**Graiana**	**0.46 309**		P	Pg	07 38 51.2	+0.1
GRAM				S	Sb	07 38 58.7	0.0
MOCL	**Monte Cuccoli**	**0.48 114**		P	Pg	07 38 51.8	+0.2
MOCL				AML	AML		
	comp=E,1905μm,0.3s						
MOCL				AML	AML		
	comp=N,1880μm,0.7s						
MOCL				AML	AML		
	comp=E,1905μm,0.3s						
MOCL				AML	AML		
	comp=N,1880μm,0.7s						
PII	**Pisa**	**0.48 184**		P	Pg	07 38 51.7	+0.2
PII				AML	AML		
	comp=E,3015μm,0.9s						
PII				AML	AML		
	comp=N,3080μm,0.2s						
PII				AML	AML		
	comp=E,3015μm,0.9s						
PII				AML	AML		
	comp=N,3080μm,0.2s						
PII				AML	AML		
	comp=N,237μm,0.2s						
PII	**Pisa**	**0.48 184**		P	Pg	07 38 51.6	+0.1
CRMI	**Carmignano**	**0.51 145**		P	Pg	07 38 52.1	+0.2
CRMI				AML	AML		
	comp=E,776μm,0.3s						
CRMI				AML	AML		
	comp=N,998μm,0.3s						
CRMI				AML	AML		
	comp=E,776μm,0.3s						
CRMI				AML	AML		
	comp=N,998μm,0.3s						
PLMA	**Palmaria, Port**	**0.54 254**		P	Pg	07 38 52.6	0.0
PLMA				AML	AML		
	comp=E,1300μm,0.5s						
PLMA				AML	AML		
	comp=N,902μm,0.2s						
PLMA				AML	AML		
	comp=E,1300μm,0.5s						
PLMA				AML	AML		
	comp=N,902μm,0.2s						
PLMA	**Palmaria, Port**	**0.54 254**		P	Pg	07 38 52.6	+0.1
PLMA				S	Sn	07 39 04.2	+0.2
MSSA	**Maissana**	**0.76 279**		P	Pb	07 38 57.0	0.0
MSSA				AML	AML		
	comp=E,602μm,0.4s						
MSSA				AML	AML		
	comp=N,617μm,0.4s						
MSSA				AML	AML		
	comp=E,602μm,0.4s						
MSSA				AML	AML		
	comp=N,617μm,0.4s						
MSSA	**Maissana**	**0.76 279**		P	Pb	07 38 57.1	0.0
RUFI	**Rufina**	**0.77 118**		P	Pg	07 38 56.6	-0.3
RUFI				AML	AML		
	comp=E,338μm,0.6s						
RUFI				AML	AML		
	comp=N,387μm,0.5s						
RUFI				AML	AML		
	comp=E,338μm,0.6s						
RUFI				AML	AML		
	comp=N,387μm,0.5s						
RUFI	**Rufina**	**0.77 118**		P	Pg	07 38 57.0	+0.1
RUFI				S	Sn	07 39 14.1	+4.3
OSSC	**Osservatorio P**	**0.84 144**		P	Pb	07 38 58.6	+0.3
GORR	**Gorreto**	**1.00 294**		P	Pn	07 39 02.4	+0.8
RNCA	**Ronca, Sant'Ol**	**1.19 284**		P	Pg	07 39 04.9	0.0
RNCA				AML	AML		
	comp=E,280μm,0.5s						
RNCA				AML	AML		
	comp=N,250μm,0.4s						
RNCA				AML	AML		
	comp=E,280μm,0.5s						
RNCA				AML	AML		
	comp=N,250μm,0.4s						
RNCA				AML	AML		
	comp=E,280μm,1.5s						
RNCA				AML	AML		
	comp=N,250μm,0.4s						
RNCA	**Ronca, Sant'Ol**	**1.19 284**		Pg	Pg	07 39 05.6	+0.7
RNCA	**Ronca, Sant'Ol**	**1.19 284**		Sn	Sg	07 39 25.4	+5.0
PCP	**Piancastagn**	**1.49 284**		Pg	Pn	07 39 08.6	+0.3
MBAL	**Monte Baldo -**	**1.51 8**		AML	AML		
	comp=N,105μm,0.3s						
MBAL				AML	AML		
	comp=E,181μm,0.8s						
MBAL				AML	AML		
	comp=E,181μm,0.8s						
MBAL				AML	AML		
	comp=N,105μm,0.3s						
MORSI	**Morsiglia**	**1.53 215**		Pn	Pn	07 39 07.2	-1.6
VARA	**Varagna**	**1.64 8**		AML	AML		
	comp=N,348μm,0.3s						
VARA				AML	AML		
	comp=E,302μm,1.1s						
VARA				AML	AML		
	comp=E,302μm,1.1s						
VARA				AML	AML		
	comp=N,348μm,0.3s						
ROTM	**Rocchetta Tana**	**1.71 293**		Pg	Pg	07 39 20.6	+5.8
RORO	**Rocca Rossa**	**1.80 268**		Sn	Sg	07 39 39.0	-0.9
RORO	**Rocca Rossa**	**1.80 268**		Pg	Pg	07 39 16.8	+0.2
GBOS	**Grotte di Boss**	**1.96 272**		AML	AML		
	comp=E,33μm,0.4s						
GBOS				AML	AML		
	comp=N,51μm,0.8s						
GBOS	**Grotte di Boss**	**1.96 272**		Sn	Sb	07 39 43.2	+1.4
GBOS	**Grotte di Boss**	**1.96 272**		Pg	Pg	07 39 19.0	-0.6
PGF	**Pioggiola**	**2.01 215**		Sn	Sb	07 39 44.2	+0.9
PGF	**Pioggiola**	**2.01 215**		Pg	Pn	07 39 16.9	+1.3
SAOF	**Saorge**	**2.18 265**		P	Pn	07 39 17.7	-0.2
SAOF				Sn	Sb	07 39 48.4	+0.3
ENR	**Entracque**	**2.26 272**		P	Pn	07 39 19.2	+0.1
TURF	**col de Turini**	**2.30 265**		P	Pn	07 39 19.2	-0.5
TURF				Sn	Sb	07 39 51.6	-0.1
ESCA	**l'Escarene**	**2.33 262**		Pn	Pn	07 39 20.9	+1.0
SPIF	**crte de Spivo**	**2.40 268**		Pn	Pn	07 39 21.5	+0.5
SPIF				Pg	Pb	07 39 25.6	+0.6
SPIF				Sn	Sb	07 39 55.8	+1.2
BHB	**Bricherasio**	**2.45 286**		Pg	Pg	07 39 29.8	+0.9
MVIF	**Mont Vial**	**2.48 264**		Pn	Pn	07 39 22.8	+0.7
MVIF				P	Pb	07 39 27.3	+0.9
MVIF				Sn	Sb	07 39 56.7	-0.2
CIMO	**Cimolais**	**2.49 31**		AML	AML		
	comp=N,20μm,1.6s						
CIMO				AML	AML		
	comp=E,19μm,0.5s						
PZZ	**Stroppo**	**2.50 278**		Pn	Pb	07 39 26.1	-0.5
CIRO	**Champorcher**	**2.55 304**		P	Pg	07 39 29.9	-1.0
CALF	**Calern**	**2.67 262**		Pn	Pn	07 39 24.6	0.0
SURF	**Saint Ours**	**2.71 277**		P	Pb	07 39 29.5	-0.8
ENAUX	**Enaux**	**2.73 269**		P	Pn	07 39 26.6	+1.1
ENAUX				Pg	Pb	07 39 31.1	+0.5
JAUF	**Jausiers**	**2.75 276**		P	Pb	07 39 28.5	-2.5
FETA	**Feichten**	**2.82 2**		Pn	Pb	07 39 30.1	-2.1
	comp=E,1.0nm,0.4s						
CREF	**Crivoux**	**2.85 278**		P	Pb	07 39 30.6	-2.1
ABTA	**Abfaltersbach**	**2.89 28**		*e*Pn	Pb	07 39 32.7	-0.6
	comp=E,1.6nm,0.5s						
TRIGF	**Trigance**	**3.04 263**		P	Pn	07 39 29.6	-0.1
SQTA	**Sankt Quirin**	**3.05 8**		*e*Pn	Pn	07 39 32.0	+2.1
	comp=E,1.4nm,0.2s						
DAVA	**Damuels**	**3.12 351**		*e*Pn	Pn	07 39 32.6	+1.7
	comp=E,3.0nm,0.6s						
WTTA	**Wattenberg**	**3.15 13**		*i* Pn	Pb	07 39 34.6	-3.2
	comp=E,3.0nm,0.2s						
MOTA	**Moosalm**	**3.16 7**		*e*Pn	Pn	07 39 34.4	+2.9
	comp=E,1.1nm,0.3s						
WATA	**Walderalm**	**3.21 12**		*e*Pn	Pn	07 39 34.2	+2.1
	comp=E,0.9nm,0.2s						
RETA	**Reutte**	**3.29 2**		*e*Pn	Pn	07 39 36.4	+3.3
	comp=E,0.9nm,0.3s						
LESA	**Schwarzleotal**	**3.54 24**		*e*Pn	Pn	07 39 39.8	+3.2
	comp=E,2.3nm,0.2s						
OBKA	**Obir**	**3.63 49**		*e*Pn	Pb	07 39 42.5	-3.4
	comp=E,0.2nm,0.2s						
BALST	**Balsthal**	**3.72 328**		Pn	Pn	07 39 40.6	+1.5
BALST	**Balsthal**	**3.72 328**		Pg	Pb	07 39 45.5	-2.0
BRANT	**Les Verrieres**	**3.97 315**		P	Pn	07 39 45.2	+2.8
MOA	**Molln**	**4.46 34**		*i* Pn	Pn	07 39 52.5	+3.3
	comp=E,1.4nm,0.2s						
ARSA	**Arzberg**	**4.62 47**		*i* Pn	Pn	07 39 55.8	+4.5
	comp=E,0.7nm,0.2s						

*PRU **01** 07:38:44.0, 44.22N×10.63E, h0km*
*LDG **01** 07:38:46.4±0.2, 44.22N×10.46E, h16km, Ml2.9/16, Error ellipse: s-maj=4.8km s-min=3.2km az=39.0*
ROM 01 07:38:47.6±0.1, 44.205N±0.004×10.560E±0.004, h12km, ML2.8/53, Error ellipse: s-maj=0.5km s-min=0.1km az=6.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARO	**Sassorosso**	**0.12 260**		P	Pg	07 38 50.8	0.0
SARO				S	Sg	07 38 53.9	+0.8
SARO				AML	AML		
	comp=E,14500μm,0.3s						
SARO				AML	AML		
	comp=N,20450μm,0.6s						
SARO				AML	AML		
	comp=N,15864μm,0.3s						
SARO				AML	AML		
	comp=E,14460μm,0.3s						
VLC	**Villacollemand**	**0.13 250**		P	Pg	07 38 51.1	+0.2
VLC				S	Sg	07 38 54.4	+1.1
VLC				AML	AML		
	comp=N,6570μm,0.4s						
VLC				AML	AML		
	comp=E,6595μm,0.2s						
VLC				AML	AML		
	comp=E,6575μm,0.2s						
VLC				AML	AML		
	comp=N,6560μm,0.4s						
BDI	**Bagni Di Lucca**	**0.14 169**		P	Pg	07 38 51.6	+0.4
BDI				S	Sg	07 38 54.5	+0.9
BDI				AML	AML		
	comp=E,17450μm,0.8s						
BDI				AML	AML		
	comp=N,16350μm,0.3s						
BDI				AML	AML		
	comp=E,17750μm,0.8s						
BDI				AML	AML		
	comp=N,18450μm,0.3s						
BDI				AML	AML		
	comp=E,15950μm,0.3s						
BDI				AML	AML		
	comp=N,15750μm,0.3s						
BDI				AML	AML		
	comp=E,16500μm,0.3s						
BDI				AML	AML		
	comp=N,17400μm,0.1s						
BDI				AML	AML		
	comp=N,13448μm,0.2s						
BDI				AML	AML		
	comp=E,16513μm,0.3s						
BDI				AML	AML		
	comp=N,17364μm,0.1s						
BDI				AML	AML		
	comp=E,14148μm,0.1s						
GSCL	**Gusciola**	**0.15 8**		P	Pg	07 38 51.5	+0.3

GSCL			S	Sg	07 38 54.3	+0.6
GSCL			AML	AML		
	comp=E,13700μm,0.2s					
GSCL			AML	AML		
	comp=N,25500μm,0.2s					
GSCL			AML	AML		
	comp=E,13702μm,0.2s					
GSCL			AML	AML		
	comp=N,25465μm,0.2s					
CARD	**Cardoso**	**0.19 197**	P	Pg	07 38 52.2	+0.4
CARD			S	Sg	07 38 55.6	+1.0
CARD			AML	AML		
	comp=E,7145μm,0.4s					
CARD			AML	AML		
	comp=N,6160μm,0.3s					
CARD			AML	AML		
	comp=N,6160μm,0.3s					
CARD			AML	AML		
	comp=E,6155μm,0.1s					
POPM	**Popiglio**	**0.21 138**	P	Pg	07 38 52.7	+0.5
POPM			S	Sg	07 38 56.3	+0.9
POPM			AML	AML		
	comp=E,25800μm,0.4s					
POPM			AML	AML		
	comp=N,24750μm,0.2s					
POPM			AML	AML		
	comp=N,20931μm,0.2s					
POPM			AML	AML		
	comp=E,23667μm,0.1s					
EQUI	**Equi**	**0.29 263**	P	Pg	07 38 54.1	+0.4
EQUI			S	Sg	07 38 58.3	+0.5
EQUI			AML	AML		
	comp=E,1290μm,0.9s					
EQUI			AML	AML		
	comp=N,1855μm,0.4s					
EQUI			AML	AML		
	comp=N,1791μm,0.3s					
EQUI			AML	AML		
	comp=E,1117μm,0.1s					
MAIM	**Mastiano**	**0.29 190**	P	Pg	07 38 54.1	+0.5
MAIM			S	Sb	07 38 58.9	-0.8
MAIM			AML	AML		
	comp=N,1300μm,0.9s					
MAIM			AML	AML		
	comp=E,1485μm,0.3s					
MAIM			AML	AML		
	comp=N,1017μm,0.1s					
MAIM			AML	AML		
	comp=E,1065μm,0.1s					
FIVI	**Fivizzano**	**0.31 276**	P	Pg	07 38 54.4	+0.4
A306A	**Viano (RE)**	**0.33 5**	P	Pg	07 38 54.4	0.0
ZCCA	**Zocca**	**0.33 64**	P	Pb	07 38 55.3	-0.3
ZCCA			S	Sb	07 39 00.9	0.0
ZCCA			AML	AML		
	comp=E,4755μm,1.3s					
ZCCA			AML	AML		
	comp=E,4755μm,1.3s					
ZCCA			AML	AML		
	comp=E,4455μm,1.3s					
ZCCA			AML	AML		
	comp=E,4755μm,0.7s					
ZCCA			AML	AML		
	comp=N,3555μm,0.5s					
ZCCA			AML	AML		
	comp=N,4315μm,0.4s					
MTCR	**Monte La Croce**	**0.36 119**	P	Pg	07 38 55.1	+0.1
MTCR			S	Sg	07 39 00.4	+0.6
MTCR			AML	AML		
	comp=E,3235μm,0.4s					
MTCR			AML	AML		
	comp=N,3690μm,0.5s					
MTCR			AML	AML		
	comp=N,3695μm,0.5s					
MTCR			AML	AML		
	comp=N,2952μm,0.2s					
MTCR			AML	AML		
	comp=E,2991μm,0.2s					
MTCR	**Monte La Croce**	**0.36 119**	S	Pb	07 38 55.2	-0.9
FNVD	**Fontana Vidola**	**0.41 95**	P	Pg	07 38 55.8	0.0
FNVD			S	Sb	07 39 02.2	-0.9
FNVD			AML	AML		
	comp=E,1815μm,0.9s					
FNVD			AML	AML		
	comp=N,2015μm,1.0s					
FNVD			AML	AML		
	comp=E,1815μm,1.1s					
FNVD			AML	AML		
	comp=N,2015μm,1.0s					
FNVD			AML	AML		
	comp=N,1811μm,0.1s					
FNVD			AML	AML		
	comp=E,1671μm,0.1s					
GRAM	**Graiana**	**0.46 309**	P	Pg	07 38 56.4	-0.3
GRAM			S	Sg	07 39 03.2	+0.4
GRAM			AML	AML		
	comp=N,1815μm,0.3s					
GRAM			AML	AML		
	comp=E,2934μm,0.3s					
GRAM			AML	AML		
	comp=E,2935μm,0.3s					
GRAM			AML	AML		
	comp=N,1814μm,0.3s					
MPPT	**Montemurlo**	**0.46 123**	P	Pg	07 38 56.6	0.0
MPPT			S	Sg	07 39 03.5	+0.8
MPPT			AML	AML		
	comp=N,2075μm,0.4s					
MPPT			AML	AML		
	comp=E,2080μm,1.0s					
MPPT			AML	AML		
	comp=N,2076μm,0.4s					
MPPT			AML	AML		
	comp=E,1596μm,0.3s					
PII	**Pisa**	**0.48 183**	P	Pg	07 38 57.3	+0.2
PII			S	Sg	07 39 03.9	+0.3
PII			AML	AML		
	comp=E,3015μm,0.9s					
PII			AML	AML		
	comp=N,3080μm,0.2s					
PII			AML	AML		
	comp=E,3012μm,0.2s					
PII	**Pisa**	**0.48 183**	S	Pb	07 38 57.4	-0.7
MOCL	**Monte Cuccoli**	**0.49 114**	P	Pg	07 38 57.3	0.0
MOCL			S	Sb	07 39 04.6	-0.8
MOCL			AML	AML		
	comp=E,1905μm,0.3s					
MOCL			AML	AML		
	comp=N,1880μm,0.7s					
MOCL			AML	AML		
	comp=N,1880μm,1.3s					
MOCL			AML	AML		
	comp=E,1902μm,0.3s					
MOCL			AML	AML		
	comp=N,1605μm,0.2s					
CRMI	**Carmignano**	**0.51 144**	P	Pg	07 38 57.9	+0.3
CRMI			S	Sg	07 39 05.1	+0.7
CRMI			AML	AML		
	comp=E,776μm,0.3s					
CRMI			AML	AML		
	comp=N,998μm,0.3s					
CRMI			AML	AML		
	comp=E,776μm,0.3s					
CRMI			AML	AML		
	comp=E,714μm,0.3s					
CRMI			AML	AML		
	comp=N,995μm,0.3s					
CRMI			AML	AML		
	comp=N,924μm,0.3s					
PLMA	**Palmaria, Port**	**0.53 253**	P	Pg	07 38 58.3	+0.2
PLMA			AML	AML		
	comp=E,1300μm,0.5s					
PLMA			AML	AML		
	comp=N,902μm,0.2s					
MSSA	**Maissana**	**0.76 279**	P	Pg	07 39 02.4	+0.1
MSSA			S	Sb	07 39 13.3	+0.1
MSSA			AML	AML		
	comp=N,617μm,0.4s					
MSSA			AML	AML		
	comp=N,617μm,0.4s					
MSSA			AML	AML		
	comp=E,602μm,0.4s					
MSSA			AML	AML		
	comp=E,602μm,0.4s					
MSSA			AML	AML		
	comp=N,617μm,1.6s					
MSSA			AML	AML		
	comp=N,617μm,1.6s					
RUFI	**Rufina**	**0.78 118**	P	Pg	07 39 02.5	-0.1
RUFI			S	Sg	07 39 12.9	+0.1
RUFI			AML	AML		
	comp=E,338μm,0.6s					
RUFI			AML	AML		
	comp=N,387μm,0.5s					
RUFI			AML	AML		
	comp=N,387μm,1.5s					
RUFI			AML	AML		
	comp=E,336μm,0.6s					
RUFI			AML	AML		
	comp=E,336μm,1.4s					
BOB	**Bobbio (Coli)**	**0.97 306**	P	Pg	07 39 04.8	-1.6
SFI	**Santa Sofia**	**0.97 107**	P	Pb	07 39 06.6	+0.1
ASQU	**Asqua**	**0.98 114**	P	Pg	07 39 06.3	-0.2
RNCA	**Ronca, Sant'Ol**	**1.18 284**	P	Pn	07 39 09.3	-0.7
RNCA			AML	AML		
	comp=E,280μm,0.5s					
RNCA			AML	AML		
	comp=E,190μm,0.4s					
RNCA			AML	AML		
	comp=E,280μm,1.5s					
RNCA			AML	AML		
	comp=N,250μm,0.4s					
MBAL	**Monte Baldo -**	**1.51 8**	P	Pb	07 39 15.7	0.0
MBAL			AML	AML		
	comp=E,181μm,0.8s					
MBAL			AML	AML		
	comp=E,154μm,0.3s					
MBAL			AML	AML		
	comp=N,105μm,0.3s					
MBAL			AML	AML		
	comp=N,105μm,0.3s					
MBAL			AML	AML		
	comp=E,154μm,1.7s					
VARA	**Varagna**	**1.64 8**	P	Pn	07 39 17.0	+0.5
VARA			AML	AML		
	comp=E,302μm,1.1s					
VARA			AML	AML		
	comp=N,348μm,0.3s					
VARA			AML	AML		
	comp=E,336μm,0.3s					
VARA			AML	AML		
	comp=E,268μm,0.4s					
VARA			AML	AML		
	comp=N,348μm,0.3s					
VARA			AML	AML		
	comp=N,259μm,0.4s					
GBOS	**Grotte di Boss**	**1.96 272**	P	Pn	07 39 20.8	+0.1
GBOS			AML	AML		
	comp=E,33μm,0.4s					
GBOS			AML	AML		
	comp=N,51μm,0.8s					
GBOS			AML	AML		
	comp=E,33μm,1.6s					
GBOS			AML	AML		
	comp=N,51μm,1.2s					
PGF	**Pioggiola**	**2.01 215**	*e*Pn	Pn	07 39 18.5	-3.0
PGF	**Pioggiola**	**2.01 215**	*e*P	Pn	07 39 19.7	-1.8
PGF			*e*Sn	Sn	07 39 40.2	-6.4
	comp=N,15nm,0.3s					
ZIAN	**Ziano**	**2.19 19**	P	Pn	07 39 24.4	+0.4
SBF	**Sospel**	**2.28 262**	*e*Pn	Pn	07 39 19.0	-6.2
SBF	**Sospel**	**2.28 262**	*e*P	Pn	07 39 21.9	-3.3
SBF			*e*Sn	Sn	07 39 46.5	-6.7
	comp=N,31nm,0.3s					
KOSI	**Kohlern**	**2.33 14**	P	Pn	07 39 25.2	-0.8
MBDF	**Montbardon**	**2.76 282**	*e*P	Pn	07 39 31.3	-0.6
MBDF			*e*Sn	Sn	07 39 57.6	-7.7
	comp=N,19nm,0.5s					
LPL	**La Plagne**	**3.02 297**	*e*Pn	Pn	07 39 32.0	-3.5
LPL			*e*Sn	Sn	07 40 03.6	-8.1
	comp=N,5.6nm,0.3s					
LMR	**La Mourre**	**3.06 255**	*e*Pn	Pn	07 39 29.5	-6.3
LMR	**La Mourre**	**3.06 255**	*e*P	Pn	07 39 32.3	-3.5
LMR			*e*Sn	Sn	07 40 06.0	-6.4
	comp=N,13nm,0.4s					
ORIF	**Oris-en-Rattie**	**3.42 284**	*e*Pn	Pn	07 39 36.2	-4.7
ORIF	**Oris-en-Rattie**	**3.42 284**	*e*P	Pn	07 39 40.8	-0.1
ORIF			*e*Sn	Sn	07 40 13.5	-7.9
	comp=N,11nm,0.6s					
SMRF	**Simiane la Rot**	**3.60 268**	*e*Pn	Pn	07 39 38.3	-5.0
SMRF	**Simiane la Rot**	**3.60 268**	*e*P	Pn	07 39 41.8	-1.5
SMRF			*e*Sn	Sn	07 40 17.9	-7.8
	comp=N,5.4nm,0.4s					
CABF	**La Chapelle**	**3.96 309**	*e*Pn	Pn	07 39 45.0	-3.3
CABF			*e*Sn	Sn	07 40 26.0	-8.8
VIVF	**Saint-Julien-l**	**4.26 281**	*e*Pn	Pn	07 39 48.7	-3.7
VIVF			*e*Sn	Sn	07 40 33.6	-8.4
	comp=N,1.9nm,0.3s					
HINF	**Hinteralfeld**	**4.44 326**	*e*Pn	Pn	07 39 51.3	-3.5
HINF	**Hinteralfeld**	**4.44 326**	*e*P	Pn	07 39 55.2	+0.4
HINF			*e*Sn	Sn	07 40 39.4	-7.1
	comp=N,8.7nm,0.5s					
CDF	**Champ du Feu**	**4.78 333**	*e*P	Pn	07 40 00.3	+0.7
CDF			*e*Sn	Sn	07 40 47.5	-7.5
	comp=N,16nm,0.4s					
HAU	**Haudompre**	**4.80 324**	*e*Pn	Pn	07 39 54.5	-5.3
HAU	**Haudompre**	**4.80 324**	*e*P	Pn	07 40 00.8	+1.0
HAU			*e*Sn	Sn	07 40 47.8	-7.5
	comp=N,21nm,0.5s					
LASF	**Ste Croix**	**4.83 271**	*e*Pn	Pn	07 39 54.5	-5.6
SMF	**Signal de Mont**	**5.32 300**	*e*P	Pn	07 40 07.8	+0.9
SMF			*e*Sn	Sn	07 40 58.5	-10
	comp=N,5.1nm,0.5s					
KHC	**Kasperske Hory**	**5.35 22**	*e*PN	Pn	07 40 01.9	-5.4
KHC			*e*SN	Sn	07 41 04.0	-4.8
LOR	**Lormes**	**5.60 305**	*e*Pn	Pn	07 40 05.4	-5.4
LOR			*e*Sn	Sn	07 41 05.4	-10
	comp=N,5.7nm,0.4s					
AVF	**Avril sur Loir**	**5.69 300**	*e*P	Pn	07 40 12.0	+0.1
MTLF	**Montolieu**	**6.10 265**	*e*Pn	Pn	07 40 12.5	-5.1
MTLF	**Montolieu**	**6.10 265**	*e*P	Pn	07 40 17.1	-0.5

NEIC 01 07:49:54.3±1.7, 41°.37N±0°.04×100°.14W±0°.03, h5km±2km, mb_Lg2.7/65, Error ellipse: s-maj=6.8km s-min=4.1km az=171.0, Nebraska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K30B	**Basset**	**1.36**	**17**		Pn	07 50 18.8	-1.2
OGNE	**Ogallala**	**1.49**	**254**		Pn	07 50 20.9	-0.9
OGNE					Sn	07 50 40.5	-1.3
BGNE	**Belgrade**	**1.50**	**88**		Pn	07 50 21.0	-0.8
BGNE					Sn	07 50 40.9	-0.9
CBKS	**Cedar Bluff**	**2.57**	**173**		Pn	07 50 35.9	-0.7
CBKS					Sb	07 51 12.7	-0.1
CBKS				IAmb_Lg		07 51 19.7	
	comp=Z,25nm,0.8s						
L34A	**Svendsen Farm,**	**2.88**	**77**	Pn	Pn	07 50 40.3	-0.5
KSCO	**Kaye Shedlock'**	**3.03**	**220**	Pn	Pn	07 50 42.0	-0.9
KSCO				IAmb_Lg		07 51 38.4	
	comp=Z,19nm,0.8s						
R32A	**Long Quarter,**	**3.14**	**159**		Pn	07 50 43.3	-1.1
R32A				IAmb_Lg		07 51 42.5	
	comp=Z,18nm,0.7s						
SUSD	**Miller**	**3.19**	**15**	Pn	Pn	07 50 43.3	-1.9
BRIGG	**Briggsdale**	**3.26**	**257**		Pn	07 50 45.0	-1.2
ECSD	**EROS Data Cent**	**3.52**	**47**		Pn	07 50 48.8	-0.8
KSU1	**Kansas State U**	**3.52**	**129**		Pn	07 50 47.1	-2.5
KSU1				IAmb_Lg		07 51 55.9	
	comp=Z,19nm,0.9s						
RSSD	**Black Hills**	**3.98**	**315**		Pn	07 50 56.9	+0.9
RSSD				IAmb_Lg		07 52 03.1	
	comp=Z,13nm,0.7s						
PHWY	**Pilot Hill**	**4.01**	**271**	Pn	Pn	07 50 56.5	0.0
N23A	**Red Feather La**	**4.41**	**266**	Pn	Pn	07 51 02.6	+0.5
Q24A	**Divide**	**4.53**	**240**	Pn	Pn	07 51 03.1	-0.6
Q24A				IAmb_Lg		07 52 24.3	
	comp=Z,15nm,0.8s						
KAN14	**Manchester OK**	**4.72**	**158**	IAmb_Lg		07 52 23.5	
	comp=Z,16nm,0.8s						
OK035	**E0210 Rd and N**	**4.79**	**166**	IAmb_Lg		07 52 27.2	
	comp=Z,15nm,0.7s						
OK032	**Salt Plains WL**	**4.80**	**161**	Pn	Pn	07 51 06.8	-0.4
OK032				IAmb_Lg		07 52 27.8	
	comp=Z,11nm,0.9s						
NOKA	**Waynoka**	**4.82**	**168**	IAmb_Lg		07 52 40.8	
	comp=Z,18nm,0.8s						
GC02	**Grant County #**	**4.85**	**158**	Pn	Pn	07 51 05.5	-2.3
K22A	**Casper**	**4.93**	**287**		Pn	07 51 09.4	+0.3
OK038	**West end E0370**	**5.00**	**167**	Pn	Pn	07 51 08.5	-1.6
U32A	**Winter Ranch,**	**5.06**	**170**	IAmb_Lg		07 52 49.2	
	comp=Z,18nm,0.8s						
SCIA	**State Center**	**5.22**	**82**	IAmb_Lg		07 52 36.6	
	comp=Z,15nm,0.7s						
E28A	**Huff**	**5.22**	**356**	Pn	Pn	07 51 12.4	-0.6
E28A				IAmb_Lg		07 52 48.5	
	comp=Z,15nm,0.7s						
N38A	**Joes South For**	**5.25**	**94**	IAmb_Lg		07 52 51.8	
	comp=Z,12nm,0.8s						
T35A	**Sooner Cattle**	**5.26**	**146**	Pn	Pn	07 51 13.2	-0.4
F33A	**5 Mile Ranch,**	**5.27**	**31**	IAmb_Lg		07 52 37.1	
	comp=Z,12nm,1.0s						
RTBA	**Rita Blanca**	**5.32**	**203**	Pn	Pn	07 51 14.8	+0.3
RTBA				IAmb_Lg		07 52 46.8	
	comp=Z,9.9nm,0.7s						
P38A	**Dawn**	**5.33**	**107**	Pn	Pn	07 51 14.8	+0.3
P38A				IAmb_Lg		07 52 53.5	
	comp=Z,8.7nm,0.8s						
T25A	**Trinidad**	**5.37**	**220**	Pn	Pn	07 51 14.4	-0.9
OK051	**E0350 and S346**	**5.50**	**151**	Pn	Pn	07 51 17.0	+0.3
SMCO	**Snowmass**	**5.67**	**250**	Pn	Pn	07 51 20.0	+0.5
OK029	**Liberty Lake**	**5.95**	**158**	IAmb_Lg		07 53 11.5	
	comp=Z,7.7nm,0.9s						
TUL3	**Leonard**	**6.42**	**147**	IAmb_Lg		07 53 22.8	
	comp=Z,12nm,0.9s						
RLO	**Rose Lookout**	**6.55**	**141**	IAmb_Lg		07 53 33.0	
	comp=Z,12nm,1.1s						
W35A	**Tecumseh**	**6.72**	**156**	IAmb_Lg		07 53 38.5	
	comp=Z,6.9nm,0.7s						
R40A	**Maddies Statio**	**6.79**	**114**	IAmb_Lg		07 53 38.2	
	comp=Z,9.9nm,0.8s						
MGMO	**Mountain Grove**	**7.41**	**122**	IAmb_Lg		07 54 02.6	
	comp=Z,8.8nm,1.0s						
JFWS	**Jewell Farm**	**7.51**	**75**	IAmb_Lg		07 53 54.3	
	comp=Z,8.7nm,0.8s						
CCM	**Cathedral Cave**	**7.61**	**113**	IAmb_Lg		07 54 09.2	
	comp=Z,5.7nm,0.8s						
MSTX	**Muleshoe**	**7.68**	**197**	IAmb_Lg		07 54 14.7	
	comp=Z,6.0nm,0.7s						
FCAR	**Ozark Folk Cen**	**8.32**	**129**	IAmb_Lg		07 54 21.1	
	comp=Z,5.8nm,0.9s						
FW03	**Perrin-Whitt E**	**8.48**	**168**	IAmb_Lg		07 54 20.3	
	comp=Z,9.1nm,0.7s						
PBMO	**Poplar Bluff**	**8.83**	**118**	IAmb_Lg		07 54 45.3	
	comp=Z,6.4nm,0.8s						
Z41A	**Richland Creek**	**9.98**	**142**	IAmb_Lg		07 55 36.3	
	comp=Z,6.0nm,1.0s						

IDC 01 07:55:12.2±3.1, 32°.74S×178°.37W, h0km, mb3.9/2, mbtmp3.9/3, ML3.4/1, Error ellipse: s-maj=72.2km s-min=46.2km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.62**	**213**	Pn	Pn	07 56 50.5	-0.3
	0.8nm,0.3s,baz=353,slow=8.1,SNR=8.7						
URZ				Sn	Sn	07 58 03.4	-3.6
	3.2nm,0.3s,baz=24,slow=14,SNR=6.9						
	5.0nm,0.6s						
ASAR	**Alice Springs**	**42.72**	**270**	P	P	08 03 10.8	-0.5
	1.1nm,0.8s,baz=111,slow=7.1,SNR=11						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**43.92**	**275**	P	P	08 03 21.2	+0.2
	1.5nm,0.6s,baz=115,slow=7.5,SNR=18						
	1.5nm,0.6s						
FINES	**FINESS Array B**	**147.21**	**338**	PKPbc	PKPbc	08 14 56.0	-0.7
	2.5nm,0.8s,baz=20,slow=4.4,SNR=5.2						

*MDD **01** 08:04:55.7±0.7, 42°.61N×14°.17W, h0km, Mb4.2/37, M_mb3.6/38, Error ellipse: s-maj=5.5km s-min=4.2km az=116.0*
*IGIL **01** 08:04:57.1, 42°.81N×14°.39W, h27km, ML2.7*
*INMG **01** 08:04:59.1±1.2, 42°.81N×14°.40W, h10km, ML2.8, Error ellipse: s-maj=5.9km s-min=3.8km az=97.0*
ISC 01 08:04:54.9±2.8, 42°.67N±0°.07×14°.0W±0°.1, h10km, n46, σ2º15/86, 19C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.72**	**84**	P	**Pn**	**08 05 53.7**	**+1.4**
EMAZ				⇑*i*Vmb_V		08 05 54.9	
	179nm,SNR=2.4						
EMAZ				S	**Sn**	**08 06 34.8**	**-1.4**
EZAM	**Zamans**	**3.97**	**96**	P	**Pn**	**08 05 58.5**	**+2.6**
EZAM				⇑*i*Vmb_V		08 06 04.2	
	215nm,SNR=1.8						
EZAM				S	**Sn**	**08 06 42.5**	**0.0**
PGAV	**Gavieira, Arco**	**4.32**	**97**	⇓*e*P	**Pn**	**08 06 03.6**	**+2.9**
PGAV				*e*S	**Sn**	**08 06 51.3**	**+0.2**
PGAV				A	A	08 06 53.0	
	12nm,0.2s						
EAGO	**Agolada(Pontev**	**4.37**	**86**	P	**Pn**	**08 06 02.7**	**+1.4**
EAGO				⇑*i*Vmb_V		08 06 03.7	
	167nm,SNR=3.1						
EAGO				S	**Sn**	**08 06 50.7**	**-1.5**
ELOB	**Lobios**	**4.49**	**98**	P	**Pn**	**08 06 05.7**	**+2.6**
ELOB				⇑*i*Vmb_V		08 06 10.3	
	146nm,SNR=1.7						
ELOB				S	**Sn**	**08 06 55.2**	**-0.2**
PCAB	**Cabril**	**4.55**	**100**	*e*P	**Pn**	**08 06 06.6**	**+2.8**
PCAB				*e*S	**Sn**	**08 06 57.2**	**+0.4**
PCAB				A	A	08 07 01.6	
	12nm,0.4s						
POLO	**Lamas de Olo**	**4.81**	**104**	⇑*e*P	**Pn**	**08 06 09.8**	**+2.3**
POLO				*e*S	**Sn**	**08 07 03.3**	**0.0**
POLO				A	A	08 07 07.7	
	3.1nm,0.1s						
PVRL	**Vila Real**	**4.90**	**104**	*e*P	**Pn**	**08 06 10.8**	**+2.2**
PVRL				*e*S	**Sn**	**08 07 05.0**	**-0.4**
PVRL				A	A	08 07 09.6	
	14nm,0.1s						
PCAS	**Casmilo, Conde**	**4.91**	**120**	*e*P	**Pn**	**08 06 10.9**	**+2.2**
PCAS				*e*S	**Sn**	**08 07 05.4**	**-0.1**
PCAS				A	A	08 07 09.3	
	9.3nm,0.2s						
PVIS	**Viseu**	**4.98**	**111**	*e*P	**Pn**	**08 06 11.5**	**+1.7**
PVIS				*e*S	**Sn**	**08 07 06.6**	**-0.8**
PVIS				A	A	08 07 10.1	
	13nm,0.1s						
PSBE	**So Bento**	**5.05**	**127**	⇓*e*P	**Pn**	**08 06 13.0**	**+2.3**
PSBE				*e*S	**Sn**	**08 07 08.3**	**-0.8**
PSBE				A	A	08 07 12.2	
	5.4nm,0.3s						
EPON	**Pontenova**	**5.08**	**80**	P	**Pn**	**08 06 12.1**	**+1.1**
EPON				⇑*i*Vmb_V		08 06 13.1	
	194nm,SNR=2.6						
EPON				S	**Sn**	**08 07 06.8**	**-2.9**
PMAFR	**Mafra**	**5.16**	**134**	*e*P	**Pn**	**08 06 14.6**	**+2.4**
PMAFR				*e*S	**Sn**	**08 07 11.6**	**-0.3**
PMAFR				A	A	08 07 15.3	
	28nm,0.5s						
MTE	**Manteigas**	**5.36**	**113**	⇑*e*P	**Pn**	**08 06 16.6**	**+1.6**
MTE				*e*S	**Sn**	**08 07 15.9**	**-0.9**
MTE				A	A	08 07 19.3	
	8.0nm,0.2s						
ECAL	**Calabor**	**5.44**	**95**	P	**Pn**	**08 06 18.8**	**+2.6**
ECAL				⇑*i*Vmb_V		08 06 19.6	
	71nm,SNR=1.2						
ECAL				S	**Sn**	**08 07 18.2**	**-0.7**
PBRG	**Braganca**	**5.47**	**97**	*e*S	**Sn**	**08 07 18.5**	**-0.9**
PBRG				A	A	08 07 21.4	
	3.9nm,0.2s						
PACT	**Alcochete**	**5.54**	**133**	*e*P	**Pn**	**08 06 19.8**	**+2.4**
PACT				*e*S	**Sn**	**08 07 20.6**	**-0.5**
PMTG	**Montargil**	**5.67**	**127**	*e*P	**Pn**	**08 06 21.0**	**+1.8**
PMTG				*e*S	**Sn**	**08 07 23.0**	**-1.4**
PMTG				A	A	08 07 27.1	
	6.3nm,0.5s						
PCBR	**Castelo Branco**	**5.68**	**118**	*e*P	**Pn**	**08 06 20.7**	**+1.4**
PCBR				*e*S	**Sn**	**08 07 23.1**	**-1.5**
PCBR				A	A	08 07 28.2	
	4.7nm,0.3s						
PMRV	**Marv??o**	**5.96**	**121**	*e*P	**Pn**	**08 06 25.1**	**+1.9**
PMRV				*e*S	**Sn**	**08 07 29.7**	**-1.9**
PMRV				A	A	08 07 34.9	
	8.0nm,0.4s						
EVO	**Evora**	**6.16**	**130**	*e*P	**Pn**	**08 06 28.2**	**+2.3**
EVO				*e*S	**Sn**	**08 07 34.1**	**-2.3**
EVO				A	A	08 07 44.0	
	5.1nm,0.3s						
PNCL	**Nicolau / Gran**	**6.19**	**136**	*e*P	**Pn**	**08 06 28.4**	**+2.1**
PNCL				*e*S	**Sn**	**08 07 35.5**	**-1.5**
PNCL				A	A	08 07 41.3	
	2.9nm,0.3s						
EARI	**Arriondas**	**6.49**	**81**	P	**Pn**	**08 06 32.2**	**+1.7**
EARI				⇑*i*Vmb_V		08 06 33.9	

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     107nm,SNR=1.2
EARI                          S      Sn     08 07 42.2  -2.3
EPLA Plasencia          6.51 111  P      Pn     08 06 32.7 +1.9
EPLA                        ⇑iVmb_V            08 06 34.3
     86nm,SNR=2.1
EPLA                          S      Sn     08 07 42.2  -2.9
PTEO Sao Teotonio       6.53 140  eP     Pn     08 06 33.0 +2.0
PTEO                          eS     Sn     08 07 42.7  -2.8
PTEO                          A      A      08 07 50.8
     5.8nm,0.8s
MESJ Messejana          6.55 136  eP     Pn     08 06 33.7 +2.4
MESJ                          eS     Sn     08 07 43.8  -2.2
MESJ                          A      A      08 07 47.9
     4.7nm,0.2s
MESJ Messejana          6.55 136  eP     Pn     08 06 33.4 +2.1
MESJ                          eS     Sn     08 07 43.3  -2.8
MESJ                          IAML           08 07 46.7
     comp=N,2.6nm,0.1s
EBAD Badajoz            6.60 124  P      Pn     08 06 33.5 +1.5
EBAD                        ⇑iVmb_V            08 06 35.7
     comp=N,117nm,SNR=2.7
EBAD                          S      Sn     08 07 45.3  -1.9
PBEJ Beja               6.60 133  eP     Pn     08 06 34.6 +2.6
PBEJ                          eS     Sn     08 07 45.8  -1.5
MORF Marmelete          6.76 141  eP     Pn     08 06 35.6 +1.4
MORF                          eS     Sn     08 07 48.9  -2.3
MORF                          A      A      08 07 54.3
     comp=N,8.6nm,0.1s
MORF Marmelete          6.76 141  eP     Pn     08 06 35.5 +1.4
MORF                          eS     Sn     08 07 48.0  -3.2
MORF                          IAML           08 07 52.9
     comp=N,13nm,0.2s
PCVE Castro Verde       6.80 136  eP     Pn     08 06 37.1 +2.4
PCVE                          eS     Sn     08 07 49.7  -2.5
PFVI Vila Bisbo         6.82 143  eP     Pn     08 06 36.3 +1.3
PFVI                          eS     Sn     08 07 50.0  -2.6
PBAR Barrancos          6.96 128  eP     Pn     08 06 39.0 +2.1
PBAR                          eS     Sn     08 07 53.6  -2.6
PBAR                          A      A      08 08 00.6
     comp=N,2.5nm,0.1s
PVAQ Vaqueiros          7.14 135  eP     Pn     08 06 41.2 +1.8
PVAQ                          eS     Sn     08 07 57.8  -2.8
PVAQ                          A      A      08 08 02.5
     comp=N,3.8nm,0.7s
PBDV Barranco-do-Ve     7.16 137  eP     Pn     08 06 42.4 +2.8
PBDV                          eS     Sn     08 07 57.9  -3.1
ELAN Lanestosa          7.78  82  P      Pn     08 06 50.0 +1.8
ELAN                        ⇑iVmb_V            08 06 52.1
     comp=N,86nm,SNR=1.5
ELAN                          S      Sn     08 08 14.1  -2.2
PAB  San Pablo          7.94 110  P      Pn     08 06 52.8 +2.4
PAB                         ⇑iVmb_V            08 06 55.8
     comp=N,43nm,SNR=1.4
PAB                           S      Sn     08 08 16.8  -3.5
ECAB El Cabril          8.01 122  P      Pn     08 06 53.0 +1.7
ECAB                        ⇑iVmb_V            08 06 53.5
     comp=N,87nm,SNR=2.5
ECAB                          S      Sn     08 08 17.3  -4.6
ESDC Sonseca Array      8.15 108  P      Pn     08 06 55.5 +2.2
ESDC                        ⇑iVmb_V            08 06 56.1
     comp=N,55nm,SNR=1.6
ESDC                          S      Sn     08 08 21.5  -4.0
EADA Adamuz             8.49 119  P      Pn     08 06 59.6 +1.7
EADA                        ⇑iVmb_V            08 07 00.3
     comp=N,182nm,SNR=4.8
EADA                          S      Sn     08 08 31.8  -2.0
ESPR Espera             8.54 130 ⇑iVmb_V          08 07 00.8
     comp=N,80nm,SNR=1.7
ESPR                          S      Sn     08 08 35.6 +0.6
PSIM Granatula de C     8.68 113  S      Sn     08 08 35.7  -2.9
EORO Oroz-Betelu        9.35  84 ⇑iVmb_V          08 07 13.9
     comp=N,68nm,SNR=1.1
EORO                          S      Sn     08 08 55.5 +0.7
EGOR Sierra Gorda,      9.42 123 ⇑iVmb_V          08 07 20.8
     comp=N,56nm,SNR=0.9
EGOR                          S      Sn     08 08 59.3 +2.5
CCA1 Carnmenellis       9.65  36  P      Pn     08 07 10.0  -3.8
CCA1                          S      Sn     08 08 49.3  -13
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NEIC ***01*** *08:12:15.9, 41°.40N×100°.13W, h10km*
ANF ***01*** *08:12:16.9±0.2, 41°.35N×100°.10W, h10km, ML4.9/13, Error ellipse: s-maj=3.2km s-min=3.0km az=177.0*
IDC ***01*** *08:12:16.8±0.7, 41°.38N×100°.32W, h0km, mb3.9/3, mbtmp3.8/10, ML3.7/7, MS3.1/6, Error ellipse: s-maj=10.0km s-min=8.8km az=139.0*
NEIC ***01*** *08:12:17.6±2.1, 41°.36N±0°.03×100°.11W±0°.03, h5km±1km, mb3.7/14, mb_Lg4.0/142, Mwr3.7/27, Error ellipse: s-maj=5.2km s-min=3.6km az=138.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.58; $M_{\theta\theta}$1.06; $M_{\phi\phi}$0.52; $M_{r\theta}$1.09; $M_{\theta\phi}$-4.61; $M_{\phi r}$1.35; Fault plane solution: $M_0$5.12000×10^{14} NP1:φ_s271.94000°, δ69.40000°, λ-159.83000°. NP2:φ_s174.58000°, δ71.17000°, λ-21.82000°. Principal axes: T 5.4144, Plg1.0000°, Azm224.0000°; N -0.6431, Plg61.0000°, Azm316.0000°; P -4.7713, Plg28.0000°, Azm133.0000°;*

ISC 01 08:12:18.7±1.1, 41°.40N±0°.03×100°.03W±0°.03, h30km±10km, n204, σ1$28/205, mb3.9/3, Nebraska

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Code Station Name        Δ°   AZ°  Phase ID          Time      Res
                                  Op    ISC         h m s     ISC
K30B Basset              1.31  13        Pg    Pb  08 12 42.1  -0.8
K30B                                      Sb    Sb  08 12 59.9 +0.6
BGNE Belgrade            1.41  89        Pg    Pb  08 12 43.6  -0.8
BGNE                                      Sb    Sb  08 13 03.3 +1.3
BGNE Belgrade            1.41  89   P    Pb        08 12 43.8  -0.6
     baz=269,SNR=77
BGNE                                      S     Sb  08 13 03.3 +1.3
     baz=269
OGNE Ogallala            1.58 254        Pn    Pn  08 12 43.8  -0.9
OGNE                                      Sn    Sn  08 13 03.9  -0.3
OGNE Ogallala            1.58 254   P    Pn        08 12 44.0  -0.7
     baz=73,SNR=276
OGNE                                      S     Sn  08 13 04.1  -0.1
     baz=73
CBKS Cedar Bluff         2.59 175        Pn    Pn  08 12 59.8 +1.2
CBKS                                      IAmb_Lg   08 13 43.1
     comp=Z,656nm,0.8s
CBKS Cedar Bluff         2.59 175   P    Pn        08 12 59.8 +1.2
     baz=354,SNR=65
CBKS                                      Sb    Sb  08 13 35.8  0.0
     baz=354
L34A Svendsen Farm,      2.79  77        Pn    Pn  08 13 03.5 +2.1
KSCO Kaye Shedlock'      3.10 221   Pn   Pn        08 13 05.8 +0.1
KSCO Kaye Shedlock'      3.10 221   P    Pn        08 13 06.1 +0.3
     baz=38,SNR=46
KSCO                                      S     Sn  08 13 42.4 +0.5
     baz=38
R32A Long Quarter,       3.14 161        Pn    Pn  08 13 07.5 +1.4
R32A                                      IAmb_Lg   08 14 04.0
     comp=Z,455nm,0.8s
SUSD Miller              3.15  14        Pn    Pn  08 13 08.4 +2.2
SUSD                                      IAmb_Lg   08 14 06.4
     comp=Z,304nm,0.8s
SUSD Miller              3.15  14   P    Pn        08 13 08.9 +2.7
     baz=196
SUSD                                      S     Sn  08 13 46.9 +4.2
     baz=196
N35A Tabor               3.35  98        Pn    Pn  08 13 11.6 +2.5
ECSD EROS Data Cent      3.44  46   Pn   Pn        08 13 12.7 +2.5
ECSD EROS Data Cent      3.44  46   P    Pn        08 13 12.9 +2.7
     baz=228
ECSD                                      S     Sn  08 13 53.9 +4.0
     baz=228
KSU1 Kansas State U      3.48 130   Pn   Pn        08 13 12.6 +1.9
KSU1                                      IAmb_Lg   08 14 08.9
     comp=Z,542nm,1.0s
KSU1 Kansas State U      3.48 130   P    Pn        08 13 12.8 +2.0
     baz=311,SNR=38
KSU1                                      Sb    Sb  08 14 04.3 +2.9
     baz=311
RSSD Black Hills         4.02 314   Pn   Pn        08 13 19.9 +1.5
RSSD                                      IAmb_Lg   08 14 32.3
     comp=Z,300nm,1.1s
RSSD Black Hills         4.02 314   P    Pn        08 13 19.7 +1.3
     baz=132
RSSD                                      Sb    Sb  08 14 18.9 +1.8
     baz=132
PHWY Pilot Hill          4.09 270        Pn    Pn  08 13 19.5 +0.1
PHWY                                      IAmb_Lg   08 14 25.1
     comp=Z,302nm,0.8s
KAN12 Harper NE Stat     4.38 158        Pn    Pn  08 13 25.0 +1.8
KAN12                                     IAmb_Lg   08 14 45.5
     comp=Z,316nm,0.8s
KAN08 Anthony NE Sta     4.46 158        Pn    Pn  08 13 25.9 +1.6
N23A  Red Feather La     4.50 266        Pn    Pn  08 13 25.5 +0.5
N23A  Red Feather La     4.50 266   P    Pn    Pn  08 13 25.0  0.0
     baz=82,SNR=19
N23A                                      Sb    Sb  08 14 31.0 +0.1
     baz=82
KAN01 Argonia South      4.59 157   Pn   Pn        08 13 27.2 +1.1
Q24A  Divide             4.62 240        Pn    Pn  08 13 26.2  -0.4
Q24A                                      IAmb_Lg   08 14 47.5
     comp=Z,237nm,0.9s
Q24A  Divide             4.62 240   P    Pn        08 13 25.8  -0.9
     baz=56,SNR=11
Q24A                                      S     Sn  08 14 18.9  -0.4
     baz=56
KAN09 Caldwell North     4.64 156        Pn    Pn  08 13 28.1 +1.2
KAN14 Manchester OK      4.71 159        Pn    Pn  08 13 29.0 +1.2
KAN14                                     IAmb_Lg   08 14 46.7
     comp=Z,367nm,0.8s
OK035 E0210 Rd and N     4.79 167        IAmb_Lg   08 14 50.3
     comp=Z,326nm,0.7s
OK032 Salt Plains WL     4.80 162        Pn    Pn  08 13 30.1 +1.2
OK032                                     IAmb_Lg   08 14 52.2
     comp=Z,259nm,0.8s
KAN13 South Haven SW     4.80 155   Pn   Pn        08 13 31.6 +2.6
KAN13                                     IAmb_Lg   08 14 54.2
     comp=Z,385nm,0.8s
NOKA Waynoka             4.83 169   Pn   Pn        08 13 30.6 +1.2
NOKA                                      IAmb_Lg   08 14 50.1
     comp=Z,323nm,0.9s
GC02 Grant County #      4.84 159   Pn   Pn        08 13 30.5 +1.0
K22A Casper              5.00 287        Pn    Pn  08 13 31.7  -0.1
K22A Casper              5.00 287   P    Pn        08 13 31.5  -0.3
     baz=103,SNR=21
K22A                                      Sb    Sb  08 14 46.7 +1.4
     baz=103
OK038 West end E0370     5.01 168        Pn    Pn  08 13 32.7 +0.8
U32A Winter Ranch,       5.07 171   Pn   Pn        08 13 33.9 +1.2
U32A                                      IAmb_Lg   08 15 08.5
     comp=Z,285nm,1.0s
BLOK Blackwell           5.12 154   Pn   Pn        08 13 34.6 +1.3
SCIA State Center        5.13  82        Pn    Pn  08 13 35.6 +2.2
SCIA                                      IAmb_Lg   08 15 09.3
     comp=Z,311nm,0.8s
SCIA State Center        5.13  82   P    Pn        08 13 35.4 +2.0
     baz=266
SCIA                                      S     Sn  08 14 35.2 +3.6
     baz=266
CROK Carrier             5.14 161   Pn   Pn        08 13 34.6 +1.0
N38A Joes South For      5.17  94        Pn    Pn  08 13 34.9 +1.0
N38A                                      IAmb_Lg   08 15 01.3
     comp=Z,284nm,0.8s
E28A Huff                5.20 355        Pn    Pn  08 13 35.2 +0.8
F33A 5 Mile Ranch,       5.20  30        Pn    Pn  08 13 36.1 +1.7
F33A                                      IAmb_Lg   08 15 00.7
     comp=Z,185nm,0.7s
T35A Sooner Cattle       5.24 147        Pn    Pn  08 13 35.5 +0.6
P38A Dawn                5.26 108   Pn   Pn        08 13 37.4 +2.2
P38A                                      IAmb_Lg   08 15 17.4
     comp=Z,189nm,0.8s
RTBA Rita Blanca         5.38 204   Pn   Pn        08 13 37.5 +0.5
RTBA                                      IAmb_Lg   08 15 14.4
     comp=Z,231nm,0.8s
RWWY Rawlins             5.40 275   Pn   Pn        08 13 37.4  0.0
RWWY                                      IAmb_Lg   08 15 05.0
     comp=Z,166nm,0.8s
T25A Trinidad            5.44 220        Pn    Pn  08 13 37.3  -0.7
T25A Trinidad            5.44 220   P    Pn        08 13 37.6  -0.4
     baz=37,SNR=16
T25A                                      Sb    Sb  08 15 00.3 +2.2
     baz=37
OK051 E0350 and S346     5.48 152   Pn   Pn        08 13 39.6 +1.3
OK051                                     IAmb_Lg   08 15 19.0
     comp=Z,198nm,1.0s
OK048 Pawnee Station     5.52 153   Pn   Pn        08 13 39.8 +1.0
SDCO Great Sand Dun      5.58 231        Pn    Pn  08 13 39.6  -0.4
SDCO Great Sand Dun      5.58 231   P    Pn        08 13 39.8  -0.2
     baz=47,SNR=25
SDCO                                      Sb    Sb  08 15 04.5 +2.4
     baz=47
SMCO Snowmass            5.76 250   Pn   Pn        08 13 42.3  -0.1
QUOK Quay                5.82 153   Pn   Pn        08 13 43.8 +0.8
OK029 Liberty Lake       5.94 159        IAmb_Lg   08 15 36.2
     comp=Z,226nm,1.1s
OK031 S. Brethren Rd     5.98 154        IAmb_Lg   08 15 37.8
     comp=Z,149nm,0.9s
SMWD Samnorwood          6.28 182        Pn    Pn  08 13 49.7 +0.3
O20A White River Ci      6.36 261        IAmb_Lg   08 15 48.6
     comp=Z,204nm,1.1s
O20A White River Ci      6.36 261   P    Pn        08 13 50.5  -0.1
     baz=76,SNR=7.9
S39A Bolivar             6.37 123        Pn    Pn  08 13 51.1 +0.7
S39A                                      IAmb_Lg   08 15 40.8
     comp=Z,137nm,0.8s
S22A 4UR Ranch, Cre      6.39 237   P    Pn        08 13 50.5  -0.7
     baz=53,SNR=12
TUL3 Leonard             6.40 147        Pn    Pn  08 13 50.9  0.0
TUL3                                      IAmb_Lg   08 15 52.0
     comp=Z,233nm,0.7s
TUL3 Leonard             6.40 147   P    Pn        08 13 51.1 +0.2
     baz=330,SNR=43
TUL3                                      S     Sn  08 15 02.8  -0.1
     baz=330
MDND Maddock             6.46   3   P    Pn        08 13 52.5 +0.8
     baz=183
MDND                                      S     Sn  08 15 04.7 +0.3
     baz=183
FNO  Franklin            6.47 161        Pn    Pn  08 13 51.6  -0.2
SPMN Marine on St.       6.51  52        Pn    Pn  08 13 53.9 +1.5
SPMN Marine on St.       6.51  52   P    Pn        08 13 54.7 +2.3
     baz=236
SPMN                                      S     Sn  08 15 07.8 +2.2
     baz=236
RLO  Rose Lookout        6.52 142   Pn   Pn        08 13 53.8 +1.2
RLO                                       IAmb_Lg   08 15 55.2
     comp=Z,127nm,0.7s
U38A Gravette            6.62 137        Pn    Pn  08 13 54.7 +0.7
U38A                                      IAmb_Lg   08 15 51.2
     comp=Z,143nm,0.9s
L40A Anamosa             6.62  81        IAmb_Lg   08 15 56.2
     comp=Z,200nm,1.0s
AMTX Amarillo            6.63 192   P    Pn        08 13 54.4 +0.3
     baz=10
W35A Tecumseh            6.71 157        IAmb_Lg   08 15 58.1
     comp=Z,156nm,0.8s
WMOK Wichita Mounta      6.72 171        IAmb_Lg   08 16 03.6
     comp=Z,156nm,0.8s
WMOK Wichita Mounta      6.72 171   P    Pn        08 13 55.0  -0.4
     baz=351,SNR=14
WMOK                                      S     Sn  08 15 11.3 +0.5
     baz=351
R40A Maddies Statio      6.73 115        IAmb_Lg   08 16 01.4
     comp=Z,224nm,0.8s
LAO  LASA Array          6.92 322        IAmb_Lg   08 16 00.4
     comp=Z,168nm,1.1s
N41A Harden Midland      6.97  93        IAmb_Lg   08 16 14.4
     comp=Z,203nm,0.8s
HHAR Hobbs               6.97 135        IAmb_Lg   08 15 58.9
     comp=Z,204nm,1.1s
X34A Smith Ranch, M      7.00 165        Pn    Pn  08 13 59.4 +0.2
BW06 Boulder Array       7.22 284   P    Pn        08 14 01.6  -0.8
     baz=98,SNR=9.8
PD31 Pinedale Array      7.22 284        Pn    Pn  08 14 01.8  -0.7
PDAR Pinedale Array      7.22 284   Pn   Pn        08 14 02.2  -0.2
     comp=Z,1.2nm,0.3s,baz=101,slow=15,SNR=34
PDAR                                      Lg    Lg  08 15 54.5
     comp=Z,6.3nm,0.3s,baz=103,slow=32,SNR=10
PDAR                                      LR    LR  08 16 48.7
     comp=Z,64nm,18.1s,baz=129,slow=39
     comp=Z,3.5nm,0.5s
RDMU Red Mountain        7.27 267        IAmb_Lg   08 16 07.4
     comp=Z,119nm,1.0s
MGMO Mountain Grove      7.36 123        IAmb_Lg   08 16 10.7
     comp=Z,170nm,0.9s
JFWS Jewell Farm         7.42  75        Pn    Pn  08 14 05.3 +0.3
JFWS Jewell Farm         7.42  75   P    Pn        08 14 05.4 +0.4
     baz=261
JFWS                                      S     Sn  08 15 28.3 +0.2
     baz=261
AGMN Agassiz Nation      7.51  22   P    Pn        08 14 06.4 +0.3
     baz=205,SNR=6.9
AGMN                                      S     Sn  08 15 28.8  -1.3
     baz=205
CCM  Cathedral Cave      7.54 113        Pn    Pn  08 14 07.4 +0.8
CCM                                       IAmb_Lg   08 16 26.9
     comp=Z,153nm,0.7s
CCM  Cathedral Cave      7.54 113   P    Pn        08 14 07.1 +0.5
     baz=299
CCM                                       S     Sn  08 15 30.2  -0.8
     baz=299
MSTX Muleshoe            7.73 197        IAmb_Lg   08 16 38.6
     comp=Z,195nm,0.9s
MSTX Muleshoe            7.73 197   P    Pn        08 14 08.3  -0.9
     baz=15,SNR=9.7
DKNS Dickens             7.75 186        Pn    Pn  08 14 10.2 +0.8
L42A Oliver, Polo        7.78  82        Pn    Pn  08 14 10.4 +0.6
MVCO Mesa Verde          7.78 240   P    Pn        08 14 10.1  0.0
     baz=55
SLM  Saint Louis         8.00 107        IAmb_Lg   08 16 38.0
     comp=Z,143nm,0.8s
E38A The Farm, Brul      8.02  47        IAmb_Lg   08 16 32.0
     comp=Z,129nm,1.0s
APMT Aspermont           8.06 181        IAmb_Lg   08 16 52.6
     comp=Z,99nm,0.8s
FVM  French Village      8.15 112        IAmb_Lg   08 16 38.1
     comp=Z,152nm,1.0s
HDIL Hopedale            8.16  92   P    Pn        08 14 15.9 +0.8
     baz=279,SNR=6.0
HDIL                                      S     Sn  08 15 46.0  -0.3
     baz=279
T42A Van Buren           8.19 119        Pn    Pn  08 14 15.9 +0.5
T42A                                      IAmb_Lg   08 16 45.4
     comp=Z,130nm,0.8s
ANMO Albuquerque         8.19 220   P    Pn        08 14 15.5  -0.2
     baz=36
ANMO Albuquerque         8.19 220   Pn   Pn        08 14 16.4 +0.8
     comp=Z,0.2nm,0.3s,baz=138,slow=14,SNR=7.5
ANMO                                      Lg    Lg  08 16 28.4
     comp=Z,2.1nm,0.3s,baz=199,slow=21,SNR=6.0
ANMO                                      LR    LR  08 17 41.1
     comp=Z,85nm,21.1s,baz=138,slow=40
     comp=Z,0.9nm,0.5s
FCAR Ozark Folk Cen      8.27 129        IAmb_Lg   08 16 44.2
     comp=Z,140nm,0.9s
SN07 Snyder 07           8.32 185        IAmb_Lg   08 16 49.1
     comp=Z,158nm,0.8s
POST Post                8.40 189        Pn    Pn  08 14 18.0  -0.4
POST                                      IAmb_Lg   08 16 57.6
     comp=Z,181nm,0.8s
MIAR Mount Ida           8.52 141        Pn    Pn  08 14 21.1 +1.1
MIAR                                      IAmb_Lg   08 17 05.4
     comp=Z,100nm,0.8s
MIAR Mount Ida           8.52 141   P    Pn        08 14 20.8 +0.7
     baz=325,SNR=23
MIAR                                      S     Sn  08 15 52.4  -2.7
     baz=325
WHAR Wooly Hollow        8.61 133        Pn    Pn  08 14 21.4 +0.3
WHAR                                      IAmb_Lg   08 17 04.4
     comp=Z,118nm,0.7s
FW06 Azle                8.63 166        IAmb_Lg   08 17 10.7
     comp=Z,163nm,1.2s
ABTX Abilene, Hawle      8.76 178        Pn    Pn  08 14 22.6  -0.7
ABTX                                      IAmb_Lg   08 17 08.5
     comp=Z,108nm,0.8s
ABTX Abilene, Hawle      8.76 178   P    Pn        08 14 23.2  -0.1
     baz=358
ABTX                                      S     Sn  08 15 58.8  -2.2
     baz=358
PBMO Poplar Bluff        8.77 119        IAmb_Lg   08 16 59.0
     comp=Z,150nm,0.8s
Q44A Meyer Farm, Va      8.79 103        Pn    Pn  08 14 25.6 +1.9
EYMN Ely                 8.93  40        IAmb_Lg   08 17 08.2
     comp=Z,134nm,1.0s
EYMN Ely                 8.93  40   P    Pn        08 14 26.4 +0.8
     baz=226
EYMN                                      S     Sn  08 16 05.4 +0.3
     baz=226
UALR University of       8.96 135        Pn    Pn  08 14 26.8 +0.8
UALR                                      IAmb_Lg   08 17 10.3
     comp=Z,95nm,0.8s
Y22D IRIS PASSCAL I      9.12 219        IAmb_Lg   08 17 30.1
     comp=Z,115nm,1.1s
TREL Terrell             9.20 159        IAmb_Lg   08 17 16.6
     comp=Z,138nm,0.9s
FW14 Alvarado            9.26 165        IAmb_Lg   08 17 35.3
     comp=Z,81nm,0.8s
ULM  Lac du Bonnet       9.31  17        Pn    Pn  08 14 30.6  -0.3
ULM                                       IAmb_Lg   08 17 10.8
     comp=Z,100nm,0.9s
ULM  Lac du Bonnet       9.31  17   Pn   Pn        08 14 31.1 +0.2
     comp=Z,2.4nm,0.3s,baz=200,slow=10,SNR=27
ULM                                       Sn    Sn  08 16 11.6  -2.9
     comp=Z,4.4nm,0.3s,baz=128,slow=22,SNR=4.2
ULM                                       Lg    Lg  08 17 03.4
     comp=Z,4.1nm,0.3s,baz=276,slow=19,SNR=6.6
ULM                                       LR    LR  08 18 16.5
     comp=Z,71nm,21.9s,baz=165,slow=38
     comp=Z,9.0nm,0.4s
BOZ  Bozeman (W)         9.42 300   P    Pn        08 14 31.9  -0.5
     baz=113
WLAR White Oak Lake      9.45 142        IAmb_Lg   08 17 40.8
     comp=Z,140nm,1.0s
H43A Windswept, Lux      9.50  67   Pn   Pn        08 14 33.5 +0.1
EGMT Eagleton            9.58 317   P    Pn        08 14 33.6  -0.9
     baz=131,SNR=9.7
WHTX Lake Whitney,       9.61 167        Pn    Pn  08 14 34.9  -0.1
WHTX                                      IAmb_Lg   08 17 48.8
     comp=Z,75nm,0.9s
WHTX Lake Whitney,       9.61 167   P    Pn        08 14 34.9  -0.1
     baz=348
DUG  Dugway, Tooele      9.77 267        Pn    Pn  08 14 36.6  -0.7
     baz=79
CCAR Cane Creek          9.92 136        Pn    Pn  08 14 39.3 +0.1
CCAR                                      IAmb_Lg   08 17 51.0
     comp=Z,104nm,0.8s
237A Washetta, Mont      9.97 159        IAmb_Lg   08 17 50.4
     comp=Z,115nm,1.1s
BRDY Brady              10.12 175   Pn   Pn        08 14 41.2  -0.8
435B Jarrell            10.77 169   P    Pn        08 14 51.0 +0.1
     baz=350
OXF  Oxford             10.83 126   P    Pn        08 14 52.0 +0.3
     baz=312,SNR=7.6
WVT  Waverly            10.87 115   Pn   Pn        08 14 52.9 +0.7
WVT  Waverly            10.87 115   P    Pn        08 14 53.6 +1.4
     baz=302
JCT  Junction City      10.89 179   P    Pn        08 14 51.4  -1.2
     baz=359,SNR=9.7
BPMT Black Pine Rid     10.91 302        Pn    Pn  08 14 52.4  -0.6
WCI  Wyandotte Cave     11.03 102   Pn   Pn        08 14 54.5 +0.2
WCI  Wyandotte Cave     11.03 102   P    Pn        08 14 54.8 +0.5
     baz=291
143A Socs Landing,      11.07 139        Pn    Pn  08 14 54.4  -0.6
P48A Milroy             11.30  95   Pn   Pn        08 14 56.9  -1.1
O48B Farmland           11.33  91   Pn   Pn        08 14 59.6 +1.2
PLAL Pickwick Lake      11.37 120   Pn   Pn        08 14 58.2  -0.8
MSO  Missoula           11.38 303   Pn   Pn        08 14 58.3  -0.9
MSO  Missoula           11.38 303   P    Pn        08 14 58.0  -1.2
     baz=114
ALPN Alpine             11.38 196   Pn   Pn        08 14 58.5  -0.8
SAND Sanderson          11.54 189        Pn    Pn  08 14 60.0  -1.5
V48A Smith Brothers     11.77 114        Pn    Pn  08 15 05.5 +0.9
P49A Miami Univ. Ec     11.81  94   P    Pn        08 15 05.0  0.0
     baz=284
R49A Shelbyville        11.83 100        Pn    Pn  08 15 05.6 +0.3
HNDO Hondo              11.86 177        Pn    Pn  08 15 04.2  -1.6
CLTN Cedars of Leba     11.93 112        Pn    Pn  08 15 08.0 +1.4
DRIO Del Rio            11.96 182   Pn   Pn        08 15 06.0  -1.1
N49A Columbus Grove     11.96  87        Pn    Pn  08 15 06.5  -0.5
O49A Covington          11.96  91        Pn    Pn  08 15 07.3 +0.3
X48A Hartselle          12.37 120   Pn   Pn        08 15 13.8 +1.1
TX31 Lajitas Ar. Si     12.39 195        Pn    Pn  08 15 11.7  -1.5
TXAR Lajitas Array      12.39 195   Pn   Pn        08 15 11.7  -1.5
     comp=Z,0.2nm,0.3s,baz=18,slow=12,SNR=13
TXAR                                      Lg    Lg  08 18 39.9
     comp=Z,0.7nm,0.3s,baz=16,slow=26,SNR=2.4
     comp=Z,0.4nm,0.5s
R50A Paris              12.46  99        Pn    Pn  08 15 13.7  -0.2
T50A Nancy              12.56 105        Pn    Pn  08 15 15.3  0.0
SWET Sewanee            12.67 115        Pn    Pn  08 15 17.2 +0.4
346A Big Creek Wild     13.11 136        Pn    Pn  08 15 22.9 +0.1
Y49A Blount Mountai     13.14 121   Pn   Pn        08 15 24.3 +1.0
SSFO Shawnee State      13.18  96   Pn   Pn        08 15 24.4 +0.7
S51A Beattyville        13.23 101        Pn    Pn  08 15 23.3  -1.1
FPAL Fort Paine         13.26 116        Pn    Pn  08 15 25.1 +0.1
LRAL Lakeview Retre     13.31 125        Pn    Pn  08 15 25.9 +0.4
LRAL Lakeview Retre     13.31 125   P    Pn        08 15 26.0 +0.4
     baz=312
CPCT Cooper Cave        13.52 111        Pn    Pn  08 15 29.5 +1.1
TZTN Tazewell           13.70 105        Pn    Pn  08 15 29.8  -1.0
TZTN Tazewell           13.70 105   P    Pn        08 15 30.7  -0.2
     baz=296
```

P52A	**Corning**	**13.73**	**91**			**Pn**		**08 15 30.6**	**-0.7**
P52A	**Corning**	**13.73**	**91**	P		**Pn**		**08 15 30.6**	**-0.7**
	baz=283								
Q52A	**Bidwell**	**13.80**	**94**			**Pn**		**08 15 31.9**	**-0.3**
NEW	**Newport**	**13.93**	**305**	Pn		**Pn**		**08 15 31.2**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=144,slow=16,SNR=2.3								
NEW				Lg		Lg		08 19 25.9	
	comp=Z,0.1nm,0.3s,baz=293,slow=16,SNR=1.6								
	comp=Z,0.9nm,0.8s								
TKL	**Tuckaleechee C**	**13.95**	**109**	Pn		**Pn**		**08 15 34.1**	**-0.1**
TKL	**Tuckaleechee C**	**13.95**	**109**	Pn		**Pn**		**08 15 35.1**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=295,slow=14,SNR=9.6								
TKL				Sn		**Sn**		**08 18 10.6**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=349,slow=23,SNR=2.0								
TKL				Lg		Lg		08 19 28.0	
	comp=Z,0.8nm,0.3s,baz=44,slow=13,SNR=3.6								
	comp=Z,1.8nm,0.5s								
P53A	**Whipple**	**14.32**	**92**	Pn		**Pn**		**08 15 38.0**	**-1.3**
250A	**Grady**	**14.48**	**126**			**Pn**		**08 15 40.9**	**-0.6**
V53A	**Saluda**	**14.63**	**107**			**Pn**		**08 15 42.8**	**-0.8**
S54A	**Dingess, Beckl**	**14.87**	**98**			**Pn**		**08 15 46.7**	**0.0**
U54A	**Nelsons Funny**	**14.97**	**103**			**Pn**		**08 15 48.8**	**+0.6**
GOGA	**Godfrey**	**15.37**	**116**	Pn		**Pn**		**08 15 54.1**	**+0.8**
GOGA				IAmb		IAmb		08 16 05.4	
	comp=Z,3.2nm,0.8s								
SADO	**Sadowa**	**15.62**	**71**	Pn		**Pn**		**08 15 57.5**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=286,slow=13,SNR=1.9								
SADO				Sn		**Sn**		**08 18 43.2**	**-5.4**
	comp=Z,0.6nm,0.3s,baz=316,slow=12,SNR=3.9								
SADO				Lg		Lg		08 20 22.7	
	comp=Z,0.4nm,0.3s,baz=11,slow=2.1,SNR=4.1								
SADO				LR		LR		08 21 58.0	
	comp=Z,46nm,18.1s,baz=144,slow=37								
	comp=Z,1.0nm,0.5s								
V55A	**Taylorsville**	**15.70**	**105**			**Pn**		**08 15 57.1**	**-0.6**
PAULI	**Pauline**	**15.75**	**109**			**Pn**		**08 15 57.6**	**-0.7**
T57A	**Hurt**	**16.68**	**98**			**Pn**		**08 16 10.9**	**+0.7**
T57A				IAmb		IAmb		08 16 34.9	
	comp=Z,5.4nm,0.8s								
SSPA	**Standing Stone**	**16.72**	**85**	Pn		**Pn**		**08 16 09.3**	**-1.3**
YBH	**Yreka Blue Hor**	**16.98**	**279**	P		**Pn**		**08 16 14.5**	**+0.6**
YBH				IAmb		IAmb		08 16 54.1	
	comp=Z,7.7nm,1.4s								
HUMO	**Hull Mountain**	**17.08**	**282**	P		**Pn**		**08 16 15.6**	**+0.4**
M57A	**Sunshine Farm,**	**17.18**	**83**	P		**Pn**		**08 16 16.0**	**-0.5**
MVL	**Millersville**	**18.00**	**87**	P		**Pn**		**08 16 26.6**	**+0.1**
MVL				IAmb		IAmb		08 16 46.2	
	comp=Z,7.8nm,1.4s								
L59A	**Walton**	**18.63**	**79**	P		**P**		**08 16 33.0**	**-0.8**
L59A				IAmb		IAmb		08 16 46.9	
	comp=Z,4.2nm,0.8s								
ODNJ	**Ogdensburg**	**19.11**	**82**	P		**P**		**08 16 39.5**	**+0.5**
ODNJ				IAmb		IAmb		08 16 49.9	
	comp=Z,7.9nm,1.3s								
NCB	**Newcomb**	**19.12**	**74**	P		**P**		**08 16 39.5**	**+0.4**
NCB				IAmb		IAmb		08 16 49.9	
	comp=Z,4.3nm,1.0s								
YKA	**Yellowknife Ar**	**22.85**	**342**	P		**P**		**08 17 19.4**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=150,slow=8.9,SNR=16								
	comp=Z,1.4nm,0.7s								
ILAR	**Eielson Array**	**35.35**	**327**	P		**P**		**08 19 11.9**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=105,slow=7.5,SNR=16								
	comp=Z,1.3nm,0.8s								
AKASG	**Malin Array Be**	**78.13**	**30**	LR		LR		08 58 10.8	
	comp=Z,30nm,19.7s,baz=34,slow=35								
BVAR	**Borovoye Array**	**85.59**	**6**	P		**P**		**08 24 56.0**	**+2.1**
	comp=Z,1.2nm,0.6s,baz=3.8,slow=4.5,SNR=5.9								
	comp=Z,1.2nm,0.6s								
EIL	**Elat**	**97.95**	**38**	LR		LR		09 12 31.3	
	comp=Z,18nm,18.1s,baz=247,slow=37								

ROM 01 08:14:34.3±0.2, 44°.207N±0°.007×10°.56E±0°.01, h18km±1km, ML0.6/9, 3D, Error ellipse: s-maj=0.7km s-min=0.6km az=60.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SARO	**Sassorosso**	**0.12**	**258**	P		Pg	08 14 38.5	+0.4
SARO				S		Sg	08 14 41.0	+0.2
SARO				AML		AML		
	comp=N,20μm,0.1s							
SARO				AML		AML		
	comp=E,24μm,0.1s							
VLC	**Villacollemand**	**0.13**	**249**	⇓P		Pg	08 14 38.7	+0.4
VLC				S		Sg	08 14 41.8	+0.8
VLC				AML		AML		
	comp=N,9μm,0.1s							
VLC				AML		AML		
	comp=N,95μm,0.9s							
VLC				AML		AML		
	comp=E,16μm,0.1s							
GSCL	**Gusciola**	**0.14**	**9**	P		Pg	08 14 38.5	0.0
BDI	**Bagni Di Lucca**	**0.15**	**169**	⇓P		Pg	08 14 38.7	+0.2
BDI				S		Sg	08 14 41.6	+0.3
CARD	**Cardoso**	**0.19**	**197**	P		Pb	08 14 39.2	+0.2
CARD				S		Sb	08 14 42.7	+0.4
CARD				AML		AML		
	comp=E,19μm,0.1s							
CARD				AML		AML		
	comp=N,21μm,0.1s							
POPM	**Popiglio**	**0.22**	**138**	⇓P		Pb	08 14 39.7	+0.1
POPM				S		Sb	08 14 43.9	+0.7
POPM				AML		AML		
	comp=E,27μm,0.2s							
POPM				AML		AML		
	comp=N,33μm,0.2s							
EQUI	**Equi**	**0.29**	**262**	P		Pg	08 14 40.5	-0.1

GEN ***01*** *08:15:10.3, 44°.21N×10°.58E, h18km±1km, Ml2.1*
ROM 01 08:15:11.1±0.1, 44°.194N±0°.004×10°.558E±0°.005, h11km, ML2.0/32, Error ellipse: s-maj=0.4km s-min=0.3km az=221.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SARO	**Sassorosso**	**0.11**	**265**	P		Pg	08 15 14.6	+0.6
SARO				S		Sg	08 15 17.2	+1.0
SARO	**Sassorosso**	**0.11**	**265**	P		Pg	08 15 14.6	+0.5
SARO				S		Sg	08 15 17.2	+1.1
VLC	**Villacollemand**	**0.13**	**254**	P		Pg	08 15 14.7	+0.5
VLC				S		Sg	08 15 17.8	+1.4
VLC	**Villacollemand**	**0.13**	**254**	P		Pg	08 15 14.8	+0.6
VLC				S		Sg	08 15 17.9	+1.4
BDI	**Bagni Di Lucca**	**0.13**	**168**	P		Pg	08 15 14.8	+0.5
BDI				S		Sg	08 15 17.9	+1.3
BDI	**Bagni Di Lucca**	**0.13**	**168**	P		Pg	08 15 13.8	-0.5
BDI				S		Sg	08 15 18.0	+1.3
GSCL	**Gusciola**	**0.16**	**8**	P		Pg	08 15 14.8	+0.1
GSCL				S		Sg	08 15 17.4	+0.2
GSCL				AML		AML		
	comp=E,2555μm,1.0s							
GSCL				AML		AML		
	comp=N,4660μm,0.3s							
GSCL				AML		AML		
	comp=N,4660μm,1.7s							
GSCL				AML		AML		
	comp=E,2555μm,1.0s							
GSCL	**Gusciola**	**0.16**	**8**	P		Pg	08 15 14.8	+0.1
GSCL				S		Sg	08 15 17.6	+0.4
CARD	**Cardoso**	**0.18**	**198**	P		Pg	08 15 15.3	+0.4
CARD				S		Sg	08 15 18.9	+1.3
CARD				AML		AML		
	comp=N,1445μm,0.3s							
CARD				AML		AML		
	comp=E,1375μm,0.4s							
CARD	**Cardoso**	**0.18**	**198**	P		Pg	08 15 14.9	0.0
CARD				S		Sg	08 15 19.0	+1.4
POPM	**Popiglio**	**0.21**	**136**	P		Pg	08 15 15.9	+0.4
POPM				S		Sg	08 15 19.7	+1.2
POPM	**Popiglio**	**0.21**	**136**	P		Pg	08 15 15.9	+0.5
POPM				S		Sg	08 15 19.7	+1.3
MAIM	**Mastiano**	**0.28**	**190**	P		Pg	08 15 17.2	+0.4
MAIM				S		Sb	08 15 22.4	-0.5
MAIM				AML		AML		
	comp=N,178μm,0.3s							
MAIM				AML		AML		
	comp=E,216μm,0.6s							
MAIM	**Mastiano**	**0.28**	**190**	P		Pg	08 15 17.1	+0.3
MAIM				S		Sb	08 15 22.0	-0.9
EQUI	**Equi**	**0.29**	**265**	P		Pg	08 15 17.1	+0.1
EQUI				S		Sg	08 15 21.5	+0.5
EQUI				AML		AML		
	comp=N,320μm,0.3s							
EQUI				AML		AML		
	comp=E,254μm,0.7s							
EQUI	**Equi**	**0.29**	**265**	P		Pg	08 15 17.1	+0.1
EQUI				S		Sg	08 15 21.7	+0.7
ZCCA	**Zocca**	**0.34**	**62**	P		Pb	08 15 19.0	-0.1
ZCCA				S		Sb	08 15 24.1	-0.5
ZCCA				AML		AML		
	comp=E,586μm,1.3s							
ZCCA				AML		AML		
	comp=N,468μm,0.4s							
ZCCA				AML		AML		
	comp=E,571μm,0.3s							
ZCCA				AML		AML		
	comp=N,468μm,0.4s							
ZCCA				AML		AML		
	comp=N,570μm,0.4s							
ZCCA	**Zocca**	**0.34**	**62**	P		Pg	08 15 17.7	-0.2
A306A	**Viano (RE)**	**0.34**	**5**	P		Pb	08 15 19.2	0.0
A306A				S		Sb	08 15 24.6	-0.2
MTCR	**Monte La Croce**	**0.36**	**118**	P		Pg	08 15 18.5	+0.2
MTCR				S		Sg	08 15 23.6	+0.6
MTCR				AML		AML		
	comp=E,498μm,1.2s							
MTCR				AML		AML		
	comp=N,407μm,1.3s							
MTCR				AML		AML		
	comp=E,497μm,1.2s							
MTCR				AML		AML		
	comp=N,407μm,0.5s							
MTCR				AML		AML		
	comp=E,497μm,0.8s							
MTCR	**Monte La Croce**	**0.36**	**118**	P		Pg	08 15 18.3	+0.1
MTCR				S		Sg	08 15 23.8	+0.8
FNVD	**Fontana Vidola**	**0.41**	**93**	P		Pg	08 15 19.2	+0.1
FNVD				S		Sb	08 15 25.6	-1.0
MPPT	**Montemurlo**	**0.45**	**121**	P		Pg	08 15 20.0	+0.1
MPPT				AML		AML		
	comp=N,354μm,0.8s							
MPPT				AML		AML		
	comp=E,245μm,1.0s							
GRAM	**Graiana**	**0.46**	**310**	P		Pg	08 15 20.2	0.0
GRAM				S		Sb	08 15 27.2	-0.9
GRAM				AML		AML		
	comp=E,750μm,0.2s							
GRAM				AML		AML		
	comp=N,376μm,0.3s							
GRAM	**Graiana**	**0.46**	**310**	P		Pg	08 15 20.1	0.0
GRAM				S		Sb	08 15 27.4	-0.8
PII	**Pisa**	**0.47**	**183**	P		Pg	08 15 20.7	+0.4
PII				S		Sg	08 15 27.1	+0.6
PII				AML		AML		
	comp=E,406μm,0.2s							
PII				AML		AML		
	comp=N,406μm,0.8s							
PII				AML		AML		
	comp=N,406μm,1.2s							
PII	**Pisa**	**0.47**	**183**	P		Pg	08 15 20.6	+0.3
PII				S		Sg	08 15 27.2	+0.7
MOCL	**Monte Cuccoli**	**0.49**	**113**	P		Pg	08 15 20.7	+0.1
MOCL				S		Sb	08 15 28.0	-0.8
MOCL				AML		AML		
	comp=N,240μm,0.8s							
MOCL				AML		AML		
	comp=N,240μm,0.8s							
MOCL				AML		AML		
	comp=E,241μm,0.8s							
CRMI	**Carmignano**	**0.50**	**143**	P		Pg	08 15 21.2	+0.3
CRMI				S		Sb	08 15 28.4	-0.8
CRMI				AML		AML		
	comp=E,97μm,1.4s							
CRMI				AML		AML		
	comp=N,120μm,1.2s							
PLMA	**Palmaria, Port**	**0.53**	**254**	P		Pg	08 15 21.6	+0.3
PLMA				S		Sg	08 15 28.7	+0.4
PLMA				AML		AML		
	comp=E,177μm,0.6s							
PLMA				AML		AML		
	comp=N,176μm,0.3s							
PLMA	**Palmaria, Port**	**0.53**	**254**	P		Pg	08 15 21.7	+0.3
PLMA				S		Sg	08 15 28.9	+0.5
MSSA	**Maissana**	**0.76**	**280**	P		Pg	08 15 25.8	+0.1
MSSA				S		Sg	08 15 36.0	+0.4
MSSA				AML		AML		
	comp=N,106μm,0.5s							
MSSA				AML		AML		
	comp=E,103μm,1.0s							
MSSA	**Maissana**	**0.76**	**280**	P		Pg	08 15 25.8	+0.1
MSSA				S		Sg	08 15 35.8	+0.2
RUFI	**Rufina**	**0.77**	**117**	P		Pg	08 15 25.9	-0.1
RUFI				S		Sb	08 15 37.0	0.0
OSSC	**Osservatorio P**	**0.83**	**143**	S		Sb	08 15 38.5	-0.3
RNCA	**Ronca, Sant'Ol**	**1.19**	**284**	P		Pb	08 15 32.5	-1.1
RNCA				S		Sb	08 15 48.5	-0.4
RNCA				AML		AML		
	comp=E,38μm,0.7s							
RNCA				AML		AML		
	comp=N,26μm,0.5s							
RNCA				AML		AML		
	comp=N,26μm,1.5s							

IDC 01 08:16:46.7±7.5, 20°.89S×177°.48W, h0km, mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=194.1km s-min=36.6km az=30.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.06**	**245**	P		P	08 24 05.5	-1.6
	1.5nm,0.4s,baz=90,slow=8.7,SNR=5.9							
	1.5nm,0.4s							
ASAR	**Alice Springs**	**44.90**	**257**	P		P	08 25 03.5	-0.1
	3.2nm,0.8s,baz=100,slow=6.8,SNR=31							
	3.2nm,0.8s							
WRA	**Warramunga Arr**	**45.03**	**262**	P		P	08 25 05.5	+1.0
	3.3nm,0.6s,baz=91,slow=8.4,SNR=72							
	3.3nm,0.6s							
QSPA	**South Pole Qui**	**69.18**	**180**	P		P	08 27 55.0	+0.1
	1.9nm,0.7s,baz=43,slow=2.0,SNR=15							
	1.9nm,0.7s							

RSPR ***01*** *08:17:07.4, 19°.12N×64°.24W, h45km±16km, MD3.4/9*
NEIC ***01*** *08:17:11.1±0.9, 19°.0N±0°.2×64°.57W±0°.06, h35km±2km, ML3.4/38, Md3.4/9(RSPR), Error ellipse: s-maj=31.9km s-min=5.7km az=193.0*
ISC 01 08:17:09.9±2.1, 19°.2N±0°.2×64°.47W±0°.05, h42km, n46, σ1§00/48, 10C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.65**	**233**	⇑*e*P		**Pn**	**08 17 35.5**	**-0.9**
HUMP	**Col San Antoni**	**1.65**	**233**	*e*S		**Sn**	**08 17 56.6**	**+0.3**
HUMP	**Col San Antoni**	**1.65**	**233**			**Pn**	**08 17 35.4**	**-1.0**
HUMP					IAML		08 17 58.1	
	comp=N,243nm,0.4s							
HUMP					IAML		08 17 58.7	
	comp=E,266nm,0.2s							
SMRT	**St. Maarten**	**1.72**	**129**			**Pn**	**08 17 37.8**	**+0.4**
SMRT					IAML		08 18 05.4	
	comp=N,420nm,0.6s							
SMRT					IAML		08 18 06.0	
	comp=E,529nm,0.5s							
GCPR	**Guaynabo City**	**1.74**	**241**	⇑*e*P		**Pn**	**08 17 36.5**	**-1.2**
GCPR	**Guaynabo City**	**1.74**	**241**	*e*S		**Sn**	**08 17 59.0**	**+0.3**
GCPR	**Guaynabo City**	**1.74**	**241**			**Pn**	**08 17 36.0**	**-1.6**
SJG	**San Juan**	**1.90**	**237**	⇑*e*P		**Pn**	**08 17 38.6**	**-1.3**
SJG	**San Juan**	**1.90**	**237**	*e*S		**Sn**	**08 18 03.2**	**+0.7**
SJG	**San Juan**	**1.90**	**237**			**Pn**	**08 17 38.5**	**-1.3**
SJG					IAML		08 18 18.0	
	comp=E,192nm,0.6s							
SABA	**Saba**	**1.92**	**142**	Pn		**Pn**	**08 17 40.0**	**-0.2**
SABA					IAML		08 18 26.5	
	comp=N,224nm,0.5s							
EMPR	**Esperanza - Ma**	**2.06**	**251**	⇑*e*P		**Pn**	**08 17 41.7**	**-0.3**
EMPR	**Esperanza - Ma**	**2.06**	**251**	*e*S		**Sn**	**08 18 07.1**	**+0.6**
EMPR	**Esperanza - Ma**	**2.06**	**251**			**Pn**	**08 17 41.4**	**-0.6**
EMPR					IAML		08 18 12.6	
	comp=N,266nm,0.6s							
EMPR					IAML		08 18 15.4	
	comp=E,292nm,0.6s							
CELP	**Cerrillos**	**2.27**	**242**	⇑*e*P		**Pn**	**08 17 44.1**	**-0.9**
CELP	**Cerrillos**	**2.27**	**242**	*e*S		**Sn**	**08 18 12.6**	**+0.9**
CELP	**Cerrillos**	**2.27**	**242**			**Pn**	**08 17 44.0**	**-1.0**
CELP					IAML		08 18 18.6	
	comp=N,126nm,0.6s							
OBIP	**Obispado Ponce**	**2.31**	**242**	⇑*e*P		**Pn**	**08 17 45.1**	**-0.3**
OBIP	**Obispado Ponce**	**2.31**	**242**	*e*S		**Sn**	**08 18 13.4**	**+0.9**
OBIP	**Obispado Ponce**	**2.31**	**242**			**Pn**	**08 17 44.7**	**-0.7**
OBIP					IAML		08 18 30.2	
	comp=E,143nm,0.9s							
AOPR	**Arecibo Observ**	**2.31**	**250**	⇑*e*P		**Pn**	**08 17 44.9**	**-0.5**
AOPR	**Arecibo Observ**	**2.31**	**250**	*e*S		**Sn**	**08 18 14.3**	**+1.7**
AOPR	**Arecibo Observ**	**2.31**	**250**			**Pn**	**08 17 44.5**	**-1.0**
AOPR					IAML		08 18 22.2	
	comp=N,218nm,0.3s							
AOPR					IAML		08 18 27.6	
	comp=E,369nm,0.4s							
AOPR	**Arecibo Observ**	**2.31**	**250**	*e*P		**Pn**	**08 17 44.0**	**-1.5**
AOPR				*e*S		**Sn**	**08 18 11.5**	**-1.2**
UUPR	**Utuado, UPR, P**	**2.31**	**248**	⇓*e*P		**Pn**	**08 17 44.8**	**-0.8**
UUPR	**Utuado, UPR, P**	**2.31**	**248**			**Pn**	**08 17 44.7**	**-0.8**
UUPR					IAML		08 18 35.6	
	comp=E,667nm,0.4s							
AGPR	**Aguadilla, PR**	**2.59**	**255**	⇑*e*P		**Pn**	**08 17 48.4**	**-0.9**
AGPR	**Aguadilla, PR**	**2.59**	**255**	*e*S		**Sn**	**08 18 21.4**	**+1.7**
AGPR	**Aguadilla, PR**	**2.59**	**255**			**Pn**	**08 17 48.8**	**-0.6**
AGPR					IAML		08 18 34.2	
	comp=E,139nm,1.2s							
AGPR					IAML		08 18 34.2	
	comp=N,110nm,0.9s							
LSP	**Las Mesas**	**2.66**	**249**	⇓*e*P		**Pn**	**08 17 49.9**	**-0.4**
LSP	**Las Mesas**	**2.66**	**249**			**Pn**	**08 17 49.9**	**-0.4**
PRSN	**Puerto Rico Se**	**2.70**	**250**			**Pn**	**08 17 49.6**	**-1.2**
PRSN					IAML		08 18 29.1	
	comp=E,152nm,0.3s							
PRSN					IAML		08 18 36.7	
	comp=N,133nm,0.3s							
MLPR	**Magueyes Islan**	**2.71**	**245**	⇑*e*P		**Pn**	**08 17 50.4**	**-0.6**
MLPR	**Magueyes Islan**	**2.71**	**245**	*e*S		**Sn**	**08 18 24.1**	**+1.5**
MLPR	**Magueyes Islan**	**2.71**	**245**			**Pn**	**08 17 50.4**	**-0.6**
CRPR	**Cabo Rojo, PR**	**2.75**	**246**	⇑*e*P		**Pn**	**08 17 51.0**	**-0.5**
CRPR	**Cabo Rojo, PR**	**2.75**	**246**	*e*S		**Sn**	**08 18 25.3**	**+1.8**
CRPR	**Cabo Rojo, PR**	**2.75**	**246**			**Pn**	**08 17 50.8**	**-0.7**
MBFL	**Flemmings, Mon**	**3.22**	**138**	*e*P		**Pn**	**08 17 58.8**	**+0.8**
ANBD	**Bethesda, Anti**	**3.32**	**129**	*e*P		**Pn**	**08 17 57.8**	**-1.6**
ANBD				*e*S		**Sn**	**08 18 36.2**	**-1.3**
PCDR	**Punta Cana, DR**	**3.76**	**261**	Pn		**Pn**	**08 18 04.7**	**-0.7**
PCDR					IAML		08 19 02.7	
	comp=N,174nm,2.0s							
PCDR					IAML		08 19 34.6	
	comp=E,74nm,2.0s							
GDHS	**Morne Mazeau,**	**3.86**	**138**	Pn		**Pn**	**08 18 06.5**	**-0.3**
GDHS					IAML		08 19 30.6	
	comp=N,129nm,0.5s							
CBE	**Ff, Capester**	**4.11**	**138**	Pn		**Pn**	**08 18 10.2**	**0.0**
MAGL	**Barre de l'ile**	**4.41**	**136**	Pn		**Pn**	**08 18 13.1**	**-1.3**
FDF	**Fort de France**	**5.42**	**144**	Pn		**Pn**	**08 18 27.3**	**-1.0**
SDDR	**Presa de Saban**	**6.45**	**270**			**Pn**	**08 18 41.9**	**-0.5**

BJI ***01*** *08:20:13.4±0.0, 63°.30N×151°.24W, h107km, mb5.4/69, mB5.0/25*
MOS ***01*** *08:20:14.5±0.9, 63°.13N×150°.89W, h122km, mb5.0/125, Error ellipse: s-maj=8.7km s-min=5.0km az=105.7*
AEIC ***01*** *08:20:16.3±1.4, 63°.07N±0°.03×150°.80W±0°.05, h117km±3km, ML5.0, mb5.3/604(NEIC), ML5.2/246(NEIC), Mwr4.9/141(NEIC), Mww4.9/86(NEIC), Error ellipse: s-maj=4.7km s-min=3.3km az=159.0*
NEIC ***01*** *08:20:16.6, 63°.06N×150°.77W, h120km, Moment Tensor Solution. Duration: 1§5 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.08; $M_{\theta\theta}$0.70; $M_{\phi\phi}$0.38; $M_{r\theta}$0.37; $M_{\theta\phi}$1.41; $M_{\phi r}$2.44; Fault plane solution: $M_0$2.99000×10^{16} NP1: ϕ_s194.81000°, δ78.09000°, λ-116.34000°. NP2: ϕ_s82.19000°, δ28.73000°, λ-25.41000°. Principal axes: T 3.0027, Plg28.0000°, Azm306.0000°; N -0.0188, Plg26.0000°, Azm201.0000°; P -2.9838, Plg50.0000°, Azm76.0000°;*
NEIC ***01*** *08:20:16.6, 63°.06N×150°.77W, h115km*
NEIC ***01*** *08:20:16.3±1.6, 63°.08N±0°.03×150°.78W±0°.06, h120km±2km, Error ellipse: s-maj=4.6km s-min=3.5km az=147.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.95; $M_{\theta\theta}$0.47; $M_{\phi\phi}$0.48; $M_{r\theta}$0.43; $M_{\theta\phi}$1.19; $M_{\phi r}$2.75; Fault plane solution: $M_0$3.14000×10^{16} NP1: ϕ_s78.32000°, δ22.39000°, λ-25.74000°. NP2: ϕ_s192.35000°, δ80.48000°, λ-110.36000°. Principal axes: T 3.1476, Plg32.0000°, Azm299.0000°; N -0.0254, Plg20.0000°, Azm196.0000°; P -3.1222, Plg50.0000°, Azm80.0000°;*
NEIC ***01*** *08:20:16.6, 63°.06N×150°.77W, h120km*
IDC ***01*** *08:20:17.1±0.3, 63°.23N×150°.78W, h127km±2km, mb4.6/35, mbtmp5.0/40, MS3.4/29, Error ellipse: s-maj=7.9km s-min=5.9km az=25.0*
GCMT ***01*** *08:20:17.3±0.2, 63°.20N±0°.02×150°.73W±0°.03, h124km±2km, MW5.0/115, Moment Tensor Solution. s48,c60; s115,c170; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.28±.10; $M_{\theta\theta}$1.06±.13; $M_{\phi\phi}$0.22±.13; $M_{r\theta}$0.44±.08; $M_{\theta\phi}$1.54±.10; $M_{\phi r}$2.78±.07; Best double couple: $M_0$3.41800×10^{16} NP1: ϕ_s197.00000°, δ78.00000°, λ-117.00000°. NP2: ϕ_s85.00000°, δ29.00000°, λ-25.00000°. Principal axes: T 3.3470, Plg28.0000°, Azm309.0000°; N 0.1510, Plg26.0000°, Azm204.0000°; P -3.4890, Plg50.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 08:20:16.3±0.2, 63°.09N±0°.02×150°.78W±0°.02, h125km±1km, h125km; pP-P, n1962, σ1§12/2254, mb5.2/515, 49C-24D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.47**	**352**			**Pn**	**08 20 34.3**	**-0.5**
KTH						**Sn**	**08 20 47.5**	**-1.2**
KTH					IAML		08 20 48.2	
	comp=N,53μm,0.8s							
PPLA	**Purkeypile**	**0.67**	**254**			**Pn**	**08 20 35.6**	**-0.6**
PPLA	**Purkeypile**	**0.67**	**254**			**Sn**	**08 20 50.4**	**-0.7**
PPLA	**Purkeypile**	**0.67**	**254**	P		**Pn**	**08 20 35.5**	**-0.6**
	baz=76,SNR=1000							
PPLA				S		**Sn**	**08 20 50.1**	**-1.0**
	baz=76							
CAST	**Castle Rocks**	**0.68**	**300**			**Pn**	**08 20 35.2**	**-0.8**
CAST						**Sn**	**08 20 49.3**	**-1.7**
CAST					IAML		08 20 50.0	
	comp=E,29μm,0.9s							
CAST					IAML		08 20 50.0	
	comp=N,31μm,1.0s							
CAST	**Castle Rocks**	**0.68**	**300**	P		**Pn**

MCK	**McKinley**	**1.05**	**51**		**Pn**	**08 20 39.1**	**-0.2**
MCK	**McKinley**	**1.05**	**51**		**Sn**	**08 20 56.0**	**-0.8**
MCK	**McKinley**	**1.05**	**51**	P	**Pn**	**08 20 38.8**	**-0.5**
	baz=231,SNR=1000						
MCK				S	**Sn**	**08 20 55.7**	**-1.0**
	baz=231						
MCK	**McKinley**	**1.05**	**51**	P	**Pn**	**08 20 39.3**	**0.0**
MCK				S	**Sn**	**08 20 55.0**	**-1.7**
CHUM	**Lake Minchumin**	**1.06**	**320**		**Pn**	**08 20 39.0**	**-0.3**
CHUM					**Sn**	**08 20 55.7**	**-1.0**
CHUM	**Lake Minchumin**	**1.06**	**320**	P	**Pn**	**08 20 39.0**	**-0.3**
	baz=139,SNR=1000						
CHUM				S	**Sn**	**08 20 56.0**	**-0.8**
	baz=139						
SKT	**Skwentna**	**1.16**	**198**		**Pn**	**08 20 39.6**	**-0.8**
SKT					**Sn**	**08 20 57.5**	**-1.2**
SKT	**Skwentna**	**1.16**	**198**	P	**Pn**	**08 20 39.5**	**-1.0**
	baz=18,SNR=1000						
SKT				S	**Sn**	**08 20 57.1**	**-1.6**
	baz=18						
BWN	**Browne**	**1.24**	**28**		**Pn**	**08 20 41.4**	**+0.2**
BWN					**Sn**	**08 20 59.8**	**-0.2**
BWN				IAML		08 21 02.9	
	comp=E,18μm,0.9s						
BWN				IAML		08 21 03.2	
	comp=N,23μm,0.9s						
M22K	**Willow**	**1.37**	**167**		**Pn**	**08 20 41.8**	**-0.8**
M22K	**Willow**	**1.37**	**167**	P	**Pn**	**08 20 41.6**	**-0.9**
	baz=347,SNR=1000						
M22K				S	**Sn**	**08 21 01.4**	**-1.1**
	baz=347						
WAT6	**Susitna Watana**	**1.48**	**109**		**Pn**	**08 20 43.4**	**-0.6**
WAT6					**Sn**	**08 21 03.5**	**-1.6**
WAT6	**Susitna Watana**	**1.48**	**109**	P	**Pn**	**08 20 43.1**	**-0.9**
	baz=290,SNR=1000						
WAT6				S	**Sn**	**08 21 03.4**	**-1.6**
	baz=290						
K20K	**Telida**	**1.52**	**282**		**Pn**	**08 20 43.5**	**-0.7**
K20K					**Sn**	**08 21 03.8**	**-1.8**
K20K				IAML		08 21 04.9	
	comp=E,26μm,0.9s						
K20K				IAML		08 21 05.1	
	comp=N,15μm,0.8s						
K20K	**Telida**	**1.52**	**282**	P	**Pn**	**08 20 43.7**	**-0.5**
	baz=100						
K20K				S	**Sn**	**08 21 03.9**	**-1.6**
	baz=100						
DHY	**Denali Highway**	**1.55**	**89**	Pn	**Pn**	**08 20 44.4**	**-0.4**
DHY					**Sn**	**08 21 05.7**	**-0.7**
DHY	**Denali Highway**	**1.55**	**89**	P	**Pn**	**08 20 44.1**	**-0.6**
	baz=271,SNR=1000						
DHY				S	**Sn**	**08 21 05.6**	**-0.8**
	baz=271						
L20K	**Farewell, AK**	**1.55**	**248**		**Pn**	**08 20 43.8**	**-0.9**
L20K					**Sn**	**08 21 04.9**	**-1.3**
L20K	**Farewell, AK**	**1.55**	**248**	P	**Pn**	**08 20 44.0**	**-0.7**
	baz=67,SNR=1000						
L20K				S	**Sn**	**08 21 04.7**	**-1.6**
	baz=67						
GHO	**Glory Hole Cre**	**1.57**	**146**		**Pn**	**08 20 44.3**	**-0.6**
SUA	**Susitna One**	**1.63**	**180**		**Pn**	**08 20 45.0**	**-0.7**
SUA				IAML		08 21 10.8	
	comp=N,23μm,0.7s						
SUA				IAML		08 21 11.9	
	comp=E,20μm,0.8s						
SUA	**Susitna One**	**1.63**	**180**	P	**Pn**	**08 20 44.7**	**-0.9**
	baz=360,SNR=1000						
SUA				S	**Sn**	**08 21 06.4**	**-1.5**
	baz=360						
M20K	**Styx River**	**1.63**	**223**		**Pn**	**08 20 44.6**	**-1.1**
M20K	**Styx River**	**1.63**	**223**	P	**Pn**	**08 20 44.6**	**-1.1**
	baz=42						
M20K				S	**Sn**	**08 21 06.4**	**-1.6**
	baz=42						
STLK	**Strandline Lak**	**1.67**	**198**		**Pn**	**08 20 45.1**	**-1.0**
STLK					**Sn**	**08 21 07.2**	**-1.5**
PMR	**Palmer**	**1.68**	**152**	P	**Pn**	**08 20 45.1**	**-1.0**
PMR	**Palmer**	**1.68**	**152**		**Pn**	**08 20 45.2**	**-0.9**
PMR				IAML		08 21 14.0	
	comp=E,22μm,0.7s						
PMR				IAML		08 21 14.7	
	comp=N,21μm,0.6s						
PMR	**Palmer**	**1.68**	**152**	P	**Pn**	**08 20 45.0**	**-1.2**
	baz=333,SNR=1000						
PMR				S	**Sn**	**08 21 07.3**	**-1.6**
	baz=333						
PMR	**Palmer**	**1.68**	**152**	P	**Pn**	**08 20 45.2**	**-0.9**
NEA2	**Nenana**	**1.69**	**26**		**Pn**	**08 20 46.0**	**-0.3**
NEA2				IAML		08 21 09.5	
	comp=E,18μm,0.9s						
NEA2				IAML		08 21 09.8	
	comp=N,10μm,0.5s						
NEA2	**Nenana**	**1.69**	**26**	P	**Pn**	**08 20 45.7**	**-0.6**
	baz=207,SNR=1000						
NEA2				S	**Sn**	**08 21 07.6**	**-1.5**
	baz=207						
SML	**Sawmill**	**1.71**	**137**	Pn	**Pn**	**08 20 45.6**	**-1.0**
SML				IAML		08 21 15.2	
	comp=N,30μm,0.5s						
SML	**Sawmill**	**1.71**	**137**	P	**Pn**	**08 20 45.4**	**-1.2**
	baz=319,SNR=1000						
SML				S	**Sn**	**08 21 08.5**	**-1.2**
	baz=319						
SML	**Sawmill**	**1.71**	**137**	P	**Pn**	**08 20 45.8**	**-0.8**
WRH	**Wood River Hil**	**1.83**	**39**		**Pn**	**08 20 47.7**	**-0.3**
WRH				IAML		08 21 12.6	
	comp=N,8μm,0.9s						
J20K	**Nowinta River**	**1.86**	**308**	Pn	**Pn**	**08 20 47.5**	**-0.7**
J20K					**Sn**	**08 21 11.2**	**-1.6**
J20K				IAML		08 21 12.8	
	comp=N,20μm,0.7s						
J20K				IAML		08 21 13.2	
	comp=E,20μm,1.0s						
J20K	**Nowinta River**	**1.86**	**308**	P	**Pn**	**08 20 47.9**	**-0.4**
	baz=125,SNR=1000						
J20K				S	**Sn**	**08 21 11.3**	**-1.4**
	baz=125						
SPCG	**Spurr Capps Gl**	**1.89**	**199**		**Pn**	**08 20 48.4**	**-0.4**
M23K	**Glacier View**	**1.92**	**131**		**Pn**	**08 20 47.8**	**-1.3**
M23K	**Glacier View**	**1.92**	**131**	P	**Pn**	**08 20 47.8**	**-1.3**
	baz=313,SNR=1000						
M23K				S	**Sn**	**08 21 12.9**	**-1.1**
	baz=313						
CRP	**Crater Peak**	**1.94**	**200**		**Pn**	**08 20 48.6**	**-0.8**
SPCP	**Crater Peak Br**	**1.94**	**200**		**Pn**	**08 20 48.7**	**-0.7**
SPNN	**North Nagishla**	**1.95**	**208**		**Pn**	**08 20 48.9**	**-0.6**
MLY	**Manley**	**1.95**	**0**	Pn	**Pn**	**08 20 49.1**	**-0.4**
MLY	**Manley**	**1.95**	**0**	P	**Pn**	**08 20 49.0**	**-0.4**
	baz=180,SNR=1000						
MLY				S	**Sn**	**08 21 13.2**	**-1.6**
	baz=180						
FIS	**Fire Island**	**1.97**	**172**		**Pn**	**08 20 48.5**	**-1.0**
SPBG	**Spurr Blockage**	**1.98**	**203**		**Pn**	**08 20 49.7**	**-0.1**
SPCN	**Chakachatna No**	**1.98**	**200**		**Pn**	**08 20 49.5**	**-0.3**
KNK	**Knik Glacier**	**2.00**	**146**		**Pn**	**08 20 49.0**	**-1.0**
KNK				IAML		08 21 24.9	
	comp=N,27μm,0.6s						
KNK	**Knik Glacier**	**2.00**	**146**	P	**Pn**	**08 20 48.7**	**-1.3**
	baz=328,SNR=1000						
KNK				S	**Sn**	**08 21 14.0**	**-1.7**
	baz=328						
SPU	**Mount Spurr**	**2.00**	**198**		**Pn**	**08 20 49.3**	**-0.8**
N20K	**Mount Spurr**	**2.01**	**200**	P	**Pn**	**08 20 49.0**	**-1.2**
	baz=19,SNR=780						
N20K				S	**Sn**	**08 21 14.1**	**-2.0**
	baz=19						
SPCR	**Spurr Chakacha**	**2.01**	**200**		**Pn**	**08 20 49.5**	**-0.7**
SPCR	**Spurr Chakacha**	**2.01**	**200**	P	**Pn**	**08 20 46.6**	**-3.6**
	baz=19,SNR=682						
SPCR				S	**Sn**	**08 21 12.1**	**-3.9**
	baz=19						
SCM	**Sheep Creek Mo**	**2.04**	**127**		**Pn**	**08 20 49.2**	**-1.3**
SCM				IAML		08 21 17.2	
	comp=E,26μm,0.8s						
SCM				IAML		08 21 25.4	
	comp=N,20μm,0.7s						
SCM	**Sheep Creek Mo**	**2.04**	**127**	P	**Pn**	**08 20 49.4**	**-1.1**
	baz=309,SNR=1000						
SCM				S	**Sn**	**08 21 15.0**	**-1.7**
	baz=309						
SCM	**Sheep Creek Mo**	**2.04**	**127**	P	**Pn**	**08 20 49.2**	**-1.3**
CCB	**Clear Creek Bu**	**2.05**	**39**		**Pn**	**08 20 50.2**	**-0.3**
M19K	**Big River Lodg**	**2.06**	**236**		**Pn**	**08 20 49.5**	**-1.1**
M19K				IAML		08 21 17.6	
	comp=E,9μm,0.8s						
M19K	**Big River Lodg**	**2.06**	**236**	P	**Pn**	**08 20 49.6**	**-1.1**
	baz=54,SNR=1000						
M19K				S	**Sn**	**08 21 15.5**	**-1.4**
	baz=54						
RC01	**Rabbit Creek A**	**2.06**	**166**	Pn	**Pn**	**08 20 49.4**	**-1.3**
RC01				IAML		08 21 23.7	
	comp=N,16μm,0.5s						
RC01				IAML		08 21 28.1	
	comp=E,17μm,0.5s						
RC01	**Rabbit Creek A**	**2.06**	**166**	P	**Pn**	**08 20 49.5**	**-1.3**
	baz=347,SNR=830						
RC01				S	**Sn**	**08 21 15.0**	**-2.1**
	baz=347						
L19K	**White Mountain**	**2.09**	**246**		**Pn**	**08 20 50.3**	**-0.8**
L19K	**White Mountain**	**2.09**	**246**	P	**Pn**	**08 20 50.4**	**-0.8**
	baz=63,SNR=1000						
L19K				S	**Sn**	**08 21 16.4**	**-1.4**
	baz=63						
HDA	**Harding Lake**	**2.16**	**50**		**Pn**	**08 20 51.7**	**-0.2**
HDA				IAML		08 21 19.1	
	comp=E,21μm,0.8s						
HDA				IAML		08 21 23.9	
	comp=N,20μm,0.5s						
HDA	**Harding Lake**	**2.16**	**50**	P	**Pn**	**08 20 51.6**	**-0.3**
	baz=233,SNR=1000						
HDA				S	**Sn**	**08 21 18.1**	**-1.2**
	baz=233						
HDA				S	**Sn**	**08 21 18.1**	**-1.2**
	baz=233						
I23K	**Minto, Yukon-K**	**2.16**	**16**		**Pn**	**08 20 52.2**	**+0.3**
I23K	**Minto, Yukon-K**	**2.16**	**16**	P	**Pn**	**08 20 51.7**	**-0.2**
	baz=197,SNR=1000						
I23K				S	**Sn**	**08 21 17.6**	**-1.7**
	baz=197						
I21K	**Tanana**	**2.17**	**346**		**Pn**	**08 20 52.0**	**-0.1**
I21K				IAML		08 21 19.2	
	comp=E,6μm,1.4s						
I21K				IAML		08 21 20.5	
	comp=N,6μm,1.2s						
I21K	**Tanana**	**2.17**	**346**	P	**Pn**	**08 20 51.9**	**-0.1**
	baz=165						
I21K				S	**Sn**	**08 21 18.2**	**-1.3**
	baz=165						
MDM	**Murphy Dome**	**2.19**	**30**		**Pn**	**08 20 52.3**	**0.0**
I53US	**FAIRBANKS INFR**	**2.21**	**34**	P	**Pn**	**08 20 53.2**	**+0.7**
	baz=202,slow=23,SNR=0.5						
I53US				S	**Sn**	**08 21 19.8**	**-0.5**
COLA	**College**	**2.21**	**34**	P	**Pn**	**08 20 52.6**	**+0.1**
COLA	**College**	**2.21**	**34**	Pn	**Pn**	**08 20 52.4**	**-0.1**
COLA				IAML		08 21 26.1	
	comp=N,16μm,0.5s						
COLA				IAML		08 21 39.2	
	comp=N,9μm,0.6s						
COLA	**College**	**2.21**	**34**	P	**Pn**	**08 20 52.6**	**+0.1**
	baz=216						
COLA				S	**Sn**	**08 21 19.7**	**-0.6**
	baz=216						
COLA	**College**	**2.21**	**34**	P	**Pn**	**08 20 52.4**	**-0.1**
CAPN	**Captain Cook N**	**2.33**	**185**		**Pn**	**08 20 55.1**	**+1.0**
CAPN	**Captain Cook N**	**2.33**	**185**	P	**Pn**	**08 20 54.9**	**+0.8**
	baz=4.4,SNR=27						
CAPN				S	**Sn**	**08 21 24.3**	**+1.2**
	baz=4.4						
M24K	**Tolsona, Glenn**	**2.34**	**113**		**Pn**	**08 20 54.1**	**-0.2**
M24K				IAML		08 21 31.3	
	comp=N,19μm,1.0s						
M24K	**Tolsona, Glenn**	**2.34**	**113**	P	**Pn**	**08 20 54.1**	**-0.2**
	baz=296,SNR=1000						
M24K				S	**Sn**	**08 21 22.8**	**-0.7**
	baz=296						
J19K	**Poorman**	**2.35**	**295**		**Pn**	**08 20 54.0**	**-0.4**
J19K				IAML		08 21 23.9	
	comp=E,11μm,1.1s						
J19K				IAML		08 21 24.0	
	comp=N,12μm,1.0s						
J19K	**Poorman**	**2.35**	**295**	P	**Pn**	**08 20 54.2**	**-0.1**
	baz=111,SNR=1000						
J19K				S	**Sn**	**08 21 22.0**	**-1.6**
	baz=111						
K24K	**Donnelly Dome**	**2.36**	**70**		**Pn**	**08 20 54.4**	**0.0**
K24K	**Donnelly Dome**	**2.36**	**70**	P	**Pn**	**08 20 54.6**	**+0.1**
	baz=254,SNR=640						
K24K				S	**Sn**	**08 21 22.9**	**-0.9**
	baz=254						
I20K	**Naaghedeneel**	**2.37**	**318**		**Pn**	**08 20 54.6**	**0.0**
I20K	**Naaghedeneel**	**2.37**	**318**	P	**Pn**	**08 20 54.5**	**0.0**
	baz=135,SNR=1000						
I20K				S	**Sn**	**08 21 23.5**	**-0.4**
	baz=135						
IL31		**2.41**	**44**		**Pn**	**08 20 54.8**	**-0.2**
ILAR	**Eielson Array**	**2.41**	**44**		**Pn**	**08 20 54.8**	**-0.3**
ILAR	**Eielson Array**	**2.41**	**44**	P	**Pn**	**08 20 54.6**	**-0.5**
	comp=N,2μm,0.7s,baz=226,slow=12,SNR=6312						
ILAR				S	**Sn**	**08 21 23.2**	**-1.8**
	comp=N,738nm,0.6s,baz=219,slow=16,SNR=5.1						
ILAR	**Eielson Array**	**2.41**	**44**	P	**Pn**	**08 20 54.8**	**-0.3**
PAX	**Paxson**	**2.42**	**90**		**Pn**	**08 20 55.2**	**-0.1**
PAX	**Paxson**	**2.42**	**90**	P	**Pn**	**08 20 55.2**	**-0.1**
	baz=274,SNR=1000						
PAX				S	**Sn**	**08 21 24.4**	**-0.9**
	baz=274						
PAX	**Paxson**	**2.42**	**90**	P	**Pn**	**08 20 55.2**	**-0.1**
POKR	**Poker Plat Res**	**2.51**	**34**		**Pn**	**08 20 56.7**	**+0.3**
POKR	**Poker Plat Res**	**2.51**	**34**	P	**Pn**	**08 20 56.1**	**-0.3**
	baz=217,SNR=790						
POKR				S	**Sn**	**08 21 26.4**	**-0.8**
	baz=217						
SLKM	**Skilak Lake**	**2.60**	**174**		**Pn**	**08 20 56.5**	**-1.0**
RDT	**Redoubt**	**2.64**	**198**		**Pn**	**08 20 57.4**	**-0.7**
O22K	**Cooper Landing**	**2.66**	**169**		**Pn**	**08 20 57.3**	**-1.0**
O22K	**Cooper Landing**	**2.66**	**169**	P	**Pn**	**08 20 57.2**	**-1.1**
	baz=350,SNR=318						
O22K				S	**Sn**	**08 21 28.2**	**-2.3**
	baz=350						
DFR	**Drift River**	**2.66**	**201**		**Pn**	**08 20 58.0**	**-0.4**
HARP	**HAARP**	**2.68**	**102**		**Pn**	**08 20 58.4**	**-0.1**
HARP	**HAARP**	**2.68**	**102**	P	**Pn**	**08 20 58.2**	**-0.3**
	baz=287,SNR=1000						
HARP				S	**Sn**	**08 21 31.3**	**+0.3**
	baz=287						
RDJH	**Redoubt Jeurge**	**2.68**	**202**		**Pn**	**08 20 58.2**	**-0.5**
J18K	**Innoko River**	**2.71**	**281**	Pn	**Pn**	**08 20 58.5**	**-0.4**
J18K				IAML		08 21 31.1	
	comp=N,4μm,1.0s						
J18K				IAML		08 21 32.6	
	comp=E,6μm,1.5s						
J18K	**Innoko River**	**2.71**	**281**	P	**Pn**	**08 20 58.5**	**-0.4**
	baz=96,SNR=1000						
J18K				S	**Sn**	**08 21 27.5**	**-4.3**
	baz=96						
H21K	**Melozitna Rive**	**2.73**	**342**	Pn	**Pn**	**08 20 59.0**	**-0.2**
H21K				IAML		08 21 33.0	
	comp=N,4μm,1.1s						
H21K	**Melozitna Rive**	**2.73**	**342**	P	**Pn**	**08 20 59.0**	**-0.2**
	baz=160,SNR=1000						
H21K				S	**Sn**	**08 21 29.4**	**-2.8**
	baz=160						
NCT	**North Crescent**	**2.73**	**203**		**Pn**	**08 20 58.8**	**-0.5**
KLU	**Klutina**	**2.77**	**123**		**Pn**	**08 20 58.3**	**-1.6**
KLU				IAML		08 21 45.9	
	comp=E,13μm,0.5s						
KLU	**Klutina**	**2.77**	**123**	P	**Pn**	**08 20 58.2**	**-1.6**
	baz=307,SNR=1000						
KLU				S	**Sn**	**08 21 31.4**	**-1.9**
	baz=307						
RDWB	**Redoubt West**	**2.79**	**202**		**Pn**	**08 20 59.4**	**-0.7**
RSO	**Redoubt South**	**2.79**	**201**		**Pn**	**08 20 59.3**	**-0.9**
RDSO	**Redoubt South**	**2.80**	**200**		**Pn**	**08 20 59.7**	**-0.6**
H23K	**Yukon River**	**2.80**	**10**		**Pn**	**08 21 00.0**	**-0.1**
H23K	**Yukon River**	**2.80**	**10**	P	**Pn**	**08 21 00.4**	**+0.2**
	baz=191,SNR=1000						
H23K				S	**Sn**	**08 21 32.4**	**-1.5**
	baz=191						
GLI	**Glacier Island**	**2.81**	**140**		**Pn**	**08 20 58.8**	**-1.5**
GLI	**Glacier Island**	**2.81**	**140**	P	**Pn**	**08 20 58.9**	**-1.4**
	baz=323,SNR=477						
GLI				S	**Sn**	**08 21 32.2**	**-1.9**
	baz=323						
H22K	**Ishtalitna Cre**	**2.83**	**355**		**Pn**	**08 21 00.4**	**-0.1**
H22K	**Ishtalitna Cre**	**2.83**	**355**	P	**Pn**	**08 21 00.5**	**-0.1**
	baz=174,SNR=784						
H22K				S	**Sn**	**08 21 32.1**	**-2.5**
	baz=174						
RED	**Redoubt Volcan**	**2.84**	**200**		**Pn**	**08 20 59.8**	**-0.9**
J25K	**Salcha River,**	**2.84**	**55**	Pn	**Pn**	**08 21 00.8**	**+0.1**
J25K				IAML		08 21 36.4	
	comp=N,7μm,0.6s						
J25K				IAML		08 21 37.3	
	comp=E,10μm,0.7s						
J25K	**Salcha River,**	**2.84**	**55**	P	**Pn**	**08 21 00.2**	**-0.5**
	baz=239,SNR=1000						
J25K				S	**Sn**	**08 21 33.4**	**-1.6**
	baz=239						
M18K	**Stony River**	**2.85**	**238**		**Pn**	**08 20 59.6**	**-1.1**
M18K	**Stony River**	**2.85**	**238**	P	**Pn**	**08 20 59.7**	**-1.1**
	baz=54,SNR=1000						
M18K				S	**Sn**	**08 21 32.4**	**-2.6**
	baz=54						
L18K	**Granite Mounta**	**2.86**	**255**	Pn	**Pn**	**08 21 00.3**	**-0.6**
L18K				IAML		08 21 51.5	
	comp=E,3μm,1.1s						
L18K	**Granite Mounta**	**2.86**	**255**	P	**Pn**	**08 21 00.3**	**-0.6**
	baz=70,SNR=1000						
L18K				S	**Sn**	**08 21 32.5**	**-2.8**
	baz=70						
N19K	**Bonanza Creek**	**2.88**	**219**	Pn	**Pn**	**08 21 00.8**	**-0.5**
N19K				IAML		08 21 57.9	
	comp=E,4μm,1.0s						
N19K				IAML		08 22 01.1	
	comp=N,3μm,0.9s						
N19K	**Bonanza Creek**	**2.88**	**219**	P	**Pn**	**08 21 00.7**	**-0.5**
	baz=36,SNR=1000						
H20K	**Anotleneega Mo**	**3.01**	**325**		**Pn**	**08 21 02.5**	**-0.3**
H20K	**Anotleneega Mo**	**3.01**	**325**	P	**Pn**	**08 21 02.3**	**-0.4**
	baz=142,SNR=605						
SVW2	**Sparrevohn**	**3.01**	**231**	P	**Pn**	**08 21 02.2**	**-0.7**
SVW2	**Sparrevohn**	**3.01**	**231**		**Pn**	**08 21 01.9**	**-1.0**
H24K	**Noodor Dome**	**3.04**	**23**	Pn	**Pn**	**08 21 03.1**	**0.0**
H24K	**Noodor Dome**	**3.04**	**23**	P	**Pn**	**08 21 03.2**	**0.0**
	baz=205,SNR=960						
SEW	**Seward**	**3.06**	**167**		**Pn**	**08 21 02.1**	**-1.3**
SEW	**Seward**	**3.06**	**167**	P	**Pn**	**08 21 02.0**	**-1.5**
	baz=349,SNR=700						
DIV	**Divide**	**3.06**	**128**		**Pn**	**08 21 01.8**	**-1.8**
DOT	**Dot Lake**	**3.08**	**76**		**Pn**	**08 21 02.9**	**-0.8**
FID	**Port Fidalgo**	**3.10**	**137**		**Pn**	**08 21 02.3**	**-1.8**
O20K	**Slope Mountain**	**3.14**	**197**		**Pn**	**08 21 03.6**	**-1.0**
O20K	**Slope Mountain**	**3.14**	**197**	P	**Pn**	**08 21 03.9**	**-0.8**
	baz=16,SNR=66						
GCSA	**Galena City Sc**	**3.17**	**304**		**Pn**	**08 21 04.6**	**-0.2**
GCSA	**Galena City Sc**	**3.17**	**304**	P	**Pn**	**08 21 04.7**	**-0.2**
	baz=119,SNR=110						
SCRK	**Sand Creek**	**3.17**	**71**	Pn	**Pn**	**08 21 04.7**	**-0.4**
SCRK				IAML		08 21 40.6	
	comp=N,4μm,0.8s						
SCRK				IAML		08 21 48.3	
	comp=E,5μm,0.8s						
SCRK	**Sand Creek**	**3.17**	**71**	P	**Pn**	**08 21 04.5**	**-0.6**
	baz=256,SNR=1000						
SCRK				S	**Sn**	**08 21 39.0**	**-3.7**
	baz=256						
IMAR	**Indian Mountai**	**3.18**	**338**		**Pn**	**08 21 04.8**	**-0.2**
WACK	**Wrangell Chich**	**3.19**	**107**		**Pn**	**08 21 04.6**	**-0.8**
MENT	**Mentasta**	**3.22**	**89**	P	**Pn**	**08 21 05.4**	**-0.2**
MENT	**Mentasta**	**3.22**	**89**		**Pn**	**08 21 05.3**	**-0.3**
WAZA	**Wrangell Mount**	**3.23**	**105**		**Pn**	**08 21 05.4**	**-0.6**
N25K	**Chitina, Valde**	**3.24**	**114**	Pn	**Pn**	**08 21 05.0**	**-0.9**
N25K				IAML		08 21 44.7	
	comp=E,4μm,0.6s						
N25K				IAML		08 21 46.2	
	comp=N,6μm,0.7s						
N25K	**Chitina, Valde**	**3.24**	**114**	P	**Pn**	**08 21 05.0**	**-0.9**
	baz=300,SNR=1000						
N25K				S	**Sn**	**08 21 42.5**	**-1.7**
	baz=300						
IVE	**Iliamna Volcan**	**3.26**	**200**		**Pn**	**08 21 04.5**	**-1.7**
BRLK	**Bradley Lake**	**3.33**	**181**		**Pn**	**08 21 06.3**	**-0.8**
BRLK				IAML		08 21 56.0	
	comp=N,4μm,0.5s						
BRLK				IAML		08 21 58.3	
	comp=E,4μm,0.5s						
PRP	**Porcupine Dome**	**3.35**	**41**	Pn	**Pn**	**08 21 06.9**	**-0.4**
PRP				IAML		08 22 01.4	
	comp=E,3μm,0.8s						
PRP				IAML		08 22 02.7	
	comp=N,3μm,0.8s						
PRP	**Porcupine Dome**	**3.35**	**41**	P	**Pn**	**08 21 06.9**	**-0.4**
	baz=225,SNR=968						
BRSE	**Bradley Lake S**	**3.35**	**180**		**Pn**	**08 21 06.4**	**-1.0**
BRSE	**Bradley Lake S**	**3.35**	**180**	P	**Pn**	**08 21 06.5**	**-0.9**
	baz=360,SNR=359						
O19K	**Port Alsworth**	**3.36**	**212**		**Pn**	**08 21 06.7**	**-0.7**
O19K				IAML		08 21 48.0	
	comp=N,6μm,0.5s						
O19K				IAML		08 22 11.8	
	comp=E,7μm,0.5s						
O19K	**Port Alsworth**	**3.36**	**212**	P	**Pn**	**08 21 06.6**	**-0.8**
	baz=29						
HIN	**Hinchinbrook I**	**3.38**	**141**		**Pn**	**08 21 06.2**	**-1.5**
L26K	**Log Cabin Wild**	**3.38**	**88**		**Pn**	**08 21 07.6**	**-0.2**
L26K	**Log Cabin Wild**	**3.38**	**88**	P	**Pn**	**08 21 07.6**	**-0.2**
	baz=274,SNR=1000						
N18K	**Kilae Creek**	**3.42**	**227**	Pn	**Pn**	**08 21 07.5**	**-0.7**
N18K				IAML		08 21 48.6	
	comp=N,2μm,1.1s						
N18K	**Kilae Creek**	**3.42**	**227**	P	**Pn**	**08 21 07.5**	**-0.7**
	baz=43,SNR=1000						
N18K				S	**Sn**	**08 21 46.5**	**-1.8**
	baz=43						
HOM	**Homer**	**3.46**	**187**		**Pn**	**08 21 08.6**	**-0.2**
HOM	**Homer**	**3.46**	**187**	P	**Pn**	**08 21 08.2**	**-0.6**
	baz=6.8						
K17K	**Iditarod**	**3.46**	**267**	Pn	**Pn**	**08 21 08.2**	**-0.5**
K17K				IAML		08 21 49.6	
	comp=E,4μm,1.1s						
K17K				IAML		08 22 03.0	
	comp=N,3μm,1.3s						
K17K	**Iditarod**	**3.46**	**267**	P	**Pn**	**08 21 08.4**	**-0.3**
	baz=81,SNR=1000						
H19K	**Roundabout Mou**	**3.48**	**317**	Pn	**Pn**	**08 21 08.6**	**-0.4**
H19K				IAML		08 22 06.0	
	comp=N,3μm,1.0s						
H19K				IAML		08 22 12.0	
	comp=E,4μm,0.8s						
H19K	**Roundabout Mou**	**3.48**	**317**	P	**Pn**	**08 21 08.5**	**-0.4**
	baz=132,SNR=1000						
EYAK	**Cordova Ski Ar**	**3.49**	**135**	P	**Pn**	**08 21 07.9**	**-1.2**
EYAK	**Cordova Ski Ar**	**3.49**	**135**		**Pn**	**08 21 07.8**	**-1.3**
EYAK	**Cordova Ski Ar**	**3.49**	**135**	P	**Pn**	**08 21 07.6**	**-1.4**
	baz=319,SNR=284						
P23K	**Montague Islan**	**3.49**	**151**		**Pn**	**08 21 07.3**	**-1.9**
P23K	**

M26K IAML 08 22 08.1
comp=E,4µm,0.6s
M26K IAML 08 22 10.4
comp=N,5µm,0.7s
M26K Nabesna, AK 3.65 97 P Pn 08 21 10.6 -0.6
baz=284,SNR=317
GLB Gilahina Butte 3.65 114 Pn Pn 08 21 10.3 -1.0
GLB IAML 08 21 54.1
comp=N,6µm,0.7s
GLB IAML 08 21 57.8
comp=E,4µm,0.7s
G23K Bananza Creek 3.66 5 Pn Pn 08 21 11.4 +0.1
G23K IAML 08 21 53.6
comp=E,3µm,0.9s
G23K IAML 08 21 54.3
comp=N,2µm,0.7s
G23K Bananza Creek 3.66 5 P Pn 08 21 11.6 +0.3
baz=185,SNR=1000
G23K S Sn 08 21 53.0 -0.9
baz=185
J17K VABM Dome 3.77 278 Pn Pn 08 21 12.6 -0.2
J17K IAML 08 21 55.2
comp=N,2µm,1.1s
J17K IAML 08 21 56.8
comp=E,3µm,1.3s
J17K VABM Dome 3.77 278 P Pn 08 21 12.5 -0.2
baz=92,SNR=372
J17K S Sn 08 21 53.7 -2.9
baz=92
GOAT Goat Mountain 3.81 129 Pn 08 21 11.8 -1.6
H25L Birch Creek 3.84 31 Pn 08 21 13.9 +0.2
H25L Birch Creek 3.84 31 P Pn 08 21 14.2 +0.5
baz=216,SNR=1000
H25L S Sn 08 21 58.4 +0.2
baz=216
G22K Bettles 3.87 356 Pn 08 21 14.1 0.0
G22K Bettles 3.87 356 P Pn 08 21 14.0 0.0
baz=175
G22K S Sn 08 21 57.1 -1.7
baz=175
O18K Koktuh Hills 3.88 215 Pn Pn 08 21 13.7 -0.5
O18K IAML 08 22 34.0
comp=N,2µm,0.8s
O18K Koktuh Hills 3.88 215 P Pn 08 21 13.8 -0.5
baz=32,SNR=449
O18K S Sn 08 21 56.9 -2.3
baz=32
G24K Hadweenzic Riv 3.89 20 Pn 08 21 14.5 +0.1
G24K Hadweenzic Riv 3.89 20 P Pn 08 21 14.6 +0.2
baz=202,SNR=1000
G24K S Sn 08 21 58.8 -0.7
baz=202
VRDI Verde Repeater 3.91 115 Pn Pn 08 21 13.5 -1.4
VRDI IAML 08 22 00.3
comp=N,4µm,0.9s
VRDI IAML 08 22 01.3
comp=E,3µm,0.8s
H18K Honhosa River 3.92 305 Pn Pn 08 21 14.6 -0.2
H18K IAML 08 21 59.9
comp=E,2µm,0.9s
H18K Honhosa River 3.92 305 P Pn 08 21 14.8 0.0
baz=119,SNR=539
H18K S Sn 08 21 59.2 -1.0
baz=119
AUCH Augustine Cone 3.95 200 Pn 08 21 15.0 -0.3
RAGM Ragged Mountai 3.97 130 Pn 08 21 13.9 -1.6
N17K Nushagak Hills 3.98 233 Pn Pn 08 21 14.9 -0.7
N17K Nushagak Hills 3.98 233 P Pn 08 21 14.9 -0.7
baz=47,SNR=931
N17K S Sn 08 21 59.2 -2.4
baz=47
K27K Chicken 4.00 72 Pn 08 21 15.5 -0.4
K27K IAML 08 22 00.8
comp=E,4µm,0.7s
K27K IAML 08 22 06.9
comp=N,4µm,0.7s
K27K Chicken 4.00 72 P Pn 08 21 15.6 -0.3
baz=260
K27K S Sn 08 21 59.1 -3.0
baz=260
I26K Coal Creek Min 4.01 53 Pn 08 21 15.6 -0.4
I26K Coal Creek Min 4.01 53 P Pn 08 21 15.6 -0.4
baz=239
I26K S Sn 08 22 00.6 -1.6
baz=239
MCARA McCarthy VSAT 4.01 112 Pn 08 21 15.4 -0.6
MCARA McCarthy VSAT 4.01 112 P Pn 08 21 15.5 -0.4
baz=298,SNR=477
MCARA S Sn 08 22 01.1 -1.1
baz=298
L27K Beaver Creek, 4.07 86 Pn Pn 08 21 16.1 -0.8
L27K IAML 08 22 24.5
comp=N,2µm,0.9s
L27K IAML 08 22 29.4
comp=E,2µm,0.8s
L27K Beaver Creek, 4.07 86 P Pn 08 21 16.0 -0.8
baz=274,SNR=1000
BCAR Beaver Creek A 4.09 86 Pn Pn 08 21 16.3 -0.8
G19K Purcell Mounta 4.10 321 Pn Pn 08 21 16.1 -1.0
G19K Purcell Mounta 4.10 321 P Pn 08 21 16.3 -0.8
baz=136,SNR=198
HMT Hamilton 4.15 129 Pn 08 21 16.4 -1.5
M27K Edge Creek, AK 4.16 96 Pn 08 21 18.2 0.0
M27K IAML 08 22 35.6
comp=E,3µm,1.1s
M27K IAML 08 22 36.3
comp=N,3µm,1.2s
M27K Edge Creek, AK 4.16 96 P Pn 08 21 18.0 -0.2
baz=284,SNR=1000
COLD Coldfoot 4.17 3 Pn 08 21 18.1 +0.1
COLD Coldfoot 4.17 3 P Pn 08 21 18.2 +0.1
baz=184,SNR=671
COLD S Sn 08 22 02.9 -3.0
baz=184
G25K Bearman Lake 4.20 26 Pn 08 21 18.6 +0.2
G25K Bearman Lake 4.20 26 P Pn 08 21 18.8 +0.4
baz=210,SNR=312
FYU Fort Yukon 4.22 32 Pn Pn 08 21 18.7 0.0
FYU IAML 08 22 41.6
comp=E,1µm,1.5s
FYU IAML 08 23 14.1
comp=N,2µm,1.4s
Q23K Middleton Isla 4.25 148 Pn Pn 08 21 17.6 -1.5
Q23K IAML 08 22 51.3
comp=N,5µm,1.1s
Q23K Middleton Isla 4.25 148 P Pn 08 21 17.9 -1.2
baz=332,SNR=24
MID Middleton Isla 4.25 148 P Pn 08 21 18.7 -0.5
MID Middleton Isla 4.25 148 Pn 08 21 17.6 -1.5
MID IAML 08 23 01.9
comp=E,5µm,1.3s
MID Middleton Isla 4.25 148 P Pn 08 21 17.6 -1.5
L16K Owhat River 4.28 255 Pn Pn 08 21 19.0 -0.5
L16K IAML 08 22 08.1
comp=E,1µm,1.3s
L16K IAML 08 22 09.5
comp=N,1µm,1.4s
L16K Owhat River 4.28 255 P Pn 08 21 18.9 -0.5
baz=68,SNR=1000
L16K S Sn 08 22 05.8 -2.8
baz=68
P18K Big Mountain, 4.28 212 Pn Pn 08 21 19.1 -0.6
P18K Big Mountain, 4.28 212 P Pn 08 21 19.1 -0.6
baz=28,SNR=227
P18K S Sn 08 22 05.6 -3.3
baz=28
CRQM Cirque 4.30 119 Pn 08 21 18.7 -1.3
F21K Alatna River 4.31 346 Pn Pn 08 21 20.0 0.0
F21K Alatna River 4.31 346 P Pn 08 21 20.2 +0.3
baz=163,SNR=1000
F21K S Sn 08 22 07.0 -2.4
baz=163
CRQE Cirque 4.32 119 P Pn 08 21 18.4 -1.9
baz=306,SNR=539
CRQE S Sn 08 22 05.7 -4.2
baz=306
NICHA Nichawak Mount 4.32 128 Pn 08 21 18.6 -1.6
PTPK Patty Peak 4.34 112 Pn 08 21 19.8 -0.8
M16K Timber Creek 4.37 245 Pn 08 21 19.9 -0.9
M16K IAML 08 22 12.6
comp=N,1µm,0.9s
M16K Timber Creek 4.37 245 P Pn 08 21 19.8 -0.9
baz=58,SNR=314
M16K S Sn 08 22 08.3 -2.6
baz=58
KAIM Kayak Island 4.39 133 Pn Pn 08 21 19.4 -1.8

KAIM IAML 08 22 12.3
comp=E,2µm,1.1s
KAIM IAML 08 22 45.3
comp=N,3µm,1.1s
KAIM Kayak Island 4.39 133 P Pn 08 21 19.2 -1.9
baz=319,SNR=43
KAIM S Sn 08 22 09.1 -2.3
baz=319
Q19K Cape Douglas, 4.40 200 Pn 08 21 20.6 -0.6
Q19K IAML 08 23 10.8
comp=N,4µm,1.0s
Q19K Cape Douglas, 4.40 200 P Pn 08 21 20.6 -0.6
baz=17,SNR=166
G18K Tagagawik 4.42 313 Pn 08 21 21.2 -0.2
G18K IAML 08 22 14.4
comp=E,2µm,0.8s
G18K IAML 08 22 14.6
comp=N,1µm,0.8s
G18K Tagagawik 4.42 313 P Pn 08 21 21.2 -0.2
baz=126,SNR=617
G18K S Sn 08 22 12.1 +0.1
baz=126
TGL Tana Glacier 4.42 118 Pn 08 21 20.1 -1.5
H17K Granite Mounta 4.43 299 Pn Pn 08 21 21.5 0.0
H17K IAML 08 22 12.2
comp=N,1µm,0.7s
H17K IAML 08 22 15.3
comp=E,2µm,1.3s
H17K Granite Mounta 4.43 299 P Pn 08 21 21.7 +0.1
baz=111,SNR=211
H17K S Sn 08 22 10.9 -1.3
baz=111
KHIT Khitrov Hills 4.45 123 Pn 08 21 20.1 -1.8
J16K Anvik River 4.46 277 Pn Pn 08 21 21.7 -0.2
J16K Anvik River 4.46 277 P Pn 08 21 21.8 -0.1
baz=89,SNR=301
J16K S Sn 08 22 08.8 -4.1
baz=89
BALM Baldy 4.47 114 Pn 08 21 20.9 -1.3
F22K John River 4.48 353 Pn 08 21 22.4 +0.1
F22K John River 4.48 353 P Pn 08 21 22.5 +0.2
baz=172
F22K S Sn 08 22 11.5 -2.0
baz=172
F20K Avaraart Lake 4.50 334 Pn 08 21 22.5 +0.1
F20K Avaraart Lake 4.50 334 P Pn 08 21 22.7 +0.3
baz=150
F20K S Sn 08 22 11.3 -2.5
baz=150
O17K Koliganek Bris 4.50 225 Pn 08 21 21.8 -0.8
O17K Koliganek Bris 4.50 225 P Pn 08 21 21.9 -0.6
baz=40,SNR=353
O17K S Sn 08 22 10.8 -3.1
baz=40
SUCK Suckling Hills 4.51 129 Pn 08 21 21.2 -1.5
I17K Unalakleet 4.52 285 Pn 08 21 23.0 +0.2
I17K IAML 08 22 16.5
comp=N,1µm,1.4s
I17K IAML 08 22 17.1
comp=E,2µm,1.2s
I17K Unalakleet 4.52 285 P Pn 08 21 23.0 +0.2
baz=96,SNR=95
I17K S Sn 08 22 12.6 -1.7
baz=96
KIAG Kiagna River 4.52 115 Pn 08 21 21.4 -1.6
GRIN Grindle Hills 4.53 125 Pn 08 21 21.6 -1.3
SYI Shuyak Island 4.56 191 Pn Pn 08 21 22.4 -1.0
SYI IAML 08 22 14.9
comp=N,2µm,0.4s
SYI IAML 08 22 15.2
comp=E,2µm,0.4s
Q20K Shuyak Island 4.56 191 P Pn 08 21 22.2 -1.2
baz=9.4,SNR=342
Q20K S Sn 08 22 11.2 -4.2
baz=9.4
EGAK Eagle 4.57 64 Pn 08 21 22.6 -0.9
EGAK IAML 08 22 30.2
comp=E,3µm,0.9s
EGAK Eagle 4.57 64 P Pn 08 21 23.0 -0.4
baz=252,SNR=1000
EGAK S Sn 08 22 14.0 -1.6
baz=252
WAX Waxell Ridge 4.60 122 Pn 08 21 23.0 -0.9
N16K Nishlik Lake 4.61 239 Pn 08 21 23.2 -0.8
N16K Nishlik Lake 4.61 239 P Pn 08 21 23.2 -0.8
baz=52,SNR=198
F24K Squaw Lake 4.61 14 Pn Pn 08 21 24.4 +0.3
F24K Squaw Lake 4.61 14 P Pn 08 21 24.4 +0.3
baz=196,SNR=280
F24K S Sn 08 22 15.9 -0.8
baz=196
BGLC Bering Glacier 4.65 126 Pn 08 21 23.5 -1.0
BGLC Bering Glacier 4.65 126 P Pn 08 21 23.3 -1.2
baz=313,SNR=18
ISLE Juniper Island 4.71 118 Pn 08 21 23.8 -1.7
I27K Kandik River 4.72 54 Pn 08 21 24.4 -1.0
I27K Kandik River 4.72 54 P Pn 08 21 24.9 -0.5
baz=241,SNR=1000
I27K S Sn 08 22 18.2 -1.0
baz=241
BARK Barkley Ridge 4.77 121 Pn 08 21 24.8 -1.4
P17K Kvichak River 4.77 218 Pn 08 21 25.8 -0.3
P17K Kvichak River 4.77 218 P Pn 08 21 25.8 -0.3
baz=33,SNR=115
SNH Sunshine Point 4.78 124 Pn 08 21 24.8 -1.4
SNH IAML 08 22 46.5
comp=E,3µm,1.3s
SNH IAML 08 22 48.4
comp=N,2µm,0.9s
F19K Shaleruckik Mo 4.79 325 Pn Pn 08 21 25.9 -0.5
F19K Shaleruckik Mo 4.79 325 P Pn 08 21 26.0 -0.4
baz=139,SNR=310
F19K S Sn 08 22 18.6 -2.3
baz=139
YUK2 White River 4.80 101 Pn 08 21 26.3 -0.3
GRNC Granite Creek 4.87 115 Pn 08 21 26.2 -1.6
GRNC IAML 08 22 49.5
comp=N,3µm,0.8s
GRNC IAML 08 22 59.6
comp=E,1µm,1.1s
G26K Porcupine Rive 4.88 34 Pn 08 21 26.8 -0.8
G26K Porcupine Rive 4.88 34 P Pn 08 21 26.9 -0.6
baz=220,SNR=877
G26K S Sn 08 22 22.2 -0.8
baz=220
KAHC Katmai Hardscr 4.91 207 Pn 08 21 27.2 -0.9
Q18K Katmai Hardscr 4.91 207 P Pn 08 21 27.3 -0.8
baz=23,SNR=303
Q18K S Sn 08 22 21.8 -2.1
baz=23
CTG Chitna Glacier 4.93 111 P Pn 08 21 27.6 -0.8
baz=299,SNR=457
CTG S Sn 08 22 23.2 -1.2
baz=299
CTGM Chitina Glacie 4.93 111 Pn 08 21 27.7 -0.7
CTGM IAML 08 22 25.4
comp=N,2µm,0.8s
CTGM IAML 08 22 26.0
comp=E,1µm,1.2s
G17K Kiwalik Mounta 4.94 304 Pn 08 21 28.0 -0.3
G17K Kiwalik Mounta 4.94 304 P Pn 08 21 28.1 -0.3
baz=115,SNR=313
G17K S Sn 08 22 24.4 0.0
baz=115
KAHG Katmai Hook Gl 4.96 204 Pn 08 21 27.8 -1.0
O16K Kokwok River B 4.97 228 Pn Pn 08 21 28.0 -0.8
O16K Kokwok River B 4.97 228 P Pn 08 21 28.0 -0.8
baz=42,SNR=83
YUK3 Moose Creek 4.97 101 Pn 08 21 28.9 -0.2
YUK3 Moose Creek 4.97 101 P Pn 08 21 29.0 0.0
baz=290,SNR=1000
YUK3 S Sn 08 22 23.8 -1.8
baz=290
CYK Cape Yakataga 4.97 124 Pn 08 21 27.6 -1.2
F25K Christian Rive 5.01 23 Pn 08 21 29.4 0.0
F25K Christian Rive 5.01 23 P Pn 08 21 29.5 +0.1
baz=208,SNR=1000
F25K S Sn 08 22 25.7 -0.5
baz=208
E23K Chandalar 5.02 5 Pn 08 21 29.7 +0.3
E23K Chandalar 5.02 5 P Pn 08 21 29.8 +0.3
baz=186,SNR=298
E23K S Sn 08 22 25.1 -1.4
baz=186
K15K Wolf Creek Mou 5.02 266 Pn Pn 08 21 28.8 -0.6
K15K Wolf Creek Mou 5.02 266 P Pn 08 21 29.3 -0.1

baz=76,SNR=248
K15K S Sn 08 22 24.1 -2.2
baz=76
H27K Steamboat Moun 5.07 47 Pn 08 21 29.1 -1.1
H27K Steamboat Moun 5.07 47 P Pn 08 21 29.3 -0.9
baz=236,SNR=893
H27K S Sn 08 22 26.1 -1.6
baz=236
BMAR Burnt Mountain 5.08 28 Pn Pn 08 21 30.3 0.0
YAH Yahtse 5.09 118 Pn 08 21 29.0 -1.6
YAH IAML 08 22 49.0
comp=E,2µm,1.1s
E22K Anaktuvuk Pass 5.09 356 Pn 08 21 30.8 +0.4
E22K Anaktuvuk Pass 5.09 356 P Pn 08 21 30.8 +0.4
baz=175
E22K S Sn 08 22 26.3 -1.8
baz=175
E24K Your Creek 5.10 10 Pn 08 21 30.7 +0.1
E24K Your Creek 5.10 10 P Pn 08 21 30.9 +0.3
baz=192
E24K S Sn 08 22 28.1 -0.3
baz=192
MESA MESA 5.12 121 Pn 08 21 29.7 -1.3
MESA MESA 5.12 121 P Pn 08 21 29.6 -1.3
baz=308,SNR=142
MESA S Sn 08 22 27.0 -2.2
baz=308
LOGN Logan Glacier 5.14 112 Pn 08 21 30.0 -1.2
LOGN IAML 08 22 35.6
comp=N,1µm,1.1s
LOGN IAML 08 23 01.5
comp=E,1µm,1.1s
E19K Redstone River 5.16 331 Pn 08 21 31.5 +0.2
E19K IAML 08 22 43.2
comp=N,635nm,1.0s
E19K Redstone River 5.16 331 P Pn 08 21 31.5 +0.2
baz=145,SNR=526
F18K Selawik 5.17 317 Pn 08 21 31.2 -0.2
F18K Selawik 5.17 317 P Pn 08 21 31.2 -0.2
baz=129,SNR=80
F18K S Sn 08 22 29.7 -0.3
baz=129
DAWY Dawson 5.18 74 Pn 08 21 31.1 -0.5
DAWY IAML 08 22 40.8
comp=N,2µm,0.6s
DAWY IAML 08 22 50.5
comp=E,2µm,0.8s
DAWY Dawson 5.18 74 P Pn 08 21 31.3 -0.4
baz=264,SNR=1000
DAWY S Sn 08 22 27.5 -2.9
baz=264
L15K Ungalak Mounta 5.18 259 Pn 08 21 31.0 -0.6
L15K Ungalak Mounta 5.18 259 P Pn 08 21 31.2 -0.4
baz=70,SNR=124
L15K S Sn 08 22 28.1 -2.1
baz=70
KVTA Katmai Vly 10 5.21 207 Pn 08 21 31.3 -0.9
M15K Kasigluk River 5.26 247 Pn 08 21 32.0 -0.8
M15K Kasigluk River 5.26 247 P Pn 08 21 32.0 -0.8
baz=59,SNR=210
M15K S Sn 08 22 30.8 -1.5
baz=59
Q16K King Salmon 5.27 216 P Pn 08 21 32.9 +0.1
baz=31,SNR=59
I28M Miner Creek 5.29 59 Pn Pn 08 21 32.9 -0.2
I28M IAML 08 22 54.0
comp=N,2µm,1.0s
I28M IAML 08 23 07.8
comp=E,2µm,1.0s
I28M Miner Creek 5.29 59 P Pn 08 21 32.5 -0.6
baz=248,SNR=1000
I28M S Sn 08 22 31.7 -1.2
baz=248
H16K Elim 5.30 292 Pn 08 21 33.0 -0.2
H16K Elim 5.30 292 P Pn 08 21 33.1 -0.2
baz=102,SNR=23
H16K S Sn 08 22 34.2 +1.0
baz=102
KABU Katmai Buttres 5.31 207 Pn 08 21 33.3 -0.2
KABU IAML 08 23 05.3
comp=E,1µm,0.9s
KABU IAML 08 23 20.1
comp=N,737nm,1.2s
KCE Katmai Mt Cerb 5.32 206 Pn 08 21 32.6 -0.9
N15K Kwethluk River 5.32 241 Pn Pn 08 21 32.8 -0.8
N15K IAML 08 23 15.3
comp=E,1µm,0.8s
N15K IAML 08 23 25.6
comp=N,1µm,0.9s
N15K Kwethluk River 5.32 241 P Pn 08 21 32.7 -0.8
baz=53,SNR=85
P16K Nushagak River 5.37 224 Pn 08 21 34.0 -0.1
P16K Nushagak River 5.37 224 P Pn 08 21 34.0 -0.1
baz=38,SNR=40
ACHA Angle Creek He 5.38 207 Pn 08 21 34.3 -0.1
G27K Doyon Strip 5.38 42 Pn 08 21 33.1 -1.2
G27K Doyon Strip 5.38 42 P Pn 08 21 33.3 -1.0
baz=230,SNR=350
G27K S Sn 08 22 33.2 -2.0
baz=230
F26K Sheenjek River 5.39 28 Pn 08 21 33.9 -0.5
F26K Sheenjek River 5.39 28 P Pn 08 21 34.2 -0.2
baz=214,SNR=1000
F26K S Sn 08 22 33.1 -2.2
baz=214
KDAK Kodiak Island 5.39 190 Pn Pn 08 21 32.7 -1.9
KDAK IAML 08 22 35.5
comp=N,1µm,0.8s
KDAK IAML 08 22 36.4
comp=N,903nm,0.4s
KDAK Kodiak Island 5.39 190 P Pn 08 21 32.5 -2.1
baz=8.9
KDAK Kodiak Island 5.39 190 P Pn 08 21 32.4 -2.1
comp=N,126nm,0.4s,baz=60,slow=6.6,SNR=1264
KDAK S Sn 08 22 29.6 -5.8
comp=N,325nm,0.3s,baz=160,slow=22,SNR=14
KDAK LR LR 08 24 17.6
comp=N,162nm,18.0s,baz=43,slow=43
KDAK Kodiak Island 5.39 190 *i* P **Pn 08 21 31.7 -2.8**
ANCK Angle Creek 5.42 207 Pn 08 21 34.1 -0.9
CNTC Contact Creek 5.45 210 Pn 08 21 34.6 -0.7
Q17K Contact Creek 5.45 210 P Pn 08 21 34.7 -0.7
baz=25,SNR=351
YUK8 Steele Glacier 5.46 104 Pn 08 21 35.0 -0.7
YUK8 Steele Glacier 5.46 104 P Pn 08 21 34.9 -0.8
baz=294,SNR=446
YUK8 S Sn 08 22 38.1 +0.6
baz=294
E25K Arctic Village 5.50 21 Pn 08 21 36.0 +0.2
E25K Arctic Village 5.50 21 P Pn 08 21 36.0 +0.2
baz=205,SNR=1000
E25K S Sn 08 22 37.8 -0.1
baz=205
O28M Mount Upton 5.51 110 Pn 08 21 35.1 -1.3
O28M Mount Upton 5.51 110 P Pn 08 21 35.3 -1.1
baz=299,SNR=218
O28M S Sn 08 22 36.8 -1.8
baz=299
E21K Killik River 5.54 348 Pn 08 21 36.8 +0.4
E21K Killik River 5.54 348 P Pn 08 21 36.9 +0.4
baz=165
E21K S Sn 08 22 38.8 -0.1
baz=165
G16K Koyuk River 5.55 300 Pn 08 21 36.5 -0.2
G16K Koyuk River 5.55 300 P Pn 08 21 36.4 -0.2
baz=110,SNR=212
TOLK Toolik Lake Re 5.60 5 Pn Pn 08 21 38.9 +1.6
TOLK Toolik Lake Re 5.60 5 P Pn 08 21 38.4 +1.1
baz=186,SNR=351
TOLK S Sn 08 22 40.3 -0.2
baz=186
F17K Baldwin Pennin 5.60 312 Pn Pn 08 21 37.3 +0.1
F17K Baldwin Pennin 5.60 312 P Pn 08 21 37.4 +0.1
baz=122,SNR=50
F17K S Sn 08 22 39.6 -0.7
baz=122
SAMH Samovar Hills 5.61 117 Pn 08 21 36.7 -0.9
E20K Nigu River 5.65 339 Pn 08 21 38.8 +0.9
E20K Nigu River 5.65 339 P Pn 08 21 38.9 +0.9
baz=154
E20K S Sn 08 22 41.0 -0.7
baz=154
M29M Somme Creek 5.69 91 Pn Pn 08 21 38.3 -0.3
M29M Somme Creek 5.69 91 P Pn 08 21 38.1 -0.5
baz=282,SNR=689
M29M S Sn 08 22 41.0 -1.8

baz=282
J29N Klondike Camp 5.74 71 Pn 08 21 38.8 -0.4
J29N Klondike Camp 5.74 71 P Pn 08 21 38.9 -0.3
baz=262,SNR=20
L29M L29M 5.74 84 Pn Pn 08 21 38.6 -0.7
L29M L29M 5.74 84 P Pn 08 21 38.8 -0.4
baz=275,SNR=459
M14K Bethel 5.78 251 Pn Pn 08 21 39.3 -0.3
M14K Bethel 5.78 251 P Pn 08 21 39.5 -0.1
baz=62,SNR=211
M14K S Sn 08 22 43.1 -1.5
baz=62
R18K Karluk 5.83 200 Pn 08 21 38.8 -1.6
R18K Karluk 5.83 200 P Pn 08 21 38.7 -1.7
baz=17,SNR=21
R18K S Sn 08 22 42.8 -3.1
baz=17
L14K Kuka Creek 5.84 258 Pn 08 21 40.6 +0.2
L14K Kuka Creek 5.84 258 P Pn 08 21 40.6 +0.2
baz=68,SNR=471
L14K S Sn 08 22 44.6 -1.5
baz=68
PCA Pinnacle 5.85 116 Pn 08 21 39.6 -1.1
J14K Nanvaranak Lak 5.85 272 Pn 08 21 40.3 -0.3
J14K Nanvaranak Lak 5.85 272 P Pn 08 21 40.7 +0.2
baz=81,SNR=64
J14K S Sn 08 22 46.1 -0.2
baz=81
PINM Pinnacle 5.85 116 P Pn 08 21 39.3 -1.4
baz=305,SNR=577
PINM S Sn 08 22 43.3 -3.2
baz=305
D22K Ayikyak River 5.87 353 Pn Pn 08 21 41.6 +0.7
D22K Ayikyak River 5.87 353 P Pn 08 21 42.1 +1.2
baz=172,SNR=315
O15K Ungalikthiuk R 5.88 232 Pn 08 21 40.6 -0.4
O15K Ungalikthiuk R 5.88 232 P Pn 08 21 40.8 -0.2
baz=45,SNR=70
I29M Ogilvie Camp, 5.90 62 Pn 08 21 40.8 -0.5
I29M Ogilvie Camp, 5.90 62 P Pn 08 21 41.0 -0.3
baz=253,SNR=1000
I29M S Sn 08 22 47.9 +0.3
baz=253
D23K Nanushuk River 5.91 0 Pn 08 21 42.6 +1.3
D23K Nanushuk River 5.91 0 P Pn 08 21 42.8 +1.4
baz=180
D23K S Sn 08 22 50.1 +2.4
baz=180
PLK5 Peulik 5 5.92 213 Pn 08 21 41.5 -0.2
YUK4 Talbot Arm 5.94 102 P Pn 08 21 41.4 -0.6
baz=291,SNR=124
K29M Barlow Dome 5.99 77 Pn Pn 08 21 42.5 -0.1
K29M Barlow Dome 5.99 77 P Pn 08 21 42.0 -0.6
baz=268,SNR=246
E18K Tukpahlearik C 5.99 321 Pn Pn 08 21 42.5 0.0
E18K Tukpahlearik C 5.99 321 P Pn 08 21 42.9 +0.4
baz=132,SNR=199
PLK2 Peulik 2 6.00 210 Pn 08 21 42.9 +0.2
OHAK Old Harbor 6.01 193 P Pn 08 21 41.1 -1.7
OHAK Old Harbor 6.01 193 Pn Pn 08 21 40.6 -2.2
OHAK Old Harbor 6.01 193 P Pn 08 21 40.3 -2.5
baz=11,SNR=64
OHAK S Sn 08 22 44.8 -5.5
baz=11
N14K Kuskokwak Cree 6.11 244 Pn 08 21 43.7 -0.4
N14K Kuskokwak Cree 6.11 244 P Pn 08 21 43.8 -0.4
baz=54,SNR=25
PLK4 Peulik 4 6.13 209 Pn 08 21 44.3 -0.2
G15K Niukluk 6.13 294 Pn 08 21 44.2 -0.1
G15K Niukluk 6.13 294 P Pn 08 21 44.5 +0.1
baz=102,SNR=120
D20K Etivluk River 6.13 340 Pn 08 21 44.6 +0.2
D20K Etivluk River 6.13 340 P Pn 08 21 44.8 +0.3
baz=154,SNR=379
D20K S Sn 08 22 54.7 +1.4
baz=154
D24K Happy Valley 6.15 7 Pn Pn 08 21 45.7 +1.2
D24K Happy Valley 6.15 7 P Pn 08 21 46.3 +1.8
baz=188,SNR=212
D24K S Sn 08 22 54.8 +1.3
baz=188
E17K Hotham Inlet 6.15 316 Pn 08 21 44.4 -0.2
E17K Hotham Inlet 6.15 316 P Pn 08 21 44.7 0.0
baz=126,SNR=58
H29M Whitestone 6.18 54 Pn Pn 08 21 44.7 -0.4
H29M Whitestone 6.18 54 P Pn 08 21 44.4 -0.7
baz=245,SNR=585
H29M S Sn 08 22 54.0 -0.4
baz=245
BCPM Bancas Point 6.18 116 Pn 08 21 43.9 -1.3
D19K Kuna River 6.21 334 Pn Pn 08 21 45.5 0.0
D19K Kuna River 6.21 334 P Pn 08 21 45.9 +0.4
baz=148,SNR=300
D19K S Sn 08 22 55.3 +0.2
baz=148
YUK6 Outpost Mounta 6.23 105 Pn 08 21 44.8 -1.1
YUK6 Outpost Mounta 6.23 105 P Pn 08 21 44.9 -1.1
baz=295,SNR=83
YUK6 S Sn 08 22 53.7 -2.2
baz=295
C21K Knifeblade Rid 6.31 347 Pn 08 21 47.8 +1.0
C21K Knifeblade Rid 6.31 347 P Pn 08 21 47.8 +1.0
baz=163,SNR=608
C21K S Sn 08 22 57.9 +0.5
baz=163
O14K Tigyukauivet M 6.36 238 Pn Pn 08 21 47.0 -0.5
O14K Tigyukauivet M 6.36 238 P Pn 08 21 47.1 -0.5
baz=49,SNR=27
E27K Coleen River 6.37 33 Pn Pn 08 21 46.9 -0.7
E27K Coleen River 6.37 33 P Pn 08 21 46.9 -0.7
baz=221,SNR=284
E27K S Sn 08 22 57.6 -1.4
baz=221
M30M Minto, Yukon 6.43 88 Pn Pn 08 21 47.6 -0.8
M30M Minto, Yukon 6.43 88 P Pn 08 21 47.4 -1.0
baz=280,SNR=130
F28M Old Crow 6.43 40 Pn Pn 08 21 47.5 -1.0
F28M Old Crow 6.43 40 P Pn 08 21 47.4 -1.0
baz=230,SNR=224
F28M S Sn 08 22 59.2 -1.2
baz=230
O29M Mount Kennedy 6.44 110 Pn 08 21 47.1 -1.6
O29M Mount Kennedy 6.44 110 P Pn 08 21 47.7 -1.0
baz=301,SNR=29
O29M S Sn 08 23 00.4 -0.4
baz=301
PNL Peninsula 6.45 117 P Pn 08 21 48.0 -0.7
PNL Peninsula 6.45 117 Pn 08 21 47.2 -1.5
PNL Peninsula 6.45 117 P Pn 08 21 47.6 -1.2
baz=307,SNR=237
PNL S Sn 08 23 00.1 -0.9
baz=307
D25K Kavik River 6.51 14 Pn 08 21 50.7 +1.2
D25K Kavik River 6.51 14 P Pn 08 21 50.8 +1.2
baz=198
D25K S Sn 08 23 03.9 +1.6
baz=198
YUK7 Dusty Glacier 6.51 107 Pn 08 21 48.5 -1.3
K13K Kusilvak Mount 6.53 266 Pn Pn 08 21 49.6 -0.1
K13K Kusilvak Mount 6.53 266 P Pn 08 21 49.6 -0.1
baz=74,SNR=53
K13K S Sn 08 23 01.3 -1.5
baz=74
M13K Dall Lake 6.54 251 Pn Pn 08 21 50.3 +0.4
M13K Dall Lake 6.54 251 P Pn 08 21 50.6 +0.7
baz=61,SNR=72
M13K S Sn 08 23 03.5 +0.5
baz=61
F15K North Star Dit 6.56 300 Pn 08 21 49.8 -0.4
F15K North Star Dit 6.56 300 P Pn 08 21 50.2 0.0
baz=108,SNR=85
F15K S Sn 08 23 02.8 -0.7
baz=108
J30M Hart River 6.56 70 Pn Pn 08 21 50.3 0.0
J30M Hart River 6.56 70 P Pn 08 21 50.3 0.0
baz=263,SNR=832
J30M S Sn 08 23 01.5 -2.3
baz=263
N30M Aishikik Lake 6.59 98 Pn 08 21 49.9 -0.8
N30M Aishikik Lake 6.59 98 P Pn 08 21 49.8 -0.8
baz=290,SNR=274
N30M S Sn 08 23 03.8 -0.6
baz=290
G29M Pine Creek 6.62 49 Pn Pn 08 21 49.8 -1.2
G29M Pine Creek 6.62 49 P Pn 08 21 50.1 -0.9
baz=240,SNR=246
G29M S Sn 08 23 03.9 -1.2
baz=240
ANM Nome 6.63 289 Pn Pn 08 21 51.3 +0.2
ANM Nome 6.63 289 P Pn 08 21 51.3 +0.2
baz=96,SNR=24
ANM Nome 6.63 289 P Pn 08 21 51.3 +0.2
I30M Mount Dempster 6.65 65 Pn Pn 08 21 50.6 -0.9
I30M Mount Dempster 6.65 65 P Pn 08 21 50.4 -1.1
baz=258,SNR=546
I30M S Sn 08 23 04.9 -1.0
baz=258
HYT Haines Junctio 6.66 104 Pn Pn 08 21 50.3 -1.3
HYT Haines Junctio 6.66 104 P Pn 08 21 50.6 -1.0
baz=295,SNR=199
C24K Franklin Bluff 6.72 6 Pn 08 21 53.3 +1.1
C24K Franklin Bluff 6.72 6 P Pn 08 21 53.4 +1.2
baz=188
C24K S Sn 08 23 08.5 +1.3
baz=188
B21K Ikpikpuk River 6.74 348 Pn 08 21 52.6 0.0
B21K Ikpikpuk River 6.74 348 P Pn 08 21 52.7 +0.1
baz=165
B21K S Sn 08 23 08.5 +0.7
baz=165
SII Sitkinak Islan 6.77 196 P Pn 08 21 51.5 -1.5
SII Sitkinak Islan 6.77 196 Pn Pn 08 21 50.9 -2.1
SII Sitkinak Islan 6.77 196 P Pn 08 21 50.9 -2.1
baz=13,SNR=11
SII S Sn 08 23 03.6 -5.0
baz=13
C23K Itkillik River 6.78 0 Pn Pn 08 21 53.5 +0.5
C23K Itkillik River 6.78 0 P Pn 08 21 53.8 +0.7
baz=181,SNR=352
C23K S Sn 08 23 09.0 +0.2
baz=181
EPYK Eagle Plains 6.86 55 Pn 08 21 52.9 -1.3
EPYK Eagle Plains 6.86 55 P Pn 08 21 52.9 -1.3
baz=248,SNR=583
EPYK S Sn 08 23 09.9 -0.8
baz=248
D17K Noatak River 6.91 317 Pn 08 21 54.7 -0.1
D17K Noatak River 6.91 317 P Pn 08 21 54.7 -0.1
baz=126,SNR=38
D17K S Sn 08 23 13.2 +1.4
baz=126
C19K Lookout Ridge 7.02 333 Pn Pn 08 21 56.4 +0.1
C19K Lookout Ridge 7.02 333 P Pn 08 21 56.5 +0.1
baz=145,SNR=115
C19K S Sn 08 23 15.2 +0.6
baz=145
C18K Utukok River 7.02 327 Pn 08 21 56.1 -0.3
C18K Utukok River 7.02 327 P Pn 08 21 56.5 0.0
baz=138
C18K S Sn 08 23 13.5 -1.2
baz=138
RDOG Red Dog Mine 7.07 320 Pn 08 21 57.6 +0.6
RDOG Red Dog Mine 7.07 320 P Pn 08 21 57.8 +0.7
baz=129,SNR=213
C27K Jago River 7.15 20 Pn 08 21 58.3 +0.2
C27K Jago River 7.15 20 P Pn 08 21 59.0 +0.9
baz=207,SNR=1000
C27K S Sn 08 23 19.4 +1.7
baz=207
P29M Windy Craggy 7.16 113 Pn 08 21 57.1 -1.2
P29M Windy Craggy 7.16 113 P Pn 08 21 57.1 -1.2
baz=304,SNR=318
P29M S Sn 08 23 15.6 -2.4
baz=304
N31M Braeburn, Yuko 7.17 96 Pn 08 21 58.5 -0.1
N31M Braeburn, Yuko 7.17 96 P Pn 08 21 58.4 -0.1
baz=289,SNR=107
F14K Arctic Creek 7.18 296 Pn 08 21 58.5 0.0
F14K Arctic Creek 7.18 296 P Pn 08 21 58.6 +0.2
baz=103,SNR=43
E28M Babbage River 7.20 35 Pn Pn 08 21 57.9 -0.9
E28M Babbage River 7.20 35 P Pn 08 21 57.6 -1.1
baz=225,SNR=77
E28M S Sn 08 23 18.6 -0.3
baz=225
P30M Million Dollar 7.22 108 Pn 08 21 57.7 -1.5
P30M Million Dollar 7.22 108 P Pn 08 21 58.3 -0.9
baz=300
P30M S Sn 08 23 17.4 -2.3
baz=300
C26K Camden Bay 7.25 16 Pn 08 22 00.1 +0.8
C26K Camden Bay 7.25 16 P Pn 08 22 00.5 +1.1
baz=202,SNR=770
C26K S Sn 08 23 22.5 +2.5
baz=202
G30M tAoh Zraii Nji 7.29 51 P Pn 08 21 58.0 -1.9
baz=244,SNR=120
G30M S Sn 08 23 20.1 -1.0
baz=244
O30N Mendenhall 7.31 102 Pn 08 21 58.7 -1.5
O30N Mendenhall 7.31 102 P Pn 08 21 58.8 -1.5
baz=295,SNR=140
D27M Malcolm River 7.34 28 Pn Pn 08 22 00.9 +0.2
D27M Malcolm River 7.34 28 P Pn 08 22 00.9 +0.2
baz=217
D27M S Sn 08 23 20.2 -2.2
baz=217
B22K Teshekpuk Lake 7.36 353 Pn Pn 08 22 00.6 -0.3
B22K Teshekpuk Lake 7.36 353 P Pn 08 22 00.5 -0.3
baz=171,SNR=165
B22K S Sn 08 23 22.4 -0.3
baz=171
B20K Meade River 7.40 343 Pn 08 22 00.8 -0.6
B20K Meade River 7.40 343 P Pn 08 22 00.9 -0.5
baz=157
B20K S Sn 08 23 25.1 +1.4
baz=157
C17K DeLong Mountai 7.42 322 Pn 08 22 01.7 -0.1
C17K DeLong Mountai 7.42 322 P Pn 08 22 02.0 +0.2
baz=131,SNR=73
C17K S Sn 08 23 25.8 +1.5
baz=131
E29M Blow River 7.50 39 Pn Pn 08 22 01.8 -1.0
E29M Blow River 7.50 39 P Pn 08 22 01.9 -1.0
baz=231,SNR=106
M31M Drury Creek, Y 7.60 89 Pn 08 22 04.4 +0.2
M31M Drury Creek, Y 7.60 89 P Pn 08 22 03.9 -0.3
baz=284,SNR=136
H31M Peel River 7.61 62 Pn 08 22 02.4 -1.9
H31M Peel River 7.61 62 P Pn 08 22 02.5 -1.8
baz=256,SNR=265
H31M S Sn 08 23 27.7 -1.1
baz=256
CHIR Chirikof Islan 7.69 201 Pn 08 22 02.2 -3.2
CHIR Chirikof Islan 7.69 201 P Pn 08 22 02.4 -3.1
baz=17
B18K Kokolik River 7.71 330 Pn 08 22 05.7 +0.2
B18K Kokolik River 7.71 330 P Pn 08 22 05.8 +0.3
baz=140,SNR=124
B18K S Sn 08 23 31.8 +0.7
baz=140
F30M Barrier River 7.73 47 Pn 08 22 04.3 -1.6
F30M Barrier River 7.73 47 P Pn 08 22 04.5 -1.4
baz=241,SNR=70
M11K Mekoryuk 7.80 257 Pn 08 22 08.0 +1.1
M11K Mekoryuk 7.80 257 P Pn 08 22 07.9 +1.0
baz=63,SNR=15
M11K S Sn 08 23 34.3 +0.8
baz=63
CHGN Chignik 7.82 213 Pn 08 22 05.9 -1.3
CHGN Chignik 7.82 213 P Pn 08 22 05.4 -1.8
baz=26,SNR=16
PLBC Pleasant Camp 7.83 111 Pn 08 22 06.1 -1.2
PLBC Pleasant Camp 7.83 111 P Pn 08 22 06.3 -1.0
baz=304,SNR=136
PLBC S Sn 08 23 33.4 -0.9
baz=304
TNA Tin City 7.84 296 Pn 08 22 07.3 -0.1
TNA Tin City 7.84 296 P Pn 08 22 07.7 +0.2
baz=101,SNR=30
WHY Whitehorse 7.89 101 Pn 08 22 07.3 -0.9
WHY Whitehorse 7.89 101 P Pn 08 22 07.2 -1.1
baz=295,SNR=71
D28M Stokes Point 7.92 33 Pn 08 22 08.5 +0.1
D28M Stokes Point 7.92 33 P Pn 08 22 09.0 +0.5
baz=223,SNR=19
D28M S Sn 08 23 37.9 +1.6
baz=223
C16K Lisburne Hills 7.94 317 Pn 08 22 08.9 +0.3
C16K Lisburne Hills 7.94 317 P Pn 08 22 09.1 +0.4
baz=124,SNR=60
C16K S Sn 08 23 38.7 +2.0
baz=124
G31M Satah River 7.97 54 Pn 08 22 06.8 -2.3
G31M Satah River 7.97 54 P Pn 08 22 06.8 -2.3
baz=249,SNR=181
VNHG Veniaminof 1 8.08 215 Pn 08 22 09.9 -0.9
A22K Sinclair Lake 8.12 350 Pn 08 22 10.2 -1.0
A22K Sinclair Lake 8.12 350 P Pn 08 22 10.1 -1.0
baz=166
A22K S Sn 08 23 39.1 -1.9
baz=166
S14K Fog Glacier 8.13 217 P Pn 08 22 12.2 +0.7
baz=30
VNFG Fog Glacier, M 8.13 217 Pn 08 22 12.2 +0.7
A19K Wainwright 8.22 335 Pn 08 22 12.2 -0.3
A19K Wainwright 8.22 335 P Pn 08 22 12.2 -0.3
baz=145,SNR=19
A19K S Sn 08 23 42.2 -1.3
baz=145
SKAG Skagway 8.27 109 P Pn 08 22 12.2 -1.1
SKAG Skagway 8.27 109 Pn 08 22 12.2 -1.1
SKAG Skagway 8.27 109 P Pn 08 22 12.4 -0.9
baz=302,SNR=65
SKAG S Sn 08 23 41.9 -3.0
baz=302
F31M Tsiigehtchic 8.36 51 Pn 08 22 11.6 -2.7
F31M Tsiigehtchic 8.36 51 P Pn 08 22 11.6 -2.7
baz=246,SNR=150
F31M S Sn 08 23 43.1 -3.7
baz=246
N32M Quiet Lake 8.51 95 Pn 08 22 16.5 -0.1
N32M Quiet Lake 8.51 95 P Pn 08 22 16.5 -0.1
baz=291
A21K Barrow 8.57 347 Pn 08 22 15.8 -1.4
A21K Barrow 8.57 347 P Pn 08 22 16.0 -1.2
baz=162,SNR=8.3
A21K S Sn 08 23 46.5 -5.5
baz=162
R31K City Hall, Gus 8.71 116 P Pn 08 22 17.7 -1.5
baz=309
S31K Pelican 8.81 119 Pn 08 22 18.9 -1.6
S31K Pelican 8.81 119 P Pn 08 22 18.9 -1.6
baz=312,SNR=38
INK Inuvik 8.81 46 P Pn 08 22 19.4 -1.0
baz=242,SNR=226
INK Inuvik 8.81 46 P Pn 08 22 18.3 -2.1
comp=N,191nm,1.0s,baz=232,slow=16,SNR=143
INK S Sn 08 23 55.7 -2.1
comp=N,106nm,0.9s,baz=157,slow=4.6,SNR=4.8
P32M Atlin 8.91 105 Pn 08 22 20.6 -1.3
P32M Atlin 8.91 105 P Pn 08 22 20.6 -1.3
baz=300,SNR=22
BESE Bessie Mountai 8.98 113 Pn 08 22 20.8 -2.0
P33M Teslin, Yukon 9.01 101 Pn 08 22 22.0 -1.3
P33M Teslin, Yukon 9.01 101 P Pn 08 22 22.2 -1.0
baz=296,SNR=19
R32K Eaglecrest 9.31 114 Pn 08 22 25.0 -2.2
R32K Eaglecrest 9.31 114 P Pn 08 22 25.3 -1.9
baz=308,SNR=112
JIS Juneau Island 9.36 114 P Pn 08 22 26.4 -1.5
JIS Juneau Island 9.36 114 Pn 08 22 25.9 -2.0
S12K Black Hills 9.36 223 Pn Pn 08 22 28.3 +0.3
S12K Black Hills 9.36 223 P Pn 08 22 28.5 +0.5
baz=33,SNR=13
GAMB Gambell 9.39 284 Pn 08 22 28.8 +0.5
GAMB Gambell 9.39 284 P Pn 08 22 29.1 +0.8
baz=85,SNR=35
CHNA Chernabura Isl 9.44 213 P Pn 08 22 26.8 -2.2
baz=25,SNR=9.8
PS1A Pavlof South-1 9.50 221 Pn 08 22 29.9 0.0
SIT Sitka 9.79 121 P Pn 08 22 32.2 -1.4
SIT Sitka 9.79 121 Pn 08 22 32.3 -1.4
SIT Sitka 9.79 121 P Pn 08 22 32.3 -1.4
baz=314,SNR=38
SIT Sitka 9.79 121 P Pn 08 22 32.3 -1.4
S32K Killisnoo 9.80 118 Pn 08 22 32.2 -1.6
S32K Killisnoo 9.80 118 P Pn 08 22 32.4 -1.4
baz=312,SNR=42
Q32M Nakina River 9.87 106 Pn 08 22 33.0 -1.9
Q32M Nakina River 9.87 106 P Pn 08 22 32.9 -2.1
baz=302,SNR=41
R33M Jennings River 10.22 102 Pn Pn 08 22 39.0 -0.6
R33M Jennings River 10.22 102 P Pn 08 22 39.2 -0.3
baz=300,SNR=33
FALS False Pass 10.50 224 P Pn 08 22 44.0 +0.8
FALS False Pass 10.50 224 P Pn 08 22 43.1 -0.1
baz=33,SNR=14
T33K Petersburg 10.90 117 P Pn 08 22 47.2 -1.3
baz=312
S34M Telegraph Cree 10.96 109 Pn Pn 08 22 49.0 -0.4
S34M Telegraph Cree 10.96 109 P Pn 08 22 49.2 -0.2
baz=306,SNR=38
DLBC Dease Lake 11.14 105 P Pn 08 22 50.9 -0.9
baz=303,SNR=24
DLBC Dease Lake 11.14 105 P Pn 08 22 51.1 -0.7
comp=N,24nm,0.8s,baz=300,slow=12,SNR=33
DLBC S Sn 08 24 59.5 +5.2
comp=N,17nm,0.8s,baz=182,slow=22,SNR=1.2
U33K Whale Pass 11.32 120 Pn Pn 08 22 53.0 -1.1
U33K Whale Pass 11.32 120 P Pn 08 22 53.5 -0.6
baz=315,SNR=15
SPIA Saint Paul Isl 11.34 247 P Pn 08 22 54.6 +0.2
baz=51
WRAK Wrangell Islan 11.41 117 Pn 08 22 54.4 -0.9
WRAK Wrangell Islan 11.41 117 P Pn 08 22 54.8 -0.6
baz=313,SNR=13
CRAG Craig 11.79 122 P Pn 08 23 01.0 +0.7
CRAG Craig 11.79 122 Pn 08 23 00.4 +0.2
CRAG Craig 11.79 122 P Pn 08 23 00.2 -0.1
baz=317
T35M Bob Quinn 11.91 112 Pn Pn 08 23 01.7 -0.2
T35M Bob Quinn 11.91 112 P Pn 08 23 01.2 -0.7
baz=309,SNR=33
UNV Unalaska Valle 12.35 229 P Pn 08 23 08.9 +1.2
UNV Unalaska Valle 12.35 229 P Pn 08 23 05.9 -1.8
baz=35,SNR=14
C36M Paulatuk 12.38 48 Pn Pn 08 23 03.7 -4.2
C36M Paulatuk 12.38 48 P Pn 08 23 04.0 -4.0
baz=252,SNR=68
V35K Ketchikan 12.48 120 Pn Pn 08 23 09.0 -0.3
V35K Ketchikan 12.48 120 P Pn 08 23 09.7 +0.3
baz=316,SNR=20
U35K Hyder 12.71 115 P Pn 08 23 12.7 +0.5
baz=313
TOAD Toad River Com 13.06 97 P Pn 08 23 17.1 +0.2
baz=300,SNR=23
A36M Sachs Harbour 13.09 36 Pn Pn 08 23 13.9 -3.2
A36M Sachs Harbour 13.09 36 P Pn 08 23 14.3 -2.8
baz=240,SNR=129
RUBB Prince Rupert 13.75 120 Pn Pn 08 23 25.4 -0.4
DIB Dawson Inlet, 13.78 128 Pn Pn 08 23 26.1 0.0
NIKH Nikolski High 13.88 231 P Pn 08 23 28.0 +0.5
NIKH Nikolski High 13.88 231 Pn Pn 08 23 26.8 -0.7
NIKH Nikolski High 13.88 231 P Pn 08 23 25.3 -2.2
baz=36
GRNB Grenville Isla 14.22 121 Pn Pn 08 23 32.0 +0.2
CLES Cleveland East 14.38 233 Pn Pn 08 23 33.4 -0.4
HG4B Hotspring 14.97 127 Pn Pn 08 23 40.5 -0.8
BBB Bella Bella 16.21 122 P Pn 08 23 57.2 +0.5
BBB Bella Bella 16.21 122 P P 08 23 58.4 +1.0
comp=N,48nm,0.8s,baz=321,slow=11,SNR=18
YKA Yellowknife Ar 16.42 76 Pn 08 23 57.6 -1.5
YKA Yellowknife Ar 16.42 76 P Pn 08 23 58.5 -0.6
comp=N,53nm,0.7s,baz=285,slow=11,SNR=108
YKA PcP PcP 08 28 42.7 -0.2
comp=N,4.6nm,0.8s,baz=276,slow=1.8,SNR=3.7
YKA LR LR 08 31 44.2
comp=N,41nm,18.8s,baz=321,slow=42
YKA ScP ScP 08 32 05.7 +0.2
comp=N,4.4nm,0.9s,baz=295,slow=2.5,SNR=6.8
YKAB2 New Yellowknif 16.44 76 Pn Pn 08 23 58.1 -1.2
ATKA Atka Island 16.50 239 P P 08 24 01.1 +0.6
ATKA Atka Island 16.50 239 P Pn 08 23 59.8 -0.3
HILA High Level 16.93 90 P P 08 24 05.0 -0.3
GSTR Great Sitkin T 17.32 242 P P 08 24 08.3 -1.3
ADK Adak 17.73 243 P Pn 08 24 15.5 +0.5
ADK Adak 17.73 243 P 08 24 13.7 -0.4
ADK Adak 17.73 243 P P 08 24 13.7 -0.4
KIWB Kanaga Island 17.94 243 P P 08 24 16.6 +0.2
BILL Bilibino 18.13 305 ⇑iP P 08 24 17.8 -0.5
BILL eS S 08 27 39.1 -0.3
BILL pmax pmax
comp=Z,41nm,1.3s
CBB Campbell River 18.98 122 P P 08 24 27.2 -0.5
CLRS Cowichan Lake 20.43 122 P P 08 24 43.5 +0.1
SHEM Shemya Is, Ala 21.06 257 P P 08 24 49.4 -0.6

comp=Z,12nm,0.5s,baz=29,slow=1.8,SNR=6.8
comp=Z,12nm,0.5s
B04A Port Angeles 21.30 122 P **P 08 24 54.0 +1.3**
NLWA Neilton Lookou 21.71 124 P **P 08 24 56.9 -0.2**
GNW Green Mountain 21.96 122 P **P 08 25 00.9 +1.2**
RES Resolute Bay 22.14 36 P **P 08 25 00.8 -0.5**
RES Resolute Bay 22.14 36 P **P 08 25 00.8 -0.5**
E03A Lebam 22.53 125 P **P 08 25 06.0 +0.6**
D05A Enumclaw 22.60 121 P **P 08 25 07.5 +1.4**
B08A Colville Reser 22.72 116 P **P 08 25 07.4 +0.1**
LON Longmire 23.03 122 P **P 08 25 11.2 +0.9**
LON Longmire 23.03 122 P **P 08 25 11.2 +0.9**
F03A Seaside 23.05 125 P **P 08 25 11.8 +1.3**
LTY Liberty 23.06 119 P **P 08 25 10.7 +0.1**
F04A Amboy 23.48 124 P **P 08 25 14.3 0.0**
C09A Chrisman Ranch 23.59 115 P **P 08 25 15.3 -0.2**
NEW Newport 23.71 113 P **P 08 25 17.0 +0.5**
NEW Newport 23.71 113 P **P 08 25 17.2 +0.7**
baz=321,SNR=50
NEW Newport 23.71 113 P **P 08 25 17.6 +1.1**
comp=Z,36nm,0.9s,baz=320,slow=8.0,SNR=47
NEW pP **pP 08 25 44.0 +1.9**
comp=Z,49nm,0.9s,baz=323,slow=10,SNR=11
NEW LR LR 08 34 14.4
comp=Z,130nm,21.4s,baz=323,slow=35
comp=Z,36nm,0.9s
MXC Moxie City 23.77 120 P **P 08 25 17.6 +0.6**
G03D McMinnville, O 23.77 126 P **P 08 25 18.2 +1.2**
D08A Wollman Farm, 23.92 117 P **P 08 25 19.0 +0.6**
E07A Sunnyside 23.95 119 P **P 08 25 20.1 +1.4**
HAWA Hanford 24.22 119 P **P 08 25 20.8 -0.2**
HOOD Mount Hood Mea 24.28 123 P **P 08 25 22.1 +0.2**
COR Corvallis 24.29 127 P **P 08 25 24.9 +3.2**
F07A Phinny Hill Vi 24.47 120 P **P 08 25 24.8 +1.4**
F07A IAmb IAmb 08 25 25.8
comp=Z,83nm,0.8s
G05A Wamic 24.48 123 P **P 08 25 23.4 0.0**
H04D Lebanon 24.55 126 P **P 08 25 24.8 +0.7**
H04A Detroit Lake 24.62 125 P **P 08 25 25.4 +0.6**
G06A Carlson Farm, 24.74 122 P **P 08 25 26.7 +0.8**
I03D Drain, OR 25.05 128 P **P 08 25 29.5 +1.0**
SEY Seymchan 25.09 295*ce***P P 08 25 28.4 -0.3**
SEY pmax pmax
comp=Z,51nm,1.3s
I05D Terrebonne, OR 25.23 124 P **P 08 25 30.8 +0.5**
I04A Tendick Farm, 25.30 126 P **P 08 25 30.6 -0.4**
J01E Myrtle Point 25.30 129 P **P 08 25 32.1 +1.2**
G08A Pilot Rock 25.35 120 P **P 08 25 32.2 +0.7**
F10A Beach Ranch, E 25.49 116 P **P 08 25 33.0 +0.3**
DBO Dodson Butte 25.59 128 P **P 08 25 35.1 +1.5**
DBO IAmb IAmb 08 26 04.1
comp=Z,71nm,1.1s
K02D Willamette Mer 25.81 129 P **P 08 25 37.1 +1.5**
K02D IAmb IAmb 08 26 05.9
comp=Z,64nm,0.9s
FFC Flin Flon 25.95 86 P **P 08 25 36.4 -0.2**
FFC Flin Flon 25.95 86 P **P 08 25 36.4 -0.2**
FFC pmax pmax
comp=Z,32nm,0.8s
HUMO Hull Mountain 26.14 129 P **P 08 25 39.6 +1.2**
I07A Izee 26.15 122 P **P 08 25 39.2 +0.5**
J05D Fort Rock, OR 26.17 125 P **P 08 25 39.6 +0.6**
MSO Missoula 26.17 111 P **P 08 25 38.7 -0.2**
MSO Missoula 26.17 111 P **P 08 25 39.4 +0.5**
baz=322,SNR=29
BMO Blue Mountains 26.37 118 P **P 08 25 41.0 +0.3**
BMO Blue Mountains 26.37 118 P **P 08 25 41.0 +0.3**
BMO pmax pmax
comp=Z,48nm,1.1s
OVMT Ovando 26.39 110 P **P 08 25 41.0 +0.2**
L04D Klamath Falls 26.71 128 P **P 08 25 45.2 +1.5**
L04D IAmb IAmb 08 26 13.8
comp=Z,56nm,0.9s
PLID Pearl Lake 26.71 116 P **P 08 25 44.1 +0.3**
LYMT Lyon Mountain 26.77 109 P **P 08 25 43.6 -0.8**
YBH Yreka Blue Hor 26.99 129 P **P 08 25 47.5 +1.2**
YBH Yreka Blue Hor 26.99 129 P **P 08 25 47.9 +1.6**
comp=Z,16nm,0.9s,baz=340,slow=1.7,SNR=22
YBH pP **pP 08 26 14.6 +1.3**
comp=Z,33nm,0.9s,baz=326,slow=3.2,SNR=16
YBH LR LR 08 35 40.2
comp=Z,68nm,20.4s,baz=348,slow=34
comp=Z,16nm,0.9s
EGMT Eagleton 27.07 104 P **P 08 25 46.7 -0.1**
EGMT IAmb IAmb 08 25 48.8
comp=Z,105nm,0.9s
EGMT Eagleton 27.07 104 P **P 08 25 47.9 +1.0**
baz=319,SNR=40
FCC Fort Churchill 27.10 73 P **P 08 25 46.5 -0.4**
FCC IAmb IAmb 08 25 48.7
comp=Z,78nm,1.1s
FCC Fort Churchill 27.10 73 P **P 08 25 46.5 -0.4**
FCC pmax pmax
comp=Z,78nm,1.2s
J08A Circle Bar Ran 27.16 121 P **P 08 25 48.2 +0.4**
MA2 Magadan 27.42 290 P **P 08 25 50.0 +0.3**
MA2 Magadan 27.42 290 P **P 08 25 50.2 +0.5**
MA2 Magadan 27.42 290*ce***P P 08 25 49.7 0.0**
MA2 pmax pmax
comp=Z,42nm,1.0s
MA2 Magadan 27.42 290 P **P 08 25 49.4 -0.3**
comp=Z,46nm,1.1s
WVOR Wild Horse Val 27.88 123 P **P 08 25 55.0 +0.8**
WVOR Wild Horse Val 27.88 123 P **P 08 25 55.0 +0.8**
WVOR pmax pmax
comp=Z,30nm,1.0s
BOZ Bozeman (W) 28.13 110 P **P 08 25 56.4 0.0**
BOZ Bozeman (W) 28.13 110 P **P 08 25 57.5 +1.1**
baz=322,SNR=23
BOZ Bozeman (W) 28.13 110 P **P 08 25 56.4 0.0**
BOZ pmax pmax
comp=Z,39nm,1.3s
MFID Camas Ranch 28.16 118 P **P 08 25 57.2 +0.6**
PEA0B Petropavlovsk- 28.22 274 P **P 08 25 56.2 -0.7**
PEA0B Petropavlovsk- 28.22 274*ce***P P 08 25 57.1 +0.1**
PETK Petropavlovsk- 28.22 274 P **P 08 25 56.1 -0.9**
comp=Z,9.3nm,0.9s,baz=72,slow=11,SNR=20
PETK pP **pP 08 26 23.7 -0.3**
comp=Z,8.8nm,0.8s,baz=71,slow=10.0,SNR=5.2
comp=Z,9.3nm,0.9s
HATC Hat Creek Radi 28.24 128 P **P 08 25 57.4 0.0**
O02D Mt. Diablo Mer 28.34 131 P **P 08 25 59.8 +1.5**
HLID Hailey 28.61 116 P **P 08 26 01.0 +0.2**
HLID Hailey 28.61 116 P **P 08 26 01.5 +0.8**
baz=326,SNR=23
YHH Holmes Hill 29.11 110 P **P 08 26 06.6 +1.4**
RLMT Red Lodge 29.52 108 P **P 08 26 10.6 +1.8**
RLMT IAmb IAmb 08 26 11.9
comp=Z,85nm,1.0s
RLMT Red Lodge 29.52 108 P **P 08 26 10.4 +1.6**
baz=322,SNR=41
H17A Grant Village 29.54 110 P **P 08 26 11.7 +2.7**
baz=324,SNR=9.1
TIXI Tiksi 29.69 321 P **P 08 26 09.3 -0.4**
TIXI Tiksi 29.69 321 LR LR 08 40 46.9
comp=Z,69nm,18.4s,baz=33,slow=42
TIXI Tiksi 29.69 321*ce***P P 08 26 08.5 -1.2**
TIXI pmax pmax
comp=Z,7.0nm,0.7s
FLWY Flagg Ranch 29.74 111 P **P 08 26 12.5 +1.7**
FLWY IAmb IAmb 08 26 14.4
comp=Z,41nm,0.8s
IMW Indian Meadow 29.79 111 P **P 08 26 12.6 +1.4**
IMW IAmb IAmb 08 26 14.8
comp=Z,241nm,2.0s
FXWY Fox Creek 29.96 112 P **P 08 26 14.0 +1.3**
PAHR Pah Rah Range 29.97 126 P **P 08 26 13.3 +0.6**
MOOW Moose Ponds 29.99 111 P **P 08 26 13.9 +0.9**
AFDM Forest Hills D 30.07 129 P **P 08 26 14.2 +0.8**
MPK Martis Peak 30.10 128 P **P 08 26 14.9 +0.9**
MPK IAmb IAmb 08 26 44.6
comp=Z,64nm,1.0s
TPAW Teton Pass 30.11 112 P **P 08 26 15.5 +1.4**
TPAW IAmb IAmb 08 26 18.4
comp=Z,121nm,1.6s
BMN Battle Mountai 30.15 123 P **P 08 26 14.9 +0.6**
BMN Battle Mountai 30.15 123 P **P 08 26 14.9 +0.6**
BMN pmax pmax
comp=Z,31nm,1.5s
LOHW Long Hollow 30.16 111 P **P 08 26 15.4 +0.9**
SNOW Snow King Moun 30.22 112 P **P 08 26 15.9 +0.9**
SNOW IAmb IAmb 08 26 18.5
comp=Z,114nm,1.8s
REDW Red Top Meadow 30.26 112 P **P 08 26 16.5 +1.2**
EMB Emerald Bay 30.36 128 P **P 08 26 16.8 +0.5**
PNTR Pine Nut 30.44 127 P **P 08 26 18.3 +1.4**
ELK Elko 30.65 120 P **P 08 26 20.9 +2.2**
ELK Elko 30.65 120 P **P 08 26 21.0 +2.2**
ELK pmax pmax
comp=Z,40nm,1.1s
YERR Yerington 30.66 127 P **P 08 26 20.4 +1.5**
HVU Hansel Valley 30.77 116 P **P 08 26 21.7 +2.0**
HVU Hansel Valley 30.77 116 P **P 08 26 21.7 +2.0**
HVU pmax pmax
comp=Z,19nm,0.8s
WAKR Walker 31.01 128 P **P 08 26 23.5 +1.5**
WAKR IAmb IAmb 08 26 52.4
comp=Z,46nm,1.1s
KVN Kaiserville 31.02 125 P **P 08 26 23.8 +1.8**
KVN Kaiserville 31.02 125 P **P 08 26 23.8 +1.8**
KVN pmax pmax
comp=Z,22nm,1.0s
CMB Columbia Colle 31.09 129 P **P 08 26 23.8 +1.3**
CMB Columbia Colle 31.09 129 P **P 08 26 23.8 +1.3**
CMB pmax pmax
comp=Z,12nm,1.1s
RYN Ryan 31.23 126 P **P 08 26 25.6 +1.7**
BW06 Boulder Array 31.29 111 P **P 08 26 25.7 +1.3**
baz=325,SNR=58
SPUT South Promonto 31.29 116 P **P 08 26 26.1 +1.7**
PD31 Pinedale Array 31.29 111 P **P 08 26 25.9 +1.4**
PDAR Pinedale Array 31.29 111 P **P 08 26 26.4 +1.9**
PDAR Pinedale Array 31.29 111 P **P 08 26 26.1 +1.6**
comp=Z,27nm,0.8s,baz=318,slow=6.4,SNR=161
PDAR pP **pP 08 26 53.2 +1.4**
comp=Z,30nm,1.1s,baz=316,slow=6.2,SNR=6.6
PDAR PcP **PcP 08 29 15.3 -0.1**
comp=Z,6.2nm,0.8s,baz=156,slow=0.5,SNR=8.3
PDAR ScP **ScP 08 32 47.0 +0.6**
comp=Z,1.3nm,0.7s,baz=134,slow=0.7,SNR=7.6
comp=Z,27nm,0.8s
BGU Big Grassy Mou 31.38 117 P **P 08 26 27.0 +1.9**
HWUT Hardware Ranch 31.41 115 P **P 08 26 26.8 +1.4**
NVAR Mina Array Bea 31.49 126 P **P 08 26 27.9 +1.8**
NVAR Mina Array Bea 31.49 126 P **P 08 26 28.0 +1.8**
comp=Z,15nm,0.8s,baz=315,slow=8.3,SNR=121
NVAR pP **pP 08 26 55.4 +1.8**
comp=Z,28nm,0.9s,baz=306,slow=8.4,SNR=12
NVAR PcP **PcP 08 29 17.2 +1.2**
comp=Z,6.8nm,0.7s,baz=282,slow=2.1,SNR=12
NVAR ScP **ScP 08 32 48.3 +1.1**
comp=Z,1.4nm,0.9s,baz=299,slow=1.7,SNR=6.0
comp=Z,15nm,0.8s
NV11 Mina Array Sit 31.54 126 P **P 08 26 28.3 +1.7**
NV11 IAmb IAmb 08 26 57.1
comp=Z,49nm,1.1s
NEEM North Greenlan 31.56 24 *i* P **P 08 26 25.8 -0.7**
NEEM IAmb IAmb 08 26 27.3
comp=Z,57nm,0.8s
LHV Little Huntoon 31.57 127 P **P 08 26 28.3 +1.6**
LHV IAmb IAmb 08 26 58.0
comp=Z,55nm,1.1s
ULM Lac du Bonnet 31.71 88 P **P 08 26 28.6 +0.9**
ULM IAmb IAmb 08 26 29.5
comp=Z,46nm,0.9s
ULM Lac du Bonnet 31.71 88 P **P 08 26 28.5 +0.7**
comp=Z,35nm,0.8s,baz=307,slow=8.5,SNR=36
ULM PcP **PcP 08 29 15.9 -0.2**
comp=Z,15nm,0.6s,baz=332,slow=2.8,SNR=8.6
comp=Z,35nm,0.8s
ULM Lac du Bonnet 31.71 88 *i* P **P 08 26 27.1 -0.6**
MDND Maddock 31.75 94 P **P 08 26 29.2 +1.1**
MDND IAmb IAmb 08 26 30.5
comp=Z,96nm,0.9s
MDND Maddock 31.75 94 P **P 08 26 29.2 +1.1**
baz=318,SNR=16
TCUT Toone Canyon 31.88 115 P **P 08 26 31.3 +1.6**
TCUT IAmb IAmb 08 26 32.5
comp=Z,48nm,1.3s
MDPB Devils Postpil 31.92 128 P **P 08 26 31.9 +2.0**
MLAC Mammoth, Mammo 32.01 128 P **P 08 26 32.9 +2.1**
baz=333
DUG Dugway, Tooele 32.09 117 P **P 08 26 32.9 +1.6**
DUG Dugway, Tooele 32.09 117 P **P 08 26 33.0 +1.6**
baz=328,SNR=40
DUG Dugway, Tooele 32.09 117 P **P 08 26 32.9 +1.6**
DUG pmax pmax
comp=Z,29nm,0.9s
CTU Camp Tracy 32.10 116 P **P 08 26 32.7 +1.3**
CTU IAmb IAmb 08 26 33.8
comp=Z,37nm,0.9s
BBGB Big Mountain B 32.17 131 P **P 08 26 33.9 +1.9**
BBGB IAmb IAmb 08 27 07.9
comp=Z,42nm,0.9s
TPH Tonopah 32.20 125 P **P 08 26 34.1 +1.7**
TPH Tonopah 32.20 125 P **P 08 26 34.1 +1.7**
TPH pmax pmax
comp=Z,124nm,0.9s
E28A Huff 32.21 97 P **P 08 26 33.2 +1.1**
E28A IAmb IAmb 08 26 34.9
comp=Z,103nm,0.9s
JLU Jordanelle 32.30 115 P **P 08 26 34.4 +1.1**
MZP Montezuma Peak 32.47 126 P **P 08 26 36.3 +1.4**
SPR3 Spring Creek 3 32.50 121 P **P 08 26 37.0 +1.8**
SPR3 IAmb IAmb 08 26 39.0
comp=Z,57nm,1.5s
DSP Deep Springs 32.55 127 P **P 08 26 37.1 +1.9**
DSP IAmb IAmb 08 27 06.3
comp=Z,37nm,1.1s
R11B Troy Canyon, C 32.58 123 P **P 08 26 37.0 +1.3**
R11B Troy Canyon, C 32.58 123 P **P 08 26 37.3 +1.6**
baz=331,SNR=62
PMPB Monarch Peak 32.58 131 P **P 08 26 37.8 +2.2**
PMPB IAmb IAmb 08 27 06.2
comp=Z,39nm,0.9s
NLU North Lily Min 32.59 117 P **P 08 26 36.9 +1.1**
RSSD Black Hills 32.61 103 P **P 08 26 37.0 +1.1**
RSSD IAmb IAmb 08 26 38.3
comp=Z,68nm,0.8s
RSSD Black Hills 32.61 103 P **P 08 26 37.0 +1.1**
baz=322
RSSD Black Hills 32.61 103 P **P 08 26 37.0 +1.1**
RSSD pmax pmax
comp=Z,68nm,0.8s
RSSD Black Hills 32.61 103 P **P 08 26 37.2 +1.3**
RSSD pP **pP 08 27 04.1 +0.7**
RSSD sP **sP 08 27 18.9 +1.0**
RSSD PcP **PcP 08 29 19.3 +0.4**
BSUT Blindstream Ca 32.63 115 P **P 08 26 37.7 +1.4**
BSUT IAmb IAmb 08 26 39.3
comp=Z,55nm,0.9s
BSUT PcP **PcP 08 29 20.7 +1.4**
K22A Casper 32.69 108 P **P 08 26 37.5 +1.0**
K22A IAmb IAmb 08 26 38.8
comp=Z,67nm,1.1s
K22A Casper 32.69 108 P **P 08 26 37.9 +1.3**
baz=324,SNR=23
MPU Maple Canyon 32.72 116 P **P 08 26 38.3 +1.4**
TIN Tinemaha, Big 32.74 127 P **P 08 26 38.9 +1.9**
baz=333
VOG Valley Oaks Go 32.98 129 P **P 08 26 40.7 +1.7**
baz=334
PSUT Pine Spring 33.09 120 P **P 08 26 42.0 +1.8**
PSUT IAmb IAmb 08 26 43.0
comp=Z,39nm,1.0s
RDMU Red Mountain 33.10 113 P **P 08 26 41.7 +1.4**
RDMU IAmb IAmb 08 26 43.6
comp=Z,71nm,1.0s
GRAC Grapevine Rang 33.10 126 P **P 08 26 42.2 +2.1**
GRAC Grapevine Rang 33.10 126 P **P 08 26 42.5 +2.4**
baz=333,SNR=10.0
AGMN Agassiz Nation 33.12 90 P **P 08 26 40.8 +0.8**
AGMN Agassiz Nation 33.12 90 P **P 08 26 40.9 +0.8**
baz=317,SNR=20
S11A Rachel 33.14 124 P **P 08 26 42.6 +2.1**
RWWY Rawlins 33.18 109 P **P 08 26 40.8 -0.1**
RWWY IAmb IAmb 08 26 42.0
comp=Z,165nm,1.6s
CWC Cottonwood Cre 33.34 128 P **P 08 26 44.0 +1.7**
baz=334
NOR Nord 33.47 11 P **P 08 26 43.2 +0.5**
NOR pmax pmax
comp=Z,26nm,1.0s
NOR Nord 33.47 11 *i* P **P 08 26 41.5 -1.2**
NOR IAmb IAmb 08 26 43.8
comp=Z,16nm,0.8s
TMUT Trail Mountain 33.50 116 P **P 08 26 45.4 +1.6**
VES Vestal, Richgr 33.52 129 P **P 08 26 45.0 +1.4**
baz=334,SNR=10
P17A Butcher Ranch, 33.54 116 P **P 08 26 45.3 +1.3**
WCT Wildcat Mounta 33.56 125 P **P 08 26 46.5 +2.5**
WCT IAmb IAmb 08 26 46.8
comp=Z,66nm,1.9s
TPNV Topopah Spring 33.56 125 P **P 08 26 45.8 +1.6**
baz=332,SNR=28
TCRU Three Creeks R 33.59 119 P **P 08 26 46.1 +1.6**
TCRU IAmb IAmb 08 26 47.7
comp=Z,49nm,0.8s
PRN Pahroc Range 33.61 123 P **P 08 26 46.0 +1.5**
PRN PcP **PcP 08 29 23.9 +2.1**
P18A Preston Nutter 33.61 115 P **P 08 26 46.8 +2.0**
P18A IAmb IAmb 08 26 48.2
comp=Z,56nm,0.9s
CPY CP-1 33.65 125 P **P 08 26 46.4 +1.5**
SMMC Simmler 33.68 131 P **P 08 26 47.0 +2.0**
baz=335
FURC Furnace Creek, 33.76 126 P **P 08 26 47.5 +1.9**
baz=333,SNR=21
MVU Marysvale 33.77 118 P **P 08 26 48.3 +2.2**
MSU Marysvale 33.78 118 P **P 08 26 48.1 +2.0**
MSU PcP **PcP 08 29 24.4 +2.0**
MSU Marysvale 33.78 118 P **P 08 26 48.1 +2.0**
SDH Striped Hills 33.80 125 P **P 08 26 47.8 +1.7**
Q16A Castle Valley 33.84 117 P **P 08 26 48.4 +1.8**
Q16A IAmb IAmb 08 26 49.6
comp=Z,69nm,0.8s
ISA Isabella, Lake 33.89 129 P **P 08 26 48.1 +1.1**
ISA Isabella, Lake 33.89 129 P **P 08 26 48.2 +1.1**
baz=334,SNR=14
ISA Isabella, Lake 33.89 129 P **P 08 26 48.1 +1.1**
ISA pmax pmax
comp=Z,23nm,0.9s
MPMC Manual Prospec 33.89 127 P **P 08 26 49.1 +2.0**
baz=333,SNR=27
SRU San Rafael Swe 33.94 116 P **P 08 26 49.2 +1.7**
SRU IAmb IAmb 08 26 50.3
comp=Z,85nm,0.9s
SRU San Rafael Swe 33.94 116 P **P 08 26 49.2 +1.7**
SRU pmax pmax
comp=Z,85nm,0.9s
O20A White River Ci 34.02 112 P **P 08 26 49.7 +1.4**
O20A White River Ci 34.02 112 P **P 08 26 49.6 +1.4**
baz=327,SNR=19
GWY Greenwater Val 34.08 126 P **P 08 26 50.2 +1.6**
PKM Mcpherson Peak 34.12 131 P **P 08 26 51.2 +2.1**
baz=335,SNR=23
CCUT Cedar City 34.14 121 P **P 08 26 51.6 +2.3**
CCUT IAmb IAmb 08 26 52.1
comp=Z,42nm,0.7s
MTPU Mount Pierson 34.18 119 P **P 08 26 52.2 +2.5**
MTPU IAmb IAmb 08 26 53.2
comp=Z,49nm,1.2s
SZCU Shurtz Canyon 34.21 120 P **P 08 26 51.9 +2.1**
SZCU IAmb IAmb 08 26 52.6
comp=Z,54nm,1.0s
ARVC Arvin 34.25 130 P **P 08 26 50.9 +0.9**
baz=335
PHWY Pilot Hill 34.25 108 P **P 08 26 51.4 +1.1**
LRMC Laurel Mtn Rad 34.34 128 P **P 08 26 52.7 +1.8**
baz=334,SNR=22
SHPR Sheep Range 34.36 124 P **P 08 26 53.0 +1.9**
N23A Red Feather La 34.37 109 P **P 08 26 52.3 +1.0**
N23A IAmb IAmb 08 26 54.6
comp=Z,48nm,1.2s
N23A Red Feather La 34.37 109 P **P 08 26 52.5 +1.2**
baz=325,SNR=14
FRB Frobisher Bay 34.42 51 LR LR 08 40 00.6
comp=Z,55nm,19.4s,baz=240,slow=34
FRB Frobisher Bay 34.42 51 P **P 08 26 51.4 +0.3**
FRB pmax pmax
comp=Z,88nm,1.1s
SHOC Shoshone, Teco 34.48 126 P **P 08 26 54.0 +2.0**
baz=333,SNR=13
YAK Yakutsk 34.49 305 P **P 08 26 51.2 -0.5**
YAK Yakutsk 34.49 305 LR LR 08 42 36.0
comp=Z,80nm,19.3s,baz=70,slow=39
YAK Yakutsk 34.49 305 *e*P **P 08 26 51.0 -0.7**
YAK *e* 08 28 12.0
YAK *e*S **S 08 32 13.4 +2.9**
YAK *e**SS **sS 08 33 03.8 +4.3**
YAK *e* 08 36 53.9
YAK pmax pmax
comp=Z,48nm,0.7s
YAK pmax pmax
comp=N,5.0nm,0.8s
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=Z,37nm,1.5s
YAK pmax pmax
comp=N,26nm,1.5s
YAK pmax pmax
comp=E,35nm,1.8s
YAK smax smax
comp=N,32nm,2.7s
YAK smax smax
comp=E,27nm,2.3s
YAK Yakutsk 34.49 305 P **P 08 26 51.1 -0.5**
SUSD Miller 34.63 98 P **P 08 26 54.0 +0.8**
SUSD IAmb IAmb 08 26 55.1
comp=Z,56nm,0.9s
SUSD Miller 34.63 98 P **P 08 26 54.1 +0.9**
baz=321,SNR=5.5
PKCU Pink Cliffs 34.65 119 P **P 08 26 56.0 +2.2**
LCMT Little Creek M 34.65 121 P **P 08 26 54.1 +0.5**
LCMT IAmb IAmb 08 26 56.6
comp=Z,49nm,0.9s
OSI Osito Audit: C 34.75 130 P **P 08 26 56.0 +1.7**
baz=335
F33A 5 Mile Ranch, 34.76 94 P **P 08 26 55.1 +0.9**
F33A IAmb IAmb 08 26 56.0
comp=Z,38nm,1.1s
EDW2 Edwards Air Fo 34.77 129 P **P 08 26 55.2 +0.7**
baz=334
KNB Kanab 34.81 120 P **P 08 26 57.0 +2.0**
KNB IAmb IAmb 08 26 58.2
comp=Z,66nm,0.9s
KNB Kanab 34.81 120 P **P 08 26 57.0 +2.0**
KNB pmax pmax
comp=Z,66nm,0.9s
GSC Goldstone, Bar 34.82 127 P **P 08 26 56.7 +1.8**
GSC IAmb IAmb 08 26 57.9
comp=Z,41nm,1.1s
GSC PcP **PcP 08 29 26.6 +1.4**
GSC Goldstone, Bar 34.82 127 P **P 08 26 57.0 +2.0**
baz=334,SNR=27
GSC Goldstone, Bar 34.82 127 P **P 08 26 56.7 +1.8**
GSC 08 29 26.6
GSC pmax pmax
comp=Z,41nm,1.1s
HMU Henry Mountain 34.85 117 P **P 08 26 56.6 +1.2**
HMU IAmb IAmb 08 26 58.6
comp=Z,27nm,0.8s
SCZ2 Santa Cruz Isl 35.00 131 P **P 08 26 57.2 +0.8**
baz=336
TUQ Turquoise Moun 35.02 126 P **P 08 26 58.3 +1.6**
baz=333,SNR=5.3
RRX Edison Barstow 35.13 127 P **P 08 26 59.4 +1.9**
baz=334
PV22 Blue Mesa, Par 35.14 114 P **P 08 26 58.7 +0.9**
PV22 IAmb IAmb 08 27 00.1
comp=Z,52nm,0.9s
V12A Nelson 35.16 124 P **P 08 27 00.1 +2.2**
V12A IAmb IAmb 08 27 01.3
comp=Z,51nm,1.1s
DECC Green Verdugo 35.21 130 P **P 08 26 59.6 +1.3**
baz=335
PV20 West Nyswonger 35.23 115 P **P 08 26 59.5 +0.9**
PV20 IAmb IAmb 08 27 00.9
comp=Z,138nm,1.5s
SMCO Snowmass 35.36 112 PcP **PcP 08 29 28.2 +1.1**
EYMN Ely 35.37 87 P **P 08 27 00.2 +0.8**
EYMN Ely 35.37 87 P **P 08 27 00.5 +1.0**
baz=318,SNR=74
HEC Hector,Ludlow 35.41 127 P **P 08 27 01.8 +1.8**
baz=334
BFSC Mount Baldy Ra 35.46 129 P **P 08 27 02.5 +1.9**
baz=335,SNR=30
U15A North Rim 35.53 120 P **P 08 27 02.9 +1.6**
U15A IAmb IAmb 08 27 04.1
comp=Z,29nm,0.8s
GMRC Granite Mounta 35.70 126 P **P 08 27 04.2 +1.6**
baz=333,SNR=21
BBRC Big Bear Solar 35.71 128 P **P 08 27 04.3 +1.6**
baz=334,SNR=8.6

SNCC	San Nicolas Is	35.72	132	P	P	08 27 04.3 +1.8
	baz=336					
FMP	Fort Macarthur	35.72	130	P	P	08 27 03.8 +1.3
	baz=335					
CIS	Catalina Islan	35.96	130	P	P	08 27 05.9 +1.3
	baz=336,SNR=5.4					
OGNE	Ogallala	36.04	105	P	P	08 27 06.3 +1.0
OGNE	Ogallala	36.04	105	P	P	08 27 06.4 +1.1
	baz=324,SNR=16					
ELS	Elsinore Mount	36.08	129	P	P	08 27 06.2 +0.4
ELS				IAmb	IAmb	08 27 08.3
	comp=Z,59nm,2.0s					
W13A	Hualapai Mount	36.09	123	P	P	08 27 07.7 +1.8
W13A				IAmb	IAmb	08 27 08.9
	comp=Z,24nm,0.8s					
NEE2	Needles Airpor	36.10	124	P	P	08 27 07.4 +1.5
	baz=333					
MURC	Murrieta	36.20	129	P	P	08 27 07.7 +1.0
	baz=335					
ECSD	EROS Data Cent	36.24	96	P	P	08 27 07.5 +0.6
ECSD				IAmb	IAmb	08 27 08.3
	comp=Z,50nm,1.0s					
ECSD	EROS Data Cent	36.24	96	P	P	08 27 07.1 +0.2
	baz=321,SNR=42					
BELC	Belle Mtn. Jos	36.28	127	P	P	08 27 08.9 +1.4
	baz=334,SNR=20					
SCI2	San Clemente I	36.29	131	P	P	08 27 09.3 +1.9
	baz=336,SNR=6.3					
Q24A	Divide	36.31	110	P	P	08 27 09.4 +1.5
Q24A	Divide	36.31	110	P	P	08 27 09.3 +1.3
	baz=327,SNR=5.4					
E38A	The Farm, Brul	36.34	89	P	P	08 27 08.3 +0.6
E38A				IAmb	IAmb	08 27 09.1
	comp=Z,44nm,0.9s					
MVCO	Mesa Verde	36.39	115	P	P	08 27 09.5 +0.9
MVCO				IAmb	IAmb	08 27 10.6
	comp=Z,25nm,0.8s					
MVCO	Mesa Verde	36.39	115	P	P	08 27 09.4 +0.9
	baz=329,SNR=25					
IRM	Iron Mountain	36.45	126	P	P	08 27 10.5 +1.7
	baz=334,SNR=32					
PMD	Palm Desert	36.45	128	P	P	08 27 09.5 +0.7
PFO	Pinyon Flats O	36.46	128	P	P	08 27 10.1 +1.0
PFO				IAmb	IAmb	08 27 11.3
	comp=Z,43nm,1.4s					
PFO	Pinyon Flats O	36.46	128	P	P	08 27 10.2 +1.2
	baz=334,SNR=14					
PFO	Pinyon Flats O	36.46	128	P	P	08 27 10.3 +1.2
	comp=Z,9.3nm,0.7s,baz=332,slow=6.5,SNR=19					
PFO				pP	pP	08 27 38.0 +1.2
	comp=Z,13nm,1.0s,baz=310,slow=4.7,SNR=5.5					
PFO				LR	LR	08 40 33.7
	comp=Z,50nm,20.0s,baz=9.0,slow=33					
	comp=Z,9.3nm,0.7s					
PFO	Pinyon Flats O	36.46	128	*e*P	P	08 27 08.4 -0.6
PFO				pmax	pmax	
	comp=Z,43nm,1.3s					
PFO	Pinyon Flats O	36.46	128	P	P	08 27 10.0 +1.0
PFO				pP	pP	08 27 37.4 +0.6
PFO				sP	sP	08 27 51.5 +0.3
PFO				PcP	PcP	08 29 31.1 +0.9
TPFO	Pinon Flats	36.47	128	P	P	08 27 10.3 +1.3
	baz=334,SNR=18					
TYV	Tymovskoe	36.53	282	*e*P	P	08 27 09.6 +0.3
TYV				pmax	pmax	
	comp=Z,100nm,2.5s					
TYV				pmax	pmax	
	comp=Z,31nm,1.1s					
S22A	4UR Ranch, Cre	36.63	113	P	P	08 27 12.6 +2.0
S22A	4UR Ranch, Cre	36.63	113	P	P	08 27 12.7 +2.0
	baz=328,SNR=59					
WUAZ	Wupatki	36.69	120	P	P	08 27 12.9 +1.9
WUAZ	Wupatki	36.69	120	P	P	08 27 12.7 +1.7
	baz=331,SNR=67					
PDMCI	Parker Dam,Lak	36.69	124	P	P	08 27 12.2 +1.3
	baz=333,SNR=6.9					
BC3	Big Chuckawall	36.78	126	P	P	08 27 12.9 +1.2
	baz=334,SNR=15					
SPMN	Marine on St.	36.82	91	P	P	08 27 12.8 +1.0
SPMN				IAmb	IAmb	08 27 13.9
	comp=Z,90nm,1.1s					
SPMN	Marine on St.	36.82	91	P	P	08 27 12.7 +0.9
	baz=320,SNR=25					
109C	Camp Elliot, M	36.88	129	P	P	08 27 14.2 +1.8
109C				IAmb	IAmb	08 27 15.3
	comp=Z,33nm,1.1s					
109C	Camp Elliot, M	36.88	129	P	P	08 27 14.0 +1.6
	baz=335,SNR=8.4					
MONP2	Monument Peak	37.12	128	P	P	08 27 16.4 +1.6
	baz=335,SNR=32					
SUMG	Summit	37.16	27	P	P	08 27 15.2 +0.4
SUMG				IAmb	IAmb	08 27 16.1
	comp=Z,26nm,0.7s					
SUMG	Summit	37.16	27	P	P	08 27 15.2 +0.4
SUMG				pmax	pmax	
	comp=Z,26nm,0.7s					
SUMG	Summit	37.16	27	*i* P	P	08 27 14.2 -0.6
SUMG				IAmb	IAmb	08 27 15.4
	comp=Z,29nm,0.8s					
SDCO	Great Sand Dun	37.19	111	P	P	08 27 17.2 +1.9
SDCO				IAmb	IAmb	08 27 18.3
	comp=Z,77nm,1.5s					
SDCO	Great Sand Dun	37.19	111	P	P	08 27 16.9 +1.5
	baz=328,SNR=42					
BAR	Barrett	37.22	129	P	P	08 27 16.9 +1.6
DAG	Danmarks Havn	37.23	16	P	P	08 27 14.9 0.0
DAG				pmax	pmax	
	comp=Z,138nm,0.8s					
DAG	Danmarks Havn	37.23	16	*i* P	P	08 27 13.2 -1.7
DAG				IAmb	IAmb	08 27 15.4
	comp=Z,91nm,0.8s					
SWSC	Sam W. Stewart	37.30	127	P	P	08 27 17.3 +1.3
	baz=335,SNR=9.9					
D41A	Chassel	37.35	85	P	P	08 27 17.4 +1.1
KSCO	Kaye Shedlock'	37.36	107	P	P	08 27 17.9 +1.3
KSCO	Kaye Shedlock'	37.36	107	P	P	08 27 18.1 +1.5
	baz=326,SNR=17					
BGNE	Belgrade	37.39	100	P	P	08 27 17.3 +0.7
BGNE	Belgrade	37.39	100	P	P	08 27 17.4 +0.7
	baz=324,SNR=9.8					
Y14A	Wickenburg	37.45	123	P	P	08 27 19.3 +2.0
Y14A				IAmb	IAmb	08 27 20.3
	comp=Z,39nm,1.0s					
IKP	In-Ko-Pah, Jac	37.45	128	P	P	08 27 19.2 +1.9
	baz=335,SNR=16					
I37A	Lemond, Waseca	37.48	93	P	P	08 27 18.9 +1.6
YUH	Yuha Desert	37.52	128	P	P	08 27 19.0 +1.2
GLA	Glamis	37.55	126	P	P	08 27 19.8 +1.6
GLA				IAmb	IAmb	08 27 20.9
	comp=Z,37nm,0.8s					
GLA	Glamis	37.55	126	P	P	08 27 19.9 +1.8
	baz=334,SNR=7.8					
GLA	Glamis	37.55	126	P	P	08 27 19.8 +1.6
GLA				pmax	pmax	
	comp=Z,37nm,0.9s					
CBX	Cerro Bola	37.56	129	P	P	08 27 20.2 +1.9
CBX				IAmb	IAmb	08 27 21.2
	comp=Z,65nm,0.8s					
X16A	Lo Mia Camp, P	37.63	121	P	P	08 27 21.1 +2.1
X16A				IAmb	IAmb	08 27 22.1
	comp=Z,44nm,0.8s					
W18A	Petrified Fore	37.69	118	P	P	08 27 21.2 +1.7
W18A				IAmb	IAmb	08 27 22.6
	comp=Z,73nm,1.1s					
W18A	Petrified Fore	37.69	118	P	P	08 27 21.2 +1.7
	baz=331,SNR=18					
L34A	Svendsen Farm,	37.74	98	P	P	08 27 19.9 +0.3
COWI	Conover	37.82	87	P	P	08 27 21.0 +0.8
COWI				IAmb	IAmb	08 27 22.0
	comp=Z,36nm,0.9s					
KBS	Kingsbay	37.85	5	*e*P	P	08 27 21.4 +1.4
KBS				IAmb	IAmb	08 27 22.1
	comp=Z,26nm,0.9s					
KBS	Kingsbay	37.85	5	*ce*P	P	08 27 20.2 +0.1
KBS				pmax	pmax	
	comp=Z,19nm,1.0s					
KBS	Kingsbay	37.85	5	*i* P	P	08 27 19.5 -0.6
KBS	Kingsbay	37.85	5	P	P	08 27 21.3 +1.2
CCX	Cicese	37.96	129	P	P	08 27 22.1 +0.6
CCX				IAmb	IAmb	08 27 24.2
	comp=Z,24nm,0.8s					
G40A	Rib Lake	37.97	89	P	P	08 27 22.1 +0.6
G40A				IAmb	IAmb	08 27 23.2
	comp=Z,76nm,0.9s					
SFJD	Kangerlussuaq	38.07	39	P	P	08 27 22.8 +0.7
SFJD				IAmb	IAmb	08 28 05.3
	comp=Z,138nm,1.7s					
SFJD	Kangerlussuaq	38.07	39	LR	LR	08 45 59.8
	comp=Z,20nm,18.2s,baz=298,slow=41					
SFJD	Kangerlussuaq	38.07	39	P	P	08 27 22.8 +0.7
SFJD				pmax	pmax	
	comp=Z,138nm,1.7s					
SFJD	Kangerlussuaq	38.07	39	P	P	08 27 22.4 +0.4
SFJD				sP	sP	08 28 04.0 -0.4
X18A	Snowflake	38.12	119	P	P	08 27 24.9 +1.8
X18A				IAmb	IAmb	08 27 26.2
	comp=Z,63nm,0.9s					
T25A	Trinidad	38.16	111	P	P	08 27 24.4 +0.9
T25A				PcP	PcP	08 29 36.1 +0.7
T25A	Trinidad	38.16	111	P	P	08 27 24.4 +0.9
	baz=328,SNR=8.0					
113A	Mohawk Valley,	38.20	125	P	P	08 27 24.9 +1.4
F42A	Maple Grove Fa	38.53	86	P	P	08 27 27.2 +1.0
E43A	Lone Tree Farm	38.58	85	P	P	08 27 27.3 +0.7
E43A				IAmb	IAmb	08 27 28.4
	comp=Z,71nm,0.9s					
SPA0	Spitsbergen Ar	38.76	4	*e*P	P	08 27 27.5 -0.2
SPA0				IAmb	IAmb	08 27 28.3
	comp=Z,68nm,1.1s					
SPITS	Spitsbergen Ar	38.76	4	P	P	08 27 27.5 -0.2
	comp=Z,19nm,0.5s,baz=17,slow=6.1,SNR=87					
	comp=Z,19nm,0.5s					
SPITS	Spitsbergen Ar	38.76	4	P	P	08 27 28.0 +0.3
SPITS				pmax	pmax	
	comp=Z,43nm,0.8s					
SPB2	Spitsbergen Ar	38.76	4	P	P	08 27 28.1 +0.4
SPB2				IAmb	IAmb	08 27 28.4
	comp=Z,43nm,0.7s					
CBKS	Cedar Bluff	38.79	104	P	P	08 27 29.5 +1.0
CBKS	Cedar Bluff	38.79	104	P	P	08 27 29.8 +1.3
	baz=326,SNR=17					
CBKS	Cedar Bluff	38.79	104	P	P	08 27 29.5 +1.0
CBKS				pmax	pmax	
	comp=Z,122nm,1.0s					
I40A	Norwalk	38.84	91	P	P	08 27 29.7 +0.9
I40A				IAmb	IAmb	08 27 30.8
	comp=Z,137nm,1.7s					
N35A	Tabor	38.95	98	P	P	08 27 30.8 +1.0
DBG	Daneborg	39.08	19	*i* P	P	08 27 28.4 -2.0
DBG				IAmb	IAmb	08 27 30.9
	comp=Z,60nm,0.9s					
ANMO	Albuquerque	39.17	115	P	P	08 27 33.5 +1.6
ANMO	Albuquerque	39.17	115	P	P	08 27 33.0 +1.1
	baz=330					
ANMO	Albuquerque	39.17	115	P	P	08 27 33.5 +1.6
ANMO				pmax	pmax	
	comp=Z,24nm,1.0s					
ANMO	Albuquerque	39.17	115	P	P	08 27 33.5 +1.6
ANMO				sP	sP	08 28 15.5 +1.2
ANMO				PcP	PcP	08 29 39.9 +1.3
SCIA	State Center	39.22	95	P	P	08 27 32.8 +0.9
SCIA				IAmb	IAmb	08 27 34.0
	comp=Z,50nm,0.8s					
SCIA	State Center	39.22	95	P	P	08 27 32.4 +0.4
	baz=323,SNR=8.6					
214A	Organ Pipe Nat	39.29	124	P	P	08 27 34.4 +1.7
214A				IAmb	IAmb	08 27 35.6
	comp=Z,39nm,1.0s					
214A	Organ Pipe Nat	39.29	124	P	P	08 27 34.6 +1.9
	baz=334,SNR=18					
GRNR	Gornyy	39.35	287⇑	*i* P	P	08 27 33.2 +0.3
GRNR				pmax	pmax	
	comp=E,50nm,0.7s					
GRNR				pmax	pmax	
	comp=Z,170nm,0.7s					
GRNR				pmax	pmax	
	comp=N,60nm,0.8s					
YSS	Yuzh-Sakhalins	39.36	278	P	P	08 27 33.6 +0.6
YSS	Yuzh-Sakhalins	39.36	278	P	P	08 27 33.1 +0.1
YSS				IAmb	IAmb	08 27 34.3
	comp=Z,56nm,1.1s					
YSS	Yuzh-Sakhalins	39.36	278	*c i* P	P	08 27 33.1 +0.1
YSS				*e**PP	pP	08 28 00.7 -0.3
YSS				*e*S	S	08 33 26.0 +1.3
YSS				*e**SS	sS	08 34 16.0 +1.7
YSS				*e*SS	SS	08 36 13.0 -10
YSS				pmax	pmax	
	comp=Z,40nm,1.2s					
YSS				pmax	pmax	
	comp=Z,100nm,2.2s					
PIX	Pinacate	39.40	125	P	P	08 27 35.3 +1.8
ICESG	Greenland Ices	39.45	32	*i* P	P	08 27 32.7 -1.2
ICESG				IAmb	IAmb	08 27 37.7
	comp=Z,42nm,0.7s					
RTBA	Rita Blanca	39.47	109	P	P	08 27 35.4 +1.2
RTBA				IAmb	IAmb	08 27 36.7
	comp=Z,74nm,1.3s					
R32A	Long Quarter,	39.57	103	P	P	08 27 35.8 +0.9
I42A	Draeger Farm,	39.62	89	P	P	08 27 36.0 +0.8
I42A				IAmb	IAmb	08 27 36.7
	comp=Z,35nm,0.8s					
DY2G	Dye2	39.67	38	*i* P	P	08 27 34.4 -1.2
DY2G				IAmb	IAmb	08 27 37.5
	comp=Z,9.4nm,0.8s					
H43A	Windswept, Lux	39.69	87	P	P	08 27 36.6 +0.8
Y22D	IRIS PASSCAL I	39.74	116	P	P	08 27 38.1 +1.6
	baz=330					
TUC	Tucson	39.74	122	P	P	08 27 38.3 +1.8
TUC	Tucson	39.74	122	P	P	08 27 38.4 +1.8
	baz=333					
TUC	Tucson	39.74	122	P	P	08 27 38.3 +1.8
TUC				pmax	pmax	
	comp=Z,17nm,0.8s					
TUC	Tucson	39.74	122	P	P	08 27 38.3 +1.8
TUC				pP	pP	08 28 07.8 +3.1
TUC				PcP	PcP	08 29 41.4 +1.0
JFWS	Jewell Farm	39.77	91	P	P	08 27 36.7 +0.2
JFWS				IAmb	IAmb	08 27 37.8
	comp=Z,48nm,0.7s					
JFWS	Jewell Farm	39.77	91	P	P	08 27 36.5 0.0
	baz=322,SNR=25					
JFWS	Jewell Farm	39.77	91	P	P	08 27 36.7 +0.2
JFWS				pmax	pmax	
	comp=Z,48nm,0.7s					
E46A	Sault Ste Mari	39.80	83	P	P	08 27 37.4 +0.7
KSU1	Kansas State U	39.95	101	P	P	08 27 38.8 +0.8
KSU1	Kansas State U	39.95	101	P	P	08 27 38.7 +0.7
	baz=325,SNR=69					
L40A	Anamosa	40.00	93	P	P	08 27 39.0 +0.6
N38A	Joes South For	40.10	96	P	P	08 27 39.4 +0.2
N38A				IAmb	IAmb	08 27 40.0
	comp=Z,38nm,0.6s					
DUN6	Lazy B Ranch	40.19	120	P	P	08 27 42.3 +2.1
DUN6				IAmb	IAmb	08 27 43.5
	comp=Z,67nm,0.9s					
G45A	Suttons Bay	40.21	85	P	P	08 27 40.9 +0.8
I45A	Fountain	40.72	87	P	P	08 27 45.4 +1.1
121A	Cookes Peak, D	40.73	118	P	P	08 27 46.9 +2.1
121A				IAmb	IAmb	08 27 48.0
	comp=Z,164nm,1.9s					
121A	Cookes Peak, D	40.73	118	P	P	08 27 47.0 +2.3
	baz=332,SNR=21					
L42A	Oliver, Polo	40.75	92	P	P	08 27 44.7 +0.1
L42A				IAmb	IAmb	08 27 45.8
	comp=Z,66nm,1.1s					
K43A	Burlington	40.81	90	P	P	08 27 45.7 +0.6
GLMI	Grayling	40.84	84	P	P	08 27 46.1 +0.8
GLMI	Grayling	40.84	84	P	P	08 27 46.5 +1.2
	baz=320,SNR=12					
P38A	Dawn	40.91	97	P	P	08 27 46.2 +0.3
P38A				IAmb	IAmb	08 27 47.2
	comp=Z,49nm,0.8s					
NOKA	Waynoka	40.96	105		P	08 27 47.3 +0.9
OK035	E0210 Rd and N	40.99	105		P	08 27 47.7 +1.0
KAN05	Bluff City Nor	41.03	104	P	P	08 27 47.6 +0.7
KAN01	Argonia South	41.04	104		P	08 27 47.8 +0.8
SCHQ	Schefferville	41.06	61	P	P	08 27 47.0 0.0
SCHQ				IAmb	IAmb	08 27 48.4
	comp=Z,86nm,1.1s					
SCHQ	Schefferville	41.06	61	P	P	08 27 47.2 +0.3
	comp=Z,31nm,0.9s,baz=320,slow=6.9,SNR=36					
SCHQ				PcP	PcP	08 29 43.6 -0.5
	comp=Z,13nm,0.6s,baz=292,slow=3.7,SNR=7.5					
	comp=Z,31nm,0.9s					
ZEA	Zeya	41.06	296	*e*P	P	08 27 46.5 -0.5
ZEA				pmax	pmax	
	comp=Z,100nm,2.2s					
ZEA				pmax	pmax	
	comp=E,10.0nm,1.0s					
ZEA				MLR	MLR	
	comp=N,100nm,16.0s					
ZEA				MLR	MLR	
	comp=Z,100nm,15.0s					
KAN14	Manchester OK	41.12	104	P	P	08 27 48.2 +0.5
KAN14				IAmb	IAmb	08 27 49.2
	comp=Z,105nm,1.3s					
KAN09	Caldwell North	41.12	103	P	P	08 27 48.3 +0.7
KAN17	Caldwell West	41.13	104	P	P	08 27 48.5 +0.8
OK032	Salt Plains WL	41.13	104	P	P	08 27 48.4 +0.6
OK032				IAmb	IAmb	08 27 49.5
	comp=Z,114nm,1.2s					
U32A	Winter Ranch,	41.14	106		P	08 27 48.8 +0.9
319A	Douglas	41.16	121	P	P	08 27 50.1 +1.9
319A				IAmb	IAmb	08 27 51.4
	comp=Z,53nm,1.0s					
OK038	West end E0370	41.17	105	P	P	08 27 49.0 +0.9
OK038				IAmb	IAmb	08 27 50.0
	comp=Z,104nm,1.0s					
AMTX	Amarillo	41.24	110	P	P	08 27 49.7 +0.9
AMTX				IAmb	IAmb	08 27 51.0
	comp=Z,66nm,0.9s					
AMTX	Amarillo	41.24	110	P	P	08 27 49.7 +0.9
	baz=329					
N41A	Harden Midland	41.24	94	P	P	08 27 48.8 +0.2
L44A	Lake County Fo	41.41	90	P	P	08 27 50.8 +0.8
L44A	Lake County Fo	41.41	90	P	P	08 27 50.5 +0.5
	baz=322,SNR=16					
CROK	Carrier	41.48	104		P	08 27 51.4 +0.8
CROK				IAmb	IAmb	08 27 52.1
	comp=Z,63nm,0.9s					
VLDQ	Val d'Or	41.55	75	P	P	08 27 49.9 -1.1
VLDQ				IAmb	IAmb	08 27 50.8
	comp=Z,63nm,0.9s					
MSTX	Muleshoe	41.56	111	P	P	08 27 52.7 +1.3
MSTX	Muleshoe	41.56	111	P	P	08 27 52.8 +1.3
	baz=329,SNR=46					
BLOK	Blackwell	41.61	103		P	08 27 52.2 +0.5
NRIK	Noril'sk	41.61	333	P	P	08 27 51.6 +0.3
NRIK	Noril'sk	41.61	333	P	P	08 27 51.2 -0.1
	comp=Z,20nm,0.6s,baz=55,slow=5.9,SNR=29					
NRIK				pP	pP	08 28 19.6 +0.1
	comp=Z,25nm,0.9s,baz=53,slow=6.2,SNR=4.3					
NRIK				ScP	ScP	08 33 23.1 -0.6
	comp=Z,9.3nm,1.0s,baz=30,slow=5.6,SNR=6.4					
	comp=Z,20nm,0.6s					
NRIK	Noril'sk	41.61	333⇑	*e*P	P	08 27 51.7 +0.4
NRIK				pmax	pmax	
	comp=Z,18nm,0.6s					
P40A	Paris	41.65	96	P	P	08 27 51.9 -0.1
P40A				IAmb	IAmb	08 27 53.2
	comp=Z,158nm,1.4s					
SMWD	Samnorwood	41.67	108	P	P	08 27 53.1 +0.8
SMWD				IAmb	IAmb	08 27 55.0
	comp=Z,41nm,0.9s					
T35A	Sooner Cattle	41.79	103	P	P	08 27 53.5 +0.4
M44A	Midewin, Midew	41.98	91	P	P	08 27 55.1 +0.5
J47A	Sunmer	41.98	86	P	P	08 27 55.6 +0.9
J47A				IAmb	IAmb	08 27 56.1
	comp=Z,32nm,0.8s					
OK051	E0350 and S346	41.99	103		P	08 27 55.2 +0.4
OK048	Pawnee Station	42.02	103		P	08 27 55.5 +0.5
OK048				IAmb	IAmb	08 27 56.4
	comp=Z,105nm,1.1s					
SOEG	Soedalen	42.05	29	*i* P	P	08 27 53.9 -0.9
SOEG				IAmb	IAmb	08 27 55.3
	comp=Z,34nm,0.9s					
HDIL	Hopedale	42.08	92	P	P	08 27 55.7 +0.4
HDIL	Hopedale	42.08	92	P	P	08 27 55.8 +0.4
	baz=323,SNR=28					
OK029	Liberty Lake	42.31	104		P	08 27 57.9 +0.5
QUOK	Quay	42.33	103		P	08 27 57.9 +0.4
QUOK				IAmb	IAmb	08 27 58.7
	comp=Z,54nm,0.8s					
ISOG	Isortoq, Green	42.33	35	*i* P	P	08 27 55.5 -1.5
I49A	Point Hope	42.34	84	P	P	08 27 58.5 +1.0
I49A				IAmb	IAmb	08 27 59.5
	comp=Z,106nm,0.9s					
OK052	Battle Ridge R	42.43	104		P	08 27 58.7 +0.4
OK052				IAmb	IAmb	08 27 59.6
	comp=Z,98nm,1.0s					
MNTX	Cornudas Mount	42.44	116	P	P	08 28 00.3 +1.9
	baz=331,SNR=31					
OK031	S. Brethren Rd	42.45	104		P	08 27 59.3 +0.8
OK031				IAmb	IAmb	08 27 59.8
	comp=Z,102nm,0.9s					
BJO1	Bjornoya	42.50	4	*e*P	P	08 27 59.4 +1.0
KLR	Kul'dur	42.51	289	*ce*P	P	08 27 57.7 -1.1
KLR				pmax	pmax	
	comp=Z,33nm,0.8s					
R40A	Maddies Statio	42.56	97	P	P	08 27 59.1 -0.2
R40A				IAmb	IAmb	08 28 00.8
	comp=Z,50nm,0.8s					
S39A	Bolivar	42.58	99	P	P	08 27 59.0 -0.5
S39A				IAmb	IAmb	08 27 59.9
	comp=Z,46nm,0.8s					
DKNS	Dickens	42.60	110	P	P	08 28 00.5 +0.7
DKNS				IAmb	IAmb	08 28 01.6
	comp=Z,59nm,0.9s					
WMOK	Wichita Mounta	42.62	107		P	08 28 00.5 +0.6
WMOK				IAmb	IAmb	08 28 01.9
	comp=Z,80nm,1.0s					
WMOK	Wichita Mounta	42.62	107	P	P	08 28 00.8 +0.9
	baz=328,SNR=81					
WMOK	Wichita Mounta	42.62	107	P	P	08 28 00.5 +0.6
WMOK				pmax	pmax	
	comp=Z,80nm,1.0s					
HSIG		42.62	124	P	P	08 28 01.3 +1.4
HSIG				IAmb	IAmb	08 28 02.7
	comp=Z,46nm,1.1s					
ANGG	Ammassalik, Gr	42.62	34	P	P	08 27 58.9 -0.6
ANGG	Ammassalik, Gr	42.62	34	*i* P	P	08 27 57.4 -2.1
ANGG				IAmb	IAmb	08 27 59.1
	comp=Z,80nm,1.3s					
OKCSW	OKLAHOMA CITY	42.65	105		P	08 28 00.6 +0.5
DEOK	Depew	42.69	103		P	08 28 00.7 +0.3
P43A	Skaggs, Pawnee	42.71	94	P	P	08 28 00.6 +0.1
P43A				IAmb	IAmb	08 28 01.6
	comp=Z,64nm,1.1s					
FNO	Franklin	42.79	105		P	08 28 01.6 +0.4
FNO				IAmb	IAmb	08 28 02.9
	comp=Z,50nm,0.9s					
POST	Post	42.87	111	P	P	08 28 03.0 +0.9
POST				IAmb	IAmb	08 28 04.0
	comp=Z,92nm,0.9s					
TUL3	Leonard	42.95	103	P	P	08 28 02.6 +0.1
TUL3				IAmb	IAmb	08 28 03.9
	comp=Z,72nm,0.9s					
TUL3	Leonard	42.95	103	P	P	08 28 02.9 +0.3
	baz=327,SNR=30					
ERM	Erimo	43.00	273	P	P	08 28 04.1 +1.3
ERM	Erimo	43.00	273	P	P	08 28 02.8 0.0
ERM	Erimo	43.00	273	*ce*P	P	08 28 03.5 +0.7
ERM				pmax	pmax	
	comp=Z,37nm,1.7s					
ERM	Erimo	43.00	273	P	P	08 28 03.1 +0.3
ERM				pP	pP	08 28 31.8 +0.6
ERM				PcP	PcP	08 29 53.0 +2.3
JEM	Erimo	43.00	273	P	P	08 28 04.4 +1.6
IVI	Ivigtut	43.03	44	*i* P	P	08 28 03.1 +0.3
RLO	Rose Lookout	43.08	102		P	08 28 03.8 +0.2
RLO				IAmb	IAmb	08 28 04.6
	comp=Z,136nm,0.7s					
W35A	Tecumseh	43.11	104	P	P	08 28 04.3 +0.5
W35A				IAmb	IAmb	08 28 05.2
	comp=Z,100nm,0.9s					
BOD	Bodaibo	43.11	309	*e*P	P	08 28 02.9 -0.6
BOD				pmax	pmax	
	comp=Z,49nm,1.6s					
SN07	Snyder 07	43.11	110	P	P	08 28 04.6 +0.7
SN07				IAmb	IAmb	08 28 05.6
	comp=Z,58nm,0.9s					
U38A	Gravette	43.14	101	P	P	08 28 03.7 -0.3
X34A	Smith Ranch, M	43.15	106		P	08 28 05.1 +0.9
X34A				IAmb	IAmb	08 28 06.2

baz=325
CCM Cathedral Cave 43.22 96 P P 08 28 04.1 -0.5
CCM pmax pmax
comp=Z,40nm,1.0s
CCM Cathedral Cave 43.22 96 P P 08 28 04.3 -0.3
CCM PcP PcP 08 29 51.3 -0.3
SFIN Lafayette 43.22 91 P P 08 28 05.2 +0.7
SFIN IAmb IAmb 08 28 06.2
comp=Z,91nm,1.1s
SFIN Lafayette 43.22 91 P P 08 28 05.3 +0.7
baz=324,SNR=7.1
APMT Aspermont 43.24 109 P P 08 28 05.4 +0.5
APMT IAmb IAmb 08 28 06.2
comp=Z,40nm,0.9s
ODSA Odessa 43.25 113 P P 08 28 06.1 +1.0
ODSA IAmb IAmb 08 28 07.2
comp=Z,80nm,1.0s
AAM Ann Arbor 43.25 86 P P 08 28 05.8 +0.9
baz=322
K50A Casco 43.35 85 P P 08 28 06.7 +1.1
K50A IAmb IAmb 08 28 07.6
comp=Z,119nm,1.2s
PECS Pecos 43.35 114 P P 08 28 07.3 +1.4
SADO Sadowa 43.35 80 P P 08 28 05.8 +0.2
SADO IAmb IAmb 08 28 06.7
comp=Z,66nm,1.4s
SADO Sadowa 43.35 80 LR LR 08 46 40.0
comp=Z,95nm,18.0s,baz=326,slow=36
VHRN Van Horn 43.40 116 P P 08 28 08.3 +1.9
VHRN IAmb IAmb 08 28 09.7
comp=Z,121nm,1.3s
N47A Urbana 43.45 89 P P 08 28 06.5 0.0
HHAR Hobbs 43.47 101 P P 08 28 06.0 -0.7
HHAR IAmb IAmb 08 28 06.9
comp=Z,36nm,0.7s
MGMO Mountain Grove 43.49 98 P P 08 28 06.5 -0.4
Q44A Meyer Farm, Va 43.53 94 P P 08 28 07.2 +0.1
Q44A IAmb IAmb 08 28 08.4
comp=Z,147nm,1.2s
WTFS Witchita Falls 43.58 107 P 08 28 08.4 +0.8
WTFS IAmb IAmb 08 28 09.3
comp=Z,64nm,0.8s
FVM French Village 43.65 96 P P 08 28 08.4 +0.3
FVM IAmb IAmb 08 28 09.2
comp=Z,142nm,1.4s
FVM French Village 43.65 96 P P 08 28 08.4 +0.3
FVM pmax pmax
comp=Z,142nm,1.4s
MLH Mauna Loa 43.67 186 S 08 34 30.0 +0.8
MWH Moku'aweowe 43.69 187 S 08 34 34.8 +4.7
RSD Rainshed 43.70 186 S 08 34 27.9 -1.4
BYL Byron's Ledge 43.75 186 S 08 34 29.6 -0.4
STCH Steam Cracks 43.77 186 S 08 34 31.7 +1.5
P46A Rosedale 43.78 91 P P 08 28 09.6 +0.5
HLP Hilina Pali 43.86 186 S 08 34 31.0 -0.6
NRS Narsarsuaq 43.92 42 *i* P **P 08 28 08.4 -1.5**
SGCY Sterling City 44.02 111 P P 08 28 11.8 +0.5
SGCY IAmb IAmb 08 28 13.0
comp=Z,82nm,1.0s
ABTX Abilene, Hawle 44.05 109 P P 08 28 11.6 +0.2
ABTX IAmb IAmb 08 28 13.7
comp=Z,55nm,1.1s
ABTX Abilene, Hawle 44.05 109 P P 08 28 11.7 +0.2
baz=329,SNR=9.4
OLIL Olney 44.09 93 P P 08 28 11.9 +0.3
N49A Columbus Grove 44.11 88 P P 08 28 12.1 +0.4
N49A IAmb IAmb 08 28 13.1
comp=Z,111nm,1.1s
T42A Van Buren 44.13 97 P P 08 28 11.3 -0.6
T42A IAmb IAmb 08 28 12.4
comp=Z,44nm,0.8s
O48B Farmland 44.20 89 P P 08 28 12.1 -0.3
O48B Farmland 44.20 89 P P 08 28 12.3 -0.2
baz=324,SNR=41
DELO Deloro Mine 44.23 79 P P 08 28 12.8 +0.2
M50A Fremont 44.24 86 P P 08 28 13.4 +0.7
M50A IAmb IAmb 08 28 14.5
comp=Z,57nm,1.0s
X37A Clayton 44.24 103 P 08 28 13.4 +0.5
X37A IAmb IAmb 08 28 14.6
comp=Z,96nm,1.2s
TRQ Mont Tremblant 44.27 75 P P 08 28 12.9 -0.1
ALPN Alpine 44.31 115 P P 08 28 14.9 +1.2
LDAQ Lac Daran 44.36 71 P P 08 28 14.2 +0.4
LDAQ IAmb IAmb 08 28 15.2
comp=Z,50nm,0.8s
FW03 Perrin-Whitt E 44.38 107 P P 08 28 14.7 +0.8
FW03 IAmb IAmb 08 28 15.6
comp=Z,90nm,0.8s
S44A Carbondale 44.41 95 P P 08 28 14.4 +0.2
BLO Bloomington 44.45 91 P P 08 28 14.6 +0.1
BLO IAmb IAmb 08 28 15.4
comp=Z,56nm,0.9s
BLO Bloomington 44.45 91 P P 08 28 14.6 +0.1
BLO pmax pmax
comp=Z,56nm,0.9s
PLPT Palo Pinto 44.46 108 P P 08 28 15.4 +0.8
PLPT IAmb IAmb 08 28 16.1
comp=Z,79nm,1.1s
Z35A Perchaven, San 44.48 106 P P 08 28 15.3 +0.5
Z35A IAmb IAmb 08 28 16.4
comp=Z,73nm,0.9s
CGM3 Cape Girardeau 44.56 96 P P 08 28 15.4 +0.1
CGM3 IAmb IAmb 08 28 16.0
comp=Z,93nm,1.8s
FCAR Ozark Folk Cen 44.61 99 P P 08 28 15.8 0.0
FCAR IAmb IAmb 08 28 15.9
comp=Z,58nm,0.8s
O49A Covington 44.63 88 P P 08 28 15.8 -0.1
O49A IAmb IAmb 08 28 16.9
comp=Z,70nm,0.9s
PBMO Poplar Bluff 44.63 97 P P 08 28 16.3 +0.3
FW06 Azle 44.65 107 P P 08 28 16.9 +0.8
FW06 IAmb IAmb 08 28 18.9
comp=Z,124nm,1.6s
P48A Milroy 44.72 90 P P 08 28 16.1 -0.5
P48A IAmb IAmb 08 28 17.1
comp=Z,64nm,1.1s
J54A Appleton 44.75 81 P P 08 28 17.2 +0.4
J54A IAmb IAmb 08 28 18.6
comp=Z,28nm,0.7s
FW07 Weatherford 44.78 107 P P 08 28 18.0 +0.8
OZNA Ozona 44.88 112 P P 08 28 19.0 +0.9
OZNA IAmb IAmb 08 28 20.0
comp=Z,89nm,1.3s
LCAR Lake Charles 44.89 98 P P 08 28 17.5 -0.5
LCAR IAmb IAmb 08 29 58.2
comp=Z,30nm,0.8s
M52A Chesterland 44.90 85 P P 08 28 18.2 +0.2
M52A IAmb IAmb 08 28 19.9
comp=Z,78nm,0.9s
WBO Williamsburg 44.90 77 P P 08 28 17.9 -0.1
WBO IAmb IAmb 08 28 18.8
comp=Z,54nm,0.7s
USIN University of 44.91 93 P P 08 28 18.5 +0.3
MEDO Medina 44.92 81 P P 08 28 18.4 +0.3
JTM Tenmabayashi 44.93 274 P P 08 28 19.1 +0.9
JTM Tenmabayashi 44.93 274 P P 08 28 17.9 -0.3
JTM IAmb IAmb 08 28 19.1
comp=Z,35nm,0.9s
N51A Ashland 44.93 86 P P 08 28 18.9 +0.6
P49A Miami Univ. Ec 44.98 89 P P 08 28 18.2 -0.5
P49A Miami Univ. Ec 44.98 89 P P 08 28 17.8 -0.9
baz=324,SNR=5.7
WHAR Wooly Hollow 45.03 100 P P 08 28 18.3 -0.8
PARMO Parma 45.03 96 P P 08 28 19.2 +0.1
ERPA Erie 45.06 83 P P 08 28 20.1 +0.8
ERPA IAmb IAmb 08 28 20.9
comp=Z,43nm,0.7s
ERPA Erie 45.06 83 P P 08 28 19.7 +0.4
baz=323,SNR=22
LMQ La Malbaie 45.08 71 P P 08 28 19.4 +0.1
LMQ IAmb IAmb 08 28 20.6
comp=Z,70nm,1.0s
MIAR Mount Ida 45.08 102 P P 08 28 19.8 +0.3
MIAR IAmb IAmb 08 28 20.9
comp=Z,98nm,0.9s
MIAR Mount Ida 45.08 102 P P 08 28 19.6 +0.1
baz=327,SNR=94
MIAR Mount Ida 45.08 102 P P 08 28 19.8 +0.3
MIAR pmax pmax
comp=Z,98nm,1.0s
J55A Hilton 45.13 80 P P 08 28 19.8 0.0
ACSO Alum Creek Sta 45.21 87 P P 08 28 21.1 +0.6

ACSO Alum Creek Sta 45.21 87 P P 08 28 20.9 +0.4
baz=324,SNR=45
TX31 Lajitas Ar. Si 45.21 116 P P 08 28 22.2 +1.4
TX31 IAmb IAmb 08 28 23.5
comp=Z,58nm,1.1s
TXAR Lajitas Array 45.21 116 P P 08 28 21.9 +1.2
TXAR Lajitas Array 45.21 116 P P 08 28 22.2 +1.5
comp=Z,30nm,0.9s,baz=329,slow=5.9,SNR=197
TXAR pP **pP 08 28 50.9 +1.4**
comp=Z,7.0nm,0.8s,baz=333,slow=5.1,SNR=3.6
TXAR PcP **PcP 08 29 59.0 +0.3**
comp=Z,5.1nm,0.8s,baz=267,slow=2.5,SNR=4.6
TXAR ScP **ScP 08 33 41.1 +1.9**
comp=Z,2.0nm,1.0s,baz=270,slow=3.4,SNR=5.8
TXAR LR LR 08 50 06.7
comp=Z,99nm,20.9s,baz=352,slow=40
comp=Z,30nm,0.9s
MNTQ Montreal, Queb 45.24 75 P P 08 28 20.3 -0.3
MNTQ IAmb IAmb 08 28 21.1
comp=Z,94nm,1.4s
FW13 Cleburne 45.24 107 P P 08 28 21.7 +0.9
FW13 IAmb IAmb 08 28 22.5
comp=Z,88nm,1.0s
T45A Paducah 45.24 95 P P 08 28 21.4 +0.6
M53A WI Miller and 45.29 84 P P 08 28 21.9 +0.8
M53A WI Miller and 45.29 84 P P 08 28 22.1 +1.0
baz=323,SNR=43
FW14 Alvarado 45.30 107 P P 08 28 22.1 +0.8
SAND Sanderson 45.31 114 P P 08 28 22.5 +1.1
SAND IAmb IAmb 08 28 23.7
comp=Z,61nm,1.0s
WCI Wyandotte Cave 45.32 92 P P 08 28 21.4 0.0
WCI IAmb IAmb 08 28 22.3
comp=Z,90nm,0.8s
WCI Wyandotte Cave 45.32 92 P P 08 28 21.1 -0.3
baz=325
WCI Wyandotte Cave 45.32 92 P P 08 28 21.4 0.0
WCI pmax pmax
comp=Z,90nm,0.9s
WCI Wyandotte Cave 45.32 92 P P 08 28 21.3 -0.1
WCI pP **pP 08 28 51.3 +1.1**
WCI PcP **PcP 08 29 58.5 -0.3**
ALLY Alegheny Colle 45.36 84 P P 08 28 22.4 +0.8
HICK Hickman 45.37 96 P P 08 28 22.2 +0.5
UALR University of 45.44 100 P P 08 28 22.3 0.0
UALR IAmb IAmb 08 28 23.1
comp=Z,74nm,0.8s
PEBM Pemiscott Bayo 45.44 97 P P 08 28 22.6 +0.3
PEBM IAmb IAmb 08 28 25.1
comp=Z,68nm,0.7s
WVNY West Valley, N 45.45 82 P P 08 28 22.6 +0.2
WVNY IAmb IAmb 08 28 23.7
comp=Z,36nm,0.8s
X40A Basin Creek Fa 45.46 101 P P 08 28 22.2 -0.3
BRDY Brady 45.48 109 P P 08 28 23.2 +0.5
BRDY IAmb IAmb 08 28 24.3
comp=Z,48nm,0.9s
GNAR Gosnell 45.49 97 P P 08 28 23.1 +0.3
TREL Terrell 45.50 105 P P 08 28 23.4 +0.5
LONY Lake Ozonia 45.50 76 P P 08 28 22.4 -0.4
LONY IAmb IAmb 08 28 23.2
comp=Z,133nm,1.6s
LONY Lake Ozonia 45.50 76 P P 08 28 22.4 -0.4
baz=322,SNR=21
MMNY Mt. Morris Dam 45.51 81 P P 08 28 22.7 -0.1
WHTX Lake Whitney, 45.54 107 P P 08 28 23.8 +0.6
WHTX IAmb IAmb 08 28 24.8
comp=Z,62nm,0.9s
WHTX Lake Whitney, 45.54 107 P P 08 28 23.9 +0.8
baz=329,SNR=6.9
Z38A Mt. Pleasant 45.54 104 P P 08 28 23.8 +0.7
Z38A IAmb IAmb 08 28 25.8
comp=Z,51nm,1.0s
HBAR Harrisburg 45.55 98 P P 08 28 23.2 +0.1
HBAR IAmb IAmb 08 28 24.9
comp=Z,90nm,1.1s
GLAT Glass 45.57 96 P P 08 28 23.9 +0.6
N53A Lisbon 45.72 85 P P 08 28 25.1 +0.6
P51A Williamsport 45.78 88 P P 08 28 25.0 +0.1
P51A IAmb IAmb 08 28 25.9
comp=Z,61nm,0.9s
R49A Shelbyville 45.78 91 P P 08 28 24.6 -0.3
O52A Adamsville 45.82 86 P P 08 28 25.7 +0.4
O52A IAmb IAmb 08 28 26.6
comp=Z,119nm,1.1s
JCT Junction City 45.83 111 P P 08 28 26.4 +0.9
JCT IAmb IAmb 08 28 28.5
comp=Z,87nm,1.0s
JCT Junction City 45.83 111 P P 08 28 26.4 +0.9
baz=331,SNR=23
JCT Junction City 45.83 111 P P 08 28 26.4 +0.9
JCT pmax pmax
comp=Z,87nm,1.0s
HALT Halls 45.84 96 P P 08 28 26.1 +0.6
HALT IAmb IAmb 08 28 26.8
comp=Z,82nm,0.9s
T47A Sharon Grove 45.97 93 P P 08 28 26.9 +0.5
D62A Allapoint, All 45.99 70 P P 08 28 27.0 +0.5
D62A IAmb IAmb 08 28 27.9
comp=Z,73nm,0.8s
O53A New Philadelph 46.00 86 P P 08 28 26.9 +0.2
O53A IAmb IAmb 08 28 27.9
comp=Z,63nm,1.1s
O53A New Philadelph 46.00 86 P P 08 28 26.9 +0.2
baz=324,SNR=21
WLAR White Oak Lake 46.01 102 P P 08 28 27.4 +0.6
P52A Corning 46.08 87 P P 08 28 27.1 -0.1
P52A IAmb IAmb 08 28 28.3
comp=Z,94nm,1.1s
P52A Corning 46.08 87 P P 08 28 27.2 -0.1
baz=324,SNR=34
M55A Ridgway 46.13 83 P P 08 28 28.2 +0.5
M55A IAmb IAmb 08 28 29.3
comp=Z,138nm,1.2s
K57A Scipio Center 46.13 80 P P 08 28 27.6 -0.1
L56A Greenwood 46.14 81 P P 08 28 27.9 +0.1
L56A IAmb IAmb 08 28 29.1
comp=Z,56nm,1.1s
E62A Clayton Lake 46.15 71 P P 08 28 27.8 +0.1
E62A IAmb IAmb 08 28 29.1
comp=Z,67nm,0.8s
NCB Newcomb 46.17 77 P P 08 28 27.7 -0.3
R50A Paris 46.17 90 P P 08 28 27.9 -0.2
R50A IAmb IAmb 08 28 30.8
comp=Z,32nm,0.8s
J58A Remsen 46.18 78 P P 08 28 27.8 -0.3
J58A IAmb IAmb 08 28 29.0
comp=Z,145nm,1.8s
USA0B Ussuriysk Arra 46.29 284 *i* P **P 08 28 26.1 -2.8**
USRK Ussuriysk Ar. 46.29 284 P **P 08 28 28.0 -0.9**
comp=Z,4.7nm,0.7s,baz=44,slow=8.5,SNR=11
USRK PcP **PcP 08 30 03.9 +1.8**
comp=Z,2.1nm,0.5s,baz=351,slow=3.3,SNR=4.9
comp=Z,4.7nm,0.7s
WVT Waverly 46.35 95 P P 08 28 29.9 +0.5
WVT IAmb IAmb 08 28 31.0
comp=Z,66nm,0.8s
WVT Waverly 46.35 95 P P 08 28 30.0 +0.5
baz=326
WVT Waverly 46.35 95 P P 08 28 29.9 +0.5
WVT pmax pmax
comp=Z,66nm,0.8s
WVT Waverly 46.35 95 P P 08 28 29.8 +0.4
WVT PcP **PcP 08 30 02.3 -0.1**
SSFO Shawnee State 46.35 89 P P 08 28 29.7 +0.2
DRIO Del Rio 46.40 112 P P 08 28 30.4 +0.5
DRIO IAmb IAmb 08 28 31.6
comp=Z,66nm,0.9s
CCAR Cane Creek 46.41 100 P P 08 28 30.8 +0.8
O54A Avella 46.43 85 P P 08 28 30.6 +0.5
HAMF Hammerfest 46.49 3 *eP* **P 08 28 29.7 -0.4**
HAMF IAmb IAmb 08 28 34.8
comp=Z,424nm,2.4s
Z41A Richland Creek 46.51 102 P P 08 28 30.6 -0.1
435B Jarrell 46.52 108 P P 08 28 31.5 +0.6
435B IAmb IAmb 08 28 32.7
comp=Z,46nm,1.0s
435B Jarrell 46.52 108 P P 08 28 31.7 +0.9
baz=330
F62A Pittston Farm, 46.52 72 P P 08 28 30.9 +0.2
F62A IAmb IAmb 08 28 32.0
comp=Z,68nm,0.9s
P53A Whipple 46.53 86 P P 08 28 31.1 +0.2
P53A IAmb IAmb 08 28 31.9
comp=Z,58nm,0.8s

HPIG 46.53 119 P P 08 28 32.5 +1.3
VT1 Waterbury 46.54 75 P P 08 28 31.1 +0.2
VT1 IAmb IAmb 08 28 31.9
comp=Z,63nm,1.5s
Q52A Bidwell 46.56 88 P P 08 28 30.9 -0.2
PQI Presque Isle 46.75 70 P P 08 28 32.5 +0.1
PQI IAmb IAmb 08 28 33.4
comp=Z,45nm,1.0s
BINY Binghamton 46.79 80 P P 08 28 33.0 +0.1
BINY IAmb IAmb 08 28 33.9
comp=Z,40nm,0.7s
BINY Binghamton 46.79 80 P P 08 28 33.0 +0.1
baz=323,SNR=26
G62A West of Eustis 46.81 73 P P 08 28 33.4 +0.5
G62A IAmb IAmb 08 28 34.6
comp=Z,93nm,1.2s
HNDO Hondo 46.88 111 P P 08 28 34.3 +0.6
HNDO IAmb IAmb 08 28 35.6
comp=Z,63nm,1.1s
ACCN Adirondack Com 46.88 77 P P 08 28 33.4 -0.1
NATX Nacogdoches 46.96 105 P P 08 28 35.0 +0.8
NATX IAmb IAmb 08 28 36.1
comp=Z,85nm,0.9s
NATX Nacogdoches 46.96 105 P P 08 28 34.9 +0.7
baz=329,SNR=17
U49A Red Boiling Sp 46.96 93 P P 08 28 34.8 +0.6
M57A Sunshine Farm, 46.97 81 P P 08 28 34.4 +0.1
M57A IAmb IAmb 08 28 35.5
comp=Z,62nm,1.2s
T50A Nancy 46.97 91 P P 08 28 34.8 +0.5
LBNH Lisbon 46.97 75 P P 08 28 34.4 +0.2
LBNH IAmb IAmb 08 28 35.6
comp=Z,72nm,1.5s
LBNH Lisbon 46.97 75 P P 08 28 34.6 +0.3
baz=322,SNR=8.9
LBNH Lisbon 46.97 75 P P 08 28 34.4 +0.2
LBNH pmax pmax
comp=Z,72nm,1.5s
OXF Oxford 46.98 98 P P 08 28 35.2 +0.9
OXF Oxford 46.98 98 P P 08 28 35.0 +0.7
baz=327,SNR=151
OXF Oxford 46.98 98 P P 08 28 35.2 +0.9
OXF pmax pmax
comp=Z,602nm,1.0s
MDJ Mudanjiang 47.02 286 P P 08 28 34.7 +0.1
MDJ Mudanjiang 47.02 286 P P 08 28 34.2 -0.4
MDJ pmax pmax
comp=Z,39nm,0.9s
MDJ pmax pmax
comp=Z,130nm,3.6s
MDJ Mudanjiang 47.02 286 P P 08 28 34.3 -0.2
S51A Beattyville 47.03 90 P P 08 28 34.8 +0.1
S51A IAmb IAmb 08 28 35.9
comp=Z,80nm,0.8s
F63A Nahmakanta, Br 47.05 71 P P 08 28 35.0 +0.2
F63A IAmb IAmb 08 28 35.9
comp=Z,66nm,1.0s
H62A Milan 47.05 74 P P 08 28 35.2 +0.5
H62A IAmb IAmb 08 28 36.2
comp=Z,36nm,0.9s
CLTN Cedars of Leba 47.06 93 P P 08 28 35.9 +0.9
VADS Vadso 47.07 360 *eP* **P 08 28 34.4 -0.2**
VADS IAmb IAmb 08 28 35.7
comp=Z,43nm,0.8s
BNX BinXian 47.08 289 ⇓P **P 08 28 34.8 -0.2**
BNX pmax pmax
comp=Z,22nm,0.9s
BNX pmax pmax
comp=Z,130nm,4.9s
MCWV Mont Chateau 47.09 85 P P 08 28 35.7 +0.5
MCWV IAmb IAmb 08 28 36.8
comp=Z,72nm,0.8s
MCWV Mont Chateau 47.09 85 P P 08 28 35.7 +0.5
baz=324,SNR=34
BATG Bathurst New B 47.10 68 P P 08 28 35.6 +0.4
BATG IAmb IAmb 08 28 36.6
comp=Z,74nm,0.8s
V48A Smith Brothers 47.13 94 P P 08 28 36.1 +0.6
PLAL Pickwick Lake 47.19 96 P P 08 28 36.6 +0.6
Q54A Coxs Mills 47.19 86 P P 08 28 36.1 +0.1
Q54A IAmb IAmb 08 28 37.2
comp=Z,58nm,0.9s
SSPA Standing Stone 47.19 82 P P 08 28 36.4 +0.4
SSPA IAmb IAmb 08 28 37.4
comp=Z,110nm,1.4s
SSPA Standing Stone 47.19 82 P P 08 28 36.2 +0.2
baz=324
SSPA Standing Stone 47.19 82 P P 08 28 36.0 +0.1
SSPA sP **sP 08 29 18.7 -0.3**
SSPA PcP **PcP 08 30 05.0 -0.4**
L59A Walton 47.22 79 P P 08 28 36.2 0.0
HNH Hanover 47.24 75 P P 08 28 36.7 +0.5
HNH IAmb IAmb 08 28 37.6
comp=Z,70nm,1.6s
F64A Sherman 47.24 71 P P 08 28 36.4 +0.1
PKME Peaks-Kenny Pk 47.31 72 P P 08 28 37.0 +0.2
PKME Peaks-Kenny Pk 47.31 72 P P 08 28 37.0 +0.2
baz=322,SNR=24
TRO Tromso 47.37 5 *eP* **P 08 28 37.3 +0.4**
TRO IAmb IAmb 08 28 38.5
comp=Z,23nm,0.7s
KSPA Keystone Colle 47.40 80 P P 08 28 37.7 +0.1
KSPA IAmb IAmb 08 28 38.8
comp=Z,32nm,0.9s
J61A Chester 47.41 76 P P 08 28 37.6 0.0
J61A IAmb IAmb 08 28 38.9
comp=Z,68nm,1.6s
KEV Kevo 47.43 1 P P 08 28 36.9 -0.5
KEV IAmb IAmb 08 28 37.6
comp=Z,28nm,0.7s
KEV Kevo 47.43 1 P P 08 28 36.9 -0.5
KEV pmax pmax
comp=Z,29nm,0.7s
KEV Kevo 47.43 1 P P 08 28 36.6 -0.8
Y45A Yeager Farm, C 47.46 98 P P 08 28 39.2 +1.1
HNVL Huntsville, TX 47.46 106 P P 08 28 39.1 +0.9
HIA Hailar 47.51 297 P P 08 28 38.7 +0.4
HIA Hailar 47.51 297 P P 08 28 38.7 +0.4
HIA IAmb IAmb 08 28 39.5
comp=Z,64nm,0.8s
HIA Hailar 47.51 297 P P 08 28 38.7 +0.4
HIA pmax pmax
comp=Z,64nm,0.8s
HIA Hailar 47.51 297 P P 08 28 38.5 +0.2
N58A Sunbury 47.55 81 P P 08 28 38.9 +0.1
N58A IAmb IAmb 08 28 39.8
comp=Z,55nm,0.9s
143A Socs Landing, 47.60 101 P P 08 28 40.4 +1.3
MLDN Muldoon 47.60 108 P P 08 28 40.6 +1.3
MLDN IAmb IAmb 08 28 41.1
comp=Z,59nm,0.9s
ARCES ARCESS Array B 47.64 2 P P 08 28 38.9 -0.1
ARCES IAmb IAmb 08 28 40.9
comp=Z,67nm,1.7s
ARCES ARCESS Array B 47.64 2 P P 08 28 38.1 -0.9
comp=Z,14nm,0.6s,baz=8.4,slow=7.5,SNR=36
ARCES PcP **PcP 08 30 08.4 +2.0**
comp=Z,6.0nm,0.6s,baz=2.2,slow=3.4,SNR=5.6
comp=Z,14nm,0.6s
ARCES ARCESS Array B 47.64 2 P P 08 28 38.9 -0.1
ARCES pmax pmax
comp=Z,67nm,1.7s
I63A Otisfield 47.71 74 P P 08 28 40.3 +0.3
I63A IAmb IAmb 08 28 41.7
comp=Z,116nm,1.6s
CIT Chita 47.76 304 *eP* **P 08 28 41.2 +1.0**
CIT *e* 08 29 09.1
CIT *e* 08 29 22.8
CIT *e* 08 30 38.1
CIT pmax pmax
comp=Z,74nm,2.4s
SLBS Sierra La Lagu 47.83 126 P P 08 28 42.7 +1.6
SLBS pP **pP 08 29 11.3 +1.2**
SLBS sP **sP 08 29 25.6 +1.4**
833A Chaparral WMA, 47.88 112 P P 08 28 42.2 +0.8
833A Chaparral WMA, 47.88 112 P P 08 28 42.4 +1.0
baz=331,SNR=6.7
Q56A Snyder Ridge, 47.89 85 P P 08 28 42.0 +0.6
S54A Dingess, Beckl 47.94 88 P P 08 28 41.9 0.0
S54A IAmb IAmb 08 28 43.0
comp=Z,76nm,0.8s
MSHR Mys Shultsa 47.95 283 *ceP* **P 08 28 42.1 +0.3**
MSHR pmax pmax
comp=Z,23nm,1.3s
TZTN Tazewell 47.95 91 P P 08 28 42.5 +0.6

TZTN Tazewell 47.95 91 P **P 08 28 42.5 +0.6**
baz=326,SNR=54
SWET Sewanee 47.97 94 P **P 08 28 42.0 0.0**
HKT Hockley 48.00 107 P **P 08 28 43.5 +1.3**
HKT IAmb IAmb 08 28 45.5
comp=Z,74nm,1.2s
HKT Hockley 48.00 107 *d iP* **P 08 28 42.5 +0.3**
HKT pmax pmax
comp=Z,81nm,1.3s
HKT Hockley 48.00 107 P **P 08 28 43.3 +1.1**
PSTR Posyet 48.05 284 *i* P **P 08 28 42.3 -0.2**
P57A Homestead Farm 48.06 84 P **P 08 28 43.2 +0.5**
L61B Northampton 48.07 77 P **P 08 28 42.4 -0.2**
L61B IAmb IAmb 08 28 43.8
comp=Z,72nm,1.9s
L61B Northampton 48.07 77 P **P 08 28 42.5 -0.2**
baz=323
R55A Marlinton 48.09 86 P **P 08 28 43.3 +0.3**
R55A IAmb IAmb 08 28 44.6
comp=Z,146nm,1.6s
K62A Royalston 48.09 76 P **P 08 28 42.8 -0.1**
K62A IAmb IAmb 08 28 43.5
comp=Z,25nm,0.7s
X48A Hartselle 48.10 95 P **P 08 28 43.3 +0.3**
X48A IAmb IAmb 08 28 45.4
comp=Z,69nm,0.8s
G65A Princeton 48.11 71 P **P 08 28 43.2 +0.2**
G65A IAmb IAmb 08 28 44.2
comp=Z,160nm,1.6s
KTK1 Kautokeino 48.12 3 *eP* **P 08 28 42.0 -0.8**
KTK1 IAmb IAmb 08 28 42.8
comp=Z,26nm,0.8s
W50A Signal Mountai 48.26 93 P **P 08 28 44.6 +0.3**
W50A IAmb IAmb 08 28 45.8
comp=Z,61nm,1.1s
KSCT Kent School, K 48.29 78 P **P 08 28 44.1 -0.2**
ODNJ Ogdensburg 48.31 79 P **P 08 28 44.3 -0.2**
ODNJ IAmb IAmb 08 28 45.2
comp=Z,57nm,1.2s
LUPA Lehigh Univers 48.35 80 P **P 08 28 45.2 +0.3**
LUPA IAmb IAmb 08 28 46.0
comp=Z,88nm,1.0s
MVL Millersville 48.40 82 P **P 08 28 45.5 +0.3**
VBMS Vicksburg 48.41 100 P **P 08 28 46.6 +1.2**
VBMS Vicksburg 48.41 100 P **P 08 28 46.6 +1.2**
baz=328,SNR=18
CPCT Cooper Cave 48.41 92 P **P 08 28 45.6 +0.2**
CPCT IAmb IAmb 08 28 46.7
comp=Z,57nm,1.0s
TRNY Table Rock, Ra 48.43 79 P **P 08 28 45.3 -0.1**
441A DeRidder 48.47 104 P **P 08 28 47.4 +1.5**
GGN Saint George 48.48 70 P **P 08 28 46.0 +0.3**
V52A Sevierville 48.51 91 P **P 08 28 46.8 +0.6**
HRV Adam Dziewonsk 48.52 76 P **P 08 28 46.6 +0.5**
HRV IAmb IAmb 08 28 47.5
comp=Z,57nm,1.8s
HRV Adam Dziewonsk 48.52 76 P **P 08 28 46.1 0.0**
baz=323
HRV Adam Dziewonsk 48.52 76 P **P 08 28 46.6 +0.5**
HRV pmax pmax
comp=Z,57nm,1.8s
HRV Adam Dziewonsk 48.52 76 P **P 08 28 46.0 0.0**
HRV sP **sP 08 29 28.3 -1.0**
HRV PcP **PcP 08 30 10.1 +0.1**
EMMW East Machias 48.54 71 P **P 08 28 46.7 +0.4**
EMMW IAmb IAmb 08 28 47.5
comp=Z,72nm,0.9s
TKL Tuckaleechee C 48.58 91 P **P 08 28 46.9 +0.2**
TKL Tuckaleechee C 48.58 91 LR LR 08 51 43.3
comp=Z,35nm,18.8s,baz=320,slow=39
TKL Tuckaleechee C 48.58 91 P **P 08 28 46.9 +0.2**
TKL pmax pmax
comp=Z,85nm,0.8s
LOF Lofoten 48.59 8 *eP* **P 08 28 46.1 -0.2**
LOF IAmb IAmb 08 28 46.2
comp=Z,50nm,1.3s
BRNJ Basking Ridge 48.65 80 P **P 08 28 47.3 +0.2**
BRNJ IAmb IAmb 08 28 47.5
comp=Z,28nm,0.7s
SDMD Soldier's Deli 48.65 83 P **P 08 28 47.6 +0.4**
FPAL Fort Paine 48.67 94 P **P 08 28 48.0 +0.5**
PAL Palisades 48.68 79 P **P 08 28 47.1 -0.2**
PAL Palisades 48.68 79 P **P 08 28 46.9 -0.5**
baz=324,SNR=6.2
PAL Palisades 48.68 79 P **P 08 28 47.2 -0.2**
PAL pmax pmax
comp=Z,21nm,0.9s
Z47A Carrollton 48.68 97 P **P 08 28 47.9 +0.5**
146A Union 48.71 99 P **P 08 28 49.0 +1.2**
WES Weston 48.72 76 P **P 08 28 47.7 +0.1**
WES IAmb IAmb 08 28 48.2
comp=Z,27nm,0.7s
WES Weston 48.72 76 P **P 08 28 47.7 +0.1**
WES pmax pmax
comp=Z,27nm,0.7s
U54A Nelsons Funny 48.76 89 P **P 08 28 48.5 +0.4**
LMN Caledonia Moun 48.76 68 P **P 08 28 47.9 -0.1**
WUPA West Chester U 48.79 81 P **P 08 28 48.2 0.0**
WUPA IAmb IAmb 08 28 49.3
comp=Z,32nm,1.1s
UCCT U. Connecticut 48.79 77 P **P 08 28 48.6 +0.3**
UCCT IAmb IAmb 08 28 49.5
comp=Z,104nm,1.8s
WSPT Westport, CT 48.80 78 P **P 08 28 47.8 -0.5**
BCX Boston College 48.83 76 P **P 08 28 48.9 +0.5**
BCX IAmb IAmb 08 28 49.4
comp=Z,75nm,1.7s
BLA Blacksburg 48.83 87 P **P 08 28 49.2 +0.6**
BLA IAmb IAmb 08 28 50.0
comp=Z,67nm,0.8s
BLA Blacksburg 48.83 87 P **P 08 28 49.1 +0.5**
baz=325,SNR=35
BLA Blacksburg 48.83 87 P **P 08 28 49.2 +0.6**
BLA pmax pmax
comp=Z,67nm,0.9s
Y49A Blount Mountai 48.88 95 P **P 08 28 49.3 +0.3**
Y49A IAmb IAmb 08 28 50.5
comp=Z,65nm,0.8s
STEI Steigen 48.89 7 *eP* **P 08 28 48.5 -0.1**
STEI IAmb IAmb 08 28 48.9
comp=Z,49nm,0.8s
W52A Murphy 48.98 92 P **P 08 28 50.4 +0.6**
X51A Calhoun 48.99 93 P **P 08 28 50.2 +0.3**
V53A Saluda 49.01 91 P **P 08 28 50.6 +0.5**
DRLN Deer Lake 49.03 60 P **P 08 28 50.4 +0.4**
DRLN IAmb IAmb 08 28 50.7
comp=Z,32nm,0.9s
S57A Dark Hollow, R 49.04 86 P **P 08 28 50.9 +0.6**
S57A IAmb IAmb 08 28 52.1
comp=Z,70nm,1.2s
M63A Gales Ferry 49.19 77 P **P 08 28 50.8 -0.5**
M63A IAmb IAmb 08 28 51.6
comp=Z,36nm,0.8s
LVZ Lovozero 49.25 357 *i* P **P 08 28 51.0 -0.4**
LVZ pmax pmax
comp=Z,20nm,1.1s
LVZ Lovozero 49.25 357 P **P 08 28 51.4 -0.1**
LRAL Lakeview Retre 49.30 96 P **P 08 28 52.2 0.0**
LRAL IAmb IAmb 08 28 53.1
comp=Z,29nm,0.7s
LRAL Lakeview Retre 49.30 96 P **P 08 28 52.3 0.0**
baz=328,SNR=38
P61A Hammonton 49.36 81 P **P 08 28 52.6 0.0**
R58B Mineral 49.36 85 P **P 08 28 53.4 +0.8**
R58B IAmb IAmb 08 28 54.6
comp=Z,93nm,1.1s
CBN Corbin Frederi 49.40 84 P **P 08 28 53.4 +0.5**
CBN Corbin Frederi 49.40 84 P **P 08 28 53.3 +0.5**
baz=325,SNR=22
FAUS Fauske 49.44 7 *eP* **P 08 28 52.5 -0.3**
FAUS IAmb IAmb 08 28 52.9
comp=Z,40nm,0.8s
CN2 Changchun 49.47 289 *eP* **P 08 28 52.4 -0.9**
CN2 *eS* **S 08 35 48.4 -2.4**
CN2 pmax pmax
comp=Z,100nm,1.1s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
BG3 Lake Jocassee 49.51 91 P **P 08 28 54.4 +0.6**
BG3 IAmb IAmb 08 28 55.4
comp=Z,53nm,0.9s
T57A Hurt 49.53 86 P **P 08 28 54.3 +0.4**
T57A IAmb IAmb 08 28 55.2
comp=Z,57nm,0.9s
U56A King 49.55 88 P **P 08 28 54.7 +0.6**
U56A IAmb IAmb 08 28 55.7
comp=Z,80nm,0.9s
346A Big Creek Wild 49.58 100 P **P 08 28 55.4 +1.0**
V55A Taylorsville 49.58 89 P **P 08 28 55.0 +0.6**
V55A IAmb IAmb 08 28 55.9
comp=Z,72nm,0.9s
APA Apatity 49.60 358⇓ *iP* **P 08 28 51.5 -2.5**
APA *i* *PP **pP 08 29 21.0 -2.1**
APA pmax pmax
comp=Z,21nm,0.7s
APA MLR MLR
comp=Z,200nm,12.0s
MJB9 Matsu-Tunnel 49.67 273 P **P 08 28 55.9 +0.9**
MAJO Matsushiro 49.68 273 P **P 08 28 55.3 +0.2**
MAJO Matsushiro 49.68 273 P **P 08 28 55.0 -0.1**
MAJO Matsushiro 49.68 273 *i* P **P 08 28 53.9 -1.2**
MAJO pmax pmax
comp=Z,22nm,1.0s
MAJO Matsushiro 49.68 273 P **P 08 28 55.2 +0.2**
MAJO pP **pP 08 29 24.5 +0.3**
MJAR Matsushiro Arr 49.68 273 P **P 08 28 55.4 +0.4**
comp=Z,8.9nm,1.0s,baz=9.6,slow=7.4,SNR=31
MJAR pP **pP 08 29 25.2 +1.0**
comp=Z,4.8nm,0.9s,baz=18,slow=7.1,SNR=4.7
comp=Z,8.9nm,1.0s
Y52A Lilburn 49.94 93 P **P 08 28 57.8 +0.7**
KMSC Kings Mountain 50.12 90 P **P 08 28 58.3 -0.1**
KMSC IAmb IAmb 08 28 59.7
comp=Z,42nm,0.9s
KMSC Kings Mountain 50.12 90 P **P 08 28 58.7 +0.3**
baz=326,SNR=30
PAULI Pauline 50.17 90 P **P 08 28 59.4 +0.6**
KONS Konsvik 50.18 8 *eP* **P 08 28 58.2 -0.2**
KONS IAmb IAmb 08 28 58.6
comp=Z,18nm,0.9s
HAL Halifax 50.25 68 P **P 08 28 59.6 +0.4**
HAL IAmb IAmb 08 29 00.4
comp=Z,69nm,1.0s
HAL Halifax 50.25 68 P **P 08 28 59.6 +0.4**
HAL pmax pmax
comp=Z,69nm,1.0s
T59A Double "B" Far 50.32 85 P **P 08 29 00.6 +0.7**
T59A IAmb IAmb 08 29 01.5
comp=Z,59nm,0.9s
STOK Stokkvaagen 50.34 8 *eP* **P 08 28 59.1 -0.5**
STOK IAmb IAmb 08 28 59.9
comp=Z,33nm,1.0s
HODGE Hodges 50.45 91 P **P 08 29 01.5 +0.6**
GBN Guysborough 50.50 66 P **P 08 29 01.5 +0.4**
GBN IAmb IAmb 08 29 02.6
comp=Z,60nm,1.0s
250A Grady 50.52 96 P **P 08 29 01.5 0.0**
V58A Windy Hill, Pi 50.59 87 P **P 08 29 02.3 +0.4**
V58A IAmb IAmb 08 29 03.3
comp=Z,43nm,0.9s
GOGA Godfrey 50.59 93 P **P 08 29 02.3 +0.3**
GOGA IAmb IAmb 08 29 02.6
comp=Z,24nm,0.7s
GOGA Godfrey 50.59 93 P **P 08 29 02.2 +0.3**
baz=327,SNR=23
GOGA Godfrey 50.59 93 P **P 08 29 02.3 +0.3**
GOGA pmax pmax
comp=Z,24nm,0.7s
MOR8 Moi Rana 50.59 8 *eP* **P 08 28 59.8 -1.7**
MOR8 IAmb IAmb 08 29 00.5
comp=Z,20nm,0.8s
152A Waverly Hall 50.64 94 P **P 08 29 02.7 +0.3**
W57A Gilead 50.72 88 P **P 08 29 03.1 +0.2**
W57A IAmb IAmb 08 29 04.1
comp=Z,45nm,0.8s
JGF Kuroka 50.84 273 P **P 08 29 04.9 +1.0**
JGF Kuroka 50.84 273 P **P 08 29 03.7 -0.1**
BRAL Brewton 50.85 98 P **P 08 29 04.7 +0.8**
baz=328
JSC Jenkinsville 50.87 90 P **P 08 29 04.6 +0.6**
JSC Jenkinsville 50.87 90 P **P 08 29 04.6 +0.6**
JSC pmax pmax
comp=Z,98nm,0.8s
BIRD Birdtown, Kers 50.93 89 P **P 08 29 05.4 +0.9**
BIRD IAmb IAmb 08 29 05.8
comp=Z,63nm,0.8s
IRK Irkutsk 50.95 310 *eP* **P 08 29 03.2 -1.2**
IRK pmax pmax
comp=Z,55nm,1.1s
W59A Clinton 51.41 87 P **P 08 29 08.8 +0.8**
W59A IAmb IAmb 08 29 09.8
comp=Z,64nm,0.9s
154A Montrose 51.42 93 P **P 08 29 08.2 +0.1**
Y57A Sumter 51.48 90 P **P 08 29 08.8 +0.2**
Y57A IAmb IAmb 08 29 09.9
comp=Z,64nm,0.9s
ZAIG Zacatecas 51.49 118 P **P 08 29 09.7 +0.5**
X58A Rowland 51.51 88 P **P 08 29 09.3 +0.5**
X58A IAmb IAmb 08 29 10.5
comp=Z,69nm,0.9s
352A Blakely 51.55 95 P **P 08 29 08.8 -0.4**
352A IAmb IAmb 08 29 09.8
comp=Z,55nm,0.9s
CNNC Cliffs of the 51.60 87 P **P 08 29 10.0 +0.5**
CNNC IAmb IAmb 08 29 11.2
comp=Z,53nm,1.0s
CNNC Cliffs of the 51.60 87 P **P 08 29 10.3 +0.9**
baz=326,SNR=13
V61A Roper 51.74 85 P **P 08 29 10.9 +0.4**
Y58A Scranton 51.91 89 P **P 08 29 12.2 +0.5**
NSS Namsos 52.05 9 *eP* **P 08 29 11.6 -0.8**
NSS IAmb IAmb 08 29 12.3
comp=Z,28nm,1.0s
TIGA Tifton 52.19 94 P **P 08 29 13.7 -0.2**
TIGA Tifton 52.19 94 P **P 08 29 13.9 0.0**
baz=328,SNR=12
255A Hazlehurst 52.29 93 P **P 08 29 14.8 +0.2**
NHSC New Hope 52.34 90 P **P 08 29 15.4 +0.5**
NHSC New Hope 52.34 90 P **P 08 29 15.9 +1.0**
baz=327,SNR=16
Y60A Bolivia 52.48 88 P **P 08 29 16.5 +0.5**
MOY Mondy 52.55 312 *eP* **P 08 29 17.5 +1.0**
MOY pmax pmax
comp=Z,36nm,2.1s
ZAK Zakamensk 52.84 309 *eP* **P 08 29 18.5 -0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
ADZR Andozero 53.11 355 *eP* **P 08 29 18.7 -1.5**
ADZR pmax pmax
comp=Z,31nm,0.6s
XLT XiLinHaoTe 53.33 296 *eP* **P 08 29 22.4 +0.2**
XLT pP pP 08 29 51.0 -0.7
XLT sP sP 08 30 02.8 -2.7
XLT PcP **PcP 08 30 28.0 0.0**
XLT pmax pmax
comp=Z,20nm,0.7s
XLT pmax pmax
comp=Z,66nm,3.9s
456A Hilliard 53.51 93 P **P 08 29 23.9 +0.3**
KS19 Wonju Array Si 53.55 282 P **P 08 29 24.7 +1.0**
KS19 IAmb IAmb 08 29 25.8
comp=Z,32nm,0.9s
KSRS Korea Array 53.56 282 P **P 08 29 24.6 +0.8**
comp=Z,26nm,1.0s,baz=30,slow=7.1,SNR=56
KSRS pP **pP 08 29 54.1 +0.8**
comp=Z,4.1nm,0.6s,baz=30,slow=7.2,SNR=2.8
KSRS LR LR 08 53 44.1
comp=Z,32nm,18.2s,baz=45,slow=38
comp=Z,26nm,1.0s
ULN Ulaanbaatar 53.58 305 P **P 08 29 24.9 +0.9**
ULN IAmb IAmb 08 29 25.8
comp=Z,21nm,0.8s
ULN Ulaanbaatar 53.58 305 *i* P **P 08 29 23.8 -0.3**
ULN pmax pmax
comp=Z,21nm,0.8s
ULN Ulaanbaatar 53.58 305 P **P 08 29 25.0 +0.9**
ULN pP **pP 08 29 54.5 +1.0**
ULN PcP **PcP 08 30 30.7 +1.7**
KSAR Wonju Array Be 53.59 282 P **P 08 29 24.3 +0.3**
KSAR Wonju Array Be 53.59 282 P **P 08 29 24.3 +0.3**
SONM Songino Array 53.85 306 P **P 08 29 27.1 +1.1**
SONM IAmb IAmb 08 29 28.3
comp=Z,27nm,0.8s
SONM Songino Array 53.85 306 P **P 08 29 27.3 +1.3**
comp=Z,21nm,0.8s,baz=26,slow=7.0,SNR=64
SONM pP **pP 08 29 57.3 +1.9**
comp=Z,11nm,1.0s,baz=33,slow=7.0,SNR=3.8
comp=Z,21nm,0.8s
VAF Ylistaro 54.09 4 *eP* **P 08 29 26.0 -1.3**
DOMB Dombas 54.27 12 *eP* **P 08 29 24.9 -3.8**
JOF Joensuu 54.30 359 *eP* **P 08 29 27.9 -1.0**
656A Willston 54.43 95 P **P 08 29 30.3 0.0**
656A IAmb IAmb 08 29 31.5
comp=Z,46nm,0.9s
TJN Taejon 54.70 282 P **P 08 29 33.0 +0.9**
TJN Taejon 54.70 282 P **P 08 29 32.8 +0.7**
TJN Taejon 54.70 282 P **P 08 29 32.8 +0.7**
TJN pmax pmax
comp=Z,223nm,1.0s
KEF Keuruu 55.02 2 *eP* **P 08 29 33.4 -0.7**
DL2 Dalian 55.12 288 P **P 08 29 35.9 +0.8**
DL2 pmax pmax
comp=Z,96nm,0.8s
NC405 NORSAR Array S 55.41 10 P **P 08 29 35.9 -1.0**
NBO00 NORSAR Array S 55.41 11 P **P 08 29 36.2 -0.8**
NB201 NORSAR Array S 55.44 10 P **P 08 29 36.5 -0.7**
NB2 NORSAR Subarra 55.44 11 P **P 08 29 35.9 -1.3**
comp=Z,16nm,1.1s,baz=351,slow=7.4
NB2 NORSAR Subarra 55.44 11 P **P 08 29 35.9 -1.3**
baz=351,slow=7.4
NB2 NORSAR Subarra 55.44 11 P **P 08 29 35.8 -1.4**
NB2 pmax pmax
comp=Z,6.0nm,1.1s
NOA NORSAR Array B 55.44 11 P **P 08 29 36.1 -1.1**
comp=Z,5.7nm,0.9s,baz=350,slow=7.2,SNR=21
NOA pP **pP 08 30 08.2 +1.1**
comp=Z,2.9nm,0.8s,baz=352,slow=7.1,SNR=3.2
NOA PcP **PcP 08 30 37.0 +1.2**
comp=Z,2.1nm,1.1s,baz=347,slow=3.2,SNR=4.2
comp=Z,5.7nm,0.9s
ZAA0 Zalesovo Array 55.51 324 P **P 08 29 37.2 -0.5**
ZAA0 IAmb IAmb 08 29 38.3
comp=Z,23nm,0.8s
ZALV Zalesovo Beam 55.51 324 P **P 08 29 37.0 -0.7**
ZALV Zalesovo Beam 55.51 324 P **P 08 29 37.4 -0.3**
comp=Z,23nm,0.8s,baz=24,slow=6.7,SNR=70
ZALV pP **pP 08 30 06.5 -0.8**
comp=Z,12nm,0.6s,baz=12,slow=7.7,SNR=4.7
ZALV PcP **PcP 08 30 37.2 +1.1**
comp=Z,6.9nm,0.7s,baz=25,slow=3.4,SNR=4.6
ZALV ScP **ScP 08 34 21.6 -1.2**
comp=Z,0.8nm,0.4s,baz=44,slow=4.5,SNR=3.7
ZALV LR LR 08 56 20.0
comp=Z,26nm,20.6s,baz=36,slow=39
comp=Z,23nm,0.8s
FIA1 FINESS Array S 55.77 2 P **P 08 29 38.3 -1.1**
FINES FINESS Array B 55.77 2 P **P 08 29 38.3 -1.1**
FINES FINESS Array B 55.77 2 P **P 08 29 38.6 -0.8**
comp=Z,23nm,0.7s,baz=4.6,slow=9.6,SNR=49
comp=Z,23nm,0.7s
NC602 NORSAR Array S 55.77 10 *eP* **P 08 29 38.4 -1.1**
NC602 IAmb IAmb 08 29 39.1
comp=Z,28nm,1.6s
NORES NORESS Array B 55.77 10 P **P 08 29 40.6 +1.1**
NORES pmax pmax
comp=Z,2.0nm,0.9s
DWPF Disney Wildern 56.00 94 P **P 08 29 41.6 0.0**
baz=329
DWPF Disney Wildern 56.00 94 P **P 08 29 41.2 -0.3**
RAF Rauma 56.08 4 *eP* **P 08 29 40.0 -1.6**
KLMR Klimovskoe 56.13 354 *c iP* **P 08 29 41.6 -0.4**
KLMR pmax pmax
comp=Z,53nm,0.7s
BJI Beijing 56.49 293 P **P 08 29 45.5 +0.6**
BJI pmax pmax
comp=Z,13nm,0.9s
BJT Baijiatuau 56.52 293 P **P 08 29 46.3 +1.2**
BJT Baijiatuau 56.52 293 P **P 08 29 45.3 +0.2**
BJT IAmb IAmb 08 29 46.4
comp=Z,28nm,1.1s
BJT Baijiatuau 56.52 293 P **P 08 29 45.3 +0.2**
BJT pmax pmax
comp=Z,28nm,1.1s
BJT Baijiatuau 56.52 293 P **P 08 29 45.6 +0.6**
HFS Hagfors 56.53 9 P **P 08 29 43.5 -1.4**
comp=Z,20nm,1.0s,baz=23,slow=5.3,SNR=21
HFS pP **pP 08 30 16.0 +1.2**
comp=Z,6.7nm,0.8s,baz=331,slow=5.8,SNR=2.8
comp=Z,20nm,1.0s
KONO Kongsberg 56.67 12 P **P 08 29 44.8 -1.1**
KONO IAmb IAmb 08 29 46.5
comp=Z,50nm,1.8s
KONO Kongsberg 56.67 12 *eP* **P 08 29 45.3 -0.5**
KONO Kongsberg 56.67 12 *ceP* **P 08 29 45.9 0.0**
KONO pmax pmax
comp=Z,15nm,1.7s
MEF Metsahovi 56.97 3 *eP* **P 08 29 46.3 -1.6**
KIRV Kirov 57.67 348 *i P* **P 08 29 53.0 +0.2**
HHC Hu-ho-hao-te 57.71 297 *eP* **P 08 29 54.2 +0.6**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,71nm,4.7s
ARBE Arbavere 57.78 2 *eP* **P 08 29 52.9 -0.7**
DRUM Mains of Drumt 57.85 20 *eP* **P 08 29 52.3 -1.8**
DRUM IAmb IAmb 08 29 54.1
comp=Z,21nm,0.7s
HOMB Homborsund 57.93 13 *eP* **P 08 29 54.2 -0.5**
HOMB IAmb IAmb 08 29 57.0
comp=Z,7.7nm,0.8s
SVE Sverdlovsk 57.97 340⇓ *eP* **P 08 29 55.5 +0.5**
SVE *eS* **S 08 37 46.5 +1.5**
SVE pmax pmax
comp=Z,53nm,0.8s
LAWE Loch Awe, Argy 58.00 22 *eP* **P 08 29 53.6 -1.6**
LAWE IAmb IAmb 08 29 56.8
comp=Z,14nm,0.9s
INVG Invergeldie, C 58.06 21 *eP* **P 08 29 54.8 -0.9**
INVG IAmb IAmb 08 29 55.5
comp=Z,12nm,1.1s
MTSE Matsula 58.46 3 *eP* **P 08 29 58.2 -0.1**
PGBU Glenifferbraes 58.58 22 *eP* **P 08 29 58.7 -0.6**
ARU Arti 58.67 341 P **P 08 29 59.8 -0.1**
ARU Arti 58.67 341 LR LR 08 55 40.7
comp=Z,39nm,22.0s,baz=12,slow=36
ARU Arti 58.67 341 *d iP* **P 08 29 59.5 -0.3**
ARU *PP **pP 08 30 28.4 -1.3**
ARU 08 30 52.1
ARU S **S 08 37 55.2 +1.2**
ARU pmax pmax
comp=Z,56nm,0.7s
ARU Arti 58.67 341 P **P 08 29 59.6 -0.3**
comp=Z,76nm,0.7s,comp=Z,582nm
ARU Arti 58.67 341 P **P 08 29 59.6 -0.3**
ARU pP **pP 08 30 29.6 -0.1**
VSU Vasula 58.77 2 *ceP* **P 08 30 00.6 +0.1**
VSU pmax pmax
comp=Z,51nm,0.7s
EKA Eskdalemuir Ar 59.26 21 P **P 08 30 03.3 -0.6**
comp=Z,11nm,0.7s,baz=330,slow=5.4,SNR=45
EKA pP **pP 08 30 34.0 -0.1**
comp=Z,2.7nm,0.4s,baz=340,slow=6.1,SNR=3.5
comp=Z,11nm,0.7s
ESK Eskdalemuir 59.27 21 P **P 08 30 03.5 -0.5**
ESK IAmb IAmb 08 30 04.4
comp=Z,17nm,0.9s
ESK Eskdalemuir 59.27 21 *eP* **P 08 30 03.5 -0.5**
ESK IAmb IAmb 08 30 04.1
comp=Z,15nm,0.9s
ESK Eskdalemuir 59.27 21 P **P 08 30 03.5 -0.5**
ESK pmax pmax
comp=Z,17nm,0.9s
ESK Eskdalemuir 59.27 21 P **P 08 30 03.3 -0.7**
ESK pP **pP 08 30 33.7 -0.4**
HNS HongShan 59.34 293 ⇑P **P 08 30 05.4 +0.7**
HNS pmax pmax
comp=Z,68nm,1.0s
CMIG Matias Romero 59.73 114 LR LR 08 59 59.7
comp=Z,44nm,20.6s,baz=330,slow=40
TEIG Tepich 59.78 105 P **P 08 30 07.4 -0.5**
TEIG pP **pP 08 30 38.1 +0.1**
TEIG sP **sP 08 30 51.7 -0.3**
BRVK Borovoye 59.81 333 P **P 08 30 07.6 -0.2**
BRVK IAmb IAmb 08 30 08.5
comp=Z,25nm,0.9s
BRVK Borovoye 59.81 333 *ceP* **P 08 30 07.5 -0.3**
BRVK pmax pmax
comp=Z,18nm,0.6s
BRVK Borovoye 59.81 333 P **P 08 30 07.5 -0.3**

BRVK pP **pP** **08 30 37.6 -0.2**
BRVK PcP **PcP** **08 30 54.5 +1.5**
BVA0 Borovoye Array 59.82 333 *i* P **P** **08 30 07.2 -0.7**
BVAR Borovoye Array 59.82 333 P **P** **08 30 07.6 -0.3**
comp=Z,32nm,0.6s,baz=33,slow=7.4,SNR=156
BVAR pP **pP** **08 30 37.0 -0.8**
comp=Z,14nm,0.8s,baz=38,slow=7.5,SNR=3.7
BVAR PcP **PcP** **08 30 54.6 +1.5**
comp=Z,16nm,0.7s,baz=35,slow=5.3,SNR=8.7
BVAR LR LR 08 59 26.6
comp=Z,43nm,18.9s,baz=30,slow=39
comp=Z,32nm,0.6s
SOR Soroa 59.88 99 P **P** **08 30 08.0 -0.6**
SOR IAmb IAmb 08 30 09.0
comp=Z,22nm,1.2s
SOR Soroa 59.88 99 P **P** **08 30 08.0 -0.6**
SOR pmax pmax
comp=Z,22nm,1.2s
SEM Semipalatinsk 59.92 325 *e*P **P** **08 30 07.8 -1.1**
comp=Z,12nm,0.6s,baz=325
SEM Semipalatinsk 59.92 325 *e*P **P** **08 30 07.8 -1.1**
SEM pmax pmax
comp=Z,12nm,0.6s
BBSR BB Station 59.95 77 P **P** **08 30 07.9 -1.1**
BBSR BB Station 59.95 77 P **P** **08 30 07.8 -1.1**
BBSR pP **pP** **08 30 38.7 -0.4**
BBSR sP **sP** **08 30 50.5 -2.4**
KURK Kurchatov 60.06 326 P **P** **08 30 09.2 -0.3**
KURK IAmb IAmb 08 30 10.1
comp=Z,24nm,0.8s
KURK Kurchatov 60.06 326 *ce*P **P** **08 30 09.3 -0.2**
KURK pmax pmax
comp=Z,23nm,0.7s
KURK Kurchatov 60.06 326 P **P** **08 30 09.1 -0.3**
KURK pP **pP** **08 30 39.3 -0.3**
KURK PcP **PcP** **08 30 54.9 +0.8**
KURBB Kurchatov Arra 60.17 326 P **P** **08 30 09.8 -0.4**
comp=Z,16nm,0.7s,baz=26,slow=7.0,SNR=83
KURBB pP **pP** **08 30 39.7 -0.6**
comp=Z,7.5nm,0.8s,baz=27,slow=6.3,SNR=4.9
KURBB PcP **PcP** **08 30 55.5 +1.0**
comp=Z,10nm,0.6s,baz=28,slow=4.4,SNR=12
comp=Z,16nm,0.7s
HPK Haverah Park 60.83 20 *e*P **P** **08 30 14.2 -0.5**
HPK IAmb IAmb 08 30 18.8
comp=Z,224nm,2.2s
MOS Moscow 61.33 355 *e*P **P** **08 30 17.4 -0.6**
MOS pmax pmax
comp=Z,96nm,0.8s
MOS pmax pmax
comp=Z,100nm,0.6s
ZSN Zaisan 61.34 320 *e*P **P** **08 30 18.6 +0.4**
comp=Z,22nm,0.5s,baz=320
ZSN *e*S **S** **08 38 29.9 +1.3**
baz=320
ZSN Zaisan 61.34 320 *e*P **P** **08 30 18.6 +0.4**
ZSN *e*S **S** **08 38 29.8 +1.3**
ZSN pmax pmax
comp=Z,22nm,0.5s
IWEX Carrickbyrne, 61.46 24 *e*P **P** **08 30 18.0 -0.9**
CCIG Comitan 61.60 111 P **P** **08 30 20.7 +0.1**
CCIG IAmb IAmb 08 30 21.8
comp=Z,19nm,0.9s
ISAL Salakas 61.66 2 *e*P **P** **08 30 21.3 +1.1**
PABE Paberze 61.67 3 P **P** **08 30 19.9 -0.4**
PABE Paberze 61.67 3 *e*P **P** **08 30 20.7 +0.4**
IIGN Ignalina 61.88 2 *e*P **P** **08 30 23.2 +1.5**
OBN Obninsk 62.00 355 P **P** **08 30 22.4 0.0**
OBN Obninsk 62.00 355 *d i*P **P** **08 30 22.2 -0.3**
OBN *e* 08 31 02.1
OBN *e* 08 32 39.7
OBN *e*S **S** **08 38 32.2 -4.3**
OBN pmax pmax
comp=Z,160nm,0.9s
OBN Obninsk 62.00 355 P **P** **08 30 22.4 0.0**
comp=Z,195nm,0.8s,comp=Z,1μm
OBN Obninsk 62.00 355 P **P** **08 30 22.5 0.0**
CWF Charnwood Fore 62.06 20 *e*P **P** **08 30 22.1 -0.8**
NJ2 Nanjing 62.11 286 ⇓*i*P **P** **08 30 23.9 +0.3**
NJ2 pP **pP** **08 30 54.0 +0.1**
NJ2 pmax pmax
comp=Z,71nm,0.8s
NJ2 pmax pmax
comp=Z,270nm,6.2s
RSBS Rosebush, Pemb 62.23 23 *e*P **P** **08 30 22.6 -1.5**
RSBS IAmb IAmb 08 30 24.5
comp=Z,13nm,0.8s
MCH1 Michaelchurch 62.49 22 *e*P **P** **08 30 24.9 -1.0**
MCH1 IAmb IAmb 08 30 27.0
comp=Z,12nm,0.9s
MK31 Makanchi Array 62.67 322 P **P** **08 30 26.6 -0.6**
MK31 Makanchi Array 62.67 322 *i*P **P** **08 30 25.8 -1.4**
MKAR Makanchi Array 62.67 322 P **P** **08 30 26.4 -0.7**
MKAR Makanchi Array 62.67 322 P **P** **08 30 26.6 -0.6**
comp=Z,17nm,0.6s,baz=41,slow=6.6,SNR=237
MKAR pP **pP** **08 30 56.5 -0.9**
comp=Z,6.7nm,0.8s,baz=52,slow=9.8,SNR=3.2
MKAR LR LR 09 01 10.1
comp=Z,42nm,18.4s,baz=116,slow=39
comp=Z,17nm,0.6s
LYN LuoYang 62.71 293 ⇑P **P** **08 30 28.1 +0.5**
LYN pP pP 08 30 58.7 +0.8
LYN pmax pmax
comp=Z,270nm,0.8s
LYN pmax pmax
comp=Z,170nm,5.2s
MAKZ Makanchi 62.74 322 P **P** **08 30 26.9 -0.7**
MAKZ IAmb IAmb 08 30 27.9
comp=Z,25nm,0.7s
MAKZ Makanchi 62.74 322 P **P** **08 30 27.1 -0.6**
MAKZ Makanchi 62.74 322 P **P** **08 30 27.0 -0.7**
MAKZ pP **pP** **08 30 56.8 -1.2**
MAKZ sP **sP** **08 31 10.3 -1.3**
MNK Minsk 62.75 1 *e*P **P** **08 30 27.7 +0.2**
SUW Suwalki 63.15 4 P **P** **08 30 29.4 -0.7**
SUW IAmb IAmb 08 30 30.1
comp=Z,48nm,0.8s
SUW Suwalki 63.15 4 *e*P **P** **08 30 29.8 -0.3**
SUW Suwalki 63.15 4 P **P** **08 30 29.4 -0.7**
SUW pmax pmax
comp=Z,48nm,0.8s
GTA Gaotai 63.52 305 ⇑P **P** **08 30 33.4 +0.4**
GTA pP pP 08 31 03.6 +0.2
GTA S **S** **08 38 57.9 +1.6**
GTA pmax pmax
comp=Z,52nm,1.2s
GKP Gorka Klasztor 63.60 8 *e*P **P** **08 30 33.4 +0.2**
WMQ Urumqi 63.76 317 *e*P **P** **08 30 35.3 +0.8**
WMQ pmax pmax
comp=Z,22nm,0.7s
BELG Belogornoye 63.96 348 *d i*P **P** **08 30 34.9 -0.6**
BELG pmax pmax
comp=Z,38nm,0.7s
LPSR Galich'ya Gora 64.40 353 *e*P **P** **08 30 37.4 -1.0**
LPSR pmax pmax
comp=Z,150nm,0.7s
MTO3 Montecristo 64.47 109 P **P** **08 30 39.7 +0.2**
MTO3 IAmb IAmb 08 30 40.5
comp=Z,64nm,1.7s
XAN Xi'an 64.62 295 ⇑P **P** **08 30 39.4 -0.8**
XAN pmax pmax
comp=Z,23nm,1.0s
LZH Lanzhou 64.89 300 ⇑P **P** **08 30 42.6 +0.6**
LZH pP PcP 08 31 13.2 -1.0
LZH pmax pmax
comp=Z,78nm,1.3s
CLL Collm 65.23 11 ⇓*i*P **P** **08 30 43.1 -0.7**
comp=Z,15nm,1.5s
CLL *i* P(2) 08 30 45.2
comp=Z,16nm,1.6s
CLL *e*pP **pP** **08 31 14.0 -0.5**
CLL *i* PcP **PcP** **08 31 17.2 +2.0**
CLL *es*P **sP** **08 31 27.0 -1.2**
CLL *i* x x 08 31 46.8
CLL Collm 65.23 11 P **P** **08 30 43.2 -0.6**
CLL Collm 65.23 11 P **P** **08 30 43.2 -0.6**
comp=Z,8.6nm,1.2s
CHIV Chivirico 65.31 94 P **P** **08 30 45.2 +0.5**
CHIV IAmb IAmb 08 30 45.5
comp=Z,27nm,0.9s
VORR Voronezh 65.32 353 *e*P **P** **08 30 43.9 -0.4**
VORR pmax pmax
comp=Z,44nm,1.4s
WHN Wuhan 65.36 289 ⇑P **P** **08 30 45.1 +0.2**
WHN pP **PcP** **08 31 15.6 -0.4**
WHN pmax pmax
comp=Z,110nm,0.7s
TDK Taldyqorghan 65.39 324 *e*P **P** **08 30 45.1 +0.1**
comp=Z,29nm,0.6s,baz=324
TDK Taldyqorghan 65.39 324 *e*P **P** **08 30 45.0 +0.1**
TDK pmax pmax
comp=Z,29nm,0.6s
AB31 Akbulak array 65.39 338 *i*P **P** **08 30 44.5 -0.4**
ABKAR Akbulak array 65.39 338 P **P** **08 30 44.7 -0.2**
ABKAR Akbulak array 65.39 338 P **P** **08 30 45.0 +0.1**
ABKAR IAmb IAmb 08 30 45.9
comp=Z,51nm,0.7s
BAIF Baives 65.48 17 *e*P **P** **08 30 44.5 -0.9**
BAIF pmax pmax
comp=Z,12nm,1.1s
VRH Novokhopyorsk 65.63 351 *e*P **P** **08 30 44.9 -1.4**
VRH *e*S **S** **08 39 18.6 -2.9**
VRH pmax pmax
comp=Z,28nm,1.3s
TGUH Tegucigalpa,Un 65.67 108 P **P** **08 30 47.5 +0.3**
TGUH IAmb IAmb 08 30 50.4
comp=Z,134nm,1.9s
BRG Berggiesshubel 65.75 11 *e*P **P** **08 30 47.0 -0.2**
BRG Amp 08 30 47.8
comp=Z,6.8nm,0.9s
BRG Berggiesshubel 65.75 11 *e*P **P** **08 30 46.9 -0.2**
BRG 08 31 19.4
BRG 08 31 31.5
BRG pmax pmax
comp=Z,7.0nm,0.9s
VSR Storozhevoye 65.77 353 *e*P **P** **08 30 46.1 -1.2**
VSR pmax pmax
comp=Z,110nm,0.7s
RNPP9 Sopachiv 65.82 2 P **P** **08 30 46.8 -0.7**
RNPP8 Varash 65.89 2 P **P** **08 30 47.3 -0.7**
RNPP5 Staryi Chortor 66.00 2 P **P** **08 30 48.0 -0.7**
VORD Divnogorie 66.02 353 *e*P **P** **08 30 45.3 -3.5**
VORD pmax pmax
comp=Z,100nm,0.6s
FLN La Foliniere 66.04 21 *e*P **P** **08 30 47.7 -1.3**
FLN pmax pmax
comp=Z,25nm,1.2s
SGMF Saint Gilles 66.18 23 *e*P **P** **08 30 49.7 -0.2**
SGMF pmax pmax
comp=Z,23nm,1.7s
OSTC Ostas 66.24 9 *e*P **P** **08 30 49.7 -0.6**
OSTC Ostas 66.24 9 *e*P **P** **08 30 49.7 -0.6**
LDF La Druitiere 66.26 21 *e*P **P** **08 30 49.1 -1.3**
LDF pmax pmax
comp=Z,10.0nm,1.0s
MI28 Mi28,Pidlybu 66.32 1 P **P** **08 30 50.5 -0.3**
GRR Gorron 66.34 21 *e*P **P** **08 30 49.8 -1.1**
GRR pmax pmax
comp=Z,13nm,1.0s
DPC Dobruska-Polom 66.45 9 *e*P **P** **08 30 51.7 0.0**
DPC Dobruska-Polom 66.45 9 *e*P **P** **08 30 51.7 0.0**
DPC Dobruska-Polom 66.45 9 P **P** **08 30 51.6 -0.1**
comp=Z,21nm,1.1s
GUMO Guam 66.46 253 LR LR 08 56 21.0
comp=Z,15nm,21.8s,baz=47,slow=32
BTLS Baital 66.48 327 ⇑*i*P **P** **08 30 51.7 -0.2**
comp=Z,13nm,0.6s,baz=327
BTLS Baital 66.48 327 *c i*P **P** **08 30 51.7 -0.2**
BTLS pmax pmax
comp=Z,13nm,0.6s
AK21 Malin Array Si 66.48 0 P **P** **08 30 50.6 -1.2**
AK23 Malin Array Si 66.50 0 P **P** **08 30 51.0 -0.9**
AK22 Malin Array Si 66.50 0 P **P** **08 30 51.1 -0.8**
MI30 MI30,Zelenitsa 66.51 1 P **P** **08 30 51.1 -0.9**
AK20 Malin Array Si 66.52 0 P **P** **08 30 51.1 -0.9**
AK03 Malin Array Si 66.53 0 P **P** **08 30 51.2 -0.9**
AK04 Malin Array Si 66.54 0 P **P** **08 30 51.2 -0.9**
AK18 Malin Array Si 66.54 0 P **P** **08 30 51.2 -0.9**
AK19 Malin Array Si 66.54 0 P **P** **08 30 51.2 -0.9**
AKASG Malin Array Be 66.56 360 P **P** **08 30 51.6 -0.7**
comp=Z,45nm,0.8s,baz=0.1,slow=6.2,SNR=37
comp=Z,45nm,0.8s
AKBB Malin Array Si 66.56 360 P **P** **08 30 51.6 -0.6**
AKBB IAmb IAmb 08 30 52.5
comp=Z,57nm,0.8s
AKBB Malin Array Si 66.56 360 *d i*P **P** **08 30 51.4 -0.9**
AKBB pmax pmax
comp=Z,63nm,0.9s
AKBB Malin Array Si 66.56 360 P **P** **08 30 51.4 -0.9**
AK15 Malin Array Si 66.56 0 P **P** **08 30 52.0 -0.3**
KIEV Kiev 66.56 0 ⇓P **P** **08 30 51.6 -0.8**
KIEV Kiev 66.56 0 P **P** **08 30 51.5 -0.8**
KIEV IAmb IAmb 08 30 52.4
comp=Z,49nm,0.8s
KIEV Kiev 66.56 0 P **P** **08 30 51.6 -0.8**
KIEV Kiev 66.56 0 P **P** **08 30 51.4 -0.8**
comp=Z,266nm,0.9s,comp=Z,2μm
KIEV Kiev 66.56 0 P **P** **08 30 51.5 -0.8**
KIEV pP **pP** **08 31 22.6 -0.4**
AK01 Malin Array Si 66.57 0 P **P** **08 30 51.3 -1.0**
AK11 Malin Array Si 66.58 0 P **P** **08 30 51.4 -1.0**
AK02 Malin Array Si 66.60 0 P **P** **08 30 51.5 -1.0**
AK12 Malin Array Si 66.62 0 P **P** **08 30 51.6 -1.0**
AK08 Malin Array Si 66.63 360 P **P** **08 30 51.7 -1.0**
AK14 Malin Array Si 66.63 0 P **P** **08 30 51.7 -1.0**
PDGK Podgornoye 66.64 322 P **P** **08 30 51.5 -1.6**
AK05 Malin Array Si 66.64 0 P **P** **08 30 51.8 -1.0**
AK09 Malin Array Si 66.64 360 P **P** **08 30 51.8 -1.0**
AK13 Malin Array Si 66.65 0 P **P** **08 30 51.8 -1.0**
AK10 Malin Array Si 66.66 360 P **P** **08 30 51.9 -1.0**
PRU Pruhonice 66.67 10 *e*P **P** **08 30 53.3 +0.3**
PRU Pruhonice 66.67 10 *e*P **P** **08 30 53.3 +0.3**
AK07 Malin Array Si 66.71 0 P **P** **08 30 52.2 -1.0**
KPKS Kokpek 66.73 323 ⇑*i*P **P** **08 30 53.8 +0.2**
comp=Z,20nm,0.7s,baz=323
KPKS *e*S **S** **08 39 37.3 +1.9**
baz=323
KPKS Kokpek 66.73 323 *c i*P **P** **08 30 53.8 +0.2**
KPKS *e*S **S** **08 39 37.2 +1.9**
KPKS pmax pmax
comp=Z,20nm,0.7s
OJC Ojcow 66.80 7 P **P** **08 30 53.3 -0.5**
OJC Ojcow 66.80 7 P **P** **08 30 53.3 -0.5**
OJC pmax pmax
comp=Z,6.0nm,0.8s
OJC Ojcow 66.80 7 P **P** **08 30 52.8 -1.0**
comp=Z,9.7nm,0.8s
CHKK Chushkaly 66.83 324 *e*P **P** **08 30 53.5 -0.7**
baz=324
CHKK Chushkaly 66.83 324 *e*P **P** **08 30 53.4 -0.7**
MI29 MI29, Kamyanyy 66.84 1 P **P** **08 30 53.3 -0.8**
KUU Kurty 66.97 325 *e*P **P** **08 30 55.3 +0.3**
baz=325
KUU Kurty 66.97 325 *e*P **P** **08 30 55.3 +0.3**
ZHN Zhinishke 67.08 323 *e*P **P** **08 30 55.6 -0.3**
baz=323
ZHN Zhinishke 67.08 323 *e*P **P** **08 30 55.5 -0.3**
MORC Moravsky Berou 67.10 8 P **P** **08 30 55.6 -0.2**
MORC Moravsky Berou 67.10 8 *e*P **P** **08 30 55.3 -0.5**
MORC Moravsky Berou 67.10 8 P **P** **08 30 55.6 -0.2**
MORC pmax pmax
comp=Z,8.0nm,0.7s
KHAM Kharkiv 67.12 355 P **P** **08 30 55.9 0.0**
SATY Saty 67.19 323 *e*P **P** **08 30 56.7 +0.1**
baz=323
SATY Saty 67.19 323 *e*P **P** **08 30 56.7 +0.1**
LUBAR Lubar, Ukraine 67.33 1 P **P** **08 30 56.0 -1.2**
LVV L'vov 67.37 4 *e*P **P** **08 30 56.9 -0.5**
KHC Kasperske Hory 67.44 11 P **P** **08 30 57.9 -0.1**
KHC Kasperske Hory 67.44 11 *e*P **P** **08 30 57.9 -0.1**
KHC *e*pP **pP** **08 31 28.4 -0.4**
KHC Kasperske Hory 67.44 11 P **P** **08 30 57.9 -0.1**
KHC pmax pmax
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 67.44 11 P **P** **08 30 57.6 -0.4**
comp=Z,12nm,1.7s
AAA Alma-Ata 67.45 324 *e*P **P** **08 30 58.2 +0.1**
comp=Z,17nm,0.5s,baz=324
AAA Alma-Ata 67.45 324 *e*P **P** **08 30 58.2 +0.1**
AAA pmax pmax
comp=Z,17nm,0.5s
MDOK Medeo 67.46 324 *e*P **P** **08 30 58.1 -0.2**
baz=324
MDOK Medeo 67.46 324 *e*P **P** **08 30 58.1 -0.2**
CDF Champ du Feu 67.49 16 *e*P **P** **08 30 57.4 -1.0**
CDF pmax pmax
comp=Z,11nm,1.2s
VRAC Vranov 67.51 9 *e*P **P** **08 30 58.1 -0.2**
PLTM Poltava 67.58 356 P **P** **08 30 58.4 -0.3**
TNSS Tian-Shan 67.60 324 *e*P **P** **08 30 59.2 -0.3**
baz=324
TNSS Tian-Shan 67.60 324 *e*P **P** **08 30 59.2 -0.3**
NIE Niedzica 67.62 6 P **P** **08 30 59.5 +0.4**
NIE Niedzica 67.62 6 P **P** **08 30 59.5 +0.4**
comp=Z,5.2nm,1.2s
ENH Enshi 67.66 293 P **P** **08 30 59.6 0.0**
ENH Enshi 67.66 293 P **P** **08 30 59.5 0.0**
ENH Enshi 67.66 293 P **P** **08 30 59.6 0.0**
STHS Stebnicka Huta 67.67 6 *e*P **P** **08 30 58.9 -0.4**
STHS pmax pmax
comp=Z,15nm,0.8s
STHS Stebnicka Huta 67.67 6 *e*P **P** **08 30 58.9 -0.4**
ECH Echery 67.67 16 P **P** **08 30 58.8 -0.6**
ECH Echery 67.67 16 P **P** **08 30 58.9 -0.5**
ECH pP **pP** **08 31 30.0 -0.3**
ECH sP **sP** **08 31 44.6 +0.7**
BFO Black Forest 67.70 15 P **P** **08 30 58.9 -0.7**
KRUC Moravsky 67.74 9 *e*P **P** **08 30 59.3 -0.5**
GERES GERESS Array B 67.74 11 P **P** **08 31 00.2 +0.3**
GERES GERESS Array B 67.74 11 P **P** **08 30 59.7 -0.2**
comp=Z,2.8nm,0.8s,baz=344,slow=4.3,SNR=10
GERES pP **pP** **08 31 30.0 -0.8**
comp=Z,1.6nm,0.8s,baz=352,slow=5.7,SNR=3.3
comp=Z,2.8nm,0.8s
GERES GERESS Array B 67.74 11 P **P** **08 31 00.2 +0.3**
HAU Haudompre 67.78 16 *e*P **P** **08 30 59.0 -1.1**
HAU pmax pmax
comp=Z,8.0nm,1.0s
BOAB BOACO BROADBAND 67.80 107 P **P** **08 31 00.2 -0.4**
BOAB IAmb IAmb 08 31 00.4
comp=Z,37nm,0.7s
CKRC Cesky Krumlov 67.82 11 *e*P **P** **08 31 00.0 -0.3**
CKRC *ex* x 08 31 30.7
CKRC Cesky Krumlov 67.82 11 *e*P **P** **08 31 00.0 -0.3**
CKRC *e* 08 31 30.7
SGDS Sogindy 67.82 326 ⇑*i*P **P** **08 31 00.6 +0.1**
baz=326
SGDS Sogindy 67.82 326 *c i*P **P** **08 31 00.5 +0.1**
LANS Liptovska Anna 67.84 7 *e*P **P** **08 31 01.2 +0.7**
LANS pmax pmax
comp=Z,7.0nm,0.7s
LANS Liptovska Anna 67.84 7 *e*P **P** **08 31 01.2 +0.7**
HINF Hinteralfeld 68.03 16 *e*P **P** **08 31 00.4 -1.3**
HINF pmax pmax
comp=Z,4.0nm,0.8s
JAVC Velka Javorina 68.03 8 *e*P **P** **08 31 02.0 +0.3**
TKM2 Tokmak 2 68.07 325 P **P** **08 31 02.1 -0.1**
LOR Lormes 68.16 18 *e*P **P** **08 31 01.3 -1.2**
LOR pmax pmax
comp=Z,8.0nm,0.8s
CRVS Cervenica-Dubn 68.19 6 *e*P **P** **08 31 02.8 +0.2**
CRVS pmax pmax
comp=Z,80nm,2.4s
CRVS Cervenica-Dubn 68.19 6 *e*P **P** **08 31 02.8 +0.2**
KOLS Kolonicke sedl 68.19 5 *e*P **P** **08 31 03.0 +0.4**
KOLS pmax pmax
comp=Z,10.0nm,0.8s
KOLS Kolonicke sedl 68.19 5 *e*P **P** **08 31 03.0 +0.4**
MFF Saint Martin d 68.19 21 *e*P **P** **08 31 01.7 -0.9**
MFF pmax pmax
comp=Z,15nm,1.1s
SSF Saint Saulge 68.31 19 *e*P **P** **08 31 02.4 -1.0**
SSF pmax pmax
comp=Z,20nm,1.1s
BOOM Boomskoye usch 68.38 325 P **P** **08 31 04.2 +0.1**
BOOM IAmb IAmb 08 31 05.3
comp=Z,23nm,0.8s
BOOM Boomskoye usch 68.38 325 P **P** **08 31 04.2 +0.1**
BOOM pmax pmax
comp=Z,23nm,0.8s
MODS Modra-Piesok 68.48 9 *e*P **P** **08 31 04.9 +0.4**
MODS pmax pmax
comp=Z,25nm,1.0s
MODS Modra-Piesok 68.48 9 *e*P **P** **08 31 04.9 +0.4**
UZHM Uzhgorod 68.50 5 P **P** **08 31 04.3 -0.2**
AVF Avril sur Loir 68.56 19 *e*P **P** **08 31 03.6 -1.3**
AVF pmax pmax
comp=Z,4.0nm,0.6s
KECS Kecovo 68.56 6 *e*P **P** **08 31 05.5 +0.6**
KECS pmax pmax
comp=Z,19nm,0.7s
KECS Kecovo 68.56 6 *e*P **P** **08 31 05.5 +0.6**
ZST Bratislava 68.65 9 *e*P **P** **08 31 06.0 +0.6**
ZST Bratislava 68.65 9 *e*P **P** **08 31 06.0 +0.6**
KMPD K-Podol'skiy 68.68 2 P **P** **08 31 04.3 -1.3**
WUS Wushi 68.68 322 P **P** **08 31 06.2 +0.2**
WUS pP **pP** **08 31 37.0 +0.3**
BGF Bois d'Agland 68.71 19 *e*P **P** **08 31 04.7 -1.2**
BGF pmax pmax
comp=Z,7.0nm,0.2s
SMF Signal de Mont 68.77 18 *e*P **P** **08 31 04.9 -1.3**
SMF pmax pmax
comp=Z,7.0nm,0.8s
MOA Molln 68.78 11 *e*P **P** **08 31 05.8 -0.5**
comp=Z,5.9nm,1.4s
CONA Conrad Observa 68.83 10 *e*P **P** **08 31 06.6 -0.1**
comp=Z,6.4nm,0.8s,SNR=7.7
TPUB Ta-pu 68.87 280 P **P** **08 31 08.4 +1.2**
TCF Toulx Ste Croi 68.87 20 *e*P **P** **08 31 10.0 +3.1**
TCF pmax pmax
comp=Z,9.0nm,1.2s
BIOA Bad Ischl, Aus 68.88 11 *e*P **P** **08 31 06.6 -0.3**
comp=Z,5.5nm,1.0s
MOTA Moosalm 68.98 13 *e*P **P** **08 31 07.3 -0.4**
comp=Z,7.7nm,1.2s
WATA Walderalm 69.04 13 *e*P **P** **08 31 07.8 -0.2**
comp=Z,11nm,1.0s,SNR=5.1
LESA Schwarzleotal 69.06 12 *e*P **P** **08 31 07.8 -0.3**
comp=Z,5.1nm,0.9s
RONA Rosalia, Austr 69.08 9 *e*P **P** **08 31 07.3 -0.9**
comp=Z,7.4nm,1.0s
PSZ Piszkesteto 69.10 7 P **P** **08 31 08.6 +0.3**
PSZ Piszkesteto 69.10 7 P **P** **08 31 08.6 +0.3**
PSZ pmax pmax
comp=Z,15nm,0.9s
SQTA Sankt Quirin 69.11 13 *e*P **P** **08 31 08.5 0.0**
comp=Z,13nm,1.0s
WTTA Wattenberg 69.11 13 *e*P **P** **08 31 08.5 -0.1**
comp=Z,10.0nm,0.7s,SNR=5.1
SORM Soroca 69.12 1 ⇑P **P** **08 31 07.8 -0.6**
SORM Soroca 69.12 1 P **P** **08 31 07.7 -0.6**
SORM Soroca 69.12 1 P **P** **08 31 07.4 -1.0**
comp=Z,39nm,0.9s,comp=Z,2μm
KK31 Karatay Array 69.16 329 P **P** **08 31 08.4 -0.3**
KK31 IAmb IAmb 08 31 09.5
comp=Z,24nm,0.8s
KK31 Karatay Array 69.16 329 *i*P **P** **08 31 07.7 -1.0**
KKAR Karatay Array 69.16 329 P **P** **08 31 08.4 -0.3**
KKAR Karatay Array 69.16 329 P **P** **08 31 08.7 0.0**
KKAR IAmb IAmb 08 31 09.5
comp=Z,24nm,0.8s
KKAR Karatay Array 69.16 329 P **P** **08 31 08.4 -0.3**
KKAR pmax pmax
comp=Z,24nm,0.8s
FETA Feichten 69.26 13 *e*P **P** **08 31 09.3 -0.2**
comp=Z,5.3nm,0.8s
BAL3X Bal3x, Balta 69.33 360 P **P** **08 31 08.7 -0.9**
BRLS Borolday 69.38 329 ⇑*i*P **P** **08 31 11.4 +1.3**
baz=329
BRLS Borolday 69.38 329 *c i*P **P** **08 31 11.4 +1.3**
KBA Koelnbreinsper 69.46 12 *e*P **P** **08 31 10.8 +0.1**
comp=Z,17nm,0.8s,SNR=9.1
KBA Koelnbreinsper 69.46 12 P **P** **08 31 09.5 -1.2**
CD2 Chengdu 69.46 298 P **P** **08 31 11.0 +0.2**
CD2 pP pP 08 31 41.5 -0.2
CD2 pmax pmax
comp=Z,60nm,0.8s
ARSA Arzberg 69.47 10 *e*P **P** **08 31 10.5 -0.1**
comp=Z,5.7nm,1.0s
SENIN Lac Senin/Sane 69.51 16 P **P** **08 31 11.2 +0.1**
BUR08 Bucovina Ar. S 69.57 3 P **P** **08 31 11.0 -0.3**
BURAR Bucovina Array 69.60 3 ⇓P **P** **08 31 11.1 -0.3**
BURAR Bucovina Array 69.60 3 P **P** **08 31 11.3 -0.2**
BURAR Bucovina Array 69.60 3 P **P** **08 31 11.2 -0.3**
FUORN Ofenpass-Fuorn 69.61 14 P **P** **08 31 11.8 +0.1**
TUE Stuetta 69.65 15 P **P** **08 31 12.4 +0.5**
TUE Stuetta 69.65 15 P **P** **08 31 11.3 -0.6**
comp=Z,61nm,0.9s
MPLH Magyarpolny 69.70 8 P **P** **08 31 11.9 0.0**
comp=Z,55nm,0.6s,comp=Z,1μm
RJF Les Rejaudoux 69.72 20 *e*P **P** **08 31 11.3 -0.9**
RJF pmax pmax
comp=Z,5.0nm,1.0s

MYKA	Terra Mystica	69.93	11	eP	P	08 31 12.7	-0.8
	comp=Z,5.0nm,0.8s						
LFF	La Frestale	69.95	21	eP	P	08 31 12.6	-0.9
LFF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SOKA	Soboth	70.00	10	eP	P	08 31 13.6	-0.3
	comp=Z,3.1nm,0.7s						
JTS	Las Juntas de	70.03	107	LR	LR	09 08 56.7	
	comp=Z,21nm,19.2s,baz=308,slow=42						
CHM	Chimkent	70.11	329	eP	P	08 31 15.0	+0.3
	baz=329						
CHM	Chimkent	70.11	329	eP	P	08 31 14.9	+0.3
OBKA	Obir	70.13	11	eP	P	08 31 14.4	-0.3
	comp=Z,19nm,0.8s,SNR=5.5						
IUG	Iuzhnay	70.17	329	eP	P	08 31 15.3	+0.2
	comp=Z,25nm,0.5s,baz=329						
IUG	Iuzhnay	70.17	329	eP	P	08 31 15.3	+0.2
IUG				pmax	pmax		
	comp=Z,25nm,0.5s						
CAF	Calviac	70.18	20	eP	P	08 31 13.2	-1.8
CAF				pmax	pmax		
	comp=Z,10.0nm,1.2s						
SSB	Saint Sauveur	70.21	18	P	P	08 31 14.6	-0.5
ARSB	Arslanbob	70.23	326	P	P	08 31 15.8	+0.3
ARSB	Arslanbob	70.23	326	P	P	08 31 15.8	+0.3
ARSB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LPL	La Plagne	70.27	17	eP	P	08 31 15.6	-0.2
LPL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPG	La Plagne	70.29	17	eP	P	08 31 16.0	0.0
LPG				pmax	pmax		
	comp=Z,16nm,1.4s						
MILM	Milestii Mici	70.34	0	⇓iP	P	08 31 14.7	-1.2
	comp=Z,40nm,0.5s						
MILM	Milestii Mici	70.34	0	diP	P	08 31 14.7	-1.2
MILM				pmax	pmax		
	comp=Z,40nm,0.5s						
DRGR		70.35	5	⇓P	P	08 31 15.6	-0.4
DRGR		70.35	5	P	P	08 31 15.6	-0.4
VIVF	Saint-Julien-l	70.64	18	eP	P	08 31 17.7	-0.1
VIVF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BNI	Bardonecchia	70.72	17	P	P	08 31 19.0	+0.6
BNI	Bardonecchia	70.72	17	P	P	08 31 19.0	+0.6
BNI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MORH	Mrgy, Hungar	70.72	8	P	P	08 31 17.6	-0.6
	comp=Z,5.2nm,1.6s						
PURM	Purcari	70.73	360	P	P	08 31 17.3	-0.9
	comp=Z,27nm,0.5s,comp=Z,3μm						
TESR	Tescani	70.73	2	P	P	08 31 17.2	-1.1
	comp=Z,10nm,1.3s						
ORIF	Oris-en-Rattie	70.75	17	eP	P	08 31 17.7	-0.8
ORIF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MBDF	Montbardon	71.05	17	eP	P	08 31 20.4	0.0
MBDF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PGAV	Gavieira, Arco	71.10	29	eP	P	08 31 21.3	+0.6
KSH	Kashi	71.15	323	P	P	08 31 24.0	+3.0
KSH				pP	pP	08 31 54.7	+2.7
KSH				pmax	pmax		
	comp=Z,59nm,0.8s						
KSH				LR	LR		
	comp=Z,220nm,21.6s						
KSH				LR	LR		
	comp=Z,160nm,15.9s						
SURR	Surduc	71.36	5	⇑P	P	08 31 22.0	0.0
VRI	Vrincioaia	71.38	2	⇑P	P	08 31 23.4	+1.2
VRI	Vrincioaia	71.38	2	P	P	08 31 23.3	+1.2
PLOR3	Plostina Array	71.39	2	P	P	08 31 22.0	-0.3
	comp=Z,17nm,1.1s						
PCAB	Cabril	71.40	29	eP	P	08 31 22.2	-0.2
GCPR	Guaynabo City	71.46	86	P	P	08 31 22.0	-1.0
GCPR				IAmb	IAmb	08 31 22.8	
	comp=Z,33nm,0.9s						
BZS	Buzias	71.48	6	P	P	08 31 22.4	-0.3
PBRG	Braganca	71.58	28	eP	P	08 31 23.6	+0.1
GOF	Gofitskoye	71.64	350	ceP	P	08 31 20.4	-3.3
ETSF	Etsaut	71.72	23	eP	P	08 31 23.7	-0.6
ETSF				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MLR	Muntele Rosu	71.74	2	⇓P	P	08 31 24.9	+0.3
MLR	Muntele Rosu	71.74	2	P	P	08 31 24.7	+0.2
MLR	Muntele Rosu	71.74	2	P	P	08 31 24.8	+0.3
MLR	Muntele Rosu	71.74	2	P	P	08 31 24.8	+0.3
	comp=Z,13nm,1.5s						
GZR	Gura Zlata	71.75	5	⇑P	P	08 31 24.4	-0.1
GZR	Gura Zlata	71.75	5	P	P	08 31 24.3	-0.1
POLO	Lamas de Olo	71.77	28	eP	P	08 31 25.6	+0.9
VOIR		71.78	3	⇓P	P	08 31 25.1	+0.5
VOIR		71.78	3	P	P	08 31 25.1	+0.5
ARR	Arges	71.83	3	⇑P	P	08 31 25.9	+0.9
FRGS	Fruska Gora	71.84	7	⇓P	P	08 31 23.6	-1.4
FRGS	Fruska Gora	71.84	7	P	P	08 31 24.3	-0.7
	comp=Z,13nm,1.0s						
PVRL	Vila Real	71.88	28	eP	P	08 31 25.9	+0.6
SBF	Sospel	71.99	16	eP	P	08 31 24.9	-1.0
SBF				pmax	pmax		
	comp=Z,13nm,0.8s						
CFR	Carcaliu	72.08	1	⇑P	P	08 31 26.2	-0.1
CFR	Carcaliu	72.08	1	P	P	08 31 26.2	-0.1
GYA	Guiyang	72.19	293	⇓P	P	08 31 28.1	+0.7
GYA				pP	pP	08 31 58.8	+0.3
GYA				PP	PP	08 34 07.1	-1.9
GYA				S	S	08 40 38.4	-1.3
GYA				pmax	pmax		
	comp=Z,54nm,0.8s						
GYA				pmax	pmax		
	comp=Z,95nm,4.0s						
GYA				LR	LR		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=Z,170nm,4.3s						
GYA				LR	LR		
	comp=Z,120nm,9.1s						
DRK	Karamyk	72.27	327	P	P	08 31 29.0	+1.0
DRK	Karamyk	72.27	327	P	P	08 31 29.0	+1.0
DRK				pmax	pmax		
	comp=Z,86nm,0.6s						
PVIS	Viseu	72.38	29	eP	P	08 31 28.5	+0.2
TPGR	Topolog	72.41	1	⇑P	P	08 31 28.4	+0.1
HARR	Harsova	72.57	1	⇓P	P	08 31 29.4	+0.1
HARR	Harsova	72.57	1	P	P	08 31 29.3	+0.1
MTE	Manteigas	72.75	29	P	P	08 31 30.5	-0.1
MTE	Manteigas	72.75	29	eP	P	08 31 30.9	+0.4
KIV	Kislovodsk	72.77	350	⇓P	P	08 31 30.5	-0.1
KIV	Kislovodsk	72.77	350	P	P	08 31 30.5	-0.1
KIV	Kislovodsk	72.77	350	eP	P	08 31 30.5	-0.1
KIV				eS	S	08 40 47.0	+1.2
KIV				pmax	pmax		
	comp=Z,101nm,1.1s						
KIV				pmax	pmax		
	comp=Z,7.0nm,4.1s						
KIV	Kislovodsk	72.77	350	P	P	08 31 30.5	-0.1
	comp=Z,103nm,0.8s,comp=Z,777nm						
PCAS	Casmilo, Conde	72.88	29	eP	P	08 31 31.5	+0.3
	comp=Z,37nm,1.8s						
KBZ	Khabaz	72.97	350	P	P	08 31 31.9	+0.2
	comp=Z,47nm,0.9s,baz=343,slow=4.7,SNR=84						
	comp=Z,47nm,0.9s						
KBZ	Khabaz	72.97	350	diP	P	08 31 31.6	0.0
KBZ				pmax	pmax		
	comp=Z,59nm,0.9s						
SHA1	Shidzhatmaz	72.98	350	ciP	P	08 31 32.1	+0.1
GAR	Garm	73.09	328	P	P	08 31 32.8	+0.2
NCK	Nalchik	73.15	349	eP	P	08 31 33.5	+0.8
NCK				pmax	pmax		
	comp=Z,133nm,0.8s						
PCBR	Castelo Branco	73.31	29	eP	P	08 31 33.7	0.0
	comp=Z,18nm,1.7s						
SOC	Sochi	73.35	352	eP	P	08 31 32.9	-1.0
SOC				eS	SKiKP	08 40 52.1	+0.5
SOC				pmax	pmax		
	comp=Z,39nm,0.9s						
VSLR	Vesyoloye	73.45	352	iP	P	08 31 34.2	-0.3
VSLR				pmax	pmax		
	comp=Z,53nm,1.0s						
CHGR	Chuyangaron	73.70	328	P	P	08 31 36.3	+0.2
CHGR	Chuyangaron	73.70	328	P	P	08 31 36.3	+0.2
PMRV	Marv??o	73.72	29	eP	P	08 31 35.5	-0.6
SIMJ	Simiganj	73.73	329	P	P	08 31 36.1	-0.2
SIMJ				IAmb	IAmb	08 31 37.4	
	comp=Z,80nm,0.8s						
CESX	Cesi	73.81	13	P	P	08 31 37.9	+1.3
ONI	Oni	74.06	349	P	P	08 31 38.9	+0.8
ONI	Oni	74.06	349	P	P	08 31 38.9	+0.8
ONI				pmax	pmax		
	comp=Z,22nm,0.7s						
PZH	PanZhiHua	74.17	297	P	P	08 31 39.3	+0.2
PZH				pmax	pmax		
	comp=Z,70nm,0.8s						
PZH				pmax	pmax		
	comp=Z,130nm,4.9s						
ESBB	Sonseca Array	74.20	26	P	P	08 31 38.5	-0.5
ESDC	Sonseca Array	74.20	26	P	P	08 31 38.6	-0.3
ESDC	Sonseca Array	74.20	26	P	P	08 31 38.7	-0.3
	comp=Z,9.0nm,0.9s,baz=343,slow=5.7,SNR=65						
ESDC				pP	pP	08 32 10.4	0.0
	comp=Z,5.2nm,0.7s,baz=343,slow=5.5,SNR=5.9						
	comp=Z,9.0nm,0.9s						
PAB	San Pablo	74.25	26	P	P	08 31 39.2	-0.1
PAB	San Pablo	74.25	26	P	P	08 31 39.2	-0.1
PAB				pmax	pmax		
	comp=Z,11nm,1.0s						
EVO	Evora	74.44	30	eP	P	08 31 40.2	-0.1
	comp=Z,16nm,1.3s						
PDG	Podgorica	74.53	8	P	P	08 31 39.7	-1.0
PNCL	Nicolau / Gran	74.72	30	eP	P	08 31 42.1	+0.2
	comp=Z,29nm,1.7s						
KMI	Kunming	74.99	296	⇓P	P	08 31 44.5	+0.5
KMI				pP	pP	08 32 14.7	-0.6
KMI				pmax	pmax		
	comp=Z,13nm,0.9s						
PBAR	Barrancos	75.00	29	eP	P	08 31 43.6	+0.1
	comp=Z,29nm,1.5s						
LSA	Lhasa	75.37	307	P	P	08 31 48.1	+1.7
LSA	Lhasa	75.37	307	P	P	08 31 47.6	+1.2
LSA				IAmb	IAmb	08 31 50.7	
	comp=Z,30nm,0.5s						
LSA	Lhasa	75.37	307	P	P	08 31 47.6	+1.2
LSA				pmax	pmax		
	comp=Z,30nm,0.5s						
MORF	Marmelete	75.47	30	eP	P	08 31 46.6	+0.3
	comp=Z,40nm,2.0s						
MORF	Marmelete	75.47	30	eP	P	08 31 46.5	+0.2
MORF				IAmb	IAmb	08 31 47.2	
	comp=Z,21nm,1.1s						
DIKM	Dikmen	75.50	355	P	P	08 31 46.8	+0.5
	comp=Z,66nm,1.1s,comp=Z,600nm						
PAOL	Paolisi	75.57	11	P	P	08 31 47.3	+0.5
PVAQ	Vaqueiros	75.59	30	eP	P	08 31 47.4	+0.5
	comp=Z,28nm,1.8s						
PBDV	Barranco-do-Ve	75.69	30	eP	P	08 31 48.3	+0.8
	comp=Z,34nm,1.5s						
CTYL	Yalikoy Yolu	75.78	1	P	P	08 31 47.2	-0.7
	comp=Z,31nm,0.8s						
KLYT	Kilyos	76.01	0	P	P	08 31 49.0	-0.2
	comp=Z,52nm,1.2s						
KARS	Kars	76.04	349	P	P	08 31 50.7	+1.1
KARS	Kars	76.04	349	P	P	08 31 50.7	+1.1
KARS				pmax	pmax		
	comp=Z,148nm,1.1s						
RDO	Rodhopi	76.07	3	P	P	08 31 49.7	+0.1
FNA	Florina	76.29	6	P	P	08 31 50.0	-0.8
FNA	Florina	76.29	6	P	P	08 31 50.1	-0.8
FNA				pmax	pmax		
	comp=Z,17nm,0.7s						
ALN	Alexandroupoli	76.33	2	P	P	08 31 50.6	-0.4
ALN	Alexandroupoli	76.33	2	P	P	08 31 50.6	-0.4
ALN				pmax	pmax		
	comp=Z,18nm,0.8s						
GNI	Garni	76.36	348	P	P	08 31 52.4	+0.9
GNI	Garni	76.36	348	LR	LR	09 09 22.4	
	comp=Z,20nm,18.1s,baz=262,slow=39						
GNI	Garni	76.36	348	iP	P	08 31 52.1	+0.6
GNI				pmax	pmax		
	comp=Z,32nm,1.1s						
GEYT	Alibeck	76.70	337	P	P	08 31 53.7	+0.4
	comp=Z,19nm,0.8s,baz=319,slow=4.2						
	comp=Z,19nm,0.8s						
GYA0B	ALIBECK ARRAY	76.70	337	P	P	08 31 53.7	+0.4
CUC	Castrocucco	76.71	11	P	P	08 31 51.5	-1.8
SCTE	Santa Cesarea	76.83	8	P	P	08 31 53.2	-0.6
LIT	Litokhoron	77.02	5	P	P	08 31 54.4	-0.6
LIT	Litokhoron	77.02	5	P	P	08 31 54.4	-0.6
LIT				pmax	pmax		
	comp=Z,16nm,0.7s						
ANTO	Ankara	77.35	357	P	P	08 31 57.6	+0.8
ANTO				IAmb	IAmb	08 31 59.5	
	comp=Z,33nm,0.6s						
ANTO	Ankara	77.35	357	P	P	08 31 57.7	+0.8
ANTO				pmax	pmax		
	comp=Z,33nm,0.6s						
ANTO	Ankara	77.35	357	P	P	08 31 57.2	+0.3
	comp=Z,22nm,1.0s						
BORA	Eskisehir	77.38	359	P	P	08 31 57.0	-0.1
NIL	Nilore	77.40	324	P	P	08 31 57.6	+0.4
NIL				IAmb	IAmb	08 31 58.4	
	comp=Z,64nm,1.1s						
NIL	Nilore	77.40	324	P	P	08 31 57.6	+0.4
NIL				pmax	pmax		
	comp=Z,64nm,1.1s						
EZN	Ezine	77.41	2	P	P	08 31 56.1	-1.0
EZN	Ezine	77.41	2	P	P	08 31 56.1	-1.0
	comp=Z,16nm,0.9s						
BR106	Keskin Array S	77.47	357	P	P	08 31 57.4	-0.2
	comp=Z,12nm,1.0s,comp=Z,100nm						
BR131	Keskin Array S	77.47	357	P	P	08 31 57.4	-0.3
BR131	Keskin Array S	77.47	357	iP	P	08 31 57.3	-0.3
BRTR	Keskin Array B	77.47	357	P	P	08 31 57.1	-0.6
BRTR	Keskin Array B	77.47	357	P	P	08 31 57.4	-0.3
	comp=Z,6.1nm,0.6s,baz=0.1,slow=2.9,SNR=28						
	comp=Z,6.1nm,0.6s						
BR105	Keskin Array S	77.48	357	P	P	08 31 57.5	-0.2
	comp=Z,15nm,1.1s,comp=Z,128nm						
BR104	Keskin Array S	77.49	357	P	P	08 31 57.6	-0.2
	comp=Z,14nm,1.0s,comp=Z,131nm						
TIP	Timpagrande	77.59	10	P	P	08 31 57.2	-1.0
TIP	Timpagrande	77.59	10	P	P	08 31 57.2	-1.0
	comp=Z,5.7nm,1.1s						
KBL	Kabul	77.64	327	P	P	08 31 57.3	-1.5
KBL	Kabul	77.64	327	P	P	08 31 57.3	-1.5
KBL				pmax	pmax		
	comp=Z,26nm,0.9s						
SDV	Santo Domingo	77.67	95	LR	LR	09 12 04.4	
	comp=Z,23nm,18.0s,baz=273,slow=40						
ARPR	Arapgir-MALATY	77.90	353	P	P	08 32 00.8	+0.7
BNN	Bunyan	78.27	355	P	P	08 32 02.7	+0.6
BNN				IAmb	IAmb	08 32 03.4	
	comp=Z,96nm,0.9s						
BAUV	El Baul	78.79	92	P	P	08 32 04.7	-0.3
SHL	Shillong	78.85	305	P	P	08 32 04.9	-0.6
SHL	Shillong	78.85	305	P	P	08 32 04.9	-0.6
SHL				pmax	pmax		
	comp=Z,26nm,0.8s						
CLTB	Caltabellotta	78.86	13	P	P	08 32 04.6	-0.7
CLTB				IAmb	IAmb	08 32 06.8	
	comp=Z,47nm,1.1s						
PCRV	Puerto La Cruz	79.25	89	LR	LR	09 07 14.8	
	comp=Z,32nm,20.3s,slow=36						
HRA	Herat	79.34	333	P	P	08 32 08.4	+0.3
ROSC	El Rosal	79.58	100	P	P	08 32 09.9	+0.2
ROSC	El Rosal	79.58	100	P	P	08 32 10.0	+0.2
	comp=Z,23nm,0.9s,baz=138,slow=11,SNR=14						
	comp=Z,23nm,0.9s						
ROSC	El Rosal	79.58	100	P	P	08 32 10.0	+0.2
ROSC				pmax	pmax		
	comp=Z,27nm,0.9s						
KEST	Kesra	80.24	16	P	P	08 32 11.6	-1.2
	comp=Z,7.9nm,0.9s,baz=281,slow=3.9,SNR=6.1						
	comp=Z,7.9nm,0.9s						
CRAI	Chiangrai	80.33	296	P	P	08 32 13.3	-0.1
PPT2	Papeete2	80.41	179	eLR	LR	08 57 33.6	
	comp=Z,44nm,24.8s						
ARG	Arkhangelos	81.03	1	P	P	08 32 15.9	-1.0
ARG				IAmb	IAmb	08 32 17.8	
	comp=Z,40nm,0.8s						
ARG	Arkhangelos	81.03	1	P	P	08 32 15.9	-1.0
ARG				pmax	pmax		
	comp=Z,40nm,0.8s						
TULM	Tulcn-Chalpat	81.71	105	P	P	08 32 21.7	+0.5
TULM				IAmb	IAmb	08 32 23.3	
	comp=Z,58nm,1.1s						
OTAV	Otavalo	81.85	106	P	P	08 32 21.9	-0.1
OTAV	Otavalo	81.85	106	P	P	08 32 21.9	-0.1
OTAV				pmax	pmax		
	comp=Z,48nm,1.8s						
OTAV	Otavalo	81.85	106	eP	P	08 32 20.8	-1.2
IMBA	Imbabura, San	81.92	105	P	P	08 32 23.2	+0.9
IMBA				IAmb	IAmb	08 32 24.3	
	comp=Z,36nm,1.0s						
PHRA	Phrae	81.94	295	P	P	08 32 21.8	-0.1
CHTO	Chiang Mai	82.18	296	P	P	08 32 22.6	-0.5
CHTO	Chiang Mai	82.18	296	P	P	08 32 22.7	-0.5
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR	Chiang Mai Arr	82.50	296	P	P	08 32 25.0	+0.2
CMAR	Chiang Mai Arr	82.50	296	P	P	08 32 24.9	0.0
	comp=Z,14nm,1.0s,baz=5.8,slow=6.0,SNR=52						
CMAR				pP	pP	08 32 56.0	-0.7
	comp=Z,6.0nm,0.8s,baz=8.1,slow=6.1,SNR=3.6						
CMAR				LR	LR	09 13 26.2	
	comp=Z,28nm,18.1s,baz=25,slow=39						
	comp=Z,14nm,1.0s						
CMAR	Chiang Mai Arr	82.50	296	P	P	08 32 25.0	+0.2
MMAI	Mount Meron Ar	84.10	355	P	P	08 32 32.2	-0.8
	comp=Z,1.7nm,0.4s,baz=340,slow=7.1,SNR=3.7						
	comp=Z,1.7nm,0.4s						
ARNL	Arenillas	84.53	109	P	P	08 32 35.0	-0.1
PMG	Port Moresby	86.23	241	LR	LR	09 08 45.2	
	comp=Z,25nm,20.0s,baz=50,slow=34						
BOAV	Boa Vista	88.00	89	P	P	08 32 52.0	-0.2
BOAV				IAmb	IAmb	08 32 53.0	
	comp=Z,22nm,1.0s						
ATAH	Atahualpa	88.46	109	LR	LR	09 16 32.5	
	comp=Z,22nm,18.5s,baz=359,slow=38						
MDP	Montagnes des	89.17	80	LR	LR	09 11 04.0	
	comp=Z,27nm,21.3s,baz=7.5,slow=34						
TBTG	Tabatinga, AM	89.57	100	P	P	08 32 58.5	-1.0
TBTG	Tabatinga, AM	89.57	100	eP	P	08 32 58.4	-1.1
DZM	Mont Dzumac	91.31	219	eLR	LR	09 02 31.4	
	comp=Z,55nm,23.3s						
TEFE	Tefe	91.35	95	eP	P	08 33 07.0	-0.7
CZSB	Cruzeiro do Su	91.48	104	P	P	08 33 07.8	-0.5
CZSB	Cruzeiro do Su	91.48	104	eP	P	08 33 07.4	-0.9
MACA	Manacapuru-AM	92.84	91	P	P	08 33 14.2	-0.4
MACA				IAmb	IAmb	08 33 14.6	
	comp=Z,24nm,0.7s						
MACA	Manacapuru-AM	92.84	91	eP	P	08 33 13.5	-1.1
NNA	Nana	93.47	110	P	P	08 33 17.2	-0.3
NNA				IAmb	IAmb	08 33 17.5	
	comp=Z,22nm,0.8s						
NNA	Nana	93.47	110	LR	LR	09 20 46.6	
	comp=Z,20nm,19.5s,baz=343,slow=39						
NNA	Nana	93.47	110	P	P	08 33 17.2	-0.3
NNA				pmax	pmax		
	comp=Z,22nm,0.8s						
MCPB	Macapa, AP	94.28	82	eP	P	08 33 19.7	-1.6
ITTB	Itaituba	96.16	87	eP	P	08 33 28.8	-1.0
ETMB	Extrema	96.22	99	P	P	08 33 28.6	-1.5
ETMB				IAmb	IAmb	08 33 29.2	
	comp=Z,9.8nm,1.2s						
ETMB	Extrema	96.22	99	eP	P	08 33 28.2	-1.8
ETMB				epP	pP	08 34 00.7	-2.0
SAML	Samuel	96.82	96	P	P	08 33 32.0	-0.8
SAML				IAmb	IAmb	08 33 32.4	
	comp=Z,6.5nm,0.9s						
SAML	Samuel	96.82	96	P	P	08 33 32.0	-0.8
SAML				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SAML	Samuel	96.82	96	eP	P	08 33 31.0	-1.8
SAML				epP	pP	08 34 03.6	-1.8
PALK	Pallekele	99.74	308	LR	LR	09 23 57.1	
	comp=Z,30nm,18.5s,baz=207,slow=38						
ASAR	Alice Springs	104.46	246	PKiKP	PKiKP	08 38 21.5	-0.6
	comp=Z,0.5nm,0.8s,baz=35,slow=2.3,SNR=3.3						
CPUP	Villa Florida	114.67	100	PKP	PKPdf	08 38 39.9	-1.3
	comp=Z,1.3nm,0.8s,baz=4.0,slow=3.6,SNR=4.0						
PLCA	Paso Flores	121.34	119	PKP	PKPdf	08 38 53.5	-0.1
	comp=Z,5.3nm,0.8s,baz=303,slow=2.5,SNR=18						
VNDA	Vanda	143.33	196	PKP	PKPbc	08 39 31.9	+0.6
	comp=Z,2.7nm,0.8s,baz=314,slow=3.4,SNR=12						
BOSA	Boshof	145.43	6	PKPbc	PKPdf	08 39 38.6	-0.3
	comp=Z,20nm,0.8s,baz=15,slow=3.4,SNR=26						
BOSA				pPKPbc	pPKPbc	08 40 11.9	-0.7
	comp=Z,31nm,0.8s,baz=357,slow=3.2,SNR=8.8						
SUR	Sutherland	148.81	14	PKPbc	PKPbc	08 39 48.5	-0.1
	comp=Z,15nm,0.7s,baz=48,slow=3.3,SNR=13						
QSPA	South Pole Qui	152.90	180	PKP	PKPdf	08 39 48.0	-1.5
	comp=Z,2.7nm,0.9s,baz=223,slow=0.7,SNR=6.4						
VNA3	Neumayer Olymp	163.17	135	⇑PKPab	PKPab	08 40 52.9	-0.2
	comp=Z,16nm,0.8s						
VNA3				⇑pPKPab	pPKPab	08 41 24.7	-0.8
	comp=Z,6.9nm,0.8s						
VNA1	Neumayer--Stat	163.72	134	⇑PKPab	PKPab	08 40 55.4	0.0
	comp=Z,11nm,0.9s						
VNA1				⇑pPKPab	pPKPab	08 41 28.1	+0.1
	comp=Z,5.6nm,1.0s						
VNA2	Neumayer--Watz	163.95	135	⇑PKPab	PKPab	08 40 56.3	-0.2
	comp=Z,6.8nm,0.7s,baz=280,slow=5.3						
VNA2				⇑pPKPab	pPKPab	08 41 29.0	0.0
	comp=Z,3.2nm,0.8s,baz=310,slow=9.0						
SNAA	Sanae	165.18	139	⇑PKPab	PKPab	08 41 01.3	-0.6
	comp=Z,50nm,0.8s						
SNAA	Sanae	165.18	139	PKPab	PKPab	08 41 00.9	-1.0
	comp=Z,1.5nm,0.6s,baz=288,slow=3.0,SNR=6.9						
TROLL	Troll, Antarti	166.58	143	⇑PKPab	PKPab	08 41 08.0	-0.2
	comp=Z,202nm,0.9s						
TROLL				⇑pPKPab	pPKPab	08 41 41.6	+0.8
	comp=Z,102nm,0.8s						
ELIB	Princess Elisa	170.82	168	dPKP	PKPab	08 41 26.4	-0.6

IDC 01 08:37:44.0±1.9, 6°.05S×143°.11E, h0^{km}, mb3.6/3, mbtmp3.7/5, ML3.8/2, Error ellipse: s-maj=68.1km s-min=24.0km az=108.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.23	211	Pn	Pn	08 41 33.3	-0.2
	0.2nm,0.3s,baz=32,slow=11,SNR=4.7						
WRA				Lg	Lg	08 46 16.4	
	0.1nm,0.3s,baz=30,slow=30,SNR=4.8						
	0.4nm,0.5s						
ASAR	Alice Springs	19.63	206	P	P	08 42 14.6	+0.3
	0.6nm,0.3s,baz=32,slow=10,SNR=58						
ASAR				Lg	Lg	08 48 07.8	
	baz=27,slow=33,SNR=2.1						
	4.4nm,0.6s						
MKAR	Makanchi Array	75.11	322	P	P	08 49 29.4	+1.4
	0.1nm,0.5s,baz=114,slow=6.5,SNR=3.3						
	0.1nm,0.5s						
BVAR	Borovo

OGNE Ogallala 1.55 255 P Pn 08 42 25.8 -1.2
baz=73,SNR=1000
OGNE S Sn 08 42 45.9 -0.2
baz=73
CBKS Cedar Bluff 2.57 174 Pn 08 42 41.7 +0.8
CBKS IAmb_Lg 08 43 24.9
comp=Z,837nm,0.8s
CBKS Cedar Bluff 2.57 174 P Pn 08 42 41.7 +0.8
baz=354,SNR=113
CBKS Sb Sb 08 43 17.1 -0.9
baz=354
L34A Svendsen Farm, 2.82 77 Pn 08 42 45.4 +1.0
KSCO Kaye Shedlock' 3.07 221 Pn Pn 08 42 47.6 -0.3
KSCO Kaye Shedlock' 3.07 221 P Pn 08 42 47.9 0.0
baz=38,SNR=217
KSCO S Sn 08 43 24.2 +0.6
baz=38
R32A Long Quarter, 3.12 160 Pn Pn 08 42 48.5 -0.1
R32A IAmb_Lg 08 43 47.8
comp=Z,795nm,0.7s
SUSD Miller 3.17 14 Pn 08 42 50.5 +1.3
SUSD IAmb_Lg 08 43 40.2
comp=Z,544nm,0.7s
SUSD Miller 3.17 14 P Pn 08 42 50.7 +1.4
baz=196
SUSD S Sn 08 43 28.6 +2.6
baz=196
BRIGG Briggsdale 3.32 258 Pn 08 42 51.4 0.0
N35A Tabor 3.38 97 Pn 08 42 53.6 +1.6
N35A IAmb_Lg 08 43 54.4
comp=Z,892nm,0.8s
ECSD EROS Data Cent 3.47 46 Pn Pn 08 42 55.0 +1.7
ECSD IAmb_Lg 08 43 53.3
comp=Z,505nm,0.8s
ECSD EROS Data Cent 3.47 46 P Pn 08 42 54.4 +1.1
baz=229
ECSD S Sn 08 43 35.4 +2.1
baz=229
KSU1 Kansas State U 3.48 130 Pn Pn 08 42 54.6 +1.2
KSU1 IAmb_Lg 08 43 50.2
comp=Z,675nm,0.7s
KSU1 Kansas State U 3.48 130 P Pn 08 42 53.9 +0.5
baz=311,SNR=21
KSU1 Sb Sb 08 43 46.5 +2.2
baz=311
RSSD Black Hills 4.02 314 Pn 08 43 01.2 +0.2
RSSD IAmb_Lg 08 44 15.1
comp=Z,635nm,1.2s
RSSD Black Hills 4.02 314 P Pn 08 43 01.4 +0.4
baz=133
RSSD Sb Sb 08 44 00.5 +0.7
baz=133
PHWY Pilot Hill 4.07 271 Pn 08 43 00.9 -0.8
KAN12 Harper NE Stat 4.37 158 Pn 08 43 06.6 +0.9
KAN12 IAmb_Lg 08 44 28.3
comp=Z,617nm,0.7s
KAN08 Anthony NE Sta 4.45 158 Pn 08 43 07.8 +1.1
KAN06 Argonia West S 4.46 157 Pn 08 43 07.6 +0.7
N23A Red Feather La 4.47 266 Pn 08 43 06.6 -0.7
N23A Red Feather La 4.47 266 P Pn 08 43 07.4 +0.1
baz=82,SNR=45
N23A Sb Sb 08 44 12.5 -0.4
baz=82
Q24A Divide 4.58 240 Pn 08 43 07.9 -1.0
Q24A IAmb_Lg 08 44 29.9
comp=Z,416nm,0.8s
Q24A Divide 4.58 240 P Pn 08 43 07.9 -1.0
baz=56,SNR=20
Q24A S Sn 08 44 00.4 -0.7
baz=56
KAN09 Caldwell North 4.63 155 Pn 08 43 10.1 +0.8
KAN14 Manchester OK 4.70 159 Pn 08 43 10.8 +0.6
KAN14 IAmb_Lg 08 44 35.4
comp=Z,540nm,0.8s
OK035 E0210 Rd and N 4.77 167 IAmb_Lg 08 44 42.1
comp=Z,587nm,0.7s
OK032 Salt Plains WL 4.78 162 Pn 08 43 11.7 +0.4
OK032 IAmb_Lg 08 44 32.7
comp=Z,584nm,1.0s
KAN13 South Haven SW 4.79 154 Pn 08 43 11.7 +0.3
NOKA Waynoka 4.81 169 Pn 08 43 12.1 +0.3
GC02 Grant County # 4.83 159 Pn 08 43 12.1 +0.1
K22A Casper 4.98 287 Pn 08 43 13.3 -0.9
K22A Casper 4.98 287 P Pn 08 43 13.6 -0.7
baz=103,SNR=31
K22A Sb Sb 08 44 28.1 +0.6
baz=103
OK038 West end E0370 4.99 168 Pn 08 43 14.7 +0.4
U32A Winter Ranch, 5.05 170 Pn 08 43 15.6 +0.5
BLOK Blackwell 5.11 153 Pn Pn 08 43 15.7 -0.1
CROK Carrier 5.12 161 Pn Pn 08 43 16.0 0.0
SCIA State Center 5.16 82 Pn 08 43 17.1 +0.7
SCIA State Center 5.16 82 P Pn 08 43 16.5 0.0
baz=266,SNR=12
SCIA S Sn 08 44 16.9 +2.1
baz=266
N38A Joes South For 5.19 94 IAmb_Lg 08 44 56.2
comp=Z,476nm,0.7s
E28A Huff 5.22 355 Pn 08 43 17.1 -0.3
T35A Sooner Cattle 5.23 147 Pn 08 43 17.6 0.0
P38A Dawn 5.27 107 Pn 08 43 18.9 +0.9
P38A IAmb_Lg 08 44 59.5
comp=Z,321nm,0.8s
RTBA Rita Blanca 5.35 204 Pn Pn 08 43 18.9 -0.3
RTBA IAmb_Lg 08 44 51.9
comp=Z,404nm,0.7s
RWWY Rawlins 5.38 276 Pn 08 43 19.3 -0.5
RWWY IAmb_Lg 08 44 58.5
comp=Z,511nm,1.1s
T25A Trinidad 5.41 220 Pn 08 43 19.1 -1.0
T25A Trinidad 5.41 220 P Pn 08 43 19.4 -0.8
baz=37,SNR=33
T25A Sb Sb 08 44 41.8 +1.9
baz=37
OK051 E0350 and S346 5.47 152 Pn Pn 08 43 20.6 -0.2
OK048 Pawnee Station 5.51 153 Pn Pn 08 43 21.0 -0.4
SDCO Great Sand Dun 5.55 231 Pn 08 43 21.6 -0.5
SDCO Great Sand Dun 5.55 231 P Pn 08 43 21.9 -0.3
baz=47,SNR=36
SDCO Sb Sb 08 44 44.6 +0.6
baz=47
I37A Lemond, Waseca 5.57 59 Pn 08 43 22.9 +0.7
SMCO Snowmass 5.72 250 Pn Pn 08 43 24.8 +0.2
OK029 Liberty Lake 5.93 159 Pn Pn 08 43 27.6 +0.5
OK029 IAmb_Lg 08 45 17.9
comp=Z,326nm,1.0s
SMWD Samnorwood 6.26 181 Pn Pn 08 43 32.1 +0.4
SMWD IAmb_Lg 08 45 25.7
comp=Z,410nm,0.9s
OKCSW OKLAHOMA CITY 6.30 160 Pn 08 43 33.5 +1.3
O20A White River Ci 6.33 261 Pn 08 43 33.5 +0.7
O20A IAmb_Lg 08 45 25.9
comp=Z,286nm,1.1s
O20A White River Ci 6.33 261 P Pn 08 43 32.9 +0.1
baz=76,SNR=10
O20A Sb Sb 08 45 10.4 +4.0
baz=76
S22A 4UR Ranch, Cre 6.36 238 Pn Pn 08 43 33.1 -0.2
S22A IAmb_Lg 08 45 33.8
comp=Z,240nm,1.3s
S22A 4UR Ranch, Cre 6.36 238 P Pn 08 43 32.5 -0.8
baz=53,SNR=19
S22A Sb Sb 08 45 09.2 +1.9
baz=53
S39A Bolivar 6.37 123 Pn 08 43 33.4 +0.2
S39A IAmb_Lg 08 45 23.0
comp=Z,270nm,0.8s
P40A Paris 6.38 104 Pn Pn 08 43 34.1 +0.8
P40A IAmb_Lg 08 45 28.6
comp=Z,413nm,0.8s
TUL3 Leonard 6.39 147 Pn Pn 08 43 33.0 -0.4
TUL3 IAmb_Lg 08 45 30.4
comp=Z,461nm,0.7s
TUL3 Leonard 6.39 147 P Pn 08 43 33.1 -0.4
baz=330,SNR=90
TUL3 S Sn 08 44 44.3 -1.0
baz=330
FNO Franklin 6.45 160 Pn 08 43 34.9 +0.6
MDND Maddock 6.48 3 Pn 08 43 33.8 -0.9
MDND Maddock 6.48 3 P Pn 08 43 33.7 -0.9
baz=184
MDND S Sn 08 44 46.5 -1.0
baz=184
RLO Rose Lookout 6.52 141 Pn 08 43 35.7 +0.5
RLO IAmb_Lg 08 45 36.0
comp=Z,213nm,0.7s

SPMN Marine on St. 6.54 52 Pn Pn 08 43 36.5 +0.9
SPMN Marine on St. 6.54 52 P Pn 08 43 36.4 +0.9
baz=237,SNR=43
SPMN S Sn 08 44 49.5 +0.5
baz=237
AMTX Amarillo 6.60 192 Pn 08 43 36.7 +0.3
AMTX Amarillo 6.60 192 P Pn 08 43 36.4 0.0
baz=10
AMTX S Sn 08 44 49.9 -0.7
baz=10
U38A Gravette 6.62 136 Pn Pn 08 43 36.7 +0.1
L40A Anamosa 6.65 81 Pn 08 43 38.1 +1.2
L40A IAmb_Lg 08 45 34.5
comp=Z,315nm,0.7s
W35A Tecumseh 6.70 157 Pn 08 43 36.9 -0.8
W35A IAmb_Lg 08 45 44.5
comp=Z,275nm,0.7s
WMOK Wichita Mounta 6.70 171 Pn Pn 08 43 37.5 -0.2
WMOK IAmb_Lg 08 45 43.5
comp=Z,257nm,0.8s
WMOK Wichita Mounta 6.70 171 P Pn 08 43 36.7 -1.0
baz=351,SNR=25
WMOK S Sn 08 44 52.2 -0.7
baz=351
R40A Maddies Statio 6.74 115 Pn Pn 08 43 38.5 +0.3
R40A IAmb_Lg 08 45 43.5
comp=Z,356nm,0.8s
LAO LASA Array 6.92 322 Pn Pn 08 43 39.9 -0.9
LAO IAmb_Lg 08 45 41.7
comp=Z,315nm,1.1s
HHAR Hobbs 6.97 135 Pn 08 43 41.7 +0.2
HHAR IAmb_Lg 08 45 43.8
comp=Z,227nm,0.8s
X34A Smith Ranch, M 6.98 165 Pn 08 43 41.5 -0.1
N41A Harden Midland 6.99 92 Pn 08 43 41.7 +0.1
N41A IAmb_Lg 08 45 57.2
comp=Z,410nm,0.9s
BW06 Boulder Array 7.21 284 P Pn 08 43 43.4 -1.4
baz=98,SNR=17
BW06 S Sn 08 45 05.0 -0.7
baz=98
PD31 Pinedale Array 7.21 284 Pn 08 43 44.6 -0.1
PDAR Pinedale Array 7.21 284 Pn Pn 08 43 44.7 -0.1
comp=Z,6.2nm,0.6s,baz=114,slow=14,SNR=48
PDAR Lg Lg 08 45 37.1
comp=Z,8.9nm,0.3s,baz=92,slow=33,SNR=4.1
PDAR LR LR 08 45 54.3
comp=Z,29nm,21.6s,baz=112,slow=33
RDMU Red Mountain 7.24 267 Pn 08 43 46.1 +0.8
RDMU IAmb_Lg 08 45 48.0
comp=Z,312nm,1.2s
MGMO Mountain Grove 7.37 122 Pn 08 43 47.5 +0.6
MGMO IAmb_Lg 08 46 07.4
comp=Z,246nm,0.7s
I40A Norwalk 7.40 67 Pn 08 43 47.5 +0.2
I40A IAmb_Lg 08 46 05.5
comp=Z,261nm,1.1s
JFWS Jewell Farm 7.45 75 Pn Pn 08 43 47.5 -0.5
JFWS IAmb_Lg 08 46 06.7
comp=Z,343nm,0.8s
JFWS Jewell Farm 7.45 75 P Pn 08 43 46.5 -1.4
baz=261,SNR=9.0
JFWS S Sn 08 45 09.9 -1.4
baz=261
AGMN Agassiz Nation 7.54 22 Pn Pn 08 43 48.2 -0.9
AGMN Agassiz Nation 7.54 22 P Pn 08 43 47.9 -1.2
baz=205,SNR=25
CCM Cathedral Cave 7.56 113 Pn 08 43 49.2 -0.2
CCM IAmb_Lg 08 46 04.2
comp=Z,250nm,0.8s
CCM Cathedral Cave 7.56 113 P Pn 08 43 49.0 -0.4
baz=299
CCM S Sn 08 45 11.7 -2.3
baz=299
RLMT Red Lodge 7.70 302 Pn Pn 08 43 50.4 -1.1
RLMT Red Lodge 7.70 302 P Pn 08 43 50.5 -1.0
baz=116
MSTX Muleshoe 7.70 197 Pn Pn 08 43 50.1 -1.3
MSTX IAmb_Lg 08 46 20.5
comp=Z,321nm,0.9s
MSTX Muleshoe 7.70 197 P Pn 08 43 49.9 -1.6
baz=15,SNR=20
WTFS Witchita Falls 7.70 170 Pn Pn 08 43 51.9 +0.5
LOOK Love County 7.71 162 Pn Pn 08 43 50.5 -1.0
LOOK IAmb_Lg 08 46 21.8
comp=Z,332nm,0.7s
X37A Clayton 7.71 150 Pn Pn 08 43 51.1 -0.5
DKNS Dickens 7.72 185 Pn Pn 08 43 51.5 -0.3
MVCO Mesa Verde 7.75 240 Pn Pn 08 43 52.6 +0.3
MVCO Mesa Verde 7.75 240 P Pn 08 43 52.1 -0.2
baz=55,SNR=6.5
L42A Oliver, Polo 7.80 82 Pn 08 43 53.1 +0.3
P18A Preston Nutter 7.96 261 Pn 08 43 55.1 -0.1
SLM Saint Louis 8.02 107 IAmb_Lg 08 46 20.2
comp=Z,250nm,0.7s
APMT Aspermont 8.03 180 Pn 08 43 55.9 -0.1
APMT IAmb_Lg 08 46 34.4
comp=Z,206nm,0.9s
E38A The Farm, Brul 8.06 47 Pn 08 43 57.6 +1.3
E38A IAmb_Lg 08 46 20.5
comp=Z,192nm,0.8s
LOHW Long Hollow 8.11 290 Pn Pn 08 43 56.8 -0.4
YMP Mirror Lake Pl 8.12 298 Pn 08 43 56.5 -1.0
BSUT Blindstream Ca 8.14 268 Pn Pn 08 43 58.8 +1.0
ANMO Albuquerque 8.16 220 Pn Pn 08 43 58.1 +0.3
ANMO Albuquerque 8.16 220 P Pn 08 43 56.9 -1.0
baz=36
ANMO Albuquerque 8.16 220 Pn Pn 08 43 57.3 -0.5
comp=Z,0.4nm,0.3s,baz=123,slow=13,SNR=12
ANMO Lg Lg 08 46 10.4
comp=Z,3.7nm,0.3s,baz=197,slow=22,SNR=3.7
comp=Z,1.5nm,0.4s
FVM French Village 8.16 111 Pn Pn 08 43 57.7 -0.1
FVM IAmb_Lg 08 46 25.0
comp=Z,174nm,0.8s
G40A Rib Lake 8.17 58 Pn Pn 08 43 59.3 +1.4
SNOW Snow King Moun 8.19 288 Pn 08 43 58.6 +0.3
HDIL Hopedale 8.19 92 Pn 08 43 57.7 -0.4
HDIL Hopedale 8.19 92 P Pn 08 43 57.4 -0.6
baz=279,SNR=10
T42A Van Buren 8.20 119 Pn Pn 08 43 58.8 +0.6
T42A IAmb_Lg 08 46 23.8
comp=Z,228nm,0.8s
REDW Red Top Meadow 8.24 288 Pn 08 43 59.5 +0.5
FCAR Ozark Folk Cen 8.28 129 Pn 08 43 59.3 0.0
FCAR IAmb_Lg 08 46 25.9
comp=Z,222nm,0.9s
FLWY Flagg Ranch 8.29 293 Pn Pn 08 43 58.8 -0.8
H17A Grant Village 8.29 295 Pn Pn 08 44 00.0 +0.3
SN07 Snyder 07 8.29 185 Pn 08 43 59.6 0.0
SN07 IAmb_Lg 08 46 33.3
comp=Z,217nm,0.8s
SRU San Rafael Swe 8.32 258 Pn Pn 08 43 59.9 -0.1
TPAW Teton Pass 8.33 288 Pn 08 44 00.1 -0.1
Z35A Perchaven, San 8.33 164 Pn 08 43 59.4 -0.6
POST Post 8.37 188 Pn Pn 08 44 00.7 +0.1
IMW Indian Meadow 8.41 291 Pn Pn 08 44 01.2 -0.2
FXWY Fox Creek 8.41 289 Pn 08 44 00.7 -0.7
FW03 Perrin-Whitt E 8.47 169 Pn 08 44 02.0 +0.1
SN05 Snyder 5 8.50 185 IAmb_Lg 08 46 34.9
comp=Z,317nm,0.9s
MIAR Mount Ida 8.52 141 Pn Pn 08 44 02.6 -0.1
MIAR IAmb_Lg 08 46 47.9
comp=Z,185nm,0.7s
MIAR Mount Ida 8.52 141 P Pn 08 44 02.2 -0.4
baz=325,SNR=49
TCUT Toone Canyon 8.56 272 Pn Pn 08 44 03.6 +0.3
I42A Draeger Farm, 8.59 69 Pn 08 44 03.1 -0.5
WHAR Wooly Hollow 8.61 132 Pn Pn 08 44 03.9 0.0
WHAR IAmb_Lg 08 46 37.0
comp=Z,269nm,0.9s
FW06 Azle 8.62 166 Pn 08 44 03.0 -1.0
FW06 IAmb_Lg 08 46 49.5
comp=Z,174nm,1.0s
HWUT Hardware Ranch 8.64 275 Pn Pn 08 44 02.6 -1.8
JLU Jordanelle 8.65 269 Pn 08 44 05.1 +0.4
PLPT Palo Pinto 8.66 170 Pn 08 44 03.2 -1.3
PLPT IAmb_Lg 08 46 44.1
comp=Z,183nm,0.9s
ABTX Abilene, Hawle 8.74 178 Pn Pn 08 44 04.8 -0.9
ABTX IAmb_Lg 08 46 41.3
comp=Z,244nm,1.1s
ABTX Abilene, Hawle 8.74 178 P Pn 08 44 05.0 -0.7
baz=358,SNR=11
LCAR Lake Charles 8.74 124 Pn Pn 08 44 06.3 +0.7

PBMO Poplar Bluff 8.78 118 Pn 08 44 06.6 +0.4
PBMO IAmb_Lg 08 46 54.3
comp=Z,210nm,0.7s
Q44A Meyer Farm, Va 8.81 103 Pn Pn 08 44 07.0 +0.4
K43A Burlington 8.83 77 Pn 08 44 05.8 -1.0
FW07 Weatherford 8.84 167 Pn 08 44 06.9 -0.2
CTU Camp Tracy 8.86 269 Pn 08 44 06.5 -1.0
MPU Maple Canyon 8.90 265 Pn 08 44 07.9 -0.1
HMU Henry Mountain 8.92 251 Pn 08 44 09.2 +0.8
X40A Basin Creek Fa 8.93 138 Pn 08 44 08.5 +0.2
UALR University of 8.96 135 Pn Pn 08 44 07.9 -0.8
UALR IAmb_Lg 08 46 49.8
comp=Z,182nm,0.8s
EYMN Ely 8.96 40 Pn Pn 08 44 09.0 +0.3
EYMN Ely 8.96 40 P Pn 08 44 08.4 -0.3
baz=226,SNR=17
CGM3 Cape Girardeau 9.03 113 Pn 08 44 09.3 -0.2
M44A Midewin, Midew 9.04 86 Pn 08 44 08.9 -0.7
Z38A Mt. Pleasant 9.05 152 Pn Pn 08 44 09.4 -0.5
Y22D IRIS PASSCAL I 9.09 219 IAmb_Lg 08 47 12.0
comp=Z,250nm,1.1s
S44A Carbondale 9.12 110 Pn 08 44 10.5 -0.3
TREL Terrell 9.19 159 IAmb_Lg 08 46 58.4
comp=Z,258nm,0.9s
COWI Conover 9.21 55 Pn 08 44 11.4 -0.7
NLU North Lily Min 9.24 265 Pn Pn 08 44 12.2 -0.5
FW14 Alvarado 9.24 165 Pn 08 44 12.2 -0.4
FW13 Cleburne 9.24 166 Pn 08 44 12.2 -0.4
PARMO Parma 9.29 117 Pn 08 44 13.0 -0.2
SPUT South Promonto 9.32 274 Pn 08 44 12.4 -1.4
ULM Lac du Bonnet 9.35 17 Pn Pn 08 44 12.4 -1.5
ULM IAmb_Lg 08 46 52.7
comp=Z,196nm,1.0s
ULM Lac du Bonnet 9.35 17 Pn Pn 08 44 12.0 -1.9
comp=Z,5.0nm,0.3s,baz=200,slow=11,SNR=62
ULM Sn Sn 08 45 51.4 -6.4
comp=Z,8.2nm,0.3s,baz=150,slow=8.0,SNR=3.7
ULM Lg Lg 08 46 45.1
comp=Z,5.4nm,0.3s,baz=272,slow=21,SNR=6.8
ULM LR LR 08 47 58.0
comp=Z,111nm,20.9s,baz=204,slow=38
comp=Z,16nm,0.4s
HBAR Harrisburg 9.38 125 Pn 08 44 14.5 +0.1
BOZ Bozeman (W) 9.41 301 Pn Pn 08 44 13.9 -1.1
BOZ Bozeman (W) 9.41 301 P Pn 08 44 13.7 -1.3
baz=113,SNR=5.7
WLAR White Oak Lake 9.45 142 Pn Pn 08 44 15.8 +0.5
WLAR IAmb_Lg 08 47 03.4
comp=Z,202nm,0.9s
ODSA Odessa 9.45 193 Pn Pn 08 44 15.0 -0.4
ODSA IAmb_Lg 08 47 25.8
comp=Z,150nm,1.1s
SGCY Sterling City 9.48 186 Pn Pn 08 44 15.0 -0.9
GNAR Gosnell 9.53 121 Pn 08 44 16.3 -0.1
H43A Windswept, Lux 9.53 67 Pn Pn 08 44 15.9 -0.6
HVU Hansel Valley 9.54 277 Pn Pn 08 44 16.3 -0.4
OLIL Olney 9.54 102 Pn 08 44 17.2 +0.6
EGMT Eagleton 9.58 317 Pn Pn 08 44 16.8 -0.4
EGMT Eagleton 9.58 317 P Pn 08 44 16.1 -1.1
baz=131,SNR=11
WHTX Lake Whitney, 9.59 167 Pn 08 44 16.1 -1.2
WHTX Lake Whitney, 9.59 167 P Pn 08 44 15.7 -1.6
baz=348,SNR=7.2
DUG Dugway, Tooele 9.75 267 Pn Pn 08 44 19.4 -0.2
DUG Dugway, Tooele 9.75 267 P Pn 08 44 17.7 -1.9
baz=79
LNXT Lenox 9.79 119 Pn 08 44 20.7 +0.7
MTPU Mount Pierson 9.92 254 Pn 08 44 22.7 +0.6
CCAR Cane Creek 9.92 136 Pn 08 44 22.9 +1.1
CCAR IAmb_Lg 08 47 18.2
comp=Z,173nm,0.8s
Z41A Richland Creek 9.95 142 Pn 08 44 21.0 -1.2
P46A Rosedale 9.95 96 Pn 08 44 21.8 -0.4
237A Washetta, Mont 9.95 159 Pn 08 44 20.5 -1.8
237A IAmb_Lg 08 47 32.2
comp=Z,204nm,1.1s
D41A Chassel 10.02 52 Pn 08 44 23.1 0.0
BRDY Brady 10.10 175 Pn Pn 08 44 22.7 -1.7
MNHN Monahans 10.24 193 Pn 08 44 25.0 -1.4
PKCU Pink Cliffs 10.26 252 Pn Pn 08 44 26.9 +0.2
PECS Pecos 10.44 198 Pn Pn 08 44 28.6 -0.5
OZNA Ozona 10.46 185 Pn Pn 08 44 27.4 -2.0
I45A Fountain 10.52 71 Pn Pn 08 44 29.6 -0.3
NATX Nacogdoches 10.53 154 Pn 08 44 29.3 -0.8
NATX Nacogdoches 10.53 154 P Pn 08 44 29.0 -1.1
baz=337
MNTX Cornudas Mount 10.56 206 P Pn 08 44 29.3 -1.3
baz=22
BLO Bloomington 10.58 98 Pn 08 44 30.5 -0.2
WUAZ Wupatki 10.62 240 P Pn 08 44 30.4 -1.2
baz=53,SNR=5.5
E43A Lone Tree Farm 10.67 58 Pn 08 44 30.8 -1.3
435B Jarrell 10.75 169 Pn Pn 08 44 33.1 -0.2
435B Jarrell 10.75 169 P Pn 08 44 32.7 -0.6
baz=350
121A Cookes Peak, D 10.77 217 Pn Pn 08 44 33.8 +0.2
121A Cookes Peak, D 10.77 217 P Pn 08 44 32.8 -0.8
baz=32
HLID Hailey 10.83 286 Pn Pn 08 44 34.9 +0.4
HLID Hailey 10.83 286 P Pn 08 44 33.3 -1.1
baz=97
OXF Oxford 10.84 126 Pn 08 44 34.1 -0.3
OXF Oxford 10.84 126 P Pn 08 44 33.5 -0.9
baz=312,SNR=18
N47A Urbana 10.85 88 Pn 08 44 32.7 -1.8
JCT Junction City 10.87 179 Pn Pn 08 44 33.1 -1.9
JCT Junction City 10.87 179 P Pn 08 44 32.6 -2.3
baz=359,SNR=35
OVMT Ovando 10.88 306 Pn Pn 08 44 33.4 -1.7
WVT Waverly 10.89 115 Pn 08 44 34.3 -0.8
WVT Waverly 10.89 115 P Pn 08 44 33.8 -1.3
baz=302
BPMT Black Pine Rid 10.90 302 Pn Pn 08 44 34.0 -1.4
T47A Sharon Grove 10.96 109 Pn Pn 08 44 35.1 -1.0
WCI Wyandotte Cave 11.04 102 Pn Pn 08 44 36.8 -0.4
WCI Wyandotte Cave 11.04 102 P Pn 08 44 35.6 -1.6
baz=291
143A Socs Landing, 11.07 139 Pn Pn 08 44 36.8 -0.7
LCMT Little Creek M 11.12 251 Pn 08 44 38.0 -0.4
G45A Suttons Bay 11.13 66 Pn 08 44 38.0 -0.3
Y45A Yeager Farm, C 11.20 129 Pn 08 44 38.4 -1.0
VHRN Van Horn 11.29 202 Pn Pn 08 44 41.1 +0.4
P48A Milroy 11.32 95 Pn Pn 08 44 39.8 -1.2
ALPN Alpine 11.35 196 Pn Pn 08 44 39.9 -1.6
O48B Farmland 11.35 91 P Pn 08 44 39.3 -2.1
baz=280
X16A Lo Mia Camp, P 11.35 236 Pn 08 44 40.6 -1.0
MSO Missoula 11.37 303 Pn 08 44 40.5 -1.3
MSO Missoula 11.37 303 P Pn 08 44 40.0 -1.8
baz=114
PLAL Pickwick Lake 11.38 120 Pn Pn 08 44 40.4 -1.4
J47A Sunmer 11.44 76 Pn 08 44 41.4 -1.1
ELK Elko 11.48 272 Pn Pn 08 44 42.4 -1.1
comp=Z,0.3nm,0.3s,baz=72,slow=5.5,SNR=4.1
ELK Lg Lg 08 47 51.6
comp=Z,0.1nm,0.3s,baz=193,slow=19,SNR=1.8
SAND Sanderson 11.52 189 Pn Pn 08 44 41.6 -2.1
L48A N Adams 11.71 82 Pn 08 44 43.7 -2.5
V48A Smith Brothers 11.79 114 Pn 08 44 47.1 -0.2
HNDO Hondo 11.83 177 Pn 08 44 46.2 -1.8
P49A Miami Univ. Ec 11.84 94 Pn Pn 08 44 46.1 -1.9
P49A Miami Univ. Ec 11.84 94 P Pn 08 44 46.4 -1.7
baz=284,SNR=5.5
R49A Shelbyville 11.85 100 Pn 08 44 47.2 -1.1
VBMS Vicksburg 11.90 137 Pn 08 44 48.7 -0.3
VBMS Vicksburg 11.90 137 P Pn 08 44 48.3 -0.7
baz=323
DRIO Del Rio 11.93 182 Pn Pn 08 44 47.9 -1.5
CLTN Cedars of Leba 11.94 112 Pn 08 44 50.2 +0.7
N49A Columbus Grove 11.98 87 Pn 08 44 48.7 -1.3
O49A Covington 11.98 90 Pn 08 44 48.8 -1.2
U49A Red Boiling Sp 12.13 109 Pn 08 44 51.5 -0.5
TX31 Lajitas Ar. Si 12.37 195 Pn Pn 08 44 53.5 -1.8
TXAR Lajitas Array 12.37 195 Pn Pn 08 44 53.0 -2.4
comp=Z,0.5nm,0.3s,baz=17,slow=11,SNR=26
TXAR Lg Lg 08 48 19.3
comp=Z,1.2nm,0.3s,baz=17,slow=16,SNR=3.1
comp=Z,0.6nm,0.4s
X48A Hartselle 12.38 120 Pn Pn 08 44 55.3 -0.1
E46A Sault Ste Mari 12.41 61 Pn Pn 08 44 54.8 -1.0
R50A Paris 12.48 99 Pn 08 44 55.6 -1.2
Z47A Carrollton 12.55 127 Pn 08 44 57.8 +0.1
T50A Nancy 12.58 105 Pn 08 44 57.8 -0.4

SWET	Sewanee	12.68	114			Pn	08 45 00.0 +0.4
M50A	Fremont	12.78	84	Pn		Pn	08 45 00.8 -0.2
ACSO	Alum Creek Sta	12.99	89			Pn	08 45 03.1 -0.8
346A	Big Creek Wild	13.11	136			Pn	08 45 04.7 -0.7
W50A	Signal Mountai	13.12	113			Pn	08 45 05.7 +0.1
Y49A	Blount Mountai	13.15	120	Pn		Pn	08 45 05.6 -0.4
F10A	Beach Ranch, E	13.25	296	Pn		Pn	08 45 08.2 +0.9
S51A	Beattyville	13.25	101			Pn	08 45 07.1 -0.3
FPAL	Fort Paine	13.28	116			Pn	08 45 06.5 -1.2
LRAL	Lakeview Retre	13.32	124	Pn		Pn	08 45 07.3 -0.9
LRAL	Lakeview Retre	13.32	124	P		Pn	08 45 07.0 -1.2
	baz=312,SNR=7.6						
N51A	Ashland	13.34	86			Pn	08 45 08.1 -0.5
CPCT	Cooper Cave	13.54	111			Pn	08 45 09.8 -1.4
TZTN	Tazewell	13.72	105			Pn	08 45 11.8 -1.9
TZTN	Tazewell	13.72	105	P		Pn	08 45 12.0 -1.7
	baz=296						
P52A	Corning	13.75	91			Pn	08 45 13.1 -1.2
P52A	Corning	13.75	91	P		Pn	08 45 12.6 -1.6
	baz=283						
X51A	Calhoun	13.77	115			Pn	08 45 14.0 -0.5
Q52A	Bidwell	13.82	94			Pn	08 45 14.3 -0.8
O52A	Adamsville	13.88	89	Pn		Pn	08 45 16.8 +0.9
NEW	Newport	13.92	305	Pn		Pn	08 45 12.8 -3.6
	comp=Z,0.1nm,0.3s,baz=116,slow=4.8,SNR=4.0						
NEW				Lg	Lg		08 49 06.8
	comp=Z,0.1nm,0.3s,baz=148,slow=23,SNR=1.1						
NEW				LR	LR		08 51 04.3
	comp=Z,80nm,21.3s,baz=118,slow=40						
	comp=Z,1.1nm,0.7s						
TKL	Tuckaleechee C	13.96	109			Pn	08 45 15.5 -1.6
TKL	Tuckaleechee C	13.96	109	Pn		Pn	08 45 16.3 -0.8
	comp=Z,1.8nm,0.3s,baz=310,slow=3.8,SNR=24						
TKL				Lg	Lg		08 49 07.1
	comp=Z,1.7nm,0.3s,baz=20,slow=22,SNR=3.7						
	comp=Z,4.9nm,0.4s						
V52A	Sevierville	14.00	108	Pn		Pn	08 45 17.3 -0.3
W52A	Murphy	14.13	111			Pn	08 45 18.9 -0.6
NVAR	Mina Array Bea	14.31	264	Pn		Pn	08 45 23.9 +1.8
	baz=82,slow=11,SNR=3.5						
NVAR				Lg	Lg		08 49 21.3
	baz=63,slow=28						
	comp=Z,0.4nm,0.8s						
HBVL	Hebbronville	14.32	175	Pn		Pn	08 45 22.1 +0.1
O53A	New Philadelph	14.32	88			Pn	08 45 18.7 -3.2
P53A	Whipple	14.35	91	Pn		Pn	08 45 20.1 -2.2
250A	Grady	14.49	126			Pn	08 45 23.8 -0.5
N53A	Lisbon	14.51	86	Pn		Pn	08 45 21.9 -2.6
M53A	WI Miller and	14.55	83	Pn		Pn	08 45 22.0 -3.1
V53A	Saluda	14.64	107			Pn	08 45 24.2 -2.3
Y52A	Lilburn	14.71	115			Pn	08 45 26.8 -0.5
S54A	Dingess, Beckl	14.89	98			Pn	08 45 27.7 -2.0
BG3	Lake Jocassee	14.89	110			Pn	08 45 29.6 -0.1
Q54A	Coxs Mills	14.89	93			Pn	08 45 27.6 -2.0
O54A	Avella	14.96	88	Pn		Pn	08 45 25.1 -5.5
U54A	Nelsons Funny	14.99	103			Pn	08 45 29.5 -1.6
PFO	Pinyon Flats O	15.13	244	LR		LR	08 51 40.5
	comp=Z,103nm,19.3s,baz=58,slow=39						
GOGA	Godfrey	15.38	116			Pn	08 45 34.9 -1.3
GOGA				IAmb		IAmb	08 45 47.1
	comp=Z,6.8nm,0.9s						
R55A	Marlinton	15.62	95	Pn		Pn	08 45 39.5 +0.1
R55A				IAmb		IAmb	08 46 09.4
	comp=Z,5.8nm,0.7s						
SADO	Sadowa	15.65	70	Pn		Pn	08 45 40.6 +1.0
SADO				IAmb		IAmb	08 46 06.0
	comp=Z,11nm,1.2s						
SADO	Sadowa	15.65	70	Pn		Pn	08 45 37.7 -1.9
	comp=Z,0.3nm,0.3s,baz=287,slow=14,SNR=2.3						
SADO				Sn		Sn	08 48 20.9 -11
	comp=Z,0.8nm,0.3s,baz=277,slow=12,SNR=1.8						
SADO				Lg		Lg	08 50 01.9
	comp=Z,1.0nm,0.3s,baz=290,slow=5.0,SNR=4.2						
	comp=Z,0.8nm,0.3s						
352A	Blakely	15.66	124			Pn	08 45 38.8 -0.9
V55A	Taylorsville	15.72	104			Pn	08 45 39.6 -0.9
BLA	Blacksburg	15.76	99			Pn	08 45 38.6 -2.5
BLA				IAmb		IAmb	08 45 51.9
	comp=Z,8.7nm,0.6s						
HODGE	Hodges	15.76	111			Pn	08 45 39.6 -1.4
HODGE				IAmb		IAmb	08 46 01.2
	comp=Z,4.8nm,0.6s						
451A	Vernon	15.77	128	Pn		Pn	08 45 40.3 -0.9
PAULI	Pauline	15.77	109			Pn	08 45 40.5 -0.7
PAULI				IAmb		IAmb	08 45 47.8
	comp=Z,12nm,0.8s						
J05D	Fort Rock, OR	15.78	284	Pn		Pn	08 45 40.6 -0.8
KMSC	Kings Mountain	15.96	107			Pn	08 45 42.7 -0.9
KMSC				IAmb		IAmb	08 45 53.3
	comp=Z,10nm,0.8s						
KMSC	Kings Mountain	15.96	107	P		Pn	08 45 41.4 -2.2
	baz=298,SNR=5.4						
M55A	Ridgway	15.97	83	Pn		Pn	08 45 40.4 -3.4
M55A				IAmb		IAmb	08 46 00.2
	comp=Z,22nm,1.5s						
WVNY	West Valley, N	16.01	79	Pn		Pn	08 45 40.1 -4.2
WVNY				IAmb		IAmb	08 46 18.8
	comp=Z,7.7nm,0.8s						
154A	Montrose	16.10	117	Pn		Pn	08 45 44.9 -0.5
154A				IAmb		IAmb	08 45 56.5
	comp=Z,21nm,1.0s						
Q56A	Snyder Ridge,	16.11	91			Pn	08 45 42.7 -2.9
Q56A				IAmb		IAmb	08 46 20.5
	comp=Z,11nm,0.8s						
U56A	King	16.12	102	Pn		Pn	08 45 43.5 -2.1
U56A				IAmb		IAmb	08 46 19.6
	comp=Z,8.3nm,0.8s						
J55A	Hilton	16.55	76	Pn		Pn	08 45 52.3 +1.1
J55A				IAmb		IAmb	08 46 09.1
	comp=Z,7.6nm,0.6s						
T57A	Hurt	16.70	98			Pn	08 45 52.0 -1.1
T57A				IAmb		IAmb	08 46 16.5
	comp=Z,12nm,0.8s						
SSPA	Standing Stone	16.75	85	Pn		Pn	08 45 49.9 -3.7
BIRD	Birdtown, Kers	16.82	107			Pn	08 45 53.1 -1.5
W57A	Gilead	16.92	105	P		Pn	08 45 55.5 -0.3
255A	Hazlehurst	16.94	118	P		Pn	08 45 55.2 -0.9
M57A	Sunshine Farm,	17.21	83			Pn	08 45 55.3 -4.1
M57A				IAmb		IAmb	08 46 06.2
	comp=Z,23nm,1.4s						
V58A	Windy Hill, Pi	17.28	102	P		Pn	08 45 59.0 -1.3
R58B	Mineral	17.41	94	P		P	08 46 03.3 +0.4
Y58A	Scranton	17.76	108	P		P	08 46 08.2 +1.4
Y58A				IAmb		IAmb	08 46 30.6
	comp=Z,18nm,0.9s						
FCC	Fort Churchill	17.81	10	P		P	08 46 07.6 +0.4
FCC				IAmb		IAmb	08 46 27.7
	comp=Z,10nm,0.8s						
NHSC	New Hope	17.82	111	P		Pn	08 46 07.0 0.0
WISH	Wishkah	17.90	297	P		P	08 46 08.1 -0.1
MVL	Millersville	18.02	87	P		Pn	08 46 07.4 -2.0
KSPA	Keystone Colle	18.20	81	P		Pn	08 46 08.1 -3.5
J58A	Remsen	18.40	76	P		P	08 46 13.2 -0.6
WUPA	West Chester U	18.60	86	P		P	08 46 15.8 -0.2
L59A	Walton	18.66	79	P		P	08 46 15.4 -1.4
TRQ	Mont Tremblant	19.00	67	P		Pn	08 46 22.6 +1.2
ODNJ	Ogdensburg	19.13	82	P		P	08 46 21.2 -0.6
ODNJ				IAmb		IAmb	08 46 41.2
	comp=Z,15nm,1.5s						
NCB	Newcomb	19.15	74	P		P	08 46 22.1 +0.1
TRNY	Table Rock, Ra	19.41	82	P		P	08 46 24.2 -0.6
TRNY				IAmb		IAmb	08 46 57.4
	comp=Z,18nm,1.5s						
ACCN	Adirondack Com	19.58	75	P		Pn	08 46 28.8 +0.7
ACCN				IAmb		IAmb	08 47 10.8
	comp=Z,4.9nm,0.6s						
KSCT	Kent School, K	19.87	80	P		P	08 46 29.2 -0.7
LDAQ	Lac Daran	21.45	62	P		P	08 46 48.0 +1.0
LDAQ				IAmb		IAmb	08 46 49.7
	comp=Z,11nm,1.1s						
BBB	Bella Bella	21.91	309	LR		LR	08 55 14.7
	comp=Z,62nm,19.6s,baz=75,slow=36						
YKA	Yellowknife Ar	22.87	343	P		P	08 47 01.9 0.0
YKA	Yellowknife Ar	22.87	343	P		P	08 47 01.5 -0.4
	comp=Z,2.3nm,0.7s,baz=150,slow=8.7,SNR=26						
YKA				Lg		Lg	08 53 52.2
	comp=Z,0.1nm,0.3s,baz=144,slow=29,SNR=2.3						
	comp=Z,2.3nm,0.7s						
TEIG	Tepich	23.34	151	P		P	08 47 08.1 +1.1
BATG	Bathurst New B	24.89	65	P		P	08 47 23.2 +1.9
SCHQ	Schefferville	25.67	47	P		P	08 47 29.0 +0.7
SCHQ	Schefferville	25.67	47	P		P	08 47 28.6 +0.3
	comp=Z,1.9nm,0.6s,baz=252,slow=13,SNR=5.9						
SCHQ				LR		LR	08 57 28.5
	comp=Z,122nm,18.5s,baz=218,slow=36						
	comp=Z,1.9nm,0.6s						
LMN	Caledonia Moun	25.78	68	P		P	08 47 31.6 +2.2
FRB	Frobisher Bay	28.94	29	LR		LR	08 59 32.5
	comp=Z,75nm,19.0s,baz=303,slow=36						
I30M	Mount Dempster	31.50	331	P		P	08 48 20.8 +0.6
I30M				IAmb		IAmb	08 48 22.3
	comp=Z,2.4nm,1.0s						
EGAK	Eagle	33.08	329	P		P	08 48 35.0 +1.1
EGAK				IAmb		IAmb	08 48 35.2
	comp=Z,2.2nm,0.8s						
A36M	Sachs Harbour	33.11	346	P		P	08 48 35.3 +1.3
RES	Resolute Bay	33.49	2	P		P	08 48 39.0 +1.6
RES	Resolute Bay	33.49	2	LR		LR	09 00 56.5
	comp=Z,25nm,18.4s,baz=358,slow=34						
D27M	Malcolm River	35.12	336	P		P	08 48 53.4 +1.8
D27M				IAmb		IAmb	08 48 53.9
	comp=Z,1.9nm,0.7s						
ILAR	Eielson Array	35.35	327	P		P	08 48 54.8 +1.2
	comp=Z,2.2nm,0.8s,baz=110,slow=7.5,SNR=19						
	comp=Z,2.2nm,0.8s						
BMAR	Burnt Mountain	35.46	332	P		P	08 48 56.0 +1.5
E25K	Arctic Village	36.09	333	P		P	08 49 01.7 +1.8
E25K				IAmb		IAmb	08 49 02.7
	comp=Z,1.6nm,0.8s						
H23K	Yukon River	36.74	328	P		P	08 49 07.2 +1.7
SFJD	Kangerlussuaq	37.08	30	LR		LR	09 03 57.3
	comp=Z,81nm,18.1s,baz=260,slow=36						
I21K	Tanana	37.55	327	P		P	08 49 14.2 +1.8
TOLK	Toolik Lake Re	37.66	333	P		P	08 49 15.2 +1.9
N19K	Bonanza Creek	37.95	320	P		P	08 49 17.9 +2.0
N19K				IAmb		IAmb	08 49 18.3
	comp=Z,4.6nm,0.8s						
H21K	Melozitna Rive	37.99	328	P		P	08 49 17.6 +1.5
H21K				IAmb		IAmb	08 49 18.2
	comp=Z,2.5nm,0.8s						
L18K	Granite Mounta	39.13	322	P		P	08 49 27.7 +2.0
J18K	Innoko River	39.28	324	P		P	08 49 28.6 +1.7
J18K				IAmb		IAmb	08 49 29.3
	comp=Z,4.1nm,1.0s						
G19K	Purcell Mounta	39.81	328	P		P	08 49 32.9 +1.5
G19K				IAmb		IAmb	08 49 33.1
	comp=Z,2.7nm,0.8s						
K17K	Iditarod	39.92	322	P		P	08 49 34.1 +1.9
K17K				IAmb		IAmb	08 49 34.3
	comp=Z,4.4nm,0.8s						
F19K	Shaleruckik Mo	40.20	329	P		P	08 49 36.5 +2.0
F19K				IAmb		IAmb	08 49 37.0
	comp=Z,3.7nm,0.9s						
C18K	Utukok River	41.78	331	P		P	08 49 49.1 +1.5
C18K				IAmb		IAmb	08 49 49.8
	comp=Z,5.2nm,0.9s						
L14K	Kuka Creek	41.95	320	P		P	08 49 50.6 +1.6
ARCES	ARCESS Array B	62.46	19	P		P	08 52 21.5 +0.4
	comp=Z,3.5nm,0.9s,baz=318,slow=4.9,SNR=1.5						
ARCES				LR		LR	09 18 46.4
	comp=Z,28nm,18.8s,baz=229,slow=35						
	comp=Z,3.5nm,0.9s						
NOA	NORSAR Array B	63.75	30	LR		LR	09 18 47.0
	comp=Z,19nm,19.7s,baz=300,slow=35						
LPAZ	La Paz	64.54	146	LR		LR	09 23 10.7
	comp=Z,16nm,21.9s,baz=302,slow=38						
HFS	Hagfors	65.27	30	LR		LR	09 19 35.3
	comp=Z,31nm,20.1s,baz=311,slow=35						
SIV	San Ignacio	67.52	139	P		P	08 52 55.8 +1.2
	comp=Z,1.5nm,0.2s,baz=297,slow=6.8,SNR=8.9						
	comp=Z,1.5nm,0.2s						
ESDC	Sonseca Array	69.08	55	P		P	08 53 04.3 0.0
	comp=Z,0.3nm,0.6s,baz=306,slow=7.7,SNR=4.1						
	comp=Z,0.3nm,0.6s						
DAVOX	Davos/Dischmat	72.43	43	LR		LR	09 23 11.2
	comp=Z,36nm,18.2s,baz=90,slow=34						
GERES	GERESS Array B	72.90	39	LR		LR	09 23 41.2
	comp=Z,21nm,21.8s,baz=347,slow=34						
AKASG	Malin Array Be	78.16	30	P		P	08 53 57.5 +0.2
	comp=Z,0.3nm,0.3s,baz=312,slow=5.1,SNR=3.1						
AKASG				LR		LR	09 27 33.0
	comp=Z,22nm,20.9s,baz=8.5,slow=35						
	comp=Z,0.3nm,0.3s						
ZALV	Zalesovo Beam	84.96	357	P		P	08 54 33.0 -0.2
	comp=Z,0.7nm,0.5s,baz=353,slow=7.3,SNR=2.2						
	comp=Z,0.7nm,0.5s						
BVAR	Borovoye Array	85.62	6	P		P	08 54 37.5 +0.9
	comp=Z,1.7nm,0.6s,baz=340,slow=4.8,SNR=9.5						
	comp=Z,1.7nm,0.6s						
KURBB	Kurchatov Arra	88.38	1	P		P	08 54 49.9 0.0
	comp=Z,0.4nm,0.5s,baz=355,slow=5.1,SNR=4.1						
	comp=Z,0.4nm,0.5s						
HHC	Hu-ho-hao-te	93.28	337	eP		P	08 55 10.1 -3.0
HHC				pmax		pmax	
	comp=Z,10.0nm,0.6s						
HHC				pmax		pmax	
	comp=Z,44nm,4.7s						
WRA	Warramunga Arr	129.45	278	PKP		PKPdf	09 01 07.5 +0.3
	comp=Z,0.4nm,0.6s,baz=48,slow=2.2,SNR=4.7						

TAP 01 08:45:32.3,24°.46N×121°.88E,h18km,ML2.3,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	Wuta	0.10	263	P	Pg	08 45 35.7	-0.3
	baz=262						
EWUT				S	Sg	08 45 38.3	-0.2
	baz=262						
ESAO	Su ao	0.12	343	P	Pg	08 45 36.1	-0.2
	baz=342						
ESAO				S	Sg	08 45 39.0	+0.1
	baz=342						
ENA	Nanau	0.13	257	P	Pg	08 45 36.1	-0.3
	baz=255						
ENA				S	Sg	08 45 39.2	0.0
	baz=255						
TWC	Suao	0.15	348	*i* P	Pg	08 45 36.5	-0.1
	baz=351						
TWC				*i* S	Sg	08 45 39.8	+0.2
	baz=351						
EAHA	Aohua	0.18	226	P	Pb	08 45 36.5	-0.2
	baz=225						
EAHA				S	Sg	08 45 40.3	0.0
	baz=225						
NDS	Dongshan	0.23	319	P	Pg	08 45 37.8	-0.1
	baz=319						
NDS				S	Sg	08 45 41.8	+0.2
	baz=319						
EOS2	EOS2	0.32	97	eP	Pg	08 45 39.1	0.0
	baz=96						
EOS2				eS	Sb	08 45 44.6	+0.4
	baz=96						
TWE	Neicheng	0.33	323	P	Pg	08 45 39.1	-0.3
	baz=324						
TWE				S	Sg	08 45 44.2	0.0
	baz=324						
ILA	Ilan	0.33	338	eP	Pg	08 45 39.4	0.0
	baz=339						
ILA				eS	Sb	08 45 44.9	+0.2
	baz=339						
LATG	Datong	0.34	283	eP	Pg	08 45 39.3	-0.3
	baz=283						
LATG				S	Sg	08 45 44.6	+0.1
	baz=283						
ENTT	Nioudou	0.34	302	P	Pg	08 45 39.5	-0.1
	baz=302						
ENTT				eS	Sg	08 45 44.5	-0.1
	baz=302						
NDT	Datong Townshi	0.37	293	eP	Pg	08 45 40.0	-0.1
	baz=293						
NDT				eS	Sg	08 45 45.5	+0.2
	baz=293						
ETL	Fush Village	0.38	219	eP	Pg	08 45 39.5	-0.8
	baz=218						
NACB	Ninganchiao	0.39	223	P	Pg	08 45 39.4	-1.0
	baz=222						
NACB				eS	Sg	08 45 45.8	0.0
	baz=222						
EGS		0.39	6	eP	Pg	08 45 40.2	-0.3
	baz=8.0						
EGS				eS	Sb	08 45 46.2	-0.2
	baz=8.0						
FUSB	Fushanzhiwuyua	0.40	318	P	Pg	08 45 40.4	-0.3
	baz=318						
FUSB				eS	Sg	08 45 46.3	-0.1
	baz=318						
EOS3	EOS3	0.43	113	P	Pg	08 45 40.6	-0.5
	baz=113						
EOS3				S	Sb	08 45 47.6	+0.2
	baz=113						
NNSB	Datong	0.46	266	P	Pg	08 45 41.4	-0.3
	baz=266						
NNSB				S	Sg	08 45 47.9	-0.1
	baz=266						
TWD	Chiawan	0.46	215	P	Pg	08 45 41.5	-0.2
	baz=214						
TWD				eS	Sb	08 45 48.5	+0.1
	baz=214						
NNS	Nan Shan	0.47	268	eP	Pg	08 45 40.9	-1.0
	baz=267						
NNS				eS	Sg	08 45 48.1	-0.2
	baz=267						
NWLT	Wulai	0.47	313	P	Pg	08 45 41.4	-0.5
	baz=312						
NWLT				S	Sg	08 45 48.2	-0.2
	baz=312						
YHNB	Yeheng	0.51	295	P	Pg	08 45 42.2	-0.4
	baz=294						
YHNB				S	Sg	08 45 49.4	-0.1
	baz=294						
TIPB	Shuangxi	0.51	354	P	Pg	08 45 42.1	-0.6
	baz=354						
TIPB				eS	Sg	08 45 49.1	-0.6
	baz=354						
NSK	Sanguang	0.53	294	P	Pg	08 45 42.5	-0.5
	baz=294						
NSK				S	Sg	08 45 49.6	-0.4
	baz=294						
TWB1	Santiao Chiao	0.56	10	P	Pg	08 45 42.6	-0.9
	baz=10.0						
TWB1				S	Sg	08 45 50.3	-0.7
	baz=10.0						
NHDH	Xindian Distri	0.60	327	P	Pb	08 45 43.7	-0.5
	baz=327						
NHDH				eS	Sg	08 45 52.0	-0.4
	baz=327						
ETM	Tongmen	0.61	216	eP	Pb	08 45 43.7	-0.7
	baz=216						
LXIB	Xiulin Townshi	0.61	225	eP	Pb	08 45 43.4	-1.1
	baz=224						
LXIB				eS	Sg	08 45 52.7	-0.1
	baz=224						
FUSS	Fushou	0.62	250	P	Pb	08 45 44.2	-0.5
	baz=250						
SXI1	Grass Mountain	0.63	359	P	Pb	08 45 44.5	-0.4
	baz=359						
SXI1				eS	Sb	08 45 53.4	0.0
	baz=359						
WHF	Hehuan Shan	0.65	241	P	Pg	08 45 44.4	-0.8
	baz=240						
WHF				eS	Sg	08 45 53.5	-0.4
	baz=240						
TWT	Tachien	0.68	253	eP	Pb	08 45 45.5	-0.1
	baz=252						
TWT				eS	Sg	08 45 55.2	+0.3
	baz=252						
TDCB	Techi	0.69	253	eP	Pb	08 45 45.6	-0.4
	baz=252						
NFF	Wufeng Townshi	0.72	284	eP	Pb	08 45 45.9	-0.5
	baz=283						
NFF				eS	Sb	08 45 55.9	0.0
	baz=283						
YM01	YM01	0.74	337	eP	Pb	08 45 46.1	-0.7
	baz=337						
YM01				eS	Sg	08 45 56.8	-0.1
	baz=337						
CHGB	Renai	0.76	239	eP	Pb	08 45 46.8	-0.4
	baz=238						
CHGB				eS	Sg	08 45 57.7	+0.3
	baz=238						
TWS1	Kuangyinshan	0.77	327	eP	Pb	08 45 46.8	-0.4
	baz=326						
WUSB	Renai	0.84	237	P	Pb	08 45 48.1	-0.4
	baz=236						
WUSB				eS	Sg	08 46 00.2	+0.2
	baz=236						
TWY	Chenhua	0.85	342	eP	Pb	08 45 48.7	0.0
	baz=342						
TWY				eS	Sb	08 45 59.9	+0.2
	baz=342						
WARBT	Fenglin Townsh	0.87	212	eP	Pb	08 45 47.5	-1.4
	baz=211						
WARBT				eS	Sb	08 45 59.9	-0.2
	baz=211						
WHP	Taichung City	0.87	258	eP	Pg	08 45 49.3	-0.1
	baz=258						
VWDT	VWDT	0.98	224	eP	Pb	08 45 50.4	-0.3
	baz=224						
VWDT				eS	Sg	08 46 04.2	0.0
	baz=224						
EHY	Hungye	1.08	209	eP	Pb	08 45 51.8	-0.7
	baz=208						
SSLB	Suanglung	1.08	232	eP	Pb	08 45 52.2	-0.3
	baz=231						
SSLB				eS	Sn	08 46 07.1	-0.1
	baz=231						
YULB	Yu-li	1.19	207	eP	Pn	08 45 53.4	-0.7
	baz=206						
YULB				eS	Sb	08 46 08.8	-0.6
	baz=206						

JMA 01 08:46:20.6±0.2,25°N±2°×122°.9E±0°.7,h32km±2km,
MV2.1/9,NW OFF ISHIGAKIJIMA IS,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.28	165	P	Pb	08 46 27.8	-0.3
YOJ				eS	Sb	08 46 32.7	-0.4
JYNG	Yonagunijimaku	0.28	178	P	Pb	08 46 27.9	-0.2
JYNG				eS	Sb	08 46 32.9	-0.2
IRIF	Iriomote-Funau	0.83	118	P	Pn	08 46 36.1	0.0
IRIF				eS	Sb	08 46 47.3	-0.1
JKRS	Kuro-shima	1.10	116	eP	Pn	08 46 40.2	+0.5
JIJ	Ishigaki jima	1.16	108	eP	Pn	08 46 40.7	0.0
JISG	Ishigakijimahi	1.26	96	eP	Pn	08 46 42.2	+0.1

*SJA **01** 08:54:01.0±0.8,21°.52S×69°.53W,h112km±4km,ML3.9,*
MW3.9
*GUC **01** 08:54:03.5±0.6,21°.50S×69°.46W,h97km±3km,ML3.9*
*IDC **01** 08:54:04.4±1.4,21°.52S×69°.26W,h111km±14km,mb3.3/3,*
mbtmp3.7/6,Error ellipse: s-maj=41.3km s-min=19.1km
az=98.0

ISC 01 08:54:02.9±0.8,21°.52S±0°.03×69°.57W±0°.06,h104km±6km,
n39,σ1§11/57,mb3.4/3,1C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.42	132	eP	Pn	08 54 18.5	-0.3
PB09				eS	Sn	08 54 30.3	-0.4
PB09				IAML		08 54 30.6	
	comp=Z,3μm,0.5s						
PB09	IPOC Station P	0.42	132	⇑*i*P	Pn	08 54 18.5	-0.3
PB09				eS	Sn	08 54 29.6	-1.0
PATCX	Punta Patache	0.88	322	eP	Pn	08 54 21.9	-0.5
PATCX				eS	Sn	08 54 37.7	+0.5
PATCX				IAML		08 54 38.0	
	comp=Z,1μm,0.2s						
PATCX	Punta Patache	0.88	322	eP	Pn	08 54 22.6	+0.1
PATCX				eS	Sn	08 54 37.2	0.0
PATCX				IAML		08 54 39.4	
	comp=E,4μm,0.6s						
PB04	IPOC Station P	0.97	213	eP	Pn	08 54 23.5	0.0
PB04				eS	Sn	08 54 39.9	+0.8
PB04				IAML		08 54 40.8	
	comp=Z,4μm,0.4s						
PB04	IPOC Station P	0.97	213	eP	Pn	08 54 24.1	+0.5
PB04				eS	Sn	08 54 39.8	+0.7
PB04

PB06 IAML 08 54 44.6
comp=N,3µm,0.2s
LVC Limon Verde 1.25 151 P Pn 08 54 27.1 +0.3
comp=N,154nm,0.2s,baz=1.8,slow=7.6,SNR=1.1
LVC S Sn 08 54 45.0 +0.2
comp=N,1µm,0.2s,baz=278,slow=23,SNR=12
LVC LR LR 08 55 00.7
comp=N,127nm,19.2s,baz=250,slow=50
HMBC Humberstone 1.27 347 *e*P **Pn 08 54 26.2 -0.5**
HMBC *e*S **Sn 08 54 45.0 +0.2**
HMBC IAML 08 54 47.8
comp=Z,3µm,0.2s
HMBC Humberstone 1.27 347 *i* P **Pn 08 54 26.3 -0.5**
HMBC *e*S **Sn 08 54 44.0 -0.7**
HMBC IAML 08 54 47.4
comp=E,3µm,0.4s
TA02 Huaiquique 1.34 337 *e*P **Pn 08 54 27.2 -0.3**
TA02 *e*S **Sn 08 54 45.7 -0.5**
PB15 IPOC Station P 1.69 177 *e*P **Pn 08 54 32.4 +0.4**
PB15 *e*S **Sn 08 54 54.3 +0.4**
PB15 IAML 08 55 00.1
comp=Z,4µm,0.2s
PB15 IPOC Station P 1.69 177 *e*P **Pn 08 54 32.2 +0.4**
PB15 *e*S **Sn 08 54 54.6 +0.7**
PB11 IPOC Station P 1.75 357 *e*P **Pn 08 54 32.0 -0.6**
PB11 *e*S **Sn 08 54 55.1 -0.1**
PB11 IAML 08 54 55.7
comp=Z,875nm,0.3s
PB11 IPOC Station P 1.75 357 *e*P **Pn 08 54 32.0 -0.6**
PB11 *e*S **Sn 08 54 54.7 -0.5**
PB11 IAML 08 54 55.8
comp=E,2µm,0.2s
GO01 Chusmiza 1.87 11 *e*P **Pn 08 54 34.2 -0.3**
GO01 *e*S **Sn 08 54 58.6 +0.2**
GO01 IAML 08 55 01.7
comp=Z,454nm,0.1s
GO01 Chusmiza 1.87 11 *e*P **Pn 08 54 34.2 -0.3**
GO01 *e*S **Sn 08 54 57.7 -0.8**
AF01 San Pedro de A 1.93 138 *e*P **Pn 08 54 35.6 +0.6**
PB10 IPOC Station P 2.19 204 *e*P **Pn 08 54 37.3 -0.8**
PB10 *e*S **Sn 08 55 03.4 -1.5**
PB10 IPOC Station P 2.19 204 *e*P **Pn 08 54 37.8 -0.2**
PB10 IAML 08 55 05.2
comp=E,408nm,0.3s
PB14 IPOC Station P 3.19 194 *e*P **Pn 08 54 51.1 -0.5**
PB14 *e*S **Sn 08 55 28.4 -0.7**
PB14 IAML 08 55 37.9
comp=Z,155nm,0.4s
GO02 Mina Guanaco 3.63 180 *e*P **Pn 08 54 56.8 -0.7**
GO02 *e*S **Sn 08 55 42.1 +2.5**
GO02 IAML 08 56 10.6
comp=Z,188nm,0.3s
AC01 Pan de Azucar 4.71 191 *e*P **Pn 08 55 09.0 -2.7**
AC01 *e*S **Sn 08 56 01.1 -4.0**
AC01 IAML 08 56 21.6
comp=Z,48nm,0.7s
LPAZ La Paz 5.38 15 P **Pn 08 55 23.0 +1.6**
comp=Z,8.9nm,0.4s,baz=202,slow=7.6,SNR=74
SIV San Ignacio 9.75 57 P **Pn 08 56 16.4 -3.8**
comp=Z,1.2nm,0.4s,baz=235,slow=11,SNR=8.2
PLCA Paso Flores 19.18 182 P **P 08 58 18.8 +0.5**
comp=Z,1.4nm,0.9s,baz=356,slow=12,SNR=3.7
PDAR Pinedale Array 73.82 330 P **P 09 05 28.2 +1.9**
comp=Z,0.2nm,0.5s,baz=122,slow=6.8,SNR=1.8
comp=Z,0.2nm,0.5s
TORD Torodi Ar. Bea 77.94 71 P **P 09 05 49.9 -0.1**
comp=Z,0.6nm,0.9s,baz=232,slow=4.4,SNR=2.1
comp=Z,0.6nm,0.9s
YKA Yellowknife Ar 91.00 341 P **P 09 06 54.7 -0.2**
comp=Z,0.6nm,0.9s,baz=138,slow=5.7,SNR=4.0
comp=Z,0.6nm,0.9s
H11S2 WAKE ISLAND Hy 127.27 277 T T 11 32 58.3
baz=103,slow=74,SNR=13
H11S1 WAKE ISLAND Hy 127.28 277 T T 11 32 43.2
baz=103,slow=74,SNR=19
H11S3 WAKE ISLAND Hy 127.28 277 T T 11 32 42.7
baz=103,slow=74,SNR=16
H11N3 WAKE ISLAND Hy 127.35 279 T T 11 33 08.8
baz=103,slow=75,SNR=11
H11N2 WAKE ISLAND Hy 127.36 279 T T 11 33 13.9
baz=103,slow=75,SNR=12
H11N1 WAKE ISLAND Hy 127.37 279 T T 11 33 11.1
baz=103,slow=75,SNR=10
MKAR Makanchi Array 146.01 35 PKPbc **PKPbc 09 13 30.9 +0.2**
comp=Z,0.5nm,0.7s,baz=315,slow=3.3,SNR=5.1

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*IDC **01** 09:10:58.5±3.6, 7°.97S×117°.51E, h0km, mb2.9/3, mbtmp3.1/3, Error ellipse: s-maj=300.0km s-min=28.9km az=51.0*
*DJA **01** 09:11:00.7±2.1, 8°S±6°×11°8E±°, h16km±20km, M3.4/6, MLv3.4/6*
ISC 01 09:11:03.2±1.1, **7°.97S**±0°.07×**117°.60E**±0°.06, **h35**km, **n9**, σ0°**93**/11, **Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.87**	**168**	P	**Pn**	**09 11 18.1**	**-0.9**
PLAI				S	**Sn**	**09 11 30.9**	**+0.4**
TWSI	**Taliwang, Sumb**	**1.04**	**223**	P	**Pn**	**09 11 19.8**	**-1.5**
TWSI				S	**Sn**	**09 11 34.7**	**+0.1**
SRBI	**Singaraja**	**2.36**	**267**	P	**Pn**	**09 11 39.6**	**+0.1**
JAGI	**Jajag, Banyuwa**	**3.44**	**261**	P	**Pn**	**09 11 53.5**	**-0.9**
BKSI	**Bulukumba**	**3.63**	**44**	P	**Pn**	**09 11 55.7**	**-1.3**
EDFI	**Ende, Flores**	**4.12**	**101**	P	**Pn**	**09 12 03.4**	**-0.4**
WRA	**Warramunga Arr**	**20.12**	**128**	P	**P**	**09 15 34.9**	**+0.6**
	0.2nm,0.7s,baz=301,slow=12,SNR=0.9						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**22.09**	**137**	P	**P**	**09 15 56.2**	**+0.7**
	0.1nm,0.3s,baz=315,slow=9.1,SNR=1.8						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**62.92**	**334**	P	**P**	**09 21 26.4**	**+0.5**
	0.3nm,0.6s,baz=156,slow=7.8,SNR=4.2						
	0.3nm,0.6s						

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*IDC **01** 09:50:40.2±0.8, 51°.99N×170°.53W, h0km, mb4.1/30, mbtmp4.0/32, ML3.3/2, MS3.3/19, Error ellipse: s-maj=21.7km s-min=11.8km az=173.0*
*AEIC **01** 09:50:44.9±2.8, 52°.00N±0°.08×170°.47W±0°.10, h49km±8km, Error ellipse: s-maj=13.6km s-min=6.2km az=149.0*
*MOS **01** 09:50:44.1±0.8, 52°.02N×170°.55W, h41km, mb4.3/10, Error ellipse: s-maj=13.2km s-min=8.2km az=90.0*
*NEIC **01** 09:50:45.7±2.4, 51°.94N±0°.07×170°.41W±0°.07, h35km±2km, mb4.0/89, ML4.0/10, ML3.7(AEIC), Error ellipse: s-maj=13.2km s-min=5.7km az=159.0*
ISC 01 09:50:44.4±0.6, **51°.88N**±0°.08×**170°.39W**±0°.05, **h31**km, **n244**, σ1°**28**/232, **mb4.1**/51, **MS3.3**/17, **10C, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**1.00**	**18**		**Pn**	**09 51 02.5**	**+0.2**
CLES				IAML		09 51 21.1	
	comp=E,5µm,0.4s						
CLES				IAML		09 51 25.1	
	comp=N,7µm,0.6s						
CLES	**Cleveland East**	**1.00**	**18**		**Sn**	**09 51 13.3**	**-2.0**
CLCO	**Concord Point,**	**1.00**	**24**		**Pn**	**09 51 01.9**	**-0.4**
CLCO					**Sn**	**09 51 14.6**	**-0.8**
NIKH	**Nikolski High**	**1.45**	**40**	P	**Pn**	**09 51 07.8**	**-0.6**
NIKH	**Nikolski High**	**1.45**	**40**	Pn	**Pn**	**09 51 07.7**	**-0.7**
NIKH	**Nikolski High**	**1.45**	**40**		**Sn**	**09 51 25.2**	**-1.1**
OKCE	**Okmok Cone E**	**2.06**	**40**		**Pn**	**09 51 17.1**	**+0.2**
OKCE					**Sn**	**09 51 41.2**	**-0.4**
OKNC	**Okmok New Cone**	**2.10**	**40**		**Pn**	**09 51 18.2**	**+0.8**
KOFP	**Korovin Flat P**	**2.32**	**281**		**Pn**	**09 51 20.7**	**+0.2**
ATKA	**Atka Island**	**2.37**	**279**	P	**Pn**	**09 51 21.1**	**0.0**
ATKA	**Atka Island**	**2.37**	**279**	Pn	**Pn**	**09 51 19.8**	**-1.3**
ATKA	**Atka Island**	**2.37**	**279**		**Sn**	**09 51 49.1**	**0.0**
KOKL	**Mount Kliuchef**	**2.39**	**282**		**Pn**	**09 51 21.9**	**+0.5**
MSW	**Makushin Switc**	**2.99**	**46**		**Pn**	**09 51 29.6**	**-0.1**
MNAT	**Makushin Natee**	**3.02**	**47**		**Pn**	**09 51 30.4**	**+0.4**
UNV	**Unalaska Valle**	**3.07**	**49**	P	**Pn**	**09 51 31.3**	**+0.6**
UNV	**Unalaska Valle**	**3.07**	**49**	Pn	**Pn**	**09 51 30.1**	**-0.7**
MTBL	**Makushin Table**	**3.08**	**46**		**Pn**	**09 51 31.2**	**+0.4**
AKRB	**Akutan Reef Bi**	**3.45**	**47**		**Pn**	**09 51 36.7**	**+0.7**
ZRO	**Akutan Zero**	**3.47**	**48**		**Pn**	**09 51 37.3**	**+1.0**
LVA	**Lava Point**	**3.49**	**47**		**Pn**	**09 51 37.1**	**+0.6**
LVA	**Lava Point**	**3.49**	**47**	IAML		09 52 38.3	
	comp=N,612nm,0.7s						
LVA				IAML		09 52 45.8	
	comp=E,289nm,0.7s						
GSMY	**Great Sitkin M**	**3.51**	**275**		**Pn**	**09 51 37.4**	**+0.7**
GSTR	**Great Sitkin T**	**3.51**	**276**	Pn	**Pn**	**09 51 36.7**	**-0.1**
AHB	**Akutan Harbor**	**3.56**	**49**		**Pn**	**09 51 37.5**	**+0.1**
GSTD	**Great Sitkin T**	**3.56**	**275**		**Pn**	**09 51 37.7**	**+0.1**
GSCK	**Great Sitkin C**	**3.57**	**274**		**Pn**	**09 51 37.7**	**+0.1**
ADK	**Adak**	**3.90**	**273**	P	**Pn**	**09 51 42.4**	**+0.3**
ADK	**Adak**	**3.90**	**273**	Pn	**Pn**	**09 51 41.8**	**-0.3**
ADK				IAML		09 52 42.2	
	comp=E,154nm,0.9s						
ADK				IAML		09 52 56.6	
	comp=E,149nm,0.8s						
ADK	**Adak**	**3.90**	**273**	P	**Pn**	**09 51 41.8**	**-0.3**
KIRH	**Kanaga Island**	**4.15**	**273**		**Pn**	**09 51 46.1**	**+0.5**
KINC	**Kanaga Island**	**4.17**	**273**		**Pn**	**09 51 46.2**	**+0.3**
KIWB	**Kanaga Island**	**4.19**	**272**	Pn	**Pn**	**09 51 45.8**	**-0.3**
WEBT	**Westdahl Beart**	**4.34**	**49**		**Pn**	**09 51 48.3**	**0.0**
TAFP	**Tanaga Falls P**	**4.70**	**273**		**Pn**	**09 51 53.8**	**+0.6**
TANO	**Tanaga North**	**4.79**	**274**		**Pn**	**09 51 55.1**	**+0.8**
ISLZ	**Isanotski Laza**	**4.92**	**52**		**Pn**	**09 51 57.3**	**+1.1**
FALS	**False Pass**	**5.13**	**52**	Pn	**Pn**	**09 52 00.9**	**+1.9**
GANE	**Gareloi Northe**	**5.20**	**273**		**Pn**	**09 52 00.4**	**+0.5**
GANO	**Gareloi North**	**5.21**	**273**		**Pn**	**09 52 00.6**	**+0.4**
SPIA	**Saint Paul Isl**	**5.31**	**1**	P	**Pn**	**09 52 04.5**	**+3.0**
SPIA	**Saint Paul Isl**	**5.31**	**1**	Pn	**Pn**	**09 52 02.2**	**+0.7**
CEPE	**Semis' Perret**	**6.16**	**275**		**Pn**	**09 52 14.8**	**+1.6**
PS1A	**Pavlof South-1**	**6.25**	**52**		**Pn**	**09 52 16.3**	**+1.9**
S12K	**Black Hills**	**6.25**	**49**		**Pn**	**09 52 15.9**	**+1.6**
AMKA	**Amchitka**	**6.44**	**270**	Pn	**Pn**	**09 52 16.8**	**-0.1**
SDPT	**Sand Point**	**6.85**	**56**		**Pn**	**09 52 23.8**	**+1.3**
CNBA	**Chernabura Isl**	**7.11**	**61**		**Pn**	**09 52 26.7**	**+0.6**
CHGN	**Chignik**	**8.32**	**53**		**Pn**	**09 52 43.7**	**+1.0**
O14K	**Tigyukauivet M**	**9.02**	**31**	Pn	**Pn**	**09 52 53.1**	**+0.9**
CHIR	**Chirikof Islan**	**9.58**	**60**	Pn	**Pn**	**09 52 59.7**	**-0.3**
M14K	**Bethel**	**10.04**	**24**		**Pn**	**09 53 08.1**	**+1.8**
N15K	**Kwethluk River**	**10.10**	**31**		**Pn**	**09 53 10.1**	**+2.9**
O16K	**Kokwok River B**	**10.37**	**37**		**Pn**	**09 53 12.8**	**+1.9**
L14K	**Kuka Creek**	**10.39**	**21**		**Pn**	**09 53 13.9**	**+2.9**
K13K	**Kusilvak Mount**	**10.55**	**15**	Pn	**Pn**	**09 53 14.9**	**+1.6**
SII	**Sitkinak Islan**	**10.58**	**57**	P	**Pn**	**09 53 13.5**	**-0.2**
SII	**Sitkinak Islan**	**10.58**	**57**	Pn	**Pn**	**09 53 14.5**	**+0.8**
ANCK	**Angle Creek**	**10.63**	**48**		**Pn**	**09 53 15.5**	**+1.2**
OHAK	**Old Harbor**	**11.27**	**55**	P	**Pn**	**09 53 21.2**	**-1.9**
OHAK	**Old Harbor**	**11.27**	**55**		**Pn**	**09 53 21.5**	**-1.6**
N17K	**Nushagak Hills**	**11.35**	**35**		**Pn**	**09 53 28.2**	**+4.0**
P18K	**Big Mountain,**	**11.39**	**43**		**Pn**	**09 53 27.1**	**+2.4**
K15K	**Wolf Creek Mou**	**11.49**	**21**	Pn	**Pn**	**09 53 30.7**	**+4.6**
J14K	**Nanvaranak Lak**	**11.50**	**16**	Pn	**Pn**	**09 53 29.8**	**+3.6**
L16K	**Owhat River**	**11.51**	**27**		**Pn**	**09 53 30.2**	**+3.7**
O18K	**Koktuh Hills**	**11.66**	**41**		**Pn**	**09 53 30.0**	**+1.5**
Q19K	**Cape Douglas,**	**11.83**	**47**	Pn	**Pn**	**09 53 31.0**	**+0.2**
KDAK	**Kodiak Island**	**11.83**	**53**		**Pn**	**09 53 29.1**	**-1.7**
KDAK	**Kodiak Island**	**11.83**	**53**	Pn	**Pn**	**09 53 28.9**	**-1.8**
	comp=E,1.0nm,0.3s,baz=262,slow=8.1,SNR=16						
KDAK	**Kodiak Island**	**11.83**	**53**	*i* P	**Pn**	**09 53 28.4**	**-2.4**
M17K	**Holitna River**	**11.89**	**32**	Pn	**Pn**	**09 53 31.8**	**+0.2**
SYI	**Shuyak Island**	**12.26**	**50**		**Pn**	**09 53 35.5**	**-1.2**
N19K	**Bonanza Creek**	**12.54**	**38**	Pn	**Pn**	**09 53 42.4**	**+1.8**
K17K	**Iditarod**	**12.65**	**26**		**Pn**	**09 53 44.1**	**+2.2**
L18K	**Granite Mounta**	**12.74**	**30**	Pn	**Pn**	**09 53 47.0**	**+3.8**
J17K	**VABM Dome**	**13.02**	**23**	Pn	**Pn**	**09 53 48.8**	**+1.9**
CNPM	**China Poot**	**13.21**	**47**	Pn	**Pn**	**09 53 48.2**	**-1.3**
L19K	**White Mountain**	**13.31**	**33**	Pn	**Pn**	**09 53 52.7**	**+1.7**
J18K	**Innoko River**	**13.69**	**27**	Pn	**Pn**	**09 53 56.3**	**+0.2**
SUA	**Susitna One**	**14.39**	**41**	Pn	**Pn**	**09 54 06.0**	**+0.2**
J19K	**Poorman**	**14.41**	**27**	Pn	**Pn**	**09 54 06.4**	**+0.5**
H18K	**Honhosa River**	**14.68**	**20**		**Pn**	**09 54 09.5**	**-0.1**
J20K	**Nowinta River**	**14.97**	**28**		**Pn**	**09 54 14.5**	**+1.0**
CAST	**Castle Rocks**	**15.09**	**33**		**Pn**	**09 54 16.1**	**+1.1**
CAST				IAmb	IAmb	09 54 27.3	
	comp=Z,6.8nm,0.6s						
HIN	**Hinchinbrook I**	**15.73**	**48**	Pn	**Pn**	**09 54 24.5**	**+1.0**
FID	**Port Fidalgo**	**15.88**	**47**	Pn	**Pn**	**09 54 24.4**	**-1.0**
FID				IAmb	IAmb	09 54 39.1	
	comp=Z,9.8nm,0.8s						
BPAW	**Bear Paw Mtn.**	**15.90**	**32**		**Pn**	**09 54 27.3**	**+1.6**
BPAW				IAmb	IAmb	09 54 43.5	
	comp=Z,10nm,0.9s						
SCM	**Sheep Creek Mo**	**15.98**	**42**		**Pn**	**09 54 27.1**	**+0.4**
SCM				IAmb	IAmb	09 54 37.0	
	comp=Z,11nm,0.7s						
SCM	**Sheep Creek Mo**	**15.98**	**42**	P	**Pn**	**09 54 27.2**	**+0.4**
SCM				pmax	pmax		
	comp=Z,11nm,0.7s						
E18K	**Tukpahlearik C**	**16.32**	**14**		**Pn**	**09 54 30.9**	**-0.1**
KLU	**Klutina**	**16.43**	**45**		**Pn**	**09 54 30.8**	**-1.7**
KLU				IAmb	IAmb	09 54 37.7	
	comp=Z,6.8nm,0.6s						
H21K	**Melozitna Rive**	**16.46**	**26**		**Pn**	**09 54 32.8**	**+0.1**
IMAR	**Indian Mountai**	**16.46**	**24**		**Pn**	**09 54 31.8**	**-0.9**
M24K	**Tolsona, Glenn**	**16.59**	**42**		**Pn**	**09 54 34.1**	**-0.4**
M24K				IAmb	IAmb	09 55 05.5	
	comp=Z,14nm,0.8s						
MLY	**Manley**	**16.61**	**30**	P	**Pn**	**09 54 36.9**	**+2.2**
MLY				IAmb	IAmb	09 54 53.7	
	comp=Z,12nm,1.4s						
HMT	**Hamilton**	**16.76**	**49**		**Pn**	**09 54 35.2**	**-1.4**
HMT				IAmb	IAmb	09 54 35.4	
	comp=Z,9.1nm,0.7s						
SUCK	**Suckling Hills**	**16.90**	**51**		**Pn**	**09 54 38.5**	**+0.1**
E19K	**Redstone River**	**16.92**	**18**	P	**P**	**09 54 42.7**	**+2.5**
G21K	**Allakaket**	**16.94**	**24**	P	**P**	**09 54 41.9**	**+1.4**
N25K	**Chitina, Valde**	**17.06**	**45**		**Pn**	**09 54 39.8**	**-0.5**
I23K	**Minto, Yukon-K**	**17.12**	**31**	P	**Pn**	**09 54 41.5**	**+0.5**
I23K				IAmb	IAmb	09 54 53.3	
	comp=Z,15nm,1.5s						
CCB	**Clear Creek Bu**	**17.32**	**34**		**Pn**	**09 54 42.6**	**-0.9**
GLB	**Gilahina Butte**	**17.34**	**46**		**Pn**	**09 54 42.6**	**-1.3**
MDM	**Murphy Dome**	**17.37**	**33**		**Pn**	**09 54 42.7**	**-1.5**
CRQM	**Cirque**	**17.42**	**49**		**Pn**	**09 54 43.7**	**-1.2**
CRQM				IAmb	IAmb	09 54 57.6	
	comp=Z,23nm,1.4s						
VRDI	**Verde Repeater**	**17.43**	**47**		**Pn**	**09 54 43.2**	**-1.8**
VRDI				IAmb	IAmb	09 54 50.3	
	comp=Z,6.6nm,0.8s						
COLA	**College**	**17.45**	**33**	*i* P	**Pn**	**09 54 46.5**	**+1.5**
WAX	**Waxell Ridge**	**17.46**	**50**		**Pn**	**09 54 43.9**	**-1.4**
WAX				IAmb	IAmb	09 54 58.0	
	comp=Z,11nm,0.7s						
HDA	**Harding Lake**	**17.48**	**35**	P	**Pn**	**09 54 45.4**	**-0.1**
F21K	**Alatna River**	**17.51**	**22**	P	**Pn**	**09 54 46.9**	**+1.1**
H23K	**Yukon River**	**17.52**	**29**	P	**Pn**	**09 54 47.7**	**+1.7**
D19K	**Kuna River**	**17.69**	**15**		**P**	**09 54 50.0**	**+1.2**
IL31		**17.72**	**34**	P	**Pn**	**09 54 48.4**	**+0.1**
ILAR	**Eielson Array**	**17.72**	**34**	P	**P**	**09 54 51.0**	**+1.9**
ILAR	**Eielson Array**	**17.72**	**34**	P	**Pn**	**09 54 46.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=225,slow=11,SNR=10						
ILAR				LR	LR	10 02 02.8	
	comp=Z,125nm,18.3s,baz=187,slow=39						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**17.72**	**34**	*e*P	**Pn**	**09 54 47.1**	**-1.3**
IL03	**Eielson Array**	**17.73**	**34**		**Pn**	**09 54 48.7**	**+0.1**
ISLE	**Juniper Island**	**17.74**	**50**	P	**Pn**	**09 54 47.9**	**-1.0**
ISLE				IAmb	IAmb	09 55 00.8	
	comp=Z,22nm,1.3s						
YAH	**Yahtse**	**17.96**	**51**	P	**Pn**	**09 54 50.2**	**-1.4**
YAH				IAmb	IAmb	09 55 04.6	
	comp=Z,23nm,1.3s						
G23K	**Bananza Creek**	**18.00**	**27**	P	**Pn**	**09 54 53.4**	**+1.4**
C19K	**Lookout Ridge**	**18.03**	**13**	P	**P**	**09 54 54.4**	**+1.9**
H24K	**Noodor Dome**	**18.04**	**31**	P	**Pn**	**09 54 52.5**	**0.0**
GRNC	**Granite Creek**	**18.06**	**49**	P	**Pn**	**09 54 52.9**	**0.0**
GRNC				IAmb	IAmb	09 55 03.6	
	comp=Z,12nm,1.0s						
J25K	**Salcha River,**	**18.17**	**36**	P	**Pn**	**09 54 52.6**	**-1.3**
J25K				IAmb	IAmb	09 54 59.2	
	comp=Z,5.7nm,0.6s						
L26K	**Log Cabin Wild**	**18.18**	**42**	P	**Pn**	**09 54 53.5**	**-0.6**
L26K				IAmb	IAmb	09 55 20.4	
	comp=Z,12nm,1.5s						
CTGM	**Chitina Glacie**	**18.32**	**49**	P	**P**	**09 54 55.6**	**-0.3**
CTGM				IAmb	IAmb	09 55 05.5	
	comp=Z,9.1nm,0.7s						
SCRK	**Sand Creek**	**18.36**	**39**	P	**P**	**09 54 55.8**	**-0.5**
M27K	**Edge Creek, AK**	**18.53**	**44**	P	**P**	**09 54 58.2**	**0.0**
M27K				IAmb	IAmb	09 55 16.0	
	comp=Z,10.0nm,1.1s						
J26L	**Joseph Creek**	**18.77**	**37**	P	**P**	**09 55 00.8**	**0.0**
J26L				IAmb	IAmb	09 55 06.6	
	comp=Z,7.2nm,0.6s						
L27K	**Beaver Creek,**	**18.82**	**42**	P	**P**	**09 55 01.1**	**-0.2**
BCAR	**Beaver Creek A**	**18.84**	**42**		**P**	**09 55 00.8**	**-0.7**
D22K	**Ayikyak River**	**19.03**	**20**	P	**P**	**09 55 04.5**	**+1.0**
D22K				IAmb	IAmb	09 55 19.4	
	comp=Z,6.5nm,0.9s						
F24K	**Squaw Lake**	**19.17**	**27**	P	**Pn**	**09 55 07.5**	**+1.4**
FYU	**Fort Yukon**	**19.34**	**31**	P	**P**	**09 55 07.2**	**+0.4**
FYU				IAmb	IAmb	09 55 12.1	
	comp=Z,6.9nm,1.0s						
PEA0B	**Petropavlovsk-**	**19.39**	**286**	*ce*P	**P**	**09 55 06.5**	**-1.0**
PETK	**Petropavlovsk-**	**19.39**	**286**	P	**P**	**09 55 07.5**	**0.0**
	comp=Z,0.6nm,0.3s,baz=84,slow=14,SNR=7.3						
PETK				LR	LR	10 01 50.9	
	comp=Z,46nm,21.5s,baz=102,slow=35						
	comp=Z,3.6nm,0.5s						
O29M	**Mount Kennedy**	**19.48**	**52**	P	**Pn**	**09 55 11.2**	**+1.2**
TOLK	**Toolik Lake Re**	**19.55**	**23**	P	**P**	**09 55 10.1**	**+1.0**
TOLK				IAmb	IAmb	09 55 17.7	
	comp=Z,4.2nm,0.8s						
BILL	**Bilibino**	**19.76**	**334⇑**	*e*P	**P**	**09 55 10.3**	**-1.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,97nm,16.0s						
EGAK	**Eagle**	**19.82**	**38**	P	**P**	**09 55 12.3**	**+0.2**
EGAK				IAmb	IAmb	09 55 19.9	
	comp=Z,4.2nm,0.8s						
M29M	**Somme Creek**	**20.06**	**46**	P	**P**	**09 55 15.1**	**+0.2**
BMAR	**Burnt Mountain**	**20.07**	**29**	P	**P**	**09 55 14.6**	**-0.2**
HYT	**Haines Junctio**	**20.10**	**51**	P	**P**	**09 55 17.5**	**+2.1**
DAWY	**Dawson**	**20.22**	**41**	P	**P**	**09 55 16.0**	**-0.5**
DAWY				IAmb	IAmb	09 55 24.2	
	comp=Z,3.5nm,0.7s						
E25K	**Arctic Village**	**20.23**	**27**	P	**P**	**09 55 17.2**	**+0.7**
E25K				IAmb	IAmb	09 55 22.8	
	comp=Z,6.5nm,1.1s						
C23K	**Itkillik River**	**20.24**	**20**	P	**P**	**09 55 16.7**	**+0.1**
C23K				IAmb	IAmb	09 55 22.5	
	comp=Z,11nm,0.8s						
L29M	**L29M**	**20.41**	**44**	P	**P**	**09 55 19.7**	**+1.1**
L29M				IAmb	IAmb	09 55 25.3	
	comp=Z,7.5nm,0.9s						
N30M	**Aishikik Lake**	**20.43**	**49**	P	**P**	**09 55 20.1**	**+1.2**
I28M	**Miner Creek**	**20.58**	**37**	P	**P**	**09 55 19.8**	**-0.8**
I28M				IAmb	IAmb	09 55 24.6	
	comp=Z,5.1nm,0.8s						
G27K	**Doyon Strip**	**20.65**	**33**	P	**P**	**09 55 20.5**	**-0.6**
O30N	**Mendenhall**	**20.77**	**51**	P	**P**	**09 55 24.0**	**+1.5**
D25K	**Kavik River**	**20.83**	**24**	P	**P**	**09 55 23.2**	**+0.1**
D25K				IAmb	IAmb	09 55 27.7	
	comp=Z,4.7nm,0.7s						
M30M	**Minto, Yukon**	**20.84**	**46**	P	**P**	**09 55 24.5**	**+1.3**
K29M	**Barlow Dome**	**20.91**	**42**	P	**P**	**09 55 23.7**	**-0.4**
K29M				IAmb	IAmb	09 55 29.0	
	comp=Z,3.2nm,0.6s						
SKAG	**Skagway**	**20.97**	**55**	P	**P**	**09 55 26.0**	**+1.4**
N31M	**Braeburn, Yuko**	**21.05**	**49**	P	**P**	**09 55 26.9**	**+1.4**
I29M	**Ogilvie Camp,**	**21.16**	**38**	P	**P**	**09 55 25.8**	**-0.9**
I29M				IAmb	IAmb	09 55 36.2	
	comp=Z,4.2nm,0.9s						
WHY	**Whitehorse**	**21.34**	**52**	P	**P**	**09 55 29.7**	**+0.9**
WHY				IAmb	IAmb	09 55 34.4	
	comp=Z,7.3nm,0.9s						
JIS	**Juneau Island**	**21.39**	**58**	P	**P**	**09 55 29.6**	**+0.6**
E27K	**Coleen River**	**21.43**	**30**	P	**P**	**09 55 29.6**	**+0.1**
E27K				IAmb	IAmb	09 55 33.6	
	comp=Z,4.6nm,0.8s						
H29M	**Whitestone**	**21.51**	**36**	P	**P**	**09 55 29.9**	**-0.4**
J30M	**Hart River**	**21.65**	**41**	P	**P**	**09 55 33.1**	**+1.2**
J30M				IAmb	IAmb	09 55 36.6	
	comp=Z,3.4nm,0.6s						
F28M	**Old Crow**	**21.66**	**32**	P	**P**	**09 55 33.0**	**+1.0**
P32M	**Atlin**	**21.80**	**55**	P	**P**	**09 55 35.1**	**+1.5**
P32M				IAmb	IAmb	09 55 55.1	
	comp=Z,6.1nm,0.8s						
M31M	**Drury Creek, Y**	**21.84**	**48**	P	**P**	**09 55 34.8**	**+0.8**
M31M				IAmb	IAmb	09 55 38.7	
	comp=Z,6.3nm,0.8s						
I30M	**Mount Dempster**	**21.86**	**39**	P	**P**	**09 55 32.8**	**-1.4**
I30M				IAmb	IAmb	09 55 50.4	
	comp=Z,3.7nm,0.7s						
G29M	**Pine Creek**	**21.94**	**34**	P	**P**	**09 55 34.2**	**-0.8**
EPYK	**Eagle Plains**	**22.17**	**36**	P	**P**	**09 55 36.3**	**-1.2**
D27M	**Malcolm River**	**22.24**	**28**	P	**P**	**09 55 39.6**	**+1.4**
N32M	**Quiet Lake**	**22.28**	**51**	P	**P**	**09 55 39.6**	**+0.9**
E28M	**Babbage River**	**22.30**	**30**	P	**P**	**09 55 39.4**	**+0.6**
E28M				IAmb	IAmb	09 55 44.2	
	comp=Z,8.4nm,1.2s						
P33M	**Teslin, Yukon**	**22.31**	**53**	P	**P**	**09 55 38.9**	**-0.2**
SEY	**Seymchan**	**22.55**	**314**	*e*P	**P**

comp=Z,50nm,19.6s,baz=248,slow=37
comp=Z,2.7nm,0.8s
ULM Lac du Bonnet 44.94 61 *e*P **P 09 58 55.6 -0.5**
ULM pmax pmax
comp=Z,3.0nm,0.8s
JNU Nakatsue 45.83 270 LR LR 10 18 27.6
comp=Z,32nm,19.6s,baz=74,slow=36
ANMO Albuquerque 47.84 85 *i* P **P 09 59 17.0 -2.3**
FRB Frobisher Bay 49.75 35 P **P 09 59 33.5 +0.3**
comp=Z,9.2nm,0.7s,baz=313,slow=7.4,SNR=7.7
comp=Z,9.2nm,0.7s
SPITS Spitsbergen Ar 50.15 358 P **P 09 59 35.6 -0.6**
comp=Z,5.5nm,0.8s,baz=5.1,slow=6.5,SNR=5.3
comp=Z,5.5nm,0.8s
ULN Ulaanbaatar 50.64 300 *ce*P **P 09 59 39.0 -1.5**
ULN pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 51.01 301 P **P 09 59 43.6 +0.4**
comp=Z,0.7nm,0.6s,baz=32,slow=8.7,SNR=4.8
comp=Z,0.7nm,0.6s
TXAR Lajitas Array 53.39 88 P **P 10 00 01.6 +0.5**
comp=Z,1.6nm,0.7s,baz=298,slow=5.7,SNR=28
comp=Z,1.6nm,0.7s
SCHQ Schefferville 56.23 43 P **P 10 00 21.6 +0.4**
comp=Z,4.0nm,0.8s,baz=338,slow=6.8,SNR=4.6
SCHQ LR LR 10 27 02.8
comp=Z,35nm,18.4s,baz=298,slow=39
comp=Z,4.0nm,0.8s
JMIC Jan Mayen 56.76 7 LR LR 10 25 17.1
comp=Z,21nm,19.8s,baz=232,slow=37
SADO Sadowa 57.24 58 LR LR 10 25 20.8
comp=Z,39nm,19.1s,baz=282,slow=36
ZALV Zalesovo Beam 57.36 317 P **P 10 00 28.6 -0.5**
comp=Z,0.5nm,0.4s,baz=32,slow=8.5,SNR=2.2
comp=Z,0.5nm,0.4s
ARCES ARCESS Array B 58.34 354 P **P 10 00 35.2 -0.7**
comp=Z,2.9nm,0.8s,baz=20,slow=8.0,SNR=3.9
comp=Z,2.9nm,0.8s
TKL Tuckaleechee C 60.98 68 LR LR 10 27 35.1
comp=Z,52nm,19.6s,baz=334,slow=36
KURK Kurchatov 62.32 318 *ce*P **P 10 01 01.5 -1.8**
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURBB Kurchatov Arra 62.43 318 P **P 10 01 03.5 -0.6**
comp=Z,2.0nm,0.8s,baz=44,slow=6.9,SNR=11
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 63.68 313 *ce*P **P 10 01 10.8 -1.7**
MKAR Makanchi Array 63.68 313 P **P 10 01 11.7 -0.8**
comp=Z,1.4nm,0.8s,baz=49,slow=5.6,SNR=9.5
comp=Z,1.4nm,0.8s
BVAR Borovoye Array 63.73 324 P **P 10 01 13.1 +0.4**
comp=Z,2.5nm,0.4s,baz=44,slow=7.3,SNR=11
comp=Z,2.5nm,0.4s
BRVK Borovoye 63.75 324 *ce*P **P 10 01 11.3 -1.4**
BRVK pmax pmax
comp=Z,3.0nm,1.3s
ARU Arti 64.77 332 *c i*P **P 10 01 18.8 -0.6**
ARU 10 03 37.9
ARU S **S 10 10 01.0 +3.5**
ARU SS **SS 10 14 05.2 -2.7**
ARU pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 66.27 351 P **P 10 01 28.3 -0.6**
comp=Z,3.9nm,0.9s,baz=18,slow=9.2,SNR=5.6
comp=Z,3.9nm,0.9s
NB2 NORSAR Subarra 67.43 359 P **P 10 01 36.0 -0.4**
comp=Z,3.5nm,1.1s,baz=1.4,slow=6.9
NOA NORSAR Array B 67.43 359 P **P 10 01 36.4 0.0**
comp=Z,0.7nm,0.6s,baz=0.8,slow=6.3,SNR=6.9
NOA LR LR 10 30 42.1
comp=Z,6.7nm,21.6s,baz=195,slow=36
comp=Z,0.7nm,0.6s
HFS Hagfors 68.30 358 P **P 10 01 41.4 -0.4**
comp=Z,1.4nm,0.4s,baz=46,slow=8.3,SNR=16
HFS LR LR 10 33 00.9
comp=Z,19nm,18.1s,baz=24,slow=37
comp=Z,1.4nm,0.4s
OBN Obninsk 71.05 344⇑ *e*P **P 10 01 59.0 +0.2**
OBN pmax pmax
comp=Z,3.0nm,0.8s
BELG Belogornoye 71.29 337 *i* P **P 10 01 59.5 -0.8**
BELG pmax pmax
comp=Z,2.0nm,0.9s
EKA Eskdalemuir Ar 72.63 8 P **P 10 02 08.1 -0.3**
comp=Z,0.5nm,0.5s,baz=356,slow=4.2,SNR=7.5
comp=Z,0.5nm,0.5s
CMAR Chiang Mai Arr 76.11 282 P **P 10 02 29.3 +0.1**
comp=Z,1.1nm,0.5s,baz=25,slow=6.3,SNR=6.5
comp=Z,1.1nm,0.5s
AKASG Malin Array Be 76.45 347 P **P 10 02 30.1 -0.5**
comp=Z,1.0nm,0.4s,baz=12,slow=5.4,SNR=2.9
AKASG LR LR 10 37 30.9
comp=Z,17nm,21.7s,baz=44,slow=37
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 76.45 347 *ce*P **P 10 02 30.1 -0.5**
AKBB pmax pmax
comp=Z,1.0nm,0.6s
KBZ Khabaz 80.51 336 P **P 10 02 53.8 +0.7**
comp=Z,1.9nm,0.8s,baz=349,slow=6.1,SNR=3.7
comp=Z,1.9nm,0.8s
KBZ Khabaz 80.51 336 *e*P **P 10 02 52.1 -1.0**
KBZ pmax pmax
comp=Z,1.0nm,0.8s
SHA1 Shidzhatmaz 80.56 336 *ce*P **P 10 02 53.5 -0.2**
RAO Raoul Island 81.05 187 LR LR 10 36 09.3
comp=Z,39nm,18.1s,baz=93,slow=34
MLR Muntele Rosu 82.00 348 LR LR 10 42 53.8
comp=Z,29nm,20.1s,baz=127,slow=38
WRA Warramunga Arr 86.20 231 P **P 10 03 23.9 +1.3**
comp=Z,0.3nm,1.0s,baz=40,slow=5.9,SNR=1.6
comp=Z,0.3nm,1.0s
ESDC Sonseca Array 88.06 10 P **P 10 03 31.5 -0.1**
comp=Z,1.3nm,0.8s,baz=351,slow=5.2,SNR=11
comp=Z,1.3nm,0.8s
ASAR Alice Springs 89.59 229 P **P 10 03 38.5 -0.2**
comp=Z,0.4nm,0.7s,baz=28,slow=4.8,SNR=6.6
comp=Z,0.4nm,0.7s

*IDC **01** 10:06:59.4±0.9, 28°.90N×77°.07E, h0km, mb3.8/13, mbtmp3.8/15, ML3.4/2, Error ellipse: s-maj=31.6km s-min=15.6km az=51.0*
*NEIC **01** 10:07:02.9±2.1, 29°.1N±0°.1×76°.9E±0°.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=21.9km s-min=14.9km az=217.0*
*NDI **01** 10:07:04.0±3.1, 28°.91N×77°.07E, h10km±6km, ML3.8, MW3.6, mb4.5(NEIC)*
ISC 01 10:07:02.3±0.9, 29°.02N±0°.02×76°.99E±0°.03, h16km±6km, n86, σ1°.94/107, mb4.2/24, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHGR	**Bahadurgarh**	**0.33**	**188**	*e*P	**Pg**	**10 07 09.7**	**+0.5**
BHGR				*i* Sg	**Sg**	**10 07 14.8**	**+0.9**
NDI	**New Delhi**	**0.39**	**150**	*e*Pg	**Pg**	**10 07 09.6**	**-0.6**
BISR	**Bishrakh**	**0.59**	**139**	*e*Pg	**Pg**	**10 07 13.4**	**-0.5**
BISR				*i* Sg	**Sg**	**10 07 20.7**	**-1.2**
MERT	**Meerut**	**0.65**	**94**	*e*Pg	**Pg**	**10 07 14.6**	**-0.5**
MERT				*i* Sg	**Sg**	**10 07 23.1**	**-0.6**
ASOR	**Ausora**	**0.73**	**111**	*e*Pg	**Pg**	**10 07 17.0**	**+0.4**
ASOR				*i* Sg	**Sg**	**10 07 25.4**	**-0.8**
SONA	**Sohna**	**0.77**	**174**	*e*Pg	**Pg**	**10 07 16.9**	**-0.4**
KUDL	**Kundal**	**0.98**	**207**	*e*Pg	**Pg**	**10 07 20.6**	**-0.6**
KUDL				*i* Sg	**Sg**	**10 07 33.6**	**-0.5**
SMLA	**Simla**	**2.11**	**4**	*e*P	**Pb**	**10 07 38.9**	**-1.3**
SMLA				*i* x	**Pg**	**10 07 41.5**	**-1.2**
SMLA				*e*S	**Sg**	**10 08 09.7**	**-0.5**
SMLA				IAML		10 08 11.5	
	comp=E,825nm,0.2s						
SMLA				IAML		10 08 17.8	
	comp=E,920nm,0.8s						
BHK	**Bhakra**	**2.44**	**348**	*e*P	**Pb**	**10 07 44.2**	**-1.7**
BHK				IAML		10 08 23.9	
	comp=E,634nm,0.4s						
BHK				*ex*	**Sg**	**10 08 25.3**	**+4.4**
BHK				IAML		10 08 26.2	
	comp=E,394nm,0.5s						
PTH	**Pithoragarh**	**2.87**	**79**	*e*P	**Pn**	**10 07 48.4**	**+0.8**
PTH				*e*S	**Sn**	**10 08 23.3**	**+1.4**
LGTI	**Lohaghat**	**2.88**	**81**	*i* x	**Pn**	**10 07 47.3**	**-0.2**
AJM	**Ajmer**	**3.28**	**220**	*e*P	**Pn**	**10 07 55.2**	**+2.1**
AJM				*ex*	**Sn**	**10 08 29.1**	**-2.7**
AJM				IAML		10 09 10.3	
	comp=E,235nm,0.2s						
DHRM	**DHARAMSHALA**	**3.28**	**350**	*e*P	**Pb**	**10 07 58.9**	**-1.4**
DHRM				*i* x	**Pg**	**10 08 05.8**	**+0.7**
DHRM				*e*S	**Sb**	**10 08 35.6**	**-4.4**
DHRM				IAML		10 08 50.5	
	comp=E,680nm,0.4s						
DHRM				IAML		10 08 59.2	
	comp=N,798nm,0.4s						
THN	**Thein Dam**	**3.58**	**342**	*e*P	**Pb**	**10 08 02.5**	**-2.7**
THN				*i* x	**Pg**	**10 08 09.7**	**-1.1**
THN				*e*S	**Sb**	**10 08 44.1**	**-4.3**
THN				IAML		10 09 07.0	
	comp=E,358nm,0.5s						
THN				IAML		10 09 15.9	
	comp=E,266nm,0.4s						
JHNI	**Jhansi**	**3.80**	**158**	*e*P	**Pn**	**10 08 00.8**	**+0.6**
JMU	**Jammu**	**4.10**	**335**	*e*P	**Pb**	**10 08 11.1**	**-3.0**
PYUN	**Piuthan**	**5.35**	**98**	*e*Pn	**Pn**	**10 08 22.9**	**+1.1**
PYUN				*e*Sn	**Sn**	**10 09 17.7**	**-5.6**
	comp=E,246nm,0.3s						
NIL	**Nilore**	**5.62**	**326**		**Pn**	**10 08 26.4**	**+1.2**
ALBI	**Allahabad**	**5.66**	**130**	*e*P	**Pn**	**10 08 28.8**	**+3.0**
ALBI				*e*S	**Sn**	**10 09 25.7**	**-4.8**
ALBI				*i* x	Sg	10 09 56.8	-7.2
BHPL	**Bhopal**	**5.77**	**176**	*e*P	**Pn**	**10 08 26.4**	**-1.0**
BHPL				*i* x	**Pn**	**10 08 26.5**	**-0.8**
BHPL				*e*S	**Sn**	**10 09 29.9**	**-3.4**
KOLN	**Koldanda**	**5.95**	**100**	*e*Pn	**Pn**	**10 08 31.2**	**+1.2**
DANN	**Dangsing**	**5.98**	**95**	*e*Pn	**Pn**	**10 08 31.8**	**+1.3**
GKN	**Gorkha**	**6.80**	**97**	*e*Pn	**Pn**	**10 08 43.0**	**+1.3**
GKN				*e*Sn	**Sn**	**10 09 53.2**	**-5.7**
	comp=E,151nm,0.2s						
DMN	**Daman**	**7.29**	**99**	*e*Pn	**Pn**	**10 08 48.1**	**-0.3**
KKN	**Kakani**	**7.40**	**98**	*e*Pn	**Pn**	**10 08 50.1**	**+0.2**
PKIN	**Phulchoki**	**7.55**	**99**	*e*Pn	**Pn**	**10 08 51.5**	**-0.5**
PKI	**Pulchoki**	**7.56**	**99**	*e*Pn	**Pn**	**10 08 51.9**	**-0.3**
PKI				*e*Sn	Sn	10 10 10.8	-7.0
	comp=E,97nm,0.3s						
GUN	**Gumba**	**7.90**	**96**	*e*Pn	**Pn**	**10 08 56.8**	**-0.1**
JIRN	**Jiri**	**8.22**	**97**	*e*Pn	**Pn**	**10 09 02.1**	**+0.8**
JIRN				*e*Sn	Sn	10 10 26.2	-7.8
	comp=E,63nm,0.2s						
KBL	**Kabul**	**8.72**	**311**		**Pn**	**10 09 08.4**	**+0.4**
KBL				Sn	**Sn**	**10 10 44.0**	**-2.2**
RAMN	**Ramite**	**8.74**	**101**	*e*Pn	**Pn**	**10 09 08.1**	**-0.2**
RAMN				*e*Sn	Sn	10 10 39.0	-7.7
	comp=E,103nm,0.3s						
BOK	**Bokaro**	**9.52**	**121**	*e*P	**Pn**	**10 09 18.0**	**-0.7**
BOK				*e*S	Sn	10 10 58.4	-7.1
TAPN	**Taplejung**	**9.60**	**97**	*e*Pn	**Pn**	**10 09 20.3**	**+0.1**
TAPN				*e*Sn	Sn	10 10 57.9	-10
	comp=E,33nm,0.4s						
KSH	**Kashi**	**10.51**	**356**	P	**Pn**	**10 09 31.7**	**-0.7**
KSH				pP		10 09 33.6	
KSH				S	**Sn**	**10 11 23.0**	**-6.9**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
GAR	**Garm**	**11.39**	**333**		**Pn**	**10 09 43.2**	**-1.3**
CHGR	**Chuyangaron**	**11.61**	**328**		**Pn**	**10 09 47.5**	**+0.1**
SIMJ	**Simiganj**	**11.68**	**327**	Pn	**Pn**	**10 09 47.1**	**-1.3**
TARG	**Taragay, Kyrgy**	**12.70**	**3**	Pn	**Pn**	**10 10 02.0**	**-0.7**
ARSB	**Arslanbob**	**12.71**	**346**	Pn	**Pn**	**10 10 02.9**	**+0.4**
BOOM	**Boomskoye usch**	**13.47**	**357**	Pn	**Pn**	**10 10 13.2**	**+0.2**
PRZ	**Przheval'sk**	**13.48**	**4**	Pn	**Pn**	**10 10 14.6**	**+1.4**
KK31	**Karatay Array**	**14.99**	**341**		**Pn**	**10 10 31.3**	**-2.2**
KKAR	**Karatay Array**	**14.99**	**341**		**Pn**	**10 10 32.4**	**-1.2**
WMQ	**Urumqi**	**17.08**	**27**	*e*P	**P**	**10 11 03.3**	**+1.2**
GEYT	**Alibeck**	**18.06**	**304**	P	**P**	**10 11 13.7**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=79,slow=7.5,SNR=4.7						
	comp=Z,2.5nm,1.1s						
MAKZ	**Makanchi**	**18.18**	**11**		**Pn**	**10 11 14.2**	**+0.1**
MK31	**Makanchi Array**	**18.22**	**12**	P	**Pn**	**10 11 15.0**	**+0.4**
MKAR	**Makanchi Array**	**18.22**	**12**	P	**Pn**	**10 11 14.3**	**-0.3**
MKAR	**Makanchi Array**	**18.22**	**12**	P	**Pn**	**10 11 13.3**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=196,slow=12,SNR=4.4						
	comp=Z,0.5nm,0.4s						
GTA	**Gaotai**	**21.48**	**55**	*e*P	**P**	**10 11 55.1**	**+4.7**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KURBB	**Kurchatov Arra**	**21.61**	**3**	P	**P**	**10 11 51.3**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=192,slow=10,SNR=28						
	comp=Z,3.5nm,0.7s						
KURK	**Kurchatov**	**21.71**	**3**	P	**P**	**10 11 52.7**	**+0.2**
KURK				IAmb	IAmb	10 11 57.0	
	comp=Z,6.0nm,0.7s						
PZH	**PanZhiHua**	**22.04**	**91**	P	**P**	**10 12 00.7**	**+4.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,5.1s						
CMAR	**Chiang Mai Arr**	**22.64**	**113**	P	**P**	**10 12 02.5**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=293,slow=9.9,SNR=8.2						
	comp=Z,1.4nm,0.6s						
ABKAR	**Akbulak array**	**24.05**	**332**	P	**P**	**10 12 16.6**	**-0.1**
BVAR	**Borovoye Array**	**24.48**	**350**	P	**P**	**10 12 22.2**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=163,slow=11,SNR=4.1						
	comp=Z,0.5nm,0.4s						
ZAA0	**Zalesovo Array**	**25.56**	**11**	P	**P**	**10 12 30.7**	**+0.4**
ZALV	**Zalesovo Beam**	**25.56**	**11**	P	**P**	**10 12 30.6**	**+0.3**
ZALV	**Zalesovo Beam**	**25.56**	**11**	P	**P**	**10 12 31.2**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=202,slow=7.4,SNR=4.4						
	comp=Z,0.9nm,0.5s						
HHC	**Hu-ho-hao-te**	**30.51**	**58**	*e*P	**P**	**10 13 17.1**	**+2.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,70nm,5.3s						
KSAR	**Wonju Array Be**	**42.95**	**65**	P	**P**	**10 15 01.6**	**+1.0**
BURAR	**Bucovina Array**	**43.78**	**310**	P	**P**	**10 15 09.0**	**+1.7**
USA0B	**Ussuriysk Arra**	**45.84**	**55**	P	**P**	**10 15 26.1**	**+2.5**
USA0B				IAmb	IAmb	10 15 37.8	
	comp=Z,5.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**45.84**	**55**	P	**P**	**10 15 25.1**	**+1.4**
FIA1	**FINESS Array S**	**46.48**	**329**	P	**P**	**10 15 27.1**	**-1.3**
FINES	**FINESS Array B**	**46.48**	**329**	P	**P**	**10 15 29.9**	**+1.4**
	comp=Z,4.3nm,0.9s,baz=116,slow=9.4,SNR=2.8						
	comp=Z,4.3nm,0.9s						
KEV	**Kevo**	**49.58**	**340**	P	**P**	**10 15 52.1**	**-0.1**
ARCES	**ARCESS Array B**	**49.94**	**339**	P	**P**	**10 15 56.1**	**+1.1**
ARCES	**ARCESS Array B**	**49.94**	**339**	P	**P**	**10 15 55.9**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=110,slow=7.8,SNR=2.2						
	comp=Z,1.4nm,0.5s						
HFS	**Hagfors**	**52.06**	**325**	P	**P**	**10 16 12.1**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=116,slow=6.8,SNR=7.8						
	comp=Z,1.1nm,0.5s						
NC405	**NORSAR Array S**	**53.15**	**327**	P	**P**	**10 16 20.1**	**+0.9**
NC405				IAmb	IAmb	10 16 24.4	
	comp=Z,9.1nm,1.1s						
NB2	**NORSAR Subarra**	**53.38**	**326**	P	**P**	**10 16 23.7**	**+2.8**
	comp=Z,0.3nm,0.4s,baz=103,slow=7.9						
NOA	**NORSAR Array B**	**53.38**	**326**	P	**P**	**10 16 22.0**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=110,slow=8.0,SNR=5.6						
	comp=Z,0.4nm,0.6s						
ERM	**Erimo**	**54.16**	**57**	P	**P**	**10 16 28.9**	**+2.1**
TOA0	**Torodi Ar. Sit**	**71.00**	**275**	P	**P**	**10 18 22.0**	**+2.2**
TOA0				IAmb	IAmb	10 18 34.7	
	comp=Z,8.2nm,1.5s						
TORD	**Torodi Ar. Bea**	**71.00**	**275**	P	**P**	**10 18 20.6**	**+0.9**
TORD				IAmb	IAmb	10 18 46.1	
	comp=Z,5.4nm,1.5s						
TORD	**Torodi Ar. Bea**	**71.00**	**275**	P	**P**	**10 18 19.1**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=49,slow=5.5,SNR=2.0						
	comp=Z,0.7nm,0.7s						
WRA	**Warramunga Arr**	**73.68**	**124**	P	**P**	**10 18 34.5**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=321,slow=6.1,SNR=32						
	comp=Z,1.0nm,0.7s						
WB2	**Warramunga Arr**	**73.69**	**124**	P	**P**	**10 18 34.3**	**-1.4**
WB2				IAmb	IAmb	10 19 01.7	
	comp=Z,14nm,1.5s						
WR0	**Warramunga Arr**	**73.84**	**124**	P	**P**	**10 18 35.0**	**-1.6**
WR0				IAmb	IAmb	10 18 47.1	
	comp=Z,8.0nm,1.2s						
E18K	**Tukpahlearik C**	**74.70**	**20**	P	**P**	**10 18 41.5**	**+0.6**
E18K				IAmb	IAmb	10 18 46.6	
	comp=Z,2.3nm,0.8s						
ASAR	**Alice Springs**	**75.77**	**128**	P	**P**	**10 18 46.6**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=308,slow=6.2,SNR=16						
	comp=Z,0.6nm,0.4s						
TOLK	**Toolik Lake Re**	**76.80**	**16**	P	**P**	**10 18 53.4**	**+0.5**
TOLK				IAmb	IAmb	10 18 58.3	
	comp=Z,2.3nm,1.1s						
IMAR	**Indian Mountai**	**77.67**	**19**	P	**P**	**10 18 58.4**	**+0.6**
ILAR	**Eielson Array**	**80.48**	**18**	P	**P**	**10 19 12.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=316,slow=4.0,SNR=4.3						
	comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**88.33**	**5**	P	**P**	**10 19 52.8**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=347,slow=5.1,SNR=3.2						
	comp=Z,0.3nm,0.6s						

*SSNC **01** 10:35:50.7±1.2, 19°.52N×77°.60W, h0km±8km, MD3.1, ML2.3, MW2.7*
*OSPL **01** 10:35:51.3±1.4, 19°.46N×77°.59W, h0km±999km, ML2.5*
*JSN **01** 10:35:52.1±0.4, 19°.53N×77°.54W, h15km, MD3.6*
ISC 01 10:35:49.2±3.2, 19°.50N±0°.05×77°.6W±0°.1, h9km±26km, n16, σ0°.77/28, 1C, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.78**	**44**	*e*P	**Pb**	**10 36 04.7**	**-0.3**
LMGC				*e*S	**Sb**	**10 36 15.9**	**+0.2**
MTDJ	**Mount Denham**	**1.26**	**178**	*e*P	**Pn**	**10 36 13.2**	**+0.1**
MTDJ				*e*S	**Sb**	**10 36 29.4**	**-0.3**
MTDJ	**Mount Denham**	**1.26**	**178**	*i* P	**Pb**	**10 36 13.4**	**+0.1**
MTDJ				*e*S	**Sb**	**10 36 29.7**	**0.0**
MTDJ				IAML		10 36 33.9	
	comp=Z,156nm,0.5s						
STH	**Stony Hill**	**1.59**	**153**	*i* P	**Pb**	**10 36 18.4**	**-0.4**
STH				*i* S	**Sn**	**10 36 38.5**	**+0.3**
STH	**Stony Hill**	**1.59**	**153**	*e*P	**Pb**	**10 36 18.4**	**-0.4**
STH				*e*S	**Sn**	**10 36 37.9**	**-0.4**
GWJ	**Greenwich**	**1.63**	**150**	*i* P	**Pb**	**10 36 19.1**	**-0.4**
MARVS	**Santiago de Cu**	**1.66**	**72**	*e*P	**Pn**	**10 36 18.0**	**-0.5**
MARVS				*e*S	**Sn**	**10 36 38.6**	**-1.3**
HOJ	**Hope**	**1.68**	**152⇑**	*i* P	**Pb**	**10 36 20.1**	**-0.2**
RCC	**Rio Carpintero**	**1.84**	**74**	*e*P	**Pn**	**10 36 20.8**	**-0.2**
RCC				*e*S	**Sn**	**10 36 43.6**	**-0.8**
RCC				IAML		10 36 45.8	
	comp=N,16nm,0.1s						
RCC				IAML		10 36 46.5	
	comp=E,12nm,0.2s						
PINC	**Pinares de May**	**1.95**	**59**	*e*P	**Pn**	**10 36 22.4**	**0.0**
PINC				*e*S	**Sn**	**10 36 46.9**	**-0.2**
PINC				IAML		10 36 49.9	
	comp=E,39nm,0.1s						
PINC				IAML		10 36 50.4	
	comp=N,30nm,0.1s						
HLGC	**Holguin**	**1.99**	**46**	*e*P	**Pn**	**10 36 23.2**	**+0.1**
HLGC				*e*S	**Sn**	**10 36 48.5**	**+0.4**
GTBY	**Guantanamo Bay**	**2.36**	**79**	*e*P	**Pn**	**10 36 28.6**	**+0.5**
GTBY				*e*S	**Sn**	**10 36 57.8**	**+0.4**
GTBY	**Guantanamo Bay**	**2.36**	**79**	*i* P	**Pn**	**10 36 28.8**	**+0.6**
GTBY				*e*S	**Sn**	**10 36 58.1**	**+0.8**
GTBY				IAML		10 37 01.4	
	comp=Z,16nm,1.4s						
QMBU	**Quimbuelo**	**2.70**	**75**	*e*P	**Pn**	**10 36 32.4**	**-0.4**
QMBU				*e*S	**Sn**	**10 37 04.8**	**-0.8**
QMBU				IAML		10 37 06.7	
	comp=N,17nm,0.4s						
QMBU				IAML		10 37 07.0	
	comp=E,12nm,0.2s						
MASC	**Masc**	**3.22**	**77**	*e*P	**Pn**	**10 36 41.3**	**+1.3**
MASC	**Masc**	**3.22**	**77**	*i* P	**Pn**	**10 36 42.5**	**+2.5**

*IDC **01** 10:46:39.0±2.6, 8°.92S×121°.45E, h0km, mb3.5/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=293.6km s-min=30.0km az=53.0*
*DJA **01** 10:46:46.1±1.1, 10°.5±6°.×12°.1E±°., h19km±14km, M3.4/6, MLv3.4/6*
ISC 01 10:46:45.5±1.0, 9°.57S±0°.07×120°.89E±0°.08, h35km, n7, σ2°.32/10, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.71**	**206**	P	**Pn**	**10 47 00.8**	**+1.7**
BASI				S	**Sn**	**10 47 11.1**	**+2.2**
EDFI	**Ende, Flores**	**1.14**	**44**	P	**Pn**	**10 47 06.6**	**+1.5**
EDFI				S	**Sn**	**10 47 21.3**	**+1.8**
MMRI	**Maumere**	**1.62**	**55**	P	**Pn**	**10 47 13.6**	**+1.9**
MMRI				S	**Sn**	**10 47 33.2**	**+1.8**
PLAI	**Plampang**	**3.16**	**283**	P	**Pn**	**10 47 34.8**	**+1.9**
WRA	**Warramunga Arr**	**16.58**	**130**	Pn	**Pn**	**10 50 33.5**	**-2.0**
	0.1nm,0.3s,baz=308,slow=11,SNR=9.4						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**18.74**	**140**	P	**P**	**10 51 01.2**	**-0.3**
	0.1nm,0.3s,baz=324,slow=12,SNR=12						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**65.82**	**332**	P	**P**	**10 57 24.2**	**-3.1**
	0.3nm,0.5s,baz=151,slow=8.1,SNR=4.2						
	0.3nm,0.5s						

*GEN **01** 10:59:16.9, 44°.21N×10°.55E, h18km, Ml2.0*
ROM 01 10:59:17.4±0.1, 44°.197N±0°.005×10°.556E±0°.006, h14km±1km, ML2.2/16, 6C, Error ellipse: s-maj=0.6km s-min=0.2km az=40.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARO	**Sassorosso**	**0.11**	**264**	P	Pg	10 59 20.9	+0.1
SARO				S	Sg	10 59 23.6	+0.4
SARO				AML	AML		
	comp=E,2370μm,0.4s						
SARO				AML	AML		
	comp=N,2595μm,0.5s						
SARO				AML	AML		
	comp=E,1845μm,0.4s						
SARO				AML	AML		
	comp=N,1185μm,0.6s						
SARO				AML	AML		
	comp=N,1171μm,0.3s						
SARO				AML	AML		
	comp=E,1562μm,0.2s						
SARO	**Sassorosso**	**0.11**	**264**	P	Pg	10 59 20.9	+0.1
SARO				S	Sg	10 59 23.6	+0.5
VLC	**Villacollemand**	**0.13**	**253**	⇑P	Pb	10 59 21.4	-0.3
VLC				S	Sb	10 59 24.2	-0.3
VLC				AML	AML		
	comp=E,1670μm,0.3s						
VLC				AML	AML		
	comp=N,1244μm,0.5s						
VLC				AML	AML		
	comp=E,1644μm,0.3s						
VLC				AML	AML		
	comp=N,1320μm,0.5s						
VLC				AML	AML		
	comp=E,1152μm,0.2s						
VLC				AML	AML		
	comp=N,558μm,0.3s						
VLC				AML	AML		
	comp=E,1145μm,0.2s						
VLC				AML	AML		
	comp=N,619μm,0.3s						
VLC				AML	AML		
	comp=E,1145μm,0.2s						
VLC				AML	AML		
	comp=N,567μm,0.2s						
VLC				AML	AML		
	comp=N,499μm,0.2s						
VLC				AML	AML		
	comp=E,1154μm,0.2s						
VLC	**Villacollemand**	**0.13**	**253**	P	Pb	10 59 21.4	-0.3
VLC				S	Sb	10 59 24.3	-0.1
**BD

```
GSCL                                    AML     AML
        comp=N,4534µm,0.2s
GSCL                                    AML     AML
        comp=E,1410µm,0.3s
GSCL  Gusciola        0.16   8  P       Pg      10 59 21.3 -0.1
GSCL                            S       Sg      10 59 24.1  0.0
CARD  Cardoso         0.18 197 ⇑P       Pg      10 59 21.9 +0.3
CARD                            S       Sb      10 59 25.4 -0.4
CARD                                    AML     AML
        comp=E,1165µm,0.1s
CARD                                    AML     AML
        comp=N,2185µm,0.5s
CARD                                    AML     AML
        comp=E,1131µm,0.1s
CARD                                    AML     AML
        comp=N,1374µm,0.3s
CARD  Cardoso         0.18 197  P       Pg      10 59 21.9 +0.3
CARD                            S       Sb      10 59 25.5 -0.4
POPM  Popiglio        0.21 136  P       Pg      10 59 22.5 +0.3
POPM                            S       Sb      10 59 26.3 -0.4
POPM                                    AML     AML
        comp=N,2735µm,0.2s
POPM                                    AML     AML
        comp=E,2800µm,0.3s
POPM                                    AML     AML
        comp=N,2736µm,0.2s
POPM  Popiglio        0.21 136  P       Pg      10 59 22.5 +0.3
POPM                            S       Sb      10 59 26.3 -0.4
MAIM  Mastiano        0.29 189  P       Pg      10 59 23.6 +0.1
MAIM                            S       Sb      10 59 28.3 -0.6
MAIM                                    AML     AML
        comp=N,270µm,1.5s
MAIM                                    AML     AML
        comp=E,341µm,0.3s
MAIM                                    AML     AML
        comp=N,268µm,0.3s
MAIM                                    AML     AML
        comp=N,107µm,0.4s
MAIM  Mastiano        0.29 189  P       Pg      10 59 23.7 +0.2
MAIM                            S       Sb      10 59 28.4 -0.6
EQUI  Equi            0.29 264  P       Pg      10 59 23.6  0.0
EQUI                            S       Sg      10 59 28.0 +0.3
EQUI                                    AML     AML
        comp=E,132µm,1.0s
EQUI                                    AML     AML
        comp=N,216µm,0.9s
EQUI  Equi            0.29 264  P       Pg      10 59 23.5  0.0
EQUI                            S       Sg      10 59 28.1 +0.4
ZCCA  Zocca           0.34  63 ⇑P       Pb      10 59 25.4 +0.1
ZCCA                                    AML     AML
        comp=E,513µm,1.3s
ZCCA                                    AML     AML
        comp=N,337µm,0.5s
ZCCA                                    AML     AML
        comp=E,476µm,0.5s
ZCCA                                    AML     AML
        comp=N,427µm,0.5s
ZCCA  Zocca           0.34  63  P       Pb      10 59 25.4 +0.1
MTCR  Monte La Croce  0.36 118 ⇑P       Pg      10 59 24.9 +0.1
MTCR                            S       Sg      10 59 30.4 +0.6
MTCR                                    AML     AML
        comp=E,459µm,0.3s
MTCR                                    AML     AML
        comp=N,460µm,0.3s
MTCR  Monte La Croce  0.36 118  P       Pg      10 59 24.9 +0.1
MTCR                            S       Sg      10 59 30.2 +0.4
MPPT  Montemurlo      0.45 122  P       Pg      10 59 26.4 -0.1
GRAM  Graiana         0.46 310  P       Pb      10 59 27.3 -0.1
PII   Pisa            0.47 183 ⇑P       Pg      10 59 27.1 +0.3
PII                                     AML     AML
        comp=E,756µm,0.7s
PII                                     AML     AML
        comp=N,538µm,1.5s
PII   Pisa            0.47 183  P       Pg      10 59 27.1 +0.3
PII                             S       Sb      10 59 33.8 -0.5
CRMI  Carmignano      0.50 144  P       Pg      10 59 27.6 +0.2
CRMI                                    AML     AML
        comp=E,104µm,0.4s
CRMI                                    AML     AML
        comp=N,121µm,0.3s
PLMA  Palmaria, Port  0.53 254  P       Pg      10 59 27.6 -0.2
PLMA                                    AML     AML
        comp=E,135µm,0.5s
PLMA                                    AML     AML
        comp=N,130µm,0.8s
PLMA  Palmaria, Port  0.53 254  P       Pg      10 59 27.6 -0.2
PLMA                            S       Sg      10 59 34.9  0.0
MSSA  Maissana        0.76 279  P       Pb      10 59 32.4 -0.1
MSSA                                    AML     AML
        comp=E,102µm,1.0s
MSSA                                    AML     AML
        comp=N,98µm,0.6s
MSSA  Maissana        0.76 279  P       Pb      10 59 32.3 -0.1
IMOL  Imola, Italy    0.87  79  AML     AML
        comp=N,1810µm,0.1s
IMOL                                    AML     AML
        comp=E,2410µm,0.1s
```

ROM 01 10:59:26.6±0.1, 44°.211N±0°.004×10°.561E±0°.005, h13km±1km, ML2.1/34, Error ellipse: s-maj=0.4km s-min=0.2km az=200.0, Northern Italy

```
Code  Station Name    Δ°   AZ°  Phase ID          Time      Res
                                Op      ISC       h m s     ISC
SARO  Sassorosso      0.12 257  P       Pg      10 59 30.3 +0.4
SARO                            S       Sg      10 59 32.8 +0.5
SARO                                    AML     AML
        comp=E,2370µm,0.4s
SARO                                    AML     AML
        comp=N,2595µm,0.5s
SARO                                    AML     AML
        comp=E,1845µm,0.4s
SARO                                    AML     AML
        comp=N,1185µm,0.6s
SARO                                    AML     AML
        comp=E,1845µm,1.6s
SARO                                    AML     AML
        comp=N,1185µm,1.4s
VLC   Villacollemand  0.14 248  P       Pg      10 59 30.5 +0.4
VLC                             S       Sb      10 59 33.4 -0.6
VLC                                     AML     AML
        comp=E,1670µm,0.3s
VLC                                     AML     AML
        comp=N,1244µm,0.5s
VLC                                     AML     AML
        comp=E,1644µm,0.3s
VLC                                     AML     AML
        comp=N,1320µm,0.5s
VLC                                     AML     AML
        comp=N,558µm,0.3s
VLC                                     AML     AML
        comp=N,619µm,0.3s
VLC                                     AML     AML
        comp=E,1152µm,0.2s
VLC                                     AML     AML
        comp=E,1145µm,0.2s
GSCL  Gusciola        0.14   8  P       Pg      10 59 30.5 +0.3
GSCL                            S       Sg      10 59 33.1 +0.4
GSCL                                    AML     AML
        comp=E,2255µm,0.6s
GSCL                                    AML     AML
        comp=N,5610µm,0.2s
BDI   Bagni Di Lucca  0.15 170  P       Pg      10 59 30.6 +0.3
BDI                             S       Sg      10 59 33.5 +0.6
BDI                                     AML     AML
        comp=E,1695µm,0.5s
BDI                                     AML     AML
        comp=N,3350µm,0.3s
BDI                                     AML     AML
        comp=E,1690µm,0.5s
BDI                                     AML     AML
        comp=N,3345µm,0.3s
BDI                                     AML     AML
        comp=N,3545µm,0.3s
BDI                                     AML     AML
        comp=E,2030µm,0.4s
CARD  Cardoso         0.19 197  P       Pg      10 59 31.1 +0.2
CARD                            S       Sg      10 59 34.6 +0.7
CARD                                    AML     AML
        comp=E,1165µm,0.1s
CARD                                    AML     AML
        comp=N,2185µm,0.5s
CARD                                    AML     AML
        comp=E,1165µm,1.9s
CARD                                    AML     AML
        comp=N,2185µm,1.5s
POPM  Popiglio        0.22 140  P       Pg      10 59 31.7 +0.4
POPM                            S       Sb      10 59 35.6 -0.8
POPM                                    AML     AML
        comp=E,2800µm,0.3s
POPM                                    AML     AML
        comp=N,2735µm,0.2s
POPM                                    AML     AML
        comp=E,2800µm,1.7s
EQUI  Equi            0.30 262  P       Pb      10 59 33.3 -0.5
EQUI                            S       Sg      10 59 37.2 +0.4
EQUI                                    AML     AML
        comp=N,216µm,0.9s
EQUI                                    AML     AML
        comp=E,132µm,1.0s
MAIM  Mastiano        0.30 190  P       Pg      10 59 32.9 +0.1
MAIM                            S       Sg      10 59 37.7 +0.8
MAIM                                    AML     AML
        comp=N,270µm,1.5s
MAIM                                    AML     AML
        comp=E,341µm,0.3s
MAIM                                    AML     AML
        comp=N,268µm,0.3s
ZCCA  Zocca           0.33  65  AML     AML
        comp=N,427µm,0.5s
ZCCA                                    AML     AML
        comp=E,513µm,1.3s
ZCCA                                    AML     AML
        comp=N,337µm,0.5s
ZCCA                                    AML     AML
        comp=E,476µm,0.5s
ZCCA                                    AML     AML
        comp=N,427µm,1.5s
ZCCA                                    AML     AML
        comp=N,337µm,1.5s
ZCCA                                    AML     AML
        comp=E,476µm,1.5s
MTCR  Monte La Croce  0.36 120  P       Pg      10 59 34.2 +0.2
MTCR                            S       Sb      10 59 40.0 -0.6
MTCR                                    AML     AML
        comp=E,459µm,0.3s
MTCR                                    AML     AML
        comp=N,460µm,0.3s
MPPT  Montemurlo      0.46 123  P       Pg      10 59 36.1 +0.4
MPPT                            S       Sb      10 59 42.7 -0.6
PII   Pisa            0.49 183  P       Pg      10 59 36.4 +0.2
PII                             S       Sb      10 59 43.5 -0.7
PII                                     AML     AML
        comp=N,538µm,1.5s
PII                                     AML     AML
        comp=E,756µm,0.7s
PII                                     AML     AML
        comp=N,538µm,0.5s
CRMI  Carmignano      0.51 145  P       Pg      10 59 36.8 +0.1
CRMI                                    AML     AML
        comp=E,104µm,0.4s
CRMI                                    AML     AML
        comp=N,121µm,0.3s
CRMI                                    AML     AML
        comp=E,104µm,1.6s
PLMA  Palmaria, Port  0.54 253  P       Pb      10 59 37.7 -0.1
PLMA                                    AML     AML
        comp=E,135µm,0.5s
PLMA                                    AML     AML
        comp=E,135µm,1.5s
PLMA                                    AML     AML
        comp=N,130µm,0.8s
MSSA  Maissana        0.76 278  AML     AML
        comp=E,102µm,1.0s
MSSA                                    AML     AML
        comp=E,102µm,1.0s
MSSA                                    AML     AML
        comp=N,98µm,0.6s
IMOL  Imola, Italy    0.86  80  AML     AML
        comp=N,1810µm,0.1s
IMOL                                    AML     AML
        comp=E,2410µm,0.1s
```

*GCG **01** 11:13:51.1±0.4, 13°.71N×91°.90W, h125km±8km, MD4.6*
*IDC **01** 11:13:52.3±1.2, 13°.98N×91°.14W, h0km, mb3.9/6, mbtmp3.9/9, ML3.6/3, MS3.5/17, Error ellipse: s-maj=50.4km s-min=17.7km az=48.0*
*SNET **01** 11:13:57.1±1.4, 13°.46N×91°.59W, h41km±534km, ML3.8*
*NEIC **01** 11:13:58.2±2.4, 13°.74N±0°.04×91°.59W±0°.08, h35km±2km, mb4.1/60, Error ellipse: s-maj=15.4km s-min=3.0km az=240.0*
*CATAC **01** 11:13:58.2±0.7, 13°.48N×91°.37W, h10km, mb4.4, ML4.1*
ISC 01 11:13:57.8±1.4, 13°.59N±0°.09×91°.59W±0°.07, h54km±12km, n143, σ1$35/143, mb4.1/25, MS3.4/16, 10C-13D, Near coast of Guatemala

```
Code  Station Name    Δ°   AZ°  Phase ID          Time      Res
                                Op      ISC       h m s     ISC
SULM  Suchitepequez,  0.71   2  eP      Pn      11 14 10.8 -1.1
SULM                            eS      Sn      11 14 26.2 +4.0
STG3  Santiaguito 3,  1.12   1  eP      Pn      11 14 14.9 -2.5
FUG   Fuego 3         1.12  40  eP      Pn      11 14 16.9 -0.6
PCG   Pacaya          1.24  50  eP      Pn      11 14 19.3 +0.2
NBG   Las Nubes       1.56  50  eP      Pn      11 14 24.6 +1.1
NUBE  Las Nubes       1.79  80  eP      Pn      11 14 25.1 -1.2
NUBE  Las Nubes       1.79  80 ⇑iP      Pn      11 14 25.3 -1.1
NUBE                            i S     Sn      11 14 47.0 -1.0
NUBE                                    IAML    11 14 56.2
        comp=Z,760nm,1.0s
LOAL  Lomas de Alarc  1.80  77  eS      Sn      11 14 50.1 +1.8
LOAL  Lomas de Alarc  1.80  77 ⇑iP      Pn      11 14 27.0 +0.5
LOAL                            i S     Sn      11 14 47.4 -0.9
LOAL                                    IAML    11 15 10.8
        comp=Z,4µm,1.0s
CEVE  Cerro Verde     1.92  83  eP      Pn      11 14 27.7 -0.6
CEVE                            eS      Sn      11 14 53.6 +2.1
CEVE                                    IAML    11 14 58.1
        comp=Z,741nm,0.4s
CEVE  Cerro Verde     1.92  83 ⇓iP      Pn      11 14 28.1 -0.2
CEVE                            i S     Sn      11 14 50.9 -0.7
CEVE                                    IAML    11 15 18.8
        comp=Z,1µm,1.0s
UNIC  Universidad Ca  2.02  79 ⇓iP      Pn      11 14 29.2 -0.3
UNIC                            i S     Sn      11 14 52.9 -0.8
UNIC                                    IAML    11 15 02.5
        comp=Z,340nm,1.0s
JAYA  Jayaque - finc  2.08  88  eP      Pn      11 14 29.8 -0.6
JAYA                            eS      Sn      11 14 54.6 -0.7
JAYA                                    IAML    11 15 03.6
        comp=Z,854nm,0.2s
JAYA  Jayaque - finc  2.08  88 ⇑iP      Pn      11 14 29.4 -1.0
JAYA                            i S     Sn      11 14 54.2 -1.1
JAYA                                    IAML    11 15 03.5
        comp=Z,2µm,1.0s
CEDA  San Andres      2.14  84  IAML            11 15 07.0
        comp=Z,636nm,0.5s
PMON  Piamonte        2.21  87  eP      Pn      11 14 31.9 -0.3
PMON  Piamonte        2.21  87 ⇓iP      Pn      11 14 31.9 -0.3
PMON                            i S     Sn      11 14 57.4 -1.1
PMON                                    IAML    11 15 13.3
        comp=Z,1µm,1.0s
BOQS  Boqueron        2.25  86  eP      Pn      11 14 32.6 -0.2
PIC2  El Picacho      2.27  86  eP      Pn      11 14 34.2 +1.1
UEES  Universidad Ev  2.29  87 ⇓iP      Pn      11 14 33.4 +0.2
UEES                            i S     Sn      11 14 59.2 -1.0
UEES                                    IAML    11 15 08.6
        comp=Z,540nm,1.0s
SNET  Serv Nac Est T  2.29  87          Pn      11 14 33.6 +0.3
SNET  Serv Nac Est T  2.29  87 ⇑iP      Pn      11 14 33.9 +0.7
SNET                            i S     Sn      11 15 01.5 +1.1
SNET                                    IAML    11 15 15.0
        comp=Z,2µm,1.0s
MTO3  Montecristo     2.31  69  Pn      Pn      11 14 33.2 -0.4
MTO3  Montecristo     2.31  69  eP      Pn      11 14 33.5  0.0
MTO3  Montecristo     2.31  69 ⇑iP      Pn      11 14 33.7 +0.1
MTO3                            i S     Sn      11 15 05.7 +4.8
MTO3                                    IAML    11 15 06.4
        comp=Z,430nm,1.0s
LOMA  Loma Larga      2.35  88  eP      Pn      11 14 34.1 -0.1
LOMA  Loma Larga      2.35  88 ⇓iP      Pn      11 14 34.0 -0.1
LOMA                            i S     Sn      11 15 04.3 +2.4
LOMA                                    IAML    11 15 11.5
        comp=Z,1µm,1.0s
MRL   Marmol          2.37  51  eP      Pn      11 14 36.0 +1.6
UDBS  Universidad Do  2.37  87 ⇑iP      Pn      11 14 34.8 +0.5
UDBS                                    IAML    11 15 16.3
        comp=Z,1µm,1.0s
LFRS  El Faro         2.46  89  eP      Pn      11 14 35.9 +0.3
PAVA  Las Pavas       2.58  87  eP      Pn      11 14 37.2  0.0
PAVA  Las Pavas       2.58  87 ⇓iP      Pn      11 14 38.0 +0.8
PAVA                                    IAML    11 15 11.6
        comp=Z,700nm,1.0s
CCIG  Comitan         2.73 349          Pn      11 14 38.5 -0.8
TECO  Alcaldia de Te  2.73  91 ⇓iP      Pn      11 14 40.6 +1.4
TECO                                    IAML    11 15 21.7
        comp=Z,220nm,1.0s
SCLA  Alcaldia de Sa  2.78  87 ⇑iP      Pn      11 14 40.1 +0.2
SCLA                                    IAML    11 15 41.0
        comp=Z,250nm,1.0s
PQSS  Presa 15 de Se  2.94  89  eP      Pn      11 14 42.2 +0.1
PQSS  Presa 15 de Se  2.94  89 ⇓iP      Pn      11 14 42.1  0.0
PQSS                                    IAML    11 15 27.2
        comp=Z,120nm,1.0s
PACA  Pacayal         3.18  92  eP      Pn      11 14 45.9 +0.4
INTP  Intipuca        3.46  96  eS      Sn      11 15 28.6 -0.3
LCND  La Caada        3.61  94  eP      Pn      11 14 51.5 +0.3
LCND                            eS      Sn      11 15 32.3 -0.3
LCND                                    IAML    11 15 45.4
        comp=Z,194nm,0.4s
LCND  La Caada        3.61  94 ⇑iP      Pn      11 14 51.6 +0.4
LCND                                    IAML    11 15 45.1
        comp=Z,210nm,1.0s
CNCH  Conchagua       3.67  94 ⇓iP      Pn      11 14 52.1  0.0
CNCH                                    IAML    11 15 46.6
        comp=Z,580nm,1.0s
TGUH  Tegucigalpa,Un  4.22  83          Pn      11 15 01.3 +1.6
CRIN  San Cristobal   4.51 101          Pn      11 15 04.1 +0.5
PKGN  Cerro Pekin     4.58 101 ⇑iP      Pn      11 15 04.2 -0.4
PKGN                                    IAML    11 16 04.8
        comp=Z,390nm,1.0s
CMIG  Matias Romero   4.72 318  Pn      Pn      11 15 03.1 -3.3
        comp=Z,2.1nm,0.3s,baz=148,slow=10,SNR=19
CMIG                            Sn      Sn      11 15 58.0 -1.8
        comp=Z,5.2nm,0.3s,baz=126,slow=14,SNR=4.1
        comp=Z,6.0nm,0.3s
PACN  Al O del Volca  4.80 102 ⇓iP      Pn      11 15 06.1 -1.4
PACN                                    IAML    11 15 26.7
        comp=Z,180nm,1.0s
CNGA  Al SSO del Vol  4.88 102 ⇓iP      Pn      11 15 07.3 -1.4
CNGA                                    IAML    11 16 15.1
        comp=Z,79nm,1.0s
CNGN  Cerro Negro     4.89 102          Pn      11 15 10.8 +2.1
CNGN  Cerro Negro     4.89 102 ⇑iP      Pn      11 15 11.2 +2.4
CNGN                                    IAML    11 16 27.5
        comp=Z,160nm,1.0s
COPN  Copaltepe       5.07 105 ⇓iP      Pn      11 15 11.1 -0.1
COPN                                    IAML    11 15 25.7
        comp=Z,99nm,1.0s
LIMN  Finca el Limon  5.11  95 ⇓iP      Pn      11 15 11.5 -0.4
LIMN                                    IAML    11 16 35.7
        comp=Z,71nm,1.0s
BOAB  BOACO BROADBAN  5.88 100  Pn      Pn      11 15 21.6 -0.7
BOAB  BOACO BROADBAN  5.88 100  i P     Pn      11 15 21.3 -1.1
BOAB                                    IAmb    11 15 32.1
        comp=Z,22nm,0.5s
BOAB                                    IAML    11 16 59.3
        comp=Z,38nm,1.0s
ACON  Acoyapa         6.46 104  Pn      Pn      11 15 31.2 +0.9
SAJU  San Juanillo,   6.73 121  Pn      Pn      11 15 34.1  0.0
JUD3  Juan Diaz 3     6.83 119          Pn      11 15 36.0 +0.5
JTS   Las Juntas de   7.27 116          Pn      11 15 42.8 +1.3
JTS   Las Juntas de   7.27 116  Pn      Pn      11 15 37.6 -3.9
        comp=Z,0.2nm,0.3s,baz=285,slow=19,SNR=1.7
JTS                             Sn      Sn      11 16 57.1 -5.6
        comp=Z,0.1nm,0.3s,baz=258,slow=18,SNR=0.7
        comp=Z,1.6nm,0.5s
TEIG  Tepich          7.32  25          Pn      11 15 42.0 -0.2
TEIG  Tepich          7.32  25  Pn      Pn      11 15 42.2 +0.1
        comp=Z,8.1nm,0.3s,baz=213,slow=1.6,SNR=94
TEIG                                    LR      LR      11 18 57.8
        comp=Z,501nm,20.0s,baz=222,slow=45
TLIG  Tlapa           7.80 301  Pn      Pn      11 15 47.0 -1.8
LCR2  La Lucha 2      8.35 116          Pn      11 15 59.4 +2.9
BRU2  Volcan          9.94 118          Pn      11 16 22.7 +4.5
HNDO  Hondo          17.39 337  P       P       11 17 57.7 +0.3
JCT   Junction City  18.44 337  P       Pn      11 18 09.5  0.0
BRDY  Brady          18.89 340  P       Pn      11 18 14.9  0.0
TX31  Lajitas Ar. Si 19.26 326          Pn      11 18 19.3 -0.1
TXAR  Lajitas Array  19.26 326          Pn      11 18 19.5 +0.1
TXAR  Lajitas Array  19.26 326  P       Pn      11 18 19.2 -0.2
        comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=28
        comp=Z,2.1nm,0.7s
LRAL  Lakeview Retre 19.81  11  P       P       11 18 24.3 +0.5
LRAL                                    IAmb    IAmb    11 18 34.7
        comp=Z,12nm,1.4s
FW07  Weatherford    19.85 344  P       P       11 18 24.8 +0.5
152A  Waverly Hall   20.00  17  P       P       11 18 26.7 +0.8
152A                                    IAmb    IAmb    11 18 31.3
        comp=Z,8.8nm,0.6s
ALPN  Alpine         20.07 328          P       11 18 27.4 +0.5
ALPN                                    IAmb    IAmb    11 18 32.3
        comp=Z,6.3nm,0.7s
PLPT  Palo Pinto     20.10 343  P       P       11 18 26.6 -0.4
PLPT                                    IAmb    IAmb    11 19 05.6
        comp=Z,9.9nm,1.0s
ABTX  Abilene, Hawle 20.33 340  P       P       11 18 29.1 -0.5
ABTX                                    IAmb    IAmb    11 18 30.4
        comp=Z,7.9nm,0.7s
MNHN  Monahans       20.44 332  P       P       11 18 30.3 -0.5
MNHN                                    IAmb    IAmb    11 18 32.6
        comp=Z,8.8nm,0.7s
MIAR  Mount Ida      20.94 355  P       P       11 18 36.6 +0.5
PECS  Pecos          20.99 329  P       P       11 18 37.2 +0.4
PECS                                    IAmb    IAmb    11 18 40.3
        comp=Z,7.9nm,0.9s
ODSA  Odessa         21.00 333          P       11 18 36.6 -0.3
GOGA  Godfrey        21.08  19  P       P       11 18 38.6 +1.1
GOGA                                    IAmb    IAmb    11 18 50.8
        comp=Z,13nm,1.4s
VHRN  Van Horn       21.10 326  P       P       11 18 38.8 +0.8
VHRN                                    IAmb    IAmb    11 18 41.4
        comp=Z,6.6nm,0.9s
APMT  Aspermont      21.13 340  P       P       11 18 38.0 -0.1
APMT                                    IAmb    IAmb    11 18 38.5
        comp=Z,8.0nm,0.6s
X48A  Hartselle      21.18  10  P       P       11 18 39.1 +0.5
Y52A  Lilburn        21.31  17  P       P       11 18 40.3 +0.2
FPAL  Fort Paine     21.55  14  P       P       11 18 41.9 -0.7
FPAL                                    IAmb    IAmb    11 19 04.9
        comp=Z,6.0nm,1.0s
WHAR  Wooly Hollow   21.62 358  P       P       11 18 42.2 -1.1
WMOK  Wichita Mounta 22.04 344          P       11 18 46.5 -1.4
FCAR  Ozark Folk Cen 22.21 359  P       P       11 18 50.9 +0.6
HODGE Hodges         22.23  21  P       P       11 18 49.5 -0.4
HODGE                                   IAmb    IAmb    11 19 15.1
        comp=Z,13nm,1.3s
LCAR  Lake Charles   22.39   1  P       P       11 18 50.5 -1.1
LCAR                                    IAmb    IAmb    11 18 51.4
        comp=Z,6.1nm,0.7s
V48A  Smith Brothers 22.47  10  P       P       11 18 51.4 -1.1
MSTX  Muleshoe       22.69 335  P       P       11 18 53.0 -2.0
WVT   Waverly        22.70   8  P       P       11 18 53.4 -1.5
TKL   Tuckaleechee C 23.08  16          P       11 18 58.6 -0.2
TKL   Tuckaleechee C 23.08  16  LR      LR      11 28 46.6
        comp=Z,147nm,21.1s,baz=198,slow=40
AMTX  Amarillo       23.08 338  P       P       11 18 58.2 -0.8
PBMO  Poplar Bluff   23.12   2  P       P       11 18 57.0 -2.1
T42A  Van Buren      23.35   1          P       11 18 59.4 -2.0
T42A                                    IAmb    IAmb    11 19 00.5
        comp=Z,12nm,1.4s
V53A  Saluda         23.36  18  P       P       11 19 01.3 -0.3
U49A  Red Boiling Sp 23.42  12  P       P       11 19 00.8 -1.2
U49A                                    IAmb    IAmb    11 19 02.0
        comp=Z,4.9nm,0.8s
BAUV  El Baul        23.54  99  P       P       11 19 03.2 -0.2
TZTN  Tazewell       23.97  16  P       P       11 19 06.0 -1.1
V55A  Taylorsville   24.05  21  P       P       11 19 06.7 -1.2
V55A                                    IAmb    IAmb    11 19 08.4
        comp=Z,3.8nm,0.7s
S39A  Bolivar        24.05 357  P       P       11 19 06.2 -1.8
CCM   Cathedral Cave 24.37   1  P       P       11 19 09.0 -1.7
CCM                                     IAmb    IAmb    11 19 10.1
        comp=Z,5.5nm,0.7s
ATAH  Atahualpa      24.40 147  LR      LR      11 26 56.4
        comp=Z,50nm,18.6s,baz=325,slow=32
U54A  Nelsons Funny  24.46  19  P       P       11 19 10.8 -0.9
U54A                                    IAmb    IAmb    11 19 47.2
        comp=Z,7.0nm,0.8s
V58A  Windy Hill, Pi 24.80  25  P       P       11 19 13.7 -1.0
RTBA  Rita Blanca    24.86 338  P       P       11 19 15.6 +0.2
RTBA                                    IAmb    IAmb    11 19 19.5
        comp=Z,4.3nm,0.7s
```

WCI	**Wyandotte Cave**	**24.99**	**10**	P	**P**	**11 19 14.6**	**-1.8**
S51A	**Beattyville**	**24.99**	**15**	P	**P**	**11 19 15.6**	**-0.9**
S51A				IAmb	IAmb	11 19 18.5	
	comp=Z,3.3nm,0.8s						
ANMO	**Albuquerque**	**25.16**	**330**	P	**P**	**11 19 18.6**	**+0.4**
S54A	**Dingess, Beckl**	**25.79**	**19**	P	**P**	**11 19 22.7**	**-1.1**
S54A				IAmb	IAmb	11 19 54.5	
	comp=Z,6.9nm,1.2s						
T25A	**Trinidad**	**26.10**	**336**	P	**P**	**11 19 27.6**	**+0.8**
X16A	**Lo Mia Camp, P**	**27.45**	**322**	P	**P**	**11 19 39.6**	**+0.7**
S22A	**4UR Ranch, Cre**	**27.62**	**333**	P	**P**	**11 19 40.6**	**+0.1**
NNA	**Nana**	**29.32**	**149**	LR	LR	11 29 02.6	
	comp=Z,42nm,20.1s,baz=315,slow=31						
KNB	**Kanab**	**30.07**	**325**	P	**P**	**11 20 03.2**	**+1.0**
KNB				IAmb	IAmb	11 20 10.6	
	comp=Z,3.7nm,1.1s						
PFO	**Pinyon Flats O**	**30.14**	**316**	LR	LR	11 34 00.4	
	comp=Z,47nm,18.4s,baz=126,slow=40						
V12A	**Nelson**	**30.39**	**321**	P	**P**	**11 20 06.2**	**+1.3**
V12A				IAmb	IAmb	11 20 07.6	
	comp=Z,4.5nm,1.2s						
SADO	**Sadowa**	**32.84**	**16**	LR	LR	11 34 50.5	
	comp=Z,84nm,19.4s,baz=232,slow=39						
PDAR	**Pinedale Array**	**32.96**	**335**	P	**P**	**11 20 27.0**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=135,slow=9.0,SNR=4.0						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**34.24**	**321**	P	**P**	**11 20 41.0**	**+2.3**
	comp=Z,1.1nm,0.6s,baz=129,slow=8.2,SNR=10						
NVAR				LR	LR	11 37 22.8	
	comp=Z,66nm,18.9s,baz=129,slow=41						
	comp=Z,1.1nm,0.6s						
PLID	**Pearl Lake**	**37.63**	**331**	P	**P**	**11 21 08.3**	**+0.6**
PLID				IAmb	IAmb	11 21 09.0	
	comp=Z,2.3nm,0.9s						
LPAZ	**La Paz**	**37.66**	**141**	P	**P**	**11 21 10.6**	**+2.0**
	comp=Z,0.8nm,0.5s,baz=202,slow=7.3,SNR=6.0						
	comp=Z,0.8nm,0.5s						
PINE	**Pine Mountain**	**39.22**	**326**	P	**P**	**11 21 22.2**	**+1.2**
PINE				IAmb	IAmb	11 21 59.6	
	comp=Z,6.4nm,1.4s						
MDP	**Montagnes des**	**39.29**	**99**	LR	LR	11 38 09.1	
	comp=Z,36nm,19.7s,baz=286,slow=37						
H04A	**Detroit Lake**	**40.48**	**326**	P	**P**	**11 21 32.9**	**+1.7**
NEW	**Newport**	**40.54**	**334**	LR	LR	11 40 42.2	
	comp=Z,43nm,18.9s,baz=138,slow=40						
LTY	**Liberty**	**41.43**	**330**	P	**P**	**11 21 39.7**	**+0.6**
LTY				IAmb	IAmb	11 21 41.7	
	comp=Z,2.6nm,0.8s						
SCHQ	**Schefferville**	**45.47**	**20**	P	**P**	**11 22 09.1**	**-2.3**
SCHQ	**Schefferville**	**45.47**	**20**	P	**P**	**11 22 09.4**	**-2.0**
	comp=Z,3.2nm,0.5s,baz=214,slow=6.1,SNR=8.7						
SCHQ				LR	LR	11 42 21.1	
	comp=Z,156nm,19.0s,baz=268,slow=38						
	comp=Z,3.2nm,0.5s						
YKA	**Yellowknife Ar**	**51.52**	**347**	P	**P**	**11 22 56.7**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=146,slow=7.3,SNR=11						
	comp=Z,1.2nm,0.7s						
FRB	**Frobisher Bay**	**52.62**	**13**	LR	LR	11 48 09.5	
	comp=Z,56nm,19.8s,baz=240,slow=39						
SFJD	**Kangerlussuaq**	**59.79**	**17**	LR	LR	11 50 41.4	
	comp=Z,109nm,19.1s,baz=216,slow=37						
RES	**Resolute Bay**	**61.12**	**359**	LR	LR	11 53 30.2	
	comp=Z,60nm,18.2s,baz=4.5,slow=39						
ILAR	**Eielson Array**	**63.37**	**337**	P	**P**	**11 24 21.6**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=130,slow=5.2,SNR=16						
	comp=Z,1.4nm,0.8s						
BORG	**Borgarnes**	**69.41**	**26**	LR	LR	11 55 10.4	
	comp=Z,24nm,18.8s,baz=310,slow=36						
NOA	**NORSAR Array B**	**84.31**	**28**	LR	LR	12 03 13.6	
	comp=Z,8.6nm,18.1s,baz=265,slow=35						
FINES	**FINESS Array B**	**90.70**	**25**	LR	LR	12 08 14.6	
	comp=Z,26nm,18.5s,baz=229,slow=36						
TIXI	**Tiksi**	**90.74**	**348**	LR	LR	12 14 41.9	
	comp=Z,26nm,18.4s,baz=76,slow=40						
CMAR	**Chiang Mai Arr**	**146.51**	**342**	PKPbc	**PKPab**	**11 33 35.0**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=339,slow=3.6,SNR=10						

*IDC **01** 11:14:12.3±0.8, 14°.83N×147°.00E, h0km, mb4.2/18, mbtmp4.2/19, ML4.4/1, Error ellipse: s-maj=21.9km s-min=15.1km az=108.0*
*NEIC **01** 11:14:14.2±1.8, 14°.76N±0°.06×147°.04E±0°.08, h10km±1km, mb4.6/44, Error ellipse: s-maj=12.9km s-min=9.8km az=76.0*
ISC 01 11:14:17.3±0.6, 14°.81N±0°.07×146°.99E±0°.09, h32km, n86, σ1°.04/81, mb4.5/46, 1C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.38**	**240**	Pn	**Pn**	**11 14 54.4**	**+0.1**
GUMO				Sn	**Sn**	**11 15 21.4**	**-0.9**
GUMO	**Guam**	**2.38**	**240**	Pn	**Pn**	**11 14 54.3**	**+0.1**
	92nm,0.3s,baz=114,slow=4.4,SNR=47						
GUMO				Sn	**Sn**	**11 15 24.4**	**+2.1**
	116nm,0.3s,baz=195,slow=22,SNR=7.7						
	169nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**19.23**	**76**	T	T	11 38 17.0	
	baz=259,slow=77,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**19.24**	**76**	T	T	11 38 13.0	
	baz=259,slow=77,SNR=3.4						
H11S2	**WAKE ISLAND Hy**	**19.24**	**76**	T	T	11 38 19.3	
	baz=259,slow=77,SNR=3.3						
JHJ2	**Mitsune**	**19.36**	**342**	P	**Pn**	**11 18 41.8**	**+0.3**
H11N1	**WAKE ISLAND Hy**	**19.62**	**73**	T	T	11 38 44.1	
	baz=253						
H11N2	**WAKE ISLAND Hy**	**19.63**	**73**	T	T	11 38 43.2	
	baz=253						
H11N3	**WAKE ISLAND Hy**	**19.64**	**73**	T	T	11 38 43.5	
	baz=253						
INU	**Inuyama**	**22.33**	**338**	P	**P**	**11 19 12.6**	**+0.2**
JGF	**Kuroka**	**22.44**	**339**	P	**P**	**11 19 12.5**	**-1.1**
FAKI	**Fak Fak**	**22.88**	**221**	P	**P**	**11 19 18.8**	**+0.4**
FAKI				IAmb	IAmb	11 19 22.4	
	comp=Z,28nm,0.8s						
MJAR	**Matsushiro Arr**	**23.02**	**342**	P	**P**	**11 19 16.0**	**-3.7**
	comp=Z,1.1nm,0.4s,baz=168,slow=10.0,SNR=10						
MAJO	**Matsushiro**	**23.02**	**342**	P	**P**	**11 19 17.6**	**-2.2**
MJB9	**Matsu-Tunnel**	**23.03**	**342**	P	**P**	**11 19 17.6**	**-2.2**
JNU	**Nakatsue**	**23.38**	**324**	P	**P**	**11 19 22.9**	**-0.5**
JNU				IAmb	IAmb	11 19 59.5	
	comp=Z,22nm,1.2s						
JMM	**Marumori**	**23.62**	**348**	P	**P**	**11 19 24.4**	**-1.1**
JMM				IAmb	IAmb	11 19 25.5	
	comp=Z,14nm,0.8s						
SSLB	**Suanglung**	**26.11**	**294**	P	**P**	**11 19 49.1**	**+0.6**
SSLB				IAmb	IAmb	11 19 51.6	
	comp=Z,15nm,0.7s						
JTM	**Tenmabayashi**	**26.39**	**350**	P	**P**	**11 19 50.7**	**-0.2**
ERM	**Erimo**	**27.32**	**354**	P	**P**	**11 20 01.0**	**+1.9**
ERM				IAmb	IAmb	11 20 31.1	
	comp=Z,13nm,1.1s						
KSRS	**Korea Array**	**28.20**	**327**	P	**P**	**11 20 06.1**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=146,slow=8.9,SNR=14						
	comp=Z,2.4nm,0.6s						
KSAR	**Wonju Array Be**	**28.21**	**327**	P	**P**	**11 20 06.8**	**-0.5**
KS19	**Wonju Array Si**	**28.27**	**327**	P	**P**	**11 20 07.2**	**-0.5**
KS19				IAmb	IAmb	11 20 12.7	
	comp=Z,8.0nm,1.0s						
JKA	**Kamikawa-asahi**	**29.45**	**354**	P	**P**	**11 20 19.2**	**+1.0**
JKA				IAmb	IAmb	11 20 21.9	
	comp=Z,6.0nm,0.7s						
ASAJ	**Asahikawa**	**29.45**	**354**	P	**P**	**11 20 18.8**	**+0.6**
	comp=Z,4.6nm,0.6s,baz=185,slow=8.9,SNR=11						
	comp=Z,4.6nm,0.6s						
NJ2	**Nanjing**	**30.86**	**309**	*e*P	**P**	**11 20 32.2**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,170nm,3.7s						
HNS	**HongShan**	**36.41**	**314**	⇓P	**P**	**11 21 19.7**	**+0.8**
HNS				pmax	pmax		
	comp=Z,13nm,0.9s						
WB0	**Warramunga Arr**	**36.52**	**200**	P	**P**	**11 21 20.8**	**+0.7**
WB0				IAmb	IAmb	11 22 04.8	
	comp=Z,13nm,1.5s						
KLR	**Kul'dur**	**36.53**	**343**	P	**P**	**11 21 18.4**	**-1.5**
	comp=Z,1.2nm,0.5s,baz=146,slow=8.0,SNR=6.5						
	comp=Z,1.2nm,0.5s						
WR0	**Warramunga Arr**	**36.65**	**200**	P	**P**	**11 21 20.8**	**-0.4**
WB2	**Warramunga Arr**	**36.70**	**200**	P	**P**	**11 21 21.0**	**-0.6**
WRA	**Warramunga Arr**	**36.70**	**200**	P	**P**	**11 21 20.6**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=23,slow=9.1,SNR=15						
	comp=Z,0.8nm,0.6s						
HEH	**HeiHe**	**38.77**	**340**	*e*P	**P**	**11 21 37.1**	**-1.6**
HEH				pmax	pmax		
	comp=Z,8.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**40.24**	**317**	*e*P	**P**	**11 21 53.0**	**+1.7**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,76nm,4.7s						
AS31	**Alice Springs**	**40.32**	**199**	P	**P**	**11 21 50.9**	**-1.1**
ASAR	**Alice Springs**	**40.32**	**199**	P	**P**	**11 21 50.9**	**-1.1**
ASAR	**Alice Springs**	**40.32**	**199**	P	**P**	**11 21 51.5**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=24,slow=6.9,SNR=6.7						
	comp=Z,0.7nm,0.8s						
PZH	**PanZhiHua**	**43.70**	**293**	P	**P**	**11 22 18.8**	**-1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,3.5s						
LZH	**Lanzhou**	**43.90**	**307**	⇑P	**P**	**11 22 22.5**	**+1.2**
LZH				pP	sP	11 22 33.2	+0.7
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
CM31	**Chiang Mai Arr**	**46.08**	**281**	P	**P**	**11 22 38.5**	**-0.2**
CM31				IAmb	IAmb	11 22 40.7	
	comp=Z,6.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**46.08**	**281**	P	**P**	**11 22 39.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**46.08**	**281**	P	**P**	**11 22 39.5**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=84,slow=6.1,SNR=13						
	comp=Z,1.6nm,0.7s						
ULN	**Ulaanbaatar**	**46.60**	**323**	P	**P**	**11 22 40.7**	**-1.8**
ULN				IAmb	IAmb	11 22 43.3	
	comp=Z,5.0nm,0.7s						
SONM	**Songino Array**	**46.96**	**323**	P	**P**	**11 22 45.6**	**+0.2**
SONM				IAmb	IAmb	11 22 48.6	
	comp=Z,2.9nm,0.7s						
SONM	**Songino Array**	**46.96**	**323**	P	**P**	**11 22 45.5**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=137,slow=7.6,SNR=20						
	comp=Z,3.5nm,0.6s						
XMIS	**Christmas Isla**	**48.06**	**241**	P	**P**	**11 22 52.9**	**-1.3**
SEY	**Seymchan**	**48.22**	**3**	P	**P**	**11 22 55.6**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=170,slow=5.6,SNR=6.1						
	comp=Z,2.0nm,0.6s						
BBOO	**Buckleboo**	**48.49**	**192**	P	**P**	**11 22 56.5**	**-0.6**
FORT	**Forrest**	**48.84**	**202**	P	**P**	**11 22 59.6**	**-0.3**
S12K	**Black Hills**	**56.34**	**32**	P	**P**	**11 23 54.5**	**-0.7**
N15K	**Kwethluk River**	**59.24**	**28**	P	**P**	**11 24 16.8**	**+1.4**
N15K				IAmb	IAmb	11 24 20.7	
	comp=Z,7.0nm,1.1s						
BKZ	**Black Stump Fm**	**60.35**	**154**	P	**P**	**11 24 23.9**	**+0.6**
ZAA0	**Zalesovo Array**	**61.85**	**324**	P	**P**	**11 24 33.0**	**-0.3**
ZAA0				IAmb	IAmb	11 24 41.7	
	comp=Z,2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**61.85**	**324**	P	**P**	**11 24 33.0**	**-0.3**
ZALV	**Zalesovo Beam**	**61.85**	**324**	P	**P**	**11 24 32.5**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=101,slow=7.7,SNR=7.0						
	comp=Z,1.8nm,0.5s						
N19K	**Bonanza Creek**	**62.04**	**28**	P	**P**	**11 24 33.5**	**-1.1**
MK31	**Makanchi Array**	**62.06**	**315**	P	**P**	**11 24 35.4**	**+0.4**
MK31				IAmb	IAmb	11 24 37.5	
	comp=Z,3.5nm,0.6s						
MKAR	**Makanchi Array**	**62.06**	**315**	P	**P**	**11 24 35.3**	**+0.4**
	comp=Z,4.4nm,0.5s,baz=91,slow=8.2,SNR=58						
	comp=Z,4.4nm,0.5s						
MAKZ	**Makanchi**	**62.27**	**315**	P	**P**	**11 24 36.1**	**-0.3**
C18K	**Utukok River**	**62.92**	**19**	P	**P**	**11 24 41.0**	**+0.6**
C18K				IAmb	IAmb	11 24 58.9	
	comp=Z,12nm,1.5s						
H19K	**Roundabout Mou**	**63.07**	**23**	P	**P**	**11 24 41.8**	**+0.5**
H19K				IAmb	IAmb	11 25 03.3	
	comp=Z,5.0nm,1.1s						
C19K	**Lookout Ridge**	**63.65**	**19**	P	**P**	**11 24 46.5**	**+1.3**
C19K				IAmb	IAmb	11 25 16.2	
	comp=Z,4.8nm,1.0s						
F20K	**Avaraart Lake**	**63.99**	**22**	P	**P**	**11 24 48.8**	**+1.6**
F20K				IAmb	IAmb	11 25 07.1	
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**64.99**	**319**	P	**P**	**11 24 53.9**	**-0.2**
KURBB	**Kurchatov Arra**	**65.04**	**319**	P	**P**	**11 24 54.2**	**-0.3**
	comp=Z,9.7nm,0.6s,baz=98,slow=6.9,SNR=120						
	comp=Z,9.7nm,0.6s						
ILAR	**Eielson Array**	**66.60**	**25**	P	**P**	**11 25 03.5**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=257,slow=5.4,SNR=5.9						
	comp=Z,0.7nm,0.8s						
KK31	**Karatay Array**	**70.21**	**311**	P	**P**	**11 25 26.9**	**-0.4**
KK31				IAmb	IAmb	11 25 28.3	
	comp=Z,4.4nm,0.7s						
KKAR	**Karatay Array**	**70.21**	**311**	P	**P**	**11 25 26.5**	**-0.8**
KKAR				IAmb	IAmb	11 25 28.3	
	comp=Z,4.4nm,0.7s						
KKAR	**Karatay Array**	**70.21**	**311**	P	**P**	**11 25 27.3**	**0.0**
BVAR	**Borovoye Array**	**70.26**	**321**	P	**P**	**11 25 27.1**	**-0.3**
	comp=Z,4.9nm,0.5s,baz=108,slow=7.0,SNR=25						
	comp=Z,4.9nm,0.5s						
BRVK	**Borovoye**	**70.32**	**321**	P	**P**	**11 25 28.0**	**+0.2**
PPT2	**Papeete2**	**70.35**	**115**	*e*LR	LR	11 46 45.7	
	comp=Z,51nm,26.5s						
PPT2				*e*LR	LR	11 46 46.3	
	comp=Z,75nm,25.8s						
CHGR	**Chuyangaron**	**71.48**	**306**	P	**P**	**11 25 34.9**	**-0.3**
SIMJ	**Simiganj**	**71.60**	**306**	P	**P**	**11 25 35.7**	**-0.3**
SIMJ				IAmb	IAmb	11 25 38.3	
	comp=Z,5.0nm,1.0s						
A36M	**Sachs Harbour**	**75.34**	**19**	P	**P**	**11 25 57.3**	**+0.1**
ARU	**Arti**	**76.94**	**325**	P	**P**	**11 26 05.6**	**-1.0**
ARU				IAmb	IAmb	11 26 06.6	
	comp=Z,3.7nm,0.7s						
ABKAR	**Abkulak array**	**77.03**	**318**	P	**P**	**11 26 06.2**	**-1.0**
ABKAR	**Abkulak array**	**77.03**	**318**	P	**P**	**11 26 06.4**	**-0.8**
GEYT	**Alibeck**	**80.18**	**307**	P	**P**	**11 26 25.0**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=211,slow=1.7,SNR=4.2						
	comp=Z,2.1nm,0.7s						
YKA	**Yellowknife Ar**	**80.84**	**28**	P	**P**	**11 26 27.4**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=287,slow=5.2,SNR=4.3						
	comp=Z,0.3nm,0.5s						
KBS	**Kingsbay**	**83.29**	**352**	P	**P**	**11 26 39.6**	**-0.9**
NVAR	**Mina Array Bea**	**84.56**	**52**	P	**P**	**11 26 48.6**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=284,slow=4.7,SNR=4.1						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**86.56**	**343**	P	**P**	**11 26 56.1**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=60,slow=7.4,SNR=4.3						
	comp=Z,1.6nm,0.7s						
FINES	**FINESS Array B**	**90.92**	**336**	P	**P**	**11 27 15.9**	**-1.9**
	comp=Z,2.3nm,0.8s,baz=59,slow=3.7,SNR=5.4						
	comp=Z,2.3nm,0.8s						
DBIC	**Dimbokro**	**144.86**	**305**	PKP	**PKPab**	**11 33 51.1**	**-0.1**
	comp=Z,7.4nm,0.9s,baz=74,slow=5.2,SNR=5.6						
LPAZ	**La Paz**	**146.16**	**97**	PKPbc	**PKPab**	**11 33 57.5**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=302,slow=1.7,SNR=4.8						

*SJA **01** 11:17:14.9±0.5, 32°.69S×72°.14W, h15km±4km, ML3.7, MW3.8*
*GUC **01** 11:17:19.4±0.5, 32°.73S×71°.75W, h20km±5km, ML3.8*
ISC 01 11:17:15.3±1.3, 32°.65S±0°.03×71°.85W±0°.05, h14km±10km, n36, σ1°.24/57, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.41**	**156**	⇑*i*P	**Pn**	**11 17 25.9**	**-0.8**
VA01				*e*S	**Sb**	**11 17 30.7**	**+0.4**
VA01				IAML		11 17 31.1	
	comp=N,10μm,0.2s						
VA06	**Catapilco**	**0.47**	**79**	*e*P	**Pn**	**11 17 27.6**	**0.0**
VA06				*e*S	**Sb**	**11 17 33.9**	**+1.7**
VA06				IAML		11 17 34.3	
	comp=E,8μm,0.2s						
ROCH	**El Roble**	**0.77**	**115**	*e*P	**Pn**	**11 17 32.0**	**0.0**
ROCH				*e*S	**Sb**	**11 17 41.2**	**+0.1**
ROCH				IAML		11 17 41.7	
	comp=N,13μm,0.8s						
MT02	**Curacav**	**0.85**	**136**	*i*P	**Pn**	**11 17 32.8**	**0.0**
VA05	**Santo Domingo**	**1.02**	**169**	*e*P	**Pn**	**11 17 35.9**	**+0.7**
VA05				*e*S	**Sg**	**11 17 48.5**	**+0.1**
VA05				IAML		11 17 51.9	
	comp=E,4μm,0.5s						
PEL	**Peldehue**	**1.09**	**117**	*i*P	**Pn**	**11 17 37.2**	**+0.9**
PEL				*e*S	**Sb**	**11 17 50.5**	**+0.3**
PEL				IAML		11 17 51.1	
	comp=N,5μm,0.3s						
VA03	**San Esteban**	**1.10**	**96**	*e*P	**Pn**	**11 17 37.1**	**+0.7**
VA03				*e*S	**Sb**	**11 17 50.8**	**+0.5**
VA03				IAML		11 17 51.2	
	comp=E,9μm,0.1s						
MT05	**Renca**	**1.19**	**129**	*e*P	**Pg**	**11 17 39.4**	**+1.2**
MT10	**Hacienda Santa**	**1.26**	**120**	*e*P	**Pg**	**11 17 39.9**	**+0.3**
MT10				*e*S	**Sb**	**11 17 55.6**	**+0.4**
MT10				IAML		11 17 58.4	
	comp=E,5μm,0.3s						
MT01	**Popeta**	**1.31**	**158**	*e*P	**Pg**	**11 17 40.2**	**-0.3**
MT14	**Cerro Cal¡n**	**1.33**	**124**	*e*P	**Pg**	**11 17 40.9**	**0.0**
MT14				*e*S	**Sb**	**11 17 56.8**	**-0.2**
MT14				IAML		11 18 01.4	
	comp=E,3μm,0.6s						
MT14				IAML		11 18 02.8	
	comp=E,3μm,0.4s						
MT09	**Talagante**	**1.33**	**148**	*e*P	**Pg**	**11 17 40.8**	**-0.2**
MT09				*e*S	**Sb**	**11 17 56.4**	**-0.7**
MT09				IAML		11 17 57.3	
	comp=N,5μm,0.2s						
MT16	**CCHEN**	**1.35**	**125**	*e*P	**Pg**	**11 17 41.2**	**-0.1**
MT16				*e*S	**Sb**	**11 17 57.6**	**-0.1**
MT03	**Universidad Ad**	**1.40**	**127**	*e*P	**Pg**	**11 17 41.9**	**-0.3**
MT03				*e*S	**Sn**	**11 17 59.0**	**+0.1**
FCH	**Farellones**	**1.47**	**118**	*e*P	**Pg**	**11 17 43.3**	**-0.3**
MT12	**Pirque**	**1.53**	**135**	*e*P	**Pg**	**11 17 44.1**	**-0.6**
MT12				IAML		11 18 07.1	
	comp=N,4μm,0.3s						
CO02	**Combarbal**	**1.61**	**27**	*i*P	**Pg**	**11 17 47.2**	**+1.0**
CO02				*i*S	**Sg**	**11 18 11.1**	**+3.9**
CO02				IAML		11 18 12.3	
	comp=Z,902nm,0.2s						
MT04	**Ro Olivares**	**1.62**	**118**	*e*P	**Pg**	**11 17 45.5**	**-0.9**
MT04				*e*S	**Sb**	**11 18 05.5**	**-0.1**
BO04	**La Punta**	**1.69**	**143**	*e*P	**Pb**	**11 17 46.5**	**+0.3**
MT13	**San Alfonso**	**1.70**	**130**	*e*P	**Pg**	**11 17 47.1**	**-0.9**
MT13				*e*S	**Sn**	**11 18 07.5**	**+1.2**
MT13				IAML		11 18 13.2	
	comp=E,3μm,0.3s						
MT08	**Bocatoma Ro**	**1.73**	**118**	*e*P	**Pb**	**11 17 47.3**	**+0.4**
MT08				*e*S	**Sb**	**11 18 08.6**	**0.0**
LMEL	**Las Melosas**	**1.82**	**131**	*e*P	**Pb**	**11 17 48.7**	**+0.2**
LMEL				*e*S	**Sb**	**11 18 12.1**	**+0.8**
BO01	**Tunca**	**1.85**	**160**	*i*P	**Pb**	**11 17 48.9**	**0.0**
BO01				*i*S	**Sg**	**11 18 14.4**	**-0.4**
BO01				IAML		11 18 15.8	
	comp=Z,363nm,0.6s						
BO01	**Tunca**	**1.85**	**160**	*e*P	**Pb**	**11 17 48.9**	**0.0**
BO02	**Sierra Bellavi**	**2.31**	**158**	*i*P	**Pb**	**11 17 55.9**	**-1.0**
BO02				*i*S	**Sb**	**11 18 26.3**	**+0.9**
BO02				IAML		11 18 29.4	
	comp=Z,696nm,0.5s						
RTLS	**Leoncito**	**2.32**	**69**	*i*P	**Pg**	**11 17 58.9**	**-1.0**
RTLS				*i*S	**Sg**	**11 18 32.0**	**+2.1**
RTLS				IAML		11 18 32.6	
	comp=Z,611nm,0.6s						
GO05	**Huala**	**2.35**	**182**	*i*P	**Pn**	**11 17 55.0**	**+1.4**
ARCO	**CERRO ARCO**	**2.46**	**95**	*i*P	**Pg**	**11 18 00.5**	**-2.0**
ARCO				*i*S	**Sg**	**11 18 34.3**	**-0.2**
ARCO				IAML		11 18 36.5	
	comp=Z,229nm,0.5s						
ASAL	**Salagasta**	**2.54**	**89**	*i*P	**Pg**	**11 18 02.0**	**-2.0**
ASAL				*i*S	**Sg**	**11 18 36.5**	**-0.5**
AAGR	**Agrelo**	**2.58**	**101**	*i*P	**Pb**	**11 18 02.4**	**+1.0**
AAGR				*i*S	**Sg**	**11 18 37.5**	**-0.6**
AAGR				IAML		11 18 47.1	
	comp=Z,171nm,1.2s						
DOCA	**Reserva Natura**	**2.90**	**55**	*i*P	**Pb**	**11 18 07.0**	**0.0**
DOCA				IAML		11 18 55.9	
	comp=Z,448nm,1.6s						
AROD	**Rodeo**	**3.20**	**40**	*i*P	**Pb**	**11 18 11.4**	**-0.7**
ACDV	**Cuesta del Vie**	**3.40**	**44**	*i*P	**Pb**	**11 18 13.7**	**-1.6**
RFA	**San Rafael**	**3.52**	**128**	⇓*i*P	**Pb**	**11 18 14.5**	**-2.9**
AC05	**El Transito**	**4.04**	**20**	*i*P	**Pb**	**11 18 21.5**	**-4.7**
AC05				IAML		11 19 31.6	
	comp=Z,53nm,0.6s						
VCA	**Vinchina**	**5.00**	**40**	*i*P	Pb	11 18 36.4	-6.4
VCA				IAML		11 20 07.1	
	comp=Z,79nm,1.5s						

*CATAC **01** 11:23:11.0±0.7, 13°.33N×91°.96W, h10km, mb3.9, ML3.8*
*SNET **01** 11:23:13.9±1.0, 13°.52N×91°.84W, h61km±202km, ML3.6*
*GCG **01** 11:23:15.5±0.6, 13°.65N×91°.96W, h50km±7km, MD4.1*
ISC 01 11:23:11.5±2.9, 13°.4N±0°.1×91°.9W±0°.2, h9km±15km, n26, σ1°.53/38, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.95**	**19**	*e*P	**Pg**	**11 23 31.5**	**+1.7**
SULM				*e*S	**Sb**	**11 23 41.1**	**-1.6**
STG3	**Santiaguito 3,**	**1.33**	**13**	*e*P	**Pb**	**11 23 35.6**	**-1.2**
FUG	**Fuego 3**	**1.45**	**44**	*e*P	**Pn**	**11 23 37.5**	**-0.5**
SOKI	**Kika Raxquin**	**1.48**	**18**	*i*P	**Pg**	**11 23 40.8**	**+0.7**
SOKI				*i*S	**Sn**	**11 23 59.2**	**+0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.55**	**111**		**Pn**	**11 58 14.5**	**-0.4**
LCO				Sn	**Sn**	**11 58 22.5**	**-1.0**
LCO	**Las Campanas**	**0.55**	**111**	*eP*	**Pn**	**11 58 14.6**	**-0.4**
LCO				*eS*	**Sn**	**11 58 23.0**	**-0.4**
LCO	**Las Campanas**	**0.55**	**111**	*eP*	**Pn**	**11 58 13.7**	**-1.2**
LCO				*i S*	**Sn**	**11 58 22.0**	**-1.5**
AC04	**Llanos de Chal**	**0.63**	**17**		**Pn**	**11 58 16.8**	**+1.0**
AC04				Sn	**Sn**	**11 58 26.2**	**+1.3**
AC04	**Llanos de Chal**	**0.63**	**17**	*eP*	Pn	11 58 11.0	-4.8
AC04				IAML		11 58 27.6	
	comp=Z,21μm,0.3s						
AC04	**Llanos de Chal**	**0.63**	**17**	⇑*iP*	**Pn**	**11 58 16.8**	**+1.0**
AC04				*i S*	**Sn**	**11 58 26.5**	**+1.6**
AC04				IAML		11 58 28.5	
	comp=E,44μm,0.1s						
AC05	**El Transito**	**0.89**	**92**		**Pn**	**11 58 18.9**	**-0.3**
AC05				Sn	**Sn**	**11 58 29.7**	**-1.4**
AC05	**El Transito**	**0.89**	**92**	*eP*	**Pn**	**11 58 18.1**	**-1.2**
AC05	**El Transito**	**0.89**	**92**	*i P*	**Pn**	**11 58 19.0**	**-0.3**
AC05				*i S*	**Sn**	**11 58 30.1**	**-1.0**
AC05				IAML		11 58 30.9	
	comp=E,14μm,0.3s						
CO05	**La Serena**	**1.10**	**178**		**Pn**	**11 58 22.4**	**+0.4**
CO05	**La Serena**	**1.10**	**178**	⇑*eP*	**Pn**	**11 58 22.4**	**+0.4**
CO05				*i S*	**Sn**	**11 58 36.1**	**0.0**
CO05				IAML		11 58 39.1	
	comp=E,14μm,0.4s						
GO04	**Tololo Observa**	**1.42**	**163**		**Pn**	**11 58 26.9**	**+0.3**
GO04	**Tololo Observa**	**1.42**	**163**	*eP*	**Pn**	**11 58 26.6**	**0.0**
GO04	**Tololo Observa**	**1.42**	**163**	⇑*iP*	**Pn**	**11 58 26.9**	**+0.3**
GO04				*i S*	**Sn**	**11 58 45.2**	**+1.0**
GO04				IAML		11 58 47.8	
	comp=E,12μm,0.1s						
GO03	**Copiap**	**1.53**	**38**		**Pn**	**11 58 28.1**	**+0.2**
GO03	**Copiap**	**1.53**	**38**	*eP*	**Pn**	**11 58 27.6**	**-0.3**
GO03	**Copiap**	**1.53**	**38**	*eP*	**Pn**	**11 58 28.4**	**+0.5**
GO03				*i S*	**Sn**	**11 58 47.1**	**+0.4**
GO03				IAML		11 58 48.4	
	comp=N,13μm,0.6s						
CO01	**Juntas del Tor**	**1.56**	**138**		**Pn**	**11 58 29.1**	**+0.7**
CO01	**Juntas del Tor**	**1.56**	**138**	*eP*	**Pn**	**11 58 28.5**	**+0.1**
CO01				IAML		11 58 54.2	
	comp=Z,3μm,0.3s						
CO01	**Juntas del Tor**	**1.56**	**138**	⇓*eP*	**Pn**	**11 58 29.2**	**+0.7**
CO01				*i S*	**Sn**	**11 58 48.2**	**+0.6**
CO01				IAML		11 58 49.5	
	comp=E,8μm,0.2s						
AC06	**Mina Casimiro**	**1.67**	**30**		**Pn**	**11 58 30.6**	**+0.8**
AC06	**Mina Casimiro**	**1.67**	**30**	*i P*	**Pn**	**11 58 30.6**	**+0.8**
AC06				*i S*	**Sn**	**11 58 51.6**	**+1.6**
AC06				IAML		11 58 56.8	
	comp=N,6μm,0.4s						
CO06	**Fray Jorge**	**1.88**	**189**		**Pn**	**11 58 32.5**	**-0.1**
CO06	**Fray Jorge**	**1.88**	**189**	*eP*	**Pn**	**11 58 32.4**	**-0.2**
AROD	**Rodeo**	**2.08**	**131**	*eP*	**Pn**	**11 58 37.9**	**+2.3**
AROD				*eS*	**Sn**	**11 59 05.3**	**+4.8**
CO03	**El Pedregal**	**2.08**	**166**		**Pn**	**11 58 36.2**	**+0.6**
CO03	**El Pedregal**	**2.08**	**166**	*eP*	**Pn**	**11 58 35.6**	**0.0**
CO03				*eS*	**Sn**	**11 59 02.9**	**+2.6**
CO03				IAML		11 59 08.3	
	comp=Z,1μm,0.2s						
CO03	**El Pedregal**	**2.08**	**166**	⇑*eP*	**Pn**	**11 58 36.2**	**+0.6**
CO03				*i S*	**Sn**	**11 59 00.8**	**+0.5**
CO03				IAML		11 59 05.8	
	comp=E,4μm,0.2s						
ACDV	**Cuesta del Vie**	**2.32**	**126**	*eP*	**Pn**	**11 58 35.7**	**-3.1**
ACDV				*eS*	Sn	11 59 14.2	+7.9
CO02	**Combarbal**	**2.40**	**174**	*eP*	**Pn**	**11 58 39.5**	**-0.4**
CO02				IAML		11 59 20.5	
	comp=Z,4μm,0.4s						
CO02	**Combarbal**	**2.40**	**174**	*eP*	**Pn**	**11 58 40.1**	**+0.3**
CO02				*eS*	**Sn**	**11 59 08.4**	**+0.4**
ACCO	**Cerro Coronel**	**2.62**	**133**	*eP*	**Pn**	**11 58 45.7**	**+2.6**
ACCO				*eS*	**Sn**	**11 59 19.6**	**+5.8**
VCA	**Vinchina**	**2.70**	**89**	*eP*	Pn	11 58 48.2	+4.0
VCA				*eS*	**Sn**	**11 59 17.8**	**+2.1**
VCA				IAML		11 59 28.2	
	comp=Z,2μm,0.3s						
VCA	**Vinchina**	**2.70**	**89**	*eP*	Pn	11 58 47.9	+3.8
VCA				*i S*	**Sn**	**11 59 21.3**	**+5.6**
AC01	**Pan de Azucar**	**2.72**	**13**	*eP*	**Pn**	**11 58 43.7**	**-0.6**
AC01				*eS*	**Sn**	**11 59 19.5**	**+3.5**
AC01				IAML		11 59 29.2	
	comp=Z,2μm,0.4s						
AC01	**Pan de Azucar**	**2.72**	**13**	⇑*iP*	**Pn**	**11 58 43.6**	**-0.6**
AC01				*i S*	**Sn**	**11 59 23.4**	**+7.4**
DOCA	**Reserva Natura**	**2.86**	**139**	*eP*	**Pn**	**11 58 48.5**	**+2.0**
DOCA				*eS*	**Sn**	**11 59 21.1**	**+1.3**
DOCA				IAML		11 59 33.6	
	comp=Z,2μm,0.9s						
ZON	**Zonda**	**3.54**	**141**	*eP*	**Pn**	**11 58 58.1**	**+2.7**
ZON				IAML		12 00 02.7	
	comp=Z,428nm,1.3s						
VA06	**Catapilco**	**3.74**	**180**		**Pn**	**11 58 58.1**	**0.0**
VA06	**Catapilco**	**3.74**	**180**	*eP*	**Pn**	**11 58 58.6**	**+0.5**
ACLC	**CERRO LA CRUZ**	**3.84**	**100**	*eP*	**Pn**	**11 59 01.4**	**+1.7**
ACLC				*eS*	**Sn**	**11 59 45.1**	**+1.4**
ACLC				IAML		11 59 53.1	
	comp=Z,500nm,0.6s						
GO02	**Mina Guanaco**	**3.94**	**23**	*eP*	**Pn**	**11 59 00.5**	**-0.7**
GO02				*eS*	**Sn**	**11 59 53.8**	**+7.5**
GO02	**Mina Guanaco**	**3.94**	**23**	*eP*	**Pn**	**11 59 00.9**	**-0.3**
VA03	**San Esteban**	**3.99**	**171**		**Pn**	**11 59 02.4**	**+0.7**
VA03	**San Esteban**	**3.99**	**171**	*eP*	**Pn**	**11 59 02.3**	**+0.7**
VA03				*eS*	Sn	11 59 55.8	+8.5
VA03				IAML		12 00 08.4	
	comp=Z,717nm,0.7s						
VA03	**San Esteban**	**3.99**	**171**	*eP*	**Pn**	**11 59 02.5**	**+0.7**
VA03				*i S*	**Sn**	**11 59 48.0**	**+0.8**
ROCH	**El Roble**	**4.15**	**177**	*eP*	**Pn**	**11 59 05.0**	**+1.0**
VA01	**Torpederas**	**4.21**	**184**	*eP*	**Pn**	**11 59 05.3**	**+0.7**
PB14	**IPOC Station P**	**4.24**	**11**	Pn	**Pn**	**11 59 03.7**	**-1.8**
ASAL	**Salagasta**	**4.32**	**151**	*eP*	Pn	11 59 09.1	+2.9
PEL	**Peldehue**	**4.35**	**173**	Pn	**Pn**	**11 59 06.9**	**+0.3**
PEL	**Peldehue**	**4.35**	**173**	*eP*	**Pn**	**11 59 07.3**	**+0.7**
MT02	**Curacav**	**4.43**	**178**		**Pn**	**11 59 07.5**	**-0.2**
MT02	**Curacav**	**4.43**	**178**	*eP*	**Pn**	**11 59 07.2**	**-0.6**
MT02				*eS*	**Sn**	**12 00 04.3**	**+6.2**
MT02				IAML		12 00 14.7	
	comp=Z,337nm,0.5s						
MT02	**Curacav**	**4.43**	**178**	*eP*	**Pn**	**11 59 07.1**	**-0.6**
MT10	**Hacienda Santa**	**4.49**	**172**	*eP*	**Pn**	**11 59 09.2**	**+0.5**
MT10				*i S*	**Sn**	**11 59 59.3**	**-0.4**
ARCO	**CERRO ARCO**	**4.50**	**154**	*eP*	Pn	11 58 54.2	-14
ARCO				IAML		12 00 26.7	
	comp=Z,440nm,1.7s						
FCH	**Farellones**	**4.58**	**170**	*eP*	**Pn**	**11 59 12.0**	**+2.0**
MT05	**Renca**	**4.59**	**174**	*eP*	**Pn**	**11 59 11.8**	**+1.8**
MT05				*eS*	**Sn**	**12 00 07.0**	**+5.0**
MT05				IAML		12 00 27.6	
	comp=Z,505nm,0.7s						
MT05	**Renca**	**4.59**	**174**	*eP*	**Pn**	**11 59 11.5**	**+1.6**
MT14	**Cerro Cal¡n**	**4.61**	**172**	*eP*	**Pn**	**11 59 10.6**	**+0.3**
MT14				*i S*	**Sn**	**12 00 02.6**	**0.0**
MT16	**CCHEN**	**4.65**	**172**	*eP*	**Pn**	**11 59 11.1**	**+0.3**
MT04	**Ro Olivares**	**4.68**	**168**	*eP*	**Pn**	**11 59 13.1**	**+1.7**
MT03	**Universidad Ad**	**4.71**	**172**		**Pn**	**11 59 12.7**	**+1.0**
MT03	**Universidad Ad**	**4.71**	**172**	*eP*	**Pn**	**11 59 12.3**	**+0.7**
MT03				IAML		12 00 47.4	
	comp=Z,470nm,0.9s						
MT03	**Universidad Ad**	**4.71**	**172**	*eP*	**Pn**	**11 59 12.5**	**+0.8**
MT08	**Bocatoma Ro**	**4.74**	**167**	⇑*eP*	Pn	11 59 16.0	+3.8
AAGR	**Agrelo**	**4.75**	**154**	*eP*	Pn	11 59 15.2	+3.0
CYA	**Choya**	**4.83**	**87**	*eP*	**Pn**	**11 59 14.6**	**+1.3**
CYA				*eS*	**Sn**	**12 00 04.5**	**-3.4**
CYA				IAML		12 00 16.2	
	comp=Z,371nm,0.5s						
CYA	**Choya**	**4.83**	**87**	*eP*	**Pn**	**11 59 14.3**	**+1.1**
VA05	**Santo Domingo**	**4.84**	**183**		**Pn**	**11 59 12.1**	**-1.1**
VA05	**Santo Domingo**	**4.84**	**183**	*eP*	**Pn**	**11 59 11.9**	**-1.3**
MT01	**Popeta**	**5.04**	**180**	*eP*	**Pn**	**11 59 15.5**	**-0.5**
MT01				IAML		12 00 43.9	
	comp=Z,210nm,0.8s						
BO04	**La Punta**	**5.19**	**174**		**Pn**	**11 59 18.3**	**+0.1**
AHML	**Horco Molle**	**5.64**	**70**	*eP*	**Pn**	**11 59 26.0**	**+1.6**
PB15	**IPOC Station P**	**5.81**	**17**		**Pn**	**11 59 25.6**	**-1.3**
GO05	**Huala**	**6.20**	**185**	Pn	**Pn**	**11 59 30.1**	**-1.9**
LVC	**Limon Verde**	**6.54**	**20**	Pn	**Pn**	**11 59 34.8**	**-2.1**
LVC	**Limon Verde**	**6.54**	**20**	Pn	**Pn**	**11 59 35.2**	**-1.7**
	comp=Z,4.3nm,0.3s,baz=163,slow=9.7,SNR=45						
LVC				Sn	**Sn**	**12 00 49.6**	**-0.8**
	comp=Z,15nm,0.3s,baz=187,slow=13,SNR=3.9						
	comp=Z,8.1nm,0.3s						
LVC	**Limon Verde**	**6.54**	**20**	*eP*	**Pn**	**11 59 34.9**	**-2.1**
LVC				*eS*	**Sn**	**12 00 54.7**	**+4.3**
SCCA	**San Cayetano,**	**11.23**	**87**	*eP*	**Pn**	**12 00 39.7**	**-1.1**
SCCA				*eS*	**Sn**	**12 02 45.6**	**+0.7**
MECA	**Mercedes**	**11.48**	**96**	*eP*	**Pn**	**12 00 42.3**	**-2.1**
MECA				*eS*	**Sn**	**12 02 50.9**	**-0.3**
PLCA	**Paso Flores**	**11.91**	**177**	Pn	**Pn**	**12 00 48.3**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=335,slow=14,SNR=1.6						
PLCA				Sn	**Sn**	**12 02 59.1**	**-2.5**
	baz=301,slow=22,SNR=1.5						
PLCA				LR	LR	12 05 42.3	
	comp=Z,153nm,21.0s,baz=354,slow=39						
	comp=Z,0.8nm,0.8s						
ESFA	**Espinillo Form**	**12.05**	**74**	*eP*	**Pn**	**12 00 53.7**	**+1.6**
ESFA				*eS*	**Sn**	**12 03 06.9**	**+1.8**
TRQA	**Tornquist**	**12.05**	**142**	Pn	**Pn**	**12 00 50.2**	**-1.9**
PSAL	**Palomas, Salto**	**12.07**	**104**	*eP*	**Pn**	**12 00 51.7**	**-0.7**
CPUP	**Villa Florida**	**12.62**	**82**	Pn	**Pn**	**12 00 57.9**	**-2.1**
CPUP	**Villa Florida**	**12.62**	**82**	Pn	**Pn**	**12 00 57.0**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=281,slow=15,SNR=9.8						
CPUP				Sn	**Sn**	**12 03 14.4**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=356,slow=19,SNR=1.4						
CPUP				LR	LR	12 06 13.9	
	comp=Z,141nm,21.5s,baz=226,slow=40						
	comp=Z,2.6nm,0.6s						
CPUP	**Villa Florida**	**12.62**	**82**	*eP*	**Pn**	**12 00 57.4**	**-2.5**
CPUP				*eS*	**Sn**	**12 03 20.2**	**+1.2**
LPAZ	**La Paz**	**12.80**	**14**	Pn	**Pn**	**12 01 00.1**	**-2.8**
LPAZ	**La Paz**	**12.80**	**14**	Pn	**Pn**	**12 01 00.3**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=228,slow=12,SNR=1.9						
LPAZ				LR	LR	12 06 33.1	
	comp=Z,87nm,20.8s,baz=230,slow=40						
	comp=Z,0.6nm,0.3s						
LPAZ	**La Paz**	**12.80**	**14**	*eP*	**Pn**	**12 01 03.7**	**+0.8**
ITQB	**Itaqui**	**12.83**	**97**	Pn	**Pn**	**12 01 01.3**	**-1.5**
ITQB	**Itaqui**	**12.83**	**97**	*eP*	**Pn**	**12 01 01.6**	**-1.1**
ITQB				*eS*	**Sn**	**12 03 23.6**	**-0.5**
AZCA	**Azaras, Argent**	**13.48**	**91**	*eP*	**Pn**	**12 01 09.2**	**-2.5**
AZCA				*eS*	**Sn**	**12 03 40.3**	**+0.3**
TBOT	**Tacuaremb**	**13.57**	**106**	*eP*	**Pn**	**12 01 11.7**	**-1.1**
TBOT				*eS*	**Sn**	**12 03 40.7**	**-1.4**
SJPY	**San Joaquin**	**14.07**	**78**	*eP*	**Pn**	**12 01 17.5**	**-2.1**
RODS	**Rosario do Sul**	**14.08**	**100**	*eP*	**Pn**	**12 01 17.9**	**-1.9**
UNIS	**Unistalda (Bra**	**14.20**	**95**	*eP*	**Pn**	**12 01 20.5**	**-0.9**
MURT	**Porto Murtinho**	**14.27**	**63**	*eP*	**Pn**	**12 01 23.5**	**+1.2**
CRSM	**Crissiumal (Br**	**15.27**	**89**	*eP*	**Pn**	**12 01 32.9**	**-2.6**
PLTB	**Pedras Altas**	**15.55**	**105**	Pn	**Pn**	**12 01 37.4**	**-1.8**
PLTB	**Pedras Altas**	**15.55**	**105**	*eP*	**Pn**	**12 01 36.5**	**-2.7**
CPSB	**Cacapava Do Su**	**15.60**	**100**	*eP*	**Pn**	**12 01 36.6**	**-3.2**
AMBA	**Amambai (Brazi**	**15.79**	**72**	*eP*	**Pn**	**12 01 43.6**	**+1.4**
SIV	**San Ignacio**	**15.86**	**39**	Pn	**Pn**	**12 01 40.7**	**-2.5**
	baz=243,slow=9.0,SNR=5.4						
	comp=Z,4.9nm,0.8s						
ALGR	**Alto Alegre (B**	**16.00**	**94**	*eP*	**Pn**	**12 01 43.0**	**-2.0**
AQDB	**Aquidauana**	**16.41**	**63**	P	**Pn**	**12 01 48.3**	**-1.8**
AQDB	**Aquidauana**	**16.41**	**63**	*eP*	**Pn**	**12 01 50.0**	**0.0**
FRBT	**Francisco Belt**	**16.43**	**84**	*eP*	**Pn**	**12 01 49.9**	**-0.5**
ITAB	**Concordia**	**16.99**	**89**		**Pn**	**12 01 54.9**	**-2.4**
ITAB	**Concordia**	**16.99**	**89**	*eP*	**Pn**	**12 01 57.4**	**+0.1**
PTLB	**Pontes e Lacer**	**17.40**	**43**	P	**Pn**	**12 02 01.8**	**-0.7**
PTLB	**Pontes e Lacer**	**17.40**	**43**	*eP*	**Pn**	**12 02 02.3**	**-0.2**
PTGB	**Pitanga**	**17.64**	**81**	*eP*	**P**	**12 02 05.9**	**-0.1**
RVDE	**Rio Verde (Bra**	**17.82**	**60**	*eP*	**P**	**12 02 07.8**	**-0.1**
RPRD	**Ribas do Rio P**	**17.99**	**66**	*eP*	**Pn**	**12 02 10.1**	**+0.3**
POCN	**Pocone**	**18.07**	**51**	*eP*	**Pn**	**12 02 10.8**	**+0.1**
PTET	**Porto Estrela**	**18.68**	**47**	*eP*	**P**	**12 02 15.7**	**-1.7**
VILB	**Vilhena**	**18.85**	**35**	P	**P**	**12 02 19.1**	**-0.2**
VILB	**Vilhena**	**18.85**	**35**	*eP*	**P**	**12 02 18.6**	**-0.7**
LDASE	**Londrina, Braz**	**18.89**	**78**	*eP*	**P**	**12 02 19.0**	**-0.7**
SALV	**Santo Antonio**	**19.29**	**52**	*eP*	**P**	**12 02 23.7**	**-0.3**
TER01	**Tubaro-SC**	**19.44**	**95**	*eP*	**P**	**12 02 23.4**	**-2.3**
PCMB	**Pacaembu**	**19.47**	**73**	*eP*	**P**	**12 02 24.9**	**-1.2**
ETMB	**Extrema**	**19.49**	**15**	*eP*	**Pn**	**12 02 28.1**	**+0.4**
JIR01	**Jirau**	**20.12**	**19**	*eP*	**P**	**12 02 34.3**	**+1.2**
FRTB	**Fartura**	**20.25**	**79**	*eP*	**P**	**12 02 34.2**	**-0.2**
NBRS	**Nobres**	**20.36**	**48**	*eP*	**P**	**12 02 36.0**	**+0.3**
CZSB	**Cruzeiro do Su**	**21.02**	**356**	P	**P**	**12 02 43.2**	**+0.4**
CZSB				IAmb	IAmb	12 02 48.0	
	comp=Z,33nm,0.9s						
CZSB	**Cruzeiro do Su**	**21.02**	**356**	*eP*	**P**	**12 02 44.0**	**+1.2**
ITRB	**Iturama**	**21.10**	**69**	*eP*	**P**	**12 02 43.6**	**-0.1**
SAML	**Samuel**	**21.18**	**23**	P	**P**	**12 02 44.6**	**+0.1**
SAML	**Samuel**	**21.18**	**23**	*eP*	**P**	**12 02 44.4**	**-0.1**
DVLD	**Doverlandia**	**21.36**	**60**	*eP*	**P**	**12 02 45.2**	**-1.3**
PDRB	**Porto dos Gac**	**21.86**	**41**	*eP*	**P**	**12 02 51.5**	**-0.3**
PET01	**Itanhaem-SP**	**21.93**	**84**	*eP*	**P**	**12 02 52.4**	**-0.2**
BB19B	**Bebedouro**	**22.00**	**75**	*eP*	**P**	**12 02 53.2**	**-0.3**
SPB	**Sao Paulo**	**22.01**	**82**	*eP*	**P**	**12 02 52.5**	**-0.9**
ARAG	**Araguaiana, MT**	**22.20**	**58**	*eP*	**P**	**12 02 54.9**	**-0.6**
RCLB	**Rio Claro- Sao**	**22.32**	**79**	*eP*	**P**	**12 02 55.6**	**-1.3**
VAO	**Valinhos**	**22.61**	**81**	P	**P**	**12 02 59.0**	**-0.9**
VAO				IAmb	IAmb	12 03 17.1	
	comp=Z,21nm,0.7s						
VAO	**Valinhos**	**22.61**	**81**	*eP*	**P**	**12 02 59.4**	**-0.6**
IPMB	**Ipameri, GO**	**23.72**	**68**	*eP*	**P**	**12 03 08.9**	**-2.0**
TBTG	**Tabatinga, AM**	**24.53**	**3**	*eP*	**P**	**12 03 19.2**	**+0.9**
SNDB	**Serra Nova Dou**	**25.07**	**52**	*eP*	**P**	**12 03 22.2**	**-1.0**
BDFB	**Brasilia**	**25.15**	**64**	P	**P**	**12 03 22.6**	**-1.5**
BDFB	**Brasilia**	**25.15**	**64**	P	**P**	**12 03 23.0**	**-1.2**
	comp=Z,5.9nm,0.6s,baz=232,slow=9.3,SNR=11						
	comp=Z,5.9nm,0.6s						
BDFB	**Brasilia**	**25.15**	**64**	*eP*	**P**	**12 03 22.6**	**-1.5**
TEFE	**Tefe**	**25.95**	**15**	*eP*	**P**	**12 03 31.1**	**-0.1**
NPGB	**Novo Progresso**	**26.36**	**38**	*eP*	**P**	**12 03 34.3**	**-0.6**
MACA	**Manacapuru-AM**	**27.43**	**23**	*eP*	**P**	**12 03 43.3**	**-1.2**
JANB	**Januaria**	**28.43**	**67**	*eP*	**P**	**12 03 52.2**	**-1.4**
ITTB	**Itaituba**	**28.44**	**34**	*eP*	**P**	**12 03 53.3**	**-0.3**
CMC01	**Camacan, BA**	**32.22**	**72**	*eP*	**P**	**12 04 26.9**	**-0.1**
BOAV	**Boa Vista**	**32.70**	**20**	*eP*	**P**	**12 04 30.9**	**-0.3**
NBBC	**Barra do Corda**	**33.80**	**52**	*eP*	**P**	**12 04 40.9**	**+0.2**
NBPN	**Ponto Novo - B**	**34.11**	**65**	*eP*	**P**	**12 04 41.9**	**-1.6**
PMSA	**Palmer Station**	**36.27**	**175**	LR	LR	12 19 08.1	
	comp=Z,72nm,18.6s,baz=264,slow=35						
NBTA	**Tacaratu-PE**	**36.82**	**65**	*eP*	**P**	**12 05 05.4**	**-1.5**
NBPS	**Pedro II - PI**	**37.30**	**55**	*eP*	**P**	**12 05 09.9**	**-0.9**
NBMA	**Muriti-CE**	**37.34**	**62**	*eP*	**P**	**12 05 10.4**	**-0.8**
BAUV	**El Baul**	**37.67**	**5**	P	**P**	**12 05 12.8**	**-1.0**
MDP	**Montagnes des**	**38.20**	**31**	LR	LR	12 22 44.8	
	comp=Z,40nm,20.9s,baz=192,slow=39						
TEIG	**Tepich**	**51.44**	**339**	P	**P**	**12 07 03.6**	**0.0**
BELA	**Belgrano 2**	**51.87**	**171**	P	**P**	**12 07 06.4**	**+0.2**
VNA2	**Neumayer--Watz**	**54.56**	**159**	⇑P	**P**	**12 07 25.6**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=285,slow=8.3						
SNAA	**Sanae**	**56.16**	**159**	P	**P**	**12 07 37.3**	**-0.4**
SNAA	**Sanae**	**56.16**	**159**	⇑P	**P**	**12 07 37.3**	**-0.4**
	comp=Z,46nm,0.5s						
SNAA	**Sanae**	**56.16**	**159**	P	**P**	**12 07 37.2**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=275,slow=8.8,SNR=19						
	comp=Z,3.2nm,0.8s						
TROLL	**Troll, Antarti**	**57.88**	**159**	⇑P	**P**	**12 07 49.7**	**-0.1**
	comp=Z,111nm,0.7s						
QSPA	**South Pole Qui**	**61.41**	**180**	P	**P**	**12 08 14.0**	**-0.2**
QSPA				IAmb	IAmb	12 08 33.1	
	comp=Z,8.8nm,1.4s						
QSPA	**South Pole Qui**	**61.41**	**180**	P	**P**	**12 08 14.0**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=147,slow=1.9,SNR=21						
	comp=Z,1.2nm,0.6s						
833A	**Chaparral WMA,**	**62.87**	**332**	P	**P**	**12 08 25.4**	**+1.2**
GOGA	**Godfrey**	**62.95**	**349**	P	**P**	**12 08 24.2**	**-0.4**
GOGA				IAmb	IAmb	12 10 33.9	
	comp=Z,15nm,1.8s						
LRAL	**Lakeview Retre**	**63.29**	**345**	P	**P**	**12 08 26.5**	**-0.4**
LRAL				IAmb	IAmb	12 08 27.6	
	comp=Z,9.1nm,1.4s						
Y52A	**Lilburn**	**63.50**	**348**	P	**P**	**12 08 27.6**	**-0.6**
HNDO	**Hondo**	**63.88**	**333**	P	**P**	**12 08 32.5**	**+1.6**
143A	**Socs Landing,**	**64.09**	**341**	P	**P**	**12 08 33.2**	**+1.0**
X51A	**Calhoun**	**64.33**	**348**	P	**P**	**12 08 33.5**	**-0.3**
DRIO	**Del Rio**	**64.34**	**332**	P	**P**	**12 08 34.9**	**+0.9**
X48A	**Hartselle**	**64.67**	**346**	P	**P**	**12 08 35.3**	**-0.6**
X48A				IAmb	IAmb	12 08 36.4	
	comp=Z,5.3nm,0.8s						
V58A	**Windy Hill, Pi**	**64.69**	**353**	P	**P**	**12 08 35.5**	**-0.4**
V58A				IAmb	IAmb	12 08 37.5	
	comp=Z,9.3nm,1.4s						
JCT	**Junction City**	**64.93**	**333**	P	**P**	**12 08 38.9**	**+1.1**
W50A	**Signal Mountai**	**65.03**	**347**	P	**P**	**12 08 37.9**	**-0.5**
W50A				IAmb	IAmb	12 08 39.2	
	comp=Z,7.6nm,0.8s						
TKL	**Tuckaleechee C**	**65.20**	**349**	P	**P**	**12 08 38.3**	**-1.1**
TKL				IAmb	IAmb	12 08 39.9	
	comp=Z,6.7nm,1.1s						
TKL	**Tuckaleechee C**	**65.20**	**349**	LR	LR	12 39 09.0	
	comp=Z,14nm,20.8s,baz=176,slow=38						
BRDY	**Brady**	**65.33**	**334**	P	**P**	**12 08 40.0**	**-0.4**
BRDY				IAmb	IAmb	12 08 42.3	
	comp=Z,7.7nm,0.8s						
V52A	**Sevierville**	**65.35**	**349**	P	**P**	**12 08 39.5**	**-0.9**
V52A				IAmb	IAmb	12 08 40.9	
	comp=Z,4.9nm,0.8s						
SAND	**Sanderson**	**65.44**	**331**	P	**P**	**12 08 41.5**	**+0.4**
SAND				IAmb	IAmb	12 08 43.8	
	comp=Z,12nm,1.1s						
TX31	**Lajitas Ar. Si**	**65.58**	**329**	P	**P**	**12 08 42.7**	**+0.6**
TXAR	**Lajitas Array**	**65.58**	**329**	P	**P**	**12 08 43.1**	**+1.0**
TXAR	**Lajitas Array**	**65.58**	**329**	P	**P**	**12 08 43.5**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=150,slow=7.9,SNR=30						
	comp=Z,2.2nm,0.8s						
U54A	**Nelsons Funny**	**65.74**	**351**	P	**P**	**12 08 42.8**	**-0.2**
U54A				IAmb	IAmb	12 08 43.7	
	comp=Z,8.7nm,0.9s						
V48A	**Smith Brothers**	**65.86**	**346**	P	**P**	**12 08 42.8**	**-0.8**
V48A				IAmb	IAmb	12 08 44.7	
	comp=Z,14nm,1.4s						
OZNA	**Ozona**	**65.86**	**332**	P	**P**	**12 08 45.2**	**+1.3**
OZNA				IAmb	IAmb	12 08 46.0	
	comp=Z,9.9nm,0.7s						
MIAR	**Mount Ida**	**66.45**	**340**	P	**P**	**12 08 47.5**	**+0.1**
MIAR				IAmb	IAmb	12 08 49.2	
	comp=Z,8.5nm,1.1s						
WVT	**Waverly**	**66.45**	**345**	P	**P**	**12 08 46.6**	**-0.8**
Z35A	**Perchaven, San**	**66.53**	**336**	P	**P**	**12 08 48.1**	**+0.1**
R58B	**Mineral**	**66.72**	**354**	P	**P**	**12 08 48.8**	**-0.2**
R58B				IAmb	IAmb	12 08 50.8	
	comp=Z,8.5nm,0.8s						
ABTX	**Abilene, Hawle**	**66.77**	**334**	P	**P**	**12 08 50.5**	**+0.9**
ABTX				IAmb	IAmb	12 08 51.8	
	comp=Z,10.0nm,0.9s						
MNHN	**Monahans**	**66.91**	**331**	P	**P**	**12 08 51.0**	**+0.4**
MNHN				IAmb	IAmb	12 08 52.7	
	comp=Z,6.5nm,0.7s						
T47A	**Sharon Grove**	**67.12**	**346**	P	**P**	**12 08 51.1**	**-0.6**
T47

DCZ				S	Sn	12 31 06.8	+1.4
MLZ	**Mavora Lakes**	**0.51**	**123**	P	Pn	12 30 57.7	+1.7
MLZ				S	Sn	12 31 09.6	+3.3
MSZ	**Milford Sound**	**0.51**	**35**	P	Pn	12 30 57.7	+1.7
MSZ				S	Sn	12 31 09.1	+2.8
WHZ	**Wether Hill Ro**	**0.85**	**159**	P	Pn	12 31 00.5	+1.0
WHZ				S	Sn	12 31 14.0	+1.6
WKZ	**Wanaka**	**1.10**	**76**	P	Pn	12 31 04.1	+1.6
WKZ				S	Sn	12 31 20.1	+2.5
PYZ	**Puysegur Point**	**1.22**	**208**	P	Pn	12 31 04.1	+0.3
PYZ				S	Sn	12 31 20.3	+0.1
EAZ	**Earnscleugh**	**1.28**	**97**	P	Pn	12 31 06.1	+1.5
EAZ				S	Sn	12 31 23.2	+1.7
JCZ	**Jackson Bay**	**1.37**	**42**	P	Pn	12 31 06.3	+0.5
JCZ				S	Sn	12 31 23.8	+0.2
TUZ	**Tuapeka**	**1.72**	**121**	P	Pn	12 31 11.3	+1.1
TUZ				S	Sn	12 31 31.8	+0.2
APZ	**The Paps**	**1.77**	**169**	P	Pn	12 31 11.1	+0.2
APZ				S	Sn	12 31 33.1	+0.3
SYZ	**Scrubby Hill**	**1.84**	**142**	P	Pn	12 31 12.4	+0.6
SYZ				S	Sn	12 31 34.7	+0.3
LBZ	**Lake Benmore**	**2.03**	**71**	P	Pn	12 31 14.1	-0.3
LBZ				S	Sn	12 31 38.5	-0.6
ODZ	**Otahua Downs**	**2.22**	**90**	P	Pn	12 31 17.1	+0.2
ODZ				S	Sn	12 31 41.7	-1.8
FOZ	**Fox Glacier**	**2.27**	**47**	P	Pn	12 31 17.0	-0.6
FOZ				S	Sn	12 31 43.9	-0.9
HHSZ	**Highcliff Hill**	**2.31**	**111**	P	Pn	12 31 18.9	+0.8
HHSZ				S	Sn	12 31 44.3	-1.4
TMZ	**Timaru**	**2.59**	**75**	P	Pn	12 31 21.1	-0.8
TMZ				S	Sn	12 31 50.6	-1.8
GCSZ	**Gaunt Creek Bo**	**2.69**	**50**	P	Pn	12 31 22.0	-1.2
GCSZ				S	Sn	12 31 51.8	-3.1
ARCZ	**Arundel**	**2.86**	**68**	P	Pn	12 31 24.1	-1.5
ARCZ				S	Sn	12 31 56.5	-2.5
RPZ	**Rata Peaks**	**2.89**	**63**	P	Pn	12 31 24.6	-1.3
RPZ				S	Sn	12 31 58.2	-1.5
WVZ	**Waitaha Valley**	**3.08**	**50**	P	Pn	12 31 26.8	-1.6
WACZ	**Wakanui South**	**3.30**	**71**	P	Pn	12 31 30.1	-1.4
WACZ				S	Sn	12 32 07.0	-2.6
MHCZ	**Mount Hutt**	**3.30**	**63**	P	Pn	12 31 29.6	-1.9
MHCZ				S	Sn	12 32 07.0	-2.8
RACZ	**Rakaia**	**3.59**	**69**	P	Pn	12 31 34.0	-1.3
RACZ				S	Sn	12 32 13.3	-3.2
OXZ	**Oxford**	**3.70**	**63**	P	Pn	12 31 34.5	-2.5
OXZ				S	Sn	12 32 14.5	-4.9
MQZ	**McQueen's Vall**	**3.94**	**71**	P	Pn	12 31 38.5	-1.6
MQZ				S	Sn	12 32 20.5	-4.5
AKCZ	**Akaroa Harbour**	**4.05**	**74**	P	Pn	12 31 40.2	-1.5
LTZ	**Lake Taylor**	**4.14**	**58**	P	Pn	12 31 40.6	-2.3
LTZ				S	Sn	12 32 26.8	-3.4
AMCZ	**Amberley**	**4.17**	**64**	P	Pn	12 31 41.4	-1.8
AMCZ				S	Sn	12 32 27.3	-3.4
OKCZ	**Okains Bay**	**4.20**	**73**	P	Pn	12 31 42.8	-0.9
OKCZ				S	Sn	12 32 27.9	-3.8
GVZ	**Greta Valley S**	**4.51**	**64**	P	Pn	12 31 45.9	-2.1
GVZ				S	Sn	12 32 34.6	-4.6
DSZ	**Denniston Nort**	**4.58**	**45**	P	Pn	12 31 46.9	-2.0
DSZ				S	Sn	12 32 37.1	-3.8
THZ	**Tophouse**	**5.15**	**52**	P	Pn	12 31 54.0	-2.7
THZ				S	Sn	12 32 51.4	-3.4
MRNZ	**Matariki Terra**	**5.32**	**48**	P	Pn	12 31 57.8	-1.2
QRZ	**Quartz Range**	**5.63**	**43**	P	Pn	12 32 01.6	-1.7
PRHZ	**Porangahau**	**8.27**	**57**	P	Pn	12 32 40.0	+0.8
OTVZ	**Oturere**	**8.47**	**48**	P	Pn	12 32 45.7	+3.6

IDC 01 13:17:25.6±2.9, 29°.13N×86°.13E, h0km, mb3.6/3, mbtmp3.6/4, ML3.1/1, MS3.8/3, Error ellipse: s-maj=95.4km s-min=28.5km az=70.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.89**	**351**	P	Pn	13 21 35.9	0.0
	0.1nm,0.3s,baz=173,slow=12,SNR=6.1						
	1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**22.23**	**347**	P	P	13 22 23.7	0.0
	0.6nm,0.2s,baz=163,slow=11,SNR=2.0						
	0.6nm,0.2s						
SONM	**Songino Array**	**24.38**	**34**	P	P	13 22 45.7	+0.1
	0.5nm,0.6s,baz=224,slow=9.3,SNR=2.9						
	0.5nm,0.6s						
AKTO	**Aktyubinsk**	**30.03**	**323**	LR	LR	13 38 03.8	
	comp=Z,396nm,20.9s,baz=233,slow=41						
KIRV	**Kirov**	**38.75**	**330**	LR	LR	13 41 49.4	
	comp=Z,233nm,18.3s,baz=197,slow=38						
JMIC	**Jan Mayen**	**64.26**	**339**	LR	LR	13 55 51.2	
	comp=Z,16nm,19.8s,baz=180,slow=36						
WRA	**Warramunga Arr**	**67.40**	**131**	P	P	13 28 23.1	0.0
	0.9nm,0.9s,baz=323,slow=6.4,SNR=6.5						
	0.9nm,0.9s						

HEL 01 13:22:08.9±0.4, 67°.91N×19°.98E, h0km, ML1.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.77**	**79**	PG	Pg	13 22 23.1	-0.5
LANU				SG	Sg	13 22 32.6	-1.1
HEF	**Hetta**	**1.47**	**68**	PN	Pn	13 22 36.1	-0.4
HEF				MSG		13 22 53.0	
	comp=Z,1.1nm,0.2s						
HEF				SG	Sg	13 22 54.6	-1.3
KLF	**Kolari**	**1.67**	**112**	PG	Pn	13 22 39.0	-0.4
KLF				MSG		13 22 58.9	
	comp=Z,1.1nm,0.2s						
KLF				SG	Sn	13 23 00.6	-0.9
TOF	**Tornio**	**2.51**	**135**	PB	Pn	13 22 51.8	+0.9
TOF				MSG		13 23 23.0	
	comp=Z,0.6nm,0.2s						
TOF				SB	Sb	13 23 24.2	-1.8
SGF	**Sodankyl**	**2.54**	**98**	PG	Pb	13 22 54.1	-1.2
SGF				SG	Sb	13 23 27.4	+0.3
ARA0	**ARCESS Array S**	**2.59**	**48**	PB	Pn	13 22 53.6	+1.5
ARA0				SG	Sb	13 23 28.1	-0.5
RNF	**Rovaniemi**	**2.68**	**116**	PB	Pn	13 22 54.7	+1.5
RNF				SG	Sb	13 23 29.2	-2.0
KEV	**Kevo**	**3.15**	**51**	SB	Sn	13 23 39.6	+1.7
RAJF	**Raja-Jooseppi**	**3.16**	**76**	SG	Sb	13 23 45.8	+1.0

UPP 01 13:22:59.4±0.3, 67°.82N×20°.32E, h0km, ML1.7, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**2**	P	Pg	13 23 02.1	+0.1
KUA				S	Sg	13 23 05.0	+1.1
RATU	**Laukkuluspa**	**0.28**	**272**	P	Pg	13 23 04.8	0.0
KOVU	**Salmi**	**0.41**	**352**	P	Pg	13 23 07.7	+0.4
SALU	**Saltoluokta**	**0.82**	**239**	*e*P	Pg	13 23 14.9	-0.2
SALU	**Saltoluokta**	**0.82**	**239**	P	Pg	13 23 15.4	+0.2
KIF	**Kilpisjarvi**	**1.21**	**8**	*e*P	Pn	13 23 23.8	+0.3

*OSPL **01** 13:23:27.4±2.2, 18°.57N×69°.77W, h166km±15km, ML3.2*
*SDD **01** 13:23:29.3±2.0, 18°.62N×69°.69W, h133km±8km, MD3.6, ML3.4, MW3.7*

ISC 01 13:23:28.7±1.6, 18°.71N±0°.06×69°.69W±0°.04, h127km±9km, n31, σ1§03/44, 7C-8D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**0.30**	**75**	⇑*e*Pg	**Pn**	**13 23 45.7**	**-0.9**
HATOM				⇓*e*Sg	**Sn**	**13 23 58.7**	**-1.3**
HATOM				IAML		13 24 00.9	
	comp=E,212nm,0.2s						
HATOM				IAML		13 24 02.4	
	comp=N,234nm,0.2s						
SDD	**Santo Domingo**	**0.33**	**221**	*e*Pg	**Pn**	**13 23 46.1**	**-0.5**
SDD				*e*Sg	**Sn**	**13 23 59.1**	**-1.1**
SDD				IAML		13 24 00.0	
	comp=N,142nm,0.2s						
SDD				IAML		13 24 01.9	
	comp=E,117nm,0.1s						
DR08	**Loma La Naviza**	**0.41**	**308**	*e*Pg	**Pn**	**13 23 46.9**	**-0.2**
DR08				⇓*e*Sg	**Sn**	**13 24 00.4**	**-0.5**
DR08				IAML		13 24 01.8	
	comp=E,15μm,0.1s						
DR08				IAML		13 24 02.4	
	comp=N,17μm,0.1s						
SPM1	**San Pedro UASD**	**0.45**	**126**	*e*Pg	**Pn**	**13 23 46.8**	**-0.4**
SPM1				*e*Sg	**Sn**	**13 24 01.1**	**0.0**
NADR	**Nagua**	**0.66**	**346**	*e*Sg	**Sn**	**13 24 05.2**	**+1.6**
NADR				IAML		13 24 11.2	
	comp=E,692nm,0.2s						
NADR				IAML		13 24 11.6	
	comp=N,757nm,0.2s						
MIDR	**Miches**	**0.66**	**66**	⇓*e*Pg	**Pn**	**13 23 48.8**	**+0.3**
MIDR				*e*Sg	**Sn**	**13 24 03.7**	**+0.2**
MIDR				IAML		13 24 05.2	
	comp=N,285nm,0.1s						
BANI	**BANI**	**0.71**	**244**	⇑*e*Pg	**Pn**	**13 23 48.7**	**-0.3**
BANI				IAML		13 24 08.5	
	comp=N,2μm,0.2s						
BANI				IAML		13 24 09.4	
	comp=E,1μm,0.1s						
SFDR	**San Fco. de Ma**	**0.78**	**318**	⇓*e*Pg	**Pn**	**13 23 50.1**	**+0.7**
ABDR	**Alto Bandera**	**0.90**	**277**	⇓*e*Pg	**Pn**	**13 23 50.7**	**-0.2**
ABDR				IAML		13 24 11.7	
	comp=N,759nm,0.2s						
ABDR				IAML		13 24 12.3	
	comp=E,910nm,0.5s						
HIDR	**Higuey Centro**	**0.93**	**97**	*e*Pg	**Pn**	**13 23 50.5**	**-0.2**
HIDR				*e*Sg	**Sn**	**13 24 08.0**	**+0.7**
HIDR				IAML		13 24 09.6	
	comp=N,1μm,0.3s						
HIDR				IAML		13 24 10.4	
	comp=E,1μm,0.2s						
CADR	**Cabrera**	**0.98**	**346**	⇑*e*Sg	**Sn**	**13 24 07.5**	**-0.8**
CADR				IAML		13 24 09.3	
	comp=E,248nm,0.6s						
CADR				IAML		13 24 11.3	
	comp=N,500nm,0.5s						
SADR	**Isla Saona**	**1.00**	**121**	*e*Pg	**Pn**	**13 23 51.0**	**-0.4**
SADR				IAML		13 24 10.9	
	comp=N,266nm,0.4s						
SADR				IAML		13 24 15.3	
	comp=E,294nm,0.7s						
SADR				IAML		13 24 21.2	
	comp=N,204nm,0.7s						
SC01	**Santiago de lo**	**1.22**	**306**	⇑*e*Pg	**Pn**	**13 23 54.1**	**+0.6**
SC01				IAML		13 24 18.7	
	comp=E,413nm,0.3s						
SC01				IAML		13 24 42.6	
	comp=N,4.2nm,3.4s						
SC01	**Santiago de lo**	**1.22**	**306**	*i* P	**Pn**	**13 23 54.4**	**+0.8**
SC01				*e*S	**Sn**	**13 24 14.5**	**+2.1**
SC01				IAML		13 24 17.9	
	comp=Z,255nm,0.2s						
PCDR	**Punta Cana, DR**	**1.25**	**99**	*e*Pg	**Pn**	**13 23 54.1**	**+0.2**
PCDR				IAML		13 24 16.2	
	comp=N,289nm,0.7s						
PCDR				IAML		13 24 19.0	
	comp=E,166nm,0.5s						
PCDR	**Punta Cana, DR**	**1.25**	**99**	*i* P	**Pn**	**13 23 54.0**	**+0.2**
PCDR				*e*S	**Sn**	**13 24 15.0**	**+2.0**
PCDR				IAML		13 24 20.4	
	comp=Z,147nm,1.0s						
SODR	**Sosua Marina B**	**1.34**	**321**	IAML		13 24 17.7	
	comp=E,186nm,0.3s						
SODR				IAML		13 24 24.4	
	comp=N,177nm,0.5s						
LOBA2	**Hotel Casa Bon**	**1.48**	**245**	*e*Pg	**Pn**	**13 23 55.5**	**-0.8**
SDDR	**Presa de Saban**	**1.54**	**280**	*e*Pg	**Pn**	**13 23 57.2**	**+0.1**
SDDR				IAML		13 24 25.2	
	comp=N,371nm,0.4s						
SDDR				IAML		13 24 25.7	
	comp=E,185nm,0.7s						
SDDR	**Presa de Saban**	**1.54**	**280**	*i* P	**Pn**	**13 23 57.4**	**+0.3**
SDDR				*e*S	**Sn**	**13 24 19.3**	**+0.5**
SDDR				IAML		13 24 26.1	
	comp=Z,142nm,0.3s						
PODR	**Polo**	**1.61**	**251**	*e*Pg	**Pn**	**13 23 57.6**	**-0.4**
PODR				IAML		13 24 21.8	
	comp=N,207nm,0.3s						
PODR				IAML		13 24 23.8	
	comp=E,558nm,0.3s						
PODR	**Polo**	**1.61**	**251**	*i* P	**Pn**	**13 23 57.4**	**-0.6**
PODR				*e*S	**Sn**	**13 24 21.2**	**+0.8**
PODR				IAML		13 24 24.2	
	comp=Z,188nm,0.2s						
NEDR	**Neiba UASD**	**1.66**	**262**	⇑*e*Pg	**Pn**	**13 23 58.5**	**+0.1**
NEDR				IAML		13 24 24.2	
	comp=N,70nm,0.2s						
NEDR				IAML		13 24 25.5	
	comp=E,80nm,0.5s						
LUDR	**Luperon**	**1.68**	**315**	⇓*e*Pg	**Pn**	**13 23 58.5**	**-0.1**
LUDR				⇑*e*Sg	**Sn**	**13 24 22.4**	**+0.8**
LUDR				IAML		13 24 30.9	
	comp=N,855nm,0.3s						
LUDR				IAML		13 24 33.7	
	comp=E,883nm,0.3s						
REDR	**Restauracion**	**1.68**	**286**	*e*Pg	**Pn**	**13 24 02.1**	**+3.4**
REDR				IAML		13 24 29.6	
	comp=N,306nm,0.2s						
REDR				IAML		13 24 29.7	
	comp=E,376nm,0.1s						
JIDR	**Jimani**	**2.06**	**264**	⇑*e*Pg	**Pn**	**13 24 03.5**	**+0.1**
JIDR				IAML		13 24 32.0	
	comp=E,118nm,0.3s						
JIDR				IAML		13 24 32.6	
	comp=N,78nm,0.6s						
MCDR	**Montecristi**	**2.20**	**303**	⇓*e*Pg	**Pn**	**13 24 03.8**	**-1.2**
MCDR				*e*Sg	**Sn**	**13 24 32.4**	**-0.5**
MCDR				IAML		13 24 40.9	
	comp=N,214nm,0.5s						
MCDR				IAML		13 24 41.8	
	comp=E,214nm,0.3s						
AGPR	**Aguadilla, PR**	**2.45**	**95**	*i* P	**Pn**	**13 24 09.2**	**+1.0**
AGPR				*e*S	**Sn**	**13 24 38.8**	**+0.3**
AGPR				IAML		13 24 47.9	
	comp=Z,71nm,0.1s						
CRPR	**Cabo Rojo, PR**	**2.54**	**106**	*i* P	**Pn**	**13 24 08.4**	**-1.0**
CRPR				IAML		13 24 49.4	
	comp=Z,98nm,0.4s						
GRTK	**Grand Turk**	**3.10**	**334**	⇓*e*Pg	**Pn**	**13 24 15.7**	**-0.8**
GRTK				IAML		13 24 52.9	
	comp=E,109nm,0.3s						
GRTK				IAML		13 24 53.5	
	comp=N,116nm,0.3s						
GRTK	**Grand Turk**	**3.10**	**334**	*i* P	**Pn**	**13 24 15.4**	**-1.1**
GRTK				*e*S	**Sn**	**13 24 51.6**	**-1.9**
GRTK				IAML		13 24 52.9	
	comp=Z,49nm,1.5s						

*NIED **01** 13:38:42.5, 40°.38N×142°.27E, h41km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}2.40; $M_{\theta\theta}$-0.54; $M_{\phi\phi}$-1.86; $M_{r\theta}$1.07; $M_{\theta\phi}$-0.57; $M_{\phi r}$2.22; Fault plane solution: $M_0$3.33000×10^14^ NP1:ϕ_s24.00000°, δ69.00000°, λ92.00000°. NP2:ϕ_s198.00000°, δ21.00000°, λ84.00000°.*
*JMA **01** 13:38:42.5±0.1, 40°.4N±0°.3×142°.3E±0°.7, h41km±1km, MD3.5/40, MV3.8/40, NE OFF IWATE PREF*
JMA Felt I J1 at NE OFF IWATE PREF .
*IDC **01** 13:38:44.0±2.3, 40°.37N×142°.26E, h64km±20km, mb3.4/9, mbtmp3.8/13, Error ellipse: s-maj=32.5km s-min=16.6km az=88.0*
*NEIC **01** 13:38:44.3±0.8, 40°.46N±0°.07×142°.07E±0°.06, h55km±8km, mb4.2/7, Error ellipse: s-maj=10.3km s-min=6.0km az=160.0*

ISC 01 13:38:42.5±1.1, 40°.38N±0°.04×142°.27E±0°.08, h45km±10km, n45, σ1§14/46, mb4.0/14, 13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.46**	**248**	⇓*i*P	**Pn**	**13 38 52.6**	**-0.3**
JKEN				⇓S	**Sn**	**13 38 59.6**	**-0.8**
JKEN	**Kujiedanarisaw**	**0.46**	**248**	A	A	13 38 52.6	
	comp=E,6.0nm,0.5s,comp=N,8.0nm,0.9s						
JTH	**Tanohata**	**0.54**	**215**	P	**Pn**	**13 38 53.7**	**-0.3**
JTH				S	**Sn**	**13 39 01.6**	**-0.6**
JANG	**Nango**	**0.58**	**269**	⇓P	**Pn**	**13 38 54.3**	**-0.1**
JANG				⇓S	**Sn**	**13 39 02.3**	**-0.6**
JANG	**Nango**	**0.58**	**269**	A	A	13 38 54.3	
	comp=E,5.0nm,0.2s,comp=N,4.0nm,0.6s						
JKZ	**Kuzumaki**	**0.82**	**241**	⇓*i*P	**Pn**	**13 38 57.9**	**+0.2**
JKZ				⇓S	**Sn**	**13 39 08.6**	**-0.2**
JARK	**Aomorirokkasho**	**0.93**	**313**	⇓*i*P	**Pn**	**13 38 58.9**	**-0.2**
JARK				⇓S	**Sn**	**13 39 10.5**	**-0.8**
JTM	**Tenmabayashi**	**1.00**	**294**		**Pn**	**13 38 59.7**	**-0.4**
JTM	**Tenmabayashi**	**1.00**	**294**	⇓*i*P	**Pn**	**13 38 59.8**	**-0.2**
JOM	**Ohasama**	**1.18**	**220**	⇓*i*P	**Pn**	**13 39 02.9**	**+0.3**
JOM				⇓S	**Sn**	**13 39 17.2**	**-0.2**
JAH	**Hinai**	**1.26**	**262**	⇓*i*P	**Pn**	**13 39 04.0**	**+0.3**
JAH				⇓S	**Sn**	**13 39 19.5**	**0.0**
JOT	**Ohata**	**1.36**	**318**	*i* P	**Pn**	**13 39 04.6**	**-0.4**
ERM	**Erimo**	**1.76**	**22**		**Pn**	**13 39 12.0**	**+1.5**
JMM	**Marumori**	**2.76**	**205**		**Pn**	**13 39 25.0**	**+0.8**
JKA	**Kamikawa-asahi**	**3.74**	**4**		**Pn**	**13 39 38.6**	**+1.0**
ASAJ	**Asahikawa**	**3.74**	**4**	P	**Pn**	**13 39 38.4**	**+0.8**
	comp=N,3.3nm,0.3s,baz=215,slow=17,SNR=21						
ASAJ				S	**Sn**	**13 40 18.2**	**-2.1**
	comp=N,5.8nm,0.3s,baz=132,slow=26,SNR=3.7						
MAJO	**Matsushiro**	**4.99**	**221**		**Pn**	**13 39 57.0**	**+2.2**
MJAR	**Matsushiro Arr**	**4.99**	**221**	P	**Pn**	**13 39 57.6**	**+2.8**
	comp=N,2.9nm,0.7s,baz=32,slow=13,SNR=17						
JHJ	**Hachijo jima 2**	**7.52**	**196**	P	**Pn**	**13 40 29.4**	**-0.1**
	comp=N,58nm,0.9s,baz=17,slow=8.1,SNR=7.2						
JHJ				S	**Sn**	**13 41 49.7**	**-3.7**
	comp=N,61nm,0.9s,baz=90,slow=20,SNR=1.7						
USRK	**Ussuriysk Ar.**	**8.52**	**300**	P	**Pn**	**13 40 44.9**	**+1.8**
	comp=N,2.2nm,0.5s,baz=102,slow=14,SNR=7.9						
PET	**Petropavlovsk**	**16.86**	**36**	P	**P**	**13 42 38.5**	**+2.0**
JMZ	**Minamidaito 2**	**17.20**	**216**	P	**P**	**13 42 41.6**	**+1.2**
SEY	**Seymchan**	**23.38**	**12**	P	**P**	**13 43 47.8**	**+1.1**
	comp=N,1.0nm,0.6s,baz=175,slow=12,SNR=4.1						
	comp=N,1.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.46**	**127**	T	T	14 15 42.8	
	baz=319,slow=75,SNR=50						
H11N1	**WAKE ISLAND Hy**	**29.47**	**127**	T	T	14 15 38.5	
	baz=319,slow=75,SNR=52						
H11N3	**WAKE ISLAND Hy**	**29.48**	**127**	T	T	14 15 44.2	
	baz=319,slow=75,SNR=56						
H11S1	**WAKE ISLAND Hy**	**30.28**	**129**	T	T	14 16 46.0	
	baz=321,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**30.28**	**129**	T	T	14 17 02.5	
	baz=321,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**30.30**	**129**	T	T	14 17 07.1	
	baz=321,slow=76,SNR=16						
ZALV	**Zalesovo Beam**	**40.23**	**310**	P	**P**	**13 46 13.6**	**-0.8**
	comp=N,1.1nm,0.4s,baz=82,slow=12,SNR=4.0						
	comp=N,1.1nm,0.4s						
N18K	**Kilae Creek**	**42.34**	**40**	P	**P**	**13 46 31.6**	**0.0**
N18K				IAmb	IAmb	13 46 52.7	
	comp=Z,4.8nm,1.1s						
MKAR	**Makanchi Array**	**42.99**	**299**	P	**P**	**13 46 36.5**	**-0.6**
MKAR	**Makanchi Array**	**42.99**	**299**	P	**P**	**13 46 36.9**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=82,slow=9.9,SNR=6.3						
	comp=Z,0.9nm,0.7s						
IMAR	**Indian Mountai**	**43.45**	**32**	P	**P**	**13 46 41.2**	**+0.7**
KURK	**Kurchatov**	**44.46**	**306**	P	**P**	**13 46 47.7**	**-1.2**
KURK				IAmb	IAmb	13 46 49.4	
	comp=Z,2.4nm,0.8s						
KURBB	**Kurchatov Arra**	**44.54**	**305**	P	**P**	**13 46 48.8**	**-0.7**
	comp=Z,0.8nm,0.2s,baz=80,slow=8.6,SNR=9.2						
	comp=Z,0.8nm,0.2s						
C23K	**Itkillik River**	**44.90**	**27**	P	**P**	**13 46 52.4**	**+0.3**
C23K				IAmb	IAmb	13 47 33.5	
	comp=Z,3.8nm,1.4s						
BVAR	**Borovoye Array**	**48.87**	**310**	P	**P**	**13 47 22.4**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=76,slow=9.2,SNR=8.1						
	comp=Z,1.1nm,0.3s						
ABKAR	**Akbulak array**	**56.33**	**309**	P	**P**	**13 48 17.9**	**-0.7**
ABKAR				IAmb	IAmb	13 48 22.9	
	comp=Z,4.3nm,1.5s						
WRA	**Warramunga Arr**	**60.47**	**189**	P	**P**	**13 48 46.7**	**-0.9**
	comp=Z,0.5nm,1.0s,baz=3.7,slow=7.0,SNR=1.8						
	comp=Z,0.5nm,1.0s						
ASAR	**Alice Springs**	**64.19**	**189**	P	**P**	**13 49 13.3**	**+0.8**
ASAR	**Alice Springs**	**64.19**	**189**	P	**P**	**13 49 12.0**	**-0.5**
	comp=Z,0.3nm,1.0s,baz=2.9,slow=7.2,SNR=1.4						
	comp=Z,0.3nm,1.0s						
NC204	**NORSAR Array S**	**71.31**	**338**	P	**P**	**13 49 56.7**	**-0.2**
NC204				IAmb	IAmb	13 50 04.1	
	comp=Z,5.8nm,1.1s						
HFS	**Hagfors**	**71.32**	**336**	P	**P**	**13 49 56.7**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=32,slow=3.6,SNR=0.9						
	comp=Z,0.5nm,0.5s						
NOA	**NORSAR Array B**	**71.36**	**337**	P	**P**	**13 49 56.9**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=34,slow=6.4,SNR=2.2						
	comp=Z,0.3nm,0.5s						

*IDC **01** 14:03:19.6±0.7, 35°.81N×138°.94E, h125km±6km, mb3.3/6, mbtmp3.6/8, Error ellipse: s-maj=24.9km s-min=9.3km az=74.0*
*JMA **01** 14:03:20.1±0.1, 35°.9N±0°.5×139°.1E±0°.7, h125km±1km, MV3.5/40, WESTERN SAITAMA PREF*
JMA Felt I J1 at WESTERN SAITAMA PREF .

ISC 01 14:03:20.0±0.8, 35°.89N±0°.05×139°.05E±0°.05, h123km±6km, n32, σ1§26/47, mb3.5/6, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRY	**Ryogami san**	**0.17**	**315**	*i* P	**Pn**	**14 03 37.6**	**+0.7**
JRY				S	**Sn**	**14 03 50.8**	**+1.1**
JHU	**Hanno**	**0.19**	**103**	*i* P	**Pn**	**14 03 37.4**	**+0.5**
JHU				S	**Sn**	**14 03 50.3**	**+0.6**
JSGW	**Sagamiharawaka**	**0.32**	**156**	P	**Pn**	**14 03 37.5**	**+0.2**
JSGW				S	**Sn**	**14 03 50.5**	**+0.1**
JYN	**Shimob**	**0.57**	**226**	*i* P	**Pn**	**14 03 38.7**	**-0.1**
JYN				S	**Sn**	**14 03 53.3**	**+0.4**
JAG	**Ashikaga**	**0.62**	**31**	*i* P	**Pn**	**14 03 39.5**	**+0.5**
JAG				S	**Sn**	**14 03 53.8**	**+0.4**
JOD2	**Odawara 2**	**0.63**	**177**	*i* P	**Pn**	**14 03 38.8**	**-0.3**
JOD2				S	**Sn**	**14 03 53.3**	**-0.3**
JFNN	**Fujinakano**	**0.76**	**203**	P	**Pn**	**14 03 40.5**	**+0.4**
JFNN				*e*S	**Sn**	**14 03 57.3**	**+2.1**
MJAR	**Matsushiro Arr**	**0.94**	**314**	P	**Pn**	**14 03 41.5**	**-0.1**
	70nm,0.4s,baz=162,slow=9.4,SNR=770						
MJAR				S	**Sn**	**14 03 58.1**	**0.0**
	115nm,0.7s,baz=155,slow=15,SNR

mbtmp3.6/5, Error ellipse: s-maj=172.5km s-min=77.0km az=74.0

ISC 01 14:09:13.1±1.0, 30°.12N±0°.08×139°.9E±0°.3, h450km, n16, σ1970/20, mb3.1/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.98**	**359**	*e*P	**P**	**14 10 20.4**	**+0.5**
JHJ	**Hachijo jima 2**	**2.99**	**359**	P	**P**	**14 10 20.2**	**+0.3**
	56nm,0.3s,baz=251,slow=18,SNR=21						
JHJ				S	**S**	**14 11 12.2**	**-2.2**
	48nm,0.8s,baz=73,slow=19,SNR=1.3						
CBIJ	**Chichi jima**	**3.63**	**145**	*e*P	**P**	**14 10 24.7**	**-0.5**
CBIJ				S	**S**	**14 11 22.1**	**-1.7**
JMKN	**Mikurajimanish**	**3.77**	**356**	*e*P	**P**	**14 10 25.7**	**-0.4**
BSO1	**Boso 1**	**4.62**	**11**	*e*S	**S**	**14 11 40.3**	**+1.9**
BSO3	**Boso 3**	**4.70**	**6**	*e*S	**S**	**14 11 41.5**	**+1.1**
BSO4	**Boso 4**	**4.87**	**4**	S	**S**	**14 11 44.4**	**+0.7**
JHU	**Hanno**	**5.74**	**355**	*e*P	**P**	**14 10 44.2**	**-0.4**
JHU				*e*S	**S**	**14 11 55.1**	**-4.4**
JRY	**Ryogami san**	**5.94**	**352**	P	**P**	**14 10 47.0**	**+0.3**
JYT	**Yasato**	**6.10**	**2**	*e*P	**P**	**14 10 48.6**	**+0.4**
JYT				*e*S	**S**	**14 12 03.0**	**-3.1**
JAG	**Ashikaga**	**6.30**	**357**	P	**P**	**14 10 50.0**	**-0.4**
JHO	**Hitachi**	**6.50**	**5**	P	**P**	**14 10 53.8**	**+1.4**
MJAR	**Matsushiro Arr**	**6.55**	**348**	P	**P**	**14 10 53.5**	**+0.5**
	0.3nm,0.4s,baz=170,slow=11,SNR=1.3						
WRA	**Warramunga Arr**	**50.06**	**187**	P	**P**	**14 17 25.4**	**+0.1**
	0.5nm,0.5s,baz=1.6,slow=7.5,SNR=13						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**53.78**	**187**	P	**P**	**14 17 52.6**	**+0.4**
	0.3nm,0.5s,baz=359,slow=6.0,SNR=8.8						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**61.68**	**178**	P	**P**	**14 18 48.2**	**+2.1**
	1.2nm,0.7s,baz=0.0,slow=9.1,SNR=2.1						
	1.2nm,0.7s						

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*JMA **01** 14:15:47.0±0.3, 25°.N±2°.×122°.6E±0°.7, h191km±3km, MV2.8/14, NW OFF ISHIGAKIJIMA IS*
*TAP **01** 14:15:46.5, 25°.40N×122°.52E, h190km, ML3.0, D*

ISC 01 14:15:46.4±2.3, 25°.23N±0°.09×122°.58E±0°.04, h191km±13km, n66, σ0°.64/110, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.58**	**248**	*e*P	**Pn**	**14 16 13.2**	**+0.4**
	baz=237						
PCYT	**Pengchaiyu**	**0.61**	**311**	*e*P	**Pn**	**14 16 12.3**	**-0.7**
	baz=300						
SXI1	**Grass Mountain**	**0.65**	**258**	P	**Pn**	**14 16 13.4**	**+0.1**
	baz=243						
SXI1				S	**Sn**	**14 16 33.4**	**-0.6**
	baz=243						
TIPB	**Shuangxi**	**0.73**	**250**	*i* P	**Pn**	**14 16 14.2**	**+0.5**
	baz=236						
TNOU	**National Taiwa**	**0.73**	**264**	*e*P	**Pn**	**14 16 14.5**	**+0.8**
	baz=255						
JYNG	**Yonagunijimaku**	**0.84**	**157**	P	**Pn**	**14 16 14.3**	**0.0**
EOS2	**EOS2**	**0.87**	**201**	P	**Pn**	**14 16 14.8**	**+0.5**
	baz=191						
EOS2				S	**Sn**	**14 16 37.0**	**+1.1**
	baz=191						
TWC	**Suao**	**0.91**	**227**	*e*P	**Pn**	**14 16 14.0**	**-0.7**
	baz=218						
TWC				S	**Sn**	**14 16 35.6**	**-0.9**
	baz=218						
YM01	**YM01**	**0.92**	**265**	P	**Pn**	**14 16 15.1**	**+0.4**
	baz=253						
EOS3	**EOS3**	**0.97**	**194**	P	**Pn**	**14 16 15.8**	**+0.9**
	baz=194						
EOS3				S	**Sn**	**14 16 37.5**	**+0.5**
	baz=194						
TWE	**Neicheng**	**0.97**	**239**	*i* P	**Pn**	**14 16 15.6**	**+0.5**
	baz=236						
NDS	**Dongshan**	**0.98**	**233**	P	**Pn**	**14 16 15.8**	**+0.6**
	baz=224						
NDS				S	**Sn**	**14 16 38.3**	**+0.9**
	baz=224						
FUSB	**Fushanzhiwuyua**	**1.01**	**243**	*i* P	**Pn**	**14 16 15.4**	**-0.1**
	baz=238						
FUSB				S	**Sn**	**14 16 38.2**	**+0.3**
	baz=238						
EWUT	**Wuta**	**1.07**	**223**	*e*P	**Pn**	**14 16 15.8**	**+0.1**
	baz=216						
EWUT				*e*S	**Sn**	**14 16 38.1**	**-0.4**
	baz=216						
NWLT	**Wulai**	**1.08**	**245**	*e*P	**Pn**	**14 16 15.7**	**-0.2**
	baz=232						
ENTT	**Nioudou**	**1.09**	**238**	P	**Pn**	**14 16 16.4**	**+0.4**
	baz=228						
ENTT				S	**Sn**	**14 16 39.5**	**+0.7**
	baz=228						
ENA	**Nanau**	**1.10**	**224**	*i* P	**Pn**	**14 16 16.5**	**+0.5**
	baz=216						
ENA				*i* S	**Sn**	**14 16 39.3**	**+0.3**
	baz=216						
NDT	**Datong Townshi**	**1.15**	**237**	P	**Pn**	**14 16 17.2**	**+0.8**
	baz=239						
NDT				*e*S	**Sn**	**14 16 40.0**	**+0.3**
	baz=239						
EAHA	**Aohua**	**1.18**	**221**	*e*P	**Pn**	**14 16 16.7**	**+0.1**
	baz=209						
LATG	**Datong**	**1.18**	**234**	*i* P	**Pn**	**14 16 17.4**	**+0.7**
	baz=220						
LATG				*i* S	**Sn**	**14 16 40.8**	**+0.5**
	baz=220						
YHNB	**Yeheng**	**1.23**	**243**	*i* P	**Pn**	**14 16 17.1**	**0.0**
	baz=235						
YHNB				S	**Sn**	**14 16 39.9**	**-0.9**
	baz=235						
NSK	**Sanguang**	**1.24**	**244**	*i* P	**Pn**	**14 16 17.1**	**0.0**
	baz=236						
NSK				*i* S	**Sn**	**14 16 40.2**	**-0.7**
	baz=236						
NNS	**Nan Shan**	**1.35**	**235**	P	**Pn**	**14 16 18.7**	**+0.5**
	baz=227						
NNS				*e*S	**Sn**	**14 16 42.4**	**-0.4**
	baz=227						
NNSB	**Datong**	**1.35**	**234**	P	**Pn**	**14 16 18.5**	**+0.3**
	baz=227						
NNSB				S	**Sn**	**14 16 42.3**	**-0.5**
	baz=227						
IRIF	**Iriomote-Funau**	**1.37**	**130**	P	**Pn**	**14 16 18.9**	**+0.6**
ETL	**Fush Village**	**1.38**	**219**	P	**Pn**	**14 16 18.7**	**+0.3**
	baz=221						
ETL				*e*S	**Sn**	**14 16 42.5**	**-0.5**
	baz=221						
NACB	**Ninganchiao**	**1.38**	**221**	P	**Pn**	**14 16 17.9**	**-0.4**
	baz=215						
NACB				S	**Sn**	**14 16 42.1**	**-0.9**
	baz=215						
TWD	**Chiawan**	**1.45**	**218**	*e*P	**Pn**	**14 16 18.9**	**-0.1**
	baz=220						
TWD				*e*S	**Sn**	**14 16 43.5**	**-0.6**
	baz=220						
NFF	**Wufeng Townshi**	**1.46**	**246**	*e*P	**Pn**	**14 16 18.4**	**-0.6**
	baz=233						
NFF				*e*S	**Sn**	**14 16 43.2**	**-1.1**
	baz=233						
NSTT	**Nanjuang**	**1.55**	**248**	P	**Pn**	**14 16 19.7**	**-0.2**
	baz=241						
NSTT				S	**Sn**	**14 16 44.8**	**-1.0**
	baz=241						
FUSS	**Fushou**	**1.56**	**231**	P	**Pn**	**14 16 20.7**	**+0.5**
	baz=225						
FUSS				S	**Sn**	**14 16 46.5**	**+0.1**
	baz=225						
ETM	**Tongmen**	**1.60**	**218**	*e*P	**Pn**	**14 16 19.7**	**-0.7**
	baz=219						
ETM				*e*S	**Sn**	**14 16 45.1**	**-1.5**
	baz=219						
LXIB	**Xiulin Townshi**	**1.60**	**222**	P	**Pn**	**14 16 20.5**	**-0.1**
	baz=216						
LXIB				S	**Sn**	**14 16 46.8**	**-0.2**
	baz=216						
TWT	**Tachien**	**1.60**	**233**	P	**Pn**	**14 16 21.4**	**+0.8**
	baz=227						
TWT				S	**Sn**	**14 16 47.7**	**+0.7**
	baz=227						
WHF	**Hehuan Shan**	**1.61**	**228**	*i* P	**Pn**	**14 16 21.7**	**+0.8**
	baz=216						
WHF				*i* S	**Sn**	**14 16 47.3**	**-0.3**
	baz=216						
TDCB	**Techi**	**1.62**	**233**	P	**Pn**	**14 16 21.2**	**+0.5**
	baz=227						
TDCB				S	**Sn**	**14 16 47.8**	**+0.7**
	baz=227						
JKRS	**Kuro-shima**	**1.63**	**127**	P	**Pn**	**14 16 21.2**	**+0.6**
JKRS				S	**Sn**	**14 16 46.7**	**-0.4**
JIJ	**Ishigaki jima**	**1.66**	**121**	P	**Pn**	**14 16 20.9**	**0.0**
JIJ				S	**Sn**	**14 16 46.1**	**-1.5**
JISG	**Ishigakijimahi**	**1.70**	**112**	*e*P	**Pn**	**14 16 21.3**	**+0.1**
JISG				S	**Sn**	**14 16 47.8**	**-0.4**
SHUL	**Shoufeng**	**1.71**	**213**	P	**Pn**	**14 16 21.4**	**0.0**
	baz=207						
SHUL				*e*S	**Sn**	**14 16 48.4**	**-0.1**
	baz=207						
CHGB	**Renai**	**1.73**	**228**	P	**Pn**	**14 16 22.6**	**+0.8**
	baz=216						
CHGB				S	**Sn**	**14 16 49.6**	**+0.4**
	baz=216						
ESL	**Shilin**	**1.75**	**217**	P	**Pn**	**14 16 20.6**	**-1.2**
	baz=216						
WHP	**Taichung City**	**1.76**	**238**	*i* P	**Pn**	**14 16 22.3**	**+0.3**
	baz=227						
WHP				*i* S	**Sn**	**14 16 48.7**	**-0.8**
	baz=227						
OWD	**Renai**	**1.80**	**225**	P	**Pn**	**14 16 23.3**	**+0.9**
	baz=217						
OWD				S	**Sn**	**14 16 50.8**	**+0.4**
	baz=217						
WUSB	**Renai**	**1.81**	**227**	*i* P	**Pn**	**14 16 23.4**	**+0.8**
	baz=216						
WUSB				*i* S	**Sn**	**14 16 50.4**	**-0.2**
	baz=216						
WARBT	**Fenglin Townsh**	**1.86**	**216**	*e*P	**Pn**	**14 16 22.3**	**-0.6**
	baz=216						
WARBT				*e*S	**Sn**	**14 16 49.3**	**-1.9**
	baz=216						
WCS	**Beigang Elemen**	**1.92**	**233**	P	**Pn**	**14 16 23.6**	**+0.2**
	baz=232						
WCS				S	**Sn**	**14 16 51.5**	**-0.7**
	baz=232						
VWDT	**VWDT**	**1.97**	**222**	*e*P	**Pn**	**14 16 23.9**	**-0.1**
	baz=215						
VWDT				*e*S	**Sn**	**14 16 53.4**	**+0.2**
	baz=215						
JTJ	**Tarama**	**2.01**	**106**	*e*P	**Pn**	**14 16 25.2**	**+0.8**
JTJ				S	**Sn**	**14 16 53.6**	**-0.3**
HGSD	**Ruisui**	**2.03**	**212**	*e*P	**Pn**	**14 16 24.4**	**-0.2**
	baz=215						
HGSD				*e*S	**Sn**	**14 16 53.8**	**-0.4**
	baz=215						
SMLT	**Sun Moon Lake**	**2.03**	**229**	P	**Pn**	**14 16 25.0**	**+0.2**
	baz=230						
SMLT				*e*S	**Sn**	**14 16 56.0**	**+1.4**
	baz=230						
TYC	**Yuchr**	**2.05**	**230**	P	**Pn**	**14 16 25.2**	**+0.4**
	baz=232						
TYC				S	**Sn**	**14 16 54.4**	**-0.3**
	baz=232						
SSLB	**Suanglung**	**2.06**	**226**	P	**Pn**	**14 16 25.6**	**+0.6**
	baz=221						
SSLB				*e*S	**Sn**	**14 16 55.4**	**+0.4**
	baz=221						
EHY	**Hungye**	**2.06**	**214**	*e*P	**Pn**	**14 16 24.0**	**-1.0**
	baz=210						
YULB	**Yu-li**	**2.17**	**213**	P	**Pn**	**14 16 25.7**	**-0.5**
	baz=212						
WHYT	**Xinyi Township**	**2.19**	**226**	*e*P	**Pn**	**14 16 26.9**	**+0.5**
	baz=222						
WHYT				*e*S	**Sn**	**14 16 57.8**	**+0.3**
	baz=222						
EYUL	**Yuli**	**2.20**	**212**	*e*P	**Pn**	**14 16 27.6**	**+1.1**
	baz=212						
TWF1	**Yuli**	**2.21**	**212**	*e*P	**Pn**	**14 16 25.8**	**-0.8**
	baz=212						
FULB	**Fuli**	**2.34**	**210**	*e*P	**Pn**	**14 16 28.9**	**+0.8**
	baz=212						
ELDTW	**Lidau**	**2.48**	**215**	*e*P	**Pn**	**14 16 29.4**	**-0.3**
	baz=210						
JMJ2	**Miyako jima3**	**2.54**	**100**	P	**Pn**	**14 16 31.0**	**+0.7**
JMJ2				S	**Sn**	**14 17 03.9**	**-0.5**
LONT	**Longtian**	**2.67**	**210**	*e*P	**Pn**	**14 16 31.9**	**+0.2**
	baz=205						
WTP	**Ta-pu**	**2.67**	**223**	*e*P	**Pn**	**14 16 32.2**	**+0.4**
	baz=224						
TWGBT	**Beinan**	**2.77**	**210**	*e*P	**Pn**	**14 16 32.5**	**-0.4**
	baz=206						
TWG	**Pinlang**	**2.77**	**210**	*e*P	**Pn**	**14 16 32.7**	**-0.2**
	baz=206						
SLGT	**Liugui**	**2.84**	**219**	*e*P	**Pn**	**14 16 34.3**	**+0.5**
	baz=219						

IDC 01 14:29:02.6±6.8, 23°.06N×141°.25E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=288.6km s-min=24.0km az=74.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.27**	**190**	P	P	14 37 06.2	+0.2
	0.5nm,0.4s,baz=9.2,slow=8.5,SNR=10						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**46.99**	**189**	P	P	14 37 35.2	-0.5
	0.2nm,0.8s,baz=20,slow=12,SNR=4.7						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**52.46**	**312**	P	P	14 38 17.4	+0.2
	0.2nm,0.4s,baz=112,slow=6.4,SNR=2.5						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**55.31**	**316**	P	P	14 38 37.9	-0.1
	2.1nm,0.2s,baz=94,slow=7.7,SNR=1.6						
	2.1nm,0.2s						
BVAR	**Borovoye Array**	**60.48**	**319**	P	P	14 39 13.9	-0.3
	0.6nm,0.3s,baz=85,slow=6.2,SNR=4.8						
	0.6nm,0.3s						

NOU 01 14:51:43.9, 18°.13S×168°.69E, h3km, MLv4.0/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.63**	**310**	P	Pb	14 51 56.8	-0.7
LIFNC	**LIFOU**	**2.97**	**207**	P	Pn	14 52 32.4	+0.5
MARNC	**Mare, Loyalty**	**3.39**	**190**	P	Pn	14 52 36.5	-1.2
YATNC	**Mamie plateau,**	**4.26**	**203**	P	Pn	14 52 49.7	0.0
DZM	**Mont Dzumac**	**4.45**	**208**	P	Pn	14 52 52.6	+0.1
NOUC	**Port Laguerre**	**4.54**	**209**	P	Pn	14 52 53.8	+0.2
OUENC	**Ouen Island, N**	**4.61**	**202**	P	Pn	14 52 54.9	+0.4
PINNC	**Pines Island,**	**4.61**	**194**	P	Pn	14 52 54.9	+0.4
KOUNC	**Koumac, New Ca**	**4.80**	**239**	P	Pn	14 52 56.2	-1.0

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*IDC **01** 14:58:47.1±9.3, 17°.33N×120°.13E, h72km±88km, mb3.4/9, mbtmp3.7/9, MS3.2/4, Error ellipse: s-maj=48.9km s-min=16.7km az=74.0*

ISC 01 14:58:42.9±1.0, 17°.3N±0°.2×120°.1E±0°.3, h33km, n14, σ0°70/11, mb3.7/9, MS3.2/4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.25**	**18**	P	**P**	**15 03 26.3**	**+0.2**
	2.9nm,0.7s,baz=203,slow=11,SNR=14						
	2.9nm,0.7s						
KAPI	**Kappang**	**22.17**	**181**	LR	LR	15 13 30.7	
	comp=Z,44nm,18.0s,baz=81,slow=40						
GUMO	**Guam**	**24.20**	**95**	LR	LR	15 11 46.3	
	comp=Z,22nm,21.0s,baz=91,slow=32						
MJAR	**Matsushiro Arr**	**25.01**	**36**	P	**P**	**15 04 04.1**	**+0.2**
	0.7nm,0.9s,baz=220,slow=7.7,SNR=3.2						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**39.58**	**159**	P	**P**	**15 06 10.9**	**-0.4**
	0.6nm,0.7s,baz=338,slow=9.1,SNR=6.3						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**42.81**	**322**	P	**P**	**15 06 38.2**	**+0.6**
	0.4nm,0.9s,baz=116,slow=9.8,SNR=2.2						
MKAR				PcP	**PcP**	**15 08 28.9**	**+0.4**
	0.2nm,0.6s,baz=106,slow=5.1,SNR=2.6						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**42.90**	**161**	P	**P**	**15 06 39.1**	**+0.6**
	0.5nm,0.6s,baz=338,slow=7.0,SNR=18						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**46.89**	**325**	P	**P**	**15 07 10.3**	**+0.3**
	0.5nm,0.6s,baz=121,slow=8.8,SNR=6.3						
	0.5nm,0.6s						
WSAR	**Wadi Sarin**	**57.56**	**287**	LR	LR	15 34 48.4	
	comp=Z,34nm,20.1s,baz=172,slow=38						
KBZ	**Khabaz**	**69.05**	**311**	LR	LR	15 45 29.7	
	comp=Z,37nm,18.8s,baz=155,slow=41						
FINES	**FINESS Array B**	**76.86**	**331**	P	**P**	**15 10 31.0**	**-0.4**
	0.9nm,0.6s,baz=54,slow=7.1,SNR=5.1						
	0.9nm,0.6s						
HFS	**Hagfors**	**83.04**	**331**	P	**P**	**15 11 04.2**	**-0.6**
	1.8nm,0.6s,baz=76,slow=6.1,SNR=5.0						
	1.8nm,0.6s						
NB2	**NORSAR Subarra**	**83.80**	**332**	P	**P**	**15 11 07.5**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=66,slow=5.1						
NOA	**NORSAR Array B**	**83.80**	**332**	P	**P**	**15 11 08.0**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=65,slow=4.7,SNR=5.6						
	comp=Z,0.8nm,0.8s						

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*BJI **01** 15:10:35.5±0.0, 19°.88N×97°.87E, h27km, mb4.2/26, mB4.9/9, ML4.2/4, Ms4.2/15, Ms7 3.9/15*
*IDC **01** 15:10:35.0±0.7, 20°.17N×97°.82E, h0km, mb3.9/14, mbtmp3.9/15, ML4.3/1, MS3.3/17, Error ellipse: s-maj=34.3km s-min=10.7km az=58.0*
*NEIC **01** 15:10:37.4±1.5, 20°.26N±0°.04×97°.91E±0°.05, h10km±1km, mb4.6/32, Error ellipse: s-maj=9.1km s-min=6.4km az=236.0*

ISC 01 15:10:37.0±0.4, 20°.15N±0°.04×97°.92E±0°.05, h10km, n90, σ1°34/83, mb4.4/35, MS3.3/17, 2C, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**1.65**	**144**		**Pb**	**15 11 06.4**	**-1.0**
CM31	**Chiang Mai Arr**	**1.94**	**150**		**Pn**	**15 11 10.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**1.94**	**150**		**Pn**	**15 11 10.1**	**0.0**
CMAR	**Chiang Mai Arr**	**1.94**	**150**	Pn	**Pn**	**15 11 10.7**	**+0.6**
	32nm,0.3s,baz=329,slow=13,SNR=277						
CMAR				Lg	Lg	15 11 39.8	
	367nm,0.3s,baz=322,slow=28,SNR=31						
	250nm,0.6s						
CRAI	**Chiangrai**	**2.31**	**88**	Pn	**Pn**	**15 11 13.7**	**-1.4**
PHRA	**Phrae**	**2.73**	**127**	Pn	**Pn**	**15 11 21.0**	**+0.1**
TNCH	**TengChong**	**4.88**	**6**	Pn	**Pn**	**15 11 51.0**	**+0.3**
TNCH				Pg	**Pg**	**15 12 08.8**	**-1.8**
TNCH				Sn	**Sn**	**15 12 48.5**	**+1.1**
TNCH				Sg	**Sg**	**15 13 09.5**	**-4.4**
TNCH				smax	smax		
	comp=N,870nm,1.1s						
TNCH				smax	smax		
	comp=E,970nm,1.3s						
TNCH				LR	LR		
	comp=Z,940nm,5.7s						
SAIH	**SAIHA**	**5.15**	**298**	*e*P	**Pn**	**15 11 57.7**	**+3.4**
SAIH				*i* x	x	15 12 09.5	
SAIH				*e*S	**Sn**	**15 12 58.1**	**+4.2**
SAIH				*ex*	x	15 13 01.3	
SAIH				IAML		15 13 04.6	
	comp=E,127nm,0.9s						
SAIH				IAML		15 13 05.8	
	comp=N,195nm,0.6s						
IMP	**Imphal**	**5.93**	**322**	*e*P	**Pn**	**15 12 06.9**	**+2.0**
IMP				*ex*	x	15 13 47.7	
IMP				IAML		15 13 48.5	
	comp=E,62nm,1.0s						
IMP				IAML		15 13 59.2	
	comp=E,70nm,0.7s						
KOHI	**KOHIMA**	**6.56**	**328**	*e*P	Pn	15 12 20.3	+6.7
KOHI				*ex*	x	15 13 48.6	
KOHI				IAML		15 14 09.0	
	comp=E,87nm,1.0s						
KOHI				IAML		15 14 13.7	
	comp=N,95nm,1.7s						
KMI	**Kunming**	**6.66**	**41**	⇑Pg	**Pg**	**15 12 45.6**	**+1.1**
KMI				Sg	**Sg**	**15 14 09.1**	**-1.6**
KMI				smax	smax		
	comp=N,100nm,1.2s						
KMI				smax	smax		
	comp=E,120nm,1.3s						
KMI				LR	LR		
	comp=N,1μm,7.2s						
KMI				LR	LR		
	comp=E,1μm,6.6s						
KMI				LR	LR		
	comp=Z,320nm,6.1s						
PZH	**PanZhiHua**	**7.23**	**28**	Pn	**Pn**	**15 12 25.3**	**+2.4**
PZH				smax	smax		
	comp=Z,70nm,0.8s						
PZH				smax	smax		
	comp=Z,90nm,0.7s						
SHL	**Shillong**	**7.75**	**315**	*e*P	**Pn**	**15 12 31.6**	**+1.7**
ZIRO	**ZIRO**	**8.23**	**334**	*e*P	Pn	15 12 41.8	+5.1
UBPT	**Khong Chiam**	**8.68**	**123**	Pn	**Pn**	**15 12 43.0**	**+0.4**
GYA	**Guiyang**	**10.20**	**50**	⇑P	**Pn**	**15 13 06.9**	**+3.4**
GYA				S	**Sn**	**15 15 00.4**	**+2.4**
GYA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,140nm,4.9s						
GYA				LR	LR		
	comp=Z,520nm,4.7s						
GYA				LR	LR		
	comp=Z,320nm,6.1s						
GYA				LR	LR		
	comp=Z,460nm,6.7s						
GTK	**Tadong**	**11.12**	**312**	*e*P	Pn	15 13 21.5	+5.3
QIZ	**Qiongzhong**	**11.30**	**94**	P	**Pn**	**15 13 19.7**	**+1.2**
QIZ				S	**Sn**	**15 15 25.7**	**+0.8**
QIZ				LR	LR		
	comp=Z,220nm,12.3s						
QIZ				LR	LR		
	comp=Z,230nm,16.2s						
QIZ				LR	LR		
	comp=Z,250nm,19.4s						
LZH	**Lanzhou**	**16.71**	**17**	*e*P	**P**	**15 14 35.4**	**+1.7**
LZH				pP	sP	15 14 42.3	+4.1
LZH				pmax	pmax		
	comp=Z,8.0nm,1.3s						
LZH				LR	LR		
	comp=Z,370nm,10.7s						
LZH				LR	LR		
	comp=Z,620nm,10.6s						
LZH				LR	LR		
	comp=Z,260nm,11.0s						
GSI	**Gunungsitoli**	**18.74**	**181**	P	**Pn**	**15 14 56.2**	**-0.3**
GTA	**Gaotai**	**19.26**	**4**	*e*P	**Pn**	**15 15 04.8**	**+2.0**
GTA				sP	sP	15 15 14.7	+8.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GTA				LR	LR		
	comp=Z,150nm,10.5s						
GTA				LR	LR		
	comp=Z,79nm,9.5s						
GTA				LR	LR		
	comp=Z,140nm,9.5s						
PALK	**Pallekele**	**21.03**	**235**	LR	LR	15 24 10.0	
	comp=Z,49nm,18.3s,baz=193,slow=39						
NJ2	**Nanjing**	**22.18**	**53**	*e*P	**P**	**15 15 32.5**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,400nm,3.8s						
HHC	**Hu-ho-hao-te**	**23.69**	**26**	*e*P	**P**	**15 15 47.8**	**-1.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,73nm,4.6s						
HHC				LR	LR		
	comp=Z,140nm,7.3s						
HHC				LR	LR		
	comp=Z,150nm,8.0s						
HHC				LR	LR		
	comp=Z,150nm,8.0s						
WMQ	**Urumqi**	**25.10**	**342**	*e*P	**P**	**15 16 01.4**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,15nm,0.8s						
NIL	**Nilore**	**25.70**	**307**	P	**P**	**15 16 07.1**	**-0.3**
KSH	**Kashi**	**26.98**	**320**	P	**P**	**15 16 19.8**	**+0.7**
KSH				pP	sP	15 16 24.1	+0.5
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XLT	**XiLinHaoTe**	**28.12**	**29**	*e*P	**P**	**15 16 30.7**	**+1.5**
XLT				sP	sP	15 16 37.7	+3.9
XLT				PP	**PnPn**	**15 17 20.0**	**+3.2**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SONM	**Songino Array**	**28.46**	**12**	P	**P**	**15 16 32.3**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=198,slow=8.9,SNR=4.0						
	comp=Z,0.5nm,0.6s						
JOW	**Kunigami**	**28.58**	**71**	P	**P**	**15 16 32.5**	**-0.

comp=Z,0.6nm,0.7s
DAV Davao City (W) 29.80 112 LR LR 15 28 59.4
comp=Z,51nm,19.3s,baz=320,slow=37
TJN Taejon 30.40 52 P **P 15 16 49.1 -0.3**
BTK Batken 30.52 316 P **P 15 16 49.5 -1.0**
BTK IAmb IAmb 15 16 52.8
comp=Z,5.7nm,0.7s
KSRS Korea Array 31.25 50 LR LR 15 31 31.7
comp=Z,71nm,18.5s,baz=230,slow=40
JNU Nakatsue 32.03 59 P **P 15 17 03.1 -0.7**
JNU Nakatsue 32.03 59 LR LR 15 31 32.3
comp=Z,49nm,18.9s,baz=181,slow=39
KKAR Karatay Array 32.43 321 P **P 15 17 07.1 -0.1**
KAPI Kappang 32.95 137 LR LR 15 34 01.5
comp=Z,33nm,19.9s,baz=120,slow=43
KURBB Kurchatov Arra 34.05 338 P **P 15 17 20.1 -1.1**
comp=Z,1.1nm,0.7s,baz=146,slow=8.9,SNR=11
KURBB PcP **PcP 15 19 58.1 -0.7**
comp=Z,0.1nm,0.4s,baz=168,slow=2.8,SNR=1.7
comp=Z,1.1nm,0.7s
KURK Kurchatov 34.10 338 P **P 15 17 21.3 -0.3**
ZALV Zalesovo Beam 35.20 347 P **P 15 17 30.7 -0.4**
comp=Z,1.6nm,0.8s,baz=157,slow=9.4,SNR=5.2
comp=Z,1.6nm,0.8s
GEYT Alibeck 38.70 306 P **P 15 18 01.7 +0.5**
comp=Z,1.5nm,0.6s,baz=145,slow=5.3,SNR=4.0
comp=Z,1.5nm,0.6s
MJAR Matsushiro Arr 38.72 56 P **P 15 18 01.1 -0.3**
comp=Z,1.1nm,1.0s,baz=263,slow=9.7,SNR=4.2
MJAR LR LR 15 35 33.4
comp=Z,26nm,18.4s,baz=316,slow=39
comp=Z,1.1nm,1.0s
BVAR Borovoye Array 39.09 334 P **P 15 18 03.4 -0.8**
comp=Z,0.5nm,0.4s,baz=120,slow=10,SNR=5.4
BVAR PcP **PcP 15 20 12.9 -1.0**
comp=Z,0.4nm,0.5s,baz=110,slow=6.3,SNR=2.8
comp=Z,0.5nm,0.4s
JHJ Hachijo jima 2 39.34 62 LR LR 15 35 34.1
comp=Z,25nm,18.5s,baz=46,slow=38
KLR Kul'dur 39.62 35 LR LR 15 35 51.9
comp=Z,44nm,19.0s,baz=162,slow=38
ABKAR Akbulak array 41.93 323 P **P 15 18 27.0 -0.8**
ASAJ Asahikawa 44.05 47 LR LR 15 37 28.9
comp=Z,19nm,18.5s,baz=244,slow=37
GUMO Guam 45.28 91 LR LR 15 36 06.1
comp=Z,15nm,21.8s,baz=38,slow=34
ARU Arti 46.50 331 P **P 15 19 03.0 -1.2**
ARU IAmb IAmb 15 19 05.8
comp=Z,7.7nm,1.1s
NRIK Noril'sk 49.59 355 P **P 15 19 29.1 +1.1**
comp=Z,1.3nm,0.5s,baz=117,slow=7.5,SNR=3.8
comp=Z,1.3nm,0.5s
KIRV Kirov 51.84 330 LR LR 15 45 24.9
comp=Z,36nm,19.0s,baz=161,slow=40
WB0 Warramunga Arr 53.39 136 P **P 15 19 56.9 -0.2**
WB0 IAmb IAmb 15 19 57.1
comp=Z,5.1nm,1.0s
WRA Warramunga Arr 53.48 136 P **P 15 19 57.0 -0.8**
WRA Warramunga Arr 53.48 136 P **P 15 19 57.5 -0.3**
comp=Z,0.9nm,0.7s,baz=322,slow=7.7,SNR=9.2
comp=Z,0.9nm,0.7s
WR0 Warramunga Arr 53.62 136 P **P 15 19 58.9 +0.1**
WR0 IAmb IAmb 15 20 08.9
comp=Z,9.5nm,1.3s
TIXI Tiksi 54.54 12 P **P 15 20 04.8 0.0**
TIXI IAmb IAmb 15 20 07.6
comp=Z,9.8nm,1.5s
AS31 Alice Springs 55.92 139 P **P 15 20 15.7 +0.2**
ASAR Alice Springs 55.92 139 P **P 15 20 16.0 +0.5**
ASAR Alice Springs 55.92 139 P **P 15 20 15.4 0.0**
comp=Z,1.4nm,0.8s,baz=320,slow=7.2,SNR=16
comp=Z,1.4nm,0.8s
PETK Petropavlovsk- 56.06 39 LR LR 15 45 15.5
comp=Z,46nm,18.4s,baz=264,slow=37
AKASG Malin Array Be 61.22 317 P **P 15 20 49.6 -2.4**
comp=Z,1.1nm,0.4s,baz=78,slow=7.0,SNR=2.7
AKASG LR LR 15 50 22.5
comp=Z,23nm,20.1s,baz=50,slow=39
comp=Z,1.1nm,0.4s
MLR Muntele Rosu 63.39 312 P **P 15 21 06.7 -0.2**
MLR IAmb IAmb 15 21 08.4
comp=Z,5.5nm,0.9s
ALN Alexandroupoli 63.58 306 P **P 15 21 08.0 0.0**
ALN IAmb IAmb 15 21 52.2
comp=Z,2.8nm,1.0s
BBOO Buckleboo 64.05 145 P **P 15 21 12.2 +1.1**
IDI Anoyia 65.08 300 P **P 15 21 17.0 -1.1**
IDI IAmb IAmb 15 21 25.0
comp=Z,4.2nm,0.8s
STHS Stebnicka Huta 66.37 316 *eP* **P 15 21 27.0 +0.9**
STKA Stephens Creek 66.54 140 P **P 15 21 28.3 +1.0**
ITM Ithomi 67.19 303 P **P 15 21 30.8 -0.7**
HNR Honiara 67.73 110 P **P 15 21 34.8 -0.4**
MBAR Mbarara 68.85 261 LR LR 15 50 55.7
comp=Z,20nm,20.6s,baz=86,slow=35
HFS Hagfors 69.89 328 P **P 15 21 47.0 -1.0**
comp=Z,1.0nm,0.7s,baz=107,slow=4.8,SNR=5.7
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 71.00 329 P **P 15 21 53.4 -1.4**
comp=Z,1.3nm,0.9s,baz=82,slow=6.2,SNR=4.1
NOA LR LR 15 56 17.1
comp=Z,20nm,18.7s,baz=195,slow=39
comp=Z,3.3nm,0.9s
DAVOX Davos/Dischmat 74.28 314 LR LR 15 59 07.6
comp=Z,29nm,18.7s,baz=111,slow=39
F19K Shaleruckih Mo 77.13 23 P **P 15 22 30.1 -0.3**
F19K IAmb IAmb 15 22 31.7
comp=Z,3.3nm,1.2s
F20K Avaraart Lake 77.80 23 P **P 15 22 34.1 -0.1**
H21K Melozitna Rive 79.45 23 P **P 15 22 43.1 -0.2**
D25K Kavik River 79.90 19 P **P 15 22 45.0 -0.7**
D25K IAmb IAmb 15 22 48.0
comp=Z,6.0nm,1.2s
E27K Coleen River 81.98 19 P **P 15 22 56.6 -0.2**
E27K IAmb IAmb 15 23 08.7
comp=Z,9.9nm,1.4s
E29M Blow River 82.96 18 P **P 15 23 01.7 -0.2**
E29M IAmb IAmb 15 23 04.5
comp=Z,6.3nm,1.4s
A36M Sachs Harbour 83.55 12 P **P 15 23 04.3 -0.5**
A36M IAmb IAmb 15 23 07.0
comp=Z,6.8nm,1.0s
I28M Miner Creek 84.13 21 P **P 15 23 08.0 -0.1**
I28M IAmb IAmb 15 23 10.8
comp=Z,2.7nm,1.0s
C36M Paulatuk 85.84 14 P **P 15 23 15.3 -1.2**
C36M IAmb IAmb 15 23 17.8
comp=Z,10nm,1.4s
ESDC Sonseca Array 86.07 311 P **P 15 23 17.5 -0.8**
comp=Z,0.4nm,0.7s,baz=76,slow=5.4,SNR=4.0
comp=Z,0.4nm,0.7s
DBIC Dimbokro 99.60 281 LR LR 16 13 52.2
comp=Z,17nm,19.6s,baz=184,slow=38
TXAR Lajitas Array 126.58 24 PKP **PKPdf 15 29 40.7 -0.5**
comp=Z,0.1nm,0.4s,baz=318,slow=1.2,SNR=1.7

*SJA **01** 15:28:36.0±0.8, 31°.40S×72°.03W, h12km±2km, ML4.5, MW4.2*
*IDC **01** 15:28:36.5±0.6, 31°.42S×71°.61W, h0km, mb4.3/10, mbtmp4.2/15, ML3.8/5, MS3.5/16, Error ellipse: s-maj=23.5km s-min=15.4km az=96.0*
*NEIC **01** 15:28:41.2±1.1, 31°.42S±0°.04×71°.75W±0°.09, h29km±6km, mb4.5/25, ML4.2(GUC), Error ellipse: s-maj=11.1km s-min=5.6km az=94.0*
*VAO **01** 15:28:43.7±2.0, 31°.07S×71°.38W, h32km±9km, mb4.5*
*GUC **01** 15:28:44.9±0.9, 31°.24S×71°.45W, h40km±4km, ML4.2*
ISC 01 15:28:39.3±0.8, 31°.38S±0°.02×71°.73W±0°.04, h19km±2km, n160, σ1$28/177, mb4.5/23, MS3.6/12, 8C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.65**	**74**		**Pn**	**15 28 53.5**	**0.0**
CO02	**Combarbal**	**0.65**	**74**	*eP*	**Pn**	**15 28 53.5**	**0.0**
CO02				IAML		15 29 09.7
comp=Z,10μm,0.6s							
CO02	**Combarbal**	**0.65**	**74**	*eP*	**Pn**	**15 28 53.6**	**+0.1**
CO02				*eS*	**Sg**	**15 29 00.1**	**-0.7**
CO02				IAML		15 29 07.4
comp=N,42μm,0.2s							
CO06	**Fray Jorge**	**0.71**	**6**		**Pn**	**15 28 56.0**	**+1.8**
CO06	**Fray Jorge**	**0.71**	**6**	*eP*	**Pn**	**15 28 56.2**	**+1.9**
CO06				*eS*	**Sn**	**15 29 05.3**	**+0.7**
CO06				IAML		15 29 08.9
comp=E,18μm,0.4s							
CO03	**El Pedregal**	**1.04**	**59**		**Pg**	**15 29 00.0**	**+0.5**
CO03	**El Pedregal**	**1.04**	**59**	*eP*	**Pg**	**15 29 00.1**	**+0.5**
CO03				*eS*	**Sg**	**15 29 15.4**	**+2.2**
CO03				IAML		15 29 19.2
comp=Z,7μm,0.5s							
CO03	**El Pedregal**	**1.04**	**59**	*eP*	**Pg**	**15 28 60.0**	**+0.5**
CO03				*eS*	**Sb**	**15 29 10.3**	**-1.6**
VA06	**Catapilco**	**1.23**	**163**		**Pn**	**15 29 01.6**	**+0.2**
VA06	**Catapilco**	**1.23**	**163**	⇑*eP*	**Pn**	**15 29 01.5**	**0.0**
VA06				*eS*	**Sb**	**15 29 16.2**	**-1.2**
VA06				IAML		15 29 20.7
comp=E,11μm,0.5s							
GO04	**Tololo Observa**	**1.44**	**34**		**Pg**	**15 29 06.7**	**-0.5**
GO04	**Tololo Observa**	**1.44**	**34**	*eP*	**Pg**	**15 29 06.5**	**-0.6**
GO04				*eS*	**Sg**	**15 29 28.6**	**+2.6**
GO04				IAML		15 29 31.4
comp=Z,21μm,0.1s							
GO04	**Tololo Observa**	**1.44**	**34**	*eP*	**Pg**	**15 29 06.7**	**-0.5**
GO04				*eS*	**Sn**	**15 29 22.5**	**-0.7**
CO05	**La Serena**	**1.52**	**16**		**Pb**	**15 29 07.2**	**+0.4**
CO05	**La Serena**	**1.52**	**16**	*eP*	**Pg**	**15 29 08.0**	**-0.5**
CO05				*eS*	**Sb**	**15 29 25.2**	**-0.4**
CO05				IAML		15 29 33.4
comp=N,5μm,0.1s							
CO05				IAML		15 29 34.7
comp=E,6μm,0.6s							
VA01	**Torpederas**	**1.64**	**178**		**Pn**	**15 29 06.9**	**-0.1**
VA01	**Torpederas**	**1.64**	**178**	*eP*	**Pn**	**15 29 07.3**	**+0.3**
VA01				*eS*	**Sg**	**15 29 31.0**	**-1.2**
ROCH	**El Roble**	**1.70**	**159**	IAML		15 29 34.4
comp=N,6μm,0.4s							
ROC1	**El Roble**	**1.70**	**159**	*eP*	**Pn**	**15 29 08.9**	**+0.8**
ROC1				*eS*	**Sb**	**15 29 31.5**	**+0.4**
VA03	**San Esteban**	**1.70**	**144**		**Pb**	**15 29 09.1**	**-0.9**
VA03	**San Esteban**	**1.70**	**144**	*eP*	**Pb**	**15 29 08.9**	**-1.1**
VA03				*eP*	**Pn**	**15 29 09.6**	**+1.6**
VA03				*eS*	**Sb**	**15 29 32.2**	**+1.1**
VA03				IAML		15 29 34.7
comp=Z,3μm,0.8s							
MT02	**Curacav**	**1.94**	**165**		**Pn**	**15 29 11.4**	**+0.2**
MT02	**Curacav**	**1.94**	**165**	*eP*	**Pn**	**15 29 11.4**	**+0.2**
MT02				*eS*	**Sb**	**15 29 38.6**	**+0.9**
MT02	**Curacav**	**1.94**	**165**	⇑*eP*	**Pn**	**15 29 12.4**	**+1.2**
MT02				*eS*	**Sn**	**15 29 36.2**	**+1.2**
PEL	**Peldehue**	**1.97**	**154**		**Pn**	**15 29 12.2**	**+0.6**
PEL	**Peldehue**	**1.97**	**154**	*eP*	**Pn**	**15 29 07.3**	**-4.3**
PEL				*eP*	**Pb**	**15 29 13.0**	**-1.5**
PEL				*eS*	**Sb**	**15 29 39.4**	**+0.8**
PEL				IAML		15 29 48.5
comp=Z,2μm,1.1s							
CO01	**Juntas del Tor**	**1.98**	**46**		**Pb**	**15 29 14.6**	**-0.3**
CO01	**Juntas del Tor**	**1.98**	**46**	*eP*	**Pb**	**15 29 15.5**	**+0.6**
CO01				*eS*	**Sg**	**15 29 42.0**	**-1.3**
CO01				IAML		15 29 43.3
comp=Z,3μm,0.6s							
CO01	**Juntas del Tor**	**1.98**	**46**	⇑*eP*	**Pb**	**15 29 15.4**	**+0.5**
CO01				IAML		15 29 43.6
comp=N,3μm,0.5s							
RTLS	**Leoncito**	**2.11**	**102**	*eP*	**Pb**	**15 29 17.5**	**+0.4**
RTLS				*eS*	**Sg**	**15 29 49.5**	**+2.1**
RTLS				IAML		15 29 52.8
comp=Z,3μm,0.8s							
MT05	**Renca**	**2.17**	**158**		**Pn**	**15 29 15.4**	**+1.0**
MT05	**Renca**	**2.17**	**158**	*eP*	**Pb**	**15 29 16.8**	**-1.2**
MT05				*eS*	**Sb**	**15 29 45.2**	**+0.7**
MT05				IAML		15 29 50.1
comp=Z,1μm,1.1s							
MT05	**Renca**	**2.17**	**158**	*eP*	**Pb**	**15 29 16.6**	**-1.3**
MT05				*eS*	**Sn**	**15 29 42.3**	**+1.4**
MT05				IAML		15 30 00.2
comp=E,3μm,0.5s							
VA05	**Santo Domingo**	**2.27**	**178**		**Pn**	**15 29 15.8**	**+0.1**
MT16	**CCHEN**	**2.28**	**154**		**Pn**	**15 29 16.8**	**+0.9**
DOCA	**Reserva Natura**	**2.31**	**80**	*eP*	**Pb**	**15 29 21.0**	**+0.5**
DOCA				*eS*	**Sg**	**15 29 53.1**	**-0.4**
MT03	**Universidad Ad**	**2.34**	**154**		**Pn**	**15 29 17.6**	**+0.7**
MT03	**Universidad Ad**	**2.34**	**154**	*eP*	**Pn**	**15 29 18.3**	**+1.5**
MT03				*eS*	**Sb**	**15 29 49.2**	**-0.3**
MT03				IAML		15 29 59.7
comp=Z,2μm,0.8s							
MT03	**Universidad Ad**	**2.34**	**154**	⇑*eP*	**Pn**	**15 29 18.2**	**+1.4**
MT03				*eS*	**Sn**	**15 29 47.0**	**+1.8**
MT04	**Ro Olivares**	**2.42**	**147**	*eP*	**Pn**	**15 29 20.1**	**+2.0**
MT04				*eS*	**Sb**	**15 29 50.1**	**-1.9**
MT04				IAML		15 30 03.5
comp=N,1μm,0.7s							
MT01	**Popeta**	**2.51**	**171**		**Pn**	**15 29 19.6**	**+0.6**
MT01	**Popeta**	**2.51**	**171**	*eP*	**Pn**	**15 29 19.4**	**+0.4**
MT01				*eS*	**Sn**	**15 29 49.3**	**+0.3**
MT01	**Popeta**	**2.51**	**171**	*eP*	**Pn**	**15 29 19.6**	**+0.6**
MT01				*eS*	**Sb**	**15 29 52.5**	**-1.7**
MT01				IAML		15 29 59.6
comp=E,1μm,0.6s							
MT08	**Bocatoma Ro**	**2.51**	**145**		**Pn**	**15 29 21.5**	**+2.2**
LCO	**Las Campanas**	**2.52**	**21**	Pn	**Pb**	**15 29 22.0**	**-2.1**
LCO	**Las Campanas**	**2.52**	**21**	*eP*	**Pb**	**15 29 22.3**	**-1.8**
LCO				*eS*	**Sb**	**15 29 55.3**	**+0.5**
LCO				IAML		15 30 00.3
comp=Z,6μm,0.5s							
LCO	**Las Campanas**	**2.52**	**21**	*eP*	**Pb**	**15 29 22.0**	**-2.1**
LCO				*eS*	**Sn**	**15 29 51.0**	**+1.2**
ZON	**Zonda**	**2.61**	**94**		**Pb**	**15 29 23.6**	**-1.8**
ZON	**Zonda**	**2.61**	**94**	*eP*	**Pb**	**15 29 24.8**	**-0.6**
ZON				*eS*	**Sg**	**15 30 02.4**	**-0.8**
ZON				IAML		15 30 15.5
comp=Z,1μm,0.6s							
MT13	**San Alfonso**	**2.65**	**153**		**Pn**	**15 29 22.6**	**+1.5**
SJA	**San Juan**	**2.71**	**94**	*eP*	Pn	15 29 14.0	-7.8
SJA				*eS*	**Sg**	**15 30 05.0**	**-1.4**
SJA				IAML		15 30 20.6
comp=Z,1μm,0.6s							
RTCV	**Cerro Valdivia**	**2.76**	**101**	*eP*	**Pn**	**15 29 22.3**	**-0.2**
RTCV				*eP*	**Pb**	**15 29 27.4**	**-0.6**
RTCV				*eS*	**Sg**	**15 30 09.7**	**+1.7**
BO01	**Tunca**	**3.05**	**170**	*eP*	**Pn**	**15 29 22.3**	**-4.1**
BO01				*eP*	Pb	15 29 27.1	-5.8
BO01				*eS*	**Sn**	**15 30 04.8**	**+2.4**
AC04	**Llanos de Chal**	**3.22**	**10**	Pn	**Pn**	**15 29 30.4**	**+1.6**
AC04	**Llanos de Chal**	**3.22**	**10**	*eP*	**Pn**	**15 29 30.3**	**+1.6**
AC04				*eS*	**Sn**	**15 30 10.2**	**+3.7**
AC04				IAML		15 30 23.6
comp=Z,1μm,0.5s							
BO02	**Sierra Bellavi**	**3.49**	**167**	*eP*	**Pn**	**15 29 33.6**	**+1.0**
BO02				*eP*	Pb	15 29 33.8	-6.7
BO02				*eS*	**Sn**	**15 30 16.4**	**+3.0**
BO02				IAML		15 30 29.7
comp=Z,905nm,0.8s							
GO05	**Huala**	**3.62**	**183**	Pn	**Pn**	**15 29 33.3**	**-1.0**
GO05	**Huala**	**3.62**	**183**	*eP*	Pn	15 29 28.3	-6.0
GO05				*eP*	Pb	15 29 33.8	-8.9
GO05				*eS*	**Sb**	**15 30 28.3**	**+2.1**
GO03	**Copiap**	**3.99**	**19**	*eP*	**Pn**	**15 29 41.9**	**+2.4**
GO03				*eS*	**Sg**	**15 30 45.6**	**-1.9**
GO03				IAML		15 30 49.5
comp=Z,1μm,0.8s							
AC06	**Mina Casimiro**	**4.18**	**17**	Pn	**Pn**	**15 29 43.6**	**+1.5**
AC01	**Pan de Azucar**	**5.31**	**11**	*eP*	**Pn**	**15 29 59.5**	**+2.0**
AC01				*eS*	**Sb**	**15 31 12.3**	**-2.4**
AC01				IAML		15 31 24.3
comp=Z,339nm,0.9s							
H03N1	**Juan Fernandez**	**6.42**	**249**	T	T	15 36 55.0
baz=78,slow=72,SNR=4562							
H03N3	**Juan Fernandez**	**6.43**	**249**	T	T	15 36 52.0
baz=78,slow=72,SNR=3516							
H03N2	**Juan Fernandez**	**6.43**	**249**	T	T	15 36 55.8
baz=78,slow=72,SNR=3129							
H03S3	**Juan Fernandez**	**6.53**	**246**	T	T	15 36 57.9
baz=84,slow=74							
H03S1	**Juan Fernandez**	**6.54**	**246**	T	T	15 36 55.6
baz=84,slow=74							
H03S2	**Juan Fernandez**	**6.55**	**246**	T	T	15 36 56.3
baz=84,slow=74							
LVC	**Limon Verde**	**9.09**	**17**	Pn	**Pn**	**15 30 49.1**	**-0.6**
comp=Z,0.3nm,0.3s,baz=141,slow=18,SNR=2.0							
LVC				Sn	**Sn**	**15 32 32.8**	**+1.0**
comp=Z,2.2nm,0.3s,baz=202,slow=20,SNR=2.1							
LVC				LR	LR	15 34 33.1
comp=Z,253nm,19.1s,baz=216,slow=39							
comp=Z,1.8nm,0.6s							
LVC	**Limon Verde**	**9.09**	**17**	*eP*	**Pn**	**15 30 47.8**	**-2.0**
PLCA	**Paso Flores**	**9.38**	**175**	Pn	**Pn**	**15 30 54.1**	**+0.6**
comp=Z,0.2nm,0.3s,baz=334,slow=12,SNR=11							
PLCA				LR	LR	15 34 28.4
comp=Z,210nm,18.9s,baz=340,slow=38							
comp=Z,0.8nm,0.5s							
TRQA Tornquist 10.42 132 Pn **Pn 15 31 07.9 +0.3**							
PSAL Palomas, Salto 12.09 92 *eP* **Pn 15 31 30.4 -0.1**							
ITQB Itaqui 13.13 86 Pn **Pn 15 31 44.9 +0.1**							
ITQB Itaqui 13.13 86 *eP* **Pn 15 31 44.4 -0.3**							
TBOT Tacuaremb 13.47 95 *eP* **Pn 15 31 47.9 -1.5**							
CPUP Villa Florida 13.58 72 Pn **Pn 15 31 50.0 -0.9**							
comp=Z,0.2nm,0.3s,baz=249,slow=13,SNR=7.1							
CPUP Sn **Sn 15 34 20.7 -0.6**							
comp=Z,0.3nm,0.3s,baz=301,slow=17,SNR=1.5							
CPUP LR LR 15 37 40.8							
comp=Z,333nm,18.3s,baz=218,slow=40							
comp=Z,1.2nm,0.5s							
RODS Rosario do Sul 14.24 90 *eP* **Pn 15 31 58.9 -1.0**							
LPAZ La Paz 15.38 13 Pn **Pn 15 32 16.8 +1.0**							
LPAZ La Paz 15.38 13 Pn **Pn 15 32 17.2 +1.4**							
comp=Z,0.3nm,0.3s,baz=179,slow=9.3,SNR=10.0							
comp=Z,2.6nm,0.7s							
LPAZ La Paz 15.38 13 *eP* **Pn 15 32 13.8 -2.0**							
PLTB Pedras Altas 15.45 96 Pn **Pn 15 32 17.4 +1.1**							
PLTB Pedras Altas 15.45 96 *eP* **Pn 15 32 16.4 +0.1**							
CPSB Cacapava Do Su 15.73 91 *eP* **Pn 15 32 18.6 -1.2**							
CRSM Crissiumal (Br 15.88 80 *eP* **Pn 15 32 20.9 -0.9**							
ALGR Alto Alegre (B 16.39 86 *eP* **Pn 15 32 27.7 -0.6**							
BBSD Serra de San D 17.37 38 *eP* **Pn 15 32 39.3 -1.4**							
ITAB Concordia 17.58 81 *eP* **Pn 15 32 42.5 -0.7**							
SIV San Ignacio 18.14 35 P **Pn 15 32 50.1 -0.2**							
baz=224,slow=10,SNR=12							
comp=Z,3.2nm,0.8s							
PTLB Pontes e Lacer 19.59 39 P **P 15 33 06.0 -0.3**							
PTLB Pontes e Lacer 19.59 39 *eP* **P 15 33 05.1 -1.3**							
TER01 Tubaro-SC 19.78 88 *eP* **P 15 33 08.1 -0.2**							
NNA Nana 19.87 345 LR LR 15 39 08.4							
comp=Z,47nm,21.5s,baz=171,slow=32							
VILB Vilhena 21.19 33 *eP* **P 15 33 18.7 -5.0**							
SALV Santo Antonio 21.24 47 *eP* **P 15 33 22.5 -1.8**							
ETMB Extrema 22.06 15 P **P 15 33 34.3 +1.2**							
ETMB Extrema 22.06 15 *eP* **P 15 33 32.4 -0.6**							
RCLB Rio Claro- Sao 23.31 73 *eP* **P 15 33 45.8 -0.4**							
VAO Valinhos 23.51 75 P **P 15 33 48.5 +0.2**							
VAO IAmb IAmb 15 34 00.7							
comp=Z,14nm,1.0s							
CZSB Cruzeiro do Su 23.55 358 P **P 15 33 49.5 +1.0**							
CZSB IAmb IAmb 15 33 55.3							
comp=Z,11nm,0.6s							
CZSB Cruzeiro do Su 23.55 358 *eP* **P 15 33 48.9 +0.4**							
SAML Samuel 23.70 21 P **P 15 33 49.9 0.0**							
SAML Samuel 23.70 21 *eP* **P 15 33 48.4 -1.5**							
ARAG Araguaiana, MT 23.95 54 *eP* **P 15 33 51.3 -1.2**							
PDRB Porto dos Gac 24.06 38 *eP* **P 15 33 52.2 -1.3**							
ATAH Atahualpa 24.92 344 LR LR 15 42 22.9							
comp=Z,33nm,19.2s,baz=195,slow=33							
IPMB Ipameri, GO 25.12 63 *eP* **P 15 34 02.4 -0.7**							
PMNB Patos De Minas 26.18 67 *eP* **P 15 34 12.1 -0.7**							
BSCB Bom Sucesso 26.24 73 *eP* **P 15 34 12.7 -0.7**							
BDFB Brasilia 26.71 60 P **P 15 34 16.7 -0.9**							
BDFB IAmb IAmb 15 34 32.8							
comp=Z,17nm,1.1s							
BDFB Brasilia 26.71 60 P **P 15 34 16.8 -0.9**							
comp=Z,11nm,0.9s,baz=230,slow=7.3,SNR=13							
BDFB LR LR 15 46 11.7							
comp=Z,369nm,18.1s,baz=167,slow=40							
comp=Z,11nm,0.9s							
JANB Januaria 29.86 63 *eP* **P 15 34 45.0 -0.6**							
SJMB Sao Joao De Ma 30.30 73 *eP* **P 15 34 49.4 -0.2**							
SMTB Santa Maria do 31.72 50 *eP* **P 15 35 01.6 -0.4**							
RPN Rapa Nui 32.98 268 LR LR 15 44 27.1							
comp=Z,34nm,20.8s,baz=230,slow=29							
CMC01 Camacan, BA 33.43 69 *eP* **P 15 35 16.3 -0.7**							
PMSA Palmer Station 33.76 174 LR LR 15 48 40.8							
comp=Z,97nm,18.7s,baz=296,slow=36							
GDU01 Guandu, BA 34.33 67 *eP* **P 15 35 24.1 -0.7**							
SDV Santo Domingo 40.05 2 LR LR 15 54 01.4							
comp=Z,34nm,18.6s,baz=239,slow=38							
MDP Montagnes des 40.59 30 LR LR 15 55 14.5							
comp=Z,71nm,21.4s,baz=241,slow=39							
PCRV Puerto La Cruz 41.88 10 LR LR 15 55 49.9							
comp=Z,88nm,20.0s,slow=39							
RCBR Riachuelo 42.08 60 LR LR 15 55 39.3							
comp=Z,76nm,18.2s,baz=332,slow=39							
BELA Belgrano 2 49.41 170 P **P 15 37 27.9 +0.6**							
BELA IAmb IAmb 15 37 29.1							
comp=Z,4.1nm,0.9s							
VNA3 Neumayer Olymp 51.69 159 ⇑P **P 15 37 44.4 -0.1**							
comp=Z,2.5nm,0.7s							
VNA2 Neumayer--Watz 52.33 158 ⇑P **P 15 37 48.5 -0.8**							
comp=Z,2.5nm,0.7s,baz=290,slow=7.6							
SNAA Sanae 53.91 159 P **P 15 38 00.7 -0.4**							
SNAA IAmb IAmb 15 38 02.4							
comp=Z,6.9nm,1.0s							
SNAA Sanae 53.91 159 ⇑P **P 15 38 00.5 -0.6**							
comp=Z,52nm,0.7s							
SNAA Sanae 53.91 159 P **P 15 38 01.1 +0.1**							
comp=Z,3.9nm,0.8s,baz=293,slow=5.8,SNR=13							
comp=Z,3.9nm,0.8s							
TROLL Troll, Antarti 55.62 159 ⇑P **P 15 38 13.3 -0.2**							
comp=Z,133nm,0.9s							
QSPA South Pole Qui 58.85 180 P **P 15 38 36.7 +0.2**							
comp=Z,3.3nm,1.0s,baz=134,slow=7.4,SNR=8.1							
comp=Z,3.3nm,1.0s							
TXAR Lajitas Array 67.59 330 P **P 15 39 36.0 +1.3**							
comp=Z,0.6nm,0.8s,baz=141,slow=5.8,SNR=7.0							
comp=Z,0.6nm,0.8s							
V48A Smith Brothers 68.26 347 IAmb IAmb 15 39 40.2							
comp=Z,5.3nm,1.1s							
WVT Waverly 68.84 346 P **P 15 39 42.7 +0.5**							
LCAR Lake Charles 69.53 343 IAmb IAmb 15 39 47.9							
comp=Z,3.5nm,0.7s							
CCM Cathedral Cave 71.44 344 P **P 15 39 58.8 +0.7**							
CCM IAmb IAmb 15 39 59.9							
comp=Z,6.0nm,0.9s							
R40A Maddies Statio 71.91 343 IAmb IAmb 15 40 02.6							
comp=Z,5.0nm,0.9s							
ANMO Albuquerque 73.62 331 LR LR 16 08 21.3							
comp=Z,29nm,19.0s,baz=248,slow=32							
DBIC Dimbokro 74.10 72 P **P 15 40 14.4 -0.1**							
comp=Z,7.1nm,0.7s,baz=217,slow=6.2,SNR=5.5							
comp

comp=Z,20nm,0.6s,baz=301,slow=3.4,SNR=67
ZALV PKPab **PKPab 15 48 42.5 +1.1**
comp=Z,8.1nm,0.7s,baz=298,slow=3.4,SNR=11
MKAR Makanchi Array 154.79 45 PKP **PKPdf 15 48 30.4 0.0**
comp=Z,0.2nm,0.7s,baz=23,slow=3.0,SNR=4.0
MKAR PKPbc **sPKPdf 15 48 38.9 -0.1**
comp=Z,1.5nm,0.7s,baz=305,slow=2.0,SNR=13
MKAR PKPab **PKPab 15 48 54.5 +0.4**
comp=Z,1.1nm,0.8s,baz=302,slow=2.7,SNR=5.1
SONM Songino Array 163.50 4 PKPab **PKPab 15 49 31.7 -0.2**
comp=Z,0.3nm,0.5s,baz=343,slow=4.5,SNR=2.4

ROM 01 15:44:41.9±0.1, 44°.208N±0°.003×10°.578E±0°.005, h11km, ML1.0/12, 3C-1D, Error ellipse: s-maj=0.4km s-min=0.3km az=285.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARO	**Sassorosso**	**0.13**	**259**	P	Pg	15 44 45.5	+0.4
SARO				S	Sg	15 44 48.2	+0.8
SARO				AML	AML		
	comp=E,51μm,0.8s						
SARO				AML	AML		
	comp=E,51μm,0.8s						
SARO				AML	AML		
	comp=N,72μm,0.6s						
GSCL	**Gusciola**	**0.14**	**3**	⇓P	Pg	15 44 45.8	+0.5
GSCL				S	Sg	15 44 48.5	+0.8
GSCL				AML	AML		
	comp=N,150μm,0.2s						
GSCL				AML	AML		
	comp=E,78μm,0.3s						
BDI	**Bagni Di Lucca**	**0.15**	**175**	⇑P	Pg	15 44 45.8	+0.5
BDI				S	Sg	15 44 48.6	+0.8
BDI				AML	AML		
	comp=N,72μm,0.5s						
BDI				AML	AML		
	comp=E,77μm,0.3s						
BDI				AML	AML		
	comp=N,72μm,1.5s						
VLC	**Villacollemand**	**0.15**	**251**	⇑P	Pg	15 44 45.9	+0.6
VLC				S	Sg	15 44 48.8	+1.1
CARD	**Cardoso**	**0.20**	**201**	P	Pg	15 44 46.4	+0.3
CARD				AML	AML		
	comp=E,52μm,0.6s						
CARD				AML	AML		
	comp=N,49μm,0.5s						
CARD				AML	AML		
	comp=E,52μm,1.4s						
POPM	**Popiglio**	**0.21**	**142**	⇑P	Pg	15 44 46.9	+0.6
POPM				S	Sg	15 44 50.7	+1.4
POPM				AML	AML		
	comp=N,77μm,0.1s						
POPM				AML	AML		
	comp=E,82μm,0.4s						
POPM				AML	AML		
	comp=N,77μm,0.1s						

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*STR **01** 15:45:39.6±1.2, 44°.N±10°×1°1E±°, h10km, MLv2.5/14, Error ellipse: s-maj=0.0km s-min=0.0km az=32.9, preliminary*
*ROM **01** 15:45:40.8±0.1, 44°.196N±0°.004×10°.551E±0°.007, h11km, ML2.4/62, Error ellipse: s-maj=0.6km s-min=0.5km az=254.0*
*GEN **01** 15:45:40.3, 44°.20N×10°.57E, h17km, Ml2.4*
*LDG **01** 15:45:40.7±0.1, 44°.20N×10°.55E, h16km, Ml2.3/14, Error ellipse: s-maj=2.2km s-min=1.5km az=38.0*
ISC 01 15:45:40.3±0.8, 44°.20N±0°.02×10°.54E±0°.01, h18km±4km, n98, σ1§53/157, 2C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARO	**Sassorosso**	**0.10**	**260**	⇑P	**Pb**	**15 45 44.3**	**+0.9**
SARO				S	**Sg**	**15 45 47.0**	**+0.4**
SARO				AML	AML		
	comp=E,3645μm,0.3s						
SARO				AML	AML		
	comp=N,7500μm,0.6s						
SARO				AML	AML		
	comp=E,3647μm,0.3s						
SARO				AML	AML		
	comp=N,5809μm,0.2s						
SARO	**Sassorosso**	**0.10**	**260**	P	**Pb**	**15 45 44.3**	**+0.9**
SARO				S	**Sg**	**15 45 47.0**	**+0.4**
VLC	**Villacollemand**	**0.12**	**250**	P	**Pb**	**15 45 44.6**	**+0.9**
VLC				S	**Sg**	**15 45 47.4**	**+0.6**
VLC				AML	AML		
	comp=E,1245μm,0.3s						
VLC				AML	AML		
	comp=N,1105μm,0.3s						
VLC				AML	AML		
	comp=E,1250μm,0.3s						
VLC				AML	AML		
	comp=E,1295μm,0.3s						
VLC				AML	AML		
	comp=N,1110μm,0.3s						
VLC				AML	AML		
	comp=N,1055μm,0.1s						
VLC				AML	AML		
	comp=E,1295μm,0.3s						
VLC				AML	AML		
	comp=N,1043μm,0.1s						
VLC				AML	AML		
	comp=E,1250μm,0.3s						
VLC	**Villacollemand**	**0.12**	**250**	P	**Pb**	**15 45 44.6**	**+0.9**
VLC				S	**Sg**	**15 45 47.6**	**+0.8**
BDI	**Bagni Di Lucca**	**0.14**	**164**	⇑P	**Pb**	**15 45 44.6**	**+0.4**
BDI				S	**Sg**	**15 45 47.4**	**+0.1**
BDI				AML	AML		
	comp=E,5680μm,0.5s						
BDI				AML	AML		
	comp=E,5675μm,0.5s						
BDI				AML	AML		
	comp=N,6790μm,0.3s						
BDI				AML	AML		
	comp=N,6390μm,0.3s						
BDI				AML	AML		
	comp=E,5675μm,0.5s						
BDI				AML	AML		
	comp=N,6790μm,0.2s						
BDI				AML	AML		
	comp=E,6120μm,0.9s						
BDI				AML	AML		
	comp=N,5399μm,0.1s						
BDI				AML	AML		
	comp=E,5870μm,0.2s						
BDI				AML	AML		
	comp=N,4619μm,0.1s						
BDI				AML	AML		
	comp=E,5323μm,0.2s						
BDI	**Bagni Di Lucca**	**0.14**	**164**	P	**Pb**	**15 45 44.6**	**+0.4**
BDI				S	**Sg**	**15 45 47.6**	**+0.3**
GSCL	**Gusciola**	**0.15**	**12**	P	**Pb**	**15 45 44.6**	**+0.1**
GSCL				S	**Sg**	**15 45 47.3**	**-0.2**
GSCL				AML	AML		
	comp=E,3860μm,0.3s						
GSCL				AML	AML		
	comp=N,8710μm,0.2s						
GSCL				AML	AML		
	comp=E,3860μm,0.3s						
GSCL				AML	AML		
	comp=N,8706μm,0.2s						
GSCL	**Gusciola**	**0.15**	**12**	P	**Pb**	**15 45 44.6**	**+0.1**
GSCL				S	**Sg**	**15 45 47.4**	**-0.1**
CARD	**Cardoso**	**0.18**	**194**	P	**Pb**	**15 45 45.1**	**+0.2**
CARD				S	**Sg**	**15 45 48.5**	**+0.5**
CARD				AML	AML		
	comp=E,5600μm,0.4s						
CARD				AML	AML		
	comp=N,4325μm,0.3s						
CARD				AML	AML		
	comp=N,4324μm,0.3s						
CARD				AML	AML		
	comp=E,5415μm,0.1s						
CARD				AML	AML		
	comp=N,4324μm,1.7s						
CARD	**Cardoso**	**0.18**	**194**	P	**Pb**	**15 45 45.2**	**+0.2**
CARD				S	**Sg**	**15 45 48.6**	**+0.6**
POPM	**Popiglio**	**0.22**	**135**	P	**Pb**	**15 45 45.7**	**0.0**
POPM				S	**Sg**	**15 45 49.4**	**+0.4**
POPM				AML	AML		
	comp=E,8625μm,0.3s						
POPM				AML	AML		
	comp=N,7185μm,0.2s						
POPM				AML	AML		
	comp=E,8628μm,0.3s						
POPM				AML	AML		
	comp=N,7188μm,0.2s						
POPM	**Popiglio**	**0.22**	**135**	P	**Pb**	**15 45 45.7**	**0.0**
POPM				S	**Sg**	**15 45 49.6**	**+0.6**
EQUI	**Equi**	**0.28**	**263**	P	**Pb**	**15 45 46.6**	**-0.2**
EQUI				S	**Sb**	**15 45 51.3**	**+0.1**
EQUI				AML	AML		
	comp=E,404μm,0.8s						
EQUI				AML	AML		
	comp=N,508μm,0.8s						
EQUI				AML	AML		
	comp=N,487μm,0.3s						
EQUI				AML	AML		
	comp=E,306μm,0.1s						
EQUI	**Equi**	**0.28**	**263**	P	**Pb**	**15 45 46.6**	**-0.2**
EQUI				S	**Sb**	**15 45 51.3**	**+0.1**
MAIM	**Mastiano**	**0.29**	**187**	P	**Pb**	**15 45 46.7**	**-0.2**
MAIM				S	**Sb**	**15 45 51.4**	**0.0**
MAIM				AML	AML		
	comp=N,807μm,0.4s						
MAIM				AML	AML		
	comp=E,1090μm,0.3s						
MAIM				AML	AML		
	comp=E,1092μm,0.3s						
MAIM				AML	AML		
	comp=N,748μm,0.2s						
MAIM	**Mastiano**	**0.29**	**187**	P	**Pb**	**15 45 46.8**	**-0.2**
MAIM				S	**Sb**	**15 45 51.6**	**+0.2**
FIVI	**Fivizzano**	**0.30**	**277**	P	**Pb**	**15 45 47.4**	**+0.2**
FIVI				S	**Sb**	**15 45 52.4**	**+0.6**
A306A	**Viano (RE)**	**0.34**	**7**	P	**Pb**	**15 45 48.9**	**+1.0**
A306A				S	**Sb**	**15 45 55.9**	**+3.0**
ZCCA	**Zocca**	**0.35**	**64**	P	**Pb**	**15 45 48.3**	**+0.3**
ZCCA				S	**Sb**	**15 45 54.9**	**+1.7**
ZCCA				AML	AML		
	comp=E,881μm,0.4s						
ZCCA				AML	AML		
	comp=N,768μm,0.3s						
ZCCA				AML	AML		
	comp=E,766μm,0.4s						
ZCCA				AML	AML		
	comp=N,768μm,0.3s						
ZCCA				AML	AML		
	comp=E,880μm,0.4s						
ZCCA				AML	AML		
	comp=N,1008μm,0.4s						
ZCCA				AML	AML		
	comp=E,880μm,0.4s						
ZCCA				AML	AML		
	comp=E,766μm,0.4s						
ZCCA				AML	AML		
	comp=N,1007μm,0.4s						
ZCCA				AML	AML		
	comp=N,768μm,0.3s						
ZCCA	**Zocca**	**0.35**	**64**	P	**Pb**	**15 45 48.5**	**+0.6**
MTCR	**Monte La Croce**	**0.37**	**118**	P	**Pb**	**15 45 48.0**	**-0.4**
MTCR				S	**Sb**	**15 45 53.3**	**-0.7**
MTCR	**Monte La Croce**	**0.37**	**118**	P	**Pb**	**15 45 48.0**	**-0.4**
MTCR				S	**Sb**	**15 45 53.6**	**-0.4**
FNVD	**Fontana Vidola**	**0.42**	**94**	P	**Pb**	**15 45 48.9**	**-0.3**
FNVD				S	**Sb**	**15 45 55.0**	**-0.3**
GRAM	**Graiana**	**0.45**	**310**	P	**Pb**	**15 45 49.9**	**+0.2**
GRAM				S	**Sb**	**15 45 56.8**	**+0.6**
GRAM				AML	AML		
	comp=E,2000μm,0.5s						
GRAM				AML	AML		
	comp=N,1018μm,0.3s						
GRAM				AML	AML		
	comp=E,2000μm,0.5s						
GRAM				AML	AML		
	comp=N,1018μm,0.3s						
GRAM				AML	AML		
	comp=E,2000μm,1.5s						
GRAM	**Graiana**	**0.45**	**310**	P	**Pb**	**15 45 50.0**	**+0.2**
GRAM				S	**Sb**	**15 45 57.2**	**+1.0**
MPPT	**Montemurlo**	**0.46**	**121**	P	**Pb**	**15 45 49.6**	**-0.3**
MPPT				S	**Sb**	**15 45 56.3**	**-0.2**
MPPT				AML	AML		
	comp=N,352μm,0.3s						
MPPT				AML	AML		
	comp=E,438μm,0.3s						
MPPT				AML	AML		
	comp=E,438μm,0.3s						
MPPT				AML	AML		
	comp=N,353μm,0.3s						
PII	**Pisa**	**0.48**	**182**	P	**Pb**	**15 45 50.4**	**+0.2**
PII				S	**Sg**	**15 45 56.6**	**+0.2**
PII				AML	AML		
	comp=E,2000μm,0.3s						
PII				AML	AML		
	comp=N,2100μm,0.3s						
PII				AML	AML		
	comp=N,2097μm,0.3s						
PII				AML	AML		
	comp=E,1998μm,0.3s						
PII	**Pisa**	**0.48**	**182**	P	**Pb**	**15 45 50.4**	**+0.2**
PII				S	**Sb**	**15 45 56.8**	**-0.1**
MOCL	**Monte Cuccoli**	**0.50**	**113**	P	**Pb**	**15 45 50.3**	**-0.3**
MOCL				S	**Sb**	**15 45 57.6**	**+0.1**
MOCL				AML	AML		
	comp=E,482μm,1.5s						
MOCL				AML	AML		
	comp=N,515μm,0.2s						
MOCL				AML	AML		
	comp=N,516μm,0.2s						
MOCL				AML	AML		
	comp=E,432μm,0.2s						
MOCL				AML	AML		
	comp=N,515μm,0.2s						
CRMI	**Carmignano**	**0.51**	**143**	P	**Pb**	**15 45 50.8**	**0.0**
CRMI				S	**Sb**	**15 45 58.2**	**+0.3**
CRMI				AML	AML		
	comp=E,168μm,1.4s						
CRMI				AML	AML		
	comp=N,246μm,0.5s						
CRMI				AML	AML		
	comp=E,163μm,0.3s						
CRMI				AML	AML		
	comp=N,209μm,0.2s						
CRMI				AML	AML		
	comp=N,221μm,0.2s						
CRMI				AML	AML		
	comp=E,163μm,1.7s						
CRMI				AML	AML		
	comp=E,150μm,0.3s						
PLMA	**Palmaria, Port**	**0.52**	**253**	P	**Pb**	**15 45 51.2**	**+0.3**
PLMA				S	**Sb**	**15 45 58.6**	**+0.5**
PLMA				AML	AML		
	comp=E,339μm,0.6s						
PLMA				AML	AML		
	comp=N,355μm,0.4s						
PLMA				AML	AML		
	comp=E,319μm,0.6s						
PLMA				AML	AML		
	comp=N,355μm,0.1s						
PLMA	**Palmaria, Port**	**0.52**	**253**	P	**Pb**	**15 45 51.2**	**+0.3**
PLMA				S	**Sb**	**15 45 58.6**	**+0.5**
MSSA	**Maissana**	**0.74**	**279**	P	**Pn**	**15 45 55.5**	**-0.5**
MSSA				S	**Sb**	**15 46 06.0**	**+1.3**
MSSA				AML	AML		
	comp=E,348μm,0.9s						
MSSA				AML	AML		
	comp=N,204μm,0.4s						
MSSA				AML	AML		
	comp=N,204μm,0.5s						
MSSA				AML	AML		
	comp=E,326μm,0.3s						
MSSA				AML	AML		
	comp=E,326μm,1.6s						
MSSA	**Maissana**	**0.74**	**279**	P	**Pn**	**15 45 55.6**	**-0.5**
MSSA				S	**Sb**	**15 46 05.3**	**+0.7**
RUFI	**Rufina**	**0.79**	**117**	P	**Pb**	**15 45 55.9**	**+0.5**
RUFI				S	**Sb**	**15 46 06.1**	**+0.4**
RUFI				AML	AML		
	comp=E,99μm,0.5s						
RUFI				AML	AML		
	comp=N,99μm,0.8s						
RUFI				AML	AML		
	comp=E,99μm,0.5s						
RUFI				AML	AML		
	comp=N,99μm,0.8s						
RUFI				AML	AML		
	comp=N,99μm,0.8s						
RUFI				AML	AML		
	comp=E,99μm,0.5s						
RUFI	**Rufina**	**0.79**	**117**	P	**Pb**	**15 45 55.7**	**+0.3**
RUFI				S	**Sb**	**15 46 06.7**	**+1.0**
OSSC	**Osservatorio P**	**0.85**	**143**	P	**Pn**	**15 45 57.0**	**-0.3**
OSSC				S	**Sb**	**15 46 08.6**	**+1.1**
OSSC				AML	AML		
	comp=E,104μm,1.3s						
OSSC				AML	AML		
	comp=N,98μm,0.6s						
OSSC				AML	AML		
	comp=E,130μm,0.8s						
OSSC				AML	AML		
	comp=N,98μm,0.6s						
OSSC				AML	AML		
	comp=E,103μm,0.8s						
OSSC				AML	AML		
	comp=N,163μm,0.7s						
OSSC				AML	AML		
	comp=N,98μm,1.4s						
OSSC				AML	AML		
	comp=E,130μm,1.2s						
OSSC	**Osservatorio P**	**0.85**	**143**	P	**Pn**	**15 45 57.2**	**-0.1**
OSSC				S	**Sn**	**15 46 10.4**	**+1.1**
GORR	**Gorreto**	**0.98**	**295**	P	**Pn**	**15 45 60.0**	**+0.7**
GORR	**Gorreto**	**0.98**	**295**	P	**Pn**	**15 46 00.3**	**+1.1**
GORR				S	**Sn**	**15 46 13.1**	**+0.3**
RNCA	**Ronca, Sant'Ol**	**1.17**	**284**	P	**Pg**	**15 46 03.2**	**+0.2**
RNCA	**Ronca, Sant'Ol**	**1.17**	**284**	S	**Sn**	**15 46 18.8**	**+1.4**
PCP	**Piancastagn**	**1.47**	**284**	P	**Pb**	**15 46 07.2**	**+0.1**
MORSI	**Morsiglia**	**1.51**	**215**	P	**Pb**	**15 46 07.7**	**-0.1**
CANO	**Canova, Maglio**	**1.66**	**271**	P	**Pn**	**15 46 09.2**	**+0.7**
CANO	**Canova, Maglio**	**1.66**	**271**	S	**Sn**	**15 46 29.6**	**+0.3**
RORO	**Rocca Rossa**	**1.79**	**268**	P	**Pn**	**15 46 10.6**	**+0.4**
GBOS	**Grotte di Boss**	**1.94**	**272**	P	**Pn**	**15 46 13.4**	**+0.9**
MGRO	**Montegrosso**	**1.98**	**266**	S	**Sn**	**15 46 37.0**	**-0.4**
MGRO	**Montegrosso**	**1.98**	**266**	P	**Pn**	**15 46 13.6**	**+0.6**
PGF	**Pioggiola**	**2.00**	**215**	*e*Pn	**Pn**	**15 46 12.8**	**-0.5**
PGF	**Pioggiola**	**2.00**	**215**	*e*P	**Pn**	**15 46 14.4**	**+1.1**
PGF				*e*Sn	**Sn**	**15 46 35.5**	**-2.4**
	comp=E,2.3nm,0.2s						
SAOF	**Saorge**	**2.16**	**265**	P	**Pn**	**15 46 16.3**	**+0.8**
SAOF				S	**Sn**	**15 46 37.2**	**-4.6**
ENR	**Entracque**	**2.25**	**272**	P	**Pn**	**15 46 18.1**	**+1.5**
SBF	**Sospel**	**2.27**	**263**	*e*P	**Pn**	**15 46 17.6**	**+0.7**
SBF				*e*Sn	**Sn**	**15 46 41.6**	**-2.8**
	comp=E,5.1nm,0.2s						
TURF	**col de Turini**	**2.28**	**265**	P	**Pn**	**15 46 18.0**	**+0.8**
TURF				S	**Sn**	**15 46 44.9**	**0.0**
SPIF	**crte de Spivo**	**2.38**	**268**	P	**Pn**	**15 46 20.1**	**+1.5**
SPIF				S	**Sn**	**15 46 48.8**	**+1.3**
BRJN	**Brijuni**	**2.40**	**72**	*e*Pn	**Pn**	**15 46 19.0**	**+0.4**
BRJN				Sn	**Sn**	**15 46 47.8**	**+0.3**
MVIF	**Mont Vial**	**2.46**	**264**	P	**Pn**	**15 46 21.5**	**+1.8**
MVIF				S	**Sn**	**15 46 49.7**	**+0.3**
CALF	**Calern**	**2.65**	**262**	P	**Pn**	**15 46 23.2**	**+0.9**
CALF				S	**Sn**	**15 46 54.0**	**0.0**
ENAUX	**Enaux**	**2.71**	**269**	P	**Pn**	**15 46 25.6**	**+2.5**
ENAUX				S	**Sn**	**15 46 58.9**	**+3.3**
MBDF	**Montbardon**	**2.75**	**282**	*e*Pn	**Pn**	**15 46 23.5**	**-0.2**
MBDF	**Montbardon**	**2.75**	**282**	*e*P	**Pn**	**15 46 25.8**	**+2.1**
CREF	**Crivoux**	**2.83**	**278**	P	**Pn**	**15 46 26.3**	**+1.5**
LPG	**La Plagne**	**2.99**	**297**	*e*Pn	**Pn**	**15 46 26.7**	**-0.4**
LPG	**La Plagne**	**2.99**	**297**	*e*P	**Pn**	**15 46 28.8**	**+1.7**
LPG				*e*Sn	**Sn**	**15 46 59.4**	**-3.3**
	comp=E,2.1nm,0.5s						
LPL	**La Plagne**	**3.01**	**297**	*e*Sn	**Sn**	**15 46 59.7**	**-3.4**
	comp=E,1.5nm,0.3s						
TRIGF	**Trigance**	**3.02**	**263**	P	**Pn**	**15 46 28.8**	**+1.5**
TRIGF				S	**Sn**	**15 47 03.7**	**+0.6**
LMR	**La Mourre**	**3.05**	**255**	*e*P	**Pn**	**15 46 27.6**	**0.0**
LMR				*e*Sn	**Sn**	**15 46 59.8**	**-3.8**
	comp=E,2.5nm,0.3s						
SQTA	**Sankt Quirin**	**3.06**	**9**	*e*Pn	**Pn**	**15 46 29.7**	**+1.9**
	comp=E,4.0nm,0.3s						
NVLJ	**Novalja**	**3.12**	**82**	*e*Pn	**Pn**	**15 46 30.4**	**+1.7**
WTTA	**Wattenberg**	**3.16**	**14**	*i* Pn	**Pb**	**15 46 32.5**	**-3.5**
	comp=E,4.8nm,0.3s						
MOTA	**Moosalm**	**3.17**	**7**	*e*Pn	**Pn**	**15 46 32.4**	**+3.0**
	comp=E,2.9nm,0.5s						
WATA	**Walderalm**	**3.22**	**13**	*i* Pn	**Pn**	**15 46 32.3**	**+2.2**
	comp=E,0.7nm,0.1s						
VIRC	**Vir**	**3.24**	**87**	*e*Pn	**Pn**	**15 46 32.0**	**+1.7**
VIRC				Sn	**Sn**	**15 47 08.7**	**+0.3**
DUGI	**Dugi Otok**	**3.26**	**92**	*e*Pn	**Pn**	**15 46 32.6**	**+2.1**
RETA	**Reutte**	**3.29**	**3**	*e*Pn	**Pn**	**15 46 33.4**	**+2.4**
	comp=E,0.6nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.41**	**284**	*e*Pn	**Pn**	**15 46 31.7**	**-0.9**
ORIF	**Oris-en-Rattie**	**3.41**	**284**	*e*P	**Pn**	**15 46 35.0**	**+2.4**
ORIF				*e*Sn	**Sn**	**15 47 09.5**	**-3.2**
	comp=E,2.8nm,0.4s						
ARTF	**Artigues**	**3.48**	**261**	P	**Pn**	**15 46 34.9**	**+1.4**
LESA	**Schwarzleotal**	**3.55**	**24**	*e*Pn	**Pn**	**15 46 38.1**	**+3.5**
	comp=E,0.6nm,0.2s						
SMRF	**Simiane la Rot**	**3.59**	**268**	*e*Pn	**Pn**	**15 46 34.6**	**-0.4**
SMRF	**Simiane la Rot**	**3.59**	**268**	*e*P	**Pn**	**15 46 37.6**	**+2.6**
SMRF				*e*Sn	**Sn**	**15 47 14.3**	**-2.7**
	comp=E,1.2nm,0.3s						
OBKA	**Obir**	**3.65**	**49**	*e*Pn	**Pn**	**15 46 35.5**	**-0.4**
	comp=E,0.6nm,0.4s						
RUSF	**Rustrel**	**3.66**	**268**	P	**Pn**	**15 46 38.0**	**+2.0**
RUSF				S	**Sn**	**15 47 20.5**	**+1.8**
CABF	**La Chapelle**	**3.96**	**309**	*e*P	**Pn**	**15 46 42.2**	**+2.0**
CABF				*e*Sn	**Sn**	**15 47 22.7**	**-3.4**
	comp=E,0.4nm,0.2s						
VIVF	**Saint-Julien-l**	**4.25**	**281**	*e*Pn	**Pn**	**15 46 43.6**	**-0.5**
VIVF	**Saint-Julien-l**	**4.25**	**281**	*e*P	**Pn**	**15 46 46.6**	**+2.5**
VIVF				*e*Sn	**Sn**	**15 47 30.4**	**-2.9**
	comp=E,1.1nm,0.4s						
HINF	**Hinteralfeld**	**4.44**	**326**	*e*Pn	**Pn**	**15 46 45.4**	**-1.3**
HINF	**Hinteralfeld**	**4.44**	**326**	*e*P	**Pn**	**15 46 49.1**	**+2.4**
HINF				*e*Sn	**Sn**	**15 47 34.0**	**-3.9**
	comp=E,0.9nm,0.3s						
ARSA	**Arzberg**	**4.63**	**47**	*i* Pn	**Pn**	**15 46 49.4**	**0.0**
	comp=E,1.8nm,0.3s						
CDF	**Champ du Feu**	**4.78**	**333**	*e*Pn	**Pn**	**15 46 49.4**	**-2.1**
CDF	**Champ du Feu**	**4.78**	**333**	*e*P	**Pn**	**15 46 53.0**	**+1.5**
CDF				*e*Sn	**Sn**	**15 47 41.3**	**-5.2**
	comp=E,1.0nm,0.3s						
LASF	**Ste Croix**	**4.81**	**271**	*e*Pn	**Pn**	**15 46 50.6**	**-1.3**
LASF	**Ste Croix**	**4.81**	**271**	*e*P	**Pn**	**15 46 53.6**	**+1.7**
LASF				*e*Sn	**Sn**	**15 47 43.6**	**-3.6**
	comp=E,1.1nm,0.3s						
CONA	**Conrad Observa**	**5.25**	**43**	*i* Pn	**Pn**	**15 46 59.5**	**+1.6**
	comp=E,0.5nm,0.3s						
MTLF	**Montolieu**	**6.09**	**265**	*e*Pn	**Pn**	**15 47 08.1**	**-1.3**
MTLF	**Montolieu**	**6.09**	**265**	*e*P	**Pn**	**15 47 10.8**	**+1.4**

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*IDC **01** 15:51:55.8±2.5, 18°.95N×39°.21E, h0km, mb3.7/5, mbtmp3.7/5, MS3.1/5, Error ellipse: s-maj=69.9km s-min=27.1km az=154.0*
*SGS **01** 15:51:57.2, 19°.19N×39°.25E, h7km, Ml2.6*
ISC 01 15:51:57.3±1.3, 19°.0N±0°.2×39°.3E±0°.1, h10km, n18, σ0§53/15, mb3.8/5, MS3.1/4, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMGES	**AMGES**	**2.22**	**103**	P	**Pn**	**15 52 33.6**	**-0.6**
AMGES	**AMGES**	**2.22**	**103**	S	**Sn**	**15 53 01.3**	**-0.5**
BRK01	**Al Birk**	**2.30**	**108**	S	**Sn**	**15 53 03.4**	**-0.4**
BRK01				P	**Pn**	**15 52 35.1**	**-0.2**
BRK04	**Al Birk**	**2.45**	**98**	S	**Sn**	**15 53 06.9**	**-0.5**
BRK04	**Al Birk**	**2.45**	**98**	P	**Pn**	**15 52 37.1**	**-0.2**
BRK03	**Al Birk**	**2.63**	**107**	S	**Sn**	**15 53 12.1**	**+0.2**
BRK03	**Al Birk**	**2.63**	**107**	P	**Pn**	**15 52 40.1**	**+0.3**
BRK02	**Al Birk**	**2.64**	**112**	S	**Sn**	**15 53 12.8**	**+0.7**
BRK02	**Al Birk**	**2.64**	**112**	P	**Pn**	**15 52 40.4**	**+0.4**
EIL	**Elat**	**11.34**	**341**	LR	LR	15 58 28.6	
	comp=Z,30nm,19.2s,baz=247,slow=35						
BRTR	**Keskin Array B**	**21.23**	**348**	P	**P**	**15 56 43.8**	**+0.2**
	1.4nm,0.8s,baz=171,slow=12,SNR=7.6						
	1.4nm,0.8s						
GNI	**Garni**	**21.62**	**11**	LR	LR	16 05 44.5	
	comp=Z,41nm,18.6s,baz=191,slow=38						
GEYT	**Alibeck**	**25.04**	**37**	LR	LR	16 07 29.3	
	comp=Z,33nm,19.5s,baz=162,slow=37						
TORD	**Torodi Ar. Bea**	**36.50**	**267**	P	**P**	**15 59 02.7**	**-0.4**
	2.3nm,1.0s,baz=63,slow=9.1,SNR=7.0						
	2.3nm,1.0s						
KURBB	**Kurchatov Arra**	**44.29**	**35**	P	**P**	**16 00 08.0**	**+0.9**
	0.4nm,0.2s,baz=242,slow=7.6,SNR=4.6						
	0.4nm,0.2s						
MKAR	**Makanchi Array**	**44.76**	**42**	P	**P**	**16 00 11.4**	**+0.4**

1.0nm,0.9s,baz=242,slow=6.4,SNR=7.6
MKAR LR LR 16 19 26.4
comp=Z,32nm,18.6s,baz=270,slow=37
1.0nm,0.9s
ZALV Zalesovo Beam 49.28 34 P **P 16 00 45.8 -0.4**
0.6nm,0.6s,baz=226,slow=5.6,SNR=3.7
0.6nm,0.6s
PETK Petropavlovsk- 90.79 32 LR LR 16 49 01.3
comp=Z,14nm,18.2s,baz=279,slow=38

*MEX **01** 16:03:39.6±0.4, 14°.11N×92°.17W, h15km, MD3.9*
*GCG **01** 16:03:44.0±0.3, 14°.47N×91°.74W, h50km±4km, MD3.4*
ISC 01 16:03:39.6±2.0, 14°.2N±0°.1×92°.08W±0°.08, h52km±22km, n11, σ1°52/21, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.50**	**81**	*i* P	**Pn**	**16 03 52.6**	**+1.6**
SULM				*e*S	**Sn**	**16 03 59.2**	**-0.1**
STG3	**Santiaguito 3,**	**0.69**	**46**	*i* P	**Pn**	**16 03 53.8**	**+0.3**
CHUJ	**Union Juarez**	**0.86**	**358**	*i* P	**Pn**	**16 03 55.2**	**-0.6**
CHUJ				*i* S	**Sn**	**16 04 07.6**	**0.0**
PATR	**El Naranjo**	**0.90**	**350**	*i* P	**Pn**	**16 03 55.2**	**-1.1**
PATR				*i* S	**Sn**	**16 04 07.6**	**-0.8**
PAVE	**Pavencul**	**0.96**	**354**	*i* P	**Pn**	**16 03 56.6**	**-0.6**
PAVE				*i* S	**Sn**	**16 04 09.7**	**-0.3**
FUG	**Fuego 3**	**1.22**	**80**	*e*P	**Pn**	**16 04 00.5**	**-0.1**
FUG				*e*S	**Sn**	**16 04 13.5**	**-2.6**
PCIG		**1.83**	**323**	*e*P	**Pn**	**16 04 08.5**	**-0.2**
PCIG				*e*S	**Sn**	**16 04 29.9**	**-0.9**
CCIG	**Comitan**	**2.04**	**358**	*e*P	**Pn**	**16 04 13.0**	**+1.2**
CCIG				*e*S	**Sn**	**16 04 38.1**	**+1.9**
TGIG		**2.73**	**338**	*e*P	**Pn**	**16 04 22.9**	**+1.9**
TGIG				*e*S	**Sn**	**16 04 53.8**	**+1.0**
UXUV	**UXUV**	**3.66**	**327**	*e*P	**Pn**	**16 04 34.7**	**+0.9**
UXUV				*e*S	**Sn**	**16 05 13.0**	**-2.7**
CMIG	**Matias Romero**	**3.92**	**317**	*e*P	**Pn**	**16 04 39.4**	**+2.0**
CMIG				*e*S	**Sn**	**16 05 20.0**	**-2.2**

*IDC **01** 16:03:43.2±4.7, 6°.73S×126°.74E, h424km±59km, mb3.1/11, mbtmp4.0/13, Error ellipse: s-maj=39.2km s-min=16.9km az=86.0*
*DJA **01** 16:03:44.1±0.3, 7°.5±3°.3×12°.7E±°, h459km±7km, M4.1/15, mB4.5/6, mb4.1/15, MLv4.5/15, Mw(mB)3.7/6*
*NEIC **01** 16:03:45.1±1.1, 6°.7S±0°.1×126°.9E±0°.1, h442km±10km, mb4.1/13, Error ellipse: s-maj=18.7km s-min=15.5km az=76.0*
ISC 01 16:03:44.9±0.5, 6°.74S±0°.07×126°.91E±0°.08, h450km, n56, σ0°86/58, mb3.6/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**3.48**	**3**	P	**P**	**16 04 55.2**	**-0.5**
BNDI	**Bandanaira**	**3.70**	**54**	P	**P**	**16 04 57.5**	**0.0**
SOEI	**Soe**	**3.98**	**221**	P	**P**	**16 05 00.5**	**+0.4**
SOEI	**Soe**	**3.98**	**221**	P	**P**	**16 05 00.4**	**+0.4**
SAUI	**Saumlaki**	**4.52**	**106**	P	**P**	**16 05 04.6**	**-0.1**
SAUI	**Saumlaki**	**4.52**	**106**	P	**P**	**16 05 04.7**	**-0.1**
BATI	**Baumata**	**4.71**	**223**	P	**P**	**16 05 07.2**	**+0.6**
SANI	**Sanana**	**4.75**	**349**	P	**P**	**16 05 05.3**	**-1.6**
MMRI	**Maumere**	**5.00**	**248**	P	**P**	**16 05 10.1**	**+0.7**
MMRI	**Maumere**	**5.00**	**248**	P	**P**	**16 05 09.9**	**+0.6**
EDFI	**Ende, Flores**	**5.55**	**249**	P	**P**	**16 05 14.3**	**-0.5**
FAKI	**Fak Fak**	**6.53**	**55**	P	**P**	**16 05 23.7**	**-1.1**
FAKI	**Fak Fak**	**6.53**	**55**	P	**P**	**16 05 23.5**	**-1.3**
	125nm,0.8s,2μm0.6nm						
BASI	**Baing, Sumba**	**7.16**	**241**	P	**P**	**16 05 31.2**	**-0.1**
	115nm,0.9s						
SWI	**Sorong**	**7.27**	**37**	P	**P**	**16 05 32.0**	**-0.5**
	46nm,0.7s,662nm0.2nm						
MTN	**Manton Dam**	**7.36**	**146**	P	**P**	**16 05 33.7**	**+0.3**
KMPI	**Kaimana, Papua**	**7.42**	**66**	P	**P**	**16 05 33.5**	**-0.7**
TNTI	**Ternate**	**7.47**	**3**	P	**P**	**16 05 34.0**	**-0.7**
TNTI	**Ternate**	**7.47**	**3**	P	**P**	**16 05 32.8**	**-1.9**
GTOI	**Gorontalo**	**8.29**	**332**	P	**P**	**16 05 45.4**	**+1.8**
	12nm,0.5s						
MRSI	**Marisa**	**8.71**	**325**	P	**P**	**16 05 47.6**	**-0.5**
	36nm,0.6s,485nm						
PLAI	**Plampang**	**9.29**	**256**	P	**P**	**16 05 52.1**	**-2.3**
	22nm,0.9s						
TOLI2	**Tolitoli**	**9.91**	**322**	P	**P**	**16 06 01.3**	**+0.1**
TWSI	**Taliwang, Sumb**	**10.14**	**258**	P	**P**	**16 06 02.0**	**-1.6**
	19nm,1.1s						
FITZ	**Fitzroy Crossi**	**11.36**	**186**	P	**P**	**16 06 17.3**	**+0.5**
JAGI	**Jajag, Banyuwa**	**12.77**	**261**	P	**P**	**16 06 30.9**	**-1.2**
JAGI	**Jajag, Banyuwa**	**12.77**	**261**	P	**P**	**16 06 31.1**	**-1.1**
WB0	**Warramunga Arr**	**14.85**	**151**	P	**P**	**16 06 54.5**	**-0.1**
WRAB	**Tennant Creek**	**14.97**	**152**	P	**P**	**16 06 55.9**	**0.0**
WRAB				IAmb	IAmb	16 07 35.0	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**14.98**	**152**	P	**P**	**16 06 55.7**	**-0.2**
	comp=Z,7.5nm,0.5s,baz=323,slow=8.4,SNR=107						
WRA				S	**S**	**16 09 31.6**	**-2.1**
	comp=Z,1.2nm,0.4s,baz=328,slow=20,SNR=5.2						
WB2	**Warramunga Arr**	**14.98**	**152**	P	**P**	**16 06 56.0**	**0.0**
WB2				IAmb	IAmb	16 06 56.7	
	comp=Z,8.7nm,0.6s						
WR0	**Warramunga Arr**	**15.09**	**151**	P	**P**	**16 06 56.9**	**-0.2**
COEN	**Coen**	**17.52**	**115**	P	**P**	**16 07 22.7**	**-0.2**
AS31	**Alice Springs**	**18.12**	**159**		**P**	**16 07 28.9**	**0.0**
AS31				IAmb	IAmb	16 07 30.7	
	comp=Z,2.9nm,0.7s						
ASAR	**Alice Springs**	**18.13**	**159**	P	**P**	**16 07 29.1**	**+0.1**
	comp=Z,4.4nm,0.5s,baz=335,slow=12,SNR=137						
ASAR				S	**S**	**16 10 33.1**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=348,slow=21,SNR=5.7						
XMIS	**Christmas Isla**	**21.34**	**258**	P	**P**	**16 07 58.3**	**-0.5**
STKA	**Stephens Creek**	**28.52**	**153**	P	**P**	**16 09 03.5**	**+1.1**
STKA	**Stephens Creek**	**28.52**	**153**	P	**P**	**16 09 03.2**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=332,slow=9.7,SNR=6.2						
	comp=Z,1.1nm,0.5s						
KSRS	**Korea Array**	**43.97**	**1**	P	**P**	**16 11 11.2**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=176,slow=8.8,SNR=2.2						
	comp=Z,0.5nm,0.6s						
MJAR	**Matsushiro Arr**	**44.33**	**13**	P	**P**	**16 11 12.8**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=185,slow=8.8,SNR=8.9						
	comp=Z,1.3nm,0.6s						
USA0B	**Ussuriysk Arra**	**50.91**	**5**	P	**P**	**16 12 03.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**50.91**	**5**	P	**P**	**16 12 03.5**	**+0.5**
USRK	**Ussuriysk Ar.**	**50.91**	**5**	P	**P**	**16 12 03.6**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=190,slow=6.6,SNR=5.8						
	comp=Z,1.4nm,0.6s						
MDJ	**Mudanjiang**	**51.17**	**2**	P	**P**	**16 12 04.9**	**-0.1**
MDJ				IAmb	IAmb	16 12 32.0	
	comp=Z,12nm,1.5s						
SONM	**Songino Array**	**57.27**	**344**	P	**P**	**16 12 49.0**	**+0.7**
SONM	**Songino Array**	**57.27**	**344**	P	**P**	**16 12 48.4**	**0.0**
	comp=Z,0.5nm,0.4s,baz=161,slow=12,SNR=4.9						
	comp=Z,0.5nm,0.4s						
PEA0B	**Petropavlovsk-**	**65.07**	**20**	P	**P**	**16 13 40.9**	**+1.3**
PETK	**Petropavlovsk-**	**65.07**	**20**	P	**P**	**16 13 40.7**	**+1.1**
PETK	**Petropavlovsk-**	**65.07**	**20**	P	**P**	**16 13 40.9**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=188,slow=3.8,SNR=14						
	comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**66.36**	**328**	P	**P**	**16 13 48.1**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=126,slow=8.0,SNR=4.8						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**70.02**	**335**	P	**P**	**16 14 09.3**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=135,slow=5.6,SNR=4.0						
	comp=Z,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**70.71**	**330**	P	**P**	**16 14 14.4**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=134,slow=6.0,SNR=10						
	comp=Z,0.8nm,0.5s						
BVAR	**Borovoye Array**	**76.23**	**329**	P	**P**	**16 14 46.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=126,slow=6.7,SNR=2.3						
	comp=Z,0.2nm,0.4s						
TIXI	**Tiksi**	**78.23**	**1**	P	**P**	**16 14 56.5**	**+0.1**
TIXI				IAmb	IAmb	16 15 09.4	
	comp=Z,2.0nm,0.8s						
QSPA	**South Pole Qui**	**83.24**	**180**	P	**P**	**16 15 23.1**	**+0.3**
QSPA				IAmb	IAmb	16 16 01.2	
	comp=Z,4.9nm,1.4s						
QSPA	**South Pole Qui**	**83.24**	**180**	P	**P**	**16 15 23.2**	**+0.3**
	comp=Z,1.1nm,1.0s,baz=278,slow=2.6,SNR=1.9						
	comp=Z,1.1nm,1.0s						

WEL 01 16:05:23.4±0.3, 43°S±2°×17°2E±°, h5km±2km, M3.4/14, ML3.5/17, MLv3.4/14, Error ellipse: s-maj=0.0km s-min=0.0km az=160.1, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.10**	**168**	P	Pg	16 05 26.2	+0.7
OXZ				S	Sg	16 05 28.2	+1.3
SPRS	**Springfield Vo**	**0.12**	**208**	P	Pg	16 05 26.7	+0.8
SPRS				S	Sg	16 05 29.4	+1.7
KOWC	**Kowai**	**0.15**	**231**	P	Pg	16 05 26.0	-0.3
KOWC				S	Sg	16 05 28.6	+0.3
SHFC	**Sheffield Scho**	**0.16**	**176**	P	Pg	16 05 26.1	-0.6
SHFC				S	Sg	16 05 29.2	+0.4
CSHS	**Castle Hill**	**0.21**	**270**	P	Pg	16 05 28.1	+0.6
CSHS				S	Sg	16 05 31.7	+1.4
SMHS	**Summerhill**	**0.24**	**98**	P	Pg	16 05 28.7	+0.6
SMHS				S	Sg	16 05 32.9	+1.6
WCSS	**Whitecliffs**	**0.25**	**205**	P	Pg	16 05 27.8	-0.5
WCSS				S	Sg	16 05 32.1	+0.4
DFHS	**Darfield**	**0.27**	**166**	P	Pg	16 05 28.4	-0.3
CSTC	**Cust School**	**0.28**	**107**	P	Pg	16 05 28.3	-0.6
CSTC				S	Sg	16 05 33.4	+0.7
GDAL	**Greendale**	**0.36**	**171**	P	Pg	16 05 29.9	-0.5
SWNC	**Swannanoa Scho**	**0.38**	**112**	P	Pg	16 05 30.6	-0.2
MHCZ	**Mount Hutt**	**0.44**	**227**	P	Pb	16 05 32.9	-0.8
MHCZ				S	Sb	16 05 39.9	-0.7
AMCZ	**Amberley**	**0.47**	**84**	P	Pb	16 05 33.4	-0.8
AMCZ				S	Sb	16 05 40.6	-0.9
LTZ	**Lake Taylor**	**0.49**	**23**	P	Pg	16 05 33.1	+0.4
LTZ				S	Sg	16 05 39.9	+0.8
RACZ	**Rakaia**	**0.51**	**169**	P	Pb	16 05 34.1	-0.7
RACZ				S	Sb	16 05 41.3	-1.2
INZ	**Inchbonnie**	**0.65**	**320**	P	Pg	16 05 36.3	+0.4
INZ				S	Sg	16 05 45.0	+0.6
MQZ	**McQueen's Vall**	**0.67**	**136**	P	Pg	16 05 36.6	+0.4
WACZ	**Wakanui South**	**0.72**	**190**	P	Pb	16 05 38.3	-0.2
WACZ				S	Sb	16 05 49.2	+0.5
GVZ	**Greta Valley S**	**0.80**	**71**	P	Pb	16 05 39.6	-0.1
GVZ				S	Sb	16 05 51.3	+0.5
RPZ	**Rata Peaks**	**0.85**	**235**	P	Pb	16 05 40.3	-0.3
RPZ				S	Sb	16 05 52.2	-0.1
OKCZ	**Okains Bay**	**0.91**	**123**	P	Pg	16 05 41.1	+0.2
AKCZ	**Akaroa Harbour**	**0.92**	**135**	P	Pg	16 05 41.1	+0.1
AKCZ				S	Sb	16 05 53.8	-0.5
ARCZ	**Arundel**	**0.94**	**220**	P	Pg	16 05 41.6	+0.2
WVZ	**Waitaha Valley**	**0.94**	**279**	P	Pg	16 05 41.8	+0.3
WVZ				S	Sg	16 05 54.1	+0.4
GCSZ	**Gaunt Creek Bo**	**1.23**	**265**	P	Pb	16 05 47.2	0.0
TMZ	**Timaru**	**1.36**	**212**	P	Pn	16 05 47.6	-1.6
KHZ	**Kahutara**	**1.39**	**55**	P	Pn	16 05 48.1	-1.3
DSZ	**Denniston Nort**	**1.49**	**354**	P	Pn	16 05 50.1	-0.8
DSZ				S	Sb	16 06 10.8	0.0
THZ	**Tophouse**	**1.61**	**25**	P	Pn	16 05 51.3	-1.2
FOZ	**Fox Glacier**	**1.63**	**259**	P	Pn	16 05 53.1	+0.4
FOZ				S	Sb	16 06 14.7	0.0
LBZ	**Lake Benmore**	**1.75**	**228**	P	Pn	16 05 53.4	-1.1
MRNZ	**Matariki Terra**	**1.91**	**17**	P	Pn	16 05 56.9	+0.3
BSWZ	**Blackbirch Sta**	**2.05**	**43**	P	Pn	16 05 59.4	+0.9
ODZ	**Otahua Downs**	**2.06**	**208**	P	Pn	16 05 57.0	-1.7
NNZ	**Nelson**	**2.25**	**27**	P	Pn	16 06 02.0	+0.7
TUWZ	**Tuamarina**	**2.30**	**39**	P	Pn	16 06 03.2	+1.3
TKNZ	**Takaka Hill**	**2.31**	**18**	P	Pn	16 06 03.3	+1.3
QRZ	**Quartz Range**	**2.43**	**9**	P	Pn	16 06 04.4	+0.6
JCZ	**Jackson Bay**	**2.49**	**249**	P	Pn	16 06 04.2	-0.4
TCW	**Tory Channel**	**2.63**	**41**	P	Pn	16 06 07.9	+1.4
WKZ	**Wanaka**	**2.69**	**232**	P	Pn	16 06 05.8	-1.5
EAZ	**Earnscleugh**	**2.79**	**223**	P	Pn	16 06 06.8	-1.8
DUWZ	**D'Urville Isla**	**2.81**	**31**	P	Pb	16 06 11.7	-2.5
TUZ	**Tuapeka**	**3.21**	**211**	P	Pn	16 06 12.9	-1.5
MLZ	**Mavora Lakes**	**3.52**	**231**	P	Pn	16 06 16.7	-2.1
SYZ	**Scrubby Hill**	**3.89**	**211**	P	Pn	16 06 22.2	-1.5
TSZ	**Takapari Road**	**4.34**	**44**	P	Pn	16 06 27.8	-2.2
APZ	**The Paps**	**4.59**	**217**	P	Pn	16 06 32.3	-1.2
KRVZ	**Karewarewa**	**4.96**	**35**	P	Pn	16 06 42.4	+3.8

IDC 01 16:25:54.8±2.1, 4°.81S×129°.81E, h0km, mb3.5/2, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=151.6km s-min=28.1km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.68**	**164**	Pn	Pn	16 29 37.4	+0.1
	0.1nm,0.3s,baz=347,slow=13,SNR=1.8						
WRA				Sn	Sn	16 32 19.6	-12
	0.2nm,0.3s,baz=348,slow=22,SNR=5.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**19.16**	**168**	P	P	16 30 19.9	-0.1
	0.2nm,0.3s,baz=346,slow=9.3,SNR=25						
ASAR				S	Sn	16 33 43.1	-13
	0.4nm,0.9s,baz=351,slow=23,SNR=2.7						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**66.30**	**326**	P	P	16 36 45.5	+0.4
	0.4nm,0.8s,baz=108,slow=7.2,SNR=2.9						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**70.56**	**328**	P	P	16 37 11.3	-0.3
	0.3nm,0.6s,baz=136,slow=4.7,SNR=4.3						
	0.3nm,0.6s						

IDC 01 16:28:44.4±5.2, 16°.54S×175°.53W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=172.9km s-min=103.0km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.70**	**240**	P	P	16 36 35.7	+0.6
	1.0nm,0.7s,baz=94,slow=15,SNR=1.5						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**47.60**	**258**	P	P	16 37 22.0	-0.4
	1.2nm,0.5s,baz=96,slow=7.5,SNR=27						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**47.82**	**253**	P	P	16 37 24.1	-0.1
	4.1nm,0.5s,baz=86,slow=8.8,SNR=65						
ASAR				PcP	PcP	16 38 52.7	-0.5
	0.3nm,0.5s,baz=107,slow=3.9,SNR=4.1						
	4.1nm,0.5s						

IDC 01 16:29:03.6±1.8, 14°.55N×124°.13E, h0km, mb3.4/5, mbtmp3.4/5, MS2.8/1, Error ellipse: s-maj=77.3km s-min=22.4km az=58.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**19.48**	**17**	LR	LR	16 40 45.6	
	comp=Z,28nm,19.8s,baz=177,slow=36						
CMAR	**Chiang Mai Arr**	**24.45**	**283**	P	P	16 34 24.6	+0.1
	0.9nm,0.8s,baz=96,slow=8.0,SNR=7.0						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**35.72**	**163**	P	P	16 36 03.5	-0.7
	0.2nm,0.6s,baz=345,slow=8.6,SNR=1.1						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**39.17**	**166**	P	P	16 36 33.8	+0.3
	0.3nm,0.5s,baz=342,slow=7.0,SNR=6.1						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**47.38**	**321**	P	P	16 37 39.6	0.0
	0.3nm,0.7s,baz=123,slow=6.7,SNR=2.7						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**51.39**	**324**	P	P	16 38 09.8	-0.3
	0.8nm,0.9s,baz=124,slow=7.0,SNR=5.2						
	0.8nm,0.9s						

ISC 01 16:40:14.5±1.1, 66°.53N±0°.03×135°.68W±0°.03, h13km±10km, n12, σ0°52/20, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPYK	**Eagle Plains**	**0.45**	**249**	P	**Pg**	**16 40 23.6**	**+0.3**
	baz=68						
EPYK				S	**Sg**	**16 40 29.2**	**-0.2**
	baz=68						
G30M	**tAoh Zraii Nji**	**0.50**	**335**	P	**Pg**	**16 40 24.3**	**-0.1**
	baz=154,SNR=101						
G30M				S	**Sg**	**16 40 31.1**	**+0.1**
	baz=154						
G31M	**Satah River**	**0.68**	**54**	P	**Pb**	**16 40 28.3**	**+0.1**
	baz=236,SNR=21						
G31M				S	**Sb**	**16 40 37.7**	**+0.2**
	baz=236						
H31M	**Peel River**	**0.91**	**143**	P	**Pb**	**16 40 31.6**	**-0.5**
	baz=324,SNR=8.7						
H31M				S	**Sb**	**16 40 43.1**	**-0.9**
	baz=324						
G29M	**Pine Creek**	**1.01**	**293**	P	**Pb**	**16 40 33.4**	**-0.4**
	baz=111,SNR=16						
G29M				S	**Sb**	**16 40 46.8**	**-0.1**
	baz=111						
F30M	**Barrier River**	**1.08**	**358**	P	**Pn**	**16 40 35.2**	**-0.2**
	baz=178						
F30M				S	**Sn**	**16 40 50.7**	**+0.5**
	baz=178						
H29M	**Whitestone**	**1.13**	**255**	P	**Pb**	**16 40 35.5**	**-0.3**
	baz=72,SNR=9.6						
H29M				S	**Sb**	**16 40 50.4**	**+0.1**
	baz=72						
F31M	**Tsiigehtchic**	**1.19**	**39**	S	**Sg**	**16 40 53.3**	**+0.5**
	baz=221						
I30M	**Mount Dempster**	**1.35**	**193**	P	**Pn**	**16 40 39.0**	**0.0**
	baz=12,SNR=8.0						
I30M				S	**Sb**	**16 40 56.7**	**0.0**
	baz=12						
F28M	**Old Crow**	**1.97**	**305**	S	**Sb**	**16 41 13.7**	**-0.8**
	baz=122						
J30M	**Hart River**	**1.98**	**188**	Sb	**Sb**	**16 41 15.7**	**+0.7**
	baz=7.6						
I28M	**Miner Creek**	**2.05**	**240**	Sb	**Sb**	**16 41 18.1**	**+1.1**
	baz=56						

*IDC **01** 16:46:09.3±1.3, 28°.81N×139°.59E, h412km±17km, mb3.0/7, mbtmp3.8/10, Error ellipse: s-maj=33.3km s-min=13.4km az=77.0*
*JMA **01** 16:46:10.2±0.1, 29°N±1°×14°0E±°, h436km, MV3.5/15, W OFF OGASAWARA*
ISC 01 16:46:08.6±0.8, 28°.78N±0°.07×139°.6E±0°.1, h400km, n18, σ1°73/25, mb3.2/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.87**	**125**	*e*P	**Pn**	**16 47 13.3**	**+2.4**
CBIJ				*e*S	**S**	**16 48 03.1**	**+2.1**
JCJ	**Chichijima**	**2.87**	**125**	P	**Pn**	**16 47 09.1**	**-1.8**
	45nm,0.4s,baz=270,slow=22,SNR=13						
JCJ				S	**S**	**16 47 58.7**	**-2.4**
	82nm,0.3s,baz=296,slow=22,SNR=18						
JHH2	**Haha-jima-NKT2**	**3.16**	**132**	*e*P	**Pn**	**16 47 15.8**	**+2.6**
JHH2				*e*S	**S**	**16 48 08.4**	**+3.0**
JHJ	**Hachijo jima 2**	**4.33**	**3**	P	**Pn**	**16 47 25.0**	**+1.3**
	53nm,0.8s,baz=253,slow=19,SNR=11						
JHJ				S	**S**	**16 48 26.2**	**+1.4**
	18nm,0.3s,baz=232,slow=17,SNR=1.5						
BSO3	**Boso 3**	**6.06**	**7**	*e*S	**S**	**16 48 57.9**	**+0.7**
JOD2	**Odawara 2**	**6.47**	**357**	*e*P	**Pn**	**16 47 48.8**	**+2.4**
JRY	**Ryogami san**	**7.24**	**356**	P	**P**	**16 47 56.7**	**+1.3**
JYT	**Yasato**	**7.44**	**4**	*e*P	**P**	**16 47 58.5**	**+0.8**
JYT				*e*S	**S**	**16 49 23.0**	**-3.0**
MJAR	**Matsushiro Arr**	**7.82**	**352**	P	**P**	**16 48 02.4**	**+0.5**
	0.7nm,0.4s,baz=168,slow=11,SNR=5.7						
JHO	**Hitachi**	**7.85**	**6**	P	**P**	**16 48 03.3**	**+1.0**
JHO				*e*S	**S**	**16 49 32.0**	**-2.5**
ASAJ	**Asahikawa**	**15.50**	**8**	P	**P**	**16 49 25.6**	**-0.7**
	1.7nm,0.9s,baz=200,slow=12,SNR=1.5						
MKAR	**Makanchi Array**	**47.61**	**309**	P	**P**	**16 54 05.8**	**-0.4**
	0.4nm,0.5s,baz=85,slow=9.0,SNR=5.6						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**48.70**	**187**	P	**P**	**16 54 14.4**	**-0.3**
	0.5nm,0.4s,baz=2.9,slow=7.7,SNR=11						
WRA				PcP	**PcP**	**16 55 32.4**	**-0.4**
	0.2nm,0.4s,baz=354,slow=3.8,SNR=2.1						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**50.20**	**314**	P	**P**	**16 54 25.0**	**-0.4**
	1.3nm,0.5s,baz=92,slow=8.1,SNR=20						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**52.43**	**187**	P	**P**	**16 54 42.0**	**-0.1**
	0.4nm,0.5s,baz=2.2,slow=5.7,SNR=12						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**55.23**	**317**	P	**P**	**16 55 01.7**	**-0.1**
	0.6nm,0.3s,baz=94,slow=7.4,SNR=5.7						
	0.6nm,0.3s						
ILAR	**Eielson Array**	**57.37**	**29**	P	**P**	**16 55 15.9**	**-0.5**
	0.1nm,0.5s,baz=250,slow=4.4,SNR=1.7						
	0.1nm,0.5s						
FINES	**FINESS Array B**	**75.40**	**333**	P	**P**	**16 57 08.6**	**-0.7**
	4.1nm,1.1s,baz=85,slow=4.5,SNR=4.8						
	4.1nm,1.1s						

IDC 01 16:46:10.7±20.0, 7°.19S×120°.94E, h450km±269km, mb2.7/3, mbtmp3.6/4, MS1.9/1, Error ellipse: s-maj=245.6km s-min=60.4km az=69.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.46**	**331**	LR	LR	16 48 12.5	
	comp=Z,24nm,19.0s,baz=286,slow=50						
WRA	**Warramunga Arr**	**18.16**	**136**	P	P	16 49 55.1	0.0
	1.3nm,0.6s,baz=318,slow=10,SNR=21						
ASAR	**Alice Springs**	**20.58**	**144**	P	P	16 50 17.2	-0.2
	0.3nm,0.3s,baz=320,slow=8.2,SNR=22						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**63.76**	**331**	P	P	16 55 57.8	+0.6
	0.4nm,0.6s,baz=152,slow=7.7,SNR=4.3						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**68.07**	**338**	P	P	16 56 23.2	-0.8
	0.4nm,0.4s,baz=136,slow=6.7,SNR=2.2						
	0.4nm,0.4s						

*GCG **01** 17:21:08.8±0.7, 14°.90N×90°.57W, h223km±6km, MD3.9*
*IDC **01** 17:21:11.0±1.9, 14°.53N×90°

CLTN	Cedars of Leba	21.77	9	P	P	17 25 45.5	-0.1
TKL	Tuckaleechee C	21.88	15	P	P	17 25 48.8	+2.1
TKL				IAmb	IAmb	17 25 49.8	
	comp=Z,4.4nm,0.8s						
TKL	Tuckaleechee C	21.88	15	P	P	17 25 48.2	+1.5
	comp=Z,1.6nm,0.3s,baz=182,slow=12,SNR=5.9						
	comp=Z,1.6nm,0.3s						
V53A	Saluda	22.14	17	P	P	17 25 51.6	+2.3
U49A	Red Boiling Sp	22.27	10	P	P	17 25 51.2	+0.8
U49A				IAmb	IAmb	17 25 52.7	
	comp=Z,3.0nm,0.6s						
T47A	Sharon Grove	22.54	7	P	P	17 25 54.1	+1.3
TZTN	Tazewell	22.77	15	P	P	17 25 56.7	+1.7
TZTN				IAmb	IAmb	17 26 26.4	
	comp=Z,11nm,1.4s						
V55A	Taylorsville	22.81	20	P	P	17 25 57.0	+1.7
V55A				IAmb	IAmb	17 25 58.3	
	comp=Z,3.9nm,0.6s						
BAUV	El Baul	22.81	102	P	P	17 25 53.1	-2.5
S44A	Carbondale	23.05	3	P	P	17 25 59.6	+2.1
S51A	Beattyville	23.80	14	P	P	17 26 05.4	+1.1
S51A				IAmb	IAmb	17 26 32.5	
	comp=Z,5.0nm,1.1s						
WCI	Wyandotte Cave	23.87	8	P	P	17 26 06.4	+1.5
S54A	Dingess, Beckl	24.56	18	P	P	17 26 12.7	+1.5
ULM	Lac du Bonnet	35.83	354	P	P	17 27 50.2	+0.3
	comp=Z,2.1nm,0.6s,baz=161,slow=6.9,SNR=4.3						
	comp=Z,2.1nm,0.6s						
J05D	Fort Rock, OR	38.78	324	P	P	17 28 14.9	-0.2
SCHQ	Schefferville	44.23	20	P	P	17 29 00.0	+1.2
SCHQ				IAmb	IAmb	17 29 00.3	
	comp=Z,6.6nm,0.7s						
SCHQ	Schefferville	44.23	20	P	P	17 28 59.9	+1.0
	comp=Z,6.9nm,0.6s,baz=219,slow=6.5,SNR=16						
	comp=Z,6.9nm,0.6s						
EKA	Eskdalemuir Ar	76.72	36	P	P	17 32 37.9	-0.5
	comp=Z,0.4nm,0.5s,baz=277,slow=7.3,SNR=4.1						
	comp=Z,0.4nm,0.5s						
WRA	Warramunga Arr	136.81	256	PKP	PKiKP	17 40 10.6	+0.1
	comp=Z,0.5nm,0.6s,baz=90,slow=2.2,SNR=2.2						

NIED ***01*** *17:25:14.8, 24°.90N×123°.96E, h85km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^14Nm; Mrr3.97; Mθθ-0.17; Mφφ-3.80; Mrθ-6.71; Mθφ-1.92; Mφr-5.29; Fault plane solution: M0 9.57000×10^14 NP1: φs228.00000°, δ78.00000°, λ103.00000°. NP2:φs2.00000°, δ17.00000°, λ45.00000°.*
JMA ***01*** *17:25:14.8±0.1, 25°.N±1°.×124°.0E±0°.5, h85km±2km, MD3.8/14, MV4.1/14, NW OFF ISHIGAKIJIMA IS*
JMA Felt I J1 at NW OFF ISHIGAKIJIMA IS .
IDC ***01*** *17:25:23.0±5.1, 24°.95N×123°.84E, h180km±52km, mb3.7/15, mbtmp4.2/16, Error ellipse: s-maj=46.8km s-min=10.4km az=65.0*
ISC 01 17:25:13.9±0.7, 24°.87N±0°.07×123°.96E±0°.04, h96km±7km, n44, σ0°.80/47, mb4.2/15, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JISG	Ishigakijimahi	0.43	131	P		Pn	Pn	17 25 28.7	0.0
JISG				S		Sn	Sn	17 25 39.4	-0.4
JISG	Ishigakijimahi	0.43	131	A		A	A	17 25 28.7	
	comp=E,27nm,0.5s,comp=N,29nm,0.5s								
JIJ	Ishigaki jima	0.54	161	P		Pn		17 25 29.4	-0.1
JIJ				S		Sn		17 25 40.4	-0.7
JIJ	Ishigaki jima	0.54	161	A		A		17 25 29.4	
	comp=E,13nm,0.6s,comp=N,9.0nm,0.4s								
IRIF	Iriomote-Funau	0.57	201	P		Pn		17 25 29.8	0.0
IRIF				S		Sn		17 25 41.3	-0.4
IRIF	Iriomote-Funau	0.57	201	A		A		17 25 29.8	
	comp=E,9.0nm,0.7s,comp=N,10.0nm,0.8s								
JKRS	Kuro-shima	0.64	176	P		Pn		17 25 30.6	+0.3
JKRS				S		Sn		17 25 42.8	+0.3
JKRS	Kuro-shima	0.64	176	A		A		17 25 30.6	
	comp=E,15nm,1.7s,comp=N,13nm,1.0s								
JTJ	Tarama	0.72	109	P	i	Pn		17 25 31.4	+0.3
HATJ	Hateruma jima	0.82	190	P		Pn		17 25 32.6	+0.5
HATJ				S		Sn		17 25 45.9	+0.1
HATJ	Hateruma jima	0.82	190	A		A		17 25 32.6	
	comp=E,6.0nm,4.2s,comp=N,7.0nm,2.9s								
YOJ	Yonaguni jima	0.95	245	P		Pn		17 25 34.1	+0.6
YOJ	Yonaguni jima	0.95	245	P	i	Pn		17 25 34.0	+0.6
JYNG	Yonagunijimaku	1.01	246	P	i	Pn		17 25 34.7	+0.6
JYNG				S		Sn		17 25 49.4	+0.1
JIRB	Irabujima	1.11	92	P	i	Pn		17 25 35.3	+0.2
JIKM	Ikemajima	1.17	87	P	i	Pn		17 25 36.5	+0.5
JIKM				S		Sn		17 25 52.1	-0.5
JMJ	Miyako jima 2	1.22	92	P		Pn		17 25 37.6	+1.2
JMJ2	Miyako jima3	1.25	96	P	i	Pn		17 25 37.6	+0.7
JMJ2				S		Sn		17 25 53.8	-0.5
JOGS	Gusukube	1.32	95	P	i	Pn		17 25 38.5	+0.8
TATO	Taipei	2.24	273	P		Pn		17 25 51.2	+1.7
NACB	Ninganchiao	2.26	253	P		Pn		17 25 49.7	0.0
YHNB	Yeheng	2.35	266	P		Pn		17 25 52.7	+1.7
YULB	Yu-li	2.84	239	P		Pn		17 25 56.8	-0.6
SSLB	Suanglung	2.94	249	P		Pn		17 25 59.1	+0.3
TWGBT	Beinan	3.33	233	P		Pn		17 26 03.0	-1.0
TPUB	Ta-pu	3.42	243	P		Pn		17 26 06.4	+1.2
KSRS	Korea Array	12.99	14	P		P		17 28 21.4	-0.1
	comp=N,0.4nm,0.3s,baz=198,slow=12,SNR=3.7								
INU	Inuyama	15.37	44	P		P		17 28 48.6	+0.6
JSG	Sagara	15.73	48	P		Pn		17 28 50.8	+0.8
SONM	Songino Array	26.80	333	P		P		17 30 44.9	-0.2
	comp=N,0.6nm,0.6s,baz=156,slow=8.8,SNR=5.7								
	comp=N,0.6nm,0.6s								
MKAR	Makanchi Array	39.63	314	P		P		17 32 35.6	-0.6
	comp=N,1.0nm,0.3s,baz=99,slow=8.6,SNR=41								
	comp=N,1.0nm,0.3s								
ZALV	Zalesovo Beam	41.08	325	P		P		17 32 46.8	-1.1
	comp=N,1.8nm,0.4s,baz=122,slow=8.7,SNR=12								
	comp=N,1.8nm,0.4s								
KURBB	Kurchatov Arra	43.24	319	P		P		17 33 05.5	0.0
	comp=N,1.2nm,0.2s,baz=113,slow=7.9,SNR=5.4								
	comp=N,1.2nm,0.2s								
WRA	Warramunga Arr	45.68	166	P		P		17 33 26.2	+1.0
	comp=N,2.3nm,0.6s,baz=347,slow=8.7,SNR=12								
	comp=N,2.3nm,0.6s								
BVAR	Borovoye Array	48.76	320	P		P		17 33 48.4	-0.5
	comp=N,2.0nm,0.3s,baz=101,slow=8.2,SNR=14								
	comp=N,2.0nm,0.3s								
ASAR	Alice Springs	49.21	168	P		P		17 33 54.0	+1.4
	comp=N,2.9nm,0.4s,baz=351,slow=7.3,SNR=47								
	comp=N,2.9nm,0.4s								
GEYT	Allbeck	56.63	300	P		P		17 34 47.8	+0.6
	comp=N,2.6nm,0.6s,baz=85,slow=3.3,SNR=5.9								
	comp=N,2.6nm,0.6s								
NWAO	Narrogin (SRO)	57.83	187	P		P		17 34 55.8	+0.3
	comp=N,12nm,0.9s,baz=322,slow=19,SNR=2.1								
	comp=N,12nm,0.9s								
STKA	Stephens Creek	58.90	162	P		P		17 35 03.9	+1.0
	comp=N,1.5nm,0.4s,baz=342,slow=6.8,SNR=5.9								
	comp=N,1.5nm,0.4s								
FINES	FINESS Array B	72.12	330	P		P		17 36 27.3	-0.4
	comp=N,2.1nm,0.8s,baz=57,slow=5.7,SNR=11								
	comp=N,2.1nm,0.8s								
AKASG	Malin Array Be	74.03	319	P		P		17 36 38.1	-1.0
	comp=N,1.7nm,0.5s,baz=71,slow=6.0,SNR=4.2								
	comp=N,1.7nm,0.5s								
BRTR	Keskin Array B	74.79	307	P		P		17 36 42.8	-1.1
	comp=N,0.7nm,0.5s,baz=64,slow=5.6,SNR=4.8								
	comp=N,0.7nm,0.5s								
HFS	Hagfors	78.19	331	P		P		17 37 01.5	-1.1
	comp=N,1.5nm,0.6s,baz=113,slow=3.4,SNR=5.1								
	comp=N,1.5nm,0.6s								
NOA	NORSAR Array B	78.78	333	P		P		17 37 04.6	-1.3
	comp=N,0.3nm,0.6s,baz=53,slow=5.8,SNR=3.2								
	comp=N,0.3nm,0.6s								

IDC 01 17:25:35.3±4.0, 30°.56N×141°.11E, h0km, mb3.6/3, mbtmp3.6/5, ML2.4/2, Error ellipse: s-maj=150.3km s-min=25.0km az=76.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.79	337	Pn		Pn	Pn	17 26 20.3	-0.9
	1.1nm,0.3s,baz=42,slow=17,SNR=2.4								
JHJ				Sn		Sn	Sn	17 26 55.5	0.0
	4.5nm,0.3s,baz=262,slow=23,SNR=1.7								
	90nm,1.1s								
MJAR	Matsushiro Arr	6.44	339	Pn		Pn	Pn	17 27 11.1	-0.3
	0.1nm,0.3s,baz=160,slow=12,SNR=14								
	0.9nm,0.4s								
MKAR	Makanchi Array	47.59	307	P		P	P	17 34 13.3	+0.5
	0.4nm,0.6s,baz=98,slow=9.5,SNR=3.3								
	0.4nm,0.6s								
KURBB	Kurchatov Arra	49.98	312	P		P	P	17 34 31.0	-0.1
	0.4nm,0.2s,baz=89,slow=7.7,SNR=4.0								
	0.4nm,0.2s								
WRA	Warramunga Arr	50.63	188	P		P	P	17 34 35.8	-0.5
	0.2nm,0.3s,baz=4.9,slow=7.4,SNR=1.4								
	0.2nm,0.3s								

IDC ***01*** *17:26:52.2±1.9, 7°.88S×119°.07E, h0km, mb4.0/4, mbtmp3.9/6, ML3.7/2, MS2.4/1, Error ellipse: s-maj=55.1km s-min=23.7km az=87.0*
DJA ***01*** *17:26:54.0±0.3, 8°.S±4°.×11°.9E±°., h10km, M4.1/12, mb4.5/1, MLv3.9/12*
ISC 01 17:26:53.1±0.9, 7°.77S±0°.06×119°.00E±0°.06, h10km, n15, σ0°.92/16, mb4.0/4, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLAI	Plampang	1.60	229	P		Pn		17 27 21.8	+0.2
TWSI	Taliwang, Sumb	2.31	245	P		Pn		17 27 32.2	+1.0
BKSI	Bulukumba	2.67	25	P		Pn		17 27 36.8	+0.5
KAPI	Kappang	2.83	15	Pn		Pn		17 27 39.7	+1.2
	7.4nm,0.3s,baz=189,slow=13,SNR=17								
KAPI				Sn		Sb		17 28 17.9	-0.8
	31nm,0.3s,baz=5.6,slow=19,SNR=9.5								
KAPI				LR		LR		17 28 43.3	
	comp=Z,64nm,20.1s,baz=246,slow=38								
	50nm,0.7s								
EDFI	Ende, Flores	2.84	110	P		Pn		17 27 39.7	+1.0
BASI	Baing, Sumba	2.90	147	P		Pn		17 27 40.4	+1.0
MMRI	Maumere	3.32	105	P		Pn		17 27 46.2	+1.0
SRBI	Singaraja	3.76	265	P		Pn		17 27 52.0	+0.7
JAGI	Jajag, Banyuwa	4.85	261	P		Pn		17 28 07.2	+1.0
BATI	Baumata	5.21	118	P		Pn		17 28 11.8	+0.6
WRA	Warramunga Arr	19.17	131	P		P		17 31 16.6	-0.4
	0.3nm,0.3s,baz=304,slow=12,SNR=6.4								
	2.0nm,1.0s								
ASAR	Alice Springs	21.32	140	P		P		17 31 40.2	-0.2
	4.2nm,0.4s,baz=314,slow=9.1,SNR=73								
	4.2nm,0.4s								
STKA	Stephens Creek	31.91	142	P		P		17 33 17.5	-1.5
	1.7nm,0.4s,baz=319,slow=7.7,SNR=9.8								
	1.7nm,0.4s								
VNDA	Vanda	73.20	171	P		P		17 38 24.5	+0.6
	0.4nm,0.5s,baz=314,slow=5.9,SNR=2.3								
	0.4nm,0.5s								
QSPA	South Pole Qui	82.22	180	P		P		17 39 14.5	0.0
	0.8nm,0.9s,baz=40,slow=1.5,SNR=1.3								
	0.8nm,0.9s								

BJI ***01*** *17:26:58.6±0.0, 41°.43N×142°.10E, h64km, mb5.1/80, mB5.1/40, Ms4.3/61, Ms7 4.2/64*
MOS ***01*** *17:26:59.5±0.9, 41°.54N×142°.03E, h58km, mb5.4/83, MS4.3/17, Error ellipse: s-maj=5.2km s-min=3.4km az=115.2*
NEIC ***01*** *17:27:00.7, 41°.51N×142°.06E, h60km*
JMA ***01*** *17:27:00.8±0.1, 41°.5N±0°.3×142°.1E±0°.5, h64km±1km, MD4.9/40, MW5.0/40, E OFF AOMORI PREF*
JMA Felt IV J1 at E OFF AOMORI PREF .
NIED ***01*** *17:27:00.8, 41°.49N×142°.06E, h64km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr2.18; Mθθ-0.40; Mφφ-1.77; Mrθ1.03; Mθφ-0.34; Mφr2.33; Fault plane solution: M0 3.25000×10^16 NP1:φs21.00000°, δ71.00000°, λ94.00000°. NP2:φs188.00000°, δ20.00000°, λ78.00000°.*
NEIC ***01*** *17:27:00.7, 41°.41N×142°.46E, h60km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^16Nm; Mrr2.65; Mθθ-0.32; Mφφ-2.33; Mrθ1.03; Mθφ-1.22; Mφr1.14; Fault plane solution: M0 3.18000×10^16 NP1:φs33.78000°, δ59.48000°, λ99.30000°. NP2:φs195.90000°, δ31.78000°, λ74.67000°. Principal axes: T 3.0826, Plg74.0000°, Azm328.0000°; N 0.1872, Plg8.0000°, Azm209.0000°; P -3.2698, Plg14.0000°, Azm117.0000°;*
NEIC ***01*** *17:27:01.1±1.6, 41°.51N±0°.06×142°.1E±0°.1, h54km±4km, mb5.0/215, Mww4.9/17 Error ellipse: s-maj=12.9km s-min=7.7km az=110.0*
GCMT ***01*** *17:27:02.1±0.2, 41°.56N±0°.01×142°.24E±0°.02, h59km±1km, MW5.0/111, Moment Tensor Solution. s79, c116; s111, c188; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.30±.10; Mθθ0.04±.08; Mφφ-3.34±.08; Mrθ1.26±.06; Mθφ-1.25±.08; Mφr1.85±.08; Best double couple: Mo4.18300×10^16 NP1:φs28.00000°, δ61.00000°, λ100.00000°. NP2:φs188.00000°, δ30.00000°, λ73.00000°. Principal axes: T 4.0040, Plg72.0000°, Azm320.0000°; N 0.3580, Plg9.0000°, Azm203.0000°; P -4.3630, Plg16.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***01*** *17:27:02.3±1.3, 41°.53N×142°.01E, h67km±11km, mb4.7/31, mbtmp5.0/37, MS3.9/28 Error ellipse: s-maj=11.7km s-min=9.1km az=111.0*
ISC 01 17:27:01.0±0.3, 41°.50N±0°.03×142°.08E±0°.03, h60km±2km, h60km: pP-P, n1354, σ1°.27/1298, mb5.1/314, MS4.1/52, 87C-55D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAHD	Aomorihigashid	0.61	247	⇓iP		Pn		17 27 14.3	+0.3
JAHD				⇓S		Sn		17 27 24.4	+0.8
JAHD	Aomorihigashid	0.61	247	A		A		17 27 14.3	
	comp=E,492nm,0.8s,comp=N,435nm,1.0s								
JARK	Aomorirokkasho	0.73	228	⇓iP		Pn		17 27 15.4	-0.2
JARK				⇓S		Sn		17 27 26.0	-0.3
JARK	Aomorirokkasho	0.73	228	A		A		17 27 15.4	
	comp=E,69nm,0.9s,comp=N,89nm,1.7s								
JOT	Ohata	0.79	261	⇓iP		Pn		17 27 16.1	-0.1
JOT				⇓S		Sn		17 27 27.9	+0.4
JOT	Ohata	0.79	261	A		A		17 27 16.1	
	comp=E,41nm,2.9s,comp=N,49nm,0.9s								
JKB	Kayabe	0.87	296	⇓iP		Pn		17 27 17.0	-0.3
JKB	Kayabe	0.87	296	A		A		17 27 17.0	
	comp=E,20nm,2.6s,comp=N,27nm,1.8s								
JNBK	Urakawa-nobuka	0.92	33	iP		Pn		17 27 18.1	+0.1
JNBK				S		Sn		17 27 31.9	+1.3
JNBK	Urakawa-nobuka	0.92	33	A		A		17 27 18.1	
	comp=E,150nm,0.9s,comp=N,140nm,1.2s								
JSHD	Hidakashinhida	0.95	18	A		A		17 27 18.7	
	comp=E,117nm,3.2s,comp=N,75nm,3.0s								
ERM	Erimo	0.95	57	P		Pn		17 27 18.9	+0.5
ERM	Erimo	0.95	57	Pn		Pn		17 27 18.7	+0.3
ERM	Erimo	0.95	57	P		Pn		17 27 18.7	+0.3
JEM	Erimo	0.95	57	P		Pn		17 27 18.9	+0.5
JEM	Erimo	0.95	57	iP		Pn		17 27 18.6	+0.3
JEM				eS		Sn		17 27 32.3	+1.0
JEM	Erimo	0.95	57	A		A		17 27 18.6	
	comp=E,50nm,3.7s,comp=N,26nm,1.4s								
JTM	Tenmabayashi	1.05	227	P		Pn		17 27 20.3	+0.7
JTM	Tenmabayashi	1.05	227	Pn		Pn		17 27 19.8	+0.2
JTM	Tenmabayashi	1.05	227	⇓iP		Pn		17 27 19.8	+0.2
JTM				⇓S		Sn		17 27 33.7	+0.2
JTM	Tenmabayashi	1.05	227	A		A		17 27 19.8	
	comp=E,36nm,2.7s,comp=N,42nm,3.0s								
JIAM	Iburiatsuma	1.12	354	⇓iP		Pn		17 27 21.9	+1.3
JIAM				⇓eS		Sn		17 27 37.4	+2.2
JIAM	Iburiatsuma	1.12	354	A		A		17 27 21.9	
	comp=E,153nm,1.5s,comp=N,134nm,0.8s								
JTHR	Tokachihiroo	1.20	49	A		A		17 27 22.1	
	comp=E,53nm,2.2s,comp=N,38nm,1.7s								
JANG	Nango	1.21	201	iP		Pn		17 27 21.6	-0.2
JANG				S		Sn		17 27 36.6	-0.6
JANG	Nango	1.21	201	A		A		17 27 21.6	
	comp=E,51nm,2.1s,comp=N,34nm,3.0s								
JNB	Noboribetsu	1.24	321	⇓iP		Pn		17 27 21.8	-0.3
JNB				⇓S		Sn		17 27 37.5	-0.4
JNB	Noboribetsu	1.24	321	A		A		17 27 21.8	
	comp=E,24nm,0.5s,comp=N,32nm,0.9s								
JSR	Shiriuchi	1.25	272	⇓iP		Pn		17 27 22.4	+0.2
JSR				⇓S		Sn		17 27 39.3	+1.1
JSR	Shiriuchi	1.25	272	A		A		17 27 22.4	
	comp=E,29nm,3.7s,comp=N,17nm,3.9s								
JBT2	Biratori 2	1.29	9	⇓iP		Pn		17 27 23.6	+0.8
JBT2				⇓S		Sn		17 27 41.4	+2.2
JBT2	Biratori 2	1.29	9	A		A		17 27 23.6	
	comp=E,42nm,1.3s,comp=N,22nm,1.2s								
JKEN	Kujiedanarisaw	1.33	192	A		A		17 27 23.4	
	comp=E,104nm,1.6s,comp=N,84nm,0.3s								
JSI2	Shiura 2	1.33	251	A		A		17 27 23.5	
	comp=E,44nm,1.0s,comp=N,81nm,1.0s								
JEW	Eniwo	1.42	341	iP		Pn		17 27 25.1	+0.7
JEW				S		Sn		17 27 43.0	+0.9
JEW	Eniwo	1.42	341	A		A		17 27 25.1	
	comp=E,79nm,0.8s,comp=N,56nm,0.8s								
JYM2	Yakumo 2	1.42	296	⇓iP		Pn		17 27 25.1	+0.6
JYM2	Yakumo 2	1.42	296	A		A		17 27 25.1	
	comp=E,16nm,2.3s,comp=N,15nm,3.8s								
JCH	Churui	1.46	40	⇓iP		Pn		17 27 26.2	+1.1
JCH				⇓S		Sn		17 27 45.0	+1.7
JCH	Churui	1.46	40	A		A		17 27 26.2	
	comp=E,27nm,3.5s,comp=N,27nm,1.5s								
JHHS	Hirosakihyakuz	1.56	237	A		A		17 27 26.5	
	comp=E,54nm,1.2s,comp=N,89nm,3.2s								
JOMM	Oshimamatsumae	1.56	271	iP		Pn		17 27 26.4	0.0
JOMM				eS		Sn		17 27 45.4	-0.1
JOMM	Oshimamatsumae	1.56	271	A		A		17 27 26.4	
	comp=E,12nm,3.6s,comp=N,10.0nm,2.5s								
JTH	Tanohata	1.57	186	A		A		17 27 26.8	
	comp=E,12nm,2.2s,comp=N,9.0nm,4.3s								
JKZ	Kuzumaki	1.62	201	A		A		17 27 27.5	
	comp=E,17nm,1.0s,comp=N,13nm,0.8s								
JFR	Furan	1.70	13	⇓iP		Pn		17 27 29.0	+0.7
JFR				⇓S		Sn		17 27 52.2	+3.1
JFR	Furan	1.70	13	A		A		17 27 29.0	
	comp=E,21nm,0.6s,comp=N,24nm,3.8s								
JAH	Hinai	1.71	220	⇓iP		Pn		17 27 29.0	+0.5
JAH				⇓S		Sn		17 27 49.5	+0.3
JAH	Hinai	1.71	220	A		A		17 27 29.0	
	comp=E,21nm,1.8s,comp=N,20nm,2.4s								
JIW	Iwasaki	1.81	241	A		A		17 27 30.1	
	comp=E,22nm,1.5s,comp=N,23nm,1.5s								
JISS	Ishikarishitsu	1.84	345	A		A		17 27 30.8	
	comp=E,35nm,2.4s,comp=N,35nm,0.8s								
JHST	Hiyamasetana	1.88	300	A		A		17 27 31.2	
	comp=E,17nm,0.6s,comp=N,12nm,1.2s								
JSH	Shimam	1.90	308	A		A		17 27 31.5	
	comp=E,6.0nm,1.2s,comp=N,6.0nm,4.3s								
JNTW	Noshirotokiwa	1.91	230	A		A		17 27 31.4	
	comp=E,91nm,5.6s,comp=N,51nm,1.9s								
JOB	Onbets	1.91	42	A		A		17 27 32.0	
	comp=E,30nm,0.7s,comp=N,54nm,1.1s								
MIYJ	Miyakonagasawa	1.94	186	A		A		17 27 31.9	
	comp=E,28nm,1.5s,comp=N,17nm,0.9s								
JSZI	Iwateshizukuis	1.96	206	A		A		17 27 32.2	
	comp=E,32nm,3.3s,comp=N,32nm,1.6s								
JAB	Ashibetsu	2.00	3	A		A		17 27 33.2	
	comp=E,41nm,1.7s,comp=N,50nm,2.1s								
JOM	Ohasama	2.12	197	A		A		17 27 34.4	
	comp=E,15nm,0.3s,comp=N,15nm,0.3s								
JAR	Ashorobuto	2.19	34	A		A		17 27 35.8	
	comp=E,16nm,0.7s,comp=N,21nm,4.7s								
JSK	Shakotan	2.20	328	A		A		17 27 35.8	
	comp=E,7.0nm,1.3s,comp=N,8.0nm,3.6s								
JHR	Hokuryu	2.25	353	A		A		17 27 36.7	
	comp=E,24nm,3.6s,comp=N,23nm,1.1s								
JRG	Rokugo	2.38	208	A		A		17 27 38.0	
	comp=E,17nm,2.9s,comp=N,13nm,1.4s								
JKK2	Kamakawa 2	2.42	12	A		A		17 27 39.1	
	comp=E,9.0nm,2.8s,comp=N,11nm,3.1s								
JYW	Yuwa	2.43	217	A		A		17 27 38.7	
	comp=E,23nm,4.5s,comp=N,20nm,3.2s								
OFUJ	Ofunato	2.44	188	A		A		17 27 39.0	
	comp=E,14nm,4.7s,comp=N,6.0nm,1.3s								
JAK	Akkeshi	2.45	52	A		A		17 27 39.5	
	comp=E,19nm,1.5s,comp=N,18nm,1.7s								
JMK	Ichinoseki	2.63	195	A		A		17 27 41.6	
	comp=E,12nm,2.9s,comp=N,5.0nm,1.9s								
JKA	Kamikawa-asahi	2.64	8			Pn		17 27 42.2	+1.1
ASAJ	Asahikawa	2.64	8	P		Pn		17 27 42.6	+1.5
	comp=N,469nm,0.4s,baz=226,slow=11,SNR=826								
ASAJ				S		Sn		17 28 12.8	+0.9
	comp=N,794nm,0.6s,baz=335,slow=33,SNR=3.0								
ASAJ	Asahikawa	2.64	8	P		Pn		17 27 42.2	+1.1
ASAJ	Asahikawa	2.64	8	A		A		17 27 42.1	
	comp=E,9.0nm,2.7s,comp=N,7.0nm,1.6s								
JMP	Marusepu	2.67	20	A		A		17 27 42.6	
	comp=E,13nm,3.2s,comp=N,7.0nm,3.0s								
JKMT	Kesennumamotoy	2.73	190	A		A		17 27 43.1	
	comp=E,10.0nm,1.3s,comp=N,5.0nm,1.3s								
JOG3	Oga3	2.78	236	A		A		17 27 37.6	
	comp=E,27nm,2.5s,comp=N,22nm,2.5s								
JKHN	Kushirohamanak	2.78	54	A		A		17 27 44.1	
	comp=E,10.0nm,3.3s,comp=N,24nm,1.4s								
JTKR	Abashiri--Toko	2.81	28	A		A		17 27 44.6	
	comp=E,11nm,2.6s,comp=N,8.0nm,2.7s								
JNK	Nakash	2.85	42	A

TEY pmax pmax
comp=E,80nm,0.8s
YSS Yuzh-Sakhalins 5.47 5 P **Pn 17 28 22.1 +2.3**
YSS Yuzh-Sakhalins 5.47 5 Pn **Pn 17 28 21.2 +1.4**
YSS Yuzh-Sakhalins 5.47 5αeP **Pn 17 28 21.6 +1.8**
YSS eS **Sn 17 29 23.7 +2.4**
YSS pmax pmax
comp=Z,200nm,2.0s
YSS pmax pmax
comp=Z,200nm,0.6s
YSS smax smax
comp=N,700nm,2.6s
YSS smax smax
comp=E,700nm,2.7s
YSS smax smax
comp=N,170nm,0.8s
YSS smax smax
comp=E,190nm,0.9s
YSS MLR MLR
comp=Z,2μm,12.0s
KUR Kuril'sk 5.63 47 eP **Pn 17 28 22.7 +0.7**
KUR eS **Sn 17 29 24.3 -0.9**
KUR pmax pmax
comp=Z,455nm,0.9s
KUR pmax pmax
comp=N,147nm,0.6s
KUR pmax pmax
comp=E,206nm,0.6s
KUR smax smax
comp=N,420nm,0.6s
KUR smax smax
comp=E,600nm,0.6s
JIHU Itakohorinouch 5.66 193 A A 17 28 24.1
comp=E,14nm,3.8s,comp=N,14nm,3.5s
MJB9 Matsu-Tunnel 5.80 213 Pn 17 28 26.4 +2.1
MAJO Matsushiro 5.80 213 P **Pn 17 28 27.2 +2.8**
MAJO Matsushiro 5.80 213 Pn 17 28 26.7 +2.3
MAJO Matsushiro 5.80 213 *i* P **Pn 17 28 26.2 +1.8**
MJAR Matsushiro Arr 5.80 213 P **Pn 17 28 26.6 +2.2**
comp=N,30nm,0.9s,baz=20,slow=15,SNR=77
MJAR LR LR 17 31 03.3
comp=N,1μm,21.4s,baz=28,slow=42
JSMT Sammumatsuo 5.99 193 A A 17 28 28.7
comp=E,9.0nm,2.1s,comp=N,9.0nm,3.0s
TOK Tokyo 6.09 198 A A 17 28 30.0
comp=E,9.0nm,5.2s,comp=N,9.0nm,5.4s
JCN Nagara 6.25 194 A A 17 28 32.3
comp=E,8.0nm,3.1s,comp=N,8.0nm,2.7s
TATJ Tateyama 2 6.69 196 A A 17 28 38.3
comp=E,7.0nm,4.7s,comp=N,5.0nm,1.9s
JGF Kuroka 6.96 214 P **Pn 17 28 43.6 +3.3**
JGF Kuroka 6.96 214 Pn **Pn 17 28 42.9 +2.6**
INU Inuyama 7.32 215 Pn **Pn 17 28 47.3 +2.1**
UGL Uglegorsk 7.57 360 eP **Pn 17 28 49.4 +0.8**
UGL eS **Sn 17 30 04.2 -8.7**
UGL pmax pmax
comp=Z,60nm,1.0s
UGL smax smax
comp=E,100nm,1.4s
UGL smax smax
comp=N,70nm,0.7s
UGL smax smax
comp=E,400nm,2.8s
UGL smax smax
comp=N,600nm,3.7s
VLA Vladivostok 7.73 285 *i* P **Pn 17 28 51.9 +1.2**
USA0B Ussuriysk Arra 7.89 293 Pn **Pn 17 28 53.7 +0.8**
USA0B Ussuriysk Arra 7.89 293 *i* P **Pn 17 28 53.2 +0.3**
USRK Ussuriysk Ar. 7.89 293 Pn **Pn 17 28 53.9 +1.0**
USRK Ussuriysk Ar. 7.89 293 P **Pn 17 28 53.6 +0.7**
comp=N,101nm,0.8s,baz=123,slow=12,SNR=72
USRK LR LR 17 31 49.4
comp=N,2μm,21.9s,baz=116,slow=37
USRK Ussuriysk Ar. 7.89 293 P **Pn 17 28 53.9 +1.0**
MSHR Mys Shultsa 8.20 281 *i* P **Pn 17 28 57.9 +0.7**
PSTR Posyet 8.47 282 *i* P **Pn 17 29 01.8 +1.0**
JHJ Hachijo jima 2 8.57 193 P **Pn 17 29 00.7 -1.6**
comp=N,68nm,0.3s,baz=265,slow=20,SNR=22
JHJ S **Sn 17 30 31.6 -5.8**
comp=N,44nm,0.3s,baz=79,slow=23,SNR=1.7
JHJ LR LR 17 33 02.9
comp=N,280nm,21.4s,baz=50,slow=42
JHJ2 Mitsune 8.57 193 Pn **Pn 17 29 00.6 -1.7**
TYV Tymovskoe 9.37 2 eP **Pn 17 29 15.2 +2.1**
TYV eS **Sn 17 31 02.4 +5.5**
TYV pmax pmax
comp=Z,100nm,3.8s
TYV pmax pmax
comp=Z,19nm,1.1s
TYV smax smax
comp=N,7.0nm,1.0s
TYV smax smax
comp=N,200nm,7.7s
TYV smax smax
comp=E,300nm,7.7s
MDJ Mudanjiang 9.66 293 P **Pn 17 29 20.5 +3.4**
MDJ Mudanjiang 9.66 293 P **Pn 17 29 17.1 0.0**
MDJ S **Sn 17 31 11.3 +7.3**
MDJ ScS **ScS 17 42 23.2 -6.1**
MDJ pmax pmax
comp=E,9.0nm,0.9s
MDJ LR LR
comp=E,550nm,16.1s
MDJ LR LR
comp=E,1μm,18.9s
MDJ LR LR
comp=E,2μm,21.3s
GRNR Gornyy 10.06 339⇑ *i*P **Pn 17 29 25.1 +2.5**
GRNR pmax pmax
comp=E,10.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR MLR MLR
comp=E,310nm,13.0s
KLR Kul'dur 10.60 320 P **Pn 17 29 32.3 +2.3**
comp=E,51nm,0.9s,baz=127,slow=14,SNR=99
KLR LR LR 17 33 39.3
comp=E,1μm,20.1s,baz=132,slow=38
KLR Kul'dur 10.60 320 eP **Pn 17 29 30.1 +0.2**
KLR pmax pmax
comp=Z,88nm,1.2s
BNX BinXian 11.45 297⇓P **Pn 17 29 43.4 +1.9**
BNX PP **PnPn 17 29 53.4 +4.0**
BNX sP 17 30 03.9
BNX S **Sn 17 31 53.7 +6.0**
BNX pmax pmax
comp=Z,46nm,1.0s
BNX pmax pmax
comp=Z,120nm,2.9s
BNX LR LR
comp=Z,400nm,11.4s
BNX LR LR
comp=Z,800nm,18.4s
BNX LR LR
comp=Z,940nm,29.9s
KSRS Korea Array 11.66 254 P **Pn 17 29 47.4 +2.9**
comp=Z,56nm,0.8s,baz=63,slow=14,SNR=48
KS19 Wonju Array Si 11.68 255 Pn 17 29 48.2 +3.4
NKL Nikolayevsk 11.69 356 eP **Pn 17 29 40.7 -4.1**
NKL eS **Sn 17 31 48.9 -4.6**
NKL pmax pmax
comp=E,54nm,1.1s
NKL pmax pmax
comp=N,25nm,1.0s
NKL pmax pmax
comp=Z,138nm,1.0s
NKL smax smax
comp=E,83nm,1.7s
NKL smax smax
comp=N,73nm,1.2s
NKL MLR MLR
comp=N,739nm,11.0s
NKL MLR MLR
comp=E,5μm,13.0s
NKL MLR MLR
comp=Z,2μm,13.0s
KSAR Wonju Array Be 11.70 254 Pn **Pn 17 29 45.8 +0.8**
KSAR Wonju Array Be 11.70 254 P **Pn 17 29 45.8 +0.8**
OKH Okha 12.07 2*c i*P **Pn 17 29 47.4 -2.5**
OKH eS **Sn 17 32 05.6 +2.9**
OKH pmax pmax
comp=Z,100nm,9.6s
OKH smax smax
comp=E,100nm,11.7s
OKH smax smax
comp=N,100nm,9.5s

JNU Nakatsue 12.22 230 P **Pn 17 29 53.8 +1.6**
JNU Nakatsue 12.22 230 P **Pn 17 29 53.5 +1.3**
comp=N,25nm,0.8s,baz=33,slow=6.3,SNR=18
JNU LR LR 17 34 25.3
comp=N,655nm,21.9s,baz=43,slow=36
CN2 Changchun 12.46 286 eP **Pn 17 29 58.0 +2.6**
CN2 eS **Sn 17 32 15.2 +2.7**
CN2 pmax pmax
comp=N,10.0nm,0.8s
CN2 pmax pmax
comp=N,200nm,6.0s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=N,1μm,15.0s
CN2 LR LR
comp=N,1μm,17.0s
TJN Taejon 12.54 251 P **Pn 17 30 00.1 +3.5**
TJN Taejon 12.54 251 Pn **Pn 17 30 00.5 +3.9**
TJN Taejon 12.54 251*c*eP **Pn 17 30 00.8 +4.2**
SKR Severo-Kuril's 13.36 42 eP **Pn 17 30 10.3 +2.7**
SKR pmax pmax
comp=Z,300nm,2.7s
HEH HeiHe 13.43 316 eP **Pn 17 30 07.9 -0.6**
HEH sP P 17 30 24.5 +8.5
HEH S **Sn 17 32 34.8 -1.2**
HEH pmax pmax
comp=Z,31nm,0.6s
HEH pmax pmax
comp=Z,160nm,3.6s
HEH LR LR
comp=Z,790nm,14.7s
HEH LR LR
comp=Z,900nm,15.0s
HEH LR LR
comp=Z,2μm,18.3s
JCJ Chichijima 14.37 180 P Pn 17 30 12.0 -9.3
comp=Z,32nm,0.5s,baz=301,slow=19,SNR=1.5
JCJ LR LR 17 36 53.2
comp=Z,102nm,21.3s,baz=120,slow=41
PEA0B Petropavlovsk- 15.67 37 P 17 30 42.5 +1.7
PEA0B Petropavlovsk- 15.67 37 P **P 17 30 42.5 +1.7**
PEA0B pmax pmax
comp=Z,9.0nm,0.7s
PETK Petropavlovsk- 15.67 37 P **P 17 30 41.1 +0.3**
PETK Petropavlovsk- 15.67 37 P **Pn 17 30 36.1 -1.7**
comp=Z,3.1nm,0.6s,baz=215,slow=8.7,SNR=9.6
PETK LR LR 17 36 40.6
comp=Z,469nm,21.7s,baz=216,slow=37
PETK Petropavlovsk- 15.67 37 P **P 17 30 41.1 +0.3**
ZEA Zeya 15.76 326 eP **Pn 17 30 38.1 -0.8**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA pmax pmax
comp=E,40nm,0.8s
ZEA pmax pmax
comp=N,60nm,0.9s
ZEA pmax pmax
comp=Z,100nm,0.7s
ZEA MLR MLR
comp=E,400nm,15.0s
DL2 Dalian 15.84 267 P **Pn 17 30 41.2 +1.2**
DL2 pP **pP 17 30 51.1 -4.4**
DL2 sP **sP 17 31 00.4 -2.7**
DL2 S **Sn 17 33 32.8 -1.8**
DL2 pmax pmax
comp=E,190nm,1.0s
DL2 pmax pmax
comp=E,210nm,6.3s
DL2 LR LR
comp=E,400nm,20.9s
DL2 LR LR
comp=E,500nm,25.5s
DL2 LR LR
comp=E,1μm,30.1s
PET Petropavlovsk 16.06 39 eP **Pn 17 30 41.2 -1.5**
PET eS **Sn 17 33 30.6 -9.0**
PET pmax pmax
comp=Z,17nm,1.0s
PET MLR MLR
comp=Z,400nm,20.0s
PET MLR MLR
comp=Z,400nm,14.0s
HIA Hailar 17.46 304 P **P 17 31 01.0 +0.3**
HIA Hailar 17.46 304 Pn **Pn 17 30 58.5 -1.8**
HIA Hailar 17.46 304 P **Pn 17 30 58.5 -1.8**
HIA pmax pmax
comp=Z,26nm,0.7s
JOW Kunigami 18.53 222 LR LR 17 38 32.4
comp=Z,902nm,18.4s,baz=110,slow=37
MA2 Magadan 18.89 14 P **P 17 31 16.3 +0.1**
MA2 Magadan 18.89 14 P **P 17 31 14.5 -1.7**
MA2 Magadan 18.89 14 P **P 17 31 14.1 -2.1**
comp=Z,20nm,0.7s,baz=201,slow=9.0,SNR=19
MA2 LR LR 17 39 25.9
comp=Z,267nm,19.9s,baz=198,slow=39
MA2 Magadan 18.89 14*c*eP **P 17 31 12.9 -3.3**
MA2 pmax pmax
comp=Z,36nm,1.0s
XLT XiLinHaoTe 19.23 286 eP **P 17 31 19.2 -1.1**
XLT pP pP 17 31 34.1 +1.0
XLT PP **PnPn 17 31 38.0 +1.8**
XLT pmax pmax
comp=Z,37nm,0.8s
XLT pmax pmax
comp=Z,180nm,4.4s
XLT LR LR
comp=Z,500nm,19.1s
XLT LR LR
comp=Z,590nm,20.0s
BJI Beijing 19.66 274 P **P 17 31 23.4 -1.4**
BJI pP **pP 17 31 36.9 -0.8**
BJI sP **sP 17 31 42.8 -2.4**
BJI pmax pmax
comp=Z,52nm,0.8s
BJT Baijiatuau 19.67 274 P **P 17 31 25.5 +0.6**
BJT IAmb IAmb 17 31 26.3
comp=Z,79nm,0.8s
BJT Baijiatuau 19.67 274 P **P 17 31 25.5 +0.6**
BJT pmax pmax
comp=Z,79nm,0.8s
TIA Tai'an 20.11 263 P **P 17 31 28.3 -1.5**
TIA pmax pmax
comp=Z,38nm,0.6s
NJ2 Nanjing 20.81 251 eP **P 17 31 35.7 -1.6**
NJ2 pmax pmax
comp=Z,48nm,0.8s
NJ2 LR LR
comp=Z,740nm,16.1s
NJ2 LR LR
comp=Z,570nm,13.3s
NJ2 LR LR
comp=Z,650nm,18.9s
HNS HongShan 21.49 268⇑P **P 17 31 42.2 -2.4**
HNS SS **SnSn 17 36 11.4 +4.8**
HNS pmax pmax
comp=Z,40nm,1.1s
HNS LR LR
comp=Z,310nm,15.9s
HNS LR LR
comp=Z,280nm,11.9s
HNS LR LR
comp=Z,290nm,14.3s
YAK Yakutsk 21.87 344 P **P 17 31 45.4 -2.9**
comp=Z,92nm,0.5s,baz=358,slow=5.2,SNR=45
YAK S **S 17 35 37.9 -8.4**
comp=Z,12nm,0.4s,baz=116,slow=21,SNR=6.1
YAK LR LR 17 40 41.8
comp=Z,367nm,19.4s,baz=150,slow=38
YAK Yakutsk 21.87 344 eP **P 17 31 45.0 -3.3**
YAK *e**PP **pP 17 32 03.7 +2.4**
YAK eS **S 17 35 40.5 -5.9**
YAK pmax pmax
comp=Z,93nm,0.8s
YAK pmax pmax
comp=N,32nm,0.9s
YAK pmax pmax
comp=E,13nm,1.0s
YAK smax smax
comp=N,92nm,1.4s
YAK smax smax
comp=E,49nm,1.4s
YAK MLR MLR
comp=Z,377nm,18.0s
YAK MLR MLR
comp=N,268nm,20.0s

YAK MLR MLR
comp=E,75nm,15.0s
CIT Chita 22.05 308 eP **P 17 31 47.2 -3.4**
CIT *e* 17 32 05.8
CIT *e* 17 32 16.6
CIT *e* 17 32 27.0
CIT eS **S 17 35 45.0 -5.2**
CIT pmax pmax
comp=Z,63nm,0.9s
SEY Seymchan 22.32 12*c*eP **P 17 31 50.6 -2.6**
SEY pmax pmax
comp=Z,25nm,1.0s
HHC Hu-ho-hao-te 22.93 279 eP **P 17 31 57.1 -2.9**
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,100nm,5.9s
HHC LR LR
comp=Z,210nm,12.2s
HHC LR LR
comp=Z,420nm,13.0s
HHC LR LR
comp=Z,460nm,13.4s
TIY Taiyuan 23.10 270 eP **P 17 31 59.6 -2.1**
TIY pP **pP 17 32 14.0 -1.0**
TIY pmax pmax
comp=Z,25nm,0.7s
TIY LR LR
comp=Z,250nm,15.1s
TIY LR LR
comp=Z,280nm,15.1s
TIY LR LR
comp=Z,350nm,17.2s
TATO Taipei 23.75 232 P **P 17 32 08.6 +0.9**
TATO Taipei 23.75 232 P **P 17 32 07.0 -0.8**
TATO Taipei 23.75 232 P **P 17 32 07.5 -0.2**
YHNB Yeheng 24.04 232 P **P 17 32 13.7 +3.2**
YHNB Yeheng 24.04 232 P **P 17 32 09.4 -1.1**
YHNB IAmb IAmb 17 32 25.0
comp=Z,39nm,0.8s
BTO Baotou 24.12 279⇓ *i*P **P 17 32 10.3 -0.9**
BTO pP **pP 17 32 24.6 -1.1**
BTO sP **sP 17 32 32.1 -0.8**
BTO PP **PnPn 17 32 46.8 +3.7**
BTO S **S 17 36 25.1 +0.3**
BTO sS **sS 17 36 43.8 -5.3**
BTO SS **SnSn 17 37 15.8 +4.7**
BTO pmax pmax
comp=Z,97nm,1.3s
BTO pmax pmax
comp=Z,300nm,6.4s
BTO LR LR
comp=Z,500nm,18.9s
BTO LR LR
comp=Z,960nm,24.0s
BTO LR LR
comp=Z,2μm,24.1s
BOD Bodaibo 24.17 322 eP **P 17 32 09.9 -1.4**
BOD pmax pmax
comp=Z,43nm,0.8s
LYN LuoYang 24.26 263 P **P 17 32 10.2 -2.1**
LYN S **S 17 36 28.2 +1.3**
LYN sS sS 17 36 44.1 -7.1
LYN pmax pmax
comp=Z,31nm,1.0s
LYN pmax pmax
comp=Z,220nm,5.2s
LYN LR LR
comp=Z,350nm,14.4s
LYN LR LR
comp=Z,460nm,19.9s
LYN LR LR
comp=Z,740nm,21.6s
NACB Ninganchiao 24.29 231 P **P 17 32 09.9 -2.7**
SHEM Shemya Is, Ala 24.31 52 LR LR 17 43 38.3
comp=Z,46nm,18.7s,baz=278,slow=41
WHN Wuhan 24.85 253⇓P **P 17 32 18.2 +0.5**
WHN sP **sP 17 32 39.8 +0.6**
WHN pmax pmax
comp=Z,90nm,0.8s
WHN LR LR
comp=Z,2μm,15.5s
SSLB Suanglung 24.96 231 P **P 17 32 20.3 +1.4**
SSLB Suanglung 24.96 231 P **P 17 32 17.6 -1.2**
TPUB Ta-pu 25.52 231 P **P 17 32 27.2 +3.3**
TPUB Ta-pu 25.52 231 P **P 17 32 23.7 -0.2**
TPUB IAmb IAmb 17 32 26.6
comp=Z,40nm,0.9s
ULN Ulaanbaatar 25.55 296 P **P 17 32 23.4 -0.7**
ULN IAmb IAmb 17 32 26.5
comp=Z,37nm,0.9s
ULN Ulaanbaatar 25.55 296 P **P 17 32 24.9 +0.7**
ULN Ulaanbaatar 25.55 296 P **P 17 32 24.8 +0.7**
SONM Songino Array 25.99 296 P **P 17 32 27.0 -1.1**
SONM IAmb IAmb 17 32 30.2
comp=Z,47nm,0.9s
SONM Songino Array 25.99 296 P **P 17 32 27.5 -0.6**
comp=Z,43nm,0.8s,baz=84,slow=8.3,SNR=126
SONM ScP **ScP 17 39 29.0 -0.3**
comp=Z,1.0nm,0.9s,baz=122,slow=1.9,SNR=3.8
comp=Z,43nm,0.8s
KNMB Chin-men Tao 26.02 237 IAmb IAmb 17 32 33.9
comp=Z,78nm,0.9s
XAN Xi'an 27.13 265⇑P **P 17 32 36.8 -1.6**
XAN pP pP 17 32 52.5 -0.5
XAN S **S 17 37 10.2 -2.3**
XAN pmax pmax
comp=Z,29nm,0.8s
XAN LR LR
comp=Z,290nm,15.2s
XAN LR LR
comp=Z,360nm,16.2s
XAN LR LR
comp=Z,410nm,16.5s
IRK Irkutsk 27.69 306 eP **P 17 32 42.4 -0.7**
IRK pmax pmax
comp=Z,75nm,1.3s
GUMO Guam 27.92 174 LR LR 17 42 32.3
comp=Z,140nm,20.9s,baz=9.5,slow=33
ZAK Zakamensk 28.13 302 eP **P 17 32 46.4 -0.8**
ZAK pmax pmax
comp=Z,23nm,1.3s
ENH Enshi 28.53 257 P **P 17 32 50.0 -0.9**
ENH IAmb IAmb 17 32 52.2
comp=Z,31nm,0.7s
BILL Bilibino 29.61 18⇑ eP **P 17 32 59.3 -0.7**
BILL *e* 17 33 54.7
BILL eS **S 17 37 51.4 +0.7**
BILL pmax pmax
comp=Z,11nm,0.7s
BILL MLR MLR
comp=Z,290nm,20.0s
MOY Mondy 29.65 304 eP **P 17 33 01.1 +0.4**
MOY pmax pmax
comp=Z,39nm,1.6s
LZH Lanzhou 30.11 272 eP **P 17 33 04.7 -0.4**
LZH pP pP 17 33 19.3 -0.4
LZH sP sP 17 33 26.7 0.0
LZH S **S 17 38 02.4 +2.8**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH LR LR
comp=Z,250nm,13.7s
LZH LR LR
comp=Z,340nm,14.1s
LZH LR LR
comp=Z,440nm,14.8s
H11N2 WAKE ISLAND Hy 30.26 128 T T 18 05 34.1
baz=321,slow=76,SNR=826
H11N1 WAKE ISLAND Hy 30.27 128 T T 18 05 32.9
baz=321,slow=76,SNR=2560
H11N3 WAKE ISLAND Hy 30.27 128 T T 18 05 35.2
baz=321,slow=76,SNR=1247
HKPS Hong Kong Po S 30.29 239 P **P 17 33 05.3 -1.2**
HKPS IAmb IAmb 17 33 08.8
comp=Z,51nm,1.0s
GULI GuiLin 30.81 248 P **P 17 33 11.1 +0.1**
TIXI Tiksi 30.93 352 P **P 17 33 09.6 -2.1**
TIXI Tiksi 30.93 352 LR LR 17 46 48.0
comp=Z,200nm,18.1s,baz=172,slow=38
TIXI Tiksi 30.93 352*c*eP **P 17 33 09.2 -2.4**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 30.93 352 P **P 17 33 09.3 -2.3**
H11S1 WAKE ISLAND Hy 31.10 130 T T 18 06 40.0

baz=323,slow=76,SNR=673
H11S3 WAKE ISLAND Hy 31.11 130 T T 18 06 38.5
baz=323,slow=76,SNR=511
H11S2 WAKE ISLAND Hy 31.12 130 T T 18 06 41.1
baz=323,slow=76,SNR=1220
GTA Gaotai 32.00 280 ⇑P **P** **17 33 20.9 -0.7**
GTA sP pP 17 33 39.1 +2.8
GTA PcP **PcP** **17 36 11.4 +1.2**
GTA S **S** **17 38 26.4 -2.6**
GTA PcS **PcS** **17 39 56.0 +0.9**
GTA pmax pmax
comp=Z,23nm,1.0s
GTA LR LR
comp=Z,250nm,17.4s
GTA LR LR
comp=Z,380nm,19.6s
GTA LR LR
comp=Z,590nm,17.1s
CD2 Chengdu 32.44 263 P **P** **17 33 23.9 -1.6**
CD2 pmax pmax
comp=Z,40nm,0.6s
GYA Guiyang 32.72 254 ⇓P **P** **17 33 27.7 -0.3**
GYA pP pP 17 33 40.9 -1.8
GYA PcP **PcP** **17 36 13.1 +0.7**
GYA S **S** **17 38 39.6 -0.8**
GYA pmax pmax
comp=Z,16nm,0.7s
GYA pmax pmax
comp=Z,220nm,5.4s
GYA LR LR
comp=Z,220nm,18.3s
GYA LR LR
comp=Z,360nm,17.5s
GYA LR LR
comp=Z,380nm,22.6s
KRAR Krasnoyarsk 34.73 312 *i*P **P** **17 33 45.3 +0.3**
QIZ Qiongzhong 35.41 241 P **P** **17 33 51.6 +0.4**
QIZ S **S** **17 39 26.0 +4.2**
QIZ LR LR
comp=Z,220nm,16.3s
QIZ LR LR
comp=Z,220nm,13.4s
QIZ LR LR
comp=Z,280nm,18.0s
PZH PanZhiHua 36.29 259 P **P** **17 34 00.3 +1.5**
PZH pmax pmax
comp=Z,40nm,0.8s
PZH pmax pmax
comp=Z,100nm,3.5s
KMI Kunming 36.36 256 ⇑P **P** **17 33 59.5 0.0**
KMI S **S** **17 39 32.2 -4.4**
KMI pmax pmax
comp=Z,22nm,0.9s
KMI LR LR
comp=Z,240nm,20.6s
KMI LR LR
comp=Z,240nm,27.1s
KMI LR LR
comp=Z,340nm,25.5s
GOMU GeErMu 36.83 278 P **P** **17 34 03.9 +0.3**
GOMU PP **PnPn** **17 35 30.2 +1.3**
GOMU S **S** **17 39 40.8 -3.1**
GOMU SS **SnSn** **17 42 14.7 -5.5**
GOMU pmax pmax
comp=Z,97nm,0.7s
GOMU pmax pmax
comp=Z,130nm,5.5s
GOMU LR LR
comp=Z,360nm,15.9s
GOMU LR LR
comp=Z,400nm,17.0s
GOMU LR LR
comp=Z,880nm,18.7s
DAV Davao City (W) 37.30 208 LR LR 17 49 01.0
comp=Z,54nm,20.6s,baz=18,slow=35
F14K Arctic Creek 37.37 33 P **P** **17 34 08.4 +1.0**
baz=256
K13K Kusilvak Mount 37.42 39 P **P** **17 34 09.4 +1.5**
baz=262
ANM Nome 37.56 34 P **P** **17 34 10.2 +1.2**
baz=258
M13K Dall Lake 37.89 41 P **P** **17 34 13.1 +1.3**
baz=265
J14K Nanvaranak Lak 38.05 37 P **P** **17 34 13.2 +0.1**
J14K IAmb IAmb 17 34 15.2
comp=Z,16nm,0.8s
J14K Nanvaranak Lak 38.05 37 P **P** **17 34 13.9 +0.8**
baz=262
F15K North Star Dit 38.11 32 P **P** **17 34 13.9 +0.3**
F15K North Star Dit 38.11 32 P **P** **17 34 14.7 +1.1**
baz=257
G15K Niukluk 38.21 34 P **P** **17 34 15.5 +1.1**
baz=259
L14K Kuka Creek 38.29 40 P **P** **17 34 16.5 +1.3**
baz=265
S12K Black Hills 38.48 49 P **P** **17 34 16.7 -0.2**
C16K Lisburne Hills 38.50 28 P **P** **17 34 16.4 -0.4**
C16K IAmb IAmb 17 34 18.7
comp=Z,20nm,0.8s
C16K Lisburne Hills 38.50 28 P **P** **17 34 16.8 0.0**
baz=253
M14K Bethel 38.60 41 IAmb IAmb 17 34 41.7
comp=Z,12nm,0.7s
M14K Bethel 38.60 41 P **P** **17 34 18.8 +1.1**
baz=266,SNR=5.1
N14K Kuskokwak Cree 38.69 42 P **P** **17 34 19.4 +0.9**
baz=267
O14K Tigyukauivet M 38.88 43 P **P** **17 34 21.4 +1.3**
baz=269
L15K Ungalak Mounta 38.89 39 P **P** **17 34 21.7 +1.4**
baz=265
H16K Elim 38.90 34 P **P** **17 34 21.2 +0.9**
baz=261,SNR=5.6
K15K Wolf Creek Mou 38.93 38 P **P** **17 34 22.2 +1.6**
baz=265,SNR=6.1
G16K Koyuk River 38.98 33 P **P** **17 34 20.5 -0.4**
G16K IAmb IAmb 17 34 23.9
comp=Z,12nm,0.8s
G16K Koyuk River 38.98 33 P **P** **17 34 21.7 +0.8**
baz=260
D17K Noatak River 39.17 30 P **P** **17 34 22.9 +0.4**
baz=256,SNR=7.5
M15K Kasigluk River 39.22 41 P **P** **17 34 23.6 +0.7**
baz=267,SNR=9.4
C17K DeLong Mountai 39.32 28 P **P** **17 34 24.3 +0.5**
baz=255,SNR=9.1
ZAA0 Zalesovo Array 39.41 308 PcP **PcP** **17 36 32.3 +0.6**
ZALV Zalesovo Beam 39.41 308 P **P** **17 34 25.0 +0.3**
ZALV PcP **PcP** **17 36 32.1 +0.4**
ZALV Zalesovo Beam 39.41 308 P **P** **17 34 24.6 0.0**
comp=Z,69nm,0.7s,baz=88,slow=7.6,SNR=202
ZALV PcP **PcP** **17 36 32.2 +0.6**
comp=Z,15nm,0.6s,baz=98,slow=2.5,SNR=8.4
ZALV ScP **ScP** **17 40 13.6 -1.4**
comp=Z,0.6nm,0.5s,baz=96,slow=2.9,SNR=2.4
comp=Z,69nm,0.7s
ZALV Zalesovo Beam 39.41 308 P **P** **17 34 25.0 +0.3**
J16K Anvik River 39.45 37 P **P** **17 34 25.6 +0.8**
J16K Anvik River 39.45 37 P **P** **17 34 26.1 +1.2**
baz=264
WMQ Urumqi 39.46 292 ⇑P **P** **17 34 26.1 +0.8**
WMQ pmax pmax
comp=Z,130nm,0.9s
WMQ pmax pmax
comp=Z,220nm,3.7s
WMQ LR LR
comp=Z,200nm,20.1s
WMQ LR LR
comp=Z,630nm,17.1s
WMQ LR LR
comp=Z,440nm,17.9s
I17K Unalakleet 39.47 36 P **P** **17 34 25.2 +0.2**
baz=264
NRIK Noril'sk 39.48 333 P **P** **17 34 25.0 0.0**
NRIK IAmb IAmb 17 34 25.6
comp=Z,30nm,0.7s
NRIK Noril'sk 39.48 333 P **P** **17 34 24.7 -0.3**
comp=Z,27nm,0.6s,baz=106,slow=8.7,SNR=33
NRIK LR LR 17 51 37.1
comp=Z,768nm,20.6s,baz=136,slow=37
comp=Z,27nm,0.6s
NRIK Noril'sk 39.48 333 *ce*P **P** **17 34 23.9 -1.1**
NRIK pmax pmax
comp=Z,27nm,0.6s
N15K Kwethluk River 39.49 42 P **P** **17 34 26.9 +1.6**
N15K IAmb IAmb 17 34 45.9
comp=Z,22nm,0.9s
N15K Kwethluk River 39.49 42 P **P** **17 34 27.0 +1.6**
baz=269,SNR=10
E17K Hotham Inlet 39.51 31 P **P** **17 34 25.8 +0.5**
baz=258,SNR=22
TNCH TengChong 39.51 259 ⇑P **P** **17 34 26.6 +0.6**
TNCH pP pP 17 34 41.6 +0.5
TNCH sP sP 17 34 49.7 +1.7
TNCH PP **PnPn** **17 36 00.8 -0.2**
TNCH S **S** **17 40 21.3 -2.9**
TNCH pmax pmax
comp=Z,79nm,1.0s
TNCH pmax pmax
comp=Z,260nm,3.0s
TNCH LR LR
comp=Z,110nm,4.7s
TNCH LR LR
comp=Z,140nm,5.2s
TNCH LR LR
comp=Z,160nm,15.9s
F17K Baldwin Pennin 39.61 32 P **P** **17 34 26.7 +0.5**
F17K IAmb IAmb 17 35 09.5
comp=Z,18nm,0.9s
F17K Baldwin Pennin 39.61 32 P **P** **17 34 26.6 +0.5**
baz=260
O15K Ungalikthiuk R 39.62 43 P **P** **17 34 27.4 +1.1**
baz=270
G17K Kiwalik Mounta 39.70 33 P **P** **17 34 28.1 +1.2**
baz=262,SNR=9.4
L16K Owhat River 39.85 39 P **P** **17 34 29.2 +1.0**
baz=267,SNR=10
S14K Fog Glacier 39.85 48 P **P** **17 34 29.3 +0.9**
baz=274
H17K Granite Mounta 39.93 34 P **P** **17 34 29.6 +0.7**
baz=263,SNR=5.3
CHNA Chernabura Isl 39.95 50 P **P** **17 34 29.2 +0.1**
baz=275
CNBA Chernabura Isl 39.95 50 P **P** **17 34 29.1 0.0**
CNBA IAmb IAmb 17 34 49.6
comp=Z,19nm,0.7s
B18K Kokolik River 40.03 27 P **P** **17 34 30.0 +0.5**
baz=256
E18K Tukpahlearik C 40.04 30 P **P** **17 34 30.6 +0.8**
baz=259,SNR=9.7
C18K Utukok River 40.07 28 P **P** **17 34 30.2 +0.2**
C18K IAmb IAmb 17 34 32.5
comp=Z,22nm,0.9s
C18K Utukok River 40.07 28 P **P** **17 34 30.4 +0.3**
baz=257,SNR=5.6
M16K Timber Creek 40.07 40 P **P** **17 34 31.3 +1.2**
M16K Timber Creek 40.07 40 P **P** **17 34 30.2 +0.2**
baz=268
J17K VABM Dome 40.14 37 IAmb IAmb 17 34 33.6
comp=Z,34nm,0.9s
J17K VABM Dome 40.14 37 P **P** **17 34 31.8 +1.2**
baz=266,SNR=19
N16K Nishlik Lake 40.16 41 P **P** **17 34 31.9 +1.1**
baz=269,SNR=8.7
F18K Selawik 40.27 32 P **P** **17 34 32.9 +1.3**
baz=261,SNR=6.6
L17K Donlin 40.43 39 P **P** **17 34 34.6 +1.6**
baz=268,SNR=7.8
K17K Iditarod 40.45 38 IAmb IAmb 17 34 36.4
comp=Z,32nm,0.9s
K17K Iditarod 40.45 38 P **P** **17 34 34.7 +1.5**
baz=267,SNR=14
ZSN Zaisan 40.46 298 *e*P **P** **17 34 34.1 +0.6**
comp=Z,15nm,0.7s,baz=298
ZSN *e*S **S** **17 40 38.7 +1.0**
baz=298
ZSN Zaisan 40.46 298 *e*P **P** **17 34 34.0 +0.6**
ZSN *e*S **S** **17 40 38.6 +1.0**
ZSN pmax pmax
comp=Z,15nm,0.7s
O16K Kokwok River B 40.50 43 P **P** **17 34 34.1 +0.6**
baz=271
P16K Nushagak River 40.56 43 P **P** **17 34 33.8 -0.3**
baz=272
G18K Tagagawik 40.57 33 IAmb IAmb 17 34 35.8
comp=Z,21nm,0.8s
G18K Tagagawik 40.57 33 P **P** **17 34 35.0 +0.8**
baz=263,SNR=24
H18K Honhosa River 40.61 34 IAmb IAmb 17 34 37.8
comp=Z,14nm,0.8s
H18K Honhosa River 40.61 34 P **P** **17 34 34.8 +0.3**
baz=264
C19K Lookout Ridge 40.74 28 P **P** **17 34 34.8 -0.8**
C19K IAmb IAmb 17 34 38.2
comp=Z,18nm,1.0s
C19K Lookout Ridge 40.74 28 P **P** **17 34 35.7 +0.1**
baz=258
M17K Holitna River 40.82 40 IAmb IAmb 17 35 03.3
comp=Z,20nm,0.8s
M17K Holitna River 40.82 40 P **P** **17 34 37.4 +1.2**
baz=269,SNR=10
N17K Nushagak Hills 40.94 41 P **P** **17 34 39.3 +2.0**
N17K Nushagak Hills 40.94 41 P **P** **17 34 38.1 +0.9**
baz=271
UBPT Khong Chiam 40.99 241 P **P** **17 34 39.3 +1.2**
UBPT Khong Chiam 40.99 241 P **P** **17 34 38.4 +0.3**
O17K Koliganek Bris 41.00 42 P **P** **17 34 37.4 -0.3**
baz=272
F19K Shaleruckik Mo 41.04 32 P **P** **17 34 37.6 -0.4**
baz=263,SNR=10
D19K Kuna River 41.15 29 P **P** **17 34 38.9 0.0**
D19K Kuna River 41.15 29 P **P** **17 34 38.8 -0.1**
baz=261
L18K Granite Mounta 41.18 39 PcP **PcP** **17 36 38.6 +1.4**
L18K Granite Mounta 41.18 39 P **P** **17 34 39.5 +0.3**
baz=269,SNR=8.4
J18K Innoko River 41.21 37 P **P** **17 34 39.9 +0.5**
baz=268,SNR=17
G19K Purcell Mounta 41.24 33 IAmb IAmb 17 34 42.0
comp=Z,19nm,0.8s
G19K Purcell Mounta 41.24 33 P **P** **17 34 40.1 +0.5**
baz=264,SNR=25
E19K Redstone River 41.33 31 P **P** **17 34 40.9 +0.6**
E19K IAmb IAmb 17 34 42.7
comp=Z,24nm,0.8s
E19K Redstone River 41.33 31 P **P** **17 34 40.7 +0.3**
baz=263
P17K Kvichak River 41.36 43 P **P** **17 34 40.6 0.0**
baz=273
H19K Roundabout Mou 41.44 34 P **P** **17 34 42.4 +1.1**
H19K IAmb IAmb 17 34 43.4
comp=Z,28nm,0.8s
H19K Roundabout Mou 41.44 34 P **P** **17 34 42.2 +0.9**
baz=266,SNR=23
N18K Kilae Creek 41.58 41 P **P** **17 34 43.4 +0.9**
N18K Kilae Creek 41.58 41 P **P** **17 34 42.9 +0.4**
baz=272,SNR=5.8
M18K Stony River 41.59 40 P **P** **17 34 43.2 +0.6**
baz=271
Q17K Contact Creek 41.70 45 P **P** **17 34 43.4 -0.2**
baz=274
J19K Poorman 41.71 36 IAmb IAmb 17 34 47.6
comp=Z,46nm,0.9s
J19K Poorman 41.71 36 P **P** **17 34 44.6 +1.0**
baz=268,SNR=48
D20K Etivluk River 41.73 29 P **P** **17 34 43.5 -0.1**
baz=262
B20K Meade River 41.75 27 IAmb IAmb 17 34 46.5
comp=Z,37nm,0.8s
B20K Meade River 41.75 27 P **P** **17 34 44.0 +0.3**
baz=260,SNR=13
E20K Nigu River 41.83 29 P **P** **17 34 44.4 0.0**
baz=263
F20K Avaraart Lake 41.87 31 P **P** **17 34 45.1 +0.3**
baz=265,SNR=6.3
O18K Koktuh Hills 41.95 42 P **P** **17 34 45.8 +0.2**
baz=273
P18K Big Mountain, 41.97 43 P **P** **17 34 46.1 +0.4**
baz=274
L19K White Mountain 42.04 39 P **P** **17 34 47.0 +0.7**
baz=271
CHIR Chirikof Islan 42.09 48 **P** **17 34 47.5 +0.8**
CHIR Chirikof Islan 42.09 48 P **P** **17 34 46.5 -0.2**
baz=277
H20K Anotleneega Mo 42.09 34 P **P** **17 34 47.2 +0.5**
baz=267,SNR=20
Q18K Katmai Hardscr 42.13 44 P **P** **17 34 46.8 -0.3**
baz=275
A21K Barrow 42.17 25 P **P** **17 34 47.1 0.0**
baz=259
I20K Naaghedeneel 42.23 35 P **P** **17 34 48.0 +0.3**
baz=268
N19K Bonanza Creek 42.26 41 P **P** **17 34 48.5 +0.4**
baz=273
M19K Big River Lodg 42.27 39 P **P** **17 34 48.3 +0.3**
baz=272
MK31 Makanchi Array 42.32 298 P **P** **17 34 49.1 +0.3**
MK31 IAmb IAmb 17 34 53.4
comp=Z,46nm,0.8s
MK31 Makanchi Array 42.32 298 P **P** **17 34 49.1 +0.3**
MK31 pmax pmax
comp=Z,46nm,0.9s
MKAR Makanchi Array 42.32 298 P **P** **17 34 49.1 +0.3**
MKAR Makanchi Array 42.32 298 P **P** **17 34 48.9 +0.1**
comp=Z,57nm,0.9s,baz=84,slow=9.6,SNR=98
MKAR PcP **PcP** **17 36 41.6 +0.3**
comp=Z,7.5nm,0.8s,baz=57,slow=4.5,SNR=3.8
comp=Z,57nm,0.9s
MKAR Makanchi Array 42.32 298 P **P** **17 34 49.1 +0.3**
PHRA Phrae 42.34 250 P **P** **17 34 49.5 +0.3**
J20K Nowinta River 42.37 36 P **P** **17 34 49.7 +0.8**
baz=269,SNR=62
O19K Port Alsworth 42.38 42 P **P** **17 34 49.8 +0.9**
baz=274
K20K Telida 42.40 37 P **P** **17 34 49.8 +0.7**
baz=270,SNR=21
C21K Knifeblade Rid 42.45 28 P **P** **17 34 49.6 +0.1**
baz=263,SNR=10
L20K Farewell, AK 42.49 38 P **P** **17 34 50.7 +0.8**
baz=271,SNR=9.1
LSA Lhasa 42.50 271 P **P** **17 34 52.4 +1.5**
LSA pmax pmax
comp=Z,31nm,1.0s
LSA Lhasa 42.50 271 P **P** **17 34 52.2 +1.3**
LSA Lhasa 42.50 271 P **P** **17 34 52.7 +1.8**
MAKZ Makanchi 42.53 298 P **P** **17 34 50.6 +0.1**
MAKZ Makanchi 42.53 298 P **P** **17 34 50.6 +0.1**
MAKZ pmax pmax
comp=Z,58nm,0.8s
MAKZ Makanchi 42.53 298 P **P** **17 34 50.5 +0.1**
MAKZ PcP **PcP** **17 36 41.9 -0.1**
R18K Karluk 42.53 45 P **P** **17 34 50.2 0.0**
baz=276
B21K Ikpikpuk River 42.56 28 IAmb IAmb 17 34 51.8
comp=Z,22nm,0.8s
B21K Ikpikpuk River 42.56 28 P **P** **17 34 50.2 -0.1**
baz=263,SNR=15
IMAR Indian Mountai 42.58 33 P **P** **17 34 51.5 +0.9**
A22K Sinclair Lake 42.64 26 P **P** **17 34 50.7 -0.2**
baz=261,SNR=12
E21K Killik River 42.66 29 PcP **PcP** **17 36 43.5 +1.4**
E21K Killik River 42.66 29 P **P** **17 34 51.0 -0.2**
baz=265,SNR=19
TNTI Ternate 42.67 202 P **P** **17 34 52.5 +0.7**
TNTI Ternate 42.67 202 P **P** **17 34 51.1 -0.7**
G21K Allakaket 42.71 32 P **P** **17 34 52.1 +0.5**
baz=267
F21K Alatna River 42.75 31 P **P** **17 34 52.6 +0.7**
F21K IAmb IAmb 17 34 55.0
comp=Z,14nm,0.8s
F21K Alatna River 42.75 31 P **P** **17 34 52.0 0.0**
baz=266,SNR=35
SEM Semipalatinsk 42.76 304 *e*P **P** **17 34 51.8 -0.7**
comp=Z,19nm,0.8s,baz=304
SEM Semipalatinsk 42.76 304 *e*P **P** **17 34 51.8 -0.7**
SEM pmax pmax
comp=Z,19nm,0.8s
SII Sitkinak Islan 42.80 47 P **P** **17 34 53.1 +0.6**
baz=278
Q19K Cape Douglas, 42.82 43 P **P** **17 34 52.9 +0.3**
baz=275
M20K Styx River 42.86 39 P **P** **17 34 53.3 +0.3**
baz=273
H21K Melozitna Rive 42.96 33 P **P** **17 34 54.1 +0.4**
baz=269,SNR=16
P19K Oil Pt 42.96 42 P **P** **17 34 54.0 +0.2**
baz=275
CHTO Chiang Mai 43.05 252 P **P** **17 34 55.5 +0.6**
CHTO IAmb IAmb 17 35 02.3
comp=Z,24nm,0.8s
CHTO Chiang Mai 43.05 252 P **P** **17 34 55.5 +0.6**
CHTO pmax pmax
comp=Z,24nm,0.8s
B22K Teshekpuk Lake 43.06 27 P **P** **17 34 54.0 -0.3**
B22K Teshekpuk Lake 43.06 27 P **P** **17 34 54.5 +0.2**
baz=263,SNR=9.4
D22K Ayikyak River 43.17 29 IAmb IAmb 17 34 56.8
comp=Z,21nm,0.8s
D22K Ayikyak River 43.17 29 P **P** **17 34 55.8 +0.4**
baz=266,SNR=30
CHUM Lake Minchumin 43.17 36 P **P** **17 34 56.5 +1.2**
baz=271,SNR=7.9
O20K Slope Mountain 43.23 42 P **P** **17 34 56.1 +0.1**
baz=275
PPLA Purkeypile 43.26 38 P **P** **17 34 58.3 +2.0**
baz=272,SNR=9.7
F22K John River 43.27 31 P **P** **17 34 57.0 +0.9**
baz=267,SNR=28
CMAR Chiang Mai Arr 43.28 251 P **P** **17 34 57.9 +1.1**
CMAR Chiang Mai Arr 43.28 251 P **P** **17 34 57.9 +1.1**
CAST Castle Rocks 43.29 37 P **P** **17 34 57.8 +1.5**
baz=272,SNR=34
SWI Sorong 43.30 196 P **P** **17 34 55.6 -1.2**
comp=Z,37nm,0.9s
N20K Mount Spurr 43.35 40 P **P** **17 34 57.9 +1.0**
baz=274
SPCR Spurr Chakacha 43.35 40 P **P** **17 34 55.8 -1.1**
baz=274
E22K Anaktuvuk Pass 43.44 30 P **P** **17 34 58.0 +0.5**
baz=267,SNR=63
Q20K Shuyak Island 43.50 44 P **P** **17 34 58.2 +0.1**
baz=277
KDAK Kodiak Island 43.50 45 P **P** **17 34 58.8 +0.7**
KDAK IAmb IAmb 17 35 17.5
comp=Z,28nm,0.9s
KDAK Kodiak Island 43.50 45 P **P** **17 34 58.4 +0.4**
baz=278
KDAK Kodiak Island 43.50 45 *i*P **P** **17 34 57.9 -0.2**
KDAK pmax pmax
comp=Z,16nm,0.8s
KDAK Kodiak Island 43.50 45 P **P** **17 34 58.5 +0.4**
G22K Bettles 43.52 32 P **P** **17 34 58.4 +0.4**
baz=269
H22K Ishtalitna Cre 43.55 33 P **P** **17 34 59.3 +0.9**
baz=270,SNR=26
SKT Skwentna 43.61 39 P **P** **17 34 60.0 +1.0**
baz=274
KURK Kurchatov 43.70 305 P **P** **17 34 59.7 -0.1**
KURK Kurchatov 43.70 305 P **P** **17 35 00.1 +0.3**
KURK Kurchatov 43.70 305 *ce*P **P** **17 34 59.6 -0.1**
KURK pmax pmax
comp=Z,70nm,0.7s
KURK Kurchatov 43.70 305 P **P** **17 34 59.8 -0.1**
KURK pP **pP** **17 35 15.2 +0.3**
KURK PcP **PcP** **17 36 46.0 +0.2**
BPAW Bear Paw Mtn. 43.75 36 IAmb IAmb 17 35 04.5
comp=Z,30nm,1.2s
BPAW Bear Paw Mtn. 43.75 36 P **P** **17 35 01.2 +1.1**
baz=272,SNR=11
HOM Homer 43.77 42 P **P** **17 34 59.3 -0.8**
baz=276
KURBB Kurchatov Arra 43.78 304 P **P** **17 35 00.5 +0.1**
comp=Z,78nm,0.6s,baz=78,slow=8.8,SNR=272
KURBB PcP **PcP** **17 36 46.4 +0.3**
comp=Z,8.1nm,0.7s,baz=78,slow=3.6,SNR=5.2
comp=Z,78nm,0.6s
KURBB Kurchatov Arra 43.78 304 P **P** **17 35 00.1 -0.3**
MLY Manley 43.83 34 IAmb IAmb 17 35 03.4
comp=Z,22nm,0.9s
MLY Manley 43.83 34 P **P** **17 35 01.5 +0.8**
baz=271,SNR=25
CAPN Captain Cook N 43.90 41 P **P** **17 35 01.4 +0.2**
baz=276
D23K Nanushuk River 43.90 29 P **P** **17 35 01.7 +0.5**
baz=267
KMSI Cibinong 43.91 207 P **P** **17 35 01.5 -0.2**
comp=Z,76nm,1.1s
C23K Itkillik River 43.97 27 P **P** **17 35 01.6 -0.1**
baz=266,SNR=21
CNPM China Poot 43.98 42 IAmb IAmb 17 35 47.5
comp=Z,65nm,1.8s
SUA Susitna One 44.03 40 P **P** **17 35 02.4 -0.1**
baz=275,SNR=8.9
COLD Coldfoot 44.03 31 P **P** **17 35 02.6 +0.3**
baz=270,SNR=15
G23K Bananza Creek 44.10 32 IAmb IAmb 17 35 05.3
comp=Z,22nm,0.8s
G23K Bananza Creek 44.10 32 P **P** **17 35 02.9 +0.1**
baz=270,SNR=54
SHL Shillong 44.14 265 P **P** **17 35 04.6 +0.8**
SHL Shillong 44.14 265 P **P** **17 35 03.8 0.0**

SHL pmax pmax
comp=Z,48nm,0.8s
CUT Chulitna 44.17 38 P **P 17 35 03.4 0.0**
baz=274
GTOI Gorontalo 44.18 208 P **P 17 35 03.4 -0.6**
BRSE Bradley Lake S 44.21 42 P **P 17 35 03.5 -0.3**
baz=277
E23K Chandalar 44.26 30 P **P 17 35 04.4 +0.2**
baz=269,SNR=28
TOLK Toolik Lake Re 44.29 29 P **P 17 35 04.6 +0.3**
baz=269,SNR=12
H23K Yukon River 44.31 33 P **P 17 35 05.5 +1.0**
baz=272,SNR=40
I23K Minto, Yukon-K 44.41 34 P **P 17 35 06.3 +1.1**
baz=272,SNR=30
RC01 Rabbit Creek A 44.55 40 IAmb IAmb 17 35 26.9
comp=Z,17nm,0.9s
RC01 Rabbit Creek A 44.55 40 P **P 17 35 07.6 +1.1**
baz=276,SNR=6.8
NEA2 Nenana 44.56 35 P **P 17 35 07.4 +0.9**
baz=273,SNR=66
D24K Happy Valley 44.57 28 P **P 17 35 07.2 +0.7**
baz=269,SNR=32
C24K Franklin Bluff 44.63 28 P **P 17 35 07.5 +0.6**
baz=268
MCK McKinley 44.68 36 P **P 17 35 08.3 +0.8**
baz=274,SNR=5.6
MCK McKinley 44.68 36 P **P 17 35 08.4 +0.9**
E24K Your Creek 44.69 30 P **P 17 35 08.5 +0.9**
baz=270,SNR=27
MRSI Marisa 44.71 209 P **P 17 35 08.6 +0.4**
comp=Z,54nm,1.0s,comp=Z,395nm
RND Reindeer 44.74 37 IAmb IAmb 17 35 09.8
comp=Z,40nm,1.4s
RND Reindeer 44.74 37 P **P 17 35 08.6 +0.6**
PMR Palmer 44.78 39 P **P 17 35 09.8 +1.5**
PMR Palmer 44.78 39 P **P 17 35 09.0 +0.7**
baz=276,SNR=9.4
SEW Seward 44.81 41 P **P 17 35 08.4 -0.1**
baz=278
F24K Squaw Lake 44.92 31 P **P 17 35 09.3 -0.1**
baz=271,SNR=19
WAT1 Susitna Watana 44.93 37 P **P 17 35 09.5 0.0**
baz=276
H24K Noodor Dome 44.99 33 IAmb IAmb 17 35 12.8
comp=Z,31nm,0.8s
H24K Noodor Dome 44.99 33 P **P 17 35 11.3 +1.4**
baz=273,SNR=55
COLA College 45.06 35 P **P 17 35 12.4 +2.0**
COLA College 45.06 35 P **P 17 35 11.5 +1.0**
baz=274
COLA College 45.06 35 *c iP* **P 17 35 11.7 +1.3**
COLA pmax pmax
comp=Z,65nm,0.9s
COLA College 45.06 35 P **P 17 35 11.8 +1.3**
FAKI Fak Fak 45.11 194 P **P 17 35 11.4 0.0**
FAKI IAmb IAmb 17 35 12.8
comp=Z,30nm,0.7s
FAKI Fak Fak 45.11 194 P **P 17 35 10.6 -0.8**
comp=Z,42nm,0.9s
G24K Hadweenzic Riv 45.11 32 P **P 17 35 11.8 +0.9**
baz=273,SNR=16
KNK Knik Glacier 45.13 39 P **P 17 35 11.7 +0.6**
baz=277
SML Sawmill 45.14 39 IAmb IAmb 17 35 50.0
comp=Z,23nm,0.8s
SML Sawmill 45.14 39 P **P 17 35 11.5 +0.3**
baz=277,SNR=11
POKR Poker Plat Res 45.23 34 P **P 17 35 12.5 +0.8**
POKR Poker Plat Res 45.23 34 P **P 17 35 13.0 +1.2**
baz=274,SNR=16
PDGK Podgornoye 45.27 294 P **P 17 35 11.9 -0.7**
WAT6 Susitna Watana 45.33 38 P **P 17 35 13.5 +0.7**
baz=276,SNR=8.2
SHLS Shalkode 45.35 294 *eP* **P 17 35 11.0 -2.2**
comp=Z,16nm,0.6s,baz=294
SHLS Shalkode 45.35 294 *eP* **P 17 35 11.0 -2.2**
SHLS pmax pmax
comp=Z,16nm,0.6s
M23K Glacier View 45.43 39 P **P 17 35 13.6 +0.2**
baz=277
DHY Denali Highway 45.44 37 IAmb IAmb 17 35 16.4
comp=Z,22nm,0.8s
DHY Denali Highway 45.44 37 P **P 17 35 14.0 +0.3**
baz=276,SNR=21
D25K Kavik River 45.45 28 P **P 17 35 13.9 +0.4**
baz=271,SNR=44
TDK Taldyqorghan 45.45 297 *eP* **P 17 35 14.3 +0.4**
comp=Z,25nm,0.6s,baz=297
TDK Taldyqorghan 45.45 297 *eP* **P 17 35 14.2 +0.4**
TDK pmax pmax
comp=Z,25nm,0.6s
ILAR Eielson Array 45.48 35 P **P 17 35 14.8 +0.9**
comp=Z,30nm,1.0s,baz=268,slow=6.2,SNR=138
ILAR LR LR 17 55 57.2
comp=Z,118nm,18.4s,baz=270,slow=38
comp=Z,30nm,1.0s
HDA Harding Lake 45.49 35 P **P 17 35 14.3 +0.4**
baz=275,SNR=17
SCM Sheep Creek Mo 45.61 39 P **P 17 35 15.7 +0.8**
baz=278,SNR=9.1
G25K Bearman Lake 45.66 32 P **P 17 35 16.2 +1.1**
baz=274,SNR=10.0
UZB Uzynbulak 45.66 294 *eP* **P 17 35 15.7 0.0**
baz=294
UZB Uzynbulak 45.66 294 *eP* **P 17 35 15.6 0.0**
KPKS Kokpek 45.78 295 *eP* **P 17 35 16.8 +0.2**
comp=Z,16nm,0.9s,baz=295
KPKS Kokpek 45.78 295 *eP* **P 17 35 16.7 +0.2**
KPKS pmax pmax
comp=Z,16nm,0.9s
E25K Arctic Village 45.78 30 P **P 17 35 17.4 +1.3**
baz=273,SNR=7.0
F25K Christian Rive 45.78 31 P **P 17 35 17.6 +1.4**
baz=273,SNR=11
H25L Birch Creek 45.80 32 P **P 17 35 17.4 +1.2**
baz=274,SNR=30
P23K Montague Islan 45.84 41 P **P 17 35 17.1 +0.4**
baz=279
GLI Glacier Island 45.85 40 P **P 17 35 16.8 +0.1**
baz=279
C26K Camden Bay 45.94 27 P **P 17 35 17.5 +0.2**
baz=272,SNR=7.3
PRP Porcupine Dome 45.99 34 P **P 17 35 18.6 +0.7**
baz=276,SNR=104
ZHN Zhinishke 46.05 294 *eP* **P 17 35 18.9 +0.2**
baz=294
ZHN Zhinishke 46.05 294 *eP* **P 17 35 18.9 +0.2**
K24K Donnelly Dome 46.07 36 P **P 17 35 18.9 +0.4**
baz=277,SNR=5.7
M24K Tolsona, Glenn 46.11 38 P **P 17 35 19.8 +0.9**
baz=278,SNR=7.4
SATY Saty 46.11 294 *eP* **P 17 35 19.6 +0.3**
comp=Z,7.1nm,0.5s,baz=294
SATY Saty 46.11 294 *eP* **P 17 35 19.5 +0.3**
SATY pmax pmax
comp=Z,7.0nm,0.5s
J25K Salcha River, 46.15 35 P **P 17 35 18.9 -0.3**
baz=276,SNR=10
WUS Wushi 46.23 292 P **P 17 35 20.9 +0.7**
PAX Paxson 46.31 37 P **P 17 35 20.9 +0.4**
baz=278
KLU Klutina 46.32 39 P **P 17 35 21.2 +0.7**
baz=279,SNR=14
F26K Sheenjek River 46.35 30 P **P 17 35 21.5 +0.9**
baz=275,SNR=30
C27K Jago River 46.37 28 P **P 17 35 20.8 0.0**
baz=273,SNR=27
HARP HAARP 46.54 38 P **P 17 35 23.7 +1.5**
baz=279,SNR=10
G26K Porcupine Rive 46.55 31 P **P 17 35 23.7 +1.5**
baz=276,SNR=29
EYAK Cordova Ski Ar 46.56 40 P **P 17 35 24.0 +1.7**
EYAK Cordova Ski Ar 46.56 40 P **P 17 35 23.4 +1.1**
baz=280
CHKK Chushkaly 46.79 296 *eP* **P 17 35 24.7 +0.2**
baz=296
CHKK Chushkaly 46.79 296 *eP* **P 17 35 24.6 +0.2**
SCRK Sand Creek 46.83 36 IAmb IAmb 17 35 26.2
comp=Z,22nm,1.0s
SCRK Sand Creek 46.83 36 P **P 17 35 25.2 +0.6**
baz=278,SNR=35
N25K Chitina, Valde 46.93 39 P **P 17 35 26.0 +0.7**
baz=280
J26L Joseph Creek 46.94 35 P **P 17 35 25.4 +0.1**
baz=278,SNR=10
I26K Coal Creek Min 47.00 34 P **P 17 35 25.6 -0.1**
baz=278
MDOK Medeo 47.00 295 *eP* **P 17 35 26.7 +0.4**
baz=295
MDOK Medeo 47.00 295 *eP* **P 17 35 26.6 +0.4**
KNDC Almaty 47.04 295 P **P 17 35 26.8 +0.4**
BMRM Bremner River 47.04 40 P **P 17 35 26.8 +0.7**
baz=281,SNR=5.2
AAA Alma-Ata 47.08 295 *eP* **P 17 35 27.2 +0.5**
comp=Z,24nm,0.6s,baz=295
AAA Alma-Ata 47.08 295 *eP* **P 17 35 27.2 +0.5**
AAA pmax pmax
comp=Z,24nm,0.6s
MENT Mentasta 47.11 37 P **P 17 35 28.5 +1.9**
E27K Coleen River 47.26 30 P **P 17 35 28.5 +0.7**
baz=276
L26K Log Cabin Wild 47.26 37 P **P 17 35 29.0 +1.2**
baz=280,SNR=15
GLB Gilahina Butte 47.33 39 IAmb IAmb 17 35 50.1
comp=Z,14nm,1.0s
KAIM Kayak Island 47.33 41 P **P 17 35 27.9 -0.4**
baz=282
D27M Malcolm River 47.37 28 P **P 17 35 28.3 -0.3**
baz=276
G27K Doyon Strip 47.40 32 P **P 17 35 30.8 +2.0**
G27K Doyon Strip 47.40 32 P **P 17 35 29.4 +0.6**
baz=278,SNR=20
M26K Nabesna, AK 47.53 38 P **P 17 35 30.9 +1.0**
baz=281
H27K Steamboat Moun 47.53 32 P **P 17 35 31.6 +1.7**
baz=278,SNR=48
I27K Kandik River 47.59 33 P **P 17 35 31.9 +1.6**
baz=279,SNR=19
K27K Chicken 47.65 35 P **P 17 35 32.0 +1.2**
baz=280
MCARA McCarthy VSAT 47.71 39 P **P 17 35 32.3 +1.0**
baz=281
CRQE Cirque 47.81 40 P **P 17 35 33.1 +0.9**
baz=282,SNR=6.3
EGAK Eagle 47.92 34 P **P 17 35 33.6 +0.8**
baz=280,SNR=28
L27K Beaver Creek, 47.94 37 P **P 17 35 34.3 +1.3**
baz=281,SNR=38
E28M Babbage River 47.96 29 P **P 17 35 34.2 +1.1**
baz=278,SNR=9.1
F28M Old Crow 47.98 30 P **P 17 35 34.7 +1.4**
baz=278,SNR=16
BOOM Boomskoye usch 48.01 294 P **P 17 35 35.0 +0.9**
BOOM Boomskoye usch 48.01 294 P **P 17 35 35.0 +0.9**
BOOM pmax pmax
comp=Z,50nm,0.8s
BVA0 Borovoye Array 48.04 310 *i* P **P 17 35 33.9 0.0**
BVAR Borovoye Array 48.04 310 P **P 17 35 34.2 +0.3**
comp=Z,36nm,0.6s,baz=74,slow=9.2,SNR=156
BVAR PcP **PcP 17 37 01.4 +0.4**
comp=Z,15nm,0.7s,baz=72,slow=4.8,SNR=4.9
comp=Z,36nm,0.6s
M27K Edge Creek, AK 48.05 37 P **P 17 35 35.3 +1.2**
baz=282,SNR=17
TKM2 Tokmak 2 48.08 295 P **P 17 35 34.9 +0.2**
BRVK Borovoye 48.09 310 P **P 17 35 34.8 +0.5**
BRVK Borovoye 48.09 310 P **P 17 35 35.0 +0.7**
BRVK Borovoye 48.09 310 *ceP* **P 17 35 34.4 +0.1**
BRVK pmax pmax
comp=Z,44nm,1.3s
BRVK Borovoye 48.09 310 P **P 17 35 34.8 +0.5**
BRVK PcP **PcP 17 37 02.0 +0.9**
I28M Miner Creek 48.31 33 P **P 17 35 37.8 +1.9**
baz=280,SNR=70
BTLS Baital 48.34 298 ⇑ *iP* **P 17 35 36.0 -0.3**
baz=298
BTLS *eS* **S 17 42 32.1 +0.1**
baz=298
BTLS Baital 48.34 298 *c iP* **P 17 35 36.0 -0.3**
BTLS *eS* **S 17 42 32.0 +0.1**
SGDS Sogindy 48.53 296 ⇑ *iP* **P 17 35 38.2 +0.2**
baz=296
SGDS Sogindy 48.53 296 *c iP* **P 17 35 38.1 +0.2**
E29M Blow River 48.59 29 IAmb IAmb 17 35 40.7
comp=Z,18nm,0.8s
E29M Blow River 48.59 29 P **P 17 35 39.7 +1.8**
baz=280,SNR=16
CTG Chitna Glacier 48.60 39 P **P 17 35 39.7 +1.4**
baz=283,SNR=6.1
H29M Whitestone 48.80 32 P **P 17 35 41.6 +2.0**
baz=281,SNR=30
G29M Pine Creek 48.80 31 P **P 17 35 41.5 +1.9**
baz=281,SNR=30
DAWY Dawson 48.81 35 P **P 17 35 40.7 +1.0**
baz=282
YUK3 Moose Creek 48.83 38 P **P 17 35 41.1 +0.9**
baz=283,SNR=9.3
I29M Ogilvie Camp, 48.99 33 P **P 17 35 41.8 +0.7**
baz=282
KSH Kashi 49.18 291 P **P 17 35 47.2 +4.2**
KSH sP sP 17 36 10.7 +5.5
KSH pmax pmax
comp=Z,18nm,0.8s
KSH LR LR
comp=Z,240nm,14.8s
KSH LR LR
comp=Z,380nm,19.2s
KSH LR LR
comp=Z,390nm,19.6s
J29N Klondike Camp 49.22 34 P **P 17 35 43.2 +0.3**
baz=283
EPYK Eagle Plains 49.42 32 P **P 17 35 45.8 +1.4**
baz=282,SNR=73
G30M tAoh Zrail Nji 49.49 31 P **P 17 35 46.4 +1.5**
baz=282,SNR=39
F30M Barrier River 49.52 30 P **P 17 35 46.9 +1.9**
baz=282,SNR=57
L29M L29M 49.57 36 P **P 17 35 48.1 +2.5**
baz=284,SNR=22
M29M Somme Creek 49.58 37 P **P 17 35 46.4 +0.7**
baz=284
K29M Barlow Dome 49.66 35 IAmb IAmb 17 35 50.2
comp=Z,14nm,0.8s
K29M Barlow Dome 49.66 35 P **P 17 35 47.9 +1.6**
baz=284
YUK4 Talbot Arm 49.77 38 P **P 17 35 47.9 +0.6**
baz=285
I30M Mount Dempster 49.82 33 P **P 17 35 48.9 +1.4**
baz=284,SNR=79
PNL Peninsula 49.86 41 P **P 17 35 48.5 +0.7**
baz=286
J30M Hart River 49.99 34 P **P 17 35 49.1 +0.3**
baz=284,SNR=12
YUK6 Outpost Mounta 50.01 39 P **P 17 35 48.4 -0.8**
baz=285
O29M Mount Kennedy 50.08 40 P **P 17 35 49.8 +0.2**
baz=286
INK Inuvik 50.20 29 P **P 17 35 51.4 +1.3**
baz=283,SNR=57
INK Inuvik 50.20 29 P **P 17 35 51.4 +1.3**
INK pmax pmax
comp=Z,66nm,0.8s
G31M Satah River 50.25 31 P **P 17 35 51.8 +1.2**
baz=284,SNR=53
M30M Minto, Yukon 50.30 36 P **P 17 35 52.6 +1.5**
baz=285,SNR=15
F31M Tsiigehtchic 50.32 30 P **P 17 35 52.2 +1.1**
baz=284,SNR=12
HYT Haines Junctio 50.45 39 P **P 17 35 54.8 +2.5**
baz=286,SNR=35
N30M Aishikik Lake 50.47 38 P **P 17 35 53.9 +1.5**
baz=286
H31M Peel River 50.50 32 P **P 17 35 54.2 +1.7**
baz=285,SNR=66
KAPI Kappang 50.59 209 P **P 17 35 53.9 +0.2**
comp=Z,13nm,0.8s,baz=39,slow=7.7,SNR=4.3
comp=Z,13nm,0.8s
KAPI Kappang 50.59 209 P **P 17 35 54.5 +0.8**
P29M Windy Craggy 50.68 40 P **P 17 35 55.8 +1.8**
baz=287,SNR=17
P30M Million Dollar 50.91 40 P **P 17 35 56.3 +0.6**
baz=287
N31M Braeburn, Yuko 51.06 38 P **P 17 35 58.4 +1.6**
baz=287,SNR=13
O30N Mendenhall 51.13 39 P **P 17 35 58.6 +1.2**
baz=287,SNR=7.0
PLBC Pleasant Camp 51.40 40 P **P 17 36 00.7 +1.3**
baz=288
KK31 Karatay Array 51.43 297 *eP* **P 17 35 59.4 -0.5**
KKAR Karatay Array 51.43 297 P **P 17 35 59.7 -0.2**
KKAR Karatay Array 51.43 297 P **P 17 35 59.7 -0.2**
KKAR pmax pmax
comp=Z,23nm,0.6s
M31M Drury Creek, Y 51.48 37 P **P 17 36 01.3 +1.4**
baz=288,SNR=6.4
WHY Whitehorse 51.73 39 P **P 17 36 03.4 +1.5**
baz=288,SNR=8.5
BRLS Borolday 51.91 297 ⇑ *iP* **P 17 36 04.9 +1.4**
baz=297
BRLS Borolday 51.91 297 *c iP* **P 17 36 04.9 +1.4**
A36M Sachs Harbour 51.94 23 P **P 17 36 04.3 +1.2**
A36M Sachs Harbour 51.94 23 P **P 17 36 04.4 +1.2**
baz=288,SNR=133
S31K Pelican 51.94 42 P **P 17 36 03.8 +0.5**
baz=289
IPM Ipoh 51.98 236 P **P 17 36 04.6 +0.4**
IUG Iuzhnay 52.16 296 *eP* **P 17 36 05.7 +0.2**
comp=Z,11nm,0.5s,baz=296
IUG Iuzhnay 52.16 296 *eP* **P 17 36 05.6 +0.2**
IUG pmax pmax
comp=Z,11nm,0.5s
SVE Sverdlovsk 52.20 317 *d iP* **P 17 36 06.0 +0.7**
SVE pmax pmax
comp=Z,47nm,0.9s
SVE MLR MLR
comp=Z,628nm,18.0s
BTK Batken 52.53 294 IAmb IAmb 17 36 17.3
comp=Z,19nm,0.8s
BTK Batken 52.53 294 P **P 17 36 07.6 -0.5**
P32M Atlin 52.63 40 P **P 17 36 08.7 +0.1**
baz=290
R32K Eaglecrest 52.69 41 P **P 17 36 09.3 +0.4**
baz=290
TPRI Tanjung Pinang 52.71 230 P **P 17 36 10.3 +0.7**
comp=Z,42nm,0.8s
SIT Sitka 52.71 43 P **P 17 36 10.0 +0.9**
baz=291
BTDF Bukit Timah Da 52.78 231 P **P 17 36 11.6 +1.4**
P33M Teslin, Yukon 52.84 39 IAmb IAmb 17 36 32.5
comp=Z,32nm,1.1s
P33M Teslin, Yukon 52.84 39 P **P 17 36 11.4 +1.2**
baz=290,SNR=7.2
S32K Killisnoo 52.95 42 P **P 17 36 11.1 +0.3**
baz=291
C36M Paulatuk 53.18 26 P **P 17 36 13.4 +1.1**
C36M Paulatuk 53.18 26 P **P 17 36 13.4 +1.1**
baz=291,SNR=23
ARU Arti 53.41 317 *c iP* **P 17 36 14.3 0.0**
ARU *PP **pP 17 36 29.6 -0.2**
ARU 17 37 19.0
ARU 17 38 14.4
ARU S **S 17 43 43.6 +1.8**
ARU *SS **sS 17 44 14.0 +5.5**
ARU SS **SKiKP 17 47 27.7 +3.4**
ARU pmax pmax
comp=Z,30nm,0.9s
ARU MLR MLR
comp=Z,608nm,17.0s
ARU Arti 53.41 317 P P 17 36 14.1 -0.2
comp=Z,37nm,1.1s,comp=Z,463nm
ARU Arti 53.41 317 P **P 17 36 14.5 +0.2**
ARU PcP **PcP 17 37 20.9 +0.2**
Q32M Nakina River 53.55 40 P **P 17 36 15.9 +0.4**
baz=291
SOEI Soe 53.58 202 P **P 17 36 14.5 -1.5**
comp=Z,47nm,1.0s
NIL Nilore 53.81 285 P **P 17 36 17.9 +0.3**
NIL Nilore 53.81 285 P **P 17 36 18.9 +1.3**
NIL Nilore 53.81 285 P **P 17 36 17.9 +0.3**
NIL pmax pmax
comp=Z,54nm,0.9s
NIL Nilore 53.81 285 P **P 17 36 18.6 +1.0**
NIL PcP **PcP 17 37 23.4 +0.6**
R33M Jennings River 54.01 39 P **P 17 36 19.6 +0.8**
baz=292
U33K Whale Pass 54.19 43 P **P 17 36 20.4 +0.5**
baz=293
CHGR Chuyangaron 54.31 293 P **P 17 36 21.1 -0.1**
PPBI Pangkal Pinang 54.34 226 P **P 17 36 22.1 +0.6**
comp=Z,42nm,0.9s
SIMJ Simiganj 54.41 293 P **P 17 36 21.8 -0.3**
SIMJ pP **pP 17 36 36.8 -0.8**
WRAK Wrangell Islan 54.47 43 P **P 17 36 23.4 +1.4**
baz=293
S34M Telegraph Cree 54.50 41 P **P 17 36 23.3 +1.2**
baz=293
DLBC Dease Lake 54.83 40 LR LR 18 02 37.1
comp=Z,79nm,18.6s,baz=294,slow=39
MLSI Meulaboh, Aceh 55.10 240 P **P 17 36 26.2 -0.8**
comp=Z,59nm,0.7s
BKNI Bangkinang 55.23 233 P **P 17 36 29.8 +1.8**
comp=Z,142nm,0.9s
AB31 Akbulak array 55.52 308 *i* P **P 17 36 29.7 0.0**
ABKAR Akbulak array 55.52 308 P **P 17 36 30.0 +0.3**
ALE Alert 55.62 4 P **P 17 36 30.6 +0.6**
ALE pP **pP 17 36 45.1 -0.4**
ALE sP **sP 17 36 51.9 -0.3**
SPA0 Spitsbergen Ar 56.25 348 *eP* **P 17 36 34.3 -0.2**
SPB2 Spitsbergen Ar 56.25 348 P **P 17 36 35.2 +0.7**
SPITS Spitsbergen Ar 56.25 348 P **P 17 36 34.9 +0.4**
comp=Z,20nm,0.9s,baz=70,slow=11,SNR=16
SPITS LR LR 18 03 17.7
comp=Z,117nm,19.4s,baz=12,slow=39
comp=Z,20nm,0.9s
SPITS Spitsbergen Ar 56.25 348 P **P 17 36 35.0 +0.5**
SPITS pmax pmax
comp=Z,27nm,1.0s
KBS Kingsbay 56.35 350 *eP* **P 17 36 36.2 +1.1**
KBS Kingsbay 56.35 350 *ceP* **P 17 36 35.7 +0.5**
KBS pmax pmax
comp=Z,18nm,0.7s
KBS Kingsbay 56.35 350 *i* P **P 17 36 35.1 -0.1**
KBS Kingsbay 56.35 350 P **P 17 36 35.9 +0.8**
KBL Kabul 56.39 289 P **P 17 36 36.4 0.0**
SNR=13
PWJI Pagerwojo 56.57 217 P **P 17 36 36.5 -1.0**
comp=Z,37nm,0.8s
GSI Gunungsitoli 56.60 237 P **P 17 36 38.7 +0.9**
GSI Gunungsitoli 56.60 237 P **P 17 36 38.4 +0.6**
GSI Gunungsitoli 56.60 237 P **P 17 36 37.8 0.0**
comp=Z,27nm,0.9s,comp=Z,2μm
NOR Nord 56.63 356 *i* P **P 17 36 36.2 -1.0**
NOR IAmb IAmb 17 36 38.4
comp=Z,9.2nm,0.8s
KIRV Kirov 57.04 321 *ceP* **P 17 36 40.7 +0.4**
HSPB Hornsund (broa 57.19 348 *eP* **P 17 36 41.6 +0.5**
LEM Lembang 57.52 222 P **P 17 36 44.5 +0.1**
comp=Z,39nm,0.9s
LEM Lembang 57.52 222 P **P 17 36 43.4 -1.0**
RES Resolute Bay 58.15 15 LR LR 18 05 41.2
comp=Z,91nm,18.7s,baz=290,slow=40
LVZ Lovozero 58.27 335 *i* P **P 17 36 47.4 -1.5**
LVZ pmax pmax
comp=Z,13nm,0.9s
LVZ Lovozero 58.27 335 P **P 17 36 48.8 -0.1**
LVZ PcP **PcP 17 37 39.4 0.0**
VADS Vadso 58.59 338 *eP* **P 17 36 51.3 +0.3**
VADS IAmb IAmb 17 36 51.4
comp=Z,20nm,0.6s
APA Apatity 58.85 335 ⇓ *iP* **P 17 36 48.5 -4.3**
APA *i* 17 39 03.0
APA pmax pmax
comp=Z,11nm,0.8s
KEV Kevo 59.46 339 P **P 17 36 57.2 +0.1**
KEV PcP **PcP 17 37 45.0 +0.9**
YKA Yellowknife Ar 59.71 32 P **P 17 36 59.4 +0.5**
comp=Z,3.5nm,0.8s,baz=306,slow=7.0,SNR=21
YKA LR LR 18 05 33.0
comp=Z,63nm,19.0s,baz=308,slow=39
comp=Z,3.5nm,0.8s
ARCES ARCESS Array B 60.01 339 P **P 17 37 00.7 -0.2**
ARCES ARCESS Array B 60.01 339 P **P 17 37 00.6 -0.3**
comp=Z,2.9nm,0.5s,baz=50,slow=8.1,SNR=12
ARCES LR LR 18 05 51.9
comp=Z,148nm,21.4s,baz=52,slow=39
comp=Z,2.9nm,0.5s
ARCES ARCESS Array B 60.01 339 P **P 17 37 00.7 -0.2**
ARCES pmax pmax
comp=Z,71nm,1.9s
KLMR Klimovskoe 60.28 327 *eP* **P 17 37 00.9 -1.9**
KLMR pmax pmax
comp=Z,54nm,1.3s
KLMR MLR MLR
comp=Z,245nm,15.0s
BELG Belogornoye 60.93 316 *c iP* **P 17 37 07.1 -0.2**
BELG pmax pmax
comp=Z,13nm,1.1s
KTK1 Kautokeino 60.97 339 *eP* **P 17 37 07.3 -0.1**

KTK1 IAmb IAmb 17 37 08.7
comp=Z,25nm,0.9s
NEEM North Greenlan 61.04 3 *i* P **P 17 37 07.6 -0.5**
NEEM IAmb IAmb 17 37 11.1
comp=Z,48nm,0.8s
MSF Maaselka 61.23 334 P **P 17 37 09.1 -0.1**
DAG Danmarks Havn 61.37 355 P **P 17 37 09.7 -0.3**
DAG Danmarks Havn 61.37 355 *i* P **P 17 37 09.0 -1.0**
DAG *i* P **P 17 37 09.0 -1.0**
DAG IAmb IAmb 17 37 11.7
comp=Z,19nm,0.7s
WB0 Warramunga Arr 61.37 188 IAmb IAmb 17 37 10.8
comp=Z,16nm,0.8s
WB2 Warramunga Arr 61.55 188 P **P 17 37 11.2 -0.7**
WB2 IAmb IAmb 17 37 12.1
comp=Z,19nm,1.1s
WRA Warramunga Arr 61.55 188 P **P 17 37 10.6 -1.3**
WRA Warramunga Arr 61.55 188 P **P 17 37 11.2 -0.7**
comp=Z,11nm,0.9s,baz=5.8,slow=7.0,SNR=47
comp=Z,11nm,0.9s
TRO Tromso 61.67 341 *e*P **P 17 37 12.1 +0.1**
TRO IAmb IAmb 17 37 13.2
comp=Z,40nm,1.1s
QIS Mount Isa 61.79 183 P **P 17 37 13.6 +0.2**
GEYT Alibeck 62.19 297 P **P 17 37 16.4 +0.2**
GEYT Alibeck 62.19 297 P **P 17 37 16.3 +0.2**
comp=Z,45nm,0.8s,baz=29,slow=3.4,SNR=85
comp=Z,45nm,0.8s
GEYT Alibeck 62.19 297 P **P 17 37 16.4 +0.2**
GEYT pmax pmax
comp=Z,41nm,0.8s
GYA0 ALIBECK ARRAY 62.19 297 P **P 17 37 15.5 -0.6**
JOF Joensuu 62.28 331 *e*P **P 17 37 16.3 0.0**
STEI Steigen 63.83 340 *e*P **P 17 37 26.0 -0.4**
STEI IAmb IAmb 17 37 26.5
comp=Z,13nm,0.9s
DBG Daneborg 63.86 355 *i* P **P 17 37 26.2 -0.4**
DBG IAmb IAmb 17 37 27.8
comp=Z,3.0nm,1.0s
MOS Moscow 64.00 322 *e*P **P 17 37 27.3 -0.4**
MOS *e* 17 37 42.3
LOF Lofoten 64.10 341 *e*P **P 17 37 28.6 +0.3**
LOF IAmb IAmb 17 37 32.1
comp=Z,8.1nm,0.8s
FAUS Fauske 64.23 340 *e*P **P 17 37 29.2 +0.1**
FAUS IAmb IAmb 17 37 36.7
comp=Z,37nm,0.9s
PUL Pulkovo 64.62 329*c*e*P **P 17 37 32.0 +0.2**
PUL pmax pmax
comp=Z,44nm,0.4s
VRH Novokhopyorsk 64.65 317 *e*P **P 17 37 30.8 -1.3**
VRH pmax pmax
comp=Z,40nm,0.5s
OBN Obninsk 64.85 322⇑*i*P **P 17 37 33.2 -0.1**
OBN *i* 17 37 50.7
OBN *i* 17 38 06.2
OBN *e*SS SS 17 50 27.9 +6.8
OBN pmax pmax
comp=Z,40nm,0.8s
OBN MLR MLR
comp=Z,257nm,17.0s
OBN Obninsk 64.85 322 P **P 17 37 33.0 -0.3**
comp=Z,54nm,0.9s,comp=Z,627nm
KEF Keuruu 65.06 333 *e*P **P 17 37 34.3 -0.3**
FINES FINESS Array B 65.12 332 P **P 17 37 34.8 -0.1**
comp=Z,42nm,0.7s,baz=52,slow=7.5,SNR=96
FINES LR LR 18 08 15.9
comp=Z,427nm,19.7s,baz=42,slow=38
comp=Z,42nm,0.7s
VAF Ylistaro 65.19 334 *e*P **P 17 37 35.7 +0.3**
LPSR Galich'ya Gora 65.23 319 *e*P **P 17 37 35.2 -0.7**
LPSR pmax pmax
comp=Z,50nm,0.7s
AS01 Alice Springs 65.27 188 P **P 17 37 36.3 -0.1**
AS31 Alice Springs 65.28 188 P **P 17 37 36.5 +0.1**
ASAR Alice Springs 65.28 188 P **P 17 37 36.3 -0.1**
comp=Z,6.3nm,0.7s,baz=1.7,slow=4.5,SNR=56
comp=Z,6.3nm,0.7s
MOR8 Moi Rana 65.36 339 *e*P **P 17 37 35.1 -1.4**
MOR8 IAmb IAmb 17 37 35.8
comp=Z,26nm,0.7s
VORR Voronezh 65.65 318 *e*P **P 17 37 38.1 -0.4**
VORR pmax pmax
comp=Z,18nm,1.4s
VSR Storozhevoye 65.94 318 *e*P **P 17 37 39.9 -0.5**
VSR pmax pmax
comp=Z,50nm,0.5s
MAK Makhachkala 66.15 307 *e*P **P 17 37 40.6 -1.3**
MAK *e**PP **pP 17 37 56.9 -1.0**
MAK *e**SP **sP 17 38 04.4 -0.1**
MAK *e* 17 40 06.1
MAK *e*PPP PPP 17 41 45.6
MAK *e*S **S 17 46 25.8 -0.1**
MAK *e**SS **sS 17 46 53.4 +0.2**
MAK pmax pmax
comp=Z,127nm,1.5s
MAK MLR MLR
comp=Z,100nm,13.0s
SUMG Summit 66.22 0 IAmb IAmb 17 37 44.4
comp=Z,42nm,0.9s
SUMG Summit 66.22 0 *i* P **P 17 37 42.0 -0.4**
SUMG IAmb IAmb 17 37 44.8
comp=Z,29nm,0.8s
ARBE Arbavere 66.51 330 *e*P **P 17 37 44.5 +0.6**
MEF Metsahovi 66.56 331 *e*P **P 17 37 44.1 -0.1**
NEW Newport 66.60 46 P **P 17 37 45.6 +0.8**
baz=307
NEW Newport 66.60 46 P **P 17 37 45.3 +0.5**
NUUG Nuugaatsiaq 66.74 5 *i* P **P 17 37 45.1 -0.1**
NUUG IAmb IAmb 17 37 46.6
comp=Z,5.9nm,0.7s
VSU Vasula 66.88 329*c i*P **P 17 37 45.7 -0.6**
VSU pmax pmax
comp=Z,31nm,0.8s
RAF Rauma 66.92 333 *e*P **P 17 37 46.4 -0.2**
PINE Pine Mountain 67.10 51 P **P 17 37 49.7 +1.5**
PINE IAmb IAmb 17 38 10.1
comp=Z,21nm,1.0s
NSS Namsos 67.29 339 *e*P **P 17 37 48.7 -0.1**
NSS IAmb IAmb 17 37 53.9
comp=Z,18nm,1.1s
SEKA Sheki 67.35 305 P **P 17 37 49.7 0.0**
WRKA Warakurna 67.43 194 P **P 17 37 50.3 +0.2**
GOF Gofitskoye 67.54 311*c i*P **P 17 37 51.4 +0.7**
UMMG Uummannaq 67.66 5 *i* P **P 17 37 50.7 -0.3**
UMMG IAmb IAmb 17 37 54.0
comp=Z,14nm,0.8s
MNGR Mingechevir, A 67.68 305 P **P 17 37 52.5 +0.8**
MTSE Matsula 67.82 330 *e*P **P 17 37 52.7 +0.5**
LKRN Lenkeran, Azer 67.83 302 P **P 17 37 52.7 0.0**
AAL Aland 68.14 333 *e*P **P 17 37 53.7 -0.5**
NCK Nalchik 68.15 309 *i* P **P 17 37 54.7 0.0**
NCK pmax pmax
comp=Z,33nm,0.9s
GANJ Ganja 68.22 305 P **P 17 37 55.6 +0.4**
KIV Kislovodsk 68.40 310⇑P **P 17 37 57.2 +0.9**
KIV Kislovodsk 68.40 310 P **P 17 37 57.4 +1.0**
KIV Kislovodsk 68.40 310 *i* P **P 17 37 57.3 +1.0**
SNR=36
KIV Kislovodsk 68.40 310 P **P 17 37 57.4 +1.0**
KIV Kislovodsk 68.40 310 *e*P **P 17 37 56.8 +0.5**
KIV pmax pmax
comp=Z,116nm,1.1s
KIV MLR MLR
comp=Z,182nm,17.0s
KIV Kislovodsk 68.40 310 P **P 17 37 57.3 +1.0**
comp=Z,107nm,1.0s,comp=Z,932nm
KIV Kislovodsk 68.40 310 P **P 17 37 57.4 +1.0**
KIV pP **pP 17 38 13.4 +1.1**
KIV sP **PcP 17 38 20.2 -1.2**
KBZ Khabaz 68.42 310 P **P 17 37 57.3 +1.0**
comp=Z,32nm,0.9s,baz=56,slow=4.1,SNR=48
comp=Z,32nm,0.9s
KBZ Khabaz 68.42 310*c i*P **P 17 37 56.9 +0.7**
KBZ pmax pmax
comp=Z,41nm,0.9s
SHA1 Shidzhatmaz 68.55 310*c i*P **P 17 37 58.0 +0.6**
BMO Blue Mountains 68.55 49 IAmb IAmb 17 38 18.6
comp=Z,19nm,1.4s
ONI Oni 68.78 308 IAmb IAmb 17 38 01.1
comp=Z,36nm,1.2s
ONI Oni 68.78 308 P **P 17 38 00.1 +1.4**
TRLG Trialeti 69.03 307 P **P 17 38 01.2 +0.8**
LABN Labinsk 69.10 311 *e*P **P 17 38 02.1 +1.6**
LABN pmax pmax
comp=Z,94nm,0.7s
MNK Minsk 69.10 325 *e*P **P 17 38 00.2 -0.1**
ISAL Salakas 69.11 327 *e*P **P 17 38 02.0 +1.7**
ILULI Ilulissat 69.17 5 IAmb IAmb 17 38 01.7
comp=Z,30nm,0.8s
ILULI Ilulissat 69.17 5 *i* P **P 17 38 00.4 0.0**
ILULI IAmb IAmb 17 38 01.9
comp=Z,25nm,0.7s
UPP Uppsala 69.18 334 *e*P **P 17 38 00.5 -0.1**
MSO Missoula 69.18 45 P **P 17 38 02.0 +0.8**
baz=309
IIGN Ignalina 69.22 327 *e*P **P 17 38 02.6 +1.6**
JASK Jask - Hormozg 69.23 287 P **P 17 38 03.1 +1.6**
GNI Garni 69.48 306*c i*P **P 17 38 03.8 +0.6**
GNI pmax pmax
comp=Z,42nm,1.4s
GNI Garni 69.48 306 P **P 17 38 04.6 +1.4**
comp=Z,34nm,1.2s,comp=Z,481nm
NAX Nakhchivan 69.61 305 P **P 17 38 04.1 +0.2**
FFC Flin Flon 69.69 34 P **P 17 38 04.6 +0.6**
FFC Flin Flon 69.69 34 P **P 17 38 04.5 +0.5**
FFC pP **pP 17 38 20.6 +0.7**
FFC PcP **sP 17 38 27.9 +1.3**
VSVD Vaisvydziai 69.70 328 *e*P **P 17 38 04.2 +0.2**
ICESG Greenland Ices 69.72 1 *i* P **P 17 38 04.6 +0.3**
ICESG IAmb IAmb 17 38 06.4
comp=Z,46nm,0.8s
PABE Paberze 70.03 328 *e*P **P 17 38 06.4 +0.4**
DOMB Dombas 70.08 338 *e*P **P 17 38 06.2 -0.1**
DOMB IAmb IAmb 17 38 06.5
comp=Z,15nm,0.7s
VSLR Vesyoloye 70.22 311 *i* P **P 17 38 08.4 +0.9**
VSLR pmax pmax
comp=Z,82nm,1.0s
HFS Hagfors 70.24 335 P **P 17 38 07.2 0.0**
comp=Z,17nm,0.5s,baz=46,slow=6.2,SNR=32
comp=Z,17nm,0.5s
NB2 NORSAR Subarra 70.27 337 P **P 17 38 07.2 -0.3**
comp=Z,11nm,0.5s,baz=35,slow=6.5
NB2 NORSAR Subarra 70.27 337 P **P 17 38 07.2 -0.3**
baz=35,slow=6.5
NOA NORSAR Array B 70.27 337 P **P 17 38 07.3 -0.2**
comp=Z,18nm,0.8s,baz=37,slow=6.1,SNR=92
comp=Z,18nm,0.8s
BANOM Banah 70.32 287 P **P 17 38 08.6 +0.3**
BANOM Banah 70.32 287 P **P 17 38 09.0 +0.6**
SOC Sochi 70.33 311 *e*P **P 17 38 07.4 -0.7**
SOC *e* 17 40 42.6
SOC *e*PPP PPP 17 42 25.6
SOC *e*S **S 17 47 16.1 +0.5**
SOC *e*SS **SS 17 51 46.3 +0.1**
SOC pmax pmax
comp=Z,25nm,0.8s
SOC MLR MLR
comp=Z,114nm,20.0s
JLN Jalan Bani Buh 70.35 282 P **P 17 38 09.1 +0.6**
SHME Shamm 70.36 288 *i* P **P 17 38 08.9 +0.3**
SNR=29
SHME Shamm 70.36 288 P **P 17 38 09.0 +0.5**
SNR=29
WBK Wadi Bani Khal 70.39 283 P **P 17 38 09.8 +1.0**
NC602 NORSAR Array S 70.42 337 *e*P **P 17 38 07.8 -0.6**
NC602 IAmb IAmb 17 38 09.1
comp=Z,6.0nm,0.5s
NORES NORESS Array B 70.42 337 P **P 17 38 07.8 -0.5**
BIDO Bidbid 70.45 284 P **P 17 38 09.9 +0.7**
VIKU Vikbolandet 70.52 333 *e*P **P 17 38 08.6 -0.3**
EGMT Eagleton 70.60 43 P **P 17 38 10.6 +0.9**
baz=311
MDH Madha 70.70 287 P **P 17 38 10.0 -0.6**
MDH Madha 70.70 287 P **P 17 38 10.1 -0.6**
PNTR Pine Nut 70.73 55 P **P 17 38 11.2 +0.3**
PNTR IAmb IAmb 17 38 32.6
comp=Z,28nm,1.2s
MASF Masafi 70.75 287 P **P 17 38 11.6 +0.6**
SNR=10
MSFE Esma-Masafi 70.76 287 *i* P **P 17 38 11.3 +0.3**
SNR=10
SMDO Samad 70.79 284 P **P 17 38 12.0 +0.7**
ANN Anapa 70.83 313 *e*P **P 17 38 10.8 -0.3**
ANN *e**PP **pP 17 38 25.2 -1.9**
ANN pmax pmax
comp=Z,59nm,0.8s
CMB Columbia Colle 70.89 56 P **P 17 38 13.1 +1.4**
CMB IAmb IAmb 17 38 35.3
comp=Z,25nm,1.4s
CMB Columbia Colle 70.89 56 P **P 17 38 13.1 +1.4**
CMB pmax pmax
comp=Z,25nm,1.5s
UOSS Minazif 70.98 287 P **P 17 38 12.1 -0.2**
UOSS Minazif 70.98 287 *i* P **P 17 38 12.3 -0.1**
SNR=18
UOSS Minazif 70.98 287 P **P 17 38 12.6 +0.3**
UOSS Minazif 70.98 287 P **P 17 38 12.5 +0.2**
HLID Hailey 70.98 48 P **P 17 38 13.6 +1.3**
baz=310
HOQ Hoqain 71.01 285 P **P 17 38 13.0 +0.5**
AK03 Malin Array Si 71.08 322 P **P 17 38 12.1 -0.4**
AKASG Malin Array Be 71.10 322 P **P 17 38 12.5 -0.1**
comp=Z,25nm,0.6s,baz=44,slow=6.0,SNR=50
comp=Z,25nm,0.6s
AKBB Malin Array Si 71.10 322*c i*P **P 17 38 12.3 -0.3**
AKBB pmax pmax
comp=Z,43nm,0.8s
AKBB Malin Array Si 71.10 322 P **P 17 38 12.4 -0.2**
AK23 Malin Array Si 71.10 322 P **P 17 38 12.4 -0.2**
HATD Hatta, Dubai 71.10 287 *i* P **P 17 38 13.6 +0.5**
SNR=22
HATD Hatta, Dubai 71.10 287 P **P 17 38 14.0 +0.9**
SNR=22
AK01 Malin Array Si 71.11 322 P **P 17 38 12.5 -0.2**
AK04 Malin Array Si 71.11 322 P **P 17 38 12.4 -0.3**
KIEV Kiev 71.11 322⇑P **P 17 38 12.6 -0.1**
KIEV Kiev 71.11 322 P **P 17 38 12.5 -0.1**
KIEV Kiev 71.11 322 *i* P **P 17 38 12.3 -0.4**
SNR=31
KIEV Kiev 71.11 322 P **P 17 38 12.5 -0.1**
KIEV pmax pmax
comp=Z,38nm,0.8s
KIEV Kiev 71.11 322 P **P 17 38 12.4 -0.3**
comp=Z,229nm,0.8s,comp=Z,3μm
KIEV Kiev 71.11 322 P **P 17 38 12.4 -0.3**
KIEV pP **pP 17 38 28.5 -0.3**
AK09 Malin Array Si 71.13 322 P **P 17 38 12.5 -0.3**
AK22 Malin Array Si 71.13 322 P **P 17 38 12.5 -0.3**
AK08 Malin Array Si 71.13 322 P **P 17 38 12.5 -0.3**
AK21 Malin Array Si 71.13 322 P **P 17 38 12.6 -0.2**
AK02 Malin Array Si 71.14 322 P **P 17 38 12.6 -0.2**
AK11 Malin Array Si 71.14 322 P **P 17 38 12.6 -0.2**
AK15 Malin Array Si 71.15 322 P **P 17 38 12.2 -0.7**
AK10 Malin Array Si 71.15 322 P **P 17 38 12.6 -0.3**
AK18 Malin Array Si 71.16 322 P **P 17 38 12.6 -0.3**
AK05 Malin Array Si 71.16 322 P **P 17 38 12.6 -0.4**
AK12 Malin Array Si 71.17 322 P **P 17 38 12.7 -0.3**
AK20 Malin Array Si 71.17 322 P **P 17 38 12.7 -0.3**
JMDO Jabal Madar 71.17 283 P **P 17 38 14.2 +0.6**
AK19 Malin Array Si 71.18 322 P **P 17 38 12.8 -0.3**
WAKR Walker 71.19 55 IAmb IAmb 17 38 37.6
comp=Z,16nm,1.1s
AK14 Malin Array Si 71.20 322 P **P 17 38 12.9 -0.3**
BOZ Bozeman (W) 71.20 45 P **P 17 38 14.4 +0.8**
baz=310
AK07 Malin Array Si 71.21 322 P **P 17 38 13.0 -0.3**
AK13 Malin Array Si 71.23 322 P **P 17 38 13.3 -0.1**
SOHO SOHO 71.23 286 *i* P **P 17 38 13.9 +0.1**
SNR=11
SOHO SOHO 71.23 286 P **P 17 38 14.1 +0.3**
ASHO Ashiyiah 71.24 287 *i* P **P 17 38 14.1 +0.1**
SNR=10.0
ASHO Ashiyiah 71.24 287 P **P 17 38 15.0 +1.0**
SNR=10.0
OSL Oslo 71.31 336 *e*P **P 17 38 12.7 -1.0**
OSL IAmb IAmb 17 38 15.2
comp=Z,31nm,1.0s
SFJD Kangerlussuaq 71.39 5 P **P 17 38 14.1 0.0**
SFJD Kangerlussuaq 71.39 5 P **P 17 38 14.1 0.0**
SFJD pmax pmax
comp=Z,36nm,1.0s
SFJD Kangerlussuaq 71.39 5 *i* P **P 17 38 14.1 0.0**
SFJD IAmb IAmb 17 38 16.0
comp=Z,21nm,0.8s
SFJD Kangerlussuaq 71.39 5 P **P 17 38 14.1 0.0**
SFJD pP **pP 17 38 30.5 +0.3**
SFJD sP **sP 17 38 36.9 +0.2**
SKAR Skarslia 71.40 338 *e*P **P 17 38 14.9 +0.5**
SKAR IAmb IAmb 17 38 15.2
comp=Z,9.9nm,0.8s
SUW Suwalki 71.42 327 *e*P **P 17 38 14.4 0.0**
FOO Floro 71.52 340 *e*P **P 17 38 14.8 -0.1**
FAQ Al Faqa, Dubai 71.54 287 *i* P **P 17 38 16.1 +0.4**
SNR=6.7
FAQ Al Faqa, Dubai 71.54 287 P **P 17 38 15.9 +0.2**
MI30 MI30,Zelenitsa 71.55 322 P **P 17 38 15.1 -0.2**
HYA Hoyanger 71.58 339 *e*P **P 17 38 15.3 0.0**
KVN Kaiserville 71.67 54 IAmb IAmb 17 38 38.2
comp=Z,19nm,1.0s
LCRK Leigh Creek 71.68 184 P **P 17 38 17.7 +1.5**
ARQ Araqi 71.73 285 P **P 17 38 18.0 +1.1**
SNR=10
ASUD Al Ashush, Dub 71.80 287 *i* P **P 17 38 18.0 +0.7**
SNR=13
ASUD Al Ashush, Dub 71.80 287 P **P 17 38 18.1 +0.8**
ALNE Al Ain 71.85 286 *i* P **P 17 38 18.0 +0.4**
SNR=28
ALNE Al Ain 71.85 286 P **P 17 38 18.0 +0.4**
KONO Kongsberg 71.87 337 P **P 17 38 17.4 +0.3**
KONO IAmb IAmb 17 38 18.2
comp=Z,12nm,0.9s
KONO Kongsberg 71.87 337 *e*P **P 17 38 16.8 -0.3**
KONO IAmb IAmb 17 38 18.4
comp=Z,11nm,1.0s
KONO Kongsberg 71.87 337 *i* P **P 17 38 16.9 -0.2**
KONO pmax pmax
comp=Z,10.0nm,0.9s
KONO Kongsberg 71.87 337 P **P 17 38 17.2 +0.1**
KONO pP **pP 17 38 33.6 +0.4**
MI29 MI29, Kamyanyy 71.93 322 P **P 17 38 17.3 -0.3**
NVAR Mina Array Bea 71.94 55 P **P 17 38 19.2 +1.0**
NVAR Mina Array Bea 71.94 55 P **P 17 38 19.5 +1.3**
comp=Z,3.6nm,0.7s,baz=290,slow=5.7,SNR=38
comp=Z,3.6nm,0.7s
SUE Sulen 72.05 340 *e*P **P 17 38 18.5 +0.4**
SUE IAmb IAmb 17 38 19.7
comp=Z,16nm,0.9s
AJN Ajban 72.09 287 P **P 17 38 19.2 +0.2**
MHTO MHTO 72.12 282 P **P 17 38 20.0 +0.8**
SNR=24
RNPP9 Sopachiv 72.12 324 P **P 17 38 18.9 +0.2**
DY2G Dye2 72.16 4 *i* P **P 17 38 18.8 -0.2**
DY2G IAmb IAmb 17 38 20.9
comp=Z,67nm,0.7s
RNPP8 Varash 72.19 324 P **P 17 38 19.1 0.0**
RNPP5 Staryi Chortor 72.25 324 P **P 17 38 19.6 +0.1**
ELK Elko 72.31 51 P **P 17 38 21.6 +1.2**
FRB Frobisher Bay 72.31 14 LR LR 18 13 20.5
comp=Z,134nm,20.2s,baz=347,slow=38
LUBAR Lubar, Ukraine 72.32 322 P **P 17 38 19.4 -0.6**
BER Bergen 72.47 339 *e*P **P 17 38 21.4 +0.8**
ODD1 Odda 72.51 338 *e*P **P 17 38 21.5 +0.5**
ODD1 IAmb IAmb 17 38 21.8
comp=Z,11nm,0.6s
SIM Simferopol' 72.52 315 *e*P **P 17 38 21.4 +0.1**
SIM pmax pmax
comp=Z,65nm,0.8s
VOG Valley Oaks Go 72.59 57 P **P 17 38 23.4 +1.6**
baz=309
CMSA Cobar Meteorol 72.76 177 P **P 17 38 25.1 +2.5**
STKA Stephens Creek 73.02 180 P **P 17 38 25.1 +1.0**
STKA Stephens Creek 73.02 180 P **P 17 38 25.1 +1.0**
comp=Z,5.4nm,0.8s,baz=331,slow=8.9,SNR=8.6
STKA LR LR 18 12 13.4
comp=Z,71nm,18.3s,baz=18,slow=37
comp=Z,5.4nm,0.8s
STKA Stephens Creek 73.02 180 *i* P **P 17 38 23.5 -0.6**
VES Vestal, Richgr 73.08 57 P **P 17 38 26.2 +1.5**
baz=309
UMZA Um Al Zommool 73.10 285 P **P 17 38 24.9 -0.1**
PKM Mcpherson Peak 73.21 58 P **P 17 38 26.8 +1.0**
baz=309
SORM Soroca 73.28 320⇑P **P 17 38 25.6 -0.1**
SORM Soroca 73.28 320 P **P 17 38 25.5 -0.1**
SORM Soroca 73.28 320 P **P 17 38 25.4 -0.3**
comp=Z,40nm,0.9s
ISOG Isortoq, Green 73.28 0 *i* P **P 17 38 24.9 -0.4**
ISOG IAmb IAmb 17 38 26.9
comp=Z,17nm,0.8s
BORG Borgarnes 73.29 353 LR LR 18 11 43.2
comp=Z,29nm,20.0s,baz=353,slow=37
CWC Cottonwood Cre 73.33 56 P **P 17 38 27.3 +0.9**
baz=310
HOMB Homborsund 73.33 336 *e*P **P 17 38 25.8 0.0**
MZWR Madinat Zayed 73.38 287 P **P 17 38 26.2 -0.4**
JRN Garnain Island 73.38 289 P **P 17 38 26.1 -0.6**
GRAC Grapevine Rang 73.42 55 P **P 17 38 28.1 +1.3**
baz=310
KMY Karmoy 73.48 338 *e*P **P 17 38 26.7 +0.1**
KMY IAmb IAmb 17 38 27.6
comp=Z,21nm,1.0s
AUDCS Dubbo College 73.62 174 P **P 17 38 29.4 +1.8**
R11B Troy Canyon, C 73.64 53 P **P 17 38 29.1 +0.9**
baz=310
PURM Purcari 73.65 318 P **P 17 38 27.7 -0.1**
comp=Z,28nm,0.9s
SNART Snartemo 73.66 337 *e*P **P 17 38 27.9 +0.2**
SNART IAmb IAmb 17 38 29.3
comp=Z,38nm,0.9s
BSD Bornholm Skovb 73.76 332 *i* P **P 17 38 26.9 -1.5**
BSD IAmb IAmb 17 38 29.5
comp=Z,28nm,0.9s
KIS Kishinev 73.84 319⇑*e*P **P 17 38 29.0 0.0**
comp=Z,30nm,0.4s
KIS Kishinev 73.84 319 *e*P **P 17 38 29.0 0.0**
KIS pmax pmax
comp=Z,30nm,0.4s
HWUT Hardware Ranch 73.85 49 IAmb IAmb 17 38 51.1
comp=Z,18nm,1.2s
KMPD K-Podol'skiy 73.88 321 P **P 17 38 28.0 -1.2**
MILM Milestii Mici 73.90 319⇓P **P 17 38 29.5 +0.2**
MILM Milestii Mici 73.90 319⇑*i*P **P 17 38 29.0 -0.3**
comp=Z,60nm,1.0s
MILM *e*L L 18 06 25.0
MILM LRM MLR 18 14 01.0
comp=Z,200nm,18.0s
MILM Milestii Mici 73.90 319*c i*P **P 17 38 29.0 -0.3**
MILM pmax pmax
comp=Z,60nm,1.0s
MPMC Manual Prospec 73.94 56 P **P 17 38 31.1 +1.1**
baz=310
GHWR Ruwais 73.97 288 P **P 17 38 29.8 -0.3**
BEL Belsk 74.00 327 *e*P **P 17 38 30.7 +0.9**
FURC Furnace Creek, 74.06 55 P **P 17 38 31.8 +1.4**
baz=310
DUG Dugway, Tooele 74.07 50 P **P 17 38 31.7 +1.1**
baz=311
DUG Dugway, Tooele 74.07 50 P **P 17 38 32.0 +1.3**
DIKM Dikmen 74.09 312⇓P **P 17 38 32.2 +1.7**
DIKM Dikmen 74.09 312 P **P 17 38 31.7 +1.2**
comp=Z,71nm,0.8s
LVV L'vov 74.09 324 *e*P **P 17 38 30.6 +0.2**
LVV *e*S **S 17 47 57.2 -1.2**
LVV *e* 17 48 29.8
NUUK Nuuk 74.09 6 *i* P **P 17 38 30.2 +0.1**
KAAM Kaadhehdhoo 74.11 256 P **P 17 38 32.0 +1.0**
TPNV Topopah Spring 74.13 55 P **P 17 38 31.7 +0.5**
baz=310
MZR Muzera 74.13 287 *i* P **P 17 38 31.1 -0.1**
SNR=23
MZR Muzera 74.13 287 P **P 17 38 31.1 -0.1**
SHMA Al-Shehemyia 74.15 291 P **P 17 38 30.8 -0.3**
COP Copenhagen 74.18 333 *i* P **P 17 38 30.8 0.0**
COP IAmb IAmb 17 38 31.5
comp=Z,3.1nm,0.1s
BW06 Boulder Array 74.19 47 P **P 17 38 32.1 +0.7**
baz=312
PDAR Pinedale Array 74.19 47 P **P 17 38 31.9 +0.4**
PDAR Pinedale Array 74.19 47 P **P 17 38 32.1 +0.6**
comp=Z,3.7nm,0.6s,baz=270,slow=2.4,SNR=41
comp=Z,3.7nm,0.6s
TCUT Toone Canyon 74.26 49 IAmb IAmb 17 38 53.5
comp=Z,19nm,0.9s
KBD Kabd 74.34 295 P **P 17 38 32.1 -0.1**
EDW2 Edwards Air Fo 74.37 57 P **P 17 38 33.3 +0.9**
baz=310
SAKB Bahrain 74.37 291 P **P 17 38 32.2 -0.3**
SNCC San Nicolas Is 74.43 59 P **P 17 38 33.3 +0.6**
baz=310
BZK Bozkurt 74.58 313⇑P **P 17 38 34.6 +1.2**
BZK Bozkurt 74.58 313 P **P 17 38 34.3 +0.9**
comp=Z,82nm,0.8s

MUD Monsted U'grnd 74.62 335 *i* P P 17 38 33.8 +0.5
HTT Hallett 74.62 183 P P 17 38 34.9 +1.4
TRNA Turayna 74.67 289 P P 17 38 33.6 -0.5
SLWR Sila 74.75 289 P P 17 38 34.5 -0.2
KWP Kalwaria Pacla 74.81 324 *e*P P 17 38 36.7 +2.0
GSC Goldstone, Bar 74.85 56 P P 17 38 35.8 +0.6
baz=310
SMRA Abu-Samra 74.94 290 P P 17 38 35.2 -0.5
BUR08 Bucovina Ar. S 75.12 321 IAmb IAmb 17 38 38.2
comp=Z,21nm,0.8s
BURAR Bucovina Array 75.14 321 ⇑P P 17 38 37.3 +0.7
BURAR Bucovina Array 75.14 321 P P 17 38 35.9 -0.7
BURAR IAmb IAmb 17 38 38.6
comp=Z,26nm,0.7s
BURAR Bucovina Array 75.14 321 P P 17 38 37.3 +0.7
SCTR Scanteiesti 75.18 319 ⇑P P 17 38 38.4 +1.6
TESR Tescani 75.25 320 ⇑P P 17 38 37.7 +0.6
TESR Tescani 75.25 320 P P 17 38 37.2 0.0
comp=Z,43nm,1.0s,comp=Z,505nm
TUQ Turquoise Moun 75.31 56 P P 17 38 39.1 +1.1
baz=311
HEC Hector,Ludlow 75.45 56 P P 17 38 39.9 +1.2
baz=311
CFR Carcaliu 75.46 318 ⇑P P 17 38 38.8 +0.4
CFR Carcaliu 75.46 318 P P 17 38 39.0 +0.6
ULM Lac du Bonnet 75.50 34 *i* P P 17 38 37.5 -1.1
KOLS Kolonicke sedl 75.52 324 *e*P P 17 38 39.4 +0.7
KOLS pmax pmax
comp=Z,15nm,0.8s
KOLS Kolonicke sedl 75.52 324 *e*P P 17 38 39.4 +0.7
TPGR Topolog 75.54 318 ⇑P P 17 38 39.6 +0.7
STHS Stebnicka Huta 75.61 325 *e*P P 17 38 39.5 +0.3
STHS pmax pmax
comp=Z,15nm,0.6s
STHS Stebnicka Huta 75.61 325 *e*P P 17 38 39.5 +0.3
OJC Ojcow 75.63 326 *e*P P 17 38 40.0 +0.7
OJC Ojcow 75.63 326 P P 17 38 39.9 +0.6
OJC Ojcow 75.63 326 P P 17 38 39.9 +0.6
comp=Z,72nm,0.9s,comp=Z,563nm
MDND Maddock 75.64 38 P P 17 38 40.1 +0.7
baz=317
VRI Vrincioaia 75.67 319 ⇓P P 17 38 40.7 +1.1
VRI Vrincioaia 75.67 319 P P 17 38 40.7 +1.1
MURC Murrieta 75.70 58 P P 17 38 40.9 +0.8
baz=310
TURR Turia 75.88 320 ⇑P P 17 38 42.5 +1.7
GMRC Granite Mounta 75.90 56 P P 17 38 41.4 +0.1
baz=311
CRVS Cervenica-Dubn 75.90 324 *e*P P 17 38 41.7 +0.8
CRVS pmax pmax
comp=Z,24nm,1.0s
CRVS Cervenica-Dubn 75.90 324 *e*P P 17 38 41.7 +0.8
K22A Casper 75.91 45 P P 17 38 41.0 -0.2
baz=314
OZUR 75.96 320 ⇑P P 17 38 42.8 +1.5
MFTR Murfatlar 76.02 317 ⇓P P 17 38 42.5 +0.9
NIE Niedzica 76.02 325 *e*P P 17 38 43.3 +1.7
NIE Niedzica 76.02 325 P P 17 38 42.6 +1.0
NIE Niedzica 76.02 325 P P 17 38 42.6 +1.0
comp=Z,14nm,0.9s
PFO Pinyon Flats O 76.16 57 P P 17 38 43.1 +0.3
baz=311
PFO Pinyon Flats O 76.16 57 *i* P P 17 38 42.8 0.0
PFO pmax pmax
comp=Z,17nm,2.0s
TPFO Pinon Flats 76.17 57 P P 17 38 43.7 +0.8
baz=311
RSSD Black Hills 76.17 43 P P 17 38 43.1 +0.3
baz=315
RSSD Black Hills 76.17 43 P P 17 38 43.1 +0.3
BELC Belle Mtn. Jos 76.20 57 P P 17 38 43.1 +0.1
baz=311
109C Camp Elliot, M 76.22 58 P P 17 38 43.9 +0.9
baz=311
DOPR Dopca 76.25 320 ⇑P P 17 38 44.4 +1.4
RUE Ruedersdorf 76.26 330 *e*P P 17 38 43.6 +0.8
BR131 Keskin Array S 76.29 311 IAmb IAmb 17 38 45.0
comp=Z,16nm,0.8s
BR131 Keskin Array S 76.29 311 *c i* P P 17 38 43.7 +0.3
BRTR Keskin Array B 76.29 311 P P 17 38 43.8 +0.3
BRTR Keskin Array B 76.29 311 P P 17 38 44.0 +0.5
comp=Z,12nm,0.7s,baz=62,slow=4.0,SNR=58
BRTR PP PP 17 41 30.1 -4.8
comp=Z,1.7nm,0.8s,baz=61,slow=6.3,SNR=5.1
comp=Z,12nm,0.7s
BRTR Keskin Array B 76.29 311 P P 17 38 44.0 +0.5
ISR Istrita 76.29 319 ⇑P P 17 38 44.4 +1.2
ISR Istrita 76.29 319 P P 17 38 44.4 +1.2
ISR Istrita 76.29 319 P P 17 38 44.4 +1.2
comp=Z,44nm,0.8s
BR106 Keskin Array S 76.30 311 P P 17 38 43.8 +0.3
comp=Z,19nm,0.8s,comp=Z,162nm
BR104 Keskin Array S 76.30 311 P P 17 38 43.9 +0.4
comp=Z,18nm,0.9s,comp=Z,172nm
BR105 Keskin Array S 76.31 311 P P 17 38 43.9 +0.4
comp=Z,21nm,0.9s,comp=Z,184nm
MLR Muntele Rosu 76.32 319 ⇑P P 17 38 43.8 +0.3
MLR Muntele Rosu 76.32 319 IAmb IAmb 17 38 45.4
comp=Z,13nm,1.1s
MLR Muntele Rosu 76.32 319 P P 17 38 43.8 +0.3
MLR Muntele Rosu 76.32 319 P P 17 38 44.1 +0.6
comp=Z,14nm,0.9s
ICOR Ion Corvin 76.38 318 ⇓P P 17 38 45.2 +1.6
DOK Doka 76.41 283 P P 17 38 44.1 -0.1
CJR Cluj-Napoca 76.55 322 ⇓P P 17 38 46.2 +1.5
CJR Cluj-Napoca 76.55 322 P P 17 38 46.1 +1.5
LANS Liptovska Anna 76.58 325 *e*P P 17 38 46.3 +1.5
LANS pmax pmax
comp=Z,12nm,1.0s
LANS Liptovska Anna 76.58 325 *e*P P 17 38 46.3 +1.5
OKC Ostrava-Krasne 76.61 326 AMS AMS 18 15 00.0
comp=Z,200nm,15.5s
IRM Iron Mountain 76.63 56 P P 17 38 45.8 +0.5
baz=311
MONP2 Monument Peak 76.65 58 P P 17 38 46.2 +0.5
baz=311
ANTO Ankara 76.67 312 P P 17 38 46.3 +0.8
ANTO Ankara 76.67 312 P P 17 38 46.2 +0.7
ANTO Ankara 76.67 312 P P 17 38 46.0 +0.5
comp=Z,31nm,0.9s,comp=Z,238nm
O20A White River Ci 76.70 48 P P 17 38 46.1 +0.3
baz=314
BC3 Big Chuckawall 76.77 57 P P 17 38 46.3 +0.1
baz=311
VOIR 76.79 320 ⇓P P 17 38 47.2 +1.1
VOIR 76.79 320 P P 17 38 47.2 +1.1
VOIR 76.79 320 P P 17 38 46.7 +0.6
comp=Z,16nm,1.4s
MARR Marisel-Cluj 76.80 322 ⇓P P 17 38 47.1 +0.9
OSTC Ostas 76.84 328 *e*P P 17 38 46.8 +0.6
OSTC AMS AMS 18 15 10.0
comp=Z,200nm,17.7s
OSTC Ostas 76.84 328 *e*P P 17 38 46.8 +0.6
OSTC MLR MLR
comp=Z,200nm,17.7s
U15A North Rim 76.87 53 IAmb IAmb 17 39 10.5
comp=Z,16nm,1.3s
CHVC Chvalec 76.88 328 AMS AMS 18 16 00.0
comp=Z,200nm,17.9s
MORC Moravsky Berou 76.90 327 ⇑P P 17 38 47.5 +0.9
MORC Moravsky Berou 76.90 327 IAmb IAmb 17 38 48.5
comp=Z,28nm,0.9s
MORC Moravsky Berou 76.90 327 *e*P P 17 38 47.2 +0.6
MORC Moravsky Berou 76.90 327 P P 17 38 47.5 +0.9
DRGR 76.91 322 ⇑P P 17 38 47.4 +0.7
DRGR 76.91 322 P P 17 38 47.4 +0.7
DPC Dobruska-Polom 76.95 328 *e*P P 17 38 47.9 +1.0
DPC AMS AMS 18 15 20.0
comp=Z,200nm,17.7s
DPC Dobruska-Polom 76.95 328 *e*P P 17 38 47.9 +1.0
DPC MLR MLR
comp=Z,200nm,17.7s
DPC Dobruska-Polom 76.95 328 P P 17 38 47.5 +0.6
comp=Z,20nm,1.1s
UPC Upice 76.96 328 *e*P P 17 38 47.5 +0.7
UPC AMS AMS 18 16 10.0
comp=Z,200nm,18.9s
UPC Upice 76.96 328 *e*P P 17 38 47.5 +0.7
UPC MLR MLR
comp=Z,200nm,18.9s
AGMN Agassiz Nation 76.98 36 P P 17 38 46.9 -0.1
baz=319
SWSC Sam W. Stewart 77.01 58 P P 17 38 48.2 +0.8
baz=311
ARR Arges 77.05 320 ⇑P P 17 38 49.0 +1.5

MAUC Maruska 77.10 326 *e*P P 17 38 48.2 +0.5
WHFO Wadi Hawf 77.12 283 P P 17 38 47.8 -0.5
PDMCI Parker Dam,Lak 77.16 56 P P 17 38 49.0 +0.8
baz=312
PSZ Piszkesteto 77.33 324 ⇑P P 17 38 49.8 +0.8
PSZ Piszkesteto 77.33 324 IAmb IAmb 17 38 51.1
comp=Z,25nm,1.1s
PSZ Piszkesteto 77.33 324 P P 17 38 49.8 +0.8
LOT Lotru 77.40 321 ⇑P P 17 38 49.6 0.0
N23A Red Feather La 77.44 46 P P 17 38 50.1 +0.1
baz=315
BRG Berggiesshubel 77.47 329 *e*P P 17 38 50.1 +0.4
BRG Amp 17 38 51.2
comp=Z,9.1nm,0.9s
BRG Berggiesshubel 77.47 329 *e*P P 17 38 50.1 +0.4
BRG pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 77.48 330 IAmb IAmb 17 38 50.9
comp=Z,22nm,0.9s
CLL Collm 77.48 330 P P 17 38 49.7 0.0
CLL Collm 77.48 330 P P 17 38 49.7 0.0
comp=Z,28nm,0.9s,comp=Z,285nm
PVCC Panska Ves 77.51 329 *e*P P 17 38 51.0 +1.1
PVCC *ex* x 17 39 08.5
PVCC Panska Ves 77.51 329 *e*P P 17 38 51.0 +1.1
PVCC *e* 17 39 08.5
GLA Glamis 77.56 57 P P 17 38 50.5 0.0
baz=312
JAVC Velka Javorina 77.56 326 *e*P P 17 38 51.9 +1.6
VRAC Vranov 77.66 327 ⇑P P 17 38 52.1 +1.3
VRAC Vranov 77.66 327 *e*P P 17 38 51.4 +0.6
VRAC Vranov 77.66 327 P P 17 38 52.0 +1.3
RICC Richard 77.68 329 *e*P P 17 38 52.4 +1.6
AUSMG Snowy Mountain 77.78 175 P P 17 38 52.7 +1.3
SIRR Siria 77.78 322 ⇑P P 17 38 52.4 +0.9
ABTO Aybut 77.82 282 P P 17 38 51.7 -0.5
ABTO P P 17 38 51.7 -0.5
HSKC Hora Svate Kat 77.88 329 *e*P P 17 38 52.9 +0.9
GOPC GO Pecny, Ondr 77.91 328 *e*P P 17 38 52.0 -0.2
GOPC GO Pecny, Ondr 77.91 328 *e*P P 17 38 52.0 -0.2
SZH Strazhitsa 77.91 318 ⇑*i*P P 17 38 52.9 +0.6
GZR Gura Zlata 77.91 321 ⇑P P 17 38 52.6 +0.2
SMOL Smolenice 77.93 326 *e*P P 17 38 53.8 +1.5
PRU Pruhonice 77.95 328 *e*P P 17 38 52.9 +0.6
PRU *e*pP pP 17 39 09.8 +1.2
PRU AMS AMS 18 16 00.0
comp=Z,200nm,16.2s
PRU Pruhonice 77.95 328 *e*P P 17 38 52.9 +0.6
PRU *e* 17 39 09.8
PRU MLR MLR
comp=Z,200nm,16.2s
SURR Surduc 77.95 322 ⇑P P 17 38 53.1 +0.7
CTYL Yalikoy Yolu 78.00 315 P P 17 38 53.5 +0.7
WUAZ Wupatki 78.03 53 IAmb IAmb 17 39 16.8
comp=Z,17nm,1.1s
WUAZ Wupatki 78.03 53 P P 17 38 54.1 +0.7
baz=313
SRO Srobarova 78.09 325 *e*P P 17 38 54.5 +1.3
SRO pmax pmax
comp=Z,29nm,0.9s
SRO Srobarova 78.09 325 *e*P P 17 38 54.5 +1.3
MODS Modra-Piesok 78.10 326 *e*P P 17 38 54.6 +1.3
MODS pmax pmax
comp=Z,32nm,1.0s
MODS Modra-Piesok 78.10 326 *e*P P 17 38 54.6 +1.3
TREC Trest 78.12 328 *e*P P 17 38 54.2 +0.9
TREC Trest 78.12 328 *e*P P 17 38 54.2 +0.9
ELND Elena 78.21 318 ⇑P P 17 38 54.7 +0.8
BZS Buzias 78.29 322 ⇑P P 17 38 54.6 +0.3
BZS Buzias 78.29 322 P P 17 38 54.6 +0.3
ISCO Idaho Springs 78.39 47 P P 17 38 56.1 +0.7
baz=315
SUSD Miller 78.46 40 P P 17 38 55.5 +0.2
baz=318
HERR Herculane 78.46 321 ⇓P P 17 38 55.8 +0.5
ZVC Zvikov 78.52 328 *e*P P 17 38 56.3 +0.8
EDRB Edirne 78.54 316 P P 17 38 56.6 +0.8
MVCO Mesa Verde 78.57 50 P P 17 38 57.1 +0.8
baz=314
VALD Valchedram 78.86 320 *i* P P 17 38 58.6 +1.1
MDVR Moldovita 78.87 321 ⇑P P 17 38 57.7 +0.1
MPLH Magyarpolny 78.93 325 P P 17 38 58.3 +0.5
comp=Z,58nm,1.1s
SOP Sopron 78.94 326 P P 17 38 59.0 +1.1
MPEP Malo Peshtene 78.96 319 ⇑*i*P P 17 38 58.9 +0.9
CKRC Cesky Krumlov 78.97 328 *e*P P 17 38 58.9 +0.9
CKRC AMS AMS 18 17 10.0
comp=Z,100nm,15.0s
CKRC Cesky Krumlov 78.97 328 *e*P P 17 38 58.9 +0.9
CKRC MLR MLR
comp=Z,100nm,15.0s
KHC Kasperske Hory 79.01 328 IAmb IAmb 17 39 00.1
comp=Z,18nm,0.8s
KHC Kasperske Hory 79.01 328 *e*P P 17 38 59.2 +0.9
KHC AMS AMS 18 16 40.0
comp=Z,200nm,16.5s
KHC Kasperske Hory 79.01 328 *i* P P 17 38 58.5 +0.2
KHC pmax pmax
comp=Z,44nm,0.9s
KHC Kasperske Hory 79.01 328 P P 17 38 58.8 +0.5
comp=Z,28nm,0.9s,comp=Z,271nm
RONA Rosalia, Austr 79.04 326 *i* P P 17 38 59.7 +1.3
comp=Z,12nm,0.7s,SNR=14
CONA Conrad Observa 79.04 326 *e*P P 17 38 59.6 +1.1
comp=Z,18nm,1.1s,SNR=9.6
EKA Eskdalemuir Ar 79.09 341 P P 17 38 58.9 +0.3
comp=Z,5.4nm,0.5s,baz=29,slow=4.7,SNR=30
EKA PP PP 17 41 56.4 -1.1
comp=Z,4.3nm,0.8s,baz=34,slow=7.6,SNR=5.5
comp=Z,5.4nm,0.5s
EYMN Ely 79.11 33 P P 17 38 59.2 +0.4
EYMN Ely 79.11 33 P P 17 38 59.4 +0.6
baz=322
S22A 4UR Ranch, Cre 79.15 49 P P 17 39 00.5 +0.9
baz=315
MORH Mrgy, Hungar 79.18 324 ⇑P P 17 38 59.2 0.0
MORH Mrgy, Hungar 79.18 324 P P 17 38 58.7 -0.5
comp=Z,8.8nm,0.9s,comp=Z,162nm
GERES GERESS Array B 79.19 328 P P 17 38 59.6 +0.3
comp=Z,5.0nm,0.7s,baz=38,slow=6.8,SNR=21
comp=Z,5.0nm,0.7s
Q24A Divide 79.23 47 P P 17 39 00.2 +0.1
baz=315
PGB Panagyurishte 79.36 318 ⇑*i*P P 17 39 01.2 +0.9
RAYN Ar Rayn 79.45 292 P P 17 39 01.6 +0.5
RAYN Ar Rayn 79.45 292 *i* P P 17 39 01.4 +0.3
SNR=24
RAYN Ar Rayn 79.45 292 P P 17 39 01.6 +0.5
RAYN Ar Rayn 79.45 292 P P 17 39 01.6 +0.5
RAYN pmax pmax
comp=Z,30nm,0.8s
GRFO Grafenberg 79.46 330 P P 17 39 01.4 +0.8
GRFO IAmb IAmb 17 39 02.6
comp=Z,29nm,0.8s
GRFO Grafenberg 79.46 330 P P 17 39 01.5 +0.8
GRFO pmax pmax
comp=Z,29nm,0.8s
FRGS Fruska Gora 79.47 323 ⇓P P 17 39 01.6 +0.8
FRGS Fruska Gora 79.47 323 P P 17 39 01.0 +0.2
comp=Z,27nm,1.1s,comp=Z,297nm
ALN Alexandroupoli 79.59 316 IAmb IAmb 17 39 03.3
comp=Z,19nm,0.9s
ALN Alexandroupoli 79.59 316 P P 17 39 02.1 +0.6
RDO Rodhopi 79.67 317 P P 17 39 02.9 +0.9
ARSA Arzberg 79.72 326 *e*P P 17 39 02.7 +0.6
comp=Z,10nm,1.0s,SNR=7.3
CSS Mathiatis 79.73 308 P P 17 39 02.8 +0.4
comp=Z,51nm,0.8s,comp=Z,459nm
VTS Vitosha 79.75 319 ⇑*i*P P 17 39 03.6 +1.0
MOA Molln 79.76 327 *i* P P 17 39 02.9 +0.6
comp=Z,5.1nm,0.7s
MMAI Mount Meron Ar 79.81 305 P P 17 39 04.2 +1.2
comp=Z,22nm,0.6s,baz=34,slow=6.5,SNR=44
comp=Z,22nm,0.6s
SDCO Great Sand Dun 79.90 48 P P 17 39 03.5 -0.1
baz=315
KULA Kula-Manisa 79.91 313 P P 17 39 03.8 +0.4
ECSD EROS Data Cent 80.10 39 P P 17 39 04.3 0.0
baz=320
BIOA Bad Ischl, Aus 80.14 328 *e*P P 17 39 05.0 +0.6
comp=Z,16nm,0.8s,SNR=10
SMTH Samothraki Isl 80.17 316 P P 17 39 04.5 -0.2
KALN Kalnik 80.20 325 *i* P P 17 39 04.6 -0.2
EZN Ezine 80.22 315 P P 17 39 05.5 +0.6
EZN Ezine 80.22 315 P P 17 39 05.5 +0.6

comp=Z,21nm,1.1s
MMB Musomishta 80.29 318 ⇑*i*P P 17 39 06.2 +0.8
KAVA Kavala 80.31 317 P P 17 39 06.1 +0.7
GROS Grobnik 80.35 326 *i* P P 17 39 05.9 +0.3
SOKA Soboth 80.38 326 *e*P P 17 39 06.2 +0.4
comp=Z,29nm,0.9s,SNR=25
NVR Nevrokopi 80.38 318 P P 17 39 07.5 +1.7
KKB Krupnik 80.38 318 ⇑*i*P P 17 39 06.8 +1.0
MOSL Moslavina 80.48 325 *i* P P 17 39 05.8 -0.4
BEBN Eben Emael 80.50 334 *d*P P 17 39 06.2 0.0
BTNL Ternell 80.53 333 *d*P P 17 39 06.8 +0.3
comp=Z,8.5nm,0.9s
MEM Membach 80.55 333 *d*P P 17 39 06.4 -0.1
comp=Z,13nm,0.9s
KSCO Kaye Shedlock' 80.57 46 P P 17 39 07.5 +0.5
baz=317
TUC Tucson 80.57 55 P P 17 39 07.7 +0.6
baz=314
SRS Serrai 80.69 318 P P 17 39 07.6 +0.1
KOKK Kokkinochori, 80.70 317 P P 17 39 07.8 +0.3
OBKA Obir 80.71 326 *i* P P 17 39 07.8 +0.2
comp=Z,15nm,0.7s,SNR=7.0
LESA Schwarzleotal 80.74 328 *i* P P 17 39 08.3 +0.5
comp=Z,25nm,1.0s
KBA Koelnbreinsper 80.75 327 *e*P P 17 39 08.2 +0.3
comp=Z,12nm,0.7s,SNR=8.7
KBA Koelnbreinsper 80.75 327 P P 17 39 08.5 +0.6
SCHQ Schefferville 80.91 16 IAmb IAmb 17 39 09.7
comp=Z,14nm,0.8s
SCHQ Schefferville 80.91 16 P P 17 39 08.7 +0.4
comp=Z,16nm,0.8s,baz=346,slow=5.9,SNR=21
SCHQ LR LR 18 17 17.4
comp=Z,62nm,21.2s,baz=287,slow=37
comp=Z,16nm,0.8s
SIGR SIGRI 80.92 315 P P 17 39 08.4 -0.3
T25A Trinidad 80.94 48 P P 17 39 10.0 +0.8
baz=316
BCLA Clavier 80.95 334 *d*P P 17 39 08.8 +0.1
BCLA *d*PcP PcP 17 39 15.3 +0.3
STIP Stip 80.96 319 *i* P P 17 39 08.4 -0.5
STU Stuttgart 80.97 331 P P 17 39 09.6 +0.8
MYKA Terra Mystica 80.99 327 *i* P P 17 39 08.9 -0.1
comp=Z,6.9nm,0.5s,SNR=7.2
KNT Kendrikon 81.01 318 P P 17 39 09.4 +0.2
BGES Gesves 81.05 334 *d*P P 17 39 09.3 +0.1
comp=Z,9.5nm,1.0s
PLE Pljevlja 81.06 322 ⇑*i*P P 17 39 09.6 0.0
OUR Ouranopolis 81.07 317 P P 17 39 09.4 -0.1
SKO Skopje 81.12 320 *i* P P 17 39 11.0 +1.3
IVA Berane 81.18 321 ⇑*i*P P 17 39 10.3 +0.2
RCHB Rochefort 81.20 334 *d*P P 17 39 09.9 0.0
comp=Z,9.0nm,1.0s
BOJS Bojanci 81.22 325 *i* P P 17 39 10.2 +0.1
BMRD Maredsous 81.23 334 *d*P P 17 39 10.0 -0.1
comp=Z,15nm,0.9s
WATA Walderalm 81.25 328 *e*P P 17 39 10.9 +0.4
comp=Z,7.1nm,0.6s,SNR=8.6
WTTA Wattenberg 81.28 328 *e*P P 17 39 11.3 +0.5
comp=Z,9.8nm,0.7s,SNR=7.9
WLF Walferdange 81.31 333 *d*P P 17 39 09.4 -1.2
comp=Z,8.6nm,0.9s
PLG Polygyros 81.32 317 P P 17 39 11.1 +0.2
ANMO Albuquerque 81.33 51 P P 17 39 11.0 -0.3
ANMO Albuquerque 81.33 51 P P 17 39 11.5 +0.3
baz=315
ANMO Albuquerque 81.33 51 P P 17 39 12.4 +1.1
comp=Z,1.7nm,0.7s,baz=42,slow=7.4,SNR=7.5
comp=Z,1.7nm,0.7s
ANMO Albuquerque 81.33 51 *i* P P 17 39 10.7 -0.6
ANMO pmax pmax
comp=Z,7.0nm,1.6s
ABTA Abfaltersbach 81.36 328 *e*P P 17 39 10.3 -0.7
comp=Z,10nm,1.3s,SNR=5.2
KOME Kolasin 81.37 321 ⇑*i*P P 17 39 11.4 +0.2
CEY Cerknica 81.38 326 *i* P P 17 39 10.9 -0.1
GIVF Givet 81.38 334 *e*P P 17 39 10.1 -0.9
GIVF pmax pmax
comp=Z,9.0nm,0.8s
MOTA Moosalm 81.43 329 *e*P P 17 39 11.9 +0.4
comp=Z,39nm,1.0s,SNR=19
RETA Reutte 81.44 329 *e*P P 17 39 12.0 +0.6
comp=Z,21nm,0.8s,SNR=14
DOU Dourbes 81.46 334 *d*P P 17 39 11.3 -0.1
SQTA Sankt Quirin 81.49 329 *e*P P 17 39 12.1 +0.4
comp=Z,9.9nm,0.6s,SNR=8.6
PAIG Paliouri 81.53 317 P P 17 39 12.1 +0.2
BAIF Baives 81.62 334 *e*P P 17 39 11.5 -0.7
BAIF pmax pmax
comp=Z,8.0nm,0.9s
BFO Black Forest 81.66 331 P P 17 39 12.0 -0.5
BFO IAmb IAmb 17 39 14.0
comp=Z,48nm,1.6s
BFO Black Forest 81.66 331 P P 17 39 12.0 -0.5
BFO pmax pmax
comp=Z,48nm,1.6s
NKME Niksic 81.70 321 ⇑*i*P P 17 39 12.7 -0.1
BRY Bratogost 81.79 322 ⇑*i*P P 17 39 13.0 -0.4
PDG Podgorica 81.82 321 ⇑P P 17 39 13.7 +0.3
PDG Podgorica 81.82 321 ⇑*i*P P 17 39 13.7 +0.3
FETA Feichten 81.84 329 *e*P P 17 39 14.0 +0.4
comp=Z,20nm,1.0s,SNR=14
CEME Cevo 81.89 321 ⇑*i*P P 17 39 13.8 0.0
KIJV Kijevo 81.90 324 *i* P P 17 39 13.8 0.0
DAVA Damuels 81.95 329 *e*P P 17 39 14.6 +0.4
comp=Z,26nm,0.9s,SNR=11
CDF Champ du Feu 81.97 331 *e*P P 17 39 13.7 -0.5
CDF pmax pmax
comp=Z,13nm,0.9s
RICI Ricice 81.97 323 *i* P P 17 39 13.7 -0.6
LIT Litokhoron 82.01 318 IAmb IAmb 17 39 17.1
comp=Z,14nm,0.8s
LIT Litokhoron 82.01 318 P P 17 39 14.0 -0.5
RABC Rab 82.02 325 *i* P P 17 39 13.7 -0.7
DRME Dracevica, Mon 82.04 321 ⇑*i*P P 17 39 15.0 +0.4
FNA Florina 82.05 319 P P 17 39 14.4 -0.3
OHR Ohrid 82.08 319 *i* P P 17 39 15.5 +0.6
BUM Brajici-Budva 82.09 321 ⇑*i*P P 17 39 14.8 -0.1
DBRK Dubrovnik 82.15 322 *i* P P 17 39 14.4 -0.7
HCY Herceg Novi 82.16 322 ⇑*i*P P 17 39 14.8 -0.4
ECH Echery 82.18 331 IAmb IAmb 17 39 16.4
comp=Z,9.1nm,0.8s
ECH Echery 82.18 331 P P 17 39 15.2 0.0
ULC Ulcinj 82.18 321 ⇑*i*P P 17 39 15.3 -0.1
MAKA Makarska 82.19 323 *i* P P 17 39 14.4 -0.9
STON Ston 82.20 322 *i* P P 17 39 14.1 -1.3
CBKS Cedar Bluff 82.24 44 P P 17 39 16.6 +0.8
baz=318
121A Cookes Peak, D 82.25 53 IAmb IAmb 17 39 41.1
comp=Z,18nm,1.0s
121A Cookes Peak, D 82.25 53 P P 17 39 17.1 +1.1
baz=315
CTI Castel Tesino 82.27 328 IAmb IAmb 17 39 16.1
comp=Z,29nm,1.1s
MORI Morici 82.32 324 *i* P P 17 39 15.2 -0.7
KBN Korca 82.46 319 P P 17 39 17.3 +0.4
DUGI Dugi Otok 82.50 324 *i* P P 17 39 16.5 -0.4
HINF Hinteralfeld 82.63 331 *e*P P 17 39 17.0 -0.6
HINF pmax pmax
comp=Z,4.0nm,0.8s
HAU Haudompre 82.65 332 *e*P P 17 39 16.9 -0.8
HAU pmax pmax
comp=Z,8.0nm,0.8s
TUE Stuetta 82.83 329 IAmb IAmb 17 39 20.3
comp=Z,13nm,0.8s
TUE Stuetta 82.83 329 P P 17 39 19.2 +0.3
comp=Z,85nm,1.0s
KARP Karpathos 82.88 312 P P 17 39 19.4 +0.3
KARP Karpathos 82.88 312 P P 17 39 18.9 -0.2
AGG Agios Georgios 82.90 317 IAmb IAmb 17 39 19.3
comp=Z,15nm,1.0s
AGG Agios Georgios 82.90 317 P P 17 39 18.2 -1.0
LSK Leskovik 82.91 319 P P 17 39 20.1 +0.8
AXAR Agios Charalam 82.92 317 P P 17 39 18.8 -0.5
MAKR Makrakomi, Fth 83.01 317 P P 17 39 19.0 -0.7
VILL Villia 83.03 316 P P 17 39 18.6 -1.3
SCIA State Center 83.10 38 P P 17 39 20.5 +0.4
baz=322
JAN Janina 83.17 318 P P 17 39 23.0 +2.5
EVR Evrytania 83.24 317 P P 17 39 21.3 +0.3
ANX Ano Chora 83.43 317 P P 17 39 21.9 -0.1
KALE Kalithea 83.47 317 P P 17 39 21.3 -0.9
IGT Igoumenitsa 83.52 319 P P 17 39 22.3 0.0
EFP Efpalio 83.56 317 P P 17 39 22.1 -0.4
PVO Paravola 83.61 317 P P 17 39 22.3 -0.5

KSU1	Kansas State U	83.63	42	P	P	17 39 23.3	+0.4
	baz=320						
JFWS	Jewell Farm	83.65	36	P	P	17 39 22.8	-0.1
	baz=323						
GUR	Goura	83.71	316	P	P	17 39 22.1	-1.3
ZKR	Zakros	83.72	312	P	P	17 39 23.8	+0.4
KLV	Kalavryta, Ach	83.73	316	P	P	17 39 22.6	-0.9
TSLK	Tsoukalades, L	83.90	318	P	P	17 39 24.3	+0.1
LKD2	Lefkada island	83.92	318	P	P	17 39 24.3	-0.1
NYDR	Nydri-Lefkada	83.96	318	P	P	17 39 24.5	0.0
EVGI	Lefkada island	84.05	318	P	P	17 39 25.1	+0.1
RLS	Riolos of Patr	84.07	317	P	P	17 39 25.4	+0.3
AMTX	Amarillo	84.10	48	P	P	17 39 26.0	+0.6
	baz=318						
MSTX	Muleshoe	84.15	49	P	P	17 39 26.3	+0.5
	baz=317						
VLDQ	Val d'Or	84.16	25	IAmb	IAmb	17 39 25.5	
	comp=Z,23nm,0.8s						
FLN	La Foliniere	84.24	336	eP	P	17 39 24.9	-0.9
FLN				pmax	pmax		
	comp=Z,11nm,0.8s						
MNTX	Cornudas Mount	84.27	52	P	P	17 39 27.0	+0.7
	baz=316						
LDF	La Druitiere	84.28	336	eP	P	17 39 25.5	-0.5
LDF				pmax	pmax		
	comp=Z,12nm,0.8s						
VLI	Veliai	84.31	315	P	P	17 39 24.0	-2.4
IDI	Anoyia	84.33	313	P	P	17 39 26.8	+0.2
MATE	Matera	84.40	321	⇑P	P	17 39 27.6	+0.8
SSF	Saint Saulge	84.45	333	eP	P	17 39 26.3	-0.6
SSF				pmax	pmax		
	comp=Z,13nm,0.8s						
DMLN	Damoulianata-K	84.49	318	P	P	17 39 26.9	-0.4
ITM	Ithomi	84.50	316	P	P	17 39 26.8	-0.5
INTR	Introdacqua	84.59	324	IAmb	IAmb	17 39 29.4	
	comp=Z,21nm,0.9s						
LPL	La Plagne	84.62	330	eP	P	17 39 27.9	-0.2
LPL				pmax	pmax		
	comp=Z,28nm,0.8s						
LPG	La Plagne	84.63	330	eP	P	17 39 28.0	-0.2
LPG				pmax	pmax		
	comp=Z,30nm,0.8s						
LTHK	Lithakia	84.66	317	P	P	17 39 27.6	-0.5
CESX	Cesi	84.69	325	IAmb	IAmb	17 39 29.0	
	comp=Z,11nm,0.9s						
GRR	Gorron	84.69	336	eP	P	17 39 27.5	-0.5
GRR				pmax	pmax		
	comp=Z,15nm,0.8s						
SMF	Signal de Mont	84.69	333	eP	P	17 39 27.7	-0.4
SMF				pmax	pmax		
	comp=Z,23nm,1.0s						
IMMV	Iera Moni Meta	84.69	314	P	P	17 39 28.1	-0.2
AVF	Avril sur Loir	84.73	333	eP	P	17 39 27.9	-0.4
AVF				pmax	pmax		
	comp=Z,26nm,0.8s						
ANKY	Antikythira Is	84.76	314	P	P	17 39 27.5	-1.1
PYL	PYLOS	84.81	316	P	P	17 39 27.8	-1.1
BNI	Bardonecchia	85.03	330	IAmb	IAmb	17 39 32.3	
	comp=Z,19nm,0.9s						
GVD	Gavdhos	85.10	313	P	P	17 39 29.8	-0.6
BGF	Bois d'Agland	85.11	333	eP	P	17 39 29.9	-0.3
BGF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
L44A	Lake County Fo	85.26	35	P	P	17 39 30.7	-0.3
	baz=325						
DKNS	Dickens	85.42	48	IAmb	IAmb	17 39 34.7	
	comp=Z,7.3nm,0.8s						
ORIF	Oris-en-Rattie	85.45	330	eP	P	17 39 32.5	+0.4
ORIF				pmax	pmax		
	comp=Z,20nm,0.7s						
P40A	Paris	85.52	39	IAmb	IAmb	17 39 33.7	
	comp=Z,9.6nm,0.9s						
POST	Post	85.53	49	IAmb	IAmb	17 39 54.9	
	comp=Z,12nm,0.9s						
TIP	Timpagrande	85.54	320	⇓P	P	17 39 33.3	+0.7
TCF	Toulx Ste Croi	85.56	333	eP	P	17 39 36.8	+4.3
TCF				pmax	pmax		
	comp=Z,15nm,0.9s						
SSB	Saint Sauveur	85.62	331	IAmb	IAmb	17 39 34.3	
	comp=Z,13nm,0.8s						
QUIF	Quistinic	85.79	337	eP	P	17 39 33.2	-0.4
QUIF				pmax	pmax		
	comp=Z,14nm,0.7s						
WMOK	Wichita Mounta	85.80	46	P	P	17 39 34.3	+0.4
	baz=319						
VIVF	Saint-Julien-l	85.94	331	eP	P	17 39 34.2	-0.2
VIVF				pmax	pmax		
	comp=Z,24nm,0.9s						
HDIL	Hopedale	85.97	37	P	P	17 39 34.6	0.0
	baz=324						
PPT2	Papeete2	86.21	117	eS	SKSac	17 50 02.2	+5.0
	comp=Z,56nm,24.0s						
PPT2				eSS	SS	17 55 46.5	-0.5
	comp=Z,64nm,28.2s						
PPT2	Papeete2	86.21	117	eLR	LR	18 06 16.1	
	comp=Z,352nm,23.2s						
PPT2				eLR	LR	18 06 24.9	
	comp=Z,303nm,40.8s						
R40A	Maddies Statio	86.39	40	IAmb	IAmb	17 39 57.1	
	comp=Z,9.1nm,1.2s						
TUL3	Leonard	86.49	44	P	P	17 39 37.2	-0.1
	baz=321						
SADO	Sadowa	86.51	28	LR	LR	18 22 36.8	
	comp=Z,57nm,19.8s,baz=120,slow=38						
RJF	Les Rejaudoux	86.66	333	eP	P	17 39 37.8	-0.1
RJF				pmax	pmax		
	comp=Z,22nm,0.9s						
TRQ	Mont Tremblant	86.75	25	IAmb	IAmb	17 39 39.4	
	comp=Z,18nm,1.0s						
CAF	Calviac	86.80	333	eP	P	17 39 39.1	+0.4
CAF				pmax	pmax		
	comp=Z,38nm,0.8s						
ABTX	Abilene, Hawle	86.91	48	P	P	17 39 40.1	+0.8
	baz=319						
TX31	Lajitas Ar. Si	87.00	53	IAmb	IAmb	17 40 01.4	
	comp=Z,9.1nm,1.1s						
TXAR	Lajitas Array	87.00	53	P	P	17 39 40.7	+0.7
	comp=Z,1.5nm,0.8s,baz=283,slow=3.4,SNR=18						
	comp=Z,1.5nm,0.8s						
TXAR	Lajitas Array	87.00	53	P	P	17 39 40.8	+0.8
CCM	Cathedral Cave	87.07	39	P	P	17 39 40.3	+0.3
	baz=323						
SFIN	Lafayette	87.08	35	P	P	17 39 40.3	+0.2
	baz=325						
DELO	Deloro Mine	87.26	27	IAmb	IAmb	17 39 41.7	
	comp=Z,11nm,1.0s						
FVM	French Village	87.52	39	IAmb	IAmb	17 40 02.7	
	comp=Z,28nm,1.6s						
T42A	Van Buren	87.96	40	IAmb	IAmb	17 39 45.5	
	comp=Z,15nm,1.4s						
O48B	Farmland	88.01	34	P	P	17 39 44.6	+0.1
	baz=327						
BATG	Bathurst New B	88.14	19	IAmb	IAmb	17 39 46.7	
	comp=Z,15nm,0.9s						
LONY	Lake Ozonia	88.17	25	P	P	17 39 44.8	-0.4
	baz=333						
BRDY	Brady	88.27	49	IAmb	IAmb	17 40 07.1	
	comp=Z,16nm,1.6s						
JCT	Junction City	88.42	50	P	P	17 39 46.8	+0.1
	baz=319						
ERPA	Erie	88.50	30	P	P	17 39 47.3	+0.5
	baz=330						
WHTX	Lake Whitney,	88.60	47	P	P	17 39 47.0	-0.4
	baz=320						
MIAR	Mount Ida	88.69	43	IAmb	IAmb	17 39 49.3	
	comp=Z,7.0nm,0.9s						
MIAR	Mount Ida	88.69	43	P	P	17 39 48.2	+0.4
	baz=322						
WHAR	Wooly Hollow	88.75	42	IAmb	IAmb	17 40 11.6	
	comp=Z,11nm,0.9s						
P49A	Miami Univ. Ec	88.80	34	P	P	17 39 49.0	+0.8
	baz=327						
M53A	Wt Miller and	88.82	31	P	P	17 39 49.2	+0.9
	baz=329						
ACSO	Alum Creek Sta	88.94	33	P	P	17 39 49.1	+0.2
	baz=328						
EPF	Esparros	89.06	333	eP	P	17 39 48.9	-0.6
EPF				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CEST	Esterri de Car	89.12	332	IAmb	IAmb	17 39 51.6	
	comp=Z,14nm,0.8s						
PKME	Peaks-Kenny Pk	89.17	22	P	P	17 39 50.1	+0.3
	baz=337						
WCI	Wyandotte Cave	89.20	36	P	P	17 39 50.3	+0.1
	baz=326						
N53A	Lisbon	89.30	31	IAmb	IAmb	17 39 52.2	
	comp=Z,15nm,1.0s						
LBNH	Lisbon	89.34	24	P	P	17 39 50.7	0.0
	baz=335						
ETSF	Etsaut	89.48	334	eP	P	17 39 52.5	+1.0
ETSF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
O53A	New Philadelph	89.63	32	P	P	17 39 52.5	+0.4
	baz=329						
LMN	Caledonia Moun	89.78	18	P	P	17 39 53.6	+0.9
LMN				IAmb	IAmb	17 39 54.9	
	comp=Z,12nm,0.8s						
P52A	Corning	89.79	33	P	P	17 39 52.8	-0.1
	baz=328						
BINY	Binghamton	89.86	27	P	P	17 39 53.6	+0.4
	baz=332						
T47A	Sharon Grove	89.86	37	IAmb	IAmb	17 39 54.8	
	comp=Z,8.6nm,0.8s						
WVT	Waverly	90.23	38	P	P	17 39 55.5	+0.5
	baz=325						
833A	Chaparral WMA,	90.27	51	P	P	17 39 55.5	+0.2
	baz=319						
NATX	Nacogdoches	90.29	45	P	P	17 39 55.9	+0.5
	baz=321						
TBI	Tubuai	90.38	121	eLR	LR	18 08 48.4	
	comp=Z,874nm,25.2s						
SSPA	Standing Stone	90.56	29	P	P	17 39 56.4	0.0
	baz=331						
MCWV	Mont Chateau	90.67	31	P	P	17 39 56.8	-0.2
	baz=330						
L61B	Northampton	90.73	25	P	P	17 39 57.4	+0.2
	baz=335						
OXF	Oxford	90.80	40	P	P	17 39 57.7	+0.1
	baz=324						
HRV	Adam Dziewonsk	91.03	24	P	P	17 39 58.1	-0.5
	baz=336						
PAL	Palisades	91.63	26	P	P	17 40 01.2	-0.2
	baz=334						
KEST	Kesra	91.77	323	P	P	17 40 02.0	-0.3
	comp=Z,7.4nm,0.8s,baz=341,slow=1.4,SNR=7.2						
	comp=Z,7.4nm,0.8s						
TZTN	Tazewell	91.81	35	P	P	17 40 02.2	-0.2
	baz=328						
TKL	Tuckaleechee C	92.46	36	LR	LR	18 25 45.2	
	comp=Z,71nm,18.3s,baz=341,slow=38						
LRAL	Lakeview Retre	93.16	39	P	P	17 40 08.4	-0.1
	baz=326						
ESDC	Sonseca Array	93.50	334	P	P	17 40 10.2	0.0
ESDC				IAmb	IAmb	17 40 11.2	
	comp=Z,4.7nm,0.8s						
ESDC	Sonseca Array	93.50	334	P	P	17 40 10.3	+0.2
	comp=Z,5.2nm,0.8s,baz=15,slow=4.3,SNR=43						
ESDC				PP	PP	17 43 55.2	+1.0
	comp=Z,2.8nm,1.0s,baz=24,slow=7.7,SNR=9.9						
	comp=Z,5.2nm,0.8s						
KMSC	Kings Mountain	93.95	34	P	P	17 40 11.8	-0.4
	baz=329						
GOGA	Godfrey	94.48	37	P	P	17 40 14.2	-0.5
	baz=328						
NHSC	New Hope	96.18	35	P	P	17 40 21.3	-1.1
	baz=330						
DWPF	Disney Wildern	99.89	38	P	Pdif	17 40 38.2	-0.9
	baz=328						
QSPA	South Pole Qui	131.24	180	PKPdf	PKiKP	17 46 05.7	-0.3
LPAZ	La Paz	143.84	55	PKP	PKPbc	17 46 28.7	+0.5
	comp=Z,0.8nm,0.6s,baz=277,slow=3.9,SNR=4.0						
SNAA	Sanae	145.16	199	PKPbc	PKPbc	17 46 29.9	-0.2
	comp=Z,18nm,0.8s,baz=152,slow=5.5,SNR=13						
PB11	IPOC Station P	145.44	61	PKPdf	PKPab	17 46 33.6	+0.8
HMBC	Humberstone	145.65	62	PKPdf	PKPab	17 46 34.0	+0.3
H03N2	Juan Fernandez	146.72	90	T	T	20 31 11.6	
	baz=299,slow=77,SNR=19						
H03N3	Juan Fernandez	146.73	90	T	T	20 31 13.3	
	baz=299,slow=77,SNR=22						
H03N1	Juan Fernandez	146.74	90	T	T	20 31 11.6	
	baz=299,slow=77,SNR=20						
SIV	San Ignacio	147.67	45	PKPbc	PKPbc	17 46 39.3	+0.2
	comp=Z,12nm,0.7s,baz=307,slow=2.2,SNR=49						
LVC	Limon Verde	147.93	64	PKPbc	PKiKP	17 46 41.7	-0.2
	comp=Z,2.5nm,0.7s,baz=311,slow=19,SNR=2.3						
BDFB	Brasilia	152.79	22	PKPbc	PKiKP	17 46 51.9	+0.1
	comp=Z,5.0nm,0.7s,baz=357,slow=1.4,SNR=10						
BDFB				PKPab	PKPab	17 47 03.1	+0.7
	comp=Z,3.6nm,0.7s,baz=326,slow=4.4,SNR=11						

LJU 01 17:36:46.4, 45°.83N×15°.97E, h6km, ML0.3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAG	Zagreb	0.02	109	ePg	Pg	17 36 47.1	-0.4
ZAG				Sg	Sg	17 36 48.2	0.0
PTJ	Puntijarka	0.07	1	ePg	Pg	17 36 48.0	-0.2
PTJ				Sg	Sg	17 36 49.6	+0.1
GCIS	Gornji Cirnik	0.24	279	i Pg	Pg	17 36 51.4	+0.3
GCIS				i Sg	Sg	17 36 55.2	+1.0
GCIS				IAML		17 36 55.6	
	comp=Z,1.6nm,0.1s						
LOBO	Lobor	0.33	12	ePg	Pg	17 36 53.5	+0.6
LOBO				Sg	Sg	17 36 58.4	+1.1
CRES	Cresnjev	0.36	269	i Pg	Pg	17 36 53.3	0.0
OZLJ	Ozalj	0.41	238	ePg	Pg	17 36 54.2	-0.1
OZLJ				Sg	Sg	17 36 59.7	0.0
KALN	Kalnik	0.45	49	Sg	Sg	17 37 01.0	-0.1
MOSL	Moslavina	0.59	111	ePg	Pg	17 36 58.2	+0.4
MOSL				Sg	Sb	17 37 08.4	+0.5

*BJI **01** 17:37:11.5±0.0, 56°.12S×148°.02E, h5km, mb5.1/16, mB5.9/7, Ms5.0/3, Ms7 4.7/3*
*IDC **01** 17:37:12.1±0.4, 56°.25S×147°.32E, h0km, mb4.8/14, mbtmp4.8/15, ML3.9/1, MS4.3/26, Error ellipse: s-maj=22.4km s-min=12.6km az=81.0*
*MOS **01** 17:37:12.2±1.4, 56°.17S×147°.59E, h10km, mb5.4/14, Error ellipse: s-maj=23.5km s-min=7.8km az=93.9*
*NEIC **01** 17:37:14±1.9, 56°.22S±0°.09×147°.45E±0°.08, h10km±1km, mb5.3/56, Error ellipse: s-maj=15.0km s-min=7.2km az=191.0*
*GCMT **01** 17:37:16.0±0.2, 56°.27S±0°.01×146°.93E±0°.02, h15km±1km, MW5.1/118, Moment Tensor Solution. s59,c76; s118,c188; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.76±.15; $M_{\theta\theta}$3.87±.12; $M_{\phi\phi}$=-3.10±.12; $M_{r\theta}$1.28±.36; $M_{\theta\phi}$=-3.39±.10; $M_{\phi r}$0.69±.39; Best double couple: M_0=5.09300×10^{16} NP1:ϕ_s=248.00000°, δ85.00000°, λ=-162.00000°. NP2:ϕ_s=157.00000°, δ72.00000°, λ=-5.00000°. Principal axes: T 5.3890, Plg9.0000°, Azm21.0000°; N -0.5860, Plg72.0000°, Azm263.0000°; P -4.7970, Plg16.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 17:37:14.5±1.1, 56°.31S±0°.05×147°.43E±0°.06, h14km±6km, n423, σ1§22/389, mb5.2/56, MS4.2/32, 51C-32D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	6.81	79	P	Pn	17 38 52.2	-1.6
MCQ	Macquarie Isla	6.81	79		Pn	17 38 51.8	-2.0
MCQ	Macquarie Isla	6.81	79	P	Pn	17 38 51.8	-2.0
TAU	Tasmania Unive	13.41	360	P	Pn	17 40 28.0	+3.8
TAU	Tasmania Unive	13.41	360		Pn	17 40 20.6	-3.6
TAU	Tasmania Unive	13.41	360	P	Pn	17 40 20.6	-3.6
MOO	Moorlands	13.88	359	P	Pn	17 40 33.0	+2.4
CORO	Coronation Par	14.87	359	P	Pn	17 40 46.8	+2.7
GLAD	Gladstone	15.34	2	P	P	17 40 54.2	-0.8
DCZ	Deep Cove	16.44	57	Pn	Pn	17 41 03.8	-0.7
WHZ	Wether Hill Ro	16.50	59		P	17 41 09.1	+1.2
WKZ	Wanaka	17.80	59	Pn	Pn	17 41 19.9	-1.7
WKZ				IAmb	IAmb	17 41 29.6	
	comp=Z,220nm,1.4s						
TOO	Toolangi	18.79	355	P	Pn	17 41 34.4	+0.7
TOO	Toolangi	18.79	355	P	P	17 41 31.0	-2.2
TOO	Toolangi	18.79	355	P	P	17 41 31.0	-2.2
TOO				pmax	pmax		
	comp=Z,144nm,1.1s						
MILA	Mila	19.29	4	P	Pn	17 41 41.2	+1.4
RPZ	Rata Peaks	19.61	60	P	P	17 41 42.4	+0.3
	comp=Z,0.4nm,0.3s,baz=73,slow=18,SNR=4.4						
RPZ				LR	LR	17 47 50.6	
	comp=Z,1μm,19.2s,baz=214,slow=32						
	comp=Z,27nm,1.0s						
CASY	Casey	20.01	225	P	P	17 41 45.7	-0.6
CAN	Canberra	21.02	4	P	P	17 41 59.6	+2.1
CAN	Canberra	21.02	4	P	P	17 41 58.6	+1.1
CAN				pmax	pmax		
	comp=Z,559nm,2.0s						
CNB	Canberra Magne	21.04	4	P	P	17 41 59.4	+1.7
AUUHS	Ulladulla High	21.05	7	P	P	17 42 00.2	+2.4
VNDA	Vanda	21.90	172	P	P	17 42 06.6	0.0
VNDA	Vanda	21.90	172	P	P	17 42 07.0	+0.4
	comp=Z,20nm,0.9s,baz=338,slow=9.9,SNR=103						
VNDA				LR	LR	17 49 27.2	
	comp=Z,819nm,18.1s,baz=348,slow=34						
	comp=Z,20nm,0.9s						
YNG	Young	22.02	2	P	P	17 42 09.0	+0.8
GHSS	Government Hou	22.23	341	P	P	17 42 13.3	+2.9
SBA	Scott Base	22.65	170	P	P	17 42 15.9	+1.3
SBA				IAmb	IAmb	17 42 20.6	
	comp=Z,233nm,2.0s						
SBA	Scott Base	22.65	170	P	P	17 42 15.9	+1.3
SBA				pmax	pmax		
	comp=Z,233nm,2.0s						
SYDH	Sydney Hard Ro	22.66	7	P	P	17 42 18.1	+3.1
SNZO	South Karori	23.19	61	P	P	17 42 17.5	-2.9
SNZO				IAmb	IAmb	17 42 40.7	
	comp=Z,207nm,1.4s						
HTT	Hallett	23.62	342	P	P	17 42 26.6	+1.7
AUDCS	Dubbo College	24.09	2	P	P	17 42 30.4	+1.1
WHYH	Whyalla	24.25	340	P	P	17 42 31.5	+0.7
STKA	Stephens Creek	24.76	348	P	P	17 42 36.4	+0.9
STKA	Stephens Creek	24.76	348	P	P	17 42 35.8	+0.3
STKA	Stephens Creek	24.76	348	P	P	17 42 35.7	+0.3
	comp=Z,72nm,1.0s,baz=165,slow=10,SNR=28						
STKA				PcP	PcP	17 46 11.1	-0.7
	comp=Z,2.2nm,0.6s,baz=148,slow=4.9,SNR=3.0						
STKA				LR	LR	17 50 30.6	
	comp=Z,789nm,18.4s,baz=174,slow=32						
	comp=Z,72nm,1.0s						
STKA	Stephens Creek	24.76	348	P	P	17 42 35.8	+0.3
STKA				pmax	pmax		
	comp=Z,20nm,1.1s						
BBOO	Buckleboo	24.79	337	P	P	17 42 37.2	+1.5
BBOO	Buckleboo	24.79	337	P	P	17 42 34.5	-1.1
BBOO				IAmb	IAmb	17 42 47.0	
	comp=Z,132nm,1.6s						
CMSA	Cobar Meteorol	24.79	356	P	P	17 42 36.9	+1.2
AUPHS	Peel High Scho	25.32	7	P	P	17 42 43.9	+3.4
RTZ	Ruatahuna	26.38	60	P	P	17 42 48.2	-2.0
RTZ				IAmb	IAmb	17 42 52.2	
	comp=Z,38nm,0.9s						
LCRK	Leigh Creek	26.65	342	P	P	17 42 53.3	+0.7
URZ	Urewera	26.72	60	LR	LR	17 52 40.0	
	comp=Z,469nm,19.9s,baz=306,slow=35						
AULRC	Lightning Ridg	26.87	1	P	P	17 42 56.2	+1.7
MULG	Mulgathing	27.67	334	P	P	17 43 01.7	0.0
FORT	Forrest	28.92	324	P	P	17 43 12.3	-0.6
FORT	Forrest	28.92	324	P	P	17 43 12.2	-0.7
FORT				IAmb	IAmb	17 43 14.4	
	comp=Z,68nm,0.9s						
TW1H	Toowoomba 1 Ha	28.93	8	P	P	17 43 15.8	+2.8
INKA	Innaminka	28.95	348	P	P	17 43 14.2	+1.1
AUWSH	Wavell State H	29.17	10	P	P	17 43 17.8	+2.8
QLP	Quilpie	29.79	354	P	P	17 43 22.5	+1.9
KMBL	Kambalda	30.66	314	P	P	17 43 27.7	-0.6
EIDS	Eidsvold	31.02	6	P	P	17 43 33.7	+2.2
NWAO	Narrogin (SRO)	31.32	306	P	P	17 43 32.2	-1.8
	comp=Z,8.5nm,0.7s,baz=128,slow=6.2,SNR=5.6						
NWAO				LR	LR	17 53 09.2	
	comp=Z,1μm,20.6s,baz=137,slow=31						
	comp=Z,8.5nm,0.7s						
BLDU	Ballidu	33.51	307	P	P	17 43 53.6	+0.3
QSPA	South Pole Qui	33.80	180	P	P	17 43 56.1	+0.4
QSPA				IAmb	IAmb	17 44 00.5	
	comp=Z,28nm,1.1s						
QSPA	South Pole Qui	33.80	180	P	P	17 43 56.8	+1.1
	comp=Z,14nm,0.9s,baz=353,slow=2.2,SNR=59						
QSPA				PcP	PcP	17 46 34.2	-0.1
	comp=Z,2.2nm,0.7s,baz=334,slow=14,SNR=1.4						
QSPA				LR	LR	17 57 52.3	
	comp=Z,1μm,18.1s,baz=13,slow=37						
	comp=Z,14nm,0.9s						
AS01	Alice Springs	34.07	338	P	P	17 43 58.1	-0.2
ASAR	Alice Springs	34.08	337	P	P	17 43 55.4	-3.0
ASAR				PcP	PcP	17 46 34.7	-0.9
ASAR	Alice Springs	34.08	337	P	P	17 43 58.0	-0.4
	comp=Z,33nm,1.1s,baz=164,slow=9.5,SNR=56						
ASAR				PcP	PcP	17 46 34.7	-0.9
	comp=Z,5.1nm,0.8s,baz=147,slow=2.6,SNR=9.8						
ASAR				ScP	ScP	17 50 20.6	+0.8
	comp=Z,2.5nm,1.1s,baz=164,slow=6.0,SNR=5.4						
ASAR				PKiKP	PKiKP	17 53 57.9	-1.6
	comp=Z,0.4nm,0.6s,baz=127,slow=1.1,SNR=9.3						
	comp=Z,33nm,1.1s						
AS31	Alice Springs	34.08	338	P	P	17 43 57.6	-0.7
AS31				PcP	PcP	17 46 34.8	-0.8
WRKA	Warakurna	34.20	328	P	P	17 43 59.2	-0.2
MORW	Morawa	35.13	308	P	P	17 44 07.0	-0.4
MORW	Morawa	35.13	308	P	P	17 44 05.9	-1.5
MORW				IAmb	IAmb	17 44 08.8	
	comp=Z,59nm,1.2s						
QIS	Mount Isa	36.17	348	P	P	17 44 16.5	+0.2
CTAO	Charters Tower	36.17	358	P	P	17 44 18.6	+2.2
CTAO	Charters Tower	36.17	358	P	P	17 44 17.2	+0.8
CTAO				IAmb	IAmb	17 44 20.0	
	comp=Z,40nm,1.1s						
CTAO	Charters Tower	36.17	358	P	P	17 44 17.2	+0.8
CTAO				pmax	pmax		
	comp=Z,40nm,1.1s						
RAO	Raoul Island	36.46	57	LR	LR	17 56 39.7	
	comp=Z,304nm,21.4s,baz=228,slow=32						
AUAYR	Ayr State High	36.67	360	P	P	17 44 23.5	+3.0
PINNC	Pines Island,	36.74	32	P	P	17 44 18.6	-2.5
DZM	Mont Dzumac	36.97	30	eP	P	17 44 26.6	+3.4
	comp=Z,55nm,1.5s						
DZM				eS	S	17 50 12.3	+4.3
	comp=Z,180nm,24.6s						
DZM				eLR	LR	17 54 24.7	
	comp=Z,2μm,26.8s						
WR0	Warramunga Arr	37.55	340	P	P	17 44 27.3	-0.8
WR0				IAmb	IAmb	17 44 30.3	
	comp=Z,77nm,1.1s						
WB2	Warramunga Arr	37.61	340	P	P	17 44 27.4	-1.1
WRA	Warramunga Arr	37.61	340	P	P	17 44 27.5	-1.1
WRA				PcP	PcP	17 46 44.3	-1.8
WRA	Warramunga Arr	37.61	340	P	P	17 44 27.9	-0.7
	comp=Z,54nm,1.0s,baz=167,slow=7.4,SNR=75						
WRA				PcP	PcP	17 46 45.1	-0.9
	comp=Z,5.3nm,0.7s,baz=171,slow=2.7,SNR=8.8						
WRA				ScP	ScP	17 50 36.0	+3.4
	comp=Z,1.1nm,0.9s,baz=174,slow=3.2,SNR=4.9						
WRA				LR	LR	17 59 55.6	
	comp=Z,200nm,19.0s,baz=170,slow=36						
	comp=Z,54nm,1.0s						
WRAB	Tennant Creek	37.62

KNRA	Kununurra	42.98 333	P	P	17 45 11.9	-1.1
KDU	Kakadu	45.04 339	P	P	17 45 29.8	+0.3
MTN	Manton Dam	45.16 337	P	P	17 45 31.3	+0.8
MTN	Manton Dam	45.16 337	P	P	17 45 30.3	-0.3
MTN			IAmb	IAmb	17 45 33.0	
	comp=Z,56nm,1.0s					
DRS	Darwin Rock St	45.61 337	P	P	17 45 35.9	+1.8
BELA	Belgrano 2	46.07 179	P	P	17 45 37.9	+0.8
ELIB	Princess Elisa	46.25 201	dP	P	17 45 39.2	+0.5
	comp=Z,8.9nm,1.0s					
ELIB			dPcP	PcP	17 47 13.2	-0.7
ELIB			dScP	ScP	17 51 06.8	+0.4
PMG	Port Moresby	46.78 360	LR	LR	18 04 11.5	
	comp=Z,978nm,18.1s,baz=184,slow=35					
HNR	Honiara	47.78 17	P	P	17 45 48.4	-2.7
HNR	Honiara	47.78 17	LR	LR	18 01 16.6	
	comp=Z,3µm,21.4s,baz=226,slow=30					
HNR	Honiara	47.78 17	P	P	17 45 48.4	-2.7
HNR			pmax	pmax		
	comp=Z,220nm,1.2s					
NVL	N'lazarevskaya	49.35 198	eP	P	17 46 03.3	+0.7
NVL			eS	S	17 53 09.6	+1.4
NVL			pmax	pmax		
	comp=Z,14nm,0.7s					
NVL			MLR	MLR		
	comp=Z,2µm,17.0s					
TROLL	Troll, Antarti	49.65 194	⇑P	P	17 46 05.3	+0.2
	comp=Z,562nm,0.6s					
SOEI	Soe	49.84 330	P	P	17 46 09.1	+2.0
SOEI	Soe	49.84 330	P	P	17 46 06.5	-0.6
SNAA	Sanae	50.62 192	P	P	17 46 12.7	+0.4
SNAA	Sanae	50.62 192	⇑P	P	17 46 12.7	+0.4
	comp=Z,110nm,0.6s					
SNAA	Sanae	50.62 192	P	P	17 46 12.9	+0.7
	comp=Z,4.9nm,0.5s,baz=191,slow=8.9,SNR=102					
SNAA			LR	LR	18 07 28.4	
	comp=Z,1µm,18.8s,baz=176,slow=36					
	comp=Z,4.9nm,0.5s					
TABU	Tabubil	51.13 352	P	P	17 46 19.3	+2.5
MMRI	Maumere	51.50 327	P	P	17 46 20.2	+0.7
MMRI	Maumere	51.50 327	P	P	17 46 17.0	-2.5
MMRI			PcP	PcP	17 47 32.5	-1.1
EDFI	Ende, Flores	51.56 327	P	P	17 46 19.0	-1.0
	comp=Z,21nm,1.1s					
VNA3	Neumayer Olymp	51.72 189	⇑P	P	17 46 20.4	-0.1
	comp=Z,7.0nm,0.7s					
VNA2	Neumayer--Watz	51.81 190	⇑P	P	17 46 21.3	+0.1
	comp=Z,4.9nm,0.5s,baz=166,slow=7.9					
VNA1	Neumayer--Stat	52.16 190	⇑P	P	17 46 23.8	+0.1
	comp=Z,10nm,0.6s					
SMAI	San Martin Ant	53.29 165	P	P	17 46 33.1	+1.0
SMAI			IAmb	IAmb	17 46 40.4	
	comp=Z,32nm,1.3s					
GENI	Genyem	53.87 351	P	P	17 46 39.3	+2.3
FAKI	Fak Fak	54.61 341	P	P	17 46 43.4	+1.1
FAKI	Fak Fak	54.61 341	P	P	17 46 42.9	+0.5
FAKI	Fak Fak	54.61 341	P	P	17 46 43.3	+1.0
H04S1	CROZET ISLANDS	55.46 236	T	T	18 47 27.5	
	baz=140,slow=75,SNR=19					
H04S2	CROZET ISLANDS	55.46 236	T	T	18 47 26.4	
	baz=140,slow=75,SNR=18					
H04S3	CROZET ISLANDS	55.48 236	T	T	18 47 22.6	
	baz=140,slow=75,SNR=24					
KAPI	Kappang	55.68 326	P	P	17 46 50.9	+0.8
KAPI	Kappang	55.68 326	P	P	17 46 50.3	+0.1
KAPI	Kappang	55.68 326	P	P	17 46 50.2	+0.1
	comp=Z,46nm,1.1s,baz=215,slow=8.0,SNR=5.9					
KAPI			LR	LR	18 10 19.0	
	comp=Z,148nm,19.4s,baz=158,slow=36					
	comp=Z,46nm,1.1s					
KAPI	Kappang	55.68 326	i P	P	17 46 49.8	-0.3
KAPI			pmax	pmax		
	comp=Z,69nm,1.1s					
TBI	Tubuai	56.02 81	eLR	LR	18 03 13.4	
	comp=Z,3µm,30.8s					
SANI	Sanana	56.78 334	P	P	17 46 59.1	+1.2
PMSA	Palmer Station	56.87 165	LR	LR	18 09 31.5	
	comp=Z,144nm,18.6s,baz=218,slow=34					
TNTI	Ternate	59.18 336	P	P	17 47 14.5	-0.3
TNTI	Ternate	59.18 336	P	P	17 47 12.8	-2.0
TNTI			IAmb	IAmb	17 47 24.2	
	comp=Z,20nm,1.2s					
TNTI	Ternate	59.18 336	P	P	17 47 14.9	+0.1
	comp=Z,16nm,1.4s					
GTOI	Gorontalo	60.11 332	P	P	17 47 21.8	+0.6
KASI	Kota Agung	60.95 309	P	P	17 47 26.7	-0.2
	comp=Z,49nm,1.1s					
TOLI2	Tolitoli	61.18 329	P	P	17 47 28.3	-0.2
TOLI2	Tolitoli	61.18 329	P	P	17 47 27.3	-1.2
SBUM	Sibu	65.19 321	P	P	17 47 55.2	+0.1
DAV	Davao City (W)	65.68 336	LR	LR	18 18 31.6	
	comp=Z,86nm,18.0s,baz=138,slow=38					
GUMO	Guam	69.66 357	LR	LR	18 19 16.0	
	comp=Z,64nm,18.5s,baz=176,slow=36					
GSI	Gunungsitoli	70.09 306	P	P	17 48 27.1	+1.0
GSI	Gunungsitoli	70.09 306	P	P	17 48 26.1	+0.1
GSI			IAmb	IAmb	17 48 33.6	
	comp=Z,37nm,1.0s					
GSI	Gunungsitoli	70.09 306	P	P	17 48 26.0	-0.1
	comp=Z,40nm,1.2s					
IPM	Ipoh	71.41 310	P	P	17 48 34.0	-0.1
KULM	Kulim	72.30 310	P	P	17 48 39.0	-0.4
RPN	Rapa Nui	74.76 116	LR	LR	18 14 50.0	
	comp=Z,163nm,18.2s,baz=260,slow=30					
H08S2	Diego Garcia H	75.33 278	T	T	19 11 24.2	
	baz=146,slow=76,SNR=37					
H08S1	Diego Garcia H	75.34 278	T	T	19 11 21.7	
	baz=146,slow=76,SNR=33					
H08S3	Diego Garcia H	75.35 278	T	T	19 11 25.7	
	baz=146,slow=76,SNR=51					
PLCA	Paso Flores	78.12 151	P	P	17 49 13.8	+1.1
	comp=Z,2.8nm,0.8s,baz=213,slow=6.1,SNR=8.7					
	comp=Z,2.8nm,0.8s					
UBPT	Khong Chiam	79.48 319	P	P	17 49 21.0	+0.7
UBPT	Khong Chiam	79.48 319	P	P	17 49 20.6	+0.3
UBPT			IAmb	IAmb	17 49 23.9	
	comp=Z,44nm,1.2s					
SUR	Sutherland	80.72 223	LR	LR	18 18 24.1	
	comp=Z,164nm,20.2s,baz=152,slow=31					
SRDT	SRDT	81.10 313	P	P	17 49 30.4	+1.4
QIZ	Qiongzhong	81.45 324	P	P	17 49 31.9	+1.1
QIZ			S	SKSac	17 59 44.6	-5.0
QIZ			LR	LR		
	comp=Z,170nm,17.4s					
QIZ			LR	LR		
	comp=Z,210nm,18.9s					
H03S2	Juan Fernandez	81.95 143	T	T	19 20 45.3	
	baz=202,slow=74,SNR=18					
H03S1	Juan Fernandez	81.95 143	T	T	19 20 47.8	
	baz=202,slow=74,SNR=18					
H03S3	Juan Fernandez	81.97 143	T	T	19 20 46.6	
	baz=202,slow=74,SNR=16					
BOSA	Boshof	82.26 229	P	P	17 49 35.1	-0.2
	comp=Z,4.9nm,0.8s,baz=153,slow=5.0,SNR=9.3					
BOSA			LR	LR	18 22 35.5	
	comp=Z,74nm,18.2s,baz=166,slow=33					
	comp=Z,4.9nm,0.8s					
JCJ	Chichijima	83.19 355	LR	LR	18 25 44.3	
	comp=Z,65nm,20.1s,baz=119,slow=35					
PALK	Pallekele	83.45 293	LR	LR	18 20 35.9	
	comp=Z,112nm,20.3s,baz=261,slow=31					
PALK	Pallekele	83.45 293	i P	P	17 49 42.3	+0.8
PALK			pmax	pmax		
	comp=Z,20nm,1.1s					
CM31	Chiang Mai Arr	84.88 314	P	P	17 49 48.2	-0.3
CM31			IAmb	IAmb	17 49 51.9	
	comp=Z,26nm,1.2s					
CMAR	Chiang Mai Arr	84.88 314	P	P	17 49 47.6	-0.9
CMAR	Chiang Mai Arr	84.88 314	P	P	17 49 47.6	-0.9
CHTO	Chiang Mai	85.20 315	P	P	17 49 50.4	+0.3
CHTO			IAmb	IAmb	17 49 53.5	
	comp=Z,26nm,1.2s					
CHTO	Chiang Mai	85.20 315	P	P	17 49 50.4	+0.3
CHTO			pmax	pmax		
	comp=Z,26nm,1.2s					
CRAI	Chiangrai	85.92 316	IAmb	IAmb	17 49 56.6	
	comp=Z,32nm,1.4s					
CO01	Juntas del Tor	88.32 148	P	P	17 50 05.9	+0.1
CO01			IAmb	IAmb	17 50 14.7	
	comp=Z,14nm,1.1s					
JHJ	Hachijo jima 2	89.31 354	LR	LR	18 26 17.9	
	comp=Z,132nm,21.6s,baz=116,slow=33					
GYA	Guiyang	89.40 324	⇑P	P	17 50 11.6	+1.2
GYA			pmax	pmax		
	comp=Z,11nm,1.5s					
KMI	Kunming	89.51 320	⇑P	P	17 50 14.8	+3.7
KMI			pmax	pmax		
	comp=Z,15nm,1.3s					
KMI			LR	LR		
	comp=Z,210nm,18.2s					
JNU	Nakatsue	90.19 346	LR	LR	18 30 15.2	
	comp=Z,74nm,19.3s,baz=158,slow=35					
TNCH	TengChong	90.98 317	⇓P	P	17 50 20.0	+2.1
TNCH			pP	sP	17 50 23.2	+0.1
TNCH			pmax	pmax		
	comp=Z,13nm,1.4s					
TNCH			pmax	pmax		
	comp=Z,60nm,2.7s					
PZH	PanZhiHua	91.13 320	P	P	17 50 20.5	+2.0
PZH			pmax	pmax		
	comp=Z,10.0nm,0.9s					
PZH			pmax	pmax		
	comp=Z,60nm,4.6s					
NJ2	Nanjing	91.31 336	eP	P	17 50 20.8	+1.8
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.9s					
NJ2			pmax	pmax		
	comp=Z,430nm,5.0s					
INU	Inuyama	91.73 351	P	P	17 50 22.2	+1.4
LSZ	Lusaka	92.60 237	P	P	17 50 27.2	+1.5
LSZ			IAmb	IAmb	17 50 29.6	
	comp=Z,10nm,1.2s					
LSZ	Lusaka	92.60 237	P	P	17 50 27.2	+1.5
LSZ			pmax	pmax		
	comp=Z,10.0nm,1.2s					
MJAR	Matsushiro Arr	92.82 353	P	P	17 50 26.2	+0.3
	comp=Z,8.2nm,1.1s,baz=183,slow=5.7,SNR=14					
MJAR			LR	LR	18 32 56.1	
	comp=Z,57nm,18.5s,baz=176,slow=36					
	comp=Z,8.2nm,1.1s					
MAJO	Matsushiro	92.82 353	P	P	17 50 27.2	+1.3
MAJO	Matsushiro	92.82 353	P	P	17 50 27.4	+1.5
MAJO			IAmb	IAmb	17 50 29.7	
	comp=Z,15nm,1.2s					
MAJO	Matsushiro	92.82 353	i P	P	17 50 24.5	-1.4
MAJO			pmax	pmax		
	comp=Z,16nm,1.3s					
MJB9	Matsu-Tunnel	92.82 353	IAmb	IAmb	17 50 29.7	
	comp=Z,15nm,1.2s					
TSUM	Tsumeb	93.79 227	LR	LR	18 25 38.0	
	comp=Z,96nm,21.6s,baz=149,slow=31					
CD2	Chengdu	94.47 323	P	P	17 50 34.1	+0.4
CD2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
KSRS	Korea Array	94.86 345	P	P	17 50 36.2	+1.0
	comp=Z,1.5nm,1.0s,baz=172,slow=4.2,SNR=3.2					
KSRS			PP	PP	17 54 23.8	-1.0
	comp=Z,2.1nm,1.0s,baz=179,slow=9.4,SNR=5.1					
KSRS			LR	LR	18 33 14.5	
	comp=Z,58nm,19.1s,baz=195,slow=36					
	comp=Z,1.5nm,1.0s					
CPUP	Villa Florida	95.04 158	P	P	17 50 37.0	+0.3
	comp=Z,1.2nm,0.8s,baz=217,slow=4.6,SNR=4.2					
	comp=Z,1.2nm,0.8s					
CPUP	Villa Florida	95.04 158	P	P	17 50 37.0	+0.3
HNS	HongShan	97.40 334	eP	Pdif	17 50 49.0	+2.2
HNS			LR	LR		
	comp=Z,230nm,17.5s					
HNS			LR	LR		
	comp=Z,200nm,15.1s					
HHC	Hu-ho-hao-te	101.44 333	eP	Pdif	17 51 06.4	+1.5
PETK	Petropavlovsk-	109.38 7	PKiKP	PKiKP	17 55 41.9	-1.0
	comp=Z,0.5nm,0.6s,baz=160,slow=3.5,SNR=1.7					
WMQ	Urumqi	111.69 318	ePKP	PKiKP	17 55 48.9	+1.2
MK31	Makanchi Array	116.25 316	i PKiKP	PKPdf	17 55 55.0	-1.3
MKAR	Makanchi Array	116.25 316	PKP	PKPdf	17 55 55.1	-1.2
	comp=Z,1.5nm,0.5s,baz=214,slow=2.2,SNR=34					
KKAR	Karatay Array	118.22 306	PKPdf	PKPdf	17 55 59.3	-0.9
KKAR	Karatay Array	118.22 306	PKiKP	PKPdf	17 55 59.3	-0.9
KURBB	Kurchatov Arra	120.81 316	PKP	PKPdf	17 56 03.9	-1.0
	comp=Z,1.4nm,0.5s,baz=145,slow=1.4,SNR=16					
KURBB			PP	PP	17 57 34.5	+0.1
	comp=Z,0.9nm,1.0s,baz=148,slow=6.5,SNR=6.4					
KURBB			PKKPbc	PKKPbc	18 06 08.2	-0.1
	comp=Z,0.4nm,0.7s,baz=314,slow=4.8,SNR=5.7					
KURK	Kurchatov	120.86 316	PKPdf	PKPdf	17 56 04.0	-1.0
KURK	Kurchatov	120.86 316	i PKiKP	PKPdf	17 56 04.1	-0.9
ZALV	Zalesovo Beam	121.21 322	PKP	PKPdf	17 56 03.6	-1.9
	comp=Z,1.0nm,0.6s,baz=203,slow=0.7,SNR=5.9					
ZALV			PP	PP	17 57 37.2	+0.2
	comp=Z,1.1nm,0.8s,baz=130,slow=2.3,SNR=4.4					
NVAR	Mina Array Bea	123.13 69	PKP	PKiKP	17 56 10.7	+0.4
	comp=Z,1.1nm,0.9s,baz=202,slow=3.2,SNR=6.5					
TXAR	Lajitas Array	124.22 87	PKP	PKPdf	17 56 12.2	-0.1
	comp=Z,1.0nm,0.8s,baz=198,slow=3.5,SNR=11					
TXAR			PKKPbc	PKKPab	18 05 56.0	+0.3
	comp=Z,0.6nm,0.7s,baz=70,slow=3.3,SNR=7.0					
BILL	Bilibino	124.81 9	ePKiKP	PKPdf	17 56 11.9	-0.1
BILL			e		17 57 57.5	
BILL			pmax	pmax		
	comp=Z,8.0nm,1.4s					
BILL			MLR	MLR		
	comp=Z,39nm,17.0s					
SPR3	Spring Creek 3	125.63 72	PKPdf	PKiKP	17 56 15.8	+0.5
DBIC	Dimbokro	125.87 215	PKP	PKPdf	17 56 14.5	-1.3
	comp=Z,6.0nm,0.8s,baz=153,slow=2.7,SNR=5.1					
BVAR	Borovoye Array	125.89 313	PKP	PKPdf	17 56 14.3	-0.3
	comp=Z,3.0nm,0.6s,baz=158,slow=1.5,SNR=13					
K17K	Iditarod	125.94 28	PKPdf	PKiKP	17 56 15.3	+0.6
BRVK	Borovoye	125.96 313	i PKiKP	PKPdf	17 56 13.2	-1.5
L19K	White Mountain	126.41 30	PKPdf	PKiKP	17 56 16.2	+0.4
ANMO	Albuquerque	126.91 81	i PKiKP	PKPdf	17 56 15.4	-2.0
TIXI	Tiksi	128.33 353	i PKiKP	PKPdf	17 56 17.5	-1.1
ABTX	Abilene, Hawle	128.95 88	PKPdf	PKiKP	17 56 21.8	0.0
PLID	Pearl Lake	129.14 65	PKPdf	PKiKP	17 56 22.4	+0.4
TORD	Torodi Ar. Bea	129.52 225	PKP	PKPdf	17 56 21.6	-1.1
	comp=Z,3.1nm,0.9s,baz=81,slow=0.7,SNR=9.2					
ILAR	Eielson Array	130.68 31	PKP	PKPdf	17 56 21.9	-1.5
	comp=Z,1.7nm,0.9s,baz=285,slow=3.1,SNR=12					
PDAR	Pinedale Array	130.85 72	PKP	PKPdf	17 56 24.2	-0.5
	comp=Z,0.5nm,0.7s,baz=162,slow=1.4,SNR=4.6					
BCAR	Beaver Creek A	130.97 35	PKPdf	PKPdf	17 56 23.9	-0.1
WMOK	Wichita Mounta	131.00 87	PKPdf	PKiKP	17 56 25.5	-0.4
WMOK	Wichita Mounta	131.00 87	PKiKP	PKiKP	17 56 25.5	-0.4
KBZ	Khabaz	132.32 288	PKP	PKPdf	17 56 27.3	+0.3
	comp=Z,3.5nm,0.8s,baz=191,slow=1.4,SNR=6.1					
KBZ			PP	PP	17 58 48.4	-2.4
	comp=Z,2.0nm,0.9s,baz=42,slow=7.9,SNR=4.0					
KBZ	Khabaz	132.32 288	i PKiKP	PKPdf	17 56 25.5	-1.6
SHA1	Shidzhatmaz	132.46 288	i PKiKP	PKPdf	17 56 26.7	-1.0
KIV	Kislovodsk	132.59 288	i PKiKP	PKPdf	17 56 26.4	-1.3
KIV			pmax	pmax		
	comp=Z,7.0nm,1.0s					
NRIK	Noril'sk	132.61 335	PKP	PKPdf	17 56 26.5	-0.4
	comp=Z,4.1nm,0.7s,baz=129,slow=4.7,SNR=4.5					
NRIK	Noril'sk	132.61 335	i PKiKP	PKPdf	17 56 26.6	-0.2
ARU	Arti	133.18 310	i PKiKP	PKPdf	17 56 28.0	-0.3
ARU					17 58 54.7	
ARU			SS	SS	18 16 36.9	-1.9
VSLR	Vesyoloye	133.67 286	i PKiKP	PKPdf	17 56 27.5	-2.2
BR131	Keskin Array S	134.58 278	i PKiKP	PKPdf	17 56 30.7	-1.0
BRTR	Keskin Array B	134.58 278	PKPdf	PKPdf	17 56 31.7	0.0
BRTR	Keskin Array B	134.58 278	PKP	PKPdf	17 56 30.4	-1.3
	comp=Z,1.1nm,0.7s,baz=163,slow=4.5,SNR=8.1					
BRTR	Keskin Array B	134.58 278	PKiKP	PKPdf	17 56 31.7	0.0
U38A	Gravette	134.69 89	PKPdf	PKPdf	17 56 31.5	-0.3
RSSD	Black Hills	134.72 74	PKPdf	PKPdf	17 56 31.4	-0.5
RSSD	Black Hills	134.72 74	PKiKP	PKPdf	17 56 31.4	-0.5
BELG	Belogornoye	135.59 300	i PKiKP	PKPdf	17 56 32.6	-0.3
KIRV	Kirov	138.42 309	i PKiKP	PKPdf	17 56 38.1	+0.2
YKA	Yellowknife Ar	140.46 46	PKhKP	PKPpre	17 56 34.8	
	comp=Z,0.7nm,0.6s,baz=240,slow=3.5,SNR=6.0					
WCI	Wyandotte Cave	140.48 94		PKPpre	17 56 34.9	
WCI	Wyandotte Cave	140.48 94	PKHKP	PKPpre	17 56 34.9	
A36M	Sachs Harbour	141.35 30		PKPpre	17 56 37.6	
MOS	Moscow	142.33 299	i PKiKP	PKPpre	17 56 42.0	
VRI	Vrincioaia	142.45 280	⇑P	PKPpre	17 56 40.2	
VRI	Vrincioaia	142.45 280	⇑PKHKP	PKPpre	17 56 40.2	
OBN	Obninsk	142.53 298	⇑ePKiKP	PKPpre	17 56 42.9	
OBN			e		17 59 49.9	
OBN			pmax	pmax		
	comp=Z,15nm,0.8s					
MLR	Muntele Rosu	142.65 279	⇓P	PKPpre	17 56 41.1	
MLR	Muntele Rosu	142.65 279	⇓PKHKP	PKPpre	17 56 41.1	
ULM	Lac du Bonnet	142.88 72		PKPpre	17 56 41.9	
ULM	Lac du Bonnet	142.88 72	PKhKP	PKPpre	17 56 41.4	
	comp=Z,5.9nm,0.8s,baz=231,slow=2.1,SNR=6.4					
ULM	Lac du Bonnet	142.88 72	PKiKP	PKPpre	17 56 41.9	
SORM	Soroca	142.93 284	⇓P	PKPpre	17 56 42.4	
SORM	Soroca	142.93 284	⇓PKiKP	PKPpre	17 56 42.4	
ARR	Arges	143.29 278	⇑P	PKPdf	17 56 46.6	-0.8
KLMR	Klimovskoe	143.89 308	ePKiKP	PKPab	17 56 43.9	-1.1
KLMR			pmax	pmax		
	comp=Z,27nm,1.4s					
EYMN	Ely	143.91 78		PKPpre	17 56 45.7	
AKASG	Malin Array Be	143.93 288	PKhKP	PKPpre	17 56 44.9	
	comp=Z,6.0nm,0.6s,baz=90,slow=3.0,SNR=8.5					
AKBB	Malin Array Si	143.93 288	i PKiKP	PKPab	17 56 44.6	-0.8
KIEV	Kiev	143.94 288	⇓P	PKPab	17 56 45.2	-0.3
KIEV	Kiev	143.94 288		PKPpre	17 56 44.7	
KIEV	Kiev	143.94 288	PKiKP	PKPab	17 56 44.7	-0.7
HERR	Herculane	144.22 275	⇑P	PKPab	17 56 46.4	-0.3
BURAR	Bucovina Array	144.33 281	⇓P	PKPbc	17 56 48.0	+0.4
BURAR	Bucovina Array	144.33 281	PKPdf	PKPbc	17 56 47.5	0.0
GZR	Gura Zlata	144.34 276	⇑P	PKPab	17 56 46.8	-0.4
GZR	Gura Zlata	144.34 276	⇑PKHKP	PKPpre	17 56 46.8	
ARCR	ARCALIA	144.49 280	⇑P	PKPbc	17 56 48.1	+0.2
MDVR	Moldovita	144.55 275	⇑P	PKPab	17 56 47.7	-0.4
SJES	Sjenica	144.55 271	⇑i P	PKPab	17 56 47.4	-0.8
DEV	Deva	144.57 277	⇑P	PKPab	17 56 48.0	0.0
DEV	Deva	144.57 277	⇑PKiKP	PKPab	17 56 48.0	0.0
MATE	Matera	144.63 265	⇓P	PKPab	17 56 48.1	-0.3
CJR	Cluj-Napoca	144.69 279	⇑P	PKPab	17 56 48.4	-0.1
CJR	Cluj-Napoca	144.69 279	⇑PKiKP	PKPab	17 56 48.4	-0.1
HCY	Herceg Novi	144.84 269	⇑i P	PKPab	17 56 48.5	-0.6
SURR	Surduc	144.92 276	⇑P	PKPab	17 56 48.6	-0.6
MARR	Marisel-Cluj	144.93 278	⇑P	PKPab	17 56 48.8	-0.7
TREB	Trebinje	145.10 269	⇑i P	PKPbc	17 56 48.9	-1.1
KEST	Kesra	145.10 252	PKPbc	PKPdf	17 56 51.2	+0.4
	comp=Z,53nm,0.9s,baz=223,slow=1.2,SNR=40					
BRY	Bratogost	145.12 269	⇑i P	PKPbc	17 56 49.3	-0.9
RUDO	Rudo	145.12 271	⇑i P	PKPbc	17 56 48.4	-1.6
BZS	Buzias	145.12 276	⇓P	PKPbc	17 56 48.9	-1.0
BZS	Buzias	145.12 276	⇓PKiKP	PKPbc	17 56 48.9	-1.0
DRGR		145.22 278	⇑P	PKPbc	17 56 49.9	-0.5
DRGR		145.22 278	⇑PKiKP	PKPbc	17 56 49.9	-0.5
BBLS	Lazi&#263i	145.25 272	⇓i P	PKPbc	17 56 49.9	-0.7
BMR	Baia Mare	145.31 280	⇓P	PKPbc	17 56 50.5	0.0
BMR	Baia Mare	145.31 280	⇓PKiKP	PKPbc	17 56 50.5	0.0
SIRR	Siria	145.49 277	⇑P	PKPdf	17 56 50.7	-0.3
STON	Ston	145.56 269	⇓i P	PKPdf	17 56 50.1	-1.1
TEKS	Tekeris	145.62 273	⇓i P	PKPdf	17 56 50.4	-0.9
HAPS	Han Pijesak,Bl	145.65 271	⇓i P	PKPdf	17 56 51.5	0.0
ADZR	Andozero	145.65 312	ePKiKP	PKPdf	17 56 49.7	-1.0
ADZR			pmax	pmax		
	comp=Z,56nm,1.3s					
FRGS	Fruska Gora	145.84 274	⇓P	PKPbc	17 56 52.0	-0.3
FRGS	Fruska Gora	145.84 274	⇓i P	PKPdf	17 56 51.3	-0.4
LVV	L'vov	146.23 283	ePKP2	PKPdf	17 56 52.6	+0.4
MNK	Minsk	146.59 293	ePKP2	PKPdf	17 56 53.3	+0.7
KOLS	Kolonicke sedl	146.70 281	ePKP2	PKPbc	17 56 54.6	-0.1
KOLS	Kolonicke sedl	146.70 281	ePKP	PKPbc	17 56 54.6	-0.1
KWP	Kalwaria Pacla	146.85 282	ePKP	PKPab	17 56 56.0	-0.5
BLY	Banja Luka	147.05 271	⇑i P	PKPbc	17 56 54.9	-0.9
CRVS	Cervenica-Dubn	147.13 280	ePKP2	PKPbc	17 56 55.6	-0.3
CRVS	Cervenica-Dubn	147.13 280	ePKP	PKPbc	17 56 55.6	-0.3
MORH	Mrgy, Hungar	147.13 274	⇑P	PKPbc	17 56 55.6	-0.4
A050A	Klekovaca	147.25 270	⇓i P	PKPdf	17 56 55.2	+1.0
PSZ	Piszkesteto	147.44 278	⇑P	PKPbc	17 56 57.0	+0.1
PSZ	Piszkesteto	147.44 278	⇑PKP2	PKPbc	17 56 57.0	+0.1
STHS	Stebnicka Huta	147.53 281	ePKP2	PKPdf	17 56 55.5	+1.1
STHS	Stebnicka Huta	147.53 281	ePKP	PKPdf	17 56 55.5	+1.1
FCC	Fort Churchill	147.90 60		PKPab	17 57 02.6	+2.3
FCC	Fort Churchill	147.90 60	PKP2	PKPab	17 57 02.6	+2.3
NIE	Niedzica	148.05 280	ePKP	PKPab	17 57 00.9	-0.4
LVZ	Lovozero	148.23 318	⇓PKP2	PKPbc	17 56 58.1	-0.3
SRO	Srobarova	148.25 276	ePKP2	PKPbc	17 56 59.0	0.0
SRO	Srobarova	148.25 276	ePKP	PKPbc	17 56 59.0	0.0
LANS	Liptovska Anna	148.36 279	ePKP2	PKPbc	17 56 59.3	0.0
LANS	Liptovska Anna	148.36 279	ePKP	PKPbc	17 56 59.2	0.0
BOJS	Bojanci	148.59 270	i PKPbc	PKPbc	17 56 59.5	-0.4
BOJS	Bojanci	148.59 270	eP	PKPbc	17 56 58.8	-1.1
CRES	Cresnjev	148.67 271	eP	PKPbc	17 56 58.3	-1.9
OJC	Ojcow	148.75 281	ePKP	PKPbc	17 56 59.8	-0.4
SUW	Suwalki	148.80 290	ePKP	PKPbc	17 56 59.5	-0.7
PDKS	Podkum	149.07 271	i PKPbc	PKPbc	17 57 00.6	-0.6
MODS	Modra-Piesok	149.14 277	ePKP2	PKPbc	17 57 00.8	-0.5
MODS	Modra-Piesok	149.14 277	ePKP	PKPbc	17 57 00.8	-0.5
JAVC	Velka Javorina	149.19 278	ePKP	PKPbc	17 57 01.8	+0.4
CEY	Cerknica	149.19 270	⇑i P	PKPbc	17 56 59.7	-1.8
RONA	Rosalia, Austr	149.30 275	epPKP	PKPbc	17 57 00.9	-0.8
	comp=Z,10nm,0.7s,SNR=12					
M

comp=Z,7.7nm,0.8s
BRG Berggiesshubel 152.30 279 P **PKPab 17 57 18.7 0.0**
BRG Amp 17 57 19.1
comp=Z,7.0nm,0.8s
BRG Amp 18 14 25.0
comp=N,0.1nm,22.5s
BRG Amp 18 14 31.0
comp=Z,0.2nm,20.8s
BRG Amp 18 14 37.0
comp=E,0.1nm,20.8s
BRG Berggiesshubel 152.30 279 *i* PKIKP **PKPbc 17 57 08.4 -0.2**
BRG 17 57 18.7
BRG pmax pmax
comp=Z,8.0nm,0.8s
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG MLR MLR
comp=N,127nm,22.5s
BRG MLR MLR
comp=Z,169nm,20.8s
BRG MLR MLR
comp=E,112nm,20.8s
HAMF Hammerfest 152.38 323 *e*PKPbc **PKiKP 17 57 08.3 -0.1**
HSKC Hora Svate Kat 152.45 278⇑ *e*PKP **PKPbc 17 57 08.6 -0.4**
KTK1 Kautokeino 152.55 320 *e*pPKPdf **PKPbc 17 57 09.7 -0.7**
KTK1 IAmb IAmb 17 57 08.3
comp=Z,11nm,0.5s
SPA0 Spitsbergen Ar 152.62 340 *e*PKPbc **PKPbc 17 57 08.6 0.0**
SPA0 IAmb IAmb 17 57 10.1
comp=Z,62nm,1.1s
SPITS Spitsbergen Ar 152.62 340 PKPbc **PKPbc 17 57 08.6 0.0**
comp=Z,18nm,0.7s,baz=83,slow=6.8,SNR=17
DAVA Damuels 152.64 269 *i* PKP **PKPbc 17 57 09.3 -0.4**
comp=Z,10nm,0.6s
CLL Collm 153.03 279 *e*PKPdf **PKPdf 17 57 04.0 +1.1**
CLL ⇓ *i* PKPbc **sPKPdf 17 57 09.4 +1.2**
comp=Z,14nm,0.8s
CLL *i* PKPab **PKPab 17 57 21.6 -0.2**
comp=Z,14nm,1.1s
CLL AMS AMS 19 14 00.0
comp=Z,100nm,20.6s
GRFO Grafenberg 153.21 274 **PKiKP 17 57 12.6 +1.8**
GRFO Grafenberg 153.21 274 PKIKP **PKiKP 17 57 12.6 +1.8**
BFO Black Forest 154.09 270 **PKPbc 17 57 11.8 -0.9**
BFO PKPab **PKPab 17 57 25.7 -0.8**
BFO Black Forest 154.09 270 PKP2 **PKPab 17 57 25.7 -0.8**
ESDC Sonseca Array 154.90 241 PKPdf **PKPdf 17 57 07.4 +1.3**
ESDC Sonseca Array 154.90 241 PKP **PKPdf 17 57 05.9 -0.1**
comp=Z,1.2nm,1.0s,baz=135,slow=1.0,SNR=7.5
ESDC PKPbc **PKPbc 17 57 14.3 -0.4**
comp=Z,3.1nm,0.8s,baz=103,slow=0.6,SNR=19
ESDC PKPab **PKPab 17 57 29.9 -0.2**
comp=Z,3.9nm,1.0s,baz=151,slow=3.7,SNR=8.1
STEI Steigen 155.53 317 *e*PKPab **PKPab 17 57 31.0 -1.0**
STEI IAmb IAmb 17 57 33.4
comp=Z,24nm,1.0s
FAUS Fauske 155.55 316 *e*PKPab **PKPab 17 57 31.5 -0.5**
HFS Hagfors 155.74 298 PKPab **PKPab 17 57 31.3 -1.8**
comp=Z,5.3nm,0.8s,baz=116,slow=6.8,SNR=7.2
MOR8 Moi Rana 155.93 313 *e*PKPab **PKPab 17 57 32.4 -1.4**
WLF Walferdange 156.02 270 *d*PKP **PKPab 17 57 34.6 0.0**
BHOU Houvegnez 156.45 272 *d*PKP **PKPab 17 57 36.5 +0.1**
BTNL Ternell 156.49 272 *d*PKP **PKPab 17 57 37.8 +1.2**
RCHB Rochefort 156.78 271 *d*PKP **PKPab 17 57 37.4 -0.4**
BCLA Clavier 156.87 271 *d*PKP **PKPab 17 57 37.6 -0.6**
NC602 NORSAR Array S 156.89 299 *e*PKPab **PKPab 17 57 37.8 -0.3**
BGES Gesves 156.97 271 *d*PKP **PKPab 17 57 38.2 -0.5**
NB2 NORSAR Subarra157.09 300 P **PKPab 17 57 37.5 -1.5**
comp=Z,2.0nm,0.7s,baz=97,slow=4.4
NOA NORSAR Array B 157.09 300 PKPab **PKPab 17 57 37.8 -1.2**
comp=Z,3.5nm,0.8s,baz=96,slow=4.7,SNR=15
DOU Dourbes 157.10 270 *d*PKP **PKPab 17 57 38.8 -0.5**
BMRD Maredsous 157.11 271 *d*PKP **PKPab 17 57 38.7 -0.6**
SCHQ Schefferville 160.68 80 PKPab **PKPab 17 57 54.5 -0.2**
SCHQ Schefferville 160.68 80 PKPab **PKPab 17 57 53.6 -1.1**
comp=Z,6.9nm,0.8s,baz=303,slow=1.8,SNR=6.9
EKA Eskdalemuir Ar 163.50 279 PKPab **PKPab 17 58 05.5 -1.5**
comp=Z,1.6nm,0.8s,baz=123,slow=6.2,SNR=3.6

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*IDC **01** 18:03:03.1±1.9, 56°.24S×147°.41E, h0km, mb3.8/6, mbtmp3.9/6, MS3.6/5, Error ellipse: s-maj=175.3km s-min=18.4km az=81.0*
*NEIC **01** 18:03:04.2±2.3, 56°.2S±0°.1×147°.8E±0°.1, h10km±2km, mb4.4/11, Error ellipse: s-maj=22.0km s-min=12.1km az=169.0*
ISC 01 18:03:04.3±0.7, **56°.18S**±0°.10×**147°.7E**±0°.1, **h10**km, **n34**, σ1**s29/22, mb4.0**/9, **MS3.5**/5, **West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**6.65**	**80**	Pn		**Pn**	**18 04 40.7**	**-1.2**
TOO	**Toolangi**	**18.68**	**355**	P		**P**	**18 07 21.4**	**-0.9**
TOO				IAmb		IAmb	18 07 27.8	
comp=Z,11nm,0.9s								
CAN	**Canberra**	**20.89**	**3**	P		**P**	**18 07 46.8**	**+0.3**
CAN				IAmb		IAmb	18 07 55.9	
comp=Z,19nm,1.2s								
VNDA	**Vanda**	**22.00**	**172**			**P**	**18 07 56.9**	**-1.2**
VNDA				IAmb		IAmb	18 08 08.3	
comp=Z,20nm,1.5s								
VNDA	**Vanda**	**22.00**	**172**	P		**P**	**18 07 58.0**	**-0.1**
comp=Z,0.9nm,0.9s,baz=340,slow=14,SNR=2.6								
VNDA				LR		LR	18 15 08.4	
comp=Z,75nm,18.3s,baz=341,slow=33								
comp=Z,0.9nm,0.9s								
STKA	**Stephens Creek**	**24.67**	**348**	P		**P**	**18 08 27.3**	**+2.2**
STKA	**Stephens Creek**	**24.67**	**348**	P		**P**	**18 08 26.3**	**+1.2**
comp=Z,3.2nm,0.9s,baz=144,slow=7.7,SNR=5.0								
comp=Z,3.2nm,0.9s								
RTZ	**Ruatahuna**	**26.20**	**60**	P		**P**	**18 08 41.4**	**+2.5**
URZ	**Urewera**	**26.54**	**60**	LR		LR	18 18 31.3	
comp=Z,134nm,18.1s,baz=356,slow=35								
NWAO	**Narrogin (SRO)**	**31.36**	**305**	LR		LR	18 19 47.3	
comp=Z,105nm,18.3s,baz=87,slow=32								
QSPA	**South Pole Qui**	**33.92**	**180**	P		**P**	**18 09 49.1**	**+1.9**
QSPA				IAmb		IAmb	18 09 51.6	
comp=Z,6.2nm,1.2s								
QSPA	**South Pole Qui**	**33.92**	**180**	P		**P**	**18 09 47.8**	**+0.6**
comp=Z,3.1nm,1.1s,baz=297,slow=4.1,SNR=3.8								
comp=Z,3.1nm,1.1s								
ASAR	**Alice Springs**	**34.02**	**337**	P		**P**	**18 09 50.4**	**+2.1**
ASAR	**Alice Springs**	**34.02**	**337**	P		**P**	**18 09 48.8**	**+0.6**
comp=Z,1.5nm,0.9s,baz=164,slow=10,SNR=12								
ASAR				PcP		**PcP**	**18 12 25.4**	**-0.5**
comp=Z,0.7nm,0.9s,baz=162,slow=3.6,SNR=4.7								
comp=Z,1.5nm,0.9s								
AS31	**Alice Springs**	**34.02**	**337**	P		**P**	**18 09 49.7**	**+1.5**
DZM	**Mont Dzumac**	**36.79**	**30**	LR		LR	18 22 32.6	
comp=Z,105nm,18.5s,baz=216,slow=32								
WB2	**Warramunga Arr**	**37.54**	**339**	P		**P**	**18 10 17.6**	**-0.9**
WB2				IAmb		IAmb	18 10 49.8	
comp=Z,15nm,1.4s								
WRA	**Warramunga Arr**	**37.54**	**339**	P		**P**	**18 10 18.6**	**+0.2**
comp=Z,2.9nm,0.9s,baz=167,slow=7.3,SNR=11								
comp=Z,2.9nm,0.9s								
WB0	**Warramunga Arr**	**37.70**	**339**	P		**P**	**18 10 19.5**	**-0.3**
WB0				IAmb		IAmb	18 11 01.6	
comp=Z,14nm,1.4s								
MAW	**Mawson**	**38.26**	**218**	LR		LR	18 24 21.4	
comp=Z,109nm,18.4s,baz=87,slow=34								
MBWA	**Marble Bar**	**40.66**	**318**	P		**P**	**18 10 43.5**	**-1.1**
MBWA				IAmb		IAmb	18 11 15.5	
comp=Z,13nm,1.2s								
KNRA	**Kununurra**	**42.94**	**333**	P		**P**	**18 11 02.3**	**-0.8**
SNAA	**Sanae**	**50.76**	**192**	P		**P**	**18 12 03.4**	**-0.4**
comp=Z,1.7nm,1.1s,baz=248,slow=7.2,SNR=2.0								
comp=Z,1.7nm,1.1s								
H04S2	**CROZET ISLANDS**	**55.64**	**236**	T		T	19 13 19.5	
baz=139,slow=75,SNR=7.4								
H04S1	**CROZET ISLANDS**	**55.64**	**236**	T		T	19 13 18.5	
baz=139,slow=75,SNR=9.0								
H04S3	**CROZET ISLANDS**	**55.66**	**236**	T		T	19 13 16.1	
baz=139,slow=75,SNR=7.6								
H08S2	**Diego Garcia H**	**75.45**	**278**	T		T	19 37 09.8	
baz=147,slow=76,SNR=16								
H08S1	**Diego Carcia H**	**75.46**	**278**	T		T	19 37 12.1	
baz=147,slow=76,SNR=19								
H08S3	**Diego Garcia H**	**75.47**	**278**	T		T	19 37 10.4	
baz=147,slow=76,SNR=27								
H03S2	**Juan Fernandez**	**81.96**	**142**	T		T	19 46 43.3	
baz=202								
H03S1	**Juan Fernandez**	**81.97**	**142**	T		T	19 46 43.4	
baz=202								
H03S3	**Juan Fernandez**	**81.98**	**142**	T		T	19 46 44.5	
baz=202								

FINES FINESS Array B 150.21 305 PKPbc **PKPbc 18 22 53.5 -0.4**
comp=Z,1.8nm,1.0s,baz=48,slow=2.8,SNR=4.4
ARCES ARCESS Array B 151.74 321 PKPbc **PKiKP 18 22 57.1 -0.6**
comp=Z,2.9nm,0.8s,baz=116,slow=2.8,SNR=12

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*TEH **01** 18:04:38.4, 34°.60N×46°.29E, h6km±37km, ML3.3*
*ISN **01** 18:04:39.0±1.2, 34°.67N×46°.28E, h15km±7km, ML3.5*
ISC 01 18:04:39.3±1.4, **34°.60N**±0°.03×**46°.26E**±0°.03, **h1**km±13km, **n24**, σ1**s28**/29, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**47**	Pg		**Pg**	**18 04 42.6**	**+0.5**
IGHG	**Ghaleghazi**	**0.37**	**137**	Pg		**Pg**	**18 04 46.8**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.56**	**260**	Pg		**Pg**	**18 04 50.5**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.57**	**211**	Pg		**Pg**	**18 04 50.5**	**+0.2**
ILIN	**Lien**	**0.66**	**61**	Pg		**Pg**	**18 04 51.9**	**-0.1**
KCHF	**Cheshme Sefid,**	**0.72**	**117**	Pg		**Pg**	**18 04 53.3**	**+0.2**
KCHF				Sg		**Sb**	**18 05 04.4**	**-1.0**
SNQR	**Sonqor, Kerman**	**1.15**	**77**	Pg		**Pb**	**18 05 01.3**	**-1.0**
IBZA	**Bozab**	**1.33**	**95**	Pg		**Pn**	**18 05 04.5**	**-0.8**
IBDR	**Badra**	**1.52**	**191**	*e*Pg		**Pn**	**18 05 07.0**	**-0.6**
IBDR				*e*Sg		**Sg**	**18 05 29.0**	**+1.0**
SDS1	**Sardasht. Az.**	**1.67**	**338**	Pg		**Pb**	**18 05 10.3**	**-0.7**
IKFM	**Kafar-mosalman**	**1.70**	**129**	Pg		**Pb**	**18 05 11.2**	**-0.2**
IKRK	**Kirkuk**	**1.77**	**297**	*e*Pn		**Pn**	**18 05 11.0**	**-0.1**
IKRK				*e*Sn		**Sb**	**18 05 34.0**	**-1.3**
IKRK				AML		AML	18 05 40.0	
comp=N,762nm,0.3s								
IKRK				AML		AML	18 05 49.1	
comp=E,490nm,0.6s								
IDOB	**Doab**	**1.78**	**117**	Pg		**Pb**	**18 05 12.7**	**-0.3**
HSAM	**Samen**	**1.97**	**101**	Pn		**Pb**	**18 05 15.7**	**-0.6**
BHD	**Baghdad**	**2.05**	**230**	*e*Pn		**Pn**	**18 05 15.0**	**0.0**
BHD				*e*Sn		**Sb**	**18 05 42.0**	**-1.5**
MAHB	**Mahabad**	**2.21**	**348**	Pn		**Pb**	**18 05 19.5**	**-0.6**
IHSH	**Hashtrud**	**2.81**	**16**	Pn		**Pb**	**18 05 28.5**	**-2.1**
RAFI	**Al-Rafai**	**2.88**	**183**	*e*Pn		**Pn**	**18 05 27.0**	**+0.7**
RAFI				*e*Sn		**Sn**	**18 06 03.0**	**+1.4**
QABG	**Abgarm-Qazvin**	**2.94**	**67**	Pn		**Pb**	**18 05 29.8**	**-2.9**
IAZR	**Azarshahr**	**3.08**	**356**	Pn		**Pn**	**18 05 31.2**	**+1.8**
ISHB	**Shabestar**	**3.71**	**352**	Pn		**Pn**	**18 05 39.6**	**+1.6**
IMRD	**Marand**	**4.13**	**354**	Pn		**Pn**	**18 05 46.2**	**+2.4**
IPIR	**Pirpir**	**4.31**	**115**	Pn		**Pn**	**18 05 48.0**	**+1.6**
ISFB	**Sefidab**	**4.94**	**91**	Pn		**Pn**	**18 05 56.1**	**+1.2**

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*CATAC **01** 18:04:58.2±0.5, 9°.39N×84°.67W, h6km±6km, ML3.5*
*UCR **01** 18:04:59.3±0.5, 9°.45N×84°.66W, h18km±4km, MW3.6*
ISC 01 18:04:58.4±1.4, **9°.41N**±0°.05×**84°.68W**±0°.03, **h15**km±8km, **n26**, σ0**s62**/35, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BITO	**Garabito Jaco**	**0.22**	**14**	*e*P		**Pb**	**18 05 03.9**	**-0.1**
BITO				*e*S		**Sg**	**18 05 07.8**	**+1.1**
TRB2	**Turrubares**	**0.55**	**24**	*e*P		**Pg**	**18 05 09.1**	**-0.2**
ACOS	**Acosta**	**0.64**	**52**	*e*P		**Pg**	**18 05 10.5**	**-0.4**
ABE2	**San Pablo**	**0.68**	**64**	*e*P		**Pg**	**18 05 11.7**	**-0.1**
SANTA	**Santa Ana**	**0.71**	**43**	*e*P		**Pg**	**18 05 11.8**	**-0.5**
TCS1	**Tacares**	**0.73**	**30**	*i* P		**Pg**	**18 05 12.7**	**0.0**
TCS1				IAML			18 05 29.2	
comp=Z,7μm,1.0s								
LCR2	**La Lucha 2**	**0.74**	**63**	*i* P		**Pg**	**18 05 12.5**	**-0.4**
LCR2				*i* S		**Sg**	**18 05 22.9**	**+0.2**
LCR2				IAML			18 05 25.4	
comp=Z,740nm,1.0s								
LCR2	**La Lucha 2**	**0.74**	**63**	*e*P		**Pg**	**18 05 12.3**	**-0.5**
BELE	**Belen**	**0.74**	**40**	*e*P		**Pg**	**18 05 12.3**	**-0.6**
HDC	**Heredia**	**0.81**	**43**	*i* P		**Pg**	**18 05 13.2**	**-1.0**
HDC				*i* S		**Sb**	**18 05 25.8**	**+0.8**
HDC				IAML			18 05 28.7	
comp=Z,1μm,1.0s								
HDC	**Heredia**	**0.81**	**43**	*e*P		**Pg**	**18 05 13.5**	**-0.6**
HDC3	**Heredia 3**	**0.81**	**43**	*i* P		**Pg**	**18 05 13.5**	**-0.7**
HDC3				*i* S		**Sb**	**18 05 25.8**	**+0.7**
HDC3				IAML			18 05 28.6	
comp=Z,2μm,1.0s								
NYURE	**Nandayure**	**0.82**	**316**	*e*P		**Pg**	**18 05 14.4**	**+0.1**
TRIO	**Tres Rios**	**0.83**	**54**	*e*P		**Pg**	**18 05 13.9**	**-0.7**
JTS	**Las Juntas de**	**0.92**	**343**	*e*P		**Pg**	**18 05 15.2**	**-1.1**
INDI	**Punta indio, G**	**0.94**	**299**	*i* P		**Pg**	**18 05 15.7**	**-0.8**
INDI				*i* S		**Sn**	**18 05 30.9**	**+0.9**
INDI				IAML			18 05 34.1	
comp=Z,630nm,1.0s								
SOCE	**Pocosol**	**0.97**	**3**	*i* P		**Pg**	**18 05 16.7**	**-0.5**
SOCE				*i* S		**Sn**	**18 05 31.3**	**+0.3**
SOCE				IAML			18 05 33.5	
comp=Z,2μm,1.0s								
SOCE	**Pocosol**	**0.97**	**3**	*e*P		**Pg**	**18 05 16.6**	**-0.7**
VICA	**Volcano Irazu**	**1.00**	**55**	*e*P		**Pg**	**18 05 16.9**	**-0.9**
RAFA	**San Farael, Vo**	**1.01**	**57**	*i* P		**Pg**	**18 05 17.5**	**-0.5**
RAFA				IAML			18 05 18.5	
comp=Z,6μm,1.0s								
RAFA				*i* S		**Sn**	**18 05 32.6**	**+0.2**
ARE1	**Arenal 1**	**1.05**	**358**	*e*P		**Pb**	**18 05 18.1**	**-0.2**
OCHAL	**Ojochal**	**1.06**	**107**	*i* P		**Pb**	**18 05 18.2**	**-0.2**
OCHAL				*i* S		**Sg**	**18 05 33.3**	**+0.5**
OCHAL				IAML			18 05 33.4	
comp=Z,270nm,1.0s								
CVTR	**Volcan Turrial**	**1.09**	**56**	*e*P		**Pg**	**18 05 18.7**	**-0.8**
VTCV	**VTCV, Calle Va**	**1.10**	**58**	*e*P		**Pb**	**18 05 18.8**	**-0.3**
COVE	**Coope Vega, Sa**	**1.33**	**12**	*i* P		**Pn**	**18 05 22.3**	**-0.1**
COVE				*i* S		**Sg**	**18 05 40.9**	**-0.5**
COVE				IAML			18 05 47.8	
comp=Z,550nm,1.0s								
CUI	**Cuipilapa**	**1.33**	**339**	*e*P		**Pn**	**18 05 22.3**	**-0.2**

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*NEIC **01** 18:20:45.6±1.1, 19°.422N±0°.010×155°.28W±0°.01, h5km±2km, Error ellipse: s-maj=1.6km s-min=1.2km az=137.0*
HVO 01 18:20:44.5±1.0, **19°.42N**±0°.01×**155°.273W**±0°.009, **h2**km±1km, **ML3.6**/48, **mb4.4**/6(NEIC), **ML3.2**/35(NEIC), **Error ellipse: s-maj=1.9km s-min=1.2km az=173.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.01**	**321**			Pg	18 20 46.2	+1.0
SBLHI	**Steaming Bluff**	**0.01**	**28**			Pg	18 20 46.3	+1.1
OBL	**Observatory Le**	**0.01**	**265**			Pg	18 20 46.3	+1.1
HATHI	**Halema'uma'u T**	**0.01**	**68**			Pg	18 20 45.5	+0.4
BYL	**Byron's Ledge**	**0.01**	**118**	Pg		Pg	18 20 45.5	+0.4
UWE	**Uwekahuna**	**0.02**	**278**			Pg	18 20 45.6	+0.4
KKO	**Keanakako`i**	**0.02**	**163**			Pg	18 20 46.1	+0.9
RIM	**Rim**	**0.02**	**183**			Pg	18 20 46.1	+0.8
WRMHI	**West Rim**	**0.03**	**245**			Pg	18 20 47.0	+1.7
SDHHI	**Sand Hill**	**0.04**	**215**			Pg	18 20 47.1	+1.8
RSD	**Rainshed**	**0.04**	**354**			Pg	18 20 46.6	+1.1
RSD	**Rainshed**	**0.04**	**354**	IAML			18 20 46.9	
comp=E,4μm,1.5s								
RSD				IAML			18 20 46.9	
comp=N,6μm,0.3s								
PUH	**Pauahi**	**0.07**	**130**			Pg	18 20 47.4	+1.4
PUH	**Pauahi**	**0.07**	**130**	IAML			18 20 47.6	
comp=N,3μm,1.0s								
PUH				IAML			18 20 48.0	
comp=E,3μm,0.8s								
KNHH	**Kane Nui o Ham**	**0.10**	**112**			Pg	18 20 47.9	+1.3
HLP	**Hilina Pali**	**0.13**	**195**	IAML			18 20 51.2	
comp=N,10μm,1.4s								
HLP				IAML			18 20 51.6	
comp=E,10μm,0.7s								
MLH	**Mauna Loa**	**0.13**	**305**	IAML			18 20 49.5	
comp=E,12μm,0.7s								
MLH				IAML			18 20 50.4	
comp=N,13μm,0.6s								
STCH	**Steam Cracks**	**0.14**	**103**	Pg		Pg	18 20 48.4	+1.0
STCH				IAML			18 20 51.0	
comp=E,7μm,0.9s								
STCH				IAML			18 20 52.0	
comp=N,14μm,0.9s								
NPOC	**North of Pu'u**	**0.16**	**99**			Pg	18 20 49.1	+1.6
JCUZ	**Jacuzzi**	**0.17**	**102**			Pg	18 20 49.2	+1.4
JOKA	**Jonika Flow**	**0.25**	**87**			Pg	18 20 50.6	+1.1
JOKA				IAML			18 20 57.7	
comp=E,5μm,1.5s								
HMH	**Humu'ula Sheep**	**0.27**	**313**			Pg	18 20 50.9	+1.1
HMH				IAML			18 20 58.6	
comp=E,8μm,0.6s								
MLOA	**Mauna Loa Obse**	**0.31**	**292**			Pb	18 20 52.0	-1.1

KHU Kahuku 0.37 242 Pg Pg 18 20 52.7 +1.1
KHU IAML 18 21 00.1
comp=E,5μm,0.6s
KHU IAML 18 21 02.0
comp=N,6μm,0.9s
POHA Pohakuloa 0.42 324 Pg Pg 18 20 53.7 +1.1
POHA IAML 18 21 01.6
comp=N,3μm,0.8s
HUH Hualalai 0.59 297 Pb 18 20 57.4 -0.4
HPAH Hawaii Prepara 0.73 327 Pg 18 20 58.5 -0.1
MHA Mahukona 0.97 322 Pg Pg 18 21 01.8 -1.4
KHLH Kahului Airpor 1.83 324 Pn Pn 18 21 14.6 -2.4
ATKA Atka Island 35.91 340 P P 18 27 44.6 -1.4
KTH Kantishna Hill 44.20 3 P P 18 28 55.0 +0.1
KTH IAmb IAmb 18 28 57.3
comp=Z,6.9nm,0.8s
J25K Salcha River, 45.65 6 P P 18 29 07.1 +0.7
MDM Murphy Dome 45.76 4 P P 18 29 07.8 +0.6
MDM IAmb IAmb 18 29 08.7
comp=Z,3.7nm,1.2s
I30M Mount Dempster 47.47 11 P P 18 29 21.2 +0.5
I30M IAmb IAmb 18 29 23.1
comp=Z,2.2nm,0.9s
A36M Sachs Harbour 55.37 11 P P 18 30 20.3 +0.7
A36M IAmb IAmb 18 30 21.8
comp=Z,4.1nm,1.0s

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*IDC **01** 18:30:28.3±0.7, 56°.20S×147°.31E, h0km, mb4.5/9, mbtmp4.5/9, MS4.6/32, Error ellipse: s-maj=46.5km s-min=14.6km az=83.0*
*NEIC **01** 18:30:30.1±2.0, 56°.3S±0°.1×147°.5E±0°.2, h10km±1km, mb5.0/27, Mww5.2/27, Error ellipse: s-maj=18.6km s-min=17.2km az=98.0*
*NEIC **01** 18:30:30.1, 56°.38S×147°.30E, h16km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.15; $M_{\theta\theta}$=4.79; $M_{\phi\phi}$=-2.64; $M_{r\theta}$=0.73; $M_{\theta\phi}$=-7.08; $M_{\phi r}$=0.61; Fault plane solution: M_0=8.04000×10^{16} NP1: ϕ_s=346.21000°, δ87.83000°, λ4.58000°. NP2:ϕ_s=256.04000°, δ85.42000°, λ177.83000°. Principal axes: T 9.1534, Plg5.0000°, Azm211.0000°; N -2.2244, Plg85.0000°, Azm11.0000°; P -6.9290, Plg2.0000°, Azm121.0000°;*
*NEIC **01** 18:30:30.1, 56°.28S×147°.48E, h16km*
*GCMT **01** 18:30:32.1±0.1, 56°.24S±0°.01×147°.04E±0°.02, h12km, MW5.2/138, Moment Tensor Solution. s92, c137; s138, c248; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}=1.46±.12; $M_{\theta\theta}$=4.70±.10; $M_{\phi\phi}$=-3.24±.12; $M_{r\theta}$=0.31±.27; $M_{\theta\phi}$=-7.12±.09; $M_{\phi r}$=0.16±.28; Best double couple: M_0=8.16100×10^{16} NP1:ϕ_s=75.00000°, δ89.00000°, λ-177.00000°. NP2:ϕ_s=345.00000°, δ87.00000°, λ-1.00000°. Principal axes: T 8.8850, Plg1.0000°, Azm210.0000°; N -1.4490, Plg87.0000°, Azm100.0000°; P -7.4370, Plg3.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 18:30:30.2±0.3, **56°.36S**±0°.06×**147°.53E**±0°.07, **h10**km, **n167**, σ1**s45**/140, **mb4.9**/30, **MS4.5**/36, **11C-5D, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**6.77**	**79**	Pn		**Pn**	**18 32 08.1**	**-1.4**
GLAD	**Gladstone**	**15.39**	**1**	P		**P**	**18 34 13.9**	**+2.0**
TOO	**Toolangi**	**18.84**	**355**	P		**Pn**	**18 34 50.9**	**+0.2**
TOO	**Toolangi**	**18.84**	**355**	P		**P**	**18 34 49.2**	**-0.9**
MILA	**Mila**	**19.34**	**4**	P		**Pn**	**18 34 59.1**	**+2.4**
RPZ	**Rata Peaks**	**19.58**	**60**	LR		LR	18 41 06.7	
comp=Z,5μm,20.0s,baz=220,slow=33								
ARPS	**Mount Arapiles**	**19.97**	**347**	P		**Pn**	**18 35 04.1**	**0.0**
CASY	**Casey**	**20.01**	**225**	P		**P**	**18 35 02.2**	**-0.5**
AUMAG	**Moama Anglican**	**20.35**	**354**	P		Pn	18 35 08.4	-0.2
OXZ	**Oxford**	**20.35**	**61**	P		**P**	**18 35 07.0**	**+0.5**
CAN	**Canberra**	**21.06**	**3**	P		**P**	**18 35 17.3**	**+3.0**
CAN	**Canberra**	**21.06**	**3**			**P**	**18 35 13.8**	**-0.6**
CAN				IAmb		IAmb	18 35 19.7	
comp=Z,67nm,1.3s								
CNB	**Canberra Magne**	**21.08**	**4**	P		**P**	**18 35 17.0**	**+2.4**
AUUHS	**Ulladulla High**	**21.09**	**7**	P		**P**	**18 35 17.7**	**+3.1**
VNDA	**Vanda**	**21.84**	**172**	P		**P**	**18 35 23.0**	**+0.7**
VNDA	**Vanda**	**21.84**	**172**			**P**	**18 35 23.2**	**+0.8**
comp=Z,14nm,1.1s,baz=339,slow=11,SNR=25								
comp=Z,14nm,1.1s								
YNG	**Young**	**22.07**	**2**	P		**P**	**18 35 27.4**	**+2.3**
SBA	**Scott Base**	**22.59**	**170**	P		**P**	**18 35 32.2**	**+1.9**
SBA				IAmb		IAmb	18 35 49.2	
comp=Z,74nm,1.4s								
STKA	**Stephens Creek**	**24.82**	**348**	P		**P**	**18 35 53.5**	**+1.1**
STKA	**Stephens Creek**	**24.82**	**348**	P		**P**	**18 35 51.9**	**-0.5**
STKA	**Stephens Creek**	**24.82**	**348**	P		**P**	**18 35 51.2**	**-1.2**
comp=Z,26nm,1.1s,baz=165,slow=9.9,SNR=18								
STKA				LR		LR	18 43 44.7	
comp=Z,1μm,18.1s,baz=173,slow=32								
comp=Z,26nm,1.1s								
CMSA	**Cobar Meteorol**	**24.84**	**356**	P		**P**	**18 35 53.6**	**+1.0**
BBOO	**Buckleboo**	**24.85**	**337**	P		**P**	**18 35 51.1**	**-1.6**
BBOO				IAmb		IAmb	18 36 13.0	
comp=Z,29nm,1.1s								
URZ	**Urewera**	**26.70**	**60**	LR		LR	18 45 46.1	
comp=Z,2μm,21.8s,baz=292,slow=34								
LCRK	**Leigh Creek**	**26.72**	**342**	P		**P**	**18 36 09.0**	**-0.5**
MULG	**Mulgathing**	**27.74**	**334**	P		**P**	**18 36 18.4**	**-0.3**
FORT	**Forrest**	**28.99**	**324**	P		**P**	**18 36 29.3**	**-0.5**
FORT				IAmb		IAmb	18 36 30.2	
comp=Z,41nm,0.9s								
INKA	**Innaminka**	**29.01**

comp=Z,33nm,1.1s
MBWA Marble Bar 40.74 318 P P 18 38 10.0 -1.1
MBWA Marble Bar 40.74 318 P P 18 38 09.4 -1.6
MBWA IAmb IAmb 18 38 11.4
comp=Z,23nm,0.9s
GIRL Giralia 41.60 310 P P 18 38 16.4 -1.7
FITZ Fitzroy Crossi 41.60 328 P P 18 38 17.6 -0.6
COEN Coen 42.44 354 P P 18 38 23.5 -1.6
COEN IAmb IAmb 18 38 38.1
comp=Z,55nm,1.6s
KNRA Kununurra 43.05 333 P P 18 38 27.9 -2.1
KNRA IAmb IAmb 18 38 30.7
comp=Z,26nm,1.1s
KDU Kakadu 45.10 339 P P 18 38 45.2 -1.3
MTN Manton Dam 45.23 337 P P 18 38 47.4 -0.1
MTN Manton Dam 45.23 337 P P 18 38 46.8 -0.6
MTN IAmb IAmb 18 39 06.6
comp=Z,28nm,1.1s
BELA Belgrano 2 46.02 179 P P 18 38 53.7 +0.6
BELA IAmb IAmb 18 38 56.8
comp=Z,15nm,1.1s
ELIB Princess Elisa 46.22 201 *d*P **P 18 38 55.4 +0.5**
comp=Z,6.3nm,1.1s
ELIB *d*PcP **PcP 18 40 30.9 +0.6**
PMG Port Moresby 46.84 360 LR LR 18 57 17.6
comp=Z,2μm,18.4s,baz=168,slow=34
HNR Honiara 47.81 17 LR LR 18 55 59.3
comp=Z,4μm,19.2s,baz=188,slow=32
TROLL Troll, Antarti 49.61 194 ⇑P **P 18 39 21.1 0.0**
comp=Z,287nm,0.8s
SNAA Sanae 50.58 192 P **P 18 39 28.2 -0.2**
SNAA IAmb IAmb 18 39 40.0
comp=Z,24nm,1.4s
SNAA Sanae 50.58 192 ⇑P **P 18 39 29.0 +0.5**
comp=Z,109nm,0.8s
SNAA Sanae 50.58 192 P **P 18 39 28.4 0.0**
comp=Z,8.9nm,1.1s,baz=152,slow=7.9,SNR=14
SNAA LR LR 19 00 45.6
comp=Z,3μm,18.6s,baz=160,slow=36
comp=Z,8.9nm,1.1s
VNA3 Neumayer Olymp 51.68 189 ⇑P **P 18 39 36.8 +0.2**
comp=Z,6.1nm,0.9s
VNA2 Neumayer--Watz 51.77 190 ⇑P **P 18 39 37.5 +0.3**
comp=Z,4.5nm,0.8s,baz=170,slow=6.4
VNA1 Neumayer--Stat 52.12 190 ⇑P **P 18 39 39.6 -0.2**
comp=Z,17nm,1.0s
RAR Rarotonga 52.15 70 LR LR 18 58 14.8
comp=Z,455nm,20.3s,baz=233,slow=32
FAKI Fak Fak 54.67 341 P **P 18 39 58.8 -0.4**
FAKI Fak Fak 54.67 341 P **P 18 39 59.9 +0.7**
H04S1 CROZET ISLANDS 55.48 236 T T 19 40 42.8
baz=140,slow=75,SNR=23
H04S2 CROZET ISLANDS 55.48 236 T T 19 40 38.1
baz=140,slow=75,SNR=25
H04S3 CROZET ISLANDS 55.49 236 T T 19 40 41.0
baz=140,slow=75,SNR=28
KAPI Kappang 55.75 326 LR LR 19 04 40.2
comp=Z,230nm,18.5s,baz=158,slow=37
TBI Tubuai 55.98 81 *e*S **S 18 47 55.6 -0.9**
comp=Z,1μm,27.5s
TBI *e*SS **SS 18 51 38.5 -3.7**
comp=Z,941nm,32.0s
TBI *e*LQ LQ 18 53 56.8
comp=Z,2μm,31.2s
PMSA Palmer Station 56.81 164 LR LR 19 02 25.8
comp=Z,387nm,18.3s,baz=216,slow=34
PPT2 Papeete2 60.57 77 *e*S **S 18 48 59.2 +2.5**
comp=Z,54nm,24.5s
PPT2 *e*SS **SS 18 52 49.8 -4.9**
comp=Z,56nm,30.5s
PPT2 *e*LQ LQ 18 55 55.8
comp=Z,810nm,25.8s
PPT2 *e*LR LR 18 58 24.7
comp=Z,387nm,22.8s
PPT2 *e*LR LR 18 58 32.2
comp=Z,378nm,23.8s
PPT Papeete 60.58 77 LR LR 19 00 57.1
comp=Z,252nm,21.2s,baz=212,slow=30
DAV Davao City (W) 65.74 336 LR LR 19 09 42.3
comp=Z,169nm,20.7s,baz=130,slow=36
EFI East Falkland 70.28 163 P **P 18 41 44.3 +1.2**
KULM Kulim 72.38 310 P **P 18 41 55.5 -0.8**
KULM IAmb IAmb 18 42 04.2
comp=Z,31nm,1.3s
RPN Rapa Nui 74.69 116 LR LR 19 07 20.2
comp=Z,393nm,18.4s,baz=212,slow=30
H08S2 Diego Garcia H 75.39 278 T T 20 04 38.4
baz=147,slow=76,SNR=65
H08S1 Diego Garcia H 75.40 278 T T 20 04 41.5
baz=147,slow=76,SNR=56
H08S3 Diego Garcia H 75.41 278 T T 20 04 46.7
baz=147,slow=76,SNR=102
PLCA Paso Flores 78.05 151 P **P 18 42 29.9 +1.1**
comp=Z,1.1nm,0.8s,baz=278,slow=4.1,SNR=2.8
PLCA LR LR 19 10 28.9
comp=Z,272nm,19.4s,baz=190,slow=31
comp=Z,1.1nm,0.8s
SUR Sutherland 80.72 223 LR LR 19 11 50.2
comp=Z,406nm,20.4s,baz=152,slow=31
QIZ Qiongzhong 81.52 324 P **P 18 42 49.4 +1.8**
QIZ Qiongzhong 81.52 324 S **S 18 53 01.7 +2.5**
QIZ Qiongzhong 81.52 324 SS SS 18 58 21.0 +4.5
QIZ LR LR
comp=N,170nm,16.0s
QIZ LR LR
comp=E,250nm,24.3s
QIZ LR LR
comp=Z,220nm,23.5s
H03S2 Juan Fernandez 81.88 142 T T 20 14 03.2
baz=202,slow=74,SNR=23
H03S1 Juan Fernandez 81.88 142 T T 20 14 04.4
baz=202,slow=74,SNR=17
H03S3 Juan Fernandez 81.89 142 T T 20 14 02.5
baz=202,slow=74,SNR=24
BOSA Boshof 82.27 229 LR LR 19 13 46.5
comp=Z,225nm,20.7s,baz=172,slow=32
JCJ Chichijima 83.24 355 LR LR 19 18 59.3
comp=Z,130nm,20.7s,baz=129,slow=35
PALK Pallekele 83.52 293 LR LR 19 11 52.8
comp=Z,213nm,21.6s,baz=257,slow=30
MATP Matopo 88.00 235 LR LR 19 17 39.3
comp=Z,146nm,18.4s,baz=64,slow=32
JHJ Hachijo jima 2 89.37 354 LR LR 19 19 33.1
comp=Z,245nm,21.9s,baz=110,slow=33
GYA Guiyang 89.47 324 ⇓P **P 18 43 28.7 +1.5**
GYA pmax pmax
comp=Z,7.0nm,1.0s
JNU Nakatsue 90.25 346 LR LR 19 23 30.4
comp=Z,118nm,18.8s,baz=168,slow=35
PZH PanZhiHua 91.20 320 P **P 18 43 37.7 +2.4**
PZH PanZhiHua 91.20 320 S **S 18 54 35.1 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,50nm,3.5s
PZH LR LR
comp=N,240nm,16.3s
PZH LR LR
comp=E,160nm,15.0s
PZH LR LR
comp=Z,270nm,21.5s
NJ2 Nanjing 91.38 336 *e*P P 18 43 43.9 +8.1
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,240nm,4.5s
MJAR Matsushiro Arr 92.88 352 P **P 18 43 41.8 -0.9**
comp=Z,2.2nm,1.1s,baz=166,slow=3.7,SNR=6.2
MJAR LR LR 19 26 10.7
comp=Z,88nm,18.7s,baz=168,slow=36
comp=Z,2.2nm,1.1s
TSUM Tsumeb 93.79 227 LR LR 19 21 47.5
comp=Z,298nm,19.6s,baz=162,slow=33
KSRS Korea Array 94.92 344 LR LR 19 23 38.7
comp=Z,117nm,21.9s,baz=150,slow=34
CPUP Villa Florida 94.98 158 LR LR 19 20 56.7
comp=Z,137nm,21.7s,baz=194,slow=32
LVC Limon Verde 95.52 147 LR LR 19 17 44.8
comp=Z,175nm,21.9s,baz=200,slow=30
HHC Hu-ho-hao-te 101.51 333 *e*P **Pdif 18 44 23.4 +1.7**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,81nm,5.0s
HHC LR LR
comp=N,210nm,15.3s
HHC LR LR
comp=E,190nm,15.3s
HHC LR LR
comp=Z,210nm,14.5s
WMQ Urumqi 111.76 318 *e*PKP **PKiKP 18 49 04.9 +0.6**
WMQ LR LR
comp=Z,130nm,20.9s
MKAR Makanchi Array 116.33 316 PKP **PKPdf 18 49 11.2 -1.7**
comp=Z,0.3nm,0.5s,baz=120,slow=2.0,SNR=3.9
KURBB Kurchatov Arra 120.89 316 PKP **PKPdf 18 49 19.6 -1.8**
comp=Z,0.2nm,0.3s,baz=116,slow=2.2,SNR=2.2
NVAR Mina Array Bea 123.09 69 PKP **PKPdf 18 49 25.6 -0.9**
comp=Z,0.1nm,0.3s,baz=191,slow=3.4,SNR=1.4
BVAR Borovoye Array 125.96 313 PKP **PKPdf 18 49 30.1 -1.1**
comp=Z,0.6nm,0.7s,baz=165,slow=2.2,SNR=4.6
TORD Torodi Ar. Bea 129.52 225 PKP **PKPdf 18 49 38.5 -0.6**
comp=Z,1.3nm,0.9s,baz=165,slow=2.3,SNR=4.6
ILAR Eielson Array 130.69 31 PKP **PKPdf 18 49 39.6 -0.2**
comp=Z,0.3nm,0.6s,baz=262,slow=2.6,SNR=2.8
BRTR Keskin Array B 134.64 278 PKP **PKPdf 18 49 48.3 0.0**
comp=Z,0.5nm,0.8s,baz=112,slow=3.4,SNR=2.6
YKA Yellowknife Ar 140.46 46 PKP **PKPdf 18 49 58.4 +0.3**
comp=Z,0.3nm,0.6s,baz=216,slow=3.1,SNR=3.1
BURAR Bucovina Array 144.40 281 PKPdf 18 50 06.4 +0.7
KEST Kesra 145.14 252 PKPdf 18 50 07.6 +0.2
KEST Kesra 145.14 252 PKPbc **PKPab 18 50 06.6 -0.4**
comp=Z,25nm,1.0s,baz=236,slow=2.3,SNR=18
KOLS Kolonicke sedl 146.76 281 *e*PKP **PKiKP 18 50 13.0 -1.0**
CRVS Cervenica-Dubn 147.19 280 *e*PKP **PKPab 18 50 12.9 -1.4**
LANS Liptovska Anna 148.42 279 *e*PKP **PKiKP 18 50 17.8 +0.3**
MODS Modra-Piesok 149.20 276 *e*PKP **PKPbc 18 50 17.3 -0.6**
MODS *e* 18 50 21.7
JAVC Velka Javorina 149.25 277 *e*PKP **PKiKP 18 50 18.6 -0.6**
RONA Rosalia, Austr 149.36 275 *ep*PKP **PKPbc 18 50 17.4 -0.9**
comp=Z,5.5nm,1.2s
SOKA Soboth 149.47 272 *ep*PKP **PKPbc 18 50 17.7 -1.0**
comp=Z,13nm,1.0s,SNR=9.0
ARSA Arzberg 149.53 273 *e*PKP **PKiKP 18 50 19.6 -0.2**
comp=Z,7.9nm,1.1s,SNR=5.4
CONA Conrad Observa 149.73 275 *e*PKP **PKPdf 18 50 16.0 +1.4**
comp=Z,5.7nm,1.4s
MORC Moravsky Berou 149.82 279 *e*PKP **PKPbc 18 50 18.1 -1.3**
KRUC Moravsky 150.07 277 *e*PKP **PKPbc 18 50 19.5 -0.4**
VRAC Vranov 150.09 277 *e*PKP **PKPbc 18 50 19.8 -0.2**
MYKA Terra Mystica 150.22 271 *e*PKP **PKiKP 18 50 20.7 -0.6**
comp=Z,9.2nm,1.1s
FINES FINESS Array B 150.24 304 PKPbc **PKPbc 18 50 18.4 -1.5**
comp=Z,5.6nm,0.9s,baz=104,slow=6.1,SNR=7.9
MOA Molln 150.57 273 *e*PKP **PKiKP 18 50 21.4 -0.5**
comp=Z,5.5nm,1.1s
KBA Koelnbreinsper 150.65 271 *ep*PKP **PKPbc 18 50 20.0 -1.7**
comp=Z,5.9nm,0.9s
DPC Dobruska-Polom 150.79 279⇑ *e*PKP **PKiKP 18 50 23.1 +0.8**
BIOA Bad Ischl, Aus 150.83 272 *e*PKP **PKiKP 18 50 21.8 -0.7**
comp=Z,4.5nm,0.8s
ABTA Abfaltersbach 150.91 270 *e*PKP **PKiKP 18 50 22.4 -0.4**
comp=Z,11nm,1.1s
OSTC Ostas 150.95 279⇑ *e*PKP **PKiKP 18 50 23.6 +1.0**
CHVC Chvalec 151.06 279⇑ *e*PKP **PKiKP 18 50 23.5 +0.7**
CKRC Cesky Krumlov 151.09 275⇑ *e*PKP **PKiKP 18 50 22.7 -0.3**
CKRC *e*PKPAB **PKPab 18 50 30.7 +0.5**
LESA Schwarzleotal 151.22 271 *ep*PKP **PKPbc 18 50 21.5 -1.3**
comp=Z,11nm,0.9s
GERES GERESS Array B 151.44 275 PKPbc **PKPbc 18 50 23.0 -0.3**
comp=Z,4.5nm,0.9s,baz=81,slow=1.8,SNR=18
ZVC Zvikov 151.49 276⇑ *e*PKP **PKiKP 18 50 24.2 +0.5**
ZVC *e*PKPAB **PKPab 18 50 31.0 -0.8**
KHC Kasperske Hory 151.66 275⇑ *e*PKP **PKPbc 18 50 22.6 -1.2**
WTTA Wattenberg 151.70 270 *e*PKP **PKiKP 18 50 24.4 -0.1**
comp=Z,11nm,1.1s
ARCES ARCESS Array B 151.82 321 PKPbc **PKPbc 18 50 22.4 -1.1**
ARCES ARCESS Array B 151.82 321 PKPbc **PKPbc 18 50 23.0 -0.5**
comp=Z,6.9nm,0.8s,baz=117,slow=1.9,SNR=13
SQTA Sankt Quirin 151.92 270 *e*PKP **PKiKP 18 50 24.5 -0.4**
comp=Z,13nm,1.0s,SNR=6.0
MOTA Moosalm 152.05 270 *e*PKP **PKiKP 18 50 24.7 -0.5**
comp=Z,9.7nm,1.0s,SNR=5.2
FETA Feichten 152.07 269 *e*PKP **PKPbc 18 50 24.5 -0.4**
comp=Z,8.5nm,1.0s,SNR=7.0
RETA Reutte 152.32 270 *ep*PKP **PKPbc 18 50 23.1 -2.3**
comp=Z,2.4nm,0.5s
BRG Berggiesshubel 152.36 278 *e*PKP **PKiKP 18 50 26.2 +0.8**
BRG Amp 18 50 27.6
comp=Z,4.4nm,0.9s
BRG Berggiesshubel 152.36 278 P **PKiKP 18 50 29.6 +4.1**
BRG Amp 18 50 31.7
comp=Z,3.3nm,0.9s
DAVA Damuels 152.69 269 *e*PKP **PKPbc 18 50 25.1 -1.2**
comp=Z,5.8nm,1.4s
CLL Collm 153.09 279 *e*PKPdf **PKPdf 18 50 21.0 +1.6**
CLL *i* PKPbc **PKiKP 18 50 27.3 +0.3**
comp=Z,8.0nm,1.0s
CLL *i* PKPab **PKPab 18 50 38.7 +0.2**
comp=Z,5.0nm,1.0s
CLL AMS AMS 20 08 00.0
comp=Z,200nm,22.0s
ESDC Sonseca Array 154.93 240 PKPbc **PKiKP 18 50 31.4 +0.2**
comp=Z,1.1nm,0.9s,baz=134,slow=1.4,SNR=8.7
BCLA Clavier 156.93 271 *d*PKP **PKPab 18 50 55.0 +0.1**
BMRD Maredsous 157.16 270 *d*PKP **PKPab 18 50 55.5 -0.5**
NB2 NORSAR Subarra 157.17 300 P **PKPab 18 50 55.2 -0.5**
comp=Z,3.4nm,1.1s,baz=91,slow=4.6
NOA NORSAR Array B 157.17 300 PKPab **PKPab 18 50 54.9 -0.8**
comp=Z,1.8nm,1.0s,baz=94,slow=4.6,SNR=5.0

IDC 01 18:40:13.9±5.9, 18°.37N×146°.32E, h0km, mb3.5/5, mbtmp3.4/6, ML2.6/1, MS3.0/1, Error ellipse: s-maj=235.4km s-min=24.6km az=82.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**19.47**	**340**	P	Pn	18 44 43.9	+0.4
	baz=152,slow=10,SNR=1.8						
	0.8nm,0.9s						
WRA	**Warramunga Arr**	**39.85**	**198**	P	P	18 47 49.3	-0.1
	0.4nm,0.8s,baz=23,slow=8.1,SNR=2.4						
	0.4nm,0.8s						
SHEM	**Shemya Is, Ala**	**40.57**	**26**	LR	LR	19 04 18.0	
	comp=Z,19nm,18.5s,baz=39,slow=36						
ASAR	**Alice Springs**	**43.50**	**197**	P	P	18 48 19.6	+0.3
	0.2nm,0.7s,baz=27,slow=6.4,SNR=1.4						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**59.12**	**314**	P	P	18 50 15.9	-0.4
	0.4nm,0.8s,baz=90,slow=7.2,SNR=2.0						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**61.96**	**318**	P	P	18 50 35.1	-0.5
	0.2nm,0.3s,baz=94,slow=6.8,SNR=4.4						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**67.11**	**321**	P	P	18 51 09.1	-0.2
	0.8nm,0.5s,baz=93,slow=7.3,SNR=4.9						
	0.8nm,0.5s						

GUC 01 18:46:14.3±0.5, 42°.58S×74°.15W, h34km±4km, ML2.1, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL06	**Loncomilla**	**0.53**	**47**	*i* P	Pn	18 46 24.6	-0.8
LL06				IAML		18 46 34.3	
	comp=E,519nm,0.2s						
LL07	**Hotel Espejo d**	**0.56**	**118**	*e*P	Pn	18 46 25.3	-0.4
LL07				IAML		18 46 35.8	
	comp=E,391nm,0.3s						
GO07	**Milladeo Hill,**	**0.65**	**146**	*e*P	Pn	18 46 26.1	-0.9
GO07				*e*S	Sn	18 46 35.4	-0.7
LL05	**Los Muermos**	**1.27**	**24**	*e*P	Pn	18 46 35.8	+0.1
LL05				IAML		18 46 54.5	
	comp=N,93nm,0.2s						
VNTQ	**Ventisquero**	**1.29**	**104**	*e*P	Pn	18 46 36.0	+0.1
LL01	**San Ignacio de**	**1.30**	**82**	*e*P	Pn	18 46 36.2	+0.2
LL01				IAML		18 46 57.5	
	comp=E,18nm,0.3s						
PDRA	**Piedra**	**1.36**	**102**	*e*P	Pn	18 46 37.2	+0.2
PDRA				IAML		18 46 57.4	
	comp=E,45nm,0.2s						
LL02	**Futaleuf**	**1.80**	**111**	*e*P	Pn	18 46 44.0	+1.0
LL02				IAML		18 47 10.3	
	comp=N,11nm,0.1s						

*LDG **01** 18:56:05.8±0.3, 48°.75N×2°.38W, h15km, Md2.5/2, Ml2.8/11, Error ellipse: s-maj=6.4km s-min=2.7km az=169.0*
*STR **01** 18:56:06.1±0.5, 49°.N±.3°×°.°±°.°, h5km, MLv2.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=114.3, preliminary*
ISC 01 18:56:04.4±1.1, 48.71N±0.03×2.40W±0.03, h9km±10km, n25, σ1ˢ13/37, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGMF	**Saint Gilles**	**0.46**	**193**	*e*Pg	**Pn**	**18 56 15.8**	**-1.4**
SGMF				*e*Sg	**Sb**	**18 56 22.7**	**+1.1**
	61nm,0.2s						
JSA	**Saint Aubin**	**0.51**	**18**	Pg	**Pg**	**18 56 14.2**	**-0.1**
JSA	**Saint Aubin**	**0.51**	**18**	Sg	**Sg**	**18 56 20.1**	**-0.9**
ROSF	**Rostrenen**	**0.69**	**238**	*e*Pg	**Pb**	**18 56 18.9**	**+0.4**
ROSF				*e*Sg	**Sn**	**18 56 30.0**	**-1.0**
	75nm,0.2s						
ROSF	**Rostrenen**	**0.69**	**238**	Pg	**Pn**	**18 56 19.2**	**-1.1**
ROSF	**Rostrenen**	**0.69**	**238**	Sg	**Sn**	**18 56 29.1**	**-2.0**
QUIF	**Quistinic**	**0.94**	**213**	*e*Pg	**Pn**	**18 56 24.2**	**+0.5**
QUIF				*e*Sg	**Sn**	**18 56 39.2**	**+2.0**
	20nm,0.2s						
GRR	**Gorron**	**1.07**	**107**	*e*Pg	**Pn**	**18 56 26.5**	**+0.9**
GRR				*e*Sg	**Sn**	**18 56 40.8**	**+0.2**
	89nm,0.2s						
FLN	**La Foliniere**	**1.27**	**87**	*e*Pg	**Pg**	**18 56 29.6**	**+0.7**
FLN				*e*Sg	**Sg**	**18 56 45.9**	**+0.5**
	25nm,0.2s						
LDF	**La Druitiere**	**1.52**	**93**	*e*Pg	**Pg**	**18 56 34.2**	**+0.7**
LDF				*e*Sg	**Sg**	**18 56 53.8**	**+0.6**
	16nm,0.2s						
CAMF	**Camaret-sur-Me**	**1.53**	**254**	Pg	**Pg**	**18 56 35.6**	**+1.7**
DYA	**Yadsworthy**	**2.00**	**331**	Pn	**Pn**	**18 56 37.7**	**-0.6**
DYA				Pg	**Pg**	**18 56 43.0**	**+0.3**
DYA	**Yadsworthy**	**2.00**	**331**	Sn	**Sn**	**18 57 04.0**	**+0.6**
CCA1	**Carnmenellis**	**2.37**	**310**	Pn	**Pn**	**18 56 43.2**	**-0.1**
MFF	**Saint Martin d**	**2.60**	**143**	*e*Pn	**Pn**	**18 56 47.8**	**+1.2**
MFF	**Saint Martin d**	**2.60**	**143**	*e*Pg	**Pg**	**18 56 54.5**	**+0.3**
MFF				*e*Sg	**Sg**	**18 57 28.5**	**+0.6**
	12nm,0.3s						
MFF	**Saint Martin d**	**2.60**	**143**	Sn	**Sn**	**18 57 17.9**	**-0.4**
MFF	**Saint Martin d**	**2.60**	**143**	Pg	**Pg**	**18 56 54.6**	**+0.4**
HTL	**Hartland**	**2.66**	**330**	Sn	**Sn**	**18 57 18.9**	**-0.7**
CHIF	**Chize**	**2.91**	**151**	Pg	**Pg**	**18 56 59.7**	**-0.4**
CHIF				Sn	**Sn**	**18 57 26.5**	**+0.7**
SSF	**Saint Saulge**	**4.30**	**110**	*e*Sg	**Sg**	**18 58 21.9**	**-0.7**
	1.4nm,0.3s						
RJF	**Les Rejaudoux**	**4.33**	**140**	*e*Pn	**Pn**	**18 57 11.1**	**+0.7**
RJF	**Les Rejaudoux**	**4.33**	**140**	*e*Pg	**Pg**	**18 57 26.4**	**-1.0**
RJF				*e*Sg	**Sg**	**18 58 22.7**	**-0.8**
	3.5nm,0.3s						
LFF	**La Frestale**	**4.34**	**149**	*e*Pg	**Pg**	**18 57 26.2**	**-1.4**
LFF				*e*Sn	**Sn**	**18 57 59.5**	**-1.7**
LFF				*e*Sg	**Sg**	**18 58 23.1**	**-0.7**
	6.2nm,0.4s						
LOR	**Lormes**	**4.45**	**107**	*e*Sg	**Sg**	**18 58 23.8**	**-3.3**
	1.4nm,0.3s						

*IDC **01** 19:00:30.4±2.6, 36°.51N×70°.86E, h252km±24km, mb3.5/19, mbtmp4.1/24, Error ellipse: s-maj=14.7km s-min=10.2km az=173.0*
*NEIC **01** 19:00:33.2±1.3, 36°.71N±0°.07×70°.84E±0°.08, h267km±6km, mb4.2/16, Error ellipse: s-maj=10.3km s-min=9.1km az=190.0*
*NNC **01** 19:00:37.1±3.4, 37°.13N×70°.83E, h281km±43km, mb3.1, mpv4.5, Error ellipse: s-maj=42.9km s-min=14.8km az=29.0*

ISC 01 19:00:31.2±0.4, 36°.68N±0°.05×70°.85E±0°.05, h250km, n89, σ1ˢ81/105, mb3.8/24, 3C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.35**	**350**	Pn	**Pn**	**19 01 20.2**	**+3.2**
CHGR	**Chuyangaron**	**2.38**	**326**	Pn	**Pn**	**19 01 20.2**	**+2.9**
SIMJ	**Simiganj**	**2.45**	**324**		**Pn**	**19 01 20.7**	**+2.6**
KBL	**Kabul**	**2.59**	**215**		**Pn**	**19 01 22.4**	**+2.7**
DRK	**Karamyk**	**2.89**	**15**		**Pn**	**19 01 26.0**	**+3.2**
BTK	**Batken**	**3.37**	**360**	Pn	**Pn**	**19 01 31.3**	**+3.5**
NIL	**Nilore**	**3.61**	**146**	Pn	**Pn**	**19 01 34.1**	**+3.4**
ARSB	**Arslanbob**	**4.92**	**19**		**Pn**	**19 01 47.7**	**+1.6**
KSH	**Kashi**	**4.93**	**53**	Pn	**Pn**	**19 01 43.8**	**-2.5**
KSH				Sn	S	19 02 36.3	-10
KSH				smax	smax		
	comp=N,250nm,0.6s						
KSH				smax	smax		
	comp=E,250nm,0.7s						
JMU	**Jammu**	**5.18**	**139**	*e*P	**Pn**	**19 01 50.8**	**+1.6**
JMU				*e*S	**S**	**19 02 50.1**	**-1.2**
THN	**Thein Dam**	**5.84**	**135**	*e*P	**Pn**	**19 02 00.2**	**+2.9**
THN				*e*S	**S**	**19 03 06.7**	**+0.5**
THN				IAML		19 03 10.2	
	comp=E,268nm,0.1s						
THN				IAML		19 03 10.7	
	comp=N,206nm,0.8s						
DHRM	**DHARAMSHALA**	**6.31**	**133**	*e*P	**Pn**	**19 02 05.7**	**+2.2**
DHRM				*e*S	**S**	**19 03 16.9**	**-0.5**
DHRM				IAML		19 03 17.9	
	comp=E,574nm,0.8s						
DHRM				IAML		19 03 18.2	
	comp=N,470nm,0.3s						
KK31	**Karatay Array**	**6.42**	**358**		**Pn**	**19 02 06.0**	**+1.5**
KK31	**Karatay Array**	**6.42**	**358**	P	**Pn**	**19 02 05.7**	**+1.2**
	comp=N,26nm,0.3s,baz=172,slow=11,SNR=610						
KK31				S	**S**	**19 03 16.9**	**-2.3**
	comp=N,6.0nm,0.3s,baz=191,slow=31,SNR=5.9						
KKAR	**Karatay Array**	**6.42**	**358**	Pn	**Pn**	**19 02 05.9**	**+1.4**
KKAR	**Karatay Array**	**6.42**	**358**	Pn	**Pn**	**19 02 06.0**	**+1.5**
CHMS	**Chumysh**	**6.99**	**24**	⇑P	**Pn**	**19 02 12.8**	**+1.2**
	comp=N,4.7nm,0.3s						
BHK	**Bhakra**	**7.00**	**137**	*e*P	**Pn**	**19 02 14.2**	**+2.2**
BHK				*e*S	**S**	**19 03 30.7**	**-2.0**
BOOM	**Boomskoye usch**	**7.01**	**33**	Pn	**Pn**	**19 02 14.0**	**+2.0**
TKM2	**Tokmak 2**	**7.22**	**29**	⇑P	**Pn**	**19 02 15.6**	**+0.8**
	comp=N,17nm,0.5s						
HRA	**Herat**	**7.38**	**254**	Pn	**Pn**	**19 02 18.9**	**+2.1**
TARG	**Taragay, Kyrgy**	**7.39**	**45**		**Pn**	**19 02 18.4**	**+1.3**
SMLA	**Simla**	**7.63**	**135**	*e*P	**Pn**	**19 02 21.4**	**+1.5**
SMLA				*e*S	**S**	**19 03 42.6**	**-4.7**
SMLA				IAML		19 03 49.6	
	comp=E,151nm,0.2s						
SMLA				IAML		19 03 51.9	
	comp=N,109nm,0.4s						
MDOK	**Medeo**	**8.03**	**34**	P	**Pn**	**19 02 27.4**	**+2.4**
	comp=N,17nm,0.8s						
KNDC	**Almaty**	**8.04**	**34**	⇑P	**Pn**	**19 02 26.7**	**+1.7**
	comp=N,20nm,0.5s						
DDI	**Dehra Dun**	**8.74**	**134**	*e*P	**Pn**	**19 02 35.0**	**+1.0**
DDI				*e*S	**S**	**19 04 07.9**	**-5.2**
DDI				IAML		19 04 22.4	
	comp=E,117nm,0.4s						
DDI				IAML		19 04 24.4	
	comp=N,88nm,0.3s						
PDGK	**Podgornoye**	**9.38**	**42**	P	**Pn**	**19 02 43.4**	**+1.4**
	comp=N,3.5nm,0.8s						
GEYT	**Alibeck**	**10.22**	**281**	P	**Pn**	**19 02 51.5**	**-1.0**
	comp=N,3.6nm,0.8s,baz=110,slow=13,SNR=9.1						
GEYT				S	**S**	**19 04 48.4**	**+1.1**
	comp=N,3.0nm,0.7s,baz=86,slow=24,SNR=1.2						
PTH	**Pithoragarh**	**10.59**	**129**	*e*P	**Pn**	**19 02 57.9**	**+0.4**
AJM	**Ajmer**	**10.67**	**161**	*e*P	**Pn**	**19 02 59.5**	**+1.2**
LGTI	**Lohaghat**	**10.68**	**130**	*e*P	**Pn**	**19 02 58.4**	**0.0**
MAKZ	**Makanchi**	**13.08**	**36**		**Pn**	**19 03 28.6**	**+0.7**
MK31	**Makanchi Array**	**13.22**	**37**		**Pn**	**19 03 30.6**	**+0.9**
MKAR	**Makanchi Array**	**13.22**	**37**		**Pn**	**19 03 30.3**	**+0.6**
MKAR	**Makanchi Array**	**13.22**	**37**	P	**Pn**	**19 03 29.8**	**+0.1**
	comp=N,2.0nm,0.6s,baz=227,slow=15,SNR=20						
MKAR				S	**S**	**19 05 54.1**	**-2.2**
	comp=N,0.8nm,0.7s,baz=224,slow=22,SNR=1.3						
WMQ	**Urumqi**	**14.70**	**56**	*e*P	**Pn**	**19 03 50.2**	**+2.5**
AB31	**Akbulak array**	**14.86**	**331**	P	**P**	**19 03 49.0**	**-0.4**
	comp=N,8.1nm,0.7s,baz=146,slow=12,SNR=128						
ABKAR	**Akbulak array**	**14.86**	**331**		**P**	**19 03 49.0**	**-0.4**
ABKAR	**Akbulak array**	**14.86**	**331**		**P**	**19 03 49.1**	**-0.2**
KURBB	**Kurchatov Arra**	**14.99**	**19**	P	**P**	**19 03 50.8**	**+0.1**
	comp=N,8.3nm,0.7s,baz=211,slow=11,SNR=29						
KURK	**Kurchatov**	**15.10**	**19**		**P**	**19 03 52.2**	**+0.3**
KURK				IAmb	IAmb	19 03 55.2	
	comp=Z,20nm,1.0s						
BVAR	**Borovoye Array**	**16.34**	**359**	P	**P**	**19 04 06.5**	**+1.0**
	comp=Z,17nm,0.5s,baz=159,slow=11,SNR=53						
BVAR				S	**S**	**19 07 00.5**	**-3.1**
	comp=Z,2.9nm,0.9s,baz=179,slow=22,SNR=2.5						
BRVK	**Borovoye**	**16.38**	**359**	P	**P**	**19 04 06.0**	**+0.1**
AKTO	**Aktyubinsk**

comp=Z,3.8nm,0.8s,baz=37,slow=5.1,SNR=5.7
ZAA0 Zalesovo Array 19.80 25 P **P 19 04 43.5 +0.6**
ZAA0 IAmb IAmb 19 05 00.0
comp=Z,9.3nm,1.4s
ZALV Zalesovo Beam 19.80 25 P **P 19 04 43.2 +0.4**
ZALV Zalesovo Beam 19.80 25 P **P 19 04 43.0 +0.2**
comp=Z,3.1nm,0.3s,baz=216,slow=11,SNR=16
ZALV S **S 19 08 09.6 -2.3**
comp=Z,1.3nm,0.7s,baz=222,slow=19,SNR=2.7
ARU Arti 21.42 341 P **P 19 05 00.1 +0.6**
ARU IAmb IAmb 19 05 02.3
comp=Z,4.9nm,0.7s
ARU Arti 21.42 341 P **P 19 05 00.0 +0.5**
comp=Z,3.4nm,0.4s,baz=172,slow=4.8,SNR=11
comp=Z,3.4nm,0.4s
PZH PanZhiHua 28.10 102 P **P 19 06 03.0 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.8s
SONM Songino Array 28.33 56 P **P 19 06 02.6 +0.5**
SONM Songino Array 28.33 56 P **P 19 06 03.4 +1.3**
comp=Z,1.4nm,0.6s,baz=266,slow=9.2,SNR=12
comp=Z,1.4nm,0.6s
MMAI Mount Meron Ar 29.21 273 P **P 19 06 10.8 +0.8**
comp=Z,1.7nm,0.7s,baz=74,slow=6.2,SNR=2.0
comp=Z,1.7nm,0.7s
BRTR Keskin Array B 29.26 287 P **P 19 06 10.9 +0.5**
BRTR Keskin Array B 29.26 287 P **P 19 06 10.6 +0.2**
comp=Z,1.3nm,0.7s,baz=105,slow=8.5,SNR=11
comp=Z,1.3nm,0.7s
HHC Hu-ho-hao-te 31.82 70 *eP* **P 19 06 35.7 +3.0**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,54nm,4.6s
ELL Elmali 32.64 283 P **P 19 06 40.7 +0.7**
AKASG Malin Array Be 32.73 309 P **P 19 06 40.5 +0.1**
comp=Z,0.8nm,0.4s,baz=81,slow=7.4,SNR=6.3
comp=Z,0.8nm,0.4s
XLT XiLinHaoTe 34.89 64 *eP* P 19 07 04.2 +5.0
XLT pP pP 19 07 55.0 +4.3
XLT sP sP 19 08 22.9 +2.6
XLT PcP **PcP 19 09 26.3 +0.4**
XLT pmax pmax
comp=Z,10.0nm,0.8s
XLT pmax pmax
comp=Z,100nm,4.6s
KARP Karpathos 35.08 281 P **P 19 06 59.0 -1.8**
IDI Anoyia 36.94 282 P **P 19 07 15.4 -1.2**
IDI IAmb IAmb 19 07 17.8
comp=Z,2.7nm,0.6s
FIA1 FINESS Array S 37.26 326 P **P 19 07 18.7 -0.1**
FINES FINESS Array B 37.26 326 P **P 19 07 19.1 +0.3**
FINES FINESS Array B 37.26 326 P **P 19 07 18.9 +0.1**
comp=Z,1.4nm,0.4s,baz=119,slow=10,SNR=16
comp=Z,1.4nm,0.4s
ARCES ARCESS Array B 40.93 338 P **P 19 07 49.5 +0.5**
ARCES IAmb IAmb 19 08 26.4
comp=Z,5.5nm,1.1s
ARCES ARCESS Array B 40.93 338 P **P 19 07 49.3 +0.3**
comp=Z,1.5nm,0.5s,baz=115,slow=7.7,SNR=22
comp=Z,1.5nm,0.5s
HFS Hagfors 42.85 322 P **P 19 08 04.5 -0.1**
comp=Z,2.3nm,0.5s,baz=98,slow=11,SNR=20
comp=Z,2.3nm,0.5s
YAK Yakutsk 43.89 36 P **P 19 08 12.1 -0.7**
YAK IAmb IAmb 19 08 13.5
comp=Z,11nm,0.8s
NC405 NORSAR Array S 43.92 323 P **P 19 08 13.3 +0.2**
NB2 NORSAR Subarra 44.16 323 P **P 19 08 14.3 -0.8**
comp=Z,1.2nm,0.5s,baz=98,slow=7.9
NOA NORSAR Array B 44.16 323 P **P 19 08 14.6 -0.5**
comp=Z,1.0nm,0.5s,baz=97,slow=7.7,SNR=12
NOA pP **pP 19 09 11.8 +4.1**
comp=Z,0.8nm,0.7s,baz=96,slow=8.1,SNR=3.1
comp=Z,1.0nm,0.5s
TIXI Tiksi 45.65 22 P **P 19 08 26.9 +0.3**
SPITS Spitsbergen Ar 47.29 347 P **P 19 08 40.1 +0.9**
comp=Z,1.2nm,0.4s,baz=111,slow=7.9,SNR=6.7
comp=Z,1.2nm,0.4s
EKA Eskdalemuir Ar 52.07 316 P **P 19 09 15.3 -0.1**
comp=Z,0.7nm,0.6s,baz=79,slow=7.2,SNR=4.6
comp=Z,0.7nm,0.6s
MJAR Matsushiro Arr 53.00 69 P **P 19 09 22.5 -0.1**
comp=Z,0.9nm,0.8s,baz=280,slow=11,SNR=5.1
MJAR pP **pP 19 10 22.7 +4.3**
comp=Z,1.1nm,0.8s,baz=298,slow=8.1,SNR=3.5
comp=Z,0.9nm,0.8s
ESDC Sonseca Array 57.26 298 P **P 19 09 52.2 -0.7**
comp=Z,1.4nm,0.9s,baz=67,slow=6.9,SNR=8.4
comp=Z,1.4nm,0.9s
TORD Torodi Ar. Bea 65.60 268 P **P 19 10 46.5 -2.3**
comp=Z,5.6nm,0.5s,baz=49,slow=6.4,SNR=12
comp=Z,5.6nm,0.5s
ILAR Eielson Array 74.64 16 P **P 19 11 41.8 -0.9**
comp=Z,0.4nm,0.5s,baz=314,slow=4.8,SNR=7.1
ILAR pP **pP 19 12 41.5 -0.7**
comp=Z,0.3nm,0.6s,baz=324,slow=34,SNR=2.9
comp=Z,0.4nm,0.5s
BOSA Boshof 77.81 220 P **P 19 11 59.8 -1.3**
comp=Z,2.9nm,0.8s,baz=23,slow=4.1,SNR=8.3
comp=Z,2.9nm,0.8s
YKA Yellowknife Ar 81.07 3 P **P 19 12 17.6 -0.5**
comp=Z,0.6nm,0.6s,baz=347,slow=5.7,SNR=15
YKA pP **pP 19 13 21.3 +3.0**
comp=Z,0.9nm,0.9s,baz=340,slow=5.7,SNR=4.2
comp=Z,0.6nm,0.6s
WRA Warramunga Arr 82.19 122 P **P 19 12 22.2 -2.3**
comp=Z,1.9nm,0.8s,baz=323,slow=4.9,SNR=13
comp=Z,1.9nm,0.8s
ASAR Alice Springs 84.46 125 P **P 19 12 33.9 -2.2**
comp=Z,1.5nm,0.6s,baz=309,slow=5.1,SNR=29
comp=Z,1.5nm,0.6s
TXAR Lajitas Array 114.13 355 PKP **PKiKP 19 18 41.6 +0.4**
comp=Z,0.5nm,1.1s,baz=82,slow=1.9,SNR=2.6
SNAA Sanae 119.53 200 PKP **PKPdf 19 18 48.5 -1.5**
comp=Z,0.7nm,0.7s,baz=90,slow=1.0,SNR=2.2
QSPA South Pole Qui 126.48 180 PKP **PKPdf 19 19 01.8 -1.6**
comp=Z,1.4nm,0.8s,baz=252,slow=1.5,SNR=6.2
CPUP Villa Florida 135.10 268 PKP **PKPdf 19 19 18.8 -2.1**
comp=Z,1.1nm,0.6s,baz=134,slow=0.8,SNR=6.1
LPAZ La Paz 138.44 288 PKP **PKPdf 19 19 27.1 -1.0**
comp=Z,0.6nm,0.5s,baz=63,slow=4.5,SNR=4.0
PLCA Paso Flores 149.77 250 PKPbc **PKPbc 19 19 50.5 -0.8**
comp=Z,5.1nm,1.0s,baz=180,slow=1.0,SNR=9.0

*ASIES **01** 19:07:09.6, 22°.21N×121°.45E, h21km, ML3.8, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.78; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$-0.48; $M_{r\theta}$-1.14; $M_{\theta\phi}$0.54; $M_{\phi r}$0.68; Fault plane solution: $M_0$1.59099×10^{21} NP1: ϕ_s303.36000°, δ74.24000°, λ79.11000°. NP2: ϕ_s158.67000°, δ19.08000°, λ123.79000°. Principal axes: T Plg59.3570°, Azm198.1750°; N Plg10.4750°, Azm306.3600°; P Plg28.4350°, Azm42.1050°;*
*TAP **01** 19:07:09.6, 22°.21N×121°.45E, h21km±1km, ML3.8, C*
*JMA **01** 19:07:10.7±0.2, 22°.5N±0°.8×121°.6E±0°.6, h6km±3km, MV3.4/14, TAIWAN REGION*
ISC 01 19:07:09.1±0.9, 22°.18N±0°.03×121°.47E±0°.02, h27km±8km, n111, σ1$08/147, 6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.16**	**152**	*i* P	**Pb**	**19 07 15.3**	**+0.8**
LAY	baz=144			*e*S	**Sb**	**19 07 19.0**	**+0.7**
LYUB	**Lan-yu**	**0.21**	**150**	*i* P	**Pb**	**19 07 15.0**	**0.0**
LYUB	baz=143			*i* S	**Sb**	**19 07 18.2**	**-0.9**
LDUT	**Ludao**	**0.49**	**360**	*e*P	**Pb**	**19 07 18.8**	**-0.4**
LDUT	baz=11			*e*S	**Sb**	**19 07 25.3**	**-0.8**
TAW	**Tawu**	**0.56**	**288⇓**	*e*P	**Pb**	**19 07 19.9**	**-0.5**
TAW	baz=285			S	**Sb**	**19 07 27.1**	**-1.0**
TAWH	**Dawu Township**	**0.56**	**286⇓**	*i*P	**Pb**	**19 07 20.0**	**-0.4**
TAWH	baz=283			S	**Sb**	**19 07 27.0**	**-1.1**
SMST	**Manzhou Townsh**	**0.61**	**255**	*e*P	**Pb**	**19 07 21.0**	**-0.2**
	baz=251						
EAST	**Anshuo**	**0.61**	**289⇓**	*i*P	**Pb**	**19 07 20.7**	**-0.6**
	baz=287						
EAST				S	**Sb**	**19 07 28.2**	**-1.3**
	baz=287						
SLIU	**Shizi**	**0.62**	**273⇓**	*i*P	**Pb**	**19 07 21.0**	**-0.4**
	baz=270						
SLIU				*e*S	**Sb**	**19 07 28.6**	**-1.2**
	baz=270						
ECL	**Taimali**	**0.63**	**311⇓**	*i*P	**Pb**	**19 07 20.7**	**-0.9**
	baz=297						
ECL				S	**Sb**	**19 07 28.5**	**-1.6**
	baz=297						
TTN	**Taitung**	**0.64**	**332**	*e*P	**Pn**	**19 07 22.4**	**-0.1**
	baz=341						
TTN				*e*S	**Sn**	**19 07 32.0**	**+0.2**
	baz=341						
TWKBT	**Hengchun**	**0.66**	**249**	*e*P	**Pb**	**19 07 22.1**	**+0.1**
	baz=255						
TWKBT				*e*S	**Sb**	**19 07 30.6**	**-0.1**
	baz=255						
TWK1	**Hengchun**	**0.66**	**249**	*i* P	**Pb**	**19 07 22.0**	**-0.1**
	baz=255						
TWK1				*e*S	**Sb**	**19 07 30.4**	**-0.5**
	baz=255						
HEN	**Hengchun**	**0.70**	**256**	*e*P	**Pb**	**19 07 22.8**	**0.0**
	baz=252						
HEN				*e*S	**Sb**	**19 07 31.7**	**-0.4**
	baz=252						
TWGBT	**Beinan**	**0.73**	**330**	P	**Pb**	**19 07 22.2**	**-1.0**
TWGBT	**Beinan**	**0.73**	**330**	*e*P	**Pb**	**19 07 22.4**	**-0.8**
	baz=316						
TWG	**Pinlang**	**0.73**	**330⇓**	*i*P	**Pb**	**19 07 22.4**	**-0.9**
	baz=316						
LONT	**Longtian**	**0.79**	**336**	*e*P	**Pb**	**19 07 23.5**	**-0.7**
	baz=345						
SCZT	**Fangliau**	**0.81**	**284**	*e*P	**Pb**	**19 07 24.0**	**-0.6**
	baz=289						
MASBT	**Mashibuluo**	**0.89**	**299**	*e*P	**Pb**	**19 07 25.0**	**-0.9**
	baz=298						
CHKT	**Chengkung**	**0.92**	**354**	*e*P	**Pb**	**19 07 25.4**	**-1.0**
	baz=3.0						
ECS	**Chishang**	**0.94**	**346**	*e*P	**Pb**	**19 07 26.7**	**-0.1**
	baz=352						
EHD	**Haiduan**	**0.99**	**346**	*e*P	**Pb**	**19 07 27.2**	**-0.5**
	baz=334						
CHKH	**Chenggong**	**1.01**	**356**	*e*P	**Pb**	**19 07 27.5**	**-0.5**
	baz=8.0						
FULB	**Fuli**	**1.02**	**351**	*e*P	**Pb**	**19 07 27.4**	**-0.9**
	baz=360						
ELDTW	**Lidau**	**1.09**	**337**	*e*P	**Pb**	**19 07 27.5**	**-1.9**
	baz=338						
SLGT	**Liugui**	**1.11**	**317**	*e*P	**Pb**	**19 07 29.5**	**-0.2**
	baz=321						
SLGT				*i* S	**Sn**	**19 07 44.2**	**+0.8**
	baz=321						
ECBN	**Changbin**	**1.13**	**359**	*e*P	**Pb**	**19 07 29.9**	**-0.1**
	baz=10.0						
TWM1	**Shoushan**	**1.16**	**304**	*e*P	**Pb**	**19 07 31.6**	**+1.1**
	baz=303						
EYUL	**Yuli**	**1.17**	**353**	*e*P	**Pn**	**19 07 29.9**	**+0.2**
	baz=2.0						
STYH	**Taoyuan**	**1.18**	**327**	*e*P	**Pn**	**19 07 29.8**	**0.0**
	baz=337						
TWF1	**Yuli**	**1.18**	**352**	*e*P	**Pn**	**19 07 30.1**	**+0.3**
	baz=341						
SGST	**Jiashian**	**1.22**	**318**	*e*P	**Pn**	**19 07 30.3**	**-0.1**
	baz=322						
YULB	**Yu-li**	**1.22**	**352**	P	**Pb**	**19 07 31.2**	**-0.3**
YULB	**Yu-li**	**1.22**	**352**	*e*P	**Pn**	**19 07 29.6**	**-0.8**
	baz=341						
HGSD	**Ruisui**	**1.30**	**358**	*e*P	**Pn**	**19 07 31.9**	**+0.3**
	baz=10.0						
WTP	**Ta-pu**	**1.32**	**323**	*e*P	**Pb**	**19 07 33.2**	**-0.1**
	baz=324						
WTP				*i* S	**Sb**	**19 07 51.0**	**+1.2**
	baz=324						
CHN1	**Nanshi**	**1.32**	**319**	*e*P	**Pb**	**19 07 33.4**	**+0.1**
	baz=319						
CHN1				S	**Sb**	**19 07 51.4**	**+1.5**
	baz=319						
EHY	**Hungye**	**1.32**	**354**	*e*P	**Pn**	**19 07 30.9**	**-0.9**
	baz=343						
SHHT	**Tainan City**	**1.33**	**309**	*e*P	**Pb**	**19 07 34.5**	**+1.0**
	baz=308						
SHHT				*e*S	**Sb**	**19 07 52.6**	**+2.5**
	baz=308						
TPUB	**Ta-pu**	**1.36**	**325**	P	**Pb**	**19 07 34.2**	**+0.3**
TPUB	**Ta-pu**	**1.36**	**325**	*e*P	**Pb**	**19 07 33.6**	**-0.3**
	baz=325						
TPUB				*e*S	**Sb**	**19 07 51.8**	**+0.9**
	baz=325						
SNST	**Tainan City**	**1.37**	**319**	*e*P	**Pb**	**19 07 34.3**	**+0.2**
	baz=319						
SNST				*i* S	**Sb**	**19 07 52.8**	**+1.6**
	baz=319						
YUS	**Yu-Shan**	**1.39**	**340**	*e*P	**Pb**	**19 07 34.9**	**+0.2**
	baz=333						
TWK	**Hsinying**	**1.41**	**320**	*e*P	**Pb**	**19 07 34.9**	**+0.1**
	baz=320						
TWK				*e*S	**Sb**	**19 07 53.8**	**+1.4**
	baz=320						
WCKO	**Fanlu**	**1.48**	**328**	*e*P	**Pb**	**19 07 36.4**	**+0.4**
	baz=328						
WCKO				S	**Sb**	**19 07 55.5**	**+1.0**
	baz=328						
WARBT	**Fenglin Townsh**	**1.53**	**357**	*e*P	**Pn**	**19 07 34.5**	**-0.3**
	baz=346						
VWDT	**VWDT**	**1.59**	**349**	*e*P	**Pb**	**19 07 37.1**	**-0.8**
	baz=1.0						
TSCK	**Chigu Township**	**1.60**	**307**	*e*P	**Pb**	**19 07 38.2**	**+0.2**
	baz=291						
TSCK				*e*S	**Sb**	**19 07 58.0**	**+0.2**
	baz=291						
SHUL	**Shoufeng**	**1.60**	**3**	*e*P	**Pn**	**19 07 36.7**	**+1.1**
	baz=14						
ICHU	**Yijhu**	**1.61**	**317**	*e*P	**Pn**	**19 07 37.0**	**+1.3**
	baz=317						
WHYT	**Xinyi Township**	**1.61**	**339**	*e*P	**Pb**	**19 07 37.6**	**-0.6**
	baz=352						
WHYT				*e*S	**Sb**	**19 07 59.9**	**+1.7**
	baz=352						
ESL	**Shilin**	**1.62**	**359**	*e*P	**Pn**	**19 07 36.9**	**+0.9**
	baz=348						
CHN8	**Yiju**	**1.64**	**315**	*e*P	**Pb**	**19 07 39.0**	**+0.3**
	baz=315						
SSLB	**Suanglung**	**1.67**	**344**	P	**Pb**	**19 07 39.4**	**+0.2**
SSLB	**Suanglung**	**1.67**	**344**	*e*P	**Pn**	**19 07 37.9**	**+1.2**
	baz=355						
SSLB				*e*S	**Sb**	**19 07 59.3**	**-0.5**
	baz=355						
WGK	**Gukeng**	**1.72**	**331**	*e*P	**Pb**	**19 07 38.8**	**-1.1**
	baz=331						
WDLH	**Douliu**	**1.73**	**330**	*e*P	**Pn**	**19 07 38.6**	**+1.2**
	baz=312						
SMLT	**Sun Moon Lake**	**1.77**	**343**	*e*P	**Pb**	**19 07 40.0**	**-1.0**
	baz=354						
ETM	**Tongmen**	**1.78**	**1**	*e*P	**Pn**	**19 07 38.8**	**+0.7**
	baz=351						
OWD	**Renai**	**1.79**	**351**	*e*P	**Pn**	**19 07 39.5**	**+1.2**
	baz=4.0						
TYC	**Yuchr**	**1.81**	**342**	*e*P	**Pb**	**19 07 40.7**	**-0.8**
	baz=326						
TYC				*e*S	**Sb**	**19 08 04.6**	**+0.9**
	baz=326						
WUSB	**Renai**	**1.83**	**350**	*e*P	**Pn**	**19 07 40.0**	**+1.0**
	baz=2.0						
LXIB	**Xiulin Townshi**	**1.83**	**358**	*e*P	**Pn**	**19 07 38.6**	**-0.4**
	baz=360						
WNT	**Mingjian**	**1.84**	**337**	*e*P	**Pb**	**19 07 41.4**	**-0.7**
	baz=338						
WNT				*e*S	**Sb**	**19 08 04.6**	**-0.1**
	baz=338						
WSF	**Szhu**	**1.85**	**322**	*e*P	**Pn**	**19 07 39.6**	**+0.5**
	baz=321						
CHGB	**Renai**	**1.89**	**352**	*e*P	**Pn**	**19 07 40.3**	**+0.5**
	baz=5.0						
TWD	**Chiawan**	**1.89**	**3**	*e*P	**Pn**	**19 07 40.6**	**+1.0**
	baz=15						
WCS	**Beigang Elemen**	**1.94**	**345**	*e*P	**Pn**	**19 07 42.1**	**+1.8**
	baz=329						
WHF	**Hehuan Shan**	**1.96**	**355**	*e*P	**Pn**	**19 07 42.3**	**+1.3**
	baz=7.0						
NACB	**Ninganchiao**	**1.99**	**3**	P	**Pb**	**19 07 43.2**	**-1.4**
NACB	**Ninganchiao**	**1.99**	**3**	*e*P	**Pn**	**19 07 41.3**	**+0.3**
	baz=13						
NACB				*e*S	**Sn**	**19 08 06.0**	**+1.0**
	baz=13						
WDGT	**Dungji**	**1.99**	**303**	*e*P	**Pn**	**19 07 41.3**	**+0.3**
	baz=302						
WDGT				*i* S	**Sn**	**19 08 05.2**	**+0.2**
	baz=302						
FUSS	**Fushou**	**2.07**	**354**	*e*P	**Pn**	**19 07 43.5**	**+1.2**
	baz=6.0						
TWT	**Tachien**	**2.08**	**353**	*e*P	**Pb**	**19 07 44.7**	**-1.6**
	baz=4.0						
EOS4	**EOS4**	**2.08**	**22**	*e*P	**Pn**	**19 07 43.7**	**+1.8**
	baz=22						
TDCB	**Techi**	**2.08**	**352**	*e*P	**Pn**	**19 07 43.9**	**+1.5**
	baz=4.0						
WHP	**Taichung City**	**2.14**	**347**	*e*P	**Pb**	**19 07 46.2**	**-1.1**
	baz=359						
VCHM	**Qimei**	**2.14**	**299**	*i* P	**Pn**	**19 07 43.5**	**+0.4**
	baz=297						
VCHM				*i* S	**Sn**	**19 08 08.0**	**-0.8**
	baz=297						
PHUB	**P'eng-hu**	**2.20**	**307**	*e*P	**Pn**	**19 07 44.0**	**+0.2**
	baz=306						
PHUB				*e*S	**Sn**	**19 08 09.5**	**-0.7**
	baz=306						
EOS3	**EOS3**	**2.23**	**20**	*e*P	**Pn**	**19 07 46.4**	**+2.1**
	baz=18						
NNSB	**Datong**	**2.24**	**358**	*e*P	**Pn**	**19 07 46.1**	**+1.5**
	baz=359						
PNG	**Penghu**	**2.24**	**308**	*e*P	**Pn**	**19 07 45.1**	**+0.6**
	baz=307						
PNG				*e*S	**Sn**	**19 08 11.9**	**+0.7**
	baz=307						
ENA	**Nanau**	**2.25**	**6**	*e*P	**Pn**	**19 07 46.0**	**+1.4**
	baz=8.0						
EWUT	**Wuta**	**2.27**	**7**	*e*P	**Pn**	**19 07 46.8**	**+1.9**
	baz=16						
LATG	**Datong**	**2.34**	**1**	*e*P	**Pn**	**19 07 46.8**	**+0.8**
	baz=3.0						
NDT	**Datong Townshi**	**2.41**	**1**	*e*P	**Pb**	**19 07 49.7**	**-2.1**
	baz=2.0						
ENTT	**Nioudou**	**2.45**	**2**	*e*P	**Pn**	**19 07 49.4**	**+2.0**
	baz=4.0						
NFF	**Wufeng Townshi**	**2.46**	**353**	*e*P	**Pb**	**19 07 50.4**	**-2.3**
	baz=335						
YHNB	**Yeheng**	**2.48**	**358**	P	**Pb**	**19 07 52.1**	**-0.9**
YHNB	**Yeheng**	**2.48**	**358**	*e*P	**Pn**	**19 07 49.9**	**+2.1**
	baz=9.0						
NSK	**Sanguang**	**2.48**	**358**	*e*P	**Pn**	**19 07 50.1**	**+2.2**
	baz=9.0						
FUSB	**Fushanzhiwuyua**	**2.57**	**2**	*e*P	**Pn**	**19 07 51.5**	**+2.4**
	baz=4.0						
NWLT	**Wulai**	**2.58**	**1**	*e*P	**Pn**	**19 07 51.7**	**+2.5**
	baz=2.0						
ILA	**Ilan**	**2.58**	**6**	*e*P	**Pn**	**19 07 51.0**	**+1.8**
	baz=357						
JYNG	**Yonagunijimaku**	**2.63**	**31**	*e*S	**Sn**	**19 08 21.1**	**+0.2**
TIPB	**Shuangxi**	**2.80**	**7**	*e*P	**Pn**	**19 07 55.3**	**+3.2**
	baz=358						
HATJ	**Hateruma jima**	**2.85**	**49**	*e*P	**Pn**	**19 07 53.6**	**+0.8**
HATJ				*e*S	**Sn**	**19 08 25.1**	**-1.1**
YM01	**YM01**	**2.95**	**2**	*e*P	**Pn**	**19 07 55.1**	**+0.8**
	baz=3.0						
IRIF	**Iriomote-Funau**	**2.98**	**44**	P	**Pn**	**19 07 55.9**	**+1.2**
IRIF				*e*S	**Sn**	**19 08 28.8**	**-0.8**
JKRS	**Kuro-shima**	**3.10**	**48**	P	**Pn**	**19 07 57.6**	**+1.2**
JKRS				S	**Sn**	**19 08 31.5**	**-1.1**
JIJ	**Ishigaki jima**	**3.28**	**48**	P	**Pn**	**19 07 59.3**	**+0.6**
JIJ				*e*S	**Sn**	**19 08 35.2**	**-1.7**
VWUC	**VWUC**	**3.35**	**327**	*e*P	**Pn**	**19 08 00.7**	**+0.9**
	baz=326						
JISG	**Ishigakijimahi**	**3.54**	**47**	P	**Pn**	**19 08 03.0**	**+0.6**
JISG				S	**Sn**	**19 08 42.0**	**-1.4**
PTMZ	**Houxiangcun**	**3.57**	**323**	*e*P	**Pn**	**19 08 03.8**	**+1.1**
	baz=323						
KNMB	**Chin-men Tao**	**3.63**	**309**	*e*P	**Pn**	**19 08 03.2**	**-0.4**
	baz=307						
ZPLA	**Ao Xicun**	**3.84**	**298**	*e*P	**Pn**	**19 08 05.8**	**-0.6**
	baz=295						
JTJ	**Tarama**	**3.85**	**50**	*e*P	**Pn**	**19 08 07.6**	**+1.1**
JTJ				S	**Sn**	**19 08 49.8**	**-1.1**
DSXP	**Dongshan**	**4.03**	**293**	*e*P	**Pn**	**19 08 08.8**	**-0.2**
	baz=290						
MATB	**Ma-tsu**	**4.19**	**341**	*e*P	**Pn**	**19 08 12.9**	**+1.6**
	baz=328						
JMJ2	**Miyako jima3**	**4.36**	**54**	*e*S	**Sn**	**19 09 03.5**	**-0.1**
SXFK	**Yanhouchang**	**5.46**	**321**	*e*P	**Pn**	**19 08 28.7**	**0.0**
	baz=317						

*IDC **01** 19:11:08.4±2.0, 19°.14N×39°.12E, h0km, mb3.7/10, mbtmp3.7/10, MS3.7/8, Error ellipse: s-maj=45.6km s-min=22.7km az=167.0*
*SGS **01** 19:11:19.4, 18°.90N×39°.85E, h19km, Ml3.0*
ISC 01 19:11:07.7±1.0, 18°.9N±0°.1×39°.43E±0°.08, h10km, n28, σ1$50/21, mb3.8/9, MS3.9/5, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMGES	**AMGES**	**2.05**	**102**	S	**Sn**	**19 12 06.3**	**-1.6**
AMGES	**AMGES**	**2.05**	**102**	P	**Pb**	**19 11 45.7**	**+0.7**
BRK01	**Al Birk**	**2.13**	**107**	S	**Sn**	**19 12 08.1**	**-1.8**
BRK01	**Al Birk**	**2.13**	**107**	P	**Pb**	**19 11 47.2**	**+0.8**
BRK04	**Al Birk**	**2.28**	**97**	P	**Pb**	**19 11 49.4**	**+0.4**
BRK03	**Al Birk**	**2.46**	**107**	S	**Sn**	**19 12 16.7**	**-1.3**
BRK03				P	**Pb**	**19 11 52.2**	**+0.3**
BRK02	**Al Birk**	**2.47**	**112**	P	**Pb**	**19 11 52.5**	**+0.3**
NAMS	**An Nimas**	**2.64**	**84**	S	**Sn**	**19 12 20.6**	**-2.2**
NAMS	**An Nimas**	**2.64**	**84**	P	**Pb**	**19 11 54.4**	**-0.8**
DRBS	**Ad Darb**	**2.94**	**111**	P	**Pb**	**19 11 59.5**	**-0.7**
ATD	**Arta Tunnel**	**8.05**	**155**	LR	LR	19 15 57.6	
	comp=Z,6.0nm,21.7s,baz=338,slow=34						
EIL	**Elat**	**11.45**	**340**	LR	LR	19 17 21.2	
	comp=Z,125nm,18.3s,baz=176,slow=33						
MMAI	**Mount Meron Ar**	**14.49**	**346**	LR	LR	19 19 23.8	
	comp=Z,144nm,19.8s,baz=100,slow=35						
WSAR	**Wadi Sarin**	**18.42**	**73**	LR	LR	19 23 58.0	
	comp=Z,304nm,21.2s,baz=187,slow=41						
IDI	**Anoyia**	**20.77**	**325**	P	**P**	**19 15 48.0**	**-1.0**
	1.8nm,0.6s,baz=148,slow=18,SNR=2.1						
	1.8nm,0.6s						
BRTR	**Keskin Array B**	**21.33**	**348**	P	**P**	**19 15 55.1**	**+0.1**
	1.3nm,0.8s,baz=161,slow=12,SNR=8.9						
	1.3nm,0.8s						
KBZ	**Khabaz**	**24.91**	**6**	LR	LR	19 27 07.8	
	comp=Z,90nm,18.0s,baz=192,slow=39						
AKASG	**Malin Array Be**	**32.73**	**348**	P	**P**	**19 17 39.6**	**-0.9**
	0.4nm,0.3s,baz=168,slow=7.3,SNR=1.9						
	0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**36.66**	**267**	P	**P**	**19 18 14.8**	**-0.1**
	2.0nm,0.9s,baz=62,slow=10,SNR=6.9						
	2.0nm,0.9s						
ESDC	**Sonseca Array**	**42.62**	**308**	P	**P**	**19 19 03.5**	**-0.9**
	1.0nm,1.1s,baz=116,slow=8.7,SNR=3.3						
	1.0nm,1.1s						
KURBB	**Kurchatov Arra**	**44.24**	**35**	P	**P**	**19 19 19.1**	**+1.9**
	1.5nm,0.9s,baz=240,slow=8.3,SNR=6.2						
KURBB				LR	LR	19 40 00.0	
	comp=Z,149nm,19.2s,baz=166,slow=39						
	1.5nm,0.9s						
MKAR	**Makanchi Array**	**44.69**	**42**	P	**P**	**19 19 23.7**	**+2.8**
	2.5nm,1.0s,baz=240,slow=6.4,SNR=12						
	2.5nm,1.0s						
NOA	**NORSAR Array B**	**46.56**	**342**	P	**P**	**19 19 34.0**	**-1.5**
	0.5nm,0.8s,baz=142,slow=7.3,SNR=1.9						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**49.24**	**34**	P	**P**	**19 19 58.1**	**+1.9**
	0.9nm,0.8s,baz=258,slow=10,SNR=4.9						
	0.9nm,0.8s						
NRIK	**Noril'sk**	**58.29**	**18**	LR	LR	19 49 13.8	
	comp=Z,182nm,21.9s,baz=142,slow=39						
SONM	**Songino Array**	**60.81**	**45**	P	**P**	**

WTMC				S	Sb	19 11 25.4	+1.5
KHZ	Kahutara	0.41	87	P	Pb	19 11 24.6	+0.4
KHZ	Kahutara	0.41	87	P	Pb	19 11 24.7	+0.4
KHZ				S	Sb	19 11 31.0	+0.8
CECS	Cheviot Emerge	0.43	151	P	Pn	19 11 26.3	-0.7
SCAC	Scargill	0.50	186	P	Pb	19 11 25.5	-0.3
KIKS	Kaikoura	0.51	88	P	Pn	19 11 27.1	-1.0
KIKS				S	Sn	19 11 35.4	-1.2
GVZ	Greta Valley S	0.53	176	P	Pn	19 11 27.8	-0.6
GVZ				S	Sn	19 11 36.4	-0.6
LSRC	Lake Sumner Ro	0.54	217	P	Pg	19 11 26.3	+0.2
LSRC				S	Sb	19 11 34.8	+0.7
WAKC	Waikari	0.56	202	P	Pb	19 11 27.7	+0.8
WAKC				S	Sn	19 11 36.7	-1.1
SJFS	Springs Juncti	0.61	280	P	Pg	19 11 27.3	-0.1
SJFS				S	Sg	19 11 34.7	-0.7
LTZ	Lake Taylor	0.63	237	P	Pg	19 11 27.8	0.0
LTZ				S	Sg	19 11 35.8	-0.3
THZ	Tophouse	0.68	355	P	Pg	19 11 28.0	-0.7
THZ				S	Sg	19 11 36.0	-1.7
AMCZ	Amberley	0.78	199	P	Pn	19 11 32.1	+0.3
KEKS	Kekerengu Vall	0.88	57	P	Pg	19 11 33.1	+0.6
BSWZ	Blackbirch Sta	0.98	43	P	Pb	19 11 33.8	-0.2
MRNZ	Matariki Terra	1.06	351	P	Pb	19 11 34.8	-0.5
MRNZ				S	Sb	19 11 48.0	-0.9
DSZ	Denniston Nort	1.12	308	P	Pn	19 11 36.6	0.0
DSZ				S	Sb	19 11 51.1	+0.2
OXZ	Oxford	1.13	218	P	Pn	19 11 36.8	+0.2
OXZ				S	Sg	19 11 52.2	+0.3
CMWZ	Cape Campbell	1.14	53	P	Pg	19 11 38.3	+0.8
CMWZ				S	Sg	19 11 56.8	+4.4
INZ	Inchbonnie	1.18	256	P	Pn	19 11 36.9	-0.3
TUWZ	Tuamarina	1.24	35	P	Pn	19 11 37.3	-0.2
NNZ	Nelson	1.26	14	P	Pn	19 11 37.7	-0.6
OKCZ	Okains Bay	1.28	178	P	Pb	19 11 39.1	-0.1
OKCZ				S	Sg	19 11 56.2	-0.6
MQZ	McQueen's Vall	1.29	191	P	Pn	19 11 38.3	-0.4
MQZ				S	Sn	19 11 55.2	-0.5
TKNZ	Takaka Hill	1.41	359	P	Pn	19 11 40.4	0.0
TKNZ				S	Sn	19 11 59.0	+0.3
RACZ	Rakaia	1.43	206	P	Pn	19 11 40.5	-0.2
RACZ				S	Sb	19 11 59.9	+0.2
AKCZ	Akaroa Harbour	1.43	182	P	Pn	19 11 40.7	-0.1
MHCZ	Mount Hutt	1.51	223	P	Pn	19 11 41.5	-0.4
TCW	Tory Channel	1.56	38	P	Pn	19 11 42.8	+0.3
QRZ	Quartz Range	1.65	348	P	Pn	19 11 44.7	+0.9
QRZ	Quartz Range	1.65	348	P	Pn	19 11 44.4	+0.6
SNZO	South Karori	1.71	49	P	Pn	19 11 45.0	+0.5
WACZ	Wakanui South	1.72	209	P	Pn	19 11 44.4	-0.3
BHW	Baring Head	1.74	54	P	Pn	19 11 45.2	+0.2
WEL	Wellington	1.76	50	P	Pn	19 11 45.8	+0.6
WVZ	Waitaha Valley	1.77	248	P	Pn	19 11 46.1	+0.6
DUWZ	D'Urville Isla	1.78	23	P	Pn	19 11 45.9	+0.3
PLWZ	Palliser	1.90	63	P	Pn	19 11 46.8	-0.4
RPZ	Rata Peaks	1.91	227	P	Pn	19 11 46.9	-0.4
RPZ	Rata Peaks	1.91	227	P	Pn	19 11 46.9	-0.4
MSWZ	Moikau Station	1.97	59	P	Pn	19 11 48.0	-0.3
ARCZ	Arundel	2.00	221	P	Pn	19 11 48.3	-0.4
PAWZ	Paruwai Farm	2.10	61	P	Pn	19 11 49.6	-0.4
KIW	Kapiti Island	2.14	43	P	Pn	19 11 51.1	+0.7
GCSZ	Gaunt Creek Bo	2.14	245	P	Pn	19 11 51.2	+0.7
MTW	Mount Morrison	2.27	57	P	Pn	19 11 51.7	-0.7
OGWZ	Otaki Gorge	2.30	46	P	Pn	19 11 52.9	+0.2
TMZ	Timaru	2.42	216	P	Pn	19 11 53.9	-0.5
HOWZ	Holdsworth Sta	2.44	52	P	Pn	19 11 54.1	-0.6
TMWZ	Te Maipa	2.55	59	P	Pn	19 11 55.2	-0.9
FOZ	Fox Glacier	2.57	244	P	Pn	19 11 57.2	+0.8
MRZ	Mangatainoka R	2.63	48	P	Pn	19 11 56.9	-0.4
TIWZ	Tintock	2.74	54	P	Pn	19 11 58.6	-0.1
LBZ	Lake Benmore	2.82	225	P	Pn	19 11 59.8	-0.1
POWZ	Post Office Ro	2.93	47	P	Pn	19 12 02.0	+0.7
PRWZ	Pori Road	2.93	51	P	Pn	19 12 00.9	-0.5
BFZ	Birch Farm	3.01	55	P	Pn	19 12 02.5	+0.1
WAZ	Wanganui	3.08	30	P	Pn	19 12 05.6	+2.2
NMEZ	Namu Road	3.10	13	P	Pn	19 12 06.9	+3.3
ODZ	Otahua Downs	3.11	212	P	Pn	19 12 03.3	-0.5
ODZ	Otahua Downs	3.11	212	P	Pn	19 12 03.1	-0.7
LREZ	Lake Rotokare	3.17	20	P	Pn	19 12 07.8	+3.2
KHEZ	Kahui Hut	3.24	14	P	Pn	19 12 09.0	+3.3
KHEZ	Kahui Hut	3.24	14	P	Pn	19 12 08.3	+2.6
NBEZ	Newall Road No	3.24	12	P	Pn	19 12 08.3	+2.7
TSZ	Takapari Road	3.27	44	P	Pb	19 12 12.0	-1.0
NEZ	North Egmont	3.28	15	P	Pn	19 12 09.3	+3.1
PKE	Pukeiti	3.33	13	P	Pn	19 12 09.8	+2.8
DREZ	Durham Road	3.38	16	P	Pn	19 12 10.1	+2.6
JCZ	Jackson Bay	3.48	241	P	Pn	19 12 10.4	+1.4
JCZ	Jackson Bay	3.48	241	P	Pn	19 12 08.9	-0.1
PNHZ	Pukenui	3.50	45	P	Pb	19 12 16.1	-0.9
MHEZ	Mangahewa	3.51	17	P	Pn	19 12 12.2	+2.9
VRZ	Vera Road	3.58	23	P	Pn	19 12 12.5	+2.3
PKVZ	Pokaka	3.62	30	P	Pn	19 12 12.7	+1.8
MOVZ	Moawhango	3.68	36	P	Pn	19 12 12.2	+0.4
WNVZ	Wahianoa	3.69	33	P	Pn	19 12 13.3	+1.4
WHVZ	Whangaehu Hut	3.72	33	P	Pn	19 12 13.5	+1.1
MAVZ	Matarangi	3.72	32	P	Pn	19 12 13.7	+1.2
FWVZ	Far West T-bar	3.73	32	P	Pn	19 12 13.6	+1.0
TUVZ	Tukino	3.76	33	P	Pb	19 12 19.6	-1.9
COVZ	Chateau Observ	3.77	32	P	Pn	19 12 16.3	+3.2
OTVZ	Oturere	3.85	33	P	Pn	19 12 15.7	+1.5
EAZ	Earnscleugh	3.86	222	P	Pn	19 12 13.3	-0.8
NNVZ	North Ngauruho	3.86	32	P	Pn	19 12 16.5	+2.2
WTVZ	West Tongariro	3.87	32	P	Pn	19 12 15.8	+1.5
ETVZ	East Tongariro	3.90	33	P	Pn	19 12 15.8	+1.0
KRVZ	Karewarewa	3.90	32	P	Pn	19 12 16.3	+1.2
TMVZ	Te Maari	3.91	33	P	Pb	19 12 20.4	-3.7
RATZ	Rangitukua	4.15	32	P	Pb	19 12 24.3	-3.8
HIZ	Hauiti	4.17	21	P	Pn	19 12 20.2	+1.7
HIZ	Hauiti	4.17	21	P	Pn	19 12 20.3	+1.9
BKZ	Black Stump Fm	4.22	40	P	Pn	19 12 18.3	-0.8
BKZ	Black Stump Fm	4.22	40	P	Pb	19 12 25.8	-3.4
TUZ	Tuapeka	4.26	213	P	Pn	19 12 19.3	-0.3
MRHZ	Matea Rd	4.45	37	P	Pn	19 12 21.2	-1.1
TLZ	Tolley Road	4.54	26	P	Pn	19 12 26.2	+2.6
SYZ	Scrubby Hill	4.93	213	P	Pn	19 12 29.0	+0.1
SYZ	Scrubby Hill	4.93	213	P	Pn	19 12 28.7	-0.1
TOZ	Tahuroa Road	5.08	23	P	Pn	19 12 31.9	+0.9
URZ	Urewera	5.23	38	P	Pn	19 12 33.8	+0.8
MWZ	Matawai	5.37	42	P	Pn	19 12 33.0	-1.9
AWAZ	Awhitu Peninsu	5.52	14	P	Pn	19 12 39.1	+2.2
MKAZ	Moumakai	5.59	18	P	Pn	19 12 39.1	+1.2
WTAZ	Waiatarua	5.64	13	P	Pn	19 12 41.0	+2.4
APZ	The Paps	5.66	217	P	Pn	19 12 38.7	-0.1
ETAZ	East Tamaki Re	5.68	16	P	Pn	19 12 40.9	+1.7
MBAZ	Motutapu North	5.85	15	P	Pn	19 12 42.7	+1.2
WIAZ	Waiheke Island	5.88	17	P	Pn	19 12 44.0	+2.1
KUZ	Kuaotunu	6.07	21	P	Pn	19 12 45.2	+0.8
KUZ	Kuaotunu	6.07	21	P	Pn	19 12 45.0	+0.6
WCZ	Waipu Caves	6.58	10	P	Pn	19 12 53.6	+2.1
OUZ	Omahuta	7.23	4	P	Pn	19 13 02.7	+2.3
OUZ	Omahuta	7.23	4	P	Pn	19 13 01.9	+1.5

*IDC **01** 19:28:07.1±1.0, 56.°25S×147.°54E, h0km, mb4.1/6, mbtmp4.1/6, MS3.6/13, Error ellipse: s-maj=83.5km s-min=16.9km az=81.0*

ISC 01 19:28:08.6±1.0, 56.°3S±0.°1×147.°3E±0.°6, h10km, n48, σ1§08/31, mb4.1/6, MS3.5/13, 4C, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	21.95	172	P	P	19 33 01.7	-0.2
	1.6nm,0.8s,baz=332,slow=9.6,SNR=11						
VNDA				LR	LR	19 40 43.2	
	comp=Z,84nm,18.3s,baz=340,slow=34 1.6nm,0.8s						
STKA	Stephens Creek	24.71	348	P	P	19 33 31.8	+2.1
	4.6nm,0.9s,baz=145,slow=13,SNR=4.2						
STKA				LR	LR	19 41 26.2	
	comp=Z,138nm,18.1s,baz=195,slow=32 4.6nm,0.9s						
URZ	Urewera	26.76	60	LR	LR	19 43 23.9	
	comp=Z,154nm,21.2s,baz=303,slow=34						
NWAO	Narrogin (SRO)	31.24	306	LR	LR	19 43 54.2	
	comp=Z,110nm,21.7s,baz=232,slow=30						
QSPA	South Pole Qui	33.84	180	P	P	19 34 51.6	+0.9
	3.5nm,1.1s,baz=24,slow=3.7,SNR=5.5						
QSPA				LR	LR	19 48 38.3	
	comp=Z,114nm,19.1s,baz=352,slow=36 3.5nm,1.1s						
ASAR	Alice Springs	34.02	338	P	P	19 34 52.9	+0.3
	2.5nm,1.0s,baz=166,slow=11,SNR=9.5						
ASAR				PcP	PcP	19 37 29.6	-0.6
	1.0nm,0.9s,baz=157,slow=3.2,SNR=5.7						
ASAR				LR	LR	19 47 55.9	
	comp=Z,64nm,18.6s,baz=176,slow=35 2.5nm,1.0s						
RAO	Raoul Island	36.49	57	LR	LR	19 50 14.6	
	comp=Z,43nm,18.6s,baz=109,slow=36						
DZM	Mont Dzumac	36.97	30	LR	LR	19 47 25.7	
	comp=Z,128nm,18.9s,baz=199,slow=31						
WRA	Warramunga Arr	37.55	340	P	P	19 35 22.9	+0.1
	6.0nm,0.9s,baz=166,slow=7.7,SNR=12						
WRA				PcP	PcP	19 37 39.8	-0.9
	1.6nm,1.1s,baz=163,slow=2.7,SNR=4.8 6.0nm,0.9s						
MAW	Mawson	38.07	218	LR	LR	19 50 15.9	
	comp=Z,129nm,19.0s,baz=94,slow=35						
PMG	Port Moresby	46.74	360	LR	LR	19 55 33.7	
	comp=Z,100nm,18.1s,baz=213,slow=35						
TROLL	Troll, Antarti	49.67	194	⇑P	P	19 37 00.1	+0.1
	comp=Z,131nm,0.5s						
SNAA	Sanae	50.64	192	⇑P	P	19 37 08.4	+1.2
SNAA	Sanae	50.64	192	P	P	19 37 07.9	+0.6
	comp=Z,2.9nm,1.1s,baz=215,slow=8.1,SNR=7.7						
SNAA				LR	LR	19 58 31.1	
	comp=Z,157nm,18.5s,baz=93,slow=36 comp=Z,2.9nm,1.1s						
VNA3	Neumayer Olymp	51.75	189	⇑P	P	19 37 15.7	+0.2
VNA1	Neumayer--Stat	52.19	190	⇑P	P	19 37 11.2	-7.5
H04S1	CROZET ISLANDS	55.43	236	T	T	20 38 12.9	
	baz=139,slow=74						
H04S2	CROZET ISLANDS	55.43	236	T	T	20 38 18.4	
	baz=139						
H04S3	CROZET ISLANDS	55.45	236	T	T	20 38 16.1	
	baz=139,slow=74						
PPT	Papeete	60.68	77	LR	LR	19 58 45.4	
	comp=Z,35nm,21.2s,baz=162,slow=30						
H08S2	Diego Garcia H	75.26	278	T	T	21 02 20.0	
	baz=147,slow=76,SNR=16						
H08S1	Diego Garcia H	75.27	278	T	T	21 02 18.8	
	baz=147,slow=76,SNR=11						
H08S3	Diego Garcia H	75.28	278	T	T	21 02 25.7	
	baz=147,slow=76,SNR=20						
SUR	Sutherland	80.71	224	LR	LR	20 10 47.6	
	comp=Z,46nm,18.9s,baz=352,slow=32						
H03S2	Juan Fernandez	82.02	143	T	T	21 11 41.9	
	baz=202,slow=74						
H03S1	Juan Fernandez	82.02	143	T	T	21 11 46.0	
	baz=202,slow=74						
H03S3	Juan Fernandez	82.04	143	T	T	21 11 50.5	
	baz=202						
MKAR	Makanchi Array	116.18	316	PKP	PKPdf	19 46 50.3	-0.7
	comp=Z,0.2nm,0.5s,baz=202,slow=3.1,SNR=2.5						
TXAR	Lajitas Array	124.28	88	PKP	PKiKP	19 47 07.3	-0.2
	comp=Z,0.3nm,0.9s,baz=242,slow=1.9,SNR=2.7						
BVAR	Borovoye Array	125.81	313	PKP	PKiKP	19 47 09.4	-0.3
	comp=Z,0.4nm,0.6s,baz=107,slow=4.8,SNR=2.4						
AKASG	Malin Array Be	143.86	288	PKP	PKPbc	19 47 40.4	-0.2
	comp=Z,0.9nm,0.6s,baz=100,slow=2.3,SNR=2.6						
KEST	Kesra	145.06	252	PKPbc	PKPdf	19 47 45.9	+0.4
	comp=Z,7.4nm,1.0s,baz=54,slow=8.7,SNR=5.9						
SOKA	Soboth	149.35	272	*e*PKP	PKPbc	19 47 57.0	+0.3
	comp=Z,2.7nm,0.8s						
ARSA	Arzberg	149.41	274	*e*PKP	PKPbc	19 47 56.9	+0.1
	comp=Z,3.0nm,0.9s						
CONA	Conrad Observa	149.61	275	*e*PKP	PKPbc	19 47 56.3	-1.0
	comp=Z,2.9nm,1.2s						
FINES	FINESS Array B	150.09	305	PKPbc	PKiKP	19 47 58.2	-0.6
	comp=Z,2.3nm,0.8s,baz=116,slow=4.4,SNR=9.7						
MOA	Molln	150.45	274	*e*PKP	PKPbc	19 47 57.9	-1.4
	comp=Z,3.2nm,1.5s						
ABTA	Abtettersbach	150.80	270	*e*PKP	PKPbc	19 47 58.2	-2.0
	comp=Z,1.9nm,1.0s						
LESA	Schwarzleotal	151.10	272	*e*PKP	PKPbc	19 48 00.3	-0.6
	comp=Z,3.4nm,0.7s						
GERES	GERESS Array B	151.32	275	PKPbc	PKPbc	19 48 00.8	-0.6
	comp=Z,0.6nm,0.4s,baz=137,slow=3.3,SNR=5.4						
WTTA	Wattenberg	151.59	270	*e*PKP	PKPbc	19 47 59.0	-3.2
	comp=Z,4.4nm,1.3s						
WATA	Walderalm	151.66	271	*e*PKP	PKPbc	19 48 02.2	-0.1
	comp=Z,1.5nm,0.6s						
ARCES	ARCESS Array B	151.68	321	PKPbc	PKiKP	19 48 01.4	-0.4
	comp=Z,2.1nm,0.6s,baz=98,slow=2.7,SNR=14						
SQTA	Sankt Quirin	151.80	270	*e*PKP	PKPbc	19 48 02.5	-0.1
	comp=Z,3.8nm,0.8s						
MOTA	Moosalm	151.93	270	*e*PKP	PKPbc	19 48 02.8	-0.1
	comp=Z,1.5nm,0.6s						
FETA	Feichten	151.95	269	*e*PKP	PKPbc	19 48 02.9	-0.1
	comp=Z,3.3nm,0.9s						
RETA	Reutte	152.20	270	*e*PKP	PKPbc	19 48 01.3	-2.1
	comp=Z,4.1nm,1.3s						
ESDC	Sonseca Array	154.87	241	PKPbc	PKiKP	19 48 09.4	-0.1
	comp=Z,0.4nm,0.9s,baz=75,slow=1.7,SNR=4.8						

IDC 01 19:51:20.3±2.1, 32.°40S×179.°01W, h0km, mb3.6/3, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=51.1km s-min=34.7km az=61.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.65	207	Pn	Pn	19 52 57.1	-2.1
	0.4nm,0.3s,baz=322,slow=8.3,SNR=6.7						
URZ				Sn	Sn	19 54 07.4	-8.3
	0.8nm,0.3s,baz=66,slow=18,SNR=1.3 7.9nm,0.9s						
ASAR	Alice Springs	42.18	270	P	P	19 59 15.3	+0.3
	0.4nm,0.6s,baz=107,slow=7.7,SNR=5.6 0.4nm,0.6s						
WRA	Warramunga Arr	43.35	275	P	P	19 59 24.4	-0.1
	0.3nm,0.3s,baz=116,slow=7.2,SNR=7.1 0.3nm,0.3s						
QSPA	South Pole Qui	57.71	180	P	P	20 01 13.2	+0.6
	0.5nm,0.6s,baz=336,slow=20,SNR=5.9 0.5nm,0.6s						
H03S2	Juan Fernandez	80.08	124	T	T	21 31 57.5	
	baz=236						
H03S1	Juan Fernandez	80.09	124	T	T	21 31 53.3	
	baz=236						
H03S3	Juan Fernandez	80.10	124	T	T	21 31 55.6	
	baz=236						
FINES	FINESS Array B	146.70	338	PKPbc	PKPdf	20 11 01.7	0.0
	1.3nm,0.9s,baz=46,slow=4.0,SNR=4.6						

*BJI **01** 19:54:49.6±0.0, 57.°66N×155.°90W, h27km, mb4.8/33, mB5.0/9, Ms4.4/3, Ms7 4.0/2*
*NEIC **01** 19:54:53.6±2.0, 57.°06N±0.°04×155.°59W±0.°08, h57km±5km, Error ellipse: s-maj=6.2km s-min=5.1km az=108.0*
*NEIC **01** 19:54:54.5, 57.°04N×155.°55W, h50km, Moment Tensor Solution. Duration: 0 Moment tensor: Scale 10^{15}Nm; M_{rr}=4.66; $M_{\theta\theta}$=2.53; $M_{\phi\phi}$=2.13; $M_{r\theta}$=3.57; $M_{r\phi}$=0.80; $M_{\theta\phi}$=4.82; Fault plane solution: M_0=7.14000×10^{15} NP1: ϕ_s=219.00000°, δ73.56000°, λ-93.37000°. NP2:ϕ_s=50.74000°, δ16.77000°, λ-78.75000°. Principal axes: T 6.3476, Plg28.0000°, Azm312.0000°; N 1.5926, Plg3.0000°, Azm220.0000°; P -7.9403, Plg61.0000°, Azm124.0000°;*
*AEIC **01** 19:54:54.3±2.2, 57.°04N±0.°04×155.°55W±0.°08, h56km±5km, ML4.3, mb4.8/176(NEIC), ML4.4/82(NEIC), Mww4.5/19(NEIC) Error ellipse: s-maj=6.2km s-min=5.0km az=108.0*
*IDC **01** 19:54:54.1±0.5, 57.°21N×155.°83W, h65km±4km, mb4.2/28, mbtmp4.5/31, MS3.4/24, Error ellipse: s-maj=13.9km s-min=9.4km az=17.0*
*NEIC **01** 19:54:54.5, 57.°04N×155.°55W, h50km*

ISC 01 19:54:54.2±0.4, 57.°12N±0.°04×155.°56W±0.°03, h68km±3km, h68km: pP-P, n867, σ1§07/822, mb4.8/142, 1D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R18K	Karluk	0.75	53		Pn	19 55 08.8	-0.8
R18K					Sn	19 55 20.7	-0.1
R18K	Karluk	0.75	53	IAML		19 55 21.8	
R18K	comp=E,12μm,0.5s						
				IAML		19 55 26.3	
R18K	comp=N,13μm,0.4s						
R18K	Karluk	0.75	53	P	Pn	19 55 08.4	-1.1
R18K	baz=229						
				S	Sn	19 55 21.0	+0.2
R18K	baz=229						
SII	Sitkinak Islan	0.94	126	P	Pn	19 55 10.0	-1.9
SII	Sitkinak Islan	0.94	126	Pn	Pn	19 55 10.3	-1.6
SII	Sitkinak Islan	0.94	126		Sn	19 55 23.8	-1.3
SII	Sitkinak Islan	0.94	126	P	Pn	19 55 10.3	-1.6
	baz=303,SNR=450						
ANCK	Angle Creek	1.08	2	Pn	Pn	19 55 13.4	-0.3
ANCK				IAML		19 55 30.1	
	comp=E,12μm,0.6s						
ACHA	Angle Creek He	1.10	7		Pn	19 55 13.7	-0.2
KCE	Katmai Mt Cerb	1.14	10		Pn	19 55 14.8	+0.3
Q17K	Contact Creek	1.16	352	P	Pn	19 55 14.2	-0.5
	baz=172,SNR=1000						
Q17K				S	Sn	19 55 30.3	+0.2
	baz=172						
CNTC	Contact Creek	1.16	352		Pn	19 55 14.4	-0.3
KABU	Katmai Buttres	1.16	7		Pn	19 55 15.2	+0.4
KABU	Katmai Buttres	1.16	7	IAML		19 55 34.2	
	comp=E,13μm,0.7s						
OHAK	Old Harbor	1.24	84	P	Pn	19 55 14.9	-0.8
OHAK	Old Harbor	1.24	84		Pn	19 55 14.7	-1.0
OHAK	Old Harbor	1.24	84	P	Pn	19 55 14.7	-1.0
	baz=262,SNR=377						
OHAK				S	Sn	19 55 30.7	-1.1
	baz=262						
KVTA	Katmai Vly 10	1.27	6		Pn	19 55 16.1	0.0
CHIR	Chirikof Islan	1.30	181	Pn	Pn	19 55 14.1	-2.4
CHIR	Chirikof Islan	1.30	181		Sn	19 55 30.2	-3.0
CHIR	Chirikof Islan	1.30	181	P	Pn	19 55 14.1	-2.4
	baz=1.9,SNR=116						
KAHG	Katmai Hook Gl	1.48	21		Pn	19 55 19.1	+0.2
KAHC	Katmai Hardscr	1.56	11		Pn	19 55 20.0	0.0
KAHC	Katmai Hardscr	1.56	11		Pn	19 55 19.9	-0.1
Q18K	Katmai Hardscr	1.56	11	P	Pn	19 55 20.1	0.0
	baz=190,SNR=294						
KAPH	Katmai Pasha	1.61	23		Pn	19 55 21.1	+0.4
Q16K	King Salmon	1.67	340		Pn	19 55 21.0	-0.3
Q16K	King Salmon	1.67	340	P	Pn	19 55 20.9	-0.4
	baz=160,SNR=34						
Q16K				S	Sn	19 55 41.8	+0.1
	baz=160						
KDAK	Kodiak Island	1.74	66	Pn	Pn	19 55 21.6	-0.7
KDAK	Kodiak Island	1.74	66	P	Pn	19 55 21.7	-0.6
	baz=246						
KDAK				S	Sn	19 55 43.4	-0.2
	baz=246						
KDAK	Kodiak Island	1.74	66	P	Pn	19 55 21.5	-0.7
	comp=E,348nm,0.3s,baz=243,slow=5.7,SNR=2126						
KDAK				S	Sn	19 55 41.9	-1.7
	comp=E,545nm,0.3s,baz=248,slow=19,SNR=5.3						
CHGN	Chignik	1.77	244		Pn	19 55 21.6	-1.1
CHGN				IAML		19 55 44.6	
	comp=E,4μm,0.5s						
CHGN				IAML		19 55 44.8	
	comp=N,4μm,0.4s						
CHGN	Chignik	1.77	244	P	Pn	19 55 21.4	-1.4
	baz=64,SNR=276						
Q19K	Cape Douglas,	2.08	29	Pn	Pn	19 55 27.3	+0.4
Q19K				IAML		19 56 00.8	
	comp=E,5μm,0.9s						
Q19K	Cape Douglas,	2.08	29	P	Pn	19 55 27.3	+0.4
	baz=209,SNR=46						
P17K	Kvichak River	2.13	348		Pn	19 55 27.4	-0.2
P17K	Kvichak River	2.13	348	P	Pn	19 55 27.2	-0.4
	baz=167,SNR=141						
VNHG	Veniaminof 1	2.18	247		Pn	19 55 27.6	-0.8
Q20K	Shuyak Island	2.26	47	P	Pn	19 55 29.3	+0.1
	baz=228,SNR=38						
SYI	Shuyak Island	2.26	47		Pn	19 55 29.8	+0.5
SYI				IAML		19 56 05.2	
	comp=N,2μm,0.6s						
P18K	Big Mountain,	2.28	4		Pn	19 55 29.4	-0.3
P18K	Big Mountain,	2.28	4	P	Pn	19 55 29.4	-0.3
	baz=184,SNR=54						
P16K	Nushagak River	2.31	327		Pn	19 55 30.0	+0.1
P16K	Nushagak River	2.31	327	P	Pn	19 55 29.9	-0.1
	baz=146,SNR=231						
P16K				S	Sn	19 55 57.9	+0.7
	baz=146						
VNSS	Veniaminof 8	2.33	249		Pn	19 55 29.6	-0.8
S14K	Fog Glacier	2.35	251	P	Pn	19 55 30.1	-0.6
	baz=69,SNR=136						
VNFG	Fog Glacier, M	2.35	251		Pn	19 55 29.9	-0.8
VNFG	Fog Glacier, M	2.35	251	IAML		19 56 19.2	
	comp=N,4μm,0.8s						
VNWF	Veniaminof 8	2.41	248		Pn	19 55 30.6	-0.8
VNSW	Veniaminof 7	2.45	246		Pn	19 55 30.9	-1.0
AUCH	Augustine Cone	2.51	26		Pn	19 55 33.6	+0.8
AUL	Augustine Lava	2.53	25		Pn	19 55 34.0	+1.0
AU22	Augustine Moun	2.54	26		Pn	19 55 33.8	+0.7
O18K	Koktuh Hills	2.75	4		Pn	19 55 35.9	0.0
O18K	Koktuh Hills	2.75	4	P	Pn	19 55 36.0	0.0
	baz=184,SNR=72						
O17K	Koliganek Bris	2.78	344		Pn	19 55 36.0	-0.4
O17K	Koliganek Bris	2.78	344	P	Pn	19 55 35.9	-0.4
	baz=163,SNR=400						
O17K				S	Sn	19 56 08.6

N19K	Bonanza Creek	3.75	8	P		Pn	19 55 50.3	+0.7
	baz=189,SNR=135							
N16K	Nishlik Lake	3.75	335	P		Pn	19 55 49.6	-0.1
	baz=153,SNR=179							
PS1A	Pavlof South-1	3.84	246			Pn	19 55 50.3	-0.5
N15K	Kwethluk River	3.86	324	Pn		Pn	19 55 51.4	+0.3
N15K				IAML			19 56 55.3	
	comp=N,744nm,0.9s							
N15K				IAML			19 57 12.2	
	comp=E,606nm,0.8s							
N15K	Kwethluk River	3.86	324	P		Pn	19 55 51.4	+0.3
	baz=141,SNR=298							
N15K				S		Sn	19 56 36.3	+1.0
	baz=141							
S12K	Black Hills	3.88	251			Pn	19 55 50.5	-0.8
S12K				IAML			19 56 36.2	
	comp=E,841nm,0.2s							
S12K				IAML			19 56 36.2	
	comp=N,902nm,0.2s							
S12K	Black Hills	3.88	251	P		Pn	19 55 50.6	-0.8
	baz=67,SNR=98							
PVV	Pavlof Volcano	3.89	246			Pn	19 55 50.6	-0.9
PS4A	Pavlof South-4	3.94	246			Pn	19 55 51.2	-1.0
HAG	Hague Volcano	3.98	246			Pn	19 55 51.6	-1.0
SVW2	Sparrevohn	3.99	360	P		Pn	19 55 53.2	+0.4
SVW2	Sparrevohn	3.99	360			Pn	19 55 53.1	+0.4
SVW2				IAML			19 57 05.3	
	comp=E,326nm,1.0s							
N14K	Kuskokwak Cree	4.26	314	P		Pn	19 55 56.8	+0.2
	baz=129,SNR=137							
M16K	Timber Creek	4.29	337	Pn		Pn	19 55 57.0	+0.2
M16K				IAML			19 56 46.4	
	comp=E,555nm,0.7s							
M16K				IAML			19 57 19.3	
	comp=N,337nm,1.3s							
M16K	Timber Creek	4.29	337	P		Pn	19 55 57.0	+0.2
	baz=155,SNR=333							
M16K				S		Sn	19 56 45.7	+0.2
	baz=155							
CAPN	Captain Cook N	4.31	30	Pn		Pn	19 55 59.5	+2.3
CAPN	Captain Cook N	4.31	30	P		Pn	19 55 58.0	+0.8
	baz=213							
SEW	Seward	4.38	44	Pn		Pn	19 55 57.0	-1.0
SEW	Seward	4.38	44	P		Pn	19 55 57.5	-0.5
	baz=229							
M18K	Stony River	4.38	358			Pn	19 55 58.8	+0.5
M18K	Stony River	4.38	358	P		Pn	19 55 58.7	+0.5
	baz=178,SNR=353							
M18K				S		Sn	19 56 47.8	-0.2
	baz=178							
SLKM	Skilak Lake	4.39	37			Pn	19 55 57.5	-0.8
M17K	Holitna River	4.40	348	Pn		Pn	19 55 58.4	0.0
M17K	Holitna River	4.40	348	P		Pn	19 55 58.6	+0.2
	baz=167,SNR=225							
M17K				S		Sn	19 56 48.4	+0.1
	baz=167							
N20K	Mount Spurr	4.44	21	P		Pn	19 56 00.8	+1.7
	baz=204,SNR=67							
SPCR	Spurr Chakacha	4.44	21			Pn	19 55 59.8	+0.7
SPCR	Spurr Chakacha	4.44	21	P		Pn	19 55 57.9	-1.2
	baz=204,SNR=57							
SPU	Mount Spurr	4.45	22			Pn	19 55 59.6	+0.4
M15K	Kasigluk River	4.46	326			Pn	19 55 59.4	+0.1
M15K	Kasigluk River	4.46	326	P		Pn	19 55 59.2	-0.1
	baz=142,SNR=298							
M15K				S		Sn	19 56 49.3	-0.5
	baz=142							
SPNN	North Nagishla	4.50	18			Pn	19 56 00.9	+0.9
SPCP	Crater Peak Br	4.51	21			Pn	19 56 01.1	+1.0
O22K	Cooper Landing	4.54	40	P		Pn	19 56 00.9	+0.7
	baz=224							
SPCG	Spurr Capps Gl	4.56	22			Pn	19 56 02.3	+1.5
STLK	Strandline Lak	4.79	22			Pn	19 56 04.6	+0.8
M19K	Big River Lodg	4.83	7	Pn		Pn	19 56 04.9	+0.5
M19K				IAML			19 57 41.7	
	comp=N,199nm,0.9s							
M19K				IAML			19 57 56.7	
	comp=E,202nm,1.1s							
M19K	Big River Lodg	4.83	7	P		Pn	19 56 05.1	+0.7
	baz=187,SNR=191							
FIS	Fire Island	4.88	32	Pn		Pn	19 56 06.2	+1.3
FIS				IAML			19 57 29.1	
	comp=E,542nm,1.0s							
M14K	Bethel	4.92	320			Pn	19 56 05.7	+0.3
M14K	Bethel	4.92	320	P		Pn	19 56 05.8	+0.3
	baz=136							
M20K	Styx River	4.93	14			Pn	19 56 07.1	+1.3
M20K	Styx River	4.93	14	IAML			19 57 41.8	
	comp=E,270nm,1.0s							
M20K	Styx River	4.93	14	P		Pn	19 56 07.4	+1.6
	baz=195							
FALS	False Pass	4.96	246	Pn		Pn	19 56 06.5	+0.4
FALS	False Pass	4.96	246	P		Pn	19 56 05.1	-1.0
	baz=60							
RC01	Rabbit Creek A	4.98	35	Pn		Pn	19 56 06.7	+0.3
RC01				IAML			19 57 07.2	
	comp=E,169nm,0.5s							
RC01				IAML			19 57 09.6	
	comp=N,174nm,0.6s							
RC01	Rabbit Creek A	4.98	35	P		Pn	19 56 06.7	+0.3
	baz=219,SNR=21							
SUA	Susitna One	5.00	28	Pn		Pn	19 56 07.2	+0.4
SUA				IAML			19 57 11.4	
	comp=N,313nm,1.1s							
SUA	Susitna One	5.00	28	P		Pn	19 56 07.3	+0.5
	baz=211,SNR=110							
SUA				S		Sn	19 57 03.1	-0.2
	baz=211							
L16K	Owhat River	5.02	338	Pn		Pn	19 56 06.2	-0.7
L16K				IAML			19 57 38.4	
	comp=N,323nm,1.1s							
L16K				IAML			19 57 39.4	
	comp=E,294nm,1.0s							
L16K	Owhat River	5.02	338	P		Pn	19 56 06.5	-0.4
	baz=155,SNR=84							
L19K	White Mountain	5.09	4	Pn		Pn	19 56 08.3	+0.4
L19K				IAML			19 57 55.5	
	comp=E,354nm,1.2s							
L19K	White Mountain	5.09	4	P		Pn	19 56 08.5	+0.7
	baz=184,SNR=331							
L19K				S		Sn	19 57 05.1	-0.1
	baz=184							
L18K	Granite Mounta	5.15	354	Pn		Pn	19 56 08.8	+0.2
L18K	Granite Mounta	5.15	354	P		Pn	19 56 08.9	+0.3
	baz=173,SNR=237							
L18K				S		Sn	19 57 06.6	+0.1
	baz=173							
ISNN	Isanotski Nort	5.15	247			Pn	19 56 07.8	-0.9
P23K	Montague Islan	5.15	53			Pn	19 56 07.8	-1.0
P23K	Montague Islan	5.15	53	P		Pn	19 56 08.1	-0.6
	baz=239							
ISLZ	Isanotski Laza	5.17	246			Pn	19 56 07.9	-1.2
L17K	Donlin	5.22	346	P		Pn	19 56 09.4	-0.2
	baz=164,SNR=118							
L17K				S		Sn	19 57 07.7	-0.6
	baz=164							
M13K	Dall Lake	5.22	312			Pn	19 56 10.0	+0.3
M13K	Dall Lake	5.22	312	P		Pn	19 56 10.3	+0.6
	baz=126,SNR=106							
SKT	Skwentna	5.29	21	Pn		Pn	19 56 12.0	+1.5
SKT				IAML			19 57 55.1	
	comp=E,140nm,1.2s							
SKT	Skwentna	5.29	21	P		Pn	19 56 12.4	+1.8
	baz=204,SNR=36							
SSLS	Shishaldin Sou	5.32	247			Pn	19 56 10.4	-0.7
Q23K	Middleton Isla	5.38	61			Pn	19 56 10.4	-1.4
Q23K	Middleton Isla	5.38	61	P		Pn	19 56 12.1	+0.3
	baz=248							
MID	Middleton Isla	5.39	61	P		Pn	19 56 12.7	+0.8
M22K	Willow	5.41	29	Pn		Pn	19 56 14.5	+2.3
M22K	Willow	5.41	29	P		Pn	19 56 13.2	+1.0
	baz=213,SNR=14							
L20K	Farewell, AK	5.44	8			Pn	19 56 13.1	+0.4
L20K	Farewell, AK	5.44	8	P		Pn	19 56 13.7	+1.0
	baz=190,SNR=177							
L15K	Ungalak Mounta	5.48	329			Pn	19 56 12.9	-0.3
L15K	Ungalak Mounta	5.48	329	P		Pn	19 56 12.9	-0.3
	baz=144,SNR=119							
PMR	Palmer	5.56	34	P		Pn	19 56 16.3	+2.1
PMR	Palmer	5.56	34	P		Pn	19 56 15.4	+1.2
	baz=218,SNR=32							
L14K	Kuka Creek	5.59	322	Pn		Pn	19 56 14.1	-0.6
L14K	Kuka Creek	5.59	322	P		Pn	19 56 14.7	0.0
	baz=136,SNR=112							
KNK	Knik Glacier	5.64	37	Pn		Pn	19 56 14.8	-0.5
KNK	Knik Glacier	5.64	37	P		Pn	19 56 14.7	-0.7
	baz=223,SNR=12							
HIN	Hinchinbrook I	5.75	51	Pn		Pn	19 56 15.8	-1.0
GHO	Glory Hole Cre	5.76	33	Pn		Pn	19 56 17.0	-0.1
GLI	Glacier Island	5.77	46	Pn		Pn	19 56 15.6	-1.5
GLI	Glacier Island	5.77	46	P		Pn	19 56 15.7	-1.4
	baz=232							
K17K	Iditarod	5.78	347	Pn		Pn	19 56 17.3	+0.1
K17K	Iditarod	5.78	347	P		Pn	19 56 17.4	+0.2
	baz=165,SNR=314							
CUT	Chulitna	5.93	25	Pn		Pn	19 56 20.1	+0.7
CUT	Chulitna	5.93	25	P		Pn	19 56 20.9	+1.6
	baz=209,SNR=7.6							
FID	Port Fidalgo	5.94	48	Pn		Pn	19 56 17.6	-1.9
SML	Sawmill	5.97	35			Pn	19 56 19.2	-0.7
SML	Sawmill	5.97	35	P		Pn	19 56 20.5	+0.6
	baz=221,SNR=18							
K15K	Wolf Creek Mou	6.00	332	Pn		Pn	19 56 20.9	+0.6
K15K	Wolf Creek Mou	6.00	332	P		Pn	19 56 20.9	+0.6
	baz=148,SNR=130							
PPLA	Purkeypile	6.03	15	Pn		Pn	19 56 23.0	+2.1
PPLA	Purkeypile	6.03	15	P		Pn	19 56 22.2	+1.4
	baz=198,SNR=22							
EYAK	Cordova Ski Ar	6.14	52	P		Pn	19 56 21.7	-0.5
EYAK	Cordova Ski Ar	6.14	52			Pn	19 56 21.0	-1.2
EYAK	Cordova Ski Ar	6.14	52	P		Pn	19 56 21.1	-1.1
	baz=240,SNR=10							
M23K	Glacier View	6.15	37	P		Pn	19 56 22.4	0.0
	baz=223							
K20K	Telida	6.30	6			Pn	19 56 24.9	+0.5
K20K	Telida	6.30	6	P		Pn	19 56 25.0	+0.6
	baz=187							
SCM	Sheep Creek Mo	6.32	38			Pn	19 56 23.9	-0.7
SCM	Sheep Creek Mo	6.32	38	P		Pn	19 56 24.1	-0.6
	baz=225,SNR=15							
J18K	Innoko River	6.39	355	Pn		Pn	19 56 25.6	0.0
J18K	Innoko River	6.39	355	P		Pn	19 56 25.8	+0.2
	baz=174,SNR=126							
M11K	Mekoryuk	6.43	305			Pn	19 56 25.9	-0.1
M11K	Mekoryuk	6.43	305	P		Pn	19 56 26.0	-0.1
	baz=116,SNR=12							
DIV	Divide	6.44	47			Pn	19 56 25.2	-1.2
KAIM	Kayak Island	6.48	60			Pn	19 56 25.6	-1.2
KAIM	Kayak Island	6.48	60	P		Pn	19 56 26.9	+0.1
	baz=248							
J17K	VABM Dome	6.53	346	Pn		Pn	19 56 27.1	-0.5
J17K	VABM Dome	6.53	346	P		Pn	19 56 27.3	-0.3
	baz=163,SNR=51							
RAGM	Ragged Mountai	6.54	55			Pn	19 56 26.8	-0.9
CAST	Castle Rocks	6.55	14			Pn	19 56 28.1	+0.4
CAST	Castle Rocks	6.55	14	P		Pn	19 56 28.7	+0.9
	baz=197,SNR=143							
AKLV	Akutan Long Va	6.59	248	Pn		Pn	19 56 27.8	-0.6
KLU	Klutina	6.60	44			Pn	19 56 28.0	-0.5
KLU	Klutina	6.60	44	P		Pn	19 56 28.3	-0.2
	baz=232,SNR=32							
LVA	Lava Point	6.63	248			Pn	19 56 27.5	-1.4
WAT7	Susitna Watana	6.64	28			Pn	19 56 28.4	-0.7
AKRB	Akutan Reef Bi	6.66	248	Pn		Pn	19 56 28.9	-0.5
J16K	Anvik River	6.67	340	Pn		Pn	19 56 29.0	-0.4
J16K	Anvik River	6.67	340	P		Pn	19 56 29.0	-0.4
	baz=156,SNR=90							
K13K	Kusilvak Mount	6.68	320			Pn	19 56 30.1	+0.6
K13K	Kusilvak Mount	6.68	320	P		Pn	19 56 30.1	+0.6
	baz=133,SNR=109							
HMT	Hamilton	6.71	57			Pn	19 56 29.0	-1.0
WAT1	Susitna Watana	6.72	29			Pn	19 56 29.8	-0.3
WAT1	Susitna Watana	6.72	29	P		Pn	19 56 30.5	+0.4
	baz=214							
WAT6	Susitna Watana	6.74	32			Pn	19 56 29.5	-1.1
WAT6	Susitna Watana	6.74	32	P		Pn	19 56 30.2	-0.4
	baz=219,SNR=21							
NICHA	Nichawak Mount	6.80	58			Pn	19 56 30.0	-1.3
SUCK	Suckling Hills	6.83	59			Pn	19 56 30.7	-1.0
BMRM	Bremner River	6.84	51			Pn	19 56 30.4	-1.4
BMRM	Bremner River	6.84	51	P		Pn	19 56 31.1	-0.7
	baz=240,SNR=9.1							
KTH	Kantishna Hill	6.85	18			Pn	19 56 32.3	+0.3
J19K	Poorman	6.90	360	P		Pn	19 56 32.6	+0.1
	baz=180,SNR=84							
M24K	Tolsona, Glenn	6.90	40			Pn	19 56 32.3	-0.3
M24K	Tolsona, Glenn	6.90	40	P		Pn	19 56 32.5	-0.1
	baz=227							
J14K	Nanvaranak Lak	6.92	328			Pn	19 56 33.2	+0.4
J14K	Nanvaranak Lak	6.92	328	P		Pn	19 56 33.2	+0.4
	baz=141,SNR=32							
CHUM	Lake Minchumin	6.97	12	P		Pn	19 56 34.6	+1.1
	baz=194,SNR=15							
UNV	Unalaska Valle	7.03	247	P		Pn	19 56 33.4	-1.0
UNV	Unalaska Valle	7.03	247			Pn	19 56 32.6	-1.8
UNV	Unalaska Valle	7.03	247	P		Pn	19 56 32.5	-1.8
	baz=58,SNR=9.0							
MNAT	Makushin Natee	7.10	247			Pn	19 56 33.8	-1.6
J20K	Nowinta River	7.11	5			Pn	19 56 36.0	+0.6
J20K	Nowinta River	7.11	5	P		Pn	19 56 36.3	+0.8
	baz=186,SNR=83							
GRIN	Grindle Hills	7.12	58			Pn	19 56 34.8	-0.8
RND	Reindeer	7.13	25	Pn		Pn	19 56 35.6	-0.1
MSW	Makushin Switc	7.13	248			Pn	19 56 33.9	-1.9
N25K	Chitina, Valde	7.18	47			Pn	19 56 35.7	-0.8
N25K	Chitina, Valde	7.18	47	P		Pn	19 56 36.2	-0.2
	baz=236							
KHIT	Khitrov Hills	7.21	57			Pn	19 56 35.6	-1.3
DHY	Denali Highway	7.23	31			Pn	19 56 36.5	-0.7
DHY	Denali Highway	7.23	31	P		Pn	19 56 36.6	-0.7
	baz=218,SNR=14							
I17K	Unalakleet	7.24	342	Pn		Pn	19 56 37.2	0.0
I17K	Unalakleet	7.24	342	P		Pn	19 56 37.2	0.0
	baz=157,SNR=8.5							
SNH	Sunshine Point	7.31	60	Pn		Pn	19 56 38.0	-0.2
BPAW	Bear Paw Mtn.	7.35	16	Pn		Pn	19 56 37.8	-0.9
BPAW	Bear Paw Mtn.	7.35	16	P		Pn	19 56 38.1	-0.7
	baz=200,SNR=36							
CRQM	Cirque	7.38	55			Pn	19 56 38.3	-1.1
MCK	McKinley	7.39	24	P		Pn	19 56 39.3	-0.1
	baz=209							
WAX	Waxell Ridge	7.40	58			Pn	19 56 38.4	-1.1
CRQE	Cirque	7.40	55	P		Pn	19 56 38.9	-0.7
	baz=246,SNR=11							
GLB	Gilahina Butte	7.41	49			Pn	19 56 38.4	-1.2
HARP	HAARP	7.45	40			Pn	19 56 40.5	+0.3
HARP	HAARP	7.45	40	P		Pn	19 56 40.2	+0.1
	baz=229,SNR=8.0							
VRDI	Verde Repeater	7.46	51			Pn	19 56 39.3	-1.1
WACK	Wrangell Chich	7.50	45			Pn	19 56 40.4	-0.6
TGL	Tana Glacier	7.52	56			Pn	19 56 40.0	-1.2
BARK	Barkley Ridge	7.55	59			Pn	19 56 40.5	-1.1
GCSA	Galena City Sc	7.68	356			Pn	19 56 43.1	0.0
GCSA	Galena City Sc	7.68	356	P		Pn	19 56 43.9	+0.7
	baz=175,SNR=5.2							
ISLE	Juniper Island	7.69	58			Pn	19 56 42.8	-0.7
I20K	Naaghedeneel	7.72	3	P		Pn	19 56 44.2	+0.5
	baz=184							
MESA	MESA	7.73	61			Pn	19 56 43.4	-0.7
MESA	MESA	7.73	61	P		Pn	19 56 43.6	-0.5
	baz=252							
PAX	Paxson	7.73	37			Pn	19 56 43.7	-0.4
PAX	Paxson	7.73	37	P		Pn	19 56 43.7	-0.4
	baz=225,SNR=24							
KIAG	Kiagna River	7.80	55			Pn	19 56 43.9	-1.2
BALM	Baldy	7.85	55			Pn	19 56 44.8	-0.9
SPIA	Saint Paul Isl	7.99	277	P		Pn	19 56 48.2	+0.8
SPIA	Saint Paul Isl	7.99	277			Pn	19 56 47.3	-0.1
SPIA	Saint Paul Isl	7.99	277	P		Pn	19 56 46.9	-0.5
	baz=85,SNR=11							
GRNC	Granite Creek	8.01	57			Pn	19 56 46.9	-1.0
OKTU	Okmok Mt. Tuli	8.05	248			Pn	19 56 46.5	-1.9
H17K	Granite Mounta	8.12	347			Pn	19 56 49.7	+0.5
H17K	Granite Mounta	8.12	347	P		Pn	19 56 50.0	+0.8
	baz=163,SNR=82							
NEA2	Nenana	8.13	20			Pn	19 56 49.0	-0.4
NEA2	Nenana	8.13	20	P		Pn	19 56 49.0	-0.4
	baz=206,SNR=18							
H18K	Honhosa River	8.17	352			Pn	19 56 50.2	+0.3
H18K	Honhosa River	8.17	352	P		Pn	19 56 50.4	+0.5
	baz=169,SNR=72							
H16K	Elim	8.21	339			Pn	19 56 50.4	0.0
H16K	Elim	8.21	339	P		Pn	19 56 50.8	+0.4
	baz=154,SNR=14							
WRH	Wood River Hil	8.22	23			Pn	19 56 50.1	-0.5
M26K	Nabesna, AK	8.25	45	P		Pn	19 56 51.3	+0.2
	baz=235							
K24K	Donnelly Dome	8.25	32	P		Pn	19 56 51.8	+0.7
	baz=220							
MLY	Manley	8.27	14			Pn	19 56 50.4	-0.9
MLY	Manley	8.27	14	P		Pn	19 56 51.4	+0.1
	baz=198,SNR=19							
CTG	Chitna Glacier	8.28	56	P		Pn	19 56 51.5	-0.1
	baz=248,SNR=11							
SAMH	Samovar Hills	8.28	62			Pn	19 56 50.8	-0.7
CTGM	Chitina Glacie	8.28	56			Pn	19 56 50.7	-0.9
LOGN	Logan Glacier	8.38	58			Pn	19 56 52.0	-1.0
H20K	Anotleneega Mo	8.41	2			Pn	19 56 53.1	0.0
H20K	Anotleneega Mo	8.41	2	P		Pn	19 56 53.3	+0.2
	baz=182,SNR=12							
HDA	Harding Lake	8.43	26			Pn	19 56 52.9	-0.6
HDA	Harding Lake	8.43	26	P		Pn	19 56 53.8	+0.3
	baz=214,SNR=25							
CCB	Clear Creek Bu	8.44	23			Pn	19 56 52.7	-0.8
H19K	Roundabout Mou	8.45	357			Pn	19 56 53.3	-0.3
H19K	Roundabout Mou	8.45	357	P		Pn	19 56 53.8	+0.2
	baz=177,SNR=29							
L26K	Log Cabin Wild	8.49	41	Pn		Pn	19 56 56.1	+1.8
I23K	Minto, Yukon-K	8.59	18			Pn	19 56 53.9	-1.7
I23K	Minto, Yukon-K	8.59	18	P		Pn	19 56 55.3	-0.3
	baz=203,SNR=97							
MDM	Murphy Dome	8.62	21			Pn	19 56 54.4	-1.7
COLA	College	8.62	22	P		Pn	19 56 56.2	+0.2
COLA	College	8.62	22			Pn	19 56 54.0	-2.0
COLA	College	8.62	22	P		Pn	19 56 56.3	+0.2
	baz=209							
H21K	Melozitna Rive	8.67	8			Pn	19 56 56.8	+0.1
H21K	Melozitna Rive	8.67	8	P		Pn	19 56 57.0	+0.4
	baz=190,SNR=67							
M27K	Edge Creek, AK	8.67	47			Pn	19 56 56.0	-0.9
M27K	Edge Creek, AK	8.67	47	P		Pn	19 56 56.7	-0.2
	baz=238							
NIKH	Nikolski High	8.69	247	P		Pn	19 56 57.5	+0.5
O28M	Mount Upton	8.74	59			Pn	19 56 56.7	-1.3
O28M	Mount Upton	8.74	59	P		Pn	19 56 57.8	-0.2
	baz=252,SNR=24							
IL31		8.75	25			Pn	19 56 55.9	-1.8
ILAR	Eielson Array	8.75	25	Pn		Pn	19 56 55.6	-2.2
ILAR	Eielson Array	8.75	25	P		Pn	19 56 55.9	-1.9
	comp=E,5.8nm,0.5s,baz=222,slow=13,SNR=32							
ILAR				S		Sn	19 58 29.0	-5.7
	comp=E,5.2nm,0.9s,baz=209,slow=23,SNR=4.4							
ILAR				LR		LR	20 00 36.7	
	comp=E,194nm,20.6s,baz=236,slow=39							
G17K	Kiwalik Mounta	8.75	346			Pn	19 56 58.3	+0.5
G17K	Kiwalik Mounta	8.75	346	P		Pn	19 56 58.6	+0.7
	baz=162,SNR=31							
BCPM	Bancas Point	8.80	65			Pn	19 56 56.4	-2.1
YUK2	White River	8.83	52			Pn	19 56 58.8	-0.1
ANM	Nome	8.86	331			Pn	19 56 59.5	+0.2
ANM	Nome	8.86	331	P		Pn	19 57 00.1	+0.8
	baz=143,SNR=19							
PNL	Peninsula	8.86	67	P		Pn	19 56 58.2	-1.2
PNL	Peninsula	8.86	67			Pn	19 56 58.1	-1.2
PNL	Peninsula	8.86	67	P		Pn	19 56 58.4	-1.0
	baz=260,SNR=13							
G15K	Niukluk	8.89	336			Pn	19 56 59.7	-0.1
G15K	Niukluk	8.89	336	P		Pn	19 57 00.6	+0.9
	baz=149,SNR=21							
G16K	Koyuk River	8.91	341			Pn	19 57 00.2	+0.2
G16K	Koyuk River	8.91	341	P		Pn	19 57 00.8	+0.8
	baz=156,SNR=9.2							
SCRK	Sand Creek	8.92	35			Pn	19 56 59.7	-0.6
SCRK	Sand Creek	8.92	35	P		Pn	19 56 59.9	-0.3
	baz=224,SNR=9.2							
POKR	Poker Plat Res	8.93	23			Pn	19 56 59.8	-0.4
POKR	Poker Plat Res	8.93	23	P		Pn	19 56 59.7	-0.4
	baz=210							
G18K	Tagagawik	8.93	352			Pn	19 57 00.4	+0.1
G18K	Tagagawik	8.93	352	P		Pn	19 57 00.7	+0.5
	baz=169,SNR=36							
IMAR	Indian Mountai	8.94	5	Pn		Pn	19 57 00.8	+0.5
YUK3	Moose Creek	8.99	52			Pn	19 57 01.2	0.0
YUK3	Moose Creek	8.99	52	P		Pn	19 57 01.7	+0.4
	baz=245,SNR=46							
J25K	Salcha River,	9.00	29	Pn		Pn	19 57 01.7	+0.5
J25K	Salcha River,	9.00	29	P		Pn	19 57 01.8	+0.5
	baz=218,SNR=29							
H22K	Ishtalitna Cre	9.02	11			Pn	19 57 01.8	+0.3
H22K	Ishtalitna Cre	9.02	11	P		Pn	19 57 01.9	+0.3
	baz=194,SNR=28							
L27K	Beaver Creek,	9.07	43	P		Pn	19 57 02.1	-0.2
	baz=235,SNR=8.2							
G19K	Purcell Mounta	9.08	356			Pn	19 57 02.0	-0.4
G19K	Purcell Mounta	9.08	356	P		Pn	19 57 02.7	+0.3
	baz=175,SNR=25							
BCAR	Beaver Creek A	9.09	43	Pn		Pn	19 57 01.8	-0.7
YUK8	Steele Glacier	9.11	56			Pn	19 57 00.4	-2.6
H23K	Yukon River	9.19	16			Pn	19 57 02.2	-1.6
H23K	Yukon River	9.19	16	P		Pn	19 57 03.6	-0.2
	baz=201,SNR=38							
O29M	Mount Kennedy	9.39	63			Pn	19 57 05.0	-1.7
O29M	Mount Kennedy	9.39	63	P		Pn	19 57 06.5	-0.2
	baz=257,SNR=20							
J26L	Joseph Creek	9.43

baz=273
COLD **Coldfoot** 10.44 12 P Pn 19 57 21.1 +0.2
baz=196,SNR=12
F22K **John River** 10.54 7 P Pn 19 57 23.1 +0.9
baz=190,SNR=26
DAWY **Dawson** 10.54 42 P Pn 19 57 22.9 +0.6
baz=236,SNR=6.2
L29M **L29M** 10.54 48 Pn Pn 19 57 22.4 0.0
L29M **L29M** 10.54 48 P Pn 19 57 22.2 -0.1
baz=243
E18K **Tukpahlearik C** 10.60 349 P Pn 19 57 24.1 +1.2
baz=165,SNR=51
G25K **Bearman Lake** 10.63 21 P Pn 19 57 21.7 -1.8
baz=209,SNR=8.4
O30N **Mendenhall** 10.69 62 Pn Pn 19 57 24.0 -0.4
O30N **Mendenhall** 10.69 62 P Pn 19 57 23.4 -0.9
baz=258,SNR=7.4
I27K **Kandik River** 10.79 32 P Pn 19 57 25.7 0.0
baz=224,SNR=8.6
M30M **Minto, Yukon** 10.88 52 Pn Pn 19 57 26.9 0.0
M30M **Minto, Yukon** 10.88 52 P Pn 19 57 26.7 -0.3
baz=248
SKAG **Skagway** 10.89 69 P Pn 19 57 26.7 -0.3
baz=266
N31M **Braeburn, Yuko** 11.00 58 P Pn 19 57 28.4 -0.1
baz=255
SIT **Sitka** 11.01 82 P Pn 19 57 27.5 -1.1
baz=278
F24K **Squaw Lake** 11.02 16 P Pn 19 57 27.4 -1.3
baz=202
K29M **Barlow Dome** 11.13 45 Pn Pn 19 57 31.3 +0.9
K29M **Barlow Dome** 11.13 45 P Pn 19 57 30.6 +0.2
baz=241
D17K **Noatak River** 11.16 345 P Pn 19 57 31.5 +0.9
baz=158
E20K **Nigu River** 11.18 359 P Pn 19 57 32.2 +1.2
baz=178,SNR=16
E22K **Anaktuvuk Pass** 11.19 7 P Pn 19 57 30.4 -0.7
baz=190,SNR=12
I28M **Miner Creek** 11.20 35 P Pn 19 57 31.4 +0.1
baz=229,SNR=10
WHY **Whitehorse** 11.25 63 P Pn 19 57 32.1 0.0
baz=260,SNR=18
H27K **Steamboat Moun** 11.28 30 P Pn 19 57 31.8 -0.5
baz=222
G26K **Porcupine Rive** 11.28 24 P Pn 19 57 31.1 -1.1
baz=214,SNR=11
E23K **Chandalar** 11.30 11 P Pn 19 57 32.0 -0.7
baz=197,SNR=11
R32K **Eaglecrest** 11.31 75 P Pn 19 57 34.3 +1.5
baz=273
S32K **Killisnoo** 11.35 79 Pn Pn 19 57 32.5 -0.8
S32K **Killisnoo** 11.35 79 P Pn 19 57 32.4 -0.8
baz=277
E21K **Killik River** 11.39 3 P Pn 19 57 34.5 +0.7
baz=184,SNR=19
F25K **Christian Rive** 11.45 19 P Pn 19 57 31.0 -3.7
baz=208,SNR=15
E24K **Your Creek** 11.45 13 P Pn 19 57 31.9 -2.8
baz=200,SNR=8.4
RDOG **Red Dog Mine** 11.47 346 P Pn 19 57 35.3 +0.5
baz=160,SNR=7.3
D19K **Kuna River** 11.47 355 Pn Pn 19 57 36.6 +1.7
D19K **Kuna River** 11.47 355 P Pn 19 57 35.6 +0.7
baz=173,SNR=36
BMAR **Burnt Mountain** 11.51 22 Pn Pn 19 57 32.5 -3.0
D20K **Etivluk River** 11.65 358 P Pn 19 57 37.6 +0.3
baz=177
I29M **Ogilvie Camp,** 11.67 38 P Pn 19 57 38.1 +0.4
baz=233
G27K **Doyon Strip** 11.68 28 P Pn 19 57 36.6 -1.2
baz=220
P32M **Atlin** 11.72 69 Pn Pn 19 57 37.8 -0.6
P32M **Atlin** 11.72 69 P Pn 19 57 38.1 -0.4
baz=267
M31M **Drury Creek, Y** 11.82 56 P Pn 19 57 39.7 -0.1
baz=254
F26K **Sheenjek River** 11.83 22 P Pn 19 57 39.5 -0.3
baz=212
C18K **Utukok River** 11.84 350 P Pn 19 57 40.2 +0.2
baz=165
ATKA **Atka Island** 11.85 253 P Pn 19 57 39.4 -0.7
TOLK **Toolik Lake Re** 11.87 11 P Pn 19 57 41.3 +0.9
baz=196,SNR=6.4
D22K **Ayikyak River** 11.87 5 P Pn 19 57 41.3 +0.9
baz=188,SNR=5.5
C17K **DeLong Mountai** 11.90 346 P Pn 19 57 41.9 +1.2
baz=160,SNR=11
E25K **Arctic Village** 11.93 18 P Pn 19 57 38.4 -2.8
baz=207,SNR=12
J30M **Hart River** 11.94 43 P Pn 19 57 41.8 +0.3
baz=240,SNR=16
C16K **Lisburne Hills** 12.04 342 P Pn 19 57 44.5 +2.0
baz=154
C21K **Knifeblade Rid** 12.09 1 P Pn 19 57 42.7 -0.6
baz=182
D23K **Nanushuk River** 12.09 8 P Pn 19 57 42.9 -0.4
baz=193
C19K **Lookout Ridge** 12.16 353 P Pn 19 57 44.7 +0.3
baz=170
H29M **Whitestone** 12.19 35 P Pn 19 57 45.5 +0.7
baz=230
P33M **Teslin, Yukon** 12.21 66 P Pn 19 57 44.3 -0.8
baz=265
I30M **Mount Dempster** 12.26 41 P Pn 19 57 45.6 -0.3
baz=237
U33K **Whale Pass** 12.39 85 P Pn 19 57 45.9 -1.6
baz=284
D24K **Happy Valley** 12.44 11 P Pn 19 57 47.9 -0.2
baz=197,SNR=7.7
Q32M **Nakina River** 12.46 72 Pn Pn 19 57 50.1 +1.5
Q32M **Nakina River** 12.46 72 P Pn 19 57 47.1 -1.5
baz=271
B21K **Ikpikpuk River** 12.56 2 P Pn 19 57 50.1 +0.5
baz=182
B18K **Kokolik River** 12.60 350 P Pn 19 57 50.6 +0.4
baz=164
F28M **Old Crow** 12.74 28 P Pn 19 57 51.6 -0.6
baz=222
G29M **Pine Creek** 12.75 33 P Pn 19 57 52.5 +0.2
baz=228
E27K **Coleen River** 12.78 24 Pn Pn 19 57 52.8 +0.1
E27K **Coleen River** 12.78 24 P Pn 19 57 53.0 +0.3
baz=216
D25K **Kavik River** 12.90 15 P Pn 19 57 54.0 -0.4
baz=203,SNR=18
C23K **Itkillik River** 12.95 8 P Pn 19 57 54.7 -0.2
baz=192
B20K **Meade River** 12.96 358 P Pn 19 57 55.8 +0.8
baz=176
C24K **Franklin Bluff** 13.00 11 P Pn 19 57 54.6 -1.0
baz=197
R33M **Jennings River** 13.12 70 P Pn 19 57 57.0 -0.5
baz=270
S34M **Telegraph Cree** 13.14 76 P Pn 19 57 57.6 0.0
baz=277,SNR=6.5
H31M **Peel River** 13.29 40 P Pn 19 57 59.6 0.0
baz=239,SNR=6.3
B22K **Teshekpuk Lake** 13.30 3 P Pn 19 57 58.3 -1.4
baz=185,SNR=8.5
ADK **Adak** 13.32 256 P Pn 19 57 59.3 -0.8
G30M **tAoh Zraii Nji** 13.34 34 P Pn 19 57 59.8 -0.5
baz=231,SNR=7.5
E28M **Babbage River** 13.58 26 Pn Pn 19 58 03.7 +0.3
E28M **Babbage River** 13.58 26 P Pn 19 58 03.1 -0.3
baz=220
C27K **Jago River** 13.59 18 P Pn 19 58 02.8 -0.7
baz=208
C26K **Camden Bay** 13.66 16 P Pn 19 58 02.7 -1.8
baz=205
DLBC **Dease Lake** 13.66 74 P Pn 19 58 04.8 +0.1
baz=275,SNR=8.4
DLBC **Dease Lake** 13.66 74 P Pn 19 58 04.8 +0.1
comp=E,5.1nm,0.8s,baz=243,slow=11,SNR=8.7
DLBC S Sn 20 00 32.8 -1.8
comp=E,1.6nm,0.5s,baz=233,slow=20,SNR=2.1
DLBC LR LR 20 03 18.2
comp=E,136nm,19.9s,baz=298,slow=37
T35M **Bob Quinn** 13.75 80 P Pn 19 58 04.4 -1.5
baz=281
D27M **Malcolm River** 13.77 22 P Pn 19 58 05.8 -0.3
baz=215
E29M **Blow River** 13.82 28 P Pn 19 58 07.0 +0.3
baz=224
F30M **Barrier River** 13.87 33 P Pn 19 58 07.3 0.0
baz=230
G31M **Satah River** 13.92 37 P Pn 19 58 08.8 +0.8
baz=235,SNR=8.7

A22K **Sinclair Lake** 13.94 1 P Pn 19 58 08.1 -0.1
baz=181
F31M **Tsiigehtchic** 14.39 35 P Pn 19 58 14.5 +0.4
baz=234
GRNB **Grenville Isla** 14.85 92 Pn Pn 19 58 19.0 -1.1
INK **Inuvik** 14.97 33 P Pn 19 58 21.6 +0.1
baz=232
INK **Inuvik** 14.97 33 P Pn 19 58 20.7 -0.9
comp=E,1.6nm,0.3s,baz=243,slow=13,SNR=9.2
INK LR LR 20 04 34.9
comp=E,79nm,18.8s,baz=182,slow=39
TOAD **Toad River Com** 16.11 71 P P 19 58 38.5 +0.2
baz=277
BBB **Bella Bella** 16.57 96 LR LR 20 04 37.0
comp=E,54nm,18.1s,baz=332,slow=35
SHEM **Shemya Is, Ala** 17.89 269 LR LR 20 06 16.6
comp=E,94nm,19.8s,baz=92,slow=38
C36M **Paulatuk** 18.44 36 P Pn 19 59 04.2 -0.4
baz=244
A36M **Sachs Harbour** 19.43 28 P Pn 19 59 15.3 -1.0
A36M IAmb IAmb 19 59 18.9
comp=Z,30nm,0.8s
A36M **Sachs Harbour** 19.43 28 P P 19 59 14.5 -0.1
baz=236,SNR=34
CLRS **Cowichan Lake** 20.51 100 P P 19 59 26.0 -0.5
CLRS IAmb IAmb 19 59 33.2
comp=Z,30nm,1.0s
YKA **Yellowknife Ar** 21.00 58 P P 19 59 32.4 +0.7
YKA **Yellowknife Ar** 21.00 58 P P 19 59 32.0 +0.4
comp=Z,8.4nm,0.8s,baz=271,slow=9.9,SNR=40
comp=Z,8.4nm,0.8s
WISH **Wishkah** 21.74 104 P P 19 59 41.2 +1.5
WISH IAmb IAmb 19 59 43.4
comp=Z,39nm,0.9s
B08A **Colville Reser** 23.37 96 P P 19 59 58.3 +1.7
H04D **Lebanon** 24.00 108 IAmb IAmb 20 00 06.5
comp=Z,22nm,1.0s
H04A **Detroit Lake** 24.18 107 IAmb IAmb 20 00 29.2
comp=Z,23nm,1.1s
NEW **Newport** 24.63 95 P P 20 00 09.1 +1.1
NEW **Newport** 24.63 95 P P 20 00 09.0 +0.9
baz=305,SNR=10
NEW **Newport** 24.63 95 LR LR 20 08 50.8
comp=Z,77nm,21.7s,baz=338,slow=34
E08A **Dider Farm, El** 24.65 100 P P 20 00 09.6 +1.4
E08A IAmb IAmb 20 00 12.5
comp=Z,21nm,0.8s
HUMO **Hull Mountain** 25.24 111 P P 20 00 17.1 +3.5
G08A **Pilot Rock** 25.48 102 P P 20 00 17.4 +1.6
KRMB **Red Mountain** 25.56 114 P P 20 00 17.4 +0.8
KRMB IAmb IAmb 20 00 60.0
comp=Z,49nm,1.4s
I07A **Izee** 25.99 105 P P 20 00 21.6 +1.0
YBH **Yreka Blue Hor** 26.00 112 LR LR 20 07 22.6
comp=Z,41nm,19.9s,baz=322,slow=29
PEA0B **Petropavlovsk-** 26.61 281 P P 20 00 26.5 +0.6
PEA0B IAmb IAmb 20 00 28.2
comp=Z,28nm,1.4s
PETK **Petropavlovsk-** 26.61 281 P P 20 00 26.8 +0.9
PETK **Petropavlovsk-** 26.61 281 P P 20 00 24.4 -1.4
comp=Z,6.0nm,0.6s,baz=72,slow=12,SNR=26
PETK LR LR 20 12 01.6
comp=Z,50nm,18.8s,baz=81,slow=39
comp=Z,6.0nm,0.6s
O02D **Mt. Diablo Mer** 27.13 115 P P 20 00 31.1 +0.3
O02D IAmb IAmb 20 00 34.6
comp=Z,22nm,1.1s
MSO **Missoula** 27.21 94 P P 20 00 31.9 +0.4
baz=308
WVOR **Wild Horse Val** 27.59 106 P P 20 00 36.3 +1.4
MA2 **Magadan** 27.63 298 LR LR 20 12 58.2
comp=Z,79nm,18.3s,baz=64,slow=40
EGMT **Eagleton** 28.78 89 P P 20 00 46.5 +1.1
EGMT IAmb IAmb 20 01 12.6
comp=Z,37nm,1.0s
EGMT **Eagleton** 28.78 89 P P 20 00 46.9 +1.5
baz=306
HLID **Hailey** 29.06 100 P P 20 00 49.8 +1.8
HLID **Hailey** 29.06 100 P P 20 00 49.6 +1.6
baz=312,SNR=8.1
BOZ **Bozeman (W)** 29.24 94 P P 20 00 50.9 +1.4
BOZ **Bozeman (W)** 29.24 94 P P 20 00 50.3 +0.8
baz=309,SNR=7.0
PNTR **Pine Nut** 29.55 112 P P 20 00 54.3 +1.9
PNTR IAmb IAmb 20 00 56.2
comp=Z,18nm,0.9s
CMB **Columbia Colle** 29.97 114 P P 20 00 56.5 +0.6
WAKR **Walker** 30.08 113 P P 20 00 58.6 +1.5
YHH **Holmes Hill** 30.18 95 P P 20 00 59.7 +1.7
RYN **Ryan** 30.45 111 P P 20 01 01.5 +1.2
NVAR **Mina Array Bea** 30.71 111 P P 20 01 04.7 +2.0
NVAR **Mina Array Bea** 30.71 111 P P 20 01 05.2 +2.5
comp=Z,5.7nm,0.8s,baz=301,slow=9.0,SNR=36
NVAR pP pP 20 01 20.0 +0.9
comp=Z,2.5nm,0.8s,baz=305,slow=7.6,SNR=4.8
NVAR PcP PcP 20 03 59.4 +0.5
comp=Z,1.6nm,0.8s,baz=320,slow=2.7,SNR=6.1
NVAR LR LR 20 11 25.2
comp=Z,93nm,19.9s,baz=288,slow=32
comp=Z,5.7nm,0.8s
IMW **Indian Meadow** 30.71 96 IAmb IAmb 20 01 06.1
comp=Z,14nm,1.1s
FLWY **Flagg Ranch** 30.72 96 P P 20 01 04.3 +1.6
RLMT **Red Lodge** 30.82 93 P P 20 01 05.1 +1.4
baz=310,SNR=5.3
TPAW **Teton Pass** 30.98 97 IAmb IAmb 20 01 08.6
comp=Z,18nm,1.4s
SPUT **South Promonto** 31.66 101 P P 20 01 12.7 +1.8
FCC **Fort Churchill** 31.67 61 P P 20 01 10.2 -0.4
FCC IAmb IAmb 20 01 12.7
comp=Z,12nm,0.8s
HWUT **Hardware Ranch** 31.93 100 IAmb IAmb 20 01 16.6
comp=Z,9.8nm,0.8s
R11B **Troy Canyon, C** 32.17 108 P P 20 01 16.4 +1.0
R11B IAmb IAmb 20 01 18.7
comp=Z,12nm,1.1s
R11B **Troy Canyon, C** 32.17 108 P P 20 01 17.6 +2.2
baz=319,SNR=20
BW06 **Boulder Array** 32.22 96 P P 20 01 17.9 +1.9
baz=313,SNR=7.1
PD31 **Pinedale Array** 32.22 96 P P 20 01 17.9 +2.0
PD31 IAmb IAmb 20 01 18.3
comp=Z,8.2nm,0.7s
PDAR **Pinedale Array** 32.22 96 P P 20 01 16.4 +0.5
PDAR **Pinedale Array** 32.22 96 P P 20 01 17.4 +1.6
comp=Z,8.0nm,0.6s,baz=310,slow=5.4,SNR=60
PDAR pP pP 20 01 33.4 +1.1
comp=Z,2.0nm,0.6s,baz=321,slow=5.0,SNR=4.7
comp=Z,8.0nm,0.6s
DUG **Dugway, Tooele** 32.26 103 P P 20 01 18.2 +2.0
baz=316,SNR=9.6
GRAC **Grapevine Rang** 32.29 112 P P 20 01 18.7 +2.4
baz=321
SMMC **Simmler** 32.31 117 P P 20 01 19.5 +3.0
baz=324,SNR=5.8
VES **Vestal, Richgr** 32.33 115 P P 20 01 18.6 +1.9
baz=323
CWC **Cottonwood Cre** 32.36 114 P P 20 01 19.1 +2.0
baz=322
PKM **Mcpherson Peak** 32.74 117 P P 20 01 23.3 +2.8
baz=324,SNR=8.7
ISA **Isabella, Lake** 32.78 115 IAmb IAmb 20 01 23.6
comp=Z,8.1nm,0.8s
ISA **Isabella, Lake** 32.78 115 P P 20 01 22.9 +2.3
baz=323,SNR=9.5
WCT **Wildcat Mounta** 32.82 111 IAmb IAmb 20 01 24.7
comp=Z,13nm,1.1s
TPNV **Topopah Spring** 32.89 111 P P 20 01 24.6 +2.9
baz=320,SNR=18
FURC **Furnace Creek,** 32.95 112 P P 20 01 24.9 +2.9
baz=321,SNR=7.6
MPMC **Manual Prospec** 32.95 113 P P 20 01 25.0 +2.7
baz=322,SNR=14
ARVC **Arvin** 33.03 116 P P 20 01 24.7 +2.0
baz=323
TIXI **Tiksi** 33.06 326 LR LR 20 15 16.1
comp=Z,52nm,18.8s,baz=21,slow=37
BSUT **Blindstream Ca** 33.11 101 P P 20 01 24.3 +0.4
BSUT IAmb IAmb 20 01 27.1
comp=Z,19nm,0.9s
GWY **Greenwater Val** 33.27 112 IAmb IAmb 20 01 28.4
comp=Z,11nm,0.8s
LRMC **Laurel Mtn Rad** 33.31 114 P P 20 01 27.7 +2.3
baz=322,SNR=18
SCZ2 **Santa Cruz Isl** 33.55 118 P P 20 01 29.3 +1.9
baz=325
EDW2 **Edwards Air Fo** 33.63 115 P P 20 01 29.2 +1.1

baz=323
GSC **Goldstone, Bar** 33.89 113 IAmb IAmb 20 01 33.9
comp=Z,13nm,1.1s
GSC **Goldstone, Bar** 33.89 113 P P 20 01 33.0 +2.6
baz=322,SNR=10.0
K22A **Casper** 33.94 94 P P 20 01 31.6 +0.7
baz=312
P18A **Preston Nutter** 34.04 101 P P 20 01 34.1 +2.2
TUQ **Turquoise Moun** 34.23 112 P P 20 01 35.7 +2.3
baz=322,SNR=5.2
BFSC **Mount Baldy Ra** 34.31 115 P P 20 01 36.3 +2.2
baz=324
RSSD **Black Hills** 34.32 90 P P 20 01 36.0 +1.8
RSSD **Black Hills** 34.32 90 P P 20 01 36.3 +2.1
baz=311
MDND **Maddock** 34.40 81 P P 20 01 36.1 +1.5
baz=307
HEC **Hector,Ludlow** 34.50 113 P P 20 01 38.1 +2.4
baz=322,SNR=8.8
PKCU **Pink Cliffs** 34.55 106 IAmb IAmb 20 01 40.1
comp=Z,17nm,0.9s
KNB **Kanab** 34.61 107 IAmb IAmb 20 01 40.2
comp=Z,11nm,1.0s
O20A **White River Ci** 34.75 99 P P 20 01 39.7 +1.8
baz=315,SNR=19
GMRC **Granite Mounta** 34.88 113 P P 20 01 41.3 +2.4
baz=322,SNR=9.4
SCI2 **San Clemente I** 34.90 118 P P 20 01 41.1 +2.1
baz=325
ULM **Lac du Bonnet** 34.98 75 IAmb IAmb 20 01 41.4
comp=Z,10nm,0.9s
ULM **Lac du Bonnet** 34.98 75 P P 20 01 40.5 +1.0
comp=Z,8.2nm,0.8s,baz=297,slow=7.3,SNR=9.0
comp=Z,8.2nm,0.8s
BELC **Belle Mtn. Jos** 35.33 114 P P 20 01 44.9 +2.0
baz=323,SNR=11
U15A **North Rim** 35.33 107 IAmb IAmb 20 01 46.4
comp=Z,9.3nm,1.0s
PFO **Pinyon Flats O** 35.41 115 P P 20 01 44.7 +1.2
baz=324,SNR=6.4
PFO **Pinyon Flats O** 35.41 115 LR LR 20 13 18.2
comp=Z,99nm,21.4s,baz=346,slow=31
TPFO **Pinon Flats** 35.42 115 P P 20 01 45.8 +2.2
baz=324,SNR=7.3
N23A **Red Feather La** 35.46 96 P P 20 01 45.9 +1.8
baz=314
IRM **Iron Mountain** 35.63 113 P P 20 01 47.9 +2.6
baz=323,SNR=19
109C **Camp Elliot, M** 35.67 116 P P 20 01 48.0 +2.3
baz=324
BC3 **Big Chuckawall** 35.88 114 P P 20 01 49.4 +1.9
baz=323,SNR=6.3
MONP2 **Monument Peak** 36.01 115 P P 20 01 51.0 +2.2
baz=324,SNR=12
AGMN **Agassiz Nation** 36.13 78 IAmb IAmb 20 01 51.1
comp=Z,13nm,0.8s
AGMN **Agassiz Nation** 36.13 78 P P 20 01 50.6 +1.2
baz=307,SNR=5.2
YAK **Yakutsk** 36.22 310 LR LR 20 18 00.7
comp=Z,100nm,20.2s,baz=44,slow=38
SWSC **Sam W. Stewart** 36.27 115 P P 20 01 52.1 +1.4
baz=324,SNR=6.8
IKP **In-Ko-Pah, Jac** 36.36 115 P P 20 01 52.3 +0.7
baz=324
WUAZ **Wupatki** 36.51 107 IAmb IAmb 20 01 56.2
comp=Z,15nm,1.0s
WUAZ **Wupatki** 36.51 107 P P 20 01 55.1 +2.1
baz=320,SNR=10
GLA **Glamis** 36.67 113 P P 20 01 55.8 +1.6
baz=323
MVCO **Mesa Verde** 36.74 102 IAmb IAmb 20 01 57.2
comp=Z,9.1nm,0.8s
MVCO **Mesa Verde** 36.74 102 P P 20 01 56.3 +1.3
baz=318,SNR=5.9
SUSD **Miller** 36.88 85 P P 20 01 56.6 +0.7
baz=311
Y14A **Wickenburg** 36.89 110 IAmb IAmb 20 01 59.3
comp=Z,11nm,1.0s
S22A **4UR Ranch, Cre** 37.24 100 P P 20 02 00.3 +1.0
baz=317
Q24A **Divide** 37.26 97 P P 20 02 00.8 +1.3
baz=316
X16A **Lo Mia Camp, P** 37.32 108 P P 20 02 01.9 +2.0
X16A IAmb IAmb 20 02 03.6
comp=Z,16nm,0.8s
113A **Mohawk Valley,** 37.43 113 IAmb IAmb 20 02 03.6
comp=Z,13nm,1.1s
OGNE **Ogallala** 37.56 92 P P 20 02 03.3 +1.6
baz=314
W18A **Petrified Fore** 37.67 106 P P 20 02 04.3 +1.5
baz=320
SDCO **Great Sand Dun** 37.95 99 P P 20 02 07.2 +1.9
baz=317,SNR=5.5
NEEM **North Greenlan** 38.00 20 *i* P P 20 02 04.4 -0.9
NEEM IAmb IAmb 20 02 30.0
comp=Z,3.1nm,2.4s
214A **Organ Pipe Nat** 38.56 112 IAmb IAmb 20 02 13.4
comp=Z,15nm,0.9s
214A **Organ Pipe Nat** 38.56 112 P P 20 02 12.6 +2.4
baz=324,SNR=13
KSCO **Kaye Shedlock'** 38.59 95 P P 20 02 11.7 +1.2
baz=316
ECSD **EROS Data Cent** 38.62 84 P P 20 02 10.2 -0.3
ECSD IAmb IAmb 20 02 11.5
comp=Z,6.7nm,0.7s
ECSD **EROS Data Cent** 38.62 84 P P 20 02 10.5 0.0
baz=312,SNR=10
EYMN **Ely** 38.66 75 P P 20 02 10.6 -0.3
EYMN **Ely** 38.66 75 P P 20 02 11.8 +0.9
baz=308,SNR=14
T25A **Trinidad** 38.99 98 IAmb IAmb 20 02 16.9
comp=Z,12nm,1.3s
T25A **Trinidad** 38.99 98 P P 20 02 15.3 +1.3
baz=318
TUC **Tucson** 39.31 110 P P 20 02 18.0 +1.5
baz=323
BGNE **Belgrade** 39.35 88 P P 20 02 17.7 +1.0
baz=314
ANMO **Albuquerque** 39.53 103 P P 20 02 18.6 +0.2
ANMO **Albuquerque** 39.53 103 P P 20 02 19.7 +1.3
baz=320
ANMO **Albuquerque** 39.53 103 LR LR 20 16 57.5
comp=Z,78nm,21.3s,baz=112,slow=33
SPMN **Marine on St.** 39.70 80 P P 20 02 20.4 +1.0
baz=311
JKA **Kamikawa-asahi** 39.93 278 P P 20 02 20.0 -1.4
JKA IAmb IAmb 20 02 58.3
comp=Z,13nm,1.4s
ASAJ **Asahikawa** 39.93 278 LR LR 20 18 05.3
comp=Z,49nm,21.4s,baz=20,slow=35
FRB **Frobisher Bay** 40.24 43 *i* P P 20 02 24.4 +0.8
CBKS **Cedar Bluff** 40.31 92 P P 20 02 26.2 +1.6
baz=316
121A **Cookes Peak, D** 40.69 106 IAmb IAmb 20 02 31.4
comp=Z,16nm,1.2s
121A **Cookes Peak, D** 40.69 106 P P 20 02 30.4 +2.4
baz=322,SNR=7.5
ERM **Erimo** 41.04 276 P P 20 02 30.0 -0.5
KSU1 **Kansas State U** 41.81 89 IAmb IAmb 20 02 38.5
comp=Z,17nm,0.8s
KSU1 **Kansas State U** 41.81 89 P P 20 02 38.0 +1.1
baz=316
HSIG 41.88 113 IAmb IAmb 20 02 40.5
comp=Z,12nm,0.9s
E43A **Lone Tree Farm** 42.03 74 P P 20 02 39.0 +0.4
E43A IAmb IAmb 20 02 40.5
comp=Z,15nm,0.7s
AMTX **Amarillo** 42.14 98 P P 20 02 41.2 +1.4
baz=319
MSTX **Muleshoe** 42.24 100 P P 20 02 41.8 +1.1
baz=320
KLR **Kul'dur** 42.32 292 LR LR 20 21 58.6
comp=Z,37nm,18.5s,baz=25,slow=38
JFWS **Jewell Farm** 42.61 80 IAmb IAmb 20 02 44.2
comp=Z,15nm,0.7s
JFWS **Jewell Farm** 42.61 80 P P 20 02 43.5 +0.1
baz=313
MNTX **Cornudas Mount** 42.61 105 P P 20 02 45.5 +2.0
baz=322,SNR=19
L40A **Anamosa** 42.67 82 IAmb IAmb 20 02 44.8
comp=Z,18nm,0.8s
T35A **Sooner Cattle** 43.44 92 IAmb IAmb 20 02 51.5
comp=Z,11nm,0.9s
E46A **Sault Ste Mari** 43.44 72 IAmb IAmb 20 02 51.7
comp=Z,17nm,0.7s
VHRN **Van Horn** 43.53 105 P P 20 02 53.2 +2.1
VHRN IAmb IAmb 20 02 54.4
comp=Z,16nm,1.0s

SUMG Summit 43.59 23 *i* P **P 20 02 51.5 +0.1**
SUMG IAmb IAmb 20 02 52.9
comp=Z,2.1nm,0.8s
WMOK Wichita Mounta 43.82 96 P **P 20 02 54.4 +1.1**
baz=319,SNR=12
P40A Paris 43.99 85 IAmb IAmb 20 02 55.6
comp=Z,20nm,0.9s
TUL3 Leonard 44.57 92 IAmb IAmb 20 03 00.5
comp=Z,8.3nm,0.8s
TUL3 Leonard 44.57 92 P **P 20 02 59.7 +0.5**
baz=318
SGCY Sterling City 44.71 100 IAmb IAmb 20 03 02.1
comp=Z,11nm,0.9s
HDIL Hopedale 44.76 82 P **P 20 03 01.2 +0.6**
baz=315,SNR=7.8
SPITS Spitsbergen Ar 44.86 2 P **P 20 03 00.1 -0.9**
comp=Z,5.2nm,0.8s,baz=11,slow=6.0,SNR=6.5
comp=Z,5.2nm,0.8s
U38A Gravette 44.95 90 IAmb IAmb 20 03 03.0
comp=Z,16nm,0.7s
ABTX Abilene, Hawle 44.96 98 IAmb IAmb 20 03 04.1
comp=Z,10nm,0.8s
ABTX Abilene, Hawle 44.96 98 P **P 20 03 02.9 +0.6**
baz=320
HHAR Hobbs 45.31 90 IAmb IAmb 20 03 05.6
comp=Z,9.6nm,0.8s
TXAR Lajitas Array 45.38 105 P **P 20 03 07.6 +1.8**
TXAR Lajitas Array 45.38 105 P **P 20 03 07.2 +1.4**
comp=Z,6.0nm,0.8s,baz=313,slow=6.0,SNR=69
TXAR pP **pP 20 03 23.4 +0.5**
comp=Z,2.0nm,0.8s,baz=303,slow=6.2,SNR=5.6
TXAR PcP **PcP 20 04 44.7 +0.6**
comp=Z,1.0nm,0.6s,baz=160,slow=0.3,SNR=6.5
TXAR LR LR 20 19 59.2
comp=Z,36nm,21.9s,baz=35,slow=33
comp=Z,6.0nm,0.8s
OZNA Ozona 45.48 101 IAmb IAmb 20 03 08.3
comp=Z,7.1nm,0.8s
CCM Cathedral Cave 45.48 86 P **P 20 03 06.1 -0.3**
CCM IAmb IAmb 20 03 07.0
comp=Z,8.5nm,0.8s
CCM Cathedral Cave 45.48 86 P **P 20 03 06.3 -0.1**
baz=316
USRK Ussuriysk Ar. 45.52 286 P **P 20 03 04.6 -2.0**
comp=Z,0.9nm,0.5s,baz=67,slow=8.5,SNR=1.7
USRK LR LR 20 22 28.3
comp=Z,65nm,20.2s,baz=42,slow=36
comp=Z,0.9nm,0.5s
X37A Clayton 45.79 93 P **P 20 03 09.8 +1.0**
ICESG Greenland Ices 45.84 27 *i* P **P 20 03 08.5 -0.7**
ICESG IAmb IAmb 20 03 10.0
comp=Z,15nm,0.6s
NRIK Noril'sk 45.89 334 P **P 20 03 08.2 -1.0**
comp=Z,5.6nm,0.5s,baz=55,slow=2.8,SNR=5.2
comp=Z,5.6nm,0.5s
FVM French Village 45.98 86 IAmb IAmb 20 03 11.3
comp=Z,16nm,1.1s
SFIN Lafayette 46.07 81 P **P 20 03 11.8 +0.8**
baz=315,SNR=5.8
T42A Van Buren 46.31 87 IAmb IAmb 20 03 12.8
comp=Z,8.1nm,0.8s
SCHQ Schefferville 46.32 53 P **P 20 03 13.1 +0.3**
comp=Z,2.9nm,0.7s,baz=310,slow=8.5,SNR=4.6
SCHQ pP **pP 20 03 30.2 +0.4**
comp=Z,3.0nm,0.8s,baz=319,slow=7.3,SNR=2.8
comp=Z,2.9nm,0.7s
SCHQ Schefferville 46.32 53 *i* P **P 20 03 12.8 0.0**
BRDY Brady 46.34 99 IAmb IAmb 20 03 14.8
comp=Z,6.5nm,0.8s
JCT Junction City 46.53 100 P **P 20 03 15.9 +1.2**
baz=322,SNR=5.6
MIAR Mount Ida 46.80 91 P **P 20 03 17.2 +0.5**
baz=319,SNR=18
O48B Farmland 47.20 79 P **P 20 03 19.5 -0.3**
baz=316,SNR=7.1
435B Jarrell 47.49 98 P **P 20 03 22.3 +0.1**
baz=321
P48A Milroy 47.62 80 P **P 20 03 23.1 0.0**
MJAR Matsushiro Arr 47.63 274 P **P 20 03 21.2 -2.0**
comp=Z,0.8nm,0.5s,baz=23,slow=6.6,SNR=4.8
MJAR LR LR 20 23 10.9
comp=Z,16nm,21.8s,baz=109,slow=36
comp=Z,0.8nm,0.5s
P49A Miami Univ. Ec 47.95 80 P **P 20 03 25.8 +0.2**
baz=316
WCI Wyandotte Cave 48.04 82 P **P 20 03 26.6 +0.2**
baz=317
DELO Deloro Mine 48.15 70 P **P 20 03 27.7 +0.6**
DELO IAmb IAmb 20 03 28.5
comp=Z,14nm,1.3s
NATX Nacogdoches 48.32 95 P **P 20 03 29.7 +1.1**
baz=320
833A Chaparral WMA, 48.45 102 P **P 20 03 30.7 +1.1**
baz=323
SOEG Soedalen 48.47 24 *i* P **P 20 03 27.8 -1.4**
SOEG IAML 20 03 30.0
comp=Z,12nm,0.6s
SOEG IAmb IAmb 20 03 30.0
comp=Z,12nm,0.6s
T47A Sharon Grove 48.51 84 IAmb IAmb 20 03 31.2
comp=Z,17nm,1.1s
TRQ Mont Tremblant 48.52 66 IAmb IAmb 20 03 31.6
comp=Z,9.4nm,0.9s
ERPA Erie 48.61 74 P **P 20 03 31.2 +0.5**
baz=315
M53A WI Miller and 48.74 75 P **P 20 03 32.4 +0.7**
baz=316,SNR=5.4
WVT Waverly 48.75 85 P **P 20 03 32.4 +0.6**
WVT Waverly 48.75 85 P **P 20 03 32.6 +0.8**
baz=318
WBO Williamsburg 49.01 68 P **P 20 03 33.7 0.0**
WBO IAmb IAmb 20 03 34.5
comp=Z,8.6nm,0.7s
OXF Oxford 49.09 88 P **P 20 03 35.3 +0.8**
baz=319,SNR=13
P52A Corning 49.26 78 P **P 20 03 35.7 0.0**
baz=316
O53A New Philadelph 49.30 76 P **P 20 03 35.7 -0.4**
baz=316
PLAL Pickwick Lake 49.47 86 P **P 20 03 36.8 -0.5**
LONY Lake Ozonia 49.62 68 P **P 20 03 38.0 -0.4**
baz=315
P53A Whipple 49.76 77 IAmb IAmb 20 03 40.1
comp=Z,9.0nm,0.7s
VBMS Vicksburg 50.23 91 P **P 20 03 44.0 +1.0**
baz=320
X48A Hartselle 50.43 86 IAmb IAmb 20 03 45.4
comp=Z,11nm,0.7s
MCWV Mont Chateau 50.46 76 P **P 20 03 44.8 +0.1**
baz=317
D62A Allapoint, All 50.61 62 IAmb IAmb 20 03 47.0
comp=Z,9.7nm,1.0s
BINY Binghamton 50.64 71 P **P 20 03 46.3 +0.2**
baz=316,SNR=5.7
M57A Sunshine Farm, 50.67 73 IAmb IAmb 20 03 47.7
comp=Z,7.6nm,0.7s
TZTN Tazewell 50.76 81 P **P 20 03 47.8 +0.7**
baz=318,SNR=6.5
SSPA Standing Stone 50.78 74 P **P 20 03 47.2 +0.1**
baz=317
S54A Dingess, Beckl 51.04 79 IAmb IAmb 20 03 50.0
comp=Z,10nm,0.8s
G62A West of Eustis 51.22 65 IAmb IAmb 20 03 51.5
comp=Z,10nm,0.8s
LBNH Lisbon 51.23 66 P **P 20 03 50.5 0.0**
baz=316
Q56A Snyder Ridge, 51.26 76 IAmb IAmb 20 03 51.7
comp=Z,8.0nm,0.9s
V52A Sevierville 51.26 82 IAmb IAmb 20 03 51.9
comp=Z,17nm,1.2s
TKL Tuckaleechee C 51.30 82 IAmb IAmb 20 03 52.0
comp=Z,7.5nm,0.8s
TKL Tuckaleechee C 51.30 82 LR LR 20 24 35.9
comp=Z,87nm,20.4s,baz=40,slow=35
LRAL Lakeview Retre 51.52 87 IAmb IAmb 20 03 52.8
comp=Z,5.3nm,0.8s
LRAL Lakeview Retre 51.52 87 P **P 20 03 52.6 -0.2**
baz=320,SNR=5.1
PKME Peaks-Kenny Pk 51.80 64 P **P 20 03 54.5 -0.2**
baz=316
BLA Blacksburg 51.95 79 P **P 20 03 56.5 +0.5**
baz=318,SNR=5.7
Y52A Lilburn 52.49 84 IAmb IAmb 20 04 00.9
comp=Z,14nm,1.2s
KSRS Korea Array 52.50 283 P **P 20 03 58.5 -1.4**
comp=Z,5.4nm,0.9s,baz=46,slow=6.4,SNR=15
KSRS LR LR 20 26 32.0
comp=Z,19nm,20.8s,baz=40,slow=36
comp=Z,5.4nm,0.9s
CBN Corbin Frederi 52.83 75 P **P 20 04 03.2 +0.8**
baz=318
BRAL Brewton 52.92 89 P **P 20 04 03.8 +0.6**
baz=320
KMSC Kings Mountain 53.00 81 P **P 20 04 03.7 -0.1**
baz=319,SNR=7.7
GOGA Godfrey 53.16 84 IAmb IAmb 20 04 05.1
comp=Z,8.8nm,0.9s
GOGA Godfrey 53.16 84 P **P 20 04 04.0 -0.9**
baz=320,SNR=5.7
HODGE Hodges 53.19 82 P **P 20 04 04.8 -0.3**
BORG Borgarnes 53.56 22 LR LR 20 32 37.4
comp=Z,28nm,18.0s,baz=337,slow=42
ARCES ARCESS Array B 53.64 360 P **P 20 04 06.8 -1.2**
comp=Z,1.7nm,0.7s,baz=23,slow=7.9,SNR=9.5
comp=Z,1.7nm,0.7s
T59A Double "B" Far 53.65 77 IAmb IAmb 20 04 09.7
comp=Z,9.9nm,0.9s
V58A Windy Hill, Pi 53.70 79 IAmb IAmb 20 04 09.9
comp=Z,10nm,0.8s
STEI Steigen 55.07 4 *e*P **P 20 04 17.7 -0.6**
NHSC New Hope 55.17 82 P **P 20 04 19.6 +0.1**
baz=320
SONM Songino Array 55.39 306 P **P 20 04 20.2 -0.9**
comp=Z,4.4nm,0.8s,baz=50,slow=6.7,SNR=31
SONM PcP **PcP 20 05 19.6 -1.1**
comp=Z,1.3nm,0.4s,baz=71,slow=3.5,SNR=7.5
SONM LR LR 20 29 45.4
comp=Z,79nm,19.0s,baz=64,slow=38
comp=Z,4.4nm,0.8s
FAUS Fauske 55.62 4 *e*P **P 20 04 21.1 -1.1**
STOK Stokkvaagen 56.56 5 *e*P **P 20 04 28.9 -0.1**
MOR8 Moi Rana 56.80 5 *e*P **P 20 04 29.3 -1.4**
MOR8 IAmb IAmb 20 04 30.1
comp=Z,11nm,0.9s
NSS Namsos 58.30 6 *e*P **P 20 04 40.7 -0.5**
NSS IAmb IAmb 20 04 42.0
comp=Z,12nm,0.9s
HHC Hu-ho-hao-te 58.31 297 *e*P **P 20 04 45.6 +3.8**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,130nm,4.3s
ZAA0 Zalesovo Array 58.89 323 P **P 20 04 45.0 -0.5**
ZAA0 IAmb IAmb 20 04 45.7
comp=Z,5.6nm,0.8s
ZALV Zalesovo Beam 58.89 323 P **P 20 04 45.0 -0.5**
ZALV Zalesovo Beam 58.89 323 P **P 20 04 44.5 -1.0**
comp=Z,4.5nm,0.7s,baz=38,slow=6.8,SNR=24
ZALV LR LR 20 32 10.3
comp=Z,51nm,20.1s,baz=338,slow=38
comp=Z,4.5nm,0.7s
VAF Ylistaro 60.16 1 *e*P **P 20 04 53.0 -1.1**
JOF Joensuu 60.17 356 *e*P **P 20 04 53.1 -1.0**
DOMB Dombas 60.57 8 *e*P **P 20 04 56.1 -0.9**
DOMB IAmb IAmb 20 04 57.7
comp=Z,17nm,1.0s
FOO Floro 60.65 10 *e*P **P 20 04 57.3 -0.2**
KEF Keuruu 61.05 360 *e*P **P 20 04 59.8 -0.3**
NJ2 Nanjing 61.42 285 *e*P **P 20 05 05.4 +2.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,300nm,3.7s
NC204 NORSAR Array S 61.45 7 P **P 20 05 03.1 +0.1**
NC303 NORSAR Array S 61.55 7 P **P 20 05 03.6 0.0**
NC303 IAmb IAmb 20 05 04.4
comp=Z,9.2nm,0.8s
NB2 NORSAR Subarra 61.72 7 P **P 20 05 04.3 -0.5**
comp=Z,7.5nm,0.7s,baz=353,slow=6.9
NB2 NORSAR Subarra 61.72 7 P **P 20 05 04.3 -0.5**
baz=353,slow=6.9
NOA NORSAR Array B 61.72 7 P **P 20 05 04.6 -0.1**
comp=Z,6.5nm,0.7s,baz=353,slow=6.8,SNR=63
comp=Z,6.5nm,0.7s
FIA1 FINESS Array S 61.76 359 P **P 20 05 04.5 -0.5**
FINES FINESS Array B 61.77 359 P **P 20 05 04.6 -0.4**
FINES FINESS Array B 61.77 359 P **P 20 05 04.4 -0.6**
comp=Z,10nm,0.8s,baz=13,slow=8.5,SNR=39
comp=Z,10nm,0.8s
SKAR Skarslia 61.85 9 *e*P **P 20 05 05.9 +0.3**
SKAR IAmb IAmb 20 05 06.4
comp=Z,15nm,0.8s
BER Bergen 61.87 11 *e*P **P 20 05 06.2 +0.5**
BER IAmb IAmb 20 05 06.2
comp=Z,11nm,0.6s
RAF Rauma 62.17 1 *e*P **P 20 05 07.0 -0.7**
LYN LuoYang 62.76 292 P **P 20 05 12.0 -0.1**
LYN pmax pmax
comp=Z,32nm,0.9s
HFS Hagfors 62.78 6 P **P 20 05 11.3 -0.5**
comp=Z,16nm,0.6s,baz=23,slow=4.8,SNR=79
comp=Z,16nm,0.6s
KONO Kongsberg 62.98 8 P **P 20 05 13.7 +0.6**
KONO Kongsberg 62.98 8 *e*P **P 20 05 13.8 +0.7**
KONO IAmb IAmb 20 05 14.6
comp=Z,12nm,0.7s
MEF Metsahovi 63.00 0 *e*P **P 20 05 12.8 -0.4**
ARU Arti 63.51 340 P **P 20 05 15.8 -0.8**
ARU Arti 63.51 340 P **P 20 05 15.3 -1.4**
comp=Z,15nm,0.9s
KURK Kurchatov 63.63 325 P **P 20 05 17.3 -0.3**
KURK IAmb IAmb 20 05 17.7
comp=Z,5.4nm,0.8s
KURBB Kurchatov Arra 63.74 325 P **P 20 05 17.4 -0.9**
comp=Z,2.5nm,0.6s,baz=30,slow=6.2,SNR=21
comp=Z,2.5nm,0.6s
BRVK Borovoye 63.96 331 P **P 20 05 18.8 -0.9**
BRVK IAmb IAmb 20 05 19.8
comp=Z,12nm,0.8s
BVAR Borovoye Array 63.97 331 P **P 20 05 19.1 -0.6**
comp=Z,15nm,0.7s,baz=30,slow=6.6,SNR=88
comp=Z,15nm,0.7s
SNART Snartemo 64.07 10 *e*P **P 20 05 21.1 +0.8**
SNART IAmb IAmb 20 05 22.2
comp=Z,31nm,1.3s
HOMB Homborsund 64.25 9 *e*P **P 20 05 21.9 +0.4**
HOMB IAmb IAmb 20 05 22.3
comp=Z,11nm,0.7s
HOMB Homborsund 64.25 9 *i* P **P 20 05 21.4 -0.1**
VIKU Vikbolandet 64.56 4 *e*P **P 20 05 23.4 -0.1**
TJOU Tjoern 64.74 7 *i* P **P 20 05 24.6 0.0**
GTA Gaotai 64.96 304 P **P 20 05 25.7 -0.9**
GTA sP pP 20 05 42.6 -1.9
GTA pmax pmax
comp=Z,4.0nm,1.1s
WHN Wuhan 64.97 288 ||P **P 20 05 26.1 -0.5**
BORU Boraas 65.21 7 *i* P **P 20 05 27.1 -0.6**
ONAU Onsala 65.39 7 *i* P **P 20 05 28.4 -0.5**
SLIT Slitere, Latvi 65.59 1 *e*P **P 20 05 29.9 -0.2**
EKA Eskdalemuir Ar 65.69 17 P **P 20 05 31.2 +0.4**
comp=Z,3.3nm,0.5s,baz=334,slow=5.1,SNR=30
EKA pP **pP 20 05 47.8 -1.0**
comp=Z,3.4nm,0.7s,baz=347,slow=4.7,SNR=4.2
comp=Z,3.3nm,0.5s
LZH Lanzhou 65.78 299 *e*P **P 20 05 36.3 +4.3**
LZH pP pP 20 05 44.7 -5.3
LZH pmax pmax
comp=Z,16nm,1.4s
MK31 Makanchi Array 65.82 320 P **P 20 05 30.7 -1.2**
MKAR Makanchi Array 65.82 320 P **P 20 05 30.7 -1.2**
MKAR Makanchi Array 65.82 320 P **P 20 05 30.9 -1.0**
comp=Z,2.9nm,0.6s,baz=44,slow=7.1,SNR=37
comp=Z,2.9nm,0.6s
MAKZ Makanchi 65.92 321 P **P 20 05 31.6 -1.0**
DEL Delary 66.44 6 *i* P **P 20 05 35.2 -0.4**
BJUU Bjuv 66.78 7 *i* P **P 20 05 37.4 -0.4**
PABE Paberze 67.73 0 *e*P **P 20 05 44.2 +0.4**
IIGN Ignalina 67.87 359 *e*P **P 20 05 46.0 +1.2**
ABKAR Abkulak array 69.98 336 P **P 20 05 56.9 -1.1**
ABKAR Abkulak array 69.98 336 IAmb IAmb 20 05 58.1
comp=Z,13nm,0.8s
CD2 Chengdu 70.03 296 P **P 20 05 58.4 -0.2**
CD2 pmax pmax
comp=Z,20nm,0.4s
CLL Collm 71.52 8 *i* P **P 20 06 07.6 +0.3**
RNPP9 Sopachiv 71.82 359 P **P 20 06 08.8 -0.2**
RNPP5 Staryi Chortor 72.01 359 P **P 20 06 09.5 -0.6**
BRG Berggiesshubel 72.02 7 *e*P **P 20 06 11.0 +0.7**
BRG Amp 20 06 11.8
comp=Z,2.9nm,0.8s
HSKC Hora Svate Kat 72.25 7 *e*P **P 20 06 12.1 +0.4**
AK21 Malin Array Si 72.40 357 P **P 20 06 11.4 -1.1**
AK23 Malin Array Si 72.41 357 P **P 20 06 11.5 -1.1**
AK22 Malin Array Si 72.41 357 P **P 20 06 11.5 -1.1**
CHVC Chvalec 72.43 6 *e*P **P 20 06 12.9 +0.1**
AK20 Malin Array Si 72.43 357 P **P 20 06 11.6 -1.1**
AK03 Malin Array Si 72.44 357 P **P 20 06 11.7 -1.1**
AK04 Malin Array Si 72.45 357 P **P 20 06 11.7 -1.1**
AK18 Malin Array Si 72.45 357 P **P 20 06 11.7 -1.1**
AK19 Malin Array Si 72.45 357 P **P 20 06 11.7 -1.1**
AKASG Malin Array Be 72.47 357 P **P 20 06 12.1 -0.8**
comp=Z,7.8nm,0.5s,baz=6.1,slow=5.7,SNR=9.2
comp=Z,7.8nm,0.5s
AKBB Malin Array Si 72.47 357 P **P 20 06 11.8 -1.1**
OSTC Ostas 72.47 5 *e*P **P 20 06 13.8 +0.8**
KIEV Kiev 72.48 357 P **P 20 06 12.2 -0.8**
KIEV IAmb IAmb 20 06 12.9
comp=Z,13nm,0.8s
KIEV Kiev 72.48 357 P **P 20 06 11.8 -1.1**
comp=Z,86nm,0.8s
AK01 Malin Array Si 72.48 357 P **P 20 06 11.9 -1.1**
AK11 Malin Array Si 72.49 357 P **P 20 06 12.0 -1.1**
UPC Upice 72.51 6 *e*P **P 20 06 13.7 +0.5**
AK02 Malin Array Si 72.51 357 P **P 20 06 12.1 -1.1**
AK12 Malin Array Si 72.53 357 P **P 20 06 12.2 -1.1**
AK08 Malin Array Si 72.53 357 P **P 20 06 12.2 -1.1**
AK14 Malin Array Si 72.54 357 P **P 20 06 12.3 -1.1**
AK05 Malin Array Si 72.55 357 P **P 20 06 12.3 -1.1**
AK09 Malin Array Si 72.55 357 P **P 20 06 12.3 -1.1**
AK13 Malin Array Si 72.56 357 P **P 20 06 12.4 -1.1**
AK10 Malin Array Si 72.57 357 P **P 20 06 12.4 -1.1**
AK07 Malin Array Si 72.62 357 P **P 20 06 12.7 -1.1**
DPC Dobruska-Polom 72.68 5 *e*P **P 20 06 14.7 +0.4**
DPC Dobruska-Polom 72.68 5 P **P 20 06 14.5 +0.2**
comp=Z,5.3nm,1.1s
KHAM Kharkiv 72.80 352 P **P 20 06 14.1 -0.9**
KK31 Karatay Array 72.93 327 IAmb IAmb 20 06 16.3
comp=Z,9.5nm,0.7s
KKAR Karatay Array 72.93 327 P **P 20 06 15.6 -0.2**
KKAR Karatay Array 72.93 327 IAmb IAmb 20 06 16.3
comp=Z,9.5nm,0.7s
KRLC Kraliky 72.98 5 *e*P **P 20 06 16.0 0.0**
LUBAR Lubar, Ukraine 73.29 358 P **P 20 06 16.2 -1.6**
MORC Moravsky Berou 73.31 5 *e*P **P 20 06 18.1 +0.1**
ZVC Zvikov 73.47 7 *e*P **P 20 06 19.1 +0.2**
KHC Kasperske Hory 73.73 7 *e*P **P 20 06 21.2 +0.7**
KHC Kasperske Hory 73.73 7 P **P 20 06 20.8 +0.3**
comp=Z,6.8nm,1.0s
VRAC Vranov 73.74 5 *e*P **P 20 06 20.8 +0.3**
MAUC Maruska 73.74 4 *e*P **P 20 06 21.1 +0.6**
STHS Stebnicka Huta 73.79 2 *e*P **P 20 06 21.1 +0.3**
KRUC Moravsky 73.97 5 *e*P **P 20 06 21.9 +0.1**
LANS Liptovska Anna 74.01 3 *e*P **P 20 06 23.0 +0.9**
GERES GERESS Array B 74.02 7 P **P 20 06 22.6 +0.3**
comp=Z,2.0nm,0.6s,baz=14,slow=5.9,SNR=12
comp=Z,2.0nm,0.6s
CKRC Cesky Krumlov 74.09 7 *e*P **P 20 06 23.0 +0.5**
JAVC Velka Javorina 74.24 5 *e*P **P 20 06 24.7 +1.3**
KOLS Kolonicke sedl 74.30 1 *e*P **P 20 06 24.8 +1.1**
KSH Kashi 74.41 321 P **P 20 06 27.8 +3.1**
KSH PcP **pP 20 06 42.6 -0.4**
KSH pmax pmax
comp=Z,11nm,0.8s
KSH LR LR
comp=Z,420nm,18.9s
KSH LR LR
comp=Z,140nm,16.8s
PZH PanZhiHua 74.66 295 P **P 20 06 30.0 +3.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.0s
KMPD K-Podol'skiy 74.67 359 P **P 20 06 25.4 -0.4**
MODS Modra-Piesok 74.70 5 *e*P **P 20 06 27.1 +1.0**
MOA Molln 75.05 7 *i* P **P 20 06 28.7 +0.5**
comp=Z,0.9nm,0.4s
SORM Soroca 75.06 357 P **P 20 06 27.0 -1.1**
comp=Z,14nm,1.0s
CONA Conrad Observa 75.07 6 *i* P **P 20 06 28.9 +0.5**
comp=Z,3.4nm,0.9s
MOTA Moosalm 75.31 9 *i* P **P 20 06 30.1 +0.3**
comp=Z,1.3nm,0.5s
RONA Rosalia, Austr 75.33 6 *e*P **P 20 06 30.3 +0.6**
comp=Z,0.9nm,0.4s
WTTA Wattenberg 75.44 9 *i* P **P 20 06 31.3 +0.7**
comp=Z,3.5nm,0.8s
SQTA Sankt Quirin 75.44 9 *i* P **P 20 06 31.1 +0.6**
comp=Z,1.6nm,0.5s
FETA Feichten 75.60 10 *i* P **P 20 06 31.9 +0.5**
comp=Z,1.1nm,0.6s
BTK Batken 75.61 325 IAmb IAmb 20 06 32.2
comp=Z,9.8nm,0.8s
KBA Koelnbreinsper 75.76 8 *i* P **P 20 06 33.3 +0.9**
comp=Z,2.9nm,0.5s
MYKA Terra Mystica 76.22 8 *i* P **P 20 06 35.8 +0.9**
comp=Z,1.4nm,0.5s
SOKA Soboth 76.27 7 *i* P **P 20 06 35.9 +0.8**
comp=Z,0.8nm,0.3s
OBKA Obir 76.41 7 *i* P **P 20 06 36.5 +0.5**
comp=Z,6.1nm,0.5s
KIV Kislovodsk 78.13 347 P **P 20 06 45.7 0.0**
KIV Kislovodsk 78.13 347 P **P 20 06 45.7 0.0**
KBZ Khabaz 78.33 346 P **P 20 06 46.9 +0.3**
comp=Z,11nm,0.8s,baz=338,slow=3.8,SNR=18
comp=Z,11nm,0.8s
ESDC Sonseca Array 80.64 22 P **P 20 07 00.1 +0.8**
comp=Z,1.5nm,0.6s,baz=345,slow=5.2,SNR=14
ESDC pP **pP 20 07 17.6 -0.1**
comp=Z,4.9nm,0.8s,baz=340,slow=5.0,SNR=16
comp=Z,1.5nm,0.6s
GEYT Alibeck 81.13 334 P **P 20 07 02.3 +0.4**
GEYT IAmb IAmb 20 07 03.3
comp=Z,9.2nm,0.8s
GEYT Alibeck 81.13 334 P **P 20 07 02.1 +0.2**
comp=Z,5.8nm,0.8s,baz=296,slow=4.4,SNR=17
GEYT pP **pP 20 07 19.8 -0.7**
comp=Z,1.6nm,0.6s,baz=33,slow=3.5,SNR=2.5
comp=Z,5.8nm,0.8s
CMAR Chiang Mai Arr 82.79 293 P **P 20 07 10.0 -0.9**
BR131 Keskin Array S 83.20 353 IAmb IAmb 20 07 14.2
comp=Z,6.4nm,1.0s
BRTR Keskin Array B 83.20 353 P **P 20 07 12.5 -0.4**
BRTR Keskin Array B 83.20 353 P **P 20 07 13.2 +0.3**
comp=Z,2.9nm,0.8s,baz=48,slow=3.2,SNR=19
BRTR pP **pP 20 07 31.2 -0.2**
comp=Z,1.0nm,0.8s,baz=347,slow=3.8,SNR=2.8
comp=Z,2.9nm,0.8s
KEST Kesra 86.63 12 pP pP 20 07 49.1 +0.4
comp=Z,8.5nm,1.0s,baz=356,slow=6.6,SNR=4.8
QSPA South Pole Qui 146.91 180 PKPbc **PKPbc 20 14 27.2 -0.1**
comp=Z,11nm,0.7s,baz=359,slow=0.7,SNR=43
QSPA pPKPbc **pPKPdf 20 14 45.7 +1.0**
comp=Z,18nm,1.0s,baz=320,slow=0.3,SNR=7.6
BOSA Boshof 151.50 358 PKPbc **PKPbc 20 14 40.0 -0.1**
comp=Z,5.8nm,1.0s,baz=324,slow=2.6,SNR=7.4
BOSA pPKPbc **pPKPdf 20 14 58.0 +4.6**
comp=Z,5.5nm,0.7s,baz=16,slow=3.9,SNR=3.4
SNAA Sanae 161.53 153 PKPab **PKPab 20 15 29.4 -1.2**
comp=Z,3.6nm,1.0s,baz=223,slow=3.9,SNR=4.5

CATAC ***01*** *20:15:16.0±0.5, 13°.51N×90°.64W, h11km±3km, ML4.3*
GCG ***01*** *20:15:23.7±0.7, 14°.22N×90°.84W, h53km±8km, MD4.1*
ISC 01 20:15:15.6±1.6, 13°.65N±0°.06×90°.67W±0°.04, h14km±11km,
n61, σ0°73/95, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.81**	**348**	*i* P	**Pn**	**20 15 33.4**	**+0.5**
NUBE	**Las Nubes**	**0.90**	**74**	*e*P	**Pg**	**20 15 33.4**	**+0.2**
NUBE				*e*S	**Sn**	**20 15 46.3**	**-0.7**
NUBE	**Las Nubes**	**0.90**	**74**	*i* P	**Pb**	**20 15 33.5**	**+0.3**
NUBE				*i* S	**Sn**	**20 15 46.5**	**-0.5**
NUBE				IAML		20 15 53.0	
comp=Z,3μm,1.0s							
LOAL	**Lomas de Alarc**	**0.93**	**68**	*e*P	**Pn**	**20 15 34.5**	**+0.2**
LOAL	**Lomas de Alarc**	**0.93**	**68**	*i* P	**Pn**	**20 15 34.4**	**0.0**
LOAL				*i* S	**Sn**	**20 15 48.5**	**+0.9**
LOAL				IAML		20 15 55.0	
comp=Z,12μm,1.0s							
SLOZ	**Alcaldia de Sa**	**0.94**	**66**	*e*P	**Pn**	**20 15 34.4**	**0.0**
NBG	**Las Nubes**	**0.99**	**19**	*i* P	**Pn**	**20 15 37.4**	**+2.0**
NBG				*e*S	**Sn**	**20 15 47.9**	**-1.4**
RTR	**El Retiro**	**1.03**	**76**	*e*P	**Pg**	**20 15 35.8**	**+0.2**
CEVE	**Cerro Verde**	**1.03**	**80**	*e*P	**Pb**	**20 15 35.6**	**+0.1**
CEVE				*e*S	**Sn**	**20 15 50.0**	**-0.3**
CEVE	**Cerro Verde**	**1.03**	**80**	*i* P	**Pb**	**20 15 35.8**	**+0.3**
CEVE				*i* S	**Sn**	**20 15 50.5**	**+0.2**
CEVE				IAML		20 15 51.5	

comp=Z,10μm,1.0s
SBLS San Blas 1.04 79 *e*P **Pb 20 15 35.6 +0.1**
SNJE San Jose 1.06 78 *e*P **Pb 20 15 35.9 0.0**
SNJE *e*S **Sn 20 15 51.0 +0.1**
SULM Suchitepequez, 1.09 307 *e*P **Pb 20 15 36.4 +0.2**
SULM *e*S **Sb 20 15 48.3 -2.0**
UNIC Universidad Ca 1.14 73 *e*P **Pb 20 15 37.2 0.0**
UNIC Universidad Ca 1.14 73 *i*P **Pb 20 15 37.1 -0.1**
UNIC *i*S **Sn 20 15 53.1 +0.4**
UNIC IAML 20 15 54.6
comp=Z,2μm,1.0s
JAYA Jayaque - finc 1.19 89 *e*P **Pb 20 15 37.4 -0.7**
JAYA Jayaque - finc 1.19 89 *i*P **Pb 20 15 37.2 -0.9**
JAYA *i*S **Sb 20 15 52.9 -0.5**
JAYA IAML 20 15 53.7
comp=Z,19μm,1.0s
CEDA San Andres 1.25 83 *e*P **Pn 20 15 38.5 -0.3**
CEDA *e*S **Sb 20 15 55.2 +0.2**
CEDA San Andres 1.25 83 *i*P **Pn 20 15 38.2 -0.5**
CEDA *i*S **Sn 20 15 55.4 0.0**
CEDA IAML 20 16 05.3
comp=Z,14μm,1.0s
PMON Piamonte 1.32 87 *e*P **Pn 20 15 39.5 -0.2**
PMON Piamonte 1.32 87 *i*P **Pn 20 15 39.2 -0.6**
PMON *i*S **Sn 20 15 57.6 +0.4**
PMON IAML 20 16 00.1
comp=Z,9μm,1.0s
LALI Alcalda de L 1.32 97 *i*P **Pn 20 15 39.1 -0.6**
LALI *i*S **Sb 20 15 56.6 -0.5**
LALI IAML 20 16 02.0
comp=Z,610nm,1.0s
ITCA Escuela Especi 1.35 89 *i*P **Pn 20 15 40.3 +0.1**
ITCA *i*S **Sb 20 15 57.8 -0.3**
ITCA IAML 20 16 02.0
comp=Z,11μm,1.0s
BOQS Boqueron 1.36 86 *e*P **Pn 20 15 40.3 0.0**
STG3 Santiaguito 3, 1.37 321 *e*P **Pn 20 15 40.5 0.0**
QUEZ Alcaldia de Qu 1.37 82 *e*S **Sn 20 15 58.7 +0.3**
QUEZ Alcaldia de Qu 1.37 82 *i*P **Pn 20 15 40.5 +0.1**
QUEZ *i*S **Sn 20 15 59.1 +0.7**
QUEZ IAML 20 16 00.5
comp=Z,16μm,1.0s
UEES Universidad Ev 1.39 87 *i*P **Pn 20 15 40.8 0.0**
UEES *i*S **Sb 20 15 59.4 +0.2**
UEES IAML 20 16 03.1
comp=Z,6μm,1.0s
SNET Serv Nac Est T 1.40 88 *i*P **Pn 20 15 40.6 -0.2**
SNET *i*S **Sn 20 15 59.0 -0.2**
SNET IAML 20 16 01.3
comp=Z,7μm,1.0s
PANCS Alcalda de 1.45 91 *e*P **Pn 20 15 41.2 -0.3**
PANCS Alcalda de 1.45 91 *i*P **Pn 20 15 41.2 -0.3**
PANCS *i*S **Sn 20 15 59.7 -0.7**
PANCS IAML 20 16 02.9
comp=Z,9μm,1.0s
LOMA Loma Larga 1.46 90 *e*P **Pn 20 15 41.5 -0.1**
LOMA Loma Larga 1.46 90 *i*P **Pn 20 15 41.4 -0.3**
LOMA *i*S **Sn 20 16 00.7 0.0**
LOMA IAML 20 16 03.6
comp=Z,3μm,1.0s
IGN Direccin Gen 1.46 87 *e*P **Pn 20 15 41.8 +0.2**
IGN Direccin Gen 1.46 87 *i*P **Pn 20 15 41.6 -0.1**
IGN *i*S **Sb 20 16 01.2 +0.1**
IGN IAML 20 16 02.6
comp=Z,15μm,1.0s
MTO3 Montecristo 1.48 59 *e*P **Pn 20 15 42.6 +0.6**
MTO3 Montecristo 1.48 59 *i*P **Pn 20 15 42.4 +0.4**
MTO3 *i*S **Sg 20 16 02.7 -0.6**
MTO3 IAML 20 16 05.0
comp=Z,2μm,1.0s
UDBS Universidad Do 1.48 87 *e*P **Pn 20 15 42.0 +0.1**
UDBS *e*S **Sn 20 16 00.9 -0.1**
UDBS Universidad Do 1.48 87 *i*P **Pn 20 15 42.0 +0.1**
UDBS *i*S **Sb 20 16 01.6 +0.1**
UDBS IAML 20 16 07.8
comp=Z,4μm,1.0s
LFU La Fuente 1.52 86 *e*P **Pn 20 15 43.0 +0.6**
LFRS El Faro 1.56 91 *e*P **Pn 20 15 43.6 +0.5**
PAVA Las Pavas 1.69 88 *i*P **Pn 20 15 45.2 +0.4**
PAVA *i*S **Sb 20 16 07.3 -0.4**
PAVA IAML 20 16 17.5
comp=Z,2μm,1.0s
MRL Marmol 1.72 34 *i*P **Pb 20 15 47.5 +0.3**
MRL *e*S **Sn 20 16 03.2 -4.0**
UESV Universidad de 1.83 90 *i*P **Pn 20 15 47.3 +0.6**
UESV *i*S **Sn 20 16 10.7 +0.9**
UESV IAML 20 16 13.0
comp=Z,1μm,1.0s
TECO Alcaldia de Te 1.84 93 *i*P **Pn 20 15 46.9 0.0**
TECO *i*S **Sn 20 16 10.0 0.0**
TECO IAML 20 16 16.1
comp=Z,820nm,1.0s
SCLA Alcaldia de Sa 1.89 88 *i*P **Pn 20 15 48.0 +0.5**
SCLA *i*S **Sn 20 16 12.5 +1.3**
SCLA IAML 20 16 26.9
comp=Z,440nm,1.0s
PQSS Presa 15 de Se 2.05 90 *i*P **Pn 20 15 50.0 +0.3**
PQSS *i*S **Sn 20 16 16.0 +0.9**
PQSS IAML 20 16 18.0
comp=Z,360nm,1.0s
PACA Pacayal 2.29 94 *i*P **Pn 20 15 54.1 +1.0**
PACA *i*S **Sn 20 16 21.6 +0.4**
PACA IAML 20 16 35.7
comp=Z,5μm,1.0s
JUCU Jucuarjn 2.39 99 *i*P **Pn 20 15 55.1 +0.7**
JUCU *i*S **Sn 20 16 24.0 +0.4**
JUCU IAML 20 16 31.2
comp=Z,500nm,1.0s
LCND La Caada 2.73 97 *e*P **Pn 20 15 59.1 0.0**
LCND La Caada 2.73 97 *i*P **Pn 20 15 59.4 +0.4**
LCND *i*S **Sn 20 16 32.7 +0.9**
LCND IAML 20 16 40.6
comp=Z,790nm,1.0s
CNCH Conchagua 2.79 97 *e*P **Pn 20 15 59.9 0.0**
CNCH Conchagua 2.79 97 *i*S **Sn 20 16 33.8 +0.4**
CCIG Comitan 2.98 332 *i*P **Pn 20 16 05.0 +2.3**
CCIG IAML 20 16 52.9
comp=Z,260nm,1.0s
TGUH Tegucigalpa,Un 3.33 83 *i*P **Pn 20 16 07.5 +0.1**
TGUH IAML 20 17 26.6
comp=Z,190nm,1.0s
PKGN Cerro Pekin 3.73 105 *i*P **Pn 20 16 12.3 -0.5**
PKGN *i*S **Sn 20 16 56.8 +0.3**
PKGN IAML 20 17 09.2
comp=Z,640nm,1.0s
YUSH Yuscaran 3.73 85 *i*P **Pn 20 16 13.5 +0.6**
QUEN Al S del Volca 3.87 105 *i*P **Pn 20 16 14.9 +0.2**
QUEN IAML 20 17 06.4
comp=Z,290nm,1.0s
LIMN Finca el Limon 4.23 97 *i*P **Pn 20 16 19.7 -0.1**
LIMN IAML 20 16 21.9
comp=Z,85nm,1.0s
COPN Copaltepe 4.24 110 *i*P **Pn 20 16 20.3 +0.5**
COPN IAML 20 17 23.3
comp=Z,160nm,1.0s
BOAB BOACO BROADBAN 6.02 103 *i*P **Pn 20 16 30.0 -0.6**
BOAB IAML 20 17 52.9
comp=Z,34nm,1.0s

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*NEIC **01** 20:19:41.9±0.9, 43°.75N±0°.05×105°.35W±0°.08, h0km±1km, ML3.3/44, Error ellipse: s-maj=9.9km s-min=7.8km az=109.0*
*IDC **01** 20:19:43.1±1.6, 43°.98N×105°.70W, h0km, mb3.9/2, mbtmp3.6/6, ML3.5/4, Error ellipse: s-maj=58.8km s-min=7.6km az=147.0*
ISC 01 20:19:42.5±0.9, 43°.74N±0°.06×105°.35W±0°.06, h0km, n33, σ1§19/31, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.02**	**68**		**Pg**	**20 20 02.0**	**-0.2**
K22A	**Casper**	**1.38**	**219**		**Pg**	**20 20 08.0**	**-1.0**
K22A				IAML		20 20 31.1	
comp=E,466nm,0.3s							
PHWY	**Pilot Hill**	**2.44**	**182**		**Pn**	**20 20 23.6**	**-0.3**
PHWY				IAML		20 21 01.0	
comp=E,79nm,0.3s							
PHWY				IAML		20 21 03.9	
comp=E,87nm,0.5s							
RWWY	**Rawlins**	**2.46**	**214**		**Pn**	**20 20 24.6**	**+0.4**
RWWY				IAML		20 21 01.8	
comp=E,140nm,0.9s							
N23A	**Red Feather La**	**2.88**	**189**	Pn	**Pn**	**20 20 30.9**	**+1.0**
N23A				IAML		20 21 12.8	
comp=N,84nm,0.7s							
N23A				IAML		20 21 15.7	
comp=E,87nm,0.4s							
LAO	**LASA Array**	**3.02**	**349**	Pn	**Pn**	**20 20 31.9**	**+0.3**
RLMT	**Red Lodge**	**3.13**	**298**	Pn	**Pn**	**20 20 34.3**	**+1.0**
RLMT				IAML		20 21 25.9	
comp=E,66nm,0.4s							
RLMT				IAML		20 21 31.8	
comp=E,60nm,0.3s							
PD31	**Pinedale Array**	**3.22**	**254**		**Pn**	**20 20 35.5**	**+1.0**
PDAR	**Pinedale Array**	**3.22**	**254**	Pn	**Pn**	**20 20 35.6**	**+1.0**
comp=E,6.1nm,0.3s,baz=71,slow=16,SNR=56							
PDAR				Lg	Lg	20 21 19.2	
comp=E,16nm,0.3s,baz=68,slow=28,SNR=9.4							
comp=E,7.5nm,0.3s							
BRIGG	**Briggsdale**	**3.25**	**166**		**Pn**	**20 20 35.9**	**+1.0**
OGNE	**Ogallala**	**3.72**	**137**	Pn	**Pn**	**20 20 42.4**	**+1.1**
REDW	**Red Top Meadow**	**4.02**	**267**		**Pn**	**20 20 47.2**	**+1.7**
FXWY	**Fox Creek**	**4.12**	**271**		**Pn**	**20 20 49.4**	**+2.5**
O20A	**White River Ci**	**4.20**	**212**		**Pn**	**20 20 49.2**	**+1.3**
O20A				IAML		20 22 06.7	
comp=E,46nm,1.4s							
E28A	**Huff**	**4.35**	**48**		**Pn**	**20 20 51.3**	**+1.4**
BOZ	**Bozeman (W)**	**4.85**	**295**	Pn	**Pn**	**20 20 57.8**	**+0.9**
BOZ				IAML		20 22 16.6	
comp=E,26nm,1.7s							
HWUT	**Hardware Ranch**	**5.05**	**247**	Pn	**Pn**	**20 21 01.2**	**+1.4**
HWUT				IAML		20 22 21.5	
comp=E,18nm,1.2s							
HWUT				IAML		20 22 33.6	
comp=E,25nm,1.9s							
BSUT	**Blindstream Ca**	**5.14**	**233**	Pn	**Pn**	**20 21 02.4**	**+1.3**
P18A	**Preston Nutter**	**5.50**	**223**		**Pn**	**20 21 07.3**	**+1.2**
SPUT	**South Promonto**	**5.78**	**248**	Pn	**Pn**	**20 21 11.2**	**+1.5**
SRU	**San Rafael Swe**	**6.04**	**222**	Pn	**Pn**	**20 21 14.3**	**+1.0**
NLU	**North Lily Min**	**6.28**	**235**	Pn	**Pn**	**20 21 17.5**	**+0.8**
ECSD	**EROS Data Cent**	**6.33**	**87**	Pn	**Pn**	**20 21 17.8**	**+0.7**
DUG	**Dugway, Tooele**	**6.59**	**240**		**Pn**	**20 21 21.7**	**+0.9**
F33A	**5 Mile Ranch,**	**6.78**	**69**	Pn	**Pn**	**20 21 23.4**	**+0.2**
HMU	**Henry Mountain**	**7.09**	**217**	Pn	**Pn**	**20 21 28.1**	**+0.3**
ELK	**Elko**	**7.92**	**251**	Pn	**Pn**	**20 21 39.9**	**+0.8**
comp=E,0.3nm,0.3s,baz=64,slow=9.0,SNR=3.8							
ELK				Lg	Lg	20 23 46.5	
comp=E,0.1nm,0.3s,baz=168,slow=17,SNR=1.7							
comp=E,0.5nm,0.3s							
ULM	**Lac du Bonnet**	**9.18**	**41**	Pn	**Pn**	**20 21 54.6**	**-1.5**
comp=E,1.8nm,0.3s,baz=235,slow=11,SNR=15							
ULM				Lg	Lg	20 24 27.7	
comp=E,0.4nm,0.3s,baz=326,slow=21,SNR=1.8							
comp=E,3.0nm,0.3s							
NEW	**Newport**	**9.36**	**303**	Lg	Lg	20 24 21.7	
comp=E,0.1nm,0.3s,baz=4.6,slow=8.0,SNR=1.3							
NVAR	**Mina Array Bea**	**11.12**	**246**	Pn	**Pn**	**20 22 25.0**	**+2.1**
comp=E,0.2nm,0.3s,baz=56,slow=11,SNR=2.4							
comp=E,0.2nm,0.4s							
TXAR	**Lajitas Array**	**14.44**	**174**	Lg	Lg	20 27 21.6	
baz=359,slow=32,SNR=4.3							
ARCES	**ARCESS Array B**	**61.44**	**18**	P	**P**	**20 29 59.2**	**-0.9**
comp=E,1.4nm,0.8s,baz=335,slow=6.0,SNR=4.1							
comp=E,1.4nm,0.8s							
FINES	**FINESS Array B**	**68.05**	**23**	P	**P**	**20 30 43.2**	**-0.1**
comp=E,1.0nm,0.9s,baz=330,slow=8.0,SNR=4.8							
comp=E,1.0nm,0.9s							

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*SJA **01** 20:20:43.1±0.7, 23°.87S×66°.71W, h268km±5km, ML3.5, MW3.4*
*IDC **01** 20:20:47.0±2.1, 23°.97S×66°.84W, h207km±23km, mb3.2/1, mbtmp3.7/5, Error ellipse: s-maj=53.9km s-min=26.0km az=26.0*
*GUC **01** 20:20:49.2±0.6, 23°.88S×67°.25W, h225km±8km, ML3.7*
ISC 01 20:20:46.9±1.0, 23°.86S±0°.05×66°.86W±0°.04, h225km±10km, n26, σ1§29/46, 5C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.51**	**125**	*i*P	**Pn**	**20 21 22.4**	**-0.7**
SLA				*i*S	**S**	**20 21 52.1**	**+0.8**
AZAP	**Zapla**	**1.68**	**103**	*i*P	**Pn**	**20 21 23.6**	**-1.1**
AZAP				*i*S	**S**	**20 21 54.7**	**+0.6**
YJA	**Yavi**	**2.09**	**37**	*i*P	**Pn**	**20 21 28.9**	**+0.2**
YJA				*i*S	**S**	**20 22 01.9**	**+0.7**
LVC	**Limon Verde**	**2.26**	**303**	*i*P	**Pn**	**20 21 31.2**	**+0.9**
LVC	**Limon Verde**	**2.26**	**303**	P	**Pn**	**20 21 31.2**	**+0.9**
66nm,0.2s,baz=117,slow=6.6,SNR=319							
LVC				S	**S**	**20 22 03.1**	**-0.9**
19nm,0.3s,baz=265,slow=22,SNR=8.5							
LVC	**Limon Verde**	**2.26**	**303**	*i*P	**Pn**	**20 21 31.1**	**+0.8**
LVC				*e*S	**S**	**20 22 03.2**	**-0.9**
LVC				IAML		20 22 07.0	
240nm,0.4s							
FSA	**Cafayete**	**2.38**	**160**	*i*P	**Pn**	**20 21 30.5**	**-0.8**
FSA				*i*S	**S**	**20 22 06.1**	**0.0**
PB15	**IPOC Station P**	**2.48**	**285**	*i*P	**Pn**	**20 21 33.3**	**+0.9**
PB15				*i*S	**S**	**20 22 10.4**	**+2.6**
PB15	**IPOC Station P**	**2.48**	**285**	⇑*i*P	**Pn**	**20 21 33.3**	**+0.9**
PB15				*e*S	**S**	**20 22 06.3**	**-1.5**
PB06	**IPOC Station P**	**2.74**	**294**	*i*P	**Pn**	**20 21 36.2**	**+1.0**
PB06				*i*S	**S**	**20 22 14.7**	**+1.8**
PB06				IAML		20 22 16.5	
comp=Z,127nm,0.2s							
PB06	**IPOC Station P**	**2.74**	**294**	⇑*i*P	**Pn**	**20 21 36.1**	**+0.9**
PB06				*i*S	**S**	**20 22 11.5**	**-1.4**
PB06				IAML		20 22 17.4	
comp=E,184nm,0.1s							
GO02	**Mina Guanaco**	**2.80**	**242**	*i*P	**Pn**	**20 21 36.4**	**+0.4**
GO02				*i*S	**S**	**20 22 16.0**	**+1.7**
GO02	**Mina Guanaco**	**2.80**	**242**	⇑*i*P	**Pn**	**20 21 36.6**	**+0.6**
GO02				*e*S	**S**	**20 22 13.0**	**-1.4**
PB09	**IPOC Station P**	**3.00**	**313**	*e*P	**Pn**	**20 21 39.5**	**+1.3**
PB09				*e*S	**S**	**20 22 18.2**	**0.0**
PB09				IAML		20 22 20.9	
comp=E,86nm,0.2s							
PB05	**IPOC Station P**	**3.23**	**287**	*i*P	**Pn**	**20 21 41.4**	**+0.8**
PB05				IAML		20 22 27.8	
comp=Z,33nm,0.5s							
PB05	**IPOC Station P**	**3.23**	**287**	⇑*i*P	**Pn**	**20 21 41.2**	**+0.5**
PB05				*e*S	**S**	**20 22 20.6**	**-2.1**
PB05				IAML		20 22 24.1	
comp=E,101nm,0.2s							
PB14	**IPOC Station P**	**3.32**	**256**	*i*P	**Pn**	**20 21 42.2**	**+0.3**
PB14				*i*S	**S**	**20 22 26.1**	**+1.2**
PB14				IAML		20 22 26.4	
comp=Z,79nm,0.3s							
PB14	**IPOC Station P**	**3.32**	**256**	*e*P	**Pn**	**20 21 42.2**	**+0.3**
PB04	**IPOC Station P**	**3.38**	**296**	*e*P	**Pn**	**20 21 43.5**	**+0.9**
PB04				*e*S	**S**	**20 22 24.0**	**-2.0**
PB10	**IPOC Station P**	**3.40**	**275**	*i*P	**Pn**	**20 21 43.1**	**+0.6**
PB10				*i*S	**S**	**20 22 27.4**	**+1.3**
PB10				IAML		20 22 30.4	
comp=Z,35nm,0.5s							
PB10	**IPOC Station P**	**3.40**	**275**	⇑*i*P	**Pn**	**20 21 43.3**	**+0.8**
PB10				*e*S	**S**	**20 22 23.3**	**-2.8**
PB01	**IPOC Station P**	**3.71**	**319**	*e*P	**Pn**	**20 21 46.9**	**+0.6**
PB01				*e*S	**S**	**20 22 31.2**	**-1.6**
LPAZ	**La Paz**	**7.63**	**351**	P	**Pn**	**20 22 37.1**	**+1.1**
comp=Z,0.8nm,0.3s,baz=170,slow=6.1,SNR=2.8							
LPAZ				S	**S**	**20 24 02.2**	**-1.0**
comp=Z,0.5nm,0.5s,baz=61,slow=23,SNR=1.6							
CPUP	**Villa Florida**	**8.99**	**108**	P	**Pn**	**20 22 51.4**	**-1.4**
comp=Z,0.8nm,0.7s,baz=285,slow=13,SNR=3.2							
BDFB	**Brasilia**	**19.52**	**69**	P	**Pn**	**20 24 59.6**	**-2.3**
comp=Z,4.2nm,0.6s,baz=231,slow=13,SNR=8.5							
TORD	**Torodi Ar. Bea**	**76.40**	**69**	P	**P**	**20 32 13.9**	**+1.9**
comp=Z,0.4nm,0.5s,baz=256,slow=5.9,SNR=5.2							
comp=Z,0.4nm,0.5s							

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*IDC **01** 20:27:57.9±2.2, 5°.87S×147°.34E, h83km±18km, mb3.7/11, mbtmp4.1/13, MS3.6/8, Error ellipse: s-maj=34.6km s-min=13.6km az=91.0*
*NEIC **01** 20:28:00.2±1.7, 5°.99S±0°.05×147°.3E±0°.1, h100km±9km, mb4.5/22, Error ellipse: s-maj=17.0km s-min=7.3km az=93.0*
ISC 01 20:27:60.0±0.5, 5°.97S±0°.06×147°.21E±0°.09, h100km, n75, σ1§25/75, mb4.2/18, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.41**	**181**	Pn	**Pn**	**20 28 49.5**	**-1.8**
PMG	**Port Moresby**	**3.41**	**181**	P	**Pn**	**20 28 49.7**	**-1.6**
148nm,0.3s,baz=17,slow=11,SNR=137							
PMG				S	**Sn**	**20 29 28.6**	**-2.3**
127nm,0.5s,baz=217,slow=20,SNR=2.1							
PMG				LR	LR	20 30 03.6	
comp=Z,134nm,20.5s,baz=327,slow=36							
MANU	**Manus Island**	**3.91**	**2**		**Pn**	**20 28 57.8**	**-0.1**
KAVG	**Kavieng**	**4.92**	**47**	P	**Pn**	**20 29 13.6**	**+1.9**
RABL	**Rabaul**	**5.25**	**71**	P	**Pn**	**20 29 15.8**	**-0.3**
RABL	**Rabaul**	**5.25**	**71**		**Pn**	**20 29 15.3**	**-0.8**
COEN	**Coen**	**8.87**	**206**	P	**Pn**	**20 30 04.8**	**-0.6**
COEN	**Coen**	**8.87**	**206**		**Pn**	**20 30 05.2**	**-0.2**
MTSU	**Mount Surprise**	**12.41**	**193**	P	**Pn**	**20 30 53.7**	**+0.4**
CTAO	**Charters Tower**	**14.06**	**184**	P	**Pn**	**20 31 16.9**	**+2.1**
KDU	**Kakadu**	**15.99**	**244**	P	**Pn**	**20 31 39.9**	**+0.7**
QIS	**Mount Isa**	**16.27**	**206**	P	**Pn**	**20 31 43.6**	**+0.9**
WB0	**Warramunga Arr**	**18.53**	**221**	P	**P**	**20 32 09.8**	**+1.0**
WB0				IAmb	IAmb	20 32 12.5	
comp=Z,31nm,0.8s							
WR0	**Warramunga Arr**	**18.57**	**220**	P	**P**	**20 32 10.0**	**+0.8**
WR0				IAmb	IAmb	20 32 12.6	
comp=Z,38nm,1.3s							
WRAB	**Tennant Creek**	**18.67**	**221**	P	**P**	**20 32 09.7**	**-0.7**
WRAB				IAmb	IAmb	20 32 14.2	
comp=Z,30nm,0.7s							
WB2	**Warramunga Arr**	**18.68**	**221**	P	**P**	**20 32 10.6**	**+0.1**
WRA	**Warramunga Arr**	**18.69**	**221**	P	**P**	**20 32 10.0**	**-0.6**
WRA	**Warramunga Arr**	**18.69**	**221**	P	**P**	**20 32 11.2**	**+0.7**
comp=Z,22nm,0.6s,baz=40,slow=12,SNR=103							
WRA				PcP	**PcP**	**20 36 35.8**	**+0.8**
comp=Z,1.5nm,0.7s,baz=29,slow=1.6,SNR=6.0							
WRA				ScP	**ScP**	**20 40 03.5**	**+1.7**
comp=Z,0.7nm,1.0s,baz=62,slow=1.6,SNR=2.6							
WB1	**Warramunga Ar.**	**18.70**	**221**	P	**P**	**20 32 11.4**	**+0.8**
GUMO	**Guam**	**19.57**	**353**	LR	LR	20 40 00.3	
comp=Z,19nm,19.0s,baz=68,slow=37							
EIDS	**Eidsvold**	**19.64**	**170**	P	**P**	**20 32 22.7**	**+1.8**
EIDS	**Eidsvold**	**19.64**	**170**	P	**P**	**20 32 21.3**	**+0.4**
EIDS				IAmb	IAmb	20 32 23.2	
comp=Z,14nm,0.6s							
KNRA	**Kununurra**	**20.50**	**240**	P	**P**	**20 32 30.6**	**+0.3**
KNRA				IAmb	IAmb	20 32 56.1	
comp=Z,27nm,1.4s							
QLP	**Quilpie**	**20.69**	**188**	P	**P**	**20 32 34.1**	**+1.9**
AS01	**Alice Springs**	**21.73**	**215**	P	**P**	**20 32 44.3**	**+0.9**
AS31	**Alice Springs**	**21.75**	**215**		**P**	**20 32 44.6**	**+0.9**
AS31				IAmb	IAmb	20 32 46.3	
comp=Z,12nm,0.3s							
ASAR	**Alice Springs**	**21.76**	**215**		**P**	**20 32 44.4**	**+0.8**
ASAR	**Alice Springs**	**21.76**	**215**	P	**P**	**20 32 44.6**	**+1.0**
comp=Z,8.9nm,0.4s,baz=50,slow=9.3,SNR=264							
ASAR				pP	**pP**	**20 33 04.8**	**+1.6**
comp=Z,5.9nm,0.9s,baz=35,slow=15,SNR=3.9							
ASAR				S	**S**	**20 36 38.8**	**+0.1**
comp=Z,1.8nm,0.8s,baz=34,slow=20,SNR=4.9							
ASAR				ScP	**ScP**	**20 40 10.2**	**+1.3**
comp=Z,0.6nm,0.8s,baz=44,slow=4.1,SNR=4.1							
comp=Z,8.9nm,0.4s							
INKA	**Innaminka**	**22.50**	**195**	P	**P**	**20 32 51.4**	**0.0**
FITZ	**Fitzroy Crossi**	**24.25**	**238**	P	**P**	**20 33 09.5**	**+1.6**
OOD	**Oodnadatta**	**24.30**	**205**	P	**P**	**20 33 09.9**	**+1.6**
ARMA	**Armidale**	**24.67**	**171**	P	**P**	**20 33 13.1**	**+1.4**
ARMA	**Armidale**	**24.67**	**171**	P	**P**	**20 33 12.9**	**+1.2**
ARMA				IAmb	IAmb	20 33 14.6	
comp=Z,12nm,0.7s							
MMRI	**Maumere**	**24.90**	**262**	P	**P**	**20 33 14.3**	**+0.4**
MMRI				IAmb	IAmb	20 33 44.5	
comp=Z,26nm,1.0s							
CMSA	**Cobar Meteorol**	**25.47**	**183**	P	**P**	**20 33 21.1**	**+2.2**
LCRK	**Leigh Creek**	**25.77**	**198**	P	**P**	**20 33 22.5**	**+0.9**
WRKA	**Warakurna**	**26.22**	**222**	P	**P**	**20 33 26.8**	**+1.0**
STKA	**Stephens Creek**	**26.30**	**191**	P	**P**	**20 33 27.2**	**+0.9**
STKA	**Stephens Creek**	**26.30**	**191**	P	**P**	**20 33 27.0**	**+0.7**
STKA	**Stephens Creek**	**26.30**	**191**	P	**P**	**20 33 27.0**	**+0.7**
comp=Z,3.6nm,0.6s,baz=5.7,slow=11,SNR=11							
STKA				LR	LR	20 43 57.8	
comp=Z,26nm,20.4s,baz=21,slow=36							
comp=Z,3.6nm,0.6s							
MULG	**Mulgathing**	**27.16**	**206**	P	**P**	**20 33 35.1**	**+1.0**
MGCD	**Mangrove Creek**	**27.34**	**173**	P	**P**	**20 33 37.0**	**+1.3**
HTT	**Hallett**	**28.39**	**195**	P	**P**	**20 33 46.3**	**+1.3**
BBOO	**Buckleboo**	**28.65**	**200**	P	**P**	**20 33 48.6**	**+1.3**
BBOO	**Buckleboo**	**28.65**	**200**	P	**P**	**20 33 48.9**	**+1.6**
FORT	**Forrest**	**30.54**	**214**	P	**P**	**20 34 03.3**	**-0.7**
PSA00	**Pilbara Seismi**	**30.68**	**237**	P	**P**	**20 34 05.4**	**0.0**
PSA00				IAmb	IAmb	20 34 12.0	
comp=Z,21nm,1.4s							
H11S3	**WAKE ISLAND Hy**	**30.99**	**38**	T	T	21 06 25.0	
baz=220,slow=74,SNR=13							
H11S2	**WAKE ISLAND Hy**	**31.00**	**38**	T	T	21 06 23.2	
baz=220,slow=74,SNR=8.4							
H11S1	**WAKE ISLAND Hy**	**31.01**	**38**	T	T	21 06 24.3	
baz=220,slow=74,SNR=7.1							
JCJ	**Chichijima**	**33.23**	**352**	P	**P**	**20 34 27.0**	**-0.6**
MJAR	**Matsushiro Arr**	**43.12**	**349**	P	**P**	**20 35 50.2**	**-0.4**
comp=Z,0.8nm,0.5s,baz=170,slow=7.5,SNR=5.9							
MJAR				LR	LR	20 52 59.9	
comp=Z,451nm,20.0s,baz=356,slow=35							
comp=Z,0.8nm,0.5s							
KSRS	**Korea Array**	**46.80**	**339**	P	**P**	**20 36 19.9**	**+0.4**
comp=Z,1.1nm,0.7s,baz=153,slow=8.9,SNR=4.3							
KSRS				LR	LR	20 52 36.6	
comp=Z,210nm,20.9s,baz=45,slow=32							
comp=Z,1.1nm,0.7s							
PETK	**Petropavlovsk-**	**59.52**	**7**	P	**P**	**20 37 52.7**	**0.0**
comp=Z,0.8nm,0.6s,baz=193,slow=5.6,SNR=3.1							
comp=Z,0.8nm,0.6s							
SONM	**Songino Array**	**64.48**	**331**	P	**P**	**20 38 26.5**	**+0.3**
comp=Z,0.5nm,0.5s,baz=153,slow=7.8,SNR=4.5							
comp=Z,0.5nm,0.5s							
VNDA	**Vanda**	**71.93**	**177**	P	**P**	**20 39 13.5**	**+1.5**
comp=Z,0.6nm,0.7s,baz=331,slow=6.7,SNR=5.9							
VNDA				pP	**pP**	**20 39 35.8**	**-2.6**
comp=Z,0.9nm,0.5s,baz=340,slow=7.0,SNR=5.0							
comp=Z,0.6nm,0.7s							
MKAR	**Makanchi Array**	**77.61**	**320**	P	**P**	**20 39 44.3**	**-1.1**
comp=Z,0.3nm,0.5s,baz=94,slow=5.8,SNR=2.7							
comp=Z,0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**79.10**	**328**	P	**P**	**20 39 51.4**	**-1.9**
comp=Z,1.0nm,0.6s,baz=123,slow=8.6,SNR=5.5							
comp=Z,1.0nm,0.6s							
QSPA	**South Pole Qui**	**84.00**	**180**	P	**P**	**20 40 19.3**	**+0.2**
comp=Z,1.4nm,0.8s,baz=247,slow=1.8,SNR=9.0							
QSPA				pP	**pP**	**20 40 42.3**	**-3.7**
comp=Z,1.7nm,0.6s,baz=226,slow=0.7,SNR=4.5							

0.4nm,0.5s
ASAR Alice Springs 22.35 215 P P 20 41 18.4 0.0
0.5nm,0.9s,baz=49,slow=9.2,SNR=7.3
0.5nm,0.9s
TORD Torodi Ar. Bea 145.64 285 PKPbc PKPdf 20 55 59.8 -0.4
0.5nm,0.8s,baz=106,slow=1.2,SNR=2.0

IDC 01 20:38:55.6±4.6, 21°.95S×178°.94W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=186.5km s-min=39.9km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.39**	**246**	P	P	20 46 02.0	+0.2
	1.1nm,0.5s,baz=94,slow=13,SNR=3.9						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**43.35**	**258**	P	P	20 46 59.6	-0.3
	1.9nm,0.8s,baz=91,slow=7.2,SNR=19						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**43.56**	**264**	P	P	20 47 01.4	-0.2
	1.7nm,0.6s,baz=102,slow=8.4,SNR=17						
	1.7nm,0.6s						
ILAR	**Eielson Array**	**89.91**	**13**	P	P	20 51 56.1	0.0
	0.2nm,0.6s,baz=205,slow=4.0,SNR=1.8						
	0.2nm,0.6s						

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*IDC **01** 20:40:00.8±5.2, 26°.92N×126°.26E, h123km±66km, mb3.4/6, mbtmp3.8/7, Error ellipse: s-maj=99.2km s-min=16.2km az=65.0*

*JMA **01** 20:40:02.7±0.4, 27°.N±2°.×12°.7E±°, h134km±4km, MV3.5/18, NW OFF OKINAWAJIMA IS*

ISC 01 20:40:01.7±0.9, 26°.95N±0°.08×126°.59E±0°.07, h145km±9km, n23, σ1§36/33, mb3.5/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.65**	**164**	*i* P	**Pn**	**20 40 23.5**	**+0.1**
JAGN	**Aguni-jima**	**0.69**	**121**	P	**Pn**	**20 40 24.1**	**+0.5**
JAGN				*e*S	**Sn**	**20 40 40.4**	**+0.2**
JIH	**Iheya**	**1.23**	**86**	P	**Pn**	**20 40 28.9**	**+0.8**
JIH				S	**Sn**	**20 40 47.9**	**-0.5**
JJT3	**Tamagusuku3**	**1.34**	**127**	*e*P	**Pn**	**20 40 30.7**	**+1.5**
JNTH	**Nagotoyohara**	**1.35**	**108**	P	**Pn**	**20 40 30.3**	**+0.9**
JNTH				S	**Sn**	**20 40 49.8**	**-0.7**
JOW	**Kunigami**	**1.51**	**94**	P	**Pn**	**20 40 31.7**	**+0.7**
	257nm,0.2s,baz=293,slow=15,SNR=51						
JOW				S	**Sn**	**20 40 52.4**	**-1.1**
	282nm,0.2s,baz=157,slow=29,SNR=27						
JOW	**Kunigami**	**1.51**	**94**	P	**Pn**	**20 40 31.8**	**+0.8**
JOW				*e*S	**Sn**	**20 40 52.3**	**-1.1**
JYRO	**Yoronjima**	**1.67**	**87**	P	**Pn**	**20 40 33.2**	**+0.6**
JYRO				*e*S	**Sn**	**20 40 54.8**	**-1.6**
JOKE	**Okinoerabujima**	**1.81**	**77**	P	**Pn**	**20 40 35.1**	**+0.7**
JTK	**Tokunoshima**	**2.26**	**68**	*e*P	**Pn**	**20 40 40.2**	**+0.6**
JTK				*e*S	**Sn**	**20 41 08.4**	**-0.4**
JMJ2	**Miyako jima3**	**2.48**	**208**	*e*P	**Pn**	**20 40 42.7**	**+0.4**
JMJ2				*e*S	**Sn**	**20 41 12.2**	**-1.3**
JAMN	**Amaminishikomi**	**2.63**	**60**	*e*S	**Sn**	**20 41 14.5**	**-2.5**
JTJ	**Tarama**	**2.86**	**217**	*e*P	**Pn**	**20 40 47.4**	**+0.3**
JTJ				*e*S	**Sn**	**20 41 19.6**	**-2.5**
JAM	**Amami Oshima**	**3.05**	**61**	*e*P	**Pn**	**20 40 49.1**	**-0.4**
JAM				*e*S	**Sn**	**20 41 24.3**	**-2.1**
JTAJ	**Takarajima**	**3.19**	**46**	*e*P	**Pn**	**20 40 52.1**	**+0.9**
JMZ	**Minamidaito 2**	**4.31**	**104**	*e*S	**Sn**	**20 41 51.9**	**-3.9**
JNU	**Nakatsue**	**7.19**	**30**	P	**Pn**	**20 41 46.0**	**+1.8**
	7.9nm,1.0s,baz=218,slow=9.7,SNR=1.9						
SONM	**Songino Array**	**26.16**	**328**	P	**P**	**20 45 22.8**	**+0.3**
	0.4nm,0.4s,baz=140,slow=8.6,SNR=4.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**39.96**	**312**	P	**P**	**20 47 21.4**	**-0.4**
	0.9nm,0.4s,baz=101,slow=10.0,SNR=25						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**40.79**	**323**	P	**P**	**20 47 27.8**	**-0.6**
	1.6nm,0.4s,baz=114,slow=9.1,SNR=9.7						
	1.6nm,0.4s						
KURBB	**Kurchatov Arra**	**43.32**	**316**	P	**P**	**20 47 48.6**	**-0.4**
	0.5nm,0.2s,baz=106,slow=9.2,SNR=1.5						
	0.5nm,0.2s						
WRA	**Warramunga Arr**	**47.22**	**170**	P	**P**	**20 48 21.1**	**+1.1**
	0.3nm,0.5s,baz=349,slow=7.7,SNR=2.0						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**50.81**	**171**	P	**P**	**20 48 49.0**	**+1.6**
	0.4nm,0.6s,baz=359,slow=14,SNR=7.3						
	0.4nm,0.6s						

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*BJI **01** 20:45:40.8±0.0, 46°.98N×144°.86E, h377km, mb5.9/85, mB5.6/38*

*JMA **01** 20:45:41.7±0.4, 47°N±2°.×14°5E±°, h427km±3km, MD5.6/35, MW5.6/35, SOUTHERN SEA OF OKHOTSK*

JMA Felt I J1 at SOUTHERN SEA OF OKHOTSK .

*MOS **01** 20:45:41.3±0.8, 46°.92N×145°.01E, h396km, mb5.8/59, Error ellipse: s-maj=5.6km s-min=3.6km az=65.5*

*NIED **01** 20:45:41.7, 46°.60N×145°.03E, h427km, MW5.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.24; $M_{\theta\theta}$=0.92; $M_{\phi\phi}$=-0.68; $M_{r\theta}$=0.85; $M_{\theta\phi}$=-1.62; $M_{\phi r}$=-1.11; Fault plane solution: M_0=2.22000×10^{17} NP1: ϕ_s=165.00000°, δ=88.00000°, λ=35.00000°. NP2: ϕ_s=74.00000°, δ=55.00000°, λ=177.00000°.*

*NEIC **01** 20:45:42.6, 46°.87N×145°.11E, h410km, Moment Tensor Solution. Duration: 3§1 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.06; $M_{\theta\theta}$=1.56; $M_{\phi\phi}$=-1.62; $M_{r\theta}$=-0.26; $M_{\theta\phi}$=-2.34; $M_{\phi r}$=-1.08; Fault plane solution: M_0=3.02000×10^{17} NP1: ϕ_s=341.79000°, δ=81.57000°, λ=-17.45000°. NP2: ϕ_s=74.43000°, δ=72.74000°, λ=-171.17000°. Principal axes: T 2.8332, Plg=6.0000°, Azm=29.0000°; N 0.3826, Plg=71.0000°, Azm=137.0000°; P -3.2158, Plg=18.0000°, Azm=297.0000°;*

*NEIC **01** 20:45:42.6, 46°.97N×144°.96E, h410km*

*NEIC **01** 20:45:42.7, 46°.94N×144°.98E, h388km*

*SKHL **01** 20:45:42.2±0.4, 46°.80N×145°.00E, h389km±6km, mb6.5/13, mbv6.5/10, ms5.6/1, msh6.4/13, msha6.8/10*

*NEIC **01** 20:45:43.0±2.0, 46°.96N±0°.08×145°.0E±0°.1, h393km±3km, mb5.8/92, Mwb5.6/54, Mww5.6/38, Error ellipse: s-maj=14.6km s-min=11.5km az=117.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.42; $M_{\theta\theta}$=0.82; $M_{\phi\phi}$=-1.24; $M_{r\theta}$=0.19; $M_{\theta\phi}$=-2.79; $M_{\phi r}$=-0.97; Fault plane solution: M_0=3.16000×10^{17} NP1: ϕ_s=170.76000°, δ=86.31000°, λ=19.03000°. NP2: ϕ_s=79.49000°, δ=71.01000°, λ=176.09000°. Principal axes: T 2.9716, Plg=16.0000°, Azm=37.0000°; N 0.3455, Plg=71.0000°, Azm=181.0000°; P -3.3171, Plg=11.0000°, Azm=304.0000°;*

*IDC **01** 20:45:42.7±0.6, 47°.02N×144°.84E, h384km±6km, mb5.4/31, mbtmp6.2/43 Error ellipse: s-maj=6.9km s-min=6.2km az=96.0*

*GCMT **01** 20:45:44.0±0.2, 47°.02N±0°.02×144°.88E±0°.02, h399km±1km, MW5.6/129, Moment Tensor Solution. s129, c224; Duration: 1§6 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.01±.04; $M_{\theta\theta}$=1.90±.07; $M_{\phi\phi}$=-1.89±.06; $M_{r\theta}$=0.44±.06; $M_{\theta\phi}$=-2.69±.06; $M_{\phi r}$=-1.54±.05; Best double couple: M_0=3.65900×10^{17} NP1: ϕ_s=342.00000°, δ=89.00000°, λ=-26.00000°. NP2: ϕ_s=73.00000°, δ=64.00000°, λ=-179.00000°. Principal axes: T 3.6430, Plg=18.0000°, Azm=30.0000°; N 0.0330, Plg=64.0000°, Azm=161.0000°; P -3.6750, Plg=18.0000°, Azm=294.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

*BGR **01** 20:45:47.7, 48°.15N×144°.88E, h383km, mb5.7, mB_BB5.8, Hypocentre not reviewed by the ISC*

ISC 01 20:45:42.5±0.2, 46°.97N±0°.02×144°.89E±0°.02, h388km±2km, h387km:pP-P, n2044, σ1§52/2470, mb5.6/338, 121C-205D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.47**	**270**	P	**Pn**	**20 46 35.6**	**+1.4**
YSS	**Yuzh-Sakhalins**	**1.47**	**270**	Pn	**Pn**	**20 46 36.1**	**+1.9**
YSS	**Yuzh-Sakhalins**	**1.47**	**270**	*e*P	**Pn**	**20 46 36.3**	**+2.1**
YSS				AMB	AMB	20 46 36.8	
	24μm,3.4s						
YSS				AMB	AMB	20 46 38.3	
	9μm,0.7s						
YSS				*e*S	**S**	**20 47 17.9**	**+2.0**
YSS				A	A	20 47 18.1	
	73μm,3.4s						
YSS				A	A	20 47 18.1	
	37μm,3.4s						
YSS				A	A	20 47 19.0	
	11μm,0.9s						
YSS				A	A	20 47 19.0	
	12μm,0.9s						
YSS	**Yuzh-Sakhalins**	**1.47**	**270**	*o*ePN	**Pn**	**20 46 36.3**	**+2.1**
YSS				*e*S	**S**	**20 47 17.1**	**+1.2**
YSS				pmax	pmax		
	comp=Z,24μm,3.4s						
YSS				pmax	pmax		
	comp=Z,9μm,0.7s						
YSS				pmax	pmax		
	comp=N,2μm,1.0s						
YSS				pmax	pmax		
	comp=E,3μm,0.9s						
YSS				smax	smax		
	comp=N,73μm,3.4s						
YSS				smax	smax		
	comp=E,37μm,2.4s						
YSS				smax	smax		
	comp=N,11μm,0.9s						
YSS				smax	smax		
	comp=E,12μm,1.0s						
JSE	**Soyaes**	**2.58**	**220**	P	**Pn**	**20 46 42.3**	**+1.0**
JSE				S	**S**	**20 47 29.4**	**+0.5**
JSE	**Soyaes**	**2.58**	**220**	A	A	20 46 42.3	
	comp=E,19nm,1.6s,comp=N,37nm,2.6s						
JWK2	**Keihoku**	**2.66**	**233**	P	**Pn**	**20 46 43.9**	**+1.9**
JWK2				S	**S**	**20 47 31.9**	**+1.9**
JWK2	**Keihoku**	**2.66**	**233**	A	A	20 46 43.9	
	comp=E,76nm,2.9s,comp=N,67nm,3.7s						
KUR	**Kuril'sk**	**2.70**	**129**	*e*P	**Pn**	**20 46 42.3**	**0.0**
KUR				AMB	AMB	20 46 43.8	
	comp=N,3μm,1.1s						
KUR				AMB	AMB	20 46 44.8	
	comp=N,27μm,5.0s						
KUR				*i* S	**S**	**20 47 31.0**	**+0.4**
KUR				A	A	20 47 31.8	
	comp=N,860nm,1.2s						
KUR				A	A	20 47 31.8	
	comp=N,2μm,1.2s						
KUR				A	A	20 47 33.0	
	comp=N,37μm,5.0s						
KUR				A	A	20 47 33.0	
	comp=N,71μm,5.0s						
KUR	**Kuril'sk**	**2.70**	**129**	*d i*PN	**Pn**	**20 46 42.7**	**+0.4**
KUR				*i* S	**S**	**20 47 30.1**	**-0.5**
KUR				pmax	pmax		
	comp=Z,3μm,1.1s						
KUR				pmax	pmax		
	comp=N,556nm,0.7s						
KUR				pmax	pmax		
	comp=E,415nm,0.9s						
KUR				pmax	pmax		
	comp=Z,26μm,4.5s						
KUR				smax	smax		
	comp=E,2μm,1.2s						
KUR				smax	smax		
	comp=N,856nm,0.8s						
KUR				smax	smax		
	comp=E,70μm,5.6s						
KUR				smax	smax		
	comp=N,37μm,5.1s						
UGL	**Uglegorsk**	**2.84**	**319**	*i* P	**Pn**	**20 46 45.5**	**+2.3**
UGL				AMB	AMB	20 46 45.9	
	comp=N,27μm,0.5s						
UGL				AMB	AMB	20 46 46.0	
	comp=N,30μm,0.5s						
UGL				*i* S	**S**	**20 47 34.5**	**+2.1**
UGL				A	A	20 47 35.1	
	comp=N,47μm,1.8s						
UGL				A	A	20 47 35.1	
	comp=N,66μm,1.8s						
UGL				A	A	20 47 35.3	
	comp=N,13μm,1.0s						
UGL				A	A	20 47 35.3	
	comp=N,25μm,1.0s						
UGL	**Uglegorsk**	**2.84**	**319**	*d i*PN	**Pn**	**20 46 45.5**	**+2.3**
UGL				*i* S	**S**	**20 47 33.2**	**+0.8**
UGL				pmax	pmax		
	comp=Z,27μm,0.5s						
UGL				pmax	pmax		
	comp=Z,30μm,0.5s						
UGL				smax	smax		
	comp=N,13μm,0.9s						
UGL				smax	smax		
	comp=E,66μm,1.3s						
UGL				smax	smax		
	comp=N,47μm,1.8s						
UGL				smax	smax		
	comp=E,25μm,1.0s						
RUSJ	**Misakicho**	**2.88**	**175**	*d i*PN	**Pn**	**20 46 43.7**	**0.0**
RUSJ				*i* S	**S**	**20 47 32.7**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**3.01**	**167**	*e*P	**Pn**	**20 46 44.7**	**-0.2**
YUK				AMB	AMB	20 46 45.8	
	comp=E,5μm,1.4s						
YUK				AMB	AMB	20 46 49.6	
	comp=E,4μm,0.2s						
YUK				*i* S	**S**	**20 47 34.8**	**-0.5**
YUK				A	A	20 47 38.0	
	comp=E,24μm,2.2s						
YUK				A	A	20 47 38.0	
	comp=E,65μm,2.2s						
YUK				A	A	20 47 41.2	
	comp=E,5μm,0.7s						
YUK				A	A	20 47 41.2	
	comp=E,9μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**3.01**	**167**	*d i*PN	**Pn**	**20 46 44.1**	**-0.8**
YUK				*i* S	**S**	**20 47 33.1**	**-2.2**
YUK				pmax	pmax		
	comp=Z,5μm,1.4s						
YUK				pmax	pmax		
	comp=N,1μm,0.2s						
YUK				pmax	pmax		
	comp=E,1μm,0.2s						
YUK				pmax	pmax		
	comp=Z,4μm,0.2s						
YUK				smax	smax		
	comp=N,24μm,2.2s						
YUK				smax	smax		
	comp=E,65μm,1.7s						
YUK				smax	smax		
	comp=N,5μm,0.7s						
YUK				smax	smax		
	comp=E,9μm,0.6s						
JRA	**Rausu**	**3.04**	**177**	⇓P	**Pn**	**20 46 44.8**	**-0.2**
JRA				⇓S	**S**	**20 47 35.0**	**-0.7**
JRA	**Rausu**	**3.04**	**177**	A	A	20 46 44.8	
	comp=E,80nm,2.6s,comp=N,41nm,2.7s						
JRBN	**Rebuntou**	**3.08**	**241**	P	**Pn**	**20 46 46.3**	**+0.9**
JRBN				S	**S**	**20 47 35.8**	**-0.4**
JRBN	**Rebuntou**	**3.08**	**241**	A	A	20 46 46.3	
	comp=E,27nm,3.8s,comp=N,45nm,4.2s						
JTKR	**Abashiri--Toko**	**3.08**	**193**	P	**Pn**	**20 46 45.6**	**+0.2**
JTKR				S	**S**	**20 47 34.7**	**-1.6**
JTKR	**Abashiri--Toko**	**3.08**	**193**	A	A	20 46 45.6	
	comp=E,75nm,2.9s,comp=N,11nm,2.8s						
JRR	**Rishiri**	**3.10**	**235**	A	A	20 46 47.2	
	comp=E,83nm,3.2s,comp=N,136nm,3.0s						
JMP	**Maruseppu**	**3.15**	**201**	P	**Pn**	**20 46 46.2**	**+0.1**
JMP				S	**S**	**20 47 37.2**	**-0.3**
JMP	**Maruseppu**	**3.15**	**201**	A	A	20 46 46.2	
	comp=E,33nm,3.2s,comp=N,22nm,5.6s						
JNSB	**Nemuroshibetsu**	**3.20**	**179**	A	A	20 46 46.0	
	comp=E,133nm,2.7s,comp=N,68nm,3.3s						
JKA	**Kamikawa-asahi**	**3.28**	**210**	Pn	**Pn**	**20 46 47.8**	**+0.6**
ASAJ	**Asahikawa**	**3.28**	**210**	P	**Pn**	**20 46 47.9**	**+0.7**
	comp=N,10μm,0.9s,baz=5.8,slow=5.2,SNR=4928						
ASAJ				S	**S**	**20 47 38.2**	**-1.2**
	comp=N,1μm,1.0s,baz=253,slow=19,SNR=0.7						
ASAJ	**Asahikawa**	**3.28**	**210**	A	A	20 46 47.4	
	comp=E,32nm,2.5s,comp=N,22nm,2.2s						
JSS	**Shosan**	**3.34**	**221**	P	**Pn**	**20 46 49.0**	**+1.3**
JSS	**Shosan**	**3.34**	**221**	A	A	20 46 49.0	
	comp=E,23nm,4.7s,comp=N,35nm,2.6s						
JNK	**Nakash**	**3.39**	**182**	P	**Pn**	**20 46 47.3**	**-0.9**
JNK				S	**S**	**20 47 39.0**	**-2.2**
JNK	**Nakash**	**3.39**	**182**	A	A	20 46 47.3	
	comp=E,68nm,2.7s,comp=N,37nm,2.5s						
SHO	**Shikotan**	**3.39**	**156**	*i* P	**Pn**	**20 46 45.7**	**-2.4**
SHO				AMB	AMB	20 46 46.8	
	comp=N,5μm,1.1s						
SHO				AMB	AMB	20 46 46.9	
	comp=N,3μm,0.2s						
SHO				*i* S	**S**	**20 47 36.1**	**-5.1**
SHO				A	A	20 47 36.8	
	comp=N,34μm,1.9s						
SHO				A	A	20 47 36.8	
	comp=N,53μm,1.9s						
SHO				A	A	20 47 38.6	
	comp=N,10μm,0.4s						
SHO				A	A	20 47 38.6	
	comp=N,17μm,0.4s						
SHO	**Shikotan**	**3.39**	**156**	⇓*i*PN	**Pn**	**20 46 45.2**	**-2.9**
SHO				*i* S	**S**	**20 47 35.0**	**-6.2**
SHO				pmax	pmax		
	comp=Z,5μm,1.1s						
SHO				pmax	pmax		
	comp=N,1μm,0.2s						
SHO				pmax	pmax		
	comp=E,712nm,0.2s						
SHO				pmax	pmax		
	comp=Z,3μm,0.2s						
SHO				smax	smax		
	comp=N,34μm,1.9s						
SHO				smax	smax		
	comp=E,53μm,1.8s						
SHO				smax	smax		
	comp=N,10μm,0.2s						
SHO				smax	smax		
	comp=E,17μm,0.4s						
JKK2	**Kamakawa 2**	**3.45**	**207**	P	**Pn**	**20 46 49.0**	**+0.3**
JKK2	**Kamakawa 2**	**3.45**	**207**	A	A	20 46 49.0	
	comp=E,30nm,4.9s,comp=N,25nm,2.7s						
JYG	**Yagishiri**	**3.52**	**225**	A	A	20 46 50.0	
	comp=E,17nm,2.3s,comp=N,23nm,3.5s						
NMR	**Nemuro--Hokkai**	**3.65**	**170**	*i* P	**Pn**	**20 46 48.4**	**-2.1**
NMR	**Nemuro--Hokkai**	**3.65**	**170**	*d i*PN	**Pn**	**20 46 47.5**	**-3.0**
NMR				*i* S	**S**	**20 47 39.3**	**-6.2**
NEM2	**Nemuro 2**	**3.66**	**170**	⇓P	**Pn**	**20 46 47.7**	**-2.8**
NEM2				⇓S	**S**	**20 47 39.5**	**-6.2**
NEM2	**Nemuro 2**	**3.66**	**170**	A	A	20 46 47.7	
	comp=E,54nm,2.3s,comp=N,25nm,2.9s						
JAR	**Ashorobuto**	**3.76**	**193**	P	**Pn**	**20 46 51.0**	**-0.5**
JAR	**Ashorobuto**	**3.76**	**193**	A	A	20 46 51.0	
	comp=E,32nm,2.7s,comp=N,24nm,2.9s						
JKHN	**Kushirohamanak**	**3.89**	**177**	A	A	20 46 51.5	
	comp=E,46nm,5.5s,comp=N,52nm,2.1s						
JHR	**Hokuryu**	**3.92**	**216**	P	**Pn**	**20 46 53.6**	**+0.5**
JHR	**Hokuryu**	**3.92**	**216**	A	A	20 46 53.6	
	comp=E,23nm,2.1s,comp=N,23nm,2.2s						
JAB	**Ashibetsu**	**3.95**	**210**	A	A	20 46 52.9	
	comp=E,38nm,2.1s,comp=N,19nm,2.7s						
AKK	**Akkeshi**	**3.95**	**181**	*e*P	**Pn**	**20 46 51.2**	**-2.2**
JAK	**Akkeshi**	**3.98**	**182**	P	**Pn**	**20 46 51.3**	**-2.3**
JAK				S	**S**	**20 47 45.7**	**-5.4**
JAK	**Akkeshi**	**3.98**	**182**	A	A	20 46 51.3	
	comp=E,57nm,2.8s,comp=N,64nm,2.7s						
JOB	**Onbets**	**4.14**	**191**	A	A	20 46 53.9	
	comp=E,24nm,1.6s,comp=N,26nm,3.1s						
JFR	**Furan**	**4.14**	**204**	P	**Pn**	**20 46 55.1**	**-0.1**
JFR	**Furan**	**4.14**	**204**	A	A	20 46 55.1	
	comp=E,25nm,2.0s,comp=N,23nm,2.5s						
TYV	**Tymovskoe**	**4.17**	**340**	*e*P	**Pn**	**20 46 57.0**	**+1.8**
TYV				AMB	AMB	20 46 57.6	
	comp=N,3μm,0.6s						
TYV				AMB	AMB	20 46 57.7	
	comp=N,3μm,2.0s						
TYV				*e*S	**S**	**20 47 55.8**	**+1.5**
TYV				A	A	20 47 57.1	
	comp=N,11μm,2.2s						
TYV				A	A	20 47 57.1	
	comp=N,22μm,2.2s						
TYV				A	A	20 47 57.2	
	comp=N,3μm,1.0s						
TYV				A	A	20 47 57.2	
	comp=N,3μm,1.0s						
TYV	**Tymovskoe**	**4.17**	**340**	*e*PN	**Pn**	**20 46 57.2**	**+2.0**
TYV				*e*S	**S**	**20 47 55.8**	**+1.5**
TYV				pmax	pmax		
	comp=Z,3μm,0.6s						
TYV				pmax	pmax		
	comp=Z,3μm,2.0s						
TYV				smax	smax		
	comp=N,3μm,1.2s						
TYV				smax	smax		
	comp=E,3μm,1.2s						
TYV				smax	smax		
	comp=N,11μm,2.2s						
TYV				smax	smax		
	comp=E,22μm,2.2s						
JISS	**Ishikarishitsu**	**4.44**	**215**	A	A	20 46 57.7	
	comp=E,27nm,2.6s,comp=N,49nm,2.8s						
JCH	**Churui**	**4.49**	**195**	P	**Pn**	**20 46 56.5**	**-2.2**
JCH				S	**S**	**20 47 54.2**	**-6.3**
JCH	**Churui**	**4.49**	**195**	A	A	20 46 56.5	
	comp=E,12nm,2.7s,comp=N,12nm,4.4s						
JBT2	**Biratori 2**	**4.56**	**204**	P	**Pn**	**20 46 58.8**	**-0.6**
JBT2				S	**S**	**20 47 59.3**	**-2.4**
JBT2	**Biratori 2**	**4.56**	**204**	A	A	20 46 58.8	
	comp=E,17nm,1.4s,comp=N,17nm,2.2s						
JSK	**Shakotan**	**4.78**	**222**	A	A	20 47 01.3	
	comp=E,18nm,2.7s,comp=N,17nm,2.8s						
JEW	**Eniwo**	**4.80**	**212**	P	**Pn**	**20 47 02.0**	**+0.2**
JEW	**Eniwo**	**4.80**	**212**	A	A	20 47 02.0	
	comp=E,34nm,3.1s,comp=N,35nm,3.2s						
JTHR	**Tokachihiroo**	**4.81**	**194**	A	A	20 47 00.4	
	comp=E,8.0nm,2.8s,comp=N,21nm,2.8s						
JIAM	**Iburiatsuma**	**4.83**	**207**	A	A	20 47 01.0	
	comp=E,49nm,1.2s,comp=N,63nm,1.5s						
JSHD	**Hidakashinhida**	**4.88**	**202**	A	A	20 47 01.2	
	comp=E,29nm,2.3s,comp=N,39nm,4.5s						
JNBK	**Urakawa-nobuka**	**4.93**	**199**	P	**Pn**	**20 47 01.1**	**-2.1**
JNBK				S	**S**	**20 48 03.2**	**-5.5**
JNBK	**Urakawa-nobuka**	**4.93**	**199**	A	A	20 47 01.1	
	comp=E,15nm,1.2s,comp=N,20nm,1.9s						
JEM	**Erimo**	**5.11**	**195**	P	**Pn**	**20 47 04.3**	**-0.7**
JEM	**Erimo**	**5.11**	**195**	A	A	20 47 03.2	
	comp=E,43nm,4.5s,comp=N,21nm,1.8s						
ERM	**Erimo**	**5.11**	**195**	P	**Pn**	**20 47 04.1**	**-0.9**
ERM	**Erimo**	**5.11**	**195**	Pn	**Pn**	**20 47 02.2**	**-2.8**
ERM	**Erimo**	**5.11**	**195**	*e*PN	**Pn**	**20 47 02.7**	**-2.3**
JNB	**Noboribetsu**	**5.27**	**213**	A	A	20 47 05.6	
	comp=E,12nm,1.7s,comp=N,10.0nm,2.3s						
JSH	**Shimam**	**5.53**	**220**	A	A	20 47 08.7	
	comp=E,11nm,0.8s,comp=N,15nm,3.2s						
JHST	**Hiyamasetana**	**5.78**	**220**	A	A	20 47 11.3	
	comp=E,18nm,2.7s,comp=N,17nm,2.1s						
JKB	**Kayabe**	**5.78**	**210**	A	A	20 47 10.7	
	comp=E,25nm,1.6s,comp=N,19nm,2.4s						
JYM2	**Yakumo 2**	**5.83**	**215**	A	A	20 47 11.5	
	comp=E,8.0nm,1.1s,comp=N,10.0nm,2.7s						
TEY	**Ternei**	**6.09**	**254**	*e*P	**Pn**	**20 47 17.2**	**+1.6**
TEY				AMB	AMB	20 47 18.3	
	comp=N,2μm,1.0s						
TEY				*e*S	**S**	**20 48 31.5**	**+0.1**
TEY				A	A	20 48 32.0	
	comp=N,22μm,5.0s						
TEY				A	A	20 48 32.0	
	comp=N,13μm,5.0s						
TEY	**Ternei**	**6.09**	**254**	⇑*e*PN	**Pn**	**20 47 17.2**	**+1.6**
TEY				*e*S	**S**	**20 48 29.9**	**-1.5**
TEY				pmax	pmax		
	comp=E,3μm,1.3s						
TEY				pmax	pmax		
	comp=Z,4μm,1.4s						
TEY				pmax	pmax		
	comp=N,900nm,1.8s						
TEY				pmax	pmax		
	comp=Z,2μm,0.9s						
TEY				pmax	pmax		
	comp=E,2μm,0.9s						
TEY				pmax	pmax		
	comp=N,300nm,0.8s						
JOT	**Ohata**	**6.23**	**208**	P	**Pn**	**20 47 14.7**	**-2.6**
JOT				S	**S**	**20 48 29.1**	**-5.3**
JOT	**Ohata**	**6.23**	**208**	A	A	20 47 14.7	
	comp=E,36nm,1.5s,comp=N,18nm,1.4s						
JOSM	**Okushiri--Mats**	**6.23**	**220**	P	**Pn**	**20 47 15.8**	**-1.5**
JOSM				S	**S**	**20 48 29.7**	**-4.7**
**JAHD

comp=N,13μm,13.0s
OKH Okha 6.71 350c *i*PN **P 20 47 24.0 +1.0**
OKH *i*S **S 20 48 45.3 +1.6**
OKH pmax pmax
comp=E,200nm,7.4s
OKH pmax pmax
comp=Z,700nm,13.2s
OKH pmax pmax
comp=N,800nm,13.9s
OKH smax smax
comp=E,13μm,13.3s
OKH smax smax
comp=N,7μm,10.8s
JSI2 Shiura 2 6.74 210 P **Pn 20 47 20.5 -2.3**
JSI2 Shiura 2 6.74 210 A A 20 47 20.5
comp=E,18nm,1.7s,comp=N,32nm,1.1s
NKL Nikolayevsk 6.75 338 *e*P **P 20 47 24.9 +1.3**
NKL AMB AMB 20 47 25.5
comp=N,6μm,0.6s
NKL *e*S **S 20 48 45.8 +1.1**
NKL A A 20 48 50.3
comp=N,32μm,2.0s
NKL A A 20 48 50.3
comp=N,20μm,2.0s
NKL Nikolayevsk 6.75 338 *e*PN **Pn 20 47 21.6 -1.1**
NKL *e*S **S 20 48 45.8 +1.1**
NKL pmax pmax
comp=N,559nm,0.5s
NKL pmax pmax
comp=E,3μm,0.6s
NKL pmax pmax
comp=Z,6μm,0.6s
NKL smax smax
comp=N,32μm,2.0s
NKL smax smax
comp=E,20μm,2.0s
GRNR Gornyy 6.76 307⇑ *i*PN **P 20 47 25.0 +1.3**
GRNR *e*S **S 20 48 46.9 +2.0**
GRNR pmax pmax
comp=E,4μm,1.1s
GRNR pmax pmax
comp=N,3μm,0.9s
GRNR pmax pmax
comp=Z,6μm,1.0s
GRNR smax smax
comp=N,690nm,1.0s
GRNR MLR MLR
comp=N,2μm,15.0s
GRNR MLR MLR
comp=Z,2μm,15.0s
JTM Tenmabayashi 6.77 205 P **Pn 20 47 20.8 -2.4**
JTM Tenmabayashi 6.77 205 Pn **Pn 20 47 20.2 -3.0**
JTM Tenmabayashi 6.77 205 A A 20 47 21.0
comp=E,17nm,1.6s,comp=N,11nm,2.2s
JANG Nango 7.03 202 P **Pn 20 47 22.9 -3.4**
JANG S **S 20 48 42.2 -8.7**
JANG Nango 7.03 202 A A 20 47 22.9
comp=E,13nm,4.2s,comp=N,14nm,1.3s
JKEN Kujiedanarisaw 7.15 200 A A 20 47 24.8
comp=E,47nm,1.4s,comp=N,29nm,1.0s
JIW Iwasaki 7.29 211 P **Pn 20 47 26.8 -2.3**
JIW S **S 20 48 50.5 -5.7**
JIW Iwasaki 7.29 211 A A 20 47 26.8
comp=E,11nm,3.1s,comp=N,16nm,1.2s
JTH Tanohata 7.37 198 A A 20 47 27.1
comp=E,18nm,3.4s,comp=N,5.0nm,2.7s
JKZ Kuzumaki 7.45 202 A A 20 47 28.2
comp=E,9.0nm,2.3s,comp=N,11nm,1.4s
JAH Hinai 7.45 206 A A 20 47 28.4
comp=E,11nm,2.6s,comp=N,10.0nm,2.1s
JNTW Noshirotokiwa 7.52 209 A A 20 47 29.4
comp=E,20nm,2.8s,comp=N,22nm,3.7s
MIYJ Miyakonagasawa 7.72 198 A A 20 47 31.1
comp=E,13nm,2.7s,comp=N,8.0nm,3.2s
JSZI Iwateshizukuis 7.77 203 A A 20 47 31.9
comp=E,24nm,1.9s,comp=N,32nm,1.6s
JOM Ohasama 7.94 201 A A 20 47 33.6
comp=E,10.0nm,2.9s,comp=N,7.0nm,0.7s
JYW Yuwa 8.17 206 A A 20 47 36.5
comp=E,11nm,1.7s,comp=N,17nm,1.0s
JRG Rokugo 8.18 204 A A 20 47 36.5
comp=E,7.0nm,1.1s,comp=N,10.0nm,0.8s
JOG3 Oga3 8.22 213 A A 20 47 34.3
comp=E,7.0nm,1.7s,comp=N,8.0nm,4.2s
OFUJ Ofunato 8.23 198 A A 20 47 36.7
comp=E,6.0nm,5.5s,comp=N,5.0nm,4.3s
SKR Severo-Kuril's 8.28 59 *e*P **P 20 47 41.0 -0.1**
SKR AMB AMB 20 47 43.0
comp=N,11μm,2.5s
SKR AMB AMB 20 47 44.0
comp=N,2μm,0.9s
SKR *e*S **S 20 49 14.7 -2.2**
SKR A A 20 49 16.4
comp=N,15μm,3.0s
SKR A A 20 49 16.4
comp=N,16μm,3.0s
SKR AMS AMS 20 49 50.0
comp=N,9μm,10.0s
SKR AMS AMS 20 49 50.0
comp=N,12μm,10.0s
SKR AMS AMS 20 49 50.0
comp=N,10μm,10.0s
SKR Severo-Kuril's 8.28 59 *e*PN **P 20 47 40.8 -0.3**
SKR *e*S **S 20 49 12.6 -4.3**
SKR pmax pmax
comp=Z,10μm,2.5s
SKR pmax pmax
comp=Z,2μm,0.9s
SKR MLR MLR
comp=Z,5μm,14.0s
JKMT Kesennumamotoy 8.53 198 A A 20 47 40.2
comp=E,7.0nm,4.2s,comp=N,6.0nm,3.9s
JYK Kaneyama 8.71 204 A A 20 47 42.4
comp=E,4.0nm,3.1s,comp=N,7.0nm,4.9s
JYYZ Yamagatayuza 8.74 206 A A 20 47 42.9
comp=E,11nm,5.4s,comp=N,11nm,3.8s
JOFO Osakifurukawao 8.86 201 A A 20 47 44.0
comp=E,29nm,3.6s,comp=N,30nm,2.8s
KLR Kul'dur 9.08 289 P **P 20 47 51.3 +1.3**
comp=N,2μm,0.7s,baz=97,slow=12,SNR=4826
KLR S **S 20 49 33.1 -1.0**
comp=N,104nm,0.6s,baz=196,slow=19,SNR=0.8
KLR ScP **ScP 20 56 25.3 +1.1**
comp=N,23nm,0.8s,baz=45,slow=1.6,SNR=5.9
KLR Kul'dur 9.08 289 *e*P **P 20 47 51.5 +1.5**
KLR Kul'dur 9.08 289 *ce*PN **P 20 47 51.5 +1.5**
KLR pmax pmax
comp=Z,4μm,1.3s
JOU Okura 9.14 201 A A 20 47 47.2
comp=E,9.0nm,1.6s,comp=N,9.0nm,1.1s
JYA Atsumi 9.20 206 A A 20 47 48.0
comp=E,8.0nm,1.0s,comp=N,8.0nm,2.3s
JYS Shiratake 9.44 204 A A 20 47 50.7
comp=E,9.0nm,2.3s,comp=N,15nm,1.2s
USA0B Ussuriysk Arra 9.46 258 P **P 20 47 54.4 +0.1**
USA0B Ussuriysk Arra 9.46 258 *d i*PN **P 20 47 54.5 +0.1**
USRK Ussuriysk Ar. 9.46 258 P **P 20 47 54.6 +0.2**
comp=N,346nm,0.5s,baz=60,slow=8.9,SNR=249
USRK S **S 20 49 40.0 -2.2**
comp=N,625nm,1.1s,baz=64,slow=20,SNR=8.4
USRK ScP **ScP 20 56 25.8 +1.0**
comp=N,13nm,0.9s,baz=32,slow=2.4,SNR=4.9
JAW Awa shima 9.47 208 A A 20 47 51.2
comp=E,8.0nm,2.7s,comp=N,7.0nm,5.5s
JMM Marumori 9.59 200 P **Pn 20 47 55.2 -0.5**
JMM Marumori 9.59 200 **Pn 20 47 54.2 -1.5**
JMM Marumori 9.59 200 A A 20 47 52.2
comp=E,6.0nm,1.2s,comp=N,9.0nm,3.6s
JYAR Yonezawaarcadi 9.71 203 A A 20 47 53.7
comp=E,16nm,1.1s,comp=N,16nm,1.4s
KDTR Khodutka, Kamc 9.86 56 PN **Pn 20 47 57.1 -1.5**
KDTR S **S 20 49 42.1 -8.2**
APC Apacha 9.89 48 PN **P 20 47 59.0 +0.1**
APC S **S 20 49 47.5 -3.4**
VLA Vladivostok 9.98 252 *i* PN **Pn 20 48 00.2 +0.1**
JOTO OTAMA OYAMA 9.99 201 A A 20 47 56.9
comp=E,15nm,1.3s,comp=N,23nm,1.7s
ASAK Asacha 10.02 52 PN **P 20 48 00.3 -0.1**
ASAK S **S 20 49 49.7 -3.9**
JNS Sasagawa 10.03 206 A A 20 47 57.5
comp=E,3.0nm,5.7s,comp=N,7.0nm,2.6s
JFK Kawauchi 10.05 199 A A 20 47 57.4
comp=E,5.0nm,1.5s,comp=N,14nm,1.1s
JSD Sado 10.18 211 P **P 20 48 02.0 -0.4**
JSD Sado 10.18 211 P **P 20 48 00.2 -2.2**
JSD Sado 10.18 211 A A 20 47 59.5
comp=E,4.0nm,3.0s,comp=N,6.0nm,3.6s
GRL Gorelyy 10.19 52 PN **Pn 20 48 02.6 +0.1**
GRL S **S 20 49 53.6 -3.7**
MTVR Mutnovka 10.21 52 PN **Pn 20 48 02.8 -0.1**
MTVR S **S 20 49 53.5 -4.4**
PEA0B Petropavlovsk- 10.27 49 P **P 20 48 02.0 -1.1**
PEA0B Petropavlovsk- 10.27 49 *ce*PN **Pn 20 48 03.5 +0.1**
PETK Petropavlovsk- 10.27 49 P **P 20 48 02.2 -0.9**
PETK Petropavlovsk- 10.27 49 P **P 20 48 02.6 -0.5**
comp=N,845nm,0.9s,baz=222,slow=6.9,SNR=408
JFY Yanaizu 10.30 204 A A 20 48 00.5
comp=E.6.0nm,2.0s,comp=N,8.0nm,2.5s
ONAJ Iwakimizuishiy 10.32 199 A A 20 48 00.5
comp=E.6.0nm,3.7s,comp=N,12nm,3.2s
KRMR Karymshinskiy 10.35 51 PN **P 20 48 03.7 -0.3**
JIZZ Izumozaki 10.48 208 A A 20 48 02.8
comp=E,18nm,5.1s,comp=N,18nm,3.4s
JSB Shiboa 10.65 202 A A 20 48 04.5
comp=E,18nm,1.4s,comp=N,22nm,4.7s
JUON Uonuma 10.67 206 A A 20 48 04.9
comp=E,7.0nm,1.9s,comp=N,13nm,1.7s
MSHR Mys Shultsa 10.71 251 *ce*PN **Pn 20 48 08.6 0.0**
MSHR pmax pmax
comp=Z,249nm,0.7s
GNL Ganaly 10.71 46 PN **Pn 20 48 08.7 +0.1**
PET Petropavlovsk 10.72 51 P **P 20 48 08.3 +0.2**
PET Petropavlovsk 10.72 51 P **P 20 48 07.2 -0.9**
PET Petropavlovsk 10.72 51 *e*P **Pn 20 48 08.7 +0.1**
PET Petropavlovsk 10.72 51 PN **P 20 48 07.9 -0.2**
PET S **S 20 50 04.3 -3.8**
PET Petropavlovsk 10.72 51 P **P 20 48 07.4 -0.7**
comp=Z,561nm,0.9s,comp=Z,9μm
DALK Dalny 10.78 51 PN **P 20 48 08.6 -0.2**
DALK S **S 20 50 03.9 -5.3**
JHO Hitachi 10.84 199 A A 20 48 06.5
comp=E.5.0nm,3.8s,comp=N,9.0nm,1.9s
KOK Koryaka 10.85 49 PN **Pn 20 48 10.2 0.0**
JHG Hegura jima 10.85 216 A A 20 48 07.4
comp=E,7.0nm,4.1s,comp=N,9.0nm,3.3s
AVH Avacha 10.88 50 PN **Pn 20 48 10.7 +0.1**
KRX Arik 10.89 49 PN **P 20 48 10.4 +0.3**
PSTR Posyet 10.90 252 *e*P **P 20 48 10.4 +0.1**
PSTR Posyet 10.90 252 *i* PN **P 20 48 10.4 +0.1**
UGLR Uglovaya 10.90 50 PN **Pn 20 48 11.1 +0.2**
UGLR S **S 20 50 08.2 -3.8**
KRER Koryakskii 10.91 49 PN **P 20 48 10.6 +0.1**
SMAR Somma 10.92 50 PN **P 20 48 10.8 +0.2**
MDJ Mudanjiang 10.94 263 P **Pn 20 48 11.3 -0.1**
MDJ Mudanjiang 10.94 263 P **Pn 20 48 11.2 -0.1**
MDJ S **S 20 50 10.8 -2.1**
MDJ ScP **ScP 20 56 27.5 +0.8**
MDJ ScS **ScS 21 00 02.0 +0.1**
JKT Katashina 11.03 204 A A 20 48 08.8
comp=E,8.0nm,5.2s,comp=N,15nm,1.7s
JSZ Suzu 11.03 213 A A 20 48 09.3
comp=E,8.0nm,3.5s,comp=N,15nm,1.9s
JJN Nakama 11.05 209 A A 20 48 09.4
comp=E,10.0nm,1.4s,comp=N,11nm,3.3s
JHYU Hitachinakayam 11.10 198 A A 20 48 09.4
comp=E,7.0nm,3.8s,comp=N,11nm,1.2s
NLC Nalytchevo 11.16 51 PN **P 20 48 12.0 -1.0**
NLC S **S 20 50 08.6 -8.5**
JAG Ashikaga 11.29 203 A A 20 48 11.8
comp=E,8.0nm,1.4s,comp=N,12nm,1.7s
JGK Kuni 11.39 206 A A 20 48 13.1
comp=E,15nm,3.0s,comp=N,12nm,3.2s
JIHU Itakohorinouch 11.47 198 A A 20 48 13.6
comp=E,22nm,3.5s,comp=N,22nm,4.0s
SPN Mys Shipunski 11.49 52 PN **P 20 48 15.3 -1.3**
SPN S **S 20 50 15.9 -8.1**
MJB9 Matsu-Tunnel 11.55 208 P **P 20 48 17.8 +0.2**
MAJO Matsushiro 11.55 208 P **Pn 20 48 18.3 -0.3**
MAJO Matsushiro 11.55 208 P **P 20 48 17.9 +0.3**
MAJO Matsushiro 11.55 208 *c i*PN **P 20 48 17.6 0.0**
MJAR Matsushiro Arr 11.55 208 P **Pn 20 48 18.1 -0.5**
comp=N,2μm,0.7s,baz=15,slow=12,SNR=3385
MJAR ScP **ScP 20 56 28.6 +0.9**
comp=N,5.7nm,0.7s,baz=95,slow=1.3,SNR=8.3
KII Karymskiy 11.64 47 PN **Pn 20 48 19.2 -0.2**
JJH Hakui 11.71 214 A A 20 48 17.1
comp=E,6.0nm,3.0s,comp=N,17nm,1.9s
JNG Nsakai 11.71 208 A A 20 48 16.8
comp=E,6.0nm,1.9s,comp=N,9.0nm,1.9s
JTT Ttatey 11.79 211 A A 20 48 17.9
comp=E,13nm,2.9s,comp=N,13nm,4.0s
JSMT Sammumatsuo 11.80 198 A A 20 48 17.4
comp=E,16nm,3.3s,comp=N,24nm,4.6s
JRY Ryogami san 11.82 204 A A 20 48 17.9
comp=E,5.0nm,3.0s,comp=N,7.0nm,3.1s
JHU Hanno 11.88 203 A A 20 48 18.4
comp=E,4.0nm,5.8s,comp=N,5.0nm,2.4s
TOK Tokyo 11.91 201 A A 20 48 18.7
comp=E,16nm,3.8s,comp=N,18nm,2.2s
HEH HeiHe 12.03 292 *e*P **P 20 48 23.1 +0.5**
HEH sP 20 49 45.3
HEH S **S 20 50 36.4 +1.3**
HEH ScS **ScS 21 00 02.0 -1.9**
JCN Nagara 12.07 199 A A 20 48 20.4
comp=E,14nm,1.6s,comp=N,30nm,2.9s
BNX BinXian 12.15 271 ‖P **P 20 48 23.7 -0.4**
BNX S **S 20 50 33.9 -3.9**
BNX pmax pmax
comp=N,1μm,0.7s
BNX pmax pmax
comp=N,860nm,3.5s
BNX LR LR
comp=N,7μm,6.7s
BNX LR LR
comp=N,2μm,4.5s
BNX LR LR
comp=N,2μm,6.0s
ESO Esso 12.41 39 PN **Pn 20 48 29.0 +0.7**
JKG Kaga 12.45 214 A A 20 48 25.4
comp=E,5.0nm,4.9s,comp=N,7.0nm,3.6s
JOD2 Odawara 2 12.48 203 A A 20 48 25.2
comp=E,5.0nm,2.5s,comp=N,5.0nm,4.1s
TATJ Tateyama 2 12.51 199 A A 20 48 25.4
comp=E,10.0nm,1.7s,comp=N,12nm,2.7s
TUMR Tumrok 12.67 43 PN **Pn 20 48 31.1 -0.3**
TUMR S **S 20 50 45.1 -3.1**
JGF Kuroka 12.69 209 P **P 20 48 30.6 +0.4**
JGF Kuroka 12.69 209 P **P 20 48 30.4 +0.2**
JNY Yasuok 12.75 207 A A 20 48 28.4
comp=E.4.0nm,4.0s,comp=N,5.0nm,2.2s
JHTM Izuhatsuma 12.79 202 A A 20 48 28.7
comp=E,11nm,1.2s,comp=N,10.0nm,4.3s
JYTA Yamagatataniai 12.91 211 A A 20 48 30.4
comp=E,5.0nm,2.7s,comp=N,4.0nm,4.6s
SHZ3 Shizuoka 3 12.91 205 A A 20 48 30.1
comp=E,4.0nm,3.6s,comp=N,4.0nm,1.1s
JIM2 Oshima 3 12.91 201 A A 20 48 30.0
comp=E.6.0nm,3.7s,comp=N,7.0nm,1.4s
KMNR Kamenistaya 12.98 42 PN **P 20 48 34.1 +0.9**
KOZ Kozyrevsk 13.00 40 PN **Pn 20 48 35.0 -0.2**
INU Inuyama 13.03 210 P **P 20 48 34.1 +0.2**
INU Inuyama 13.03 210 P **P 20 48 34.0 +0.1**
MKZ Mys Kozlova 13.06 48 PN **P 20 48 32.5 -1.4**
SRDR Sredinnyy 13.10 39 PN **Pn 20 48 36.2 -0.1**
MA2 Magadan 13.10 13 P **Pn 20 48 35.7 -0.5**
MA2 Magadan 13.10 13 P **Pn 20 48 35.9 -0.3**
comp=N,2μm,0.7s,baz=194,slow=9.1,SNR=920
MA2 S **S 20 50 57.0 +0.5**
comp=N,87nm,0.8s,baz=279,slow=16,SNR=1.1
MA2 Magadan 13.10 13 *e*P **Pn 20 48 35.7 -0.5**
MA2 Magadan 13.10 13 *ce*PN **Pn 20 48 35.7 -0.5**
MA2 pmax pmax
comp=Z,2μm,1.0s
MA2 Magadan 13.10 13 P **Pn 20 48 35.7 -0.5**
comp=Z,3μm,0.9s,comp=Z,24μm
KPT Kopyto 13.10 41 PN **P 20 48 35.2 +0.7**
ZEA Zeya 13.12 308 *e*P **P 20 48 35.4 +0.7**
ZEA Zeya 13.12 308 *e*PN **P 20 48 35.6 +0.9**
ZEA *e*S **S 20 50 52.9 -4.3**
ZEA pmax pmax
comp=E,700nm,1.2s
ZEA pmax pmax
comp=N,700nm,1.0s
ZEA pmax pmax
comp=Z,1μm,1.0s
ZEA pmax pmax
comp=E,430nm,1.0s
ZEA pmax pmax
comp=N,520nm,0.6s
ZEA pmax pmax
comp=Z,1μm,0.8s
ZEA smax smax
comp=N,900nm,6.5s
ZEA smax smax
comp=E,1μm,4.6s
ZEA MLR MLR
comp=E,1μm,12.0s
ZEA MLR MLR
comp=Z,1μm,11.0s
JICN Ichinomiyachia 13.13 210 A A 20 48 32.8
comp=E,9.0nm,2.6s,comp=N,9.0nm,2.6s
JTHY Toshimahigashi 13.13 201 A A 20 48 32.4
comp=E,7.0nm,4.3s,comp=N,11nm,4.5s
KIRR Kirishev 13.15 41 PN **P 20 48 35.5 +0.5**
BZMR Bezymyannaya 13.21 41 PN **P 20 48 36.3 +0.6**
BZWR Bezymyannyi-We 13.22 41 PN **P 20 48 36.5 +0.6**
JFM Mihama 13.24 213 A A 20 48 34.1
comp=E,7.0nm,5.3s,comp=N,4.0nm,4.1s
HMMJ Hamamatsu 2 13.25 207 A A 20 48 33.9
comp=E,2.0nm,3.7s,comp=N,2.0nm,3.5s
JSG Sagara 13.28 205 P **Pn 20 48 38.5 -0.2**
JSG Sagara 13.28 205 A A 20 48 34.2
comp=E,6.0nm,4.9s,comp=N,7.0nm,4.2s
JNIO Niijimaoohara 13.30 201 A A 20 48 34.2
comp=E,21nm,1.4s,comp=N,16nm,2.0s
BZGR Bezymyannyi-Gr 13.30 42 PN **P 20 48 36.9 +0.2**
JSKK Shikinejimakit 13.33 201 A A 20 48 34.6
comp=E,29nm,1.1s,comp=N,16nm,1.7s
LGNR Loginova 13.38 41 PN **P 20 48 38.6 +0.8**
ZLN Zelenaya 13.40 42 PN **Pn 20 48 39.3 -0.5**
KRSR Krestovskiy 13.41 41 PN **P 20 48 38.3 +0.5**
CIRR Tsirk 13.43 41 PN **Pn 20 48 39.7 -0.5**
JEG Eigenji 13.44 211 A A 20 48 36.2
comp=E,4.0nm,6.0s,comp=N,2.0nm,5.3s
JKO Kozu shima 13.49 201 A A 20 48 36.3
comp=E,21nm,3.9s,comp=N,18nm,3.8s
JKY Yasaka 13.50 216 A A 20 48 37.1
comp=E,11nm,4.8s,comp=N,10.0nm,3.0s
KLY Klyuchi 13.50 40 P **Pn 20 48 40.0 -0.9**
JMYK Miyake Tsubota 13.52 199 A A 20 48 36.5
comp=E.6.0nm,5.6s,comp=N,8.0nm,5.2s
JKSM Kasumi 13.71 218 A A 20 48 39.5
comp=E,8.0nm,3.4s,comp=N,5.0nm,5.3s
JOI OKI 13.76 223 A A 20 48 40.3
comp=E,12nm,5.1s,comp=N,6.0nm,4.1s
CN2 Changchun 14.03 264 *e*P **P 20 48 44.2 -0.5**
CN2 *e*S **S 20 51 12.5 -3.0**
CN2 pmax pmax
comp=N,500nm,0.7s
CN2 pmax pmax
comp=N,100nm,3.0s
CN2 LR LR
comp=N,3μm,10.0s
CN2 LR LR
comp=N,2μm,10.0s
CN2 LR LR
comp=N,2μm,10.0s
JKS Kasai 14.16 216 A A 20 48 44.2
comp=E,4.0nm,3.6s,comp=N,4.0nm,2.7s
JKR Kurayoshi 14.25 220 A A 20 48 45.4
comp=E.6.0nm,5.4s,comp=N,5.0nm,2.8s
JHJ Hachijo jima 2 14.37 198 P **P 20 48 49.7 +1.1**
comp=N,1μm,0.3s,baz=345,slow=0.9,SNR=30
JHJ S **S 20 51 25.4 +2.7**
comp=N,53nm,0.3s,baz=254,slow=24,SNR=1.5
JHJ2 Mitsune 14.37 197 P **P 20 48 49.7 +1.1**
JHJ2 Mitsune 14.37 197 P **P 20 48 49.5 +1.0**
JHJ2 Mitsune 14.37 197 A A 20 48 45.5
comp=E.6.0nm,2.8s,comp=N,5.0nm,3.0s
KBG Krutoberegovo 14.41 43 P **P 20 48 48.0 -0.6**
KBG S **S 20 51 19.4 -3.4**
KBTR Krutoberegovo 14.44 44 P **P 20 48 47.1 -1.9**
PALN Palana 15.10 31 P **Pn 20 48 58.0 -0.9**
JGT2 ShimaneMisato 15.11 222 A A 20 48 54.5
comp=E,5.0nm,3.8s,comp=N,3.0nm,3.3s
JJG Jouge 15.17 220 A A 20 48 54.9
comp=E,4.0nm,3.6s,comp=N,9.0nm,4.3s
JHT Toyohira 15.48 222 A A 20 48 58.2
comp=E,4.0nm,3.2s,comp=N,3.0nm,3.2s
BKI Bering 15.55 50 P **P 20 49 01.5 +0.5**
BKI S **S 20 51 37.7 -7.8**
JMN Monobe 15.64 216 P **P 20 49 03.3 +0.9**
JMN Monobe 15.64 216 P **P 20 49 03.2 +0.8**
JMN Monobe 15.64 216 A A 20 48 59.6
comp=E.3.0nm,1.7s,comp=N,4.0nm,5.9s
KS19 Wonju Array Si 15.74 239 P **P 20 49 03.9 +0.5**
KSRS Korea Array 15.74 239 P **Pn 20 49 05.0 -1.6**
comp=N,636nm,0.8s,baz=40,slow=11,SNR=1109
KSRS ScP **ScP 20 56 35.5 +0.8**
comp=N,30nm,0.9s,baz=25,slow=0.9,SNR=25
KSRS Korea Array 15.74 239 P **Pn 20 49 05.0 -1.6**
KSAR Wonju Array Be 15.77 239 P **P 20 49 04.7 +1.1**
KSAR Wonju Array Be 15.77 239 P **P 20 49 04.7 +1.1**
JHGM Hagimishima 15.98 225 A A 20 49 03.6
comp=E.6.0nm,5.2s,comp=N,3.0nm,3.1s
SNY Shenyang 16.06 259 ‖P **P 20 49 07.6 +0.9**
SNY sP **sP 20 50 42.4 -7.6**
SNY S **S 20 51 54.6 -1.3**
SNY pmax pmax
comp=N,880nm,1.0s
SNY pmax pmax
comp=N,440nm,3.7s
SNY LR LR
comp=N,670nm,12.0s
SNY LR LR
comp=N,600nm,12.4s
SNY LR LR
comp=N,650nm,11.9s
OSSR Ossora 16.36 35 P **P 20 49 09.8 +0.1**
JNA Nagahama 16.38 220 A A 20 49 07.3
comp=E,4.0nm,3.4s,comp=N,5.0nm,5.9s
JTY Toyota 16.44 224 A A 20 49 08.2
comp=E,2.0nm,3.9s,comp=N,3.0nm,5.0s
INCN Inchon 16.48 241 P **P 20 49 12.9 +1.5**
INCN Inchon 16.48 241 P **P 20 49 12.8 +1.4**
INCN Inchon 16.48 241 P **P 20 49 13.1 +1.7**
INCN Inchon 16.48 241 P **P 20 49 12.8 +1.4**
SEY Seymchan 16.55 12 P **P 20 49 13.4 +1.8**
comp=N,2μm,0.5s,baz=192,slow=8.8,SNR=7736
SEY S **S 20 52 06.8 +2.0**
comp=N,126nm,1.0s,baz=53,slow=22,SNR=13
SEY Seymchan 16.55 12 *e*P **P 20 49 07.5 -4.1**
SEY pmax pmax
comp=Z,6μm,1.2s
JKI Kunimi 16.72 222 A A 20 49 10.9
comp=E,5.0nm,5.7s,comp=N,7.0nm,2.8s
TJN Taejon 16.80 237 P **P 20 49 16.2 +1.5**
HIA Hailar 16.93 287 P **P 20 49 15.0 -0.9**
HIA Hailar 16.93 287 P **P 20 49 15.1 -0.9**
HIA Hailar 16.93 287 P **P 20 49 15.1 -0.9**
JTU Tsushima 17.06 229 P **P 20 49 18.1 +0.6**
YAK Yakutsk 17.41 336 P **P 20 49 20.2 -0.7**
YAK Yakutsk 17.41 336 P **P 20 49 20.0 -0.8**
comp=N,1μm,0.7s,baz=132,slow=2.8,SNR=336
YAK S **S 20 52 17.5 -4.2**
comp=N,210nm,0.6s,baz=53,slow=23,SNR=9.8
YAK ScP **ScP 20 56 37.1 -0.4**
comp=N,95nm,0.9s,baz=94,slow=1.9,SNR=4.3
YAK Yakutsk 17.41 336 ‖ *i*P **P 20 49 20.1 -0.7**
YAK *e*S **S 20 52 21.1 -0.6**
YAK pmax pmax
comp=Z,681nm,0.7s
YAK pmax pmax
comp=N,107nm,0.8s
YAK pmax pmax
comp=E,32nm,0.6s
YAK smax smax
comp=E,2μm,1.0s
YAK smax smax
comp=N,3μm,1.4s
JNU Nakatsue 17.47 223 P **P 20 49 22.4 +0.5**
JNU Nakatsue 17.47 223 P **P 20 49 22.3 +0.4**
comp=N,1μm,0.9s,baz=40,slow=6.7,SNR=462
JNU Nakatsue 17.47 223 A A 20 49 18.3
comp=E,3.0nm,4.8s,comp=N,3.0nm,3.9s
TILK Tilichiki 18.33 35 P **P 20 49 29.1 -1.5**
DL2 Dalian 18.80 253 P **P 20 49 36.2 +0.3**
DL2 S **S 20 52 49.1 +1.0**
DL2 ScP **ScP 20 56 41.9 +0.9**
DL2 ScS **ScS 21 00 21.4 -1.2**
DL2 pmax pmax
comp=N,1μm,0.7s
DL2 pmax pmax
comp=N,1μm,5.0s
SHEM Shemya Is, Ala 19.61 62 P **P 20 49 44.8 +1.1**
comp=N,1μm,0.7s,baz=302,slow=3.2,SNR=106
SHEM S **S 20 53 00.5 -0.9**
comp=N,65nm,0.7s,baz=225,slow=21,SNR=1.6

KMSK	Kamenskaya	19.66	30	P	P	20 49 43.8	-0.3
JCJ	Chichijima	19.95	187	P	P	20 49 46.5	-0.8
JCJ	Chichijima	19.95	187	P	P	20 49 46.1	-1.3
XLT	XiLinHaoTe	20.40	272	⇓iP	P	20 49 50.6	-0.8
XLT				S	S	20 53 11.9	-2.7
XLT				ScP	ScP	20 56 48.0	+3.2
CIT	Chita	20.88	296	i P	P	20 49 55.5	0.0
CIT				e		20 51 41.6	
CIT				e		20 53 27.7	
CIT				e		21 00 31.7	
CIT				pmax	pmax		
comp=Z,5μm,1.3s							
BOD	Bodaibo	21.55	312	eP	P	20 50 00.8	-0.7
BOD				pmax	pmax		
comp=Z,1μm,0.8s							
BJI	Beijing	21.87	262	P	P	20 50 05.3	+0.7
BJI				S	S	20 53 36.8	-1.3
BJI				pmax	pmax		
comp=Z,990nm,0.8s							
BJT	Baijiatuau	21.89	262	P	P	20 50 06.2	+1.4
BJT	Baijiatuau	21.89	262	P	P	20 50 04.6	-0.2
BJT	Baijiatuau	21.89	262	P	P	20 50 04.6	-0.2
BJT				pmax	pmax		
comp=Z,1μm,0.7s							
AMKA	Amchitka	22.79	66	P	P	20 50 13.3	+0.6
TIA	Tai'an	23.27	253	P	P	20 50 18.3	+0.9
TIA				S	S	20 53 59.6	-0.8
TIA				pmax	pmax		
comp=Z,51nm,0.7s							
TIA				LR	LR		
comp=Z,480nm,10.8s							
TIA				LR	LR		
comp=Z,500nm,11.5s							
TIA				LR	LR		
comp=Z,180nm,10.8s							
BILL	Bilibino	23.79	20	P	P	20 50 20.7	-0.9
BILL				IAmb	IAmb	20 50 22.9	
comp=Z,298nm,0.7s							
BILL	Bilibino	23.79	20	c iP	P	20 50 20.6	-0.9
BILL				i S	S	20 54 02.2	-5.6
BILL				pmax	pmax		
comp=Z,241nm,0.9s							
JOW	Kunigami	24.00	219	P	P	20 50 24.6	+0.6
HNS	HongShan	24.20	258	⇓P	P	20 50 27.0	+1.4
HNS				sP	sP	20 52 17.4	-1.7
HNS				S	S	20 54 16.1	+1.1
HNS				ScP	ScP	20 56 55.9	+1.3
HNS				ScS	ScS	21 00 44.1	+1.6
HNS				pmax	pmax		
comp=Z,350nm,1.0s							
HNS				LR	LR		
comp=Z,1μm,11.2s							
HNS				LR	LR		
comp=Z,640nm,9.2s							
HNS				LR	LR		
comp=Z,800nm,15.1s							
HHC	Hu-ho-hao-te	24.65	268	eP	P	20 50 31.4	+1.6
HHC				S	S	20 54 23.1	+0.8
HHC				pmax	pmax		
comp=Z,3μm,0.7s							
HHC				pmax	pmax		
comp=Z,5μm,5.0s							
NJ2	Nanjing	24.86	242	⇑P	P	20 50 32.4	+0.8
NJ2				PP	PP	20 51 38.6	+0.9
NJ2				S	S	20 54 24.9	-0.6
NJ2				ScP	ScP	20 56 54.8	-1.8
NJ2				ScS	ScS	21 00 46.5	+1.1
NJ2				pmax	pmax		
comp=Z,86nm,0.9s							
NJ2				pmax	pmax		
comp=Z,220nm,3.5s							
KIWB	Kanaga Island	24.97	65	P	P	20 50 32.4	0.0
ADK	Adak	25.26	65	P	P	20 50 34.6	-0.3
ADK	Adak	25.26	65	P	P	20 50 34.6	-0.3
ADK				IAmb	IAmb	20 50 35.7	
comp=Z,790nm,1.1s							
ADK	Adak	25.26	65	P	P	20 50 34.6	-0.3
ADK				pmax	pmax		
comp=Z,790nm,1.1s							
ULN	Ulaanbaatar	25.46	286	P	P	20 50 37.3	+0.3
ULN	Ulaanbaatar	25.46	286	P	P	20 50 37.7	+0.8
ULN				P	P	20 50 37.7	+0.8
ULN	Ulaanbaatar	25.46	286	P	P	20 50 37.3	+0.3
ULN				pmax	pmax		
comp=Z,2μm,0.9s							
TIY	Taiyuan	25.56	261	⇓P	P	20 50 39.8	+1.9
TIY				pP	pP	20 51 39.3	-4.3
TIY				sP	sP	20 52 31.8	-0.5
TIY				S	S	20 54 38.7	+2.1
TIY				pmax	pmax		
comp=Z,540nm,0.6s							
BTO	Baotou	25.82	269	⇑iP	P	20 50 41.6	+1.4
BTO				sP	sP	20 52 33.8	-1.1
BTO				pmax	pmax		
comp=Z,680nm,1.1s							
BTO				pmax	pmax		
comp=Z,3μm,3.6s							
BTO				LR	LR		
comp=Z,7μm,12.8s							
BTO				LR	LR		
comp=Z,4μm,16.1s							
BTO				LR	LR		
comp=Z,3μm,10.2s							
TIXI	Tiksi	25.89	348	P	P	20 50 39.3	-0.9
TIXI	Tiksi	25.89	348	P	P	20 50 39.3	-0.9
TIXI				pmax	pmax		
comp=Z,35nm,0.9s							
SONM	Songino Array	25.90	286	P	P	20 50 41.1	+0.2
SONM	Songino Array	25.90	286	P	P	20 50 41.2	+0.4
comp=Z,1μm,0.9s,baz=75,slow=8.3,SNR=825							
SONM				ScP	ScP	20 56 59.8	+0.3
comp=Z,40nm,1.0s,baz=107,slow=1.8,SNR=8.1							
comp=Z,1μm,0.9s							
IRK	Irkutsk	26.58	297	eP	P	20 50 45.4	-1.3
IRK				e		20 51 56.1	
IRK				eS	S	20 54 45.6	-6.6
IRK				pmax	pmax		
comp=Z,775nm,0.6s							
ATKA	Atka Island	26.76	64	P	P	20 50 47.7	-0.6
ATKA	Atka Island	26.76	64	P	P	20 50 47.5	-0.7
ATKA				IAmb	IAmb	20 50 52.5	
comp=Z,107nm,0.6s							
LYN	LuoYang	27.31	255	⇓P	P	20 50 54.6	+1.2
LYN				pP	pP	20 51 59.0	-3.6
LYN				S	S	20 55 05.0	+1.0
LYN				ScP	ScP	20 57 05.2	+1.4
LYN				pmax	pmax		
comp=Z,270nm,0.7s							
LYN				pmax	pmax		
comp=Z,410nm,4.1s							
ZAK	Zakamensk	27.43	293	eP	P	20 50 54.6	+0.3
ZAK				e		20 52 08.0	
ZAK				pmax	pmax		
comp=Z,379nm,1.2s							
YOJ	Yonaguni jima	28.46	225	P	P	20 51 01.1	-2.5
YOJ	Yonaguni jima	28.46	225	P	P	20 51 01.1	-2.5
YOJ				pmax	pmax		
comp=Z,306nm,1.6s							
MOY	Mondy	28.66	296	eP	P	20 51 05.3	+0.1
MOY				pmax	pmax		
comp=Z,431nm,1.7s							
WHN	Wuhan	28.68	246	⇓P	P	20 51 06.6	+1.2
WHN				S	S	20 55 27.2	+1.7
WHN				ScP	ScP	20 57 09.9	+1.8
WHN				sS	sS	20 57 33.3	-1.2
WHN				pmax	pmax		
comp=Z,550nm,0.8s							
TATO	Taipei	28.79	228	P	P	20 51 07.7	+1.2
TATO	Taipei	28.79	228	P	P	20 51 08.1	+1.6
SPIA	Saint Paul Isl	28.89	53	P	P	20 51 08.0	+1.1
SPIA	Saint Paul Isl	28.89	53	P	P	20 51 06.7	-0.3
SPIA				IAmb	IAmb	20 51 09.0	
comp=Z,2μm,1.5s							
SPIA	Saint Paul Isl	28.89	53	P	P	20 51 08.0	+1.1
baz=269,SNR=14							
SPIA				S	S	20 55 29.3	+1.1
baz=269							
YHNB	Yeheng	29.10	228	P	P	20 51 09.1	-0.2
YHNB	Yeheng	29.10	228	P	P	20 51 09.1	-0.2
P08K	Saint George I	29.27	54	P	P	20 51 11.3	+1.0
baz=270,SNR=15							
CLES	Cleveland East	29.31	62	P	P	20 51 10.0	-0.7
CLES				IAmb	IAmb	20 51 11.6	
comp=Z,305nm,1.1s							
NACB	Ninganchiao	29.40	227	P	P	20 51 10.3	-1.5
NACB	Ninganchiao	29.40	227	P	P	20 51 09.9	-1.9
NIKH	Nikolski High	29.92	61	P	P	20 51 14.3	-1.7
NIKH	Nikolski High	29.92	61	P	P	20 51 13.7	-2.3
NIKH	Nikolski High	29.92	61	P	P	20 51 14.1	-1.9
baz=277,SNR=8.5							
XAN	Xi'an	29.98	257	⇓P	P	20 51 17.6	+0.8
XAN				PP	PnPn	20 52 35.0	-0.5
XAN				S	S	20 55 44.3	-1.4
XAN				ScP	ScP	20 57 13.4	+1.1
XAN				SS	SS	20 58 07.4	-6.4
XAN				pmax	pmax		
comp=Z,320nm,1.2s							
XAN				pmax	pmax		
comp=Z,1μm,4.9s							
SSLB	Suanglung	30.05	228	P	P	20 51 16.5	-1.0
SSLB	Suanglung	30.05	228	P	P	20 51 15.9	-1.6
YULB	Yu-li	30.20	227	P	P	20 51 19.3	+0.5
YULB	Yu-li	30.20	227	P	P	20 51 17.8	-1.1
QZH	Quanzhou	30.35	233	⇑iP	P	20 51 21.5	+1.4
QZH				pP	pP	20 52 31.6	+0.4
QZH				sP	sP	20 53 16.6	+0.5
QZH				S	S	20 55 54.7	+3.1
QZH				sS	sS	20 57 59.4	-1.6
QZH				pmax	pmax		
comp=Z,310nm,1.0s							
TPUB	Ta-pu	30.61	228	P	P	20 51 22.4	-0.1
TPUB	Ta-pu	30.61	228	P	P	20 51 22.1	-0.3
TPUB				IAmb	IAmb	20 51 25.4	
comp=Z,266nm,0.9s							
TWGBT	Beinan	30.79	227	P	P	20 51 24.3	+0.3
TWG	Pinlang	30.79	227	P	P	20 51 23.3	-0.7
TWG				IAmb	IAmb	20 51 32.2	
comp=Z,285nm,0.9s							
KNMB	Chin-men Tao	30.84	232	P	P	20 51 25.0	+0.6
KNMB				IAmb	IAmb	20 51 27.8	
comp=Z,216nm,1.0s							
TNA	Tin City	31.10	36	P	P	20 51 25.3	-0.8
TNA				IAmb	IAmb	20 51 27.1	
comp=Z,637nm,1.3s							
TNA	Tin City	31.10	36	P	P	20 51 26.0	-0.1
baz=256,SNR=29							
TNA				S	S	20 56 00.9	-1.3
baz=256							
M11K	Mekoryuk	31.12	46	P	P	20 51 27.5	+1.1
baz=267,SNR=34							
M11K				S	S	20 56 01.5	-1.2
baz=267							
UNV	Unalaska Valle	31.20	59	P	P	20 51 25.4	-1.7
UNV	Unalaska Valle	31.20	59	P	P	20 51 25.3	-1.8
UNV	Unalaska Valle	31.20	59	P	P	20 51 25.6	-1.5
baz=277,SNR=21							
CNSH	ChangSha	31.21	244	⇓P	P	20 51 27.7	+0.1
CNSH				S	S	20 56 03.7	-1.2
CNSH				pmax	pmax		
comp=Z,110nm,1.0s							
CNSH				LR	LR		
comp=Z,1μm,17.0s							
CNSH				LR	LR		
comp=Z,1μm,13.9s							
CNSH				LR	LR		
comp=Z,1μm,17.7s							
LVA	Lava Point	31.44	58	P	P	20 51 27.6	-1.6
LVA				IAmb	IAmb	20 51 28.8	
comp=Z,158nm,0.6s							
AKLV	Akutan Long Va	31.48	58	P	P	20 51 28.2	-1.5
F14K	Arctic Creek	31.73	37	P	P	20 51 31.9	+0.4
baz=258							
F14K				S	S	20 56 10.9	-1.0
baz=258							
ANM	Nome	31.96	38	P	P	20 51 33.9	+0.3
ANM				IAmb	IAmb	20 51 35.0	
comp=Z,289nm,0.9s							
ANM	Nome	31.96	38	P	P	20 51 33.9	+0.3
baz=261,SNR=27							
ANM				S	S	20 56 14.9	-0.7
baz=261							
ANM	Nome	31.96	38	P	P	20 51 33.9	+0.3
ANM				pmax	pmax		
comp=Z,289nm,0.9s							
ENH	Enshi	31.96	251	P	P	20 51 34.0	-0.1
K13K	Kusilvak Mount	31.97	44	P	P	20 51 34.2	+0.5
K13K				IAmb	IAmb	20 51 35.1	
comp=Z,1μm,1.5s							
K13K	Kusilvak Mount	31.97	44	P	P	20 51 34.2	+0.5
baz=266,SNR=135							
K13K				S	S	20 56 15.7	-0.1
baz=266							
LZH	Lanzhou	32.26	265	⇓P	P	20 51 38.5	+1.8
LZH				sP	sP	20 53 35.5	+2.8
LZH				S	S	20 56 21.6	+0.4
LZH				ScP	ScP	20 57 22.0	+1.8
LZH				ScS	ScS	21 01 20.8	+0.4
LZH				pmax	pmax		
comp=Z,2μm,1.3s							
LZH				pmax	pmax		
comp=Z,2μm,4.0s							
F15K	North Star Dit	32.46	36	P	P	20 51 37.3	-0.6
F15K				IAmb	IAmb	20 51 39.2	
comp=Z,259nm,0.9s							
F15K	North Star Dit	32.46	36	P	P	20 51 38.1	+0.2
baz=260,SNR=90							
F15K				S	S	20 56 22.7	-0.5
baz=260							
M13K	Dall Lake	32.54	46	P	P	20 51 39.8	+1.3
M13K	Dall Lake	32.54	46	P	P	20 51 40.1	+1.6
baz=269,SNR=128							
J14K	Nanvaranak Lak	32.55	42	P	P	20 51 38.9	+0.3
J14K				IAmb	IAmb	20 51 39.8	
comp=Z,165nm,0.6s							
J14K	Nanvaranak Lak	32.55	42	P	P	20 51 38.7	+0.1
baz=265,SNR=48							
J14K				S	S	20 56 24.2	-0.4
baz=265							
G15K	Niukluk	32.59	38	P	P	20 51 39.3	+0.3
baz=261,SNR=81							
G15K				S	S	20 56 24.9	-0.3
baz=261							
C16K	Lisburne Hills	32.75	32	P	P	20 51 39.3	-1.0
C16K				IAmb	IAmb	20 51 41.1	
comp=Z,374nm,0.8s							
C16K	Lisburne Hills	32.75	32	P	P	20 51 39.5	-0.8
baz=255,SNR=67							
C16K				S	S	20 56 27.7	+0.1
baz=255							
FALS	False Pass	32.86	57	P	P	20 51 40.3	-1.1
FALS	False Pass	32.86	57	P	P	20 51 40.1	-1.3
FALS				IAmb	IAmb	20 51 44.3	
comp=Z,221nm,0.6s							
FALS	False Pass	32.86	57	P	P	20 51 40.2	-1.3
baz=278,SNR=15							
L14K	Kuka Creek	32.88	45	IAmb	IAmb	20 51 43.5	
comp=Z,734nm,1.1s							
L14K	Kuka Creek	32.88	45	P	P	20 51 42.6	+1.1
baz=268							
L14K				S	S	20 56 31.3	+1.5
baz=268							
M14K	Bethel	33.23	46	P	P	20 51 45.5	+1.1
baz=270							
M14K				S	S	20 56 36.5	+1.5
baz=270							
GUMO	Guam	33.28	180	P	P	20 51 42.8	-2.6
comp=Z,38nm,0.3s,baz=45,slow=16,SNR=6.8							
H16K	Elim	33.31	39	P	P	20 51 45.3	+0.1
baz=264,SNR=166							
H16K				S	S	20 56 36.6	+0.4
baz=264							
GTA	Gaotai	33.34	274	⇓P	P	20 51 47.4	+1.5
GTA				PP	PP	20 53 11.2	-0.1
GTA				S	S	20 56 38.8	+1.1
GTA				ScP	ScP	20 57 25.0	+1.1
GTA				SS	SS	20 59 20.8	-0.7
GTA				ScS	ScS	21 01 27.0	+1.1
GTA				pmax	pmax		
comp=Z,800nm,1.1s							
G16K	Koyuk River	33.35	37	P	P	20 51 45.4	-0.1
G16K				IAmb	IAmb	20 51 46.4	
comp=Z,527nm,0.8s							
G16K	Koyuk River	33.35	37	P	P	20 51 45.4	-0.1
baz=262,SNR=220							
G16K				S	S	20 56 36.9	0.0
baz=262							
N14K	Kuskokwak Cree	33.38	47	P	P	20 51 46.9	+1.1
baz=271,SNR=197							
N14K				S	S	20 56 37.5	+0.2
baz=271							
D17K	Noatak River	33.45	33	P	P	20 51 45.9	-0.4
baz=258,SNR=126							
D17K				S	S	20 56 36.9	-1.4
baz=258							
K15K	Wolf Creek Mou	33.46	43	P	P	20 51 47.5	+1.0
baz=268,SNR=245							
K15K				S	S	20 56 39.3	+0.6
baz=268							
L15K	Ungalak Mounta	33.47	44	P	P	20 51 46.9	+0.4
baz=269,SNR=98							
S12K	Black Hills	33.51	55	P	P	20 51 46.2	-0.8
S12K				IAmb	IAmb	20 51 49.4	
comp=Z,236nm,0.7s							
S12K	Black Hills	33.51	55	P	P	20 51 46.4	-0.6
baz=278,SNR=62							
C17K	DeLong Mountai	33.58	32	P	P	20 51 47.0	-0.4
baz=257,SNR=94							
C17K				S	S	20 56 38.0	-2.3
baz=257							
RDOG	Red Dog Mine	33.59	32	P	P	20 51 46.6	-0.9
RDOG				IAmb	IAmb	20 51 48.0	
comp=Z,284nm,1.0s							
RDOG	Red Dog Mine	33.59	32	P	P	20 51 46.9	-0.6
baz=258,SNR=71							
O14K	Tigyukauivet M	33.62	49	P	P	20 51 48.9	+1.0
baz=273,SNR=161							
O14K				S	S	20 56 41.3	+0.3
baz=273							
E17K	Hotham Inlet	33.81	34	P	P	20 51 49.3	-0.1
baz=260,SNR=386							
E17K				S	S	20 56 42.3	-1.6
baz=260							
M15K	Kasigluk River	33.85	46	P	P	20 51 50.5	+0.7
baz=271,SNR=673							
M15K				S	S	20 56 44.4	-0.3
baz=271							
I17K	Unalakleet	33.92	40	P	P	20 51 50.9	+0.6
baz=266,SNR=77							
I17K				S	S	20 56 45.7	+0.2
baz=266							
J16K	Anvik River	33.93	41	P	P	20 51 50.6	+0.2
baz=267,SNR=59							
J16K				S	S	20 56 46.5	+0.8
baz=267							
F17K	Baldwin Pennin	33.94	36	P	P	20 51 50.5	0.0
baz=262,SNR=65							
F17K				S	S	20 56 46.4	+0.6
baz=262							
G17K	Kiwalik Mounta	34.07	37	P	P	20 51 51.8	+0.2
baz=264,SNR=408							
G17K				S	S	20 56 47.6	-0.3
baz=264							
N15K	Kwethluk River	34.17	47	P	P	20 51 53.8	+1.2
baz=272,SNR=920							
N15K				S	S	20 56 49.7	+0.3
baz=272							
B18K	Kokolik River	34.26	30	P	P	20 51 53.3	+0.1
baz=257,SNR=55							
B18K				S	S	20 56 48.7	-1.9
baz=257							
C18K	Utukok River	34.33	32	P	P	20 51 53.2	-0.7
baz=259,SNR=161							
C18K				S	S	20 56 48.4	-3.4
baz=259							
H17K	Granite Mounta	34.33	38	P	P	20 51 54.3	+0.5
baz=266,SNR=239							
H17K				S	S	20 56 51.4	-0.5
baz=266							
E18K	Tukpahlearik C	34.34	34	P	P	20 51 53.8	-0.1
baz=261,SNR=268							
E18K				S	S	20 56 50.0	-1.8
baz=261							
O15K	Ungalikthiuk R	34.36	49	P	P	20 51 55.0	+0.8
baz=274,SNR=179							
O15K				S	S	20 56 52.9	+0.5
baz=274							
L16K	Owhat River	34.42	44	P	P	20 51 54.9	+0.2
L16K				IAmb	IAmb	20 51 55.9	
comp=Z,594nm,0.8s							
L16K	Owhat River	34.42	44	P	P	20 51 55.1	+0.4
baz=271,SNR=465							
L16K				S	S	20 56 53.1	-0.2
baz=271							
F18K	Selawik	34.60	35	P	P	20 51 56.0	0.0
baz=263,SNR=242							
F18K				S	S	20 56 55.4	-0.4
baz=263							
J17K	VABM Dome	34.62	41	P	P	20 51 57.0	+0.7
baz=269,SNR=217							
J17K				S	S	20 56 56.2	0.0
baz=269							
M16K	Timber Creek	34.69	45	P	P	20 51 57.8	+0.9
baz=272,SNR=567							
M16K				S	S	20 56 58.2	+0.8
baz=272							
A19K	Wainwright	34.70	29	P	P	20 51 56.7	-0.1
baz=257,SNR=34							
A19K				S	S	20 56 53.7	-3.5
baz=257							
GZH	Guangzhou	34.76	238	P	P	20 51 53.5	-4.5
GZH				sP	sP	20 53 51.0	-4.0
GZH				S	S	20 56 49.6	-10
GZH				SS	SS	20 59 33.3	-17
GZH				pmax	pmax		
comp=Z,100nm,0.8s							
N16K	Nishlik Lake	34.81	46	P	P	20 51 58.9	+0.9
baz=273,SNR=643							
N16K				S	S	20 56 59.9	+0.6
baz=273							
S14K	Fog Glacier	34.83	54	P	P	20 51 58.0	-0.3
baz=278,SNR=48							
GULI	GuiLin	34.88	244	⇓P	P	20 51 59.7	+0.7
GULI				S	S	20 56 57.7	-3.4
GULI				pmax	pmax		
comp=Z,550nm,1.1s							
GULI				LR	LR		
comp=Z,680nm,14.6s							
GULI				LR	LR		
comp=Z,1μm,16.3s							
GULI				LR	LR		
comp=Z,640nm,10.3s							
G18K	Tagagawik	34.93	37	P	P	20 51 58.9	0.0
baz=265,SNR=730							
G18K				S	S	20 56 59.9	-1.1
baz=265							
HKPS	Hong Kong Po S	34.94	236	P	P	20 52 01.0	+1.5
K17K	Iditarod	34.97	42	P	P	20 52 00.0	+0.8
baz=270,SNR=351							
K17K				S	S	20 57 02.3	+0.8
baz=270							
L17K	Donlin	34.97	43	P	P	20 52 00.3	+1.0
baz=271,SNR=578							
L17K				S	S	20 56 59.3	-2.3
baz=271							
C19K	Lookout Ridge	34.99	31	P	P	20 51 58.9	-0.5
C19K				IAmb	IAmb	20 52 00.7	
comp=Z,780nm,1.1s							
C19K	Lookout Ridge	34.99	31	P	P	20 51 59.1	-0.3
baz=260,SNR=182							
C19K				S	S	20 56 58.7	-3.1
baz=260							
H18K	Honhosa River	35.00	38	P	P	20 51 59.5	0.0
baz=267,SNR=330							
H18K				S	S	20 57 01.7	-0.3
baz=267							
CHNA	Chernabura Isl	35.05	56	P	P	20 51 59.5	-0.5
baz=281,SNR=378							
CHNA				S	S	20 57 00.2	-2.6
baz=281							
O16K	Kokwok River B	35.21	48	P	P	20 52 02.1	+0.8
baz=275,SNR=306							
O16K				S	S	20 57 05.7	+0.5
baz=275							
P16K	Nushagak River	35.31	49	P	P	20 52 03.5	+1.3
baz=276,SNR=101							
CD2	Chengdu	35.34	258	⇓P	P	20 52 02.3	-0.5
CD2				S	S	20 57 07.8	-0.2
CD2				pmax	pmax		
comp=Z,680nm,0.7s							
F19K	Shaleruckik Mo	35.36	35	P	P	20 52 02.1	-0.4
baz=265,SNR=995							
F19K				S	S	20 57 04.4	-3.0
baz=265							
M17K	Holitna River	35.41	45	P	P	20 52 04.2	+1.3
baz=273,SNR=858							
D19K	Kuna River	35.42	32	P	P	20 52 02.5	-0.5
baz=262,SNR=578							

D19K				S	S	20 57 04.9	-3.4
	baz=262						
CHGN	**Chignik**	**35.45**	**53**	P	P	20 52 02.0	-1.4
	baz=279,SNR=95						
G19K	**Purcell Mounta**	**35.59**	**36**	P	P	20 52 04.0	-0.5
	baz=266,SNR=527						
G19K				S	S	20 57 08.3	-2.6
	baz=266						
N17K	**Nushagak Hills**	**35.59**	**46**	P	P	20 52 05.3	+0.8
N17K				IAmb	IAmb	20 52 06.4	
	comp=Z,393nm,0.8s						
N17K	**Nushagak Hills**	**35.59**	**46**	P	P	20 52 05.5	+1.0
	baz=274,SNR=279						
N17K				S	S	20 57 12.2	+1.2
	baz=274						
GCSA	**Galena City Sc**	**35.62**	**39**	P	P	20 52 04.2	-0.4
	baz=269,SNR=31						
GCSA				S	S	20 57 08.9	-2.3
	baz=269						
E19K	**Redstone River**	**35.63**	**34**	P	P	20 52 04.8	0.0
	baz=264,SNR=1000						
E19K				S	S	20 57 09.4	-2.1
	baz=264						
NRIK	**Noril'sk**	**35.66**	**329**	P	P	20 52 05.2	+0.2
	comp=Z,34nm,0.4s,baz=106,slow=7.9,SNR=39						
NRIK				S	S	20 57 08.5	-3.4
	comp=Z,65nm,0.9s,baz=276,slow=24,SNR=18						
	comp=Z,34nm,0.4s						
J18K	**Innoko River**	**35.68**	**41**	P	P	20 52 05.3	0.0
	baz=271,SNR=399						
J18K				S	S	20 57 10.7	-1.6
	baz=271						
O17K	**Koliganek Bris**	**35.70**	**47**	P	P	20 52 06.6	+1.2
	baz=275,SNR=489						
O17K				S	S	20 57 14.0	+1.4
	baz=275						
L18K	**Granite Mounta**	**35.73**	**43**	P	P	20 52 06.7	+1.0
	baz=272,SNR=566						
H19K	**Roundabout Mou**	**35.82**	**37**	P	P	20 52 06.5	+0.2
	baz=268,SNR=974						
H19K				S	S	20 57 14.1	-0.2
	baz=268						
B20K	**Meade River**	**35.98**	**30**	P	P	20 52 07.1	-0.5
B20K	**Meade River**	**35.98**	**30**	P	P	20 52 07.3	-0.3
	baz=261,SNR=496						
B20K				S	S	20 57 13.5	-3.1
	baz=261						
D20K	**Etivluk River**	**35.99**	**32**	P	P	20 52 07.6	-0.3
	baz=263,SNR=796						
D20K				S	S	20 57 13.4	-3.5
	baz=263						
Q16K	**King Salmon**	**36.04**	**49**	P	P	20 52 09.2	+0.9
	baz=277,SNR=8.7						
P17K	**Kvichak River**	**36.09**	**48**	P	P	20 52 09.8	+1.1
	baz=277,SNR=104						
P17K				S	S	20 57 20.0	+1.4
	baz=277						
E20K	**Nigu River**	**36.10**	**33**	P	P	20 52 08.5	-0.3
	baz=264,SNR=1000						
E20K				S	S	20 57 15.8	-2.9
	baz=264						
J19K	**Poorman**	**36.16**	**40**	P	P	20 52 09.1	-0.2
	baz=271,SNR=665						
J19K				S	S	20 57 17.9	-1.6
	baz=271						
M18K	**Stony River**	**36.18**	**44**	P	P	20 52 10.4	+1.0
	baz=274,SNR=429						
F20K	**Avaraart Lake**	**36.18**	**35**	P	P	20 52 09.0	-0.4
	baz=266,SNR=311						
F20K				S	S	20 57 17.1	-2.6
	baz=266						
N18K	**Kilae Creek**	**36.21**	**46**	P	P	20 52 11.1	+1.3
	baz=275,SNR=533						
N18K				S	S	20 57 22.3	+1.9
	baz=275						
SVW2	**Sparrevohn**	**36.33**	**45**	P	P	20 52 11.9	+1.2
R17L	**Mt. Peulik Vol**	**36.35**	**51**	P	P	20 52 10.8	-0.1
	baz=279						
A21K	**Barrow**	**36.37**	**28**	P	P	20 52 10.4	-0.5
	baz=260,SNR=31						
A21K				S	S	20 57 19.7	-2.8
	baz=260						
GYA	**Guiyang**	**36.37**	**249**	⇓P	P	20 52 12.4	+0.7
GYA				pP	pP	20 53 25.7	+1.1
GYA				ScS	ScS	21 01 41.3	-1.5
GYA				pmax	pmax		
	comp=Z,160nm,1.2s						
GYA				pmax	pmax		
	comp=Z,420nm,3.3s						
H20K	**Anotleneega Mo**	**36.47**	**38**	P	P	20 52 11.9	0.0
	baz=269,SNR=1000						
H20K				S	S	20 57 22.7	-1.5
	baz=269						
Q17K	**Contact Creek**	**36.50**	**50**	P	P	20 52 12.5	+0.2
	baz=278,SNR=276						
Q17K				S	S	20 57 24.8	-0.2
	baz=278						
L19K	**White Mountain**	**36.59**	**43**	P	P	20 52 13.3	+0.4
	baz=274,SNR=153						
O18K	**Koktuh Hills**	**36.64**	**47**	P	P	20 52 14.4	+1.1
	baz=277,SNR=163						
O18K				S	S	20 57 28.1	+1.3
	baz=277						
I20K	**Naaghedeneel**	**36.64**	**39**	P	P	20 52 13.5	+0.2
I20K				IAmb	IAmb	20 52 14.6	
	comp=Z,646nm,0.7s						
I20K	**Naaghedeneel**	**36.64**	**39**	P	P	20 52 13.8	+0.5
	baz=271,SNR=63						
I20K				S	S	20 57 27.4	+0.7
	baz=271						
P18K	**Big Mountain,**	**36.68**	**48**	P	P	20 52 14.5	+0.8
	baz=277,SNR=180						
P18K				S	S	20 57 28.1	+0.5
	baz=277						
C21K	**Knifeblade Rid**	**36.70**	**31**	P	P	20 52 13.8	+0.1
	baz=265						
C21K				S	S	20 57 25.2	-2.3
	baz=265						
J20K	**Nowinta River**	**36.80**	**40**	P	P	20 52 15.0	+0.4
	baz=272,SNR=1000						
J20K				S	S	20 57 28.6	-0.6
	baz=272						
B21K	**Ikpikpuk River**	**36.80**	**31**	P	P	20 52 14.3	-0.2
B21K	**Ikpikpuk River**	**36.80**	**31**	P	P	20 52 14.5	0.0
	baz=264,SNR=546						
B21K				S	S	20 57 26.1	-2.9
	baz=264						
M19K	**Big River Lodg**	**36.83**	**44**	P	P	20 52 15.6	+0.7
	baz=275						
M19K				S	S	20 57 30.1	+0.5
	baz=275						
A22K	**Sinclair Lake**	**36.85**	**28**	P	P	20 52 14.6	-0.2
	baz=262,SNR=477						
A22K				S	S	20 57 26.4	-3.3
	baz=262						
K20K	**Telida**	**36.87**	**41**	P	P	20 52 15.6	+0.4
	baz=273,SNR=621						
K20K				S	S	20 57 30.4	+0.1
	baz=273						
N19K	**Bonanza Creek**	**36.88**	**45**	P	P	20 52 16.5	+1.1
	baz=276,SNR=315						
Q18K	**Katmai Hardscr**	**36.90**	**49**	P	P	20 52 16.0	+0.4
	baz=279,SNR=407						
Q18K				S	S	20 57 30.3	-0.7
	baz=279						
E21K	**Killik River**	**36.94**	**33**	P	P	20 52 15.2	-0.5
	baz=266,SNR=437						
E21K				S	S	20 57 27.9	-3.3
	baz=266						
IMAR	**Indian Mountai**	**36.94**	**37**	P	P	20 52 15.8	0.0
L20K	**Farewell, AK**	**37.02**	**43**	P	P	20 52 16.9	+0.4
	baz=274,SNR=198						
L20K				S	S	20 57 33.2	+0.7
	baz=274						
G21K	**Allakaket**	**37.05**	**36**	P	P	20 52 16.8	+0.2
	baz=269						
G21K				S	S	20 57 31.6	-1.1
	baz=269						
F21K	**Alatna River**	**37.07**	**35**	P	P	20 52 16.4	-0.4
	baz=268,SNR=767						
F21K				S	S	20 57 30.2	-2.9
	baz=268						
CHIR	**Chirikof Islan**	**37.08**	**54**	P	P	20 52 17.4	+0.4
	baz=282,SNR=23						
CHIR				S	S	20 57 33.7	+0.3
	baz=282						
B22K	**Teshekpuk Lake**	**37.28**	**29**	P	P	20 52 17.8	-0.7
B22K				IAmb	IAmb	20 52 19.1	
	comp=Z,1μm,1.4s						
B22K	**Teshekpuk Lake**	**37.28**	**29**	P	P	20 52 18.1	-0.4
	baz=264,SNR=290						
B22K				S	S	20 57 33.4	-2.8
	baz=264						
H21K	**Melozitna Rive**	**37.34**	**37**	P	P	20 52 19.0	0.0
	baz=271,SNR=859						
H21K				S	S	20 57 35.4	-1.7
	baz=271						
R18K	**Karluk**	**37.37**	**51**	P	P	20 52 18.1	-1.3
	baz=280						
M20K	**Styx River**	**37.42**	**43**	P	P	20 52 21.1	+1.2
	baz=276						
M20K				S	S	20 57 40.1	+1.4
	baz=276						
D22K	**Ayikyak River**	**37.43**	**32**	P	P	20 52 19.8	0.0
	baz=267,SNR=720						
D22K				S	S	20 57 36.2	-2.4
	baz=267						
Q19K	**Cape Douglas,**	**37.56**	**48**	P	P	20 52 21.1	+0.1
Q19K	**Cape Douglas,**	**37.56**	**48**	P	P	20 52 21.2	+0.3
	baz=279,SNR=51						
F22K	**John River**	**37.58**	**34**	P	P	20 52 21.1	+0.1
	baz=269,SNR=1000						
F22K				S	S	20 57 38.9	-1.8
	baz=269						
CHUM	**Lake Minchumin**	**37.62**	**40**	P	P	20 52 22.2	+0.8
	baz=274,SNR=116						
CHUM				S	S	20 57 42.7	+1.3
	baz=274						
P19K	**Oil Pt**	**37.66**	**47**	P	P	20 52 22.4	+0.6
	baz=279						
P19K				S	S	20 57 42.9	+0.8
	baz=279						
SII	**Sitkinak Islan**	**37.71**	**52**	P	P	20 52 22.2	-0.1
SII	**Sitkinak Islan**	**37.71**	**52**	P	P	20 52 22.1	-0.1
	baz=282,SNR=19						
E22K	**Anaktuvuk Pass**	**37.73**	**33**	P	P	20 52 22.2	-0.1
	baz=269						
E22K				S	S	20 57 40.4	-2.6
	baz=269						
PPLA	**Purkeypile**	**37.76**	**42**	P	P	20 52 23.7	+1.0
	baz=275,SNR=230						
PPLA				S	S	20 57 44.4	+0.6
	baz=275						
CAST	**Castle Rocks**	**37.76**	**41**	P	P	20 52 23.2	+0.6
	baz=275,SNR=1000						
G22K	**Bettles**	**37.84**	**35**	P	P	20 52 22.7	-0.5
	baz=271,SNR=1000						
G22K				S	S	20 57 42.1	-2.5
	baz=271						
ZAA0	**Zalesovo Array**	**37.84**	**303**	P	P	20 52 23.1	-0.3
ZALV	**Zalesovo Beam**	**37.84**	**303**	P	P	20 52 23.3	0.0
ZALV	**Zalesovo Beam**	**37.84**	**303**	P	P	20 52 23.1	-0.3
	comp=Z,68nm,0.5s,baz=61,slow=7.3,SNR=376						
ZALV				PcP	PcP	20 54 31.0	+0.7
	comp=Z,41nm,0.7s,baz=62,slow=3.6,SNR=5.5						
ZALV				ScP	ScP	20 57 39.9	0.0
	comp=Z,72nm,0.9s,baz=72,slow=4.8,SNR=12						
	comp=Z,68nm,0.5s						
ZALV	**Zalesovo Beam**	**37.84**	**303**	P	P	20 52 23.3	0.0
O20K	**Slope Mountain**	**37.89**	**46**	P	P	20 52 24.1	+0.3
	baz=278,SNR=67						
H22K	**Ishtalitna Cre**	**37.92**	**37**	P	P	20 52 24.1	+0.3
	baz=272,SNR=1000						
H22K				S	S	20 57 44.8	-1.0
	baz=272						
N20K	**Mount Spurr**	**37.94**	**45**	P	P	20 52 25.2	+1.0
	baz=277,SNR=183						
SPCR	**Spurr Chakacha**	**37.94**	**45**	P	P	20 52 22.1	-2.1
	baz=277,SNR=154						
SPU	**Mount Spurr**	**38.02**	**45**	P	P	20 52 25.2	+0.5
SPU				IAmb	IAmb	20 52 26.6	
	comp=Z,438nm,0.9s						
OHAK	**Old Harbor**	**38.06**	**51**	P	P	20 52 24.9	-0.1
OHAK	**Old Harbor**	**38.06**	**51**	P	P	20 52 24.3	-0.8
OHAK				IAmb	IAmb	20 52 25.9	
	comp=Z,470nm,0.8s						
OHAK	**Old Harbor**	**38.06**	**51**	P	P	20 52 25.0	0.0
	baz=282,SNR=185						
D23K	**Nanushuk River**	**38.16**	**32**	P	P	20 52 25.7	-0.1
	baz=269						
D23K				S	S	20 57 47.3	-2.0
	baz=269						
SKT	**Skwentna**	**38.16**	**43**	P	P	20 52 25.9	-0.1
	baz=277,SNR=114						
SKT				S	S	20 57 47.7	-1.9
	baz=277						
BPAW	**Bear Paw Mtn.**	**38.19**	**40**	P	P	20 52 25.7	-0.4
BPAW				IAmb	IAmb	20 52 27.4	
	comp=Z,297nm,0.8s						
BPAW	**Bear Paw Mtn.**	**38.19**	**40**	P	P	20 52 26.4	+0.2
	baz=275,SNR=295						
C23K	**Itkillik River**	**38.21**	**30**	P	P	20 52 25.9	-0.2
	baz=268,SNR=476						
C23K				S	S	20 57 47.2	-2.8
	baz=268						
MLY	**Manley**	**38.23**	**38**	P	P	20 52 26.6	+0.2
	baz=274,SNR=347						
MLY				S	S	20 57 49.8	-0.7
	baz=274						
Q20K	**Shuyak Island**	**38.26**	**49**	P	P	20 52 26.5	-0.2
	baz=281,SNR=52						
KDAK	**Kodiak Island**	**38.32**	**50**	P	P	20 52 26.7	-0.5
KDAK				IAmb	IAmb	20 52 27.9	
	comp=Z,369nm,0.7s						
KDAK	**Kodiak Island**	**38.32**	**50**	P	P	20 52 26.9	-0.3
	baz=282						
KDAK	**Kodiak Island**	**38.32**	**50**	P	P	20 52 26.7	-0.5
KDAK				pmax	pmax		
	comp=Z,369nm,0.7s						
KDAK	**Kodiak Island**	**38.32**	**50**	P	P	20 52 26.8	-0.5
KDAK				pP	pP	20 53 42.9	+2.3
KDAK				PcP	PcP	20 54 32.0	+0.4
KDAK				ScP	ScP	20 57 42.5	+0.9
COLD	**Coldfoot**	**38.34**	**35**	P	P	20 52 27.0	-0.4
COLD				IAmb	IAmb	20 52 28.7	
	comp=Z,696nm,1.0s						
COLD	**Coldfoot**	**38.34**	**35**	P	P	20 52 27.1	-0.2
	baz=271,SNR=654						
COLD				S	S	20 57 49.5	-2.6
	baz=271						
GOMU	**GeErMu**	**38.38**	**272**	P	P	20 52 29.6	+1.1
GOMU				PP	PP	20 54 03.7	-2.4
GOMU				S	S	20 57 51.4	-2.7
GOMU				SS	SS	21 00 54.5	-7.4
GOMU				pmax	pmax		
	comp=Z,3μm,0.8s						
GOMU				LR	LR		
	comp=Z,880nm,10.2s						
GOMU				LR	LR		
	comp=Z,830nm,10.2s						
GOMU				LR	LR		
	comp=Z,1μm,10.7s						
G23K	**Bananza Creek**	**38.43**	**35**	P	P	20 52 27.8	-0.3
	baz=272,SNR=1000						
G23K				S	S	20 57 52.0	-1.6
	baz=272						
HOM	**Homer**	**38.45**	**47**	P	P	20 52 27.9	-0.3
	baz=280,SNR=5.5						
CAPN	**Captain Cook N**	**38.51**	**45**	P	P	20 52 29.4	+0.7
	baz=279,SNR=11						
E23K	**Chandalar**	**38.55**	**33**	P	P	20 52 29.1	0.0
	baz=271,SNR=822						
E23K				S	S	20 57 53.4	-1.9
	baz=271						
TOLK	**Toolik Lake Re**	**38.56**	**32**	P	P	20 52 28.9	-0.3
	baz=270,SNR=307						
TOLK				S	S	20 57 52.6	-2.8
	baz=270						
SUA	**Susitna One**	**38.60**	**44**	P	P	20 52 29.4	-0.2
	baz=278,SNR=319						
H23K	**Yukon River**	**38.67**	**37**	P	P	20 52 30.6	+0.5
	baz=274,SNR=864						
H23K				S	S	20 57 56.2	-0.9
	baz=274						
CUT	**Chulitna**	**38.70**	**42**	P	P	20 52 30.1	-0.2
	baz=278,SNR=44						
I23K	**Minto, Yukon-K**	**38.80**	**38**	P	P	20 52 31.4	+0.3
	baz=275,SNR=596						
I23K				S	S	20 57 57.5	-1.3
	baz=275						
BRLK	**Bradley Lake**	**38.81**	**47**	P	P	20 52 30.3	-0.9
BRLK				IAmb	IAmb	20 52 32.6	
	comp=Z,558nm,0.7s						
D24K	**Happy Valley**	**38.83**	**32**	P	P	20 52 31.0	-0.3
	baz=270,SNR=674						
D24K				S	S	20 57 57.0	-2.3
	baz=270						
M22K	**Willow**	**38.86**	**43**	P	P	20 52 30.7	-0.9
	baz=278,SNR=38						
M22K				S	S	20 57 58.4	-1.4
	baz=278						
C24K	**Franklin Bluff**	**38.87**	**31**	P	P	20 52 31.3	-0.3
	baz=270						
C24K				S	S	20 57 56.6	-3.2
	baz=270						
BRSE	**Bradley Lake S**	**38.89**	**47**	P	P	20 52 31.2	-0.7
	baz=280,SNR=200						
E24K	**Your Creek**	**38.97**	**33**	P	P	20 52 32.6	0.0
	baz=272,SNR=801						
E24K				S	S	20 58 00.0	-1.5
	baz=272						
NEA2	**Nenana**	**38.98**	**39**	P	P	20 52 32.7	+0.1
	baz=276,SNR=991						
NEA2				S	S	20 57 59.4	-2.2
	baz=276						
MCK	**McKinley**	**39.13**	**40**	P	P	20 52 33.5	-0.3
MCK				IAmb	IAmb	20 52 34.7	
	comp=Z,402nm,0.8s						
MCK	**McKinley**	**39.13**	**40**	P	P	20 52 33.5	-0.3
	baz=277,SNR=234						
MCK				S	S	20 58 02.5	-1.4
	baz=277						
MCK	**McKinley**	**39.13**	**40**	P	P	20 52 33.5	-0.3
MCK				pmax	pmax		
	comp=Z,403nm,0.8s						
RC01	**Rabbit Creek A**	**39.14**	**44**	P	P	20 52 33.1	-0.8
RC01				IAmb	IAmb	20 52 34.8	
	comp=Z,423nm,0.7s						
RC01	**Rabbit Creek A**	**39.14**	**44**	P	P	20 52 33.0	-0.9
	baz=280,SNR=156						
RC01				S	S	20 58 02.3	-1.8
	baz=280						
RND	**Reindeer**	**39.21**	**41**	P	P	20 52 33.7	-0.8
F24K	**Squaw Lake**	**39.23**	**34**	P	P	20 52 34.5	-0.2
	baz=273,SNR=1000						
F24K				S	S	20 58 03.8	-1.5
	baz=273						
O22K	**Cooper Landing**	**39.25**	**45**	P	P	20 52 34.5	-0.3
	baz=280,SNR=27						
PMR	**Palmer**	**39.35**	**44**	P	P	20 52 35.0	-0.6
PMR	**Palmer**	**39.35**	**44**	P	P	20 52 34.6	-1.0
	baz=279,SNR=324						
PMR				S	S	20 58 05.2	-1.8
	baz=279						
H24K	**Noodor Dome**	**39.36**	**37**	P	P	20 52 36.2	+0.5
	baz=275,SNR=940						
H24K				S	S	20 58 06.8	-0.4
	baz=275						
WAT1	**Susitna Watana**	**39.42**	**42**	P	P	20 52 35.6	-0.7
	baz=278						
G24K	**Hadweenzic Riv**	**39.44**	**35**	P	P	20 52 36.7	+0.3
	baz=274,SNR=977						
G24K				S	S	20 58 07.7	-0.7
	baz=274						
SEW	**Seward**	**39.46**	**46**	P	P	20 52 36.2	-0.3
	baz=281,SNR=112						
COLA	**College**	**39.47**	**38**	P	P	20 52 36.6	+0.1
COLA	**College**	**39.47**	**38**	P	P	20 52 36.9	+0.4
	baz=276						
COLA	**College**	**39.47**	**38**	⇑P	P	20 52 36.6	+0.1
WMQ	**Urumqi**	**39.53**	**287**	⇓P	P	20 52 38.7	+1.3
WMQ				PP	PP	20 54 21.6	+3.7
WMQ				ScP	ScP	20 57 47.6	+0.9
WMQ				S	S	20 58 09.5	-0.9
WMQ				pmax	pmax		
	comp=Z,1μm,0.8s						
WMQ				pmax	pmax		
	comp=Z,2μm,3.6s						
WMQ				LR	LR		
	comp=Z,890nm,11.7s						
WMQ				LR	LR		
	comp=Z,810nm,12.3s						
WMQ				LR	LR		
	comp=Z,370nm,16.9s						
POKR	**Poker Plat Res**	**39.62**	**38**	P	P	20 52 38.1	+0.3
	baz=276,SNR=264						
POKR				S	S	20 58 09.3	-1.6
	baz=276						
SML	**Sawmill**	**39.69**	**43**	P	P	20 52 38.5	+0.1
	baz=280,SNR=488						
SML				S	S	20 58 10.6	-1.6
	baz=280						
KNK	**Knik Glacier**	**39.70**	**44**	P	P	20 52 38.5	0.0
	baz=280,SNR=406						
KNK				S	S	20 58 10.9	-1.3
	baz=280						
D25K	**Kavik River**	**39.70**	**31**	P	P	20 52 37.9	-0.5
	baz=272,SNR=1000						
D25K				S	S	20 58 08.1	-4.1
	baz=272						
WAT6	**Susitna Watana**	**39.83**	**42**	P	P	20 52 39.1	-0.7
	baz=279,SNR=214						
KMI	**Kunming**	**39.84**	**252**	⇓P	P	20 52 41.1	+0.8
KMI				pP	pP	20 53 58.2	+3.7
KMI				PP	PP	20 54 23.2	+1.5
KMI				ScP	ScP	20 57 49.8	+1.4
KMI				S	S	20 58 14.8	-0.8
KMI				sS	sS	21 00 27.9	-1.2
KMI				ScS	ScS	21 02 02.8	-0.4
KMI				pmax	pmax		
	comp=Z,120nm,1.4s						
KMI				LR	LR		
	comp=Z,350nm,12.7s						
ZSN	**Zaisan**	**39.88**	**294**	⇓*i*P	P	20 52 41.0	+0.7
	comp=Z,174nm,0.6s,baz=294						
ZSN				*e*S	S	20 58 15.7	+0.3
	baz=294						
ZSN	**Zaisan**	**39.88**	**294**	*d i*P	P	20 52 40.9	+0.7
ZSN				*e*S	S	20 58 15.7	+0.3
ZSN				pmax	pmax		
	comp=Z,175nm,0.6s						
IL31		**39.89**	**38**	P	P	20 52 39.3	-0.6
IL31				IAmb	IAmb	20 52 41.0	
	comp=Z,783nm,0.7s						
ILAR	**Eielson Array**	**39.89**	**38**	P	P	20 52 39.2	-0.8
ILAR	**Eielson Array**	**39.89**	**38**	P	P	20 52 39.3	-0.7
	comp=Z,573nm,0.7s,baz=262,slow=6.1,SNR=1453						
	comp=Z,573nm,0.7s						
HDA	**Harding Lake**	**39.91**	**39**	P	P	20 52 39.3	-0.8
	baz=278,SNR=498						
HDA				S	S	20 58 11.3	-4.0
	baz=278						
HDA				S	S	20 58 11.3	-4.0
	baz=278						
DHY	**Denali Highway**	**39.92**	**41**	P	P	20 52 40.0	-0.4
	baz=279,SNR=1000						
DHY				S	S	20 58 13.3	-2.4
	baz=279						
QIZ	**Qiongzhong**	**39.96**	**238**	P	P	20 52 43.0	+1.9
QIZ	**Qiongzhong**	**39.96**	**238**	P	P	20 52 43.0	+1.9
QIZ				pP	pP	20 53 55.5	-0.1
QIZ				sP	PcP	20 54 37.8	+0.3
QIZ				S	S	20 58 19.3	+2.3
QIZ				LR	LR		
	comp=Z,690nm,14.5s						
QIZ				LR	LR		
	comp=Z,670nm,16.7s						
QIZ				LR	LR		
	comp=Z,370nm,18.2s						
QIZ	**Qiongzhong**	**39.96**	**238**	P	P	20 52 42.8	+1.7
QIZ				ScP	ScP	20 57 50.9	+2.3
M23K	**Glacier View**	**39.97**	**43**	P	P	20 52 40.5	-0.2
	baz=280,SNR=210						
G25K	**Bearman Lake**	**39.98**	**35**	P	P	20 52 41.1	+0.5
	baz=276,SNR=308						
G25K				S	S	20 58 16.6	+0.4
	baz=276						
E25K	**Arctic Village**	**40.06**	**33**	P	P	20 52 41.6	+0.2
	baz=274,SNR=178						
E25K				S	S	20 58 16.2	-1.4
	baz=274						
F25K	**Christian Rive**	**40.08**	**34**	P	P	20 52 41.9	+0.4
	baz=275,SNR=642						
F25K				S	S	20 58 15.9	-2.0
	baz=275						
H25L	**Birch Creek**	**40.15**	**36**	P	P	20 52 42.8	+0.7
	baz=276,SNR=978						
SCM	**Sheep Creek Mo**	**40.15**	**43**	P	P	20 52 42.4	+0.1
	baz=280,SNR=334						
SCM				S	S	20 58 18.8	-0.3
	baz=280						
C26K	**Camden Bay**	**40.18**	**30**	P	P	20 52 42.5	+0.3

baz=273,SNR=352
C26K S **S** **20 58 16.4 -2.7**
baz=273
PRP Porcupine Dome 40.36 37 P **P** **20 52 44.3 +0.4**
baz=278,SNR=1000
PRP S **S** **20 58 20.8 -1.3**
baz=278
GLI Glacier Island 40.45 44 P **P** **20 52 44.3 -0.3**
baz=282,SNR=233
GLI S **S** **20 58 21.6 -1.7**
baz=282
P23K Montague Islan 40.48 46 P **P** **20 52 45.1 +0.3**
baz=283,SNR=247
BMAR Burnt Mountain 40.50 34 P **P** **20 52 45.0 0.0**
K24K Donnelly Dome 40.51 40 P **P** **20 52 44.4 -0.7**
baz=279,SNR=227
K24K S **S** **20 58 20.6 -3.6**
baz=279
J25K Salcha River, 40.56 38 P **P** **20 52 43.8 -1.7**
baz=279,SNR=354
C27K Jago River 40.62 31 P **P** **20 52 45.9 +0.1**
baz=274,SNR=922
C27K S **S** **20 58 22.2 -3.3**
baz=274
M24K Tolsona, Glenn 40.63 42 P **P** **20 52 46.9 +0.8**
baz=281,SNR=192
M24K S **S** **20 58 26.2 0.0**
baz=281
F26K Sheenjek River 40.64 34 P **P** **20 52 46.6 +0.6**
baz=276,SNR=1000
F26K S **S** **20 58 25.7 -0.3**
baz=276
PAX Paxson 40.79 41 P **P** **20 52 46.7 -0.7**
baz=281,SNR=168
PAX S **S** **20 58 25.9 -2.6**
baz=281
G26K Porcupine Rive 40.87 35 P **P** **20 52 48.5 +0.7**
baz=277,SNR=1000
G26K S **S** **20 58 29.3 0.0**
baz=277
KLU Klutina 40.88 43 P **P** **20 52 48.5 +0.4**
baz=282,SNR=499
KLU S **S** **20 58 28.7 -1.0**
baz=282
HARP HAARP 41.04 42 P **P** **20 52 50.1 +0.8**
baz=282,SNR=246
HARP S **S** **20 58 30.0 -2.0**
baz=282
Q23K Middleton Isla 41.13 46 P **P** **20 52 50.9 +0.9**
baz=284,SNR=16
MID Middleton Isla 41.14 46 P **P** **20 52 50.9 +0.8**
EYAK Cordova Ski Ar 41.16 45 P **P** **20 52 50.6 +0.3**
EYAK Cordova Ski Ar 41.16 45 P **P** **20 52 51.1 +0.8**
baz=283,SNR=244
SCRK Sand Creek 41.26 39 P **P** **20 52 50.5 -0.7**
baz=281,SNR=1000
SCRK S **S** **20 58 32.5 -2.8**
baz=281
J26L Joseph Creek 41.34 38 P **P** **20 52 50.1 -1.7**
baz=280,SNR=428
J26L S **S** **20 58 32.6 -3.9**
baz=280
N25K Chitina, Valde 41.47 43 P **P** **20 52 53.5 +0.6**
baz=283,SNR=167
N25K S **S** **20 58 37.9 -0.5**
baz=283
E27K Coleen River 41.53 33 P **P** **20 52 53.2 0.0**
baz=278,SNR=213
E27K S **S** **20 58 37.6 -1.4**
baz=278
MENT Mentasta 41.58 41 P **P** **20 52 54.1 +0.4**
BMRM Bremner River 41.61 44 P **P** **20 52 54.4 +0.4**
baz=284,SNR=201
D27M Malcolm River 41.62 31 P **P** **20 52 53.7 -0.2**
baz=277,SNR=57
D27M S **S** **20 58 36.0 -4.3**
baz=277
G27K Doyon Strip 41.72 35 P **P** **20 52 55.2 +0.4**
baz=279,SNR=411
G27K S **S** **20 58 40.3 -1.6**
baz=279
L26K Log Cabin Wild 41.73 41 P **P** **20 52 55.1 +0.3**
baz=282,SNR=232
MKAR Makanchi Array 41.76 294 P **P** **20 52 55.8 +0.5**
comp=Z,694nm,0.6s,baz=72,slow=7.8,SNR=5230
MKAR ScP **ScP** **20 57 55.7 +0.2**
comp=Z,28nm,0.6s,baz=57,slow=4.4,SNR=8.8
MKAR S **S** **20 58 41.7 -1.1**
comp=Z,22nm,1.0s,baz=71,slow=17,SNR=3.9
MKAR ScS **ScS** **21 02 12.0 -1.9**
comp=Z,15nm,1.2s,baz=74,slow=8.1,SNR=4.3
MKAR P4KPbc 21 30 50.9
comp=Z,0.3nm,0.5s,baz=54,slow=2.9,SNR=4.6
comp=Z,694nm,0.6s
H27K Steamboat Moun 41.87 36 P **P** **20 52 56.7 +0.7**
baz=280,SNR=689
H27K S **S** **20 58 44.3 +0.3**
baz=280
MAKZ Makanchi 41.95 294 P **P** **20 52 57.1 +0.3**
MAKZ Makanchi 41.95 294 P **P** **20 52 57.1 +0.3**
MAKZ pmax pmax
comp=Z,773nm,0.6s
MAKZ Makanchi 41.95 294 P **P** **20 52 57.4 +0.6**
MAKZ ScP **ScP** **20 57 56.2 0.0**
I27K Kandik River 41.95 37 P **P** **20 52 56.5 -0.1**
baz=281,SNR=642
I27K S **S** **20 58 44.4 -0.9**
baz=281
KAIM Kayak Island 41.96 45 P **P** **20 52 57.9 +1.2**
baz=285,SNR=48
M26K Nabesna, AK 42.03 41 P **P** **20 52 58.3 +1.0**
baz=283,SNR=344
K27K Chicken 42.07 39 P **P** **20 52 57.9 +0.3**
baz=282
K27K S **S** **20 58 45.8 -1.2**
baz=282
E28M Babbage River 42.23 32 P **P** **20 52 58.8 +0.1**
baz=279,SNR=258
E28M S **S** **20 58 46.5 -2.6**
baz=279
MCARA McCarthy VSAT 42.26 43 P **P** **20 53 00.2 +1.1**
baz=284,SNR=257
MCARA S **S** **20 58 50.3 +0.7**
baz=284
F28M Old Crow 42.27 33 P **P** **20 52 59.5 +0.4**
baz=280,SNR=392
F28M S **S** **20 58 49.1 -0.6**
baz=280
EGAK Eagle 42.31 38 P **P** **20 52 58.6 -0.8**
EGAK Eagle 42.31 38 P **P** **20 52 58.9 -0.4**
baz=282,SNR=1000
EGAK S **S** **20 58 47.5 -2.8**
baz=282
CRQE Cirque 42.38 44 P **P** **20 53 01.0 +0.8**
baz=285,SNR=150
D28M Stokes Point 42.39 31 P **P** **20 52 59.8 -0.2**
baz=279,SNR=18
D28M S **S** **20 58 50.8 -0.5**
baz=279
L27K Beaver Creek, 42.40 40 P **P** **20 53 01.0 +0.8**
baz=283,SNR=1000
L27K S **S** **20 58 51.3 -0.4**
baz=283
BGLC Bering Glacier 42.46 45 P **P** **20 53 02.5 +1.9**
baz=285,SNR=17
KURK Kurchatov 42.47 300 P **P** **20 53 00.9 0.0**
KURK Kurchatov 42.47 300 P **P** **20 53 01.2 +0.3**
KURK P **P** **20 53 01.2 +0.3**
KURK Kurchatov 42.47 300 P **P** **20 53 01.7 +0.9**
KURK 20 54 46.3
KURK Kurchatov 42.47 300 ⇓P **P** **20 53 01.1 +0.3**
KURK PcP **PcP** **20 54 46.0 +0.7**
KURK ScP **ScP** **20 57 58.5 +0.4**
M27K Edge Creek, AK 42.54 41 P **P** **20 53 02.4 +0.9**
baz=284,SNR=911
M27K S **S** **20 58 54.5 +0.5**
baz=284
KURBB Kurchatov Arra 42.55 300 P **P** **20 53 01.7 +0.1**
comp=Z,530nm,0.6s,baz=72,slow=9.1,SNR=1103
KURBB PcP **PcP** **20 54 46.3 +0.7**
comp=Z,38nm,0.5s,baz=74,slow=3.3,SNR=4.9
KURBB ScP **ScP** **20 57 58.8 +0.3**
comp=Z,47nm,0.9s,baz=69,slow=3.2,SNR=8.5
KURBB S **S** **20 58 51.0 -3.1**
comp=Z,5.0nm,0.6s,baz=72,slow=13,SNR=4.7
comp=Z,530nm,0.6s
WAX Waxell Ridge 42.58 44 P **P** **20 53 02.7 +1.0**
WAX IAmb IAmb 20 53 03.8
comp=Z,568nm,1.1s
I28M Miner Creek 42.67 37 P **P** **20 53 03.0 +0.6**
baz=282,SNR=1000
I28M S **S** **20 58 55.1 -0.6**
baz=282
TNCH TengChong 42.67 256 ⇓*i*P **P** **20 53 04.4 +1.3**
TNCH pP pP 20 54 22.8 +4.4
TNCH PP **PP** **20 54 52.8 +1.2**
TNCH sP sP 20 55 01.7 -0.4
TNCH ScS ScS 21 02 20.8 +0.3
TNCH pmax pmax
comp=Z,220nm,1.0s
TNCH pmax pmax
comp=Z,660nm,3.7s
E29M Blow River 42.86 32 P **P** **20 53 04.0 +0.3**
baz=281,SNR=438
E29M S **S** **20 58 56.5 -1.6**
baz=281
DAV Davao City (W) 43.07 209 P **P** **20 53 06.7 +0.6**
comp=Z,75nm,0.5s,baz=338,slow=2.2,SNR=9.4
MESA MESA 43.09 44 P **P** **20 53 06.8 +0.9**
baz=286,SNR=118
MESA S **S** **20 59 01.6 -0.4**
baz=286
G29M Pine Creek 43.11 34 P **P** **20 53 06.5 +0.7**
baz=282,SNR=290
G29M S **S** **20 59 01.6 -0.3**
baz=282
H29M Whitestone 43.13 35 P **P** **20 53 06.4 +0.5**
baz=283,SNR=523
H29M S **S** **20 59 01.3 -0.8**
baz=283
CTG Chitna Glacier 43.15 43 P **P** **20 53 07.1 +0.8**
baz=286,SNR=347
DAWY Dawson 43.22 38 P **P** **20 53 06.2 -0.4**
baz=284,SNR=143
YUK3 Moose Creek 43.34 42 P **P** **20 53 08.1 +0.2**
baz=286,SNR=218
I29M Ogilvie Camp, 43.35 36 P **P** **20 53 07.8 +0.2**
baz=284,SNR=537
J29N Klondike Camp 43.62 38 P **P** **20 53 09.8 0.0**
baz=285,SNR=11
EPYK Eagle Plains 43.74 35 P **P** **20 53 11.1 +0.3**
baz=284,SNR=742
O28M Mount Upton 43.75 43 P **P** **20 53 11.5 +0.3**
baz=287,SNR=228
O28M S **S** **20 59 10.9 -0.8**
baz=287
G30M tAoh Zraii Nji 43.79 34 P **P** **20 53 11.1 0.0**
baz=284,SNR=598
G30M S **S** **20 59 09.8 -1.8**
baz=284
YUK8 Steele Glacier 43.80 42 P **P** **20 53 11.8 +0.3**
baz=287,SNR=75
F30M Barrier River 43.80 33 P **P** **20 53 12.0 +0.8**
baz=284,SNR=1000
F30M S **S** **20 59 10.7 -1.1**
baz=284
L29M L29M 44.01 40 P **P** **20 53 14.3 +1.3**
baz=286,SNR=869
L29M S **S** **20 59 14.1 -0.8**
baz=286
M29M Somme Creek 44.05 41 P **P** **20 53 14.3 +1.0**
baz=287,SNR=396
M29M S **S** **20 59 15.3 -0.4**
baz=287
K29M Barlow Dome 44.07 38 P **P** **20 53 13.9 +0.4**
baz=286,SNR=496
K29M S **S** **20 59 14.9 -1.0**
baz=286
I30M Mount Dempster 44.17 36 P **P** **20 53 14.5 +0.3**
baz=285,SNR=1000
I30M S **S** **20 59 16.4 -0.9**
baz=285
BCPM Bancas Point 44.26 44 P **P** **20 53 15.3 +0.4**
YUK4 Talbot Arm 44.30 42 P **P** **20 53 16.1 +0.7**
baz=288,SNR=159
J30M Hart River 44.37 37 P **P** **20 53 16.1 +0.3**
baz=286,SNR=405
J30M S **S** **20 59 19.1 -1.1**
baz=286
INK Inuvik 44.46 32 P **P** **20 53 16.2 -0.1**
baz=285,SNR=551
INK S **S** **20 59 18.4 -2.6**
baz=285
INK Inuvik 44.46 32 P **P** **20 53 16.1 -0.1**
PNL Peninsula 44.47 45 P **P** **20 53 16.8 +0.3**
PNL Peninsula 44.47 45 P **P** **20 53 16.9 +0.4**
baz=289,SNR=28
G31M Satah River 44.55 34 P **P** **20 53 16.6 -0.3**
baz=285,SNR=762
G31M S **S** **20 59 19.2 -3.1**
baz=285
YUK6 Outpost Mounta 44.55 43 P **P** **20 53 18.3 +0.9**
baz=288,SNR=137
F31M Tsiigehtchic 44.60 33 P **P** **20 53 17.2 -0.2**
baz=285,SNR=614
F31M S **S** **20 59 20.1 -3.0**
baz=285
LSA Lhasa 44.64 267 P **P** **20 53 21.3 +2.5**
LSA S **S** **20 59 28.2 +2.7**
LSA pmax pmax
comp=Z,460nm,0.6s
LSA LR LR
comp=Z,780nm,14.4s
LSA LR LR
comp=Z,530nm,20.8s
LSA LR LR
comp=Z,380nm,20.8s
LSA Lhasa 44.64 267 P **P** **20 53 20.9 +2.1**
LSA IAmb IAmb 20 53 21.9
comp=Z,349nm,0.6s
LSA Lhasa 44.64 267 P **P** **20 53 21.0 +2.2**
LSA Lhasa 44.64 267 P **P** **20 53 20.9 +2.1**
LSA pmax pmax
comp=Z,349nm,0.6s
LSA Lhasa 44.64 267 P **P** **20 53 20.9 +2.1**
LSA PP **PP** **20 55 12.8 +2.6**
O29M Mount Kennedy 44.65 44 P **P** **20 53 19.1 +1.1**
baz=289,SNR=124
M30M Minto, Yukon 44.76 40 P **P** **20 53 20.0 +1.2**
baz=288,SNR=594
M30M S **S** **20 59 22.8 -2.8**
baz=288
H31M Peel River 44.83 35 P **P** **20 53 19.4 +0.1**
baz=286,SNR=1000
H31M S **S** **20 59 25.1 -1.4**
baz=286
N30M Aishikik Lake 44.97 42 P **P** **20 53 21.3 +0.8**
baz=289,SNR=165
N30M S **S** **20 59 28.3 -0.4**
baz=289
TDK Taldyqorghan 44.98 293 *e*P **P** **20 53 21.8 +1.1**
comp=Z,252nm,0.6s,baz=293
TDK Taldyqorghan 44.98 293 *e*P **P** **20 53 21.8 +1.1**
TDK pmax pmax
comp=Z,253nm,0.6s
HYT Haines Junctio 44.98 43 P **P** **20 53 22.2 +1.5**
baz=289,SNR=1000
HYT S **S** **20 59 29.3 +0.3**
baz=289
SHLS Shalkode 45.17 290 ⇓*i*P **P** **20 53 20.9 -1.5**
comp=Z,236nm,0.5s,baz=290
SHLS *e*S **S** **20 59 28.6 -3.6**
baz=290
SHLS Shalkode 45.17 290 *d i*P **P** **20 53 20.8 -1.6**
SHLS *e*S **S** **20 59 28.5 -3.6**
SHLS pmax pmax
comp=Z,236nm,0.5s
P29M Windy Craggy 45.27 44 P **P** **20 53 24.6 +1.8**
baz=290,SNR=862
P29M S **S** **20 59 34.1 +1.2**
baz=290
UZB Uzynbulak 45.46 290 ⇓*i*P **P** **20 53 25.3 +0.7**
comp=Z,152nm,0.6s,baz=290
UZB Uzynbulak 45.46 290 *d i*P **P** **20 53 25.3 +0.7**
UZB pmax pmax
comp=Z,153nm,0.6s
UBPT Khong Chiam 45.46 239 P **P** **20 53 26.0 +1.3**
P30M Million Dollar 45.47 43 P **P** **20 53 26.0 +1.6**
baz=290
P30M S **S** **20 59 35.7 -0.2**
baz=290
KPKS Kokpek 45.52 291 ⇓*i*P **P** **20 53 26.1 +1.0**
comp=Z,239nm,0.5s,baz=291
KPKS *e*S **S** **20 59 37.6 +0.6**
baz=291
KPKS Kokpek 45.52 291 *d i*P **P** **20 53 26.0 +1.0**
KPKS *e*S **S** **20 59 37.6 +0.6**
KPKS pmax pmax
comp=Z,239nm,0.5s
N31M Braeburn, Yuko 45.56 41 P **P** **20 53 26.5 +1.6**
baz=290,SNR=399
O30N Mendenhall 45.66 42 P **P** **20 53 26.9 +1.2**
baz=290,SNR=261
O30N S **S** **20 59 38.2 -0.2**
baz=290
ZHN Zhinishke 45.82 291 ⇓*i*P **P** **20 53 28.4 +0.9**
comp=Z,128nm,0.5s,baz=291
ZHN Zhinishke 45.82 291 *d i*P **P** **20 53 28.3 +0.9**
ZHN pmax pmax
comp=Z,128nm,0.5s
SATY Saty 45.90 291 ⇓*i*P **P** **20 53 29.1 +1.1**
comp=Z,136nm,0.5s,baz=291
SATY *e*S **S** **20 59 42.9 +0.4**
baz=291
SATY Saty 45.90 291 *d i*P **P** **20 53 29.0 +1.1**
SATY *e*S **S** **20 59 42.8 +0.4**
SATY pmax pmax
comp=Z,136nm,0.5s
M31M Drury Creek, Y 45.94 40 P **P** **20 53 28.8 +0.9**
baz=290,SNR=112
PLBC Pleasant Camp 45.99 44 P **P** **20 53 29.6 +1.4**
baz=291,SNR=214
A36M Sachs Harbour 46.13 26 P **P** **20 53 29.0 -0.1**
A36M IAmb IAmb 20 53 30.8
comp=Z,559nm,0.7s
A36M Sachs Harbour 46.13 26 P **P** **20 53 29.3 +0.2**
baz=288,SNR=499
A36M S **S** **20 59 43.3 -1.3**
baz=288
PHRA Phrae 46.21 248 P **P** **20 53 32.3 +1.8**
WHY Whitehorse 46.25 42 P **P** **20 53 31.6 +1.2**
baz=291,SNR=300
WHY S **S** **20 59 47.6 +0.6**
baz=291
BVAR Borovoye Array 46.27 306 P **P** **20 53 30.6 +0.1**
comp=Z,264nm,0.9s,baz=69,slow=9.9,SNR=516
BVAR PP **PP** **20 55 21.3 -2.8**
comp=Z,79nm,0.6s,baz=49,slow=10.0,SNR=5.8
BVAR ScP **ScP** **20 58 13.7 -0.2**
comp=Z,34nm,0.7s,baz=64,slow=5.1,SNR=5.4
BVAR S **S** **20 59 45.7 -1.5**
comp=Z,35nm,1.0s,baz=65,slow=15,SNR=4.8
BVAR P4KPbc 21 31 11.0
comp=Z,0.8nm,0.5s,baz=58,slow=4.8,SNR=6.1
comp=Z,264nm,0.9s
WUS Wushi 46.29 288 P **P** **20 53 32.3 +1.3**
WUS ScP **ScP** **20 58 15.1 +0.8**
BRVK Borovoye 46.32 306 P **P** **20 53 31.1 +0.2**
BRVK IAmb IAmb 20 53 32.3
comp=Z,393nm,0.8s
BRVK Borovoye 46.32 306 P **P** **20 53 31.4 +0.5**
BRVK Borovoye 46.32 306 P **P** **20 53 31.1 +0.2**
BRVK pmax pmax
comp=Z,393nm,0.8s
BRVK Borovoye 46.32 306 P **P** **20 53 31.1 +0.2**
BRVK ScP **ScP** **20 58 14.1 +0.1**
CHKK Chushkaly 46.41 292 ⇓*i*P **P** **20 53 32.3 +0.5**
baz=292
CHKK Chushkaly 46.41 292 ⇓*i*P **P** **20 53 32.3 +0.5**
SKAG Skagway 46.48 44 P **P** **20 53 33.5 +1.5**
SKAG Skagway 46.48 44 P **P** **20 53 33.5 +1.5**
baz=292,SNR=39
S31K Pelican 46.61 46 P **P** **20 53 34.5 +1.6**
baz=292,SNR=24
R31K City Hall, Gus 46.68 45 P **P** **20 53 35.1 +1.6**
baz=292
MDOK Medeo 46.71 291 *i*P **P** **20 53 35.2 +0.9**
baz=291
MDOK Medeo 46.71 291 *i*P **P** **20 53 35.2 +0.9**
SHL Shillong 46.77 262 P **P** **20 53 35.5 +0.5**
SNR=57
AAA Alma-Ata 46.77 292 *e*P **P** **20 53 35.8 +1.2**
comp=Z,186nm,0.6s,baz=292
AAA Alma-Ata 46.77 292 *e*P **P** **20 53 35.8 +1.2**
AAA pmax pmax
comp=Z,186nm,0.6s
CHTO Chiang Mai 46.80 249 P **P** **20 53 36.0 +1.0**
CHTO Chiang Mai 46.80 249 P **P** **20 53 36.0 +1.0**
CHTO pmax pmax
comp=Z,133nm,0.7s
KUU Kurty 46.81 293 *e*P **P** **20 53 35.8 +0.9**
baz=293
KUU Kurty 46.81 293 *e*P **P** **20 53 35.7 +0.9**
TNSS Tian-Shan 46.84 291 *e*P **P** **20 53 36.1 +0.5**
baz=291
TNSS Tian-Shan 46.84 291 *e*P **P** **20 53 36.0 +0.5**
N32M Quiet Lake 46.89 41 P **P** **20 53 35.8 +0.6**
baz=292
TARG Taragay, Kyrgy 46.94 289 IAmb IAmb 20 53 39.3
comp=Z,338nm,0.6s
CMAR Chiang Mai Arr 47.06 249 P **P** **20 53 37.9 +0.9**
CMAR Chiang Mai Arr 47.06 249 P **P** **20 53 37.9 +0.9**
P32M Atlin 47.19 43 P **P** **20 53 38.7 +1.2**
baz=293,SNR=94
R32K Eaglecrest 47.32 45 P **P** **20 53 40.1 +1.6**
baz=293,SNR=64
P33M Teslin, Yukon 47.37 42 P **P** **20 53 40.2 +1.3**
baz=293,SNR=524
JIS Juneau Island 47.39 45 P **P** **20 53 40.6 +1.7**
C36M Paulatuk 47.40 29 P **P** **20 53 38.6 -0.2**
baz=292,SNR=524
C36M S **S** **20 59 59.1 -3.3**
baz=292
SIT Sitka 47.41 47 P **P** **20 53 41.2 +2.1**
SIT Sitka 47.41 47 P **P** **20 53 41.3 +2.2**
baz=294,SNR=52
SIT Sitka 47.41 47 P **P** **20 53 40.8 +1.7**
S32K Killisnoo 47.62 46 P **P** **20 53 42.3 +1.6**
baz=294,SNR=54
BTLS Baital 47.69 295 ⇓*i*P **P** **20 53 41.8 +0.3**
baz=295
BTLS Baital 47.69 295 *d i*P **P** **20 53 41.7 +0.3**
BOOM Boomskoye usch 47.75 291 P **P** **20 53 43.6 +1.3**
BOOM IAmb IAmb 20 53 44.2
comp=Z,578nm,0.5s
BOOM Boomskoye usch 47.75 291 P **P** **20 53 43.6 +1.3**
BOOM pmax pmax
comp=Z,578nm,0.5s
SGDS Sogindy 48.10 293 ⇓*i*P **P** **20 53 45.7 +0.9**
comp=Z,181nm,0.6s,baz=293
SGDS Sogindy 48.10 293 *d i*P **P** **20 53 45.6 +0.9**
SGDS pmax pmax
comp=Z,181nm,0.6s
Q32M Nakina River 48.13 44 P **P** **20 53 46.5 +1.7**
baz=294,SNR=169
TNTI Ternate 48.49 204 P **P** **20 53 48.8 +0.9**
TNTI Ternate 48.49 204 P **P** **20 53 47.2 -0.6**
comp=Z,111nm,1.4s,comp=Z,1μm
TNTI Ternate 48.49 204 P **P** **20 53 47.3 -0.6**
comp=Z,111nm,1.4s,comp=Z,1μm
R33M Jennings River 48.56 43 P **P** **20 53 49.6 +1.6**
baz=295,SNR=139
T33K Petersburg 48.70 46 P **P** **20 53 50.8 +1.9**
baz=295,SNR=5.9
MANU Manus Island 48.86 177 P **P** **20 53 51.1 +0.5**
U33K Whale Pass 48.92 47 P **P** **20 53 52.6 +2.1**
baz=296,SNR=50
S34M Telegraph Cree 49.11 45 P **P** **20 53 53.9 +1.9**
baz=296,SNR=103
SWI Sorong 49.12 198 P **P** **20 53 52.5 0.0**
comp=Z,142nm,1.0s,comp=Z,2μm
SWI Sorong 49.12 198 P **P** **20 53 51.0 -1.5**
comp=Z,142nm,1.0s,comp=Z,2μm
WRAK Wrangell Islan 49.17 47 P **P** **20 53 54.3 +1.9**
baz=296,SNR=43
CRAG Craig 49.20 48 P **P** **20 53 54.7 +2.1**
CRAG Craig 49.20 48 P **P** **20 53 54.8 +2.1**
baz=296,SNR=23
KSH Kashi 49.28 288 P P 20 53 58.7 +5.0
KSH ScP **ScP** **20 58 28.4 +1.4**
KSH S **S** **21 00 35.4 +5.7**
KSH ScS **ScS** **21 03 07.2 +3.9**
KSH pmax pmax
comp=Z,440nm,0.9s
DLBC Dease Lake 49.41 44 P **P** **20 53 56.2 +1.9**
baz=296,SNR=156
JAY Jayapura 49.41 186 P **P** **20 53 54.8 0.0**
JAY Jayapura 49.41 186 P **P** **20 53 53.4 -1.4**
GENI Genyem 49.53 186 P **P** **20 53 56.2 +0.6**
GENI Genyem 49.53 186 P **P** **20 53 56.5 +0.9**
GENI Genyem 49.53 186 P **P** **20 53 55.9 +0.3**

KAVG Kavieng 49.62 172 P **P** **20 53 56.8 +0.6**
KMSI Cibinong 49.69 208 P **P** **20 53 56.7 -0.1**
comp=Z,371nm,0.9s,comp=Z,4µm
KMSI Cibinong 49.69 208 P **P** **20 53 54.6 -2.2**
comp=Z,371nm,0.9s,comp=Z,4µm
SVE Sverdlovsk 49.73 314*c i*P **P** **20 53 57.0 +0.4**
SVE *e* 20 55 54.3
SVE *i* S **S** **21 00 33.7 -1.4**
SVE pmax pmax
comp=Z,1µm,0.8s
LBMI Labuha 49.80 203 P **P** **20 53 56.4 -1.3**
comp=Z,225nm,0.9s
GTOI Gorontalo 49.95 209 P **P** **20 53 57.6 -1.1**
GTOI Gorontalo 49.95 209 P **P** **20 53 55.5 -3.2**
comp=Z,77nm,1.0s
T35M Bob Quinn 49.95 45 P **P** **20 54 00.9 +2.6**
baz=297,SNR=134
EUNU Eureka 49.97 10 P **P** **20 53 58.1 -0.1**
ALE Alert 50.03 4 P **P** **20 53 58.4 -0.1**
ALE PcP **PcP** **20 55 12.1 +0.4**
ALE sP **sP** **20 56 03.2 +3.3**
ALE ScP **ScP** **20 58 29.8 +0.5**
SRDT SRDT 50.03 245 P **P** **20 54 00.9 +1.6**
V35K Ketchikan 50.03 48 P **P** **20 54 00.5 +1.7**
baz=297,SNR=49
TOLI2 Tolitoli 50.28 212 P **P** **20 54 01.4 +0.2**
MRSI Marisa 50.46 210 P **P** **20 54 02.8 +0.3**
MRSI Marisa 50.46 210 P **P** **20 54 01.6 -0.9**
U35K Hyder 50.56 47 P **P** **20 54 04.7 +2.0**
baz=298,SNR=13
KK31 Karatay Array 50.86 295 P **P** **20 54 05.9 +0.6**
KK31 IAmb IAmb 20 54 06.7
comp=Z,500nm,0.7s
KK31 Karatay Array 50.86 295 P **P** **20 54 05.9 +0.6**
KK31 pmax pmax
comp=Z,500nm,0.7s
KKAR Karatay Array 50.86 295 P **P** **20 54 05.9 +0.6**
KKAR IAmb IAmb 20 54 06.7
comp=Z,497nm,0.7s
KKAR Karatay Array 50.86 295 P **P** **20 54 05.9 +0.6**
KKAR pmax pmax
comp=Z,497nm,0.7s
FAKI Fak Fak 50.91 196 P **P** **20 54 06.3 +0.4**
FAKI Fak Fak 50.91 196 P **P** **20 54 05.3 -0.6**
comp=Z,311nm,1.2s,comp=Z,3µm
FAKI Fak Fak 50.91 196 P **P** **20 54 04.2 -1.7**
comp=Z,311nm,1.2s,comp=Z,3µm
ARU Arti 50.93 314 P **P** **20 54 05.3 -0.2**
ARU Arti 50.93 314 ScP **ScP** **20 58 32.6 -1.0**
comp=Z,58nm,0.8s,baz=78,slow=5.3,SNR=4.4
ARU S **S** **21 00 48.4 -3.1**
comp=Z,14nm,0.8s,baz=234,slow=18,SNR=7.7
ARU Arti 50.93 314*d i*P **P** **20 54 05.4 -0.1**
ARU 20 55 14.6
ARU *PP **pP** **20 55 25.5 +1.2**
ARU 20 56 03.4
ARU PPP PPP 20 57 19.9
ARU S **S** **21 00 51.1 -0.4**
ARU 21 03 10.3
ARU pmax pmax
comp=Z,1µm,0.7s
ARU Arti 50.93 314 P **P** **20 54 05.0 -0.5**
comp=Z,2µm,0.8s,comp=Z,14µm
ARU Arti 50.93 314 ⇓P **P** **20 54 05.5 -0.1**
ARU ScP **ScP** **20 58 32.6 -1.0**
NOR Nord 51.30 357 *i* P **P** **20 54 06.0 -1.9**
NOR IAmb IAmb 20 54 08.0
comp=Z,46nm,0.6s
SPA0 Spitsbergen Ar 51.31 348 *e*P **P** **20 54 07.2 -0.7**
SPA0 IAmb IAmb 20 54 07.6
comp=Z,25nm,0.6s
SPITS Spitsbergen Ar 51.31 348 P **P** **20 54 07.2 -0.7**
comp=Z,18nm,0.4s,baz=67,slow=8.4,SNR=112
SPITS PcP **PcP** **20 55 16.9 +0.3**
comp=Z,7.5nm,0.4s,baz=98,slow=5.1,SNR=6.7
SPITS ScP **ScP** **20 58 34.9 0.0**
comp=Z,5.3nm,0.6s,baz=348,slow=3.4,SNR=2.0
SPITS Spitsbergen Ar 51.31 348 P **P** **20 54 07.3 -0.7**
SPITS pmax pmax
comp=Z,56nm,1.2s
BRLS Borolday 51.32 295⇓*i*P **P** **20 54 10.8 +2.1**
baz=295
BRLS Borolday 51.32 295*d i*P **P** **20 54 10.7 +2.1**
MPSI Mapaga 51.32 213 P **P** **20 54 08.8 -0.1**
comp=Z,123nm,1.1s
MPSI Mapaga 51.32 213 P **P** **20 54 07.7 -1.2**
comp=Z,123nm,1.1s
KBS Kingsbay 51.34 350 *e*P **P** **20 54 08.0 -0.2**
KBS IAmb IAmb 20 54 09.1
comp=Z,74nm,0.9s
KBS Kingsbay 51.34 350 *i* P **P** **20 54 07.4 -0.8**
KBS Kingsbay 51.34 350 P **P** **20 54 08.0 -0.2**
RABL Rabaul 51.34 171 P **P** **20 54 10.1 +1.1**
KMPI Kaimana, Papua 51.38 194 P **P** **20 54 08.3 -0.9**
comp=Z,217nm,1.0s,comp=Z,2µm
KMPI Kaimana, Papua 51.38 194 P **P** **20 54 08.7 -0.5**
comp=Z,217nm,1.0s,comp=Z,2µm
TOAD Toad River Com 51.44 42 P **P** **20 54 10.7 +1.4**
baz=299,SNR=308
SANI Sanana 51.57 204 P **P** **20 54 10.5 -0.2**
SANI Sanana 51.57 204 P **P** **20 54 10.4 -0.2**
comp=Z,202nm,0.9s,comp=Z,3µm
SANI Sanana 51.57 204 P **P** **20 54 09.6 -1.1**
comp=Z,201nm,0.9s,comp=Z,3µm
LUWI Luwuk 51.60 209 P **P** **20 54 09.4 -1.5**
LUWI Luwuk 51.60 209 P **P** **20 54 09.2 -1.7**
comp=Z,172nm,0.9s,comp=Z,2µm
LUWI Luwuk 51.60 209 P **P** **20 54 09.1 -1.8**
comp=Z,172nm,0.9s,comp=Z,2µm
IUG luzhnay 51.67 294 *e*P **P** **20 54 12.4 +1.1**
comp=Z,205nm,0.5s,baz=294
IUG luzhnay 51.67 294 *e*P **P** **20 54 12.4 +1.1**
IUG pmax pmax
comp=Z,205nm,0.5s
HG4B Hotspring 51.71 51 P **P** **20 54 12.6 +1.3**
HG4B IAmb IAmb 20 54 13.5
comp=Z,249nm,0.7s
DRK Karamyk 52.01 290 P **P** **20 54 14.8 +0.8**
TABU Tabubil 52.11 185 P **P** **20 54 16.4 +1.7**
HSPB Hornsund (broa 52.30 347 *e*P **P** **20 54 14.3 -0.9**
BTK Batken 52.31 291 P **P** **20 54 16.3 +0.3**
RES Resolute Bay 52.34 17 P **P** **20 54 15.5 0.0**
RES Resolute Bay 52.34 17 P **P** **20 54 15.5 0.0**
RES pmax pmax
comp=Z,3µm,0.7s
SBUM Sibu 52.64 223 P **P** **20 54 20.0 +1.5**
GAR Garm 53.23 290 P **P** **20 54 23.4 +0.8**
ABKAR Akbulak array 53.84 306 P **P** **20 54 26.9 +0.2**
BKB Balikpapan 53.94 215 P **P** **20 54 29.1 +1.3**
BKB Balikpapan 53.94 215 P **P** **20 54 28.4 +0.6**
YKA Yellowknife Ar 54.02 34 P **P** **20 54 27.9 +0.1**
YKA Yellowknife Ar 54.02 34 P **P** **20 54 27.7 -0.1**
comp=Z,232nm,0.7s,baz=305,slow=7.1,SNR=522
YKA PcP **PcP** **20 55 27.8 +0.7**
comp=Z,5.8nm,0.4s,baz=312,slow=4.2,SNR=6.0
comp=Z,232nm,0.7s
YKA Yellowknife Ar 54.02 34 P **P** **20 54 27.9 +0.1**
KIRV Kirov 54.09 320 ScP **ScP** **20 58 46.7 -0.6**
comp=Z,50nm,0.8s,baz=147,slow=2.9,SNR=4.9
KIRV S **S** **21 01 31.0 -2.7**
comp=Z,40nm,0.7s,baz=170,slow=23,SNR=28
CHGR Chuyangaron 54.17 291 P **P** **20 54 30.0 +0.7**
LVZ Lovozero 54.21 334 *i* P **P** **20 54 27.9 -1.2**
LVZ pmax pmax
comp=Z,88nm,0.7s
LVZ Lovozero 54.21 334 P **P** **20 54 28.5 -0.6**
comp=Z,170nm,0.9s,comp=Z,1µm
LVZ Lovozero 54.21 334 P **P** **20 54 28.4 -0.6**
SRIT Nakonsritamara 54.22 240 P **P** **20 54 31.8 +1.9**
SIMJ Simiganj 54.26 291 P **P** **20 54 30.7 +0.7**
SIMJ ScP **ScP** **20 58 49.1 +0.5**
VADS Vadso 54.28 338 *e*P **P** **20 54 29.6 +0.1**
VADS IAmb IAmb 20 54 30.3
comp=Z,81nm,0.8s
MTKI Muara Teweh, K 54.47 218 P **P** **20 54 32.4 +0.8**
comp=Z,263nm,1.0s,comp=Z,3µm
MTKI Muara Teweh, K 54.47 218 P **P** **20 54 31.7 +0.1**
comp=Z,263nm,1.0s,comp=Z,3µm
APA Apatity 54.79 334⇓*i*P **P** **20 54 31.5 -1.6**
APA *i* *PP **PcP** **20 55 37.2 +7.3**
APA pmax pmax
comp=Z,90nm,0.7s
APA MLR MLR
comp=Z,500nm,14.0s
STKI Sintang 55.08 222 P **P** **20 54 37.6 +1.7**
comp=Z,209nm,1.0s,comp=Z,2µm
STKI Sintang 55.08 222 P **P** **20 54 36.7 +0.8**
comp=Z,208nm,1.0s,comp=Z,2µm
KEV Kevo 55.13 338 P **P** **20 54 35.5 0.0**
KEV Kevo 55.13 338 P **P** **20 54 35.5 0.0**
KEV pmax pmax
comp=Z,84nm,0.8s
KEV Kevo 55.13 338 P **P** **20 54 35.5 0.0**
KEV ScP **ScP** **20 58 51.1 -0.6**
HILA High Level 55.24 39 P **P** **20 54 37.1 +0.6**
HAMF Hammerfest 55.34 340 *e*P **P** **20 54 36.4 -0.6**
HAMF IAmb IAmb 20 54 37.0
comp=Z,39nm,0.7s
ADZR Andozero 55.44 329⇓*i*P **P** **20 54 37.7 -0.1**
ADZR *e*S **S** **21 01 49.3 -2.1**
ADZR pmax pmax
comp=Z,225nm,0.7s
NEEM North Greenlan 55.46 4 *i* P **P** **20 54 38.4 +0.3**
NEEM IAmb IAmb 20 54 38.6
comp=Z,322nm,0.6s
ARCES ARCESS Array B 55.67 338 P **P** **20 54 39.5 +0.2**
ARCES ARCESS Array B 55.67 338 P **P** **20 54 39.1 -0.3**
comp=Z,24nm,0.5s,baz=41,slow=7.3,SNR=199
ARCES S **S** **21 01 53.2 -1.1**
comp=Z,9.2nm,0.9s,baz=70,slow=14,SNR=4.9
comp=Z,24nm,0.5s
ARCES ARCESS Array B 55.67 338 P **P** **20 54 39.5 +0.2**
ARCES pmax pmax
comp=Z,41nm,0.8s
BBSI Bau Bau 55.85 207 P **P** **20 54 42.1 +0.8**
comp=Z,126nm,1.0s,comp=Z,2µm
DAG Danmarks Havn 56.09 355 P **P** **20 54 41.6 -0.6**
DAG Danmarks Havn 56.09 355 *i* P **P** **20 54 41.0 -1.2**
DAG *i* P **P** **20 54 41.0 -1.2**
DAG IAmb IAmb 20 54 43.0
comp=Z,86nm,0.7s
PMG Port Moresby 56.16 177 P **P** **20 54 43.8 +0.4**
comp=Z,37nm,0.5s,baz=38,slow=5.3,SNR=17
comp=Z,37nm,0.5s
PMG Port Moresby 56.16 177 P **P** **20 54 43.7 +0.4**
PMG ScP **ScP** **20 58 56.5 -0.5**
KULM Kulim 56.27 237 P **P** **20 54 44.8 +0.5**
KAPI Kappang 56.34 211 P **P** **20 54 45.6 +0.9**
KAPI Kappang 56.34 211 P **P** **20 54 45.1 +0.4**
KAPI Kappang 56.34 211 P **P** **20 54 45.4 +0.7**
KAPI Kappang 56.34 211 *i* P **P** **20 54 44.8 +0.1**
KAPI pmax pmax
comp=Z,96nm,0.7s
BKSI Bulukumba 56.49 210 P **P** **20 54 45.3 -0.5**
comp=Z,109nm,1.0s,comp=Z,920nm
BKSI Bulukumba 56.49 210 P **P** **20 54 44.9 -0.9**
comp=Z,109nm,1.0s,comp=Z,918nm
KTK1 Kautokeino 56.61 338 *e*P **P** **20 54 46.0 +0.1**
KTK1 IAmb IAmb 20 54 46.8
comp=Z,81nm,0.7s
KBL Kabul 56.67 287 P **P** **20 54 46.9 -0.2**
KBL Kabul 56.67 287 P **P** **20 54 47.5 +0.4**
SNR=624
KBL Kabul 56.67 287 P **P** **20 54 46.9 -0.2**
KBL pmax pmax
comp=Z,2µm,1.0s
IPM Ipoh 56.72 236 P **P** **20 54 48.4 +1.0**
KLMR Klimovskoe 56.87 326*d i*P **P** **20 54 47.6 -0.2**
KLMR *e*S **S** **21 02 06.8 -3.3**
KLMR 21 03 51.7
KLMR pmax pmax
comp=Z,378nm,0.9s
KLMR pmax pmax
comp=Z,308nm,0.9s
MSF Maaselka 57.19 334 P **P** **20 54 50.1 +0.2**
TRO Tromso 57.20 340 *e*P **P** **20 54 49.8 -0.1**
TRO IAmb IAmb 20 54 50.7
comp=Z,118nm,0.7s
C03A Quillayute Air 57.65 53 P **P** **20 54 55.4 +2.0**
C03A IAmb IAmb 20 54 56.6
comp=Z,403nm,0.9s
TPRI Tanjung Pinang 57.77 230 P **P** **20 54 56.3 +1.6**
comp=Z,125nm,0.8s,comp=Z,1µm
TPRI Tanjung Pinang 57.77 230 P **P** **20 54 55.3 +0.6**
comp=Z,125nm,0.8s,comp=Z,1µm
BTDF Bukit Timah Da 57.80 231 P **P** **20 54 56.4 +1.6**
KULLO Kullorsuaq 57.83 7 *i* P **P** **20 54 52.6 -1.6**
KULLO IAmb IAmb 20 54 54.5
comp=Z,295nm,0.5s
PGC Sidney 57.84 52 P **P** **20 54 56.2 +1.6**
PGC IAmb IAmb 20 54 56.8
comp=Z,490nm,0.6s
LHMI Lhok Sumawe 58.48 240 P **P** **20 55 00.2 +0.7**
LHMI Lhok Sumawe 58.48 240 P **P** **20 55 01.7 +2.2**
comp=Z,87nm,0.8s
LHMI Lhok Sumawe 58.48 240 P **P** **20 54 59.3 -0.2**
comp=Z,87nm,0.8s
BELG Belogornoye 58.48 315⇓*i*P **P** **20 54 58.9 -0.1**
BELG pmax pmax
comp=Z,196nm,0.8s
JOF Joensuu 58.50 331 *e*P **P** **20 54 59.0 +0.1**
DBG Daneborg 58.60 355 *i* P **P** **20 54 58.2 -1.2**
OUL Oulu 58.70 334 P **P** **20 54 59.9 -0.4**
MMRI Maumere 58.92 206 P **P** **20 55 03.0 +0.5**
MMRI Maumere 58.92 206 P **P** **20 55 02.7 +0.2**
comp=Z,140nm,0.5s,comp=Z,3µm
MMRI Maumere 58.92 206 P **P** **20 55 02.3 -0.2**
comp=Z,140nm,0.5s,comp=Z,3µm
EDFI Ende, Flores 59.20 207 P **P** **20 55 02.9 -1.6**
comp=Z,83nm,0.8s,comp=Z,989nm
EDFI Ende, Flores 59.20 207 P **P** **20 55 02.9 -1.6**
comp=Z,83nm,0.8s,comp=Z,991nm
KCSI Kotacane, Aceh 59.37 238 P **P** **20 55 06.4 +0.8**
KCSI Kotacane, Aceh 59.37 238 P **P** **20 55 04.3 -1.3**
STEI Steigen 59.37 340 *e*P **P** **20 55 04.3 -0.5**
STEI IAmb IAmb 20 55 05.3
comp=Z,52nm,0.8s
SOEI Soe 59.40 204 P **P** **20 55 05.4 -0.4**
SOEI Soe 59.40 204 P **P** **20 55 05.4 -0.4**
SOEI Soe 59.40 204 P **P** **20 55 05.5 -0.4**
comp=Z,137nm,0.8s
SOEI Soe 59.40 204 P **P** **20 55 04.9 -0.9**
comp=Z,137nm,0.8s
MLSI Meulaboh, Aceh 59.57 240 P **P** **20 55 07.0 +0.1**
comp=Z,51nm,0.6s
MLSI Meulaboh, Aceh 59.57 240 P **P** **20 55 06.0 -0.9**
comp=Z,51nm,0.6s
PPBI Pangkal Pinang 59.58 227 P **P** **20 55 08.1 +1.1**
comp=Z,118nm,0.9s,comp=Z,1µm
PPBI Pangkal Pinang 59.58 227 P **P** **20 55 07.1 +0.1**
comp=Z,118nm,0.9s,comp=Z,1µm
LOF Lofoten 59.59 341 *e*P **P** **20 55 05.7 -0.6**
LOF IAmb IAmb 20 55 06.8
comp=Z,47nm,0.8s
UPNV Upernavik 59.65 7 *i* P **P** **20 55 04.9 -1.7**
UPNV IAmb IAmb 20 55 06.9
comp=Z,297nm,0.5s
VALR Valaam 59.72 329*d i*P **P** **20 55 06.7 -0.5**
VALR pmax pmax
comp=Z,387nm,0.7s
FAUS Fauske 59.79 340 *e*P **P** **20 55 07.6 0.0**
FAUS IAmb IAmb 20 55 08.4
comp=Z,136nm,0.7s
BATI Baumata 59.99 204 P **P** **20 55 09.9 +0.2**
comp=Z,53nm,0.5s
BATI Baumata 59.99 204 P **P** **20 55 09.4 -0.3**
comp=Z,53nm,0.5s
BKNI Bangkinang 60.14 233 P **P** **20 55 11.9 +1.2**
BKNI Bangkinang 60.14 233 P **P** **20 55 12.5 +1.8**
comp=Z,254nm,0.9s
COR Corvallis 60.37 55 P **P** **20 55 14.6 +2.7**
COR Corvallis 60.37 55 ⇑P **P** **20 55 14.5 +2.7**
KDU Kakadu 60.42 194 P **P** **20 55 12.6 +0.1**
DRS Darwin Rock St 60.45 196 P **P** **20 55 13.2 +0.5**
PLAI Plampang 60.57 211 P **P** **20 55 12.4 -1.2**
PLAI Plampang 60.57 211 P **P** **20 55 11.7 -1.9**
comp=Z,209nm,1.0s,comp=Z,2µm
PLAI Plampang 60.57 211 P **P** **20 55 12.0 -1.6**
comp=Z,209nm,1.0s,comp=Z,2µm
COEN Coen 60.67 182 P **P** **20 55 14.6 +0.5**
COEN Coen 60.67 182 P **P** **20 55 14.2 0.0**
SUMG Summit 60.73 1 P **P** **20 55 15.2 +0.8**
SUMG Summit 60.73 1 *i* P **P** **20 55 14.0 -0.4**
SUMG IAmb IAmb 20 55 16.4
comp=Z,380nm,0.6s
MTN Manton Dam 60.80 195 P **P** **20 55 15.4 +0.3**
MTN Manton Dam 60.80 195 P **P** **20 55 15.2 +0.1**
MTN IAmb IAmb 20 55 16.3
comp=Z,95nm,0.5s
TWSI Taliwang, Sumb 60.81 212 P **P** **20 55 14.2 -1.0**
comp=Z,103nm,0.7s,comp=Z,1µm
TWSI Taliwang, Sumb 60.81 212 P **P** **20 55 14.2 -1.0**
comp=Z,103nm,0.7s,comp=Z,1µm
SRBI Singaraja 60.84 214 P **P** **20 55 15.2 -0.1**
comp=Z,372nm,1.0s,comp=Z,3µm
SRBI Singaraja 60.84 214 P **P** **20 55 15.1 -0.2**
PMBI Palembang 60.92 227 P **P** **20 55 18.2 +2.3**
PMBI Palembang 60.92 227 P **P** **20 55 16.8 +0.9**
MOS Moscow 60.92 322 *e*P **P** **20 55 13.2 -2.2**
MOS *e* 20 55 53.9
MOS *e*PP **pP** **20 56 40.7 +3.2**
MOS *e* 20 57 31.4
MOS *e* 20 59 07.5
MOS *e*S **S** **21 02 57.5 -4.3**
MOS *e* 21 04 22.1
MOS *e*SSS SSS 21 09 57.6
MOS pmax pmax
comp=Z,190nm,0.8s
MOS pmax pmax
comp=N,109nm,0.8s
MOS pmax pmax
comp=Z,300nm,1.1s
MOS smax smax
comp=E,1µm,1.3s
MOS smax smax
comp=N,900nm,1.5s
BASI Baing, Sumba 60.93 208 P **P** **20 55 14.9 -1.0**
ABJI Asem Bagus 60.95 215 P **P** **20 55 16.3 +0.2**
comp=N,253nm,1.1s,comp=N,2µm
ABJI Asem Bagus 60.95 215 P **P** **20 55 15.7 -0.4**
comp=N,253nm,1.1s,comp=N,2µm
MOR8 Moi Rana 60.97 339 *e*P **P** **20 55 14.3 -1.3**
MOR8 IAmb IAmb 20 55 14.9
comp=Z,200nm,0.6s
KONS Konsvik 61.01 340 *e*P **P** **20 55 15.5 -0.3**
KONS IAmb IAmb 20 55 16.9
comp=Z,20nm,0.7s
PUL Pulkovo 61.02 328 *e*P **P** **20 55 15.6 -0.4**
PUL Pulkovo 61.02 328 *i* P **P** **20 55 15.6 -0.4**
PUL pmax pmax
comp=Z,287nm,1.0s
NUUG Nuugaatsiaq 61.09 6 *i* P **P** **20 55 14.7 -1.6**
NUUG IAmb IAmb 20 55 20.7
comp=Z,70nm,0.7s
SNSI Sinabang, Aceh 61.10 239 P **P** **20 55 17.7 +0.5**
comp=Z,82nm,0.8s
SNSI Sinabang, Aceh 61.10 239 P **P** **20 55 18.1 +0.9**
comp=Z,82nm,0.8s
KEF Keuruu 61.14 332 *e*P **P** **20 55 16.6 -0.1**
VAF Ylistaro 61.17 334 *e*P **P** **20 55 17.4 +0.5**
STOK Stokkvaagen 61.17 340 *e*P **P** **20 55 16.4 -0.4**
STOK IAmb IAmb 20 55 18.5
comp=Z,41nm,0.7s
GSI Gunungsitoli 61.27 237 P **P** **20 55 19.1 +0.8**
GSI Gunungsitoli 61.27 237 P **P** **20 55 18.6 +0.3**
GSI Gunungsitoli 61.27 237 P **P** **20 55 18.3 0.0**
GSI Gunungsitoli 61.27 237 P **P** **20 55 19.2 +0.9**
FIA1 FINESS Array S 61.28 331 P **P** **20 55 17.5 -0.2**
FINES FINESS Array B 61.28 331 P **P** **20 55 17.4 -0.3**
comp=Z,244nm,0.6s,baz=44,slow=7.6,SNR=1590
FINES S **S** **21 03 04.4 -1.7**
comp=Z,27nm,0.9s,baz=49,slow=15,SNR=13
comp=Z,244nm,0.6s
HYB Hyderabad 61.37 265⇓*e*P **P** **20 55 19.3 +0.3**
HYB IVmB_BB 20 55 19.6
comp=Z,2µm,0.5s
NEW Newport 61.41 49 P **P** **20 55 19.9 +1.1**
baz=310,SNR=200
NEW S **S** **21 03 08.9 +0.7**
baz=310
NEW Newport 61.41 49 P **P** **20 55 19.6 +0.8**
PDSI Padang 61.48 233 P **P** **20 55 19.1 -0.6**
PDSI Padang 61.48 233 P **P** **20 55 18.4 -1.3**
GEYT Alibeck 61.54 296 P **P** **20 55 20.8 +0.9**
comp=Z,477nm,0.7s,baz=60,slow=3.9,SNR=1082
comp=Z,477nm,0.7s
JAGI Jajag, Banyuwa 61.60 215 P **P** **20 55 18.7 -1.7**
JAGI Jajag, Banyuwa 61.60 215 P **P** **20 55 18.0 -2.4**
OBN Obninsk 61.79 322 *e*P **P** **20 55 20.5 -0.6**
OBN Obninsk 61.79 322*d i*P **P** **20 55 20.5 -0.6**
OBN *e* 20 57 42.2
OBN *e*S **S** **21 03 10.0 -2.6**
OBN pmax pmax
comp=Z,312nm,0.9s
OBN MLR MLR
comp=Z,158nm,15.0s
OBN Obninsk 61.79 322 P **P** **20 55 20.6 -0.6**
comp=Z,354nm,1.1s,comp=Z,4µm
OBN Obninsk 61.79 322 P **P** **20 55 20.7 -0.4**
SMRI Semarang 61.86 220 P **P** **20 55 22.8 +0.7**
SMRI Semarang 61.86 220 P **P** **20 55 22.8 +0.7**
comp=Z,188nm,1.1s
SMRI Semarang 61.86 220 P **P** **20 55 22.2 +0.1**
comp=Z,188nm,1.1s
PBSI Pulau Batu 61.98 235 P **P** **20 55 23.9 +0.9**
UMMG Uummannaq 62.02 6 *i* P **P** **20 55 21.8 -0.6**
VRH Novokhopyorsk 62.08 316 *e*P **P** **20 55 22.4 -0.7**
VRH *e*S **S** **21 03 13.0 -3.3**
VRH pmax pmax
comp=Z,223nm,1.2s
PWJI Pagerwojo 62.15 218 P **P** **20 55 23.5 -0.5**
comp=Z,252nm,1.0s,comp=Z,2µm
PWJI Pagerwojo 62.15 218 P **P** **20 55 22.9 -1.1**
comp=Z,252nm,1.0s,comp=Z,2µm
LPSR Galich'ya Gora 62.45 319 *e*P **P** **20 55 23.5 -2.0**
LPSR *e*S **S** **21 03 16.2 -4.6**
LPSR pmax pmax
comp=Z,540nm,0.8s
LPSR smax smax
comp=N,600nm,2.7s
SCO Scoresbysund 62.47 355 P **P** **20 55 25.7 +0.4**
SCO Scoresbysund 62.47 355 *i* P **P** **20 55 25.0 -0.3**
SISI Saibi 62.58 234 P **P** **20 55 26.8 -0.1**
SISI Saibi 62.58 234 P **P** **20 55 26.7 -0.1**
comp=N,56nm,1.0s
UGM Wanagama 62.59 219 P **P** **20 55 25.7 -1.3**
comp=N,171nm,1.5s
MEF Metsahovi 62.75 331 *e*P **P** **20 55 27.5 +0.2**
ARBE Arbavere 62.79 330 *e*P **P** **20 55 28.1 +0.4**
NSS Namsos 62.91 339 *e*P **P** **20 55 28.1 -0.2**
NSS IAmb IAmb 20 55 28.9
comp=Z,37nm,0.8s
LEM Lembang 62.93 222 P **P** **20 55 29.4 +0.1**
comp=Z,134nm,1.0s,comp=Z,1µm
LEM Lembang 62.93 222 P **P** **20 55 28.8 -0.5**
comp=Z,134nm,1.0s,comp=Z,1µm
CBJI Citeko 62.93 223 P **P** **20 55 30.1 +1.0**
comp=Z,79nm,0.9s,comp=Z,5µm
VORR Voronezh 62.94 318 *e*P **P** **20 55 28.1 -0.6**
VORR *e*S **S** **21 03 24.0 -3.0**
VORR pmax pmax
comp=Z,177nm,1.2s
RAF Rauma 62.98 333 *e*P **P** **20 55 29.0 +0.2**
LWLI Liwa 63.07 227 P **P** **20 55 28.5 -1.7**
comp=Z,210nm,0.8s,comp=Z,2µm
LWLI Liwa 63.07 227 P **P** **20 55 29.4 -0.8**
comp=Z,210nm,0.8s,comp=Z,2µm
DBJI Dramaga 63.10 223 P **P** **20 55 29.2 -1.0**
comp=Z,152nm,1.0s,comp=Z,4µm
DBJI Dramaga 63.10 223 P **P** **20 55 29.2 -1.0**
comp=Z,153nm,1.0s,comp=Z,4µm
VSU Vasula 63.25 329*d i*P **P** **20 55 30.7 +0.1**
VSU pmax pmax
comp=Z,230nm,0.9s
VSR Storozhevoye 63.27 317 *e*P **P** **20 55 29.2 -1.7**
VSR *e*S **S** **21 03 26.7 -4.3**
VSR pmax pmax
comp=Z,490nm,0.5s
VSR smax smax
comp=E,290nm,1.6s
PPSI Pulau Pagai 63.27 232 P **P** **20 55 32.7 +1.3**
comp=E,200nm,1.1s
PPSI Pulau Pagai 63.27 232 P **P** **20 55 31.6 +0.2**
comp=E,203nm,1.2s
KASI Kota Agung 63.29 226 P **P** **20 55 29.6 -1.9**
comp=E,59nm,0.9s
KASI Kota Agung 63.29 226 P **P** **20 55 28.8 -2.7**
comp=E,59nm,0.9s
VORD Divnogorie 63.38 317 *e*P **P** **20 55 29.4 -2.2**
VORD pmax pmax
comp=Z,490nm,0.7s
CMJI Cimerak 63.40 221 P **P** **20 55 29.6 -2.5**
comp=Z,85nm,1.3s
BBJI Bungbulang 63.48 222 P **P** **20 55 31.3 -1.4**
ILULI Ilulissat 63.53 6 *i* P **P** **20 55 31.4 -0.9**

ILULI IAmb IAmb 20 55 33.3
comp=Z,234nm,0.7s
CNJI Cibinong 63.58 223 P P 20 55 30.5 -2.8
comp=Z,55nm,1.0s
CNJI Cibinong 63.58 223 P P 20 55 29.6 -3.7
comp=Z,55nm,1.0s
MSO Missoula 63.98 49 P P 20 55 36.8 +1.1
baz=312,SNR=406
FFC Flin Flon 64.05 36 ⇑P P 20 55 36.5 +0.6
FFC PcP **PcP** 20 56 08.1 +0.7
MTSE Matsula 64.08 330 *e*P **P** 20 55 36.4 +0.5
AAL Aland 64.19 333 *e*P **P** 20 55 36.2 -0.4
ICESG Greenland Ices 64.21 2 *i* P **P** 20 55 37.0 -0.1
ICESG IAmb IAmb 20 55 38.5
comp=Z,302nm,0.7s
WVOR Wild Horse Val 64.36 55 P P 20 55 39.8 +1.6
MAK Makhachkala 64.52 306 *d i*P **P** 20 55 38.2 -0.9
MAK *e**PP **pP** 20 57 03.8 +1.4
MAK *e**SP **sP** 20 57 47.4 +3.2
MAK *e* 20 58 03.1
MAK *e*PPP PPP 20 59 44.9
MAK *e*S **S** 21 03 44.7 -1.8
MAK *e*SS **SS** 21 08 04.4 -0.1
MAK pmax pmax
comp=Z,460nm,0.8s
MTSU Mount Surprise 64.80 181 P P 20 55 41.7 +0.6
SOEG Soedalen 65.12 358 *i* P **P** 20 55 42.3 -0.2
UPP Uppsala 65.18 334 *e*P **P** 20 55 42.9 0.0
EGMT Eagleton 65.27 45 P P 20 55 45.1 +1.2
baz=313,SNR=132
GROC Groznyy 65.30 307 *e*P **P** 20 55 44.5 +0.5
GROC *e* 20 56 13.1
GROC *e**PP **pP** 20 57 06.6 -1.0
GROC *e*S **S** 21 03 56.2 +0.3
GROC *e* 21 04 58.6
GROC pmax pmax
comp=Z,9.0nm,0.6s
SLIT Slitere, Latvi 65.43 330 *e*P **P** 20 55 44.5 -0.1
KHAM Kharkiv 65.46 318 P P 20 55 45.0 0.0
GOF Gofitskoye 65.52 310 *d i*P **P** 20 55 46.6 +1.2
GOF *e*S **S** 21 03 59.4 +0.9
MOL Molde 65.63 340 *e*P **P** 20 55 46.2 +0.5
MOL IAmb IAmb 20 55 46.8
comp=Z,21nm,0.6s
ISAL Salakas 65.63 327 *e*P **P** 20 55 47.9 +2.0
DOMB Dombas 65.72 339 *e*P **P** 20 55 46.4 -0.1
DOMB IAmb IAmb 20 55 47.2
comp=Z,49nm,0.7s
SFJD Kangerlussuaq 65.75 7 *i* P **P** 20 55 46.0 -0.4
SFJD IAmb IAmb 20 55 47.5
comp=Z,237nm,1.0s
SFJD Kangerlussuaq 65.75 7 P P 20 55 46.2 -0.2
MNK Minsk 65.76 325 *c i*P **P** 20 55 47.2 +0.4
IIGN Ignalina 65.76 327 *e*P **P** 20 55 48.4 +1.7
SEKA Sheki 65.86 305 P P 20 55 49.3 +1.6
HLID Hailey 65.92 51 P P 20 55 49.8 +1.6
baz=313,SNR=239
BOZ Bozeman (W) 65.99 48 P P 20 55 50.1 +1.5
baz=313,SNR=1000
BOZ S **S** 21 04 05.9 +1.4
baz=313
NB2 NORSAR Subarra 66.02 337 P P 20 55 48.2 -0.1
comp=Z,44nm,0.5s,baz=31,slow=6.5
NB2 NORSAR Subarra 66.02 337 P P 20 55 48.2 -0.1
baz=31,slow=6.5
NB2 NORSAR Subarra 66.02 337 P P 20 55 48.1 -0.3
NB2 pmax pmax
comp=Z,10.0nm,0.5s
NOA NORSAR Array B 66.02 337 P P 20 55 48.2 -0.1
comp=Z,79nm,0.7s,baz=33,slow=6.5,SNR=491
comp=Z,79nm,0.7s
HFS Hagfors 66.10 336 P P 20 55 48.7 -0.2
comp=Z,168nm,0.6s,baz=45,slow=5.2,SNR=840
HFS S **S** 21 04 02.2 -2.7
comp=Z,7.4nm,0.8s,baz=70,slow=12,SNR=4.3
comp=Z,168nm,0.6s
VSVD Vaisvydziai 66.13 328 *e*P **P** 20 55 49.3 +0.3
NC602 NORSAR Array S 66.19 337 *e*P **P** 20 55 49.1 -0.3
NC602 IAmb IAmb 20 55 49.7
comp=Z,24nm,0.7s
NORES NORESS Array B 66.19 337 P P 20 55 48.7 -0.7
MNGR Mingechevir, A 66.21 305 P P 20 55 51.4 +1.6
NCK Nalchik 66.29 309 *i* P **P** 20 55 51.3 +1.0
NCK pmax pmax
comp=Z,539nm,0.9s
KIV Kislovodsk 66.46 310 ⇑P **P** 20 55 53.1 +1.7
KIV Kislovodsk 66.46 310 *i* P **P** 20 55 52.6 +1.2
SNR=107
KIV Kislovodsk 66.46 310 P P 20 55 52.9 +1.5
KIV P **P** 20 55 52.9 +1.5
KIV Kislovodsk 66.46 310 *e*P **P** 20 55 52.3 +0.8
KIV Kislovodsk 66.46 310 *e*P **P** 20 55 52.3 +0.8
KIV *e* 20 58 21.6
KIV *e*PPP PPP 21 00 07.0
KIV *e*S **S** 21 04 11.3 +1.3
KIV *e*SS **SS** 21 08 34.3 -0.2
KIV pmax pmax
comp=Z,1μm,1.0s
KIV MLR MLR
comp=Z,112nm,17.0s
KIV Kislovodsk 66.46 310 P P 20 55 52.6 +1.2
comp=Z,2μm,0.8s,comp=Z,14μm
KIV Kislovodsk 66.46 310 P P 20 55 52.7 +1.2
PABE Paberze 66.48 328 *e*P **P** 20 55 51.5 +0.2
KBZ Khabaz 66.50 309 P P 20 55 52.8 +1.2
comp=Z,564nm,0.8s,baz=50,slow=5.3,SNR=751
KBZ S **S** 21 04 11.8 +1.6
comp=Z,9.2nm,1.1s,baz=222,slow=22,SNR=6.1
comp=Z,564nm,0.8s
KBZ Khabaz 66.50 309 *e*P **P** 20 55 52.5 +0.9
KBZ Khabaz 66.50 309 *d i*P **P** 20 55 52.5 +0.9
KBZ pmax pmax
comp=Z,623nm,0.8s
FRB Frobisher Bay 66.51 15 P P 20 55 50.5 -0.8
PLTM Poltava 66.52 318 P P 20 55 51.3 -0.3
VIKU Vikbolandet 66.56 333 *e*P **P** 20 55 51.6 -0.1
DY2G Dye2 66.56 5 *i* P **P** 20 55 51.3 -0.6
SHA1 Shidzhatmaz 66.62 309 *d i*P **P** 20 55 53.3 +0.6
LKRN Lenkeran, Azer 66.62 302 P P 20 55 52.9 +0.5
GANJ Ganja 66.72 305 P P 20 55 54.0 +0.9
CTAO Charters Tower 66.75 179 P P 20 55 53.4 0.0
CTAO Charters Tower 66.75 179 P P 20 55 53.3 -0.1
PBUR Paburge 66.81 329 *e*P **P** 20 55 53.2 0.0
ONI Oni 66.98 308 P P 20 55 56.3 +1.6
LABN Labinsk 67.01 311 *d i*P **P** 20 55 56.1 +1.3
LABN *e*S **S** 21 04 18.3 +2.0
LABN pmax pmax
comp=Z,913nm,0.9s
XMIS Christmas Isla 67.05 223 P P 20 55 55.3 0.0
FITZ Fitzroy Crossi 67.05 200 P P 20 55 56.1 +0.9
FOO Floro 67.06 340 *e*P **P** 20 55 55.0 +0.3
FOO IAmb IAmb 20 55 55.9
comp=Z,23nm,0.8s
SKAR Skarslia 67.08 338 *e*P **P** 20 55 55.5 +0.5
SKAR IAmb IAmb 20 55 56.2
comp=Z,22nm,0.5s
OSL Oslo 67.08 337 *e*P **P** 20 55 55.4 +0.4
OSL IAmb IAmb 20 55 55.9
comp=Z,45nm,0.9s
HYA Hoyanger 67.17 340 *e*P **P** 20 55 55.8 +0.4
HYA IAmb IAmb 20 55 56.6
comp=Z,58nm,0.6s
PALK Pallekele 67.21 256 P P 20 55 57.3 +0.8
PALK Pallekele 67.21 256 *i* P **P** 20 55 56.6 +0.1
PALK pmax pmax
comp=Z,117nm,0.9s
PALK Pallekele 67.21 256 P P 20 55 57.0 +0.6
NVAR Mina Array Bea 67.21 58 P P 20 55 58.0 +1.5
comp=Z,276nm,0.7s,baz=293,slow=5.9,SNR=1512
comp=Z,276nm,0.7s
WRAB Tennant Creek 67.27 191 *i* P **P** 20 55 56.1 -0.4
WRAB pmax pmax
comp=Z,75nm,0.8s
WRA Warramunga Arr 67.28 191 P P 20 55 56.5 -0.1
comp=Z,33nm,0.4s,baz=6.6,slow=6.6,SNR=326
WRA pP **pP** 20 57 20.1 -0.5
comp=Z,14nm,1.0s,baz=5.9,slow=6.8,SNR=3.6
WRA PKP2bc 21 24 20.4
comp=Z,4.9nm,0.9s,baz=188,slow=2.7,SNR=12
comp=Z,33nm,0.4s
ELK Elko 67.38 54 P P 20 55 58.6 +1.1
QIS Mount Isa 67.38 185 P P 20 55 56.9 -0.3
MLAC Mammoth, Mammo 67.44 59 P P 20 55 59.8 +1.9
baz=313,SNR=24

RLMT Red Lodge 67.52 47 P P 20 55 59.9 +1.6
baz=315,SNR=389
SUE Sulen 67.60 340 *e*P **P** 20 55 58.6 +0.5
SUE IAmb IAmb 20 55 59.4
comp=Z,34nm,0.7s
KONO Kongsberg 67.63 337 *e*P **P** 20 55 58.5 +0.2
KONO IAmb IAmb 20 55 59.2
comp=Z,15nm,0.7s
KONO Kongsberg 67.63 337 *i* P **P** 20 55 57.7 -0.6
KONO pmax pmax
comp=Z,17nm,0.8s
KONO Kongsberg 67.63 337 P P 20 55 58.6 +0.2
ANGG Ammassalik, Gr 67.73 1 *i* P **P** 20 55 57.8 -1.0
ISOG Isortoq, Green 67.78 2 *i* P **P** 20 55 58.2 -0.9
SUW Suwalki 67.93 327 *e*P **P** 20 56 00.0 -0.2
SUW Suwalki 67.93 327 P P 20 56 00.1 -0.2
GNI Garni 67.95 306 P P 20 56 03.0 +2.1
GNI Garni 67.95 306 P P 20 56 03.1 +2.3
GNI P **P** 20 56 03.1 +2.3
GNI Garni 67.95 306 *d i*P **P** 20 56 02.5 +1.6
GNI pmax pmax
comp=Z,397nm,1.2s
GNI Garni 67.95 306 P P 20 56 02.9 +2.1
GNI PcP **PcP** 20 56 26.7 +2.6
VOG Valley Oaks Go 68.00 60 P P 20 56 02.0 +0.9
baz=313,SNR=9.5
AK03 Malin Array Si 68.04 322 P P 20 56 00.3 -0.7
AK23 Malin Array Si 68.05 322 P P 20 56 00.3 -0.8
AKASG Malin Array Be 68.05 322 P P 20 56 00.8 -0.2
comp=Z,268nm,0.7s,baz=38,slow=6.3,SNR=173
AKASG pP **pP** 20 57 22.3 -3.0
comp=Z,11nm,0.5s,baz=33,slow=6.0,SNR=3.2
AKASG S **S** 21 04 22.6 -5.8
comp=Z,2.3nm,0.8s,baz=29,slow=12,SNR=3.9
comp=Z,268nm,0.7s
AKBB Malin Array Si 68.05 322 *d i*P **P** 20 56 00.5 -0.6
AKBB pmax pmax
comp=Z,363nm,0.8s
AKBB Malin Array Si 68.05 322 P P 20 56 00.4 -0.6
AK04 Malin Array Si 68.06 322 P P 20 56 00.3 -0.8
BER Bergen 68.06 340 *e*P **P** 20 56 01.6 +0.7
BER IAmb IAmb 20 56 02.0
comp=Z,54nm,0.6s
KIEV Kiev 68.06 322 ⇑P **P** 20 56 00.9 -0.2
KIEV Kiev 68.06 322 *i* P **P** 20 56 01.0 -0.2
SNR=17
KIEV Kiev 68.06 322 ⇑P **P** 20 56 00.9 -0.2
KIEV Kiev 68.06 322 P P 20 56 00.4 -0.8
comp=Z,2μm,1.0s,comp=Z,14μm
KIEV Kiev 68.06 322 ⇓P **P** 20 56 01.0 -0.2
KIEV pP **pP** 20 57 28.3 +2.9
KIEV sP **sP** 20 58 09.5 +2.5
AK01 Malin Array Si 68.07 322 P P 20 56 00.5 -0.7
AK22 Malin Array Si 68.07 322 P P 20 56 00.6 -0.6
AK21 Malin Array Si 68.07 322 P P 20 56 00.6 -0.6
AK08 Malin Array Si 68.09 322 P P 20 56 00.7 -0.6
AK09 Malin Array Si 68.09 322 P P 20 56 00.7 -0.6
AK02 Malin Array Si 68.09 322 P P 20 56 00.7 -0.6
AK11 Malin Array Si 68.09 322 P P 20 56 00.7 -0.6
AK15 Malin Array Si 68.10 322 P P 20 56 00.7 -0.7
BORG Borgarnes 68.10 354 P P 20 56 02.5 +1.4
BORG Borgarnes 68.10 354 P P 20 56 02.8 +1.7
AK18 Malin Array Si 68.10 322 P P 20 56 00.8 -0.6
AK20 Malin Array Si 68.11 322 P P 20 56 00.8 -0.7
AK10 Malin Array Si 68.12 322 P P 20 56 00.9 -0.6
AK05 Malin Array Si 68.12 322 P P 20 56 00.9 -0.6
AK12 Malin Array Si 68.13 322 P P 20 56 00.9 -0.6
AK19 Malin Array Si 68.13 322 P P 20 56 00.9 -0.6
AK14 Malin Array Si 68.16 322 P P 20 56 01.1 -0.6
ODD1 Odda 68.16 339 *e*P **P** 20 56 02.4 +0.7
ODD1 IAmb IAmb 20 56 03.0
comp=Z,32nm,0.6s
AK07 Malin Array Si 68.17 322 P P 20 56 01.2 -0.6
TIN Tinemaha, Big 68.18 59 P P 20 56 04.0 +1.7
baz=313,SNR=28
VSLR Vesyoloye 68.19 311 *d i*P **P** 20 56 02.7 +0.6
VSLR pmax pmax
comp=Z,908nm,1.0s
AK13 Malin Array Si 68.19 322 P P 20 56 01.3 -0.6
NAX Nakhchivan 68.19 304 P P 20 56 04.8 +2.5
SOC Sochi 68.27 311 *e*P **P** 20 56 01.4 -1.1
SOC *e**PP **pP** 20 57 25.9 -1.0
SOC *e**SP **sP** 20 58 05.5 -2.9
SOC *e* 20 58 39.3
SOC *e*PPP PPP 21 00 20.2
SOC *e*S **S** 21 04 30.4 -0.7
SOC pmax pmax
comp=Z,384nm,0.6s
SMMC Simmler 68.32 61 P P 20 56 04.6 +1.6
baz=313,SNR=43
NUUK Nuuk 68.42 8 *i* P **P** 20 56 02.7 -0.4
NUUK IAmb IAmb 20 56 05.2
comp=Z,256nm,0.7s
MI30 MI30,Zelenitsa 68.45 322 P P 20 56 03.2 -0.4
VES Vestal, Richgr 68.50 60 P P 20 56 04.7 +0.5
baz=313,SNR=121
MI28 Mi28,Pidlybu 68.53 323 P P 20 56 03.6 -0.4
ANN Anapa 68.56 313 *e*P **P** 20 56 04.5 +0.2
ANN Anapa 68.56 313 *e*P **P** 20 56 04.3 0.0
ANN *e**PP **pP** 20 57 29.0 +0.3
ANN *e*S **S** 21 04 33.3 -1.2
ANN pmax pmax
comp=Z,429nm,0.5s
ANN pmax pmax
comp=Z,449nm,0.6s
CWC Cottonwood Cre 68.69 59 P P 20 56 06.7 +1.2
baz=313
PKM Mcpherson Peak 68.72 61 P P 20 56 07.1 +1.5
baz=313,SNR=96
GRAC Grapevine Rang 68.73 58 P P 20 56 07.5 +1.9
baz=313,SNR=133
BCA Borcka 68.76 308 ⇑P **P** 20 56 06.4 +0.7
R11B Troy Canyon, C 68.83 56 P P 20 56 07.6 +1.3
baz=314,SNR=428
R11B S **S** 21 04 40.0 +1.8
baz=314
MI29 MI29, Kamyanyy 68.84 322 P P 20 56 05.1 -0.8
RNPP9 Sopachiv 68.89 324 P P 20 56 05.9 -0.3
RNPP2 Kostyukhnivka 68.96 324 P P 20 56 07.0 +0.4
RNPP8 Varash 68.96 324 P P 20 56 06.7 +0.1
ISA Isabella, Lake 68.99 60 P P 20 56 07.6 +0.4
baz=313,SNR=84
BW06 Boulder Array 69.03 49 P P 20 56 08.6 +1.1
baz=315,SNR=290
PDAR Pinedale Array 69.03 49 P P 20 56 08.5 +0.9
comp=Z,509nm,0.7s,baz=311,slow=1.1,SNR=2736
comp=Z,509nm,0.7s
RNPP5 Staryi Chortor 69.03 324 P P 20 56 06.8 -0.3
SBC Santa Barbara 69.08 62 P P 20 56 09.2 +1.5
baz=313,SNR=8.2
DUG Dugway, Tooele 69.10 53 P P 20 56 09.6 +1.7
baz=314,SNR=426
DUG S **S** 21 04 41.3 +0.1
baz=314
DUG Dugway, Tooele 69.10 53 P P 20 56 09.2 +1.3
HOMB Homborsund 69.11 337 *e*P **P** 20 56 07.5 +0.1
HOMB IAmb IAmb 20 56 08.3
comp=Z,16nm,0.6s
KMY Karmoy 69.12 339 *e*P **P** 20 56 08.3 +0.9
KMY IAmb IAmb 20 56 08.9
comp=Z,38nm,0.7s
ARVC Arvin 69.14 61 P P 20 56 08.7 +0.7
baz=313,SNR=16
LUBAR Lubar, Ukraine 69.26 322 P P 20 56 07.7 -0.8
MPMC Manual Prospec 69.30 59 P P 20 56 10.5 +1.3
baz=314,SNR=308
MPMC S **S** 21 04 44.0 +0.2
baz=314
FURC Furnace Creek, 69.39 58 P P 20 56 11.1 +1.7
baz=314,SNR=373
SNART Snartemo 69.39 338 *e*P **P** 20 56 09.7 +0.6
SNART IAmb IAmb 20 56 10.3
comp=Z,73nm,0.9s
TPNV Topopah Spring 69.41 58 P P 20 56 11.3 +1.5
baz=314,SNR=798
TPNV S **S** 21 04 47.4 +2.4
baz=314
SCZ2 Santa Cruz Isl 69.43 62 P P 20 56 10.8 +0.9
baz=313,SNR=7.8
OSI Osito Audit: C 69.56 61 P P 20 56 11.8 +1.2
baz=314,SNR=10
LRMC Laurel Mtn Rad 69.58 60 P P 20 56 11.9 +1.0
baz=314,SNR=183
LRW Lerwick 69.73 343 ⇑*e*P **P** 20 56 11.5 +0.4

LRW IAmb IAmb 20 56 11.8
comp=Z,47nm,0.4s
EDW2 Edwards Air Fo 69.81 60 P P 20 56 13.5 +1.3
baz=314,SNR=236
EDW2 S **S** 21 04 51.8 +2.3
baz=314
ULM Lac du Bonnet 69.88 37 P P 20 56 12.3 +0.1
comp=Z,464nm,0.7s,baz=316,slow=6.8,SNR=620
ULM S **S** 21 04 48.4 -1.1
comp=Z,6.1nm,0.9s,baz=218,slow=22,SNR=4.4
comp=Z,464nm,0.7s
ULM Lac du Bonnet 69.88 37 *c i*P **P** 20 56 12.1 -0.1
BSD Bornholm Skovb 69.90 332 P P 20 56 12.5 +0.3
BSD Bornholm Skovb 69.90 332 *i* P **P** 20 56 11.7 -0.5
BSD IAmb IAmb 20 56 13.1
comp=Z,144nm,0.5s
BAL3X Bal3x, Balta 69.96 320 P P 20 56 13.1 +0.3
SNCC San Nicolas Is 70.01 63 *i* P **P** 20 56 14.4 +1.1
baz=314,SNR=12
DECC Green Verdugo 70.04 61 P P 20 56 14.5 +1.0
baz=314,SNR=25
SIM Simferopol' 70.09 315 *e*P **P** 20 56 13.6 0.0
SIM *e*S **S** 21 04 44.4 -7.8
SIM pmax pmax
comp=Z,453nm,0.8s
SIM smax smax
comp=E,98nm,13.5s
SHOC Shoshone, Teco 70.12 59 P P 20 56 15.3 +1.4
baz=314,SNR=63
SHOC S **S** 21 04 55.0 +2.1
baz=314
MDND Maddock 70.12 40 P P 20 56 14.8 +1.1
baz=319,SNR=72
MDND S **S** 21 04 53.1 +0.6
baz=319
COP Copenhagen 70.20 334 *i* P **P** 20 56 14.2 +0.2
RK1H Rockhampton Ha 70.21 175 P P 20 56 15.3 +0.9
GSC Goldstone, Bar 70.22 59 P P 20 56 15.9 +1.2
baz=314,SNR=240
GSC S **S** 21 04 54.0 -0.3
baz=314
NE56 Odesa 70.33 318 P P 20 56 13.6 -1.3
SORM Soroca 70.36 320 ⇓P **P** 20 56 15.1 0.0
SORM Soroca 70.36 320 ⇓P **P** 20 56 15.1 0.0
SORM Soroca 70.36 320 P P 20 56 14.8 -0.3
comp=E,522nm,0.8s,comp=E,5μm
RRX Edison Barstow 70.41 60 P P 20 56 17.1 +1.4
baz=314,SNR=7.8
FMP Fort Macarthur 70.44 61 P P 20 56 16.7 +0.9
baz=314
BFSC Mount Baldy Ra 70.45 61 P P 20 56 17.1 +1.0
baz=314,SNR=123
MUD Monsted U'grnd 70.50 336 P P 20 56 16.4 +0.7
MUD Monsted U'grnd 70.50 336 *i* P **P** 20 56 15.8 0.0
MUD IAmb IAmb 20 56 17.2
comp=Z,50nm,0.5s
BEL Belsk 70.54 327 *e*P **P** 20 56 17.1 +0.9
CIS Catalina Islan 70.58 62 P P 20 56 17.5 +0.8
baz=314,SNR=23
BANOM Banah 70.61 287 *i* P **P** 20 56 17.8 +0.7
SNR=16
BANOM Banah 70.61 287 P P 20 56 18.1 +1.0
SHME Shamm 70.63 288 *i* P **P** 20 56 17.7 +0.6
SNR=155
SHME Shamm 70.63 288 P P 20 56 17.7 +0.6
SNR=16
TUQ Turquoise Moun 70.65 59 P P 20 56 18.8 +1.5
baz=314,SNR=399
TUQ S **S** 21 05 00.9 +1.7
baz=314
GKP Gorka Klasztor 70.65 330 *e*P **P** 20 56 17.2 +0.5
GKP Gorka Klasztor 70.65 330 P P 20 56 17.3 +0.5
K22A Casper 70.67 48 P P 20 56 18.1 +0.7
baz=317,SNR=69
K22A S **S** 21 04 59.8 +0.4
baz=317
SCI2 San Clemente I 70.79 62 P P 20 56 18.8 +0.8
baz=314,SNR=13
HEC Hector,Ludlow 70.83 59 P P 20 56 19.7 +1.4
baz=314,SNR=82
HEC S **S** 21 05 03.6 +2.5
baz=314
RSSD Black Hills 70.84 45 P P 20 56 19.2 +0.8
baz=318
RSSD S **S** 21 05 02.1 +0.8
baz=318
RSSD Black Hills 70.84 45 P P 20 56 18.7 +0.3
RSSD Black Hills 70.84 45 P P 20 56 19.1 +0.7
KMPD K-Podol'skiy 70.85 322 P P 20 56 17.4 -0.6
LVV L'vov 70.88 324 *e*P **P** 20 56 18.5 +0.3
LVV *i* S **S** 21 04 58.5 -2.5
LVV *e*SS **SS** 21 09 48.6 +7.0
BBRC Big Bear Solar 70.88 60 P P 20 56 19.8 +1.0
baz=314,SNR=5.7
PURM Purcari 70.90 319 ⇓P **P** 20 56 18.8 +0.4
PURM Purcari 70.90 319 P P 20 56 18.3 -0.1
comp=Z,698nm,0.8s,comp=Z,7μm
AS01 Alice Springs 71.00 191 P P 20 56 20.1 +0.9
ASAR Alice Springs 71.00 191 P P 20 56 20.2 +1.0
comp=Z,64nm,0.7s,baz=5.2,slow=5.8,SNR=403
ASAR PKPPKP **P'P'df** 21 24 08.5 +2.5
comp=Z,0.9nm,0.6s,baz=179,slow=3.5,SNR=4.4
comp=Z,64nm,0.7s
KIS Kishinev 71.02 319 ⇓P **P** 20 56 19.3 +0.2
KIS Kishinev 71.02 319 ⇓*i*P **P** 20 56 19.2 +0.1
comp=Z,360nm,0.7s
KIS ⇑*i*S **S** 21 05 01.0 -1.7
comp=Z,300nm,1.6s
KIS Kishinev 71.02 319 *d i*P **P** 20 56 19.2 +0.1
KIS *i* S **S** 21 05 01.0 -1.7
KIS pmax pmax
comp=Z,460nm,1.5s
KIS smax smax
comp=E,300nm,1.6s
KIS smax smax
comp=N,400nm,2.6s
KIS Kishinev 71.02 319 P P 20 56 19.0 -0.1
comp=N,421nm,0.8s,comp=N,3μm
MDH Madha 71.04 287 *i* P **P** 20 56 19.3 -0.3
SNR=16
MDH Madha 71.04 287 P P 20 56 19.6 0.0
SNR=17
BIDO Bidbid 71.06 284 P P 20 56 21.0 +1.3
SNR=32
DRBR Darabani 71.06 321 ⇓P **P** 20 56 19.3 0.0
MASF Masafi 71.08 287 P P 20 56 20.5 +0.7
SNR=44
MILM Milestii Mici 71.08 319 ⇓P **P** 20 56 19.7 +0.2
MILM Milestii Mici 71.08 319 ⇓*i*P **P** 20 56 19.4 -0.1
comp=N,700nm,0.7s
MILM Milestii Mici 71.08 319 *e*PcP **PcP** 20 56 35.0 -2.0
MILM *e*sP sP 20 58 16.0 -10
MILM Milestii Mici 71.08 319 *e*PP PP 20 59 00.0 -2.5
MILM *i* S **S** 21 05 01.0 -2.4
comp=N,530nm,2.0s
MILM *e*ScS **SKSac** 21 05 42.0 -1.7
MILM Milestii Mici 71.08 319 *d i*P **P** 20 56 19.4 -0.1
MILM *e* 20 56 35.0
MILM *e* 20 59 00.0
MILM *i* S **S** 21 05 01.0 -2.4
MILM *e* 21 05 42.0
MILM pmax pmax
comp=Z,700nm,0.7s
MILM smax smax
comp=N,400nm,3.0s
MILM smax smax
comp=E,530nm,2.0s
MSFE Esma-Masafi 71.09 287 *i* P **P** 20 56 20.4 +0.5
SNR=44
WBK Wadi Bani Khal 71.12 283 P P 20 56 22.0 +1.8
SNR=20
JLN Jalan Bani Buh 71.14 282 P P 20 56 21.7 +1.5
SNR=28
MURC Murrieta 71.17 61 P P 20 56 21.2 +0.9
baz=314,SNR=27
SSRD Sdr. Stenderup 71.21 335 *i* P **P** 20 56 20.1 +0.1
SSRD IAmb IAmb 20 56 26.5
comp=Z,0.0nm,0.8s
GMRC Granite Mounta 71.26 59 P P 20 56 22.3 +1.4
baz=315,SNR=269
GMRC S **S** 21 05 07.8 +1.7
baz=315
UMQ Umm Al-Quwin 71.30 287 *i* P **P** 20 56 22.6 +1.4
SNR=21
UMQ Umm Al-Quwin 71.30 287 P P 20 56 22.7 +1.6
SNR=12

UOSS	Minazif	71.35	287	*i* P		P	20 56 21.8 +0.4
	SNR=23						
UOSS	Minazif	71.35	287	P		P	20 56 22.0 +0.6
UOSS	Minazif	71.35	287	P		P	20 56 21.8 +0.4
AGMN	Agassiz Nation	71.39	38	P		P	20 56 21.3 0.0
	baz=321,SNR=145						
NOUC	Port Laguerre	71.42	159	P		P	20 56 22.9 +1.3
DZM	Mont Dzumac	71.42	159	P		P	20 56 23.3 +1.5
DZM	Mont Dzumac	71.42	159	*e*P		P	20 56 22.9 +1.1
	comp=Z,79nm,1.1s						
DZM				*e*S		S	21 05 12.8 +4.9
	comp=Z,112nm,22.7s						
DZM	Mont Dzumac	71.42	159	*e*LR		LR	21 18 48.6
	comp=Z,388nm,22.9s						
DZM	Mont Dzumac	71.42	159	P		P	20 56 24.1 +2.3
SMDO	Samad	71.43	284	P		P	20 56 23.0 +1.0
	SNR=23						
IAS	Iasi	71.43	320	⇓P		P	20 56 21.9 +0.4
IAS	Iasi	71.43	320	⇓P		P	20 56 21.9 +0.4
HATD	Hatta, Dubai	71.48	287	*i* P		P	20 56 23.0 +0.8
	SNR=42						
HATD	Hatta, Dubai	71.48	287	P		P	20 56 23.2 +1.0
	SNR=76						
MBWA	Marble Bar	71.52	205	P		P	20 56 22.5 +0.3
MBWA	Marble Bar	71.52	205	P		P	20 56 22.8 +0.6
MBWA	Marble Bar	71.52	205	P		P	20 56 22.6 +0.3
MBWA				PcP		PcP	20 56 38.6 -0.4
MBWA				pP		pP	20 57 50.2 +2.7
KWP	Kalwaria Pacla	71.55	325	*e*P		P	20 56 24.5 +2.3
KWP	Kalwaria Pacla	71.55	325	P		P	20 56 24.5 +2.3
HOQ	Hoqain	71.56	285	P		P	20 56 23.5 +0.8
	SNR=20						
PFO	Pinyon Flats O	71.60	60	P		P	20 56 23.8 +0.8
	baz=315,SNR=83						
PFO	Pinyon Flats O	71.60	60	⇓*i*P		P	20 56 22.0 -1.0
PFO				pmax		pmax	
	comp=Z,170nm,1.0s						
PFO	Pinyon Flats O	71.60	60	⇑P		P	20 56 23.7 +0.8
PFO				PcP		PcP	20 56 39.4 -0.3
BELC	Belle Mtn. Jos	71.61	60	P		P	20 56 23.8 +0.8
	baz=315,SNR=185						
O20A	White River Ci	71.61	51	P		P	20 56 23.8 +0.9
	baz=316,SNR=350						
O20A				S		S	21 05 11.7 +1.6
	baz=316						
TPFO	Pinon Flats	71.61	60	P		P	20 56 23.6 +0.6
	baz=315,SNR=105						
ASHO	Ashiyiah	71.62	287	*i* P		P	20 56 23.7 +0.7
	SNR=138						
ASHO	Ashiyiah	71.62	287	P		P	20 56 23.9 +0.8
	SNR=92						
IVI	Ivigtut	71.66	7	*i* P		P	20 56 21.6 -0.9
IVI	Ivigtut	71.66	7	P		P	20 56 22.6 0.0
NAZ	Nazwa, Dubai	71.67	287	*i* P		P	20 56 23.8 +0.5
	SNR=21						
NAZ	Nazwa, Dubai	71.67	287	P		P	20 56 24.0 +0.7
	SNR=35						
SOHO	SOHO	71.69	286	*i* P		P	20 56 23.5 +0.1
	SNR=70						
SOHO	SOHO	71.69	286	P		P	20 56 24.1 +0.6
109C	Camp Elliot, M	71.72	61	P		P	20 56 24.4 +0.9
	baz=314,SNR=13						
BIGH	Upper Bighouse	71.79	343⇑	*e*P		P	20 56 23.8 +0.4
BIGH				IAmb		IAmb	20 56 24.9
	comp=Z,61nm,0.9s						
JMDO	Jabal Madar	71.87	283	P		P	20 56 25.8 +1.3
	SNR=27						
PSA00	Pilbara Seismi	71.87	204	P		P	20 56 24.7 +0.4
PRAR	RASCA	71.88	321	⇑P		P	20 56 24.4 +0.2
NEE2	Needles Airpor	71.88	58	P		P	20 56 25.4 +1.0
	baz=315,SNR=9.9						
FAQ	Al Faqa, Dubai	71.89	287	*i* P		P	20 56 25.0 +0.4
	SNR=76						
FAQ	Al Faqa, Dubai	71.89	287	P		P	20 56 25.1 +0.6
	SNR=34						
NRS	Narsarsuaq	71.90	5	P		P	20 56 23.2 -0.8
NRS	Narsarsuaq	71.90	5	*i* P		P	20 56 23.0 -1.0
DIKM	Dikmen	71.94	312	⇓P		P	20 56 26.3 +1.6
DIKM	Dikmen	71.94	312	P		P	20 56 25.6 +1.0
	comp=Z,413nm,0.7s,comp=Z,4μm						
IRM	Iron Mountain	72.00	59	P		P	20 56 26.7 +1.5
	baz=315,SNR=295						
IRM				S		S	21 05 16.6 +2.2
	baz=315						
BIR	Birlad	72.11	320	⇓P		P	20 56 26.9 +1.4
BIR	Birlad	72.11	320	⇓P		P	20 56 26.9 +1.4
BURAR	Bucovina Array	72.11	322	⇓P		P	20 56 26.1 +0.4
BURAR	Bucovina Array	72.11	322	⇓P		P	20 56 26.1 +0.4
MONP2	Monument Peak	72.13	61	P		P	20 56 27.0 +0.9
	baz=315,SNR=48						
ASUD	Al Ashush, Dub	72.14	287	*i* P		P	20 56 27.0 +0.9
	SNR=54						
ASUD	Al Ashush, Dub	72.14	287	P		P	20 56 27.0 +0.9
	SNR=54						
BC3	Big Chuckawall	72.17	60	P		P	20 56 27.4 +1.1
	baz=315,SNR=149						
BSY	Bisya	72.21	284	P		P	20 56 27.5 +1.0
	SNR=36						
OJC	Ojcow	72.21	326	*e*P		P	20 56 26.8 +0.7
OJC	Ojcow	72.21	326	P		P	20 56 26.5 +0.4
OJC	Ojcow	72.21	326	P		P	20 56 26.5 +0.4
	comp=Z,239nm,1.0s,comp=Z,2μm						
EIDS	Eidsvold	72.22	174	P		P	20 56 27.6 +1.3
VLDR	Vladesti	72.23	319	⇑P		P	20 56 26.7 +0.5
ARQ	Araqi	72.25	285	P		P	20 56 27.7 +1.0
	SNR=35						
N23A	Red Feather La	72.25	49	P		P	20 56 28.1 +1.3
	baz=317,SNR=156						
N23A				S		SKiKP	21 05 19.8 -0.7
	baz=317						
ALNE	Al Ain	72.26	286	*i* P		P	20 56 27.4 +0.6
	SNR=20						
ALNE	Al Ain	72.26	286	P		P	20 56 27.6 +0.8
	SNR=52						
KOLS	Kolonicke sedl	72.28	324	*e*P		P	20 56 27.4 +0.9
KOLS				pmax		pmax	
	comp=Z,145nm,0.9s						
KOLS	Kolonicke sedl	72.28	324	*e*P		P	20 56 27.4 +0.9
KOLS				*e*PP		PP	20 59 12.6 0.0
KOLS				*e*S		S	21 05 16.0 -1.0
STHS	Stebnicka Huta	72.30	325	*e*P		P	20 56 26.7 +0.1
STHS				pmax		pmax	
	comp=Z,113nm,0.6s						
STHS	Stebnicka Huta	72.30	325	*e*P		P	20 56 26.7 +0.1
BSEG	Bad Segeberg	72.33	334	*e*P			20 56 27.4
	comp=Z,54nm,0.8s,baz=30,slow=5.7						
BZK	Bozkurt	72.34	313	⇓P		P	20 56 28.3 +1.3
BZK	Bozkurt	72.34	313	P		P	20 56 27.8 +0.8
TESR	Tescani	72.35	320	⇑P		P	20 56 27.3 +0.3
TESR	Tescani	72.35	320	P		P	20 56 27.2 +0.3
	comp=Z,677nm,0.8s,comp=Z,5μm						
LINV	Loch Inver, As	72.36	344⇑	*e*P		P	20 56 27.1 +0.4
LINV				IAmb		IAmb	20 56 27.4
	comp=Z,40nm,0.9s						
GHRR		72.37	320	⇓P		P	20 56 28.5 +1.4
GHRR		72.37	320	P		P	20 56 28.2 +1.2
SCTR	Scanteiesti	72.40	319	⇑P		P	20 56 28.3 +1.0
TLCR		72.40	318	⇓P		P	20 56 27.4 +0.2
TLCR		72.40	318	⇓P		P	20 56 27.4 +0.2
AJN	Ajban	72.41	287	*i* P		P	20 56 27.8 +0.1
	SNR=20						
AJN	Ajban	72.41	287	P		P	20 56 28.0 +0.4
	SNR=25						
TATR	Tatarca	72.44	319	⇑P		P	20 56 28.3 +0.9
SWSC	Sam W. Stewart	72.46	60	P		P	20 56 28.5 +0.6
	baz=315,SNR=54						
RUE	Ruedersdorf	72.48	331	*e*P			20 56 28.3
	comp=Z,92nm,0.8s,baz=30,slow=5.7						
PDMCI	Parker Dam,Lak	72.48	58	P		P	20 56 29.4 +1.4
	baz=315,SNR=143						
PDMCI				S		SKiKP	21 05 22.7 +2.1
	baz=315						
IKP	In-Ko-Pah, Jac	72.49	61	P		P	20 56 29.1 +1.0
	baz=315,SNR=78						
MCD	Coleburn Disti	72.50	343⇑	*e*P		P	20 56 27.7 +0.1
UZHM	Uzhgorod	72.52	324	P		P	20 56 27.9 +0.1
NEGRR	Negrea	72.56	319	⇓P		P	20 56 29.0 +0.8
COSR	Cosmesti PH	72.57	320	⇑P		P	20 56 30.5 +2.3
SLCR	Slobozia Conac	72.57	319	⇓P		P	20 56 29.1 +0.9
IZVR	Izvoarele	72.60	319	⇓P		P	20 56 29.3 +0.9
SCHL	Schela	72.61	319	⇓P		P	20 56 29.6 +1.2
TUDR		72.61	319	⇑P		P	20 56 29.4 +1.0
PANC	Panciu	72.63	320	⇑P		P	20 56 30.3 +1.7
CRVS	Cervenica-Dubn	72.63	325	*e*P		P	20 56 29.5 +1.0
CRVS				pmax		pmax	
	comp=Z,180nm,1.2s						
CRVS	Cervenica-Dubn	72.63	325	*e*P		P	20 56 29.5 +1.0
CRVS				*e*S		SKiKP	21 05 18.4 -2.1
SCHLR	Schela	72.63	319	⇑P		P	20 56 29.0 +0.5
NIE	Niedzica	72.67	326	*e*P		P	20 56 30.8 +2.0
NIE	Niedzica	72.67	326	P		P	20 56 30.2 +1.4
NIE	Niedzica	72.67	326	P		P	20 56 30.2 +1.4
	comp=Z,122nm,1.1s,comp=Z,1μm						
LEWI	Lewis, Hebride	72.67	345	*e*P		P	20 56 28.1 -0.5
LEWI				IAmb		IAmb	20 56 29.4
	comp=Z,57nm,0.8s						
CFR	Carcaliu	72.72	319	⇓P		P	20 56 29.5 +0.4
CFR	Carcaliu	72.72	319	⇓P		P	20 56 29.5 +0.4
ODBI	Odobesti	72.75	320	⇓P		P	20 56 31.4 +2.1
BMR	Baia Mare	72.78	323	⇑P		P	20 56 30.5 +1.0
VRI	Vrincioaia	72.82	320	⇑P		P	20 56 30.8 +1.1
VRI	Vrincioaia	72.82	320	⇑P		P	20 56 30.8 +1.1
VRI	Vrincioaia	72.82	320	P		P	20 56 30.4 +0.7
	comp=Z,210nm,1.3s,comp=Z,2μm						
TPGR	Topolog	72.84	318	⇑P		P	20 56 30.7 +0.9
GORT1	Trebel	72.84	333	*e*P			20 56 30.5
	comp=Z,54nm,0.9s,baz=30,slow=5.7						
PLOR5	Plostina Array	72.86	320	P		P	20 56 30.8 +0.8
	comp=Z,184nm,1.0s,comp=Z,2μm						
PLOR	Plostina	72.86	320	⇓P		P	20 56 31.0 +1.0
PLOR	Plostina	72.86	320	⇓P		P	20 56 31.0 +1.0
PLOR3	Plostina Array	72.86	320	P		P	20 56 30.8 +0.8
	comp=Z,146nm,0.8s,comp=Z,1μm						
ARCR	ARCALIA	72.89	322	⇑P		P	20 56 31.6 +1.5
MHTO	MHTO	72.92	283	P		P	20 56 32.0 +1.4
	SNR=48						
DRUM	Mains of Drumt	72.97	342⇑	*e*P		P	20 56 30.6 +0.3
DRUM				IAmb		IAmb	20 56 31.3
	comp=Z,53nm,0.6s						
GLA	Glamis	72.97	60	P		P	20 56 32.3 +1.5
	baz=315,SNR=68						
GLA				S		S	21 05 27.7 +2.5
	baz=315						
TURR	Turia	72.98	320	⇓P		P	20 56 29.6 -1.1
SUSD	Miller	73.00	42	P		P	20 56 31.5 +0.7
	baz=320,SNR=264						
SUSD				S		S	21 05 24.9 -0.3
	baz=320						
OZUR		73.05	321	⇑P		P	20 56 32.5 +1.4
COVR	Voineasa-Covas	73.06	320	⇑P		P	20 56 32.1 +0.9
BISRR	Bisoca	73.07	320	⇑P		P	20 56 32.8 +1.5
BISRR	Bisoca	73.07	320	P		P	20 56 32.8 +1.5
	comp=Z,881nm,0.9s,comp=Z,7μm						
BOSR	Bodos	73.12	321	⇑P		P	20 56 32.8 +1.4
OKC	Ostrava-Krasne	73.14	327	*e*P		P	20 56 32.4 +0.9
OKC				*e*S		S	21 05 25.1 -1.4
OKC	Ostrava-Krasne	73.14	327	*e*P		P	20 56 32.4 +0.9
OKC				*e*S		S	21 05 25.1 -1.4
HARR	Harsova	73.19	318	⇓P		P	20 56 32.6 +0.8
HARR	Harsova	73.19	318	⇓P		P	20 56 32.6 +0.8
CEI	Carei	73.20	323	⇓P		P	20 56 33.5 +1.7
CEI	Carei	73.20	323	⇓P		P	20 56 33.5 +1.7
LANS	Liptovska Anna	73.20	326	*e*P		P	20 56 33.8 +1.9
LANS				pmax		pmax	
	comp=Z,116nm,0.8s						
LANS	Liptovska Anna	73.20	326	*e*P		P	20 56 33.8 +1.9
LANS				*e*S		S	21 05 27.6 +0.2
KPL	Plockton	73.21	344⇑	*e*P		P	20 56 32.2 +0.6
KPL				IAmb		IAmb	20 56 32.8
	comp=Z,137nm,0.8s						
QLP	Quilpie	73.21	181	P		P	20 56 32.8 +0.8
WUAZ	Wupatki	73.21	56	P		P	20 56 34.2 +1.8
	baz=316,SNR=143						
WUAZ				S		S	21 05 32.1 +3.9
	baz=316						
WRKA	Warakurna	73.22	196	P		P	20 56 33.1 +0.9
TLBR	Topalu	73.25	318	⇓P		P	20 56 33.0 +0.8
OSTC	Ostas	73.25	329	*e*P		P	20 56 32.9 +0.8
OSTC				*e*S		S	21 05 26.3 -1.5
OSTC	Ostas	73.25	329	*e*P		P	20 56 32.9 +0.8
OSTC				*e*S		S	21 05 26.3 -1.5
TGMR	Targu Mures	73.26	322	⇓P		P	20 56 34.0 +1.8
TSCT	Constanta Port	73.26	318	⇓P		P	20 56 33.2 +1.0
CHVC	Chvalec	73.28	329	*e*P		P	20 56 33.1 +0.8
CHVC				*e*S		S	21 05 26.7 -1.4
CHVC	Chvalec	73.28	329	*e*P		P	20 56 33.1 +0.8
CHVC				*e*S		S	21 05 26.7 -1.4
DOPR	Dopca	73.32	321	⇓P		P	20 56 34.2 +1.6
KECS	Kecovo	73.35	325	*e*P		P	20 56 33.6 +0.9
KECS				pmax		pmax	
	comp=Z,95nm,1.0s						
KECS	Kecovo	73.35	325	*e*P		P	20 56 33.6 +0.9
KECS				*e*S		S	21 05 27.0 -1.9
NEHR	Nehoiu	73.35	320	⇑P		P	20 56 33.9 +1.0
MFTR	Murfatlar	73.36	318	⇓P		P	20 56 33.7 +0.9
UPC	Upice	73.36	329	*e*P		P	20 56 33.7 +0.9
UPC				*e*S		S	21 05 27.3 -1.7
UPC	Upice	73.36	329	*e*P		P	20 56 33.7 +0.9
UPC				*e*S		S	21 05 27.3 -1.7
DPC	Dobruska-Polom	73.38	328	*e*P		P	20 56 34.1 +1.2
DPC				*e*S		S	21 05 28.1 -1.2
DPC	Dobruska-Polom	73.38	328	*e*P		P	20 56 34.1 +1.2
DPC				*e*S		S	21 05 28.1 -1.2
DPC	Dobruska-Polom	73.38	328	P		P	20 56 33.5 +0.6
	comp=Z,102nm,0.9s,comp=Z,1μm						
CVDA	Cernavoda	73.41	318	⇑P		P	20 56 34.3 +1.2
MORC	Moravsky Berou	73.41	327	⇓P		P	20 56 33.9 +0.8
MORC	Moravsky Berou	73.41	327	⇓*i*P		P	20 56 34.0 +0.9
MORC				*e*S		S	21 05 28.7 -1.0
MORC	Moravsky Berou	73.41	327	⇓P		P	20 56 33.9 +0.8
MESR	Meseseni	73.42	323	⇑P		P	20 56 34.2 +1.0
FLTG	Flechtingen	73.43	332	*e*P			20 56 33.3
	comp=Z,75nm,0.8s,baz=30,slow=5.7						
KRLC	Kraliky	73.44	328	*e*P		P	20 56 34.2 +0.9
KRLC				*e*S		S	21 05 28.9 -1.1
KRLC	Kraliky	73.44	328	*e*P		P	20 56 34.2 +0.9
KRLC				*e*S		S	21 05 28.9 -1.1
PGOR	Pogoanele	73.45	319	⇑P		P	20 56 35.3 +2.0
MLR	Muntele Rosu	73.45	320	⇑P		P	20 56 34.0 +0.5
MLR	Muntele Rosu	73.45	320	⇑P		P	20 56 34.0 +0.5
MLR	Muntele Rosu	73.45	320	P		P	20 56 34.4 +0.9
	comp=Z,320nm,0.8s,comp=Z,3μm						
EYMN	Ely	73.47	36	P		P	20 56 33.7 +0.3
	baz=324,SNR=784						
EYMN				S		S	21 05 28.4 -1.9
	baz=324						
ISR	Istrita	73.48	319	⇓P		P	20 56 35.2 +1.6
ISR	Istrita	73.48	319	⇓P		P	20 56 35.2 +1.6
ISR	Istrita	73.48	319	P		P	20 56 34.7 +1.1
	comp=Z,955nm,0.9s,comp=Z,8μm						
CJR	Cluj-Napoca	73.50	322	⇑P		P	20 56 34.8 +1.1
CJR	Cluj-Napoca	73.50	322	⇑P		P	20 56 34.8 +1.1
AMRR	Amara	73.52	319	⇓P		P	20 56 35.2 +1.5
AMRR	Amara	73.52	319	⇓P		P	20 56 35.2 +1.5
JRN	Qarnain Island	73.54	289	P		P	20 56 34.1 -0.1
	SNR=28						
MANR	Mangalia	73.56	317	⇓P		P	20 56 35.0 +1.0
UMZA	Um Al Zommool	73.58	286	P		P	20 56 34.7 +0.3
MVCO	Mesa Verde	73.59	53	P		P	20 56 35.9 +1.3
	baz=317,SNR=265						
MVCO				S		S	21 05 34.3 +1.8
	baz=317						
NRDL	Niedersach Rie	73.64	333	*e*P			20 56 34.9
	comp=Z,34nm,0.8s,baz=30,slow=5.7						
MAUC	Maruska	73.65	327	*e*P		P	20 56 35.5 +1.0
RETH	Rethem/Aller,	73.66	334	*e*P			20 56 35.1
	comp=Z,72nm,1.1s,baz=30,slow=5.7						
LTVH	Ltavrtes, Hu	73.67	324	⇓P		P	20 56 36.3 +1.8
ICOR	Ion Corvin	73.69	318	⇓P		P	20 56 36.4 +1.7
MZWR	Madinat Zayed	73.69	287	P		P	20 56 35.1 +0.1
CLL	Collm	73.72	331	P		P	20 56 34.7 -0.1
	comp=Z,228nm,0.8s,comp=Z,2μm						
CLL	Collm	73.73	331	*e*P			20 56 35.1
	comp=Z,177nm,0.9s,baz=30,slow=5.7						
MARR	Marisel-Cluj	73.73	322	⇓P		P	20 56 35.8 +0.7
INVG	Invergeldie, C	73.74	343⇑	*e*P		P	20 56 34.9 +0.1
INVG				IAmb		IAmb	20 56 35.6
	comp=Z,16nm,0.7s						
BRG	Berggiesshubel	73.78	330	⇓*i*P		P	20 56 35.5 +0.3
BRG				Amp			20 56 36.6
	comp=Z,30nm,0.7s						
BRG				⇑PP		PcP	20 56 44.6 -3.9
BRG				Amp			20 56 45.2
	comp=Z,15nm,0.8s						
BRG	Berggiesshubel	73.78	330	⇓*i*P		P	20 56 35.4 +0.3
BRG							20 56 53.3
BRG							20 58 49.5
BRG							20 59 26.4
BRG				S		S	21 05 30.0 -3.5
BRG				pmax		pmax	
	comp=Z,30nm,0.7s						
BRG				pmax		pmax	
	comp=Z,33nm,1.2s						
BRG				MLR		MLR	
	comp=N,126nm,14.7s						
BRG				MLR		MLR	
	comp=E,86nm,11.1s						
BRG				MLR		MLR	
	comp=Z,214nm,13.0s						
BRG	Berggiesshubel	73.78	330	*e*P			20 56 35.5
	comp=Z,30nm,0.7s,baz=30,slow=5.7						
DRGR		73.81	323	⇓P		P	20 56 35.7 +0.2
DRGR		73.81	323	⇓P		P	20 56 35.7 +0.2
KBD	Kabd	73.84	295	P		P	20 56 36.4 +0.6
PVCC	Panska Ves	73.85	330	*e*P		P	20 56 36.4 +0.9
PVCC				*e*S		S	21 05 33.5 -0.9
PVCC	Panska Ves	73.85	330	*e*P		P	20 56 36.4 +0.9
PVCC				*e*S		S	21 05 33.5 -0.9
LEHL	Lehliu	73.86	319	⇑P		P	20 56 36.7 +1.0
PLAR	PLOIESTI	73.87	320	⇓P		P	20 56 36.9 +1.2
VOIR		73.89	321	⇓P		P	20 56 37.2 +1.2
VOIR		73.89	321	⇓P		P	20 56 37.2 +1.2
VOIR		73.89	321	P		P	20 56 37.0 +1.0
	comp=Z,348nm,1.0s,comp=Z,3μm						
PSN	Preselentsi	73.90	318	⇓*i*P		P	20 56 37.1 +1.1
ESY	Stoneypath	73.91	342⇑	*e*P		P	20 56 36.1 +0.3
DQM	DQM	73.94	282	P		P	20 56 37.2 +0.6
BORR	Bors	73.95	323	⇑P		P	20 56 37.9 +1.7
SULR		73.95	319	⇓P		P	20 56 37.4 +1.2
RICC	Richard	74.00	330	*e*P		P	20 56 37.4 +1.0
PSZ	Piszkesteto	74.04	325	⇓P		P	20 56 38.1 +1.3
PSZ	Piszkesteto	74.04	325	⇓P		P	20 56 38.1 +1.3
MTUR	Matau	74.05	320	⇑P		P	20 56 37.9 +1.0
MTUR	Matau	74.05	320	P		P	20 56 39.5 +2.6
Q24A	Divide	74.09	50	P		P	20 56 38.6 +1.0
	baz=318,SNR=124						
Q24A				S		S	21 05 39.8 +1.7
	baz=318						
S22A	4UR Ranch, Cre	74.10	52	P		P	20 56 39.2 +1.6
	baz=318,SNR=208						
SHMA	Al-Shehemyia	74.11	291	P		P	20 56 37.7 +0.3
	SNR=23						
CLZ	Clausthal	74.12	333	*e*P			20 56 38.2
	comp=Z,87nm,1.0s,baz=30,slow=5.7						
JAVC	Velka Javorina	74.12	327	⇓*i*P		P	20 56 39.2 +2.0
JAVC				*e*S		S	21 05 39.1 +1.5
ARR	Arges	74.12	321	⇓P		P	20 56 39.0 +1.7
VRAC	Vranov	74.15	328	⇑P		P	20 56 38.4 +1.1
VRAC	Vranov	74.15	328	⇓*i*P		P	20 56 38.4 +1.1
VRAC				*e*S		S	21 05 37.5 -0.3
VRAC	Vranov	74.15	328	⇑P		P	20 56 38.4 +1.1
LAWE	Loch Awe, Argy	74.17	343⇑	*e*P		P	20 56 37.6 +0.4
LAWE				IAmb		IAmb	20 56 38.3
	comp=Z,71nm,0.7s						
HSKC	Hora Svate Kat	74.17	330	*e*P		P	20 56 38.0 +0.6
HSKC				*e*PP		PP	20 59 29.6 +1.1
HSKC				*e*S		S	21 05 36.2 -1.8
INCR	INCERC-Sediu C	74.18	319	⇓P		P	20 56 38.6 +1.1
OGNE	Ogallala	74.19	46	P		P	20 56 38.8 +1.0
	baz=319,SNR=79						
BR131	Keskin Array S	74.19	312	*d i*P		P	20 56 38.7 +0.8
BRTR	Keskin Array B	74.19	312	P		P	20 56 38.9 +0.9
	comp=Z,126nm,0.7s,baz=83,slow=3.8,SNR=815						
BRTR				PP		PP	20 59 28.9 -0.2
	comp=Z,25nm,1.0s,baz=60,slow=8.5,SNR=5.7						
	comp=Z,126nm,0.7s						
BR106	Keskin Array S	74.20	312	P		P	20 56 38.5 +0.6
	comp=Z,190nm,0.8s,comp=Z,1μm						
GHWR	Ruwais	74.20	288	P		P	20 56 38.1 +0.1
BR104	Keskin Array S	74.20	312	P		P	20 56 38.5 +0.5
	comp=Z,216nm,0.7s,comp=Z,2μm						
BR105	Keskin Array S	74.21	312	P		P	20 56 38.6 +0.6
	comp=Z,217nm,0.8s,comp=Z,2μm						
NEUB	Neuenburg	74.22	332	*e*P			20 56 38.0
	comp=Z,96nm,0.9s,baz=30,slow=5.7						
PRA	Prague	74.28	329	*e*P		P	20 56 39.2 +1.2
PRA	Prague	74.28	329	*e*P		P	20 56 39.2 +1.2
GOPC	GO Pecny, Ondr	74.29	329	*e*P		P	20 56 39.0 +0.9
GOPC				*e*S		S	21 05 38.5 -0.8
GOPC	GO Pecny, Ondr	74.29	329	*e*P		P	20 56 39.0 +0.9
GOPC				*e*S		S	21 05 38.5 -0.8
SAKB	Bahrain	74.30	291	P		P	20 56 38.7 +0.2
PRU	Pruhonice	74.31	329	*e*P		P	20 56 39.0 +0.8
PRU				*e*S		S	21 05 38.2 -1.3
PRU	Pruhonice	74.31	329	*e*P		P	20 56 39.0 +0.8
PRU				*e*S		S	21 05 38.2 -1.3
STFAR	Stefanesti-Arg	74.38	320	⇑P		P	20 56 39.8 +1.1
BSZH	Besenyszg	74.39	324	⇓P		P	20 56 40.5 +1.8
PGBU	Glenifferbraes	74.41	343⇑	*e*P		P	20 56 39.2 +0.7
PGBU				IAmb		IAmb	20 56 40.0
	comp=Z,143nm,0.9s						
W18A	Petrified Fore	74.42	55	P		P	20 56 41.0 +1.6
	baz=317,SNR=19						
KRUC	Moravsky	74.43	328	⇓*i*P		P	20 56 39.9 +1.0
KRUC				*e*S		S	21 05 41.0

GZR Gura Zlata 74.90 322 ⇓P P 20 56 42.3 +0.6
ZVC Zvikov 74.90 329 eP P 20 56 42.5 +0.9
214A Organ Pipe Nat 74.94 59 P P 20 56 43.5 +1.3
baz=316,SNR=123
214A S S 21 05 50.5 +3.5
baz=316
SMRA Abu-Samra 74.98 290 P P 20 56 42.5 +0.1
SNR=36
NEWG New Galloway 75.00 342⇑eP P 20 56 42.2 +0.3
NEWG IAmb IAmb 20 56 43.0
comp=Z,32nm,0.7s
SCHQ Schefferville 75.09 18 P P 20 56 42.5 0.0
comp=Z,179nm,0.5s,baz=348,slow=5.6,SNR=523
comp=Z,179nm,0.5s
SPMN Marine on St. 75.11 38 P P 20 56 43.0 +0.1
baz=323,SNR=86
SPMN S S 21 05 46.0 -2.4
baz=323
UBBA Unterbreizbach 75.12 332 eP 20 56 43.2
comp=Z,20nm,0.6s,baz=30,slow=5.7
MANZ Manzenberg 75.15 331 eP 20 56 43.6
comp=Z,6.4nm,0.8s,baz=30,slow=5.7
SZH Strazhitsa 75.18 319 ⇓iP P 20 56 44.2 +0.9
BZS Buzias 75.21 323 ⇓P P 20 56 44.2 +0.8
BZS Buzias 75.21 323 ⇓P P 20 56 44.2 +0.8
KESW Keswick, Cumbr 75.25 341⇑eP P 20 56 44.2 +0.8
KESW IAmb IAmb 20 56 44.9
comp=Z,125nm,1.0s
KASTN Kahler Asten 75.29 333 eP 20 56 44.4
comp=Z,39nm,0.8s,baz=30,slow=5.7
SRE Strehaia 75.30 321 ⇑P P 20 56 45.5 +1.6
SRE Strehaia 75.30 321 ⇑P P 20 56 45.5 +1.6
ROTZ Rotzenmuhle 75.31 330 eP 20 56 44.7
comp=Z,8.7nm,0.9s,baz=30,slow=5.7
VLAD Vladila 75.31 320 ⇓P P 20 56 44.1 +0.2
KLYT Kilyos 75.31 315 P P 20 56 44.6 +0.6
comp=Z,503nm,0.9s,comp=Z,4μm
KSCO Kaye Shedlock' 75.35 48 P P 20 56 45.0 +0.5
baz=319,SNR=5.5
KHC Kasperske Hory 75.38 329 eP P 20 56 45.3 +1.0
KHC ePP PP 20 59 40.4 +1.8
KHC eS S 21 05 49.7 -1.5
KHC Kasperske Hory 75.38 329d iP P 20 56 45.6 +1.3
KHC pmax pmax
comp=Z,291nm,0.7s
KHC Kasperske Hory 75.38 329 P P 20 56 44.9 +0.6
comp=Z,184nm,1.1s,comp=Z,1μm
CKRC Cesky Krumlov 75.38 329 eP P 20 56 45.1 +0.8
CKRC eS S 21 05 50.2 -1.1
CKRC Cesky Krumlov 75.38 329 eP P 20 56 45.1 +0.8
CKRC eS S 21 05 50.2 -1.1
CLGH Cloghs, Cushen 75.42 343⇑eP P 20 56 44.9 +0.6
CLGH IAmb IAmb 20 56 45.5
comp=Z,111nm,0.9s
BUG Bochum--Univer 75.42 334 eP 20 56 45.1
comp=Z,46nm,0.9s,baz=30,slow=5.7
ISK Istanbul-Kandi 75.45 315 P P 20 56 45.4 +0.7
ISK Istanbul-Kandi 75.45 315 P P 20 56 45.5 +0.7
HERR Herculane 75.46 322 ⇑P P 20 56 45.0 +0.2
ELND Elena 75.49 318 ⇑P P 20 56 45.5 +0.5
CTYL Yalikoy Yolu 75.50 316 P P 20 56 45.8 +0.7
comp=Z,365nm,0.9s,comp=Z,4μm
HPK Haverah Park 75.50 340⇑eP P 20 56 45.6 +0.8
HPK IAmb IAmb 20 56 46.3
comp=Z,98nm,0.8s
RMGR Halanga-Turnu 75.52 321 ⇑P P 20 56 46.0 +0.9
JMB Yambol 75.53 318 ⇓iP P 20 56 46.2 +1.0
MPLH Magyarpolny 75.57 326 P P 20 56 46.0 +0.7
comp=Z,475nm,1.2s,comp=Z,4μm
CONA Conrad Observa 75.57 327 iP P 20 56 46.8 +1.3
comp=Z,56nm,0.6s,SNR=55
CONA eS S 21 05 49.8 -3.7
comp=Z,4.3nm,1.1s
GERES GERESS Array B 75.57 329 P P 20 56 46.0 +0.5
comp=Z,50nm,0.7s,baz=38,slow=6.8,SNR=181
GERES PP PP 20 59 39.4 -0.9
comp=Z,3.7nm,0.7s,baz=49,slow=7.4,SNR=3.5
comp=Z,50nm,0.7s
GEC2 GERESS Array S 75.58 329 eP 20 56 46.2
comp=Z,51nm,0.7s,baz=30,slow=5.7
DJES Djerdap 75.59 322 ⇑P P 20 56 45.4 -0.2
BANR Banloc 75.59 323 ⇑P P 20 56 46.5 +1.0
RONA Rosalia, Austr 75.60 327 eP P 20 56 47.0 +1.4
comp=Z,49nm,0.7s,SNR=60
RONA S S 21 05 55.4 +1.7
comp=Z,13nm,2.0s
WET Wettzell 75.61 330 eP 20 56 46.8
comp=Z,102nm,0.9s,baz=30,slow=5.7
IDGL Inch Island, C 75.69 344⇑eP P 20 56 46.4 +0.5
IDGL IAmb IAmb 20 56 46.9
comp=Z,87nm,0.9s
GRF Grafenberg Arr 75.70 331 eP 20 56 47.3
comp=Z,141nm,0.8s,baz=30,slow=5.7
BGNE Belgrade 75.72 44 P P 20 56 46.9 +0.5
baz=321,SNR=105
BGNE S S 21 05 53.9 -1.4
baz=321
PUNG Punghina 75.72 321 ⇓P P 20 56 46.8 +0.6
T25A Trinidad 75.84 50 P P 20 56 48.3 +1.0
baz=319,SNR=330
MDVR Moldovita 75.84 322 ⇓P P 20 56 47.2 +0.2
TUC Tucson 75.87 58 P P 20 56 48.9 +1.5
baz=317
TUC Tucson 75.87 58 P P 20 56 48.4 +1.0
IOMK Kirk Michael 75.87 342⇑eP P 20 56 47.4 +0.5
IOMK IAmb IAmb 20 56 47.9
comp=Z,140nm,0.9s
MORH Mrgy, Hungar 75.92 325 ⇓P P 20 56 47.6 +0.3
MORH Mrgy, Hungar 75.92 325 P P 20 56 47.2 -0.1
comp=Z,67nm,1.3s,comp=Z,752nm
EDRB Edirne 75.94 317 P P 20 56 48.5 +1.0
EDRB Edirne 75.94 317 P S 21 05 55.6 -1.9
VALD Valchedram 75.98 320 P P 20 56 48.8 +1.1
WIM Isle of Man 76.00 342⇑eP P 20 56 48.2 +0.6
LBWR Ladybower, Pea 76.04 340⇑eP P 20 56 48.7 +0.8
LBWR IAmb IAmb 20 56 49.7
comp=Z,220nm,1.2s
MPEP Malo Peshtene 76.11 320 iP P 20 56 49.5 +1.0
TNS Taunus Mts 76.13 333 eP 20 56 49.2
comp=Z,56nm,0.8s,baz=30,slow=5.7
G40A Rib Lake 76.16 37 P P 20 56 48.9 +0.2
MOA Molln 76.22 328 iP P 20 56 49.8 +0.8
comp=Z,60nm,0.7s,SNR=61
MOA S S 21 05 59.4 -1.0
comp=Z,5.1nm,1.2s
ARSA Arzberg 76.26 327 eP P 20 56 50.3 +1.1
comp=Z,15nm,0.4s,SNR=32
AHRW Bad Neuenahr-A 76.28 334 eP 20 56 50.0
comp=Z,82nm,1.0s,baz=30,slow=5.7
FRGS Fruska Gora 76.32 323 ⇓P P 20 56 50.4 +0.8
FRGS Fruska Gora 76.32 323 ⇓iP P 20 56 50.2 +0.6
FRGS Fruska Gora 76.32 323 P P 20 56 50.0 +0.4
comp=Z,268nm,1.0s,comp=Z,2μm
ANMO Albuquerque 76.37 53 P P 20 56 51.9 +1.6
baz=318
ANMO S S 21 06 06.4 +3.6
baz=318
ANMO Albuquerque 76.37 53 iP P 20 56 51.7 +1.4
ANMO pmax pmax
comp=Z,262nm,1.4s
BEBN Eben Emael 76.46 335 dP P 20 56 50.6 +0.4
comp=Z,118nm,0.7s
BTNL Ternell 76.52 334 dP P 20 56 51.1 +0.5
comp=Z,45nm,0.8s
MEM Membach 76.53 334 dP P 20 56 50.8 +0.1
comp=Z,54nm,0.9s
CWF Charnwood Fore 76.56 340⇑eP P 20 56 51.1 +0.4
CWF IAmb IAmb 20 56 52.1
comp=Z,25nm,0.7s
SHAO Shalim 76.56 282 iP P 20 56 52.0 +0.6
SNR=10
SHAO Shalim 76.56 282 P P 20 56 52.2 +0.9
BIOA Bad Ischl, Aus 76.58 329 iP P 20 56 51.9 +0.9
comp=Z,44nm,0.6s,SNR=45
BIOA eS S 21 06 05.1 +0.9
comp=Z,6.5nm,1.3s
ELMS Elmsett, Ipswi 76.58 338⇑eP P 20 56 51.8 +0.9
ELMS IAmb IAmb 20 56 52.7
comp=Z,254nm,0.5s
EDC Edincik 76.58 316 P P 20 56 52.4 +1.3
PGB Panagyurishte 76.59 319 ⇓iP P 20 56 52.4 +1.2
WME Myndd Eilian 76.62 342⇑eP P 20 56 51.5 +0.4
KOGS Kog 76.66 326 iP P 20 56 51.6 +0.2
KOGS eS S 21 06 02.9 -2.1
WPS Cemaes, Angles 76.66 342 eP P 20 56 51.4 +0.1

BSTI Sart Tilman 76.68 335 dP P 20 56 52.1 +0.6
comp=Z,18nm,0.6s
WLF1 Llynfaes 76.75 342⇑eP P 20 56 52.0 +0.2
WLF1 IAmb IAmb 20 56 52.7
comp=Z,58nm,0.5s
BHOU Houvegnez 76.76 334 dP P 20 56 52.5 +0.5
comp=Z,38nm,0.7s
Y22D IRIS PASSCAL I 76.76 54 P P 20 56 54.6 +2.1
baz=318,SNR=11
YLL Llanberis 76.83 341 eP P 20 56 52.8 +0.6
RJOB Jochberg 76.84 329 eP 20 56 53.8
comp=Z,80nm,0.7s,baz=30,slow=5.7
KALN Kalnik 76.84 326 iP P 20 56 52.6 +0.1
FOEL Foel Wylfa 76.85 341⇑eP P 20 56 53.1 +0.7
FOEL IAmb IAmb 20 56 54.0
comp=Z,125nm,0.7s
BCLA Clavier 76.91 335 dP P 20 56 53.0 +0.3
comp=Z,44nm,0.6s
VTS Vitosha 76.92 320 ⇓iP P 20 56 54.7 +1.5
SOKA Soboth 76.92 327 iP P 20 56 53.7 +0.7
comp=Z,44nm,0.5s,SNR=41
SOKA eS S 21 06 07.0 -1.1
comp=Z,12nm,1.6s
TEKS Tekeris 76.94 323 ⇓iP P 20 56 53.1 +0.1
CBKS Cedar Bluff 76.96 46 P P 20 56 53.3 0.0
baz=321,SNR=44
FUR Furstenfeldbru 77.00 330 eP 20 56 54.4
comp=Z,152nm,0.8s,baz=30,slow=5.7
BGES Gesves 77.00 335 dP P 20 56 53.3 +0.1
comp=Z,39nm,0.7s
ALN Alexandroupoli 77.01 317 P P 20 56 54.4 +0.9
ALN Alexandroupoli 77.01 317 P S 21 06 09.3 +0.3
HWQ Hawqa 77.03 307 eP P 20 56 54.3 +0.4
RDO Rodhopi 77.05 318 P P 20 56 54.9 +1.2
RDO Rodhopi 77.05 318 P S 21 06 09.8 +0.4
ENEZ Enez 77.09 317 P P 20 56 55.4 +1.5
HLM1 Long Mynd 77.13 340⇑eP P 20 56 54.6 +0.7
HLM1 IAmb IAmb 20 56 55.2
comp=Z,90nm,1.2s
DOK Doka 77.14 283 P P 20 56 55.1 +0.5
SNR=5.6
LESA Schwarzleotal 77.14 329 iP P 20 56 55.3 +1.0
comp=Z,71nm,0.5s
LESA eS S 21 06 10.7 +0.3
comp=Z,15nm,1.2s
STU Stuttgart 77.16 332 P P 20 56 54.9 +0.7
MOSL Moslavina 77.16 326 iP P 20 56 53.9 -0.3
STU Stuttgart 77.16 332 eP 20 56 55.0
comp=Z,224nm,0.8s,baz=30,slow=5.7
RCHB Rochefort 77.16 335 dP P 20 56 54.1 0.0
comp=Z,27nm,0.9s
BMRD Maredsous 77.17 335 dP P 20 56 54.5 +0.3
comp=Z,60nm,0.7s
KBA Koelnbreinsper 77.20 328 iP P 20 56 55.5 +0.8
comp=Z,127nm,0.5s,SNR=96
KBA S S 21 06 12.6 +1.3
comp=Z,31nm,1.5s
KBA Koelnbreinsper 77.20 328 P P 20 56 55.6 +0.9
PTJ Puntijarka 77.22 326 P P 20 56 54.8 +0.2
DMTO DMTO 77.23 282 P P 20 56 55.2 +0.2
OBKA Obir 77.25 327 iP P 20 56 55.3 +0.5
comp=Z,56nm,0.6s,SNR=21
OBKA eS S 21 06 13.9 +2.3
comp=Z,8.9nm,1.3s
OBKA Obir 77.25 327 ⇓iP P 20 56 55.1 +0.3
ARMA Armidale 77.27 174 P P 20 56 56.7 +1.8
LCRK Leigh Creek 77.29 186 P P 20 56 56.4 +1.5
WLF Walferdange 77.33 334 dP P 20 56 55.5 +0.5
comp=Z,20nm,0.8s
WLF Walferdange 77.33 334 eP 20 56 55.8
comp=Z,24nm,0.8s,baz=30,slow=5.7
KAAM Kaadhehdhoo 77.35 257 P P 20 56 56.7 +0.9
DOU Dourbes 77.40 335 dP P 20 56 55.4 0.0
comp=Z,18nm,0.0s
121A Cookes Peak, D 77.42 56 P P 20 56 58.1 +2.0
baz=318,SNR=122
121A S S 21 06 16.6 +2.5
baz=318
PDKS Podkum 77.46 327 iP P 20 56 56.2 +0.3
PDKS i 20 56 57.0
BHL Bhannes 77.47 306 eP P 20 56 57.0 +0.8
MYKA Terra Mystica 77.48 328 iP P 20 56 56.2 +0.2
comp=Z,40nm,0.6s,SNR=40
CRES Cresnjev 77.48 326 ⇓iP P 20 56 56.4 +0.4
MULG Mulgathing 77.51 190 P P 20 56 57.1 +1.0
BBLS Lazi&#263i 77.55 323 ⇓iP P 20 56 57.5 +1.0
MMB Musomishta 77.55 319 ⇓iP P 20 56 57.6 +1.1
HAPS Han Pijesak,Bl 77.55 323 ⇓iP P 20 56 57.4 +0.8
SMTH Samothraki Isl 77.59 317 P P 20 56 56.9 +0.2
SMTH Samothraki Isl 77.59 317 P S 21 06 13.7 -1.5
KKB Krupnik 77.59 319 ⇓iP P 20 56 57.9 +1.2
SCIA State Center 77.59 40 P P 20 56 57.3 +0.6
baz=324,SNR=54
SCIA S S 21 06 13.0 -2.3
baz=324
WATA Walderalm 77.61 330 eP P 20 56 57.8 +0.9
comp=Z,86nm,0.6s,SNR=80
WATA eS S 21 06 14.6 -0.9
comp=Z,18nm,1.4s
IGLA Glengowla, Co 77.61 345 eP P 20 56 56.3 -0.2
KULA Kula-Manisa 77.62 314 P P 20 56 57.7 +0.7
KULA Kula-Manisa 77.62 314 P S 21 06 13.1 -2.7
MCH1 Michaelchurch 77.64 340⇑eP P 20 56 57.4 +0.7
MCH1 IAmb IAmb 20 56 58.0
comp=Z,72nm,0.8s
KAVA Kavala 77.64 318 P P 20 56 57.8 +0.9
STRD Stroud 77.65 340 eP P 20 56 57.1 +0.3
WTTA Wattenberg 77.65 329 iP P 20 56 58.1 +1.0
comp=Z,118nm,0.6s,SNR=80
WTTA eS S 21 06 14.8 -1.2
comp=Z,18nm,1.4s
NVR Nevrokopi 77.66 319 P P 20 56 59.0 +1.9
NVR Nevrokopi 77.66 319 P S 21 06 17.1 +1.1
OZLJ Ozalj 77.66 326 iP P 20 56 57.2 +0.3
BLY Banja Luka 77.71 325 ⇓iP P 20 56 57.4 +0.1
EZN Ezine 77.72 316 P P 20 56 58.2 +0.8
EZN Ezine 77.72 316 P S 21 06 17.3 +0.7
EZN Ezine 77.72 316 P P 20 56 58.0 +0.6
EZN Ezine 77.72 316 P P 20 56 58.0 +0.6
comp=Z,296nm,1.0s,comp=Z,2μm
MONM Monmouth 77.74 340⇑eP P 20 56 58.0 +0.7
MONM IAmb IAmb 20 56 59.2
comp=Z,83nm,0.9s
RETA Reutte 77.75 330 eP P 20 56 58.3 +0.7
comp=Z,25nm,0.7s,SNR=37
RETA eS S 21 06 16.9 0.0
comp=Z,2.6nm,0.9s
MOTA Moosalm 77.76 330 iP P 20 56 58.5 +0.8
comp=Z,72nm,0.5s,SNR=98
MOTA S S 21 06 15.0 -2.1
comp=Z,16nm,1.8s
RUDO Rudo 77.76 323 eP P 20 56 57.6 0.0
ABTA Abfaltersbach 77.78 329 iP P 20 56 57.5 -0.3
comp=Z,28nm,0.9s,SNR=19
ABTA S S 21 06 15.6 -1.7
comp=Z,15nm,1.7s
SWN1 Swindon 77.80 339⇑eP P 20 56 58.8 +1.2
SWN1 IAmb IAmb 20 56 59.3
comp=Z,221nm,0.5s
SJES Sjenica 77.81 322 ⇓iP P 20 56 58.8 +0.8
UBR Ueberruh 77.81 331 eP 20 56 58.4
comp=Z,29nm,0.7s,baz=30,slow=5.7
BFO Black Forest 77.83 332 P P 20 56 58.1 +0.2
BFO Black Forest 77.83 332 eP 20 56 58.5
comp=Z,62nm,0.9s,baz=30,slow=5.7
BOJS Bojanci 77.83 326 iP P 20 56 58.2 +0.3
BOJS Bojanci 77.83 326 ⇓iP P 20 56 58.2 +0.3
SQTA Sankt Quirin 77.83 330 iP P 20 56 58.9 +0.9
comp=Z,94nm,0.6s,SNR=59
SQTA eS S 21 06 17.6 -0.3
comp=Z,24nm,1.7s
WOL Wolverton 77.85 339⇑eP P 20 56 58.6 +0.7
THAS Thassos island 77.86 318 P P 20 56 58.7 +0.6
THAS Thassos island 77.86 318 P S 21 06 17.4 -0.6
HMNX Herstmonceux 77.87 338⇑eP P 20 56 59.4 +1.5
HMNX IAmb IAmb 20 57 01.8
comp=Z,115nm,0.7s
WHFO Wadi Hawf 77.87 283 P P 20 56 58.7 +0.1
RBK Rabkut 77.88 283 P P 20 56 58.7 0.0
CSS Mathiatis 77.94 309 P P 20 56 59.1 +0.4
comp=Z,273nm,1.1s,comp=Z,3μm
CEY Cerknica 77.94 327 ⇓iP P 20 56 58.4 -0.1
SRS Serrai 77.96 319 P P 20 56 59.2 +0.5
SRS Serrai 77.96 319 P S 21 06 18.6 -0.6
PLE Pljevlja 77.99 323 ⇓iP P 20 57 00.1 +1.1

KOKK Kokkinochori, 78.02 318 P P 20 56 59.5 +0.5
KOKK Kokkinochori, 78.02 318 P S 21 06 18.7 -1.1
MGRS Mrkonjic Grad 78.03 325 ⇓iP P 20 57 00.2 +1.2
JFWS Jewell Farm 78.06 38 P P 20 56 58.9 -0.4
baz=325,SNR=91
JFWS S S 21 06 16.0 -4.1
baz=325
RSBS Rosebush, Pemb 78.07 341⇑eP P 20 56 59.5 +0.4
RSBS IAmb IAmb 20 57 00.2
comp=Z,47nm,1.0s
IWEX Carrickbyrne, 78.10 343⇑eP P 20 56 59.9 +0.6
IWEX IAmb IAmb 20 57 00.5
comp=Z,83nm,0.7s
STIP Stip 78.13 320 iP P 20 56 59.4 -0.2
CMSA Cobar Meteorol 78.15 179 P P 20 57 00.7 +1.1
IVA Berane 78.16 322 ⇓iP P 20 57 00.3 +0.5
FETA Feichten 78.17 330 eP P 20 57 00.7 +0.8
comp=Z,35nm,0.7s,SNR=45
FETA eS S 21 06 20.8 -0.7
comp=Z,22nm,1.7s
A050A Klekovaca 78.19 325 ⇓iP P 20 57 00.2 +0.2
LIA Limnos Island 78.20 317 P P 20 57 00.5 +0.5
LIA Limnos Island 78.20 317 P S 21 06 19.4 -2.3
PRK Paraskevi 78.20 316 P P 20 57 00.5 +0.5
PRK Paraskevi 78.20 316 P S 21 06 22.9 +1.2
PLIT Plitvice 78.22 326 iP P 20 57 00.1 +0.1
DAVA Damuels 78.23 331 iP P 20 57 00.9 +0.6
comp=Z,49nm,0.6s,SNR=36
DAVA S S 21 06 20.9 -1.2
comp=Z,18nm,1.4s
SKO Skopje 78.23 321 iP P 20 57 01.5 +1.3
KNT Kendrikon 78.24 319 P P 20 57 00.9 +0.7
KNT Kendrikon 78.24 319 P S 21 06 22.4 +0.3
KSU1 Kansas State U 78.26 44 P P 20 57 00.2 -0.2
baz=322,SNR=81
KSU1 S S 21 06 19.7 -2.7
baz=322
RIY Rijeka 78.27 327 P P 20 57 00.3 0.0
MMAI Mount Meron Ar 78.28 306 P P 20 57 02.1 +1.5
comp=Z,202nm,0.6s,baz=46,slow=7.1,SNR=375
comp=Z,202nm,0.6s
UPM Unac-Piva 78.30 323 ⇓iP P 20 57 00.8 +0.1
UPM Unac-Piva 78.30 323 ⇓iP P 20 57 00.8 +0.1
ECH Echery 78.30 333 P P 20 57 00.7 +0.3
SOH Sokhos 78.31 319 P P 20 57 01.2 +0.6
SOH Sokhos 78.31 319 P S 21 06 22.1 -0.8
KOME Kolasin 78.33 322 ⇓iP P 20 57 01.2 +0.4
PVY Plav 78.36 322 ⇓iP P 20 57 01.4 +0.4
OUR Ouranopolis 78.41 318 P P 20 57 01.7 +0.6
OUR Ouranopolis 78.41 318 P S 21 06 22.7 -1.2
SIGR SIGRI 78.43 316 P P 20 57 01.5 +0.3
SIGR SIGRI 78.43 316 P S 21 06 23.6 -0.5
BLCB Balcova 78.51 315 P P 20 57 02.1 +0.4
BLCB Balcova 78.51 315 P S 21 06 25.1 +0.1
STKA Stephens Creek 78.54 183 P P 20 57 02.6 +0.9
STKA Stephens Creek 78.54 183 P P 20 57 02.7 +0.9
comp=Z,43nm,0.8s,baz=9.4,slow=7.8,SNR=60
comp=Z,43nm,0.8s
STKA Stephens Creek 78.54 183c iP P 20 57 02.1 +0.4
ABTO Aybut 78.59 283 P P 20 57 02.9 +0.3
HORT Hortiatis 78.60 319 P P 20 57 02.3 0.0
HORT Hortiatis 78.60 319 P S 21 06 24.5 -1.6
PLG Polygyros 78.62 318 P P 20 57 02.8 +0.4
PLG Polygyros 78.62 318 P S 21 06 25.0 -1.3
THE Thessaloniki 78.64 319 P P 20 57 02.3 0.0
NKME Niksic 78.64 323 ⇓iP P 20 57 02.3 -0.1
SMRN Sveta Marina 78.64 327 iP P 20 57 01.6 -0.7
KIJV Kijevo 78.64 325 iP P 20 57 02.6 +0.3
RABC Rab 78.64 326 iP P 20 57 02.0 -0.3
BRY Bratogost 78.70 323 ⇓iP P 20 57 02.5 -0.3
BRY Bratogost 78.70 323 ⇓iP P 20 57 02.7 -0.1
GLMI Grayling 78.72 33 P P 20 57 03.3 +0.5
baz=328,SNR=30
GLMI S S 21 06 24.5 -2.6
baz=328
RICI Ricice 78.78 324 iP P 20 57 02.6 -0.5
PDG Podgorica 78.79 322 ⇑P P 20 57 03.1 0.0
PDG Podgorica 78.79 322 ⇓iP P 20 57 03.5 +0.3
PDG Podgorica 78.79 322 ⇓iP P 20 57 03.4 +0.3
CEME Cevo 78.83 322 ⇓iP P 20 57 03.4 -0.1
FORT Forrest 78.87 195 P P 20 57 04.3 +0.8
PAIG Paliouri 78.88 318 P P 20 57 04.0 +0.4
PAIG Paliouri 78.88 318 P S 21 06 27.2 -1.6
BRJN Brijuni 78.90 327 iP P 20 57 02.5 -1.1
HTL Hartland 78.91 341⇑eP P 20 57 04.4 +0.8
TREB Trebinje 78.93 323 eP P 20 57 03.6 -0.3
AMTX Amarillo 78.99 50 P P 20 57 05.6 +1.2
baz=320
CHOS Chios island 78.99 315 P P 20 57 05.0 +0.6
CHOS Chios island 78.99 315 P S 21 06 30.8 +0.6
MAKA Makarska 79.00 324 iP P 20 57 03.5 -0.7
DRME Dracevica, Mon 79.02 322 ⇓iP P 20 57 04.9 +0.5
DRME Dracevica, Mon 79.02 322 ⇓iP P 20 57 04.9 +0.5
MORI Morici 79.03 325 iP P 20 57 04.2 -0.2
BUM Brajici-Budva 79.05 322 ⇓iP P 20 57 04.7 +0.1
DBRK Dubrovnik 79.05 323 iP P 20 57 03.9 -0.6
STON Ston 79.07 323 iP P 20 57 03.7 -0.9
STON Ston 79.07 323 ⇓iP P 20 57 04.0 -0.6
HCY Herceg Novi 79.09 323 ⇓iP P 20 57 04.5 -0.2
HCY Herceg Novi 79.09 323 ⇓iP P 20 57 04.6 -0.2
MSTX Muleshoe 79.10 52 P P 20 57 05.8 +0.6
baz=320,SNR=72
TUE Stuetta 79.12 330 P P 20 57 05.4 +0.3
comp=Z,422nm,0.7s,comp=Z,3μm
SMG Samos 79.14 315 P P 20 57 05.3 +0.2
SMG Samos 79.14 315 P S 21 06 32.6 +0.9
ULC Ulcinj 79.18 322 ⇓iP P 20 57 05.3 0.0
DUGI Dugi Otok 79.18 326 iP P 20 57 04.7 -0.6
OHR Ohrid 79.21 320 iP P 20 57 06.2 +0.7
FNA Florina 79.22 320 P P 20 57 05.7 +0.1
FNA Florina 79.22 320 P S 21 06 31.4 -1.1
RAYN Ar Rayn 79.24 293 iP P 20 57 06.9 +0.9
SNR=31
RAYN Ar Rayn 79.24 293 P P 20 57 06.1 +0.1
RAYN Ar Rayn 79.24 293 ⇓P P 20 57 06.8 +0.9
LIT Litokhoron 79.28 319 P P 20 57 05.6 -0.2
LIT Litokhoron 79.28 319 P S 21 06 29.9 -3.2
DYA Yadsworthy 79.31 340⇑eP P 20 57 06.3 +0.5
SKY Skiros Island 79.31 317 P P 20 57 06.5 +0.5
SKY Skiros Island 79.31 317 P S 21 06 32.3 -1.1
HVAR Hvar 79.32 324 iP P 20 57 05.2 -0.7
SBD Saint Breward 79.36 341⇑eP P 20 57 06.4 +0.4
MNTX Cornudas Mount 79.39 55 P P 20 57 08.1 +1.4
baz=319,SNR=288
BODT Bodrum 79.42 314 P P 20 57 07.1 +0.5
BODT Bodrum 79.42 314 P S 21 06 34.2 -0.4
TIR Tirane 79.42 321 P P 20 57 07.3 +0.8
DAT Datca 79.55 313 P P 20 57 07.4 0.0
DAT Datca 79.55 313 P S 21 06 34.5 -1.7
NEO Neokhori 79.58 318 P P 20 57 07.4 -0.1
NEO Neokhori 79.58 318 P S 21 06 33.7 -2.6
KBN Korca 79.61 320 P P 20 57 08.0 +0.3
KBN Korca 79.61 320 P S 21 06 34.9 -1.7
L44A Lake County Fo 79.64 37 P P 20 57 07.8 +0.1
baz=326,SNR=28
NEST Nestorio 79.67 320 P P 20 57 08.4 +0.4
NEST Nestorio 79.67 320 P S 21 06 36.0 -1.3
ARG Arkhangelos 79.67 313 P P 20 57 08.7 +0.7
ARG Arkhangelos 79.67 313 P S 21 06 36.8 -0.5
TYRN Tyrnavos 79.71 319 P P 20 57 07.5 -0.6
TYRN Tyrnavos 79.71 319 P S 21 06 34.1 -3.4
KYMI Kymi, Euboea I 79.72 317 P S 21 06 36.9 -0.7
PENT Pentalofos 79.81 320 P P 20 57 08.9 +0.1
BBOO Buckleboo 79.81 188 P P 20 57 09.1 +0.6
CCA1 Carnmenellis 79.83 341⇑eP P 20 57 09.2 +0.6
CCA1 IAmb IAmb 20 57 10.4
comp=Z,42nm,0.8s
NISR Nisiros 79.86 314 P P 20 57 08.8 -0.2
KPRO Kipourio 79.90 319 P S 21 06 35.6 -4.1
WHYH Whyalla 79.91 186 P P 20 57 09.8 +0.9
THL Klokotos Trika 79.93 319 P P 20 57 08.1 -1.1
THL Klokotos Trika 79.93 319 P S 21 06 35.3 -4.4
MORW Morawa 80.05 205 P P 20 57 10.5 +0.7
JSA Saint Aubin 80.05 339⇑eP P 20 57 10.5 +0.8
JSA IAmb IAmb 20 57 11.0
comp=Z,50nm,0.6s
LSK Leskovik 80.08 320 P S 21 06 42.2 +0.7
HTT Hallett 80.21 185 P P 20 57 11.6 +0.9
AGG Agios Georgios 80.22 318 P P 20 57 09.9 -1.0
AGG Agios Georgios 80.22 318 P S 21 06 39.2 -3.7
DION Dionisos Attik 80.24 317 P P 20 57 11.4 +0.4
DION Dionisos Attik 80.24 317 P S 21 06 41.9 -1.2

AXAR Agios Charalam 80.28 318 P **P** **20 57 10.7 -0.5**
AXAR Agios Charalam 80.28 318 P **S** **21 06 37.7 -5.8**
APE Apeiranthos 80.28 315 ⇓P **P** **20 57 10.3 -1.0**
APE Apeiranthos 80.28 315 P **P** **20 57 10.2 -1.0**
APE Apeiranthos 80.28 315 P **S** **21 06 42.3 -1.3**
APE Apeiranthos 80.28 315 ⇓P **P** **20 57 10.3 -1.0**
PTL Penteli 80.30 317 P **P** **20 57 10.6 -0.7**
PTL Penteli 80.30 317 P **S** **21 06 41.6 -2.1**
MAKR Makrakomi, Fth 80.32 318 P **P** **20 57 10.9 -0.5**
MAKR Makrakomi, Fth 80.32 318 P **S** **21 06 41.2 -2.7**
JAN Janina 80.37 320 P **S** **21 06 44.9 +0.5**
ATHU Athens Univers 80.40 317 P **P** **20 57 11.4 -0.4**
ATHU Athens Univers 80.40 317 P **S** **21 06 41.7 -3.0**
HDIL Hopedale 80.41 39 P **P** **20 57 12.2 +0.4**
baz=326,SNR=88
ATH Athens Observa 80.43 317 P **P** **20 57 11.7 -0.2**
ATH Athens Observa 80.43 317 P **S** **21 06 42.0 -2.9**
VILL Villia 80.46 317 P **P** **20 57 11.2 -1.0**
VILL Villia 80.46 317 P **S** **21 06 42.3 -3.1**
VLY Voula,Athens 80.49 317 P **P** **20 57 11.3 -1.0**
VLY Voula,Athens 80.49 317 P **S** **21 06 39.1 -6.5**
EVR Evrytania 80.55 318 P **P** **20 57 13.2 +0.5**
EVR Evrytania 80.55 318 P **S** **21 06 43.7 -2.7**
SRN Sarande 80.56 320 P **P** **20 57 12.7 +0.1**
SRN Sarande 80.56 320 P **S** **21 06 44.9 -1.4**
WMOK Wichita Mounta 80.61 48 P **P** **20 57 13.8 +0.8**
baz=322,SNR=244
WMOK S **S** **21 06 47.0 0.0**
baz=322
WMOK Wichita Mounta 80.61 48 P **P** **20 57 13.4 +0.4**
KARP Karpathos 80.68 313 P **P** **20 57 13.1 -0.3**
KARP Karpathos 80.68 313 P **S** **21 06 45.4 -2.4**
KARP Karpathos 80.68 313 P **P** **20 57 13.2 -0.2**
comp=Z,288nm,0.8s,comp=Z,3μm
KMBL Kambalda 80.69 200 P **P** **20 57 13.4 +0.2**
IGT Igoumenitsa 80.70 320 P **S** **21 06 40.9 -6.9**
ANX Ano Chora 80.76 318 P **P** **20 57 13.4 -0.4**
ANX Ano Chora 80.76 318 P **S** **21 06 43.2 -5.4**
LOUT Loutraki 80.76 317 P **P** **20 57 12.5 -1.2**
LOUT Loutraki 80.76 317 P **S** **21 06 43.8 -4.6**
CMBO Columbo, Santo 80.82 315 P **S** **21 06 45.6 -3.4**
KALE Kalithea 80.82 318 P **P** **20 57 13.4 -0.7**
KALE Kalithea 80.82 318 P **S** **21 06 42.4 -6.7**
SNT1 Gialos, Santor 80.85 315 P **P** **20 57 12.9 -1.3**
SNT1 Gialos, Santor 80.85 315 P **S** **21 06 44.7 -4.6**
THR3 Thira Island, 80.87 315 P **P** **20 57 12.9 -1.4**
THR3 Thira Island, 80.87 315 P **S** **21 06 45.9 -3.6**
SANT Santorini 80.87 315 ⇑P **P** **20 57 13.7 -0.7**
SANT Santorini 80.87 315 P **S** **21 06 46.2 -3.5**
THR5 Thira Island, 80.89 315 P **P** **20 57 13.1 -1.3**
THR5 Thira Island, 80.89 315 P **S** **21 06 45.6 -4.2**
EFP Efpalio 80.90 318 P **P** **20 57 14.4 0.0**
EFP Efpalio 80.90 318 P **S** **21 06 46.5 -3.3**
THR6 Thira Island, 80.92 315 P **P** **20 57 13.4 -1.1**
THR6 Thira Island, 80.92 315 P **S** **21 06 46.5 -3.5**
PVO Paravola 80.92 319 P **P** **20 57 14.6 +0.1**
PVO Paravola 80.92 319 P **S** **21 06 47.1 -2.9**
ALIK Aliki, Aigiali 80.94 318 P **P** **20 57 14.8 +0.2**
ALIK Aliki, Aigiali 80.94 318 P **S** **21 06 46.4 -3.8**
YNG Young 80.96 177 P **P** **20 57 16.0 +1.5**
EPID Epidavros 81.00 317 P **P** **20 57 13.2 -1.8**
EPID Epidavros 81.00 317 P **S** **21 06 44.5 -6.4**
UPR University Cam 81.07 318 P **P** **20 57 15.7 +0.4**
UPR University Cam 81.07 318 P **S** **21 06 48.9 -2.6**
GUR Goura 81.10 318 P **S** **21 06 44.3 -7.8**
KLV Kalavryta, Ach 81.10 318 P **P** **20 57 15.4 -0.1**
KLV Kalavryta, Ach 81.10 318 P S 21 06 42.4 -10
ROSF Rostrenen 81.11 339⇑*e*P **P** **20 57 16.4 +1.0**
TSLK Tsoukalades, L 81.14 319 P **P** **20 57 15.4 -0.2**
TSLK Tsoukalades, L 81.14 319 P **S** **21 06 50.4 -1.8**
KRND KRANIDI 81.17 317 P **P** **20 57 13.9 -1.9**
KRND KRANIDI 81.17 317 P **S** **21 06 46.5 -6.0**
LKD2 Lefkada island 81.17 319 P **P** **20 57 15.5 -0.3**
LKD2 Lefkada island 81.17 319 P **S** **21 06 49.9 -2.7**
TUL3 Leonard 81.18 46 P **P** **20 57 16.8 +0.9**
baz=323,SNR=209
TUL3 S **SKSac** **21 06 52.7 -4.5**
baz=323
NYDR Nydri-Lefkada 81.21 319 P **P** **20 57 15.8 -0.2**
NYDR Nydri-Lefkada 81.21 319 P **S** **21 06 50.4 -2.5**
AAM Ann Arbor 81.24 34 P **P** **20 57 16.7 +0.7**
baz=329,SNR=41
BNI Bardonecchia 81.25 331 P **P** **20 57 17.3 +1.0**
EVGI Lefkada island 81.31 319 P **P** **20 57 16.7 +0.2**
EVGI Lefkada island 81.31 319 P **S** **21 06 46.7 -7.2**
BLDU Ballidu 81.31 204 P **P** **20 57 16.8 +0.4**
MATE Matera 81.33 323 ⇑P **P** **20 57 16.9 +0.4**
RLS Riolos of Patr 81.40 318 P **P** **20 57 17.3 +0.3**
RLS Riolos of Patr 81.40 318 P **S** **21 06 53.5 -1.4**
FSK Fiskardo 81.48 319 P **S** **21 06 53.2 -2.5**
SFIN Lafayette 81.48 37 P **P** **20 57 17.7 +0.3**
baz=327,SNR=120
ZKR Zakros 81.50 313 P **P** **20 57 18.2 +0.6**
ZKR Zakros 81.50 313 P **S** **21 06 54.6 -1.4**
CCM Cathedral Cave 81.60 42 P **P** **20 57 18.5 +0.5**
baz=325
CCM S **S** **21 06 55.3 -1.6**
baz=325
VLS Valsamata 81.70 319 P **P** **20 57 18.5 -0.1**
VLS Valsamata 81.70 319 P **S** **21 06 55.9 -2.1**
RTZL Ratzakli, Kefa 81.70 319 P **P** **20 57 18.7 +0.1**
RTZL Ratzakli, Kefa 81.70 319 P **S** **21 06 56.2 -1.7**
DMLN Damoulianata-K 81.75 319 P **P** **20 57 19.0 +0.2**
PSDA Pessada-Kefalo 81.75 319 P **P** **20 57 18.5 -0.3**
PSDA Pessada-Kefalo 81.75 319 P **S** **21 06 56.1 -2.4**
VLI Veliai 81.80 316 P **P** **20 57 16.8 -2.3**
VLI Veliai 81.80 316 P S 21 06 48.8 -10
ABTX Abilene, Hawle 81.81 50 P **P** **20 57 20.0 +0.8**
baz=321,SNR=53
ABTX S **SKSac** **21 06 58.7 -2.9**
baz=321
ITM Ithomi 81.90 317 P **P** **20 57 19.3 -0.4**
ITM Ithomi 81.90 317 P **S** **21 06 56.3 -3.8**
LTHK Lithakia 81.97 318 P **P** **20 57 19.7 -0.2**
LTHK Lithakia 81.97 318 P **S** **21 06 57.0 -3.7**
CAN Canberra 82.00 177 P **P** **20 57 21.3 +1.4**
CAN Canberra 82.00 177 P **P** **20 57 21.0 +1.1**
IDI Anoyia 82.01 314 P **P** **20 57 19.5 -0.8**
IDI Anoyia 82.01 314 P **S** **21 06 55.9 -5.5**
TXAR Lajitas Array 82.15 55 P **P** **20 57 22.4 +1.2**
comp=Z,222nm,0.8s,baz=293,slow=4.0,SNR=2211
comp=Z,222nm,0.8s
PYL PYLOS 82.22 317 P **P** **20 57 20.7 -0.6**
PYL PYLOS 82.22 317 P **S** **21 06 59.7 -3.5**
ANKY Antikythira Is 82.32 316 P **P** **20 57 21.0 -0.8**
ANKY Antikythira Is 82.32 316 P **S** **21 06 59.0 -5.2**
IMMV Iera Moni Meta 82.32 315 P **P** **20 57 21.4 -0.4**
IMMV Iera Moni Meta 82.32 315 P **S** **21 06 59.0 -5.3**
LONY Lake Ozonia 82.38 27 P **P** **20 57 21.8 -0.2**
baz=334,SNR=117
LONY S **S** **21 07 02.1 -2.5**
baz=334
O48B Farmland 82.38 36 P **P** **20 57 22.2 +0.1**
baz=328,SNR=94
O48B S **SKSac** **21 07 02.2 -2.8**
baz=328
GVD Gavdhos 82.77 315 P **P** **20 57 24.1 0.0**
GVD Gavdhos 82.77 315 P **S** **21 07 04.5 -4.3**
ERPA Erie 82.77 32 P **P** **20 57 24.5 +0.5**
baz=331,SNR=50
ERPA S **S** **21 07 05.7 -2.9**
baz=331
M53A WI Miller and 83.11 33 P **P** **20 57 26.4 +0.7**
baz=330,SNR=155
M53A S **S** **21 07 09.6 -2.4**
baz=330
P49A Miami Univ. Ec 83.17 36 P **P** **20 57 26.4 +0.3**
baz=328,SNR=136
P49A S **S** **21 07 10.7 -2.0**
baz=328
ACSO Alum Creek Sta 83.27 35 P **P** **20 57 27.2 +0.6**
baz=329,SNR=59
ACSO S **S** **21 07 11.8 -1.8**
baz=329
NWAO Narrogin (SRO) 83.34 203 P **P** **20 57 27.0 +0.3**
NWAO Narrogin (SRO) 83.34 203 P **P** **20 57 27.2 +0.5**
NWAO Narrogin (SRO) 83.34 203 P **P** **20 57 27.3 +0.6**
PKME Peaks-Kenny Pk 83.35 24 P **P** **20 57 27.3 +0.5**
baz=337,SNR=106
MIAR Mount Ida 83.35 45 P **P** **20 57 28.0 +0.9**
baz=324,SNR=195
MIAR S **S** **21 07 14.7 0.0**
baz=324
MIAR Mount Ida 83.35 45 P **P** **20 57 28.0 +0.9**
JCT Junction City 83.39 52 P **P** **20 57 28.1 +0.7**
baz=322,SNR=101
JCT S **S** **21 07 15.1 -0.1**
baz=322
ARPS Mount Arapiles 83.41 182 P **P** **20 57 28.0 +1.0**
WHTX Lake Whitney, 83.44 49 P **P** **20 57 28.6 +1.1**
baz=322,SNR=41
WHTX S **S** **21 07 15.3 -0.3**
baz=322
LBNH Lisbon 83.53 26 P **P** **20 57 28.6 +0.7**
baz=336,SNR=106
LBNH S **S** **21 07 14.0 -2.1**
baz=336
WCI Wyandotte Cave 83.63 38 P **P** **20 57 29.0 +0.6**
baz=328
WCI S **S** **21 07 16.1 -1.1**
baz=328
MILA Mila 83.73 177 P **P** **20 57 30.8 +2.1**
O53A New Philadelph 83.94 34 P **P** **20 57 30.5 +0.6**
baz=330,SNR=240
O53A S **S** **21 07 17.9 -2.4**
baz=330
BINY Binghamton 84.09 29 P **P** **20 57 30.8 +0.2**
baz=333,SNR=125
BINY S **S** **21 07 18.7 -3.0**
baz=333
P52A Corning 84.12 35 P **P** **20 57 31.0 +0.2**
baz=330,SNR=112
P52A S **S** **21 07 20.1 -2.0**
baz=330
TOO Toolangi 84.17 180 P **P** **20 57 32.6 +1.8**
TOO Toolangi 84.17 180 P **P** **20 57 32.1 +1.3**
435B Jarrell 84.33 50 P **P** **20 57 32.6 +0.5**
baz=322
WVT Waverly 84.72 40 P **P** **20 57 34.7 +0.8**
baz=327
WVT S **S** **21 07 27.7 -0.3**
baz=327
WVT Waverly 84.72 40 P **P** **20 57 34.5 +0.7**
SSPA Standing Stone 84.82 31 P **P** **20 57 34.8 +0.5**
baz=332
SSPA S **S** **21 07 26.1 -2.8**
baz=332
L61B Northampton 84.93 27 P **P** **20 57 35.0 +0.2**
baz=335,SNR=34
MCWV Mont Chateau 84.97 33 P **P** **20 57 36.1 +1.1**
baz=331,SNR=73
MCWV S **S** **21 07 28.8 -1.6**
baz=331
NATX Nacogdoches 85.06 47 P **P** **20 57 37.1 +1.6**
baz=324,SNR=52
NATX S **S** **21 07 33.1 +1.6**
baz=324
HRV Adam Dziewonsk 85.22 26 P **P** **20 57 37.0 +0.7**
baz=336
HRV S **S** **21 07 29.9 -2.8**
baz=336
HRV Adam Dziewonsk 85.22 26 ⇑P **P** **20 57 36.9 +0.7**
U49A Red Boiling Sp 85.29 39 P **P** **20 57 37.1 +0.5**
833A Chaparral WMA, 85.30 53 P **P** **20 57 38.2 +1.3**
baz=322,SNR=33
833A S **S** **21 07 30.6 -3.3**
baz=322
OXF Oxford 85.35 42 P **P** **20 57 37.6 +0.7**
baz=326,SNR=68
OXF S **S** **21 07 33.1 -1.1**
baz=326
PAL Palisades 85.85 28 P **P** **20 57 39.7 +0.4**
baz=335,SNR=37
PAL S **S** **21 07 36.4 -2.3**
baz=335
HKT Hockley 85.91 49 *i* P **P** **20 57 40.1 +0.4**
HKT pmax pmax
comp=Z,75nm,1.5s
TZTN Tazewell 86.20 37 P **P** **20 57 41.9 +0.8**
baz=329,SNR=132
TZTN S **S** **21 07 40.9 -1.6**
baz=329
M65A Busby, Falmout 86.36 26 P **P** **20 57 42.3 +0.6**
baz=336
VBMS Vicksburg 86.72 44 P **P** **20 57 45.1 +1.5**
baz=326,SNR=21
BLA Blacksburg 86.89 35 P **P** **20 57 45.0 +0.7**
baz=331,SNR=86
BLA S **S** **21 07 48.7 -0.2**
baz=331
PPT2 Papeete2 87.04 120 *e*P **P** **20 57 42.8 -2.4**
comp=Z,64nm,27.8s
PPT2 Papeete2 87.04 120 *e*S **S** **21 07 49.2 -1.5**
comp=Z,192nm,28.2s
PPT2 Papeete2 87.04 120 *e*LR LR 21 25 57.1
comp=Z,190nm,23.2s
PPT2 *e*LR LR 21 26 04.0
comp=Z,221nm,23.0s
CBN Corbin Frederi 87.16 32 P **P** **20 57 46.3 +0.7**
baz=333,SNR=19
CBN S **S** **21 07 51.4 +0.1**
baz=333
GLAD Gladstone 87.62 178 P **P** **20 57 49.5 +2.2**
LRAL Lakeview Retre 87.69 41 P **P** **20 57 48.5 +0.4**
baz=327,SNR=83
LRAL S **S** **21 07 54.6 -1.9**
baz=327
PBRG Braganca 88.09 339 *e*P **P** **20 57 49.9 0.0**
PGAV Gavieira, Arco 88.30 340 *e*P **P** **20 57 50.8 -0.2**
KMSC Kings Mountain 88.32 36 P **P** **20 57 51.7 +0.6**
baz=330,SNR=94
KMSC S **S** **21 07 58.9 -3.4**
baz=330
PCAB Cabril 88.48 340 *e*P **P** **20 57 51.5 -0.3**
KEST Kesra 88.51 325 P **P** **20 57 52.1 0.0**
comp=Z,22nm,0.9s,baz=78,slow=9.3,SNR=18
comp=Z,22nm,0.9s
POLO Lamas de Olo 88.75 340 *e*P **P** **20 57 52.9 -0.2**
GOGA Godfrey 88.92 39 P **P** **20 57 54.9 +1.0**
baz=329,SNR=128
GOGA S **S** **21 08 06.6 -1.3**
baz=329
GOGA Godfrey 88.92 39 P **P** **20 57 54.9 +1.0**
BRAL Brewton 89.23 42 P **P** **20 57 57.0 +1.6**
baz=328,SNR=22
BRAL S **S** **21 08 13.6 +2.7**
baz=328
ESDC Sonseca Array 89.37 336 P **P** **20 57 56.0 0.0**
comp=Z,4.3nm,0.5s,baz=16,slow=4.0,SNR=56
ESDC PP **PP** **21 01 33.0 +0.7**
comp=Z,4.1nm,1.0s,baz=28,slow=7.6,SNR=4.0
ESDC ScS **S** **21 08 12.4 +0.4**
comp=Z,1.4nm,1.0s,baz=359,slow=6.9,SNR=4.8
PVIS Viseu 89.39 340 *e*P **P** **20 57 55.9 -0.2**
CNNC Cliffs of the 89.59 34 P **P** **20 57 57.8 +0.8**
baz=332
PAB San Pablo 89.59 337 ⇓P **P** **20 57 57.0 -0.1**
MTE Manteigas 89.61 339 *e*P **P** **20 57 57.3 +0.2**
COI Coimbra 90.00 340 *e*P **P** **20 57 59.1 +0.3**
PCBR Castelo Branco 90.12 339 *e*P **P** **20 57 59.4 0.0**
PCAS Casmilo, Conde 90.17 340 *e*P **P** **20 57 59.5 -0.1**
PMRV Marv??o 90.49 339 *e*P **P** **20 58 04.6 +3.4**
TIGA Tifton 90.56 40 P **P** **20 58 02.9 +1.3**
baz=329,SNR=21
TIGA S **S** **21 08 25.3 +2.4**
baz=329
NHSC New Hope 90.56 36 P **P** **20 58 02.5 +0.9**
baz=331,SNR=16
PSBE So Bento 90.75 340 *e*P **P** **20 58 01.6 -0.7**
TBI Tubuai 91.58 123 *e*LR LR 21 27 51.7
comp=Z,1μm,30.2s
PBAR Barrancos 91.59 338 *e*P **P** **20 58 06.2 0.0**
PNCL Nicolau / Gran 92.02 339 *e*P **P** **20 58 08.5 +0.3**
MESJ Messejana 92.20 339 *e*P **P** **20 58 09.1 +0.1**
MESJ Messejana 92.20 339 *e*P **P** **20 58 08.9 -0.2**
MESJ IAmb IAmb 20 58 09.8
comp=Z,8.0nm,0.9s
PVAQ Vaqueiros 92.49 338 *e*P **P** **20 58 10.3 -0.1**
DWPF Disney Wildern 94.37 40 P **P** **20 58 19.8 +0.7**
baz=330
CMIG Matias Romero 96.71 56 P **P** **20 58 30.0 +0.1**
comp=Z,9.2nm,0.8s,baz=338,slow=4.1,SNR=17
CMIG PP **PP** **21 02 34.4 +4.6**
comp=Z,8.9nm,1.1s,baz=302,slow=6.8,SNR=5.4
comp=Z,9.2nm,0.8s
TEIG Tepich 97.76 49 P Pdif 20 58 35.1 +0.5
comp=Z,7.9nm,0.8s,baz=309,slow=11,SNR=5.4
comp=Z,7.9nm,0.8s
TORD Torodi Ar. Bea 111.68 321 Pdiff **Pdif** **20 59 37.6 +1.0**
comp=Z,1.0nm,0.9s,baz=22,slow=4.5,SNR=3.9
TORD PKiKP **PKiKP** **21 03 31.6 -0.2**
comp=Z,1.4nm,0.5s,baz=20,slow=2.8,SNR=14
TORD PP **PP** **21 04 21.1 +1.3**
comp=Z,7.3nm,0.8s,baz=14,slow=9.1,SNR=6.5
TORD PKKPbc **PKKPbc** **21 14 26.0 +1.6**
comp=Z,0.4nm,0.3s,baz=197,slow=2.0,SNR=6.0
SDV Santo Domingo 116.03 40 PKP **PKPdf** **21 03 40.4 -0.1**
comp=Z,13nm,0.4s,baz=325,slow=2.3,SNR=3.5
SDV PP **PP** **21 04 50.6 0.0**
comp=Z,28nm,0.6s,baz=1.1,slow=5.3,SNR=6.8
PCRV Puerto La Cruz 117.30 33 PKP **PKPdf** **21 03 41.0 -1.7**
comp=Z,7.8nm,0.8s,baz=0.0,slow=3.0,SNR=1.7
PCRV PP **PP** **21 05 00.1 +1.1**
comp=Z,23nm,0.9s,baz=334,slow=5.5,SNR=4.6
ROSC El Rosal 117.88 45 PKP **PKiKP** **21 03 44.9 +0.6**
comp=Z,7.4nm,0.6s,baz=311,slow=20,SNR=3.9
ROSC PP **PP** **21 05 03.5 -0.2**
comp=Z,9.2nm,0.7s,baz=23,slow=7.3,SNR=11
DBIC Dimbokro 120.23 325 PKP **PKPdf** **21 03 48.4 0.0**
comp=Z,3.2nm,0.4s,baz=360,slow=2.4,SNR=10.0
VNDA Vanda 124.66 176 PKP **PKiKP** **21 03 55.2 0.0**
comp=Z,4.7nm,0.9s,baz=321,slow=4.3,SNR=29
VNDA PP **PP** **21 05 49.8 +0.9**
comp=Z,1.9nm,1.0s,baz=314,slow=7.1,SNR=3.1
ATAH Atahualpa 125.77 57 PKP **PKiKP** **21 04 00.6 +0.7**
comp=Z,13nm,0.7s,baz=27,slow=4.5,SNR=6.3
MDP Montagnes des 125.88 22 PKP **PKiKP** **21 03 59.9 +0.3**
comp=Z,19nm,0.5s,baz=317,slow=1.8,SNR=26
BOAV Boa Vista 126.00 32 *e*P **PKiKP** **21 04 02.4 +2.5**
TBTG Tabatinga, AM 127.86 46 *e*P **PKiKP** **21 04 03.7 +0.2**
CZSB Cruzeiro do Su 129.43 52 *e*P **PKiKP** **21 04 06.4 -0.3**
MAW Mawson 129.54 209 PKP **PKiKP** **21 04 05.7 +0.5**
comp=Z,3.8nm,0.6s,baz=131,slow=2.2,SNR=13
MAW SKPbc SKPbc 21 06 50.7 +1.7
comp=Z,22nm,0.9s,baz=42,slow=4.3,SNR=19
TEFE Tefe 129.72 40 *e*P **PKiKP** **21 04 07.2 -0.1**
BOSA Boshof 130.16 269 PKhKP PKPpre 21 04 01.4
comp=Z,6.1nm,1.1s,baz=39,slow=5.5,SNR=6.2
BOSA SKPbc **SKPab** **21 06 53.1 +0.1**
comp=Z,81nm,0.9s,baz=47,slow=3.0,SNR=29
NNA Nana 130.57 59 SKPbc **SKPbc** **21 06 53.6 -1.1**
comp=Z,13nm,0.6s,baz=292,slow=5.6,SNR=2.4
ITTB Itaituba 133.96 29 *e*P **PKPdf** **21 04 15.1 +0.6**
TMAB Tom-Au,PA,Br 134.16 18 *e*P **PKiKP** **21 04 15.7 -0.6**
ETMB Extrema 134.53 46 *e*P **PKPdf** **21 04 15.7 +0.3**
QSPA South Pole Qui 136.71 180 PKhKP PKPpre 21 04 04.5
comp=Z,5.5nm,0.6s,baz=38,slow=0.4,SNR=24
QSPA PP **PP** **21 07 04.6 -1.8**
comp=Z,5.8nm,0.9s,baz=315,slow=4.9,SNR=3.7
PRPB Parauapebas 137.43 22 *e*P **PKPdf** **21 04 21.8 +0.8**
LPAZ La Paz 138.99 53 PKhKP PKPpre 21 04 17.9
comp=Z,3.0nm,0.6s,baz=298,slow=2.7,SNR=8.8
LPAZ PKP **PKPdf** **21 04 25.0 +0.6**
comp=Z,10nm,0.8s,baz=255,slow=4.7,SNR=14
LPAZ PP **PP** **21 07 22.0 +0.8**
comp=Z,11nm,0.9s,baz=25,slow=10,SNR=6.7
LPAZ La Paz 138.99 53 PKiKP **PKPdf** **21 04 25.0 +0.6**
CLDB Colider 139.99 33 *e*P **PKPdf** **21 04 26.0 +0.5**
VILB Vilhena 140.08 40 *e*P **PKPdf** **21 04 26.2 +0.5**
PDRB Porto dos Gac 140.31 34 *e*P **PKPdf** **21 04 26.6 +0.5**
SMTB Santa Maria do 140.56 20 *e*P **PKPdf** **21 04 27.2 +0.6**
SIV San Ignacio 142.34 44 PKhKP PKPpre 21 04 25.3
comp=Z,15nm,0.6s,baz=314,slow=2.9,SNR=53
SIV SKP 21 07 27.8
comp=Z,11nm,0.8s,baz=336,slow=3.8,SNR=5.2
SIV PP **PP** **21 07 41.0 +0.3**
comp=Z,53nm,1.1s,baz=328,slow=6.0,SNR=16
SNDB Serra Nova Dou 142.54 27 *e*P **PKPdf** **21 04 30.1 0.0**
PTLB Pontes e Lacer 142.75 40 PKPdf **PKPdf** **21 04 27.6 -2.8**
PTLB Pontes e Lacer 142.75 40 *e*P **PKPdf** **21 04 27.6 -2.8**
PB06 IPOC Station P 143.23 61 PKPdf PKPbc 21 04 29.7 +0.6
ELIB Princess Elisa 143.52 207 *d*PKPdf PKPbc 21 04 29.0 +0.4
LVC Limon Verde 143.55 60 PKP **PKPdf** **21 04 31.5 -0.6**
comp=Z,29nm,0.6s,baz=327,slow=2.8,SNR=35
LVC Limon Verde 143.55 60 *e*P **PKPdf** **21 04 31.9 -0.2**
SDBA SAO DESIDERIO 144.57 17 *e*P **PKPdf** **21 04 33.7 0.0**
SALV Santo Antonio 144.62 36 *e*P **PKPab** **21 04 33.5 -0.1**
GO02 Mina Guanaco 145.05 64 **PKPab** **21 04 35.6 +0.1**
ARAG Araguaiana, MT 145.87 30 *e*P **PKPdf** **21 04 35.7 -0.1**
BDFB Brasilia 146.97 23 PKPbc **PKPbc** **21 04 41.1 +0.7**
comp=Z,121nm,0.6s,baz=304,slow=1.6,SNR=66
BDFB PP **PP** **21 08 08.3 +0.7**
comp=Z,26nm,1.0s,baz=46,slow=3.9,SNR=5.4
JANB Januaria 147.27 17 *e*P **PKPdf** **21 04 38.5 +0.3**
NVL N'lazarevskaya 147.40 207⇑*i*PKP2 **PKPbc** **21 04 39.2 -0.6**
NVL pmax pmax
comp=Z,31nm,0.6s
CO06 Fray Jorge 147.57 73 PKPbc **PKPbc** **21 04 41.5 0.0**
AQDB Aquidauana 148.70 39 *e*P **PKPdf** **21 04 40.0 -0.3**
VA06 Catapilco 148.99 75 PKPbc **PKPbc** **21 04 44.8 -0.2**
IPMB Ipameri, GO 149.14 25 *e*P **PKPdf** **21 04 41.6 +0.3**
TROLL Troll, Antarti 149.45 202 ⇑PKiKP **PKiKP** **21 04 46.0 0.0**
comp=Z,2μm,0.4s
PEL Peldehue 149.75 76 PKPbc **PKPbc** **21 04 47.0 +0.1**
PEL Peldehue 149.75 76 PKP2 **PKPbc** **21 04 47.0 +0.1**
MT01 Popeta 149.81 77 PKPbc **PKPbc** **21 04 46.8 -0.2**
MT03 Universidad Ad 150.08 76 PKPbc **PKiKP** **21 04 48.3 -0.1**
ITRB Iturama 150.08 30 *e*P **PKPdf** **21 04 42.8 +0.2**
PMNB Patos De Minas 150.15 22 *e*P **PKPdf** **21 04 43.2 +0.4**
DIAM Diamantina, MG 150.55 17 *e*P **PKPdf** **21 04 43.1 -0.4**
SNAA Sanae 150.98 200 ⇑PKiKP **PKPbc** **21 04 48.8 +0.1**
comp=Z,461nm,0.8s
SNAA Sanae 150.98 200 PKP **PKPdf** **21 04 42.4 0.0**
comp=Z,1.4nm,0.7s,baz=185,slow=2.6,SNR=6.9
SNAA PKPbc **PKPbc** **21 04 48.6 -0.1**
comp=Z,10nm,0.5s,baz=132,slow=2.4,SNR=123
SNAA PKPab **PKPab** **21 04 58.3 +0.4**
comp=Z,31nm,0.8s,baz=137,slow=5.7,SNR=18
SJMB Sao Joao De Ma 151.37 12 *e*P **PKPdf** **21 04 45.0 +0.5**
PCMB Pacaembu 151.51 33 *e*P **PKPdf** **21 04 45.2 +0.5**
RIB01 Linhares ES 152.08 11 *e*P **PKPdf** **21 04 47.3 +1.7**
VNA2 Neumayer--Watz 152.56 199 ⇑PKiKP **PKiKP** **21 04 52.6 +0.3**
comp=Z,31nm,0.5s,baz=135,slow=1.9
VNA3 Neumayer Olymp 152.82 198 ⇑PKiKP **PKiKP** **21 04 52.8 0.0**
comp=Z,22nm,0.7s
BSCB Bom Sucesso 152.92 20 *e*P **PKPdf** **21 04 47.4 +0.5**
CPUP Villa Florida 152.92 48 PKP **PKPdf** **21 04 46.8 +0.1**
comp=Z,3.7nm,1.0s,baz=40,slow=3.2,SNR=8.3
CPUP PKPbc **PKiKP** **21 04 54.5 +0.2**
comp=Z,12nm,0.6s,baz=328,slow=1.6,SNR=43
CPUP PKPab **PKPab** **21 05 07.3 +0.1**
comp=Z,66nm,0.9s,baz=16,slow=3.0,SNR=9.2
CPUP pPKP **pPKPdf** **21 06 19.7 -1.2**
comp=Z,5.0nm,0.6s,baz=348,slow=3.4,SNR=1.6
CPUP PP **PP** **21 08 40.4 -1.7**
comp=Z,17nm,0.9s,baz=344,slow=6.6,SNR=6.8
CPUP Villa Florida 152.92 48 *e*P **PKPdf** **21 04 47.2 +0.6**
VNA1 Neumayer--Stat 152.96 199 ⇑PKiKP **PKiKP** **21 04 53.4 +0.3**
comp=Z,21nm,0.8s
PLCA Paso Flores 153.85 89 PKP **PKPdf** **21 04 47.1 -0.6**
comp=Z,2.4nm,0.9s,baz=262,slow=2.7,SNR=5.9
PLCA PKPbc **PKiKP** **21 04 56.5 +0.6**
comp=Z,8.6nm,0.5s,baz=270,slow=2.6,SNR=45
PLCA PKPab **PKPab** **21 05 12.3 +1.3**
comp=Z,32nm,1.0s,baz=288,slow=4.2,SNR=15
PTGB Pitanga 153.99 37 *e*P **PKPdf** **21 04 48.8 +0.4**
PET01 Itanhaem-SP 155.36 27 *e*P **PKPdf** **21 04 50.4 +0.3**
CRSM Crissiumal (Br 155.51 44 *e*P **PKPdf** **21 04 50.6 +0.4**

JMA 01 20:48:37.6±0.3,**35°2N**±1°.0×**13°3E**±°,**h16**km±2km,**MV-0.3**/5,
SHIMANE HIROSHIMA BORDER,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGT2	**ShimaneMisato**	**0.10**	**210**	P	Pb	20 48 41.3	0.0
JGT2				*e*S	Sb	20 48 43.6	0.0

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*NEIC **01** 20:54:25.9±2.3,16°.19S±0°.07×69°.6W±0°.1,h235km±9km,*
mb4.5/12,Error ellipse: s-maj=22.7km s-min=1.7km
az=117.0
*VAO **01** 20:54:26.9±0.4,16°.12S×69°.51W,h230km±2km,mb4.2*
*IDC **01** 20:54:27.8±0.9,16°.16S×69°.29W,h233km±4km,mb3.8/6,*
mbtmp4.3/10,Error ellipse: s-maj=19.3km s-min=16.6km
az=135.0

ISC 01 20:54:25.7±0.5,**16°.17S**±0°.05×**69°.61W**±0°.06,**h235**km,**n98,**
σ1§**17**/110,**mb4.6/9,Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**1.42**	**175**		**Pn**	**20 55 04.3**	**+1.7**
LPAZ	**La Paz**	**1.43**	**95**	Pn	**Pn**	**20 55 03.4**	**+0.7**
LPAZ	**La Paz**	**1.43**	**95**	P	**Pn**	**20 55 03.2**	**+0.4**

622nm,0.4s,baz=311,slow=8.1,SNR=4777
LPAZ S **S** **20 55 29.9 -1.8**
150nm,0.5s,baz=52,slow=19,SNR=13
LPAZ La Paz 1.43 95 *eP* **Pn** **20 55 03.5 +0.7**
LPAZ *eS* **S** **20 55 30.8 -0.9**
GO01 Chusmiza 3.50 174 **Pn** **20 55 24.2 +0.7**
PB11 IPOC Station P 3.57 181 Pn **Pn** **20 55 23.9 0.0**
HMBC Humberstone 4.09 184 **Pn** **20 55 29.3 -0.7**
TA01 Diego Aracena 4.40 187 Pn **Pn** **20 55 32.7 -0.9**
PATCX Punta Patache 4.65 186 **Pn** **20 55 35.9 -0.9**
PB01 IPOC Station P 4.85 179 **Pn** **20 55 38.8 -0.4**
PB09 IPOC Station P 5.61 176 **Pn** **20 55 49.0 +0.3**
PB04 IPOC Station P 6.15 185 **Pn** **20 55 55.1 -0.5**
LVC Limon Verde 6.44 174 P **Pn** **20 56 00.7 +1.3**
7.4nm,0.3s,baz=353,slow=13,SNR=3.0
LVC S **S** **20 57 13.7 -0.5**
44nm,0.3s,baz=172,slow=20,SNR=1.4
PB06 IPOC Station P 6.50 180 **Pn** **20 55 59.0 -1.0**
PB05 IPOC Station P 6.67 185 **Pn** **20 56 01.3 -0.8**
PB15 IPOC Station P 7.00 179 Pn **Pn** **20 56 06.9 +0.5**
ETMB Extrema 7.13 28 **Pn** **20 56 08.2 +0.2**
ETMB Extrema 7.13 28 *eP* **Pn** **20 56 07.9 -0.1**
ETMB *eS* **S** **20 57 29.9 0.0**
PB10 IPOC Station P 7.36 187 **Pn** **20 56 10.3 -0.5**
NNA Nana 8.15 300 P **Pn** **20 56 25.1 +4.1**
9.6nm,0.4s,baz=147,slow=11,SNR=4.4
NNA S **S** **20 57 49.1 -4.6**
5.7nm,0.5s,baz=278,slow=15,SNR=2.6
SIV San Ignacio 8.21 90 P **Pn** **20 56 19.9 -1.9**
4.1nm,0.6s,baz=269,slow=8.3,SNR=22
BBSD Serra de San D 8.69 98 *eP* **Pn** **20 56 26.7 -1.1**
BBSD *eS* **S** **20 58 06.5 +0.3**
SAML Samuel 9.54 42 Pn **Pn** **20 56 39.3 +0.7**
SAML Samuel 9.54 42 *eP* **Pn** **20 56 37.5 -1.1**
SAML *eS* **S** **20 58 26.1 0.0**
VILB Vilhena 9.66 72 *eP* **Pn** **20 56 38.9 -1.3**
VILB *eS* **S** **20 58 28.4 -0.6**
AC01 Pan de Azucar 9.97 185 Pn **Pn** **20 56 45.4 +1.3**
PTLB Pontes e Lacer 10.11 87 *eP* **Pn** **20 56 45.9 0.0**
AC04 Llanos de Chal 12.05 186 P **P** **20 57 12.1 -1.6**
MURT Porto Murtinho 12.60 118 *eP* **Pn** **20 57 16.0 -1.2**
PDRB Porto dos Gac 13.30 72 *eP* **Pn** **20 57 26.2 +0.3**
SALV Santo Antonio 13.38 91 *eP* **Pn** **20 57 26.9 -0.1**
TEFE Tefe 13.50 22 *eP* **Pn** **20 57 29.3 +0.9**
AQDB Aquidauana 13.89 110 *eP* **P** **20 57 34.1 -0.1**
RVDE Rio Verde (Bra 14.28 104 *eP* **P** **20 57 39.4 +0.8**
CLDB Colider 14.43 70 *eP* **P** **20 57 40.4 +0.2**
CO03 El Pedregal 14.63 184 P **Pn** **20 57 42.0 -0.1**
CPUP Villa Florida 15.26 134 P **Pn** **20 57 50.3 +0.7**
1.8nm,0.7s,baz=310,slow=8.6,SNR=6.5
CPUP Villa Florida 15.26 134 *eP* **Pn** **20 57 51.5 +1.9**
MACA Manacapuru-AM 15.63 35 P **P** **20 57 52.0 -1.5**
MACA Manacapuru-AM 15.63 35 *eP* **P** **20 57 54.0 +0.5**
NPGB Novo Progresso 16.64 59 *eP* **P** **20 58 05.0 +0.4**
ARAG Araguaiana, MT 17.13 91 *eP* **P** **20 58 10.8 +0.9**
ITQB Itaqui 17.97 141 *eP* **Pn** **20 58 21.1 -0.4**
ITTB Itaituba 17.98 51 *eP* **P** **20 58 19.9 +0.6**
PCMB Pacaembu 18.18 110 *eP* **Pn** **20 58 23.1 -1.2**
SNDB Serra Nova Dou 18.25 79 *eP* **P** **20 58 22.8 +0.6**
CRSM Crissiumal (Br 18.30 131 *eP* **P** **20 58 23.8 +1.2**
OTAV Otavalo 18.49 331 *eP* **Pn** **20 58 27.7 -0.7**
PTGB Pitanga 18.50 120 *eP* **P** **20 58 26.0 +1.3**
ITRB Iturama 18.65 104 *eP* **P** **20 58 28.0 +1.6**
LDASE Londrina, Braz 18.82 115 *eP* **P** **20 58 29.8 +1.6**
RODS Rosario do Sul 19.32 139 *eP* **P** **20 58 34.5 +1.0**
ITAB Concordia 19.60 127 *eP* **P** **20 58 36.7 +0.3**
ALGR Alto Alegre (B 19.79 132 *eP* **P** **20 58 37.8 -0.7**
TBOT Tacuaremb 19.84 144 *eP* **Pn** **20 58 41.5 -2.1**
FRTB Fartura 20.16 114 *eP* **P** **20 58 43.6 +1.1**
CPSB Cacapava Do Su 20.49 137 *eP* **P** **20 58 45.9 -0.1**
BOAV Boa Vista 20.52 27 P **P** **20 58 44.9 -1.5**
BOAV Boa Vista 20.52 27 *eP* **P** **20 58 47.5 +1.1**
IPMB Ipameri, GO 20.54 98 *eP* **P** **20 58 45.6 -1.1**
BB19B Bebedouro 20.56 107 *eP* **P** **20 58 48.2 +1.3**
BDFB Brasilia 20.78 92 P **P** **20 58 47.1 -2.2**
BDFB IAmb IAmb 20 58 51.8
comp=Z,5.4nm,0.5s
BDFB Brasilia 20.78 92 P **P** **20 58 48.0 -1.3**
comp=Z,4.2nm,0.4s,baz=268,slow=15,SNR=10
comp=Z,4.2nm,0.4s
CNLB Canela 21.65 130 *eP* **P** **20 58 58.7 +0.9**
RCLB Rio Claro- Sao 21.74 110 *eP* **P** **20 58 59.4 +0.7**
PRPB Parauapebas 21.80 65 *eP* **P** **20 58 59.0 -0.2**
SPB Sao Paulo 22.11 113 *eP* **P** **20 59 02.2 +0.2**
PMNB Patos De Minas 22.24 99 *eP* **P** **20 59 04.0 +0.5**
SMTB Santa Maria do 22.68 74 *eP* **P** **20 59 07.9 +0.5**
TRQA Tornquist 22.82 164 P **P** **20 59 09.5 +1.2**
MCPB Macapa, AP 23.38 49 *eP* **P** **20 59 15.0 +1.2**
SDBA SAO DESIDERIO 24.23 84 *eP* **P** **20 59 21.0 -0.5**
JANB Januaria 24.39 91 *eP* **P** **20 59 23.0 0.0**
PLCA Paso Flores 24.49 182 P **P** **20 59 25.8 +2.3**
comp=Z,1.7nm,0.7s,baz=16,slow=10,SNR=6.5
comp=Z,1.7nm,0.7s
PLCA Paso Flores 24.49 182 *eP* **P** **20 59 25.7 +2.1**
DIAM Diamantina, MG 24.86 99 *eP* **P** **20 59 26.3 -1.0**
BAUV El Baul 25.00 4 P **P** **20 59 29.0 +0.6**
BAUV IAmb IAmb 20 59 32.7
comp=Z,15nm,0.8s
MDP Montagnes des 27.00 40 P **P** **20 59 47.3 +1.1**
comp=Z,3.8nm,0.8s,baz=226,slow=14,SNR=1.7
comp=Z,3.8nm,0.8s
ROSB Rosrio 28.33 65 P **P** **20 59 57.7 -0.4**
NBPB Pedra_Branca-C 31.28 74 *eP* **P** **21 00 24.7 +0.6**
NBLA Lagarto - SE 31.34 85 *eP* **P** **21 00 25.2 +0.6**
NBLA *ep*P **pP** **21 01 11.6 -0.5**
FDF Fort de France 31.83 16 P **P** **21 00 27.2 -1.5**
NBCL Cascavel-CE 32.97 72 *eP* **P** **21 00 40.4 +1.6**
NBCL *ep*P **pP** **21 01 23.8 -2.7**
NBAN Anadia - AL 33.10 83 *eP* **P** **21 00 41.0 +1.1**
CELP Cerrillos 34.16 5 P **P** **21 00 48.4 -0.5**
GCPR Guaynabo City 34.44 6 P **P** **21 00 50.5 -0.8**
GCPR IAmb IAmb 21 00 54.9
comp=Z,22nm,1.1s
RCBR Riachuelo 34.60 77 P **P** **21 00 52.3 -0.6**
RCBR IAmb IAmb 21 00 54.3
comp=Z,14nm,0.8s
DBIC Dimbokro 67.97 76 P **P** **21 04 59.9 -0.1**
comp=Z,10nm,0.8s,baz=236,slow=6.0,SNR=6.0
comp=Z,10nm,0.8s
TOA0 Torodi Ar. Sit 76.27 72 P **P** **21 05 49.1 0.0**
TOA0 IAmb IAmb 21 05 49.3
comp=Z,22nm,1.4s
TORD Torodi Ar. Bea 76.27 72 P **P** **21 05 49.1 0.0**
TORD IAmb IAmb 21 05 49.7
comp=Z,5.3nm,0.8s
TORD Torodi Ar. Bea 76.27 72 P **P** **21 05 48.7 -0.3**
comp=Z,5.6nm,0.6s,baz=255,slow=5.2,SNR=17
comp=Z,5.6nm,0.6s
ESDC Sonseca Array 82.54 45 P **P** **21 06 23.4 +1.0**
comp=Z,1.4nm,0.8s,baz=258,slow=5.5,SNR=9.8
comp=Z,1.4nm,0.8s
ASAR Alice Springs 134.22 211 PKP **PKiKP** **21 13 17.4 -0.3**
comp=Z,0.4nm,0.8s,baz=146,slow=1.8,SNR=4.4
ASAR SKPbc **SKPab** **21 16 26.4 -0.3**
comp=Z,1.4nm,0.9s,baz=134,slow=4.0,SNR=6.4
WRA Warramunga Arr 137.08 214 PKP **PKiKP** **21 13 23.9 +0.4**
comp=Z,0.5nm,0.4s,baz=141,slow=1.7,SNR=11
WRA SKP 21 16 36.3
comp=Z,1.2nm,0.6s,baz=144,slow=2.8,SNR=8.5
KURBB Kurchatov Arra 137.16 30 PKP **PKiKP** **21 13 22.3 -0.4**
comp=Z,0.2nm,0.4s,baz=312,slow=2.6,SNR=2.2
KURBB SKP 21 16 35.7
comp=Z,0.3nm,0.6s,baz=308,slow=3.5,SNR=2.6
ZALV Zalesovo Beam 137.36 22 PKP **PKiKP** **21 13 22.6 -0.3**
comp=Z,1.0nm,0.5s,baz=291,slow=3.1,SNR=5.7
ZALV SKP 21 16 35.6
comp=Z,1.2nm,0.7s,baz=302,slow=3.2,SNR=4.6
MKAR Makanchi Array 141.59 31 PKP **PKiKP** **21 13 30.7 -1.2**
comp=Z,0.3nm,0.5s,baz=342,slow=1.8,SNR=4.1
MKAR SKPbc **SKiKP** **21 16 46.9 +1.3**
comp=Z,0.6nm,0.7s,baz=357,slow=2.9,SNR=5.8
SONM Songino Array 148.25 5 PKPbc **PKiKP** **21 13 46.4 +0.7**
comp=Z,1.9nm,0.5s,baz=321,slow=1.6,SNR=13

*CATAC **01** 21:10:19.4±0.5, 13°.45N×90°.63W, h5km±3km, ML4.1*
*GCG **01** 21:10:23.8±0.4, 13°.78N×90°.79W, h43km±25km, MD4.0*
ISC 01 21:10:19.9±1.9, 13°.52N±0°.08×90°.73W±0°.05, h24km±15km, n60, σ0°.73/93, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.93**	**353**	*eP*	**Pb**	**21 10 37.2**	**-0.2**
NUBE	**Las Nubes**	**0.99**	**68**	*i P*	**Pn**	**21 10 37.4**	**-1.2**
NUBE				*i S*	**Sb**	**21 10 50.2**	**-1.2**
NUBE				IAML		21 10 53.3	
comp=Z,2μm,1.0s							
LOAL	**Lomas de Alarc**	**1.03**	**63**	*eP*	**Pn**	**21 10 38.3**	**-0.7**
LOAL	**Lomas de Alarc**	**1.03**	**63**	*i P*	**Pn**	**21 10 38.3**	**-0.7**
LOAL				*i S*	**Sb**	**21 10 52.5**	**+0.1**
LOAL				IAML		21 10 58.8	
comp=Z,8μm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.04**	**61**	*eP*	**Pn**	**21 10 38.4**	**-0.8**
CEVE	**Cerro Verde**	**1.11**	**74**	*eP*	**Pn**	**21 10 39.3**	**-0.9**
CEVE				*eS*	**Sb**	**21 10 53.9**	**-1.0**
CEVE	**Cerro Verde**	**1.11**	**74**	*i P*	**Pn**	**21 10 39.4**	**-0.9**
CEVE				*i S*	**Sb**	**21 10 54.2**	**-0.7**
CEVE				IAML		21 10 55.3	
comp=Z,8μm,1.0s							
RTR	**El Retiro**	**1.11**	**70**	*eP*	**Pn**	**21 10 39.6**	**-0.7**
SBLS	**San Blas**	**1.12**	**74**	*eP*	**Pn**	**21 10 39.4**	**-1.0**
NBG	**Las Nubes**	**1.12**	**19**	*eP*	**Pb**	**21 10 41.3**	**+0.5**
NBG				*eS*	**Sb**	**21 10 57.3**	**+2.2**
SULM	**Suchitepequez,**	**1.12**	**314**	*eP*	**Pn**	**21 10 40.2**	**-0.1**
SNJE	**San Jose**	**1.14**	**72**	*i P*	**Pn**	**21 10 39.8**	**-0.9**
SNJE				*eP*	**Pn**	**21 10 39.8**	**-0.9**
SNJE				*eS*	**Sn**	**21 10 54.9**	**-0.8**
UNIC	**Universidad Ca**	**1.23**	**68**	*eP*	**Pn**	**21 10 41.0**	**-0.8**
UNIC	**Universidad Ca**	**1.23**	**68**	*i P*	**Pn**	**21 10 40.8**	**-1.0**
UNIC				*i S*	**Sn**	**21 10 57.5**	**-0.2**
UNIC				IAML		21 10 57.7	
comp=Z,830nm,1.0s							
JAYA	**Jayaque - finc**	**1.25**	**84**	*eP*	**Pn**	**21 10 41.3**	**-0.8**
JAYA	**Jayaque - finc**	**1.25**	**84**	*i P*	**Pn**	**21 10 41.1**	**-1.0**
JAYA				*i S*	**Sn**	**21 10 57.2**	**-1.1**
JAYA				IAML		21 10 57.4	
comp=Z,14μm,1.0s							
CEDA	**San Andres**	**1.32**	**78**	*eP*	**Pn**	**21 10 42.3**	**-0.8**
CEDA				*eS*	**Sn**	**21 10 59.2**	**-0.8**
CEDA	**San Andres**	**1.32**	**78**	*i P*	**Pn**	**21 10 42.2**	**-0.8**
CEDA				*i S*	**Sn**	**21 10 59.9**	**-0.1**
CEDA				IAML		21 11 09.0	
comp=Z,9μm,1.0s							
LALI	**Alcalda de L**	**1.37**	**91**	*i P*	**Pn**	**21 10 43.3**	**-0.3**
LALI				*i S*	**Sn**	**21 11 00.8**	**-0.2**
LALI				IAML		21 11 03.8	
comp=Z,430nm,1.0s							
PMON	**Piamonte**	**1.39**	**82**	*eP*	**Pn**	**21 10 43.2**	**-0.8**
PMON	**Piamonte**	**1.39**	**82**	*i P*	**Pn**	**21 10 43.3**	**-0.6**
PMON				*i S*	**Sb**	**21 11 02.6**	**0.0**
PMON				IAML		21 11 03.8	
comp=Z,6μm,1.0s							
ITCA	**Escuela Especi**	**1.42**	**84**	*i P*	**Pn**	**21 10 43.9**	**-0.4**
ITCA				IAML		21 11 05.8	
comp=Z,8μm,1.0s							
BOQS	**Boqueron**	**1.42**	**81**	*eP*	**Pn**	**21 10 44.0**	**-0.5**
STG3	**Santiaguito 3,**	**1.44**	**325**	*eP*	**Pn**	**21 10 44.7**	**0.0**
STG3				*eS*	**Sn**	**21 11 01.1**	**-1.9**
PIC2	**El Picacho**	**1.45**	**81**	*eP*	**Pn**	**21 10 44.4**	**-0.4**
QUEZ	**Alcaldia de Qu**	**1.45**	**77**	*i P*	**Pn**	**21 10 44.4**	**-0.3**
QUEZ				*i S*	**Sn**	**21 11 03.1**	**+0.1**
QUEZ				IAML		21 11 04.3	
comp=Z,12μm,1.0s							
UEES	**Universidad Ev**	**1.46**	**82**	*eS*	**Sn**	**21 11 02.8**	**-0.6**
UEES	**Universidad Ev**	**1.46**	**82**	*i P*	**Pn**	**21 10 45.0**	**+0.1**
UEES				*i S*	**Sn**	**21 11 03.3**	**-0.1**
UEES				IAML		21 11 06.0	
comp=Z,4μm,1.0s							
SNET	**Serv Nac Est T**	**1.46**	**83**	*i P*	**Pn**	**21 10 44.5**	**-0.5**
SNET				*i S*	**Sn**	**21 11 02.8**	**-0.6**
SNET				IAML		21 11 06.7	
comp=Z,6μm,1.0s							
PANCS	**Alcalda de**	**1.51**	**86**	*i P*	**Pn**	**21 10 45.2**	**-0.4**
PANCS				*i S*	**Sn**	**21 11 03.4**	**-1.1**
PANCS				IAML		21 11 05.1	
comp=Z,8μm,1.0s							
LOMA	**Loma Larga**	**1.52**	**85**	*eP*	**Pn**	**21 10 45.2**	**-0.5**
LOMA				*eS*	**Sn**	**21 11 04.3**	**-0.6**
LOMA	**Loma Larga**	**1.52**	**85**	*i P*	**Pn**	**21 10 45.3**	**-0.5**
LOMA				*i S*	**Sn**	**21 11 04.7**	**-0.2**
LOMA				IAML		21 11 06.1	
comp=Z,2μm,1.0s							
IGN	**Direccin Gen**	**1.53**	**83**	*i P*	**Pn**	**21 10 45.6**	**-0.2**
IGN				*i S*	**Sn**	**21 11 04.9**	**-0.1**
IGN				IAML		21 11 08.5	
comp=Z,10μm,1.0s							
UDBS	**Universidad Do**	**1.54**	**83**	*i P*	**Pn**	**21 10 45.8**	**-0.2**
UDBS				*i S*	**Sn**	**21 11 05.5**	**+0.2**
UDBS				IAML		21 11 06.5	
comp=Z,2μm,1.0s							
LFU	**La Fuente**	**1.58**	**82**	*eP*	**Pn**	**21 10 46.8**	**+0.1**
MTO3	**Montecristo**	**1.59**	**57**	*eP*	**Pn**	**21 10 46.3**	**-0.5**
MTO3	**Montecristo**	**1.59**	**57**	*i P*	**Pn**	**21 10 46.6**	**-0.2**
MTO3				*i S*	**Sb**	**21 11 08.2**	**-0.3**
MTO3				IAML		21 11 08.8	
comp=Z,690nm,1.0s							
LFRS	**El Faro**	**1.62**	**86**	*eP*	**Pn**	**21 10 46.9**	**-0.3**
ESQI	**Esquipulas**	**1.69**	**52**	*i P*	**Pn**	**21 10 48.9**	**+0.7**
ESQI				*i S*	**Sb**	**21 11 12.0**	**+0.5**
ESQI				IAML		21 11 12.2	
comp=Z,1μm,1.0s							
PAVA	**Las Pavas**	**1.75**	**84**	*eP*	**Pn**	**21 10 48.9**	**-0.1**
PAVA	**Las Pavas**	**1.75**	**84**	*i P*	**Pn**	**21 10 48.8**	**-0.1**
PAVA				*i S*	**Sb**	**21 11 12.2**	**-0.9**
PAVA				IAML		21 11 21.2	
comp=Z,1μm,1.0s							
COEG	**Centro de Oper**	**1.80**	**87**	*eP*	**Pn**	**21 10 49.7**	**+0.1**
COEG	**Centro de Oper**	**1.80**	**87**	*i P*	**Pn**	**21 10 50.0**	**+0.4**
COEG				*i S*	**Sn**	**21 11 12.7**	**+1.0**
COEG				IAML		21 11 23.3	
comp=Z,1μm,1.0s							
MRL	**Marmol**	**1.85**	**33**	*eP*	**Pn**	**21 10 51.4**	**+1.0**
UESV	**Universidad de**	**1.89**	**86**	*i P*	**Pn**	**21 10 51.5**	**+0.7**
UESV				*i S*	**Sn**	**21 11 14.1**	**+0.2**
UESV				IAML		21 11 19.0	
comp=Z,950nm,1.0s							
TECO	**Alcaldia de Te**	**1.89**	**89**	*i P*	**Pn**	**21 10 50.7**	**-0.1**
TECO				*i S*	**Sn**	**21 11 13.4**	**-0.6**
TECO				IAML		21 11 19.7	
comp=Z,620nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.95**	**85**	*eP*	**Pn**	**21 10 51.7**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.95**	**85**	*i P*	**Pn**	**21 10 51.9**	**+0.2**
SCLA				*i S*	**Sn**	**21 11 17.0**	**+1.5**
SCLA				IAML		21 11 30.7	
comp=Z,290nm,1.0s							
PACA	**Pacayal**	**2.34**	**91**	*i P*	**Pn**	**21 10 58.3**	**+1.2**
PACA				*i S*	**Sn**	**21 11 26.1**	**+1.0**
PACA				IAML		21 11 39.3	
comp=Z,4μm,1.0s							
JUCU	**Jucuarjn**	**2.43**	**96**	*i S*	**Sn**	**21 11 28.3**	**+1.1**
LCND	**La Caada**	**2.77**	**94**	*i P*	**Pn**	**21 11 03.2**	**+0.3**
LCND				*i S*	**Sn**	**21 11 36.3**	**+0.7**
LCND				IAML		21 11 44.4	
comp=Z,420nm,1.0s							
CNCH	**Conchagua**	**2.83**	**95**	*i P*	**Pn**	**21 11 04.3**	**+0.5**
CNCH				*i S*	**Sn**	**21 11 37.9**	**+0.7**
CNCH				IAML		21 11 45.1	
comp=Z,1μm,1.0s							
TGUH	**Tegucigalpa,Un**	**3.40**	**81**	*i P*	**Pn**	**21 11 11.2**	**-0.4**
TGUH				IAML		21 12 12.4	
comp=Z,88nm,1.0s							
PKGN	**Cerro Pekin**	**3.75**	**103**	*i P*	**Pn**	**21 11 16.9**	**+0.5**
PKGN				IAML		21 12 07.7	
comp=Z,500nm,1.0s							
YUSH	**Yuscaran**	**3.80**	**83**	*i P*	**Pn**	**21 11 17.6**	**+0.5**
SOMN	**Somoto**	**4.00**	**91**	*i P*	**Pn**	**21 11 20.8**	**+0.8**
SOMN				IAML		21 11 23.2	
comp=Z,28nm,1.0s							
CNGA	**Al SSO del Vol**	**4.05**	**104**	*i P*	**Pn**	**21 11 20.5**	**-0.1**
CNGA				IAML		21 12 15.2	
comp=Z,230nm,1.0s							
COPN	**Copaltepe**	**4.25**	**108**	*i P*	**Pn**	**21 11 23.2**	**0.0**
COPN				IAML		21 12 25.2	
comp=Z,95nm,1.0s							
LIMN	**Finca el Limon**	**4.27**	**96**	*i P*	**Pn**	**21 11 23.7**	**+0.1**
LIMN				IAML		21 11 25.3	
comp=Z,56nm,1.0s							
BOAB	**BOACO BROADBAN**	**5.05**	**102**	*i P*	**Pn**	**21 11 33.7**	**-0.5**
BOAB				*i S*	**Sn**	**21 12 33.1**	**+1.3**
BOAB				IAML		21 13 13.9	
comp=Z,28nm,1.0s							

*IDC **01** 21:25:25.9±0.6, 56°.27S×147°.68E, h0km, mb4.4/10, mbtmp4.4/10, MS4.2/30, Error ellipse: s-maj=37.7km s-min=14.3km az=85.0*

*NEIC **01** 21:25:28.4±1.6, 56°.27S±0°.10×147°.4E±0°.2, h10km±1km, mb5.2/52, Error ellipse: s-maj=17.0km s-min=15.5km az=231.0*

*GCMT **01** 21:25:30.2±0.2, 56°.29S±0°.01×147°.00E±0°.04, h18km±1km, MW5.1/97, Moment Tensor Solution. s23,c24; s97,c139; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}=3.25±.29; $M_{\theta\theta}$=2.73±.17; $M_{\phi\phi}$=0.52±.17; $M_{r\theta}$=1.28±.31; $M_{\theta\phi}$=-2.74±.09; $M_{r\phi}$=2.45±.45; Best double couple: M_0=4.90000×10^16 NP1:ϕ_s=154.00000°, δ57.00000°, λ=-47.00000°. NP2: ϕ_s=274.00000°, δ52.00000°, λ=-137.00000°. Principal axes: T 4.5940, Plg3.0000°, Azm215.0000°; N 0.6120, Plg35.0000°, Azm307.0000°; P -5.2060, Plg55.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 21:25:29.3±1.2, 56°.29S±0°.06×147°.59E±0°.08, h20km±5km, n276, σ1°.31/228, mb5.1/35, MS4.2/33, 28C-11D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**6.72**	**79**	Pn	**Pn**	**21 27 05.7**	**-1.0**
CORO	**Coronation Par**	**14.85**	**359**	P	P	21 29 11.4	+7.7
GLAD	**Gladstone**	**15.32**	**1**	P	P	21 29 17.0	+8.1
TOO	**Toolangi**	**18.78**	**355**	P	**Pn**	**21 29 50.0**	**+2.3**
TOO	**Toolangi**	**18.78**	**355**	P	**P**	**21 29 45.7**	**-1.5**
MILA	**Mila**	**19.27**	**4**	P	**Pn**	**21 29 58.8**	**+5.2**
RPZ	**Rata Peaks**	**19.52**	**60**	LR	LR	21 36 04.5	
comp=Z,2μm,20.4s,baz=232,slow=33							
ARPS	**Mount Arapiles**	**19.91**	**346**	P	**Pn**	**21 30 02.3**	**+1.1**
CASY	**Casey**	**20.08**	**225**	P	**P**	**21 29 59.2**	**-2.0**
CAN	**Canberra**	**20.99**	**3**	P	Pn	21 30 17.4	+3.4
CAN	**Canberra**	**20.99**	**3**	P	Pn	21 30 13.1	-0.9
CAN				IAmb	IAmb	21 30 27.6	
comp=Z,147nm,1.8s							
CNB	**Canberra Magne**	**21.01**	**4**	P	**P**	**21 30 17.7**	**+6.2**
VNDA	**Vanda**	**21.91**	**172**	P	**P**	**21 30 20.1**	**-0.6**
VNDA	**Vanda**	**21.91**	**172**	P	**P**	**21 30 20.2**	**-0.6**
comp=Z,2.9nm,0.9s,baz=335,slow=9.3,SNR=19							
VNDA				LR	LR	21 38 21.2	
comp=Z,481nm,18.6s,baz=346,slow=35							
comp=Z,2.9nm,0.9s							
YNG	**Young**	**22.00**	**2**	P	**P**	**21 30 27.0**	**+4.9**
SBA	**Scott Base**	**22.66**	**170**	P	**P**	**21 30 29.5**	**+0.8**
SBA				IAmb	IAmb	21 30 41.9	
comp=Z,123nm,1.8s							
STKA	**Stephens Creek**	**24.76**	**348**	P	**P**	**21 30 51.9**	**+2.4**
STKA	**Stephens Creek**	**24.76**	**348**	P	**P**	**21 30 49.9**	**+0.4**
STKA	**Stephens Creek**	**24.76**	**348**	P	**P**	**21 30 50.7**	**+1.2**
comp=Z,16nm,0.9s,baz=148,slow=12,SNR=17							
STKA				LR	LR	21 38 45.0	
comp=Z,617nm,18.7s,baz=175,slow=32							
comp=Z,16nm,0.9s							
CMSA	**Cobar Meteorol**	**24.78**	**356**	P	**P**	**21 30 52.8**	**+3.2**
URZ	**Urewera**	**26.64**	**60**	LR	LR	21 40 43.5	
comp=Z,1μm,21.6s,baz=288,slow=34							
LCRK	**Leigh Creek**	**26.66**	**342**	P	**P**	**21 31 09.6**	**+2.9**
MULG	**Mulgathing**	**27.69**	**334**	P	**P**	**21 31 20.8**	**+4.9**
comp=Z,35nm,1.6s							
INKA	**Innaminka**	**28.95**	**347**	P	**P**	**21 31 29.6**	**+2.5**
FORT	**Forrest**	**28.96**	**324**	P	**P**	**21 31 26.1**	**-1.1**
FORT				IAmb	IAmb	21 31 36.3	
comp=Z,52nm,0.9s							
EIDS	**Eidsvold**	**31.00**	**6**	P	**P**	**21 31 45.5**	**+0.2**
EIDS				IAmb	IAmb	21 31 51.5	
comp=Z,79nm,1.9s							
NWAO	**Narrogin (SRO)**	**31.38**	**305**	LR	LR	21 41 24.8	
comp=Z,574nm,21.3s,baz=184,slow=30							
QSPA	**South Pole Qui**	**33.82**	**180**	P	**P**	**21 32 10.4**	**+0.6**
QSPA				IAmb	IAmb	21 32 25.1	
comp=Z,71nm,1.6s							
QSPA	**South Pole Qui**	**33.82**	**180**	P	**P**	**21 32 10.6**	**+0.8**
comp=Z,8.6nm,1.2s,baz=324,slow=1.6,SNR=10							
QSPA				PcP	**PcP**	**21 34 48.5**	**+0.2**
comp=Z,1.3nm,1.0s,baz=23,slow=4.1,SNR=1.4							
QSPA				LR	LR	21 45 36.9	
comp=Z,750nm,19.1s,baz=8.5,slow=36							
comp=Z,8.6nm,1.2s							
ASAR	**Alice Springs**	**34.10**	**337**	P	**P**	**21 32 11.7**	**-0.8**
ASAR	**Alice Springs**	**34.10**	**337**	P	**P**	**21 32 12.2**	**-0.2**
comp=Z,6.4nm,0.9s,baz=166,slow=9.7,SNR=27							
ASAR				PcP	**PcP**	**21 34 49.0**	**-0.6**
comp=Z,1.3nm,0.8s,baz=159,slow=3.0,SNR=6.2							
comp=Z,6.4nm,0.9s							
AS31	**Alice Springs**	**34.10**	**337**	P	**P**	**21 32 11.8**	**-0.7**
CTAO	**Charters Tower**	**36.16**	**358**	P	**P**	**21 32 29.0**	**-1.2**
CTAO				IAmb	IAmb	21 32 37.2	
comp=Z,61nm,1.6s							
RAO	**Raoul Island**	**36.38**	**57**	LR	LR	21 45 04.0	
comp=Z,358nm,20.2s,baz=191,slow=32							
DZM	**Mont Dzumac**	**36.91**	**30**	*e*S	**S**	**21 38 16.8**	**-3.7**
comp=Z,158nm,24.8s							
DZM				*e*LR	LR	21 42 28.2	
comp=Z,2μm,25.8s							
DZM	**Mont Dzumac**	**36.91**	**30**	LR	LR	21 44 45.9	
comp=Z,802nm,20.0s,baz=204,slow=32							
WR0	**Warramunga Arr**	**37.57**	**340**	P	**P**	**21 32 41.5**	**-0.7**
WB2	**Warramunga Arr**	**37.62**	**339**	P	**P**	**21 32 42.3**	**-0.4**
WB2				IAmb	IAmb	21 32 52.1	
comp=Z,41nm,1.1s							
WRA	**Warramunga Arr**	**37.62**	**339**	P	**P**	**21 32 42.2**	**-0.5**
WRA				PcP	**PcP**	**21 34 57.0**	**-3.0**
WRA	**Warramunga Arr**	**37.62**	**339**	P	**P**	**21 32 42.0**	**-0.6**
comp=

H04S3 CROZET ISLANDS 55.56 236 T T 22 35 36.5
baz=140,slow=75,SNR=25
KAPI Kappang 55.72 326 LR LR 21 58 31.5
comp=Z,88nm,19.4s,baz=158,slow=36
TBI Tubuai 55.93 81 *e*LR LR 21 50 58.7
comp=Z,1µm,30.5s
PMSA Palmer Station 56.87 164 LR LR 21 56 23.4
comp=Z,72nm,20.7s,baz=230,slow=33
COCO West Island 58.73 298 P **P** **21 35 23.9 -1.7**
TNTI Ternate 59.20 336 P **P** **21 35 27.7 -1.1**
TNTI IAmb IAmb 21 35 37.7
comp=Z,12nm,0.8s
PPT2 Papeete2 60.52 77 *e*S **S** **21 43 47.9 -4.8**
comp=Z,65nm,26.0s
PPT2 *e*LR LR 21 53 19.1
comp=Z,694nm,27.5s
PPT2 *e*LR LR 21 53 21.5
comp=Z,480nm,28.8s
PPT Papeete 60.54 77 LR LR 21 56 06.0
comp=Z,233nm,21.3s,baz=182,slow=30
TOLI2 Tolitoli 61.21 329 P **P** **21 35 41.6 -1.1**
TOLI2 IAmb IAmb 21 35 43.6
comp=Z,20nm,0.9s
SBUM Sibu 65.23 320 P **P** **21 36 08.7 -0.5**
DAV Davao City (W) 65.70 336 LR LR 22 04 23.4
comp=Z,70nm,21.9s,baz=148,slow=36
GUMO Guam 69.65 357 LR LR 22 05 20.8
comp=Z,66nm,20.9s,baz=154,slow=34
GSI Gunungsitoli 70.16 305 P **P** **21 36 40.5 +0.1**
GSI IAmb IAmb 21 36 43.3
comp=Z,30nm,1.1s
IPM Ipoh 71.47 310 P **P** **21 36 48.6 +0.2**
KULM Kulim 72.36 310 P **P** **21 36 53.5 -0.1**
KULM IAmb IAmb 21 36 59.3
comp=Z,42nm,1.2s
XMAS Kiritimati 73.11 59 P **P** **21 37 00.3 +2.1**
LHMI Lhok Sumawe 73.92 307 P **P** **21 37 02.0 -0.9**
RPN Rapa Nui 74.69 116 LR LR 22 02 07.0
comp=Z,37nm,21.6s,baz=190,slow=30
H08S2 Diego Garcia H 75.41 278 T T 22 59 35.9
baz=147,slow=76,SNR=33
H08S1 Diego Carcia H 75.42 278 T T 22 59 36.7
baz=147,slow=76,SNR=21
H08S3 Diego Garcia H 75.43 278 T T 22 59 40.2
baz=147,slow=76,SNR=57
LL02 Futaleuf 75.45 151 P **P** **21 37 12.3 +0.8**
LL02 IAmb IAmb 21 37 13.8
comp=Z,60nm,2.0s
LL01 San Ignacio de 76.06 151 P **P** **21 37 16.5 +1.5**
LL01 IAmb IAmb 21 37 18.2
comp=Z,33nm,1.6s
PLCA Paso Flores 78.09 151 P **P** **21 37 28.2 +1.6**
PLCA IAmb IAmb 21 37 29.2
comp=Z,36nm,1.8s
PLCA Paso Flores 78.09 151 LR LR 22 05 24.3
comp=Z,127nm,19.9s,baz=206,slow=31
GO06 Curarrehue 78.92 150 P **P** **21 37 31.1 -0.1**
GO06 IAmb IAmb 21 37 43.1
comp=Z,44nm,1.8s
UBPT Khong Chiam 79.53 319 P **P** **21 37 35.2 +0.8**
ABPO Ambohimpanom 79.98 251 P **P** **21 37 37.0 -0.3**
ABPO IAmb IAmb 21 37 40.2
comp=Z,42nm,1.6s
SUR Sutherland 80.79 223 LR LR 22 06 45.9
comp=Z,202nm,19.8s,baz=153,slow=31
H03S2 Juan Fernandez 81.91 142 T T 23 08 54.1
baz=202,slow=74,SNR=11
H03S1 Juan Fernandez 81.91 142 T T 23 08 57.1
baz=202,slow=74,SNR=15
H03S3 Juan Fernandez 81.93 142 T T 23 09 00.5
baz=202,slow=74,SNR=14
BOSA Boshof 82.34 229 P **P** **21 37 49.9 +0.2**
comp=Z,2.5nm,0.8s,baz=169,slow=9.3,SNR=1.4
BOSA LR LR 22 08 54.2
comp=Z,111nm,19.9s,baz=178,slow=32
comp=Z,2.5nm,0.8s
PALK Pallekele 83.53 293 LR LR 22 06 06.7
comp=Z,51nm,20.9s,baz=263,slow=29
PHRA Phrae 84.45 315 P **P** **21 38 00.8 +0.5**
MT03 Universidad Ad 84.88 149 P **P** **21 38 03.6 +0.9**
CM31 Chiang Mai Arr 84.92 314 P **P** **21 38 01.7 -1.0**
CM31 IAmb IAmb 21 38 12.7
comp=Z,16nm,1.2s
CMAR Chiang Mai Arr 84.92 314 P **P** **21 38 03.1 +0.4**
CHTO Chiang Mai 85.25 314 P **P** **21 38 04.7 +0.4**
CHTO IAmb IAmb 21 38 10.5
comp=Z,18nm,1.2s
VA03 San Esteban 85.55 149 P **P** **21 38 06.5 +0.5**
CRAI Chiangrai 85.97 316 P **P** **21 38 08.7 +0.9**
CRAI IAmb IAmb 21 38 14.4
comp=Z,20nm,1.2s
JHJ Hachijo jima 2 89.30 353 LR LR 22 14 43.9
comp=Z,92nm,21.4s,baz=26,slow=33
JNU Nakatsue 90.19 346 LR LR 22 18 28.6
comp=Z,45nm,19.1s,baz=139,slow=35
PLTB Pedras Altas 90.46 162 P **P** **21 38 30.8 +1.4**
PLTB IAmb IAmb 21 38 32.6
comp=Z,33nm,1.8s
LSZ Lusaka 92.68 237 P **P** **21 38 40.4 +0.3**
MJAR Matsushiro Arr 92.81 352 P **P** **21 38 40.3 +0.5**
comp=Z,1.8nm,0.9s,baz=181,slow=5.9,SNR=7.3
MJAR LR LR 22 21 09.6
comp=Z,49nm,18.4s,baz=164,slow=36
comp=Z,1.8nm,0.9s
TSUM Tsumeb 93.86 227 LR LR 22 15 03.5
comp=Z,170nm,20.1s,baz=150,slow=32
KSRS Korea Array 94.87 344 LR LR 22 21 19.5
comp=Z,44nm,19.4s,baz=125,slow=35
CPUP Villa Florida 95.03 158 P **P** **21 38 50.9 +0.4**
comp=Z,1.3nm,0.9s,baz=180,slow=5.1,SNR=2.9
comp=Z,1.3nm,0.9s
LVC Limon Verde 95.56 146 LR LR 22 11 37.9
comp=Z,60nm,21.2s,baz=230,slow=29
MKAR Makanchi Array 116.30 316 PKP **PKPdf** **21 44 09.5 -0.8**
comp=Z,0.6nm,0.7s,baz=66,slow=3.5,SNR=5.7
GEYT Alibeck 120.27 294 PKP **PKPdf** **21 44 18.3 0.0**
comp=Z,1.1nm,0.7s,baz=254,slow=8.3,SNR=2.4
KURBB Kurchatov Arra 120.86 316 PKP **PKPdf** **21 44 17.8 -1.1**
comp=Z,0.9nm,0.7s,baz=133,slow=1.6,SNR=4.3
KURBB PP **PP** **21 45 49.0 +0.3**
comp=Z,0.2nm,0.6s,baz=150,slow=6.4,SNR=4.2
ZALV Zalesovo Beam 121.25 322 PKP **PKPdf** **21 44 18.2 -1.3**
comp=Z,0.5nm,0.5s,baz=98,slow=2.2,SNR=2.2
NVAR Mina Array Bea 123.04 69 **PKPdf** **21 44 23.0 -0.8**
NVAR Mina Array Bea 123.04 69 PKP **PKPdf** **21 44 23.0 -0.8**
comp=Z,0.4nm,0.7s,baz=242,slow=3.2,SNR=5.5
KVN Kaiserville 123.61 69 PKPdf **PKiKP** **21 44 25.3 +0.2**
HUMO Hull Mountain 123.78 63 PKPdf **PKiKP** **21 44 26.5 +1.5**
TXAR Lajitas Array 124.13 87 PKP **PKiKP** **21 44 26.4 +0.1**
comp=Z,0.4nm,0.8s,baz=205,slow=4.0,SNR=3.0
TXAR PKKPbc **PKKPab** **21 54 14.1 +4.1**
comp=Z,0.3nm,0.8s,baz=67,slow=3.3,SNR=4.9
WVOR Wild Horse Val 125.82 66 **PKiKP** **21 44 30.4 +1.2**
BVAR Borovoye Array 125.94 313 PKP **PKPdf** **21 44 28.4 -0.2**
comp=Z,1.2nm,0.6s,baz=122,slow=1.9,SNR=7.8
MSU Marysvale 126.33 73 PKPdf **PKiKP** **21 44 30.9 +0.3**
DUG Dugway, Tooele 127.22 72 PKPdf **PKPdf** **21 44 31.1 -0.5**
MVCO Mesa Verde 127.37 77 PKPdf **PKPdf** **21 44 32.2 0.0**
NLU North Lily Min 127.44 72 **PKiKP** **21 44 33.1 +0.4**
K20K Telida 127.52 29 PKPdf **PKiKP** **21 44 32.5 +0.6**
BGU Big Grassy Mou 127.63 71 PKPdf **PKiKP** **21 44 33.6 +0.6**
SRU San Rafael Swe 127.66 74 **PKPdf** **21 44 32.8 +0.2**
G08A Pilot Rock 127.71 63 PKPdf **PKiKP** **21 44 33.6 +0.7**
AKTO Aktyubinsk 129.46 304 PKP **PKPdf** **21 44 34.9 -0.5**
comp=Z,0.5nm,0.4s,baz=181,slow=1.3,SNR=5.3
TORD Torodi Ar. Bea 129.59 225 PKP **PKPdf** **21 44 35.8 -0.9**
comp=Z,1.8nm,1.0s,baz=107,slow=0.9,SNR=5.1
ILAR Eielson Array 130.62 31 PKP **PKPdf** **21 44 36.6 -0.5**
comp=Z,0.7nm,0.8s,baz=302,slow=2.2,SNR=5.3
SCRK Sand Creek 130.89 33 PKPdf **PKPdf** **21 44 37.7 -0.1**
L27K Beaver Creek, 130.89 35 PKPdf **PKPdf** **21 44 37.7 0.0**
BCAR Beaver Creek A 130.91 35 PKPdf **PKPdf** **21 44 37.8 0.0**
WMOK Wichita Mounta 130.92 87 PKPdf **PKPdf** **21 44 38.5 -0.2**
K27K Chicken 131.51 34 **PKiKP** **21 44 40.5 +0.7**
L29M L29M 132.12 36 PKPdf **PKiKP** **21 44 41.2 0.0**
KBZ Khabaz 132.40 288 PKP **PKPdf** **21 44 40.9 -0.2**
comp=Z,2.2nm,0.6s,baz=148,slow=4.9,SNR=4.4
BRTR Keskin Array B 134.67 278 **PKPdf** **21 44 46.4 +0.6**
BRTR Keskin Array B 134.67 278 PKP **PKPdf** **21 44 45.2 -0.5**
comp=Z,0.5nm,0.8s,baz=66,slow=3.5,SNR=3.7
G30M tAoh Zraii Nji 135.31 33 PKPdf **PKiKP** **21 44 47.4 -0.1**
U49A Red Boiling Sp 139.45 96 **PKPdf** **21 44 54.7 +0.2**
RDO Rodhopi 140.14 273 **PKPdf** **21 44 56.2 +0.7**
CFR Carcaliu 141.33 280 ⇓P **PKPdf** **21 44 52.3 -5.3**
MLR Muntele Rosu 142.73 279 ⇑P **PKPdf** **21 44 57.7 -2.6**
MLR Muntele Rosu 142.73 279 PKPpre 21 44 53.9
ULM Lac du Bonnet 142.79 72 PKhKP PKPpre 21 44 54.7
comp=Z,4.4nm,0.9s,baz=214,slow=3.7,SNR=3.5
SORM Soroca 143.01 284 ⇑P PKPbc 21 44 57.4 0.0
ARR Arges 143.38 277 ⇑P PKPbc 21 44 59.7 +1.0
RAFF Raffo Rosso 143.59 259 PKPpre PKPpre 21 44 57.6
PUK Puka 143.88 269 PKPpre PKPpre 21 44 58.8
AKASG Malin Array Be 144.01 288 PKhKP PKPpre 21 44 58.6
comp=Z,4.5nm,0.6s,baz=108,slow=2.0,SNR=5.4
COWI Conover 144.01 82 PKPbc 21 45 01.1 +0.7
KIEV Kiev 144.01 288 ⇓P **PKPdf** **21 45 03.6 +1.5**
KIEV Kiev 144.01 288 PKPpre 21 44 59.0
S57A Dark Hollow, R 144.11 101 PKPbc 21 45 00.8 -0.1
O52A Adamsville 144.19 96 PKPdf PKPbc 21 45 01.4 +0.3
T59A Double "B" Far 144.30 103 PKPdf PKPbc 21 45 01.7 +0.2
HERR Herculane 144.30 275 ⇓P PKPbc 21 45 01.3 0.0
BURAR Bucovina Array 144.41 281 ⇓P PKPbc 21 45 01.8 +0.1
BURAR Bucovina Array 144.41 281 PKPdf **PKPab** **21 45 01.3 -0.1**
GZR Gura Zlata 144.42 276 ⇑P **PKPab** **21 45 01.1 -0.4**
N51A Ashland 144.44 94 **PKPdf** **21 45 02.6 -0.7**
BUR08 Bucovina Ar. S 144.44 281 PKPdf PKPbc 21 45 01.9 +0.1
CLTB Caltabellotta 144.48 258 PKPbc 21 45 02.2 0.0
PDG Podgorica 144.49 269 ⇑P **PKPab** **21 44 59.7 -2.0**
PDG Podgorica 144.49 269 PKPdf **PKPab** **21 45 00.9 -0.8**
ARCR ARCALIA 144.57 280 ⇑P **PKPab** **21 45 01.1 -0.8**
J47A Sunmer 144.61 89 PKPbc 21 45 02.7 +0.3
O53A New Philadelph 144.62 96 PKPbc 21 45 02.7 +0.2
MDVR Moldovita 144.63 274 ⇓P **PKPab** **21 45 01.3 -1.0**
AAM Ann Arbor 144.65 91 PKPbc 21 45 03.0 +0.5
DEV Deva 144.65 277 ⇑P **PKPab** **21 45 01.9 -0.3**
MAATE Matera 144.72 265 ⇑P **PKPab** **21 45 01.6 -1.0**
CUC Castrocucco 144.76 263 PKPdf **PKPab** **21 45 01.2 -1.7**
CJR Cluj-Napoca 144.77 279 ⇓P **PKiKP** **21 45 05.9 -1.5**
R58B Mineral 144.85 102 PKPbc 21 45 03.2 0.0
D41A Chassel 144.90 81 PKPbc 21 45 03.3 +0.2
Q56A Snyder Ridge, 144.90 99 **PKPab** **21 45 03.2 -0.2**
MCWV Mont Chateau 144.97 98 PKPbc 21 45 03.8 +0.2
SURR Surduc 145.00 276 ⇓P PKPbc 21 45 03.5 0.0
MARR Marisel-Cluj 145.01 278 ⇑P **PKPbc** **21 45 02.8 -0.9**
O54A Avella 145.04 97 **PKPdf** **21 45 04.2 -0.1**
KEST Kesra 145.19 252 PKPbc **PKPdf** **21 45 05.3 +0.5**
comp=Z,36nm,1.1s,baz=159,slow=4.2,SNR=15
BZS Buzias 145.20 276 ⇑P **PKPbc** **21 45 02.6 -1.5**
DRGR 145.31 278 ⇓P **PKPbc** **21 45 03.9 -0.6**
BMR Baia Mare 145.39 280 ⇑P **PKPab** **21 45 05.5 +0.6**
SIRR Siria 145.57 276 ⇑P **PKPdf** **21 45 04.8 -0.3**
M53A WI Miller and 145.73 95 **PKPab** **21 45 06.4 0.0**
P57A Homestead Farm 145.86 100 **PKPdf** **21 45 05.5 -0.3**
FRGS Fruska Gora 145.92 274 ⇓P **PKPdf** **21 45 05.5 -0.2**
BORR Bors 145.99 278 ⇑P **PKPbc** **21 45 06.2 -0.4**
PAOL Paolisi 146.17 263 **PKPdf** **21 45 05.7 -0.6**
SSPA Standing Stone 146.73 99 **PKPbc** **21 45 08.7 -0.2**
KOLS Kolonicke sedl 146.78 281 *e*PKP **PKPab** **21 45 09.8 -0.4**
KOLS *e* 21 45 14.0
M55A Ridgway 146.81 97 PKPdf **PKPdf** **21 45 08.3 +1.0**
E46A Sault Ste Mari 146.84 85 PKPdf **PKPbc** **21 45 08.9 -0.2**
KWP Kalwaria Pacla 146.93 282 **PKPdf** **21 45 08.1 +0.8**
BSZH Besenyszg 146.96 277 ⇑P PKPdf 21 44 59.6 -7.7
INTR Introdacqua 147.19 264 PKPdf **PKPdf** **21 45 07.8 -0.2**
CRVS Cervenica-Dubn 147.21 280 *e*PKP **PKPab** **21 45 11.1 -0.8**
MORH Mrgy, Hungar 147.22 274 ⇑P **PKPbc** **21 45 09.5 -0.6**
WUPA West Chester U 147.49 102 **PKPbc** **21 45 10.7 -0.4**
N58A Sunbury 147.51 99 **PKPbc** **21 45 10.7 -0.4**
PSZ Piszkesteto 147.52 278 PKPdf **PKPdf** **21 45 08.1 -0.3**
WVNY West Valley, N 147.53 95 **PKPbc** **21 45 10.9 -0.3**
M57A Sunshine Farm, 147.63 98 **PKPbc** **21 45 11.8 +0.3**
NRCA Norcia 148.18 265 **PKPbc** **21 45 12.8 -0.2**
LANS Liptovska Anna 148.44 279 *e*PKP **PKiKP** **21 45 15.1 +0.1**
LANS *e* 21 45 18.6
OJC Ojcow 148.83 281 **PKPbc** **21 45 14.2 -0.1**
BINY Binghamton 148.84 98 PKPdf **PKPdf** **21 45 11.7 +1.0**
SUW Suwalki 148.88 290 **PKPbc** **21 45 13.8 -0.5**
MODS Modra-Piesok 149.22 276 *e*PKP **PKPbc** **21 45 15.0 -0.4**
MODS *e* 21 45 19.8
JAVC Velka Javorina 149.27 278 *e*PKP **PKiKP** **21 45 16.2 -0.5**
RONA Rosalia, Austr 149.39 275 *e*PKP **PKPbc** **21 45 15.4 -0.5**
comp=Z,17nm,1.5s,SNR=12
SOKA Soboth 149.50 272 *e*PKP **PKPbc** **21 45 16.3 0.0**
comp=Z,34nm,1.6s,SNR=14
ARSA Arzberg 149.56 273 *e*PKP **PKPbc** **21 45 16.0 -0.3**
comp=Z,27nm,1.5s,SNR=12
CONA Conrad Observa 149.76 275 *e*PKP **PKPbc** **21 45 15.8 -1.0**
comp=Z,18nm,1.7s,SNR=8.4
MORC Moravsky Berou 149.84 279 ⇓P **PKiKP** **21 45 17.5 -0.3**
MORC Moravsky Berou 149.84 279 **PKPbc** **21 45 16.6 -0.3**
MORC Moravsky Berou 149.84 279 *e*PKP **PKPbc** **21 45 16.5 -0.4**
J58A Remsen 149.99 97 **PKPbc** **21 45 17.6 +0.2**
KRUC Moravsky 150.09 277 *e*PKP **PKPbc** **21 45 17.3 -0.1**
VRAC Vranov 150.11 278 ⇓P **PKPbc** **21 45 17.2 -0.4**
VRAC Vranov 150.11 278 *e*PKP **PKPbc** **21 45 17.6 +0.1**
FINES FINESS Array B 150.23 304 **PKPdf** **21 45 14.7 +2.5**
FINES FINESS Array B 150.23 304 PKPbc **PKPbc** **21 45 17.0 -0.4**
comp=Z,9.2nm,1.0s,baz=111,slow=3.3,SNR=18
MYKA Terra Mystica 150.25 271 *e*PKP **PKPbc** **21 45 16.9 -1.1**
comp=Z,25nm,1.4s,SNR=12
RES Resolute Bay 150.31 28 PKPbc **PKPbc** **21 45 15.8 -1.4**
comp=Z,6.4nm,1.1s,baz=242,slow=4.0,SNR=4.0
KRLC Kraliky 150.41 279 ⇑*e*PKP **PKPbc** **21 45 18.1 -0.2**
KRLC *e*PKPAB **PKPab** **21 45 23.3 -1.6**
MOA Molln 150.60 273 *e*PKP **PKPbc** **21 45 17.9 -0.9**
comp=Z,17nm,1.5s,SNR=9.6
KBA Koelnbreinsper 150.68 271 *e*PKP **PKPbc** **21 45 18.3 -0.8**
comp=Z,15nm,1.1s,SNR=9.1
TREC Trest 150.72 277 ⇑*e*PKP **PKPbc** **21 45 19.0 0.0**
DPC Dobruska-Polom 150.81 279 ⇑*e*PKP **PKPbc** **21 45 19.1 -0.1**
DPC *e*PKPAB **sPKPbc** **21 45 24.2 -2.7**
DPC AMS AMS 23 02 00.0
comp=Z,100nm,14.0s
L61B Northampton 150.82 101 **PKPbc** **21 45 17.6 -1.8**
BIOA Bad Ischl, Aus 150.86 273 *e*PKP **PKPbc** **21 45 18.4 -1.0**
comp=Z,17nm,1.8s,SNR=6.9
ABTA Abfaltersbach 150.95 270 *i* PKP **PKPbc** **21 45 19.2 -0.5**
comp=Z,26nm,1.4s,SNR=7.2
OSTC Ostas 150.97 279 ⇑*e*PKP **PKiKP** **21 45 19.9 -0.2**
OSTC AMS AMS 23 02 20.0
comp=Z,200nm,19.1s
CHVC Chvalec 151.08 279 ⇑*e*PKP **PKPbc** **21 45 20.0 +0.2**
CKRC Cesky Krumlov 151.12 275 ⇑*e*PKP **PKPbc** **21 45 19.6 -0.3**
LESA Schwarzleotal 151.25 271 *e*PKP **PKPbc** **21 45 19.4 -1.0**
comp=Z,20nm,1.2s
GERES GERESS Array B 151.47 275 **PKPdf** **21 45 16.2 +1.5**
GERES GERESS Array B 151.47 275 PKPbc **PKPbc** **21 45 19.2 -1.6**
comp=Z,5.2nm,1.0s,baz=86,slow=2.0,SNR=17
ZVC Zvikov 151.51 276 ⇑*e*PKP **PKPbc** **21 45 20.1 -0.7**
VLDQ Val d'Or 151.66 87 **PKPbc** **21 45 21.1 -0.1**
KHC Kasperske Hory 151.69 275 **PKPbc** **21 45 21.0 -0.3**
KHC Kasperske Hory 151.69 275 ⇑*e*PKP **PKPbc** **21 45 21.3 0.0**
KHC AMS AMS 23 04 20.0
comp=Z,100nm,20.3s
WTTA Wattenberg 151.74 270 *e*PKP **PKPbc** **21 45 21.2 -0.4**
comp=Z,36nm,1.6s,SNR=11
ARCES ARCESS Array B 151.79 321 **PKiKP** **21 45 21.3 +0.1**
ARCES ARCESS Array B 151.79 321 PKPbc **PKPbc** **21 45 20.4 -0.5**
comp=Z,12nm,1.0s,baz=120,slow=2.7,SNR=28
WATA Walderalm 151.81 270 *e*PKP **PKPbc** **21 45 21.2 -0.5**
comp=Z,41nm,1.6s,SNR=17
SQTA Sankt Quirin 151.95 270 *e*PKP **PKPbc** **21 45 21.6 -0.4**
comp=Z,20nm,1.1s,SNR=9.4
MOTA Moosalm 152.08 270 *e*PKP **PKPbc** **21 45 21.3 -1.1**
comp=Z,24nm,1.8s,SNR=13
FETA Feichten 152.10 269 *e*PKP **PKPbc** **21 45 21.6 -0.8**
comp=Z,29nm,1.3s,SNR=9.0
FUORN Ofenpass-Fuorn 152.13 268 PKPdf **PKPdf** **21 45 16.5 +0.5**
TRQ Mont Tremblant 152.19 93 PKPab **PKPab** **21 45 32.9 +0.4**
RETA Reutte 152.35 270 *e*PKP **PKPbc** **21 45 22.4 -0.5**
comp=Z,17nm,1.5s,SNR=6.5
BRG Berggiesshubel 152.38 278 *e*PKP **PKPbc** **21 45 22.8 +0.1**
BRG Amp 21 45 28.4
comp=Z,10nm,1.0s
BRG Berggiesshubel 152.38 278 P **PKPab** **21 45 35.3 +2.3**
BRG Amp 21 45 35.7
comp=Z,8.6nm,1.0s
TUE Stuetta 152.55 267 **PKiKP** **21 45 24.0 +0.2**
SPITS Spitsbergen Ar 152.63 340 PKPbc **PKiKP** **21 45 23.6 +0.9**
comp=Z,6.5nm,0.7s,baz=116,slow=6.6,SNR=1.8
DAVA Damuels 152.73 269 *i* PKP **PKPbc** **21 45 23.5 -0.3**
comp=Z,14nm,1.3s
CLL Collm 153.11 279 PKPdf **PKPdf** **21 45 16.2 -0.7**
CLL Collm 153.11 279 *i* PKPbc **PKPbc** **21 45 23.9 -0.4**
comp=Z,18nm,1.4s
CLL *i* x x 21 45 28.4
comp=Z,12nm,1.1s
CLL *i* x x 21 45 32.4
CLL *i* PKPab **PKPab** **21 45 35.9 -0.2**
comp=Z,37nm,1.6s
CLL *i* x x 21 45 40.2
CLL AMS AMS 23 03 00.0
comp=Z,100nm,19.7s
BFO Black Forest 154.18 269 **PKPab** **21 45 40.7 -0.1**
ESDC Sonseca Array 154.99 240 PKPdf **PKPdf** **21 45 20.0 0.0**
ESDC Sonseca Array 154.99 240 PKP **PKPdf** **21 45 19.5 -0.5**
comp=Z,0.8nm,1.1s,baz=132,slow=1.9,SNR=4.0
ESDC PKPbc **PKPbc** **21 45 28.8 -0.1**
comp=Z,2.3nm,0.9s,baz=114,slow=1.2,SNR=6.5
ESDC PKPab **PKPab** **21 45 44.5 +0.1**
comp=Z,5.9nm,1.2s,baz=160,slow=3.6,SNR=11
HFS Hagfors 155.80 298 PKPab **PKPab** **21 45 46.3 -0.9**
comp=Z,2.5nm,0.8s,baz=45,slow=4.3,SNR=3.0
NB2 NORSAR Subarra 157.16 300 P **PKPab** **21 45 52.1 -1.1**
comp=Z,18nm,2.0s,baz=98,slow=5.1
NOA NORSAR Array B 157.16 300 PKPab **PKPab** **21 45 53.6 +0.4**
comp=Z,1.9nm,0.8s,baz=97,slow=4.7,SNR=7.5

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*SOME **01** 21:32:36.5, 44°.07N×86°.02E, h10km*
*NNC **01** 21:32:42.5±2.1, 43°.75N×85°.75E, h13km±7km, mb2.8, mpv2.4, Error ellipse: s-maj=20.0km s-min=11.8km az=81.0*
ISC 01 21:32:38.6±2.6, 44°.00N±0°.08×85°.9E±0°.1, h17km, n8, σ2§62/17, 6C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.52**	**349**	*e*P	**Pb**	**21 33 40.9**	**+0.4**
	1.1nm,0.2s						
ZSN				*e*S	**Sg**	**21 34 26.9**	**-4.7**
	3.6nm,0.2s						
MK31	**Makanchi Array**	**3.75**	**319**	⇑Pn	**Pb**	**21 33 42.5**	**-1.9**
	0.1nm,0.2s,baz=146,slow=15,SNR=19						
MK31				⇑Pg	**Pg**	**21 33 53.1**	**+2.7**
	0.2nm,0.2s,baz=133,slow=17,SNR=5.8						
MK31				⇑Sn	**Sb**	**21 34 29.0**	**-0.5**
	0.3nm,0.2s,baz=319,slow=15,SNR=2.6						
MK31				⇓Lg	Lg	21 34 48.4	
	3.5nm,0.3s,baz=132,slow=28,SNR=9.6						
MAKZ	**Makanchi**	**3.91**	**317**	⇑Pn	**Pb**	**21 33 44.3**	**-2.8**
	1.0nm,1.1s						
MAKZ				⇓Pg	**Pg**	**21 33 56.8**	**+3.2**
	0.3nm,0.3s						
MAKZ				⇑Sn	**Sb**	**21 34 32.0**	**-2.2**
	1.6nm,0.4s						
MAKZ				⇓Lg	Lg	21 34 50.3	
	2.2nm,0.5s						
KTMS	**Ketmen**	**4.02**	**264**	*e*P	**Pg**	**21 33 53.0**	**-2.6**
	0.5nm,0.1s						
KTMS				*e*S	**Sg**	**21 34 48.0**	**+0.3**
	2.5nm,0.2s						
DJR	**Jarkent**	**4.37**	**276**	*e*P	**Pg**	**21 34 00.3**	**-2.0**
	0.3nm,0.1s						
DJR				*e*S	**Sg**	**21 35 00.7**	**+1.8**
	4.1nm,0.7s						
PDGK	**Podgornoye**	**4.66**	**264**	⇓Pn	**Pn**	**21 33 51.3**	**+3.0**
	1.0nm,0.9s						
PDGK				⇑Lg	Lg	21 35 07.8	
	2.5nm,0.5s						
SHLS	**Shalkode**	**4.71**	**262**	*e*P	**Pb**	**21 33 59.8**	**-1.0**
	2.0nm,0.1s						
SHLS				*e*S	**Sb**	**21 34 60.0**	**+2.6**
	5.3nm,0.6s						
UZB	**Uzynbulak**	**5.03**	**263**	*e*P	**Pg**	**21 34 12.2**	**-2.7**
	1.6nm,0.1s						
UZB				*e*S	**Sg**	**21 35 21.2**	**+1.2**
	1.0nm,0.1s						

RSNC 01 21:42:01.8±0.0, 9°N±7°×7°9W±°, h3km±8km, M2.7, mb4.0, ML2.7, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**1.27**	**271**	P	Pg	21 42 24.3	-1.9
BCIP				S	Sg	21 42 41.3	-1.4
CAPC	**Capurgana**	**1.29**	**113**	P	Pg	21 42 21.9	-4.6
CAPC				S	Sg	21 42 41.4	-1.8
AZU	**Azuero**	**2.17**	**232**	P	Pn	21 42 36.4	-2.4
AZU				S	Sn	21 43 02.8	-3.4
APAC	**Apartado, Choc**	**2.31**	**122**	P	Pn	21 42 39.4	-1.3
APAC				S	Sn	21 43 10.6	+1.0
DBBC	**Dabeiba**	**3.13**	**132**	P	Pn	21 42 50.5	-1.7
UREC	**San Jos de Ur**	**3.29**	**115**	P	Pn	21 42 50.4	-3.9
UREC				S	Sn	21 43 28.4	-5.5
SJCC	**San Jacinto, C**	**3.41**	**77**	P	Pn	21 42 50.9	-5.1
SJCC				S	Sn	21 43 25.1	-12
ZARC	**Zaragoza, Cauc**	**4.00**	**114**	P	Pn	21 42 59.6	-4.5
ZARC				S	Sn	21 43 41.4	-10
PTBC	**PUERTO BERRIO,**	**4.81**	**122**	P	Pn	21 43 12.6	-2.6
PTBC				S	Sn	21 44 04.6	-6.9
OCAC	**Ocana**	**5.25**	**99**	P	Pn	21 43 15.2	-6.2
OCAC				S	Sn	21 44 12.7	-10
CRJC	**Cerrejon, Guaj**	**5.89**	**71**	P	Pn	21 43 23.3	-6.8
URIC	**Uribia, Colomb**	**6.93**	**68**	P	Pn	21 43 39.2	-5.2

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*IDC **01** 21:46:28.3±2.1, 56°.29S×147°.44E, h0km, mb3.9/6, mbtmp3.9/6, MS3.5/5, Error ellipse: s-maj=188.3km s-min=18.9km az=81.0*
ISC 01 21:46:32.2±1.9, 56°.3S±0°.2×14°8E±°, h28km, n22, σ0§82/8, mb4.1/6, MS3.5/5, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**21.91**	**172**	P	**P**	**21 51 21.7**	**-0.9**
	1.3nm,0.9s,baz=328,slow=8.4,SNR=6.1						
	1.3nm,0.9s						
STKA	**Stephens Creek**	**24.76**	**348**	P	**P**	**21 51 52.2**	**+1.0**
	5.8nm,1.0s,baz=153,slow=11,SNR=4.0						
	5.8nm,1.0s						
URZ	**Urewera**	**26.60**	**60**	LR	LR	22 01 47.2	
	comp=Z,69nm,20.9s,baz=182,slow=34						
NWAO	**Narrogin (SRO)**	**31.41**	**305**	LR	LR	22 02 55.4	
	comp=Z,82nm,19.1s,baz=19,slow=32						
QSPA	**South Pole Qui**	**33.83**	**180**	P	**P**	**21 53 12.3**	**+0.6**
	1.4nm,1.0s,baz=24,slow=12,SNR=2.8						
	1.4nm,1.0s						
ASAR	**Alice Springs**	**34.10**	**337**	P	**P**	**21 53 13.8**	**-0.4**
	2.1nm,0.9s,baz=161,slow=8.7,SNR=4.4						
	2.1nm,0.9s						
DZM	**Mont Dzumac**	**36.88**	**30**	LR	LR	22 07 15.1	
	comp=Z,74nm,18.3s,baz=213,slow=34						
WRA	**Warramunga Arr**	**37.63**	**339**	P	**P**	**21 53 43.6**	**-0.8**
	3.1nm,0.8s,baz=164,slow=7.4,SNR=5.5						
	3.1nm,0.8s						
MAW	**Mawson**	**38.18**	**218**	LR	LR	22 07 46.0	
	comp=Z,90nm,20.2s,baz=120,slow=34						
PMG	**Port Moresby**	**46.76**	**359**	LR	LR	22 12 06.8	
	comp=Z,67nm,21.1s,baz=125,slow=33						
SNAA	**Sanae**	**50.67**	**192**	P	**P**	**21 55 28.5**	**+0.2**
	2.2nm,1.0s,baz=184,slow=5.9,SNR=2.9						
	2.2nm,1.0s						
H04S1	**CROZET ISLANDS**	**55.58**	**236**	T	T	22 56 37.1	
	baz=139,slow=75,SNR=8.0						
H04S2	**CROZET ISLANDS**	**55.58**	**236**	T	T	22 56 37.2	
	baz=139,slow=75

VNDA LR LR 22 25 05.6
comp=Z,63nm,18.8s,baz=330,slow=35
0.6nm,0.7s
ASAR Alice Springs 34.02 338 P P 22 18 56.7 -0.2
0.7nm,0.8s,baz=167,slow=8.6,SNR=4.6
0.7nm,0.8s
WRA Warramunga Arr 37.55 340 P P 22 19 26.4 -0.8
0.5nm,0.9s,baz=166,slow=7.1,SNR=1.8
0.5nm,0.9s
H04S1 CROZET ISLANDS 55.40 236 T T 23 22 24.6
baz=139
H04S2 CROZET ISLANDS 55.40 236 T T 23 22 25.1
baz=139
H04S3 CROZET ISLANDS 55.42 236 T T 23 22 26.5
baz=139
H08S2 Diego Garcia H 75.23 278 T T 23 46 26.6
baz=147,slow=76
H08S1 Diego Carcia H 75.24 278 T T 23 46 23.4
baz=147
H08S3 Diego Garcia H 75.25 278 T T 23 46 28.1
baz=147,slow=76
H03S2 Juan Fernandez 82.03 143 T T 23 55 42.5
baz=202
H03S1 Juan Fernandez 82.03 143 T T 23 55 41.4
baz=202
H03S3 Juan Fernandez 82.04 143 T T 23 55 39.1
baz=202
ARCES ARCESS Array B 151.67 321 PKPbc PKiKP 22 32 06.8 +0.4
1.2nm,0.8s,baz=72,slow=3.9,SNR=4.4

*SOME **01** 22:39:52.5, 39.°92N×72.°05E, h15km*
*ISU **01** 22:39:54.9, 40.°07N×72.°11E, h6km*
*IDC **01** 22:39:57.7±3.1, 40.°25N×71.°81E, h0km, mb3.5/1,*
mbtmp3.4/5, ML2.7/4, MS3.5/5, Error ellipse: s-maj=84.9km
s-min=20.4km az=145.0
*KRNET **01** 22:39:58.0±0.1, 40.°09N×72.°01E, h14km, mb3.5*
*NNC **01** 22:40:01.4±0.7, 40.°24N×72.°13E, h0km, mb3.8, mpv3.3,*
Error ellipse: s-maj=5.9km s-min=3.0km az=2.0
ISC 01 22:39:57.5±0.7, 40.13N±0.02×72.12E±0.02, h10km, n75,
σ1§90/114, MS3.9/4, 34C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMI	**Chimion**	**0.48**	**287**	P	**Pg**	**22 40 05.4**	**-1.4**
CHMI				S	**Sg**	**22 40 13.1**	**0.0**
TSTA	**Tashata**	**0.53**	**31**	P	**Pg**	**22 40 07.1**	**-0.6**
TSTA				S	**Sb**	**22 40 16.2**	**-0.3**
OHH	**Osh**	**0.65**	**52**	⇑*iP*	**Pn**	**22 40 12.0**	**-0.8**
OHH	baz=53			⇑*iS*	**Sn**	**22 40 22.3**	**-0.8**
DRK	**Karamyk**	**0.69**	**201**	⇑*iP*	**Pg**	**22 40 10.1**	**-0.8**
DRK	baz=95			⇑*iS*	**Sg**	**22 40 18.8**	**-1.2**
NAM	**Namangan**	**0.93**	**338**	P	**Pg**	**22 40 14.5**	**-0.9**
NAM				S	**Sn**	**22 40 29.0**	**-1.0**
MINT	**Mingtut**	**0.94**	**291**	P	**Pg**	**22 40 13.9**	**-1.6**
MINT				S	**Sb**	**22 40 28.0**	**-0.3**
BTK	**Batken**	**1.00**	**266**	⇑*iP*	**Pg**	**22 40 15.3**	**-1.4**
BTK	baz=69			⇑*iS*	**Sg**	**22 40 28.0**	**-1.7**
SFK	**Sufi-Kurgan**	**1.07**	**96**	⇑*eP*	**Pn**	**22 40 19.7**	**+0.9**
SFK	baz=93			⇑*eS*	**Sn**	**22 40 35.1**	**+1.3**
KSNS	**Kasansay**	**1.12**	**336**	P	**Pb**	**22 40 17.8**	**-1.2**
KSNS				S	**Sn**	**22 40 34.9**	**0.0**
ARSB	**Arslanbob**	**1.36**	**29**	⇓*eP*	**Pg**	**22 40 24.9**	**+1.3**
ARSB	baz=30			⇓*iS*	**Sg**	**22 40 44.5**	**+3.2**
TRKS	**Terek-Say**	**1.58**	**332**	⇓*eP*	**Pb**	**22 40 26.3**	**-0.6**
TRKS	baz=35			⇓*eS*	**Sg**	**22 40 47.1**	**-1.3**
ARK	**Arkit**	**1.67**	**356**	⇑*iP*	**Pg**	**22 40 29.8**	**+0.3**
ARK	baz=59			⇑*iS*	**Sg**	**22 40 52.9**	**+1.7**
GAR	**Garm**	**1.79**	**232**	⇑*iP*	**Pb**	**22 40 29.6**	**-0.9**
GAR	baz=31			⇑*iS*	**Sb**	**22 40 52.6**	**-0.4**
CHMG	**Chimgan**	**2.14**	**312**	P	**Pb**	**22 40 34.9**	**-1.5**
CHMG				S	**Sg**	**22 41 05.4**	**-0.8**
TGS	**TashGRES**	**2.36**	**304**	P	**Pb**	**22 40 39.1**	**-0.9**
TGS				S	**Sg**	**22 41 14.4**	**+1.2**
MNAS	**Manas**	**2.37**	**7**	⇑*iP*	**Pb**	**22 40 40.6**	**+0.2**
MNAS	baz=9.0			⇑*iS*	**Sg**	**22 41 11.7**	**-2.0**
ARLS	**Aral**	**2.40**	**43**	⇑*iP*	**Pb**	**22 40 41.5**	**+0.6**
ARLS	baz=44			⇑*iS*	**Sg**	**22 41 13.1**	**-1.6**
KUMR	**Kumaryk**	**2.44**	**298**	P	**Pn**	**22 40 38.9**	**+1.5**
KUMR				S	**Sg**	**22 41 14.0**	**-1.8**
YNGY	**Yangiyul**	**2.54**	**294**	P	**Pn**	**22 40 40.3**	**+1.5**
YNGY				S	**Sg**	**22 41 17.0**	**-2.1**
IUG	**Iuzhnay**	**2.56**	**323**	*eP*	**Pb**	**22 40 42.3**	**-1.2**
IUG	57nm,0.3s			*eS*	**Sg**	**22 41 20.1**	**+0.5**
IUG	**Iuzhnay**	**2.56**	**323**	Pg	**Pg**	**22 40 45.8**	**-0.7**
IUG	57nm,0.3s			Lg	Lg	22 41 20.1	
CHGR	**Chuyangaron**	**2.72**	**238**	⇑*iP*	**Pn**	**22 40 43.4**	**+2.0**
CHGR	baz=38			⇑*iS*	**Sn**	**22 41 16.5**	**+2.1**
MRKS	**Merke**	**2.74**	**17**	*eP*	**Pb**	**22 40 45.8**	**-0.8**
MRKS	9.3nm,1.1s			*eS*	**Sg**	**22 41 26.6**	**+1.0**
MRKS	**Merke**	**2.74**	**17**	Pg	**Pg**	**22 40 49.6**	**-0.5**
MRKS	9.3nm,1.1s			Lg	Lg	22 41 26.6	
UCH	**Uchtor**	**2.77**	**40**	⇓*iP*	**Pb**	**22 40 46.7**	**-0.6**
UCH	baz=41			⇓*iS*	**Sb**	**22 41 22.2**	**+0.7**
EKS2	**Erkin-Say**	**2.82**	**26**	⇑*eP*	**Pb**	**22 40 47.1**	**-0.9**
EKS2	baz=27			⇑*iS*	**Sb**	**22 41 22.9**	**+0.2**
CHM	**Chimkent**	**2.89**	**320**	*eP*	**Pb**	**22 40 48.8**	**-0.4**
CHM	114nm,0.3s			*eS*	**Sg**	**22 41 31.7**	**+1.3**
BXML	**Bakhmal**	**3.17**	**263**	P	**Pb**	**22 40 51.8**	**-2.2**
BXML				S	**Sg**	**22 41 40.1**	**+0.7**
KK31	**Karatay Array**	**3.21**	**338**	⇑Pn	**Pb**	**22 40 52.1**	**-2.4**
KK31	4.4nm,0.3s,baz=152,slow=12,SNR=57			⇑Lg	Lg	22 41 40.3	
KKAR	**Karatay Array**	**3.21**	**338**	⇑*iP*	**Pb**	**22 40 51.4**	**-3.1**
KKAR	baz=40			⇑*iS*	**Sb**	**22 41 30.5**	**-3.1**
NRN	**Naryn**	**3.22**	**65**	⇑*eP*	**Pb**	**22 40 52.5**	**-2.5**
NRN	baz=65			⇑*eS*	**Sb**	**22 41 32.2**	**-2.2**
FRU1	**Bishkek**	**3.28**	**34**	⇓*eP*	**Pb**	**22 40 53.7**	**-2.0**
FRU1	baz=35			⇓*eS*	**Sb**	**22 41 33.8**	**-1.9**
BRLS	**Borolday**	**3.37**	**330**	*eP*	**Pb**	**22 40 54.6**	**-2.6**
BRLS	6.0nm,0.9s			*eS*	**Sg**	**22 41 41.7**	**-3.8**
BRLS	**Borolday**	**3.37**	**330**	Pg	**Pb**	**22 40 58.1**	**+0.9**
BRLS	6.0nm,0.9s			Lg	Lg	22 41 41.3	
CHMS	**Chumysh**	**3.48**	**34**	⇑Pn	**Pb**	**22 40 56.4**	**-2.8**
CHMS	7.4nm,0.6s			⇑Lg	Lg	22 41 49.4	
BOOM	**Boomskoye usch**	**3.72**	**49**	⇓*eP*	**Pb**	**22 41 00.2**	**-3.2**
BOOM	baz=50			⇓*eS*	**Sb**	**22 41 45.0**	**-3.6**
SGDS	**Sogindy**	**3.81**	**29**	Pg	**Pg**	**22 41 08.6**	**-2.0**
SGDS	1.9nm,0.2s			Lg	Lg	22 41 59.0	
TKM2	**Tokmak 2**	**3.82**	**42**	⇓Pn	**Pb**	**22 41 00.7**	**-4.4**
TKM2	12nm,0.8s			⇑Lg	Lg	22 42 02.3	
KST	**Kastek**	**4.10**	**43**	*eP*	**Pb**	**22 41 10.7**	**+0.9**
KST	4.9nm,1.8s			*eS*	**Sg**	**22 42 09.0**	**-0.1**
KST	**Kastek**	**4.10**	**43**	Pg	**Pg**	**22 41 13.7**	**-2.2**
KST	4.9nm,1.8s			Lg	Lg	22 42 07.9	
DGS	**Degeres**	**4.14**	**40**	*eP*	**Pb**	**22 41 11.3**	**+0.8**
DGS	14nm,1.3s			*eS*	**Sg**	**22 42 10.8**	**+0.3**
DGS	**Degeres**	**4.14**	**40**	Pg	**Pg**	**22 41 15.3**	**-1.5**
DGS	14nm,1.3s			Lg	Lg	22 42 10.8	
KTAB	**Kitab**	**4.16**	**258**	P	**Pn**	**22 41 02.8**	**+1.7**
KTAB				S	**Sb**	**22 42 00.9**	**-0.2**
KDJ	**Kajisay**	**4.31**	**61**	⇑*eP*	Pb	22 41 08.3	-5.2
KDJ	baz=61			⇑*eS*	**Sb**	**22 41 59.3**	**-6.4**
MTBS	**Maitube**	**4.41**	**46**	*eP*	**Pb**	**22 41 16.4**	**+1.3**
MTBS	4.0nm,1.1s			*eS*	**Sg**	**22 42 18.7**	**-0.2**
MTBS	**Maitube**	**4.41**	**46**	Pg	**Pg**	**22 41 19.6**	**-2.3**
MTBS	4.0nm,1.1s			Lg	Lg	22 42 17.8	
KRBS	**Karabastau**	**4.44**	**36**	*eP*	**Pb**	**22 41 17.6**	**+2.0**
KRBS	4.7nm,1.8s			*eS*	**Sg**	**22 42 21.2**	**+1.0**
KRBS	**Karabastau**	**4.44**	**36**	Pg	**Pg**	**22 41 20.7**	**-1.9**
KRBS	4.7nm,1.8s			Lg	Lg	22 42 19.8	
IZV	**Izvestkoviy**	**4.45**	**48**	*eP*	**Pb**	**22 41 16.2**	**+0.4**
IZV	5.9nm,0.5s			*eS*	**Sg**	**22 42 17.9**	**-2.4**
TNSS	**Tian-Shan**	**4.64**	**50**	*eP*	**Pb**	**22 41 19.4**	**+0.2**
TNSS	2.2nm,0.6s			*eS*	**Sg**	**22 42 24.5**	**-2.1**
TNSS	**Tian-Shan**	**4.64**	**50**	Pg	**Pg**	**22 41 24.2**	**-2.3**
TNSS	2.2nm,0.6s			Lg	Lg	22 42 25.8	
PKMR	**Pachkamar**	**4.71**	**252**	P	**Pn**	**22 41 10.7**	**+2.0**
PKMR				S	**Sb**	**22 42 16.9**	**-0.2**
KNDC	**Almaty**	**4.76**	**48**	⇑Pn	Pn	22 41 14.2	+4.8
KNDC	17nm,0.7s			⇑Lg	Lg	22 42 32.2	
MDOK	**Medeo**	**4.78**	**49**	*eP*	**Pb**	**22 41 23.1**	**+1.7**
MDOK	2.9nm,0.7s			*eS*	**Sg**	**22 42 30.4**	**-0.5**
MDOK	**Medeo**	**4.78**	**49**	⇑Pn	**Pn**	**22 41 13.5**	**+3.9**
MDOK	4.7nm,0.7s			Lg	Lg	22 42 29.9	
KOTS	**Kotyrbulak**	**4.86**	**49**	*eP*	**Pb**	**22 41 23.9**	**+1.2**
KOTS	6.5nm,0.5s			*eS*	**Sg**	**22 42 32.0**	**-1.5**
KOTS	**Kotyrbulak**	**4.86**	**49**	Pg	**Pg**	**22 41 27.8**	**-2.8**
KOTS	6.5nm,0.5s			Lg	Lg	22 42 32.0	
KTBS	**Karatobe**	**4.94**	**42**	*eP*	**Pb**	**22 41 25.3**	**+1.2**
KTBS	2.3nm,0.7s			*eS*	**Sg**	**22 42 34.2**	**-1.9**
KTBS	**Karatobe**	**4.94**	**42**	Pg	**Pg**	**22 41 29.1**	**-3.0**
KTBS	2.3nm,0.7s			Lg	Lg	22 42 34.2	
BTLS	**Baital**	**5.11**	**16**	*eP*	**Pb**	**22 41 30.1**	**+3.2**
BTLS	1.1nm,0.8s			*eS*	**Sg**	**22 42 42.4**	**+0.9**
BTLS	**Baital**	**5.11**	**16**	Pg	**Pg**	**22 41 32.5**	**-2.8**
BTLS	1.1nm,0.8s			Lg	Lg	22 42 40.1	
ARXS	**Arharly**	**5.88**	**44**	*eP*	**Pb**	**22 41 43.5**	**+3.3**
ARXS	1.2nm,0.4s			*eS*	**Sg**	**22 43 06.0**	**-0.4**
KPKS	**Kokpek**	**5.93**	**54**	*eP*	**Pb**	**22 41 44.0**	**+3.0**
KPKS	1.8nm,0.4s			*eS*	**Sg**	**22 43 06.5**	**-1.4**
PDGK	**Podgornoye**	**6.37**	**58**	⇓Lg	Lg	22 43 23.4	
DZN	**Dzhankel'dy**	**6.73**	**279**	P	**Pn**	**22 41 39.9**	**+3.6**
DZN				S	**Sb**	**22 43 16.3**	**+1.4**
MKAR	**Makanchi Array**	**9.95**	**45**	Pn	**Pn**	**22 42 23.6**	**+3.1**
MKAR	0.1nm,0.3s,baz=230,slow=12,SNR=3.9			Lg	Lg	22 45 06.5	
MKAR	baz=242,slow=29,SNR=1.6			LR	LR	22 45 44.8	
GEYT	**Alibeck**	**11.11**	**263**	Pn	**Pn**	**22 42 35.9**	**-0.5**
	0.1nm,0.3s,baz=82,slow=13,SNR=2.8						
	1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**11.41**	**21**	Pn	**Pn**	**22 42 39.9**	**-0.6**
	0.1nm,0.3s,baz=213,slow=13,SNR=4.3						
KURBB				Lg	Lg	22 45 51.0	
	baz=213,slow=29						
	0.3nm,0.2s						
BVAR	**Borovoye Array**	**12.95**	**355**	Lg	Lg	22 46 44.8	
	baz=160,slow=26,SNR=1.4						
ZALV	**Zalesovo Beam**	**16.27**	**28**	Pn	**P**	**22 43 49.6**	**+0.6**
	0.1nm,0.3s,baz=213,slow=12,SNR=3.8						
	0.6nm,0.5s						
JMIC	**Jan Mayen**	**49.65**	**335**	LR	LR	23 08 50.7	
	comp=Z,65nm,18.9s,baz=207,slow=35						
TORD	**Torodi Ar. Bea**	**66.71**	**268**	P	**P**	**22 50 49.0**	**0.0**
	0.3nm,0.5s,baz=53,slow=6.0,SNR=1.6						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**71.05**	**17**	LR	LR	23 25 48.5	
	comp=Z,47nm,18.8s,baz=69,slow=39						
KDAK	**Kodiak Island**	**75.51**	**23**	LR	LR	23 29 08.4	
	comp=Z,64nm,19.0s,baz=76,slow=39						
DBIC	**Dimbokro**	**75.77**	**267**	LR	LR	23 29 15.7	
	comp=Z,62nm,18.2s,baz=358,slow=39						

*ANF **01** 22:46:05.5±0.2, 60.°35N×141.°28W, h22km±3km, ML2.4/18,*
Error ellipse: s-maj=2.2km s-min=1.5km az=3.0
*PGC **01** 22:46:06.9, 60.°35N×141.°31W, h7km, ML2.0, ML2.2/18,*
155km Wnw of Yakutat, Ak Southeastern Alaska
ISC 01 22:46:06.4±0.9, 60.°32N±0.°02×141.°32W±0.°02, h15km±7km,
n62, σ1§18/100, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMH	**Samovar Hills**	**0.33**	**125**	P	**Pg**	**22 46 13.5**	**+0.4**
SAMH				S	**Sb**	**22 46 19.8**	**+0.7**
MESA	**MESA**	**0.34**	**247**	P	**Pg**	**22 46 13.7**	**+0.2**
MESA	baz=62,SNR=18			S	**Sg**	**22 46 20.0**	**+1.6**
MESA	**MESA**	**0.34**	**247**	P	**Pg**	**22 46 13.7**	**+0.2**
MESA				S	**Sg**	**22 46 19.8**	**+1.4**
GRNC	**Granite Creek**	**0.47**	**333**	P	**Pg**	**22 46 15.2**	**-0.6**
GRNC				S	**Sg**	**22 46 21.9**	**-0.3**
LOGN	**Logan Glacier**	**0.53**	**17**	P	**Pg**	**22 46 16.2**	**-0.8**
LOGN				S	**Sg**	**22 46 23.6**	**-0.6**
PCA	**Pinnacle**	**0.57**	**112**	P	**Pg**	**22 46 17.1**	**-0.5**
PINM	**Pinnacle**	**0.57**	**112**	P	**Pg**	**22 46 17.1**	**-0.6**
PINM	baz=294,SNR=13			S	**Sg**	**22 46 25.6**	**+0.3**
CTG	**Chitna Glacier**	**0.65**	**359**	P	**Pg**	**22 46 18.3**	**-0.9**
CTG	baz=180,SNR=36			S	**Sg**	**22 46 27.2**	**-0.7**
CTGM	**Chitina Glacie**	**0.65**	**359**	P	**Pg**	**22 46 18.3**	**-0.9**
CTGM				S	**Sg**	**22 46 27.1**	**-0.7**
O28M	**Mount Upton**	**0.72**	**50**	P	**Pg**	**22 46 19.2**	**-1.3**
O28M	baz=233,SNR=51			S	**Sg**	**22 46 29.1**	**-0.9**
O28M	**Mount Upton**	**0.72**	**50**	P	**Pg**	**22 46 19.3**	**-1.3**
O28M				S	**Sg**	**22 46 28.9**	**-1.1**
KIAG	**Kiagna River**	**0.80**	**320**	P	**Pg**	**22 46 20.5**	**-1.4**
KIAG				S	**Sg**	**22 46 31.0**	**-1.4**
BALM	**Baldy**	**0.88**	**325**	P	**Pg**	**22 46 21.8**	**-1.7**
BALM				S	**Sg**	**22 46 33.5**	**-1.6**
CRQE	**Cirque**	**0.98**	**297**	P	**Pg**	**22 46 23.6**	**-1.8**
CRQE	baz=115			S	**Sg**	**22 46 37.6**	**-0.6**
BGLC	**Bering Glacier**	**1.00**	**260**	P	**Pg**	**22 46 24.7**	**-1.0**
BGLC	baz=77			S	**Sg**	**22 46 39.0**	**+0.2**
PTPK	**Patty Peak**	**1.04**	**328**	P	**Pg**	**22 46 24.4**	**-2.1**
PTPK				S	**Sg**	**22 46 38.3**	**-1.9**
PNL	**Peninsula**	**1.16**	**123**	P	**Pg**	**22 46 25.9**	**-2.9**
PNL	baz=306			S	**Sg**	**22 46 42.0**	**-1.8**
PNL	**Peninsula**	**1.16**	**123**	P	**Pg**	**22 46 25.5**	**-3.3**
PNL				S	**Sg**	**22 46 42.3**	**-1.6**
MCARA	**McCarthy VSAT**	**1.36**	**323**	P	**Pn**	**22 46 29.3**	**-1.5**
O29M	**Mount Kennedy**	**1.36**	**89**	P	**Pn**	**22 46 29.3**	**-1.7**
O29M	**Mount Kennedy**	**1.36**	**89**	P	**Pn**	**22 46 30.7**	**-0.3**
O29M				S	**Sb**	**22 46 49.0**	**+0.1**
YUK2	**White River**	**1.49**	**9**	Pn	**Pn**	**22 46 33.0**	**+0.2**
YUK2				Sg	**Sg**	**22 46 53.8**	**-0.8**
YUK3	**Moose Creek**	**1.52**	**15**	Pb	**Pn**	**22 46 33.5**	**+0.2**
YUK3	**Moose Creek**	**1.52**	**15**	Pn	**Pn**	**22 46 33.7**	**+0.4**
YUK3				Sg	**Sg**	**22 46 54.7**	**-0.8**
YUK6	**Outpost Mounta**	**1.59**	**65**	Pb	**Pn**	**22 46 34.4**	**+0.2**
YUK6	**Outpost Mounta**	**1.59**	**65**	Pn	**Pn**	**22 46 34.4**	**+0.2**
YUK6				Sg	**Sb**	**22 46 56.5**	**+1.0**
YUK7	**Dusty Glacier**	**1.59**	**81**	Pn	**Pn**	**22 46 34.3**	**+0.1**
YUK7				Sg	**Sn**	**22 46 55.8**	**+1.2**
KAIM	**Kayak Island**	**1.60**	**257**	P	**Pn**	**22 46 33.5**	**-0.6**
KAIM	baz=74			S	**Sn**	**22 46 54.1**	**-0.4**
YUK4	**Talbot Arm**	**1.67**	**51**	Pb	**Pb**	**22 46 37.0**	**+0.1**
YUK4	**Talbot Arm**	**1.67**	**51**	Pn	**Pb**	**22 46 37.6**	**+0.7**
YUK4				Sg	**Sg**	**22 47 01.4**	**+1.4**
BMRM	**Bremner River**	**1.75**	**293**	P	**Pn**	**22 46 35.1**	**-1.2**
BMRM	baz=110,SNR=7.0			Sb	**Sn**	**22 46 59.2**	**+1.0**
P29M	**Windy Craggy**	**1.93**	**109**	P	**Pn**	**22 46 36.6**	**-2.1**
P29M	baz=293,SNR=7.0			Sb	**Sn**	**22 47 03.9**	**+1.4**
P29M	**Windy Craggy**	**1.93**	**109**	Pn	**Pn**	**22 46 38.5**	**-0.2**
P29M				Sg	**Sn**	**22 47 03.4**	**+0.8**
HYT	**Haines Junctio**	**1.95**	**73**	Pb	**Pn**	**22 46 39.7**	**+0.6**
HYT	baz=257,SNR=6.1			Sb	**Sn**	**22 47 05.1**	**+1.7**
HYT	**Haines Junctio**	**1.95**	**73**	Pn	**Pn**	**22 46 39.4**	**+0.3**
HYT				Sn	**Sn**	**22 47 04.2**	**+0.8**
N25K	**Chitina, Valde**	**2.06**	**310**	P	**Pn**	**22 46 38.8**	**-1.7**
N25K	baz=127			Sb	**Sn**	**22 47 07.5**	**+1.5**
N25K	**Chitina, Valde**	**2.06**	**310**	Pn	**Pn**	**22 46 40.2**	**-0.3**
N25K				Sg	**Sn**	**22 47 06.8**	**+0.8**
M27K	**Edge Creek, AK**	**2.07**	**353**	Pb	**Pn**	**22 46 41.6**	**+0.9**
M27K	baz=172			Sb	**Sb**	**22 47 08.8**	**-0.5**
M27K	**Edge Creek, AK**	**2.07**	**353**	Pn	**Pn**	**22 46 41.5**	**+0.9**
BVCY	**Beaver Creek**	**2.12**	**6**	Sb	**Sb**	**22 47 09.8**	**-0.7**
P30M	**Million Dollar**	**2.18**	**93**	Sb	**Sn**	**22 47 10.6**	**+1.6**
P30M	**Million Dollar**	**2.18**	**93**	Pn	**Pn**	**22 46 41.9**	**-0.3**
P30M				Sn	**Sn**	**22 47 09.8**	**+0.8**
EYAK	**Cordova Ski Ar**	**2.21**	**278**	Sb	**Sb**	**22 47 13.5**	**+0.3**
DIV	**Divide**	**2.34**	**292**	Sn	**Sn**	**22 47 15.9**	**+3.1**
N30M	**Aishikik Lake**	**2.36**	**59**	Pn	**Pn**	**22 46 44.5**	**-0.1**
N30M				Sn	**Sn**	**22 47 13.4**	**0.0**
M29M	**Somme Creek**	**2.54**	**32**	Sb	**Sn**	**22 47 20.5**	**+2.6**
M29M	**Somme Creek**	**2.54**	**32**	Pn	**Pn**	**22 46 47.5**	**+0.4**
KLU	**Klutina**	**2.54**	**300**	Sb	**Sb**	**22 47 22.7**	**-0.1**
O30N	**Mendenhall**	**2.62**	**78**	Pn	**Pn**	**22 46 48.0**	**-0.3**
O30N				Sn	**Sn**	**22 47 20.2**	**+0.5**
L27K	**Beaver Creek,**	**2.77**	**355**	Pn	**Pn**	**22 46 50.0**	**-0.2**
GLI	**Glacier Island**	**2.91**	**284**	Sb	**Sb**	**22 47 32.0**	**-1.2**
M30M	**Minto, Yukon**	**3.14**	**42**	Pg	**Pb**	**22 47 03.1**	**+1.2**
L29M	**L29M**	**3.19**	**27**	Pn	**Pn**	**22 46 57.2**	**+1.2**
WHY	**Whitehorse**	**3.20**	**81**	Pn	**Pn**	**22 46 56.3**	**+0.1**
WHY				Sn	**Sn**	**22 47 34.8**	**+0.5**
K27K	**Chicken**	**3.75**	**355**	Pn	**Pn**	**22 47 03.9**	**+0.3**
K27K				Sn	**Sn**	**22 47 47.6**	**+0.2**
DAWY	**Dawson**	**3.87**	**13**	Pn	**Pn**	**22 47 06.2**	**+0.8**
K29M	**Barlow Dome**	**3.96**	**25**	Pn	**Pn**	**22 47 08.0**	**+1.3**
J30M	**Hart River**	**4.86**	**26**	Pn	**Pn**	**22 47 19.7**	**+0.7**
I26K	**Coal Creek Min**	**5.08**	**351**	Pn	**Pn**	**22 47 22.6**	**+0.7**
I28M	**Miner Creek**	**5.19**	**6**	Pn	**Pn**	**22 47 24.5**	**+1.0**
I27K	**Kandik River**	**5.31**	**359**	Pn	**Pn**	**22 47 26.7**	**+1.6**
I30M	**Mount Dempster**	**5.42**	**23**	Pn	**Pn**	**22 47 29.0**	**+2.3**
I30M				Sn	**Sn**	**22 48 29.5**	**+0.7**

*NAO **01** 22:52:03.8, 35.°47N×24.°38E, h33km, mb3.8*
*IDC **01** 22:52:15.3±1.1, 36.°79N×21.°42E, h0km, mb3.7/12,*
mbtmp3.6/19, ML3.6/6, MS3.3/3, Error ellipse:
s-maj=19.4km s-min=16.5km az=179.0
*ATH **01** 22:52:17.7, 36.°66N×21.°34E, h8km±2km, ML3.6/19,*
Manual Solution by M.Papanikolaou This location:
2020/06/28 20:51:10 ML Amplitudes are expressed in
micrometers, All distances are expressed in degrees
Latitude uncertainty: 2 km; Longitude uncertainty: 2 km
*THE **01** 22:52:18.4, 36.°69N×21.°36E, h5km, ML3.6/11, Error*
ellipse: s-maj=0.9km s-min=0.5km az=26.0
*PDG **01** 22:52:19.0±0.9, 36.°73N×21.°34E, h10km±3km, ML3.9/10,*
Error ellipse: s-maj=2.2km s-min=2.1km az=90.0
*TIR **01** 22:52:20.4, 36.°91N×20.°88E, h40km±52km, Ml3.9*
ISC 01 22:52:17.8±0.9, 36.°73N±0.°04×21.°35E±0.°03, h19km±2km,
n165, σ1§47/198, mb3.7/11, MS3.6/3, 5C-5D, Southern
Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.36**	**62**	P	**Pb**	**22 52 25.6**	**0.0**
PYL				S	**Sb**	**22 52 30.6**	**-0.3**
PYL	**PYLOS**	**0.36**	**62**	P	**Pb**	**22 52 25.6**	**0.0**
PYL	19μm,0.7s			S	**Sb**	**22 52 31.1**	**+0.2**
ITM	**Ithomi**	**0.65**	**46**	P	**Pb**	**22 52 30.7**	**+0.3**
ITM				S	**Sn**	**22 52 40.4**	**-1.3**
ITM	**Ithomi**	**0.65**	**46**	P	**Pb**	**22 52 31.2**	**+0.8**
ITM	10μm,0.5s			S	**Sb**	**22 52 40.1**	**+1.1**
LTHK	**Lithakia**	**1.06**	**337**	P	**Pn**	**22 52 38.3**	**+0.6**
LTHK				S	**Sn**	**22 52 55.1**	**+3.1**
LTHK	**Lithakia**	**1.06**	**337**	P	**Pg**	**22 52 38.5**	**+0.1**
LTHK	3μm,0.4s			S	**Sn**	**22 52 54.8**	**+2.9**
VLI	**Veliai**	**1.27**	**90**	P	**Pb**	**22 52 41.1**	**-0.1**
VLI				S	**Sg**	**22 52 59.8**	**+0.6**
	1μm,0.6s						

VLI	Veliai	1.27	90	P		Pb	22 52 41.2	0.0
VLI				S		Sg	22 52 59.6	+0.5
RLS	Riolos of Patr	1.33	4	P		Pg	22 52 43.2	-0.3
RLS				S		Sg	22 53 02.4	+1.5
	1μm,0.6s							
RLS	Riolos of Patr	1.33	4	P		Pg	22 52 43.4	-0.1
MNVA	Monemvasia	1.36	91	P		Pg	22 52 43.4	-0.6
RTZL	Ratzakli, Kefa	1.42	341	P		Pb	22 52 44.4	+0.7
RTZL				S		Sg	22 53 04.9	+1.0
GUR	Goura	1.44	33	P		Pb	22 52 44.3	+0.1
GUR				S		Sg	22 53 05.0	+0.5
	4μm,0.4s							
GUR	Goura	1.44	33	P		Pg	22 52 45.0	-0.7
KLV	Kalavryta, Ach	1.46	26	P		Pb	22 52 44.6	+0.2
KLV				S		Sg	22 53 05.7	+0.6
KLV	Kalavryta, Ach	1.46	26	P		Pg	22 52 45.3	-0.7
PSDA	Pessada-Kefalo	1.51	336	P		Pb	22 52 45.1	-0.2
PSDA				S		Sg	22 53 06.6	-0.1
	1μm,0.7s							
PSDA	Pessada-Kefalo	1.51	336	P		Pb	22 52 45.9	+0.6
VLS	Valsamata	1.57	338	P		Pb	22 52 46.7	+0.4
VLS				S		Sg	22 53 08.5	0.0
	822nm,0.9s							
VLS	Valsamata	1.57	338	P		Pb	22 52 46.7	+0.4
KRND	KRANIDI	1.58	65	P		Pb	22 52 46.6	+0.2
KRND				S		Sg	22 53 08.1	-0.8
	1μm,0.7s							
KRND	KRANIDI	1.58	65	P		Pb	22 52 46.5	0.0
UPR	University Cam	1.59	12	P		Pg	22 52 48.1	-0.4
ALIK	Aliki, Aigiali	1.65	21	P		Pb	22 52 48.1	+0.6
ALIK				S		Sg	22 53 10.3	-0.6
EPID	Epidavros	1.67	57	P		Pb	22 52 48.0	+0.1
EPID				S		Sg	22 53 10.3	-1.3
	1μm,0.6s							
EPID	Epidavros	1.67	57	P		Pb	22 52 48.2	+0.2
DMLN	Damoulianata-K	1.70	333	P		Pb	22 52 48.1	-0.3
DMLN				S		Sg	22 53 11.6	-1.0
	2μm,0.8s							
DMLN	Damoulianata-K	1.70	333	P		Pb	22 52 48.6	+0.2
EFP	Efpalio	1.75	14	P		Pb	22 52 50.3	+0.9
EFP	Efpalio	1.75	14	P		Pb	22 52 49.8	+0.4
KALE	Kalithea	1.77	20	P		Pb	22 52 49.4	-0.4
KALE	Kalithea	1.77	20	P		Pb	22 52 49.8	0.0
ANKY	Antikythira Is	1.79	118	P		Pb	22 52 49.2	-0.9
ANKY	Antikythira Is	1.79	118	P		Pn	22 52 48.8	+1.0
LOUT	Loutraki	1.81	45	P		Pb	22 52 49.8	-0.5
ANX	Ano Chora	1.92	14	P		Pb	22 52 51.4	-0.8
ANX	Ano Chora	1.92	14	P		Pb	22 52 53.1	+0.8
EVGI	Lefkada island	1.97	344	P		Pb	22 52 52.4	-0.6
EVGI	Lefkada island	1.97	344	P		Pb	22 52 52.4	-0.6
NYDR	Nydri-Lefkada	2.05	346	P		Pb	22 52 53.6	-0.8
NYDR	Nydri-Lefkada	2.05	346	P		Pb	22 52 54.6	+0.2
VILL	Villia	2.12	47	P		Pn	22 52 53.6	+1.3
LKD2	Lefkada island	2.13	345	P		Pn	22 52 52.4	0.0
	baz=355							
LKD2				S		Sn	22 53 17.2	-1.2
	baz=355							
LKD2				AMP				
	comp=N,2.8nm,0.6s,baz=355							
LKD2	Lefkada island	2.13	345	P		Pb	22 52 54.5	-1.3
LKD2	Lefkada island	2.13	345	P		Pb	22 52 55.3	-0.5
TSLK	Tsoukalades, L	2.17	345	P		Pn	22 52 54.9	+2.0
TSLK	Tsoukalades, L	2.17	345	P		Pb	22 52 55.9	-0.5
EVR	Evrytania	2.21	9	P		Pg	22 52 59.0	-1.4
VLY	Voula,Athens	2.25	59	P		Pn	22 52 55.0	+1.0
VLY	Voula,Athens	2.25	59	P		Pn	22 52 55.4	+1.3
AXAR	Agios Charalam	2.29	27	P		Pn	22 52 56.2	+1.7
AXAR	Agios Charalam	2.29	27	P		Pb	22 52 57.3	-1.1
ATHU	Athens Univers	2.30	57	P		Pn	22 52 55.5	+0.8
ATHU	Athens Univers	2.30	57	P		Pn	22 52 55.8	+1.1
MAKR	Makrakomi, Fth	2.36	15	P		Pb	22 52 59.8	0.0
MAKR	Makrakomi, Fth	2.36	15	P		Pb	22 52 59.0	-0.8
PTL	Penteli	2.40	56	P		Pn	22 52 57.0	+0.9
AGG	Agios Georgios	2.42	18	P		Pb	22 52 59.5	-1.2
AGG	Agios Georgios	2.42	18	P		Pb	22 52 58.9	-1.8
MHLO	Agia Marina, M	2.45	90	P		Pn	22 52 57.9	+1.1
DION	Dionisos Attik	2.46	56	P		Pn	22 52 59.2	+2.2
DION	Dionisos Attik	2.46	56	P		Pn	22 52 59.2	+2.2
IMMV	Iera Moni Meta	2.48	120	P		Pn	22 52 58.7	+1.5
THL	Klokotos Trika	2.88	10	P		Pn	22 53 05.6	+2.9
THL	Klokotos Trika	2.88	10	P		Pn	22 53 05.6	+2.9
KYMI	Kymi, Euboea I	2.90	48	P		Pn	22 53 03.9	+1.0
IGT	Igoumenitsa	2.91	344	P		Pn	22 53 05.3	+2.2
	baz=351							
IGT				S		Sn	22 53 37.6	0.0
	baz=351							
IGT	Igoumenitsa	2.91	344	P		Pn	22 53 05.0	+1.8
IGT	Igoumenitsa	2.91	344	P		Pn	22 53 05.2	+2.0
GVD	Gavdhos	2.92	129	P		Pn	22 53 04.6	+1.4
NEO	Neokhori	2.97	29	P		Pn	22 53 05.6	+1.6
NEO	Neokhori	2.97	29	P		Pn	22 53 05.6	+1.6
TYRN	Tyrnavos	3.06	13	P		Pn	22 53 07.4	+2.3
IDI	Anoyia	3.21	116	P		Pn	22 53 08.5	+1.2
IDI	Anoyia	3.21	116	Pn		Pn	22 53 08.8	+1.6
	comp=N,0.6nm,0.3s,baz=268,slow=13,SNR=11							
KPRO	Kipourio	3.22	0	P		Pn	22 53 10.8	+3.3
KPRO	Kipourio	3.22	0	P		Pn	22 53 10.1	+2.6
SRN	Sarande	3.32	342	P		Pn	22 53 10.8	+2.0
	baz=348							
LSK	Leskovik	3.47	350	P		Pn	22 53 13.8	+3.0
	baz=357							
LSK	Leskovik	3.47	350	P		Pn	22 53 13.3	+2.4
NEST	Nestorio	3.69	356	P		Pn	22 53 17.3	+3.4
KBN	Korca	3.92	354	P		Pn	22 53 20.8	+3.8
	baz=359							
KBN				S		Sn	22 54 06.6	+4.2
	baz=359							
PLG	Polygyros	3.99	24	P		Pn	22 53 19.8	+1.7
VLO	Vlora	4.01	339	P		Pb	22 53 24.4	-3.4
	baz=344							
FNA	Florina	4.05	0	P		Pn	22 53 21.2	+2.3
	baz=5.0							
FNA				S		Sn	22 54 08.8	+3.0
	baz=5.0							
FNA	Florina	4.05	0	P		Pn	22 53 21.2	+2.3
SOH	Sokhos	4.38	20	P		Pn	22 53 25.7	+2.4
OHR	Ohrid	4.40	355	*i* Pn		Pn	22 53 26.6	+2.9
KOKK	Kokkinochori,	4.58	26	P		Pn	22 53 28.2	+2.2
KNT	Kendrikon	4.59	15	P		Pn	22 53 28.4	+2.2
SRS	Serrai	4.72	21	P		Pn	22 53 29.7	+1.7
STIP	Stip	5.00	7	*i* Pn		Pn	22 53 35.1	+3.3
NVR	Nevrokopi	5.01	22	P		Pn	22 53 34.7	+2.7
NOCI	Noci	5.26	322	P		Pn	22 53 36.7	+1.3
	baz=324							
PUK	Puka	5.43	348	P		Pn	22 53 39.2	+1.4
	baz=352							
ULC	Ulcinj	5.48	343	⇊*i* Pn		Pn	22 53 38.9	+0.5
ULC				*i* Sn		Sn	22 54 39.7	-1.2
DRME	Dracevica, Mon	5.70	344	*e*Pn		Pn	22 53 42.1	+0.6
DRME	Dracevica, Mon	5.70	344	⇊*i* Pn		Pn	22 53 42.4	+0.9
DRME				*i* Sn		Sn	22 54 47.9	+1.5
BUM	Brajici-Budva	5.88	342	⇊*i* Pn		Pn	22 53 44.3	+0.3
BUM				*i* Sn		Sn	22 54 50.5	-0.4
PDG	Podgorica	5.92	345	*e*Pn		Pn	22 53 44.8	+0.4
PDG	Podgorica	5.92	345	⇈*i* Pn		Pn	22 53 45.2	+0.8
PDG				*i* Sn		Sn	22 54 52.8	+1.1
CEME	Cevo	6.11	343	⇊*i* Pn		Pn	22 53 47.2	+0.1
CEME				*i* Sn		Sn	22 54 57.1	+0.6
HCY	Herceg Novi	6.12	340	*e*Pn		Pn	22 53 47.1	-0.2
HCY	Herceg Novi	6.12	340	⇈*i* Pn		Pn	22 53 47.1	-0.2
HCY				*i* Sn		Sn	22 54 56.8	0.0
IVA	Berane	6.24	350	⇈*i* Pn		Pn	22 53 49.4	+0.5
IVA				*i* Sn		Sn	22 54 59.9	+0.2
KOME	Kolasin	6.28	348	⇈*i* Pn		Pn	22 53 51.4	+2.0
KOME				*i* Sn		Sn	22 55 00.4	-0.3
NKME	Niksic	6.31	344	⇊*i* Pn		Pn	22 53 50.8	+1.0
NKME				*i* Sn		Sn	22 55 01.3	-0.1
TREB	Trebinje	6.41	340	*e*Pn		Pn	22 53 50.6	-0.6
DBRK	Dubrovnik	6.43	338	*e*Pn		Pn	22 53 52.0	+0.6
DBRK				Sn		Sn	22 55 01.1	-3.2
BRY	Bratogost	6.53	342	*e*Pn		Pn	22 53 52.8	-0.2
BRY	Bratogost	6.53	342	⇈*i* Pn		Pn	22 53 52.8	-0.2
BRY				*i* Sn		Sn	22 55 06.6	-0.5
SJES	Sjenica	6.61	351	*e*Pn		Pn	22 53 55.2	+1.1
UPM	Unac-Piva	6.73	345	*e*Pn		Pn	22 53 57.3	+1.5
STON	Ston	6.75	337	*e*Pn		Pn	22 53 55.3	-0.5
STON	Ston	6.75	337	*e*Pn		Pn	22 53 55.6	-0.2
RUDO	Rudo	7.05	348	*e*Pn		Pn	22 53 59.7	-0.3
BBLS	Lazi&#263i	7.28	349	*e*Pn		Pn	22 54 04.6	+1.4
MAKA	Makarska	7.34	334	*e*Pn		Pn	22 54 04.5	+0.4
RICI	Ricice	7.49	336	*e*Pn		Pn	22 54 05.8	-0.2
HAPS	Han Pijesak,BI	7.58	347	*e*Pn		Pn	22 54 06.8	-0.5
TEKS	Tekeris	7.94	351	*e*Pn		Pn	22 54 11.4	-0.7
ZIRJ	Zirje	8.18	330	*e*Pn		Pn	22 54 15.4	0.0
KIJV	Kijevo	8.19	334	*e*Pn		Pn	22 54 16.2	+0.6
MORI	Morici	8.33	331	*e*Pn		Pn	22 54 17.8	+0.3
MGRS	Mrkonjic Grad	8.34	338	*e*Pn		Pn	22 54 17.8	+0.1
FRGS	Fruska Gora	8.50	353	*e*Pn		Pn	22 54 18.8	-1.1
A050A	Klekovaca	8.57	336	*e*Pn		Pn	22 54 21.5	+0.6
BLY	Banja Luka	8.61	340	*e*Pn		Pn	22 54 21.3	-0.1
DUGI	Dugi Otok	8.70	328	*e*Pn		Pn	22 54 23.2	+0.6
VIRC	Vir	8.95	330	*e*Pn		Pn	22 54 27.6	+1.6
MLR	Muntele Rosu	9.41	20	Pn		Pn	22 54 33.5	+1.0
	comp=N,2.2nm,0.9s,baz=232,slow=18							
RABC	Rab	9.43	330	*e*Pn		Pn	22 54 33.6	+1.0
KEST	Kesra	9.75	268	Pn		Pn	22 54 38.6	+1.5
	comp=N,0.1nm,0.3s,baz=65,slow=17,SNR=2.9							
KEST				Sn		Sn	22 56 26.0	-0.1
	comp=N,0.1nm,0.3s,baz=47,slow=19,SNR=1.8							
	comp=N,2.4nm,0.8s							
BOJS	Bojanci	9.90	334	*e*Pn		Pn	22 54 39.1	+0.1
CRES	Cresnjev	10.11	336	*e*Pn		Pn	22 54 40.9	-1.0
BRTR	Keskin Array B	10.12	69	Pn		Pn	22 54 44.3	+2.0
	comp=N,0.1nm,0.3s,baz=252,slow=14,SNR=2.5							
	comp=N,0.2nm,0.3s							
CEY	Cerknica	10.40	332	*e*Pn		Pn	22 54 45.5	-0.4
SOKA	Soboth	11.00	337	*e*Pn		Pn	22 54 54.0	-0.2
	comp=N,1.7nm,0.4s							
OBKA	Obir	11.01	335	*e*Pn		Pn	22 54 54.2	-0.2
	comp=N,0.9nm,0.3s							
OBKA	Obir	11.01	335	*e*Pn		Pn	22 54 54.9	+0.5
KBA	Koelnbreinsper	11.93	333	*e*Pn		Pn	22 55 06.5	-0.4
	comp=N,0.1nm,0.2s							
MOA	Molln	12.28	337	*e*Pn		Pn	22 55 11.6	0.0
	comp=N,1.5nm,0.4s							
BIOA	Bad Ischl, Aus	12.35	335	*e*Pn		Pn	22 55 11.8	-0.8
	comp=N,0.8nm,0.4s							
LESA	Schwarzleotal	12.47	332	*e*Pn		Pn	22 55 14.3	+0.1
	comp=N,2.4nm,0.5s							
VRAC	Vranov	13.04	346	Pn		Pn	22 55 21.4	-0.6
	comp=N,0.3nm,0.3s,baz=112,slow=15,SNR=2.1							
	comp=N,1.2nm,0.6s							
DAVOX	Davos/Dischmat	13.18	323	Pn		Pn	22 55 26.6	+2.4
	comp=N,0.3nm,0.3s,baz=80,slow=13,SNR=3.7							
DAVOX				Sn		Sn	22 57 42.4	-7.8
	comp=N,0.1nm,0.3s,baz=180,slow=20,SNR=2.0							
GERES	GERESS Array B	13.34	338	Pn		Pn	22 55 26.4	+0.3
	comp=N,0.2nm,0.3s,baz=176,slow=14,SNR=2.2							
GERES				Sn		Sn	22 57 43.5	-10
	comp=N,0.1nm,0.3s,baz=144,slow=25,SNR=1.7							
	comp=N,0.4nm,0.4s							
KHC	Kasperske Hory	13.63	338	*e*PN		Pn	22 55 31.2	+1.1
AKASG	Malin Array Be	15.07	20	Pn		Pn	22 55 48.6	-1.0
	comp=N,0.7nm,0.3s,baz=205,slow=8.6,SNR=5.0							
	comp=N,0.5nm,0.3s							
KBZ	Khabaz	17.85	60	P		Pn	22 56 24.8	-0.2
	comp=N,0.1nm,0.3s,baz=283,slow=3.4,SNR=2.7							
	comp=N,1.5nm,0.9s							
ESDC	Sonseca Array	20.09	286	P		P	22 56 51.6	+1.3
	comp=N,0.8nm,1.0s,baz=84,slow=11,SNR=5.2							
	comp=N,0.8nm,1.0s							
HFS	Hagfors	23.93	351	P		P	22 57 29.7	-0.8
	comp=N,2.8nm,0.7s,baz=154,slow=12,SNR=13							
	comp=N,2.8nm,0.7s							
FINES	FINESS Array B	24.92	5	P		P	22 57 39.2	-0.2
	comp=N,2.8nm,0.5s,baz=175,slow=9.5,SNR=21							
	comp=N,2.8nm,0.5s							
EKA	Eskdalemuir Ar	24.99	326	P		P	22 57 41.4	+1.2
	comp=N,0.4nm,0.5s,baz=224,slow=25,SNR=2.0							
	comp=N,0.4nm,0.5s							
NB2	NORSAR Subarra	25.17	348	P		P	22 57 41.5	-0.2
	comp=Z,1.0nm,0.7s,baz=156,slow=9.3							
NOA	NORSAR Array B	25.17	348	P		P	22 57 41.8	0.0
	comp=Z,1.0nm,0.6s,baz=157,slow=9.1,SNR=12							
NOA				LR		LR	23 08 43.0	
	comp=Z,16nm,19.6s,baz=215,slow=39							
	comp=Z,1.0nm,0.6s							
TORD	Torodi Ar. Bea	29.36	222	P		P	22 58 20.5	+0.8
	comp=Z,1.6nm,1.1s,baz=30,slow=8.4,SNR=4.2							
	comp=Z,1.6nm,1.1s							
ARCES	ARCESS Array B	32.94	3	P		P	22 58 49.5	-1.3
	comp=Z,1.7nm,0.8s,baz=189,slow=11,SNR=4.5							
	comp=Z,1.7nm,0.8s							
BVAR	Borovoye Array	37.56	48	P		P	22 59 31.1	+0.4
	comp=Z,0.5nm,0.5s,baz=261,slow=5.5,SNR=5.0							
	comp=Z,0.5nm,0.5s							
KURBB	Kurchatov Arra	42.58	52	P		P	23 00 10.2	-2.2
	comp=Z,1.0nm,0.2s,baz=276,slow=8.6,SNR=1.6							
	comp=Z,1.0nm,0.2s							
MKAR	Makanchi Array	45.51	57	P		P	23 00 34.6	-1.4
	comp=Z,0.2nm,0.4s,baz=276,slow=6.6,SNR=3.6							
	comp=Z,0.2nm,0.4s							
ZALV	Zalesovo Beam	46.18	47	P		P	23 00 40.2	-0.9
	comp=Z,0.6nm,0.4s,baz=269,slow=8.8,SNR=4.5							
	comp=Z,0.6nm,0.4s							
SONM	Songino Array	60.87	50	P		P	23 02 28.9	-0.3
	comp=Z,0.2nm,0.4s,baz=283,slow=6.8,SNR=1.9							
	comp=Z,0.2nm,0.4s							
KLR	Kul'dur	74.57	40	LR		LR	23 42 16.7	
	comp=Z,33nm,18.1s,baz=322,slow=40							
BDFB	Brasilia	83.50	245	LR		LR	23 41 30.2	
	comp=Z,26nm,19.7s,baz=332,slow=35							

DJA 01 22:58:03.6±0.4, 10°S±6°×12°4E±°, h38km±11km, M3.6/7, mb4.2/3, MLv3.4/7, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.28	123	P	Pn	22 58 12.8	+0.8
BATI	Baumata	0.70	211	P	Pn	22 58 18.1	+1.0
EDFI	Ende, Flores	2.46	290	P	Pn	22 58 41.8	+0.5
PLAI	Plampang	6.22	277	P	Pn	22 59 32.8	-0.1
	24nm,1.2s,0.1nm						
TWSI	Taliwang, Sumb	7.11	276	P	Pn	22 59 44.7	-0.4
	23nm,1.1s,0.1nm						

*IDC **01** 23:06:10.8±0.8, 9°84N×122°32E, h0km, mb3.8/8, mbtmp3.8/8, MS3.3/8, Error ellipse: s-maj=49.5km s-min=17.4km az=73.0*
*NEIC **01** 23:06:17.2±1.6, 9°93N±0°06×122°3E±0°2, h35km±1km, mb4.5/8, Error ellipse: s-maj=33.9km s-min=7.2km az=281.0*

ISC 01 23:06:15.4±0.6, 9°92N±0°08×122°4E±0°2, h27km, n30, σ0°79/24, mb4.1/13, MS3.0/5, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.25	131	Lg	Lg	23 08 22.5	
	22nm,0.3s,baz=115,slow=23,SNR=1.6						
DAV				LR	LR	23 09 27.6	
	comp=Z,278nm,21.7s,baz=127,slow=46						
MYLDM	Lahad Datu	6.07	219	Pn	Pn	23 07 44.1	+0.7
TOLI2	Tolitoli	8.89	190		Pn	23 08 21.4	-0.8
LUWI	Luwuk	10.89	178	Pn	Pn	23 08 50.5	+0.9
KAPI	Kappang	15.06	190	LR	LR	23 15 34.6	
	comp=Z,117nm,20.1s,baz=341,slow=38						
JOW	Kunigami	17.73	18	LR	LR	23 16 46.8	
	comp=Z,625nm,21.5s,baz=161,slow=36						
JNU	Nakatsue	24.39	17	LR	LR	23 21 44.8	
	comp=Z,45nm,19.9s,baz=151,slow=38						
KSRS	Korea Array	27.87	9	LR	LR	23 24 40.5	
	comp=Z,43nm,18.7s,baz=210,slow=40						
FITZ	Fitzroy Crossi	28.02	173	P	P	23 12 03.9	-0.5
JHJ	Hachijo jima 2	28.11	32	LR	LR	23 22 48.7	
	comp=Z,35nm,20.0s,baz=285,slow=35						
MJAR	Matsushiro Arr	30.14	26	LR	LR	23 23 57.7	
	comp=Z,32nm,20.0s,baz=202,slow=35						
PSA00	Pilbara Seismi	31.39	185		P	23 12 35.1	+0.9
WB0	Warramunga Arr	31.79	158	P	P	23 12 36.7	-1.1
WRAB	Tennant Creek	31.92	158	P	P	23 12 40.1	+1.2
WRA	Warramunga Arr	31.93	158	P	P	23 12 37.7	-1.3
	1.2nm,0.8s,baz=332,slow=11,SNR=7.3						
	1.2nm,0.8s						
WB2	Warramunga Arr	31.93	158	P	P	23 12 38.8	-0.2
WB2				IAmb	IAmb	23 12 53.7	
	comp=Z,7.6nm,1.1s						
USRK	Ussuriysk Ar.	35.16	12	P	P	23 13 07.4	+0.5
	comp=Z,1.3nm,0.5s,baz=202,slow=7.5,SNR=4.4						
	comp=Z,1.3nm,0.5s						
ASAR	Alice Springs	35.23	161	P	P	23 13 06.7	-1.1
	comp=Z,1.7nm,0.5s,baz=342,slow=7.3,SNR=26						
ASAR				PcP	PcP	23 15 38.1	-0.4
	comp=Z,0.3nm,0.5s,baz=346,slow=3.3,SNR=2.4						
	comp=Z,1.7nm,0.5s						
BBOO	Buckleboo	44.45	163	P	P	23 14 25.0	+0.8
BBOO				IAmb	IAmb	23 14 34.5	
	comp=Z,9.9nm,1.1s						
MKAR	Makanchi Array	50.04	325	P	P	23 15 07.5	-0.2
	comp=Z,0.6nm,0.8s,baz=143,slow=7.8,SNR=5.2						
MKAR				PcP	PcP	23 16 28.3	+0.9
	comp=Z,0.3nm,0.6s,baz=106,slow=4.7,SNR=1.7						
	comp=Z,0.6nm,0.8s						
PETK	Petropavlovsk-	51.60	26	P	P	23 15 19.7	+0.4
PETK	Petropavlovsk-	51.60	26	P	P	23 15 19.3	-0.1
	comp=Z,0.5nm,0.6s,baz=198,slow=6.0,SNR=1.9						
	comp=Z,0.5nm,0.6s						
KURBB	Kurchatov Arra	54.23	327	P	P	23 15 38.4	-0.4
	comp=Z,0.3nm,0.5s,baz=119,slow=8.8,SNR=5.2						
	comp=Z,0.3nm,0.5s						
BVAR	Borovoye Array	59.81	327	P	P	23 16 17.7	-0.6
	comp=Z,0.3nm,0.5s,baz=123,slow=7.6,SNR=2.8						
	comp=Z,0.3nm,0.5s						
C19K	Lookout Ridge	76.53	21	P	P	23 18 03.5	+0.6
SPITS	Spitsbergen Ar	83.60	348	P	P	23 18 39.9	-1.0
	comp=Z,20nm,1.2s,baz=72,slow=6.2,SNR=2.1						
G29M	Pine Creek	84.70	23	P	P	23 18 47.2	+0.5
G29M				IAmb	IAmb	23 18 54.4	
	comp=Z,3.9nm,0.8s						
H29M	Whitestone	84.71	24	P	P	23 18 46.7	0.0
H29M				IAmb	IAmb	23 18 57.0	
	comp=Z,3.2nm,1.0s						
VNDA	Vanda	90.09	172	P	P	23 19 11.6	-0.8
	comp=Z,0.5nm,0.8s,baz=315,slow=5.7,SNR=3.5						
	comp=Z,0.5nm,0.8s						
NOA	NORSAR Array B	91.35	333	LR	LR	00 05 44.5	
	comp=Z,15nm,18.8s,baz=0.0,slow=39						

IDC 01 23:11:05.9±1.8, 1°89N×127°36E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=153.5km s-min=22.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.75	163	P	P	23 16 10.2	+0.3
	1.4nm,0.4s,baz=342,slow=10,SNR=12						
	1.4nm,0.4s						
ASAR	Alice Springs	26.18	166	P	P	23 16 41.6	-0.7
	0.4nm,0.5s,baz=347,slow=7.6,SNR=4.4						
	0.4nm,0.5s						
MKAR	Makanchi Array	59.42	326	P	P	23 21 10.4	0.0
	0.2nm,0.5s,baz=132,slow=7.8,SNR=2.8						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	63.62	328	P	P	23 21 38.9	+0.2
	0.6nm,0.5s,baz=126,slow=6.4,SNR=8.4						
	0.6nm,0.5s						

*IDC **01** 23:23:06.2±2.2, 5°24N×125°82E, h101km±21km, mb3.1/5, mbtmp3.4/5, Error ellipse: s-maj=69.9km s-min=18.1km az=72.0*
*DJA **01** 23:23:11.4±0.8, 4°N±5°×12°6E±°, h190km±19km, M4.3/9, mB4.9/3, mb4.2/7, MLv4.3/9, Mw(mB)4.2/3*

ISC 01 23:23:05.7±1.0, 5°28N±0°07×126°1E±0°2, h100km, n11, σ1°15/12, mb3.3/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.87	343	P	Pn	23 23 36.0	-0.6
	103nm,0.3s,baz=191,slow=10,SNR=2.3						
DAV				S	Sn	23 24 00.3	+0.2
	368nm,0.6s,baz=220,slow=20,SNR=6.6						
GTOI	Gorontalo	5.57	214	P	Pn	23 24 26.4	+0.2
MRSI	Marisa	6.35	222	P	Pn	23 24 37.2	+0.4
LUWI	Luwuk	7.12	208	P	Pn	23 24 44.7	-2.6
	71nm,0.5s,7μm						
MPSI	Mapaga	7.94	232	P	Pn	23 24 58.7	+0.4
WRA	Warramunga Arr	26.32	162	P	P	23 28 33.9	+1.6
	0.8nm,0.9s,baz=341,slow=10,SNR=7.6						
	0.8nm,0.9s						
ASAR	Alice Springs	29.75	166	P	P	23 29 03.0	+0.1
	0.3nm,0.5s,baz=336,slow=6.8,SNR=1.9						
	0.3nm,0.5s						
MKAR	Makanchi Array	55.96	325	P	P	23 32 32.9	-0.7
	0.2nm,0.4s,baz=107,slow=8.5,SNR=2.8						
	0.2nm,0.4s						
KURBB	Kurchatov

comp=Z,3.0nm,1.0s
BELA Belgrano 2 69.40 172 P P 23 37 22.8 +9.1
BELA IAmb IAmb 23 37 25.1
comp=Z,3.5nm,1.0s
TROLL Troll, Antarti 77.52 180 ⇑P P 23 38 09.4 +7.7
comp=Z,131nm,0.5s
VNA1 Neumayer--Stat 78.60 176 ⇑P **P 23 38 11.4 +3.9**
H03S2 Juan Fernandez 80.08 123 T T 01 07 42.9
baz=238,slow=74,SNR=6.0
H03S1 Juan Fernandez 80.09 123 T T 01 07 42.5
baz=238,slow=74,SNR=3.9
H03S3 Juan Fernandez 80.09 123 T T 01 07 41.3
baz=238,slow=74,SNR=6.7
ASAJ Asahikawa 82.86 332 LR LR 00 13 58.0
comp=Z,24nm,18.6s,baz=136,slow=35
SHEM Shemya Is, Ala 83.44 355 LR LR 00 11 42.3
comp=Z,27nm,18.5s,baz=211,slow=33
PETK Petropavlovsk- 86.22 345 LR LR 00 14 17.9
comp=Z,18nm,18.6s,baz=108,slow=34
PFO Pinyon Flats O 86.28 47 LR LR 00 13 08.0
comp=Z,30nm,18.1s,baz=192,slow=33
NVAR Mina Array Bea 88.35 43 P **P 23 38 57.8 -0.4**
comp=Z,0.5nm,0.8s,baz=202,slow=8.7,SNR=2.7
comp=Z,0.5nm,0.8s
TXAR Lajitas Array 92.39 57 P **P 23 39 16.8 -0.3**
comp=Z,0.3nm,0.8s,baz=230,slow=6.9,SNR=2.7
comp=Z,0.3nm,0.8s
ANMO Albuquerque 93.62 51 LR LR 00 17 06.6
comp=Z,33nm,18.2s,baz=354,slow=33
NEW Newport 95.53 36 LR LR 00 17 41.1
comp=Z,36nm,18.2s,baz=170,slow=32
MKAR Makanchi Array 118.18 310 PKP **PKPdf 23 44 52.4 -0.7**
comp=Z,0.3nm,0.7s,baz=67,slow=4.8,SNR=2.1
KURBB Kurchatov Arra 121.50 313 PKP **PKPdf 23 44 57.9 -1.4**
comp=Z,0.2nm,0.3s,baz=66,slow=3.2,SNR=5.1
BVAR Borovoye Array 126.82 316 PKP **PKiKP 23 45 09.5 -0.4**
comp=Z,0.7nm,0.6s,baz=114,slow=3.5,SNR=2.0
KBZ Khabaz 145.50 304 PKPbc **PKPdf 23 45 43.9 -0.2**
comp=Z,1.3nm,0.6s,baz=99,slow=2.4,SNR=4.1
FINES FINESS Array B 145.56 340 PKPbc **PKPdf 23 45 42.5 -1.1**
comp=Z,2.8nm,0.4s,baz=51,slow=3.9,SNR=40
NB2 NORSAR Subarra 149.14 352 PKP **PKPbc 23 45 53.4 -0.5**
comp=Z,1.8nm,0.9s,baz=17,slow=4.3
NOA NORSAR Array B 149.14 352 PKPbc **PKPbc 23 45 53.2 -0.7**
comp=Z,0.8nm,0.8s,baz=15,slow=4.2,SNR=5.9
HFS Hagfors 149.64 349 PKPbc **PKPdf 23 45 52.4 +1.9**
comp=Z,2.8nm,0.8s,baz=83,slow=4.5,SNR=6.4
AKASG Malin Array Be 151.72 323 PKPbc **PKPbc 23 45 59.5 -0.8**
comp=Z,0.6nm,0.5s,baz=49,slow=2.8,SNR=2.5
MMAI Mount Meron Ar 151.84 283 PKPbc **PKPbc 23 46 01.3 0.0**
comp=Z,1.5nm,0.5s,baz=82,slow=6.0,SNR=6.3
BRTR Keskin Array B 152.97 298 PKPbc **PKPbc 23 46 03.2 -0.5**
comp=Z,0.7nm,0.8s,baz=163,slow=4.8,SNR=4.3
TORD Torodi Ar. Bea 162.46 178 PKPab **PKPab 23 46 54.0 -2.2**
comp=Z,1.0nm,1.1s,baz=216,slow=7.3,SNR=3.8

NOU 01 23:34:02.1, 18°69S×169°08E, h78km, MLv4.0/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.28**	**318**	P	Pn	23 34 26.0	+1.5
LIFNC	**LIFOU**	**2.70**	**220**	P	Pn	23 34 42.1	-1.3
MARNC	**Mare, Loyalty**	**2.95**	**199**	P	Pn	23 34 46.3	-0.4
YATNC	**Mamie plateau,**	**3.93**	**211**	P	Pn	23 35 00.0	-0.1
DZM	**Mont Dzumac**	**4.17**	**216**	P	Pn	23 35 03.4	-0.1
PINNC	**Pines Island,**	**4.19**	**201**	P	Pn	23 35 04.6	+1.0
NOUC	**Port Laguerre**	**4.28**	**217**	P	Pn	23 35 05.8	+1.0

*IDC **01** 23:47:59.8±10.0, 0°11N×99°31E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=649.8km s-min=175.0km az=88.0*
*DJA **01** 23:48:19.0±0.5, 1°N±4°×9°9E±°, h72km±8km, M3.6/7, MLv3.6/7*
ISC 01 23:48:18.4±1.1, 0°98N±0°07×98°78E±0°09, h100km, n16, σ0°61/11, mb4.0/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBSI	**Sibolga**	**0.57**	**11**	P	**Pn**	**23 48 35.2**	**+0.4**
SBSI				S	**Sn**	**23 48 47.2**	**+0.2**
PBSI	**Pulau Batu**	**1.15**	**206**	P	**Pn**	**23 48 40.3**	**-0.2**
GSI	**Gunungsitoli**	**1.25**	**285**	P	**Pn**	**23 48 41.7**	**+0.1**
SISI	**Saibi**	**2.31**	**172**	P	**Pn**	**23 48 54.6**	**-0.5**
PDSI	**Padang**	**2.52**	**138**	P	**Pn**	**23 48 58.0**	**+0.1**
KCSI	**Kotacane, Aceh**	**2.72**	**338**	P	**Pn**	**23 48 59.2**	**-1.2**
SNSI	**Sinabang, Aceh**	**2.83**	**300**	P	**Pn**	**23 49 02.3**	**+0.4**
H08S2	**Diego Garcia H**	**27.58**	**251**	T	T	00 21 48.7	
baz=73,slow=76,SNR=7.3							
H08S3	**Diego Garcia H**	**27.59**	**251**	T	T	00 21 49.3	
baz=73,slow=76,SNR=8.7							
H08S1	**Diego Garcia H**	**27.60**	**251**	T	T	00 21 33.0	
baz=73,slow=76,SNR=4.2							
MKAR	**Makanchi Array**	**47.85**	**345**	P	**P**	**23 56 46.8**	**+0.7**
0.7nm,0.4s,baz=163,slow=8.1,SNR=11							
0.7nm,0.4s							
ZALV	**Zalesovo Beam**	**54.03**	**350**	P	**P**	**23 57 32.5**	**+0.2**
0.5nm,0.3s,baz=153,slow=5.6,SNR=3.5							
0.5nm,0.3s							
H04N2	**CROZET ISLANDS**	**62.49**	**215**	T	T	01 05 20.9	
baz=56							
H04N1	**CROZET ISLANDS**	**62.50**	**215**	T	T	01 05 18.6	
baz=56							
H04N3	**CROZET ISLANDS**	**62.51**	**215**	T	T	01 05 26.3	
baz=56							
ARCES	**ARCESS Array B**	**83.27**	**340**	P	**P**	**00 00 33.1**	**-0.5**
2.4nm,1.0s,baz=113,slow=6.0,SNR=3.6							
2.4nm,1.0s							

*NEIC **01** 23:58:42.0±1.1, 19°407N±0°009×155°261W±0°008, h7km±2km, Error ellipse: s-maj=1.5km s-min=1.0km az=210.0*
HVO 01 23:58:42.1±1.1, 19°40N±0°01×155°263W±0°007, h0km±4km, ML3.1/15, ML2.0/27(NEIC), Error ellipse: s-maj=1.6km s-min=1.0km az=186.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.01**	**215**		Pg	23 58 42.4	+0.1
BYL	**Byron's Ledge**	**0.01**	**14**		Pg	23 58 42.2	-0.2
RIM	**Rim**	**0.01**	**237**		Pg	23 58 42.5	+0.1
HATHI	**Halema'uma'u T**	**0.02**	**4**		Pg	23 58 42.1	-0.5
HATHI				IAML		23 58 43.0	
comp=N,3μm,0.1s							
OBL	**Observatory Le**	**0.03**	**306**		Pg	23 58 43.5	+0.8
SBLHI	**Steaming Bluff**	**0.03**	**348**		Pg	23 58 43.7	+1.1
UWB	**Uwekahuna B**	**0.03**	**326**		Pg	23 58 43.2	+0.5
SDHHI	**Sand Hill**	**0.03**	**246**		Pg	23 58 44.0	+1.3
UWE	**Uwekahuna**	**0.03**	**303**		Pg	23 58 43.0	+0.3
UWE				IAML		23 58 43.4	
comp=E,1μm,0.7s							
PUH	**Pauahi**	**0.05**	**123**	Pg	Pg	23 58 43.5	+0.4
PUH				IAML		23 58 44.3	
comp=N,1μm,0.3s							
PUH				IAML		23 58 44.5	
comp=E,2μm,0.2s							
RSD	**Rainshed**	**0.06**	**346**	Pg	Pg	23 58 43.2	-0.2
RSD				IAML		23 58 45.0	
comp=E,807nm,0.5s							
KNHH	**Kane Nui o Ham**	**0.09**	**105**		Pg	23 58 44.4	+0.5
HLP	**Hilina Pali**	**0.11**	**202**	Pg	Pg	23 58 44.7	+0.4
HLP				IAML		23 58 45.0	
comp=N,711nm,1.4s							
HLP				IAML		23 58 47.8	
comp=E,680nm,0.4s							
STCH	**Steam Cracks**	**0.13**	**97**	Pg	Pg	23 58 44.8	+0.2
STCH				IAML		23 58 48.8	
comp=N,622nm,0.5s							
JCUZ	**Jacuzzi**	**0.15**	**97**		Pg	23 58 45.8	+0.7
JOKA	**Jonika Flow**	**0.25**	**83**		Pg	23 58 46.3	-0.5
JOKA				IAML		23 58 53.2	
comp=E,256nm,1.3s							
HMH	**Humu'ula Sheep**	**0.29**	**314**	Pg	Pg	23 58 46.9	-0.7
HMH				IAML		23 58 52.7	
comp=N,178nm,0.9s							
HMH				IAML		23 58 54.1	
comp=E,293nm,0.9s							
PAH	**Pahoa**	**0.31**	**73**	Pg	Pg	23 58 48.1	0.0
MLOA	**Mauna Loa Obse**	**0.32**	**294**	Pg	Pg	23 58 48.6	+0.3
MLOA				IAML		23 58 56.3	
comp=E,255nm,0.8s							
MLOA				IAML		23 58 59.2	
comp=N,238nm,1.2s							

MWH	**Moku'aweowe**	**0.33**	**285**	Pg	Pg	23 58 49.6	+1.2
KHU	**Kahuku**	**0.37**	**245**		Pg	23 58 49.7	+0.5
HUH	**Hualalai**	**0.61**	**298**	Pg	Pg	23 58 53.7	-0.1
RSO	**Redoubt South**	**41.05**	**2**	P	P	00 06 25.4	-1.9

*NEIC **02** 00:03:12.7±0.7, 36°75N±0°01×98°05W±0°02, h7km±4km, Error ellipse: s-maj=2.3km s-min=1.6km az=145.0*
TUL 02 00:03:12.7±0.6, 36°76N±0°02×98°07W±0°02, h7km±4km, ML3.1, mb_Lg2.9/96(NEIC), ML3.2/55(NEIC), Error ellipse: s-maj=2.4km s-min=1.5km az=144.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.12**	**289**		Pg	00 03 15.8	+0.4
OK032				Sg	Sg	00 03 17.9	+0.7
OK032				IAML		00 03 18.3	
8μm,0.1s							
GC02	**Grant County #**	**0.19**	**62**		Pg	00 03 17.0	+0.5
GC02				Sg	Sg	00 03 20.0	+1.0
KAN14	**Manchester OK**	**0.21**	**23**		Pg	00 03 17.4	+0.5
KAN14				Sg	Sg	00 03 20.7	+0.9
KAN14				IAML		00 03 20.8	
comp=N,9μm,0.2s							
CROK	**Carrier**	**0.27**	**166**		Pg	00 03 18.2	+0.3
CROK				Sg	Sg	00 03 22.1	+0.6
CROK				IAML		00 03 22.3	
comp=N,4μm,0.3s							
CROK				IAML		00 03 24.3	
comp=E,3μm,0.3s							
KAN17	**Caldwell West**	**0.37**	**41**		Pg	00 03 20.3	+0.4
KAN17				Sg	Sg	00 03 25.6	+0.7
KAN17				IAML		00 03 25.8	
comp=E,4μm,0.3s							
KAN17				IAML		00 03 25.8	
comp=N,3μm,0.4s							
KAN05	**Bluff City Nor**	**0.38**	**24**		Pg	00 03 20.6	+0.5
KAN05				Sg	Sg	00 03 25.8	+0.7
KAN05				IAML		00 03 27.2	
comp=N,3μm,0.1s							
KAN05				IAML		00 03 31.2	
comp=E,2μm,0.2s							
KAN01	**Argonia South**	**0.46**	**32**		Pg	00 03 22.0	+0.3
KAN01				Sg	Sg	00 03 27.9	+0.3
KAN08	**Anthony NE Sta**	**0.47**	**9**		Pg	00 03 22.3	+0.5
KAN08				Sg	Sg	00 03 28.8	+0.8
KAN06	**Argonia West S**	**0.51**	**19**		Pg	00 03 22.9	+0.3
KAN06				Sg	Sg	00 03 30.0	+0.7
KAN06				IAML		00 03 30.3	
comp=E,2μm,0.3s							
KAN09	**Caldwell North**	**0.52**	**44**		Pg	00 03 22.9	+0.3
KAN09				Sg	Sg	00 03 30.1	+0.6
KAN09				IAML		00 03 31.1	
comp=N,3μm,0.2s							
OK035	**E0210 Rd and N**	**0.52**	**264**	Pg	Pg	00 03 22.8	+0.1
OK035				Sg	Sg	00 03 30.1	+0.6
OK035				IAML		00 03 38.5	
comp=N,1μm,0.3s							
KAN13	**South Haven SW**	**0.53**	**62**		Pg	00 03 23.2	+0.2
KAN13				Sg	Sg	00 03 30.4	+0.5
KAN13				IAML		00 03 40.0	
comp=N,1μm,0.2s							
KAN12	**Harper NE Stat**	**0.54**	**6**		Pg	00 03 23.3	+0.2
KAN12				Sg	Sg	00 03 30.9	+0.8
KAN12				IAML		00 03 34.4	
comp=N,2μm,0.4s							
OK038	**West end E0370**	**0.61**	**243**		Pg	00 03 24.6	+0.1
OK038				Sg	Sg	00 03 33.2	+0.7
OK038				IAML		00 03 37.9	
comp=N,2μm,0.3s							
OK038				IAML		00 03 40.5	
comp=N,2μm,0.3s							
BLOK	**Blackwell**	**0.68**	**90**		Pg	00 03 25.8	0.0
BLOK				IAML		00 03 37.9	
comp=E,1μm,0.2s							
NOKA	**Waynoka**	**0.71**	**260**	Pg	Pg	00 03 26.2	-0.1
NOKA				IAML		00 03 47.8	
comp=E,855nm,0.2s							
NOKA				IAML		00 03 48.8	
comp=N,1μm,0.3s							
U32A	**Winter Ranch,**	**0.84**	**243**		Pg	00 03 28.7	-0.2
U32A				IAML		00 03 50.1	
comp=E,664nm,0.1s							
OK048	**Pawnee Station**	**0.97**	**111**		Pg	00 03 31.0	-0.3
OK048				IAML		00 03 46.3	
comp=E,572nm,0.4s							
OK048				IAML		00 03 47.6	
comp=E,534nm,0.2s							
OK051	**E0350 and S346**	**1.02**	**104**		Pg	00 03 31.9	-0.4
OK029	**Liberty Lake**	**1.08**	**153**		Pg	00 03 33.0	-0.5
OK029				IAML		00 03 49.0	
comp=E,494nm,0.2s							
CSTR	**Hydro, Custer**	**1.22**	**205**		Pg	00 03 35.6	-0.5
ADOK	**Arcadia Dam**	**1.24**	**153**	Pg	Pb	00 03 35.9	-0.6
QUOK	**Quay**	**1.24**	**118**		Pb	00 03 35.9	-0.6
T35A	**Sooner Cattle**	**1.26**	**83**		Pn	00 03 35.7	-1.1
T35A				IAML		00 03 57.2	
comp=E,447nm,0.3s							
T35A				IAML		00 03 60.0	
comp=N,493nm,0.4s							
OK052	**Battle Ridge R**	**1.28**	**127**		Pn	00 03 36.3	-0.7
OK031	**S. Brethren Rd**	**1.28**	**129**		Pn	00 03 36.4	-0.7
OKCSW	**OKLAHOMA CITY**	**1.45**	**159**		Pn	00 03 39.2	-0.2
DEOK	**Depew**	**1.56**	**125**		Pn	00 03 40.9	0.0
FNO	**Franklin**	**1.60**	**160**		Pn	00 03 41.6	+0.2
R32A	**Long Quarter,**	**1.73**	**343**	Pn	Pb	00 03 44.3	-0.6
W35A	**Tecumseh**	**1.88**	**149**	Pn	Pn	00 03 45.4	+0.2
TUL3	**Leonard**	**2.02**	**114**		Pn	00 03 48.3	+1.0
TUL3				IAmb_Lg		00 04 17.4	
comp=Z,72nm,0.8s							
WMOK	**Wichita Mounta**	**2.10**	**196**	Pn	Pn	00 03 49.1	+0.7
X34A	**Smith Ranch, M**	**2.17**	**175**		Pn	00 03 50.0	+0.8
X34A				IAmb_Lg		00 04 25.7	
comp=Z,49nm,0.7s							
SMWD	**Samnorwood**	**2.42**	**228**		Pn	00 03 53.9	+1.1
CBKS	**Cedar Bluff**	**2.44**	**328**	Pn	Pn	00 03 53.0	0.0
CBKS				IAmb_Lg		00 04 32.4	
comp=Z,40nm,0.8s							
RLO	**Rose Lookout**	**2.52**	**103**		Pn	00 03 54.0	-0.2
KSU1	**Kansas State U**	**2.60**	**26**		Pn	00 03 55.1	-0.1
KSU1				IAmb_Lg		00 04 38.8	
comp=Z,56nm,1.1s							
LOOK	**Love County**	**2.86**	**165**		Pn	00 03 59.6	+0.8
LOOK				Pg	Pb	00 04 04.8	+0.7
U38A	**Gravette**	**2.98**	**95**	Pn	Pn	00 04 00.9	+0.5
WTFS	**Witchita Falls**	**3.01**	**186**		Pn	00 04 01.2	+0.4
X37A	**Clayton**	**3.08**	**134**	Pn	Pn	00 04 01.7	-0.1
HHAR	**Hobbs**	**3.36**	**97**		Pn	00 04 06.2	+0.6
AMTX	**Amarillo**	**3.48**	**239**	Pg	Pb	00 04 15.9	+1.1
AMTX				IAmb_Lg		00 05 10.8	
comp=Z,29nm,0.8s							
Z35A	**Perchaven, San**	**3.49**	**169**	Pn	Pn	00 04 07.1	-0.3
RTBA	**Rita Blanca**	**3.77**	**266**	Pn	Pn	00 04 11.9	+0.5
FW06	**Azle**	**3.80**	**174**		Pn	00 04 11.0	-0.7
APMT	**Aspermont**	**3.82**	**207**		Pn	00 04 11.8	-0.3
DKNS	**Dickens**	**3.88**	**218**		Pn	00 04 14.1	+1.3
DKNS				IAmb_Lg		00 05 25.4	
comp=Z,32nm,1.0s							
S39A	**Bolivar**	**3.90**	**75**		Pn	00 04 13.3	+0.3
PLPT	**Palo Pinto**	**3.95**	**183**		Pn	00 04 14.4	+0.6
FW07	**Weatherford**	**4.06**	**177**	Pn	Pn	00 04 15.2	0.0
KSCO	**Kaye Shedlock'**	**4.25**	**303**	Pn	Pn	00 04 18.8	+0.8
MIAR	**Mount Ida**	**4.27**	**120**		Pn	00 04 19.1	+1.0
Z38A	**Mt. Pleasant**	**4.31**	**143**	Pn	Pn	00 04 18.0	-0.7
Z38A				IAmb_Lg		00 05 41.3	
comp=Z,22nm,0.8s							
ABTX	**Abilene, Hawle**	**4.33**	**198**	IAmb_Lg		00 05 30.0	
comp=Z,30nm,1.0s							
SN07	**Snyder 07**	**4.34**	**213**	IAmb_Lg		00 05 33.8	
comp=Z,19nm,0.8s							
TREL	**Terrell**	**4.34**	**157**	Pn	Pn	00 04 17.9	-1.2
TREL				IAmb_Lg		00 05 37.7	
comp=Z,20nm,0.8s							
P38A	**Dawn**	**4.57**	**50**	IAmb_Lg		00 05 38.1	
comp=Z,28nm,0.7s							
POST	**Post**	**4.64**	**218**	IAmb_Lg		00 05 50.9	
comp=Z,24nm,0.9s							
MGMO	**Mountain Grove**	**4.66**	**83**	IAmb_Lg		00 05 42.0	
comp=Z,24nm,0.8s							
WHTX	**Lake Whitney,**	**4.79**	**174**	IAmb_Lg		00 05 52.2	
comp=Z,16nm,1.0s							
WHAR	**Wooly Hollow**	**4.91**	**106**	IAmb_Lg		00 05 54.1	
comp=Z,19nm,1.0s							
UALR	**University of**	**5.06**	**111**	IAmb_Lg		00 05 58.8	
comp=Z,21nm,0.8s							
WLAR	**White Oak Lake**	**5.08**	**126**	IAmb_Lg		00 06 00.6	
comp=Z,22nm,0.8s							
OGNE	**Ogallala**	**5.20**	**325**	IAmb_Lg		00 05 58.8	
comp=Z,23nm,0.7s							
SGCY	**Sterling City**	**5.46**	**209**	IAmb_Lg		00 06 20.3	
comp=Z,21nm,1.0s							
BRDY	**Brady**	**5.52**	**188**	IAmb_Lg		00 06 10.4	
comp=Z,15nm,0.8s							
Z41A	**Richland Creek**	**5.56**	**127**	IAmb_Lg		00 06 15.1	
comp=Z,21nm,0.8s							
CCM	**Cathedral Cave**	**5.58**	**75**	IAmb_Lg		00 06 12.2	
comp=Z,15nm,0.8s							
LCAR	**Lake Charles**	**5.62**	**95**	IAmb_Lg		00 06 14.9	
comp=Z,12nm,0.8s							
435B	**Jarrell**	**5.98**	**176**	IAmb_Lg		00 06 34.7	
comp=Z,16nm,0.8s							
Q24A	**Divide**	**6.02**	**294**	IAmb_Lg		00 06 33.0	
comp=Z,16nm,0.8s							
K30B	**Basset**	**6.02**	**349**	IAmb_Lg		00 06 38.8	
comp=Z,19nm,0.8s							
PBMO	**Poplar Bluff**	**6.13**	**88**	IAmb_Lg		00 06 27.2	
comp=Z,20nm,0.9s							
BRIGG	**Briggsdale**	**6.20**	**310**	IAmb_Lg		00 06 38.7	
comp=Z,19nm,0.8s							
FVM	**French Village**	**6.21**	**76**	IAmb_Lg		00 06 28.7	
comp=Z,15nm,0.7s							
OZNA	**Ozona**	**6.36**	**204**	IAmb_Lg		00 06 40.1	
comp=Z,12nm,0.8s							
SLM	**Saint Louis**	**6.48**	**71**	IAmb_Lg		00 06 37.2	
comp=Z,12nm,0.8s							
MNHN	**Monahans**	**6.67**	**217**	IAmb_Lg		00 06 46.3	
comp=Z,10nm,0.9s							
143A	**Socs Landing,**	**6.82**	**125**	IAmb_Lg		00 07 00.3	
comp=Z,16nm,0.9s							
PHWY	**Pilot Hill**	**7.32**	**310**	IAmb_Lg		00 07 12.0	
comp=Z,8.1nm,0.7s							
Q44A	**Meyer Farm, Va**	**7.47**	**71**	IAmb_Lg		00 07 25.4	
comp=Z,11nm,0.7s							
L40A	**Anamosa**	**7.49**	**43**	IAmb_Lg		00 07 12.3	
comp=Z,14nm,0.8s							
SAND	**Sanderson**	**7.59**	**208**	IAmb_Lg		00 07 17.8	
comp=Z,8.0nm,0.7s							
OLIL	**Olney**	**8.14**	**73**	IAmb_Lg		00 07 28.8	
comp=Z,13nm,1.0s							
VHRN	**Van Horn**	**8.29**	**226**	IAmb_Lg		00 07 42.2	
comp=Z,7.2nm,1.0s							
L42A	**Oliver, Polo**	**8.35**	**49**	IAmb_Lg		00 07 49.5	
comp=Z,12nm,0.8s							
JFWS	**Jewell Farm**	**8.59**	**42**	IAmb_Lg		00 07 57.8	
comp=Z,12nm,0.8s							
RWWY	**Rawlins**	**8.63**	**308**	IAmb_Lg		00 07 52.4	
comp=Z,9.4nm,0.7s							
SPMN	**Marine on St.**	**9.34**	**24**	IAmb_Lg		00 08 09.4	
comp=Z,7.1nm,0.9s							

IDC 02 00:05:14.8±4.5, 6°59S×148°02E, h0km, mb3.3/2, mbtmp3.6/3, ML4.1/1, Error ellipse: s-maj=131.2km s-min=36.2km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.78**	**224**	P	P	00 09 35.0	-0.9
0.7nm,0.3s,baz=47,slow=10,SNR=17							
1.4nm,0.3s							
ASAR	**Alice Springs**	**21.74**	**217**	P	P	00 10 07.5	-0.5
0.9nm,0.5s,baz=49,slow=8.6,SNR=18							
0.9nm,0.5s							
MKAR	**Makanchi Array**	**78.60**	**320**	P	P	00 17 19.3	+0.8
0.1nm,0.5s,baz=104,slow=6.1,SNR=1.7							
0.1nm,0.5s							

*IDC **02** 00:13:59.4±3.1, 32°19N×139°54E, h0km, mb3.4/3, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=106.8km s-min=27.2km az=78.0*
*JMA **02** 00:14:03.8±0.2, 32°8N±0°5×14°1E±°, h55km, MV3.4/54, E OFF HACHIJOJIMA ISLAND*
ISC 02 00:14:00.1±1.9, 32°80N±0°06×140°87E±0°08, h26km±12km, n28, σ2°39/33, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.94**	**289**	P	**Pb**	**00 14 18.8**	**+1.1**
JHJ2				S	**Sn**	**00 14 29.9**	**-0.1**
JHCJ	**Hachijojimakas**	**0.94**	**287**	P	**Pb**	**00 14 18.7**	**+0.9**
JHCJ				*e*S	**Sn**	**00 14 28.9**	**-1.3**
JAOM	**Aogashimamukai**	**0.99**	**250**	P	**Pb**	**00 14 19.4**	**+0.7**
JAOM				S	**Sn**	**00 14 30.8**	**-0.7**
JMKN	**Mikurajimanish**	**1.52**	**316**	P	**Pb**	**00 14 27.2**	**-0.5**
JMYK	**Miyake Tsubota**	**1.67**	**319**	*e*P	**Pb**	**00 14 29.8**	**-0.3**
JMYK				S	**Sn**	**00 14 49.1**	**+0.9**
BSO1	**Boso 1**	**1.85**	**3**	P	**Pb**	**00 14 32.6**	**-0.3**
BSO1				*e*S	**Sb**	**00 14 54.0**	**-1.3**
JKO	**Kozu shima**	**2.00**	**314**	P	**Pn**	**00 14 34.0**	**+1.9**
JKO				S	**Sn**	**00 14 54.4**	**-1.9**
BSO3	**Boso 3**	**2.01**	**352**	P	**Pb**	**00 14 35.2**	**-0.7**
BSO3				S	**Sb**	**00 14 59.6**	**-0.8**
BSO4	**Boso 4**	**2.22**	**349**	P	**Pb**	**00 14 38.4**	**-1.1**
JIM2	**Oshima 3**	**2.25**	**328**	P	**Pn**	**00 14 37.8**	**+2.1**
JOD2	**Odawara 2**	**2.86**	**329**	P	**Pn**	**00 14 46.5**	**+2.4**
JOD2				S	**Sn**	**00 15 17.5**	**-0.2**
SHZ3	**Shizuoka 3**	**3.16**	**316**	P	**Pn**	**00 14 51.9**	**+3.7**
JYN	**Shimob**	**3.31**	**325**	P	**Pn**	**00 14 53.8**	**+3.6**
JHU	**Hanno**	**3.31**	**337**	P	**Pn**	**00 14 53.2**	**+3.1**
JNY	**Yasuok**	**3.57**	**316**	P	**Pn**	**00 14 57.5**	**+3.7**
JRY	**Ryogami san**	**3.59**	**334**	P	**Pn**	**00 14 57.4**	**+3.3**
JAG	**Ashikaga**	**3.80**	**342**	P	**Pn**	**00 15 00.3**	**+3.4**
JAG				S	**Sn**	**00 15 43.1**	**+2.5**
JHO	**Hitachi**	**3.81**	**356**	P	**Pn**	**00 14 59.9**	**+2.9**
JHO				S	**Sn**	**00 15 42.5**	**+1.6**
MJAR	**Matsushiro Arr**	**4.33**	**330**	Pn	**Pn**	**00 15 08.1**	**+3.9**
0.4nm,0.3s,baz=164,slow=12,SNR=8.7							
MJAR				Sn	**Sb**	**00 16 02.3**	**-4.9**
0.2nm,0.3s,baz=182,slow=29,SNR=5.3							
4.0nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**26.64**	**113**	T	T	00 48 32.2	
baz=305,slow=75,SNR=4.5							
H11N1	**WAKE ISLAND Hy**	**26.65**	**113**	T	T	00 48 35.6	
baz=305,

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     comp=E,134nm,0.7s
EMPR                          IAML                    00 17 26.5
     comp=N,130nm,0.9s
AOPR Arecibo Observ      2.33 243||eP          Pn     00 16 44.6 +0.4
AOPR Arecibo Observ      2.33 243 eS           Sb     00 17 16.1 -1.3
AOPR Arecibo Observ      2.33 243              Pn     00 16 44.6 +0.4
AOPR                                           Sb     00 17 16.1 -1.3
AOPR Arecibo Observ      2.33 243  IAML               00 17 25.6
     comp=N,126nm,0.3s
AOPR Arecibo Observ      2.33 243 eP           Pn     00 16 44.6 +0.4
AOPR                           eS              Sn     00 17 15.0 +3.0
CELP Cerrillos           2.33 235||eP          Pn     00 16 44.0 -0.2
CELP Cerrillos           2.33 235 eS           Sn     00 17 12.8 +0.8
CELP Cerrillos           2.33 235              Pn     00 16 44.0 -0.2
CELP                                           Sn     00 17 12.8 +0.8
UUPR Utuado, UPR, P      2.35 240||eP          Pn     00 16 44.8 +0.4
UUPR Utuado, UPR, P      2.35 240 eS           Sn     00 17 13.9 +1.6
UUPR Utuado, UPR, P      2.35 240              Pn     00 16 44.8 +0.4
UUPR                                           Sn     00 17 13.9 +1.6
OBIP Obispado Ponce      2.37 234||eP          Pn     00 16 44.7  0.0
OBIP Obispado Ponce      2.37 234 eS           Sn     00 17 15.4 +2.5
OBIP Obispado Ponce      2.37 234              Pn     00 16 44.7  0.0
OBIP                                           Sn     00 17 15.4 +2.5
OBIP Obispado Ponce      2.37 234  IAML               00 17 27.3
     comp=E,47nm,0.9s
AGPR Aguadilla, PR       2.59 248⇑eP           Pn     00 16 48.6 +0.9
AGPR Aguadilla, PR       2.59 248              Pn     00 16 47.1 -0.5
AGPR                                  IAML           00 17 25.2
     comp=N,80nm,2.2s
AGPR                                  IAML           00 18 37.7
     comp=E,65nm,1.8s
LSP  Las Mesas           2.69 243||eP          Pn     00 16 49.2 +0.1
LSP  Las Mesas           2.69 243              Pn     00 16 49.2 +0.1
PRSN Puerto Rico Se      2.72 244      Pn      Pn     00 16 49.5  0.0
PRSN                                  IAML           00 17 25.9
     comp=E,77nm,0.3s
PRSN                                  IAML           00 18 16.1
     comp=N,91nm,0.1s
MLPR Magueyes Islan      2.76 238⇑eP           Pn     00 16 49.9 -0.1
MLPR Magueyes Islan      2.76 238 eS           Sn     00 17 23.7 +1.3
MLPR Magueyes Islan      2.76 238              Pn     00 16 49.9 -0.1
MLPR                                           Sn     00 17 23.7 +1.3
MLPR Magueyes Islan      2.76 238  IAML               00 17 27.2
     comp=N,42nm,2.3s
MLPR                                  IAML           00 17 48.4
     comp=E,35nm,1.0s
CRPR Cabo Rojo, PR       2.79 240⇑eP           Pn     00 16 51.3 +0.9
CRPR Cabo Rojo, PR       2.79 240 eS           Sn     00 17 24.0 +0.7
CRPR Cabo Rojo, PR       2.79 240              Pn     00 16 51.3 +0.9
CRPR Cabo Rojo, PR       2.79 240              Sn     00 17 24.0 +0.7
CRPR Cabo Rojo, PR       2.79 240  IAML               00 17 22.1
     comp=N,37nm,2.5s
CRPR Cabo Rojo, PR       2.79 240  IAML               00 17 46.8
     comp=E,36nm,1.1s
MBFL Flemmings, Mon      3.50 140 eP           Pn     00 17 00.9 +0.8
MBFL                           eS              Sn     00 17 42.5 +1.9
ANBD Bethesda, Anti      3.58 131 eP           Pn     00 17 00.0 -1.2
ANBD                           eS              Sn     00 17 40.6 -2.0
PCDR Punta Cana, DR      3.72 256⇑eP           Pn     00 17 02.4 -0.7
PCDR Punta Cana, DR      3.72 256 eS           Sn     00 17 45.8 -0.3
PCDR Punta Cana, DR      3.72 256              Pn     00 17 02.4 -0.7
PCDR                                           Sn     00 17 45.8 -0.3
GDHS Morne Mazeau,       4.13 139      Pn      Pn     00 17 04.2 -4.8
SDDR Presa de Saban      6.36 267||eP          Pn     00 17 39.4 -0.2
SDDR Presa de Saban      6.36 267 eS           Sn     00 18 51.4  0.0
SDDR Presa de Saban      6.36 267              Pn     00 17 39.4 -0.2
SDDR Presa de Saban      6.36 267 eP           Pn     00 17 38.9 -0.6
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NEIC 02 00:17:24.7±1.3, 28°.93N±0°.05×97°.89W±0°.06, h5km±2km, mb_Lg2.9/65, Error ellipse: s-maj=11.1km s-min=4.5km az=132.0, Near coast of Texas

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Code Station Name        Δ°  AZ°      Phase ID          Time     Res
                                   Op    ISC        h m  s     ISC
735A Kenedy              0.10 134     Pg    Pg      00 17 29.0 +2.3
MLDN Muldoon             1.11  40     Pg    Pg      00 17 44.6 -1.4
HNDO Hondo               1.36 297           Pn      00 17 48.7 -1.6
KVTX Kingsville          1.37 180     Pg    Pb      00 17 50.7 -0.1
833A Chaparral WMA,      1.45 246     Pg    Pn      00 17 51.6 +0.1
435B Jarrell             1.87   8           Pn      00 17 55.9 -1.4
HBVL Hebbronville        1.98 201           Pn      00 17 58.6 -0.2
HKT  Hockley             2.06  60     Pn    Pn      00 17 58.9 -1.0
JCT  Junction City       2.27 313           Pn      00 18 02.4 -0.6
DRIO Del Rio             2.44 282           Pn      00 18 04.3 -0.9
BRDY Brady               2.54 338           Pn      00 18 05.1 -1.5
WHTX Lake Whitney,       3.08   7           Pn      00 18 14.8 +0.8
WHTX                                IAmb_Lg          00 19 08.1
     comp=Z,43nm,1.0s
FW13 Cleburne            3.44   6           Pb      00 18 28.2 +2.1
FW13                                IAmb_Lg          00 19 23.4
     comp=Z,28nm,0.7s
OZNA Ozona               3.44 306           Pn      00 18 18.8 -0.3
FW14 Alvarado            3.51  10           Pn      00 18 19.5 -0.5
FW14                                IAmb_Lg          00 19 21.8
     comp=Z,34nm,0.8s
237A Washetta, Mont      3.55  30     Pn    Pn      00 18 20.2 -0.3
FW16 Waxahatchie         3.65  13     Pn    Pn      00 18 20.8 -1.0
FW07 Weatherford         3.77   1     IAmb_Lg       00 19 25.6
     comp=Z,21nm,0.8s
SAND Sanderson           3.83 287           Pn      00 18 23.3 -1.1
PLPT Palo Pinto          3.89 355           Pn      00 18 24.1 -1.0
ABTX Abilene, Hawle      3.98 338           Pn      00 18 25.7 -0.7
FW06 Azle                4.04   4     Pn    Pn      00 18 26.2 -1.1
FW06                                           Pg    00 18 39.4 -2.7
FW06                                IAmb_Lg          00 19 34.8
     comp=Z,21nm,0.9s
SGCY Sterling City       4.08 318     Pg    Pb      00 18 37.5 +0.4
TREL Terrell             4.10  22     IAmb_Lg       00 19 33.4
     comp=Z,18nm,0.9s
FW03 Perrin-Whitt E      4.10 358           Pn      00 18 28.4 +0.3
Z35A Perchaven, San      4.42   7     IAmb_Lg       00 19 52.4
     comp=Z,20nm,0.8s
WMOK Wichita Mounta      5.84 353     IAmb_Lg       00 20 33.2
     comp=Z,19nm,0.9s
TUL3 Leonard             7.19  14     IAmb_Lg       00 21 29.3
     comp=Z,14nm,1.1s
CROK Carrier             7.56 359     IAmb_Lg       00 21 31.4
     comp=Z,11nm,0.8s
T35A Sooner Cattle       8.05   8     IAmb_Lg       00 22 01.8
     comp=Z,12nm,1.3s
121A Cookes Peak, D      9.24 295     IAmb_Lg       00 22 33.9
     comp=Z,8.2nm,1.1s
ANMO Albuquerque         9.43 312     IAmb_Lg       00 22 30.6
     comp=Z,9.1nm,0.9s
ANMO Albuquerque         9.43 312     IAmb_Lg       00 22 30.6
     comp=Z,9.7nm,0.9s
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IDC 02 00:38:48.0±0.6, 29°.72N×142°.38E, h0km, mb4.1/19, mbtmp4.1/24, ML3.6/6, MS2.9/5, Error ellipse: s-maj=21.5km s-min=13.5km az=76.0

MOS 02 00:38:49.4±1.1, 29°.78N×142°.51E, h23km, mb4.7/14, Error ellipse: s-maj=16.6km s-min=6.5km az=118.3

NIED 02 00:38:50.9, 29°.92N×142°.74E, h66km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.76; $M_{\theta\theta}$0.18; $M_{\phi\phi}$-0.94; $M_{r\theta}$-0.35; $M_{r\phi}$0.19; $M_{\theta\phi}$1.83; Fault plane solution: M_o2.06000×10^{15} NP1: ϕ_s349.00000°, δ78.00000°, λ89.00000°. NP2: ϕ_s174.00000°, δ13.00000°, λ94.00000°.

NEIC 02 00:38:51.9±1.2, 29°.90N±0°.07×142°.3E±0°.2, h10km±1km, mb4.6/20 Error ellipse: s-maj=22.9km s-min=10.3km az=74.0

ISC 02 00:38:52.0±0.4, 29°.71N±0°.04×142°.40E±0°.08, h24km, n101, σ1°75/112, mb4.5/44, MS3.7/3, 9C, Southeast of Honshu

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Code Station Name        Δ°  AZ°      Phase ID          Time     Res
                                   Op    ISC        h m  s     ISC
JCJ  Chichijima          2.61 184     Pn    Pb      00 39 37.3 -0.9
JCJ  Chichijima          2.61 184     Pn    Pn      00 39 30.3 -2.4
     3.9nm,0.3s,baz=279,slow=22,SNR=6.3
JCJ                                            LR    00 39 42.2
     comp=Z,78nm,21.0s,baz=97,slow=21
JCJ                                            Sn    00 39 59.0 -4.8
     17nm,0.3s,baz=268,slow=22,SNR=7.0
JHJ2 Mitsune             4.04 328     Pn    Pn      00 39 50.7 -1.7
JHJ  Hachijo jima 2      4.07 327     Pn    Pn      00 39 50.0 -2.7
     16nm,0.3s,baz=79,slow=20,SNR=7.2
JHJ                                            Sn    00 40 33.8 -5.8
     14nm,0.3s,baz=172,slow=20,SNR=2.0
     32nm,0.3s
JGF  Kuroka              7.25 325     Pn    Pn      00 40 37.0 +0.5
MJAR Matsushiro Arr      7.66 334     Pn    Pn      00 40 40.8 -1.3
     0.8nm,0.3s,baz=150,slow=11,SNR=27
MJAR                                           Sn    00 42 04.7 -3.5
     0.2nm,0.3s,baz=160,slow=18,SNR=4.5
MJAR                                           LR    00 43 50.7
     comp=Z,125nm,19.2s,baz=197,slow=40
     5.5nm,0.4s
MAJO Matsushiro          7.66 334     Pn    Pn      00 40 41.4 -0.8
MAJO Matsushiro          7.66 334     P     Pn      00 40 41.4 -0.8
MJB9 Matsu-Tunnel        7.67 334           Pn      00 40 41.5 -0.8
JMM  Marumori            8.24 351     Pn    Pn      00 40 47.3 -2.7
JNU  Nakatsue           10.41 292     LR    LR      00 45 28.8
     comp=Z,125nm,18.0s,baz=102,slow=39
KSRS Korea Array        14.31 306     Pn    Pn      00 42 13.8 +0.7
     0.2nm,0.3s,baz=115,slow=12,SNR=9.2
KSRS                                           LR    00 47 24.6
     comp=Z,40nm,18.4s,baz=110,slow=36
     2.3nm,0.8s
ASAJ Asahikawa           14.38   1     Pn    Pn      00 42 10.8 -3.2
     0.7nm,0.3s,baz=202,slow=19,SNR=2.5
     2.0nm,0.3s
USRK Ussuriysk Ar.       16.66 333     Pn    Pn      00 42 41.8 -2.0
     0.2nm,0.3s,baz=156,slow=6.7,SNR=2.6
     2.4nm,0.7s
YSS  Yuzh-Sakhalins      17.22   1 eP        Pn      00 42 51.4 +0.6
YSS                            eS              Sn    00 45 57.0 -4.5
YSS                                   MLR    MLR
     comp=Z,100nm,13.0s
MDJ  Mudanjiang          18.01 329     P     Pn      00 43 00.8 +0.2
MDJ                                   pmax   pmax
     comp=Z,14nm,0.8s
MDJ                                   pmax   pmax
     comp=Z,140nm,11.7s
CN2  Changchun           19.50 321     P     P       00 43 16.1 -1.2
CN2                                   pmax   pmax
     comp=Z,10.0nm,0.5s
BNX  BinXian             19.86 328 ⇑P          P       00 43 20.9 -0.4
BNX                                   pmax   pmax
     comp=Z,11nm,1.0s
BNX                                   pmax   pmax
     comp=Z,120nm,4.7s
NJ2  Nanjing             20.34 283 eP          P       00 43 14.1 -12
NJ2                                   pmax   pmax
     comp=Z,4.0nm,0.5s
KLR  Kul'dur             21.11 340     P     P       00 43 33.6 -1.2
     comp=Z,3.7nm,0.6s,baz=138,slow=12,SNR=15
     comp=Z,3.7nm,0.6s
KLR  Kul'dur             21.11 340 eP          P       00 43 33.8 -1.0
KLR                                   pmax   pmax
     comp=Z,4.0nm,1.0s
HEH  HeiHe               23.43 335 eP          P       00 43 58.9 -0.3
HEH                                   pmax   pmax
     comp=Z,6.0nm,0.7s
XLT  XiLinHaoTe          25.25 311 eP          P       00 44 14.6 -1.7
XLT                            sP              pwP     00 44 29.5 -0.4
XLT                            PP              PnPn    00 44 56.3 +5.3
XLT                                   pmax   pmax
     comp=Z,8.0nm,0.7s
XLT                                   pmax   pmax
     comp=Z,120nm,4.0s
ZEA  Zeya                26.42 340 eP          P       00 44 32.3 +5.6
HHC  Hu-ho-hao-te        27.38 302 eP          P       00 44 33.7 -1.9
HHC                            PP              PnPn    00 45 23.2 +3.1
HHC                                   pmax   pmax
     comp=Z,6.0nm,0.5s
HHC                                   pmax   pmax
     comp=Z,110nm,4.8s
HHC                                   LR     LR
     comp=N,130nm,14.5s
HHC                                   LR     LR
     comp=E,140nm,17.2s
HHC                                   LR     LR
     comp=Z,170nm,17.9s
DAV  Davao City (W)      27.53 218     P     P       00 44 36.2 -0.8
     comp=Z,196nm,0.4s,baz=43,slow=14,SNR=2.3
BTO  Baotou              28.47 301 eP          P       00 44 47.3 +2.0
BTO                            pP              sP      00 44 56.7 +4.0
BTO                            sP              pwP     00 45 00.7 +1.9
BTO                            PP              PnPn    00 45 38.9 +4.0
BTO                            S               S       00 49 30.6 -0.9
BTO                                   pmax   pmax
     comp=Z,14nm,0.6s
BTO                                   pmax   pmax
     comp=Z,230nm,4.3s
BTO                                   LR     LR
     comp=E,320nm,16.5s
BTO                                   LR     LR
     comp=Z,340nm,16.8s
ULN  Ulaanbaatar         32.61 314ceP          P       00 45 22.3 +0.5
ULN                                   pmax   pmax
     comp=Z,15nm,1.7s
SONM Songino Array       33.01 313     P     P       00 45 25.2 -0.1
     comp=Z,2.2nm,0.7s,baz=114,slow=8.2,SNR=13
     comp=Z,2.2nm,0.7s
PZH  PanZhiHua           35.88 275     P     P       00 45 51.7 +1.3
PZH                                   pmax   pmax
     comp=Z,10.0nm,0.5s
PZH                                   pmax   pmax
     comp=Z,100nm,4.5s
BILL Bilibino            40.87  13 eP          P       00 46 35.4 +3.7
BILL                           ePPP            PPP     00 48 37.2
BILL                                  pmax   pmax
     comp=Z,2.0nm,1.2s
ZALV Zalesovo Beam       47.67 318     P     P       00 47 25.7 -0.6
ZALV Zalesovo Beam       47.67 318     P     P       00 47 25.5 -0.8
     comp=Z,1.1nm,0.6s,baz=98,slow=6.3,SNR=8.0
ZALV                                   PcP   PcP     00 48 55.2 -0.3
     comp=Z,0.3nm,0.3s,baz=114,slow=3.6,SNR=2.5
     comp=Z,1.1nm,0.6s
ZALV Zalesovo Beam       47.67 318     P     P       00 47 25.7 -0.6
MK31 Makanchi Array      48.99 308     P     P       00 47 36.0 -0.6
MK31 Makanchi Array      48.99 308ceP          P       00 47 37.0 +0.4
MKAR Makanchi Array      48.99 308     P     P       00 47 36.8 +0.1
MKAR Makanchi Array      48.99 308     P     P       00 47 36.5 -0.1
     comp=Z,2.9nm,0.7s,baz=91,slow=9.3,SNR=30
     comp=Z,2.9nm,0.7s
MKAR Makanchi Array      48.99 308     P     P       00 47 36.8 +0.1
MAKZ Makanchi            49.20 308     P     P       00 47 37.7 -0.6
MAKZ                                   IAmb   IAmb    00 47 39.2
     comp=Z,10nm,1.4s
MAKZ Makanchi            49.20 308     P     P       00 47 37.7 -0.6
MAKZ                                   pmax   pmax
     comp=Z,10.0nm,1.4s
WRA  Warramunga Arr      49.98 190     P     P       00 47 44.1 -0.2
     comp=Z,2.3nm,0.6s,baz=8.0,slow=7.9,SNR=20
     comp=Z,2.3nm,0.6s
NRIK Noril'sk            50.30 338     P     P       00 47 46.2 +0.1
NRIK                                   IAmb   IAmb    00 47 47.1
     comp=Z,6.3nm,1.1s
NRIK Noril'sk            50.30 338     P     P       00 47 46.3 +0.1
     comp=Z,3.0nm,0.8s,baz=66,slow=6.7,SNR=4.5
     comp=Z,3.0nm,0.8s
NRIK Noril'sk            50.30 338ceP          P       00 47 43.6 -2.6
NRIK                                   pmax   pmax
     comp=Z,7.0nm,1.1s
C19K Lookout Ridge       51.27  23     P     P       00 47 55.1 +1.5
KURK Kurchatov           51.32 313     P     P       00 47 54.0 -0.1
KURK Kurchatov           51.32 313ceP          P       00 47 54.8 +0.7
KURK                                   pmax   pmax
     comp=Z,17nm,1.3s
KURBB Kurchatov Arra     51.38 313     P     P       00 47 54.1 -0.5
     comp=Z,7.3nm,1.0s,baz=90,slow=7.5,SNR=24
     comp=Z,7.3nm,1.0s
ASAR Alice Springs       53.70 190     P     P       00 48 12.1 +0.1
     comp=Z,0.7nm,0.7s,baz=7.0,slow=5.9,SNR=5.6
     comp=Z,0.7nm,0.7s
KIP  Kipapa              53.88  84ceP          P       00 48 11.7 -1.9
KIP                                   pmax   pmax
     comp=Z,96nm,2.5s
MDM  Murphy Dome         54.78  29     P     P       00 48 20.4 +0.9
MDM                                    IAmb   IAmb    00 48 30.7
     comp=Z,4.4nm,0.6s
ILAR Eielson Array       55.34  29     P     P       00 48 23.2 -0.3
     comp=Z,0.5nm,0.8s,baz=266,slow=6.2,SNR=5.9
     comp=Z,0.5nm,0.8s
E25K Arctic Village      56.10  25     P     P       00 48 30.6 +1.7
E25K                                   IAmb   IAmb    00 48 44.0
     comp=Z,8.4nm,1.4s
BVAR Borovoye Array      56.27 316     P     P       00 48 30.4  0.0
     comp=Z,2.3nm,0.6s,baz=83,slow=7.3,SNR=7.6
     comp=Z,2.3nm,0.6s
ARSB Arslanbob           56.31 302     P     P       00 48 30.0 -1.0
ARSB Arslanbob           56.31 302     P     P       00 48 30.0 -1.0
ARSB                                   pmax   pmax
     comp=Z,2.0nm,1.4s
BRVK Borovoye            56.33 316     P     P       00 48 30.7 -0.1
BRVK Borovoye            56.33 316 i P         P       00 48 31.2 +0.4
BRVK                                   pmax   pmax
     comp=Z,4.0nm,0.9s
KK31 Karatay Array       57.73 305     P     P       00 48 40.9  0.0
KK31 Karatay Array       57.73 305     P     P       00 48 40.9  0.0
KK31                                   pmax   pmax
     comp=Z,8.0nm,0.8s
KKAR Karatay Array       57.73 305     P     P       00 48 40.9  0.0
KKAR Karatay Array       57.73 305     P     P       00 48 40.9  0.0
I28M Miner Creek         58.29  29     P     P       00 48 46.1 +1.6
EPYK Eagle Plains        59.54  27     P     P       00 48 54.8 +1.6
EPYK                                   IAmb   IAmb    00 48 55.5
     comp=Z,5.2nm,1.1s
G30M tAoh Zraii Nji      59.69  27     P     P       00 48 55.0 +0.8
G30M                                   IAmb   IAmb    00 49 37.6
     comp=Z,5.0nm,1.4s
CHGR Chuyangaron         59.79 300     P     P       00 48 55.6 +0.2
CHGR Chuyangaron         59.79 300     P     P       00 48 55.6 +0.2
CHGR                                   pmax   pmax
     comp=Z,12nm,0.5s
I30M Mount Dempster      59.79  29     P     P       00 48 56.2 +1.2
STKA Stephens Creek      61.26 181 i P         P       00 49 04.3 -0.8
ARU  Arti                62.49 321     P     P       00 49 13.6 +0.3
ARU                                    IAmb   IAmb    00 49 14.1
     comp=Z,3.7nm,0.7s
ARU  Arti                62.49 321c iP         P       00 49 12.9 -0.3
ARU                                                    00 51 26.6
ARU                                    S      S       00 57 38.6 -0.4
ARU                                    SS     SS      01 01 40.2 -2.4
ARU                                    pmax   pmax
     comp=Z,3.0nm,0.7s
ABKAR Akbulak array      63.42 313     P     P       00 49 19.7 +0.1
AKTO Aktyubinsk          64.31 315     P     P       00 49 24.9 -0.5
     comp=Z,1.5nm,0.6s,baz=77,slow=12,SNR=5.6
     comp=Z,1.5nm,0.6s
GEYT Alibeck             68.26 302     P     P       00 49 49.6 -1.4
     comp=Z,2.2nm,0.8s,baz=60,slow=4.1,SNR=6.2
     comp=Z,2.2nm,0.8s
OBN  Obninsk             74.50 325 eP          P       00 50 29.5 +1.2
OBN                            e                      00 53 14.9
OBN                                    pmax   pmax
     comp=Z,2.0nm,0.9s
FINES FINESS Array B     75.69 334     P     P       00 50 35.1  0.0
     baz=92,slow=3.3
KBZ  Khabaz              76.38 313     P     P       00 50 39.1 -0.2
     comp=Z,3.1nm,0.8s,baz=74,slow=3.1,SNR=5.8
     comp=Z,3.1nm,0.8s
KBZ  Khabaz              76.38 313ceP          P       00 50 37.8 -1.5
KBZ                                    pmax   pmax
     comp=Z,4.0nm,0.9s
KIV  Kislovodsk          76.40 313 eP          P       00 50 38.0 -1.6
KIV                                    pmax   pmax
     comp=Z,3.0nm,0.9s
GNI  Garni               76.83 309ceP          P       00 50 43.0 +0.8
GNI                                    pmax   pmax
     comp=Z,5.0nm,1.3s
NVAR Mina Array Bea      78.76  52     P     P       00 50 54.2 +1.1
     comp=Z,0.4nm,0.6s,baz=284,slow=5.4,SNR=3.0
     comp=Z,0.4nm,0.6s
AKASG Malin Array Be     80.63 324     P     P       00 51 02.2 -0.4
     baz=50,slow=4.9
HFS  Hagfors             81.10 337     P     P       00 51 04.6 -0.3
     comp=Z,1.0nm,0.6s,baz=77,slow=7.8,SNR=4.5
     comp=Z,1.0nm,0.6s
NB2  NORSAR Subarra      81.26 338     P     P       00 51 05.7 -0.2
     comp=Z,4.3nm,1.0s,baz=41,slow=5.3
NOA  NORSAR Array B      81.26 338     P     P       00 51 05.9  0.0
     comp=Z,1.0nm,0.7s,baz=40,slow=5.0,SNR=5.6
NOA                                    LR     LR      01 31 56.3
     comp=Z,9.2nm,20.1s,baz=95,slow=39
     comp=Z,1.0nm,0.7s
PDAR Pinedale Array      82.23  45     P     P       00 51 12.7 +1.1
     comp=Z,0.1nm,0.3s,baz=257,slow=3.2,SNR=1.9
     comp=Z,0.1nm,0.3s
RDMU Red Mountain        83.43  47     P     P       00 51 19.9 +2.1
RDMU                                   IAmb   IAmb    00 51 23.1
     comp=Z,4.0nm,0.8s
RAYN Ar Rayn             84.27 294     P     P       00 51 23.3 +1.1
RAYN Ar Rayn             84.27 294     P     P       00 51 23.3 +1.1
RAYN                                   pmax   pmax
     comp=Z,9.0nm,1.0s
BR131 Keskin Array S     84.37 313     P     P       00 51 22.5 -0.1
BR131                                  IAmb   IAmb    00 51 38.8
     comp=Z,3.3nm,0.7s
BR131 Keskin Array S     84.37 313     P     P       00 51 22.5 -0.1
BR131                                  pmax   pmax
     comp=Z,3.0nm,0.7s
BRTR Keskin Array B      84.37 313     P     P       00 51 22.8 +0.2
BRTR Keskin Array B      84.37 313     P     P       00 51 23.1 +0.5
     comp=Z,1.7nm,0.8s,baz=107,slow=4.0,SNR=12
     comp=Z,1.7nm,0.8s
CLL  Collm               87.86 331 eP          P       00 51 40.0 +0.7
CLL                            i x             x       00 51 53.8
ANMO Albuquerque         88.66  50     P     P       00 51 45.0 +1.3
ANMO                                   IAmb   IAmb    00 52 00.3
     comp=Z,1.6nm,0.7s
ANMO Albuquerque         88.66  50     P     P       00 51 45.1 +1.3
ANMO                                   pmax   pmax
     comp=Z,2.0nm,0.7s
TXAR Lajitas Array       93.89  53     P     P       00 52 06.7 -1.3
     comp=Z,0.9nm,0.9s,baz=306,slow=3.1,SNR=4.5
     comp=Z,0.9nm,0.9s
QSPA South Pole Qui     119.47 180     PKP   PKPdf   00 57 39.2 +0.5
     comp=Z,1.8nm,1.0s,baz=316,slow=0.8,SNR=3.7
LPAZ La Paz             148.99  71     PKPbc PKPdf   00 58 37.0 +1.6
     comp=Z,0.2nm,0.4s,baz=326,slow=7.3,SNR=1.7
LPAZ La Paz             148.99  71     PKP2  PKPdf   00 58 37.0 +1.6
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NEIC 02 00:48:15.3±0.5, 36°.35N±0°.01×98°.20W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=158.0

TUL 02 00:48:15.5±0.5, 36°.365N±0°.010×98°.19W±0°.01, h6km±4km, ML2.6, mb_Lg2.5/41(NEIC), ML2.8/49(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=82.0, Oklahoma

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Code Station Name        Δ°  AZ°      Phase ID          Time     Res
                                   Op    ISC        h m  s     ISC
CROK Carrier             0.22  50           Pg      00 48 20.4 +0.6
CROK                                           Sg    00 48 23.8 +1.0
CROK                                   IAML           00 48 24.1
     comp=N,2μm,0.3s
OK032 Salt Plains WL     0.44 358           Pg      00 48 24.3 +0.3
OK032                                          Sg    00 48 30.7 +0.9
OK032                                  IAML           00 48 30.9
     comp=N,668nm,0.3s
OK032                                  IAML           00 48 36.8
     comp=N,610nm,0.1s
OK038 West end E0370     0.46 284           Pg      00 48 24.6 +0.2
OK038                                          Sg    00 48 31.0 +0.6
OK038                                  IAML           00 48 38.2
     comp=N,924nm,0.3s
OK035 E0210 Rd and N     0.54 310           Pg      00 48 26.2 +0.3
OK035                                          Sg    00 48 33.7 +0.8
OK035                                  IAML           00 48 34.3
     comp=N,526nm,0.2s
OK035                                  IAML           00 48 35.4
     comp=N,731nm,0.2s
GC02 Grant County #      0.56  29           Pg      00 48 26.4 +0.2
GC02                                           Sg    00 48 34.1 +0.7
KAN14 Manchester OK      0.62  17           Pg      00 48 27.6 +0.2
KAN14                                          Sg    00 48 36.2 +0.7
KAN14                                  IAML           00 48 36.5
     comp=E,586nm,0.1s
NOKA Waynoka             0.65 295           Pg      00 48 28.1  0.0
NOKA                                           Sg    00 48 37.1 +0.5
NOKA                                   IAML           00 48 37.7
     comp=N,682nm,0.4s
NOKA                                   IAML           00 48 42.5
     comp=E,520nm,0.3s
U32A Winter Ranch,       0.65 271           Pg      00 48 28.0 -0.1
U32A                                           Sg    00 48 36.9 +0.3
U32A                                   IAML           00 48 39.8
     comp=N,365nm,0.4s
KAN17 Caldwell West      0.76  27           Pg      00 48 30.1  0.0
KAN17                                          Sg    00 48 40.0  0.0
KAN05 Bluff City Nor     0.79  19           Pg      00 48 30.5 -0.1
CSTR Hydro, Custer       0.82 209           Pg      00 48 31.5 +0.2
OK029 Liberty Lake       0.82 133           Pg      00 48 31.1 -0.2
OK029                                  IAML           00 48 45.3
     comp=N,508nm,0.4s
OK029                                  IAML           00 48 45.3
     comp=N,484nm,0.4s
KAN01 Argonia South      0.86  24           Pg      00 48 31.9 -0.1
KAN13 South Haven SW     0.86  41           Pg      00 48 32.1  0.0
KAN08 Anthony NE Sta     0.88  12           Pg      00 48 32.1 -0.3
BLOK Blackwell           0.88  63           Pg      00 48 32.3 -0.1
```

KAN09	Caldwell North	0.90	31		Pg	00 48 32.8	0.0
KAN12	Harper NE Stat	0.94	9	Pg	Pg	00 48 33.5	-0.1
ADOK	Arcadia Dam	0.97	137		Pg	00 48 34.0	-0.2
OK048	Pawnee Station	1.01	87		Pg	00 48 34.3	-0.6
OK048				IAML		00 48 53.2	
	comp=N,299nm,0.3s						
OK048				IAML		00 48 53.4	
	comp=N,201nm,0.2s						
OK051	E0350 and S346	1.10	82		Pg	00 48 36.2	-0.4
OKCSW	OKLAHOMA CITY	1.14	147		Pg	00 48 36.8	-0.5
OKCSW				IAML		00 48 57.1	
	comp=E,200nm,0.1s						
OKCSW				IAML		00 48 57.5	
	comp=N,202nm,0.3s						
OK031	S. Brethren Rd	1.17	110		Pg	00 48 36.9	-1.0
OK031				IAML		00 48 56.6	
	comp=N,207nm,0.3s						
OK052	Battle Ridge R	1.18	108		Pg	00 48 37.8	-0.5
OK052				IAML		00 48 58.3	
	comp=N,224nm,0.2s						
QUOK	Quay	1.22	99		Pg	00 48 38.5	-0.3
FNO	Franklin	1.28	150	IAML		00 49 00.3	
	comp=E,155nm,0.2s						
T35A	Sooner Cattle	1.46	67		Pn	00 48 42.5	+0.1
DEOK	Depew	1.47	110		Pn	00 48 41.9	-0.6
WMOK	Wichita Mounta	1.69	197		Pn	00 48 45.7	+0.1
X34A	Smith Ranch, M	1.79	170		Pn	00 48 46.5	-0.4
TUL3	Leonard	2.00	102		Pn	00 48 49.0	-0.8
TUL3				IAmb_Lg		00 49 21.4	
	comp=Z,16nm,0.8s						
SMWD	Samnorwood	2.09	234		Pn	00 48 50.8	-0.3
R32A	Long Quarter,	2.10	349	Pn	Pn	00 48 50.8	-0.4
LOOK	Love County	2.51	160		Pn	00 48 56.3	-0.5
RLO	Rose Lookout	2.57	94		Pn	00 48 57.3	-0.4
CBKS	Cedar Bluff	2.73	334	Pn	Pn	00 48 59.0	-1.0
X37A	Clayton	2.91	127		Pg	00 49 10.9	-0.2
X37A				IAmb_Lg		00 49 49.9	
	comp=Z,11nm,0.8s						
KSU1	Kansas State U	3.01	24	IAmb_Lg		00 49 56.5	
	comp=Z,12nm,0.9s						
U38A	Gravette	3.07	87	Pg	Pb	00 49 12.3	+1.7
AMTX	Amarillo	3.20	244		Pb	00 49 13.2	+0.3
FW03	Perrin-Whitt E	3.32	178	Pn	Pn	00 49 07.7	-0.3
HHAR	Hobbs	3.44	90		Pb	00 49 18.9	+2.2
DKNS	Dickens	3.50	221	Pg	Pb	00 49 20.1	+2.2
PLPT	Palo Pinto	3.54	182	Pg	Pb	00 49 21.0	+2.3
ABTX	Abilene, Hawle	3.92	198	IAmb_Lg		00 50 21.9	
	comp=Z,8.2nm,0.7s						
S39A	Bolivar	4.12	70	IAmb_Lg		00 50 25.1	
	comp=Z,9.7nm,0.9s						
MIAR	Mount Ida	4.18	114	IAmb_Lg		00 50 37.5	
	comp=Z,12nm,0.9s						
POST	Post	4.27	221	IAmb_Lg		00 50 38.5	
	comp=Z,7.4nm,0.8s						
X40A	Basin Creek Fa	4.76	112	IAmb_Lg		00 50 47.6	
	comp=Z,8.8nm,0.7s						
P38A	Dawn	4.91	47	IAmb_Lg		00 51 01.0	
	comp=Z,6.6nm,0.8s						
FCAR	Ozark Folk Cen	4.94	94	IAmb_Lg		00 50 53.7	
	comp=Z,6.1nm,0.8s						
UALR	University of	5.03	107	IAmb_Lg		00 51 09.0	
	comp=Z,13nm,1.2s						
T25A	Trinidad	5.05	281	IAmb_Lg		00 50 60.0	
	comp=Z,10nm,0.8s						
SGCY	Sterling City	5.06	210	IAmb_Lg		00 51 07.2	
	comp=Z,12nm,0.9s						
BRDY	Brady	5.11	188	IAmb_Lg		00 51 00.8	
	comp=Z,7.6nm,0.9s						
OGNE	Ogallala	5.47	328	IAmb_Lg		00 51 20.3	
	comp=Z,10.0nm,1.0s						
LCAR	Lake Charles	5.70	91	IAmb_Lg		00 51 30.6	
	comp=Z,5.5nm,0.9s						
P40A	Paris	5.79	55	IAmb_Lg		00 51 23.4	
	comp=Z,6.5nm,0.8s						
CCM	Cathedral Cave	5.80	71	IAmb_Lg		00 51 25.3	
	comp=Z,5.6nm,0.7s						
FVM	French Village	6.41	73	IAmb_Lg		00 51 48.1	
	comp=Z,9.1nm,1.3s						

*IDC **02** 00:52:01.5±2.5, 18°.98N×39°.32E, h0km, mb3.7/5, mbtmp3.8/5, MS3.5/32, Error ellipse: s-maj=62.7km s-min=26.2km az=158.0*
*SGS **02** 00:52:02.6, 19°.08N×39°.14E, h12km, Ml3.3*
*NEIC **02** 00:52:07.0±1.2, 19°.3N±0°.1×39°.3E±0°.2, h10km±2km, mb4.0/12, Error ellipse: s-maj=37.4km s-min=10.5km az=123.0*

ISC 02 00:52:04.5±0.8, 19°.10N±0°.09×39°.35E±0°.07, h10km, n64, σ1§15/36, mb4.0/10, MS3.5/29, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QNF02	Al Qunfudhah	2.02	91	P	Pn	00 52 37.4	-1.3
AMGES	AMGES	2.17	107	P	Pn	00 52 39.1	-1.6
BRK01	Al Birk	2.26	111	S	Sn	00 53 08.9	-0.9
BRK01	Al Birk	2.26	111	P	Pn	00 52 40.5	-1.4
BAHS	BAHS	2.29	67	P	Pn	00 52 41.6	-1.1
BRK04	Al Birk	2.38	101	P	Pn	00 52 42.4	-1.2
BRK03	Al Birk	2.58	110	S	Sn	00 53 17.5	-0.4
BRK03				P	Pn	00 52 45.5	-0.9
BRK02	Al Birk	2.61	115	P	Pn	00 52 46.0	-0.8
BRK02	Al Birk	2.61	115	S	Sn	00 53 18.0	-0.5
NAMS	An Nimas	2.70	88	S	Sn	00 53 20.7	-0.5
NAMS	An Nimas	2.70	88	P	Pn	00 52 48.2	-0.1
ASIR3	ASIR3	2.89	97	S	Sn	00 53 26.0	+0.1
ASIR3	ASIR3	2.89	97	P	Pn	00 52 50.5	-0.4
MDRAS	Madrakah	3.04	12	P	Pn	00 52 50.1	-2.7
ENMS	ENMS	3.05	90	P	Pn	00 52 53.7	+0.7
DRBS	Ad Darb	3.07	114	P	Pn	00 52 52.8	-0.4
EIL	Elat	11.26	340	LR	LR	00 58 15.6	
	comp=Z,144nm,19.5s,baz=228,slow=33						
MMAI	Mount Meron Ar	14.30	346	LR	LR	01 00 27.1	
	comp=Z,161nm,18.3s,baz=110,slow=35						
UOSS	Minazif	16.67	67	P	P	00 56 01.6	+0.8
CSS	Mathiatis	16.68	343	P	Pn	00 55 59.2	+0.7
WSAR	Wadi Sarin	18.45	74	LR	LR	01 04 43.7	
	comp=Z,260nm,18.3s,baz=276,slow=41						
BR131	Keskin Array S	21.14	348		P	00 56 49.5	-0.3
BR131				IAmb	IAmb	00 56 51.0	
	comp=Z,6.5nm,1.2s						
BRTR	Keskin Array B	21.14	348		P	00 56 49.6	-0.3
BRTR	Keskin Array B	21.14	348	P	P	00 56 49.1	-0.7
	comp=Z,3.0nm,1.1s,baz=162,slow=13,SNR=11						
BRTR				LR	LR	01 05 15.2	
	comp=Z,52nm,18.8s,baz=150,slow=37						
	comp=Z,3.0nm,1.1s						
MBAR	Mbarara	21.32	204	P	P	00 56 55.6	+3.6
MBAR				IAmb	IAmb	00 57 02.9	
	comp=Z,7.6nm,1.2s						
MBAR	Mbarara	21.32	204	LR	LR	01 04 38.9	
	comp=Z,98nm,20.4s,baz=18,slow=36						
GNI	Garni	21.49	111	LR	LR	01 05 51.0	
	comp=Z,138nm,18.4s,baz=203,slow=38						
ONI	Oni	23.68	8	P	P	00 57 16.4	0.0
ONI				IAmb	IAmb	00 57 25.4	
	comp=Z,4.7nm,1.0s						
ALN	Alexandroupoli	24.53	335	P	P	00 57 23.8	-0.5
KBZ	Khabaz	24.74	6	LR	LR	01 07 53.7	
	comp=Z,105nm,18.9s,baz=201,slow=38						
GEYT	Alibeck	24.89	37	P	P	00 57 29.2	+1.5
RDO	Rodhopi	24.95	335	P	P	00 57 27.1	-0.9
RDO				IAmb	IAmb	00 57 37.3	
	comp=Z,4.3nm,1.1s						
KEST	Kesra	31.20	308	LR	LR	01 12 01.6	
	comp=Z,35nm,18.6s,baz=289,slow=38						
SIMJ	Simiganj	32.26	47	P	P	00 58 34.2	+0.7
AKASG	Malin Array Be	32.55	348	LR	LR	01 12 26.0	
	comp=Z,36nm,18.6s,baz=78,slow=38						
AKTO	Aktyubinsk	34.62	21	LR	LR	01 15 54.5	
	comp=Z,74nm,19.2s,baz=162,slow=41						
KK31	Karatay Array	35.50	41	P	P	00 59 02.8	+1.3
KKAR	Karatay Array	35.50	41	P	P	00 59 03.1	+1.6
GERES	GERESS Array B	36.17	331	LR	LR	01 14 23.7	
	comp=Z,23nm,18.3s,baz=119,slow=37						
TORD	Torodi Ar. Bea	36.60	266	P	P	00 59 09.1	-2.1
	comp=Z,1.8nm,0.9s,baz=64,slow=9.8,SNR=6.5						
	comp=Z,1.8nm,0.9s						
KIRV	Kirov	40.12	8	LR	LR	01 16 38.5	
	comp=Z,38nm,18.8s,baz=186,slow=37						
BVAR	Borovoye Array	41.53	28	LR	LR	01 20 04.4	
	comp=Z,44nm,18.1s,baz=210,slow=40						
PALK	Pallekele	41.83	101	LR	LR	01 14 45.3	
	comp=Z,83nm,20.4s,baz=333,slow=33						
ESDC	Sonseca Array	42.45	308	P	P	00 59 59.4	-0.4
	comp=Z,0.8nm,1.0s,baz=101,slow=6.7,SNR=3.6						
ESDC				LR	LR	01 17 58.8	
	comp=Z,17nm,19.0s,baz=114,slow=37						
	comp=Z,0.8nm,1.0s						
TSUM	Tsumeb	43.64	211	LR	LR	01 18 57.9	
	comp=Z,52nm,18.8s,baz=335,slow=37						
MAKZ	Makanchi	44.42	42	P	P	01 00 16.2	+0.6
MAKZ				IAmb	IAmb	01 00 20.9	
	comp=Z,2.4nm,0.9s						
MK31	Makanchi Array	44.61	42	P	P	01 00 17.7	+0.6
MK31				IAmb	IAmb	01 00 22.8	
	comp=Z,1.9nm,0.8s						
MKAR	Makanchi Array	44.61	42	P	P	01 00 17.0	-0.1
MKAR	Makanchi Array	44.61	42	P	P	01 00 17.0	-0.1
	comp=Z,2.3nm,0.9s,baz=250,slow=7.3,SNR=12						
MKAR				LR	LR	01 20 49.7	
	comp=Z,81nm,18.3s,baz=298,slow=39						
	comp=Z,2.3nm,0.9s						
DBIC	Dimbokro	44.69	260	LR	LR	01 18 47.2	
	comp=Z,67nm,19.0s,baz=102,slow=36						
NOA	NORSAR Array B	46.37	342	LR	LR	01 21 26.5	
	comp=Z,9.5nm,19.7s,baz=260,slow=38						
ZALV	Zalesovo Beam	49.13	34	P	P	01 00 50.8	-1.5
	comp=Z,0.3nm,0.3s,baz=245,slow=8.9,SNR=6.5						
ZALV				LR	LR	01 22 04.2	
	comp=Z,34nm,20.0s,baz=238,slow=37						
	comp=Z,0.3nm,0.3s						
BOSA	Boshof	49.35	196	LR	LR	01 22 10.0	
	comp=Z,98nm,20.0s,baz=20,slow=37						
SUR	Sutherland	54.17	199	LR	LR	01 26 07.0	
	comp=Z,107nm,18.7s,baz=342,slow=38						
TIXI	Tiksi	71.88	19	LR	LR	01 40 11.2	
	comp=Z,41nm,19.1s,baz=329,slow=40						
YAK	Yakutsk	73.49	29	LR	LR	01 40 28.7	
	comp=Z,35nm,18.7s,baz=358,slow=40						
KLR	Kul'dur	77.31	42	LR	LR	01 41 44.7	
	comp=Z,56nm,18.2s,baz=268,slow=38						
KSRS	Korea Array	77.55	55	LR	LR	01 43 04.6	
	comp=Z,51nm,18.4s,baz=270,slow=40						
JNU	Nakatsue	81.04	58	LR	LR	01 47 15.3	
	comp=Z,22nm,20.6s,baz=153,slow=41						
MA2	Magadan	84.02	28	LR	LR	01 45 37.9	
	comp=Z,27nm,18.9s,baz=16,slow=38						
MJAR	Matsushiro Arr	85.67	53	LR	LR	01 46 51.8	
	comp=Z,30nm,18.4s,baz=245,slow=38						
ASAJ	Asahikawa	86.02	45	LR	LR	01 47 37.4	
	comp=Z,45nm,18.1s,baz=72,slow=39						
MDP	Montagnes des	90.23	275	LR	LR	01 46 02.5	
	comp=Z,27nm,18.5s,baz=109,slow=36						
PETK	Petropavlovsk-	90.65	32	LR	LR	01 50 26.4	
	comp=Z,28nm,19.5s,baz=302,slow=39						

*TRN **02** 01:01:42.5, 10°.32N×62°.61W, h8km, MD3.4, Gulf of Paria.*
*FUNV **02** 01:01:44.5, 10°.35N×62°.55W, h7km, MW3.3*

ISC 02 01:01:42.4±1.4, 10°.28N±0°.05×62°.64W±0°.03, h8km±12km, n18, σ1§47/29, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	Chacachacare	0.97	64	eP	Pg	01 02 00.3	-0.7
TCE				eS	Sg	01 02 13.0	-0.6
TPP	Pointe-a-Pierr	1.17	88	eP	Pn	01 02 05.1	0.0
TPP				eS	Sn	01 02 24.0	+2.7
TRN	Trinidad (W)	1.27	73	eP	Pn	01 02 05.8	-0.7
TRN				eS	Sn	01 02 24.1	+0.4
TBH	Brigand Hill	1.56	82	e	Pg	01 02 13.6	+1.1
PCRV	Puerto La Cruz	1.97	267	eP	Pb	01 02 18.1	-0.5
PCRV				eS	Sb	01 02 43.2	0.0
PCRV	Puerto La Cruz	1.97	267	eP	Pb	01 02 18.6	0.0
PCRV	Puerto La Cruz	1.97	267	e	Sb	01 02 43.3	0.0
GRFF	Grenada Fort F	1.97	27	eS	Sn	01 02 40.8	-0.2
GRGR	Grenville	2.08	28	eP	Pn	01 02 17.9	+0.2
GRGR				eS	Sn	01 02 42.8	-0.9
GRSS	Sisters	2.25	27	eP	Pn	01 02 20.0	+0.1
GRSS				eS	Sn	01 02 46.5	-1.3
TACV	Tcata	4.32	269	eP	Pn	01 02 50.8	+2.3
TACV				eS	Sn	01 03 40.0	+0.8
LUEV	Luepa	4.56	165	eP	Pn	01 02 53.1	+1.2
LUEV				eS	Sn	01 03 44.1	-1.1
CACV	CAICARA DEL OR	4.70	235	eP	Pn	01 02 50.1	-3.6
CACV				eS	Sn	01 03 39.4	-9.1
BENV	Beln	4.89	267	eP	Pn	01 02 58.7	+2.3
TURV	Turiamo	5.12	272	eP	Pn	01 03 00.4	+1.0
TURV				eS	Sn	01 03 57.6	-1.2
BAUV	El Baul	5.49	256	eP	Pn	01 03 06.2	+1.7
BAUV				eS	Sn	01 04 06.5	-1.4
BAUV	El Baul	5.49	256	eP	Pn	01 03 05.9	+1.4
BAUV				eS	Sn	01 04 06.6	-1.4
TEPV	Terepaima	6.46	268	eP	Pn	01 03 19.6	+1.6

IDC 02 01:04:43.2±2.7, 23°.99S×178°.85W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=78.4km s-min=45.9km az=35.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.06	260	P	P	01 12 45.0	-0.1
	11nm,0.3s,baz=96,slow=8.7,SNR=1.7						
	11nm,0.3s						
WRA	Warramunga Arr	43.45	266	P	P	01 12 48.1	-0.2
	0.9nm,0.5s,baz=104,slow=7.9,SNR=7.1						
	0.9nm,0.5s						
QSPA	South Pole Qui	66.09	180	P	P	01 15 32.0	+0.1
	1.1nm,0.9s,baz=56,slow=3.6,SNR=1.9						
	1.1nm,0.9s						
HFS	Hagfors	142.83	350	PKhKP	PKPpre	01 24 10.6	
	0.6nm,0.5s,baz=345,slow=11,SNR=6.4						
BRTR	Keskin Array B	148.47	308	PKPbc	PKPbc	01 24 31.6	-0.7
	0.5nm,0.7s,baz=67,slow=1.9,SNR=3.9						

*RSNC **02** 01:16:44.8±0.3, 1°.S±3°.×7°.8W±°, h184km±4km, M3.8, mB5.2, mb4.3, ML2.9, Mw(mB)4.5, MwMwp5.0, Mwp5.3*
*NEIC **02** 01:16:45.1±1.6, 1°.37S±0°.07×77°.64W±0°.10, h181km±7km, mb4.0/33, Error ellipse: s-maj=14.6km s-min=10.4km az=82.0*
*IDC **02** 01:16:46.4±3.8, 1°.40S×77°.79W, h192km±40km, mb3.3/7, mbtmp3.8/9, Error ellipse: s-maj=52.3km s-min=17.8km az=56.0*

ISC 02 01:16:44.8±0.7, 1°.39S±0°.05×77°.76W±0°.07, h184km±6km, n90, σ1§33/104, mb3.9/23, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIAT	Ana Tenorio	0.64	307	P	Pn	01 17 11.9	+0.8
PIAT				S	Sn	01 17 32.3	+0.9
ANTS	Antisana-Sarah	0.97	335	Pn	Pn	01 17 13.8	+0.3
SLOR	San Lorenzo -	0.99	311	Pn	Pn	01 17 14.0	+0.7
PULU	Pululahua	1.58	332	Pn	Pn	01 17 18.2	-0.1
IMBA	Imbabura, San	1.71	345	Pn	Pn	01 17 19.9	+0.3
OTAV	Otavalo	1.76	337	Pn	Pn	01 17 19.1	-1.0
OTAV	Otavalo	1.76	337	P	Pn	01 17 19.7	-0.4
OTAV				S	Sn	01 17 45.9	-1.6
CUSE	Cuicocha Este	1.80	339	P	Pn	01 17 20.6	+0.1
CUSE				S	Sn	01 17 48.0	-0.2
BONI	La Bonita	1.84	7	P	Pn	01 17 20.5	-0.3
BONI				S	Sn	01 17 48.4	-0.3
PAC1	Pacto, Paraso	1.94	328	P	Pn	01 17 22.5	+0.8
PAC1				S	Sn	01 17 50.3	0.0
TULM	Tulcn-Chalpat	2.09	359	Pn	Pn	01 17 23.7	+0.1
TULM	Tulcn-Chalpat	2.09	359	P	Pn	01 17 23.7	+0.1
CMBC	Cumbal	2.31	358	P	Pn	01 17 26.9	+0.8
GCUF	Volcan Galeras	2.63	9	P	Pn	01 17 30.0	+0.3
PPLP	Puerto Lpez	3.02	267	P	Pn	01 17 33.2	-0.8
PPLP				S	Sn	01 18 08.9	-3.4
CRUC	La Cruz	3.04	15	P	Pn	01 17 34.8	+0.3
ARNL	Arenillas	3.15	227	Pn	Pn	01 17 33.3	-2.2
PTLC	Puerto Leguiza	3.34	62	P	Pn	01 17 36.3	-1.5
BBAC	Balboa, Cauca	3.42	9	P	Pn	01 17 38.5	-0.5
BBAC				S	Sn	01 18 24.3	+2.8
MCRA	Macar, Loja	3.69	216	P	Pn	01 17 40.6	-1.6
MCRA				S	Sn	01 18 25.3	-1.8
POPC	Popayan, Colom	4.05	15	P	Pn	01 17 45.8	-1.1
POPC				S	Sn	01 18 35.5	0.0
GARC	Garzon, Huila	4.21	33	P	Pn	01 17 48.9	-0.1
GR1C	Gorgona, Isla	4.38	355	P	Pn	01 17 50.4	-0.5
GR1C				S	Sn	01 18 38.7	-4.1
BETC	Betania	4.66	30	P	Pn	01 17 55.2	+0.7
JAMC	Jamundi, Valle	4.70	13	P	Pn	01 17 52.9	-2.3
JAMC				S	Sn	01 18 51.5	+1.1
MALC	Bahia Malaga	5.38	4	P	Pn	01 18 01.4	-2.4
MALC				S	Sn	01 19 04.8	-1.2
YOTC	Yotoco, Valle	5.52	15	P	Pn	01 18 02.5	-3.2
YOTC				S	Sn	01 19 05.0	-4.4
ATAH	Atahualpa	5.75	186	P	Pn	01 18 10.9	+2.0
	15nm,0.5s,baz=22,slow=7.9,SNR=26						
ATAH				S	Sn	01 19 16.0	+0.8
	44nm,0.7s,baz=18,slow=20,SNR=19						
PRAC	Prado	5.82	30	P	Pn	01 18 09.5	-0.1
	11nm,0.6s						
PLMC	San Jos del P	6.42	13	P	Pn	01 18 14.1	-3.4
GUY2C	Guyana, Caldas	6.99	20	P	Pn	01 18 23.0	-2.3
CZSB	Cruzeiro do Su	8.06	142	Pn	Pn	01 18 38.5	-0.6
CZSB	Cruzeiro do Su	8.06	142	P	Pn	01 18 39.6	+0.6
	29nm,0.5s						
DBBC	Dabeiba	8.49	10	P	Pn	01 18 46.2	+1.5
PTBC	PUERTO BERRIO,	8.53	23	P	Pn	01 18 43.8	-1.4
ZARC	Zaragoza, Cauc	9.28	18	P	Pn	01 18 55.5	+0.5
	22nm,0.7s						
APAC	Apartado, Choc	9.30	7	P	Pn	01 18 57.6	+2.4
	43nm,1.2s						
UREC	San Jos de Ur	9.34	14	P	Pn	01 18 56.4	+0.6
PAMC	Pamplona, Colo	10.03	30	P	Pn	01 19 06.2	+1.0
OCAC	Ocana	10.53	25	P	Pn	01 19 10.1	-1.4
	17nm,0.6s						
BCIP	Isla Barro Col	10.69	349	Pn	Pn	01 19 13.3	0.0
BCIP	Isla Barro Col	10.69	349	P	Pn	01 19 15.7	+2.4
SJCC	San Jacinto, C	11.50	13	P	Pn	01 19 23.9	+0.1
	15nm,1.7s						
BAUV	El Baul	14.11	43	Pn	Pn	01 19 54.9	-2.0
ETMB	Extrema	14.21	127	Pn	Pn	01 19 56.5	-1.6
AUA1	Aruba	15.80	29		Pn	01 20 17.6	+0.1
SAML	Samuel	16.33	118	P	P	01 20 22.3	-1.3
LPAZ	La Paz	17.58	148	P	Pn	01 20 40.8	+1.2
	0.3nm,0.4s,baz=320,slow=7.9,SNR=2.2						
HNDO	Hondo	36.99	328	P	P	01 23 37.7	+0.9
T57A	Hurt	38.22	358	P	P	01 23 46.8	-0.1
WHAR	Wooly Hollow	38.94	341	P	P	01 23 52.1	-0.8
TXAR	Lajitas Array	39.33	323	P	P	01 23 57.3	+0.8
TXAR				PcP	PcP	01 26 02.5	+1.1
TXAR	Lajitas Array	39.33	323	P	P	01 23 57.1	+0.6
	0.4nm,0.5s,baz=146,slow=7.9,SNR=10						
	0.4nm,0.5s						
TX31	Lajitas Ar. Si	39.34	323	P	P	01 23 57.3	+0.8
X37A	Clayton	39.42	337	P	P	01 23 57.0	0.0
X37A				IAmb	IAmb	01 24 12.2	
	comp=Z,4.9nm,1.2s						
T42A	Van Buren	40.18	343	P	P	01 24 01.5	-1.6
T42A				IAmb	IAmb	01 24 02.1	
	comp=Z,2.5nm,0.6s						
APMT	Aspermont	40.46	331	P	P	01 24 06.6	+1.1
APMT				IAmb	IAmb	01 24 07.0	
	comp=Z,3.5nm,0.7s						
VHRN	Van Horn	41.17	323	P	P	01 24 12.4	+0.8
ANMO	Albuquerque	45.04	326	P	P	01 24 43.5	+0.9
ANMO				IAmb	IAmb	01 24 44.5	
	comp=Z,4.4nm,0.6s						
ANMO	Albuquerque	45.04	326	P	P	01 24 43.7	+1.1
	comp=Z,3.8nm,0.6s,baz=225,slow=8.9,SNR=20						
	comp=Z,3.8nm,0.6s						
SDCO	Great Sand Dun	46.63	329	P	P	01 24 56.1	+1.0
SDCO				IAmb	IAmb	01 24 57.0	
	comp=Z,4.9nm,1.2s						
HMU	Henry Mountain	49.59	326	P	P	01 25 19.2	+1.5
PDAR	Pinedale Array	52.45	331	P	P	01 25 38.6	-0.4
	comp=Z,0.4nm,0.7s,baz=125,slow=7.8,SNR=3.3						
	comp=Z,0.4nm,0.7s						
SPUT	South Promonto	52.88	327	P	P	01 25 42.6	+0.5
NVAR	Mina Array Bea	54.43	321	P	P	01 25 54.3	+0.9
	comp=Z,0.6nm,0.7s,baz=134,slow=7.3,SNR=6.1						
	comp=Z,0.6nm,0.7s						
PINE	Pine Mountain	59.25	325	P	P	01 26 28.7	+1.5
K02D	Willamette Mer	60.23	322	P	P	01 26 34.3	+0.5
P33M	Teslin, Yukon	74.63	335	P	P	01 28 04.8	+1.0
P33M				IAmb	IAmb	01 28 39.2	
	comp=Z,3.3nm,1.4s						
H31M	Peel River	78.17	339	P	P	01 28 23.7	+0.2
H31M				IAmb	IAmb	01 28 24.9	
	comp=Z,2.8nm,1.1s						
K29M	Barlow Dome	78.37	337	P	P	01 28 24.9	+0.1
I30M	Mount Dempster	78.61	338	P	P	01 28 26.2	+0.2
I30M				IAmb	IAmb	01 28 27.5	
	comp=Z,2.1nm,0.9s						
G31M	Satah River	78.73	340	P	P	01 28 26.7	+0.2
G31M				IAmb	IAmb	01 28 27.6	
	comp=Z,2.4nm,0.8s						
INK	Inuvik	79.23	342	P	P	01 28 30.1	+0.9
INK				IAmb	IAmb	01 28 39.2	
	comp=Z,4.9nm,1.3s						
H29M	Whitestone	79.81	339	P	P	01 28 32.6	+0.3
H29M				IAmb	IAmb	01 28 34.2	
	comp=Z,3.5nm,1.2s						
G29M	Pine Creek	80.01	340	P	P	01 28 33.9	+0.4
G29M				IAmb	IAmb	01 28 34.5	
	comp=Z,2.7nm,0.7s						
I28M	Miner Creek	80.03	338	P	P	01 28 32.9	-0.8
TORD	Torodi Ar. Bea	80.05	76	P	P	01 28 35.3	+0.6
	comp=Z,0.6nm,0.9s,baz=269,slow=8.6,SNR=2.0						
	comp=Z,0.6nm,0.9s						
E29M	Blow River	80.67	341	P	P	01 28 36.8	-0.1
E29M				IAmb	IAmb	01 29 08.4	
	comp=Z,6.5nm,1.5s						
SCRK	Sand Creek	81.02	336	P	P	01 28 39.1

FAKI	**Fak Fak**	**7.17 50**	P	**Pn**		**02 09 31.4**	**-0.1**
	74nm,0.7s,0.3nm						
KAPI	**Kappang**	**7.38 290**	Pn	**Pn**		**02 09 33.5**	**-0.5**
KAPI	**Kappang**	**7.38 290**	P	**Pn**		**02 09 34.3**	**+0.3**
	12nm,0.8s,baz=134,slow=14,SNR=4.6						
KDU	**Kakadu**	**7.62 133**	P	**Pn**		**02 09 38.8**	**+1.9**
SWI	**Sorong**	**8.04 34**	P	**Pn**		**02 09 41.9**	**-0.1**
	50nm,1.2s						
KNRA	**Kununurra**	**8.32 166**	Pn	**Pn**		**02 09 46.7**	**+1.3**
PLAI	**Plampang**	**8.95 261**	P	**Pn**		**02 09 50.4**	**-2.9**
PLAI	**Plampang**	**8.95 261**	P	**Pn**		**02 09 50.2**	**-3.1**
	28nm,1.0s						
FITZ	**Fitzroy Crossi**	**10.54 186**	P	**Pn**		**02 10 12.7**	**+0.1**
	25nm,1.0s						
FITZ	**Fitzroy Crossi**	**10.54 186**	Pn	**Pn**		**02 10 12.8**	**+0.1**
WB0	**Warramunga Arr**	**14.24 149**	P	**P**		**02 10 56.5**	**-0.2**
WRAB	**Tennant Creek**	**14.36 150**	P	**P**		**02 10 57.0**	**-1.0**
WRA	**Warramunga Arr**	**14.36 150**	P	**P**		**02 10 57.3**	**-0.7**
WRA	**Warramunga Arr**	**14.36 150**	P	**P**		**02 10 57.8**	**-0.3**
	1.6nm,0.6s,baz=326,slow=12,SNR=19						
WRA			S	**S**		**02 13 33.8**	**-2.1**
	14nm,0.9s,baz=326,slow=20,SNR=14						
WB2	**Warramunga Arr**	**14.36 150**	P	**P**		**02 10 58.1**	**-0.1**
WR0	**Warramunga Arr**	**14.47 149**	P	**P**		**02 10 59.3**	**0.0**
MBWA	**Marble Bar**	**15.12 206**	P	**P**		**02 11 05.9**	**-0.5**
MBWA	**Marble Bar**	**15.12 206**	P	**P**		**02 11 04.4**	**-2.0**
MBWA			IAmb	IAmb		02 11 09.0	
	comp=Z,22nm,1.1s						
PSA00	**Pilbara Seismi**	**15.44 205**	P	**P**		**02 11 10.0**	**+0.1**
PSA00	**Pilbara Seismi**	**15.44 205**	P	**P**		**02 11 08.3**	**-1.6**
PSA00			IAmb	IAmb		02 11 12.1	
	comp=Z,18nm,1.1s						
COEN	**Coen**	**17.36 113**	P	**P**		**02 11 31.8**	**+0.9**
COEN	**Coen**	**17.36 113**	P	**P**		**02 11 31.3**	**+0.4**
AS31	**Alice Springs**	**17.44 158**	P	**P**		**02 11 32.4**	**+0.7**
AS31			IAmb	IAmb		02 11 34.3	
	comp=Z,5.2nm,0.2s						
ASAR	**Alice Springs**	**17.44 158**	P	**P**		**02 11 32.4**	**+0.7**
ASAR	**Alice Springs**	**17.44 158**	P	**P**		**02 11 32.6**	**+0.9**
	comp=Z,4.2nm,0.3s,baz=333,slow=11,SNR=35						
ASAR			S	**S**		**02 14 36.2**	**-1.2**
	comp=Z,5.3nm,1.0s,baz=334,slow=22,SNR=9.5						
WRKA	**Warakurna**	**17.45 175**	P	**P**		**02 11 32.2**	**+0.4**
AS01	**Alice Springs**	**17.46 157**	P	**P**		**02 11 32.3**	**+0.4**
	comp=Z,9.5nm,0.8s						
QIS	**Mount Isa**	**17.96 137**	P	**P**		**02 11 38.6**	**+1.3**
MEEK	**Meekatharra**	**20.49 201**	P	**P**		**02 12 02.0**	**-1.9**
OOD	**Oodnadatta**	**21.85 158**	P	**P**		**02 12 16.6**	**0.0**
CTAO	**Charters Tower**	**22.65 125**	P	**P**		**02 12 24.5**	**+0.5**
CTAO			IAmb	IAmb		02 12 27.6	
	comp=Z,17nm,1.1s						
MULG	**Mulgathing**	**23.64 164**	P	**P**		**02 12 32.4**	**-0.4**
BBOO	**Buckleboo**	**26.58 162**	P	**P**		**02 12 58.6**	**-0.7**
BBOO			IAmb	IAmb		02 13 04.0	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**27.89 152**	P	**P**		**02 13 10.7**	**-0.1**
STKA	**Stephens Creek**	**27.89 152**	P	**P**		**02 13 10.8**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=345,slow=12,SNR=2.9						
	comp=Z,1.0nm,0.4s						
MJAR	**Matsuhiro Ar**	**45.17 13**	P	**P**		**02 15 32.3**	**-3.2**
	comp=Z,1.9nm,0.7s,baz=183,slow=7.3,SNR=2.6						
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**66.95 328**	P	**P**		**02 18 13.4**	**+4.7**
	comp=Z,0.3nm,0.5s,baz=131,slow=7.4,SNR=3.0						
	comp=Z,0.3nm,0.5s						

*SGS **02** 02:11:00.8, 30.°82N×35.°10E, h15km, Ml2.5*
*JSO **02** 02:11:04, 30.°54N×35.°28E, h16km, ML2.3/27, Mw2.2/27*
ISC 02 02:11:03.4±1.0, 30.°58N±0.°03×35.°17E±0.°05, h23km±6km, n38, σ0s83/41, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.03**	**165**	P	**Pb**	**02 11 07.2**	**-0.2**
ZFRI				S	**Sb**	**02 11 10.0**	**-0.1**
PRNI	**Paran**	**0.27**	**212**	P	**Pb**	**02 11 10.5**	**+0.6**
HSNJ	**Maan**	**0.55**	**126**	P	**Pb**	**02 11 13.1**	**-1.5**
HRFI	**Mount Harif**	**0.56**	**192**	P	**Pb**	**02 11 14.4**	**-0.1**
KRMI	**Paran Flat**	**0.60**	**220**	P	**Pn**	**02 11 15.8**	**-0.8**
KARJ	**KARJ**	**0.68**	**38**	P	**Sn**	**02 11 29.3**	**+1.8**
LISJ	**El Lisan**	**0.71**	**22**	P	**Pn**	**02 11 17.2**	**-0.8**
MDBI	**Mazsada**	**0.75**	**12**	P	**Pb**	**02 11 16.9**	**-0.8**
YTIR	**Yattir**	**0.78**	**357**	P	**Pn**	**02 11 19.7**	**+0.6**
MBRI	**Mt Berech**	**0.82**	**196**	P	**Pb**	**02 11 18.9**	**-0.1**
MBRI				S	**Sn**	**02 11 31.1**	**+0.1**
AQBJ	**Aqaba**	**0.86**	**187**	P	**Pb**	**02 11 19.8**	**+0.2**
DSI	**Dead Sea**	**1.00**	**10**	P	**Pn**	**02 11 22.0**	**0.0**
SWQJ	**Swaqa**	**1.01**	**49**	P	**Pb**	**02 11 22.9**	**+0.6**
SWQJ				S	**Sn**	**02 11 37.9**	**+2.1**
JMOS	**Jabal al Moall**	**1.41**	**182**	S	**Sb**	**02 11 47.3**	**+0.7**
JMOS	**Jabal al Moall**	**1.41**	**182**	P	**Pn**	**02 11 27.5**	**-0.2**
HAQS	**Haql**	**1.54**	**188**	P	**Pn**	**02 11 29.0**	**-0.5**
HAQS	**Haql**	**1.54**	**188**	S	**Sn**	**02 11 48.1**	**-0.7**
SLTI	**Sal'it**	**1.66**	**356**	P	**Pb**	**02 11 32.3**	**-1.0**
HMDT	**Nahal Hemdat**	**1.69**	**10**	P	**Pn**	**02 11 31.9**	**+0.3**
HSUJ	**Al Zarqa**	**1.75**	**30**	P	**Pn**	**02 11 32.9**	**+0.5**
QRNJ	**Al-Qirein**	**1.78**	**11**	P	**Pb**	**02 11 35.1**	**-0.3**
JLOS		**1.86**	**171**	P	**Pn**	**02 11 33.7**	**-0.3**
JLOS		**1.86**	**171**	S	**Sb**	**02 11 59.3**	**-0.5**
OFRI	**`Ofer**	**2.04**	**356**	P	**Pb**	**02 11 38.0**	**-1.8**
TAYS	**Tayyib Ism**	**2.04**	**187**	P	**Pn**	**02 11 35.9**	**-0.4**
BDAS	**Al Bad`**	**2.15**	**182**	P	**Pn**	**02 11 37.1**	**-0.7**
ASF	**Jabal al Asfar**	**2.17**	**43**	P	**Pn**	**02 11 37.1**	**-1.1**
AYUS	**`Aynunah**	**2.39**	**178**	P	**Pb**	**02 11 46.5**	**+0.9**
KRABS	**KRABS**	**2.47**	**178**	P	**Pn**	**02 11 41.4**	**-0.9**
WTBKS	**WTBKS**	**2.57**	**165**	P	**Pn**	**02 11 44.3**	**+0.5**
HANO	**Al Hamad**	**2.83**	**73**	P	**Pn**	**02 11 46.8**	**-0.5**
URD10	**Hayder**	**2.93**	**145**	P	**Pn**	**02 11 47.7**	**-1.0**
URD12	**Shuwaq**	**3.26**	**149**	P	**Pn**	**02 11 53.4**	**+0.1**
URD11	**Tayma**	**3.31**	**142**	P	**Pn**	**02 11 53.2**	**-0.6**
URD06	**Shuwaq**	**3.42**	**156**	P	**Pn**	**02 11 56.0**	**+0.6**
QLABS	**Al Qalibar**	**3.63**	**138**	P	**Pn**	**02 11 57.9**	**-0.5**
BIDS	**Bi'r al Bayda'**	**4.02**	**157**	P	**Pn**	**02 12 03.6**	**0.0**
NTAIM	**NTAIM**	**4.02**	**126**	P	**Pn**	**02 12 02.9**	**-0.7**

NAM 02 02:12:32.1±5.4, 19.°71S×14.°48E, h11km±19km, ML0.6, 16C-2D, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ST3N	**ST3**	**0.03**	**147**	⇑*iP*	Pg	02 12 35.5	+1.1
ST3N				*i* S	Sg	02 12 37.5	+1.6
ST3N	**ST3**	**0.03**	**147**	⇓*iP*	Pg	02 12 35.8	+1.4
ST3N				*i* S	Sg	02 12 37.5	+1.5
ST9N	**ST9**	**0.11**	**144**	⇑*iP*	Pg	02 12 34.9	-0.1
ST9N				*i* S	Sg	02 12 36.1	-1.1
ST9N				IAML		02 12 36.2	
	comp=Z,41nm,0.4s						
ST9N	**ST9**	**0.11**	**144**	⇑*iP*	Pg	02 12 35.0	-0.1
ST9N				*i* S	Sg	02 12 36.0	-1.2
ST9N				IAML		02 12 36.2	
	comp=Z,41nm,0.4s						
ST6N	**ST6**	**0.12**	**221**	⇑*iP*	Pb	02 12 37.0	+0.5
ST6N				*i* S	Sg	02 12 37.9	+0.5
ST6N				IAML		02 12 39.6	
	comp=Z,6.3nm,0.3s						
ST6N	**ST6**	**0.12**	**221**	⇑*iP*	Pb	02 12 37.0	+0.6
ST6N				*i* S	Sg	02 12 38.2	+0.8
ST6N				IAML		02 12 39.6	
	comp=Z,6.2nm,0.3s						
ST1N	**ST1**	**0.13**	**101**	⇓*iP*	Pg	02 12 35.5	+0.2
ST1N				*i* S	Sg	02 12 36.8	-0.9
ST1N				IAML		02 12 36.8	
	comp=Z,46nm,0.3s						
ST1N	**ST1**	**0.13**	**101**	⇑*iP*	Pg	02 12 35.5	+0.1
ST1N				*i* S	Sg	02 12 36.8	-0.9
ST1N				IAML		02 12 36.9	
	comp=Z,48nm,0.3s						
ST8N	**ST8**	**0.15**	**279**	⇑*iP*	Pb	02 12 39.2	+2.1
ST8N				*i* S	Sg	02 12 42.9	+4.6
ST8N				IAML		02 12 43.3	
	comp=Z,3.7nm,0.3s						
ST8N	**ST8**	**0.15**	**279**	⇑*iP*	Pb	02 12 41.8	+4.8
ST8N				*i* S	Sg	02 12 42.8	+4.5
ST8N				IAML		02 12 43.3	
	comp=Z,3.7nm,0.3s						
ST2N	**ST2**	**0.24**	**152**	⇑*iP*	Pg	02 12 37.9	+0.6
ST2N				IAML	S	02 12 39.1	-1.6
	comp=Z,8.9nm,0.3s						
ST2N				*i* S	S	02 12 39.1	-1.6
ST2N	**ST2**	**0.24**	**152**	⇑*iP*	Pb	02 12 38.1	-0.5
ST2N				*i* S	Sg	02 12 39.0	-1.6
ST2N				IAML		02 12 39.1	
	comp=Z,8.9nm,0.3s						
ST5N	**ST5**	**0.27**	**106**	⇑*iP*	Pg	02 12 37.5	-0.3
ST5N				*i* S	Sg	02 12 39.1	-2.5
ST5N				IAML		02 12 40.0	
	comp=Z,7.3nm,0.3s						
ST5N	**ST5**	**0.27**	**106**	⇑*iP*	Pb	02 12 38.7	-0.4
ST5N				*i* S	Sg	02 12 39.1	-2.5
ST5N				IAML		02 12 40.0	
	comp=Z,7.3nm,0.3s						
ST10N	**ST10**	**0.29**	**197**	⇑*iP*	Pb	02 12 38.9	-0.6
ST10N				*i* S	Sg	02 12 42.9	+0.7
ST10N				IAML		02 12 43.7	
	comp=Z,4.6nm,0.2s						
ST10N	**ST10**	**0.29**	**197**	⇑*iP*	Pg	02 12 38.6	+0.4
ST10N				*i* S	Sg	02 12 42.9	+0.7
ST10N				IAML		02 12 43.7	
	comp=Z,4.6nm,0.2s						
ST4N	**ST4**	**0.50**	**111**	⇑*iP*	Pn	02 12 46.2	+0.9
ST4N				IAML		02 12 46.8	
	comp=Z,2.4nm,0.3s						
ST4N				*i* S	Sg	02 12 47.0	-1.5
ST4N	**ST4**	**0.50**	**111**	⇑*iP*	Pn	02 12 46.4	+1.2
ST4N				IAML		02 12 46.8	
	comp=Z,2.4nm,0.3s						
ST4N				*i* S	Sg	02 12 46.9	-1.7

NNC 02 02:18:37.8±6.5, 37.°00N×70.°81E, h195km±113km, mb2.6, mpv3.5, 3C-2D, Error ellipse: s-maj=73.2km s-min=35.7km az=11.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.10**	**358**	⇑P	Pn	02 20 06.6	+0.4
	0.6nm,0.3s,baz=192,slow=14,SNR=30						
KK31				⇓S	Sn	02 21 16.4	+0.3
	3.7nm,0.3s,baz=187,slow=14,SNR=20						
TKM2	**Tokmak 2**	**6.96**	**30**	⇑P	Pn	02 20 17.2	-0.4
	4.7nm,0.6s						
TKM2				⇓S	Sn	02 21 37.5	+0.7
	2.9nm,0.8s						
AB31	**Akbulak array**	**14.57**	**331**	⇑P	Pn	02 21 54.8	+0.1
	0.5nm,0.3s,baz=152,slow=12,SNR=24						

*SJA **02** 02:45:30.0±1.0, 37.°74S×72.°87W, h40km±41km, ML4.2, MW4.0*
*NEIC **02** 02:45:31.7±1.8, 37.°708S±0.°009×72.°83W±0.°09, h51km±7km, mb4.4/10, Mwr4.0/16, Mwr4.4(GUC), Error ellipse: s-maj=10.7km s-min=0.5km az=96.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.36; $M_{\theta\theta}$0.27; $M_{\phi\phi}$1.10; $M_{r\theta}$0.48; $M_{\theta\phi}$0.30; $M_{r\phi}$-0.06; Fault plane solution: $M_0$1.37000×10^{15} NP1: ϕ_s213.82000°, δ49.36000°, λ-69.08000°. NP2:ϕ_s3.42000°, δ44.86000°, λ-112.58000°. Principal axes: T 1.2005, Plg2.0000°, Azm289.0000°; N 0.2986, Plg16.0000°, Azm20.0000°; P -1.4991, Plg74.0000°, Azm191.0000°;*
*NEIC **02** 02:45:31.4, 37.°71S×72.°84W, h45km*
*IDC **02** 02:45:32.9±0.8, 37.°67S×72.°61W, h57km±7km, mb3.6/11, mbtmp3.9/13, MS2.9/2, Error ellipse: s-maj=21.6km s-min=13.3km az=84.0*
*GUC **02** 02:45:32.1±0.6, 37.°75S×72.°74W, h40km±2km, ML4.3*
ISC 02 02:45:32.1±0.6, 37.°70S±0.°03×72.°88W±0.°04, h57km±6km, n109, σ1s32/136, mb4.2/15, 5C-8D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.99**	**345**	Pn	**Pn**	**02 45 50.9**	**+1.1**
BI05	**Punta Hualpn**	**0.99**	**345**	⇑*iP*	**Pn**	**02 45 51.2**	**+1.4**
BI05				*i* S	**Sn**	**02 46 04.6**	**+1.7**
BI05				IAML		02 46 10.0	
	comp=E,15μm,0.2s						
BI04	**Isla Mocha**	**1.06**	**228**	⇑*iP*	**Pn**	**02 45 50.8**	**0.0**
BI04				*i* S	**Sn**	**02 46 05.8**	**+1.1**
BI04				IAML		02 46 15.6	
	comp=E,11μm,0.2s						
LC02	**Puerto Saavedr**	**1.16**	**200**		**Pn**	**02 45 51.7**	**-0.3**
LC02	**Puerto Saavedr**	**1.16**	**200**	⇓*iP*	**Pn**	**02 45 51.7**	**-0.3**
LC02				*i* S	**Sn**	**02 46 07.4**	**+0.5**
LC02				IAML		02 46 15.6	
	comp=E,27μm,0.3s						
CANA	**Caviahue**	**1.45**	**98**	*e*P	**Pn**	**02 45 55.6**	**-0.5**
CANA				*i* S	**Sn**	**02 46 13.4**	**-0.9**
BI02	**San Fabin de**	**1.65**	**52**	*e*P	**Pn**	**02 45 58.8**	**0.0**
BI02				*i* S	**Sn**	**02 46 18.9**	**-0.1**
LR03	**Panguipulli**	**1.97**	**168**		**Pn**	**02 46 02.8**	**-0.3**
LR03	**Panguipulli**	**1.97**	**168**	⇓*iP*	**Pn**	**02 46 02.9**	**-0.2**
LR03				*i* S	**Sn**	**02 46 25.6**	**-1.1**
LR03				IAML		02 46 31.8	
	comp=N,5μm,0.3s						
LR02	**Universidad Au**	**2.12**	**188**	*e*P	**Pn**	**02 46 04.8**	**-0.2**
LR02				*i* S	**Sn**	**02 46 28.6**	**-1.6**
GO06	**Curarrehue**	**2.18**	**150**	Pn	**Pn**	**02 46 05.4**	**-0.6**
GO06	**Curarrehue**	**2.18**	**150**	*e*P	**Pn**	**02 46 05.4**	**-0.6**
GO06				*e*S	**Sn**	**02 46 31.4**	**-0.5**
GO06	**Curarrehue**	**2.18**	**150**	⇑*iP*	**Pn**	**02 46 05.4**	**-0.6**
GO06				*i* S	**Sn**	**02 46 31.5**	**-0.5**
LR04	**Corral**	**2.21**	**191**	Pn	**Pn**	**02 46 05.1**	**-1.3**
ML02	**Panimavida**	**2.27**	**32**	Pn	**Pn**	**02 46 07.0**	**-0.1**
ML02	**Panimavida**	**2.27**	**32**	⇑*iP*	**Pn**	**02 46 07.5**	**+0.4**
ML02				*i* S	**Sn**	**02 46 34.3**	**+0.5**
ML02				IAML		02 46 48.1	
	comp=N,2μm,0.4s						
LR05	**Currie**	**2.61**	**165**	Pn	**Pn**	**02 46 11.8**	**0.0**
LR05	**Currie**	**2.61**	**165**	⇓*iP*	**Pn**	**02 46 12.0**	**+0.2**
LR05				*i* S	**Sn**	**02 46 43.4**	**+1.0**
LR05				IAML		02 46 49.5	
	comp=E,1μm,0.3s						
GO05	**Huala**	**2.79**	**16**	Pn	**Pn**	**02 46 14.2**	**-0.2**
GO05	**Huala**	**2.79**	**16**	*e*P	**Pn**	**02 46 14.8**	**+0.4**
GO05				*e*S	Sn	02 46 55.9	+9.0
GO05	**Huala**	**2.79**	**16**	⇑*iP*	**Pn**	**02 46 14.8**	**+0.4**
GO05				*i* S	**Sn**	**02 46 48.2**	**+1.3**
BO02	**Sierra Bellavi**	**3.36**	**31**	Pn	**Pn**	**02 46 22.0**	**-0.2**
BO02	**Sierra Bellavi**	**3.36**	**31**	*e*P	**Pn**	**02 46 22.6**	**+0.4**
BO02				*e*S	**Sn**	**02 47 01.9**	**+1.0**
BO02				IAML		02 47 19.7	
	comp=Z,618nm,0.1s						
BO02	**Sierra Bellavi**	**3.36**	**31**	*e*P	**Pn**	**02 46 22.6**	**+0.4**
EDS3	**Malargue**	**3.40**	**56**	*e*P	**Pn**	**02 46 25.6**	**+2.8**
LL03	**Petrohue**	**3.45**	**174**	Pn	**Pn**	**02 46 21.9**	**-1.3**
PLCA	**Paso Flores**	**3.52**	**150**	Pn	**Pn**	**02 46 23.6**	**-0.8**
PLCA	**Paso Flores**	**3.52**	**150**	*e*P	**Pn**	**02 46 24.6**	**+0.2**
PLCA	**Paso Flores**	**3.52**	**150**	P	**Pn**	**02 46 25.1**	**+0.7**
	comp=Z,8.8nm,0.4s,baz=328,slow=12,SNR=114						
PLCA				S	**Sn**	**02 47 10.5**	**+5.7**
	comp=Z,55nm,0.5s,baz=265,slow=15,SNR=4.2						
BO01	**Tunca**	**3.61**	**24**	Pn	**Pn**	**02 46 24.3**	**-1.2**
BO01	**Tunca**	**3.61**	**24**	*e*P	**Pn**	**02 46 25.1**	**-0.4**
BO01				*e*S	**Sn**	**02 47 06.5**	**-0.4**
BO01				IAML		02 47 24.8	
	comp=Z,259nm,0.2s						
BO01	**Tunca**	**3.61**	**24**	*e*P	**Pn**	**02 46 24.9**	**-0.6**
LL05	**Los Muermos**	**3.73**	**187**	Pn	**Pn**	**02 46 25.5**	**-1.5**
MT01	**Popeta**	**4.05**	**20**	Pn	**Pn**	**02 46 31.2**	**-0.4**
MT01	**Popeta**	**4.05**	**20**	*e*P	**Pn**	**02 46 31.3**	**-0.3**
MT01				*e*S	Sn	02 47 26.6	+8.9
MT01				IAML		02 47 35.8	
	comp=Z,312nm,0.7s						
BO04	**La Punta**	**4.14**	**27**	Pn	**Pn**	**02 46 32.4**	**-0.4**
VA05	**Santo Domingo**	**4.17**	**15**	Pn	**Pn**	**02 46 31.7**	**-1.4**
MT09	**Talagante**	**4.21**	**22**	Pn	**Pn**	**02 46 32.5**	**-1.4**
MT13	**San Alfonso**	**4.48**	**29**	Pn	**Pn**	**02 46 37.3**	**-0.2**
LL06	**Loncomilla**	**4.54**	**187**	Pn	**Pn**	**02 46 37.6**	**-0.6**
RFA	**San Rafael**	**4.61**	**52**	*e*P	**Pn**	**02 46 41.2**	**+1.9**
MT03	**Universidad Ad**	**4.62**	**25**	Pn	**Pn**	**02 46 38.8**	**-0.7**
MT03	**Universidad Ad**	**4.62**	**25**	*e*P	**Pn**	**02 46 39.2**	**-0.3**
MT03				*e*S	**Sn**	**02 47 34.4**	**+2.5**
MT03				IAML		02 48 08.2	
	comp=Z,276nm,0.5s						
MT05	**Renca**	**4.64**	**23**	Pn	**Pn**	**02 46 39.6**	**-0.1**
MT05	**Renca**	**4.64**	**23**	*e*P	**Pn**	**02 46 41.3**	**+1.6**
MT05				*e*S	**Sn**	**02 47 34.7**	**+2.4**
MT05				IAML		02 48 07.2	
	comp=Z,177nm,0.6s						
MT02	**Curacav**	**4.66**	**18**	Pn	**Pn**	**02 46 37.8**	**-2.0**
MT02	**Curacav**	**4.66**	**18**	*e*P	**Pn**	**02 46 38.9**	**-0.9**
MT02				*e*SA		02 47 32.4	
MT02				IAML		02 47 50.5	
	comp=Z,169nm,0.6s						
MT16	**CCHEN**	**4.68**	**25**	Pn	**Pn**	**02 46 39.7**	**-0.5**
LL01	**San Ignacio de**	**4.68**	**176**	Pn	**Pn**	**02 46 38.9**	**-1.2**
LL01	**San Ignacio de**	**4.68**	**176**	*e*P	**Pn**	**02 46 40.3**	**+0.2**
VA01	**Torpederas**	**4.78**	**13**	Pn	**Pn**	**02 46 39.4**	**-2.1**
MT08	**Bocatoma Ro**	**4.85**	**30**	Pn	**Pn**	**02 46 43.6**	**+0.9**
PEL	**Peldehue**	**4.89**	**22**	Pn	**Pn**	**02 46 41.9**	**-1.2**
VA03	**San Esteban**	**5.28**	**22**	Pn	**Pn**	**02 46 47.1**	**-1.5**
VA03	**San Esteban**	**5.28**	**22**	*e*P	**Pn**	**02 46 48.0**	**-0.6**
VA03				*e*S	**Sn**	**02 47 49.8**	**+1.6**
VA03				IAML		02 48 16.3	
	comp=Z,139nm,0.7s						
VA06	**Catapilco**	**5.29**	**15**	Pn	**Pn**	**02 46 46.7**	**-1.8**
GO07	**Milladeo Hill,**	**5.44**	**186**	Pn	**Pn**	**02 46 48.1**	**-2.4**
LL02	**Futaleuf**	**5.54**	**172**	Pn	**Pn**	**02 46 51.3**	**-0.5**
H03S1	**Juan Fernandez**	**6.23**	**306**	P	**Pn**	**02 47 03.1**	**+2.0**
	baz=89,slow=11,SNR=199						
H03S1				S	**Sn**	**02 48 10.4**	**-0.4**
H03S1				T	T	02 52 56.7	
	baz=122,slow=75,SNR=153						
H03S3	**Juan Fernandez**	**6.24**	**306**	P	**Pn**	**02 47 03.3**	**+2.0**
	baz=89,slow=11,SNR=106						
H03S3				S	**Sn**	**02 48 10.8**	**-0.4**
	baz=216,slow=74,SNR=4.8						
H03S3				T	T	02 52 55.2	
	baz=122,slow=75,SNR=288						
H03S2	**Juan Fernandez**	**6.25**	**306**	P	**Pn**	**02 47 03.1**	**+1.7**
	baz=89,slow=11,SNR=115						
H03S2				S	**Sn**	**02 48 10.3**	**-0.9**
	baz=84,slow=74,SNR=3.8						
H03S2				T	T	02 52 56.4	
	baz=122,slow=75,SNR=203						
VA04	**Juan Fernndez**	**6.31**	**308**	Pn	**Pn**	**02 47 04.1**	**+1.6**
H03N3	**Juan Fernandez**	**6.50**	**309**	P	**Pn**	**02 47 07.3**	**+2.4**
	baz=260,slow=30,SNR=102						
H03N3				S	**Sn**	**02 48 14.8**	**-2.6**
	baz=250,slow=25,SNR=5.9						
H03N1	**Juan Fernandez**	**6.50**	**309**	P	**Pn**	**02 47 07.2**	**+2.4**
	baz=260,slow=30,SNR=136						
H03N1				S	**Sn**	**02 48 14.7**	**-2.7**
	baz=250,slow=25,SNR=10						
H03N2	**Juan Fernandez**	**6.51**	**309**	P	**Pn**	**02 47 07.4**	**+2.4**
	baz=260,slow=30,SNR=84						
H03N2				S	**Sn**	**02 48 15.1**	**-2.7**
	baz=250,slow=25,SNR=5.7						
CO02	**Combarbal**	**6.67**	**14**	Pn	**Pn**	**02 47 06.2**	**-1.4**
ZON	**Zonda**	**7.05**	**31**	Pn	**Pn**	**02 47 12.8**	**+0.1**
CO03	**El Pedregal**	**7.08**	**15**	Pn	**Pn**	**02 47 11.7**	**-1.5**
CO06	**Fray Jorge**	**7.09**	**9**	Pn	**Pn**	**02 47 10.9**	**-2.3**
GO04	**Tololo Observa**	**7.71**	**14**	Pn	**Pn**	**02 47 21.7**	**-0.2**
CO05	**La Serena**	**7.88**	**10**	Pn	**Pn**	**02 47 21.8**	**-2.2**
CO01	**Juntas del Tor**	**8.05**	**18**	Pn	**Pn**	**02 47 25.1**	**-1.5**
TRQA	**Tornquist**	**8.63**	**96**	Pn	**Pn**	**02 47 33.3**	**-0.9**
AY02	**Valle Explorad**	**8.78**	**181**	Pn	**Pn**	**02 47 35.7**	**-0.4**
AY03	**Cochrane**	**9.55**	**179**	Pn	**Pn**	**02 47 46.5**	**-0.2**
AC04	**Llanos de Chal**	**9.59**	**10**	Pn	**Pn**	**02 47 44.9**	**-2.5**
GO08	**Villa O'Higgin**	**10.76**	**179**	Pn	**Pn**	**02 48 01.6**	**-1.7**
CPUP	**Villa Florida**	**17.36**	**54**	P	**Pn**	**02 49 29.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=248,slow=17,SNR=1.7						
CPUP				LR	LR	02 56 58.5	
	comp=Z,54nm,20.6s,baz=216,slow=40						
EFI	**East Falkland**	**17.45**	**148**		**Pn**	**02 49 30.0**	**-1.2**
EFI				IAmb	IAmb	02 49 45.4	
	comp=Z,63nm,1.2s						
ITAB	**Concordia**	**20.34**	**65**	P	**P**	**02 50 04.2**	**+0.5**
ITAB				IAmb	IAmb	02 50 09.2	
	comp=Z,20nm,1.5s						
LPAZ	**La Paz**	**21.74**	**12**	P	**P**	**02 50 20.2**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=128,slow=4.0,SNR=2.3						
	comp=Z,0.4nm,0.4s						
AQDB	**Aquidauana**	**22.74**	**46**	P	**P**	**02 50 27.5**	**-1.9**
TRCB	**Terra Rica**	**22.88**	**55**		**P**	**02 50 30.0**	**-0.8

OK029				Sg	Sg	02 58 48.8	+0.4
OK029				IAML		02 58 52.2	
	comp=E,426nm,0.4s						
OK029				IAML		02 58 52.5	
	comp=E,395nm,0.5s						
X34A	**Smith Ranch, M**	**0.81**	**164**	Pg	Pg	02 58 42.2	+0.2
X34A				IAML		02 59 07.0	
	comp=N,280nm,0.8s						
X34A				IAML		02 59 10.2	
	comp=E,378nm,0.8s						
WMOK	**Wichita Mounta**	**0.84**	**221**	Pg	Pg	02 58 42.1	-0.6
WMOK				Sg	Sg	02 58 53.6	-0.1
CROK	**Carrier**	**1.13**	**5**	Pg	Pg	02 58 47.2	-0.9
CROK				Sg	Sg	02 59 01.8	-1.0
OK031	**S. Brethren Rd**	**1.18**	**61**	Pg	Pg	02 58 48.1	-1.1
OK031				Sg	Sg	02 59 04.5	0.0
OK038	**West end E0370**	**1.21**	**335**		Pg	02 58 48.9	-0.8
OK038				Sg	Sg	02 59 04.9	-0.6
OK052	**Battle Ridge R**	**1.23**	**60**	Pg	Pb	02 58 49.0	-1.0
OK052				Sg	Sg	02 59 05.7	-0.4
U32A	**Winter Ranch,**	**1.23**	**324**		Pb	02 58 49.8	-0.4
U32A				IAML		02 59 10.7	
	comp=E,335nm,0.4s						
U32A				IAML		02 59 10.9	
	comp=N,306nm,0.3s						
QUOK	**Quay**	**1.39**	**55**		Pn	02 58 51.6	-0.7
DEOK	**Depew**	**1.39**	**70**		Pn	02 58 51.4	-0.9
OK048	**Pawnee Station**	**1.40**	**42**		Pn	02 58 52.2	-0.2
OK035	**E0210 Rd and N**	**1.41**	**340**		Pn	02 58 52.1	-0.5
NOKA	**Waynoka**	**1.42**	**332**		Pn	02 58 51.9	-0.8
OK032	**Salt Plains WL**	**1.42**	**357**		Pn	02 58 52.2	-0.6
OK051	**E0350 and S346**	**1.53**	**42**		Pn	02 58 54.1	-0.1
BLOK	**Blackwell**	**1.56**	**27**		Pn	02 58 54.6	0.0
KAN14	**Manchester OK**	**1.58**	**4**		Pn	02 58 54.6	-0.3
LOOK	**Love County**	**1.58**	**151**		Pn	02 58 54.4	-0.6
WTFS	**Witchita Falls**	**1.64**	**190**		Pn	02 58 55.5	-0.1
KAN17	**Caldwell West**	**1.69**	**9**		Pn	02 58 56.3	-0.1
KAN13	**South Haven SW**	**1.71**	**17**		Pn	02 58 56.8	+0.1
KAN05	**Bluff City Nor**	**1.74**	**6**	Pn	Pn	02 58 56.9	-0.2
KAN01	**Argonia South**	**1.79**	**9**	Pn	Pn	02 58 57.9	0.0
KAN01				IAmb_Lg		02 59 25.1	
	comp=Z,34nm,0.8s						
KAN09	**Caldwell North**	**1.80**	**13**	Pn	Pn	02 58 58.4	+0.4
KAN09				IAmb_Lg		02 59 23.2	
	comp=Z,49nm,0.7s						
KAN06	**Argonia West S**	**1.88**	**6**	Pn	Pn	02 58 59.1	+0.1
TUL3	**Leonard**	**1.96**	**74**	Pn	Pn	02 59 00.5	+0.4
T35A	**Sooner Cattle**	**2.01**	**40**	Pn	Pn	02 59 01.3	+0.5
Z35A	**Perchaven, San**	**2.16**	**161**	Pn	Pn	02 59 02.8	-0.1
FW03	**Perrin-Whitt E**	**2.33**	**179**	IAmb_Lg		02 59 44.6	
	comp=Z,32nm,0.8s						
X37A	**Clayton**	**2.38**	**109**	Pn	Pn	02 59 06.2	+0.2
X37A				IAmb_Lg		02 59 47.6	
	comp=Z,56nm,0.7s						
FW06	**Azle**	**2.44**	**169**	Pn	Pn	02 59 06.1	-0.7
RLO	**Rose Lookout**	**2.63**	**72**	Pn	Pn	02 59 08.9	-0.5
AMTX	**Amarillo**	**2.97**	**261**	Pn	Pn	02 59 13.4	-0.7
AMTX				IAmb_Lg		03 00 02.9	
	comp=Z,28nm,0.9s						
FW16	**Waxahatchie**	**3.06**	**160**	IAmb_Lg		03 00 04.2	
	comp=Z,18nm,0.8s						
R32A	**Long Quarter,**	**3.08**	**351**	Pn	Pn	02 59 15.4	-0.2
U38A	**Gravette**	**3.20**	**70**	Pn	Pn	02 59 17.6	+0.4
U38A				IAmb_Lg		03 00 08.4	
	comp=Z,18nm,0.8s						
SN07	**Snyder 07**	**3.24**	**226**	IAmb_Lg		03 00 15.8	
	comp=Z,25nm,0.8s						
Z38A	**Mt. Pleasant**	**3.34**	**128**	IAmb_Lg		03 00 14.8	
	comp=Z,21nm,0.8s						
SN05	**Snyder 5**	**3.39**	**223**	IAmb_Lg		03 00 21.3	
	comp=Z,25nm,0.8s						
HHAR	**Hobbs**	**3.51**	**74**	Pn	Pn	02 59 20.9	-0.6
HHAR				IAmb_Lg		03 00 22.7	
	comp=Z,28nm,0.8s						
CBKS	**Cedar Bluff**	**3.67**	**340**	Pn	Pn	02 59 24.0	+0.3
CBKS				IAmb_Lg		03 00 28.0	
	comp=Z,41nm,1.1s						
MIAR	**Mount Ida**	**3.81**	**101**	Pn	Pn	02 59 26.8	+1.1
MIAR				IAmb_Lg		03 00 38.0	
	comp=Z,19nm,1.1s						
RTBA	**Rita Blanca**	**3.90**	**287**	Pn	Pn	02 59 26.8	-0.2
KSU1	**Kansas State U**	**3.90**	**17**	Pn	Pn	02 59 24.9	-2.0
KSU1				IAmb_Lg		03 00 38.9	
	comp=Z,42nm,1.1s						
MSTX	**Muleshoe**	**4.09**	**251**	Pn	Pn	02 59 27.6	-2.0
MSTX				IAmb_Lg		03 00 37.7	
	comp=Z,14nm,1.1s						
BRDY	**Brady**	**4.15**	**191**	Pn	Pn	02 59 29.8	-0.5
SGCY	**Sterling City**	**4.27**	**217**	IAmb_Lg		03 00 49.0	
	comp=Z,23nm,0.9s						
X40A	**Basin Creek Fa**	**4.42**	**100**	Pn	Pn	02 59 34.2	+0.2
WLAR	**White Oak Lake**	**4.46**	**111**	Pn	Pn	02 59 33.6	-0.8
WLAR				IAmb_Lg		03 01 00.2	
	comp=Z,16nm,0.7s						
S39A	**Bolivar**	**4.49**	**58**	Pn	Pn	02 59 35.6	+0.6
S39A				IAmb_Lg		03 00 51.3	
	comp=Z,23nm,0.8s						
435B	**Jarrell**	**4.61**	**174**	IAmb_Lg		03 01 00.7	
	comp=Z,14nm,0.8s						
WHAR	**Wooly Hollow**	**4.76**	**89**	Pn	Pn	02 59 38.4	-0.2
WHAR				IAmb_Lg		03 01 01.4	
	comp=Z,13nm,0.7s						
UALR	**University of**	**4.77**	**96**	Pn	Pn	02 59 34.1	-4.6
UALR				IAmb_Lg		03 01 09.1	
	comp=Z,12nm,0.8s						
Z41A	**Richland Creek**	**4.88**	**114**	IAmb_Lg		03 01 13.8	
	comp=Z,11nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.90**	**82**	Pn	Pn	02 59 40.8	+0.2
FCAR				IAmb_Lg		03 01 08.4	
	comp=Z,12nm,0.8s						
ODSA	**Odessa**	**4.92**	**230**	Pn	Pn	02 59 38.1	-2.9
MGMO	**Mountain Grove**	**5.04**	**68**	Pn	Pn	02 59 42.9	+0.4
MGMO				IAmb_Lg		03 01 14.4	
	comp=Z,26nm,0.8s						
JCT	**Junction City**	**5.09**	**197**	IAmb_Lg		03 01 20.9	
	comp=Z,20nm,1.1s						
KSCO	**Kaye Shedlock'**	**5.11**	**316**	IAmb_Lg		03 01 18.3	
	comp=Z,27nm,1.0s						
CCAR	**Cane Creek**	**5.42**	**104**	IAmb_Lg		03 01 30.4	
	comp=Z,16nm,1.0s						
R40A	**Maddies Statio**	**5.51**	**56**	IAmb_Lg		03 01 25.1	
	comp=Z,13nm,0.7s						
P38A	**Dawn**	**5.59**	**39**	IAmb_Lg		03 01 32.6	
	comp=Z,15nm,0.7s						
LCAR	**Lake Charles**	**5.70**	**81**	IAmb_Lg		03 01 36.3	
	comp=Z,9.2nm,0.8s						
T42A	**Van Buren**	**5.91**	**72**	IAmb_Lg		03 01 38.3	
	comp=Z,17nm,0.9s						
BGNE	**Belgrade**	**6.02**	**360**	IAmb_Lg		03 01 50.6	
	comp=Z,19nm,0.8s						
CCM	**Cathedral Cave**	**6.13**	**62**	IAmb_Lg		03 01 40.1	
	comp=Z,18nm,0.7s						
OGNE	**Ogallala**	**6.36**	**332**	IAmb_Lg		03 02 01.4	
	comp=Z,23nm,0.8s						
Q24A	**Divide**	**6.66**	**305**	IAmb_Lg		03 02 02.4	
	comp=Z,12nm,0.7s						
VBMS	**Vicksburg**	**7.06**	**114**	IAmb_Lg		03 02 30.6	
	comp=Z,18nm,0.7s						
CGM3	**Cape Girardeau**	**7.08**	**72**	IAmb_Lg		03 02 13.5	
	comp=Z,14nm,1.1s						
833A	**Chaparral WMA,**	**7.12**	**189**	IAmb_Lg		03 02 22.8	
	comp=Z,8.5nm,0.8s						
BRIGG	**Briggsdale**	**7.14**	**318**	IAmb_Lg		03 02 20.8	
	comp=Z,19nm,1.1s						
K30B	**Basset**	**7.38**	**351**	IAmb_Lg		03 02 40.2	
	comp=Z,16nm,0.9s						
SCIA	**State Center**	**7.56**	**29**	IAmb_Lg		03 02 41.6	
	comp=Z,18nm,0.7s						
PHWY	**Pilot Hill**	**8.26**	**318**	IAmb_Lg		03 03 06.5	
	comp=Z,5.5nm,0.8s						
N23A	**Red Feather La**	**8.27**	**314**	IAmb_Lg		03 02 58.2	
	comp=Z,13nm,1.0s						
JFWS	**Jewell Farm**	**9.69**	**37**	IAmb_Lg		03 03 45.1	
	comp=Z,12nm,0.8s						
K22A	**Casper**	**9.77**	**321**	IAmb_Lg		03 03 58.2	
	comp=Z,9.0nm,1.0s						
RSSD	**Black Hills**	**9.85**	**334**	IAmb_Lg		03 03 55.1	
	comp=Z,5.0nm,1.0s						

*NNC **02** 02:59:53.3±2.8, 54°.30N×86°.90E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=23.3km s-min=15.0km az=8.0, Suspected Mining explosion.*
*IDC **02** 02:59:55.1±2.6, 54°.32N×86°.73E, h0km, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=22.1km s-min=15.1km az=58.0.*

ISC 02 02:59:55.8±4.2, 54°.3N±0°.2×86°.6E±0°.2, h0km, n9, σ0°.83/14, 10C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**252**	I	I	03 07 35.0	
	baz=70,slow=313,SNR=3.5						
ZAA0	**Zalesovo Array**	**1.12**	**252**	⇑P	**Pg**	**03 00 16.2**	**-1.1**
	0.5nm,0.3s						
ZAA0				⇑S	**Sn**	**03 00 35.0**	**+0.1**
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**1.12**	**252**	Pg	**Pg**	**03 00 16.4**	**-0.9**
	1.6nm,0.3s,baz=69,slow=16,SNR=21						
ZALV				Lg	Lg	03 00 34.0	
	2.0nm,0.3s,baz=72,slow=11,SNR=8.2						
KURK	**Kurchatov**	**6.07**	**237**	⇑Pn	**Pn**	**03 01 27.0**	**+0.4**
	1.4nm,0.7s						
KURK				⇑Sn	**Sn**	**03 02 38.1**	**+1.3**
	1.8nm,0.7s						
KURK				⇑Lg	Lg	03 03 13.0	
	6.6nm,0.9s						
KURBB	**Kurchatov Arra**	**6.17**	**237**	Pn	**Pn**	**03 01 29.2**	**+1.1**
	0.2nm,0.3s,baz=54,slow=14,SNR=11						
KURBB				Sn	**Sn**	**03 02 39.2**	**0.0**
	baz=45,slow=19,SNR=4.2						
KURBB				Lg	Lg	03 03 13.2	
	baz=44,slow=34,SNR=2.4						
	1.5nm,0.5s						
KURBB	**Kurchatov Arra**	**6.17**	**237**	⇑Pn	**Pn**	**03 01 28.7**	**+0.7**
	3.5nm,0.6s						
KURBB				⇑Sn	**Sn**	**03 02 40.2**	**+0.9**
	9.0nm,0.7s						
KURBB				⇑Lg	Lg	03 03 14.2	
	5.1nm,0.6s						
MK31	**Makanchi Array**	**8.01**	**202**	Pn	**Pn**	**03 01 54.0**	**+0.7**
	0.4nm,0.5s,baz=58,slow=8.5,SNR=8.3						
MK31				⇑Sn	**Sn**	**03 03 23.8**	**-0.8**
	0.5nm,0.5s						
MK31				⇑Lg	Lg	03 04 09.6	
	4.7nm,0.9s,baz=28,slow=31,SNR=4.9						
MKAR	**Makanchi Array**	**8.01**	**202**	Pn	**Pn**	**03 01 53.6**	**+0.3**
	0.2nm,0.3s,baz=24,slow=12,SNR=7.2						
MKAR				Sn	**Sn**	**03 03 24.6**	**0.0**
	0.1nm,0.3s,baz=23,slow=26,SNR=5.3						
MKAR				Lg	Lg	03 04 07.4	
	baz=27,slow=27,SNR=1.8						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**9.73**	**269**	Pn	**Pn**	**03 02 16.9**	**0.0**
	baz=81,slow=18,SNR=1.6						
	0.2nm,0.3s						

IDC 02 03:06:31.4±4.5, 13°.51N×125°.96E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=370.4km s-min=24.1km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.25**	**166**	P	P	03 13 18.8	-0.5
	1.0nm,1.1s,baz=347,slow=8.6,SNR=2.4						
	1.0nm,1.1s						
ASAR	**Alice Springs**	**37.76**	**168**	P	P	03 13 49.6	+0.3
	0.3nm,0.6s,baz=348,slow=7.8,SNR=1.4						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**49.30**	**321**	P	P	03 15 21.9	-0.3
	0.5nm,0.7s,baz=112,slow=8.0,SNR=5.6						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**53.27**	**324**	P	P	03 15 52.0	+0.1
	1.2nm,0.8s,baz=123,slow=7.4,SNR=6.6						
	1.2nm,0.8s						

*IDC **02** 03:09:11.9±0.5, 60°.13S×29°.02W, h0km, mb4.7/18, mbtmp4.7/20, ML4.4/1, MS4.6/34, Error ellipse: s-maj=18.9km s-min=12.6km az=51.0*
*NEIC **02** 03:09:14.0±1.9, 60°.67S±0°.07×30°.1W±0°.2, h10km±1km, mb5.3/69, Error ellipse: s-maj=19.0km s-min=10.1km az=73.0*
*GCMT **02** 03:09:17.0±0.1, 60°.45S±0°.01×29°.05W±0°.01, h15km, MW5.3/155, Moment Tensor Solution. s95,c146; s155,c264; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.05±.02; Mθθ=0.63±.02; Mφφ=-0.58±.02; Mrθ=0.17±.04; Mθφ=-0.86±.01; Mφr=0.53±.05; Best double couple: M0=1.18100×10^17 NP1:φs=340.00000°, δ77.00000°, λ=-21.00000°. NP2:φs=75.00000°, δ69.00000°, λ=-166.00000°. Principal axes: T 1.0880, Plg5.0000°, Azm29.0000°; N 0.1870, Plg65.0000°, Azm130.0000°; P -1.2740, Plg24.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 03:09:13.3±0.3, 60°.55S±0°.06×29°.64W±0°.07, h10km, n275, σ1°.63/228, mb5.3/67, MS4.7/36, 10C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.28**	**327**		**Pn**	**03 11 01.5**	**+2.0**
ORCD	**Orcadas**	**7.42**	**262**	Pn	**Pn**	**03 10 56.9**	**-4.6**
VNA1	**Neumayer--Stat**	**13.34**	**148**	⇑P	**Pn**	**03 12 22.1**	**-0.3**
	comp=Z,20nm,0.4s						
VNA1				⇑S	Sn	03 14 39.4	-11
	comp=Z,9.1nm,0.7s						
VNA3	**Neumayer Olymp**	**13.38**	**151**	⇑P	**Pn**	**03 12 22.7**	**-0.2**
	comp=Z,83nm,0.7s						
VNA3				⇑S	Sn	03 14 40.8	-11
	comp=Z,5.1nm,0.6s						
VNA2	**Neumayer--Watz**	**13.74**	**148**	⇑P	**Pn**	**03 12 28.2**	**+0.4**
	comp=Z,7.5nm,0.6s,baz=302,slow=16						
VNA2				⇑S	Sn	03 14 50.1	-10
	comp=Z,5.6nm,0.8s,baz=300,slow=15						
SNAA	**Sanae**	**15.37**	**147**	Pn	**Pn**	**03 12 49.8**	**-0.1**
SNAA	**Sanae**	**15.37**	**147**	*e*P	**Pn**	**03 12 50.5**	**+0.6**
SNAA	**Sanae**	**15.37**	**147**	⇑P	**Pn**	**03 12 49.9**	**-0.1**
	comp=Z,266nm,0.6s						
SNAA				⇑S	Sn	03 15 27.5	-12
	comp=Z,118nm,0.6s						
SNAA	**Sanae**	**15.37**	**147**	Pn	**Pn**	**03 12 50.6**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=310,slow=13,SNR=73						
SNAA				Sn	**Sn**	**03 15 32.7**	**-7.2**
	comp=Z,0.6nm,0.3s,baz=311,slow=22,SNR=3.6						
SNAA				LR	LR	03 17 31.1	
	comp=Z,2μm,20.1s,baz=314,slow=32						
	comp=Z,9.0nm,0.5s						
PMSA	**Palmer Station**	**16.22**	**240**	Pn	**P**	**03 13 04.8**	**+0.8**
	comp=Z,19nm,1.0s,baz=65,slow=3.4,SNR=2.5						
PMSA				LR	LR	03 18 26.2	
	comp=Z,4μm,19.9s,baz=83,slow=33						
TROLL	**Troll, Antarti**	**17.00**	**146**	⇑P	**P**	**03 13 13.9**	**+1.1**
	comp=Z,924nm,0.8s						
TROLL				⇑S	**Sn**	**03 16 10.8**	**-8.8**
	comp=Z,70nm,0.7s						
BELA	**Belgrano 2**	**17.49**	**184**		**P**	**03 13 18.2**	**+0.2**
USHA	**Ushuaia**	**21.26**	**268**	P	**P**	**03 14 04.3**	**+5.1**
	comp=Z,16nm,0.5s,baz=95,slow=10.0,SNR=3.8						
	comp=Z,16nm,0.5s						
ELIB	**Princess Elisa**	**23.25**	**141**	*d*P	**P**	**03 14 22.9**	**+2.4**
	comp=Z,9.0nm,1.3s						
GO09	**Cerro Castillo**	**25.23**	**272**	P	**P**	**03 14 37.4**	**-1.6**
GO09				IAmb	IAmb	03 14 51.8	
	comp=Z,117nm,1.5s						
GO08	**Villa O'Higgin**	**27.16**	**277**	P	**P**	**03 14 57.0**	**+0.6**
GO08				IAmb	IAmb	03 15 09.0	
	comp=Z,89nm,1.7s						
AY03	**Cochrane**	**28.01**	**279**	P	**P**	**03 15 04.6**	**+0.6**
AY03				IAmb	IAmb	03 15 25.9	
	comp=Z,75nm,1.5s						
QSPA	**South Pole Qui**	**29.69**	**180**	P	**P**	**03 15 22.3**	**+3.3**
	comp=Z,20nm,1.1s,baz=209,slow=4.8,SNR=8.7						
QSPA				LR	LR	03 27 19.3	
	comp=Z,2μm,18.5s,baz=190,slow=36						
	comp=Z,20nm,1.1s						
TRQA	**Tornquist**	**30.31**	**303**	P	**P**	**03 15 23.2**	**-1.3**
LL02	**Futaleuf**	**30.61**	**285**	P	**P**	**03 15 27.8**	**+0.6**
LL02				IAmb	IAmb	03 15 38.0	
	comp=Z,65nm,1.8s						
PLCA	**Paso Flores**	**31.91**	**290**	P	**P**	**03 15 37.9**	**-0.7**
PLCA	**Paso Flores**	**31.91**	**290**	P	**P**	**03 15 38.4**	**-0.3**
	comp=Z,6.1nm,0.8s,baz=133,slow=9.7,SNR=16						
PLCA				LR	LR	03 28 22.3	
	comp=Z,1μm,18.0s,baz=142,slow=36						
	comp=Z,6.1nm,0.8s						
PLTB	**Pedras Altas**	**32.85**	**320**	P	**P**	**03 15 45.5**	**-1.4**
PLTB				IAmb	IAmb	03 15 54.2	
	comp=Z,30nm,0.8s						
PLTB	**Pedras Altas**	**32.85**	**320**	*e*P	**P**	**03 15 46.1**	**-0.8**
TBOT	**Tacuaremb**	**33.68**	**317**	*e*P	**P**	**03 15 53.4**	**-0.7**
LR04	**Corral**	**33.93**	**287**	P	**P**	**03 15 57.4**	**+1.3**
CPSB	**Cacapava Do Su**	**34.06**	**322**	*e*P	**P**	**03 15 56.8**	**-0.6**
CNLB	**Canela**	**34.33**	**326**	*e*P	**P**	**03 15 59.7**	**-0.1**
RODS	**Rosario do Sul**	**34.67**	**319**	*e*P	**P**	**03 16 02.0**	**-0.7**
ALGR	**Alto Alegre (B**	**35.44**	**323**	*e*P	**P**	**03 16 08.3**	**-1.1**
ITQB	**Itaqui**	**35.76**	**317**	P	**P**	**03 16 10.8**	**-1.3**
ITQB				IAmb	IAmb	03 16 15.2	
	comp=Z,73nm,1.2s						
ITQB	**Itaqui**	**35.76**	**317**	*e*P	**P**	**03 16 11.8**	**-0.3**
ITAB	**Concordia**	**36.65**	**325**	P	**P**	**03 16 19.7**	**0.0**
ITAB				IAmb	IAmb	03 16 30.1	
	comp=Z,36nm,1.2s						
ITAB	**Concordia**	**36.65**	**325**	*e*P	**P**	**03 16 17.8**	**-1.9**
BO02	**Sierra Bellavi**	**36.86**	**295**	P	**P**	**03 16 22.2**	**+0.6**
CRSM	**Crissiumal (Br**	**36.96**	**322**	*e*P	**P**	**03 16 20.7**	**-1.7**
GO05	**Huala**	**37.19**	**294**	P	**P**	**03 16 23.1**	**-1.2**
GO05				IAmb	IAmb	03 16 35.2	
	comp=Z,124nm,1.9s						
BO01	**Tunca**	**37.33**	**295**	P	**P**	**03 16 24.3**	**-1.2**
MAW	**Mawson**	**37.38**	**141**	P	**P**	**03 16 27.5**	**+2.0**
	comp=Z,4.9nm,0.9s,baz=248,slow=6.9,SNR=7.0						
MAW				LR	LR	03 30 54.5	
	comp=Z,1μm,18.2s,baz=242,slow=35						
	comp=Z,4.9nm,0.9s						
BO04	**La Punta**	**37.46**	**296**	P	**P**	**03 16 25.4**	**-1.3**
BO04				IAmb	IAmb	03 16 32.4	
	comp=Z,73nm,1.7s						
MT08	**Bocatoma Ro**	**37.66**	**298**	P	**P**	**03 16 28.0**	**-0.6**
MT09	**Talagante**	**37.80**	**296**	P	**P**	**03 16 29.0**	**-0.7**
MT09				IAmb	IAmb	03 16 38.9	
	comp=Z,115nm,1.6s						
MT01	**Popeta**	**37.85**	**296**	P	**P**	**03 16 29.3**	**-0.6**
MT01				IAmb	IAmb	03 16 39.2	
	comp=Z,117nm,1.7s						
VA05	**Santo Domingo**	**38.18**	**296**	P	**P**	**03 16 32.9**	**+0.3**
PEL	**Peldehue**	**38.21**	**297**	P	**P**	**03 16 31.7**	**-1.3**
PEL				IAmb	IAmb	03 16 43.7	
	comp=Z,88nm,1.4s						
MT02	**Curacav**	**38.31**	**296**	P	**P**	**03 16 32.9**	**-0.9**
MT02				IAmb	IAmb	03 16 43.2	
	comp=Z,64nm,1.2s						
VA03	**San Esteban**	**38.47**	**298**	P	**P**	**03 16 34.5**	**-0.8**
VA03				IAmb	IAmb	03 16 45.5	
	comp=Z,67nm,1.1s						
ZON	**Zonda**	**38.71**	**301**	P	**P**	**03 16 36.8**	**-0.4**
PARB	**Paraibuna**	**38.82**	**336**	*e*P	**P**	**03 16 38.1**	**-0.1**
SPB	**Sao Paulo**	**38.95**	**334**	P	**P**	**03 16 41.2**	**+2.0**
SPB				IAmb	IAmb	03 16 50.2	
	comp=Z,87nm,1.7s						
PTGB	**Pitanga**	**39.02**	**327**	*e*P	**P**	**03 16 38.7**	**-1.1**
CPUP	**Villa Florida**	**39.08**	**319**	P	**P**	**03 16 38.4**	**-1.8**
CPUP	**Villa Florida**	**39.08**	**319**	P	**P**	**03 16 38.8**	**-1.5**
	comp=Z,9.6nm,0.9s,baz=156,slow=8.2,SNR=14						
CPUP				LR	LR	03 31 45.3	
	comp=Z,879nm,20.0s,baz=162,slow=35						
	comp=Z,9.6nm,0.9s						
CPUP	**Villa Florida**	**39.08**	**319**	*e*P	**P**	**03 16 38.9**	**-1.4**
VAO	**Valinhos**	**39.42**	**334**	P	**P**	**03 16 42.0**	**-1.2**
VAO	**Valinhos**	**39.42**	**334**	*e*P	**P**	**03 16 43.0**	**-0.3**
FRTB	**Fartura**	**39.68**	**331**	*e*P	**P**	**03 16 44.6**	**-0.8**
CO02	**Combarbal**	**40.00**	**298**	P	**P**	**03 16 48.1**	**0.0**
CO02				IAmb	IAmb	03 17 01.1	
	comp=Z,200nm,2.0s						
LDASE	**Londrina, Braz**	**40.02**	**328**	*e*P	**P**	**03 16 47.0**	**-1.2**
RCLB	**Rio Claro- Sao**	**40.11**	**334**	*e*P	**P**	**03 16 48.2**	**-0.8**
BSCB	**Bom Sucesso**	**40.93**	**338**	*e*P	**P**	**03 16 55.1**	**-0.6**
TRCB	**Terra Rica**	**41.00**	**327**	P	**P**	**03 16 54.0**	**-2.3**
PAPY	**Pozo Azul**	**41.46**	**319**	*e*P	**P**	**03 17 01.1**	**+1.2**
SBA	**Scott Base**	**41.48**	**185**	P	**P**	**03 17 00.4**	**+0.8**
CER	**Ceres**	**41.62**	**72**	*e*P	P	03 16 58.7	-2.6
CER				IAmb	IAmb	03 17 07.6	
	comp=Z,572nm,2.6s						
BB19B	**Bebedouro**	**41.63**	**333**	*e*P	**P**	**03 17 01.1**	**-0.4**
PCMB	**Pacaembu**	**41.77**	**329**	*e*P	**P**	**03 17 01.9**	**-0.7**
RIB01	**Linhares ES**	**41.90**	**345**	*e*P	**P**	**03 17 02.5**	**-1.1**
VNDA	**Vanda**	**42.00**	**184**	P	**P**	**03 17 04.5**	**+0.6**
VNDA	**Vanda**	**42.00**	**184**	P	**P**	**03 17 08.0**	**+4.2**
	comp=Z,6.7nm,0.8s,baz=179,slow=5.7,SNR=17						
VNDA				LR	LR	03 33 17.7	
	comp=Z,434nm,18.1s,baz=172,slow=34						
	comp=Z,6.7nm,0.8s						
SJMB	**Sao Joao De Ma**	**42.60**	**344**	*e*P	**P**	**03 17 08.1**	**-1.2**
AC04	**Llanos de Chal**	**42.63**	**300**	P	**P**	**03 17 10.1**	**+0.6**
AC04				IAmb	IAmb	03 17 13.7	
	comp=Z,82nm,1.4s						
ABR01	**Abrolhos, BA**	**43.02**	**347**	*e*P	**P**	**03 17 11.4**	**-1.3**
AC06	**Mina Casimiro**	**43.07**	**302**	P	**P**	**03 17 12.1**	**-1.0**
SUR	**Sutherland**	**43.15**	**73**	LR	LR	03 31 31.8	
	comp=Z,560nm,18.1s,baz=208,slow=31						
DIAM	**Diamantina, MG**	**43.38**	**340**	*e*P	**P**	**03 17 14.7**	**-1.1**
CVNA	**Calvinia**	**43.40**	**71**	*e*P	**P**	**03 17 15.3**	**-0.6**
CVNA				IAmb	IAmb	03 17 34.0	
	comp=Z,135nm,1.4s						
MURT	**Porto Murtinho**	**43.53**	**321**	*e*P	**P**	**03

comp=Z,46nm,1.4s
PB11 IPOC Station P 49.56 307 P **P 03 18 03.5 -0.8**
PB11 IAmb IAmb 03 18 20.4
comp=Z,52nm,1.2s
SWZ Schweizer 49.63 73 *e*P P 03 18 01.3 -3.5
SWZ IAmb IAmb 03 18 08.7
comp=Z,53nm,1.3s
NBLA Lagarto - SE 49.83 350 *e*P **P 03 18 03.9 -2.4**
PTLB Pontes e Lacer 49.84 322 P **P 03 18 04.7 -1.6**
PTLB Pontes e Lacer 49.84 322 *e*P **P 03 18 05.0 -1.3**
WIN Windhoek 49.85 62 P P 03 18 03.8 -2.8
SNKL Senekal, Frees 49.88 76 *e*P **P 03 18 05.8 -1.0**
SNKL IAmb IAmb 03 18 21.5
comp=Z,83nm,1.3s
SIV San Ignacio 49.94 319 P **P 03 18 05.7 -1.4**
comp=Z,4.4nm,0.7s,baz=139,slow=8.5,SNR=11
SIV LR LR 03 38 35.3
comp=Z,721nm,20.6s,baz=162,slow=35
comp=Z,4.4nm,0.7s
PRYS Parys 50.81 75 *e*P P 03 18 09.6 -4.2
PRYS IAmb IAmb 03 18 14.6
comp=Z,37nm,1.1s
NBAN Anadia - AL 51.02 352 *e*P **P 03 18 14.8 -0.5**
SNDB Serra Nova Dou 51.05 332 *e*P **P 03 18 14.3 -1.1**
NWCL Newcastle 51.35 78 *e*P **P 03 18 16.2 -1.6**
NWCL IAmb IAmb 03 18 19.3
comp=Z,25nm,1.0s
PB18 Visviri 51.46 309 P **P 03 18 19.2 +0.1**
PB18 IAmb IAmb 03 18 41.2
comp=Z,44nm,0.9s
LBTB Lobatse 51.59 72 P P 03 18 16.2 -3.4
LBTB Lobatse 51.59 72 *e*P P 03 18 15.1 -4.6
LBTB IAmb IAmb 03 18 23.5
comp=Z,56nm,1.3s
HRAO HartRAO 51.84 75 *e*P **P 03 18 20.0 -1.5**
LPAZ La Paz 52.13 311 P **P 03 18 23.0 -1.3**
LPAZ IAmb IAmb 03 18 43.2
comp=Z,56nm,1.7s
LPAZ La Paz 52.13 311 P **P 03 18 23.9 -0.4**
comp=Z,4.7nm,0.7s,baz=166,slow=5.9,SNR=22
LPAZ LR LR 03 41 50.6
comp=Z,423nm,20.1s,baz=148,slow=38
comp=Z,4.7nm,0.7s
LPAZ La Paz 52.13 311 *e*P **P 03 18 23.4 -0.8**
NBCA Caruaru-PE 52.43 352 *e*P **P 03 18 25.4 -0.4**
NHAM Northam, North 52.49 74 *e*P **P 03 18 24.2 -2.1**
NHAM IAmb IAmb 03 18 30.3
comp=Z,47nm,1.2s
VILB Vilhena 52.52 321 P **P 03 18 24.6 -1.9**
VILB IAmb IAmb 03 18 43.1
comp=Z,50nm,1.0s
VILB Vilhena 52.52 321 *e*P **P 03 18 25.3 -1.1**
H10S2 ASCENSION HYDR 52.69 19 T T 04 15 36.3
baz=189,slow=74,SNR=53
H10S3 ASCENSION HYDR 52.69 19 T T 04 15 42.4
baz=31,slow=74,SNR=48
PDRB Porto dos Gac 52.77 326 *e*P **P 03 18 26.2 -2.1**
RUST Rust De Winter 52.79 75 *e*P **P 03 18 27.0 -1.5**
RUST IAmb IAmb 03 18 29.7
comp=Z,16nm,0.9s
CRLN Carolina, Mapu 52.87 77 *e*P **P 03 18 28.4 -0.8**
CRLN IAmb IAmb 03 18 34.6
comp=Z,8.2nm,0.8s
TSUM Tsumeb 53.03 60 LR LR 03 36 02.6
comp=Z,662nm,20.6s,baz=221,slow=31
SMTB Santa Maria do 53.30 338 *e*P **P 03 18 31.2 -1.0**
MTLB Matlabas, Limp 53.30 73 *e*P P 03 18 28.6 -3.7
MTLB IAmb IAmb 03 18 36.1
comp=Z,40nm,1.2s
NBLV Livramento - P 53.35 351 *e*P **P 03 18 32.1 -0.5**
LEPH Lephalale, Lim 53.62 73 *e*P **P 03 18 32.7 -1.9**
LEPH IAmb IAmb 03 18 40.3
comp=Z,125nm,1.8s
H10N1 ASCENSION HYDR 53.81 19 T T 04 17 00.6
baz=188,slow=76,SNR=25
H10N3 ASCENSION HYDR 53.81 19 T T 04 16 34.4
baz=188,slow=76,SNR=39
H10N2 ASCENSION HYDR 53.82 19 T T 04 16 34.4
baz=188,slow=76,SNR=30
HOED Hoedspruit, Li 54.64 77 *e*P **P 03 18 39.9 -2.1**
RCBR Riachuelo 54.80 352 LR LR 03 36 49.3
comp=Z,308nm,21.6s,baz=332,slow=30
NBPB Pedra_Branca-C 55.39 348 *e*P **P 03 18 45.5 -2.0**
MOPA Mopani 55.63 77 *e*P **P 03 18 48.0 -1.1**
MOPA IAmb IAmb 03 18 53.6
comp=Z,76nm,1.2s
MUSN Musina, Limpop 55.94 74 *e*P **P 03 18 49.4 -2.0**
MUSN IAmb IAmb 03 18 55.6
comp=Z,40nm,1.3s
PRPB Paraúapebas 56.35 336 *e*P **P 03 18 53.9 -0.4**
NPGB Novo Progresso 56.78 329 *e*P **P 03 18 56.3 -1.1**
MATP Matopo 56.89 72 LR LR 03 39 43.9
comp=Z,427nm,18.6s,baz=228,slow=32
SAML Samuel 57.23 320 P **P 03 18 58.9 -1.6**
SAML Samuel 57.23 320 *e*P **P 03 18 59.0 -1.5**
ETMB Extrema 57.42 316 P **P 03 18 60.0 -2.0**
ETMB IAmb IAmb 03 19 15.3
comp=Z,66nm,1.6s
ETMB Extrema 57.42 316 *e*P **P 03 19 00.7 -1.3**
ROSB Rosrio 58.56 343 P **P 03 19 08.7 -1.2**
ROSB IAmb IAmb 03 19 16.7
comp=Z,46nm,1.2s
ROSB Rosrio 58.56 343 *e*P **P 03 19 08.6 -1.3**
CHIPN CHIPINGE 59.02 76 *e*P **P 03 19 12.7 -0.5**
ITTB Itaituba 59.45 329 *e*P **P 03 19 14.7 -1.4**
NNA Nana 59.47 304 P **P 03 19 16.6 +0.3**
comp=Z,8.6nm,0.8s,baz=218,slow=5.2,SNR=2.8
NNA LR LR 03 43 00.3
comp=Z,414nm,22.0s,baz=148,slow=34
comp=Z,8.6nm,0.8s
TMAB Tom-Au,PA,Br 59.73 339 *e*P **P 03 19 18.0 +0.1**
KRI Karoi 60.52 71 *e*P P 03 19 20.8 -2.8
CZSB Cruzeiro do Su 61.71 310 P **P 03 19 29.4 -2.1**
CZSB IAmb IAmb 03 19 46.0
comp=Z,36nm,1.2s
CZSB Cruzeiro do Su 61.71 310 *e*P **P 03 19 30.8 -0.6**
MACA Manacapuru-AM 61.94 324 P **P 03 19 32.9 -0.1**
MACA IAmb IAmb 03 19 47.9
comp=Z,24nm,1.0s
MCPB Macapa, AP 62.46 335 *e*P **P 03 19 36.0 -0.5**
TEFE Tefe 62.81 320 *e*P **P 03 19 37.7 -1.1**
TBTG Tabatinga, AM 63.95 314 P **P 03 19 44.9 -1.5**
TBTG IAmb IAmb 03 20 46.3
comp=Z,14nm,0.7s
TBTG Tabatinga, AM 63.95 314 *e*P **P 03 19 48.7 +2.3**
ATAH Atahualpa 64.49 304 P **P 03 19 51.9 +1.4**
comp=Z,8.8nm,1.0s,baz=69,slow=6.8,SNR=6.8
ATAH LR LR 03 46 54.2
comp=Z,319nm,21.6s,baz=157,slow=35
comp=Z,8.8nm,1.0s
BOAV Boa Vista 67.19 326 P **P 03 20 05.6 -1.7**
BOAV IAmb IAmb 03 20 23.2
comp=Z,18nm,1.1s
BOAV Boa Vista 67.19 326 *e*P **P 03 20 06.8 -0.5**
MDP Montagnes des 67.89 335 LR LR 03 49 14.5
comp=Z,262nm,19.6s,baz=148,slow=36
ARNL Arenillas 68.43 304 P **P 03 20 14.8 -0.3**
DBIC Dimbokro 69.79 26 P P 03 20 19.2 -4.4
comp=Z,12nm,1.0s,baz=172,slow=6.6,SNR=5.3
DBIC LR LR 03 43 38.9
comp=Z,646nm,21.4s,baz=175,slow=30
comp=Z,12nm,1.0s
PULU Pululahua 71.05 307 P **P 03 20 31.4 -0.4**
IMBA Imbabura, San 71.16 308 P **P 03 20 31.7 -0.8**
OTAV Otavalo 71.22 307 P **P 03 20 34.0 +1.1**
OTAV IAmb IAmb 03 20 42.7
comp=Z,31nm,1.1s
OTAV Otavalo 71.22 307 *e*P **P 03 20 34.5 +1.6**
TULM Tulcn-Chalpat 71.40 308 P **P 03 20 33.9 -0.1**
ROSC El Rosal 73.90 313 P **P 03 20 50.6 +1.9**
comp=Z,1.9nm,0.4s,baz=119,slow=19,SNR=1.6
ROSC LR LR 03 53 48.1
comp=Z,476nm,21.8s,baz=178,slow=36
comp=Z,1.9nm,0.4s
RPZ Rata Peaks 74.73 195 LR LR 03 50 09.5
comp=Z,676nm,21.2s,baz=148,slow=33
MBAR Mbarara 75.33 64 P **P 03 20 58.9 +2.1**
MBAR Mbarara 75.33 64 LR LR 03 50 57.2
comp=Z,774nm,18.4s,baz=194,slow=34
PCRV Puerto La Cruz 75.76 324 LR LR 03 56 21.9
comp=Z,753nm,19.5s,slow=37
SDV Santo Domingo 76.40 318 P **P 03 21 02.3 -0.5**
SDV Santo Domingo 76.40 318 LR LR 03 56 52.2
comp=Z,570nm,19.6s,baz=146,slow=38
TORD Torodi Ar. Bea 77.60 31 P **P 03 21 06.4 -2.9**
comp=Z,17nm,0.8s,baz=191,slow=3.6,SNR=20
TORD LR LR 03 48 03.2
comp=Z,515nm,21.7s,baz=164,slow=30
comp=Z,17nm,0.8s
URZ Urewera 79.13 201 LR LR 03 54 14.6
comp=Z,598nm,18.8s,baz=234,slow=34
JTS Las Juntas de 82.96 305 LR LR 03 58 20.1
comp=Z,118nm,21.9s,baz=129,slow=36
NWAO Narrogin (SRO) 82.98 152 LR LR 03 55 24.8
comp=Z,136nm,18.5s,baz=155,slow=33
TBI Tubuai 83.30 233 *e*S **SKSac 03 32 00.6 -1.6**
comp=Z,3μm,35.8s
TBI Tubuai 83.30 233 *e*LR LR 03 47 41.4
comp=Z,4μm,25.2s
RAO Raoul Island 86.83 207 LR LR 03 53 22.0
comp=Z,198nm,21.7s,baz=158,slow=30
STKA Stephens Creek 87.63 173 P **P 03 22 03.7 +2.1**
comp=Z,4.1nm,0.9s,baz=190,slow=8.8,SNR=3.5
STKA LR LR 03 59 49.6
comp=Z,835nm,19.3s,baz=190,slow=34
comp=Z,4.1nm,0.9s
PPT2 Papeete2 88.52 236 *e*S **S 03 32 53.3 +1.3**
comp=Z,81nm,24.5s
PPT2 Papeete2 88.52 236 *e*LR LR 03 50 01.9
comp=Z,592nm,25.5s
PPT2 *e*LR LR 03 50 07.4
comp=Z,744nm,24.0s
PPT Papeete 88.54 236 LR LR 03 53 57.2
comp=Z,526nm,19.8s,baz=180,slow=30
RAR Rarotonga 89.11 226 LR LR 03 57 28.0
comp=Z,197nm,19.2s,baz=174,slow=32
H08S1 Diego Carcia H 89.31 104 T T 05 01 37.9
baz=206,slow=75,SNR=5.5
H08S2 Diego Garcia H 89.32 104 T T 05 01 36.0
baz=206
H08S3 Diego Garcia H 89.33 104 T T 05 01 45.5
baz=206,slow=75,SNR=5.1
ATD Arta Tunnel 91.54 69 LR LR 04 01 09.5
comp=Z,22nm,18.9s,baz=196,slow=34
ASAR Alice Springs 95.03 165 P **P 03 22 34.9 -1.2**
ASAR Alice Springs 95.03 165 P **P 03 22 36.2 +0.1**
comp=Z,1.5nm,0.8s,baz=180,slow=3.9,SNR=9.3
comp=Z,1.5nm,0.8s
DZM Mont Dzumac 96.64 195 *e*S **S 03 34 04.8 0.0**
comp=Z,87nm,26.4s
DZM Mont Dzumac 96.64 195 *e*LR LR 03 53 57.9
comp=Z,736nm,22.1s
DZM Mont Dzumac 96.64 195 LR LR 04 02 10.3
comp=Z,418nm,20.6s,baz=201,slow=33
WRA Warramunga Arr 98.75 165 P **P 03 22 51.4 -1.6**
comp=Z,1.1nm,1.2s,baz=200,slow=4.7,SNR=4.1
WRA LR LR 04 04 46.4
comp=Z,423nm,21.3s,baz=208,slow=34
NOA NORSAR Array B 125.28 23 PKP **PKPdf 03 28 12.5 -0.1**
comp=Z,0.1nm,0.4s,baz=50,slow=12,SNR=1.8
PZH PanZhiHua 132.74 114 PKP **PKiKP 03 28 30.0 +0.9**
ARCES ARCESS Array B 135.60 24 PKP **PKPdf 03 28 31.5 -0.3**
comp=Z,2.8nm,1.0s,baz=38,slow=2.2,SNR=2.3
BVAR Borovoye Array 138.14 63 PKP **PKPdf 03 28 35.3 -1.7**
comp=Z,1.2nm,0.7s,baz=226,slow=22,SNR=4.4
YKA Yellowknife Ar 138.57 316 PKP **PKPdf 03 28 38.1 +0.6**
comp=Z,0.6nm,0.7s,baz=121,slow=2.4,SNR=4.1
MKAR Makanchi Array 139.33 78 PKhKP PKPpre 03 28 32.0
comp=Z,0.5nm,0.9s,baz=240,slow=2.4,SNR=3.7
WMQ Urumqi 139.83 85 *e*PKP **PKiKP 03 28 43.1 +0.2**
WMQ LR LR
comp=Z,240nm,23.5s
KURBB Kurchatov Arra 140.21 71 PKhKP PKPpre 03 28 36.6
comp=Z,0.5nm,0.3s,baz=248,slow=2.8,SNR=1.9
XAN Xi'an 142.38 116 PKP **PKiKP 03 28 48.3 -0.2**
P33M Teslin, Yukon 144.04 304 P PKPbc 03 28 46.3 +0.7
baz=125
P32M Atlin 144.05 303 P PKPbc 03 28 46.3 +0.7
baz=126
LYN LuoYang 144.36 120 PKP PKPbc 03 28 48.6 +1.4
NJ2 Nanjing 144.78 130 *e*PKP PKPbc 03 28 49.9 +1.3
PLBC Pleasant Camp 145.09 301 P **PKPdf 03 28 49.8 +0.5**
baz=125
WHY Whitehorse 145.14 304 P **PKPab 03 28 49.6 +0.4**
baz=124
ZALV Zalesovo Beam 145.30 71 PKP **PKPdf 03 28 47.6 -2.2**
comp=Z,2.0nm,0.6s,baz=251,slow=4.0,SNR=7.0
O30N Mendenhall 145.70 303 P **PKPdf 03 28 50.3 0.0**
baz=123
P30M Million Dollar 145.71 302 P **PKPdf 03 28 50.9 +0.5**
baz=124
M31M Drury Creek, Y 145.78 306 P **PKPab 03 28 51.7 +0.3**
baz=122
N31M Braeburn, Yuko 145.96 305 P **PKPab 03 28 52.9 +0.8**
baz=122
HYT Haines Junctio 146.32 303 P **PKPbc 03 28 52.9 +0.1**
baz=122
N30M Aishikik Lake 146.48 304 P **PKPbc 03 28 53.6 +0.5**
baz=122
M30M Minto, Yukon 146.93 306 P **PKPbc 03 28 54.2 -0.2**
baz=120
YUK4 Talbot Arm 147.06 303 P **PKPdf 03 28 54.4 +1.5**
baz=121
A36M Sachs Harbour 147.27 325 P **PKPdf 03 28 54.3 +1.7**
baz=115
O28M Mount Upton 147.41 301 P **PKPbc 03 28 55.7 -0.4**
baz=121
H31M Peel River 147.54 312 P **PKPdf 03 28 54.2 +0.9**
baz=118
L29M L29M 147.73 306 P **PKPbc 03 28 55.7 -0.9**
baz=119
HNS HongShan 147.74 120 ⇓PKPbc **PKPbc 03 28 58.1 +0.8**
TIA Tai'an 147.74 124 *e*PKPbc **PKPbc 03 28 58.2 +0.8**
K29M Barlow Dome 147.84 308 P **PKPbc 03 28 56.1 -0.9**
baz=118
I30M Mount Dempster 148.03 310 P **PKPdf 03 28 55.6 +1.4**
baz=117
BTO Baotou 148.26 110 *e*PKPbc **PKPdf 03 28 53.3 -2.1**
BTO PP **PP 03 32 29.5 +1.7**
BTO AMB AMB
comp=Z,210nm,6.5s
BTO LR LR
comp=Z,460nm,13.9s
INK Inuvik 148.33 317 P **PKPdf 03 28 55.3 +0.9**
baz=114
EPYK Eagle Plains 148.66 312 P **PKPdf 03 28 56.6 +1.5**
baz=115
DAWY Dawson 148.67 307 P **PKPdf 03 28 56.8 +1.6**
baz=117
HHC Hu-ho-hao-te 149.16 112 *e*PKPbc **PKPdf 03 28 55.1 -1.7**
HHC sPKP 03 29 07.8
HHC LR LR
comp=Z,230nm,18.0s
HHC LR LR
comp=Z,130nm,16.5s
HHC LR LR
comp=Z,170nm,19.8s
G29M Pine Creek 149.35 313 P **PKPdf 03 28 58.3 +2.1**
baz=114
I28M Miner Creek 149.48 309 P **PKPdf 03 28 58.3 +1.7**
baz=115
I27K Kandik River 150.18 309 P **PKPdf 03 28 59.2 +1.6**
baz=113
F28M Old Crow 150.28 314 P **PKPbc 03 29 01.2 -1.7**
baz=111
H27K Steamboat Moun 150.39 310 P **PKPdf 03 29 00.5 +2.6**
baz=112
SCRK Sand Creek 150.47 305 P **PKPdf 03 29 00.6 +2.4**
baz=114
E28M Babbage River 150.51 316 P **PKPdf 03 28 59.5 +1.6**
baz=110
J26L Joseph Creek 150.51 307 P **PKPdf 03 29 01.3 +3.1**
baz=114
M24K Tolsona, Glenn 150.58 301 P **PKPdf 03 29 00.9 +2.6**
baz=116
PAX Paxson 150.65 303 P **PKPdf 03 29 01.5 +3.0**
baz=115
ILAR Eielson Array 151.94 306 PKPbc **PKPbc 03 29 05.6 -1.1**
comp=Z,3.1nm,1.0s,baz=145,slow=2.0,SNR=14
SUA Susitna One 152.27 298 P **PKPdf 03 29 01.3 +0.3**
baz=115
C26K Camden Bay 152.71 317 P **PKPdf 03 29 03.4 +2.2**
baz=103
SKT Skwentna 152.82 299 P **PKPdf 03 29 04.3 +2.6**
baz=114
KSRS Korea Array 152.87 138 PKPbc **PKPbc 03 29 09.8 +0.1**
comp=Z,3.7nm,0.9s,baz=175,slow=1.8,SNR=9.7
TOLK Toolik Lake Re 154.06 313 P **PKPdf 03 29 05.3 +2.1**
baz=102
D23K Nanushuk River 154.52 314 P **PKPdf 03 29 05.8 +1.9**
baz=101
MJAR Matsushiro Arr 154.75 157 PKPbc **PKiKP 03 29 16.6 +2.7**
comp=Z,1.1nm,0.6s,baz=219,slow=3.8,SNR=2.1
J18K Innoko River 155.58 300 P **PKPdf 03 29 07.5 +2.1**
baz=108
USRK Ussuriysk Ar. 160.28 138 PKPab **PKPab 03 29 54.9 +2.5**
comp=Z,1.2nm,0.4s,baz=207,slow=4.7,SNR=5.2
HEH HeiHe 163.48 118 *e*P **PKPab 03 30 06.8 +0.4**
HEH pmax pmax
comp=Z,5.0nm,0.8s
HEH HeiHe 163.48 118 *e*PKP **PKPdf 03 29 19.1 +4.2**

NEIC ***02*** *03:13:20.8±1.7, 18°.1N±0°.1×68°.54W±0°.04, h81km±18km, ML3.3/30, Md3.5/20(RSPR), Error ellipse: s-maj=16.8km s-min=5.7km az=186.0*
SDD ***02*** *03:13:22.5±2.4, 18°.28N×68°.50W, h88km±7km, MD3.3, ML3.3, MW3.4*
OSPL ***02*** *03:13:22.8±2.8, 18°.14N×68°.54W, h83km±17km, ML3.1*
RSPR ***02*** *03:13:22.1, 18°.26N×68°.55W, h85km±3km, MD3.5/20*
ISC 02 03:13:21.6±1.2, 18°.28N±0°.06×68°.51W±0°.02, h87km±6km, n87, σ1.54/118, 39C-11D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.26**	**27**	⇑*e*P	**Pn**	**03 13 34.2**	**-0.3**
PCDR	**Punta Cana, DR**	**0.26**	**27**		**Pn**	**03 13 33.8**	**-0.7**
PCDR					**Sn**	**03 13 44.5**	**+0.6**
PCDR				IAML		03 13 45.3	
comp=N,861nm,0.4s							
PCDR	**Punta Cana, DR**	**0.26**	**27**	⇓*e*Pg	**Pn**	**03 13 34.1**	**-0.3**
PCDR				⇑*e*Sg	**Sn**	**03 13 44.5**	**+0.6**
PCDR				IAML		03 13 45.2	
comp=N,723nm,0.7s							
PCDR				IAML		03 13 45.3	
comp=E,551nm,0.6s							
PCDR	**Punta Cana, DR**	**0.26**	**27**	*i* P	**Pn**	**03 13 34.1**	**-0.3**
PCDR				*e*S	**Sn**	**03 13 44.5**	**+0.6**
PCDR				IAML		03 13 46.2	
comp=Z,707nm,0.3s							
SADR	**Isla Saona**	**0.27**	**252**	⇓*e*Pg	**Pn**	**03 13 34.2**	**-0.2**
SADR				⇓*e*Pg	**Pn**	**03 13 34.2**	**-0.2**
SADR				⇑*e*Sg	**Sn**	**03 13 44.9**	**+0.9**
SADR				⇑*e*Sg	**Sn**	**03 13 44.9**	**+0.9**
SADR				IAML		03 13 45.1	
comp=E,1μm,0.2s							
SADR				IAML		03 13 46.0	
comp=N,2μm,0.3s							
SADR				IAML		03 13 46.0	
comp=N,1μm,0.3s							
HIDR	**Higuey Centro**	**0.37**	**328**	⇓*e*Pg	**Pn**	**03 13 34.3**	**-0.8**
HIDR				⇓*e*Sg	**Sn**	**03 13 44.4**	**-0.6**
HIDR				IAML		03 13 45.0	
comp=N,1μm,0.2s							
HIDR				IAML		03 13 46.2	
comp=E,2μm,0.1s							
MIDR	**Miches**	**0.87**	**324**	⇑*e*Pg	**Pn**	**03 13 38.6**	**-0.9**
MIDR				⇑*e*Sg	**Sn**	**03 13 52.7**	**-0.3**
MIDR				IAML		03 13 53.7	
comp=N,283nm,0.1s							
HATOM	**Hato Mayor del**	**0.97**	**302**	⇑*e*Pg	**Pn**	**03 13 39.6**	**-1.1**
HATOM				⇑*e*Sg	**Sn**	**03 13 53.8**	**-1.3**
HATOM				IAML		03 13 54.2	
comp=N,362nm,0.3s							
HATOM				IAML		03 13 54.2	
comp=N,344nm,0.3s							
PRSN	**Puerto Rico Se**	**1.30**	**92**	⇑*e*P	**Pn**	**03 13 45.5**	**+0.9**
PRSN	**Puerto Rico Se**	**1.30**	**92**	*e*S	**Sn**	**03 14 04.6**	**+2.6**
PRSN	**Puerto Rico Se**	**1.30**	**92**		**Pn**	**03 13 43.7**	**-1.0**
PRSN					**Sn**	**03 14 03.2**	**+1.3**
PRSN				IAML		03 14 12.5	
comp=N,681nm,0.2s							
PRSN				IAML		03 14 13.6	
comp=E,351nm,0.3s							
PRSN	**Puerto Rico Se**	**1.30**	**92**	⇑*e*Pg	**Pn**	**03 13 43.6**	**-1.0**
PRSN				IAML		03 14 06.7	
comp=E,342nm,0.1s							
PRSN				IAML		03 14 12.5	
comp=N,657nm,0.2s							
AGPR	**Aguadilla, PR**	**1.34**	**82**	⇑*e*P	**Pn**	**03 13 45.4**	**+0.3**
AGPR	**Aguadilla, PR**	**1.34**	**82**	Pn	**Pn**	**03 13 44.9**	**-0.2**
AGPR				Sn	**Sn**	**03 14 03.4**	**+0.4**
AGPR				IAML		03 14 10.1	
comp=N,429nm,0.4s							
AGPR				IAML		03 14 11.1	
comp=E,384nm,0.2s							
AGPR	**Aguadilla, PR**	**1.34**	**82**	⇑*e*Pg	**Pn**	**03 13 45.5**	**+0.3**
AGPR				IAML		03 14 10.0	
comp=N,399nm,0.3s							
AGPR				IAML		03 14 11.0	
comp=E,385nm,0.2s							
AGPR	**Aguadilla, PR**	**1.34**	**82**	*i* P	**Pn**	**03 13 45.8**	**+0.6**
AGPR				*e*S	**Sn**	**03 14 04.7**	**+1.7**
AGPR				IAML		03 14 09.5	
comp=Z,207nm,0.2s							
SDD	**Santo Domingo**	**1.35**	**278**	⇑*e*P	**Pn**	**03 13 45.1**	**-0.1**
SDD	**Santo Domingo**	**1.35**	**278**		**Pn**	**03 13 44.3**	**-0.9**
SDD	**Santo Domingo**	**1.35**	**278**		**Sn**	**03 14 03.4**	**+0.4**
SDD	**Santo Domingo**	**1.35**	**278**	⇑*e*Pg	**Pn**	**03 13 45.0**	**-0.1**
SDD				⇓*e*Sg	**Sn**	**03 14 03.4**	**+0.4**
SDD				IAML		03 14 04.5	
comp=N,73nm,0.6s							
SDD				IAML		03 14 07.0	
comp=E,58nm,0.2s							
SDD	**Santo Domingo**	**1.35**	**278**	*i* P	**Pn**	**03 13 44.8**	**-0.4**
SDD				*e*S	**Sn**	**03 14 03.5**	**+0.4**
LSP	**Las Mesas**	**1.36**	**94**	⇑*e*P	**Pn**	**03 13 46.1**	**+0.7**
LSP	**Las Mesas**	**1.36**	**94**	*e*S	**Sn**	**03 14 08.1**	**+4.7**
LSP	**Las Mesas**	**1.36**	**94**		**Pn**	**03 13 46.1**	**+0.7**
LSP					**Sn**	**03 14 08.1**	**+4.7**
CRPR	**Cabo Rojo, PR**	**1.36**	**101**	⇓*e*P	**Pn**	**03 13 44.7**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.36**	**101**	*e*S	**Sn**	**03 14 03.2**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.36**	**101**	Pn	**Pn**	**03 13 44.0**	**-1.4**
CRPR				Sn	**Sn**	**03 14 01.5**	**-1.8**
CRPR	**Cabo Rojo, PR**	**1.36**	**101**	⇑*e*Pg	**Pn**	**03 13 44.9**	**-0.5**
CRPR				IAML		03 14 10.3	
comp=E,121nm,0.2s							
CRPR				IAML		03 14 19.0	
comp=N,98nm,0.2s							
CRPR	**Cabo Rojo, PR**	**1.36**	**101**	*i* P	**Pn**	**03 13 44.8**	**-0.6**
CRPR				IAML		03 14 15.4	
comp=Z,204nm,0.8s							
MLPR	**Magueyes Islan**	**1.43**	**102**	⇑*e*P	**Pn**	**03 13 45.4**	**-0.8**
MLPR	**Magueyes Islan**	**1.43**	**102**	*e*S	**Sn**	**03 14 05.3**	**+0.5**
MLPR	**Magueyes Islan**	**1.43**	**102**	Pn	**Pn**	**03 13 44.7**	**-1.5**
MLPR				Sn	**Sn**	**03 14 04.7**	**-0.2**
MLPR	**Magueyes Islan**	**1.43**	**102**	⇑*e*Pg	**Pn**	**03 13 45.2**	**-1.0**
MLPR				⇑*e*Sg	**Sn**	**03 14 04.2**	**-0.7**
MLPR				IAML		03 14 14.9	
comp=E,153nm,0.2s							
MLPR				IAML		03 14 16.3	
comp=N,95nm,0.2s							
GBPR	**Guanica, Bosqu**	**1.58**	**101**	⇑*e*P	**Pn**	**03 13 50.1**	**+1.9**
GBPR	**Guanica, Bosqu**	**1.58**	**101**	*e*S	**Sn**	**03 14 08.9**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.58**	**101**		**Pn**	**03 13 50.1**	**+1.9**
GBPR					**Sn**	**03 14 08.9**	**+0.6**
DR08	**Loma La Naviza**	**1.59**	**296**	⇑*e*Pg	**Pn**	**03 13 47.8**	**-0.6**
DR08				⇑*e*Sg	**Sn**	**03 14 08.4**	**-0.2**
DR08				IAML		03 14 09.5	
comp=N,7μm,0.1s							
DR08				IAML		03 14 14.4	
comp=E,7μm,0.1s							
NADR	**Nagua**	**1.67**	**310**	⇑*e*Pg	**Pn**	**03 13 50.2**	**+1.0**
NADR				IAML		03 14 18.1	
comp=N,1μm,0.2s							
AOPR	**Arecibo Observ**	**1.67**	**87**	⇑*e*P	**Pn**	**03 13 49.9**	**+0.5**
AOPR	**Arecibo Observ**	**1.67**	**87**	Pn	**Pn**	**03 13 49.0**	**-0.4**
AOPR				Sn	**Sn**	**03 14 12.1**	**+1.6**
AOPR	**Arecibo Observ**	**1.67**	**87**	⇑*e*Pg	**Pn**	**03 13 49.9**	**+0.5**
AOPR				IAML		03 14 15.8	
comp=N,840nm,0.3s							
AOPR				IAML		03 14 19.3	
comp=E,2μm,0.3s							
AOPR	**Arecibo Observ**	**1.67**	**87**	*e*P	**Pn**	**03 13 49.7**	**+0.4**
AOPR				*e*S	**Sn**	**03 14 11.5**	**+1.0**
UUPR	**Utuado, UPR, P**	**1.70**	**91**	⇑*e*P	**Pn**	**03 13 50.7**	**+1.0**
UUPR	**Utuado, UPR, P**	**1.70**	**91**	*e*S	**Sn**	**03 14 13.6**	**+2.5**
UUPR	**Utuado, UPR, P**	**1.70**	**91**		**Pn**	**03 13 50.4**	**+0.6**
UUPR				Sn	**Sn**	**03 14 12.6**	**+1.4**
BANI	**BANI**	**1.76**	**274**	⇑*e*Pg	**Pn**	**03 13 51.5**	**+0.8**
BANI				IAML		03 14 20.1	
comp=E,361nm,0.2s							
BANI				IAML		03 14 21.1	
comp=N,642nm,0.2s							
OBIP	**Obispado Ponce**	**1.82**	**97**	⇓*e*P	**Pn**	**03 13 50.7**	**-0.7**
OBIP	**Obispado Ponce**	**1.82**	**97**	*e*S	**Sn**	**03 14 14.0**	**0.0**

OBIP	Obispado Ponce	1.82	97	Pn		Pn	03 13 50.0	-1.3
OBIP				Sn		Sn	03 14 12.5	-1.5
CELP	Cerrillos	1.84	96⇑	*e*P		Pn	03 13 50.8	-0.9
CELP	Cerrillos	1.84	96	*e*S		Sn	03 14 13.8	-0.7
CELP	Cerrillos	1.84	96	Pn		Pn	03 13 50.5	-1.1
CELP				Sn		Sn	03 14 11.8	-2.8
CELP				IAML			03 14 20.0	
	comp=E,152nm,0.3s							
CELP				IAML			03 14 22.1	
	comp=N,191nm,0.5s							
CELP	Cerrillos	1.84	96⇑	*e*Pg		Pn	03 13 51.0	-0.7
CELP				IAML			03 14 19.6	
	comp=N,186nm,0.5s							
EMPR	Esperanza - Ma	1.89	84⇓	*e*P		Pn	03 13 52.7	+0.5
EMPR	Esperanza - Ma	1.89	84	*e*S		Sn	03 14 16.5	+0.9
EMPR	Esperanza - Ma	1.89	84	Pn		Pn	03 13 52.0	-0.2
CADR	Cabrera	1.93	316⇓	*e*Pg		Pn	03 13 52.2	-0.6
CADR				IAML			03 14 20.2	
	comp=N,528nm,0.2s							
CADR				IAML			03 14 24.5	
	comp=E,259nm,0.2s							
ABDR	Alto Bandera	2.08	285⇑	*e*Pg		Pn	03 13 55.1	0.0
ABDR				IAML			03 14 25.7	
	comp=N,222nm,0.2s							
ABDR				IAML			03 14 27.6	
	comp=E,238nm,0.2s							
SJG	San Juan	2.25	94⇑	*e*P		Pn	03 13 57.5	+0.5
SJG	San Juan	2.25	94	*e*S		Sn	03 14 25.9	+1.9
SJG	San Juan	2.25	94	Pn		Pn	03 13 56.2	-0.7
SJG	San Juan	2.25	94	IAML			03 14 26.3	
	comp=E,255nm,0.5s							
SJG				IAML			03 14 27.4	
	comp=E,188nm,0.3s							
SJG	San Juan	2.25	94⇑	*e*Pg		Pn	03 13 57.1	+0.1
SJG	San Juan	2.25	94	*e*P		Pn	03 13 56.7	-0.2
SJG				*e*S		Sn	03 14 23.6	-0.4
GCPR	Guaynabo City	2.30	89⇑	*e*P		Pn	03 13 57.3	-0.4
GCPR	Guaynabo City	2.30	89	*e*S		Sn	03 14 26.2	+0.8
GCPR	Guaynabo City	2.30	89	Pn		Pn	03 13 57.1	-0.6
GCPR				Sn		Sn	03 14 24.9	-0.4
GCPR				IAML			03 14 27.2	
	comp=N,128nm,0.6s							
GCPR				IAML			03 14 27.4	
	comp=E,160nm,0.3s							
SC01	Santiago de Io	2.39	299			Pn	03 14 01.0	+2.1
SC01						Sn	03 14 32.5	+5.0
SC01	Santiago de Io	2.39	299⇑	*e*Pg		Pn	03 14 00.4	+1.5
SC01				IAML			03 14 36.0	
	comp=E,244nm,0.5s							
SC01				IAML			03 15 07.1	
	comp=N,4.4nm,0.6s							
SC01	Santiago de Io	2.39	299	*i* P		Pn	03 14 00.8	+1.9
SC01				IAML			03 14 36.3	
	comp=Z,76nm,0.3s							
LOBA2	Hotel Casa Bon	2.47	266⇑	*e*Pg		Pn	03 13 58.5	-1.3
LOBA2			⇑	*e*Sg		Sn	03 14 25.1	-4.1
LOBA2				IAML			03 14 25.3	
	comp=N,21nm,2.9s							
LOBA2				IAML			03 14 29.0	
	comp=E,18nm,0.2s							
HUMP	Col San Antoni	2.53	93⇑	*e*P		Pn	03 14 00.8	+0.1
HUMP	Col San Antoni	2.53	93	*e*S		Sn	03 14 30.2	-0.5
HUMP	Col San Antoni	2.53	93	Pn		Pn	03 13 59.9	-0.9
HUMP				Sn		Sn	03 14 29.5	-1.3
HUMP				IAML			03 14 33.1	
	comp=N,167nm,0.2s							
PODR	Polo	2.64	268⇑	*e*Pg		Pn	03 14 03.1	+0.8
PODR				IAML			03 14 45.0	
	comp=E,72nm,0.3s							
PODR				IAML			03 14 52.4	
	comp=N,49nm,0.3s							
PODR	Polo	2.64	268	*i* P		Pn	03 14 01.6	-0.7
PODR				IAML			03 14 44.0	
	comp=Z,46nm,0.5s							
SDDR	Presa de Saban	2.73	285⇑	*e*P		Pn	03 14 05.7	+2.3
SDDR	Presa de Saban	2.73	285	*e*S		Sn	03 14 41.1	+5.5
SDDR	Presa de Saban	2.73	285	Pn		Pn	03 14 03.7	+0.2
SDDR				IAML			03 14 43.9	
	comp=Z,98nm,0.4s							
SDDR				IAML			03 14 44.9	
	comp=Z,86nm,0.5s							
SDDR	Presa de Saban	2.73	285	*i* P		Pn	03 14 05.4	+2.0
SDDR				IAML			03 14 46.5	
	comp=Z,55nm,0.6s							
SDDR	Presa de Saban	2.73	285	*e*P		Pn	03 14 05.6	+2.2
SDDR				*e*S		Sn	03 14 39.3	+3.7
LUDR	Luperon	2.81	305⇓	*e*Pg		Pn	03 14 04.2	-0.3
LUDR				IAML			03 14 46.9	
	comp=E,318nm,0.2s							
LUDR				IAML			03 14 56.9	
	comp=N,455nm,0.4s							
GRTK	Grand Turk	4.05	323	Pn		Pn	03 14 19.6	-1.7
GRTK				IAML			03 15 08.1	
	comp=N,48nm,0.3s							
GRTK				IAML			03 16 16.7	
	comp=N,42nm,0.1s							
GRTK	Grand Turk	4.05	323	*i* P		Pn	03 14 20.4	-0.9
GRTK				*e*S		Sn	03 15 04.7	-3.0
GRTK				IAML			03 15 10.8	
	comp=Z,38nm,0.8s							
MASC	Masc	5.73	290	*i* P		Pn	03 14 41.8	-2.3
ANBD	Bethesda, Anti	6.54	100	*e*P		Pn	03 14 54.7	-0.5
ANBD	Bethesda, Anti	6.54	100	*e*S		Sn	03 16 05.7	-2.8

JMA ***02*** *03:21:29.0±0.1, 25°N±1°×122°5E±0°4, h93km±1km,*
MV1.9/12, NW OFF ISHIGAKIJIMA IS
TAP ***02*** *03:21:28.5, 24°65N×122°40E, h105km, ML2.8, C*
ISC 02 03:21:28.7±1.6, 24°60N±0°06×122°49E±0°03, h95km±9km, n49, σ0s81/87, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.30	232	*e*P		Pn	03 21 43.0	+0.4
	baz=227							
EOS2				S		Sn	03 21 54.6	+1.6
	baz=227							
EOS3	EOS3	0.35	207	*i* P		Pn	03 21 43.6	+0.7
	baz=209							
EOS3				S		Sn	03 21 55.1	+1.7
	baz=209							
JYNG	Yonagunijimaku	0.44	110	*e*P		Pn	03 21 43.5	-0.1
JYNG				*e*S		Sn	03 21 54.5	-0.1
YOJ	Yonaguni jima	0.49	107	*e*P		Pn	03 21 43.9	-0.1
	baz=113							
YOJ				*e*S		Sn	03 21 55.0	-0.4
	baz=113							
YOJ	Yonaguni jima	0.49	107	*e*S		Sn	03 21 54.9	-0.4
EOS4	EOS4	0.51	199	*e*P		Pn	03 21 44.6	+1.0
	baz=195							
EOS4				*e*S		Sn	03 21 55.2	+0.4
	baz=195							
TWC	Suao	0.59	271	*e*P		Pn	03 21 44.4	-0.3
	baz=265							
TWC				*e*S		Sn	03 21 55.6	-1.1
	baz=265							
EWUT	Wuta	0.67	257	*e*P		Pn	03 21 45.6	+0.1
	baz=250							
ENA	Nanau	0.71	256	*e*P		Pn	03 21 45.9	+0.1
	baz=249							
ENA				*e*S		Sn	03 21 58.4	-0.2
	baz=249							
TIPB	Shuangxi	0.71	301	P		Pn	03 21 45.8	-0.1
	baz=297							
TIPB				*e*S		Sn	03 21 57.7	-1.0
	baz=297							
TWE	Neicheng	0.76	279	*e*P		Pn	03 21 45.7	-0.6
	baz=276							
FUSB	Fushanzhiwuyua	0.84	281	P		Pn	03 21 47.2	0.0
	baz=284							
FUSB				S		Sn	03 21 60.0	-1.0
	baz=284							
ENTT	Nioudou	0.85	273	P		Pn	03 21 47.8	+0.6
	baz=275							
LATG	Datong	0.88	266	*e*P		Pn	03 21 47.9	+0.2
	baz=262							
LATG				*e*S		Sn	03 22 02.3	+0.4
	baz=262							
NDT	Datong Townshi	0.89	270	*e*P		Pn	03 21 48.3	+0.6
	baz=262							
ETL	Fush Village	0.91	241	*e*S		Sn	03 22 01.6	-0.7
	baz=235							
NWLT	Wulai	0.92	281	*e*P		Pn	03 21 47.6	-0.3
	baz=285							
NWLT				*e*S		Sn	03 22 01.6	-0.8
	baz=285							
NACB	Ninganchiao	0.93	243	P		Pn	03 21 47.7	-0.3
	baz=237							
NACB				*e*S		Sn	03 22 01.3	-1.1
	baz=237							
TWD	Chiawan	0.97	238	S		Sn	03 22 02.6	-0.7
	baz=229							
YHNB	Yeheng	1.02	274	P		Pn	03 21 49.5	+0.4
	baz=265							
YHNB				*e*S		Sn	03 22 04.4	-0.1
	baz=265							
NNSB	Datong	1.03	260	*e*P		Pn	03 21 48.7	-0.5
	baz=252							
NNSB				*e*S		Sn	03 22 04.2	-0.5
	baz=252							
NSK	Sanguang	1.04	274	P		Pn	03 21 49.6	+0.3
	baz=266							
NSK				*e*S		Sn	03 22 04.3	-0.4
	baz=266							
ETM	Tongmen	1.11	235	*e*P		Pn	03 21 49.9	-0.2
	baz=239							
ETM				*e*S		Sn	03 22 05.2	-1.0
	baz=239							
LXIB	Xiulin Townshi	1.14	240	P		Pn	03 21 50.3	-0.4
	baz=235							
LXIB				*e*S		Sn	03 22 05.8	-1.3
	baz=235							
IRIF	Iriomote-Funau	1.16	103	*e*P		Pn	03 21 50.6	0.0
IRIF				*e*S		Sn	03 22 06.8	-0.3
SHUL	Shoufeng	1.18	226	*e*P		Pn	03 21 50.6	-0.2
	baz=215							
FUSS	Fushou	1.19	253	P		Pn	03 21 51.6	+0.3
	baz=245							
FUSS				*e*S		Sn	03 22 08.2	-0.1
	baz=245							
WHF	Hehuan Shan	1.21	248	*e*P		Pn	03 21 51.7	+0.1
	baz=244							
WHF				*e*S		Sn	03 22 08.3	-0.6
	baz=244							
ESL	Shilin	1.25	231	*e*S		Sn	03 22 07.8	-1.2
	baz=235							
NFF	Wufeng Townshi	1.25	272	*e*P		Pn	03 21 51.7	-0.1
	baz=279							
NFF				*e*S		Sn	03 22 08.9	-0.3
	baz=279							
TDCB	Techi	1.27	254	P		Pn	03 21 52.7	+0.6
	baz=244							
TDCB				S		Sn	03 22 09.4	-0.3
	baz=244							
HATJ	Hateruma jima	1.31	114	*e*S		Sn	03 22 10.7	+0.3
CHGB	Renai	1.32	246	*e*P		Pn	03 21 53.2	+0.4
	baz=237							
CHGB				S		Sn	03 22 10.7	-0.2
	baz=237							
WARBT	Fenglin Townsh	1.34	229	P		Pn	03 21 52.4	-0.4
	baz=232							
WARBT				S		Sn	03 22 09.4	-1.6
	baz=232							
OWD	Renai	1.37	242	*e*P		Pn	03 21 54.0	+0.7
	baz=234							
OWD				*e*S		Sn	03 22 11.5	-0.3
	baz=234							
WUSB	Renai	1.40	244	*e*P		Pn	03 21 54.0	+0.4
	baz=237							
WUSB				*e*S		Sn	03 22 12.0	-0.4
	baz=237							
JKRS	Kuro-shima	1.43	104	*e*P		Pn	03 21 54.4	+0.6
JKRS				*e*S		Sn	03 22 13.1	+0.3
WHP	Taichung City	1.45	257	*e*P		Pn	03 21 56.0	+1.8
	baz=255							
WHP				*e*S		Sn	03 22 14.8	+1.4
	baz=255							
HGSD	Ruisui	1.48	222	*e*P		Pn	03 21 54.2	-0.3
	baz=213							
HGSD				*e*S		Sn	03 22 13.6	-0.4
	baz=213							
VWDT	VWDT	1.50	236	*e*P		Pn	03 21 55.1	+0.4
	baz=228							
VWDT				*e*S		Sn	03 22 14.0	-0.4
	baz=228							
JIJ	Ishigaki jima	1.52	99	*e*P		Pn	03 21 55.0	0.0
JIJ				*e*S		Sn	03 22 13.9	-1.0
WCS	Beigang Elemen	1.54	250	*e*P		Pn	03 21 54.6	-0.7
	baz=247							
WCS				*e*S		Sn	03 22 16.4	+1.0
	baz=247							
SSLB	Suanglung	1.62	240	*e*P		Pn	03 21 57.7	+1.3
	baz=233							
SSLB				*e*S		Sn	03 22 17.9	+0.6
	baz=233							
YULB	Yu-li	1.63	222	P		Pn	03 21 55.8	-0.7
	baz=226							
YULB				*e*S		Sn	03 22 15.6	-1.8
	baz=226							
TYC	Yuchr	1.65	245	*e*P		Pn	03 21 57.7	+1.1
	baz=245							
TYC				*e*S		Sn	03 22 19.4	+1.6
	baz=245							
JISG	Ishigakijimahi	1.65	90	*e*P		Pn	03 21 57.0	+0.3
WHYT	Xinyi Township	1.75	239	*e*P		Pn	03 21 59.7	+1.7
	baz=231							
WHYT				*e*S		Sn	03 22 21.9	+1.7
	baz=231							
FULB	Fuli	1.78	218	*e*P		Pn	03 21 59.5	+1.1
	baz=210							
FULB				*e*S		Sn	03 22 20.0	-0.8
	baz=210							
EDH	Donghe	1.96	214	*e*P		Pn	03 21 60.0	-0.6
	baz=207							
EDH				*e*S		Sn	03 22 23.5	-1.3
	baz=207							

NDI ***02*** *03:24:37.3±3.9, 30°96N×96°86E, h10km, ML4.0, MW3.9,*
mb4.5(NEIC)
IDC ***02*** *03:24:40.7±0.9, 30°30N×97°05E, h0km, mb3.8/9,*
mbtmp3.9/10, ML4.1/1, Error ellipse: s-maj=37.4km
s-min=16.1km az=55.0
NEIC ***02*** *03:24:43.3±1.9, 30°31N±0°08×97°1E±0°1, h10km±1km,*
mb4.5/30, Error ellipse: s-maj=18.8km s-min=12.1km
az=66.0
ISC 02 03:24:42.3±0.5, 30°35N±0°04×97°05E±0°06, h10km, n56,
σ1s74/65, mb4.4/18, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIBR	DIBRUGARH	3.43	214	*e*P		Pn	03 25 33.0	-2.9
DIBR				*e*S		Sb	03 26 22.6	-2.4
DIBR				IAML			03 26 28.7	
	comp=N,1μm,0.7s							
DIBR				IAML			03 26 28.9	
	comp=E,2μm,0.5s							
MOKO	MOKOCHONG	4.59	210	*e*P		Pn	03 25 54.7	+2.6
MOKO				*e*S		Sn	03 26 46.8	+1.3
MOKO				IAML			03 27 04.3	
	comp=E,732nm,0.5s							
MOKO				IAML			03 27 05.3	
	comp=N,919nm,0.4s							
LSA	Lhasa	5.16	264	Pn		Pn	03 26 03.8	+3.7
LSA				Sn		Sn	03 26 55.8	-4.1
LSA				smax	smax			
	comp=N,27nm,0.7s							
LSA				smax	smax			
	comp=E,28nm,0.7s							
LSA	Lhasa	5.16	264	Pn		Pn	03 26 01.0	+0.9
TEZP	TEZPUR	5.28	226	*e*P		Pn	03 26 01.3	0.0
TEZP				*e*S		Sn	03 27 01.5	-0.6
KOHI	KOHIMA	5.29	210	*e*P		Pn	03 26 04.4	+2.7
KOHI				*e*S		Sn	03 27 07.0	+4.2
TAWA	Tawang	5.31	240	IAML			03 28 23.0	
	comp=E,276nm,0.7s							
TAWA				IAML			03 28 26.8	
	comp=N,490nm,0.4s							
TNCH	TengChong	5.46	166	*e*Pn		Pn	03 26 03.7	-0.2
TNCH				Pg		Pg	03 26 26.3	-0.6
TNCH				Sg		Sg	03 27 35.2	-2.4
TNCH				smax	smax			
	comp=N,120nm,1.2s							
TNCH				smax	smax			
	comp=E,120nm,1.0s							
TNCH				LR	LR			
	comp=N,810nm,5.3s							
TNCH				LR	LR			
	comp=E,1μm,5.8s							
TNCH				LR	LR			
	comp=Z,470nm,5.8s							
GOMU	GeErMu	6.13	343	P		Pn	03 26 17.4	+4.1
GOMU				pP		Pb	03 26 21.8	-7.6
GOMU				sP		Pb	03 26 26.2	-3.2
GOMU				PcP		Pg	03 26 37.2	-2.5
GOMU				S		Sb	03 27 38.2	-4.7
GOMU				LR	LR			
	comp=N,500nm,5.1s							
GOMU				LR	LR			
	comp=E,280nm,5.2s							
GOMU				LR	LR			
	comp=Z,320nm,5.7s							
IMP	Imphal	6.15	207	*e*P		Pn	03 26 14.5	+1.2
IMP				*e*S		Sn	03 27 24.4	+0.6
IMP				IAML			03 28 01.4	
	comp=N,32nm,0.6s							
IMP				IAML			03 28 01.8	
	comp=E,40nm,0.6s							
SHL	Shillong	6.60	225	Pn		Pn	03 26 18.9	-0.7
SHL	Shillong	6.60	225	*e*P		Pn	03 26 19.3	-0.3
SHL				*e*S		Sn	03 27 32.1	-3.0
SHL				IAML			03 28 05.7	
	comp=E,103nm,0.9s							
SHL				IAML			03 28 07.7	
	comp=N,222nm,0.7s							
WMQ	Urumqi	15.37	334	*e*P		P	03 28 25.7	+1.7
UBPT	Khong Chiam	16.87	151			P	03 28 42.0	+1.2
UBPT				IAmb	IAmb		03 28 42.8	
	comp=Z,30nm,1.0s							
BJT	Baijiatuau	18.33	53	P		P	03 28 55.4	-1.4
BJT				IAmb	IAmb		03 29 12.1	
	comp=Z,24nm,1.1s							
SONM	Songino Array	18.88	20	P		P	03 29 02.7	-0.2
SONM	Songino Array	18.88	20	P		P	03 29 04.1	+1.2
	comp=Z,0.5nm,0.3s,baz=195,slow=10,SNR=6.8							
	comp=Z,17nm,1.1s							
ULN	Ulaanbaatar	19.11	21	P		P	03 29 05.9	+0.4
MK31	Makanchi Array	20.01	329	P		P	03 29 16.9	+1.7
MKAR	Makanchi Array	20.01	329	P		P	03 29 16.3	+1.1
MKAR	Makanchi Array	20.01	329	P		P	03 29 16.0	+0.8
	comp=Z,1.5nm,0.7s,baz=139,slow=12,SNR=11							
	comp=Z,1.5nm,0.7s							
NIL	Nilore	20.44	285	P		P	03 29 20.9	+1.0
NIL				IAmb	IAmb		03 29 23.5	
	comp=Z,30nm,1.4s							
BOOM	Boomskoye usch	20.80	311	P		Pn	03 29 26.0	-0.4
GAR	Garm	23.56	299	P		P	03 29 53.0	-0.1
GAR				IAmb	IAmb		03 29 55.6	
	comp=Z,24nm,1.4s							
SIMJ	Simiganj	24.48	297	P		P	03 30 01.9	+0.1
KURBB	Kurchatov Arra	24.54	331	P		P	03 30 01.2	-0.8
	comp=Z,0.7nm,0.5s,baz=138,slow=11,SNR=9.9							
	comp=Z,0.7nm,0.5s							
KK31	Karatay Array	24.67	308	P		P	03 30 03.9	+0.6
KKAR	Karatay Array	24.67	308	P		P	03 30 04.1	+0.7
KSRS	Korea Array	26.50	66	P		P	03 30 20.4	+0.4
	comp=Z,0.7nm,0.5s,baz=258,slow=9.1,SNR=2.0							
	comp=Z,0.7nm,0.5s							
BVAR	Borovoye Array	29.86	327	P		P	03 30 49.6	-0.1
	comp=Z,0.3nm,0.4s,baz=120,slow=10,SNR=1.7							
	comp=Z,0.3nm,0.4s							
FINES	FINESS Array B	54.81	326	P		P	03 34 14.0	+1.8
	baz=66,slow=6.7							
ARCES	ARCESS Array B	55.47	336	P		P	03 34 16.4	-0.5
ARCES				IAmb	IAmb		03 34 17.4	
	comp=Z,14nm,1.4s							
ARCES	ARCESS Array B	55.47	336	P		P	03 34 17.1	+0.2
	comp=Z,2.3nm,0.9s,baz=81,slow=6.7,SNR=5.7							
	comp=Z,2.3nm,0.9s							
FITZ	Fitzroy Crossi	55.48	146	P		P	03 34 15.6	-1.9
WB0	Warramunga Arr	61.43	139	P		P	03 34 58.5	-0.5
WRA	Warramunga Arr	61.54	140	P		P	03 34 59.3	-0.6
WRA	Warramunga Arr	61.54	140	P		P	03 34 59.8	0.0
	comp=Z,2.1nm,0.8s,baz=328,slow=7.9,SNR=16							
	comp=Z,2.1nm,0.8s							
WB2	Warramunga Arr	61.55	140	P		P	03 34 59.5	-0.4
WB2				IAmb	IAmb		03 35 02.5	
	comp=Z,6.2nm,1.0s							
WR0	Warramunga Arr	61.66	139	P		P	03 35 01.4	+0.7
NC602	NORSAR Array S	61.89	326	P		P	03 35 02.0	+0.3
NB2	NORSAR Subarra	61.98	327	P		P	03 35 02.1	-0.3
	comp=Z,0.8nm,0.7s,baz=79,slow=6.9							
NOA	NORSAR Array B	61.98	327	P		P	03 35 02.1	-0.3
	comp=Z,0.7nm,0.7s,baz=79,slow=6.7,SNR=5.0							
	comp=Z,0.7nm,0.7s							
ASAR	Alice Springs	64.31	142	P		P	03 35 17.7	-0.5
	comp=Z,1.4nm,0.7s,baz=327,slow=6.7,SNR=16							
	comp=Z,1.4nm,0.7s							
C19K	Lookout Ridge	66.57	22	P		P	03 35 34.2	+1.8
FUORN	Ofenpass-Fuorn	66.57	311	P		P	03 35 34.0	+1.0
FUORN				IAmb	IAmb		03 36 15.1	
	comp=Z,2.8nm,1.1s							
D19K	Kuna River	67.31	23	P		P	03 35 38.3	+1.3
E19K	Redstone River	68.06	24	P		P	03 35 43.8	+2.0
E19K				IAmb	IAmb		03 35 45.0	
	comp=Z,3.0nm,0.9s							
C23K	Itkillik River	69.05	20	P		P	03 35 48.9	+1.0
C23K				IAmb	IAmb		03 35 51.4	
	comp=Z,4.9nm,0.9s							
BMAR	Burnt Mountain	72.23	21	P		P	03 36 08.6	+1.2
NEA2	Nenana	72.39	24	P		P	03 36 09.2	+1.0
NEA2				IAmb	IAmb		03 36 11.4	
	comp=Z,2.8nm,0.8s							
ILAR	Eielson Array	73.06	24	P		P	03 36 11.4	-0.8
	comp=Z,0.5nm,0.8s,baz=266,slow=3.7,SNR=7.3							
	comp=Z,0.5nm,0.8s							
SML	Sawmill	74.25	27	P		P	03 36 20.1	+0.7
SML				IAmb	IAmb		03 36 22.4	
	comp=Z,6.7nm,1.0s							
SCRK	Sand Creek	74.54	24	P		P	03 36 22.2	+1.1
SCRK				IAmb	IAmb		03 36 23.8	
	comp=Z,2.6nm,0.9s							
G30M	tAoh Zraii Nji	74.99	19	P		P	03 36 23.7	+0.1
G30M				IAmb	IAmb		03 36 29.7	
	comp=Z,4.4nm,1.3s							
KLU	Klutina	75.36	26	P		P	03 36 26.7	+0.8
KLU				IAmb	IAmb		03 36 29.1	
	comp=Z,3.8nm,0.8s							
BCAR	Beaver Creek A	75.89	24	P		P	03 36 30.6	+1.8

CATAC ***02*** *03:27:47.1±0.4, 12°99N×88°92W, h23km±3km, ML3.8*
SNET ***02*** *03:27:48.0±0.6, 12°97N×88°91W, h42km±18km, ML3.8*
ISC 02 03:27:47.6±1.3, 12°97N±0°05×88°93W±0°03, h30km±11km,
n83, σ0s44/120, 4C-14D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	Alcaldia de Te	0.58	14	⇓*i*P		Pn	03 27 59.8	-0.1
TECO	Alcaldia de Te	0.58	14	*i* P		Pn	03 27 59.6	-0.2
TECO				*i* S		Sn	03 28 08.8	+0.5
TECO				IAML			03 28 10.5	
	comp=Z,6μm,1.0s							
LALI	Alcalda de L	0.64	323	*e*P		Pb	03 28 00.4	+0.1
LALI	Alcalda de L	0.64	323	*i* P		Pb	03 28 00.4	+0.1
LALI				*i* S		Sn	03 28 09.4	-0.4
LALI				IAML			03 28 09.6	
	comp=Z,2μm,1.0s							
SNVI	San Vicente	0.64	8	*e*P		Pb	03 28 00.7	+0.3
COEG	Centro de Oper	0.64	4	⇓*i*P		Pb	03 28 00.6	+0.1
COEG	Centro de Oper	0.64	4	*i* P		Pb	03 28 00.5	+0.1
COEG				*i* S		Sb	03 28 08.9	-0.3
COEG				IAML			03 28 13.6	
	comp=Z,6μm,1.0s							
LFRS	El Faro	0.66	349	⇑*i*P		Pb	03 28 00.9	+0.2
TECA	Tecapa	0.66	39	⇓*i*P		Pb	03 28 01.2	+0.4
UESV	Universidad de	0.67	12	*i* P		Pb	03 28 01.1	+0.2
UESV	Universidad de	0.67	12	*i* P		Pb	03 28 01.1	+0.2
UESV				*i* S		Sb	03 28 09

PAVA	Las Pavas	0.73 359	⇓	*i* P	Pb	03 28 02.1	+0.1
PAVA	Las Pavas	0.73 359		*i* P	Pb	03 28 02.1	+0.1
PAVA				*i* S	Sn	03 28 13.0	+0.7
PAVA				IAML		03 28 14.2	
	comp=Z,10μm,1.0s						
PQSS	Presa 15 de Se	0.74 29	⇑	*e*P	Pb	03 28 02.2	+0.2
PQSS	Presa 15 de Se	0.74 29		*i* P	Pb	03 28 02.2	+0.2
PQSS				IAML		03 28 14.7	
	comp=Z,13μm,1.0s						
AEIL	Aeropuerto Ilo	0.74 346		*e*P	Pb	03 28 02.2	+0.1
SCLA	Alcaldia de Sa	0.75 15	⇓	*i*P	Pb	03 28 02.4	+0.2
SCLA	Alcaldia de Sa	0.75 15		*i* P	Pb	03 28 02.3	+0.2
SCLA				*i* S	Sb	03 28 12.7	+0.6
SCLA				IAML		03 28 15.1	
	comp=Z,2μm,1.0s						
PACA	Pacayal	0.77 50		*e*P	Pb	03 28 02.7	+0.2
PACA	Pacayal	0.77 50		*i* P	Pb	03 28 02.9	+0.4
PACA				*i* S	Sb	03 28 13.5	+0.8
PACA				IAML		03 28 16.2	
	comp=Z,23μm,1.0s						
SNET	Serv Nac Est T	0.77 337		*e*P	Pn	03 28 02.1	-0.4
SNET	Serv Nac Est T	0.77 337		*i* P	Pn	03 28 02.1	-0.4
SNET				*i* S	Sn	03 28 12.6	-0.5
SNET				IAML		03 28 13.9	
	comp=Z,5μm,1.0s						
UDBS	Universidad Do	0.77 343		*i* P	Pb	03 28 02.5	0.0
UDBS				*i* S	Sb	03 28 12.8	+0.1
UDBS				IAML		03 28 20.5	
	comp=Z,2μm,1.0s						
UTEC	Universidad Te	0.77 340		*i* P	Pb	03 28 02.5	-0.1
UTEC				*i* S	Sb	03 28 12.8	0.0
UTEC				IAML		03 28 15.1	
	comp=Z,2μm,1.0s						
RANC	El Ranchito	0.77 54		*e*P	Pb	03 28 02.5	-0.1
RANC	El Ranchito	0.77 54		*i* P	Pb	03 28 02.5	-0.1
RANC				*i* S	Sn	03 28 12.3	-1.0
RANC				IAML		03 28 17.0	
	comp=Z,2μm,1.0s						
IGN	Direccin Gen	0.77 342		*i* P	Pn	03 28 02.1	-0.4
IGN				*i* S	Sb	03 28 13.2	+0.4
IGN				IAML		03 28 16.8	
	comp=Z,15μm,1.0s						
ITCA	Escuela Especi	0.78 334		*e*P	Pn	03 28 02.2	-0.4
ITCA	Escuela Especi	0.78 334		*i* P	Pn	03 28 02.1	-0.5
ITCA				*i* S	Sb	03 28 13.2	+0.3
ITCA				IAML		03 28 21.2	
	comp=Z,4μm,1.0s						
MAGS	Ministerio de	0.79 334		*e*P	Pn	03 28 02.5	-0.3
LFU	La Fuente	0.79 347		*e*P	Pb	03 28 02.8	-0.1
LFU				eS	Sb	03 28 14.4	+1.0
UEES	Universidad Ev	0.80 338		*e*P	Pn	03 28 02.6	-0.3
UEES	Universidad Ev	0.80 338		*i* P	Pn	03 28 02.6	-0.3
UEES				*i* S	Sn	03 28 13.5	-0.3
UEES				IAML		03 28 16.7	
	comp=Z,2μm,1.0s						
BLLM	Bellamira	0.82 55	⇑	*e*P	Pb	03 28 03.0	-0.3
PMON	Piamonte	0.82 333	⇓	*i*P	Pn	03 28 03.0	-0.3
PMON	Piamonte	0.82 333		*i* P	Pn	03 28 03.0	-0.3
PMON				*i* S	Sb	03 28 14.3	0.0
PMON				IAML		03 28 15.7	
	comp=Z,5μm,1.0s						
BOQS	Boqueron	0.83 336	⇑	*e*P	Pb	03 28 03.5	-0.2
PIC2	El Picacho	0.83 337		*e*P	Pb	03 28 03.5	-0.2
JAYA	Jayaque - finc	0.85 323	⇓	*e*P	Pn	03 28 03.0	-0.6
JAYA	Jayaque - finc	0.85 323		*i* P	Pn	03 28 03.2	-0.4
JAYA				*i* S	Sb	03 28 15.1	+0.1
JAYA				IAML		03 28 16.6	
	comp=Z,10μm,1.0s						
INTP	Intipuca	0.88 75	⇓	*e*P	Pn	03 28 03.5	-0.4
CNRM	Centro Naciona	0.89 56		*i* P	Pn	03 28 03.9	-0.2
CNRM				*i* S	Sb	03 28 16.2	+0.2
CNRM				IAML		03 28 24.0	
	comp=Z,4μm,1.0s						
QUEZ	Alcaldia de Qu	0.92 339		*i* P	Pn	03 28 04.6	+0.1
QUEZ				*i* S	Sb	03 28 17.0	0.0
QUEZ				IAML		03 28 19.1	
	comp=Z,5μm,1.0s						
CEDA	San Andres	0.94 331	⇓	*i*P	Pn	03 28 04.6	-0.2
CEDA	San Andres	0.94 331		*i* P	Pn	03 28 04.6	-0.2
CEDA				*i* S	Sb	03 28 17.7	+0.1
CEDA				IAML		03 28 21.3	
	comp=Z,5μm,1.0s						
LCND	La Caada	1.06 72		*e*P	Pn	03 28 06.2	-0.3
LCND	La Caada	1.06 72		*i* P	Pn	03 28 06.1	-0.3
LCND				*i* P	Pb	03 28 06.5	-0.9
LCND				*i* S	Sb	03 28 20.8	-0.2
LCND				*i* S	Sn	03 28 21.1	+0.8
LCND				IAML		03 28 22.3	
	comp=Z,2μm,1.0s						
LCND				IAML		03 29 01.9	
	comp=Z,11μm,1.0s						
CEVE	Cerro Verde	1.09 321		*e*P	Pn	03 28 07.2	+0.3
CEVE	Cerro Verde	1.09 321		*i* P	Pn	03 28 07.3	+0.3
CEVE				*i* S	Sb	03 28 21.8	-0.1
CEVE				IAML		03 28 24.3	
	comp=Z,2μm,1.0s						
SBLS	San Blas	1.09 322		*e*P	Pn	03 28 07.4	+0.3
CNCH	Conchagua	1.11 74	⇓	*e*P	Pn	03 28 06.7	-0.5
CNCH	Conchagua	1.11 74		*i* P	Pn	03 28 06.9	-0.3
CNCH				*i* S	Sb	03 28 22.0	-0.3
CNCH				IAML		03 28 24.5	
	comp=Z,3μm,1.0s						
SNJE	San Jose	1.11 323		*e*P	Pn	03 28 07.1	-0.2
RTR	El Retiro	1.15 323		*e*P	Pn	03 28 08.0	+0.1
UNIC	Universidad Ca	1.17 329		*e*P	Pn	03 28 08.1	0.0
UNIC	Universidad Ca	1.17 329		*i* P	Pn	03 28 08.0	0.0
UNIC				IAML		03 28 08.2	
	comp=Z,710nm,1.0s						
UNIC				*i* S	Sb	03 28 23.8	-0.3
NUBE	Las Nubes	1.24 318	⇓	*e*P	Pn	03 28 08.8	-0.2
NUBE	Las Nubes	1.24 318		*i* P	Pn	03 28 08.9	-0.2
NUBE				*i* S	Sn	03 28 24.8	-0.1
NUBE				IAML		03 28 26.3	
	comp=Z,2μm,1.0s						
AMPH	Amapala	1.27 76	⇓	*i*P	Pn	03 28 08.9	-0.4
AMPH	Amapala	1.27 76		*i* P	Pn	03 28 08.9	-0.4
AMPH				*i* S	Sb	03 28 26.5	-0.5
SLOZ	Alcaldia de Sa	1.34 322		*e*P	Pn	03 28 10.2	-0.1
MARCA	Marcala la Paz	1.46 36		*i* P	Pn	03 28 11.9	-0.2
MTO3	Montecristo	1.48 343	⇓	*i*P	Pn	03 28 12.1	-0.3
MTO3	Montecristo	1.48 343		*i* P	Pn	03 28 12.1	-0.3
MTO3				IAML		03 28 12.4	
	comp=Z,250nm,1.0s						
MTO3				*i* S	Sn	03 28 30.7	-0.1
INTHN	La Esperanza I	1.55 31		*i* P	Pn	03 28 13.2	-0.2
ESQI	Esquipulas	1.63 346		*i* P	Pn	03 28 14.5	+0.2
ESQI				IAML		03 28 14.6	
	comp=Z,340nm,1.0s						
ESQI				*i* S	Sn	03 28 35.0	+0.7
CRIN	San Cristobal	1.85 98		*i* P	Pn	03 28 17.1	-0.3
CRIN				*i* S	Sn	03 28 40.0	+0.2
CRIN				IAML		03 28 44.8	
	comp=Z,1μm,1.0s						
PKGN	Cerro Pekin	1.93 99		*i* P	Pn	03 28 18.0	-0.3
PKGN				IAML		03 28 48.1	
	comp=Z,2μm,1.0s						
TGUH	Tegucigalpa,Un	1.94 56		*i* P	Pn	03 28 18.2	-0.4
TGUH				IAML		03 28 39.5	
	comp=Z,290nm,1.0s						
PACN	Al O del Volca	2.13 102		*i* P	Pn	03 28 21.0	-0.2
PACN				*i* S	Sn	03 28 47.9	+1.2
PACN				IAML		03 28 57.2	
	comp=Z,490nm,1.0s						
CNGA	Al SSO del Vol	2.22 102		*i* P	Pn	03 28 21.7	-0.8
CNGA				IAML		03 28 51.9	
	comp=Z,490nm,1.0s						
CNGN	Cerro Negro	2.23 102		*i* P	Pn	03 28 22.6	+0.1
CNGN				IAML		03 28 59.3	
	comp=Z,320nm,1.0s						
YUSH	Yuscaran	2.25 64		*i* P	Pn	03 28 22.5	-0.4
COPN	Copaltepe	2.41 109		*i* P	Pn	03 28 24.5	-0.5
COPN				IAML		03 28 59.0	
	comp=Z,120nm,1.0s						
LIMN	Finca el Limon	2.50 88		*i* P	Pn	03 28 25.6	-0.7
LIMN				IAML		03 28 58.0	
	comp=Z,110nm,1.0s						
SAPS	Ciudad Sandino	2.59 108		*i* P	Pn	03 28 27.7	+0.2
SAPS				*i* S	Sn	03 28 59.9	+2.0
SAPS				IAML		03 29 06.1	
	comp=Z,260nm,1.0s						
BOAB	BOACO BROADBAN	3.22 99		*i* P	Pn	03 28 35.2	-1.0
BOAB				IAML		03 29 03.1	
	comp=Z,31nm,1.0s						
BOAB				*i* S	Sn	03 29 14.7	+1.1

NEIC ***02*** *04:08:09.2±0.9, 19°.415N±0°.010×155°.285W±0°.007, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.5km az=152.0*

HVO 02 04:08:08.6±1.0,**19°.415N**±0°.006×**155°.275W**±0°.008, **h1**km±3km,**ML3.6**/13,**ML3.1**/32(NEIC),**Error ellipse: s-maj=1.1km s-min=0.9km az=106.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	Observatory Le	0.01 287			Pg	04 08 09.8	+0.9
UWB	Uwekahuna B	0.01 345			Pg	04 08 09.7	+0.8
SBLHI	Steaming Bluff	0.01 30			Pg	04 08 10.0	+1.0
BYL	Byron's Ledge	0.01 102		Pg	Pg	04 08 09.3	+0.3
HATHI	Halema'uma'u T	0.02 59		Pg	Pg	04 08 09.2	+0.2
UWE	Uwekahuna	0.02 290		Pg	Pg	04 08 09.2	+0.2
KKO	Keanakako`i	0.02 153			Pg	04 08 10.2	+1.1
RIM	Rim	0.02 176			Pg	04 08 10.4	+1.3
WRMHI	West Rim	0.03 250			Pg	04 08 10.7	+1.6
SDHHI	Sand Hill	0.03 215			Pg	04 08 10.9	+1.7
RSD	Rainshed	0.05 357		Pg	Pg	04 08 09.6	+0.1
PUH	Pauahi	0.07 126		Pg	Pg	04 08 10.7	+0.8
KNHH	Kane Nui o Ham	0.11 109		Pg	Pg	04 08 11.8	+1.2
HLP	Hilina Pali	0.12 195		Pg	Pg	04 08 12.0	+1.1
HLP				IAML		04 08 14.3	
	comp=E,4μm,0.9s						
HLP				IAML		04 08 14.9	
	comp=N,8μm,0.7s						
STCH	Steam Cracks	0.14 102		Pg	Pg	04 08 12.2	+0.8
STCH				IAML		04 08 16.0	
	comp=N,10μm,0.8s						
STCH				IAML		04 08 16.2	
	comp=E,9μm,0.6s						
NPOC	North of Pu'u	0.16 98			Pg	04 08 12.3	+0.7
JCUZ	Jacuzzi	0.17 101			Pg	04 08 13.0	+1.2
HTC	Hot Caves	0.21 213			Pg	04 08 13.8	+1.2
JOKA	Jonika Flow	0.26 86		Pg	Pg	04 08 14.1	+0.6
JOKA				IAML		04 08 19.7	
	comp=E,2μm,1.3s						
JOKA				IAML		04 08 22.2	
	comp=N,4μm,0.8s						
HMH	Humu'ula Sheep	0.27 314		Pg	Pg	04 08 14.2	+0.4
HMH					Sg	04 08 17.9	+0.6
HMH				IAML		04 08 24.0	
	comp=E,5μm,0.9s						
MLOA	Mauna Loa Obse	0.31 293		Pg	Pg	04 08 15.2	+0.7
MWH	Moku'aweowe	0.31 283		Pg	Pg	04 08 15.4	+0.8
PAH	Pahoa	0.32 76			Pg	04 08 15.4	+0.7
KHU	Kahuku	0.36 242		Pg	Pg	04 08 16.3	+0.8
KHU				IAML		04 08 23.6	
	comp=E,3μm,0.6s						
KHU				IAML		04 08 24.4	
	comp=N,2μm,0.7s						
ALEP	Alea Permanent	0.37 290			Pg	04 08 16.2	+0.6
HPO	Honuapo	0.42 219		Pg	Pg	04 08 17.4	+0.8
POHA	Pohakuloa	0.42 325		Pg	Pg	04 08 17.2	+0.6
POHA				IAML		04 08 24.8	
	comp=N,2μm,0.8s						
POHA				IAML		04 08 26.0	
	comp=N,2μm,0.3s						
HUH	Hualalai	0.59 297		Pg	Pb	04 08 21.1	-0.9
CPH	Captain Cook	0.61 277			Pg	04 08 20.2	0.0
HPAH	Hawaii Prepara	0.73 327		Pg	Pg	04 08 21.6	-1.0
HPAH				Sg	Sg	04 08 31.6	-0.5
MHA	Mahukona	0.97 323		Pg	Pg	04 08 25.0	-2.1
KHLH	Kahului Airpor	1.83 324		Pn	Pn	04 08 37.6	-3.6

NEIC ***02*** *04:08:10.8±1.8,51°.21N±0°.06×131°.0W±0°.1, h10km±2km, mb3.7/4, ML3.4/25, Mwr4.1(OTT), Error ellipse: s-maj=15.0km s-min=6.4km az=230.0*

PGC ***02*** *04:08:13.6±7.4,51°.28N×130°.76W, h10km, ML3.5/21, MLSn3.4/21, Mw4.1, 206km Wsw of Bella Bella, Bc Haida Gwaii Region*

NEIC ***02*** *04:08:13.6,51°.28N×130°.76W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.71; $M_{\theta\theta}$-1.06; $M_{\phi\phi}$0.07; $M_{r\theta}$0.50; $M_{\theta\phi}$1.03; $M_{\phi r}$0.11; Fault plane solution: $M_0$1.80000×10^{15} NP1:ϕ_s105.00000°, δ53.00000°,λ70.00000°. NP2:ϕ_s317.00000°,δ41.00000°, λ115.00000°. Principal axes: T 1.6140, Plg73.0000°, Azm320.0000°; N 0.3396, Plg16.0000°, Azm118.0000°; P -1.9536, Plg6.0000°, Azm210.0000°;*

ISC 02 04:08:13.5±2.4,**51°.28N**±0°.06×**130°.88W**±0°.06, **h23**km±21km,**n97**,σ1**9**14/115,**Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HG4B	Hotspring	1.03 349			Pn	04 08 31.7	-0.8
HG4B				IAML		04 08 46.9	
	comp=E,781nm,0.6s						
JEDB	Jedway, Haida	1.03 349		P	Pn	04 08 31.7	-0.8
JEDB				S	Sb	04 08 45.1	-0.6
JEDB	Jedway, Haida	1.03 349		P	Pn	04 08 31.7	-0.8
JEDB				S	Sb	04 08 45.1	-0.6
BNB	Barry Inlet	1.40 338		Pn	Pn	04 08 37.1	-0.6
BNB				Sn	Sn	04 08 54.7	-0.8
BNB	Barry Inlet	1.40 338		Pn	Pn	04 08 37.1	-0.6
BNB				Sn	Sn	04 08 54.7	-0.8
BNB	Barry Inlet	1.40 338		P	Pn	04 08 37.5	-0.2
BNB				S	Sn	04 08 54.6	-0.9
BAIB	Barry Inlet	1.40 338		Pn	Pn	04 08 37.7	-0.1
BAIB				Sn	Sn	04 08 54.6	-1.0
BAIB	Barry Inlet	1.40 338		P	Pn	04 08 37.7	-0.1
BAIB				S	Sn	04 08 54.5	-1.0
HG1B	Mitchell Dam	1.82 336		Pn	Pn	04 08 44.1	+0.6
HG1B	Mitchell Dam	1.82 336		Pn	Pn	04 08 44.1	+0.6
HOLB	Holberg	1.85 109		Pn	Pn	04 08 42.5	-1.5
HOLB	Holberg	1.85 109			Pn	04 08 42.4	-1.5
HOLB				IAML		04 09 17.1	
	comp=E,373nm,0.7s						
HOLB				IAML		04 09 22.7	
	comp=N,494nm,0.7s						
HOLB	Holberg	1.85 109		Pn	Pn	04 08 42.5	-1.5
BBB	Bella Bella	1.95 61		Pn	Pn	04 08 44.0	-1.1
BBB				IAML		04 09 23.6	
	comp=E,299nm,0.9s						
BBB	Bella Bella	1.95 61		Pn	Pn	04 08 44.1	-0.9
BBB				Sn	Sn	04 09 07.3	-1.5
DIB	Dawson Inlet,	2.16 334		Pn	Pn	04 08 48.4	+0.3
DIB	Dawson Inlet,	2.16 334		Pn	Pn	04 08 47.6	-0.5
DIB				IAML		04 09 19.1	
	comp=E,105nm,0.7s						
DIB				IAML		04 09 27.6	
	comp=N,110nm,0.7s						
DIB	Dawson Inlet,	2.16 334		Pn	Pn	04 08 48.4	+0.3
DIB				Sn	Sn	04 09 13.8	-0.3
BNAB	Bonilla	2.22 4		Pn	Pn	04 08 48.4	-0.5
BNAB	Bonilla	2.22 4		Pn	Pn	04 08 48.4	-0.5
BNAB	Bonilla	2.22 4		Pn	Pn	04 08 49.2	+0.4
PHC	Port Hardy	2.26 103		Pn	Pn	04 08 47.0	-2.3
PHC	Port Hardy	2.26 103		Pn	Pn	04 08 47.7	-1.7
PHC				Sn	Sn	04 09 14.2	-2.2
PACB	Port Alice, BC	2.31 110		Pn	Pn	04 08 48.3	-1.8
PACB	Port Alice, BC	2.31 110		Pn	Pn	04 08 48.3	-1.8
PACB	Port Alice, BC	2.31 110		Pn	Pn	04 08 48.8	-1.4
GRIB	Gribbell Islan	2.32 27		Pn	Pn	04 08 49.8	-0.5
GRIB	Gribbell Islan	2.32 27		Pn	Pn	04 08 50.0	-0.3
BUTB	Butedale	2.32 39		Pn	Pn	04 08 51.0	+0.5
BUTB	Butedale	2.32 39		Pn	Pn	04 08 51.0	+0.5
BUTB	Butedale	2.32 39		Pn	Pn	04 08 50.7	+0.3
HWKB	Hawksbury Isla	2.55 24		Pn	Pn	04 08 52.9	-0.6
HWKB	Hawksbury Isla	2.55 24		Pn	Pn	04 08 52.9	-0.6
HWKB	Hawksbury Isla	2.55 24		Pn	Pn	04 08 53.5	0.0
HWKB				Sn	Sn	04 09 22.5	-1.4
GRNB	Grenville Isla	2.63 12		Pn	Pn	04 08 54.5	0.0
GRNB	Grenville Isla	2.63 12		Pn	Pn	04 08 54.4	-0.2
GRNB				IAML		04 09 40.8	
	comp=E,228nm,0.8s						
GRNB				IAML		04 09 41.7	
	comp=N,217nm,0.8s						
GRNB	Grenville Isla	2.63 12		Pn	Pn	04 08 54.5	0.0
GRNB				Sn	Sn	04 09 24.9	-0.8
EDB	Eliza Dome	2.78 119		Pn	Pn	04 08 55.4	-1.2
EDB	Eliza Dome	2.78 119		Pn	Pn	04 08 55.4	-1.2
WOSB	Woss	2.96 111		Pn	Pn	04 08 58.5	-0.7
WOSB				Sn	Sn	04 09 35.6	+1.6
WOSB	Woss	2.96 111		Pn	Pn	04 08 58.5	-0.7
WOSB				Sn	Sn	04 09 35.6	+1.6
WOSB	Woss	2.96 111		Pn	Pn	04 08 58.4	-0.8
WOSB				Sn	Sn	04 09 31.3	-2.7
RUBB	Prince Rupert	3.07 7		Pn	Pn	04 09 00.9	+0.3
RUBB	Prince Rupert	3.07 7		Pn	Pn	04 09 00.6	0.0
RUBB				IAML		04 10 03.9	
	comp=E,112nm,0.8s						
RUBB				IAML		04 10 04.1	
	comp=N,67nm,0.8s						
RUBB	Prince Rupert	3.07 7		Pn	Pn	04 09 00.9	+0.3
RUBB	Prince Rupert	3.07 7		Pn	Pn	04 09 01.1	+0.6
KITB	Kitimat	3.12 25		Pn	Pn	04 09 01.1	0.0
KITB	Kitimat	3.12 25		Pn	Pn	04 09 01.1	0.0
KITB	Kitimat	3.12 25		Pn	Pn	04 09 01.4	+0.3
KITB				Sn	Sn	04 09 37.5	-0.1
NCRB	Newcastle Ridg	3.19 104		Pn	Pn	04 09 00.7	-1.6
NCRB	Newcastle Ridg	3.19 104		Pn	Pn	04 09 00.7	-1.6
NCRB	Newcastle Ridg	3.19 104		Pn	Pn	04 09 01.4	-0.9
NCSB	Newcastle Ridg	3.19 104		Pn	Pn	04 09 01.0	-1.2
NCSB	Newcastle Ridg	3.19 104		Pn	Pn	04 09 01.5	-0.8
GDR	Gold River	3.44 114		Pn	Pn	04 09 04.8	-0.9
GDR	Gold River	3.44 114		Pn	Pn	04 09 04.8	-0.9
GDR	Gold River	3.44 114		Pn	Pn	04 09 04.9	-0.8
CBB	Campbell River	3.73 107		Pn	Pn	04 09 08.8	-0.8
CBB	Campbell River	3.73 107		Pn	Pn	04 09 09.4	-0.2
CBB				IAML		04 10 34.3	
	comp=N,57nm,1.1s						
CBB	Campbell River	3.73 107		Pn	Pn	04 09 08.8	-0.8
CBB	Campbell River	3.73 107		Pn	Pn	04 09 09.4	-0.2
V35K	Ketchikan	4.08 354		Pn	Pn	04 09 14.7	+0.3
V35K				IAML		04 10 30.5	
	comp=E,42nm,1.1s						
V35K	Ketchikan	4.08 354		Pn	Pn	04 09 15.1	+0.8
V35K	Ketchikan	4.08 354		Pn	Pn	04 09 15.6	+1.2
OZB	Mount Ozzard	4.17 122		Pn	Pn	04 09 14.8	-1.0
OZB				IAML		04 10 45.7	
	comp=E,52nm,2.4s						
OZB	Mount Ozzard	4.17 122		Pn	Pn	04 09 15.6	-0.3
CRAG	Craig	4.40 343		Pn	Pn	04 09 17.7	-1.2
CRAG				IAML		04 11 26.3	
	comp=E,35nm,1.6s						
B927	Port Alberni	4.41 116		Pn	Pn	04 09 19.0	0.0
UBRB	Upper Baezaeko	4.49 66		Pn	Pn	04 09 21.4	+1.2
UBRB	Upper Baezaeko	4.49 66		Pn	Pn	04 09 21.4	+1.2
UBRB	Upper Baezaeko	4.49 66		Pn	Pn	04 09 20.8	+0.5
SHB	Sechelt	4.79 108			Pn	04 09 25.4	+1.1
SHB	Sechelt	4.79 108		Pg	Pn	04 09 25.4	+1.1
SHB	Sechelt	4.79 108		Pn	Pn	04 09 25.2	+0.9
CLRS	Cowichan Lake	5.00 117		Pn	Pn	04 09 25.5	-1.5
CLRS				IAML		04 10 31.7	
	comp=E,27nm,2.5s						
CLRS				IAML		04 10 51.1	
	comp=N,25nm,1.8s						
U33K	Whale Pass	5.02 346		Pn	Pn	04 09 28.1	+0.8
U33K				IAML		04 11 08.1	
	comp=E,22nm,1.0s						
U33K	Whale Pass	5.02 346		Pn	Pn	04 09 27.9	+0.6
U33K				Sn	Sn	04 10 24.6	0.0
U33K	Whale Pass	5.02 346		Pn	Pn	04 09 28.5	+1.2
U33K				Sn	Sn	04 10 24.6	0.0
FSJB	Fort St James	5.10 49		Pn	Pn	04 09 29.3	+0.7
FSJB	Fort St James	5.10 49		Pn	Pn	04 09 29.3	+0.7
FSJB	Fort St James	5.10 49		Pn	Pn	04 09 29.7	+1.2
WRAK	Wrangell Islan	5.22 351		Pn	Pn	04 09 27.6	-2.4
WRAK				IAML		04 11 14.4	
	comp=E,21nm,0.9s						
T35M	Bob Quinn	5.72 3		Pn	Pn	04 09 37.0	0.0
T35M	Bob Quinn	5.72 3		Pn	Pn	04 09 39.4	+2.3
T35M	Bob Quinn	5.72 3		Pn	Pn	04 09 39.3	+2.3
NLWA	Neilton Lookou	6.01 128		Pn	Pn	04 09 41.2	+0.2
DLBC	Dease Lake	7.19 4		Pn	Pn	04 09 58.9	+1.7
R33M	Jennings River	8.13 360		Pn	Pn	04 10 12.3	+2.1
R33M	Jennings River	8.13 360		Pn	Pn	04 10 12.6	+2.5
R33M	Jennings River	8.13 360		Pn	Pn	04 10 12.8	+2.7
P33M	Teslin, Yukon	9.02 354		Pn	Pn	04 10 22.9	+0.7
WHY	Whitehorse	9.66 348		Pn	Pn	04 10 30.4	-0.6
I30M	Mount Dempster	14.27 351		Pn	Pn	04 11 31.6	-2.3
IMW	Indian Meadow	15.32 111		P	P	04 11 53.1	+0.1
IMW				IAmb	IAmb	04 11 58.6	
	comp=Z,3.2nm,0.8s						
FXWY	Fox Creek	15.42 112		P	P	04 11 53.2	-0.9
FXWY				IAmb	IAmb	04 11 59.8	
	comp=Z,3.1nm,0.8s						
MOOW	Moose Ponds	15.52 111		P	Pn	04 11 53.3	+2.3
TPAW	Teton Pass	15.55 112		P	P	04 11 54.6	-1.1

DNK ***02*** *04:10:23.5±5.0, 77°.59N×7°.13E, h0km±217km, ML3.9*

MOS ***02*** *04:10:24.1±1.1, 77°.40N×7°.49E, h10km, mb5.0/49, Error ellipse: s-maj=20.9km s-min=4.5km az=95.0*

IDC ***02*** *04:10:25.9±0.4, 77°.34N×7°.73E, h0km, mb4.5/26, mbtmp4.5/32, ML4.1/5, MS3.9/52, Error ellipse: s-maj=10.5km s-min=7.9km az=46.0*

GCMT ***02*** *04:10:25.0±0.3, 77°.45N±0°.03×7°.63E±0°.09, h13km±1km, MW4.9/97, Moment Tensor Solution. s16,c18; s97,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.52±.12; $M_{\theta\theta}$0.13±.07; $M_{\phi\phi}$1.40±.09; $M_{r\theta}$-0.39±.20; $M_{\theta\phi}$0.62±.06; $M_{\phi r}$-1.86±.27; Best double couple: $M_0$2.47700×10^{16} NP1:ϕ_s14.00000°,δ70.00000°,λ-96.00000°. NP2: ϕ_s211.00000°,δ21.00000°,λ-74.00000°. Principal axes: T 2.5260, Plg25.0000°, Azm109.0000°; N -0.0900, Plg6.0000°, Azm16.0000°; P -2.4270, Plg64.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***02*** *04:10:25.0±0.0, 77°.40N×8°.00E, h10km, mb4.6/44, mB5.0/16, Ms4.5/13, Ms7 4.3/13*

NAO ***02*** *04:10:26.7±6.0, 77°.43N×8°.11E, h26km±55km

SPA0	**Spitsbergen Ar**	**1.95**	**62**	Pn	**Pn**	**04 10 59.0**	**-0.7**
	baz=232,slow=16						
SPA0				Sn	**Sn**	**04 11 22.0**	**-2.7**
	baz=251,slow=22						
SPA0	**Spitsbergen Ar**	**1.95**	**62⇑**	*i* P	**Pn**	**04 10 59.0**	**-0.7**
SPA0				*e*S	**Sn**	**04 11 21.5**	**-3.1**
SPITS	**Spitsbergen Ar**	**1.95**	**62**	P	**Pn**	**04 10 58.5**	**-1.2**
SPITS				S	**Sn**	**04 11 21.2**	**-3.4**
SPITS	**Spitsbergen Ar**	**1.95**	**62**	Pn	**Pn**	**04 10 58.8**	**-0.9**
	comp=Z,1μm,0.3s,baz=234,slow=13,SNR=774						
SPITS				Sn	**Sn**	**04 11 21.5**	**-3.1**
	baz=244,slow=26						
SPB2	**Spitsbergen Ar**	**1.95**	**62**	Pn	**Pn**	**04 10 58.3**	**-1.4**
BJO1	**Bjornoya**	**3.96**	**132**	*e*P	**Pn**	**04 11 25.6**	**-1.6**
BJO1				*e*S	**Sn**	**04 12 06.4**	**-7.5**
BJO1				IAML		04 12 11.5	
	comp=Z,101nm,0.7s						
BJO1	**Bjornoya**	**3.96**	**132**	Pn	**Pn**	**04 11 25.3**	**-1.9**
BJO1				Sn	Sn	04 12 05.5	-8.4
BJO1	**Bjornoya**	**3.96**	**132**	*e*P	**Pn**	**04 11 24.9**	**-2.3**
BJO1				*e*S	**Sn**	**04 12 06.1**	**-7.9**
HOPEN	**Hopen**	**3.96**	**95**	*e*P	**Pn**	**04 11 25.3**	**-1.9**
HOPEN				*e*S	**Sn**	**04 12 07.6**	**-6.4**
HOPEN				IAML		04 12 11.3	
	comp=Z,506nm,0.3s						
HOPEN	**Hopen**	**3.96**	**95**	Pn	**Pn**	**04 11 25.4**	**-1.9**
HOPEN				Sn	**Sn**	**04 12 08.7**	**-5.3**
HOPEN	**Hopen**	**3.96**	**95**	*e*P	**Pn**	**04 11 25.3**	**-1.9**
HOPEN				*e*S	**Sn**	**04 12 07.5**	**-6.4**
DAG	**Danmarks Havn**	**5.97**	**277**	*e*P	**Pn**	**04 11 51.4**	**-3.4**
DAG				*e*S	Sn	04 12 51.5	-12
DAG				IAML		04 13 04.2	
	comp=Z,50nm,0.3s						
DAG	**Danmarks Havn**	**5.97**	**277**	P	**Pn**	**04 11 51.2**	**-3.6**
DAG				pmax	pmax		
	comp=Z,59nm,0.7s						
DAG	**Danmarks Havn**	**5.97**	**277**	*i* P	**Pn**	**04 11 50.7**	**-4.1**
DAG				*i* S	Sn	04 12 52.1	-11
DAG				IAML		04 13 04.2	
	comp=Z,50nm,0.3s						
NOR	**Nord**	**6.10**	**325**	*e*P	**Pn**	**04 11 53.5**	**-3.2**
NOR				*e*S	**Sn**	**04 12 59.1**	**-7.7**
NOR				IAML		04 13 02.3	
	comp=Z,155nm,0.5s						
NOR	**Nord**	**6.10**	**325**	Pn	**Pn**	**04 11 53.9**	**-2.8**
NOR				Sn	**Sn**	**04 13 00.6**	**-6.2**
NOR	**Nord**	**6.10**	**325**	P	**Pn**	**04 11 53.0**	**-3.6**
NOR				pmax	pmax		
	comp=Z,94nm,1.1s						
NOR	**Nord**	**6.10**	**325**	*i* P	**Pn**	**04 11 53.6**	**-3.1**
NOR				*i* S	**Sn**	**04 12 58.4**	**-8.4**
NOR				IAML		04 13 02.3	
	comp=Z,155nm,0.5s						
DBG	**Daneborg**	**7.50**	**260**	*e*P	**Pn**	**04 12 12.5**	**-3.3**
DBG				*e*S	Sn	04 13 29.0	-12
DBG				IAML		04 13 35.0	
	comp=Z,58nm,0.6s						
DBG	**Daneborg**	**7.50**	**260**	Pn	**Pn**	**04 12 12.8**	**-3.1**
DBG				Sn	Sn	04 13 28.9	-12
DBG	**Daneborg**	**7.50**	**260**	*i* P	**Pn**	**04 12 12.8**	**-3.1**
DBG				*i* S	Sn	04 13 30.1	-11
DBG				IAML		04 13 35.0	
	comp=Z,58nm,0.6s						
JMIC	**Jan Mayen**	**7.81**	**223**	*e*P	**Pn**	**04 12 18.1**	**-2.0**
JMIC	**Jan Mayen**	**7.81**	**223**	Pn	**Pn**	**04 12 17.9**	**-2.2**
JMIC	**Jan Mayen**	**7.81**	**223**	Pn	**Pn**	**04 12 17.8**	**-2.2**
	comp=Z,26nm,0.3s,baz=70,slow=3.8,SNR=8.9						
JMIC				LR	LR	04 14 27.1	
	comp=Z,473nm,19.9s,baz=103,slow=31						
	comp=Z,57nm,0.4s						
HAMF	**Hammerfest**	**8.01**	**140**	*e*P	**Pn**	**04 12 19.9**	**-3.0**
HAMF				*e*S	Sn	04 13 43.7	-10
HAMF	**Hammerfest**	**8.01**	**140**	Pn	**Pn**	**04 12 20.4**	**-2.5**
HAMF				Sn	Sn	04 13 43.5	-10
ZFI2	**Zemlya Franca-**	**8.08**	**47**	*e*P	**Pn**	**04 12 22.5**	**-1.2**
ZFI2				*e*S	Sn	04 13 45.2	-10
	comp=Z,116nm,0.6s						
TRO	**Tromso**	**8.38**	**153**	*e*P	**Pn**	**04 12 24.9**	**-3.0**
TRO	**Tromso**	**8.38**	**153**	Pn	**Pn**	**04 12 24.9**	**-3.0**
TRO	**Tromso**	**8.38**	**153**	P	**Pn**	**04 12 25.1**	**-2.7**
JETT	**Jettan, Norway**	**8.61**	**150**	Pn	**Pn**	**04 12 28.3**	**-2.8**
JETT	**Jettan, Norway**	**8.61**	**150**	Pn	**Pn**	**04 12 28.3**	**-2.8**
KIF	**Kilpisjarvi**	**9.18**	**150**	*e*P	**Pn**	**04 12 35.9**	**-2.9**
KIF	**Kilpisjarvi**	**9.18**	**150**	Pn	**Pn**	**04 12 36.2**	**-2.6**
KIF				Sn	Sn	04 14 11.9	-10
ARA0	**ARCESS Array S**	**9.28**	**139**	Pn	**Pn**	**04 12 37.6**	**-2.7**
	baz=337,slow=12						
ARA0				Sn	Sn	04 14 13.1	-12
	baz=336,slow=28						
ARA0	**ARCESS Array S**	**9.28**	**139**	Pn	**Pn**	**04 12 37.6**	**-2.7**
	baz=337,slow=12						
ARA0				Sn	Sn	04 14 13.1	-12
	baz=336,slow=28						
ARCES	**ARCESS Array B**	**9.28**	**139**	Pn	**Pn**	**04 12 36.7**	**-3.5**
ARCES	**ARCESS Array B**	**9.28**	**139**	Pn	**Pn**	**04 12 37.6**	**-2.6**
	comp=Z,7.9nm,0.3s,baz=334,slow=12,SNR=216						
ARCES				Sn	Sn	04 14 12.0	-13
	comp=Z,3.6nm,0.3s,baz=338,slow=26,SNR=5.8						
ARCES				LR	LR	04 16 31.8	
	comp=Z,579nm,18.6s,baz=294,slow=39						
	comp=Z,19nm,0.3s						
KEV	**Kevo**	**9.31**	**135**	Pn	**Pn**	**04 12 37.5**	**-3.1**
KEV	**Kevo**	**9.31**	**135**	*e*P	**Pn**	**04 12 37.7**	**-2.8**
KEV	**Kevo**	**9.31**	**135**	Pn	**Pn**	**04 12 38.1**	**-2.5**
KEV	**Kevo**	**9.31**	**135**	P	**Pn**	**04 12 37.5**	**-3.1**
VADS	**Vadso**	**9.36**	**130**	*e*P	**Pn**	**04 12 39.0**	**-2.3**
LOF	**Lofoten**	**9.45**	**167**	*e*P	**Pn**	**04 12 40.5**	**-2.1**
LOF	**Lofoten**	**9.45**	**167**	Pn	**Pn**	**04 12 40.5**	**-2.1**
KTK1	**Kautokeino**	**9.46**	**145**	*e*P	**Pn**	**04 12 41.0**	**-1.7**
STEI	**Steigen**	**9.75**	**164**	*e*P	**Pn**	**04 12 45.0**	**-1.6**
HEF	**Hetta**	**10.08**	**145**	*e*P	**Pn**	**04 12 48.6**	**-2.6**
HEF	**Hetta**	**10.08**	**145**	Pn	**Pn**	**04 12 48.8**	**-2.4**
FAUS	**Fauske**	**10.29**	**164**	*e*P	**Pn**	**04 12 53.3**	**-0.7**
SALU	**Saltoluokta**	**10.53**	**157**	*e*P	**Pn**	**04 12 56.6**	**-0.8**
SCO	**Scoresbysund**	**10.64**	**245**	*e*P	**Pn**	**04 12 54.6**	**-4.1**
SCO				*i* S	Sn	04 14 42.8	-15
SCO	**Scoresbysund**	**10.64**	**245**	*e*P	**Pn**	**04 12 54.6**	**-4.1**
SCO				*i* S	Sn	04 14 42.8	-15
KONS	**Konsvik**	**11.06**	**169**	*e*P	**Pn**	**04 13 03.6**	**-0.9**
KONS	**Konsvik**	**11.06**	**169**	Pn	**Pn**	**04 13 03.7**	**-0.9**
STOK	**Stokkvaagen**	**11.23**	**169**	*e*P	**Pn**	**04 13 05.8**	**-0.9**
STOK	**Stokkvaagen**	**11.23**	**169**	Pn	**Pn**	**04 13 05.9**	**-0.9**
SGF	**Sodankyl**	**11.37**	**141**	P	**Pn**	**04 13 05.9**	**-2.9**
SGF				pmax	pmax		
	comp=Z,39nm,0.9s						
MOR8	**Moi Rana**	**11.45**	**167**	*e*P	**Pn**	**04 13 08.3**	**-1.6**
APA0	**Apatity Array**	**12.21**	**130**	Pn	Pn	04 13 16.3	-4.0
	baz=338,slow=12						
APA0	**Apatity Array**	**12.21**	**130**	Pn	Pn	04 13 16.3	-4.0
	baz=338,slow=12						
LVZ	**Lovozero**	**12.23**	**127**	Pn	**Pn**	**04 13 16.9**	**-3.8**
LVZ	**Lovozero**	**12.23**	**127**	*i* P	Pn	04 13 15.7	-4.9
APA	**Apatity**	**12.31**	**129⇓**	*i* P	Pn	04 13 17.0	-4.7
APA				pmax	pmax		
	comp=Z,90nm,0.8s						
NEEM	**North Greenlan**	**12.40**	**299**	*e*P	Pn	04 13 15.3	-7.7
NEEM				*i* S	Sn	04 15 20.5	-21
NEEM	**North Greenlan**	**12.40**	**299**	*e*P	Pn	04 13 15.3	-7.7
NEEM				*i* S	Sn	04 15 20.5	-21
SUMG	**Summit**	**12.61**	**272**	Pn	**Pn**	**04 13 22.5**	**-3.6**
SUMG	**Summit**	**12.61**	**272**	*i* P	**Pn**	**04 13 23.5**	**-2.6**
SUMG				*i* S	Sn	04 15 32.2	-15
SUMG	**Summit**	**12.61**	**272**	P	**Pn**	**04 13 22.5**	**-3.6**
SUMG	**Summit**	**12.61**	**272**	*i* P	**Pn**	**04 13 23.5**	**-2.6**
SUMG				*i* S	Sn	04 15 32.2	-15
NSS	**Namsos**	**12.99**	**172**	*e*P	**Pn**	**04 13 31.1**	**+0.2**
MSF	**Maaselka**	**13.16**	**140**	P	**Pn**	**04 13 30.6**	**-2.6**
MSF				pmax	pmax		
	comp=Z,77nm,0.8s						
OUL	**Oulu**	**13.53**	**146**	P	**Pn**	**04 13 35.3**	**-2.9**
OUL				pmax	pmax		
	comp=Z,68nm,0.9s						
NOD	**Norderasen**	**14.19**	**167**	*e*P	**Pn**	**04 13 46.7**	**-0.6**
VAF	**Ylistaro**	**15.16**	**154**	*e*P	**Pn**	**04 13 59.0**	**-1.5**
KULLO	**Kullorsuaq**	**15.27**	**293**	*i* P	**Pn**	**04 13 57.7**	**-4.2**
KULLO				*i* S	Sn	04 16 30.8	-20
KULLO	**Kullorsuaq**	**15.27**	**293**	*i* P	**Pn**	**04 13 57.7**	**-4.2**
KULLO				*i* S	Sn	04 16 30.8	-20
AKN	**Aaknes**	**15.30**	**182**	P	**Pn**	**04 14 02.5**	**+0.2**
AKN	**Aaknes**	**15.30**	**182**	P	**Pn**	**04 14 02.5**	**+0.2**
BORG	**Borgarnes**	**15.54**	**232**	LR	LR	04 18 24.7	
	comp=Z,435nm,19.4s,baz=35,slow=31						
FOO	**Floro**	**15.91**	**185**	*e*P	**P**	**04 14 12.6**	**-1.3**
TULEG	**Thule**	**16.22**	**305**	Pn	**Pn**	**04 14 08.1**	**-6.1**
TULEG				IAmb	IAmb	04 14 21.8	
	comp=Z,183nm,1.6s						
TULEG	**Thule**	**16.22**	**305**	*i* P	**Pn**	**04 14 08.6**	**-5.6**
TULEG				*i* S	Sn	04 16 52.3	-22
TULEG	**Thule**	**16.22**	**305**	*i* P	**Pn**	**04 14 08.6**	**-5.6**
TULEG				*i* S	Sn	04 16 52.3	-22
NC204	**NORSAR Array S**	**16.23**	**175**	Pn	**Pn**	**04 14 14.2**	**-0.2**
NC204	**NORSAR Array S**	**16.23**	**175**	*e*P	**Pn**	**04 14 15.3**	**+0.9**
KEF	**Keuruu**	**16.25**	**151**	*e*P	**Pn**	**04 14 13.5**	**-1.1**
UPNV	**Upernavik**	**16.29**	**287**	*i* P	**Pn**	**04 14 08.5**	**-6.5**
UPNV	**Upernavik**	**16.29**	**287**	*i* P	**Pn**	**04 14 08.5**	**-6.5**
NC303	**NORSAR Array S**	**16.29**	**174**	Pn	**Pn**	**04 14 14.9**	**-0.2**
HYA	**Hoyanger**	**16.32**	**183**	*e*P	**P**	**04 14 17.7**	**-0.9**
JOF	**Joensuu**	**16.32**	**140**	*e*P	**Pn**	**04 14 10.4**	**-5.1**
NC405	**NORSAR Array S**	**16.41**	**174**	Pn	**Pn**	**04 14 16.8**	**+0.1**
SUE	**Sulen**	**16.46**	**186**	*e*P	**Pn**	**04 14 17.3**	**+0.1**
NB201	**NORSAR Array S**	**16.46**	**174**	Pn	**Pn**	**04 14 17.9**	**+0.5**
ADZR	**Andozero**	**16.47**	**128**	*e*P	Pn	04 14 09.6	-7.8
ADZR				pmax	pmax		
	comp=Z,28nm,0.6s						
NB2	**NORSAR Subarra**	**16.47**	**174**	P	**Pn**	**04 14 18.4**	**+0.9**
	baz=354,slow=14						
NB2	**NORSAR Subarra**	**16.47**	**174**	P	**Pn**	**04 14 18.4**	**+0.9**
	baz=354,slow=14						
NB2	**NORSAR Subarra**	**16.47**	**174**	P	**Pn**	**04 14 13.5**	**-4.0**
NB2				pmax	pmax		
	comp=Z,8.0nm,1.3s						
NBO00	**NORSAR Array S**	**16.47**	**175**	Pn	**Pn**	**04 14 16.7**	**-0.8**
NOA	**NORSAR Array B**	**16.47**	**174**	Pn	**Pn**	**04 14 16.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=356,slow=13,SNR=23						
NOA				LR	LR	04 19 50.9	
	comp=Z,270nm,19.6s,baz=355,slow=34						
	comp=Z,3.2nm,0.7s						
NUUG	**Nuugaatsiaq**	**16.57**	**282**	*i* S	Sn	04 16 59.1	-23
NUUG	**Nuugaatsiaq**	**16.57**	**282**	*i* S	Sn	04 16 59.1	-23
NAO01	**NORSAR Array S**	**16.66**	**175**	Pn	**Pn**	**04 14 20.6**	**+0.7**
EUNU	**Eureka**	**16.70**	**323**	Pn	**Pn**	**04 14 16.7**	**-3.7**
NC602	**NORSAR Array S**	**16.79**	**174**	Pn	**Pn**	**04 14 21.2**	**-0.2**
NC602	**NORSAR Array S**	**16.79**	**174**	*e*P	**P**	**04 14 23.1**	**-0.6**
NORES	**NORESS Array B**	**16.79**	**174**	P	**P**	**04 14 22.6**	**-1.1**
NRA0	**NORESS Array S**	**16.79**	**174**	P	**P**	**04 14 23.1**	**-0.6**
	baz=357,slow=16						
NRA0	**NORESS Array S**	**16.79**	**174**	P	**P**	**04 14 23.1**	**-0.6**
	baz=357,slow=16						
SKAR	**Skarslia**	**16.80**	**179**	*e*P	**P**	**04 14 23.4**	**-0.6**
LSH	**Leshukonskoye**	**16.99**	**117**	*e*P	**Pn**	**04 14 18.8**	**-5.2**
	comp=Z,285nm,0.6s						
LSH				S	Sn	04 17 08.4	-24
RAF	**Rauma**	**17.07**	**157**	*e*P	**Pn**	**04 14 23.1**	**-1.8**
FIA0	**FINESS Array S**	**17.08**	**149**	P	**Pn**	**04 14 22.2**	**-3.0**
	baz=352,slow=10						
FIA0	**FINESS Array S**	**17.08**	**149**	P	**Pn**	**04 14 22.2**	**-3.0**
	baz=352,slow=10						
FINES	**FINESS Array B**	**17.08**	**149**	Pn	**Pn**	**04 14 22.5**	**-2.7**
FINES	**FINESS Array B**	**17.08**	**149**	Pn	**Pn**	**04 14 22.3**	**-2.8**
	baz=356,slow=11						
FINES	**FINESS Array B**	**17.08**	**149**	P	**Pn**	**04 14 22.5**	**-2.7**
BER	**Bergen**	**17.12**	**184**	*e*P	**Pn**	**04 14 26.0**	**+0.4**
BER	**Bergen**	**17.12**	**184**	P	**Pn**	**04 14 25.8**	**+0.2**
BER				pmax	pmax		
	comp=Z,29nm,1.1s						
SVZ	**Severnaya Zeml**	**17.12**	**39**	*e*P	**Pn**	**04 14 24.3**	**-1.2**
HFS	**Hagfors**	**17.45**	**170**	P	**Pn**	**04 14 29.3**	**-0.5**
	slow=10						
HFS	**Hagfors**	**17.45**	**170**	P	**Pn**	**04 14 29.3**	**-0.5**
	slow=10						
HFS	**Hagfors**	**17.45**	**170**	P	**Pn**	**04 14 29.4**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=3.2,slow=11,SNR=50						
HFS				LR	LR	04 20 31.5	
	comp=Z,265nm,19.2s,baz=245,slow=35						
	comp=Z,15nm,0.6s						
ODD1	**Odda**	**17.58**	**182**	*e*P	**P**	**04 14 33.7**	**+1.2**
VALR	**Valaam**	**17.76**	**142**	*i* P	**P**	**04 14 34.9**	**+0.5**
VALR				pmax	pmax		
	comp=Z,119nm,1.0s						
AAL	**Aland**	**17.76**	**160**	*e*P	**P**	**04 14 33.9**	**-0.5**
KONO	**Kongsberg**	**17.84**	**177**	Pn	**Pn**	**04 14 33.7**	**-0.9**
KONO	**Kongsberg**	**17.84**	**177**	*e*P	**Pn**	**04 14 31.7**	**-2.9**
KONO	**Kongsberg**	**17.84**	**177**	*ce*P	**P**	**04 14 35.6**	**+0.2**
KONO				pmax	pmax		
	comp=Z,23nm,1.3s						
BLS5	**Blasjo**	**18.07**	**183**	*e*P	**P**	**04 14 39.0**	**+1.1**
MEF	**Metsahovi**	**18.11**	**153**	*e*P	**Pn**	**04 14 35.6**	**-2.3**
KMY	**Karmoy**	**18.30**	**184**	*e*P	**P**	**04 14 44.9**	**+4.6**
STRU	**Stroemstad**	**18.48**	**175**	*e*P	**Pn**	**04 14 44.5**	**+2.1**
STRU	**Stroemstad**	**18.48**	**175**	*i* P	**Pn**	**04 14 42.7**	**+0.2**
SNART	**Snartemo**	**19.15**	**181**	*i* P	**Pn**	**04 14 54.0**	**+3.4**
HOMB	**Homborsund**	**19.22**	**179**	*e*P	**Pn**	**04 14 53.4**	**+2.0**
HOMB	**Homborsund**	**19.22**	**179**	*i* P	**Pn**	**04 14 51.8**	**+0.5**
VIKU	**Vikbolandet**	**19.22**	**166**	*e*P	**Pn**	**04 14 51.5**	**+0.1**
PUL	**Pulkovo**	**19.22**	**144**	*ce*P	**Pn**	**04 14 53.1**	**+1.7**
PUL				pmax	pmax		
	comp=Z,82nm,0.6s						
TJOU	**Tjoern**	**19.50**	**174**	*i* P	**Pn**	**04 14 55.9**	**+1.2**
TJOU	**Tjoern**	**19.50**	**174**	*i* P	**Pn**	**04 14 55.9**	**+1.2**
MTSE	**Matsula**	**19.53**	**155**	*e*P	**P**	**04 14 53.9**	**0.0**
KLMR	**Klimovskoe**	**19.56**	**130⇑**	*i* P	**P**	**04 14 52.3**	**-1.8**
	comp=Z,106nm,1.1s						
KLMR	**Klimovskoe**	**19.56**	**130**	*c i* P	**P**	**04 14 52.9**	**-1.3**
KLMR				pmax	pmax		
	comp=Z,106nm,1.1s						
KLMR				MLR	MLR		
	comp=Z,301nm,14.0s						
SFJD	**Kangerlussuaq**	**19.60**	**270**	P	**P**	**04 14 53.4**	**-1.2**
SFJD				IAmb	IAmb	04 14 55.5	
	comp=Z,76nm,1.6s						
SFJD	**Kangerlussuaq**	**19.60**	**270**	P	**P**	**04 14 53.6**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=22,slow=10,SNR=6.6						
SFJD				LR	LR	04 22 34.2	
	comp=Z,178nm,19.6s,baz=52,slow=37						
	comp=Z,18nm,0.8s						
PRGR	**Permogore**	**19.92**	**121**	*e*P	**P**	**04 14 56.4**	**-1.7**
BORU	**Boraas**	**19.93**	**172**	*i* P	**P**	**04 14 58.5**	**+0.3**
BORU	**Boraas**	**19.93**	**172**	*i* P	**P**	**04 14 58.5**	**+0.3**
VSU	**Vasula**	**20.07**	**150**	*ce*P	Pn	04 15 00.2	-1.4
VSU				pmax	pmax		
	comp=Z,75nm,1.3s						
ONAU	**Onsala**	**20.14**	**174**	*i* P	**P**	**04 14 59.9**	**-0.6**
ONAU	**Onsala**	**20.14**	**174**	*i* P	**P**	**04 14 59.9**	**-0.6**
MUD	**Monsted U'grnd**	**21.04**	**178**	P	**P**	**04 15 11.1**	**+0.8**
MUD				pmax	pmax		
	comp=Z,20nm,1.8s						
MUD	**Monsted U'grnd**	**21.04**	**178**	*i* P	**P**	**04 15 10.0**	**-0.3**
DEL	**Delary**	**21.12**	**171**	*e*P	**P**	**04 15 11.2**	**0.0**
DEL	**Delary**	**21.12**	**171**	*i* P	**P**	**04 15 10.0**	**-1.2**
BJUU	**Bjuv**	**21.50**	**172**	*i* P	**P**	**04 15 13.2**	**-1.9**
BJUU	**Bjuv**	**21.50**	**172**	*i* P	**P**	**04 15 13.2**	**-1.9**
LUNU	**Lund**	**21.95**	**172**	*i* P	**P**	**04 15 19.0**	**-1.1**
LUNU	**Lund**	**21.95**	**172**	*i* P	**P**	**04 15 19.0**	**-1.1**
RES	**Resolute Bay**	**21.95**	**316**	P	**P**	**04 15 20.9**	**+0.9**
	comp=Z,6.4nm,0.8s,baz=53,slow=13,SNR=3.7						
RES				LR	LR	04 23 38.2	
	comp=Z,621nm,18.0s,baz=52,slow=36						
	comp=Z,6.4nm,0.8s						
PBUR	**Paburge**	**22.03**	**159**	*e*P	**P**	**04 15 21.3**	**+0.4**
NRIK	**Noril'sk**	**22.15**	**68**	P	**P**	**04 15 22.4**	**+0.3**
NRIK				IAmb	IAmb	04 15 32.1	
	comp=Z,50nm,0.9s						
NRIK	**Noril'sk**	**22.15**	**68**	P	**P**	**04 15 22.8**	**+0.6**
	comp=Z,29nm,0.8s,baz=340,slow=7.9,SNR=28						
	comp=Z,29nm,0.8s						
NRIK	**Noril'sk**	**22.15**	**68**	*ce*P	**P**	**04 15 22.2**	**0.0**
NRIK				pmax	pmax		
	comp=Z,60nm,1.0s						
EKA	**Eskdalemuir Ar**	**22.52**	**197**	P	**P**	**04 15 25.2**	**-1.0**
EKA	**Eskdalemuir Ar**	**22.52**	**197**	P	**P**	**04 15 25.2**	**-1.0**
EKA	**Eskdalemuir Ar**	**22.52**	**197**	P	**P**	**04 15 26.2**	**0.0**
	comp=Z,2.1nm,0.8s,baz=7.3,slow=9.2,SNR=4.8						
	comp=Z,2.1nm,0.8s						
PABE	**Paberze**	**22.72**	**156**	P	**P**	**04 15 28.6**	**+0.3**
PABE	**Paberze**	**22.72**	**156**	*e*P	**P**	**04 15 28.8**	**+0.6**
ISAL	**Salakas**	**22.86**	**153**	*e*P	**P**	**04 15 31.0**	**+1.2**
EDMD	**Edmundbyers**	**22.95**	**195**	*e*P	**P**	**04 15 31.4**	**+0.7**
IIGN	**Ignalina**	**23.09**	**153**	*e*P	**P**	**04 15 33.7**	**+1.6**
KIRV	**Kirov**	**23.47**	**119**	LR	LR	04 25 18.7	
	comp=Z,274nm,19.3s,baz=334,slow=38						
KIRV	**Kirov**	**23.47**	**119**	*ce*P	**P**	**04 15 35.5**	**-0.4**
NRS	**Narsarsuaq**	**23.55**	**257**	P	**P**	**04 15 36.9**	**+0.2**
NRS				IAmb	IAmb	04 15 39.0	
	comp=Z,81nm,1.2s						
NRS	**Narsarsuaq**	**23.55**	**257**	P	**P**	**04 15 36.9**	**+0.2**
NRS				pmax	pmax		
	comp=Z,81nm,1.2s						
NRS	**Narsarsuaq**	**23.55**	**257**	*i* P	**P**	**04 15 36.2**	**-0.5**
NACGM	**Naroch**	**23.58**	**152**	*e*P	**P**	**04 15 37.6**	**+0.5**
MNK	**Minsk**	**24.09**	**151**	*i* P	**P**	**04 15 41.2**	**-0.8**
	comp=E,7.0nm,1.1s						
MNK				*i* P	**P**	**04 15 41.2**	**-0.8**
	comp=N,58nm,1.1s						
MNK				*i* P	**P**	**04 15 41.2**	**-0.8**
	comp=Z,47nm,1.0s,baz=349						
MNK				*i* PP	**PnPn**	**04 16 12.1**	**+1.6**
MNK				*i* PPP	PPP	04 16 19.0	
MNK				*i* S	**S**	**04 20 00.5**	**+0.8**
MNK				*i* SS	**SnSn**	**04 20 45.4**	**+5.6**
MNK				*i* SSS	SSS	04 20 57.1	
MNK				*i* LQ	LQ	04 23 02.8	
MNK				*i* LR	LR	04 24 26.6	
MNK				*i* LRM	MLR	04 25 39.1	
	comp=N,239nm,15.8s						
MNK				*i* LRM	MLR	04 25 40.4	
	comp=E,76nm,14.2s						
MNK				*i* LRM	MLR	04 25 43.6	
	comp=Z,207nm,13.3s						
MNK	**Minsk**	**24.09**	**151**	*i* P	**P**	**04 15 41.2**	**-0.8**
MNK				*i* PPP	PPP	04 16 19.0	
MNK				*i* S	**S**	**04 20 00.5**	**+0.8**
MNK				*i* SS	**SnSn**	**04 20 45.4**	**+5.6**
MNK				pmax	pmax		
	comp=Z,47nm,1.0s						
MNK				pmax	pmax		
	comp=E,7.0nm,1.1s						
MNK				pmax	pmax		
	comp=N,58nm,1.1s						
MNK				MLR	MLR		
	comp=N,239nm,16.0s						
MNK				MLR	MLR		
	comp=E,76nm,14.0s						
MNK				MLR	MLR		
	comp=Z,207nm,13.0s						
SUW	**Suwalki**	**24.13**	**158**	*e*P	**P**	**04 15 43.0**	**+0.6**
SUW	**Suwalki**	**24.13**	**158**	P	**P**	**04 15 41.5**	**-0.9**
SUW	**Suwalki**	**24.13**	**158**	*e*P	**P**	**04 15 42.9**	**+0.5**
SUW	**Suwalki**	**24.13**	**158**	P	**P**	**04 15 41.5**	**-0.9**
SUW				pmax	pmax		
	comp=Z,64nm,1.0s						
MOS	**Moscow**	**24.15**	**137**	*e*P	**P**	**04 15 42.0**	**-0.5**
MOS				*e*		04 16 11.8	
MOS				*e*S	**S**	**04 20 02.7**	**+2.2**
MOS				*e*SS	**SnSn**	**04 20 45.9**	**+4.8**
MOS				pmax	pmax		
	comp=Z,48nm,0.8s						
OBN	**Obninsk**	**24.59**	**139**	P	**P**	**04 15 45.2**	**-1.3**
OBN				IAmb	IAmb	04 16 13.1	
	comp=Z,55nm,1.2s						
OBN	**Obninsk**	**24.59**	**139**	LR	LR	04 25 37.5	
	comp=Z,284nm,19.2s,baz=1.0,slow=37						
OBN	**Obninsk**	**24.59**	**139**	*e*P	**P**	**04 15 47.1**	**+0.5**
OBN				*e*PPP	PPP	04 16 26.8	
OBN				*e*		04 19 24.7	
OBN				pmax	pmax		
	comp=Z,50nm,1.7s						
OBN				MLR	MLR		
	comp=Z,237nm,15.0s						
OBN	**Obninsk**	**24.59**	**139**	P	**P**	**04 15 47.0**	**+0.5**
	comp=Z,50nm,0.8s,comp=Z,661nm						
CLL	**Collm**	**26.26**	**173**	*e*P	**P**	**04 16 04.0**	**+2.3**
CLL				*i* x	x	04 16 09.7	
	comp=Z,17nm,1.6s						
CLL				AMS	AMS	04 25 00.0	
	comp=Z,200nm,18.0s						
FRB	**Frobisher Bay**	**26.29**	**282**	LR	LR	04 27 03.7	
	comp=Z,579nm,18

VORR pmax pmax
comp=Z,38nm,0.4s
TREC Trest 28.36 170 AMS AMS 04 26 20.0
comp=Z,200nm,15.9s
VRAC Vranov 28.39 168 *e*P **P** **04 16 20.9 0.0**
VRAC Vranov 28.39 168 LR LR 04 27 15.3
comp=Z,153nm,20.6s,baz=334,slow=36
KWP Kalwaria Pacla 28.44 160 P **P** **04 16 22.4 +1.1**
KWP IAmb IAmb 04 17 02.4
comp=Z,33nm,1.3s
KWP Kalwaria Pacla 28.44 160 P **P** **04 16 22.4 +1.1**
KWP pmax pmax
comp=Z,33nm,1.3s
KHC Kasperske Hory 28.46 172 *e*P P 04 16 01.5 -20
KHC AMS AMS 04 26 50.0
comp=Z,200nm,16.6s
STHS Stebnicka Huta 28.55 162 *e*P **P** **04 16 22.2 -0.1**
STHS Stebnicka Huta 28.55 162 *e*P **P** **04 16 22.1 -0.2**
LUBAR Lubar, Ukraine 28.60 153 P **P** **04 16 22.4 -0.3**
KRUC Moravsky 28.63 168 *e*P **P** **04 16 20.6 -2.4**
LANS Liptovska Anna 28.70 164 *e*P **P** **04 16 26.4 +2.7**
LANS Liptovska Anna 28.70 164 *e*P **P** **04 16 26.4 +2.7**
GEC2 GERESS Array S 28.75 172 P **P** **04 16 24.1 -0.1**
GERES GERESS Array B 28.75 172 P **P** **04 16 24.6 +0.5**
GERES GERESS Array B 28.75 172 P **P** **04 16 24.9 +0.8**
baz=0.0,slow=9.9
GERES LR LR 04 27 47.2
comp=Z,164nm,18.3s,baz=8.5,slow=36
VSR Storozhevoye 28.76 137 *e*P **P** **04 16 22.4 -1.7**
CKRC Cesky Krumlov 28.79 171 AMS AMS 04 27 00.0
comp=Z,200nm,20.2s
BELG Belogornoye 29.01 126 LR LR 04 28 14.4
comp=Z,358nm,19.4s,baz=334,slow=37
BELG Belogornoye 29.01 126 *i* P **P** **04 16 26.2 0.0**
BELG pmax pmax
comp=Z,4.0nm,0.8s
VORD Divnogorie 29.02 137 *e*P **P** **04 16 23.9 -2.5**
KOLS Kolonicke sedl 29.11 160 *e*P **P** **04 16 28.6 +1.4**
KOLS Kolonicke sedl 29.11 160 *e*P **P** **04 16 28.6 +1.4**
VRH Novokhopyorsk 29.17 134 *e*P **P** **04 16 27.2 -0.5**
VRH pmax pmax
comp=Z,29nm,1.4s
KMPD K-Podol'skiy 29.82 155 P **P** **04 16 31.2 -2.3**
SORM Soroca 30.43 153 P **P** **04 16 38.1 -0.8**
comp=Z,11nm,0.6s
BUR08 Bucovina Ar. S 30.62 157 P **P** **04 16 41.0 +0.3**
BURAR Bucovina Array 30.65 157 P **P** **04 16 40.7 -0.3**
BURAR Bucovina Array 30.65 157 P **P** **04 16 40.7 -0.3**
BURAR pmax pmax
comp=Z,7.0nm,0.8s
C36M Paulatuk 30.69 329 P **P** **04 16 41.3 +0.3**
C36M Paulatuk 30.69 329 P **P** **04 16 41.8 +0.8**
baz=19
DAVOX Davos/Dischmat 30.74 177 LR LR 04 28 32.0
comp=Z,140nm,20.7s,baz=38,slow=35
A22K Sinclair Lake 31.45 349 P **P** **04 16 48.9 +1.2**
baz=7.0
MILM Milestii Mici 31.68 152⇑ *e*P **P** **04 16 49.0 -0.9**
comp=Z,40nm,1.0s
MILM Milestii Mici 31.68 152 *e*PcP **PcP** **04 19 44.0 +2.6**
MILM *e*L L 04 26 17.0
MILM LRM MLR 04 30 06.0
comp=Z,300nm,16.0s
MILM Milestii Mici 31.68 152 *ce*P **P** **04 16 49.0 -0.9**
MILM *e* 04 19 44.0
MILM pmax pmax
comp=Z,40nm,1.0s
MILM MLR MLR
comp=Z,300nm,16.0s
C26K Camden Bay 32.00 343 P **P** **04 16 53.7 +1.1**
baz=11,SNR=5.7
B22K Teshekpuk Lake 32.05 348 IAmb IAmb 04 16 55.8
comp=Z,21nm,1.1s
B22K Teshekpuk Lake 32.05 348 P **P** **04 16 54.7 +1.7**
baz=7.5,SNR=5.0
D28M Stokes Point 32.13 339 P **P** **04 16 55.2 +1.6**
baz=13
C27K Jago River 32.21 342 P **P** **04 16 55.8 +1.4**
baz=11,SNR=6.1
BZS Buzias 32.36 162 P **P** **04 16 58.9 +3.0**
D27M Malcolm River 32.39 340 P **P** **04 16 57.5 +1.5**
baz=12
C23K Itkillik River 32.42 346 IAmb IAmb 04 16 59.4
comp=Z,25nm,1.0s
C23K Itkillik River 32.42 346 P **P** **04 16 57.9 +1.8**
baz=8.6,SNR=14
C24K Franklin Bluff 32.43 345 P **P** **04 16 58.0 +1.8**
baz=9.3
B20K Meade River 32.53 351 P **P** **04 16 58.6 +1.4**
baz=6.0
INK Inuvik 32.67 335 P **P** **04 16 59.1 +0.7**
baz=15,SNR=7.0
INK Inuvik 32.67 335 P **P** **04 16 58.4 0.0**
comp=Z,6.9nm,0.8s,baz=6.8,slow=13,SNR=8.2
INK LR LR 04 32 08.4
comp=Z,145nm,19.7s,baz=109,slow=40
comp=Z,6.9nm,0.8s
D25K Kavik River 32.68 343 IAmb IAmb 04 17 01.3
comp=Z,10nm,0.9s
D25K Kavik River 32.68 343 P **P** **04 16 59.8 +1.2**
baz=10
B21K Ikpikpuk River 32.82 349 IAmb IAmb 04 17 02.3
comp=Z,12nm,0.8s
B21K Ikpikpuk River 32.82 349 P **P** **04 17 01.5 +1.9**
baz=6.9
MLR Muntele Rosu 32.82 156 P **P** **04 17 00.9 +0.8**
MLR Muntele Rosu 32.82 156 LR LR 04 31 21.6
comp=Z,292nm,19.1s,baz=344,slow=38
MLR Muntele Rosu 32.82 156 P **P** **04 17 00.9 +0.8**
MLR pmax pmax
comp=Z,6.0nm,1.1s
E28M Babbage River 32.90 339 P **P** **04 17 02.0 +1.5**
baz=12
BRVK Borovoye 32.92 100 P **P** **04 17 01.1 +0.4**
BRVK IAmb IAmb 04 17 03.4
comp=Z,8.5nm,0.7s
BRVK Borovoye 32.92 100 *ce*P **P** **04 17 02.7 +2.0**
BRVK pmax pmax
comp=Z,18nm,1.7s
BVA0 Borovoye Array 32.97 100 *i* P **P** **04 17 02.3 +1.1**
BVAR Borovoye Array 32.97 100 P **P** **04 17 02.9 +1.6**
comp=Z,9.3nm,0.6s,baz=332,slow=9.7,SNR=46
BVAR LR LR 04 33 58.3
comp=Z,500nm,18.3s,baz=303,slow=43
comp=Z,9.3nm,0.6s
E29M Blow River 32.98 338 IAmb IAmb 04 17 03.3
comp=Z,9.3nm,0.8s
E29M Blow River 32.98 338 P **P** **04 17 02.6 +1.4**
baz=13,SNR=9.6
D24K Happy Valley 33.00 345 IAmb IAmb 04 17 04.2
comp=Z,15nm,0.9s
D24K Happy Valley 33.00 345 P **P** **04 17 03.0 +1.8**
baz=9.1,SNR=8.7
D23K Nanushuk River 33.28 346 P **P** **04 17 05.6 +1.8**
baz=8.3
C21K Knifeblade Rid 33.29 349 P **P** **04 17 05.7 +1.8**
baz=6.8,SNR=5.7
B18K Kokolik River 33.32 353 P **P** **04 17 05.5 +1.4**
baz=4.0
D22K Ayikyak River 33.47 347 P **P** **04 17 07.0 +1.5**
D22K IAmb IAmb 04 17 08.5
comp=Z,20nm,1.2s
D22K Ayikyak River 33.47 347 P **P** **04 17 06.8 +1.3**
baz=7.5,SNR=8.1
E27K Coleen River 33.48 340 P **P** **04 17 06.5 +1.0**
baz=12,SNR=5.6
C19K Lookout Ridge 33.52 352 P **P** **04 17 07.6 +1.7**
baz=4.9
F31M Tsiigehtchic 33.53 334 P **P** **04 17 06.8 +0.9**
baz=14
TOLK Toolik Lake Re 33.55 345 P **P** **04 17 07.5 +1.4**
baz=8.7,SNR=8.1
F30M Barrier River 33.56 336 P **P** **04 17 07.3 +1.2**
baz=14,SNR=6.8
D20K Etivluk River 33.81 350 P **P** **04 17 09.9 +1.5**
baz=6.0,SNR=5.9
E25K Arctic Village 33.82 343 IAmb IAmb 04 17 11.1
comp=Z,11nm,0.9s
E25K Arctic Village 33.82 343 P **P** **04 17 09.8 +1.3**
baz=10,SNR=13
F28M Old Crow 33.90 339 P **P** **04 17 10.2 +0.9**
baz=12,SNR=12
E21K Killik River 33.97 348 IAmb IAmb 04 17 12.3
comp=Z,12nm,0.8s
E21K Killik River 33.97 348 P **P** **04 17 11.1 +1.3**
baz=7.0
SCHQ Schefferville 34.00 273 P **P** **04 17 08.8 -1.4**
SCHQ IAmb IAmb 04 18 10.2
comp=Z,21nm,1.6s
SCHQ Schefferville 34.00 273 P **P** **04 17 09.7 -0.5**
comp=Z,3.9nm,0.9s,baz=39,slow=8.9,SNR=4.2
SCHQ LR LR 04 31 17.9
comp=Z,292nm,18.6s,baz=50,slow=37
comp=Z,3.9nm,0.9s
C18K Utukok River 34.02 353 IAmb IAmb 04 17 13.3
comp=Z,16nm,0.8s
C18K Utukok River 34.02 353 P **P** **04 17 12.0 +1.7**
baz=4.2,SNR=5.6
E24K Your Creek 34.05 344 P **P** **04 17 11.7 +1.2**
baz=9.0
D19K Kuna River 34.08 351 IAmb IAmb 04 17 13.6
comp=Z,33nm,1.2s
D19K Kuna River 34.08 351 P **P** **04 17 12.2 +1.5**
baz=5.4,SNR=8.8
G31M Satah River 34.09 334 IAmb IAmb 04 17 12.5
comp=Z,15nm,1.0s
G31M Satah River 34.09 334 P **P** **04 17 11.5 +0.7**
baz=14,SNR=7.3
E23K Chandalar 34.13 345 P **P** **04 17 12.6 +1.3**
baz=8.5,SNR=10
F26K Sheenjek River 34.15 341 P **P** **04 17 12.7 +1.4**
baz=10
E22K Anaktuvuk Pass 34.17 347 IAmb IAmb 04 17 14.0
comp=Z,17nm,0.9s
E22K Anaktuvuk Pass 34.17 347 P **P** **04 17 12.5 +0.9**
baz=7.7
BILL Bilibino 34.19 14 P **P** **04 17 12.3 +0.7**
BILL IAmb IAmb 04 17 15.2
comp=Z,18nm,1.3s
BILL Bilibino 34.19 14 *e*P **P** **04 17 12.9 +1.3**
BILL *e* 04 18 25.9
BILL *e* 04 19 46.1
BILL pmax pmax
comp=Z,15nm,1.3s
BILL MLR MLR
comp=Z,155nm,17.0s
G30M tAoh Zraii Nji 34.21 336 P **P** **04 17 12.6 +0.6**
baz=13,SNR=7.2
C17K DeLong Mountai 34.24 354 P **P** **04 17 14.3 +2.1**
baz=3.4
E20K Nigu River 34.24 350 P **P** **04 17 13.7 +1.5**
baz=6.1,SNR=17
AB31 Akbulak array 34.34 114 *i* P **P** **04 17 13.3 +0.1**
ABKAR Akbulak array 34.34 114 P **P** **04 17 14.0 +0.8**
F25K Christian River 34.35 342 P **P** **04 17 14.4 +1.3**
baz=9.9,SNR=12
BMAR Burnt Mountain 34.44 342 P **P** **04 17 14.4 +0.5**
G29M Pine Creek 34.44 337 IAmb IAmb 04 17 15.8
comp=Z,20nm,0.9s
G29M Pine Creek 34.44 337 P **P** **04 17 14.7 +0.8**
baz=12,SNR=12
C16K Lisburne Hills 34.49 356 P **P** **04 17 15.3 +1.2**
baz=2.6
F24K Squaw Lake 34.56 344 P **P** **04 17 16.4 +1.4**
baz=9.1,SNR=6.2
RDOG Red Dog Mine 34.66 354 IAmb IAmb 04 17 18.2
comp=Z,22nm,0.8s
RDOG Red Dog Mine 34.66 354 P **P** **04 17 17.3 +1.6**
baz=3.5
ANN Anapa 34.79 142 *e*P **P** **04 17 15.6 -1.4**
ANN *e**PP **pP** **04 17 17.6 +0.1**
ANN *e*S **S** **04 22 46.8 -1.0**
ANN pmax pmax
comp=Z,53nm,1.0s
F22K John River 34.81 347 P **P** **04 17 18.5 +1.4**
baz=7.5
G27K Doyon Strip 34.84 339 P **P** **04 17 18.4 +1.1**
G27K Doyon Strip 34.84 339 P **P** **04 17 18.7 +1.4**
baz=11,SNR=6.7
G26K Porcupine Rive 34.85 341 P **P** **04 17 19.1 +1.7**
baz=10,SNR=13
EPYK Eagle Plains 34.86 336 IAmb IAmb 04 17 19.2
comp=Z,19nm,1.1s
EPYK Eagle Plains 34.86 336 P **P** **04 17 18.2 +0.8**
baz=13,SNR=9.2
COLD Coldfoot 34.99 345 P **P** **04 17 20.0 +1.4**
baz=8.1,SNR=8.2
D17K Noatak River 35.02 354 P **P** **04 17 20.6 +1.8**
baz=3.4,SNR=5.4
E19K Redstone River 35.09 350 P **P** **04 17 20.7 +1.3**
baz=5.6,SNR=8.7
H29M Whitestone 35.15 337 P **P** **04 17 21.1 +1.1**
baz=12,SNR=13
F21K Alatna River 35.16 348 P **P** **04 17 20.8 +0.7**
F21K Alatna River 35.16 348 P **P** **04 17 21.7 +1.6**
baz=6.9,SNR=10
H31M Peel River 35.19 334 P **P** **04 17 21.0 +0.7**
baz=13,SNR=6.4
G25K Bearman Lake 35.20 342 P **P** **04 17 22.0 +1.6**
baz=9.5,SNR=6.6
E18K Tukpahlearik C 35.23 352 IAmb IAmb 04 17 23.4
comp=Z,12nm,0.9s
E18K Tukpahlearik C 35.23 352 P **P** **04 17 22.5 +1.8**
baz=4.3,SNR=5.3
ZAA0 Zalesovo Array 35.27 85 P **P** **04 17 21.9 +0.8**
ZALV Zalesovo Beam 35.27 85 P **P** **04 17 21.6 +0.5**
ZALV Zalesovo Beam 35.27 85 P **P** **04 17 22.3 +1.2**
comp=Z,8.4nm,0.7s,baz=335,slow=8.8,SNR=33
ZALV LR LR 04 34 47.6
comp=Z,153nm,20.5s,baz=258,slow=41
comp=Z,8.4nm,0.7s
FYU Fort Yukon 35.34 342 IAmb IAmb 04 17 25.2
comp=Z,44nm,1.4s
G24K Hadweenzic Riv 35.35 343 P **P** **04 17 23.9 +2.2**
baz=9.0,SNR=13
G22K Bettles 35.36 346 P **P** **04 17 23.1 +1.4**
baz=7.6
H27K Steamboat Moun 35.40 339 P **P** **04 17 23.9 +1.8**
baz=11,SNR=11
LABN Labinsk 35.41 138 *e*P **P** **04 17 21.8 -0.6**
LABN *e**PP **sP** **04 17 25.1 +2.1**
LABN *e*S **S** **04 22 58.1 +0.7**
LABN pmax pmax
comp=Z,22nm,0.5s
F20K Avaraart Lake 35.43 349 IAmb IAmb 04 17 25.8
comp=Z,51nm,1.9s
F20K Avaraart Lake 35.43 349 P **P** **04 17 23.9 +1.6**
baz=6.1
G23K Bananza Creek 35.49 345 P **P** **04 17 24.0 +1.0**
baz=8.1
E17K Hotham Inlet 35.61 353 P **P** **04 17 25.2 +1.3**
baz=3.8
H25L Birch Creek 35.67 342 P **P** **04 17 26.3 +1.9**
baz=9.5
F19K Shaleruckik Mo 35.73 350 P **P** **04 17 25.7 +0.8**
F19K IAmb IAmb 04 17 26.9
comp=Z,24nm,1.5s
F19K Shaleruckik Mo 35.73 350 P **P** **04 17 25.5 +0.5**
baz=5.3,SNR=5.1
G21K Allakaket 35.87 347 IAmb IAmb 04 17 28.9
comp=Z,23nm,1.2s
G21K Allakaket 35.87 347 P **P** **04 17 27.2 +1.1**
baz=6.8,SNR=10
I30M Mount Dempster 35.95 335 IAmb IAmb 04 17 28.7
comp=Z,13nm,0.9s
I30M Mount Dempster 35.95 335 P **P** **04 17 27.8 +0.7**
baz=12,SNR=23
YKA Yellowknife Ar 35.98 318 P **P** **04 17 26.5 -0.7**
YKA Yellowknife Ar 35.98 318 P **P** **04 17 27.5 +0.3**
baz=19,slow=8.9
YKA PcP **PcP** **04 19 53.7 +0.3**
comp=Z,1.7nm,1.0s,baz=7.3,slow=4.0,SNR=5.9
I29M Ogilvie Camp, 35.99 337 IAmb IAmb 04 17 28.7
comp=Z,19nm,0.9s
I29M Ogilvie Camp, 35.99 337 P **P** **04 17 27.8 +0.6**
baz=12,SNR=24
I27K Kandik River 36.02 339 P **P** **04 17 29.2 +1.7**
baz=11,SNR=10
F18K Selawik 36.03 352 P **P** **04 17 28.9 +1.5**
baz=4.6,SNR=7.0
I28M Miner Creek 36.04 338 P **P** **04 17 28.7 +1.0**
baz=11,SNR=11
PGAV Gavieira, Arco 36.18 201 *e*P **P** **04 17 30.9 +1.7**
PBRG Braganca 36.23 199 *e*P **P** **04 17 31.5 +2.0**
H24K Noodor Dome 36.23 343 IAmb IAmb 04 17 32.8
comp=Z,16nm,1.1s
H24K Noodor Dome 36.23 343 P **P** **04 17 30.9 +1.6**
baz=8.7,SNR=16
F17K Baldwin Pennin 36.23 353 P **P** **04 17 30.5 +1.3**
baz=4.0
H23K Yukon River 36.34 345 IAmb IAmb 04 17 33.8
comp=Z,16nm,1.2s
H23K Yukon River 36.34 345 P **P** **04 17 32.4 +2.2**
baz=8.1
KIV Kislovodsk 36.38 136 *e*P **P** **04 17 32.2 +1.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,83nm,16.0s
KVAR Kislovodsk Arr 36.38 136 LR LR 04 33 01.6
comp=Z,155nm,18.5s,baz=274,slow=37
H22K Ishtalitna Cre 36.38 346 P **P** **04 17 32.5 +2.0**
baz=7.5,SNR=15
G19K Purcell Mounta 36.39 350 P **P** **04 17 32.1 +1.4**
baz=5.4
PRP Porcupine Dome 36.39 342 IAmb IAmb 04 17 34.4
comp=Z,12nm,0.9s
PRP Porcupine Dome 36.39 342 P **P** **04 17 32.9 +2.1**
baz=9.5,SNR=15
IMAR Indian Mountai 36.41 348 P **P** **04 17 31.9 +1.2**
I26K Coal Creek Min 36.43 340 IAmb IAmb 04 17 34.3
comp=Z,17nm,1.2s
I26K Coal Creek Min 36.43 340 P **P** **04 17 33.3 +2.3**
baz=10
J30M Hart River 36.58 335 IAmb IAmb 04 17 34.6
comp=Z,17nm,1.1s
J30M Hart River 36.58 335 P **P** **04 17 33.4 +1.0**
baz=12,SNR=15
KBZ Khabaz 36.63 136 P **P** **04 17 34.8 +1.9**
comp=Z,7.4nm,0.9s,baz=312,slow=2.7,SNR=14
KBZ LR LR 04 33 15.5
comp=Z,202nm,18.5s,baz=351,slow=37
comp=Z,7.4nm,0.9s
KBZ Khabaz 36.63 136 *ce*P **P** **04 17 34.9 +2.1**
KBZ pmax pmax
comp=Z,11nm,1.0s
H21K Melozitna Rive 36.69 347 P **P** **04 17 34.9 +1.7**
baz=6.9,SNR=7.0
G18K Tagagawik 36.70 351 IAmb IAmb 04 17 35.8
comp=Z,20nm,1.4s
G18K Tagagawik 36.70 351 P **P** **04 17 34.6 +1.3**
baz=4.8
POLO Lamas de Olo 36.73 200 *e*P **P** **04 17 36.3 +2.4**
EGAK Eagle 36.80 338 IAmb IAmb 04 17 36.5
comp=Z,19nm,1.2s
EGAK Eagle 36.80 338 P **P** **04 17 35.5 +1.4**
baz=11,SNR=10
POKR Poker Plat Res 36.92 343 IAmb IAmb 04 17 38.7
comp=Z,22nm,1.1s
POKR Poker Plat Res 36.92 343 P **P** **04 17 37.3 +2.2**
baz=8.7,SNR=6.6
KURK Kurchatov 36.93 93 P **P** **04 17 36.4 +1.0**
KURK IAmb IAmb 04 17 37.9
comp=Z,24nm,1.1s
KURK Kurchatov 36.93 93 *i* P **P** **04 17 36.1 +0.7**
KURK pmax pmax
comp=Z,27nm,1.1s
H20K Anotleneega Mo 36.95 348 P **P** **04 17 37.3 +1.9**
baz=6.2,SNR=12
H19K Roundabout Mou 36.98 349 IAmb IAmb 04 17 38.7
comp=Z,17nm,1.1s
H19K Roundabout Mou 36.98 349 P **P** **04 17 37.5 +1.9**
baz=5.6,SNR=10
KURBB Kurchatov Arra 37.00 94 P **P** **04 17 37.4 +1.5**
comp=Z,11nm,0.7s,baz=337,slow=7.7,SNR=47
KURBB PP **PnPn** **04 19 02.9 +2.9**
comp=Z,4.2nm,0.2s,baz=341,slow=11,SNR=6.0
KURBB LR LR 04 36 21.7
comp=Z,258nm,18.2s,baz=170,slow=42
comp=Z,11nm,0.7s
I23K Minto, Yukon-K 37.01 344 IAmb IAmb 04 17 39.2
comp=Z,19nm,1.1s
I23K Minto, Yukon-K 37.01 344 P **P** **04 17 38.1 +2.3**
baz=8.0,SNR=22
F15K North Star Dit 37.05 355 P **P** **04 17 38.7 +2.5**
baz=2.7
I21K Tanana 37.12 346 P **P** **04 17 39.1 +2.3**
baz=7.1
MDM Murphy Dome 37.13 343 P **P** **04 17 38.4 +1.5**
MDM IAmb IAmb 04 17 40.1
comp=Z,20nm,1.1s
G17K Kiwalik Mounta 37.16 352 P **P** **04 17 38.5 +1.3**
baz=4.1
COLA College 37.19 343 *i* P **P** **04 17 36.3 -1.0**
COLA pmax pmax
comp=Z,14nm,1.0s
MLY Manley 37.20 345 P **P** **04 17 38.8 +1.2**
MLY Manley 37.20 345 P **P** **04 17 39.3 +1.7**
baz=7.5
ILAR Eielson Array 37.23 342 P **P** **04 17 39.1 +1.4**
ILAR Eielson Array 37.23 342 P **P** **04 17 39.5 +1.8**
comp=Z,11nm,0.9s,baz=2.7,slow=6.9,SNR=116
ILAR PcP **PcP** **04 19 57.2 +0.1**
comp=Z,0.8nm,0.7s,baz=332,slow=3.3,SNR=7.2
comp=Z,11nm,0.9s
TNA Tin City 37.25 357 P **P** **04 17 39.3 +1.4**
baz=1.5
J26L Joseph Creek 37.26 340 P **P** **04 17 39.6 +1.4**
baz=9.9,SNR=9.7
J25K Salcha River, 37.28 341 P **P** **04 17 40.0 +1.7**
baz=9.3,SNR=18
F14K Arctic Creek 37.31 356 P **P** **04 17 39.8 +1.4**
baz=2.0
G16K Koyuk River 37.31 353 P **P** **04 17 40.3 +1.9**
baz=3.5
DAWY Dawson 37.35 337 P **P** **04 17 40.0 +1.1**
baz=11,SNR=7.2
K29M Barlow Dome 37.41 336 P **P** **04 17 40.9 +1.5**
baz=12,SNR=24
H18K Honhosa River 37.43 351 IAmb IAmb 04 17 42.7
comp=Z,22nm,1.4s
H18K Honhosa River 37.43 351 P **P** **04 17 41.5 +2.0**
baz=4.9,SNR=6.3
NEA2 Nenana 37.54 344 P **P** **04 17 41.8 +1.4**
NEA2 Nenana 37.54 344 P **P** **04 17 42.1 +1.7**
baz=8.0
SEM Semipalatinsk 37.58 92 *e*P **P** **04 17 42.1 +1.0**
baz=92
SEM Semipalatinsk 37.58 92 *e*P **P** **04 17 42.1 +1.0**
HDA Harding Lake 37.59 342 P **P** **04 17 42.5 +1.7**
baz=8.7,SNR=9.6
GROC Groznyy 37.60 133 *e*P **P** **04 17 41.1 0.0**
GROC *e* 04 20 01.0
GROC pmax pmax
comp=Z,2.0nm,0.3s
K27K Chicken 37.61 339 P **P** **04 17 42.8 +1.8**
baz=10
I20K Naaghedeneel 37.63 348 P **P** **04 17 43.2 +2.1**
baz=6.2
BOD Bodaibo 37.66 57 *e*P **P** **04 17 41.3 -0.1**
BOD pmax pmax
comp=Z,13nm,1.6s
MTE Manteigas 37.68 200 *e*P **P** **04 17 45.0 +3.1**
H17K Granite Mounta 37.70 352 P **P** **04 17 43.5 +1.8**
baz=4.3
G15K Niukluk 37.75 354 P **P** **04 17 44.0 +1.9**
baz=2.8
SCRK Sand Creek 37.81 340 P **P** **04 17 44.5 +1.6**
baz=9.7,SNR=6.8
H16K Elim 38.07 353 P **P** **04 17 45.9 +1.1**
baz=3.4
K24K Donnelly Dome 38.11 341 P **P** **04 17 46.7 +1.4**
baz=9.0
BPAW Bear Paw Mtn. 38.14 345 IAmb IAmb 04 17 48.5
comp=Z,26nm,1.7s
BPAW Bear Paw Mtn. 38.14 345 P **P** **04 17 47.4 +1.9**
baz=7.3,SNR=5.0
ESDC Sonseca Array 38.17 195 P **P** **04 17 47.1 +1.0**
ESDC Sonseca Array 38.17 195 P **P** **04 17 46.8 +0.7**
comp=Z,2.2nm,1.0s,baz=1.5,slow=8.3,SNR=12
ESDC LR LR 04 32 56.8
comp=Z,76nm,18.7s,baz=62,slow=36
comp=Z,2.2nm,1.0s
L29M L29M 38.19 336 P **P** **04 17 47.6 +1.7**
baz=11,SNR=13
SEY Seymchan 38.20 26 *i* P **P** **04 17 44.6 -1.4**
SEY pmax pmax
comp=Z,4.0nm,1.2s
ANM Nome 38.21 355 P **P** **04 17 47.9 +1.9**
baz=2.3
J20K Nowinta River 38.23 347 P **P** **04 17 48.1 +1.9**
baz=6.2,SNR=6.1
PAB San Pablo 38.32 195 P **P** **04 17 48.8 +1.5**
PAB San Pablo 38.32 195 P **P** **04 17 48.8 +1.5**
PAB pmax pmax
comp=Z,11nm,1.2s
MCK McKinley 38.39 344 P **P** **04 17 49.1 +1.5**
baz=7.9
CHUM Lake Minchumin 38.43 346 P **P** **04 17 49.8 +1.9**
baz=6.8
EZN Ezine 38.48 157 P **P** **04 17 48.3 -0.2**
comp=Z,9.6nm,1.6s

J19K	Poorman	38.48	348	P	P	04 17 50.7 +2.4
	baz=5.7,SNR=11					
BCAR	Beaver Creek A	38.54	338	P	P	04 17 50.3 +1.4
L27K	Beaver Creek,	38.55	338	P	P	04 17 51.2 +2.3
	baz=10,SNR=18					
M30M	Minto, Yukon	38.59	335	P	P	04 17 50.9 +1.6
	baz=12,SNR=21					
PMRV	Marv??o	38.64	199	eP	P	04 17 52.1 +2.2
L26K	Log Cabin Wild	38.70	340	P	P	04 17 51.8 +1.6
	baz=9.7					
M31M	Drury Creek, Y	38.72	333	P	P	04 17 52.4 +2.0
	baz=12,SNR=6.1					
I17K	Unalakleet	38.78	352	P	P	04 17 52.3 +1.6
	baz=3.9					
M29M	Somme Creek	38.87	336	P	P	04 17 53.7 +2.0
	baz=11,SNR=13					
CAST	Castle Rocks	38.88	346	P	P	04 17 52.9 +1.1
CAST				IAmb	IAmb	04 17 54.7
	comp=Z,24nm,1.0s					
CAST	Castle Rocks	38.88	346	P	P	04 17 53.4 +1.7
	baz=6.8,SNR=27					
PAX	Paxson	38.91	341	P	P	04 17 53.4 +1.3
	baz=8.9,SNR=12					
DHY	Denali Highway	38.94	342	IAmb	IAmb	04 17 54.9
	comp=Z,19nm,1.0s					
DHY	Denali Highway	38.94	342	P	P	04 17 53.7 +1.3
	baz=8.3,SNR=16					
K20K	Telida	39.05	347	P	P	04 17 55.3 +2.2
	baz=6.1,SNR=11					
J18K	Innoko River	39.06	349	P	P	04 17 55.0 +1.8
	baz=5.2					
BVCY	Beaver Creek	39.11	338	P	P	04 17 55.0 +1.4
	baz=10					
J17K	VABM Dome	39.22	351	P	P	04 17 56.4 +1.9
	baz=4.4,SNR=7.7					
M27K	Edge Creek, AK	39.25	338	P	P	04 17 57.5 +2.6
	baz=10.0,SNR=7.6					
WAT1	Susitna Watana	39.26	343	P	P	04 17 55.9 +1.0
	baz=7.9					
M26K	Nabesna, AK	39.29	339	P	P	04 17 57.6 +2.4
	baz=9.6,SNR=7.9					
BR131	Keskin Array S	39.31	148	iP	P	04 17 55.9 +0.2
BRTR	Keskin Array B	39.32	148	P	P	04 17 56.6 +0.9
BRTR	Keskin Array B	39.32	148	P	P	04 17 57.1 +1.4
	comp=Z,11nm,0.9s,baz=346,slow=6.5,SNR=58					
BRTR				LR	LR	04 36 25.8
	comp=Z,87nm,19.9s,baz=30,slow=40					
	comp=Z,11nm,0.9s					
J16K	Anvik River	39.38	352	P	P	04 17 57.9 +2.1
	baz=3.9,SNR=5.0					
PPLA	Purkeypile	39.41	346	P	P	04 17 58.0 +1.8
	baz=6.7					
WAT6	Susitna Watana	39.46	343	P	P	04 17 57.8 +1.1
	baz=8.1,SNR=7.0					
HARP	HAARP	39.46	341	P	P	04 17 58.2 +1.7
	baz=8.9					
N31M	Braeburn, Yuko	39.56	334	P	P	04 17 58.8 +1.3
	baz=12					
N32M	Quiet Lake	39.62	331	P	P	04 17 59.3 +1.4
	baz=12					
YUK3	Moose Creek	39.70	337	P	P	04 18 01.0 +2.1
	baz=10,SNR=5.8					
N30M	Aishikik Lake	39.71	335	P	P	04 18 00.7 +2.0
	baz=11,SNR=13					
M24K	Tolsona, Glenn	39.82	341	P	P	04 18 01.1 +1.5
	baz=8.6					
PBAR	Barrancos	39.86	199	eP	P	04 18 04.7 +4.6
K17K	Iditarod	39.87	350	P	P	04 18 01.7 +1.8
	baz=4.6					
L20K	Farewell, AK	39.91	347	P	P	04 18 02.0 +1.7
	baz=6.1,SNR=19					
YUK4	Talbot Arm	39.97	336	P	P	04 18 02.2 +1.2
	baz=11					
J14K	Nanvaranak Lak	39.99	354	P	P	04 18 03.0 +2.1
	baz=2.9					
PBEJ	Beja	40.06	200	eP	P	04 18 03.7 +1.9
YUK8	Steele Glacier	40.13	336	P	P	04 18 04.3 +1.8
	baz=10					
SCM	Sheep Creek Mo	40.17	342	IAmb	IAmb	04 18 05.1
	comp=Z,23nm,0.8s					
SCM	Sheep Creek Mo	40.17	342	P	P	04 18 04.1 +1.6
	baz=8.1,SNR=10					
N25K	Chitina, Valde	40.20	340	P	P	04 18 04.6 +1.8
	baz=9.0					
M23K	Glacier View	40.24	342	P	P	04 18 04.0 +1.0
	baz=8.0					
L19K	White Mountain	40.26	348	P	P	04 18 04.6 +1.4
L19K	White Mountain	40.26	348	P	P	04 18 05.0 +1.8
	baz=5.7,SNR=11					
SML	Sawmill	40.27	343	IAmb	IAmb	04 18 05.4
	comp=Z,26nm,1.2s					
SML	Sawmill	40.27	343	P	P	04 18 04.5 +1.3
	baz=7.8,SNR=9.6					
MESJ	Messejana	40.28	200	eP	P	04 18 04.9 +1.3
WHY	Whitehorse	40.28	333	P	P	04 18 04.7 +1.2
	baz=12					
SKT	Skwentna	40.29	345	IAmb	IAmb	04 18 05.1
	comp=Z,31nm,1.2s					
SKT	Skwentna	40.29	345	P	P	04 18 04.2 +0.8
	baz=6.8,SNR=20					
O30N	Mendenhall	40.29	334	IAmb	IAmb	04 18 06.1
	comp=Z,21nm,1.1s					
O30N	Mendenhall	40.29	334	P	P	04 18 04.9 +1.4
	baz=11,SNR=15					
L18K	Granite Mounta	40.30	349	P	P	04 18 05.8 +2.3
	baz=5.1,SNR=7.0					
MCARA	McCarthy VSAT	40.30	339	P	P	04 18 05.4 +1.9
	baz=9.4,SNR=5.8					
YUK6	Outpost Mounta	40.34	335	P	P	04 18 06.5 +2.3
	baz=11,SNR=6.0					
HYT	Haines Junctio	40.38	335	P	P	04 18 06.1 +1.7
	baz=11,SNR=10					
K15K	Wolf Creek Mou	40.40	352	P	P	04 18 06.1 +1.8
	baz=3.5					
GNI	Garni	40.41	135	LR	LR	04 35 16.5
	comp=Z,110nm,18.6s,baz=334,slow=37					
GNI	Garni	40.41	135	ceP	P	04 18 07.2 +2.3
GNI				pmax	pmax	
	comp=Z,24nm,1.7s					
KLU	Klutina	40.41	341	P	P	04 18 06.1 +1.6
	baz=8.5					
M22K	Willow	40.43	344	IAmb	IAmb	04 18 06.9
	comp=Z,31nm,1.1s					
M22K	Willow	40.43	344	P	P	04 18 06.0 +1.5
	baz=7.2					
BNN	Bunyan	40.44	146	P	P	04 18 06.0 +0.9
BNN				IAmb	IAmb	04 18 08.1
	comp=Z,49nm,1.1s					
L17K	Donlin	40.45	350	P	P	04 18 07.1 +2.3
	baz=4.6,SNR=17					
M20K	Styx River	40.47	346	P	P	04 18 06.8 +1.8
	baz=6.2					
P33M	Teslin, Yukon	40.51	331	P	P	04 18 07.0 +1.7
	baz=12,SNR=17					
M19K	Big River Lodg	40.51	347	P	P	04 18 07.0 +1.7
	baz=5.8					
PMR	Palmer	40.53	343	P	P	04 18 06.3 +1.0
	baz=7.5					
CTG	Chitna Glacier	40.58	337	P	P	04 18 07.8 +1.8
	baz=9.9					
KNK	Knik Glacier	40.66	343	P	P	04 18 07.9 +1.4
KNK	Knik Glacier	40.66	343	P	P	04 18 08.0 +1.4
	baz=7.7					
O28M	Mount Upton	40.67	337	P	P	04 18 08.5 +1.5
	baz=10					
SUA	Susitna One	40.76	345	IAmb	IAmb	04 18 09.6
	comp=Z,32nm,0.9s					
SUA	Susitna One	40.76	345	P	P	04 18 08.4 +1.0
	baz=7.0,SNR=24					
BMRM	Bremner River	40.84	340	P	P	04 18 09.1 +1.1
	baz=8.8,SNR=6.0					
K13K	Kusilvak Mount	40.84	355	P	P	04 18 09.4 +1.5
	baz=2.4					
MORF	Marmelete	40.84	200	eP	P	04 18 09.8 +1.5
MOY	Mondy	40.88	72	eP	P	04 18 11.0 +2.4
MOY				pmax	pmax	
	comp=Z,24nm,1.7s					
L16K	Owhat River	40.92	351	P	P	04 18 09.5 +0.9
L16K	Owhat River	40.92	351	P	P	04 18 10.6 +2.0
	baz=4.2,SNR=6.3					
BATG	Bathurst New B	40.92	268	IAmb	IAmb	04 18 16.9
	comp=Z,24nm,1.1s					
CRQM	Cirque	40.93	339	IAmb	IAmb	04 18 11.3
	comp=Z,22nm,1.3s					
CRQE	Cirque	40.93	339	P	P	04 18 10.3 +1.4
	baz=9.3,SNR=6.2					
TOAD	Toad River Com	40.95	325	P	P	04 18 10.5 +1.6
	baz=14,SNR=11					
O29M	Mount Kennedy	40.99	335	P	P	04 18 10.5 +1.1
	baz=11					
M18K	Stony River	40.99	348	P	P	04 18 10.4 +1.2
	baz=5.3					
L15K	Ungalak Mounta	41.01	352	P	P	04 18 11.0 +1.6
	baz=3.5					
P30M	Million Dollar	41.02	334	P	P	04 18 11.2 +1.7
	baz=11					
RC01	Rabbit Creek A	41.07	344	P	P	04 18 11.2 +1.3
	baz=7.2					
N20K	Mount Spurr	41.10	346	P	P	04 18 11.6 +1.4
	baz=6.5					
GLI	Glacier Island	41.10	342	IAmb	IAmb	04 18 12.8
	comp=Z,22nm,1.0s					
GLI	Glacier Island	41.10	342	P	P	04 18 11.9 +1.7
	baz=8.1,SNR=12					
R33M	Jennings River	41.10	329	P	P	04 18 12.1 +1.8
	baz=13					
M17K	Holitna River	41.15	349	IAmb	IAmb	04 18 14.0
	comp=Z,25nm,0.9s					
M17K	Holitna River	41.15	349	P	P	04 18 12.8 +2.3
	baz=4.8,SNR=14					
P32M	Atlin	41.21	331	P	P	04 18 12.3 +1.2
	baz=12,SNR=5.5					
WAX	Waxell Ridge	41.21	338	P	P	04 18 12.0 +0.9
WAX				IAmb	IAmb	04 18 13.7
	comp=Z,19nm,0.7s					
FFC	Flin Flon	41.30	304	P	P	04 18 11.9 0.0
FFC				IAmb	IAmb	04 18 13.2
	comp=Z,18nm,0.9s					
FFC	Flin Flon	41.30	304	P	P	04 18 11.9 0.0
FFC				pmax	pmax	
	comp=Z,18nm,1.0s					
BTLS	Baital	41.31	101	eP	P	04 18 13.7 +1.7
	baz=101					
BTLS	Baital	41.31	101	eP	P	04 18 13.7 +1.7
EYAK	Cordova Ski Ar	41.34	341	P	P	04 18 13.6 +1.6
	baz=8.4					
PINM	Pinnacle	41.34	336	P	P	04 18 13.8 +1.6
	baz=10.0					
MAKZ	Makanchi	41.36	92	P	P	04 18 13.1 +0.7
MAKZ	Makanchi	41.36	92	P	P	04 18 13.1 +0.7
MAKZ				pmax	pmax	
	comp=Z,17nm,1.4s					
L14K	Kuka Creek	41.38	353	P	P	04 18 14.0 +1.6
	baz=3.1					
ZSN	Zaisan	41.38	89	eP	P	04 18 14.1 +1.4
	baz=89					
ZSN	Zaisan	41.38	89	eP	P	04 18 14.0 +1.4
MESA	MESA	41.41	338	P	P	04 18 14.2 +1.3
	baz=9.5,SNR=12					
RAGM	Ragged Mountai	41.42	340	IAmb	IAmb	04 18 16.0
	comp=Z,23nm,1.1s					
HMT	Hamilton	41.44	340	IAmb	IAmb	04 18 16.0
	comp=Z,37nm,0.9s					
MK31	Makanchi Array	41.44	92	iP	P	04 18 13.8 +0.7
MK31				pmax	pmax	
	comp=Z,19nm,0.8s					
MKAR	Makanchi Array	41.44	92	P	P	04 18 14.1 +1.0
MKAR	Makanchi Array	41.44	92	P	P	04 18 14.7 +1.6
	comp=Z,12nm,0.8s,baz=344,slow=6.9,SNR=104					
MKAR				LR	LR	04 37 37.3
	comp=Z,216nm,20.2s,baz=310,slow=39					
	comp=Z,12nm,0.8s					
MKAR	Makanchi Array	41.44	92	P	P	04 18 14.1 +1.0
HIN	Hinchinbrook I	41.54	341	IAmb	IAmb	04 18 16.7
	comp=Z,21nm,1.0s					
P29M	Windy Craggy	41.58	334	P	P	04 18 15.9 +1.8
	baz=11					
M16K	Timber Creek	41.59	350	IAmb	IAmb	04 18 17.6
	comp=Z,22nm,1.0s					
M16K	Timber Creek	41.59	350	P	P	04 18 16.6 +2.5
	baz=4.3,SNR=8.9					
N19K	Bonanza Creek	41.60	347	P	P	04 18 15.9 +1.5
	baz=5.7					
PLBC	Pleasant Camp	41.61	333	P	P	04 18 16.3 +2.0
	baz=11					
Q32M	Nakina River	41.67	330	P	P	04 18 17.1 +2.0
	baz=12,SNR=8.1					
D62A	Allapoint, All	41.76	271	P	P	04 18 15.9 +0.2
KEST	Kesra	41.77	178	P	P	04 18 16.1 +0.1
	comp=Z,2.3nm,0.7s,baz=117,slow=5.8,SNR=2.4					
KEST				LR	LR	04 35 50.5
	comp=Z,139nm,18.1s,baz=254,slow=36					
	comp=Z,2.3nm,0.7s					
N18K	Kilae Creek	41.80	348	P	P	04 18 17.9 +2.0
	baz=5.2,SNR=6.9					
KAIM	Kayak Island	41.85	340	P	P	04 18 18.3 +2.0
	baz=8.7					
ELL	Elmali	41.86	153	IAmb	IAmb	04 18 19.3
	comp=Z,64nm,1.4s					
DLBC	Dease Lake	41.94	328	P	P	04 18 19.3 +2.3
	baz=13,SNR=5.9					
DLBC	Dease Lake	41.94	328	P	P	04 18 19.4 +2.3
	comp=Z,4.8nm,0.9s,baz=356,slow=3.5,SNR=7.1					
	comp=Z,4.8nm,0.9s					
M14K	Bethel	41.95	353	P	P	04 18 18.7 +1.6
	baz=3.3					
M15K	Kasigluk River	41.97	352	P	P	04 18 19.4 +2.2
	baz=3.7					
P23K	Montague Islan	42.00	342	P	P	04 18 19.7 +2.2
	baz=7.8,SNR=5.9					
N17K	Nushagak Hills	42.01	349	P	P	04 18 20.7 +3.1
N17K				IAmb	IAmb	04 18 21.4
	comp=Z,28nm,1.2s					
N17K	Nushagak Hills	42.01	349	P	P	04 18 19.9 +2.3
	baz=4.8,SNR=14					
SEW	Seward	42.03	343	P	P	04 18 18.8 +1.1
	baz=7.2					
N16K	Nishlik Lake	42.13	350	P	P	04 18 21.0 +2.4
	baz=4.3					
O19K	Port Alsworth	42.21	347	P	P	04 18 21.2 +2.0
	baz=5.7					
GAZ	Gaziantep	42.27	145	P	P	04 18 21.6 +1.5
GAZ				IAmb	IAmb	04 18 23.2
	comp=Z,30nm,0.9s					
TDK	Taldyqorghan	42.29	97	eP	P	04 18 22.2 +2.1
	baz=96					
TDK	Taldyqorghan	42.29	97	eP	P	04 18 22.2 +2.1
BRLS	Borolday	42.33	106	eP	P	04 18 24.0 +3.5
	baz=106					
BRLS	Borolday	42.33	106	eP	P	04 18 23.9 +3.5
M13K	Dall Lake	42.33	354	P	P	04 18 22.2 +2.1
	baz=2.8					
KK31	Karatay Array	42.40	105	iP	P	04 18 22.6 +1.6
KKAR	Karatay Array	42.40	105	P	P	04 18 22.8 +1.8
KKAR	Karatay Array	42.40	105	IAmb	IAmb	04 18 24.2
	comp=Z,6.7nm,0.9s					
KKAR	Karatay Array	42.40	105	P	P	04 18 22.8 +1.8
M11K	Mekoryuk	42.42	356	P	P	04 18 22.5 +1.6
	baz=1.9					
BRSE	Bradley Lake S	42.47	344	P	P	04 18 23.5 +2.1
	baz=6.7					
N15K	Kwethluk River	42.48	351	P	P	04 18 23.0 +1.6
N15K	Kwethluk River	42.48	351	P	P	04 18 23.6 +2.1
	baz=3.8,SNR=6.1					
S34M	Telegraph Cree	42.58	329	P	P	04 18 24.4 +2.2
	baz=12					
R32K	Eaglecrest	42.59	332	P	P	04 18 24.3 +2.0
	baz=11					
O18K	Koktuh Hills	42.60	348	P	P	04 18 24.6 +2.2
	baz=5.3					
P19K	Oil Pt	42.70	346	P	P	04 18 25.3 +2.0
	baz=6.0					
O17K	Koliganek Bris	42.76	349	P	P	04 18 26.0 +2.3
	baz=4.8					
F64A	Sherman	42.76	270	IAmb	IAmb	04 18 31.4
	comp=Z,23nm,1.1s					
N14K	Kuskokwak Cree	42.78	352	P	P	04 18 25.7 +1.9
	baz=3.3					
DZA	Taraz	42.78	105	eP	P	04 18 26.2 +2.1
	comp=Z,8.0nm,0.6s,baz=104					
DZA	Taraz	42.78	105	eP	P	04 18 26.1 +2.1
DZA				pmax	pmax	
	comp=Z,8.0nm,0.6s					
KUU	Kurty	42.90	99	eP	P	04 18 27.1 +2.0
	baz=99					
KUU	Kurty	42.90	99	eP	P	04 18 27.0 +2.0
SGDS	Sogindy	42.95	101	eP	P	04 18 27.2 +1.7
	baz=101					
SGDS	Sogindy	42.95	101	eP	P	04 18 27.2 +1.7
CHM	Chimkent	42.96	107	eP	P	04 18 27.3 +1.7
	baz=106					
CHM	Chimkent	42.96	107	eP	P	04 18 27.2 +1.7
O16K	Kokwok River B	42.98	350	P	P	04 18 27.9 +2.5
	baz=4.4					
P18K	Big Mountain,	43.06	347	IAmb	IAmb	04 18 29.0
	comp=Z,32nm,1.1s					
P18K	Big Mountain,	43.06	347	P	P	04 18 27.5 +1.4
	baz=5.3,SNR=6.9					
S31K	Pelican	43.07	333	P	P	04 18 27.9 +1.7
	baz=11					
CHKK	Chushkaly	43.08	99	eP	P	04 18 28.1 +1.6
	baz=98					
CHKK	Chushkaly	43.08	99	eP	P	04 18 28.0 +1.6
IUG	luzhnay	43.22	106	eP	P	04 18 29.7 +2.0
	comp=Z,9.3nm,0.8s,baz=106					
IUG	luzhnay	43.22	106	eP	P	04 18 29.7 +2.0
IUG				pmax	pmax	
	comp=Z,9.0nm,0.8s					
P17K	Kvichak River	43.31	348	P	P	04 18 30.2 +2.0
	baz=4.9,SNR=6.0					
S32K	Killisnoo	43.39	331	P	P	04 18 30.6 +1.8
	baz=11					
T35M	Bob Quinn	43.39	328	P	P	04 18 30.9 +2.1
	baz=12					
O14K	Tigyukauivet M	43.44	352	P	P	04 18 30.8 +1.7
	baz=3.4					
O15K	Ungalikthiuk R	43.47	351	P	P	04 18 31.2 +1.9
	baz=3.8					
PKME	Peaks-Kenny Pk	43.54	270	IAmb	IAmb	04 18 38.0
	comp=Z,17nm,1.0s					
PKME	Peaks-Kenny Pk	43.54	270	P	P	04 18 30.5 +0.4
	baz=18					
AAA	Alma-Ata	43.68	99	eP	P	04 18 33.4 +2.0
	comp=Z,8.8nm,0.4s,baz=98					
AAA	Alma-Ata	43.68	99	eP	P	04 18 33.3 +2.0
AAA				pmax	pmax	
	comp=Z,9.0nm,0.4s					
Q20K	Shuyak Island	43.70	345	P	P	04 18 31.8 +0.6
	baz=6.1					
MDOK	Medeo	43.75	99	eP	P	04 18 33.9 +1.8
	baz=98					
MDOK	Medeo	43.75	99	eP	P	04 18 33.9 +1.8
TRQ	Mont Tremblant	43.78	276	IAmb	IAmb	04 18 39.7
	comp=Z,19nm,1.0s					
KPKS	Kokpek	43.82	97	eP	P	04 18 34.3 +1.8
	baz=97					
KPKS	Kokpek	43.82	97	eP	P	04 18 34.3 +1.8
Q16K	King Salmon	43.84	348	P	P	04 18 34.1 +1.7
	baz=4.8					
ZEA	Zeya	43.86	48	eP	P	04 18 35.3 +2.7
ZEA				pmax	pmax	
	comp=Z,10.0nm,1.3s					
ZEA				MLR	MLR	
	comp=Z,100nm,14.0s					
ZHN	Zhinishke	44.05	97	eP	P	04 18 36.3 +1.9
	baz=97					
ZHN	Zhinishke	44.05	97	eP	P	04 18 36.3 +1.9
SATY	Saty	44.14	97	eP	P	04 18 37.1 +1.9
	baz=97					
SATY	Saty	44.14	97	eP	P	04 18 37.1 +1.9
WRAK	Wrangell Islan	44.18	329	P	P	04 18 36.7 +1.6
	baz=12					
UZB	Uzynbulak	44.19	97	eP	P	04 18 37.5 +1.8
	baz=96					
UZB	Uzynbulak	44.19	97	eP	P	04 18 37.4 +1.8
MNTQ	Montreal, Queb	44.27	275	P	P	04 18 35.4 -0.5
MNTQ				IAmb	IAmb	04 18 43.3
	comp=Z,19nm,1.0s					
SHLS	Shalkode	44.28	96	eP	P	04 18 39.1 +2.8
	comp=Z,9.4nm,1.1s,baz=96					
SHLS	Shalkode	44.28	96	eP	P	04 18 39.1 +2.8
SHLS				pmax	pmax	
	comp=Z,9.0nm,1.1s					
ULM	Lac du Bonnet	44.42	297	IAmb	IAmb	04 18 38.1
	comp=Z,18nm,1.1s					
ULM	Lac du Bonnet	44.42	297	P	P	04 18 37.0 -0.1
	comp=Z,15nm,1.0s,baz=18,slow=6.8,SNR=15					
ULM				PcP	PcP	04 20 19.5 -1.1
	comp=Z,3.5nm,0.7s,baz=52,slow=4.4,SNR=3.4					
ULM				LR	LR	04 37 26.6
	comp=Z,313nm,18.0s,baz=16,slow=36					
	comp=Z,15nm,1.0s					
KDAK	Kodiak Island	44.53	345	P	P	04 18 38.7 +0.8
KDAK	Kodiak Island	44.53	345	P	P	04 18 39.2 +1.3
	baz=5.9					
KDAK	Kodiak Island	44.53	345	P	P	04 18 39.2 +1.3
	comp=Z,28nm,0.7s,baz=30,slow=6.5,SNR=43					
KDAK				LR	LR	04 37 16.7
	comp=Z,177nm,21.5s,baz=100,slow=36					
	comp=Z,28nm,0.7s					
R18K	Karluk	44.85	347	P	P	04 18 41.2 +0.7
	baz=5.4					
GEYT	Alibeck	44.89	121	P	P	04 18 40.9 -0.2
GEYT	Alibeck	44.89	121	P	P	04 18 43.0 +1.9
	comp=Z,4.9nm,0.8s,baz=310,slow=7.6,SNR=9.9					
GEYT				LR	LR	04 40 31.4
	comp=Z,271nm,18.2s,baz=354,slow=40					
	comp=Z,4.9nm,0.8s					
GEYT	Alibeck	44.89	121	P	P	04 18 43.0 +1.9
GYA0	ALIBECK ARRAY	44.89	121	P	P	04 18 42.2 +1.1
GYA0				pmax	pmax	
	comp=Z,7.0nm,0.8s					
GYA0B	ALIBECK ARRAY	44.89	121	P	P	04 18 42.2 +1.1
WBO	Williamsburg	45.10	276	IAmb	IAmb	04 18 50.5
	comp=Z,14nm,1.1s					
OHAK	Old Harbor	45.13	346	IAmb	IAmb	04 18 45.4
	comp=Z,20nm,1.0s					
OHAK	Old Harbor	45.13	346	P	P	04 18 43.5 +0.8
	baz=5.7					
TARG	Taragay, Kyrgy	45.28	99	IAmb	IAmb	04 18 48.6
	comp=Z,14nm,1.1s					
LONY	Lake Ozonia	45.31	275	IAmb	IAmb	04 18 53.0
	comp=Z,24nm,1.4s					
LONY	Lake Ozonia	45.31	275	P	P	04 18 44.6 +0.3
	baz=18					
WMQ	Urumqi	45.45	88	eP	P	04 18 48.8 +3.3
WMQ				pmax	pmax	
	comp=Z,53nm,0.7s					
WMQ				pmax	pmax	
	comp=Z,190nm,4.3s					
WMQ				LR	LR	
	comp=Z,370nm,14.5s					
WMQ				LR	LR	
	comp=Z,250nm,15.5s					
ULN	Ulaanbaatar	45.74	68	P	P	04 18 48.5 +0.7
ULN	Ulaanbaatar	45.74	68	ceP	P	04 18 50.0 +2.1
ULN				pmax	pmax	
	comp=Z,11nm,1.0s					
EYMN	Ely	45.74	292	P	P	04 18 48.0 +0.3
	baz=18,SNR=6.2					
SII	Sitkinak Islan	45.84	346	P	P	04 18 48.8 +0.4
	baz=5.3					
MMAI	Mount Meron Ar	46.15	148	P	P	04 18 52.5 +1.3
	comp=Z,3.9nm,0.6s,baz=329,slow=8.0,SNR=7.0					
MMAI				LR	LR	04 41 32.2
	comp=Z,72nm,18.1s,baz=276,slow=40					
	comp=Z,3.9nm,0.6s					
SADO	Sadowa	46.16	280	LR	LR	04 39 04.1
	comp=Z,361nm,18.1s,baz=24,slow=37					
AGMN	Agassiz Nation	46.28	296	IAmb	IAmb	04 18 53.2
	comp=Z,9.4nm,0.8s					
AGMN	Agassiz Nation	46.28	296	P	P	04 18 52.0 +0.1
	baz=17,SNR=6.2					
ACCN	Adirondack Com	46.29	274	IAmb	IAmb	04 19 00.3
	comp=Z,22nm,1.2s					
CHGN	Chignik	46.29	350	P	P	04 18 52.5 +0.7
	baz=4.1					
CHIR	Chirikof Islan	46.65	347	P	P	04 18 55.1 +0.5
	baz=4.9					
HRV	Adam Dziewonsk	46.66	271	P	P	04 18 55.3 +0.4
	baz=17					
J58A	Remsen	46.67	275	P	P	04 18 54.0 -1.0
J58A				IAmb	IAmb	04 19 03.0
	comp=Z,12nm,1.1s					
L61B	Northampton	46.96	272	P	P	04 18 58.1 +0.8
	baz=17					
KSH	Kashi	47.01	101	P	P	04 19 02.2 +4.3
KSH				pP	pwP	04 19 06.1 +4.9
KSH				PP	PP	04 20 53.2 +5.2
KSH				pmax	pmax	
	comp=Z,4.0nm,0.9s					
KSH				LR	LR	
	comp=Z,400nm,15.1s					
KSH				LR	LR	
	comp=Z,300nm,18.9s					
KSH				LR	LR	
	comp=Z,250nm,16.8s					
HEH	HeiHe	47.25	50	eP	P	04 18 55.6 -3.9
HEH				pmax	pmax	
	comp=Z,3.0nm,0.7s					
GLMI	Grayling	47.29	285	P	P	04 19 00.4 +0.6
	baz=17					

MDND	**Maddock**	47.44 299	P	**P**	04 19 01.0 0.0
MDND	**Maddock**	47.44 299	P	**P**	04 19 01.2 +0.3
	baz=16,SNR=11				
K57A	**Scipio Center**	47.53 276	IAmb	IAmb	04 19 09.8
	comp=Z,20nm,1.3s				
CHNA	**Chernabura Isl**	47.80 350	P	**P**	04 19 04.0 +0.3
	baz=3.6				
BBB	**Bella Bella**	47.83 325	LR	LR	04 39 36.6
	comp=Z,176nm,18.4s,baz=64,slow=37				
BINY	**Binghamton**	47.93 275	IAmb	IAmb	04 19 13.1
	comp=Z,15nm,1.1s				
BINY	**Binghamton**	47.93 275	P	**P**	04 19 05.3 +0.4
	baz=17,SNR=5.2				
WVNY	**West Valley, N**	48.30 278	P	**P**	04 19 08.3 +0.5
KSPA	**Keystone Colle**	48.49 275	IAmb	IAmb	04 19 18.1
	comp=Z,29nm,1.7s				
TRNY	**Table Rock, Ra**	48.55 273	IAmb	IAmb	04 19 17.8
	comp=Z,31nm,1.7s				
SPMN	**Marine on St.**	48.61 292	IAmb	IAmb	04 19 11.2
	comp=Z,15nm,0.8s				
SPMN	**Marine on St.**	48.61 292	P	**P**	04 19 10.4 +0.4
	baz=17,SNR=7.4				
PAL	**Palisades**	48.61 273	P	**P**	04 19 10.6 +0.4
	baz=17				
KLR	**Kul'dur**	48.95 46	*e*P	**P**	04 19 13.7 +1.1
KLR			pmax	pmax	
	comp=Z,2.0nm,1.1s				
UNV	**Unalaska Valle**	48.98 356	P	**P**	04 19 13.2 +0.5
	baz=1.6				
M57A	**Sunshine Farm,**	49.00 276	P	**P**	04 19 13.2 +0.1
M57A			IAmb	IAmb	04 19 21.3
	comp=Z,13nm,1.3s				
EGMT	**Eagleton**	49.12 308	IAmb	IAmb	04 19 22.7
	comp=Z,13nm,1.1s				
EGMT	**Eagleton**	49.12 308	P	**P**	04 19 13.9 -0.1
	baz=15				
M55A	**Ridgway**	49.23 278	IAmb	IAmb	04 19 16.3
	comp=Z,8.3nm,0.8s				
LUPA	**Lehigh Univers**	49.32 274	IAmb	IAmb	04 19 23.7
	comp=Z,19nm,1.3s				
N58A	**Sunbury**	49.39 276	IAmb	IAmb	04 19 23.9
	comp=Z,13nm,1.1s				
EIL	**Elat**	49.40 149	LR	LR	04 43 07.9
	comp=Z,42nm,18.5s,baz=245,slow=40				
M53A	**WI Miller and**	49.67 280	P	**P**	04 19 18.7 +0.4
	baz=17,SNR=6.1				
SSPA	**Standing Stone**	49.84 277	P	**P**	04 19 19.6 0.0
	baz=17				
I37A	**Lemond, Waseca**	49.89 292	P	**P**	04 19 20.0 +0.1
NEW	**Newport**	50.10 315	IAmb	IAmb	04 19 23.6
	comp=Z,12nm,0.9s				
NEW	**Newport**	50.10 315	P	**P**	04 19 22.2 +0.8
	baz=14,SNR=8.5				
NEW	**Newport**	50.10 315	P	**P**	04 19 22.2 +0.8
	comp=Z,9.8nm,0.9s,baz=18,slow=6.4,SNR=14				
NEW			LR	LR	04 40 35.6
	comp=Z,185nm,18.4s,baz=48,slow=36				
	comp=Z,9.8nm,0.9s				
MVL	**Millersville**	50.11 275	IAmb	IAmb	04 19 29.5
	comp=Z,28nm,1.6s				
JFWS	**Jewell Farm**	50.30 289	IAmb	IAmb	04 19 23.7
	comp=Z,16nm,0.8s				
JFWS	**Jewell Farm**	50.30 289	P	**P**	04 19 23.2 +0.2
	baz=16,SNR=5.3				
N53A	**Lisbon**	50.31 280	IAmb	IAmb	04 19 24.4
	comp=Z,11nm,0.8s				
B08A	**Colville Reser**	50.35 316	IAmb	IAmb	04 19 25.4
	comp=Z,18nm,0.8s				
L44A	**Lake County Fo**	50.51 287	P	**P**	04 19 25.2 +0.6
	baz=16				
N51A	**Ashland**	50.54 281	P	**P**	04 19 24.3 -0.5
N51A			IAmb	IAmb	04 19 26.1
	comp=Z,19nm,0.8s				
SUSD	**Miller**	50.58 297	P	**P**	04 19 25.3 +0.2
	baz=16,SNR=5.5				
ECSD	**EROS Data Cent**	50.80 295	P	**P**	04 19 27.1 +0.3
	baz=16,SNR=33				
O54A	**Avella**	50.81 279	IAmb	IAmb	04 19 27.9
	comp=Z,13nm,0.8s				
N49A	**Columbus Grove**	50.92 283	IAmb	IAmb	04 19 35.5
	comp=Z,24nm,1.1s				
O53A	**New Philadelph**	50.93 280	P	**P**	04 19 27.7 -0.1
O53A	**New Philadelph**	50.93 280	P	**P**	04 19 28.3 +0.5
	baz=16,SNR=9.0				
MSO	**Missoula**	50.98 311	P	**P**	04 19 28.8 +0.6
	baz=14,SNR=34				
L42A	**Oliver, Polo**	51.05 288	IAmb	IAmb	04 19 36.2
	comp=Z,26nm,1.1s				
O52A	**Adamsville**	51.19 280	IAmb	IAmb	04 19 30.9
	comp=Z,15nm,0.8s				
MCWV	**Mont Chateau**	51.20 278	IAmb	IAmb	04 19 31.4
	comp=Z,10nm,0.8s				
MCWV	**Mont Chateau**	51.20 278	P	**P**	04 19 30.3 +0.5
	baz=16				
N47A	**Urbana**	51.29 284	IAmb	IAmb	04 19 38.0
	comp=Z,23nm,0.9s				
M44A	**Midewin, Midew**	51.30 286	IAmb	IAmb	04 19 38.4
	comp=Z,34nm,1.2s				
ACSO	**Alum Creek Sta**	51.33 281	IAmb	IAmb	04 19 38.5
	comp=Z,25nm,1.1s				
ACSO	**Alum Creek Sta**	51.33 281	P	**P**	04 19 30.8 +0.1
	baz=16				
XLT	**XiLinHaoTe**	51.33 62	*e*P	**P**	04 19 31.8 +0.9
XLT			pP	pwP	04 19 35.7 +1.5
XLT			PP	**PP**	04 21 28.6 +1.2
XLT			pmax	pmax	
	comp=Z,7.0nm,0.8s				
XLT			pmax	pmax	
	comp=Z,130nm,3.8s				
XLT			LR	LR	
	comp=Z,290nm,19.1s				
Q56A	**Snyder Ridge,**	51.65 277	P	**P**	04 19 33.7 +0.5
Q56A			IAmb	IAmb	04 19 34.7
	comp=Z,12nm,0.9s				
O49A	**Covington**	51.66 283	IAmb	IAmb	04 19 34.3
	comp=Z,18nm,0.8s				
P53A	**Whipple**	51.70 280	IAmb	IAmb	04 19 35.0
	comp=Z,19nm,0.9s				
P52A	**Corning**	51.72 280	P	**P**	04 19 33.5 -0.2
	baz=16				
O48B	**Farmland**	51.77 283	IAmb	IAmb	04 19 41.6
	comp=Z,25nm,1.0s				
O48B	**Farmland**	51.77 283	P	**P**	04 19 34.0 -0.1
	baz=16,SNR=5.9				
BOZ	**Bozeman (W)**	51.79 309	P	**P**	04 19 34.8 +0.4
	baz=14				
RLMT	**Red Lodge**	51.84 307	P	**P**	04 19 35.6 +0.7
	baz=14,SNR=7.7				
RSSD	**Black Hills**	51.86 302	P	**P**	04 19 34.8 -0.2
RSSD			IAmb	IAmb	04 19 36.5
	comp=Z,16nm,1.1s				
RSSD	**Black Hills**	51.86 302	P	**P**	04 19 35.1 +0.1
	baz=15				
RSSD	**Black Hills**	51.86 302	P	**P**	04 19 34.8 -0.2
RSSD			pmax	pmax	
	comp=Z,16nm,1.2s				
SCIA	**State Center**	51.87 291	P	**P**	04 19 35.2 +0.3
	baz=16,SNR=5.6				
CBN	**Corbin Frederi**	52.05 275	P	**P**	04 19 36.6 +0.4
	baz=16				
Q54A	**Coxs Mills**	52.06 279	P	**P**	04 19 36.5 +0.3
Q54A			IAmb	IAmb	04 19 37.8
	comp=Z,18nm,0.8s				
P51A	**Williamsport**	52.06 281	IAmb	IAmb	04 19 43.6
	comp=Z,23nm,1.1s				
SFIN	**Lafayette**	52.07 285	IAmb	IAmb	04 19 44.0
	comp=Z,26nm,1.1s				
SFIN	**Lafayette**	52.07 285	P	**P**	04 19 36.3 +0.1
	baz=16,SNR=5.9				
GTA	**Gaotai**	52.31 78	*e*P	**P**	04 19 40.1 +1.8
GTA			pmax	pmax	
	comp=Z,9.0nm,0.8s				
GTA			LR	LR	
	comp=Z,190nm,20.4s				
GTA			LR	LR	
	comp=Z,79nm,18.5s				
GTA			LR	LR	
	comp=Z,190nm,19.6s				
HDIL	**Hopedale**	52.36 287	P	**P**	04 19 38.7 +0.3
	baz=16				
P49A	**Miami Univ. Ec**	52.37 283	IAmb	IAmb	04 19 45.9
	comp=Z,30nm,1.1s				
P49A	**Miami Univ. Ec**	52.37 283	P	**P**	04 19 38.5 -0.1
	baz=16,SNR=7.5				
Q52A	**Bidwell**	52.39 280	IAmb	IAmb	04 19 46.2
	comp=Z,17nm,1.1s				
R58B	**Mineral**	52.40 276	IAmb	IAmb	04 19 47.5
	comp=Z,18nm,1.6s				
R55A	**Marlinton**	52.58 278	P	**P**	04 19 40.0 -0.2
R55A			IAmb	IAmb	04 19 47.6
	comp=Z,11nm,1.1s				
H17A	**Grant Village**	52.77 308	P	**P**	04 19 42.0 +0.2
	baz=14				
P46A	**Rosedale**	52.82 285	IAmb	IAmb	04 19 49.4
	comp=Z,19nm,0.9s				
S57A	**Dark Hollow, R**	52.83 277	IAmb	IAmb	04 19 50.2
	comp=Z,19nm,1.2s				
N38A	**Joes South For**	52.95 291	IAmb	IAmb	04 19 43.5
	comp=Z,26nm,1.1s				
MDJ	**Mudanjiang**	53.08 50	P	**P**	04 19 47.2 +3.4
MDJ			pmax	pmax	
	comp=Z,6.0nm,1.9s				
MDJ			pmax	pmax	
	comp=Z,93nm,8.2s				
BLO	**Bloomington**	53.10 284	IAmb	IAmb	04 19 44.8
	comp=Z,21nm,0.7s				
T59A	**Double "B" Far**	53.28 275	IAmb	IAmb	04 19 46.5
	comp=Z,14nm,0.8s				
G08A	**Pilot Rock**	53.28 315	P	**P**	04 19 45.7 +0.3
G08A			IAmb	IAmb	04 19 48.0
	comp=Z,22nm,1.4s				
BGNE	**Belgrade**	53.35 296	P	**P**	04 19 45.6 -0.2
	baz=15				
HHC	**Hu-ho-hao-te**	53.38 67	*e*P	P	04 19 50.7 +4.6
HHC			pmax	pmax	
	comp=Z,7.0nm,0.5s				
HHC			pmax	pmax	
	comp=Z,100nm,5.7s				
BMO	**Blue Mountains**	53.45 314	IAmb	IAmb	04 19 48.3
	comp=Z,17nm,1.2s				
R50A	**Paris**	53.49 282	IAmb	IAmb	04 19 54.2
	comp=Z,13nm,0.8s				
T57A	**Hurt**	53.62 277	IAmb	IAmb	04 19 56.0
	comp=Z,15nm,1.1s				
R49A	**Shelbyville**	53.66 283	P	**P**	04 19 47.1 -0.9
R49A			IAmb	IAmb	04 19 55.6
	comp=Z,29nm,1.2s				
BLA	**Blacksburg**	53.67 278	IAmb	IAmb	04 19 49.6
	comp=Z,20nm,1.0s				
BLA	**Blacksburg**	53.67 278	P	**P**	04 19 48.5 +0.2
	baz=16,SNR=11				
K22A	**Casper**	53.74 304	IAmb	IAmb	04 19 49.4
	comp=Z,24nm,0.9s				
K22A	**Casper**	53.74 304	P	**P**	04 19 48.4 -0.5
	baz=14,SNR=15				
USRK	**Ussuriysk Ar.**	53.88 48	P	**P**	04 19 50.1 +0.5
	comp=Z,2.3nm,0.8s,baz=334,slow=4.0,SNR=5.4				
	comp=Z,2.3nm,0.8s				
P40A	**Paris**	53.92 290	IAmb	IAmb	04 19 56.2
	comp=Z,12nm,1.1s				
S51A	**Beattyville**	53.95 281	IAmb	IAmb	04 19 51.0
	comp=Z,7.7nm,0.8s				
WCI	**Wyandotte Cave**	53.96 284	P	**P**	04 19 49.2 -1.1
WCI			IAmb	IAmb	04 19 57.7
	comp=Z,18nm,1.1s				
WCI	**Wyandotte Cave**	53.96 284	P	**P**	04 19 49.8 -0.5
	baz=16				
WCI	**Wyandotte Cave**	53.96 284	P	**P**	04 19 49.2 -1.1
WCI			pmax	pmax	
	comp=Z,19nm,1.2s				
P38A	**Dawn**	54.13 291	P	**P**	04 19 50.4 -1.2
P38A			IAmb	IAmb	04 19 52.0
	comp=Z,31nm,1.4s				
BW06	**Boulder Array**	54.18 306	P	**P**	04 19 51.6 -0.5
	baz=14,SNR=8.0				
HLID	**Hailey**	54.24 311	P	**P**	04 19 52.7 +0.2
	baz=13,SNR=9.6				
GOMU	**GeErMu**	54.31 84	P	**P**	04 19 55.3 +2.0
GOMU			pP	pwP	04 20 01.2 +4.6
GOMU			sP	sP	04 20 04.4 +10
GOMU			pmax	pmax	
	comp=Z,24nm,0.9s				
U56A	**King**	54.49 278	IAmb	IAmb	04 19 55.4
	comp=Z,17nm,1.1s				
OGNE	**Ogallala**	54.55 299	P	**P**	04 19 54.6 -0.1
	baz=15,SNR=5.9				
MFID	**Camas Ranch**	54.61 312	P	**P**	04 19 54.4 -0.7
V58A	**Windy Hill, Pi**	54.75 276	IAmb	IAmb	04 20 03.9
	comp=Z,18nm,1.1s				
RWWY	**Rawlins**	54.80 304	IAmb	IAmb	04 19 56.7
	comp=Z,28nm,1.3s				
T50A	**Nancy**	54.81 282	IAmb	IAmb	04 20 04.0
	comp=Z,25nm,1.2s				
PHWY	**Pilot Hill**	54.85 302	IAmb	IAmb	04 19 58.1
	comp=Z,14nm,1.2s				
TZTN	**Tazewell**	54.99 281	P	**P**	04 19 57.6 -0.2
TZTN			IAmb	IAmb	04 20 05.8
	comp=Z,23nm,1.1s				
TZTN	**Tazewell**	54.99 281	P	**P**	04 19 58.0 +0.2
	baz=15,SNR=6.8				
CNNC	**Cliffs of the**	55.02 275	P	**P**	04 19 57.4 -0.5
	baz=15				
FVM	**French Village**	55.07 288	IAmb	IAmb	04 20 05.0
	comp=Z,19nm,1.1s				
V55A	**Taylorsville**	55.15 278	IAmb	IAmb	04 20 06.9
	comp=Z,16nm,1.1s				
CCM	**Cathedral Cave**	55.17 288	P	**P**	04 19 57.1 -2.0
CCM			IAmb	IAmb	04 20 05.4
	comp=Z,9.4nm,0.8s				
CCM	**Cathedral Cave**	55.17 288	P	**P**	04 19 58.0 -1.1
	baz=15				
CCM	**Cathedral Cave**	55.17 288	P	**P**	04 19 57.1 -2.0
CCM			pmax	pmax	
	comp=Z,9.0nm,0.8s				
KSU1	**Kansas State U**	55.27 294	P	**P**	04 19 59.5 -0.3
	baz=15,SNR=12				
T47A	**Sharon Grove**	55.33 284	IAmb	IAmb	04 20 07.2
	comp=Z,15nm,1.0s				
N23A	**Red Feather La**	55.34 303	P	**P**	04 20 00.4 -0.2
N23A	**Red Feather La**	55.34 303	P	**P**	04 20 01.2 +0.7
	baz=14,SNR=12				
W57A	**Gilead**	55.56 277	IAmb	IAmb	04 20 02.9
	comp=Z,13nm,0.8s				
CGM3	**Cape Girardeau**	55.57 287	P	**P**	04 20 01.4 -0.5
CGM3			IAmb	IAmb	04 20 02.3
	comp=Z,14nm,0.9s				
V53A	**Saluda**	55.67 280	IAmb	IAmb	04 20 04.1
	comp=Z,14nm,1.1s				
V52A	**Sevierville**	55.68 280	IAmb	IAmb	04 20 10.6
	comp=Z,21nm,1.2s				
KMSC	**Kings Mountain**	55.86 278	IAmb	IAmb	04 20 11.7
	comp=Z,18nm,1.1s				
KMSC	**Kings Mountain**	55.86 278	P	**P**	04 20 04.2 +0.2
	baz=15,SNR=10				
TKL	**Tuckaleechee C**	55.89 281	LR	LR	04 44 16.6
	comp=Z,248nm,19.2s,baz=18,slow=36				
CLTN	**Cedars of Leba**	56.02 283	P	**P**	04 20 04.4 -0.8
CLTN			IAmb	IAmb	04 20 12.3
	comp=Z,22nm,1.5s				
T42A	**Van Buren**	56.13 288	IAmb	IAmb	04 20 06.2
	comp=Z,19nm,1.1s				
CBKS	**Cedar Bluff**	56.16 296	P	**P**	04 20 06.1 -0.1
	baz=14,SNR=9.8				
HICK	**Hickman**	56.21 286	P	**P**	04 20 05.6 -0.9
PBMO	**Poplar Bluff**	56.23 287	IAmb	IAmb	04 20 07.0
	comp=Z,22nm,0.9s				
CPCT	**Cooper Cave**	56.25 281	IAmb	IAmb	04 20 14.4
	comp=Z,11nm,1.3s				
PAULI	**Pauline**	56.27 278	IAmb	IAmb	04 20 14.7
	comp=Z,24nm,1.2s				
WVT	**Waverly**	56.31 285	P	**P**	04 20 06.4 -0.8
WVT			IAmb	IAmb	04 20 14.8
	comp=Z,14nm,1.2s				
WVT	**Waverly**	56.31 285	P	**P**	04 20 06.3 -1.0
	baz=15				
WVT	**Waverly**	56.31 285	P	**P**	04 20 06.4 -0.8
WVT			pmax	pmax	
	comp=Z,14nm,1.2s				
BG3	**Lake Jocassee**	56.35 280	IAmb	IAmb	04 20 08.7
	comp=Z,13nm,0.9s				
V48A	**Smith Brothers**	56.47 283	IAmb	IAmb	04 20 15.1
	comp=Z,17nm,1.2s				
W52A	**Murphy**	56.47 281	IAmb	IAmb	04 20 16.1
	comp=Z,18nm,1.2s				
O20A	**White River Ci**	56.49 304	P	**P**	04 20 08.9 +0.1
O20A	**White River Ci**	56.49 304	P	**P**	04 20 09.8 +1.0
	baz=14,SNR=25				
KSCO	**Kaye Shedlock'**	56.53 299	P	**P**	04 20 09.1 0.0
	baz=14				
BSUT	**Blindstream Ca**	56.55 307	IAmb	IAmb	04 20 18.8
	comp=Z,13nm,1.3s				
W50A	**Signal Mountai**	56.66 282	IAmb	IAmb	04 20 16.9
	comp=Z,18nm,1.1s				
JSC	**Jenkinsville**	56.67 278	IAmb	IAmb	04 22 10.3
	comp=Z,18nm,0.8s				
SWET	**Sewanee**	56.78 282	IAmb	IAmb	04 20 10.3
	comp=Z,23nm,1.4s				
RAYN	**Ar Rayn**	56.84 138	P	**P**	04 20 11.4 +0.2
RAYN			IAmb	IAmb	04 20 13.7
	comp=Z,14nm,1.1s				
RAYN	**Ar Rayn**	56.84 138	P	**P**	04 20 11.4 +0.2
RAYN			pmax	pmax	
	comp=Z,14nm,1.2s				
HODGE	**Hodges**	56.94 279	IAmb	IAmb	04 20 19.2
	comp=Z,19nm,1.1s				
Q24A	**Divide**	57.06 301	P	**P**	04 20 13.4 +0.5
	baz=14,SNR=12				
ELK	**Elko**	57.12 311	P	**P**	04 20 14.2 +0.9
X51A	**Calhoun**	57.18 281	IAmb	IAmb	04 20 20.7
	comp=Z,17nm,0.9s				
SMCO	**Snowmass**	57.19 303	IAmb	IAmb	04 20 16.0
	comp=Z,17nm,1.1s				
DUG	**Dugway, Tooele**	57.24 309	P	**P**	04 20 14.7 +0.7
	baz=13				
KAN06	**Argonia West S**	57.30 294	P	**P**	04 20 13.4 -0.9
YBH	**Yreka Blue Hor**	57.33 318	LR	LR	04 43 45.2
	comp=Z,83nm,20.5s,baz=358,slow=35				
HNS	**HongShan**	57.34 65	*e*P	P	04 20 20.2 +5.7
HNS			LR	LR	
	comp=Z,280nm,22.3s				
HNS			LR	LR	
	comp=Z,160nm,17.5s				
P18A	**Preston Nutter**	57.35 306	IAmb	IAmb	04 20 23.2
	comp=Z,20nm,1.8s				
FPAL	**Fort Paine**	57.36 282	IAmb	IAmb	04 20 21.5
	comp=Z,16nm,1.0s				
HHAR	**Hobbs**	57.44 290	IAmb	IAmb	04 20 22.6
	comp=Z,16nm,1.4s				
FCAR	**Ozark Folk Cen**	57.44 288	IAmb	IAmb	04 20 22.3
	comp=Z,22nm,0.9s				
NHSC	**New Hope**	57.57 276	P	**P**	04 20 16.3 +0.1
	baz=15				
Y52A	**Lilburn**	57.68 280	IAmb	IAmb	04 20 24.5
	comp=Z,15nm,1.0s				
OK032	**Salt Plains WL**	57.80 294	P	**P**	04 20 17.4 -0.5
TMUT	**Trail Mountain**	57.84 307	IAmb	IAmb	04 20 20.9
	comp=Z,29nm,1.8s				
GOGA	**Godfrey**	57.99 280	P	**P**	04 20 17.4 -1.8
GOGA			IAmb	IAmb	04 20 26.5
	comp=Z,21nm,1.1s				
GOGA	**Godfrey**	57.99 280	P	**P**	04 20 18.7 -0.5
	baz=15,SNR=11				
GOGA	**Godfrey**	57.99 280	P	**P**	04 20 17.4 -1.8
GOGA			pmax	pmax	
	comp=Z,21nm,1.2s				
WHAR	**Wooly Hollow**	58.06 288	IAmb	IAmb	04 20 20.1
	comp=Z,21nm,0.9s				
TUL3	**Leonard**	58.18 292	IAmb	IAmb	04 20 20.9
	comp=Z,22nm,1.3s				
TUL3	**Leonard**	58.18 292	P	**P**	04 20 19.6 -0.8
	baz=14,SNR=7.1				
Y49A	**Blount Mountai**	58.19 282	IAmb	IAmb	04 20 27.0
	comp=Z,9.9nm,0.8s				
Q16A	**Castle Valley**	58.20 307	IAmb	IAmb	04 20 29.9
	comp=Z,29nm,1.5s				
OXF	**Oxford**	58.20 286	P	**P**	04 20 19.9 -0.7
	baz=15,SNR=7.0				
OK038	**West end E0370**	58.23 295	P	**P**	04 20 20.4 -0.5
SDCO	**Great Sand Dun**	58.31 301	IAmb	IAmb	04 20 23.2
	comp=Z,11nm,1.1s				
SDCO	**Great Sand Dun**	58.31 301	P	**P**	04 20 22.2 +0.5
	baz=14,SNR=17				
S22A	**4UR Ranch, Cre**	58.55 302	IAmb	IAmb	04 20 32.3
	comp=Z,20nm,1.3s				
S22A	**4UR Ranch, Cre**	58.55 302	P	**P**	04 20 24.3 +0.8
	baz=13,SNR=18				
UALR	**University of**	58.56 288	IAmb	IAmb	04 20 23.8
	comp=Z,16nm,0.9s				
PAHR	**Pah Rah Range**	58.80 314	P	**P**	04 20 25.7 +0.7
PAHR			IAmb	IAmb	04 20 28.5
	comp=Z,30nm,1.9s				
X40A	**Basin Creek Fa**	58.94 289	IAmb	IAmb	04 20 26.5
	comp=Z,11nm,0.9s				
152A	**Waverly Hall**	58.98 281	IAmb	IAmb	04 20 33.1
	comp=Z,18nm,1.2s				
MIAR	**Mount Ida**	59.04 289	P	**P**	04 20 26.6 +0.1
	baz=14,SNR=29				
RTBA	**Rita Blanca**	59.05 298	IAmb	IAmb	04 20 27.6
	comp=Z,13nm,0.8s				
HMU	**Henry Mountain**	59.08 306	IAmb	IAmb	04 20 36.5
	comp=Z,33nm,1.8s				
LRAL	**Lakeview Retre**	59.11 283	IAmb	IAmb	04 20 31.8
	comp=Z,17nm,1.8s				
LRAL	**Lakeview Retre**	59.11 283	P	**P**	04 20 27.4 +0.5
	baz=15				
FNO	**Franklin**	59.14 293	IAmb	IAmb	04 20 28.1
	comp=Z,7.3nm,0.9s				
Z47A	**Carrollton**	59.18 284	IAmb	IAmb	04 20 33.6
	comp=Z,14nm,0.8s				
MTPU	**Mount Pierson**	59.23 307	IAmb	IAmb	04 20 31.3
	comp=Z,23nm,1.6s				
KVN	**Kaiserville**	59.24 313	IAmb	IAmb	04 20 31.4
	comp=Z,19nm,1.6s				
WSAR	**Wadi Sarin**	59.28 124	LR	LR	04 50 20.0
	comp=Z,71nm,18.5s,baz=354,slow=40				
X37A	**Clayton**	59.37 291	IAmb	IAmb	04 20 29.8
	comp=Z,16nm,0.9s				
MVCO	**Mesa Verde**	59.38 304	P	**P**	04 20 29.9 +0.8
MVCO			IAmb	IAmb	04 20 38.7
	comp=Z,22nm,1.2s				
MVCO	**Mesa Verde**	59.38 304	P	**P**	04 20 30.2 +1.0
	baz=13,SNR=12				
XAN	**Xi'an**	59.41 71	P	**P**	04 20 29.6 +0.5
XAN			pmax	pmax	
	comp=Z,8.0nm,1.1s				
PNTR	**Pine Nut**	59.44 314	IAmb	IAmb	04 20 38.9
	comp=Z,12nm,0.9s				
R11B	**Troy Canyon, C**	59.51 311	P	**P**	04 20 30.5 +0.6
	baz=12,SNR=8.6				
AFDM	**Forest Hills B**	59.79 315	IAmb	IAmb	04 20 33.4
	comp=Z,20nm,1.4s				
NV11	**Mina Array Sit**	59.85 313	IAmb	IAmb	04 20 35.1
	comp=Z,12nm,1.6s				
NVAR	**Mina Array Bea**	59.88 313	P	**P**	04 20 32.5 -0.1
NVAR	**Mina Array Bea**	59.88 313	P	**P**	04 20 33.6 +1.1
	comp=Z,1.7nm,0.8s,baz=18,slow=4.4,SNR=13				
NVAR			LR	LR	04 47 08.6
	comp=Z,166nm,18.7s,baz=16,slow=37				
	comp=Z,1.7nm,0.8s				
CCUT	**Cedar City**	59.91 308	IAmb	IAmb	04 20 42.2
	comp=Z,14nm,1.6s				
WMOK	**Wichita Mounta**	59.92 294	IAmb	IAmb	04 20 34.1
	comp=Z,16nm,0.9s				
WMOK	**Wichita Mounta**	59.92 294	P	**P**	04 20 33.1 +0.6
	baz=14,SNR=26				
146A	**Union**	59.94 285	P	**P**	04 20 31.6 -1.0
KNB	**Kanab**	60.34 308	IAmb	IAmb	04 20 45.5
	comp=Z,22nm,1.5s				
PRN	**Pahroc Range**	60.34 310	IAmb	IAmb	04 20 39.1
	comp=Z,12nm,1.4s				
AMTX	**Amarillo**	60.35 297	P	**P**	04 20 36.1 +0.4
	baz=14				
LCMT	**Little Creek M**	60.42 308	P	**P**	04 20 36.9 +0.7
LCMT			IAmb	IAmb	04 20 45.6
	comp=Z,20nm,1.5s				
VBMS	**Vicksburg**	60.65 286	P	**P**	04 20 37.8 +0.2
	baz=14				
MDPB	**Devils Postpil**	60.78 313	IAmb	IAmb	04 20 48.5
	comp=Z,12nm,1.5s				
WTFS	**Witchita Falls**	60.79 294	P	**P**	04 20 37.8 -0.8
TPNV	**Topopah Spring**	60.99 311	P	**P**	04 20 40.8 +0.8
	baz=12				
ANMO	**Albuquerque**	61.20 301	P	**P**	04 20 40.6 -0.9
ANMO			IAmb	IAmb	04 20 49.9
	comp=Z,9.3nm,1.2s				
ANMO	**Albuquerque**	61.20 301	P	**P**	04 20 41.8 +0.3
	baz=13				
ANMO	**Albuquerque**	61.20 301	*ce*P	**P**	04 20 42.0 +0.4
ANMO			pmax	pmax	
	comp=Z,10.0nm,1.7s				
MSTX	**Muleshoe**	61.45 298	P	**P**	04 20 43.4 +0.3
	baz=13				
WUAZ	**Wupatki**	61.55 306	IAmb	IAmb	04 20 45.8
	comp=Z,9.1nm,0.9s				
WUAZ	**Wupatki**	61.55 306	P	**P**	04 20 44.6 +0.7
	baz=12,SNR=6.2				
APMT	**Aspermont**	61.55 295	IAmb	IAmb	04 20 45.0
	comp=Z,14nm,0.8s				
FURC	**Furnace Creek,**	61.56 311	P	**P**	04 20 44.0 +0.3
	baz=12				
W18A	**Petrified Fore**	61.64 304	IAmb	IAmb

W18A	Petrified Fore	61.64	304	P	P	04 20 45.0 +0.5
	baz=13,SNR=5.3					
PLPT	Palo Pinto	61.69	293	P	P	04 20 44.6 0.0
CWC	Cottonwood Cre	61.79	312	P	P	04 20 46.8 +1.3
	baz=12					
GWY	Greenwater Val	61.80	311	IAmb	IAmb	04 20 59.1
	comp=Z,11nm,1.5s					
V12A	Nelson	61.95	309	IAmb	IAmb	04 20 49.0
	comp=Z,23nm,1.7s					
MPMC	Manual Prospec	62.06	312	P	P	04 20 48.7 +1.3
	baz=12,SNR=13					
ABTX	Abilene, Hawle	62.14	295	P	P	04 20 47.6 -0.1
	baz=14					
MJAR	Matsushiro Arr	62.35	44	P	P	04 20 50.5 +1.5
	comp=Z,0.8nm,0.3s,baz=261,slow=30,SNR=1.6					
	comp=Z,0.8nm,0.3s					
VES	Vestal, Richgr	62.53	313	P	P	04 20 51.1 +0.8
	baz=11					
ISA	Isabella, Lake	62.61	312	P	P	04 20 52.0 +1.1
	baz=11					
X16A	Lo Mia Camp, P	62.63	306	IAmb	IAmb	04 20 53.3
	comp=Z,6.5nm,1.0s					
DWPF	Disney Wildern	62.66	276	P	P	04 20 52.3 +1.2
	baz=14					
LRMC	Laurel Mtn Rad	62.66	312	P	P	04 20 52.5 +1.2
	baz=12					
GSC	Goldstone, Bar	62.69	311	IAmb	IAmb	04 20 54.1
	comp=Z,25nm,1.7s					
GSC	Goldstone, Bar	62.69	311	P	P	04 20 53.0 +1.6
	baz=12,SNR=5.2					
GMRC	Granite Mounta	63.00	310	P	P	04 20 54.9 +1.3
	baz=12,SNR=6.9					
HEC	Hector,Ludlow	63.07	310	P	P	04 20 55.3 +1.3
	baz=12					
SGCY	Sterling City	63.12	296	P	P	04 20 53.0 -1.3
ARVC	Arvin	63.19	313	P	P	04 20 55.9 +1.2
	baz=11					
PDMCI	Parker Dam,Lak	63.21	308	P	P	04 20 56.5 +1.7
	baz=12					
EDW2	Edwards Air Fo	63.30	312	P	P	04 20 56.8 +1.3
	baz=11					
BRDY	Brady	63.30	294	IAmb	IAmb	04 20 56.0
	comp=Z,8.5nm,0.7s					
NJ2	Nanjing	63.34	63	eP	P	04 20 54.9 -0.7
NJ2				pmax	pmax	
	comp=Z,11nm,0.5s					
PKM	Mcpherson Peak	63.58	313	P	P	04 20 58.5 +1.0
	baz=11					
121A	Cookes Peak, D	63.80	302	IAmb	IAmb	04 21 00.7
	comp=Z,7.0nm,1.0s					
121A	Cookes Peak, D	63.80	302	P	P	04 20 59.8 +0.8
	baz=13,SNR=5.8					
BELC	Belle Mtn. Jos	63.83	310	P	P	04 21 00.6 +1.6
	baz=12,SNR=5.7					
BFSC	Mount Baldy Ra	63.87	311	P	P	04 21 00.6 +1.3
	baz=11					
HKT	Hockley	63.95	290	iP	P	04 20 58.9 -0.7
HKT				pmax	pmax	
	comp=Z,16nm,1.7s					
MNHN	Monahans	64.00	297	IAmb	IAmb	04 21 01.2
	comp=Z,13nm,1.0s					
BC3	Big Chuckawall	64.07	309	P	P	04 21 01.9 +1.3
	baz=12					
OZNA	Ozona	64.08	295	IAmb	IAmb	04 21 01.4
	comp=Z,9.9nm,0.7s					
MNTX	Cornudas Mount	64.16	300	P	P	04 21 01.0 -0.1
	baz=13					
PECS	Pecos	64.18	298	IAmb	IAmb	04 21 02.4
	comp=Z,7.4nm,0.8s					
JCT	Junction City	64.25	294	P	P	04 21 00.7 -1.0
JCT				IAmb	IAmb	04 21 03.8
	comp=Z,9.4nm,0.7s					
JCT	Junction City	64.25	294	P	P	04 21 01.8 +0.1
	baz=13,SNR=8.4					
JCT	Junction City	64.25	294	P	P	04 21 00.7 -1.0
JCT				pmax	pmax	
	comp=Z,9.0nm,0.7s					
PFO	Pinyon Flats O	64.28	310	P	P	04 21 03.0 +1.0
PFO				IAmb	IAmb	04 21 04.3
	comp=Z,8.2nm,1.2s					
PFO	Pinyon Flats O	64.28	310	P	P	04 21 03.2 +1.1
	baz=12,SNR=5.2					
PFO	Pinyon Flats O	64.28	310	LR	LR	04 49 11.9
	comp=Z,74nm,20.7s,baz=341,slow=36					
PFO	Pinyon Flats O	64.28	310	iP	P	04 21 00.4 -1.6
TPFO	Pinon Flats	64.29	310	P	P	04 21 03.2 +1.1
	baz=12					
TORD	Torodi Ar. Bea	64.33	187	P	P	04 21 02.6 +0.3
	comp=Z,2.3nm,1.0s,baz=356,slow=6.7,SNR=8.5					
TORD				LR	LR	04 53 08.7
	comp=Z,37nm,18.6s,baz=23,slow=40					
	comp=Z,2.3nm,1.0s					
GLA	Glamis	64.55	309	P	P	04 21 05.1 +1.4
	baz=12					
TUC	Tucson	64.56	305	P	P	04 21 04.5 +0.7
TUC				IAmb	IAmb	04 21 06.2
	comp=Z,14nm,1.1s					
TUC	Tucson	64.56	305	P	P	04 21 05.2 +1.4
	baz=12					
TUC	Tucson	64.56	305	P	P	04 21 04.5 +0.7
TUC				pmax	pmax	
	comp=Z,14nm,1.1s					
CIS	Catalina Islan	64.81	312	P	P	04 21 06.8 +1.4
	baz=11					
SWSC	Sam W. Stewart	64.82	309	P	P	04 21 06.7 +1.3
	baz=12					
VHRN	Van Horn	64.97	299	IAmb	IAmb	04 21 07.9
	comp=Z,15nm,1.0s					
MONP2	Monument Peak	64.98	310	P	P	04 21 07.9 +1.2
	baz=11					
HNDO	Hondo	65.06	293	IAmb	IAmb	04 21 08.2
	comp=Z,10nm,0.8s					
109C	Camp Elliot, M	65.10	311	P	P	04 21 08.7 +1.5
	baz=11					
YUH	Yuha Desert	65.14	309	IAmb	IAmb	04 21 10.1
	comp=Z,14nm,1.3s					
SNCC	San Nicolas Is	65.14	313	P	P	04 21 09.5 +2.0
	baz=11					
PZH	PanZhiHua	65.16	80	P	P	04 21 08.6 +0.8
PZH				pmax	pmax	
	comp=Z,10.0nm,1.0s					
PZH				pmax	pmax	
	comp=Z,100nm,5.0s					
IKP	In-Ko-Pah, Jac	65.16	310	P	P	04 21 09.7 +1.9
	baz=12					
319A	Douglas	65.20	303	IAmb	IAmb	04 21 17.8
	comp=Z,22nm,1.4s					
SAND	Sanderson	65.22	296	IAmb	IAmb	04 21 15.8
	comp=Z,12nm,1.5s					
BAR	Barrett	65.23	310	IAmb	IAmb	04 21 10.5
	comp=Z,8.7nm,1.2s					
SCI2	San Clemente I	65.25	312	P	P	04 21 10.0 +1.9
	baz=11					
214A	Organ Pipe Nat	65.27	306	P	P	04 21 09.6 +1.3
	baz=12					
PIX	Pinacate	65.77	307	IAmb	IAmb	04 21 13.8
	comp=Z,12nm,1.3s					
TX31	Lajitas Ar. Si	66.12	297	IAmb	IAmb	04 21 14.9
	comp=Z,7.3nm,0.8s					
TXAR	Lajitas Array	66.12	297	P	P	04 21 13.1 -0.8
TXAR	Lajitas Array	66.12	297	P	P	04 21 13.9 -0.1
	comp=Z,5.0nm,0.6s,baz=42,slow=5.1,SNR=94					
TXAR				LR	LR	04 50 40.3
	comp=Z,110nm,20.9s,baz=9.5,slow=36					
	comp=Z,5.0nm,0.6s					
833A	Chaparral WMA,	66.25	293	P	P	04 21 15.3 +0.7
	baz=13,SNR=7.3					
GYA	Guiyang	66.26	75	P	P	04 21 16.8 +1.9
GYA				pmax	pmax	
	comp=Z,15nm,1.0s					
HSIG		67.80	304	IAmb	IAmb	04 21 26.5
	comp=Z,12nm,1.1s					
HYB	Hyderabad	68.90	105	eP	P	04 21 31.9 +0.3
DBIC	Dimbokro	71.02	193	LR	LR	04 53 39.5
	comp=Z,25nm,20.0s,baz=86,slow=37					
ZAIG	Zacatecas	72.28	295	IAmb	IAmb	04 21 55.1
	comp=Z,29nm,1.6s					
CMIG	Matias Romero	76.22	286	LR	LR	04 59 41.1
	comp=Z,76nm,20.0s,baz=2.5,slow=39					
PCRV	Puerto La Cruz	76.36	255	LR	LR	04 53 27.7
	comp=Z,34nm,22.0s,slow=34					
TLIG	Tlapa	76.53	290	IAmb	IAmb	04 22 19.4
	comp=Z,12nm,0.9s					
MTO3	Montecristo	77.65	280	IAmb	IAmb	04 22 25.7
	comp=Z,21nm,1.0s					
SDV	Santo Domingo	78.90	261	LR	LR	04 58 47.3
	comp=Z,32nm,18.1s,baz=58,slow=37					
ROSC	El Rosal	83.62	264	P	P	04 22 56.9 +1.3
	comp=Z,5.5nm,0.8s,baz=70,slow=12,SNR=5.4					
ROSC				LR	LR	04 56 09.7
	comp=Z,23nm,21.3s,baz=150,slow=33					
	comp=Z,5.5nm,0.8s					
MACA	Manacapuru-AM	88.49	248	P	P	04 23 19.3 +0.1
OTAV	Otavalo	88.98	267	P	P	04 23 21.8 -0.3
OTAV				IAmb	IAmb	04 23 25.2
	comp=Z,6.4nm,1.1s					
OTAV	Otavalo	88.98	267	P	P	04 23 21.8 -0.3
OTAV				pmax	pmax	
	comp=Z,6.0nm,1.1s					
ATAH	Atahualpa	96.12	265	LR	LR	05 06 17.2
	comp=Z,20nm,21.5s,baz=19,slow=35					
BDFB	Brasilia	98.22	234	LR	LR	05 02 42.8
	comp=Z,15nm,21.4s,baz=339,slow=32					
KAPI	Kappang	99.55	70	LR	LR	05 13 55.9
	comp=Z,40nm,18.5s,baz=300,slow=38					
PPT2	Papeete2	119.12	335	eLR	LR	05 05 34.3
	comp=Z,96nm,28.2s					
PPT2				eLR	LR	05 05 37.9
	comp=Z,37nm,22.0s					
ASAR	Alice Springs	120.50	60	PKP	PKiKP	04 29 17.0 -1.0
	comp=Z,0.6nm,0.7s,baz=355,slow=1.4,SNR=6.2					
DZM	Mont Dzumac	123.64	24	eLR	LR	05 07 47.7
	comp=Z,64nm,23.0s					
VNA1	Neumayer--Stat	148.16	190	⇑PKPdf	PKPbc	04 30 09.5 -1.2
	comp=Z,5.0nm,0.9s					
VNA2	Neumayer--Watz	148.40	190	⇑PKPdf	PKPbc	04 30 10.7 -0.7
	comp=Z,2.1nm,0.5s,baz=6.8,slow=1.3					
MAW	Mawson	148.51	143	PKPbc	PKiKP	04 30 11.8 -1.4
	comp=Z,2.2nm,0.9s,baz=323,slow=5.1,SNR=3.0					
VNA3	Neumayer Olymp	148.81	191	⇑PKPdf	PKiKP	04 30 12.6 -1.2
	comp=Z,5.0nm,0.8s					
SNAA	Sanae	149.01	187	⇑PKPdf	PKPbc	04 30 10.6 -2.4
	comp=Z,90nm,0.9s					
SNAA	Sanae	149.01	187	PKPbc	PKPbc	04 30 12.7 -0.3
	comp=Z,1.9nm,0.8s,baz=300,slow=6.2,SNR=5.0					
TROLL	Troll, Antarti	149.25	183	⇑PKPdf	PKiKP	04 30 14.2 -0.6
	comp=Z,174nm,0.7s					
ELIB	Princess Elisa	149.42	171	dPKP	PKiKP	04 30 15.1 -0.1

*IDC **02** 04:43:13.7±2.5, 13°.47N×91°.70W, h0km, mb3.7/2, mbtmp3.7/6, ML3.6/4, Error ellipse: s-maj=61.3km s-min=28.0km az=33.0*

*CATAC **02** 04:43:15.8±0.8, 13°.51N×91°.68W, h1km±6km, mb4.3, ML3.9*

*SNET **02** 04:43:18.0±1.3, 13°.70N×91°.78W, h36km±259km, ML3.9*

*GCG **02** 04:43:19.0±0.5, 13°.69N×91°.85W, h50km±75km, MD4.3*

ISC 02 04:43:14.8±2.2, 13°.50N±0°.07×91°.67W±0°.06, h2km±12km, n63, σ1§36/93, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	Suchitepequez,	0.81	7	iP	Pn	04 43 33.4	+0.2
RTAL	Retalhuleu	1.02	359	iP	Pg	04 43 34.9	+0.5
RTAL				IAML		04 43 47.4	
	comp=Z,1μm,1.0s						
RTAL				iS	Sg	04 43 48.6	+0.9
STG3	Santiaguito 3,	1.21	5	eP	Pg	04 43 38.1	0.0
STG3				eS	Sg	04 43 53.0	-0.8
FUG	Fuego 3	1.24	40	eP	Pn	04 43 39.4	0.0
FUG				eS	Sn	04 43 57.3	+0.5
SOKI	Kika Raxquin	1.34	11	iP	Pn	04 43 40.4	-0.5
SOKI				iS	Sg	04 43 58.2	+0.2
SOKI				IAML		04 44 04.8	
	comp=Z,2μm,1.0s						
NBG	Las Nubes	1.68	50	eP	Pb	04 43 47.1	+0.5
HUEH	Huehuetenango	1.82	5	iP	Pn	04 43 47.6	+0.3
NUBE	Las Nubes	1.88	77	eP	Pn	04 43 47.9	-0.3
NUBE				eS	Sn	04 44 11.8	-0.7
NUBE	Las Nubes	1.88	77	iP	Pn	04 43 48.3	+0.2
NUBE				iS	Sb	04 44 13.8	-0.2
NUBE				IAML		04 44 20.4	
	comp=Z,310nm,1.0s						
LOAL	Lomas de Alarc	1.90	75	eP	Pb	04 43 49.5	-0.7
LOAL	Lomas de Alarc	1.90	75	iP	Pb	04 43 49.6	-0.7
LOAL				iS	Sn	04 44 13.8	+0.9
LOAL				IAML		04 44 41.5	
	comp=Z,3μm,1.0s						
SLOZ	Alcaldia de Sa	1.91	74	eP	Pn	04 43 48.4	0.0
SLOZ				eS	Sn	04 44 13.3	+0.3
CEVE	Cerro Verde	2.02	80	eP	Pn	04 43 50.3	+0.3
CEVE				IAML		04 44 26.3	
	comp=Z,954nm,0.4s						
CEVE	Cerro Verde	2.02	80	iP	Pn	04 43 50.4	+0.3
CEVE				iS	Sb	04 44 17.9	-0.1
CEVE				IAML		04 44 28.9	
	comp=Z,870nm,1.0s						
SBLS	San Blas	2.02	80	eP	Pn	04 43 50.3	+0.2
SNJE	San Jose	2.04	79	eP	Pn	04 43 50.6	+0.2
UNIC	Universidad Ca	2.12	77	iP	Pn	04 43 52.4	+1.1
UNIC				iS	Sn	04 44 19.7	+1.5
UNIC				IAML		04 44 32.0	
	comp=Z,210nm,1.0s						
JAYA	Jayaque - finc	2.17	86	eP	Pn	04 43 52.0	0.0
JAYA	Jayaque - finc	2.17	86	iP	Pn	04 43 52.8	+0.7
JAYA				iS	Sn	04 44 20.6	+1.0
JAYA				IAML		04 44 25.9	
	comp=Z,980nm,1.0s						
CEDA	San Andres	2.23	82	iP	Pn	04 43 54.0	+1.1
CEDA				iS	Sn	04 44 22.8	+1.8
CEDA				IAML		04 44 37.7	
	comp=Z,1μm,1.0s						
LALI	Alcalda de L	2.29	90	iP	Pn	04 43 54.7	+1.2
LALI				iS	Sb	04 44 24.4	-1.1
LALI				IAML		04 44 34.9	
	comp=Z,140nm,1.0s						
PMON	Piamonte	2.30	84	eP	Pn	04 43 54.5	+0.6
PMON	Piamonte	2.30	84	iP	Pn	04 43 54.3	+0.4
PMON				iS	Sn	04 44 24.6	+1.8
PMON				IAML		04 44 34.7	
	comp=Z,610nm,1.0s						
ITCA	Escuela Especi	2.33	85	iP	Pn	04 43 55.0	+0.7
ITCA				iS	Sn	04 44 24.5	+0.9
ITCA				IAML		04 45 04.6	
	comp=Z,2μm,1.0s						
QUEZ	Alcaldia de Qu	2.36	82	iP	Pn	04 43 55.4	+0.9
QUEZ				iS	Sb	04 44 26.3	-1.3
QUEZ				IAML		04 45 43.9	
	comp=Z,2μm,1.0s						
UEES	Universidad Ev	2.37	84	iP	Pn	04 43 56.1	+1.2
UEES				iS	Sn	04 44 26.7	+2.1
UEES				IAML		04 44 35.6	
	comp=Z,260nm,1.0s						
SNET	Serv Nac Est T	2.38	85	iP	Pn	04 43 56.5	+1.6
SNET				iS	Sn	04 44 26.2	+1.5
SNET				IAML		04 44 36.7	
	comp=Z,640nm,1.0s						
UTEC	Universidad Te	2.41	85	iP	Pn	04 43 57.0	+1.7
UTEC				IAML		04 44 58.8	
	comp=Z,850nm,1.0s						
MTO3	Montecristo	2.42	68	eP	Pn	04 43 56.2	+0.6
MTO3	Montecristo	2.42	68	iP	Pn	04 43 56.3	+0.8
MTO3				iS	Sn	04 44 27.0	+1.2
MTO3				IAML		04 44 29.9	
	comp=Z,190nm,1.0s						
PANCS	Alcalda de	2.43	87	iP	Pn	04 43 56.9	+1.4
PANCS				iS	Sn	04 44 26.6	+0.8
PANCS				IAML		04 45 22.4	
	comp=Z,2μm,1.0s						
LOMA	Loma Larga	2.44	86	eP	Pn	04 43 56.6	+0.9
LOMA				IAML		04 44 36.9	
	comp=Z,395nm,0.5s						
LOMA	Loma Larga	2.44	86	iP	Pn	04 43 56.6	+0.9
LOMA				iS	Sn	04 44 28.2	+2.0
LOMA				IAML		04 44 42.6	
	comp=Z,400nm,1.0s						
IGN	Direccin Gen	2.44	85	iP	Pn	04 43 57.0	+1.2
IGN				iS	Sb	04 44 28.6	-1.5
IGN				IAML		04 45 15.1	
	comp=Z,8μm,1.0s						
UDBS	Universidad Do	2.46	85	iP	Pn	04 43 57.3	+1.4
UDBS				iS	Sn	04 44 28.3	+1.7
UDBS				IAML		04 44 39.3	
	comp=Z,500nm,1.0s						
MRL	Marmol	2.49	51	eP	Pn	04 43 58.6	+2.0
ESQI	Esquipulas	2.50	65	iP	Pn	04 43 57.3	+0.8
ESQI				iS	Sn	04 44 30.2	+2.6
ESQI				IAML		04 44 46.8	
	comp=Z,340nm,1.0s						
PAVA	Las Pavas	2.67	85	eP	Pn	04 44 00.0	+1.1
PAVA	Las Pavas	2.67	85	iP	Pn	04 44 00.0	+1.1
PAVA				IAML		04 44 43.9	
	comp=Z,350nm,1.0s						
COEG	Centro de Oper	2.72	87	eP	Pn	04 44 00.9	+1.4
COEG	Centro de Oper	2.72	87	iP	Pn	04 44 01.3	+1.8
COEG				IAML		04 44 06.6	
	comp=Z,190nm,1.0s						
COEG				iS	Sn	04 44 35.4	+2.4
CCIG	Comitan	2.81	351	iP	Pn	04 44 01.5	+0.6
CCIG				IAML		04 44 43.2	
	comp=Z,290nm,1.0s						
TECO	Alcaldia de Te	2.81	89	iP	Pn	04 44 01.7	+0.9
TECO				iS	Sn	04 44 37.8	+2.5
TECO				IAML		04 44 54.2	
	comp=Z,95nm,1.0s						
SCLA	Alcaldia de Sa	2.87	86	iP	Pn	04 44 02.9	+1.3
SCLA				iS	Sn	04 44 39.0	+2.3
SCLA				IAML		04 45 11.0	
	comp=Z,86nm,1.0s						
JUCU	Jucuarjn	3.34	94	iP	Pn	04 44 09.3	+1.2
JUCU				IAML		04 45 06.0	
	comp=Z,100nm,1.0s						
CNRM	Centro Naciona	3.41	90	iP	Pn	04 44 10.2	+1.2
CNRM				IAML		04 44 47.6	
	comp=Z,2μm,1.0s						
INTHN	La Esperanza I	3.56	76	iP	Pn	04 44 12.1	+0.8
MARCA	Marcala la Paz	3.59	79	iP	Pn	04 44 12.7	+1.0
LCND	La Caada	3.68	92	iP	Pn	04 44 13.8	+1.0
LCND				IAML		04 45 01.1	
	comp=Z,110nm,1.0s						
CNCH	Conchagua	3.74	93	iP	Pn	04 44 14.9	+1.2
CNCH				IAML		04 45 19.7	
	comp=Z,230nm,1.0s						
AMPH	Amapala	3.91	93	iP	Pn	04 44 16.9	+1.0
AMPH				iS	Sn	04 45 03.5	+1.1
TGUH	Tegucigalpa,Un	4.31	82	iP	Pn	04 44 22.6	+1.1
TGUH				IAML		04 46 03.0	
	comp=Z,66nm,1.0s						
YUSH	Yuscaran	4.71	84	iP	Pn	04 44 27.9	+0.8
CMIG	Matias Romero	4.73	319	Pn	Pn	04 44 25.8	-1.4
	comp=Z,1.9nm,0.3s,baz=144,slow=12,SNR=18						
CMIG				Sn	Sn	04 45 22.6	-0.1
	comp=Z,2.8nm,0.3s,baz=65,slow=21,SNR=3.1						
	comp=Z,4.6nm,0.4s						
CNGN	Cerro Negro	4.95	101	iP	Pn	04 44 31.5	+1.3
CNGN				IAML		04 45 53.3	
	comp=Z,71nm,1.0s						
LIMN	Finca el Limon	5.18	94	iP	Pn	04 44 34.1	+0.6
LIMN				IAML		04 44 41.3	
	comp=Z,45nm,1.0s						
LIMN				IAmb	IAmb	04 44 41.7	
	comp=Z,32nm,0.7s						
JUTIH	Juticalpa Olan	5.42	77	iP	Pn	04 44 37.7	+1.0
BOAB	BOACO BROADBAN	5.95	99	iP	Pn	04 44 45.0	+1.1
BOAB				IAML		04 44 59.9	
	comp=Z,29nm,1.0s						
BOAB				IAmb	IAmb	04 45 05.6	
	comp=Z,17nm,0.9s						
JTS	Las Juntas de	7.31	115	Pn	Pn	04 45 02.2	-0.4
	comp=Z,0.3nm,0.3s,baz=352,slow=3.9,SNR=2.3						
JTS				Sn	Sn	04 46 19.3	-6.9
	comp=Z,0.2nm,0.3s,baz=65,slow=22,SNR=1.2						
	comp=Z,3.5nm,0.7s						
TEIG	Tepich	7.44	25	Pn	Pn	04 45 04.4	0.0
	comp=Z,5.0nm,0.3s,baz=59,slow=1.1,SNR=38						
	comp=Z,36nm,0.6s						
TXAR	Lajitas Array	19.29	327	P	P	04 47 40.0	-1.1
	baz=153,slow=12,SNR=6.6						
	comp=Z,0.8nm,0.9s						
NVAR	Mina Array Bea	34.26	321	P	P	04 50 03.3	+0.7
	comp=Z,0.7nm,0.7s,baz=141,slow=9.0,SNR=5.9						
	comp=Z,0.7nm,0.7s						
ILAR	Eielson Array	63.42	337	P	P	04 53 44.2	-1.6
	comp=Z,0.6nm,0.7s,baz=133,slow=4.0,SNR=7.9						
	comp=Z,0.6nm,0.7s						

DJA 02 05:16:30.0±0.5, 0°N±4°×12°2E±°, h170km±5km, M4.0/12, mb4.0/2, MLv4.0/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.99	67	P	Pn	05 16 56.6	0.0
GTOI				S	Sn	05 17 17.9	+0.8
LUWI	Luwuk	1.44	152	P	Pn	05 17 01.4	+0.8
LUWI				S	Sn	05 17 25.1	+0.9
KMSI	Cibinong	1.91	80	P	Pn	05 17 06.3	+0.9
MPSI	Mapaga	2.20	273	P	Pn	05 17 09.6	+0.9
SANI	Sanana	4.50	120	P	Pn	05 17 35.1	-2.2
SGSI	Sangihe	4.84	45	P	Pn	05 17 41.9	+0.1
BKSI	Bulukumba	5.87	200	P	Pn	05 17 56.1	+0.9

IDC 02 05:30:26.5±3.1, 54°.49N×87°.08E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=27.5km s-min=20.3km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.43	249	I	I	05 38 00.0	
	baz=69,slow=313,SNR=6.1						
ZALV	Zalesovo Beam	1.43	249	Pg	Pn	05 30 51.5	-2.2
	0.9nm,0.3s,baz=62,slow=16,SNR=7.1						
ZALV				Lg	Lg	05 31 12.3	
	1.4nm,0.3s,baz=65,slow=30,SNR=4.3						
KURBB	Kurchatov Arra	6.49	237	Pn	Pn	05 32 04.0	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=14						
KURBB				Lg	Lg	05 33 52.6	
	baz=51,slow=33						
	1.6nm,0.8s						
MKAR	Makanchi Array	8.28	203	Pn	Pn	05 32 28.9	+1.1
	0.1nm,0.3s,baz=24,slow=14,SNR=5.1						
MKAR				Lg	Lg	05 34 49.2	
	0.1nm,0.3s,baz=22,slow=32,SNR=2.4						
	0.6nm,0.8s						

*FUNV **02** 05:47:19.3, 10°.64N×70°.84W, h11km, MW3.3*

*RSNC **02** 05:47:20.6±0.0, 11°N±1°×7°1W±°, h0km±3km, M3.5, mb3.9, mB5.2, ML2.8, Mw(mB)4.5*

ISC 02 05:47:16.8±2.9, 10°.57N±0°.05×70°.84W±0°.04, h1km±22km, n30, σ1§56/48, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	Uribia, Colomb	1.60	315	P	Pn	05 47 46.6	+0.5
URIC				S	Sb	05 48 07.9	+0.1
SDV	Santo Domingo	1.69	173	P	Pn	05 47 48.8	+1.3
SDV				S	Sn	05 48 10.2	+0.3
TEPV	Terepaima	1.73	110	eP	Pn	05 47 48.9	+1.0
TEPV				eS	Sn	05 48 10.3	-0.3
MCQV	Machiques	1.75	253	eP	Pn	05 47 49.6	+1.3
MCQV				eS	Sn	05 48 11.9	+0.7
JACV	Jacura	2.04	75	eP	Pn	05 47 53.3	+1.1
CRJC	Cerrejon, Guaj	2.06	283	P	Pn	05 47 53.1	+0.5
CRJC				S	Sb	05 48 21.8	+0.6
AUA1	Aruba	2.08	23	P	Pb	05 47 54.8	-0.6
AUA1				S	Sg	05 48 23.0	-0.8
SOCV	Socops	2.27	181	eP	Pn	05 47 56.9	+1.5
TURV	Turiamo	2.95	92	eP	Pn	05 48 04.7	0.0
CAPV	Capacho	3.06	209	eP	Pn	05 48 07.0	+0.5
BAUV	El Baul	3.19	120	eP	Pn	05 48 09.3	+1.2
BAUV				eS	Sn	05 48 46.4	-0.5
BENV	Beln	3.24	100	eP	Pn

6.1nm,0.7s
NORC S **Sn** **05 50 02.1 -3.5**
6.1nm,0.7s
PTGC Puerto Gaitan, 6.46 192 P **Pn** **05 48 52.4 -0.7**
7.5nm,0.8s,259nm
PTGC S **Sn** **05 50 02.8 -4.7**
7.5nm,0.8s,259nm
CHIC Chingaza 6.56 206 P **Pn** **05 48 55.5 +0.6**
12nm,0.7s
ROSC El Rosal 6.66 211 P **Pn** **05 48 58.9 +2.8**
6.3nm,0.6s
GUY2C Guyana, Caldas 6.95 221 P **Pn** **05 49 01.9 +1.6**
7.4nm,0.8s
VILC Villavicencio, 7.01 204 P **Pn** **05 49 01.0 +0.2**
VILC S **Sn** **05 50 21.9 +0.6**
PRAC Prado 7.91 211 P **Pn** **05 49 14.1 +1.1**
5.4nm,2.1s
BCIP Isla Barro Col 8.98 262 P **Pn** **05 49 27.9 +0.2**

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*IDC **02** 05:47:18.2±1.0, 39°.47S×15°.78W, h0km, mb4.0/6, mbtmp4.0/6, MS3.8/36, Error ellipse: s-maj=50.7km s-min=21.9km az=84.0*
*GCMT **02** 05:47:20.9±0.4, 39°.59S±0°.05×15°.90W±0°.04, h12km±1km, MW4.8/78, Moment Tensor Solution. s16,c16; s78,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.47±.14; Mθθ0.34±.09; Mφφ1.14±.10; Mrθ1.34±.39; Mθφ-0.28±.05; Mφr0.44±.29; Best double couple: M0 1.74400×10^16 NP1:φs191.00000°, δ53.00000°, λ-53.00000°. NP2: φs319.00000°, δ50.00000°, λ-129.00000°. Principal axes: T 1.2270, Plg2.0000°, Azm255.0000°; N 1.0420, Plg29.0000°, Azm346.0000°; P -2.2610, Plg61.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **02** 05:47:21.9±1.5, 39°.6S±0°.1×16°.1W±0°.2, h10km±1km, mb4.7/19 Error ellipse: s-maj=34.4km s-min=17.2km az=60.0*
ISC 02 05:47:20.2±0.8, 39°.5S±0°.1×15°.9W±0°.1, h11km, n63, σ0.68/30, mb4.5/15, MS3.8/36, 4C, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**20.34**	**216**	P	**P**	**05 51 55.5**	**-0.7**
HOPE				IAmb	IAmb	05 51 56.7	
	comp=Z,32nm,1.1s						
SUR	**Sutherland**	**30.41**	**88**	LR	LR	06 02 46.3	
	comp=Z,237nm,21.4s,baz=300,slow=31						
VNA2	**Neumayer--Watz**	**31.85**	**175**	⇑P	**P**	**05 53 44.6**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=346,slow=11						
VNA3	**Neumayer Olymp**	**32.03**	**176**	⇑P	**P**	**05 53 46.1**	**-0.3**
	comp=Z,4.8nm,0.7s						
SNAA	**Sanae**	**32.97**	**172**	P	**P**	**05 53 54.1**	**-0.6**
SNAA				IAmb	IAmb	05 54 00.6	
	comp=Z,7.6nm,1.4s						
SNAA	**Sanae**	**32.97**	**172**	⇑P	**P**	**05 53 54.0**	**-0.6**
	comp=Z,22nm,0.7s						
SNAA	**Sanae**	**32.97**	**172**	P	**P**	**05 53 53.6**	**-1.0**
	comp=Z,1.3nm,1.0s,baz=330,slow=9.5,SNR=6.1						
	comp=Z,1.3nm,1.0s						
TROLL	**Troll, Antarti**	**33.93**	**170**	⇑P	**P**	**05 54 03.3**	**+0.2**
	comp=Z,346nm,0.8s						
TSUM	**Tsumeb**	**35.20**	**65**	LR	LR	06 05 34.8	
	comp=Z,386nm,19.0s,baz=180,slow=31						
BOSA	**Boshof**	**35.51**	**85**	LR	LR	06 06 02.5	
	comp=Z,200nm,20.0s,baz=206,slow=32						
BDFB	**Brasilia**	**36.73**	**301**	P	**P**	**05 54 27.6**	**-0.1**
BDFB	**Brasilia**	**36.73**	**301**	P	**P**	**05 54 28.0**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=147,slow=9.9,SNR=3.5						
BDFB				LR	LR	06 06 36.0	
	comp=Z,96nm,20.8s,baz=148,slow=31						
	comp=Z,1.2nm,0.6s						
CPUP	**Villa Florida**	**36.85**	**278**	P	**P**	**05 54 28.9**	**+0.4**
CPUP	**Villa Florida**	**36.85**	**278**	LR	LR	06 07 19.9	
	comp=Z,246nm,20.8s,baz=133,slow=32						
PMSA	**Palmer Station**	**37.52**	**212**	LR	LR	06 06 09.7	
	comp=Z,118nm,19.8s,baz=63,slow=30						
RCBR	**Riachuelo**	**38.02**	**326**	LR	LR	06 06 46.6	
	comp=Z,85nm,21.6s,baz=151,slow=31						
BELA	**Belgrano 2**	**39.33**	**186**	P	**P**	**05 54 49.4**	**+0.6**
PLCA	**Paso Flores**	**41.25**	**250**	LR	LR	06 09 48.0	
	comp=Z,206nm,19.9s,baz=120,slow=33						
ML02	**Panimavida**	**43.55**	**257**	P	**P**	**05 55 23.0**	**-1.0**
DBIC	**Dimbokro**	**47.01**	**15**	LR	LR	06 10 55.1	
	comp=Z,59nm,19.8s,baz=124,slow=30						
VILB	**Vilhena**	**47.06**	**292**	P	**P**	**05 55 51.5**	**-0.5**
VILB				IAmb	IAmb	05 56 05.6	
	comp=Z,6.4nm,0.9s						
AC01	**Pan de Azucar**	**47.19**	**269**	P	**P**	**05 55 53.7**	**+0.7**
LVC	**Limon Verde**	**47.74**	**274**	P	**P**	**05 55 56.8**	**-0.9**
LVC	**Limon Verde**	**47.74**	**274**	LR	LR	06 14 26.1	
	comp=Z,96nm,21.5s,baz=144,slow=34						
PB05	**IPOC Station P**	**48.61**	**273**	P	**P**	**05 56 03.8**	**-0.3**
PB05				IAmb	IAmb	05 56 09.3	
	comp=Z,12nm,1.4s						
H04S2	**CROZET ISLANDS**	**48.62**	**122**	T	T	06 48 38.5	
	baz=254,slow=76,SNR=7.7						
H04S3	**CROZET ISLANDS**	**48.62**	**122**	T	T	06 48 39.1	
	baz=254,slow=76,SNR=6.3						
H04S1	**CROZET ISLANDS**	**48.64**	**122**	T	T	06 48 40.7	
	baz=254,slow=76,SNR=8.6						
PB04	**IPOC Station P**	**48.85**	**274**	P	**P**	**05 56 06.2**	**+0.1**
PB04				IAmb	IAmb	05 56 17.7	
	comp=Z,12nm,1.1s						
GO01	**Chusmiza**	**49.61**	**277**	P	**P**	**05 56 12.3**	**0.0**
HMBC	**Humberstone**	**49.80**	**276**	P	**P**	**05 56 13.1**	**-0.1**
HMBC				IAmb	IAmb	05 56 28.0	
	comp=Z,14nm,1.3s						
MAW	**Mawson**	**50.04**	**151**	LR	LR	06 12 48.0	
	comp=Z,67nm,21.6s,baz=282,slow=31						
LPAZ	**La Paz**	**50.81**	**282**	LR	LR	06 16 25.0	
	comp=Z,95nm,21.2s,baz=96,slow=34						
QSPA	**South Pole Qui**	**50.81**	**180**	P	**P**	**05 56 20.8**	**+0.4**
QSPA				IAmb	IAmb	05 56 27.4	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**50.81**	**180**	P	**P**	**05 56 20.4**	**+0.1**
	comp=Z,8.2nm,1.0s,baz=211,slow=7.2,SNR=18						
QSPA				PcP	**PcP**	**05 57 36.0**	**-1.1**
	comp=Z,2.9nm,0.9s,baz=244,slow=5.5,SNR=2.2						
QSPA				LR	LR	06 15 27.9	
	comp=Z,59nm,18.9s,baz=214,slow=33						
	comp=Z,8.2nm,1.0s						
SAML	**Samuel**	**51.91**	**293**	P	**P**	**05 56 29.9**	**+0.9**
SAML				IAmb	IAmb	05 56 38.8	
	comp=Z,4.3nm,1.1s						
ETMB	**Extrema**	**53.52**	**289**	P	**P**	**05 56 41.4**	**+0.4**
ETMB				IAmb	IAmb	05 56 50.0	
	comp=Z,4.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**54.84**	**21**	P	**P**	**05 56 49.4**	**-1.1**
	comp=Z,1.0nm,1.0s,baz=198,slow=8.0,SNR=2.9						
TORD				LR	LR	06 15 54.8	
	comp=Z,62nm,18.9s,baz=260,slow=31						
	comp=Z,1.0nm,1.0s						
MDP	**Montagnes des**	**55.79**	**314**	LR	LR	06 18 55.1	
	comp=Z,116nm,20.1s,baz=166,slow=34						
MBAR	**Mbarara**	**57.44**	**60**	LR	LR	06 19 16.0	
	comp=Z,205nm,18.7s,baz=210,slow=33						
NNA	**Nana**	**60.09**	**279**	LR	LR	06 23 01.5	
	comp=Z,75nm,20.3s,baz=131,slow=36						
SBA	**Scott Base**	**62.96**	**181**	P	**P**	**05 57 47.6**	**+1.4**
SBA				IAmb	IAmb	05 57 47.9	
	comp=Z,5.3nm,1.1s						
VNDA	**Vanda**	**63.30**	**179**	P	**P**	**05 57 49.0**	**+0.6**
VNDA				IAmb	IAmb	05 58 00.4	
	comp=Z,8.8nm,1.4s						
VNDA	**Vanda**	**63.30**	**179**	P	**P**	**05 57 48.0**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=198,slow=7.3,SNR=7.0						
VNDA				LR	LR	06 22 17.6	
	comp=Z,46nm,20.6s,baz=172,slow=33						
	comp=Z,2.1nm,1.0s						
ATAH	**Atahualpa**	**64.34**	**282**	LR	LR	06 25 12.2	
	comp=Z,115nm,21.9s,baz=147,slow=35						
PCRV	**Puerto La Cruz**	**66.94**	**306**	LR	LR	06 24 38.8	
	comp=Z,46nm,20.1s,slow=33						
ROSC	**El Rosal**	**69.44**	**295**	LR	LR	06 28 01.2	
	comp=Z,242nm,18.3s,baz=100,slow=35						
SDV	**Santo Domingo**	**69.83**	**301**	LR	LR	06 26 56.6	
	comp=Z,42nm,20.2s,baz=44,slow=34						
CRPR	**Cabo Rojo, PR**	**74.50**	**310**	P	**P**	**05 58 59.2**	**+0.4**
RPN	**Rapa Nui**	**75.77**	**247**	LR	LR	06 25 12.5	
	comp=Z,68nm,19.9s,baz=122,slow=30						
KEST	**Kesra**	**78.36**	**21**	LR	LR	06 31 14.6	
	comp=Z,88nm,18.8s,baz=224,slow=34						
ESDC	**Sonseca Array**	**79.50**	**9**	P	**P**	**05 59 27.4**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=198,slow=4.0,SNR=2.2						
ESDC				LR	LR	06 30 24.3	
	comp=Z,30nm,21.2s,baz=164,slow=32						
	comp=Z,0.7nm,0.9s						
JTS	**Las Juntas de**	**80.78**	**291**	LR	LR	06 34 48.2	
	comp=Z,59nm,20.8s,baz=118,slow=35						
EIL	**Elat**	**83.47**	**43**	LR	LR	06 33 42.2	
	comp=Z,88nm,20.2s,baz=245,slow=33						
MMAI	**Mount Meron Ar**	**86.36**	**41**	LR	LR	06 36 58.0	
	comp=Z,60nm,19.8s,baz=166,slow=34						
DAVOX	**Davos/Dischmat**	**88.89**	**17**	LR	LR	06 37 11.8	
	comp=Z,36nm,19.8s,baz=234,slow=34						
GERES	**GERESS Array B**	**91.74**	**19**	LR	LR	06 38 03.8	
	comp=Z,46nm,21.4s,baz=93,slow=33						
VRAC	**Vranov**	**92.93**	**21**	LR	LR	06 40 16.1	
	comp=Z,15nm,19.6s,baz=247,slow=34						
WSAR	**Wadi Sarin**	**93.35**	**63**	LR	LR	06 41 16.4	
	comp=Z,122nm,19.4s,baz=233,slow=35						
GNI	**Garni**	**96.63**	**42**	LR	LR	06 42 41.2	
	comp=Z,46nm,20.5s,baz=204,slow=34						
AKASG	**Malin Array Be**	**98.11**	**27**	LR	LR	06 44 18.2	
	comp=Z,18nm,19.4s,baz=231,slow=35						
KBZ	**Khabaz**	**98.35**	**39**	LR	LR	06 43 45.2	
	comp=Z,23nm,20.7s,baz=202,slow=34						
PALK	**Pallekele**	**99.67**	**89**	LR	LR	06 39 55.5	
	comp=Z,63nm,20.0s,baz=326,slow=32						

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*IDC **02** 05:53:08.9±3.2, 53°.54N×87°.80E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=29.2km s-min=17.2km az=56.0*
*NNC **02** 05:53:08.3±5.0, 53°.43N×87°.87E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=37.0km s-min=21.3km az=67.0, Suspected Mining explosion.*
ISC 02 05:53:09.3±3.7, 53°.5N±0°.1×87°.8E±0°.2, h0km, n8, σ0.73/11, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**284**	I	I	06 04 45.0	
	0.1nm,1.2s,baz=98,slow=319,SNR=7.9						
ZAA0	**Zalesovo Array**	**1.80**	**284**	⇑P	**Pn**	**05 53 41.4**	**-0.2**
	0.2nm,0.2s						
ZAA0				⇑S	**Sb**	**05 54 06.7**	**+0.4**
	1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**1.80**	**284**	Pg	**Pn**	**05 53 41.4**	**-0.2**
	2.6nm,0.3s,baz=100,slow=14,SNR=25						
ZALV				Lg	Lg	05 54 06.8	
	4.5nm,0.3s,baz=103,slow=31,SNR=17						
KURK	**Kurchatov**	**6.31**	**247**	⇑Pn	**Pn**	**05 54 44.7**	**+1.2**
	3.2nm,1.2s						
KURK				⇑Sn	**Sn**	**05 55 55.5**	**-0.7**
	0.4nm,0.4s						
KURK				⇑Lg	Lg	05 56 29.0	
	4.7nm,1.2s						
KURBB	**Kurchatov Arra**	**6.41**	**247**	Pn	**Pn**	**05 54 45.7**	**+0.9**
	0.1nm,0.3s,baz=64,slow=15,SNR=11						
KURBB				Lg	Lg	05 56 30.8	
	0.1nm,0.3s,baz=61,slow=36,SNR=1.9						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**6.41**	**247**	⇑Pn	**Pn**	**05 54 45.0**	**+0.3**
	1.3nm,0.4s						
KURBB				⇑Sn	**Sn**	**05 55 57.7**	**-0.9**
	2.5nm,0.6s						
KURBB				⇓Lg	Lg	05 56 31.4	
	4.8nm,0.6s						
MK31	**Makanchi Array**	**7.62**	**210**	⇓Pn	**Pn**	**05 55 01.1**	**-0.3**
	0.1nm,0.3s,baz=350,slow=8.9,SNR=4.0						
MK31				⇓Sn	**Sn**	**05 56 28.1**	**-0.3**
	0.2nm,0.5s,baz=30,slow=23						
MK31				⇓Lg	Lg	05 57 08.6	
	1.2nm,0.8s,baz=33,slow=28						
MKAR	**Makanchi Array**	**7.62**	**210**	Pn	**Pn**	**05 55 01.8**	**+0.3**
	0.1nm,0.3s,baz=21,slow=14,SNR=2.8						
MKAR				Lg	Lg	05 57 09.3	
	0.1nm,0.3s,baz=25,slow=31,SNR=2.7						
	0.3nm,0.7s						

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*IDC **02** 05:54:12.7±1.4, 5°.26S×152°.07E, h0km, mb3.9/5, mbtmp4.0/6, ML2.0/1, MS3.2/3, Error ellipse: s-maj=74.5km s-min=22.4km az=128.0*
*NEIC **02** 05:54:12.8±1.8, 5°.9S±0°.1×152°.41E±0°.09, h10km±1km, mb4.7/64, Error ellipse: s-maj=19.0km s-min=14.3km az=354.0*
ISC 02 05:54:12.1±0.6, 5°.82S±0°.09×152°.48E±0°.08, h10km, n79, σ1.56/71, mb4.7/37, MS2.9/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.37**	**236**	Pn	**Pn**	**05 55 44.9**	**-1.2**
PMG	**Port Moresby**	**6.37**	**236**	Pn	**Pn**	**05 55 50.0**	**+4.0**
	1.9nm,0.3s,baz=126,slow=18,SNR=1.9						
PMG				Sn	**Sn**	**05 57 01.3**	**+2.5**
	4.1nm,0.3s,baz=260,slow=19,SNR=2.2						
	13nm,0.5s						
HNR	**Honiara**	**8.23**	**116**	Pn	**Pn**	**05 56 11.4**	**-0.3**
COEN	**Coen**	**12.22**	**228**	Pn	**Pn**	**05 57 03.2**	**-3.2**
CTAO	**Charters Tower**	**15.42**	**203**	Pn	**Pn**	**05 57 48.5**	**-1.4**
KOUNC	**Koumac, New Ca**	**18.60**	**143**	P	**P**	**05 58 28.2**	**-1.4**
LIFNC	**LIFOU**	**20.64**	**137**	P	**P**	**05 58 51.7**	**-0.4**
GUMO	**Guam**	**20.71**	**339**	P	**P**	**05 58 51.4**	**-1.4**
DZM	**Mont Dzumac**	**21.06**	**141**	LR	LR	06 05 28.8	
	comp=Z,59nm,21.4s,baz=239,slow=31						
SAUI	**Saumlaki**	**21.14**	**263**	P	**P**	**05 58 55.7**	**-1.8**
TARA	**Tarawa**	**21.62**	**71**	P	**P**	**05 59 01.4**	**-1.3**
MTN	**Manton Dam**	**22.18**	**250**	P	**P**	**05 59 07.0**	**-1.6**
MTN				IAmb	IAmb	05 59 08.7	
	comp=Z,42nm,1.4s						
WB0	**Warramunga Arr**	**22.40**	**230**	P	**P**	**05 59 10.0**	**-1.0**
WR0	**Warramunga Arr**	**22.40**	**229**	P	**P**	**05 59 09.4**	**-1.5**
WB2	**Warramunga Arr**	**22.53**	**230**	P	**P**	**05 59 10.3**	**-2.1**
WRA	**Warramunga Arr**	**22.54**	**230**	P	**P**	**05 59 11.7**	**-0.8**
WRA	**Warramunga Arr**	**22.54**	**230**	P	**P**	**05 59 14.2**	**+1.7**
	comp=Z,1.9nm,0.9s,baz=52,slow=9.9,SNR=6.2						
	comp=Z,1.9nm,0.9s						
ASAR	**Alice Springs**	**25.19**	**223**	P	**P**	**05 59 38.3**	**+0.2**
ASAR	**Alice Springs**	**25.19**	**223**	P	**P**	**05 59 41.4**	**+3.3**
	comp=Z,2.6nm,0.8s,baz=51,slow=9.2,SNR=9.5						
	comp=Z,2.6nm,0.8s						
KNRA	**Kununurra**	**25.25**	**245**	P	**P**	**05 59 37.9**	**-0.7**
KNRA				IAmb	IAmb	05 59 42.8	
	comp=Z,30nm,1.3s						
FITZ	**Fitzroy Crossi**	**28.90**	**243**	P	**P**	**06 00 10.4**	**-1.1**
MJAR	**Matsushiro Arr**	**44.21**	**343**	LR	LR	06 19 04.7	
	comp=Z,13nm,21.9s,baz=174,slow=34						
MCQ	**Macquarie Isla**	**48.82**	**175**	P	**P**	**06 02 57.3**	**-0.2**
J17K	**VABM Dome**	**78.04**	**20**	P	**P**	**06 06 11.4**	**+0.7**
J17K				IAmb	IAmb	06 06 13.6	
	comp=Z,7.9nm,0.9s						
L18K	**Granite Mounta**	**78.14**	**22**	P	**P**	**06 06 13.3**	**+2.0**
L18K				IAmb	IAmb	06 06 14.3	
	comp=Z,5.8nm,1.0s						
N19K	**Bonanza Creek**	**78.14**	**24**	P	**P**	**06 06 12.1**	**+0.6**
CNPM	**China Poot**	**78.77**	**26**	P	**P**	**06 06 16.8**	**+1.9**
H17K	**Granite Mounta**	**78.78**	**19**	P	**P**	**06 06 16.5**	**+1.8**
H17K				IAmb	IAmb	06 06 47.5	
	comp=Z,6.6nm,1.0s						
L19K	**White Mountain**	**78.81**	**22**	P	**P**	**06 06 17.1**	**+2.1**
L19K				IAmb	IAmb	06 06 17.6	
	comp=Z,6.6nm,0.9s						
M19K	**Big River Lodg**	**78.82**	**23**	P	**P**	**06 06 17.3**	**+2.3**
J18K	**Innoko River**	**78.91**	**21**	P	**P**	**06 06 16.8**	**+1.3**
BRLK	**Bradley Lake**	**79.04**	**26**	P	**P**	**06 06 17.9**	**+1.6**
M20K	**Styx River**	**79.29**	**23**	P	**P**	**06 06 19.8**	**+2.0**
M20K				IAmb	IAmb	06 06 59.6	
	comp=Z,12nm,1.1s						
F17K	**Baldwin Pennin**	**79.39**	**17**	P	**P**	**06 06 18.6**	**+0.7**
H18K	**Honhosa River**	**79.42**	**19**	P	**P**	**06 06 19.1**	**+0.9**
H18K				IAmb	IAmb	06 06 24.2	
	comp=Z,10nm,1.4s						
J19K	**Poorman**	**79.62**	**21**	P	**P**	**06 06 20.8**	**+1.4**
K20K	**Telida**	**79.79**	**22**	P	**P**	**06 06 22.1**	**+1.8**
SUA	**Susitna One**	**80.01**	**24**	P	**P**	**06 06 22.5**	**+0.8**
SUA				IAmb	IAmb	06 06 57.1	
	comp=Z,7.7nm,0.8s						
RC01	**Rabbit Creek A**	**80.23**	**25**	P	**P**	**06 06 24.1**	**+1.4**
RC01				IAmb	IAmb	06 06 24.4	
	comp=Z,11nm,1.2s						
J20K	**Nowinta River**	**80.25**	**21**		**P**	**06 06 24.9**	**+2.2**
J20K				IAmb	IAmb	06 07 04.2	
	comp=Z,9.7nm,0.9s						
H19K	**Roundabout Mou**	**80.28**	**19**	P	**P**	**06 06 24.6**	**+1.8**
H19K				IAmb	IAmb	06 06 59.2	
	comp=Z,12nm,1.1s						
G19K	**Purcell Mounta**	**80.46**	**19**	P	**P**	**06 06 25.3**	**+1.5**
G19K				IAmb	IAmb	06 07 05.3	
	comp=Z,14nm,1.2s						
CAST	**Castle Rocks**	**80.56**	**22**	P	**P**	**06 06 25.5**	**+1.0**
CAST				IAmb	IAmb	06 07 01.4	
	comp=Z,6.3nm,1.0s						
F19K	**Shaleruckik Mo**	**80.69**	**18**	P	**P**	**06 06 26.0**	**+1.0**
F19K				IAmb	IAmb	06 07 04.4	
	comp=Z,11nm,1.3s						
PMR	**Palmer**	**80.74**	**24**	P	**P**	**06 06 26.4**	**+1.0**
MKAR	**Makanchi Array**	**80.88**	**319**	P	**P**	**06 06 25.6**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=114,slow=6.5,SNR=4.7						
	comp=Z,0.7nm,0.8s						
GHO	**Glory Hole Cre**	**80.92**	**24**	P	**P**	**06 06 26.9**	**+0.3**
SML	**Sawmill**	**81.18**	**24**		**P**	**06 06 29.1**	**+1.3**
GLI	**Glacier Island**	**81.24**	**25**	P	**P**	**06 06 29.8**	**+1.6**
GLI				IAmb	IAmb	06 06 30.1	
	comp=Z,4.3nm,0.8s						
E19K	**Redstone River**	**81.25**	**17**	P	**P**	**06 06 29.7**	**+1.6**
IMAR	**Indian Mountai**	**81.44**	**20**	P	**P**	**06 06 30.1**	**+1.0**
RND	**Reindeer**	**81.78**	**23**	P	**P**	**06 06 31.9**	**+0.8**
RND				IAmb	IAmb	06 06 32.3	
	comp=Z,4.7nm,0.8s						
MCK	**McKinley**	**81.92**	**23**	P	**P**	**06 06 31.9**	**+0.2**
MCK				IAmb	IAmb	06 06 33.4	
	comp=Z,8.1nm,1.0s						
MLY	**Manley**	**81.94**	**21**	P	**P**	**06 06 33.4**	**+1.5**
MLY				IAmb	IAmb	06 06 33.6	
	comp=Z,5.3nm,0.6s						
KLU	**Klutina**	**82.03**	**25**	P	**P**	**06 06 34.2**	**+1.8**
KLU				IAmb	IAmb	06 06 34.9	
	comp=Z,8.3nm,1.2s						
DHY	**Denali Highway**	**82.19**	**23**	P	**P**	**06 06 35.1**	**+1.8**
M24K	**Tolsona, Glenn**	**82.21**	**25**	P	**P**	**06 06 35.1**	**+1.8**
M24K				IAmb	IAmb	06 07 16.1	
	comp=Z,8.3nm,1.0s						
WRH	**Wood River Hil**	**82.62**	**22**	IAmb	IAmb	06 06 36.9	
	comp=Z,5.1nm,1.2s						
CCB	**Clear Creek Bu**	**82.81**	**22**	IAmb	IAmb	06 06 37.1	
	comp=Z,2.9nm,0.8s						
IL31		**83.22**	**22**	P	**P**	**06 06 38.1**	**-0.2**
IL31				IAmb	IAmb	06 06 39.0	
	comp=Z,3.1nm,0.7s						
ILAR	**Eielson Array**	**83.22**	**22**	P	**P**	**06 06 38.8**	**+0.4**
ILAR	**Eielson Array**	**83.22**	**22**	P	**P**	**06 06 38.4**	**0.0**
	comp=Z,2.3nm,0.7s,baz=246,slow=5.4,SNR=37						
	comp=Z,2.3nm,0.7s						
M27K	**Edge Creek, AK**	**84.13**	**25**	IAmb	IAmb	06 06 46.3	
	comp=Z,4.4nm,0.8s						
F24K	**Squaw Lake**	**84.23**	**19**		**P**	**06 06 44.6**	**+1.0**
F24K				IAmb	IAmb	06 06 46.3	
	comp=Z,3.3nm,0.9s						
L27K	**Beaver Creek,**	**84.44**	**25**	IAmb	IAmb	06 06 48.1	
	comp=Z,5.1nm,1.4s						
L29M	**L29M**	**86.01**	**25**		**P**	**06 06 52.5**	**-0.1**
K29M	**Barlow Dome**	**86.53**	**25**	IAmb	IAmb	06 06 58.4	
	comp=Z,5.0nm,0.8s						
J30M	**Hart River**	**87.27**	**24**	IAmb	IAmb	06 07 02.4	
	comp=Z,4.6nm,0.8s						
I30M	**Mount Dempster**	**87.47**	**24**	P	**P**	**06 07 00.1**	**+0.3**
I30M				IAmb	IAmb	06 07 02.3	
	comp=Z,2.7nm,0.9s						
EPYK	**Eagle Plains**	**87.72**	**22**	P	**P**	**06 07 02.6**	**+1.7**
BBB	**Bella Bella**	**88.09**	**37**	P	**P**	**06 07 02.5**	**-0.4**
KK31	**Karatay Array**	**88.09**	**313**	P	**P**	**06 07 01.3**	**-1.9**
KKAR	**Karatay Array**	**88.09**	**313**	P	**P**	**06 07 02.7**	**-0.5**
H31M	**Peel River**	**88.46**	**23**	P	**P**	**06 07 05.9**	**+1.5**
H31M				IAmb	IAmb	06 07 06.6	
	comp=Z,2.8nm,0.6s						
G31M	**Satah River**	**88.83**	**22**	P	**P**	**06 07 07.4**	**+1.4**
G31M				IAmb	IAmb	06 07 08.2	
	comp=Z,4.0nm,0.8s						
NVAR	**Mina Array Bea**	**92.96**	**52**	P	**P**	**06 07 29.3**	**+3.0**
	comp=Z,0.4nm,0.7s,baz=273,slow=3.5,SNR=4.2						
	comp=Z,0.4nm,0.7s						
C36M	**Paulatuk**	**93.09**	**21**	P	**P**	**06 07 26.7**	**+0.9**
AKTO	**Aktyubinsk**	**97.29**	**320**	LR	LR	06 51 56.2	
	comp=Z,34nm,21.9s,baz=263,slow=36						
TORD	**Torodi Ar. Bea**	**150.30**	**286**	PKPbc	**PKPbc**	**06 14 04.9**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=99,slow=3.0,SNR=5.2						

IDC 02 06:16:02.6±1.4, 18°.80S×176°.83W, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=54.1km s-min=29.5km az=165.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.54**	**242**	P	P	06 23 36.3	+0.9
	4.1nm,1.1s,baz=84,slow=8.5,SNR=3.3						
	4.1nm,1.1s						
WRA	**Warramunga Arr**	**45.96**	**260**	P	P	06 24 27.1	-0.6
	1.4nm,0.4s,baz=98,slow=6.9,SNR=41						
	1.4nm,0.4s						
ASAR	**Alice Springs**	**46.01**	**255**	P	P	06 24 27.9	-0.3
	2.1nm,0.6s,baz=88,slow=7.9,SNR=35						
	2.1nm,0.6s						
QSPA	**South Pole Qui**	**71.26**	**180**	P	P	06 27 23.5	-0.1
	0.6nm,0.5s,baz=349,slow=2.5,SNR=5.3						
	0.6nm,0.5s						
TXAR	**Lajitas Array**	**85.21**	**57**	P	P	06 28 41.6	+0.2
	0.4nm,0.8s,baz=225,slow=7.8,SNR=5.9						
	0.4nm,0.8s						

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*IDC **02** 06:22:27.8±1.0, 5°.73S×151°.20E, h0km, mb3.9/5, mbtmp3

HVO 02 06:34:51.4±1.2, 19°.417N±0°.006×155°.273W±0°.006, h0km±2km, ML3.7/9, ML2.8/27(NEIC), Error ellipse: s-maj=1.1km s-min=0.4km az=138.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.01**	**328**		Pg	06 34 52.3	+0.6
OBL	**Observatory Le**	**0.01**	**272**		Pg	06 34 51.9	+0.2
SBLHI	**Steaming Bluff**	**0.01**	**26**		Pg	06 34 52.5	+0.8
BYL	**Byron's Ledge**	**0.01**	**113**		Pg	06 34 52.1	+0.4
BYL				Sg	Sg	06 34 52.8	+0.8
HATHI	**Halema'uma'u T**	**0.01**	**63**		Pg	06 34 52.0	+0.3
HATHI				Sg	Sg	06 34 52.7	+0.7
UWE	**Uwekahuna**	**0.02**	**282**		Pg	06 34 52.3	+0.5
UWE				Sg	Sg	06 34 53.0	+0.8
KKO	**Keanakako`i**	**0.02**	**161**		Pg	06 34 53.1	+1.3
RIM	**Rim**	**0.02**	**182**		Pg	06 34 53.2	+1.3
WRMHI	**West Rim**	**0.03**	**247**		Pg	06 34 53.7	+1.8
SDHHI	**Sand Hill**	**0.03**	**216**		Pg	06 34 54.1	+2.0
RSD	**Rainshed**	**0.05**	**354**	Pg	Pg	06 34 53.0	+0.7
RSD				IAML		06 34 53.6	
	comp=N,8μm,0.3s						
PUH	**Pauahi**	**0.07**	**129**	Pg	Pg	06 34 53.8	+1.0
KNHH	**Kane Nui o Ham**	**0.10**	**111**		Sg	06 34 54.4	-0.4
HLP	**Hilina Pali**	**0.12**	**195**	Pg	Pg	06 34 53.3	-0.5
HLP					Sg	06 34 54.8	-0.6
HLP				IAML		06 34 55.8	
	comp=E,5μm,1.1s						
HLP				IAML		06 34 57.7	
	comp=N,5μm,1.2s						
STCH	**Steam Cracks**	**0.14**	**103**	Pg	Pg	06 34 54.5	+0.4
STCH				Sg	Sg	06 34 55.3	-0.7
STCH				IAML		06 34 57.9	
	comp=N,2μm,0.9s						
STCH				IAML		06 34 57.9	
	comp=E,4μm,0.9s						
JOKA	**Jonika Flow**	**0.25**	**86**	Pg	Pg	06 34 57.1	+0.9
JOKA				IAML		06 34 58.5	
	comp=E,2μm,1.2s						
HMH	**Humu'ula Sheep**	**0.27**	**313**	Pg	Pg	06 34 57.6	+1.1
HMH				IAML		06 35 05.3	
	comp=E,1μm,0.6s						
MLOA	**Mauna Loa Obse**	**0.31**	**293**	Pg	Pg	06 34 58.3	+1.0
MLOA				Sg	Sg	06 35 02.1	+0.7
MLOA				IAML		06 35 07.9	
	comp=E,2μm,1.2s						
MLOA				IAML		06 35 08.1	
	comp=N,2μm,0.7s						
MWH	**Moku'aweowe**	**0.31**	**282**	Pg	Pg	06 34 58.0	+0.6
PAH	**Pahoa**	**0.32**	**76**	Pg	Pg	06 34 57.5	0.0
KHU	**Kahuku**	**0.36**	**242**	Pg	Pg	06 34 59.5	+1.2
KHU				IAML		06 35 09.5	
	comp=N,2μm,1.3s						
POHA	**Pohakuloa**	**0.42**	**324**	Pg	Pg	06 35 00.4	+1.0
POHA				IAML		06 35 09.1	
	comp=N,1μm,1.0s						
POHA				IAML		06 35 11.1	
	comp=N,907nm,1.2s						
HPO	**Honuapo**	**0.42**	**219**	Pg	Pg	06 35 00.0	+0.6
HUH	**Hualalai**	**0.59**	**297**		Pg	06 35 02.9	+0.1
HPAH	**Hawaii Prepara**	**0.73**	**327**	Pg	Pg	06 35 04.3	-1.1

*TAP **02** 06:48:30.9, 23°.17N×120°.90E, h1km, ML3.6, C*
*ASIES **02** 06:48:30.9, 23°.17N×120°.90E, h1km, ML3.6, Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}-6.89; $M_{\theta\theta}$2.20; $M_{\phi\phi}$4.54; $M_{r\theta}$-6.51; $M_{\theta\phi}$-8.10; $M_{\phi r}$-2.64; Fault plane solution: $M_0$12.30370×10^{20} NP1: ϕ_s105.74000°, δ63.83000°, λ-134.73000°. NP2: ϕ_s351.73000°, δ50.39000°, λ-34.93000°. Principal axes: T Plg7.9850°, Azm225.8990°; N Plg39.1690°, Azm129.3370°; P Plg49.7060°, Azm325.4210°;*
*JMA **02** 06:48:32.0±0.1, 23°.2N±0°.2×121°.0E±0°.6, h12km±1km, MV3.2/8, TAIWAN REGION*

ISC 02 06:48:31.7±0.9, 23°.17N±0°.01×120°.90E±0°.01, h6km±6km, n133, σ0°85/205, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.11**	**82**	*i* P	**Pg**	**06 48 34.1**	**-0.1**
ELDTW	baz=83			S	**Sg**	**06 48 35.9**	**+0.1**
STYH	**Taoyuan**	**0.12**	**269**	P	**Pg**	**06 48 33.8**	**-0.4**
STYH	baz=269			S	**Sg**	**06 48 35.7**	**-0.1**
STYT	**Tauyuan**	**0.13**	**266**	*i* P	**Pg**	**06 48 34.1**	**-0.4**
STYT	baz=264			S	**Sg**	**06 48 36.0**	**-0.3**
WTP	**Ta-pu**	**0.27**	**285**	*i* P	**Pg**	**06 48 37.5**	**+0.4**
WTP	baz=286			S	**Sg**	**06 48 42.1**	**+1.3**
TPUB	**Ta-pu**	**0.28**	**297**	P	**Pg**	**06 48 37.8**	**+0.6**
TPUB	**Ta-pu**	**0.28**	**297**	*i* P	**Pg**	**06 48 37.7**	**+0.5**
TPUB	baz=298			S	**Sg**	**06 48 42.0**	**+1.1**
EHD	**Haiduan**	**0.28**	**95**	*i* P	**Pg**	**06 48 37.5**	**+0.2**
EHD	baz=94			*i* S	**Sg**	**06 48 41.5**	**+0.5**
SLGT	**Liugui**	**0.29**	**233**	*e*P	**Pg**	**06 48 37.6**	**+0.1**
SLGT	baz=222			S	**Sg**	**06 48 41.8**	**+0.4**
ECS	**Chishang**	**0.30**	**105**	*i* P	**Pg**	**06 48 38.2**	**+0.6**
ECS	baz=104			*i* S	**Sg**	**06 48 43.1**	**+1.5**
SGST	**Jiashian**	**0.31**	**253**	*e*P	**Pg**	**06 48 37.1**	**-0.6**
YUS	**Yu-Shan**	**0.32**	**8**	*i* P	**Pg**	**06 48 37.9**	**-0.2**
YUS	baz=24			S	**Sg**	**06 48 42.9**	**+0.4**
CHN4	**Tsaushan**	**0.33**	**302**	*i* P	**Pg**	**06 48 39.0**	**+0.7**
CHN4	baz=303			*i* S	**Sb**	**06 48 44.6**	**-1.1**
LONT	**Longtian**	**0.34**	**142**	*i* P	**Pg**	**06 48 38.6**	**+0.3**
LONT	baz=141			S	**Sg**	**06 48 43.5**	**+0.7**
CHN1	**Nanshi**	**0.34**	**272**	P	**Pg**	**06 48 39.2**	**+0.8**
CHN1	baz=272			S	**Sb**	**06 48 45.0**	**-1.0**
FULB	**Fuli**	**0.36**	**86**	↑*i*P	**Pg**	**06 48 39.6**	**+0.8**
FULB	baz=74			*i* S	**Sb**	**06 48 45.3**	**-1.2**
SNST	**Tainan City**	**0.37**	**277**	P	**Pb**	**06 48 40.0**	**-0.8**
SNST	baz=278			S	**Sb**	**06 48 46.4**	**-0.5**
WCKO	**Fanlu**	**0.38**	**314**	P	**Pg**	**06 48 39.9**	**+0.8**
WCKO	baz=327			S	**Sb**	**06 48 46.2**	**-0.8**
TWG	**Pinlang**	**0.39**	**156**	P	**Pg**	**06 48 39.4**	**+0.2**
TWG	baz=147			S	**Sg**	**06 48 44.5**	**+0.3**
TWGBT	**Beinan**	**0.39**	**155**	P	**Pg**	**06 48 39.4**	**+0.1**
TWGBT	**Beinan**	**0.39**	**155**	*i* P	**Pg**	**06 48 39.3**	**0.0**
TWGBT	baz=147			S	**Sg**	**06 48 44.5**	**+0.1**
TWK	**Hsinying**	**0.39**	**284**	*i* P	**Pb**	**06 48 40.3**	**-0.8**
TWK	baz=285			S	**Sb**	**06 48 46.5**	**-0.9**
TWF1	**Yuli**	**0.41**	**64**	*i* P	**Pg**	**06 48 39.7**	**+0.1**
TWF1	baz=65			*i* S	**Sg**	**06 48 44.9**	**0.0**
EYUL	**Yuli**	**0.42**	**66**	*i* P	**Pg**	**06 48 40.0**	**+0.1**
EYUL	baz=66			S	**Sg**	**06 48 45.8**	**+0.4**
YULB	**Yu-li**	**0.42**	**59**	P	**Pg**	**06 48 39.8**	**-0.1**
YULB	**Yu-li**	**0.42**	**59**	*i* P	**Pg**	**06 48 39.8**	**-0.1**
YULB	baz=60			*e*S	**Sg**	**06 48 44.9**	**-0.6**
CHKT	**Chengkung**	**0.43**	**100**	*i* P	**Pb**	**06 48 41.3**	**-0.5**
CHKT	baz=99			S	**Sb**	**06 48 49.0**	**+0.5**
CHKH	**Chenggong**	**0.46**	**88**	P	**Pg**	**06 48 41.1**	**+0.6**
CHKH	baz=77			*e*S	**Sb**	**06 48 48.9**	**-0.2**
TTN	**Taitung**	**0.47**	**151**	*e*S	**Sb**	**06 48 49.3**	**-0.4**
SSD	**Sandimen**	**0.49**	**210**	P	**Pg**	**06 48 40.7**	**-0.5**
CHN3	**Shinhua**	**0.50**	**259**	*e*P	**Pb**	**06 48 42.7**	**-0.2**
CHN3	baz=262			*e*S	**Sb**	**06 48 53.0**	**+2.5**
EHY	**Hungye**	**0.51**	**49**	*i* P	**Pg**	**06 48 41.4**	**-0.2**
EHY	baz=62			S	**Sg**	**06 48 47.7**	**-0.5**
EHYH	**Wanrong**	**0.52**	**52**	P	**Pg**	**06 48 41.6**	**-0.1**
WHYT	**Xinyi Township**	**0.52**	**355**	*i* P	**Pg**	**06 48 42.2**	**+0.4**
WHYT	baz=8.0			S	**Sg**	**06 48 49.4**	**+0.8**
ECBN	**Changbin**	**0.53**	**74**	*e*P	**Pb**	**06 48 43.2**	**-0.1**
ECBN	baz=63			*e*S	**Sb**	**06 48 52.3**	**+1.1**
SHHT	**Tainan City**	**0.53**	**254**	P	**Pn**	**06 48 44.7**	**-1.1**
SHHT	baz=256			*e*S	**Sn**	**06 48 54.3**	**-0.8**
CHY	**Chiayi**	**0.55**	**306**	*e*P	**Pg**	**06 48 41.3**	**-0.9**
CHY	baz=307			*e*S	**Sb**	**06 48 53.2**	**+1.4**
SSHA	**Shanhua**	**0.56**	**266**	*e*P	**Pb**	**06 48 44.8**	**+0.8**
SSHA	baz=266			*e*S	**Sn**	**06 48 55.4**	**-0.5**
ECL	**Taimali**	**0.58**	**175**	P	**Pg**	**06 48 42.6**	**-0.2**
ECL	baz=173			*e*S	**Sg**	**06 48 50.0**	**-0.3**
HGSD	**Ruisui**	**0.58**	**56**	*e*P	**Pg**	**06 48 43.3**	**+0.5**
WGK	**Gukeng**	**0.60**	**329**	P	**Pb**	**06 48 44.9**	**+0.3**
WGK	baz=342			S	**Sn**	**06 48 55.1**	**-1.6**
ICHU	**Yijhu**	**0.60**	**288**	*e*P	**Pb**	**06 48 44.5**	**-0.2**
ICHU	baz=289			*e*S	**Sn**	**06 48 55.3**	**-1.5**
MASBT	**Mashibuluo**	**0.61**	**204**	P	**Pg**	**06 48 42.7**	**-0.8**
WDLH	**Douliu**	**0.61**	**327**	P	**Pb**	**06 48 45.0**	**+0.2**
WDLH	baz=328			*e*S	**Sb**	**06 48 54.9**	**+1.2**
SSLB	**Suanglung**	**0.61**	**5**	P	**Pg**	**06 48 43.2**	**-0.3**
SSLB	**Suanglung**	**0.61**	**5**	P	**Pg**	**06 48 43.1**	**-0.4**
SSLB	baz=6.0			*e*S	**Sg**	**06 48 51.5**	**-0.1**
VWDT	**VWDT**	**0.62**	**21**	P	**Pg**	**06 48 43.1**	**-0.6**
SCLT	**Jiali**	**0.65**	**270**	*e*P	**Pb**	**06 48 45.7**	**+0.2**
SCLT	baz=270			*e*S	**Sn**	**06 48 57.6**	**-0.4**
CHN8	**Yiju**	**0.66**	**285**	*e*P	**Pb**	**06 48 45.9**	**+0.4**
CHN8	baz=286			*e*S	**Sn**	**06 48 56.9**	**-1.3**
WJS	**Zhushan**	**0.67**	**346**	*e*P	**Pb**	**06 48 45.5**	**-0.2**
WJS	baz=348			*e*S	**Sn**	**06 48 56.8**	**-1.7**
SNJT	**Kaohsiung City**	**0.67**	**231**	*e*P	**Pn**	**06 48 48.1**	**+0.4**
SNJT	baz=218			*e*S	**Sn**	**06 49 00.7**	**+2.2**
EGFH	**Guangfu**	**0.69**	**44**	*e*P	**Pg**	**06 48 44.5**	**-0.5**
WARBT	**Fenglin Townsh**	**0.70**	**39**	P	**Pg**	**06 48 44.6**	**-0.6**
WARBT	baz=51			*e*S	**Sg**	**06 48 54.0**	**-0.3**
SMLT	**Sun Moon Lake**	**0.71**	**360**	P	**Pg**	**06 48 45.4**	**+0.1**
SMLT	baz=11			*e*S	**Sb**	**06 48 55.9**	**-0.7**
WSL	**Shuilin Townsh**	**0.71**	**299**	P	**Pn**	**06 48 47.3**	**-1.0**
WSL	baz=300			*e*S	**Sn**	**06 48 58.8**	**-0.8**
LDUT	**Ludao**	**0.72**	**133**	*e*P	**Pg**	**06 48 46.0**	**+0.4**
LDUT	baz=133			*e*S	**Sb**	**06 48 56.5**	**-0.3**
TYC	**Yuchr**	**0.73**	**357**	*e*P	**Pg**	**06 48 46.1**	**+0.4**
TYC	baz=8.0			*e*S	**Sn**	**06 48 58.5**	**-1.5**
WNT	**Mingjian**	**0.73**	**344**	*i* P	**Pb**	**06 48 47.3**	**+0.5**
WNT	baz=346			S	**Sn**	**06 48 58.8**	**-1.2**
TSCK	**Chigu Township**	**0.75**	**268**	*e*P	**Pn**	**06 48 48.4**	**-0.4**
TSCK	baz=287			*e*S	**Sn**	**06 49 00.6**	**0.0**
WSF	**Szhu**	**0.78**	**307**	P	**Pb**	**06 48 47.9**	**+0.3**
WSF	baz=307			*e*S	**Sn**	**06 49 00.2**	**-0.9**
EAST	**Anshuo**	**0.79**	**184**	P	**Pg**	**06 48 46.6**	**-0.3**
EAST	baz=181			*e*S	**Sg**	**06 48 57.2**	**+0.1**
ESL	**Shilin**	**0.80**	**37**	*e*P	**Pg**	**06 48 47.4**	**+0.2**
ESL	baz=48			*e*S	**Sb**	**06 48 59.0**	**-0.2**
TAW	**Tawu**	**0.81**	**180**	*e*P	**Pg**	**06 48 46.9**	**-0.4**
TAW	baz=178			*e*S	**Sb**	**06 48 58.6**	**-0.8**
OWD	**Renai**	**0.82**	**18**	*e*P	**Pg**	**06 48 46.5**	**-1.0**
TAWH	**Dawu Township**	**0.83**	**181**	*e*P	**Pg**	**06 48 47.6**	**0.0**
SCZT	**Fangliau**	**0.84**	**198**	*e*P	**Pg**	**06 48 47.2**	**-0.6**
WUSB	**Renai**	**0.84**	**14**	*e*P	**Pg**	**06 48 46.9**	**-1.0**
WUSB	baz=15			*e*S	**Sg**	**06 48 57.6**	**-1.1**
SHUL	**Shoufeng**	**0.86**	**45**	*e*P	**Pg**	**06 48 48.3**	**0.0**
WCS	**Beigang Elemen**	**0.88**	**1**	P	**Pg**	**06 48 48.6**	**0.0**
WCS	baz=10.0			*e*S	**Sb**	**06 49 02.3**	**+0.9**
CHGB	**Renai**	**0.92**	**16**	P	**Pg**	**06 48 48.4**	**-1.0**
CHGB	baz=18			*e*S	**Sn**	**06 49 04.1**	**-0.9**
TEYL	**Yanliau Villag**	**0.94**	**43**	*e*P	**Pb**	**06 48 50.8**	**+0.3**
ETM	**Tongmen**	**0.96**	**34**	P	**Pg**	**06 48 50.0**	**-0.1**
LXIB	**Xiulin Townshi**	**0.97**	**29**	*e*P	**Pg**	**06 48 49.1**	**-1.2**
LXIB	baz=45			*e*S	**Sb**	**06 49 04.7**	**+0.6**
WHF	**Hehuan Shan**	**1.02**	**19**	*e*P	**Pg**	**06 48 50.4**	**-1.0**
WHP	**Taichung City**	**1.10**	**2**	*e*P	**Pn**	**06 48 53.7**	**0.0**
TDCB	**Techi**	**1.10**	**12**	*e*P	**Pg**	**06 48 51.5**	**-1.4**
TWT	**Tachien**	**1.10**	**13**	*e*P	**Pg**	**06 48 52.3**	**-0.6**
TWT	baz=15			*e*S	**Sn**	**06 49 09.6**	**0.0**
TWD	**Chiawan**	**1.10**	**35**	*e*P	**Pg**	**06 48 52.2**	**-0.8**
TWD	baz=36			*e*S	**Sb**	**06 49 07.7**	**-0.2**
FUSS	**Fushou**	**1.11**	**16**	*e*P	**Pg**	**06 48 51.9**	**-1.2**
WDGT	**Dungji**	**1.15**	**275**	P	**Pg**	**06 48 53.5**	**-0.2**
WDGT	baz=274			S	**Sn**	**06 49 09.7**	**-0.5**
HEN	**Hengchun**	**1.17**	**187**	*e*P	**Pn**	**06 48 56.0**	**+1.3**
NACB	**Ninganchiao**	**1.18**	**32**	P	**Pb**	**06 48 53.8**	**-0.7**
NACB	**Ninganchiao**	**1.18**	**32**	*e*P	**Pb**	**06 48 53.2**	**-1.4**
NACB	baz=33			*e*S	**Sn**	**06 49 11.1**	**-0.1**
ETL	**Fush Village**	**1.18**	**34**	*e*P	**Pn**	**06 48 54.9**	**0.0**
WDJ	**Dajia District**	**1.19**	**349**	*e*P	**Pg**	**06 48 55.3**	**+0.4**
TWK1	**Hengchun**	**1.23**	**184**	*e*P	**Pg**	**06 48 56.5**	**+1.2**
TWKBT	**Hengchun**	**1.23**	**184**	*e*P	**Pg**	**06 48 56.7**	**+1.4**
NSY	**Sanyi**	**1.24**	**354**	*e*P	**Pg**	**06 48 56.0**	**+0.4**
NSY	baz=356			*e*S	**Sn**	**06 49 14.5**	**+1.8**
PHUB	**P'eng-hu**	**1.27**	**286**	P	**Pn**	**06 48 55.0**	**-0.9**
PHUB	baz=285			S	**Sn**	**06 49 12.7**	**-0.6**
PNG	**Penghu**	**1.30**	**288**	P	**Pn**	**06 48 55.5**	**-0.9**
PNG	baz=287			S	**Sn**	**06 49 13.8**	**-0.2**
NNSB	**Datong**	**1.32**	**19**	*e*P	**Pn**	**06 48 55.5**	**-1.3**
NNSB	baz=16			*e*S	**Sn**	**06 49 16.1**	**+1.1**
NNS	**Nan Shan**	**1.33**	**19**	*e*P	**Pn**	**06 48 56.2**	**-0.8**
VCHM	**Qimei**	**1.35**	**272**	P	**Pn**	**06 48 56.4**	**-0.7**
VCHM	baz=271			S	**Sb**	**06 49 14.8**	**-0.2**
NMLH	**Miaoli**	**1.36**	**356**	*e*P	**Pg**	**06 48 59.0**	**+1.1**
NMLH	baz=357			*e*S	**Sg**	**06 49 17.1**	**+1.6**
EAHA	**Aohua**	**1.38**	**34**	P	**Pn**	**06 48 57.5**	**0.0**
NSTT	**Nanjuang**	**1.45**	**4**	*e*P	**Pg**	**06 48 59.9**	**+0.3**
NSTT	baz=351			*e*S	**Sg**	**06 49 19.9**	**+1.4**
NFF	**Wufeng Townshi**	**1.47**	**8**	*e*P	**Pg**	**06 49 00.2**	**+0.4**
NFF	baz=354			*e*S	**Sg**	**06 49 20.6**	**+1.8**
ENA	**Nanau**	**1.47**	**31**	*e*P	**Pn**	**06 48 58.3**	**-0.4**
LATG	**Datong**	**1.47**	**23**	P	**Pn**	**06 48 58.8**	**-0.1**
EWUT	**Wuta**	**1.50**	**32**	P	**Pb**	**06 49 00.0**	**0.0**
NDT	**Datong Townshi**	**1.53**	**21**	*e*P	**Pn**	**06 48 59.6**	**+0.1**
YHNB	**Yeheng**	**1.55**	**16**	P	**Pn**	**06 49 00.1**	**+0.1**
YHNB	**Yeheng**	**1.55**	**16**	*e*P	**Pn**	**06 48 59.7**	**-0.3**
NSK	**Sanguang**	**1.55**	**16**	P	**Pg**	**06 49 01.4**	**-0.2**
NSK	baz=30			*e*S	**Sg**	**06 49 23.4**	**+1.7**
ENTT	**Nioudou**	**1.58**	**22**	*e*P	**Pb**	**06 49 00.9**	**-0.4**
ENTT	baz=36			*e*S	**Sg**	**06 49 24.0**	**+1.4**
ESAO	**Su ao**	**1.64**	**32**	*e*P	**Pb**	**06 49 02.3**	**0.0**
TWC	**Suao**	**1.67**	**31**	P	**Pb**	**06 49 03.1**	**+0.2**
NWLT	**Wulai**	**1.69**	**19**	*e*P	**Pb**	**06 49 02.8**	**-0.5**
NWLT	baz=20			*e*S	**Sg**	**06 49 27.3**	**+1.3**
TWE	**Neicheng**	**1.69**	**24**	*e*P	**Pg**	**06 49 03.8**	**-0.4**
FUSB	**Fushanzhiwuyua**	**1.70**	**22**	P	**Pb**	**06 49 03.1**	**-0.3**
FUSB	baz=23			S	**Sg**	**06 49 28.0**	**+1.6**
EOS2	**EOS2**	**1.74**	**44**	*e*P	**Pg**	**06 49 04.8**	**-0.3**
NHDH	**Xindian Distri**	**1.87**	**18**	*e*P	**Pg**	**06 49 08.6**	**+1.0**
NHDH	baz=30			*e*S	**Sg**	**06 49 35.3**	**+3.4**
TWA	**Mucha**	**1.90**	**19**	*e*P	**Pg**	**06 49 08.0**	**-0.3**
TWS1	**Kuangyinshan**	**1.98**	**14**	*e*P	**Pg**	**06 49 10.6**	**+1.0**
TIPB	**Shuangxi**	**1.98**	**25**	*e*P	**Pb**	**06 49 07.5**	**-0.6**
NWF	**Wu-fen Shan**	**2.05**	**23**	*e*P	**Pg**	**06 49 10.4**	**-0.7**
WFSB	**Wu-fen Shan**	**2.05**	**23**	*e*P	**Pg**	**06 49 10.7**	**-0.4**
YM01	**YM01**	**2.06**	**17**	*e*P	**Pb**	**06 49 09.5**	**0.0**
TWB1	**Santiao Chiao**	**2.08**	**28**	*e*P	**Pb**	**06 49 10.1**	**+0.2**
ANP	**Anpu**	**2.08**	**16**	*e*P	**Pb**	**06 49 08.8**	**-1.1**
YM08	**YM08**	**2.10**	**17**	*e*P	**Pb**	**06 49 11.1**	**+0.8**
SXI1	**Grass Mountain**	**2.11**	**25**	*e*P	**Pg**	**06 49 11.6**	**-0.6**
VWUC	**VWUC**	**2.24**	**324**	*e*P	**Pn**	**06 49 08.3**	**-1.1**
YOJ	**Yonaguni jima**	**2.32**	**56**	P	**Pn**	**06 49 11.2**	**+0.8**
YOJ	**Yonaguni jima**	**2.32**	**56**	*e*P	**Pn**	**06 49 10.5**	**+0.1**
YOJ	**Yonaguni jima**	**2.32**	**56**	*e*P	**Pn**	**06 49 10.7**	**+0.3**
YOJ				*e*S	**Sn**	**06 49 38.7**	**-0.6**
KNM	**Kinmen**	**2.58**	**299**	*e*P	**Pn**	**06 49 15.8**	**+1.9**
KNMB	**Chin-men Tao**	**2.63**	**300**	*e*P	**Pn**	**06 49 13.5**	**-1.3**
IRIF	**Iriomote-Funau**	**2.84**	**65**	*e*S	**Sn**	**06 49 50.8**	**-1.3**
MATB	**Ma-tsu**	**3.09**	**344**	*e*P	**Pn**	**06 49 20.2**	**-0.8**
JIJ	**Ishigaki jima**	**3.20**	**68**	*e*S	**Sn**	**06 50 00.5**	**-0.5**
MHZQ	**Yeshan**	**3.38**	**330**	*e*P	**Pn**	**06 49 24.8**	**-0.2**
JISG	**Ishigakijimahi**	**3.42**	**65**	*e*S	**Sn**	**06 50 04.1**	**-2.4**
LYJJ	**Jianjiangzhen**	**3.52**	**343**	*e*P	**Pn**	**06 49 28.0**	**+1.1**

IDC 02 06:59:32.9±3.0, 54°.26N×87°.31E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=25.7km s-min=17.6km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**259**	I	I	07 07 50.0	
	baz=78,slow=318,SNR=3.5						
ZALV	**Zalesovo Beam**	**1.50**	**259**	Pg	Pn	06 59 59.5	-1.5
	1.6nm,0.3s,baz=76,slow=18,SNR=12						
ZALV				Lg	Lg	07 00 21.0	
	1.7nm,0.3s,baz=75,slow=23,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.48**	**239**	Pn	Pn	07 01 09.9	+0.4
	0.1nm,0.3s,baz=56,slow=14,SNR=5.7						
KURBB				Lg	Lg	07 02 57.6	
	baz=54,slow=32,SNR=2.2						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.13**	**205**	Pn	Pn	07 01 33.5	+1.4
	0.2nm,0.3s,baz=27,slow=14,SNR=7.6						
MKAR				Sn	Sn	07 03 04.0	-0.6
	0.1nm,0.3s,baz=21,slow=25,SNR=5.3						
MKAR				Lg	Lg	07 03 52.1	

0.1nm,0.3s,baz=27,slow=30,SNR=5.1
0.2nm,0.3s

CATAC ***02*** *07:04:30.1±0.8, 13°53N×91°66W, h2km±6km, mb4.4, ML4.1*
GCG ***02*** *07:04:30.3±1.3, 13°70N×92°06W, h50km±155km, MD4.3*
IDC ***02*** *07:04:33.0±1.7, 14°52N×91°11W, h0km, mb4.1/4, mbtmp3.9/7, ML3.6/3, MS3.3/10, Error ellipse: s-maj=50.5km s-min=24.1km az=33.0*
SNET ***02*** *07:04:32.0±0.9, 13°71N×91°82W, h36km±152km, ML4.2*
NEIC ***02*** *07:04:33.5±2.1, 13°67N±0°05×91°60W±0°05, h35km±2km, mb4.3/167, Error ellipse: s-maj=10.8km s-min=5.8km az=226.0*

ISC 02 07:04:34.4±0.9, 13°74N±0°05×91°58W±0°05, h46km±9km, n274, σ1°48/285, mb4.3/73, MS3.1/9, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.56**	**2**	*eP*	**Pn**	**07 04 46.6**	**+0.5**
RTAL	**Retalhuleu**	**0.78**	**352**		**Pn**	**07 04 48.3**	**-0.8**
RTAL				Sn	**Sn**	**07 05 01.5**	**+1.7**
RTAL	**Retalhuleu**	**0.78**	**352**	*i P*	**Pn**	**07 04 48.2**	**-0.9**
RTAL				*i* S	**Sn**	**07 05 02.5**	**+2.7**
RTAL				IAML		07 05 14.9	
	comp=Z,2μm,1.0s						
STG3	**Santiaguito 3,**	**0.96**	**1**	*eP*	**Pn**	**07 04 50.7**	**-1.0**
STG3				*eS*	**Sn**	**07 05 05.3**	**+0.9**
FUG	**Fuego 3**	**1.00**	**46**	*eP*	**Pn**	**07 04 53.2**	**+1.0**
SOKI	**Kika Raxquin**	**1.08**	**9**	*i P*	**Pn**	**07 04 54.3**	**+0.7**
SOKI				*i* S	**Sn**	**07 05 12.6**	**+4.9**
SOKI				IAML		07 05 22.4	
	comp=Z,2μm,1.0s						
PCG	**Pacaya**	**1.15**	**56**	*eP*	**Pn**	**07 04 55.7**	**+1.5**
NBG	**Las Nubes**	**1.46**	**55**	*eP*	**Pn**	**07 05 01.1**	**+2.5**
NBG				*eS*	Sn	07 05 25.6	+8.8
HUEH	**Huehuetenango**	**1.57**	**3**	Pn	**Pn**	**07 05 00.6**	**+0.6**
HUEH	**Huehuetenango**	**1.57**	**3**	*i P*	**Pn**	**07 05 01.6**	**+1.6**
HUEH				*i* S	**Sn**	**07 05 24.8**	**+5.6**
NUBE	**Las Nubes**	**1.76**	**85**	*eP*	**Pn**	**07 05 01.7**	**-0.8**
NUBE				*eS*	**Sn**	**07 05 26.1**	**+2.2**
NUBE	**Las Nubes**	**1.76**	**85**	*i P*	**Pn**	**07 05 01.7**	**-0.8**
NUBE				IAML		07 05 29.4	
	comp=Z,790nm,1.0s						
LOAL	**Lomas de Alarc**	**1.77**	**82**	*i P*	**Pn**	**07 05 03.4**	**+0.8**
LOAL				IAML		07 05 05.2	
	comp=Z,4μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.77**	**81**	*eP*	**Pn**	**07 05 02.4**	**-0.2**
SLOZ				IAML		07 05 33.7	
	comp=Z,598nm,0.6s						
RTR	**El Retiro**	**1.89**	**85**	*eP*	**Pn**	**07 05 04.4**	**+0.1**
CEVE	**Cerro Verde**	**1.91**	**87**	*eP*	**Pn**	**07 05 04.3**	**-0.3**
CEVE				IAML		07 05 40.3	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**1.91**	**87**	*i P*	**Pn**	**07 05 04.5**	**-0.1**
CEVE				IAML		07 05 39.7	
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	**1.91**	**87**	*eP*	**Pn**	**07 05 04.3**	**-0.3**
SNJE	**San Jose**	**1.93**	**86**	*eP*	**Pn**	**07 05 04.5**	**-0.3**
UNIC	**Universidad Ca**	**1.99**	**83**	*i P*	**Pn**	**07 05 06.2**	**+0.6**
UNIC				*i* S	**Sn**	**07 05 33.3**	**+3.9**
UNIC				IAML		07 05 40.8	
	comp=Z,320nm,1.0s						
JAYA	**Jayaque - finc**	**2.08**	**92**	*eP*	**Pn**	**07 05 05.9**	**-1.0**
JAYA				IAML		07 05 38.7	
	comp=Z,822nm,0.2s						
JAYA	**Jayaque - finc**	**2.08**	**92**	*i P*	**Pn**	**07 05 06.2**	**-0.7**
JAYA				IAML		07 05 38.6	
	comp=Z,2μm,1.0s						
CEDA	**San Andres**	**2.13**	**88**	*eP*	**Pn**	**07 05 07.3**	**-0.1**
CEDA				IAML		07 05 52.2	
	comp=Z,1μm,0.4s						
CEDA	**San Andres**	**2.13**	**88**	*i P*	**Pn**	**07 05 07.9**	**+0.4**
CEDA				*i* S	**Sn**	**07 05 36.2**	**+3.5**
CEDA				IAML		07 05 51.6	
	comp=Z,3μm,1.0s						
PMON	**Piamonte**	**2.21**	**91**	*eP*	**Pn**	**07 05 08.2**	**-0.4**
PMON	**Piamonte**	**2.21**	**91**	*i P*	**Pn**	**07 05 09.2**	**+0.6**
PMON				IAML		07 05 47.9	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**2.21**	**96**	*i P*	**Pn**	**07 05 08.9**	**+0.3**
LALI				IAML		07 05 49.8	
	comp=Z,230nm,1.0s						
BOQS	**Boqueron**	**2.24**	**90**	*eP*	**Pn**	**07 05 09.1**	**0.0**
MTO3	**Montecristo**	**2.25**	**73**	Pn	**Pn**	**07 05 10.2**	**+0.8**
MTO3	**Montecristo**	**2.25**	**73**	*eP*	**Pn**	**07 05 10.0**	**+0.6**
MTO3	**Montecristo**	**2.25**	**73**	*i P*	**Pn**	**07 05 10.1**	**+0.8**
MTO3				*i* S	**Sn**	**07 05 40.7**	**+4.6**
MTO3				IAML		07 05 43.9	
	comp=Z,370nm,1.0s						
MRL	**Marmol**	**2.27**	**54**	*eP*	**Pn**	**07 05 12.5**	**+2.9**
UEES	**Universidad Ev**	**2.28**	**90**	*eP*	**Pn**	**07 05 09.5**	**-0.1**
UEES	**Universidad Ev**	**2.28**	**90**	*i P*	**Pn**	**07 05 09.9**	**+0.3**
UEES				IAML		07 05 44.7	
	comp=Z,490nm,1.0s						
SNET	**Serv Nac Est T**	**2.29**	**91**	Pn	**Pn**	**07 05 09.6**	**-0.1**
UTEC	**Universidad Te**	**2.31**	**91**	*i P*	**Pn**	**07 05 10.6**	**+0.5**
UTEC				*i* S	**Sn**	**07 05 40.5**	**+3.1**
UTEC				IAML		07 05 54.0	
	comp=Z,750nm,1.0s						
ESQI	**Esquipulas**	**2.32**	**69**		**Pn**	**07 05 11.4**	**+1.2**
ESQI	**Esquipulas**	**2.32**	**69**	*i P*	**Pn**	**07 05 11.5**	**+1.3**
ESQI				IAML		07 06 03.4	
	comp=Z,750nm,1.0s						
PANCS	**Alcalda de**	**2.34**	**93**	*i P*	**Pn**	**07 05 10.6**	**+0.2**
PANCS				*i* S	**Sn**	**07 05 40.6**	**+2.6**
PANCS				IAML		07 06 06.3	
	comp=Z,2μm,1.0s						
IGN	**Direccin Gen**	**2.34**	**90**	*i P*	**Pn**	**07 05 11.5**	**+1.0**
IGN				IAML		07 05 50.3	
	comp=Z,6μm,1.0s						
LOMA	**Loma Larga**	**2.35**	**92**	*eP*	**Pn**	**07 05 10.5**	**-0.1**
LOMA				IAML		07 05 52.4	
	comp=Z,674nm,0.4s						
LOMA	**Loma Larga**	**2.35**	**92**	*i P*	**Pn**	**07 05 10.7**	**+0.1**
LOMA				*i* S	**Sn**	**07 05 41.7**	**+3.4**
LOMA				IAML		07 05 56.6	
	comp=Z,880nm,1.0s						
UDBS	**Universidad Do**	**2.36**	**90**	*i P*	**Pn**	**07 05 11.3**	**+0.6**
UDBS				*i* S	**Sn**	**07 05 42.5**	**+4.0**
UDBS				IAML		07 05 53.2	
	comp=Z,830nm,1.0s						
PAVA	**Las Pavas**	**2.57**	**90**	*eP*	**Pn**	**07 05 13.9**	**+0.2**
PAVA	**Las Pavas**	**2.57**	**90**	*i P*	**Pn**	**07 05 13.9**	**+0.2**
PAVA				IAML		07 06 05.5	
	comp=Z,700nm,1.0s						
CCIG	**Comitan**	**2.58**	**348**	Pn	**Pn**	**07 05 15.7**	**+1.8**
CCIG	**Comitan**	**2.58**	**348**	*i P*	**Pn**	**07 05 16.2**	**+2.4**
CCIG				IAML		07 05 57.2	
	comp=Z,540nm,1.0s						
COEG	**Centro de Oper**	**2.63**	**92**	*eP*	**Pn**	**07 05 15.1**	**+0.7**
COEG	**Centro de Oper**	**2.63**	**92**	*i P*	**Pn**	**07 05 14.8**	**+0.4**
COEG				*i* S	**Sn**	**07 05 49.1**	**+3.9**
COEG				IAML		07 06 00.4	
	comp=Z,440nm,1.0s						
TECO	**Alcaldia de Te**	**2.73**	**94**	*eP*	**Pn**	**07 05 15.7**	**-0.1**
TECO	**Alcaldia de Te**	**2.73**	**94**	*i P*	**Pn**	**07 05 15.8**	**0.0**
TECO				*i* S	**Sn**	**07 05 50.3**	**+2.7**
TECO				IAML		07 06 08.2	
	comp=Z,230nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.77**	**91**	*eP*	**Pn**	**07 05 16.6**	**+0.3**
SCLA	**Alcaldia de Sa**	**2.77**	**91**	*i P*	**Pn**	**07 05 16.7**	**+0.3**
SCLA				IAML		07 06 00.4	
	comp=Z,210nm,1.0s						
PQSS	**Presa 15 de Se**	**2.94**	**92**	*i P*	**Pn**	**07 05 18.7**	**+0.1**
PQSS				IAML		07 05 24.3	
	comp=Z,130nm,1.0s						
PACA	**Pacayal**	**3.18**	**95**	*i P*	**Pn**	**07 05 23.1**	**+1.1**
PACA				IAML		07 06 20.6	
	comp=Z,2μm,1.0s						
JUCU	**Jucuarın**	**3.28**	**98**	*i P*	**Pn**	**07 05 23.1**	**-0.2**
JUCU				IAML		07 06 19.9	
	comp=Z,200nm,1.0s						
MARCA	**Marcala la Paz**	**3.47**	**83**	*i P*	**Pn**	**07 05 26.2**	**+0.2**
PETF	**Flores**	**3.56**	**27**	Pn	**Pn**	**07 05 29.8**	**+2.6**
PETF	**Flores**	**3.56**	**27**	*i P*	**Pn**	**07 05 29.2**	**+2.0**
LCND	**La Caada**	**3.62**	**96**	*i P*	**Pn**	**07 05 27.9**	**0.0**
LCND				IAML		07 06 19.8	
	comp=Z,220nm,1.0s						
CNCH	**Conchagua**	**3.68**	**97**	*i P*	**Pn**	**07 05 28.5**	**-0.3**
CNCH				IAML		07 06 23.2	
	comp=Z,630nm,1.0s						
AMPH	**Amapala**	**3.84**	**96**	*i P*	**Pn**	**07 05 30.7**	**-0.3**
TGUH	**Tegucigalpa,Un**	**4.20**	**85**	Pn	**Pn**	**07 05 36.1**	**+0.1**
CRIN	**San Cristobal**	**4.53**	**103**	Pn	**Pn**	**07 05 40.1**	**-0.4**
CMIG	**Matias Romero**	**4.61**	**317**	Pn	**Pn**	**07 05 39.9**	**-1.6**
	comp=Z,2.0nm,0.3s,baz=137,slow=12,SNR=16						
CMIG				Sn	**Sn**	**07 06 35.9**	**+2.1**
	comp=Z,3.5nm,0.3s,baz=66,slow=20,SNR=2.9						
	comp=Z,5.8nm,0.4s						
YUSH	**Yuscaran**	**4.61**	**87**	*i P*	**Pn**	**07 05 41.6**	**0.0**
PKGN	**Cerro Pekin**	**4.61**	**103**	*i P*	**Pn**	**07 05 41.2**	**-0.4**
PKGN				IAML		07 06 36.2	
	comp=Z,320nm,1.0s						
CNGN	**Cerro Negro**	**4.92**	**104**	Pn	**Pn**	**07 05 45.2**	**-0.5**
CNGN	**Cerro Negro**	**4.92**	**104**	*i P*	**Pn**	**07 05 45.3**	**-0.5**
CNGN				IAML		07 07 04.0	
	comp=Z,140nm,1.0s						
LIMN	**Finca el Limon**	**5.12**	**97**	*i P*	**Pn**	**07 05 48.0**	**-0.7**
LIMN				IAML		07 06 01.4	
	comp=Z,72nm,1.0s						
LIMN				IAmb	IAmb	07 06 01.4	
	comp=Z,57nm,0.7s						
BOAB	**BOACO BROADBAN**	**5.91**	**102**	Pn	**Pn**	**07 05 58.3**	**-1.1**
BOAB	**BOACO BROADBAN**	**5.91**	**102**	*i P*	**Pn**	**07 05 57.9**	**-1.5**
BOAB				IAmb	IAmb	07 06 19.9	
	comp=Z,16nm,0.9s						
BOAB				IAML		07 07 36.0	
	comp=Z,27nm,1.0s						
ACON	**Acoyapa**	**6.49**	**105**	Pn	**Pn**	**07 06 05.9**	**-1.5**
SAJU	**San Juanillo,**	**6.81**	**122**	Pn	**Pn**	**07 06 10.7**	**-1.1**
JUD3	**Juan Diaz 3**	**6.90**	**120**	Pn	**Pn**	**07 06 12.7**	**-0.4**
TEIG	**Tepich**	**7.18**	**26**	Pn	**Pn**	**07 06 18.9**	**+2.1**
TEIG	**Tepich**	**7.18**	**26**	Pn	**Pn**	**07 06 17.6**	**+0.8**
	comp=Z,7.2nm,0.3s,baz=238,slow=1.3,SNR=60						
TEIG				Sn	**Sn**	**07 07 29.9**	**-7.2**
	baz=315,slow=20						
TEIG				LR	LR	07 09 21.2	
	comp=Z,163nm,20.1s,baz=224,slow=46						
JTS	**Las Juntas de**	**7.34**	**117**	Pn	**Pn**	**07 06 19.4**	**+0.3**
JTS	**Las Juntas de**	**7.34**	**117**	Pn	**Pn**	**07 06 20.2**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=106,slow=23,SNR=8.9						
JTS				Sn	**Sn**	**07 07 35.2**	**-5.8**
	comp=Z,0.6nm,0.3s,baz=288,slow=20,SNR=0.9						
JTS				LR	LR	07 08 14.1	
	comp=Z,16nm,21.8s,baz=308,slow=30						
	comp=Z,2.7nm,0.3s						
SOCE	**Pocosol**	**7.59**	**115**	Pn	**Pn**	**07 06 20.1**	**-2.3**
TLIG	**Tlapa**	**7.72**	**300**	Pn	**Pn**	**07 06 24.2**	**-0.2**
HDC	**Heredia**	**8.20**	**116**	Pn	**Pn**	**07 06 30.0**	**-1.0**
LCR2	**La Lucha 2**	**8.42**	**117**		**Pn**	**07 06 33.4**	**-0.7**
BRU2	**Volcan**	**10.01**	**118**	Pn	**Pn**	**07 06 56.4**	**+0.6**
MOIG	**Morelia**	**10.93**	**304**	Pn	**Pn**	**07 07 09.6**	**+1.1**
JRQG	**Juriquilla Cam**	**10.93**	**310**	Pn	**Pn**	**07 07 08.6**	**+0.1**
SOR	**Soroa**	**12.13**	**41**	Pn	**Pn**	**07 07 23.9**	**-0.7**
PAYG	**Puerto Ayora**	**14.38**	**175**	Pn	**Pn**	**07 07 56.2**	**+0.9**
HNDO	**Hondo**	**17.25**	**337**	Pn	**Pn**	**07 08 31.8**	**-0.2**
346A	**Big Creek Wild**	**17.67**	**6**		**Pn**	**07 08 36.4**	**-0.7**
346A				IAmb	IAmb	07 08 45.5	
	comp=Z,14nm,0.9s						
DRIO	**Del Rio**	**17.71**	**333**	Pn	**Pn**	**07 08 35.8**	**-1.9**
NATX	**Nacogdoches**	**18.15**	**352**		**P**	**07 08 40.1**	**-2.8**
NATX				IAmb	IAmb	07 09 10.1	
	comp=Z,9.8nm,0.7s						
JCT	**Junction City**	**18.30**	**337**	P	**P**	**07 08 42.3**	**-2.3**
HPIG		**18.59**	**317**	P	**P**	**07 08 46.2**	**-1.9**
BRDY	**Brady**	**18.74**	**340**	P	**P**	**07 08 48.4**	**-1.1**
SAND	**Sanderson**	**18.85**	**331**	P	**P**	**07 08 49.6**	**-1.0**
456A	**Hilliard**	**19.06**	**26**	P	**Pn**	**07 08 54.5**	**+0.5**
TXAR	**Lajitas Array**	**19.13**	**326**	P	**P**	**07 08 52.9**	**-0.9**
TXAR	**Lajitas Array**	**19.13**	**326**	P	**P**	**07 08 55.0**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=154,slow=11,SNR=18						
	comp=Z,1.4nm,0.8s						
TX31	**Lajitas Ar. Si**	**19.13**	**326**	P	**P**	**07 08 51.7**	**-2.1**
OZNA	**Ozona**	**19.22**	**334**	P	**P**	**07 08 53.8**	**-0.9**
ANTS	**Antisana-Sarah**	**19.41**	**136**	P	**P**	**07 08 54.6**	**-2.9**
ANTS				IAmb	IAmb	07 09 18.9	
	comp=Z,8.9nm,0.5s						
Z47A	**Carrollton**	**19.63**	**9**	P	**P**	**07 08 57.8**	**-1.4**
Z47A				IAmb	IAmb	07 09 12.6	
	comp=Z,16nm,1.4s						
FW07	**Weatherford**	**19.70**	**344**	P	**P**	**07 08 57.8**	**-2.2**
FW07				IAmb	IAmb	07 09 05.2	
	comp=Z,7.4nm,0.5s						
152A	**Waverly Hall**	**19.86**	**17**	P	**P**	**07 09 01.8**	**+0.2**
152A				IAmb	IAmb	07 09 07.9	
	comp=Z,5.6nm,0.6s						
PLPT	**Palo Pinto**	**19.95**	**343**	P	**Pn**	**07 09 04.4**	**-0.3**
SGCY	**Sterling City**	**20.09**	**336**	P	**P**	**07 09 05.0**	**+0.8**
SGCY				IAmb	IAmb	07 09 05.8	
	comp=Z,6.3nm,0.5s						
FW03	**Perrin-Whitt E**	**20.10**	**344**	P	**P**	**07 09 05.6**	**+1.4**
FW03				IAmb	IAmb	07 09 06.0	
	comp=Z,6.4nm,0.5s						
Y45A	**Yeager Farm, C**	**20.12**	**5**	P	**P**	**07 09 04.0**	**-0.4**
Y45A				IAmb	IAmb	07 09 20.3	
	comp=Z,27nm,1.4s						
ABTX	**Abilene, Hawle**	**20.19**	**340**	P	**P**	**07 09 05.5**	**+0.3**
MNHN	**Monahans**	**20.30**	**331**	P	**P**	**07 09 08.2**	**+1.7**
154A	**Montrose**	**20.32**	**21**	P	**P**	**07 09 06.7**	**0.0**
154A				IAmb	IAmb	07 09 22.9	
	comp=Z,14nm,0.8s						
257A	**Skidaway Islan**	**20.56**	**26**	P	**P**	**07 09 08.7**	**-0.5**
SN05	**Snyder 5**	**20.85**	**338**	P	**P**	**07 09 13.3**	**+0.8**
SN05				IAmb	IAmb	07 09 14.3	
	comp=Z,6.7nm,0.7s						
PECS	**Pecos**	**20.86**	**329**	P	**P**	**07 09 13.6**	**+1.0**
ODSA	**Odessa**	**20.87**	**333**	P	**P**	**07 09 10.8**	**-1.9**
ODSA				IAmb	IAmb	07 09 16.3	
	comp=Z,8.0nm,0.9s						
WTFS	**Witchita Falls**	**20.89**	**344**	P	**P**	**07 09 13.0**	**+0.2**
GOGA	**Godfrey**	**20.93**	**19**	P	**P**	**07 09 14.1**	**+0.9**
GRTK	**Grand Turk**	**20.95**	**65**	P	**P**	**07 09 12.1**	**-1.4**
VHRN	**Van Horn**	**20.98**	**326**	P	**P**	**07 09 15.2**	**+1.3**
APMT	**Aspermont**	**20.99**	**340**	P	**P**	**07 09 14.2**	**+0.3**
APMT				IAmb	IAmb	07 09 15.0	
	comp=Z,5.4nm,0.6s						
Y52A	**Lilburn**	**21.16**	**18**	P	**P**	**07 09 16.7**	**+0.9**
Y52A				IAmb	IAmb	07 09 19.0	
	comp=Z,5.0nm,0.6s						
POST	**Post**	**21.25**	**336**	P	**P**	**07 09 16.8**	**0.0**
WMOK	**Wichita Mounta**	**21.89**	**344**	P	**P**	**07 09 22.8**	**-0.8**
FCAR	**Ozark Folk Cen**	**22.06**	**359**	P	**P**	**07 09 25.6**	**+0.3**
HODGE	**Hodges**	**22.08**	**21**	P	**P**	**07 09 26.0**	**+0.4**
W50A	**Signal Mountai**	**22.10**	**14**	P	**P**	**07 09 26.1**	**+0.3**
LCAR	**Lake Charles**	**22.23**	**1**	P	**P**	**07 09 26.4**	**-0.8**
W52A	**Murphy**	**22.35**	**17**	P	**P**	**07 09 28.5**	**0.0**
CPCT	**Cooper Cave**	**22.53**	**15**	P	**P**	**07 09 30.8**	**+0.4**
Y57A	**Sumter**	**22.59**	**25**	P	**P**	**07 09 31.6**	**+0.5**
Y57A				IAmb	IAmb	07 09 31.9	
	comp=Z,8.1nm,0.7s						
SMWD	**Samnorwood**	**22.66**	**341**	P	**P**	**07 09 30.8**	**-1.0**
SMWD				IAmb	IAmb	07 09 33.9	
	comp=Z,5.5nm,0.6s						
TKL	**Tuckaleechee C**	**22.93**	**17**	P	**P**	**07 09 34.4**	**-0.1**
TKL				IAmb	IAmb	07 09 35.5	
	comp=Z,3.4nm,0.6s						
TKL	**Tuckaleechee C**	**22.93**	**17**	LR	LR	07 19 33.1	
	comp=Z,64nm,20.1s,baz=197,slow=41						
AMTX	**Amarillo**	**22.94**	**338**	P	**P**	**07 09 34.1**	**-0.7**
AMTX				IAmb	IAmb	07 09 36.6	
	comp=Z,5.6nm,0.6s						
PBMO	**Poplar Bluff**	**22.96**	**2**	P	**P**	**07 09 33.4**	**-1.5**
OK048	**Pawnee Station**	**23.08**	**349**	P	**P**	**07 09 36.4**	**+0.2**
OK048				IAmb	IAmb	07 09 45.5	
	comp=Z,14nm,1.5s						
V52A	**Sevierville**	**23.15**	**17**	P	**P**	**07 09 37.0**	**+0.3**
T42A	**Van Buren**	**23.20**	**1**	P	**P**	**07 09 35.4**	**-1.8**
T42A				IAmb	IAmb	07 09 37.1	
	comp=Z,9.6nm,1.4s						
V53A	**Saluda**	**23.22**	**18**	P	**P**	**07 09 36.9**	**-0.6**
U49A	**Red Boiling Sp**	**23.26**	**12**	P	**P**	**07 09 36.6**	**-1.2**
T47A	**Sharon Grove**	**23.49**	**9**	P	**P**	**07 09 40.6**	**+0.5**
T47A				IAmb	IAmb	07 10 03.1	
	comp=Z,4.5nm,0.8s						
CGM3	**Cape Girardeau**	**23.52**	**4**	P	**P**	**07 09 39.0**	**-1.4**
W57A	**Gilead**	**23.75**	**24**	P	**P**	**07 09 41.9**	**-0.6**
S39A	**Bolivar**	**23.90**	**357**	P	**P**	**07 09 43.6**	**-0.2**
S39A				IAmb	IAmb	07 09 44.6	
	comp=Z,3.3nm,0.6s						
V55A	**Taylorsville**	**23.91**	**21**	P	**P**	**07 09 44.2**	**+0.2**
319A	**Douglas**	**23.92**	**320**	P	**P**	**07 09 45.6**	**+1.3**
319A				IAmb	IAmb	07 09 53.2	
	comp=Z,6.3nm,1.0s						
T50A	**Nancy**	**23.95**	**13**	P	**P**	**07 09 43.4**	**-1.0**
CCM	**Cathedral Cave**	**24.22**	**1**	P	**P**	**07 09 45.4**	**-1.3**
CCM				IAmb	IAmb	07 09 48.1	
	comp=Z,5.1nm,0.9s						
U54A	**Nelsons Funny**	**24.31**	**19**	P	**P**	**07 09 47.9**	**+0.2**
U54A				IAmb	IAmb	07 10 16.2	
	comp=Z,4.2nm,0.8s						
OBIP	**Obispado Ponce**	**24.39**	**77**	P	**P**	**07 09 48.1**	**-0.4**
R40A	**Maddies Statio**	**24.46**	**359**	P	**P**	**07 09 48.7**	**-0.2**
ATAH	**Atahualpa**	**24.53**	**147**	LR	LR	07 18 09.4	
	comp=Z,63nm,19.6s,baz=16,slow=33						
V58A	**Windy Hill, Pi**	**24.66**	**25**	P	**P**	**07 09 50.2**	**-0.5**
V58A				IAmb	IAmb	07 09 50.7	
	comp=Z,4.3nm,0.7s						
LENM	**Lemitar**	**24.66**	**328**	P	**P**	**07 09 53.1**	**+2.0**
CNNC	**Cliffs of the**	**24.71**	**28**	P	**P**	**07 09 51.0**	**-0.3**
RTBA	**Rita Blanca**	**24.71**	**338**	P	**P**	**07 09 52.0**	**+0.5**
WCI	**Wyandotte Cave**	**24.84**	**10**	P	**P**	**07 09 51.7**	**-0.7**
WCI				IAmb	IAmb	07 09 52.9	
	comp=Z,3.7nm,0.8s						
OLIL	**Olney**	**25.08**	**6**	P	**P**	**07 09 55.0**	**+0.3**
OLIL				IAmb	IAmb	07 09 56.3	
	comp=Z,4.9nm,0.8s						
S54A	**Dingess, Beckl**	**25.64**	**19**	P	**P**	**07 09 59.6**	**-0.2**
T57A	**Hurt**	**25.65**	**23**	P	**P**	**07 09 59.8**	**0.0**
SSFO	**Shawnee State**	**25.94**	**15**	P	**P**	**07 10 03.1**	**+0.7**
SSFO				IAmb	IAmb	07 10 27.3	
	comp=Z,17nm,1.4s						
T59A	**Double "B" Far**	**26.31**	**26**	P	**P**	**07 10 04.8**	**-1.0**
T59A				IAmb	IAmb	07 10 10.9	
	comp=Z,5.2nm,1.1s						
R55A	**Marlinton**	**26.47**	**21**	P	**P**	**07 10 07.8**	**+0.4**
R55A				IAmb	IAmb	07 10 17.2	
	comp=Z,5.7nm,1.2s						
ACSO	**Alum Creek Sta**	**27.45**	**14**	P	**P**	**07 10 15.8**	**-0.2**
ACSO				IAmb	IAmb	07 10 24.2	
	comp=Z,4.1nm,0.7s						
O53A	**New Philadelph**	**27.93**	**17**	P	**P**	**07 10 20.4**	**+0.1**
O53A				IAmb	IAmb	07 10 26.0	
	comp=Z,6.1nm,1.1s						
O54A	**Avella**	**28.11**	**18**	P	**P**	**07 10 21.8**	**-0.2**
O54A				IAmb	IAmb	07 10 24.0	
	comp=Z,5.7nm,1.1s						
P57A	**Homestead Farm**	**28.29**	**23**	P	**P**	**07 10 24.3**	**+0.8**
N53A	**Lisbon**	**28.55**	**17**	P	**P**	**07 10 25.9**	**+0.1**
N53A				IAmb	IAmb	07 10 29.1	
	comp=Z,7.1nm,1.1s						
SSPA	**Standing Stone**	**29.35**	**22**	P	**P**	**07 10 32.8**	**-0.2**
SSPA				IAmb	IAmb	07 10 56.8	
	comp=Z,5.5nm,1.4s						
NNA	**Nana**	**29.45**	**150**	LR	LR	07 20 13.8	
	comp=Z,23nm,18.0s,baz=36,slow=32						
WVNY	**West Valley, N**	**30.69**	**19**	P	**P**	**07 10 44.5**	**-0.3**
WVNY				IAmb	IAmb	07 10 52.3	
	comp=Z,13nm,1.5s						
L56A	**Greenwood**	**30.79**	**21**	P	**P**	**07 10 46.4**	**+0.6**
L56A				IAmb	IAmb	07 10 51.0	
	comp=Z,12nm,1.5s						
J56A	**Wolcott**	**32.04**	**20**	P	**P**	**07 10 56.3**	**-0.3**
COWI	**Conover**	**32.32**	**3**	P	**P**	**07 10 58.0**	**-1.1**
J58A	**Remsen**	**32.67**	**22**	P	**P**	**07 11 01.4**	**-0.8**
J58A				IAmb	IAmb	07 11 10.3	
	comp=Z,5.9nm,1.2s						
SADO	**Sadowa**	**32.69**	**17**	LR	LR	07 25 04.2	
	comp=Z,64nm,18.9s,baz=240,slow=39						
BOAV	**Boa Vista**	**32.70**	**107**	P	**P**	**07 11 01.9**	**-0.9**
BOAV				IAmb	IAmb	07 11 11.8	
	comp=Z,3.6nm,1.1s						
E38A	**The Farm, Brul**	**32.76**	**0**	P	**P**	**07 11 02.1**	**-0.8**
E38A				IAmb	IAmb	07 11 24.6	
	comp=Z,6.4nm,1.1s						
DELO	**Deloro Mine**	**32.91**	**19**	P	**P**	**07 11 03.7**	**-0.5**
DELO				IAmb	IAmb	07 11 07.0	
	comp=Z,7.7nm,1.1s						
BGU	**Big Grassy Mou**	**32.92**	**329**	P	**P**	**07 11 06.0**	**+1.4**
NCB	**Newcomb**	**33.59**	**23**	P	**P**	**07 11 09.7**	**-0.6**
NCB				IAmb	IAmb	07 11 09.9	
	comp=Z,9.1nm,1.4s						
REDW	**Red Top Meadow**	**33.85**	**334**	P	**P**	**07 11 13.3**	**+0.6**
SNOW	**Snow King Moun**	**33.89**	**335**	P	**P**	**07 11 13.6**	**

H29M			IAmb	IAmb	07 14 46.0	
	comp=Z,5.1nm,1.5s					
RES	**Resolute Bay**	**60.96 359**	P	**P**	**07 14 42.3**	**0.0**
EGAK	**Eagle**	**61.10 338**	P	**P**	**07 14 43.8**	**+0.3**
EGAK			IAmb	IAmb	07 15 02.6	
	comp=Z,3.3nm,1.4s					
HIN	**Hinchinbrook I**	**61.17 332**	P	**P**	**07 14 45.3**	**+1.2**
G29M	**Pine Creek**	**61.25 341**	P	**P**	**07 14 44.9**	**+0.4**
J26L	**Joseph Creek**	**61.84 337**	P	**P**	**07 14 50.1**	**+1.4**
J26L			IAmb	IAmb	07 14 50.9	
	comp=Z,5.8nm,1.4s					
I26K	**Coal Creek Min**	**62.10 338**	P	**P**	**07 14 50.9**	**+0.7**
I26K			IAmb	IAmb	07 14 58.5	
	comp=Z,1.3nm,0.9s					
E29M	**Blow River**	**62.10 342**	P	**P**	**07 14 50.9**	**+0.7**
E29M			IAmb	IAmb	07 14 51.4	
	comp=Z,3.8nm,1.5s					
F28M	**Old Crow**	**62.24 341**	P	**P**	**07 14 52.0**	**+0.8**
F28M			IAmb	IAmb	07 14 52.6	
	comp=Z,2.8nm,0.8s					
G27K	**Doyon Strip**	**62.37 340**	P	**P**	**07 14 52.2**	**+0.2**
G27K			IAmb	IAmb	07 15 11.2	
	comp=Z,3.4nm,1.4s					
J25K	**Salcha River,**	**62.58 337**	P	**P**	**07 14 55.0**	**+1.4**
J25K			IAmb	IAmb	07 14 55.5	
	comp=Z,2.0nm,0.6s					
E28M	**Babbage River**	**62.72 342**	P	**P**	**07 14 54.8**	**+0.4**
E28M			IAmb	IAmb	07 15 09.5	
	comp=Z,3.7nm,1.4s					
GHO	**Glory Hole Cre**	**62.81 333**	P	**P**	**07 14 56.2**	**+1.0**
PRP	**Porcupine Dome**	**63.07 338**	P	**P**	**07 14 56.7**	**-0.2**
PRP			IAmb	IAmb	07 14 58.1	
	comp=Z,2.6nm,0.9s					
E27K	**Coleen River**	**63.10 341**	P	**P**	**07 14 57.8**	**+0.8**
E27K			IAmb	IAmb	07 15 22.5	
	comp=Z,2.9nm,1.3s					
IL03	**Eielson Array**	**63.22 337**	P	**P**	**07 14 56.8**	**-0.9**
IL31		**63.23 337**	P	**P**	**07 14 58.2**	**+0.5**
IL31			IAmb	IAmb	07 14 59.5	
	comp=Z,4.0nm,1.1s					
ILAR	**Eielson Array**	**63.23 337**	P	**P**	**07 14 58.2**	**+0.4**
	comp=Z,1.9nm,1.0s,baz=134,slow=4.6,SNR=15					
	comp=Z,1.9nm,1.0s					
RND	**Reindeer**	**63.43 335**	P	**P**	**07 14 59.6**	**+0.3**
SUA	**Susitna One**	**63.50 333**	P	**P**	**07 15 00.9**	**+1.1**
SUA			IAmb	IAmb	07 15 21.2	
	comp=Z,4.8nm,1.1s					
CCB	**Clear Creek Bu**	**63.53 336**	P	**P**	**07 14 59.5**	**-0.2**
CCB			IAmb	IAmb	07 15 16.6	
	comp=Z,2.4nm,1.3s					
BMAR	**Burnt Mountain**	**63.67 340**	P	**P**	**07 15 01.6**	**+0.8**
MDM	**Murphy Dome**	**63.83 337**	P	**P**	**07 15 02.5**	**+0.7**
SKT	**Skwentna**	**64.03 333**	P	**P**	**07 15 03.8**	**+0.6**
SKT			IAmb	IAmb	07 15 07.1	
	comp=Z,6.2nm,1.4s					
H24K	**Noodor Dome**	**64.08 338**	P	**P**	**07 15 04.2**	**+0.8**
H24K			IAmb	IAmb	07 15 04.8	
	comp=Z,6.1nm,1.5s					
I23K	**Minto, Yukon-K**	**64.35 337**	P	**P**	**07 15 05.9**	**+0.8**
MLY	**Manley**	**64.84 336**	P	**P**	**07 15 08.8**	**+0.4**
N19K	**Bonanza Creek**	**64.99 331**	P	**P**	**07 15 10.0**	**+0.4**
N19K			IAmb	IAmb	07 15 20.2	
	comp=Z,4.4nm,1.2s					
O18K	**Koktuh Hills**	**65.06 330**	P	**P**	**07 15 09.9**	**0.0**
G23K	**Bananza Creek**	**65.24 338**	P	**P**	**07 15 12.1**	**+1.1**
G23K			IAmb	IAmb	07 15 14.4	
	comp=Z,3.0nm,1.4s					
M19K	**Big River Lodg**	**65.28 332**	P	**P**	**07 15 11.9**	**+0.6**
M19K			IAmb	IAmb	07 15 36.3	
	comp=Z,5.5nm,1.4s					
CHGN	**Chignik**	**65.85 326**	P	**P**	**07 15 15.8**	**+0.8**
J20K	**Nowinta River**	**65.90 335**	P	**P**	**07 15 16.3**	**+1.1**
J20K			IAmb	IAmb	07 15 24.1	
	comp=Z,3.5nm,1.1s					
IMAR	**Indian Mountai**	**66.35 337**	P	**P**	**07 15 17.8**	**-0.3**
G21K	**Allakaket**	**66.45 337**	P	**P**	**07 15 19.5**	**+0.8**
G21K			IAmb	IAmb	07 15 41.1	
	comp=Z,5.5nm,1.4s					
F21K	**Alatna River**	**66.69 338**	P	**P**	**07 15 21.6**	**+1.3**
C23K	**Itkillik River**	**66.75 341**	P	**P**	**07 15 21.5**	**+1.0**
C23K			IAmb	IAmb	07 15 35.1	
	comp=Z,4.7nm,1.2s					
D22K	**Ayikyak River**	**67.03 340**	P	**P**	**07 15 23.0**	**+0.6**
D22K			IAmb	IAmb	07 15 27.1	
	comp=Z,4.4nm,1.4s					
F19K	**Shaleruckik Mo**	**68.16 337**	P	**P**	**07 15 30.5**	**+1.0**
F19K			IAmb	IAmb	07 15 58.8	
	comp=Z,3.8nm,1.2s					
D19K	**Kuna River**	**68.77 339**	P	**P**	**07 15 34.2**	**+0.8**
SPB4	**Spitsbergen Ar**	**80.25 11**	P	**P**	**07 16 38.7**	**-1.1**
SPA3	**Spitsbergen Ar**	**80.25 11**	P	**P**	**07 16 38.5**	**-1.4**
SPB5	**Spitsbergen Ar**	**80.25 11**	P	**P**	**07 16 40.9**	**+1.1**
SPB3	**Spitsbergen Ar**	**80.26 11**	P	**P**	**07 16 40.0**	**+0.2**
SPA1	**Spitsbergen Ar**	**80.26 11**	P	**P**	**07 16 39.6**	**-0.3**
SPITS	**Spitsbergen Ar**	**80.26 11**	P	**P**	**07 16 41.7**	**+1.8**
	comp=Z,1.0nm,0.4s,baz=320,slow=6.4,SNR=7.7					
	comp=Z,1.0nm,0.4s					
SPA2	**Spitsbergen Ar**	**80.26 11**	P	**P**	**07 16 38.6**	**-1.2**
SPB1	**Spitsbergen Ar**	**80.26 11**	P	**P**	**07 16 39.4**	**-0.5**
SPB2	**Spitsbergen Ar**	**80.26 11**	P	**P**	**07 16 39.3**	**-0.5**
WRA	**Warramunga Arr**	**135.72 255**	PKP	**PKiKP**	**07 23 58.1**	**+5.8**
	comp=Z,0.5nm,0.9s,baz=85,slow=2.1,SNR=2.3					

*IDC **02** 07:26:07.8±8.9,23°.23N×120°.56E,h0km,mb3.7/2, mbtmp3.6/3,ML3.4/1,MS3.5/14,Error ellipse: s-maj=370.6km s-min=45.3km az=98.0*

*NEIC **02** 07:26:09.7±0.7,23°.45N±0°.02×120°.41E±0°.03,h10km±2km, ML4.2/18,Error ellipse: s-maj=5.5km s-min=3.0km az=103.0*

*JMA **02** 07:26:09.9±0.2,23°.5N±0°.3×120°.4E±0°.5,h7km±2km, MV4.4/15,TAIWAN REGION*

*BJI **02** 07:26:10.3±0.0,23°.47N×120°.45E,h13km,mb4.2/13, mB4.5/5,ML5.0/8,Ms4.4/10,Ms7 4.1/11*

*ASIES **02** 07:26:10.0,23°.44N×120°.48E,h12km,ML4.6,Mw4.2, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; Mrr0.75; Mθθ2.13; Mφφ-1.29; Mrθ-0.41; Mθφ-1.31; Mφr0.55; Fault plane solution: M0 2.36377×10^{22} NP1: φs334.66000°,δ85.10000°,λ17.92000°. NP2: φs243.08000°,δ72.14000°,λ174.85000°. Principal axes: T Plg16.0980°, Azm200.2180°; N Plg71.4360°, Azm349.4560°; P Plg9.0010°, Azm107.5980°;*

*TAP **02** 07:26:10.0,23°.44N×120°.48E,h12km,ML4.6,B*

ISC 02 07:26:10.3±0.7,23°.43N±0°.01×120°.47E±0°.01,h16km±4km, n216,σ1§04/298,MS3.5/12,37C-40D,Taiwan

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHY	**Chiayi**	**0.08 331**	↓*iP*	**Pg**	**07 26 13.1**	**-0.3**
	baz=324					
CHY			*i* S	**Sg**	07 26 15.5	0.0
	baz=324					
WCKO	**Fanlu**	**0.13 86**	↓*iP*	**Pb**	**07 26 13.7**	**-0.7**
	baz=90					
WCKO			*i* S	**Sb**	07 26 16.2	-0.9
	baz=90					
CHN4	**Tsaushan**	**0.14 123**	↓*iP*	**Pb**	**07 26 14.1**	**-0.5**
	baz=129					
CHN4			S	**Sb**	07 26 17.1	-0.4
	baz=129					
TWK	**Hsinying**	**0.16 172**	⇑*iP*	**Pb**	**07 26 14.9**	**-0.1**
	baz=166					
TWK			*i* S	**Sg**	07 26 18.3	+1.0
	baz=166					
ICHU	**Yijhu**	**0.18 248**	↓*iP*	**Pg**	**07 26 15.2**	**+0.5**
	baz=247					
ICHU			*i* S	**Sb**	07 26 19.5	+0.8
	baz=247					
TPUB	**Ta-pu**	**0.20 130**	P	**Pg**	**07 26 14.5**	**-0.5**
TPUB	**Ta-pu**	**0.20 130**	Pg	**Pg**	**07 26 14.9**	**0.0**
TPUB			Sg	**Sb**	07 26 18.9	-0.2
TPUB	**Ta-pu**	**0.20 130**	↓*iP*	**Pg**	**07 26 15.1**	**+0.1**
	baz=135					
TPUB			*i* S	**Sg**	07 26 18.5	+0.3
	baz=135					
SNST	**Tainan City**	**0.21 172**	⇑*iP*	**Pg**	**07 26 15.6**	**+0.5**
	baz=176					
SNST			*i* S	**Sb**	07 26 19.7	+0.2
	baz=176					
WTP	**Ta-pu**	**0.23 143**	↓*iP*	**Pg**	**07 26 15.9**	**+0.4**
	baz=146					
WTP			*i* S	**Sb**	07 26 20.0	0.0
	baz=146					
WSL	**Shuilin Townsh**	**0.24 293**	↓*iP*	**Pg**	**07 26 16.0**	**+0.5**
	baz=290					
WSL			*e*S	**Sb**	07 26 20.9	+0.7
	baz=290					
CHN8	**Yiju**	**0.25 251**	⇑*iP*	**Pg**	**07 26 16.1**	**+0.4**
	baz=248					
CHN8			*i* S	**Sb**	07 26 21.4	+0.9
	baz=248					
CHN1	**Nanshi**	**0.25 167**	⇑*iP*	**Pg**	**07 26 16.2**	**+0.5**
	baz=170					
CHN1			*i* S	**Sb**	07 26 20.9	+0.3
	baz=170					
WDLH	**Douliu**	**0.27 15**	⇑*iP*	**Pb**	**07 26 16.7**	**-0.1**
	baz=12					
WDLH			*e*S	**Sb**	07 26 21.9	+0.8
	baz=12					
WGK	**Gukeng**	**0.27 19**	⇑*iP*	**Pb**	**07 26 16.6**	**-0.2**
	baz=19					
WGK			*i* S	**Sb**	07 26 21.8	+0.5
	baz=19					
WSF	**Szhu**	**0.30 313**	↓*iP*	**Pg**	**07 26 17.0**	**+0.3**
	baz=311					
WSF			*i* S	**Sb**	07 26 22.6	+0.4
	baz=311					
SSHA	**Shanhua**	**0.33 209**	⇑*iP*	**Pb**	**07 26 18.3**	**+0.5**
	baz=210					
SSHA			S	**Sb**	07 26 24.5	+1.6
	baz=210					
SCLT	**Jiali**	**0.35 225**	⇑*iP*	**Pb**	**07 26 18.3**	**+0.1**
	baz=224					
SCLT			*e*S	**Sb**	07 26 25.4	+1.8
	baz=224					
SGST	**Jiashian**	**0.36 162**	⇑*eP*	**Pg**	**07 26 17.4**	**-0.3**
	baz=164					
SGST			*i* S	**Sb**	07 26 23.8	0.0
	baz=164					
CHN3	**Shinhua**	**0.36 195**	⇑*iP*	**Pb**	**07 26 19.1**	**+0.8**
	baz=207					
CHN3			*e*S	**Sb**	07 26 25.9	+2.1
	baz=207					
STYT	**Tauyuan**	**0.38 134**	↓*iP*	**Pg**	**07 26 18.4**	**+0.4**
	baz=137					
STYT			S	**Sb**	07 26 24.1	-0.2
	baz=137					
STYH	**Taoyuan**	**0.38 132**	↓*iP*	**Pg**	**07 26 18.4**	**+0.3**
	baz=135					
STYH			S	**Sb**	07 26 24.3	-0.1
	baz=135					
SHHT	**Tainan City**	**0.42 195**	⇑*iP*	**Pb**	**07 26 20.5**	**+1.2**
	baz=206					
SHHT			*e*S	**Sn**	07 26 28.4	-0.7
	baz=206					
TAI1	**Yung-k'ang**	**0.44 209**	*e*P	**Pb**	**07 26 20.4**	**+0.7**
	baz=209					
TAI1			*e*S	**Sn**	07 26 28.7	-1.0
	baz=209					
WHYT	**Xinyi Township**	**0.45 53**	↓*eP*	**Pg**	**07 26 19.4**	**+0.1**
	baz=53					
WHYT			*i* S	**Sb**	07 26 26.2	-0.1
	baz=53					
TSCK	**Chigu Township**	**0.45 231**	*e*P	**Pb**	**07 26 19.9**	**+0.1**
	baz=231					
TSCK			*e*S	**Sn**	07 26 28.4	-1.4
	baz=231					
YUS	**Yu-Shan**	**0.45 82**	↓*iP*	**Pg**	**07 26 19.9**	**+0.4**
	baz=84					
YUS			*e*S	**Sb**	07 26 27.0	+0.1
	baz=84					
WJS	**Zhushan**	**0.46 32**	⇑*iP*	**Pb**	**07 26 19.9**	**-0.2**
	baz=31					
WJS			S	**Sb**	07 26 27.7	+1.0
	baz=31					
SLGT	**Liugui**	**0.46 159**	*e*P	**Pb**	**07 26 20.5**	**+0.4**
	baz=161					
SLGT			*e*S	**Sb**	07 26 27.9	+1.1
	baz=161					
WTCT	**Ta-ch'eng**	**0.47 339**	*i* P	**Pg**	**07 26 19.8**	**+0.2**
	baz=338					
WTCT			*i* S	**Sb**	07 26 27.1	+0.3
	baz=338					
RLNB	**Erlin**	**0.47 348**	⇑*iP*	**Pg**	**07 26 20.0**	**+0.3**
	baz=338					
RLNB			S	**Sb**	07 26 27.0	0.0
	baz=338					
WRL	**Guolierlin Hig**	**0.48 350**	⇑*iP*	**Pb**	**07 26 20.2**	**-0.1**
	baz=340					
WRL			S	**Sb**	07 26 27.8	+0.6
	baz=340					
WNT	**Mingjian**	**0.49 24**	⇑*iP*	**Pb**	**07 26 20.5**	**-0.1**
	baz=24					
WNT			*i* S	**Sb**	07 26 28.4	+0.8
	baz=24					
TAI	**Tainan**	**0.50 210**	P	**Pb**	**07 26 21.4**	**+0.8**
	baz=220					
TAI			*e*S	**Sn**	07 26 30.2	-0.8
	baz=220					
WNT1	**Nantou City**	**0.52 22**	P	**Pb**	**07 26 20.9**	**-0.1**
	baz=21					
WNT1			*e*S	**Sb**	07 26 28.8	+0.5
	baz=21					
WYL	**Yuanlin Townsh**	**0.54 11**	⇑P	**Pb**	**07 26 21.2**	**-0.2**
	baz=10.0					
WYL			S	**Sb**	07 26 29.6	+0.7
	baz=10.0					
ELDTW	**Lidau**	**0.56 115**	↓*iP*	**Pg**	**07 26 21.7**	**+0.3**
	baz=110					
ELDTW			*e*S	**Sb**	07 26 30.1	+0.4
	baz=110					
SSLB	**Suanglung**	**0.57 51**	P	**Pb**	**07 26 22.0**	**0.0**
SSLB	**Suanglung**	**0.57 51**	Pg	**Pg**	**07 26 21.5**	**-0.1**
SSLB			Sg	**Sb**	**07 26 29.8**	**-0.1**
SSLB			IAML		07 26 31.1	
	comp=N,12μm,0.4s					
SSLB			IAML		07 26 31.3	
	comp=E,11μm,0.4s					
SSLB	**Suanglung**	**0.57 51**	↓*iP*	**Pg**	**07 26 21.7**	**0.0**
	baz=51					
SSLB			S	**Sb**	07 26 29.5	-0.5
	baz=51					
TYC	**Yuchr**	**0.59 37**	⇑*iP*	**Pb**	**07 26 22.4**	**+0.1**
	baz=38					
TYC			*e*S	**Sb**	07 26 31.1	+0.5
	baz=38					
SMLT	**Sun Moon Lake**	**0.60 41**	⇑*iP*	**Pb**	**07 26 22.5**	**0.0**
	baz=42					
SMLT			S	**Sb**	07 26 31.7	+0.8
	baz=42					
TWM1	**Shoushan**	**0.60 184**	⇑*iP*	**Pn**	**07 26 24.4**	**+0.1**
	baz=198					
WWF	**Wufeng**	**0.65 19**	⇑P	**Pb**	**07 26 23.2**	**-0.1**
	baz=18					
WWF			S	**Sn**	07 26 33.1	-1.7
	baz=18					
SNJT	**Kaohsiung City**	**0.68 190**	*e*P	**Pn**	**07 26 25.4**	**+0.1**
	baz=191					
SNJT			*e*S	**Sn**	07 26 37.7	+2.1
	baz=191					
SSD	**Sandimen**	**0.70 167**	⇑*iP*	**Pg**	**07 26 24.7**	**+0.8**
	baz=156					
SSD			*i* S	**Sn**	07 26 35.0	-0.9
	baz=156					
VWDT	**VWDT**	**0.70 62**	↓*iP*	**Pg**	**07 26 24.3**	**+0.3**
	baz=63					
VWDT			S	**Sg**	07 26 34.1	+0.8
	baz=63					
DPDB	**Guoxing**	**0.74 35**	⇑*iP*	**Pb**	**07 26 24.6**	**-0.1**
	baz=35					
DPDB			S	**Sg**	07 26 35.3	+0.8
	baz=35					
EHD	**Haiduan**	**0.74 112**	↓*iP*	**Pb**	**07 26 24.7**	**-0.1**
	baz=114					
WPL	**Puli Township**	**0.74 38**	*e*P	**Pg**	**07 26 24.8**	**+0.1**
	baz=37					
WPL			*e*S	**Sg**	07 26 34.8	+0.4
	baz=37					
TCU	**Taichung**	**0.74 15**	⇑P	**Pb**	**07 26 24.7**	**-0.1**
	baz=16					
TSPT	**Pingtung City**	**0.75 178**	*e*P	**Pn**	**07 26 26.5**	**+0.3**
	baz=168					
TSPT			*e*S	**Sn**	07 26 39.1	+1.9
	baz=168					
WCS	**Beigang Elemen**	**0.75 33**	⇑P	**Pb**	**07 26 24.8**	**-0.2**
	baz=33					
WCS			*i* S	**Sg**	07 26 35.6	+0.9
	baz=33					
WDGT	**Dungji**	**0.76 257**	↓*iP*	**Pb**	**07 26 24.8**	**-0.3**
	baz=256					
WDGT			S	**Sb**	07 26 34.9	-0.3
	baz=256					
YULB	**Yu-li**	**0.77 93**	P	**Pg**	**07 26 25.7**	**+0.5**
YULB	**Yu-li**	**0.77 93**	Pg	**Pb**	**07 26 25.2**	**0.0**
YULB			Sg	**Sg**	**07 26 35.6**	**+0.2**
YULB			IAML		07 26 53.0	
	comp=N,6μm,0.3s					
YULB	**Yu-li**	**0.77 93**	↓P	**Pb**	**07 26 25.1**	**-0.1**
	baz=104					
YULB			*e*S	**Sg**	07 26 35.8	+0.5
	baz=104					
TWF1	**Yuli**	**0.77 96**	↓*iP*	**Pg**	**07 26 25.4**	**+0.1**
	baz=107					
TWF1			*e*S	**Sg**	07 26 36.0	+0.6
	baz=107					
ECS	**Chishang**	**0.77 115**	↓*iP*	**Pg**	**07 26 25.7**	**+0.4**
	baz=109					
ECS			S	**Sg**	07 26 36.6	+1.1
	baz=109					
EYUL	**Yuli**	**0.79 96**	↓*eP*	**Pb**	**07 26 25.6**	**-0.1**
	baz=97					
EHY	**Hungye**	**0.79 84**	↓*iP*	**Pg**	**07 26 25.8**	**+0.1**
	baz=86					
EHY			S	**Sg**	07 26 36.9	+0.7
	baz=86					
FULB	**Fuli**	**0.80 107**	↓*iP*	**Pg**	**07 26 26.3**	**+0.6**
	baz=108					
FULB			*e*S	**Sn**	07 26 37.9	-0.6
	baz=108					
LONT	**Longtian**	**0.80 130**	↓P	**Pg**	**07 26 26.2**	**+0.3**
	baz=132					
LONT			*e*S	**Sg**	07 26 37.5	+1.0
	baz=132					
EHYH	**Wanrong**	**0.81 85**	*e*P	**Pb**	**07 26 26.0**	**0.0**
	baz=96					
EHYH			*e*S	**Sg**	07 26 37.5	+0.7
	baz=96					
WUSB	**Renai**	**0.82 47**	⇑*iP*	**Pb**	**07 26 25.9**	**-0.3**
	baz=47					
WUSB			S	**Sb**	07 26 36.7	-0.5
	baz=47					
PHUB	**P'eng-hu**	**0.82 276**	↓*iP*	**Pb**	**07 26 25.5**	**-0.8**
	baz=275					
PHUB			S	**Sb**	07 26 36.5	-0.6
	baz=275					
TWG	**Pinlang**	**0.82 137**	Pg	**Pg**	**07 26 26.7**	**+0.3**
TWG			Sg	**Sg**	**07 26 37.8**	**+0.7**
TWG	**Pinlang**	**0.82 137**	↓*iP*	**Pg**	**07 26 26.6**	**+0.3**
	baz=128					
TWG			S	**Sg**	07 26 38.3	+1.1
	baz=128					
MASBT	**Mashibuluo**	**0.83 169**	P	**Pg**	**07 26 26.6**	**+0.3**
	baz=160					
MASBT			*e*S	**Sn**	07 26 38.6	-0.6
	baz=160					
TWGBT	**Beinan**	**0.83 137**	P	**Pg**	**07 26 26.7**	**+0.2**
TWGBT	**Beinan**	**0.83 137**	↓*iP*	**Pg**	**07 26 26.6**	**+0.2**
	baz=128					
TWGBT			*i* S	**Sg**	07 26 38.3	+0.9
	baz=128					
OWD	**Renai**	**0.84 51**	*e*P	**Pg**	**07 26 26.6**	**0.0**
	baz=51					
OWD			*e*S	**Sb**	07 26 37.3	-0.3
	baz=51					
PNG	**Penghu**	**0.85 280**	↓P	**Pb**	**07 26 25.9**	**-0.7**
	baz=278					
PNG			*e*S	**Sb**	07 26 37.3	-0.4
	baz=278					
KAU	**Kaohsiung**	**0.87 190**	*e*P	**Pn**	**07 26 28.1**	**+0.2**
	baz=190					
HGSD	**Ruisui**	**0.88 86**	↓*iP*	**Pn**	**07 26 28.1**	**0.0**
	baz=73					
HGSD			*e*S	**Sn**	07 26 40.3	-0.3
	baz=73					
CHKH	**Chenggong**	**0.89 105**	↓*eP*	**Pg**	**07 26 27.8**	**+0.3**
	baz=100					
CHKT	**Chengkung**	**0.89 111**	↓*iP*	**Pn**	**07 26 28.3**	**+0.2**
	baz=113					
WARBT	**Fenglin Townsh**	**0.89 71**	↓*iP*	**Pb**	**07 26 27.3**	**-0.1**
	baz=72					
WARBT			*i* S	**Sb**	07 26 39.0	-0.1
	baz=72					
CHGB	**Renai**	**0.90 46**	⇑*iP*	**Pb**	**07 26 27.5**	**-0.3**
	baz=46					
CHGB			*e*S	**Sb**	07 26 38.9	-0.8
	baz=46					
ECBN	**Changbin**	**0.91 97**	↓*eP*	**Pn**	**07 26 29.1**	**+0.6**
	baz=105					
TTN	**Taitung**	**0.92 137**	*e*P	**Pb**	**07 26 28.1**	**+0.2**
	baz=138					
TTN			*e*S	**Sn**	07 26 43.1	+1.6
	baz=138					
WDJ	**Dajia District**	**0.93 10**	*e*P	**Pg**	**07 26 28.4**	**+0.1**
	baz=9.0					
WDJ			*e*S	**Sn**	07 26 41.8	+0.1
	baz=9.0					
ECL	**Taimali**	**0.94 151**	P	**Pg**	**07 26 28.7**	**+0.1**
	baz=148					
ECL			*e*S	**Sn**	07 26 41.8	-0.2
	baz=148					
WHP	**Taichung City**	**0.95 27**	⇑*iP*	**Pb**	**07 26 28.3**	**-0.2**
	baz=27					
WHP			*e*S	**Sn**	07 26 42.1	-0.4
	baz=27					
ESL	**Shilin**	**0.97 66**	↓*iP*	**Pb**	**07 26 28.8**	**+0.1**
	baz=67					
ESL			*e*S	**Sg**	07 26 41.8	+0.1
	baz=67					
VCHM	**Qimei**	**0.98 257**	↓*iP*	**Pb**	**07 26 28.2**	**-0.6**
	baz=256					
VCHM			S	**Sb**	07 26 40.9	-0.7
	baz=256					
NSY	**Sanyi**	**1.02 15**	⇑P	**Pn**	**07 26 29.8**	**-0.2**
	baz=16					
WHF	**Hehuan Shan**	**1.02 46**	*e*P	**Pb**	**07 26 29.7**	**-0.2**
	baz=46					
WHF			*e*S	**Sg**	07 26 43.3	-0.3
	baz=46					
TDCB	**Techi**	**1.04 38**	⇑P	**Pb**	**07 26 29.5**	**-0.5**
	baz=37					
TDCB			*e*S	**Sg**	07 26 43.6	-0.4
	baz=37					
TWT	**Tachien**	**1.05 38**	*e*P	**Pb**	**07 26 29.8**	**-0.4**
	baz=49					
LXIB	**Xiulin Townshi**	**1.05 56**	↓*iP*	**Pb**	**07 26 30.0**	**-0.2**
	baz=44					
LXIB			S	**Sg**	07 26 44.2	-0.2
	baz=44					
SCZT	**Fangliau**	**1.06 172**	P	**Pn**	**07 26 30.6**	**+0.1**
	baz=163					
SCZT			*e*S	**Sg**	07 26 46.1	+1.4
	baz=163					
SHUL	**Shoufeng**	**1.07 70**	↓*eP*	**Pn**	**07 26 30.6**	**0.0**
	baz=71					
SHUL			*e*S	**Sg**	07 26 45.6	+0.6
	baz=71					
TWP	**Hsiaoliuchiu**	**1.08 185**	*e*P	**Pn**	**07 26 31.2**	**+0.5**
	baz=206					
ETM	**Tongmen**	**1.08 60**	*e*P	**Pb**	**07 26 30.4**	**-0.2**
	baz=72					
ETM			*e*S	**Sg**	07 26 45.5	+0.1
	baz=72					
FUSS	**Fushou**	**1.08 41**	*e*P	**Pb**	**07 26 30.2**	**-0.6**
	baz=42					
EAST	**Anshuo**	**1.10 161**	⇑P	**Pn**	**07 26 31.4**	**+0.4**
	baz=162					
TEYL	**Yanliau Villag**	**1.13 67**	*e*P	**Pg**	**07 26 32.2**	**+0.2**
	baz=67					
TAW	**Tawu**	**1.14 159**	*e*P	**Pb**	**07 26 32.0**	**+0.5**
	baz=161					
TAW			*e*S	**Sg**	07 26 48.0	+0.9
	baz=161					
NMLH	**Miaoli**	**1.14 15**	*e*P	**Pb**	**07 26 31.6**	**-0.1**
	baz=15					
TAWH	**Dawu Township**	**1.15 160**	*e*P	**Pb**	**07 26 32.1**	**+0.3**
	baz=162					
HWA	**Hwalien**	**1.18 62**	↓P	**Pg**	**07 26 33.0**	**0.0**
	baz=63					
HWA			*e*S	**Sg**	07 26 49.0	+0.5
	baz=63					
LDUT	**Ludao**	**1.19 129**	↓P	**Pn**	**07 26 32.4**	**+0.1**
	baz=131					
LDUT			*e*S	**Sg**	07 26 49.1	+0.3
	baz=131					
TWD	**Chiawan**	**1.22 58**	*e*P	**Pb**	**07 26 33.0**	**-0.1**
	baz=58					
NACB	**Ninganchiao**	**1.27 54**		**Pb**	**07 26 33.8**	**-0.1**
NACB			IAML		07 27 10.3	

NACB	Ninganchiao	1.27	54	eP	Pn	07 26 33.5	0.0
	baz=54						
ETL	Fush Village	1.29	55	eP	Pb	07 26 33.8	-0.3
	baz=56						
NSTT	Nanjuang	1.29	22	⇑P	Pn	07 26 33.6	-0.1
	baz=22						
NJN	Zhunan	1.30	16	eP	Pn	07 26 33.7	-0.2
	baz=17						
NNSB	Datong	1.30	40	⇑P	Pn	07 26 33.9	-0.1
	baz=41						
NNSH	Datong	1.30	40	eP	Pn	07 26 34.0	0.0
	baz=27						
NNS	Nan Shan	1.31	39	eP	Pn	07 26 34.0	0.0
	baz=29						
NNS				eS	Sn	07 26 51.2	0.0
	baz=29						
NFF	Wufeng Townshi	1.34	26	⇑eP	Pn	07 26 34.5	+0.1
	baz=27						
NJD	Zhudong	1.42	24	eP	Pb	07 26 36.2	-0.2
	baz=24						
HSN1	Hsinchu	1.44	21	eP	Pn	07 26 36.0	+0.3
	baz=21						
HEN	Hengchun	1.44	170	eP	Pn	07 26 36.2	+0.5
	baz=170						
SBCB	Hsinchu	1.44	19	eP	Pn	07 26 36.0	+0.3
	baz=18						
SBCB				S	Sb	07 26 55.1	+0.2
	baz=18						
HSN	Hsinchu	1.44	19	eP	Pb	07 26 36.7	-0.1
	baz=20						
SMST	Manzhou Townsh	1.44	166	eP	Pn	07 26 36.0	+0.2
	baz=184						
LATG	Datong	1.47	41	⇑P	Pb	07 26 36.9	-0.4
	baz=30						
LATG				eS	Sb	07 26 55.7	-0.1
	baz=30						
EAHA	Aohua	1.47	52	eP	Pb	07 26 36.9	-0.4
	baz=53						
NSK	Sanguang	1.49	33	eP	Pn	07 26 36.5	0.0
	baz=18						
YHNB	Yeheng	1.49	34	Pn	Pn	07 26 36.4	-0.1
YHNB				IAML		07 27 14.1	
	comp=N,3μm,0.7s						
YHNB				IAML		07 27 22.9	
	comp=E,4μm,0.5s						
YHNB	Yeheng	1.49	34	P	Pn	07 26 36.6	+0.1
	baz=20						
YHNB				S	Sb	07 26 56.3	-0.1
	baz=20						
NDT	Datong Townshi	1.51	39	eP	Pb	07 26 37.3	-0.7
	baz=30						
TWK1	Hengchun	1.51	168	⇑P	Pn	07 26 37.1	+0.4
	baz=168						
TWKBT	Hengchun	1.52	168	⇑P	Pn	07 26 37.1	+0.3
	baz=168						
ENA	Nanau	1.53	49	eP	Pb	07 26 38.2	-0.2
	baz=51						
ENTT	Nioudou	1.57	40	⇑P	Pb	07 26 38.5	-0.5
	baz=32						
EWUT	Wuta	1.57	50	eP	Pb	07 26 38.6	-0.4
	baz=68						
NWLT	Wulai	1.64	35	eP	Pn	07 26 39.0	+0.4
	baz=17						
NDS	Dongshan	1.66	43	eP	Pb	07 26 40.3	-0.1
	baz=55						
NHW	Xinwu Township	1.66	19	eP	Pn	07 26 39.2	+0.5
	baz=19						
NCUH	Zhongli	1.67	23	eP	Pn	07 26 39.0	+0.1
	baz=23						
NCU	National Centr	1.67	23	eP	Pn	07 26 39.2	+0.3
	baz=24						
FUSB	Fushanzhiwuyua	1.68	38	eP	Pb	07 26 39.8	-1.0
	baz=20						
TWE	Neicheng	1.69	40	eP	Pb	07 26 40.2	-0.9
	baz=23						
ESAO	Su ao	1.70	48	eP	Pb	07 26 40.9	-0.3
	baz=33						
LAY	Lan-yu	1.71	144	eP	Pn	07 26 39.3	-0.1
	baz=145						
TWC	Suao	1.73	47	eP	Pb	07 26 41.6	-0.1
	baz=34						
LYUB	Lan-yu	1.76	144	eP	Pn	07 26 38.5	-1.5
	baz=145						
TATO	Taipei	1.80	31	Pn	Pn	07 26 41.0	+0.2
TATO				IAML		07 27 36.3	
	comp=E,2μm,0.5s						
TATO				IAML		07 27 37.0	
	comp=E,2μm,1.1s						
TATO	Taipei	1.80	31	eP	Pn	07 26 40.9	+0.2
	baz=15						
VWUC	VWUC	1.81	329	eP	Pn	07 26 40.0	-0.8
	baz=329						
EOS4	EOS4	1.83	68	eP	Pn	07 26 41.3	+0.5
	baz=69						
TWA	Mucha	1.85	33	eP	Pn	07 26 41.8	+0.3
	baz=17						
TWS1	Kuangyinshan	1.88	27	eP	Pn	07 26 42.2	+0.4
	baz=13						
EOS3	EOS3	1.90	63	eP	Pb	07 26 43.1	-1.4
	baz=63						
EGS		1.95	43	eP	Pb	07 26 45.3	-0.1
	baz=25						
TIPB	Shuangxi	1.98	39	eP	Pn	07 26 44.2	+1.0
	baz=24						
YM01	YM01	1.99	30	eP	Pn	07 26 43.7	+0.4
	baz=15						
ANP	Anpu	2.00	29	eP	Pn	07 26 43.6	+0.1
	baz=14						
PTMZ	Houxiangcun	2.02	323	eP	Pn	07 26 42.7	-1.0
	baz=322						
NWF	Wu-fen Shan	2.03	36	eP	Pn	07 26 44.9	+0.9
	baz=18						
WFSB	Wu-fen Shan	2.03	36	eP	Pn	07 26 44.7	+0.8
	baz=19						
YM08	YM08	2.03	30	eP	Pn	07 26 44.5	+0.6
	baz=15						
TNOU	National Taiwa	2.09	35	eP	Pn	07 26 45.6	+0.9
	baz=19						
SXI1	Grass Mountain	2.10	38	eP	Pn	07 26 45.4	+0.5
	baz=21						
TWB1	Santiao Chiao	2.10	41	eP	Pn	07 26 45.6	+0.8
	baz=24						
KNM	Kinmen	2.10	298	eP	Pn	07 26 45.8	+0.9
	baz=295						
TWY	Chenhua	2.11	29	eP	Pn	07 26 45.9	+1.0
	baz=15						
KNMB	Chin-men Tao	2.16	299	Pn	Pn	07 26 45.0	-0.6
KNMB				IAML		07 27 11.2	
	comp=E,1μm,0.8s						
KNMB				IAML		07 27 41.5	
	comp=N,2μm,0.5s						
KNMB	Chin-men Tao	2.16	299	eP	Pn	07 26 44.7	-1.0
	baz=297						
QZH	Quanzhou	2.28	312	Pn	Pn	07 26 46.5	-0.8
QZH				Pg	Pg	07 26 53.6	-0.4
QZH				Sn	Sn	07 27 13.8	-1.3
QZH				smax	smax		
	comp=N,3μm,0.9s						
QZH				smax	smax		
	comp=N,4μm,0.9s						
JYNG	Yonagunijimaku	2.49	65	eP	Pn	07 26 51.7	+1.6
JYNG				eS	Sb	07 27 23.5	-1.5
ZPLA	Ao Xicun	2.54	282	eP	Pn	07 26 50.3	-0.5
	baz=281						
YOJ	Yonaguni jima	2.55	66	Pn	Pn	07 26 51.8	+0.9
YOJ	Yonaguni jima	2.55	66	eP	Pn	07 26 52.2	+1.2
	baz=67						
YOJ	Yonaguni jima	2.55	66	eP	Pn	07 26 53.1	+2.1
PCYT	Pengchaiyu	2.63	33	eP	Pn	07 26 52.6	+0.5
	baz=20						
MATB	Ma-tsu	2.75	350	eP	Pn	07 26 52.7	-1.1
	baz=351						
MSUT	Lienchiang	2.77	350	eP	Pn	07 26 54.0	-0.1
	baz=351						
DSXP	Dongshan	2.80	276	⇓eP	Pn	07 26 54.0	-0.4
	baz=275						
MHZQ	Yeshan	2.96	334	eP	Pn	07 26 56.7	+0.1
	baz=333						
IRIF	Iriomote-Funau	3.12	73	P	Pn	07 27 00.8	+2.0
HATJ	Hateruma jima	3.12	78	eP	Pn	07 27 00.2	+1.3
HATJ				eS	Sn	07 27 38.5	+2.6
LYJJ	Jianjiangzhen	3.17	349	eP	Pn	07 26 58.9	-0.6
	baz=349						
JKRS	Kuro-shima	3.34	75	eP	Pn	07 27 04.0	+2.1
JKRS				eS	Sn	07 27 44.4	+3.0
JIJ	Ishigaki jima	3.49	74	eP	Pn	07 27 04.6	+0.6
JIJ				eS	Sn	07 27 47.2	+2.1
XPSS	Dashiqiu	3.50	356	eP	Pn	07 27 03.4	-0.6
	baz=358						
JISG	Ishigakijimahi	3.70	71	eP	Pn	07 27 07.7	+0.9
JISG				eS	Sn	07 27 51.8	+1.6
SXFK	Yanhouchang	3.91	320	eP	Pn	07 27 08.9	-0.9
	baz=317						
JTJ	Tarama	4.06	72	eP	Pn	07 27 13.6	+1.9
JTJ				eS	Sn	07 28 02.3	+3.4
VDOS	Pratas Island	4.40	233	eP	Pn	07 27 17.5	+1.0
	baz=235						
HKPS	Hong Kong Po S	5.94	260	Pn	Pn	07 27 36.8	-0.9
HKPS	Hong Kong Po S	5.94	260	eP	Pn	07 27 38.8	+1.1
	baz=259						
CNSH	ChangSha	8.28	306	P	Pn	07 28 11.6	+1.9
CNSH				S	Sn	07 29 44.2	+1.3
CNSH				smax	smax		
	comp=N,640nm,0.8s						
CNSH				smax	smax		
	comp=N,700nm,1.0s						
NJ2	Nanjing	8.71	351	eP	Pn	07 28 18.7	+3.1
NJ2				S	Sn	07 30 00.8	+7.3
NJ2				pmax	pmax		
	comp=N,16nm,0.8s						
NJ2				smax	smax		
	comp=N,380nm,0.9s						
NJ2				smax	smax		
	comp=N,290nm,0.9s						
WHN	Wuhan	8.94	324	eP	Pn	07 28 22.5	+3.7
WHN				S	Sn	07 30 04.1	+4.9
WHN				LR	LR		
	comp=N,2μm,10.4s						
QIZ	Qiongzhong	10.83	248	P	Pn	07 28 42.8	-2.0
QIZ				S	Sn	07 30 43.9	-1.8
QIZ				pmax	pmax		
	comp=Z,36nm,1.5s						
QIZ				LR	LR		
	comp=N,840nm,12.6s						
QIZ				LR	LR		
	comp=E,540nm,6.7s						
QIZ				LR	LR		
	comp=Z,430nm,9.3s						
LYN	LuoYang	13.10	330	eP	Pn	07 29 11.3	-4.4
LYN				S	Sn	07 31 38.6	-2.6
LYN				pmax	pmax		
	comp=Z,17nm,0.5s						
LYN				pmax	pmax		
	comp=Z,240nm,3.7s						
LYN				LR	LR		
	comp=N,1μm,8.3s						
LYN				LR	LR		
	comp=E,820nm,7.6s						
LYN				LR	LR		
	comp=Z,730nm,8.8s						
JNU	Nakatsue	13.31	41	LR	LR	07 35 26.5	
	comp=Z,184nm,19.4s,baz=218,slow=42						
KSRS	Korea Array	15.38	23	Pn	Pn	07 29 47.8	+1.1
	comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=2.1						
KSRS				LR	LR	07 36 10.2	
	comp=Z,116nm,18.6s,baz=160,slow=39						
	comp=Z,0.6nm,0.6s						
PZH	PanZhiHua	17.25	284	P	Pn	07 30 09.2	-1.6
PZH				S	Sn	07 33 23.1	+0.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.0s						
PZH				LR	LR		
	comp=Z,370nm,8.1s						
PZH				LR	LR		
	comp=Z,670nm,9.2s						
PZH				LR	LR		
	comp=Z,670nm,8.6s						
HHC	Hu-ho-hao-te	18.91	339	eP	Pn	07 30 32.8	+1.7
HHC				pP	sP	07 30 36.6	-0.4
HHC				sP	pP	07 30 40.2	+5.3
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,80nm,4.4s						
HHC				LR	LR		
	comp=Z,510nm,15.1s						
HHC				LR	LR		
	comp=Z,1μm,15.9s						
HHC				LR	LR		
	comp=Z,310nm,13.3s						
MJAR	Matsushiro Arr	20.13	45	LR	LR	07 39 32.8	
	comp=Z,107nm,19.3s,baz=230,slow=40						
KLR	Kul'dur	27.25	16	LR	LR	07 43 45.9	
	comp=Z,117nm,19.3s,baz=207,slow=39						
ASAJ	Asahikawa	27.49	36	LR	LR	07 43 24.5	
	comp=Z,206nm,19.0s,baz=186,slow=38						
WMQ	Urumqi	33.71	315	eP	P	07 32 53.5	+2.6
ZALV	Zalesovo Beam	40.53	328	LR	LR	07 49 41.7	
	comp=Z,54nm,19.8s,baz=97,slow=35						
PETK	Petropavlovsk-	40.86	34	LR	LR	07 52 57.7	
	comp=Z,64nm,18.1s,baz=218,slow=39						
PALK	Pallekele	41.39	254	LR	LR	07 53 22.2	
	comp=Z,99nm,18.4s,baz=241,slow=40						
MA2	Magadan	41.93	23	LR	LR	07 52 15.9	
	comp=Z,63nm,19.1s,baz=256,slow=37						
H11N1	WAKE ISLAND Hy	43.19	86	T	T	08 19 31.8	
	baz=282						
H11N2	WAKE ISLAND Hy	43.20	86	T	T	08 19 36.1	
	baz=282,slow=74						
H11N3	WAKE ISLAND Hy	43.21	86	T	T	08 19 32.0	
	baz=282,slow=74						
H11S3	WAKE ISLAND Hy	43.30	87	T	T	08 19 46.4	
	baz=284,slow=74						
H11S1	WAKE ISLAND Hy	43.31	87	T	T	08 19 57.2	
	baz=284,slow=74						
H11S2	WAKE ISLAND Hy	43.32	87	T	T	08 19 36.6	
	baz=284,slow=74						
WRA	Warramunga Arr	45.18	161	P	P	07 34 24.6	-2.1
	comp=Z,0.9nm,0.8s,baz=343,slow=8.7,SNR=5.6						
	comp=Z,0.9nm,0.8s						
ASAR	Alice Springs	48.60	163	P	P	07 34 51.8	-1.6
	comp=Z,1.0nm,1.0s,baz=343,slow=7.1,SNR=4.1						
	comp=Z,1.0nm,1.0s						
GEYT	Alibeck	54.61	301	LR	LR	08 00 05.1	
	comp=Z,47nm,20.0s,baz=139,slow=37						
KIRV	Kirov	60.46	325	LR	LR	08 02 28.6	
	comp=Z,53nm,19.6s,baz=94,slow=36						
GNI	Garni	64.69	305	LR	LR	08 08 35.1	
	comp=Z,32nm,18.1s,baz=146,slow=39						
KDAK	Kodiak Island	68.90	35	LR	LR	08 09 42.5	
	comp=Z,24nm,18.3s,baz=249,slow=38						
ILAR	Eielson Array	70.18	27	LR	LR	08 14 06.2	
	comp=Z,18nm,18.8s,baz=270,slow=41						

TAP ***02*** *07:26:25.8, 23˚.44N×120˚.48E, h12km, ML4.7, B*
ASIES ***02*** *07:26:25.8, 23˚.44N×120˚.48E, h12km, ML4.7, Mw4.1,*
Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm;
M_{rr}0.43; $M_{\theta\theta}$0.13; $M_{\phi\phi}$-0.56; $M_{r\theta}$-0.60; $M_{\theta\phi}$1.66; $M_{\phi r}$-0.64;
Fault plane solution: $M_0$1.94730×10^{22} NP1:
ϕ_s181.94000°, δ71.97000°, λ155.95000°. NP2:
ϕ_s279.80000°, δ67.20000°, λ19.62000°. Principal axes: T
Plg29.5310°, Azm139.8490°; N Plg60.2660°,
Azm327.1890°; P Plg3.1610°, Azm231.6410°;
JMA ***02*** *07:26:27.5±0.1, 23˚.4N±0˚.2×120˚.5E±0˚.3, h16km±1km,*
MV4.5/13, TAIWAN REGION
ISC 02 07:26:26.5±0.8**, 23˚.43N**±0˚.01×**120˚.47E**±0˚.02**, h14**km±4km**,
n119, σ0$**74/**172**, 1C-5D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHY	Chiayi	0.08	326	P	Pg	07 26 28.8	-0.5
	baz=323						
CHY				S	Sg	07 26 31.3	0.0
	baz=323						
WCKO	Fanlu	0.12	88	⇓P	Pg	07 26 29.4	-0.5
	baz=89						
WCKO				*i* S	Sg	07 26 31.9	-0.3
	baz=89						
CHN4	Tsaushan	0.14	126	P	Pg	07 26 29.7	-0.4
	baz=130						
CHN4				*e*S	Sg	07 26 33.1	+0.5
	baz=130						
TWK	Hsinying	0.17	174	⇓*i*P	Pg	07 26 30.6	+0.1
	baz=166						
TWK				*i* S	Sg	07 26 33.6	+0.3
	baz=166						
ICHU	Yijhu	0.19	247	⇓*e*P	Pg	07 26 30.9	+0.1
	baz=248						
ICHU				*e*S	Sb	07 26 35.1	-0.2
	baz=248						
TPUB	Ta-pu	0.20	132	⇓*i*P	Pg	07 26 30.8	-0.2
	baz=135						
TPUB				*i* S	Sg	07 26 34.2	+0.2
	baz=135						
SNST	Tainan City	0.21	173	eP	Pg	07 26 31.3	0.0
	baz=176						
SNST				S	Sb	07 26 35.3	-0.8
	baz=176						
WTP	Ta-pu	0.23	145	*i* P	Pg	07 26 31.6	+0.1
	baz=146						
WTP				*i* S	Sb	07 26 35.6	-0.9
	baz=146						
WSL	Shuilin Townsh	0.24	292	P	Pg	07 26 31.8	+0.1
	baz=290						
CHN1	Nanshi	0.25	168	⇓P	Pg	07 26 32.1	+0.2
	baz=171						
CHN1				*i* S	Sb	07 26 36.4	-0.8
	baz=171						
CHN8	Yiju	0.25	250	P	Pg	07 26 32.0	+0.1
	baz=249						
CHN8				*i* S	Sb	07 26 37.1	0.0
	baz=249						
WDLH	Douliu	0.26	14	⇑P	Pg	07 26 32.4	+0.3
	baz=11						
WDLH				*e*S	Sb	07 26 37.7	+0.3
	baz=11						
WGK	Gukeng	0.26	19	P	Pg	07 26 32.4	+0.3
	baz=18						
WGK				*e*S	Sb	07 26 37.7	+0.3
	baz=18						
WSF	Szhu	0.30	312	eP	Pg	07 26 32.7	-0.1
	baz=310						
WSF				*i* S	Sb	07 26 38.4	-0.2
	baz=310						
SSHA	Shanhua	0.34	209	eP	Pb	07 26 34.1	-0.3
	baz=211						
SSHA				*e*S	Sb	07 26 40.5	+0.9
	baz=211						
SCLT	Jiali	0.36	225	eP	Pg	07 26 33.9	0.0
	baz=224						
SCLT				*e*S	Sb	07 26 41.1	+0.8
	baz=224						
SGST	Jiashian	0.37	164	eP	Pg	07 26 33.4	-0.5
	baz=165						
SGST				S	Sg	07 26 39.5	+0.6
	baz=165						
CHN3	Shinhua	0.37	195	eP	Pb	07 26 34.9	+0.1
	baz=196						
STYT	Tauyuan	0.38	136	P	Pg	07 26 34.2	+0.1
	baz=137						
STYT				*i* S	Sb	07 26 39.9	-0.9
	baz=137						
STYH	Taoyuan	0.38	133	P	Pg	07 26 34.3	+0.1
	baz=135						
STYH				*i* S	Sg	07 26 39.9	+0.5
	baz=135						
SHHT	Tainan City	0.43	195	eP	Pg	07 26 35.0	0.0
	baz=196						
WHYT	Xinyi Township	0.44	53	P	Pg	07 26 35.5	+0.3
	baz=53						
WHYT				S	Sb	07 26 42.0	-0.5
	baz=53						
YUS	Yu-Shan	0.45	83	eP	Pg	07 26 35.8	+0.3
	baz=84						
YUS				*e*S	Sb	07 26 42.5	-0.7
	baz=84						
TAI1	Yung-k'ang	0.45	210	eP	Pb	07 26 36.6	+0.3
	baz=221						
WJS	Zhushan	0.45	31	eP	Pg	07 26 35.4	-0.1
	baz=30						
WJS				S	Sb	07 26 43.0	+0.1
	baz=30						
TSCK	Chigu Township	0.46	231	eP	Pb	07 26 35.9	-0.4
	baz=231						
TSCK				*e*S	Sb	07 26 44.3	+1.4
	baz=231						
WTCT	Ta-ch'eng	0.46	338	eP	Pg	07 26 35.3	-0.4
	baz=337						
WTCT				S	Sb	07 26 42.8	-0.3
	baz=337						
RLNB	Erlin	0.47	347	eP	Pg	07 26 35.9	+0.1
	baz=337						
RLNB				*e*S	Sb	07 26 43.2	-0.1
	baz=337						
SLGT	Liugui	0.47	160	eP	Pb	07 26 36.2	-0.3
	baz=162						
SLGT				*e*S	Sb	07 26 43.9	+0.6
	baz=162						
WRL	Guolierlin Hig	0.47	350	P	Pg	07 26 36.0	+0.1
	baz=340						
WRL				*e*S	Sb	07 26 43.6	+0.2
	baz=340						
WNT	Mingjian	0.48	24	P	Pb	07 26 36.4	-0.4
	baz=24						
WNT				*e*S	Sb	07 26 44.1	+0.4
	baz=24						
TAI	Tainan	0.50	210	eP	Pb	07 26 37.3	+0.1
	baz=220						
TAI				*e*S	Sn	07 26 46.2	-1.5
	baz=220						
WNT1	Nantou City	0.51	22	P	Pb	07 26 36.9	-0.3
	baz=21						
WNT1				S	Sb	07 26 44.7	+0.2
	baz=21						
WYL	Yuanlin Townsh	0.53	11	eP	Pg	07 26 37.0	-0.1
	baz=10.0						
WYL				*e*S	Sb	07 26 45.5	+0.2
	baz=10.0						
ELDTW	Lidau	0.56	116	eP	Pg	07 26 36.5	-1.0
	baz=117						
SSLB	Suanglung	0.57	52	eP	Pg	07 26 37.5	-0.1
	baz=51						
SSLB				S	Sb	07 26 45.6	-0.6
	baz=51						
TYC	Yuchr	0.59	37	P	Pb	07 26 38.2	-0.4
	baz=37						
TYC				*i* S	Sb	07 26 47.2	+0.4
	baz=37						
SMLT	Sun Moon Lake	0.59	41	eP	Pg	07 26 38.3	+0.1
	baz=41						
SMLT				*e*S	Sb	07 26 47.7	+0.5
	baz=41						
TWM1	Shoushan	0.61	184	eP	Pn	07 26 39.9	-0.9
	baz=168						
WWF	Wufeng	0.64	19	P	Pg	07 26 38.9	-0.2
	baz=18						
WWF				S	Sb	07 26 48.6	+0.2
	baz=18						
SNJT	Kaohsiung City	0.69	190	eP	Pb	07 26 40.2	-0.1
	baz=203						
VWDT	VWDT	0.69	63	eP	Pb	07 26 40.2	-0.2
	baz=63						
VWDT				S	Sb	07 26 49.5	-0.3
	baz=63						
SSD	Sandimen	0.70	168	eP	Pb	07 26 40.3	-0.2
	baz=168						
DPDB	Guoxing	0.73	35	eP	Pg	07 26 40.4	-0.3
	baz=34						
DPDB				S	Sb	07 26 50.9	-0.1
	baz=34						
WPL	Puli Township	0.73	38	eP	Pg	07 26 38.9	-1.7
	baz=37						
WPL				*e*S	Sg	07 26 50.1	-0.2
	baz=37						
EHD	Haiduan	0.73	113	eP	Pg	07 26 40.4	-0.3
	baz=113						
TCU	Taichung	0.73	15	eP	Pg	07 26 40.0	-0.8
	baz=15						
WCS	Beigang Elemen	0.74	33	eP	Pg	07 26 40.7	-0.2
	baz=32						
WCS				S	Sb	07 26 51.6	+0.4
	baz=32						
TSPT	Pingtung City	0.75	178	eP	Pg	07 26 41.0	-0.1
	baz=167						
YULB	Yu-li	0.76	93	eP	Pg	07 26 41.1	-0.1
	baz=104						
YULB				*e*S	Sg	07 26 51.3	0.0
	baz=104						
TWF1	Yuli	0.76	96	eP	Pg	07 26 41.1	-0.2
	baz=107						
TWF1				*e*S	Sb	07 26 51.6	-0.2
	baz=107						
WDGT	Dungji	0.77	257	eP	Pg	07 26 40.7	-0.6
	baz=256						
WDGT				*e*S	Sg	07 26 50.6	-0.8
	baz=256						
EHY	Hungye	0.79	85	eP	Pg	07 26 41.4	-0.4
	baz=86						

EYUL	Yuli	0.79	96	eP		Pg	07 26 41.4	-0.3
	baz=97							
FULB	Fuli	0.79	107	eP		Pg	07 26 41.6	-0.3
	baz=108							
EHYH	Wanrong	0.81	86	eP		Pg	07 26 41.6	-0.5
	baz=86							
WUSB	Renai	0.81	47	eP		Pg	07 26 41.2	-1.0
	baz=46							
WUSB				eS		Sg	07 26 52.6	-0.4
	baz=46							
TWG	Pinlang	0.82	138	eP		Pg	07 26 41.6	-0.8
	baz=128							
TWG				eS		Sb	07 26 53.6	0.0
	baz=128							
OWD	Renai	0.83	51	eP		Pg	07 26 42.1	-0.4
	baz=39							
TWGBT	Beinan	0.83	137	eP		Pg	07 26 42.5	-0.1
	baz=131							
PNG	Penghu	0.85	279	eP		Pg	07 26 42.0	-1.0
	baz=278							
HGSD	Ruisui	0.88	86	eP		Pg	07 26 43.2	-0.2
	baz=94							
CHKH	Chenggong	0.88	106	eP		Pg	07 26 43.4	-0.3
	baz=100							
WARBT	Fenglin Townsh	0.89	71	eP		Pg	07 26 42.5	-1.2
	baz=72							
WARBT				eS		Sg	07 26 54.9	-0.4
	baz=72							
CHKT	Chengkung	0.89	112	eP		Pb	07 26 43.7	0.0
	baz=113							
CHGB	Renai	0.90	46	eP		Pg	07 26 43.0	-0.9
	baz=46							
ECBN	Changbin	0.91	97	eP		Pn	07 26 44.6	-0.3
	baz=98							
ECL	Taimali	0.94	152	eP		Pb	07 26 43.8	-0.9
	baz=152							
ESL	Shilin	0.96	67	eP		Pb	07 26 43.7	-1.2
	baz=68							
VCHM	Qimei	0.98	257	eP		Pb	07 26 44.3	-1.0
	baz=256							
NSY	Sanyi	1.01	15	eP		Pb	07 26 45.3	-0.5
	baz=16							
WHF	Hehuan Shan	1.01	46	eP		Pb	07 26 44.4	-1.7
	baz=47							
TDCB	Techi	1.03	38	eP		Pb	07 26 45.1	-1.1
	baz=49							
TWT	Tachien	1.04	38	eP		Pb	07 26 45.8	-0.6
	baz=49							
LXIB	Xiulin Townshi	1.04	56	eP		Pb	07 26 46.0	-0.5
	baz=44							
LXIB				eS		Sn	07 27 00.8	-0.5
	baz=44							
SHUL	Shoufeng	1.06	70	eP		Pb	07 26 46.1	-0.6
	baz=60							
ETM	Tongmen	1.08	60	eP		Pb	07 26 46.1	-0.8
	baz=72							
ETM				eS		Sn	07 27 01.6	-0.4
	baz=72							
FUSS	Fushou	1.08	41	eP		Pb	07 26 46.3	-0.8
	baz=42							
EAST	Anshuo	1.10	162	eP		Pn	07 26 47.5	-0.1
	baz=162							
EAST	Anshuo	1.10	162	eS		Pn	07 26 47.3	-0.3
	baz=162							
TEYL	Yanliau Villag	1.12	67	eP		Pg	07 26 48.2	+0.1
	baz=66							
TEYL				eS		Sn	07 27 03.6	+0.6
	baz=66							
NMLH	Miaoli	1.14	15	eP		Pb	07 26 47.4	-0.6
	baz=15							
TAWH	Dawu Township	1.16	160	eP		Pg	07 26 48.5	-0.3
	baz=154							
TAWH	Dawu Township	1.16	160	eS		Pg	07 26 48.5	-0.3
	baz=162							
HWA	Hwalien	1.17	62	eP		Pn	07 26 48.3	-0.2
	baz=63							
HWA				eS		Sg	07 27 04.9	+0.6
	baz=63							
LDUT	Ludao	1.19	129	eP		Pn	07 26 48.4	-0.4
	baz=131							
LDUT				eS		Sg	07 27 05.5	+0.5
	baz=131							
TWD	Chiawan	1.22	58	eP		Pn	07 26 48.6	-0.5
	baz=58							
TWD				eS		Sb	07 27 04.3	-0.5
	baz=58							
TWD	Chiawan	1.22	58	eS		Pn	07 26 48.6	-0.5
	baz=58							
NACB	Ninganchiao	1.27	54	eP		Pn	07 26 49.6	-0.2
	baz=54							
NACB				eS		Sg	07 27 07.2	-0.1
	baz=54							
NACB	Ninganchiao	1.27	54	eS		Pb	07 26 49.7	-0.4
	baz=54							
ETL	Fush Village	1.28	55	eP		Pg	07 26 50.7	-0.4
	baz=56							
NSTT	Nanjuang	1.29	22	eP		Pn	07 26 49.6	-0.5
	baz=22							
NSTT				eS		Sn	07 27 07.1	0.0
	baz=22							
NSTT	Nanjuang	1.29	22	eS		Pn	07 26 49.8	-0.3
	baz=22							
NNSB	Datong	1.29	40	eP		Pb	07 26 50.8	0.0
	baz=41							
NNSH	Datong	1.29	40	eP		Pn	07 26 50.0	-0.3
	baz=27							
NJN	Zhunan	1.30	16	eP		Pn	07 26 49.9	-0.3
	baz=17							
NNS	Nan Shan	1.30	39	eP		Pn	07 26 50.4	0.0
	baz=40							
NFF	Wufeng Townshi	1.33	26	eP		Pn	07 26 49.9	-0.9
	baz=27							
HEN	Hengchun	1.44	170	eP		Pn	07 26 51.5	-0.7
	baz=170							
LATG	Datong	1.46	41	eP		Pn	07 26 52.8	+0.2
	baz=31							
NSK	Sanguang	1.48	33	eP		Pb	07 26 53.8	0.0
	baz=16							
YHNB	Yeheng	1.48	34	eP		Pb	07 26 53.4	-0.5
	baz=18							
NDT	Datong Townshi	1.50	39	eP		Pb	07 26 53.6	-0.6
	baz=29							
TWK1	Hengchun	1.52	168	eP		Pn	07 26 52.8	-0.5
	baz=168							
TWKBT	Hengchun	1.52	168	eP		Pn	07 26 52.6	-0.7
	baz=168							
ENA	Nanau	1.53	49	eP		Pn	07 26 53.5	+0.1
	baz=68							
EWUT	Wuta	1.56	50	eP		Pn	07 26 54.1	+0.3
	baz=68							
LYUB	Lan-yu	1.76	144	eP		Pn	07 26 55.8	-0.7
	baz=145							
VWUC	VWUC	1.81	329	eP		Pn	07 26 58.0	+0.7
	baz=329							
EOS3	EOS3	1.89	63	eP		Pn	07 26 58.7	+0.4
	baz=63							
TWB1	Santiao Chiao	2.09	41	eP		Pn	07 27 02.0	+0.8
	baz=24							
YOJ	Yonaguni jima	2.54	66	eP		Pn	07 27 07.3	0.0
	baz=67							
YOJ	Yonaguni jima	2.54	66	eS		Sb	07 27 40.8	-2.2
IRIF	Iriomote-Funau	3.12	73	eP		Pn	07 27 17.5	+2.2
HATJ	Hateruma jima	3.12	78	eS		Sn	07 27 53.7	+1.4
JKRS	Kuro-shima	3.34	75	eS		Sn	07 28 01.7	+3.9
JIJ	Ishigaki jima	3.49	74	eP		Pn	07 27 21.4	+1.1
JIJ				eS		Sn	07 28 03.4	+1.9
JISG	Ishigakijimahi	3.69	71	eS		Sn	07 28 07.7	+1.2
JTJ	Tarama	4.05	72	eS		Sn	07 28 18.7	+3.3

*UPA **02** 07:27:43.4±0.9, 9°.62N×85°.06W, h126km±62km, MW4.6*
*CATAC **02** 07:27:48.4±0.3, 9°.58N×84°.67W, h4km±2km, ML3.9*
*UCR **02** 07:27:48.0±1.4, 9°.51N×84°.71W, h19km±4km, MW4.2*

ISC 02 07:27:48.3±0.9, 9°.54N±0°.02×84°.71W±0°.02, h17km±6km, n116, σ1°.15/177, 9C-55D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BITO	Garabito Jaco	0.12	47	⇓eP		Pg	07 27 52.4	+0.4
BITO				eS		Sg	07 27 55.7	+1.2
TRB2	Turrubares	0.45	34	⇓iP		Pb	07 27 57.1	-0.7
TRB2				eS		Sb	07 28 04.0	-0.3
SVQ2	Quepos	0.54	101	eP		Pg	07 27 58.5	-0.7
SVQ2				eS		Sb	07 28 06.9	0.0
SRA1	San Ramn	0.59	22	⇓iP		Pb	07 27 59.4	-0.8
ACOS	Acosta	0.59	64	⇓iP		Pg	07 27 59.2	-0.9
ACOS				eS		Sg	07 28 06.7	-1.4
RAMO	San Ramon	0.59	23	⇓iP		Pb	07 28 00.6	+0.3
LLNJ	Naranjito	0.60	96	⇓eP		Pg	07 27 59.4	-0.8
LLNJ				eS		Sb	07 28 09.0	+0.4
TCS1	Tacares	0.64	39	iP		Pb	07 28 00.5	-0.6
TCS1				IAML			07 28 02.3	
	comp=Z,40μm,1.0s							
TCS1	Tacares	0.64	39	⇓iP		Pb	07 28 00.7	-0.4
NARAN	Naranjo de Ala	0.64	30	⇓iP		Pb	07 28 00.8	-0.3
SANTA	Santa Ana	0.65	53	⇓iP		Pg	07 28 00.2	-0.8
SARCI	Sarchi	0.65	33	⇓iP		Pb	07 28 01.1	-0.2
SARCI				eS		Sn	07 28 12.7	-0.2
ABE2	San Pablo	0.66	76	⇓iP		Pg	07 28 00.5	-0.9
ABE2				eS		Sg	07 28 10.0	-0.3
BELE	Belen	0.67	50	⇓iP		Pg	07 28 00.7	-0.9
RAZU	San Marcos de	0.68	80	⇓eP		Pg	07 28 00.8	-1.0
RAZU				eS		Sg	07 28 10.7	-0.2
NYURE	Nandayure	0.70	310	eP		Pb	07 28 01.7	-0.4
NYURE				eS		Sb	07 28 12.9	+1.4
ZARE	Zarcero	0.71	26	⇓iP		Pb	07 28 02.3	-0.1
LCR2	La Lucha 2	0.72	74	iP		Pg	07 28 01.3	-1.2
LCR2				IAML			07 28 02.2	
	comp=Z,3μm,1.0s							
LCR2				iS		Sg	07 28 11.0	-1.1
LCR2	La Lucha 2	0.72	74	⇓iP		Pg	07 28 01.3	-1.2
LCR2				eS		Sg	07 28 11.2	-0.9
AMPA	Desamparados	0.73	61	eP		Pg	07 28 01.3	-1.3
CENT	San Jose	0.73	58	eP		Pb	07 28 02.7	+0.1
CENT				eS		Sb	07 28 14.0	+1.6
MEXI	Barrio Mexico	0.73	57	eP		Pg	07 28 01.6	-1.0
LUJA	Lujan	0.73	58	⇓eP		Pb	07 28 02.6	-0.1
LUJA				eS		Sb	07 28 13.5	+0.9
HDC	Heredia	0.74	52	iP		Pg	07 28 01.7	-1.2
HDC				iS		Sg	07 28 11.7	-1.1
HDC				IAML			07 28 14.6	
	comp=Z,4μm,1.0s							
HDC	Heredia	0.74	52	⇓iP		Pg	07 28 02.1	-0.8
HDC				eS		Sb	07 28 12.8	0.0
HDC3	Heredia 3	0.74	52	iP		Pg	07 28 02.0	-0.9
HDC3				iS		Sg	07 28 11.7	-1.2
HDC3				IAML			07 28 14.5	
	comp=Z,5μm,1.0s							
DOMI	Santo Domingo	0.75	54	⇓iP		Pg	07 28 02.2	-0.8
DOMI				eS		Sb	07 28 13.3	+0.4
TIBA	Tibas	0.75	56	⇓eP		Pg	07 28 02.1	-1.0
TIBA				eS		Sb	07 28 13.5	+0.4
SJS	Escuela Geolog	0.76	58	⇓eP		Pg	07 28 02.1	-1.1
SJS				eS		Sg	07 28 12.9	-0.3
SJS3	Mercedes San J	0.76	58	⇓eP		Pg	07 28 02.2	-1.0
SJS3				eS		Sg	07 28 13.0	-0.3
LUPE	Guadalupe	0.76	58	⇓iP		Pg	07 28 02.1	-1.1
LUPE				eS		Sb	07 28 13.4	+0.2
JUNT	Juntas	0.78	341	⇓eP		Pg	07 28 02.5	-1.0
JUNT				eS		Sb	07 28 13.6	-0.1
MTEVE	Monteverde	0.78	351	⇓iP		Pb	07 28 03.8	+0.2
MTEVE				eS		Sb	07 28 14.9	+0.9
JTS	Las Juntas de	0.79	342	⇓iP		Pb	07 28 02.6	-0.9
JTS				eS		Sb	07 28 13.6	-0.3
TRIO	Tres Rios	0.79	63	⇓eP		Pg	07 28 02.5	-1.3
TRIO				eS		Sg	07 28 13.4	-0.9
VPS6	Volcano Poas	0.80	36	⇓iP		Pg	07 28 03.2	-0.8
CORON	Coronado	0.82	58	⇓eP		Pg	07 28 03.4	-0.9
CORON				eS		Sb	07 28 15.9	+1.0
TAGO	Cartago	0.84	67	⇓iP		Pg	07 28 03.5	-1.2
TAGO				eS		Sg	07 28 15.3	-0.5
SOCE	Pocosol	0.84	6	iP		Pb	07 28 04.2	-0.4
SOCE				iS		Sb	07 28 15.3	-0.3
SOCE				IAML			07 28 20.8	
	comp=Z,6μm,1.0s							
SOCE	Pocosol	0.84	6	⇓iP		Pb	07 28 04.1	-0.4
INDI	Punta indio, G	0.85	293	iP		Pb	07 28 04.1	-0.5
INDI				iS		Sn	07 28 17.5	0.0
INDI				IAML			07 28 21.5	
	comp=Z,3μm,1.0s							
REPA	Paraso	0.87	71	⇓eP		Pb	07 28 04.9	-0.2
REPA				eS		Sn	07 28 18.8	+0.4
CVIMO	Finca Echandi	0.89	57	⇓iP		Pg	07 28 04.8	-1.0
CVIMO				eS		Sb	07 28 17.7	+0.5
ARE1	Arenal 1	0.92	359	⇓iP		Pb	07 28 05.5	-0.3
ARE1				eS		Sn	07 28 19.5	+0.3
TUNA	La Fortuna	0.93	4	⇓eP		Pn	07 28 06.6	+0.1
TUNA				eS		Sn	07 28 22.7	+3.2
VACR	Volcan Arenal	0.93	2	⇓iP		Pb	07 28 05.5	-0.5
VACR				eS		Sn	07 28 20.4	+0.8
NICO	Nicoya	0.94	309	eP		Pb	07 28 06.0	-0.1
NICO				eS		Sn	07 28 21.1	+1.3
CEDE	Laguna Cedeo	0.94	0	⇓eP		Pb	07 28 06.0	-0.2
CEDE				eS		Sb	07 28 19.7	+1.2
VICA	Volcano Irazu	0.96	62	⇓iP		Pg	07 28 05.7	-1.3
VICA				eS		Sb	07 28 19.9	+0.7
PCAYA	Pacayas	0.96	67	⇓eP		Pg	07 28 05.8	-1.2
PCAYA				eS		Sg	07 28 19.2	-0.4
CNAS	Canas	0.96	337	eP		Pn	07 28 06.8	-0.2
CNAS				eS		Sn	07 28 22.0	+1.7
RAFA	San Farael, Vo	0.98	65	iP		Pg	07 28 05.8	-1.5
RAFA				IAML			07 28 07.0	
	comp=Z,31μm,1.0s							
RAFA				iS		Sg	07 28 19.1	-1.1
RAFA	San Farael, Vo	0.98	65	⇓iP		Pg	07 28 06.0	-1.3
ZELE	Perez Zeledon	1.00	99	eP		Pg	07 28 06.2	-1.5
ITAL	Pital	1.00	25	⇓iP		Pg	07 28 06.5	-1.3
VINA	Juan Vinas	1.01	69	⇓iP		Pg	07 28 06.5	-1.4
VTLA	Turrialba Volc	1.03	63	⇓eP		Pg	07 28 07.0	-1.3
JUD3	Juan Diaz 3	1.03	307	eP		Pb	07 28 07.0	-0.8
JUD3				eS		Sn	07 28 23.3	+1.2
CVTQ	Turrialba Volc	1.03	63	⇓eP		Pg	07 28 07.2	-1.3
VTR0	Volcan Turrial	1.05	63	⇓eP		Pg	07 28 07.5	-1.2
CVTR	Volcan Turrial	1.05	63	⇓eP		Pg	07 28 07.5	-1.2
VTCV	VTCV, Calle Va	1.06	65	⇓iP		Pg	07 28 07.5	-1.4
VTCV				eS		Sb	07 28 22.7	+0.6
TURIB	Turrialba	1.07	70	⇓iP		Pg	07 28 07.2	-1.8
TURIB				eS		Sg	07 28 22.0	-1.1
BAGA	Bagaces	1.12	331	eP		Pg	07 28 08.5	-1.6
BAGA				eS		Sn	07 28 25.7	+1.4
SACU	Santa Cruz	1.12	310	eP		Pb	07 28 09.0	-0.3
RVSTA	Santa Teresita	1.13	67	⇓eP		Pg	07 28 08.5	-1.7
RVSTA				eS		Sb	07 28 24.6	+0.7
SARA	Sarapiqu	1.13	37	⇓iP		Pg	07 28 08.4	-1.8
OCHAL	Ojochal	1.14	113	iP		Pg	07 28 08.0	-2.3
OCHAL				IAML			07 28 25.6	
	comp=Z,1μm,1.0s							
CUI	Cuipilapa	1.20	338	⇓eP		Pg	07 28 09.7	-1.8
CUI				eS		Sn	07 28 27.5	+1.3
COVE	Coope Vega, Sa	1.21	14	iP		Pg	07 28 10.3	-1.4
COVE				iS		Sb	07 28 27.1	+0.9
COVE				IAML			07 28 35.6	
	comp=Z,4μm,1.0s							
COLC	Colonia	1.22	336	⇑eP		Pg	07 28 10.2	-1.7
COLC				eS		Sn	07 28 28.3	+1.5
DELF	Filadelfia	1.23	317	⇑iP		Pn	07 28 11.7	+1.0
DELF				eS		Sn	07 28 31.2	+4.3
RVLA	Villa Bonita	1.24	63	⇑iP		Pg	07 28 10.7	-1.6
RVLA				eS		Sn	07 28 29.8	+2.6
CAMAV	Centro de Prod	1.25	337	eP		Pg	07 28 10.7	-1.8
LCOCO	El Coco	1.25	64	⇑iP		Pg	07 28 11.0	-1.5
LCOCO				eS		Sb	07 28 28.6	+1.2
CARI	Cariari	1.26	49	eP		Pg	07 28 10.9	-1.7
IRES	Siquirres	1.31	65	⇑iP		Pn	07 28 11.9	+0.1
IRES				eS		Sn	07 28 30.6	+1.8
VERA	Finca Concepci	1.32	353	⇓eP		Pn	07 28 11.5	-0.4
EDPN	Palmar Norte	1.36	115	⇓eP		Pn	07 28 11.0	-1.5
GPS2	Hotel Rincn d	1.36	332	eP		Pn	07 28 12.6	0.0
GPS2				eS		Sn	07 28 32.1	+1.8
GPS3	Bodega del ICE	1.37	332	⇓eP		Pg	07 28 13.2	-1.5
ELI1	Hacienda Flor	1.38	323	eP		Pn	07 28 12.9	+0.1
BURE	Buenos Aires	1.40	105	⇓eP		Pn	07 28 12.3	-0.7
VRLE	La Escondida,	1.40	332	iP		Pn	07 28 12.9	-0.2
VORI	VORI	1.42	334	eP		Pn	07 28 13.2	-0.2
GB1A	Borinquen Arri	1.44	332	eP		Pn	07 28 13.9	+0.2
GB1A				eS		Sg	07 28 33.6	-1.3
TAAN	Batan	1.45	68	⇑iP		Pn	07 28 14.1	+0.5
EDBA	Buenos Aires	1.46	105	⇓eP		Pn	07 28 12.4	-1.5
LCHIL	Los Chiles	1.49	360	⇓eP		Pb	07 28 15.1	-0.4
EDP2	Potrero Grande	1.60	109	eP		Pn	07 28 15.0	-0.7
JIME	Puerto Jimenez	1.69	126	eP		Pb	07 28 18.9	0.0
PTJ1	Puerto Jimnez	1.71	126	iP		Pb	07 28 19.2	0.0
PTJ1				IAML			07 28 21.7	
	comp=Z,3μm,1.0s							
PTJ1				iS		Sg	07 28 42.2	-1.2
PTJ1	Puerto Jimnez	1.71	126	eP		Pb	07 28 19.3	+0.1
PIRO	Carate, Puerto	1.76	130	iP		Pb	07 28 00.0	-0.6
PIRO				IAML			07 28 55.9	
	comp=Z,1μm,1.0s							
PIRO	Carate, Puerto	1.76	130	eP		Pn	07 28 18.1	+0.1
LCRUZ	La Cruz	1.78	329	⇑eP		Pg	07 28 20.8	-1.8
BRIBI	Bribri	1.83	87	eP		Pn	07 28 19.9	+1.0
VITO	San Vito	1.86	113	eP		Pn	07 28 19.6	+0.1
MLIR3	Monte Lirio, C	2.00	112	eP		Pn	07 28 21.8	+0.3
CDITO	Canoas	2.05	118	iP		Pb	07 28 24.5	-0.6
CDITO				IAML			07 29 19.1	
	comp=Z,720nm,1.0s							
BRU2	Volcan	2.12	110	eP		Pn	07 28 22.8	-0.3
BRU2				eS		Sb	07 28 53.9	+1.3
BRU2	Volcan	2.12	110	iP		Pn	07 28 24.3	+1.2
BRU2				iS		Sn	07 28 51.7	+2.5
BRU2				IAML			07 29 07.0	
	comp=Z,770nm,1.0s							
BRU2	Volcan	2.12	110	eP		Pn	07 28 21.8	-1.4
MORN	Al O del Volca	2.20	335	iP		Pb	07 28 26.0	-1.7
MORN				IAML			07 28 32.4	
	comp=Z,730nm,1.0s							
CNI2	El Empalme, Bo	2.21	93	eP		Pn	07 28 23.4	-0.7
CNI2				eS		Sn	07 28 52.7	+1.6
PTPM	Petroterminale	2.24	126	eP		Pn	07 28 23.5	-1.1
PTPM				eS		Sn	07 28 54.8	+2.9
BCO2	Palmira	2.30	111	eP		Pn	07 28 25.6	0.0
BCO2				eS		Sb	07 28 57.9	+0.2
ACON	Acoyapa	2.46	349	iP		Pn	07 28 27.9	+0.3
ACON				IAML			07 28 40.9	
	comp=Z,290nm,1.0s							
ACON	Acoyapa	2.46	349	⇑iP		Pn	07 28 27.9	+0.3
CHGR2	Aguacate	2.60	103	eP		Pn	07 28 29.1	-0.5
CHGR2				eS		Sn	07 29 03.2	+2.4
ESPN	Las Esperanzas	2.67	9	eP		Pn	07 28 31.4	+0.9
BOAB	BOACO BROADBAN	3.04	342	iP		Pn	07 28 36.5	+0.9
BOAB				IAML			07 28 47.2	
	comp=Z,130nm,1.0s							
SAPS	Ciudad Sandino	3.10	328	iP		Pn	07 28 38.1	+1.6
SAPS				IAML			07 29 29.0	
	comp=Z,140nm,1.0s							
COPN	Copaltepe	3.21	325	iP		Pn	07 28 39.5	+1.5
COPN				IAML			07 29 08.6	
	comp=Z,77nm,1.0s							
CNGN	Cerro Negro	3.53	327	iP		Pn	07 28 44.1	+1.6
CNGN				IAML			07 29 54.4	
	comp=Z,87nm,1.0s							
LIMN	Finca el Limon	3.86	335	iP		Pn	07 28 47.9	+0.9
LIMN				IAML			07 30 09.5	
	comp=Z,86nm,1.0s							

NNC 02 07:29:42.9±0.9, 50°.02N×78°.73E, h0km, mb3.7, mpv3.4, 5C-7D, Error ellipse: s-maj=7.6km s-min=4.5km az=63.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.62	348	⇑P		Pg	07 29 54.6	-0.1
	32nm,0.5s							
KURBB				⇓S		Sg	07 30 03.8	+1.1
	213nm,0.7s							
KURK	Kurchatov	0.70	354	⇑P		Pg	07 29 56.1	-0.2
	30nm,1.0s							
KURK				⇑S		Sg	07 30 06.3	+0.9
	48nm,0.7s							
SEM	Semipalatinsk	1.05	68	P		Pn	07 30 05.3	+0.3
	3.6nm,0.1s							
SEM				S		Sg	07 30 16.5	-0.1
	9.3nm,0.1s							
MAKZ	Makanchi	3.87	145	⇓Pg		Pb	07 30 54.2	+2.1
	7.9nm,0.8s							
MAKZ				⇓Lg		Lg	07 31 44.2	
	39nm,0.8s							
MK31	Makanchi Array	4.00	142	⇓Pg		Pb	07 30 55.4	+1.0
	3.4nm,0.6s,baz=326,slow=14,SNR=20							
MK31				⇓Lg		Lg	07 31 49.2	
	36nm,0.7s,baz=332,slow=24,SNR=23							
KAPS	Kapalarasan	4.76	175	Pg		Pg	07 31 10.7	-3.3
	12nm,0.1s							
KAPS				Lg		Lg	07 32 08.6	
	12nm,0.1s							
DJR	Jarkent	5.74	172	Pg		Pg	07 31 29.0	-3.8
	0.8nm,0.2s							
DJR				Lg		Lg	07 32 39.5	
	4.9nm,0.1s							
BVA0	Borovoye Array	6.01	303	⇑Sn		Sn	07 32 23.2	+0.6
	1.7nm,0.6s,baz=111,slow=21,SNR=6.1							
BVA0				⇑Lg		Lg	07 32 53.3	
	5.1nm,0.8s,baz=111,slow=29,SNR=5.3							
KRBS	Karabastau	6.67	199	Pg		Pg	07 31 47.8	-2.7
	1.2nm,0.5s							
KRBS				Lg		Lg	07 33 11.7	
	5.6nm,0.7s							
PDGK	Podgornoye	6.71	175	⇓Lg		Lg	07 33 16.7	
	17nm,0.8s							
MDOK	Medeo	6.96	190	Lg		Lg	07 33 22.4	
	21nm,0.8s							
TKM2	Tokmak 2	7.42	198	⇓Lg		Lg	07 33 35.4	
	9.8nm,0.8s							

NOU 02 07:30:23.3, 22°.18S×170°.33E, h0km, MLv3.9/10, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.25	288	P		Pn	07 31 00.7	-1.1
YATNC	Mamie plateau,	3.19	272	P		Pn	07 31 13.7	-1.1
LIFNC	LIFOU	3.20	295	P		Pn	07 31 15.4	+0.6
OUENC	Ouen Island, N	3.24	265	P		Pn	07 31 15.5	+0.1
ONTNC	Ouen Toro	3.59	267	P		Pn	07 31 20.6	+0.3
DZM	Mont Dzumac	3.60	271	P		Pn	07 31 20.5	0.0
NOUC	Port Lagu

az=219.0

ISC 02 07:47:55.2±0.8, 7°00N±0°02×76°29W±0°03, h15km±4km, n79, σ2°35/102, mb4.1/6, MS3.3/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.08**	**77**	P	**Pg**	**07 47 58.6**	**+0.1**
DBBC				S	**Sb**	**07 48 01.6**	**+1.0**
APAC	**Apartado, Choc**	**0.94**	**342**	P	**Pn**	**07 48 16.5**	**+2.6**
APAC				S	Sn	07 48 35.9	+8.8
UREC	**San Jos de Ur**	**1.06**	**45**	P	**Pg**	**07 48 16.8**	**+1.0**
UREC				S	**Sn**	**07 48 32.8**	**+2.7**
SOLC	**Bahia Solano**	**1.35**	**235**	P	**Pn**	**07 48 19.5**	**0.0**
SOLC				S	**Sb**	**07 48 37.2**	**-0.1**
ZARC	**Zaragoza, Cauc**	**1.50**	**71**	P	**Pn**	**07 48 22.5**	**+0.9**
ZARC				S	**Sb**	**07 48 42.2**	**+0.5**
PTAC	**Punta Ardita,**	**1.51**	**276**	P	**Pn**	**07 48 22.0**	**+0.2**
PTAC				S	**Sg**	**07 48 43.3**	**-0.8**
PTBC	**PUERTO BERRIO,**	**1.88**	**104**	P	**Pn**	**07 48 27.4**	**+0.6**
PTBC				S	**Sb**	**07 48 52.2**	**-0.3**
CAPC	**Capurgana**	**1.94**	**327**	P	**Pb**	**07 48 30.1**	**-0.1**
CAPC				S	**Sg**	**07 48 57.4**	**-0.2**
GUY2C	**Guyana, Caldas**	**1.99**	**152**	P	**Pn**	**07 48 28.5**	**-0.2**
GUY2C				S	**Sn**	**07 48 53.6**	**0.0**
NORC	**Norcasia**	**2.01**	**135**	P	**Pn**	**07 48 28.7**	**+0.1**
NORC				S	**Sn**	**07 48 53.9**	**+0.4**
PLMC	**San Jos del P**	**2.08**	**180**	P	**Pn**	**07 48 30.5**	**+0.9**
PLMC				S	**Sg**	**07 49 00.9**	**-1.3**
PIZC	**Pizarro, Choco**	**2.28**	**208**	P	**Pn**	**07 48 34.1**	**+1.8**
PIZC				S	**Sb**	**07 49 04.2**	**0.0**
SPBC	**San Pablo de B**	**2.58**	**121**	P	**Pn**	**07 48 38.2**	**+1.7**
SPBC				S	**Sn**	**07 49 10.6**	**+2.9**
ROSC	**El Rosal**	**2.91**	**137**		**Pn**	**07 48 43.9**	**+2.6**
ROSC	**El Rosal**	**2.91**	**137**	Pn	**Pn**	**07 48 44.2**	**+2.9**
	14nm,0.3s,baz=342,slow=9.9,SNR=33						
ROSC				Sn	**Sb**	**07 49 23.0**	**+0.5**
	28nm,0.3s,baz=23,slow=20,SNR=7.9						
	60nm,0.4s						
ROSC	**El Rosal**	**2.91**	**137**	P	**Pn**	**07 48 43.8**	**+2.5**
ROSC				S	**Sb**	**07 49 25.7**	**+3.2**
YOTC	**Yotoco, Valle**	**3.00**	**181**	P	**Pn**	**07 48 40.6**	**-1.7**
YOTC				S	**Sn**	**07 49 21.3**	**+3.3**
SJCC	**San Jacinto, C**	**3.08**	**21**	P	**Pb**	**07 48 49.0**	**-0.8**
SJCC				S	**Sn**	**07 49 23.0**	**+2.9**
OCAC	**Ocana**	**3.19**	**67**	P	**Pn**	**07 48 48.1**	**+3.1**
OCAC				S	**Sb**	**07 49 28.9**	**-1.6**
CVER	**Cruz Verde, Cu**	**3.31**	**138**	P	**Pb**	**07 48 51.8**	**-2.0**
CHIC	**Chingaza**	**3.47**	**133**	P	**Pn**	**07 48 53.1**	**+4.1**
CHIC				P	**Pb**	**07 48 53.8**	**-2.8**
CHIC				P	Pg	07 48 53.9	-7.8
PRAC	**Prado**	**3.55**	**157**	P	**Pn**	**07 48 52.5**	**+2.7**
PRAC				P	**Pb**	**07 48 54.0**	**-3.8**
PRAC				S	**Sb**	**07 49 44.2**	**+3.5**
PAMC	**Pamplona, Colo**	**3.58**	**84**	P	**Pn**	**07 48 54.5**	**+3.9**
PAMC				S	**Sn**	**07 49 35.1**	**+2.2**
JAMC	**Jamundi, Valle**	**3.78**	**186**	P	**Pn**	**07 48 54.4**	**+1.3**
VILC	**Villavicencio,**	**3.86**	**138**	P	**Pb**	**07 48 59.2**	**-3.9**
VILC				S	**Sg**	**07 49 57.4**	**-1.9**
AZU	**Azuero**	**4.03**	**282**	P	**Pn**	**07 48 57.8**	**+1.4**
AZU				S	**Sn**	**07 49 44.5**	**+1.2**
BCIP	**Isla Barro Col**	**4.12**	**302**	P	**Pn**	**07 48 59.2**	**+1.6**
BCIP				S	**Sb**	**07 49 50.7**	**-6.4**
URMC	**La Uribe, Meta**	**4.18**	**153**	P	**Pb**	**07 49 10.1**	**+1.5**
URMC				S	**Sb**	**07 50 01.2**	**+2.2**
BETC	**Betania**	**4.37**	**169**	P	**Pn**	**07 49 02.9**	**+1.8**
POPC	**Popayan, Colom**	**4.45**	**185**	P	**Pn**	**07 49 03.4**	**+1.1**
TAMC	**Tame, Arauca**	**4.50**	**97**	P	**Pn**	**07 49 06.3**	**+3.3**
CACAO	**El Cacao, Vera**	**4.55**	**275**	P	**Pn**	**07 49 04.3**	**+0.8**
GARC	**Garzon, Huila**	**4.84**	**171**	P	**Pn**	**07 49 09.2**	**+1.4**
GARC				S	**Sb**	**07 50 21.7**	**+3.5**
GMAL	**Guarumal, Vera**	**4.96**	**279**	P	**Pn**	**07 49 11.4**	**+2.2**
	32nm,0.5s						
PTGC	**Puerto Gaitan,**	**4.99**	**124**	P	**Pn**	**07 49 11.5**	**+2.0**
PTGC				S	**Sn**	**07 50 08.0**	**+1.1**
BBAC	**Balboa, Cauca**	**5.04**	**191**	P	**Pn**	**07 49 13.3**	**+2.9**
CRJC	**Cerrejon, Guaj**	**5.22**	**40**	P	**Pn**	**07 49 16.6**	**+3.7**
	31nm,0.8s,3μm						
CRJC				S	**Sn**	**07 50 14.0**	**+1.0**
	31nm,0.8s,3μm						
GUVC	**San Jose del G**	**5.74**	**140**	P	**Pn**	**07 49 19.6**	**-0.3**
SDV	**Santo Domingo**	**5.91**	**71**	Pn	**Pn**	**07 49 20.2**	**-2.2**
SDV	**Santo Domingo**	**5.91**	**71**	Pn	**Pn**	**07 49 25.2**	**+2.8**
	4.0nm,0.3s,baz=301,slow=12,SNR=2.1						
SDV				Sn	**Sn**	**07 50 27.9**	**-2.1**
	4.1nm,0.3s,baz=323,slow=15,SNR=4.3						
SDV				Lg	Lg	07 50 55.8	
	6.9nm,0.3s,baz=258,slow=19,SNR=1.7						
	10nm,0.4s						
URIC	**Uribia, Colomb**	**6.31**	**42**	P	**Pn**	**07 49 31.9**	**+4.1**
URIC				S	**Sn**	**07 50 42.8**	**+3.2**
TULM	**Tulcn-Chalpat**	**6.42**	**194**		Pn	07 49 35.4	+5.7
IMBA	**Imbabura, San**	**6.94**	**196**		Pn	07 49 42.1	+5.3
PTLC	**Puerto Leguiza**	**6.94**	**168**	P	Pn	07 49 43.8	+7.3
OTAV	**Otavalo**	**7.05**	**198**	Pn	**Pn**	**07 49 40.8**	**+2.4**
OTAV	**Otavalo**	**7.05**	**198**	P	**Pn**	**07 49 39.9**	**+1.5**
PULU	**Pululahua**	**7.27**	**198**	Pn	**Pn**	**07 49 45.2**	**+3.8**
ANTS	**Antisana-Sarah**	**7.68**	**194**	Pn	**Pn**	**07 49 51.4**	**+4.3**
BAUV	**El Baul**	**8.40**	**76**		**Pn**	**07 49 56.6**	**+0.1**
JTS	**Las Juntas de**	**9.17**	**292**	Pn	**Pn**	**07 50 03.5**	**-3.5**
	0.5nm,0.3s,baz=135,slow=19,SNR=1.7						
JTS				LR	LR	07 54 03.8	
	comp=Z,113nm,18.6s,baz=148,slow=42						
	2.9nm,0.7s						
MTDJ	**Mount Denham**	**11.23**	**354**	Pn	**Pn**	**07 50 37.5**	**+2.2**
MTDJ	**Mount Denham**	**11.23**	**354**	P	**Pn**	**07 50 39.2**	**+3.9**
MTDJ				S	**Sn**	**07 52 38.9**	**-1.7**
PCRV	**Puerto La Cruz**	**11.95**	**74**	Pn	**Pn**	**07 50 47.4**	**+2.2**
	0.5nm,0.3s,baz=225,slow=5.7,SNR=1.4						
PCRV				Sn	**Sn**	**07 52 58.2**	**-0.1**
	0.1nm,0.3s,baz=183,slow=19,SNR=1.4						
	2.0nm,0.4s						
SDDR	**Presa de Saban**	**12.87**	**22**	Pn	**Pn**	**07 50 59.7**	**+1.9**
CHIV	**Chivirico**	**12.90**	**359**	Pn	**Pn**	**07 51 01.0**	**+2.9**
GTBY	**Guantanamo Bay**	**12.90**	**5**	Pn	**Pn**	**07 50 59.5**	**+1.3**
ATAH	**Atahualpa**	**14.20**	**189**	LR	LR	07 58 07.5	
	comp=Z,90nm,21.7s,baz=356,slow=43						
AOPR	**Arecibo Observ**	**14.61**	**39**	Pn	**Pn**	**07 51 20.3**	**-1.3**
ESQI	**Esquipulas**	**14.85**	**301**		**P**	**07 51 33.3**	**+2.6**
ESQI				IAmb	IAmb	07 51 59.6	
	comp=Z,18nm,1.2s						
BOAV	**Boa Vista**	**16.36**	**105**	Pn	**Pn**	**07 51 40.1**	**-4.4**
SABA	**Saba**	**16.54**	**49**	Pn	**Pn**	**07 51 44.4**	**-2.3**
MACA	**Manacapuru-AM**	**18.56**	**122**	P	**P**	**07 52 07.7**	**-4.0**
MACA				IAmb	IAmb	07 52 11.8	
	comp=Z,7.1nm,0.7s						
NNA	**Nana**	**18.87**	**182**	LR	LR	08 01 11.1	
	comp=Z,120nm,18.4s,baz=354,slow=42						
ETMB	**Extrema**	**19.49**	**149**	P	**P**	**07 52 20.6**	**-1.2**
SAML	**Samuel**	**20.53**	**140**	P	**P**	**07 52 30.0**	**-3.2**
SAML				IAmb	IAmb	07 52 40.2	
	comp=Z,9.6nm,1.1s						
CMIG	**Matias Romero**	**20.75**	**301**	LR	LR	08 01 08.8	
	comp=Z,39nm,20.3s,baz=179,slow=39						
LPAZ	**La Paz**	**24.51**	**161**	P	**P**	**07 53 13.2**	**-1.6**
LPAZ				IAmb	IAmb	07 53 24.5	
	comp=Z,6.7nm,1.4s						
LPAZ	**La Paz**	**24.51**	**161**	P	**P**	**07 53 15.3**	**+0.5**
	comp=Z,1.9nm,1.0s,baz=354,slow=11,SNR=5.6						
LPAZ				LR	LR	08 03 25.4	
	comp=Z,97nm,20.4s,baz=44,slow=38						
	comp=Z,1.9nm,1.0s						
VILB	**Vilhena**	**25.46**	**141**	P	**P**	**07 53 19.1**	**-3.8**
VILB				IAmb	IAmb	07 53 30.3	
	comp=Z,9.3nm,0.9s						
PB11	**IPOC Station P**	**27.38**	**166**	P	**P**	**07 53 40.5**	**+0.2**
PB11				IAmb	IAmb	07 53 47.0	
	comp=Z,5.7nm,0.9s						
HMBC	**Humberstone**	**27.83**	**167**	P	**P**	**07 53 43.6**	**-0.6**
TKL	**Tuckaleechee C**	**29.34**	**347**	LR	LR	08 05 48.3	
	comp=Z,21nm,20.2s,baz=178,slow=37						
LVC	**Limon Verde**	**30.30**	**166**	LR	LR	08 06 55.4	
	comp=Z,82nm,18.9s,baz=323,slow=38						
CPUP	**Villa Florida**	**37.90**	**152**	LR	LR	08 12 04.5	
	comp=Z,49nm,21.3s,baz=30,slow=38						
PLCA	**Paso Flores**	**47.79**	**174**	P	**P**	**07 56 32.1**	**0.0**
	comp=Z,3.3nm,1.0s,baz=330,slow=7.6,SNR=3.0						
	comp=Z,3.3nm,1.0s						
ESDC	**Sonseca Array**	**71.97**	**51**	P	**P**	**07 59 19.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=258,slow=5.3,SNR=2.2						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.78**	**78**	P	**P**	**07 59 47.7**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=302,slow=7.2,SNR=2.4						
	comp=Z,0.4nm,0.9s						
ASAR	**Alice Springs**	**146.61**	**237**	PKPbc	**PKPdf**	**08 07 35.6**	**0.0**
	comp=Z,0.3nm,0.5s,baz=124,slow=3.1,SNR=3.8						
WRA	**Warramunga Arr**	**147.63**	**244**	PKPbc	**PKPbc**	**08 07 39.5**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=104,slow=2.9,SNR=5.0						

IDC 02 07:54:44.0±3.0, 54°24N×87°22E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=26.3km s-min=17.8km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.45**	**259**	I	I	08 03 10.0	
	baz=77,slow=304,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.45**	**259**	Pg	Pn	07 55 09.9	-1.5
	0.8nm,0.3s,baz=77,slow=17,SNR=9.5						
ZALV				Lg	Lg	07 55 29.6	
	0.7nm,0.3s,baz=79,slow=25,SNR=3.8						
KURBB	**Kurchatov Arra**	**6.43**	**239**	Pn	Pn	07 56 20.8	+0.9
	baz=54,slow=14,SNR=9.4						
KURBB				Lg	Lg	07 58 08.7	
	baz=52,slow=30						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**8.09**	**205**	Pn	Pn	07 56 43.7	+1.0
	0.1nm,0.3s,baz=27,slow=14,SNR=5.8						
MKAR				Sn	Sn	07 58 14.1	-0.7
	0.1nm,0.3s,baz=22,slow=27,SNR=4.1						
MKAR				Lg	Lg	07 59 02.7	
	0.1nm,0.3s,baz=25,slow=28,SNR=3.5						
	0.2nm,0.4s						

IDC 02 08:03:27.9±3.6, 53°79N×88°16E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=30.9km s-min=19.5km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**276**	I	I	08 15 50.0	
	0.1nm,0.9s,baz=92,slow=317,SNR=4.7						
ZALV	**Zalesovo Beam**	**1.99**	**276**	Pg	Pn	08 04 03.1	+0.4
	0.3nm,0.3s,baz=96,slow=15,SNR=15						
ZALV				Lg	Lg	08 04 31.4	
	1.5nm,0.3s,baz=95,slow=24,SNR=9.7						
KURBB	**Kurchatov Arra**	**6.71**	**246**	Pn	Pn	08 05 08.3	+0.7
	baz=64,slow=16,SNR=3.2						
KURBB				Lg	Lg	08 07 00.6	
	baz=62,slow=32,SNR=3.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**7.95**	**211**	Pn	Pn	08 05 25.9	+1.3
	baz=32,slow=5.6,SNR=2.4						
MKAR				Lg	Lg	08 07 40.3	
	baz=30,slow=29,SNR=3.2						
	0.2nm,0.5s						

IDC 02 08:13:14.0±3.8, 53°78N×88°05E, h0km, mbtmp2.7/2, ML2.1/2, Error ellipse: s-maj=35.0km s-min=20.0km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**276**	I	I	08 25 35.0	
	0.1nm,1.1s,baz=95,slow=318,SNR=5.3						
ZALV	**Zalesovo Beam**	**1.92**	**276**	Pg	Pn	08 13 48.7	+0.8
	0.8nm,0.3s,baz=93,slow=17,SNR=7.7						
ZALV				Lg	Lg	08 14 15.6	
	2.5nm,0.3s,baz=103,slow=32,SNR=7.2						
KURBB	**Kurchatov Arra**	**6.65**	**245**	Pn	Pn	08 14 52.5	-0.3
	baz=60,slow=13,SNR=2.3						
KURBB				Lg	Lg	08 16 45.2	
	baz=58,slow=37,SNR=1.9						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.90**	**210**	Pn	Pn	08 15 12.0	+1.8
	baz=26,slow=10,SNR=1.3						
	0.2nm,0.4s						

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*NEIC **02** 08:27:48.5±0.9, 19°.428N±0°.008×155°.286W±0°.008, h5km±1km, Error ellipse: s-maj=1.3km s-min=0.9km az=156.0*

HVO 02 08:27:48.1±1.1, 19°.415N±0°.008×155°.277W±0°.007, h1km±2km, ML3.8/9, ML2.8/28(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=153.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**293**		Pg	08 27 49.4	+0.9
UWB	**Uwekahuna B**	**0.01**	**353**		Pg	08 27 49.5	+0.9
SBLHI	**Steaming Bluff**	**0.01**	**33**		Pg	08 27 49.6	+1.0
BYL	**Byron's Ledge**	**0.02**	**99**		Pg	08 27 48.9	+0.4
BYL				Sg	Sg	08 27 49.3	+0.4
HATHI	**Halema'uma'u T**	**0.02**	**60**	Pg	Pg	08 27 49.0	+0.4
HATHI				Sg	Sg	08 27 49.2	+0.3
UWE	**Uwekahuna**	**0.02**	**293**		Pg	08 27 49.0	+0.4
UWE				Sg	Sg	08 27 49.8	+0.9
KKO	**Keanakako`i**	**0.02**	**149**		Pg	08 27 50.0	+1.4
RIM	**Rim**	**0.02**	**172**		Pg	08 27 49.7	+1.1
WRMHI	**West Rim**	**0.02**	**250**		Pg	08 27 50.0	+1.4
SDHHI	**Sand Hill**	**0.03**	**213**		Pg	08 27 50.5	+1.8
RSD	**Rainshed**	**0.05**	**359**	Pg	Pg	08 27 49.8	+0.7
RSD				IAML		08 27 50.4	
	comp=N,7μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.11**	**109**	Pg	Pg	08 27 51.0	+0.8
HLP	**Hilina Pali**	**0.12**	**194**	Pg	Pg	08 27 51.4	+0.9
HLP				Sg	Sg	08 27 52.7	+0.7
HLP				IAML		08 27 54.0	
	comp=E,7μm,1.2s						
STCH	**Steam Cracks**	**0.15**	**101**	Pg	Pg	08 27 51.7	+0.7
STCH				Sg	Sg	08 27 53.4	+0.5
STCH				IAML		08 27 55.2	
	comp=N,3μm,0.7s						
STCH				IAML		08 27 55.8	
	comp=E,4μm,0.9s						
JCUZ	**Jacuzzi**	**0.17**	**100**		Pg	08 27 52.4	+1.0
HTC	**Hot Caves**	**0.21**	**213**		Pg	08 27 53.0	+0.8
JOKA	**Jonika Flow**	**0.26**	**86**	Pg	Pg	08 27 53.9	+0.9
JOKA				IAML		08 27 55.6	
	comp=E,2μm,0.9s						
JOKA				Sg	Sg	08 27 57.1	+0.7
HMH	**Humu'ula Sheep**	**0.27**	**314**		Pg	08 27 54.1	+0.8
HMH				Sg	Sg	08 27 57.4	+0.6
HMH				IAML		08 28 02.0	
	comp=E,2μm,1.1s						
HMH				IAML		08 28 02.2	
	comp=N,3μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.31**	**293**	Pg	Pg	08 27 53.6	-0.4
MLOA				Sg	Sg	08 27 58.1	+0.1
MLOA				IAML		08 27 60.0	
	comp=N,2μm,1.4s						
MWH	**Moku'aweowe**	**0.31**	**283**		Pg	08 27 54.1	0.0
MWH					Sg	08 27 58.6	+0.5
KHU	**Kahuku**	**0.36**	**242**		Pg	08 27 55.9	+0.9
KHU				Sg	Sg	08 28 01.0	+1.2
KHU				IAML		08 28 03.1	
	comp=N,1μm,0.8s						
ALEP	**Alea Permanent**	**0.37**	**290**		Pg	08 27 55.7	+0.5
HPO	**Honuapo**	**0.42**	**219**		Pg	08 27 56.7	+0.6
POHA	**Pohakuloa**	**0.42**	**325**	Pg	Pg	08 27 56.8	+0.6
POHA				IAML		08 28 04.2	
	comp=N,908nm,0.3s						
POHA				IAML		08 28 04.6	
	comp=N,953nm,0.9s						
HUH	**Hualalai**	**0.59**	**297**		Pg	08 27 59.6	+0.1
CPH	**Captain Cook**	**0.61**	**277**		Pg	08 27 59.8	0.0
HPAH	**Hawaii Prepara**	**0.73**	**327**	Pg	Pg	08 28 02.0	-0.1

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*IDC **02** 08:55:54.8±2.0, 6°.40S×152°.55E, h0km, mb3.5/4, mbtmp3.6/5, ML1.8/1, Error ellipse: s-maj=92.2km s-min=25.3km az=127.0*

ISC 02 08:55:59.0±1.8, 6°.4S±0°.4×152°.4E±0°.4, h23km, n6, σ1°.26/7, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.99**	**240**	Pn	**Pn**	**08 57 27.2**	**+0.8**
	1.5nm,0.3s,baz=46,slow=22,SNR=2.1						
PMG				Sn	**Sn**	**08 58 33.2**	**-1.1**
	2.7nm,0.3s,baz=253,slow=12,SNR=1.9						
	16nm,0.9s						
WRA	**Warramunga Arr**	**22.12**	**231**	P	**P**	**09 00 53.4**	**+0.4**
	1.0nm,0.6s,baz=54,slow=10.0,SNR=4.9						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**24.73**	**224**	P	**P**	**09 01 19.3**	**+0.4**
	0.7nm,0.6s,baz=60,slow=8.8,SNR=18						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**81.25**	**319**	P	**P**	**09 08 14.0**	**+0.6**
	0.2nm,0.5s,baz=90,slow=4.3,SNR=2.3						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**83.77**	**22**	P	**P**	**09 08 25.9**	**-0.1**
	0.4nm,0.7s,baz=248,slow=4.8,SNR=8.6						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.38**	**285**	PKPbc	**PKPbc**	**09 15 47.7**	**-1.9**
	0.3nm,0.6s,baz=108,slow=2.5,SNR=1.6						

IDC 02 09:04:14.4±3.4, 54°31N×87°43E, h0km, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=29.5km s-min=19.0km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.58**	**258**	I	I	09 12 57.3	
	baz=76,slow=316,SNR=4.9						
ZALV	**Zalesovo Beam**	**1.58**	**258**	Pg	Pn	09 04 41.9	-1.8
	1.1nm,0.3s,baz=79,slow=16,SNR=11						
ZALV				Lg	Lg	09 05 05.3	
	1.2nm,0.3s,baz=76,slow=30,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.57**	**239**	Pn	Pn	09 05 52.5	+0.3
	0.2nm,0.3s,baz=55,slow=14,SNR=6.1						
	1.7nm,0.2s						
MKAR	**Makanchi Array**	**8.20**	**206**	Pn	Pn	09 06 16.1	+1.6
	0.1nm,0.3s,baz=26,slow=14,SNR=4.8						
MKAR				Lg	Lg	09 08 35.1	
	baz=23,slow=32,SNR=2.9						
	0.1nm,0.3s						

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*ASIES **02** 09:04:27.4, 23°.33N×120°.63E, h8km, ML3.7, Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}8.60; $M_{\theta\theta}$0.29; $M_{\phi\phi}$-8.98; $M_{r\theta}$0.93; $M_{\theta\phi}$-2.52; $M_{\phi r}$-8.19; Fault plane solution: $M_0$12.31510×10^{20} NP1: ϕ_s180.20000°, δ66.51000°, λ77.50000°. NP2:ϕ_p29.29000°, δ26.44000°, λ116.48000°. Principal axes: T Plg66.2000°, Azm67.9100°; N Plg11.4510°, Azm185.2510°; P Plg20.5690°, Azm279.6110°;*

*JMA **02** 09:04:27.8±0.1, 23°.4N±0°.1×120°.6E±0°.2, h7km±1km, MV3.5/9, TAIWAN REGION*

*TAP **02** 09:04:27.4, 23°.33N×120°.63E, h8km, ML3.7, B*

ISC 02 09:04:27.8±0.7, 23°33N±0°.01×120°62E±0°.01, h12km±3km, n145, σ0°64/212, 37C-17D, Taiwan

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CHN4	**Tsaushan**	**0.03**	**303**	⇑*i*P	**Pg**	**09 04 29.4**	**-0.6**
	baz=301						
CHN4				*i* S	**Sg**	**09 04 30.9**	**-0.7**
	baz=301						
TPUB	**Ta-pu**	**0.03**	**170**	P	**Pg**	**09 04 29.0**	**-1.0**
TPUB	**Ta-pu**	**0.03**	**170**	⇑*i*P	**Pg**	**09 04 29.3**	**-0.8**
	baz=182						
TPUB				*i* S	**Sg**	**09 04 30.4**	**-1.2**
	baz=182						
WTP	**Ta-pu**	**0.09**	**186**	⇑*i*P	**Pg**	**09 04 30.2**	**-0.4**
	baz=185						
WTP				*i* S	**Sg**	**09 04 32.0**	**-0.5**
	baz=185						
WCKO	**Fanlu**	**0.11**	**351**	⇓*i*P	**Pg**	**09 04 30.7**	**-0.1**
	baz=348						
WCKO				*i* S	**Sg**	**09 04 33.1**	**+0.2**
	baz=348						
TWK	**Hsinying**	**0.14**	**242**	⇓*i*P	**Pg**	**09 04 31.2**	**-0.1**
	baz=240						
TWK				*i* S	**Sg**	**09 04 34.0**	**+0.3**
	baz=240						
SNST	**Tainan City**	**0.16**	**226**	⇓*i*P	**Pg**	**09 04 31.7**	**+0.1**
	baz=228						
SNST				*i* S	**Sg**	**09 04 34.8**	**+0.6**
	baz=228						
CHN1	**Nanshi**	**0.17**	**211**	⇓*i*P	**Pg**	**09 04 31.9**	**+0.1**
	baz=212						
CHN1				*i* S	**Sg**	**09 04 35.2**	**+0.7**
	baz=212						
STYT	**Tauyuan**	**0.21**	**144**	⇓*i*P	**Pg**	**09 04 32.5**	**+0.2**
	baz=144						
STYT				*i* S	**Sg**	**09 04 35.9**	**+0.4**
	baz=144						
STYH	**Taoyuan**	**0.21**	**139**	⇓*i*P	**Pg**	**09 04 32.5**	**0.0**
	baz=140						
STYH				*i* S	**Sg**	**09 04 36.0**	**+0.5**
	baz=140						
CHY	**Chiayi**	**0.25**	**312**	P	**Pb**	**09 04 33.6**	**-0.7**
	baz=312						
CHY				*e*S	**Sb**	**09 04 38.5**	**+2.0**
	baz=312						
SGST	**Jiashian**	**0.25**	**188**	⇑P	**Pg**	**09 04 32.5**	**-0.6**
	baz=188						
SGST				*e*S	**Sb**	**09 04 37.5**	**-1.2**
	baz=188						
ICHU	**Yijhu**	**0.32**	**275**	⇓*i*P	**Pb**	**09 04 35.2**	**-0.3**
	baz=275						
ICHU				*e*S	**Sb**	**09 04 41.3**	**+0.7**
	baz=275						
SLGT	**Liugui**	**0.34**	**176**	*e*P	**Pb**	**09 04 35.2**	**-0.6**
	baz=177						
YUS	**Yu-Shan**	**0.34**	**63**	⇑*i*P	**Pb**	**09 04 35.2**	**-1.0**
	baz=75						
YUS				S	**Sb**	**09 04 40.3**	**-1.4**
	baz=75						
CHN3	**Shinhua**	**0.35**	**223**	*e*P	**Pb**	**09 04 36.0**	**0.0**
	baz=224						
WGK	**Gukeng**	**0.36**	**351**	P	**Pb**	**09 04 35.9**	**-0.2**
	baz=351						
WGK				S	**Sb**	**09 04 42.1**	**+0.3**
	baz=351						

baz=25
SMLT S Sb 09 04 50.0 +1.0
baz=25
RLNB Erlin 0.61 337⇓ *e*P Pb 09 04 40.0 -0.4
baz=324
RLNB S Sb 09 04 49.4 +0.5
baz=324
TYC Yuchr 0.61 21⇑ P Pb 09 04 40.3 -0.1
baz=21
TYC S Sb 09 04 50.0 +1.0
baz=21
WRL Guolierlin Hig 0.61 338 *e*P Pb 09 04 40.2 -0.3
baz=325
WTCT Ta-ch'eng 0.61 329⇓ P Pb 09 04 40.0 -0.5
baz=329
WTCT S Sb 09 04 49.7 +0.6
baz=329
TWF1 Yuli 0.62 88 P Pb 09 04 40.1 -0.6
baz=88
TWF1 S Sb 09 04 48.4 -0.9
baz=88
YULB Yu-li 0.62 84 P Pg 09 04 39.9 -0.1
YULB Yu-li 0.62 84⇑ P Pg 09 04 39.8 -0.1
baz=85
YULB *e*S Sg 09 04 47.2 -1.0
baz=85
WYL Yuanlin Townsh 0.63 356 *e*P Pb 09 04 40.7 0.0
baz=356
WYL *e*S Sb 09 04 50.6 +1.1
baz=356
FULB Fuli 0.63 102⇑ P Pb 09 04 40.8 0.0
baz=103
FULB *e*S Sb 09 04 50.3 +0.6
baz=103
LONT Longtian 0.63 132⇑ *e*P Pb 09 04 40.4 -0.4
baz=133
LONT *e*S Sb 09 04 49.6 0.0
baz=133
VWDT VWDT 0.63 49⇑ P Pb 09 04 40.4 -0.5
baz=53
VWDT *e*S Sb 09 04 49.2 -0.5
baz=53
EYUL Yuli 0.64 89 *e*P Pb 09 04 40.4 -0.6
baz=89
TWG Pinlang 0.66 141⇑ *i*P Pb 09 04 41.0 -0.3
baz=130
TWG S Sb 09 04 50.5 +0.1
baz=130
TSPT Pingtung City 0.66 190 *e*P Pn 09 04 42.4 -0.7
baz=191
TWGBT Beinan 0.66 141 P Pb 09 04 41.2 -0.2
TWGBT Beinan 0.66 141⇑ *i*P Pb 09 04 41.0 -0.4
baz=130
TWGBT *i*S Sb 09 04 50.2 -0.3
baz=130
EHY Hungye 0.67 75⇑ *i*P Pb 09 04 41.0 -0.4
baz=80
EHY *e*S Sg 09 04 49.6 +0.1
baz=80
EHYH Wanrong 0.68 76 *e*P Pb 09 04 41.2 -0.5
baz=88
EHYH *e*S Sg 09 04 50.1 0.0
baz=88
WWF Wufeng 0.71 6⇑ P Pb 09 04 42.4 +0.2
baz=5.0
WWF *e*S Sb 09 04 53.0 +1.1
baz=5.0
MASBT Mashibuluo 0.72 179⇑ P Pb 09 04 42.0 -0.3
baz=167
MASBT *e*S Sb 09 04 52.8 +0.7
baz=167
CHKT Chengkung 0.72 109⇑ *i*P Pb 09 04 42.8 +0.5
baz=109
CHKT *i*S Sn 09 04 54.1 -0.8
baz=109
EDH Donghe 0.72 120 *e*P Pb 09 04 42.1 -0.2
baz=120
CHKH Chenggong 0.72 101 *e*P Pb 09 04 42.5 +0.1
baz=93
WPL Puli Township 0.74 24 *e*P Pb 09 04 42.1 -0.6
baz=24
WPL *e*S Sb 09 04 53.1 +0.3
baz=24
DPDB Guoxing 0.75 22 *e*P Pb 09 04 42.5 -0.4
baz=22
HGSD Ruisui 0.75 78⇑ P Pb 09 04 43.0 +0.1
baz=86
HGSD S Sb 09 04 54.0 +0.8
baz=86
TTN Taitung 0.75 140 *e*P Pb 09 04 42.8 -0.1
baz=140
ECBN Changbin 0.76 91 *e*P Pn 09 04 43.6 -0.8
baz=91
WCS Beigang Elemen 0.77 20⇑ P Pb 09 04 42.8 -0.4
baz=20
WCS *e*S Sb 09 04 54.2 +0.6
baz=20
ECL Taimali 0.79 157 P Pb 09 04 43.4 -0.2
baz=145
ECL S Sb 09 04 55.1 +0.8
baz=145
WUSB Renai 0.80 35⇑ P Pg 09 04 42.9 -0.4
baz=34
WUSB S Sb 09 04 54.8 +0.2
baz=34
WARBT Fenglin Townsh 0.80 61⇑ *i*P Pb 09 04 43.1 -0.6
baz=54
WARBT *e*S Sg 09 04 53.7 -0.1
baz=54
OWD Renai 0.80 39⇑ P Pb 09 04 43.2 -0.6
baz=26
OWD *e*S Sb 09 04 55.2 +0.6
baz=26
TCU Taichung 0.81 3 *e*P Pb 09 04 43.9 0.0
baz=4.0
CHGB Renai 0.88 35⇑ P Pg 09 04 44.6 -0.4
baz=35
CHGB *e*S Sb 09 04 58.1 +1.0
baz=35
ESL Shilin 0.88 57 P Pb 09 04 44.7 -0.4
baz=58
ESL S Sn 09 04 58.0 -0.9
baz=58
WDGT Dungji 0.89 265⇓ *i*P Pg 09 04 44.5 -0.5
baz=277
WDGT *e*S Sb 09 04 56.8 -0.3
baz=277
SCZT Fangliau 0.96 180 *e*P Pb 09 04 46.5 +0.1
baz=180
EAST Anshuo 0.97 168⇑ *e*P Pb 09 04 46.6 0.0
baz=168
EAST *e*S Sn 09 05 00.6 -0.4
baz=168
SHUL Shoufeng 0.97 62 *e*P Pb 09 04 46.8 +0.1
baz=63
PHUB P'eng-hu 0.98 281⇓ P Pg 09 04 45.6 -1.1
baz=280
PHUB S Sg 09 04 59.2 -0.4
baz=280
WHP Taichung City 0.99 17⇑ *i*P Pb 09 04 46.8 -0.2
baz=17
WHP *e*S Sn 09 05 02.5 +0.9
baz=17
LXIB Xiulin Townshi 1.00 46⇑ P Pg 09 04 46.5 -0.6
baz=33
LXIB S Sn 09 05 02.0 0.0
baz=33
WHF Hehuan Shan 1.00 36⇑ P Pb 09 04 47.0 -0.4
baz=36
WHF *e*S Sb 09 05 00.8 +0.1
baz=36
TAW Tawu 1.00 165 *e*P Pn 09 04 47.5 -0.3
baz=166
WDJ Dajia District 1.01 1 *e*P Pn 09 04 47.8 -0.1
WDJ *e*S Sn 09 05 02.5 +0.4
TWP Hsiaoliuchiu 1.01 194 *e*P Pn 09 04 47.8 -0.1
baz=217
ETM Tongmen 1.02 52 *e*P Pb 09 04 47.1 -0.3
baz=66
TAWH Dawu Township 1.02 166 *e*P Pb 09 04 47.3 -0.1
baz=167
LDUT Ludao 1.02 130 *e*P Pb 09 04 47.4 0.0
baz=131
LDUT *e*S Sn 09 05 02.7 +0.4
baz=131
TDCB Techi 1.04 28⇑ P Pg 09 04 47.2 -0.7
baz=28
TEYL Yanliau Villag 1.04 59 *e*P Pn 09 04 48.2 -0.1
baz=58
TWT Tachien 1.05 29 *e*P Pg 09 04 47.4 -0.6
baz=28
TWT *e*S Sn 09 05 03.2 0.0
baz=28
FUSS Fushou 1.07 32 *e*P Pg 09 04 47.7 -0.9
baz=21
NSY Sanyi 1.08 7⇑ *e*P Pn 09 04 48.9 -0.1
baz=7.0
NSY *e*S Sn 09 05 05.2 +1.3
baz=7.0
HWA Hwalien 1.10 54 *e*P Pn 09 04 49.5 +0.3
baz=55
VCHM Qimei 1.10 264⇓ *e*P Pg 09 04 47.8 -1.3
baz=263
VCHM *e*S Sg 09 05 02.5 -1.1
baz=263
TWD Chiawan 1.16 50 *e*P Pn 09 04 50.0 0.0
baz=63
TWD *e*S Sn 09 05 06.0 +0.3
baz=63
NMLH Miaoli 1.21 7⇓ *e*P Pn 09 04 50.9 +0.3
baz=353
NACB Ninganchiao 1.22 47 P Pb 09 04 50.6 -0.3
NACB Ninganchiao 1.22 47 *e*P Pb 09 04 50.4 -0.5
baz=47
NACB *e*S Sn 09 05 08.0 +0.7
baz=47
NNSB Datong 1.29 32⇑ *e*P Pn 09 04 51.4 -0.5
baz=33
NNSH Datong 1.29 32 *e*P Pn 09 04 51.6 -0.3
baz=33
NNS Nan Shan 1.30 32 *e*P Pn 09 04 51.9 0.0
baz=33
NSTT Nanjuang 1.34 15⇑ *e*P Pn 09 04 52.3 -0.1
baz=15
NSTT *e*S Sg 09 05 11.2 +0.2
baz=15
NFF Wufeng Townshi 1.37 19 *e*P Pn 09 04 52.8 0.0
baz=360
TWK1 Hengchun 1.39 173 *e*P Pb 09 04 53.4 -0.4
baz=168
TWKBT Hengchun 1.40 173 *e*P Pg 09 04 54.7 0.0
baz=168
EAHA Aohua 1.42 46 *e*P Pb 09 04 54.1 -0.3
baz=33
LATG Datong 1.45 34 P Pb 09 04 54.7 -0.2
baz=35
LATG S Sg 09 05 15.1 +0.3
baz=35
HSN1 Hsinchu 1.48 14 *e*P Pn 09 04 54.7 +0.3
baz=355
SBCB Hsinchu 1.49 13 *e*P Pn 09 04 54.9 +0.5
baz=13
ENA Nanau 1.50 43 *e*P Pb 09 04 55.3 -0.2
baz=32
NSK Sanguang 1.50 27⇑ *i*P Pb 09 04 55.2 -0.4
baz=27
YHNB Yeheng 1.50 27 P Pb 09 04 55.5 -0.2
YHNB Yeheng 1.50 27⇑ *i*P Pb 09 04 55.4 -0.3
baz=28
NDT Datong Townshi 1.50 33 *e*P Pb 09 04 55.5 -0.2
baz=33
EWUT Wuta 1.53 43 *e*P Pb 09 04 56.1 0.0
baz=33
ENTT Nioudou 1.56 33 *e*P Pb 09 04 56.5 -0.2
baz=26
NWLT Wulai 1.65 29 *e*P Pn 09 04 57.2 +0.6
baz=30
ESAO Su ao 1.67 42 *e*P Pb 09 04 58.3 -0.2
baz=31
FUSB Fushanzhiwuyua 1.67 32 *e*P Pb 09 04 58.9 +0.2
baz=32
TWE Neicheng 1.68 34 *e*P Pb 09 04 58.0 -0.7
baz=36
TWC Suao 1.69 41 *e*P Pb 09 04 58.9 0.0
baz=31
EOS4 EOS4 1.74 63 *e*P Pb 09 04 59.1 -0.4
baz=64
TATO Taipei 1.82 26 P Pb 09 05 01.2 +0.2
TATO Taipei 1.82 26 *e*P Pb 09 05 01.4 +0.3
baz=34
TWA Mucha 1.86 28 *e*P Pb 09 05 01.3 -0.5
baz=35
EGS 1.92 38 *e*P Pb 09 05 03.3 +0.4
baz=39
TIPB Shuangxi 1.97 34 *e*P Pb 09 05 02.4 -1.2
baz=16
VWUC VWUC 1.97 327 *e*P Pn 09 04 59.9 -1.2
baz=326
NWF Wu-fen Shan 2.03 31 *e*P Pb 09 05 04.5 -0.2
baz=32
TWB1 Santiao Chiao 2.08 37 *e*P Pb 09 05 05.0 -0.6
baz=25
SXI1 Grass Mountain 2.09 33 *e*P Pb 09 05 06.0 +0.2
baz=15
PTMZ Houxiangcun 2.19 321 *e*P Pn 09 05 03.4 -0.6
baz=320
KNM Kinmen 2.28 299 *e*P Pn 09 05 06.0 +0.7
baz=296
KNMB Chin-men Tao 2.33 299 *e*P Pn 09 05 05.6 -0.5
baz=298
YOJ Yonaguni jima 2.46 62 P Pn 09 05 09.3 +1.5
YOJ Yonaguni jima 2.46 62 *e*P Pn 09 05 09.2 +1.5
baz=63
ZPLA Ao Xicun 2.70 283 *e*P Pn 09 05 10.3 -0.8
baz=282
MATB Ma-tsu 2.87 348 *e*P Pn 09 05 12.5 -1.0
baz=347
IRIF Iriomote-Funau 3.02 70 *e*P Pn 09 05 17.4 +1.9
IRIF *e*S Sn 09 05 53.5 +2.0
MHZQ Yeshan 3.11 333 *e*P Pn 09 05 16.6 -0.2
baz=332
JIJ Ishigaki jima 3.38 72 *e*P Pn 09 05 21.6 +1.1
JIJ *e*S Sn 09 06 01.9 +1.3
JISG Ishigakijimahi 3.60 69 P Pn 09 05 24.4 +1.0
JISG S Sn 09 06 06.8 +0.9
XPSS Dashiqiu 3.60 354 *e*P Pn 09 05 22.6 -1.0
baz=353
SXFK Yanhouchang 4.08 319 *e*P Pn 09 05 29.1 -1.0
baz=318

IDC 02 09:10:13.8±3.5, 54°.58N×86°.84E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=31.5km s-min=19.4km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**243**	I	I	09 18 10.0	
baz=64, slow=313, SNR=3.2							
ZALV	**Zalesovo Beam**	**1.34**	**243**	Pg	Pg	09 10 38.4	-1.1
1.5nm, 0.3s, baz=60, slow=16, SNR=8.1							
ZALV				Lg	Lg	09 10 57.0	
1.3nm, 0.3s, baz=59, slow=26, SNR=5.7							
KURBB	**Kurchatov Arra**	**6.43**	**235**	Pn	Pn	09 11 49.8	+0.3
0.1nm, 0.3s, baz=53, slow=14, SNR=2.5							
0.7nm, 0.4s							
MKAR	**Makanchi Array**	**8.31**	**202**	Pn	Pn	09 12 16.7	+1.3
0.2nm, 0.3s, baz=26, slow=13, SNR=6.8							
0.3nm, 0.3s							

*SJA **02** 09:10:20.3±0.6, 24°.29S×67°.15W, h213km±5km, ML3.8, MW3.6*
*NEIC **02** 09:10:22.9±1.3, 24°.29S±0°.08×67°.3W±0°.1, h208km±15km, mb4.2/4, ML4.1(GUC), Error ellipse: s-maj=16.4km s-min=11.0km az=98.0*
*GUC **02** 09:10:23.4±0.6, 24°.29S×67°.40W, h212km±6km, ML4.1*
*IDC **02** 09:10:24.6±1.0, 23°.95S×67°.32W, h216km±14km, mb3.2/3, mbtmp3.7/7, Error ellipse: s-maj=22.6km s-min=15.5km az=141.0*

ISC 02 09:10:22.5±0.7, 24°.26S±0°.04×67°.20W±0°.03, h193km±7km, n76, σ1°.68/101, mb3.5/3, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.59**	**325**		**Pn**	**09 10 58.2**	**+1.3**
AF01	**San Pedro de A**	**1.59**	**325**	*e*P	**Pn**	**09 10 58.1**	**+1.3**
AF01				*e*S	**Sn**	**09 11 24.6**	**+1.2**
SLA	**San Lorenzo**	**1.61**	**107**	*e*P	**Pn**	**09 10 56.2**	**-0.6**
AZAP	**Zapla**	**1.94**	**89**	*e*P	**Pn**	**09 10 59.4**	**-0.9**
AZAP				*e*S	**Sn**	**09 11 29.0**	**-0.4**
FSA	**Cafayete**	**2.14**	**149**	*e*P	**Pn**	**09 11 01.5**	**-0.7**
LVC	**Limon Verde**	**2.28**	**316**		**Pn**	**09 11 04.5**	**+0.6**
LVC	**Limon Verde**	**2.28**	**316**	*e*P	**Pn**	**09 11 05.1**	**+1.1**
LVC				*e*S	**Sn**	**09 11 36.3**	**+0.2**
LVC				IAML		09 11 38.7	
comp=Z, 155nm, 0.3s							
LVC	**Limon Verde**	**2.28**	**316**	P	**Pn**	**09 11 04.9**	**+0.9**
comp=Z, 29nm, 0.4s, baz=121, slow=6.1, SNR=50							
LVC				S	**Sn**	**09 11 35.6**	**-0.5**
comp=Z, 134nm, 0.3s, baz=253, slow=21, SNR=55							
LVC	**Limon Verde**	**2.28**	**316**	*e*P	**Pn**	**09 11 04.8**	**+0.8**
LVC				*i*S	**Sn**	**09 11 36.1**	**0.0**
PB15	**IPOC Station P**	**2.33**	**296**		**Pn**	**09 11 05.0**	**+0.6**
PB15	**IPOC Station P**	**2.33**	**296**	*e*S	**Sn**	**09 11 37.1**	**+0.2**
PB15	**IPOC Station P**	**2.33**	**296**	*e*P	**Pn**	**09 11 05.2**	**+0.8**
PB15				*i*S	**Sn**	**09 11 36.8**	**-0.1**
GO02	**Mina Guanaco**	**2.36**	**247**		**Pn**	**09 11 05.0**	**+0.3**
GO02	**Mina Guanaco**	**2.36**	**247**	*e*S	**Sn**	**09 11 38.3**	**+0.8**
GO02	**Mina Guanaco**	**2.36**	**247**	*e*P	**Pn**	**09 11 05.0**	**+0.3**
GO02				*i*S	**Sn**	**09 11 37.1**	**-0.4**
YJA	**Yavi**	**2.59**	**37**	*e*P	**Pn**	**09 11 07.7**	**+0.2**
YJA				*e*S	**Sn**	**09 11 43.1**	**+0.6**
PB06	**IPOC Station P**	**2.68**	**305**		**Pn**	**09 11 08.8**	**+0.5**
PB06	**IPOC Station P**	**2.68**	**305**	*e*S	**Sn**	**09 11 43.3**	**-0.5**
PB06				IAML		09 11 47.6	
comp=Z, 429nm, 0.4s							
PB06	**IPOC Station P**	**2.68**	**305**	*e*P	**Pn**	**09 11 08.8**	**+0.5**
PB06				*i*S	**Sn**	**09 11 42.6**	**-1.1**
PB06				IAML		09 11 45.1	
comp=E, 555nm, 0.2s							
PB14	**IPOC Station P**	**2.95**	**262**		**Pn**	**09 11 11.2**	**-0.3**
PB14	**IPOC Station P**	**2.95**	**262**	*e*P	**Pn**	**09 11 11.6**	**0.0**
PB14				*e*S	**Sn**	**09 11 49.4**	**-0.3**
PB14	**IPOC Station P**	**2.95**	**262**	*e*P	**Pn**	**09 11 11.5**	**0.0**
PB14				*i*S	**Sn**	**09 11 48.1**	**-1.5**
ALOL	**LOMAS DE OLMED**	**2.97**	**82**	*e*P	**Pn**	**09 11 10.6**	**-0.9**
AHML	**Horco Molle**	**3.02**	**147**	*e*P	Pn	09 10 54.9	-17
AHML				*e*S	**Sn**	**09 11 48.6**	**-2.3**
PB09	**IPOC Station P**	**3.10**	**322**		**Pn**	**09 11 14.3**	**+1.2**
PB09	**IPOC Station P**	**3.10**	**322**	*e*S	**Sn**	**09 11 52.7**	**0.0**
PB09				IAML		09 11 52.9	
comp=Z, 197nm, 0.5s							
PB09	**IPOC Station P**	**3.10**	**322**	*e*P	**Pn**	**09 11 14.4**	**+1.2**
PB09				*e*S	**Sn**	**09 11 52.3**	**-0.4**
PB09				IAML		09 11 53.6	
comp=N, 321nm, 0.8s							
PB05	**IPOC Station P**	**3.10**	**296**		**Pn**	**09 11 13.3**	**+0.2**
PB10	**IPOC Station P**	**3.16**	**283**		**Pn**	**09 11 13.4**	**-0.4**
PB10	**IPOC Station P**	**3.16**	**283**	*e*S	**Sn**	**09 11 54.4**	**+0.5**
PB10	**IPOC Station P**	**3.16**	**283**	*e*P	**Pn**	**09 11 14.0**	**+0.2**
PB10				*i*S	**Sn**	**09 11 51.6**	**-2.2**
PB10				IAML		09 11 57.9	
comp=N, 101nm, 0.4s							
PB04	**IPOC Station P**	**3.33**	**305**		**Pn**	**09 11 15.7**	**-0.2**
PB04	**IPOC Station P**	**3.33**	**305**	*e*S	**Sn**	**09 11 56.6**	**-1.1**
PB04				IAML		09 11 59.6	
comp=Z, 161nm, 0.3s							
PB04	**IPOC Station P**	**3.33**	**305**	*e*P	**Pn**	**09 11 16.4**	**+0.4**
PB04				*i*S	**Sn**	**09 11 55.5**	**-2.2**
AC01	**Pan de Azucar**	**3.61**	**238**		**Pn**	**09 11 18.2**	**-1.0**
AC01	**Pan de Azucar**	**3.61**	**238**	*e*S	**Sn**	**09 12 01.7**	**-2.0**
AC01	**Pan de Azucar**	**3.61**	**238**	*e*P	**Pn**	**09 11 18.5**	**-0.7**
AC01				*i*S	**Sn**	**09 12 00.6**	**-3.1**
AC06	**Mina Casimiro**	**4.20**	**222**		**Pn**	**09 11 25.4**	**-1.1**
GO03	**Copiap**	**4.30**	**219**		**Pn**	**09 11 26.4**	**-1.5**
GO03	**Copiap**	**4.30**	**219**	*e*P	**Pn**	**09 11 26.6**	**-1.3**
GO03				*e*S	**Sn**	**09 12 17.0**	**-2.3**
GO03	**Copiap**	**4.30**	**219**	*e*P	**Pn**	**09 11 26.6**	**-1.3**
PATCX	**Punta Patache**	**4.38**	**321**	Pn	**Pn**	**09 11 28.9**	**-0.2**
PATCX	**Punta Patache**	**4.38**	**321**	*e*P	**Pn**	**09 11 28.8**	**-0.2**
PATCX				*e*S	**Sn**	**09 12 14.7**	**-6.6**
PATCX				IAML		09 12 19.7	
comp=Z, 49nm, 3.6s							
PATCX	**Punta Patache**	**4.38**	**321**	*e*P	**Pn**	**09 11 28.8**	**-0.2**
TA01	**Diego Aracena**	**4.60**	**323**	Pn	**Pn**	**09 11 31.1**	**-0.6**
TA01	**Diego Aracena**	**4.60**	**323**	*e*P	**Pn**	**09 11 30.6**	**-1.1**
TA01				*e*S	**Sn**	**09 12 22.8**	**-3.3**
TA01				IAML		09 12 26.0	
comp=Z, 30nm, 0.6s							
TA01	**Diego Aracena**	**4.60**	**323**	*e*P	**Pn**	**09 11 32.2**	**+0.4**
TA01				*i*S	**Sn**	**09 12 24.0**	**-2.1**
HMBC	**Humberstone**	**4.69**	**327**		**Pn**	**09 11 32.4**	**-0.5**
HMBC	**Humberstone**	**4.69**	**327**	*e*P	**Pn**	**09 11 32.3**	**-0.7**
HMBC				*e*S	**Sn**	**09 12 25.6**	**-2.6**
HMBC				IAML		09 12 28.3	
comp=Z, 58nm, 0.2s							
HMBC	**Humberstone**	**4.69**	**327**	*e*P	**Pn**	**09 11 32.1**	**-0.8**
GO01	**Chusmiza**	**4.94**	**338**		**Pn**	**09 11 37.3**	**+0.8**
GO01	**Chusmiza**	**4.94**	**338**	*e*P	**Pn**	**09 11 37.5**	**+1.0**
GO01				*e*S	**Sn**	**09 12 34.3**	**-0.3**
PB11	**IPOC Station P**	**5.03**	**333**		**Pn**	**09 11 36.7**	**-0.7**
PB11	**IPOC Station P**	**5.03**	**333**	*e*P	**Pn**	**09 11 36.5**	**-0.9**
PB11				*e*S	**Sn**	**09 12 33.7**	**-2.5**
PB11				IAML		09 12 39.1	
comp=Z, 42nm, 0.4s							
ACLC	**CERRO LA CRUZ**	**5.15**	**178**	*e*P	**Pn**	**09 11 38.4**	**-0.4**
ACLC				*e*S	**Sn**	**09 12 37.6**	**-1.4**
AC04	**Llanos de Chal**	**5.25**	**221**		**Pn**	**09 11 36.5**	**-3.4**
AC04	**Llanos de Chal**	**5.25**	**221**	*e*P	**Pn**	**09 11 36.8**	**-3.2**
AC04				*e*S	**Sn**	**09 12 38.0**	**-3.0**
AC04				IAML		09 12 44.4	
comp=Z, 43nm, 1.9s							
CO01	**Juntas del Tor**	**6.25**	**204**	Pn	**Pn**	**09 11 52.1**	**-1.1**
PB18	**Visviri**	**6.97**	**342**	Pn	**Pn**	**09 12 02.8**	**-0.2**
CO03	**El Pedregal**	**7.25**	**205**	Pn	**Pn**	**09 12 02.8**	**-3.2**
LPAZ	**La Paz**	**7.98**	**354**		**Pn**	**09 12 17.0**	**+0.7**
LPAZ	**La Paz**	**7.98**	**354**	P	**Pn**	**09 12 15.8**	**-0.4**
comp=Z, 2.4nm, 0.3s, baz=163, slow=6.6, SNR=38							
LPAZ				S	**Sn**	**09 13 41.7**	**-4.8**
comp=Z, 0.8nm, 0.6s, baz=229, slow=15, SNR=2.3							
CPUP	**Villa Florida**	**9.16**	**105**	P	Pn	09 12 37.0	+6.0
comp=Z, 0.7nm, 0.4s, baz=276, slow=11, SNR=6.4							
SIV	**San Ignacio**	**10.04**	**36**	P	**Pn**	**09 12 40.2**	**-2.2**
comp=Z, 0.7nm, 0.3s, baz=210, slow=14, SNR=5.7							
SIV				S	**Sn**	**09 14 32.9**	**-1.7**
comp=Z, 0.5nm, 0.2s, baz=318, slow=19, SNR=1.4							
TRQA	**Tornquist**	**14.45**	**163**		**P**	**09 13 39.4**	**-0.3**
PLCA	**Paso Flores**	**16.66**	**189**		**P**	**09 14 02.5**	**-1.6**
PLCA				IAmb	IAmb	09 14 19.8	
comp=Z, 13nm, 1.5s							
PLCA	**Paso Flores**	**16.66**	**189**	P	**Pn**	**09 14 11.6**	**+6.5**
comp=Z, 1.4nm, 0.6s, baz=7.7, slow=10, SNR=5.2							
LL01	**San Ignacio de**	**18.58**	**192**	P	**P**	**09 14 23.5**	**-1.5**
VAO	**Valinhos**	**18.58**	**90**	P	**P**	**09 14 25.5**	**+0.2**
VAO				IAmb	IAmb	09 14 25.7	
comp=Z, 9.2nm, 0.9s							
BDFB	**Brasilia**	**19.95**	**68**	P	**P**	**09 14 40.0**	**-0.1**
BDFB	**Brasilia**	**19.95**	**68**	P	**P**	**09 14 39.7**	**-0.4**
comp=Z, 2.2nm, 0.4s, baz=247, slow=5.9, SNR=6.2							
SNAA	**Sanae**	**59.16**	**161**	P	**P**	**09 20 03.7**	**+1.0**
comp=Z, 2.1nm, 1.1s, baz=264, slow=10, SNR=2.6							
comp=Z, 2.1nm, 1.1s							
QSPA	**South Pole Qui**	**65.94**	**180**	P	**P**	**09 20 49.6**	**+1.9**
comp=Z, 0.4nm, 0.4s, baz=234, slow=4.0, SNR=5.9							
comp=Z, 0.4nm, 0.4s							
TORD	**Torodi Ar. Bea**	**76.83**	**69**	P	**P**	**09 21 54.0**	**+0.5**
comp=Z, 0.3nm, 0.4s, baz=274, slow=7.4, SNR=4.9							
comp=Z, 0.3nm, 0.4s							
ASAR	**Alice Springs**	**128.14**	**205**	PKP	**PKPdf**	**09 29 05.5**	**-0.9**
comp=Z, 1.2nm, 1.2s, baz=167, slow=4.5, SNR=1.6							
WRA	**Warramunga Arr**	**131.31**	**207**	PKP	**PKPdf**	**09 29 11.6**	**-0.9**
comp=Z, 0.4nm, 1.0s, baz=166, slow=2.4, SNR=1.1							

GUC 02 09:10:25.6±0.7, 24°.11S×67°.85W, h165km±5km, ML3.2, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.20**	**345⇓**	*e*P	Pn	09 10 53.0	-0.8
AF01				*i*S	Sn	09 11 14.0	-1.4
PB15	**IPOC Station P**	**1.74**	**301**	*e*P	Pn	09 10 59.0	0.0
PB15				*i*S	Sn	09 11 24.2	-0.5
PB15	**IPOC Station P**	**1.74**	**301**	*e*P	Pn	09 10 59.4	+0.4
LVC	**Limon Verde**	**1.79**	**327**	*e*P	Pn	09 10 59.7	0.0
LVC				*i*S	Sn	09 11 25.4	-0.5
LVC				IAML		09 11 27.3	
355nm, 0.7s							
GO02	**Mina Guanaco**	**1.90**	**236**	*e*P	Pn	09 11 00.8	0.0
GO02				*i*S	Sn	09 11 28.1	+0.1
GO02				IAML		09 11 28.8	
comp=N, 113nm, 0.2s							
GO02	**Mina Guanaco**	**1.90**	**236**	*e*P	Pn	09 11 00.8	0.0
PB06	**IPOC Station P**	**2.11**	**311**	*e*P	Pn	09 11 03.0	-0.1
PB06				*i*S	Sn	09 11 31.4	-0.7
PB06				IAML		09 11 34.9	

comp=E,90nm,0.1s
PB06 IPOC Station P 2.11 311 *e*P Pn 09 11 03.2 +0.1
PB14 IPOC Station P 2.38 257 *e*P Pn 09 11 06.9 +0.5
PB14 *i* S Sn 09 11 37.4 -0.5
PB10 IPOC Station P 2.54 283 *e*P Pn 09 11 08.2 +0.2
PB10 IPOC Station P 2.54 283 *e*P Pn 09 11 08.3 +0.3
PB09 IPOC Station P 2.64 331 *e*P Pn 09 11 09.7 +0.3
PB09 IPOC Station P 2.64 331 *e*P Pn 09 11 10.1 +0.7
PB04 IPOC Station P 2.76 310 *e*P Pn 09 11 10.6 -0.2
PB04 *i* S Sn 09 11 45.0 -0.8
PB04 IAML 09 11 46.1
comp=N,55nm,0.1s
PB04 IPOC Station P 2.76 310 *e*P Pn 09 11 10.9 +0.1
AC01 Pan de Azucar 3.21 230 *e*P Pn 09 11 15.0 -1.1
AC01 Pan de Azucar 3.21 230 *e*P Pn 09 11 15.2 -1.0
PATCX Punta Patache 3.91 327 *e*P Pn 09 11 25.2 0.0
GO03 Copiap 4.08 211 *e*P Pn 09 11 25.5 -1.8
HMBC Humberstone 4.26 333 *e*P Pn 09 11 29.9 +0.2

IDC 02 09:17:24.4±3.2, 53°46N×87°58E, h0km, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=27.2km s-min=14.6km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.71 288**		I	I	09 27 08.2	
	baz=107,slow=332,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.71 288**		Pg	Pn	09 17 54.5	-1.0
	0.6nm,0.3s,baz=106,slow=14,SNR=6.1						
ZALV				Lg	Lg	09 18 18.6	
	1.6nm,0.3s,baz=108,slow=23,SNR=9.1						
KURBB	**Kurchatov Arra**	**6.26 247**		Pn	Pn	09 18 59.2	+1.2
	0.1nm,0.3s,baz=61,slow=14,SNR=1.3						
KURBB				Lg	Lg	09 20 43.4	
	baz=63,slow=32						
	0.9nm,0.2s						
MKAR	**Makanchi Array**	**7.49 209**		Pn	Pn	09 19 15.6	+0.8
	0.1nm,0.3s,baz=30,slow=15,SNR=1.8						
MKAR				Sn	Sn	09 20 40.7	+0.3
	baz=30,slow=23,SNR=2.4						
MKAR				Lg	Lg	09 21 22.9	
	0.1nm,0.3s,baz=32,slow=31,SNR=2.9						
	0.2nm,0.3s						

IDC 02 09:26:51.8±3.3, 53°56N×88°02E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=28.6km s-min=17.6km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.94 283**		I	I	09 38 35.4	
	0.1nm,0.9s,baz=99,slow=315,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.94 283**		Pg	Pn	09 27 26.5	+0.5
	1.7nm,0.3s,baz=98,slow=16,SNR=13						
ZALV				Lg	Lg	09 27 53.0	
	2.7nm,0.3s,baz=101,slow=25,SNR=20						
KURBB	**Kurchatov Arra**	**6.54 247**		Pn	Pn	09 28 30.5	+1.2
	0.1nm,0.3s,baz=62,slow=14,SNR=4.7						
KURBB				Lg	Lg	09 30 19.5	
	baz=61,slow=32,SNR=5.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.70 211**		Pn	Pn	09 28 46.0	+0.8
	0.1nm,0.3s,baz=23,slow=14,SNR=3.2						
MKAR				Lg	Lg	09 30 55.0	
	0.1nm,0.3s,baz=33,slow=33,SNR=6.0						
	0.2nm,0.3s						

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*NEIC **02** 09:29:50.7±3.0, 23°24S±0°05×68°76W±0°07, h101km±5km, mb4.8/285, Mwr4.9(GUC), Error ellipse: s-maj=9.4km s-min=7.2km az=97.0*
*SJA **02** 09:29:50.9±1.1, 23°12S×68°94W, h115km±6km, ML4.9, MW4.8*
*GUC **02** 09:29:51.9±0.7, 23°22S×68°91W, h110km±3km, ML5.1*
*VAO **02** 09:29:51.0±0.6, 23°14S×68°71W, h93km±4km, mb5.1*
*IDC **02** 09:29:52.0±0.3, 23°06S×68°64W, h105km±2km, mb4.2/17, mbtmp4.6/22, MS3.4/13, Error ellipse: s-maj=14.6km s-min=7.8km az=61.0*
*GCMT **02** 09:29:56.7±0.4, 23°30S±0°02×69°25W±0°03, h101km±5km, MW4.8/89, Moment Tensor Solution. s9,c9; s89,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.42±.09; $M_{\theta\theta}$0.82±.10; $M_{\phi\phi}$-0.40±.14; $M_{r\theta}$0.12±.04; $M_{\phi\theta}$0.63±.08; $M_{\phi r}$-1.68±.06; Best double couple: $M_0$1.83900×10^{16} NP1:ϕ_s14.00000°, δ84.00000°, λ-119.00000°. NP2: ϕ_s274.00000°, δ30.00000°, λ-12.00000°. Principal axes: T 1.4930, Plg33.0000°, Azm128.0000°; N 0.6910, Plg29.0000°, Azm17.0000°; P -2.1850, Plg43.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 09:29:51.5±0.3, 23°17S±0°03×68°90W±0°03, h107km±2km, h107km:pP-P, n517, σ1935/455, mb4.8/150, 18C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.52 266**			**Pn**	**09 30 08.8**	**+0.4**
PB15	**IPOC Station P**	**0.52 266**		*e*P	**Pn**	**09 30 09.1**	**+0.7**
PB15				*e*S	**Sn**	**09 30 23.1**	**+2.0**
PB15				IAML		09 30 23.6	
comp=Z,216μm,0.3s							
PB15	**IPOC Station P**	**0.52 266**		*i* P	**Pn**	**09 30 09.1**	**+0.7**
PB15				*e*S	**Sn**	**09 30 22.2**	**+1.1**
PB15				IAML		09 30 23.4	
comp=Z,222μm,0.2s							
PB15	**IPOC Station P**	**0.52 266**		⇑*i*P	**Pn**	**09 30 09.0**	**+0.6**
PB15				*i* S	**Sn**	**09 30 21.4**	**+0.3**
LVC	**Limon Verde**	**0.56 359**			**Pn**	**09 30 09.3**	**+0.3**
LVC	**Limon Verde**	**0.56 359**		*e*P	**Pn**	**09 30 09.4**	**+0.5**
LVC				*e*S	**Sn**	**09 30 22.6**	**+0.6**
LVC				IAML		09 30 23.3	
comp=Z,32μm,0.6s							
LVC	**Limon Verde**	**0.56 359**		*i* P	**Pn**	**09 30 09.5**	**+0.5**
LVC				*i* S	**Sn**	**09 30 22.4**	**+0.5**
LVC				IAML		09 30 22.9	
comp=Z,27μm,0.7s							
LVC	**Limon Verde**	**0.56 359**		P	**Pn**	**09 30 09.6**	**+0.6**
comp=Z,4μm,0.4s,baz=189,slow=6.0,SNR=4175							
LVC				S	**Sn**	**09 30 22.7**	**+0.8**
comp=Z,18μm,0.3s,baz=265,slow=21,SNR=40							
LVC				LR	LR	09 30 25.2	
comp=Z,718nm,18.3s,baz=41,slow=66							
LVC	**Limon Verde**	**0.56 359**		⇓*e*P	**Pn**	**09 30 09.4**	**+0.5**
LVC				*i* S	**Sn**	**09 30 22.2**	**+0.3**
LVC	**Limon Verde**	**0.56 359**		*e*P	**Pn**	**09 30 09.5**	**+0.5**
AF01	**San Pedro de A**	**0.70 72**			**Pn**	**09 30 10.2**	**+0.3**
AF01	**San Pedro de A**	**0.70 72**		⇓*i*P	**Pn**	**09 30 10.3**	**+0.3**
AF01				*i* S	**Sn**	**09 30 24.1**	**+0.3**
AF01				IAML		09 30 28.8	
comp=N,44μm,0.3s							
PB06	**IPOC Station P**	**0.77 307**			**Pn**	**09 30 11.0**	**+0.7**
PB06	**IPOC Station P**	**0.77 307**		*e*P	**Pn**	**09 30 11.0**	**+0.7**
PB06				*e*S	**Sn**	**09 30 25.5**	**+0.9**
PB06				IAML		09 30 27.4	
comp=Z,32μm,0.3s							
PB06	**IPOC Station P**	**0.77 307**		*i* P	**Pn**	**09 30 11.1**	**+0.7**
PB06				*e*S	**Sn**	**09 30 25.6**	**+0.9**
PB06				IAML		09 30 25.9	
comp=Z,31μm,0.7s							
PB06	**IPOC Station P**	**0.77 307**		⇑*i*P	**Pn**	**09 30 11.1**	**+0.7**
PB06				*i* S	**Sn**	**09 30 25.4**	**+0.9**
PB06				IAML		09 30 26.7	
comp=E,57μm,0.2s							
PB05	**IPOC Station P**	**1.24 285**			**Pn**	**09 30 14.9**	**-0.3**
PB09	**IPOC Station P**	**1.41 347**			**Pn**	**09 30 18.5**	**+1.3**
PB09	**IPOC Station P**	**1.41 347**		*e*P	**Pn**	**09 30 18.5**	**+1.3**
PB09				*e*S	**Sn**	**09 30 37.6**	**+0.9**
PB09				IAML		09 30 39.0	
comp=Z,26μm,0.8s							
PB09	**IPOC Station P**	**1.41 347**		*i* P	**Pn**	**09 30 18.6**	**+1.3**
PB09				*e*S	**Sn**	**09 30 38.0**	**+1.4**
PB09				IAML		09 30 40.7	
comp=Z,21μm,0.5s							
PB09	**IPOC Station P**	**1.41 347**		⇑*i*P	**Pn**	**09 30 18.6**	**+1.3**
PB09				*i* S	**Sn**	**09 30 37.8**	**+1.1**
PB09				IAML		09 30 39.4	
comp=E,35μm,0.3s							
PB04	**IPOC Station P**	**1.42 306**			**Pn**	**09 30 17.6**	**+0.2**
PB04	**IPOC Station P**	**1.42 306**		*e*P	**Pn**	**09 30 17.6**	**+0.2**
PB04				*e*S	**Sn**	**09 30 38.0**	**+1.1**
PB04				IAML		09 30 43.6	
comp=Z,18μm,0.5s							
PB04	**IPOC Station P**	**1.42 306**		*i* P	**Pn**	**09 30 17.9**	**+0.5**
PB04				*e*S	**Sn**	**09 30 37.8**	**+0.8**
PB04				IAML		09 30 43.6	
comp=Z,18μm,0.5s							
PB04	**IPOC Station P**	**1.42 306**		⇑*e*P	**Pn**	**09 30 17.8**	**+0.5**
PB04				*e*S	**Sn**	**09 30 37.6**	**+0.6**
PB04				IAML		09 30 39.8	
PB10	**IPOC Station P**	**1.56 257**			**Pn**	**09 30 19.2**	**+0.4**
PB10	**IPOC Station P**	**1.56 257**		*e*P	**Pn**	**09 30 19.2**	**+0.4**
PB10				*e*S	**Sn**	**09 30 40.0**	**+0.4**
PB10				IAML		09 30 41.3	
comp=Z,6μm,0.7s							
PB10	**IPOC Station P**	**1.56 257**		*i* P	**Pn**	**09 30 19.2**	**+0.4**
PB10				*e*S	**Sn**	**09 30 39.6**	**0.0**
PB10				IAML		09 30 41.1	
comp=Z,6μm,0.4s							
PB10	**IPOC Station P**	**1.56 257**		⇑*i*P	**Pn**	**09 30 19.1**	**+0.3**
PB10				*i* S	**Sn**	**09 30 38.5**	**-1.0**
PB14	**IPOC Station P**	**1.99 223**		Pn	**Pn**	**09 30 24.4**	**-0.2**
PB14	**IPOC Station P**	**1.99 223**		*i* P	**Pn**	**09 30 24.5**	**-0.1**
PB14				*e*S	**Sn**	**09 30 47.1**	**-2.7**
PB14				IAML		09 30 50.7	
comp=Z,4μm,0.5s							
PB14	**IPOC Station P**	**1.99 223**		⇓*e*P	**Pn**	**09 30 25.1**	**+0.5**
PB14				*i* S	**Sn**	**09 30 49.2**	**-0.6**
GO02	**Mina Guanaco**	**2.08 197**			**Pn**	**09 30 25.9**	**+0.3**
GO02	**Mina Guanaco**	**2.08 197**		*i* P	**Pn**	**09 30 26.0**	**+0.3**
GO02	**Mina Guanaco**	**2.08 197**		⇑*i*P	**Pn**	**09 30 25.9**	**+0.3**
GO02				*i* S	**Sn**	**09 30 51.7**	**0.0**
PATCX	**Punta Patache**	**2.61 333**			**Pn**	**09 30 32.0**	**-0.5**
PATCX	**Punta Patache**	**2.61 333**		*e*P	**Pn**	**09 30 31.8**	**-0.6**
PATCX				*e*S	**Sn**	**09 30 59.4**	**-4.5**
PATCX				IAML		09 31 11.3	
comp=Z,5μm,0.3s							
PATCX	**Punta Patache**	**2.61 333**		*i* P	**Pn**	**09 30 32.0**	**-0.5**
PATCX				*i* S	**Sn**	**09 30 59.3**	**-4.5**
PATCX				IAML		09 31 10.9	
comp=Z,6μm,0.8s							
PATCX	**Punta Patache**	**2.61 333**		⇑*i*P	**Pn**	**09 30 31.8**	**-0.6**
PX03	**IPOC Station P**	**2.84 346**		*e*P	**Pn**	**09 30 34.4**	**-1.1**
TA01	**Diego Aracena**	**2.85 335**			**Pn**	**09 30 34.6**	**-0.9**
TA01	**Diego Aracena**	**2.85 335**		*i* P	**Pn**	**09 30 33.9**	**-1.6**
TA01				IAML		09 31 30.1	
comp=Z,3μm,0.8s							
TA01	**Diego Aracena**	**2.85 335**		⇑*i*P	**Pn**	**09 30 34.5**	**-0.9**
HMBC	**Humberstone**	**3.02 342**			**Pn**	**09 30 37.1**	**-0.9**
HMBC	**Humberstone**	**3.02 342**		*i* P	**Pn**	**09 30 37.0**	**-0.9**
HMBC				IAML		09 31 39.1	
comp=Z,5μm,0.6s							
HMBC	**Humberstone**	**3.02 342**		⇑*i*P	**Pn**	**09 30 37.0**	**-0.9**
TA02	**Huaiquique**	**3.11 338**		*e*P	**Pn**	**09 30 37.8**	**-1.1**
YJA	**Yavi**	**3.28 73**		*e*P	**Pn**	**09 30 43.6**	**+2.0**
YJA				*e*S	**Sn**	**09 31 22.5**	**+2.3**
YJA				IAML		09 31 30.5	
comp=Z,41nm,0.6s							
YJA	**Yavi**	**3.28 73**		*i* P	**Pn**	**09 30 43.9**	**+2.3**
YJA				IAML		09 31 26.8	
comp=Z,42nm,2.0s							
YJA	**Yavi**	**3.28 73**		⇑*i*P	**Pn**	**09 30 43.5**	**+2.0**
AC01	**Pan de Azucar**	**3.34 207**		Pn	**Pn**	**09 30 40.7**	**-1.2**
AC01	**Pan de Azucar**	**3.34 207**		*e*P	**Pn**	**09 30 40.7**	**-1.2**
AC01				IAML		09 31 43.9	
comp=Z,921nm,0.7s							
AC01	**Pan de Azucar**	**3.34 207**		*e*P	**Pn**	**09 30 41.2**	**-0.8**
PB11	**IPOC Station P**	**3.47 348**			**Pn**	**09 30 43.0**	**-0.9**
PB11	**IPOC Station P**	**3.47 348**		*i* P	**Pn**	**09 30 42.9**	**-1.0**
PB11				IAML		09 31 52.2	
comp=Z,3μm,0.5s							
PB11	**IPOC Station P**	**3.47 348**		*e*P	**Pn**	**09 30 42.8**	**-1.0**
SLA	**San Lorenzo**	**3.47 117**		*i* P	**Pn**	**09 30 45.8**	**+2.0**
GO01	**Chusmiza**	**3.50 355**			**Pn**	**09 30 44.4**	**-0.1**
GO01	**Chusmiza**	**3.50 355**		*i* P	**Pn**	**09 30 44.4**	**-0.1**
GO01	**Chusmiza**	**3.50 355**		⇑*i*P	**Pn**	**09 30 44.4**	**-0.1**
AZAP	**Zapla**	**3.67 107**		*i* P	**Pn**	**09 30 47.9**	**+1.4**
AZAP				IAML		09 31 36.5	
comp=Z,325nm,0.7s							
AC06	**Mina Casimiro**	**4.37 197**		*e*P	**Pn**	**09 30 53.7**	**-2.0**
GO03	**Copiap**	**4.56 195**		*i* P	**Pn**	**09 30 56.6**	**-1.8**
GO03	**Copiap**	**4.56 195**		*i* P	**Pn**	**09 30 56.6**	**-1.8**
AHML	**Horco Molle**	**4.84 139**		*i* P	**Pn**	**09 31 03.6**	**+1.5**
AHML				IAML		09 32 01.8	
comp=Z,66nm,2.6s							
AHML	**Horco Molle**	**4.84 139**		*i* P	**Pn**	**09 31 03.6**	**+1.5**
AC04	**Llanos de Chal**	**5.38 201**		Pn	Pn	09 31 05.9	-3.5
AC04	**Llanos de Chal**	**5.38 201**		*e*P	Pn	09 31 05.8	-3.6
PB18	**Visviri**	**5.58 354**			**Pn**	**09 31 14.7**	**+2.0**
LCO	**Las Campanas**	**6.03 195**		Pn	**Pn**	**09 31 15.9**	**-2.6**
LPAZ	**La Paz**	**6.89 6**		Pn	**Pn**	**09 31 31.5**	**+1.0**
LPAZ	**La Paz**	**6.89 6**		P	**Pn**	**09 31 31.0**	**+0.5**
comp=Z,15nm,0.3s,baz=191,slow=7.9,SNR=172							
LPAZ				LR	LR	09 33 56.7	
comp=Z,128nm,20.6s,baz=192,slow=36							
CO05	**La Serena**	**7.04 197**			**Pn**	**09 31 30.9**	**-0.9**
CO02	**Combarbal**	**8.21 193**			Pn	09 31 43.7	-4.2
ZON	**Zonda**	**8.34 179**			**Pn**	**09 31 47.1**	**-2.6**
VA03	**San Esteban**	**9.66 188**			Pn	09 32 03.3	-4.3
BBSD	**Serra de San D**	**9.80 54**		*e*P	**Pn**	**09 32 06.3**	**-3.2**
SIV	**San Ignacio**	**10.27 47**		P	**Pn**	**09 32 12.2**	**-3.7**
comp=Z,25nm,0.6s,baz=241,slow=9.1,SNR=63							
SIV				S	Sn	09 33 58.5	-11
comp=Z,15nm,0.4s,baz=130,slow=22,SNR=7.4							
LMEL	**Las Melosas**	**10.70 186**			**Pn**	**09 32 21.4**	**-0.2**
MT01	**Popeta**	**10.85 190**			**Pn**	**09 32 20.9**	**-2.8**
CPUP	**Villa Florida**	**10.98 109**		Pn	**Pn**	**09 32 22.5**	**-2.9**
CPUP	**Villa Florida**	**10.98 109**		P	**Pn**	**09 32 22.7**	**-2.6**
comp=Z,30nm,1.1s,baz=294,slow=12,SNR=27							
CPUP				LR	LR	09 37 38.4	
comp=Z,149nm,18.8s,baz=286,slow=43							
BO01	**Tunca**	**11.34 189**		Pn	Pn	09 32 25.5	-4.7
PTLB	**Pontes e Lacer**	**12.00 52**		Pn	**Pn**	**09 32 36.1**	**-2.9**
PTLB	**Pontes e Lacer**	**12.00 52**		*e*P	**Pn**	**09 32 35.8**	**-3.3**
AQDB	**Aquidauana**	**12.55 80**			**Pn**	**09 32 45.0**	**-1.3**
AQDB	**Aquidauana**	**12.55 80**		*e*P	**Pn**	**09 32 42.8**	**-3.5**
ITQB	**Itaqui**	**12.76 123**			**Pn**	**09 32 46.0**	**-2.9**
ITQB	**Itaqui**	**12.76 123**		*e*P	**Pn**	**09 32 46.6**	**-2.4**
PSAL	**Palomas, Salto**	**12.77 131**		*e*P	**Pn**	**09 32 46.5**	**-2.6**
VILB	**Vilhena**	**13.10 41**			**Pn**	**09 32 52.7**	**-0.9**
VILB	**Vilhena**	**13.10 41**		*e*P	**Pn**	**09 32 52.3**	**-1.3**
NNA	**Nana**	**13.45 324**		P	**P**	**09 33 04.0**	**+0.4**
comp=Z,3.1nm,0.3s,baz=146,slow=7.3,SNR=1.6							
NNA				S	**Sn**	**09 35 21.9**	**-4.5**
comp=Z,11nm,0.6s,baz=259,slow=9.6,SNR=2.7							
NNA				LR	LR	09 38 20.4	
comp=Z,89nm,21.7s,baz=143,slow=38							
H03N1	**Juan Fernandez**	**13.49 219**		P	**Pn**	**09 32 56.3**	**-2.0**
baz=110,slow=15,SNR=10							
H03N1				T	T	09 45 40.2	
baz=42,slow=72,SNR=13							
H03N2	**Juan Fernandez**	**13.51 219**		P	**Pn**	**09 32 57.4**	**-1.1**
baz=110,slow=15,SNR=10							
H03N2				T	T	09 45 40.0	
baz=42,slow=72,SNR=9.4							
H03N3	**Juan Fernandez**	**13.51 219**		P	**Pn**	**09 32 56.3**	**-2.3**
baz=110,slow=15,SNR=16							
H03N3				T	T	09 45 33.2	
baz=42,slow=72,SNR=29							
ETMB	**Extrema**	**13.53 11**			**Pn**	**09 32 56.1**	**-3.1**
ETMB	**Extrema**	**13.53 11**		*e*P	**Pn**	**09 32 56.0**	**-3.2**
RVDE	**Rio Verde (Bra**	**13.67 75**		*e*P	**Pn**	**09 32 59.7**	**-1.2**
H03S3	**Juan Fernandez**	**13.78 217**		P	**Pn**	**09 32 60.0**	**-2.0**
baz=36,slow=19,SNR=30							
H03S1	**Juan Fernandez**	**13.79 217**		P	Pn	09 32 58.0	-4.0
baz=36,slow=19,SNR=13							
H03S2	**Juan Fernandez**	**13.79 217**		P	**Pn**	**09 32 60.0**	**-2.2**
baz=36,slow=19,SNR=20							
CRSM	**Crissiumal (Br**	**14.11 111**		*e*P	**Pn**	**09 33 07.8**	**+1.2**
RODS	**Rosario do Sul**	**14.17 123**		*e*P	**Pn**	**09 33 05.0**	**-2.3**
TBOT	**Tacuaremb**	**14.29 129**		*e*P	**Pn**	**09 33 06.2**	**-2.6**
SALV	**Santo Antonio**	**14.39 62**		*e*P	**Pn**	**09 33 08.5**	**-1.8**
SAML	**Samuel**	**15.17 22**		Pn	**Pn**	**09 33 17.2**	**-2.9**
ALGR	**Alto Alegre (B**	**15.33 115**		*e*P	**Pn**	**09 33 20.6**	**-1.5**
PTGB	**Pitanga**	**15.47 99**		*e*P	**Pn**	**09 33 24.0**	**+0.1**
CPSB	**Cacapava Do Su**	**15.56 121**		*e*P	**Pn**	**09 33 22.4**	**-2.6**
ITAB	**Concordia**	**15.71 108**			**Pn**	**09 33 24.9**	**-1.9**
ITAB	**Concordia**	**15.71 108**		*e*P	**Pn**	**09 33 24.5**	**-2.3**
CZSB	**Cruzeiro do Su**	**15.79 346**		Pn	**Pn**	**09 33 26.9**	**-0.9**
CZSB	**Cruzeiro do Su**	**15.79 346**		*e*P	**Pn**	**09 33 27.1**	**-0.7**
TRQA	**Tornquist**	**15.98 160**		Pn	**Pn**	**09 33 27.3**	**-2.8**
PLTB	**Pedras Altas**	**16.04 126**		Pn	**Pn**	**09 33 26.9**	**-3.9**
PDRB	**Porto dos Gac**	**16.33 47**		*e*P	**P**	**09 33 34.4**	**-1.2**
LDASE	**Londrina, Braz**	**16.34 94**		*e*P	**Pn**	**09 33 33.7**	**-1.1**
PCMB	**Pacaembu**	**16.39 88**		*e*P	**Pn**	**09 33 32.9**	**-2.5**
GO06	**Curarrehue**	**16.50 187**		P	**Pn**	**09 33 34.5**	**-2.2**
CNLB	**Canela**	**17.30 115**		*e*P	**P**	**09 33 44.0**	**-2.2**
CLDB	**Colider**	**17.49 48**		*e*P	**P**	**09 33 47.7**	**-0.7**
PLCA	**Paso Flores**	**17.56 184**		P	**Pn**	**09 33 50.8**	**+1.2**
comp=Z,2.4nm,0.5s,baz=360,slow=11,SNR=8.8							
PLCA				PcP	**PcP**	**09 38 24.3**	**+0.9**
comp=Z,2.4nm,0.8s,baz=282,slow=3.2,SNR=4.3							
ITRB	**Iturama**	**17.60 82**		*e*P	**Pn**	**09 33 49.0**	**-1.2**
ARAG	**Araguaiana, MT**	**17.74 68**		*e*P	**Pn**	**09 33 50.5**	**-1.3**
FRTB	**Fartura**	**17.77 94**		*e*P	**P**	**09 33 50.1**	**-1.4**
ATAH	**Atahualpa**	**18.38 329**		P	**Pn**	**09 34 00.9**	**+1.1**
comp=Z,6.0nm,0.8s,baz=149,slow=5.2,SNR=5.8							
TBTG	**Tabatinga, AM**	**18.90 357**		P	**Pn**	**09 34 05.5**	**-0.1**
TBTG	**Tabatinga, AM**	**18.90 357**		*e*P	**Pn**	**09 34 05.9**	**+0.3**
LL01	**San Ignacio de**	**19.37 188**		P	**P**	**09 34 08.0**	**-0.8**
SPB	**Sao Paulo**	**19.71 95**		P	**P**	**09 34 11.4**	**-1.2**
SPB	**Sao Paulo**	**19.71 95**		*e*P	**P**	**09 34 11.4**	**-1.2**
RCLB	**Rio Claro- Sao**	**19.72 92**		*e*P	**P**	**09 34 11.4**	**-1.4**
PET01	**Itanhaem-SP**	**19.83 98**		*e*P	**P**	**09 34 12.6**	**-1.3**
TEFE	**Tefe**	**19.98 13**		*e*P	**P**	**09 34 15.7**	**+0.2**
IPMB	**Ipameri, GO**	**20.04 79**		*e*P	**P**	**09 34 15.1**	**-1.2**
SNDB	**Serra Nova Dou**	**20.12 59**		*e*P	**P**	**09 34 14.3**	**-2.8**
VAO	**Valinhos**	**20.18 94**		P	**P**	**09 34 14.7**	**-3.1**
VAO	**Valinhos**	**20.18 94**		*e*P	**P**	**09 34 15.0**	**-2.8**
GO07	**Milladeo Hill,**	**20.27 190**		P	**P**	**09 34 18.3**	**-0.2**
NPGB	**Novo Progresso**	**20.66 41**		*e*P	**P**	**09 34 20.4**	**-2.5**
BDFB	**Brasilia**	**21.06 73**		P	**P**	**09 34 24.6**	**-2.8**
BDFB	**Brasilia**	**21.06 73**		P	**P**	**09 34 24.9**	**-2.4**
comp=Z,35nm,0.6s,baz=247,slow=13,SNR=76							
comp=Z,35nm,0.6s							
PARB	**Paraibuna**	**21.39 95**		*e*P	**P**	**09 34 29.4**	**-1.4**
MACA	**Manacapuru-AM**	**21.43 23**		P	**P**	**09 34 29.0**	**-2.1**
MACA	**Manacapuru-AM**	**21.43 23**		*e*P	**P**	**09 34 29.8**	**-1.3**
PMNB	**Patos De Minas**	**21.49 82**		*e*P	**P**	**09 34 29.4**	**-2.5**
BSCB	**Bom Sucesso**	**22.46 89**		*e*P	**P**	**09 34 40.7**	**-1.3**
ITTB	**Itaituba**	**22.62 36**		*e*P	**P**	**09 34 41.2**	**-2.3**
MAN01	**Angra dos Reis**	**22.95 94**		*e*P	**P**	**09 34 45.1**	**-1.8**
VAS01	**Vassouras-RJ**	**23.49 93**		*e*P	**P**	**09 34 51.7**	**-0.2**
DIAM	**Diamantina, MG**	**24.08 83**		*e*P	**P**	**09 34 55.9**	**-1.4**
DUB01	**Friburgo-RJ**	**24.50 93**		*e*P	**P**	**09 35 01.7**	**+0.7**
JANB	**Januaria**	**24.57 75**		*e*P	**P**	**09 35 01.0**	**-0.7**
SMTB	**Santa Maria do**	**24.89 59**		*e*P	**P**	**09 35 05.4**	**+0.8**
PRPB	**Parauapebas**	**24.98 50**		*e*P	**P**	**09 35 04.1**	**-1.2**
OTAV	**Otavalo**	**25.06 337**		P	**P**	**09 35 06.8**	**+0.2**
SDBA	**SAO DESIDERIO**	**25.20 69**		*e*P	**P**	**09 35 06.9**	**-0.5**
SJMB	**Sao Joao De Ma**	**26.25 85**		*e*P	**P**	**09 35 16.5**	**-0.3**
BOAV	**Boa Vista**	**26.70 19**		P	**P**	**09 35 21.6**	**+0.8**
RIB01	**Linhares ES**	**26.83 87**		*e*P	**P**	**09 35 21.6**	**-0.4**
GUA01	**Guaratinga, BA**	**28.11 82**		*e*P	**P**	**09 35 33.5**	**+0.1**
ROSC	**El Rosal**	**28.34 349**		LR	LR	09 47 21.4	
comp=Z,111nm,20.1s,baz=214,slow=37							
GDU01	**Guandu, BA**	**29.32 76**		*e*P	**P**	**09 35 42.8**	**-1.5**
SDV	**Santo Domingo**	**31.91 357**		LR	LR	09 51 38.6	
comp=Z,70nm,18.3s,baz=270,slow=41							
BAUV	**El Baul**	**31.93 2**		P	**P**	**09 36 05.6**	**-1.6**
BAUV				IAmb	IAmb	09 36 46.1	
comp=Z,25nm,1.0s							
PCRV	**Puerto La Cruz**	**33.41 8**		LR	LR	09 51 46.5	
comp=Z,77nm,18.0s,slow=40							
BCIP	**Isla Barro Col**	**33.88 340**		P	**P**	**09 36 21.9**	**-2.2**
RCBR	**Riachuelo**	**36.16 67**		P	**P**	**09 36 45.3**	**+1.4**
FDF	**Fort de France**	**38.43 12**		P	**P**	**09 37 03.5**	**+0.5**
FDF				pP	**pP**	**09 37 28.4**	**+0.3**
TGUH	**Tegucigalpa,Un**	**41.14 332**		P	**P**	**09 37 24.7**	**-0.8**
MTO3	**Montecristo**	**42.37 330**

BRDY	Brady	61.35 331	P	P	09 39 55.4	-0.8
R58B	Mineral	61.40 352	IAmb	IAmb	09 40 38.3	
	comp=Z,14nm,1.1s					
WVT	Waverly	61.64 343	P	P	09 39 56.7	-1.2
WVT	Waverly	61.64 343	P	P	09 39 57.0	-0.9
	baz=160					
WVT	Waverly	61.64 343	P	P	09 39 57.2	-0.7
WVT			pP	pP	09 40 24.0	-1.1
WVT			sP	sP	09 40 36.0	-1.1
SAND	Sanderson	61.72 327	IAmb	IAmb	09 40 00.8	
	comp=Z,9.8nm,1.0s					
T50A	Nancy	61.73 346	IAmb	IAmb	09 40 37.8	
	comp=Z,4.9nm,0.7s					
S54A	Dingess, Beckl	61.76 349	IAmb	IAmb	09 40 38.7	
	comp=Z,7.3nm,0.8s					
MIAR	Mount Ida	62.01 337	IAmb	IAmb	09 40 01.6	
	comp=Z,12nm,1.1s					
MIAR	Mount Ida	62.01 337	P	P	09 40 00.0	-0.4
	baz=154,SNR=8.6					
TX31	Lajitas Ar. Si	62.01 326	IAmb	IAmb	09 40 41.9	
	comp=Z,22nm,1.8s					
TXAR	Lajitas Array	62.01 326	P	P	09 40 01.6	+0.9
	comp=Z,1.7nm,0.8s,baz=150,slow=7.7,SNR=24					
TXAR			pP	pP	09 40 28.3	+0.8
	comp=Z,2.3nm,0.9s,baz=143,slow=11,SNR=6.2					
TXAR			PcP	PcP	09 40 40.7	+0.5
	comp=Z,1.3nm,0.6s,baz=153,slow=9.4,SNR=6.1					
	comp=Z,1.7nm,0.8s					
R55A	Marlinton	62.03 350	IAmb	IAmb	09 40 44.0	
	comp=Z,7.6nm,0.9s					
OZNA	Ozona	62.03 329	IAmb	IAmb	09 40 01.6	
	comp=Z,11nm,1.3s					
WHAR	Wooly Hollow	62.23 338	IAmb	IAmb	09 40 31.2	
	comp=Z,8.9nm,1.0s					
TROLL	Troll, Antarti	62.42 161	⇑P	P	09 40 02.7	-0.2
	comp=Z,244nm,0.8s					
Q56A	Snyder Ridge,	62.63 351	IAmb	IAmb	09 40 47.0	
	comp=Z,11nm,0.8s					
X37A	Clayton	62.71 336	IAmb	IAmb	09 40 35.1	
	comp=Z,11nm,0.9s					
ABTX	Abilene, Hawle	62.77 331	IAmb	IAmb	09 40 34.8	
	comp=Z,12nm,0.9s					
ABTX	Abilene, Hawle	62.77 331	P	P	09 40 05.7	+0.1
	baz=148					
PBMO	Poplar Bluff	63.00 341	IAmb	IAmb	09 40 36.1	
	comp=Z,15nm,1.1s					
MNHN	Monahans	63.17 328	IAmb	IAmb	09 40 37.4	
	comp=Z,11nm,0.9s					
WCI	Wyandotte Cave	63.23 345	P	P	09 40 07.5	-0.9
WCI	Wyandotte Cave	63.23 345	P	P	09 40 08.0	-0.4
	baz=162					
WCI	Wyandotte Cave	63.23 345	P	P	09 40 07.6	-0.9
WCI			pP	pP	09 40 35.0	-0.7
WCI			sP	PcP	09 40 46.5	+1.6
CGM3	Cape Girardeau	63.25 342	IAmb	IAmb	09 40 09.3	
	comp=Z,18nm,1.3s					
MCWV	Mont Chateau	63.34 351	P	P	09 40 09.6	+0.5
	baz=169					
APMT	Aspermont	63.58 331	IAmb	IAmb	09 40 52.5	
	comp=Z,9.2nm,0.8s					
P52A	Corning	63.69 349	P	P	09 40 11.2	-0.3
	baz=166					
HHAR	Hobbs	63.69 338	IAmb	IAmb	09 40 41.1	
	comp=Z,13nm,1.2s					
SN07	Snyder 07	63.73 330	IAmb	IAmb	09 40 12.7	
	comp=Z,9.0nm,0.7s					
MGMO	Mountain Grove	63.92 339	IAmb	IAmb	09 40 42.5	
	comp=Z,8.2nm,0.8s					
PAL	Palisades	64.02 356	P	P	09 40 13.7	+0.2
	baz=175					
SSPA	Standing Stone	64.03 352	P	P	09 40 13.7	0.0
SSPA	Standing Stone	64.03 352	P	P	09 40 14.1	+0.4
	baz=171					
SSPA	Standing Stone	64.03 352	P	P	09 40 13.9	+0.3
SSPA			pP	pP	09 40 41.2	+0.2
TUL3	Leonard	64.04 336	IAmb	IAmb	09 40 15.0	
	comp=Z,15nm,1.1s					
TUL3	Leonard	64.04 336	P	P	09 40 13.6	-0.3
	baz=152					
P49A	Miami Univ. Ec	64.11 346	P	P	09 40 12.9	-1.3
	baz=164					
O53A	New Philadelph	64.13 350	P	P	09 40 14.2	-0.2
	baz=167					
WMOK	Wichita Mounta	64.20 333	P	P	09 40 14.4	-0.6
	baz=149					
CCM	Cathedral Cave	64.42 341	P	P	09 40 15.1	-1.2
CCM			IAmb	IAmb	09 40 17.0	
	comp=Z,13nm,0.9s					
CCM	Cathedral Cave	64.42 341	P	P	09 40 16.2	-0.1
	baz=157					
CCM	Cathedral Cave	64.42 341	P	P	09 40 16.0	-0.3
CCM			pP	pP	09 40 43.3	-0.4
CCM			sP	sP	09 40 55.0	-0.6
ACSO	Alum Creek Sta	64.43 348	IAmb	IAmb	09 40 16.9	
	comp=Z,14nm,1.0s					
ACSO	Alum Creek Sta	64.43 348	P	P	09 40 16.0	-0.3
	baz=166					
OK031	S. Brethren Rd	64.47 335	IAmb	IAmb	09 40 17.6	
	comp=Z,14nm,0.9s					
QUOK	Quay	64.61 335	IAmb	IAmb	09 40 18.7	
	comp=Z,15nm,1.0s					
MNTX	Cornudas Mount	64.78 326	P	P	09 40 18.9	+0.1
	baz=143,SNR=16					
O48B	Farmland	64.90 346	P	P	09 40 18.4	-1.0
	baz=163					
R40A	Maddies Statio	64.96 340	IAmb	IAmb	09 40 20.6	
	comp=Z,10nm,0.9s					
M55A	Ridgway	64.96 352	IAmb	IAmb	09 40 21.2	
	comp=Z,18nm,1.2s					
T35A	Sooner Cattle	65.19 336	IAmb	IAmb	09 40 22.7	
	comp=Z,9.3nm,0.9s					
M53A	WI Miller and	65.21 350	P	P	09 40 21.0	-0.3
	baz=168					
L59A	Walton	65.28 355	IAmb	IAmb	09 40 51.4	
	comp=Z,14nm,1.0s					
MSTX	Muleshoe	65.33 329	P	P	09 40 22.6	+0.2
	baz=146,SNR=8.3					
N49A	Columbus Grove	65.33 347	IAmb	IAmb	09 40 22.6	
	comp=Z,14nm,1.0s					
BINY	Binghamton	65.37 354	IAmb	IAmb	09 40 24.3	
	comp=Z,21nm,1.4s					
BINY	Binghamton	65.37 354	P	P	09 40 22.0	-0.3
	baz=173					
L61B	Northampton	65.39 357	P	P	09 40 22.6	+0.1
	baz=176					
HRV	Adam Dziewonsk	65.40 358	P	P	09 40 22.3	-0.2
	baz=177					
HRV	Adam Dziewonsk	65.40 358	P	P	09 40 23.1	+0.6
HRV			PcP	PcP	09 40 53.2	-0.5
HRV			sP	sP	09 41 01.3	-0.6
SFIN	Lafayette	65.46 345	P	P	09 40 23.4	+0.4
	baz=162					
L56A	Greenwood	65.47 353	IAmb	IAmb	09 40 24.1	
	comp=Z,6.8nm,0.7s					
AMTX	Amarillo	65.59 331	P	P	09 40 24.1	+0.1
	baz=147					
ERPA	Erie	65.77 351	P	P	09 40 25.1	+0.2
	baz=169					
HSIG		65.81 320	P	P	09 40 26.5	+1.0
HSIG				pP	09 40 53.5	+0.8
WVNY	West Valley, N	65.86 352	IAmb	IAmb	09 41 07.6	
	comp=Z,11nm,0.8s					
KAN01	Argonia South	65.88 335	IAmb	IAmb	09 40 27.2	
	comp=Z,17nm,1.1s					
KAN01				PcP	09 40 54.0	-1.8
KAN06	Argonia West S	66.00 335	P	P	09 40 26.6	+0.1
KAN06			IAmb	IAmb	09 42 19.3	
	comp=Z,8.9nm,0.6s					
P40A	Paris	66.02 341	IAmb	IAmb	09 40 27.5	
	comp=Z,14nm,1.0s					
HDIL	Hopedale	66.18 343	P	P	09 40 27.8	+0.2
	baz=159					
J61A	Chester	66.28 357	IAmb	IAmb	09 41 11.8	
	comp=Z,26nm,1.9s					
J56A	Wolcott	66.52 354	IAmb	IAmb	09 40 30.8	
	comp=Z,16nm,1.1s					
P38A	Dawn	66.58 339	IAmb	IAmb	09 40 30.5	
	comp=Z,9.6nm,0.8s					
HNH	Hanover	66.62 357	IAmb	IAmb	09 40 32.9	
	comp=Z,22nm,1.3s					
121A	Cookes Peak, D	66.69 325	IAmb	IAmb	09 40 34.5	
	comp=Z,8.7nm,0.8s					
121A	Cookes Peak, D	66.69 325	P	P	09 40 30.6	-0.6
	baz=141,SNR=8.0					
I63A	Otisfield	66.91 359	IAmb	IAmb	09 40 34.5	
	comp=Z,15nm,1.1s					
QSPA	South Pole Qui	67.03 180	P	P	09 40 33.9	+1.0
QSPA	South Pole Qui	67.03 180	P	P	09 40 34.0	+1.1
	comp=Z,10nm,0.5s,baz=166,slow=2.3,SNR=160					
QSPA			pP	PcP	09 41 01.4	+1.0
	comp=Z,6.2nm,0.5s,baz=248,slow=0.5,SNR=5.5					
	comp=Z,10nm,0.5s					
QSPA	South Pole Qui	67.03 180	P	P	09 40 34.0	+1.1
QSPA			pP	PcP	09 41 01.4	+1.0
QSPA			sP	sP	09 41 13.2	+0.9
LBNH	Lisbon	67.14 358	IAmb	IAmb	09 40 36.0	
	comp=Z,11nm,1.0s					
LBNH	Lisbon	67.14 358	P	P	09 40 34.6	+1.0
	baz=177,SNR=5.3					
KSU1	Kansas State U	67.16 337	P	P	09 40 33.6	-0.2
	baz=152					
N38A	Joes South For	67.54 340	IAmb	IAmb	09 41 16.0	
	comp=Z,14nm,0.9s					
LONY	Lake Ozonia	67.66 356	IAmb	IAmb	09 40 38.7	
	comp=Z,16nm,1.2s					
LONY	Lake Ozonia	67.66 356	P	P	09 40 37.9	+1.0
	baz=174,SNR=6.4					
ANMO	Albuquerque	67.90 327	P	P	09 40 40.0	+1.1
ANMO			IAmb	IAmb	09 40 41.6	
	comp=Z,9.7nm,0.8s					
ANMO	Albuquerque	67.90 327	P	P	09 40 39.8	+0.9
	baz=143					
ANMO	Albuquerque	67.90 327	P	P	09 40 40.3	+1.4
	comp=Z,9.5nm,0.9s,baz=227,slow=6.7,SNR=49					
ANMO			pP	pP	09 41 07.5	+1.4
	comp=Z,4.9nm,0.8s,baz=242,slow=7.8,SNR=5.1					
	comp=Z,9.5nm,0.9s					
ANMO	Albuquerque	67.90 327	P	P	09 40 40.5	+1.6
ANMO			pP	pP	09 41 07.5	+1.4
ANMO			sP	sP	09 41 19.8	+1.9
CBKS	Cedar Bluff	68.10 334	P	P	09 40 40.5	+0.7
	baz=149,SNR=5.8					
PKME	Peaks-Kenny Pk	68.11 360	IAmb	IAmb	09 40 41.5	
	comp=Z,10nm,0.8s					
PKME	Peaks-Kenny Pk	68.11 360	P	P	09 40 40.9	+1.2
	baz=179					
L40A	Anamosa	68.11 342	IAmb	IAmb	09 40 40.5	
	comp=Z,18nm,1.0s					
TUC	Tucson	68.16 322	P	P	09 40 41.9	+1.5
	baz=139					
TUC	Tucson	68.16 322	P	P	09 40 42.3	+1.9
TUC			pP	pP	09 41 09.4	+1.7
TUC			sP	sP	09 41 21.5	+2.0
SCIA	State Center	68.55 341	P	P	09 40 42.7	+0.1
	baz=156					
JFWS	Jewell Farm	68.64 343	P	P	09 40 42.8	-0.3
	baz=159					
T25A	Trinidad	68.69 330	P	P	09 40 43.5	-0.3
	baz=145					
F64A	Sherman	68.71 0	P	P	09 40 42.8	-0.6
F64A			IAmb	IAmb	09 40 45.4	
	comp=Z,12nm,0.8s					
LMN	Caledonia Moun	68.80 3	P	P	09 40 43.3	-0.6
LMN			IAmb	IAmb	09 40 45.3	
	comp=Z,15nm,1.2s					
LIC	Lamto	68.86 73	⇑*e*P	P	09 40 50.0	+5.0
	comp=Z,22nm,0.7s					
214A	Organ Pipe Nat	69.06 321	IAmb	IAmb	09 40 49.2	
	comp=Z,16nm,0.8s					
214A	Organ Pipe Nat	69.06 321	P	P	09 40 46.4	+0.5
	baz=137,SNR=19					
TIC	Toumodi	69.06 73	⇑*e*P	P	09 40 49.2	+2.9
	comp=Z,22nm,0.7s					
PIX	Pinacate	69.15 320	IAmb	IAmb	09 40 49.3	
	comp=Z,11nm,0.9s					
KIC	Kosan Boka	69.17 73	⇑*e*P	P	09 40 46.4	-0.6
	comp=Z,10nm,0.6s					
DBIC	Dimbokro	69.21 73	P	P	09 40 46.8	-0.4
	comp=Z,6.9nm,0.8s,baz=206,slow=4.1,SNR=3.3					
DBIC			pP	pP	09 41 12.9	-2.0
	comp=Z,6.1nm,0.7s,baz=240,slow=9.2,SNR=2.5					
DBIC			LR	LR	10 10 41.4	
	comp=Z,29nm,19.7s,baz=104,slow=36					
	comp=Z,6.9nm,0.8s					
TRQ	Mont Tremblant	69.26 356	IAmb	IAmb	09 40 48.2	
	comp=Z,18nm,0.9s					
KSCO	Kaye Shedlock'	69.45 332	P	P	09 40 49.0	+0.6
	baz=147					
E62A	Clayton Lake	69.47 360	IAmb	IAmb	09 41 31.2	
	comp=Z,16nm,1.0s					
SFX	San Felipe	69.61 319	IAmb	IAmb	09 40 52.2	
	comp=Z,13nm,0.8s					
SDCO	Great Sand Dun	69.69 330	IAmb	IAmb	09 40 52.7	
	comp=Z,19nm,1.3s					
SDCO	Great Sand Dun	69.69 330	P	P	09 40 50.7	+0.7
	baz=144,SNR=18					
W18A	Petrified Fore	69.71 325	P	P	09 40 50.6	+0.5
	baz=140					
BGNE	Belgrade	69.75 337	P	P	09 40 50.4	+0.4
	baz=151					
D62A	Allapoint, All	69.93 360	IAmb	IAmb	09 40 52.8	
	comp=Z,15nm,1.0s					
X16A	Lo Mia Camp, P	70.10 324	IAmb	IAmb	09 40 55.7	
	comp=Z,14nm,1.1s					
BATG	Bathurst New B	70.17 2	P	P	09 40 52.8	+0.4
S22A	4UR Ranch, Cre	70.31 329	P	P	09 40 54.8	+0.9
	baz=143,SNR=5.8					
Q24A	Divide	70.52 331	P	P	09 40 56.2	+1.2
	baz=145					
I37A	Lemond, Waseca	70.53 342	IAmb	IAmb	09 40 55.6	
	comp=Z,22nm,1.2s					
MVCO	Mesa Verde	70.70 327	IAmb	IAmb	09 40 58.8	
	comp=Z,11nm,0.8s					
MVCO	Mesa Verde	70.70 327	P	P	09 40 57.2	+1.1
	baz=142,SNR=12					
OGNE	Ogallala	70.83 334	P	P	09 40 57.6	+0.9
	baz=148					
WUAZ	Wupatki	70.89 324	IAmb	IAmb	09 41 00.5	
	comp=Z,18nm,0.9s					
WUAZ	Wupatki	70.89 324	P	P	09 40 59.0	+1.8
	baz=139,SNR=13					
GLA	Glamis	71.02 320	P	P	09 40 60.0	+2.0
	baz=136					
ECSD	EROS Data Cent	71.28 339	P	P	09 40 59.4	+0.2
	baz=153,SNR=8.9					
BLYC	Blythe	71.34 321	IAmb	IAmb	09 41 03.1	
	comp=Z,16nm,0.9s					
VLDQ	Val d'Or	71.37 354	IAmb	IAmb	09 41 01.1	
	comp=Z,17nm,1.1s					
SPMN	Marine on St.	71.47 342	IAmb	IAmb	09 41 01.0	
	comp=Z,12nm,1.0s					
SPMN	Marine on St.	71.47 342	P	P	09 40 59.8	-0.5
	baz=157					
BRIGG	Briggsdale	71.48 332	IAmb	IAmb	09 41 03.6	
	comp=Z,20nm,0.9s					
IKP	In-Ko-Pah, Jac	71.50 319	P	P	09 41 02.2	+1.4
	baz=135					
SWSC	Sam W. Stewart	71.52 320	P	P	09 41 02.8	+2.0
	baz=135					
CBX	Cerro Bola	71.60 319	IAmb	IAmb	09 41 04.8	
	comp=Z,16nm,1.0s					
BC3	Big Chuckawall	71.82 320	P	P	09 41 04.4	+1.6
	baz=135,SNR=11					
MONP2	Monument Peak	71.86 319	P	P	09 41 04.9	+1.8
	baz=134					
BAR	Barrett	71.86 319	IAmb	IAmb	09 41 06.0	
	comp=Z,14nm,1.0s					
IRM	Iron Mountain	72.00 321	P	P	09 41 05.3	+1.6
	baz=136,SNR=9.9					
TPFO	Pinon Flats	72.38 320	P	P	09 41 07.9	+1.8
	baz=135,SNR=6.0					
PFO	Pinyon Flats O	72.38 320	P	P	09 41 08.2	+1.9
PFO	Pinyon Flats O	72.38 320	P	P	09 41 08.1	+1.9
	baz=135,SNR=5.5					
PFO	Pinyon Flats O	72.38 320	P	P	09 41 07.8	+1.7
	comp=Z,4.5nm,0.7s,baz=110,slow=3.5,SNR=10.0					
	comp=Z,4.5nm,0.7s					
BELC	Belle Mtn. Jos	72.38 320	P	P	09 41 07.6	+1.4
	baz=135,SNR=6.7					
HMU	Henry Mountain	72.39 326	IAmb	IAmb	09 41 09.7	
	comp=Z,17nm,1.3s					
N23A	Red Feather La	72.44 331	P	P	09 41 08.1	+1.5
	baz=144,SNR=8.0					
SUSD	Miller	72.69 338	P	P	09 41 07.9	+0.3
	baz=151					
GMRC	Granite Mounta	72.74 321	P	P	09 41 10.6	+2.3
	baz=135,SNR=16					
KNB	Kanab	72.78 324	IAmb	IAmb	09 41 12.2	
	comp=Z,23nm,1.0s					
MURC	Murrieta	72.81 319	P	P	09 41 10.6	+2.0
	baz=134					
PKCU	Pink Cliffs	72.83 325	IAmb	IAmb	09 42 33.2	
	comp=Z,28nm,1.7s					
O20A	White River Ci	72.88 329	IAmb	IAmb	09 41 11.8	
	comp=Z,18nm,0.8s					
O20A	White River Ci	72.88 329	P	P	09 41 10.4	+1.4
	baz=142,SNR=15					
ELS	Elsinore Mount	72.99 319	IAmb	IAmb	09 41 12.7	
	comp=Z,11nm,0.9s					
BBRC	Big Bear Solar	73.11 320	P	P	09 41 12.8	+2.2
	baz=134					
HEC	Hector,Ludlow	73.16 321	P	P	09 41 12.7	+2.0
	baz=135					
SRU	San Rafael Swe	73.18 327	IAmb	IAmb	09 41 13.3	
	comp=Z,12nm,0.8s					
SZCU	Shurtz Canyon	73.35 325	IAmb	IAmb	09 41 15.4	
	comp=Z,22nm,1.8s					
TUQ	Turquoise Moun	73.36 321	P	P	09 41 13.7	+1.8
	baz=135					
P18A	Preston Nutter	73.44 328	IAmb	IAmb	09 41 15.4	
	comp=Z,11nm,0.8s					
CCUT	Cedar City	73.47 325	IAmb	IAmb	09 41 16.3	
	comp=Z,14nm,0.9s					
BFSC	Mount Baldy Ra	73.53 319	P	P	09 41 14.4	+1.4
	baz=134,SNR=5.5					
FMP	Fort Macarthur	73.55 319	P	P	09 41 13.1	+0.2
	baz=133					
P17A	Butcher Ranch,	73.56 327	IAmb	IAmb	09 41 15.8	
	comp=Z,12nm,0.9s					
RRX	Edison Barstow	73.58 320	P	P	09 41 14.4	+1.3
	baz=134					
EYMN	Ely	73.65 344	P	P	09 41 13.7	+0.6
	baz=158					
GSC	Goldstone, Bar	73.77 321	IAmb	IAmb	09 41 17.5	
	comp=Z,30nm,1.7s					
GSC	Goldstone, Bar	73.77 321	P	P	09 41 15.1	+0.8
	baz=135,SNR=7.2					
TCRU	Three Creeks R	73.77 326	IAmb	IAmb	09 41 56.5	
	comp=Z,7.7nm,0.5s					
RDMU	Red Mountain	73.85 329	IAmb	IAmb	09 41 16.7	
	comp=Z,8.4nm,0.6s					
SHOC	Shoshone, Teco	73.89 322	P	P	09 41 16.1	+1.3
	baz=135					
DECC	Green Verdugo	73.95 319	P	P	09 41 16.9	+1.6
	baz=133					
SNCC	San Nicolas Is	74.00 318	P	P	09 41 16.7	+1.2
	baz=132					
K22A	Casper	74.12 332	P	P	09 41 17.1	+0.9
	baz=144					
EDW2	Edwards Air Fo	74.18 320	P	P	09 41 17.9	+1.3
	baz=134					
SBA	Scott Base	74.19 190	P	P	09 41 15.9	-0.1
RSSD	Black Hills	74.30 334	P	P	09 41 18.1	+0.8
RSSD			IAmb	IAmb	09 41 19.6	
	comp=Z,11nm,0.8s					
RSSD	Black Hills	74.30 334	P	P	09 41 18.6	+1.3
	baz=147					
GWY	Greenwater Val	74.31 322	IAmb	IAmb	09 41 20.3	
	comp=Z,13nm,0.8s					
CCAC	Calif City Air	74.38 320	IAmb	IAmb	09 41 20.7	
	comp=Z,13nm,0.8s					
BSUT	Blindstream Ca	74.39 328	IAmb	IAmb	09 41 20.9	
	comp=Z,9.7nm,0.8s					
LRMC	Laurel Mtn Rad	74.41 320	P	P	09 41 19.4	+1.4
	baz=134,SNR=7.4					
TPNV	Topopah Spring	74.61 322	P	P	09 41 21.2	+2.0
	baz=135,SNR=16					
FURC	Furnace Creek,	74.62 322	P	P	09 41 20.8	+1.8
	baz=135,SNR=18					
MPMC	Manual Prospec	74.69 321	P	P	09 41 21.6	+1.9
	baz=134,SNR=10					
WCT	Wildcat Mounta	74.72 322	IAmb	IAmb	09 41 23.2	
	comp=Z,12nm,0.9s					
JLU	Jordanelle	74.78 328	IAmb	IAmb	09 41 22.5	
	comp=Z,7.7nm,0.7s					
ARVC	Arvin	74.84 319	P	P	09 41 22.5	+2.1
	baz=133					
ISA	Isabella, Lake	75.00 320	P	P	09 41 22.6	+1.3
ISA			IAmb	IAmb	09 41 24.6	
	comp=Z,13nm,0.9s					
ISA	Isabella, Lake	75.00 320	P	P	09 41 23.3	+1.9
	baz=134,SNR=13					
BCW	Bitter Crk WRg	75.07 319	IAmb	IAmb	09 41 25.0	
	comp=Z,19nm,1.1s					
AGMN	Agassiz Nation	75.14 342	P	P	09 41 22.1	+0.3
	baz=154,SNR=6.7					
DUG	Dugway, Tooele	75.15 327	P	P	09 41 24.3	+2.0
	baz=139,SNR=9.3					
TCUT	Toone Canyon	75.15 328	IAmb	IAmb	09 41 26.6	
	comp=Z,8.1nm,0.7s					
VNDA	Vanda	75.21 190	P	P	09 41 23.5	+1.6
	comp=Z,2.6nm,1.0s,baz=128,slow=6.4,SNR=14					
	comp=Z,2.6nm,1.0s					
R11B	Troy Canyon, C	75.25 324	P	P	09 41 24.4	+1.6
	baz=136,SNR=11					
PKM	Mcpherson Peak	75.27 319	P	P	09 41 25.1	+2.0
	baz=132,SNR=9.7					
GRAC	Grapevine Rang	75.28 322	P	P	09 41 25.2	+2.2
	baz=135					
CWC	Cottonwood Cre	75.30 321	P	P	09 41 25.1	+1.8
	baz=134					
VES	Vestal, Richgr	75.48 320	P	P	09 41 26.1	+2.1
	baz=133,SNR=12					
PDAR	Pinedale Array	75.56 330	P	P	09 41 25.5	+0.9
	comp=Z,1.2nm,0.5s,baz=141,slow=7.0,SNR=16					
PDAR			pP	pP	09 41 52.7	+0.1
	comp=Z,0.6nm,0.5s,baz=134,slow=6.4,SNR=2.3					
	comp=Z,1.2nm,0.5s					
BW06	Boulder Array	75.56 330	P	P	09 41 25.7	+1.1
	baz=142					
HWUT	Hardware Ranch	75.60 328	IAmb	IAmb	09 41 28.1	
	comp=Z,9.5nm,0.7s					
SMMC	Simmler	75.67 319	P	P	09 41 26.9	+1.7
	baz=132,SNR=6.0					
SPUT	South Promonto	75.81 328	IAmb	IAmb	09 41 28.4	
	comp=Z,13nm,0.8s					
TIN	Tinemaha, Big	75.82 321	P	P	09 41 28.0	+1.9
	baz=134					
MDND	Maddock	75.89 339	P	P	09 41 27.1	+1.0
	baz=151,SNR=16					
AHID	Auburn Hatcher	76.27 329	IAmb	IAmb	09 41 30.9	
	comp=Z,17nm,0.8s					
SNOW	Snow King Moun	76.65 330	IAmb	IAmb	09 41 33.4	
	comp=Z,11nm,0.7s					
TPAW	Teton Pass	76.76 330	IAmb	IAmb	09 41 34.1	
	comp=Z,10nm,0.8s					
ELK	Elko	76.80 326	P	P	09 41 33.1	+1.4
	comp=Z,5.0nm,0.7s,baz=118,slow=2.3,SNR=25					
	comp=Z,5.0nm,0.7s					
NVAR	Mina Array Bea	76.81 322	P	P	09 41 32.6	+0.8
NVAR	Mina Array Bea	76.81 322	P	P	09 41 33.5	+1.7
	comp=Z,4.2nm,0.9s,baz=156,slow=6.6,SNR=29					
NVAR			pP	pP	09 42 01.1	+1.4
	comp=Z,2.1nm,0.9s,baz=142,slow=6.9,SNR=3.6					
	comp=Z,4.2nm,0.9s					
ULM	Lac du Bonnet	76.91 343	IAmb	IAmb	09 41 32.6	
	comp=Z,9.2nm,0.7s					
ULM	Lac du Bonnet	76.91 343	P	P	09 41 31.8	+0.1
	comp=Z,8.7nm,0.5s,baz=156,slow=6.5,SNR=23					
ULM			pP	pP	09 41 59.4	-0.5
	comp=Z,3.0nm,0.6s,baz=166,slow=5.7,SNR=2.9					
	comp=Z,8.7nm,0.5s					
KVN	Kaiserville	77.13 323	IAmb	IAmb	09 41 36.1	
	comp=Z,12nm,0.9s					
RLMT	Red Lodge	77.29 332	IAmb	IAmb	09 41 36.4	
	comp=Z,9.6nm,0.7s					
RLMT	Red Lodge	77.29 332	P	P	09 41 35.4	+1.1
	baz=142,SNR=10.0					
SCHQ	Schefferville	77.71 1	P	P	09 41 36.2	+0.1
	comp=Z,5.1nm,0.8s,baz=188,slow=5.4,SNR=8.7					
	comp=Z,5.1nm,0.8s					
YERR	Yerington	77.73 322	IAmb	IAmb	09 41 39.9	
	comp=Z,25nm,1.6s					
TOA0	Torodi Ar. Sit	77.92 70	P	P	09 41 37.7	-0.5
TOA0			IAmb	IAmb	09 42 06.5	
	comp=Z,17nm,0.9s					
TORD	Torodi Ar. Bea	77.92 70	P	P	09 41 37.6	-0.5
TORD			IAmb	IAmb	09 42 06.4	
	comp=Z,16nm,0.9s					
TORD	Torodi Ar. Bea	77.92 70	P	P	09 41 37.2	-1.0
	comp=Z,

BOZ	Bozeman (W)	78.70	331	P	P	09 41 43.4	+1.4
	baz=140,SNR=6.7						
MFID	Camas Ranch	79.05	327	IAmb	IAmb	09 41 46.9	
	comp=Z,24nm,1.6s						
ORV	Oroville	79.40	321	IAmb	IAmb	09 41 48.8	
	comp=Z,25nm,1.2s						
EGMT	Eagleton	79.79	334	P	P	09 41 48.8	+1.0
	baz=142,SNR=6.9						
PLID	Pearl Lake	80.35	328	IAmb	IAmb	09 41 53.5	
	comp=Z,13nm,0.8s						
MSO	Missoula	80.68	331	P	P	09 41 53.4	+0.8
	baz=139						
YBH	Yreka Blue Hor	81.53	322	P	P	09 41 57.5	+0.3
	comp=Z,2.9nm,0.8s,baz=207,slow=5.2,SNR=5.9						
	comp=Z,2.9nm,0.8s						
J05D	Fort Rock, OR	81.76	324	IAmb	IAmb	09 42 01.1	
	comp=Z,16nm,1.2s						
FFC	Flin Flon	82.61	341	P	P	09 42 03.0	+0.6
MAW	Mawson	82.73	163	P	P	09 42 03.8	+0.8
	comp=Z,3.3nm,0.6s,baz=212,slow=6.5,SNR=14						
MAW				pP	pP	09 42 32.0	+0.5
	comp=Z,3.8nm,0.5s,baz=204,slow=4.7,SNR=5.4						
	comp=Z,3.3nm,0.6s						
HAWA	Hanford	83.02	327	IAmb	IAmb	09 42 06.7	
	comp=Z,8.3nm,0.7s						
NEW	Newport	83.19	330	P	P	09 42 06.6	+0.9
	baz=136						
NEW	Newport	83.19	330	P	P	09 42 06.0	+0.3
	comp=Z,1.9nm,0.7s,baz=121,slow=13,SNR=4.1						
	comp=Z,1.9nm,0.7s						
ESDC	Sonseca Array	87.02	44	pP	pP	09 42 53.9	0.0
	comp=Z,1.4nm,0.8s,baz=229,slow=5.3,SNR=3.5						
ESDC				LR	LR	10 17 38.7	
	comp=Z,15nm,18.2s,baz=198,slow=33						
LSZ	Lusaka	90.41	107	LR	LR	10 21 16.8	
	comp=Z,38nm,18.0s,baz=72,slow=34						
YKA	Yellowknife Ar	92.76	341	P	P	09 42 51.5	+0.3
YKA	Yellowknife Ar	92.76	341	P	P	09 42 51.6	+0.4
	baz=138,slow=4.3						
YKA				pP	pP	09 43 20.6	+0.6
	comp=Z,1.7nm,0.7s,baz=134,slow=4.0,SNR=7.7						
TOAD	Toad River Com	93.96	334	P	P	09 42 57.8	+0.9
	baz=130						
T35M	Bob Quinn	94.92	331	P	P	09 43 02.6	+1.3
	baz=126						
DLBC	Dease Lake	95.69	332	P	P	09 43 05.4	+0.5
	baz=126						
S34M	Telegraph Cree	95.86	332	P	P	09 43 07.2	+1.6
	baz=125						
Q32M	Nakina River	96.94	332	P	P	09 43 11.5	+0.7
	baz=124						
R32K	Eaglecrest	97.55	331	P	P	09 43 13.9	+0.7
	baz=122						
P33M	Teslin, Yukon	97.87	333	P	P	09 43 15.2	+0.5
	baz=123						
MBAR	Mbarara	98.63	94	LR	LR	10 26 50.0	
	comp=Z,20nm,18.1s,baz=114,slow=35						
WHY	Whitehorse	98.98	333	P	Pdif	09 43 19.9	+0.2
	baz=122						
PLBC	Pleasant Camp	98.99	331	P	Pdif	09 43 20.1	+0.4
	baz=120						
DAVOX	Davos/Dischmat	99.28	43	LR	LR	10 24 26.8	
	comp=Z,12nm,20.2s,baz=265,slow=33						
O30N	Mendenhall	99.54	333	P	Pdif	09 43 22.9	+0.7
	baz=121						
P30M	Million Dollar	99.59	332	P	Pdif	09 43 23.3	+0.9
	baz=120						
M31M	Drury Creek, Y	99.59	334	P	Pdif	09 43 23.3	+1.0
	baz=122						
N31M	Braeburn, Yuko	99.78	333	P	Pdif	09 43 24.1	+1.0
	baz=121						
HYT	Haines Junctio	100.17	332	P	Pdif	09 43 25.4	+0.4
	baz=119						
N30M	Aishikik Lake	100.31	333	P	Pdif	09 43 26.2	+0.7
	baz=120						
O29M	Mount Kennedy	100.38	332	P	Pdif	09 43 27.1	+1.1
	baz=119						
M30M	Minto, Yukon	100.75	334	P	Pdif	09 43 28.3	+0.8
	baz=120						
YUK4	Talbot Arm	100.91	333	P	Pdif	09 43 28.9	+0.5
	baz=118						
M29M	Somme Creek	101.36	334	P	Pdif	09 43 31.3	+1.1
	baz=118						
L29M	L29M	101.54	334	P	Pdif	09 43 31.9	+0.9
	baz=118						
J30M	Hart River	101.56	336	P	Pdif	09 43 32.0	+0.8
	baz=120						
K29M	Barlow Dome	101.66	335	P	Pdif	09 43 32.4	+0.8
	baz=119						
YUK3	Moose Creek	101.88	333	P	Pdif	09 43 33.6	+0.9
	baz=117						
I30M	Mount Dempster	101.91	337	P	Pdif	09 43 33.8	+1.2
	baz=120						
INK	Inuvik	102.51	340	P	Pdif	09 43 36.0	+1.0
	baz=122						
E29M	Blow River	103.96	339	P	Pdif	09 43 42.1	+0.5
	baz=118						
KLU	Klutina	104.13	331	P	Pdif	09 43 43.0	+0.4
	baz=112						
SCRK	Sand Creek	104.28	334	P	Pdif	09 43 43.4	+0.2
	baz=113						
J26L	Joseph Creek	104.32	334	P	Pdif	09 43 43.2	-0.2
	baz=114						
PAX	Paxson	104.50	333	P	Pdif	09 43 44.6	+0.4
	baz=112						
ARCES	ARCESS Array B	113.03	22	PKKPbc	PKKPbc	09 59 02.5	-2.2
	comp=Z,3.5nm,1.0s,baz=46,slow=3.5,SNR=5.6						
H11S2	WAKE ISLAND Hyl	28.07	276	T	T	12 09 17.3	
	baz=105,slow=75,SNR=37						
H11S1	WAKE ISLAND Hyl	28.08	276	T	T	12 09 13.7	
	baz=105,slow=75,SNR=32						
H11S3	WAKE ISLAND Hyl	28.09	276	T	T	12 09 10.0	
	baz=105,slow=75,SNR=24						
H11N3	WAKE ISLAND Hyl	28.20	277	T	T	12 09 22.3	
	baz=104,slow=75,SNR=52						
H11N2	WAKE ISLAND Hyl	28.21	277	T	T	12 08 59.0	
	baz=104,slow=75,SNR=43						
H11N1	WAKE ISLAND Hyl	28.22	277	T	T	12 09 17.9	
	baz=104,slow=75,SNR=46						
ASAR	Alice Springs	128.43	207	PKP	PKPdf	09 48 46.6	+0.1
	comp=Z,2.9nm,0.7s,baz=133,slow=1.7,SNR=35						
ASAR				pPKP	pPKPdf	09 49 16.1	-0.6
	comp=Z,2.5nm,0.7s,baz=141,slow=1.7,SNR=8.6						
WRA	Warramunga Arr	131.51	210	PKP	PKPdf	09 48 52.9	+0.5
	comp=Z,2.2nm,0.4s,baz=155,slow=1.7,SNR=66						
WRA				pPKP	pPKPdf	09 49 22.6	+0.1
	comp=Z,1.7nm,0.5s,baz=154,slow=1.5,SNR=5.7						
WRA				SKPbc	SKPbc	09 52 08.5	+0.4
	comp=Z,2.3nm,0.9s,baz=155,slow=3.5,SNR=7.1						
PETK	Petropavlovsk-	133.90	323	PKP	PKPdf	09 48 55.6	-0.1
	comp=Z,1.2nm,0.6s,baz=62,slow=2.2,SNR=5.5						
BVAR	Borovoye Array	137.16	35	PKP	PKPdf	09 49 01.8	0.0
	comp=Z,0.9nm,0.5s,baz=318,slow=2.0,SNR=5.9						
BVAR				pPKP	pPKPdf	09 49 31.1	-1.0
	comp=Z,1.6nm,0.8s,baz=318,slow=3.9,SNR=3.2						
KURBB	Kurchatov Arra	142.72	34	PKP	PKPdf	09 49 09.8	-2.1
	comp=Z,0.6nm,0.8s,baz=303,slow=3.2,SNR=3.5						
KURBB				pPKP	pPKPdf	09 49 38.6	-3.6
	comp=Z,0.9nm,0.8s,baz=300,slow=2.6,SNR=3.7						
ZALV	Zalesovo Beam	143.45	26	PKP	PKPbc	09 49 11.3	+0.7
	comp=Z,4.0nm,0.5s,baz=287,slow=4.1,SNR=14						
ZALV				pPKP	pPKPdf	09 49 40.6	-2.8
	comp=Z,3.0nm,0.6s,baz=320,slow=3.1,SNR=3.7						
KSH	Kashi	146.12	53	PKPbc	PKPab	09 49 20.3	-0.1
KSH				pPKP	pPKPdf	09 49 48.6	-0.1
MKAR	Makanchi Array	146.97	37	PKPbc	PKPdf	09 49 19.9	+0.4
	comp=Z,7.4nm,0.9s,baz=311,slow=1.3,SNR=36						
MKAR				pPKP	pPKPdf	09 49 49.4	-0.4
	comp=Z,10nm,0.8s,baz=313,slow=2.9,SNR=12						
HEH	HeiHe	150.11	339	eP	PKPbc	09 49 29.1	-0.4
HEH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
USRK	Ussuriysk Ar.	152.90	326	PKP	PKPdf	09 49 30.1	+1.3
	comp=Z,1.5nm,0.9s,baz=162,slow=33,SNR=4.0						
USRK				PKPbc	PKPbc	09 49 36.7	+0.6
	comp=Z,3.2nm,0.9s,baz=17,slow=3.7,SNR=7.1						
MJAR	Matsushiro Arr	153.08	306	PKPbc	PKPbc	09 49 37.3	+0.4
	comp=Z,3.6nm,0.9s,baz=66,slow=2.5,SNR=10						
MJAR				PKPab	PKPab	09 49 49.6	+0.9
	comp=Z,6.9nm,0.9s,baz=67,slow=1.4,SNR=13						
SONM	Songino Array	155.11	8	PKP	PKPdf	09 49 33.4	+1.3
	comp=Z,0.5nm,0.3s,baz=309,slow=0.9,SNR=4.1						
SONM				PKPab	PKPab	09 49 57.8	+0.8
	comp=Z,2.5nm,0.9s,baz=325,slow=1.8,SNR=4.8						
KSRS	Korea Array	159.71	318	PKP	PKPdf	09 49 38.9	+1.0
	comp=Z,2.5nm,1.0s,baz=58,slow=1.2,SNR=9.0						
KSRS				PKPab	PKPab	09 50 18.4	+1.3
	comp=Z,2.6nm,0.7s,baz=57,slow=4.6,SNR=12						
HHC	Hu-ho-hao-te	162.37	359	eP	PKPdf	09 49 40.5	-0.3
NJ2	Nanjing	168.80	324	eP	PKPdf	09 49 47.7	+1.5
NJ2				pmax	pmax		
	comp=Z,26nm,1.2s						

CATAC ***02*** *09:32:15.9±0.3, 9°.70N×84°.77W, h3km±2km, ML3.4*
UCR ***02*** *09:32:16.2±1.2, 9°.74N×84°.79W, h18km±4km, MWS3.7*
ISC 02 09:32:16.0±0.9, **9°.71N**±0°.02×**84°.79W**±0°.02, **h14**km±7km,
n97, σ0°.81/165, **21C-5D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BITO	Garabito Jaco	0.19	119⇑	eP	Pg	09 32 20.7	+0.3
BITO				eS	Sg	09 32 24.9	+1.5
TRB2	Turrubares	0.39	59⇑	eP	Pg	09 32 23.6	-0.3
TRB2				eS	Sg	09 32 29.6	+0.3
SRA1	San Ramn	0.48	39	eP	Pg	09 32 24.9	-0.7
SRA1				eS	Sg	09 32 31.9	-0.1
RAMO	San Ramon	0.49	40	eP	Pb	09 32 26.4	-0.1
RAMO				eS	Sb	09 32 33.4	-0.2
NYURE	Nandayure	0.54	302⇑	iP	Pg	09 32 26.4	-0.3
NYURE				eS	Sb	09 32 34.9	0.0
TCS1	Tacares	0.58	56	iP	Pg	09 32 27.5	0.0
TCS1				iS	Sg	09 32 35.5	+0.2
TCS1				IAML		09 32 38.1	
	comp=Z,11μm,1.0s						
TCS1	Tacares	0.58	56⇑	eP	Pg	09 32 27.4	-0.2
TCS1				eS	Sb	09 32 36.1	-0.1
JUNT	Juntas	0.59	343⇑	iP	Pg	09 32 26.8	-0.9
JUNT				eS	Sg	09 32 34.9	-0.6
JTS	Las Juntas de	0.60	344⇑	iP	Pg	09 32 27.0	-0.7
JTS				eS	Sg	09 32 35.1	-0.6
MTEVE	Monteverde	0.60	356	eP	Pn	09 32 30.8	+0.4
MTEVE				eS	Sb	09 32 36.6	-0.4
ZARE	Zarcero	0.61	40	eP	Pb	09 32 28.8	+0.2
ZARE				eS	Sb	09 32 38.1	+0.9
ACOS	Acosta	0.62	82⇑	iP	Pg	09 32 27.6	-0.7
ACOS				eS	Sg	09 32 36.3	-0.2
SANTA	Santa Ana	0.63	70⇑	iP	Pg	09 32 27.8	-0.7
SANTA				eS	Sg	09 32 36.7	-0.2
BELE	Belen	0.65	66⇑	iP	Pg	09 32 28.1	-0.7
BELE				eS	Sg	09 32 37.1	-0.2
SVQ2	Quepos	0.67	114	eP	Pg	09 32 28.1	-1.1
SVQ2				eS	Sb	09 32 38.7	-0.1
SOCE	Pocosol	0.69	14	iP	Pg	09 32 29.0	-0.5
SOCE				iS	Sg	09 32 38.5	-0.1
SOCE				IAML		09 32 42.4	
	comp=Z,2μm,1.0s						
SOCE	Pocosol	0.69	14	eP	Pg	09 32 29.1	-0.4
SOCE				eS	Sg	09 32 38.6	0.0
LLNJ	Naranjito	0.72	109⇑	iP	Pg	09 32 29.5	-0.5
LLNJ				eS	Sb	09 32 40.3	+0.2
INDI	Punta indio, G	0.72	282	iP	Pg	09 32 29.4	-0.7
INDI				iS	Sb	09 32 41.1	+1.0
INDI				IAML		09 32 43.7	
	comp=Z,820nm,1.0s						
ABE2	San Pablo	0.72	91	eP	Pg	09 32 29.5	-0.7
ABE2				eS	Sg	09 32 39.4	-0.4
HDC	Heredia	0.72	67	iP	Pg	09 32 29.8	-0.4
HDC				iS	Sg	09 32 39.8	+0.1
HDC				IAML		09 32 40.7	
	comp=Z,2μm,1.0s						
HDC	Heredia	0.72	67	eP	Pg	09 32 29.6	-0.5
HDC3	Heredia 3	0.73	67	iP	Pg	09 32 29.6	-0.6
HDC3				iS	Sg	09 32 39.7	-0.1
HDC3				IAML		09 32 40.7	
	comp=Z,2μm,1.0s						
MEXI	Barrio Mexico	0.73	72⇑	eP	Pg	09 32 29.6	-0.7
MEXI				eS	Sg	09 32 39.8	-0.1
CENT	San Jose	0.73	73⇓	eP	Pb	09 32 30.6	0.0
CENT				eS	Sb	09 32 40.7	+0.1
DOMI	Santo Domingo	0.74	69	eP	Pg	09 32 30.0	-0.4
DOMI				eS	Sb	09 32 40.6	-0.2
LUJA	Lujan	0.74	73⇑	iP	Pb	09 32 30.6	-0.1
LUJA				eS	Sb	09 32 40.8	0.0
AMPA	Desamparados	0.74	76	eP	Pg	09 32 29.5	-0.9
AMPA				eS	Sg	09 32 39.5	-0.7
ARE1	Arenal 1	0.75	5	eP	Pg	09 32 30.2	-0.4
ARE1				eS	Sb	09 32 40.8	-0.1
TIBA	Tibas	0.75	71	eP	Pg	09 32 29.8	-0.8
TIBA				eS	Sg	09 32 40.5	0.0
RAZU	San Marcos de	0.76	94⇓	eP	Pg	09 32 29.9	-0.9
RAZU				eS	Sg	09 32 40.4	-0.4
SJS	Escuela Geolog	0.76	73	eP	Pg	09 32 30.0	-0.8
SJS				eS	Sg	09 32 40.5	-0.3
LUPE	Guadalupe	0.76	72	eP	Pg	09 32 30.2	-0.6
LUPE				eS	Sg	09 32 40.7	-0.2
SJS3	Mercedes San J	0.76	73⇑	iP	Pg	09 32 30.2	-0.7
SJS3				eS	Sg	09 32 40.6	-0.2
VACR	Volcan Arenal	0.76	8	eP	Pg	09 32 30.7	-0.2
VACR				eS	Sb	09 32 41.5	+0.1
TUNA	La Fortuna	0.77	11	eP	Pb	09 32 31.9	+0.7
TUNA				eS	Sb	09 32 41.9	+0.4
LCR2	La Lucha 2	0.77	88	iP	Pg	09 32 30.0	-1.1
LCR2				iS	Sg	09 32 40.9	-0.4
LCR2				IAML		09 32 41.6	
	comp=Z,1μm,1.0s						
LCR2	La Lucha 2	0.77	88⇑	iP	Pg	09 32 30.1	-1.0
LCR2				eS	Sg	09 32 40.5	-0.8
NICO	Nicoya	0.77	303⇑	iP	Pg	09 32 30.3	-0.8
NICO				eS	Sb	09 32 42.0	+0.3
CEDE	Laguna Cedeo	0.77	6	eP	Pg	09 32 30.9	-0.2
CEDE				eS	Sb	09 32 41.6	-0.2
CNAS	Canas	0.77	337⇓	eP	Pb	09 32 31.4	+0.1
CNAS				eS	Sb	09 32 42.2	+0.5
TRIO	Tres Rios	0.81	76	eP	Pg	09 32 30.4	-1.3
TRIO				eS	Sg	09 32 41.6	-0.7
CORON	Coronado	0.82	71	eP	Pg	09 32 31.4	-0.6
CORON				eS	Sb	09 32 43.0	-0.1
JUD3	Juan Diaz 3	0.87	301⇑	iP	Pg	09 32 31.8	-1.1
JUD3				eS	Sb	09 32 44.7	+0.3
TAGO	Cartago	0.87	80⇑	eP	Pg	09 32 31.7	-1.2
TAGO				eS	Sg	09 32 43.8	-0.5
CVIMO	Finca Echandi	0.89	70	eP	Pg	09 32 32.4	-0.9
CVIMO				eS	Sb	09 32 45.0	-0.2
ITAL	Pital	0.89	35	eP	Pg	09 32 32.4	-0.9
ITAL				eS	Sg	09 32 44.5	-0.5
REPA	Paraso	0.91	83⇑	eP	Pg	09 32 33.5	-0.3
REPA				eS	Sg	09 32 46.5	+0.7
BAGA	Bagaces	0.94	330	eP	Pg	09 32 33.0	-1.2
BAGA				eS	Sg	09 32 45.9	-0.5
SACU	Santa Cruz	0.96	305	eP	Pg	09 32 33.5	-1.1
VICA	Volcano Irazu	0.97	74	eP	Pg	09 32 33.7	-1.2
PCAYA	Pacayas	0.98	78⇑	eP	Pg	09 32 34.1	-1.1
PCAYA				eS	Sg	09 32 47.5	-0.5
RAFA	San Farael, Vo	0.99	76	iP	Pg	09 32 34.3	-1.0
RAFA				iS	Sg	09 32 47.5	-0.9
RAFA				IAML		09 32 49.6	
	comp=Z,3μm,1.0s						
RAFA	San Farael, Vo	0.99	76	eP	Pg	09 32 34.4	-0.9
RAFA				eS	Sb	09 32 49.0	+0.7
CUI	Cuipilapa	1.01	339⇓	eP	Pg	09 32 34.3	-1.3
CUI				eS	Sg	09 32 47.7	-1.1
COLC	Colonia	1.03	337	eP	Pg	09 32 34.5	-1.5
COLC				eS	Sg	09 32 48.0	-1.5
VTLA	Turrialba Volc	1.04	74	eP	Pg	09 32 35.9	-0.3
VINA	Juan Vinas	1.04	80⇑	eP	Pg	09 32 35.0	-1.2
VINA				eS	Sg	09 32 49.1	-0.7
CVTQ	Turrialba Volc	1.05	74	eP	Pg	09 32 35.9	-0.4
DELF	Filadelfia	1.05	314	eP	Pg	09 32 35.7	-0.6
VTR0	Volcan Turrial	1.06	73	eP	Pg	09 32 36.0	-0.5
CVTR	Volcan Turrial	1.06	73	eP	Pg	09 32 35.1	-1.5
COVE	Coope Vega, Sa	1.07	21	iP	Pg	09 32 36.2	-0.5
COVE				IAML		09 32 51.4	
	comp=Z,850nm,1.0s						
VTCV	VTCV, Calle Va	1.08	75	eP	Pg	09 32 35.8	-1.2
VTCV				eS	Sb	09 32 51.1	+0.4
TURIB	Turrialba	1.10	80	eP	Pb	09 32 35.6	-1.3
TURIB				eS	Sg	09 32 50.3	-1.5
ZELE	Perez Zeledon	1.12	107	eP	Pb	09 32 36.3	-0.9
ZELE				eS	Sb	09 32 52.0	+0.4
VERA	Finca Concepci	1.14	356⇑	eP	Pb	09 32 36.3	-1.2
VERA				eS	Sg	09 32 52.5	-0.3
RVSTA	Santa Teresita	1.15	77	eP	Pb	09 32 37.2	-0.6
GPS2	Hotel Rincn d	1.17	332	eP	Pb	09 32 36.8	-1.4
GPS3	Bodega del ICE	1.18	331	eP	Pg	09 32 39.6	+0.8
ELI1	Hacienda Flor	1.19	321	eP	Pb	09 32 37.3	-1.1
ELI1				eS	Sg	09 32 54.5	-0.1
VRLE	La Escondida,	1.21	332	eP	Pb	09 32 37.3	-1.5
VRLE				eS	Sb	09 32 53.1	-1.2
CARI	Cariari	1.22	58	eP	Pn	09 32 37.8	-0.9
CARI				eS	Sn	09 32 55.5	+0.4
VORI	VORI	1.23	333	eP	Pn	09 32 37.4	-1.6
RVLA	Villa Bonita	1.25	71	eP	Pn	09 32 38.7	-0.4
RVLA				eS	Sn	09 32 56.5	+0.8
GB1A	Borinquen Arri	1.25	331	eP	Pn	09 32 38.0	-1.2
LCOCO	El Coco	1.27	73	eP	Pn	09 32 39.0	-0.3
LCOCO				eS	Sn	09 32 56.8	+0.7
OCHAL	Ojochal	1.28	118	iP	Pn	09 32 38.4	-1.1
OCHAL				iS	Sb	09 32 56.9	+0.6
OCHAL				IAML		09 33 04.7	
	comp=Z,320nm,1.0s						
LCHIL	Los Chiles	1.32	3	eP	Pn	09 32 40.3	+0.3
LCHIL				eS	Sg	09 32 58.1	-0.5
IRES	Siquirres	1.32	73⇓	iP	Pn	09 32 40.2	+0.2
IRES				eS	Sg	09 32 58.8	+0.1
EDPN	Palmar Norte	1.51	119	eP	Pn	09 32 42.0	-0.7
BURE	Buenos Aires	1.53	110	eP	Pn	09 32 43.4	+0.4
EDBA	Buenos Aires	1.59	110	eP	Pn	09 32 43.7	-0.1
LCRUZ	La Cruz	1.59	329	eP	Pn	09 32 44.6	+0.8
LCRUZ				eS	Sg	09 33 09.1	+1.8
EDP2	Potrero Grande	1.73	113	eP	Pb	09 32 47.4	-0.3
BRIBI	Bribri	1.91	92	eP	Pg	09 32 52.9	+0.1
PIRO	Carate, Puerto	1.94	132	iP	Pn	09 32 49.9	+1.4
PIRO				IAML		09 33 24.8	
	comp=Z,160nm,1.0s						
PIRO	Carate, Puerto	1.94	132	eP	Pb	09 32 50.8	-0.3
BRU2	Volcan	2.26	114	eP	Pb	09 32 56.6	-0.2
ACON	Acoyapa	2.27	350	iP	Pn	09 32 54.3	+1.1
ACON				IAML		09 33 28.0	
	comp=Z,100nm,1.0s						
ACON	Acoyapa	2.27	350	eP	Pn	09 32 54.4	+1.2
ACON				eS	Sn	09 33 23.0	+1.9
BLUN	Bluefields	2.49	24	iP	Pn	09 32 58.4	+2.3
BLUN				IAML		09 33 36.6	
	comp=Z,130nm,1.0s						
ESPN	Las Esperanzas	2.51	11	iP	Pn	09 32 57.7	+1.2
ESPN				IAML		09 34 32.7	
	comp=Z,240nm,1.0s						
BOAB	BOACO BROADBAN	2.85	342	iP	Pn	09 33 01.9	+0.7
BOAB				IAML		09 33 53.6	
	comp=Z,50nm,1.0s						
SAPS	Ciudad Sandino	2.91	327	iP	Pn	09 33 03.6	+1.6
SAPS				IAML		09 33 16.3	
	comp=Z,75nm,1.0s						
COPN	Copaltepe	3.02	324	iP	Pn	09 33 05.6	+2.1
COPN				IAML		09 33 14.3	
	comp=Z,59nm,1.0s						
LIMN	Finca el Limon	3.67	335	iP	Pn	09 33 13.9	+1.4
LIMN				IAML		09 34 25.1	
	comp=Z,31nm,1.0s						

NEIC ***02*** *10:10:19.9±1.2, 56°.01N±0°.10×149°.7W±0°.1, h20km±9km,*
ML3.6/62, ML3.4(AEIC), Error ellipse: s-maj=15.4km
s-min=8.8km az=152.0
AEIC ***02*** *10:10:23.5±1.3, 56°.05N±0°.09×149°.6W±0°.1, h6km±8km,*
Error ellipse: s-maj=15.0km s-min=3.4km az=145.0
ISC 02 10:10:18.8±1.6, **56°.07N**±0°.09×**149°.64W**±0°.06, **h10**km,
n214, σ0°.92/211, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.32	301	P	Pn	10 10 57.1	+0.1
OHAK	Old Harbor	2.32	301	Pn	Pn	10 10 57.3	+0.3
OHAK	Old Harbor	2.32	301		Sn	10 11 23.6	-2.0
OHAK	Old Harbor	2.32	301	P	Pn	10 10 57.2	+0.3
	baz=118						
OHAK				S	Sn	10 11 23.6	-2.0
	baz=118						
KDAK	Kodiak Island	2.36	318		Pn	10 10 57.5	0.0
KDAK					Sn	10 11 24.2	-2.2
SII	Sitkinak Islan	2.58	283		Pn	10 11 00.6	0.0
SII					Sn	10 11 30.7	-1.3
SII	Sitkinak Islan	2.58	283	IAML		10 11 31.9	
	comp=E,308nm,0.7s						
SII				IAML		10 11 42.4	
	comp=N,274nm,0.6s						
SII	Sitkinak Islan	2.58	283	P	Pn	10 11 00.6	0.0
	baz=99						
SII				S	Sn	10 11 30.7	-1.3
	baz=99						
Q20K	Shuyak Island	2.95	331	P	Pn	10 11 06.2	+0.5
	baz=148						
Q20K				S	Sn	10 11 40.9	-0.2
	baz=148						
SYI	Shuyak Island	2.95	331		Pn	10 11 06.2	+0.5
SYI					Sn	10 11 40.9	-0.2
R18K	Karluk	3.04	302		Pn	10 11 07.8	+0.9
R18K					Sn	10 11 42.7	-0.6
R18K	Karluk	3.04	302	IAML		10 11 59.3	
	comp=N,115nm,0.5s						
R18K				IAML		10 12 03.2	
	comp=E,117nm,0.5s						
R18K	Karluk	3.04	302	P	Pn	10 11 07.8	+0.9
	baz=118						
R18K				S	Sn	10 11 42.7	-0.6
	baz=118						
CHIR	Chirikof Islan	3.37	268		Pn	10 11 11.2	-0.3
CHIR	Chirikof Islan	3.37	268	IAML		10 11 50.0	
	comp=E,182nm,0.7s						
CHIR				IAML		10 11 51.7	
	comp=N,133nm,0.5s						
CHIR	Chirikof

O20K	Slope Mountain	4.32	340	P	Pn	10 11 24.8 +0.2
	baz=157					
ILSW	Iliamna Southw	4.34	336		Pn	10 11 25.5 +0.6
ILSW				IAML		10 12 20.7
	comp=N,43nm,0.7s					
ILSW				IAML		10 12 26.0
	comp=E,47nm,0.7s					
IVE	Iliamna Volcan	4.34	337		Pn	10 11 25.4 +0.4
O22K	Cooper Landing	4.42	359		Pn	10 11 26.7 +0.8
SLKM	Skilak Lake	4.46	356		Pn	10 11 26.6 +0.1
P18K	Big Mountain,	4.48	320		Pn	10 11 27.1 +0.4
P18K	Big Mountain,	4.48	320	P	Pn	10 11 27.1 +0.4
	baz=136					
Q16K	King Salmon	4.61	307		Pn	10 11 29.5 +1.1
Q16K	King Salmon	4.61	307	P	Pn	10 11 29.5 +1.1
	baz=122					
HIN	Hinchinbrook I	4.65	20		Pn	10 11 29.1 +0.1
HIN	Hinchinbrook I	4.65	20	IAML		10 12 25.1
	comp=E,64nm,0.8s					
HIN				IAML		10 12 41.7
	comp=N,56nm,0.9s					
RSO	Redoubt South	4.70	341		Pn	10 11 30.0 +0.1
KAIM	Kayak Island	4.76	34		Pn	10 11 30.7 +0.1
KAIM	Kayak Island	4.76	34	IAML		10 12 42.5
	comp=E,66nm,1.2s					
KAIM	Kayak Island	4.76	34	P	Pn	10 11 30.7 +0.1
	baz=217					
P17K	Kvichak River	4.81	313		Pn	10 11 32.4 +1.2
P17K	Kvichak River	4.81	313	P	Pn	10 11 32.4 +1.2
	baz=128					
O18K	Koktuh Hills	4.81	324		Pn	10 11 31.4 +0.1
O18K	Koktuh Hills	4.81	324	IAML		10 12 42.1
	comp=N,38nm,0.9s					
O18K				IAML		10 12 47.5
	comp=E,24nm,0.8s					
O18K	Koktuh Hills	4.81	324	P	Pn	10 11 31.3 +0.1
	baz=140					
O19K	Port Alsworth	4.82	331		Pn	10 11 31.4 0.0
O19K	Port Alsworth	4.82	331	IAML		10 12 35.3
	comp=N,64nm,0.5s					
O19K	Port Alsworth	4.82	331	P	Pn	10 11 31.4 0.0
	baz=147					
CHGN	Chignik	4.91	276	Pn	Pn	10 11 33.8 +1.3
CHGN				IAML		10 12 33.2
	comp=N,48nm,0.1s					
EYAK	Cordova Ski Ar	4.94	23	P	Pn	10 11 33.8 +0.9
EYAK	Cordova Ski Ar	4.94	23		Pn	10 11 33.2 +0.3
EYAK	Cordova Ski Ar	4.94	23	P	Pn	10 11 33.2 +0.3
	baz=206					
FID	Port Fidalgo	4.98	18		Pn	10 11 33.2 -0.3
FID	Port Fidalgo	4.98	18	IAML		10 12 33.5
	comp=E,36nm,0.7s					
FID				IAML		10 12 40.4
	comp=N,30nm,0.7s					
GLI	Glacier Island	5.00	14		Pn	10 11 34.2 +0.3
GLI	Glacier Island	5.00	14	IAML		10 12 39.0
	comp=E,36nm,0.7s					
GLI				IAML		10 12 48.2
	comp=N,22nm,0.8s					
GLI	Glacier Island	5.00	14	P	Pn	10 11 34.2 +0.3
	baz=196					
RC01	Rabbit Creek A	5.04	359		Pn	10 11 34.4 +0.1
RC01	Rabbit Creek A	5.04	359	IAML		10 12 33.6
	comp=N,29nm,0.3s					
RC01				IAML		10 12 39.5
	comp=E,42nm,0.6s					
RC01	Rabbit Creek A	5.04	359	P	Pn	10 11 34.4 +0.1
	baz=179					
RAGM	Ragged Mountai	5.06	29		Pn	10 11 35.0 +0.3
SUCK	Suckling Hills	5.08	35		Pn	10 11 35.1 +0.2
SUCK	Suckling Hills	5.08	35	IAML		10 12 40.5
	comp=E,49nm,1.3s					
SUCK				IAML		10 12 53.4
	comp=N,47nm,1.4s					
HMT	Hamilton	5.14	31		Pn	10 11 36.4 +0.6
NICHA	Nichawak Mount	5.15	33		Pn	10 11 36.3 +0.5
GOAT	Goat Mountain	5.21	28		Pn	10 11 37.2 +0.5
BGLC	Bering Glacier	5.28	37		Pn	10 11 38.5 +0.9
BGLC	Bering Glacier	5.28	37	P	Pn	10 11 38.5 +0.9
	baz=222					
SPU	Mount Spurr	5.28	347	Pn	Pn	10 11 37.9 +0.2
SPU				IAML		10 12 40.6
	comp=N,21nm,0.8s					
SPU				IAML		10 12 52.9
	comp=E,22nm,0.6s					
GRIN	Grindle Hills	5.39	36		Pn	10 11 39.6 +0.5
P16K	Nushagak River	5.39	307		Pn	10 11 39.8 +0.7
P16K	Nushagak River	5.39	307	P	Pn	10 11 39.8 +0.7
	baz=120					
N19K	Bonanza Creek	5.39	334		Pn	10 11 39.5 +0.1
N19K	Bonanza Creek	5.39	334	P	Pn	10 11 39.4 +0.1
	baz=150					
O17K	Koliganek Bris	5.44	316		Pn	10 11 40.7 +1.0
O17K	Koliganek Bris	5.44	316	P	Pn	10 11 40.7 +1.0
	baz=130					
SUA	Susitna One	5.44	354		Pn	10 11 40.4 +0.4
SUA	Susitna One	5.44	354	P	Pn	10 11 40.4 +0.4
	baz=173					
DIV	Divide	5.46	20		Pn	10 11 40.7 +0.4
SNH	Sunshine Point	5.47	38		Pn	10 11 40.7 +0.3
KHIT	Khitrov Hills	5.53	35		Pn	10 11 41.0 -0.2
PMR	Palmer	5.55	3	P	Pn	10 11 42.8 +1.5
PMR	Palmer	5.55	3		Pn	10 11 42.0 +0.7
PMR	Palmer	5.55	3	P	Pn	10 11 42.0 +0.7
	baz=183					
STLK	Strandline Lak	5.56	349		Pn	10 11 41.9 +0.3
BMRM	Bremner River	5.58	26		Pn	10 11 41.8 0.0
BMRM	Bremner River	5.58	26	P	Pn	10 11 41.8 0.0
	baz=210					
WAX	Waxell Ridge	5.67	36		Pn	10 11 43.2 +0.2
N18K	Kilae Creek	5.67	327	P	Pn	10 11 43.4 +0.4
	baz=142					
O16K	Kokwok River B	5.73	312		Pn	10 11 44.4 +0.6
O16K	Kokwok River B	5.73	312	P	Pn	10 11 45.3 +1.5
	baz=124					
GHO	Glory Hole Cre	5.73	3		Pn	10 11 45.0 +1.0
BARK	Barkley Ridge	5.76	38		Pn	10 11 44.7 +0.4
KLU	Klutina	5.77	18		Pn	10 11 45.1 +0.7
KLU	Klutina	5.77	18	P	Pn	10 11 45.1 +0.7
	baz=201					
MESA	MESA	5.79	42		Pn	10 11 45.7 +0.8
MESA	MESA	5.79	42	P	Pn	10 11 45.7 +0.8
	baz=228					
SML	Sawmill	5.79	6		Pn	10 11 45.6 +0.8
SML	Sawmill	5.79	6	P	Pn	10 11 45.6 +0.8
	baz=187					
CHNA	Chernabura Isl	5.80	262	P	Pn	10 11 44.6 -0.1
	baz=74					
CNBA	Chernabura Isl	5.80	262		Pn	10 11 44.6 -0.2
CRQM	Cirque	5.81	33		Pn	10 11 45.4 +0.3
CRQE	Cirque	5.82	34	P	Pn	10 11 45.4 +0.2
	baz=219					
M23K	Glacier View	5.83	9		Pn	10 11 46.3 +1.1
M23K	Glacier View	5.83	9	P	Pn	10 11 46.3 +1.1
	baz=190					
SCM	Sheep Creek Mo	5.90	11		Pn	10 11 47.6 +1.3
SCM	Sheep Creek Mo	5.90	11	P	Pn	10 11 47.6 +1.3
	baz=192					
TGL	Tana Glacier	5.91	34		Pn	10 11 47.1 +0.8
ISLE	Juniper Island	5.95	37		Pn	10 11 47.9 +0.8
N17K	Nushagak Hills	5.98	321		Pn	10 11 48.0 +0.7
N17K	Nushagak Hills	5.98	321	P	Pn	10 11 48.0 +0.7
	baz=135					
SKT	Skwentna	6.01	351	Pn	Pn	10 11 48.4 +0.7
VRDI	Verde Repeater	6.10	29		Pn	10 11 49.5 +0.5
M20K	Styx River	6.10	344		Pn	10 11 49.7 +0.7
N25K	Chitina, Valde	6.14	23		Pn	10 11 50.2 +0.7
N25K	Chitina, Valde	6.14	23	P	Pn	10 11 50.2 +0.7
	baz=207					
GLB	Gilahina Butte	6.18	27		Pn	10 11 50.8 +0.7
SAMH	Samovar Hills	6.21	45		Pn	10 11 51.5 +0.9
GRNC	Granite Creek	6.25	38		Pn	10 11 51.5 +0.3
O15K	Ungalikthiuk R	6.29	304		Pn	10 11 52.9 +1.3
O15K	Ungalikthiuk R	6.29	304	P	Pn	10 11 52.8 +1.3
	baz=115					
M18K	Stony River	6.31	332		Pn	10 11 51.7 -0.2
M18K	Stony River	6.31	332	P	Pn	10 11 51.7 -0.2
	baz=147					
M24K	Tolsona, Glenn	6.31	15		Pn	10 11 53.0 +1.1
M24K	Tolsona, Glenn	6.31	15	P	Pn	10 11 53.0 +1.1
	baz=198					
M19K	Big River Lodg	6.34	339		Pn	10 11 52.6 +0.3
MCARA	McCarthy VSAT	6.34	30		Pn	10 11 52.9 +0.6
MCARA	McCarthy VSAT	6.34	30	P	Pn	10 11 52.9 +0.6
	baz=215					
PTPK	Patty Peak	6.35	33		Pn	10 11 53.2 +0.6
PCA	Pinnacle	6.41	47		Pn	10 11 54.3 +1.1
PINM	Pinnacle	6.41	47	P	Pn	10 11 54.3 +1.1
	baz=235					
WASW	Wrangell South	6.52	23		Pn	10 11 55.7 +0.9
N16K	Nishlik Lake	6.53	316		Pn	10 11 55.6 +0.8
N16K	Nishlik Lake	6.53	316	P	Pn	10 11 55.6 +0.8
	baz=128					
PNL	Peninsula	6.55	52		Pn	10 11 55.2 +0.1
PNL	Peninsula	6.55	52	P	Pn	10 11 55.2 +0.1
	baz=241					
CTG	Chitna Glacier	6.55	38	P	Pn	10 11 55.7 +0.4
	baz=225					
CTGM	Chitina Glacie	6.56	38		Pn	10 11 55.7 +0.4
LOGN	Logan Glacier	6.58	40		Pn	10 11 56.0 +0.4
BCPM	Bancas Point	6.59	50		Pn	10 11 56.1 +0.5
WAT6	Susitna Watana	6.60	8		Pn	10 11 56.6 +0.7
WAT6	Susitna Watana	6.60	8	P	Pn	10 11 56.6 +0.7
	baz=189					
L19K	White Mountain	6.69	339		Pn	10 11 56.8 -0.2
M17K	Holitna River	6.71	326		Pn	10 11 58.1 +0.8
M17K	Holitna River	6.71	326	P	Pn	10 11 58.1 +0.8
	baz=139					
WAT7	Susitna Watana	6.80	3		Pn	10 11 58.9 +0.4
O28M	Mount Upton	6.84	43	P	Pn	10 11 60.0 +0.6
	baz=230					
PS1A	Pavlof South-1	6.86	270		Pn	10 12 00.3 +0.9
N15K	Kwethluk River	6.89	311		Pn	10 12 01.0 +1.2
N15K	Kwethluk River	6.89	311	P	Pn	10 12 01.0 +1.2
	baz=122					
M16K	Timber Creek	6.96	319		Pn	10 12 01.9 +1.3
M16K	Timber Creek	6.96	319	P	Pn	10 12 01.9 +1.3
	baz=131					
HAG	Hague Volcano	6.97	269		Pn	10 12 02.2 +1.3
O14K	Tigyukauivet M	7.00	302		Pn	10 12 02.2 +0.9
O14K	Tigyukauivet M	7.00	302	P	Pn	10 12 02.2 +0.9
	baz=112					
DHY	Denali Highway	7.12	8		Pn	10 12 07.6 +4.5
L18K	Granite Mounta	7.15	332		Pn	10 12 03.6 +0.3
L18K	Granite Mounta	7.15	332	P	Pn	10 12 03.6 +0.3
	baz=146					
O29M	Mount Kennedy	7.22	49		Pn	10 12 05.3 +0.8
O29M	Mount Kennedy	7.22	49	P	Pn	10 12 05.3 +0.8
	baz=239					
P29M	Windy Craggy	7.28	56	Pn	Pn	10 12 05.7 +0.5
P29M	Windy Craggy	7.28	56	P	Pn	10 12 06.0 +0.8
	baz=246					
YUK2	White River	7.32	35		Pn	10 12 06.4 +0.7
YUK8	Steele Glacier	7.33	40		Pn	10 12 07.1 +1.1
YUK8	Steele Glacier	7.33	40	P	Pn	10 12 07.1 +1.1
	baz=229					
RND	Reindeer	7.37	3		Pn	10 12 08.0 +1.5
M15K	Kasigluk River	7.43	313		Pn	10 12 08.3 +1.2
M15K	Kasigluk River	7.43	313	P	Pn	10 12 08.3 +1.2
	baz=124					
YUK3	Moose Creek	7.43	36		Pn	10 12 08.8 +1.4
YUK3	Moose Creek	7.43	36	P	Pn	10 12 08.8 +1.4
	baz=223					
M27K	Edge Creek, AK	7.46	29		Pn	10 12 08.9 +1.3
M27K	Edge Creek, AK	7.46	29	P	Pn	10 12 08.9 +1.3
	baz=215					
N14K	Kuskokwak Cree	7.47	306		Pn	10 12 09.2 +1.5
N14K	Kuskokwak Cree	7.47	306	P	Pn	10 12 09.2 +1.5
	baz=116					
CAST	Castle Rocks	7.47	352		Pn	10 12 08.6 +0.8
L16K	Owhat River	7.61	322		Pn	10 12 10.0 +0.4
L16K	Owhat River	7.61	322	P	Pn	10 12 10.0 +0.4
	baz=134					
P30M	Million Dollar	7.85	54		Pn	10 12 13.3 +0.3
P30M	Million Dollar	7.85	54	P	Pn	10 12 13.3 +0.3
	baz=244					
PLBC	Pleasant Camp	7.87	59	P	Pn	10 12 14.1 +0.9
	baz=250					
FALS	False Pass	7.92	267	P	Pn	10 12 14.6 +0.7
SIT	Sitka	7.97	77	P	Pn	10 12 13.8 -0.8
SKAG	Skagway	8.37	60	P	Pn	10 12 20.1 +0.1
HDA	Harding Lake	8.47	8		Pn	10 12 21.8 +0.4
JIS	Juneau Island	8.58	69	P	Pn	10 12 24.3 +1.4
IL31		8.84	8		Pn	10 12 27.1 +0.7
ILAR	Eielson Array	8.84	8	Pn	Pn	10 12 28.2 +1.8
COLA	College	8.88	5	P	Pn	10 12 29.8 +2.9
WHY	Whitehorse	9.01	53	Pn	Pn	10 12 30.3 +1.4
DAWY	Dawson	9.50	28	Pn	Pn	10 12 36.4 +0.8
IMAR	Indian Mountai	10.14	350	Pn	Pn	10 12 44.7 +0.4

*SOME **02** 10:52:23.3, 40.°27N×78.°57E, h0km*
*KRNET **02** 10:52:25.0±0.1, 40.°25N×78.°71E, mb3.1*
*NNC **02** 10:52:25.9±1.4, 40.°27N×78.°55E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=9.1km s-min=6.9km az=158.0
ISC 02 10:52:19.9±2.8, 40.°1N±0.°1×78.°51E±0.°05, h1km±17km, n47,
σ1§34/72, 13C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.74	342	⇑iP	Pg	10 52 55.4	+2.1
	baz=35						
TARG				⇑iS	Sg	10 53 17.4	+1.5
	baz=35						
KDJ	Kajisay	2.29	334	⇑eP	Pg	10 53 04.7	+0.9
	baz=29						
KDJ				⇑iS	Sg	10 53 33.5	0.0
	baz=29						
NRN	Naryn	2.34	306	⇑eP	Pg	10 53 06.2	+1.4
	baz=0.0						
NRN				⇑eS	Sg	10 53 37.6	+2.4
	baz=0.0						
PRZ	Przheval'sk	2.41	358	⇑eP	Pb	10 53 05.2	+1.0
	baz=54						
PRZ				⇑eS	Sb	10 53 34.4	-0.2
	baz=54						
ULHL	Ulahol	2.77	322	⇓eP	Pg	10 53 12.2	-0.7
	baz=18						
ULHL				⇓iS	Sg	10 53 46.6	-2.2
	baz=18						
SATY	Saty	2.99	359	eP	Pg	10 53 17.5	+0.4
	5.7nm,0.2s						
SATY				eS	Sg	10 53 56.5	+0.7
	52nm,0.3s						
SATY	Saty	2.99	359	Pg	Pg	10 53 18.2	+1.1
	12nm,0.5s						
SATY				Lg	Lg	10 53 56.7	
	45nm,0.5s						
ZHN	Zhinishke	3.10	359	eP	Pg	10 53 19.4	+0.1
	4.6nm,2.4s						
ZHN				eS	Sg	10 53 59.7	+0.3
	56nm,0.2s						
ZHN	Zhinishke	3.10	359	Pg	Pg	10 53 19.9	+0.7
	7.6nm,0.5s						
ZHN				Lg	Lg	10 53 59.7	
	55nm,0.2s						
BOOM	Boomskoye usch	3.10	322	⇓iP	Pb	10 53 16.8	+0.9
	baz=18						
BOOM				⇓iS	Sb	10 53 53.9	-0.4
	baz=18						
UZB	Uzynbulak	3.10	7	eP	Pb	10 53 16.9	+1.0
	7.2nm,0.2s						
UZB				eS	Sb	10 53 55.7	+1.4
	23nm,0.4s						
UZB	Uzynbulak	3.10	7	Pg	Pb	10 53 16.9	+1.0
	7.4nm,0.5s						
UZB				Lg	Lg	10 53 55.7	
	23nm,0.4s						
SHLS	Shalkode	3.17	13	eP	Pg	10 53 21.4	+0.8
	21nm,0.2s						
SHLS				eS	Sg	10 54 03.1	+1.5
	44nm,0.2s						
SHLS	Shalkode	3.17	13	Pg	Pg	10 53 22.0	+1.4
	25nm,0.5s						
SHLS				Lg	Lg	10 54 03.1	
	48nm,0.7s						
MDOK	Medeo	3.28	341	eP	Pg	10 53 21.1	-1.6
	11nm,0.2s						
MDOK				eS	Sg	10 54 02.7	-2.5
	63nm,0.6s						
MDOK	Medeo	3.28	341	Pg	Pg	10 53 21.1	-1.6
	24nm,0.6s						
MDOK				⇑Pg	Pb	10 53 23.5	+4.6
	25nm,0.7s						
MDOK				Lg	Lg	10 54 02.7	
	63nm,0.6s						
MDOK				⇓Lg	Lg	10 54 04.8	
	57nm,0.6s						
IZV	Izvestkoviy	3.29	335	eP	Pg	10 53 22.8	-0.1
	7.5nm,0.5s						
IZV				eS	Sg	10 54 05.6	+0.1
	32nm,0.3s						
IZV	Izvestkoviy	3.29	335	Pg	Pg	10 53 22.8	-0.1
	7.5nm,0.5s						
IZV				Lg	Lg	10 54 04.8	
	30nm,0.5s						
KOTS	Kotyrbulak	3.33	342	eP	Pg	10 53 23.2	-0.5
	13nm,0.4s						
KOTS				eS	Sg	10 54 06.4	-0.5
	56nm,0.3s						
KOTS	Kotyrbulak	3.33	342	Pg	Pg	10 53 23.2	-0.5
	13nm,0.4s						
KOTS				Lg	Lg	10 54 05.5	
	56nm,0.3s						
PDGK	Podgornoye	3.34	12	⇓Pg	Pb	10 53 20.8	+0.9
	4.9nm,0.4s						
PDGK				⇓Lg	Lg	10 54 03.9	
	20nm,0.5s						
KPKS	Kokpek	3.40	2	eP	Pb	10 53 23.1	+2.2
	7.7nm,0.1s						
KPKS				eS	Sg	10 54 05.9	-3.0
	40nm,0.2s						
KPKS	Kokpek	3.40	2	Pg	Pg	10 53 23.4	-1.6
	12nm,0.3s						
KPKS				Lg	Lg	10 54 05.7	
	40nm,0.5s						
KURS	Kuram	3.42	356	eP	Pg	10 53 25.9	+0.4
	11nm,0.4s						
KURS				eS	Sg	10 54 10.8	+0.9
	15nm,0.4s						
KURS	Kuram	3.42	356	Pg	Pg	10 53 26.4	+0.8
	11nm,0.4s						
KURS				Lg	Lg	10 54 10.8	
	15nm,0.7s						
MTBS	Maitube	3.43	334	eP	Pg	10 53 26.1	+0.5
	6.4nm,0.2s						
MTBS				eS	Sg	10 54 11.3	+1.2
	28nm,0.2s						
KST	Kastek	3.53	328	eP	Pg	10 53 28.1	+0.5
	7.7nm,0.2s						
KST				eS	Sg	10 54 14.7	+1.4
	41nm,0.4s						
KST	Kastek	3.53	328	Pg	Pg	10 53 28.1	+0.5
	7.4nm,0.5s						
KST				Lg	Lg	10 54 14.7	
	41nm,0.7s						
TKM2	Tokmak 2	3.59	323	⇑Pg	Pg	10 53 27.8	-0.9
	3.7nm,0.5s						
TKM2				⇑Lg	Lg	10 54 15.9	
	13nm,0.7s						
ARLS	Aral	3.64	301	⇓eP	Pb	10 53 24.7	-0.4
	baz=97						
ARLS				⇓eS	Sb	10 54 08.6	-1.3
	baz=97						
UCH	Uchtor	3.71	307	⇓iP	Pb	10 53 26.6	+0.1
	baz=3.0						
UCH				⇓iS	Sb	10 54 11.4	-0.7
	baz=3.0						
DGS	Degeres	3.77	328	eP	Pg	10 53 31.8	-0.4
	11nm,0.3s						
DGS				eS	Sg	10 54 20.9	-0.2
	28nm,0.4s						
DGS	Degeres	3.77	328	Pg	Pg	10 53 31.8	-0.4
	11nm,0.6s						
DGS				Lg	Lg	10 54 20.5	
	28nm,0.4s						
KTBS	Karatobe	3.89	340	eP	Pg	10 53 34.4	0.0
	8.2nm,0.2s						
KTBS				eS	Sg	10 54 25.4	+0.7
	19nm,0.2s						
KTBS	Karatobe	3.89	340	Pg	Pg	10 53 34.4	0.0
	8.3nm,0.6s						
KTBS				Lg	Lg	10 54 24.6	
	14nm,0.4s						
BLB	Baldybastay	4.02	360	Pg	Pg	10 53 36.1	-0.9
	17nm,0.6s						
BLB				Lg	Lg	10 54 28.0	
	28nm,0.8s						
CHMS	Chumysh	4.06	317	⇓Pg	Pg	10 53 38.9	+1.1
	7.1nm,0.6s						
CHMS				⇑Lg	Lg	10 54 29.6	
	6.1nm,0.5s						
ARXS	Arharly	4.17	353	eP	Pg	10 53 38.5	-1.3
	7.8nm,0.3s						
ARXS				eS	Sg	10 54 32.5	-1.3
	22nm,0.3s						
ARXS	Arharly	4.17	353	Pg	Pg	10 53 38.6	-1.3
	7.8nm,0.7s						
ARXS				Lg	Lg	10 54 32.3	
	22nm,0.6s						
KRBS	Karabastau	4.20	331	eP	Pg	10 53 38.3	-2.0
	3.8nm,0.2s						
KRBS				eS	Sg	10 54 32.0	-2.6
	9.2nm,0.7s						
KRBS	Karabastau	4.20	331	Pg	Pg	10 53 38.3	-2.0
	5.3nm,0.5s						
KRBS				Lg	Lg	10 54 31.2	
	9.2nm,0.7s						
KNOS	Konyrlen	4.31	6	Pg	Pg	10 53 41.4	-1.2
	1.7nm,0.5s						
KNOS				Lg	Lg	10 54 36.6	
	12nm,0.8s						
DJR	Jarkent	4.36	12	eP	Pg	10 53 40.9	-2.6
	0.7nm,0.1s						
DJR				eS	Sg	10 54 36.6	-3.5
	11nm,0.2s						
DJR	Jarkent	4.36	12	Pg	Pg	10 53 41.3	-2.2
	5.0nm,0.8s						
DJR				Lg	Lg	10 54 36.6	
	11nm,0.4s						
MRKS	Merke	4.79	306	eP	Pg	10 53 50.6	-1.0
	2.7nm,0.1s						
MRKS				eS	Sg	10 54 53.3	-0.4
	5.6nm,0.3s						
MRKS	Merke	4.79	306	Pg	Pg	10 53 51.1	-0.5
	5.1nm,0.4s						
MRKS				Lg	Lg	10 54 53.3	
	5.8nm,0.5s						
KK31	Karatay Array	6.72	299	Pg	Pg	10 54 28.3	-0.3
	0.9nm,0.6s,baz=133,slow=14,SNR=8.5						
KK31				⇑Lg	Lg	10 55 55.0	
	1.4nm,0.6s,baz=116,slow=28,SNR=4.3						

*IDC **02** 11:08:36.2±13.0, 18.°71N×156.°22W, h0km, mb3.6/4,*
mbtmp3.6/4, Error ellipse: s-maj=276.4km s-min=54.6km
az=34.0
*HVO **02** 11:08:43.6±1.0, 19.°4N±0.°2×155.°29W±0.°01, h0km±7km,*
ML3.7/39, mb4.5/37(NEIC), ML3.6/40(NEIC), Error ellipse:
s-maj=27.5km s-min=1.5km az=179.0
*NEIC **02** 11:08:44.4±1.3, 19.°4N±0.°2×155.°306W±0.°009, h5km±2km,*
Error ellipse: s-maj=26.5km s-min=3.0km az=179.0
ISC 02 11:08:43.8±0.9, 19.°44N±0.°03×155.°29W±0.°03, h4km±5km,
n79, σ1§37/71, mb4.4/23, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	Uwekahuna	0.02	179	Pg	Pg	11 08 44.2	-0.5
UWB	Uwekahuna B	0.02	134		Pg	11 08 44.3	-0.4
OBL	Observatory Le	0.02	157		Pg	11 08 44.1	-0.6
SBLHI	Steaming Bluff	0.03	116		Pg	11 08 44.6	-0.1
RSD	Rainshed	0.03	31	Pg	Pg	11 08 45.4	+0.6
HATHI	Halema'uma'u T	0.03	117	Pg	Pg	11 08 45.1	+0.3
BYL	Byron's Ledge	0.04	130	Pg	Pg	11 08 45.4	+0.5
RIM	Rim	0.05	157		Pg	11 08 45.0	0.0
KKO	Keanakako`i	0.05	148		Pg	11 08 45.0	0.0
SDHHI	Sand Hill	0.05	181		Pg	11 08 46.1	+1.0
PUH	Pauahi	0.10	131	Pg	Pg	11 08 46.3	+0.5
PUH				IAML		11 08 47.5	
	comp=E,14μm,1.3s						
KNHH	Kane Nui o Ham	0.13	117		Pb	11 08 47.0	+0.5
HLP	Hilina Pali	0.14	186		Pb	11 08 47.2	+0.5
HLP	Hilina Pali	0.14	186	IAML		11 08 50.0	
	comp=E,27μm,0.4s						
HLP				IAML		11 08 50.3	
	comp=N,27μm

comp=N,17μm,1.1s
HMH IAML 11 08 57.0
comp=E,13μm,0.7s
JOKA Jonika Flow 0.27 91 Pg 11 08 49.9 +0.9
JOKA IAML 11 08 56.5
comp=E,12μm,2.3s
JOKA IAML 11 08 57.6
comp=N,15μm,1.2s
MLOA Mauna Loa Obse 0.28 290 Pg 11 08 50.4 +1.0
MLOA IAML 11 08 59.4
comp=E,17μm,1.4s
MWH Moku'aweowe 0.29 279 Pg 11 08 50.5 +1.0
PAH Pahoa 0.33 80 Pg Pg 11 08 51.2 +1.0
ALEP Alea Permanent 0.35 287 Pg 11 08 51.2 +0.7
KHU Kahuku 0.36 238 Pg Pg 11 08 51.9 +1.1
KHU IAML 11 09 02.7
comp=E,6μm,0.7s
KHU IAML 11 09 03.0
comp=N,9μm,2.2s
POHA Pohakuloa 0.39 325 Pg 11 08 52.4 +1.0
POHA IAML 11 09 03.9
comp=N,6μm,2.1s
POHA IAML 11 09 05.6
comp=N,3μm,1.0s
POHA Pohakuloa 0.39 325 Sg 11 08 57.8 +1.3
HPO Honuapo 0.43 215 Pg 11 08 52.3 +0.3
HUH Hualalai 0.57 296 Pg 11 08 55.6 +0.9
I59US HAWAII INFRASO 0.59 285 Pg Pg 11 08 55.5 +0.4
baz=117,slow=38
I59US I I 11 12 30.0
baz=106,slow=314,SNR=2.5
CPH Captain Cook 0.59 275 Pg 11 08 55.1 0.0
HPAH Hawaii Prepara 0.70 327 Pb 11 08 56.8 -1.9
HOPS Hopland Field 33.96 48 P P 11 15 26.4 -2.0
JCC Jacoby Creek, 34.14 45 P P 11 15 27.2 -2.8
BBGB Big Mountain B 34.50 53 P P 11 15 28.7 -4.6
O02D Mt. Diablo Mer 34.68 46 P P 11 15 33.5 -1.2
O02D IAmb IAmb 11 15 36.1
comp=Z,9.8nm,1.1s
SNCC San Nicolas Is 34.70 59 P P 11 15 32.4 -2.6
ORV Oroville 35.30 48 P 11 15 40.1 +0.1
YBH Yreka Blue Hor 35.46 44 P P 11 15 40.9 -0.6
YBH IAmb IAmb 11 16 14.5
comp=Z,9.6nm,1.5s
H11N3 WAKE ISLAND Hy 35.56 277 T T 11 52 48.1
baz=83,slow=74
H11N2 WAKE ISLAND Hy 35.58 277 T T 11 52 48.8
baz=83,slow=74
H11N1 WAKE ISLAND Hy 35.58 277 T T 11 52 49.4
baz=83
HUMO Hull Mountain 35.73 43 P P 11 15 43.0 -0.7
HATC Hat Creek Radi 35.87 46 P P 11 15 42.2 -2.7
H11S2 WAKE ISLAND Hy 35.90 275 T T 11 53 12.3
baz=82
H11S1 WAKE ISLAND Hy 35.91 275 T T 11 53 14.0
baz=82
H11S3 WAKE ISLAND Hy 35.92 275 T T 11 53 12.0
baz=82
ISA Isabella, Lake 36.18 56 P P 11 15 47.2 -0.5
NVAR Mina Array Bea 37.18 51 P P 11 15 58.9 +2.5
comp=Z,0.4nm,0.7s,baz=243,slow=9.8,SNR=4.2
comp=Z,0.4nm,0.7s
TPH Tonopah 37.86 52 P P 11 15 58.4 -3.8
TPH IAmb IAmb 11 16 22.8
comp=Z,15nm,1.5s
KDAK Kodiak Island 38.34 2 P P 11 16 04.2 -1.4
KDAK IAmb IAmb 11 16 24.7
comp=Z,21nm,1.4s
PGC Sidney 38.81 34 P 11 16 08.9 -0.7
MXC Moxie City 39.40 39 P P 11 16 15.1 +0.4
214A Organ Pipe Nat 40.02 63 P P 11 16 14.7 -5.4
Y14A Wickenburg 40.16 60 P P 11 16 18.2 -3.1
ELK Elko 40.19 49 P P 11 16 19.1 -2.5
N19K Bonanza Creek 41.34 1 P P 11 16 31.8 +1.2
N19K IAmb IAmb 11 16 34.4
comp=Z,11nm,1.1s
DHY Denali Highway 43.94 5 P P 11 16 53.1 +1.2
KTH Kantishna Hill 44.18 3 P P 11 16 53.7 0.0
PDAR Pinedale Array 44.86 48 P P 11 17 01.6 +2.0
comp=Z,0.6nm,0.9s,baz=240,slow=8.1,SNR=3.9
comp=Z,0.6nm,0.9s
NEA2 Nenana 45.32 4 P P 11 17 03.0 +0.4
NEA2 IAmb IAmb 11 17 04.7
comp=Z,9.1nm,1.4s
CCB Clear Creek Bu 45.46 5 P P 11 17 04.1 +0.4
CCB IAmb IAmb 11 17 06.7
comp=Z,5.8nm,1.2s
J25K Salcha River, 45.63 6 P P 11 17 06.2 +0.9
J25K IAmb IAmb 11 17 08.4
comp=Z,7.2nm,1.2s
ILAR Eielson Array 45.65 5 P P 11 17 06.5 +1.2
ILAR Eielson Array 45.65 5 P P 11 17 04.6 -0.7
comp=Z,1.6nm,1.1s,baz=201,slow=7.4,SNR=10
comp=Z,1.6nm,1.1s
MLY Manley 45.67 3 P P 11 17 06.2 +0.7
MLY IAmb IAmb 11 17 07.6
comp=Z,5.5nm,1.2s
MDM Murphy Dome 45.74 4 P P 11 17 07.0 +1.0
J30M Hart River 46.87 11 P P 11 17 15.7 +0.7
J30M IAmb IAmb 11 17 18.6
comp=Z,4.8nm,1.4s
I30M Mount Dempster 47.45 11 P P 11 17 20.8 +1.2
I30M IAmb IAmb 11 17 22.7
comp=Z,6.4nm,1.1s
TXAR Lajitas Array 47.72 68 P P 11 17 23.5 +1.4
comp=Z,1.7nm,1.0s,baz=249,slow=9.3,SNR=14
comp=Z,1.7nm,1.0s
F21K Alatna River 47.78 1 P P 11 17 22.1 +0.2
F21K IAmb IAmb 11 17 25.6
comp=Z,5.3nm,1.2s
H29M Whitestone 48.05 9 P P 11 17 24.1 +0.1
H29M IAmb IAmb 11 17 27.3
comp=Z,5.2nm,1.1s
F28M Old Crow 49.15 8 P P 11 17 33.7 +1.2
F28M IAmb IAmb 11 17 35.9
comp=Z,5.6nm,1.3s
G31M Satah River 49.36 11 P P 11 17 35.1 +1.1
G31M IAmb IAmb 11 17 36.8
comp=Z,8.1nm,1.1s
E29M Blow River 50.14 8 P P 11 17 40.4 +0.4
E29M IAmb IAmb 11 17 42.3
comp=Z,7.1nm,1.4s
D25K Kavik River 50.18 4 P P 11 17 41.6 +1.2
D25K IAmb IAmb 11 17 43.1
comp=Z,7.0nm,1.4s
C23K Itkillik River 50.47 2 P P 11 17 43.5 +1.0
INK Inuvik 50.73 10 P P 11 17 44.0 -0.4
INK IAmb IAmb 11 17 46.9
comp=Z,4.8nm,1.1s
SMWD Samnorwood 50.76 60 P P 11 17 45.4 +0.1
SMWD IAmb IAmb 11 17 48.8
comp=Z,8.2nm,1.2s

*NEIC **02** 11:10:35.3±0.7, 19°.417N±0°.008×155°.295W±0°.007, h1km±1km, Error ellipse: s-maj=1.3km s-min=0.8km az=208.0*

HVO 02 11:10:34.5±0.7, 19°.414N±0°.008×155°.290W±0°.007, h1km±4km, ML3.5/24, ML3.2/29(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=200.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**57**		Pg	11 10 35.6	+0.7
UWE	**Uwekahuna**	**0.01**	**340**	Pg	Pg	11 10 35.4	+0.4
UWE					Sg	11 10 35.8	+0.5
WRMHI	**West Rim**	**0.01**	**232**		Pg	11 10 35.4	+0.4
UWB	**Uwekahuna B**	**0.02**	**46**		Pg	11 10 36.0	+0.9
RIM	**Rim**	**0.02**	**140**		Pg	11 10 36.4	+1.3
SDHHI	**Sand Hill**	**0.02**	**188**		Pg	11 10 36.3	+1.2
SBLHI	**Steaming Bluff**	**0.03**	**58**		Pg	11 10 36.6	+1.5
KKO	**Keanakako`i**	**0.03**	**125**		Pg	11 10 35.8	+0.7
BYL	**Byron's Ledge**	**0.03**	**93**	Pg	Pg	11 10 35.7	+0.6
BYL					Sg	11 10 36.7	+1.2
HATHI	**Halema'uma'u T**	**0.03**	**71**	Pg	Pg	11 10 35.5	+0.4
HATHI					Sg	11 10 36.4	+0.8
RSD	**Rainshed**	**0.05**	**13**	Pg	Pg	11 10 36.2	+0.7
RSD				IAML		11 10 37.0
comp=N,9μm,0.4s							
PUH	**Pauahi**	**0.08**	**119**	Pg	Pg	11 10 36.8	+0.7
PUH				IAML		11 10 37.3
comp=E,5μm,1.3s							
PUH				IAML		11 10 38.2
comp=N,8μm,1.4s							
HLP	**Hilina Pali**	**0.12**	**188**		Pg	11 10 37.8	+1.0
HLP	**Hilina Pali**	**0.12**	**188**	IAML		11 10 39.8
comp=N,10μm,1.4s							
HLP				IAML		11 10 40.6
comp=E,23μm,0.5s							
KNHH	**Kane Nui o Ham**	**0.12**	**107**		Pg	11 10 37.7	+0.8
STCH	**Steam Cracks**	**0.16**	**100**		Pg	11 10 38.4	+0.8
STCH	**Steam Cracks**	**0.16**	**100**	IAML		11 10 40.9
comp=E,4μm,0.8s							
STCH				IAML		11 10 42.1
comp=N,4μm,0.9s							
NPOC	**North of Pu'u**	**0.17**	**97**		Pg	11 10 38.6	+0.7
JCUZ	**Jacuzzi**	**0.18**	**99**		Pg	11 10 38.8	+0.7
HTC	**Hot Caves**	**0.20**	**210**		Pg	11 10 39.3	+0.8
HMH	**Humu'ula Sheep**	**0.26**	**316**		Pg	11 10 40.5	+1.0
HMH	**Humu'ula Sheep**	**0.26**	**316**	IAML		11 10 46.9
comp=E,6μm,1.4s							
HMH				IAML		11 10 48.6
comp=N,8μm,1.0s							
JOKA	**Jonika Flow**	**0.27**	**86**	Pg	Pg	11 10 39.9	+0.1
JOKA				IAML		11 10 48.7
comp=E,5μm,1.6s							
MLOA	**Mauna Loa Obse**	**0.30**	**294**	Pg	Pg	11 10 40.6	+0.3
MLOA				IAML		11 10 45.3
comp=E,7μm,1.5s							
MWH	**Moku'aweowe**	**0.30**	**284**	Pg	Pg	11 10 41.3	+1.0
PAH	**Pahoa**	**0.33**	**76**		Pg	11 10 42.0	+1.0
KHU	**Kahuku**	**0.35**	**242**	Pg	Pg	11 10 41.6	+0.3
HPO	**Honuapo**	**0.41**	**218**	Pg	Pg	11 10 43.1	+0.7
HUH	**Hualalai**	**0.58**	**298**	Pg	Pg	11 10 46.7	+1.0
HPAH	**Hawaii Prepara**	**0.72**	**328**	Pg	Pg	11 10 47.7	-0.8

IDC 02 11:17:56.9±13.0, 14°.50S×170°.93W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=420.2km s-min=41.6km az=123.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**52.37**	**256**	P	P	11 27 11.4	+0.2
0.9nm,0.4s,baz=93,slow=7.2,SNR=31							
0.9nm,0.4s							
ASAR	**Alice Springs**	**52.66**	**251**	P	P	11 27 13.1	-0.3
5.0nm,0.7s,baz=88,slow=7.9,SNR=50							
5.0nm,0.7s							
PETK	**Petropavlovsk-**	**72.54**	**341**	P	P	11 29 25.5	0.0
1.0nm,0.5s,baz=132,slow=6.4,SNR=5.0							
1.0nm,0.5s							

*NEIC **02** 11:24:25.8, 19°.39N×154°.85W, h12km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{16}Nm; M_{rr}-7.76; $M_{\theta\theta}$2.52; $M_{\phi\phi}$5.24; $M_{r\theta}$0.41; $M_{\theta\phi}$5.93; $M_{\phi r}$-2.84; Fault plane solution: $M_0$9.41000×10^{16} NP1:ϕ_s21.94000°, δ53.79000°, λ-112.09000°. NP2:ϕ_s236.43000°, δ41.61000°, λ-62.81000°. Principal axes: T 10.1847, Plg6.0000°, Azm127.0000°; N -1.5399, Plg18.0000°, Azm35.0000°; P -8.6449, Plg71.0000°, Azm237.0000°;*

*HVO **02** 11:24:25.8±0.8, 19°.393N±0°.007×155°.272W±0°.008, h-1km±2km, ML3.7/44, mb4.7/37(NEIC), ML3.3/35(NEIC), Mww5.2/6(NEIC) Error ellipse: s-maj=3.0km s-min=1.5km az=74.0*

*NEIC **02** 11:24:25.8, 19°.39N×155°.27W, h12km*

*NEIC **02** 11:24:27.1±1.0, 19°.394N±0°.010×155°.265W±0°.009, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.6km az=145.0*

*IDC **02** 11:24:29.3±4.1, 19°.69N×155°.27W, h0km, mb3.9/5, mbtmp3.9/5, MS4.5/2, Error ellipse: s-maj=90.3km s-min=40.9km az=16.0*

*GCMT **02** 11:24:52.1±0.1, 19°.33N±0°.01×155°.15W±0°.01, h12km, MW5.2/151, Moment Tensor Solution. s82, c115; s151, c254; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.90±.01; $M_{\theta\theta}$0.48±.01; $M_{\phi\phi}$0.41±.01; $M_{r\theta}$0.14±.03; $M_{\theta\phi}$0.30±.01; $M_{\phi r}$-0.15±.03; Best double couple: $M_0$0.84400×10^{17} NP1:ϕ_s239.00000°, δ46.00000°, λ-75.00000°. NP2:ϕ_s38.00000°, δ46.00000°, λ-106.00000°. Principal axes: T 0.7510, Plg0.0000°, Azm319.0000°; N 0.1860, Plg11.0000°, Azm49.0000°; P -0.9370, Plg79.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 11:24:26.2±0.7, 19°.44N±0°.04×155°.26W±0°.03, h5km±3km, n424, n2s18/396, mb4.8/27, MS4.9/7, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLHI	**Steaming Bluff**	**0.01**	**222**		Pg	11 24 28.1	+0.8
HATHI	**Halema'uma'u T**	**0.01**	**185**	Pg	Pg	11 24 27.4	+0.1
HATHI	**Halema'uma'u T**	**0.01**	**185**		Sg	11 24 28.2	0.0
UWB	**Uwekahuna B**	**0.02**	**237**		Pg	11 24 28.3	+0.9
BYL	**Byron's Ledge**	**0.02**	**181**	Pg	Pg	11 24 27.4	0.0
OBL	**Observatory Le**	**0.03**	**232**		Pg	11 24 27.9	+0.5
RSD	**Rainshed**	**0.03**	**328**	Pg	Pg	11 24 28.4	+0.9
RSD				IAML		11 24 28.8
comp=E,2μm,0.5s							
RSD				IAML		11 24 29.3
comp=N,9μm,0.5s							
UWE	**Uwekahuna**	**0.04**	**245**		Pg	11 24 27.8	+0.3
KKO	**Keanakako`i**	**0.04**	**189**		Pg	11 24 27.2	-0.3
RIM	**Rim**	**0.04**	**198**		Pg	11 24 27.1	-0.5
WRMHI	**West Rim**	**0.05**	**233**		Pg	11 24 28.1	+0.4
SDHHI	**Sand Hill**	**0.06**	**215**		Pg	11 24 28.0	+0.2
PUH	**Pauahi**	**0.07**	**146**	Pg	Pg	11 24 28.1	+0.2
PUH				IAML		11 24 28.3
comp=E,6μm,0.8s							
PUH				IAML		11 24 28.8
comp=N,4μm,0.4s							
KNHH	**Kane Nui o Ham**	**0.10**	**123**		Pg	11 24 29.1	+0.7
STCH	**Steam Cracks**	**0.14**	**112**		Pg	11 24 29.9	+0.9
HLP	**Hilina Pali**	**0.15**	**198**		Pg	11 24 29.4	+0.3
HLP				IAML		11 24 31.0
comp=E,8μm,0.8s							
HLP				IAML		11 24 31.1
comp=N,9μm,0.8s							
NPOC	**North of Pu'u**	**0.15**	**107**		Pg	11 24 30.0	+0.8
JCUZ	**Jacuzzi**	**0.16**	**109**		Pg	11 24 30.1	+0.7
HTC	**Hot Caves**	**0.24**	**213**		Pg	11 24 31.0	+0.2
JOKA	**Jonika Flow**	**0.24**	**90**		Pg	11 24 31.6	+0.7
JOKA				IAML		11 24 38.2
comp=E,6μm,1.1s							
HMH	**Humu'ula Sheep**	**0.27**	**308**		Pb	11 24 33.5	-0.2
HMH				IAML		11 24 38.9
comp=E,10μm,1.7s							
HMH				IAML		11 24 39.7
comp=N,7μm,1.4s							
PAH	**Pahoa**	**0.30**	**79**		Pb	11 24 34.5	+0.4
MLOA	**Mauna Loa Obse**	**0.32**	**289**		Pb	11 24 34.0	-0.5
MLOA				IAML		11 24 39.9
comp=E,8μm,1.1s							
MLOA				IAML		11 24 42.1
comp=N,8μm,0.9s							
MWH	**Moku'aweowe**	**0.32**	**279**		Pg	11 24 33.5	+0.8
KHU	**Kahuku**	**0.39**	**241**		Pg	11 24 34.3	+0.6
KHU				IAML		11 24 42.1
comp=E,5μm,0.5s							
KHU				IAML		11 24 43.5
comp=N,8μm,2.1s							
KHU	**Kahuku**	**0.39**	**241**	IAML		11 24 44.6
comp=E,7μm,2.2s							
KHU	**Kahuku**	**0.39**	**241**		Pg	11 24 34.3	+0.6
KHU	**Kahuku**	**0.39**	**241**	IAML		11 24 43.5
comp=N,8μm,2.1s							
POHA	**Pohakuloa**	**0.41**	**321**		Pb	11 24 35.9	-0.1
POHA				IAML		11 24 48.4
comp=N,4μm,2.5s							
HPO	**Honuapo**	**0.44**	**219**		Pg	11 24 35.4	+0.7
HUH	**Hualalai**	**0.60**	**295**		Pb	11 24 39.7	+0.5
I59US	**HAWAII INFRASO**	**0.62**	**285**	Pg	Pb	11 24 39.9	+0.3
baz=117,slow=25							
HPAH	**Hawaii Prepara**	**0.72**	**325**		Pg	11 24 39.7	-0.3
HOPS	**Hopland Field**	**33.94**	**48**	P	P	11 31 09.9	-0.4
O02D	**Mt. Diablo Mer**	**34.66**	**46**	P	P	11 31 18.3	+1.7
PKM	**Mcpherson Peak**	**34.88**	**56**	P	P	11 31 17.0	-1.8
baz=253							
CLES	**Cleveland East**	**35.21**	**345**	P	P	11 31 19.0	-2.1
UNV	**Unalaska Valle**	**35.42**	**348**	P	P	11 31 21.6	-1.3
baz=162							
CHNA	**Chernabura Isl**	**35.49**	**356**	P	P	11 31 23.9	+0.4
baz=173							
HUMO	**Hull Mountain**	**35.71**	**43**	P	P	11 31 27.0	+1.3
HUMO				IAmb	IAmb	11 32 21.2
comp=Z,23nm,1.7s							
ISA	**Isabella, Lake**	**36.15**	**56**	P	P	11 31 33.2	+3.6
baz=253							
EDW2	**Edwards Air Fo**	**36.32**	**57**	P	P	11 31 32.2	+1.2
baz=255							
CHIR	**Chirikof Islan**	**36.33**	**360**	P	P	11 31 31.4	+0.7
baz=179							
S12K	**Black Hills**	**36.57**	**354**	P	P	11 31 33.4	+0.6
baz=169							
LRMC	**Laurel Mtn Rad**	**36.72**	**56**	P	P	11 31 35.6	+1.1
baz=254							
CCX	**Cicese**	**36.74**	**63**	P	P	11 31 34.6	+0.1
CCX				IAmb	IAmb	11 32 57.4
comp=Z,13nm,1.1s							
CHGN	**Chignik**	**36.88**	**357**	P	P	11 31 37.7	+2.3
baz=175							
S14K	**Fog Glacier**	**36.93**	**356**	P	P	11 31 38.4	+2.5
baz=173							
LHV	**Little Huntoon**	**36.94**	**52**	P	P	11 31 33.4	-2.8
LHV				IAmb	IAmb	11 32 15.7
comp=Z,25nm,1.7s							
BBRC	**Big Bear Solar**	**37.02**	**59**	P	P	11 31 39.4	+2.2
baz=256							
MPMC	**Manual Prospec**	**37.03**	**55**	P	P	11 31 39.6	+2.3
baz=254							
SII	**Sitkinak Islan**	**37.08**	**1**	P	P	11 31 36.1	-1.0
baz=182							
RRX	**Edison Barstow**	**37.11**	**58**	P	P	11 31 39.5	+1.8
baz=256							
MONP2	**Monument Peak**	**37.13**	**61**	P	P	11 31 39.7	+1.5
baz=258							
NVAR	**Mina Array Bea**	**37.15**	**51**	P	P	11 31 38.4	+0.1
NVAR	**Mina Array Bea**	**37.15**	**51**	P	P	11 31 41.6	+3.3
comp=Z,0.6nm,0.7s,baz=237,slow=9.5,SNR=5.0							
comp=Z,0.6nm,0.7s							
PPT2	**Papeete2**	**37.22**	**171**	*e*P	P	11 31 38.8	+0.1
comp=Z,110nm,23.5s							
PPT2				*e*S	S	11 37 23.7	-2.6
comp=Z,375nm,25.0s							
PPT2				*e*LR	LR	11 41 35.7
comp=Z,3μm,25.2s							
PPT2				*e*LR	LR	11 41 45.5
comp=Z,3μm,27.2s							
PFO	**Pinyon Flats O**	**37.25**	**60**	P	P	11 31 38.8	-0.3
baz=258							
TPFO	**Pinon Flats**	**37.25**	**60**	P	P	11 31 39.2	+0.2
baz=258							
IKP	**In-Ko-Pah, Jac**	**37.34**	**61**	P	P	11 31 38.9	-0.9
baz=259							
GSC	**Goldstone, Bar**	**37.37**	**57**	P	P	11 31 37.7	-2.2
baz=255							
GRAC	**Grapevine Rang**	**37.40**	**54**	P	P	11 31 36.9	-3.3
baz=252							
YUH	**Yuha Desert**	**37.50**	**61**	P	P	11 31 41.0	-0.1
HEC	**Hector,Ludlow**	**37.62**	**58**	P	P	11 31 40.5	-1.6
baz=256							
SWSC	**Sam W. Stewart**	**37.66**	**61**	P	P	11 31 40.7	-1.6
baz=259							
BELC	**Belle Mtn. Jos**	**37.71**	**59**	P	P	11 31 40.6	-2.4
baz=257							
OHAK	**Old Harbor**	**37.76**	**2**	P	P	11 31 44.2	+1.4
baz=183							
WCT	**Wildcat Mounta**	**37.91**	**55**	P	P	11 31 46.2	+1.6
SHOC	**Shoshone, Teco**	**37.94**	**56**	P	P	11 31 45.0	+0.3
baz=255							
DIB	**Dawson Inlet,**	**38.03**	**22**	P	P	11 31 45.3	0.0
BC3	**Big Chuckawall**	**38.08**	**60**	P	P	11 31 45.5	-0.5
baz=258							
R18K	**Karluk**	**38.08**	**1**	P	P	11 31 48.1	+2.6
baz=181							
TUQ	**Turquoise Moun**	**38.10**	**57**	P	P	11 31 46.3	+0.1
baz=256							
R17L	**Mt. Peulik Vol**	**38.15**	**359**	P	P	11 31 45.7	-0.5
baz=178							
TPNV	**Topopah Spring**	**38.24**	**55**	P	P	11 31 47.6	+0.1
baz=254							
KDAK	**Kodiak Island**	**38.34**	**2**	P	P	11 31 47.9	+0.1
baz=184							
IRM	**Iron Mountain**	**38.43**	**59**	P	P	11 31 46.7	-2.2
baz=258							
GLA	**Glamis**	**38.48**	**61**	P	P	11 31 48.9	-0.5
baz=260							
CLRS	**Cowichan Lake**	**38.54**	**33**	P	P	11 31 50.0	+0.4
CLRS				IAmb	IAmb	11 32 15.8
comp=Z,53nm,1.6s							
BMN	**Battle Mountai**	**38.64**	**49**	P	P	11 31 51.0	+0.2
CBB	**Campbell River**	**38.70**	**31**	P	P	11 31 50.6	-0.3
Q17K	**Contact Creek**	**38.78**	**359**	P	P	11 31 53.4	+1.8
baz=179							
R11B	**Troy Canyon, C**	**39.15**	**53**	P	P	11 31 54.0	-1.1
baz=252							
Q18K	**Katmai Hardscr**	**39.16**	**0**	P	P	11 31 59.2	+4.5
baz=180							
Q20K	**Shuyak Island**	**39.18**	**2**	P	P	11 31 55.5	+0.7
baz=184							
Q16K	**King Salmon**	**39.20**	**359**	P	P	11 31 59.3	+4.4
baz=178							
PDMCI	**Parker Dam,Lak**	**39.28**	**59**	P	P	11 31 55.6	-0.4
baz=258							
SPIA	**Saint Paul Isl**	**39.30**	**347**	P	P	11 31 58.8	+3.1
baz=157							
113A	**Mohawk Valley,**	**39.31**	**62**		P	11 31 59.0	+2.7
Q19K	**Cape Douglas,**	**39.46**	**1**	P	P	11 32 00.3	+3.1
baz=182							
P16K	**Nushagak River**	**39.60**	**358**	P	P	11 31 55.9	-2.3
baz=176							
CRAG	**Craig**	**39.67**	**20**	P	P	11 31 59.5	+0.6
baz=214							
P17K	**Kvichak River**	**39.72**	**359**	P	P	11 32 00.6	+1.3
baz=178							
O15K	**Ungalikthiuk R**	**39.83**	**356**	P	P	11 32 03.9	+3.7
baz=173							
P18K	**Big Mountain,**	**39.91**	**0**	P	P	11 32 00.9	0.0
baz=180							
214A	**Organ Pipe Nat**	**39.99**	**63**	P	P	11 32 02.1	+0.1
baz=262							
O14K	**Tigyukauivet M**	**40.01**	**355**	P	P	11 32 01.7	+0.1
baz=171							
O16K	**Kokwok River B**	**40.16**	**358**	P	P	11 32 03.8	+0.8
O16K	**Kokwok River B**	**40.16**	**358**	P	P	11 32 03.6	+0.7
baz=176							
P19K	**Oil Pt**	**40.20**	**2**	P	P	11 32 04.5	+1.2
baz=183							
O17K	**Koliganek Bris**	**40.31**	**359**	P	P	11 32 04.9	+0.7
baz=177							
O18K	**Koktuh Hills**	**40.37**	**0**	P	P	11 32 04.8	0.0
baz=180							
BRSE	**Bradley Lake S**	**40.39**	**4**	P	P	11 32 07.9	+3.1
baz=187							
Q23K	**Middleton Isla**	**40.46**	**7**	P	P	11 32 07.9	+2.5
baz=193							
O20K	**Slope Mountain**	**40.64**	**2**	P	P	11 32 02.8	-4.3
baz=184							
N14K	**Kuskokwak Cree**	**40.70**	**355**	P	P	11 32 09.9	+2.5
baz=171							
WRAK	**Wrangell Islan**	**40.71**	**19**	P	P	11 32 03.9	-3.6
WRAK				IAmb	IAmb	11 32 56.5
comp=Z,47nm,1.9s							
WRAK	**Wrangell Islan**	**40.71**	**19**	P	P	11 32 08.1	+0.6
baz=214							
O19K	**Port Alsworth**	**40.72**	**1**	P	P	11 32 08.8	+1.3
baz=181							
N15K	**Kwethluk River**	**40.83**	**356**	P	P	11 32 11.6	+3.1
baz=173							
SEW	**Seward**	**40.84**	**4**	P	P	11 32 11.0	+2.5
baz=188							
P23K	**Montague Islan**	**40.91**	**6**	P	P	11 32 11.6	+2.5
baz=191							
S31K	**Pelican**	**40.94**	**15**	P	P	11 32 10.0	+0.6
baz=208							
S32K	**Killisnoo**	**40.94**	**17**	P	P	11 32 13.0	+3.6
baz=210							
N17K	**Nushagak Hills**	**41.07**	**359**	P	P	11 32 14.1	+3.7
baz=177							
N16K	**Nishlik Lake**	**41.07**	**357**	P	P	11 32 12.9	+2.4
baz=175							
O22K	**Cooper Landing**	**41.19**	**4**	P	P	11 32 16.0	+4.6
baz=188							
N18K	**Kilae Creek**	**41.20**	**360**	P	P	11 32 16.1	+4.5
baz=179							
N19K	**Bonanza Creek**	**41.34**	**1**	P	P	11 32 15.4	+2.6
N19K				IAmb	IAmb	11 32 37.5
comp=Z,22nm,1.1s							
N19K	**Bonanza Creek**	**41.34**	**1**	P	P	11 32 12.7	-0.1
baz=181,SNR=5.0							
M13K	**Dall Lake**	**41.34**	**354**	P	P	11 32 15.1	+2.5
baz=168							

M15K	Kasigluk River	41.40	356	P	P	11 32 13.2	+0.1
	baz=172						
R31K	City Hall, Gus	41.46	15	P	P	11 32 14.3	+0.6
	baz=208						
M14K	Bethel	41.55	355	P	P	11 32 16.7	+2.4
	baz=170						
EYAK	Cordova Ski Ar	41.62	7	P	P	11 32 15.6	+0.7
	baz=194						
M16K	Timber Creek	41.63	357	P	P	11 32 13.8	-1.2
	baz=175						
M11K	Mekoryuk	41.64	352	P	P	11 32 14.6	-0.6
	baz=164						
R32K	Eaglecrest	41.66	16	P	P	11 32 11.6	-3.7
	baz=210						
TUC	Tucson	41.74	63	P	P	11 32 15.3	-1.2
	baz=263						
WUAZ	Wupatki	41.74	58	P	P	11 32 14.1	-2.5
	baz=259						
HLID	Hailey	41.75	46	P	P	11 32 13.7	-2.8
	baz=248						
DUG	Dugway, Tooele	41.75	51	P	P	11 32 14.3	-2.3
	baz=253						
PNL	Peninsula	41.78	12	P	P	11 32 15.0	-1.3
	baz=203						
RC01	Rabbit Creek A	41.79	4	P	P	11 32 14.6	-1.8
	baz=188						
MESA	MESA	41.80	10	P	P	11 32 14.0	-2.7
	baz=199						
GLI	Glacier Island	41.80	6	P	P	11 32 12.9	-3.6
	baz=192						
T35M	Bob Quinn	41.84	20	P	P	11 32 11.9	-5.0
	baz=217						
M17K	Holitna River	41.95	358	P	P	11 32 18.3	+0.6
	baz=177						
PINM	Pinnacle	42.01	11	P	P	11 32 17.0	-1.3
	baz=201						
M18K	Stony River	42.02	360	P	P	11 32 21.5	+3.3
	baz=179						
P29M	Windy Craggy	42.09	13	P	P	11 32 15.7	-3.1
	baz=205						
NEW	Newport	42.09	38	P	P	11 32 17.3	-1.8
	baz=240						
SUA	Susitna One	42.11	3	P	P	11 32 17.2	-1.9
	baz=186						
CRQE	Cirque	42.17	9	P	P	11 32 17.6	-2.0
	baz=197						
BMRM	Bremner River	42.17	8	P	P	11 32 18.9	-0.7
	baz=195						
L14K	Kuka Creek	42.19	355	P	P	11 32 20.8	+1.3
	baz=170						
KNK	Knik Glacier	42.21	5	P	P	11 32 18.0	-1.8
	baz=190						
PLBC	Pleasant Camp	42.24	14	P	P	11 32 20.6	+0.6
	baz=207						
S34M	Telegraph Cree	42.32	19	P	P	11 32 22.4	+1.7
	baz=215						
PMR	Palmer	42.34	4	P	P	11 32 20.8	+0.1
	baz=189						
L16K	Owhat River	42.34	357	P	P	11 32 18.4	-2.4
	baz=174						
L15K	Ungalak Mounta	42.43	356	P	P	11 32 19.7	-1.8
	baz=171						
M22K	Willow	42.43	4	P	P	11 32 21.6	+0.1
	baz=187						
M19K	Big River Lodg	42.43	1	P	P	11 32 21.0	-0.6
	baz=181						
M20K	Styx River	42.43	1	P	P	11 32 22.8	+1.1
	baz=183						
SKAG	Skagway	42.49	15	P	P	11 32 20.8	-1.2
	baz=208						
KLU	Klutina	42.53	7	P	P	11 32 18.1	-4.3
	baz=193						
O29M	Mount Kennedy	42.53	12	P	P	11 32 22.3	-0.2
	baz=204						
SKT	Skwentna	42.59	3	P	P	11 32 21.6	-1.2
	baz=185						
SML	Sawmill	42.61	5	P	P	11 32 20.0	-3.1
	baz=190						
CTG	Chitna Glacier	42.64	10	P	P	11 32 20.9	-2.6
	baz=200						
M23K	Glacier View	42.65	5	P	P	11 32 22.7	-0.6
	baz=190						
P30M	Million Dollar	42.70	13	P	P	11 32 24.9	+1.1
	baz=206						
L19K	White Mountain	42.71	0	P	P	11 32 24.8	+0.9
L19K	White Mountain	42.71	0	P	P	11 32 26.7	+2.8
	baz=181,SNR=5.6						
L17K	Donlin	42.71	358	P	P	11 32 23.3	-0.6
	baz=176						
SCM	Sheep Creek Mo	42.72	6	P	P	11 32 20.9	-3.1
	baz=191						
L18K	Granite Mounta	42.76	359	P	P	11 32 21.8	-2.4
	baz=178						
MCARA	McCarthy VSAT	42.78	9	P	P	11 32 23.2	-1.2
	baz=197						
N25K	Chitina, Valde	42.79	7	P	P	11 32 24.3	-0.4
N25K	Chitina, Valde	42.79	7	P	P	11 32 22.7	-1.9
	baz=195						
Q32M	Nakina River	42.86	17	P	P	11 32 21.3	-4.0
	baz=213						
TBI	Tubuai	42.90	172	eLR	LR	11 44 23.2	
	comp=Z,12µm,28.8s						
TBI				eLR	LR	11 44 25.4	
	comp=Z,2µm,26.5s						
K13K	Kusilvak Mount	42.96	353	P	P	11 32 22.2	-3.6
	baz=167						
W18A	Petrified Fore	42.99	59	P	P	11 32 21.2	-5.6
	baz=261						
P32M	Atlin	43.00	16	P	P	11 32 23.2	-3.1
	baz=210						
L20K	Farewell, AK	43.02	1	P	P	11 32 22.7	-3.7
	baz=182						
K15K	Wolf Creek Mou	43.04	356	P	P	11 32 19.9	-6.7
	baz=171						
DLBC	Dease Lake	43.09	19	P	P	11 32 25.6	-1.4
	baz=216						
M24K	Tolsona, Glenn	43.10	6	P	P	11 32 23.4	-3.7
	baz=193						
YUK6	Outpost Mounta	43.16	12	P	P	11 32 22.6	-5.2
	baz=204						
DUN6	Lazy B Ranch	43.19	63	P	P	11 32 31.7	+3.3
YUK8	Steele Glacier	43.21	11	P	P	11 32 24.2	-4.0
	baz=202						
HYT	Haines Junctio	43.22	13	P	P	11 32 24.3	-3.9
	baz=205						
K17K	Iditarod	43.30	358	P	P	11 32 27.4	-1.2
	baz=176						
MSO	Missoula	43.35	41	P	P	11 32 29.4	0.0
MSO	Missoula	43.35	41	P	P	11 32 26.8	-2.6
	baz=245						
WAT6	Susitna Watana	43.42	5	P	P	11 32 24.8	-5.1
	baz=190,SNR=5.4						
YUK4	Talbot Arm	43.47	12	P	P	11 32 29.0	-1.3
	baz=203						
O30N	Mendenhall	43.47	14	P	P	11 32 30.0	-0.1
	baz=207						
PPLA	Purkeypile	43.48	2	P	P	11 32 26.4	-3.8
	baz=184						
HARP	HAARP	43.49	7	P	P	11 32 30.2	-0.1
	baz=194						
YUK3	Moose Creek	43.55	10	P	P	11 32 30.6	-0.3
	baz=200						
R33M	Jennings River	43.59	18	P	P	11 32 30.3	-0.9
	baz=214						
WAT1	Susitna Watana	43.60	4	P	P	11 32 33.5	+2.4
	baz=189						
WHY	Whitehorse	43.65	14	P	P	11 32 29.6	-2.1
	baz=208						
J14K	Nanvaranak Lak	43.66	354	P	P	11 32 29.6	-1.8
	baz=169						
M26K	Nabesna, AK	43.77	8	P	P	11 32 34.7	+2.3
M26K				IAmb	IAmb	11 32 57.1	
	comp=Z,13nm,1.1s						
M26K	Nabesna, AK	43.77	8	P	P	11 32 35.3	+2.8
	baz=197						
P33M	Teslin, Yukon	43.77	16	P	P	11 32 31.7	-0.8
	baz=211						
M27K	Edge Creek, AK	43.88	9	P	P	11 32 37.8	+4.3
	baz=198						
N30M	Aishikik Lake	43.88	12	P	P	11 32 35.1	+1.7
	baz=205						
K20K	Telida	43.90	1	P	P	11 32 36.8	+3.4
	baz=182						
DHY	Denali Highway	43.94	5	P	P	11 32 35.0	+1.0
	baz=191						
J16K	Anvik River	43.97	357	P	P	11 32 31.5	-2.4
	baz=173						
CAST	Castle Rocks	44.00	2	P	P	11 32 37.7	+3.4
	baz=184						
J17K	VABM Dome	44.01	358	P	P	11 32 39.8	+5.6
	baz=175						
J18K	Innoko River	44.01	359	P	P	11 32 35.5	+1.2
	baz=178						
PAX	Paxson	44.02	6	P	P	11 32 35.0	+0.5
	baz=193,SNR=6.7						
RND	Reindeer	44.16	4	P	P	11 32 37.1	+1.5
RND				IAmb	IAmb	11 33 04.4	
	comp=Z,25nm,1.6s						
N31M	Braeburn, Yuko	44.18	13	P	P	11 32 32.0	-3.8
	baz=207						
KTH	Kantishna Hill	44.18	3	P	P	11 32 37.4	+1.6
121A	Cookes Peak, D	44.29	63	P	P	11 32 35.8	-1.4
	baz=265						
L26K	Log Cabin Wild	44.32	8	P	P	11 32 36.8	-0.1
	baz=196						
MVCO	Mesa Verde	44.33	56	P	P	11 32 36.9	-0.7
	baz=260						
BOZ	Bozeman (W)	44.35	44	P	P	11 32 38.4	+0.9
	baz=249						
CHUM	Lake Minchumin	44.46	2	P	P	11 32 36.1	-1.8
	baz=184						
MCK	McKinley	44.47	4	P	P	11 32 39.8	+1.7
	baz=188						
N32M	Quiet Lake	44.51	15	P	P	11 32 37.1	-1.4
	baz=210						
M29M	Somme Creek	44.52	11	P	P	11 32 35.3	-3.2
	baz=203,SNR=6.0						
J19K	Poorman	44.53	360	P	P	11 32 37.2	-1.2
	baz=180						
L27K	Beaver Creek,	44.56	9	P	P	11 32 36.9	-1.9
	baz=198,SNR=5.5						
I17K	Unalakleet	44.57	357	P	P	11 32 37.6	-1.2
	baz=173						
H17A	Grant Village	44.63	46	P	P	11 32 37.6	-2.3
	baz=251						
J20K	Nowinta River	44.72	1	P	P	11 32 36.3	-3.7
	baz=182						
BPAW	Bear Paw Mtn.	44.73	3	P	P	11 32 42.7	+2.6
	baz=186						
K24K	Donnelly Dome	44.80	6	P	P	11 32 44.1	+3.3
	baz=193						
BW06	Boulder Array	44.84	48	P	P	11 32 43.3	+1.8
	baz=253						
PDAR	Pinedale Array	44.84	48	P	P	11 32 44.1	+2.6
	comp=Z,0.5nm,0.4s,baz=245,slow=5.8,SNR=6.5						
	comp=Z,0.5nm,0.4s						
M30M	Minto, Yukon	44.96	12	P	P	11 32 39.4	-2.6
	baz=205						
O20A	White River Ci	45.12	52	P	P	11 32 40.8	-3.0
	baz=257						
M31M	Drury Creek, Y	45.12	14	P	P	11 32 41.3	-2.0
	baz=208						
SCRK	Sand Creek	45.16	7	P	P	11 32 42.2	-1.4
	baz=195						
L29M	L29M	45.20	11	P	P	11 32 41.9	-2.0
	baz=203						
HDA	Harding Lake	45.29	5	P	P	11 32 41.5	-3.1
	baz=191						
NEA2	Nenana	45.32	4	P	P	11 32 44.1	-0.7
	baz=188						
I20K	Naaghedeneel	45.34	0	P	P	11 32 40.0	-4.8
	baz=181						
H16K	Elim	45.42	356	P	P	11 32 44.9	-0.6
	baz=171						
K27K	Chicken	45.45	8	P	P	11 32 41.5	-4.3
	baz=198						
H17K	Granite Mounta	45.58	357	P	P	11 32 43.7	-3.1
	baz=174						
ANMO	Albuquerque	45.63	60	P	P	11 32 44.2	-3.8
	baz=263						
J25K	Salcha River,	45.63	6	P	P	11 32 49.5	+2.1
J25K				IAmb	IAmb	11 33 11.4	
	comp=Z,14nm,1.1s						
J25K	Salcha River,	45.63	6	P	P	11 32 45.4	-2.0
	baz=193,SNR=6.5						
ILAR	Eielson Array	45.65	5	P	P	11 32 49.5	+2.1
	comp=Z,1.5nm,1.0s,baz=198,slow=7.3,SNR=13						
	comp=Z,1.5nm,1.0s						
MLY	Manley	45.67	3	P	P	11 32 48.6	+1.1
MLY				IAmb	IAmb	11 33 10.8	
	comp=Z,9.6nm,1.2s						
MLY	Manley	45.67	3	P	P	11 32 46.9	-0.7
	baz=186						
COLA	College	45.68	4	P	P	11 32 46.3	-1.2
	baz=190						
J26L	Joseph Creek	45.72	7	P	P	11 32 49.2	+1.2
J26L				IAmb	IAmb	11 33 12.6	
	comp=Z,6.8nm,1.1s						
J26L	Joseph Creek	45.72	7	P	P	11 32 50.2	+2.1
	baz=196						
S22A	4UR Ranch, Cre	45.73	56	P	P	11 32 47.4	-1.4
	baz=260						
H18K	Honhosa River	45.74	358	P	P	11 32 48.9	+0.8
H18K	Honhosa River	45.74	358	P	P	11 32 50.3	+2.2
	baz=176						
RLMT	Red Lodge	45.75	45	P	P	11 32 48.9	+0.1
	baz=251						
I21K	Tanana	45.77	2	P	P	11 32 43.4	-4.9
	baz=184						
I23K	Miro, Yukon-K	45.85	3	P	P	11 32 47.1	-1.8
	baz=188						
DAWY	Dawson	45.88	10	P	P	11 32 47.2	-2.0
	baz=201						
G15K	Niukluk	45.91	355	P	P	11 32 43.1	-6.3
	baz=168						
POKR	Poker Plat Res	45.95	5	P	P	11 32 44.6	-5.2
	baz=190						
K29M	Barlow Dome	45.98	11	P	P	11 32 49.1	-1.1
	baz=204						
H20K	Anotleneega Mo	46.03	0	P	P	11 32 49.1	-1.3
	baz=180						
H19K	Roundabout Mou	46.07	359	P	P	11 32 54.5	+3.9
	baz=178						
G16K	Koyuk River	46.17	356	P	P	11 32 52.7	+1.2
	baz=171						
G17K	Kiwalik Mounta	46.18	357	P	P	11 32 52.8	+1.2
	baz=173						
H21K	Melozitna Rive	46.23	1	P	P	11 32 56.3	+4.4
	baz=183						
MNTX	Cornudas Mount	46.26	64	P	P	11 32 56.0	+3.2
	baz=267						
EGAK	Eagle	46.29	8	P	P	11 32 54.8	+2.4
EGAK				IAmb	IAmb	11 33 17.2	
	comp=Z,11nm,1.1s						
EGAK	Eagle	46.29	8	P	P	11 32 55.1	+2.8
	baz=198,SNR=7.0						
EGMT	Eagleton	46.44	41	P	P	11 32 50.7	-3.2
	baz=249						
G18K	Tagagawik	46.49	358	P	P	11 32 55.7	+1.7
	baz=176						
H22K	Ishtalitna Cre	46.51	2	P	P	11 32 57.3	+3.2
	baz=185						
PRP	Porcupine Dome	46.51	6	P	P	11 32 57.3	+3.0
	baz=193						
H23K	Yukon River	46.52	3	P	P	11 32 54.7	+0.5
	baz=187						
I26K	Coal Creek Min	46.55	7	P	P	11 32 56.1	+1.7
	baz=196						
F14K	Arctic Creek	46.59	354	P	P	11 32 51.7	-3.1
	baz=166						
H24K	Noodor Dome	46.63	4	P	P	11 32 51.4	-3.8
	baz=190						
F15K	North Star Dit	46.66	355	P	P	11 32 52.8	-2.5
	baz=168						
G19K	Purcell Mounta	46.70	359	P	P	11 32 59.8	+4.1
	baz=178						
SDCO	Great Sand Dun	46.77	56	P	P	11 32 53.1	-3.9
	baz=261						
J30M	Hart River	46.87	11	P	P	11 33 00.1	+3.0
	baz=205						
K22A	Casper	46.96	49	P	P	11 32 55.3	-3.0
	baz=256						
N23A	Red Feather La	46.99	52	P	P	11 32 53.7	-5.0
	baz=258						
I27K	Kandik River	47.02	8	P	P	11 32 58.6	+0.4
	baz=198						
G21K	Allakaket	47.07	1	P	P	11 32 58.7	+0.1
	baz=182						
I28M	Miner Creek	47.09	9	P	P	11 33 00.9	+2.1
	baz=200						
F17K	Baldwin Pennin	47.15	357	P	P	11 32 57.2	-1.9
	baz=172						
H25L	Birch Creek	47.22	5	P	P	11 32 59.6	-0.1
	baz=192						
F18K	Selawik	47.23	358	P	P	11 32 59.1	-0.6
	baz=174						
Q24A	Divide	47.24	55	P	P	11 32 54.4	-6.3
	baz=260						
G23K	Bananza Creek	47.38	3	P	P	11 33 00.2	-0.8
	baz=187						
F19K	Shaleruckik Mo	47.41	359	P	P	11 33 01.6	+0.5
	baz=177						
I30M	Mount Dempster	47.45	11	P	P	11 33 02.8	+1.1
I30M				IAmb	IAmb	11 33 25.9	
	comp=Z,8.6nm,1.1s						
I30M	Mount Dempster	47.45	11	P	P	11 33 01.3	-0.3
	baz=204						
G24K	Hadweenzic Riv	47.51	4	P	P	11 33 00.1	-1.9
	baz=190						
PECS	Pecos	47.54	65	P	P	11 33 03.9	+1.0
PECS				IAmb	IAmb	11 33 34.6	
	comp=Z,18nm,1.9s						
T25A	Trinidad	47.55	57	P	P	11 33 03.7	+0.7
T25A				IAmb	IAmb	11 33 27.8	
	comp=Z,10nm,1.3s						
T25A	Trinidad	47.55	57	P	P	11 33 02.8	-0.2
	baz=263						
F20K	Avaraart Lake	47.60	360	P	P	11 33 01.9	-0.7
	baz=179						
H27K	Steamboat Moun	47.63	7	P	P	11 33 02.7	-0.2
	baz=198,SNR=6.4						
G25K	Bearman Lake	47.68	5	P	P	11 33 02.0	-1.3
	baz=192						
TX31	Lajitas Ar. Si	47.69	68	P	P	11 33 06.9	+2.9
TX31				IAmb	IAmb	11 33 29.3	
	comp=Z,9.1nm,1.1s						
TXAR	Lajitas Array	47.69	68	P	P	11 33 06.9	+2.9
TXAR	Lajitas Array	47.69	68	P	P	11 33 07.0	+2.9
	comp=Z,3.9nm,1.0s,baz=259,slow=7.9,SNR=28						
	comp=Z,3.9nm,1.0s						
F21K	Alatna River	47.78	1	P	P	11 33 02.1	-2.0
	baz=182						
HTMS	Hat Mesa	47.78	63	P	P	11 33 08.1	+3.3
E17K	Hotham Inlet	47.82	357	P	P	11 33 03.4	-0.9
	baz=172						
COLD	Coldfoot	47.88	3	P	P	11 33 03.5	-1.3
	baz=186						
E19K	Redstone River	48.02	359	P	P	11 33 01.6	-4.4
	baz=178						
H29M	Whitestone	48.05	9	P	P	11 33 04.2	-2.0
	baz=202,SNR=5.9						
G26K	Porcupine Rive	48.07	6	P	P	11 33 04.4	-1.9
	baz=195						
E18K	Tukpahlearik C	48.09	357	P	P	11 33 05.1	-1.3
	baz=173						
F22K	John River	48.10	2	P	P	11 33 07.0	+0.5
	baz=184						
G27K	Doyon Strip	48.16	7	P	P	11 33 06.9	-0.2
	baz=197						
F24K	Squaw Lake	48.30	4	P	P	11 33 06.7	-1.4
	baz=189						
H31M	Peel River	48.34	11	P	P	11 33 07.0	-1.4
	baz=207						
EPYK	Eagle Plains	48.44	10	P	P	11 33 07.8	-1.4
	baz=204						
D17K	Noatak River	48.51	356	P	P	11 33 08.9	-0.7
	baz=170						
F25K	Christian Rive	48.53	5	P	P	11 33 05.5	-4.4
	baz=192						
MSTX	Muleshoe	48.58	62	P	P	11 33 06.5	-4.4
	baz=266						
E22K	Anaktuvuk Pass	48.73	2	P	P	11 33 07.0	-4.4
	baz=184						
E23K	Chandalar	48.74	3	P	P	11 33 11.5	0.0
	baz=187						
G29M	Pine Creek	48.74	9	P	P	11 33 11.6	+0.1
G29M	Pine Creek	48.74	9	P	P	11 33 10.1	-1.4
	baz=202						
F26K	Sheenjek River	48.76	6	P	P	11 33 09.7	-2.0
	baz=194						
E20K	Nigu River	48.81	360	P	P	11 33 15.4	+3.4
	baz=179						
E24K	Your Creek	48.81	3	P	P	11 33 14.2	+2.1
	baz=188						
RDOG	Red Dog Mine	48.85	356	P	P	11 33 15.4	+3.1
	baz=170						
E21K	Killik River	49.00	1	P	P	11 33 16.6	+3.1
	baz=182						
E25K	Arctic Village	49.06	5	P	P	11 33 17.0	+3.1
	baz=192						
RSSD	Black Hills	49.07	48	P	P	11 33 13.4	-1.2
	baz=257						
G30M	tAoh Zraii Nji	49.08	10	P	P	11 33 11.5	-2.6
	baz=204						
F28M	Old Crow	49.15	8	P	P	11 33 10.8	-3.8
	baz=199						
KSCO	Kaye Shedlock'	49.19	55	P	P	11 33 13.0	-2.5
	baz=262						
C16K	Lisburne Hills	49.24	355	P	P	11 33 13.9	-1.3
	baz=167						
D20K	Etivluk River	49.27	359	P	P	11 33 12.4	-3.2
	baz=178						
TOLK	Toolik Lake Re	49.32	3	P	P	11 33 13.8	-2.1
	baz=187						
PETK	Petropavlovsk-	49.34	324	LR	LR	11 51 37.1	
	comp=Z,810nm,20.3s,baz=148,slow=33						
C18K	Utukok River	49.34	357	P	P	11 33 18.3	+2.1
	baz=173						
G31M	Satah River	49.36	11	P	P	11 33 14.8	-1.3
	baz=206						
D22K	Ayikyak River	49.46	1	P	P	11 33 18.0	+1.0
	baz=183						
E27K	Coleen River	49.49	7	P	P	11 33 19.7	+2.4
	baz=197						
AMTX	Amarillo	49.54	60	P	P	11 33 15.1	-3.1
	baz=266						
D23K	Nanushuk River	49.60	2	P	P	11 33 20.8	+2.8
	baz=186						
C21K	Knifeblade Rid	49.71	0	P	P	11 33 21.7	+2.8
	baz=181						
F30M	Barrier River	49.73	10	P	P	11 33 22.7	+3.7
	baz=204						
D24K	Happy Valley	49.87	3	P	P	11 33 22.3	+2.3
	baz=188						
F31M	Tsiigehtchic	49.92	11	P	P	11 33 25.8	+5.4
	baz=207						
OGNE	Ogallala	49.92	52	P	P	11 33 18.0	-3.0
	baz=261						
E28M	Babbage River	50.13	7	P	P	11 33 25.2	+3.1
	baz=200						
E29M	Blow River	50.14	8	P	P	11 33 25.5	+3.4
	baz=202						
D25K	Kavik River	50.18	4	P	P	11 33 23.6	+1.1
D25K				IAmb	IAmb	11 33 46.7	
	comp=Z,8.7nm,1.1s						
D25K	Kavik River	50.18	4	P	P	11 33 25.5	+3.0
	baz=191						
B21K	Ikpikpuk River	50.18	0	P	P	11 33 22.9	+0.5
	baz=181						
C24K	Franklin Bluff	50.44	3	P	P	11 33 24.2	-0.1
	baz=188						
C23K	Itkillik River	50.48	2	P	P	11 33 27.7	+3.1
	baz=186						
D27M	Malcolm River	50.58	7	P	P	11 33 24.0	-1.5
	baz=198						
B20K	Meade River	50.58	359	P	P	11 33 28.7	+3.3
	baz=178						
C27K	Jago River	50.68	5	P	P	11 33 26.6	+0.4
	baz=194						
INK	Inuvik	50.73	10	P	P	11 33 28.1	+1.6
INK				IAmb	IAmb	11 33 50.0	
	comp=Z,9.7nm,1.1s						
INK	Inuvik	50.73	10	P	P	11 33 24.6	-2.0
	baz=207						
C26K	Camden Bay	50.87	5	P	P	11 33 26.2	-1.4
	baz=193						
B22K	Teshekpuk Lake	50.91	1	P	P	11 33 31.2	+3.3
	baz=182						
D28M	Stokes Point	50.91	7	P	P	11 33 29.6	+1.7
	baz=200						
JCT	Junction City	51.03	66	P	P	11 33 30.6	+1.0
	baz=271						
YKA	Yellowknife Ar	51.29	23	P	P	11 33 32.2	+1.3
	baz=226,slow=6.8						
CBKS	Cedar Bluff	51.40	55	P	P	11 33 30.4	-1.8
	baz=264						
833A	Chaparral WMA,	51.47	69	P	P	11 33 34.8	+2.1
	baz=273						
A22K	Sinclair Lake	51.57	0	P	P	11 33 35.7	+2.9
	baz=180						
A21K	Barrow	51.90	359	P	P	11 33 36.3	+1.1
	baz=178						
WMOK	Wichita Mounta	51.91	61	P	P	11 33 36.0	-0.1
	baz=268						

SUSD	**Miller** baz=261	**52.71**	**49**	P	**P**	**11 33 41.4**	**-0.4**
MDND	**Maddock** baz=258	**52.91**	**44**	P	**P**	**11 33 39.3**	**-4.0**
435B	**Jarrell** baz=272	**52.93**	**66**	P	**P**	**11 33 44.9**	**+1.3**
WHTX	**Lake Whitney,** baz=271	**53.01**	**64**	P	**P**	**11 33 40.5**	**-3.7**
C36M	**Paulatuk** baz=218	**53.44**	**13**	P	**P**	**11 33 49.1**	**+2.4**
KSU1	**Kansas State U** baz=266	**53.86**	**55**	P	**P**	**11 33 49.1**	**-1.2**
ECSD	**EROS Data Cent** baz=263	**54.28**	**50**	P	**P**	**11 33 54.9**	**+1.5**
TUL3	**Leonard** baz=269	**54.38**	**59**	P	**P**	**11 33 53.7**	**-0.5**
A36M	**Sachs Harbour** baz=215	**55.35**	**11**	P	**P**	**11 33 59.1**	**-1.5**
AGMN	**Agassiz Nation** baz=260	**55.46**	**44**	P	**P**	**11 33 59.0**	**-2.8**
DZM	**Mont Dzumac** comp=Z,105nm,24.4s	**55.71**	**224**	*e*P	**P**	**11 34 07.2**	**+3.3**
DZM	comp=Z,218nm,24.6s			*e*S	**S**	**11 41 52.7**	**+1.5**
DZM	comp=Z,138nm,26.6s			*e*SS	**SS**	**11 45 38.0**	**+1.1**
DZM	comp=Z,536nm,31.4s			*e*LR	LR	11 50 14.7	
MIAR	**Mount Ida** baz=271	**56.20**	**61**	P	**P**	**11 34 05.5**	**-1.9**
SCIA	**State Center** baz=267	**56.61**	**52**	P	**P**	**11 34 05.4**	**-4.8**
SPMN	**Marine on St.** baz=265	**57.15**	**48**	P	**P**	**11 34 14.5**	**+0.6**
CCM	**Cathedral Cave** baz=270	**58.03**	**57**	P	**P**	**11 34 21.0**	**+0.8**
EYMN	**Ely** baz=264	**58.31**	**45**	P	P	11 34 16.8	-5.3
JFWS	**Jewell Farm** baz=268	**58.85**	**51**	P	**P**	**11 34 21.1**	**-4.8**
VBMS	**Vicksburg** baz=274	**58.88**	**64**	P	**P**	**11 34 23.7**	**-2.5**
HDIL	**Hopedale** baz=270	**59.53**	**54**	P	**P**	**11 34 29.4**	**-1.2**
OXF	**Oxford** baz=274	**59.64**	**61**	P	**P**	**11 34 33.5**	**+2.0**
WVT	**Waverly** baz=274	**60.83**	**59**	P	**P**	**11 34 40.6**	**+1.0**
SFIN	**Lafayette** baz=272	**61.21**	**54**	P	**P**	**11 34 39.7**	**-2.4**
LRAL	**Lakeview Retre** baz=276	**61.77**	**62**	P	**P**	**11 34 42.8**	**-3.2**
WCI	**Wyandotte Cave** baz=273	**61.93**	**56**	P	**P**	**11 34 43.3**	**-3.7**
O48B	**Farmland** baz=273	**62.70**	**54**	P	**P**	**11 34 49.1**	**-3.1**
P49A	**Miami Univ. Ec** baz=274	**63.08**	**55**	P	**P**	**11 34 53.4**	**-1.3**
TZTN	**Tazewell** baz=276	**64.24**	**58**	P	**P**	**11 34 58.7**	**-3.8**
GOGA	**Godfrey** baz=277	**64.67**	**62**	P	**P**	**11 35 02.7**	**-2.6**
TIGA	**Tifton** baz=278	**64.83**	**64**	P	**P**	**11 35 05.0**	**-1.4**
P52A	**Corning** baz=275	**65.06**	**55**	P	P	11 35 02.8	-4.9
O53A	**New Philadelph** baz=275	**65.71**	**54**	P	**P**	**11 35 08.2**	**-3.7**
M53A	**WI Miller and** baz=275	**66.00**	**53**	P	**P**	**11 35 10.1**	**-3.7**
MDJ	**Mudanjiang**	**66.15 311**		SS	SS	11 48 43.2	+24
MDJ	**Mudanjiang** comp=Z,360nm,10.1s	**66.15 311**		pmax	pmax		
MDJ	**Mudanjiang** comp=Z,2μm,16.9s	**66.15 311**		LR	LR		
MDJ	**Mudanjiang** comp=E,2μm,19.1s	**66.15 311**		LR	LR		
MDJ	**Mudanjiang** comp=N,160nm,5.4s	**66.15 311**		LR	LR		
MDJ	**Mudanjiang** comp=Z,14nm,2.0s	**66.15 311**		pmax	pmax		
BLA	**Blacksburg** baz=277	**66.66**	**57**	P	**P**	**11 35 14.9**	**-3.2**
DL2	**Dalian**	**72.83 306**		*e*P	**P**	**11 35 56.9**	**+0.8**
DL2				S	**S**	**11 45 26.2**	**+3.4**
DL2	comp=Z,8.0nm,0.7s			pmax	pmax		
DL2	comp=Z,500nm,7.2s			pmax	pmax		
DL2	comp=N,320nm,15.6s			LR	LR		
DL2	comp=E,470nm,14.1s			LR	LR		
DL2	comp=Z,480nm,12.5s			LR	LR		
XLT	**XiLinHaoTe**	**75.85 312**		*e*P	**P**	**11 36 13.5**	**-0.2**
XLT				pP	sP	11 36 16.9	+0.1
XLT				sP	pP	11 36 19.6	+3.6
XLT				PcP	**PcP**	**11 36 26.7**	**+0.4**
XLT	**XiLinHaoTe**	**75.85 312**		S	S	11 46 15.1	+18
XLT	**XiLinHaoTe**	**75.85 312**		SS	SS	11 51 12.7	+24
XLT	**XiLinHaoTe** comp=N,54nm,19.6s	**75.85 312**		LR	LR		
XLT	**XiLinHaoTe** comp=Z,1μm,25.5s	**75.85 312**		LR	LR		
XLT	**XiLinHaoTe** comp=E,570nm,23.4s	**75.85 312**		LR	LR		
XLT	**XiLinHaoTe** comp=Z,9.0nm,0.8s	**75.85 312**		pmax	pmax		
PCRV	**Puerto La Cruz** comp=Z,130nm,19.2s,slow=34	**87.25**	**80**	LR	LR	12 13 25.5	
QIZ	**Qiongzhong**	**88.22 289**		P	**P**	**11 37 16.7**	**-2.3**
QIZ	**Qiongzhong**	**88.22 289**		S	**S**	**11 48 02.4**	**-2.3**
QIZ	**Qiongzhong**	**88.22 289**		SS	SS	11 54 01.4	+8.0
QIZ	comp=N,250nm,15.1s			LR	LR		
QIZ	comp=E,430nm,20.2s			LR	LR		
QIZ	comp=Z,420nm,17.7s			LR	LR		
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.4s,baz=35,slow=5.3,SNR=1.7 comp=Z,0.6nm,0.4s	**90.66 329**		P	**P**	**11 37 32.8**	**+3.1**
PZH	**PanZhiHua**	**92.49 299**		P	**P**	**11 37 38.9**	**-0.1**
PZH	comp=Z,10.0nm,0.5s			pmax	pmax		
PZH	comp=Z,250nm,6.0s			pmax	pmax		
WMQ	**Urumqi**	**94.72 320**		*e*P	**P**	**11 37 48.4**	**-0.5**
WMQ	comp=N,510nm,16.3s			LR	LR		
WMQ	comp=E,700nm,16.3s			LR	LR		
WMQ	comp=Z,540nm,23.9s			LR	LR		
BRG	**Berggiesshubel**	**109.36**	**7**	*e*P	**Pdif**	**11 38 53.8**	**-0.2**
BRG	comp=Z,4.3nm,0.8s			Amp		11 38 55.1	

IDC ***02*** *11:24:47.5±1.6, 19°.45N×155°.38W, h0km, mb4.0/7, mbtmp4.0/7, MS4.6/5, Error ellipse: s-maj=49.2km s-min=29.1km az=153.0*

ISC 02 11:24:50.4±1.3, 19°.5N±0°.3×155°.41W±0°.10, h18km, n25, σ1§69/13, mb4.3/8, MS4.8/6, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I59US	**HAWAII INFRASO** baz=115,slow=16	**0.48**	**286**	P	**Pg**	**11 24 58.4**	**-1.7**
I59US	0.1nm,1.0s,baz=106,slow=315,SNR=3.2			I	I	11 28 10.0	
NVAR	**Mina Array Bea** 0.9nm,0.7s,baz=244,slow=11,SNR=7.0 0.9nm,0.7s	**37.24**	**52**	P	**P**	**11 32 01.3**	**-0.1**
PDAR	**Pinedale Array** 0.5nm,0.4s,baz=246,slow=5.5,SNR=4.0 0.5nm,0.4s	**44.92**	**48**	P	**P**	**11 33 03.9**	**-0.6**
ILAR	**Eielson Array** 2.9nm,0.9s,baz=197,slow=6.7,SNR=16 2.9nm,0.9s	**45.64**	**5**	P	**P**	**11 33 09.3**	**-0.3**
TXAR	**Lajitas Array** 4.1nm,1.0s,baz=256,slow=6.5,SNR=14 4.1nm,1.0s	**47.81**	**68**	P	**P**	**11 33 27.3**	**+0.1**
YKA	**Yellowknife Ar** baz=236,slow=7.8	**51.32**	**23**	P	**P**	**11 33 53.1**	**-0.2**
HNR	**Honiara** comp=Z,4μm,21.9s,baz=33,slow=31	**52.53**	**241**	LR	LR	11 51 48.4	
ULM	**Lac du Bonnet** 5.1nm,1.0s,baz=272,slow=8.5,SNR=3.8 5.1nm,1.0s	**55.87**	**42**	P	**P**	**11 34 25.6**	**-1.3**
HHC	**Hu-ho-hao-te**	**79.75 310**		PP	PP	11 40 02.2	+3.6
HHC	**Hu-ho-hao-te**	**79.75 310**		*e*S	**S**	**11 47 03.4**	**+3.5**
HHC	**Hu-ho-hao-te**	**79.75 310**		SS	SS	11 52 16.0	+7.7
HHC	**Hu-ho-hao-te** comp=Z,260nm,6.0s	**79.75 310**		pmax	pmax		
HHC	**Hu-ho-hao-te** comp=Z,1μm,18.4s	**79.75 310**		LR	LR		
HHC	**Hu-ho-hao-te** comp=E,730nm,18.6s	**79.75 310**		LR	LR		
HHC	**Hu-ho-hao-te** comp=N,360nm,15.1s	**79.75 310**		LR	LR		
HHC	**Hu-ho-hao-te** comp=Z,11nm,0.7s	**79.75 310**		pmax	pmax		
HHC	**Hu-ho-hao-te**	**79.75 310**		*e*P	**P**	**11 36 56.1**	**-1.6**
ASAR	**Alice Springs** comp=Z,0.4nm,0.8s,baz=69,slow=5.2,SNR=2.6 comp=Z,0.4nm,0.8s	**81.15 241**		P	**P**	**11 37 05.1**	**-0.2**
KAPI	**Kappang** comp=Z,100nm,19.7s,baz=46,slow=33	**86.81 264**		LR	LR	12 12 47.3	
LZH	**Lanzhou**	**87.04 307**		P	**P**	**11 37 38.0**	**+2.6**
GTA	**Gaotai**	**88.68 311**		P	**P**	**11 37 43.0**	**-0.2**
GTA	**Gaotai**	**88.68 311**		sS	sS	11 48 40.4	0.0
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.3s,baz=54,slow=3.7,SNR=1.6	**90.56 329**		P	**P**	**11 37 52.7**	**+1.2**
ZALV	comp=Z,716nm,19.9s,baz=79,slow=35 comp=Z,0.6nm,0.3s			LR	LR	12 18 18.5	
NOA	**NORSAR Array B** comp=Z,128nm,20.8s,baz=15,slow=34	**99.06**	**7**	LR	LR	12 20 46.7	
VNDA	**Vanda** comp=Z,174nm,20.6s,baz=30,slow=30	**99.94 189**		LR	LR	12 14 27.7	

TAP 02 11:35:00.7, 24°.58N×122°.75E, h99km, ML2.6, 1C-1D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima** baz=120	**0.27 116**		*i* P	Pn	11 35 15.2	+0.2
YOJ	baz=120			S	Sn	11 35 25.6	-0.2
EOS3	**EOS3** baz=238	**0.49 233**		P	Pn	11 35 17.1	+0.9
EOS3	baz=238			*i* S	Sn	11 35 28.9	+1.3
EOS2	**EOS2** baz=259	**0.49 251**		*i* P	Pn	11 35 16.7	+0.6
EOS2	baz=259			S	Sn	11 35 28.9	+1.1
EOS4	**EOS4** baz=225	**0.60 221**		*e*P	Pn	11 35 18.3	+1.6
EOS4	baz=225			*e*S	Sn	11 35 29.5	+0.7
TWB1	**Santiao Chiao** baz=298	**0.81 302**		*e*P	Pn	11 35 19.6	+0.5
TWB1	baz=298			S	Sn	11 35 32.9	0.0
TWC	**Suao** baz=275	**0.82 272**		*i* P	Pn	11 35 19.0	-0.2
TWC	baz=275			*e*S	Sn	11 35 31.5	-1.5
ESAO	**Su ao** baz=273	**0.82 270**		P	Pn	11 35 19.3	+0.1
ESAO	baz=273			S	Sn	11 35 32.6	-0.5
EWUT	**Wuta** baz=256	**0.89 262**		P	Pn	11 35 20.1	+0.2
EWUT	baz=256			S	Sn	11 35 33.7	-0.7
TIPB	**Shuangxi** baz=291	**0.92 295**		⇑P	Pn	11 35 20.6	+0.4
TIPB	baz=291			*e*S	Sn	11 35 34.8	-0.2
ILA	**Ilan** baz=275	**0.93 282**		P	Pn	11 35 20.4	+0.2
ILA	baz=275			*e*S	Sn	11 35 33.0	-1.9
ENA	**Nanau** baz=255	**0.93 261**		*i* P	Pn	11 35 20.3	0.0
ENA	baz=255			*i* S	Sn	11 35 34.5	-0.5
NDS	**Dongshan** baz=273	**0.94 274**		*i* P	Pn	11 35 20.6	+0.2
NDS	baz=273			*i* S	Sn	11 35 34.7	-0.5
SXI1	**Grass Mountain** baz=296	**0.94 303**		*e*P	Pn	11 35 20.9	+0.4
SXI1	baz=296			*e*S	Sn	11 35 35.4	-0.1
EAHA	**Aohua** baz=254	**0.95 255**		*e*P	Pn	11 35 22.6	+2.0
EAHA	baz=254			*e*S	Sn	11 35 35.0	-0.4
TWE	**Neicheng** baz=274	**0.99 278**		P	Pn	11 35 21.1	+0.1
TWE	baz=274			*e*S	Sn	11 35 35.2	-0.9
NWF	**Wu-fen Shan** baz=293	**1.00 299**		*i* P	Pn	11 35 21.7	+0.5
WFSB	**Wu-fen Shan** baz=293	**1.00 299**		P	Pn	11 35 21.5	+0.4
FUSB	**Fushanzhiwuyua** baz=279	**1.07 280**		P	Pn	11 35 22.2	+0.3
FUSB	baz=279			*e*S	Sn	11 35 37.0	-0.8
ENTT	**Nioudou** baz=270	**1.07 274**		*e*P	Pn	11 35 22.0	+0.1
ENTT	baz=270			*e*S	Sn	11 35 37.2	-0.7
ETL	**Fush Village** baz=240	**1.10 248**		*i* P	Pn	11 35 22.2	0.0
ETL	baz=240			*e*S	Sn	11 35 37.2	-1.4
LATG	**Datong** baz=267	**1.11 268**		*e*P	Pn	11 35 22.3	-0.1
LATG	baz=267			*e*S	Sn	11 35 37.8	-1.0
NDT	**Datong Townshi** baz=270	**1.12 272**		⇓P	Pn	11 35 22.8	+0.4
NDT	baz=270			*e*S	Sn	11 35 38.1	-0.7
NACB	**Ninganchiao** baz=242	**1.12 249**		*e*P	Pn	11 35 22.2	-0.3
NACB	baz=242			S	Sn	11 35 37.5	-1.4
TWA	**Mucha** baz=282	**1.13 291**		*i* P	Pn	11 35 22.9	+0.4
TWA	baz=282			S	Sn	11 35 38.4	-0.6
NWLT	**Wulai** baz=286	**1.15 280**		*i* P	Pn	11 35 22.8	+0.1
NWLT	baz=286			S	Sn	11 35 38.6	-0.8
TWD	**Chiawan** baz=238	**1.16 245**		*e*P	Pn	11 35 22.9	0.0
TWD	baz=238			*e*S	Sn	11 35 37.9	-1.7
YM01	**YM01** baz=290	**1.21 298**		P	Pn	11 35 24.1	+0.6
YM01	baz=290			*e*S	Sn	11 35 40.0	-0.7
YM08	**YM08** baz=299	**1.21 300**		*e*P	Pn	11 35 23.5	0.0
YM08	baz=299			S	Sn	11 35 40.6	-0.1
NNSB	**Datong** baz=256	**1.25 263**		*i* P	Pn	11 35 24.0	0.0
NNSB	baz=256			*e*S	Sn	11 35 40.4	-1.3
YHNB	**Yeheng** baz=273	**1.25 274**		P	Pn	11 35 24.3	+0.3
YHNB	baz=273			S	Sn	11 35 40.9	-0.6
NNS	**Nan Shan** baz=256	**1.26 264**		*e*P	Pn	11 35 23.4	-0.7
NNS	baz=256			*e*S	Sn	11 35 40.7	-1.1
TEYL	**Yanliau Villag** baz=236	**1.26 236**		*i* P	Pn	11 35 23.6	-0.4
TEYL	baz=236			S	Sn	11 35 40.8	-0.9
NSK	**Sanguang** baz=267	**1.27 275**		P	Pn	11 35 24.3	+0.2
NSK	baz=267			*e*S	Sn	11 35 41.1	-0.8
ETM	**Tongmen** baz=237	**1.29 242**		P	Pn	11 35 24.6	+0.1
ETM	baz=237			*e*S	Sn	11 35 40.8	-1.6
LXIB	**Xiulin Townshi** baz=244	**1.34 246**		*e*P	Pn	11 35 24.4	-0.7
LXIB	baz=244			*e*S	Sn	11 35 41.2	-2.2
SHUL	**Shoufeng** baz=232	**1.34 234**		*i* P	Pn	11 35 24.6	-0.3
SHUL	baz=232			*e*S	Sn	11 35 42.0	-1.2
FUSS	**Fushou** baz=255	**1.41 257**		*i* P	Pn	11 35 26.1	+0.1
FUSS	baz=255			*e*S	Sn	11 35 43.9	-1.3
WHF	**Hehuan Shan** baz=257	**1.42 253**		*e*P	Pn	11 35 25.9	-0.4
WHF	baz=257			*e*S	Sn	11 35 43.8	-1.9
ESL	**Shilin** baz=241	**1.42 238**		P	Pn	11 35 25.7	-0.2
ESL	baz=241			*e*S	Sn	11 35 43.0	-2.1
TWT	**Tachien** baz=253	**1.47 258**		*e*P	Pn	11 35 26.9	+0.3
TWT	baz=253			*e*S	Sn	11 35 45.7	-0.6
NFF	**Wufeng Townshi** baz=271	**1.48 272**		*e*P	Pn	11 35 26.9	+0.2
NFF	baz=271			*e*S	Sn	11 35 45.5	-1.1
TDCB	**Techi** baz=253	**1.48 258**		*i* P	Pn	11 35 27.1	+0.2
TDCB	baz=253			*e*S	Sn	11 35 45.1	-1.5
EGFH	**Guangfu** baz=236	**1.51 233**		*e*P	Pn	11 35 27.1	+0.1
EGFH	baz=236			*e*S	Sn	11 35 45.2	-1.7
WARBT	**Fenglin Townsh** baz=241	**1.51 236**		*e*P	Pn	11 35 26.2	-0.9
WARBT	baz=241			*e*S	Sn	11 35 44.6	-2.4
CHGB	**Renai** baz=243	**1.52 251**		P	Pn	11 35 27.1	-0.3
CHGB	baz=243			*e*S	Sn	11 35 46.4	-1.3
OWD	**Renai** baz=241	**1.56 247**		P	Pn	11 35 27.6	-0.2
OWD	baz=241			S	Sn	11 35 46.7	-1.6
NSTT	**Nanjuang** baz=271	**1.59 272**		*e*P	Pn	11 35 28.1	+0.1
NSTT	baz=271			*e*S	Sn	11 35 48.1	-0.7
WUSB	**Renai** baz=243	**1.60 249**		P	Pn	11 35 28.2	0.0
WUSB	baz=243			*e*S	Sn	11 35 47.8	-1.4
HGSD	**Ruisui** baz=225	**1.62 228**		P	Pn	11 35 28.2	-0.2
HGSD	baz=225			*e*S	Sn	11 35 48.1	-1.3
WHP	**Taichung City** baz=256	**1.67 260**		P	Pn	11 35 30.5	+1.4
WHP	baz=256			*i* S	Sn	11 35 51.0	+0.4
VWDT	**VWDT** baz=234	**1.68 241**		*i* P	Pn	11 35 29.0	-0.1
VWDT	baz=234			*i* S	Sn	11 35 49.5	-1.3
EHY	**Hungye** baz=229	**1.68 231**		P	Pn	11 35 28.6	-0.7
EHY	baz=229			*e*S	Sn	11 35 49.0	-1.9
DPDB	**Guoxing** baz=249	**1.75 252**		P	Pn	11 35 30.7	+0.7
DPDB	baz=249			*e*S	Sn	11 35 51.9	-0.5
WCS	**Beigang Elemen** baz=258	**1.75 253**		*e*P	Pn	11 35 30.2	+0.2
WCS	baz=258			*e*S	Sn	11 35 51.5	-0.9
YULB	**Yu-li** baz=235	**1.77 229**		P	Pn	11 35 29.6	-0.8
YULB	baz=235			*e*S	Sn	11 35 50.5	-2.5
EYUL	**Yuli** baz=234	**1.79 227**		*e*P	Pn	11 35 31.3	+0.7
EYUL	baz=234			S	Sn	11 35 53.1	-0.2
TWF1	**Yuli** baz=235	**1.80 228**		*i* P	Pn	11 35 30.5	-0.3
SSLB	**Suanglung** baz=240	**1.81 245**		P	Pn	11 35 31.2	+0.3
SSLB	baz=240			S	Sn	11 35 52.8	-1.1
SMLT	**Sun Moon Lake** baz=242	**1.82 248**		*e*P	Pn	11 35 31.0	0.0
SMLT	baz=242			*e*S	Sn	11 35 55.7	+1.6
CHKH	**Chenggong** baz=217	**1.85 222**		P	Pn	11 35 31.0	-0.4
CHKH	baz=217			*e*S	Sn	11 35 52.0	-2.7
FULB	**Fuli** baz=217	**1.91 224**		P	Pn	11 35 31.7	-0.4
FULB	baz=217			*e*S	Sn	11 35 55.3	-0.8
WHYT	**Xinyi Township** baz=240	**1.94 243**		P	Pn	11 35 32.5	0.0
WHYT	baz=240			*e*S	Sn	11 35 56.5	-0.2
CHKT	**Chengkung** baz=217	**1.94 221**		*e*P	Pn	11 35 32.1	-0.4
CHKT	baz=217			*i* S	Sn	11 35 54.5	-2.2
EDH	**Donghe** baz=215	**2.07 220**		P	Pn	11 35 33.5	-0.7
EDH	baz=215			S	Sn	11 35 57.4	-2.4
ELDTW	**Lidau** baz=227	**2.10 229**		P	Pn	11 35 34.1	-0.6
ELDTW	baz=227			*e*S	Sn	11 35 59.1	-1.6
JMJ	**Miyako jima 2** baz=85	**2.33 84**		*e*P	Pn	11 35 38.4	+0.9
JMJ	baz=85			*e*S	Sn	11 36 03.6	-2.1

JMA 02 11:35:26.0±0.1, 24°.4N±0°.6×124°.2E±0°.5, h15km, MV1.0/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**0.03 201**		*i* P	Pg	11 35 28.6	-0.1
JIJ				S	Sg	11 35 30.7	+0.2
JKRS	**Kuro-shima**	**0.20 221**		P	Pg	11 35 30.7	0.0
JISG	**Ishigakijimahi**	**0.24 36**		P	Pg	11 35 31.2	-0.1
JISG				*e*S	Sg	11 35 35.4	+0.5
IRIF	**Iriomote-Funau**	**0.39 262**		*e*P	Pg	11 35 33.8	-0.1
JTJ	**Tarama**	**0.56 63**		*e*P	Pg	11 35 36.7	-0.2
JTJ				*e*S	Sb	11 35 44.9	-0.2

IDC ***02*** *11:47:04.5±1.9, 38°.87N×141°.96E, h52km±17km, mb3.8/10, mbtmp4.0/14, ML3.2/4, Error ellipse: s-maj=25.2km s-min=10.9km az=95.0*

NIED ***02*** *11:47:04.8, 38°.92N×141°.93E, h51km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}5.24; $M_{\theta\theta}$-0.44; $M_{\phi\phi}$-4.79; $M_{r\theta}$1.55; $M_{\phi\theta}$-1.02; $M_{\phi r}$4.95; Fault plane solution: $M_0$7.29000×10^{14} NP1:ϕ_s16.00000°, δ68.00000°, λ92.00000°. NP2:ϕ_s190.00000°, δ22.00000°, λ84.00000°.*

JMA ***02*** *11:47:04.8±0.1, 38°.9N±0°.3×141°.9E±0°.7, h51km, MV3.9/40, KINKAZAN REGION*

JMA Felt II J1 at KINKAZAN REGION .

NEIC ***02*** *11:47:05.3±1.9, 38°.83N±0°.05×142°.1E±0°.1, h61km±7km, mb4.4/11, Error ellipse: s-maj=17.1km s-min=3.8km az=109.0*

ISC 02 11:47:04.2±1.1, 38°.87N±0°.05×142°.02E±0°.09, h53km±8km,

n69,σ1°46/69, mb4.2/17, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.35**	**308**	⇓P	**Pn**	**11 47 13.8**	**-0.2**
OFUJ				⇓S	**Sn**	**11 47 20.0**	**-1.1**
JKMT	**Kesennumamotoy**	**0.43**	**263**	⇓*i*P	**Pn**	**11 47 14.7**	**-0.2**
JKMT				⇓S	**Sn**	**11 47 21.4**	**-1.1**
JMK	**Ichinoseki**	**0.63**	**278**	⇓P	**Pn**	**11 47 16.8**	**-0.4**
JMK				⇓S	**Sn**	**11 47 25.3**	**-1.3**
JIO	**Ouri**	**0.67**	**232**	⇓*i*P	**Pn**	**11 47 17.7**	**0.0**
JIO				⇓S	**Sn**	**11 47 26.6**	**-0.9**
JOM	**Ohasama**	**0.83**	**317**	⇓P	**Pn**	**11 47 19.3**	**-0.5**
JOM				⇓S	**Sn**	**11 47 29.6**	**-1.6**
JOU	**Okura**	**1.18**	**245**	⇓P	**Pn**	**11 47 24.2**	**-0.2**
JRG	**Rokugo**	**1.20**	**297**	⇓P	**Pn**	**11 47 24.1**	**-0.7**
JYK	**Kaneyama**	**1.30**	**273**	⇓P	**Pn**	**11 47 25.7**	**-0.3**
JMM	**Marumori**	**1.39**	**224**		**Pn**	**11 47 27.1**	**-0.2**
JMM	**Marumori**	**1.39**	**224**	P	**Pn**	**11 47 27.1**	**-0.2**
JANG	**Nango**	**1.56**	**346**	⇓P	**Pn**	**11 47 28.9**	**-0.7**
JTM	**Tenmabayashi**	**2.06**	**339**	P	**Pn**	**11 47 36.5**	**+0.2**
JTM	**Tenmabayashi**	**2.06**	**339**		**Pn**	**11 47 36.2**	**-0.1**
ERM	**Erimo**	**3.26**	**15**	P	**Pn**	**11 47 53.1**	**+0.3**
ERM	**Erimo**	**3.26**	**15**	Pn	**Pn**	**11 47 53.4**	**+0.5**
JEM	**Erimo**	**3.26**	**15**	P	**Pn**	**11 47 55.8**	**+3.0**
MJAR	**Matsushiro Arr**	**3.81**	**234**	P	**Pn**	**11 48 01.5**	**+1.1**
	0.4nm,0.3s,baz=36,slow=12,SNR=31						
	5.0nm,0.4s						
MAJO	**Matsushiro**	**3.81**	**234**	P	**Pn**	**11 48 04.1**	**+3.7**
MAJO	**Matsushiro**	**3.81**	**234**		**Pn**	**11 48 02.4**	**+2.0**
MJB9	**Matsu-Tunnel**	**3.81**	**234**		**Pn**	**11 48 02.6**	**+2.2**
JGF	**Kuroka**	**4.95**	**230**	P	Pn	11 48 21.2	+5.2
JGF	**Kuroka**	**4.95**	**230**		**Pn**	**11 48 19.3**	**+3.3**
ASAJ	**Asahikawa**	**5.26**	**5**	P	**Pn**	**11 48 21.1**	**+0.9**
	1.0nm,0.3s,baz=220,slow=15,SNR=13						
ASAJ				S	**Sn**	**11 49 19.4**	**-0.2**
	5.0nm,0.4s,baz=162,slow=19,SNR=1.8						
	2.2nm,0.3s						
JKA	**Kamikawa-asahi**	**5.26**	**5**		**Pn**	**11 48 21.1**	**+0.8**
INU	**Inuyama**	**5.32**	**230**	P	**Pn**	**11 48 24.9**	**+3.8**
INU	**Inuyama**	**5.32**	**230**		**Pn**	**11 48 22.4**	**+1.3**
JHJ	**Hachijo jima 2**	**6.01**	**198**	P	**Pn**	**11 48 32.2**	**+1.6**
	0.8nm,0.3s,baz=307,slow=14,SNR=2.1						
JHJ				S	**Sn**	**11 49 36.0**	**-2.2**
	18nm,0.3s,baz=238,slow=18,SNR=1.8						
	50nm,0.8s						
JWT	**Wachi**	**6.39**	**238**	P	**Pn**	**11 48 38.3**	**+2.6**
USA0B	**Ussuriysk Arra**	**9.22**	**309**	Pn	**Pn**	**11 49 16.8**	**+2.4**
USRK	**Ussuriysk Ar.**	**9.22**	**309**	Pn	**Pn**	**11 49 19.0**	**+4.6**
USRK	**Ussuriysk Ar.**	**9.22**	**309**	P	**Pn**	**11 49 14.8**	**+0.4**
	0.6nm,0.3s,baz=120,slow=13,SNR=18						
	7.7nm,0.7s						
KSRS	**Korea Array**	**11.19**	**267**	P	**Pn**	**11 49 45.1**	**+3.7**
	1.2nm,0.7s,baz=77,slow=13,SNR=3.2						
KSAR	**Wonju Array Be**	**11.23**	**267**	Pn	**Pn**	**11 49 42.7**	**0.8**
KS19	**Wonju Array Si**	**11.23**	**267**	Pn	**Pn**	**11 49 42.5**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**28.73**	**124**	T	T	12 23 32.1	
	baz=317,slow=75,SNR=311						
H11N1	**WAKE ISLAND Hy**	**28.74**	**125**	T	T	12 23 32.8	
	baz=317,slow=75,SNR=278						
H11N3	**WAKE ISLAND Hy**	**28.75**	**124**	T	T	12 23 33.5	
	baz=317,slow=75,SNR=203						
H11S1	**WAKE ISLAND Hy**	**29.50**	**126**	T	T	12 24 22.8	
	baz=319,slow=76,SNR=52						
H11S3	**WAKE ISLAND Hy**	**29.50**	**126**	T	T	12 24 22.3	
	baz=319,slow=76,SNR=92						
H11S2	**WAKE ISLAND Hy**	**29.52**	**126**	T	T	12 24 32.2	
	baz=319,slow=76,SNR=72						
ZALV	**Zalesovo Beam**	**41.06**	**311**	P	**P**	**11 54 42.7**	**+0.4**
ZALV	**Zalesovo Beam**	**41.06**	**311**	P	**P**	**11 54 42.3**	**0.0**
	2.3nm,0.6s,baz=97,slow=7.9,SNR=8.4						
	2.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.45**	**254**	P	**P**	**11 54 54.3**	**+0.3**
	0.3nm,0.3s,baz=52,slow=6.6,SNR=2.2						
	0.3nm,0.3s						
MK31	**Makanchi Array**	**43.58**	**301**	P	**P**	**11 55 02.6**	**-0.3**
MK31				IAmb	IAmb	11 55 04.1	
	comp=Z,3.2nm,0.8s						
MKAR	**Makanchi Array**	**43.58**	**301**	P	**P**	**11 55 02.9**	**0.0**
	comp=Z,3.2nm,0.7s,baz=86,slow=9.7,SNR=31						
	comp=Z,3.2nm,0.7s						
B20K	**Meade River**	**44.13**	**26**	P	**P**	**11 55 08.3**	**+1.4**
B20K				IAmb	IAmb	11 55 34.5	
	comp=Z,14nm,1.5s						
IMAR	**Indian Mountai**	**44.84**	**32**	P	**P**	**11 55 12.9**	**+0.3**
B21K	**Ikpikpuk River**	**44.93**	**26**	P	**P**	**11 55 14.2**	**+0.8**
B21K				IAmb	IAmb	11 55 17.0	
	comp=Z,4.0nm,1.1s						
KURK	**Kurchatov**	**45.20**	**307**	P	**P**	**11 55 15.0**	**-0.7**
KURK				IAmb	IAmb	11 55 16.3	
	comp=Z,8.4nm,1.1s						
KURBB	**Kurchatov Arra**	**45.28**	**307**	P	**P**	**11 55 16.3**	**-0.1**
	comp=Z,3.5nm,0.5s,baz=82,slow=8.4,SNR=28						
	comp=Z,3.5nm,0.5s						
ILAR	**Eielson Array**	**47.70**	**33**	P	**P**	**11 55 35.1**	**0.0**
ILAR	**Eielson Array**	**47.70**	**33**	P	**P**	**11 55 36.8**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=270,slow=6.0,SNR=2.1						
	comp=Z,0.2nm,0.6s						
D25K	**Kavik River**	**47.80**	**27**	P	**P**	**11 55 36.9**	**+0.9**
BVAR	**Borovoye Array**	**49.71**	**311**	P	**P**	**11 55 50.8**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=66,slow=8.5,SNR=12						
	comp=Z,2.2nm,0.5s						
I30M	**Mount Dempster**	**52.06**	**32**	P	**P**	**11 56 09.1**	**+0.8**
I30M				IAmb	IAmb	11 56 11.5	
	comp=Z,2.0nm,1.1s						
KKAR	**Karatay Array**	**52.64**	**299**	P	**P**	**11 56 12.1**	**-0.7**
ARU	**Arti**	**55.32**	**318**	P	**P**	**11 56 32.0**	**-0.1**
	comp=Z,3.3nm,0.4s,baz=1.9,slow=5.8,SNR=5.2						
	comp=Z,3.3nm,0.4s						
Q32M	**Nakina River**	**55.61**	**39**	P	**P**	**11 56 33.9**	**-0.6**
Q32M				IAmb	IAmb	11 56 47.3	
	comp=Z,11nm,1.5s						
ABKAR	**Akbulak array**	**57.14**	**309**	P	**P**	**11 56 44.7**	**-0.5**
WB0	**Warramunga Arr**	**58.76**	**188**	P	**P**	**11 56 56.5**	**-0.3**
WB0				IAmb	IAmb	11 57 09.6	
	comp=Z,8.6nm,1.2s						
WR0	**Warramunga Arr**	**58.93**	**188**	P	**P**	**11 56 57.5**	**-0.5**
WB2	**Warramunga Arr**	**58.94**	**188**	P	**P**	**11 56 57.6**	**-0.5**
WRA	**Warramunga Arr**	**58.94**	**188**	P	**P**	**11 56 57.4**	**-0.7**
WRA	**Warramunga Arr**	**58.94**	**188**	P	**P**	**11 56 58.4**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=5.0,slow=7.0,SNR=15						
	comp=Z,0.5nm,0.5s						
ASAR	**Alice Springs**	**62.67**	**188**	P	**P**	**11 57 23.6**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=8.1,slow=5.3,SNR=5.6						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**67.42**	**332**	P	**P**	**11 57 52.9**	**-0.9**
FINES	**FINESS Array B**	**67.42**	**332**	P	**P**	**11 57 53.4**	**-0.3**
	baz=355,slow=7.0						
LYMT	**Lyon Mountain**	**71.89**	**44**	P	**P**	**11 58 20.4**	**-1.4**
HFS	**Hagfors**	**72.62**	**336**	P	**P**	**11 58 25.9**	**+0.3**
	comp=Z,3.5nm,1.0s,baz=47,slow=6.3,SNR=1.7						
	comp=Z,3.5nm,1.0s						

BJI ***02*** *11:53:19.7±0.0, 41°.23N×142°.62E, h54km, mb5.2/82, mB5.1/42, Ms4.5/61, Ms7 4.4/63*

NIED ***02*** *11:53:20.4, 41°.20N×142°.70E, h39km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr1.91; Mθθ-0.18; Mφφ-1.73; Mrθ1.10; Mθφ-0.24; Mφr1.91; Fault plane solution: M0 2.86000×10^16 NP1:φs 24.00000°, δ70.00000°, λ99.00000°. NP2:φs 178.00000°, δ22.00000°, λ65.00000°.*

JMA ***02*** *11:53:20.4±0.1, 41°.2N±0°.5×142°.7E±0°.6, h39km±4km, MD5.0/39, MW5.0/39, E OFF AOMORI PREF*

JMA Felt III J1 at E OFF AOMORI PREF .

MOS ***02*** *11:53:20.1±0.8, 41°.32N×142°.68E, h50km, mb5.5/94, MS4.5/13, Error ellipse: s-maj=5.5km s-min=4.6km az=111.9*

NEIC ***02*** *11:53:21.3±2.0, 41°.26N±0°.06×142°.71E±0°.09, h38km±5km, mb5.2/256, Error ellipse: s-maj=10.2km s-min=7.7km az=113.0*

BGR ***02*** *11:53:23.0, 41°.81N×143°.24E, h33km, mb5.2, Ms4.6, Hypocentre not reviewed by the ISC*

GCMT ***02*** *11:53:23.3±0.3, 41°.38N±0°.02×142°.90E±0°.03, h43km±1km, MW5.1/93, Moment Tensor Solution. s49,c62; s93,c133; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.70±.21; Mθθ0.23±.14; Mφφ-3.93±.14; Mrθ1.47±.12; Mθφ-1.24±.09; Mφr2.40±.14; Best double couple: M0 4.88900×10^16 NP1:φs 25.00000°, δ63.00000°, λ100.00000°. NP2: φs 184.00000°, δ29.00000°, λ71.00000°. Principal axes: T 4.6670, Plg70.0000°, Azm318.0000°; N 0.4480,*

Plg9.0000°, Azm201.0000°; P -5.1110, Plg17.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

IDC ***02*** *11:53:23.2±1.6, 41°.25N×142°.60E, h58km±13km, mb4.7/36, mbtmp5.0/42, MS4.2/45 Error ellipse: s-maj=11.5km s-min=8.9km az=116.0*

ISC 02 11:53:21.6±0.3, 41°.23N±0°.03×142°.76E±0°.03, h49km±2km, h49km:pP-P, n1290, σ1°30/1311, mb5.2/283, MS4.5/79, 72C-64D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.84**	**21**	P	**Pn**	**11 53 37.0**	**-0.2**
ERM	**Erimo**	**0.84**	**21**		**Pn**	**11 53 36.2**	**-1.0**
ERM	**Erimo**	**0.84**	**21**	*ce*P	**Pn**	**11 53 36.5**	**-0.7**
ERM				pmax	pmax		
	comp=Z,2μm,1.0s						
JEM	**Erimo**	**0.84**	**21**	P	**Pn**	**11 53 37.1**	**-0.1**
JEM	**Erimo**	**0.84**	**21**	P	**Pn**	**11 53 36.4**	**-0.8**
JEM				S	**Sn**	**11 53 48.5**	**0.0**
JEM	**Erimo**	**0.84**	**21**	A	A	11 53 36.4	
	comp=E,40nm,1.3s,comp=N,40nm,1.6s						
JNBK	**Urakawa-nobuka**	**1.05**	**360**	⇓P	**Pn**	**11 53 39.7**	**-0.3**
JNBK				⇓*e*S	**Sn**	**11 53 56.0**	**+2.5**
JNBK	**Urakawa-nobuka**	**1.05**	**360**	A	A	11 53 39.7	
	comp=E,63nm,2.1s,comp=N,59nm,5.4s						
JAHD	**Aomorihigashid**	**1.07**	**272**	⇓*i*P	**Pn**	**11 53 38.8**	**-1.4**
JAHD				⇓S	**Sn**	**11 53 52.2**	**-1.8**
JAHD	**Aomorihigashid**	**1.07**	**272**	A	A	11 53 38.8	
	comp=E,231nm,0.4s,comp=N,252nm,0.4s						
JARK	**Aomorirokkasho**	**1.07**	**259**	⇓*i*P	**Pn**	**11 53 38.7**	**-1.6**
JARK				⇓*e*S	**Sn**	**11 53 51.8**	**-2.3**
JARK	**Aomorirokkasho**	**1.07**	**259**	A	A	11 53 38.7	
	comp=E,42nm,0.9s,comp=N,101nm,0.8s						
JTHR	**Tokachihiroo**	**1.14**	**21**	A	A	11 53 41.0	
	comp=E,64nm,2.2s,comp=N,44nm,1.1s						
JSHD	**Hidakashinhida**	**1.20**	**350**	A	A	11 53 41.6	
	comp=E,157nm,1.7s,comp=N,103nm,2.0s						
JANG	**Nango**	**1.27**	**228**	⇓P	**Pn**	**11 53 41.2**	**-1.8**
JANG	**Nango**	**1.27**	**228**	A	A	11 53 41.2	
	comp=E,49nm,1.4s,comp=N,28nm,1.4s						
JKEN	**Kujiedanarisaw**	**1.29**	**218**	A	A	11 53 41.9	
	comp=E,74nm,0.6s,comp=N,68nm,0.8s						
JOT	**Ohata**	**1.30**	**277**	⇓P	**Pn**	**11 53 42.1**	**-1.2**
JOT				⇓S	**Sn**	**11 53 57.9**	**-1.6**
JOT	**Ohata**	**1.30**	**277**	A	A	11 53 42.1	
	comp=E,70nm,1.4s,comp=N,58nm,0.7s						
JTM	**Tenmabayashi**	**1.35**	**252**	P	**Pn**	**11 53 43.8**	**-0.3**
JTM	**Tenmabayashi**	**1.35**	**252**		**Pn**	**11 53 43.1**	**-0.9**
JTM	**Tenmabayashi**	**1.35**	**252**	⇓*i*P	**Pn**	**11 53 43.3**	**-0.8**
JTM				⇓S	**Sn**	**11 53 59.7**	**-1.1**
JTM	**Tenmabayashi**	**1.35**	**252**	A	A	11 53 43.3	
	comp=E,65nm,1.2s,comp=N,134nm,1.3s						
JKB	**Kayabe**	**1.45**	**298**	⇓P	**Pn**	**11 53 44.0**	**-1.4**
JKB				⇓*e*S	**Sn**	**11 54 00.9**	**-2.4**
JKB	**Kayabe**	**1.45**	**298**	A	A	11 53 44.0	
	comp=E,34nm,3.4s,comp=N,22nm,2.8s						
JCH	**Churui**	**1.46**	**18**	P	**Pn**	**11 53 45.4**	**0.0**
JCH				S	**Sn**	**11 54 03.3**	**-0.1**
JCH	**Churui**	**1.46**	**18**	A	A	11 53 45.4	
	comp=E,31nm,1.7s,comp=N,22nm,1.4s						
JTH	**Tanohata**	**1.46**	**208**	A	A	11 53 44.3	
	comp=E,11nm,1.8s,comp=N,13nm,0.8s						
JIAM	**Iburiatsuma**	**1.53**	**336**	⇓P	**Pn**	**11 53 47.5**	**+1.1**
JIAM				⇓S	**Sn**	**11 54 08.1**	**+2.9**
JIAM	**Iburiatsuma**	**1.53**	**336**	A	A	11 53 47.5	
	comp=E,144nm,0.5s,comp=N,156nm,1.0s						
JBT2	**Biratori 2**	**1.58**	**349**	P	**Pn**	**11 53 47.4**	**+0.3**
JBT2	**Biratori 2**	**1.58**	**349**	A	A	11 53 47.4	
	comp=E,23nm,3.9s,comp=N,21nm,2.7s						
JKZ	**Kuzumaki**	**1.65**	**222**	A	A	11 53 47.0	
	comp=E,70nm,1.6s,comp=N,63nm,0.6s						
JSI2	**Shiura 2**	**1.78**	**265**	A	A	11 53 49.0	
	comp=E,62nm,0.8s,comp=N,79nm,1.0s						
JNB	**Noboribetsu**	**1.79**	**315**	⇓P	**Pn**	**11 53 48.8**	**-1.2**
JNB				⇓S	**Sn**	**11 54 10.1**	**-1.3**
JNB	**Noboribetsu**	**1.79**	**315**	A	A	11 53 48.8	
	comp=E,13nm,2.0s,comp=N,14nm,1.2s						
JSR	**Shiriuchi**	**1.79**	**280**	⇓P	**Pn**	**11 53 49.4**	**-0.6**
JSR	**Shiriuchi**	**1.79**	**280**	A	A	11 53 49.4	
	comp=E,41nm,1.6s,comp=N,17nm,1.1s						
MIYJ	**Miyakonagasawa**	**1.80**	**204**	A	A	11 53 49.3	
	comp=E,29nm,2.6s,comp=N,14nm,0.7s						
JOB	**Onbets**	**1.86**	**25**	A	A	11 53 51.5	
	comp=E,25nm,1.6s,comp=N,28nm,1.6s						
JEW	**Eniwo**	**1.88**	**329**	⇓P	**Pn**	**11 53 51.7**	**+0.4**
JEW				⇓S	**Sn**	**11 54 15.1**	**+1.3**
JEW	**Eniwo**	**1.88**	**329**	A	A	11 53 51.7	
	comp=E,121nm,2.3s,comp=N,177nm,1.1s						
JHHS	**Hirosakihyakuz**	**1.91**	**253**	A	A	11 53 50.7	
	comp=E,93nm,2.3s,comp=N,139nm,0.6s						
JAH	**Hinai**	**1.92**	**238**	A	A	11 53 50.9	
	comp=E,35nm,0.8s,comp=N,48nm,0.9s						
JFR	**Furan**	**1.94**	**356**	A	A	11 53 52.4	
	comp=E,18nm,0.9s,comp=N,18nm,1.9s						
JYM2	**Yakumo 2**	**2.00**	**297**	A	A	11 53 52.5	
	comp=E,23nm,1.3s,comp=N,20nm,1.3s						
JSZI	**Iwateshizukuis**	**2.02**	**223**	A	A	11 53 52.4	
	comp=E,83nm,1.5s,comp=N,75nm,2.1s						
JOM	**Ohasama**	**2.08**	**213**	⇓P	**Pn**	**11 53 53.4**	**-0.7**
JOM				⇓S	**Sn**	**11 54 18.3**	**-0.4**
JOM	**Ohasama**	**2.08**	**213**	A	A	11 53 53.4	
	comp=E,69nm,0.5s,comp=N,64nm,0.6s						
JOMM	**Oshimamatsumae**	**2.09**	**279**	⇓P	**Pn**	**11 53 53.1**	**-1.0**
JOMM	**Oshimamatsumae**	**2.09**	**279**	A	A	11 53 53.1	
	comp=E,17nm,1.9s,comp=N,15nm,2.9s						
JIW	**Iwasaki**	**2.18**	**254**	A	A	11 53 54.7	
	comp=E,61nm,0.6s,comp=N,65nm,0.8s						
JNTW	**Noshirotokiwa**	**2.19**	**245**	A	A	11 53 54.8	
	comp=E,94nm,1.6s,comp=N,107nm,2.3s						
JAR	**Ashorobuto**	**2.20**	**20**	A	A	11 53 56.3	
	comp=E,15nm,2.2s,comp=N,14nm,2.6s						
JISS	**Ishikarishitsu**	**2.27**	**335**	A	A	11 53 56.9	
	comp=E,42nm,2.2s,comp=N,40nm,3.1s						
JAK	**Akkeshi**	**2.28**	**39**	A	A	11 53 57.6	
	comp=E,15nm,1.4s,comp=N,13nm,3.1s						
OFUJ	**Ofunato**	**2.30**	**202**	A	A	11 53 56.5	
	comp=E,23nm,1.1s,comp=N,17nm,1.6s						
JAB	**Ashibetsu**	**2.31**	**350**	A	A	11 53 57.6	
	comp=E,33nm,3.2s,comp=N,34nm,1.0s						
JRG	**Rokugo**	**2.45**	**222**	A	A	11 53 58.5	
	comp=E,36nm,0.8s,comp=N,41nm,2.0s						
JHST	**Hiyamasetana**	**2.46**	**300**	A	A	11 53 59.1	
	comp=E,15nm,2.0s,comp=N,12nm,2.2s						
JSH	**Shimam**	**2.47**	**306**	A	A	11 53 59.4	
	comp=E,6.0nm,4.0s,comp=N,7.0nm,4.0s						
JMK	**Ichinoseki**	**2.56**	**208**	A	A	11 54 00.1	
	comp=E,22nm,2.6s,comp=N,11nm,0.7s						
JKHN	**Kushirohamanak**	**2.57**	**43**	A	A	11 54 01.8	
	comp=E,14nm,2.2s,comp=N,13nm,1.7s						
JYW	**Yuwa**	**2.58**	**230**	A	A	11 54 00.3	
	comp=E,39nm,1.0s,comp=N,49nm,1.2s						
JOSM	**Okushiri--Mats**	**2.60**	**290**	A	A	11 54 01.1	
	comp=E,10.0nm,2.9s,comp=N,6.0nm,6.6s						
JKMT	**Kesennumamotoy**	**2.61**	**203**	A	A	11 54 00.9	
	comp=E,22nm,0.7s,comp=N,9.0nm,1.8s						
JHR	**Hokuryu**	**2.63**	**343**	A	A	11 54 02.1	
	comp=E,33nm,1.8s,comp=N,32nm,1.4s						
JKK2	**Kamakawa 2**	**2.64**	**360**	A	A	11 54 02.5	
	comp=E,10.0nm,2.1s,comp=N,10.0nm,1.9s						
JSK	**Shakotan**	**2.71**	**322**	A	A	11 54 03.1	
	comp=E,10.0nm,2.6s,comp=N,7.0nm,2.9s						
JNK	**Nakash**	**2.77**	**31**	A	A	11 54 04.5	
	comp=E,8.0nm,1.9s,comp=N,9.0nm,1.4s						
JMP	**Maruseppu**	**2.81**	**9**	A	A	11 54 05.0	
	comp=E,8.0nm,2.5s,comp=N,9.0nm,2.6s						
JTKR	**Abashiri--Toko**	**2.87**	**17**	A	A	11 54 05.9	
	comp=E,6.0nm,3.6s,comp=N,4.0nm,2.9s						
JKA	**Kamikawa-asahi**	**2.89**	**358**	Pn	**Pn**	**11 54 05.4**	**+0.3**
ASAJ	**Asahikawa**	**2.89**	**358**	P	**Pn**	**11 54 06.1**	**+1.0**
	comp=N,406nm,0.6s,baz=216,slow=12,SNR=169						
ASAJ				S	**Sn**	**11 54 40.2**	**+1.6**
	comp=N,692nm,0.7s,baz=224,slow=26,SNR=5.0						
ASAJ	**Asahikawa**	**2.89**	**358**	A	A	11 54 06.0	
	comp=E,8.0nm,2.4s,comp=N,6.0nm,2.8s						
JYK	**Kaneyama**	**2.95**	**219**	A	A	11 54 05.6	
	comp=E,15nm,1.1s,comp=N,14nm,1.2s						
JOFO	**Osakifurukawao**	**2.98**	**209**	A	A	11 54 06.1	
	comp=E,61nm,1.9s,comp=N,38nm,2.0s						
JNSB	**Nemuroshibetsu**	**3.04**	**32**	A	A	11 54 08.4	
	comp=E,12nm,1.3s,comp=N,12nm,2.4s						
NMR	**Nemuro--Hokkai**	**3.07**	**45**	⇓*i*P	**Pn**	**11 54 06.2**	**-1.4**
NMR				*i* S	**Sn**	**11 54 39.4**	**-3.6**
JOG3	**Oga3**	**3.09**	**246**	A	A	11 54 00.6	
	comp=E,19nm,4.1s,comp=N,22nm,1.6s						
JYYZ	**Yamagatayuza**	**3.10**	**225**	A	A	11 54 07.7	
	comp=E,24nm,2.5s,comp=N,25nm,1.3s						
JTB	**Tobi-shima**	**3.18**	**231**	A	A	11 54 08.9	
	comp=E,18nm,2.3s,comp=N,15nm,3.6s						
JRA	**Rausu**	**3.22**	**32**	A	A	11 54 10.9	
	comp=E,6.0nm,3.7s,comp=N,6.0nm,2.0s						
JSS	**Shosan**	**3.24**	**348**	A	A	11 54 10.8	
	comp=E,14nm,4.7s,comp=N,16nm,4.5s						
JOU	**Okura**	**3.28**	**210**	A	A	11 54 10.4	
	comp=E,12nm,1.3s,comp=N,16nm,0.5s						
JYG	**Yagishiri**	**3.34**	**343**	A	A	11 54 12.3	
	comp=E,7.0nm,3.2s,comp=N,7.0nm,3.7s						
RUSJ	**Misakicho**	**3.41**	**32**	⇓*i*P	**Pn**	**11 54 12.2**	**0.0**
RUSJ				*i* S	**Sn**	**11 54 51.9**	**+0.5**
JYA	**Atsumi**	**3.52**	**223**	A	A	11 54 13.7	
	comp=E,20nm,0.7s,comp=N,22nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**3.62**	**38**	*d iP*	**Pn**	**11 54 14.5**	**-0.6**
YUK				*i* S	**Sn**	**11 54 53.6**	**-2.9**
YUK				pmax	pmax		
	comp=Z,995nm,0.3s						
YUK				smax	smax		
	comp=N,4μm,0.4s						
YUK				smax	smax		
	comp=E,881nm,0.4s						
JYS	**Shiratake**	**3.65**	**216**	A	A	11 54 15.6	
	comp=E,20nm,1.3s,comp=N,21nm,2.6s						
JMM	**Marumori**	**3.69**	**205**	P	**Pn**	**11 54 14.6**	**-1.4**
JMM	**Marumori**	**3.69**	**205**	Pn	**Pn**	**11 54 15.5**	**-0.5**
JMM	**Marumori**	**3.69**	**205**	A	A	11 54 16.1	
	comp=E,14nm,1.4s,comp=N,11nm,2.3s						
JMST	**Minamisoumatoc**	**3.79**	**203**	A	A	11 54 17.6	
	comp=E,12nm,1.4s,comp=N,11nm,2.3s						
JYAR	**Yonezawaarcadi**	**3.88**	**212**	A	A	11 54 18.8	
	comp=E,50nm,1.1s,comp=N,46nm,1.2s						
SHO	**Shikotan**	**4.00**	**47**	⇓*i*P	**Pn**	**11 54 18.6**	**-1.7**
SHO				*i* S	**Sn**	**11 55 01.1**	**-4.8**
SHO				pmax	pmax		
	comp=N,44nm,0.2s						
SHO				pmax	pmax		
	comp=Z,106nm,0.2s						
SHO				pmax	pmax		
	comp=E,62nm,0.3s						
SHO				smax	smax		
	comp=N,401nm,0.2s						
SHO				smax	smax		
	comp=E,1μm,0.3s						
JRR	**Rishiri**	**4.05**	**345**	A	A	11 54 22.2	
	comp=E,23nm,3.4s,comp=N,18nm,5.4s						
JFK	**Kawauchi**	**4.12**	**201**	A	A	11 54 22.3	
	comp=E,7.0nm,1.1s,comp=N,5.0nm,0.8s						
JWK2	**Keihoku**	**4.13**	**352**	A	A	11 54 23.5	
	comp=E,7.0nm,2.6s,comp=N,5.0nm,3.4s						
ONAJ	**Iwakimizuishiy**	**4.39**	**201**	A	A	11 54 26.1	
	comp=E,10.0nm,1.6s,comp=N,7.0nm,1.3s						
JSD	**Sado**	**4.71**	**229**	P	**Pn**	**11 54 31.4**	**+1.3**
JSD	**Sado**	**4.71**	**229**	Pn	**Pn**	**11 54 30.5**	**+0.4**
JSB	**Shiboa**	**4.79**	**208**	A	A	11 54 31.6	
	comp=E,10.0nm,4.7s,comp=N,8.0nm,1.8s						
JIZZ	**Izumozaki**	**4.84**	**222**	A	A	11 54 32.3	
	comp=E,10.0nm,3.0s,comp=N,8.0nm,2.9s						
KUR	**Kuril'sk**	**5.47**	**41**	*d iP*	**Pn**	**11 54 41.0**	**+0.5**
KUR				*e*S	**Sn**	**11 55 41.3**	**-0.8**
KUR				pmax	pmax		
	comp=Z,526nm,0.6s						
KUR				pmax	pmax		
	comp=E,86nm,0.4s						
KUR				pmax	pmax		
	comp=N,52nm,0.5s						
KUR				smax	smax		
	comp=N,3μm,3.7s						
KUR				smax	smax		
	comp=E,3μm,1.9s						
KUR				smax	smax		
	comp=E,422nm,0.7s						
K

KLR pmax pmax
comp=Z,34nm,1.0s
BNX BinXian 12.03 297 ⇓P **Pn 11 56 10.5 +0.3**
BNX pmax pmax
comp=Z,190nm,0.9s
KSRS Korea Array 12.09 257 P **Pn 11 56 12.7 +1.6**
comp=Z,38nm,0.6s,baz=65,slow=14,SNR=40
KSRS S **Sn 11 58 29.1 +4.8**
comp=Z,72nm,0.7s,baz=69,slow=24,SNR=19
KS19 Wonju Array Si 12.11 257 **Pn 11 56 12.0 +0.6**
KSAR Wonju Array Be 12.12 257 Pn **Pn 11 56 12.5 +1.0**
KSAR Wonju Array Be 12.12 257 P **Pn 11 56 12.5 +1.0**
JNU Nakatsue 12.45 233 P **Pn 11 56 16.3 +0.2**
JNU Nakatsue 12.45 233 Pn **Pn 11 56 15.9 -0.1**
JNU Nakatsue 12.45 233 P **Pn 11 56 15.4 -0.7**
comp=Z,10nm,0.7s,baz=359,slow=1.6,SNR=12
TJN Taejon 12.94 253 P **Pn 11 56 23.1 +0.3**
TJN Taejon 12.94 253 **Pn 11 56 23.7 +0.9**
TJN Taejon 12.94 253 *i*P **Pn 11 56 24.4 +1.6**
INCN Inchon 13.03 259 **Pn 11 56 24.2 +0.3**
INCN Inchon 13.03 259 P **Pn 11 56 26.0 +2.1**
INCN P **Pn 11 56 26.0 +2.1**
INCN S **Sn 11 58 55.2 +7.9**
INCN S **Sn 11 58 55.2 +7.9**
INCN Inchon 13.03 259 P **Pn 11 56 24.2 +0.3**
CN2 Changchun 13.03 287 P **Pn 11 56 24.6 +0.7**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,1μm,17.0s
HEH HeiHe 13.99 315 *e*P **Pn 11 56 33.6 -3.3**
HEH pmax pmax
comp=Z,46nm,0.6s
HEH pmax pmax
comp=Z,220nm,7.2s
HEH LR LR
comp=Z,900nm,17.3s
HEH LR LR
comp=Z,1μm,17.6s
HEH LR LR
comp=Z,2μm,17.4s
JCJ Chichijima 14.11 182 P **Pn 11 56 37.7 -0.9**
comp=Z,101nm,1.3s
JCJ Chichijima 14.11 182 Pn **Pn 11 56 36.1 -2.5**
JCJ Chichijima 14.11 182 P Pn 11 56 30.8 -7.8
comp=Z,28nm,0.3s,baz=280,slow=20,SNR=5.6
JCJ S Sn 11 58 57.4 -16
comp=Z,59nm,0.6s,baz=353,slow=19,SNR=2.4
JCJ LR LR 12 02 53.6
comp=Z,320nm,21.1s,baz=324,slow=40
SNY Shenyang 14.38 279 ⇓P **Pn 11 56 43.4 +1.2**
SNY S **Sn 11 59 18.7 -1.5**
SNY pmax pmax
comp=Z,30nm,0.9s
SNY pmax pmax
comp=Z,170nm,4.9s
SNY LR LR
comp=Z,630nm,16.5s
SNY LR LR
comp=Z,720nm,23.5s
SNY LR LR
comp=Z,1μm,19.6s
PEA0B Petropavlovsk- 15.60 35 **Pn 11 56 56.1 -1.8**
PEA0B Petropavlovsk- 15.60 35 P **Pn 11 56 56.1 -1.8**
PEA0B pmax pmax
comp=Z,12nm,1.2s
PETK Petropavlovsk- 15.60 35 **Pn 11 56 55.9 -2.0**
PETK Petropavlovsk- 15.60 35 P **Pn 11 56 55.2 -2.8**
comp=Z,1.9nm,0.6s,baz=220,slow=9.9,SNR=5.3
PETK LR LR 12 03 17.4
comp=Z,839nm,18.2s,baz=228,slow=38
PETK Petropavlovsk- 15.60 35 P **Pn 11 56 55.9 -2.0**
ZEA Zeya 16.28 325 *e*P **Pn 11 57 04.4 -2.2**
ZEA pmax pmax
comp=N,40nm,0.8s
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=Z,50nm,0.9s
DL2 Dalian 16.34 269 P **Pn 11 57 06.7 -0.8**
DL2 pP **P 11 57 13.4 +3.7**
DL2 sP **pP 11 57 20.4 -0.2**
DL2 S **Sn 12 00 07.1 -0.6**
DL2 sS **S 12 00 22.2 +4.1**
DL2 pmax pmax
comp=Z,220nm,0.8s
DL2 pmax pmax
comp=Z,420nm,5.1s
DL2 LR LR
comp=Z,540nm,18.6s
DL2 LR LR
comp=Z,840nm,19.5s
DL2 LR LR
comp=Z,1μm,25.8s
HIA Hailar 18.04 304 P **P 11 57 25.4 -3.1**
HIA Hailar 18.04 304 P **P 11 57 25.4 -3.1**
HIA pmax pmax
comp=Z,48nm,0.8s
JOW Kunigami 18.68 224 LR LR 12 05 19.4
comp=Z,521nm,18.8s,baz=346,slow=38
MA2 Magadan 19.04 13 P **Pn 11 57 41.5 +1.0**
MA2 Magadan 19.04 13 P **P 11 57 38.2 -1.1**
MA2 Magadan 19.04 13 P **P 11 57 37.4 -1.9**
comp=Z,14nm,0.7s,baz=181,slow=8.4,SNR=8.7
MA2 LR LR 12 05 47.5
comp=Z,473nm,18.6s,baz=200,slow=39
MA2 Magadan 19.04 13*ce*P **P 11 57 37.8 -1.5**
MA2 pmax pmax
comp=Z,22nm,0.8s
XLT XiLinHaoTe 19.80 287 *e*P **P 11 57 45.0 -2.9**
XLT PP **PnPn 11 58 04.1 -0.6**
XLT pmax pmax
comp=Z,38nm,0.9s
XLT pmax pmax
comp=Z,170nm,4.8s
BJI Beijing 20.19 275 P **P 11 57 49.0 -3.0**
BJI pmax pmax
comp=Z,30nm,0.9s
BJT Baijiatuau 20.20 275 P **P 11 57 52.4 +0.3**
BJT Baijiatuau 20.20 275 P **P 11 57 49.2 -2.9**
BJT IAmb IAmb 11 57 55.2
comp=Z,42nm,0.6s
BJT Baijiatuau 20.20 275 P **P 11 57 49.2 -2.9**
BJT pmax pmax
comp=Z,42nm,0.6s
NJ2 Nanjing 21.20 252 *e*P **P 11 58 00.3 -2.7**
NJ2 pmax pmax
comp=Z,12nm,0.6s
NJ2 pmax pmax
comp=Z,700nm,7.1s
NJ2 LR LR
comp=Z,1μm,14.7s
NJ2 LR LR
comp=Z,1μm,15.6s
NJ2 LR LR
comp=Z,2μm,17.1s
HNS HongShan 22.00 269 ⇑P **P 11 58 07.7 -3.7**
HNS *e*S **S 12 02 00.7 -11**
HNS pmax pmax
comp=Z,50nm,1.0s
HNS LR LR
comp=Z,490nm,18.3s
HNS LR LR
comp=Z,520nm,19.9s
HNS LR LR
comp=Z,670nm,19.4s
YAK Yakutsk 22.27 344 P **P 11 58 10.5 -3.7**
YAK IAmb IAmb 11 58 11.8
comp=Z,117nm,0.8s
YAK Yakutsk 22.27 344*c i*P **P 11 58 10.0 -4.2**
YAK *e**PP **pP 11 58 25.3 -0.1**
YAK *e*S **S 12 02 08.6 -7.3**
YAK pmax pmax
comp=Z,154nm,1.1s
YAK pmax pmax
comp=N,42nm,1.4s
YAK pmax pmax
comp=E,21nm,1.1s
YAK smax smax
comp=E,256nm,2.5s
YAK smax smax
comp=N,248nm,2.2s

SEY Seymchan 22.48 12 *e*P **P 11 58 12.2 -4.2**
SEY pmax pmax
comp=Z,31nm,1.1s
CIT Chita 22.62 308 *e*P **P 11 58 18.3 +0.2**
CIT *e* 11 58 32.5
CIT *e* 11 58 41.8
CIT *e* 11 58 59.7
CIT *e* 12 02 23.0
HHC Hu-ho-hao-te 23.47 279 *e*P **P 11 58 23.4 -3.4**
HHC pP pP 11 58 37.1 -1.4
HHC pmax pmax
comp=Z,31nm,0.8s
HHC pmax pmax
comp=Z,110nm,3.8s
TIY Taiyuan 23.61 271 *e*P **P 11 58 29.0 +0.9**
TATO Taipei 23.99 234 P **P 11 58 31.7 +0.2**
TATO S **S 12 02 50.1 +5.0**
SHEM Shemya Is, Ala 24.08 51 LR LR 12 10 14.6
comp=Z,102nm,18.4s,baz=290,slow=42
YHNB Yeheng 24.28 234 P **P 11 58 36.3 +2.0**
YHNB Yeheng 24.28 234 P **P 11 58 32.2 -2.1**
YHNB IAmb IAmb 11 58 43.5
comp=Z,42nm,0.9s
NACB Ninganchiao 24.52 233 P **P 11 58 38.1 +1.7**
BTO Baotou 24.67 279 ⇓*i*P **P 11 58 36.6 -1.2**
BTO pP **pP 11 58 48.1 -2.0**
BTO sP **sP 11 58 53.6 -2.2**
BTO PP **PnPn 11 59 14.3 +3.0**
BTO S **S 12 02 52.0 -4.0**
BTO sS **sS 12 03 11.0 -5.4**
BTO SS **SnSn 12 03 51.1 +5.8**
BTO pmax pmax
comp=Z,140nm,1.2s
BTO pmax pmax
comp=Z,390nm,5.0s
BTO LR LR
comp=Z,1μm,13.6s
BTO LR LR
comp=Z,2μm,18.9s
BTO LR LR
comp=Z,2μm,23.5s
BOD Bodaibo 24.70 322 *e*P **P 11 58 36.7 -1.0**
BOD pmax pmax
comp=Z,53nm,0.9s
LYN LuoYang 24.73 264 *e*P **P 11 58 35.3 -3.0**
LYN pP pP 11 58 46.6 -4.0
LYN sP sP 11 58 52.4 -3.9
LYN S **S 12 02 49.5 -7.4**
LYN sS sS 12 03 10.5 -6.9
LYN pmax pmax
comp=Z,65nm,0.9s
LYN LR LR
comp=Z,600nm,12.6s
LYN LR LR
comp=Z,1μm,17.0s
LYN LR LR
comp=Z,1μm,22.7s
SSLB Suanglung 25.20 233 P **P 11 58 45.3 +2.7**
SSLB Suanglung 25.20 233 P **P 11 58 41.0 -1.6**
WHN Wuhan 25.26 254 ⇓P **P 11 58 42.9 -0.2**
WHN pP **pP 11 58 51.2 -4.1**
WHN pmax pmax
comp=Z,190nm,0.9s
WHN LR LR
comp=Z,4μm,15.6s
YULB Yu-li 25.29 232 P **P 11 58 42.5 -0.9**
YULB Yu-li 25.29 232 P **P 11 58 40.8 -2.6**
ULN Ulaanbaatar 26.12 297 P **P 11 58 50.4 -0.6**
ULN IAmb IAmb 11 58 51.9
comp=Z,55nm,0.8s
ULN Ulaanbaatar 26.12 297 P **P 11 58 50.4 -0.6**
ULN P **P 11 58 50.4 -0.6**
ULN Ulaanbaatar 26.12 297*ce*P **P 11 58 50.1 -0.9**
ULN pmax pmax
comp=Z,66nm,0.9s
SONM Songino Array 26.57 297 P **P 11 58 54.3 -0.6**
SONM IAmb IAmb 11 58 56.1
comp=Z,53nm,0.8s
SONM Songino Array 26.57 297 P **P 11 58 54.6 -0.4**
comp=Z,47nm,0.9s,baz=91,slow=8.3,SNR=111
comp=Z,47nm,0.9s
XAN Xi'an 27.61 266 ⇑P **P 11 59 02.2 -2.2**
XAN pP pP 11 59 13.4 -3.3
XAN pmax pmax
comp=Z,26nm,0.8s
XAN LR LR
comp=Z,640nm,16.8s
XAN LR LR
comp=Z,1μm,17.5s
XAN LR LR
comp=Z,1μm,20.9s
IRK Irkutsk 28.26 306 *e*P **P 11 59 08.6 -1.3**
IRK *e* 11 59 21.9
IRK pmax pmax
comp=Z,91nm,1.2s
ZAK Zakamensk 28.70 302 *e*P **P 11 59 13.2 -0.8**
ZAK pmax pmax
comp=Z,24nm,1.0s
ENH Enshi 28.97 258 P **P 11 59 15.0 -1.4**
ENH IAmb IAmb 11 59 17.2
comp=Z,48nm,0.7s
H11N2 WAKE ISLAND Hy 29.69 129 T T 12 31 08.9
baz=321,slow=75,SNR=580
H11N1 WAKE ISLAND Hy 29.70 129 T T 12 30 46.8
baz=321,slow=75,SNR=523
H11N3 WAKE ISLAND Hy 29.70 129 T T 12 31 02.6
baz=321,slow=75,SNR=709
BILL Bilibino 29.72 18 P **P 11 59 22.0 -0.6**
BILL Bilibino 29.72 18 *e*P **P 11 59 22.6 0.0**
BILL *e**PP **pP 11 59 35.7 +0.6**
BILL *e**SP **sP 11 59 41.8 +0.9**
BILL *e* 12 00 20.5
BILL *e* 12 02 26.0
BILL pmax pmax
comp=Z,18nm,0.9s
BILL MLR MLR
comp=Z,283nm,19.0s
H11S1 WAKE ISLAND Hy 30.54 131 T T 12 31 55.9
baz=324,slow=76,SNR=377
H11S3 WAKE ISLAND Hy 30.54 131 T T 12 31 54.6
baz=324,slow=76,SNR=378
H11S2 WAKE ISLAND Hy 30.55 131 T T 12 32 00.7
baz=324,slow=76,SNR=365
LZH Lanzhou 30.64 273 *e*P **P 11 59 30.3 -1.0**
LZH pP pP 11 59 41.6 -2.1
LZH sP sP 11 59 44.7 -4.7
LZH pmax pmax
comp=Z,51nm,1.4s
LZH LR LR
comp=Z,440nm,12.4s
LZH LR LR
comp=Z,480nm,13.1s
LZH LR LR
comp=Z,690nm,13.7s
TIXI Tiksi 31.28 352 P **P 11 59 34.8 -1.5**
TIXI Tiksi 31.28 352 LR LR 12 13 33.2
comp=Z,418nm,18.7s,baz=152,slow=39
TIXI Tiksi 31.28 352 P **P 11 59 34.8 -1.5**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
GTA Gaotai 32.55 281 P **P 11 59 47.4 -0.7**
GTA pP pP 12 00 00.7 +0.2
GTA PcP **PcP 12 02 34.6 +1.0**
GTA pmax pmax
comp=Z,24nm,1.2s
GTA pmax pmax
comp=Z,130nm,4.8s
GTA LR LR
comp=Z,260nm,16.7s
GTA LR LR
comp=Z,870nm,18.9s
GTA LR LR
comp=Z,980nm,16.7s
CD2 Chengdu 32.92 264 P **P 11 59 49.5 -1.8**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 LR LR
comp=Z,430nm,14.0s
CD2 LR LR
comp=Z,250nm,11.4s
CD2 LR LR
comp=Z,470nm,17.1s
GYA Guiyang 33.14 255 ⇓P **P 11 59 52.7 -0.6**
GYA pP pP 12 00 07.7 +1.9
GYA pmax pmax
comp=Z,91nm,0.8s
GYA pmax pmax
comp=Z,260nm,3.9s
GYA LR LR
comp=Z,1μm,19.0s
NIKH Nikolski High 34.33 53 P **P 12 00 02.5 -0.7**
baz=270
KRAR Krasnoyarsk 35.30 312 *i*P **P 12 00 11.5 0.0**
QIZ Qiongzhong 35.73 242 P **P 12 00 14.2 -1.4**
QIZ S **S 12 05 49.8 +0.7**
QIZ LR LR
comp=Z,250nm,12.6s
QIZ LR LR
comp=Z,370nm,15.1s
QIZ LR LR
comp=Z,420nm,18.5s
PZH PanZhiHua 36.73 259 P **P 12 00 23.9 -0.4**
PZH pmax pmax
comp=Z,60nm,0.6s
PZH pmax pmax
comp=Z,100nm,3.5s
PZH LR LR
comp=Z,320nm,14.7s
PZH LR LR
comp=Z,270nm,15.0s
PZH LR LR
comp=Z,260nm,16.6s
KMI Kunming 36.79 257 ⇑P **P 12 00 24.7 -0.2**
KMI pP pP 12 00 38.6 +1.2
KMI pmax pmax
comp=Z,47nm,0.9s
KMI LR LR
comp=Z,400nm,16.9s
KMI LR LR
comp=Z,610nm,18.9s
KMI LR LR
comp=Z,720nm,20.1s
DAV Davao City (W) 37.30 209 LR LR 12 13 46.5
comp=Z,194nm,22.0s,baz=46,slow=33
F14K Arctic Creek 37.33 32 P **P 12 00 28.1 -0.6**
baz=255
GOMU GeErMu 37.37 278 P **P 12 00 29.2 -0.7**
GOMU pmax pmax
comp=Z,94nm,0.8s
GOMU LR LR
comp=Z,700nm,18.3s
GOMU LR LR
comp=Z,660nm,18.8s
GOMU LR LR
comp=Z,1μm,19.0s
ANM Nome 37.51 34 P **P 12 00 29.1 -1.1**
baz=257
M13K Dall Lake 37.76 41 P **P 12 00 32.6 +0.2**
baz=264
J14K Nanvaranak Lak 37.96 37 P **P 12 00 33.4 -0.6**
baz=261
F15K North Star Dit 38.07 32 P **P 12 00 35.0 0.0**
baz=256
G15K Niukluk 38.16 33 P **P 12 00 35.4 -0.3**
baz=258
M14K Bethel 38.47 40 P **P 12 00 38.7 +0.3**
baz=265
C16K Lisburne Hills 38.50 28 P **P 12 00 38.7 +0.2**
baz=253
K15K Wolf Creek Mou 38.83 38 P **P 12 00 41.6 +0.2**
baz=264
H16K Elim 38.84 34 P **P 12 00 41.8 +0.4**
baz=260
G16K Koyuk River 38.93 33 P **P 12 00 42.8 +0.6**
baz=259
D17K Noatak River 39.16 29 P **P 12 00 44.9 +0.8**
baz=256
C17K DeLong Mountai 39.32 28 P **P 12 00 45.7 +0.2**
baz=255
I17K Unalakleet 39.40 36 P **P 12 00 47.9 +1.8**
I17K IAmb IAmb 12 00 51.7
comp=Z,27nm,1.1s
I17K Unalakleet 39.40 36 P **P 12 00 47.2 +1.2**
baz=263
O15K Ungalikthiuk R 39.47 43 P **P 12 00 46.5 -0.2**
baz=269
E17K Hotham Inlet 39.49 30 P **P 12 00 47.1 +0.4**
baz=258,SNR=8.9
G17K Kiwalik Mounta 39.65 33 P **P 12 00 49.0 +0.8**
baz=261,SNR=8.1
CHNA Chernabura Isl 39.74 50 P **P 12 00 50.1 +1.1**
baz=275
CNBA Chernabura Isl 39.74 50 P **P 12 00 48.9 -0.1**
H17K Granite Mounta 39.88 34 P **P 12 00 51.8 +1.7**
H17K Granite Mounta 39.88 34 P **P 12 00 50.4 +0.3**
baz=262
NRIK Noril'sk 39.95 333 P **P 12 00 50.1 -0.5**
NRIK IAmb IAmb 12 00 51.0
comp=Z,53nm,1.1s
NRIK Noril'sk 39.95 333 P **P 12 00 50.3 -0.3**
comp=Z,28nm,0.9s,baz=110,slow=9.4,SNR=29
NRIK LR LR 12 18 45.1
comp=Z,1μm,20.0s,baz=102,slow=38
comp=Z,28nm,0.9s
NRIK Noril'sk 39.95 333*ce*P **P 12 00 50.2 -0.4**
NRIK pmax pmax
comp=Z,61nm,1.1s
TNCH TengChong 39.96 260 P **P 12 00 52.0 +0.5**
TNCH pP pP 12 01 03.5 -0.7
TNCH S **S 12 06 53.6 +0.1**
TNCH pmax pmax
comp=Z,190nm,1.2s
TNCH pmax pmax
comp=Z,440nm,3.9s
TNCH LR LR
comp=Z,490nm,17.2s
TNCH LR LR
comp=Z,500nm,20.1s
TNCH LR LR
comp=Z,370nm,18.8s
ZAA0 Zalesovo Array 39.98 309 P **P 12 00 51.6 +0.6**
ZALV Zalesovo Beam 39.98 309 P **P 12 00 51.2 +0.1**
ZALV Zalesovo Beam 39.98 309 P **P 12 00 50.6 -0.5**
comp=Z,53nm,0.6s,baz=89,slow=7.9,SNR=172
comp=Z,53nm,0.6s
E18K Tukpahlearik C 40.02 30 P **P 12 00 52.8 +1.5**
E18K Tukpahlearik C 40.02 30 P **P 12 00 51.8 +0.6**
baz=258
N16K Nishlik Lake 40.03 41 P **P 12 00 52.2 +0.7**
baz=269
WMQ Urumqi 40.03 293 ⇑P **P 12 00 52.3 +0.5**
WMQ sP pP 12 01 07.1 +2.7
WMQ pmax pmax
comp=Z,130nm,0.7s
WMQ pmax pmax
comp=Z,320nm,3.8s
WMQ LR LR
comp=Z,480nm,13.1s
WMQ LR LR
comp=Z,740nm,17.1s
WMQ LR LR
comp=Z,500nm,22.3s
B18K Kokolik River 40.04 27 P **P 12 00 51.0 -0.3**
baz=255
J17K VABM Dome 40.06 36 P **P 12 00 52.4 +0.8**
baz=265
C18K Utukok River 40.07 28 P **P 12 00 52.4 +0.7**
C18K Utukok River 40.07 28 P **P 12 00 51.8 0.0**
baz=256,SNR=5.4
F18K Selawik 40.24 31 P **P 12 00 52.9 -0.1**
baz=260
L17K Donlin 40.33 38 P **P 12 00 53.9 +0.1**
baz=267
K17K Iditarod 40.36 38 P **P 12 00 54.9 +0.8**
baz=266
P16K Nushagak River 40.41 43 P **P 12 00 55.8 +1.3**
baz=271
A19K Wainwright 40.51 26 P **P 12 00 56.7 +1.5**
baz=255
G18K Tagagawik 40.53 33 P **P 12 00 56.6 +1.1**
baz=262
H18K Honhosa River 40.55 34 P **P 12 00 57.7 +1.9**
H18K IAmb IAmb 12 00 58.5
comp=Z,88nm,1.8s
H18K Honhosa River 40.55 34 P **P 12 00 56.6 +0.8**
baz=263,SNR=9.7
M17K Holitna River 40.70 40 P **P 12 00 57.6 +0.6**
baz=269
C19K Lookout Ridge 40.74 28 P **P 12 00 58.3 +1.0**
C19K Lookout Ridge 40.74 28 P **P 12 00 57.5 +0.2**
baz=258
F19K Shaleruckik Mo 41.01 31 P **P 12 01 00.3 +0.9**

F19K	Shaleruckik Mo	41.01	31	P	P	12 01 00.3 +0.9
	baz=262,SNR=11					
ZSN	Zaisan	41.04	299	eP	P	12 00 59.7 -0.2
	comp=Z,31nm,0.7s,baz=299					
ZSN	Zaisan	41.04	299	eP	P	12 00 59.7 -0.2
ZSN				pmax	pmax	
	comp=Z,31nm,0.7s					
D19K	Kuna River	41.15	29	P	P	12 01 01.3 +0.7
	baz=260					
G19K	Purcell Mounta	41.20	32	P	P	12 01 02.2 +1.2
G19K	Purcell Mounta	41.20	32	P	P	12 01 01.1 +0.2
	baz=264,SNR=7.9					
E19K	Redstone River	41.31	30	P	P	12 01 02.4 +0.5
	baz=262					
UBPT	Khong Chiam	41.31	242	P	P	12 01 02.7 +0.3
UBPT				IAmb	IAmb	12 01 04.0
	comp=Z,36nm,1.0s					
H19K	Roundabout Mou	41.39	33	P	P	12 01 03.7 +1.2
H19K				IAmb	IAmb	12 01 26.1
	comp=Z,37nm,1.0s					
H19K	Roundabout Mou	41.39	33	P	P	12 01 03.4 +0.9
	baz=265,SNR=24					
CRAI	Chiangrai	41.51	253	P	P	12 01 05.2 +1.2
J19K	Poorman	41.64	36	P	P	12 01 05.9 +1.3
J19K				IAmb	IAmb	12 01 17.7
	comp=Z,28nm,1.0s					
J19K	Poorman	41.64	36	P	P	12 01 05.8 +1.2
	baz=267					
D20K	Etivluk River	41.73	29	P	P	12 01 05.8 +0.5
	baz=261					
B20K	Meade River	41.77	27	P	P	12 01 06.2 +0.7
B20K				IAmb	IAmb	12 01 07.7
	comp=Z,31nm,0.8s					
B20K	Meade River	41.77	27	P	P	12 01 06.2 +0.7
	baz=259,SNR=14					
E20K	Nigu River	41.81	29	P	P	12 01 06.2 +0.1
	baz=262					
P18K	Big Mountain,	41.82	43	P	P	12 01 07.0 +0.8
	baz=273					
F20K	Avaraart Lake	41.84	31	P	P	12 01 06.1 0.0
	baz=264					
CHIR	Chirikof Islan	41.90	48	P	P	12 01 07.5 +0.7
	baz=276					
MYLDM	Lahad Datu	41.94	218	P	P	12 01 09.0 +1.4
MYLDM				IAmb	IAmb	12 01 50.7
	comp=Z,25nm,0.9s					
Q18K	Katmai Hardscr	41.98	44	P	P	12 01 08.0 +0.4
	baz=274					
H20K	Anotleneega Mo	42.04	33	P	P	12 01 08.8 +0.9
	baz=266,SNR=18					
M19K	Big River Lodg	42.16	39	P	P	12 01 08.2 -0.7
I20K	Naaghedeneel	42.17	35	P	P	12 01 09.8 +0.9
I20K				IAmb	IAmb	12 01 36.3
	comp=Z,44nm,1.1s					
I20K	Naaghedeneel	42.17	35	P	P	12 01 10.0 +1.1
	baz=268					
J20K	Nowinta River	42.29	35	P	P	12 01 11.5 +1.6
J20K	Nowinta River	42.29	35	P	P	12 01 11.0 +1.1
	baz=268,SNR=9.5					
K20K	Telida	42.31	37	P	P	12 01 10.6 +0.5
	baz=269					
C21K	Knifeblade Rid	42.45	28	P	P	12 01 11.6 +0.5
	baz=262,SNR=11					
IMAR	Indian Mountai	42.54	33	P	P	12 01 13.6 +1.7
B21K	Ikpikpuk River	42.57	27	P	P	12 01 13.7 +1.6
B21K				IAmb	IAmb	12 01 15.1
	comp=Z,36nm,0.9s					
B21K	Ikpikpuk River	42.57	27	P	P	12 01 12.4 +0.3
	baz=262,SNR=15					
TNTI	Ternate	42.61	203	P	P	12 01 13.6 +0.6
TNTI	Ternate	42.61	203	P	P	12 01 13.6 +0.6
	comp=Z,22nm,0.8s					
E21K	Killik River	42.65	29	P	P	12 01 13.5 +0.6
	baz=264					
Q19K	Cape Douglas,	42.67	43	P	P	12 01 13.9 +0.8
	baz=275					
A22K	Sinclair Lake	42.67	25	P	P	12 01 13.6 +0.7
	baz=260					
G21K	Allakaket	42.67	32	P	P	12 01 13.9 +0.9
	baz=266					
F21K	Alatna River	42.73	31	P	P	12 01 14.8 +1.3
F21K	Alatna River	42.73	31	P	P	12 01 14.0 +0.5
	baz=266,SNR=12					
PHRA	Phrae	42.73	251	P	P	12 01 14.1 +0.1
MK31	Makanchi Array	42.90	299	P	P	12 01 15.0 -0.2
MK31	Makanchi Array	42.90	299	i P	P	12 01 14.8 -0.4
MK31				pmax	pmax	
	comp=Z,64nm,0.6s					
MKAR	Makanchi Array	42.90	299	P	P	12 01 14.6 -0.6
MKAR	Makanchi Array	42.90	299	P	P	12 01 14.8 -0.3
	comp=Z,57nm,0.8s,baz=83,slow=9.6,SNR=438					
	comp=Z,57nm,0.8s					
H21K	Melozitna Rive	42.91	33	P	P	12 01 16.0 +1.0
H21K				IAmb	IAmb	12 01 17.8
	comp=Z,52nm,1.6s					
H21K	Melozitna Rive	42.91	33	P	P	12 01 15.9 +0.9
	baz=268,SNR=19					
LSA	Lhasa	43.01	271	P	P	12 01 17.8 +1.0
LSA				pmax	pmax	
	comp=Z,27nm,0.8s					
LSA	Lhasa	43.01	271	P	P	12 01 17.2 +0.4
LSA				IAmb	IAmb	12 01 33.2
	comp=Z,108nm,1.5s					
LSA	Lhasa	43.01	271	P	P	12 01 17.4 +0.7
LSA	Lhasa	43.01	271	P	P	12 01 18.0 +1.2
LSA	Lhasa	43.01	271	P	P	12 01 17.2 +0.4
LSA				pmax	pmax	
	comp=Z,108nm,1.5s					
LSA	Lhasa	43.01	271	P	P	12 01 17.6 +0.9
LSA				pP	pP	12 01 31.6 +2.1
OHAK	Old Harbor	43.02	46	P	P	12 01 16.7 +0.8
OHAK	Old Harbor	43.02	46	P	P	12 01 16.2 +0.3
	baz=277					
B22K	Teshekpuk Lake	43.08	26	P	P	12 01 16.7 +0.5
B22K	Teshekpuk Lake	43.08	26	P	P	12 01 16.1 -0.1
	baz=262,SNR=5.9					
CHUM	Lake Minchumin	43.09	36	P	P	12 01 16.9 +0.5
	baz=270					
MAKZ	Makanchi	43.11	299	P	P	12 01 16.2 -0.6
MAKZ	Makanchi	43.11	299	P	P	12 01 16.6 -0.2
MAKZ	Makanchi	43.11	299	P	P	12 01 16.5 -0.3
MAKZ				pP	pP	12 01 31.1 +1.5
D22K	Ayikyak River	43.17	29	P	P	12 01 17.9 +0.8
D22K				IAmb	IAmb	12 01 20.2
	comp=Z,21nm,0.8s					
D22K	Ayikyak River	43.17	29	P	P	12 01 17.4 +0.4
	baz=265,SNR=13					
PPLA	Purkeypile	43.17	37	P	P	12 01 18.0 +0.7
	baz=272					
SWI	Sorong	43.18	197	P	P	12 01 18.1 +0.5
	comp=Z,50nm,0.8s					
SWI	Sorong	43.18	197	P	P	12 01 18.5 +0.9
SWI				pmax	pmax	
	comp=Z,49nm,0.8s					
CAST	Castle Rocks	43.20	37	P	P	12 01 17.9 +0.6
CAST	Castle Rocks	43.20	37	P	P	12 01 18.6 +1.2
	baz=271,SNR=7.0					
I21K	Tanana	43.24	34	P	P	12 01 19.5 +1.9
I21K	Tanana	43.24	34	P	P	12 01 19.5 +1.9
	baz=269					
F22K	John River	43.25	31	P	P	12 01 18.9 +1.2
	baz=267					
SEM	Semipalatinsk	43.34	304	eP	P	12 01 17.7 -1.1
	baz=304					
SEM	Semipalatinsk	43.34	304	eP	P	12 01 17.6 -1.2
KDAK	Kodiak Island	43.34	45	P	P	12 01 19.2 +0.8
KDAK	Kodiak Island	43.34	45	P	P	12 01 20.1 +1.6
	baz=277					
KDAK	Kodiak Island	43.34	45	P	P	12 01 19.2 +0.8
	comp=Z,13nm,0.8s,baz=270,slow=4.0,SNR=3.8					
KDAK				LR	LR	12 20 21.0
	comp=Z,259nm,21.2s,baz=272,slow=37					
	comp=Z,13nm,0.8s					
KDAK	Kodiak Island	43.34	45	P	P	12 01 19.2 +0.8
KDAK				pmax	pmax	
	comp=Z,21nm,0.9s					
KDAK	Kodiak Island	43.34	45	P	P	12 01 19.3 +0.9
Q20K	Shuyak Island	43.34	44	P	P	12 01 19.6 +1.1
	baz=276					
E22K	Anaktuvuk Pass	43.43	30	P	P	12 01 20.1 +0.9
E22K				IAmb	IAmb	12 01 22.4
	comp=Z,32nm,0.8s					
E22K	Anaktuvuk Pass	43.43	30	P	P	12 01 19.9 +0.7
	baz=266					
CHTO	Chiang Mai	43.45	252	P	P	12 01 20.3 +0.5
CHTO				IAmb	IAmb	12 01 35.0
	comp=Z,39nm,0.7s					
CHTO	Chiang Mai	43.45	252	P	P	12 01 20.3 +0.5
CHTO				pmax	pmax	
	comp=Z,39nm,0.7s					
G22K	Bettles	43.48	31	P	P	12 01 20.9 +1.4
	baz=268					
H22K	Ishtalitna Cre	43.51	33	P	P	12 01 20.9 +1.1
	baz=269,SNR=13					
HOM	Homer	43.63	42	P	P	12 01 22.1 +1.4
	baz=276					
BPAW	Bear Paw Mtn.	43.68	36	P	P	12 01 22.6 +1.4
	baz=271					
CM31	Chiang Mai Arr	43.68	252	P	P	12 01 21.3 -0.3
CM31				IAmb	IAmb	12 01 29.0
	comp=Z,20nm,0.7s					
CMAR	Chiang Mai Arr	43.68	252	P	P	12 01 21.3 -0.3
CMAR	Chiang Mai Arr	43.68	252	P	P	12 01 22.1 +0.4
	comp=Z,11nm,0.6s,baz=43,slow=7.6,SNR=83					
	comp=Z,11nm,0.6s					
KTH	Kantishna Hill	43.72	36	P	P	12 01 22.8 +1.2
KTH				IAmb	IAmb	12 01 35.2
	comp=Z,32nm,1.0s					
MLY	Manley	43.77	34	P	P	12 01 23.6 +1.6
MLY	Manley	43.77	34	P	P	12 01 23.5 +1.6
	baz=271,SNR=13					
CAPN	Captain Cook N	43.77	40	P	P	12 01 23.8 +1.9
	baz=275					
KMSI	Cibinong	43.89	208	P	P	12 01 24.4 +1.1
D23K	Nanushuk River	43.90	29	P	P	12 01 24.1 +1.3
	baz=267,SNR=14					
SUA	Susitna One	43.92	39	P	P	12 01 23.8 +0.5
	baz=274					
C23K	Itkillik River	43.98	27	P	P	12 01 24.7 +1.2
C23K				IAmb	IAmb	12 01 26.0
	comp=Z,25nm,0.9s					
C23K	Itkillik River	43.98	27	P	P	12 01 24.6 +1.1
	baz=266,SNR=14					
COLD	Coldfoot	44.00	31	P	P	12 01 25.1 +1.4
	baz=269,SNR=10					
G23K	Bananza Creek	44.06	32	P	P	12 01 25.3 +1.0
G23K	Bananza Creek	44.06	32	P	P	12 01 25.3 +1.0
	baz=270,SNR=24					
BRSE	Bradley Lake S	44.07	42	P	P	12 01 25.2 +0.8
	baz=276					
GTOI	Gorontalo	44.18	209	P	P	12 01 25.1 -0.6
	comp=Z,25nm,0.8s					
E23K	Chandalar	44.25	30	P	P	12 01 26.7 +0.9
	baz=268,SNR=12					
H23K	Yukon River	44.26	33	P	P	12 01 27.2 +1.4
H23K				IAmb	IAmb	12 01 29.2
	comp=Z,100nm,1.6s					
H23K	Yukon River	44.26	33	P	P	12 01 27.4 +1.5
	baz=271,SNR=25					
KURK	Kurchatov	44.28	305	P	P	12 01 25.6 -0.4
KURK	Kurchatov	44.28	305	P	P	12 01 25.7 -0.4
KURK				P	P	12 01 25.7 -0.4
KURK	Kurchatov	44.28	305	ceP	P	12 01 25.5 -0.6
KURK				pmax	pmax	
	comp=Z,111nm,0.8s					
KURK	Kurchatov	44.28	305	P	P	12 01 25.6 -0.4
KURK				pP	pP	12 01 40.5 +1.6
TOLK	Toolik Lake Re	44.28	29	P	P	12 01 26.8 +0.8
	baz=268					
I23K	Minto, Yukon-K	44.35	34	P	P	12 01 28.0 +1.5
I23K	Minto, Yukon-K	44.35	34	P	P	12 01 27.9 +1.4
	baz=272,SNR=9.9					
KURBB	Kurchatov Arra	44.35	305	P	P	12 01 26.3 -0.4
	comp=Z,90nm,0.8s,baz=78,slow=8.6,SNR=358					
KURBB				PcP	PcP	12 03 10.0 +0.1
	comp=Z,2.5nm,0.8s,baz=83,slow=4.1,SNR=4.7					
	comp=Z,90nm,0.8s					
KURBB	Kurchatov Arra	44.35	305	P	P	12 01 25.5 -1.2
RC01	Rabbit Creek A	44.43	40	P	P	12 01 28.2 +1.1
RC01	Rabbit Creek A	44.43	40	P	P	12 01 28.3 +1.1
	baz=276					
NEA2	Nenana	44.50	35	P	P	12 01 29.3 +1.6
NEA2				IAmb	IAmb	12 01 40.9
	comp=Z,32nm,1.0s					
NEA2	Nenana	44.50	35	P	P	12 01 28.7 +1.0
	baz=273,SNR=12					
D24K	Happy Valley	44.57	28	P	P	12 01 29.3 +1.1
D24K				IAmb	IAmb	12 01 31.8
	comp=Z,68nm,1.1s					
D24K	Happy Valley	44.57	28	P	P	12 01 29.4 +1.1
	baz=268,SNR=24					
MCK	McKinley	44.60	36	P	P	12 01 29.4 +0.8
	baz=274					
MCK	McKinley	44.60	36	P	P	12 01 30.0 +1.4
TOLI2	Tolitoli	44.60	212	P	P	12 01 29.9 +0.9
SHL	Shillong	44.63	266	P	P	12 01 29.0 -0.5
SHL	Shillong	44.63	266	P	P	12 01 32.2 +2.7
SHL	Shillong	44.63	266	P	P	12 01 29.0 -0.5
SHL				pmax	pmax	
	comp=Z,64nm,1.0s					
C24K	Franklin Bluff	44.64	28	P	P	12 01 29.0 +0.3
	baz=268					
RND	Reindeer	44.66	37	P	P	12 01 29.8 +0.7
RND	Reindeer	44.66	37	P	P	12 01 29.8 +0.7
RND				pmax	pmax	
	comp=Z,22nm,1.2s					
E24K	Your Creek	44.67	30	P	P	12 01 30.6 +1.5
E24K				IAmb	IAmb	12 01 31.8
	comp=Z,38nm,1.4s					
E24K	Your Creek	44.67	30	P	P	12 01 29.9 +0.8
	baz=270,SNR=18					
PMR	Palmer	44.68	39	P	P	12 01 29.7 +0.6
	baz=276					
SEW	Seward	44.68	41	P	P	12 01 29.9 +0.7
	baz=277					
GHO	Glory Hole Cre	44.76	39	P	P	12 01 31.3 +1.4
GHO				IAmb	IAmb	12 01 41.7
	comp=Z,22nm,0.8s					
WAT1	Susitna Watana	44.84	37	P	P	12 01 31.1 +0.6
	baz=275					
MDM	Murphy Dome	44.84	34	P	P	12 01 32.3 +1.9
MDM				IAmb	IAmb	12 01 43.6
	comp=Z,26nm,1.1s					
F24K	Squaw Lake	44.90	31	P	P	12 01 32.6 +1.6
F24K	Squaw Lake	44.90	31	P	P	12 01 32.0 +1.0
	baz=271,SNR=12					
H24K	Noodor Dome	44.95	33	P	P	12 01 33.4 +2.1
H24K				IAmb	IAmb	12 01 35.5
	comp=Z,25nm,1.1s					
H24K	Noodor Dome	44.95	33	P	P	12 01 32.7 +1.4
	baz=272,SNR=22					
FAKI	Fak Fak	44.97	195	P	P	12 01 32.3 +0.3
FAKI	Fak Fak	44.97	195	P	P	12 01 32.5 +0.6
FAKI				IAmb	IAmb	12 01 48.4
	comp=Z,52nm,1.1s					
FAKI	Fak Fak	44.97	195	P	P	12 01 32.3 +0.3
COLA	College	45.00	34	P	P	12 01 34.7 +3.0
COLA	College	45.00	34	P	P	12 01 33.8 +2.1
COLA				IAmb	IAmb	12 01 44.9
	comp=Z,42nm,1.0s					
COLA	College	45.00	34	P	P	12 01 33.3 +1.7
	baz=273					
COLA	College	45.00	34	i P	P	12 01 32.0 +0.3
COLA				pmax	pmax	
	comp=Z,24nm,0.9s					
COLA	College	45.00	34	P	P	12 01 33.4 +1.7
COLA				pP	sP	12 01 47.8 -2.3
KNK	Knik Glacier	45.02	39	P	P	12 01 33.0 +1.1
	baz=276					
SML	Sawmill	45.03	39	P	P	12 01 33.5 +1.4
SML				IAmb	IAmb	12 02 03.6
	comp=Z,18nm,0.8s					
SML	Sawmill	45.03	39	P	P	12 01 32.8 +0.7
	baz=276					
SML	Sawmill	45.03	39	P	P	12 01 33.5 +1.4
SML				pmax	pmax	
	comp=Z,18nm,0.8s					
G24K	Hadweenzic Riv	45.08	32	P	P	12 01 34.1 +1.8
	baz=272,SNR=20					
POKR	Poker Plat Res	45.17	34	P	P	12 01 34.1 +1.1
POKR				IAmb	IAmb	12 01 46.7
	comp=Z,33nm,0.9s					
POKR	Poker Plat Res	45.17	34	P	P	12 01 34.4 +1.4
	baz=274,SNR=9.6					
WAT6	Susitna Watana	45.23	38	P	P	12 01 34.5 +0.8
	baz=276					
M23K	Glacier View	45.32	39	P	P	12 01 35.1 +0.8
	baz=276					
DHY	Denali Highway	45.35	37	P	P	12 01 35.3 +0.6
DHY	Denali Highway	45.35	37	P	P	12 01 35.2 +0.6
	baz=276					
IL31		45.42	35	P	P	12 01 36.2 +1.3
IL31				IAmb	IAmb	12 01 48.2
	comp=Z,34nm,0.9s					
ILAR	Eielson Array	45.42	35	P	P	12 01 35.3 +0.2
ILAR	Eielson Array	45.42	35	P	P	12 01 36.4 +1.4
	comp=Z,12nm,0.8s,baz=273,slow=7.3,SNR=34					
ILAR				LR	LR	12 22 31.5
	comp=Z,127nm,18.5s,baz=284,slow=38					
	comp=Z,12nm,0.8s					
HDA	Harding Lake	45.42	35	P	P	12 01 35.5 +0.4
HDA				IAmb	IAmb	12 01 47.5
	comp=Z,26nm,1.2s					
HDA	Harding Lake	45.42	35	P	P	12 01 35.9 +0.9
	baz=275					
D25K	Kavik River	45.45	28	P	P	12 01 36.1 +0.8
D25K	Kavik River	45.45	28	P	P	12 01 36.2 +1.0
	baz=270,SNR=15					
SCM	Sheep Creek Mo	45.51	39	P	P	12 01 36.8 +1.0
	baz=277					
G25K	Bearman Lake	45.62	32	P	P	12 01 37.9 +1.3
	baz=273,SNR=8.2					
MPSI	Mapaga	45.66	213	P	P	12 01 37.9 +0.4
	comp=Z,32nm,1.2s					
MPSI				pP	P	12 01 40.7 +3.2
	comp=Z,32nm,1.2s					
SANI	Sanana	45.70	204	P	P	12 01 37.1 -0.6
	comp=Z,77nm,0.9s,comp=Z,3μm					
P23K	Montague Islan	45.71	41	P	P	12 01 38.7 +1.3
	baz=279					
GLI	Glacier Island	45.74	40	P	P	12 01 38.8 +1.2
	baz=278					
F25K	Christian Rive	45.76	31	P	P	12 01 39.0 +1.2
	baz=273,SNR=13					
H25L	Birch Creek	45.76	32	P	P	12 01 39.7 +2.0
	baz=274					
E25K	Arctic Village	45.77	30	P	P	12 01 39.0 +1.3
E25K	Arctic Village	45.77	30	P	P	12 01 39.7 +1.9
	baz=272,SNR=11					
PDGK	Podgornoye	45.85	295	P	P	12 01 38.1 -0.8
SHLS	Shalkode	45.93	295	eP	P	12 01 36.7 -2.8
	comp=Z,34nm,0.7s,baz=294					
SHLS	Shalkode	45.93	295	eP	P	12 01 36.7 -2.8
SHLS				pmax	pmax	
	comp=Z,34nm,0.7s					
PRP	Porcupine Dome	45.94	33	P	P	12 01 40.8 +1.6
PRP				IAmb	IAmb	12 01 47.8
	comp=Z,30nm,0.9s					
PRP	Porcupine Dome	45.94	33	P	P	12 01 41.1 +1.8
	baz=275,SNR=17					
C26K	Camden Bay	45.95	27	P	P	12 01 40.6 +1.4
	baz=271,SNR=9.5					
FYU	Fort Yukon	45.98	32	P	P	12 01 40.7 +1.3
K24K	Donnelly Dome	45.99	36	P	P	12 01 39.5 -0.1
	baz=276					
M24K	Tolsona, Glenn	46.01	38	P	P	12 01 39.7 -0.1
	baz=278					
TDK	Taldyqorghan	46.02	297	eP	P	12 01 39.9 -0.2
	comp=Z,392nm,16.8s,baz=297					
TDK	Taldyqorghan	46.02	297	eP	P	12 01 39.8 -0.3
J25K	Salcha River,	46.09	35	P	P	12 01 40.7 +0.3
	baz=276					
BMAR	Burnt Mountain	46.18	31	P	P	12 01 42.9 +1.9
KLU	Klutina	46.21	39	P	P	12 01 41.8 +0.4
	baz=278					
PAX	Paxson	46.23	37	P	P	12 01 42.5 +1.0
	baz=277					
UZB	Uzynbulak	46.24	295	eP	P	12 01 41.4 -0.5
	baz=295					
UZB	Uzynbulak	46.24	295	eP	P	12 01 41.4 -0.5
F26K	Sheenjek River	46.33	30	P	P	12 01 43.4 +1.2
	baz=274,SNR=34					
KPKS	Kokpek	46.36	295	eP	P	12 01 42.5 -0.3
	comp=Z,30nm,1.1s,baz=295					
KPKS	Kokpek	46.36	295	eP	P	12 01 42.5 -0.3
KPKS				pmax	pmax	
	comp=Z,30nm,1.1s					
C27K	Jago River	46.38	28	P	P	12 01 43.2 +0.7
	baz=272,SNR=29					
EYAK	Cordova Ski Ar	46.44	40	P	P	12 01 44.4 +1.3
	baz=279					
HARP	HAARP	46.45	38	P	P	12 01 44.2 +1.0
	baz=278					
G26K	Porcupine Rive	46.52	31	P	P	12 01 44.8 +1.2
	baz=275,SNR=28					
ZHN	Zhinishke	46.63	295	eP	P	12 01 44.6 -0.4
	comp=Z,22nm,0.9s,baz=295					
ZHN	Zhinishke	46.63	295	eP	P	12 01 44.6 -0.4
ZHN				pmax	pmax	
	comp=Z,22nm,0.9s					
SATY	Saty	46.69	295	eP	P	12 01 45.0 -0.5
	comp=Z,20nm,0.7s,baz=295					
SATY	Saty	46.69	295	eP	P	12 01 44.9 -0.5
SATY				pmax	pmax	
	comp=Z,20nm,0.7s					
SCRK	Sand Creek	46.76	35	P	P	12 01 46.2 +0.5
SCRK				IAmb	IAmb	12 02 02.3
	comp=Z,17nm,0.9s					
SCRK	Sand Creek	46.76	35	P	P	12 01 46.4 +0.7
	baz=278,SNR=11					
WUS	Wushi	46.81	292	P	P	12 01 46.7 +0.2
WUS				pP	pP	12 02 00.7 +1.3
WUS				sP	sP	12 02 07.2 +2.3
J26L	Joseph Creek	46.87	35	P	P	12 01 47.3 +0.7
	baz=277					
PRZ	Przheval'sk	46.90	294	P	P	12 01 47.5 +0.3
PRZ	Przheval'sk	46.90	294	P	P	12 01 47.5 +0.3
PRZ				pmax	pmax	
	comp=Z,80nm,0.9s					
I26K	Coal Creek Min	46.95	34	P	P	12 01 48.4 +1.4
	baz=277					
MENT	Mentasta	47.02	37	P	P	12 01 48.9 +1.2
MENT				IAmb	IAmb	12 02 15.8
	comp=Z,32nm,1.2s					
L26K	Log Cabin Wild	47.18	37	P	P	12 01 50.3 +1.5
L26K				IAmb	IAmb	12 02 02.1
	comp=Z,25nm,1.1s					
L26K	Log Cabin Wild	47.18	37	P	P	12 01 50.4 +1.6
	baz=279,SNR=10.0					
KAIM	Kayak Island	47.20	41	P	P	12 01 50.7 +1.6
	baz=281					
E27K	Coleen River	47.25	30	P	P	12 01 50.6 +1.3
E27K				IAmb	IAmb	12 01 52.5
	comp=Z,18nm,1.2s					
E27K	Coleen River	47.25	30	P	P	12 01 50.9 +1.6
	baz=276,SNR=12					
CHKK	Chushkaly	47.37	296	eP	P	12 01 49.9 -0.8
	baz=296					
CHKK	Chushkaly	47.37	296	eP	P	12 01 49.8 -0.8
G27K	Doyon Strip	47.37	31	P	P	12 01 51.4 +1.1
G27K	Doyon Strip	47.37	31	P	P	12 01 51.6 +1.2
	baz=277,SNR=9.2					
D27M	Malcolm River	47.37	28	P	P	12 01 50.5 +0.2
D27M	Malcolm River	47.37	28	P	P	12 01 51.7 +1.3
	baz=275,SNR=5.7					
M26K	Nabesna, AK	47.44	37	P	P	12 01 52.6 +1.6
M26K				IAmb	IAmb	12 02 10.3
	comp=Z,28nm,1.0s					
M26K	Nabesna, AK	47.44	37	P	P	12 01 52.8 +1.9
	baz=280					
H27K	Steamboat Moun	47.50	32	P	P	12 01 52.4 +1.1
	baz=278,SNR=14					
I27K	Kandik River	47.55	33	P	P	12 01 53.0 +1.3
	baz=278,SNR=6.3					
MDOK	Medeo	47.58	295	eP	P	12 01 51.9 -0.5
	baz=295					
MDOK	Medeo	47.58	295	eP	P	12 01 51.9 -0.5
K27K	Chicken	47.58	35	P	P	12 01 53.3 +1.3
K27K				IAmb	IAmb	12 02 17.3
	comp=Z,29nm,1.2s					
K27K	Chicken	47.58	35	P	P	12 01 52.9 +0.9
	baz=279					
TARG	Taragay, Kyrgy	47.59	293	P	P	12 01 53.1 +0.2
TARG	Taragay, Kyrgy	47.59	293	P	P	12 01 53.1 +0.2
TARG				pmax	pmax	
	comp=Z,77nm,0.8s					
MCARA	McCarthy VSAT	47.61	39	P	P	12 01 53.5 +1.3
	baz=281					
AAA	Alma-Ata	47.65	295	eP	P	12 01 52.3 -0.6
	comp=Z,27nm,0.5s,baz=295					
AAA	Alma-Ata	47.65	295	eP	P	12 01 52.3 -0.6
AAA				pmax	pmax	
	comp=Z,27nm,0.5s					
CRQE	Cirque	47.69	40	P	P	12 01 53.7 +0.7
	baz=281					
TNSS	Tian-Shan	47.70	295	eP	P	12 01 52.9 -0.7
	baz=295					
TNSS	Tian-Shan	47.70	295	eP	P	12 01 52.9 -0.7
L27K

baz=280,SNR=13
EGAK Eagle 47.86 34 P **P 12 01 55.6 +1.5**
EGAK IAmb IAmb 12 02 19.3
comp=Z,26nm,1.2s
EGAK Eagle 47.86 34 P **P 12 01 55.1 +1.1**
baz=279
BCAR Beaver Creek A 47.87 36 P **P 12 01 56.4 +2.1**
E28M Babbage River 47.96 29 P **P 12 01 55.9 +1.1**
E28M IAmb IAmb 12 01 59.4
comp=Z,18nm,0.8s
E28M Babbage River 47.96 29 P **P 12 01 56.4 +1.6**
baz=277,SNR=24
M27K Edge Creek, AK 47.96 37 P **P 12 01 56.8 +1.8**
M27K IAmb IAmb 12 02 08.9
comp=Z,23nm,0.9s
M27K Edge Creek, AK 47.96 37 P **P 12 01 55.9 +0.9**
baz=281,SNR=5.4
F28M Old Crow 47.96 30 P **P 12 01 56.4 +1.5**
F28M IAmb IAmb 12 01 58.2
comp=Z,44nm,1.4s
F28M Old Crow 47.96 30 P **P 12 01 56.5 +1.7**
baz=278,SNR=23
D28M Stokes Point 48.15 28 P **P 12 01 57.8 +1.6**
baz=277
I28M Miner Creek 48.26 33 P **P 12 01 58.5 +1.2**
I28M Miner Creek 48.26 33 P **P 12 01 58.1 +0.8**
baz=280,SNR=18
CTG Chitna Glacier 48.49 39 P **P 12 01 59.4 +0.2**
baz=282
E29M Blow River 48.59 29 P **P 12 02 01.5 +1.8**
E29M Blow River 48.59 29 P **P 12 02 00.8 +1.1**
baz=279,SNR=36
BVA0 Borovoye Array 48.60 310 *i* P **P 12 01 59.6 -0.4**
BVAR Borovoye Array 48.60 310 P **P 12 01 59.8 -0.2**
comp=Z,20nm,0.7s,baz=74,slow=8.7,SNR=67
BVAR PcP **PcP 12 03 24.9 0.0**
comp=Z,11nm,0.7s,baz=66,slow=3.6,SNR=2.1
comp=Z,20nm,0.7s
BRVK Borovoye 48.66 310 P **P 12 02 00.3 0.0**
BRVK Borovoye 48.66 310 P **P 12 02 00.8 +0.4**
BRVK P **P 12 02 00.8 +0.4**
BRVK Borovoye 48.66 310 *ce*P **P 12 02 00.2 -0.2**
BRVK pmax pmax
comp=Z,76nm,1.1s
BRVK Borovoye 48.66 310 P **P 12 02 00.4 0.0**
BRVK pP **pP 12 02 15.4 +2.1**
BRVK PcP **PcP 12 03 25.4 +0.3**
TKM2 Tokmak 2 48.66 296 *i* P **P 12 02 00.4 -0.4**
TKM2 pmax pmax
comp=Z,87nm,0.5s
YUK3 Moose Creek 48.73 38 P **P 12 02 01.5 +0.4**
baz=282
DAWY Dawson 48.74 35 P **P 12 02 01.5 +0.6**
baz=281
H29M Whitestone 48.76 32 P **P 12 02 03.0 +2.0**
H29M IAmb IAmb 12 02 24.3
comp=Z,23nm,1.0s
H29M Whitestone 48.76 32 P **P 12 02 02.1 +1.0**
baz=280,SNR=9.3
G29M Pine Creek 48.78 31 P **P 12 02 03.5 +2.4**
G29M Pine Creek 48.78 31 P **P 12 02 02.5 +1.4**
baz=280,SNR=13
BTLS Baital 48.91 299 *eP* **P 12 02 01.1 -1.4**
BTLS pmax pmax
comp=Z,18nm,1.1s
I29M Ogilvie Camp, 48.95 33 P **P 12 02 03.8 +1.3**
I29M IAmb IAmb 12 02 16.1
comp=Z,19nm,0.9s
I29M Ogilvie Camp, 48.95 33 P **P 12 02 04.3 +1.8**
baz=281,SNR=8.5
MTKI Muara Teweh, K 49.00 218 P **P 12 02 03.9 +0.5**
SGDS Sogindy 49.11 297 *eP* **P 12 02 03.3 -0.8**
SGDS pmax pmax
comp=Z,19nm,1.1s
EPYK Eagle Plains 49.39 32 P **P 12 02 07.4 +1.5**
EPYK Eagle Plains 49.39 32 P **P 12 02 08.0 +2.1**
baz=282,SNR=18
G30M tAoh Zraii Nji 49.46 31 P **P 12 02 07.9 +1.5**
G30M tAoh Zraii Nji 49.46 31 P **P 12 02 07.0 +0.6**
baz=282,SNR=19
L29M L29M 49.49 36 P **P 12 02 08.6 +1.9**
baz=283,SNR=11
M29M Somme Creek 49.50 37 P **P 12 02 08.5 +1.6**
M29M IAmb IAmb 12 02 25.0
comp=Z,27nm,1.7s
M29M Somme Creek 49.50 37 P **P 12 02 07.9 +1.1**
baz=283
F30M Barrier River 49.50 30 P **P 12 02 08.8 +2.2**
baz=281,SNR=23
AAK Ala-Archa 49.52 296 P **P 12 02 06.3 -1.0**
AAK Ala-Archa 49.52 296 *i* P **P 12 02 06.9 -0.4**
SNR=11
AAK Ala-Archa 49.52 296 LR LR 12 26 06.8
comp=Z,393nm,20.0s,baz=70,slow=40
AAK Ala-Archa 49.52 296 P **P 12 02 07.2 -0.1**
AAK P **P 12 02 07.2 -0.1**
AAK Ala-Archa 49.52 296 *ce*P **P 12 02 07.0 -0.3**
AAK pmax pmax
comp=Z,20nm,0.6s
AAK Ala-Archa 49.52 296 P **P 12 02 07.2 -0.1**
K29M Barlow Dome 49.59 35 P **P 12 02 08.9 +1.4**
K29M Barlow Dome 49.59 35 P **P 12 02 08.6 +1.1**
baz=283,SNR=12
YUK4 Talbot Arm 49.67 38 P **P 12 02 09.1 +0.8**
baz=284
KSH Kashi 49.75 291 P **P 12 02 13.0 +3.9**
KSH pP sP 12 02 26.2 -1.5
KSH PcP **PcP 12 03 31.8 +2.3**
KSH pmax pmax
comp=Z,25nm,1.0s
KSH pmax pmax
comp=Z,160nm,5.7s
KSH LR LR
comp=Z,1μm,22.3s
KSH LR LR
comp=Z,740nm,22.7s
KSH LR LR
comp=Z,790nm,19.9s
I30M Mount Dempster 49.77 33 P **P 12 02 10.7 +1.8**
I30M Mount Dempster 49.77 33 P **P 12 02 09.5 +0.7**
baz=283,SNR=26
STKI Sintang 49.81 223 P **P 12 02 10.5 +0.9**
comp=Z,66nm,0.9s
YUK6 Outpost Mounta 49.91 39 P **P 12 02 10.1 0.0**
baz=285
J30M Hart River 49.94 34 P **P 12 02 10.8 +0.7**
baz=283
O29M Mount Kennedy 49.97 40 P **P 12 02 10.0 -0.5**
baz=285
INK Inuvik 50.20 29 P **P 12 02 13.1 +1.2**
INK IAmb IAmb 12 02 14.5
comp=Z,27nm,1.1s
INK Inuvik 50.20 29 P **P 12 02 12.7 +0.9**
baz=283,SNR=18
INK Inuvik 50.20 29 P **P 12 02 13.3 +1.4**
comp=Z,16nm,0.8s,baz=298,slow=10,SNR=18
INK LR LR 12 25 33.2
comp=Z,259nm,18.5s,baz=318,slow=38
comp=Z,16nm,0.8s
M30M Minto, Yukon 50.22 36 P **P 12 02 13.7 +1.5**
M30M Minto, Yukon 50.22 36 P **P 12 02 13.5 +1.3**
baz=285,SNR=6.0
G31M Satah River 50.23 31 P **P 12 02 13.5 +1.4**
G31M IAmb IAmb 12 02 29.6
comp=Z,14nm,0.8s
G31M Satah River 50.23 31 P **P 12 02 12.6 +0.5**
baz=283,SNR=8.7
F31M Tsiigehtchic 50.31 30 P **P 12 02 13.5 +0.8**
F31M IAmb IAmb 12 02 20.3
comp=Z,31nm,1.1s
F31M Tsiigehtchic 50.31 30 P **P 12 02 13.5 +0.8**
baz=283
HYT Haines Junctio 50.34 39 P **P 12 02 15.7 +2.4**
HYT Haines Junctio 50.34 39 P **P 12 02 14.5 +1.2**
baz=286,SNR=17
N30M Aishikik Lake 50.37 38 P **P 12 02 14.3 +0.9**
baz=285
H31M Peel River 50.46 32 P **P 12 02 15.3 +1.3**
H31M Peel River 50.46 32 P **P 12 02 14.5 +0.6**
baz=284,SNR=13
PMG Port Moresby 50.55 174 LR LR 12 22 31.7
comp=Z,96nm,20.4s,baz=341,slow=35
P29M Windy Craggy 50.56 40 P **P 12 02 15.8 +1.0**
baz=286
KAPI Kappang 50.60 210 P **P 12 02 16.3 +0.8**
KAPI Kappang 50.60 210 P **P 12 02 15.7 +0.1**
KAPI P **P 12 02 15.7 +0.1**
KAPI Kappang 50.60 210 P **P 12 02 16.3 +0.8**
KAPI pmax pmax
comp=Z,62nm,1.4s
BKSI Bulukumba 50.75 210 P **P 12 02 16.3 -0.3**
comp=Z,22nm,0.9s
P30M Million Dollar 50.80 40 P **P 12 02 17.6 +0.9**
baz=286
N31M Braeburn, Yuko 50.97 38 P **P 12 02 19.3 +1.5**
N31M IAmb IAmb 12 02 38.2
comp=Z,29nm,0.9s
N31M Braeburn, Yuko 50.97 38 P **P 12 02 19.2 +1.3**
baz=286,SNR=8.3
O30N Mendenhall 51.02 39 P **P 12 02 18.8 +0.4**
baz=287
ARSB Arslanbob 51.08 295 P **P 12 02 18.5 -0.6**
ARSB IAmb IAmb 12 02 20.4
comp=Z,21nm,0.8s
ARSB Arslanbob 51.08 295 P **P 12 02 18.5 -0.6**
ARSB pmax pmax
comp=Z,21nm,0.8s
PLBC Pleasant Camp 51.28 40 P **P 12 02 20.8 +0.6**
baz=288
M31M Drury Creek, Y 51.40 37 P **P 12 02 22.8 +1.7**
M31M Drury Creek, Y 51.40 37 P **P 12 02 21.6 +0.6**
baz=287,SNR=6.8
WHY Whitehorse 51.63 39 P **P 12 02 24.1 +1.2**
WHY Whitehorse 51.63 39 P **P 12 02 24.3 +1.4**
baz=288,SNR=5.4
SKAG Skagway 51.78 40 P **P 12 02 25.1 +1.2**
baz=286
KULM Kulim 51.88 238 P **P 12 02 25.8 +0.6**
A36M Sachs Harbour 51.99 23 P **P 12 02 26.5 +1.3**
A36M Sachs Harbour 51.99 23 P **P 12 02 26.3 +1.0**
baz=287,SNR=10
KK31 Karatay Array 52.01 298 P **P 12 02 25.4 -0.6**
KK31 Karatay Array 52.01 298 P **P 12 02 25.4 -0.6**
KK31 pmax pmax
comp=Z,38nm,0.7s
KKAR Karatay Array 52.01 298 P **P 12 02 25.4 -0.6**
KKAR Karatay Array 52.01 298 P **P 12 02 25.3 -0.6**
KKAR Karatay Array 52.01 298 P **P 12 02 25.3 -0.6**
KKAR pmax pmax
comp=Z,38nm,0.7s
IPM Ipoh 52.26 237 P **P 12 02 27.7 -0.4**
N32M Quiet Lake 52.31 38 P **P 12 02 28.0 +0.1**
baz=289
BRLS Borolday 52.49 298 *eP* **P 12 02 30.4 +0.9**
baz=298
BRLS Borolday 52.49 298 *eP* **P 12 02 30.4 +0.9**
P32M Atlin 52.52 40 P **P 12 02 30.8 +1.3**
baz=289
SIT Sitka 52.57 43 P **P 12 02 30.4 +0.7**
baz=290
DRK Karamyk 52.68 293 P **P 12 02 31.1 -0.2**
DRK IAmb IAmb 12 02 45.9
comp=Z,22nm,0.6s
DRK Karamyk 52.68 293 P **P 12 02 31.1 -0.2**
DRK pmax pmax
comp=Z,22nm,0.6s
IUG Iuzhnay 52.73 297 *eP* **P 12 02 31.1 -0.3**
comp=Z,17nm,0.7s,baz=297
IUG Iuzhnay 52.73 297 *eP* **P 12 02 31.1 -0.3**
IUG pmax pmax
comp=Z,17nm,0.7s
P33M Teslin, Yukon 52.74 39 P **P 12 02 33.3 +2.2**
P33M IAmb IAmb 12 02 49.4
comp=Z,30nm,1.2s
P33M Teslin, Yukon 52.74 39 P **P 12 02 31.2 +0.1**
baz=290,SNR=9.8
SVE Sverdlovsk 52.75 317 *de*P **P 12 02 31.3 +0.2**
SVE pmax pmax
comp=Z,29nm,0.8s
SVE MLR MLR
comp=Z,832nm,18.0s
S32K Killisnoo 52.81 42 P **P 12 02 31.8 +0.3**
baz=290
HNR Honiara 52.84 159 LR LR 12 21 38.3
comp=Z,2μm,21.8s,baz=348,slow=32
TPRI Tanjung Pinang 52.92 231 P **P 12 02 34.1 +1.2**
comp=Z,66nm,0.8s
CHM Chimkent 52.95 297 *eP* **P 12 02 32.5 -0.4**
comp=Z,12nm,0.5s,baz=297
CHM Chimkent 52.95 297 *eP* **P 12 02 32.5 -0.4**
CHM pmax pmax
comp=Z,12nm,0.5s
C36M Paulatuk 53.20 26 P **P 12 02 34.5 +0.3**
C36M IAmb IAmb 12 02 36.7
comp=Z,25nm,1.1s
C36M Paulatuk 53.20 26 P **P 12 02 34.4 +0.3**
baz=290,SNR=8.9
EDFI Ende, Flores 53.38 206 P **P 12 02 35.2 -1.1**
SOEI Soe 53.52 203 P **P 12 02 39.1 +1.8**
SOEI Soe 53.52 203 P **P 12 02 38.0 +0.7**
comp=Z,74nm,0.9s
R33M Jennings River 53.90 39 P **P 12 02 40.7 +1.0**
baz=291
GAR Garm 53.93 293 P **P 12 02 39.8 -0.4**
ARU Arti 53.96 317 P **P 12 02 39.8 -0.3**
ARU IAmb IAmb 12 02 46.7
comp=Z,30nm,1.0s
ARU Arti 53.96 317 P **P 12 02 39.7 -0.3**
comp=Z,14nm,0.7s,baz=65,slow=1.0,SNR=23
comp=Z,14nm,0.7s
ARU Arti 53.96 317 *c i*P **P 12 02 39.6 -0.5**
ARU *PP **pP 12 02 55.0 +1.8**
ARU 12 03 43.4
ARU 12 04 39.3
ARU S **S 12 10 14.4 +2.5**
ARU SS **SS 12 13 53.9 +0.9**
ARU pmax pmax
comp=Z,51nm,1.5s
ARU MLR MLR
comp=Z,821nm,17.0s
ARU Arti 53.96 317 P **P 12 02 39.4 -0.7**
comp=Z,31nm,1.0s,comp=Z,488nm
ARU Arti 53.96 317 P **P 12 02 39.7 -0.4**
ARU PcP **PcP 12 03 43.4 -1.4**
BATI Baumata 54.12 203 P **P 12 02 43.5 +1.9**
comp=Z,42nm,1.0s
LHMI Lhok Sumawe 54.34 242 P **P 12 02 43.7 +0.4**
comp=Z,91nm,1.0s
S34M Telegraph Cree 54.37 41 P **P 12 02 44.0 +1.0**
baz=292
NIL Nilore 54.38 286 P **P 12 02 43.7 +0.2**
NIL Nilore 54.38 286 P **P 12 02 44.5 +1.1**
NIL P **P 12 02 44.5 +1.1**
NIL Nilore 54.38 286 P **P 12 02 43.7 +0.2**
NIL pmax pmax
comp=Z,118nm,0.9s
NIL Nilore 54.38 286 P **P 12 02 44.1 +0.7**
NIL pP **pP 12 02 58.6 +2.0**
NIL PcP **PcP 12 03 47.2 +0.3**
KDU Kakadu 54.48 192 P **P 12 02 45.6 +1.4**
PPBI Pangkal Pinang 54.52 227 P **P 12 02 45.4 +0.8**
DLBC Dease Lake 54.71 40 LR LR 12 26 38.9
comp=Z,108nm,21.7s,baz=294,slow=36
PLAI Plampang 54.86 211 P **P 12 02 45.6 -1.4**
comp=Z,32nm,1.0s
PSI Prapat 54.88 238 P **P 12 02 47.2 -0.1**
PSI pmax pmax
comp=Z,32nm,0.7s
CHGR Chuyangaron 54.89 293 P **P 12 02 46.4 -0.8**
CHGR Chuyangaron 54.89 293 P **P 12 02 46.4 -0.8**
CHGR pmax pmax
comp=Z,127nm,0.8s
RPSI Rantau Prapat 54.96 238 P **P 12 02 47.2 -0.6**
SIMJ Simiganj 54.99 293 P **P 12 02 46.8 -1.1**
SIMJ Simiganj 54.99 293 P **P 12 02 47.3 -0.7**
SIMJ pP **pP 12 03 01.6 +0.4**
KCSI Kotacane, Aceh 55.07 239 P **P 12 02 47.7 -0.9**
V35K Ketchikan 55.13 44 P **P 12 02 49.6 +1.0**
baz=294
T35M Bob Quinn 55.17 42 P **P 12 02 51.2 +2.3**
T35M IAmb IAmb 12 03 09.3
comp=Z,16nm,1.1s
T35M Bob Quinn 55.17 42 P **P 12 02 50.4 +1.5**
baz=294,SNR=6.2
MLSI Meulaboh, Aceh 55.41 241 P **P 12 02 50.5 -0.5**
comp=Z,72nm,0.8s
ALE Alert 55.86 4 P **P 12 02 53.8 +0.3**
ALE pP **pP 12 03 08.3 +1.6**
EUNU Eureka 55.89 9 P **P 12 02 54.1 +0.4**
AB31 Akbulak array 56.09 308 *i* P **P 12 02 55.1 -0.4**
ABKAR Akbulak array 56.09 308 P **P 12 02 55.3 -0.2**
ABKAR Akbulak array 56.09 308 P **P 12 02 55.3 -0.2**
SPITS Spitsbergen Ar 56.62 349 P **P 12 02 59.6 +0.7**
comp=Z,9.5nm,0.6s,baz=74,slow=12,SNR=15
SPITS LR LR 12 29 42.2
comp=Z,248nm,19.5s,baz=1.5,slow=38
comp=Z,9.5nm,0.6s
PWJI Pagerwojo 56.66 218 P **P 12 02 58.9 -1.0**
comp=Z,64nm,0.9s
KBS Kingsbay 56.71 350 *ce*P **P 12 03 00.9 +1.4**
KBS pmax pmax
comp=Z,39nm,0.8s
KBS Kingsbay 56.71 350 *i* P **P 12 02 59.4 -0.1**
KBS Kingsbay 56.71 350 P **P 12 03 00.3 +0.8**
KBS pP **pP 12 03 14.7 +1.9**
PDSI Padang 56.81 234 P **P 12 03 01.5 +0.5**
comp=Z,36nm,1.0s
TOAD Toad River Com 56.83 38 P **P 12 03 03.1 +2.4**
baz=296
SNSI Sinabang, Aceh 56.85 240 P **P 12 03 01.8 +0.5**
GSI Gunungsitoli 56.88 238 P **P 12 03 01.8 +0.3**
GSI Gunungsitoli 56.88 238 P **P 12 03 01.8 +0.3**
comp=Z,75nm,1.3s
NOR Nord 56.94 356 *i* P **P 12 03 00.3 -0.8**
NOR IAmb IAmb 12 03 02.4
comp=Z,11nm,0.8s
KBL Kabul 56.96 289 P **P 12 03 01.0 -1.2**
KBL IAmb IAmb 12 03 16.6
comp=Z,36nm,0.9s
KBL Kabul 56.96 289 P **P 12 03 01.6 -0.6**
SNR=13
KBL Kabul 56.96 289 P **P 12 03 01.0 -1.2**
KBL pmax pmax
comp=Z,36nm,1.0s
KPJI Karang Pucung 57.43 221 P **P 12 03 05.0 -0.3**
KIRV Kirov 57.57 322 P **P 12 03 05.7 -0.1**
comp=Z,41nm,0.6s,baz=78,slow=4.3,SNR=14
comp=Z,41nm,0.6s
KIRV Kirov 57.57 322 *ce*P **P 12 03 05.9 +0.1**
TNG Tangerang 57.60 224 P **P 12 03 07.9 +1.3**
TNG P **P 12 03 07.9 +1.3**
SISI Saibi 57.97 235 P **P 12 03 09.9 +0.7**
comp=Z,49nm,0.9s
RES Resolute Bay 58.28 15 P **P 12 03 10.8 +0.2**
RES IAmb IAmb 12 03 34.3
comp=Z,21nm,0.7s
RES Resolute Bay 58.28 15 LR LR 12 32 21.6
comp=Z,206nm,18.3s,baz=2.5,slow=40
RES Resolute Bay 58.28 15 P **P 12 03 10.8 +0.2**
RES pmax pmax
comp=Z,21nm,0.7s
BBB Bella Bella 58.37 46 LR LR 12 26 53.3
comp=Z,64nm,21.5s,baz=285,slow=34
LVZ Lovozero 58.73 335 P **P 12 03 13.6 -0.3**
LVZ pP **pP 12 03 27.5 +0.3**
APA Apatity 59.31 335 ⇓ *i* P **P 12 03 15.8 -2.0**
APA *i* 12 04 09.4
APA pmax pmax
comp=Z,15nm,0.9s
HYB Hyderabad 59.42 267 *eP* **P 12 03 19.3 -0.1**
ADZR Andozero 59.62 330 *eP* **P 12 03 18.9 -1.1**
ADZR pmax pmax
comp=Z,41nm,0.9s
YKA Yellowknife Ar 59.68 32 P **P 12 03 21.2 +0.8**
baz=300,slow=6.9
KEV Kevo 59.91 339 P **P 12 03 21.7 -0.2**
KEV IAmb IAmb 12 03 23.1
comp=Z,19nm,0.8s
KEV Kevo 59.91 339 P **P 12 03 21.7 -0.2**
KEV pmax pmax
comp=Z,19nm,0.8s
KEV Kevo 59.91 339 P **P 12 03 21.5 -0.4**
ARCES ARCESS Array B 60.45 339 P **P 12 03 25.4 -0.2**
ARCES IAmb IAmb 12 03 26.6
comp=Z,13nm,1.0s
ARCES ARCESS Array B 60.45 339 P **P 12 03 25.4 -0.3**
comp=Z,9.4nm,0.9s,baz=46,slow=7.0,SNR=14
ARCES LR LR 12 34 18.2
comp=Z,259nm,19.4s,baz=40,slow=41
comp=Z,9.4nm,0.9s
ARCES ARCESS Array B 60.45 339 P **P 12 03 25.5 -0.2**
ARCES pmax pmax
comp=Z,13nm,1.0s
KLMR Klimovskoe 60.79 327 *eP* **P 12 03 24.6 -3.5**
KLMR pmax pmax
comp=Z,41nm,1.2s
TULEG Thule 60.81 8 *i* P **P 12 03 30.2 +2.2**
TULEG IAmb IAmb 12 03 33.1
comp=Z,20nm,0.9s
WB0 Warramunga Arr 61.18 189 P **P 12 03 30.6 -0.5**
WB0 IAmb IAmb 12 03 50.2
comp=Z,17nm,0.7s
NEEM North Greenlan 61.29 3 *i* P **P 12 03 31.3 -0.3**
NEEM IAmb IAmb 12 03 34.2
comp=Z,17nm,0.8s
WRAB Tennant Creek 61.35 189 P **P 12 03 32.1 -0.1**
WRAB IAmb IAmb 12 03 56.4
comp=Z,16nm,0.8s
WRAB Tennant Creek 61.35 189 *i* P **P 12 03 31.6 -0.6**
WRAB pmax pmax
comp=Z,15nm,0.9s
WR0 Warramunga Arr 61.35 189 P **P 12 03 32.2 -0.1**
WR0 IAmb IAmb 12 03 60.0
comp=Z,44nm,1.5s
WB2 Warramunga Arr 61.36 189 P **P 12 03 32.2 -0.1**
WB2 IAmb IAmb 12 03 56.4
comp=Z,14nm,0.8s
WRA Warramunga Arr 61.36 189 P **P 12 03 31.5 -0.8**
WRA Warramunga Arr 61.36 189 P **P 12 03 31.8 -0.5**
comp=Z,11nm,0.8s,baz=5.3,slow=7.0,SNR=95
WRA LR LR 12 27 18.8
comp=Z,63nm,21.4s,baz=351,slow=33
comp=Z,11nm,0.8s
BELG Belogornoye 61.48 316 P **P 12 03 32.8 -0.1**
comp=Z,46nm,0.7s,baz=24,slow=2.5,SNR=13
comp=Z,46nm,0.7s
BELG Belogornoye 61.48 316 ⇑ *i*P **P 12 03 32.7 -0.1**
BELG pmax pmax
comp=Z,6.0nm,0.6s
DAG Danmarks Havn 61.69 355 P **P 12 03 33.8 -0.1**
DAG Danmarks Havn 61.69 355 *i* P **P 12 03 33.0 -0.9**
DAG IAmb IAmb 12 03 35.3
comp=Z,18nm,0.8s
HRA Herat 61.84 292 P **P 12 03 34.7 -1.2**
HRA IAmb IAmb 12 03 36.9
comp=Z,26nm,0.9s
GEYT Alibeck 62.77 298 P **P 12 03 41.5 -0.3**
comp=Z,22nm,0.8s,baz=29,slow=3.4,SNR=39
comp=Z,22nm,0.8s
GYA0 ALIBECK ARRAY 62.77 298 P **P 12 03 41.1 -0.7**
GYA0 pmax pmax
comp=Z,30nm,0.9s
GYA0B ALIBECK ARRAY 62.77 298 P **P 12 03 41.1 -0.7**
JOF Joensuu 62.77 331 *eP* **P 12 03 40.2 -1.1**
DBG Daneborg 64.19 355 *i* P **P 12 03 49.1 -1.4**
DBG IAmb IAmb 12 03 52.3
comp=Z,5.8nm,0.9s
PALK Pallekele 64.33 257 P **P 12 03 51.5 -0.9**
PALK IAmb IAmb 12 03 53.2
comp=Z,30nm,1.1s
PALK Pallekele 64.33 257 P **P 12 03 52.6 +0.2**
PALK Pallekele 64.33 257 *i* P **P 12 03 52.1 -0.3**
PALK pmax pmax
comp=Z,44nm,1.1s
PALK Pallekele 64.33 257 P **P 12 03 52.5 +0.2**
PALK pP **pwP 12 04 06.9 -0.9**
PALK sP **sP 12 04 13.2 +2.0**
MOS Moscow 64.53 323 *eP* **P 12 03 51.1 -1.9**
MOS *e* 12 04 27.0
MOS *e* 12 06 11.0
MOS pmax pmax
comp=Z,32nm,0.7s
AS01 Alice Springs 65.08 189 P **P 12 03 57.2 +0.3**
comp=Z,27nm,0.8s
AS31 Alice Springs 65.08 189 P **P 12 03 56.7 -0.3**
ASAR Alice Springs 65.08 189 P **P 12 03 57.1 +0.2**
comp=Z,16nm,0.8s,baz=11,slow=6.5,SNR=97
ASAR LR LR 12 31 39.6
comp=Z,128nm,21.5s,baz=352,slow=35
comp=Z,16nm,0.8s
PUL Pulkovo 65.12 329 *ce*P **P 12 03 56.8 0.0**
PUL pmax pmax
comp=Z,85nm,0.4s
VRH Novokhopyorsk 65.20 317 *eP* **P 12 03 56.7 -0.7**
VRH pmax pmax
comp=Z,26nm,0.6s
OBN Obninsk 65.38 323 *eP* **P 12 03 58.0 -0.5**

OBN e*PP **pP** **12 04 12.4 +0.4**
OBN e*SP **sP** **12 04 20.2 +2.8**
OBN e 12 04 29.3
OBN e 12 06 22.4
OBN pmax pmax
comp=Z,47nm,1.1s
OBN MLR MLR
comp=Z,254nm,17.0s
KEF Keuruu 65.53 333 eP **P** **12 03 58.7 -0.7**
FINES FINESS Array B 65.60 332 P **P** **12 03 59.5 -0.4**
baz=46,slow=8.1
MBWA Marble Bar 65.65 204 P **P** **12 04 00.9 +0.3**
MBWA Marble Bar 65.65 204 P **P** **12 04 00.6 0.0**
MBWA pP **pP** **12 04 14.2 +0.2**
MBWA sP **sP** **12 04 20.1 +0.7**
VAF Ylistaro 65.67 334 eP **P** **12 04 00.5 +0.3**
LPSR Galich'ya Gora 65.78 320 eP **P** **12 03 59.3 -1.8**
LPSR pmax pmax
comp=Z,40nm,0.9s
VORR Voronezh 66.19 319 eP **P** **12 04 02.8 -1.0**
VORR pmax pmax
comp=Z,55nm,0.4s
NEW Newport 66.43 46 P **P** **12 04 06.4 +0.9**
NEW IAmb IAmb 12 04 23.3
comp=Z,18nm,1.3s
NEW Newport 66.43 46 P **P** **12 04 06.2 +0.7**
baz=306
NEW Newport 66.43 46 LR LR 12 31 10.8
comp=Z,149nm,22.0s,baz=312,slow=34
NEW Newport 66.43 46 P **P** **12 04 06.4 +0.9**
NEW pmax pmax
comp=Z,18nm,1.3s
VSR Storozhevoye 66.49 318 eP **P** **12 04 04.9 -0.8**
VSR pmax pmax
comp=Z,20nm,0.6s
SUMG Summit 66.49 0 P **P** **12 04 06.8 +0.8**
SUMG Summit 66.49 0 P **P** **12 04 06.8 +0.8**
SUMG pmax pmax
comp=Z,68nm,1.2s
SUMG Summit 66.49 0 *i* P **P** **12 04 05.7 -0.2**
VORD Divnogorie 66.57 318 eP **P** **12 04 04.5 -1.8**
VORD pmax pmax
comp=Z,20nm,0.5s
DZM Mont Dzumac 66.71 156 eS **S** **12 12 56.4 +0.7**
comp=Z,109nm,24.2s
DZM eSS **SS** **12 17 12.1 -2.6**
comp=Z,99nm,31.4s
DZM eLR LR 12 24 11.5
comp=Z,441nm,23.2s
DZM Mont Dzumac 66.71 156 LR LR 12 29 00.8
comp=Z,214nm,21.9s,baz=8.5,slow=32
MAK Makhachkala 66.72 307 eP **P** **12 04 05.9 -1.5**
MAK e*PP **pP** **12 04 18.7 -2.2**
MAK e*SP **sP** **12 04 25.0 -1.3**
MAK e 12 06 31.5
MAK ePPP PPP 12 08 08.3
MAK eS **S** **12 12 54.1 -1.4**
MAK e*SS **sS** **12 13 16.5 -1.8**
MAK eSS **SS** **12 17 17.3 +4.1**
MAK pmax pmax
comp=Z,91nm,1.1s
YBH Yreka Blue Hor 67.00 54 P **P** **12 04 10.4 +1.2**
YBH Yreka Blue Hor 67.00 54 P **P** **12 04 10.5 +1.2**
YBH pmax pmax
comp=Z,13nm,1.1s
ARBE Arbavere 67.00 330 eP **P** **12 04 08.7 -0.1**
MEF Metsahovi 67.05 332 eP **P** **12 04 09.0 -0.1**
VSU Vasula 67.38 329 *ce*P **P** **12 04 10.7 -0.6**
VSU pmax pmax
comp=Z,64nm,1.3s
RAF Rauma 67.40 333 eP **P** **12 04 11.0 -0.3**
GOF Gofitskoye 68.10 311 *ce*P **P** **12 04 16.4 +0.3**
HATC Hat Creek Radi 68.30 54 P **P** **12 04 18.9 +1.4**
HATC IAmb IAmb 12 04 44.0
comp=Z,30nm,0.9s
MTSE Matsula 68.31 331 eP **P** **12 04 17.2 +0.1**
BMO Blue Mountains 68.35 49 P **P** **12 04 17.9 +0.1**
BMO Blue Mountains 68.35 49 P **P** **12 04 17.9 +0.1**
BMO pmax pmax
comp=Z,10.0nm,1.3s
AAL Aland 68.61 333 eP **P** **12 04 18.5 -0.5**
PLID Pearl Lake 68.95 48 P **P** **12 04 22.4 +0.8**
KIV Kislovodsk 68.97 310 ⇓P **P** **12 04 22.8 +1.2**
KIV Kislovodsk 68.97 310 P **P** **12 04 22.4 +0.8**
KIV Kislovodsk 68.97 310 *i* P **P** **12 04 22.0 +0.4**
SNR=12
KIV Kislovodsk 68.97 310 P **P** **12 04 23.1 +1.5**
KIV P **P** **12 04 23.1 +1.5**
KIV Kislovodsk 68.97 310 eP **P** **12 04 22.4 +0.8**
KIV eS **S** **12 13 23.4 +0.8**
KIV pmax pmax
comp=Z,62nm,1.0s
KIV pmax pmax
comp=Z,26nm,4.0s
KIV Kislovodsk 68.97 310 P **P** **12 04 22.4 +0.8**
KIV PcP **PcP** **12 04 45.0 -0.7**
KBZ Khabaz 68.98 310 P **P** **12 04 22.2 +0.6**
comp=Z,19nm,0.8s,baz=39,slow=4.4,SNR=40
comp=Z,19nm,0.8s
KBZ Khabaz 68.98 310 *ce*P **P** **12 04 22.5 +0.9**
MSO Missoula 69.01 46 P **P** **12 04 22.4 +0.5**
MSO Missoula 69.01 46 P **P** **12 04 21.5 -0.3**
baz=308
SHA1 Shidzhatmaz 69.12 310 *ce*P **P** **12 04 23.3 +0.6**
ONI Oni 69.35 309 P **P** **12 04 24.5 +0.5**
ONI IAmb IAmb 12 04 43.1
comp=Z,14nm,0.8s
ONI Oni 69.35 309 P **P** **12 04 24.5 +0.5**
ONI pmax pmax
comp=Z,14nm,0.8s
OVMT Ovando 69.37 45 P **P** **12 04 24.6 +0.5**
ISAL Salakas 69.61 327 eP **P** **12 04 26.7 +1.4**
MNK Minsk 69.62 326 *i* P **P** **12 04 24.6 -0.7**
MNK *i* *PP **pP** **12 04 38.8 -0.1**
MNK *i* 12 06 59.3
MNK *i* PPP PPP 12 08 39.0
MNK *i* S **S** **12 13 28.8 -0.8**
MNK *i* *SS **sS** **12 13 53.6 +1.1**
MNK *i* SS **SS** **12 17 58.3 +1.0**
MNK pmax pmax
comp=Z,78nm,0.9s
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=N,34nm,0.9s
MNK MLR MLR
comp=E,139nm,17.0s
MNK MLR MLR
comp=N,130nm,14.0s
MNK MLR MLR
comp=Z,346nm,18.0s
FFC Flin Flon 69.63 34 P **P** **12 04 25.7 +0.3**
FFC IAmb IAmb 12 04 27.2
comp=Z,14nm,0.8s
FFC Flin Flon 69.63 34 P **P** **12 04 25.7 +0.3**
FFC pmax pmax
comp=Z,14nm,0.9s
FFC Flin Flon 69.63 34 P **P** **12 04 26.1 +0.7**
FFC pP **pwP** **12 04 40.2 +1.2**
FFC PcP **PcP** **12 04 48.7 +0.6**
IIGN Ignalina 69.73 327 eP **P** **12 04 27.2 +1.2**
JASK Jask - Hormozg 69.79 287 P **P** **12 04 28.1 +1.2**
ICESG Greenland Ices 69.99 1 *i* P **P** **12 04 28.1 +0.3**
GNI Garni 70.06 306 P **P** **12 04 28.8 +0.3**
GNI IAmb IAmb 12 04 55.9
comp=Z,31nm,1.1s
GNI Garni 70.06 306 *i* P **P** **12 04 29.2 +0.7**
GNI pmax pmax
comp=Z,26nm,1.1s
MPK Martis Peak 70.08 55 P **P** **12 04 30.1 +1.3**
MPK IAmb IAmb 12 04 47.0
comp=Z,48nm,1.5s
PAHR Pah Rah Range 70.23 54 P **P** **12 04 30.8 +1.2**
EGMT Eagleton 70.46 43 P **P** **12 04 31.5 +0.8**
EGMT IAmb IAmb 12 04 33.4
comp=Z,14nm,0.9s
EGMT Eagleton 70.46 43 P **P** **12 04 31.6 +0.8**
baz=310
NC303 NORSAR Array S 70.53 337 P **P** **12 04 30.4 -0.5**
NC303 IAmb IAmb 12 04 31.8
comp=Z,31nm,0.9s
PABE Paberze 70.53 328 P **P** **12 04 30.8 -0.1**
PABE Paberze 70.53 328 eP **P** **12 04 30.8 -0.1**
NC204 NORSAR Array S 70.67 338 P **P** **12 04 31.6 -0.1**

HFS Hagfors 70.70 336 P **P** **12 04 31.8 -0.1**
comp=Z,16nm,0.6s,baz=57,slow=5.5,SNR=38
HFS LR LR 12 37 59.4
comp=Z,295nm,21.8s,baz=34,slow=38
comp=Z,16nm,0.6s
NB2 NORSAR Subarra 70.73 337 P **P** **12 04 31.5 -0.6**
comp=Z,32nm,0.8s,baz=37,slow=6.2
NB2 NORSAR Subarra 70.73 337 P **P** **12 04 31.5 -0.6**
baz=37,slow=6.2
NB2 NORSAR Subarra 70.73 337 P **P** **12 04 28.7 -3.4**
NB2 pmax pmax
comp=Z,9.0nm,0.9s
NOA NORSAR Array B 70.73 337 P **P** **12 04 31.8 -0.3**
comp=Z,22nm,0.8s,baz=37,slow=6.1,SNR=60
NOA LR LR 12 40 12.4
comp=Z,209nm,18.4s,baz=30,slow=40
comp=Z,22nm,0.8s
YERR Yerington 70.76 55 P **P** **12 04 33.8 +1.0**
YERR IAmb IAmb 12 05 04.6
comp=Z,20nm,1.1s
HLID Hailey 70.78 49 P **P** **12 04 33.3 +0.4**
HLID Hailey 70.78 49 P **P** **12 04 32.9 0.0**
baz=309
WSAR Wadi Sarin 70.82 284 LR LR 12 41 20.3
comp=Z,142nm,18.0s,baz=52,slow=41
NBO00 NORSAR Array S 70.86 337 P **P** **12 04 33.0 +0.1**
BANOM Banah 70.89 288 P **P** **12 04 32.8 -0.8**
BANOM P **P** **12 04 32.8 -0.8**
SOC Sochi 70.89 311 eP **P** **12 04 32.0 -1.3**
SOC *e* 12 07 11.5
SOC eS **S** **12 13 44.4 -0.5**
SOC pmax pmax
comp=Z,34nm,0.9s
SOC MLR MLR
comp=Z,316nm,16.0s
JLN Jalan Bani Buh 70.90 283 P **P** **12 04 34.0 +0.3**
JLN P **P** **12 04 34.0 +0.3**
SHME Shamm 70.92 288 *i* P **P** **12 04 33.8 0.0**
SNR=15
SHME Shamm 70.92 288 P **P** **12 04 33.8 0.0**
SNR=15
WBK Wadi Bani Khal 70.95 284 P **P** **12 04 34.7 +0.6**
WBK P **P** **12 04 34.7 +0.6**
NAO01 NORSAR Array S 70.98 337 P **P** **12 04 33.5 -0.1**
NAO01 IAmb IAmb 12 04 34.2
comp=Z,25nm,0.9s
VIKU Vikbolandet 70.99 333 eP **P** **12 04 33.1 -0.5**
BIDO Bidbid 71.01 285 P **P** **12 04 35.3 +1.0**
BIDO P **P** **12 04 35.3 +1.0**
BOZ Bozeman (W) 71.03 46 P **P** **12 04 35.2 +0.8**
BOZ Bozeman (W) 71.03 46 P **P** **12 04 34.9 +0.6**
baz=310
BOZ Bozeman (W) 71.03 46 P **P** **12 04 35.2 +0.8**
BOZ pmax pmax
comp=Z,9.0nm,0.8s
MDH Madha 71.26 287 P **P** **12 04 35.3 -0.6**
MDH P **P** **12 04 35.3 -0.6**
MASF Masafi 71.32 288 P **P** **12 04 36.5 +0.3**
SNR=7.7
MASF P **P** **12 04 36.5 +0.3**
SNR=7.7
MSFE Esma-Masafi 71.33 288 *i* P **P** **12 04 36.2 -0.1**
SNR=7.7
SMDO Samad 71.35 285 P **P** **12 04 36.8 +0.2**
SMDO P **P** **12 04 36.8 +0.2**
LCRK Leigh Creek 71.44 184 P **P** **12 04 38.6 +2.1**
comp=Z,39nm,0.9s
UOSS Minazif 71.55 287 P **P** **12 04 36.8 -0.7**
UOSS Minazif 71.55 287 *i* P **P** **12 04 37.1 -0.5**
SNR=12
UOSS Minazif 71.55 287 P **P** **12 04 37.3 -0.3**
UOSS P **P** **12 04 37.3 -0.3**
UOSS Minazif 71.55 287 P **P** **12 04 37.3 -0.3**
UOSS pP **pP** **12 04 52.1 +0.9**
UOSS PcP **sP** **12 04 55.7 -0.8**
HOQ Hoqain 71.57 285 P **P** **12 04 37.7 -0.1**
HOQ P **P** **12 04 37.7 -0.1**
SFJD Kangerlussuaq 71.62 5 LR LR 12 37 37.7
comp=Z,231nm,20.6s,baz=346,slow=37
AKASG Malin Array Be 71.63 322 P **P** **12 04 37.4 -0.3**
baz=44,slow=5.8
AKBB Malin Array Si 71.63 322 P **P** **12 04 37.3 -0.3**
AKBB Malin Array Si 71.63 322 *ce*P **P** **12 04 37.1 -0.5**
AKBB pmax pmax
comp=Z,58nm,0.8s
KIEV Kiev 71.64 322 ⇑P **P** **12 04 37.5 -0.2**
KIEV Kiev 71.64 322 P **P** **12 04 37.0 -0.7**
KIEV Kiev 71.64 322 *i* P **P** **12 04 37.2 -0.5**
SNR=32
KIEV Kiev 71.64 322 P **P** **12 04 37.5 -0.2**
KIEV Kiev 71.64 322 P **P** **12 04 37.2 -0.5**
KIEV pP **pP** **12 04 52.2 +0.9**
KIEV sP **sP** **12 04 58.3 +1.6**
HATD Hatta, Dubai 71.67 287 *i* P **P** **12 04 38.4 +0.1**
SNR=13
HATD Hatta, Dubai 71.67 287 P **P** **12 04 38.5 +0.1**
SNR=13
HATD P **P** **12 04 38.5 +0.1**
SNR=13
NVAR Mina Array Bea 71.68 55 P **P** **12 04 40.2 +1.7**
NVAR Mina Array Bea 71.68 55 P **P** **12 04 40.6 +2.1**
comp=Z,2.9nm,0.6s,baz=297,slow=6.2,SNR=21
NVAR LR LR 12 30 44.0
comp=Z,80nm,20.5s,baz=312,slow=31
comp=Z,2.9nm,0.6s
JMDO Jabal Madar 71.73 284 P **P** **12 04 39.0 +0.3**
SOHO SOHO 71.80 286 *i* P **P** **12 04 38.7 -0.4**
SNR=8.5
SOHO SOHO 71.80 286 P **P** **12 04 38.6 -0.4**
SOHO P **P** **12 04 38.6 -0.4**
ASHO Ashiyiah 71.81 287 *i* P **P** **12 04 38.9 -0.3**
SNR=11
ASHO Ashiyiah 71.81 287 P **P** **12 04 39.1 -0.1**
SNR=5.3
ASHO P **P** **12 04 39.1 -0.1**
SNR=5.3
MLAC Mammoth, Mammo 71.84 56 P **P** **12 04 38.9 -0.5**
baz=308
SUW Suwalki 71.92 327 eP **P** **12 04 39.3 -0.1**
ELK Elko 72.08 51 P **P** **12 04 45.2 +4.3**
FAQ Al Faqa, Dubai 72.11 287 P **P** **12 04 40.4 -0.5**
FAQ Al Faqa, Dubai 72.11 287 P **P** **12 04 40.5 -0.4**
FAQ P **P** **12 04 40.5 -0.4**
BSY Bisya 72.16 285 P **P** **12 04 41.5 +0.2**
BSY P **P** **12 04 41.5 +0.2**
ARQ Araqi 72.29 286 P **P** **12 04 42.4 +0.3**
ARQ P **P** **12 04 42.4 +0.3**
KONO Kongsberg 72.33 337 P **P** **12 04 41.0 -0.7**
KONO IAmb IAmb 12 04 42.6
comp=Z,13nm,0.8s
KONO Kongsberg 72.33 337 *ce*P **P** **12 04 42.3 +0.7**
KONO pmax pmax
comp=Z,7.0nm,0.8s
ASUD Al Ashush, Dub 72.37 287 *i* P **P** **12 04 42.5 0.0**
SNR=6.9
ASUD Al Ashush, Dub 72.37 287 P **P** **12 04 42.6 +0.1**
H17A Grant Village 72.38 46 P **P** **12 04 45.3 +2.6**
H17A IAmb IAmb 12 04 47.4
comp=Z,15nm,0.9s
H17A Grant Village 72.38 46 P **P** **12 04 43.6 +1.0**
baz=311,SNR=10
DY2G Dye2 72.41 4 *i* P **P** **12 04 41.9 -0.5**
ALNE Al Ain 72.41 287 *i* P **P** **12 04 42.7 -0.1**
SNR=9.6
ALNE Al Ain 72.41 287 P **P** **12 04 42.6 -0.2**
ALNE P **P** **12 04 42.6 -0.2**
FRB Frobisher Bay 72.46 14 LR LR 12 39 53.9
comp=Z,298nm,20.3s,baz=8.0,slow=38
IMW Indian Meadow 72.51 47 P **P** **12 04 44.7 +1.3**
RLMT Red Lodge 72.61 45 P **P** **12 04 44.8 +0.9**
baz=311
FXWY Fox Creek 72.63 47 P **P** **12 04 45.0 +0.9**
AJN Ajban 72.66 288 P **P** **12 04 43.8 -0.4**
AJN P **P** **12 04 43.8 -0.4**
MHTO MHTO 72.68 283 P **P** **12 04 44.7 +0.4**
SNR=14
MHTO P **P** **12 04 44.7 +0.4**
SNR=14
GURO Guroymak-BITLI 72.70 306 P **P** **12 04 44.8 +0.4**
GURO IAmb IAmb 12 04 57.9
comp=Z,18nm,1.0s
STKA Stephens Creek 72.75 181 P **P** **12 04 45.9 +1.5**
comp=Z,4.5nm,0.9s,baz=34,slow=10,SNR=4.9
STKA LR LR 12 35 54.1
comp=Z,65nm,21.8s,baz=23,slow=35

comp=Z,4.5nm,0.9s
TPAW Teton Pass 72.77 47 P **P** **12 04 46.5 +1.5**
REDW Red Top Meadow 72.91 47 P **P** **12 04 46.9 +1.2**
PKM Mcpherson Peak 72.92 59 P **P** **12 04 47.6 +1.7**
baz=309
CWC Cottonwood Cre 73.06 56 P **P** **12 04 47.9 +1.3**
baz=309
SIM Simferopol' 73.08 315 eP **P** **12 04 46.9 +0.5**
SIM pmax pmax
comp=Z,37nm,0.8s
GRAC Grapevine Rang 73.15 55 P **P** **12 04 49.1 +2.1**
baz=309
AHID Auburn Hatcher 73.16 48 P **P** **12 04 47.8 +0.6**
ISA Isabella, Lake 73.30 57 P **P** **12 04 49.3 +1.3**
baz=309
R11B Troy Canyon, C 73.39 53 P **P** **12 04 49.7 +1.1**
R11B Troy Canyon, C 73.39 53 P **P** **12 04 50.1 +1.5**
baz=310,SNR=8.2
MPMC Manual Prospec 73.67 56 P **P** **12 04 51.4 +1.1**
baz=309
FURC Furnace Creek, 73.80 56 P **P** **12 04 52.1 +1.4**
baz=310
SORM Soroca 73.82 321 ⇑P **P** **12 04 50.4 -0.3**
SORM Soroca 73.82 321 P **P** **12 04 50.3 -0.3**
DUG Dugway, Tooele 73.85 51 P **P** **12 04 51.7 +0.5**
baz=311,SNR=6.6
TPNV Topopah Spring 73.88 55 P **P** **12 04 52.9 +1.5**
baz=310,SNR=6.7
LRMC Laurel Mtn Rad 73.91 57 P **P** **12 04 53.9 +2.2**
baz=310
MZWR Madinat Zayed 73.94 288 P **P** **12 04 50.6 -1.2**
JRN Qarnain Island 73.95 289 P **P** **12 04 50.4 -1.4**
JRN P **P** **12 04 50.4 -1.4**
BW06 Boulder Array 74.01 47 P **P** **12 04 52.9 +0.7**
baz=312,SNR=11
PD31 Pinedale Array 74.01 47 P **P** **12 04 53.2 +1.0**
PDAR Pinedale Array 74.01 47 P **P** **12 04 53.2 +1.0**
comp=Z,2.8nm,0.6s,baz=305,slow=1.2,SNR=17
comp=Z,2.8nm,0.6s
EDW2 Edwards Air Fo 74.09 58 P **P** **12 04 54.2 +1.6**
baz=310
SNCC San Nicolas Is 74.13 60 P **P** **12 04 54.5 +1.7**
baz=309
BSD Bornholm Skovb 74.25 332 *i* P **P** **12 04 52.5 -0.5**
BSD IAmb IAmb 12 04 54.1
comp=Z,22nm,0.8s
NUUK Nuuk 74.31 7 *i* P **P** **12 04 53.6 +0.4**
MILM Milestii Mici 74.44 319 ⇑*i* P **P** **12 04 53.0 -1.3**
comp=Z,60nm,0.8s
MILM eL L 12 30 54.0
MILM LRM MLR 12 40 59.0
comp=Z,300nm,17.0s
MILM Milestii Mici 74.44 319 *c i* P **P** **12 04 53.0 -1.3**
MILM pmax pmax
comp=Z,60nm,0.8s
BEL Belsk 74.51 327 eP **P** **12 04 55.2 +0.6**
GHWR Ruwais 74.54 288 P **P** **12 04 53.7 -1.5**
GHWR P **P** **12 04 53.7 -1.5**
ARPR Arapgir-MALATY 74.56 309 P **P** **12 04 56.2 +0.8**
LVV L'vov 74.61 324 eP **P** **12 04 55.3 0.0**
DIKM Dikmen 74.65 312 ⇑P **P** **12 04 56.4 +0.8**
MZR Muzera 74.70 287 *i* P **P** **12 04 55.6 -0.6**
SNR=17
MZR Muzera 74.70 287 P **P** **12 04 55.7 -0.6**
MZR P **P** **12 04 55.7 -0.6**
SHMA Al-Shehemyia 74.72 291 P **P** **12 04 55.0 -1.3**
KBD Kabd 74.92 296 P **P** **12 04 56.2 -1.1**
TUQ Turquoise Moun 75.04 56 P **P** **12 04 58.8 +0.6**
baz=310
TRNA Turayna 75.24 290 P **P** **12 04 58.1 -1.2**
SLWR Sila 75.32 289 P **P** **12 04 59.1 -0.6**
SLWR P **P** **12 04 59.1 -0.6**
KWP Kalwaria Pacla 75.33 324 eP **P** **12 05 01.3 +1.8**
KWP Kalwaria Pacla 75.33 324 P **P** **12 05 00.9 +1.4**
KWP Kalwaria Pacla 75.33 324 P **P** **12 05 00.9 +1.4**
KWP pmax pmax
comp=Z,116nm,1.2s
ULM Lac du Bonnet 75.44 34 P **P** **12 05 00.4 +0.3**
comp=Z,6.9nm,0.9s,baz=317,slow=6.6,SNR=4.4
comp=Z,6.9nm,0.9s
SMRA Abu-Samra 75.51 290 P **P** **12 04 59.7 -1.1**
MDND Maddock 75.55 38 P **P** **12 05 01.4 +0.6**
MDND IAmb IAmb 12 05 02.8
comp=Z,34nm,0.9s
MDND Maddock 75.55 38 P **P** **12 05 00.6 -0.1**
baz=316
VLDR Vladesti 75.56 319 ⇓P **P** **12 05 01.4 +0.6**
GMRC Granite Mounta 75.63 56 P **P** **12 05 02.6 +1.0**
baz=310
BUR08 Bucovina Ar. S 75.66 322 P **P** **12 05 01.7 +0.2**
BUR08 IAmb IAmb 12 05 02.8
comp=Z,30nm,0.8s
BURAR Bucovina Array 75.67 322 ⇑P **P** **12 05 02.0 +0.5**
BURAR Bucovina Array 75.67 322 P **P** **12 05 01.5 0.0**
BURAR Bucovina Array 75.67 322 P **P** **12 05 01.9 +0.4**
K22A Casper 75.74 45 P **P** **12 05 02.1 0.0**
baz=314,SNR=6.2
TESR Tescani 75.78 320 ⇑P **P** **12 05 02.2 +0.1**
PFO Pinyon Flats O 75.88 58 P **P** **12 05 04.0 +1.0**
baz=310
TPFO Pinon Flats 75.89 58 P **P** **12 05 04.6 +1.5**
baz=310
BELC Belle Mtn. Jos 75.92 57 P **P** **12 05 03.5 +0.2**
baz=310
E28A Huff 75.95 40 P **P** **12 05 03.5 +0.4**
E28A IAmb IAmb 12 05 04.4
comp=Z,18nm,1.0s
CFR Carcaliu 76.00 318 ⇑P **P** **12 05 03.2 -0.1**
CFR Carcaliu 76.00 318 P **P** **12 05 03.2 -0.1**
RWWY Rawlins 76.03 46 P **P** **12 05 03.7 -0.2**
RSSD Black Hills 76.03 43 P **P** **12 05 03.3 -0.5**
baz=315
KOLS Kolonicke sedl 76.04 324 eP **P** **12 05 04.2 +0.7**
KOLS *e* 12 07 53.7
KOLS pmax pmax
comp=Z,30nm,0.8s
KOLS Kolonicke sedl 76.04 324 eP **P** **12 05 04.2 +0.7**
KOLS *e* 12 07 53.7
TPGR Topolog 76.09 318 ⇓P **P** **12 05 04.1 +0.2**
STHS Stebnicka Huta 76.13 325 eP **P** **12 05 04.5 +0.5**
STHS pmax pmax
comp=Z,22nm,0.7s
STHS Stebnicka Huta 76.13 325 eP **P** **12 05 04.5 +0.5**
OJC Ojcow 76.14 326 eP **P** **12 05 04.8 +0.8**
OJC Ojcow 76.14 326 P **P** **12 05 04.5 +0.5**
BNN Bunyan 76.18 310 P **P** **12 05 04.8 +0.2**
VRI Vrincioaia 76.21 320 ⇑P **P** **12 05 05.1 +0.5**
VRI Vrincioaia 76.21 320 P **P** **12 05 05.0 +0.5**
PLOR Plostina 76.26 320 ⇑P **P** **12 05 05.3 +0.5**
PLOR Plostina 76.26 320 P **P** **12 05 05.3 +0.5**
IRM Iron Mountain 76.36 57 P **P** **12 05 07.0 +1.4**
baz=311
MONP2 Monument Peak 76.37 58 P **P** **12 05 07.1 +1.2**
baz=310
CRVS Cervenica-Dubn 76.42 325 eP **P** **12 05 06.3 +0.6**
CRVS *e* 12 07 55.7
CRVS pmax pmax
comp=Z,29nm,0.8s
CRVS Cervenica-Dubn 76.42 325 eP **P** **12 05 06.3 +0.6**
CRVS *e* 12 07 55.7
HARR Harsova 76.45 318 ⇓P **P** **12 05 06.6 +0.7**
HARR Harsova 76.45 318 P **P** **12 05 06.6 +0.7**
ARCR ARCALIA 76.46 322 ⇓P **P** **12 05 07.6 +1.7**
BC3 Big Chuckawall 76.49 57 P **P** **12 05 06.7 +0.3**
baz=311
GAZ Gaziantep 76.50 308 P **P** **12 05 07.3 +0.9**
GAZ IAmb IAmb 12 05 08.7
comp=Z,28nm,1.2s
TLBR Topalu 76.50 318 ⇓P **P** **12 05 06.3 +0.1**
NIE Niedzica 76.53 325 eP **P** **12 05 08.1 +1.8**
HMU Henry Mountain 76.55 51 P **P** **12 05 08.4 +1.5**
U15A North Rim 76.63 53 P **P** **12 05 08.7 +1.3**
DOPR Dopca 76.78 320 ⇑P **P** **12 05 09.1 +1.4**
BSEG Bad Segeberg 76.79 333 eP 12 05 08.1
comp=Z,33nm,0.9s,baz=34,slow=5.5
ISR Istrita 76.83 319 ⇑P **P** **12 05 09.1 +1.0**
ISR Istrita 76.83 319 P **P** **12 05 09.1 +1.0**
BR131 Keskin Array S 76.86 312 P **P** **12 05 08.2 -0.2**
BR131 Keskin Array S 76.86 312 *i* P **P** **12 05 08.3 -0.2**
BRTR Keskin Array B 76.86 312 P **P** **12 05 08.6 +0.1**
comp=Z,3.9nm,0.8s,baz=69,slow=4.1,SNR=17
BRTR PP **PP** **12 08 04.3 +3.1**
comp=Z,2.2nm,0.8s,baz=75,slow=9.1,SNR=4.5
comp=Z,3.9nm,0.8s

BRTR Keskin Array B 76.86 312 P **P 12 05 08.7 +0.2**
MLR Muntele Rosu 76.86 320 ⇓P **P 12 05 08.3 -0.1**
MLR Muntele Rosu 76.86 320 P **P 12 05 08.3 -0.1**
MLR Muntele Rosu 76.86 320 P **P 12 05 08.5 +0.2**
comp=Z,6.2nm,0.8s,baz=18,slow=4.2,SNR=10
MLR LR LR 12 40 58.0
comp=Z,451nm,21.8s,baz=36,slow=37
comp=Z,6.2nm,0.8s
PDMCI Parker Dam,Lak 76.89 56 P **P 12 05 09.9 +1.4**
baz=311
AGMN Agassiz Nation 76.91 36 P **P 12 05 08.3 -0.1**
baz=319
ICOR Ion Corvin 76.92 318 ⇓P **P 12 05 09.7 +1.1**
DOK Doka 76.97 283 P **P 12 05 08.3 -0.9**
CJR Cluj-Napoca 77.08 322 ⇓P **P 12 05 10.3 +0.8**
CJR Cluj-Napoca 77.08 322 P **P 12 05 10.3 +0.8**
LANS Liptovska Anna 77.09 326 *eP* **P 12 05 10.9 +1.4**
LANS pmax pmax
comp=Z,14nm,0.9s
LANS Liptovska Anna 77.09 326 *eP* **P 12 05 10.9 +1.4**
OKC Ostrava-Krasne 77.12 327 AMS AMS 12 41 40.0
comp=Z,400nm,16.5s
KECS Kecovo 77.16 325 *eP* **P 12 05 10.2 +0.4**
KECS Kecovo 77.16 325 *eP* **P 12 05 10.2 +0.4**
GORT1 Trebel 77.22 332 *eP* 12 05 10.7
comp=Z,43nm,1.3s,baz=34,slow=5.5
PHWY Pilot Hill 77.25 46 P **P 12 05 11.5 +0.7**
N23A Red Feather La 77.26 46 P **P 12 05 11.0 +0.1**
baz=314,SNR=5.2
GLA Glamis 77.28 57 P **P 12 05 11.0 +0.2**
baz=311
VOIR 77.33 320 ⇓P **P 12 05 12.0 +1.1**
VOIR 77.33 320 P **P 12 05 12.0 +1.1**
MARR Marisel-Cluj 77.33 322 ⇓P **P 12 05 11.3 +0.4**
OSTC Ostas 77.34 328 AMS AMS 12 42 40.0
comp=Z,300nm,17.6s
CHVC Chvalec 77.38 328 *eP* **P 12 05 12.0 +1.0**
CHVC AMS AMS 12 42 50.0
comp=Z,300nm,19.7s
CHVC Chvalec 77.38 328 *eP* **P 12 05 12.0 +1.0**
CHVC MLR MLR
comp=Z,300nm,19.7s
HLG Helgoland 77.39 335 *eP* 12 05 11.0
comp=Z,51nm,0.9s,baz=34,slow=5.5
MORC Moravsky Berou 77.41 327 ⇓P **P 12 05 11.8 +0.5**
MORC Moravsky Berou 77.41 327 P **P 12 05 11.8 +0.5**
MORC Moravsky Berou 77.41 327 *eP* **P 12 05 11.8 +0.5**
MORC Moravsky Berou 77.41 327 P **P 12 05 12.3 +1.0**
DRGR 77.44 322 ⇓P **P 12 05 11.8 +0.3**
DRGR 77.44 322 P **P 12 05 11.8 +0.3**
UPC Upice 77.46 328 *eP* **P 12 05 12.7 +1.2**
UPC AMS AMS 12 42 50.0
comp=Z,300nm,16.9s
UPC Upice 77.46 328 *eP* **P 12 05 12.7 +1.2**
UPC MLR MLR
comp=Z,300nm,16.9s
DPC Dobruska-Polom 77.46 328 *eP* **P 12 05 12.6 +1.1**
DPC AMS AMS 12 42 50.0
comp=Z,200nm,10.7s
DPC Dobruska-Polom 77.46 328 *eP* **P 12 05 12.6 +1.1**
DPC MLR MLR
comp=Z,200nm,10.7s
KRLC Kraliky 77.49 328 *eP* **P 12 05 12.4 +0.7**
KRLC AMS AMS 12 43 40.0
comp=Z,200nm,14.1s
KRLC Kraliky 77.49 328 *eP* **P 12 05 12.4 +0.7**
KRLC MLR MLR
comp=Z,200nm,14.1s
ARR Arges 77.58 320 ⇑P **P 12 05 13.6 +1.3**
WHFO Wadi Hawf 77.67 283 P **P 12 05 12.1 -1.2**
FLTG Flechtingen 77.79 332 *eP* 12 05 13.1
comp=Z,39nm,0.8s,baz=34,slow=5.5
WUAZ Wupatki 77.79 53 P **P 12 05 14.5 +0.7**
baz=312
PSZ Piszkesteto 77.85 325 ⇓P **P 12 05 14.9 +1.1**
PSZ Piszkesteto 77.85 325 P **P 12 05 14.2 +0.4**
PSZ IAmb IAmb 12 05 15.6
comp=Z,37nm,1.0s
PSZ Piszkesteto 77.85 325 P **P 12 05 14.8 +1.1**
VYHS Vyhne 77.86 326 *eP* **P 12 05 14.5 +0.7**
VYHS *e* 12 08 04.3
VYHS pmax pmax
comp=Z,19nm,1.0s
VYHS Vyhne 77.86 326 *eP* **P 12 05 14.5 +0.7**
VYHS *e* 12 08 04.2
BRG Berggiesshubel 77.97 330 *i* P **P 12 05 14.6 +0.3**
BRG Amp 12 05 15.7
comp=Z,11nm,0.9s
BRG PP **PP 12 08 10.1 +0.1**
BRG Amp 12 08 11.0
comp=Z,5.6nm,1.1s
BRG Amp 12 25 23.0
comp=N,0.1nm,23.3s
BRG Amp 12 25 26.0
comp=E,0.1nm,25.3s
BRG Amp 12 25 40.0
comp=Z,0.2nm,26.9s
BRG Berggiesshubel 77.97 330 *i* P **P 12 05 14.6 +0.3**
BRG 12 08 10.1
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG Berggiesshubel 77.97 330 *eP* 12 05 14.5
comp=Z,11nm,0.9s,baz=34,slow=5.5
CLL Collm 77.98 330 P **P 12 05 14.1 -0.2**
CLL IAmb IAmb 12 05 15.3
comp=Z,28nm,0.8s
CLL Collm 77.98 330⇑ *i* P **P 12 05 14.2 -0.2**
comp=Z,35nm,0.9s
CLL *e*PP **PP 12 08 08.0 -2.1**
CLL AMS AMS 12 42 00.0
comp=N,300nm,21.7s
CLL AMS AMS 12 42 00.0
comp=E,300nm,20.9s
CLL AMS AMS 12 42 00.0
comp=Z,400nm,20.7s
CLL Collm 77.98 330 P **P 12 05 14.1 -0.2**
CLL pmax pmax
comp=Z,28nm,0.8s
CLL Collm 77.98 330 *eP* 12 05 14.3
comp=Z,30nm,0.9s,baz=34,slow=5.5
PVCC Panska Ves 78.01 329 *eP* **P 12 05 15.5 +1.0**
PVCC AMS AMS 12 42 30.0
comp=Z,200nm,16.2s
PVCC Panska Ves 78.01 329 *eP* **P 12 05 15.5 +1.0**
PVCC MLR MLR
comp=Z,200nm,16.2s
NRDL Niedersach Rie 78.05 333 *eP* 12 05 15.0
comp=Z,13nm,0.8s,baz=34,slow=5.5
JAVC Velka Javorina 78.07 326 *eP* **P 12 05 16.5 +1.5**
RETH Rethem/Aller, 78.11 333 *eP* 12 05 15.2
comp=Z,19nm,0.9s,baz=34,slow=5.5
VRAC Vranov 78.17 327 ⇓P **P 12 05 16.2 +0.8**
VRAC Vranov 78.17 327 *eP* **P 12 05 16.2 +0.8**
VRAC Vranov 78.17 327 P **P 12 05 16.3 +0.8**
comp=Z,26nm,0.8s,baz=51,slow=5.5,SNR=24
VRAC LR LR 12 43 21.3
comp=Z,313nm,19.4s,baz=32,slow=38
comp=Z,26nm,0.8s
VRAC Vranov 78.17 327 P **P 12 05 16.5 +1.1**
SIRR Siria 78.31 323 ⇑P **P 12 05 17.1 +0.8**
SUSD Miller 78.34 40 P **P 12 05 16.6 +0.1**
SUSD Miller 78.34 40 P **P 12 05 17.6 +1.1**
baz=318
MVCO Mesa Verde 78.36 51 P **P 12 05 18.3 +1.3**
baz=313
HSKC Hora Svate Kat 78.38 330 *eP* **P 12 05 17.4 +0.8**
HSKC AMS AMS 12 41 20.0
comp=Z,300nm,22.4s
ABTO Aybut 78.38 283 P **P 12 05 16.6 -0.6**
GOPC GO Pecny, Ondr 78.41 329 AMS AMS 12 40 10.0
comp=Z,200nm,19.0s
PRA Prague 78.42 329 AMS AMS 12 43 00.0
comp=Z,200nm,17.8s
KRUC Moravsky 78.44 327 *eP* **P 12 05 17.5 +0.6**
SMOL Smolenice 78.44 326 *eP* **P 12 05 18.1 +1.1**
SMOL pmax pmax
comp=Z,14nm,0.8s
GZR Gura Zlata 78.45 321 ⇓P **P 12 05 17.3 +0.1**
PRU Pruhonice 78.45 329 *eP* **P 12 05 17.8 +0.9**
PRU AMS AMS 12 43 10.0
comp=Z,200nm,19.5s
PRU Pruhonice 78.45 329 *eP* **P 12 05 17.8 +0.9**
PRU MLR MLR
comp=Z,200nm,19.5s
SURR Surduc 78.48 322 ⇑P **P 12 05 17.9 +0.7**
X16A Lo Mia Camp, P 78.49 54 P **P 12 05 18.7 +1.0**
CLZ Clausthal 78.50 332 *eP* 12 05 17.8
comp=Z,28nm,0.9s,baz=34,slow=5.5
NEUB Neuenburg 78.51 331 *eP* 12 05 17.5
comp=Z,41nm,0.9s,baz=34,slow=5.5
F33A 5 Mile Ranch, 78.56 38 P **P 12 05 17.9 +0.2**
F33A IAmb IAmb 12 05 19.1
comp=Z,15nm,0.9s
SRO Srobarova 78.61 325 *eP* **P 12 05 19.4 +1.5**
SRO pmax pmax
comp=Z,42nm,0.6s
SRO Srobarova 78.61 325 *eP* **P 12 05 19.4 +1.5**
MODS Modra-Piesok 78.61 326 *eP* **P 12 05 19.0 +1.1**
MODS pmax pmax
comp=Z,49nm,1.1s
MODS Modra-Piesok 78.61 326 *eP* **P 12 05 19.0 +1.1**
TREC Trest 78.62 328 AMS AMS 12 43 30.0
comp=Z,200nm,17.0s
BZS Buzias 78.82 322 ⇓P **P 12 05 19.5 +0.4**
BZS Buzias 78.82 322 P **P 12 05 19.4 +0.4**
ZST Bratislava 78.83 326 *eP* **P 12 05 19.1 0.0**
ZST Bratislava 78.83 326 *eP* **P 12 05 19.1 0.0**
GTTG Gottingen 78.88 332 *eP* 12 05 19.9
comp=Z,28nm,0.9s,baz=34,slow=5.5
TANN Tannenbergstha 78.90 330 *eP* 12 05 19.6
comp=Z,5.4nm,0.9s,baz=34,slow=5.5
S22A 4UR Ranch, Cre 78.95 49 P **P 12 05 21.8 +1.5**
S22A 4UR Ranch, Cre 78.95 49 P **P 12 05 21.2 +0.9**
baz=314
HERR Herculane 79.00 321 ⇓P **P 12 05 19.8 -0.3**
IBBN Ibbenburen 79.00 334 *eP* 12 05 20.2
comp=Z,35nm,0.8s,baz=34,slow=5.5
RAO Raoul Island 79.01 146 LR LR 12 36 15.0
comp=Z,191nm,19.3s,baz=300,slow=32
ZVC Zvikov 79.02 329 *eP* **P 12 05 20.6 +0.5**
ZVC AMS AMS 12 45 30.0
comp=Z,200nm,15.9s
MOX Moxa 79.03 331 *eP* 12 05 20.3
comp=Z,13nm,0.9s,baz=34,slow=5.5
MOX *eL* 12 42 12.3
comp=Z,312nm,21.6s
EYMN Ely 79.06 34 P **P 12 05 20.8 +0.4**
baz=322,SNR=8.4
214A Organ Pipe Nat 79.28 57 P **P 12 05 22.7 +0.8**
baz=312
K30B Basset 79.31 42 P **P 12 05 22.4 +0.5**
K30B IAmb IAmb 12 05 23.8
comp=Z,26nm,0.8s
OGNE Ogallala 79.32 44 P **P 12 05 22.9 +0.9**
baz=316
MANZ Manzenberg 79.38 330 *eP* 12 05 22.4
comp=Z,3.1nm,0.8s,baz=34,slow=5.5
MDVR Moldovita 79.40 322 ⇑P **P 12 05 21.8 -0.5**
SOP Sopron 79.46 326 P **P 12 05 23.7 +1.2**
CKRC Cesky Krumlov 79.47 328 *eP* **P 12 05 23.3 +0.7**
CKRC AMS AMS 12 41 00.0
comp=Z,200nm,19.0s
CKRC Cesky Krumlov 79.47 328 *eP* **P 12 05 23.3 +0.7**
CKRC MLR MLR
comp=Z,200nm,19.0s
UBBA Unterbreizbach 79.47 332 *eP* 12 05 22.5
comp=Z,5.9nm,0.7s,baz=34,slow=5.5
KHC Kasperske Hory 79.51 329 P **P 12 05 22.8 -0.1**
KHC IAmb IAmb 12 05 24.5
comp=Z,30nm,0.8s
KHC Kasperske Hory 79.51 329 *eP* **P 12 05 23.7 +0.9**
KHC AMS AMS 12 39 10.0
comp=Z,300nm,22.1s
KHC Kasperske Hory 79.51 329*ceP* **P 12 05 23.5 +0.7**
KHC pmax pmax
comp=Z,64nm,0.7s
EKA Eskdalemuir Ar 79.52 341 P **P 12 05 23.2 +0.5**
comp=Z,11nm,0.8s,baz=22,slow=4.5,SNR=20
EKA PP **PP 12 08 22.8 0.0**
comp=Z,4.5nm,1.0s,baz=30,slow=8.9,SNR=6.8
comp=Z,11nm,0.8s
EKA Eskdalemuir Ar 79.52 341 P **P 12 05 22.9 +0.2**
ROTZ Rotzenmuhle 79.52 330 *eP* 12 05 23.7
comp=Z,4.3nm,0.9s,baz=34,slow=5.5
CONA Conrad Observa 79.55 327 *i* P **P 12 05 24.2 +1.0**
comp=Z,20nm,0.9s,SNR=17
RONA Rosalia, Austr 79.55 326 *i* P **P 12 05 24.3 +1.2**
comp=Z,30nm,0.8s,SNR=14
GEC2 GERESS Array S 79.69 329 P **P 12 05 23.7 -0.2**
GERES GERESS Array B 79.69 329 P **P 12 05 23.5 -0.4**
GERES GERESS Array B 79.69 329 P **P 12 05 24.3 +0.4**
baz=36,slow=5.2
GERES LR LR 12 44 02.5
comp=Z,186nm,18.6s,baz=32,slow=38
GEC2 GERESS Array S 79.69 329 *eP* 12 05 24.2
comp=Z,8.8nm,0.7s,baz=34,slow=5.5
MORH Mrgy, Hungar 79.70 324 ⇑P **P 12 05 23.9 0.0**
SDCO Great Sand Dun 79.70 48 P **P 12 05 25.0 +0.6**
baz=315,SNR=7.0
KASTN Kahler Asten 79.71 333 *eP* 12 05 24.1
comp=Z,14nm,0.9s,baz=34,slow=5.5
WET Wettzell 79.77 329 *eP* 12 05 24.9
comp=Z,23nm,0.9s,baz=34,slow=5.5
BUG Bochum--Univer 79.90 334 *eP* 12 05 25.1
comp=Z,43nm,1.1s,baz=34,slow=5.5
GRF Grafenberg Arr 79.95 330 *eL* 12 42 40.1
comp=Z,318nm,21.3s
ECSD EROS Data Cent 80.00 39 P **P 12 05 26.0 +0.4**
baz=319,SNR=13
FRGS Fruska Gora 80.00 323 ⇓P **P 12 05 25.7 +0.2**
FRGS Fruska Gora 80.00 323⇑ *i* P **P 12 05 25.2 -0.3**
RAYN Ar Rayn 80.03 292 P **P 12 05 25.1 -1.0**
RAYN IAmb IAmb 12 05 42.4
comp=Z,15nm,0.6s
RAYN Ar Rayn 80.03 292 *i* P **P 12 05 25.7 -0.4**
SNR=6.8
RAYN Ar Rayn 80.03 292 P **P 12 05 25.8 -0.4**
RAYN Ar Rayn 80.03 292 P **P 12 05 25.7 -0.4**
ALN Alexandroupoli 80.14 317 P **P 12 05 26.6 +0.3**
ALN IAmb IAmb 12 05 27.8
comp=Z,21nm,1.0s
ALN Alexandroupoli 80.14 317 P **P 12 05 26.7 +0.3**
ALN pmax pmax
comp=Z,21nm,1.0s
ARSA Arzberg 80.23 327 *i* P **P 12 05 27.5 +0.7**
comp=Z,14nm,1.0s,SNR=6.2
MOA Molln 80.27 328 *i* P **P 12 05 27.8 +0.9**
comp=Z,7.2nm,0.8s
BOVS Bovan 80.27 321 ⇑P **P 12 05 26.6 -0.4**
TUC Tucson 80.31 55 P **P 12 05 28.6 +1.1**
baz=313
MMAI Mount Meron Ar 80.39 306 P **P 12 05 28.9 +0.9**
comp=Z,24nm,0.9s,baz=40,slow=6.6,SNR=19
comp=Z,24nm,0.9s
KSCO Kaye Shedlock' 80.40 46 P **P 12 05 29.7 +1.8**
baz=316
TNS Taumus Mts 80.52 332 *eP* 12 05 28.4
comp=Z,15nm,0.9s,baz=34,slow=5.5
TEKS Tekeris 80.59 323⇑ *i* P **P 12 05 27.5 -1.2**
BIOA Bad Ischl, Aus 80.64 328 *i* P **P 12 05 29.8 +0.8**
comp=Z,31nm,1.0s,SNR=10
AHRW Bad Neuenahr-A 80.72 333 *eP* 12 05 29.6
comp=Z,18nm,1.0s,baz=34,slow=5.5
T25A Trinidad 80.75 48 P **P 12 05 31.3 +1.4**
baz=315,SNR=6.7
EZN Ezine 80.78 316 P **P 12 05 29.8 0.0**
PERS Pernice 80.89 326 *i* P **P 12 05 30.6 +0.3**
SOKA Soboth 80.89 327 *i* P **P 12 05 30.8 +0.5**
comp=Z,54nm,0.9s,SNR=33
NVR Nevrokopi 80.93 318 P **P 12 05 32.0 +1.4**
RJOB Jochberg 80.94 328 *eP* 12 05 31.5
comp=Z,30nm,0.9s,baz=34,slow=5.5
BTNL Ternell 81.00 334 *dP* **P 12 05 30.8 0.0**
comp=Z,13nm,0.9s
SCHQ Schefferville 81.02 17 P **P 12 05 31.3 +0.5**
comp=Z,12nm,0.8s,baz=347,slow=5.4,SNR=16
SCHQ LR LR 12 46 38.9
comp=Z,71nm,18.1s,baz=352,slow=39
comp=Z,12nm,0.8s
MEM Membach 81.03 334 *dP* **P 12 05 30.9 -0.1**
comp=Z,16nm,0.9s
ANMO Albuquerque 81.11 51 P **P 12 05 33.3 +1.4**
ANMO Albuquerque 81.11 51 P **P 12 05 33.8 +1.8**
baz=315
ANMO Albuquerque 81.11 51 P **P 12 05 33.3 +1.4**
ANMO pmax pmax
comp=Z,9.0nm,1.4s
BBLS Lazi&#263i 81.17 322⇑ *i* P **P 12 05 32.4 +0.5**
FUR Furstenfeldbru 81.19 329 *eP* 12 05 32.6
comp=Z,59nm,0.8s,baz=34,slow=5.5
OBKA Obir 81.22 327 *i* P **P 12 05 32.4 +0.2**
comp=Z,28nm,0.7s,SNR=11
OBKA Obir 81.22 327⇑ *i* P **P 12 05 32.1 -0.1**
SRS Serrai 81.23 318 P **P 12 05 32.1 -0.1**
BHOU Houvegnez 81.25 334 *dP* **P 12 05 32.3 +0.2**
LESA Schwarzleotal 81.25 328 *i* P **P 12 05 32.8 +0.6**
comp=Z,33nm,1.0s
KBA Koelnbreinsper 81.26 328 *i* P **P 12 05 32.9 +0.5**
comp=Z,23nm,0.7s,SNR=18
I37A Lemond, Waseca 81.28 37 P **P 12 05 32.8 +0.4**
I37A IAmb IAmb 12 05 34.8
comp=Z,54nm,1.4s
SJES Sjenica 81.37 322⇑ *i* P **P 12 05 33.4 +0.4**
RUDO Rudo 81.38 322⇑ *i* P **P 12 05 32.2 -0.8**
CRES Cresnjev 81.39 326⇑ *i* P **P 12 05 32.6 -0.3**
BCLA Clavier 81.42 334 *dP* **P 12 05 32.7 -0.3**
comp=Z,10nm,1.0s
STU Stuttgart 81.46 331 *eP* 12 05 33.7
comp=Z,66nm,0.9s,baz=34,slow=5.5
BLY Banja Luka 81.49 324⇑ *i* P **P 12 05 34.1 +0.6**
MYKA Terra Mystica 81.50 327 *i* P **P 12 05 33.4 -0.2**
comp=Z,25nm,1.1s,SNR=10
STIP Stip 81.50 319 *i* P **P 12 05 33.0 -0.6**
BGES Gesves 81.52 334 *dP* **P 12 05 33.6 0.0**
LJU Ljubljana 81.61 326 *eP* **P 12 05 33.9 -0.2**
SKO Skopje 81.66 320 *i* P **P 12 05 35.6 +1.1**
RCHB Rochefort 81.67 334 *dP* **P 12 05 34.2 -0.1**
comp=Z,12nm,1.0s
BMRD Maredsous 81.70 334 *dP* **P 12 05 34.7 +0.2**
comp=Z,23nm,1.0s
BOJS Bojanci 81.73 326⇑ *i* P **P 12 05 34.4 -0.3**
WATA Walderalm 81.75 329 *i* P **P 12 05 35.3 +0.3**
comp=Z,24nm,0.9s,SNR=6.5
WTTA Wattenberg 81.78 329 *i* P **P 12 05 35.3 +0.1**
comp=Z,28nm,0.7s,SNR=10
MGRS Mrkonjic Grad 81.80 324⇑ *i* P **P 12 05 36.1 +1.0**
RAR Rarotonga 81.82 127 LR LR 12 33 47.5
comp=Z,166nm,20.7s,baz=298,slow=30
ABTA Abfaltersbach 81.86 328 *i* P **P 12 05 35.5 0.0**
comp=Z,14nm,0.9s,SNR=5.5
PLG Polygyros 81.86 318 P **P 12 05 35.5 -0.1**
CEY Cerknica 81.89 326 *i* P **P 12 05 35.3 -0.4**
CEY Cerknica 81.89 326⇑ *i* P **P 12 05 35.2 -0.4**
UPM Unac-Piva 81.92 322⇑ *i* P **P 12 05 35.6 -0.4**
MOTA Moosalm 81.93 329 *i* P **P 12 05 36.4 +0.5**
comp=Z,67nm,0.9s,SNR=23
DOU Dourbes 81.93 334 *dP* **P 12 05 35.8 +0.1**
comp=Z,5.9nm,1.0s
RETA Reutte 81.94 329 *i* P **P 12 05 36.4 +0.5**
comp=Z,35nm,0.8s,SNR=16
SQTA Sankt Quirin 81.99 329 *i* P **P 12 05 36.7 +0.5**
comp=Z,28nm,0.8s,SNR=8.0
A050A Klekovaca 81.99 324⇑ *i* P **P 12 05 35.6 -0.6**
121A Cookes Peak, D 82.00 54 P **P 12 05 38.1 +1.5**
baz=314
UBR Ueberruh 82.03 330 *eP* 12 05 36.2
comp=Z,8.2nm,0.8s,baz=34,slow=5.5
PAIG Paliouri 82.08 317 P **P 12 05 36.2 -0.4**
CBKS Cedar Bluff 82.08 44 P **P 12 05 37.9 +1.1**
baz=318
BFO Black Forest 82.15 331 P **P 12 05 35.7 -1.2**
BFO IAmb IAmb 12 05 39.4
comp=Z,14nm,0.8s
BFO Black Forest 82.15 331 P **P 12 05 35.7 -1.2**
BFO pmax pmax
comp=Z,14nm,0.8s
BFO Black Forest 82.15 331 *eP* 12 05 37.1
comp=Z,43nm,1.5s,baz=34,slow=5.5
STAL STALIGIAL 82.18 328 P **P 12 05 36.1 -1.0**
STAL IAmb IAmb 12 05 37.0
comp=Z,26nm,0.7s
BRY Bratogost 82.32 322⇑ *i* P **P 12 05 37.3 -0.8**
FETA Feichten 82.34 329 *i* P **P 12 05 38.4 +0.3**
comp=Z,24nm,0.8s,SNR=13
PUK Puka 82.35 321 P **P 12 05 37.7 -0.5**
PUK IAmb IAmb 12 05 40.3
comp=Z,19nm,0.6s
PDG Podgorica 82.35 321 ⇑P **P 12 05 38.2 +0.2**
PDG Podgorica 82.35 321⇑ *i* P **P 12 05 38.0 0.0**
DAVA Damuels 82.44 330 *i* P **P 12 05 39.1 +0.4**
comp=Z,56nm,0.9s,SNR=18
TREB Trebinje 82.55 322⇑ *i* P **P 12 05 36.9 -2.2**
LIT Litokhoron 82.55 318 P **P 12 05 38.7 -0.5**
LIT IAmb IAmb 12 05 40.9
comp=Z,20nm,0.9s
LIT Litokhoron 82.55 318 P **P 12 05 38.5 -0.7**
LIT Litokhoron 82.55 318 P **P 12 05 38.7 -0.5**
LIT pmax pmax
comp=Z,19nm,0.9s
DRME Dracevica, Mon 82.57 321⇑ *i* P **P 12 05 39.3 +0.1**
FNA Florina 82.59 319 P **P 12 05 39.1 -0.3**
FNA IAmb IAmb 12 05 41.7
comp=Z,9.5nm,0.7s
FNA Florina 82.59 319 P **P 12 05 39.1 -0.3**
FNA pmax pmax
comp=Z,9.0nm,0.7s
OHR Ohrid 82.62 320 *i* P **P 12 05 40.1 +0.5**
HCY Herceg Novi 82.69 322⇑ *i* P **P 12 05 39.0 -0.8**
NEO Neokhori 82.78 317 P **P 12 05 39.6 -0.8**
CTI Castel Tesino 82.78 328 P **P 12 05 39.3 -1.1**
CTI IAmb IAmb 12 05 40.4
comp=Z,24nm,0.7s
CTI Castel Tesino 82.78 328 P **P 12 05 39.3 -1.1**
CTI pmax pmax
comp=Z,24nm,0.7s
KYMI Kymi, Euboea I 82.82 316 P **P 12 05 40.2 -0.4**
FUORN Ofenpass-Fuorn 82.85 329 P **P 12 05 41.1 +0.2**
DAVOX Davos/Dischmat 82.86 330 P **P 12 05 41.3 +0.4**
comp=Z,11nm,0.7s,baz=72,slow=3.5,SNR=12
DAVOX LR LR 12 47 06.5
comp=Z,248nm,18.2s,baz=80,slow=39
comp=Z,11nm,0.7s
SCIA State Center 83.00 39 P **P 12 05 42.3 +0.9**
baz=321
NEST Nestorio 83.03 319 P **P 12 05 41.7 -0.1**
TUE Stuetta 83.32 330 P **P 12 05 42.5 -0.8**
TUE IAmb IAmb 12 05 44.6
comp=Z,14nm,0.8s
AGG Agios Georgios 83.45 317 P **P 12 05 42.7 -1.1**
AGG IAmb IAmb 12 05 43.6
comp=Z,21nm,0.9s
AGG Agios Georgios 83.45 317 P **P 12 05 42.7 -1.1**
AGG pmax pmax
comp=Z,21nm,0.9s
LSK Leskovik 83.46 319 P **P 12 05 44.4 +0.5**
AXAR Agios Charalam 83.47 317 P **P 12 05 43.0 -0.9**
KSU1 Kansas State U 83.49 42 P **P 12 05 44.2 +0.2**
baz=319
VLY Voula,Athens 83.57 316 P **P 12 05 42.6 -1.8**
JFWS Jewell Farm 83.57 36 P **P 12 05 45.2 +0.9**
baz=323
EVR Evrytania 83.79 318 P **P 12 05 45.5 -0.2**
L40A Anamosa 83.81 37 P **P 12 05 45.3 -0.3**
L40A IAmb IAmb 12 05 46.6
comp=Z,16nm,0.9s
AMTX Amarillo 83.90 48 P **P 12 05 47.5 +1.2**
baz=317
MSTX Muleshoe 83.94 50 P **P 12 05 46.7 +0.1**
baz=316
ANX Ano Chora 83.98 317 P **P 12 05 46.0 -0.7**
MNTX Cornudas Mount 84.04 53 P **P 12 05 47.7 +0.7**
baz=316
IGT Igoumenitsa 84.06 319 P **P 12 05 46.6 -0.3**
EFP Efpalio 84.11 317 P **P 12 05 46.6 -0.6**
SENIN Lac Senin/Sane 84.18 331 P **P 12 05 47.4 -0.3**
VLDQ Val d'Or 84.19 26 P **P 12 05 46.3 -1.0**
GUR Goura 84.26 317 P **P 12 05 46.8 -1.3**
KLV Kalavryta, Ach 84.28 317 P **P 12 05 46.9 -1.2**
LKD2 Lefkada island 84.47 318 P **P 12 05 48.6 -0.4**
SGRT San Giovanni R 84.50 323 P **P 12 05 48.7 -0.5**
SMWD Samnorwood 84.54 47 P **P 12 05 50.6 +1.1**
SMWD IAmb IAmb 12 06 22.2
comp=Z,22nm,1.1s
RLS Riolos of Patr 84.62 317 P **P 12 05 49.6 -0.1**
FDMO Fiordimonte 84.64 325 P **P 12 05 49.7 -0.2**
NRCA Norcia 84.79 325 P **P 12 05 50.6 0.0**
IDI Anoyia 84.89 313 P **P 12 05 50.0 -1.2**
IDI Anoyia 84.89 313 P **P 12 05 50.3 -0.9**
comp=Z,21nm,0.7s,baz=23,slow=8.2,SNR=13
comp=Z,21nm,0.7s
CAMP Campotosto 84.91 325 P **P 12 05 51.0 -0.3**
MATE Matera 84.94 322 ⇑P **P 12 05 51.4 +0.1**
DMLN Damoulianata-K 85.03 318 P **P 12 05 51.5 -0.4**
ITM Ithomi 85.05 316 P **P 12 05 51.2 -0.8**

URZ	Urewera	85.10	154	LR	LR		12 40 28.9	
	comp=Z,142nm,19.2s,baz=28,slow=33							
INTR	Introdacqua	85.11	324	P	P		12 05 51.9	-0.4
CESX	Cesi	85.20	326	P	P		12 05 51.9	-0.8
CESX				IAmb	IAmb		12 05 53.7	
	comp=Z,20nm,0.9s							
ANKY	Antikythira Is	85.31	315	P	P		12 05 52.1	-1.2
PYL	PYLOS	85.36	316	P	P		12 05 52.1	-1.4
P40A	Paris	85.41	39	P	P		12 05 53.9	+0.2
P40A				IAmb	IAmb		12 05 55.4	
	comp=Z,17nm,1.0s							
BNI	Bardonecchia	85.53	330	P	P		12 05 54.8	+0.4
BNI				IAmb	IAmb		12 06 00.2	
	comp=Z,23nm,1.0s							
BNI	Bardonecchia	85.53	330	P	P		12 05 54.8	+0.4
BNI				pmax	pmax			
	comp=Z,23nm,1.0s							
PPT	Papeete	85.61	118	LR	LR		12 38 10.0	
	comp=Z,279nm,19.8s,baz=344,slow=31							
WMOK	Wichita Mounta	85.62	47		P		12 05 55.2	+0.4
WMOK				IAmb	IAmb		12 06 27.0	
	comp=Z,14nm,1.4s							
WMOK	Wichita Mounta	85.62	47	P	P		12 05 55.4	+0.4
	baz=318							
WMOK	Wichita Mounta	85.62	47	P	P		12 05 55.3	+0.4
WMOK				pmax	pmax			
	comp=Z,15nm,1.5s							
PPT2	Papeete2	85.63	118	*e*P	P		12 05 57.9	+2.9
	comp=Z,66nm,24.0s							
PPT2	Papeete2	85.63	118	*e*S	SKSac		12 16 21.7	+5.2
	comp=Z,67nm,23.8s							
PPT2	Papeete2	85.63	118	*e*LR	LR		12 32 55.4	
PPT2				*e*LR	LR		12 32 57.6	
	comp=Z,536nm,23.0s							
	comp=Z,453nm,23.5s							
HDIL	Hopedale	85.88	37	P	P		12 05 55.7	-0.3
	baz=324							
TIP	Timpagrande	86.07	321	⇓P	P		12 05 57.7	+0.6
TIP	Timpagrande	86.07	321	P	P		12 05 56.8	-0.3
TIP				IAmb	IAmb		12 06 15.6	
	comp=Z,22nm,1.0s							
LDAQ	Lac Daran	86.22	22	P	P		12 05 56.5	-1.2
LDAQ				IAmb	IAmb		12 05 58.8	
	comp=Z,8.4nm,0.8s							
S39A	Bolivar	86.23	41	P	P		12 05 57.7	-0.1
S39A				IAmb	IAmb		12 05 59.2	
	comp=Z,10nm,1.1s							
SADO	Sadowa	86.51	28	LR	LR		12 47 47.6	
	comp=Z,169nm,18.2s,baz=310,slow=38							
ABTX	Abilene, Hawle	86.71	49	P	P		12 06 01.1	+0.7
	baz=318							
TXAR	Lajitas Array	86.76	53	P	P		12 06 02.0	+1.4
	comp=Z,2.1nm,0.8s,baz=289,slow=3.8,SNR=6.0							
TXAR				PKKPbc	PKKPbc		12 23 53.8	+0.7
	comp=Z,0.3nm,0.8s,baz=160,slow=4.0,SNR=4.0							
	comp=Z,2.1nm,0.8s							
TRQ	Mont Tremblant	86.79	25	P	P		12 06 00.6	+0.1
TRQ				IAmb	IAmb		12 06 01.5	
	comp=Z,22nm,1.0s							
LMQ	La Malbaie	86.86	22	P	P		12 06 00.4	-0.3
LMQ				IAmb	IAmb		12 06 01.9	
	comp=Z,13nm,1.0s							
CCM	Cathedral Cave	86.96	40	P	P		12 06 01.9	+0.5
CCM				IAmb	IAmb		12 06 03.4	
	comp=Z,18nm,1.1s							
CCM	Cathedral Cave	86.96	40	P	P		12 06 01.9	+0.5
	baz=322							
CCM	Cathedral Cave	86.96	40	P	P		12 06 01.9	+0.5
CCM				pmax	pmax			
	comp=Z,18nm,1.1s							
SFIN	Lafayette	87.01	36	P	P		12 06 02.4	+0.9
	baz=325							
WBO	Williamsburg	87.64	26	P	P		12 06 03.8	-0.7
WBO				IAmb	IAmb		12 06 05.3	
	comp=Z,10nm,0.9s							
MNTQ	Montreal, Queb	87.73	25	P	P		12 06 05.1	+0.2
MNTQ				IAmb	IAmb		12 06 06.5	
	comp=Z,14nm,0.9s							
O48B	Farmland	87.95	35	P	P		12 06 06.0	-0.1
O48B				IAmb	IAmb		12 06 07.4	
	comp=Z,16nm,1.1s							
O48B	Farmland	87.95	35	P	P		12 06 07.0	+0.8
	baz=326							
LONY	Lake Ozonia	88.20	26	P	P		12 06 07.7	+0.5
	baz=333							
WHTX	Lake Whitney,	88.41	48	P	P		12 06 08.5	+0.1
	baz=319							
ERPA	Erie	88.48	30	P	P		12 06 08.9	+0.4
	baz=329							
MIAR	Mount Ida	88.54	43	P	P		12 06 09.3	+0.3
MIAR				IAmb	IAmb		12 06 11.5	
	comp=Z,12nm,1.1s							
MIAR	Mount Ida	88.54	43	P	P		12 06 09.0	0.0
	baz=321							
MIAR	Mount Ida	88.54	43	P	P		12 06 09.3	+0.3
MIAR				pmax	pmax			
	comp=Z,12nm,1.1s							
WHAR	Wooly Hollow	88.62	42	P	P		12 06 09.7	+0.3
WHAR				IAmb	IAmb		12 06 11.4	
	comp=Z,16nm,1.1s							
P49A	Miami Univ. Ec	88.74	35	P	P		12 06 09.9	+0.1
P49A				IAmb	IAmb		12 06 11.3	
	comp=Z,18nm,0.9s							
P49A	Miami Univ. Ec	88.74	35	P	P		12 06 10.3	+0.4
	baz=326							
M53A	WI Miller and	88.79	31	P	P		12 06 10.7	+0.6
	baz=329							
ACSO	Alum Creek Sta	88.89	33	P	P		12 06 12.4	+1.8
	baz=328							
WCI	Wyandotte Cave	89.12	37	P	P		12 06 12.8	+1.1
	baz=325							
PKME	Peaks-Kenny Pk	89.24	22	P	P		12 06 12.0	0.0
	baz=336							
LBNH	Lisbon	89.39	24	P	P		12 06 14.5	+1.7
	baz=335							
O53A	New Philadelph	89.59	32	P	P		12 06 14.2	+0.4
	baz=329							
TBI	Tubuai	89.81	122	*e*LR	LR		12 34 53.9	
	comp=Z,3μm,37.8s							
ATD	Arta Tunnel	89.82	285	LR	LR		12 50 57.0	
	comp=Z,9.4nm,21.8s,baz=16,slow=38							
BINY	Binghamton	89.87	28	P	P		12 06 16.3	+1.2
	baz=332							
NATX	Nacogdoches	90.12	46	P	P		12 06 18.2	+1.8
	baz=321							
WVT	Waverly	90.13	39	P	P		12 06 17.8	+1.4
	baz=324							
SSPA	Standing Stone	90.55	30	P	P		12 06 19.8	+1.5
	baz=331							
OXF	Oxford	90.67	41	P	P		12 06 20.6	+1.7
	baz=324							
L61B	Northampton	90.76	25	P	P		12 06 20.7	+1.5
	baz=334							
HRV	Adam Dziewonsk	91.07	25	P	P		12 06 21.2	+0.5
	baz=335							
PAL	Palisades	91.65	27	P	P		12 06 24.3	+1.0
	baz=333							
TZTN	Tazewell	91.74	36	P	P		12 06 25.0	+1.0
	baz=327							
KEST	Kesra	92.29	324	P	P		12 06 26.2	-0.3
	comp=Z,9.2nm,0.8s,baz=326,slow=4.9,SNR=9.6							
KEST				LR	LR		12 52 40.2	
	comp=Z,292nm,19.4s,baz=334,slow=39							
	comp=Z,9.2nm,0.8s							
TKL	Tuckaleechee C	92.38	36	LR	LR		12 48 41.5	
	comp=Z,193nm,21.9s,baz=332,slow=36							
KMSC	Kings Mountain	93.89	35	P	P		12 06 34.1	+0.3
	baz=328							
ESDC	Sonseca Array	93.97	335	P	P		12 06 34.0	-0.2
	comp=Z,2.4nm,0.8s,baz=9.7,slow=4.3,SNR=17							
ESDC				PP	PP		12 10 19.9	+0.4
	comp=Z,3.5nm,1.2s,baz=16,slow=7.8,SNR=5.5							
ESDC				LR	LR		12 54 44.3	
	comp=Z,146nm,18.4s,baz=14,slow=39							
	comp=Z,2.4nm,0.8s							
GOGA	Godfrey	94.40	37	P	P		12 06 36.7	+0.6
	baz=327							
TORD	Torodi Ar. Bea	115.03	317	PKP	PKiKP		12 11 56.9	-0.7
	comp=Z,0.9nm,0.9s,baz=347,slow=2.1,SNR=4.0							
TORD				PP	PP		12 12 50.7	-5.8
	comp=Z,2.3nm,1.0s,baz=25,slow=8.7,SNR=5.7							
VNDA	Vanda	119.06	175	PKP	PKiKP		12 12 04.0	+0.6
	comp=Z,1.3nm,0.8s,baz=307,slow=4.0,SNR=7.5							
VNDA	Vanda	119.06	175	PKIKP	PKiKP		12 12 04.0	+0.6
MAW	Mawson	123.76	207	PKP	PKPdf		12 12 12.5	0.0
	comp=Z,2.7nm,0.8s,baz=35,slow=5.2,SNR=6.4							
QSPA	South Pole Qui	130.97	180		PKiKP		12 12 27.5	+0.1
QSPA	South Pole Qui	130.97	180	PKP	PKPdf		12 12 26.0	-0.5
	comp=Z,5.7nm,1.0s,baz=326,slow=0.6,SNR=18							
ELIB	Princess Elisa	137.67	204	*d*PKPdf	PKiKP		12 12 40.7	-0.3
NVL	N'lazarevskaya	141.55	204	*e*PKHKP	PKPpre		12 12 40.2	
NVL				*e*SS	SS		12 34 17.1	+0.3
NVL				pmax	pmax			
	comp=Z,9.0nm,0.8s							
TROLL	Troll, Antarti	143.53	200	⇑PKPdf	PKPbc		12 12 47.1	0.0
	comp=Z,744nm,0.7s							
LPAZ	La Paz	143.58	56	PKPdf	PKPbc		12 12 50.5	+1.1
LPAZ	La Paz	143.58	56	PKP	PKPdf		12 12 51.0	-0.9
	comp=Z,2.6nm,0.8s,baz=13,slow=5.0,SNR=9.0							
SNAA	Sanae	145.06	198		PKPbc		12 12 51.5	-0.2
SNAA	Sanae	145.06	198	⇑PKPdf	PKPbc		12 12 51.5	-0.2
	comp=Z,472nm,0.8s							
SNAA	Sanae	145.06	198	PKPbc	PKPbc		12 12 51.2	-0.5
	comp=Z,21nm,0.8s,baz=162,slow=2.7,SNR=83							
SNAA	Sanae	145.06	198	PKIKP	PKPbc		12 12 51.6	-0.2
PB04	IPOC Station P	146.55	66		PKPdf		12 12 56.8	+0.4
VNA2	Neumayer--Watz	146.63	197	⇑PKPdf	PKPbc		12 12 56.6	+0.1
	comp=Z,22nm,0.6s,baz=132,slow=2.5							
VNA3	Neumayer Olymp	146.88	196	⇑PKPdf	PKPbc		12 12 56.5	-0.7
	comp=Z,14nm,0.7s							
VNA1	Neumayer--Stat	147.03	197	⇑PKPdf	PKPbc		12 12 57.5	-0.1
	comp=Z,22nm,0.9s							
LVC	Limon Verde	147.59	65	PKPbc	PKiKP		12 13 02.7	-0.4
	comp=Z,7.7nm,1.0s,baz=286,slow=3.8,SNR=6.8							
PTLB	Pontes e Lacer	148.07	43		PKPbc		12 13 02.7	+0.7
BDFB	Brasilia	152.85	23	PKPdf	PKPdf		12 13 04.7	-1.7
BDFB				PKPbc	PKiKP		12 13 14.4	+0.6
BDFB	Brasilia	152.85	23	PKPbc	PKiKP		12 13 14.1	+0.3
	comp=Z,6.9nm,0.8s,baz=292,slow=1.3,SNR=9.5							
BDFB	Brasilia	152.85	23	PKIKP	PKPdf		12 13 04.7	-1.7
BDFB							12 13 14.4	

IDC 02 11:53:37.8±41.0, 16.74S×168.55W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=823.5km s-min=201.3km az=82.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	47.47	242	P	P	12 02 15.1	+0.4
	4.2nm,1.0s,baz=90,slow=7.1,SNR=3.6						
	4.2nm,1.0s						
WRA	Warramunga Arr	54.09	257	P	P	12 03 04.1	-0.7
	0.6nm,0.8s,baz=98,slow=6.2,SNR=12						
	0.6nm,0.8s						
ASAR	Alice Springs	54.15	253	P	P	12 03 05.5	+0.2
	1.9nm,0.6s,baz=91,slow=8.4,SNR=42						
	1.9nm,0.6s						
H04S2	CROZET ISLAND S	106.99	208	T	T	14 08 48.3	
	baz=142,slow=75,SNR=7.1						
H04S1	CROZET ISLAND S	106.99	208	T	T	14 08 47.0	
	baz=142,slow=75,SNR=7.1						
H04S3	CROZET ISLAND S	107.01	208	T	T	14 08 46.6	
	baz=142,slow=75,SNR=6.6						

*IDC **02** 11:56:07.9±1.0, 55.26N×163.33W, h119km±7km, mb3.9/12, mbtmp4.2/16, Error ellipse: s-maj=22.2km s-min=11.2km az=4.0*

*NEIC **02** 11:56:07.4±2.6, 54.96N±0.06×163.04W±0.08, h117km±4km, mb4.6/171, ML4.2/30, ML3.9(AEIC), Error ellipse: s-maj=10.1km s-min=4.8km az=152.0*

*AEIC **02** 11:56:08.5±2.6, 54.93N±0.06×163.03W±0.08, h112km±3km, Error ellipse: s-maj=9.6km s-min=4.3km az=148.0*

ISC 02 11:56:07.8±0.5, 55.05N±0.06×163.07W±0.04, h119km±4km, n708, σ1§14/715, mb4.6/77, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	False Pass	0.28	227	P	Pn	11 56 21.8	-2.7
FALS	False Pass	0.28	227		Pn	11 56 23.2	-1.3
FALS					Sn	11 56 35.6	-1.4
FALS	False Pass	0.28	227	P	Pn	11 56 23.2	-1.3
	baz=72,SNR=252						
ISNN	Isanotski Nort	0.47	242		Pn	11 56 24.6	-0.8
ISNN					Sn	11 56 37.5	-1.2
ISLZ	Isanotski Laza	0.49	229		Pn	11 56 24.3	-1.3
ISLZ					Sn	11 56 37.7	-1.3
SSLS	Shishaldin Sou	0.64	238		Pn	11 56 25.6	-1.0
SSLS					Sn	11 56 39.7	-1.1
HAG	Hague Volcano	0.72	68		Pn	11 56 27.1	-0.1
HAG					Sn	11 56 42.9	+1.0
PS4A	Pavlof South-4	0.76	66		Pn	11 56 27.2	-0.2
PVV	Pavlof Volcano	0.80	65		Pn	11 56 27.6	-0.1
PS1A	Pavlof South-1	0.84	63		Pn	11 56 28.0	-0.2
S12K	Black Hills	0.87	41	Pn	Pn	11 56 27.7	-0.7
S12K				Sn	Sn	11 56 43.7	-0.4
S12K				IAML		11 56 44.3	
	comp=E,3μm,0.6s						
S12K				IAML		11 56 44.3	
	comp=N,5μm,0.8s						
S12K	Black Hills	0.87	41	P	Pn	11 56 28.1	-0.3
	baz=216,SNR=231						
WESE	West Dahl East	1.05	237		Pn	11 56 29.6	-0.7
WEBT	Westdahl Beart	1.08	245		Pn	11 56 29.5	-0.9
WEBT					Sn	11 56 48.0	+0.3
SDPT	Sand Point	1.52	77	P	Pn	11 56 34.7	-0.5
SDPT	Sand Point	1.52	77		Pn	11 56 34.9	-0.3
SDPT					Sn	11 56 55.5	-0.6
SDPT	Sand Point	1.52	77	IAML		11 56 55.9	
	comp=N,2μm,0.6s						
SDPT	Sand Point	1.52	77	P	Pn	11 56 34.8	-0.3
	baz=255,SNR=11						
AHB	Akutan Harbor	1.85	241		Pn	11 56 38.4	-0.9
AKLV	Akutan Long Va	1.90	243		Pn	11 56 38.8	-1.1
AKLV					Sn	11 57 03.2	-1.2
AKLV	Akutan Long Va	1.90	243	IAML		11 57 16.9	
	comp=N,1μm,0.6s						
AKGG	Akutan Green G	1.90	245		Pn	11 56 39.1	-0.8
AKGG	Akutan Green G	1.90	245	IAML		11 57 18.9	
	comp=N,1μm,0.7s						
LVA	Lava Point	1.94	244		Pn	11 56 39.4	-1.0
LVA	Lava Point	1.94	244	IAML		11 57 06.6	
	comp=E,1μm,0.7s						
LVA				IAML		11 57 18.5	
	comp=N,2μm,0.7s						
ZRO	Akutan Zero	1.95	242		Pn	11 56 39.4	-1.1
AKRB	Akutan Reef Bi	1.98	243		Pn	11 56 39.8	-1.0
CHNA	Chernabura Isl	2.02	95	P	Pn	11 56 40.2	-1.1
	baz=274,SNR=113						
CNBA	Chernabura Isl	2.02	95		Pn	11 56 40.0	-1.4
CNBA	Chernabura Isl	2.02	95	Sn	Sn	11 57 04.4	-2.6
CNBA				IAML		11 57 11.0	
	comp=E,923nm,1.2s						
VNWF	Veniaminof 8	2.27	60		Pn	11 56 45.0	+0.4
UNV	Unalaska Valle	2.34	240	P	Pn	11 56 44.7	-0.7
UNV	Unalaska Valle	2.34	240		Pn	11 56 44.0	-1.3
UNV	Unalaska Valle	2.34	240	P	Pn	11 56 44.1	-1.3
	baz=60,SNR=42						
S14K	Fog Glacier	2.34	57	P	Pn	11 56 46.4	+0.8
	baz=237,SNR=28						
VNFG	Fog Glacier, M	2.34	57		Pn	11 56 46.1	+0.6
VNFG	Fog Glacier, M	2.34	57	IAML		11 57 20.8	
	comp=N,1μm,0.8s						
VNFG				IAML		11 57 34.0	
	comp=E,1μm,0.8s						
VNSS	Veniaminof 8	2.36	59		Pn	11 56 46.1	+0.3
MTBL	Makushin Table	2.37	244		Pn	11 56 44.9	-0.9
MNAT	Makushin Natee	2.41	243		Pn	11 56 45.1	-1.3
MSW	Makushin Switc	2.45	244		Pn	11 56 45.7	-1.1
VNHG	Veniaminof 1	2.50	60		Pn	11 56 47.8	+0.2
CHGN	Chignik	2.92	63		Pn	11 56 53.1	+0.3
CHGN	Chignik	2.92	63	IAML		11 57 30.6	
	comp=E,1μm,0.4s						
CHGN				IAML		11 57 31.2	
	comp=N,892nm,0.1s						
CHGN	Chignik	2.92	63	P	Pn	11 56 53.0	+0.2
	baz=244,SNR=13						
OKNC	Okmok New Cone	3.37	244		Pn	11 56 57.9	-0.9
OKCE	Okmok Cone E	3.41	244		Pn	11 56 59.0	-0.3
OKWE	Okmok W'ng Wal	3.42	245		Pn	11 56 59.1	-0.4
P08K	Saint George I	3.97	296		Pn	11 57 07.2	+0.3
P08K	Saint George I	3.97	296	P	Pn	11 57 07.1	+0.3
	baz=112,SNR=9.1						
NIKH	Nikolski High	4.00	241	P	Pn	11 57 06.9	-0.3
NIKH	Nikolski High	4.00	241		Pn	11 57 06.6	-0.6
NIKH	Nikolski High	4.00	241	P	Pn	11 57 07.1	-0.1
	baz=58						
CHIR	Chirikof Islan	4.31	77		Pn	11 57 11.2	-0.1
CHIR				IAML		11 58 16.5	
	comp=E,306nm,1.5s						
CHIR				IAML		11 58 18.9	
	comp=N,244nm,1.2s						
CHIR	Chirikof Islan	4.31	77	P	Pn	11 57 10.3	-1.0
	baz=261						
O14K	Tigyukauivet M	4.33	12	Pn	Pn	11 57 11.4	-0.1
O14K	Tigyukauivet M	4.33	12	P	Pn	11 57 11.9	+0.4
	baz=193,SNR=14						
PLBL	Peulik Blue Cr	4.37	50		Pn	11 57 12.9	+0.7
O15K	Ungalikthiuk R	4.50	22		Pn	11 57 13.9	+0.1
O15K	Ungalikthiuk R	4.50	22	P	Pn	11 57 14.0	+0.1
	baz=204						
PLK1	Peulik 1	4.52	50		Pn	11 57 15.1	+0.9
R17L	Mt. Peulik Vol	4.54	53	P	Pn	11 57 15.5	+1.1
	baz=237						
PLK4	Peulik 4	4.54	53		Pn	11 57 15.5	+1.0
SPIA	Saint Paul Isl	4.55	301	P	Pn	11 57 12.9	-1.6
SPIA	Saint Paul Isl	4.55	301		Pn	11 57 14.2	-0.2
SPIA	Saint Paul Isl	4.55	301	P	Pn	11 57 14.3	-0.2
	baz=116						
CLES	Cleveland East	4.61	244	Pn	Pn	11 57 17.9	+2.6
PLK2	Peulik 2	4.63	51		Pn	11 57 16.7	+1.1
P16K	Nushagak River	4.86	33		Pn	11 57 19.8	+1.1
P16K	Nushagak River	4.86	33	P	Pn	11 57 19.8	+1.1
	baz=216,SNR=8.3						
N14K	Kuskokwak Cree	4.94	8		Pn	11 57 20.2	+0.4
N14K	Kuskokwak Cree	4.94	8	P	Pn	11 57 20.3	+0.6
	baz=189,SNR=20						
Q16K	King Salmon	5.06	41		Pn	11 57 22.6	+1.3
Q16K	King Salmon	5.06	41	P	Pn	11 57 22.5	+1.3
	baz=226,SNR=29						
Q17K	Contact Creek	5.11	48	P	Pn	11 57 22.9	+0.8
	baz=233,SNR=56						
CNTC	Contact Creek	5.11	48		Pn	11 57 22.8	+0.7
SII	Sitkinak Islan	5.23	70	P	Pn	11 57 22.4	-1.3
SII	Sitkinak Islan	5.23	70		Pn	11 57 22.6	-1.2
SII	Sitkinak Islan	5.23	70	P	Pn	11 57 22.9	-0.9
	baz=256,SNR=10						
ANCK	Angle Creek	5.24	50	Pn	Pn	11 57 24.3	+0.5
ANCK				IAML		11 58 27.1	
	comp=E,115nm,1.2s						
ANCK				IAML		11 58 57.9	
	comp=N,112nm,1.5s						
O16K	Kokwok River B	5.29	29		Pn	11 57 25.2	+0.7
O16K	Kokwok River B	5.29	29	P	Pn	11 57 25.2	+0.7
	baz=212,SNR=47						
ACHA	Angle Creek He	5.32	50		Pn	11 57 25.3	+0.4
KABU	Katmai Buttres	5.37	50		Pn	11 57 26.4	+0.7
N15K	Kwethluk River	5.38	16		Pn	11 57 26.7	+1.0
N15K	Kwethluk River	5.38	16	P	Pn	11 57 25.7	+0.1
	baz=198,SNR=13						
M13K	Dall Lake	5.38	358		Pn	11 57 26.3	+0.7
M13K	Dall Lake	5.38	358	P	Pn	11 57 26.4	+0.7
	baz=178,SNR=6.0						
KCE	Katmai Mt Cerb	5.40	50		Pn	11 57 26.4	+0.4
R18K	Karluk	5.42	59		Pn	11 57 25.4	-0.8
R18K	Karluk	5.42	59	P	Pn	11 57 25.3	-0.9
	baz=245						
KVTA	Katmai Vly 10	5.43	49		Pn	11 57 26.4	0.0
P17K	Kvichak River	5.50	38		Pn	11 57 28.8	+1.5
P17K	Kvichak River	5.50	38	P	Pn	11 57 28.7	+1.4
	baz=223,SNR=36						
M11K	Mekoryuk	5.61	344		Pn	11 57 28.9	+0.2
M11K	Mekoryuk	5.61	344	P	Pn	11 57 28.8	+0.2
	baz=161,SNR=10						
KAHC	Katmai Hardscr	5.71	47		Pn	11 57 30.6	+0.4
Q18K	Katmai Hardscr	5.71	47	P	Pn	11 57 30.7	+0.5
	baz=233,SNR=24						
O17K	Koliganek Bris	5.73	32		Pn	11 57 31.1	+0.8
O17K	Koliganek Bris	5.73	32	P	Pn	11 57 31.3	+0.9
	baz=216,SNR=81						
M14K	Bethel	5.75	5		Pn	11 57 30.8	+0.2
M14K	Bethel	5.75	5	P	Pn	11 57 30.9	+0.2
	baz=186						
M15K	Kasigluk River	5.80	12		Pn	11 57 31.3	-0.1
M15K	Kasigluk River	5.80	12	P	Pn	11 57 31.0	-0.3
	baz=193,SNR=13						
KAHG	Katmai Hook Gl	5.82	50		Pn	11 57 32.2	+0.6
OHAK	Old Harbor	5.88	64	P	Pn	11 57 30.9	-1.6
OHAK	Old Harbor	5.88	64	Pn	Pn	11 57 32.0	-0.5
OHAK	Old Harbor	5.88	64	P	Pn	11 57 30.9	-1.6
	baz=251,SNR=9.8						
N16K	Nishlik Lake	5.91	21		Pn	11 57 33.8	+1.0
N16K	Nishlik Lake	5.91	21	P	Pn	11 57 33.6	+0.9
	baz=204,SNR=23						
P18K	Big Mountain,	6.09	41		Pn	11 57 37.0	+1.8
P18K	Big Mountain,	6.09	41	P	Pn	11 57 36.4	+1.2
	baz=227,SNR=36						
L14K	Kuka Creek	6.31	2		Pn	11 57 37.8	-0.3
L14K	Kuka Creek	6.31	2	P	Pn	11 57 37.9	-0.3
	baz=182,SNR=19						
N17K	Nushagak Hills	6.33	27		Pn	11 57 39.0	+0.5
N17K	Nushagak Hills	6.33	27	P	Pn	11 57 38.5	+0.1
	baz=212,SNR=8.6						
M16K	Timber Creek	6.37	18		Pn	11 57 39.1	+0.1
M16K	Timber Creek	6.37	18	P	Pn	11 57 39.2	+0.1
	baz=201,SNR=15						
O18K	Koktuh Hills	6.42	38		Pn	11 57 41.2	+1.5
O18K	Koktuh Hills	6.42	38	P	Pn	11 57 41.0	+1.3
	baz=224,SNR=26						
KDAK	Kodiak Island	6.43	61	Pn	Pn	11 57 39.2	-0.6
KDAK	Kodiak Island	6.43	61	P	Pn	11 57 38.4	-1.4
	baz=248						
KDAK	Kodiak Island	6.43	61	P	Pn	11 57 38.5	-1.4
	comp=N,28nm,0.4s,baz=208,slow=4.1,SNR=158						
KDAK				S	Sn	11 58 46.2	-5.5
	comp=N,26nm,0.4s,baz=169,slow=23,SNR=18						
Q19K	Cape Douglas,	6.45	49		Pn	11 57 40.4	+0.3
Q19K	Cape Douglas,	6.45	49	P	Pn	11 57 41.0	+0.8
	baz=236,SNR=17						
L15K	Ungalak Mounta

K17K	Iditarod	8.07	16	P		Pn	11 58 02.2 +0.2
	baz=200,SNR=10						
BRLK	Bradley Lake	8.09	49			Pn	11 58 00.9 -1.5
BRSE	Bradley Lake S	8.14	50			Pn	11 58 01.7 -1.4
BRSE	Bradley Lake S	8.14	50	P		Pn	11 58 01.8 -1.2
	baz=239,SNR=9.7						
M19K	Big River Lodg	8.23	30			Pn	11 58 05.5 +1.4
M19K	Big River Lodg	8.23	30	P		Pn	11 58 04.3 +0.1
	baz=217,SNR=12						
GSMY	Great Sitkin M	8.30	254			Pn	11 58 04.8 -0.4
L19K	White Mountain	8.33	28	Pn		Pn	11 58 06.2 +0.6
L19K	White Mountain	8.33	28	P		Pn	11 58 05.7 +0.2
	baz=214,SNR=5.4						
J16K	Anvik River	8.36	8	Pn		Pn	11 58 05.4 -0.4
J16K	Anvik River	8.36	8	P		Pn	11 58 05.5 -0.3
	baz=190						
SPNN	North Nagishla	8.36	37			Pn	11 58 07.6 +1.5
N20K	Mount Spurr	8.42	39	P		Pn	11 58 06.7 0.0
	baz=227						
SPCR	Spurr Chakacha	8.42	39			Pn	11 58 07.2 +0.4
SPCR	Spurr Chakacha	8.42	39	P		Pn	11 58 05.0 -1.8
	baz=227						
M20K	Styx River	8.60	33			Pn	11 58 11.0 +1.8
M20K	Styx River	8.60	33	P		Pn	11 58 10.8 +1.6
	baz=221,SNR=39						
J17K	VABM Dome	8.62	12			Pn	11 58 09.7 +0.3
J17K	VABM Dome	8.62	12	P		Pn	11 58 09.5 +0.2
	baz=195						
ADK	Adak	8.72	254	P		Pn	11 58 10.8 0.0
ADK	Adak	8.72	254	Pn		Pn	11 58 10.4 -0.4
STLK	Strandline Lak	8.76	38			Pn	11 58 13.0 +1.7
SLKM	Skilak Lake	8.77	46			Pn	11 58 10.8 -0.6
L20K	Farewell, AK	8.84	29			Pn	11 58 12.9 +0.6
L20K	Farewell, AK	8.84	29	P		Pn	11 58 13.5 +1.1
	baz=216,SNR=21						
SEW	Seward	8.89	50	Pn		Pn	11 58 12.1 -0.9
SEW	Seward	8.89	50	P		Pn	11 58 11.7 -1.3
	baz=240,SNR=34						
O22K	Cooper Landing	8.96	47			Pn	11 58 12.9 -1.0
O22K	Cooper Landing	8.96	47	P		Pn	11 58 13.2 -0.8
	baz=238,SNR=17						
KIWB	Kanaga Island	8.99	255	Pn		Pn	11 58 14.4 -0.1
J18K	Innoko River	9.04	18			Pn	11 58 14.9 -0.2
J18K	Innoko River	9.04	18	P		Pn	11 58 15.2 +0.2
	baz=204,SNR=6.3						
SUA	Susitna One	9.13	40			Pn	11 58 16.0 -0.4
SUA	Susitna One	9.13	40	P		Pn	11 58 16.0 -0.4
	baz=230,SNR=20						
SKT	Skwentna	9.19	36			Pn	11 58 18.6 +1.4
SKT	Skwentna	9.19	36	P		Pn	11 58 17.7 +0.6
	baz=226,SNR=18						
RC01	Rabbit Creek A	9.29	44			Pn	11 58 17.1 -1.3
RC01	Rabbit Creek A	9.29	44	P		Pn	11 58 17.0 -1.4
	baz=235,SNR=9.8						
TAFP	Tanaga Falls P	9.44	257			Pn	11 58 18.7 -1.8
K20K	Telida	9.51	25	Pn		Pn	11 58 22.2 +0.8
K20K	Telida	9.51	25	P		Pn	11 58 21.4 0.0
	baz=212,SNR=13						
M22K	Willow	9.54	40			Pn	11 58 21.4 -0.3
M22K	Willow	9.54	40	P		Pn	11 58 21.7 -0.1
	baz=230,SNR=6.6						
PPLA	Purkeypile	9.65	31	P		Pn	11 58 24.4 +0.9
	baz=220,SNR=13						
J19K	Poorman	9.73	20			Pn	11 58 24.2 -0.1
J19K	Poorman	9.73	20	P		Pn	11 58 24.3 -0.1
	baz=206,SNR=13						
P23K	Montague Islan	9.77	53			Pn	11 58 22.7 -2.2
P23K	Montague Islan	9.77	53	P		Pn	11 58 22.6 -2.2
	baz=246,SNR=12						
PMR	Palmer	9.82	42	P		Pn	11 58 23.4 -2.1
PMR	Palmer	9.82	42			Pn	11 58 23.7 -1.9
PMR	Palmer	9.82	42	P		Pn	11 58 24.2 -1.3
	baz=234,SNR=7.5						
CUT	Chulitna	9.91	37			Pn	11 58 27.1 +0.3
CUT	Chulitna	9.91	37	P		Pn	11 58 26.1 -0.7
	baz=227						
KNK	Knik Glacier	9.98	44			Pn	11 58 26.4 -1.4
KNK	Knik Glacier	9.98	44	P		Pn	11 58 25.9 -1.9
	baz=236,SNR=8.0						
GHO	Glory Hole Cre	10.01	42			Pn	11 58 26.9 -1.3
Q23K	Middleton Isla	10.06	57	Pn		Pn	11 58 27.4 -1.3
MID	Middleton Isla	10.06	57	P		Pn	11 58 28.1 -0.7
MID	Middleton Isla	10.06	57	Pn		Pn	11 58 27.2 -1.7
CAST	Castle Rocks	10.09	29			Pn	11 58 31.1 +1.9
CAST	Castle Rocks	10.09	29	P		Pn	11 58 30.4 +1.2
	baz=218,SNR=21						
J20K	Nowinta River	10.20	23	Pn		Pn	11 58 31.4 +0.7
J20K	Nowinta River	10.20	23	P		Pn	11 58 31.7 +1.0
	baz=210,SNR=7.8						
SML	Sawmill	10.26	43	Pn		Pn	11 58 29.4 -2.2
SML	Sawmill	10.26	43	P		Pn	11 58 29.3 -2.2
	baz=235,SNR=6.5						
GLI	Glacier Island	10.28	49			Pn	11 58 29.1 -2.8
GLI	Glacier Island	10.28	49	P		Pn	11 58 29.2 -2.6
	baz=242						
HIN	Hinchinbrook I	10.34	52			Pn	11 58 30.4 -2.2
CHUM	Lake Minchumin	10.39	27	P		Pn	11 58 34.5 +1.3
	baz=216,SNR=14						
M23K	Glacier View	10.49	44	P		Pn	11 58 33.0 -1.6
	baz=236,SNR=28						
FID	Port Fidalgo	10.50	50			Pn	11 58 31.9 -2.8
SCM	Sheep Creek Mo	10.67	44			Pn	11 58 35.7 -1.4
SCM	Sheep Creek Mo	10.67	44	P		Pn	11 58 35.2 -1.9
	baz=237,SNR=43						
EYAK	Cordova Ski Ar	10.74	52	P		Pn	11 58 35.5 -2.5
EYAK	Cordova Ski Ar	10.74	52	P		Pn	11 58 35.6 -2.3
	baz=246,SNR=14						
WAT1	Susitna Watana	10.79	38	P		Pn	11 58 36.3 -2.5
	baz=230						
BPAW	Bear Paw Mtn.	10.93	29			Pn	11 58 41.2 +0.8
BPAW	Bear Paw Mtn.	10.93	29	P		Pn	11 58 41.0 +0.5
	baz=219,SNR=10						
WAT6	Susitna Watana	10.93	40	P		Pn	11 58 38.3 -2.4
	baz=233,SNR=17						
RND	Reindeer	11.07	35			Pn	11 58 42.1 -0.4
KLU	Klutina	11.07	47			Pn	11 58 40.1 -2.4
KLU	Klutina	11.07	47	P		Pn	11 58 40.1 -2.4
	baz=242,SNR=60						
KAIM	Kayak Island	11.14	56	Pn		Pn	11 58 42.5 -0.9
KAIM	Kayak Island	11.14	56	P		Pn	11 58 41.7 -1.7
	baz=252,SNR=6.2						
RAGM	Ragged Mountai	11.17	54			Pn	11 58 42.2 -1.7
AMKA	Amchitka	11.19	258	Pn		Pn	11 58 43.4 -0.7
H20K	Anotleneega Mo	11.22	18	P		Pn	11 58 43.6 -0.9
	baz=205						
M24K	Tolsona, Glenn	11.27	44			Pn	11 58 43.8 -1.4
M24K	Tolsona, Glenn	11.27	44	P		Pn	11 58 43.0 -2.1
	baz=238,SNR=32						
HMT	Hamilton	11.35	55			Pn	11 58 44.7 -1.4
DHY	Denali Highway	11.37	39	P		Pn	11 58 44.3 -2.2
	baz=232						
BMRM	Bremner River	11.42	51	Pn		Pn	11 58 44.8 -2.3
BMRM	Bremner River	11.42	51	P		Pn	11 58 45.0 -2.1
	baz=246,SNR=13						
SUCK	Suckling Hills	11.50	56	Pn		Pn	11 58 47.3 -0.8
I21K	Tanana	11.54	24			Pn	11 58 49.1 +0.5
I21K	Tanana	11.54	24	P		Pn	11 58 49.4 +0.7
	baz=213						
N25K	Chitina, Valde	11.69	48	Pn		Pn	11 58 49.0 -1.7
N25K	Chitina, Valde	11.69	48	P		Pn	11 58 48.5 -2.2
	baz=244,SNR=32						
MLY	Manley	11.73	26			Pn	11 58 51.7 +0.6
MLY	Manley	11.73	26	P		Pn	11 58 51.8 +0.6
	baz=217,SNR=12						
H21K	Melozitna Rive	11.77	21			Pn	11 58 52.4 +0.7
H21K	Melozitna Rive	11.77	21	P		Pn	11 58 52.6 +0.9
	baz=210,SNR=6.7						
HARP	HAARP	11.83	44	P		Pn	11 58 50.9 -1.6
	baz=239,SNR=5.7						
NEA2	Nenana	11.85	31	P		Pn	11 58 51.5 -1.2
	baz=222						
IMAR	Indian Mountai	11.87	19			Pn	11 58 53.7 +0.8
GLB	Gilahina Butte	11.96	50	Pn		Pn	11 58 52.1 -2.2
SNH	Sunshine Point	11.98	56			Pn	11 58 53.9 -0.6
PAX	Paxson	12.01	42	P		Pn	11 58 53.6 -1.3
	baz=236,SNR=18						
CRQM	Cirque	12.01	54			Pn	11 58 53.8 -1.3
CRQE	Cirque	12.03	54	P		Pn	11 58 53.5 -1.8
	baz=250,SNR=11						
VRDI	Verde Repeater	12.04	51	Pn		Pn	11 58 53.6 -1.8
WAX	Waxell Ridge	12.05	55			Pn	11 58 53.9 -1.5
TGL	Tana Glacier	12.16	54			Pn	11 58 56.1 -0.8
I23K	Minto, Yukon-K	12.18	28			Pn	11 58 55.6 -1.5
I23K	Minto, Yukon-K	12.18	28	P		Pn	11 58 56.6 -0.4
	baz=220,SNR=12						
CCB	Clear Creek Bu	12.27	32			Pn	11 58 56.5 -1.7
H22K	Ishtalitna Cre	12.28	23	P		Pn	11 58 58.6 +0.2
	baz=213,SNR=7.2						
MCARA	McCarthy VSAT	12.29	51			Pn	11 58 57.1 -1.4
MCARA	McCarthy VSAT	12.29	51	P		Pn	11 58 56.8 -1.7
	baz=247						
ISLE	Juniper Island	12.34	55			Pn	11 58 57.9 -1.3
MDM	Murphy Dome	12.36	31			Pn	11 58 58.8 -0.6
HDA	Harding Lake	12.37	34			Pn	11 58 58.5 -1.0
K24K	Donnelly Dome	12.38	38	P		Pn	11 58 58.6 -1.2
	baz=232						
G21K	Allakaket	12.39	18	P		Pn	11 59 00.8 +1.0
	baz=206						
MESA	MESA	12.40	57			Pn	11 58 59.6 -0.6
MESA	MESA	12.40	57	P		Pn	11 58 59.2 -1.0
	baz=254,SNR=8.1						
COLA	College	12.41	31	P		Pn	11 58 58.9 -1.1
COLA	College	12.41	31			Pn	11 58 59.5 -0.5
COLA	College	12.41	31	P		Pn	11 58 59.1 -0.9
	baz=224						
E18K	Tukpahlearik C	12.47	4	P		Pn	11 59 01.6 +0.8
	baz=186						
F20K	Avaraart Lake	12.54	13	Pn		Pn	11 59 03.5 +1.9
F20K	Avaraart Lake	12.54	13	P		Pn	11 59 03.0 +1.3
	baz=200,SNR=5.7						
IL31		12.64	33	Pn		Pn	11 58 59.9 -3.0
ILAR	Eielson Array	12.64	33	Pn		Pn	11 59 00.7 -2.3
ILAR	Eielson Array	12.64	33	P		Pn	11 59 00.1 -2.8
	comp=N,1.3nm,0.4s,baz=224,slow=14,SNR=27						
GRNC	Granite Creek	12.65	55			Pn	11 59 02.6 -0.8
H23K	Yukon River	12.66	26			Pn	11 59 04.0 +0.7
H23K	Yukon River	12.66	26	P		Pn	11 59 03.8 +0.5
	baz=218,SNR=31						
MENT	Mentasta	12.68	44			Pn	11 59 01.8 -1.8
M26K	Nabesna, AK	12.72	47	Pn		Pn	11 59 02.6 -1.6
M26K	Nabesna, AK	12.72	47	P		Pn	11 59 02.4 -1.7
	baz=243,SNR=24						
L26K	Log Cabin Wild	12.87	44			Pn	11 59 04.9 -1.1
L26K	Log Cabin Wild	12.87	44	P		Pn	11 59 05.0 -1.1
	baz=240,SNR=14						
CTG	Chitna Glacier	12.91	54	P		Pn	11 59 04.9 -1.9
	baz=252,SNR=19						
CTGM	Chitina Glacie	12.92	54			Pn	11 59 05.9 -0.9
J25K	Salcha River,	13.03	36			Pn	11 59 07.4 -0.7
J25K	Salcha River,	13.03	36	P		Pn	11 59 06.1 -2.1
	baz=230,SNR=5.9						
LOGN	Logan Glacier	13.03	55			Pn	11 59 08.1 -0.2
F21K	Alatna River	13.04	17			Pn	11 59 10.4 +2.2
F21K	Alatna River	13.04	17	P		Pn	11 59 08.3 +0.1
	baz=205						
RDOG	Red Dog Mine	13.05	0	P		Pn	11 59 08.2 -0.2
	baz=180						
H24K	Noodor Dome	13.11	28			Pn	11 59 08.6 -0.6
H24K	Noodor Dome	13.11	28	P		Pn	11 59 08.5 -0.7
	baz=221						
SCRK	Sand Creek	13.13	39	Pn		Pn	11 59 08.2 -1.3
SCRK	Sand Creek	13.13	39	P		Pn	11 59 08.0 -1.5
	baz=236,SNR=18						
G22K	Bettles	13.13	20	P		Pn	11 59 09.9 +0.5
	baz=210						
M27K	Edge Creek, AK	13.17	48			Pn	11 59 09.1 -1.1
M27K	Edge Creek, AK	13.17	48	P		Pn	11 59 08.9 -1.3
	baz=245,SNR=14						
PINM	Pinnacle	13.21	58	P		Pn	11 59 09.9 -0.6
	baz=257,SNR=5.7						
G23K	Bananza Creek	13.27	23	Pn		Pn	11 59 13.1 +1.9
G23K	Bananza Creek	13.27	23	P		Pn	11 59 12.6 +1.4
	baz=214,SNR=15						
O28M	Mount Upton	13.40	55	P		Pn	11 59 12.6 -0.6
	baz=254,SNR=27						
BCPM	Bancas Point	13.48	59			Pn	11 59 13.8 -0.2
L27K	Beaver Creek,	13.50	45	Pn		Pn	11 59 13.0 -1.3
L27K	Beaver Creek,	13.50	45	P		Pn	11 59 12.8 -1.4
	baz=243,SNR=8.8						
F22K	John River	13.52	18	P		Pn	11 59 15.7 +1.3
	baz=207						
BCAR	Beaver Creek A	13.52	45	Pn		Pn	11 59 13.2 -1.3
PNL	Peninsula	13.55	60	P		Pn	11 59 15.1 +0.2
PNL	Peninsula	13.55	60	P		Pn	11 59 14.9 0.0
	baz=260,SNR=11						
YUK3	Moose Creek	13.58	51	P		Pn	11 59 14.2 -1.2
	baz=250,SNR=14						
J26L	Joseph Creek	13.58	38	Pn		Pn	11 59 14.1 -1.2
J26L	Joseph Creek	13.58	38	P		Pn	11 59 14.4 -1.0
	baz=234,SNR=22						
E20K	Nigu River	13.64	11	P		Pn	11 59 16.6 +0.7
	baz=197						
COLD	Coldfoot	13.66	22	P		Pn	11 59 16.8 +0.6
	baz=213,SNR=13						
YUK8	Steele Glacier	13.74	54	P		Pn	11 59 18.5 +0.9
	baz=253						
K27K	Chicken	13.87	41	P		Pn	11 59 17.6 -1.4
	baz=239						
G24K	Hadweenzic Riv	13.87	26	P		Pn	11 59 17.6 -1.3
	baz=220						
D20K	Etivluk River	14.03	10	P		Pn	11 59 21.8 +0.7
	baz=195						
O29M	Mount Kennedy	14.07	58			Pn	11 59 22.7 +1.0
O29M	Mount Kennedy	14.07	58	P		Pn	11 59 21.8 +0.1
	baz=258,SNR=25						
E21K	Killik River	14.09	14	P		Pn	11 59 22.8 +1.1
	baz=202						
E22K	Anaktuvuk Pass	14.14	17	P		Pn	11 59 23.5 +1.1
	baz=207						
I26K	Coal Creek Min	14.20	36	P		Pn	11 59 19.9 -3.2
	baz=233						
YUK4	Talbot Arm	14.28	54	P		Pn	11 59 24.6 +0.3
	baz=254,SNR=10						
G25K	Bearman Lake	14.28	28	P		Pn	11 59 22.4 -1.8
	baz=223						
YUK6	Outpost Mounta	14.31	56	P		Pn	11 59 24.3 -0.5
	baz=256,SNR=21						
P29M	Windy Craggy	14.38	61	Pn		Pn	11 59 26.8 +1.3
P29M	Windy Craggy	14.38	61	P		Pn	11 59 25.8 +0.3
	baz=262,SNR=12						
F24K	Squaw Lake	14.41	24	P		Pn	11 59 26.2 +0.3
	baz=217						
E23K	Chandalar	14.48	20	P		Pn	11 59 26.3 -0.6
	baz=212,SNR=11						
EGAK	Eagle	14.60	39			Pn	11 59 27.0 -1.2
EGAK	Eagle	14.60	39	P		Pn	11 59 26.3 -1.9
	baz=238,SNR=10						
C21K	Knifeblade Rid	14.65	12	P		Pn	11 59 30.1 +1.2
	baz=199						
D22K	Ayikyak River	14.68	15			Pn	11 59 29.1 -0.1
D22K	Ayikyak River	14.68	15	P		Pn	11 59 29.5 +0.3
	baz=204						
M29M	Somme Creek	14.69	50	Pn		Pn	11 59 28.4 -1.0
M29M	Somme Creek	14.69	50	P		Pn	11 59 28.6 -0.9
	baz=250,SNR=45						
HYT	Haines Junctio	14.69	56			Pn	11 59 29.2 -0.4
HYT	Haines Junctio	14.69	56	P		Pn	11 59 29.1 -0.4
	baz=258,SNR=21						
E24K	Your Creek	14.73	22			Pn	11 59 29.6 -0.4
E24K	Your Creek	14.73	22	P		Pn	11 59 29.1 -0.8
	baz=214,SNR=24						
P30M	Million Dollar	14.84	59	P		Pn	11 59 30.7 -0.6
	baz=261						
I27K	Kandik River	14.89	36	P		Pn	11 59 29.9 -2.0
	baz=235						
DAWY	Dawson	14.92	43			Pn	11 59 31.5 -0.9
DAWY	Dawson	14.92	43	P		Pn	11 59 31.4 -1.0
	baz=243,SNR=34						
TOLK	Toolik Lake Re	14.99	19	P		Pn	11 59 31.2 -2.0
	baz=211						
F25K	Christian Rive	15.02	26	P		Pn	11 59 33.7 +0.1
	baz=221						
N30M	Aishikik Lake	15.03	54			Pn	11 59 33.0 -0.8
N30M	Aishikik Lake	15.03	54	P		Pn	11 59 33.0 -0.8
	baz=256,SNR=77						
PLBC	Pleasant Camp	15.05	62	P		Pn	11 59 33.7 -0.2
	baz=264,SNR=9.0						
S31K	Pelican	15.06	68			Pn	11 59 32.2 -1.8
S31K				IAmb		IAmb	11 59 40.0
	comp=Z,43nm,0.8s						
S31K	Pelican	15.06	68	P		Pn	11 59 33.3 -0.7
	baz=270,SNR=6.7						
L29M	L29M	15.06	48			Pn	11 59 33.1 -0.9
L29M	L29M	15.06	48	P		Pn	11 59 33.5 -0.5
	baz=249,SNR=15						
G26K	Porcupine Rive	15.06	30	P		Pn	11 59 33.9 -0.1
	baz=227						
D23K	Nanushuk River	15.07	17	P		Pn	11 59 34.6 +0.4
	baz=208						
B21K	Ikpikpuk River	15.12	11	P		Pn	11 59 34.1 -0.5
	baz=199						
BMAR	Burnt Mountain	15.18	28			Pn	11 59 34.1 -1.4
H27K	Steamboat Moun	15.29	34	P		Pn	11 59 32.3 -4.6
	baz=233						
O30N	Mendenhall	15.36	57			Pn	11 59 37.3 -0.6
O30N				IAmb		IAmb	11 59 43.7
	comp=Z,32nm,0.8s						
O30N	Mendenhall	15.36	57	P		Pn	11 59 37.9 0.0
	baz=260,SNR=22						
I28M	Miner Creek	15.39	38			Pn	11 59 36.8 -1.5
I28M	Miner Creek	15.39	38	P		Pn	11 59 37.9 -0.4
	baz=238,SNR=14						
E25K	Arctic Village	15.44	25			Pn	11 59 37.8 -1.0
E25K	Arctic Village	15.44	25	P		Pn	11 59 38.5 -0.2
	baz=220						
M30M	Minto, Yukon	15.46	50	Pn		Pn	11 59 38.3 -0.8
M30M	Minto, Yukon	15.46	50	P		Pn	11 59 38.4 -0.7
	baz=252,SNR=20						
F26K	Sheenjek River	15.48	28	P		Pn	11 59 39.0 -0.4
	baz=224						
D24K	Happy Valley	15.57	19	P		Pn	11 59 39.4 -0.9
	baz=212						
SKAG	Skagway	15.58	62	P		Pn	11 59 41.8 +1.3
SKAG	Skagway	15.58	62			Pn	11 59 39.9 -0.6
SKAG				IAmb		IAmb	11 59 45.9
	comp=Z,22nm,1.2s						
SKAG	Skagway	15.58	62	P		Pn	11 59 40.4 -0.1
	baz=265						
SIT	Sitka	15.58	71	P		P	11 59 42.7 +0.4
	comp=Z,20nm,1.0s						
SIT	Sitka	15.58	71	P		Pn	11 59 41.1 +0.6
SIT				IAmb		IAmb	11 59 49.7
	comp=Z,26nm,1.1s						
SIT	Sitka	15.58	71	P		Pn	11 59 40.6 0.0
	baz=274						
K29M	Barlow Dome	15.59	45			Pn	11 59 40.5 -0.2
K29M	Barlow Dome	15.59	45	P		Pn	11 59 40.2 -0.5
	baz=247,SNR=21						
G27K	Doyon Strip	15.61	33	P		Pn	11 59 41.1 +0.2
G27K	Doyon Strip	15.61	33	P		Pn	11 59 40.0 -0.8
	baz=231						
N31M	Braeburn, Yuko	15.65	55	P		Pn	11 59 41.5 +0.1
N31M	Braeburn, Yuko	15.65	55	P		Pn	11 59 41.0 -0.4
	baz=258,SNR=41						
C23K	Itkillik River	15.86	16	P		Pn	11 59 43.8 -0.1
C23K	Itkillik River	15.86	16	P		Pn	11 59 43.6 -0.3
	baz=207,SNR=10						
B22K	Teshekpuk Lake	15.94	12	P		Pn	11 59 45.0 +0.2
B22K	Teshekpuk Lake	15.94	12	P		Pn	11 59 44.7 -0.1
	baz=200						
WHY	Whitehorse	15.94	58	P		Pn	11 59 46.1 +1.0
WHY				IAmb		IAmb	11 59 51.0
	comp=Z,34nm,1.1s						
WHY	Whitehorse	15.94	58	P		Pn	11 59 45.0 -0.1
	baz=262,SNR=26						
I29M	Ogilvie Camp,	15.94	40	P		Pn	11 59 45.0 0.0
I29M	Ogilvie Camp,	15.94	40	P		Pn	11 59 43.6 -1.4
	baz=241						
S32K	Killisnoo	15.96	70	P		P	11 59 46.8 +0.4
S32K				IAmb		IAmb	11 59 48.4
	comp=Z,30nm,1.2s						
S32K	Killisnoo	15.96	70	P		Pn	11 59 44.1 -1.2
	baz=273						
R32K	Eaglecrest	15.96	67	P		P	11 59 46.9 +0.4
R32K	Eaglecrest	15.96	67	P		Pn	11 59 44.7 -0.6
	baz=270						
JIS	Juneau Island	16.04	67	P		Pn	11 59 47.1 +1.0
JIS	Juneau Island	16.04	67	P		P	11 59 48.5 +1.3
JIS				IAmb		IAmb	11 59 51.5
	comp=Z,21nm,1.1s						
D25K	Kavik River	16.20	21	P		Pn	11 59 48.3 +0.1
D25K	Kavik River	16.20	21	P		Pn	11 59 47.3 -0.9
	baz=216,SNR=5.6						
H29M	Whitestone	16.35	37			Pn	11 59 49.8 -0.2
H29M	Whitestone	16.35	37	P		Pn	11 59 49.5 -0.5
	baz=238,SNR=9.1						
J30M	Hart River	16.35	44			Pn	11 59 49.9 -0.2
J30M	Hart River	16.35	44	P		Pn	11 59 49.6 -0.5
	baz=246,SNR=28						
P32M	Atlin	16.41	62	P		Pn	11 59 51.4 +0.6
P32M	Atlin	16.41	62	P		Pn	11 59 51.1 +0.2
	baz=266,SNR=9.5						
M31M	Drury Creek, Y	16.45	53	P		Pn	11 59 51.7 +0.4
M31M				IAmb		IAmb	11 59 56.0
	comp=Z,27nm,1.1s						
M31M	Drury Creek, Y	16.45	53	P		Pn	11 59 50.9 -0.4
	baz=257,SNR=25						
E27K	Coleen River	16.52	29	P		Pn	11 59 52.0 -0.1
	baz=228						
A21K	Barrow	16.57	7	P		Pn	11 59 52.1 -0.5
	baz=193						
I30M	Mount Dempster	16.60	42			Pn	11 59 52.8 -0.4
I30M	Mount Dempster	16.60	42	P		Pn	11 59 52.9 -0.4
	baz=244,SNR=16						
F28M	Old Crow	16.65	32	P		Pn	11 59 53.3 -0.4
F28M	Old Crow	16.65	32	P		Pn	11 59 52.8 -0.9
	baz=232						
G29M	Pine Creek	16.83	35			Pn	11 59 55.0 -0.9
G29M	Pine Creek	16.83	35	P		Pn	11 59 54.3 -1.6
	baz=237,SNR=5.7						
N32M	Quiet Lake	16.87	57	P		P	11 59 57.6 +1.0
N32M				IAmb		IAmb	11 59 59.7
	comp=Z,29nm,0.8s						
N32M	Quiet Lake	16.87	57	P		P	11 59 57.3 +0.7
	baz=262						
P33M	Teslin, Yukon	16.90	60	P		P	11 59 58.5 +1.5
P33M				IAmb		IAmb	12 00 01.9
	comp=Z,37nm,1.0s						
P33M	Teslin, Yukon	16.90	60	P		P	11 59 58.5 +1.5
	baz=265,SNR=32						
U33K	Whale Pass	16.90	74	P		P	11 59 57.6 +0.8
U33K				IAmb		IAmb

comp=Z,26nm,1.1s
DLBC Dease Lake 18.32 66 P Pn 12 00 15.5 +1.6
baz=273,SNR=15
DLBC Dease Lake 18.32 66 P Pn 12 00 14.9 +0.9
comp=Z,18nm,0.9s,baz=268,slow=11,SNR=25
T35M Bob Quinn 18.35 70 P 12 00 13.2 +0.4
T35M IAmb IAmb 12 00 18.1
comp=Z,74nm,1.4s
T35M Bob Quinn 18.35 70 P Pn 12 00 16.5 +2.3
baz=278,SNR=19
RUBB Prince Rupert 18.89 79 P P 12 00 18.8 +0.2
RUBB IAmb IAmb 12 00 27.0
comp=Z,29nm,1.3s
INK Inuvik 19.03 34 P P 12 00 18.7 -1.3
INK Inuvik 19.03 34 P P 12 00 18.1 -1.9
baz=240
INK Inuvik 19.03 34 P P 12 00 18.5 -1.5
comp=Z,2.8nm,0.7s,baz=226,slow=14,SNR=11
TOAD Toad River Com 20.79 64 P P 12 00 39.4 +0.3
baz=276
C36M Paulatuk 22.59 36 P P 12 00 57.2 -0.5
baz=250
PETK Petropavlovsk- 22.90 281 P P 12 01 00.7 -0.3
PETK Petropavlovsk- 22.90 281 P P 12 00 58.8 -2.2
comp=Z,2.3nm,0.5s,baz=81,slow=14,SNR=5.4
comp=Z,2.3nm,0.5s
A36M Sachs Harbour 23.27 29 P P 12 01 03.5 -0.8
baz=243
YKA Yellowknife Ar 25.64 53 P P 12 01 25.4 -0.4
YKA Yellowknife Ar 25.64 53 P P 12 01 26.0 +0.1
baz=277,slow=10
B08A Colville Reser 27.54 86 P P 12 01 44.1 +1.0
NEW Newport 28.86 84 P P 12 01 55.6 +0.8
NEW IAmb IAmb 12 01 57.8
comp=Z,10nm,1.0s
NEW Newport 28.86 84 P P 12 01 55.8 +1.0
baz=301,SNR=5.5
KMPM Mount Pierce 29.56 103 P P 12 02 00.8 -0.3
MSO Missoula 31.44 84 P P 12 02 16.9 -0.8
MSO IAmb IAmb 12 02 19.8
comp=Z,3.8nm,0.6s
MSO Missoula 31.44 84 P P 12 02 18.4 +0.7
baz=303
OVMT Ovando 31.86 83 P P 12 02 22.1 +0.8
LYMT Lyon Mountain 32.31 83 P P 12 02 26.0 +0.6
MFID Camas Ranch 32.35 91 P P 12 02 26.3 +0.6
HLID Hailey 33.07 90 P P 12 02 31.5 -0.5
HLID Hailey 33.07 90 P P 12 02 33.0 +1.0
baz=308
EGMT Eagleton 33.18 80 P P 12 02 33.4 +0.6
EGMT IAmb IAmb 12 02 35.2
comp=Z,18nm,1.1s
EGMT Eagleton 33.18 80 P P 12 02 34.6 +1.9
baz=302,SNR=10
CMB Columbia Colle 33.30 103 P P 12 02 34.1 +0.3
CMB IAmb IAmb 12 02 37.3
comp=Z,11nm,1.4s
BOZ Bozeman (W) 33.47 85 P P 12 02 35.1 -0.3
BOZ Bozeman (W) 33.47 85 P P 12 02 36.5 +1.2
baz=305,SNR=9.7
FFC Flin Flon 34.15 65 P P 12 02 40.8 -0.2
FFC IAmb IAmb 12 02 43.2
comp=Z,6.1nm,1.1s
NVAR Mina Array Bea 34.19 100 P P 12 02 43.7 +1.9
comp=Z,1.7nm,0.7s,baz=304,slow=8.5,SNR=19
NVAR pP **pP 12 03 08.8 +0.8**
comp=Z,1.6nm,0.7s,baz=309,slow=8.3,SNR=8.5
comp=Z,1.7nm,0.7s
ELK Elko 34.38 94 P P 12 02 44.8 +1.4
YHH Holmes Hill 34.38 85 P P 12 02 44.5 +1.1
YFT Old Faithful 34.59 86 P P 12 02 45.0 -0.3
YFT IAmb IAmb 12 02 49.3
comp=Z,8.8nm,0.8s
H17A Grant Village 34.78 86 P P 12 02 46.9 0.0
H17A IAmb IAmb 12 02 51.2
comp=Z,14nm,1.1s
H17A Grant Village 34.78 86 P P 12 02 49.1 +2.3
baz=307,SNR=6.2
IMW Indian Meadow 34.87 87 P P 12 02 47.2 -0.4
IMW IAmb IAmb 12 02 51.0
comp=Z,8.6nm,1.1s
FLWY Flagg Ranch 34.89 86 P P 12 02 48.1 +0.3
FLWY IAmb IAmb 12 02 51.4
comp=Z,9.6nm,0.8s
MOOW Moose Ponds 35.07 87 P P 12 02 50.0 +0.7
RLMT Red Lodge 35.09 84 P P 12 02 50.5 +1.0
RLMT Red Lodge 35.09 84 P P 12 02 52.2 +2.8
baz=306,SNR=12
HVU Hansel Valley 35.13 91 P P 12 02 50.2 +0.4
HVU IAmb IAmb 12 02 52.8
comp=Z,7.3nm,1.0s
REDW Red Top Meadow 35.24 87 P P 12 02 52.2 +1.4
AHID Auburn Hatcher 35.47 88 P P 12 02 54.1 +1.4
AHID IAmb IAmb 12 02 58.9
comp=Z,6.6nm,0.9s
VES Vestal, Richgr 35.59 104 P P 12 02 55.2 +1.7
baz=317
CWC Cottonwood Cre 35.72 102 P P 12 02 56.8 +1.9
baz=316
GRAC Grapevine Rang 35.73 101 P P 12 02 56.4 +1.7
baz=315
R11B Troy Canyon, C 35.80 98 P P 12 02 56.3 +0.8
R11B Troy Canyon, C 35.80 98 P P 12 02 57.4 +1.9
baz=313,SNR=7.9
PKM Mcpherson Peak 35.88 106 P P 12 02 58.4 +2.1
baz=318
HWUT Hardware Ranch 35.94 90 P P 12 02 56.1 -0.6
HWUT IAmb IAmb 12 02 59.8
comp=Z,16nm,1.5s
ISA Isabella, Lake 36.06 104 P P 12 02 58.4 +0.7
baz=317
DUG Dugway, Tooele 36.14 93 P P 12 02 58.1 -0.3
DUG IAmb IAmb 12 03 01.4
comp=Z,7.9nm,1.2s
DUG Dugway, Tooele 36.14 93 P P 12 03 00.0 +1.7
baz=311
MPMC Manual Prospec 36.33 102 P P 12 02 59.8 -0.3
baz=316
BW06 Boulder Array 36.36 87 P P 12 03 00.8 +0.4
baz=309,SNR=8.7
PD31 Pinedale Array 36.36 87 P P 12 03 00.8 +0.5
PD31 IAmb IAmb 12 03 03.7
comp=Z,3.7nm,0.7s
PDAR Pinedale Array 36.36 87 P P 12 03 01.9 +1.5
comp=Z,3.1nm,0.6s,baz=356,slow=5.9,SNR=17
comp=Z,3.1nm,0.6s
FURC Furnace Creek, 36.39 101 P P 12 03 01.9 +1.6
baz=316
TPNV Topopah Spring 36.39 100 P P 12 03 01.9 +1.3
baz=315,SNR=7.8
LRMC Laurel Mtn Rad 36.64 103 P P 12 03 04.5 +1.8
baz=317
JLU Jordanelle 36.66 91 P P 12 03 03.1 +0.3
EDW2 Edwards Air Fo 36.90 104 P P 12 03 07.0 +2.2
baz=317
BSUT Blindstream Ca 37.09 91 P P 12 03 07.9 +1.2
BSUT IAmb IAmb 12 03 09.8
comp=Z,17nm,1.3s
SHOC Shoshone, Teco 37.12 101 P P 12 03 07.1 +0.5
baz=316
GSC Goldstone, Bar 37.26 103 P P 12 03 09.7 +1.9
baz=317
SNCC San Nicolas Is 37.27 108 P P 12 03 09.1 +1.3
baz=319
MVU Marysvale 37.62 95 P P 12 03 11.5 +0.5
MVU IAmb IAmb 12 03 13.8
comp=Z,11nm,1.0s
RDMU Red Mountain 37.76 90 P P 12 03 13.5 +1.4
Q16A Castle Valley 37.94 93 P P 12 03 15.1 +1.4
Q16A IAmb IAmb 12 03 16.4
comp=Z,5.2nm,0.8s
SCI2 San Clemente I 38.01 107 P P 12 03 15.4 +1.3
baz=319
V12A Nelson 38.05 100 P P 12 03 15.9 +1.3
V12A IAmb IAmb 12 03 17.9
comp=Z,4.2nm,0.9s
K22A Casper 38.17 85 P P 12 03 16.4 +0.8
K22A Casper 38.17 85 P P 12 03 17.1 +1.6
baz=309,SNR=10
SRU San Rafael Swe 38.18 92 P P 12 03 15.7 +0.1
GMRC Granite Mounta 38.28 102 P P 12 03 18.5 +2.0
baz=317
RWWY Rawlins 38.39 87 P P 12 03 17.7 +0.2
BELC Belle Mtn. Jos 38.66 103 P P 12 03 21.6 +1.9
baz=318
RSSD Black Hills 38.68 81 P P 12 03 19.9 +0.1
RSSD IAmb IAmb 12 03 22.4
comp=Z,14nm,1.3s
RSSD Black Hills 38.68 81 P P 12 03 21.1 +1.3
baz=308
PFO Pinyon Flats O 38.69 104 P P 12 03 21.9 +2.0
baz=318
TPFO Pinon Flats 38.70 104 P P 12 03 21.8 +1.9
baz=318
O20A White River Ci 38.81 89 P P 12 03 22.1 +1.2
O20A White River Ci 38.81 89 P P 12 03 22.8 +1.8
baz=311,SNR=46
HMU Henry Mountain 38.85 94 P P 12 03 21.6 +0.2
MDND Maddock 38.95 73 P P 12 03 21.8 0.0
MDND Maddock 38.95 73 P P 12 03 23.2 +1.3
baz=305
U15A North Rim 39.01 97 P P 12 03 23.2 +0.4
IRM Iron Mountain 39.02 102 P P 12 03 24.1 +1.5
baz=317,SNR=5.5
W13A Hualapai Mount 39.05 100 P P 12 03 24.0 +1.0
BC3 Big Chuckawall 39.22 103 P P 12 03 25.7 +1.4
baz=318
MONP2 Monument Peak 39.25 105 P P 12 03 26.2 +1.5
baz=319
ULM Lac du Bonnet 39.62 68 P P 12 03 27.9 +0.6
comp=Z,2.7nm,0.4s,baz=313,slow=9.6,SNR=9.7
ULM pP **pP 12 03 54.0 0.0**
comp=Z,7.7nm,0.9s,baz=298,slow=6.8,SNR=4.6
comp=Z,2.7nm,0.4s
N23A Red Feather La 39.63 87 P P 12 03 29.2 +1.3
N23A IAmb IAmb 12 03 30.5
comp=Z,16nm,1.3s
N23A Red Feather La 39.63 87 P P 12 03 29.7 +1.9
baz=311,SNR=7.0
GLA Glamis 40.02 103 P P 12 03 32.8 +1.9
baz=318
SMCO Snowmass 40.17 89 P P 12 03 33.9 +1.4
SMCO IAmb IAmb 12 03 35.4
comp=Z,5.9nm,0.6s
WUAZ Wupatki 40.18 97 P P 12 03 34.2 +1.9
WUAZ IAmb IAmb 12 03 35.4
comp=Z,6.5nm,0.9s
WUAZ Wupatki 40.18 97 P P 12 03 33.8 +1.5
baz=316,SNR=5.4
Y14A Wickenburg 40.39 100 P P 12 03 35.8 +1.8
MVCO Mesa Verde 40.64 93 P P 12 03 36.5 +0.4
MVCO IAmb IAmb 12 03 38.3
comp=Z,8.3nm,0.7s
MVCO Mesa Verde 40.64 93 P P 12 03 37.8 +1.6
baz=314,SNR=8.5
AGMN Agassiz Nation 40.74 71 P P 12 03 37.1 +0.6
AGMN IAmb IAmb 12 04 03.7
comp=Z,9.2nm,0.9s
AGMN Agassiz Nation 40.74 71 P P 12 03 37.5 +0.9
baz=306
X16A Lo Mia Camp, P 40.93 98 P P 12 03 40.4 +1.9
S22A 4UR Ranch, Cre 41.23 91 P P 12 03 42.2 +1.1
S22A 4UR Ranch, Cre 41.23 91 P P 12 03 43.5 +2.5
baz=313,SNR=9.5
SUSD Miller 41.35 77 P P 12 03 43.1 +1.4
baz=308
Q24A Divide 41.37 88 P P 12 03 43.5 +1.3
baz=312
X18A Snowflake 41.70 97 P P 12 03 46.3 +1.5
X18A IAmb IAmb 12 03 48.0
comp=Z,9.4nm,1.0s
OGNE Ogallala 41.84 83 P P 12 03 47.3 +1.5
baz=311
214A Organ Pipe Nat 41.97 102 P P 12 03 48.0 +1.2
214A IAmb IAmb 12 03 49.7
comp=Z,5.8nm,1.0s
214A Organ Pipe Nat 41.97 102 P P 12 03 49.2 +2.4
baz=318
SDCO Great Sand Dun 41.99 90 P P 12 03 48.1 +0.8
SDCO IAmb IAmb 12 03 50.1
comp=Z,7.8nm,0.8s
KSCO Kaye Shedlock' 42.79 86 P P 12 03 55.1 +1.6
KSCO Kaye Shedlock' 42.79 86 P P 12 03 55.5 +2.0
baz=312
TUC Tucson 42.85 100 P P 12 03 56.0 +2.0
baz=318
T25A Trinidad 43.04 89 P P 12 03 57.2 +1.5
T25A Trinidad 43.04 89 P P 12 03 57.7 +2.0
baz=314,SNR=17
ECSD EROS Data Cent 43.11 76 P P 12 03 56.5 +0.6
baz=309
EYMN Ely 43.30 68 P P 12 03 57.8 +0.4
baz=307
ANMO Albuquerque 43.41 93 P P 12 04 00.2 +1.6
ANMO Albuquerque 43.41 93 P P 12 03 59.5 +1.0
baz=316
LENM Lemitar 43.67 95 P P 12 04 01.8 +1.2
E38A The Farm, Brul 44.09 70 P P 12 04 03.7 0.0
E38A IAmb IAmb 12 04 32.3
comp=Z,9.1nm,0.8s
SPMN Marine on St. 44.28 72 P P 12 04 06.2 +1.0
baz=309
121A Cookes Peak, D 44.39 97 P P 12 04 07.8 +1.4
121A IAmb IAmb 12 04 09.5
comp=Z,9.4nm,0.9s
121A Cookes Peak, D 44.39 97 P P 12 04 08.8 +2.3
baz=317,SNR=6.3
CBKS Cedar Bluff 44.58 84 P P 12 04 09.2 +1.5
baz=313
UMMG Uummannaq 45.35 26 *i* P **P 12 04 12.9 -0.5**
CN2 Changchun 45.86 287 P **P 12 04 16.9 -0.8**
CN2 pP pP 12 04 45.2 +0.2
CN2 pmax pmax
comp=Z,10.0nm,0.5s
AMTX Amarillo 46.20 90 P P 12 04 21.4 +0.8
AMTX IAmb IAmb 12 04 22.8
comp=Z,17nm,1.3s
AMTX Amarillo 46.20 90 P P 12 04 21.8 +1.3
baz=316
MSTX Muleshoe 46.22 91 P P 12 04 21.2 +0.4
MSTX IAmb IAmb 12 04 22.8
comp=Z,9.8nm,0.8s
MSTX Muleshoe 46.22 91 P P 12 04 22.1 +1.3
baz=316,SNR=6.1
MNTX Cornudas Mount 46.38 96 P P 12 04 23.9 +2.0
baz=318,SNR=20
U32A Winter Ranch, 46.68 86 P P 12 04 25.0 +0.8
U32A IAmb IAmb 12 04 25.9
comp=Z,14nm,0.8s
SMWD Samnorwood 46.87 88 P P 12 04 26.1 +0.4
SMWD IAmb IAmb 12 04 27.9
comp=Z,14nm,0.8s
VHRN Van Horn 47.28 96 P P 12 04 31.1 +2.0
DKNS Dickens 47.51 90 P P 12 04 31.3 +0.6
DKNS IAmb IAmb 12 04 32.5
comp=Z,10nm,0.9s
POST Post 47.61 91 P P 12 04 31.9 +0.4
ODSA Odessa 47.70 93 P P 12 04 32.9 +0.6
SN07 Snyder 07 47.94 91 P P 12 04 34.7 +0.6
SN07 IAmb IAmb 12 04 36.0
comp=Z,13nm,1.2s
WMOK Wichita Mounta 47.97 87 P P 12 04 34.1 -0.2
WMOK IAmb IAmb 12 04 36.0
comp=Z,8.0nm,0.8s
WMOK Wichita Mounta 47.97 87 P P 12 04 35.3 +1.0
baz=316,SNR=13
MNHN Monahans 48.15 94 P P 12 04 35.7 0.0
MNHN IAmb IAmb 12 04 37.6
comp=Z,8.7nm,0.9s
APMT Aspermont 48.21 90 P P 12 04 36.4 +0.3
APMT IAmb IAmb 12 04 37.7
comp=Z,6.0nm,0.9s
ALPN Alpine 48.36 95 P P 12 04 38.1 +0.6
ALPN IAmb IAmb 12 04 39.5
comp=Z,8.5nm,0.9s
P40A Paris 48.45 78 P P 12 04 37.5 -0.3
P40A IAmb IAmb 12 04 38.6
comp=Z,11nm,0.9s
SGCY Sterling City 48.66 92 P P 12 04 39.7 +0.1
KSRS Korea Array 48.76 279 P P 12 04 38.9 -1.3
comp=Z,2.1nm,0.6s,baz=48,slow=7.0,SNR=8.5
comp=Z,2.1nm,0.6s
ABTX Abilene, Hawle 49.00 90 P P 12 04 42.4 +0.2
ABTX Abilene, Hawle 49.00 90 P P 12 04 43.4 +1.2
baz=317,SNR=6.5
TX31 Lajitas Ar. Si 49.12 96 P P 12 04 44.1 +0.8
TXAR Lajitas Array 49.13 96 P P 12 04 44.6 +1.3
TXAR Lajitas Array 49.13 96 P P 12 04 44.8 +1.6
comp=Z,11nm,0.7s,baz=302,slow=5.7,SNR=165
comp=Z,11nm,0.7s
R40A Maddies Statio 49.19 79 P P 12 04 42.4 -1.0
R40A IAmb IAmb 12 04 42.8
comp=Z,6.8nm,0.5s
OZNA Ozona 49.40 93 P P 12 04 45.3 +0.1
OZNA IAmb IAmb 12 04 46.9
comp=Z,8.4nm,0.8s
SAND Sanderson 49.54 94 P P 12 04 46.0 -0.4
SAND IAmb IAmb 12 04 48.4
comp=Z,5.4nm,0.8s
PLPT Palo Pinto 49.62 89 P P 12 04 47.0 +0.2
MGMO Mountain Grove 49.98 80 P P 12 04 48.1 -1.4
MGMO IAmb IAmb 12 04 49.2
comp=Z,4.2nm,0.8s
BRDY Brady 50.35 91 P P 12 04 52.7 +0.3
BRDY IAmb IAmb 12 04 54.0
comp=Z,8.1nm,0.8s
VLDQ Val d'Or 50.47 60 P P 12 04 51.2 -1.8
VLDQ IAmb IAmb 12 04 52.4
comp=Z,6.6nm,0.8s
JCT Junction City 50.49 92 P P 12 04 54.2 +0.8
baz=318,SNR=5.7
SFIN Lafayette 50.63 73 P P 12 04 54.1 -0.3
baz=314
WHTX Lake Whitney, 50.72 89 P P 12 04 55.8 +0.7
baz=317
DRIO Del Rio 50.81 94 P P 12 04 56.4 +0.5
DRIO IAmb IAmb 12 04 56.9
comp=Z,10nm,1.0s
SCHQ Schefferville 50.88 48 P P 12 04 56.1 0.0
comp=Z,4.5nm,0.9s,baz=322,slow=10,SNR=6.0
comp=Z,4.5nm,0.9s
FCAR Ozark Folk Cen 50.96 81 P P 12 04 55.6 -1.2
FCAR IAmb IAmb 12 04 56.6
comp=Z,7.3nm,1.0s
MIAR Mount Ida 51.09 83 P P 12 04 57.6 -0.3
MIAR IAmb IAmb 12 04 59.0
comp=Z,5.2nm,1.1s
MIAR Mount Ida 51.09 83 P P 12 04 58.5 +0.7
baz=316
435B Jarrell 51.54 90 P P 12 05 00.9 -0.4
baz=318
O48B Farmland 51.78 72 P P 12 05 02.1 -0.9
baz=314
833A Chaparral WMA, 52.34 93 P P 12 05 07.5 +0.4
833A Chaparral WMA, 52.34 93 P P 12 05 07.9 +0.7
baz=319
P49A Miami Univ. Ec 52.53 73 P P 12 05 07.5 -0.9
baz=315
DELO Deloro Mine 52.83 63 P P 12 05 09.8 -0.8
SONM Songino Array 53.08 303 ScP **ScP 12 10 05.6 +0.1**
comp=Z,1.0nm,0.5s,baz=48,slow=3.6,SNR=6.1
TRQ Mont Tremblant 53.20 60 P P 12 05 12.6 -0.8
WVT Waverly 53.22 78 P P 12 05 13.0 -0.5
WVT IAmb IAmb 12 05 14.3
comp=Z,4.0nm,0.6s
WVT Waverly 53.22 78 P P 12 05 13.8 +0.3
baz=316
ERPA Erie 53.27 67 P P 12 05 14.1 +0.2
baz=314
M53A WI Miller and 53.38 68 P P 12 05 14.6 -0.1
baz=315
OXF Oxford 53.49 80 P P 12 05 15.8 +0.2
baz=317
WBO Williamsburg 53.70 62 P P 12 05 16.9 0.0
CLTN Cedars of Leba 54.08 77 P P 12 05 19.5 -0.4
CLTN IAmb IAmb 12 05 48.7
comp=Z,5.8nm,0.7s
LONY Lake Ozonia 54.31 62 P P 12 05 21.3 -0.2
baz=315
M55A Ridgway 54.38 67 P P 12 05 21.7 -0.3
VBMS Vicksburg 54.53 83 P P 12 05 23.2 +0.1
baz=318
L56A Greenwood 54.54 66 P P 12 05 22.9 -0.3
J58A Remsen 54.85 63 P P 12 05 25.2 -0.1
NCB Newcomb 54.95 62 P P 12 05 25.6 -0.5
NCB IAmb IAmb 12 05 27.0
comp=Z,5.1nm,0.7s
MCWV Mont Chateau 55.09 69 P P 12 05 26.8 -0.3
baz=316
J59A Piesco 55.17 62 P P 12 05 27.4 -0.3
J59A IAmb IAmb 12 05 28.6
comp=Z,8.6nm,0.8s
TZTN Tazewell 55.31 74 P P 12 05 28.6 -0.1
baz=316
BINY Binghamton 55.31 64 P P 12 05 29.0 +0.3
baz=316
M57A Sunshine Farm, 55.33 66 P P 12 05 28.4 -0.4
M57A IAmb IAmb 12 05 29.5
comp=Z,5.0nm,0.7s
HHC Hu-ho-hao-te 55.38 293 *e*P **P 12 05 31.6 +2.3**
HHC pmax pmax
comp=Z,5.0nm,0.6s
HHC pmax pmax
comp=Z,120nm,4.2s
E62A Clayton Lake 55.39 57 P P 12 05 28.7 -0.5
E62A IAmb IAmb 12 06 07.0
comp=Z,6.5nm,0.8s
SSPA Standing Stone 55.43 67 P P 12 05 28.8 -0.7
SSPA Standing Stone 55.43 67 P P 12 05 29.6 0.0
baz=316
L59A Walton 55.81 64 P P 12 05 32.0 -0.2
G62A West of Eustis 55.90 59 P P 12 05 32.6 -0.3
G62A IAmb IAmb 12 05 33.4
comp=Z,6.5nm,0.6s
LBNH Lisbon 55.92 60 P P 12 05 32.4 -0.6
baz=316
LRAL Lakeview Retre 55.94 80 P P 12 05 32.5 -0.7
baz=318
H62A Milan 56.06 59 P P 12 05 32.8 -1.2
P57A Homestead Farm 56.20 68 P P 12 05 34.3 -0.7
P57A IAmb IAmb 12 05 35.8
comp=Z,7.0nm,0.9s
J61A Chester 56.25 61 P P 12 05 35.2 -0.1
J61A IAmb IAmb 12 05 36.5
comp=Z,8.1nm,0.8s
PKME Peaks-Kenny Pk 56.48 58 P P 12 05 36.8 0.0
baz=316
F64A Sherman 56.50 57 P P 12 05 37.0 -0.1
BATG Bathurst New B 56.55 54 P P 12 05 37.2 -0.2
K62A Royalston 56.90 62 P P 12 05 39.9 -0.1
KSCT Kent School, K 56.95 63 P P 12 05 39.3 -0.9
PAL Palisades 57.25 64 P P 12 05 42.2 -0.2
baz=317
BRAL Brewton 57.29 81 P P 12 05 42.6 -0.2
baz=318
HRV Adam Dziewonsk 57.36 61 P P 12 05 43.3 +0.1
baz=317
WSPT Westport, CT 57.43 64 P P 12 05 43.1 -0.6
GOGA Godfrey 57.65 77 P P 12 05 44.6 -0.7
baz=318
NJ2 Nanjing 57.80 281 *e*P **P 12 05 45.8 -0.6**
NJ2 pmax pmax
comp=Z,16nm,0.8s
M63A Gales Ferry 57.92 63 P P 12 05 46.3 -0.8
LMN Caledonia Moun 58.19 54 P P 12 05 49.1 +0.1
T59A Double "B" Far 58.28 70 P P 12 05 49.3 -0.4
T59A IAmb IAmb 12 05 50.7
comp=Z,7.5nm,0.8s
V58A Windy Hill, Pi 58.30 72 P P 12 05 49.0 -0.8
V58A IAmb IAmb 12 05 50.6
comp=Z,6.5nm,0.9s
TLIG Tlapa 61.21 101 P P 12 06 09.4 -0.7
LZH Lanzhou 62.97 295 *e*P **P 12 06 24.4 +2.7**
LZH pP pP 12 06 35.1 -15
LZH pmax pmax
comp=Z,21nm,1.6s
BVAR Borovoye Array 63.59 327 P **P 12 06 23.9 -1.4**
comp=Z,2.0nm,0.7s,baz=37,slow=5.3,SNR=4.1
BVAR pP **pP 12 06 54.5 +0.2**
comp=Z,2.6nm,0.7s,baz=44,slow=8.7,SNR=4.3
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 64.57 316 P **P 12 06 29.7 -2.2**
comp=Z,0.4nm,0.4s,baz=39,slow=6.1,SNR=1.5
comp=Z,0.4nm,0.4s
HFS Hagfors 65.14 2 P **P 12 06 34.0 -1.3**
comp=Z,1.3nm,0.5s,baz=1.8,slow=6.3,SNR=1.4
comp=Z,1.3nm,0.5s
PZH PanZhiHua 71.56 290 P **P 12 07 17.6 +1.7**
PZH pmax pmax
comp=Z,20nm,0.5s
PZH pmax pmax
comp=Z,110nm,5.1s
KSH Kashi 73.18 316 P **P 12 07 28.4 +3.0**
KSH pmax pmax
comp=Z,4.0nm,0.9s
CM31 Chiang Mai Arr 79.55 287 P **P 12 07 59.4 -2.1**
CMAR Chiang Mai Arr 79.55 287 P **P 12 08 01.3 -0.2**
CMAR Chiang Mai Arr 79.55 287 P **P 12 08 00.3 -1.1**

comp=Z,3.0nm,0.7s,baz=19,slow=5.8,SNR=13
comp=Z,3.0nm,0.7s
ESDC Sonseca Array 83.97 16 P **P 12 08 24.5 +0.1**
comp=Z,0.9nm,0.8s,baz=316,slow=3.5,SNR=2.7
comp=Z,0.9nm,0.8s
QSPA South Pole Qui 144.82 180 PKPbc **PKPab 12 15 28.1 -0.4**
comp=Z,3.8nm,0.9s,baz=304,slow=1.1,SNR=7.7

*NEIC **02** 12:28:04.0±0.3, 35°.97N±0°.01×97°.80W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.7km az=312.0*

TUL 02 12:28:04.2±0.4, 35°.974N±0°.005×97°.80W±0°.01, h6km±3km, ML3.0, mb_Lg2.9/103(NEIC), ML3.2/61(NEIC), Error ellipse: s-maj=1.4km s-min=0.6km az=68.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.33**	**122**		Pg	12 28 11.0	+0.4
OK029				Sg	Sg	12 28 15.9	+0.9
ADOK	**Arcadia Dam**	**0.47**	**133**		Pg	12 28 13.6	+0.3
CROK	**Carrier**	**0.55**	**344**	Pg	Pg	12 28 15.0	+0.2
CROK				IAML		12 28 32.3	
	comp=E,1μm,0.3s						
CROK				IAML		12 28 32.8	
	comp=N,1μm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.64**	**153**		Pg	12 28 16.3	-0.2
OKCSW				IAML		12 28 26.0	
	comp=N,968nm,0.3s						
OKCSW				IAML		12 28 30.5	
	comp=E,876nm,0.2s						
OK031	**S. Brethren Rd**	**0.78**	**91**		Pg	12 28 19.1	0.0
OK031				IAML		12 28 29.9	
	comp=E,828nm,0.2s						
FNO	**Franklin**	**0.79**	**156**		Pg	12 28 19.1	-0.1
FNO				IAML		12 28 30.2	
	comp=N,533nm,0.3s						
CSTR	**Hydro, Custer**	**0.80**	**246**	Pg	Pg	12 28 19.8	+0.3
OK052	**Battle Ridge R**	**0.81**	**88**	Pg	Pg	12 28 19.7	0.0
OK052				IAML		12 28 33.7	
	comp=N,511nm,0.1s						
OK052				IAML		12 28 35.0	
	comp=N,570nm,0.2s						
OK048	**Pawnee Station**	**0.82**	**57**		Pg	12 28 20.0	0.0
OK048				IAML		12 28 33.4	
	comp=N,445nm,0.2s						
GC02	**Grant County #**	**0.88**	**357**		Pg	12 28 20.8	-0.3
OK032	**Salt Plains WL**	**0.89**	**338**		Pg	12 28 21.1	-0.3
OK032				IAML		12 28 38.6	
	comp=N,937nm,0.2s						
QUOK	**Quay**	**0.90**	**77**	Pg	Pg	12 28 21.4	-0.1
QUOK				IAML		12 28 39.6	
	comp=N,667nm,0.2s						
QUOK				IAML		12 28 40.6	
	comp=E,623nm,0.2s						
BLOK	**Blackwell**	**0.92**	**31**		Pg	12 28 21.6	-0.2
OK038	**West end E0370**	**0.92**	**304**		Pg	12 28 21.5	-0.3
KAN14	**Manchester OK**	**0.99**	**352**		Pg	12 28 22.6	-0.6
KAN14				IAML		12 28 39.1	
	comp=E,706nm,0.1s						
KAN14				IAML		12 28 42.8	
	comp=N,608nm,0.2s						
OK035	**E0210 Rd and N**	**1.04**	**315**		Pg	12 28 23.6	-0.5
OK035				IAML		12 28 42.0	
	comp=N,685nm,0.3s						
U32A	**Winter Ranch,**	**1.05**	**293**		Pg	12 28 24.0	-0.4
U32A				IAML		12 28 41.1	
	comp=E,555nm,0.1s						
U32A				IAML		12 28 41.4	
	comp=N,521nm,0.4s						
DEOK	**Depew**	**1.06**	**97**		Pg	12 28 24.0	-0.6
DEOK				IAML		12 28 39.0	
	comp=E,858nm,0.2s						
DEOK				IAML		12 28 43.9	
	comp=N,447nm,0.3s						
KAN13	**South Haven SW**	**1.07**	**14**		Pg	12 28 24.4	-0.3
KAN17	**Caldwell West**	**1.07**	**1**		Pg	12 28 24.2	-0.5
KAN17				IAML		12 28 39.7	
	comp=E,796nm,0.3s						
W35A	**Tecumseh**	**1.11**	**137**		Pg	12 28 24.9	-0.6
W35A				IAML		12 28 41.6	
	comp=E,770nm,0.3s						
W35A				IAML		12 28 45.2	
	comp=N,612nm,0.3s						
NOKA	**Waynoka**	**1.13**	**306**		Pg	12 28 25.2	-0.7
KAN05	**Bluff City Nor**	**1.13**	**357**		Pg	12 28 25.3	-0.7
KAN09	**Caldwell North**	**1.17**	**7**	Pg	Pg	12 28 26.0	-0.6
KAN01	**Argonia South**	**1.18**	**1**		Pg	12 28 25.9	-0.9
KAN08	**Anthony NE Sta**	**1.26**	**354**		Pg	12 28 27.4	-1.0
KAN06	**Argonia West S**	**1.27**	**358**		Pn	12 28 27.6	-0.9
KAN12	**Harper NE Stat**	**1.33**	**353**		Pn	12 28 28.7	-0.7
X34A	**Smith Ranch, M**	**1.37**	**181**		Pn	12 28 29.9	0.0
T35A	**Sooner Cattle**	**1.40**	**47**	Pg	Pn	12 28 30.2	-0.1
WMOK	**Wichita Mounta**	**1.47**	**213**		Pn	12 28 30.9	-0.4
TUL3	**Leonard**	**1.63**	**92**		Pn	12 28 33.5	0.0
LOOK	**Love County**	**2.04**	**165**		Pn	12 28 40.3	+1.1
LOOK				IAmb_Lg		12 29 11.4	
	comp=Z,38nm,0.7s						
SMWD	**Samnorwood**	**2.17**	**247**		Pn	12 28 41.9	+0.8
SMWD				IAmb_Lg		12 29 17.3	
	comp=Z,41nm,0.8s						
RLO	**Rose Lookout**	**2.25**	**84**	Pn	Pn	12 28 42.6	+0.6
WTFS	**Witchita Falls**	**2.27**	**194**		Pn	12 28 43.4	+1.1
X37A	**Clayton**	**2.42**	**124**		Pn	12 28 44.1	-0.2
Z35A	**Perchaven, San**	**2.67**	**170**		Pn	12 28 47.8	0.0
HHAR	**Hobbs**	**3.14**	**83**	IAmb_Lg		12 29 51.2	
	comp=Z,32nm,0.9s						
CBKS	**Cedar Bluff**	**3.23**	**332**	IAmb_Lg		12 29 51.7	
	comp=Z,24nm,0.8s						
KSU1	**Kansas State U**	**3.26**	**16**	IAmb_Lg		12 29 53.9	
	comp=Z,38nm,0.8s						
AMTX	**Amarillo**	**3.35**	**252**	IAmb_Lg		12 29 57.6	
	comp=Z,23nm,0.7s						
FW13	**Cleburne**	**3.63**	**175**	IAmb_Lg		12 30 07.8	
	comp=Z,26nm,0.9s						
ABTX	**Abilene, Hawle**	**3.67**	**205**	IAmb_Lg		12 30 05.9	
	comp=Z,20nm,0.7s						
MIAR	**Mount Ida**	**3.74**	**111**	IAmb_Lg		12 30 08.5	
	comp=Z,28nm,0.9s						
SN07	**Snyder 07**	**3.85**	**223**	IAmb_Lg		12 30 09.9	
	comp=Z,38nm,1.1s						
S39A	**Bolivar**	**3.98**	**63**	IAmb_Lg		12 30 12.9	
	comp=Z,20nm,0.8s						
SN05	**Snyder 5**	**4.01**	**220**	IAmb_Lg		12 30 15.7	
	comp=Z,30nm,1.0s						
POST	**Post**	**4.21**	**228**	IAmb_Lg		12 30 24.1	
	comp=Z,25nm,0.9s						
237A	**Washetta, Mont**	**4.29**	**157**	IAmb_Lg		12 30 20.3	
	comp=Z,19nm,0.8s						
X40A	**Basin Creek Pa**	**4.32**	**109**	IAmb_Lg		12 30 23.4	
	comp=Z,31nm,1.1s						
WLAR	**White Oak Lake**	**4.48**	**119**	IAmb_Lg		12 30 34.2	
	comp=Z,31nm,0.9s						
WHAR	**Wooly Hollow**	**4.54**	**97**	IAmb_Lg		12 30 28.2	
	comp=Z,18nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.60**	**89**	IAmb_Lg		12 30 36.8	
	comp=Z,20nm,0.8s						
UALR	**University of**	**4.61**	**103**	IAmb_Lg		12 30 41.3	
	comp=Z,16nm,0.8s						
BRDY	**Brady**	**4.78**	**192**	IAmb_Lg		12 30 39.9	
	comp=Z,21nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.89**	**310**	IAmb_Lg		12 30 43.4	
	comp=Z,21nm,0.8s						
Z41A	**Richland Creek**	**4.93**	**122**	IAmb_Lg		12 30 53.7	
	comp=Z,17nm,0.8s						
P38A	**Dawn**	**4.97**	**42**	IAmb_Lg		12 30 48.4	
	comp=Z,19nm,0.7s						
R40A	**Maddies Statio**	**4.99**	**61**	IAmb_Lg		12 30 39.2	
	comp=Z,23nm,0.8s						
435B	**Jarrell**	**5.18**	**178**	IAmb_Lg		12 30 59.8	
	comp=Z,28nm,0.7s						
CCAR	**Cane Creek**	**5.36**	**111**	IAmb_Lg		12 31 04.1	
	comp=Z,26nm,0.8s						
LCAR	**Lake Charles**	**5.38**	**87**	IAmb_Lg		12 30 55.0	
	comp=Z,16nm,1.1s						
BGNE	**Belgrade**	**5.43**	**357**	IAmb_Lg		12 31 10.2	
	comp=Z,24nm,0.8s						
T25A	**Trinidad**	**5.45**	**284**	IAmb_Lg		12 31 07.1	
	comp=Z,27nm,1.1s						
CCM	**Cathedral Cave**	**5.64**	**66**	IAmb_Lg		12 31 19.1	
	comp=Z,13nm,0.7s						
OZNA	**Ozona**	**5.76**	**210**	IAmb_Lg		12 31 12.2	
	comp=Z,16nm,0.9s						
P40A	**Paris**	**5.77**	**50**	IAmb_Lg		12 31 12.9	
	comp=Z,18nm,0.7s						
OGNE	**Ogallala**	**5.97**	**327**	IAmb_Lg		12 31 18.5	
	comp=Z,25nm,0.7s						
PBMO	**Poplar Bluff**	**6.00**	**80**	IAmb_Lg		12 31 19.3	
	comp=Z,23nm,0.7s						
MNHN	**Monahans**	**6.20**	**223**	IAmb_Lg		12 31 27.1	
	comp=Z,18nm,1.0s						
FVM	**French Village**	**6.23**	**69**	IAmb_Lg		12 31 21.0	
	comp=Z,20nm,0.8s						
Q24A	**Divide**	**6.56**	**299**	IAmb_Lg		12 31 37.1	
	comp=Z,19nm,0.9s						
CGM3	**Cape Girardeau**	**6.68**	**76**	IAmb_Lg		12 31 39.5	
	comp=Z,20nm,1.0s						
PECS	**Pecos**	**6.83**	**230**	IAmb_Lg		12 31 41.9	
	comp=Z,14nm,1.0s						
DRIO	**Del Rio**	**6.95**	**201**	IAmb_Lg		12 31 46.8	
	comp=Z,12nm,0.9s						
OXF	**Oxford**	**7.02**	**100**	IAmb_Lg		12 31 56.1	
	comp=Z,18nm,0.8s						
S44A	**Carbondale**	**7.06**	**73**	IAmb_Lg		12 31 44.2	
	comp=Z,18nm,1.0s						
Y45A	**Yeager Farm, C**	**7.10**	**105**	IAmb_Lg		12 32 01.5	
	comp=Z,12nm,0.7s						
ALPN	**Alpine**	**7.43**	**223**	IAmb_Lg		12 32 17.1	
	comp=Z,10nm,0.9s						
P43A	**Skaggs, Pawnee**	**7.50**	**58**	IAmb_Lg		12 32 10.2	
	comp=Z,16nm,0.7s						
VHRN	**Van Horn**	**7.93**	**231**	IAmb_Lg		12 32 37.9	
	comp=Z,8.8nm,1.1s						
PHWY	**Pilot Hill**	**8.01**	**314**	IAmb_Lg		12 32 26.8	
	comp=Z,8.8nm,0.8s						
I37A	**Lemond, Waseca**	**8.71**	**21**	IAmb_Lg		12 32 54.5	
	comp=Z,14nm,1.0s						
L42A	**Oliver, Polo**	**8.73**	**44**	IAmb_Lg		12 32 46.0	
	comp=Z,14nm,0.8s						
RSSD	**Black Hills**	**9.44**	**331**	IAmb_Lg		12 33 13.0	
	comp=Z,6.6nm,0.9s						
F33A	**5 Mile Ranch,**	**9.92**	**6**	IAmb_Lg		12 33 21.8	
	comp=Z,9.2nm,1.1s						

KRSC 02 12:34:50.1±1.5, 55°.25N×165°.75E, h22km±10km, Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.14**	**108**	*eP*	Pb	12 34 54.4	-0.7
BKI				*eS*	Sb	12 34 59.7	+1.2
ZLN	**Zelenaya**	**2.91**	**287**	*eP*	Pn	12 35 37.3	+2.2
BZGR	**Bezymyannyi-Gr**	**2.95**	**286**	*eP*	Pb	12 35 39.9	-2.2
BZP	**Bezymyannyi-Pe**	**3.03**	**285**	*eP*	Pn	12 35 39.0	+2.1
TUMD	**Tumrok D**	**3.06**	**271**	*eP*	Pb	12 35 41.4	-2.5
BZWR	**Bezymyannyi-We**	**3.07**	**286**	*eP*	Pn	12 35 40.3	+3.0
KRSR	**Krestovskiy**	**3.09**	**290**	*eP*	Pn	12 35 40.9	+3.3
KIRR	**Kirishev**	**3.15**	**285**	*eP*	Pn	12 35 41.4	+2.9
TUMR	**Tumrok**	**3.21**	**273**	*eP*	Pn	12 35 42.4	+3.2
SRDR	**Sredinnyy**	**3.57**	**290**	*eP*	Pn	12 35 47.1	+2.9
NLC	**Nalytchevo**	**4.30**	**244**	*eS*	Sn	12 36 48.9	+5.5
SMAR	**Somma**	**4.53**	**247**	*eP*	Pn	12 36 01.6	+4.1
KRER	**Koryakskii**	**4.54**	**248**	*eP*	Pn	12 36 02.0	+4.3
AVH	**Avacha**	**4.56**	**247**	*eP*	Pn	12 36 02.5	+4.6
KRX	**Arik**	**4.57**	**248**	*eP*	Pn	12 36 02.1	+4.2
KOK	**Koryaka**	**4.61**	**248**	*eP*	Pn	12 36 02.8	+4.3
DALK	**Dalny**	**4.67**	**245**	*eP*	Pn	12 36 03.2	+3.9
DALK				*eS*	Sn	12 36 57.4	+4.7
GNL	**Ganaly**	**4.81**	**254**	*eP*	Pn	12 36 05.7	+4.4
MTVR	**Mutnovka**	**5.26**	**241**	*eP*	Pn	12 36 12.2	+4.7
ASAK	**Asacha**	**5.46**	**242**	*eP*	Pn	12 36 15.5	+5.3

*NEIC **02** 12:40:33.9±1.5, 9°.99S±0°.09×161°.4E±0°.1, h95km±5km, mb4.5/35, Error ellipse: s-maj=16.9km s-min=11.4km az=61.0*
*IDC **02** 12:40:34.3±5.2, 10°.06S×161°.34E, h104km±47km, mb3.9/13, mbtmp4.2/14, MS3.1/1, Error ellipse: s-maj=24.8km s-min=15.5km az=85.0*

ISC 02 12:40:32.1±0.5, 10°.04S±0°.07×161°.40E±0°.09, h85km, n60, σ1§20/62, mb4.3/30, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.56**	**293**		**Pn**	**12 40 59.7**	**+1.3**
KOUNC	**Koumac, New Ca**	**10.82**	**165**	Pn	**Pn**	**12 43 05.5**	**+1.4**
DZM	**Mont Dzumac**	**12.91**	**159**	Pn	**Pn**	**12 43 34.9**	**+2.5**
DZM	**Mont Dzumac**	**12.91**	**159**	P	**Pn**	**12 43 34.6**	**+2.2**
	2.6nm,0.3s,baz=330,slow=19,SNR=26						
DZM				S	**Sn**	**12 45 50.6**	**-3.7**
	4.5nm,0.7s,baz=59,slow=22,SNR=1.8						
DZM				LR	LR	12 47 32.6	
	comp=Z,86nm,20.1s,baz=342,slow=32						
ONTNC	**Ouen Toro**	**13.13**	**159**	Pn	**Pn**	**12 43 38.6**	**+3.3**
OUENC	**Ouen Island, N**	**13.37**	**158**	Pn	**Pn**	**12 43 41.3**	**+2.9**
CTAO	**Charters Tower**	**17.70**	**234**	P	**Pn**	**12 44 35.3**	**+2.1**
CTAO				IAmb	IAmb	12 44 37.8	
	comp=Z,35nm,1.5s						
EIDS	**Eidsvold**	**18.13**	**211**	P	**P**	**12 44 37.1**	**-0.4**
COEN	**Coen**	**18.25**	**256**	P	**Pn**	**12 44 42.1**	**+2.2**
COEN				IAmb	IAmb	12 44 46.2	
	comp=Z,60nm,1.2s						
WR0	**Warramunga Arr**	**27.72**	**246**	P	**P**	**12 46 13.6**	**+0.8**
WR0				IAmb	IAmb	12 46 31.8	
	comp=Z,12nm,1.2s						
WB0	**Warramunga Arr**	**27.80**	**247**	P	**P**	**12 46 13.5**	**0.0**
WB0				IAmb	IAmb	12 46 14.6	
	comp=Z,13nm,0.9s						
WB2	**Warramunga Arr**	**27.89**	**246**	P	**P**	**12 46 14.2**	**0.0**
WB2				IAmb	IAmb	12 46 15.3	
	comp=Z,19nm,1.1s						
WRA	**Warramunga Arr**	**27.90**	**246**	P	**P**	**12 46 14.1**	**-0.2**
WRA	**Warramunga Arr**	**27.90**	**246**	P	**P**	**12 46 14.4**	**0.0**
	comp=Z,6.3nm,0.8s,baz=76,slow=8.9,SNR=42						
WRA				PcP	**PcP**	**12 49 27.1**	**-1.2**
	comp=Z,0.5nm,1.0s,baz=80,slow=3.0,SNR=1.7						
	comp=Z,6.3nm,0.8s						
AS31	**Alice Springs**	**29.53**	**239**	P	**P**	**12 46 28.3**	**-0.6**
ASAR	**Alice Springs**	**29.53**	**239**	P	**P**	**12 46 28.5**	**-0.4**
ASAR	**Alice Springs**	**29.53**	**239**	P	**P**	**12 46 28.1**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=63,slow=10,SNR=26						
	comp=Z,1.6nm,0.6s						
MTN	**Manton Dam**	**29.79**	**262**	P	**P**	**12 46 31.2**	**0.0**
BBOO	**Buckleboo**	**32.55**	**222**	P	**P**	**12 46 55.0**	**-0.2**
BBOO				IAmb	IAmb	12 46 57.8	
	comp=Z,27nm,1.2s						
FITZ	**Fitzroy Crossi**	**35.55**	**253**	P	**P**	**12 47 21.1**	**-0.3**
PSA00	**Pilbara Seismi**	**41.47**	**249**	P	**P**	**12 48 10.3**	**-0.8**
PSA00				IAmb	IAmb	12 48 11.5	
	comp=Z,3.0nm,0.7s						
MBWA	**Marble Bar**	**41.51**	**249**	P	**P**	**12 48 11.0**	**-0.3**
MBWA				IAmb	IAmb	12 48 45.2	
	comp=Z,25nm,1.4s						
MORW	**Morawa**	**46.41**	**239**	P	**P**	**12 48 51.2**	**+0.7**
JAGI	**Jajag, Banyuwa**	**46.63**	**268**	P	**P**	**12 48 50.3**	**-2.1**
UGM	**Wanagama**	**50.26**	**268**	P	**P**	**12 49 19.2**	**-1.1**
JGF	**Kuroka**	**50.76**	**335**	P	**P**	**12 49 23.1**	**-0.6**
JGF				IAmb	IAmb	12 49 54.2	
	comp=Z,3.4nm,0.9s						
MJAR	**Matsushiro Arr**	**51.21**	**336**	P	**P**	**12 49 25.6**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=175,slow=8.3,SNR=5.9						
	comp=Z,1.8nm,0.7s						
JNU	**Nakatsue**	**51.84**	**327**	P	**P**	**12 49 31.4**	**-0.4**
JKA	**Kamikawa-asahi**	**56.53**	**344**	P	**P**	**12 50 06.2**	**+0.5**
JKA				IAmb	IAmb	12 50 08.1	
	comp=Z,15nm,1.2s						
KSRS	**Korea Array**	**56.71**	**328**	P	**P**	**12 50 07.3**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=147,slow=7.4,SNR=6.4						
	comp=Z,2.5nm,0.9s						
USRK	**Ussuriysk Ar.**	**60.21**	**336**	P	**P**	**12 50 31.9**	**+0.7**
	comp=Z,8.3nm,0.9s,baz=141,slow=5.3,SNR=16						
	comp=Z,8.3nm,0.9s						
USA0B	**Ussuriysk Arra**	**60.21**	**336**	P	**P**	**12 50 31.5**	**+0.3**
USA0B				IAmb	IAmb	12 50 32.9	
	comp=Z,9.4nm,0.9s						
PETK	**Petropavlovsk-**	**62.97**	**357**	P	**P**	**12 50 48.9**	**-0.8**
PETK	**Petropavlovsk-**	**62.97**	**357**	P	**P**	**12 50 49.1**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=167,slow=7.0,SNR=2.8						
	comp=Z,1.1nm,0.7s						
ADK	**Adak**	**64.50**	**15**	P	**P**	**12 50 59.5**	**-0.2**
HEH	**HeiHe**	**66.95**	**337**	*eP*	**P**	**12 51 15.4**	**-0.1**
HEH				pmax	pmax		
	comp=Z,11nm,0.8s						
VNDA	**Vanda**	**67.47**	**180**	P	**P**	**12 51 18.6**	**+0.2**
VNDA	**Vanda**	**67.47**	**180**	P	**P**	**12 51 18.6**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=351,slow=6.1,SNR=7.2						
	comp=Z,0.8nm,0.7s						
ULN	**Ulaanbaatar**	**75.02**	**325**	P	**P**	**12 52 05.6**	**+1.0**
ULN				IAmb	IAmb	12 52 06.4	
	comp=Z,13nm,0.8s						
SONM	**Songino Array**	**75.37**	**325**	P	**P**	**12 52 07.2**	**+0.6**
SONM	**Songino Array**	**75.37**	**325**	P	**P**	**12 52 07.6**	**+1.0**
	comp=Z,15nm,0.6s,baz=140,slow=5.8,SNR=60						
	comp=Z,15nm,0.6s						
M16K	**Timber Creek**	**77.40**	**19**	P	**P**	**12 52 17.8**	**+0.2**
M16K				IAmb	IAmb	12 52 31.3	
	comp=Z,6.3nm,1.4s						
L18K	**Granite Mounta**	**79.02**	**19**	P	**P**	**12 52 27.6**	**+1.1**
M19K	**Big River Lodg**	**79.53**	**20**	P	**P**	**12 52 30.4**	**+1.0**
M19K				IAmb	IAmb	12 52 31.5	
	comp=Z,4.9nm,0.8s						
L19K	**White Mountain**	**79.58**	**19**	P	**P**	**12 52 30.4**	**+0.8**
QSPA	**South Pole Qui**	**79.96**	**180**	P	**P**	**12 52 31.4**	**-0.4**
QSPA				IAmb	IAmb	12 53 12.4	
	comp=Z,14nm,1.5s						
QSPA	**South Pole Qui**	**79.96**	**180**	P	**P**	**12 52 31.5**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=359,slow=0.9,SNR=18						
	comp=Z,1.1nm,0.6s						
CAST	**Castle Rocks**	**81.36**	**19**	P	**P**	**12 52 38.4**	**-0.7**
CAST				IAmb	IAmb	12 52 39.7	
	comp=Z,2.7nm,0.6s						
IMAR	**Indian Mountai**	**82.66**	**17**	P	**P**	**12 52 45.9**	**0.0**
CCB	**Clear Creek Bu**	**83.58**	**20**	P	**P**	**12 52 49.8**	**-0.8**
H23K	**Yukon River**	**83.80**	**18**	P	**P**	**12 52 52.4**	**+0.6**
H23K				IAmb	IAmb	12 53 33.8	
	comp=Z,7.7nm,1.3s						
ILAR	**Eielson Array**	**83.97**	**20**	P	**P**	**12 52 52.1**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=254,slow=4.3,SNR=7.7						
	comp=Z,0.7nm,0.5s						
M27K	**Edge Creek, AK**	**84.32**	**23**	P	**P**	**12 52 55.7**	**+1.1**
M27K				IAmb	IAmb	12 53 21.8	
	comp=Z,5.4nm,1.4s						
M30M	**Minto, Yukon**	**86.44**	**24**	P	**P**	**12 53 05.7**	**+0.6**
M30M				IAmb	IAmb	12 53 32.5	
	comp=Z,4.8nm,1.5s						
NVAR	**Mina Array Bea**	**88.67**	**51**	P	**P**	**12 53 17.4**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=227,slow=7.1,SNR=5.1						
	comp=Z,0.5nm,0.8s						
MK31	**Makanchi Array**	**89.89**	**318**	P	**P**	**12 53 20.7**	**-1.0**
MKAR	**Makanchi Array**	**89.89**	**318**	P	**P**	**12 53 21.5**	**-0.3**
MKAR	**Makanchi Array**	**89.89**	**318**	P	**P**	**12 53 21.1**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=86,slow=6.5,SNR=11						
	comp=Z,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**93.19**	**321**	P	**P**	**12 53 35.5**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=108,slow=4.2,SNR=6.5						
	comp=Z,0.8nm,0.7s						
ESDC	**Sonseca Array**	**147.73**	**339**	PKPbc	**PKPbc**	**13 00 06.9**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=22,slow=2.2,SNR=5.9						

*BJI **02** 12:47:37.6±0.0, 9°.98N×126°.17E, h101km, mb5.1/66, mB5.1/22*
*MOS **02** 12:47:37.7±1.0, 10°.27N×125°.97E, h77km, mb5.2/62, Error ellipse: s-maj=9.6km s-min=4.5km az=118.5*
*IDC **02** 12:47:37.9±1.8, 10°.30N×126°.00E, h59km±16km, mb4.6/24, mbtmp4.9/25, MS3.8/52, Error ellipse: s-maj=19.2km s-min=9.0km az=80.0*
*DJA **02** 12:47:38.5±0.5, 10°N±3°×12°6E±°, h72km±5km, M5.0/43, mB5.4/13, mb5.0/43, MLv5.3/2, Mw(mB)4.9/13*
*NEIC **02** 12:47:38.5±1.5, 10°.32N±0°.08×126°.1E±0°.1, h59km±6km, mb4.9/162, Error ellipse: s-maj=15.3km s-min=11.6km az=84.0*

ISC 02 12:47:38.1±0.4, 10°.31N±0°.04×126°.07E±0°.05, h61km±2km, h61km:pP-P, n730, σ1§24/734, mb4.9/185, 30C-7D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.25**	**189**	Pn	**Pn**	**12 48 26.9**	**+0.2**
DAV	**Davao City (W)**	**3.25**	**189**	P	**Pn**	**12 48 24.3**	**-2.3**
	304nm,0.4s,baz=353,slow=4.2,SNR=4.0						
DAV				S	**Sn**	**12 49 05.6**	**+1.4**
	793nm,0.5s,baz=269,slow=19,SNR=4.1						
DAV				LR	LR	12 50 10.3	
	comp=Z,3μm,19.4s,baz=5.0,slow=47						
DAV	**Davao City (W)**	**3.25**	**189**	↓*P*	**Pn**	**12 48 30.0**	**+3.3**
MYLDM	**Lahad Datu**	**9.07**	**236**	Pn	**Pn**	**12 49 50.2**	**+3.9**
TNTI	**Ternate**	**9.56**	**172**		**Pn**	**12 49 52.8**	**-0.3**
TNTI	**Ternate**	**9.56**	**172**	P	**Pn**	**12 49 55.7**	**+2.6**
	36nm,0.7s,881nm						
KMSI	**Cibinong**	**9.89**	**192**	P	**Pn**	**12 50 00.4**	**+2.8**
	112nm,0.8s						
GTOI	**Gorontalo**	**10.08**	**198**	P	**Pn**	**12 49 58.9**	**-1.2**
LUWI	**Luwuk**	**11.74**	**196**	Pn	**Pn**	**12 50 23.5**	**+0.6**
LUWI	**Luwuk**	**11.74**	**196**	P	**Pn**	**12 50 26.7**	**+3.8**
	71nm,0.9s,1μm						
SANI	**Sanana**	**12.28**	**180**	P	**Pn**	**12 50 31.2**	**+1.0**
	44nm,0.8s,583nm						
TWGBT	**Beinan**	**13.33**	**340**	P	**P**	**12 50 51.3**	**-0.8**
YULB	**Yu-li**	**13.79**	**341**	P	**P**	**12 50 56.7**	**-0.5**
TPUB	**Ta-pu**	**13.93**	**339**	P	**P**	**12 50 58.9**	**+0.1**
SSLB	**Suanglung**	**14.27**	**341**	P	**P**	**12 51 04.5**	**+1.9**
SSLB	**Suanglung**	**14.27**	**341**		**P**	**12 51 01.7**	**-0.9**
NACB	**Ninganchiao**	**14.44**	**343**	P	**P**	**12 51 06.5**	**+2.1**
FAKI	**Fak Fak**	**14.51**	**155**	P	**P**	**12 51 04.0**	**-1.3**
FAKI	**Fak

comp=Z,60nm,1.3s
IPM Ipoh 25.49 259 P P 12 53 05.2 +4.3
IPM Ipoh 25.49 259 P P 12 53 02.2 +1.2
IPM IAmb IAmb 12 53 06.9
comp=Z,27nm,0.8s
JHJ Hachijo jima 2 25.98 27 LR LR 13 04 36.6
comp=Z,166nm,18.6s,baz=224,slow=39
PHRA Phrae 26.29 291 P P 12 53 08.7 +0.6
CRAI Chiangrai 26.64 295 P P 12 53 12.0 +0.7
CRAI IAmb IAmb 12 53 13.7
comp=Z,26nm,1.1s
LWLI Liwa 26.69 236 P P 12 53 12.7 +0.8
comp=Z,110nm,0.7s
TIA Tai'an 27.04 344 P P 12 53 14.8 +0.2
TIA pmax pmax
comp=Z,21nm,0.9s
KSRS Korea Array 27.08 3 P P 12 53 15.8 +0.9
comp=Z,3.7nm,0.8s,baz=181,slow=12,SNR=13
KSRS PcP **PcP 12 56 35.9 +1.1**
comp=Z,2.9nm,0.9s,baz=201,slow=2.8,SNR=7.6
KSRS LR LR 13 03 33.8
comp=Z,153nm,21.6s,baz=190,slow=35
comp=Z,3.7nm,0.8s
LYN LuoYang 27.15 335 *e*P **P 12 53 16.2 +0.6**
LYN pmax pmax
comp=Z,41nm,0.8s
JGF Kuroka 27.19 20 P P 12 53 18.3 +2.2
CM31 Chiang Mai Arr 27.47 290 P P 12 53 20.1 +1.4
CM31 IAmb IAmb 12 53 21.2
comp=Z,36nm,0.7s
CMAR Chiang Mai Arr 27.47 290 P P 12 53 20.1 +1.4
CMAR Chiang Mai Arr 27.47 290 P P 12 53 20.1 +1.4
CHTO Chiang Mai 27.55 291 P P 12 53 20.2 +0.7
CHTO IAmb IAmb 12 53 21.3
comp=Z,20nm,0.8s
CHTO Chiang Mai 27.55 291 P P 12 53 20.2 +0.7
CHTO pmax pmax
comp=Z,20nm,0.9s
PDSI Padang 27.81 248 P P 12 53 23.3 +1.5
comp=Z,23nm,0.6s
PSI Prapat 27.96 256 P P 12 53 23.8 +0.5
PSI pmax pmax
comp=Z,14nm,1.1s
RPSI Rantau Prapat 27.99 256 P P 12 53 23.8 +0.4
PZH PanZhiHua 28.07 308 P P 12 53 26.7 +2.6
PZH S **S 12 58 02.4 -2.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
PZH LR LR
comp=Z,230nm,21.9s
PZH LR LR
comp=Z,230nm,19.0s
PZH LR LR
comp=Z,250nm,17.0s
FITZ Fitzroy Crossi 28.23 181 P P 12 53 24.4 -0.9
MJAR Matsushiro Arr 28.34 21 P P 12 53 25.4 -0.9
comp=Z,1.5nm,0.8s,baz=190,slow=9.5,SNR=2.5
MJAR PcP **PcP 12 56 38.9 +1.0**
comp=Z,2.8nm,0.8s,baz=179,slow=2.6,SNR=7.1
MJAR LR LR 13 02 52.6
comp=Z,206nm,21.7s,baz=196,slow=32
comp=Z,1.5nm,0.8s
XAN Xi'an 28.37 329 ⇑P **P 12 53 26.0 -0.6**
XAN PcP **PcP 12 56 38.7 +0.7**
XAN pmax pmax
comp=Z,73nm,0.8s
XAN LR LR
comp=Z,360nm,11.7s
XAN LR LR
comp=Z,310nm,11.7s
XAN LR LR
comp=Z,490nm,15.5s
PMG Port Moresby 28.70 132 LR LR 13 05 27.3
comp=Z,85nm,21.6s,baz=258,slow=37
DL2 Dalian 28.75 353 P P 12 53 30.9 +1.0
DL2 pmax pmax
comp=Z,22nm,0.7s
HNS HongShan 28.86 341 ⇑P **P 12 53 31.4 +0.6**
HNS pmax pmax
comp=Z,49nm,0.7s
HNS LR LR
comp=Z,280nm,16.7s
HNS LR LR
comp=Z,210nm,15.1s
HNS LR LR
comp=Z,310nm,19.1s
KCSI Kotacane, Aceh 28.87 259 P P 12 53 33.9 +2.6
comp=Z,20nm,0.9s,comp=Z,2μm
CD2 Chengdu 29.15 318 P P 12 53 32.9 -0.7
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 LR LR
comp=Z,460nm,12.1s
CD2 LR LR
comp=Z,310nm,12.1s
CD2 LR LR
comp=Z,570nm,15.9s
SISI Saibi 29.23 248 P P 12 53 35.8 +1.4
comp=Z,41nm,0.6s
LHMI Lhok Sumawe 29.28 262 P P 12 53 34.5 -0.4
LHMI Lhok Sumawe 29.28 262 P P 12 53 37.5 +2.6
COEN Coen 29.48 145 P P 12 53 35.4 -1.2
COEN Coen 29.48 145 P P 12 53 35.8 -0.8
COEN IAmb IAmb 12 54 22.7
comp=Z,94nm,1.9s
GSI Gunungsitoli 29.70 254 P P 12 53 41.9 +3.3
BJT Baijiatuau 30.87 345 P P 12 53 48.8 +0.2
BJT IAmb IAmb 12 53 52.0
comp=Z,14nm,0.9s
BJT Baijiatuau 30.87 345 P P 12 53 48.8 +0.2
BJT pmax pmax
comp=Z,14nm,0.9s
BJT Baijiatuau 30.87 345 P P 12 53 49.5 +0.9
BJT PcP **PcP 12 56 45.5 +1.2**
BJI Beijing 30.89 345 P P 12 53 49.5 +0.7
BJI PcP **PcP 12 56 45.8 +1.5**
BJI pmax pmax
comp=Z,9.0nm,0.7s
BJI pmax pmax
comp=Z,62nm,4.1s
WRAB Tennant Creek 31.14 165 *i* P **P 12 53 49.1 -2.0**
WRAB pmax pmax
comp=Z,6.0nm,1.0s
WRA Warramunga Arr 31.14 165 P P 12 53 48.5 -2.7
comp=Z,2.5nm,0.6s,baz=344,slow=9.3,SNR=18
WRA PcP **PcP 12 56 45.1 -0.2**
comp=Z,3.4nm,0.5s,baz=337,slow=2.7,SNR=9.7
WRA ScP **ScP 13 00 22.9 -0.2**
comp=Z,0.5nm,0.6s,baz=332,slow=3.4,SNR=1.4
WRA LR LR 13 09 15.2
comp=Z,115nm,18.0s,baz=345,slow=42
MBWA Marble Bar 31.88 191 P P 12 53 57.7 0.0
MBWA Marble Bar 31.88 191 P P 12 53 57.3 -0.4
MBWA IAmb IAmb 12 53 58.1
comp=Z,24nm,0.7s
MBWA Marble Bar 31.88 191 P P 12 53 57.2 -0.5
PSA00 Pilbara Seismi 32.27 191 P P 12 54 00.6 -0.4
PSA00 Pilbara Seismi 32.27 191 P P 12 54 00.4 -0.6
PSA00 IAmb IAmb 12 54 01.5
comp=Z,18nm,0.8s
LZH Lanzhou 32.64 325 ⇓P **P 12 54 05.4 +1.0**
LZH pP sP 12 54 22.9 -3.8
LZH pmax pmax
comp=Z,64nm,1.3s
LZH LR LR
comp=Z,420nm,12.7s
LZH LR LR
comp=Z,320nm,13.7s
LZH LR LR
comp=Z,370nm,14.4s
HHC Hu-ho-hao-te 33.01 340 *e*P **P 12 54 08.5 +0.9**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,100nm,3.8s
HHC LR LR
comp=Z,230nm,17.8s
HHC LR LR
comp=Z,150nm,15.7s
HHC LR LR
comp=Z,260nm,16.1s
BTO Baotou 33.35 337 *e*P **P 12 54 14.4 +3.9**
BTO pP **sP 12 54 32.4 -0.2**
BTO pmax pmax
comp=Z,24nm,0.8s
BTO pmax pmax
comp=Z,240nm,4.7s
BTO LR LR
comp=Z,450nm,16.9s
BTO LR LR
comp=Z,360nm,16.7s
BTO LR LR
comp=Z,470nm,21.5s
CN2 Changchun 33.38 359 P P 12 54 13.6 +3.1
CN2 pmax pmax
comp=Z,10.0nm,0.5s
USA0B Ussuriysk Arra 34.16 8 P P 12 54 18.6 +1.3
USA0B Ussuriysk Arra 34.16 8 P P 12 54 18.6 +1.3
USA0B pmax pmax
comp=Z,7.0nm,0.8s
USRK Ussuriysk Ar. 34.16 8 P P 12 54 18.0 +0.8
comp=Z,4.5nm,0.6s,baz=189,slow=8.0,SNR=13
USRK PcP **PcP 12 56 53.5 +0.3**
comp=Z,1.4nm,0.5s,baz=238,slow=3.4,SNR=3.4
USRK LR LR 13 07 13.1
comp=Z,111nm,20.8s,baz=175,slow=34
comp=Z,4.5nm,0.6s
MDJ Mudanjiang 34.32 4 P P 12 54 20.1 +1.4
MDJ pmax pmax
comp=Z,11nm,1.1s
MDJ pmax pmax
comp=Z,80nm,4.6s
MDJ Mudanjiang 34.32 4 P P 12 54 18.7 0.0
MDJ IAmb IAmb 12 54 29.5
comp=Z,20nm,1.3s
XLT XiLinHaoTe 34.57 347 *e*P **P 12 54 21.4 +0.4**
XLT pP sP 12 54 40.8 -2.5
XLT PP **PP 12 55 43.0 +2.6**
XLT pmax pmax
comp=Z,28nm,0.7s
XLT pmax pmax
comp=Z,110nm,4.6s
AS31 Alice Springs 34.62 167 P P 12 54 19.8 -1.8
ASAR Alice Springs 34.62 167 P P 12 54 19.8 -1.8
ASAR Alice Springs 34.62 167 P P 12 54 20.0 -1.6
comp=Z,2.1nm,0.4s,baz=350,slow=6.7,SNR=88
ASAR PcP **PcP 12 56 54.8 -0.2**
comp=Z,4.2nm,0.6s,baz=339,slow=2.7,SNR=12
ASAR ScP **ScP 13 00 35.7 +0.5**
comp=Z,0.8nm,0.8s,baz=20,slow=3.0,SNR=3.6
ASAR LR LR 13 11 40.3
comp=Z,98nm,19.2s,baz=346,slow=42
comp=Z,2.1nm,0.4s
WRKA Warakurna 35.20 176 P P 12 54 25.9 -0.6
SHL Shillong 35.75 300 P P 12 54 30.4 -1.1
SHL Shillong 35.75 300 P P 12 54 30.5 -1.1
SHL pmax pmax
comp=Z,30nm,0.6s
CTAO Charters Tower 36.15 147 P P 12 54 34.2 -0.6
CTAO IAmb IAmb 12 54 43.4
comp=Z,23nm,1.2s
CTAO Charters Tower 36.15 147 P P 12 54 34.2 -0.6
CTAO pmax pmax
comp=Z,23nm,1.3s
ASAJ Asahikawa 36.60 20 LR LR 13 11 14.9
comp=Z,149nm,18.4s,baz=203,slow=39
ASAJ Asahikawa 36.60 20 P P 12 54 39.4 +1.1
ASAJ pmax pmax
comp=Z,13nm,1.2s
JKA Kamikawa-asahi 36.60 20 P P 12 54 39.4 +1.1
JKA IAmb IAmb 12 55 10.8
comp=Z,13nm,1.2s
GTA Gaotai 37.24 326 ⇑P **P 12 54 44.6 +0.6**
GTA PcP **PcP 12 57 03.6 +0.9**
GTA pmax pmax
comp=Z,64nm,1.0s
GTA LR LR
comp=Z,180nm,17.8s
GTA LR LR
comp=Z,210nm,16.7s
GTA LR LR
comp=Z,310nm,17.5s
MEEK Meekatharra 37.43 191 P P 12 54 45.5 -0.1
GOMU GeErMu 38.28 317 P P 12 54 54.0 +0.9
GOMU pmax pmax
comp=Z,33nm,1.0s
GOMU LR LR
comp=Z,320nm,18.0s
GOMU LR LR
comp=Z,340nm,18.6s
GOMU LR LR
comp=Z,700nm,19.4s
HNR Honiara 39.00 119 LR LR 13 09 02.8
comp=Z,2μm,22.0s,baz=348,slow=33
OOD Oodnadatta 39.00 166 P P 12 54 57.8 -0.9
KLR Kul'dur 39.09 6 LR LR 13 11 20.0
comp=Z,78nm,19.6s,baz=196,slow=36
KLR Kul'dur 39.09 6 *e*P **P 12 54 58.5 -0.7**
KLR pmax pmax
comp=Z,4.0nm,0.9s
YSS Yuzh-Sakhalins 39.17 18 *e*P **P 12 55 00.1 +0.2**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=Z,100nm,15.0s
MORW Morawa 40.32 194 P P 12 55 09.3 -0.4
MORW Morawa 40.32 194 P P 12 55 09.6 -0.1
H11N1 WAKE ISLAND Hy 40.43 72 T T 13 38 25.7
baz=265,slow=74,SNR=172
H11N2 WAKE ISLAND Hy 40.44 72 T T 13 38 32.3
baz=265,slow=74,SNR=114
H11N3 WAKE ISLAND Hy 40.45 72 T T 13 38 37.3
baz=265,slow=74,SNR=170
ULN Ulaanbaatar 40.72 340 P P 12 55 14.3 +1.3
ULN Ulaanbaatar 40.72 340 *c*e**P P 12 55 13.7 +0.7**
ULN pmax pmax
comp=Z,55nm,0.6s
ULN Ulaanbaatar 40.72 340 P P 12 55 14.1 +1.1
ULN PcP **PcP 12 57 14.1 +0.6**
FORT Forrest 40.89 177 P P 12 55 13.9 -0.4
SONM Songino Array 40.92 340 P P 12 55 13.8 -0.8
SONM IAmb IAmb 12 55 16.4
comp=Z,27nm,0.8s
SONM Songino Array 40.92 340 P P 12 55 15.3 +0.7
comp=Z,19nm,0.6s,baz=159,slow=9.3,SNR=82
SONM PcP **PcP 12 57 14.5 +0.4**
comp=Z,11nm,0.7s,baz=158,slow=3.5,SNR=12
SONM LR LR 13 14 43.3
comp=Z,175nm,19.1s,baz=180,slow=40
comp=Z,19nm,0.6s
MULG Mulgathing 41.08 169 P P 12 55 15.8 -0.1
EIDS Eidsvold 43.03 146 P P 12 55 31.3 -0.6
EIDS IAmb IAmb 12 55 39.9
comp=Z,27nm,1.4s
ZEA Zeya 43.33 1 *e*P **P 12 55 34.9 +1.0**
ZEA MLR MLR
comp=Z,100nm,16.0s
NWAO Narrogin (SRO) 43.81 191 P P 12 55 38.6 +0.6
NWAO Narrogin (SRO) 43.81 191 P P 12 55 38.1 +0.1
NWAO Narrogin (SRO) 43.81 191 LR LR 13 15 37.2
comp=Z,54nm,20.4s,baz=271,slow=38
NWAO Narrogin (SRO) 43.81 191 P P 12 55 38.1 +0.1
NWAO pmax pmax
comp=Z,127nm,0.8s
NWAO Narrogin (SRO) 43.81 191 P P 12 55 38.4 +0.3
NWAO pP **pP 12 55 52.6 -1.1**
BBOO Buckleboo 43.92 168 P P 12 55 38.7 -0.2
BBOO Buckleboo 43.92 168 P P 12 55 38.5 -0.5
ZAK Zakamensk 44.16 339 *e*P **P 12 55 41.1 +0.3**
ZAK pmax pmax
comp=Z,15nm,1.0s
STKA Stephens Creek 44.50 161 P P 12 55 43.1 -0.5
STKA Stephens Creek 44.50 161 P P 12 55 43.0 -0.6
comp=Z,2.9nm,0.4s,baz=337,slow=8.2,SNR=13
STKA LR LR 13 16 16.4
comp=Z,60nm,20.8s,baz=7.2,slow=39
comp=Z,2.9nm,0.4s
STKA Stephens Creek 44.50 161 P P 12 55 43.1 -0.5
STKA pmax pmax
comp=Z,10.0nm,1.8s
PALK Pallekele 44.91 270 LR LR 13 14 00.8
comp=Z,199nm,21.9s,baz=183,slow=35
PALK Pallekele 44.91 270 P P 12 55 48.2 +1.0
PALK pP **pP 12 56 02.7 -0.2**
HTT Hallett 45.18 165 P P 12 55 49.3 +0.3
IRK Irkutsk 45.41 341 *e*P **P 12 55 47.6 -3.0**
IRK pmax pmax
comp=Z,54nm,0.8s
MOY Mondy 46.04 338 *e*P **P 12 55 56.8 +1.1**
MOY pmax pmax
comp=Z,43nm,1.4s
WMQ Urumqi 47.07 322 *e*P **P 12 56 05.2 +1.3**
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ LR LR
comp=Z,370nm,15.1s
WMQ LR LR
comp=Z,190nm,17.9s
WMQ LR LR
comp=Z,190nm,18.5s
ARMA Armidale 47.36 150 P P 12 56 06.4 +0.1
ARPS Mount Arapiles 49.12 163 P P 12 56 19.5 -0.1
PEA0B Petropavlovsk- 49.69 24 P P 12 56 24.5 +0.7
PEA0B IAmb IAmb 12 56 43.9
comp=Z,36nm,1.6s
PEA0B Petropavlovsk- 49.69 24 *i* P **P 12 56 24.4 +0.7**
PETK Petropavlovsk- 49.69 24 P P 12 56 24.6 +0.9
comp=Z,5.1nm,0.7s,baz=184,slow=4.3,SNR=15
PETK PcP **PcP 12 57 44.1 -0.1**
comp=Z,2.9nm,0.6s,baz=199,slow=4.0,SNR=2.6
PETK LR LR 13 18 24.6
comp=Z,88nm,19.0s,baz=230,slow=37
comp=Z,5.1nm,0.7s
PET Petropavlovsk 50.02 25 P P 12 56 26.4 +0.2
PET IAmb IAmb 12 56 56.7
comp=Z,30nm,1.3s
CAN Canberra 50.29 156 P P 12 56 29.7 +1.1
CAN Canberra 50.29 156 P P 12 56 28.4 -0.2
CAN Canberra 50.29 156 P P 12 56 28.4 -0.2
CAN pmax pmax
comp=Z,55nm,1.6s
CAN Canberra 50.29 156 P P 12 56 29.3 +0.7
ZSN Zaisan 50.73 325 *e*P **P 12 56 31.4 -0.3**
baz=325
ZSN Zaisan 50.73 325 *e*P **P 12 56 31.4 -0.3**
TOO Toolangi 50.99 160 P P 12 56 35.0 +1.2
TOO Toolangi 50.99 160 P P 12 56 35.0 +1.2
TOO pmax pmax
comp=Z,48nm,1.8s
DZM Mont Dzumac 51.02 129 P P 12 56 34.2 -0.2
comp=Z,8.8nm,0.9s,baz=308,slow=19,SNR=2.4
DZM LR LR 13 15 59.8
comp=Z,76nm,21.9s,baz=338,slow=33
comp=Z,8.8nm,0.9s
YAK Yakutsk 51.70 2 P P 12 56 38.6 -0.1
YAK Yakutsk 51.70 2 LR LR 13 19 08.5
comp=Z,68nm,20.1s,baz=197,slow=37
YAK Yakutsk 51.70 2 *e*P **P 12 56 38.6 -0.1**
YAK *e* 12 57 51.4
YAK *e* 12 58 35.5
YAK *e*PPP PPP 12 59 38.1
YAK *e*S **S 13 03 56.0 +0.5**
YAK *e*'SS **sS 13 04 24.9 +2.6**
YAK *e*SS **SS 13 07 34.9 +2.4**
YAK *e*SSS SSS 13 09 17.4
YAK pmax pmax
comp=Z,31nm,1.2s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,111nm,4.8s
YAK pmax pmax
comp=N,54nm,4.3s
YAK pmax pmax
comp=E,42nm,3.5s
YAK smax smax
comp=N,55nm,3.0s
MK31 Makanchi Array 51.88 323 P P 12 56 40.5 +0.1
MK31 Makanchi Array 51.88 323 *i* P **P 12 56 39.9 -0.5**
MK31 pmax pmax
comp=Z,24nm,0.6s
MKAR Makanchi Array 51.88 323 P P 12 56 40.7 +0.3
MKAR Makanchi Array 51.88 323 P P 12 56 40.5 +0.1
comp=Z,30nm,0.7s,baz=121,slow=8.2,SNR=270
MKAR PcP **PcP 12 57 52.5 0.0**
comp=Z,14nm,0.8s,baz=110,slow=5.3,SNR=6.9
MKAR LR LR 13 21 00.2
comp=Z,108nm,19.7s,baz=118,slow=39
comp=Z,30nm,0.7s
MKAR Makanchi Array 51.88 323 P P 12 56 40.7 +0.3
SHLS Shalkode 51.99 318 *e*P **P 12 56 39.0 -2.4**
comp=Z,11nm,0.7s,baz=318
SHLS Shalkode 51.99 318 *e*P **P 12 56 38.9 -2.4**
SHLS pmax pmax
comp=Z,11nm,0.7s
PDGK Podgornoye 52.04 318 P P 12 56 40.9 -0.9
MAKZ Makanchi 52.07 323 P P 12 56 42.0 +0.2
MAKZ Makanchi 52.07 323 P P 12 56 42.0 +0.2
MAKZ pmax pmax
comp=Z,26nm,0.9s
MAKZ Makanchi 52.07 323 P P 12 56 41.9 0.0
MAKZ PcP **PcP 12 57 53.0 -0.2**
UZB Uzynbulak 52.27 317 *e*P **P 12 56 43.3 -0.2**
comp=Z,7.5nm,0.6s,baz=318
UZB Uzynbulak 52.27 317 *e*P **P 12 56 43.3 -0.2**
UZB pmax pmax
comp=Z,8.0nm,0.6s
PRZ Przheval'sk 52.42 316 P P 12 56 44.9 +0.2
PRZ Przheval'sk 52.42 316 P P 12 56 44.9 +0.2
PRZ pmax pmax
comp=Z,24nm,0.8s
MA2 Magadan 52.55 16 LR LR 13 19 09.1
comp=Z,41nm,19.8s,baz=186,slow=36
KPKS Kokpek 52.63 318 *e*P **P 12 56 45.7 -0.4**
baz=318
KPKS Kokpek 52.63 318 *e*P **P 12 56 45.7 -0.4**
SATY Saty 52.65 317 *e*P **P 12 56 46.0 -0.3**
comp=Z,9.4nm,0.7s,baz=317
SATY Saty 52.65 317 *e*P **P 12 56 46.0 -0.3**
SATY pmax pmax
comp=Z,9.0nm,0.7s
KSH Kashi 53.06 312 P P 12 56 51.0 +1.6
KSH pmax pmax
comp=Z,10.0nm,1.0s
KSH LR LR
comp=Z,500nm,18.6s
KSH LR LR
comp=Z,390nm,17.2s
TDK Taldyqorghan 53.45 319 *e*P **P 12 56 51.9 -0.2**
comp=Z,20nm,0.8s,baz=319
TDK Taldyqorghan 53.45 319 *e*P **P 12 56 51.8 -0.2**
TDK pmax pmax
comp=Z,20nm,0.8s
NIL Nilore 53.55 304 P P 12 56 51.9 -1.1
NIL IAmb IAmb 12 56 55.9
comp=Z,19nm,0.8s
NIL Nilore 53.55 304 P P 12 56 51.9 -1.1
NIL pmax pmax
comp=Z,19nm,0.9s
NIL Nilore 53.55 304 P P 12 56 53.0 0.0
MDOK Medeo 53.61 317 *e*P **P 12 56 52.8 -0.5**
baz=317
MDOK Medeo 53.61 317 *e*P **P 12 56 52.8 -0.5**
KAAM Kaadhehdhoo 53.65 263 P P 12 56 54.0 0.0
ZAA0 Zalesovo Array 54.50 331 P P 12 56 59.1 -0.4
ZAA0 IAmb IAmb 12 56 59.7
comp=Z,15nm,0.8s
ZALV Zalesovo Beam 54.50 331 P P 12 56 59.1 -0.4
ZALV Zalesovo Beam 54.50 331 P P 12 56 58.9 -0.6
comp=Z,14nm,0.4s,baz=124,slow=6.7,SNR=74
ZALV PcP **PcP 12 58 01.5 -0.7**
comp=Z,8.4nm,0.9s,baz=129,slow=4.0,SNR=5.2
comp=Z,14nm,0.4s
TKM2 Tokmak 2 54.50 316 *i* P **P 12 56 59.1 -0.9**
TKM2 pmax pmax
comp=Z,7.0nm,0.7s
SEM Semipalatinsk 54.87 326 *e*P **P 12 57 01.0 -1.5**
comp=Z,5.4nm,0.3s,baz=326
SEM Semipalatinsk 54.87 326 *e*P **P 12 57 01.0 -1.5**
SEM pmax pmax
comp=Z,5.0nm,0.3s
AAK Ala-Archa 55.16 315 P P 12 57 03.9 -0.8
AAK Ala-Archa 55.16 315 P P 12 57 04.5 -0.2
AAK Ala-Archa 55.16 315 LR LR 13 22 19.1
comp=Z,171nm,21.4s,baz=97,slow=38
AAK Ala-Archa 55.16 315 *c*e**P P 12 57 04.1 -0.6**
AAK pmax pmax
comp=Z,6.0nm,0.8s
ARSB Arslanbob 55.80 313 P P 12 57 08.7 -0.6
ARSB Arslanbob 55.80 313 P P 12 57 08.7 -0.6
ARSB pmax pmax
comp=Z,3.0nm,0.6s
SEY Seymchan 55.83 14 *e*P **P 12 57 09.7 +0.8**
SEY pmax pmax

comp=Z,10.0nm,1.7s
KURK Kurchatov 55.93 326 P **P 12 57 10.0 +0.2**
KURK Kurchatov 55.93 326*ce*P **P 12 57 09.6 -0.2**
KURK pmax pmax
comp=Z,69nm,1.0s
KURK Kurchatov 55.93 326 P **P 12 57 09.6 -0.2**
KURBB Kurchatov Arra 55.93 325 P **P 12 57 09.7 -0.1**
comp=Z,31nm,0.5s,baz=125,slow=6.8,SNR=273
KURBB LR LR 13 22 54.5
comp=Z,85nm,20.5s,baz=167,slow=38
comp=Z,31nm,0.5s
DRK Karamyk 56.13 311 P **P 12 57 11.8 -0.1**
DRK IAmb IAmb 12 57 12.7
comp=Z,15nm,0.7s
DRK Karamyk 56.13 311 P **P 12 57 11.8 -0.1**
DRK pmax pmax
comp=Z,15nm,0.7s
BTLS Baital 56.31 318 *e*P **P 12 57 12.2 -0.5**
baz=318
BTLS Baital 56.31 318 *e*P **P 12 57 12.2 -0.5**
BTK Batken 57.01 311 P **P 12 57 17.3 -0.5**
BTK IAmb IAmb 12 57 19.6
comp=Z,11nm,1.1s
BTK Batken 57.01 311 P **P 12 57 17.3 -0.5**
BTK pmax pmax
comp=Z,11nm,1.1s
GAR Garm 57.12 310 P **P 12 57 18.8 +0.1**
KBL Kabul 57.15 304 P **P 12 57 18.4 -0.7**
KBL IAmb IAmb 12 57 20.9
comp=Z,8.6nm,0.7s
KBL Kabul 57.15 304 P **P 12 57 18.4 -0.7**
KBL pmax pmax
comp=Z,9.0nm,0.7s
SHEM Shemya Is, Ala 57.23 33 LR LR 13 18 36.2
comp=Z,56nm,21.2s,baz=336,slow=32
CHGR Chuyangaron 57.91 309 P **P 12 57 24.2 0.0**
CHGR Chuyangaron 57.91 309 P **P 12 57 24.2 0.0**
CHGR pmax pmax
comp=Z,26nm,0.7s
SIMJ Simiganj 58.03 309 P **P 12 57 23.4 -1.6**
SIMJ IAmb IAmb 12 57 26.8
comp=Z,18nm,1.4s
KK31 Karatay Array 58.09 315 P **P 12 57 24.2 -1.0**
KK31 IAmb IAmb 12 57 26.1
comp=Z,16nm,0.8s
KK31 Karatay Array 58.09 315 P **P 12 57 24.2 -1.0**
KK31 pmax pmax
comp=Z,16nm,0.8s
KKAR Karatay Array 58.09 315 P **P 12 57 24.0 -1.2**
KKAR IAmb IAmb 12 57 26.1
comp=Z,16nm,0.8s
KKAR Karatay Array 58.09 315 P **P 12 57 24.0 -1.2**
KKAR pmax pmax
comp=Z,16nm,0.8s
IUG Iuzhnay 58.15 313 *e*P **P 12 57 25.4 -0.5**
comp=Z,14nm,0.7s,baz=314
IUG Iuzhnay 58.15 313 *e*P **P 12 57 25.3 -0.5**
IUG pmax pmax
comp=Z,14nm,0.7s
CHM Chimkent 58.51 314 *e*P **P 12 57 27.5 -0.8**
comp=Z,5.2nm,0.4s,baz=314
CHM Chimkent 58.51 314 *e*P **P 12 57 27.4 -0.8**
CHM pmax pmax
comp=Z,5.0nm,0.4s
BRLS Borolday 58.54 314 *e*P **P 12 57 28.2 -0.3**
comp=Z,7.5nm,0.7s,baz=314
BRLS Borolday 58.54 314 *e*P **P 12 57 28.1 -0.3**
BRLS pmax pmax
comp=Z,8.0nm,0.7s
TIXI Tiksi 61.32 1 P **P 12 57 47.5 +0.6**
TIXI IAmb IAmb 12 57 49.0
comp=Z,17nm,0.8s
TIXI Tiksi 61.32 1 LR LR 13 24 05.3
comp=Z,116nm,21.9s,baz=189,slow=36
TIXI Tiksi 61.32 1*ce*P **P 12 57 48.3 +1.4**
TIXI pmax pmax
comp=Z,18nm,0.8s
TIXI Tiksi 61.32 1 P **P 12 57 47.7 +0.8**
BVA0 Borovoye Array 61.52 325 *i* P **P 12 57 47.8 -0.8**
BVAR Borovoye Array 61.52 325 P **P 12 57 48.2 -0.4**
comp=Z,20nm,0.9s,baz=120,slow=8.7,SNR=60
BVAR PcP **PcP 12 58 29.6 -0.3**
comp=Z,6.6nm,0.7s,baz=119,slow=5.2,SNR=6.5
BVAR LR LR 13 23 58.2
comp=Z,101nm,20.6s,baz=125,slow=36
comp=Z,20nm,0.9s
BRVK Borovoye 61.60 325 P **P 12 57 48.9 -0.2**
BRVK Borovoye 61.60 325*ce*P **P 12 57 49.0 -0.2**
BRVK pmax pmax
comp=Z,30nm,1.0s
BRVK Borovoye 61.60 325 P **P 12 57 48.8 -0.2**
BRVK PcP **PcP 12 58 30.1 -0.1**
BILL Bilibino 63.42 16 *e*P **P 12 58 01.7 +0.7**
BILL *e**PP **sP 12 58 21.5 -1.7**
BILL *e**SP **PcP 12 58 29.9 -7.5**
BILL *e* 12 58 38.3
BILL *e* 13 00 21.1
BILL *e*PPP PPP 13 01 52.7
BILL pmax pmax
comp=Z,9.0nm,1.9s
BILL MLR MLR
comp=Z,88nm,22.0s
NRIK Noril'sk 63.93 346 P **P 12 58 04.7 +0.4**
NRIK Noril'sk 63.93 346 P **P 12 58 04.8 +0.4**
comp=Z,26nm,0.9s,baz=128,slow=6.5,SNR=24
NRIK PcP **PcP 12 58 39.8 +0.4**
comp=Z,16nm,0.6s,baz=121,slow=4.2,SNR=9.7
NRIK LR LR 13 29 04.6
comp=Z,118nm,20.6s,baz=168,slow=39
comp=Z,26nm,0.9s
NRIK Noril'sk 63.93 346*ce*P **P 12 58 04.5 +0.2**
NRIK pmax pmax
comp=Z,44nm,1.1s
WSAR Wadi Sarin 65.35 291 LR LR 13 29 18.8
comp=Z,51nm,19.6s,baz=210,slow=38
GEYT Alibeck 66.37 307 P **P 12 58 20.1 -0.7**
GEYT IAmb IAmb 12 58 21.9
comp=Z,17nm,1.2s
GEYT Alibeck 66.37 307 P **P 12 58 21.0 +0.2**
comp=Z,6.2nm,0.7s,baz=114,slow=1.8,SNR=8.8
GEYT PcP **PcP 12 58 50.5 +0.3**
comp=Z,5.3nm,0.7s,baz=132,slow=2.1,SNR=4.8
GEYT LR LR 13 32 18.5
comp=Z,100nm,18.7s,baz=153,slow=40
comp=Z,6.2nm,0.7s
GYA0B ALIBECK ARRAY 66.37 307 P **P 12 58 20.3 -0.5**
GYA0B IAmb IAmb 12 58 21.9
comp=Z,16nm,1.2s
ABKAR Akbulak array 66.72 319 P **P 12 58 22.3 -0.4**
ABKAR IAmb IAmb 12 58 23.0
comp=Z,10nm,0.8s
NIKH Nikolski High 66.90 37 P **P 12 58 25.1 +1.3**
baz=256
SOHO SOHO 67.26 292 *i* P **P 12 58 26.2 -0.5**
SNR=6.8
UOSS Minazif 67.54 293 P **P 12 58 27.0 -1.4**
UOSS IAmb IAmb 12 58 28.6
comp=Z,15nm,0.9s
UOSS Minazif 67.54 293 *i* P **P 12 58 27.3 -1.1**
SNR=5.7
UOSS Minazif 67.54 293 P **P 12 58 27.6 -0.9**
MSFE Esma-Masafi 67.57 293 P **P 12 58 29.2 +0.6**
SHME Shamm 67.58 294 P **P 12 58 30.1 +1.5**
HATD Hatta, Dubai 67.61 293 *i* P **P 12 58 28.7 -0.2**
SNR=12
ASHO Ashiyiah 67.68 292 *i* P **P 12 58 28.7 -0.6**
SNR=13
URZ Urewera 67.82 139 LR LR 13 30 14.1
comp=Z,98nm,18.6s,baz=32,slow=38
BKZ Black Stump Fm 67.94 140 P **P 12 58 30.6 0.0**
ALNE Al Ain 67.97 292 *i* P **P 12 58 31.2 0.0**
SNR=18
NAZ Nazwa, Dubai 68.03 293 P **P 12 58 31.1 -0.4**
SVE Sverdlovsk 68.08 327 *e*P **P 12 58 30.8 -0.4**
SVE pmax pmax
comp=Z,32nm,0.9s
FAQ Al Faqa, Dubai 68.10 293 P **P 12 58 31.4 -0.6**
AKTO Aktyubinsk 68.17 320 LR LR 13 31 18.5
comp=Z,212nm,18.5s,baz=134,slow=38
ASUD Al Ashush, Dub 68.34 292 P **P 12 58 33.7 +0.3**
SHAO Shalim 68.40 285 P **P 12 58 34.8 +0.9**
ARU Arti 69.09 327 P **P 12 58 36.9 -0.6**
ARU Arti 69.09 327*c i*P **P 12 58 36.3 -1.2**
ARU *PP **pP 12 58 52.4 -1.6**
ARU S **S 13 07 38.3 +0.2**
ARU SS **SS 13 12 03.9 -1.0**
ARU pmax pmax
comp=Z,33nm,0.6s
ARU Arti 69.09 327 P **P 12 58 36.5 -1.0**
comp=Z,58nm,0.6s,comp=Z,522nm
ARU Arti 69.09 327 P **P 12 58 36.6 -0.8**
MZR Muzera 70.10 291 *i* P **P 12 58 44.4 -0.1**
SNR=15
M11K Mekoryuk 70.15 29 P **P 12 58 45.0 +1.1**
baz=255
K13K Kusilvak Mount 71.26 28 P **P 12 58 51.7 +1.0**
baz=256
ANM Nome 71.60 25 P **P 12 58 53.9 +1.3**
baz=255
J14K Nanvaranak Lak 71.94 27 P **P 12 58 56.5 +1.8**
baz=257
L14K Kuka Creek 72.05 29 P **P 12 58 55.6 +0.3**
L14K IAmb IAmb 12 59 05.6
comp=Z,15nm,1.0s
L14K Kuka Creek 72.05 29 P **P 12 58 56.9 +1.5**
baz=258
F15K North Star Dit 72.19 24 P **P 12 58 56.9 +0.7**
baz=255
G15K Niukluk 72.26 25 P **P 12 58 57.9 +1.3**
baz=256
N14K Kuskokwak Cree 72.26 30 P **P 12 58 57.7 +1.0**
baz=260
M14K Bethel 72.28 29 P **P 12 58 57.6 +0.9**
M14K IAmb IAmb 12 59 14.6
comp=Z,12nm,0.8s
M14K Bethel 72.28 29 P **P 12 58 58.0 +1.2**
baz=259
O14K Tigyukauivet M 72.35 31 P **P 12 58 58.3 +1.1**
baz=260
C16K Lisburne Hills 72.62 21 P **P 12 58 59.9 +1.2**
baz=254
CHNA Chernabura Isl 72.62 36 P **P 12 58 59.9 +1.0**
baz=263
L15K Ungalak Mounta 72.67 28 P **P 12 59 00.2 +1.1**
baz=259
K15K Wolf Creek Mou 72.77 28 P **P 12 59 00.7 +1.0**
baz=259
M15K Kasigluk River 72.88 30 P **P 12 59 02.1 +1.7**
baz=260
H16K Elim 72.93 25 P **P 12 59 01.8 +1.3**
baz=258
G16K Koyuk River 73.04 25 P **P 12 59 02.8 +1.5**
baz=257
O15K Ungalikthiuk R 73.07 31 P **P 12 59 02.5 +0.9**
baz=262
N15K Kwethluk River 73.09 30 P **P 12 59 01.7 +0.1**
N15K IAmb IAmb 12 59 11.6
comp=Z,8.5nm,0.8s
N15K Kwethluk River 73.09 30 P **P 12 59 02.2 +0.6**
baz=261
D17K Noatak River 73.29 22 P **P 12 59 03.4 +0.7**
baz=256
J16K Anvik River 73.37 27 P **P 12 59 04.4 +1.2**
baz=260
I17K Unalakleet 73.44 26 P **P 12 59 04.0 +0.4**
baz=259
RDOG Red Dog Mine 73.44 22 P **P 12 59 04.6 +1.0**
baz=256
C17K DeLong Mountai 73.44 21 P **P 12 59 04.2 +0.6**
baz=256
E17K Hotham Inlet 73.62 23 P **P 12 59 05.7 +1.1**
baz=257
L16K Owhat River 73.62 29 P **P 12 59 05.3 +0.6**
L16K IAmb IAmb 12 59 15.5
comp=Z,21nm,1.6s
L16K Owhat River 73.62 29 P **P 12 59 05.5 +0.7**
baz=261
F17K Baldwin Pennin 73.71 24 P **P 12 59 05.7 +0.6**
baz=258
G17K Kiwalik Mounta 73.76 25 P **P 12 59 05.9 +0.4**
baz=259
M16K Timber Creek 73.77 29 P **P 12 59 07.0 +1.4**
M16K IAmb IAmb 12 59 23.4
comp=Z,12nm,1.0s
M16K Timber Creek 73.77 29 P **P 12 59 06.5 +0.9**
baz=262
N16K Nishlik Lake 73.78 30 P **P 12 59 07.1 +1.4**
baz=262
H17K Granite Mounta 73.96 25 P **P 12 59 07.1 +0.4**
H17K Granite Mounta 73.96 25 P **P 12 59 07.9 +1.2**
baz=260
P16K Nushagak River 73.99 31 P **P 12 59 07.6 +0.7**
baz=263
O16K Kokwok River B 74.01 31 P **P 12 59 08.0 +1.0**
O16K IAmb IAmb 12 59 25.1
comp=Z,11nm,0.9s
O16K Kokwok River B 74.01 31 P **P 12 59 08.4 +1.4**
baz=263
J17K VABM Dome 74.07 27 P **P 12 59 08.2 +0.9**
baz=261
B18K Kokolik River 74.14 21 P **P 12 59 08.4 +0.8**
baz=257
E18K Tukpahlearik C 74.16 23 P **P 12 59 09.1 +1.3**
E18K IAmb IAmb 12 59 10.4
comp=Z,11nm,0.8s
E18K Tukpahlearik C 74.16 23 P **P 12 59 08.6 +0.8**
baz=258
C18K Utukok River 74.19 21 P **P 12 59 08.4 +0.4**
C18K IAmb IAmb 12 59 17.9
comp=Z,12nm,1.0s
C18K Utukok River 74.19 21 P **P 12 59 08.7 +0.6**
baz=258
L17K Donlin 74.24 28 P **P 12 59 09.5 +1.2**
baz=262,SNR=5.3
KIRV Kirov 74.31 328 LR LR 13 35 10.0
comp=Z,95nm,18.8s,baz=116,slow=38
KIRV Kirov 74.31 328*ce*P **P 12 59 08.2 -0.6**
K17K Iditarod 74.32 28 P **P 12 59 10.2 +1.4**
K17K IAmb IAmb 12 59 19.2
comp=Z,27nm,1.4s
K17K Iditarod 74.32 28 P **P 12 59 10.2 +1.4**
baz=262
F18K Selawik 74.37 24 P **P 12 59 10.3 +1.4**
baz=260
O17K Koliganek Bris 74.53 31 P **P 12 59 11.4 +1.4**
baz=264
M17K Holitna River 74.55 29 P **P 12 59 10.9 +0.7**
M17K IAmb IAmb 12 59 28.4
comp=Z,11nm,0.8s
M17K Holitna River 74.55 29 P **P 12 59 11.3 +1.1**
baz=263
N17K Nushagak Hills 74.57 30 P **P 12 59 11.2 +1.0**
N17K IAmb IAmb 12 59 20.8
comp=Z,11nm,0.9s
N17K Nushagak Hills 74.57 30 P **P 12 59 11.4 +1.1**
baz=264
G18K Tagagawik 74.64 24 P **P 12 59 11.1 +0.5**
G18K Tagagawik 74.64 24 P **P 12 59 11.3 +0.6**
baz=261
H18K Honhosa River 74.65 25 P **P 12 59 11.6 +0.9**
baz=261
R17L Mt. Peulik Vol 74.70 33 P **P 12 59 11.6 +0.5**
baz=265
P17K Kvichak River 74.80 31 P **P 12 59 12.7 +1.1**
baz=265
BELG Belogornoye 74.86 322 LR LR 13 35 00.9
comp=Z,36nm,18.1s,baz=242,slow=38
BELG Belogornoye 74.86 322 *i* P **P 12 59 11.5 -0.6**
BELG pmax pmax
comp=Z,8.0nm,0.8s
C19K Lookout Ridge 74.86 21 P **P 12 59 13.1 +1.2**
C19K IAmb IAmb 12 59 14.5
comp=Z,16nm,0.8s
C19K Lookout Ridge 74.86 21 P **P 12 59 13.0 +1.2**
baz=259
CHIR Chirikof Islan 74.97 35 P **P 12 59 14.2 +1.6**
baz=266
L18K Granite Mounta 75.00 28 P **P 12 59 13.3 +0.6**
L18K IAmb IAmb 12 59 23.0
comp=Z,25nm,1.8s
L18K Granite Mounta 75.00 28 P **P 12 59 13.5 +0.8**
baz=264
Q17K Contact Creek 75.01 32 P **P 12 59 13.1 +0.1**
baz=265
J18K Innoko River 75.13 27 P **P 12 59 14.1 +0.6**
baz=263
F19K Shaleruckik Mo 75.14 23 P **P 12 59 13.9 +0.4**
baz=261
N18K Kilae Creek 75.22 30 P **P 12 59 14.6 +0.5**
baz=265
D19K Kuna River 75.28 22 P **P 12 59 15.1 +0.8**
D19K IAmb IAmb 12 59 25.0
comp=Z,30nm,1.4s
D19K Kuna River 75.28 22 P **P 12 59 14.9 +0.6**
baz=261
G19K Purcell Mounta 75.31 24 P **P 12 59 14.5 0.0**
G19K Purcell Mounta 75.31 24 P **P 12 59 15.4 +0.9**
baz=262
M18K Stony River 75.33 29 P **P 12 59 15.7 +1.1**
baz=264
E19K Redstone River 75.44 23 P **P 12 59 16.3 +1.1**
E19K IAmb IAmb 12 59 24.8
comp=Z,9.8nm,0.8s
E19K Redstone River 75.44 23 P **P 12 59 16.5 +1.3**
baz=262
O18K Koktuh Hills 75.49 31 P **P 12 59 16.2 +0.6**
O18K IAmb IAmb 12 59 33.5
comp=Z,22nm,0.8s
O18K Koktuh Hills 75.49 31 P **P 12 59 16.1 +0.5**
baz=266
H19K Roundabout Mou 75.50 25 P **P 12 59 17.1 +1.6**
H19K IAmb IAmb 12 59 17.7
comp=Z,8.1nm,0.8s
H19K Roundabout Mou 75.50 25 P **P 12 59 16.7 +1.2**
baz=263,SNR=6.4
Q18K Katmai Hardscr 75.50 32 P **P 12 59 16.6 +0.8**
baz=266
J19K Poorman 75.67 26 P **P 12 59 17.4 +0.8**
baz=264
L19K White Mountain 75.85 28 P **P 12 59 18.7 +1.0**
L19K White Mountain 75.85 28 P **P 12 59 19.2 +1.6**
baz=265
B20K Meade River 75.86 20 P **P 12 59 18.7 +1.2**
B20K IAmb IAmb 12 59 19.7
comp=Z,13nm,0.7s
B20K Meade River 75.86 20 P **P 12 59 18.7 +1.2**
baz=261,SNR=6.1
D20K Etivluk River 75.86 22 P **P 12 59 18.9 +1.3**
baz=262
N19K Bonanza Creek 75.92 30 P **P 12 59 19.0 +0.8**
N19K IAmb IAmb 12 59 36.2
comp=Z,9.2nm,0.8s
N19K Bonanza Creek 75.92 30 P **P 12 59 19.3 +1.2**
baz=266
E20K Nigu River 75.95 22 P **P 12 59 19.5 +1.3**
baz=262
F20K Avaraart Lake 75.97 23 P **P 12 59 19.1 +0.9**
F20K Avaraart Lake 75.97 23 P **P 12 59 19.5 +1.3**
baz=263,SNR=7.3
M19K Big River Lodg 76.04 29 P **P 12 59 19.3 +0.5**
baz=266
H20K Anotleneega Mo 76.14 25 P **P 12 59 20.6 +1.4**
baz=264,SNR=10
I20K Naaghedeneel 76.24 26 P **P 12 59 20.6 +0.8**
I20K IAmb IAmb 12 59 28.0
comp=Z,11nm,0.9s
I20K Naaghedeneel 76.24 26 P **P 12 59 20.6 +0.8**
baz=265
K20K Telida 76.30 27 P **P 12 59 21.8 +1.6**
baz=266
L20K Farewell, AK 76.33 28 P **P 12 59 21.6 +1.3**
baz=266
J20K Nowinta River 76.33 26 P **P 12 59 21.1 +0.8**
J20K Nowinta River 76.33 26 P **P 12 59 22.0 +1.7**
baz=265
OHAK Old Harbor 76.34 34 P **P 12 59 21.7 +1.3**
baz=268
P19K Oil Pt 76.47 31 P **P 12 59 22.8 +1.6**
baz=267
C21K Knifeblade Rid 76.57 21 P **P 12 59 22.3 +0.7**
baz=264
M20K Styx River 76.64 29 P **P 12 59 23.2 +1.0**
baz=267
IMAR Indian Mountai 76.65 24 P **P 12 59 22.7 +0.6**
B21K Ikpikpuk River 76.68 21 P **P 12 59 22.7 +0.5**
B21K Ikpikpuk River 76.68 21 P **P 12 59 23.0 +0.9**
baz=264,SNR=14
A22K Sinclair Lake 76.72 19 P **P 12 59 23.5 +1.2**
baz=263,SNR=8.2
KDAK Kodiak Island 76.74 33 P **P 12 59 23.3 +0.6**
baz=268
KDAK Kodiak Island 76.74 33 LR LR 13 28 16.1
comp=Z,132nm,21.8s,baz=273,slow=32
E21K Killik River 76.79 22 P **P 12 59 23.5 +0.7**
E21K IAmb IAmb 12 59 24.8
comp=Z,7.7nm,0.7s
E21K Killik River 76.79 22 P **P 12 59 24.2 +1.4**
baz=264
G21K Allakaket 76.79 24 P **P 12 59 23.7 +0.8**
G21K IAmb IAmb 12 59 25.9
comp=Z,6.7nm,0.8s
G21K Allakaket 76.79 24 P **P 12 59 24.3 +1.4**
baz=265
O20K Slope Mountain 76.80 31 P **P 12 59 24.3 +1.2**
baz=268
GNI Garni 76.83 309 LR LR 13 37 08.0
comp=Z,107nm,20.7s,baz=142,slow=39
F21K Alatna River 76.86 23 P **P 12 59 24.1 +0.8**
baz=265
H21K Melozitna Rive 77.02 25 P **P 12 59 25.0 +0.9**
baz=266,SNR=6.5
CHUM Lake Minchumin 77.12 27 P **P 12 59 25.9 +1.1**
baz=267
PPLA Purkeypile 77.13 28 P **P 12 59 25.7 +0.7**
baz=267
B22K Teshekpuk Lake 77.16 20 P **P 12 59 25.4 +0.6**
B22K IAmb IAmb 12 59 26.8
comp=Z,18nm,0.7s
B22K Teshekpuk Lake 77.16 20 P **P 12 59 25.6 +0.8**
baz=265,SNR=15
CAST Castle Rocks 77.20 27 P **P 12 59 25.6 +0.3**
CAST Castle Rocks 77.20 27 P **P 12 59 25.9 +0.6**
baz=267
D22K Ayikyak River 77.29 22 P **P 12 59 26.6 +0.9**
baz=266,SNR=6.2
I21K Tanana 77.33 25 P **P 12 59 26.7 +0.8**
baz=267
RAYN Ar Rayn 77.38 292 P **P 12 59 26.3 -0.8**
RAYN Ar Rayn 77.38 292 *i* P **P 12 59 26.9 -0.1**
SNR=32
RAYN Ar Rayn 77.38 292 P **P 12 59 26.3 -0.8**
RAYN pmax pmax
comp=Z,57nm,0.7s
F22K John River 77.39 23 P **P 12 59 26.8 +0.5**
baz=266
SKT Skwentna 77.40 29 P **P 12 59 27.4 +1.0**
baz=268
E22K Anaktuvuk Pass 77.56 22 P **P 12 59 28.8 +1.6**
baz=267
G22K Bettles 77.61 24 P **P 12 59 27.8 +0.3**
baz=267
H22K Ishtalitna Cre 77.62 25 P **P 12 59 28.3 +0.7**
baz=268,SNR=8.7
ONI Oni 77.69 311 P **P 12 59 28.1 -0.4**
ONI IAmb IAmb 12 59 30.8
comp=Z,11nm,1.1s
ONI Oni 77.69 311 P **P 12 59 28.1 -0.4**
ONI pmax pmax
comp=Z,11nm,1.1s
BPAW Bear Paw Mtn. 77.71 26 P **P 12 59 29.3 +1.2**
baz=268,SNR=6.8
BRSE Bradley Lake S 77.74 31 P **P 12 59 28.5 +0.2**
baz=269
SUA Susitna One 77.76 29 P **P 12 59 28.5 0.0**
SUA IAmb IAmb 12 59 36.8
comp=Z,35nm,1.9s
SUA Susitna One 77.76 29 P **P 12 59 28.6 +0.1**
baz=269
MLY Manley 77.85 26 P **P 12 59 29.2 +0.3**
MLY Manley 77.85 26 P **P 12 59 29.2 +0.3**
baz=268,SNR=9.1
D23K Nanushuk River 78.02 22 P **P 12 59 30.3 +0.6**
baz=268,SNR=9.4
KBZ Khabaz 78.04 313 P **P 12 59 29.7 -0.5**
comp=Z,7.5nm,0.8s,baz=112,slow=3.6,SNR=12
comp=Z,7.5nm,0.8s
KBZ Khabaz 78.04 313*ce*P **P 12 59 29.5 -0.8**
KBZ pmax pmax
comp=Z,11nm,1.0s
M22K Willow 78.06 29 P **P 12 59 30.4 +0.4**
baz=270
C23K Itkillik River 78.09 21 P **P 12 59 30.6 +0.6**
C23K Itkillik River 78.09 21 P **P 12 59 31.0 +1.0**
baz=267,SNR=39
COLD Coldfoot 78.14 23 P **P 12 59 31.4 +1.0**
baz=268,SNR=8.0
KIV Kislovodsk 78.18 313 *e*P **P 12 59 30.6 -0.6**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR

comp=Z,109nm,19.0s
KIV Kislovodsk 78.18 313 P **P 12 59 31.3 +0.1**
comp=Z,24nm,0.9s
G23K Bananza Creek 78.19 24 P **P 12 59 31.8 +1.0**
baz=269
SHA1 Shidzhatmaz 78.21 313 *i* P **P 12 59 30.8 -0.8**
RC01 Rabbit Creek A 78.24 30 P **P 12 59 31.9 +0.8**
baz=270
H23K Yukon River 78.37 25 P **P 12 59 32.8 +1.0**
baz=269,SNR=6.3
E23K Chandalar 78.38 22 P **P 12 59 32.6 +0.8**
baz=269,SNR=12
SEW Seward 78.39 31 P **P 12 59 33.7 +1.8**
baz=270
TOLK Toolik Lake Re 78.41 22 P **P 12 59 32.8 +0.8**
TOLK IAmb IAmb 12 59 34.1
comp=Z,8.2nm,0.7s
TOLK Toolik Lake Re 78.41 22 P **P 12 59 32.9 +0.9**
baz=269,SNR=8.9
I23K Minto, Yukon-K 78.44 25 P **P 12 59 32.9 +0.9**
baz=270,SNR=8.8
VRH Novokhopyorsk 78.51 320 *e*P **P 12 59 31.6 -1.1**
VRH pmax pmax
comp=Z,22nm,0.5s
PMR Palmer 78.53 29 P **P 12 59 33.1 +0.5**
PMR Palmer 78.53 29 P **P 12 59 32.8 +0.1**
baz=270
PMR Palmer 78.53 29 P **P 12 59 33.1 +0.5**
PMR pmax pmax
comp=Z,8.0nm,1.2s
NEA2 Nenana 78.56 26 P **P 12 59 32.9 +0.2**
NEA2 Nenana 78.56 26 P **P 12 59 33.0 +0.2**
baz=270,SNR=7.4
MCK McKinley 78.61 27 P **P 12 59 33.3 +0.2**
baz=270
RND Reindeer 78.65 27 P **P 12 59 33.0 -0.4**
RND Reindeer 78.65 27 P **P 12 59 33.0 -0.4**
RND pmax pmax
comp=Z,9.0nm,1.2s
D24K Happy Valley 78.69 21 P **P 12 59 34.3 +0.9**
D24K IAmb IAmb 12 59 35.6
comp=Z,15nm,0.6s
D24K Happy Valley 78.69 21 P **P 12 59 34.0 +0.6**
baz=269,SNR=12
C24K Franklin Bluff 78.75 21 P **P 12 59 33.9 +0.3**
baz=269
E24K Your Creek 78.81 22 P **P 12 59 35.1 +1.0**
E24K Your Creek 78.81 22 P **P 12 59 34.8 +0.7**
baz=270,SNR=10
GURO Guroymak-BITLI 79.02 307 P **P 12 59 36.5 +0.5**
F24K Squaw Lake 79.03 23 P **P 12 59 36.8 +1.5**
F24K Squaw Lake 79.03 23 P **P 12 59 36.2 +0.8**
baz=270,SNR=12
H24K Noodor Dome 79.05 25 P **P 12 59 36.1 +0.6**
H24K Noodor Dome 79.05 25 P **P 12 59 36.2 +0.6**
baz=271,SNR=7.0
CCB Clear Creek Bu 79.10 26 P **P 12 59 35.8 +0.1**
WAT6 Susitna Watana 79.17 28 P **P 12 59 36.9 +0.5**
baz=271
G24K Hadweenzic Riv 79.20 24 P **P 12 59 37.1 +0.8**
baz=271,SNR=5.3
RAR Rarotonga 79.24 114 LR LR 13 27 52.9
comp=Z,148nm,20.3s,baz=272,slow=30
POKR Poker Plat Res 79.25 25 P **P 12 59 36.8 +0.2**
baz=271
DHY Denali Highway 79.33 28 P **P 12 59 37.7 +0.5**
baz=272
SCM Sheep Creek Mo 79.39 29 P **P 12 59 38.0 +0.6**
baz=272
KLMR Klimovskoe 79.40 330 *e*P **P 12 59 35.8 -1.6**
KLMR pmax pmax
comp=Z,20nm,0.8s
P23K Montague Islan 79.42 31 P **P 12 59 37.9 +0.4**
baz=272
HDA Harding Lake 79.48 26 P **P 12 59 36.9 -0.9**
HDA Harding Lake 79.48 26 P **P 12 59 38.2 +0.4**
baz=272
IL31 79.49 26 P **P 12 59 37.4 -0.4**
ILAR Eielson Array 79.49 26 P **P 12 59 37.0 -0.9**
ILAR Eielson Array 79.49 26 P **P 12 59 37.1 -0.8**
comp=Z,1.2nm,0.6s,baz=234,slow=5.3,SNR=21
ILAR LR LR 13 33 00.5
comp=Z,50nm,21.9s,baz=282,slow=34
comp=Z,1.2nm,0.6s
IL03 Eielson Array 79.51 26 P **P 12 59 37.2 -0.7**
GLI Glacier Island 79.53 30 P **P 12 59 38.4 +0.3**
baz=272
D25K Kavik River 79.57 21 P **P 12 59 39.3 +1.0**
D25K Kavik River 79.57 21 P **P 12 59 38.5 +0.2**
baz=271,SNR=14
G25K Bearman Lake 79.75 24 P **P 12 59 39.8 +0.6**
baz=272
H25L Birch Creek 79.88 24 P **P 12 59 40.4 +0.5**
baz=272
F25K Christian Rive 79.89 23 P **P 12 59 40.5 +0.4**
baz=272,SNR=6.7
E25K Arctic Village 79.90 22 P **P 12 59 40.9 +0.9**
E25K IAmb IAmb 12 59 51.3
comp=Z,34nm,1.9s
E25K Arctic Village 79.90 22 P **P 12 59 40.7 +0.7**
baz=272,SNR=6.5
M24K Tolsona, Glenn 79.92 29 P **P 12 59 40.9 +0.5**
baz=273
Q23K Middleton Isla 79.98 31 P **P 12 59 41.2 +0.7**
baz=273
K24K Donnelly Dome 80.02 27 P **P 12 59 40.9 +0.1**
baz=273
VORD Divnogorie 80.06 320 *e*P **P 12 59 38.4 -2.7**
VORD pmax pmax
comp=Z,10.0nm,0.6s
C26K Camden Bay 80.06 21 P **P 12 59 41.7 +0.9**
baz=273,SNR=5.3
VORR Voronezh 80.06 321 *e*P **P 12 59 40.3 -0.9**
KLU Klutina 80.07 29 P **P 12 59 41.6 +0.4**
baz=273
VSR Storozhevoye 80.12 320 *e*P **P 12 59 38.4 -3.1**
VSR pmax pmax
comp=Z,10.0nm,0.7s
J25K Salcha River, 80.15 26 P **P 12 59 40.7 -0.8**
J25K Salcha River, 80.15 26 P **P 12 59 42.1 +0.6**
baz=273
LPSR Galich'ya Gora 80.17 322 *e*P **P 12 59 39.4 -2.3**
LPSR pmax pmax
comp=Z,30nm,0.7s
PAX Paxson 80.20 28 P **P 12 59 42.3 +0.5**
baz=273
EYAK Cordova Ski Ar 80.21 30 P **P 12 59 41.6 -0.2**
baz=274
BMAR Burnt Mountain 80.31 23 P **P 12 59 43.8 +1.5**
SOC Sochi 80.35 313 *e*P **P 12 59 44.1 +1.2**
SOC *e*S **S 13 09 48.2 +4.1**
SOC *e*SS **SS 13 14 48.5 -8.0**
HARP HAARP 80.38 28 P **P 12 59 42.9 +0.1**
baz=274
F26K Sheenjek River 80.46 23 P **P 12 59 42.9 -0.2**
baz=274
C27K Jago River 80.49 21 P **P 12 59 43.3 +0.1**
baz=274,SNR=7.0
G26K Porcupine Rive 80.65 24 P **P 12 59 44.1 0.0**
baz=274
N25K Chitina, Valde 80.70 29 P **P 12 59 44.4 -0.1**
baz=274
BMRM Bremner River 80.75 30 P **P 12 59 45.8 +1.1**
baz=274
SCRK Sand Creek 80.80 27 P **P 12 59 45.7 +0.7**
SCRK Sand Creek 80.80 27 P **P 12 59 46.1 +1.0**
baz=274
J26L Joseph Creek 80.94 26 P **P 12 59 45.8 0.0**
J26L Joseph Creek 80.94 26 P **P 12 59 46.6 +0.8**
baz=275
MENT Mentasta 81.00 28 P **P 12 59 47.0 +1.0**
I26K Coal Creek Min 81.04 25 P **P 12 59 45.9 -0.3**
I26K Coal Creek Min 81.04 25 P **P 12 59 46.9 +0.7**
baz=275
L26K Log Cabin Wild 81.16 27 P **P 12 59 48.3 +1.4**
baz=275
OBN Obninsk 81.35 324 *e*P **P 12 59 46.4 -1.6**
OBN *e**PP **pP 13 00 05.1 +0.2**
OBN *e**SP **sP 13 00 11.4 -0.2**
OBN *e* 13 02 52.4
OBN *e*PPP PPP 13 04 45.7
OBN pmax pmax
comp=Z,15nm,0.9s
OBN MLR MLR
comp=Z,66nm,17.0s
E27K Coleen River 81.38 22 P **P 12 59 49.6 +1.7**

E27K Coleen River 81.38 22 P **P 12 59 48.9 +0.9**
baz=276
M26K Nabesna, AK 81.38 28 P **P 12 59 49.2 +1.1**
baz=276
MCARA McCarthy VSAT 81.47 29 P **P 12 59 49.4 +0.9**
baz=276
D27M Malcolm River 81.49 21 P **P 12 59 49.5 +0.9**
baz=276
CRQE Cirque 81.50 30 P **P 12 59 48.5 -0.3**
baz=276
G27K Doyon Strip 81.50 24 P **P 12 59 49.6 +0.9**
baz=276
APA Apatity 81.57 337 ⇓*i*P **P 12 59 47.3 -1.6**
APA pmax pmax
comp=Z,6.0nm,0.7s
H27K Steamboat Moun 81.62 24 P **P 12 59 50.1 +0.8**
baz=276
K27K Chicken 81.63 26 P **P 12 59 50.2 +0.9**
baz=276
I27K Kandik River 81.65 25 P **P 12 59 50.1 +0.6**
baz=276
ARPR Arapgir-MALATY 81.84 308 P **P 12 59 51.2 +0.1**
L27K Beaver Creek, 81.85 27 P **P 12 59 51.6 +1.1**
baz=277
BCAR Beaver Creek A 81.87 27 P **P 12 59 52.4 +1.8**
ANN Anapa 81.87 314 *e*P P 12 59 42.3 -8.6
ANN *e**PP pP 13 00 02.6 -5.2
ANN *e*SS SS 13 15 12.3 -6.6
ANN pmax pmax
comp=Z,31nm,0.8s
M27K Edge Creek, AK 81.91 28 P **P 12 59 51.8 +0.8**
baz=277
EGAK Eagle 81.94 26 P **P 12 59 51.6 +0.7**
EGAK Eagle 81.94 26 P **P 12 59 51.6 +0.7**
baz=277
E28M Babbage River 82.09 22 P **P 12 59 52.7 +1.1**
E28M Babbage River 82.09 22 P **P 12 59 53.1 +1.5**
baz=278
F28M Old Crow 82.09 23 P **P 12 59 52.8 +1.1**
F28M Old Crow 82.09 23 P **P 12 59 52.9 +1.2**
baz=278
CTG Chitna Glacier 82.33 29 P **P 12 59 55.0 +1.7**
baz=277
CTGM Chitina Glacie 82.33 29 P **P 12 59 53.9 +0.6**
CTGM IAmb IAmb 13 00 15.9
comp=Z,9.4nm,0.9s
I28M Miner Creek 82.36 25 P **P 12 59 54.7 +1.4**
I28M IAmb IAmb 13 00 04.4
comp=Z,10nm,0.9s
I28M Miner Creek 82.36 25 P **P 12 59 54.3 +1.0**
baz=278
BVCY Beaver Creek 82.37 28 P **P 12 59 54.6 +1.3**
baz=278
YUK3 Moose Creek 82.64 29 P **P 12 59 56.3 +1.4**
baz=278
E29M Blow River 82.72 22 P **P 12 59 56.0 +1.1**
E29M Blow River 82.72 22 P **P 12 59 56.9 +2.0**
baz=279
DAWY Dawson 82.80 26 P **P 12 59 57.1 +1.6**
baz=279
H29M Whitestone 82.89 24 P **P 12 59 56.9 +1.0**
H29M Whitestone 82.89 24 P **P 12 59 57.0 +1.2**
baz=279
G29M Pine Creek 82.91 23 P **P 12 59 57.2 +1.3**
G29M IAmb IAmb 13 00 06.2
comp=Z,8.0nm,0.8s
G29M Pine Creek 82.91 23 P **P 12 59 57.0 +1.0**
baz=280
O28M Mount Upton 82.91 30 P **P 12 59 57.7 +1.3**
baz=278
GAZ Gaziantep 82.96 306 P **P 12 59 57.4 +0.4**
GAZ IAmb IAmb 12 59 58.1
comp=Z,21nm,0.8s
ABPO Ambohimpanom 82.96 249 P **P 12 59 56.8 -0.5**
ABPO Ambohimpanom 82.96 249 P **P 12 59 56.8 -0.5**
ABPO pmax pmax
comp=Z,27nm,0.8s
PINM Pinnacle 82.98 30 P **P 12 59 57.7 +1.2**
baz=278
YUK8 Steele Glacier 83.04 29 P **P 12 59 58.0 +1.0**
baz=279
I29M Ogilvie Camp, 83.05 25 P **P 12 59 58.2 +1.4**
baz=279
JOF Joensuu 83.07 333 *e*P **P 12 59 56.6 -0.2**
M29M Somme Creek 83.47 28 P **P 13 00 00.0 +0.9**
M29M IAmb IAmb 13 00 10.9
comp=Z,13nm,1.6s
M29M Somme Creek 83.47 28 P **P 13 00 00.2 +1.1**
baz=280
PNL Peninsula 83.47 31 P **P 13 00 00.3 +1.3**
baz=279
L29M L29M 83.51 27 P **P 13 00 00.3 +1.1**
L29M IAmb IAmb 13 00 11.0
comp=Z,16nm,1.1s
L29M L29M 83.51 27 P **P 13 00 00.5 +1.3**
baz=280
EPYK Eagle Plains 83.52 24 P **P 12 59 59.1 -0.1**
EPYK IAmb IAmb 13 00 40.8
comp=Z,14nm,1.4s
EPYK Eagle Plains 83.52 24 P **P 13 00 00.2 +1.1**
baz=281
YUK4 Talbot Arm 83.56 29 P **P 13 00 00.4 +0.7**
baz=280
G30M tAoh Zraii Nji 83.60 23 P **P 12 59 59.3 -0.3**
G30M IAmb IAmb 13 00 17.8
comp=Z,16nm,1.6s
G30M tAoh Zraii Nji 83.60 23 P **P 13 00 00.4 +0.8**
baz=281
F30M Barrier River 83.64 22 P **P 13 00 01.6 +1.9**
baz=282
K29M Barlow Dome 83.65 26 P **P 13 00 01.1 +1.1**
baz=280
YUK6 Outpost Mounta 83.77 29 P **P 13 00 02.0 +1.2**
baz=280
O29M Mount Kennedy 83.78 30 P **P 13 00 02.1 +1.4**
baz=280
I30M Mount Dempster 83.88 25 P **P 13 00 02.6 +1.5**
baz=281
SPB1 Spitsbergen Ar 83.94 349 P **P 13 00 01.1 0.0**
SPA1 Spitsbergen Ar 83.94 349 P **P 13 00 01.3 +0.2**
SPB2 Spitsbergen Ar 83.94 349 P **P 13 00 01.3 +0.2**
SPA0 Spitsbergen Ar 83.94 349 *e*P **P 13 00 01.6 +0.6**
SPA0 IAmb IAmb 13 00 02.7
comp=Z,102nm,0.9s
SPITS Spitsbergen Ar 83.94 349 P **P 13 00 01.4 +0.4**
comp=Z,76nm,0.8s,baz=94,slow=8.7,SNR=33
comp=Z,76nm,0.8s
J30M Hart River 84.02 25 P **P 13 00 03.1 +1.2**
baz=281
VOI Vohitsoka 84.03 247 P **P 13 00 00.8 -1.9**
ARCES ARCESS Array B 84.09 340 P **P 13 00 02.4 +0.4**
ARCES IAmb IAmb 13 00 03.1
comp=Z,18nm,1.1s
ARCES ARCESS Array B 84.09 340 P **P 13 00 02.2 +0.3**
comp=Z,9.2nm,0.7s,baz=81,slow=6.9,SNR=60
comp=Z,9.2nm,0.7s
ARCES ARCESS Array B 84.09 340 P **P 13 00 02.4 +0.4**
ARCES pmax pmax
comp=Z,18nm,1.2s
SIM Simferopol' 84.19 314 *e*P **P 13 00 02.9 0.0**
SIM pmax pmax
comp=Z,21nm,0.9s
HYT Haines Junctio 84.20 29 P **P 13 00 03.0 +0.1**
HYT IAmb IAmb 13 00 25.6
comp=Z,6.9nm,0.9s
HYT Haines Junctio 84.20 29 P **P 13 00 04.2 +1.3**
baz=281
M30M Minto, Yukon 84.21 28 P **P 13 00 03.4 +0.7**
M30M Minto, Yukon 84.21 28 P **P 13 00 04.0 +1.3**
baz=281
N30M Aishikik Lake 84.28 29 P **P 13 00 02.7 -0.4**
N30M Aishikik Lake 84.28 29 P **P 13 00 02.8 -0.4**
baz=281
P29M Windy Craggy 84.31 31 P **P 13 00 03.8 +0.5**
baz=281
INK Inuvik 84.32 22 P **P 13 00 03.2 +0.1**
baz=284
INK Inuvik 84.32 22 P **P 13 00 03.6 +0.5**
G31M Satah River 84.36 23 P **P 13 00 03.7 +0.4**
baz=283
F31M Tsiigehtchic 84.44 22 P **P 13 00 04.4 +0.7**
baz=283
KBS Kingsbay 84.45 350 P **P 13 00 02.6 -1.0**
KBS Kingsbay 84.45 350 *e*P **P 13 00 04.1 +0.5**
KBS IAmb IAmb 13 00 04.9
comp=Z,31nm,0.7s

KBS Kingsbay 84.45 350 *ce*P **P 13 00 03.5 -0.2**
KBS pmax pmax
comp=Z,28nm,0.7s
KBS Kingsbay 84.45 350 *i* P **P 13 00 03.4 -0.2**
HSPB Hornsund (broa 84.55 348 *e*P **P 13 00 04.6 +0.5**
H31M Peel River 84.58 24 P **P 13 00 04.3 -0.3**
H31M IAmb IAmb 13 00 23.1
comp=Z,7.1nm,0.9s
H31M Peel River 84.58 24 P **P 13 00 05.1 +0.5**
baz=283
P30M Million Dollar 84.60 30 P **P 13 00 05.1 +0.3**
baz=281
BZK Bozkurt 84.73 312 ⇑P **P 13 00 03.7 -2.0**
BZK Bozkurt 84.73 312 P **P 13 00 05.3 -0.4**
comp=Z,25nm,0.6s,comp=Z,7μm
N31M Braeburn, Yuko 84.89 28 P **P 13 00 06.7 +0.5**
baz=282
O30N Mendenhall 84.89 29 P **P 13 00 06.8 +0.6**
baz=282
KTK1 Kautokeino 85.00 339 *e*P **P 13 00 06.9 +0.4**
KTK1 IAmb IAmb 13 00 09.6
comp=Z,8.7nm,0.9s
MMAI Mount Meron Ar 85.02 303 P **P 13 00 07.6 +0.1**
comp=Z,5.6nm,0.6s,baz=113,slow=3.7,SNR=4.3
comp=Z,5.6nm,0.6s
PLBC Pleasant Camp 85.03 31 P **P 13 00 06.9 +0.1**
baz=282
BR131 Keskin Array S 85.36 309 P **P 13 00 08.4 -0.7**
BR131 IAmb IAmb 13 00 09.1
comp=Z,6.8nm,0.8s
BR131 Keskin Array S 85.36 309 *i* P **P 13 00 08.1 -1.0**
BRTR Keskin Array B 85.36 309 P **P 13 00 08.0 -1.1**
BRTR Keskin Array B 85.36 309 P **P 13 00 08.2 -1.0**
comp=Z,5.2nm,0.8s,baz=109,slow=4.6,SNR=24
comp=Z,5.2nm,0.8s
BR104 Keskin Array S 85.36 309 P **P 13 00 08.2 -0.9**
comp=Z,6.8nm,0.9s,comp=Z,48nm
BR106 Keskin Array S 85.37 309 P **P 13 00 08.2 -1.0**
comp=Z,6.7nm,0.8s,comp=Z,45nm
BR105 Keskin Array S 85.38 309 P **P 13 00 08.2 -1.0**
comp=Z,7.9nm,0.9s,comp=Z,62nm
M31M Drury Creek, Y 85.38 28 P **P 13 00 09.3 +0.7**
baz=283
S31K Pelican 85.40 32 P **P 13 00 09.5 +0.8**
baz=282
WHY Whitehorse 85.50 29 P **P 13 00 08.8 -0.5**
WHY IAmb IAmb 13 00 20.6
comp=Z,38nm,1.9s
WHY Whitehorse 85.50 29 P **P 13 00 09.9 +0.6**
baz=283
SKAG Skagway 85.55 30 P **P 13 00 10.0 +0.5**
baz=283
FINES FINESS Array B 85.77 332 P **P 13 00 09.5 -0.9**
FINES FINESS Array B 85.77 332 P **P 13 00 10.3 -0.1**
baz=86,slow=5.7
FINES FINESS Array B 85.77 332 *i* P **P 13 00 10.1 -0.4**
FINES pmax pmax
comp=Z,12nm,0.5s
VSU Vasula 86.14 329 *i* P **P 13 00 12.6 +0.2**
VSU pmax pmax
comp=Z,11nm,0.5s
KEF Keuruu 86.14 333 *e*P **P 13 00 11.6 -0.7**
S32K Killisnoo 86.38 32 P **P 13 00 14.1 +0.5**
baz=283
CSS Mathiatis 86.40 305 P **P 13 00 14.1 -0.1**
MNK Minsk 86.41 325 *i* P **P 13 00 09.6 -4.2**
MNK *i* *PP **pP 13 00 30.2 -0.7**
MNK *i* 13 03 31.9
MNK *i* S **SKSac 13 10 29.0 -5.9**
MNK *i* SS **SS 13 16 23.5 -1.9**
MNK *i* SSS SSS 13 19 56.0
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK MLR MLR
comp=E,84nm,15.0s
MNK MLR MLR
comp=N,205nm,18.0s
MNK MLR MLR
comp=Z,97nm,17.0s
AKASG Malin Array Be 86.41 321 P **P 13 00 12.6 -1.3**
baz=60,slow=5.5
AKASG LR LR 13 42 56.5
comp=Z,70nm,19.3s,baz=50,slow=38
AKASG Malin Array Be 86.41 321 *i* P **P 13 00 12.3 -1.6**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 86.41 321 P **P 13 00 13.2 -0.7**
AKBB IAmb IAmb 13 00 14.4
comp=Z,15nm,0.8s
AKBB Malin Array Si 86.41 321 *ce*P **P 13 00 12.2 -1.7**
AKBB pmax pmax
comp=Z,10.0nm,0.6s
KIEV Kiev 86.42 321 ⇑P **P 13 00 11.8 -2.2**
KIEV Kiev 86.42 321 P **P 13 00 13.2 -0.7**
KIEV IAmb IAmb 13 00 14.5
comp=Z,14nm,0.9s
KIEV Kiev 86.42 321 *i* P **P 13 00 14.3 +0.4**
SNR=7.7
KIEV Kiev 86.42 321 P **P 13 00 13.2 -0.7**
KIEV pmax pmax
comp=Z,14nm,0.9s
AK05 Malin Array Si 86.44 321 P **P 13 00 12.9 -1.1**
NOR Nord 86.52 355 *i* P **P 13 00 13.8 -0.1**
NOR IAmb IAmb 13 00 15.6
comp=Z,15nm,0.7s
MEF Metsahovi 86.87 331 *e*P **P 13 00 14.8 -1.2**
VAF Ylistaro 86.89 334 *e*P **P 13 00 15.3 -0.6**
C36M Paulatuk 87.27 20 P **P 13 00 17.7 0.0**
C36M IAmb IAmb 13 00 19.1
comp=Z,8.3nm,0.5s
CRAG Craig 87.65 34 P **P 13 00 19.6 -0.2**
baz=285
R33M Jennings River 87.72 30 P **P 13 00 20.7 +0.5**
baz=286
PPT Papeete 87.76 108 LR LR 13 32 15.7
comp=Z,77nm,21.0s,baz=224,slow=30
PPT2 Papeete2 87.77 108 *e*P **P 13 00 25.9 +4.7**
comp=Z,35nm,23.0s
PPT2 Papeete2 87.77 108 *e*S **SKSac 13 10 44.1 -0.6**
comp=Z,41nm,27.0s
PPT2 *e*SS SS 13 16 35.9 -12
comp=Z,42nm,25.5s
PPT2 Papeete2 87.77 108 *e*LR LR 13 28 20.5
comp=Z,146nm,23.0s
PPT2 *e*LR LR 13 28 24.1
comp=Z,99nm,23.5s
RAF Rauma 87.89 332 *e*P **P 13 00 20.1 -0.7**
STEI Steigen 88.15 339 *e*P **P 13 00 21.2 -0.7**
STEI IAmb IAmb 13 00 21.6
comp=Z,12nm,0.8s
CFR Carcaliu 88.31 316 ⇓P **P 13 00 20.0 -3.1**
CFR Carcaliu 88.31 316 ⇓P **P 13 00 20.0 -3.1**
FAUS Fauske 88.35 339 *e*P **P 13 00 21.7 -1.2**
TLBR Topalu 88.51 315 ⇑P **P 13 00 21.8 -2.3**
HARR Harsova 88.56 315 ⇑P **P 13 00 20.7 -3.6**
HARR Harsova 88.56 315 ⇑P **P 13 00 20.7 -3.6**
TESR Tescani 89.01 317 ⇑P **P 13 00 23.4 -3.1**
TBI Tubuai 89.02 114 *e*LR LR 13 28 59.0
comp=Z,1μm,30.2s
KMBO Kilima Mbogo 89.04 269 P **P 13 00 25.6 -1.9**
KMBO IAmb IAmb 13 00 42.6
comp=Z,4.8nm,0.8s
KMBO Kilima Mbogo 89.04 269 *i* P **P 13 00 31.5 +3.9**
SNR=6.2
KMBO Kilima Mbogo 89.04 269 P **P 13 00 25.6 -1.9**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
VRI Vrincioaia 89.11 316 ⇑P **P 13 00 24.0 -3.0**
VRI Vrincioaia 89.11 316 ⇑P **P 13 00 24.0 -3.0**
MOR8 Moi Rana 89.14 338 *e*P **P 13 00 24.9 -1.8**
MAW Mawson 89.67 200 P **P 13 00 29.1 +0.2**
comp=Z,20nm,0.7s,baz=56,slow=5.1,SNR=61
comp=Z,20nm,0.7s
BURAR Bucovina Array 89.68 318 ⇑P **P 13 00 27.0 -2.7**
BURAR Bucovina Array 89.68 318 P **P 13 00 29.4 -0.4**
BURAR IAmb IAmb 13 00 31.2
comp=Z,7.6nm,0.7s
BURAR Bucovina Array 89.68 318 ⇑P **P 13 00 27.0 -2.7**
BUR08 Bucovina Ar. S 89.69 318 P **P 13 00 29.5 -0.3**
BUR08 IAmb IAmb 13 00 30.4
comp=Z,9.3nm,1.1s
MLR Muntele Rosu 89.73 316 ⇑P **P 13 00 27.3 -2.7**

MLR	**Muntele Rosu**	**89.73**	**316**	LR	LR	13 44 01.0	
	comp=Z,81nm,21.5s,baz=102,slow=38						
MLR	**Muntele Rosu**	**89.73**	**316**	⇑P	**P**	**13 00 27.3**	**-2.7**
VNDA	**Vanda**	**89.99**	**173**	P	**P**	**13 00 29.8**	**-0.5**
VNDA				IAmb	IAmb	13 00 32.1	
	comp=Z,5.6nm,0.8s						
VNDA	**Vanda**	**89.99**	**173**	P	**P**	**13 00 30.2**	**0.0**
	comp=Z,6.2nm,0.9s,baz=318,slow=6.3,SNR=37						
	comp=Z,6.2nm,0.9s						
DAG	**Danmarks Havn**	**90.69**	**352**	*i* P	**P**	**13 00 32.0**	**-1.7**
DAG				IAmb	IAmb	13 00 34.6	
	comp=Z,17nm,0.8s						
HFS	**Hagfors**	**91.93**	**332**	P	**P**	**13 00 38.4**	**-1.3**
	comp=Z,5.1nm,0.5s,baz=92,slow=4.6,SNR=26						
HFS				LR	LR	13 46 07.2	
	comp=Z,84nm,19.9s,baz=91,slow=38						
	comp=Z,5.1nm,0.5s						
NEEM	**North Greenlan**	**92.38**	**359**	*i* P	**P**	**13 00 42.1**	**+0.2**
NEEM				IAmb	IAmb	13 00 45.9	
	comp=Z,12nm,0.7s						
NB2	**NORSAR Subarra**	**92.64**	**334**	P	**P**	**13 00 41.6**	**-1.5**
	comp=Z,3.0nm,0.7s,baz=67,slow=4.6						
NB2	**NORSAR Subarra**	**92.64**	**334**	P	**P**	**13 00 41.6**	**-1.5**
	baz=67,slow=4.6						
NB2	**NORSAR Subarra**	**92.64**	**334**	P	**P**	**13 00 45.3**	**+2.2**
NOA	**NORSAR Array B**	**92.64**	**334**	P	**P**	**13 00 41.5**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=64,slow=4.6,SNR=13						
NOA				LR	LR	13 46 34.4	
	comp=Z,70nm,20.3s,baz=100,slow=38						
	comp=Z,2.0nm,0.7s						
DBG	**Daneborg**	**92.97**	**351**	*i* P	**P**	**13 00 43.4**	**-0.9**
DBG				IAmb	IAmb	13 00 46.1	
	comp=Z,13nm,0.8s						
JMIC	**Jan Mayen**	**93.35**	**346**	*e*P	**P**	**13 00 47.0**	**+0.9**
JMIC	**Jan Mayen**	**93.35**	**346**	LR	LR	13 47 49.1	
	comp=Z,36nm,20.6s,baz=226,slow=39						
YKA	**Yellowknife Ar**	**93.80**	**24**	P	**P**	**13 00 49.0**	**+0.7**
	baz=299,slow=4.8						
YKA	**Yellowknife Ar**	**93.80**	**24**	*i* P	**P**	**13 00 48.7**	**+0.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VRAC	**Vranov**	**94.61**	**322**	LR	LR	13 47 29.9	
	comp=Z,49nm,18.2s,baz=86,slow=38						
MBAR	**Mbarara**	**95.35**	**270**	LR	LR	13 40 52.2	
	comp=Z,88nm,21.6s,baz=60,slow=34						
CLL	**Collm**	**95.95**	**325**	⇓*i*P	**P**	**13 00 58.2**	**-0.2**
CLL				*es*P	**sP**	**13 01 20.0**	**-2.2**
CLL				AMS	AMS	13 49 00.0	
	comp=Z,100nm,19.8s						
GERES	**GERESS Array B**	**96.54**	**322**	P	**P**	**13 01 01.2**	**-0.1**
	baz=70,slow=4.3						
GERES				LR	LR	13 46 56.1	
	comp=Z,60nm,20.9s,baz=94,slow=37						
YBH	**Yreka Blue Hor**	**98.55**	**45**	LR	LR	13 36 27.2	
	comp=Z,50nm,22.0s,baz=306,slow=30						
NEW	**Newport**	**99.46**	**37**	LR	LR	13 40 46.7	
	comp=Z,28nm,20.9s,baz=315,slow=32						
DAVOX	**Davos/Dischmat**	**99.75**	**321**	LR	LR	13 51 13.1	
	comp=Z,86nm,19.4s,baz=244,slow=38						
QSPA	**South Pole Qui**	**100.17**	**180**	P	**Pdif**	**13 01 17.1**	**0.0**
	comp=Z,1.0nm,0.9s,baz=255,slow=0.8,SNR=6.9						
NVAR	**Mina Array Bea**	**102.96**	**47**	PKiKP	**PKiKP**	**13 05 51.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=233,slow=3.7,SNR=4.1						
NVAR				PKKPbc	**PKKPbc**	**13 17 25.4**	**-3.0**
	comp=Z,0.4nm,0.7s,baz=139,slow=4.7,SNR=4.8						
PDAR	**Pinedale Array**	**106.79**	**39**	PKKP	**PKKPdf**	**13 17 28.4**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=120,slow=5.5,SNR=18						
MNTX	**Cornudas Mount**	**115.45**	**48**	P	**PKiKP**	**13 06 13.0**	**-0.7**
	baz=302						
TXAR	**Lajitas Array**	**117.95**	**49**	PKP	**PKiKP**	**13 06 19.4**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=293,slow=0.7,SNR=15						
TXAR				PKKPab	**PKKPbc**	**13 16 41.0**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=116,slow=5.7,SNR=15						
WMOK	**Wichita Mounta**	**118.28**	**41**	P	**PKPdf**	**13 06 18.5**	**-0.6**
	baz=308						
TORD	**Torodi Ar. Bea**	**120.07**	**292**	PKP	**PKPdf**	**13 06 21.9**	**-1.0**
	comp=Z,8.4nm,0.7s,baz=38,slow=2.7,SNR=14						
JCT	**Junction City**	**120.12**	**46**	P	**PKPdf**	**13 06 22.3**	**-0.5**
	baz=305						
CCM	**Cathedral Cave**	**120.58**	**34**	P	**PKPdf**	**13 06 22.9**	**-0.4**
	baz=316						
WHTX	**Lake Whitney,**	**120.83**	**43**	P	**PKPdf**	**13 06 23.6**	**-0.4**
	baz=308						
833A	**Chaparral WMA,**	**121.64**	**48**	P	**PKPdf**	**13 06 25.7**	**0.0**
	baz=305						
MIAR	**Mount Ida**	**121.68**	**38**	P	**PKPdf**	**13 06 25.2**	**-0.4**
	baz=313						
PKME	**Peaks-Kenny Pk**	**122.98**	**13**	P	**PKPdf**	**13 06 26.8**	**-0.9**
	baz=342						
WCI	**Wyandotte Cave**	**123.03**	**30**	P	**PKPdf**	**13 06 28.0**	**-0.1**
	baz=321						
LBNH	**Lisbon**	**123.31**	**15**	P	**PKPdf**	**13 06 28.2**	**-0.3**
	baz=339						
O53A	**New Philadelph**	**123.71**	**25**	P	**PKPdf**	**13 06 29.3**	**0.0**
	baz=327						
P52A	**Corning**	**123.83**	**26**	P	**PKPdf**	**13 06 29.6**	**0.0**
	baz=326						
WVT	**Waverly**	**123.84**	**33**	P	**PKiKP**	**13 06 29.9**	**0.0**
	baz=319						
BINY	**Binghamton**	**123.97**	**20**	P	**PKiKP**	**13 06 30.1**	**0.0**
	baz=334						
OXF	**Oxford**	**124.16**	**35**	P	**PKPdf**	**13 06 29.5**	**-0.8**
	baz=316						
SSPA	**Standing Stone**	**124.69**	**22**	P	**PKPdf**	**13 06 30.7**	**-0.5**
	baz=331						
L61B	**Northampton**	**124.76**	**17**	P	**PKPdf**	**13 06 31.3**	**+0.1**
	baz=338						
HRV	**Adam Dziewonsk**	**125.02**	**16**	P	**PKPdf**	**13 06 31.3**	**-0.5**
	baz=339						
TZTN	**Tazewell**	**125.70**	**29**	P	**PKPdf**	**13 06 32.6**	**-0.7**
	baz=323						
LRAL	**Lakeview Retre**	**126.60**	**35**	P	**PKPdf**	**13 06 34.6**	**-0.5**
	baz=318						
KMSC	**Kings Mountain**	**127.89**	**29**	P	**PKPdf**	**13 06 36.7**	**-0.7**
	baz=325						
GOGA	**Godfrey**	**128.22**	**32**	P	**PKPdf**	**13 06 37.5**	**-0.6**
	baz=322						
KIC	**Kosan Boka**	**128.29**	**287**	⇑*i*PKIKP	**PKiKP**	**13 06 39.2**	**-0.2**
	comp=Z,30nm,0.6s						
DBIC	**Dimbokro**	**128.31**	**287**	PKP	**PKPdf**	**13 06 38.9**	**+0.1**
	comp=Z,6.3nm,0.5s,baz=55,slow=2.4,SNR=10						
TIC	**Toumodi**	**128.47**	**287**	⇑*i*PKIKP	**PKPdf**	**13 06 39.4**	**+0.3**
	comp=Z,20nm,0.9s						
LIC	**Lamto**	**128.61**	**287**	⇑*i*PKIKP	**PKiKP**	**13 06 39.7**	**-0.3**
	comp=Z,60nm,0.8s						
PLCA	**Paso Flores**	**146.32**	**157**	PKPbc	**PKPab**	**13 07 13.3**	**+0.2**
	comp=Z,13nm,0.7s,baz=225,slow=2.8,SNR=25						
LPAZ	**La Paz**	**164.96**	**115**	PKP	**PKPdf**	**13 07 37.1**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=216,slow=1.4,SNR=8.8						
SIV	**San Ignacio**	**171.04**	**130**	PKP	**PKPdf**	**13 07 40.4**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=155,slow=3.1,SNR=13						

*SJA **02** 12:58:25.1±0.8, 27°.92S×71°.58W, h16km±3km, ML4.0, MW3.9*

*IDC **02** 12:58:26.4±1.0, 28°.05S×71°.31W, h0km, mb3.7/3, mbtmp3.7/7, ML3.7/4, Error ellipse: s-maj=35.2km s-min=20.5km az=99.0*

*NEIC **02** 12:58:28.4±2.5, 27°.92S±0°.04×71°.43W±0°.07, h21km±7km, mb4.4/7, ML4.0(GUC), Error ellipse: s-maj=8.5km s-min=5.4km az=77.0*

*GUC **02** 12:58:30.1±0.7, 28°.03S×71°.19W, h35km±2km, ML4.0*

ISC 02 12:58:26.1±1.4, 27°.94S±0°.02×71°.38W±0°.04, h2km±9km, n77, σ1°87/105, mb4.3/5, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.38**	**134**			**Pb**	**12 58 36.0**	**+0.4**
AC04	**Llanos de Chal**	**0.38**	**134**	*e*P		**Pb**	**12 58 36.0**	**+0.4**
AC04				*e*P		**Pb**	**12 58 36.1**	**+0.4**
AC04	**Llanos de Chal**	**0.38**	**134**	⇑*e*P		**Pb**	**12 58 36.3**	**+0.7**
AC04				*e*S		**Sg**	**12 58 40.1**	**+1.8**
AC04				IAML			12 58 40.6	
	comp=E,34μm,0.2s							
GO03	**Copiap**	**1.07**	**71**			**Pn**	**12 58 47.7**	**-0.6**
GO03	**Copiap**	**1.07**	**71**	*e*P		**Pn**	**12 58 47.8**	**-0.6**
GO03				*e*S		**Sb**	**12 59 00.6**	**-1.4**
GO03				IAML			12 59 02.4	
	comp=Z,2μm,0.4s							
GO03	**Copiap**	**1.07**	**71**	⇓*i*P		**Pb**	**12 58 47.6**	**+0.1**
GO03				*i* S		**Sg**	**12 58 59.8**	**-0.9**
AC06	**Mina Casimiro**	**1.08**	**58**			**Pn**	**12 58 47.9**	**-0.5**
AC06	**Mina Casimiro**	**1.08**	**58**	*i* P		**Pb**	**12 58 47.6**	**0.0**
AC06				*i* S		**Sb**	**12 59 00.9**	**-1.3**
LCO	**Las Campanas**	**1.22**	**151**			**Pg**	**12 58 50.0**	**+0.4**
LCO	**Las Campanas**	**1.22**	**151**	*e*P		**Pg**	**12 58 50.3**	**+0.7**
LCO				*e*S		**Sg**	**12 59 04.3**	**-1.1**
LCO	**Las Campanas**	**1.22**	**151**	*e*P		**Pg**	**12 58 49.3**	**-0.3**
LCO				*i* S		**Sg**	**12 59 03.8**	**-1.7**
AC01	**Pan de Azucar**	**1.92**	**22**	Pn		**Pn**	**12 59 00.5**	**+0.7**
AC01	**Pan de Azucar**	**1.92**	**22**	*e*P		**Pn**	**12 59 00.1**	**+0.2**
AC01				*e*P		**Pn**	**12 59 00.6**	**+0.7**
AC01				*e*S		**Sg**	**12 59 30.6**	**+2.8**
AC01	**Pan de Azucar**	**1.92**	**22**	⇑*i*P		**Pn**	**12 59 00.8**	**+0.9**
AC01				*i* S		**Sn**	**12 59 23.2**	**-1.5**
CO05	**La Serena**	**1.97**	**176**			**Pn**	**12 59 01.6**	**+1.0**
CO05	**La Serena**	**1.97**	**176**	*e*P		**Pn**	**12 59 01.3**	**+0.7**
CO05				*i* S		**Sn**	**12 59 25.6**	**-0.3**
CO05				IAML			12 59 30.2	
	comp=E,2μm,0.3s							
GO04	**Tololo Observa**	**2.28**	**167**			**Pn**	**12 59 06.4**	**+1.3**
GO04	**Tololo Observa**	**2.28**	**167**	*e*P		**Pn**	**12 59 05.9**	**+0.8**
GO04				*e*S		**Sn**	**12 59 36.1**	**+2.2**
GO04				IAML			12 59 41.8	
	comp=Z,1μm,0.4s							
GO04	**Tololo Observa**	**2.28**	**167**	*e*P		**Pn**	**12 59 06.1**	**+1.0**
GO04				*e*S		**Sn**	**12 59 34.8**	**+0.9**
GO04				IAML			12 59 41.7	
	comp=E,3μm,0.5s							
CO01	**Juntas del Tor**	**2.32**	**151**	*e*P		**Pn**	**12 59 07.1**	**+1.4**
CO01				*e*S		**Sn**	**12 59 36.1**	**+1.2**
CO01				IAML			12 59 43.5	
	comp=Z,495nm,0.3s							
CO01	**Juntas del Tor**	**2.32**	**151**	*e*P		**Pn**	**12 59 07.5**	**+1.9**
CO01				*e*S		**Sn**	**12 59 33.3**	**-1.6**
CO01				IAML			12 59 43.6	
	comp=N,696nm,0.4s							
CO06	**Fray Jorge**	**2.73**	**185**			**Pn**	**12 59 10.7**	**-0.3**
CO06	**Fray Jorge**	**2.73**	**185**	*i* P		**Pn**	**12 59 10.9**	**-0.2**
CO06				*i* S		**Sn**	**12 59 47.3**	**+2.6**
AROD	**Rodeo**	**2.77**	**143**	*e*P		**Pb**	**12 59 14.9**	**-1.8**
AROD				*e*S		**Sb**	**12 59 51.0**	**-0.3**
VCA	**Vinchina**	**2.91**	**107**	*e*P		**Pn**	**12 59 14.1**	**+0.4**
VCA				*e*P		**Pb**	**12 59 17.8**	**-1.0**
VCA				*e*S		**Sb**	**12 59 53.6**	**-1.4**
VCA				IAML			13 00 01.1	
	comp=Z,423nm,0.6s							
CO03	**El Pedregal**	**2.95**	**168**	*e*P		Pn	12 59 10.1	-4.1
CO03				*e*P		Pb	12 59 14.8	-4.7
CO03				*e*S		**Sn**	**12 59 50.6**	**+0.4**
CO03				IAML			13 00 04.3	
	comp=Z,240nm,0.9s							
CO03	**El Pedregal**	**2.95**	**168**	*i* P		**Pn**	**12 59 15.3**	**+1.2**
CO03				*i* S		**Sn**	**12 59 52.2**	**+2.0**
CO03				IAML			13 00 10.0	
	comp=E,579nm,0.3s							
AGUA	**GUANDACOL**	**2.97**	**122**	*e*P		**Pb**	**12 59 18.2**	**-1.7**
AGUA				*e*S		**Sb**	**12 59 54.1**	**-2.6**
AGUA				IAML			13 00 03.1	
	comp=Z,313nm,0.9s							
ACDV	**Cuesta del Vie**	**2.98**	**139**	*e*P		Pn	12 59 05.5	-9.1
ACDV				*e*S		**Sb**	**12 59 58.3**	**+1.4**
ACDV				IAML			13 00 04.3	
	comp=Z,206nm,0.7s							
GO02	**Mina Guanaco**	**3.20**	**30**	Pn		**Pn**	**12 59 19.2**	**+1.4**
GO02	**Mina Guanaco**	**3.20**	**30**	*e*P		**Pn**	**12 59 19.2**	**+1.4**
GO02	**Mina Guanaco**	**3.20**	**30**	*e*P		**Pn**	**12 59 19.2**	**+1.4**
GO02				*i* S		**Sn**	**12 59 56.6**	**0.0**
CO02	**Combarbal**	**3.27**	**174**	*e*P		**Pn**	**12 59 19.1**	**+0.5**
CO02				*e*S		**Sn**	**12 59 59.1**	**+1.0**
CO02				IAML			13 00 10.7	
	comp=Z,504nm,0.4s							
CO02	**Combarbal**	**3.27**	**174**	*e*P		**Pn**	**12 59 19.1**	**+0.5**
ACCO	**Cerro Coronel**	**3.32**	**143**	*e*P		**Pn**	**12 59 23.2**	**+3.7**
ACCO				*e*S		**Sn**	**13 00 03.1**	**+3.3**
PB14	**IPOC Station P**	**3.42**	**15**	*e*P		**Pn**	**12 59 21.2**	**+0.4**
PB14				*e*S		**Sg**	**13 00 14.1**	**-1.9**
DOCA	**Reserva Natura**	**3.60**	**147**	*e*P		**Pn**	**12 59 25.9**	**+2.5**
DOCA				*e*S		**Sn**	**13 00 10.1**	**+3.3**
DOCA				IAML			13 00 22.0	
	comp=Z,204nm,0.6s							
ACLC	**CERRO LA CRUZ**	**4.16**	**112**	*e*P		**Pn**	**12 59 27.6**	**-3.3**
ACLC				*e*P		Pb	12 59 33.5	-6.8
ACLC				*e*S		**Sb**	**13 00 25.1**	**-6.0**
RTLS	**Leoncito**	**4.25**	**155**	*e*P		**Pn**	**12 59 35.8**	**+3.6**
RTLS				*e*S		**Sn**	**13 00 27.6**	**+5.0**
RTLS				IAML			13 00 44.3	
	comp=Z,623nm,1.1s							
PB10	**IPOC Station P**	**4.47**	**10**	*e*P		**Pn**	**12 59 34.7**	**-0.3**
VA03	**San Esteban**	**4.86**	**172**			**Pn**	**12 59 43.0**	**+2.5**
VA03	**San Esteban**	**4.86**	**172**	*e*P		**Pn**	**12 59 41.8**	**+1.4**
VA03				*e*S		**Sb**	**13 00 48.1**	**-3.0**
VA03				IAML			13 01 04.5	
	comp=Z,100nm,0.6s							
VA03	**San Esteban**	**4.86**	**172**	*e*P		**Pn**	**12 59 41.8**	**+1.4**
CYA	**Choya**	**4.95**	**97**	*e*P		**Pn**	**12 59 45.1**	**+3.5**
CYA				*e*S		**Sn**	**13 00 45.5**	**+6.0**
CYA				IAML			13 01 00.5	
	comp=Z,92nm,0.6s							
CYA	**Choya**	**4.95**	**97**	*e*P		**Pn**	**12 59 42.7**	**+1.1**
CYA				*i* S		**Sn**	**13 00 38.0**	**-1.5**
PB15	**IPOC Station P**	**5.02**	**21**			**Pn**	**12 59 44.0**	**+1.2**
PB15	**IPOC Station P**	**5.02**	**21**	*e*P		**Pn**	**12 59 44.2**	**+1.5**
PB15				*e*S		**Sn**	**13 00 43.9**	**+2.4**
PB15				IAML			13 01 16.4	
	comp=Z,169nm,0.2s							
PB15	**IPOC Station P**	**5.02**	**21**	*e*P		**Pn**	**12 59 43.9**	**+1.2**
PB05	**IPOC Station P**	**5.18**	**12**			**Pn**	**12 59 44.2**	**-0.7**
PB05	**IPOC Station P**	**5.18**	**12**	*e*P		**Pn**	**12 59 44.1**	**-0.7**
MT02	**Curacav**	**5.30**	**178**	*e*P		**Pn**	**12 59 46.7**	**+0.2**
MT02				*e*S		**Sb**	**13 00 59.1**	**-4.7**
MT02				IAML			13 01 18.3	
	comp=Z,80nm,0.7s							
LVC	**Limon Verde**	**5.76**	**23**			**Pn**	**12 59 52.4**	**-0.7**
LVC	**Limon Verde**	**5.76**	**23**	Pn		**Pn**	**12 59 53.9**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=200,slow=10,SNR=23							
LVC				Sn		**Sn**	**13 01 03.0**	**+3.1**
	comp=Z,3.1nm,0.3s,baz=50,slow=20,SNR=2.6							
	comp=Z,5.3nm,0.5s							
MT09	**Talagante**	**5.83**	**177**			**Pn**	**12 59 53.7**	**-0.1**
MT01	**Popeta**	**5.90**	**179**			**Pn**	**12 59 54.8**	**+0.1**
H03N1	**Juan Fernandez**	**8.49**	**228**	T		T	13 09 07.8	
	baz=56,slow=72,SNR=516							
H03N2	**Juan Fernandez**	**8.50**	**228**	T		T	13 09 08.2	
	baz=56,slow=72,SNR=132							
H03N3	**Juan Fernandez**	**8.51**	**228**	T		T	13 09 04.6	
	baz=56,slow=72,SNR=582							
LPAZ	**La Paz**	**11.98**	**15**	Pn		**Pn**	**13 01 18.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=187,slow=9.8,SNR=3.6							
	comp=Z,1.0nm,0.5s							
CPUP	**Villa Florida**	**12.62**	**86**	Pn		**Pn**	**13 01 28.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=214,slow=16,SNR=2.2							
CPUP				Sn		**Sn**	**13 03 46.6**	**-1.3**
	baz=347,slow=8.6,SNR=1.9							
	comp=Z,0.7nm,0.4s							
SIV	**San Ignacio**	**15.25**	**41**	Pn		**Pn**	**13 02 05.0**	**+2.4**
	baz=221,slow=11,SNR=5.3							
	comp=Z,0.8nm,0.4s							
PLTB	**Pedras Altas**	**15.89**	**108**	Pn		**Pn**	**13 02 10.8**	**-0.1**
PLTB				IAmb		IAmb	13 02 22.3	
	comp=Z,18nm,1.4s							
SAML	**Samuel**	**20.41**	**24**	P		**P**	**13 03 04.6**	**-0.1**
MG04	**Isla Riesco**	**24.89**	**180**	P		**P**	**13 03 48.5**	**-1.7**
MG04				IAmb		IAmb	13 04 26.3	
	comp=Z,83nm,1.1s							
HOPE	**Hope Point**	**36.57**	**146**	P		P	13 05 27.7	-5.6
SNAA	**Sanae**	**57.00**	**159**	P		**P**	**13 08 12.2**	**-0.8**
SNAA				IAmb		IAmb	13 08 32.5	
	comp=Z,4.3nm,1.3s							
SNAA	**Sanae**	**57.00**	**159**	P		**P**	**13 08 12.2**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=278,slow=9.6,SNR=6.1							
	comp=Z,1.1nm,0.8s							
QSPA	**South Pole Qui**	**62.27**	**180**	P		**P**	**13 08 49.7**	**+0.2**
QSPA				IAmb		IAmb	13 09 00.9	
	comp=Z,3.7nm,1.2s							
QSPA	**South Pole Qui**	**62.27**	**180**	P		**P**	**13 08 49.4**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=331,slow=2.4,SNR=6.0							
	comp=Z,1.2nm,0.9s							
TXAR	**Lajitas Array**	**64.79**	**329**	P		**P**	**13 09 08.5**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=170,slow=5.5,SNR=2.8							
	comp=Z,0.2nm,0.6s							
LMQ	**La Malbaie**	**75.15**	**1**	P		**P**	**13 10 08.0**	**-1.6**
LMQ				IAmb		IAmb	13 10 49.7	
	comp=Z,7.2nm,1.4s							
H11S2	**WAKE ISLAND Hyl**	**26.21**	**273**	T		T	15 36 40.7	
	baz=112,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hyl**	**26.22**	**273**	T		T	15 36 41.3	
	baz=112,slow=75,SNR=9.7							
H11S3	**WAKE ISLAND Hyl**	**26.23**	**273**	T		T	15 36 42.0	
	baz=112,slow=75,SNR=15							
KURBB	**Kurchatov Arra**	**147.88**	**37**	PKPbc	**PKPbc**	**13 18 12.2**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=306,slow=3.2,SNR=4.5							
ZALV	**Zalesovo Beam**	**148.70**	**27**	PKPbc	**PKPbc**	**13 18 14.9**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=330,slow=2.8,SNR=5.9							
MKAR	**Makanchi Array**	**152.07**	**41**	PKPbc	**PKPbc**	**13 18 23.5**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=286,slow=2.7,SNR=4.7							

*IDC **02** 13:10:14.6±3.3, 36°.32N×70°.93E, h198km±30km, mb3.1/7, mbtmp3.6/12, Error ellipse: s-maj=25.2km s-min=18.7km az=10.0*

*NNC **02** 13:10:21.3±8.6, 36°.97N×70°.84E, h162km±185km, mb2.6, mpv3.4, Error ellipse: s-maj=83.3km s-min=42.7km az=12.0*

ISC 02 13:10:14.3±1.1, 36°.50N±0°.10×71°.06E±0°.10, h188km, n17, σ2°10/21, mb3.3/6, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.61**	**357**	⇑P		**Pn**	**13 11 52.2**	**+3.1**
	1.3nm,0.4s,baz=174,slow=12,SNR=6.8							
KK31				S		**Sn**	**13 12 59.5**	**-4.7**
	6.9nm,0.5s,baz=181,slow=22,SNR=17							
AAK	**Ala-Archa**	**6.67**	**22**	P		**Pn**	**13 11 53.4**	**+3.2**
	2.5nm,0.4s,baz=54,slow=21,SNR=2.7							
AAK				S		**Sn**	**13 13 02.3**	**-3.8**
	3.4nm,0.6s,baz=54,slow=22,SNR=1.8							
AAK	**Ala-Archa**	**6.67**	**22**	⇓P		**Pn**	**13 11 53.0**	**+2.8**
	2.0nm,0.5s							
AAK				⇑S		**Sn**	**13 13 05.2**	**-1.0**
	12nm,0.8s							
TKM2	**Tokmak 2**	**7.30**	**27**	⇑P		**Pn**	**13 11 59.6**	**+1.1**
	0.8nm,0.5s							
TKM2				⇑S		**Sn**	**13 13 19.8**	**-1.3**
	4.8nm,0.9s							
GEYT	**Alibeck**	**10.42**	**282**	P		**Pn**	**13 12 38.9**	**-0.2**
	1.0nm,0.4s,baz=106,slow=15,SNR=2.6							
MKAR	**Makanchi Array**	**13.26**	**36**	P		**P**	**13 13 17.8**	**-0.7**
	0.2nm,0.3s,baz=218,slow=9.0,SNR=3.9							
AB31	**Akbulak array**	**15.10**	**331**	P		**P**	**13 13 40.6**	**+1.8**
	0.7nm,0.5s,baz=140,slow=12,SNR=12							
KURBB	**Kurchatov Arra**	**15.10**	**19**	P		**P**	**13 13 40.1**	**+1.3**
	0.2nm,0.3s,baz=205,slow=11,SNR=2.1							
AKTO	**Aktyubinsk**	**16.80**	**330**	P		**Pn**	**13 13 58.5**	**0.0**
	1.0nm,0.4s,baz=147,slow=10,SNR=3.8							
ZALV	**Zalesovo Beam**	**19.89**	**24**	P		**P**	**13 14 32.2**	**+1.2**
	0.4nm,0.3s,baz=230,slow=11,SNR=2.2							
	0.4nm,0.3s							
FINES	**FINESS Array B**	**37.51**	**326**	P		**P**	**13 17 10.2**	**+0.6**
	baz=121,slow=9.9							
ARCES	**ARCESS Array B**	**41.16**	**338**	P		**P**	**13 17 40.2**	**+0.5**
	0.7nm,0.5s,baz=118,slow=7.3,SNR=6.0							
	0.7nm,0.5s							
HFS	**Hagfors**	**43.09**	**322**	P		**P**	**13 17 55.0**	**-0.4**
	2.7nm,1.0s,baz=108,slow=9.5,SNR=2.0							
	2.7nm,1.0s							
NOA	**NORSAR Array B**	**44.41**	**323**	P		**P**	**13 18 05.8**	**-0.1**
	0.3nm,0.5s,baz=96,slow=7.7,SNR=2.1							
	0.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**65.76**	**269**	P		**P**	**13 20 37.5**	**-1.8**
	0.5nm,0.4s,baz=50,slow=6.6,SNR=13							
	0.5nm,0.4s							
WRA	**Warramunga Arr**	**81.95**	**122**	P		**P**	**13 22 12.5**	**-0.7**
	0.4nm,0.8s,baz=326,slow=5.0,SNR=1.9							
	0.4nm,0.8s							
ASAR	**Alice Springs**	**84.22**	**125**	P		**P**	**13 22 24.2**	**-0.5**
	0.3nm,0.8s,baz=315,slow=4.9,SNR=4.2							
	0.3nm,0.8s							

*BJI **02** 13:39:11.3±0.0, 33°.81N×137°.27E, h355km, mb4.7/52, mB4.7/15*

*NIED **02** 13:39:12.5, 33°.76N×137°.19E, h372km, MW4.7, Moment Tensor Solution. s

JMM Marumori 5.04 35 P **Pn** **13 40 33.1 -0.7**
JMM Marumori 5.04 35 Pn **Pn** **13 40 32.8 -1.0**
JNU Nakatsue 5.27 265 P **Pn** **13 40 38.4 +1.9**
JNU Nakatsue 5.27 265 **Pn** **13 40 37.7 +1.2**
JNU Nakatsue 5.27 265 P **Pn** **13 40 38.0 +1.4**
229nm,0.7s,baz=85,slow=4.1,SNR=122
JNU S **S** **13 41 43.2 -0.3**
53nm,0.9s,baz=68,slow=19,SNR=3.8
JTU Tsushima 6.46 279 P **Pn** **13 40 51.2 +1.3**
JTM Tenmabayashi 7.66 23 P **Pn** **13 41 03.4 -0.4**
JTM Tenmabayashi 7.66 23 Pn **Pn** **13 41 02.9 -0.9**
JCJ Chichijima 7.96 146 P Pn 13 41 03.2 -4.4
JCJ Chichijima 7.96 146 P Pn 13 40 58.7 -8.8
121nm,0.3s,baz=344,slow=6.3,SNR=22
JCJ S S 13 42 25.6 -15
202nm,0.3s,baz=270,slow=22,SNR=12
KSRS Korea Array 8.35 299 P **Pn** **13 41 13.6 +1.6**
114nm,0.6s,baz=111,slow=12,SNR=473
KS19 Wonju Array Si 8.41 299 **Pn** **13 41 13.2 +0.5**
TJN Taejon 8.42 291 P **Pn** **13 41 14.8 +2.0**
TJN Taejon 8.42 291 **Pn** **13 41 13.6 +0.8**
TJN Taejon 8.42 291 *ce*P **Pn** **13 41 14.0 +1.2**
INCN Inchon 9.31 296 P **Pn** **13 41 24.9 +1.5**
INCN Inchon 9.31 296 P **Pn** **13 41 24.9 +1.5**
ERM Erimo 9.49 28 P **Pn** **13 41 24.4 -1.1**
ERM Erimo 9.49 28 Pn **Pn** **13 41 23.9 -1.6**
ERM Erimo 9.49 28 *ce*P **Pn** **13 41 25.9 +0.4**
ERM pmax pmax
comp=Z,139nm,0.8s
JEM Erimo 9.49 28 P **Pn** **13 41 24.4 -1.1**
PSTR Posyet 10.16 333 *i* P **Pn** **13 41 34.2 +0.8**
VLA Vladivostok 10.19 338 *i* P **Pn** **13 41 35.3 +1.5**
USA0B Ussuriysk Arra 11.14 340 **Pn** **13 41 45.9 +0.8**
USA0B Ussuriysk Arra 11.14 340 *i* P **Pn** **13 41 46.3 +1.2**
USRK Ussuriysk Ar. 11.14 340 **Pn** **13 41 45.9 +0.7**
USRK Ussuriysk Ar. 11.14 340 P **Pn** **13 41 46.3 +1.2**
comp=Z,70nm,0.5s,baz=153,slow=11,SNR=343
ASAJ Asahikawa 11.16 21 P **Pn** **13 41 45.0 -0.3**
comp=Z,35nm,0.3s,baz=232,slow=11,SNR=12
ASAJ S **S** **13 43 44.1 -5.8**
comp=Z,32nm,0.6s,baz=108,slow=20,SNR=6.0
ASAJ Asahikawa 11.16 21 P **Pn** **13 41 45.0 -0.3**
JKA Kamikawa-asahi 11.16 21 **Pn** **13 41 44.3 -1.0**
NMR Nemuro--Hokkai 11.69 33⇑ *i*P **Pn** **13 41 51.2 -0.4**
NMR *i* S **S** **13 43 54.7 -7.0**
RUSJ Misakicho 12.08 29 *c i*P **P** **13 41 56.7 +0.8**
RUSJ *e*S **S** **13 44 05.4 -4.7**
YUK Yuzh-Kuril'sk 12.28 31 *c i*P **Pn** **13 41 59.6 +1.1**
YUK *i* S **S** **13 44 08.3 -5.9**
YUK pmax pmax
comp=E,114nm,0.5s
YUK pmax pmax
comp=Z,259nm,0.5s
YUK pmax pmax
comp=N,128nm,0.3s
YUK pmax pmax
comp=Z,436nm,1.4s
MDJ Mudanjiang 12.29 334 P **P** **13 41 59.7 +1.4**
MDJ Mudanjiang 12.29 334 P **P** **13 41 58.9 +0.6**
MDJ pmax pmax
comp=Z,23nm,1.0s
MDJ pmax pmax
comp=Z,240nm,3.7s
MDJ Mudanjiang 12.29 334 P **P** **13 41 58.6 +0.3**
SHO Shikotan 12.58 34 *e*P **Pn** **13 42 02.9 +0.8**
SHO *e*S **S** **13 44 17.6 -2.9**
SHO pmax pmax
comp=Z,52nm,0.5s
SHO pmax pmax
comp=N,10.0nm,0.3s
SNY Shenyang 13.38 311 ⇓P **P** **13 42 10.9 +0.5**
SNY pmax pmax
comp=N,22nm,1.4s
DL2 Dalian 13.50 297 P **P** **13 42 12.4 +0.7**
DL2 pmax pmax
comp=N,27nm,0.9s
CN2 Changchun 13.52 321 P **P** **13 42 12.4 +0.5**
CN2 pmax pmax
comp=N,20nm,0.6s
YSS Yuzh-Sakhalins 13.83 16 P **Pn** **13 42 17.7 +1.0**
YSS Yuzh-Sakhalins 13.83 16 P **P** **13 42 16.5 +1.3**
YSS Yuzh-Sakhalins 13.83 16 *ce*P **P** **13 42 16.9 +1.7**
YSS *e*S **S** **13 44 43.5 -2.1**
YSS pmax pmax
comp=Z,80nm,0.9s
YSS pmax pmax
comp=Z,200nm,3.0s
YSS smax smax
comp=N,70nm,0.6s
YSS smax smax
comp=E,40nm,0.7s
YSS smax smax
comp=N,300nm,3.3s
BNX BinXian 14.08 331 ⇓P **P** **13 42 18.0 0.0**
BNX pmax pmax
comp=N,22nm,0.6s
KUR Kuril'sk 14.10 33 P **P** **13 42 20.0 +1.8**
KUR *i* S **S** **13 44 57.8 +6.7**
KUR pmax pmax
comp=Z,109nm,0.6s
KUR pmax pmax
comp=N,29nm,0.4s
KUR pmax pmax
comp=E,18nm,0.4s
KLR Kul'dur 15.95 347 P **P** **13 42 38.1 -0.2**
comp=E,4.9nm,0.4s,baz=170,slow=10,SNR=25
KLR S **S** **13 45 24.9 -3.1**
comp=E,0.8nm,0.5s,baz=164,slow=20,SNR=1.5
KLR Kul'dur 15.95 347 *e*P **P** **13 42 36.6 -1.7**
KLR pmax pmax
comp=Z,13nm,0.6s
YHNB Yeheng 16.47 241 P **P** **13 42 46.4 +2.1**
TIA Tai'an 16.58 284 P **P** **13 42 45.1 -0.2**
TIA pmax pmax
comp=Z,18nm,0.5s
NACB Ninganchiao 16.61 239 P **P** **13 42 45.0 -0.8**
SSLB Suanglung 17.31 239 P **P** **13 42 53.0 -0.3**
SSLB Suanglung 17.31 239 P **P** **13 42 51.3 -2.0**
SSLB IAmb IAmb 13 42 53.6
comp=Z,22nm,0.9s
YULB Yu-li 17.32 237 P **P** **13 42 52.6 -0.8**
TYV Tymovskoe 17.54 12 *e*P **Pn** **13 43 00.4 +1.0**
TYV *e*S **S** **13 46 02.7 +3.6**
TYV pmax pmax
comp=Z,100nm,4.5s
TYV pmax pmax
comp=Z,12nm,0.9s
TYV smax smax
comp=E,13nm,1.7s
TYV smax smax
comp=N,300nm,5.6s
TYV smax smax
comp=E,200nm,5.6s
BJT Baijiatuau 17.87 296 P **P** **13 42 59.8 +0.7**
BJT Baijiatuau 17.87 296 P **P** **13 42 59.4 +0.3**
BJT Baijiatuau 17.87 296 P **P** **13 42 59.4 +0.3**
BJT pmax pmax
comp=Z,22nm,0.4s
HEH HeiHe 17.95 339 ⇓*i*P **P** **13 42 58.8 -1.0**
HEH sP **sP** **13 44 29.6 -5.1**
HEH S **S** **13 46 04.1 -3.0**
HEH pmax pmax
comp=Z,14nm,0.6s
XLT XiLinHaoTe 19.21 308 *e*P **P** **13 43 11.2 -2.2**
XLT pmax pmax
comp=Z,18nm,0.5s
WHN Wuhan 19.55 267 ⇓P **P** **13 43 18.0 +1.0**
WHN pmax pmax
comp=Z,140nm,0.6s
HIA Hailar 20.15 325 P **P** **13 43 23.9 +1.1**
HIA Hailar 20.15 325 P **P** **13 43 21.5 -1.2**
HIA Hailar 20.15 325 P **P** **13 43 21.5 -1.2**
HIA pmax pmax
comp=Z,51nm,0.6s
LYN LuoYang 20.42 279 *e*P **P** **13 43 24.0 -1.4**
LYN pmax pmax
comp=Z,18nm,0.6s
ZEA Zeya 21.15 344 *e*P **P** **13 43 32.5 +0.8**
ZEA pmax pmax
comp=Z,20nm,0.6s
GUMO Guam 21.30 159 P **P** **13 43 32.8 -0.7**
GUMO Guam 21.30 159 P **P** **13 43 34.4 +0.9**
comp=Z,59nm,0.5s,baz=234,slow=19,SNR=5.4
comp=Z,59nm,0.5s

HHC Hu-ho-hao-te 21.48 297 *e*P **P** **13 43 35.4 +0.3**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,58nm,3.8s
BTO Baotou 22.59 295 *e*P **P** **13 43 47.2 +2.0**
BTO pmax pmax
comp=Z,57nm,0.6s
BTO pmax pmax
comp=Z,360nm,4.1s
PEA0B Petropavlovsk- 24.26 31 P **P** **13 44 01.2 +1.3**
PEA0B IAmb IAmb 13 44 01.9
comp=Z,18nm,1.1s
PEA0B Petropavlovsk- 24.26 31 *ce*P **P** **13 44 00.2 +0.3**
PETK Petropavlovsk- 24.26 31 P **P** **13 44 00.1 +0.2**
PETK Petropavlovsk- 24.26 31 P **P** **13 44 01.3 +1.3**
comp=Z,5.7nm,0.6s,baz=228,slow=6.2,SNR=17
comp=Z,5.7nm,0.6s
PET Petropavlovsk 24.62 32 P **P** **13 44 03.8 +0.7**
PET Petropavlovsk 24.62 32 *ce*P **P** **13 44 04.8 +1.7**
PET pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 26.56 311 P **P** **13 44 21.1 +0.3**
ULN Ulaanbaatar 26.56 311 *ce*P **P** **13 44 21.9 +1.2**
ULN pmax pmax
comp=Z,22nm,0.6s
SONM Songino Array 26.97 311 P **P** **13 44 25.0 +0.7**
SONM IAmb IAmb 13 44 28.9
comp=Z,18nm,0.7s
SONM Songino Array 26.97 311 P **P** **13 44 25.4 +1.1**
comp=Z,19nm,0.7s,baz=109,slow=8.0,SNR=31
SONM ScP **ScP** **13 50 40.5 -1.2**
comp=Z,0.7nm,0.7s,baz=132,slow=2.2,SNR=3.6
comp=Z,19nm,0.7s
MA2 Magadan 27.33 15 P **P** **13 44 28.2 +1.0**
MA2 Magadan 27.33 15 P **P** **13 44 28.0 +0.8**
MA2 Magadan 27.33 15 *ce*P **P** **13 44 28.2 +1.0**
MA2 pmax pmax
comp=Z,26nm,0.8s
MA2 Magadan 27.33 15 P **P** **13 44 28.1 +0.9**
comp=Z,37nm,0.9s
YAK Yakutsk 28.67 353 *e*P P 13 44 34.5 -4.4
YAK *e**PP pP 13 45 37.1 -7.3
YAK *e* 13 47 34.5
YAK *e*S **S** **13 48 56.9 -4.1**
YAK *e**SS sS 13 50 57.5 -2.8
YAK *e* 13 54 35.7
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK smax smax
comp=E,43nm,2.7s
YAK smax smax
comp=N,40nm,2.6s
ZAK Zakamensk 29.78 314 *e*P **P** **13 44 49.2 +0.2**
ZAK pmax pmax
comp=Z,7.0nm,1.6s
GTA Gaotai 30.34 292 *e*P **P** **13 44 53.8 -0.3**
GTA pmax pmax
comp=Z,6.0nm,1.5s
SEY Seymchan 30.71 14 *e*P **P** **13 44 56.6 -0.2**
SEY pmax pmax
comp=Z,8.0nm,1.0s
PZH PanZhiHua 31.34 266 P **P** **13 45 05.0 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
MYLDM Lahad Datu 33.31 215 P **P** **13 45 20.4 +0.5**
MYLDM IAmb IAmb 13 45 21.8
comp=Z,25nm,0.9s
GOMU GeErMu 34.56 286 P **P** **13 45 31.3 +0.5**
GOMU pmax pmax
comp=Z,13nm,0.5s
SWI Sorong 34.90 190 P **P** **13 45 31.9 -1.5**
comp=Z,20nm,1.0s
CRAI Chiangrai 35.23 257 P **P** **13 45 36.4 +0.2**
KMSI Cibinong 35.27 203 P **P** **13 45 35.9 -0.6**
comp=Z,126nm,1.0s
GTOI Gorontalo 35.54 205 P **P** **13 45 36.9 -1.9**
comp=Z,26nm,0.8s
TOLI2 Tolitoli 35.93 209 P **P** **13 45 40.7 -1.4**
TOLI2 Tolitoli 35.93 209 P **P** **13 45 40.2 -2.0**
TOLI2 IAmb IAmb 13 45 41.6
comp=Z,11nm,0.7s
PHRA Phrae 36.24 255 P **P** **13 45 44.0 -0.7**
GENI Genyem 36.29 175 P **P** **13 45 45.5 +0.4**
FAKI Fak Fak 36.79 188 P **P** **13 45 48.5 -0.8**
FAKI Fak Fak 36.79 188 P **P** **13 45 48.7 -0.6**
comp=Z,46nm,0.8s
MPSI Mapaga 36.99 210 P **P** **13 45 50.7 -0.3**
comp=Z,21nm,0.9s
CHTO Chiang Mai 37.11 256 P **P** **13 45 51.4 -0.6**
CHTO Chiang Mai 37.11 256 P **P** **13 45 51.4 -0.6**
CHTO pmax pmax
comp=Z,9.0nm,1.2s
SANI Sanana 37.16 199 P **P** **13 45 50.4 -1.9**
SANI Sanana 37.16 199 P **P** **13 45 50.3 -2.0**
comp=Z,27nm,0.8s
CMAR Chiang Mai Arr 37.30 256 P **P** **13 45 53.3 -0.2**
CMAR Chiang Mai Arr 37.30 256 P **P** **13 45 53.3 -0.2**
BILL Bilibino 38.15 17 P **P** **13 46 01.3 +1.4**
BILL Bilibino 38.15 17 *e*P **P** **13 46 01.2 +1.4**
BILL *e**PP **pP** **13 47 08.1 -0.3**
BILL *e* 13 47 38.3
BILL *e**SP **sP** **13 47 48.5 -0.6**
BILL *e* 13 48 06.4
BILL pmax pmax
comp=Z,29nm,0.6s
WMQ Urumqi 39.30 300 *e*P **P** **13 46 11.1 +1.3**
WMQ pmax pmax
comp=Z,12nm,0.7s
ZAA0 Zalesovo Array 41.64 315 P **P** **13 46 28.6 +0.1**
ZALV Zalesovo Beam 41.64 315 P **P** **13 46 27.9 -0.6**
ZALV Zalesovo Beam 41.64 315 P **P** **13 46 28.3 -0.2**
comp=Z,6.1nm,0.5s,baz=86,slow=8.3,SNR=25
ZALV PcP **PcP** **13 48 17.4 -0.4**
comp=Z,3.0nm,0.5s,baz=107,slow=3.4,SNR=11
ZALV ScP **ScP** **13 51 32.5 -1.1**
comp=Z,1.5nm,0.6s,baz=107,slow=5.0,SNR=5.4
comp=Z,6.1nm,0.5s
KAPI Kappang 41.95 206 P **P** **13 46 30.8 -0.6**
KAPI IAmb IAmb 13 46 32.0
comp=Z,32nm,0.9s
KAPI Kappang 41.95 206 P **P** **13 46 30.8 -0.6**
KAPI pmax pmax
comp=Z,32nm,1.0s
SPIA Saint Paul Isl 42.30 40 P **P** **13 46 36.1 +2.3**
comp=Z,51nm,1.3s
SPIA Saint Paul Isl 42.30 40 P **P** **13 46 32.6 -1.1**
baz=259
NIKH Nikolski High 42.54 46 P **P** **13 46 34.7 -1.0**
baz=265
P08K Saint George I 42.58 41 P **P** **13 46 35.1 -0.9**
baz=261
MK31 Makanchi Array 42.98 305 P **P** **13 46 39.1 -0.3**
MK31 Makanchi Array 42.98 305 *ce*P **P** **13 46 39.6 +0.2**
MKAR Makanchi Array 42.98 305 P **P** **13 46 39.2 -0.2**
MKAR Makanchi Array 42.98 305 P **P** **13 46 39.6 +0.2**
comp=Z,6.1nm,0.4s,baz=87,slow=9.8,SNR=71
MKAR PcP **PcP** **13 48 20.1 -2.3**
comp=Z,0.4nm,0.4s,baz=90,slow=5.8,SNR=2.4
MKAR ScP **ScP** **13 51 37.8 -1.4**
comp=Z,0.8nm,0.7s,baz=87,slow=5.0,SNR=5.0
comp=Z,6.1nm,0.4s
MAKZ Makanchi 43.19 305 P **P** **13 46 40.9 -0.1**
MAKZ IAmb IAmb 13 46 42.1
comp=Z,9.6nm,0.4s
MAKZ Makanchi 43.19 305 P **P** **13 46 40.9 -0.1**
MAKZ pmax pmax
comp=Z,10.0nm,0.4s
UNV Unalaska Valle 44.01 45 P **P** **13 46 47.8 +0.5**
UNV Unalaska Valle 44.01 45 P **P** **13 46 47.1 -0.2**
baz=266
IPM Ipoh 44.46 237 P **P** **13 46 50.7 -0.7**
EDFI Ende, Flores 44.77 202 P **P** **13 46 51.8 -2.1**
comp=Z,19nm,0.9s
NRIK Noril'sk 44.84 337 P **P** **13 46 53.8 +0.2**
NRIK Noril'sk 44.84 337 P **P** **13 46 53.9 +0.3**
comp=Z,4.0nm,0.3s,baz=110,slow=8.1,SNR=5.5
comp=Z,4.0nm,0.3s
NRIK Noril'sk 44.84 337⇑ *e*P **P** **13 46 53.8 +0.2**

NRIK pmax pmax
comp=Z,9.0nm,0.8s
M11K Mekoryuk 44.95 36 P **P** **13 46 53.6 -1.0**
baz=260
KURK Kurchatov 45.27 310 P **P** **13 46 56.9 -0.4**
KURK IAmb IAmb 13 46 58.8
comp=Z,22nm,0.9s
KURK Kurchatov 45.27 310 *ce*P **P** **13 46 57.0 -0.2**
KURK pmax pmax
comp=Z,40nm,1.4s
KURBB Kurchatov Arra 45.33 310 P **P** **13 46 57.6 -0.1**
comp=Z,8.8nm,0.4s,baz=93,slow=8.9,SNR=219
KURBB S **S** **13 53 10.0 -1.0**
comp=Z,0.1nm,0.4s,baz=101,slow=8.6,SNR=4.6
comp=Z,8.8nm,0.4s
TNA Tin City 45.39 29 P **P** **13 46 57.3 -0.6**
baz=253
FALS False Pass 45.86 44 P **P** **13 47 01.4 -0.4**
baz=268
K13K Kusilvak Mount 45.96 34 IAmb IAmb 13 47 05.3
comp=Z,26nm,1.3s
K13K Kusilvak Mount 45.96 34 P **P** **13 47 01.5 -0.9**
baz=260
F14K Arctic Creek 46.00 29 P **P** **13 47 02.2 -0.5**
baz=255
ANM Nome 46.17 30 P **P** **13 47 03.3 -0.7**
baz=257
DRS Darwin Rock St 46.34 188 P **P** **13 47 04.6 -1.2**
M13K Dall Lake 46.35 36 IAmb IAmb 13 47 08.8
comp=Z,30nm,0.9s
M13K Dall Lake 46.35 36 P **P** **13 47 05.7 +0.2**
baz=263
KDU Kakadu 46.42 186 P **P** **13 47 05.7 -0.8**
J14K Nanvaranak Lak 46.61 33 P **P** **13 47 08.0 +0.7**
baz=260
S12K Black Hills 46.67 43 P **P** **13 47 07.2 -0.7**
S12K IAmb IAmb 13 47 08.0
comp=Z,23nm,0.6s
S12K Black Hills 46.67 43 P **P** **13 47 07.1 -0.9**
baz=268
F15K North Star Dit 46.74 29 P **P** **13 47 09.5 +1.2**
baz=256
L14K Kuka Creek 46.80 35 P **P** **13 47 10.2 +1.4**
baz=262,SNR=7.7
G15K Niukluk 46.83 30 P **P** **13 47 09.9 +0.8**
baz=258
M14K Bethel 47.08 36 IAmb IAmb 13 47 14.0
comp=Z,33nm,0.9s
M14K Bethel 47.08 36 P **P** **13 47 12.2 +1.2**
baz=264,SNR=16
N14K Kuskokwak Cree 47.13 37 P **P** **13 47 12.1 +0.8**
baz=265
C16K Lisburne Hills 47.14 25 P **P** **13 47 12.9 +1.5**
baz=253
O14K Tigyukauivet M 47.28 38 P **P** **13 47 13.1 +0.5**
baz=266
L15K Ungalak Mounta 47.41 35 P **P** **13 47 14.4 +0.9**
baz=263
K15K Wolf Creek Mou 47.47 34 P **P** **13 47 15.0 +1.1**
baz=263
H16K Elim 47.51 31 P **P** **13 47 15.5 +1.3**
baz=260
G16K Koyuk River 47.60 30 P **P** **13 47 16.1 +1.2**
baz=259
M15K Kasigluk River 47.69 36 P **P** **13 47 16.5 +0.8**
baz=265,SNR=10
D17K Noatak River 47.81 26 P **P** **13 47 18.2 +1.7**
baz=256
N15K Kwethluk River 47.95 37 IAmb IAmb 13 47 20.4
comp=Z,21nm,0.8s
N15K Kwethluk River 47.95 37 P **P** **13 47 19.3 +1.7**
baz=266,SNR=12
C17K DeLong Mountai 47.97 25 P **P** **13 47 18.1 +0.4**
baz=255
J16K Anvik River 48.02 33 P **P** **13 47 19.6 +1.4**
baz=263
O15K Ungalikthiuk R 48.02 38 P **P** **13 47 18.9 +0.7**
baz=267,SNR=8.0
CHNA Chernabura Isl 48.08 44 P **P** **13 47 18.6 -0.1**
baz=271,SNR=9.6
CNBA Chernabura Isl 48.08 44 P **P** **13 47 18.6 -0.1**
S14K Fog Glacier 48.09 42 P **P** **13 47 19.0 +0.1**
baz=270
E17K Hotham Inlet 48.15 27 P **P** **13 47 20.5 +1.4**
baz=258
F17K Baldwin Pennin 48.25 28 P **P** **13 47 21.1 +1.3**
baz=259
G17K Kiwalik Mounta 48.32 30 P **P** **13 47 21.0 +0.6**
baz=260
L16K Owhat River 48.37 35 IAmb IAmb 13 47 23.5
comp=Z,24nm,1.4s
L16K Owhat River 48.37 35 P **P** **13 47 21.7 +1.0**
baz=265,SNR=8.0
H17K Granite Mounta 48.54 30 P **P** **13 47 23.2 +1.1**
baz=262
UGM Wanagama 48.55 216 P **P** **13 47 21.6 -1.2**
M16K Timber Creek 48.56 36 IAmb IAmb 13 47 24.9
comp=Z,19nm,1.2s
M16K Timber Creek 48.56 36 P **P** **13 47 23.7 +1.4**
baz=266,SNR=8.5
KSH Kashi 48.59 295 P **P** **13 47 26.6 +3.6**
KSH pmax pmax
comp=Z,4.0nm,0.7s
N16K Nishlik Lake 48.62 36 P **P** **13 47 24.0 +1.2**
baz=267,SNR=9.7
B18K Kokolik River 48.67 24 P **P** **13 47 25.0 +2.0**
baz=256
E18K Tukpahlearik C 48.68 27 P **P** **13 47 24.8 +1.8**
baz=259
J17K VABM Dome 48.71 33 IAmb IAmb 13 47 26.4
comp=Z,20nm,0.8s
J17K VABM Dome 48.71 33 P **P** **13 47 25.1 +1.8**
baz=264,SNR=10
C18K Utukok River 48.72 25 IAmb IAmb 13 47 25.5
comp=Z,16nm,0.6s
C18K Utukok River 48.72 25 P **P** **13 47 24.9 +1.5**
baz=257,SNR=9.7
CHGN Chignik 48.72 42 P **P** **13 47 23.9 +0.4**
baz=271
F18K Selawik 48.91 28 P **P** **13 47 26.0 +1.3**
baz=261
O16K Kokwok River B 48.92 38 IAmb IAmb 13 47 27.6
comp=Z,22nm,1.1s
O16K Kokwok River B 48.92 38 P **P** **13 47 26.3 +1.4**
baz=268,SNR=9.4
L17K Donlin 48.96 34 P **P** **13 47 27.2 +2.0**
baz=266,SNR=8.6
P16K Nushagak River 48.96 38 P **P** **13 47 26.8 +1.6**
baz=269
K17K Iditarod 49.00 33 IAmb IAmb 13 47 28.6
comp=Z,15nm,0.8s
K17K Iditarod 49.00 33 P **P** **13 47 27.5 +2.0**
baz=265,SNR=8.5
A19K Wainwright 49.12 23 P **P** **13 47 28.1 +1.8**
baz=256
GSI Gunungsitoli 49.12 237 P **P** **13 47 27.3 +0.2**
GSI Gunungsitoli 49.12 237 P **P** **13 47 26.6 -0.6**
G18K Tagagawik 49.20 29 P **P** **13 47 28.2 +1.2**
baz=262
H18K Honhosa River 49.22 30 P **P** **13 47 28.3 +1.1**
baz=263
M17K Holitna River 49.32 35 IAmb IAmb 13 47 31.1
comp=Z,12nm,0.8s
M17K Holitna River 49.32 35 P **P** **13 47 29.7 +1.7**
baz=267,SNR=8.4
C19K Lookout Ridge 49.38 25 IAmb IAmb 13 47 31.4
comp=Z,20nm,0.9s
C19K Lookout Ridge 49.38 25 P **P** **13 47 30.1 +1.7**
baz=258,SNR=8.3
N17K Nushagak Hills 49.41 36 IAmb IAmb 13 47 31.7
comp=Z,13nm,0.8s
N17K Nushagak Hills 49.41 36 P **P** **13 47 30.7 +2.1**
baz=268,SNR=12
O17K Koliganek Bris 49.43 37 P **P** **13 47 30.4 +1.6**
baz=269
Q16K King Salmon 49.65 39 P **P** **13 47 31.5 +1.1**
baz=270,SNR=5.2
F19K Shaleruckik Mo 49.68 28 P **P** **13 47 31.8 +1.3**
baz=262
L18K Granite Mounta 49.72 34 P **P** **13 47 32.9 +1.9**
baz=267,SNR=7.9
P17K Kvichak River 49.76 38 P **P** **13 47 32.6 +1.3**
baz=270
J18K Innoko River 49.78 33 P **P** **13 47 33.0 +1.6**
baz=266
D19K Kuna River 49.80 26 P **P** **13 47 33.0 +1.5**
baz=260
R17L Mt. Peulik Vol 49.82 40 P **P** **13 47 32.7 +0.9**

baz=271
G19K **Purcell Mounta** 49.87 29 P P 13 47 33.1 +1.1
baz=263,SNR=5.2
E19K **Redstone River** 49.97 27 P P 13 47 34.2 +1.5
baz=262
N18K **Kilae Creek** 50.05 36 P P 13 47 35.2 +1.7
baz=269
Q17K **Contact Creek** 50.06 39 P P 13 47 34.9 +1.3
baz=271
H19K **Roundabout Mou** 50.06 30 IAmb IAmb 13 47 36.1
comp=Z,27nm,1.4s
H19K **Roundabout Mou** 50.06 30 P P 13 47 34.9 +1.5
baz=264,SNR=10
M18K **Stony River** 50.10 35 P P 13 47 35.6 +1.8
baz=268,SNR=7.5
BVAR **Borovoye Array** 50.23 314 P P 13 47 34.8 -0.1
comp=Z,3.4nm,0.4s,baz=90,slow=7.4,SNR=19
BVAR PcP pP 13 48 48.2 +0.7
comp=Z,2.7nm,0.6s,baz=92,slow=3.4,SNR=6.4
BVAR ScP ScP 13 52 08.7 -0.8
comp=Z,1.2nm,0.6s,baz=94,slow=4.5,SNR=5.6
comp=Z,3.4nm,0.4s
ANCK **Angle Creek** 50.27 39 IAmb IAmb 13 47 36.7
comp=Z,28nm,1.2s
BRVK **Borovoye** 50.29 314 P P 13 47 35.0 -0.3
BRVK **Borovoye** 50.29 314 *ce*P P 13 47 35.3 0.0
BRVK pmax pmax
comp=Z,13nm,1.0s
J19K **Poorman** 50.30 32 IAmb IAmb 13 47 37.6
comp=Z,11nm,0.6s
J19K **Poorman** 50.30 32 P P 13 47 36.4 +1.2
baz=267,SNR=16
CHIR **Chirikof Islan** 50.30 43 P P 13 47 35.9 +0.6
baz=273
D20K **Etivluk River** 50.38 26 P P 13 47 37.2 +1.5
baz=262
P18K **Big Mountain,** 50.38 38 IAmb IAmb 13 47 38.3
comp=Z,14nm,0.8s
P18K **Big Mountain,** 50.38 38 P P 13 47 37.3 +1.4
baz=271
O18K **Koktuh Hills** 50.39 37 IAmb IAmb 13 47 39.8
comp=Z,15nm,0.5s
O18K **Koktuh Hills** 50.39 37 P P 13 47 37.6 +1.6
baz=270,SNR=5.5
B20K **Meade River** 50.39 24 IAmb IAmb 13 47 38.4
comp=Z,25nm,1.0s
B20K **Meade River** 50.39 24 P P 13 47 37.2 +1.4
baz=260,SNR=11
E20K **Nigu River** 50.47 26 P P 13 47 38.0 +1.5
baz=262
F20K **Avaraart Lake** 50.51 28 P P 13 47 38.2 +1.5
baz=264
Q18K **Katmai Hardscr** 50.51 39 P P 13 47 37.1 +0.1
baz=272
L19K **White Mountain** 50.57 34 P P 13 47 38.9 +1.5
baz=269,SNR=6.0
H20K **Anotleneega Mo** 50.71 30 P P 13 47 40.1 +1.9
baz=266,SNR=8.6
N19K **Bonanza Creek** 50.74 36 P P 13 47 40.3 +1.6
baz=270,SNR=5.3
M19K **Big River Lodg** 50.79 35 P P 13 47 40.8 +1.9
baz=269
O19K **Port Alsworth** 50.83 37 IAmb IAmb 13 47 41.8
comp=Z,16nm,0.9s
O19K **Port Alsworth** 50.83 37 P P 13 47 40.6 +1.5
baz=271
I20K **Naaghedeneel** 50.84 31 IAmb IAmb 13 47 42.2
comp=Z,21nm,0.8s
I20K **Naaghedeneel** 50.84 31 P P 13 47 39.9 +0.8
baz=267,SNR=6.3
R18K **Karluk** 50.85 40 P P 13 47 39.4 0.0
baz=273
J20K **Nowinta River** 50.95 32 IAmb IAmb 13 47 43.0
comp=Z,14nm,0.8s
J20K **Nowinta River** 50.95 32 P P 13 47 41.8 +1.7
baz=268,SNR=19
K20K **Telida** 50.96 33 P P 13 47 41.8 +1.7
baz=268,SNR=42
L20K **Farewell, AK** 51.03 34 P P 13 47 42.7 +2.0
baz=269,SNR=14
SII **Sitkinak Islan** 51.06 42 P P 13 47 41.8 +0.8
SII **Sitkinak Islan** 51.06 42 P P 13 47 41.2 +0.3
baz=274
C21K **Knifeblade Rid** 51.09 25 P P 13 47 42.6 +1.6
baz=263,SNR=9.3
B21K **Ikpikpuk River** 51.21 25 P P 13 47 43.5 +1.6
baz=263,SNR=20
IMAR **Indian Mountai** 51.21 29 P P 13 47 43.1 +1.2
Q19K **Cape Douglas,** 51.21 38 P P 13 47 42.2 +0.1
baz=272
A22K **Sinclair Lake** 51.27 23 P P 13 47 43.6 +1.3
baz=262
E21K **Killik River** 51.31 26 P P 13 47 43.6 +1.0
baz=264
G21K **Allakaket** 51.34 29 P P 13 47 44.3 +1.4
baz=266
M20K **Styx River** 51.38 35 P P 13 47 44.8 +1.4
baz=271,SNR=5.3
P19K **Oil Pt** 51.39 38 P P 13 47 44.1 +0.7
baz=272
F21K **Alatna River** 51.39 28 P P 13 47 44.8 +1.5
baz=266,SNR=10
OHAK **Old Harbor** 51.50 41 P P 13 47 44.7 +0.6
baz=274
H21K **Melozitna Rive** 51.58 30 P P 13 47 46.2 +1.6
baz=268,SNR=17
O20K **Slope Mountain** 51.68 37 P P 13 47 46.7 +1.2
baz=272
B22K **Teshekpuk Lake** 51.70 24 P P 13 47 46.6 +1.2
baz=264,SNR=15
CHUM **Lake Minchumin** 51.75 32 P P 13 47 47.7 +1.8
baz=270,SNR=11
PPLA **Purkeypile** 51.81 33 P P 13 47 48.2 +1.6
baz=271,SNR=11
D22K **Ayikyak River** 51.82 26 P P 13 47 47.9 +1.5
baz=265,SNR=28
KDAK **Kodiak Island** 51.84 40 P P 13 47 47.1 +0.5
KDAK **Kodiak Island** 51.84 40 P P 13 47 47.1 +0.5
baz=274
KDAK **Kodiak Island** 51.84 40 *i*P P 13 47 47.2 +0.6
KDAK pmax pmax
comp=Z,44nm,0.9s
SPCR **Spurr Chakacha** 51.84 36 P P 13 47 45.0 -1.8
baz=272
N20K **Mount Spurr** 51.84 36 P P 13 47 48.0 +1.3
baz=272
CAST **Castle Rocks** 51.86 33 P P 13 47 48.7 +2.0
baz=270,SNR=16
Q20K **Shuyak Island** 51.88 39 P P 13 47 46.9 0.0
baz=274
I21K **Tanana** 51.91 30 P P 13 47 49.0 +2.0
baz=269
F22K **John River** 51.91 27 P P 13 47 48.8 +1.7
baz=267
E22K **Anaktuvuk Pass** 52.09 27 IAmb IAmb 13 47 51.1
comp=Z,20nm,0.8s
E22K **Anaktuvuk Pass** 52.09 27 P P 13 47 50.0 +1.6
baz=267,SNR=33
SKT **Skwentna** 52.14 35 P P 13 47 49.4 +0.6
baz=272,SNR=8.2
G22K **Bettles** 52.15 28 P P 13 47 49.7 +1.0
baz=268
H22K **Ishtalitna Cre** 52.18 30 P P 13 47 51.2 +2.2
baz=269,SNR=22
HOM **Homer** 52.20 37 P P 13 47 50.1 +0.9
baz=274
BPAW **Bear Paw Mtn.** 52.34 32 P P 13 47 51.2 +1.0
baz=271,SNR=11
MLY **Manley** 52.44 31 P P 13 47 52.6 +1.6
baz=270,SNR=9.8
SUA **Susitna One** 52.53 35 IAmb IAmb 13 47 54.7
comp=Z,18nm,1.0s
SUA **Susitna One** 52.53 35 P P 13 47 51.7 -0.1
baz=273,SNR=9.7
D23K **Nanushuk River** 52.55 26 P P 13 47 53.1 +1.4
baz=267,SNR=11
BRLK **Bradley Lake** 52.57 37 IAmb IAmb 13 47 54.5
comp=Z,18nm,1.0s
C23K **Itkillik River** 52.62 25 IAmb IAmb 13 47 54.9
comp=Z,18nm,0.9s
C23K **Itkillik River** 52.62 25 P P 13 47 53.8 +1.7
baz=267,SNR=17
BRSE **Bradley Lake S** 52.65 37 P P 13 47 53.2 +0.7
baz=274,SNR=5.2
COLD **Coldfoot** 52.67 28 P P 13 47 53.8 +1.3
baz=269,SNR=5.1
CUT **Chulitna** 52.71 34 P P 13 47 53.7 +0.8
baz=273
G23K **Bananza Creek** 52.73 29 P P 13 47 54.3 +1.2
baz=270,SNR=24
FITZ **Fitzroy Crossi** 52.74 194 P P 13 47 53.6 0.0
M22K **Willow** 52.82 35 P P 13 47 54.0 +0.3
baz=273,SNR=9.3
E23K **Chandalar** 52.91 27 P P 13 47 56.2 +1.9
baz=269,SNR=43
H23K **Yukon River** 52.93 30 IAmb IAmb 13 47 57.8
comp=Z,14nm,0.8s
H23K **Yukon River** 52.93 30 P P 13 47 56.3 +1.8
baz=271,SNR=23
TOLK **Toolik Lake Re** 52.94 26 P P 13 47 55.9 +1.4
baz=268,SNR=11
GAR **Garm** 52.96 296 IAmb IAmb 13 47 56.2
comp=Z,30nm,1.3s
I23K **Minto, Yukon-K** 53.02 30 P P 13 47 56.6 +1.5
baz=271,SNR=7.8
RC01 **Rabbit Creek A** 53.05 36 IAmb IAmb 13 47 57.0
comp=Z,19nm,1.1s
RC01 **Rabbit Creek A** 53.05 36 P P 13 47 55.6 +0.2
baz=274,SNR=6.5
O22K **Cooper Landing** 53.10 36 P P 13 47 56.1 +0.4
baz=275
NEA2 **Nenana** 53.16 31 IAmb IAmb 13 47 58.7
comp=Z,19nm,0.9s
NEA2 **Nenana** 53.16 31 P P 13 47 57.7 +1.6
baz=272,SNR=5.7
D24K **Happy Valley** 53.22 25 P P 13 47 58.0 +1.5
baz=269,SNR=25
MCK **McKinley** 53.26 32 P P 13 47 57.5 +0.6
baz=273
SEW **Seward** 53.26 37 P P 13 47 57.0 0.0
baz=275,SNR=8.7
C24K **Franklin Bluff** 53.27 25 P P 13 47 58.2 +1.4
baz=268
PMR **Palmer** 53.30 35 IAmb IAmb 13 47 58.7
comp=Z,16nm,0.8s
PMR **Palmer** 53.30 35 P P 13 47 57.3 +0.2
baz=274,SNR=17
RND **Reindeer** 53.31 33 IAmb IAmb 13 47 58.9
comp=Z,21nm,0.9s
E24K **Your Creek** 53.33 27 P P 13 47 58.8 +1.4
baz=270,SNR=17
GHO **Glory Hole Cre** 53.38 35 IAmb IAmb 13 47 59.8
comp=Z,23nm,0.9s
WRAB **Tennant Creek** 53.48 183 P P 13 47 57.8 -1.2
WRAB IAmb IAmb 13 48 04.5
comp=Z,26nm,0.8s
WRAB **Tennant Creek** 53.48 183 *i*P P 13 47 58.2 -0.8
WRAB pmax pmax
comp=Z,16nm,1.2s
WAT1 **Susitna Watana** 53.48 33 P P 13 47 59.0 +0.4
baz=274
WRA **Warramunga Arr** 53.49 183 P P 13 47 57.2 -1.8
WRA **Warramunga Arr** 53.49 183 P P 13 47 58.0 -1.1
comp=Z,9.9nm,0.3s,baz=0.2,slow=7.5,SNR=291
WRA ScP ScP 13 52 24.0 0.0
comp=Z,0.4nm,0.6s,baz=0.7,slow=5.2,SNR=2.1
WRA S S 13 55 01.5 -2.5
comp=Z,0.3nm,0.8s,baz=0.0,slow=13,SNR=1.5
comp=Z,9.9nm,0.3s
WR0 **Warramunga Arr** 53.50 183 IAmb IAmb 13 47 58.7
comp=Z,22nm,0.8s
MDM **Murphy Dome** 53.51 31 IAmb IAmb 13 48 01.3
comp=Z,27nm,1.0s
F24K **Squaw Lake** 53.56 27 IAmb IAmb 13 48 01.9
comp=Z,12nm,0.7s
F24K **Squaw Lake** 53.56 27 P P 13 48 01.2 +2.1
baz=271,SNR=18
H24K **Noodor Dome** 53.62 30 IAmb IAmb 13 48 02.5
comp=Z,8.5nm,0.6s
H24K **Noodor Dome** 53.62 30 P P 13 48 01.3 +1.8
baz=272,SNR=16
KNK **Knik Glacier** 53.63 35 P P 13 48 00.3 +0.7
baz=275,SNR=8.8
SML **Sawmill** 53.66 35 IAmb IAmb 13 48 02.3
comp=Z,21nm,0.8s
SML **Sawmill** 53.66 35 P P 13 48 00.5 +0.6
baz=275,SNR=14
COLA **College** 53.67 31 P P 13 48 01.5 +1.7
COLA **College** 53.67 31 P P 13 48 00.9 +1.2
COLA **College** 53.67 31 P P 13 48 00.8 +1.0
baz=273
COLA **College** 53.67 31 *i*P P 13 48 01.5 +1.7
COLA pmax pmax
comp=Z,6.0nm,0.8s
G24K **Hadweenzic Riv** 53.75 29 P P 13 48 01.9 +1.6
baz=272,SNR=7.4
POKR **Poker Plat Res** 53.83 30 IAmb IAmb 13 48 03.8
comp=Z,28nm,1.1s
POKR **Poker Plat Res** 53.83 30 P P 13 48 02.2 +1.2
baz=273,SNR=6.8
WAT6 **Susitna Watana** 53.87 34 P P 13 48 02.0 +0.5
baz=275,SNR=9.9
CHGR **Chuyangaron** 53.93 296 IAmb IAmb 13 48 03.5
comp=Z,21nm,0.7s
M23K **Glacier View** 53.95 35 P P 13 48 02.3 +0.4
baz=275,SNR=7.6
DHY **Denali Highway** 54.00 33 P P 13 48 02.7 +0.3
baz=275,SNR=8.6
HDA **Harding Lake** 54.09 31 IAmb IAmb 13 48 04.2
comp=Z,25nm,1.3s
HDA **Harding Lake** 54.09 31 P P 13 48 03.4 +0.6
baz=274,SNR=11
ILAR **Eielson Array** 54.09 31 P P 13 48 02.8 0.0
ILAR **Eielson Array** 54.09 31 P P 13 48 03.2 +0.4
comp=Z,3.5nm,0.9s,baz=247,slow=5.4,SNR=50
ILAR PcP PcP 13 49 03.1 +0.6
comp=Z,0.6nm,0.6s,baz=276,slow=4.0,SNR=2.7
comp=Z,3.5nm,0.9s
D25K **Kavik River** 54.09 25 P P 13 48 04.1 +1.2
baz=271,SNR=37
SCM **Sheep Creek Mo** 54.13 35 P P 13 48 04.1 +0.8
baz=276,SNR=23
G25K **Bearman Lake** 54.29 28 P P 13 48 05.9 +1.7
baz=273
P23K **Montague Islan** 54.30 37 P P 13 48 04.7 +0.3
baz=277,SNR=5.6
GLI **Glacier Island** 54.35 36 P P 13 48 05.6 +0.9
baz=276,SNR=11
F25K **Christian Rive** 54.42 27 P P 13 48 07.2 +2.0
baz=273,SNR=30
E25K **Arctic Village** 54.43 27 IAmb IAmb 13 48 08.4
comp=Z,15nm,0.9s
E25K **Arctic Village** 54.43 27 P P 13 48 07.0 +1.8
baz=273,SNR=26
H25L **Birch Creek** 54.43 29 P P 13 48 06.8 +1.6
baz=274
C26K **Camden Bay** 54.59 24 P P 13 48 08.6 +2.3
baz=272,SNR=19
PRP **Porcupine Dome** 54.61 30 P P 13 48 07.8 +1.1
baz=274
M24K **Tolsona, Glenn** 54.65 34 P P 13 48 08.3 +1.4
baz=276,SNR=7.9
K24K **Donnelly Dome** 54.65 32 P P 13 48 07.2 +0.3
baz=276
HIN **Hinchinbrook I** 54.70 36 IAmb IAmb 13 48 09.5
comp=Z,26nm,0.9s
J25K **Salcha River,** 54.75 31 P P 13 48 08.5 +0.9
baz=275
KLU **Klutina** 54.84 35 IAmb IAmb 13 48 11.1
comp=Z,12nm,0.7s
KLU **Klutina** 54.84 35 P P 13 48 09.3 +1.0
baz=277,SNR=12
BMAR **Burnt Mountain** 54.84 28 P P 13 48 10.4 +2.2
PAX **Paxson** 54.88 33 P P 13 48 09.9 +1.4
baz=276,SNR=6.6
F26K **Sheenjek River** 54.99 27 P P 13 48 11.5 +2.3
baz=274,SNR=50
C27K **Jago River** 55.02 25 P P 13 48 10.9 +1.5
baz=273,SNR=17
EYAK **Cordova Ski Ar** 55.04 36 P P 13 48 11.0 +1.4
baz=278
HARP **HAARP** 55.09 34 P P 13 48 11.5 +1.6
baz=277,SNR=6.6
G26K **Porcupine Rive** 55.19 28 P P 13 48 12.3 +1.7
baz=275,SNR=9.3
SCRK **Sand Creek** 55.42 32 IAmb IAmb 13 48 14.2
comp=Z,18nm,1.0s
SCRK **Sand Creek** 55.42 32 P P 13 48 12.7 +0.3
baz=277,SNR=22
N25K **Chitina, Valde** 55.45 35 P P 13 48 13.9 +1.2
baz=278,SNR=7.3
J26L **Joseph Creek** 55.54 31 P P 13 48 13.5 +0.2
baz=277,SNR=10
BMRM **Bremner River** 55.54 35 P P 13 48 14.2 +0.9
baz=278,SNR=20
RAGM **Ragged Mountai** 55.59 36 IAmb IAmb 13 48 17.1
comp=Z,15nm,0.9s
I26K **Coal Creek Min** 55.62 30 P P 13 48 14.2 +0.6
baz=277
KAIM **Kayak Island** 55.79 37 IAmb IAmb 13 48 18.2
comp=Z,21nm,0.9s
KAIM **Kayak Island** 55.79 37 P P 13 48 15.8 +0.9
baz=279
HMT **Hamilton** 55.81 36 IAmb IAmb 13 48 17.7
comp=Z,13nm,0.9s
L26K **Log Cabin Wild** 55.83 33 IAmb IAmb 13 48 17.9
comp=Z,14nm,0.8s
L26K **Log Cabin Wild** 55.83 33 P P 13 48 16.4 +1.2
baz=278,SNR=15
GLB **Gilahina Butte** 55.85 35 IAmb IAmb 13 48 17.9
comp=Z,12nm,1.0s
E27K **Coleen River** 55.90 26 IAmb IAmb 13 48 18.7
comp=Z,14nm,0.7s
E27K **Coleen River** 55.90 26 P P 13 48 17.2 +1.5
baz=276,SNR=24
D27M **Malcolm River** 56.02 25 IAmb IAmb 13 48 19.4
comp=Z,20nm,1.1s
D27M **Malcolm River** 56.02 25 P P 13 48 17.9 +1.4
baz=276,SNR=14
G27K **Doyon Strip** 56.04 28 P P 13 48 18.1 +1.5
baz=277,SNR=10
VRDI **Verde Repeater** 56.05 35 IAmb IAmb 13 48 19.3
comp=Z,16nm,0.9s
M26K **Nabesna, AK** 56.08 34 IAmb IAmb 13 48 19.6
comp=Z,14nm,0.8s
M26K **Nabesna, AK** 56.08 34 P P 13 48 18.4 +1.4
baz=279,SNR=14
H27K **Steamboat Moun** 56.16 29 P P 13 48 19.2 +1.7
baz=278,SNR=7.4
I27K **Kandik River** 56.21 30 P P 13 48 19.5 +1.6
baz=278,SNR=9.9
MCARA **McCarthy VSAT** 56.23 35 P P 13 48 19.2 +1.2
baz=280,SNR=11
K27K **Chicken** 56.25 32 P P 13 48 19.6 +1.5
baz=279
CRQM **Cirque** 56.28 36 IAmb IAmb 13 48 21.7
comp=Z,18nm,0.9s
CRQE **Cirque** 56.31 36 P P 13 48 20.0 +1.3
baz=280,SNR=8.6
TGL **Tana Glacier** 56.43 35 IAmb IAmb 13 48 21.8
comp=Z,17nm,0.8s
WAX **Waxell Ridge** 56.48 36 IAmb IAmb 13 48 22.3
comp=Z,15nm,0.7s
ARU **Arti** 56.51 319 P P 13 48 19.6 -0.4
ARU IAmb IAmb 13 48 20.9
comp=Z,10.0nm,0.6s
ARU **Arti** 56.51 319 *d i*P P 13 48 19.8 -0.2
ARU S S 13 55 46.0 +3.0
ARU SS SS 13 59 37.2 +1.2
ARU pmax pmax
comp=Z,17nm,1.2s
L27K **Beaver Creek,** 56.51 33 P P 13 48 21.3 +1.3
baz=279,SNR=14
BCAR **Beaver Creek A** 56.53 33 P P 13 48 21.6 +1.5
EGAK **Eagle** 56.53 31 P P 13 48 20.7 +0.7
baz=279,SNR=5.5
M27K **Edge Creek, AK** 56.60 33 IAmb IAmb 13 48 23.3
comp=Z,15nm,0.7s
M27K **Edge Creek, AK** 56.60 33 P P 13 48 21.8 +1.0
baz=280,SNR=20
E28M **Babbage River** 56.61 26 IAmb IAmb 13 48 23.1
comp=Z,7.8nm,0.6s
E28M **Babbage River** 56.61 26 P P 13 48 22.1 +1.5
baz=278,SNR=16
F28M **Old Crow** 56.62 27 IAmb IAmb 13 48 23.8
comp=Z,14nm,1.1s
F28M **Old Crow** 56.62 27 P P 13 48 22.3 +1.6
baz=278,SNR=14
D28M **Stokes Point** 56.79 25 P P 13 48 22.5 +0.7
baz=278
I28M **Miner Creek** 56.93 30 IAmb IAmb 13 48 25.8
comp=Z,16nm,1.0s
I28M **Miner Creek** 56.93 30 P P 13 48 24.7 +1.7
baz=280,SNR=22
MESA **MESA** 56.97 36 P P 13 48 24.0 +0.6
baz=281
MBWA **Marble Bar** 57.10 199 P P 13 48 23.6 -0.9
MBWA **Marble Bar** 57.10 199 P P 13 48 23.6 -0.9
MBWA IAmb IAmb 13 48 24.6
comp=Z,16nm,0.7s
CTG **Chitna Glacier** 57.11 35 P P 13 48 25.4 +1.1
baz=281,SNR=6.3
ASAR **Alice Springs** 57.21 184 P P 13 48 24.6 -0.7
comp=Z,7.2nm,0.5s,baz=14,slow=11,SNR=53
ASAR ScP ScP 13 52 39.4 -0.9
comp=Z,0.5nm,0.8s,baz=3.8,slow=5.7,SNR=3.2
comp=Z,7.2nm,0.5s
E29M **Blow River** 57.24 26 P P 13 48 26.3 +1.4
baz=279,SNR=7.0
YUK3 **Moose Creek** 57.37 34 P P 13 48 27.5 +1.3
baz=281,SNR=9.5
ABKAR **Akbulak array** 57.38 311 P P 13 48 25.5 -0.7
ABKAR **Akbulak array** 57.38 311 IAmb IAmb 13 48 26.4
comp=Z,7.2nm,0.5s
DAWY **Dawson** 57.40 31 P P 13 48 26.6 +0.4
baz=281
H29M **Whitestone** 57.43 29 P P 13 48 28.0 +1.7
baz=280,SNR=6.0
G29M **Pine Creek** 57.44 28 IAmb IAmb 13 48 29.6
comp=Z,18nm,0.8s
G29M **Pine Creek** 57.44 28 P P 13 48 27.9 +1.5
baz=280,SNR=24
PSA00 **Pilbara Seismi** 57.46 199 P P 13 48 25.7 -1.3
I29M **Ogilvie Camp,** 57.62 30 P P 13 48 29.7 +2.1
baz=281
O28M **Mount Upton** 57.70 35 P P 13 48 30.7 +2.1
baz=282
YUK8 **Steele Glacier** 57.79 35 P P 13 48 31.3 +2.1
baz=282,SNR=5.9
PINM **Pinnacle** 57.82 36 P P 13 48 30.0 +0.8
baz=283
EPYK **Eagle Plains** 58.06 28 P P 13 48 32.1 +1.4
baz=282,SNR=35
G30M **tAoh Zraii Nji** 58.13 28 P P 13 48 32.5 +1.3
baz=282,SNR=28
M29M **Somme Creek** 58.15 33 IAmb IAmb 13 48 34.6
comp=Z,12nm,0.9s
M29M **Somme Creek** 58.15 33 P P 13 48 33.5 +2.1
baz=283,SNR=16
L29M **L29M** 58.15 32 IAmb IAmb 13 48 35.4
comp=Z,15nm,0.9s
L29M **L29M** 58.15 32 P P 13 48 33.8 +2.4
baz=282,SNR=18
F30M **Barrier River** 58.16 27 P P 13 48 33.2 +1.9
baz=282,SNR=18
K29M **Barlow Dome** 58.26 31 P P 13 48 33.9 +1.7
baz=282,SNR=12
YUK4 **Talbot Arm** 58.31 34 P P 13 48 34.4 +1.8
baz=283
PNL **Peninsula** 58.33 36 P P 13 48 34.5 +1.9
PNL **Peninsula** 58.33 36 P P 13 48 33.8 +1.2
baz=284
I30M **Mount Dempster** 58.44 30 IAmb IAmb 13 48 36.2
comp=Z,14nm,0.8s
I30M **Mount Dempster** 58.44 30 P P 13 48 34.6 +1.2
baz=283,SNR=31
YUK6 **Outpost Mounta** 58.53 35 P P 13 48 36.1 +1.9
baz=284
O29M **Mount Kennedy** 58.59 35 IAmb IAmb 13 48 37.2
comp=Z,8.3nm,0.7s
O29M **Mount Kennedy** 58.59 35 P P 13 48 36.5 +2.0
baz=284,SNR=6.9
J30M **Hart River** 58.60 30 P P 13 48 35.7 +1.2
baz=283,SNR=6.7
INK **Inuvik** 58.84 26 IAmb IAmb 13 48 37.4
comp=Z,6.9nm,0.6s
INK **Inuvik** 58.84 26 P P 13 48 36.4 +0.5
baz=283,SNR=9.4
M30M **Minto, Yukon** 58.87 33 P P 13 48 37.9 +1.6
baz=284,SNR=8.4
G31M **Satah River** 58.89 27 P P 13 48 36.7 +0.5
baz=283,SNR=10
HYT **Haines Junctio** 58.97 35 P P 13 48 38.7 +1.6
baz=284,SNR=5.0
N30M **Aishikik Lake** 59.01 34 P P 13 48 39.1 +1.9
baz=284
H31M **Peel River** 59.13 29 P P 13 48 39.4 +1.4
baz=284,SNR=24
P29M **Windy Craggy** 59.16 36 IAmb IAmb 13 48 41.4
comp=Z,13nm,0.8s
P29M **Windy Craggy** 59.16 36 P P 13 48 40.3 +2.0
baz=285,SNR=6.6
P30M **Million Dollar** 59.41 35 P P 13 48 41.6 +1.6
baz=285

N31M	**Braeburn, Yuko**	59.61	34	P	P	13 48 42.9	+1.6
	baz=285						
O30N	**Mendenhall**	59.65	35	P	P	13 48 43.3	+1.7
	baz=286						
PLBC	**Pleasant Camp**	59.88	36	P	P	13 48 44.9	+1.8
	baz=286,SNR=10						
M31M	**Drury Creek, Y**	60.05	33	P	P	13 48 45.7	+1.5
M31M	**Drury Creek, Y**	60.05	33	P	P	13 48 45.7	+1.5
	baz=286,SNR=7.9						
WHY	**Whitehorse**	60.26	35	P	P	13 48 47.1	+1.3
WHY				IAmb	IAmb	13 48 48.6	
	comp=Z,16nm,1.3s						
WHY	**Whitehorse**	60.26	35	P	P	13 48 47.8	+2.0
	baz=286,SNR=6.7						
SKAG	**Skagway**	60.39	36	P	P	13 48 48.0	+1.5
	baz=287						
A36M	**Sachs Harbour**	60.55	21	P	P	13 48 48.8	+1.5
	baz=288,SNR=8.6						
KIRV	**Kirov**	60.74	323	*c*eP	P	13 48 48.4	-0.4
N32M	**Quiet Lake**	60.95	34	P	P	13 48 51.3	+1.0
	baz=288						
P32M	**Atlin**	61.13	36	P	P	13 48 53.1	+1.5
	baz=288						
R32K	**Eaglecrest**	61.15	37	P	P	13 48 52.8	+1.2
	baz=288						
P33M	**Teslin, Yukon**	61.37	35	P	P	13 48 54.3	+1.1
	baz=288						
S32K	**Kilisnoo**	61.37	38	P	P	13 48 54.1	+1.0
	baz=288						
C36M	**Paulatuk**	61.82	23	P	P	13 48 57.0	+1.2
	baz=291,SNR=10.0						
Q32M	**Nakina River**	62.04	36	P	P	13 48 58.6	+0.8
	baz=289						
GEYT	**Alibeck**	62.34	299	P	P	13 49 00.3	+0.5
	comp=Z,2.1nm,0.7s,baz=48,slow=2.1,SNR=4.9						
	comp=Z,2.1nm,0.7s						
R33M	**Jennings River**	62.52	35	P	P	13 49 02.4	+1.6
	baz=290						
U33K	**Whale Pass**	62.58	39	P	P	13 49 02.5	+1.5
	baz=290						
S34M	**Telegraph Cree**	62.96	37	P	P	13 49 05.1	+1.5
	baz=291						
SPITS	**Spitsbergen Ar**	63.02	349	P	P	13 49 04.3	+0.7
	comp=Z,4.1nm,0.8s,baz=78,slow=8.6,SNR=5.1						
	comp=Z,4.1nm,0.8s						
DLBC	**Dease Lake**	63.32	36	P	P	13 49 08.0	+2.0
	baz=291						
T35M	**Bob Quinn**	63.75	38	IAmb	IAmb	13 49 11.8	
	comp=Z,8.1nm,0.9s						
T35M	**Bob Quinn**	63.75	38	P	P	13 49 10.7	+2.0
	baz=292						
EUNU	**Eureka**	63.89	8	P	P	13 49 09.7	+0.3
EUNU				IAmb	IAmb	13 49 10.7	
	comp=Z,7.7nm,0.7s						
DIB	**Dawson Inlet,**	63.98	42	P	P	13 49 11.3	+1.2
NOR	**Nord**	64.05	356	*i* P	P	13 49 07.1	-3.2
NOR				IAmb	IAmb	13 49 13.7	
	comp=Z,1.5nm,0.8s						
KLMR	**Klimovskoe**	64.62	328	*e*P	P	13 49 11.1	-3.1
KLMR				pmax	pmax		
	comp=Z,12nm,1.1s						
FORT	**Forrest**	64.78	189	P	P	13 49 15.3	-0.2
FORT	**Forrest**	64.78	189	P	P	13 49 15.3	-0.2
STKA	**Stephens Creek**	65.44	176	P	P	13 49 19.6	-0.2
	comp=Z,3.1nm,0.6s,baz=344,slow=4.4,SNR=5.1						
	comp=Z,3.1nm,0.6s						
TOAD	**Toad River Com**	65.46	34	P	P	13 49 21.2	+1.5
	baz=295,SNR=5.6						
ARCES	**ARCESS Array B**	65.79	339	P	P	13 49 21.8	+0.3
	comp=Z,1.3nm,0.4s,baz=65,slow=9.3,SNR=25						
	comp=Z,1.3nm,0.4s						
BLDU	**Ballidu**	66.89	199	P	P	13 49 28.9	0.0
JOF	**Joensuu**	67.16	331	*e*P	P	13 49 30.3	+0.1
YKA	**Yellowknife Ar**	68.34	28	P	P	13 49 38.1	+0.6
	baz=299,slow=6.5						
YNG	**Young**	68.54	170	P	P	13 49 39.7	+0.7
OBN	**Obninsk**	68.58	323	*e*P	P	13 49 39.6	+0.5
OBN				*e*		13 49 59.1	
OBN				*e**PP	pP	13 50 57.4	+0.3
OBN				*e**SP	sP	13 51 34.9	-0.1
OBN				*e*		13 52 19.9	
OBN				pmax	pmax		
	comp=Z,11nm,1.1s						
DAG	**Danmarks Havn**	68.68	354	*i* P	P	13 49 39.0	-0.3
DAG				IAmb	IAmb	13 49 40.3	
	comp=Z,4.3nm,0.7s						
NEEM	**North Greenlan**	68.92	2	*i* P	P	13 49 40.7	-0.5
NEEM				IAmb	IAmb	13 49 42.5	
	comp=Z,9.6nm,0.5s						
FINES	**FINESS Array B**	70.03	332	P	P	13 49 47.7	-0.1
	baz=74,slow=5.9						
KEF	**Keuruu**	70.09	332	*e*P	P	13 49 47.7	-0.4
KBZ	**Khabaz**	70.33	310	P	P	13 49 50.5	+0.5
	comp=Z,3.8nm,0.8s,baz=62,slow=7.5,SNR=9.0						
	comp=Z,3.8nm,0.8s						
KIV	**Kislovodsk**	70.36	310	*e*P	P	13 49 50.1	-0.1
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
VAF	**Ylistaro**	70.40	334	*e*P	P	13 49 50.2	+0.2
DBG	**Daneborg**	71.14	354	*i* P	P	13 49 53.6	-0.6
DBG				IAmb	IAmb	13 49 54.7	
	comp=Z,1.0nm,0.6s						
ARBE	**Arbavere**	71.21	330	*e*P	P	13 49 55.3	+0.5
MEF	**Metsahovi**	71.41	331	*e*P	P	13 49 55.9	-0.1
RAF	**Rauma**	71.97	332	*e*P	P	13 49 59.0	-0.2
AAL	**Aland**	73.18	332	*e*P	P	13 50 05.8	-0.5
MNK	**Minsk**	73.18	325	*i* P	P	13 50 05.4	-1.1
MNK				*i **PP	pP	13 51 22.6	-2.9
MNK				*i*		13 52 52.8	
MNK				*i* PPP	PPP	13 54 39.5	
MNK				*i* S	S	13 59 04.8	+0.1
MNK				*i* SS	SS	14 03 54.6	+1.1
MNK				*i* SSS	SSS	14 07 19.0	
MNK				pmax	pmax		
	comp=Z,12nm,0.9s						
MNK				pmax	pmax		
	comp=E,9.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,11nm,0.9s						
MNK				MLR	MLR		
	comp=Z,38nm,16.0s						
MNK				MLR	MLR		
	comp=E,101nm,14.0s						
MNK				MLR	MLR		
	comp=N,122nm,17.0s						
UPNV	**Upernavik**	73.33	4	*i* P	P	13 50 06.2	-0.8
UPNV				IAmb	IAmb	13 50 08.3	
	comp=Z,6.2nm,0.7s						
B08A	**Colville Reser**	73.60	43	P	P	13 50 09.9	+0.8
B08A				IAmb	IAmb	13 50 11.2	
	comp=Z,6.7nm,0.9s						
SLIT	**Slitere, Latvi**	73.84	329	*e*P	P	13 50 09.8	-0.5
SUMG	**Summit**	73.89	359	*i* P	P	13 50 11.1	+0.3
SUMG				IAmb	IAmb	13 50 12.7	
	comp=Z,8.8nm,0.5s						
PABE	**Paberze**	74.41	327	*e*P	P	13 50 14.2	+0.6
AKASG	**Malin Array Be**	74.68	321	P	P	13 50 14.8	-0.5
	baz=51,slow=5.5						
NEW	**Newport**	74.88	42	P	P	13 50 16.5	0.0
NEW				IAmb	IAmb	13 50 18.7	
	comp=Z,5.2nm,0.8s						
NEW	**Newport**	74.88	42	P	P	13 50 17.9	+1.4
	baz=304						
NEW	**Newport**	74.88	42	P	P	13 50 16.5	0.0
NEW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YBH	**Yreka Blue Hor**	75.10	50	IAmb	IAmb	13 50 20.6	
	comp=Z,6.1nm,0.8s						
VIKU	**Vikbolandet**	75.55	332	*e*P	P	13 50 19.8	-0.2
HFS	**Hagfors**	75.56	334	P	P	13 50 19.8	-0.2
	comp=Z,3.9nm,0.3s,baz=43,slow=4.0,SNR=55						
	comp=Z,3.9nm,0.3s						
NC303	**NORSAR Array S**	75.59	336	IAmb	IAmb	13 50 21.8	
	comp=Z,11nm,1.1s						
NB201	**NORSAR Array S**	75.75	336	P	P	13 50 20.8	-0.3
NB2	**NORSAR Subarra**	75.78	336	P	P	13 50 20.9	-0.4
	comp=Z,12nm,0.9s,baz=46,slow=5.6						
NOA	**NORSAR Array B**	75.78	336	P	P	13 50 21.1	-0.2
	comp=Z,6.7nm,0.7s,baz=44,slow=5.6,SNR=27						
	comp=Z,6.7nm,0.7s						
NBO00	**NORSAR Array S**	75.93	336	IAmb	IAmb	13 50 23.0	
	comp=Z,7.6nm,0.8s						
BMO	**Blue Mountains**	76.69	45	IAmb	IAmb	13 50 29.0	
	comp=Z,5.2nm,0.8s						
WVOR	**Wild Horse Val**	77.26	47	IAmb	IAmb	13 50 32.3	
	comp=Z,15nm,1.5s						
ICESG	**Greenland Ices**	77.41	359	*i* P	P	13 50 31.1	+0.5
ICESG				IAmb	IAmb	13 50 33.7	
	comp=Z,5.8nm,0.4s						
MSO	**Missoula**	77.47	42	P	P	13 50 31.6	+0.5
	baz=306						
FFC	**Flin Flon**	78.30	31	P	P	13 50 35.3	0.0
FFC				IAmb	IAmb	13 50 36.6	
	comp=Z,6.0nm,0.9s						
FFC	**Flin Flon**	78.30	31	P	P	13 50 35.3	0.0
FFC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PAHR	**Pah Rah Range**	78.32	50	IAmb	IAmb	13 50 37.9	
	comp=Z,7.4nm,0.8s						
BR131	**Keskin Array S**	78.32	310	IAmb	IAmb	13 50 37.0	
	comp=Z,4.9nm,1.0s						
BRTR	**Keskin Array B**	78.32	310	P	P	13 50 35.6	-0.3
BRTR	**Keskin Array B**	78.32	310	P	P	13 50 36.3	+0.4
	comp=Z,2.7nm,0.9s,baz=99,slow=3.9,SNR=10						
	comp=Z,2.7nm,0.9s						
MFID	**Camas Ranch**	78.39	45	IAmb	IAmb	13 50 38.6	
	comp=Z,8.9nm,1.2s						
PNTR	**Pine Nut**	78.53	51	IAmb	IAmb	13 50 39.4	
	comp=Z,7.7nm,0.8s						
RAYN	**Ar Rayn**	78.59	291	P	P	13 50 37.3	-0.2
RAYN	**Ar Rayn**	78.59	291	P	P	13 50 37.3	-0.2
RAYN				pmax	pmax		
	comp=Z,17nm,1.2s						
CMB	**Columbia Colle**	78.61	52	IAmb	IAmb	13 50 38.8	
	comp=Z,4.8nm,0.6s						
BURAR	**Bucovina Array**	78.63	320	P	P	13 50 36.9	-0.4
BURAR				IAmb	IAmb	13 50 38.8	
	comp=Z,3.7nm,0.8s						
WAKR	**Walker**	78.96	51	IAmb	IAmb	13 50 41.4	
	comp=Z,4.6nm,0.6s						
EGMT	**Eagleton**	79.00	39	P	P	13 50 40.4	+1.1
	baz=309						
HLID	**Hailey**	79.14	45	IAmb	IAmb	13 50 42.8	
	comp=Z,3.5nm,0.7s						
HLID	**Hailey**	79.14	45	P	P	13 50 41.6	+1.3
	baz=306,SNR=6.0						
BMN	**Battle Mountai**	79.27	48	IAmb	IAmb	13 50 43.5	
	comp=Z,6.2nm,0.8s						
SFJD	**Kangerlussuaq**	79.36	3	*i* P	P	13 50 40.8	0.0
RYN	**Ryan**	79.48	51	IAmb	IAmb	13 50 44.0	
	comp=Z,5.2nm,0.8s						
BOZ	**Bozeman (W)**	79.50	42	IAmb	IAmb	13 50 44.2	
	comp=Z,4.6nm,0.7s						
BOZ	**Bozeman (W)**	79.50	42	P	P	13 50 43.4	+1.3
	baz=308,SNR=8.4						
LHV	**Little Huntoon**	79.71	51	IAmb	IAmb	13 50 46.0	
	comp=Z,9.8nm,1.0s						
NVAR	**Mina Array Bea**	79.74	51	P	P	13 50 44.5	+0.8
NVAR	**Mina Array Bea**	79.74	51	P	P	13 50 44.9	+1.3
	comp=Z,3.9nm,0.7s,baz=294,slow=4.9,SNR=44						
	comp=Z,3.9nm,0.7s						
MLAC	**Mammoth, Mammo**	79.85	51	P	P	13 50 45.8	+1.5
	baz=305						
DY2G	**Dye2**	80.03	1	*i* P	P	13 50 44.1	-0.5
DY2G				IAmb	IAmb	13 50 45.9	
	comp=Z,5.9nm,0.5s						
SMMC	**Simmler**	80.40	54	P	P	13 50 48.9	+1.9
	baz=305						
DSP	**Deep Springs**	80.56	51	IAmb	IAmb	13 50 50.3	
	comp=Z,6.3nm,1.0s						
PKM	**Mcpherson Peak**	80.76	54	P	P	13 50 50.5	+1.4
	baz=305						
H17A	**Grant Village**	80.83	42	P	P	13 50 50.7	+1.4
	baz=309						
MMAI	**Mount Meron Ar**	80.92	304	P	P	13 50 50.6	+0.8
	comp=Z,0.6nm,0.3s,baz=111,slow=4.6,SNR=2.1						
	comp=Z,0.6nm,0.3s						
IMW	**Indian Meadow**	80.93	43	IAmb	IAmb	13 50 52.9	
	comp=Z,8.3nm,0.9s						
FLWY	**Flagg Ranch**	80.95	43	IAmb	IAmb	13 50 53.3	
	comp=Z,9.6nm,0.9s						
CWC	**Cottonwood Cre**	81.03	52	P	P	13 50 51.5	+1.1
	baz=306						
GMN	**Gold Mountain**	81.06	51	IAmb	IAmb	13 50 52.8	
	comp=Z,4.3nm,0.8s						
RLMT	**Red Lodge**	81.09	41	IAmb	IAmb	13 50 52.6	
	comp=Z,5.4nm,0.6s						
RLMT	**Red Lodge**	81.09	41	P	P	13 50 52.1	+1.4
	baz=310						
GRAC	**Grapevine Rang**	81.17	51	IAmb	IAmb	13 50 52.7	
	comp=Z,4.6nm,0.7s						
GRAC	**Grapevine Rang**	81.17	51	P	P	13 50 52.3	+1.3
	baz=306						
HVU	**Hansel Valley**	81.17	45	IAmb	IAmb	13 50 53.5	
	comp=Z,7.0nm,0.7s						
TPAW	**Teton Pass**	81.18	43	IAmb	IAmb	13 50 53.9	
	comp=Z,6.6nm,0.8s						
R11B	**Troy Canyon, C**	81.52	49	IAmb	IAmb	13 50 54.7	
	comp=Z,4.8nm,0.6s						
R11B	**Troy Canyon, C**	81.52	49	P	P	13 50 54.4	+1.4
	baz=307,SNR=12						
AHID	**Auburn Hatcher**	81.55	44	IAmb	IAmb	13 50 54.7	
	comp=Z,5.1nm,0.7s						
MPMC	**Manual Prospec**	81.64	52	P	P	13 50 54.6	+1.0
	baz=306,SNR=10.0						
WCT	**Wildcat Mounta**	81.77	51	IAmb	IAmb	13 50 56.3	
	comp=Z,11nm,1.4s						
FURC	**Furnace Creek,**	81.81	52	P	P	13 50 55.7	+1.6
	baz=306						
LRMC	**Laurel Mtn Rad**	81.85	53	P	P	13 50 55.7	+1.1
	baz=306						
TPNV	**Topopah Spring**	81.92	51	P	P	13 50 56.2	+1.2
	baz=306,SNR=14						
HWUT	**Hardware Ranch**	82.00	45	IAmb	IAmb	13 50 58.0	
	comp=Z,7.9nm,0.8s						
CLL	**Collm**	82.10	328	IAmb	IAmb	13 50 56.3	
	comp=Z,10nm,1.0s						
CLL	**Collm**	82.10	328	*i* P	P	13 50 55.0	-0.4
	comp=Z,11nm,1.0s						
NUUK	**Nuuk**	82.11	4	*i* P	P	13 50 55.1	-0.1
NUUK				IAmb	IAmb	13 50 57.0	
	comp=Z,10nm,0.5s						
DUG	**Dugway, Tooele**	82.12	47	IAmb	IAmb	13 50 58.5	
	comp=Z,13nm,1.2s						
DUG	**Dugway, Tooele**	82.12	47	P	P	13 50 57.6	+1.6
	baz=308,SNR=7.3						
MODS	**Modra-Piesok**	82.19	324	*e*P	P	13 50 56.6	+0.6
MODS	**Modra-Piesok**	82.19	324	*e*P	P	13 50 56.6	+0.6
PRN	**Pahroc Range**	82.42	50	IAmb	IAmb	13 50 60.0	
	comp=Z,7.5nm,1.1s						
BW06	**Boulder Array**	82.43	43	P	P	13 50 58.2	+0.6
	baz=310						
PDAR	**Pinedale Array**	82.43	43	P	P	13 50 58.4	+0.8
	comp=Z,4.9nm,0.8s,baz=335,slow=4.7,SNR=28						
	comp=Z,4.9nm,0.8s						
RDO	**Rodhopi**	82.46	315	IAmb	IAmb	13 50 59.2	
	comp=Z,7.1nm,1.2s						
PSUT	**Pine Spring**	82.50	48	IAmb	IAmb	13 51 00.1	
	comp=Z,5.4nm,0.8s						
GSC	**Goldstone, Bar**	82.53	52	IAmb	IAmb	13 51 00.5	
	comp=Z,5.9nm,0.8s						
GSC	**Goldstone, Bar**	82.53	52	P	P	13 50 59.0	+0.9
	baz=306,SNR=6.9						
CIS	**Catalina Islan**	82.56	55	P	P	13 50 58.7	+0.4
	baz=306						
NLU	**North Lily Min**	82.72	46	IAmb	IAmb	13 51 01.6	
	comp=Z,8.7nm,1.1s						
TUQ	**Turquoise Moun**	83.03	52	P	P	13 51 01.6	+0.9
	baz=307						
BBRC	**Big Bear Solar**	83.07	53	P	P	13 51 01.9	+0.9
	baz=306						
HEC	**Hector,Ludlow**	83.12	53	P	P	13 51 01.8	+0.7
	baz=307						
GERES	**GERESS Array B**	83.55	326	P	P	13 51 02.8	-0.2
V12A	**Nelson**	83.56	51	IAmb	IAmb	13 51 04.9	
	comp=Z,4.5nm,0.8s						
GMRC	**Granite Mounta**	83.59	52	P	P	13 51 04.2	+0.6
	baz=307,SNR=8.3						
TMUT	**Trail Mountain**	83.65	47	IAmb	IAmb	13 51 05.8	
	comp=Z,3.3nm,0.6s						
PFO	**Pinyon Flats O**	83.76	54	P	P	13 51 04.4	0.0
PFO				IAmb	IAmb	13 51 06.0	
	comp=Z,7.0nm,0.8s						
PFO	**Pinyon Flats O**	83.76	54	P	P	13 51 04.8	+0.4
	baz=307,SNR=6.3						
PFO	**Pinyon Flats O**	83.76	54	P	P	13 51 04.4	0.0
PFO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TPFO	**Pinon Flats**	83.77	54	P	P	13 51 05.0	+0.5
	baz=307,SNR=7.0						
PMD	**Palm Desert**	83.80	54	IAmb	IAmb	13 51 05.8	
	comp=Z,8.1nm,0.8s						
LCMT	**Little Creek M**	83.81	49	IAmb	IAmb	13 51 06.9	
	comp=Z,4.1nm,0.7s						
MTPU	**Mount Pierson**	83.83	48	IAmb	IAmb	13 51 07.8	
	comp=Z,6.7nm,0.7s						
BELC	**Belle Mtn. Jos**	83.84	53	P	P	13 51 05.3	+0.5
	baz=307,SNR=7.7						
Q16A	**Castle Valley**	83.91	47	IAmb	IAmb	13 51 07.2	
	comp=Z,4.4nm,0.6s						
ULM	**Lac du Bonnet**	84.11	31	P	P	13 51 05.1	-0.5
	comp=Z,5.0nm,0.9s,baz=306,slow=5.6,SNR=4.8						
	comp=Z,5.0nm,0.9s						
K22A	**Casper**	84.20	42	IAmb	IAmb	13 51 08.9	
	comp=Z,5.6nm,0.9s						
K22A	**Casper**	84.20	42	P	P	13 51 06.1	-0.4
	baz=312						
MONP2	**Monument Peak**	84.22	54	P	P	13 51 07.2	+0.4
	baz=307						
IRM	**Iron Mountain**	84.31	53	P	P	13 51 07.9	+0.9
	baz=307						
BC3	**Big Chuckawall**	84.41	53	P	P	13 51 08.4	+0.8
	baz=307						
RSSD	**Black Hills**	84.56	39	P	P	13 51 09.2	+0.8
	baz=313						
IKP	**In-Ko-Pah, Jac**	84.57	54	P	P	13 51 09.2	+0.8
	baz=307						
SWSC	**Sam W. Stewart**	84.60	54	P	P	13 51 09.0	+0.6
	baz=307						
YUH	**Yuha Desert**	84.70	54	IAmb	IAmb	13 51 10.5	
	comp=Z,5.8nm,1.2s						
U15A	**North Rim**	84.77	49	IAmb	IAmb	13 51 12.4	
	comp=Z,4.0nm,0.8s						
EKA	**Eskdalemuir Ar**	84.95	339	P	P	13 51 09.6	-0.1
	comp=Z,1.1nm,0.5s,baz=37,slow=4.3,SNR=7.2						
	comp=Z,1.1nm,0.5s						
GLA	**Glamis**	85.19	53	P	P	13 51 12.6	+1.2
	baz=308						
N23A	**Red Feather La**	85.69	43	P	P	13 51 15.2	+1.2
	baz=312						
WUAZ	**Wupatki**	85.92	50	IAmb	IAmb	13 51 17.3	
	comp=Z,4.0nm,0.9s						
WUAZ	**Wupatki**	85.92	50	P	P	13 51 16.3	+1.2
	baz=309						
SMCO	**Snowmass**	86.24	44	IAmb	IAmb	13 51 19.8	
	comp=Z,4.5nm,0.8s						
ISCO	**Idaho Springs**	86.61	43	P	P	13 51 19.2	+0.7
	baz=312						
FUORN	**Ofenpass-Fuorn**	86.76	326	P	P	13 51 18.7	-0.3
FUORN				IAmb	IAmb	13 51 19.5	
	comp=Z,4.7nm,0.9s						
SUSD	**Miller**	86.94	37	P	P	13 51 20.7	+1.1
	baz=316						
214A	**Organ Pipe Nat**	87.20	53	P	P	13 51 22.0	+0.8
	baz=308						
EYMN	**Ely**	87.73	30	P	P	13 51 23.7	+0.5
	baz=321						
SDCO	**Great Sand Dun**	88.06	45	P	P	13 51 26.5	+1.1
	baz=312						
ECSD	**EROS Data Cent**	88.61	36	IAmb	IAmb	13 51 28.9	
	comp=Z,5.2nm,0.7s						
ECSD	**EROS Data Cent**	88.61	36	P	P	13 51 28.0	+0.6
	baz=318						
T25A	**Trinidad**	89.11	45	IAmb	IAmb	13 51 32.4	
	comp=Z,4.3nm,1.0s						
T25A	**Trinidad**	89.11	45	P	P	13 51 30.6	+0.4
	baz=313						
ANMO	**Albuquerque**	89.35	47	P	P	13 51 32.3	+0.9
	baz=312						
MNTX	**Cornudas Mount**	92.19	49	P	P	13 51 45.1	+0.8
	baz=312						
MSTX	**Muleshoe**	92.25	46	P	P	13 51 44.9	+0.3
	baz=314						
AMTX	**Amarillo**	92.26	45	P	P	13 51 45.4	+0.8
	baz=315						
VHRN	**Van Horn**	93.05	50	IAmb	IAmb	13 51 50.0	
	comp=Z,2.5nm,0.9s						
WMOK	**Wichita Mounta**	94.04	43	P	P	13 51 53.1	+0.3
	baz=316						
TX31	**Lajitas Ar. Si**	94.88	50	IAmb	IAmb	13 51 58.7	
	comp=Z,3.8nm,1.0s						
TXAR	**Lajitas Array**	94.88	50	P	P	13 51 57.2	+0.5
TXAR	**Lajitas Array**	94.88	50	P	P	13 51 57.8	+1.0
	comp=Z,2.1nm,0.8s,baz=291,slow=3.1,SNR=27						
	comp=Z,2.1nm,0.8s						
TXAR	**Lajitas Array**	94.88	50	P	P	13 51 57.2	+0.5
CCM	**Cathedral Cave**	95.56	36	P	P	13 52 00.1	+0.5
	baz=321						
LONY	**Lake Ozonia**	96.81	22	P	P	13 52 05.2	+0.1
	baz=334						
MIAR	**Mount Ida**	97.06	40	P	P	13 52 06.9	+0.5
	baz=320						
TORD	**Torodi Ar. Bea**	116.94	310	PKP	PKPdf	13 57 15.9	-1.6
	comp=Z,0.3nm,0.5s,baz=22,slow=1.6,SNR=2.4						
BOSA	**Boshof**	122.45	255	PKP	PKPdf	13 57 26.8	-1.1
	comp=Z,4.5nm,1.0s,baz=81,slow=1.6,SNR=1.6						
QSPA	**South Pole Qui**	123.53	180	PKP	PKPdf	13 57 28.3	-0.4
	comp=Z,0.7nm,0.5s,baz=310,slow=1.0,SNR=12						
LPAZ	**La Paz**	151.35	59	PKPbc	PKPbc	13 58 26.6	-0.8
	comp=Z,1.5nm,0.4s,baz=307,slow=1.6,SNR=8.4						
PTLB	**Pontes e Lacer**	156.56	43		PKPab	13 58 58.5	+0.2

NOU ***02*** *13:41:11.0, 26°.02S×179°.18E, h678km, mb4.7/45, South of Fiji Islands*
NEIC ***02*** *13:41:13.9±1.1, 26°.2S±0°.1×178°.7E±0°.2, h636km±11km, mb4.6/14, Error ellipse: s-maj=22.5km s-min=16.1km az=94.0*
IDC ***02*** *13:41:15.4±1.6, 26°.26S×178°.26E, h641km±14km, mb3.8/7, mbtmp4.8/8, Error ellipse: s-maj=39.0km s-min=13.0km az=27.0*

ISC 02 13:41:14.5±0.7, 26°.33S±0°.08×178°.63E±0°.09, h650km, n145, σ1.977/157, mb4.7/22, 4C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	4.22	134	P	P	13 42 42.1	-2.8
RAO	**Raoul Island**	4.22	134	P	P	13 42 47.2	+2.3
	314nm,0.9s,baz=66,slow=22,SNR=2.3						
RAO				S	S	13 44 00.6	+1.7
	146nm,0.3s,baz=287,slow=20,SNR=2.0						
GLKZ	**Green Lake**	4.22	134	P	P	13 42 46.2	+1.1
GLKZ				S	S	13 43 57.9	-1.1
MSVF	**Nonsavu**	8.57	356	P	P	13 43 18.5	-2.7
NFK	**Norfolk Island**	9.86	252	P	P	13 43 33.4	+0.5
OUZ	**Omahuta**	9.86	205	P	P	13 43 34.9	+2.1
GRZ	**Great Barrier**	10.25	195	P	P	13 43 38.

MWZ	Matawai	12.00 184	P	P	13 43 50.0	-3.0
NOUC	Port Laguerre	12.01 288	P	P	13 43 53.4	0.0
TKGZ	Te Karaka	12.09 183	P	P	13 43 53.8	0.0
TKGZ			S	S	13 46 02.3	-1.6
HSRZ	Hossack Road	12.11 189	P	P	13 43 55.9	+1.8
CNGZ	Carnagh Statio	12.12 182	P	P	13 43 54.8	+0.7
HRRZ	Handcock Road	12.18 189	P	P	13 43 56.4	+1.7
MUGZ	Murupara	12.21 187	P	P	13 43 54.5	-0.4
TLZ	Tolley Road	12.24 192	P	P	13 43 57.3	+2.1
PRRZ	Plateau Road	12.28 188	P	P	13 43 55.8	+0.3
RTZ	Ruatahuna	12.33 186	P	P	13 43 55.2	-0.8
RTZ	Ruatahuna	12.33 186	P	P	13 43 49.7	-6.4
RTZ	Ruatahuna	12.33 186	P	P	13 43 55.8	-0.3
KUTZ	Kaahu Road	12.35 190	P	P	13 43 58.9	+2.7
RIGZ	Rimuhau	12.36 183	P	P	13 43 55.4	-1.0
SNGZ	Shannon Statio	12.46 185	P	P	13 43 57.9	+0.6
SNGZ	Shannon Statio	12.46 185	P	P	13 43 57.2	0.0
HIZ	Hauiti	12.55 194	P	P	13 44 00.9	+2.8
HIZ	Hauiti	12.55 194	P	P	13 44 00.4	+2.4
MTHZ	Maungataniwha	12.57 186	P	P	13 43 55.1	-3.3
MTHZ	Maungataniwha	12.57 186	P	P	13 43 58.9	+0.6
MRHZ	Matea Rd	12.60 188	P	P	13 43 57.6	-1.0
MRHZ			S	S	13 46 13.7	+1.0
RAHZ	Arahi	12.62 186	P	P	13 43 58.6	-0.1
RAHZ	Arahi	12.62 186	P	P	13 43 57.2	-1.5
NMHZ	Naumai	12.82 186	P	P	13 44 01.3	+0.7
BKZ	Black Stump Fm	12.92 187	P	P	13 44 01.4	-0.1
BKZ	Black Stump Fm	12.92 187	P	P	13 43 60.0	-1.6
BKZ			S	S	13 46 14.7	-3.2
BKZ	Black Stump Fm	12.92 187	P	P	13 44 00.2	-1.4
SNVZ	South Ngauruho	13.06 190	P	P	13 44 04.0	+1.0
MCHZ	McNeill Hill	13.18 187	P	P	13 44 04.4	+0.6
KWHZ	Kaweka Forest	13.19 188	P	P	13 44 04.1	+0.1
KOUNC	Koumac, New Ca	14.37 291	P	P	13 44 16.3	+1.2
KOUNC	Koumac, New Ca	14.37 291	P	P	13 44 15.2	+0.1
BFZ	Birch Farm	14.45 187	P	P	13 44 15.1	-0.4
BFZ	Birch Farm	14.45 187	P	P	13 44 14.8	-0.7
MRZ	Mangatainoka R	14.51 189	P	P	13 44 15.0	-1.1
SNZO	South Karori	15.29 191	P	P	13 44 25.0	+1.9
MSWZ	Moikau Station	15.30 190	P	P	13 44 24.2	+0.9
QRZ	Quartz Range	15.32 198	P	P	13 44 26.2	+2.8
BHW	Baring Head	15.36 191	P	P	13 44 24.9	+1.1
TKNZ	Takaka Hill	15.40 196	P	P	13 44 25.0	+0.8
NNZ	Nelson	15.47 195	P	P	13 44 25.5	+0.7
TUWZ	Tuamarina	15.55 193	P	P	13 44 26.2	+0.7
MRNZ	Matariki Terra	15.79 196	P	P	13 44 28.6	+0.8
BSWZ	Blackbirch Sta	15.84 193	P	P	13 44 28.8	+0.6
KHZ	Kahutara	16.58 193	P	P	13 44 34.7	-0.2
LTZ	Lake Taylor	17.21 196	P	P	13 44 40.9	+0.1
AMCZ	Amberley	17.50 195	P	P	13 44 43.9	+0.6
OXZ	Oxford	17.79 196	P	P	13 44 45.8	-0.1
RPZ	Rata Peaks	18.40 198	P	P	13 44 53.3	+1.8
JCZ	Jackson Bay	19.42 202	P	P	13 45 02.6	+1.8
ODZ	Otahua Downs	19.75 197	P	P	13 45 03.4	-0.2
WHZ	Wether Hill Ro	21.30 201	P	P	13 45 18.5	+1.0
WHZ			IAmb	IAmb	13 45 20.1	
	comp=Z,39nm,0.8s					
ARMA	Armidale	24.08 254	P	P	13 45 43.6	+1.1
EIDS	Eidsvold	24.80 266	P	P	13 45 49.0	+0.3
EIDS	Eidsvold	24.80 266	P	P	13 45 48.3	-0.4
SYDH	Sydney Hard Ro	25.20 246	P	P	13 45 53.5	+1.4
	comp=Z,60nm,0.8s					
RK1H	Rockhampton Ha	25.68 270	P	P	13 45 56.4	-0.1
	comp=Z,30nm,0.9s					
CNB	Canberra Magne	26.60 243	P	P	13 46 06.3	+1.8
CAN	Canberra	26.90 243	P	P	13 46 07.8	+0.8
	comp=Z,30nm,1.3s					
MILA	Mila	27.16 240	P	P	13 46 10.7	+1.4
YNG	Young	27.21 246	P	P	13 46 10.8	+1.1
	comp=Z,48nm,1.0s					
CMSA	Cobar Meteorol	29.22 252	P	P	13 46 27.8	+0.7
TOO	Toolangi	30.12 240	P	P	13 46 35.4	+0.6
TOO			IAmb	IAmb	13 46 36.5	
	comp=Z,18nm,0.8s					
CTAO	Charters Tower	30.35 275	P	P	13 46 36.4	-0.5
CTAO	Charters Tower	30.35 275	P	P	13 46 36.8	-0.1
CTAO			IAmb	IAmb	13 46 37.7	
	comp=Z,29nm,0.7s					
TAU	Tasmania Unive	30.39 229	P	P	13 46 37.8	+1.0
QLP	Quilpie	30.74 262	P	P	13 46 41.0	+0.9
MTSU	Mount Surprise	32.72 277	P	P	13 46 57.4	+0.5
STKA	Stephens Creek	32.72 251	P	P	13 46 57.0	+0.3
STKA	Stephens Creek	32.72 251	P	P	13 46 56.8	+0.1
STKA	Stephens Creek	32.72 251	P	P	13 46 56.9	+0.1
	comp=Z,8.6nm,0.5s,baz=95,slow=10,SNR=28					
	comp=Z,8.6nm,0.5s					
ARPS	Mount Arapiles	32.86 242	P	P	13 46 58.4	+0.6
	comp=Z,29nm,0.8s					
INKA	Innaminka	33.69 259	P	P	13 47 05.8	+1.0
HTT	Hallett	34.99 249	P	P	13 47 16.1	+0.5
COEN	Coen	35.37 283	P	P	13 47 17.3	-1.6
LCRK	Leigh Creek	35.66 254	P	P	13 47 21.2	+0.1
QIS	Mount Isa	36.17 271	P	P	13 47 24.5	-0.9
BBOO	Buckleboo	37.40 250	P	P	13 47 34.3	-0.9
OOD	Oodnadatta	38.13 258	P	P	13 47 41.8	+0.7
MULG	Mulgathing	39.25 254	P	P	13 47 49.7	-0.4
AS01	Alice Springs	40.43 264	P	P	13 47 58.4	-1.2
	comp=Z,43nm,1.0s					
AS31	Alice Springs	40.48 264	P	P	13 47 59.0	-0.9
AS31			IAmb	IAmb	13 48 00.3	
	comp=Z,9.1nm,1.1s					
ASAR	Alice Springs	40.48 264	P	P	13 47 59.4	-0.6
	comp=Z,28nm,0.9s,baz=95,slow=7.5,SNR=182					
ASAR			S	S	13 53 20.3	-4.2
	comp=Z,0.8nm,0.8s,baz=103,slow=15,SNR=4.5					
	comp=Z,28nm,0.9s					
WRA	Warramunga Arr	41.07 269	P	P	13 48 03.8	-0.9
	comp=Z,20nm,0.8s,baz=105,slow=7.1,SNR=56					
WRA			S	S	13 53 28.9	-4.2
	comp=Z,0.5nm,0.9s,baz=108,slow=12,SNR=2.2					
	comp=Z,20nm,0.8s					
FORT	Forrest	44.34 252	P	P	13 48 30.1	+0.3
FORT	Forrest	44.34 252	P	P	13 48 28.7	-1.1
WRKA	Warakurna	45.15 260	P	P	13 48 35.3	-0.8
VNDA	Vanda	51.86 185	P	P	13 49 26.3	+1.8
VNDA	Vanda	51.86 185	P	P	13 49 26.6	+2.2
	comp=Z,3.3nm,0.9s,baz=359,slow=7.2,SNR=13					
	comp=Z,3.3nm,0.9s					
SBA	Scott Base	51.89 183	P	P	13 49 27.3	+2.6
SBA			IAmb	IAmb	13 49 29.3	
	comp=Z,18nm,0.8s					
QSPA	South Pole Qui	63.76 180	P	P	13 50 47.2	+2.4
	comp=Z,34nm,0.9s,baz=13,slow=5.1,SNR=166					
	comp=Z,34nm,0.9s					
MAW	Mawson	75.05 201	P	P	13 51 53.2	+1.8
	comp=Z,2.8nm,0.9s,baz=150,slow=8.1,SNR=5.0					
	comp=Z,2.8nm,0.9s					
ELIB	Princess Elisa	80.50 188	dP	P	13 52 21.9	+1.3
	comp=Z,8.4nm,0.7s					
NJ2	Nanjing	81.34 312	eP	P	13 52 27.0	+1.6
NJ2			pmax	pmax		
	comp=Z,6.0nm,0.5s					
TROLL	Troll, Antarti	81.89 181	⇑P	P	13 52 29.1	+1.4
	comp=Z,981nm,0.6s					
SNAA	Sanae	82.26 180	P	P	13 52 30.3	+0.8
SNAA			IAmb	IAmb	13 52 31.7	
	comp=Z,7.9nm,0.8s					
SNAA	Sanae	82.26 180	⇑P	P	13 52 30.6	+1.1
	comp=Z,157nm,0.6s					
SNAA	Sanae	82.26 180	P	P	13 52 30.7	+1.2
	comp=Z,6.4nm,0.7s,baz=199,slow=7.5,SNR=50					
	comp=Z,6.4nm,0.7s					
VNA3	Neumayer Olymp	82.52 177	⇑P	P	13 52 31.5	+0.8
VNA2	Neumayer--Watz	82.92 178	⇑P	P	13 52 33.9	+1.2
	baz=185,slow=4.0					
PZH	PanZhiHua	90.77 299	P	P	13 53 11.3	+0.6
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,100nm,4.8s					
HHC	Hu-ho-hao-te	91.27 316	eP	P	13 53 12.9	+0.2
HHC			pmax	pmax		
	comp=Z,8.0nm,0.6s					
HHC			pmax	pmax		
	comp=Z,110nm,5.2s					
HFS	Hagfors	144.66 347	PKP	PKPab	13 59 39.2	-0.7
	comp=Z,0.8nm,0.3s,baz=4.8,slow=1.8,SNR=9.1					

JMA 02 14:29:22.8±0.4,32°N±4°×13°8E±°,h403km,MV3.5/29,
NEAR TORISHIMA IS,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	1.66	49	P	P	14 30 16.5	-0.5
JHJ2	Mitsune	1.70	48	P	P	14 30 19.0	+1.8
TTO2	TONANKAI O.B.S	2.06	329	eP	P	14 30 20.1	+1.3
TTO1	TONANKAI O.B.S	2.08	322	eP	P	14 30 20.0	+1.0
JIE	Ise	2.75	331	P	P	14 30 24.7	+0.7
JTNC	Tanabenakahech	2.92	310	P	P	14 30 25.3	-0.1
JWY	Kouya	3.19	315	P	P	14 30 28.1	+0.4
JOD2	Odawara 2	3.34	11	P	P	14 30 29.8	+0.9
JOD2				S	S	14 31 22.6	0.0
BSO1	Boso 1	3.48	39	P	P	14 30 30.3	+1.0
BSO1				eS	S	14 31 20.9	-2.9
JYN	Shimob	3.51	3	P	P	14 30 31.9	+1.5
JAI	Aioi	3.72	300	P	P	14 30 32.2	0.0
JYTA	Yamagatataniai	3.83	340	P	P	14 30 34.0	+0.8
JRY	Ryogami san	4.05	7	P	P	14 30 36.4	+1.1
JRY				S	S	14 31 31.4	-3.2
JWT	Wachi	4.09	324	eP	P	14 30 36.0	+0.5
JTO	Tosashimizu	4.74	282	P	P	14 30 42.6	+0.6
JHS	Saijyo	5.28	306	eP	P	14 30 48.2	+0.7
JMK	Ichinoseki	7.35	18	P	P	14 31 11.3	+0.5
JMK				S	S	14 32 34.5	-3.7

*NEIC **02** 14:33:08.2±1.4, 17.°64S±0.°10×178.°5W±0.°2, h564km±8km, mb4.2/56, Error ellipse: s-maj=21.2km s-min=13.8km az=98.0*
*IDC **02** 14:33:10.3±3.8, 18.°02S×178.°37W, h600km±45km, mb3.3/13, mbtmp4.3/14, Error ellipse: s-maj=29.7km s-min=17.5km az=146.0*

ISC 02 14:33:08.8±0.6,17.°8S±0.°1×178.°4W±0.°1,h579km,n86,
σ0.°92/86,mb4.1/41,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.35	271	P	P	14 34 31.5	+3.0
RAO	Raoul Island	11.40	178	P	P	14 35 42.6	+1.3
LIFNC	LIFOU	13.84	255	P	P	14 36 04.3	-2.1
PINNC	Pines Island,	14.08	248	P	P	14 36 07.1	-1.6
DZM	Mont Dzumac	14.83	251	P	P	14 36 15.8	-0.4
	6.0nm,0.5s,baz=90,slow=19,SNR=12						
ONTNC	Ouen Toro	14.88	250	P	P	14 36 16.7	+0.2
KOUNC	Koumac, New Ca	16.55	258	P	P	14 36 33.1	+1.0
EIDS	Eidsvold	29.27	250	P	P	14 38 25.6	0.0
EIDS				IAmb	IAmb	14 39 06.8	
	comp=Z,14nm,1.4s						
ARMA	Armidale	29.96	240	P	P	14 38 31.6	+0.1
DCZ	Deep Cove	30.08	200	P	P	14 38 33.4	+1.3
CTAO	Charters Tower	33.43	260	P	P	14 39 00.7	-0.4
CTAO				IAmb	IAmb	14 39 04.7	
	comp=Z,7.5nm,1.0s						
CAN	Canberra	33.74	232	P	P	14 39 03.0	-0.5
COEN	Coen	37.08	270	P	P	14 39 32.4	+1.1
TOO	Toolangi	37.21	231	P	P	14 39 31.9	-0.2
STKA	Stephens Creek	38.65	241	P	P	14 39 43.7	-0.1
STKA	Stephens Creek	38.65	241	P	P	14 39 44.1	+0.2
	comp=Z,2.8nm,0.5s,baz=85,slow=9.4,SNR=12						
	comp=Z,2.8nm,0.5s						
BBOO	Buckleboo	43.43	241	P	P	14 40 20.8	-0.8
WB0	Warramunga Arr	44.59	260	P	P	14 40 30.2	-0.6
WB0				IAmb	IAmb	14 41 08.5	
	comp=Z,11nm,1.4s						
WB2	Warramunga Arr	44.61	259	P	P	14 40 30.5	-0.4
WB2				IAmb	IAmb	14 40 43.7	
	comp=Z,7.1nm,1.2s						
WRA	Warramunga Arr	44.62	259	P	P	14 40 30.2	-0.8
WRA	Warramunga Arr	44.62	259	P	P	14 40 30.6	-0.4
	comp=Z,1.2nm,0.5s,baz=96,slow=7.5,SNR=36						
	comp=Z,1.2nm,0.5s						
AS31	Alice Springs	44.79	254	P	P	14 40 32.0	-0.3
ASAR	Alice Springs	44.79	254	P	P	14 40 31.4	-0.9
ASAR	Alice Springs	44.79	254	P	P	14 40 32.1	-0.2
	comp=Z,6.3nm,0.6s,baz=87,slow=8.8,SNR=126						
ASAR				PcP	PcP	14 42 00.9	-0.7
	comp=Z,0.6nm,0.4s,baz=105,slow=4.0,SNR=8.7						
	comp=Z,6.3nm,0.6s						
FORT	Forrest	50.02	245	P	P	14 41 09.9	-1.4
MJAR	Matsushiro Arr	67.81	323	P	P	14 43 10.7	+0.6
	comp=Z,2.3nm,0.6s,baz=165,slow=5.1,SNR=7.3						
	comp=Z,2.3nm,0.6s						
ADK	Adak	69.41	1	P	P	14 43 19.1	-0.1
ASAJ	Asahikawa	71.18	331	P	P	14 43 32.0	+2.2
	comp=Z,1.9nm,0.6s,baz=270,slow=5.1,SNR=6.5						
	comp=Z,1.9nm,0.6s						
PETK	Petropavlovsk-	73.58	345	P	P	14 43 44.2	+0.7
	comp=Z,4.0nm,0.7s,baz=124,slow=8.3,SNR=7.5						
	comp=Z,4.0nm,0.7s						
KSRS	Korea Array	74.61	318	P	P	14 43 51.2	+1.6
	comp=Z,0.5nm,0.6s,baz=144,slow=6.2,SNR=2.2						
	comp=Z,0.5nm,0.6s						
KDAK	Kodiak Island	78.31	14	P	P	14 44 09.9	+0.5
YBH	Yreka Blue Hor	78.47	39	P	P	14 44 11.7	+0.9
YBH				IAmb	IAmb	14 44 37.7	
	comp=Z,12nm,1.5s						
YBH	Yreka Blue Hor	78.47	39	P	P	14 44 11.5	+0.7
	comp=Z,2.3nm,0.7s,baz=158,slow=4.9,SNR=4.3						
	comp=Z,2.3nm,0.7s						
O16K	Kokwok River B	78.89	10	P	P	14 44 11.4	-1.1
N15K	Kwethluk River	79.12	9	P	P	14 44 14.0	+0.3
LHV	Little Huntoon	79.14	44	P	P	14 44 14.7	+0.4
P18K	Big Mountain,	79.23	12	P	P	14 44 13.9	-0.5
P18K				IAmb	IAmb	14 44 14.5	
	comp=Z,8.1nm,0.8s						
NVAR	Mina Array Bea	79.37	44	P	P	14 44 16.1	+0.3
	comp=Z,1.3nm,0.7s,baz=228,slow=7.7,SNR=11						
	comp=Z,1.3nm,0.7s						
O18K	Koktuh Hills	79.66	12	P	P	14 44 16.1	-0.5
O18K				IAmb	IAmb	14 44 17.1	
	comp=Z,13nm,0.8s						
KVN	Kaiserville	79.84	43	P	P	14 44 18.2	0.0
M16K	Timber Creek	80.11	9	P	P	14 44 18.6	-0.3
M16K				IAmb	IAmb	14 44 20.8	
	comp=Z,8.2nm,1.1s						
CNPM	China Poot	80.19	14	P	P	14 44 19.5	+0.1
CNPM				IAmb	IAmb	14 44 49.3	
	comp=Z,14nm,1.3s						
J05D	Fort Rock, OR	80.26	39	P	P	14 44 20.9	+0.6
J05D				IAmb	IAmb	14 44 21.6	
	comp=Z,9.4nm,0.9s						
N18K	Kilae Creek	80.30	11	P	P	14 44 19.7	-0.2
L16K	Owhat River	80.68	9	P	P	14 44 22.5	+0.8
L16K				IAmb	IAmb	14 44 23.4	
	comp=Z,6.5nm,1.1s						
M17K	Holitna River	80.71	10	P	P	14 44 22.9	+0.9
M17K				IAmb	IAmb	14 44 23.9	
	comp=Z,7.4nm,0.8s						
K15K	Wolf Creek Mou	80.95	8	P	P	14 44 23.9	+0.7
L18K	Granite Mounta	81.60	10	P	P	14 44 27.2	+0.6
L18K				IAmb	IAmb	14 44 28.1	
	comp=Z,4.3nm,0.7s						
I07A	Izee	81.75	39	P	P	14 44 28.1	+0.3
I07A				IAmb	IAmb	14 44 29.1	
	comp=Z,4.1nm,0.8s						
K17K	Iditarod	81.81	9	P	P	14 44 27.9	+0.3
K17K				IAmb	IAmb	14 45 01.9	
	comp=Z,9.4nm,1.4s						
L19K	White Mountain	81.89	11	P	P	14 44 28.4	+0.4
J16K	Anvik River	82.03	8	P	P	14 44 29.1	+0.5
J16K				IAmb	IAmb	14 44 30.1	
	comp=Z,4.0nm,0.8s						
PSUT	Pine Spring	82.41	46	P	P	14 44 31.5	0.0
ELK	Elko	82.61	43	P	P	14 44 32.0	-0.4
	comp=Z,1.5nm,0.9s,baz=255,slow=6.0,SNR=5.2						
	comp=Z,1.5nm,0.9s						
GHO	Glory Hole Cre	82.72	14	P	P	14 44 31.6	-0.7
G08A	Pilot Rock	82.75	38	P	P	14 44 33.4	+0.5
J18K	Innoko River	82.77	10	P	P	14 44 32.3	-0.1
J18K				IAmb	IAmb	14 44 33.4	
	comp=Z,5.0nm,0.8s						
J19K	Poorman	83.44	10	P	P	14 44 35.9	+0.1
CAST	Castle Rocks	83.54	12	P	P	14 44 34.8	-1.5
CAST				IAmb	IAmb	14 44 35.9	
	comp=Z,5.6nm,0.7s						
N25K	Chitina, Valde	83.61	16	P	P	14 44 36.6	-0.2
N25K				IAmb	IAmb	14 44 37.3	
	comp=Z,6.2nm,0.8s						
GLB	Gilahina Butte	83.68	16	P	P	14 44 36.6	-0.4
GLB				IAmb	IAmb	14 44 37.5	
	comp=Z,3.7nm,0.6s						
J20K	Nowinta River	83.86	10	P	P	14 44 37.4	-0.4
J20K				IAmb	IAmb	14 44 38.5	
	comp=Z,3.0nm,0.8s						
RND	Reindeer	84.18	13	P	P	14 44 38.8	-0.7
CCB	Clear Creek Bu	85.50	13	P	P	14 44 44.8	-1.0
CCB				IAmb	IAmb	14 44 45.7	
	comp=Z,8.1nm,1.2s						
MDM	Murphy Dome	85.68	12	P	P	14 44 45.1	-1.5
IL31		85.80	13	P	P	14 44 46.2	-0.9
ILAR	Eielson Array	85.80	13	P	P	14 44 46.3	-0.9
	comp=Z,1.1nm,0.4s,baz=220,slow=5.0,SNR=24						
	comp=Z,1.1nm,0.4s						
TXAR	Lajitas Array	85.97	58	P	P	14 44 49.5	+0.5
	comp=Z,1.5nm,0.8s,baz=215,slow=6.0,SNR=18						
	comp=Z,1.5nm,0.8s						
J25K	Salcha River,	85.99	14	P	P	14 44 47.6	-0.7
J25K				IAmb	IAmb	14 44 48.4	
	comp=Z,2.7nm,0.6s						
J26L	Joseph Creek	86.32	14	P	P	14 44 49.7	0.0
J26L				IAmb	IAmb	14 44 51.6	
	comp=Z,2.5nm,0.7s						
M30M	Minto, Yukon	86.55	18	P	P	14 44 50.6	-0.3
M30M				IAmb	IAmb	14 44 51.5	
	comp=Z,4.4nm,0.9s						
L29M	L29M	86.58	17	P	P	14 44 51.0	0.0
L29M				IAmb	IAmb	14 44 52.3	
	comp=Z,5.3nm,1.1s						
HHC	Hu-ho-hao-te	87.18	314	eP	P	14 44 55.8	+1.4
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,62nm,4.4s						
PDAR	Pinedale Array	87.30	43	P	P	14 44 55.0	-0.1
	comp=Z,1.0nm,0.7s,baz=228,slow=4.0,SNR=7.0						
	comp=Z,1.0nm,0.7s						
H29M	Whitestone	88.98	15	P	P	14 45 01.8	-0.3
H29M				IAmb	IAmb	14 45 02.8	
	comp=Z,3.8nm,0.8s						
PZH	PanZhiHua	89.08	298	P	P	14 45 04.0	+0.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
G31M	Satah River	90.57	16	P	P	14 45 08.8	-0.6
MKAR	Makanchi Array	109.05	314	PKiKP	PKiKP	14 50 32.1	-1.3
	comp=Z,0.2nm,0.4s,baz=40,slow=1.1,SNR=3.7						
BVAR	Borovoye Array	116.75	321	PKP	PKPdf	14 50 46.5	-1.4
	comp=Z,0.7nm,0.5s,baz=124,slow=2.1,SNR=4.6						
ARCES	ARCESS Array B	126.21	350	PKP	PKiKP	14 51 04.7	-1.3
	comp=Z,1.8nm,0.9s,baz=34,slow=3.4,SNR=3.7						
AKASG	Malin Array Be	140.46	332	PKP	PKiKP	14 51 33.4	-2.0
	baz=52,slow=1.5						
BUR08	Bucovina Ar. S	144.50	332		PKPab	14 51 39.8	-1.0
BRTR	Keskin Array B	144.69	315		PKPdf	14 51 39.7	-1.0
BRTR	Keskin Array B	144.69	315	PKP	PKPbc	14 51 40.1	-1.0
	comp=Z,1.6nm,0.7s,baz=122,slow=4.7,SNR=7.3						
CLL	Collm	145.36	347	PKPdf	PKPbc	14 51 41.5	-1.0
GERES	GERESS Array B	147.51	345	PKPbc	PKiKP	14 51 48.3	-1.9
	comp=Z,1.1nm,0.8s,baz=20,slow=4.4,SNR=5.1						

*NEIC **02** 14:52:45.6±1.5, 0.°26N±0.°05×121.°98E±0.°08, h188km±7km, mb4.4/35, Error ellipse: s-maj=12.3km s-min=7.4km az=72.0*
*DJA **02** 14:52:46.6±0.4, 0.°N±3.°×12.°2E±.°, h166km±4km, M4.3/13, mb4.4/7, mB4.8/2, MLv4.3/13, Mw(mB)4.1/2*
*IDC **02** 14:52:47.3±2.2, 0.°20N×121.°94E, h207km±21km, mb3.9/10, mbtmp4.4/11, MS3.2/1, Error ellipse: s-maj=43.0km s-min=9.7km az=66.0*

ISC 02 14:52:46.2±0.4,0.°33N±0.°06×122.°10E±0.°06,h200km,n82,
σ1.°30/87,mb4.3/28,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.96	72	P	Pn	14 53 13.0	-2.7
GTOI				S	Sn	14 53 34.2	-4.3
LUWI	Luwuk	1.52	154	Pn	Pn	14 53 17.8	-2.3
LUWI	Luwuk	1.52	154	P	Pn	14 53 18.3	-1.9
TOLI2	Tolitoli	1.53	300		Pn	14 53 17.3	-2.9
KMSI	Cibinong	1.90	83	P	Pn	14 53 22.7	-1.0
KMSI				S	Sn	14 53 51.0	-1.7
MPSI	Mapaga	2.20	270	P	Pn	14 53 24.9	-2.0
SANI	Sanana	4.55	121	P	Pn	14 53 52.0	-3.0
SANI	Sanana	4.55	121	P	Pn	14 53 51.9	-3.0
TNTI	Ternate	5.28	85	Pn	Pn	14 54 02.2	-2.1
TNTI	Ternate	5.28	85	P	Pn	14 54 03.0	-1.3
	38nm,0.8s,618nm0.1nm						
BBSI	Bau Bau	5.80	175	P	Pn	14 54 10.7	-0.3
	60nm,1.1s,0.2nm						
KAPI	Kappang	5.81	204	Pn	Pn	14 54 08.0	-3.1
KAPI	Kappang	5.81	204	P	Pn	14 54 10.3	-0.7
	21nm,0.4s,baz=33,slow=15,SNR=8.5						
NLAI	Namlea	6.13	125	P	Pn	14 54 15.8	+0.6
EDFI	Ende, Flores	9.03	183	P	Pn	14 54 52.8	-0.3
	16nm,0.7s						
FAKI	Fak Fak	10.65	108	Pn	Pn	14 55 13.6	-0.3
DRS	Darwin Rock St	15.40	146	P	P	14 56 14.2	+0.6
MTN	Manton Dam	15.86	146	P	Pn	14 56 19.5	+0.5
MTN	Manton Dam	15.86	146	P	P	14 56 18.6	-0.2
KDU	Kakadu	16.53	142	P	Pn	14 56 27.0	0.0
DLV	T Lat	17.77	311	P	P	14 56 39.4	-0.5
DLV				IAmb	IAmb	14 57 05.7	
	comp=Z,28nm,1.2s						
FITZ	Fitzroy Crossi	18.64	169	P	P	14 56 49.0	-0.1
FITZ	Fitzroy Crossi	18.64	169	P	P	14 56 48.6	-0.5
PSA00	Pilbara Seismi	21.88	186	P	P	14 57 21.6	-1.8
PSA00				IAmb	IAmb	14 57 34.7	
	comp=Z,15nm,1.1s						
WB0	Warramunga Arr	23.33	150	P	P	14 57 35.6	-1.1
WRAB	Tennant Creek	23.45	150	P	P	14

MKAR	**Makanchi Array**	**57.86 329**	P	**P**	**15 02 18.1**	**+1.0**
	comp=Z,4.0nm,0.5s,baz=126,slow=8.8,SNR=51					
	comp=Z,4.0nm,0.5s					
MAKZ	**Makanchi**	**58.03 329**	P	**P**	**15 02 18.9**	**+0.6**
MAKZ			IAmb	IAmb	15 02 19.7	
	comp=Z,3.3nm,0.8s					
BOOM	**Boomskoye usch**	**58.92 321**	P	**P**	**15 02 24.7**	**-0.1**
BOOM			IAmb	IAmb	15 02 29.0	
	comp=Z,7.9nm,1.1s					
KBL	**Kabul**	**60.04 310**	P	**P**	**15 02 32.6**	**0.0**
KBL			IAmb	IAmb	15 02 33.5	
	comp=Z,5.7nm,0.6s					
ZAA0	**Zalesovo Array**	**61.64 336**	P	**P**	**15 02 42.1**	**-0.5**
ZALV	**Zalesovo Beam**	**61.64 336**	P	**P**	**15 02 41.9**	**-0.8**
ZALV	**Zalesovo Beam**	**61.64 336**	P	**P**	**15 02 42.1**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=131,slow=6.3,SNR=7.8					
	comp=Z,2.0nm,0.7s					
KURBB	**Kurchatov Arra**	**62.23 330**	P	**P**	**15 02 46.9**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=117,slow=5.8,SNR=18					
	comp=Z,1.8nm,0.6s					
KURK	**Kurchatov**	**62.24 330**	P	**P**	**15 02 46.8**	**+0.1**
KURK			IAmb	IAmb	15 02 49.3	
	comp=Z,4.2nm,0.7s					
BKZ	**Black Stump Fm**	**63.32 135**	P	**P**	**15 02 54.5**	**+0.3**
ABKAR	**Akbulak array**	**71.92 322**	P	**P**	**15 03 46.9**	**-0.8**
RAYN	**Ar Rayn**	**77.58 294**	P	**P**	**15 04 19.8**	**-1.0**
VNDA	**Vanda**	**80.70 172**	P	**P**	**15 04 36.2**	**-0.4**
VNDA	**Vanda**	**80.70 172**	P	**P**	**15 04 36.6**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=307,slow=7.2,SNR=10					
	comp=Z,1.2nm,0.7s					
SBA	**Scott Base**	**81.66 171**	P	**P**	**15 04 42.5**	**+0.9**
L14K	**Kuka Creek**	**82.64 28**	P	**P**	**15 04 48.7**	**+1.8**
L14K			IAmb	IAmb	15 04 49.6	
	comp=Z,5.4nm,1.1s					
M14K	**Bethel**	**82.86 29**	P	**P**	**15 04 49.7**	**+1.7**
M14K			IAmb	IAmb	15 04 50.6	
	comp=Z,7.1nm,1.1s					
N15K	**Kwethluk River**	**83.65 29**	P	**P**	**15 04 53.7**	**+1.5**
N15K			IAmb	IAmb	15 04 54.7	
	comp=Z,6.1nm,1.1s					
O16K	**Kokwok River B**	**84.55 30**	P	**P**	**15 04 57.9**	**+1.2**
O16K			IAmb	IAmb	15 04 58.9	
	comp=Z,5.7nm,1.2s					
L18K	**Granite Mounta**	**85.60 28**	P	**P**	**15 05 03.2**	**+1.3**
L18K			IAmb	IAmb	15 05 35.6	
	comp=Z,5.7nm,1.4s					
D19K	**Kuna River**	**85.94 21**	P	**P**	**15 05 04.5**	**+1.1**
D19K			IAmb	IAmb	15 05 28.7	
	comp=Z,15nm,1.5s					
IMAR	**Indian Mountai**	**87.31 24**	P	**P**	**15 05 10.7**	**+0.6**
QSPA	**South Pole Qui**	**90.26 180**	P	**P**	**15 05 23.9**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=305,slow=1.3,SNR=12					
	comp=Z,1.4nm,0.8s					
SPITS	**Spitsbergen Ar**	**92.88 349**	P	**P**	**15 05 35.2**	**-0.6**
	comp=Z,8.1nm,1.0s,baz=81,slow=10,SNR=5.0					
	comp=Z,8.1nm,1.0s					
TORD	**Torodi Ar. Bea**	**119.45 285**	PKP	**PKPdf**	**15 11 12.2**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=90,slow=1.9,SNR=4.3					
TXAR	**Lajitas Array**	**127.32 52**	PKP	**PKiKP**	**15 11 30.1**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=290,slow=2.6,SNR=1.8					

*SOF **02** 15:15:28.4, 41.°98N±0.°01×23.°27E±0.°02, h11km±8km, MD2.9/8*
*SKO **02** 15:15:28.5, 41.°95N×23.°21E, h17km, ML2.3*
*BEO **02** 15:15:29.8±0.3, 41.°98N×23.°20E, h8km±2km, ML2.5/13*
*ATH **02** 15:15:30.9, 41.°87N×23.°24E, h6km±1km, ML2.5/16, Error ellipse: s-maj=2.3km s-min=1.5km az=170.0*
*THE **02** 15:15:31.1, 41.°85N×23.°20E, h7km, ML2.4/15, Error ellipse: s-maj=1.4km s-min=0.9km az=175.0*

ISC 02 15:15:29.2±0.8, 41.°94N±0.°01×23.°18E±0.°02, h13km±5km, n83, σ1°12/137, 22C-5D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.10**	**201**	⇑*i*Pg	**Pg**	**15 15 32.4**	**+0.1**
KKB				*i* Sg	**Sg**	15 15 34.5	+0.1
KKB	**Krupnik**	**0.10**	**201**	⇑*i*Pg	**Pg**	**15 15 32.3**	**+0.1**
KKB				Sg	**Sg**	15 15 34.3	-0.1
MMB	**Musomishta**	**0.58**	**132**	⇑*i*Pg	**Pg**	**15 15 39.9**	**-0.6**
MMB				Sg	**Sg**	15 15 47.5	-0.7
MMB	**Musomishta**	**0.58**	**132**	⇑*i*Pg	**Pg**	**15 15 40.0**	**-0.6**
MMB				*i* Sg	**Sg**	15 15 47.8	-0.5
VTS	**Vitosha**	**0.68**	**4**	⇑*i*Pg	**Pg**	**15 15 41.4**	**-1.1**
VTS				Sg	**Sg**	15 15 49.8	-1.7
VTS	**Vitosha**	**0.68**	**4**	*e*Pg	**Pg**	**15 15 41.3**	**-1.2**
VTS				*e*Sg	**Sg**	15 15 49.8	-1.7
BOSS	**Bosilegrad**	**0.76**	**317**	*e*Pg	**Pb**	**15 15 44.0**	**-0.3**
BOSS				*e*Sg	**Sg**	15 15 53.9	0.0
NVR	**Nevrokopi**	**0.78**	**139**	P	**Pb**	**15 15 44.8**	**+0.2**
NVR				S	**Sb**	**15 15 54.9**	**-0.2**
	475nm,0.1s						
NVR	**Nevrokopi**	**0.78**	**139**	P	**Pb**	**15 15 44.8**	**+0.2**
NVR				S	**Sg**	15 15 53.4	-1.2
NVR				AML	AML	15 15 55.7	
	comp=N,1041μm,0.1s						
NVR				AML	AML	15 16 01.3	
	comp=E,828μm,0.1s						
STIP	**Stip**	**0.78**	**252**	*i* Pg	**Pg**	**15 15 40.2**	**-4.1**
STIP				*i* Sg	**Sg**	15 15 49.0	-5.6
KNT	**Kendrikon**	**0.81**	**195**	P	**Pb**	15 15 44.7	-0.3
KNT				S	**Sg**	**15 15 54.6**	**-0.7**
	comp=E,560nm,0.1s						
KNT	**Kendrikon**	**0.81**	**195**	⇑*i*Pg	**Pb**	15 15 44.7	-0.3
KNT				*i* Sg	**Sb**	15 15 55.5	-0.3
SRS	**Serrai**	**0.88**	**159**	P	**Pb**	15 15 45.8	-0.4
SRS				S	**Sb**	**15 15 58.6**	**+0.7**
	comp=E,225nm,0.3s						
SRS	**Serrai**	**0.88**	**159**	*e*Pg	**Pb**	**15 15 45.8**	**-0.4**
SRS				*e*Sg	**Sb**	**15 15 58.2**	**+0.3**
SRS	**Serrai**	**0.88**	**159**	⇑*i*Pg	**Pb**	**15 15 45.9**	**-0.4**
SRS	**Serrai**	**0.88**	**159**	P	**Pb**	**15 15 45.8**	**-0.4**
SRS				S	**Sg**	**15 15 56.8**	**-0.9**
SRS				AML	AML	15 16 04.5	
	comp=N,462μm,0.3s						
SRS				AML	AML	15 16 04.7	
	comp=E,343μm,0.1s						
PGB	**Panagyurishte**	**0.94**	**52**	⇓*i*Pg	**Pg**	**15 15 45.8**	**-1.5**
PRVS	**Prvonek**	**1.00**	**305**	*e*Pg	**Pg**	**15 15 48.2**	**-0.2**
PRVS				*e*Sg	**Sg**	15 16 01.3	-0.1
SOH	**Sokhos**	**1.12**	**173**	P	**Pb**	**15 15 50.4**	**0.0**
SOH				S	**Sb**	**15 16 05.4**	**+0.4**
	comp=E,332nm,0.5s						
SOH	**Sokhos**	**1.12**	**173**	⇑*i*Pg	**Pb**	**15 15 50.5**	**0.0**
SOH	**Sokhos**	**1.12**	**173**	P	**Pb**	**15 15 50.5**	**0.0**
SOH				S	**Sb**	**15 16 05.0**	**0.0**
SOH				AML	AML	15 16 08.1	
	comp=E,613μm,0.4s						
SOH				AML	AML	15 16 08.3	
	comp=N,1057μm,0.5s						
PLD	**Plovdiv**	**1.19**	**79**	*i* Pg	**Pg**	**15 15 50.0**	**-2.0**
PLD				Sg	**Sg**	15 16 05.6	-1.9
PLD	**Plovdiv**	**1.19**	**79**	*e*Pg	**Pg**	15 15 50.6	-1.4
PLD				*e*Sg	**Sg**	15 16 06.1	-1.4
PLD	**Plovdiv**	**1.19**	**79**	*i* Pg	**Pg**	15 15 50.0	-2.0
PLD				*i* Sg	**Sb**	15 16 07.5	+0.7
RZN	**Rozhen**	**1.19**	**101**	*i* Pg	**Pg**	15 15 50.6	-1.5
RZN				Sg	**Sg**	15 16 06.9	-0.8
KOKK	**Kokkinochori,**	**1.28**	**151**	P	**Pg**	15 15 52.8	-0.9
KOKK				S	**Sb**	**15 16 09.8**	**+0.4**
	comp=N,82nm,0.3s						
KOKK	**Kokkinochori,**	**1.28**	**151**	P	**Pg**	15 15 52.9	-0.9
THE	**Thessaloniki**	**1.32**	**187**	P	**Pb**	15 15 53.9	+0.2
THE				S	**Sn**	**15 16 11.6**	**+1.1**
	comp=N,200nm,0.5s						
THE	**Thessaloniki**	**1.32**	**187**	*i* Pg	**Pb**	15 15 54.3	+0.6
THE				*i* Sg	**Sn**	15 16 12.3	+1.8
THE	**Thessaloniki**	**1.32**	**187**	P	**Pb**	15 15 54.0	+0.4
THE				AML	AML	15 16 14.5	
	comp=N,353μm,0.3s						
THE				AML	AML	15 16 14.6	
	comp=E,446μm,0.7s						
BARS	**Barje**	**1.34**	**311**	*e*Pg	**Pn**	15 15 54.2	+0.7
BARS				*e*Sg	**Sg**	15 16 10.9	-1.4
BARS	**Barje**	**1.34**	**311**	⇓*i*Pg	**Pn**	15 15 54.1	+0.7
BARS				*i* Sg	**Sb**	15 16 12.0	+0.9
HORT	**Hortiatis**	**1.34**	**183**	P	**Pb**	15 15 54.6	+0.4
HORT				S	**Sn**	**15 16 12.7**	**+1.4**
	comp=E,135nm,0.5s						
HORT	**Hortiatis**	**1.34**	**183**	P	**Pb**	15 15 54.5	+0.4
HORT				S	**Sg**	**15 16 11.1**	**-1.3**
HORT				AML	AML	15 16 13.3	
	comp=E,313μm,0.3s						
HORT				AML	AML	15 16 17.7	
	comp=N,179μm,0.3s						
KVLA	**Kavala**	**1.35**	**137**	P	**Pn**	**15 15 54.3**	**+0.6**
KVLA				S	**Sg**	**15 16 11.8**	**-0.9**
KVLA				AML	AML	15 16 14.7	
	comp=N,720μm,0.3s						
KVLA				AML	AML	15 16 15.2	
	comp=E,463μm,0.5s						
KAVA	**Kavala**	**1.38**	**133**	P	**Pn**	**15 15 54.5**	**+0.5**
KAVA				S	**Sb**	**15 16 12.6**	**+0.4**
	comp=E,792nm,0.4s						
KAVA	**Kavala**	**1.38**	**133**	P	**Pn**	**15 15 54.6**	**+0.5**
KAVA				S	**Sb**	**15 16 12.6**	**+0.4**
MPEP	**Malo Peshtene**	**1.48**	**16**	*i* Pg	**Pb**	**15 15 56.6**	**+0.2**
MPEP				Sg	**Sn**	**15 16 15.7**	**+1.1**
PLG	**Polygyros**	**1.58**	**173**	P	**Pn**	**15 15 57.6**	**+0.8**
PLG				S	**Sn**	**15 16 17.5**	**+0.4**
	comp=E,58nm,0.3s						
PLG	**Polygyros**	**1.58**	**173**	P	**Pb**	**15 15 57.9**	**-0.2**
PLG				S	**Sn**	**15 16 18.0**	**+1.0**
PLG				AML	AML	15 16 21.1	
	comp=E,112μm,0.3s						
PLG				AML	AML	15 16 25.2	
	comp=N,114μm,0.3s						
OUR	**Ouranopolis**	**1.71**	**159**	P	**Pn**	**15 15 59.2**	**+0.5**
OUR				S	**Sb**	**15 16 22.1**	**+0.2**
	comp=N,170nm,0.4s						
OUR	**Ouranopolis**	**1.71**	**159**	P	**Pn**	**15 15 59.3**	**+0.7**
OUR				S	**Sn**	**15 16 20.5**	**+0.1**
OUR				AML	AML	15 16 25.0	
	comp=E,412μm,0.3s						
OUR				AML	AML	15 16 26.2	
	comp=N,298μm,0.2s						
BLKB	**Belogradchik**	**1.72**	**348**	⇑S	**Sg**	**15 16 23.9**	**-0.7**
KTI	**Kastanea**	**1.74**	**208**	P	**Pn**	**15 16 00.1**	**+0.9**
VALD	**Valchedram**	**1.76**	**6**	*i* P	**Pg**	**15 16 02.4**	**-0.5**
THAS	**Thassos island**	**1.77**	**138**	P	**Pn**	**15 15 59.8**	**+0.4**
THAS				S	**Sb**	**15 16 23.4**	**0.0**
	comp=N,128nm,0.3s						
THAS	**Thassos island**	**1.77**	**138**	P	**Pn**	**15 15 59.5**	**+0.1**
THAS				AML	AML	15 16 27.8	
	comp=N,275μm,0.3s						
THAS				AML	AML	15 16 28.4	
	comp=E,231μm,0.3s						
FNA	**Florina**	**1.78**	**230**	P	**Pb**	**15 16 01.1**	**-0.6**
FNA				S	**Sb**	**15 16 24.3**	**+0.4**
	comp=E,55nm,0.8s						
FNA	**Florina**	**1.78**	**230**	*e*Pn	**Pb**	**15 16 01.7**	**0.0**
FNA				*e*Sn	**Sb**	**15 16 24.9**	**+1.0**
FNA	**Florina**	**1.78**	**230**	*i* Pn	**Pg**	**15 16 02.2**	**-1.1**
FNA				*i* Sn	**Sg**	**15 16 25.4**	**-1.1**
FNA	**Florina**	**1.78**	**230**	P	**Pb**	**15 16 01.1**	**-0.6**
FNA				AML	AML	15 16 32.3	
	comp=E,110μm,0.5s						
FNA				AML	AML	15 16 35.7	
	comp=N,88μm,0.5s						
PVL	**Pavlikeni**	**1.89**	**51**	*i* Pg	**Pb**	**15 16 04.2**	**+0.7**
PVL				Sg	**Sb**	**15 16 28.4**	**+1.4**
LIT	**Litokhoron**	**1.91**	**196**	P	**Pn**	**15 16 02.4**	**+1.0**
RDO	**Rodhopi**	**1.94**	**113**	P	**Pn**	**15 16 03.0**	**+1.2**
RDO				S	**Sb**	**15 16 28.7**	**+0.3**
	comp=N,275nm,0.4s						
RDO	**Rodhopi**	**1.94**	**113**	P	**Pn**	**15 16 03.0**	**+1.2**
RDO				S	**Sn**	**15 16 25.0**	**-1.0**
RDO				AML	AML	15 16 33.2	
	comp=N,645μm,0.4s						
RDO				AML	AML	15 16 34.5	
	comp=E,451μm,0.4s						
OHR	**Ohrid**	**1.97**	**246**	*i* Pn	**Pb**	**15 16 04.5**	**-0.4**
OHR				*i* Sn	**Sg**	**15 16 34.4**	**+2.0**
OHR				*e*Lg	Lg	15 16 34.6	
	comp=N,12nm,0.5s						
OHR				*e*Lg	Lg	15 16 35.8	
	comp=E,12nm,0.5s						
ZAGS	**Zajecar**	**2.00**	**340**	*e*Pn	**Pn**	**15 16 03.5**	**+0.9**
ZAGS				*e*Sn	**Sn**	**15 16 28.6**	**+1.2**
BOVS	**Bovan**	**2.01**	**328**	⇓P	**Pn**	**15 16 03.1**	**+0.3**
BOVS				⇓S	**Sb**	**15 16 30.8**	**+0.3**
BOVS	**Bovan**	**2.01**	**328**	*e*Pn	**Pn**	**15 16 03.2**	**+0.4**
BOVS				*e*Sn	**Sn**	**15 16 28.3**	**+0.5**
NEST	**Nestorio**	**2.21**	**227**	P	**Pn**	**15 16 07.1**	**+1.5**
NEST	**Nestorio**	**2.21**	**227**	P	**Pn**	**15 16 07.1**	**+1.5**
NEST				AML	AML	15 16 46.9	
	comp=N,53μm,0.6s						
NEST				AML	AML	15 16 47.2	
	comp=E,56μm,0.5s						
ELND	**Elena**	**2.23**	**63**	⇑P	**Pn**	**15 16 05.2**	**-0.6**
ELND				⇑S	**Sn**	**15 16 35.0**	**+1.8**
SMTH	**Samothraki Isl**	**2.30**	**129**	P	**Pn**	**15 16 07.1**	**+0.3**
SMTH				S	**Sn**	**15 16 37.3**	**+2.3**
	comp=E,28nm,0.3s						
SMTH	**Samothraki Isl**	**2.30**	**129**	P	**Pn**	**15 16 07.3**	**+0.5**
SMTH				AML	AML	15 16 45.0	
	comp=N,59μm,0.4s						
SMTH				AML	AML	15 16 45.6	
	comp=E,53μm,0.3s						
ALN	**Alexandroupoli**	**2.40**	**115**	P	**Pn**	**15 16 10.0**	**+2.0**
ALN				S	**Sb**	**15 16 40.5**	**-1.0**
	comp=E,60nm,1.0s						
ALN	**Alexandroupoli**	**2.40**	**115**	P	**Pn**	**15 16 09.6**	**+1.6**
ALN				S	**Sn**	**15 16 36.6**	**-0.6**
ALN				AML	AML	15 16 49.5	
	comp=N,94μm,0.7s						
ALN				AML	AML	15 16 50.3	
	comp=E,135μm,0.8s						
LIA	**Limnos Island**	**2.54**	**143**	P	**Pn**	**15 16 10.6**	**+0.6**
LIA				AML	AML	15 16 53.5	
	comp=E,233μm,0.4s						
LIA				AML	AML	15 16 57.4	
	comp=N,193μm,0.6s						
COPA	**Copaceanca**	**2.66**	**34**	⇑S	**Sn**	**15 16 46.1**	**+2.5**
KUBS	**Kucevo**	**2.71**	**337**	*e*Pn	**Pn**	**15 16 11.7**	**-0.6**
KUBS				*e*Sn	**Sn**	**15 16 44.6**	**-0.3**
SRE	**Strehaia**	**2.72**	**0**	⇑P	**Pn**	**15 16 13.5**	**+0.9**
IVAS	**Ivanjica**	**2.76**	**307**	*e*Sn	**Sn**	**15 16 48.0**	**+1.6**
HERR	**Herculane**	**2.99**	**350**	⇓P	**Pn**	**15 16 17.6**	**+1.3**
MDVR	**Moldovita**	**3.04**	**340**	⇑P	**Pn**	**15 16 17.5**	**+0.6**
DIVS	**Divibare**	**3.18**	**314**	*e*Pn	**Pn**	**15 16 19.9**	**+1.0**
DIVS				*e*Sn	**Sn**	**15 16 57.2**	**+0.5**
GZR	**Gura Zlata**	**3.46**	**355**	⇑P	**Pn**	**15 16 23.3**	**+0.5**
ANX	**Ano Chora**	**3.48**	**196**	P	**Pn**	**15 16 24.4**	**+1.4**
ANX				AML	AML	15 17 06.9	
	comp=E,34μm,0.7s						
ANX				AML	AML	15 17 11.6	
	comp=N,31μm,0.6s						
MTUR	**Matau**	**3.56**	**22**	⇑P	**Pn**	**15 16 24.6**	**+0.4**
ARR	**Arges**	**3.59**	**17**	⇑P	**Pn**	**15 16 25.9**	**+1.4**
VOIR		**3.75**	**21**	⇑P	**Pn**	**15 16 28.1**	**+1.4**
SURR	**Surduc**	**3.89**	**349**	⇑P	**Pn**	**15 16 29.7**	**+1.1**
MLR	**Muntele Rosu**	**4.08**	**29**	⇑P	**Pn**	**15 16 32.0**	**+0.7**
MARR	**Marisel-Cluj**	**4.74**	**360**	⇑P	**Pn**	**15 16 41.1**	**+0.8**
TPGR	**Topolog**	**4.80**	**51**	⇑P	**Pn**	**15 16 41.3**	**+0.1**

*NEIC **02** 15:27:59.9±1.6, 8.°2N±0.°2×126.°2E±0.°3, h174km±17km, mb4.2/8, Error ellipse: s-maj=43.3km s-min=27.9km az=131.0*
*IDC **02** 15:28:00.1±11.0, 8.°37N×126.°17E, h170km±115km, mb3.3/8, mbtmp3.8/8, Error ellipse: s-maj=44.3km s-min=19.3km az=78.0*

ISC 02 15:27:57.9±0.8, 8.°38N±0.°10×126.°0E±0.°2, h150km, n20, σ0°87/20, mb3.9/12, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**9.90**	**199**		**Pn**	**15 30 16.9**	**+0.3**
KULM	**Kulim**	**25.39**	**265**	P	**P**	**15 33 10.6**	**-1.0**
WRA	**Warramunga Arr**	**29.30**	**164**	P	**P**	**15 33 45.3**	**-1.1**
	0.4nm,0.7s,baz=345,slow=9.3,SNR=2.3						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**32.76**	**167**	P	**P**	**15 34 17.6**	**+0.9**
	0.2nm,0.6s,baz=350,slow=6.8,SNR=5.5						
	0.2nm,0.6s						
USRK	**Ussuriysk Ar.**	**36.06**	**7**	P	**P**	**15 34 44.1**	**-0.8**
	1.1nm,0.7s,baz=190,slow=9.5,SNR=4.4						
	1.1nm,0.7s						
SONM	**Songino Array**	**42.71**	**340**	P	**P**	**15 35 39.8**	**-0.3**
PETK	**Petropavlovsk-**	**51.45**	**24**	P	**P**	**15 36 48.7**	**+1.1**
	0.5nm,0.6s,baz=211,slow=1.7,SNR=1.6						
	0.5nm,0.6s						
MK31	**Makanchi Array**	**53.40**	**324**	P	**P**	**15 37 03.1**	**+1.0**
MKAR	**Makanchi Array**	**53.40**	**324**	P	**P**	**15 37 03.3**	**+1.2**
MKAR	**Makanchi Array**	**53.40**	**324**	P	**P**	**15 37 03.6**	**+1.5**
	1.7nm,0.6s,baz=124,slow=8.1,SNR=21						
	1.7nm,0.6s						
MAKZ	**Makanchi**	**53.59**	**324**	P	**P**	**15 37 04.5**	**+1.0**
MAKZ				IAmb	IAmb	15 37 05.1	
	comp=Z,1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**56.17**	**332**	P	**P**	**15 37 21.1**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=103,slow=6.4,SNR=2.4						
	comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**57.50**	**326**	P	**P**	**15 37 31.6**	**+0.4**
KURK				IAmb	IAmb	15 37 32.9	
	comp=Z,5.2nm,1.2s						
KURBB	**Kurchatov Arra**	**57.50**	**326**	P	**P**	**15 37 32.0**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=125,slow=6.3,SNR=11						
	comp=Z,1.4nm,0.5s						
ABKAR	**Akbulak array**	**68.16**	**320**	P	**P**	**15 38 42.0**	**+0.1**
D19K	**Kuna River**	**77.08**	**22**	P	**P**	**15 39 33.4**	**-0.9**
D19K				IAmb	IAmb	15 39 49.4	
	comp=Z,11nm,1.4s						
B22K	**Teshekpuk Lake**	**78.98**	**20**	P	**P**	**15 39 45.0**	**+0.4**
B22K				IAmb	IAmb	15 39 45.4	
	comp=Z,12nm,1.4s						
ARCES	**ARCESS Array B**	**85.88**	**340**	P	**P**	**15 40 20.5**	**+0.1**
	comp=Z,1.6nm,1.0s,baz=81,slow=5.6,SNR=1.5						
	comp=Z,1.6nm,1.0s						
FIA1	**FINESS Array S**	**87.44**	**332**	P	**P**	**15 40 27.9**	**-0.2**
FINES	**FINESS Array B**	**87.44**	**332**	P	**P**	**15 40 28.0**	**-0.2**
	baz=90,slow=5.6						

*HEL **02** 16:01:01.6±0.3, 67.°79N×20.°04E, h0km, ML1.2, Explosion*

UPP 02 16:01:01.8±0.0, 67.°82N×20.°21E, h0km, ML1.9, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**20**	P	Pg	16 01 04.8	+0.3
KUA				S	Sg	16 01 06.7	+0.4
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	16 01 06.5	+0.2
RATU				S	Sg	16 01 10.1	+0.8
KOVU	**Salmi**	**0.40**	**357**	P	Pg	16 01 09.6	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	16 01 15.2	-0.2
LANU	**Lannavaara**	**0.71**	**71**	PG	Pg	16 01 15.2	-0.2
LANU				SG	Sg	16 01 25.6	+1.0
DUNU	**Dundret**	**0.72**	**169**	P	Pg	16 01 15.3	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	16 01 16.6	-0.1
SALU	**Saltoluokta**	**0.79**	**237**	P	Pg	16 01 16.8	-0.1
HEF	**Hetta**	**1.42**	**64**	PG	Pn	16 01 28.0	-0.8
	baz=247						
HEF				MSG		16 01 46.4	
	comp=Z,1.4nm,0.2s						
HEF				SG	Sg	16 01 47.1	-0.3
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	16 01 29.0	-0.8
KLF	**Kolari**	**1.56**	**111**	PG	Pn	16 01 30.2	-0.5
	baz=296						
KLF				MSG		16 01 49.8	
	comp=Z,1.3nm,0.2s						
KLF				SG	Sg	16 01 51.8	0.0
KTK1	**Kautokeino**	**1.64**	**42**	PG	Pn	16 01 32.2	+0.4
KTK1				SN	Sg	16 01 55.8	+1.4
HARU	**Harads**	**1.69**	**169**	P	Pn	16 01 32.7	+0.2
KALU	**Kalix**	**2.33**	**146**	PG	Pb	16 01 43.7	-0.9
	baz=330						
KALU				SG	Sb	16 02 13.9	0.0
TOF	**Tornio**	**2.38**	**135**	PB	Pn	16 01 43.5	+1.4
TOF				MSG		16 02 12.9	
	comp=Z,1.2nm,0.2s						
TOF				SG	Sb	16 02 15.3	-0.1
SGF	**Sodankyl**	**2.45**	**96**	PG	Pb	16 01 45.4	-1.2
SGF				SG	Sb	16 02 18.2	+1.0
RNF	**Rovaniemi**	**2.57**	**116**	PB	Pb	16 01 46.7	-1.9
RNF				SB	Sb	16 02 20.2	-0.5
RAJF	**Raja-Jooseppi**	**3.10**	**74**	SB	Sb	16 02 36.2	+0.2
KEV	**Kevo**	**3.14**	**49**	SN	Sn	16 02 31.9	+1.3
RANF	**Ranua**	**3.16**	**122**	SG	Sb	16 02 38.8	+1.0
OUF	**Merijarvi**	**3.93**	**150**	SN	Sn	16 02 46.1	-3.8

*UPP **02** 16:02:10.8±0.9, 62.°83N×21.°96E, h0km, ML1.9*

HEL 02 16:02:10.8±0.1, 62.°83N×22.°10E, h0km, ML1.8, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.34**	**51**	*e*P	Pg	16 02 17.2	-0.1
VAF	**Ylistaro**	**0.34**	**51**	PG	Pg	16 02 16.8	-0.5
	baz=234						
VAF				SG	Sg	16 02 21.2	-0.4
KPF	**Kankaanpaa**	**1.00**	**181**	PG	Pg	16 02 29.5	-0.5
KPF				SB	Sg	16 02 42.9	0.0
UMAU	**Umeaa**	**1.23**	**329**	P	Pg	16 02 33.2	-1.2
UMAU				S	Sg	16 02 48.6	-1.8
UMAU	**Umeaa**	**1.23**	**329**	SN	Sg	16 02 48.7	-1.7
UMAU	**Umeaa**	**1.23**	**329**	PG	Pg	16 02 33.1	-1.3
UMAU				SG	Sg	16 02 48.7	-1.7
KEF	**Keuruu**	**1.45**	**116**	*e*P	Pn	16 02 37.5	-0.8
KEF	**Keuruu**	**1.45**	**116**	PN	Pn	16 02 37.0	-1.3
	baz=295						
KEF				MSG		16 02 54.4	
	comp=Z,4.7nm,0.2s						
KEF				SN	Sg	16 02 57.4	+0.1
**OBF

KALU	**Kalix**	**3.09**	**10**	PB	Pn	16 03 02.3 +1.6
KALU				SN	Sn	16 03 38.5 +0.2
TOF	**Tornio**	**3.40**	**16**	PB	Pn	16 03 07.0 +2.0
TOF				SN	Sn	16 03 46.5 +0.5
RANF	**Ranua**	**3.79**	**30**	PN	Pn	16 03 10.8 +0.5
RANF				SG	Sg	16 04 09.4 -3.0
RNF	**Rovaniemi**	**4.15**	**22**	PN	Pn	16 03 16.2 +0.9
RNF				SN	Sn	16 04 04.1 -0.3
JOF	**Joensuu**	**4.22**	**85**	PB	Pn	16 03 20.4 +4.1
JOF				SG	Sg	16 04 21.9 -4.4
MSF	**Maaselka**	**4.32**	**41**	SN	Sn	16 04 08.6 0.0
KLF	**Kolari**	**4.49**	**9**	PN	Pn	16 03 21.6 +1.6
	baz=187					
KLF				SN	Sn	16 04 12.2 -0.7

*IDC **02** 16:04:24.9±0.7, 63°.58S×173°.10E, h0km, mb4.4/7, mbtmp4.3/8, ML3.6/1, MS4.4/33, Error ellipse: s-maj=33.3km s-min=19.0km az=67.0*
*NEIC **02** 16:04:27.6±1.4, 63°.70S±0°.09×172°.5E±0°.1, h10km±1km, mb4.6/12, Error ellipse: s-maj=15.8km s-min=9.0km az=355.0*
*GCMT **02** 16:04:28.6±0.2, 63°.57S±0°.01×172°.87E±0°.04, h12km±1km, MW5.1/119, Moment Tensor Solution. s40,c51; s119,c176; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.74±.15; Mθθ4.54±.16; Mφφ-3.80±.12; Mrθ-3.44±.63; Mθφ-0.65±.12; Mφr0.69±.37; Best double couple: M0=5.13300×1016 NP1:φs=319.00000°, δ81.00000°, λ29.00000°. NP2:φs=225.00000°, δ62.00000°, λ170.00000°. Principal axes: T 6.3150, Plg26.0000°, Azm186.0000°; N -2.3620, Plg60.0000°, Azm335.0000°; P -3.9520, Plg13.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 16:04:27.2±0.5, 63°.72S±0°.07×172°.5E±0°.1, h10km, n75, σ0s81/45, mb4.5/14, MS4.4/33, 5C, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**11.53**	**317**	Pn	**Pn**	**16 07 12.0**	**+0.4**
VNDA	**Vanda**	**14.26**	**189**		**Pn**	**16 07 48.9**	**+0.1**
VNDA	**Vanda**	**14.26**	**189**	Pn	**Pn**	**16 07 49.1**	**+0.4**
VNDA	0.3nm,0.3s,baz=38,slow=16,SNR=23			Sn	**Sn**	**16 10 23.9**	**-2.8**
VNDA	0.2nm,0.3s,baz=261,slow=21,SNR=2.3			LR	LR	16 12 06.9	
SBA	**Scott Base**	**14.31**	**185**		**Pn**	**16 07 49.2**	**-0.3**
ODZ	**Otahua Downs**	**18.74**	**356**	P	**P**	**16 08 43.7**	**-2.1**
RPZ	**Rata Peaks**	**20.06**	**357**	LR	LR	16 15 26.2	
OXZ	**Oxford**	**20.43**	**359**	P	**P**	**16 09 05.2**	**+0.9**
OXZ	comp=Z,49nm,1.4s			IAmb	IAmb	16 09 29.8	
CASY	**Casey**	**25.36**	**236**	P	**P**	**16 09 54.3**	**+0.5**
CASY	comp=Z,20nm,1.3s			IAmb	IAmb	16 10 14.9	
URZ	**Urewera**	**25.65**	**8**	LR	LR	16 18 19.1	
QSPA	**South Pole Qui**	**26.37**	**180**	P	**P**	**16 10 04.0**	**+0.7**
QSPA	**South Pole Qui**	**26.37**	**180**	P	**P**	**16 10 03.8**	**+0.5**
QSPA	comp=Z,9.3nm,1.0s,baz=16,slow=1.9,SNR=13			LR	LR	16 19 08.0	
RAO	**Raoul Island**	**35.03**	**15**	LR	LR	16 23 59.0	
STKA	**Stephens Creek**	**37.28**	**314**	LR	LR	16 24 18.7	
MAW	**Mawson**	**39.66**	**214**	P	**P**	**16 12 00.4**	**+2.0**
MAW	comp=Z,2.3nm,0.8s,baz=117,slow=13,SNR=5.1			LR	LR	16 28 08.3	
SMAI	**San Martin Ant**	**41.78**	**151**	P	**P**	**16 12 16.2**	**+0.2**
SMAI	comp=Z,13nm,1.4s			IAmb	IAmb	16 12 49.2	
DZM	**Mont Dzumac**	**41.82**	**352**	LR	LR	16 27 33.8	
TROLL	**Troll, Antarti**	**44.37**	**184**	⇑P	**P**	**16 12 37.3**	**+0.2**
SNAA	**Sanae**	**44.84**	**182**	P	**P**	**16 12 39.9**	**-0.9**
SNAA	comp=Z,18nm,1.4s			IAmb	IAmb	16 12 49.6	
SNAA	**Sanae**	**44.84**	**182**	⇑P	**P**	**16 12 40.7**	**-0.1**
SNAA	**Sanae**	**44.84**	**182**	P	**P**	**16 12 40.3**	**-0.4**
SNAA	comp=Z,3.8nm,0.9s,baz=232,slow=8.7,SNR=9.1			LR	LR	16 30 43.5	
PMSA	**Palmer Station**	**45.27**	**150**	LR	LR	16 28 48.6	
VNA3	**Neumayer Olymp**	**45.30**	**179**	⇑P	**P**	**16 12 45.3**	**+0.9**
VNA2	**Neumayer--Watz**	**45.63**	**180**	⇑P	**P**	**16 12 47.0**	**0.0**
NWAO	**Narrogin (SRO)**	**45.74**	**285**	LR	LR	16 27 20.4	
VNA1	**Neumayer--Stat**	**45.90**	**180**	⇑P	**P**	**16 12 49.5**	**+0.5**
RAR	**Rarotonga**	**46.40**	**37**	LR	LR	16 29 28.5	
ASAR	**Alice Springs**	**47.42**	**309**	P	**P**	**16 13 01.0**	**-0.6**
ASAR	**Alice Springs**	**47.42**	**309**	P	**P**	**16 13 01.9**	**+0.4**
ASAR	comp=Z,5.6nm,1.1s,baz=156,slow=7.2,SNR=18			PcP	**PcP**	**16 14 31.3**	**-0.7**
ASAR	comp=Z,0.8nm,0.9s,baz=143,slow=2.3,SNR=2.9			LR	LR	16 31 17.9	
AS31	**Alice Springs**	**47.42**	**309**	P	**P**	**16 13 00.9**	**-0.7**
WR0	**Warramunga Arr**	**50.64**	**312**	P	**P**	**16 13 26.5**	**+0.3**
WRA	**Warramunga Arr**	**50.72**	**311**	P	**P**	**16 13 26.2**	**-0.6**
WRA	comp=Z,3.6nm,1.1s,baz=157,slow=7.1,SNR=7.3			LR	LR	16 33 08.3	
WB0	**Warramunga Arr**	**50.87**	**312**	P	**P**	**16 13 28.4**	**+0.4**
WB0	comp=Z,14nm,1.4s			IAmb	IAmb	16 14 09.0	
PPT	**Papeete**	**52.88**	**47**	LR	LR	16 31 16.1	
HNR	**Honiara**	**54.93**	**345**	LR	LR	16 35 17.0	
GO08	**Villa O'Higgin**	**57.10**	**134**	P	**P**	**16 14 14.2**	**+1.1**
PMG	**Port Moresby**	**57.15**	**330**	LR	LR	16 34 20.5	
RPN	**Rapa Nui**	**60.84**	**93**	LR	LR	16 35 46.1	
PLCA	**Paso Flores**	**64.62**	**131**	LR	LR	16 37 57.5	
H03S2	**Juan Fernandez**	**67.79**	**122**	T	T	17 29 51.6	
H03S1	**Juan Fernandez**	**67.79**	**122**	T	T	17 29 52.6	
H03S3	**Juan Fernandez**	**67.80**	**122**	T	T	17 29 47.2	
KAPI	**Kappang**	**69.73**	**302**	LR	LR	16 46 25.5	
TOLI2	**Tolitoli**	**75.01**	**306**	P	**P**	**16 16 08.0**	**-0.6**
TOLI2	comp=Z,5.0nm,1.0s			IAmb	IAmb	16 16 52.0	
DAV	**Davao City (W)**	**78.90**	**312**	LR	LR	16 51 38.2	
SUR	**Sutherland**	**81.62**	**204**	LR	LR	16 50 48.2	
LVC	**Limon Verde**	**81.65**	**125**	LR	LR	16 45 50.4	
CPUP	**Villa Florida**	**82.12**	**136**	P	**P**	**16 16 47.3**	**-0.4**
CPUP	comp=Z,4.9nm,1.1s,baz=172,slow=4.4,SNR=3.8			LR	LR	16 49 51.4	
BOSA	**Boshof**	**84.40**	**209**	LR	LR	16 52 18.7	
H08S2	**Diego Garcia H**	**87.60**	**258**	T	T	17 54 48.2	
H08S1	**Diego Carcia H**	**87.61**	**258**	T	T	17 54 53.2	
H08S3	**Diego Garcia H**	**87.62**	**258**	T	T	17 54 46.5	
LPAZ	**La Paz**	**87.72**	**123**	P	**P**	**16 17 16.6**	**-0.2**
LPAZ	**La Paz**	**87.72**	**123**	P	**P**	**16 17 16.1**	**-0.7**
LPAZ	comp=Z,4.3nm,1.1s,baz=217,slow=4.1,SNR=7.8			LR	LR	16 47 34.5	
OPO	**Ambohidratompo**	**87.73**	**231**	LR	LR	16 50 51.7	
NNA	**Nana**	**88.23**	**114**	LR	LR	16 48 36.9	
SIV	**San Ignacio**	**90.53**	**129**	LR	LR	16 52 36.6	
BDFB	**Brasilia**	**94.95**	**141**	LR	LR	16 58 05.7	
TSUM	**Tsumeb**	**95.06**	**204**	LR	LR	16 59 53.5	
LSZ	**Lusaka**	**96.57**	**215**	LR	LR	17 00 40.4	
PALK	**Pallekele**	**97.25**	**272**	LR	LR	16 53 50.7	
JHJ	**Hachijo jima 2**	**99.93**	**333**	LR	LR	16 57 24.7	
TORD	**Torodi Ar. Bea**	**129.08**	**192**	PKP	**PKPdf**	**16 23 34.7**	**-0.4**
MKAR	**Makanchi Array**	**130.66**	**295**	PKP	**PKPdf**	**16 23 36.7**	**-0.4**
ILAR	**Eielson Array**	**131.63**	**22**		**PKiKP**	**16 23 39.0**	**-0.3**
ILAR	**Eielson Array**	**131.63**	**22**	PKP	**PKPdf**	**16 23 37.4**	**-0.9**
KURBB	**Kurchatov Arra**	**135.22**	**296**	PKP	**PKPdf**	**16 23 45.1**	**-0.3**
KBZ	**Khabaz**	**145.32**	**259**	PKPbc	**PKPab**	**16 24 04.6**	**+0.6**
NRIK	**Noril'sk**	**145.40**	**321**		**PKPab**	**16 24 03.7**	**+0.1**
NRIK	**Noril'sk**	**145.40**	**321**	PKPbc	**PKPdf**	**16 24 03.0**	**-0.3**
BR131	**Keskin Array S**	**145.94**	**245**	PKPdf	**PKPdf**	**16 24 05.3**	**-0.1**
BRTR	**Keskin Array B**	**145.94**	**245**		**PKPdf**	**16 24 04.9**	**-0.4**
BRTR	**Keskin Array B**	**145.94**	**245**	PKPbc	**PKPdf**	**16 24 05.2**	**-0.2**
SCHQ	**Schefferville**	**149.53**	**79**	PKPbc	**PKPdf**	**16 24 11.3**	**+0.7**
RDO	**Rodhopi**	**150.31**	**236**		**PKPbc**	**16 24 17.6**	**+0.1**
TIP	**Timpagrande**	**151.50**	**222**		**PKiKP**	**16 24 21.2**	**+0.3**

*NEIC **02** 16:21:29.6±0.8, 36°.72S±0°.06×73°.8W±0°.2, h29km±11km, mb4.1/2, ML4.3(GUC), Error ellipse: s-maj=20.5km s-min=8.1km az=100.0*
*GUC **02** 16:21:29.8±0.7, 36°.76S×73°.64W, h36km±4km, ML4.2*

ISC 02 16:21:29.3±1.1, 36°.74S±0°.04×73°.75W±0°.09, h27km, n47, σ0s80/56, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI04	**Isla Mocha**	**1.67**	**184**	*e*P	**Pn**	**16 21 56.8**	**0.0**
BI04				*i* S	**Sn**	**16 22 18.2**	**+0.9**
BI02	**San Fabin de**	**1.99**	**89**	⇑*i*P	**Pn**	**16 22 00.7**	**-0.5**
BI02				*e*S	**Sn**	**16 22 24.4**	**-0.9**
BI02	comp=E,3μm,0.5s			IAML		16 22 28.9	
LC02	**Puerto Saavedr**	**2.07**	**172**	Pn	**Pn**	**16 22 02.7**	**+0.5**
LC02	**Puerto Saavedr**	**2.07**	**172**	*e*P	**Pn**	**16 22 03.0**	**+0.8**
LC02				*e*S	**Sn**	**16 22 27.0**	**-0.1**
LC02	comp=E,4μm,0.4s			IAML		16 22 39.0	
ML02	**Panimavida**	**2.12**	**63**		**Pn**	**16 22 03.0**	**0.0**
ML02	**Panimavida**	**2.12**	**63**	*e*P	**Pn**	**16 22 02.9**	**-0.1**
ML02				*e*S	**Sn**	**16 22 28.0**	**-0.4**
ML02	comp=N,6μm,0.7s			IAML		16 22 36.7	
GO05	**Huala**	**2.27**	**41**		**Pn**	**16 22 05.0**	**-0.1**
GO05	**Huala**	**2.27**	**41**	*e*P	**Pn**	**16 22 04.9**	**-0.1**
GO05	comp=E,1μm,0.4s			IAML		16 22 51.9	
LR02	**Universidad Au**	**3.09**	**173**	*e*S	**Sn**	**16 22 49.6**	**-2.5**
LR03	**Panguipulli**	**3.09**	**159**		**Pn**	**16 22 16.5**	**+0.2**
LR03	**Panguipulli**	**3.09**	**159**	*e*P	**Pn**	**16 22 16.7**	**+0.4**
LR03				*i* S	**Sn**	**16 22 51.3**	**-1.1**
BO02	**Sierra Bellavi**	**3.10**	**52**		**Pn**	**16 22 16.2**	**-0.3**
BO02	**Sierra Bellavi**	**3.10**	**52**	*e*P	**Pn**	**16 22 16.2**	**-0.3**
BO02				*e*S	**Sn**	**16 22 54.9**	**+2.3**
LR04	**Corral**	**3.15**	**175**		**Pn**	**16 22 16.0**	**-1.0**
BO01	**Tunca**	**3.19**	**44**		**Pn**	**16 22 18.1**	**+0.3**
BO01	**Tunca**	**3.19**	**44**	*e*P	**Pn**	**16 22 18.3**	**+0.5**
BO01				*e*S	**Sn**	**16 22 53.7**	**-1.2**
BO01	comp=N,343nm,0.5s			IAML		16 23 12.6	
GO06	**Curarrehue**	**3.36**	**148**		**Pn**	**16 22 19.9**	**-0.2**
MT01	**Popeta**	**3.52**	**36**		**Pn**	**16 22 21.9**	**-0.3**
MT01	**Popeta**	**3.52**	**36**	*e*P	**Pn**	**16 22 22.2**	**0.0**
MT01				*i* S	**Sn**	**16 23 00.8**	**-2.2**
MT01	comp=E,264nm,0.4s			IAML		16 23 31.8	
VA05	**Santo Domingo**	**3.54**	**30**		**Pn**	**16 22 22.0**	**-0.4**
MT09	**Talagante**	**3.72**	**38**		**Pn**	**16 22 25.2**	**+0.1**
LR05	**Currie**	**3.74**	**159**		**Pn**	**16 22 25.7**	**+0.5**
LR05	**Currie**	**3.74**	**159**	*e*P	**Pn**	**16 22 25.6**	**+0.3**
LR05				*i* S	**Sn**	**16 23 07.9**	**-0.5**
BO04	**La Punta**	**3.76**	**44**		**Pn**	**16 22 25.3**	**-0.2**
MT02	**Curacav**	**4.08**	**32**		**Pn**	**16 22 29.2**	**-0.7**
MT02	**Curacav**	**4.08**	**32**	*e*P	**Pn**	**16 22 29.5**	**-0.5**
LMEL	**Las Melosas**	**4.09**	**46**		**Pn**	**16 22 30.4**	**+0.2**
LMEL	**Las Melosas**	**4.09**	**46**	*e*P	**Pn**	**16 22 30.8**	**+0.6**
VA01	**Torpederas**	**4.09**	**26**	Pn	**Pn**	**16 22 29.2**	**-0.8**
MT13	**San Alfonso**	**4.12**	**44**		**Pn**	**16 22 30.3**	**-0.3**
MT05	**Renca**	**4.15**	**37**	Pn	**Pn**	**16 22 31.1**	**+0.1**
MT03	**Universidad Ad**	**4.19**	**40**		**Pn**	**16 22 31.3**	**-0.2**
MT16	**COHEN**	**4.23**	**40**		**Pn**	**16 22 32.0**	**-0.1**
LL04	**Puerto Octay**	**4.29**	**166**		**Pn**	**16 22 32.0**	**-0.8**
VA06	**Catapilco**	**4.63**	**27**		**Pn**	**16 22 36.8**	**-0.7**
PLCA	**Paso Flores**	**4.71**	**149**	Pn	**Pn**	**16 22 39.6**	**+1.0**
VA03	**San Esteban**	**4.76**	**34**		**Pn**	**16 22 38.8**	**-0.5**
LL01	**San Ignacio de**	**5.72**	**170**	Pn	**Pn**	**16 22 52.6**	**+0.2**
CO02	**Combarbal**	**5.97**	**23**		**Pn**	**16 22 55.8**	**-0.3**
CO06	**Fray Jorge**	**6.30**	**17**	Pn	**Pn**	**16 22 59.2**	**-1.3**
CO03	**El Pedregal**	**6.41**	**24**		**Pn**	**16 23 01.9**	**-0.1**
CO01	**Juntas del Tor**	**7.40**	**25**		**Pn**	**16 23 16.1**	**+0.3**
TRQA	**Tornquist**	**9.46**	**102**	Pn	**Pn**	**16 23 43.2**	**-0.5**
AY03	**Cochrane**	**10.54**	**176**		**Pn**	**16 23 59.0**	**+0.6**
GO08	**Villa O'Higgin**	**11.75**	**176**	Pn	**Pn**	**16 24 16.4**	**+1.4**
PB11	**IPOC Station P**	**17.29**	**13**		**Pn**	**16 25 28.9**	**-0.1**
PB11	comp=Z,10nm,1.1s			IAmb	IAmb	16 26 00.4	
ITAB	**Concordia**	**20.60**	**69**	P	**P**	**16 26 05.6**	**-0.7**
ITAB	comp=Z,13nm,0.9s			IAmb	IAmb	16 26 15.8	

*IDC **02** 16:23:25.6±2.1, 3°.47N×126°.40E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=185.6km s-min=27.2km az=65.0*
*DJA **02** 16:23:54.8±0.8, 2°.N±5°.×12°.7E±°., h92km±9km, M3.8/9, mb4.0/4, MLv3.7/9*
*NEIC **02** 16:23:57.9±1.5, 1°.52N±0°.07×127°.3E±0°.1, h112km±6km, mb4.0/8, Error ellipse: s-maj=21.2km s-min=7.7km az=71.0*

ISC 02 16:23:57.7±1.3, 1°.6N±0°.1×127°.3E±0°.1, h128km, n23, σ0s95/23, mb4.0/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.81**	**172**	Pn	**Pn**	**16 24 17.4**	**-1.4**
TNTI	**Ternate**	**0.81**	**172**	P	**Pn**	**16 24 17.4**	**-1.4**
KMSI	**Cibinong**	**3.43**	**253**	P	**Pn**	**16 24 48.5**	**-1.3**
SANI	**Sanana**	**3.83**	**199**	P	**Pn**	**16 24 54.7**	**-0.4**
GTOI	**Gorontalo**	**4.35**	**258**	P	**Pn**	**16 25 02.0**	**-0.1**
LUWI	**Luwuk**	**5.19**	**240**	Pn	**Pn**	**16 25 14.3**	**+1.0**
LUWI	**Luwuk**	**5.19**	**240**	P	**Pn**	**16 25 12.1**	**-1.2**
	13nm,0.8s,0.1nm						
DAV	**Davao City (W)**	**5.70**	**343**	Pn	**Pn**	**16 25 20.8**	**+0.6**
TOLI2	**Tolitoli**	**6.49**	**266**	Pn	**Pn**	**16 25 29.2**	**-1.7**
MYLDM	**Lahad Datu**	**9.44**	**292**	Pn	**Pn**	**16 26 11.0**	**+0.4**
MTN	**Manton Dam**	**14.84**	**165**	P	**P**	**16 27 25.4**	**+1.6**
FITZ	**Fitzroy Crossi**	**19.62**	**185**	P	**P**	**16 28 17.8**	**+1.5**
WB0	**Warramunga Arr**	**22.34**	**162**	P	**P**	**16 28 45.4**	**+0.1**
WB0	comp=Z,12nm,1.4s			IAmb	IAmb	16 29 06.2	
WRA	**Warramunga Arr**	**22.49**	**162**	P	**P**	**16 28 46.1**	**-0.6**
WRA	**Warramunga Arr**	**22.49**	**162**	P	**P**	**16 28 47.0**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=341,slow=11,SNR=43						
	comp=Z,1.5nm,0.5s						
WB2	**Warramunga Arr**	**22.50**	**162**	P	**P**	**16 28 47.0**	**+0.2**
WB2	comp=Z,19nm,1.5s			IAmb	IAmb	16 29 16.7	
WR0	**Warramunga Arr**	**22.57**	**162**	P	**P**	**16 28 47.6**	**+0.2**
WR0	comp=Z,7.3nm,1.1s			IAmb	IAmb	16 29 26.8	
AS31	**Alice Springs**	**25.92**	**166**	P	**P**	**16 29 17.7**	**-0.4**
ASAR	**Alice Springs**	**25.92**	**166**	P	**P**	**16 29 18.0**	**-0.2**
ASAR	**Alice Springs**	**25.92**	**166**	P	**P**	**16 29 17.8**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=348,slow=7.6,SNR=17						
	comp=Z,0.5nm,0.5s						
BBOO	**Buckleboo**	**35.21**	**167**	P	**P**	**16 30 40.3**	**+0.6**
STKA	**Stephens Creek**	**35.95**	**159**	P	**P**	**16 30 46.8**	**+0.8**
STKA				IAmb	IAmb	16 30 47.7	
	comp=Z,1.0nm,0.8s						
STKA	**Stephens Creek**	**35.95**	**159**	P	**P**	**16 30 46.0**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=332,slow=6.9,SNR=9.6						
	comp=Z,2.0nm,0.4s						

*IDC **02** 16:25:50.5±0.7, 41°.35N×100°.42W, h0km, mb3.9/5, mbtmp3.8/13, ML3.4/7, MS3.1/7, Error ellipse: s-maj=11.1km s-min=7.8km az=158.0*
*ANF **02** 16:25:50.9±0.2, 41°.34N×100°.12W, h5km, Error ellipse: s-maj=2.4km s-min=2.1km az=131.0*
*NEIC **02** 16:25:52.2±0.8, 41°.40N±0°.04×100°.18W±0°.06, h5km±2km, mb_Lg3.8/124, Error ellipse: s-maj=9.8km s-min=4.1km az=134.0*

ISC 02 16:25:50.2±2.0, 41°.39N±0°.04×100°.14W±0°.03, h5km±13km, n164, σ1s37/163, mb3.9/6, MS4.0/4, Nebraska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K30B	**Basset**	**1.34**	**17**		**Pn**	**16 26 16.4**	**+0.7**
K30B					**Sb**	**16 26 33.5**	**0.0**
BGNE	**Belgrade**	**1.50**	**89**		**Pn**	**16 26 18.3**	**+0.6**
BGNE	**Belgrade**	**1.50**	**89**	P	**Pn**	**16 26 18.3**	**+0.6**
BGNE	baz=270			S	**Sn**	**16 26 38.7**	**+1.0**
OGNE	**Ogallala**	**1.50**	**253**		**Pb**	**16 26 18.6**	**+0.1**
OGNE					**Sb**	**16 26 37.5**	**-0.5**
OGNE	**Ogallala**	**1.50**	**253**	P	**Pb**	**16 26 18.6**	**+0.1**
OGNE	baz=71,SNR=444			S	**Sg**	**16 26 38.0**	**-0.3**
CBKS	**Cedar Bluff**	**2.59**	**173**		**Pn**	**16 26 34.5**	**+1.8**
CBKS	**Cedar Bluff**	**2.59**	**173**	P	**Pn**	**16 26 33.0**	**+0.2**
CBKS	baz=353,SNR=33			Sb	**Sb**	**16 27 10.5**	**+1.3**
L34A	**Svendsen Farm,**	**2.88**	**77**		**Pn**	**16 26 38.1**	**+1.4**
KSCO	**Kaye Shedlock'**	**3.04**	**220**		**Pn**	**16 26 40.6**	**+1.4**
KSCO	**Kaye Shedlock'**	**3.04**	**220**	P	**Pn**	**16 26 40.7**	**+1.5**
KSCO	baz=37,SNR=78			S	**Sn**	**16 27 17.1**	**+1.0**
R32A	**Long Quarter,**	**3.16**	**159**		**Pn**	**16 26 42.4**	**+1.8**
R32A				IAmb_Lg		16 27 33.8	
SUSD	**Miller**	**3.17**	**15**		**Pn**	**16 26 41.4**	**+0.6**
SUSD				IAmb_Lg		16 27 36.1	
SUSD	**Miller**	**3.17**	**15**	P	**Pn**	**16 26 43.2**	**+2.4**
SUSD	baz=197			S	**Sn**	**16 27 22.2**	**+3.1**
N35A	**Tabor**	**3.44**	**97**		**Pn**	**16 26 46.0**	**+1.6**
N35A				IAmb_Lg		16 27 40.6	
ECSD	**EROS Data Cent**	**3.50**	**47**	Pn	**Pn**	**16 26 46.5**	**+1.2**
ECSD	**EROS Data Cent**	**3.50**	**47**	P	**Pn**	**16 26 47.0**	**+1.6**
ECSD	baz=230			S	**Sn**	**16 27 29.6**	**+2.5**
KSU1	**Kansas State U**	**3.54**	**129**		**Pn**	**16 26 47.9**	**+2.1**
KSU1				IAmb_Lg		16 27 43.7	
KSU1	**Kansas State U**	**3.54**	**129**	P	**Pn**	**16 26 45.0**	**-0.8**
KSU1	baz=311			Sb	**Sb**	**16 27 39.6**	**+3.1**
RSSD	**Black Hills**	**3.96**	**315**	IAmb_Lg		16 28 00.8	
RSSD	**Black Hills**	**3.96**	**315**	P	**Pn**	**16 26 53.7**	**+1.8**
RSSD	baz=132			Sb	**Sb**	**16 27 53.8**	**+4.8**
PHWY	**Pilot Hill**	**4.01**	**271**	IAmb_Lg		16 28 01.5	
KAN12	**Harper NE Stat**	**4.41**	**157**		**Pn**	**16 26 58.6**	**+0.8**
KAN12				IAmb_Lg		16 28 16.0	
N23A	**Red Feather La**	**4.41**	**266**	P	**Pn**	**16 26 59.5**	**+1.4**
N23A	baz=81,SNR=28			Sb	**Sb**	**16 28 06.4**	**+4.4**
KAN08	**Anthony NE Sta**	**4.48**	**157**		**Pn**	**16 26 59.3**	**+0.5**
KAN06	**Argonia West S**	**4.50**	**156**		**Pn**	**16 26 59.3**	**+0.4**
Q24A	**Divide**	**4.54**	**239**		**Pn**	**16 27 00.1**	**+0.3**
Q24A				IAmb_Lg		16 28 16.5	
Q24A	**Divide**	**4.54**	**239**	P	**Pn**	**16 27 00.6**	**+0.8**
Q24A	baz=56			S	**Sn**	**16 27 53.6**	**+0.5**
KAN01	**Argonia South**	**4.61**	**156**	Pn	**Pn**	**16 27 00.8**	**+0.2**
KAN05	**Bluff City Nor**	**4.62**	**157**	Pn	**Pn**	**16 27 01.2**	**+0.5**
KAN09	**Caldwell North**	**4.67**	**154**		**Pn**	**16 27 01.4**	**0.0**
KAN17	**Caldwell West**	**4.71**	**156**		**Pn**	**16 27 02.1**	**+0.2**
KAN14	**Manchester OK**	**4.74**	**158**		**Pn**	**16 27 02.6**	**+0.3**
KAN14				IAmb_Lg		16 28 22.1	
KAN13	**South Haven SW**	**4.83**	**154**		**Pn**	**16 27 04.0**	**+0.4**
GC02	**Grant County #**	**4.86**	**158**		**Pn**	**16 27 04.2**	**+0.1**
K22A	**Casper**	**4.92**	**287**	P	**Pn**	**16 27 06.1**	**+1.1**
K22A	baz=103,SNR=7.9			Sb	**Sb**	**16 28 22.5**	**+6.0**
U32A	**Winter Ranch,**	**5.08**	**170**	IAmb_Lg		16 28 46.1	
BLOK	**Blackwell**	**5.15**	**153**		**Pn**	**16 27 08.6**	**+0.6**
CROK	**Carrier**	**5.16**	**160**	Pn	**Pn**	**16 27 08.5**	**+0.4**
SCIA	**State Center**	**5.21**	**82**	IAmb_Lg		16 28 41.9	
SCIA	**State Center**	**5.21**	**82**	S	**Sn**	**16 28 10.9**	**+1.6**
N38A	**Joes South For**	**5.25**	**94**	IAmb_Lg		16 28 41.6	
F33A	**5 Mile Ranch,**	**5.25**	**31**		**Pn**	**16 27 09.3**	**-0.1**
T35A	**Sooner Cattle**	**5.28**	**147**		**Pn**	**16 27 10.1**	**+0.3**
RWWY	**Rawlins**	**5.32**	**276**	IAmb_Lg		16 28 46.3	
RTBA	**Rita Blanca**	**5.34**	**203**	Pn	**Pn**	**16 27 10.8**	**+0.1**
RTBA				IAmb_Lg		16 28 45.2	
T25A	**Trinidad**	**5.38**	**219**		**Pn**	**16 27 11.8**	**+0.4**
T25A	**Trinidad**	**5.38**	**219**	P	**Pn**	**16 27 12.2**	**+0.8**
SDCO	**Great Sand Dun**	**5.51**	**230**	P	**Pn**	**16 27 14.4**	**+1.2**
SMCO	**Snowmass**	**5.67**	**249**		**Pn**	**16 27 14.5**	**-1.1**
SMCO				IAmb_Lg		16 28 55.4	
QUOK	**Quay**	**5.86**	**152**	Pn	**Pn**	**16 27 17.6**	**-0.1**
DEOK	**Depew**	**6.23**	**152**		**Pn**	**16 27 23.3**	**+0.6**
SMWD	**Samnorwood**	**6.27**	**181**		**Pn**	**16 27 23.7**	**+0.2**
SMWD				IAmb_Lg		16 29 28.5	
O20A	**White River Ci**	**6.28**	**261**	IAmb_Lg		16 29 23.2	
S22A	**4UR Ranch, Cre**	**6.32**	**237**	P	**Pn**	**16 27 24.8**	**+0.5**
OKCSW	**OKLAHOMA CITY**	**6.34**	**160**	IAmb_Lg		16 29 29.5	
S39A	**Bolivar**	**6.43**	**123**		**Pn**	**16 27 25.7**	**+0.2**
TUL3	**Leonard**	**6.44**	**147**		**Pn**	**16 27 25.5**	**-0.2**
TUL3				IAmb_Lg		16 29 20.7	
TUL3	**Leonard**	**6.44**	**147**	P	**Pn**	**16 27 25.8**	**+0.2**
P40A	**Paris**	**6.44**	**104**	IAmb_Lg		16 29 16.7	
MDND	**Maddock**	**6.47**	**3**	P	**Pn**	**16 27 28.0**	**+1.9**
MDND	baz=184			S	**Sn**	**16 28 39.0**	**-1.3**

baz=184
RLO Rose Lookout 6.57 141 Pn 16 27 27.7 +0.2
RLO IAmb_Lg 16 29 22.6
comp=Z,134nm,0.7s
SPMN Marine on St. 6.58 52 Pn 16 27 28.0 +0.4
SPMN Marine on St. 6.58 52 P **Pn 16 27 29.5 +1.9**
baz=237
SPMN S **Sn 16 28 43.0 0.0**
baz=237
AMTX Amarillo 6.61 191 Pn 16 27 27.9 -0.1
AMTX Amarillo 6.61 191 P **Pn 16 27 29.2 +1.1**
baz=9.8
AMTX S **Sn 16 28 44.4 +0.6**
baz=9.8
U38A Gravette 6.67 136 Pn **Pn 16 27 29.0 +0.2**
U38A IAmb_Lg 16 29 24.4
comp=Z,104nm,1.1s
L40A Anamosa 6.70 81 Pn 16 27 29.6 +0.4
L40A IAmb_Lg 16 29 28.0
comp=Z,165nm,1.1s
WMOK Wichita Mounta 6.72 170 Pn **Pn 16 27 29.5 -0.2**
WMOK IAmb_Lg 16 29 37.2
comp=Z,114nm,0.8s
WMOK Wichita Mounta 6.72 170 P **Pn 16 27 29.4 -0.2**
baz=351,SNR=16
WMOK S **Sn 16 28 46.4 -0.2**
baz=351
R40A Maddies Statio 6.80 114 IAmb_Lg 16 29 36.2
comp=Z,110nm,0.7s
HHAR Hobbs 7.03 135 IAmb_Lg 16 29 53.8
comp=Z,93nm,0.9s
N41A Harden Midland 7.05 92 IAmb_Lg 16 29 50.1
comp=Z,102nm,0.7s
BW06 Boulder Array 7.14 284 P **Pn 16 27 36.2 +0.7**
baz=98
PDAR Pinedale Array 7.14 284 Pn **Pn 16 27 35.9 +0.3**
comp=Z,3.2nm,0.4s,baz=110,slow=13,SNR=33
PDAR Pg **Pb 16 27 51.0 -3.9**
comp=Z,2.9nm,0.3s,baz=109,slow=15,SNR=9.9
PDAR Lg Lg 16 29 26.8
comp=Z,6.1nm,0.3s,baz=103,slow=40,SNR=2.1
PDAR LR LR 16 30 41.4
comp=Z,24nm,19.7s,baz=76,slow=42
MGMO Mountain Grove 7.42 122 Pn 16 27 39.9 +0.7
MGMO IAmb_Lg 16 30 00.1
comp=Z,91nm,0.8s
I40A Norwalk 7.45 67 IAmb_Lg 16 30 05.3
comp=Z,102nm,1.0s
JFWS Jewell Farm 7.50 75 Pn 16 27 40.3 0.0
JFWS IAmb_Lg 16 29 51.7
comp=Z,149nm,0.7s
JFWS Jewell Farm 7.50 75 P **Pn 16 27 40.3 0.0**
baz=262
JFWS S **Sn 16 29 03.1 -2.7**
baz=262
AGMN Agassiz Nation 7.55 22 Pn 16 27 40.5 -0.3
AGMN Agassiz Nation 7.55 22 P **Pn 16 27 41.7 +0.8**
baz=206
CCM Cathedral Cave 7.62 113 Pn 16 27 41.5 -0.4
CCM IAmb_Lg 16 29 57.0
comp=Z,140nm,1.2s
CCM Cathedral Cave 7.62 113 P **Pn 16 27 41.8 -0.1**
baz=299
RLMT Red Lodge 7.64 302 P **Pn 16 27 43.5 +1.1**
baz=116
MSTX Muleshoe 7.69 197 Pn 16 27 42.3 -0.7
MSTX IAmb_Lg 16 30 12.3
comp=Z,112nm,0.8s
MSTX Muleshoe 7.69 197 P **Pn 16 27 42.8 -0.2**
baz=15,SNR=7.2
MVCO Mesa Verde 7.71 240 IAmb_Lg 16 30 04.8
comp=Z,94nm,1.3s
MVCO Mesa Verde 7.71 240 P **Pn 16 27 44.1 +0.7**
baz=54
DKNS Dickens 7.73 185 Pn 16 27 43.3 -0.2
X37A Clayton 7.76 149 Pn **Pn 16 27 43.6 -0.2**
X37A IAmb_Lg 16 30 11.9
comp=Z,165nm,0.7s
L42A Oliver, Polo 7.86 82 Pn **Pn 16 27 45.7 +0.5**
APMT Aspermont 8.05 180 Pn 16 27 47.8 0.0
APMT IAmb_Lg 16 30 28.8
comp=Z,98nm,0.9s
E38A The Farm, Brul 8.09 47 Pn **Pn 16 27 48.9 +0.6**
E38A IAmb_Lg 16 30 14.0
comp=Z,78nm,0.8s
ANMO Albuquerque 8.13 220 Pn **Pn 16 27 47.7 -1.4**
comp=Z,0.2nm,0.3s,baz=151,slow=17,SNR=1.9
ANMO Pg Pb 16 28 17.1 +5.5
comp=Z,4.3nm,0.3s,baz=129,slow=17,SNR=22
ANMO Lg Lg 16 30 03.0
comp=Z,1.9nm,0.3s,baz=192,slow=23,SNR=6.1
comp=Z,0.5nm,0.3s
FVM French Village 8.22 111 Pn 16 27 51.0 +0.8
HDIL Hopedale 8.25 92 P **Pn 16 27 50.9 +0.5**
baz=279
T42A Van Buren 8.26 119 Pn 16 27 50.6 -0.1
T42A IAmb_Lg 16 30 16.4
comp=Z,72nm,0.8s
SRU San Rafael Swe 8.26 257 Pn 16 27 50.5 -0.3
SN07 Snyder 07 8.30 184 Pn 16 27 50.9 -0.4
SN07 IAmb_Lg 16 30 22.7
comp=Z,129nm,0.8s
FCAR Ozark Folk Cen 8.33 129 Pn 16 27 51.7 +0.1
FCAR IAmb_Lg 16 30 13.4
comp=Z,89nm,0.7s
POST Post 8.38 188 Pn 16 27 52.6 +0.3
MIAR Mount Ida 8.57 141 Pn 16 27 54.9 0.0
MIAR IAmb_Lg 16 30 40.5
comp=Z,77nm,0.8s
MIAR Mount Ida 8.57 141 P **Pn 16 27 55.1 +0.2**
baz=325,SNR=22
HWUT Hardware Ranch 8.58 275 Pn 16 27 54.7 -0.6
FW06 Azle 8.65 165 IAmb_Lg 16 30 37.0
comp=Z,72nm,0.8s
WHAR Wooly Hollow 8.66 132 Pn 16 27 55.9 -0.3
WHAR IAmb_Lg 16 30 43.3
comp=Z,76nm,0.8s
PLPT Palo Pinto 8.68 170 Pn 16 27 56.0 -0.5
PLPT IAmb_Lg 16 30 31.4
comp=Z,73nm,1.0s
ABTX Abilene, Hawle 8.76 177 Pn 16 27 57.5 0.0
ABTX Abilene, Hawle 8.76 177 P **Pn 16 27 57.6 +0.1**
baz=357
LCAR Lake Charles 8.80 124 Pn 16 27 58.3 +0.3
PBMO Poplar Bluff 8.84 118 IAmb_Lg 16 30 48.3
comp=Z,77nm,0.7s
FW07 Weatherford 8.87 167 IAmb_Lg 16 30 47.1
comp=Z,77nm,1.1s
Q44A Meyer Farm, Va 8.87 103 Pn 16 27 59.4 +0.4
X40A Basin Creek Fa 8.98 138 Pn 16 28 00.4 -0.2
EYMN Ely 8.99 40 Pn 16 28 01.1 +0.4
EYMN IAmb_Lg 16 30 36.1
comp=Z,69nm,0.7s
EYMN Ely 8.99 40 P **Pn 16 28 01.5 +0.9**
baz=226
UALR University of 9.02 135 Pn 16 28 01.1 +0.1
UALR IAmb_Lg 16 30 55.9
comp=Z,77nm,0.8s
Y22D IRIS PASSCAL I 9.06 219 IAmb_Lg 16 31 00.6
comp=Z,83nm,0.9s
CGM3 Cape Girardeau 9.09 113 Pn 16 28 01.5 -0.4
Z38A Mt. Pleasant 9.09 152 Pn 16 28 01.8 -0.2
S44A Carbondale 9.18 110 Pn 16 28 03.2 0.0
ULM Lac du Bonnet 9.35 17 Pn 16 28 05.2 -0.3
ULM IAmb_Lg 16 30 44.3
comp=Z,71nm,0.9s
ULM Lac du Bonnet 9.35 17 Pn **Pn 16 28 05.5 0.0**
comp=Z,3.5nm,0.3s,baz=200,slow=12,SNR=39
ULM Pg 16 28 41.3
comp=Z,2.6nm,0.3s,baz=196,slow=15,SNR=5.3
ULM Sn **Sn 16 29 45.4 -5.6**
comp=Z,3.6nm,0.3s,baz=79,slow=19,SNR=2.2
ULM Lg Lg 16 30 38.5
comp=Z,8.3nm,0.3s,baz=274,slow=23,SNR=5.6
comp=Z,10nm,0.3s
ODSA Odessa 9.45 193 Pn 16 28 06.5 -0.6
WLAR White Oak Lake 9.49 142 IAmb_Lg 16 31 16.8
comp=Z,100nm,0.9s
H43A Windswept, Lux 9.58 67 Pn **Pn 16 28 08.3 -0.4**
WHTX Lake Whitney, 9.62 166 Pn 16 28 09.4 +0.1
WHTX Lake Whitney, 9.62 166 P **Pn 16 28 09.7 +0.3**
baz=348
DUG Dugway, Tooele 9.69 267 P **Pn 16 28 11.3 +0.9**
baz=79
237A Washetta, Mont 9.99 158 Pn **Pn 16 28 14.2 -0.2**
OZNA Ozona 10.47 185 Pn 16 28 20.3 -0.8

E43A Lone Tree Farm 10.71 58 Pn 16 28 24.2 0.0
OVMT Ovando 10.83 306 Pn **Pn 16 28 25.6 -0.4**
BPMT Black Pine Rid 10.84 302 Pn 16 28 26.1 -0.2
OXF Oxford 10.90 126 Pn **Pn 16 28 27.2 +0.5**
OXF Oxford 10.90 126 P **Pn 16 28 27.0 +0.3**
baz=312
N47A Urbana 10.91 88 Pn **Pn 16 28 27.6 +0.7**
WVT Waverly 10.95 115 P **Pn 16 28 27.5 0.0**
baz=302
ELK Elko 11.42 272 Pn **Pn 16 28 31.7 -2.5**
comp=Z,0.1nm,0.3s,baz=206,slow=16,SNR=1.5
ELK Sn **Sn 16 30 37.0 -5.4**
comp=Z,0.1nm,0.3s,baz=184,slow=14,SNR=2.1
ELK Lg Lg 16 31 39.0
comp=Z,0.1nm,0.3s,baz=198,slow=20,SNR=1.3
comp=Z,0.3nm,0.3s
SAND Sanderson 11.52 189 Pn 16 28 34.4 -1.0
CLTN Cedars of Leba 12.00 112 Pn 16 28 42.4 +0.5
N49A Columbus Grove 12.04 87 Pn 16 28 42.2 -0.1
TXAR Lajitas Array 12.37 195 Pn **Pn 16 28 46.0 -1.0**
comp=Z,0.3nm,0.3s,baz=26,slow=12,SNR=10.0
TXAR Pg 16 29 35.2
comp=Z,0.6nm,0.3s,baz=14,slow=12,SNR=5.9
TXAR Lg Lg 16 32 20.2
comp=Z,0.9nm,0.3s,baz=7.9,slow=28,SNR=7.8
TXAR LR LR 16 33 59.4
comp=Z,55nm,19.2s,baz=16,slow=40
comp=Z,0.4nm,0.4s
X48A Hartselle 12.43 120 Pn 16 28 48.4 +0.6
T50A Nancy 12.64 105 Pn 16 28 49.9 -0.7
SWET Sewanee 12.74 114 Pn 16 28 51.9 -0.2
LRAL Lakeview Retre 13.37 124 Pn 16 29 00.4 -0.3
CPCT Cooper Cave 13.60 111 Pn 16 29 03.8 +0.1
TZTN Tazewell 13.78 105 Pn 16 29 05.6 -0.6
TZTN Tazewell 13.78 105 P **Pn 16 29 05.2 -1.0**
baz=296
NEW Newport 13.86 305 LR LR 16 35 10.5
comp=Z,17nm,18.1s,baz=177,slow=41
TKL Tuckaleechee C 14.02 109 Pn **Pn 16 29 09.3 -0.2**
comp=Z,1.3nm,0.3s,baz=297,slow=6.6,SNR=11
TKL Lg Lg 16 33 06.0
comp=Z,0.8nm,0.3s,baz=12,slow=18,SNR=6.0
comp=Z,3.4nm,0.4s
NVAR Mina Array Bea 14.25 264 Pn **Pn 16 29 12.3 -0.5**
comp=Z,0.1nm,0.3s,baz=58,slow=14,SNR=1.7
NVAR LR LR 16 34 16.6
comp=Z,54nm,18.3s,baz=272,slow=36
comp=Z,0.1nm,0.3s
SADO Sadowa 15.70 71 Pn **Pn 16 29 31.1 -0.9**
comp=Z,0.1nm,0.3s,baz=294,slow=7.2,SNR=1.9
SADO Sn **Sn 16 32 22.2 -4.1**
comp=Z,0.4nm,0.3s,baz=341,slow=3.8,SNR=2.5
SADO Lg Lg 16 34 00.8
baz=196,slow=22,SNR=3.1
comp=Z,3.5nm,0.8s
YKA Yellowknife Ar 22.83 343 P **P 16 30 54.5 +0.6**
comp=Z,2.2nm,0.8s,baz=148,slow=9.8,SNR=6.4
SCHQ Schefferville 25.70 47 P **P 16 31 22.1 +1.0**
comp=Z,1.4nm,0.5s,baz=253,slow=7.5,SNR=7.1
SCHQ LR LR 16 41 31.2
comp=Z,43nm,20.6s,baz=42,slow=36
comp=Z,1.4nm,0.5s
ILAR Eielson Array 35.31 327 P **P 16 32 47.3 +1.5**
comp=Z,0.9nm,0.8s,baz=93,slow=6.2,SNR=9.9
comp=Z,0.9nm,0.8s
ARCES ARCESS Array B 62.46 19 P **P 16 36 15.1 +1.2**
comp=Z,1.1nm,0.8s,baz=310,slow=4.6,SNR=1.6
comp=Z,1.1nm,0.8s
PETK Petropavlovsk- 64.54 319 LR LR 17 06 25.6
comp=Z,187nm,20.7s,baz=150,slow=38
BVAR Borovoye Array 85.61 6 P **P 16 38 30.5 +1.1**
comp=Z,0.8nm,0.6s,baz=355,slow=4.9,SNR=5.0
comp=Z,0.8nm,0.6s
KURBB Kurchatov Arra 88.36 1 P **P 16 38 43.4 +0.6**
comp=Z,0.2nm,0.4s,baz=358,slow=3.8,SNR=1.8
comp=Z,0.2nm,0.4s
MKAR Makanchi Array 92.17 358 LR LR 17 23 16.1
comp=Z,46nm,19.8s,baz=119,slow=37
EIL Elat 98.01 38 LR LR 17 28 02.7
comp=Z,47nm,18.1s,baz=246,slow=38
WRA Warramunga Arr 129.39 278 PKP **PKPdf 16 45 00.6 +0.4**
comp=Z,0.4nm,0.9s,baz=48,slow=1.8,SNR=4.5
ASAR Alice Springs 131.91 274 PKP **PKiKP 16 45 07.2 +1.3**
comp=Z,0.2nm,0.7s,baz=46,slow=2.3,SNR=1.5

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*NEIC **02** 16:36:59.6±1.2, 11°.00N±0°.07×86°.83W±0°.07, h12km±5km, mb4.3/21, Error ellipse: s-maj=12.9km s-min=6.2km az=49.0*
*CATAC **02** 16:36:59.9±0.5, 10°.91N×86°.93W, h21km±5km, ML4.2*
*IDC **02** 16:37:00.1±0.8, 11°.94N×86°.12W, h0km, mb3.5/4, mbtmp3.7/5, ML3.9/1, MS3.5/3, Error ellipse: s-maj=100.7km s-min=11.6km az=54.0*
ISC 02 16:36:59.4±1.6, 10°.97N±0°.04×86°.85W±0°.05, h11km±9km, n83, σ1°03/98, mb4.3/15, 19C-8D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**1.11**	**46**	⇑*iP*	**Pg**	**16 37 20.9**	**+0.1**
NADN				*i* S	**Sn**	**16 37 38.8**	**+2.5**
NADN						16 37 41.3	
	59nm,1.0s						
NADN				IAML		16 37 44.9	
	comp=Z,10μm,1.0s						
CRUN	**El Crucero**	**1.14**	**28**	*i* P	**Pg**	**16 37 21.4**	**+0.1**
CRUN				IAML		16 37 45.1	
	comp=Z,12nm,1.0s						
MASN	**Masaya**	**1.22**	**34**	*i* P	**Pg**	**16 37 24.1**	**+1.3**
MASN						16 37 50.3	
	comp=Z,26nm,1.0s						
MASN				IAML		16 37 50.7	
	comp=Z,800nm,1.0s						
COPN	**Copaltepe**	**1.23**	**12**	⇑*iP*	**Pn**	**16 37 22.3**	**-0.2**
COPN				IAML		16 37 46.0	
	comp=Z,3μm,1.0s						
MAS3	**Al N del Volca**	**1.23**	**32**	⇓*iP*	**Pn**	**16 37 22.2**	**-0.5**
MAS3				*i* S	**Sn**	**16 37 39.6**	**+0.2**
MAS3						16 37 46.6	
	comp=Z,16nm,1.0s						
MAS3				IAML		16 37 53.8	
	comp=Z,3μm,1.0s						
ABCN	**Banco Central**	**1.26**	**25**	*i* P	**Pn**	**16 37 22.9**	**-0.1**
ABCN				IAML		16 37 49.0	
	comp=Z,9μm,1.0s						
ABCN						16 37 52.9	
	comp=Z,33nm,1.0s						
MAFN	**Magfor**	**1.26**	**28**	*i* P	**Pb**	**16 37 23.2**	**-0.1**
MAFN				IAML		16 37 56.9	
	comp=Z,6μm,1.0s						
MAFN						16 38 02.6	
	comp=Z,24nm,1.0s						
SAPS	**Ciudad Sandino**	**1.27**	**20**	⇑*iP*	**Pn**	**16 37 22.7**	**-0.4**
SAPS				IAML		16 37 57.3	
	comp=Z,3μm,1.0s						
SAPS						16 37 57.9	
	comp=Z,13nm,1.0s						
USIM	**UNAN**	**1.27**	**26**	*i* P	**Pn**	**16 37 23.2**	**+0.1**
USIM				IAML		16 37 52.3	
	comp=Z,7μm,1.0s						
USIM						16 37 52.8	
	comp=Z,27nm,1.0s						
ENAN	**Enatrel Managu**	**1.27**	**27**	*i* P	**Pb**	**16 37 23.5**	**+0.1**
ENAN				*i* S	**Sg**	**16 37 42.2**	**+1.8**
ENAN						16 37 47.5	
	comp=Z,27nm,1.0s						
ENAN				IAML		16 38 31.3	
	comp=Z,8μm,1.0s						
JAPN	**AI SSO del Vol**	**1.27**	**64**	⇓*iP*	**Pb**	**16 37 23.6**	**+0.2**
JAPN				IAML		16 37 33.2	
	comp=Z,2μm,1.0s						
JAPN						16 37 53.2	
	comp=Z,14nm,1.0s						
TISN	**Laguna Tiscapa**	**1.29**	**26**	⇑*iP*	**Pn**	**16 37 23.3**	**-0.2**
TISN				IAML		16 37 23.6	
	comp=Z,260nm,1.0s						
MORN	**AI O del Volca**	**1.31**	**64**	⇑*iP*	**Pn**	**16 37 23.6**	**-0.1**
MORN				IAML		16 37 31.6	
	comp=Z,6μm,1.0s						
MORN						16 37 37.7	
	comp=Z,7.4nm,1.0s						
OMEN	**AI SSO del Vol**	**1.31**	**66**	⇑*iP*	**Pn**	**16 37 22.8**	**-0.9**
OMEN				IAML		16 37 44.6	
	comp=Z,3μm,1.0s						
OMEN						16 37 48.5	
	comp=Z,27nm,1.0s						
APQ2	**Apoyeque**	**1.32**	**23**	⇑*iP*	**Pn**	**16 37 23.5**	**-0.3**
APQ2				*i* S	**Sg**	**16 37 43.1**	**+1.2**
APQ2				IAML		16 37 47.4	
	comp=Z,2μm,1.0s						
APQ2						16 37 49.6	
	comp=Z,13nm,1.0s						
APYN	**Apoyeque**	**1.34**	**21**	⇓*iP*	**Pn**	**16 37 23.5**	**-0.7**
APYN				IAML		16 37 49.4	
	comp=Z,2μm,1.0s						
APYN						16 37 50.3	
	comp=Z,8.1nm,1.0s						
WILN	**Americas 2**	**1.35**	**29**	⇑*iP*	**Pn**	**16 37 23.9**	**-0.3**
WILN				*i* S	**Sg**	**16 37 43.1**	**+0.3**
WILN				IAML		16 37 51.8	
	comp=Z,2μm,1.0s						
WILN						16 37 52.3	
	comp=Z,9.8nm,1.0s						
SAJU	**San Juanillo,**	**1.44**	**129**		**Pn**	**16 37 25.0**	**-0.4**
LEVN	**Ruinas Leon Vi**	**1.44**	**9**	⇑*iP*	**Pn**	**16 37 25.3**	**-0.1**
LEVN				IAML		16 37 25.6	
	comp=Z,5μm,1.0s						
LEVN				*i* S	**Sg**	**16 37 45.4**	**-0.3**
LEVN						16 37 53.9	
	comp=Z,26nm,1.0s						
MOM2	**El Cardon**	**1.50**	**14**	⇑*iP*	**Pn**	**16 37 25.9**	**-0.4**
MOM2				*i* S	**Sg**	**16 37 46.9**	**-0.7**
MOM2						16 37 54.2	
	comp=Z,6.4nm,1.0s						
MOM2				IAML		16 38 00.2	
	comp=Z,1μm,1.0s						
JUD3	**Juan Diaz 3**	**1.52**	**122**		**Pn**	**16 37 26.4**	**-0.1**
CNGA	**AI SSO del Vol**	**1.52**	**5**	⇑*iP*	**Pn**	**16 37 25.7**	**-0.9**
CNGA				IAML		16 37 26.8	
	comp=Z,3μm,1.0s						
CNGA						16 37 48.0	
	comp=Z,13nm,1.0s						
PACN	**AI O del Volca**	**1.52**	**2**	⇑*iP*	**Pn**	**16 37 26.7**	**+0.1**
PACN						16 37 51.9	
	comp=Z,10.0nm,1.0s						
PACN				IAML		16 37 57.9	
	comp=Z,2μm,1.0s						
CNGN	**Cerro Negro**	**1.52**	**5**	Pn	**Pn**	**16 37 26.1**	**-0.6**
CNGN	**Cerro Negro**	**1.52**	**5**	⇑*iP*	**Pn**	**16 37 26.4**	**-0.3**
CNGN				IAML		16 37 52.8	
	comp=Z,3μm,1.0s						
CNGN						16 37 56.2	
	comp=Z,17nm,1.0s						
QUEN	**AI S del Volca**	**1.61**	**360**	*i* P	**Pn**	**16 37 28.5**	**+0.7**
QUEN						16 37 56.3	
	comp=Z,0.1nm,1.0s						
QUEN				IAML		16 37 56.9	
	comp=Z,2μm,1.0s						
PKGN	**Cerro Pekin**	**1.69**	**356**	⇑*iP*	**Pn**	**16 37 28.9**	**0.0**
PKGN				*i* S	**Sn**	**16 37 50.4**	**-0.2**
PKGN				IAML		16 37 54.7	
	comp=Z,5μm,1.0s						
PKGN						16 37 59.0	
	comp=Z,25nm,1.0s						
INDI	**Punta indio, G**	**1.72**	**130**	⇓*iP*	**Pn**	**16 37 29.2**	**-0.1**
INDI						16 38 07.0	
	comp=Z,2.0nm,1.0s						
INDI				IAML		16 38 15.8	
	comp=Z,910nm,1.0s						
CRIN	**San Cristobal**	**1.73**	**353**		**Pn**	**16 37 29.1**	**-0.3**
CRIN	**San Cristobal**	**1.73**	**353**	⇑*iP*	**Pn**	**16 37 29.5**	**0.0**
CRIN				IAML		16 37 58.5	
	comp=Z,4μm,1.0s						
CRIN						16 38 01.2	
	comp=Z,21nm,1.0s						
BRAN	**Las Pilas**	**1.80**	**16**	*i* P	Pn	16 37 22.3	-8.2
BRAN				IAML		16 37 23.0	
	comp=Z,4μm,1.0s						
BRAN				*i* S	Sn	16 37 39.9	-13
BRAN						16 37 44.5	
	comp=Z,13nm,1.0s						
BOAB	**BOACO BROADBAN**	**.87**	**38**		**Pn**	**16 37 30.7**	**-0.7**
BOAB	**BOACO BROADBAN**	**.87**	**38**	⇑*iP*	**Pn**	**16 37 30.9**	**-0.5**
BOAB				*i* S	**Sb**	**16 37 57.6**	**+0.6**
BOAB				IAML		16 37 58.7	
	comp=Z,760nm,1.0s						
BOAB						16 38 01.1	
	comp=Z,2.6nm,1.0s						
ACON	**Acoyapa**	**1.92**	**59**		**Pn**	**16 37 31.3**	**-0.7**
ACON	**Acoyapa**	**1.92**	**59**	*i* P	**Pn**	**16 37 32.3**	**+0.3**
ACON				*i* S	**Sb**	**16 37 58.9**	**+0.6**
ACON				IAML		16 38 03.9	
	comp=Z,690nm,1.0s						
ACON						16 38 05.7	
	comp=Z,2.9nm,1.0s						
ACON						16 38 07.4	
	comp=Z,0.0nm,0.3s						
JTS	**Las Juntas de**	**1.98**	**110**		**Pn**	**16 37 33.4**	**+0.5**
JTS	**Las Juntas de**	**1.98**	**110**	Pn	**Pn**	**16 37 33.7**	**+0.7**
	comp=Z,23nm,0.3s,baz=303,slow=6.9,SNR=49						
JTS				Pg	**Pg**	**16 37 37.2**	**-0.2**
	comp=Z,23nm,0.3s,baz=305,slow=20,SNR=31						
JTS				Sn	**Sn**	**16 37 56.6**	**-1.3**
	comp=Z,34nm,0.3s,baz=296,slow=31,SNR=8.2						
JTS				LR	LR	16 37 56.7	
	comp=Z,39nm,21.2s,baz=296,slow=28						
JTS				Lg	Lg	16 38 04.5	
	comp=Z,114nm,0.3s,baz=141,slow=23,SNR=10.0						
LIMN	**Finca el Limon**	**2.13**	**13**		Pn	16 37 29.7	-5.3
	comp=Z,0.0nm,1.0s						
LIMN				⇑*iP*	**Pb**	**16 37 34.7**	**-3.4**
LIMN						16 37 45.2	
	comp=Z,0.0nm,0.7s						
LIMN				IAML		16 37 45.3	
	comp=Z,560nm,1.0s						
SOCE	**Pocosol**	**2.27**	**105**		**Pn**	**16 37 37.4**	**+0.5**
AMPH	**Amapala**	**2.43**	**341**	⇓*iP*	**Pn**	**16 37 39.6**	**+0.5**
SOMN	**Somoto**	**2.44**	**5**	⇑*iP*	**Pn**	**16 37 41.1**	**+1.7**
SOMN				IAML		16 37 43.4	
	comp=Z,280nm,1.0s						
SOMN						16 37 43.4	
	comp=Z,0.0nm,0.2s						
SOMN						16 38 06.0	
	comp=Z,0.6nm,1.0s						
CNCH	**Conchagua**	**2.48**	**337**	⇓*iP*	**Pn**	**16 37 40.5**	**+0.6**
CNCH				IAML		16 38 21.2	
	comp=Z,1μm,1.0s						
CNCH						16 38 22.0	
	comp=Z,11nm,1.0s						
CNCH						16 38 23.9	
	comp=Z,0.0nm,0.4s						
LCND	**La Caada**	**2.54**	**336**	⇓*iP*	**Pn**	**16 37 40.9**	**+0.3**
LCND						16 38 00.3	
	comp=Z,1.2nm,1.0s						
LCND				IAML		16 38 24.9	
	comp=Z,470nm,1.0s						
LCND						16 38 24.9	
	comp=Z,0.0nm,0.1s						
RCPN	**Sur Rio San Ju**	**2.64**	**16**	⇓*iP*	**Pn**	**16 37 41.6**	**-0.5**
RCPN				IAML		16 37 55.7	
	comp=Z,2.3nm,1.0s						
RCPN						16 37 55.8	
	comp=Z,0.0nm,0.2s						
RCPN						16 37 56.2	
	comp=Z,0.0nm,1.0s						
ESPN	**Las Esperanzas**	**2.78**	**64**		**Pn**	**16 37 43.4**	**-0.4**
ESPN	**Las Esperanzas**	**2.78**	**64**	*i* P	**Pn**	**16 37 44.4**	**+0.6**
ESPN				*i* S	**Sb**	**16 38 20.3**	**-2.8**
ESPN				IAML		16 38 41.0	
	comp=Z,520nm,1.0s						
ESPN						16 38 43.5	
	comp=Z,1.6nm,1.0s						
ESPN						16 38 44.3	
	comp=Z,0.0nm,0.4s						
YUSH	**Yuscaran**	**2.96**	**0**	⇑*iP*	**Pn**	**16 37 47.2**	**+0.7**
TGUH	**Tegucigalpa,Un**	**3.09**	**352**	Pn	**Pn**	**16 37 48.6**	**+0.3**
TGUH	**Tegucigalpa,Un**	**3.09**	**352**	*i* P	**Pn**	**16 37 49.1**	**+0.8**
TGUH						16 38 04.5	
	comp=Z,0.0nm,0.5s						
TGUH				*i* S	**Sn**	**16 38 27.1**	**+1.7**
TGUH				IAML		16 38 40.5	
	comp=Z,290nm,1.0s						
MTO3	**Montecristo**	**4.20**	**325**	Pn	**Pn**	**16 38 03.2**	**-0.3**
CMIG	**Matias Romero**	**9.89**	**309**	Pn	**Pn**	**16 39 23.2**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=150,slow=12,SNR=12						
CMIG				Sn	**Sn**	**16 41 14.6**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=228,slow=16,SNR=1.6						
	comp=Z,3.3nm,0.4s						
SDV	**Santo Domingo**	**16.11**	**96**	LR	LR	16 48 18.8	
	comp=Z,52nm,19.2s,baz=307,slow=44						
833A	**Chaparral WMA,**	**20.89**	**328**	P	**P**	**16 41 42.1**	**+0.3**
LRAL	**Lakeview Retre**	**21.96**	**360**	P	**P**	**16 41 53.2**	**-0.1**
GOGA	**Godfrey**	**22.55**	**7**	P	**P**	**16 42 00.0**	**+0.4**

Y49A Blount Mountai 22.78 1 P P 16 42 01.3 -0.8
Y49A IAmb IAmb 16 42 03.1
comp=Z,6.6nm,0.6s
HODGE Hodges 23.53 10 P P 16 42 09.3 -0.3
JSC Jenkinsville 23.76 12 P P 16 42 11.6 -0.3
JSC IAmb IAmb 16 42 12.3
comp=Z,3.9nm,0.5s
TXAR Lajitas Array 24.09 322 P P 16 42 15.3 +0.1
TXAR Lajitas Array 24.09 322 P P 16 42 15.1 -0.1
comp=Z,2.0nm,0.8s,baz=136,slow=10,SNR=18
TXAR PcP **PcP 16 45 59.2 +2.5**
comp=Z,0.4nm,0.4s,baz=146,slow=5.0,SNR=6.9
comp=Z,2.0nm,0.8s
TX31 Lajitas Ar. Si 24.09 322 P P 16 42 15.3 +0.1
SWET Sewanee 24.15 2 P P 16 42 14.8 -0.9
SWET IAmb IAmb 16 42 16.0
comp=Z,5.0nm,0.5s
W50A Signal Mountai 24.16 3 P P 16 42 14.7 -1.1
MIAR Mount Ida 24.26 346 P P 16 42 15.3 -1.3
MIAR IAmb IAmb 16 42 17.9
comp=Z,5.0nm,0.8s
CPCT Cooper Cave 24.46 5 P P 16 42 17.7 -0.8
CPCT IAmb IAmb 16 42 20.2
comp=Z,6.5nm,0.8s
WHAR Wooly Hollow 24.71 349 P P 16 42 19.2 -1.5
WHAR IAmb IAmb 16 42 20.4
comp=Z,5.2nm,0.7s
U49A Red Boiling Sp 25.45 2 P P 16 42 25.2 -2.1
V58A Windy Hill, Pi 25.69 15 P P 16 42 28.8 -0.7
V58A IAmb IAmb 16 42 30.0
comp=Z,5.6nm,0.8s
WMOK Wichita Mounta 26.04 337 P P 16 42 32.9 +0.1
WMOK IAmb IAmb 16 42 42.5
comp=Z,5.3nm,1.0s
S39A Bolivar 27.23 349 P P 16 42 41.9 -1.7
S39A IAmb IAmb 16 42 42.6
comp=Z,6.5nm,0.8s
N49A Columbus Grove 29.92 4 P P 16 43 06.4 -1.1
SSPA Standing Stone 30.59 13 P P 16 43 12.1 -1.2
SSPA IAmb IAmb 16 43 13.1
comp=Z,3.1nm,0.7s
J56A Wolcott 33.33 13 P P 16 43 35.8 -1.6
PFO Pinyon Flats O 35.25 314 LR LR 17 00 18.1
comp=Z,96nm,18.2s,baz=216,slow=40
SNCC San Nicolas Is 37.27 312 P P 16 44 11.3 -0.1
PDAR Pinedale Array 37.35 332 P P 16 44 11.4 -0.9
comp=Z,0.3nm,0.5s,baz=128,slow=13,SNR=3.1
PDAR PcP **PcP 16 46 32.0 +0.6**
comp=Z,0.2nm,0.5s,baz=91,slow=4.6,SNR=2.0
comp=Z,0.3nm,0.5s
NVAR Mina Array Bea 39.20 320 P P 16 44 29.0 +1.0
comp=Z,0.5nm,0.7s,baz=134,slow=6.1,SNR=4.2
NVAR PcP **PcP 16 46 39.1 +1.9**
comp=Z,1.5nm,0.7s,baz=149,slow=4.3,SNR=12
NVAR LR LR 17 01 33.1
comp=Z,119nm,20.9s,baz=268,slow=38
comp=Z,0.5nm,0.7s
LMN Caledonia Moun 39.52 24 P P 16 44 28.4 -1.8
LMN IAmb IAmb 16 44 30.8
comp=Z,9.6nm,1.2s
ILAR Eielson Array 67.60 336 P P 16 47 53.7 -2.2
comp=Z,0.5nm,0.8s,baz=126,slow=4.2,SNR=4.4
comp=Z,0.5nm,0.8s
BMAR Burnt Mountain 67.86 339 P P 16 47 57.0 -0.6
KSRS Korea Array 121.83 328 PKP PKPdf 16 55 54.4 +0.2
comp=Z,1.2nm,0.7s,baz=38,slow=1.9,SNR=7.6
ASAR Alice Springs 139.25 246 PKP PKiKP 16 56 30.1 +0.3
comp=Z,0.3nm,0.8s,baz=111,slow=2.1,SNR=1.7
WRA Warramunga Arr 139.41 252 PKP PKPdf 16 56 29.2 +1.3
comp=Z,0.4nm,0.6s,baz=92,slow=2.0,SNR=6.0

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*NEIC **02** 17:02:34.1±2.5, 7°.2S±0°.1×127°.78E±0°.09, h238km±9km, mb4.1/7, Error ellipse: s-maj=16.6km s-min=11.1km az=155.0*
*DJA **02** 17:02:35.2±0.3, 7°S±3°×12°8E±°, h171km±11km, M4.6/12, mb4.4/10, mB4.7/2, MLv4.7/12, Mw(mB)3.9/2*
*IDC **02** 17:02:36.1±4.5, 7°.16S×127°.80E, h250km±45km, mb3.4/12, mbtmp4.2/15, Error ellipse: s-maj=29.8km s-min=12.4km az=79.0*
ISC 02 17:02:34.9±0.5, 7°.26S±0°.05×127°.73E±0°.06, h250km, n64, σ1§87/70, mb3.9/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.47**	**39**	P	**Pn**	**17 03 29.0**	**-3.6**
SAUI	**Saumlaki**	**3.61**	**102**	Pn	**Pn**	**17 03 30.7**	**-3.5**
SAUI	**Saumlaki**	**3.61**	**102**	P	**Pn**	**17 03 31.3**	**-2.9**
NLAI	**Namlea**	**4.04**	**351**	P	**Pn**	**17 03 36.5**	**-2.7**
SOEI	**Soe**	**4.23**	**234**	P	**Pn**	**17 03 40.9**	**-0.7**
SOEI	**Soe**	**4.23**	**234**	Pn	**Pn**	**17 03 40.7**	**-0.9**
SOEI	**Soe**	**4.23**	**234**	P	**Pn**	**17 03 40.4**	**-1.2**
SOEI				S	**S**	**17 04 29.9**	**-4.6**
BATI	**Baumata**	**4.97**	**234**	P	**Pn**	**17 03 49.7**	**-0.7**
BATI	119nm,0.5s,1.3nm			S	**S**	**17 04 46.6**	**-4.0**
SANI	**Sanana**	**5.46**	**341**	P	**Pn**	**17 03 55.7**	**-0.6**
MMRI	**Maumere**	**5.61**	**255**	Pn	**Pn**	**17 03 58.0**	**-0.2**
MMRI	**Maumere**	**5.61**	**255**	P	**Pn**	**17 03 58.1**	**-0.1**
DRS	**Darwin Rock St**	**6.01**	**149**	P	**Pn**	**17 04 03.5**	**+0.3**
EDFI	**Ende, Flores**	**6.16**	**256**	P	**Pn**	**17 04 04.9**	**-0.3**
EDFI				S	**S**	**17 05 14.2**	**-3.3**
FAKI	**Fak Fak**	**6.23**	**46**	Pn	**Pn**	**17 04 04.7**	**-1.2**
FAKI	**Fak Fak**	**6.23**	**46**	P	**Pn**	**17 04 04.2**	**-1.8**
MTN	**Manton Dam**	**6.48**	**149**	P	**Pn**	**17 04 09.2**	**+0.1**
MTN	**Manton Dam**	**6.48**	**149**		**Pn**	**17 04 08.9**	**-0.2**
KMPI	**Kaimana, Papua**	**6.94**	**59**	P	**Pn**	**17 04 12.8**	**-2.0**
KDU	**Kakadu**	**7.14**	**139**	P	**Pn**	**17 04 16.9**	**-0.4**
SWI	**Sorong**	**7.26**	**29**	P	**Pn**	**17 04 17.5**	**-1.4**
	48nm,0.6s,719nm0.2nm						
FITZ	**Fitzroy Crossi**	**10.97**	**191**	Pn	**Pn**	**17 05 05.2**	**-0.4**
WB0	**Warramunga Arr**	**14.02**	**153**	P	**Pn**	**17 05 42.5**	**-0.8**
WRA	**Warramunga Arr**	**14.15**	**154**	P	**Pn**	**17 05 43.8**	**-1.1**
WRA	**Warramunga Arr**	**14.15**	**154**	P	**P**	**17 05 45.2**	**-0.2**
	12nm,0.4s,baz=329,slow=12,SNR=108						
WRA				S	**S**	**17 08 17.4**	**-4.2**
	7.3nm,0.7s,baz=328,slow=22,SNR=7.2						
WB2	**Warramunga Arr**	**14.15**	**154**	P	**Pn**	**17 05 44.6**	**-0.4**
WR0	**Warramunga Arr**	**14.25**	**153**	P	**Pn**	**17 05 45.4**	**-0.8**
MBWA	**Marble Bar**	**15.84**	**208**	P	**Pn**	**17 06 05.5**	**+0.3**
MBWA	**Marble Bar**	**15.84**	**208**	P	**Pn**	**17 06 05.1**	**0.0**
MBWA				IAmb	IAmb	17 06 07.6	
	comp=Z,5.6nm,0.6s						
PSA00	**Pilbara Seismi**	**16.14**	**207**	P	**Pn**	**17 06 08.8**	**+0.1**
PSA00	**Pilbara Seismi**	**16.14**	**207**	P	**Pn**	**17 06 08.4**	**-0.3**
PSA00				IAmb	IAmb	17 06 21.8	
	comp=Z,18nm,1.1s						
COEN	**Coen**	**16.57**	**115**	P	**Pn**	**17 06 14.5**	**+0.7**
AS31	**Alice Springs**	**17.36**	**161**		**Pn**	**17 06 23.3**	**+0.3**
ASAR	**Alice Springs**	**17.36**	**161**		**Pn**	**17 06 23.0**	**-0.1**
ASAR	**Alice Springs**	**17.36**	**161**	P	**Pn**	**17 06 23.5**	**+0.4**
	comp=Z,42nm,0.7s,baz=343,slow=13,SNR=154						
ASAR				S	**S**	**17 09 31.1**	**+2.8**
	comp=Z,1.4nm,0.7s,baz=337,slow=19,SNR=6.2						
AS01	**Alice Springs**	**17.37**	**161**	P	**Pn**	**17 06 23.7**	**+0.5**
QIS	**Mount Isa**	**17.52**	**140**	P	**Pn**	**17 06 25.4**	**+0.4**
WRKA	**Warakurna**	**17.69**	**178**	P	**Pn**	**17 06 26.8**	**-0.1**
PMG	**Port Moresby**	**19.34**	**98**	P	**Pn**	**17 06 43.7**	**-2.7**
	comp=Z,13nm,0.9s,baz=302,slow=13,SNR=1.7						
MEEK	**Meekatharra**	**21.14**	**203**	P	**P**	**17 07 02.8**	**+1.9**
OOD	**Oodnadatta**	**21.77**	**161**	P	**P**	**17 07 08.9**	**+2.1**
FORT	**Forrest**	**23.40**	**179**	P	**P**	**17 07 24.7**	**+3.0**
MULG	**Mulgathing**	**23.66**	**166**	P	**P**	**17 07 28.4**	**+4.3**
INKA	**Innaminka**	**23.82**	**150**	P	**P**	**17 07 30.1**	**+4.7**
STKA	**Stephens Creek**	**27.70**	**154**	P	**P**	**17 08 00.2**	**0.0**
	comp=Z,3.7nm,1.0s,baz=342,slow=11,SNR=4.1						
	comp=Z,3.7nm,1.0s						
KSRS	**Korea Array**	**44.48**	**0**	P	**P**	**17 10 22.3**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=181,slow=10,SNR=3.0						
	comp=Z,1.1nm,0.8s						
MJAR	**Matsushiro Arr**	**44.66**	**12**	P	**P**	**17 10 22.1**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=287,slow=7.4,SNR=4.0						
	comp=Z,0.8nm,0.5s						
ASAJ	**Asahikawa**	**52.87**	**13**	P	**P**	**17 11 25.2**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=25,slow=23,SNR=1.5						
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**58.00**	**343**	P	**P**	**17 12 03.3**	**+1.5**
	comp=Z,0.8nm,0.4s,baz=151,slow=3.3,SNR=2.4						
	comp=Z,0.8nm,0.4s						
PETK	**Petropavlovsk-**	**65.29**	**19**	P	**P**	**17 12 50.8**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=132,slow=2.2,SNR=4.7						
	comp=Z,2.1nm,0.7s						
MK31	**Makanchi Array**	**67.23**	**328**	P	**P**	**17 13 03.3**	**+0.8**
MKAR	**Makanchi Array**	**67.23**	**328**	P	**P**	**17 13 03.3**	**+0.8**
MKAR	**Makanchi Array**	**67.23**	**328**	P	**P**	**17 13 03.4**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=122,slow=8.0,SNR=14						
MKAR				PcP	**PcP**	**17 13 29.7**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=134,slow=5.2,SNR=5.4						
	comp=Z,0.8nm,0.5s						
ZAA0	**Zalesovo Array**	**70.83**	**335**	P	**P**	**17 13 24.4**	**0.0**
ZAA0				IAmb	IAmb	17 13 25.4	
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**70.83**	**335**	P	**P**	**17 13 24.5**	**+0.2**
ZALV	**Zalesovo Beam**	**70.83**	**335**	P	**P**	**17 13 24.7**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=116,slow=3.4,SNR=7.3						
	comp=Z,1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**71.57**	**329**	P	**P**	**17 13 29.8**	**+1.0**
	comp=Z,1.8nm,0.7s,baz=129,slow=5.2,SNR=18						
	comp=Z,1.8nm,0.7s						
KURK	**Kurchatov**	**71.58**	**330**	P	**P**	**17 13 29.6**	**+0.7**
KURK				IAmb	IAmb	17 13 31.0	
	comp=Z,3.0nm,0.9s						
SEY	**Seymchan**	**72.49**	**12**	P	**P**	**17 13 34.1**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=222,slow=7.3,SNR=4.5						
	comp=Z,1.6nm,0.6s						
BVAR	**Borovoye Array**	**77.09**	**329**	P	**P**	**17 14 01.5**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=113,slow=11,SNR=4.7						
	comp=Z,0.6nm,0.5s						
ABKAR	**Akbulak array**	**81.32**	**322**	P	**P**	**17 14 22.7**	**-0.8**
ABKAR	**Akbulak array**	**81.32**	**322**	P	**P**	**17 14 21.9**	**-1.6**
ABKAR				IAmb	IAmb	17 14 57.2	
	comp=Z,3.6nm,1.4s						
QSPA	**South Pole Qui**	**82.72**	**180**	P	**P**	**17 14 32.7**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=314,slow=1.3,SNR=5.3						
	comp=Z,0.5nm,0.7s						
CRIN	**San Cristobal**	**145.34**	**78**	PKPdf	**PKPdf**	**17 21 40.0**	**-4.0**
CPUP	**Villa Florida**	**146.25**	**172**	PKPbc	**PKPab**	**17 21 47.9**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=108,slow=3.2,SNR=2.8						

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*IDC **02** 17:03:33.5±2.5, 39°.85N×142°.95E, h54km±27km, mb3.4/5, mbtmp3.8/11, ML3.6/6, Error ellipse: s-maj=35.3km s-min=17.1km az=110.0*
*JMA **02** 17:03:36.4±0.1, 40°.0N±0°.4×14°2E±°, h81km±1km, MD3.6/39, MV4.0/39, NE OFF IWATE PREF*
JMA Felt I J1 at NE OFF IWATE PREF .
ISC 02 17:03:34.8±1.1, 39°.96N±0°.05×142°.69E±0°.10, h72km±11km, n36, σ1§81/36, mb3.6/4, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.63**	**269**	↓*i*P	**Pn**	**17 03 49.8**	**+0.7**
JTH				↓S	**Sn**	**17 03 59.5**	**-0.2**
JTH	**Tanohata**	**0.63**	**269**	A	A	17 03 49.8	
	comp=E,6.0nm,0.2s,comp=N,9.0nm,0.9s						
MIYJ	**Miyakonagasawa**	**0.77**	**241**	*i*P	**Pn**	**17 03 51.3**	**+0.7**
MIYJ				S	**Sn**	**17 04 02.0**	**-0.3**
JKEN	**Kujiedanarisaw**	**0.79**	**289**	↓*i*P	**Pn**	**17 03 50.5**	**-0.3**
JKEN				↓S	**Sn**	**17 04 01.0**	**-1.8**
JANG	**Nango**	**0.99**	**295**	↓*i*P	**Pn**	**17 03 52.8**	**-0.5**
JANG				↓S	**Sn**	**17 04 04.7**	**-2.3**
JANG	**Nango**	**0.99**	**295**	A	A	17 03 52.8	
	comp=E,3.0nm,0.2s,comp=N,3.0nm,0.2s						
JKZ	**Kuzumaki**	**1.04**	**272**	↓*i*P	**Pn**	**17 03 53.7**	**-0.2**
JKZ				↓S	**Sn**	**17 04 06.1**	**-2.1**
JKZ	**Kuzumaki**	**1.04**	**272**	A	A	17 03 53.7	
	comp=E,6.0nm,0.2s,comp=N,10.0nm,0.3s						
JOM	**Ohasama**	**1.18**	**246**	*i*P	**Pn**	**17 03 55.5**	**-0.1**
JOM				S	**Sn**	**17 04 09.8**	**-1.4**
JOM	**Ohasama**	**1.18**	**246**	A	A	17 03 55.5	
	comp=E,6.0nm,0.8s,comp=N,9.0nm,0.4s						
JTM	**Tenmabayashi**	**1.49**	**304**	↓P	**Pn**	**17 03 58.6**	**-1.0**
JTM				↓S	**Sn**	**17 04 15.5**	**-2.9**
JMK	**Ichinoseki**	**1.52**	**229**	*i*P	**Pn**	**17 04 00.1**	**+0.1**
JMK				*e*S	**Sn**	**17 04 18.4**	**-0.6**
JAH	**Hinai**	**1.59**	**279**	↓P	**Pn**	**17 03 59.9**	**-1.0**
JAH				↓S	**Sn**	**17 04 18.0**	**-2.8**
JAH	**Hinai**	**1.59**	**279**	A	A	17 03 59.9	
	comp=E,3.0nm,0.6s,comp=N,6.0nm,8.7s						
JRG	**Rokugo**	**1.68**	**251**	P	**Pn**	**17 04 01.5**	**-0.6**
JIO	**Ouri**	**1.82**	**215**	*i*P	**Pn**	**17 04 04.4**	**+0.3**
JOT	**Ohata**	**1.89**	**319**	↓*i*P	**Pn**	**17 04 03.9**	**-1.1**
JYK	**Kaneyama**	**2.08**	**241**	P	**Pn**	**17 04 07.2**	**-0.3**
JIW	**Iwasaki**	**2.15**	**288**	↓P	**Pn**	**17 04 07.6**	**-0.9**
ASAJ	**Asahikawa**	**4.16**	**359**	P	**Pn**	**17 04 36.4**	**+0.6**
	comp=N,11nm,0.3s,baz=189,slow=12,SNR=146						
ASAJ				S	**Sn**	**17 05 21.9**	**-1.2**
	comp=N,10nm,0.4s,baz=225,slow=21,SNR=4.2						
	comp=N,23nm,0.3s						
MJAR	**Matsushiro Arr**	**4.90**	**227**	P	**Pn**	**17 04 46.4**	**+0.5**
	comp=N,0.9nm,0.3s,baz=28,slow=15,SNR=49						
	comp=N,4.7nm,0.4s						
JHJ	**Hachijo jima 2**	**7.21**	**200**	P	**Pn**	**17 05 16.3**	**-1.2**
	comp=N,15nm,0.3s,baz=328,slow=19,SNR=26						
JHJ				S	**Sn**	**17 06 31.4**	**-6.5**
	comp=N,40nm,0.3s,baz=279,slow=21,SNR=12						
	comp=N,26nm,0.3s						
USRK	**Ussuriysk Ar.**	**9.01**	**302**	P	**Pn**	**17 05 42.7**	**+0.6**
	comp=N,0.1nm,0.3s,baz=102,slow=14,SNR=5.1						
	comp=N,1.1nm,0.6s						
KSRS	**Korea Array**	**11.80**	**262**	P	**Pn**	**17 06 22.3**	**+2.2**
	comp=N,0.2nm,0.3s,baz=72,slow=14,SNR=4.1						
	comp=N,0.4nm,0.3s						
PETK	**Petropavlovsk-**	**16.68**	**33**	P	**Pn**	**17 07 21.6**	**-2.1**
	comp=N,0.1nm,0.3s,baz=220,slow=15,SNR=2.2						
	comp=N,1.2nm,0.9s						
MA2	**Magadan**	**20.29**	**12**	P	**P**	**17 08 04.8**	**+0.4**
	comp=N,4.0nm,0.5s,baz=189,slow=13,SNR=5.2						
	comp=N,4.0nm,0.5s						
SEY	**Seymchan**	**23.73**	**11**	P	**P**	**17 08 40.7**	**+0.7**
	comp=N,3.4nm,0.8s,baz=189,slow=11,SNR=12						
	comp=N,3.4nm,0.8s						
H11N2	**WAKE ISLAND Hy 28.95**	**127**		T	T	17 40 14.9	
	baz=318,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy 28.96**	**127**		T	T	17 40 26.9	
	baz=318,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hy 28.97**	**127**		T	T	17 40 26.9	
	baz=318,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy 29.76**	**129**		T	T	17 41 38.3	
	baz=320,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy 29.77**	**129**		T	T	17 41 33.9	
	baz=320,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy 29.78**	**129**		T	T	17 41 23.5	
	baz=320,slow=76,SNR=12						
KURBB	**Kurchatov Arra**	**45.05**	**306**	P	**P**	**17 11 45.9**	**+2.8**
	comp=N,0.2nm,0.4s,baz=78,slow=8.8,SNR=2.4						
	comp=N,0.2nm,0.4s						
ILAR	**Eielson Array**	**46.51**	**34**	P	**P**	**17 11 56.0**	**+1.6**
	comp=N,0.3nm,0.7s,baz=272,slow=5.1,SNR=3.3						
	comp=N,0.3nm,0.7s						
WRA	**Warramunga Arr**	**60.09**	**189**	P	**P**	**17 13 33.7**	**-0.8**
	comp=N,0.4nm,0.5s,baz=6.2,slow=6.9,SNR=2.7						
	comp=N,0.4nm,0.5s						

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*NEIC **02** 17:08:08.4±1.8, 51°.41N±0°.04×178°.40W±0°.05, h6km±6km, mb3.9/39, ML4.0(AEIC), Error ellipse: s-maj=7.8km s-min=1.2km az=141.0*
*AEIC **02** 17:08:09.7±2.3, 51°.56N±0°.07×178°.37W±0°.05, h5km±5km, Error ellipse: s-maj=10.8km s-min=3.5km az=164.0*
*IDC **02** 17:08:20.7±3.2, 51°.82N×178°.87W, h92km±27km, mb3.4/10, mbtmp3.8/13, Error ellipse: s-maj=28.7km s-min=16.0km az=167.0*
ISC 02 17:08:09.6±1.5, 51°.56N±0°.08×178°.42W±0°.03, h7km±9km, n93, σ1§21/84, mb3.9/20, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**0.30**	**318**		**Pb**	**17 08 17.5**	**+0.1**
GANO	**Gareloi North**	**0.36**	**318**		**Pb**	**17 08 18.0**	**-0.3**
TASE	**Tanaga Southea**	**0.37**	**40**		**Pb**	**17 08 17.8**	**-0.7**
TANO	**Tanaga North**	**0.40**	**27**		**Pb**	**17 08 18.5**	**-0.5**
TANO					**Sb**	**17 08 26.0**	**+0.5**
KICM	**Kanaga Island**	**0.84**	**64**		**Pg**	**17 08 25.9**	**+0.1**
KICM					**Sg**	**17 08 37.2**	**+0.5**
KIWB	**Kanaga Island**	**0.84**	**69**		**Pg**	**17 08 25.4**	**-0.4**
KINC	**Kanaga Island**	**0.89**	**64**		**Pg**	**17 08 26.4**	**-0.2**
KIRH	**Kanaga Island**	**0.89**	**67**		**Pg**	**17 08 26.5**	**-0.2**
ADK	**Adak**	**1.13**	**72**	P	**Pg**	**17 08 29.9**	**-1.3**
ADK	**Adak**	**1.13**	**72**		**Pg**	**17 08 29.6**	**-1.7**
ADK	**Adak**	**1.13**	**72**		**Sg**	**17 08 45.9**	**0.0**
CEPE	**Semis' Perret**	**1.27**	**290**		**Pn**	**17 08 33.6**	**-0.2**
CESW	**Semis' Southwe**	**1.30**	**286**		**Pn**	**17 08 33.9**	**-0.3**
CEAP	**Semis' Anvil P**	**1.32**	**291**		**Pn**	**17 08 34.6**	**+0.2**
CEAP					**Sb**	**17 08 52.3**	**+0.4**
AMKA	**Amchitka**	**1.44**	**264**		**Sb**	**17 08 55.3**	**+0.2**
AMKA	**Amchitka**	**1.44**	**264**		**Pn**	**17 08 35.9**	**-0.1**
GSSP	**Great Sitkin S**	**1.49**	**68**		**Pn**	**17 08 36.3**	**-0.4**
GSSP					**Sn**	**17 08 56.6**	**+0.1**
GSMY	**Great Sitkin M**	**1.54**	**71**		**Pn**	**17 08 36.9**	**-0.7**
GSMY					**Sb**	**17 08 58.2**	**0.0**
GSTR	**Great Sitkin T**	**1.56**	**69**		**Pn**	**17 08 37.1**	**-0.6**
LSSE	**Little Sitkin**	**1.91**	**283**		**Pn**	**17 08 42.8**	**+0.2**
LSPA	**Little Sitkin**	**1.91**	**283**		**Pn**	**17 08 43.1**	**+0.5**
LSPA					**Sb**	**17 09 09.7**	**+0.8**
LSNW	**Little Sitkin**	**1.95**	**283**		**Pn**	**17 08 43.3**	**+0.2**
ATKA	**Atka Island**	**2.70**	**74**	P	**Pn**	**17 08 54.0**	**+0.7**
ATKA	**Atka Island**	**2.70**	**74**		**Sn**	**17 09 27.1**	**+1.0**
ATKA	**Atka Island**	**2.70**	**74**		**Pn**	**17 08 53.2**	**-0.1**
KOKL	**Mount Kliuchef**	**2.72**	**72**		**Pn**	**17 08 54.0**	**+0.3**
KOFP	**Korovin Flat P**	**2.77**	**73**		**Pn**	**17 08 55.5**	**+1.1**
SHEM	**Shemya Is, Ala**	**4.76**	**287**	P	**Pn**	**17 09 23.5**	**+1.9**
	21nm,0.4s,baz=90,slow=9.1,SNR=7.0						
SHEM				S	**Sn**	**17 10 17.5**	**+0.7**
	34nm,0.7s,baz=97,slow=19,SNR=1.5						
SPIA	**Saint Paul Isl**	**7.38**	**37**	P	**Pn**	**17 09 57.5**	**0.0**
UNV	**Unalaska Valle**	**7.59**	**68**	P	**Pn**	**17 10 03.4**	**+2.9**
CNBA	**Chernabura Isl**	**11.75**	**66**	Pn	**Pn**	**17 10 57.5**	**+0.1**
M14K	**Bethel**	**12.96**	**38**	Pn	**Pn**	**17 11 16.0**	**+2.1**
N15K	**Kwethluk River**	**13.38**	**43**		**Pn**	**17 11 22.2**	**+2.5**
O16K	**Kokwok River B**	**13.98**	**47**	Pn	**Pn**	**17 11 28.1**	**+0.2**
K15K	**Wolf Creek Mou**	**14.11**	**34**	Pn	**Pn**	**17 11 31.6**	**+1.9**
M16K	**Timber Creek**	**14.31**	**41**		**Pn**	**17 11 34.8**	**+2.4**
PETK	**Petropavlovsk-**	**14.67**	**285**	P	**Pn**	**17 11 37.7**	**+0.4**
	0.4nm,0.4s,baz=84,slow=5.9,SNR=1.5						
ANCK	**Angle Creek**	**14.73**	**54**	Pn	**Pn**	**17 11 39.2**	**+1.1**
SII	**Sitkinak Islan**	**15.05**	**61**	P	**Pn**	**17 11 44.3**	**+1.9**
M17K	**Holitna River**	**15.14**	**41**		**Pn**	**17 11 45.7**	**+2.1**
O18K	**Koktuh Hills**	**15.43**	**48**		**Pn**	**17 11 45.4**	**-2.0**
N18K	**Kilae Creek**	**15.46**	**45**	P	**P**	**17 11 53.7**	**+1.3**
N18K				IAmb	IAmb	17 11 59.4	
	comp=Z,5.2nm,1.1s						
N19K	**Bonanza Creek**	**16.14**	**46**		**Pn**	**17 11 55.5**	**-1.2**
N19K				IAmb	IAmb	17 12 11.7	
	comp=Z,6.2nm,0.9s						
L19K	**White Mountain**	**16.60**	**41**		**P**	**17 12 04.0**	**-1.0**
M20K	**Styx River**	**17.18**	**43**	P	**P**	**17 12 12.5**	**+1.0**
J19K	**Poorman**	**17.27**	**35**	Pn	**Pn**	**17 12 09.9**	**-1.1**
SPU	**Mount Spurr**	**17.37**	**46**	Pn	**Pn**	**17 12 12.2**	**0.0**
SKT	**Skwentna**	**17.91**	**44**		**Pn**	**17 12 18.8**	**-0.1**
SKT				IAmb	IAmb	17 12 32.0	
	comp=Z,5.5nm,0.8s						
SUA	**Susitna One**	**18.06**	**46**		**P**	**17 12 22.0**	**+0.7**
SUA				IAmb	IAmb	17 12 29.1	
	comp=Z,5.2nm,0.8s						
CAST	**Castle Rocks**	**18.31**	**39**	P	**P**	**17 12 24.7**	**+0.8**
KTH	**Kantishna Hill**	**18.83**	**40**	P	**P**	**17 12 28.5**	**-1.2**
KTH				IAmb	IAmb	17 12 39.4	
	comp=Z,5.3nm,0.8s						
BPAW	**Bear Paw Mtn.**	**19.06**	**38**	P	**P**	**17 12 31.6**	**-0.6**
BPAW				IAmb	IAmb	17 12 44.8	
	comp=Z,4.4nm,0.9s						
SEY	**Seymchan**	**19.27**	**317**	P	**P**	**17 12 34.0**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=149,slow=9.3,SNR=6.0						
G21K	**Allakaket**	**19.50**	**30**	P	**P**	**17 12 36.6**	**-0.3**
GLI	**Glacier Island**	**19.57**	**49**	P	**P**	**17 12 36.0**	**-1.8**
SCM	**Sheep Creek Mo**	**19.73**	**47**	P	**P**	**17 12 40.2**	**+0.7**
FID	**Port Fidalgo**	**19.84**	**50**	P	**P**	**17 12 38.1**	**-2.5**
NEA2	**Nenana**	**20.03**	**38**	P	**P**	**17 12 42.6**	**-0.1**
NEA2				IAmb	IAmb	17 12 45.0	
	comp=Z,10nm,1.3s						
DHY	**Denali Highway**	**20.11**	**43**		**P**	**17 12 43.3**	**-0.4**
KLU	**Klutina**	**20.28**	**48**	P	**P**	**17 12 44.6**	**-0.9**
MDM	**Murphy Dome**	**20.52**	**38**	IAmb	IAmb	17 12 54.5	
	comp=Z,8.5nm,1.1s						
E21K	**Killik River**	**20.62**	**26**	IAmb	IAmb	17 13 05.1	
	comp=Z,5.1nm,1.3s						
G23K	**Bananza Creek**	**20.75**	**32**		**P**	**17 12 48.8**	**-1.8**
G23K				IAmb	IAmb	17 12 57.4	
	comp=Z,9.8nm,1.4s						
POKR	**Poker Plat Res**	**20.89**	**38**	IAmb	IAmb	17 12 58.9	
	comp=Z,6.6nm,0.8s						
ILAR	**Eielson Array**	**20.95**

Islands Region
GCMT **02** *17:15:14.3±0.2,21°.17S±0°.03×178°.47W±0°.02, h495km±1km, MW5.4/106, Moment Tensor Solution. s106,c158; Duration: 1±2 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.79±.03; $M_{\theta\theta}$=0.09±.05; $M_{\phi\phi}$=0.87±.04; $M_{r\theta}$=0.65±.04; $M_{r\phi}$=0.84±.04; $M_{\theta\phi}$=0.65±.04; Best double couple: M_0=1.49000×10^{17} NP1:ϕ_s=4.00000°, δ=64.00000°, λ=44.00000°; NP2:ϕ_s=117.00000°, δ=51.00000°, λ=146.00000°. Principal axes: T 1.3930, Plg=8.0000°, Azm=63.0000°; N 0.1930, Plg=40.0000°, Azm=160.0000°; P -1.5870, Plg=49.0000°, Azm=325.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 02 17:15:12.7±0.3,21°.17S±0°.04×178°.40W±0°.04, h497km±2km, h498km:pP-P,n1429,σ1°.25/1347, mb5.0/281, 98C-89D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.79**	**315**	P	**P**	**17 16 38.2**	**+0.3**
MSVF	**Nonsavu**	**4.79**	**315**	P	**P**	**17 16 38.1**	**+0.3**
MSVF	**Nonsavu**	**4.79**	**315**	P	**P**	**17 16 38.1**	**+0.3**
RIZ	**Raoul Island**	**8.05**	**177**	P	**P**	**17 17 07.7**	**-1.7**
RIZ				S	**S**	**17 18 43.8**	**-1.5**
RAO	**Raoul Island**	**8.06**	**177**	P	**P**	**17 17 07.9**	**-1.6**
RAO	**Raoul Island**	**8.06**	**177**	P	**P**	**17 17 08.1**	**-1.5**
	270nm,0.3s,baz=87,slow=3.7,SNR=13						
RAO				S	**S**	**17 18 42.1**	**-3.4**
	770nm,0.3s,baz=104,slow=22,SNR=6.4						
RAO	**Raoul Island**	**8.06**	**177**	P	**P**	**17 17 07.9**	**-1.6**
GLKZ	**Green Lake**	**8.07**	**177**	P	**P**	**17 17 07.7**	**-1.9**
GLKZ				S	**S**	**17 18 48.0**	**+2.4**
NIUE	**Niue**	**8.23**	**77**	P	**P**	**17 17 10.8**	**-0.7**
NIUE	**Niue**	**8.23**	**77**	P	**P**	**17 17 10.8**	**-0.7**
MARNC	**Mare, Loyalty**	**12.65**	**266**	P	**P**	**17 17 59.8**	**+1.6**
PINNC	**Pines Island,**	**13.22**	**261**	P	**P**	**17 18 06.2**	**+2.0**
PINNC	**Pines Island,**	**13.22**	**261**	P	**P**	**17 18 04.0**	**-0.2**
LIFNC	**LIFOU**	**13.42**	**269**	P	**P**	**17 18 06.3**	**0.0**
YATNC	**Mamie plateau,**	**13.71**	**264**	P	**P**	**17 18 11.0**	**+1.6**
OUENC	**Ouen Island, N**	**13.76**	**262**	P	**P**	**17 18 10.7**	**+0.7**
OUENC	**Ouen Island, N**	**13.76**	**262**	P	**P**	**17 18 10.0**	**-0.1**
ONTNC	**Ouen Toro**	**14.12**	**263**	P	**P**	**17 18 15.0**	**+1.2**
ONTNC	**Ouen Toro**	**14.12**	**263**	P	**P**	**17 18 12.6**	**-1.1**
DZM	**Mont Dzumac**	**14.12**	**264**	P	**P**	**17 18 14.9**	**+1.0**
DZM	**Mont Dzumac**	**14.12**	**264**	*e*P	**P**	**17 18 13.0**	**-0.9**
	378nm,1.0s						
DZM				*e*S	**S**	**17 20 41.4**	**-1.9**
	190nm,1.4s						
DZM	**Mont Dzumac**	**14.12**	**264**	P	**P**	**17 18 14.1**	**+0.1**
DZM	**Mont Dzumac**	**14.12**	**264**	P	**P**	**17 18 13.5**	**-0.4**
	127nm,0.7s,baz=81,slow=17,SNR=84						
DZM				S	**S**	**17 20 44.0**	**+0.7**
	41nm,1.1s,baz=341,slow=12,SNR=5.8						
OUZ	**Omahuta**	**15.66**	**205**	P	**P**	**17 18 30.1**	**+0.4**
OUZ	**Omahuta**	**15.66**	**205**	P	**P**	**17 18 30.6**	**+0.9**
WCZ	**Waipu Caves**	**16.02**	**202**	P	**P**	**17 18 34.0**	**+0.5**
KOUNC	**Koumac, New Ca**	**16.19**	**269**	P	**P**	**17 18 35.4**	**-0.2**
KUZ	**Kuaotunu**	**16.34**	**197**	P	**P**	**17 18 37.7**	**+0.9**
MXZ	**Matakaoa Point**	**16.58**	**189**	P	**P**	**17 18 38.5**	**-0.9**
TGRZ	**Tauranga**	**17.14**	**194**	P	**P**	**17 18 46.2**	**+1.3**
OPRZ	**Ohinepanea**	**17.18**	**194**	P	**P**	**17 18 46.9**	**+1.5**
KMRZ	**Kaimai**	**17.32**	**195**	P	**P**	**17 18 48.5**	**+1.7**
TOZ	**Tahuroa Road**	**17.33**	**196**	P	**P**	**17 18 46.8**	**0.0**
TOZ	**Tahuroa Road**	**17.33**	**196**	P	**P**	**17 18 47.9**	**+1.1**
LIRZ	**Lichensteins R**	**17.37**	**194**	P	**P**	**17 18 46.2**	**-1.1**
LIRZ				S	**S**	**17 21 47.6**	**+5.0**
RAR	**Rarotonga**	**17.38**	**94**	P	**P**	**17 18 48.1**	**+0.6**
RAR	**Rarotonga**	**17.38**	**94**		**P**	**17 18 46.6**	**-0.8**
RAR	**Rarotonga**	**17.38**	**94**	P	**P**	**17 18 47.0**	**-0.5**
	117nm,1.0s,baz=292,slow=6.9,SNR=7.1						
RAR	**Rarotonga**	**17.38**	**94**	P	**P**	**17 18 46.7**	**-0.8**
MWZ	**Matawai**	**17.46**	**191**	P	**P**	**17 18 46.4**	**-1.8**
MWZ				S	S	17 22 01.0	+17
URZ	**Urewera**	**17.46**	**192**	P	**P**	**17 18 46.1**	**-2.0**
URZ	**Urewera**	**17.46**	**192**	P	**P**	**17 18 46.1**	**-2.0**
	77nm,0.5s,baz=17,slow=2.8,SNR=77						
URZ				S	**S**	**17 21 39.6**	**-4.5**
	43nm,0.6s,baz=273,slow=13,SNR=3.9						
URZ	**Urewera**	**17.46**	**192**	P	**P**	**17 18 44.8**	**-3.3**
OMRZ	**Omania**	**17.47**	**194**	P	**P**	**17 18 48.6**	**+0.4**
NGRZ	**Ngongotaha**	**17.51**	**194**	P	**P**	**17 18 50.9**	**+2.3**
TARZ	**Mount Tarawera**	**17.57**	**193**	P	**P**	**17 18 50.7**	**+1.5**
RRRZ	**Republican Roa**	**17.66**	**193**	P	**P**	**17 18 49.9**	**-0.1**
RRRZ				S	S	17 22 02.8	+15
MUGZ	**Murupara**	**17.74**	**193**	P	**P**	**17 18 49.0**	**-1.7**
GRRZ	**Galatos Road**	**17.76**	**194**	P	**P**	**17 18 51.5**	**+0.6**
HRRZ	**Handcock Road**	**17.76**	**194**	P	**P**	**17 18 51.2**	**+0.2**
RIGZ	**Rimuhau**	**17.79**	**190**	P	**P**	**17 18 51.0**	**-0.2**
RTZ	**Ruatahuna**	**17.84**	**192**	P	**P**	**17 18 49.6**	**-2.1**
RTZ	**Ruatahuna**	**17.84**	**192**	P	**P**	**17 18 50.9**	**-0.7**
PRRZ	**Plateau Road**	**17.84**	**193**	P	**P**	**17 18 50.5**	**-1.2**
KUTZ	**Kaahu Road**	**17.96**	**195**	P	**P**	**17 18 52.8**	**0.0**
PRGZ	**Paritu Road**	**17.98**	**189**	P	**P**	**17 18 54.6**	**+1.7**
MTHZ	**Maungataniwha**	**18.09**	**192**	P	**P**	**17 18 54.5**	**+0.5**
MTHZ				S	S	17 22 13.5	+19
WHTZ	**Whakaora**	**18.10**	**194**	P	**P**	**17 18 57.3**	**+3.2**
RAHZ	**Arahi**	**18.11**	**191**	P	**P**	**17 18 52.5**	**-1.6**
MHGZ	**Mahia Peninsul**	**18.20**	**189**	P	**P**	**17 18 55.3**	**+0.4**
HIZ	**Hauiti**	**18.23**	**197**	P	**P**	**17 18 56.4**	**+1.2**
HIZ	**Hauiti**	**18.23**	**197**	P	**P**	**17 18 57.0**	**+1.8**
HIZ	**Hauiti**	**18.23**	**197**	P	**P**	**17 18 56.8**	**+1.5**
WHHZ	**Waihua**	**18.24**	**191**	P	**P**	**17 18 55.3**	**0.0**
NMHZ	**Naumai**	**18.34**	**192**	P	**P**	**17 18 55.1**	**-1.2**
RATZ	**Rangitukua**	**18.34**	**195**	P	**P**	**17 18 56.5**	**+0.3**
KATZ	**Kakaramea**	**18.46**	**195**	P	**P**	**17 18 57.5**	**+0.1**
ARHZ	**Aropaoanui**	**18.46**	**191**	P	**P**	**17 18 56.4**	**-0.9**
BKZ	**Black Stump Fm**	**18.46**	**193**	P	**P**	**17 18 55.5**	**-1.9**
BKZ	**Black Stump Fm**	**18.46**	**193**	P	**P**	**17 18 54.0**	**-3.4**
BKZ	**Black Stump Fm**	**18.46**	**193**	P	**P**	**17 18 54.1**	**-3.3**
NTVZ	**North Tongarir**	**18.58**	**195**	P	**P**	**17 18 58.4**	**-0.2**
KRVZ	**Karewarewa**	**18.58**	**195**	P	**P**	**17 18 57.9**	**-0.7**
TMVZ	**Te Maari**	**18.59**	**195**	P	**P**	**17 18 57.5**	**-1.1**
ETVZ	**East Tongariro**	**18.61**	**194**	P	**P**	**17 18 58.1**	**-0.7**
TWVZ	**Taurewa**	**18.61**	**195**	P	**P**	**17 18 58.4**	**-0.4**
WTVZ	**West Tongariro**	**18.61**	**195**	P	**P**	**17 18 58.0**	**-0.8**
NNVZ	**North Ngauruho**	**18.62**	**195**	P	**P**	**17 18 59.3**	**+0.3**
OTVZ	**Oturere**	**18.64**	**195**	P	**P**	**17 18 57.1**	**-2.1**
SNVZ	**South Ngauruho**	**18.67**	**195**	P	**P**	**17 18 57.8**	**-1.7**
MCHZ	**McNeill Hill**	**18.69**	**192**	P	**P**	**17 18 57.7**	**-1.7**
COVZ	**Chateau Observ**	**18.71**	**195**	P	**P**	**17 18 58.8**	**-0.8**
KWHZ	**Kaweka Forest**	**18.73**	**193**	P	**P**	**17 18 57.6**	**-2.2**
TUVZ	**Tukino**	**18.74**	**194**	P	**P**	**17 18 59.5**	**-0.5**
FWVZ	**Far West T-bar**	**18.76**	**195**	P	**P**	**17 18 59.5**	**-0.7**
MAVZ	**Matarangi**	**18.77**	**195**	P	**P**	**17 19 00.4**	**-0.1**
WHVZ	**Whangaehu Hut**	**18.77**	**195**	P	**P**	**17 18 59.7**	**-0.8**
TRVZ	**Turoa**	**18.80**	**195**	P	**P**	**17 18 55.8**	**-4.9**
WNVZ	**Wahianoa**	**18.81**	**195**	P	**P**	**17 18 58.4**	**-2.3**
VRZ	**Vera Road**	**18.83**	**197**	P	**P**	**17 19 02.8**	**+2.2**
PKVZ	**Pokaka**	**18.84**	**195**	P	**P**	**17 19 00.1**	**-0.7**
MOVZ	**Moawhango**	**18.85**	**194**	P	**P**	**17 19 00.3**	**-0.7**
MTVZ	**Mangateitei**	**18.90**	**195**	P	**P**	**17 19 01.5**	**+0.1**
MHEZ	**Mangahewa**	**18.91**	**198**	P	**P**	**17 19 05.4**	**+4.0**
KRHZ	**Kereru**	**18.95**	**193**	P	**P**	**17 19 00.1**	**-1.7**
KAHZ	**Kahuranaki**	**19.00**	**191**	P	**P**	**17 19 02.0**	**-0.2**
PKE	**Pukeiti**	**19.11**	**198**	P	**P**	**17 19 05.9**	**+2.6**
NEZ	**North Egmont**	**19.15**	**198**	P	**P**	**17 19 07.4**	**+3.7**
KHEZ	**Kahui Hut**	**19.20**	**198**	P	**P**	**17 19 08.0**	**+3.8**
PREZ	**Palmer Road**	**19.20**	**198**	P	**P**	**17 19 07.2**	**+3.1**
NBEZ	**Newall Road No**	**19.22**	**198**	P	**P**	**17 19 07.4**	**+3.2**
PXZ	**Pawanui**	**19.23**	**191**	P	**P**	**17 19 03.2**	**-1.1**
PNHZ	**Pukenui**	**19.24**	**193**	P	**P**	**17 19 02.6**	**-1.9**
LREZ	**Lake Rotokare**	**19.24**	**197**	P	**P**	**17 19 05.9**	**+1.4**
WPHZ	**Waipukurau**	**19.34**	**192**	P	**P**	**17 19 05.3**	**-0.1**
NMEZ	**Namu Road**	**19.35**	**198**	P	**P**	**17 19 08.3**	**+3.0**
WAZ	**Wanganui**	**19.37**	**196**	P	**P**	**17 19 06.0**	**+0.4**
TSZ	**Takapari Road**	**19.43**	**193**	P	**P**	**17 19 05.4**	**-0.8**
PRHZ	**Porangahau**	**19.50**	**191**	P	**P**	**17 19 06.1**	**-0.7**
DVHZ	**Dannevirke**	**19.62**	**192**	P	**P**	**17 19 06.4**	**-1.5**
ANWZ	**Angora Road**	**19.72**	**192**	P	**P**	**17 19 07.8**	**-0.9**
POWZ	**Post Office Ro**	**19.79**	**193**	P	**P**	**17 19 09.1**	**-0.3**
PRWZ	**Pori Road**	**19.91**	**193**	P	**P**	**17 19 10.8**	**+0.3**
BFZ	**Birch Farm**	**19.98**	**192**	P	**P**	**17 19 10.9**	**-0.2**
BFZ	**Birch Farm**	**19.98**	**192**	P	**P**	**17 19 09.0**	**-2.1**
BFZ	**Birch Farm**	**19.98**	**192**	P	**P**	**17 19 09.0**	**-2.1**
MRZ	**Mangatainoka R**	**20.09**	**193**	P	**P**	**17 19 09.8**	**-2.3**
HOWZ	**Holdsworth Sta**	**20.33**	**193**	P	**P**	**17 19 13.2**	**-1.2**
TMWZ	**Te Maipa**	**20.45**	**192**	P	**P**	**17 19 14.1**	**-1.4**
MTW	**Mount Morrison**	**20.59**	**193**	P	**P**	**17 19 15.6**	**-1.0**
PAWZ	**Paruwai Farm**	**20.82**	**193**	P	**P**	**17 19 18.4**	**-0.4**
WEL	**Wellington**	**20.87**	**195**	P	**P**	**17 19 20.1**	**+0.9**
WEL	**Wellington**	**20.87**	**195**	P	**P**	**17 19 20.1**	**+0.9**
MSWZ	**Moikau Station**	**20.89**	**193**		**P**	**17 19 19.3**	**-0.1**
MSWZ	**Moikau Station**	**20.89**	**193**	P	**P**	**17 19 18.9**	**-0.5**
SNZO	**South Karori**	**20.91**	**195**	P	**P**	**17 19 20.0**	**+0.5**
SNZO	**South Karori**	**20.91**	**195**	P	**P**	**17 19 18.8**	**-0.7**
BHW	**Baring Head**	**20.96**	**194**	P	**P**	**17 19 19.5**	**-0.5**
PLWZ	**Palliser**	**21.03**	**193**	P	**P**	**17 19 20.7**	**-0.1**
QRZ	**Quartz Range**	**21.05**	**199**	P	**P**	**17 19 21.1**	**+0.2**
CMWZ	**Cape Campbell**	**21.44**	**195**	P	**P**	**17 19 26.4**	**+2.0**
MRNZ	**Matariki Terra**	**21.51**	**198**	P	**P**	**17 19 24.1**	**-1.0**
THZ	**Tophouse**	**21.80**	**198**	P	**P**	**17 19 27.1**	**-0.6**
KHZ	**Kahutara**	**22.24**	**196**	P	**P**	**17 19 31.0**	**-0.5**
KHZ	**Kahutara**	**22.24**	**196**	P	**P**	**17 19 29.8**	**-1.7**
LTZ	**Lake Taylor**	**22.92**	**198**	P	**P**	**17 19 35.7**	**-2.0**
INZ	**Inchbonnie**	**23.12**	**199**	P	**P**	**17 19 37.6**	**-1.8**
AMCZ	**Amberley**	**23.18**	**197**	P	**P**	**17 19 39.3**	**-0.8**
TARA	**Tarawa**	**23.94**	**338**	P	**P**	**17 19 47.8**	**+0.6**
TARA	**Tarawa**	**23.94**	**338**	P	**P**	**17 19 46.3**	**-0.9**
RPZ	**Rata Peaks**	**24.14**	**199**	P	**P**	**17 19 46.9**	**-1.6**
	34nm,0.5s,baz=12,slow=3.4,SNR=12						
RPZ				S	**S**	**17 23 26.5**	**-4.3**
	22nm,0.9s,baz=9.0,slow=11,SNR=3.1						
	34nm,0.5s						
FOZ	**Fox Glacier**	**24.37**	**201**	P	**P**	**17 19 49.9**	**-0.6**
JCZ	**Jackson Bay**	**25.20**	**202**	P	**P**	**17 19 58.4**	**+0.4**
TBI	**Tubuai**	**26.85**	**100**	*e*P	**P**	**17 20 13.5**	**+0.7**
	392nm,1.1s						
TBI				*es*S	**sS**	**17 26 46.2**	**-3.1**
	3μm,29.5s						
DCZ	**Deep Cove**	**26.98**	**203**	P	**P**	**17 20 13.2**	**-0.5**
WHZ	**Wether Hill Ro**	**27.08**	**201**	P	**P**	**17 20 14.0**	**-0.5**
PAE	**Paea**	**27.39**	**88**	*e*P	**P**	**17 20 18.3**	**+0.7**
	66nm,1.0s						
PPT2	**Papeete2**	**27.41**	**88**	*e*P	**P**	**17 20 12.6**	**-5.3**
	68nm,25.2s						
PPT2				*e*pP	**pP**	**17 21 41.3**	**+1.5**
	97nm,25.8s						
PPT2				*e*S	**S**	**17 24 15.9**	**-6.9**
	282nm,39.0s						
PPT2				*es*S	sS	17 26 50.8	-7.9
	1μm,25.5s						
PPT	**Papeete**	**27.41**	**88**	P	**P**	**17 20 17.8**	**-0.1**
	368nm,1.1s,baz=117,slow=20,SNR=5.6						
	368nm,1.1s						
TVO	**Taravao**	**27.67**	**88**	*e*P	**P**	**17 20 21.0**	**+0.8**
	55nm,0.8s						
EIDS	**Eidsvold**	**28.31**	**256**	P	**P**	**17 20 25.9**	**+0.3**
ARMA	**Armidale**	**28.44**	**245**	P	**P**	**17 20 27.3**	**+0.5**
PMOR	**Pomariorio Ree**	**29.61**	**83**	*e*P	**P**	**17 20 36.7**	**-0.3**
	467nm,1.2s						
VAH	**Vaihoa**	**29.79**	**84**	*e*P	**P**	**17 20 38.1**	**-0.5**
	191nm,1.0s						
SYDH	**Sydney Hard Ro**	**29.99**	**239**	P	**P**	**17 20 40.7**	**+0.6**
XMAS	**Kiritimati**	**30.87**	**44**	P	**P**	**17 20 48.4**	**+0.4**
XMAS	**Kiritimati**	**30.87**	**44**	P	**P**	**17 20 48.3**	**+0.4**
XMAS	**Kiritimati**	**30.87**	**44**	P	**P**	**17 20 47.8**	**-0.2**
XMAS				PcP	**PcP**	**17 23 30.5**	**+0.7**
AULRC	**Lightning Ridg**	**31.40**	**248**	P	**P**	**17 20 52.6**	**+0.2**
CNB	**Canberra Magne**	**31.54**	**236**	P	**P**	**17 20 54.1**	**+0.5**
CAN	**Canberra**	**31.83**	**237**	P	**P**	**17 20 56.3**	**+0.3**
CAN				pP	**pP**	**17 22 22.8**	**+2.4**
CAN				PcP	**PcP**	**17 23 33.4**	**+1.2**
CAN				ScP	**ScP**	**17 26 31.7**	**+3.5**
AUSMG	**Snowy Mountain**	**32.47**	**235**	P	**P**	**17 21 01.6**	**+0.1**
CTAO	**Charters Tower**	**33.05**	**265**	P	**P**	**17 21 06.6**	**0.0**
CTAO				IAmb	IAmb	17 21 07.1	
	comp=Z,19nm,0.6s						
CTAO	**Charters Tower**	**33.05**	**265**	P	**P**	**17 21 06.6**	**0.0**
CTAO				pmax	pmax		
	comp=Z,19nm,0.6s						
CTAO	**Charters Tower**	**33.05**	**265**	P	**P**	**17 21 06.6**	**0.0**
CTAO				PcP	**PcP**	**17 23 36.5**	**+0.5**
CTAO				ScP	**ScP**	**17 26 36.4**	**+3.6**
CMSA	**Cobar Meteorol**	**33.66**	**245**	P	**P**	**17 21 12.0**	**+0.4**
QLP	**Quilpie**	**34.50**	**254**	P	**P**	**17 21 19.9**	**+1.1**
PMG	**Port Moresby**	**35.13**	**284**	P	**P**	**17 21 23.8**	**-0.3**
	comp=Z,117nm,0.7s,baz=76,slow=6.0,SNR=27						
	comp=Z,117nm,0.7s						
PMG	**Port Moresby**	**35.13**	**284**	P	**P**	**17 21 23.8**	**-0.3**
MTSU	**Mount Surprise**	**35.19**	**268**	P	**P**	**17 21 24.6**	**0.0**
TOO	**Toolangi**	**35.20**	**234**	P	**P**	**17 21 25.2**	**+0.7**
TOO	**Toolangi**	**35.20**	**234**	P	**P**	**17 21 24.8**	**+0.3**
TOO				IAmb	IAmb	17 21 25.7	
	comp=Z,45nm,0.7s						
TOO	**Toolangi**	**35.20**	**234**	P	**P**	**17 21 24.8**	**+0.3**
TOO				pmax	pmax		
	comp=Z,45nm,0.7s						
KAVG	**Kavieng**	**35.21**	**298**	P	**P**	**17 21 25.3**	**+0.5**
TAU	**Tasmania Unive**	**35.88**	**225**	P	**P**	**17 21 30.2**	**+0.2**
TAU				ScP	**ScP**	**17 26 44.7**	**+2.2**
STKA	**Stephens Creek**	**37.16**	**245**	P	**P**	**17 21 41.4**	**+0.6**
STKA	**Stephens Creek**	**37.16**	**245**	P	**P**	**17 21 40.8**	**0.0**
STKA					**pP**	**17 23 05.0**	**-2.7**
STKA	**Stephens Creek**	**37.16**	**245**	P	**P**	**17 21 40.9**	**+0.1**
	comp=Z,5.7nm,0.5s,baz=93,slow=9.1,SNR=15						
STKA				PcP	**PcP**	**17 23 48.8**	**+0.8**
	comp=Z,5.2nm,0.5s,baz=91,slow=7.0,SNR=6.0						
STKA				ScP	**S**	**17 26 50.5**	**-1.0**
	comp=Z,14nm,1.0s,baz=56,slow=5.1,SNR=7.8						
	comp=Z,5.7nm,0.5s						
STKA	**Stephens Creek**	**37.16**	**245**	*i* P	**P**	**17 21 40.0**	**-0.8**
COEN	**Coen**	**37.26**	**275**	P	**P**	**17 21 42.2**	**+0.4**
COEN	**Coen**	**37.26**	**275**	P	**P**	**17 21 41.9**	**+0.1**
COEN				IAmb	IAmb	17 21 42.8	
	comp=Z,38nm,0.9s						
MANU	**Manus Island**	**38.38**	**295**	P	**P**	**17 21 51.2**	**+0.2**
MANU				IAmb	IAmb	17 21 52.1	
	comp=Z,103nm,1.2s						
BBOO	**Buckleboo**	**41.91**	**244**	P	**P**	**17 22 18.6**	**-0.6**
BBOO				IAmb	IAmb	17 23 49.9	
	comp=Z,34nm,1.1s						
TABU	**Tabubil**	**42.20**	**286**	P	**P**	**17 22 22.3**	**+0.6**
WAKE	**Wake Island**	**42.78**	**339**	P	**P**	**17 22 25.7**	**-0.3**
WAKE	**Wake Island**	**42.78**	**339**	P	**P**	**17 22 25.6**	**-0.4**
MULG	**Mulgathing**	**43.52**	**248**	P	**P**	**17 22 31.9**	**+0.1**
JAY	**Jayapura**	**43.90**	**289**	P	**P**	**17 22 34.5**	**-0.5**
	comp=Z,161nm,0.7s,comp=Z,2μm						
AS01	**Alice Springs**	**43.96**	**257**	P	**P**	**17 22 35.3**	**-0.1**
ASAR	**Alice Springs**	**44.00**	**257**	P	**P**	**17 22 35.1**	**-0.6**
	comp=Z,8.3nm,0.7s,baz=88,slow=8.7,SNR=149						
ASAR				PcP	**PcP**	**17 24 11.2**	**+0.5**
	comp=Z,9.9nm,0.7s,baz=103,slow=4.0,SNR=16						
ASAR				ScP	**ScP**	**17 27 17.8**	**+2.9**
	comp=Z,2.0nm,0.5s,baz=106,slow=4.5,SNR=7.0						
ASAR				S	**S**	**17 28 27.3**	**-4.0**
	comp=Z,2.5nm,0.9s,baz=96,slow=16,SNR=6.9						
ASAR				PKiKP	**PKiKP**	**17 31 08.8**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=104,slow=1.5,SNR=15						
	comp=Z,8.3nm,0.7s						
WB2	**Warramunga Arr**	**44.13**	**263**	P	**P**	**17 22 35.4**	**-1.3**
WRAB	**Tennant Creek**	**44.13**	**263**	*i* P	**P**	**17 22 35.5**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**44.14**	**263**	P	**P**	**17 22 34.7**	**-2.1**
WRA	**Warramunga Arr**	**44.14**	**263**	P	**P**	**17 22 35.1**	**-1.6**
	comp=Z,14nm,0.7s,baz=94,slow=5.3,SNR=173						
WRA				PcP	**PcP**	**17 24 11.6**	**+0.4**
	comp=Z,9.2nm,0.9s,baz=97,slow=4.7,SNR=8.8						
WRA				ScP	**ScP**	**17 27 18.5**	**+3.0**
	comp=Z,5.1nm,0.9s,baz=93,slow=4.4,SNR=6.4						
WRA				S	**S**	**17 28 26.7**	**-6.5**
	comp=Z,2.1nm,1.0s,baz=98,slow=13,SNR=3.2						
WRA				PKiKP	**PKiKP**	**17 31 09.4**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=80,slow=0.5,SNR=13						
	comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**44.14**	**263**	P	**P**	**17 22 34.7**	**-2.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GENI	**Genyem**	**44.34**	**289**	P	**P**	**17 22 39.5**	**+1.1**
GENI	**Genyem**	**44.34**	**289**	P	**P**	**17 22 37.9**	**-0.5**
	comp=Z,151nm,0.9s,comp=Z,2μm						
BYL	**Byron's Ledge**	**46.26**	**31**	P	**P**	**17 22 52.1**	**-1.0**
KEKH	**Kekaha**	**46.61**	**24**	P	**P**	**17 22 55.5**	**0.0**
MHA	**Mahukona**	**46.62**	**30**	P	**P**	**17 22 56.8**	**+1.2**
MHA	**Mahukona**	**46.62**	**30**	P	**P**	**17 22 56.8**	**+1.2**
DHH	**Diamond Head**	**46.73**	**27**	P	**P**	**17 22 57.3**	**+0.8**
DHH	**Diamond Head**	**46.73**	**27**	P	**P**	**17 22 57.3**	**+0.8**
MTN	**Manton Dam**	**48.80**	**271**	P	**P**	**17 23 11.8**	**-0.4**
MTN	**Manton Dam**	**48.80**	**271**	IAmb	IAmb	17 23 11.9	
	comp=Z,37nm,0.7s						
WRKA	**Warakurna**	**48.92**	**255**	P	**P**	**17 23 13.4**	**+0.3**
FAKI	**Fak Fak**	**51.29**	**284**	P	**P**	**17 23 29.1**	**-1.4**
FAKI				IAmb	IAmb	17 23 30.9	
	comp=Z,111nm,1.6s						
FAKI	**Fak Fak**	**51.29**	**284**	P	**P**	**17 23 29.3**	**-1.2**
	comp=Z,41nm,1.3s						
DRV	**Dumont d'Urvil**	**52.60**	**199**	P	**P**	**17 23 39.6**	**+0.5**
SWI	**Sorong**	**53.06**	**286**	P	**P**	**17 23 42.8**	**-0.5**
SOEI	**Soe**	**56.15**	**272**	P	**P**	**17 24 06.4**	**+1.2**
SOEI	**Soe**	**56.15**	**272**	P	**P**	**17 24 06.0**	**+0.8**
	comp=Z,162nm,1.2s						
BATI	**Baumata**	**56.57**	**272**	P	**P**	**17 24 08.8**	**+0.8**
	comp=Z,64nm,1.6s						
PSA00	**Pilbara Seismi**	**57.15**	**257**	P	**P**	**17 24 11.4**	**-0.5**
SBA	**Scott Base**	**57.18**	**184**	P	**P**	**17 24 14.3**	**+3.2**
SBA				IAmb	IAmb	17 25 56.5	
	comp=Z,62nm,1.4s						
SBA	**Scott Base**	**57.18**	**184**	P	**P**	**17 24 14.3**	**+3.2**
SBA				pmax	pmax		
	comp=Z,62nm,1.4s						
SBA	**Scott Base**	**57.18**	**184**	P	**P**	**17 24 13.7**	**+2.6**
SBA				pP	**pP**	**17 25 54.3**	**+4.7**
SBA				ScP	**ScP**	**17 28 13.6**	**+3.1**
VNDA	**Vanda**	**57.21**	**185**	P	**P**	**17 24 13.2**	**+1.9**
VNDA					**pP**	**17 25 49.2**	**-0.7**
VNDA	**Vanda**	**57.21**	**185**	P	**P**	**17 24 12.8**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=359,slow=6.9,SNR=24						
VNDA				PcP	**PcP**	**17 24 59.3**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=312,slow=5.1,SNR=4.6						
VNDA				pP	**pP**	**17 25 49.1**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=118,slow=9.2,SNR=1.8						
VNDA				ScP	**ScP**	**17 28 13.5**	**+2.9**
	comp=Z,7.5nm,0.8s,baz=358,slow=4.1,SNR=17						
	comp=Z,1.8nm,0.7s						
VNDA	**Vanda**	**57.21**	**185**	P	**P**	**17 24 13.2**	**+1.9**
VNDA				pmax	pmax		
	comp=Z,37nm,1.9s						
VNDA	**Vanda**	**57.21**	**185**	P	**P**	**17 24 13.6**	**+2.3**
VNDA				PcP	**PcP**	**17 25 00.3**	**+1.4**
VNDA				pP	**pP**	**17 25 52.6**	**+2.7**
VNDA				ScP	**ScP**	**17 28 12.9**	**+2.3**
TNTI	**Ternate**	**57.27**	**285**	P	**P**	**17 24 13.4**	**+0.7**
TNTI	**Ternate**	**57.27**	**285**	P	**P**	**17 24 11.9**	**-0.8**
	comp=Z,98nm,1.1s,comp=Z,1μm						
MBWA	**Marble Bar**	**57.34**	**258**	P	**P**	**17 24 13.3**	**+0.1**
MBWA	**Marble

UNV	**Unalaska Valle**	75.41	7	P	P	17 26 04.0	-0.6
	baz=192						
YSS	**Yuzh-Sakhalins**	76.33	334	P	P	17 26 11.7	+1.8
YSS	**Yuzh-Sakhalins**	76.33	334	P	P	17 26 10.7	+0.8
YSS				IAmb	IAmb	17 26 11.5	
	comp=Z,42nm,0.7s						
YSS	**Yuzh-Sakhalins**	76.33	334	*e*P	P	17 26 11.0	+1.1
YSS				*e*		17 29 05.0	
YSS				*e*S	S	17 35 16.0	+2.2
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				pmax	pmax		
	comp=Z,200nm,4.0s						
YSS				smax	smax		
	comp=N,200nm,4.9s						
PET	**Petropavlovsk**	76.53	346	P	P	17 26 10.6	-0.2
PET	**Petropavlovsk**	76.53	346	P	P	17 26 10.4	-0.4
PET				IAmb	IAmb	17 26 11.9	
	comp=Z,113nm,1.7s						
PET	**Petropavlovsk**	76.53	346	*e*P	P	17 26 10.4	-0.4
PET				*e**PP	pP	17 27 58.3	+0.8
PET				*e**SP	sP	17 28 53.0	+4.0
PET				*e*S	S	17 35 16.1	+0.5
PET				pmax	pmax		
	comp=Z,26nm,1.3s						
PET				pmax	pmax		
	comp=Z,100nm,13.1s						
PET	**Petropavlovsk**	76.53	346	P	P	17 26 10.4	-0.4
	comp=Z,37nm,1.7s						
FALS	**False Pass**	76.80	9	P	P	17 26 13.1	+0.8
FALS	**False Pass**	76.80	9	P	P	17 26 11.5	-0.8
	baz=194						
TJN	**Taejon**	76.81	318	*ce*P	P	17 26 11.8	-1.0
PEA0B	**Petropavlovsk-**	76.82	345	IAmb	IAmb	17 26 13.9	
	comp=Z,115nm,1.3s						
PEA0B	**Petropavlovsk-**	76.82	345	*ce*P	P	17 26 11.6	-0.9
PETK	**Petropavlovsk-**	76.82	345	P	P	17 26 11.6	-0.9
PETK	**Petropavlovsk-**	76.82	345	P	P	17 26 12.3	-0.2
	comp=Z,38nm,1.0s,baz=129,slow=6.7,SNR=39						
PETK				PKiKP	PKiKP	17 31 48.8	-1.1
	comp=Z,1.2nm,0.6s,baz=107,slow=2.2,SNR=5.6						
	comp=Z,38nm,1.0s						
PETK	**Petropavlovsk-**	76.82	345	P	P	17 26 11.6	-0.9
KSRS	**Korea Array**	77.14	319	P	P	17 26 15.5	+0.9
	comp=Z,13nm,0.7s,baz=128,slow=5.9,SNR=58						
	comp=Z,13nm,0.7s						
KSAR	**Wonju Array Be**	77.16	319	P	P	17 26 14.6	-0.1
KSAR	**Wonju Array Be**	77.16	319	P	P	17 26 14.6	-0.1
CNBA	**Chernabura Isl**	77.38	11	IAmb	IAmb	17 26 16.5	
	comp=Z,38nm,1.0s						
CHNA	**Chernabura Isl**	77.39	11	P	P	17 26 15.3	-0.2
	baz=198,SNR=5.7						
S12K	**Black Hills**	77.82	9	P	P	17 26 17.4	-0.4
	baz=196,SNR=12						
P08K	**Saint George I**	77.83	5	P	P	17 26 17.2	-0.6
	baz=188						
INCN	**Inchon**	77.96	318	P	P	17 26 20.5	+1.4
INCN	**Inchon**	77.96	318	P	P	17 26 18.6	-0.4
INCN				IAmb	IAmb	17 26 21.0	
	comp=Z,189nm,1.9s						
INCN	**Inchon**	77.96	318	P	P	17 26 18.7	-0.4
INCN				pmax	pmax		
	comp=Z,189nm,1.9s						
TPRI	**Tanjung Pinang**	78.28	276	P	P	17 26 21.7	+0.3
	comp=Z,35nm,0.9s,comp=Z,1µm						
SCZ2	**Santa Cruz Isl**	78.33	47	P	P	17 26 23.5	+2.3
	baz=234,SNR=6.4						
SPIA	**Saint Paul Isl**	78.34	5	P	P	17 26 20.6	0.0
	baz=188						
SCI2	**San Clemente I**	78.50	48	P	P	17 26 24.0	+2.0
	baz=235,SNR=6.3						
MSHR	**Mys Shultsa**	78.64	324	*ce*P	P	17 26 24.0	+1.4
MSHR				pmax	pmax		
	comp=Z,32nm,0.7s						
PKM	**Mcpherson Peak**	78.73	46	P	P	17 26 25.4	+1.9
	baz=234,SNR=6.0						
S14K	**Fog Glacier**	78.78	11	P	P	17 26 23.6	+0.5
	baz=198						
CIS	**Catalina Islan**	78.83	48	P	P	17 26 25.0	+1.2
	baz=235						
SMMC	**Simmler**	78.86	45	P	P	17 26 26.0	+2.0
	baz=234						
PSTR	**Posyet**	78.88	324	⇓*i*P	P	17 26 24.8	+1.0
DLV	**T Lat**	78.96	287	P	P	17 26 26.1	+1.0
DLV	**T Lat**	78.96	287	IAmb	IAmb	17 26 27.2	
	comp=Z,36nm,0.8s						
CHGN	**Chignik**	79.00	11	IAmb	IAmb	17 26 25.1	
	comp=Z,62nm,0.8s						
CHGN	**Chignik**	79.00	11	P	P	17 26 23.9	-0.2
	baz=199,SNR=18						
CHIR	**Chirikof Islan**	79.09	13	P	P	17 26 25.2	+0.5
	baz=202,SNR=6.4						
BTDF	**Bukit Timah Da**	79.14	276	P	P	17 26 27.3	+1.3
USA0B	**Ussuriysk Arra**	79.31	326	IAmb	IAmb	17 26 28.4	
	comp=Z,44nm,0.8s						
USA0B	**Ussuriysk Arra**	79.31	326	*i*P	P	17 26 27.0	+0.9
USRK	**Ussuriysk Ar.**	79.31	326	P	P	17 26 27.2	+1.1
	comp=Z,23nm,0.6s,baz=112,slow=3.4,SNR=105						
	comp=Z,23nm,0.6s						
TYV	**Tymovskoe**	79.50	336	*e*P	P	17 26 27.7	+0.8
TYV				pmax	pmax		
	comp=Z,300nm,2.7s						
TYV				pmax	pmax		
	comp=Z,36nm,1.3s						
KMRM	**Mail Ridge**	79.51	39	IAmb	IAmb	17 26 30.8	
	comp=Z,79nm,0.8s						
ARVC	**Arvin**	79.53	46	P	P	17 26 29.2	+1.7
	baz=235						
VES	**Vestal, Richgr**	79.77	45	P	P	17 26 30.3	+1.5
	baz=234						
MURC	**Murrieta**	79.78	48	P	P	17 26 30.5	+1.6
	baz=236						
BFSC	**Mount Baldy Ra**	79.82	47	P	P	17 26 30.8	+1.6
	baz=236,SNR=5.6						
MONP2	**Monument Peak**	79.93	49	P	P	17 26 31.5	+1.6
	baz=237,SNR=24						
EDW2	**Edwards Air Fo**	79.95	47	P	P	17 26 31.8	+1.9
	baz=235,SNR=17						
NJ2	**Nanjing**	80.02	310	⇓P	P	17 26 30.7	+0.6
NJ2				pmax	pmax		
	comp=Z,38nm,0.9s						
IKP	**In-Ko-Pah, Jac**	80.02	49	P	P	17 26 32.2	+2.0
	baz=237,SNR=13						
O02D	**Mt. Diablo Mer**	80.03	40	IAmb	IAmb	17 26 33.3	
	comp=Z,33nm,0.7s						
ISA	**Isabella, Lake**	80.07	46	P	P	17 26 32.5	+2.0
	baz=235,SNR=8.6						
SII	**Sitkinak Islan**	80.08	13	P	P	17 26 31.0	+1.1
SII	**Sitkinak Islan**	80.08	13	P	P	17 26 30.7	+0.8
	baz=203,SNR=10						
CMB	**Columbia Colle**	80.21	43	IAmb	IAmb	17 26 33.8	
	comp=Z,59nm,1.8s						
PFO	**Pinyon Flats O**	80.30	48	P	P	17 26 32.7	+1.0
PFO	**Pinyon Flats O**	80.30	48	P	P	17 26 33.3	+1.5
	baz=237,SNR=5.2						
PFO	**Pinyon Flats O**	80.30	48	*i* P	P	17 26 32.5	+0.7
PFO				pmax	pmax		
	comp=Z,12nm,0.9s						
TPFO	**Pinon Flats**	80.30	48	P	P	17 26 33.5	+1.8
	baz=237						
SWSC	**Sam W. Stewart**	80.40	49	P	P	17 26 33.9	+1.8
	baz=237						
LRMC	**Laurel Mtn Rad**	80.50	46	P	P	17 26 34.2	+1.4
	baz=236						
R17L	**Mt. Peulik Vol**	80.64	12	P	P	17 26 33.4	+0.6
	baz=201						
CWC	**Cottonwood Cre**	80.78	45	P	P	17 26 35.7	+1.5
	baz=235						
MAW	**Mawson**	80.81	200	P	P	17 26 34.5	+0.9
	comp=Z,5.8nm,0.9s,baz=128,slow=6.2,SNR=9.7						
MAW				pP	pP	17 28 21.5	+0.1
	comp=Z,3.4nm,1.1s,baz=257,slow=5.3,SNR=1.7						
	comp=Z,5.8nm,0.9s						
BELC	**Belle Mtn. Jos**	80.83	48	P	P	17 26 36.3	+1.7
	baz=237,SNR=15						
MDJ	**Mudanjiang**	80.85	325	P	P	17 26 35.0	+0.9
MDJ	**Mudanjiang**	80.85	325	P	P	17 26 35.1	+0.9
MDJ				pmax	pmax		
	comp=Z,57nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,180nm,4.8s						
MDJ	**Mudanjiang**	80.85	325	IAmb	IAmb	17 26 36.4	
	comp=Z,40nm,0.8s						
OHAK	**Old Harbor**	80.89	14	P	P	17 26 35.1	+1.1
OHAK	**Old Harbor**	80.89	14	IAmb	IAmb	17 26 35.9	
	comp=Z,124nm,1.7s						
OHAK	**Old Harbor**	80.89	14	P	P	17 26 34.7	+0.7
	baz=204,SNR=9.1						
MPMC	**Manual Prospec**	80.95	46	P	P	17 26 36.8	+1.6
	baz=236,SNR=16						
R18K	**Karluk**	80.96	13	P	P	17 26 35.0	+0.6
	baz=202						
GSC	**Goldstone, Bar**	80.99	47	P	P	17 26 37.1	+1.8
	baz=236,SNR=8.3						
BC3	**Big Chuckawall**	81.03	49	P	P	17 26 37.3	+1.8
	baz=237,SNR=8.3						
TIN	**Tinemaha, Big**	81.03	45	P	P	17 26 37.1	+1.7
	baz=235						
YBH	**Yreka Blue Hor**	81.05	39	IAmb	IAmb	17 26 38.6	
	comp=Z,30nm,0.8s						
HEC	**Hector,Ludlow**	81.05	47	P	P	17 26 37.1	+1.6
	baz=236,SNR=29						
WAKR	**Walker**	81.09	43	IAmb	IAmb	17 26 39.0	
	comp=Z,32nm,1.0s						
GLA	**Glamis**	81.15	50	IAmb	IAmb	17 26 39.6	
	comp=Z,30nm,0.9s						
GLA	**Glamis**	81.15	50	P	P	17 26 37.9	+1.9
	baz=238,SNR=6.0						
Q17K	**Contact Creek**	81.32	12	P	P	17 26 36.5	+0.1
	baz=201,SNR=50						
PNTR	**Pine Nut**	81.33	42	IAmb	IAmb	17 26 40.1	
	comp=Z,54nm,0.8s						
O14K	**Tigyukauivet M**	81.36	9	P	P	17 26 36.7	+0.3
	baz=196,SNR=7.1						
HUMO	**Hull Mountain**	81.45	38	IAmb	IAmb	17 26 40.9	
	comp=Z,52nm,1.3s						
GMRC	**Granite Mounta**	81.49	48	P	P	17 26 39.6	+1.7
	baz=237,SNR=8.2						
YERR	**Yerington**	81.50	43	IAmb	IAmb	17 26 40.2	
	comp=Z,24nm,0.7s						
O15K	**Ungalikthiuk R**	81.50	10	P	P	17 26 37.2	0.0
	baz=198,SNR=8.8						
IRM	**Iron Mountain**	81.51	48	P	P	17 26 39.9	+2.0
	baz=237,SNR=14						
LHV	**Little Huntoon**	81.54	44	IAmb	IAmb	17 26 41.1	
	comp=Z,25nm,0.9s						
KDAK	**Kodiak Island**	81.55	14	P	P	17 26 37.7	+0.2
KDAK	**Kodiak Island**	81.55	14	P	P	17 26 38.0	+0.5
	baz=204						
KDAK	**Kodiak Island**	81.55	14	*i* P	P	17 26 37.8	+0.3
KDAK				pmax	pmax		
	comp=Z,93nm,1.5s						
GRAC	**Grapevine Rang**	81.56	45	IAmb	IAmb	17 27 31.3	
	comp=Z,23nm,0.8s						
GRAC	**Grapevine Rang**	81.56	45	P	P	17 26 40.3	+2.2
	baz=236						
Q16K	**King Salmon**	81.56	11	P	P	17 26 37.8	+0.4
	baz=200						
L04D	**Klamath Falls**	81.59	39	IAmb	IAmb	17 26 41.1	
	comp=Z,38nm,0.8s						
FURC	**Furnace Creek,**	81.60	46	P	P	17 26 39.9	+1.6
	baz=236						
DBO	**Dodson Butte**	81.61	37	IAmb	IAmb	17 26 41.5	
	comp=Z,36nm,1.2s						
P16K	**Nushagak River**	81.66	11	P	P	17 26 38.3	+0.3
	baz=199,SNR=16						
TUQ	**Turquoise Moun**	81.67	47	P	P	17 26 40.0	+1.1
	baz=237						
NVAR	**Mina Array Bea**	81.77	43	P	P	17 26 39.5	+0.1
NVAR	**Mina Array Bea**	81.77	43	P	P	17 26 40.9	+1.5
	comp=Z,16nm,0.7s,baz=224,slow=9.0,SNR=99						
NVAR				PKKPbc	PKKPbc	17 45 08.9	+0.8
	comp=Z,0.7nm,0.7s,baz=65,slow=3.8,SNR=5.3						
NVAR				PKPPKP	P'P'df	17 53 14.4	+3.8
	comp=Z,0.8nm,0.8s,baz=128,slow=2.5,SNR=4.7						
	comp=Z,16nm,0.7s						
PAHR	**Pah Rah Range**	81.83	42	IAmb	IAmb	17 26 42.3	
	comp=Z,48nm,1.4s						
Q18K	**Katmai Hardscr**	81.85	12	P	P	17 26 39.3	+0.2
	baz=202,SNR=62						
M11K	**Mekoryuk**	81.87	6	P	P	17 26 40.3	+1.3
	baz=192						
I03D	**Drain, OR**	81.92	37	IAmb	IAmb	17 26 42.6	
	comp=Z,96nm,1.7s						
GRNR	**Gornyy**	81.93	333	⇓*i*P	P	17 26 40.6	+1.0
GRNR				pmax	pmax		
	comp=Z,30nm,1.0s						
N14K	**Kuskokwak Cree**	81.95	8	P	P	17 26 40.2	+0.8
	baz=196,SNR=39						
214A	**Organ Pipe Nat**	82.03	51	P	P	17 26 42.4	+1.9
	baz=239						
P17K	**Kvichak River**	82.09	11	P	P	17 26 40.5	+0.3
	baz=201,SNR=43						
O16K	**Kokwok River B**	82.18	10	IAmb	IAmb	17 26 41.2	
	comp=Z,44nm,0.8s						
O16K	**Kokwok River B**	82.18	10	P	P	17 26 40.2	-0.4
	baz=199,SNR=36						
NEE2	**Needles Airpor**	82.21	48	P	P	17 26 43.1	+1.7
	baz=238						
M13K	**Dall Lake**	82.21	7	IAmb	IAmb	17 26 43.3	
	comp=Z,104nm,1.5s						
M13K	**Dall Lake**	82.21	7	P	P	17 26 42.1	+1.3
	baz=194,SNR=7.4						
KVN	**Kaiserville**	82.26	43	IAmb	IAmb	17 26 43.9	
	comp=Z,22nm,0.7s						
TPNV	**Topopah Spring**	82.28	46	P	P	17 26 43.7	+1.8
	baz=236,SNR=31						
PDMCI	**Parker Dam,Lak**	82.29	49	P	P	17 26 44.1	+2.3
	baz=238,SNR=8.3						
Q20K	**Shuyak Island**	82.35	13	P	P	17 26 42.0	+0.5
	baz=204,SNR=7.8						
SYI	**Shuyak Island**	82.35	13	IAmb	IAmb	17 26 43.2	
	comp=Z,75nm,1.2s						
Q19K	**Cape Douglas,**	82.38	13	P	P	17 26 41.7	0.0
	baz=203						
N15K	**Kwethluk River**	82.41	9	P	P	17 26 42.9	+1.1
	baz=197,SNR=49						
P18K	**Big Mountain,**	82.50	12	IAmb	IAmb	17 26 42.7	
	comp=Z,44nm,0.8s						
P18K	**Big Mountain,**	82.50	12	P	P	17 26 42.3	0.0
	baz=202,SNR=17						
I04A	**Tendick Farm,**	82.51	37	IAmb	IAmb	17 26 45.2	
	comp=Z,23nm,0.7s						
O17K	**Koliganek Bris**	82.52	11	P	P	17 26 42.1	-0.2
	baz=200,SNR=32						
WHN	**Wuhan**	82.54	307	⇑P	P	17 26 44.3	+1.2
CN2	**Changchun**	82.60	323	P	P	17 26 43.7	+0.5
CN2				pmax	pmax		
	comp=Z,50nm,1.3s						
M14K	**Bethel**	82.71	8	P	P	17 26 44.3	+1.0
	baz=195,SNR=23						
Q09A	**Carvers**	82.72	44	IAmb	IAmb	17 26 46.8	
	comp=Z,52nm,0.8s						
BNX	**BinXian**	82.75	325	⇓P	P	17 26 43.8	-0.1
BNX				pmax	pmax		
	comp=Z,64nm,0.8s						
H04D	**Lebanon**	82.78	37	IAmb	IAmb	17 26 47.2	
	comp=Z,42nm,0.9s						
M15K	**Kasigluk River**	82.83	9	P	P	17 26 44.9	+1.0
	baz=197,SNR=61						
IPM	**Ipoh**	82.84	278	P	P	17 26 45.7	+0.6
N16K	**Nishlik Lake**	82.91	10	P	P	17 26 45.6	+1.3
	baz=198						
KLR	**Kul'dur**	82.91	330	*e*P	P	17 26 43.7	-0.9
KLR				pmax	pmax		
	comp=Z,25nm,1.3s						
O18K	**Koktuh Hills**	82.93	12	P	P	17 26 44.6	+0.1
	baz=202,SNR=37						
S11A	**Rachel**	83.00	45	IAmb	IAmb	17 26 48.1	
	comp=Z,27nm,0.7s						
UBPT	**Khong Chiam**	83.00	289	P	P	17 26 46.6	+0.8
UBPT	**Khong Chiam**	83.00	289	IAmb	IAmb	17 26 47.2	
	comp=Z,26nm,1.0s						
P19K	**Oil Pt**	83.13	13	IAmb	IAmb	17 26 46.2	
	comp=Z,53nm,0.8s						
P19K	**Oil Pt**	83.13	13	P	P	17 26 45.8	+0.3
	baz=204,SNR=7.7						
H04A	**Detroit Lake**	83.19	37	IAmb	IAmb	17 26 48.1	
	comp=Z,28nm,0.6s						
L14K	**Kuka Creek**	83.19	8	P	P	17 26 46.7	+1.0
	baz=195,SNR=24						
N17K	**Nushagak Hills**	83.21	10	IAmb	IAmb	17 26 47.3	
	comp=Z,34nm,1.4s						
N17K	**Nushagak Hills**	83.21	10	P	P	17 26 46.2	+0.4
	baz=200,SNR=14						
PRN	**Pahroc Range**	83.33	46	IAmb	IAmb	17 26 50.4	
	comp=Z,31nm,0.9s						
PINE	**Pine Mountain**	83.34	38	IAmb	IAmb	17 26 50.3	
	comp=Z,54nm,0.8s						
M16K	**Timber Creek**	83.40	9	P	P	17 26 48.5	+1.8
	baz=198,SNR=55						
CNPM	**China Poot**	83.44	14	IAmb	IAmb	17 26 48.4	
	comp=Z,46nm,0.7s						
I05D	**Terrebonne, OR**	83.45	37	IAmb	IAmb	17 26 50.3	
	comp=Z,36nm,0.8s						
HOM	**Homer**	83.47	13	P	P	17 26 47.9	+0.8
	baz=205						
R11B	**Troy Canyon, C**	83.49	45	P	P	17 26 49.4	+1.3
	baz=237,SNR=13						
KULM	**Kulim**	83.49	278	P	P	17 26 48.6	+0.3
KULM				IAmb	IAmb	17 26 50.1	
	comp=Z,34nm,0.8s						
K13K	**Kusilvak Mount**	83.55	6	IAmb	IAmb	17 26 49.7	
	comp=Z,46nm,1.0s						
K13K	**Kusilvak Mount**	83.55	6	P	P	17 26 48.4	+1.0
	baz=193,SNR=14						
N18K	**Kilae Creek**	83.58	11	P	P	17 26 47.8	+0.1
	baz=201,SNR=14						
BMN	**Battle Mountai**	83.60	42	IAmb	IAmb	17 26 51.1	
	comp=Z,24nm,0.9s						
E03A	**Lebam**	83.62	35	IAmb	IAmb	17 26 51.1	
	comp=Z,64nm,1.2s						
O20K	**Slope Mountain**	83.65	13	P	P	17 26 48.1	0.0
	baz=204,SNR=11						
L15K	**Ungalak Mounta**	83.67	8	P	P	17 26 48.7	+0.6
	baz=196,SNR=23						
TUC	**Tucson**	83.69	52	P	P	17 26 51.2	+2.2
	baz=240						
TUC	**Tucson**	83.69	52	P	P	17 26 51.2	+2.2
BRLK	**Bradley Lake**	83.73	14	IAmb	IAmb	17 26 49.7	
	comp=Z,52nm,0.8s						
BRSE	**Bradley Lake S**	83.74	14	P	P	17 26 48.8	+0.3
	baz=206,SNR=33						
HOOD	**Mount Hood Mea**	83.88	36	IAmb	IAmb	17 26 52.3	
	comp=Z,32nm,1.1s						
WVOR	**Wild Horse Val**	83.88	40	P	P	17 26 51.5	+1.7
N19K	**Bonanza Creek**	83.96	12	P	P	17 26 49.4	-0.3
	baz=202,SNR=26						
L16K	**Owhat River**	83.98	9	IAmb	IAmb	17 26 51.9	
	comp=Z,46nm,1.2s						
L16K	**Owhat River**	83.98	9	P	P	17 26 50.6	+1.0
	baz=198,SNR=20						
M17K	**Holitna River**	84.00	10	P	P	17 26 50.9	+1.2
	baz=200,SNR=30						
K15K	**Wolf Creek Mou**	84.26	8	P	P	17 26 52.1	+1.1
	baz=196,SNR=26						
MA2	**Magadan**	84.33	345	P	P	17 26 51.6	+0.2
MA2	**Magadan**	84.33	345	P	P	17 26 51.0	-0.4
MA2	**Magadan**	84.33	345	*ce*P	P	17 26 51.2	-0.2
MA2				pmax	pmax		
	comp=Z,46nm,1.7s						
MA2	**Magadan**	84.33	345	P	P	17 26 51.3	-0.2
	comp=Z,40nm,1.8s,comp=Z,619nm						
I07A	**Izee**	84.35	38	IAmb	IAmb	17 26 55.0	
	comp=Z,25nm,0.9s						
319A	**Douglas**	84.35	53	IAmb	IAmb	17 26 56.1	
	comp=Z,44nm,1.0s						
M18K	**Stony River**	84.35	11	P	P	17 26 52.1	+0.6
	baz=201,SNR=21						
SEW	**Seward**	84.36	14	P	P	17 26 51.6	+0.1
	baz=207,SNR=13						
J14K	**Nanvaranak Lak**	84.46	7	P	P	17 26 52.5	+0.6
	baz=194						
Q23K	**Middleton Isla**	84.51	16	P	P	17 26 52.8	+0.6
	baz=210						
L17K	**Donlin**	84.56	9	P	P	17 26 53.7	+1.2
	baz=199,SNR=17						
O22K	**Cooper Landing**	84.63	14	P	P	17 26 53.0	+0.2
	baz=207						
LON	**Longmire**	84.68	35	IAmb	IAmb	17 26 56.1	
	comp=Z,45nm,1.9s						
U15A	**North Rim**	84.69	48	IAmb	IAmb	17 26 57.2	
	comp=Z,34nm,0.7s						
P23K	**Montague Islan**	84.74	15	P	P	17 26 53.7	+0.3
	baz=209,SNR=8.9						
N20K	**Mount Spurr**	84.76	12	P	P	17 26 53.0	-0.6
	baz=204,SNR=7.3						
SPCR	**Spurr Chakacha**	84.76	12	P	P	17 26 49.7	-3.9
	baz=204,SNR=5.8						
SPU	**Mount Spurr**	84.77	12	IAmb	IAmb	17 26 54.0	
	comp=Z,25nm,1.1s						
D05A	**Eumclaw**	84.86	35	IAmb	IAmb	17 26 58.3	
	comp=Z,82nm,1.4s						
WUAZ	**Wupatki**	84.87	49	P	P	17 26 56.7	+1.8
	baz=240						
GSI	**Gunungsitoli**	84.89	273	P	P	17 26 56.6	+1.3
L18K	**Granite Mounta**	84.89	10	IAmb	IAmb	17 26 56.2	
	comp=Z,28nm,0.8s						
L18K	**Granite Mounta**	84.89	10	P	P	17 26 55.1	+1.0
	baz=200,SNR=35						
M19K	**Big River Lodg**	84.99	11	P	P	17 26 54.7	+0.1
	baz=202						
ELK	**Elko**	85.03	43	P	P	17 26 56.8	+1.2
K17K	**Iditarod**	85.11	9	IAmb	IAmb	17 26 57.3	
	comp=Z,45nm,1.4s						
K17K	**Iditarod**	85.11	9	P	P	17 26 55.9	+0.7
	baz=199,SNR=8.9						
L19K	**White Mountain**	85.17	11	IAmb	IAmb	17 26 57.2	
	comp=Z,52nm,1.1s						
L19K	**White Mountain**	85.17	11	P	P	17 26 55.9	+0.4
	baz=202,SNR=41						
RC01	**Rabbit Creek A**	85.17	14	P	P	17 26 55.7	+0.2
	baz=207,SNR=14						
PKCU	**Pink Cliffs**	85.20	47	IAmb	IAmb	17 27 00.3	
	comp=Z,30nm,0.8s						
M20K	**Styx River**	85.20	12	P	P	17 26 55.2	-0.5
	baz=204						
SUA	**Susitna One**	85.30	13	P	P	17 26 56.2	-0.1
	baz=206,SNR=56						
J16K	**Anvik River**	85.33	8	P	P	17 26 56.9	+0.7
	baz=197,SNR=6.3						
G08A	**Pilot Rock**	85.38	38	IAmb	IAmb	17 26 59.7	
	comp=Z,26nm,0.8s						
KAIM	**Kayak Island**	85.44	16	IAmb	IAmb	17 26 58.8	
	comp=Z,45nm,1.0s						
KAIM	**Kayak Island**	85.44	16	P	P	17 26 57.8	+1.0
	baz=212,SNR=6.6						
CRAG	**Craig**	85.48	24	P	P	17 26 57.4	+0.3
	baz=222						
GLI	**Glacier Island**	85.59	15	P	P	17 26 57.6	+0.1
	baz=209,SNR=35						
SKT	**Skwentna**	85.60	12	IAmb	IAmb	17 26 57.7	
	comp=Z,88nm,2.0s						
SKT	**Skwentna**	85.60	12	P	P	17 26 56.7	-0.9
	baz=205,SNR=12						
L20K	**Farewell, AK**	85.61	11	P	P	17 26 57.7	0.0
	baz=203,SNR=19						
FID	**Port Fidalgo**	85.63	15	IAmb	IAmb	17 26 58.8	
	comp=Z,56nm,1.2s						
EYAK	**Cordova Ski Ar**	85.63	16	P	P	17 26 58.6	+0.9
EYAK	**Cordova Ski Ar**	85.63	16	P	P	17 26 58.0	+0.4
	baz=210,SNR=9.8						
E07A

E08A	Dider Farm, El	86.03	37	IAmb	IAmb	17 27 02.7
	comp=Z,27nm,1.0s					
J18K	Innoko River	86.06	10	IAmb	IAmb	17 27 01.4
	comp=Z,63nm,1.4s					
J18K	Innoko River	86.06	10	P	P	17 27 00.2 +0.5
	baz=200,SNR=21					
BMO	Blue Mountains	86.07	39	IAmb	IAmb	17 27 02.7
	comp=Z,15nm,0.8s					
BJI	Beijing	86.10	316	P	P	17 27 01.1 +0.6
BJI				pmax	pmax	
	comp=Z,10.0nm,0.7s					
BJI				pmax	pmax	
	comp=Z,110nm,3.5s					
SML	Sawmill	86.12	14	IAmb	IAmb	17 27 02.4
	comp=Z,20nm,0.9s					
SML	Sawmill	86.12	14	P	P	17 27 00.2 +0.1
	baz=208,SNR=9.3					
CUT	Chulitna	86.24	13	P	P	17 27 00.6 0.0
	baz=206					
M23K	Glacier View	86.25	14	P	P	17 27 00.8 +0.1
	baz=208,SNR=8.3					
S31K	Pelican	86.28	21	P	P	17 27 02.0 +1.2
	baz=219					
BMRM	Bremner River	86.28	16	P	P	17 27 01.5 +0.6
	baz=211,SNR=17					
DUG	Dugway, Tooele	86.29	44	P	P	17 27 01.9 +0.3
	baz=238					
PPLA	Purkeypile	86.31	12	P	P	17 27 00.1 -1.0
	baz=204					
MESA	MESA	86.32	17	P	P	17 27 02.3 +1.1
	baz=214					
SCM	Sheep Creek Mo	86.37	14	P	P	17 27 01.6 +0.3
	baz=209,SNR=30					
K20K	Telida	86.39	11	P	P	17 27 01.6 +0.3
	baz=203,SNR=26					
KLU	Klutina	86.41	15	IAmb	IAmb	17 27 03.0
	comp=Z,79nm,1.6s					
KLU	Klutina	86.41	15	P	P	17 27 01.9 +0.3
	baz=210,SNR=10					
D08A	Wollman Farm,	86.44	36	IAmb	IAmb	17 27 04.7
	comp=Z,32nm,0.9s					
H16K	Elim	86.44	7	P	P	17 27 01.8 +0.3
	baz=195					
S32K	Killisnoo	86.46	22	P	P	17 27 03.0 +1.3
	baz=220					
CRQM	Cirque	86.48	16	IAmb	IAmb	17 27 03.7
	comp=Z,60nm,1.2s					
WRAK	Wrangell Islan	86.48	24	IAmb	IAmb	17 27 04.3
	comp=Z,25nm,0.7s					
WRAK	Wrangell Islan	86.48	24	P	P	17 27 03.3 +1.4
	baz=222,SNR=5.4					
CRQE	Cirque	86.49	17	P	P	17 27 02.5 +0.6
	baz=213,SNR=15					
E09A	Wood Farm, Sta	86.56	37	IAmb	IAmb	17 27 04.9
	comp=Z,33nm,1.1s					
ISLE	Juniper Island	86.56	17	IAmb	IAmb	17 27 04.0
	comp=Z,32nm,0.8s					
G15K	Niukluk	86.60	6	P	P	17 27 02.6 +0.4
	baz=193					
EPT	El Paso	86.62	54	IAmb	IAmb	17 27 06.0
	comp=Z,18nm,0.8s					
PNL	Peninsula	86.63	19	P	P	17 27 04.6 +2.0
PNL	Peninsula	86.63	19	P	P	17 27 03.3 +0.7
	baz=216,SNR=12					
GYA	Guiyang	86.65	300	P	P	17 27 04.4 +0.8
GYA				pmax	pmax	
	comp=Z,27nm,0.6s					
Q16A	Castle Valley	86.72	46	IAmb	IAmb	17 27 07.1
	comp=Z,32nm,1.7s					
J19K	Poorman	86.73	10	IAmb	IAmb	17 27 04.9
	comp=Z,65nm,1.7s					
J19K	Poorman	86.73	10	P	P	17 27 03.6 +0.7
	baz=201,SNR=13					
PINM	Pinnacle	86.73	18	P	P	17 27 03.9 +0.9
	baz=215					
CAST	Castle Rocks	86.81	12	IAmb	IAmb	17 27 03.3
	comp=Z,37nm,0.8s					
CAST	Castle Rocks	86.81	12	P	P	17 27 02.3 -1.0
	baz=204,SNR=68					
SLVN	Son La	86.81	294	IAmb	IAmb	17 27 08.4
	comp=Z,30nm,1.6s					
N25K	Chitina, Valde	86.83	15	P	P	17 27 04.2 +0.7
	baz=211,SNR=36					
M24K	Tolsona, Glenn	86.88	15	P	P	17 27 04.4 +0.7
	baz=210,SNR=7.0					
GLB	Gilahina Butte	86.89	16	IAmb	IAmb	17 27 04.7
	comp=Z,25nm,0.6s					
TMUT	Trail Mountain	86.89	46	IAmb	IAmb	17 27 07.8
	comp=Z,23nm,1.0s					
WAT6	Susitna Watana	86.94	14	P	P	17 27 04.3 +0.2
	baz=208,SNR=38					
SEY	Seymchan	86.94	347	eP	P	17 27 01.4 -2.5
SEY				pmax	pmax	
	comp=Z,60nm,1.4s					
PLID	Pearl Lake	86.97	39	IAmb	IAmb	17 27 07.1
	comp=Z,84nm,1.6s					
WAT1	Susitna Watana	86.98	13	P	P	17 27 04.1 -0.1
	baz=208					
B08A	Colville Reser	87.00	35	IAmb	IAmb	17 27 06.4
	comp=Z,28nm,0.8s					
H17K	Granite Mounta	87.01	8	IAmb	IAmb	17 27 05.7
	comp=Z,44nm,1.7s					
H17K	Granite Mounta	87.01	8	P	P	17 27 04.4 +0.2
	baz=197					
MCARA	McCarthy VSAT	87.04	16	IAmb	IAmb	17 27 06.3
	comp=Z,66nm,1.3s					
MCARA	McCarthy VSAT	87.04	16	P	P	17 27 05.2 +0.8
	baz=213,SNR=9.3					
TROLL	Troll, Antarti	87.06	180	⇓P	P	17 27 04.8 +0.1
TROLL				⇑pP	pwP	17 28 56.4 -0.8
	comp=Z,296nm,0.5s					
TROLL				⇑SKSac	SKSac	17 36 43.4 -0.7
	comp=Z,401nm,0.7s					
HLID	Hailey	87.08	41	IAmb	IAmb	17 27 08.2
	comp=Z,105nm,1.0s					
HLID	Hailey	87.08	41	P	P	17 27 06.9 +1.7
	comp=Z,17nm,0.9s					
R32K	Eaglecrest	87.10	22	P	P	17 27 05.8 +1.1
	baz=237,SNR=20					
P29M	Windy Craggy	87.11	19	P	P	17 27 06.3 +1.5
	baz=220					
CTG	Chitna Glacier	87.14	17	P	P	17 27 05.9 +0.9
	baz=218,SNR=13					
J20K	Nowinta River	87.14	10	P	P	17 27 05.1 +0.3
	baz=214,SNR=18					
JIS	Juneau Island	87.15	22	IAmb	IAmb	17 27 07.3
	baz=203,SNR=21					
KTH	Kantishna Hill	87.15	12	IAmb	IAmb	17 27 05.2
	comp=Z,82nm,1.9s					
G16K	Koyuk River	87.16	7	P	P	17 27 05.1 +0.3
	comp=Z,36nm,0.9s					
CHUM	Lake Minchumin	87.19	11	P	P	17 27 04.5 -0.5
	baz=195					
C09A	Chrisman Ranch	87.24	36	IAmb	IAmb	17 27 08.0
	baz=204,SNR=24					
F15K	North Star Dit	87.24	6	P	P	17 27 05.4 +0.1
	comp=Z,27nm,0.8s					
GCSA	Galena City Sc	87.24	9	P	P	17 27 05.6 +0.4
	baz=193					
SRU	San Rafael Swe	87.26	46	IAmb	IAmb	17 27 08.7
	baz=200					
O28M	Mount Upton	87.30	18	P	P	17 27 06.7 +0.7
	comp=Z,20nm,0.8s					
VHRN	Van Horn	87.34	56	IAmb	IAmb	17 27 10.0
	baz=215,SNR=20					
SNAA	Sanae	87.35	179	⇓P	P	17 27 05.5 -0.5
SNAA				⇑pP	pP	17 28 55.1 -0.5
	comp=Z,75nm,1.0s					
SNAA				⇑SKSac	SKSac	17 36 42.7 -3.0
	comp=Z,56nm,0.8s					
SNAA	Sanae	87.35	179	P	P	17 27 05.9 -0.1
	comp=Z,44nm,1.0s					
SNAA				pP	pP	17 28 53.8 -1.8
	comp=Z,1.6nm,0.6s,baz=198,slow=13,SNR=7.2					
SNAA				S	SKSac	17 36 44.7 -0.9
	comp=Z,3.8nm,1.1s,baz=355,slow=23,SNR=3.6					
HARP	HAARP	87.37	15	P	P	17 27 06.6 +0.6
	comp=Z,2.0nm,0.9s,baz=199,slow=20,SNR=7.1					
O29M	Mount Kennedy	87.39	19	P	P	17 27 07.3 +1.0
	comp=Z,1.6nm,0.6s					
PLBC	Pleasant Camp	87.40	20	P	P	17 27 07.6 +1.4
	baz=217,SNR=13					
H18K	Honhosa River	87.42	8	IAmb	IAmb	17 27 07.2
	baz=219,SNR=8.5					
H18K	Honhosa River	87.42	8	P	P	17 27 05.9 -0.2
	comp=Z,41nm,1.7s					
	baz=199					
MNTX	Cornudas Mount	87.44	55	P	P	17 27 09.2 +2.1
	baz=243					
TIY	Taiyuan	87.44	312	eP	P	17 27 08.4 +1.4
DHY	Denali Highway	87.45	14	IAmb	IAmb	17 27 08.8
	comp=Z,71nm,1.6s					
DHY	Denali Highway	87.45	14	P	P	17 27 06.7 +0.2
	baz=209,SNR=8.9					
G17K	Kiwalik Mounta	87.46	7	P	P	17 27 06.6 +0.3
	baz=197					
VNA3	Neumayer Olymp	87.50	176	⇓P	P	17 27 06.6 0.0
	comp=Z,17nm,0.6s					
VNA3				⇑pP	pP	17 28 54.7 -1.5
	comp=Z,6.4nm,0.9s					
VNA3				⇑SKSac	SKSac	17 36 45.8 -0.6
	comp=Z,0.9nm,0.9s					
BPAW	Bear Paw Mtn.	87.63	12	P	P	17 27 06.1 -1.0
	baz=206,SNR=13					
I20K	Naaghedeneel	87.66	10	P	P	17 27 07.8 +0.6
	baz=202,SNR=7.1					
TCUT	Toone Canyon	87.69	44	IAmb	IAmb	17 27 11.0
	comp=Z,44nm,1.4s					
MCK	McKinley	87.71	13	P	P	17 27 07.3 -0.2
	baz=207,SNR=19					
TX31	Lajitas Ar. Si	87.73	57	IAmb	IAmb	17 27 12.0
	comp=Z,26nm,1.1s					
TXAR	Lajitas Array	87.73	57	P	P	17 27 10.5 +1.9
	comp=Z,15nm,0.9s,baz=217,slow=6.0,SNR=54					
TXAR				pP	pP	17 28 57.4 -0.9
	comp=Z,0.5nm,0.8s,baz=200,slow=11,SNR=1.3					
TXAR				PKKPbc	PKKPbc	17 44 54.0 +0.7
	comp=Z,1.6nm,0.6s,baz=121,slow=3.1,SNR=12					
	comp=Z,15nm,0.9s					
P30M	Million Dollar	87.74	19	P	P	17 27 09.2 +1.4
	baz=218					
SKAG	Skagway	87.74	20	P	P	17 27 10.2 +2.5
SKAG	Skagway	87.74	20	P	P	17 27 09.4 +1.7
	baz=220					
PAX	Paxson	87.79	14	P	P	17 27 08.0 0.0
	baz=210,SNR=8.5					
BSUT	Blindstream Ca	87.81	45	IAmb	IAmb	17 27 11.8
	comp=Z,45nm,1.8s					
HWUT	Hardware Ranch	87.83	44	IAmb	IAmb	17 27 11.0
	comp=Z,27nm,1.9s					
YUK8	Steele Glacier	87.84	18	P	P	17 27 09.6 +1.1
	baz=216,SNR=5.9					
M26K	Nabesna, AK	87.91	16	IAmb	IAmb	17 27 10.4
	comp=Z,32nm,0.9s					
M26K	Nabesna, AK	87.91	16	P	P	17 27 09.2 +0.7
	baz=213,SNR=14					
VNA2	Neumayer--Watz	87.94	177	⇓P	P	17 27 09.0 +0.3
	comp=Z,7.7nm,0.6s,baz=199,slow=4.0					
VNA2				⇑pP	pP	17 28 57.2 -1.1
	comp=Z,6.4nm,0.7s,baz=184,slow=6.3					
VNA2				⇑SKSac	SKSac	17 36 48.5 -0.4
	comp=Z,0.8nm,0.8s,baz=28,slow=34					
YUK6	Outpost Mounta	87.97	18	P	P	17 27 10.1 +1.0
	baz=217,SNR=9.6					
NVL	N'lazarevskaya	88.03	183	⇓iP	P	17 27 07.6 -1.5
NVL				eS	SKSac	17 36 48.0 -1.4
NVL				pmax	pmax	
	comp=Z,14nm,0.8s					
S34M	Telegraph Cree	88.03	23	IAmb	IAmb	17 27 11.9
	comp=Z,28nm,0.9s					
S34M	Telegraph Cree	88.03	23	P	P	17 27 10.9 +1.8
	baz=223,SNR=19					
ZEA	Zeya	88.03	331	eP	P	17 27 10.0 +0.8
ZEA				pmax	pmax	
	comp=N,10.0nm,1.1s					
ZEA				pmax	pmax	
	comp=Z,20nm,0.9s					
H19K	Roundabout Mou	88.04	9	IAmb	IAmb	17 27 10.6
	comp=Z,32nm,1.0s					
H19K	Roundabout Mou	88.04	9	P	P	17 27 09.6 +0.6
	baz=200,SNR=26					
YUK3	Moose Creek	88.05	17	P	P	17 27 10.2 +0.8
	baz=215,SNR=78					
G18K	Tagagawik	88.09	8	IAmb	IAmb	17 27 10.3
	comp=Z,26nm,1.3s					
G18K	Tagagawik	88.09	8	P	P	17 27 09.3 +0.1
	baz=198,SNR=8.2					
ANMO	Albuquerque	88.12	51	P	P	17 27 10.8 +0.4
ANMO				IAmb	IAmb	17 27 13.0
	comp=Z,17nm,1.1s					
ANMO	Albuquerque	88.12	51	P	P	17 27 11.5 +1.1
	baz=242					
ANMO	Albuquerque	88.12	51	iP	P	17 27 11.3 +0.9
ANMO				pmax	pmax	
	comp=Z,17nm,1.1s					
HYT	Haines Junctio	88.13	19	IAmb	IAmb	17 27 11.8
	comp=Z,18nm,0.9s					
HYT	Haines Junctio	88.13	19	P	P	17 27 10.8 +1.2
	baz=218,SNR=17					
NEW	Newport	88.14	36	P	P	17 27 10.1 +0.2
	baz=235					
NEW	Newport	88.14	36	P	P	17 27 10.3 +0.4
M27K	Edge Creek, AK	88.16	16	P	P	17 27 10.8 +1.0
	baz=214,SNR=69					
VNA1	Neumayer--Stat	88.17	177	⇓P	P	17 27 10.2 +0.5
	comp=Z,19nm,1.0s					
VNA1				⇑pP	pP	17 29 00.2 +0.8
	comp=Z,13nm,1.2s					
VNA1				⇑SKSac	SKSac	17 36 43.7 -6.5
	comp=Z,2.6nm,0.8s					
MENT	Mentasta	88.18	15	P	P	17 27 11.1 +1.3
XLT	XiLinHaoTe	88.19	319	eP	P	17 27 10.5 +0.1
XLT				PP	PP	17 30 43.8 -3.0
XLT				pmax	pmax	
	comp=Z,14nm,0.7s					
XLT				pmax	pmax	
	comp=Z,160nm,3.8s					
ALPN	Alpine	88.20	57	IAmb	IAmb	17 27 13.3
	comp=Z,19nm,0.8s					
YUK4	Talbot Arm	88.21	18	P	P	17 27 11.5 +1.3
	baz=217,SNR=6.3					
XAN	Xi'an	88.24	308	⇓P	P	17 27 11.5 +0.7
XAN				pmax	pmax	
	comp=Z,67nm,1.5s					
H20K	Anotleneega Mo	88.25	10	P	P	17 27 10.6 +0.6
	baz=202,SNR=35					
F17K	Baldwin Pennin	88.30	7	P	P	17 27 10.4 +0.2
	baz=196					
L26K	Log Cabin Wild	88.35	15	IAmb	IAmb	17 27 12.3
	comp=Z,40nm,1.4s					
L26K	Log Cabin Wild	88.35	15	P	P	17 27 11.4 +0.9
	baz=212,SNR=6.3					
P32M	Atlin	88.37	21	IAmb	IAmb	17 27 13.1
	comp=Z,21nm,1.2s					
P32M	Atlin	88.37	21	P	P	17 27 12.0 +1.2
	baz=221,SNR=7.7					
Q32M	Nakina River	88.39	22	P	P	17 27 12.5 +1.4
	baz=222,SNR=11					
K24K	Donnelly Dome	88.44	14	P	P	17 27 11.7 +0.7
	baz=210,SNR=16					
NEA2	Nenana	88.45	12	IAmb	IAmb	17 27 11.8
	comp=Z,18nm,0.7s					
NEA2	Nenana	88.45	12	P	P	17 27 10.3 -0.7
	baz=207,SNR=22					
O30N	Mendenhall	88.52	19	IAmb	IAmb	17 27 13.5
	comp=Z,26nm,0.6s					
O30N	Mendenhall	88.52	19	P	P	17 27 12.7 +1.2
	baz=219,SNR=29					
MLY	Manley	88.52	11	IAmb	IAmb	17 27 11.6
	comp=Z,23nm,0.6s					
MLY	Manley	88.52	11	P	P	17 27 10.8 -0.5
	baz=206,SNR=37					
G19K	Purcell Mounta	88.53	9	IAmb	IAmb	17 27 12.7
	comp=Z,26nm,0.8s					
G19K	Purcell Mounta	88.53	9	P	P	17 27 11.8 +0.6
	baz=200,SNR=19					
F18K	Selawik	88.64	7	P	P	17 27 11.4 -0.3
	baz=198					
HDA	Harding Lake	88.72	13	P	P	17 27 12.3 +0.1
	baz=209,SNR=50					
AHID	Auburn Hatcher	88.72	43	IAmb	IAmb	17 27 16.2
	comp=Z,17nm,0.9s					
H21K	Melozitna Rive	88.73	10	IAmb	IAmb	17 27 14.7
	comp=Z,24nm,0.8s					
H21K	Melozitna Rive	88.73	10	P	P	17 27 12.8 +0.5
	baz=204,SNR=40					
N30M	Aishikik Lake	88.75	18	IAmb	IAmb	17 27 13.8
	comp=Z,12nm,0.7s					
N30M	Aishikik Lake	88.75	18	P	P	17 27 13.3 +0.8
	baz=218,SNR=24					
L27K	Beaver Creek,	88.76	16	IAmb	IAmb	17 27 14.1
	comp=Z,67nm,1.6s					
L27K	Beaver Creek,	88.76	16	P	P	17 27 12.9 +0.5
	baz=214,SNR=32					
BCAR	Beaver Creek A	88.77	16	P	P	17 27 12.8 +0.2
WHY	Whitehorse	88.81	20	IAmb	IAmb	17 27 14.9
	comp=Z,18nm,0.8s					
WHY	Whitehorse	88.81	20	P	P	17 27 14.0 +1.1
	baz=220,SNR=19					
DLBC	Dease Lake	88.81	23	IAmb	IAmb	17 27 15.3
	comp=Z,85nm,1.9s					
DLBC	Dease Lake	88.81	23	P	P	17 27 14.2 +1.3
	baz=224,SNR=9.4					
E17K	Hotham Inlet	88.86	6	P	P	17 27 13.2 +0.4
	baz=195,SNR=5.4					
IMAR	Indian Mountai	88.88	10	P	P	17 27 12.9 0.0
I23K	Minto, Yukon-K	88.89	12	IAmb	IAmb	17 27 13.7
	comp=Z,18nm,0.7s					
I23K	Minto, Yukon-K	88.89	12	P	P	17 27 12.2 -0.7
	baz=207,SNR=24					
COLA	College	88.94	13	P	P	17 27 13.5 +0.3
COLA	College	88.94	13	P	P	17 27 12.6 -0.6
COLA	College	88.94	13	P	P	17 27 12.8 -0.4
	baz=208					
COLA	College	88.94	13	⇓iP	P	17 27 12.7 -0.4
COLA				pmax	pmax	
	comp=Z,60nm,0.8s					
SCRK	Sand Creek	89.00	14	IAmb	IAmb	17 27 16.3
	comp=Z,15nm,0.8s					
SCRK	Sand Creek	89.00	14	P	P	17 27 14.2 +0.5
	baz=212,SNR=23					
ILAR	Eielson Array	89.05	13	P	P	17 27 13.3 -0.4
	comp=Z,15nm,0.7s,baz=223,slow=5.8,SNR=129					
ILAR				PKiKP	PKiKP	17 32 08.5 -0.6
	comp=Z,0.7nm,0.4s,baz=256,slow=3.3,SNR=6.0					
	comp=Z,15nm,0.7s					
PLCA	Paso Flores	89.08	134	P	P	17 27 15.9 +1.2
	comp=Z,2.3nm,0.7s,baz=311,slow=7.5,SNR=3.6					
	comp=Z,2.3nm,0.7s					
F19K	Shaleruckik Mo	89.09	8	P	P	17 27 14.0 +0.2
	baz=199					
MSO	Missoula	89.13	38	P	P	17 27 15.3 +0.6
	baz=237					
P33M	Teslin, Yukon	89.14	21	P	P	17 27 15.3 +0.9
	baz=222,SNR=7.4					
S22A	4UR Ranch, Cre	89.14	49	IAmb	IAmb	17 27 18.1
	comp=Z,20nm,1.4s					
S22A	4UR Ranch, Cre	89.14	49	P	P	17 27 17.0 +1.8
	baz=242,SNR=10					
M29M	Somme Creek	89.14	17	P	P	17 27 15.3 +1.0
	baz=217,SNR=94					
N31M	Braeburn, Yuko	89.17	19	IAmb	IAmb	17 27 16.4
	comp=Z,32nm,0.9s					
N31M	Braeburn, Yuko	89.17	19	P	P	17 27 15.6 +1.2
	baz=219,SNR=17					
R33M	Jennings River	89.17	22	IAmb	IAmb	17 27 17.2
	comp=Z,59nm,1.6s					
R33M	Jennings River	89.17	22	P	P	17 27 16.1 +1.5
	baz=223,SNR=13					
TPAW	Teton Pass	89.18	42	IAmb	IAmb	17 27 17.9
	comp=Z,17nm,0.9s					
H22K	Ishtalitna Cre	89.19	11	P	P	17 27 14.6 +0.2
	baz=205,SNR=59					
J25K	Salcha River,	89.24	14	IAmb	IAmb	17 27 15.4
	comp=Z,21nm,0.8s					
J25K	Salcha River,	89.24	14	P	P	17 27 14.9 +0.2
	baz=211,SNR=37					
POKR	Poker Plat Res	89.24	13	IAmb	IAmb	17 27 14.7
	comp=Z,22nm,0.7s					
POKR	Poker Plat Res	89.24	13	P	P	17 27 14.3 -0.3
	baz=209,SNR=14					
O20A	White River Ci	89.30	46	P	P	17 27 16.9 +1.2
	baz=241					
E18K	Tukpahlearik C	89.31	7	IAmb	IAmb	17 27 16.4
	comp=Z,22nm,0.9s					
E18K	Tukpahlearik C	89.31	7	P	P	17 27 15.3 +0.4
	baz=197,SNR=12					
KMI	Kunming	89.32	297	⇑P	P	17 27 18.1 +1.9
KMI				pmax	pmax	
	comp=Z,26nm,0.7s					
D17K	Noatak River	89.33	6	P	P	17 27 15.7 +0.8
	baz=194					
IMW	Indian Meadow	89.40	42	IAmb	IAmb	17 27 19.0
	comp=Z,26nm,0.8s					
G21K	Allakaket	89.41	10	P	P	17 27 15.8 +0.4
	baz=203					
CRAI	Chiangrai	89.41	292	IAmb	IAmb	17 27 18.3
	comp=Z,14nm,0.9s					
H23K	Yukon River	89.46	11	P	P	17 27 15.2 -0.4
	baz=207,SNR=11					
LOHW	Long Hollow	89.46	42	IAmb	IAmb	17 27 18.9
	comp=Z,14nm,0.7s					
K27K	Chicken	89.50	15	P	P	17 27 16.9 +1.1
	baz=214					
J26L	Joseph Creek	89.55	14	P	P	17 27 16.9 +0.8
	baz=212,SNR=102					
HHC	Hu-ho-hao-te	89.55	315	eP	P	17 27 16.8 0.0
HHC				pmax	pmax	
	comp=Z,16nm,0.6s					
HHC				pmax	pmax	
	comp=Z,81nm,5.6s					
F20K	Avaraart Lake	89.57	9	P	P	17 27 16.6 +0.5
	baz=201,SNR=22					
FLWY	Flagg Ranch	89.64	42	IAmb	IAmb	17 27 20.3
	comp=Z,32nm,0.9s					
BILL	Bilibino	89.66	354	P	P	17 27 16.8 +0.3
BILL				IAmb	IAmb	17 27 19.1
	comp=Z,10nm,0.7s					
BILL	Bilibino	89.66	354	eP	P	17 27 16.5 0.0
BILL				e*PP	pP	17 29 07.5 +0.6
BILL				e*SP	sP	17 29 57.6 +0.4
BILL				e		17 30 57.1
BILL				ePPP	PPP	17 33 00.2
BILL				pmax	pmax	
	comp=Z,39nm,2.3s					
RDOG	Red Dog Mine	89.69	6	P	P	17 27 17.2 +0.6
	baz=194					
C16K	Lisburne Hills	89.70	5	P	P	17 27 16.5 -0.1
	baz=192					
BW06	Boulder Array	89.71	43	P	P	17 27 18.4 +0.8
	baz=240					
PD31	Pinedale Array	89.71	43	IAmb	IAmb	17 27 19.5
	comp=Z,12nm,0.8s					
PDAR	Pinedale Array	89.71	43	P	P	17 27 18.6 +1.0
	comp=Z,16nm,0.7s,baz=215,slow=4.4,SNR=95					
	comp=Z,16nm,0.7s					
M30M	Minto, Yukon	89.72	18	P	P	17 27 17.7 +0.8
	baz=218,SNR=53					
E19K	Redstone River	89.75	8	P	P	17 27 17.5 +0.6
	baz=200					
N32M	Quiet Lake	89.75	20	P	P	17 27 18.2 +1.0
	baz=222					
L29M	L29M	89.77	17	P	P	17 27 18.4 +1.3
	baz=217,SNR=81					
H24K	Noodor Dome	89.79	12	P	P	17 27 15.5 -1.7
	baz=208,SNR=8.7					
ODSA	Odessa	89.80	55	IAmb	IAmb	17 27 20.5
	comp=Z,22nm,1.1s					
BOZ	Bozeman (W)	89.84	40	IAmb	IAmb	17 27 20.8
	comp=Z,16nm,0.9s					
BOZ	Bozeman (W)	89.84	40	P	P	17 27 19.8 +1.7
	baz=239,SNR=22					
CM31	Chiang Mai Arr	89.98	290	IAmb	IAmb	17 27 22.0
	comp=Z,30nm,0.9s					
PRP	Porcupine Dome	89.99	13	IAmb	IAmb	17 27 20.0
	comp=Z,15nm,0.8s					
PRP	Porcupine Dome	89.99	13	P	P	17 27 17.9 -0.3
	baz=210,SNR=6.8					
F21K	Alatna River	90.06	9	IAmb	IAmb	17 29 38.0
	comp=Z,26nm,0.8s					
F21K	Alatna River	90.06	9	P	P	17 27 18.6 +0.2
	baz=203,SNR=18					
SDCO	Great Sand Dun	90.08	49	P	P	17 27 20.6 +1.0
	baz=243					
C17K	DeLong Mountai	90.08	6	P	P	17 27 18.6 +0.1
	baz=194					
G22K	Bettles	90.11	10	P	P	17 27 19.1 +0.6
	baz=205					
CHTO	Chiang Mai	90.12	290	P	P	17 27 20.5 +0.7
CHTO	Chiang Mai	90.12	290	P	P	17 27 20.5 +0.7
CHTO				pmax	pmax	
	comp=Z,139nm,1.8s					
M31M	Drury Creek, Y	90.14	19	IAmb	IAmb	17 27 20.2
	comp=Z,11nm,1.0s					
M31M	Drury Creek, Y	90.14	19	P	P	17 27 19.1 +0.2
	baz=220,SNR=6.0					
G23K	Bananza Creek	90.17	11	IAmb	IAmb	17 27 20.5
	comp=Z,19nm,1.1s					
G23K	Bananza Creek	90.17	11	P	P

DAWY	Dawson	90.21	16	P	P	17 27 20.0 +0.8
	baz=216,SNR=37					
I26K	Coal Creek Min	90.32	14	P	P	17 27 20.2 +0.6
	baz=213					
EGAK	Eagle	90.35	15	P	P	17 27 20.3 +0.6
	baz=214,SNR=57					
OZNA	Ozona	90.40	57	IAmb	IAmb	17 27 22.6
	comp=Z,9.7nm,0.8s					
MSTX	Muleshoe	90.41	54	IAmb	IAmb	17 27 23.1
	comp=Z,18nm,0.8s					
MSTX	Muleshoe	90.41	54	P	P	17 27 21.8 +0.9
	baz=245					
C18K	Utukok River	90.44	6	IAmb	IAmb	17 27 21.4
	comp=Z,26nm,1.3s					
C18K	Utukok River	90.44	6	P	P	17 27 20.2 0.0
	baz=196					
BTO	Baotou	90.47	314	eP	P	17 27 21.9 +0.9
BTO				pmax	pmax	
	comp=Z,37nm,1.4s					
BTO				pmax	pmax	
	comp=Z,330nm,8.1s					
K29M	Barlow Dome	90.52	17	IAmb	IAmb	17 27 22.7
	comp=Z,23nm,0.8s					
K29M	Barlow Dome	90.52	17	P	P	17 27 21.8 +1.0
	baz=218,SNR=36					
F22K	John River	90.53	10	P	P	17 27 21.1 +0.5
	baz=204,SNR=20					
H25L	Birch Creek	90.58	13	P	P	17 27 22.6 +1.9
	baz=210					
T25A	Trinidad	90.58	50	P	P	17 27 22.9 +1.2
	baz=244,SNR=5.8					
COLD	Coldfoot	90.60	11	P	P	17 27 21.7 +0.8
	baz=206,SNR=16					
D19K	Kuna River	90.63	7	P	P	17 27 21.1 +0.1
	baz=199					
G24K	Hadweenzic Riv	90.63	12	P	P	17 27 20.4 -0.6
	baz=209					
E20K	Nigu River	90.65	8	P	P	17 27 21.6 +0.5
	baz=201					
PZH	PanZhiHua	90.69	298	P	P	17 27 23.2 +0.8
PZH				pmax	pmax	
	comp=Z,30nm,0.7s					
PZH				pmax	pmax	
	comp=Z,130nm,3.5s					
RWWY	Rawlins	90.72	45	IAmb	IAmb	17 27 23.4
	comp=Z,39nm,1.2s					
833A	Chaparral WMA,	90.72	60	IAmb	IAmb	17 27 24.9
	comp=Z,16nm,0.9s					
833A	Chaparral WMA,	90.72	60	P	P	17 27 23.6 +1.2
	baz=246					
HBVL	Hebbronville	90.81	61	IAmb	IAmb	17 27 25.9
	comp=Z,18nm,0.8s					
J29N	Klondike Camp	90.82	16	P	P	17 27 23.3 +1.3
	baz=217					
CD2	Chengdu	90.83	303	P	P	17 27 24.3 +1.4
CD2				pmax	pmax	
	comp=Z,10.0nm,0.3s					
Q24A	Divide	90.87	48	P	P	17 27 23.8 +0.6
	baz=243					
TOAD	Toad River Com	90.91	25	P	P	17 27 24.0 +1.4
	baz=228					
I27K	Kandik River	90.93	14	P	P	17 27 22.9 +0.4
	baz=214,SNR=16					
G25K	Bearman Lake	90.95	12	P	P	17 27 23.2 +0.7
	baz=210					
POST	Post	91.00	55	IAmb	IAmb	17 27 25.4
	comp=Z,15nm,0.8s					
D20K	Etivluk River	91.02	8	P	P	17 27 23.2 +0.4
	baz=200					
C19K	Lookout Ridge	91.04	7	P	P	17 27 23.5 +0.6
	baz=198,SNR=15					
RLMT	Red Lodge	91.05	41	P	P	17 27 25.1 +1.4
	baz=241					
B18K	Kokolik River	91.07	6	P	P	17 27 23.3 +0.4
	baz=196					
E21K	Killik River	91.12	9	P	P	17 27 23.4 +0.1
	baz=203,SNR=20					
E22K	Anaktuvuk Pass	91.16	10	P	P	17 27 23.9 +0.4
	baz=205,SNR=34					
I28M	Miner Creek	91.20	15	IAmb	IAmb	17 27 25.0
	comp=Z,16nm,0.7s					
I28M	Miner Creek	91.20	15	P	P	17 27 24.1 +0.3
	baz=216,SNR=31					
N23A	Red Feather La	91.20	46	IAmb	IAmb	17 27 27.2
	comp=Z,14nm,1.0s					
N23A	Red Feather La	91.20	46	P	P	17 27 25.9 +1.3
	baz=243					
JCT	Junction City	91.26	58	IAmb	IAmb	17 27 26.7
	comp=Z,9.4nm,0.7s					
JCT	Junction City	91.26	58	P	P	17 27 25.6 +0.8
	baz=246					
F24K	Squaw Lake	91.27	11	IAmb	IAmb	17 27 25.9
	comp=Z,32nm,1.5s					
F24K	Squaw Lake	91.27	11	P	P	17 27 24.7 +0.7
	baz=208,SNR=12					
HNDO	Hondo	91.29	59	IAmb	IAmb	17 27 27.8
	comp=Z,26nm,0.8s					
SN05	Snyder 5	91.39	55	IAmb	IAmb	17 27 27.1
	comp=Z,13nm,0.7s					
J30M	Hart River	91.42	17	IAmb	IAmb	17 27 26.7
	comp=Z,38nm,1.8s					
J30M	Hart River	91.42	17	P	P	17 27 25.6 +0.7
	baz=219,SNR=12					
E23K	Chandalar	91.45	10	P	P	17 27 25.4 +0.5
	baz=207,SNR=13					
H27K	Steamboat Moun	91.47	14	P	P	17 27 25.6 +0.6
	baz=214,SNR=14					
SN07	Snyder 07	91.47	55	IAmb	IAmb	17 27 27.3
	comp=Z,8.9nm,0.8s					
RTBA	Rita Blanca	91.49	51	IAmb	IAmb	17 27 27.5
	comp=Z,12nm,1.2s					
I29M	Ogilvie Camp,	91.53	16	P	P	17 27 25.4 +0.2
	baz=217,SNR=28					
G26K	Porcupine Rive	91.58	13	P	P	17 27 26.2 +0.8
	baz=212,SNR=18					
AMTX	Amarillo	91.61	53	P	P	17 27 27.4 +0.9
	baz=245					
K22A	Casper	91.62	45	P	P	17 27 27.5 +1.1
	baz=242					
E24K	Your Creek	91.66	11	IAmb	IAmb	17 30 42.9
	comp=Z,12nm,0.9s					
E24K	Your Creek	91.66	11	P	P	17 27 26.5 +0.7
	baz=208,SNR=8.3					
C21K	Knifeblade Rid	91.67	8	P	P	17 27 26.6 +0.8
	baz=202,SNR=17					
D22K	Ayikyak River	91.71	9	P	P	17 27 26.9 +0.8
	baz=204,SNR=16					
F25K	Christian Rive	91.76	12	P	P	17 27 27.1 +0.8
	baz=210,SNR=11					
BMAR	Burnt Mountain	91.83	12	P	P	17 27 27.1 +0.5
I30M	Mount Dempster	91.92	16	IAmb	IAmb	17 27 28.6
	comp=Z,22nm,1.1s					
I30M	Mount Dempster	91.92	16	P	P	17 27 27.6 +0.4
	baz=219,SNR=28					
G27K	Doyon Strip	91.92	14	IAmb	IAmb	17 27 28.9
	comp=Z,20nm,1.8s					
G27K	Doyon Strip	91.92	14	P	P	17 27 27.5 +0.5
	baz=214,SNR=7.7					
A19K	Wainwright	91.95	6	P	P	17 27 27.4 +0.4
	baz=196					
TOLK	Toolik Lake Re	91.98	10	IAmb	IAmb	17 30 37.8
	comp=Z,11nm,0.7s					
TOLK	Toolik Lake Re	91.98	10	P	P	17 27 27.8 +0.5
	baz=207,SNR=9.8					
D23K	Nanushuk River	92.09	10	P	P	17 27 28.3 +0.6
	baz=206					
B21K	Ikpikpuk River	92.13	8	IAmb	IAmb	17 30 27.6
	comp=Z,14nm,0.7s					
B21K	Ikpikpuk River	92.13	8	P	P	17 27 28.3 +0.4
	baz=202					
F26K	Sheenjek River	92.14	12	P	P	17 27 29.0 +0.9
	baz=212,SNR=10					
APMT	Aspermont	92.16	55	IAmb	IAmb	17 27 30.3
	comp=Z,11nm,0.7s					
B20K	Meade River	92.18	7	P	P	17 27 28.7 +0.6
	baz=200,SNR=6.9					
EGMT	Eagleton	92.18	39	P	P	17 27 29.8 +1.1
	baz=240					
H29M	Whitestone	92.20	15	P	P	17 27 28.4 +0.1
	baz=217,SNR=32					
E25K	Arctic Village	92.23	12	IAmb	IAmb	17 27 30.3
	comp=Z,30nm,1.6s					
E25K	Arctic Village	92.23	12	P	P	17 27 29.1 +0.7
	baz=210,SNR=5.2					
ABTX	Abilene, Hawle	92.24	56	IAmb	IAmb	17 27 31.4
	comp=Z,47nm,1.7s					
ABTX	Abilene, Hawle	92.24	56	P	P	17 27 30.1 +0.8
	baz=246					
D24K	Happy Valley	92.56	10	IAmb	IAmb	17 27 31.6
	comp=Z,25nm,1.4s					
D24K	Happy Valley	92.56	10	P	P	17 27 30.5 +0.6
	baz=208					
YAK	Yakutsk	92.59	338	P	P	17 27 29.4 -0.7
YAK	Yakutsk	92.59	338	d iP	P	17 27 29.1 -1.0
YAK				e*PP	pP	17 29 20.7 0.0
YAK				e		17 31 18.5
YAK				eS	SKSac	17 37 13.9 -1.2
YAK				eSS	SS	17 44 17.3 -1.3
YAK				pmax	pmax	
	comp=Z,33nm,1.0s					
YAK				pmax	pmax	
	comp=N,5.0nm,1.4s					
YAK				pmax	pmax	
	comp=E,4.0nm,1.4s					
YAK				pmax	pmax	
	comp=Z,95nm,3.6s					
YAK				pmax	pmax	
	comp=N,46nm,4.9s					
YAK				pmax	pmax	
	comp=E,33nm,4.0s					
YAK				smax	smax	
	comp=N,21nm,1.9s					
YAK				smax	smax	
	comp=E,17nm,2.1s					
EPYK	Eagle Plains	92.73	16	P	P	17 27 31.1 +0.3
	baz=218,SNR=19					
TNCH	TengChong	92.81	296	P	P	17 27 33.2 +0.9
TNCH				pmax	pmax	
	comp=E,12nm,1.7s					
G29M	Pine Creek	92.84	15	IAmb	IAmb	17 27 32.5
	comp=Z,46nm,1.7s					
G29M	Pine Creek	92.84	15	P	P	17 27 31.4 +0.2
	baz=217,SNR=12					
LZH	Lanzhou	92.88	308	eP	P	17 27 33.4 +1.1
LZH				pmax	pmax	
	comp=Z,40nm,1.0s					
C23K	Itkillik River	92.89	9	P	P	17 27 32.1 +0.8
	baz=206,SNR=15					
H31M	Peel River	92.91	17	IAmb	IAmb	17 27 32.6
	comp=Z,23nm,1.9s					
H31M	Peel River	92.91	17	P	P	17 27 31.4 -0.1
	baz=220					
B22K	Teshekpuk Lake	92.95	8	IAmb	IAmb	17 27 33.2
	comp=Z,42nm,1.5s					
B22K	Teshekpuk Lake	92.95	8	P	P	17 27 31.9 +0.3
	baz=203,SNR=8.0					
F28M	Old Crow	92.98	14	P	P	17 27 32.2 +0.4
	baz=216,SNR=11					
E27K	Coleen River	93.08	13	IAmb	IAmb	17 27 34.4
	comp=Z,36nm,1.8s					
E27K	Coleen River	93.08	13	P	P	17 27 32.9 +0.5
	baz=214,SNR=7.6					
C24K	Franklin Bluff	93.09	10	P	P	17 27 33.0 +0.7
	baz=208					
D25K	Kavik River	93.13	11	IAmb	IAmb	17 27 33.4
	comp=Z,27nm,1.9s					
D25K	Kavik River	93.13	11	P	P	17 27 32.5 -0.1
	baz=210,SNR=5.2					
G30M	tAoh Zraii Nji	93.33	15	P	P	17 27 33.8 +0.3
	baz=219,SNR=23					
PLPT	Palo Pinto	93.34	56	IAmb	IAmb	17 27 36.5
	comp=Z,11nm,0.8s					
A22K	Sinclair Lake	93.37	7	P	P	17 27 33.9 +0.4
	baz=202					
A21K	Barrow	93.48	7	P	P	17 27 34.1 +0.1
	baz=200					
G31M	Satah River	93.78	16	P	P	17 27 35.8 +0.3
	baz=221,SNR=14					
E28M	Babbage River	93.86	13	IAmb	IAmb	17 27 37.3
	comp=Z,11nm,0.8s					
E28M	Babbage River	93.86	13	P	P	17 27 36.4 +0.5
	baz=216,SNR=17					
C27K	Jago River	93.87	12	P	P	17 27 36.4 +0.5
	baz=212,SNR=8.0					
RSSD	Black Hills	93.90	44	P	P	17 27 36.8 -0.1
RSSD	Black Hills	93.90	44	P	P	17 27 37.0 +0.1
	baz=244					
RSSD	Black Hills	93.90	44	P	P	17 27 36.8 -0.1
RSSD				pmax	pmax	
	comp=Z,34nm,1.3s					
C26K	Camden Bay	93.91	11	P	P	17 27 36.9 +0.9
	baz=211,SNR=15					
F30M	Barrier River	93.93	15	P	P	17 27 36.2 +0.1
	baz=219,SNR=7.4					
E29M	Blow River	94.05	14	P	P	17 27 36.8 +0.1
	baz=217,SNR=5.3					
D27M	Malcolm River	94.09	13	IAmb	IAmb	17 27 38.8
	comp=Z,35nm,1.6s					
D27M	Malcolm River	94.09	13	P	P	17 27 37.5 +0.5
	baz=215					
F31M	Tsiigehtchic	94.31	16	P	P	17 27 38.0 +0.1
	baz=221					
D28M	Stokes Point	94.62	13	P	P	17 27 39.6 +0.4
	baz=217					
INK	Inuvik	95.02	15	IAmb	IAmb	17 27 41.9
	comp=Z,24nm,1.4s					
INK	Inuvik	95.02	15	P	P	17 27 40.9 -0.1
	baz=221,SNR=6.4					
ULN	Ulaanbaatar	95.62	319	ceP	P	17 27 44.6 +0.1
ULN				pmax	pmax	
	comp=Z,20nm,2.2s					
SONM	Songino Array	96.01	319	P	P	17 27 45.6 -0.6
	comp=Z,0.8nm,0.3s,baz=103,slow=6.5,SNR=1.6					
	comp=Z,0.8nm,0.3s					
GTA	Gaotai	97.11	309	P	Pdif	17 27 51.8 +0.4
GTA				pmax	pmax	
	comp=Z,8.0nm,1.5s					
YKA	Yellowknife Ar	97.28	25	P	P	17 27 51.9 +0.6
	baz=252,slow=4.8					
A36M	Sachs Harbour	99.62	15	P	Pdif	17 28 02.6 +1.1
	baz=229					
ZSN	Zaisan	109.75	314	ePKiKP	PKiKP	17 32 46.2 -0.5
	baz=314					
ZALV	Zalesovo Beam	110.78	321	PKiKP	PKiKP	17 32 47.3 -1.1
	comp=Z,11nm,0.6s,baz=154,slow=0.7,SNR=72					
ZALV				SKP	SKPdf	17 35 36.8 +0.5
	comp=Z,1.9nm,0.7s,baz=144,slow=0.5,SNR=5.4					
NRIK	Noril'sk	111.04	338	PKiKP	PKiKP	17 32 47.5 -1.0
	comp=Z,4.6nm,0.6s,baz=64,slow=3.0,SNR=6.1					
NRIK	Noril'sk	111.04	338	c iPKiKP	PKiKP	17 32 49.0 +0.6
MK31	Makanchi Array	111.38	313	c iPKiKP	PKiKP	17 32 49.0 -0.8
MKAR	Makanchi Array	111.38	313	Pdiff	Pdif	17 28 55.3 +0.8
	comp=Z,0.6nm,0.6s,baz=87,slow=5.9,SNR=6.9					
MKAR				PKiKP	PKiKP	17 32 48.9 -1.0
	comp=Z,4.8nm,0.4s,baz=119,slow=0.6,SNR=82					
MKAR				SKP	SKPdf	17 35 38.8 +1.0
	comp=Z,1.9nm,0.9s,baz=66,slow=4.1,SNR=7.2					
MKAR				PKKPbc	PKKPbc	17 43 47.0 -0.3
	comp=Z,0.8nm,0.8s,baz=270,slow=3.6,SNR=6.4					
SHLS	Shalkode	112.85	309	ePKiKP	PKiKP	17 32 51.5 -1.3
	baz=309					
SHLS	Shalkode	112.85	309	i PKiKP	PKiKP	17 32 51.5 -1.3
UZB	Uzynbulak	113.17	309	ePKiKP	PKiKP	17 32 52.8 -0.7
	baz=309					
UZB	Uzynbulak	113.17	309	i PKiKP	PKiKP	17 32 52.8 -0.7
KPKS	Kokpek	113.45	309	ePKiKP	PKiKP	17 32 53.3 -0.7
	baz=309					
KPKS	Kokpek	113.45	309	i PKIKP	PKiKP	17 32 53.2 -0.7
ZHN	Zhinishke	113.59	309	ePKiKP	PKiKP	17 32 53.5 -0.8
	baz=309					
ZHN	Zhinishke	113.59	309	i PKIKP	PKiKP	17 32 53.5 -0.8
SATY	Saty	113.60	309	ePKiKP	PKiKP	17 32 53.7 -0.6
	baz=309					
SATY	Saty	113.60	309	i PKIKP	PKiKP	17 32 53.7 -0.6
TDK	Taldyqorghan	113.84	311	ePKiKP	PKiKP	17 32 54.1 -0.4
	baz=311					
TDK	Taldyqorghan	113.84	311	i PKIKP	PKiKP	17 32 54.1 -0.4
KURK	Kurchatov	114.23	317	P	PKPdf	17 32 54.4 -0.7
KURK	Kurchatov	114.23	317	c iPKIKP	PKPdf	17 32 54.3 -0.8
KURK				pmax	pmax	
	comp=Z,25nm,1.3s					
KURBB	Kurchatov Arra	114.28	317	PKP	PKPdf	17 32 54.2 -1.0
	comp=Z,9.6nm,0.6s,baz=97,slow=1.9,SNR=102					
KURBB				PP	PP	17 33 54.7 -5.5
	comp=Z,0.9nm,0.8s,baz=108,slow=8.9,SNR=6.7					
KURBB				SKP	SKPdf	17 35 44.3 +1.1
	comp=Z,3.8nm,0.8s,baz=98,slow=2.1,SNR=12					
MDOK	Medeo	114.60	309	ePKP	PKPdf	17 32 55.4 -0.8
	baz=309					
MDOK	Medeo	114.60	309	ePKIKP	PKPdf	17 32 55.4 -0.9
AAA	Alma-Ata	114.70	309	ePKP	PKPdf	17 32 55.7 -0.7
	baz=309					
AAA	Alma-Ata	114.70	309	ePKIKP	PKPdf	17 32 55.6 -0.7
KSH	Kashi	114.96	305	PKP	PKiKP	17 32 57.8 +0.8
AAK	Ala-Archa	116.42	308	PKiKP	PKPdf	17 32 59.0 -0.8
BTLS	Baital	116.92	311	ePKP	PKPdf	17 32 59.9 -0.6
	baz=311					
BTLS				ePP	PP	17 34 16.8 -1.9
	baz=311					
BTLS	Baital	116.92	311	ePKIKP	PKPdf	17 32 59.8 -0.6
BTLS				e		17 34 16.8
E62A	Clayton Lake	117.92	48		PKPdf	17 33 01.1 -1.2
D62A	Allapoint, All	118.26	47		PKPdf	17 33 02.2 -0.7
NEEM	North Greenlan	118.31	11	i iP	PKPdf	17 33 02.1 -0.5
VOI	Vohitsoka	118.53	229	P	PKiKP	17 33 04.8 +0.3
BVAR	Borovoye Array	119.35	320	PKP	PKPdf	17 33 04.3 -0.5
	comp=Z,42nm,0.5s,baz=118,slow=1.2,SNR=203					
BVAR				SKP	SKPdf	17 35 54.5 +1.6
	comp=Z,5.9nm,0.8s,baz=79,slow=3.2,SNR=8.5					
KKAR	Karatay Array	119.37	308	PKPdf	PKPdf	17 33 04.2 -1.0
KKAR	Karatay Array	119.37	308	PKIKP	PKPdf	17 33 04.3 -1.0
BRVK	Borovoye	119.41	320	PKPdf	PKPdf	17 33 03.8 -1.2
BRVK	Borovoye	119.41	320	P	PKPdf	17 33 04.8 -0.2
BRVK	Borovoye	119.41	320	c iPKIKP	PKPdf	17 33 04.6 -0.4
BRVK				pmax	pmax	
	comp=Z,14nm,0.5s					
UPNV	Upernavik	119.42	17	i P	PKPdf	17 33 03.3 -1.2
IUG	Iuzhnay	119.68	307	ePKP	PKPdf	17 33 05.6 -0.4
	baz=307					
IUG	Iuzhnay	119.68	307	ePKIKP	PKPdf	17 33 05.6 -0.4
BRLS	Borolday	119.86	308	ePKP	PKPdf	17 33 05.9 -0.4
	baz=308					
BRLS				ePP	PP	17 34 37.5 -1.3
	baz=308					
BRLS	Borolday	119.86	308	ePKIKP	PKPdf	17 33 05.8 -0.4
BRLS				e		17 34 37.5
KBL	Kabul	119.88	298		PKPdf	17 33 06.6 -0.1
KBL	Kabul	119.88	298	P	PKiKP	17 33 07.1 +0.2
KBL	Kabul	119.88	298	PKIKP	PKPdf	17 33 06.6 -0.1
CHM	Chimkent	120.01	307	ePKP	PKPdf	17 33 05.9 -0.7
	baz=308					
CHM	Chimkent	120.01	307	ePKIKP	PKPdf	17 33 05.8 -0.7
NUUG	Nuugaatsiaq	120.78	18	i P	PKPdf	17 33 06.3 -0.8
LMN	Caledonia Moun	121.19	48	PKPdf	PKPdf	17 33 08.2 -0.4
KBS	Kingsbay	121.99	358	ePKPdf	PKiKP	17 33 09.8 +0.3
KBS				IAmb	IAmb	17 33 10.1
	comp=Z,20nm,1.0s					
ILULI	Ilulissat	122.50	20	i P	PKPdf	17 33 09.5 -0.9
SPA0	Spitsbergen Ar	122.51	356	eP	PKPdf	17 33 10.2 -0.1
SPA0				IAmb	IAmb	17 33 10.8
	comp=Z,47nm,0.8s					
SPITS	Spitsbergen Ar	122.51	356	PKP	PKPdf	17 33 10.3 -0.1
	comp=Z,38nm,0.7s,baz=71,slow=5.4,SNR=67					
DAG	Danmarks Havn	123.44	5	i P	PKPdf	17 33 10.5 -1.6
SFJD	Kangerlussuaq	123.70	22		PKPdf	17 33 11.8 -1.0
SFJD	Kangerlussuaq	123.70	22	PKIKP	PKPdf	17 33 11.8 -1.0
SFJD	Kangerlussuaq	123.70	22	i P	PKPdf	17 33 11.8 -1.0
SUMG	Summit	123.89	14	PKPdf	PKiKP	17 33 13.9 0.0
SUMG	Summit	123.89	14	PKIKP	PKiKP	17 33 13.9 0.0
SVE	Sverdlovsk	124.33	325	ePKIKP	PKPdf	17 33 14.2 -0.1
SVE				pmax	pmax	
	comp=Z,40nm,0.7s					
NUUK	Nuuk	124.53	25	i P	PKPdf	17 33 14.3 -0.1
DY2G	Dye2	125.47	21	i P	PKPdf	17 33 15.9 -0.6
BOSA	Boshof	125.49	206	PKP	PKiKP	17 33 18.2 +0.1
	comp=Z,4.5nm,1.0s,baz=40,slow=1.8,SNR=5.4					
ARU	Arti	125.54	325	PKPdf	PKPdf	17 33 15.7 -0.9
ARU	Arti	125.54	325	i PKIKP	PKPdf	17 33 16.1 -0.5
ARU						17 35 10.8
ARU						17 39 39.4
DBG	Daneborg	125.54	7	i P	PKPdf	17 33 15.4 -0.7
ICESG	Greenland Ices	125.95	17	i P	PKPdf	17 33 15.9 -1.6
ABKAR	Akbulak array	126.31	316	PKPdf	PKPdf	17 33 17.4 -0.9
JLN	Jalan Bani Buh	126.55	282	P	PKPdf	17 33 19.6 -0.1
WBK	Wadi Bani Khal	127.03	283	P	PKPdf	17 33 20.7 +0.1
MHTO	MHTO	127.65	281	P	PKPdf	17 33 21.5 -0.2
	SNR=12					
JMDO	Jabal Madar	127.78	282	P	PKPdf	17 33 21.9 0.0
SMDO	Samad	127.94	283	P	PKPdf	17 33 22.4 +0.1
BIDO	Bidbid	127.95	284	P	PKiKP	17 33 22.9 0.0
VADS	Vadso	128.31	348	ePKPdf	PKPdf	17 33 21.5 0.0
VADS				IAmb	IAmb	17 33 22.4
	comp=Z,16nm,0.7s					
JASK	Jask - Hormozg	128.52	287	P	PKiKP	17 33 24.5 +0.5
BSY	Bisya	128.67	283	P	PKPdf	17 33 23.3 -0.3
	SNR=11					
HOQ	Hoqain	128.70	284	P	PKPdf	17 33 23.5 -0.2
SCO	Scoresbysund	128.74	10		PKiKP	17 33 22.8 -0.3
SCO	Scoresbysund	128.74	10	PKIKP	PKiKP	17 33 22.8 -0.3
SCO	Scoresbysund	128.74	10	i P	PKPdf	17 33 22.0 -0.3
HAMF	Hammerfest	128.82	351	ePKPdf	PKPdf	17 33 21.1 -1.4
HAMF				IAmb	IAmb	17 33 23.1
	comp=Z,26nm,0.8s					
GEYT	Alibeck	128.82	302	PKP	PKPdf	17 33 23.4 -0.2
	comp=Z,12nm,0.6s,baz=228,slow=1.7,SNR=26					
GEYT				SKPbc	SKiKP	17 35 59.7 -13
	comp=Z,8.6nm,0.8s,baz=202,slow=1.6,SNR=13					
LVZ	Lovozero	128.93	345		PKPdf	17 33 22.0 -0.9
LVZ	Lovozero	128.93	345	i PKIKP	PKPdf	17 33 22.8 0.0
LVZ				pmax	pmax	
	comp=Z,7.0nm,0.5s					
KEV	Kevo	129.05	349		PKPdf	17 33 22.2 -0.7
KEV	Kevo	129.05	349	PKIKP	PKPdf	17 33 22.2 -0.7
SHAO	Shalim	129.20	276	P	PKiKP	17 33 25.2 -0.4
KIRV	Kirov	129.35	330	c iPKIKP	PKPdf	17 33 23.8 0.0
ARQ	Araqi	129.38	283	P	PKPdf	17 33 24.9 -0.1
SOHO	SOHO	129.48	284	i PKiKP	PKPdf	17 33 24.5 -0.6
	SNR=36					
SOHO	SOHO	129.48	284	P	PKPdf	17 33 24.6 -0.5
APA	Apatity	129.49	345	i iPKIKP	PKPdf	17 33 22.7 -1.1
APA				i		17 35 12.3
APA				pmax	pmax	
	comp=Z,16μm,0.6s					
ARCES	ARCESS Array B	129.51	349	PKPdf	PKPdf	17 33 23.1 -0.8
ARCES	ARCESS Array B	129.51	349	PKhKP	PKPpre	17 33 12.0
	comp=Z,1.4nm,0.7s,baz=338,slow=2.9,SNR=5.2					
ARCES				PKP	PKPdf	17 33 22.9 -1.0
	comp=Z,23nm,0.5s,baz=15,slow=1.0,SNR=118					
ARCES				SKPbc	SKPbc	17 36 01.6 +2.6
	comp=Z,10nm,0.8s,baz=28,slow=5.5,SNR=12					
ARCES	ARCESS Array B	129.51	349	PKIKP	PKPdf	17 33 23.1 -0.8
DMTO	DMTO	129.76	276	P	PKPdf	17 33 25.9 +0.1
	SNR=14					
MDH	Madha	129.85	286	P	PKPdf	17 33 25.5 -0.3
UOSS	Minazif	129.89	285	PKPdf	PKPdf	17 33 24.1 -1.8
UOSS	Minazif	129.89	285	i PKPdf	PKPdf	17 33 24.8 -1.1
	SNR=6.0					
UOSS	Minazif	129.89	285	P	PKPdf	17 33 25.1 -0.8
HATD	Hatta, Dubai	129.94	285	i PKiKP	PKPdf	17 33 25.4 -0.6
	SNR=10					
HATD	Hatta, Dubai	129.94	285	P	PKPdf	17 33 25.5 -0.5
MSFE	Esma-Masafi	129.98	286	i PKiKP	PKPdf	17 33 25.8 -0.3
	SNR=6.2					
MASF	Masafi	129.98	286	P	PKPdf	17 33 26.4 +0.2
ASHO	Ashiyiah	129.99	285	i PKiKP	PKPdf	17 33 25.5 -0.7
	SNR=19					

KLMR e 17 36 09.9
KLMR pmax pmax
comp=Z,22nm,0.7s
LOF Lofoten 132.45 354 *e*PKPdf **PKiKP 17 33 30.1 -0.5**
STEI Steigen 132.47 353 *e*PKPdf **PKPdf 17 33 29.2 -0.3**
STEI IAmb IAmb 17 33 30.4
comp=Z,21nm,1.0s
BELG Belogornoye 132.91 323 *i* PKIKP **PKPdf 17 33 29.6 -1.1**
JRN Qarnain Island 132.91 285 P **PKPdf 17 33 30.4 -1.1**
FAUS Fauske 132.99 353 *e*PKPdf **PKPdf 17 33 30.0 -0.5**
FAUS IAmb IAmb 17 33 31.3
comp=Z,7.9nm,0.8s
JOF Joensuu 133.65 342 *e*P **PKPdf 17 33 31.6 -0.2**
SLWR Sila 133.86 283 P **PKiKP 17 33 34.8 0.0**
KONS Konsvik 134.08 354 *e*PKPdf **PKPdf 17 33 33.1 +0.6**
MOR8 Moi Rana 134.25 353 *e*PKPdf **PKPdf 17 33 31.8 -1.1**
MOR8 IAmb IAmb 17 33 34.0
comp=Z,6.1nm,0.7s
STOK Stokkvaagen 134.25 354 *e*PKPdf **PKPdf 17 33 32.4 -0.4**
STOK IAmb IAmb 17 33 33.2
comp=Z,20nm,0.6s
TRNA Turayna 134.37 284 P **PKiKP 17 33 35.2 -0.6**
SHMA Al-Shehemyia 134.70 286 P **PKPdf 17 33 35.1 +0.2**
SMRA Abu-Samra 134.72 284 P **PKiKP 17 33 35.8 -0.7**
VALR Valaam 134.98 341 *i* PKIKP **PKPdf 17 33 33.9 -0.4**
SAKB Bahrain 135.09 286 P **PKPdf 17 33 36.0 +0.4**
VAF Ylistaro 135.77 346 *e*P **PKPdf 17 33 34.8 -1.0**
KEF Keuruu 136.01 345 *e*P **PKPdf 17 33 36.0 -0.2**
MAK Makhachkala 136.10 311 *e*P **Pdif 17 30 38.3 -6.2**
MAK *i* 17 33 36.4
MAK *e* 17 36 21.7
MAK *e* 17 36 25.2
MAK *e*PPP PPP 17 39 27.3
MAK *e* 17 39 59.2
MAK *e*SS SS 17 53 42.6 -1.9
MAK *e*SSS SSS 17 58 57.4
MAK pmax pmax
comp=Z,25nm,0.3s
MOS Moscow 136.30 331 *i* PKIKP **PKPdf 17 33 35.2 -1.8**
MOS *e* 17 36 22.3
MOS pmax pmax
comp=Z,31nm,0.6s
FINES FINESS Array B 136.31 343 PKhKP PKPpre 17 33 25.4
comp=Z,2.8nm,0.4s,baz=64,slow=4.8,SNR=17
FINES PKP **PKPdf 17 33 36.2 -0.6**
comp=Z,13nm,0.6s,baz=30,slow=3.7,SNR=22
FINES SKPbc **SKPbc 17 36 24.0 +2.0**
comp=Z,31nm,0.7s,baz=54,slow=3.3,SNR=37
VRH Novokhopyorsk 136.72 324 *e*PKIKP **PKPdf 17 33 37.5 -0.4**
VRH pmax pmax
comp=Z,61nm,0.6s
OBN Obninsk 137.16 331 PKPdf **PKPdf 17 33 38.5 -0.1**
OBN Obninsk 137.16 331 *e*PKIKP **PKPdf 17 33 38.4 -0.1**
OBN *e* 17 35 36.5
OBN *e* 17 36 26.5
OBN pmax pmax
comp=Z,12nm,0.7s
KIBK Kibwezi 137.35 241 P **PKPdf 17 33 41.3 +1.0**
LPSR Galich'ya Gora 137.49 327 *e*PKIKP **PKPdf 17 33 37.8 -1.5**
LPSR *e* 17 36 25.9
LPSR pmax pmax
comp=Z,30nm,0.9s
KBD Kabd 137.74 290 P **PKPdf 17 33 40.2 -0.3**
MEF Metsahovi 137.79 343 *e*P **PKPdf 17 33 37.4 -2.2**
VORR Voronezh 137.85 326 *e*PKIKP **PKPdf 17 33 40.0 +0.1**
VORR pmax pmax
comp=Z,28nm,0.3s
ARBE Arbavere 137.99 342 *e*P **PKiKP 17 33 41.7 -0.4**
VSR Storozhevoye 138.11 325 *e*PKIKP **PKPdf 17 33 38.3 -2.1**
VSR *e* 17 36 26.4
VSR pmax pmax
comp=Z,10,0nm,0.4s
VORD Divnogorie 138.17 325 *e*PKIKP **PKPdf 17 33 37.8 -2.7**
VORD *e* 17 36 26.8
VORD pmax pmax
comp=Z,20nm,0.6s
DOMB Dombas 138.83 355 *e*PKPdf **PKPdf 17 33 34.3 -7.2**
DOMB IAmb IAmb 17 33 42.0
comp=Z,22nm,1.3s
KBZ Khabaz 139.08 313 PKP **PKPdf 17 33 42.0 -0.4**
comp=Z,2.9nm,0.7s,baz=340,slow=2.8,SNR=4.3
MTSE Matsula 139.22 342 *e*P **PKPdf 17 33 35.0 -7.2**
SHA1 Shidzhatmaz 139.24 313 *c* *i*PKIKP **PKPdf 17 33 44.0 +0.9**
RAYN Ar Rayn 139.44 282 P **PKPdf 17 33 44.4 +0.6**
FOO Floro 139.53 357 *e* **PKPdf 17 33 35.8 -6.9**
FOO *e*PKPdf **sPdif 17 33 42.7 +2.0**
NB2 NORSAR Subarra 139.60 353 PKP PKPdf 17 33 35.0 -7.9
comp=Z,2.7nm,0.5s,baz=10,slow=3.2
NB2 SKPa **SKPbc 17 36 32.9 +1.5**
comp=Z,17nm,0.9s,baz=11,slow=2.9
NB2 NORSAR Subarra 139.60 353 PKPab PKPdf 17 33 35.0 -7.9
baz=10,slow=3.2
NOA NORSAR Array B 139.60 353 PKhKP PKPpre 17 33 34.8
comp=Z,7.0nm,0.6s,baz=8.0,slow=2.3,SNR=46
NOA SKPbc **SKiKP 17 36 33.5 -0.6**
comp=Z,5.8nm,0.8s,baz=15,slow=4.4,SNR=13
UPP Uppsala 139.70 348 *e*P PKPdf 17 33 35.0 -8.0
NC602 NORSAR Array S 139.85 352 *e*PKPdf **PKPdf 17 33 37.3 -6.0**
NC602 IAmb IAmb 17 33 38.3
comp=Z,9.8nm,0.7s
HFS Hagfors 140.14 351 PKhKP PKPpre 17 33 36.5
comp=Z,14nm,0.5s,baz=72,slow=4.8,SNR=106
HFS SKPbc **SKPbc 17 36 33.8 +1.0**
comp=Z,11nm,0.8s,baz=11,slow=3.0,SNR=13
SKAR Skarslia 140.24 355 *e* **PKPdf 17 33 37.5 -6.7**
KONO Kongsberg 141.14 354 PKPpre 17 33 39.8
KONO Kongsberg 141.14 354 *e*P **PKPdf 17 33 40.2 -5.5**
KONO *i* 17 33 45.9
KONO Kongsberg 141.14 354 PKHKP PKPpre 17 33 39.8
VIKU Vikbolandet 141.14 347 *e*P **PKPdf 17 33 40.0 -5.7**
IIGN Ignalina 141.20 338 *e*P **PKPdf 17 33 42.3 -3.6**
MNK Minsk 141.24 336 *i* PKIKP **PKPdf 17 33 45.4 -0.6**
MNK *i* 17 35 43.6
MNK *i* 17 36 31.7
MNK *i* 17 36 53.7
MNK *i* PPP PPP 17 40 05.3
MNK *i* 17 40 07.4
MNK *i* 17 49 30.1
MNK *i* SS SS 17 54 43.1 +0.4
MNK *i* SSS SSS 18 00 08.1
MNK MLR MLR
comp=N,32nm,13.0s
MNK MLR MLR
comp=Z,32nm,12.0s
MNK MLR MLR
comp=E,56nm,14.0s
GURO Guroymak-BITLI 141.25 306 **PKPdf 17 33 42.4 -4.4**
BLS5 Blasjo 141.63 356 *e*PKPdf **PKPdf 17 33 42.5 -4.1**
PABE Paberze 141.84 339 *e*P **PKPdf 17 33 43.0 -4.0**
PBUR Paburge 142.04 342 *e*P **PKPdf 17 33 43.6 -3.7**
BIGH Upper Bighouse 142.51 5 *e*P **PKPdf 17 33 43.8 -4.3**
LEWI Lewis, Hebride 142.56 7 *e*P **PKPdf 17 33 45.2 -3.1**
HOMB Homborsund 142.60 354 *e*PKPdf **PKPdf 17 33 46.1 -2.2**
SNART Snartemo 142.65 355 *e*PKPdf **PKPdf 17 33 45.8 -2.6**
LODK Lodwar 142.73 246 PKPdf **PKPdf 17 33 47.0 -3.0**
LODK Lodwar 142.73 246 P **PKPdf 17 33 48.2 -1.8**
LINV Loch Inver, As 142.74 6 *e*P **PKPdf 17 33 44.2 -4.3**
SUW Suwalki 143.33 339 *e*PKP PKPab 17 33 47.7 +0.1
SUW Suwalki 143.33 339 *e*P PKPab 17 33 46.6 -1.0
AKASG Malin Array Be 143.41 330 PKPab 17 33 46.9 -1.2
AKASG Malin Array Be 143.41 330 PKhKP PKPpre 17 33 47.2
comp=E,37nm,0.5s,baz=42,slow=4.3,SNR=57
AKASG SKPbc **SKiKP 17 36 43.3 +1.1**
comp=E,30nm,1.1s,baz=42,slow=2.3,SNR=13
AKASG Malin Array Be 143.41 330 PKHKP PKPpre 17 33 46.9
KIEV Kiev 143.42 330 ⇓P PKPab 17 33 47.2 -0.9
KIEV Kiev 143.42 330 PKPdf PKPab 17 33 46.7 -1.4
KIEV Kiev 143.42 330 PKPab PKPab 17 33 47.7 -0.5
KIEV Kiev 143.42 330 PKHKP PKPpre 17 33 46.7
MCD Coleburn Disti 143.46 4 *e*P PKPab 17 33 46.9 -1.2
KPL Plockton 143.49 7 *e*P PKPab 17 33 47.6 -0.6
DEL Delary 143.59 349 *e*P PKPab 17 33 46.9 -1.7
DRUM Mains of Drumt 144.18 4 *e*P PKPbc 17 33 49.7 -0.9
MBAR Mbarara 144.23 236 P **PKPdf 17 33 53.6 +0.8**
MBAR Mbarara 144.23 236 *c* *i*PKIKP **PKPdf 17 33 53.1 +0.3**
MBAR pmax pmax
comp=Z,115nm,1.3s
SIM Simferopol' 144.26 319 *i* PKIKP **PKPdf 17 33 51.7 +0.1**
SIM pmax pmax
comp=Z,309nm,1.3s
MUD Monsted U'grnd 144.32 353 *i* P PKPbc 17 33 50.3 -0.7
INVG Invergeldie, C 144.54 5 *e*P PKPbc 17 33 50.6 -1.2
LAWE Loch Awe, Argy 144.57 7 *e*P **PKPdf 17 33 51.2 -0.5**

COP Copenhagen 144.59 349 *i* P **PKPdf 17 33 51.3 -0.5**
BSD Bornholm Skovb 144.66 347 *e*P **PKPdf 17 33 51.0 -1.0**
BSD Bornholm Skovb 144.66 347 *i* P **PKPdf 17 33 51.1 -0.8**
DIKM Dikmen 145.08 313 ⇓P **PKPdf 17 33 52.2 -0.9**
PGBU Glenifferbraes 145.11 6 *e*P **PKPdf 17 33 51.4 -1.4**
ESY Stoneypath 145.16 4 *e*P **PKPdf 17 33 52.5 -0.3**
SORM Soroca 145.57 328 ⇑P **PKPbc 17 33 54.6 -0.5**
CLGH Cloghs, Cushen 145.65 8 *e*P **PKPbc 17 33 55.0 -0.1**
EKA Eskdalemuir Ar 145.70 5 PKPbc **PKPdf 17 33 53.9 +0.1**
comp=Z,31nm,0.8s,baz=348,slow=3.0,SNR=63
EKA SKPbc **SKiKP 17 36 47.1 +0.3**
comp=Z,1.1nm,0.6s,baz=308,slow=2.3,SNR=2.5
ESK Eskdalemuir 145.72 5 **PKPbc 17 33 54.6 -0.7**
ESK Eskdalemuir 145.72 5 PKIKP **PKPbc 17 33 54.6 -0.7**
BZK Bozkurt 145.78 315 ⇑P **PKPbc 17 33 56.6 +0.7**
GKP Gorka Klasztor 145.78 343 *e*PKP **PKPbc 17 33 55.6 +0.1**
GKP Gorka Klasztor 145.78 343 *e*P **PKPbc 17 33 55.8 +0.3**
PURM Purcari 145.82 324 ⇑P **PKPbc 17 33 56.5 +0.6**
NEWG New Galloway 145.82 6 *e*P **PKPdf 17 33 54.5 +0.6**
BEL Belsk 145.94 339 *e*PKP **PKPbc 17 33 56.8 +0.7**
KIS Kishinev 146.08 326 ⇓*i*PKP **PKPbc 17 33 56.0 -0.6**
comp=Z,50nm,2.0s
KIS Kishinev 146.08 326 *d* *i*PKIKP **PKPbc 17 33 56.0 -0.6**
KIS pmax pmax
comp=Z,50nm,2.0s
MILM Milestii Mici 146.14 326 ⇑P **PKPdf 17 33 54.9 +0.2**
MILM Milestii Mici 146.14 326 *e*PKHKP **PKPdf 17 33 54.0 -0.8**
MILM Milestii Mici 146.14 326 *i* PKiKP **PKPbc 17 33 56.0 -0.7**
MILM Milestii Mici 146.14 326 PKPM 17 33 57.0
comp=Z,260nm,1.1s
MILM Milestii Mici 146.14 326 *i* PKIKP **PKPdf 17 33 54.0 -0.8**
MILM *i* 17 33 56.0
MILM *e* 17 35 49.0
MILM pmax pmax
comp=Z,260nm,1.1s
EDMD Edmundbyers 146.28 4 *e*P **PKPbc 17 33 56.4 -0.5**
LVV L'vov 146.34 334 *e*PKP2 **PKPbc 17 33 57.1 -0.1**
DRBR Darabani 146.37 329 ⇑P **PKPbc 17 33 57.2 -0.2**
KESW Keswick, Cumbr 146.45 5 *e*P **PKPdf 17 33 55.6 +0.6**
SLPK Sellapark 146.57 5 *e*P **PKPbc 17 33 56.8 -0.8**
BSEG Bad Segeberg 146.62 351 *e*PKPbc 17 33 58.4
baz=19,slow=2.4
IOMK Kirk Michael 146.63 7 *e*P **PKPdf 17 33 56.5 +1.1**
HLG Helgoland 146.69 353 *e*PKPbc 17 33 58.7
baz=19,slow=2.4
WIM Isle of Man 146.73 7 *e*P **PKPdf 17 33 54.9 -0.7**
BR131 Keskin Array S 147.00 311 PKPdf **PKPdf 17 33 55.8 -0.9**
BR131 Keskin Array S 147.00 311 PKIKP **PKPdf 17 33 55.8 -0.9**
BRTR Keskin Array B 147.00 311 PKPdf **PKPdf 17 33 55.0 -1.7**
BRTR Keskin Array B 147.00 311 PKP **PKPdf 17 33 55.6 -1.0**
comp=Z,22nm,0.6s,baz=115,slow=2.1,SNR=45
BRTR PKPbc **PKPbc 17 33 59.4 -0.2**
comp=Z,22nm,0.6s,baz=142,slow=2.9,SNR=84
BRTR SKPbc **SKiKP 17 36 51.5 +1.3**
comp=Z,3.6nm,0.9s,baz=119,slow=2.4,SNR=3.9
BRTR Keskin Array B 147.00 311 PKHKP PKPpre 17 33 55.0
HWQ Hawqa 147.07 301 *e*P **PKPbc 17 34 00.0 +0.1**
HPK Haverah Park 147.18 4 *e*P **PKPbc 17 33 59.3 0.0**
BIR Birlad 147.18 326 ⇑P **PKiKP 17 34 00.8 -0.6**
BIR Birlad 147.18 326 ⇑PKP2 **PKiKP 17 34 00.8 -0.6**
VLDR Vladesti 147.22 325 ⇓P **PKPbc 17 34 00.4 +0.7**
TLCR 147.23 323 ⇓P **PKPbc 17 34 00.0 +0.3**
TLCR 147.23 323 ⇓PKP2 **PKPbc 17 34 00.0 +0.3**
RUE Ruedersdorf 147.36 346 *e*P **PKPbc 17 34 00.5 +0.7**
RUE Ruedersdorf 147.36 346 *e*PKPbc 17 34 00.3
baz=19,slow=2.4
GORT1 Trebel 147.37 349 *e*PKPbc 17 34 00.5
baz=19,slow=2.4
SCTR Scanteiesti 147.37 325 ⇑P **PKiKP 17 34 01.2 -0.6**
TATR Tatarca 147.39 325 ⇑P **PKPbc 17 33 59.6 -0.5**
BHL Bhannes 147.40 300 *e*P **PKPbc 17 34 01.2 +0.4**
GHRR 147.43 326 ⇑P **PKiKP 17 34 01.7 -0.3**
BURAR Bucovina Array 147.45 330 ⇑P **PKPdf 17 33 58.0 +0.9**
BURAR Bucovina Array 147.45 330 PKPdf **PKPdf 17 33 56.7 -0.4**
WPS Cemaes, Angles 147.49 7 *e*P **PKPdf 17 33 54.6 -2.2**
WME Myndd Eilian 147.51 7 *e*P **PKPdf 17 33 56.6 -0.2**
NEGRR Negrea 147.52 325 ⇓P **PKiKP 17 34 01.4 -0.8**
TESR Tescani 147.52 327 ⇓P **PKPbc 17 34 00.8 +0.3**
ANTO Ankara 147.53 312 ⇑P **PKPbc 17 34 00.8 0.0**
ANTO Ankara 147.53 312 **PKPdf 17 33 56.7 -0.8**
ANTO Ankara 147.53 312 P **PKPdf 17 33 57.1 -0.3**
ANTO Ankara 147.53 312 PKIKP **PKPdf 17 33 56.7 -0.8**
SLCR Slobozia Conac 147.54 325 ⇑P **PKiKP 17 34 01.6 -0.6**
SCHL Schela 147.57 325 ⇑P **PKPbc 17 33 59.7 -0.9**
IZVR Izvoarele 147.58 325 ⇑P **PKPbc 17 34 00.2 -0.5**
SCHLR Schela 147.59 325 ⇑P **PKPbc 17 34 01.4 +0.7**
TUDR 147.60 325 ⇓P **PKiKP 17 34 02.1 -0.2**
CFR Carcaliu 147.61 324 ⇑P **PKPdf 17 33 55.3 -2.0**
WLF1 Llynfaes 147.61 7 *e*P **PKPdf 17 33 58.6 +1.6**
OJC Ojcow 147.64 338 *e*PKP **PKPbc 17 34 00.8 +0.1**
TPGR Topolog 147.65 323 ⇓P **PKPbc 17 34 01.5 +0.5**
LBWR Ladybower, Pea 147.72 4 *e*P **PKPbc 17 34 00.9 +0.1**
KOLS Kolonicke sedl 147.75 334 *e*PKIKP **PKPdf 17 33 58.7 +1.3**
KOLS *e* 17 34 02.0
KOLS Kolonicke sedl 147.75 334 *e*PKP **PKPdf 17 33 58.7 +1.3**
KOLS *e* 17 34 02.0
STHS Stebnicka Huta 147.77 336 *e*PKP2 **PKPbc 17 34 00.8 -0.3**
STHS Stebnicka Huta 147.77 336 *e*PKP **PKPbc 17 34 00.8 -0.3**
YLL Llanberis 147.78 7 *e*P **PKPbc 17 34 00.6 -0.3**
MMAI Mount Meron Ar 147.81 299 PKPbc **PKPbc 17 34 02.5 +0.7**
comp=Z,46nm,0.5s,baz=64,slow=5.7,SNR=121
TIRR Tirgusor 147.90 323 ⇑P **PKiKP 17 34 02.7 -0.3**
TIRR Tirgusor 147.90 323 ⇑PKP2 **PKiKP 17 34 02.7 -0.3**
VRI Vrincioaia 147.92 326 ⇓P **PKPbc 17 34 01.7 +0.1**
VRI Vrincioaia 147.92 326 ⇓PKP2 **PKPbc 17 34 01.7 +0.1**
RETH Rethem/Aller, 147.92 351 *e*PKPbc 17 34 01.8
baz=19,slow=2.4
PLOR Plostina 147.97 326 ⇑P **PKPbc 17 34 01.2 -0.5**
PLOR Plostina 147.97 326 ⇑PKP2 **PKPbc 17 34 01.2 -0.5**
FLTG Flechtingen 148.01 349 *e*PKPbc 17 34 01.8
baz=19,slow=2.4
HARR Harsova 148.03 323 ⇑P **PKiKP 17 34 02.6 -0.6**
HARR Harsova 148.03 323 ⇑PKP2 **PKiKP 17 34 02.6 -0.6**
NRDL Niedersach Rie 148.05 350 *e*PKPbc 17 34 02.0
baz=19,slow=2.4
TLBR Topalu 148.05 323 ⇑P **PKiKP 17 34 02.7 -0.5**
MFTR Murfatlar 148.06 322 ⇑P **PKiKP 17 34 02.9 -0.4**
CRVS Cervenica-Dubn 148.10 335 *e*PKP2 **PKiKP 17 34 02.9 -0.4**
CRVS Cervenica-Dubn 148.10 335 *e*PKP **PKiKP 17 34 02.9 -0.4**
FOEL Foel Wylfa 148.12 6 *e*P **PKPdf 17 33 57.9 0.0**
NIE Niedzica 148.13 337 *e*PKP **PKiKP 17 34 03.4 +0.1**
BISRR Bisoca 148.14 326 ⇓P **PKiKP 17 34 02.9 -0.6**
TURR Turia 148.16 327 ⇓P **PKiKP 17 34 02.9 -0.6**
MANR Mangalia 148.18 321 ⇑P **PKiKP 17 34 03.3 -0.2**
BMR Baia Mare 148.20 331 ⇓P **PKiKP 17 34 02.9 -0.6**
BMR Baia Mare 148.20 331 ⇓PKP2 **PKiKP 17 34 02.9 -0.6**
COVR Voineasa-Covas 148.20 326 ⇑P **PKPdf 17 34 00.0 +1.7**
ARCR ARCALIA 148.24 330 ⇑P **PKiKP 17 34 03.5 -0.2**
OZUR 148.25 327 ⇓P **PKiKP 17 34 03.2 -0.5**
BOSR Bodos 148.32 327 ⇓P **PKiKP 17 34 03.7 -0.1**
CWF Charnwood Fore 148.41 3 *e*P **PKPbc 17 34 02.0 -0.5**
NEHR Nehoiu 148.44 326 ⇑P **PKPbc 17 34 03.4 +0.4**
OSTC Ostas 148.49 342 ⇑*e*PKP **PKiKP 17 34 03.8 -0.2**
OSTC Ostas 148.49 342 *e*PKP2 **PKiKP 17 34 03.8 -0.2**
ISR Istrita 148.51 325 ⇑P **PKPbc 17 34 02.8 -0.4**
ISR Istrita 148.51 325 ⇑PKP2 **PKPbc 17 34 02.8 -0.4**
CHVC Chvalec 148.51 342 ⇑*e*PKP **PKiKP 17 34 03.6 -0.5**
CHVC Chvalec 148.51 342 *e*PKP2 **PKiKP 17 34 03.6 -0.5**
HLM1 Long Mynd 148.52 5 *e*P **PKPdf 17 33 58.5 -0.1**
OKC Ostrava-Krasne 148.53 339 *e*PKP **PKiKP 17 34 03.6 -0.5**
OKC Ostrava-Krasne 148.53 339 *e*PKP2 **PKiKP 17 34 03.6 -0.5**
DOPR Dopca 148.53 327 ⇓P **PKPdf 17 33 59.6 +0.8**
PSN Preselentsi 148.55 322 *e*P **PKPbc 17 34 03.5 +0.3**
IBBN Ibbenburen 148.56 353 *e*PKPbc 17 34 03.5
baz=19,slow=2.4
IBBN *e*PKPab 17 34 07.9
baz=15,slow=4.3
MLR Muntele Rosu 148.58 326 ⇑P **PKPdf 17 33 59.2 +0.2**
UPC Upice 148.60 342 ⇑*e*PKP **PKiKP 17 34 03.7 -0.5**
UPC Upice 148.60 342 *e*PKP2 **PKiKP 17 34 03.7 -0.5**
CLL Collm 148.62 346 *e*PKPdf **PKPdf 17 33 59.0 +0.3**
comp=Z,16nm,1.2s
CLL ⇓*i*PKPbc **PKPbc 17 34 03.5 +0.4**
comp=Z,99nm,0.7s
CLL ⇑*i*PKPab **PKPab 17 34 08.7 +0.1**
comp=Z,46nm,0.8s
CLL *e*x x 17 36 07.0
CLL *i* x x 17 36 13.7
CLL *e*SKPbc **SKiKP 17 36 55.0 +2.1**
CLL Collm 148.62 346 *e*PKPbc 17 34 03.6
baz=19,slow=2.4
CLZ Clausthal 148.63 350 *e*PKPbc 17 34 03.9
baz=19,slow=2.4
DPC Dobruska-Polom 148.65 342 ⇑*e*PKP **PKiKP 17 34 04.3 -0.1**
DPC Dobruska-Polom 148.65 342 *e*PKP2 **PKiKP 17 34 04.3 -0.1**
LANS Liptovska Anna 148.66 337 *e*PKP2 **PKiKP 17 34 04.9 +0.5**
LANS Liptovska Anna 148.66 337 *e*PKP **PKiKP 17 34 04.9 +0.5**
LANS *e* 17 34 10.9
KRLC Kraliky 148.75 341 ⇑*e*PKP **PKiKP 17 34 04.1 -0.5**
KRLC Kraliky 148.75 341 *e*PKP2 **PKiKP 17 34 04.1 -0.5**
MORC Moravsky Berou 148.78 340 ⇑P **PKPbc 17 34 03.7 +0.1**
MORC Moravsky Berou 148.78 340 *e*PKP **PKPbc 17 34 04.1 +0.5**
MORC Moravsky Berou 148.78 340 ⇑PKP2 **PKPbc 17 34 03.7 +0.1**
BRG Berggiesshubel 148.81 345 ⇓*i*PKPf **PKPdf 17 33 59.6 +0.5**
BRG Amp 17 34 01.4
comp=Z,20nm,1.3s
BRG ⇑PKP **PKiKP 17 34 04.2 -0.4**
BRG Amp 17 34 06.0
comp=Z,42nm,0.7s
BRG PKPab **PKPab 17 34 09.9 +0.5**
BRG Amp 17 34 10.5
comp=Z,19nm,0.8s
BRG Berggiesshubel 148.81 345 *i* PKHKP **PKPdf 17 33 59.5 +0.5**
BRG pmax pmax
comp=Z,20nm,1.3s
BRG Berggiesshubel 148.81 345 *e*PKPbc 17 34 04.2
baz=19,slow=2.4
KECS Kecovo 148.82 335 *e*PKP2 **PKiKP 17 34 04.9 +0.1**
KECS Kecovo 148.82 335 *e*PKP **PKiKP 17 34 04.8 0.0**
MESR Meseseni 148.84 331 ⇑P **PKiKP 17 34 04.4 -0.4**
CJR Cluj-Napoca 148.87 330 ⇓P **PKPbc 17 34 04.1 +0.1**
CJR Cluj-Napoca 148.87 330 ⇓PKP2 **PKPbc 17 34 04.1 +0.1**
RSBS Rosebush, Pemb 148.88 8 *e*P **PKPbc 17 34 03.0 -0.7**
SULR 148.95 325 ⇓P **PKiKP 17 34 04.9 -0.2**
CSS Mathiatis 148.96 303 PKPdf **PKPdf 17 33 59.2 -0.7**
PVCC Panska Ves 148.97 344 ⇑*e*PKP **PKiKP 17 34 04.9 -0.1**
PVCC Panska Ves 148.97 344 *e*PKP2 **PKiKP 17 34 04.9 -0.1**
NEUB Neuenburg 148.98 348 *e*PKPbc 17 34 04.6
baz=19,slow=2.4
GTTG Gottingen 148.99 350 *e*PKPbc 17 34 04.7
baz=19,slow=2.4
MCH1 Michaelchurch 149.03 6 *e*P **PKPdf 17 33 59.3 -0.1**
VOIR 149.07 327 ⇑P **PKPbc 17 34 05.0 +0.4**
VOIR 149.07 327 ⇑PKP2 **PKPbc 17 34 05.0 +0.4**
RICC Richard 149.07 344 ⇑*e*PKP **PKiKP 17 34 05.2 0.0**
MARR Marisel-Cluj 149.12 331 ⇑P **PKPbc 17 34 04.8 +0.2**
HSKC Hora Svate Kat 149.18 345 ⇑*e*PKP **PKiKP 17 34 05.0 -0.5**
MONM Monmouth 149.20 5 *e*P **PKPdf 17 34 00.2 +0.6**
DRGR 149.22 331 ⇑P **PKiKP 17 34 05.5 -0.2**
DRGR 149.22 331 ⇑PKP2 **PKiKP 17 34 05.5 -0.2**
PRD Provadia 149.26 321 *e*P **PKiKP 17 34 05.6 -0.2**
STRD Stroud 149.31 5 *e*P **PKPbc 17 34 02.4 -2.3**
ARR Arges 149.33 327 ⇑P **PKiKP 17 34 06.5 +0.5**
PRA Prague 149.42 344 ⇑*e*PKP **PKiKP 17 34 05.8 -0.1**
PRA Prague 149.42 344 *e*PKP2 **PKiKP 17 34 05.8 -0.1**
VYHS Vyhne 149.43 337 *e*PKHKP **PKPdf 17 34 00.2 0.0**
VYHS *e* 17 34 13.0
VYHS Vyhne 149.43 337 *e*PKP **PKPdf 17 34 00.2 0.0**
VYHS *e* 17 34 05.8
VYHS *e* 17 34 13.0
BUG Bochum--Univer 149.47 353 *e*PKPbc 17 34 05.5
baz=19,slow=2.4
PRU Pruhonice 149.47 343 ⇑*e*PKP **PKiKP 17 34 05.7 -0.3**
PRU Pruhonice 149.47 343 *e*PKHKP **PKiKP 17 34 05.7 -0.3**
GOPC GO Pecny, Ondr 149.47 343 ⇑*e*PKP **PKiKP 17 34 05.8 -0.3**
GOPC GO Pecny, Ondr 149.47 343 *e*PKHKP **PKiKP 17 34 05.8 -0.3**
VRAC Vranov 149.49 341 ⇓P **PKiKP 17 34 06.0 -0.1**
VRAC Vranov 149.49 341 *e*PKP **PKPbc 17 34 05.7 +0.4**
VRAC *e* 17 34 13.0
VRAC Vranov 149.49 341 ⇓PKHKP **PKiKP 17 34 06.0 -0.1**
PSZ Piszkesteto 149.51 335 ⇓P **PKPbc 17 34 05.8 +0.3**
PSZ Piszkesteto 149.51 335 ⇓PKHKP **PKPbc 17 34 05.8 +0.3**
JAVC Velka Javorina 149.53 339 *e*PKP **PKiKP 17 34 07.1 +0.8**
MOX Moxa 149.55 347 *e*PKPbc 17 34 05.9
baz=19,slow=2.4
KASTN Kahler Asten 149.56 352 *e*PKPbc 17 34 06.0
baz=19,slow=2.4
TANN Tannenbergstha 149.58 346 *e*PKPbc 17 34 06.2
baz=19,slow=2.4
UBBA Unterbreizbach 149.68 349 *e*PKPbc 17 34 06.1
baz=19,slow=2.4
LOT Lotru 149.71 328 ⇑P **PKPbc 17 34 06.0 -0.1**
HUMR Humele 149.73 326 ⇑P **PKPbc 17 34 05.9 -0.1**
KRUC Moravsky 149.77 341 *e*PKP **PKPbc 17 34 06.1 +0.1**
KRUC *e* 17 34 13.4
DEV Deva 149.81 330 ⇑P **PKPbc 17 34 06.3 +0.1**
DEV Deva 149.81 330 ⇑PKHKP **PKPbc 17 34 06.3 +0.1**
TREC Trest 149.83 342 ⇑*e*PKP **PKiKP 17 34 06.6 -0.2**
TREC Trest 149.83 342 *e*PKHKP **PKiKP 17 34 06.6 -0.2**
WOL Wolverton 149.84 4 *e*P **PKPbc 17 34 05.5 -0.5**
HTL Hartland 149.85 8 *e*P **PKPdf 17 34 00.7 0.0**
SMOL Smolenice 149.91 339 *e*PKP2 **PKiKP 17 34 07.7 +0.7**
SZH Strazhitsa 150.02 323 *e*P **PKPbc 17 34 06.9 +0.1**
MANZ Manzenberg 150.06 346 *e*PKPbc 17 34 07.3
baz=19,slow=2.4
ZVC Zvikov 150.06 343 ⇑*e*PKP **PKiKP 17 34 07.2 -0.1**
MODS Modra-Piesok 150.08 339 *e*PKHKP **PKiKP 17 34 07.5 +0.1**
MODS Modra-Piesok 150.08 339 *e*PKP **PKiKP 17 34 07.5 +0.1**
SIRR Siria 150.09 331 ⇓P **PKiKP 17 34 07.5 0.0**
JMB Yambol 150.18 321 *e*P **PKPbc 17 34 07.3 +0.1**
SRO Srobarova 150.20 337 *e*PKIKP **PKiKP 17 34 07.6 0.0**
SRO Srobarova 150.20 337 *e*PKP **PKiKP 17 34 07.6 0.0**
GZR Gura Zlata 150.23 329 ⇑P **PKPbc 17 34 06.8 -0.5**
GZR Gura Zlata 150.23 329 ⇑PKIKP **PKPbc 17 34 06.8 -0.5**
ROTZ Rotzenmuhle 150.25 346 *e*PKPbc 17 34 07.6
baz=19,slow=2.4
ROTZ *e*PKPab 17 34 15.8
baz=15,slow=4.3
BEBN Eben Emael 150.26 355 *d*PKPbc **PKPbc 17 34 06.9 -0.1**
SURR Surduc 150.26 330 ⇓P **PKPbc 17 34 07.5 +0.3**
ELND Elena 150.29 322 ⇑P **PKPdf 17 34 01.7 +0.1**
ZST Bratislava 150.29 339 *e*PKIKP **PKiKP 17 34 07.9 +0.1**
ZST Bratislava 150.29 339 *e*PKP **PKiKP 17 34 07.9 +0.1**
HMNX Herstmonceux 150.35 2 *e*P **PKPbc 17 34 07.0 -0.2**
AHRW Bad Neuenahr-A 150.37 353 *e*PKPbc 17 34 07.7
baz=19,slow=2.4
VLAD Vladila 150.39 326 ⇑P **PKiKP 17 34 08.4 +0.3**
MEM Membach 150.42 354 *d*PKPdf **PKPdf 17 34 02.1 +0.5**
MEM *d*PKP **PKiKP 17 34 07.7 -0.2**
BTNL Ternell 150.43 354 *d*PKPdf **PKPdf 17 34 02.2 +0.6**
BTNL *d*PKPbc **PKPbc 17 34 07.7 +0.2**
BTNL *d*PKP **PKPab 17 34 15.9 -0.2**
BSTI Sart Tilman 150.48 355 *d*PKPbc **PKiKP 17 34 07.9 -0.2**
BSTI *d*PKP **PKPab 17 34 16.6 +0.3**
TNS Taunus Mts 150.51 351 *e*PKPbc 17 34 08.2
baz=19,slow=2.4
TNS *e*PKPab 17 34 16.5
baz=15,slow=4.3
KHC Kasperske Hory 150.51 344 ⇑*e*PKP **PKiKP 17 34 08.3 0.0**
KHC Kasperske Hory 150.51 344 *c* *i*PKIKP **PKPdf 17 34 02.2 +0.4**
KHC pmax pmax
comp=Z,26nm,1.3s
GRF Grafenberg Arr 150.53 347 *e*PKPbc 17 34 08.3
baz=19,slow=2.4
GRFO Grafenberg 150.53 347 **PKPbc 17 34 07.8 0.0**
GRFO Grafenberg 150.53 347 PKIKP **PKPbc 17 34 07.8 0.0**
SRE Strehaia 150.55 328 ⇓P **PKiKP 17 34 08.7 +0.3**
SRE Strehaia 150.55 328 ⇓PKIKP **PKiKP 17 34 08.7 +0.3**
PVL Pavlikeni 150.56 323 *e*P **PKPbc 17 34 08.2 +0.2**
CKRC Cesky Krumlov 150.60 343 ⇑*e*PKP **PKiKP 17 34 08.6 +0.2**
**CKRC Ces

BMRD	Maredsous	150.82 356	dPKPdf	PKPdf	17 34 02.6	+0.4
BMRD			dPKPbc	PKPbc	17 34 08.5	+0.2
RCHB	Rochefort	150.93 355	dPKPbc	PKPbc	17 34 08.4	-0.2
CONA	Conrad Observa	150.93 340	i PKP	PKPdf	17 34 03.4	+0.8
	SNR=55					
CONA			i PKiKP	PKiKP	17 34 09.4	+0.1
	comp=Z,54nm,0.6s					
RONA	Rosalia, Austr	150.99 339	i PKP	PKPdf	17 34 02.8	+0.1
	comp=Z,8.0nm,1.2s					
RONA			i PKiKP	PKiKP	17 34 09.4	+0.1
	comp=Z,81nm,0.5s,SNR=39					
KULA	Kula-Manisa	151.01 313	P	PKPbc	17 34 09.3	0.0
DOU	Dourbes	151.04 356	dPKPbc	PKiKP	17 34 09.2	0.0
VALD	Valchedram	151.12 326	eP	PKiKP	17 34 10.0	+0.4
MPEP	Malo Peshtene	151.19 325	eP	PKiKP	17 34 09.9	+0.1
MDVR	Moldovita	151.19 329	⇑P	PKPbc	17 34 08.8	-0.7
WLF	Walferdange	151.34 354	dPKPdf	PKPdf	17 34 04.7	+1.7
WLF			dPKPbc	PKiKP	17 34 10.2	+0.3
WLF	Walferdange	151.34 354	ePKPbc		17 34 10.6	
	baz=19,slow=2.4					
MORH	Mrgy, Hungar	151.40 335	⇑P	PKiKP	17 34 10.4	+0.3
ALN	Alexandroupoli	151.43 319	P	PKPbc	17 34 09.3	-0.7
MOA	Molln	151.49 342	ePKP	PKPdf	17 34 02.4	-1.0
	comp=Z,2.5nm,0.7s					
MOA			i PKP	PKPbc	17 34 10.0	0.0
	comp=Z,21nm,0.5s,SNR=13					
PGB	Panagyurishte	151.51 323	eP	PKiKP	17 34 10.4	-0.1
RDO	Rodhopi	151.59 320	P	PKPbc	17 34 10.1	-0.3
ARSA	Arzberg	151.64 340	ePKP	PKPdf	17 34 04.1	+0.5
	comp=Z,2.9nm,0.6s					
ARSA			i PKP	PKPbc	17 34 10.2	-0.1
	comp=Z,11nm,0.9s,SNR=6.9					
FRGS	Fruska Gora	151.76 332	⇑P	PKPbc	17 34 10.5	-0.2
FRGS	Fruska Gora	151.76 332	⇓iP	PKPbc	17 34 10.8	+0.1
STU	Stuttgart	151.80 349	ePKPbc		17 34 11.2	
	baz=19,slow=2.4					
BIOA	Bad Ischl, Aus	151.81 343	i PKP	PKPdf	17 34 03.3	-0.5
	comp=Z,0.9nm,0.5s					
BIOA			i PKP	PKPbc	17 34 10.5	-0.2
	comp=Z,28nm,0.8s,SNR=8.7					
EZN	Ezine	151.87 317	P	PKPbc	17 34 10.8	-0.3
JSA	Saint Aubin	151.88 5	eP	PKPbc	17 34 10.6	-0.1
VTS	Vitosha	151.96 325	eP	PKPbc	17 34 11.4	0.0
FUR	Furstenfeldbru	151.96 346	ePKPbc		17 34 11.4	
	baz=19,slow=2.4					
RJOB	Jochberg	152.00 344	ePKPbc		17 34 11.1	
	baz=19,slow=2.4					
RJOB			ePKPab		17 34 23.7	
	baz=15,slow=4.3					
SMTH	Samothraki Isl	152.00 319	P	PKPbc	17 34 10.6	-0.8
BOVS	Bovan	152.03 328	⇑P	PKPdf	17 34 03.4	-0.9
KOGS	Kog	152.10 338	i PKPbc	PKPbc	17 34 11.1	-0.3
KOGS			i PKPab	PKPab	17 34 23.5	+0.3
KAVA	Kavala	152.29 321	P	PKPbc	17 34 11.6	-0.4
KALN	Kalnik	152.30 337	i P	PKPbc	17 34 11.2	-0.7
SOKA	Soboth	152.30 340	i PKP	PKPdf	17 34 05.1	+0.4
	comp=Z,7.8nm,1.4s					
SOKA			i PKP	PKPbc	17 34 11.5	-0.4
	comp=Z,20nm,0.7s,SNR=10					
LESA	Schwarzleotal	152.32 344	i PKP	PKPdf	17 34 04.1	-0.6
	comp=Z,10.0nm,1.4s					
LESA			i PKP	PKPbc	17 34 11.3	-0.6
	comp=Z,23nm,0.6s					
TEKS	Tekeris	152.37 332	eP	PKPbc	17 34 11.9	-0.2
BFO	Black Forest	152.37 350	PKPdf	PKPdf	17 34 04.0	-0.6
BFO	Black Forest	152.37 350	PKIKP	PKPdf	17 34 04.0	-0.6
BFO	Black Forest	152.37 350	ePKPbc		17 34 12.1	
	baz=19,slow=2.4					
BFO			ePKPab		17 34 24.3	
	baz=15,slow=4.3					
MMB	Musomishta	152.39 322	eP	PKPbc	17 34 11.8	-0.4
LOBO	Lobor	152.41 338	i P	PKPbc	17 34 11.4	-0.6
NVR	Nevrokopi	152.45 322	P	PKiKP	17 34 12.8	+0.3
KBA	Koelnbreinsper	152.45 342	ePKP	PKPdf	17 34 04.3	-0.7
	comp=Z,7.1nm,1.3s					
KBA			i PKP	PKPbc	17 34 11.7	-0.6
	comp=Z,27nm,0.9s,SNR=10					
SIGR	SIGRI	152.52 316	P	PKPbc	17 34 11.8	-0.7
KKB	Krupnik	152.54 324	eP	PKPbc	17 34 12.1	-0.4
LIA	Limnos Island	152.55 318	P	PKPbc	17 34 11.9	-0.7
OBKA	Obir	152.61 340	ePKP	PKPdf	17 34 04.0	-1.1
	comp=Z,3.6nm,1.0s					
OBKA			i PKP	PKPbc	17 34 12.0	-0.6
	comp=Z,9.0nm,0.7s,SNR=7.6					
OBKA	Obir	152.61 340	⇓iP	PKPbc	17 34 11.8	-0.8
MOSL	Moslavina	152.63 336	i P	PKPbc	17 34 12.4	-0.2
UBR	Ueberruh	152.67 347	ePKPbc		17 34 12.9	
	baz=19,slow=2.4					
WATA	Walderalm	152.67 345	i PKP	PKPdf	17 34 04.9	-0.4
	comp=Z,10nm,1.2s					
WATA			i PKP	PKPbc	17 34 12.5	-0.4
	comp=Z,22nm,0.5s,SNR=8.8					
RETA	Reutte	152.72 346	i PKP	PKPdf	17 34 04.9	-0.3
	comp=Z,1.9nm,0.5s					
RETA			i PKP	PKPbc	17 34 12.7	-0.2
	comp=Z,13nm,0.6s,SNR=8.1					
WTTA	Wattenberg	152.73 345	i PKP	PKPdf	17 34 05.3	-0.1
	comp=Z,12nm,1.0s					
WTTA			i PKiKP	PKiKP	17 34 13.1	0.0
	comp=Z,38nm,0.5s,SNR=10					
SRS	Serrai	152.75 322	P	PKPbc	17 34 11.7	-1.3
MYKA	Terra Mystica	152.77 342	ePKP	PKPdf	17 34 05.3	0.0
	comp=Z,3.1nm,0.9s					
MYKA			i PKP	PKPbc	17 34 12.2	-0.7
	comp=Z,22nm,0.5s,SNR=11					
MOTA	Moosalm	152.78 346	i PKP	PKPdf	17 34 05.0	-0.4
	comp=Z,9.0nm,0.9s					
MOTA			i PKP	PKPbc	17 34 13.0	0.0
	comp=Z,28nm,0.7s,SNR=7.3					
SQTA	Sankt Quirin	152.87 346	i PKP	PKPdf	17 34 05.2	-0.3
	comp=Z,8.3nm,0.8s					
SQTA			i PKP	PKiKP	17 34 13.3	0.0
	comp=Z,32nm,0.7s,SNR=8.5					
CRES	Cresnjev	152.91 338	⇓iP	PKPbc	17 34 12.9	-0.3
BBLS	Lazi&#263i	152.96 331	⇓iP	PKiKP	17 34 13.6	+0.1
ABTA	Abfaltersbach	152.98 343	i PKP	PKPdf	17 34 04.8	-0.8
	comp=Z,16nm,0.9s,SNR=7.9					
ABTA			i PKP	PKPbc	17 34 12.9	-0.5
	comp=Z,46nm,0.6s					
LJU	Ljubljana	153.03 340	i PKPdf	PKPdf	17 34 05.4	-0.2
LJU			i PKPbc	PKPbc	17 34 13.4	0.0
DAVA	Damuels	153.10 347	i PKP	PKPdf	17 34 05.8	-0.1
DAVA			i PKiKP	PKiKP	17 34 14.0	+0.2
	comp=Z,33nm,1.1s					
SJES	Sjenica	153.16 329	⇓iP	PKiKP	17 34 14.0	0.0
STIP	Stip	153.16 324	i P	PKPbc	17 34 12.8	-1.1
RUDO	Rudo	153.16 331	eP	PKPbc	17 34 13.2	-0.6
FETA	Feichten	153.17 346	i PKP	PKPdf	17 34 05.8	-0.3
	comp=Z,13nm,0.7s,SNR=7.4					
FETA			i PKP	PKiKP	17 34 13.9	-0.1
	comp=Z,24nm,0.7s					
BLY	Banja Luka	153.19 335	⇓iP	PKPbc	17 34 13.8	0.0
BOJS	Bojanci	153.26 338	⇓iP	PKiKP	17 34 14.0	0.0
CEY	Cerknica	153.33 340	ePKPdf	PKPdf	17 34 05.7	-0.4
CEY			i PKPbc	PKPbc	17 34 14.1	-0.1
CEY			ePKPab	PKPab	17 34 28.3	-0.2
CEY	Cerknica	153.33 340	⇓iP	PKPbc	17 34 14.0	-0.1
SKO	Skopje	153.37 326	i P	PKPbc	17 34 14.2	-0.1
A050A	Klekovaca	153.67 335	⇓iP	PKPbc	17 34 14.4	-0.6
UPM	Unac-Piva	153.70 331	eP	PKPbc	17 34 14.3	-0.9
KYMI	Kymi, Euboea I	153.97 317	P	PKPbc	17 34 14.3	-1.4
LIT	Litokhoron	154.05 321	P	PKPbc	17 34 14.7	-1.1
BRY	Bratogost	154.10 331	⇓iP	PKPbc	17 34 15.3	-0.7
KLJV	Kijevo	154.12 335	⇓iP	PKPbc	17 34 14.0	-1.9
PDG	Podgorica	154.13 329	⇑P	PKPbc	17 34 14.4	-1.4
PDG	Podgorica	154.13 329	⇓iP	PKPbc	17 34 15.5	-0.4
NVLJ	Novalja	154.21 338	i P	PKPbc	17 34 15.2	-0.7
FNA	Florina	154.23 324	P	PKPbc	17 34 15.7	-0.5
RICI	Ricice	154.25 333	i P	PKPbc	17 34 15.2	-0.9
OHR	Ohrid	154.31 325	i P	PKPbc	17 34 16.7	+0.3
TREB	Trebinje	154.33 331	eP	PKiKP	17 34 15.5	-0.8
DRME	Dracevica, Mon	154.35 329	⇓iP	PKiKP	17 34 15.6	-0.8
MAKA	Makarska	154.46 333	i P	PKiKP	17 34 15.6	-0.9
HCY	Herceg Novi	154.48 330	eP	PKiKP	17 34 15.6	-1.0
STON	Ston	154.50 332	eP	PKiKP	17 34 14.2	-2.4
MORI	Morici	154.51 336	i P	PKiKP	17 34 15.8	-0.8
DUGI	Dugi Otok	154.64 337	i P	PKiKP	17 34 15.9	-1.0
NEST	Nestorio	154.66 324	P	PKiKP	17 34 16.9	-0.3
AGG	Agios Georgios	154.84 320	P	PKiKP	17 34 16.5	-1.0
MAKR	Makrakomi, Fth	154.96 320	P	PKiKP	17 34 17.4	-0.4
LSK	Leskovik	155.09 324	P	PKPdf	17 34 18.2	+9.4
VLI	Veliai	155.82 314	P	PKPdf	17 34 18.3	+8.6
NYDR	Nydri-Lefkada	156.01 321	P	PKPdf	17 34 19.6	+10
TIP	Timpagrande	157.83 327	⇑P	PKPdf	17 34 12.4	+0.1
PBRG	Braganca	158.26 17	ePKPab	PKPab	17 34 49.5	-0.4
POLO	Lamas de Olo	158.35 19	ePKPab	PKPab	17 34 50.2	-0.2
PVRL	Vila Real	158.46 19	ePKPab	PKPab	17 34 51.3	+0.5
PVIS	Viseu	158.91 20	ePKPab	PKPab	17 34 53.0	+0.2
PCAS	Casmilo, Conde	159.30 22	ePKPab	PKPab	17 34 54.1	-0.4
MTE	Manteigas	159.31 20	ePKPab	PKPab	17 34 54.9	+0.3
PCBR	Castelo Branco	159.84 21	ePKPdf	PKPdf	17 34 15.3	+0.8
PCBR	Castelo Branco	159.84 21	ePKPab	PKPab	17 34 56.9	+0.1
PMRV	Marv??o	160.24 21	ePKPdf	PKPdf	17 34 15.6	+0.6
PMRV	Marv??o	160.24 21	ePKPab	PKPab	17 34 58.8	+0.2
PMTG	Montargil	160.27 23	ePKPab	PKPab	17 34 58.1	-0.6
PESTR	Estremoz	160.67 22	ePKPab	PKPab	17 35 00.5	0.0
EVO	Evora	160.82 23	ePKPab	PKPab	17 35 01.7	+0.6
ESDC	Sonseca Array	160.95 13	PKPdf	PKPdf	17 34 15.9	0.0
ESDC			PKPab	PKPab	17 35 01.6	-0.1
ESDC	Sonseca Array	160.95 13	PKP	PKPdf	17 34 16.0	+0.2
	comp=Z,2.5nm,1.1s,baz=341,slow=3.4,SNR=13					
ESDC			PKPab	PKPab	17 35 01.9	+0.2
	comp=Z,7.3nm,0.8s,baz=342,slow=4.2,SNR=25					
ESDC			PP	PP	17 38 45.1	-0.4
	comp=Z,1.3nm,0.9s,baz=338,slow=4.8,SNR=6.4					
PNCL	Nicolau / Gran	160.99 25	ePKPdf	PKPdf	17 34 16.6	+0.8
PNCL	Nicolau / Gran	160.99 25	ePKPab	PKPab	17 35 02.2	+0.3
PBEJ	Beja	161.32 24	ePKPdf	PKPdf	17 34 17.6	+1.4
PBEJ	Beja	161.32 24	ePKPab	PKPab	17 35 03.8	+0.5
MESJ	Messejana	161.34 25	ePKPdf	PKPdf	17 34 17.3	+1.1
MESJ	Messejana	161.34 25	ePKPab	PKPab	17 35 03.7	+0.2
PBAR	Barancos	161.49 22	ePKPdf	PKPdf	17 34 16.8	+0.5
PBAR	Barrancos	161.49 22	ePKPab	PKPab	17 35 03.9	-0.2
PCVE	Castro Verde	161.59 25	ePKPab	PKPab	17 35 04.9	+0.3
MORF	Marmelete	161.62 27	ePKPdf	PKPdf	17 34 17.8	+1.2
PFVI	Vila Bisbo	161.70 27	ePKPdf	PKPdf	17 34 17.9	+1.3
PVAQ	Vaqueiros	161.92 25	ePKPab	PKPab	17 35 05.5	-0.5
KEST	Kesra	163.98 337	PKP	PKPdf	17 34 18.8	-0.1
	comp=Z,2.7nm,0.7s,baz=304,slow=3.6,SNR=3.2					
KEST			PKPab	PKPab	17 35 15.2	0.0
	comp=Z,8.3nm,0.9s,baz=349,slow=4.3,SNR=6.7					
DBIC	Dimbokro	164.29 156	PKP	PKPdf	17 34 19.1	-0.7
	comp=Z,7.5nm,0.9s,baz=117,slow=1.0,SNR=4.7					
TOA0	Torodi Ar. Sit	172.02 181		PKPdf	17 34 24.2	-0.6
TORD	Torodi Ar. Bea	172.02 181	PKPab	PKPab	17 35 51.4	+0.4
TORD	Torodi Ar. Bea	172.02 181	PKP	PKPdf	17 34 24.0	-0.8
	comp=Z,6.5nm,0.9s,baz=8.1,slow=2.5,SNR=25					
TORD			PKPab	PKPab	17 35 51.2	+0.2
	comp=Z,4.2nm,0.9s,baz=142,slow=2.6,SNR=8.9					

NEIC 02 17:20:42.0±0.7, 37°33N±0°02×97°99W±0°02, h7km±6km, mb_Lg2.5/47, ML2.8/42, Error ellipse: s-maj=3.2km s-min=2.0km az=225.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	Harper NE Stat	0.03	192		Pg	17 20 43.5	+0.1
KAN12				IAML		17 20 45.0	
	comp=E,9μm,0.4s						
KAN08	Anthony NE Sta	0.10	171		Pg	17 20 44.6	+0.3
KAN06	Argonia West S	0.13	127		Pg	17 20 44.9	+0.1
KAN06				IAML		17 20 47.5	
	comp=N,4μm,0.2s						
KAN05	Bluff City Nor	0.24	157	Pg	Pg	17 20 47.3	+0.6
KAN05				IAML		17 20 55.2	
	comp=E,2μm,0.2s						
KAN01	Argonia South	0.25	133	Pg	Pg	17 20 46.6	-0.4
KAN01				IAML		17 20 51.5	
	comp=N,1μm,0.3s						
KAN01				IAML		17 20 51.5	
	comp=E,2μm,0.4s						
KAN17	Caldwell West	0.34	147		Pg	17 20 48.9	+0.4
KAN17				IAML		17 21 00.9	
	comp=E,1μm,0.3s						
KAN17				IAML		17 21 01.2	
	comp=N,1μm,0.3s						
KAN09	Caldwell North	0.35	123		Pg	17 20 49.0	+0.2
KAN09				IAML		17 20 54.5	
	comp=N,2μm,0.3s						
KAN09				IAML		17 20 58.0	
	comp=E,1μm,0.2s						
KAN14	Manchester OK	0.37	177		Pg	17 20 49.8	+0.6
GC02	Grant County #	0.49	168	Pg	Pg	17 20 51.8	+0.4
KAN13	South Haven SW	0.52	127		Pg	17 20 52.0	+0.1
KAN13				IAML		17 20 59.8	
	comp=N,840nm,0.3s						
KAN13				IAML		17 21 10.1	
	comp=E,692nm,0.3s						
OK032	Salt Plains WL	0.55	199		Pg	17 20 53.0	+0.4
OK032				IAML		17 21 03.4	
	comp=E,624nm,0.5s						
CROK	Carrier	0.82	180		Pg	17 20 58.0	+0.3
CROK				IAML		17 21 20.8	
	comp=E,262nm,0.3s						
BLOK	Blackwell	0.84	132	Pg	Pg	17 20 57.9	-0.2
OK038	West end E0370	1.04	216		Pg	17 21 01.9	0.0
R32A	Long Quarter,	1.23	333	Pg	Pb	17 21 04.4	-1.2
R32A				IAML		17 21 26.1	
	comp=E,194nm,0.2s						
OK051	E0350 and S346	1.24	131	Pg	Pb	17 21 04.9	-0.7
OK048	Pawnee Station	1.24	137	Pg	Pb	17 21 05.2	-0.4
OK048				IAML		17 21 25.8	
	comp=E,256nm,0.4s						
OK048				IAML		17 21 25.8	
	comp=E,211nm,0.4s						
U32A	Winter Ranch,	1.25	221	Pg	Pn	17 21 05.0	-0.8
U32A				IAML		17 21 28.7	
	comp=E,221nm,0.5s						
U32A				IAML		17 21 28.8	
	comp=N,185nm,0.2s						
T35A	Sooner Cattle	1.25	109		Pn	17 21 05.2	-0.6
T35A				IAML		17 21 23.5	
	comp=E,214nm,0.2s						
QUOK	Quay	1.55	138	Pg	Pb	17 21 10.5	-0.4
OK029	Liberty Lake	1.59	164		Pn	17 21 11.0	+0.5
OK052	Battle Ridge R	1.64	144	Pg	Pn	17 21 11.2	0.0
OK031	S. Brethren Rd	1.66	146		Pb	17 21 12.2	-0.5
CSTR	Hydro, Custer	1.77	199		Pb	17 21 14.0	-0.8
DEOK	Depew	1.91	141	Pn	Pn	17 21 15.7	+0.8
KSU1	Kansas State U	2.08	31		Pn	17 21 17.1	-0.1
TUL3	Leonard	2.26	128	IAmb_Lg		17 21 56.7	
	comp=Z,18nm,0.8s						
RLO	Rose Lookout	2.65	115		Pn	17 21 25.9	+0.8
WMOK	Wichita Mounta	2.66	194		Pn	17 21 26.6	+1.3
SMWD	Samnorwood	2.87	220	Pn	Pn	17 21 29.3	+1.1
U38A	Gravette	3.02	106		Pn	17 21 30.7	+0.5
HHAR	Hobbs	3.41	107		Pn	17 21 36.2	+0.6
HHAR				IAmb_Lg		17 22 34.6	
	comp=Z,10nm,0.7s						
X37A	Clayton	3.46	141	Pn	Pn	17 21 37.0	+0.8
X37A				IAmb_Lg		17 22 39.8	
	comp=Z,29nm,0.8s						
S39A	Bolivar	3.73	83		Pn	17 21 40.1	+0.2
N35A	Tabor	3.97	27	Pn	Pn	17 21 43.7	+0.4
KSCO	Kaye Shedlock'	4.02	296		Pn	17 21 44.8	+0.7
KSCO				IAmb_Lg		17 23 00.7	
	comp=Z,8.5nm,0.7s						
P38A	Dawn	4.18	55	IAmb_Lg		17 23 05.9	
	comp=Z,8.5nm,0.9s						
DKNS	Dickens	4.37	214	IAmb_Lg		17 23 12.0	
	comp=Z,6.6nm,1.2s						
MIAR	Mount Ida	4.53	126	IAmb_Lg		17 23 14.2	
	comp=Z,11nm,1.0s						
MGMO	Mountain Grove	4.57	90		Pn	17 21 51.9	+0.4
R40A	Maddies Statio	4.63	76	IAmb_Lg		17 23 14.2	
	comp=Z,9.4nm,1.0s						
OGNE	Ogallala	4.79	320	IAmb_Lg		17 23 22.2	
	comp=Z,14nm,0.9s						
L34A	Svendsen Farm,	4.80	15	IAmb_Lg		17 23 25.8	
	comp=Z,10nm,0.7s						
SN07	Snyder 07	4.85	210	IAmb_Lg		17 23 19.6	
	comp=Z,6.9nm,0.8s						
WHAR	Wooly Hollow	5.03	112	Pn	Pn	17 21 57.4	-0.4
WHAR				IAmb_Lg		17 23 27.7	
	comp=Z,7.2nm,0.9s						
N38A	Joes South For	5.07	45	IAmb_Lg		17 23 26.5	
	comp=Z,9.5nm,0.8s						
T25A	Trinidad	5.13	270	Pg	Pb	17 22 15.7	+3.6
T25A				IAmb_Lg		17 23 28.5	
	comp=Z,10nm,1.0s						
P40A	Paris	5.16	63	IAmb_Lg		17 23 25.7	
	comp=Z,7.9nm,0.7s						
CCM	Cathedral Cave	5.40	80	IAmb_Lg		17 23 42.8	
	comp=Z,9.6nm,1.1s						
T42A	Van Buren	5.52	91	Pg	Pg	17 22 23.2	-4.4
SGCY	Sterling City	5.99	206	IAmb_Lg		17 24 01.1	
	comp=Z,7.5nm,0.8s						
FVM	French Village	6.04	81	IAmb_Lg		17 24 05.4	
	comp=Z,5.2nm,0.8s						
PBMO	Poplar Bluff	6.07	93	IAmb_Lg		17 23 57.7	
	comp=Z,4.6nm,0.8s						
OZNA	Ozona	6.90	203	IAmb_Lg		17 24 15.8	
	comp=Z,11nm,1.1s						
S44A	Carbondale	6.95	84	IAmb_Lg		17 24 20.7	
	comp=Z,13nm,0.8s						
ANMO	Albuquerque	7.25	253	IAmb_Lg		17 24 26.5	
	comp=Z,3.9nm,0.8s						
JFWS	Jewell Farm	8.14	44	IAmb_Lg		17 25 04.6	
	comp=Z,7.6nm,0.9s						
PLAL	Pickwick Lake	8.35	103	IAmb_Lg		17 25 03.1	
	comp=Z,9.9nm,0.8s						
K22A	Casper	8.43	312	IAmb_Lg		17 25 30.0	
	comp=Z,7.5nm,0.7s						

JMA 02 17:24:49.9±0.2, 25°N±2°×123°1E±0°6, h97km±3km, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.79	135	eS	Sn	17 25 21.6	+0.2
JKRS	Kuro-shima	1.05	129	eP	Pn	17 25 10.9	+0.3
JKRS				eS	Sn	17 25 26.9	+0.7
JIJ	Ishigaki jima	1.08	119	eP	Pn	17 25 10.9	0.0
JIJ				eS	Sn	17 25 26.7	-0.1
JISG	Ishigakijimahi	1.13	106	eP	Pn	17 25 11.9	+0.3
JISG				eS	Sn	17 25 28.5	+0.7
JTJ	Tarama	1.47	100	eP	Pn	17 25 16.0	+0.4
JTJ				eS	Sn	17 25 35.5	+0.5

TAP 02 17:25:18.2, 24°29N×121°96E, h48km, ML1.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	Wuta	0.23	313	eP	Pn	17 25 26.7	+0.2
	baz=307						
NACB	Ninganchiao	0.35	251	eP	Pn	17 25 28.3	+0.6
	baz=251						
NACB				S	Sn	17 25 34.7	+0.4
	baz=251						
TWD	Chiawan	0.39	238	eP	Pn	17 25 28.3	+0.2
	baz=233						
TWD				S	Sn	17 25 35.5	+0.4
	baz=233						
LATG	Datong	0.47	302	P	Pn	17 25 29.4	+0.4
	baz=302						
LATG				eS	Sn	17 25 35.6	-1.1
	baz=302						
ENTT	Nioudou	0.50	314	eP	Pn	17 25 29.4	0.0
	baz=309						
ETM	Tongmen	0.54	233	eP	Pn	17 25 30.8	+1.0
	baz=233						
NNSB	Datong	0.54	285	eP	Pn	17 25 29.4	-0.6
	baz=285						
NNSB				eS	Sn	17 25 38.6	+0.1
	baz=285						
LXIB	Xiulin Townshi	0.57	242	eP	Pn	17 25 29.7	-0.6
	baz=242						
LXIB				eS	Sn	17 25 39.5	+0.5
	baz=242						
SHUL	Shoufeng	0.62	216	eP	Pn	17 25 32.5	+1.7
	baz=215						
SHUL				eS	Sn	17 25 40.1	+0.3
	baz=215						
WHF	Hehuan Shan	0.65	257	eP	Pn	17 25 32.5	+0.9
	baz=257						
FUSS	Fushou	0.66	267	eP	Pn	17 25 32.8	+1.2
	baz=266						
ESL	Shilin	0.68	226	eP	Pn	17 25 32.0	+0.4
	baz=235						
ESL				eS	Sn	17 25 41.0	-0.1
	baz=235						
CHGB	Renai	0.75	253	P	Pn	17 25 33.4	+0.6
	baz=243						
CHGB				eS	Sn	17 25 44.5	+1.2
	baz=243						
WARBT	Fenglin Townsh	0.77	223	eP	Pn	17 25 33.7	+0.9
	baz=232						
WARBT				eS	Sn	17 25 42.2	-1.3
	baz=232						
WUSB	Renai	0.82	249	eP	Pn	17 25 34.0	+0.4
	baz=242						
WUSB				eS	Sn	17 25 44.7	-0.2
	baz=242						
VWDT	VWDT	0.92	235	eP	Pn	17 25 35.5	+0.7
	baz=226						
VWDT				S	Sn	17 25 47.2	+0.3
	baz=226						

UPA 02 17:28:25.0±1.0, 10°41N×84°04W, h2km±40km, MW4.9
UCR 02 17:28:29.4±1.0, 10°23N×84°18W, h90km±4km, MW4.1
CATAC 02 17:28:30.5±0.3, 10°20N×84°25W, h70km±4km, ML3.6

ISC 02 17:28:29.8±1.3, 10°21N±0°04×84°17W±0°04, h90km±6km, n91, d084/107, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCS1	Tacares	0.21	218	i P	Pn	17 28 42.4	-0.5
TCS1				IAML		17 28 55.0	
	comp=Z,120μm,1.0s						
TCS1	Tacares	0.21	218	eP	Pn	17 28 42.7	-0.2
SARCI	Sarchi	0.21	236	eP	Pn	17 28 42.8	-0.1
HDC	Heredia	0.21	165	i P	Pn	17 28 42.3	-0.7
HDC				i S	Sn	17 28 52.2	-0.5
HDC				IAML		17 28 57.6	
	comp=Z,3μm,1.0s						
HDC	Heredia	0.21	165	eP	Pn	17 28 42.7	-0.2
HDC3

TURIB	Turrialba	0.56 122	eP	Pn	17 28 45.0	-0.1
RVSTA	Santa Teresita	0.56 114	eP	Pn	17 28 45.5	+0.3
VACR	Volcan Arenal	0.56 298	eP	Pn	17 28 45.0	-0.1
RVLA	Villa Bonita	0.58 100	eP	Pn	17 28 45.6	+0.5
CEDE	Laguna Cedeo	0.59 298	eP	Pn	17 28 45.3	0.0
ARE1	Arenal 1	0.60 295	eP	Pn	17 28 45.3	0.0
LCOCO	El Coco	0.62 101	eP	Pn	17 28 45.8	+0.3
MTEVE	Monteverde	0.66 280	eP	Pn	17 28 46.8	+0.8
IRES	Siquirres	0.67 99	eP	Pn	17 28 46.4	+0.5
LLNJ	Naranjito	0.73 175	eP	Pn	17 28 46.1	-0.4
JTS	Las Juntas de	0.77 276	eP	Pn	17 28 46.6	-0.4
JUNT	Juntas	0.78 276	eP	Pn	17 28 46.6	-0.5
CNAS	Canas	0.93 284	eP	Pn	17 28 49.7	+1.0
VERA	Finca Concepci	0.94 313	eP	Pn	17 28 48.6	-0.2
LCHIL	Los Chiles	0.98 327	eP	Pn	17 28 50.1	+0.8
CUI	Cuipilapa	1.07 295	eP	Pn	17 28 50.2	-0.1
NYURE	Nandayure	1.09 259	eP	Pn	17 28 50.1	-0.3
COLC	Colonia	1.11 294	eP	Pn	17 28 50.7	-0.2
BAGA	Bagaces	1.12 287	eP	Pn	17 28 50.6	-0.2
OCHAL	Ojochal	1.22 155	iP	Pn	17 28 52.2	+0.2
OCHAL			IAML		17 28 52.3	
	comp=Z,2μm,1.0s					
OCHAL			iS	Sn	17 29 08.9	+0.1
NICO	Nicoya	1.26 267	eP	Pn	17 28 52.4	-0.1
GPS2	Hotel Rincn d	1.28 295	eP	Pn	17 28 52.7	-0.1
GPS3	Bodega del ICE	1.29 295	eP	Pn	17 28 54.9	+1.9
VORI	VORI	1.31 298	eP	Pn	17 28 53.2	-0.1
VRLE	La Escondida,	1.31 296	eP	Pn	17 28 53.1	-0.1
JUD3	Juan Diaz 3	1.35 268	eP	Pn	17 28 53.4	-0.3
GB1A	Borinquen Arri	1.35 297	eP	Pn	17 28 53.7	-0.1
INDI	Punta indio, G	1.35 256	iP	Pn	17 28 52.6	-1.1
INDI			iS	Sn	17 29 10.0	-1.7
INDI			IAML		17 29 12.0	
	comp=Z,2μm,1.0s					
EDBA	Buenos Aires	1.36 139	eP	Pn	17 28 53.2	-0.6
EDP2	Potrero Grande	1.54 140	eP	Pn	17 28 56.0	-0.1
LCRUZ	La Cruz	1.68 301	eP	Pn	17 28 58.7	+0.9
BLUN	Bluefields	1.83 12	iP	Pn	17 29 00.3	+0.5
BLUN			IAML		17 29 01.6	
	comp=Z,200nm,1.0s					
CNI2	El Empalme, Bo	1.85 115	eP	Pn	17 28 55.7	-4.3
CNI2			eS	Sn	17 29 20.5	-2.4
OMEN	AI SSO del Vol	1.93 312	iP	Pn	17 29 00.9	-0.2
OMEN			IAML		17 29 10.0	
	comp=Z,390nm,1.0s					
MORN	AI O del Volca	1.97 313	iP	Pn	17 29 00.7	-0.9
MORN			IAML		17 29 10.5	
	comp=Z,470nm,1.0s					
PIRO	Carate, Puerto	1.97 155	eP	Pn	17 29 01.1	-0.5
PIRO			eS	Sn	17 29 28.2	+2.3
PIRO	Carate, Puerto	1.97 155	iP	Pn	17 29 02.2	+0.6
PIRO			IAML		17 29 03.9	
	comp=Z,930nm,1.0s					
PIRO			iS	Sn	17 29 26.9	+1.0
PIRO	Carate, Puerto	1.97 155	eP	Pn	17 29 02.6	+0.9
JAPN	AI SSO del Vol	1.98 312	iP	Pn	17 29 01.1	-0.6
JAPN			IAML		17 29 14.3	
	comp=Z,300nm,1.0s					
ESPN	Las Esperanzas	1.98 356	iP	Pn	17 29 01.8	+0.1
ESPN			iS	Sn	17 29 27.1	+1.0
ESPN			IAML		17 29 27.3	
	comp=Z,220nm,1.0s					
ACON	Acoyapa	2.01 331	iP	Pn	17 29 01.8	-0.3
ACON			iS	Sn	17 29 26.6	-0.1
ACON			IAML		17 29 29.6	
	comp=Z,250nm,1.0s					
ACON	Acoyapa	2.01 331	eP	Pn	17 29 02.0	-0.1
BRU2	Volcan	2.02 134	eP	Pn	17 29 01.2	-1.2
BRU2			eS	Sn	17 29 28.2	+0.8
BRU2	Volcan	2.02 134	eP	Pn	17 29 02.4	-0.1
CDITO	Canoas	2.07 142	iP	Pn	17 29 04.3	+1.4
CDITO			IAML		17 29 29.1	
	comp=Z,630nm,1.0s					
CDITO			iS	Sn	17 29 29.7	+1.6
BCO2	Palmira	2.19 132	eP	Pn	17 29 02.6	-2.1
BCO2			eS	Sn	17 29 32.4	+1.0
PTPM	Petroterminale	2.36 147	eP	Pn	17 29 06.9	+0.1
PTPM			eS	Sn	17 29 37.2	+2.1
BOAB	BOACO BROADBAN	2.67 327	iP	Pn	17 29 10.3	-0.6
BOAB			IAML		17 29 58.8	
	comp=Z,96nm,1.0s					

BER 02 17:51:32.4±0.6, 73°.35N×7°.77E, h15km, mb(Pn)3.5, Confirmed Earthquake, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	4.17	25	eP	Pn	17 52 33.0	-2.3
BRBA	Barentsburg A	4.99	16	eP	Pn	17 52 44.2	-2.4
SPA0	Spitsbergen Ar	5.29	20	eP	Pn	17 52 49.1	-1.6
SPA0				IAML		17 52 55.9	
	comp=Z,3.8nm,0.3s						
HOPEN	Hopen	5.48	47	eP	Pn	17 52 51.3	-2.0
HOPEN				e		17 53 42.4	
KBS	Kingsbay	5.69	8	eP	Pn	17 52 53.9	-2.3
KBS				IAML		17 52 55.9	
	comp=Z,1.7nm,0.3s						

KRSC 02 18:07:35.2±1.1, 54°.06N×162°.80E, h47km±22km, MI3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.80	309	eP	Pn	18 07 51.1	+1.1
MKZ				eS	Sn	18 08 01.4	+0.5
TUMD	Tumrok D	1.80	310	eP	Pn	18 08 05.8	+2.0
TUMD				eS	Sn	18 08 27.0	+1.6
SPN	Mys Shipunski	1.92	241	eP	Pn	18 08 08.3	+3.1
SPN				eS	Sn	18 08 30.3	+2.1
TUMR	Tumrok	1.97	310	eP	Pn	18 08 08.6	+2.5
KBTR	Krutoberegovo	2.15	0	eP	Pn	18 08 10.1	+1.6
KBTR				eS	Sn	18 08 35.6	+1.7
BKI	Bering	2.17	57	eP	Pn	18 08 12.1	+3.3
BKI				eS	Sn	18 08 35.9	+1.5
KBG	Krutoberegovo	2.20	359	eP	Pn	18 08 11.4	+2.3
KBG				eS	Sn	18 08 36.6	+1.5
BZGR	Bezymyannyi-Gr	2.24	328	eS	Sn	18 08 40.4	+4.1
NLC	Nalytchevo	2.24	248	eP	Pn	18 08 13.0	+3.2
NLC				eS	Sn	18 08 38.9	+2.8
KMNR	Kamenistaya	2.25	320	eP	Pn	18 08 13.6	+3.6
KMNR				eS	Sn	18 08 40.6	+4.1
BZP	Bezymyannyi-Pe	2.27	326	eP	Pn	18 08 13.0	+2.8
ZLN	Zelenaya	2.27	330	eP	Pn	18 08 13.5	+3.3
ZLN				eS	Sn	18 08 40.5	+3.4
BZMR	Bezymyannaya	2.30	326	eP	Pn	18 08 13.7	+3.0
BZWR	Bezymyannyi-We	2.32	326	eP	Pn	18 08 14.1	+3.1
LGNR	Loginova	2.36	330	eP	Pn	18 08 15.0	+3.3
KIRR	Kirishev	2.36	324	eP	Pn	18 08 15.0	+3.5
KIRR				eS	Sn	18 08 43.0	+3.6
CIRR	Tsirk	2.37	331	eP	Pn	18 08 15.1	+3.4
KPT	Kopyto	2.42	323	eP	Pn	18 08 15.7	+3.5
SMAR	Somma	2.51	253	eP	Pn	18 08 16.6	+3.0
SMAR				eS	Sn	18 08 45.8	+2.7
KRSR	Krestovskiy	2.51	330	eP	Pn	18 08 16.3	+2.8
KRSR				eS	Sn	18 08 45.3	+2.4
UGLR	Uglovaya	2.52	252	eP	Pn	18 08 17.0	+3.4
UGLR				eS	Sn	18 08 46.0	+2.9
KRER	Koryakskii	2.52	254	eP	Pn	18 08 17.3	+3.5
KRER				eS	Sn	18 08 46.4	+3.0
AVH	Avacha	2.54	253	eP	Pn	18 08 17.9	+4.0
AVH				eS	Sn	18 08 48.0	+4.2
KRX	Arik	2.56	256	eP	Pn	18 08 17.6	+3.2
KRX				eS	Sn	18 08 47.3	+3.0
KLY	Klyuchi	2.57	332	eP	Pn	18 08 16.7	+2.5
KOK	Koryaka	2.59	254	eP	Pn	18 08 17.8	+3.2
KOK				eS	Sn	18 08 47.8	+2.9
DALK	Dalny	2.62	248	eP	Pn	18 08 18.1	+3.1
DALK				eS	Sn	18 08 47.7	+2.1
PET	Petropavlovsk	2.68	249	eP	Pn	18 08 19.2	+3.5
PET				eS	Sn	18 08 49.5	+2.5
SRDR	Sredinnyy	2.87	323	eP	Pn	18 08 21.4	+3.0
GNL	Ganaly	2.90	265	eP	Pn	18 08 22.7	+3.9
ESO	Esso	3.01	310	eP	Pn	18 08 23.0	+2.7
KRMR	Karymshinskiy	3.05	248	eS	Sn	18 08 59.2	+3.1
MTVR	Mutnovka	3.19	242	eP	Pn	18 08 26.9	+4.0
MTVR				eS	Sn	18 09 03.0	+3.3
GRL	Gorelyy	3.21	244	eP	Pn	18 08 27.3	+4.1
ASAK	Asacha	3.39	242	eP	Pn	18 08 30.0	+4.4
ASAK				eS	Sn	18 09 09.2	+4.7
KDTR	Khodutka, Kamc	3.64	234	eP	Pn	18 08 32.3	+3.4
KDTR				eS	Sn	18 09 11.4	+0.9

IDC 02 18:21:58.3±1.9, 9°.40S×125°.45E, h0km, mb3.7/1, mbtmp3.7/3, ML3.6/2, MS3.2/1, Error ellipse: s-maj=157.4km s-min=32.3km az=57.0
DJA 02 18:22:04.5±0.4, 9°.5S×12°.5E±°, h10km, M3.8/6, mb4.3/4, mB5.7/1, MLv3.5/6, Mw(mB)5.3/1
ISC 02 18:22:02.8±1.0, 9°.52S±0°.09×125°.39E±0°.07, h10km, n18, σ1°53/18, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	1.14	258	P	Pg	18 22 25.6	+1.0
SOEI	Soe	1.14	258	P	Pg	18 22 25.4	+0.8
SOEI				S	Sn	18 22 42.3	+1.7
BATI	Baumata	1.84	248	P	Pn	18 22 35.9	+1.5
BATI				S	Sn	18 22 59.1	+1.3
MMRI	Maumere	3.24	286	P	Pb	18 22 59.9	-0.5
MMRI	Maumere	3.24	286	P	Pn	18 22 54.8	+1.1
EDFI	Ende, Flores	3.74	282	P	Pn	18 23 00.9	+0.2
BASI	Baing, Sumba	4.80	261	P	Pn	18 23 16.0	+0.9
BBSI	Bau Bau	4.89	325	P	Pn	18 23 17.2	+0.8
DRS	Darwin Rock St	6.13	119	P	Pn	18 23 35.7	+2.2
NLAI	Namlea	6.47	15	P	Pn	18 23 39.4	+1.3
	231nm,0.9s,6μm						
MTN	Manton Dam	6.53	121	P	Pn	18 23 40.7	+1.7
PLAI	Plampang	7.55	275	P	Pn	18 23 53.8	+0.8
PLAI	Plampang	7.55	275	P	Pn	18 23 53.0	0.0
FITZ	Fitzroy Crossi	8.53	178	P	Pn	18 24 05.7	-0.7
	24nm,0.8s						
WRA	Warramunga Arr	13.49	141	Pn	Pn	18 25 11.3	-3.1
	0.3nm,0.3s,baz=317,slow=13,SNR=15						
WRA				Sn	Sn	18 27 34.6	-10
	0.7nm,0.3s,baz=317,slow=26,SNR=9.6						
	0.8nm,0.4s						
ASAR	Alice Springs	16.25	151	Pn	Pn	18 25 49.8	-1.6
	0.3nm,0.3s,baz=319,slow=11,SNR=18						
ASAR				Sn	Sn	18 28 42.2	-10
	0.1nm,0.3s,baz=313,slow=19,SNR=5.5						
	0.6nm,0.5s						
SONM	Songino Array	59.54	345	LR	LR	18 59 42.6	
	comp=Z,21nm,18.5s,baz=244,slow=38						
MKAR	Makanchi Array	67.95	330	P	P	18 32 58.6	-3.3
	0.8nm,0.9s,baz=139,slow=6.8,SNR=5.7						
	0.8nm,0.9s						

DJA 02 18:43:13.6±2.4, 4°.5S±6°.×14°.0E±°, h15km±22km, M4.3/5, mb4.3/1, MLv4.4/5
IDC 02 18:43:15.1±2.5, 3°.61S×140°.45E, h0km, mb3.7/3, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=107.3km s-min=33.3km az=86.0
ISC 02 18:43:15.6±0.9, 3°.62S±0°.06×140°.3E±0°.2, h10km, n9, σ1°65/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	1.03	352	P	Pg	18 43 34.6	-0.8
GENI				S	Sn	18 43 49.2	-1.3
JAY	Jayapura	1.16	20	P	Pb	18 43 37.9	+0.1
MMPI	Merauke	4.82	179	P	Pn	18 44 26.4	-1.9
KMPI	Kaimana, Papua	6.59	269	P	Pn	18 44 41.9	-11
FAKI	Fak Fak	8.08	275	P	Pn	18 45 13.1	0.0
WRA	Warramunga Arr	17.24	199	Pn	Pn	18 47 16.4	-0.3
	0.5nm,0.3s,baz=21,slow=13,SNR=36						
WRA				Sn	Sn	18 50 17.9	-11
	0.1nm,0.3s,baz=18,slow=22,SNR=1.8						
	1.2nm,0.3s						
ASAR	Alice Springs	20.87	197	P	P	18 48 00.1	+2.1
	3.0nm,0.6s,baz=27,slow=8.4,SNR=55						
ASAR				S	S	18 51 48.9	-2.1
	0.9nm,0.8s,baz=14,slow=28,SNR=3.1						
	3.0nm,0.6s						
MKAR	Makanchi Array	71.48	322	P	P	18 54 38.2	+1.6
	0.1nm,0.5s,baz=101,slow=7.5,SNR=1.8						
	0.1nm,0.5s						
QSPA	South Pole Qui	86.33	180	P	P	18 55 59.1	+1.3
	0.6nm,0.6s,baz=304,slow=1.7,SNR=6.8						
	0.6nm,0.6s						

AEIC 02 18:46:24.3±1.2, 51°.9N±0°.1×178°.4E±0°.1, h112km±4km, Error ellipse: s-maj=16.1km s-min=9.9km az=178.0
NEIC 02 18:46:23.8±1.1, 51°.85N±0°.07×178°.4E±0°.2, h114km±7km, mb3.8/15, ML3.0(AEIC), Error ellipse: s-maj=16.1km s-min=9.9km az=98.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	Little Sitkin	0.12	44		Pn	18 46 39.4	-0.1
LSNW	Little Sitkin	0.13	21		Pn	18 46 39.3	-0.2
LSNW					Sn	18 46 51.3	+0.1
LSPA	Little Sitkin	0.14	38		Pn	18 46 39.0	-0.4
CESW	Semis' Southwe	0.70	85		Pn	18 46 42.5	0.0
CESW					Sn	18 46 56.6	+0.1
AMKA	Amchitka	0.71	131		Pn	18 46 42.8	+0.2
AMKA					Sn	18 46 56.6	-0.1
CEAP	Semis' Anvil P	0.72	77		Pn	18 46 42.9	+0.3
CEPE	Semis' Perret	0.76	81		Pn	18 46 43.2	+0.2
CEPE					Sn	18 46 57.5	+0.1
GANE	Gareloi Northe	1.73	90		Pn	18 46 53.4	-0.1
TANO	Tanaga North	2.13	87		Pn	18 46 58.8	+0.2
TAFP	Tanaga Falls P	2.22	87		Pn	18 46 59.6	-0.1
KICM	Kanaga Island	2.71	87		Pn	18 47 05.9	0.0
KIWB	Kanaga Island	2.73	88	Pn	Pn	18 47 05.6	-0.7
ADK	Adak	3.02	87	Pn	Pn	18 47 09.6	-0.5
GSMY	Great Sitkin M	3.41	85		Pn	18 47 15.0	-0.3
GSTR	Great Sitkin T	3.41	84	Pn	Pn	18 47 14.9	-0.4
CNBA	Chernabura Isl	13.45	69	Pn	Pn	18 49 27.8	-2.0
CHGN	Chignik	14.27	63	Pn	Pn	18 49 39.5	-0.8
N15K	Kwethluk River	14.55	47	Pn	Pn	18 49 42.8	-1.1
K15K	Wolf Creek Mou	15.03	38	P	P	18 49 54.1	+1.6
K15K				IAmb	IAmb	18 50 29.4	
	comp=Z,14nm,1.4s						
L16K	Owhat River	15.54	42	P	P	18 49 59.4	+1.2
L16K				IAmb	IAmb	18 50 21.4	
	comp=Z,7.4nm,1.5s						
ANCK	Angle Creek	16.17	57		Pn	18 50 04.3	0.0
M17K	Holitna River	16.26	45	Pn	Pn	18 50 04.4	-0.9
M17K				IAmb	IAmb	18 50 06.9	
	comp=Z,10.0nm,1.5s						
N18K	Kilae Creek	16.67	48	P	P	18 50 12.5	+1.7
N18K				IAmb	IAmb	18 50 24.6	
	comp=Z,4.8nm,1.3s						
N19K	Bonanza Creek	17.37	48	P	P	18 50 18.5	0.0
J18K	Innoko River	17.52	39		P	18 50 19.8	-0.2
P19K	Oil Pt	17.64	53	P	Pn	18 50 22.0	-0.1
CNPM	China Poot	18.61	54	P	P	18 50 31.4	-0.6
CNPM				IAmb	IAmb	18 51 09.1	
	comp=Z,11nm,1.3s						
IMAR	Indian Mountai	19.91	34	P	P	18 50 46.2	+0.1
HIN	Hinchinbrook I	21.10	52	P	P	18 50 58.2	-0.6
HIN				IAmb	IAmb	18 51 01.5	
	comp=Z,7.9nm,1.0s						
FID	Port Fidalgo	21.16	51	P	P	18 50 58.2	-1.4
FID				IAmb	IAmb	18 51 04.1	
	comp=Z,4.6nm,1.2s						
SUCK	Suckling Hills	22.41	54	P	P	18 51 13.4	+0.8
I28M	Miner Creek	24.99	41	P	P	18 51 36.0	-0.6
I28M				IAmb	IAmb	18 52 11.6	
	comp=Z,4.4nm,1.5s						
M29M	Somme Creek	25.17	48	P	P	18 51 40.7	+2.4
N30M	Aishikik Lake	25.77	51	P	P	18 51 46.9	+3.3
N30M				IAmb	IAmb	18 52 30.7	
	comp=Z,4.9nm,1.4s						

BUT 02 19:03:14.2±2.5, 45°.72N±0°.03×112°.13W±0°.05, h8km±5km, Error ellipse: s-maj=6.9km s-min=2.2km az=50.0
NEIC 02 19:03:13.4±2.1, 45°.72N±0°.03×112°.19W±0°.04, h5km±1km, ML3.3/46, ML3.5/22(BUT), Error ellipse: s-maj=6.3km s-min=3.0km az=224.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZ	Bozeman (W)	0.41	108		Pg	19 03 21.3	-0.1
BOZ					Sg	19 03 26.2	-0.6
BOZ	Bozeman (W)	0.41	108	IAML		19 03 26.4	
	6μm,0.3s						
BOZ				IAML		19 03 27.1	
	3μm,0.4s						
BPMT	Black Pine Rid	1.13	310		Pn	19 03 35.9	-0.3
YHB	Horse Butte	1.20	144		Pn	19 03 37.4	+0.3
GCR	Grayling Creek	1.20	140		Pg	19 03 36.6	+0.1
YPDC	Denny Creek	1.22	146		Pg	19 03 36.6	-0.1
LYMT	Lyon Mountain	1.25	357		Pn	19 03 37.7	-0.1
CMI	Centennial Mou	1.26	161		Pg	19 03 37.5	-0.2
YMC	Maple Creek	1.28	139		Pg	19 03 37.6	-0.3
YMV	Mammoth Vault	1.30	125		Pb	19 03 39.0	+0.7
YHH	Holmes Hill	1.33	134		Pg	19 03 38.4	-0.5
YPWB	West Boundary	1.36	145		Pb	19 03 39.5	0.0
YPM	Purple Mountai	1.42	138		Pg	19 03 40.6	+0.1
YNM	Yellowstone No	1.45	133		Pg	19 03 41.1	-0.1
YNM				IAML		19 03 59.1	
	comp=E,707nm,0.4s						
YNM				IAML		19 04 01.1	
	comp=N,631nm,0.3s						
OVMT	Ovando	1.45	338		Pb	19 03 41.0	-0.1
YNR	Norris Junctio	1.47	133		Pb	19 03 41.2	-0.1
YNR	Norris Junctio	1.47	133	IAML		19 04 03.1	
	comp=E,531nm,0.2s						
YNR				IAML		19 04 03.6	
	comp=N,515nm,0.4s						
MSO	Missoula	1.64	313		Pn	19 03 43.6	+0.6
MSO	Missoula	1.64	313	IAML		19 04 11.1	
	comp=N,253nm,0.4s						
MSO				IAML		19 04 11.3	
	comp=N,194nm,0.3s						
YPSB	Soda Butte	1.67	120		Pg	19 03 45.1	-0.2
MCID	Moose Creek	1.69	155		Pb	19 03 45.1	0.0
YMP	Mirror Lake Pl	1.74	124		Pn	19 03 45.0	+0.4
YPP	Pitchstone Pla	1.75	145		Pg	19 03 46.6	-0.4
YPK	Parker Peak, Y	1.88	121		Pn	19 03 46.8	+0.2
FLWY	Flagg Ranch	1.95	147		Pb	19 03 48.9	-0.7
FLWY	Flagg Ranch	1.95	147	IAML		19 04 16.8	
	comp=N,165nm,0.8s						
FLWY				IAML		19 04 21.0	
	comp=N,132nm,0.7s						
IMW	Indian Meadow	2.03	154		Pb	19 03 50.1	-0.9
IMW	Indian Meadow	2.03	154	IAML		19 04 20.0	
	comp=N,261nm,0.4s						
RLMT	Red Lodge	2.14	105		Pn	19 03 50.9	+0.8
MOOW	Moose Ponds	2.23	152		Pb	19 03 52.9	-1.4
FXWY	Fox Creek	2.24	158		Pn	19 03 52.9	+1.5
LOHW	Long Hollow	2.40	151		Pn	19 03 54.4	+0.9
LOHW				IAML		19 04 28.5	
	comp=N,98nm,0.6s						
LOHW				IAML		19 04 29.0	
	comp=N,131nm,0.7s						
TPAW	Teton Pass	2.40	158		Pn	19 03 54.7	+1.1
TPAW				IAML		19 04 34.7	
	comp=N,117nm,0.9s						
SNOW	Snow King Moun	2.48	155		Pn	19 03 55.4	+0.7
SNOW				IAML		19 04 35.0	
	comp=N,76nm,0.7s						
SNOW				IAML		19 04 51.7	
	comp=N,80nm,1.3s						
REDW	Red Top Meadow	2.55	157		Pb	19 03 59.4	-0.3
HLID	Hailey	2.68	217		Pn	19 03 58.6	+1.3
HLID	Hailey	2.68	217	IAML		19 04 40.3	
	comp=N,76nm,0.5s						
HLID				IAML		19 04 41.8	
	comp=N,109nm,0.3s						
PLID	Pearl Lake	2.76	258		Pn	19 03 59.8	+1.3
EGMT	Eagleton	2.84	35		Pn	19 03 59.7	+0.2
EGMT	Eagleton	2.84	35	IAML		19 04 45.2	
	comp=N,241nm,0.3s						
EGMT				IAML		19 04 45.3	
	comp=N,250nm,0.5s						
AHID	Auburn Hatcher	3.06	165		Pn	19 04 02.3	-0.3
MFID	Camas Ranch	3.48	230		Pn	19 04 09.8	+1.5
PD31	Pinedale Array	3.51	146		Pn	19 04 08.5	-0.3
PDAR	Pinedale Array	3.51	146		Pn	19 04 11.2	+2.3
F10A	Beach Ranch, E	3.53	276		Pn	19 04 10.9	+1.9
BMO	Blue Mountains	3.72	258		Pg	19 04 23.7	-0.9
BMO				IAML		19 05 13.0	
	comp=N,63nm,0.5s						
BMO				IAML		19 05 13.4	
	comp=N,68nm,0.2s						
HVU	Hansel Valley	3.97	186	Pg	Pb	19 04 24.1	+0.3
HWUT	Hardware Ranch	4.14	174		Pn	19 04 17.2	-0.2
G08A	Pilot Rock	4.78	267	Pn	Pn	19 04 27.3	+1.2
D08A	Wollman Farm,	4.84	288		Pn	19 04 27.6	+0.7
J08A	Circle Bar Ran	5.08	244	Pn	Pn	19 04 29.9	-0.4
HAWA	Hanford	5.16	280	Pn	Pn	19 04 32.0	+0.8
HAWA				IAML		19 06 06.1	
	comp=N,13nm,1.0s						
HAWA				IAML		19 06 11.2	
	comp=N,31nm,1.1s						
E07A	Sunnyside	5.39	282		Pn	19 04 35.5	+1.0
I07A	Izee	5.45	255	Pn	Pn	19 04 36.3	+0.9
ELK	Elko	5.45	205		Pb	19 04 49.3	0.0
MXC	Moxie City	5.70	282	Pn	Pn	19 04 39.7	+1.1
LTY	Liberty	6.05	288	Pn	Pn	19 04 43.8	+0.2
LON	Longmire	6.75	282		Pn	19 04 54.9	+1.7

ROM 02 19:14:23.3±0.1, 46°.285N±0°.004×12°.578E±0°.005, h9km, ML2.4/70, Error ellipse: s-maj=0.5km s-min=0.3km az=160.0
VIE 02 19:14:24.2±0.1, 46°.29N×12°.58E, h10km, mb2.0/22, ml2.6/22, Error ellipse: s-maj=1.1km s-min=0.8km az=4.0
PRU 02 19:14:26.3, 46°.32N×12°.58E, h4km
LDG 02 19:14:23.3±0.1, 46°.25N×12°.62E, h2km, MI2.3/4, 12C-4D, Error ellipse: s-maj=4.3km s-min=2.2km az=179.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STAL	STALIGIAL	0.07	78	P	Pg	19 14 26.4	+1.7
STAL				S	Sg	19 14 28.3	+2.7
STAL				AML	AML		
	comp=E,10115μm,1.5s						
STAL				AML	AML		
	comp=N,11375μm,0.2s						
STAL				AML	AML		
	comp=E,10165μm,1.5s						
STAL				AML	AML		
	comp=N,12550μm,0.1s						
STAL				AML	AML		
	comp=E,8280μm,0.9s						
MLNI	Malnisio	0.10	182	⇑eP	Pg	19 14 27.0	+1.8
MLNI				eS	Sg	19 14 29.4	+2.9
CIMO	Cimolais	0.14	298	⇓eP	Pg	19 14 26.4	+0.4
CIMO				eS	Sg	19 14 28.0	+0.2
CIMO	Cimolais	0.14	298	P	Pg	19 14 26.4	+0.4
CIMO				S	Sg	19 14

CLUD	**Cludinico**	**0.28**	**41**⇑	*e*Pg	Pg	19 14 29.4	+0.7
CLUD				*e*Sg	Sg	19 14 33.7	+1.4
CLUD	**Cludinico**	**0.28**	**41**	⇑P	Pg	19 14 29.4	+0.7
CLUD				S	Sg	19 14 33.9	+1.5
CLUD				AML	AML		
	comp=E,869μm,0.6s						
CLUD				AML	AML		
	comp=N,1475μm,0.5s						
CLUD				AML	AML		
	comp=E,894μm,0.6s						
CLUD				AML	AML		
	comp=N,1475μm,0.5s						
CLUD				AML	AML		
	comp=E,868μm,0.6s						
FUSE	**Fusea**	**0.32**	**58**⇑	*e*Pg	Pg	19 14 30.1	+0.8
FUSE				*e*Sg	Sg	19 14 35.1	+1.6
FUSE	**Fusea**	**0.32**	**58**	P	Pg	19 14 30.1	+0.7
FUSE				S	Sg	19 14 35.3	+1.9
BOO	**Bordano**	**0.34**	**78**⇑	*e*Pg	Pg	19 14 30.9	+0.9
BOO				*e*Sg	Sb	19 14 36.6	-1.5
BOO	**Bordano**	**0.34**	**78**	P	Pg	19 14 30.5	+0.6
BOO				S	Sb	19 14 36.7	-1.4
BUA	**Buia**	**0.35**	**94**⇑	*e*Pg	Pb	19 14 31.5	-0.8
BUA				*e*Sg	Sb	19 14 38.0	-0.3
GEPF	**Gemona**	**0.36**	**85**	P	Pg	19 14 31.4	+1.1
GEPF				S	Sb	19 14 37.8	-0.8
GEPF				AML	AML		
	comp=N,2300μm,0.3s						
GEPF				AML	AML		
	comp=E,1860μm,0.9s						
FVI	**Forni Avoltri**	**0.37**	**18**	P	Pg	19 14 30.7	+0.3
FVI				S	Sg	19 14 36.3	+1.1
FVI				AML	AML		
	comp=N,1540μm,0.7s						
FVI				AML	AML		
	comp=E,2800μm,0.2s						
FVI				AML	AML		
	comp=N,1540μm,1.3s						
AGOR	**Agordo**	**0.40**	**275**	*e*Pg	Pg	19 14 31.1	+0.2
AGOR				*e*Sg	Sg	19 14 37.3	+1.2
AGOR	**Agordo**	**0.40**	**275**	P	Pg	19 14 31.1	+0.2
AGOR				S	Sg	19 14 37.4	+1.4
ZOU	**Zoufplan**	**0.40**	**38**⇓	*e*Pg	Pg	19 14 31.6	+0.7
ZOU				*e*Sg	Sg	19 14 37.7	+1.5
ZOU	**Zoufplan**	**0.40**	**38**	P	Pg	19 14 31.6	+0.6
ZOU				S	Sb	19 14 38.1	-1.7
ZOU				AML	AML		
	comp=N,600μm,0.5s						
ZOU				AML	AML		
	comp=N,614μm,0.5s						
ZOU				AML	AML		
	comp=E,626μm,0.3s						
ZOU				AML	AML		
	comp=E,632μm,0.3s						
ZOU				AML	AML		
	comp=N,600μm,1.5s						
ZOU				AML	AML		
	comp=N,614μm,1.5s						
AFL	**Alpe Faloria**	**0.41**	**313**	*e*Pg	Pg	19 14 31.5	+0.2
AFL				*e*Sg	Sg	19 14 37.4	+0.7
BAD	**Bernadia**	**0.44**	**91**⇑	*e*Pg	Pg	19 14 32.6	+1.0
BAD	**Bernadia**	**0.44**	**91**	P	Pg	19 14 32.6	+1.0
BAD				S	Sb	19 14 40.4	-0.3
VARN	**Col Varnada, M**	**0.44**	**235**	*e*Pg	Pg	19 14 31.8	+0.1
VARN	**Col Varnada, M**	**0.44**	**235**	P	Pg	19 14 31.9	+0.2
VARN				AML	AML		
	comp=E,550μm,0.3s						
VARN				AML	AML		
	comp=N,408μm,0.9s						
VARN				AML	AML		
	comp=N,403μm,0.9s						
VARN				AML	AML		
	comp=E,566μm,0.3s						
FAU	**Forcella Aurin**	**0.44**	**268**	*e*Pg	Pg	19 14 31.7	-0.1
VINO	**Villanova**	**0.46**	**89**⇑	*e*Pg	Pg	19 14 33.0	+0.9
VINO	**Villanova**	**0.46**	**89**	⇑P	Pg	19 14 33.0	+0.8
VINO				S	Sb	19 14 41.0	-0.5
VINO				AML	AML		
	comp=E,602μm,1.0s						
VINO				AML	AML		
	comp=N,907μm,0.3s						
VINO				AML	AML		
	comp=E,602μm,1.0s						
TLI	**Talmassons**	**0.47**	**134**	Pg	Pb	19 14 33.8	-0.4
PLRO	**Paularo**	**0.48**	**50**	*e*Pg	Pg	19 14 33.3	+0.8
PLRO	**Paularo**	**0.48**	**50**	P	Pg	19 14 33.2	+0.7
PLRO				S	Sb	19 14 40.7	-1.4
ABTA	**Abfaltersbach**	**0.51**	**352**	*e*Pg	Pg	19 14 33.3	+0.3
	comp=E,20nm,0.2s,SNR=71						
ABTA				*e*Sg	Sg	19 14 40.0	+0.4
	comp=E,48nm,0.2s						
PTCC	**Patocco-Chiusa**	**0.54**	**72**	P	Pg	19 14 33.8	+0.2
PTCC				S	Sb	19 14 43.0	-0.7
PTCC				AML	AML		
	comp=E,214μm,0.5s						
PTCC				AML	AML		
	comp=N,334μm,0.2s						
PTCC				AML	AML		
	comp=N,334μm,1.8s						
COLI	**Coloredo**	**0.54**	**102**	*e*Pg	Pb	19 14 35.0	-0.5
MTLO	**Montello**	**0.56**	**220**	*e*Pg	Pb	19 14 35.5	-0.4
ASOL	**Asolo**	**0.67**	**228**	P	Pb	19 14 38.5	+0.8
LSR	**Lussari**	**0.67**	**70**	*e*Pg	Pg	19 14 36.9	+0.7
CGRP	**Cima Grappa**	**0.68**	**237**	*e*Pg	Pb	19 14 37.6	-0.3
CGRP	**Cima Grappa**	**0.68**	**237**	P	Pb	19 14 37.2	-0.7
CGRP				AML	AML		
	comp=N,238μm,0.5s						
CGRP				AML	AML		
	comp=E,201μm,0.4s						
ACOM	**Acomizza, Ital**	**0.69**	**64**	P	Pb	19 14 37.5	-0.7
ACOM				AML	AML		
	comp=E,464μm,0.3s						
ACOM				AML	AML		
	comp=E,482μm,0.3s						
ACOM				AML	AML		
	comp=E,482μm,1.7s						
ACOM				AML	AML		
	comp=E,464μm,1.7s						
ACOM				AML	AML		
	comp=N,421μm,0.8s						
ACOM				AML	AML		
	comp=N,392μm,0.8s						
DRE	**Drenchia**	**0.72**	**96**	*e*Pg	Pb	19 14 38.1	-0.5
IESO	**Jesolo**	**0.73**	**184**	*e*Pg	Pb	19 14 38.5	-0.2
ZIAN	**Ziano**	**0.73**	**274**	*e*Pg	Pg	19 14 37.8	+0.5
ZIAN	**Ziano**	**0.73**	**273**	P	Pg	19 14 37.4	+0.1
ZIAN				AML	AML		
	comp=E,144μm,0.5s						
ZIAN				AML	AML		
	comp=N,216μm,0.5s						
ZIAN				AML	AML		
	comp=N,215μm,0.5s						
SABO	**M.te Sabotino**	**0.73**	**111**	*e*Pg	Pb	19 14 38.8	0.0
SABO	**M.te Sabotino**	**0.73**	**111**	P	Pb	19 14 38.6	-0.3
SABO				AML	AML		
	comp=E,303μm,1.6s						
SABO				AML	AML		
	comp=E,1260μm,0.3s						
SABO				AML	AML		
	comp=N,1380μm,0.9s						
SABO				AML	AML		
	comp=N,365μm,0.9s						
SABO				AML	AML		
	comp=N,365μm,1.1s						
MYKA	**Terra Mystica**	**0.81**	**61**	*e*Pg	Pg	19 14 39.2	+0.5
	comp=N,5.3nm,0.3s,SNR=22						
MYKA				*e*Sg	Sb	19 14 51.7	+0.3
	comp=N,14nm,0.4s						
KOSI	**Kohlern**	**0.88**	**285**	P	Pg	19 14 40.6	+0.3
KOSI				AML	AML		
	comp=E,192μm,1.5s						
KOSI				AML	AML		
	comp=N,111μm,0.3s						
KOSI				AML	AML		
	comp=E,192μm,0.5s						
KBA	**Koelnbreinsper**	**0.97**	**31**	*e*Pg	Pg	19 14 42.3	+0.4
	comp=E,2.1nm,0.1s,SNR=10						
KBA				Sg	Sg	19 14 55.4	+0.9
	comp=E,19nm,0.2s,SNR=9.4						
LESA	**Schwarzleotal**	**1.18**	**2**	*e*Pg	Pg	19 14 46.0	+0.1
	comp=E,7.9nm,0.2s						
LESA				*e*Sg	Sb	19 15 01.8	-0.5
	comp=E,31nm,0.3s						
WTTA	**Wattenberg**	**1.22**	**327**	*e*Pg	Pg	19 14 46.9	+0.2
	comp=E,15nm,0.2s,SNR=41						
WTTA				*e*Sg	Sg	19 15 02.5	-0.1
	comp=E,76nm,0.4s						
WATA	**Walderalm**	**1.30**	**327**	*e*Pg	Pb	19 14 48.4	-0.2
	comp=E,4.5nm,0.2s,SNR=16						
WATA				*e*Sg	Sg	19 15 05.3	+0.1
	comp=E,21nm,0.2s						
OBKA	**Obir**	**1.36**	**78**	*e*Pg	Pb	19 14 50.2	+0.6
	comp=E,4.2nm,0.4s,SNR=17						
OBKA				*e*Sg	Sn	19 15 10.7	+2.6
	comp=E,12nm,0.3s						
SQTA	**Sankt Quirin**	**1.37**	**316**	*e*Pg	Pb	19 14 49.8	0.0
	comp=E,3.9nm,0.2s,SNR=10						
SQTA				*i* Sg	Sg	19 15 07.0	-0.4
	comp=E,18nm,0.3s						
MOTA	**Moosalm**	**1.51**	**317**	*e*Pg	Pg	19 14 52.5	+0.2
	comp=E,1.1nm,0.1s,SNR=4.8						
MOTA				*e*Sg	Sn	19 15 12.5	+0.6
	comp=E,9.2nm,0.4s						
FETA	**Feichten**	**1.51**	**301**	*e*Pg	Pb	19 14 52.1	-0.1
	comp=E,5.8nm,0.3s,SNR=36						
FETA				*e*Sg	Sb	19 15 11.5	-0.4
	comp=E,24nm,0.4s						
BRJN	**Brijuni**	**1.56**	**149**	*e*Pn	Pn	19 14 52.4	+0.4
RIY	**Rijeka**	**1.60**	**125**	*e*Pn	Pb	19 14 53.3	-0.2
BIOA	**Bad Ischl, Aus**	**1.61**	**25**	*e*Pg	Pg	19 14 54.8	+0.8
	comp=E,1.6nm,0.2s						
BIOA				*i* Sg	Sg	19 15 15.5	+0.6
	comp=E,35nm,0.5s						
SMRN	**Sveta Marina**	**1.62**	**138**	*e*Pn	Pb	19 14 53.6	-0.3
SOKA	**Soboth**	**1.73**	**75**	*e*Pg	Pb	19 14 55.9	+0.2
	comp=E,1.3nm,0.2s						
SOKA				*e*Sg	Sg	19 15 20.2	+1.5
	comp=E,11nm,0.4s						
RETA	**Reutte**	**1.78**	**315**	*e*Pg	Pg	19 14 57.6	+0.2
	comp=E,2.5nm,0.2s						
RETA				*i* Sg	Sg	19 15 20.8	+0.4
	comp=E,11nm,0.2s						
MOA	**Molln**	**1.96**	**35**	*e*Pg	Pb	19 15 00.1	+0.3
	comp=E,5.9nm,0.3s						
MOA				*e*Sg	Sg	19 15 27.1	+0.8
	comp=E,9.2nm,0.4s						
DAVA	**Damuels**	**2.15**	**300**	*e*Pg	Pg	19 15 03.8	-0.7
	comp=E,2.8nm,0.2s						
DAVA				*e*Sg	Sg	19 15 32.6	+0.2
	comp=E,4.7nm,0.2s						
ARSA	**Arzberg**	**2.24**	**62**	*e*Pn	Pn	19 15 02.7	+1.3
	comp=E,0.9nm,0.2s						
ARSA				*e*Sg	Sg	19 15 35.2	+0.1
	comp=E,1.4nm,0.3s						
NVLJ	**Novalja**	**2.31**	**136**	*e*Pn	Pn	19 15 03.3	+0.9
PLIT	**Plitvice**	**2.52**	**122**	*e*Pn	Pn	19 15 06.8	+1.6
VIRC	**Vir**	**2.60**	**138**	*e*Pn	Pn	19 15 07.2	+0.8
CONA	**Conrad Observa**	**2.78**	**52**	*e*Pg	Pn	19 15 10.5	+1.6
	comp=E,0.5nm,0.2s						
CONA				*e*Sg	Sg	19 15 57.1	+4.4
	comp=E,3.6nm,0.4s						
CKRC	**Cesky Krumlov**	**2.82**	**23**	*e*PN	Pn	19 15 10.9	+1.5
CKRC				*e*SN	Sn	19 15 45.5	+1.6
DUGI	**Dugi Otok**	**2.84**	**142**	*e*Pn	Pn	19 15 10.5	+0.9
RONA	**Rosalia, Austr**	**2.91**	**59**	*e*Pn	Pn	19 15 11.8	+1.2
	comp=E,0.5nm,0.1s						
RONA				*e*Sn	Sn	19 15 48.4	+2.2
	comp=E,1.1nm,0.2s						
KHC	**Kasperske Hory**	**2.96**	**12**	*e*PN	Pn	19 15 12.1	+0.8
KHC				*e*SN	Sn	19 15 48.6	+1.2
ZVC	**Zvikov**	**3.37**	**18**	*e*PN	Pn	19 15 19.1	+2.2
ZVC				*e*SN	Sn	19 15 58.3	+0.9
ZIRJ	**Zirje**	**3.37**	**139**	*e*Pn	Pn	19 15 18.1	+1.2
KRUC	**Moravsky**	**3.80**	**41**	*e*PN	Pn	19 15 24.4	+1.5
GOPC	**GO Pecny, Ondr**	**3.95**	**21**	*e*SN	Sn	19 16 11.3	-0.5
LPG	**La Plagne**	**4.16**	**262**	*e*Pn	Pn	19 15 25.9	-2.2
LPL	**La Plagne**	**4.17**	**262**	*e*Pn	Pn	19 15 26.0	-2.2
CDF	**Champ du Feu**	**4.23**	**303**	*e*P	Pn	19 15 30.1	+1.3
CDF				*e*Sg	Sg	19 16 35.4	-3.7
	comp=E,0.5nm,0.2s						
HINF	**Hinteralfeld**	**4.24**	**294**	*e*Pn	Pn	19 15 26.4	-2.6
HINF				*e*Sn	Sn	19 16 13.8	-5.3
	comp=E,0.8nm,0.3s						
SBF	**Sospel**	**4.38**	**239**	*e*P	Pn	19 15 32.2	+1.4
SBF				*e*Sn	Sn	19 16 18.2	-4.2
	comp=E,2.1nm,0.3s						
HSKC	**Hora Svate Kat**	**4.40**	**7**	*e*SN	Sn	19 16 21.6	-1.3
HAU	**Haudompre**	**4.63**	**295**	*e*P	Pn	19 15 35.4	+1.2
BRG	**Berggiesshubel**	**4.71**	**10**	Sg	Sg	19 16 53.0	-1.6
BRG				Amp		19 17 06.4	
	comp=Z,2.8nm,0.5s						
CLL	**Collm**	**5.07**	**3**	*e*Pn	Pn	19 15 40.0	-0.3
CLL				*e*Sg	Sg	19 17 02.0	-4.1
LMR	**La Mourre**	**5.23**	**238**	*e*Sn	Sn	19 16 37.9	-5.5
	comp=Z,0.8nm,0.3s						

NOU ***02*** *19:34:10.9, 17.°01S×178.°28W, h504km, mb4.6/24, Fiji Islands Region*
IDC ***02*** *19:34:16.2±1.9, 17.°56S×179.°08W, h508km±20km, mb3.3/13, mbtmp4.2/14, Error ellipse: s-maj=15.3km s-min=11.3km az=118.0*
NEIC ***02*** *19:34:18.7±1.9, 17.°5S±0.°1×178.°8W±0.°1, h546km±9km, mb4.5/39, Error ellipse: s-maj=20.7km s-min=18.4km az=150.0*

ISC 02 19:34:18.7±0.5,**17.°56S**±0.°08×**178.°94W**±0.°08,**h539**km, **n97**,σ**1.325**/102,**mb4.4**/37,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.88**	**266**	P	**P**	**19 35 34.7**	**+2.5**
NIUE	**Niue**	**8.69**	**101**	P	**P**	**19 36 21.7**	**-1.4**
PINNC	**Pines Island,**	**13.74**	**246**	P	**P**	**19 37 13.2**	**-2.1**
DZM	**Mont Dzumac**	**14.47**	**250**	P	**P**	**19 37 24.4**	**+1.4**
DZM	**Mont Dzumac**	**14.47**	**250**	P	**P**	**19 37 23.0**	**+0.1**
DZM	**Mont Dzumac**	**14.47**	**250**	P	**P**	**19 37 18.7**	**-4.3**
	17nm,1.1s,baz=338,slow=16,SNR=2.8						
KOUNC	**Koumac, New Ca**	**16.14**	**257**	P	**P**	**19 37 41.8**	**+1.8**
KOUNC	**Koumac, New Ca**	**16.14**	**257**	P	**P**	**19 37 40.1**	**+0.1**
MXZ	**Matakaoa Point**	**20.07**	**186**	P	**P**	**19 38 14.3**	**-1.5**
URZ	**Urewera**	**20.91**	**189**	P	**P**	**19 38 22.9**	**-0.5**
URZ	**Urewera**	**20.91**	**189**	P	**P**	**19 38 20.3**	**-3.1**
	8.8nm,0.3s,baz=329,slow=2.7,SNR=26						
URZ				S	**S**	**19 41 43.1**	**+1.7**
	9.7nm,0.9s,baz=122,slow=19,SNR=2.3						
	8.8nm,0.3s						
RTZ	**Ruatahuna**	**21.28**	**189**	P	**P**	**19 38 23.7**	**-3.1**
BKZ	**Black Stump Fm**	**21.89**	**190**	P	**P**	**19 38 31.3**	**-1.0**
BKZ	**Black Stump Fm**	**21.89**	**190**	P	**P**	**19 38 30.7**	**-1.6**
BKZ				IAmb	IAmb	19 38 48.5	
	comp=Z,27nm,1.2s						
MRZ	**Mangatainoka R**	**23.50**	**191**	P	**P**	**19 38 45.1**	**-1.5**
QRZ	**Quartz Range**	**24.32**	**196**	P	**P**	**19 38 55.4**	**+1.5**
QRZ	**Quartz Range**	**24.32**	**196**	P	**P**	**19 38 54.8**	**+0.9**
JCZ	**Jackson Bay**	**28.39**	**199**	P	**P**	**19 39 31.2**	**+1.5**
EIDS	**Eidsvold**	**28.92**	**249**	P	**P**	**19 39 33.8**	**-0.7**
EIDS				IAmb	IAmb	19 39 35.3	
	comp=Z,16nm,0.8s						
ARMA	**Armidale**	**29.68**	**239**	P	**P**	**19 39 42.5**	**+1.3**
ARMA	**Armidale**	**29.68**	**239**	P	**P**	**19 39 41.6**	**+0.4**
ARMA				IAmb	IAmb	19 39 45.9	
	comp=Z,31nm,1.2s						
CTAO	**Charters Tower**	**33.01**	**260**	P	**P**	**19 40 09.7**	**0.0**
CTAO	**Charters Tower**	**33.01**	**260**	P	**P**	**19 40 09.6**	**-0.1**
CTAO				IAmb	IAmb	19 40 10.4	
	comp=Z,15nm,0.8s						
CMSA	**Cobar Meteorol**	**34.88**	**240**	P	**P**	**19 40 26.0**	**+0.7**
COEN	**Coen**	**36.60**	**270**	P	**P**	**19 40 40.2**	**+0.5**
COEN	**Coen**	**36.60**	**270**	P	**P**	**19 40 39.9**	**+0.2**
COEN				IAmb	IAmb	19 40 40.9	
	comp=Z,16nm,0.7s						
TOO	**Toolangi**	**37.00**	**230**	P	**P**	**19 40 43.7**	**+1.0**
STKA	**Stephens Creek**	**38.36**	**241**	P	**P**	**19 40 54.8**	**+1.0**
STKA	**Stephens Creek**	**38.36**	**241**	P	**P**	**19 40 53.0**	**-0.8**
	comp=Z,11nm,0.6s,baz=90,slow=7.2,SNR=21						
	comp=Z,11nm,0.6s						
HTT	**Hallett**	**40.89**	**239**	P	**P**	**19 41 15.0**	**+0.8**
LCRK	**Leigh Creek**	**40.96**	**244**	P	**P**	**19 41 15.3**	**+0.6**
OOD	**Oodnadatta**	**42.88**	**248**	P	**P**	**19 41 30.8**	**+0.9**
BBOO	**Buckleboo**	**43.13**	**241**	P	**P**	**19 41 32.3**	**+0.4**
BBOO	**Buckleboo**	**43.13**	**241**	P	**P**	**19 41 31.9**	**+0.1**
BBOO				IAmb	IAmb	19 41 33.5	
	comp=Z,31nm,0.9s						
WRA	**Warramunga Arr**	**44.20**	**259**	P	**P**	**19 41 38.9**	**-1.5**
	comp=Z,5.3nm,0.6s,baz=94,slow=7.9,SNR=116						
WRA				PcP	**PcP**	**19 43 13.6**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=197,slow=3.8,SNR=4.0						
	comp=Z,5.3nm,0.6s						
AS01	**Alice Springs**	**44.36**	**254**	P	**P**	**19 41 41.5**	**0.0**
ASAR	**Alice Springs**	**44.40**	**254**	P	**P**	**19 41 40.9**	**-1.0**
	comp=Z,46nm,0.8s,baz=87,slow=8.2,SNR=427						
ASAR				PcP	**PcP**	**19 43 14.3**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=104,slow=4.1,SNR=4.1						
ASAR				ScP	**ScP**	**19 46 17.0**	**+2.1**
	comp=Z,1.3nm,1.0s,baz=43,slow=4.2,SNR=5.6						
ASAR				S	**S**	**19 47 34.9**	**-2.7**
	comp=Z,1.9nm,1.1s,baz=88,slow=14,SNR=5.5						
MULG	**Mulgathing**	**44.50**	**245**	P	**P**	**19 41 42.5**	**0.0**
KDU	**Kakadu**	**47.06**	**269**	P	**P**	**19 42 02.1**	**-0.1**
MTN	**Manton Dam**	**48.31**	**268**	P	**P**	**19 42 10.7**	**-0.8**
MTN				IAmb	IAmb	19 42 11.7	
	comp=Z,31nm,0.8s						
WRKA	**Warakurna**	**49.47**	**252**	P	**P**	**19 42 20.2**	**+0.1**
FORT	**Forrest**	**49.70**	**244**	P	**P**	**19 42 21.2**	**-0.4**
FORT	**Forrest**	**49.70**	**244**	P	**P**	**19 42 20.4**	**-1.2**
FAKI	**Fak Fak**	**50.02**	**281**	P	**P**	**19 42 24.2**	**+0.1**
FAKI				IAmb	IAmb	19 42 59.8	
	comp=Z,26nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.59**	**260**	P	**P**	**19 42 43.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**52.59**	**260**	P	**P**	**19 42 43.0**	**+0.2**
SOEI	**Soe**	**55.57**	**270**	P	**P**	**19 43 03.7**	**-0.2**
TNTI	**Ternate**	**55.89**	**283**	P	**P**	**19 43 06.3**	**+0.2**
TNTI				IAmb	IAmb	19 43 07.3	
	comp=Z,17nm,0.9s						
PSA00	**Pilbara Seismi**	**57.51**	**255**	P	**P**	**19 43 16.6**	**-0.5**
PSA00				IAmb	IAmb	19 43 17.6	
	comp=Z,20nm,0.9s						
PSA00	**Pilbara Seismi**	**57.51**	**255**	P	**P**	**19 43 16.2**	**-0.8**
PSA00				IAmb	IAmb	19 43 17.6	
	comp=Z,12nm,1.1s						
MBWA	**Marble Bar**	**57.67**	**256**	P	**P**	**19 43 17.4**	**-0.8**
MBWA				IAmb	IAmb	19 43 18.9	
	comp=Z,26nm,1.2s						
MEEK	**Meekatharra**	**58.08**	**249**	P	**P**	**19 43 20.3**	**-0.6**
MORW	**Morawa**	**60.16**	**246**	P	**P**	**19 43 33.4**	**-1.4**
MORW				IAmb	IAmb	19 43 57.0	
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	**60.75**	**185**	P	**P**	**19 43 38.3**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=212,slow=4.9,SNR=2.8						
	comp=Z,0.9nm,0.9s						
PLAI	**Plampang**	**62.00**	**269**	P	**P**	**19 43 47.1**	**+0.1**
TOLI2	**Tolitoli**	**62.16**	**281**	P	**P**	**19 43 47.8**	**-0.3**
JAGI	**Jajag, Banyuwa**	**65.55**	**269**	P	**P**	**19 44 08.4**	**-1.3**
JAGI				IAmb	IAmb	19 44 09.7	
	comp=Z,32nm,1.0s						
MJAR	**Matsushiro Arr**	**67.33**	**324**	P	**P**	**19 44 19.2**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=142,slow=6.2,SNR=6.8						
	comp=Z,1.3nm,0.5s						
ASAJ	**Asahikawa**	**70.73**	**332**	P	**P**	**19 44 39.8**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=184,slow=14,SNR=1.6						
	comp=Z,1.3nm,0.6s						
QSPA	**South Pole Qui**	**72.49**	**180**	P	**P**	**19 44 51.8**	**+1.2**
QSPA	**South Pole Qui**	**72.49**	**180**	P	**P**	**19 44 51.5**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=3.6,slow=0.7,SNR=7.7						
	comp=Z,1.4nm,0.8s						
PETK	**Petropavlovsk-**	**73.22**	**346**	P	**P**	**19 44 54.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=128,slow=7.8,SNR=3.3						
	comp=Z,1.0nm,0.6s						
NJ2	**Nanjing**	**77.33**	**310**	*e*P	**P**	**19 45 19.2**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
O18K	**Koktuh Hills**	**79.52**	**12**	P	**P**	**19 45 28.0**	**-1.2**
O18K				IAmb	IAmb	19 45 29.5	
	comp=Z,8.6nm,0.8s						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**19 45 30.3**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=225,slow=8.7,SNR=6.0						
	comp=Z,1.1nm,0.8s						
IPM	**Ipoh**	**81.88**	**277**	P	**P**	**19 45 42.7**	**+0.2**
IPM				IAmb	IAmb	19 45 44.0	
	comp=Z,9.1nm,0.9s						
SUA	**Susitna One**	**81.91**	**13**	P	**P**	**19 45 41.1**	**-0.6**
SCM	**Sheep Creek Mo**	**83.02**	**15**	P	**P**	**19 45 46.2**	**-1.1**
SCM				IAmb	IAmb	19 45 47.9	
	comp=Z,6.5nm,0.8s						
MESA	**MESA**	**83.04**	**18**	P	**P**	**19 45 48.1**	**+0.6**
MESA				IAmb	IAmb	19 45 48.4	
	comp=Z,13nm,0.9s						
CAST	**Castle Rocks**	**83.39**	**12**	P	**P**	**19 45 47.0**	**-2.0**
CAST				IAmb	IAmb	19 45 48.1	
	comp=Z,5.1nm,0.9s						
VRDI	**Verde Repeater**	**83.49**	**16**	P	**P**	**19 45 48.1**	**-1.6**
GLB	**Gilahina Butte**	**83.57**	**16**	P	**P**	**19 45 48.4**	**-1.6**
J20K	**Nowinta River**	**83.70**	**11**	P	**P**	**19 45 49.1**	**-1.3**
RND	**Reindeer**	**84.05**	**13**	P	**P**	**19 45 51.5**	**-0.8**
RND				IAmb	IAmb	19 45 52.6	
	comp=Z,5.9nm,0.8s						
GSI	**Gunungsitoli**	**84.18**	**273**	P	**P**	**19 45 53.7**	**-0.3**
GSI				IAmb	IAmb	19 45 56.1	
	comp=Z,12nm,0.9s						
M26K	**Nabesna, AK**	**84.59**	**16**	P	**P**	**19 45 54.5**	**-0.4**
WRH	**Wood River Hil**	**85.15**	**13**	P	**P**	**19 45 56.4**	**-1.1**
ILAR	**Eielson Array**	**85.67**	**13**	P	**P**	**19 45 59.0**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=213,slow=6.3,SNR=5.9						
	comp=Z,0.5nm,0.6s						
J26L	**Joseph Creek**	**86.20**	**15**	P	**P**	**19 46 02.4**	**-0.3**
TXAR	**Lajitas Array**	**86.24**	**58**	P	**P**	**19 46 05.7**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=216,slow=6.6,SNR=7.2						
	comp=Z,0.6nm,0.7s						
HHC	**Hu-ho-hao-te**	**86.67**	**315**	*e*P	**P**	**19 46 08.3**	**+2.8**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,69nm,5.7s						
PDAR	**Pinedale Array**	**87.45**	**44**	P	**P**	**19 46 09.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=226,slow=4.5,SNR=4.2						
	comp=Z,0.5nm,0.6

CHN4	Tsaushan	0.15	131	⇓	iP	Pb	19 37 02.5	-0.6
	baz=131								
CHN4					eS	Sg	19 37 04.8	-0.8
	baz=131								
TWK	Hsinying	0.18	175	⇑	iP	Pb	19 37 03.3	-0.5
	baz=175								
TWK					i S	Sg	19 37 06.8	+0.3
	baz=175								
ICHU	Yijhu	0.20	244	⇓	iP	Pb	19 37 03.7	-0.3
	baz=247								
ICHU					S	Sg	19 37 08.3	+1.6
	baz=247								
TPUB	Ta-pu	0.21	135		P	Pb	19 37 03.5	-0.7
TPUB	Ta-pu	0.21	135	⇓	iP	Pb	19 37 03.5	-0.7
	baz=136								
TPUB					i S	Sg	19 37 06.8	-0.2
	baz=136								
SNST	Tainan City	0.23	174	⇑	iP	Pb	19 37 04.1	-0.5
	baz=177								
SNST					i S	Sg	19 37 07.9	+0.3
	baz=177								
WSL	Shuilin Townsh	0.23	288	⇓	iP	Pb	19 37 04.5	-0.1
	baz=289								
WSL					eS	Sg	19 37 09.6	+1.8
	baz=289								
WTP	Ta-pu	0.24	147	⇓	iP	Pb	19 37 04.3	-0.5
	baz=147								
WTP					i S	Sg	19 37 08.5	+0.5
	baz=147								
WDLH	Douliu	0.25	14	⇑	iP	Pb	19 37 05.0	+0.2
	baz=11								
WDLH					S	Sb	19 37 10.4	+1.5
	baz=11								
WGK	Gukeng	0.25	19	⇑	iP	Pb	19 37 05.1	+0.1
	baz=18								
WGK					eS	Sb	19 37 10.3	+1.2
	baz=18								
CHN8	Yiju	0.26	247		i P	Pb	19 37 04.7	-0.4
	baz=248								
CHN8					i S	Sb	19 37 10.0	+0.8
	baz=248								
CHN1	Nanshi	0.27	169	⇑	iP	Pb	19 37 04.7	-0.5
	baz=171								
CHN1					i S	Sb	19 37 09.2	-0.3
	baz=171								
WSF	Szhu	0.30	310	⇓	iP	Pb	19 37 05.5	-0.2
	baz=310								
WSF					i S	Sb	19 37 11.0	+0.7
	baz=310								
SSHA	Shanhua	0.35	208	⇑	iP	Pb	19 37 06.8	+0.1
	baz=211								
SSHA					eS	Sb	19 37 13.8	+1.9
	baz=211								
SCLT	Jiali	0.37	223		P	Pb	19 37 06.9	-0.1
	baz=224								
SCLT					eS	Sb	19 37 14.5	+2.0
	baz=224								
SGST	Jiashian	0.38	164	⇑	iP	Pg	19 37 05.9	-0.7
	baz=165								
SGST					eS	Sb	19 37 12.1	-0.6
	baz=165								
CHN3	Shinhua	0.38	195	⇑	iP	Pb	19 37 07.6	+0.4
	baz=207								
CHN3					eS	Sb	19 37 15.2	+2.4
	baz=207								
STYT	Tauyuan	0.39	137	⇓	iP	Pb	19 37 06.8	-0.4
	baz=138								
STYT					S	Sb	19 37 12.8	-0.3
	baz=138								
STYH	Taoyuan	0.39	135	⇓	iP	Pb	19 37 06.8	-0.6
	baz=136								
STYH					S	Sb	19 37 12.7	-0.5
	baz=136								
WHYT	Xinyi Township	0.43	55	⇓	P	Pb	19 37 07.7	-0.3
	baz=53								
WHYT					S	Sb	19 37 14.4	+0.2
	baz=53								
WJS	Zhushan	0.44	32	⇑	iP	Pb	19 37 08.3	+0.2
	baz=30								
WJS					S	Sb	19 37 15.5	+1.0
	baz=30								
SHHT	Tainan City	0.44	195	⇑	iP	Pb	19 37 09.0	+0.9
	baz=206								
SHHT					eS	Sb	19 37 17.7	+3.2
	baz=206								
YUS	Yu-Shan	0.44	85	⇓	iP	Pb	19 37 08.3	-0.2
	baz=84								
YUS					S	Sb	19 37 15.3	+0.3
	baz=84								
WTCT	Ta-ch'eng	0.45	337		P	Pb	19 37 08.2	-0.1
	baz=337								
WTCT					i S	Sb	19 37 15.5	+0.8
	baz=337								
RLNB	Erlin	0.45	347	⇑	P	Pb	19 37 08.4	0.0
	baz=337								
RLNB					S	Sb	19 37 15.7	+0.8
	baz=337								
WRL	Guolierlin Hig	0.46	349	⇑	iP	Pb	19 37 08.6	+0.1
	baz=339								
WRL					eS	Sb	19 37 16.3	+1.2
	baz=339								
TAI1	Yung-k'ang	0.46	209		eP	Pb	19 37 09.1	+0.5
	baz=221								
TSCK	Chigu Township	0.46	230		eP	Pb	19 37 08.5	-0.1
	baz=231								
TSCK					eS	Sb	19 37 17.3	+2.1
	baz=231								
WNT	Mingjian	0.47	25	⇑	iP	Pb	19 37 08.9	+0.2
	baz=23								
WNT					eS	Sb	19 37 16.4	+1.1
	baz=23								
SLGT	Liugui	0.48	160		eP	Pb	19 37 09.0	+0.2
	baz=162								
SLGT					eS	Sb	19 37 16.4	+0.7
	baz=162								
WNT1	Nantou City	0.49	23	⇑	P	Pb	19 37 09.3	+0.2
	baz=21								
WNT1					eS	Sb	19 37 16.4	+0.3
	baz=21								
TAI	Tainan	0.52	209		P	Pb	19 37 10.1	+0.7
	baz=220								
TAI					eS	Sn	19 37 19.4	-0.5
	baz=220								
WYL	Yuanlin Townsh	0.52	11	⇑	eP	Pb	19 37 09.5	0.0
	baz=9.0								
WYL					eS	Sb	19 37 18.1	+1.3
	baz=9.0								
SSLB	Suanglung	0.56	53		P	Pb	19 37 10.0	-0.2
SSLB	Suanglung	0.56	53	⇓	iP	Pb	19 37 10.0	-0.2
	baz=51								
SSLB					i S	Sb	19 37 18.1	+0.2
	baz=51								
ELDTW	Lidau	0.56	117	⇓	iP	Pb	19 37 10.1	-0.3
	baz=110								
ELDTW					S	Sb	19 37 18.1	0.0
	baz=110								
TYC	Yuchr	0.57	38	⇑	iP	Pb	19 37 10.8	+0.3
	baz=37								
TYC					S	Sb	19 37 19.5	+1.2
	baz=37								
SMLT	Sun Moon Lake	0.58	42	⇑	iP	Pb	19 37 10.9	+0.2
	baz=41								
SMLT					eS	Sb	19 37 19.8	+1.0
	baz=41								
TWM1	Shoushan	0.62	184	⇑	iP	Pn	19 37 13.0	+0.1
	baz=169								
WWF	Wufeng	0.63	19	⇑	P	Pb	19 37 11.6	+0.2
	baz=18								
WWF					S	Sb	19 37 21.1	+1.3
	baz=18								
VWDT	VWDT	0.69	64	⇓	iP	Pb	19 37 12.7	+0.3
	baz=63								
VWDT					eS	Sb	19 37 21.3	-0.3
	baz=63								
SNJT	Kaohsiung City	0.70	190		P	Pn	19 37 14.4	+0.4
	baz=192								
SNJT					eS	Sn	19 37 25.4	+0.9
	baz=192								
SSD	Sandimen	0.71	168	⇑	iP	Pb	19 37 13.1	+0.3
	baz=156								
SSD					S	Sb	19 37 23.4	+1.0
	baz=156								
DPDB	Guoxing	0.72	36	⇑	P	Pb	19 37 13.0	+0.1
	baz=34								
DPDB					i S	Sb	19 37 23.4	+0.9
	baz=34								
WPL	Puli Township	0.72	38		eP	Pb	19 37 12.9	0.0
	baz=37								
WPL					S	Sb	19 37 23.0	+0.5
	baz=37								
TCU	Taichung	0.72	15		eP	Pb	19 37 12.9	-0.1
	baz=15								
WCS	Beigang Elemen	0.73	34		eP	Pb	19 37 13.3	+0.3
	baz=32								
WCS					S	Sb	19 37 24.0	+1.2
	baz=32								
EHD	Haiduan	0.74	114	⇓	P	Pb	19 37 13.2	-0.1
	baz=114								
YULB	Yu-li	0.76	94		P	Pb	19 37 13.5	-0.2
YULB	Yu-li	0.76	94	⇓	P	Pb	19 37 13.4	-0.2
	baz=104								
YULB					eS	Sb	19 37 23.3	-0.4
	baz=104								
TWF1	Yuli	0.77	97	⇓	iP	Pb	19 37 13.7	0.0
	baz=107								
TWF1					eS	Sb	19 37 24.2	+0.3
	baz=107								
TSPT	Pingtung City	0.77	178	⇑	P	Pn	19 37 15.2	+0.3
	baz=168								
TSPT					eS	Sn	19 37 27.5	+1.4
	baz=168								
WDGT	Dungji	0.77	256	⇑	P	Pg	19 37 13.3	-0.5
	baz=256								
WDGT					i S	Sg	19 37 23.7	-0.3
	baz=256								
ECS	Chishang	0.77	117	⇓	iP	Pb	19 37 14.1	+0.2
	baz=109								
ECS					eS	Sn	19 37 25.5	-0.8
	baz=109								
EHY	Hungye	0.78	86	⇓	iP	Pb	19 37 14.2	+0.2
	baz=86								
EHY					i S	Sb	19 37 25.2	+0.9
	baz=86								
EYUL	Yuli	0.79	97	⇓	P	Pb	19 37 14.2	+0.2
	baz=107								
EYUL					eS	Sb	19 37 25.2	+0.8
	baz=107								
FULB	Fuli	0.80	108	⇓	iP	Pn	19 37 14.8	-0.5
	baz=108								
FULB					eS	Sn	19 37 26.1	-0.8
	baz=108								
WUSB	Renai	0.80	47	⇓	P	Pb	19 37 14.3	-0.1
	baz=46								
WUSB					S	Sg	19 37 24.8	-0.3
	baz=46								
EHYH	Wanrong	0.80	87		P	Pb	19 37 14.6	+0.2
	baz=87								
LONT	Longtian	0.81	132	⇓	P	Pb	19 37 14.6	+0.1
	baz=132								
LONT					S	Sb	19 37 25.9	+0.7
	baz=132								
OWD	Renai	0.82	52	⇓	P	Pb	19 37 14.9	+0.2
	baz=51								
OWD					eS	Sg	19 37 25.3	-0.4
	baz=51								
PHUB	P'eng-hu	0.83	275	⇓	iP	Pg	19 37 14.0	-0.9
	baz=274								
PHUB					eS	Sg	19 37 25.1	-0.8
	baz=274								
TWG	Pinlang	0.83	138	⇓	iP	Pb	19 37 15.1	+0.2
	baz=128								
TWG					S	Sb	19 37 26.7	+0.8
	baz=128								
TWGBT	Beinan	0.84	138		P	Pn	19 37 15.4	-0.5
TWGBT	Beinan	0.84	138	⇓	iP	Pb	19 37 15.2	+0.1
	baz=128								
TWGBT					i S	Sb	19 37 26.8	+0.7
	baz=128								
MASBT	Mashibuluo	0.85	170	⇑	P	Pb	19 37 15.3	+0.2
	baz=160								
MASBT					eS	Sb	19 37 26.7	+0.5
	baz=160								
PNG	Penghu	0.85	278	⇓	eP	Pg	19 37 14.4	-0.9
	baz=278								
HGSD	Ruisui	0.88	87	⇓	P	Pn	19 37 16.3	-0.1
	baz=87								
HGSD					eS	Sn	19 37 29.4	+0.6
	baz=87								
WARBT	Fenglin Townsh	0.88	72	⇓	iP	Pb	19 37 15.8	+0.1
	baz=72								
WARBT					i S	Sb	19 37 27.2	0.0
	baz=72								
CHGB	Renai	0.89	46	⇓	P	Pb	19 37 15.8	-0.1
	baz=45								
CHGB					eS	Sb	19 37 27.6	+0.1
	baz=45								
CHKH	Chenggong	0.89	107	⇓	P	Pn	19 37 16.3	-0.3
	baz=100								
CHKT	Chengkung	0.89	113	⇓	iP	Pn	19 37 16.7	+0.1
	baz=113								
CHKT					eS	Sn	19 37 31.1	+1.9
	baz=113								
EDH	Donghe	0.90	122	⇓	P	Pn	19 37 16.4	-0.3
	baz=122								
EDH					eS	Sn	19 37 30.1	+0.7
	baz=122								
WDJ	Dajia District	0.91	10		eP	Pb	19 37 16.6	+0.4
	baz=9.0								
WDJ					eS	Sn	19 37 29.6	+0.1
	baz=9.0								
ECBN	Changbin	0.91	98	⇓	eP	Pn	19 37 17.3	+0.4
	baz=98								
ECBN					eS	Sn	19 37 30.9	+1.3
	baz=98								
TTN	Taitung	0.93	138		eP	Pn	19 37 16.9	-0.2
	baz=139								
TTN					eS	Sn	19 37 31.7	+1.6
	baz=139								
WHP	Taichung City	0.93	28		eP	Pb	19 37 16.8	+0.1
	baz=28								
ESL	Shilin	0.95	67	⇓	iP	Pn	19 37 17.2	-0.2
	baz=67								
ESL					eS	Sb	19 37 29.8	+0.4
	baz=67								
ECL	Taimali	0.96	152		P	Pn	19 37 17.3	-0.2
	baz=153								
ECL					S	Sn	19 37 30.8	0.0
	baz=153								
VCHM	Qimei	0.99	256		eP	Pb	19 37 16.7	-0.8
	baz=256								
VCHM					i S	Sg	19 37 29.9	-1.0
	baz=256								
NSY	Sanyi	1.00	15		eP	Pg	19 37 17.9	-0.3
	baz=16								
WHF	Hehuan Shan	1.00	46		eP	Pb	19 37 18.2	+0.1
	baz=46								
WHF					eS	Sb	19 37 31.4	+0.2
	baz=46								
TDCB	Techi	1.02	38		eP	Pb	19 37 17.9	-0.2
	baz=48								
TWT	Tachien	1.03	39		eP	Pb	19 37 18.0	-0.3
	baz=37								
TWT					eS	Sg	19 37 31.8	-0.5
	baz=37								
LXIB	Xiulin Townshi	1.03	56	⇓	iP	Pg	19 37 18.5	-0.4
	baz=44								
LXIB					i S	Sb	19 37 32.5	+0.7
	baz=44								
SHUL	Shoufeng	1.06	71		eP	Pn	19 37 19.5	+0.6
	baz=60								
FUSS	Fushou	1.06	42		eP	Pb	19 37 18.9	-0.1
	baz=42								
ETM	Tongmen	1.07	61		eP	Pg	19 37 19.1	-0.5
	baz=72								
ETM					eS	Sg	19 37 33.2	-0.4
	baz=72								
SCZT	Fangliau	1.08	173	⇑	P	Pn	19 37 19.4	+0.2
	baz=173								
TEYL	Yanliau Villag	1.11	68		eP	Pg	19 37 20.6	+0.2
	baz=66								
TEYL					eS	Sn	19 37 36.1	+1.5
	baz=66								
EAST	Anshuo	1.12	162	⇑	P	Pn	19 37 20.0	+0.3
	baz=163								
EAST					S	Sn	19 37 35.4	+0.7
	baz=163								
NMLH	Miaoli	1.12	15		eP	Pn	19 37 20.0	+0.2
	baz=15								
TAW	Tawu	1.16	160		eP	Pg	19 37 20.8	-0.4
	baz=161								
TAW					eS	Sn	19 37 36.5	+0.9
	baz=161								
HWA	Hwalien	1.17	63	⇑	P	Pg	19 37 21.4	+0.1
	baz=63								
HWA					S	Sn	19 37 36.8	+0.9
	baz=63								
TAWH	Dawu Township	1.17	161		eP	Pb	19 37 20.4	-0.2
	baz=162								
TAWH					S	Sn	19 37 37.0	+1.0
	baz=162								
LDUT	Ludao	1.20	130	⇓	eP	Pb	19 37 21.1	0.0
	baz=131								
LDUT					S	Sn	19 37 38.3	+1.5
	baz=131								
TWD	Chiawan	1.21	58	⇑	P	Pg	19 37 21.4	-0.7
	baz=58								
TWD					eS	Sb	19 37 36.7	+0.2
	baz=58								
NACB	Ninganchiao	1.26	55		P	Pg	19 37 22.5	-0.6
NACB	Ninganchiao	1.26	55		eP	Pb	19 37 21.9	-0.2
	baz=54								
NACB					eS	Sb	19 37 37.7	-0.4
	baz=54								
ETL	Fush Village	1.27	56		eP	Pb	19 37 22.5	+0.1
	baz=55								
ETL					eS	Sg	19 37 39.8	-0.1
	baz=55								
NSTT	Nanjuang	1.27	22	⇑	P	Pn	19 37 21.9	0.0
	baz=22								
NSTT					eS	Sb	19 37 38.7	+0.3
	baz=22								
NJN	Zhunan	1.28	16		eP	Pg	19 37 23.0	-0.6
	baz=2.0								
NJN					eS	Sg	19 37 40.0	-0.4
	baz=2.0								
NNSB	Datong	1.28	40		eP	Pn	19 37 22.3	+0.2
	baz=29								
NNSB					eS	Sg	19 37 40.8	+0.4
	baz=29								
NNSH	Datong	1.28	40		eP	Pg	19 37 22.9	-0.7
	baz=27								
NNS	Nan Shan	1.29	40		eP	Pb	19 37 22.6	-0.1
	baz=40								
NFF	Wufeng Townshi	1.32	27		eP	Pn	19 37 22.6	+0.1
	baz=27								
NJD	Zhudong	1.40	24		eP	Pn	19 37 24.2	+0.5
	baz=24								
HSN1	Hsinchu	1.41	21		eP	Pn	19 37 24.1	+0.3
	baz=21								
SBCB	Hsinchu	1.42	19		eP	Pg	19 37 25.9	-0.2
	baz=19								
HSN	Hsinchu	1.42	19		eP	Pn	19 37 23.8	-0.1
	baz=20								
LATG	Datong	1.45	42		eP	Pb	19 37 25.3	-0.2
	baz=30								
LATG					eS	Sg	19 37 44.6	-1.1
	baz=30								
EAHA	Aohua	1.45	53		eP	Pg	19 37 26.0	-0.9
	baz=53								
HEN	Hengchun	1.46	170		eP	Pb	19 37 25.1	-0.5
	baz=170								
NSK	Sanguang	1.47	33		eP	Pb	19 37 25.7	0.0
	baz=18								
YHNB	Yeheng	1.47	34		P	Pb	19 37 25.7	-0.1
YHNB	Yeheng	1.47	34		eP	Pn	19 37 25.1	+0.5
	baz=18								
NDT	Datong Townshi	1.49	39		eP	Pb	19 37 26.2	+0.1
	baz=29								
ENA	Nanau	1.52	50		eP	Pb	19 37 26.6	0.0
	baz=51								
TWK1	Hengchun	1.53	168		eP	Pn	19 37 25.9	+0.5
	baz=168								
TWKBT	Hengchun	1.53	168		eP	Pn	19 37 25.7	+0.3
	baz=168								
ENTT	Nioudou	1.55	40	⇓	P	Pb	19 37 27.2	+0.1
	baz=31								
EWUT	Wuta	1.55	50		eP	Pb	19 37 27.6	+0.4
	baz=49								
EWUT					eS	Sg	19 37 48.6	-0.4
	baz=49								
NWLT	Wulai	1.62	35		eP	Pb	19 37 28.3	-0.1
	baz=17								
NDS	Dongshan	1.64	44		eP	Pg	19 37 29.5	-0.8
	baz=55								
NCUH	Zhongli	1.65	23		eP	Pg	19 37 29.6	-0.9
	baz=23								
NCU	National Centr	1.65	23		eP	Pb	19 37 28.5	-0.3
	baz=23								
FUSB	Fushanzhiwuyua	1.66	38		eP	Pb	19 37 28.4	-0.5
	baz=38								
TWE	Neicheng	1.67	41		eP	Pb	19 37 29.1	-0.1
	baz=23								
ESAO	Su ao	1.68	48		eP	Pb	19 37 29.2	-0.2
	baz=33								
TWC	Suao	1.71	47		eP	Pb	19 37 30.4	+0.6
	baz=34								
LYUB	Lan-yu	1.77	144		eP	Pn	19 37 29.3	+0.6
	baz=145								
TATO	Taipei	1.78	31		P	Pb	19 37 31.5	+0.5
TATO	Taipei	1.78	31		eP	Pb	19 37 31.1	0.0
	baz=15								
VWUC	VWUC	1.80	329		eP	Pn	19 37 29.5	+0.4
	baz=329								
EOS4	EOS4	1.82	68		eP	Pb	19 37 30.4	-1.0
	baz=69								
TWA	Mucha	1.83	33		eP	Pb	19 37 32.2	+0.3
	baz=17								
TWS1	Kuangyinshan	1.86	28		eP	Pn	19 37 31.0	+1.1
	baz=12								
NHY	Taipei	1.87	32		eP	Pb	19 37 33.2	+0.6
	baz=17								
EOS2	EOS2	1.88	59		eP	Pb	19 37 33.1	+0.5
	baz=58								
EOS3	EOS3	1.89	63		eP	Pb	19 37 32.1	-0.6
	baz=63								
EGS		1.93	44		eP	Pb	19 37 33.5	0.0
	baz=24								
NTST	Danshui	1.93	27		eP	Pb	19 37 34.5	+1.0
	baz=13								
TIPB	Shuangxi	1.96	39		eP	Pn	19 37 32.6	+1.3
	baz=24								
YM01	YM01	1.96	30		eP	Pn	19 37 31.8	+0.4
	baz=14								
ANP	Anpu	1.98	29		eP	Pn	19 37 31.6	0.0
	baz=14								
PTMZ	Houxiangcun	2.01	322		eP	Pn	19 37 31.6	-0.4
	baz=322								
NWF	Wu-fen Shan	2.01	36		eP	Pb	19 37 34.4	-0.6
	baz=18								
WFSB	Wu-fen Shan	2.01	36		eP	Pb	19 37 34.6	-0.4
	baz=19								
YM08	YM08	2.01	30		eP	Pn	19 37 32.8	+0.8
	baz=14								
SXI1	Grass Mountain	2.08	38		eP	Pb	19 37 35.8	-0.4
	baz=20								
TWB1	Santiao Chiao	2.08	41		eP	Pb	19 37 34.8	-1.3
	baz=24								
TWY	Chenhua	2.09	29		eP	Pn	19 37 34.6	+1.5
	baz=15								
KNM	Kinmen	2.10	298		eP	Pn	19 37 34.9	+1.7
	baz=295								
KNMB	Chin-men Tao	2.16	298		eP	Pn	19 37 33.5	-0.5
	baz=297								
QZH	Quanzhou	2.27	311		Pn	Pn	19 37 34.9	-0.7
QZH					Pg	Pg	19 37 41.2	-1.2
QZH					Sn	Sn	19 38 02.8	-0.4
QZH					smax	smax		
	comp=N,760nm,0.9s							
QZH					smax	smax		
	comp=E,730nm,0.7s							
JYNG	Yonagunijimaku	2.47	66		eP	Pb	19 37 41.2	-1.6
JYNG					eS	Sn	19 38 10.6	+2.4
YOJ	Yonaguni jima	2.53	66		P	Pn	19 37 41.5	+2.3
YOJ	Yonaguni jima	2.53	66		eP	Pn	19 37 41.5	+2.3
	baz=67								
YOJ	Yonaguni jima	2.53	66		eP	Pn	19 37 41.5	+2.3
ZPLA	Ao Xicun	2.54	281		eP	Pn	19 37 39.0	-0.3
	baz=280								
PCYT	Pengchaiyu	2.62	34		eP	Pb	19 37 43.5	-1.8
	baz=19								
MATB	Ma-tsu	2.73	350		eP	Pn	19 37 41.8	-0.2
	baz=351								
MSUT	Lienchiang	2.75	350		eP	Pn	19 37 43.9	+1.6
	baz=351								
DSXP	Dongshan	2.81	276		eP	Pn	19 37 42.8	-0.2
	baz=275								
MHZQ	Yeshan	2.95	334		eP	Pn	19 37 45.0	+0.1
	baz=333								
IRIF	Iriomote-Funau	3.11	73		eP	Pn	19 37 49.2	+2.1
IRIF					eS	Sn	19 38 27.2	+3.3
HATJ	Hateruma jima	3.11	78		S	Sn	19 38 26.6	+2.6
JKRS	Kuro-shima	3.33	76		eP	Pn	19 37 52.3	+2.1
JKRS					eS	Sn	19 38 32.5	+3.0
XPSS	Dashiqiu	3.48	356		eP	Pn	19 37 51.7	-0.5

baz=358
JIJ Ishigaki jima 3.48 74 P **Pn 19 37 53.4 +1.1**
JIJ eS **Sn 19 38 33.8 +0.7**
JISG Ishigakijimahi 3.69 71 P **Pn 19 37 56.4 +1.3**
JISG eS **Sn 19 38 39.6 +1.3**
SXFK Yanhouchang 3.90 319 eP **Pn 19 37 57.6 -0.5**
baz=318
JTJ Tarama 4.05 72 eS **Sn 19 38 49.6 +2.5**
JMJ Miyako jima 2 4.61 72 eP **Pn 19 38 10.8 +3.0**
baz=85
CN2 Changchun 20.71 10 P **P 19 41 34.7 -3.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s

CATAC ***02*** *19:37:16.5±0.6, 13°.56N×91°.66W, h10km, mb4.5, ML4.0*
GCG ***02*** *19:37:22.9±1.6, 14°.00N×91°.59W, h50km±100km, MD4.2*
IDC ***02*** *19:37:27.4±2.0, 14°.40N×91°.60W, h75km±18km, mb3.6/4, mbtmp3.9/8, MS3.2/6, Error ellipse: s-maj=24.2km s-min=13.3km az=29.0*
ISC 02 19:37:15.5±1.7, 13°.54N±0°.06×91°.79W±0°.05, h18km±6km, n43, σ0.93/57, mb3.9/4, MS3.2/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.79**	**16**	*i* P	**Pn**	**19 37 32.9**	**+1.1**
RTAL	**Retalhuleu**	**0.98**	**5**	*i* P	**Pg**	**19 37 34.3**	**-0.3**
RTAL				*i* S	**Sg**	**19 37 48.8**	**+1.3**
RTAL				IAML		19 38 04.5	
	comp=Z,2μm,1.0s						
STG3	**Santiaguito 3,**	**1.18**	**10**	*i* P	**Pn**	**19 37 36.8**	**-0.5**
FUG	**Fuego 3**	**1.29**	**46**	*i* P	**Pn**	**19 37 38.6**	**-0.2**
SOKI	**Kika Raxquin**	**1.32**	**16**	*i* P	**Pn**	**19 37 39.0**	**-0.5**
SOKI				*i* S	**Sn**	**19 37 56.1**	**-0.8**
SOKI				IAML		19 38 08.2	
	comp=Z,2μm,1.0s						
PCG	**Pacaya**	**1.43**	**54**	*i* P	**Pn**	**19 37 41.2**	**+0.5**
NBG	**Las Nubes**	**1.74**	**53**	*i* P	**Pb**	**19 37 46.6**	**-0.5**
NBG				*i* S	**Sb**	**19 38 09.4**	**+0.6**
HUEH	**Huehuetenango**	**1.79**	**9**	*i* S	**Sb**	**19 38 11.7**	**+1.7**
NUBE	**Las Nubes**	**1.99**	**79**	eP	**Pn**	**19 37 47.1**	**-1.2**
NUBE	**Las Nubes**	**1.99**	**79**	*i* P	**Pn**	**19 37 47.8**	**-0.5**
NUBE				*i* S	**Sn**	**19 38 12.5**	**-0.4**
NUBE				IAML		19 38 17.7	
	comp=Z,720nm,1.0s						
LOAL	**Lomas de Alarc**	**2.00**	**77**	*i* P	**Pn**	**19 37 48.7**	**+0.2**
LOAL				*i* S	**Sn**	**19 38 14.1**	**+0.9**
LOAL				IAML		19 38 25.0	
	comp=Z,3μm,1.0s						
RTR	**El Retiro**	**2.11**	**80**	eP	**Pn**	**19 37 50.0**	**-0.1**
CEVE	**Cerro Verde**	**2.12**	**82**	eP	**Pn**	**19 37 49.8**	**-0.6**
CEVE	**Cerro Verde**	**2.12**	**82**	*i* P	**Pn**	**19 37 49.9**	**-0.4**
CEVE				*i* S	**Sn**	**19 38 15.8**	**-0.6**
CEVE				IAML		19 38 26.7	
	comp=Z,1μm,1.0s						
SBLS	**San Blas**	**2.13**	**82**	eP	**Pn**	**19 37 50.0**	**-0.4**
SNJE	**San Jose**	**2.15**	**81**	eP	**Pn**	**19 37 49.9**	**-0.7**
SNJE				eP		19 37 50.1	
UNIC	**Universidad Ca**	**2.22**	**78**	*i* P	**Pn**	**19 37 51.7**	**+0.2**
UNIC				*i* S	**Sn**	**19 38 18.0**	**-0.5**
UNIC				IAML		19 39 37.1	
	comp=Z,260nm,1.0s						
JAYA	**Jayaque - finc**	**2.28**	**87**	eP	**Pn**	**19 37 51.8**	**-0.6**
JAYA	**Jayaque - finc**	**2.28**	**87**	*i* P	**Pn**	**19 37 52.7**	**+0.3**
JAYA				*i* S	**Sn**	**19 38 19.8**	**-0.3**
JAYA				IAML		19 38 26.5	
	comp=Z,2μm,1.0s						
CEDA	**San Andres**	**2.34**	**83**	*i* S	**Sn**	**19 38 20.7**	**-0.8**
LALI	**Alcalda de L**	**2.40**	**91**	*i* P	**Pn**	**19 37 54.6**	**+0.7**
LALI				*i* S	**Sn**	**19 38 23.2**	**+0.3**
LALI				IAML		19 38 35.1	
	comp=Z,240nm,1.0s						
PMON	**Piamonte**	**2.41**	**86**	eP	**Pn**	**19 37 53.9**	**-0.3**
PMON	**Piamonte**	**2.41**	**86**	*i* P	**Pn**	**19 37 53.6**	**-0.6**
PMON				*i* S	**Sn**	**19 38 23.5**	**+0.2**
PMON				IAML		19 38 40.2	
	comp=Z,1μm,1.0s						
MTO3	**Montecristo**	**2.51**	**70**	eP	**Pn**	**19 37 55.5**	**0.0**
MTO3				eS	**Sn**	**19 38 25.5**	**-0.3**
MTO3	**Montecristo**	**2.51**	**70**	*i* P	**Pn**	**19 37 55.4**	**-0.2**
MTO3				*i* S	**Sn**	**19 38 24.9**	**-0.9**
MTO3				IAML		19 38 32.0	
	comp=Z,360nm,1.0s						
LOMA	**Loma Larga**	**2.55**	**87**	*i* P	**Pn**	**19 37 56.7**	**+0.6**
LOMA				*i* S	**Sn**	**19 38 27.1**	**+0.4**
LOMA				IAML		19 38 33.6	
	comp=Z,780nm,1.0s						
MRL	**Marmol**	**2.55**	**53**	*i* P	**Pn**	**19 37 57.7**	**+1.5**
PAVA	**Las Pavas**	**2.78**	**86**	*i* P	**Pn**	**19 38 00.0**	**+0.8**
PAVA				*i* S	**Sn**	**19 38 33.2**	**+0.8**
PAVA				IAML		19 38 50.5	
	comp=Z,490nm,1.0s						
PACA	**Pacayal**	**3.37**	**91**	*i* P	**Pn**	**19 38 09.1**	**+1.7**
PACA				*i* S	**Sn**	**19 38 48.1**	**+1.0**
PACA				IAML		19 38 55.6	
	comp=Z,2μm,1.0s						
CMIG	**Matias Romero**	**4.62**	**320**	P	**Pn**	**19 38 26.4**	**+2.0**
	comp=Z,4.3nm,0.4s,baz=127,slow=9.2,SNR=22						
CMIG				S	**Sn**	**19 39 16.1**	**-1.6**
	comp=Z,24nm,0.7s,baz=154,slow=17,SNR=4.4						
YUSH	**Yuscaran**	**4.83**	**85**	*i* P	**Pn**	**19 38 27.5**	**+0.1**
CNGN	**Cerro Negro**	**5.07**	**101**	*i* P	**Pn**	**19 38 31.4**	**+0.7**
CNGN				IAML		19 39 06.3	
	comp=Z,100nm,1.0s						
LIMN	**Finca el Limon**	**5.30**	**95**	*i* P	**Pn**	**19 38 33.7**	**-0.2**
LIMN				IAML		19 38 43.6	
	comp=Z,72nm,1.0s						
LIMN				IAmb	IAmb	19 38 44.0	
	comp=Z,62nm,0.7s						
BOAB	**BOACO BROADBAN**	**6.07**	**100**	*i* P	**Pn**	**19 38 43.5**	**-0.8**
BOAB				IAML		19 38 56.8	
	comp=Z,27nm,1.0s						
BOAB				IAmb	IAmb	19 38 58.8	
	comp=Z,21nm,0.8s						
JTS	**Las Juntas de**	**7.43**	**115**	P	Pb	19 39 17.5	-6.5
	comp=Z,7.3nm,0.6s,baz=290,slow=13,SNR=4.1						
JTS				S	Sb	19 40 42.7	-10
	comp=Z,2.2nm,0.4s,baz=223,slow=24,SNR=1.0						
JTS				LR	LR	19 42 13.7	
	comp=Z,85nm,21.8s,baz=297,slow=37						
TEIG	**Tepich**	**7.45**	**26**	P	**Pn**	**19 39 02.5**	**-0.8**
	comp=Z,44nm,0.5s,baz=24,slow=7.8,SNR=54						
TEIG				S	Sn	19 40 15.7	-12
	comp=Z,5.9nm,0.4s,baz=198,slow=22,SNR=0.7						
TEIG				LR	LR	19 42 19.4	
	comp=Z,222nm,21.0s,baz=216,slow=44						
TXAR	**Lajitas Array**	**19.19**	**327**	P	**Pn**	**19 41 40.6**	**+1.2**
	comp=Z,1.6nm,1.0s,baz=149,slow=9.1,SNR=11						
TKL	**Tuckaleechee C**	**23.17**	**17**	P	**P**	**19 42 20.1**	**-1.0**
	comp=Z,2.1nm,0.5s,baz=182,slow=12,SNR=4.6						
TKL				LR	LR	19 52 18.4	
	comp=Z,61nm,19.8s,baz=190,slow=40						
	comp=Z,2.1nm,0.5s						
NVAR	**Mina Array Bea**	**34.15**	**321**	P	**P**	**19 44 01.6**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=143,slow=9.1,SNR=3.6						
NVAR				LR	LR	20 00 53.3	
	comp=Z,39nm,18.3s,baz=95,slow=42						
	comp=Z,0.6nm,0.7s						
NEW	**Newport**	**40.49**	**334**	LR	LR	20 05 18.2	
	comp=Z,35nm,18.9s,baz=131,slow=42						
SCHQ	**Schefferville**	**45.58**	**20**	P	**P**	**19 45 31.5**	**-2.8**
	comp=Z,2.1nm,0.6s,baz=222,slow=11,SNR=3.7						
SCHQ				LR	LR	20 04 50.5	
	comp=Z,66nm,20.1s,baz=256,slow=37						
	comp=Z,2.1nm,0.6s						
ILAR	**Eielson Array**	**63.34**	**337**	P	**P**	**19 47 43.7**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=152,slow=4.0,SNR=7.3						
	comp=Z,0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**146.49**	**341**	PKPbc	**PKPab**	**19 56 57.0**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=338,slow=1.9,SNR=8.0						

KRNET ***02*** *19:39:15.6±0.1, 41°.16N×72°.24E, h29km, mb2.9*
ISU ***02*** *19:39:16.6, 41°.20N×72°.27E, h15km*
NNC ***02*** *19:39:16.0±1.1, 41°.22N×72°.27E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=10.3km s-min=3.6km az=174.0*
SOME ***02*** *19:39:16.4, 41°.37N×72°.25E, h0km*
ISC 02 19:39:14.2±1.0, 41°.24N±0°.02×72°.30E±0°.02, h20km±4km, n54, σ1.44/97, 31C-20D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.52**	**80**	⇑*i*P	**Pn**	**19 39 27.0**	**+0.2**
	baz=74						
ARSB				⇑*i*S	**Sn**	**19 39 35.8**	**+0.6**
	baz=74						
ARK	**Arkit**	**0.62**	**336**	⇓*i*P	**Pn**	**19 39 28.7**	**+0.7**
	baz=42						
ARK				⇓*i*S	**Sn**	**19 39 38.3**	**+0.8**
	baz=42						
TSTA	**Tashata**	**0.67**	**168**	P	**Pn**	**19 39 29.1**	**+0.4**
TSTA				S	**Sn**	**19 39 38.5**	**-0.1**
OHH	**Osh**	**0.80**	**152**	⇑*i*P	**Pn**	**19 39 30.2**	**-0.3**
	baz=47						
OHH				⇑*i*S	**Sb**	**19 39 40.8**	**+0.8**
	baz=47						
TRKS	**Terek-Say**	**0.92**	**289**	⇑*i*P	**Pn**	**19 39 31.9**	**-0.4**
	baz=91						
TRKS				⇑*i*S	**Sn**	**19 39 44.0**	**-1.0**
	baz=91						
CHMI	**Chimion**	**1.13**	**212**	P	**Pg**	**19 39 37.0**	**+0.8**
CHMI				S	**Sg**	**19 39 52.1**	**+1.0**
MNAS	**Manas**	**1.26**	**7**	⇓*i*P	**Pg**	**19 39 40.3**	**+1.6**
	baz=9.0						
MNAS				⇓*i*S	**Sg**	**19 39 58.0**	**+2.8**
	baz=9.0						
MINT	**Mingtut**	**1.27**	**233**	P	**Pg**	**19 39 39.5**	**+0.8**
MINT				S	**Sg**	**19 39 56.4**	**+1.1**
SFK	**Sufi-Kurgan**	**1.53**	**143**	⇑*i*P	**Pg**	**19 39 42.7**	**-1.0**
	baz=39						
SFK				⇑*i*S	**Sg**	**19 40 02.2**	**-1.5**
	baz=39						
BTK	**Batken**	**1.63**	**224**	⇑*i*P	**Pb**	**19 39 43.4**	**-0.3**
	baz=25						
BTK				⇑*i*S	**Sb**	**19 40 03.5**	**-0.3**
	baz=25						
ARLS	**Aral**	**1.64**	**67**	⇑*i*P	**Pg**	**19 39 45.9**	**0.0**
	baz=66						
ARLS				⇑*i*S	**Sg**	**19 40 07.7**	**+0.3**
	baz=66						
MRKS	**Merke**	**1.66**	**24**	eP	**Pg**	**19 39 47.3**	**+1.1**
	23nm,0.2s						
MRKS				eS	**Sg**	**19 40 10.5**	**+2.6**
	40nm,0.2s						
MRKS	**Merke**	**1.66**	**24**	P	**Pg**	**19 39 47.3**	**+1.1**
	23nm,0.2s						
MRKS				S	**Sg**	**19 40 10.5**	**+2.6**
	40nm,0.2s						
CHMG	**Chimgan**	**1.75**	**281**	P	**Pg**	**19 39 48.2**	**+0.2**
CHMG				S	**Sg**	**19 40 11.5**	**+0.7**
DRK	**Karamyk**	**1.79**	**192**	⇓*i*P	**Pb**	**19 39 45.8**	**-0.8**
	baz=91						
DRK				⇓*i*S	**Sb**	**19 40 07.7**	**-1.1**
	baz=91						
EKS2	**Erkin-Say**	**1.80**	**37**	⇓*i*P	**Pg**	**19 39 48.2**	**-0.8**
	baz=37						
EKS2				⇓*i*S	**Sg**	**19 40 11.9**	**-0.5**
	baz=37						
IUG	**Iuzhnay**	**1.93**	**299**	eP	**Pg**	**19 39 50.4**	**-0.9**
	39nm,0.1s						
IUG				eS	**Sg**	**19 40 15.5**	**-0.9**
	124nm,0.1s						
IUG	**Iuzhnay**	**1.93**	**299**	P	**Pg**	**19 39 50.4**	**-0.9**
	22nm,0.2s						
IUG				S	**Sg**	**19 40 15.5**	**-0.9**
	124nm,0.3s						
UCH	**Uchtor**	**1.93**	**58**	⇓*i*P	**Pg**	**19 39 49.8**	**-1.7**
	baz=57						
UCH				⇓*i*S	**Sg**	**19 40 15.1**	**-1.5**
	baz=57						
YBZ	**Yangibazar**	**2.05**	**273**	P	**Pg**	**19 39 53.2**	**-0.4**
YBZ				S	**Sg**	**19 40 20.4**	**+0.2**
AAK	**Ala-Archa**	**2.15**	**49**	⇑Pg	**Pg**	**19 39 53.7**	**-2.0**
	2.9nm,0.3s						
AAK				⇓Lg	Lg	19 40 25.7	
	13nm,0.6s						
AAK	**Ala-Archa**	**2.15**	**49**	⇑*i*P	**Pb**	**19 39 53.2**	**+0.5**
	baz=48						
AAK				⇑*i*S	**Sb**	**19 40 20.3**	**+1.2**
	baz=48						
KUMR	**Kumaryk**	**2.29**	**271**	P	**Pg**	**19 39 57.0**	**-1.2**
KUMR				S	**Sg**	**19 40 27.6**	**-0.4**
KK31	**Karatay Array**	**2.29**	**325**	⇑Pg	**Pg**	**19 39 57.9**	**-0.4**
	1.1nm,0.3s,baz=143,slow=14,SNR=6.8						
KK31				Lg	Lg	19 40 26.6	
	4.4nm,0.3s,baz=140,slow=29,SNR=7.6						
KKAR	**Karatay Array**	**2.29**	**325**	⇑*i*P	**Pb**	**19 39 54.3**	**-0.6**
	baz=27						
KKAR				⇑*i*S	**Sb**	**19 40 22.1**	**-0.8**
	baz=27						
FRU1	**Bishkek**	**2.34**	**47**	⇓*i*P	**Pb**	**19 39 55.9**	**0.0**
	baz=46						
FRU1				⇓*i*S	**Sb**	**19 40 24.9**	**+0.5**
	baz=46						
KBK	**Karagaybulak**	**2.43**	**53**	⇑*i*P	**Pb**	**19 39 57.0**	**-0.5**
	baz=53						
KBK				⇑*i*S	**Sb**	**19 40 26.9**	**-0.2**
	baz=53						
CHMS	**Chumysh**	**2.54**	**45**	⇓*i*P	**Pb**	**19 39 58.4**	**-0.7**
	baz=45						
CHMS				⇓*i*S	**Sb**	**19 40 29.4**	**-0.5**
	baz=45						
BRLS	**Borolday**	**2.56**	**315**	eP	**Pg**	**19 40 01.2**	**-2.3**
	3.9nm,0.2s						
BRLS				eS	**Sg**	**19 40 33.8**	**-3.0**
	7.9nm,0.1s						
BRLS	**Borolday**	**2.56**	**315**	Pg	**Pg**	**19 40 01.2**	**-2.3**
	4.0nm,0.3s						
BRLS				Lg	Lg	19 40 33.1	
	9.0nm,0.2s						
USP	**Ospenovka**	**2.61**	**38**	⇑*i*P	**Pb**	**19 39 59.3**	**-1.0**
	baz=38						
USP				⇑*i*S	**Sb**	**19 40 30.9**	**-1.0**
	baz=38						
GAR	**Garm**	**2.70**	**215**	⇑*i*P	**Pn**	**19 39 58.3**	**+1.6**
	baz=15						
GAR				⇑*i*S	**Sn**	**19 40 29.2**	**+0.3**
	baz=15						
NRN	**Naryn**	**2.79**	**85**	⇑eP	**Pb**	**19 40 01.4**	**-2.3**
	baz=83						
NRN				⇑eS	**Sn**	**19 40 34.6**	**+3.2**
	baz=83						
TKM2	**Tokmak 2**	**2.98**	**54**	⇑Pg	**Pg**	**19 40 11.2**	**-0.2**
	2.8nm,0.5s						
TKM2				⇓Lg	Lg	19 40 50.0	
	5.2nm,0.5s						
TKM2	**Tokmak 2**	**2.98**	**54**	⇑*i*P	**Pb**	**19 40 04.5**	**-2.2**
	baz=54						
TKM2				⇑*i*S	**Sb**	**19 40 40.1**	**-2.7**
	baz=54						
BOOM	**Boomskoye usch**	**2.99**	**64**	⇓*i*P	**Pb**	**19 40 04.6**	**-2.4**
	baz=63						
BOOM				⇓*i*S	**Sb**	**19 40 40.3**	**-2.9**
	baz=63						
DGS	**Degeres**	**3.27**	**51**	eP	**Pg**	**19 40 16.6**	**-0.3**
	2.3nm,0.2s						
DGS				eS	**Sg**	**19 40 59.9**	**+0.7**
	6.6nm,0.3s						
DGS	**Degeres**	**3.27**	**51**	Pg	**Pg**	**19 40 16.6**	**-0.3**
	2.9nm,0.7s						
DGS				Lg	Lg	19 40 59.9	
	5.4nm,0.6s						
KST	**Kastek**	**3.27**	**55**	eP	**Pg**	**19 40 16.4**	**-0.5**
	1.5nm,0.2s						
KST				eS	**Sg**	**19 40 59.6**	**+0.3**
	12nm,0.2s						
KST	**Kastek**	**3.27**	**55**	Pg	**Pg**	**19 40 16.5**	**-0.5**
	1.1nm,0.3s						
KST				Lg	Lg	19 40 59.6	
	10nm,0.4s						
KRBS	**Karabastau**	**3.50**	**44**	eP	**Pg**	**19 40 20.5**	**-0.9**
	2.1nm,0.3s						
KRBS				eS	**Sg**	**19 41 06.6**	**-0.2**
	2.4nm,0.2s						
KRBS	**Karabastau**	**3.50**	**44**	Pg	**Pg**	**19 40 20.5**	**-0.9**
	1.6nm,0.2s						
KRBS				Lg	Lg	19 41 06.6	
	2.4nm,0.6s						
CHGR	**Chuyangaron**	**3.53**	**224**	⇓*i*P	**Pn**	**19 40 09.8**	**+1.7**
	baz=24						
CHGR				⇓*i*S	**Sn**	**19 40 49.1**	**-0.2**
	baz=24						
MTBS	**Maitube**	**3.61**	**57**	eP	**Pg**	**19 40 23.0**	**-0.3**
	3.1nm,0.1s						
MTBS				eS	**Sg**	**19 41 10.9**	**+0.9**
	7.4nm,0.1s						
MTBS	**Maitube**	**3.61**	**57**	Pg	**Pg**	**19 40 22.7**	**-0.6**
MTBS				Lg	Lg	19 41 10.9	
KRSA	**Karasay**	**3.64**	**254**	P	**Pb**	**19 40 16.5**	**-1.5**
KRSA				S	**Sb**	**19 41 04.9**	**+3.2**
KDJ	**Kajisay**	**3.76**	**75**	⇑eP	**Pn**	**19 40 15.4**	**+4.1**
	baz=74						
KDJ				⇑eS	**Sn**	**19 40 58.8**	**+3.6**
	baz=74						
BTLS	**Baital**	**4.01**	**18**	eP	**Pg**	**19 40 30.0**	**-1.1**
	1.0nm,0.1s						
BTLS				eS	**Sg**	**19 41 23.0**	**-0.1**
	3.3nm,0.3s						
BTLS	**Baital**	**4.01**	**18**	Pg	**Pg**	**19 40 30.0**	**-1.1**
	1.1nm,0.2s						
BTLS				Lg	Lg	19 41 23.0	
	3.3nm,0.3s						
MDOK	**Medeo**	**4.02**	**60**	eP	**Pg**	**19 40 30.0**	**-1.3**
	3.5nm,0.3s						
MDOK				eS	**Sg**	**19 41 22.7**	**-0.6**
	3.4nm,0.0s						
MDOK	**Medeo**	**4.02**	**60**	Pg	**Pg**	**19 40 30.0**	**-1.3**
	3.5nm,0.3s						
MDOK				Lg	Lg	19 41 22.7	
	3.6nm,0.5s						
KOTS	**Kotyrbulak**	**4.09**	**59**	eP	**Pg**	**19 40 32.2**	**-0.5**
	5.8nm,0.3s						
KOTS				eS	**Sg**	**19 41 26.8**	**+1.1**
	11nm,0.4s						
KPKS	**Kokpek**	**5.23**	**63**	eP	**Pg**	**19 40 52.1**	**-2.2**
	1.1nm,0.1s						
KPKS				eS	**Sg**	**19 42 00.8**	**-1.2**
	3.3nm,0.3s						
KPKS	**Kokpek**	**5.23**	**63**	Pg	**Pg**	**19 40 52.1**	**-2.2**
	1.0nm,0.3s						

NEIC ***02*** *20:17:30.3±0.6, 59°.97N±0°.04×152°.78W±0°.08, h95km±2km, Error ellipse: s-maj=6.4km s-min=5.5km az=223.0*
AEIC 02 20:17:31.4±0.7, 59°.97N±0°.02×152°.76W±0°.07, h89km±4km, ML2.4, ML2.6/100(NEIC), **Error ellipse: s-maj=5.6km s-min=2.5km az=118.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.13**	**33**		Pn	20 17 43.9	-0.3
O20K					Sn	20 17 54.1	+0.5
IVE	**Iliamna Volcan**	**0.13**	**289**		Pn	20 17 43.5	-0.7
IVE					Sn	20 17 53.7	0.0
ILSW	**Iliamna Southw**	**0.19**	**273**		Pn	20 17 43.5	-1.0
ILSW				IAML		20 17 54.8	
	comp=E,243nm,0.7s						
ILSW				IAML		20 17 56.8	
	comp=N,147nm,0.4s						
P19K	**Oil Pt**	**0.40**	**217**		Pn	20 17 44.8	-0.6
P19K					Sn	20 17 55.9	+0.2
RED	**Redoubt Volcan**	**0.45**	**359**		Pn	20 17 44.9	-0.8
RED					Sn	20 17 56.0	-0.5
RDSO	**Redoubt South**	**0.48**	**1**		Pn	20 17 45.4	-0.7
RSO	**Redoubt South**	**0.49**	**1**		Pn	20 17 45.5	-0.7
RDWB	**Redoubt West**	**0.52**	**356**		Pn	20 17 45.7	-0.7
NCT	**North Crescent**	**0.60**	**352**		Pn	20 17 46.3	-0.7
RDT	**Redoubt**	**0.63**	**16**		Pn	20 17 46.4	-0.8
HOM	**Homer**	**0.65**	**119**		Pn	20 17 46.9	-0.4
AU22	**Augustine Moun**	**0.68**	**207**		Pn	20 17 47.1	-0.5
AUL	**Augustine Lava**	**0.68**	**210**		Pn	20 17 47.2	-0.5
AUCH	**Augustine Cone**	**0.70**	**210**		Pn	20 17 47.6	-0.4
CNPM	**China Poot**	**0.89**	**119**		Pn	20 17 49.1	-0.8
CNPM				IAML		20 18 04.8	
	comp=N,205nm,0.5s						
CNPM				IAML		20 18 06.5	
	comp=E,165nm,0.3s						
CNPM	**China Poot**	**0.89**	**119**		Sn	20 18 03.4	-0.3
BRLK	**Bradley Lake**	**0.97**	**102**		Pn	20 17 49.9	-0.8
BRLK				IAML		20 18 07.2	
	comp=E,236nm,0.2s						
CAPN	**Captain Cook N**	**1.13**	**44**		Pn	20 17 53.2	+0.7
Q19K	**Cape Douglas,**	**1.14**	**204**		Pn	20 17 51.5	-1.2
Q19K	**Cape Douglas,**	**1.14**	**204**	IAML		20 18 16.6	
	comp=N,73nm,1.1s						
Q19K				IAML		20 18 23.5	
	comp=E,72nm,1.2s						
N19K	**Bonanza Creek**	**1.20**	**315**		Pn	20 17 52.5	-0.9
N19K				IAML		20 18 09.7	
	comp=E,51nm,1.2s						
N19K				IAML		20 18 10.2	
	comp=N,39nm,0.8s						
N19K	**Bonanza Creek**	**1.20**	**315**		Sn	20 18 09.3	-0.7
O18K	**Koktuh Hills**	**1.24**	**266**		Pn	20 17 53.0	-0.9
O18K	**Koktuh Hills**	**1.24**	**266**		Sn	20 18 09.9	-0.9
SPCR	**Spurr Chakacha**	**1.26**	**12**		Pn	20 17 53.5	-0.7
SPCN	**Chakachatna No**	**1.29**	**13**		Pn	20 17 53.8	-0.7
SPCP	**Crater Peak Br**	**1.33**	**13**		Pn	20 17 54.5	-0.6
SPCG	**Spurr Capps Gl**	**1.37**	**15**		Pn	20 17 55.0	-0.6
SLKM	**Skilak Lake**	**1.38**	**66**		Pn	20 17 55.0	-0.6
P18K	**Big Mountain,**	**1.38**	**246**		Pn	20 17 54.5	-1.2
SYI	**Shuyak Island**	**1.38**	**172**		Pn	20 17 55.0	-0.6
SPNN	**North Nagishla**	**1.40**	**1**		Pn	20 17 55.5	-0.4
O22K	**Cooper Landing**	**1.60**	**70**		Pn	20 17 57.7	-0.6
SEW	**Seward**	**1.67**	**84**		Pn	20 17 58.1	-1.0
N18K	**Kilae Creek**	**1.71**	**296**		Pn	20 17 58.8	-1.0
KAHG	**Katmai Hook Gl**	**1.74**	**212**		Pn	20 17 59.5	-0.8
KAHC	**Katmai Hardscr**	**1.76**	**222**		Pn	20 17 59.6	-0.9
SVW2	**Sparrevohn**	**1.79**	**310**	Pn	Pn	20 17 59.5	-1.3
SVW2				IAML		20 19 04.7	
	comp=N,26nm,0.7s						
SUA	**Susitna One**	**1.79**	**33**		Pn	20 18 00.4	-0.6
SUA				IAML		20 18 24.6	
	comp=E,82nm,0.6s						
SUA				IAML		20 18 26.3	
	comp=N,63nm,1.0s						
RC01	**Rabbit Creek A**	**1.87**	**52**		Pn	20 18 01.3	-0.5
RC01				IAML		20 18 26.7	
	comp=N,77nm,0.3s						
M20K	**Styx River**	**1.93**	**355**		Pn	20 18 02.2	-0.5
P17K	**Kvichak River**	**2.03**	**249**		Pn	20 18 03.2	-0.6
M19K	**Big River Lodg**	**2.09**	**338**		Pn	20 18 04.0	-0.8
SKT	**Skwentna**	**2.10**	**16**		Pn	20 18 04.0	-1.0
M18K	**Stony River**	**2.14**	**317**		Pn	20 18 04.2	-1.1
KABU	**Katmai Buttres**	**2.15**	**218**		Pn	20 18 05.1	-0.4
O17K	**Koliganek Bris**	**2.19**	**267**		Pn	20 18 05.1	-1.0
KDAK	**Kodiak Island**	**2.20**	**177**	Pn	Pn	20 18 04.3	-1.8
ANCK	**Angle Creek**	**2.27**	**220**		Pn	20 18 06.5

WAT1	Susitna Watana	3.51	33		Pn	20 18 22.8	-1.0
L16K	Owhat River	3.72	301		Pn	20 18 25.3	-1.2
K17K	Iditarod	3.83	318		Pn	20 18 27.1	-1.0
K17K					Sn	20 19 14.4	+2.4
K17K	Iditarod	3.83	318	IAML		20 19 16.1	
	comp=E,5.8nm,0.9s						
K17K				IAML		20 19 57.7	
	comp=N,5.7nm,1.2s						
M24K	Tolsona, Glenn	3.85	53		Pn	20 18 27.2	-1.3
RND	Reindeer	3.92	27		Pn	20 18 28.4	-0.9
DHY	Denali Highway	4.04	37	IAML		20 20 14.3	
	comp=N,12nm,0.5s						
DHY				IAML		20 20 18.1	
	comp=E,9.9nm,0.4s						
KAIM	Kayak Island	4.20	87		Pn	20 18 31.6	-1.4
KAIM	Kayak Island	4.20	87	IAML		20 19 19.9	
	comp=E,13nm,1.0s						
BPAW	Bear Paw Mtn.	4.23	11		Pn	20 18 32.4	-1.0
BPAW	Bear Paw Mtn.	4.23	11	IAML		20 19 24.2	
	comp=N,4.3nm,0.5s						
BPAW				IAML		20 19 26.6	
	comp=E,3.6nm,0.6s						
J20K	Nowinta River	4.27	352		Pn	20 18 33.0	-1.0
J20K	Nowinta River	4.27	352	IAML		20 19 23.9	
	comp=E,3.4nm,0.7s						
O14K	Tigyukauivet M	4.38	264		Pn	20 18 34.7	-0.7
O14K	Tigyukauivet M	4.38	264	IAML		20 19 59.5	
	comp=N,3.9nm,1.1s						
O14K				IAML		20 21 00.3	
	comp=E,3.1nm,1.1s						
NICHA	Nichawak Mount	4.41	83		Pn	20 18 34.9	-1.1
J17K	VABM Dome	4.56	322		Pn	20 18 36.5	-1.5
J17K	VABM Dome	4.56	322	IAML		20 19 24.6	
	comp=N,2.9nm,1.1s						

CATAC ***02*** *20:43:38.4±0.6, 13°.50N×91°.76W, h15km, MB4.8, mb4.7, ML4.4*
NEIC ***02*** *20:43:43.7±2.4, 13°.77N±0°.05×91°.63W±0°.09, h45km±9km, mb4.4/145, Error ellipse: s-maj=14.5km s-min=3.5km az=62.0*
GCG ***02*** *20:43:48.3±0.5, 14°.23N×91°.49W, h50km±33km, MD4.4*
IDC ***02*** *20:43:50.4±1.7, 14°.36N×91°.78W, h85km±14km, mb3.9/7, mbtmp4.3/12, MS3.7/30, Error ellipse: s-maj=26.0km s-min=10.9km az=40.0*
ISC 02 20:43:43.6±1.4, 13°.67N±0°.07×91°.65W±0°.07, h57km±11km, n432, σ1°18/382, mb4.3/70, MS3.7/28, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	Suchitepequez,	0.64	7	*i* P	Pn	20 43 56.2	-0.7
RTAL	Retalhuleu	0.85	357		Pn	20 43 56.9	-2.7
RTAL	Retalhuleu	0.85	357	*i* P	Pn	20 43 56.9	-2.7
RTAL				*i* S	Sn	20 44 11.6	+0.2
RTAL				IAML		20 44 27.6	
	comp=Z,5μm,1.0s						
STG3	Santiaguito 3,	1.04	4	*i* P	Pn	20 43 59.9	-2.3
FUG	Fuego 3	1.10	45	*i* P	Pn	20 44 02.1	-0.9
SOKI	Kika Raxquin	1.17	12	*i* P	Pn	20 44 02.3	-1.9
SOKI				*i* S	Sn	20 44 21.3	+1.9
SOKI				IAML		20 44 27.7	
	comp=Z,5μm,1.0s						
PCG	Pacaya	1.24	54	*i* P	Pn	20 44 04.2	-0.7
NBG	Las Nubes	1.56	54	*i* P	Pn	20 44 09.3	+0.1
NBG				*i* S	Sn	20 44 32.5	+4.0
HUEH	Huehuetenango	1.65	5		Pn	20 44 06.8	-3.6
NUBE	Las Nubes	1.83	82	*e*P	Pn	20 44 10.1	-2.7
NUBE	Las Nubes	1.83	82	*i* P	Pn	20 44 10.3	-2.5
NUBE				*i* S	Sn	20 44 36.1	+1.2
NUBE				IAML		20 44 41.7	
	comp=Z,1μm,1.0s						
LOAL	Lomas de Alarc	1.84	80	*e*P	Pn	20 44 11.2	-1.7
LOAL	Lomas de Alarc	1.84	80	*i* P	Pn	20 44 11.0	-1.9
LOAL				*i* S	Sn	20 44 36.8	+1.7
LOAL				IAML		20 44 49.2	
	comp=Z,4μm,1.0s						
RTR	El Retiro	1.96	83	*e*P	Pn	20 44 13.1	-1.5
CEVE	Cerro Verde	1.97	85	*e*P	Pn	20 44 12.8	-2.0
CEVE	Cerro Verde	1.97	85	*i* P	Pn	20 44 12.9	-1.9
CEVE				IAML		20 44 48.3	
	comp=Z,3μm,1.0s						
SBLS	San Blas	1.97	85	*e*P	Pn	20 44 13.0	-1.9
SNJE	San Jose	1.99	84	*e*P	Pn	20 44 13.2	-1.9
SNJE				*e*P		20 44 13.2	
SNJE				*e*S	Sn	20 44 41.4	+2.4
UNIC	Universidad Ca	2.06	81	*i* P	Pn	20 44 14.6	-1.3
UNIC				*i* S	Sn	20 44 42.1	+1.6
UNIC				IAML		20 44 46.2	
	comp=Z,500nm,1.0s						
JAYA	Jayaque - finc	2.13	90	*e*P	Pn	20 44 14.6	-2.4
JAYA	Jayaque - finc	2.13	90	*i* P	Pn	20 44 14.9	-2.1
JAYA				*i* S	Sn	20 44 41.9	-0.6
JAYA				IAML		20 44 47.8	
	comp=Z,2μm,1.0s						
CEDA	San Andres	2.19	86	*i* P	Pn	20 44 17.1	-0.6
CEDA				*i* S	Sn	20 44 45.6	+1.9
CEDA				IAML		20 44 59.5	
	comp=Z,5μm,1.0s						
PMON	Piamonte	2.27	89	*e*P	Pn	20 44 17.0	-1.7
PMON				*e*S	Sn	20 44 46.7	+1.1
PMON	Piamonte	2.27	89	*i* P	Pn	20 44 17.0	-1.7
PMON				*i* S	Sn	20 44 46.6	+1.0
PMON				IAML		20 45 01.8	
	comp=Z,2μm,1.0s						
LALI	Alcalda de L	2.27	94	*i* P	Pn	20 44 17.0	-1.6
LALI				*i* S	Sn	20 44 46.4	+0.9
LALI				IAML		20 45 05.1	
	comp=Z,410nm,1.0s						
BOQS	Boqueron	2.30	88	*e*P	Pn	20 44 17.8	-1.5
QUEZ	Alcaldia de Qu	2.31	86	*i* P	Pn	20 44 17.9	-1.4
QUEZ				*i* S	Sn	20 44 47.8	+1.2
QUEZ				IAML		20 45 08.0	
	comp=Z,5μm,1.0s						
MTO3	Montecristo	2.33	72	Pn	Pn	20 44 18.4	-1.4
MTO3	Montecristo	2.33	72	*e*P	Pn	20 44 18.6	-1.2
MTO3				*e*S	Sn	20 44 51.1	+3.7
MTO3	Montecristo	2.33	72	*i* P	Pn	20 44 18.2	-1.6
MTO3				*i* S	Sn	20 44 50.7	+3.3
MTO3				IAML		20 44 53.1	
	comp=Z,770nm,1.0s						
UEES	Universidad Ev	2.34	89	*i* P	Pn	20 44 18.7	-1.0
UEES				*i* S	Sn	20 44 48.9	+1.5
UEES				IAML		20 45 00.9	
	comp=Z,840nm,1.0s						
SNET	Serv Nac Est T	2.35	89	Pn	Pn	20 44 18.8	-1.0
SNET	Serv Nac Est T	2.35	89	*i* P	Pn	20 44 18.8	-1.0
SNET				IAML		20 44 24.5	
	comp=Z,2μm,1.0s						
SNET				*i* S	Sn	20 44 48.5	+1.0
MRL	Marmol	2.36	53	*i* P	Pn	20 44 20.9	+0.8
ESQI	Esquipulas	2.40	68		Pn	20 44 19.3	-1.3
LOMA	Loma Larga	2.41	90	*e*P	Pn	20 44 19.1	-1.6
LFRS	El Faro	2.51	91	*e*P	Pn	20 44 21.0	-1.1
PAVA	Las Pavas	2.63	89	*e*P	Pn	20 44 22.6	-1.2
CCIG	Comitan	2.64	350		Pn	20 44 24.0	0.0
SCLA	Alcaldia de Sa	2.83	89	*e*P	Pn	20 44 25.2	-1.3
CNCH	Conchagua	3.73	96	*e*P	Pn	20 44 37.3	-1.5
TGUH	Tegucigalpa,Un	4.26	84	Pn	Pn	20 44 44.2	-1.9
TGUH	Tegucigalpa,Un	4.26	84	*i* P	Pn	20 44 46.6	+0.5
TGUH				IAML		20 46 06.1	
	comp=Z,240nm,1.0s						
CRIN	San Cristobal	4.58	102	Pn	Pn	20 44 45.9	-4.5
CRIN	San Cristobal	4.58	102	*i* P	Pn	20 44 48.4	-2.0
CRIN				IAML		20 46 11.1	
	comp=Z,520nm,1.0s						
CMIG	Matias Romero	4.62	318	P	Pn	20 44 48.3	-2.5
	comp=Z,15nm,0.4s,baz=144,slow=11,SNR=28						
CMIG				S	Sn	20 45 35.6	-7.6
	comp=Z,67nm,0.8s,baz=138,slow=17,SNR=5.4						
YUSH	Yuscaran	4.67	86	*e*P	Pn	20 44 50.7	-1.0
YUSH	Yuscaran	4.67	86	*i* P	Pn	20 44 50.8	-1.0
CNGN	Cerro Negro	4.96	103		Pn	20 44 55.4	-0.2
LIMN	Finca el Limon	5.17	96	*i* P	Pn	20 44 56.0	-2.6
LIMN				IVmB_BB		20 45 06.7	
	comp=Z,1μm,1.0s						
LIMN				IAML		20 45 09.3	
	comp=Z,140nm,1.0s						
LIMN				IAmb	IAmb	20 45 09.3	
	comp=Z,110nm,0.7s						
BOAB	BOACO BROADBAN	5.95	101	Pn	Pn	20 45 05.7	-3.5
BOAB	BOACO BROADBAN	5.95	101	*i* P	Pn	20 45 06.3	-2.8
BOAB				IAmb	IAmb	20 45 22.8	
	comp=Z,32nm,0.6s						
BOAB				IAML		20 45 41.2	
	comp=Z,54nm,1.0s						
TEIG	Tepich	7.27	26		Pn	20 45 27.1	-0.2
TEIG	Tepich	7.27	26	P	Pn	20 45 26.9	-0.4
	comp=Z,131nm,0.5s,baz=219,slow=7.8,SNR=120						
TEIG				S	Sn	20 46 50.0	+1.6
	comp=Z,42nm,0.7s,baz=218,slow=19,SNR=4.4						
TEIG				LR	LR	20 48 43.0	
	comp=Z,1μm,20.4s,baz=214,slow=44						
JTS	Las Juntas de	7.36	116	P	Pn	20 45 41.0	+13
	comp=Z,26nm,0.7s,baz=327,slow=15,SNR=13						
JTS				S	Sn	20 47 10.3	+20
	comp=Z,11nm,0.6s,baz=286,slow=20,SNR=1.9						
JTS				LR	LR	20 48 13.8	
	comp=Z,346nm,21.7s,baz=302,slow=34						
LCR2	La Lucha 2	8.44	117	Pn	Pn	20 45 45.2	+1.8
BRU2	Volcan	10.03	118	Pn	Pn	20 46 05.0	-0.1
833A	Chaparral WMA,	16.27	335	P	Pn	20 47 29.7	+1.3
	baz=152						
HNDO	Hondo	17.30	337		P	20 47 43.2	+1.3
HNVL	Huntsville, TX	17.37	349		Pn	20 47 42.9	+0.9
HNVL				IAmb	IAmb	20 48 19.8	
	comp=Z,14nm,0.6s						
DRIO	Del Rio	17.75	333	Pn	P	20 47 41.8	-5.1
656A	Willston	17.76	27		P	20 47 46.0	-1.0
656A				IAmb	IAmb	20 47 55.0	
	comp=Z,31nm,0.9s						
JCT	Junction City	18.34	337	P	P	20 47 52.9	-0.6
HPIG		18.61	317	P	P	20 47 58.1	+1.5
BRDY	Brady	18.79	340	P	P	20 47 58.7	+0.3
SAND	Sanderson	18.88	331		P	20 47 59.6	+0.1
WHTX	Lake Whitney,	19.00	345	P	P	20 48 01.5	+0.9
	baz=162						
TXAR	Lajitas Array	19.16	326	P	P	20 48 01.8	-0.8
	comp=Z,4.2nm,0.9s,baz=149,slow=11,SNR=25						
ROSC	El Rosal	19.20	116	P	Pn	20 48 12.8	+7.9
	comp=Z,5.4nm,0.4s,baz=333,slow=16,SNR=6.8						
OZNA	Ozona	19.26	335	P	P	20 48 04.8	+1.2
Z47A	Carrollton	19.71	9	P	P	20 48 08.9	+0.5
Z47A				IAmb	IAmb	20 48 11.4	
	comp=Z,13nm,0.7s						
LRAL	Lakeview Retre	19.74	12	P	P	20 48 09.4	+0.7
LRAL	Lakeview Retre	19.74	12	P	Pn	20 48 10.2	-0.4
	baz=193						
152A	Waverly Hall	19.94	17	P	P	20 48 11.2	+0.2
152A				IAmb	IAmb	20 48 16.4	
	comp=Z,13nm,0.6s						
ALPN	Alpine	19.97	328	P	P	20 48 12.6	+1.1
PLPT	Palo Pinto	20.01	343	IAmb	IAmb	20 48 13.6	
	comp=Z,12nm,0.5s						
SGCY	Sterling City	20.13	336	P	P	20 48 12.3	-0.8
SGCY				IAmb	IAmb	20 48 14.4	
	comp=Z,15nm,0.6s						
FW03	Perrin-Whitt E	20.15	344	IAmb	IAmb	20 48 17.7	
	comp=Z,15nm,0.5s						
ABTX	Abilene, Hawle	20.23	340	IAmb	IAmb	20 48 15.6	
	comp=Z,12nm,0.7s						
ABTX	Abilene, Hawle	20.23	340	P	P	20 48 15.4	+1.2
	baz=157						
MNHN	Monahans	20.34	332	P	P	20 48 15.9	+0.5
MNHN				IAmb	IAmb	20 48 17.7	
	comp=Z,14nm,0.6s						
OXF	Oxford	20.85	5	P	P	20 48 21.6	+0.9
	baz=186						
MIAR	Mount Ida	20.86	356	P	P	20 48 21.7	+0.9
	baz=175						
ODSA	Odessa	20.91	333	IAmb	IAmb	20 48 24.0	
	comp=Z,17nm,0.7s						
VHRN	Van Horn	21.01	326	P	P	20 48 23.5	+0.9
GOGA	Godfrey	21.02	19	P	P	20 48 23.5	+1.0
	baz=203						
APMT	Aspermont	21.04	340	IAmb	IAmb	20 48 23.6	
	comp=Z,11nm,0.6s						
SN07	Snyder 07	21.09	338	IAmb	IAmb	20 48 26.2	
	comp=Z,9.7nm,0.5s						
SDV	Santo Domingo	21.14	101	LR	LR	20 59 01.2	
	comp=Z,108nm,18.1s,baz=309,slow=42						
Y52A	Lilburn	21.25	18	IAmb	IAmb	20 48 28.4	
	comp=Z,11nm,0.7s						
POST	Post	21.30	337	IAmb	IAmb	20 48 26.3	
	comp=Z,15nm,0.8s						
FPAL	Fort Paine	21.49	14		P	20 48 26.9	-0.6
DKNS	Dickens	21.62	339	IAmb	IAmb	20 48 36.0	
	comp=Z,10nm,0.6s						
X51A	Calhoun	21.70	15	IAmb	IAmb	20 48 38.2	
	comp=Z,9.3nm,0.8s						
MNTX	Cornudas Mount	21.93	327	P	P	20 48 33.3	+1.0
	baz=142						
WMOK	Wichita Mounta	21.95	344	P	P	20 48 32.9	+0.4
	baz=161						
HODGE	Hodges	22.17	21	P	P	20 48 33.3	-1.6
HODGE				IAmb	IAmb	20 48 50.5	
	comp=Z,15nm,1.2s						
LCAR	Lake Charles	22.31	1	IAmb	IAmb	20 48 36.5	
	comp=Z,10nm,0.7s						
W52A	Murphy	22.44	17	IAmb	IAmb	20 48 39.4	
	comp=Z,6.8nm,0.7s						
MSTX	Muleshoe	22.59	335	IAmb	IAmb	20 48 40.4	
	comp=Z,11nm,0.8s						
MSTX	Muleshoe	22.59	335	P	P	20 48 39.5	-0.1
	baz=151						
CPCT	Cooper Cave	22.62	15	IAmb	IAmb	20 48 54.4	
	comp=Z,16nm,1.4s						
WVT	Waverly	22.63	8	P	P	20 48 39.7	0.0
	baz=190						
PAULI	Pauline	22.86	21	IAmb	IAmb	20 49 00.8	
	comp=Z,15nm,1.4s						
AMTX	Amarillo	22.99	338	P	P	20 48 43.9	+0.2
	baz=154						
TKL	Tuckaleechee C	23.01	17	P	P	20 48 43.0	-0.7
	comp=Z,8.1nm,0.5s,baz=178,slow=11,SNR=24						
TKL				LR	LR	20 58 42.4	
	comp=Z,273nm,20.9s,baz=211,slow=40						
	comp=Z,8.1nm,0.5s						
PBMO	Poplar Bluff	23.04	2	IAmb	IAmb	20 48 43.9	
	comp=Z,11nm,0.6s						
V52A	Sevierville	23.24	17	IAmb	IAmb	20 48 48.8	
	comp=Z,17nm,1.4s						
V53A	Saluda	23.31	18	IAmb	IAmb	20 48 49.6	
	comp=Z,7.1nm,0.7s						
KMSC	Kings Mountain	23.32	22	P	P	20 48 47.0	+0.2
	baz=206						
T47A	Sharon Grove	23.57	9	IAmb	IAmb	20 49 18.4	
	comp=Z,10nm,0.8s						
CGM3	Cape Girardeau	23.60	4	IAmb	IAmb	20 48 49.1	
	comp=Z,5.8nm,0.6s						
KAN13	South Haven SW	23.82	348		PcP	20 52 35.9	+2.4
121A	Cookes Peak, D	23.88	325	IAmb	IAmb	20 49 03.9	
	comp=Z,9.0nm,0.9s						
121A	Cookes Peak, D	23.88	325	P	P	20 48 51.9	-0.2
	baz=138						
TZTN	Tazewell	23.91	16	IAmb	IAmb	20 49 22.0	
	comp=Z,12nm,1.1s						
TZTN	Tazewell	23.91	16	P	P	20 48 51.5	-0.7
	baz=200						
319A	Douglas	23.94	320	P	P	20 48 54.8	+2.2
319A				IAmb	IAmb	20 49 02.9	
	comp=Z,11nm,0.9s						
V55A	Taylorsville	24.00	21	IAmb	IAmb	20 48 53.5	
	comp=Z,6.0nm,0.7s						
CCM	Cathedral Cave	24.29	1	P	P	20 48 53.5	-2.2
CCM				IAmb	IAmb	20 48 55.2	
	comp=Z,9.1nm,0.7s						
CCM	Cathedral Cave	24.29	1	P	P	20 48 54.8	-0.8
	baz=181						
U54A	Nelsons Funny	24.40	19	IAmb	IAmb	20 49 23.4	
	comp=Z,11nm,0.9s						
ATAH	Atahualpa	24.50	147	LR	LR	20 57 15.6	
	comp=Z,139nm,18.1s,baz=327,slow=32						
R40A	Maddies Statio	24.53	359	P	P	20 48 56.3	-1.5
R40A				IAmb	IAmb	20 48 57.6	
	comp=Z,6.2nm,0.6s						
V58A	Windy Hill, Pi	24.75	25	IAmb	IAmb	20 49 03.8	
	comp=Z,8.5nm,0.8s						
WCI	Wyandotte Cave	24.92	10	P	P	20 48 59.4	-2.0
WCI				IAmb	IAmb	20 49 30.1	
	comp=Z,10.0nm,0.7s						
WCI	Wyandotte Cave	24.92	10	P	P	20 49 01.1	-0.2
	baz=192						
ANMO	Albuquerque	25.06	330	P	P	20 49 04.4	+1.5
ANMO	Albuquerque	25.06	330	P	P	20 49 04.3	+1.4
	baz=144						
T25A	Trinidad	26.01	336	P	P	20 49 12.8	+1.3
	baz=151						
SSFO	Shawnee State	26.03	15	IAmb	IAmb	20 49 11.4	
	comp=Z,15nm,1.0s						
T59A	Double "B" Far	26.41	26	IAmb	IAmb	20 49 18.0	
	comp=Z,7.6nm,0.9s						
R55A	Marlinton	26.57	21	IAmb	IAmb	20 49 17.2	
	comp=Z,14nm,1.4s						
PCRV	Puerto La Cruz	26.65	95	LR	LR	21 02 03.7	
	comp=Z,133nm,18.1s,slow=41						
Q54A	Coxs Mills	26.97	19	IAmb	IAmb	20 49 25.7	
	comp=Z,7.1nm,0.8s						
ACSO	Alum Creek Sta	27.53	14	IAmb	IAmb	20 49 24.4	
	comp=Z,11nm,0.8s						
O53A	New Philadelph	28.02	17	P	P	20 49 28.7	-0.6
	baz=202						
M53A	WI Miller and	29.27	17	P	P	20 49 40.3	-0.1
	baz=202						
NNA	Nana	29.41	149	LR	LR	20 59 12.1	
	comp=Z,64nm,20.7s,baz=318,slow=31						
SSPA	Standing Stone	29.44	22	P	P	20 49 41.3	-0.6
	baz=208						
MPMC	Manual Prospec	32.17	318	P	P	20 50 08.5	+2.2
	baz=127						
SPR3	Spring Creek 3	32.22	326	P	P	20 50 08.1	+1.3
DUG	Dugway, Tooele	32.30	329	P	P	20 50 09.2	+1.9
	baz=139						
R11B	Troy Canyon, C	32.48	324	P	P	20 50 10.7	+1.8
	baz=133						
SADO	Sadowa	32.78	17	LR	LR	21 04 35.9	
	comp=Z,190nm,19.7s,baz=177,slow=39						
PDAR	Pinedale Array	32.86	335	P	P	20 50 12.3	0.0
	comp=Z,0.6nm,0.5s,baz=130,slow=11,SNR=4.8						
PDAR				PcP	PcP	20 52 56.1	+0.1
	comp=Z,0.3nm,0.5s,baz=115,slow=4.3,SNR=2.1						
	comp=Z,0.6nm,0.5s						
HVU	Hansel Valley	33.49	331	IAmb	IAmb	20 50 30.4	
	comp=Z,3.6nm,0.9s						
LONY	Lake Ozonia	34.11	22	P	P	20 50 21.8	-1.0
	baz=210						
NVAR	Mina Array Bea	34.14	321	P	P	20 50 23.6	+0.2
	comp=Z,1.1nm,0.5s,baz=130,slow=8.4,SNR=10.0						
NVAR				PcP	PcP	20 53 01.4	+1.8
	comp=Z,0.6nm,0.7s,baz=131,slow=2.5,SNR=2.2						
	comp=Z,1.1nm,0.5s						
EYMN	Ely	34.17	0	P	P	20 50 22.2	-1.2
	baz=180						
ETMB	Extrema	34.37	131	P	P	20 50 26.9	+1.5
ETMB				IAmb	IAmb	20 50 30.1	
	comp=Z,3.4nm,1.0s						
MDND	Maddock	34.72	351	P	P	20 50 28.9	+0.8
	baz=166						
RLMT	Red Lodge	34.74	338	P	P	20 50 28.5	-0.1
	baz=149						
LBNH	Lisbon	34.82	25	P	P	20 50 28.8	-0.2
	baz=215						
HLID	Hailey	35.63	331	P	P	20 50 36.7	+0.5
	baz=140						
BOZ	Bozeman (W)	36.04	336	P	P	20 50 40.2	+0.6
	baz=146						
ULM	Lac du Bonnet	36.64	355	LR	LR	21 08 36.5	
	comp=Z,58nm,19.4s,baz=16,slow=41						
PKME	Peaks-Kenny Pk	36.76	27	P	P	20 50 45.0	-0.5
	baz=218						
PLID	Pearl Lake	37.53	331	IAmb	IAmb	20 50 57.0	
	comp=Z,4.3nm,1.0s						
LPAZ	La Paz	37.76	141	P	P	20 51 04.3	+9.2
	comp=Z,0.7nm,0.3s,baz=354,slow=10,SNR=2.0						
	comp=Z,0.7nm,0.3s						
MSO	Missoula	37.98	335	P	P	20 50 56.7	+0.7
	baz=143						
D62A	Allapoint, All	38.30	25	IAmb	IAmb	20 51 01.1	
	comp=Z,6.6nm,0.9s						
YBH	Yreka Blue Hor	38.84	322	LR	LR	21 07 40.2	
	comp=Z,82nm,18.8s,baz=146,slow=37						
H04A	Detroit Lake	40.38	326	P	P	20 51 17.3	+1.3
NEW	Newport	40.44	334	LR	LR	21 10 28.6	
	comp=Z,96nm,19.3s,baz=138,slow=40						
LON	Longmire	41.55	329	P	P	20 51 27.2	+1.6
LVC	Limon Verde	42.38	148	LR	LR	21 08 31.8	
	comp=Z,54nm,18.5s,baz=298,slow=34						
RPN	Rapa Nui	44.04	203	LR	LR	21 05 14.6	
	comp=Z,81nm,22.0s,baz=247,slow=29						
SCHQ	Schefferville	45.41	20	P	P	20 51 54.4	-2.2
	comp=Z,5.8nm,0.6s,baz=231,slow=6.0,SNR=15						
SCHQ				LR	LR	21 12 06.5	
	comp=Z,293nm,19.0s,baz=251,slow=38						
	comp=Z,5.8nm,0.6s						
BBB	Bella Bella	48.22	331	LR	LR	21 16 18.1	
	comp=Z,90nm,18.6s,baz=163,slow=41						
YKA	Yellowknife Ar	51.43	347	P	P	20 52 40.0	-2.6
	baz=138,slow=7.5						
YKA				PcP	PcP	20 53 56.4	0.0
	baz=157,slow=3.8						
TOAD	Toad River Com	51.57	338	P	P	20 52 44.3	+0.5
	baz=137						
CPUP	Villa Florida	51.91	140	LR	LR	21 16 16.2	
	comp=Z,63nm,18.6s,baz=348,slow=37						
FRB	Frobisher Bay	52.56	13	LR	LR	21 16 35.1	
	comp=Z,70nm,19.8s,baz=208,slow=38						
DLBC	Dease Lake	53.09	336	P	P	20 52 56.5	+1.3
DLBC	Dease Lake	53.09	336	P	P	20 52 57.7	+2.6
	baz=131						
S34M	Telegraph Cree	53.20	335	P	P	20 52 56.8	+0.9
	baz=130						
R33M	Jennings River	54.09	336	P	P	20 53 04.2	+1.7
	baz=130						
Q32M	Nakina River	54.33	335	IAmb	IAmb	20 53 06.9	
	comp=Z,6.3nm,1.1s						
Q32M	Nakina River	54.33	335	P	P	20 53 06.8	+2.4
	baz=129						
S32K	Kilisnoo	54.40	333	P	P	20 53 06.5	+1.9
	baz=126						
P32M	Atlin	55.30	336	P	P	20 53 12.9	+1.6
	baz=128						
P33M	Teslin, Yukon	55.33	336	P	P	20 53 12.2	+0.7
	baz=129						
WHY	Whitehorse	56.42	336	P	P	20 53 20.9	+1.7
	baz=127						
P30M	Million Dollar	56.94	335	P	P	20 53 24.1	+1.2
	baz=124						
O30N	Mendenhall	56.96	336	P	P	20 53 24.9	+1.9
	baz=126						
P29M	Windy Craggy	56.99	334	P	P	20 53 25.0	+1.8
	baz=123						
N31M	Braeburn, Yuko	57.26	337	P	P	20 53 26.7	+1.5
	baz=126						
PLCA	Paso Flores	57.55	161	LR	LR	21 12 53.3	
	comp=Z,50nm,19.7s,baz=338,slow=30						
HYT	Haines Junctio	57.56	335	P	P	20 53 28.7	+1.3
	baz=124						
PNL	Peninsula	57.

M27K	Edge Creek, AK	60.15	336	P	P	20 53 47.2 +1.8
M27K				IAmb	IAmb	20 53 59.1
	comp=Z,6.7nm,1.4s					
M27K	Edge Creek, AK	60.15	336	P	P	20 53 45.6 +0.3
	baz=120					
F31M	Tsiigehtchic	60.34	343	P	P	20 53 47.0 +0.8
	baz=131					
I29M	Ogilvie Camp,	60.47	339	P	P	20 53 47.5 +0.3
	baz=126					
L27K	Beaver Creek,	60.49	336	P	P	20 53 48.3 +0.8
L27K				IAmb	IAmb	20 53 49.5
	comp=Z,3.5nm,0.7s					
L27K	Beaver Creek,	60.49	336	P	P	20 53 47.9 +0.4
	baz=121					
BMRM	Bremner River	60.62	333	P	P	20 53 49.9 +1.5
	baz=117					
M26K	Nabesna, AK	60.62	335	P	P	20 53 49.6 +1.1
	baz=119					
G30M	tAoh Zraii Nji	60.78	342	P	P	20 53 50.2 +0.8
	baz=129					
INK	Inuvik	60.85	343	P	P	20 53 49.1 -0.6
	baz=132					
INK	Inuvik	60.85	343	LR	LR	21 24 01.1
	comp=Z,49nm,18.6s,baz=188,slow=40					
N25K	Chitina, Valde	60.91	334	P	P	20 53 51.3 +0.9
	baz=117					
EYAK	Cordova Ski Ar	60.94	333	P	P	20 53 51.7 +1.2
	baz=116					
H29M	Whitestone	61.00	340	P	P	20 53 51.5 +0.7
	baz=126					
RES	Resolute Bay	61.03	359	LR	LR	21 23 34.4
	comp=Z,119nm,18.4s,baz=211,slow=40					
F30M	Barrier River	61.05	342	P	P	20 53 50.9 -0.3
	baz=129					
L26K	Log Cabin Wild	61.07	336	P	P	20 53 52.4 +1.0
	baz=119					
I28M	Miner Creek	61.08	339	P	P	20 53 52.3 +0.7
	baz=124					
K27K	Chicken	61.09	337	P	P	20 53 52.8 +1.3
	baz=121					
EGAK	Eagle	61.15	338	IAmb	IAmb	20 53 53.5
	comp=Z,2.2nm,0.6s					
EGAK	Eagle	61.15	338	P	P	20 53 52.0 +0.1
	baz=122					
KLU	Klutina	61.42	334	P	P	20 53 55.2 +1.3
	baz=116					
P23K	Montague Islan	61.45	332	P	P	20 53 55.1 +1.1
	baz=114					
HARP	HAARP	61.51	335	P	P	20 53 55.5 +1.1
	baz=117					
A36M	Sachs Harbour	61.64	349	P	P	20 53 57.2 +2.2
	baz=142					
GLI	Glacier Island	61.68	333	P	P	20 53 56.5 +1.0
	baz=114					
I27K	Kandik River	61.75	339	P	P	20 53 56.7 +0.7
	baz=122					
SCRK	Sand Creek	61.79	337	P	P	20 53 57.1 +0.7
SCRK				IAmb	IAmb	20 54 04.3
	comp=Z,6.9nm,1.4s					
SCRK	Sand Creek	61.79	337	P	P	20 53 58.2 +1.8
	baz=119					
M24K	Tolsona, Glenn	61.80	334	P	P	20 53 57.7 +1.2
	baz=116					
J26L	Joseph Creek	61.89	337	P	P	20 53 58.6 +1.5
J26L	Joseph Creek	61.89	337	P	P	20 53 58.5 +1.5
	baz=120,SNR=8.7					
PAX	Paxson	61.90	335	P	P	20 53 58.2 +1.1
	baz=117					
UMMG	Uummannaq	61.90	14	eP	P	20 53 54.1 -2.7
H27K	Steamboat Moun	62.06	339	P	P	20 53 58.8 +0.7
	baz=123					
I26K	Coal Creek Min	62.15	338	P	P	20 53 59.1 +0.6
	baz=121					
E29M	Blow River	62.15	342	P	P	20 53 59.3 +0.7
E29M				IAmb	IAmb	20 54 07.8
	comp=Z,5.6nm,1.3s					
E29M	Blow River	62.15	342	P	P	20 53 58.8 +0.3
	baz=127					
SCM	Sheep Creek Mo	62.18	334	P	P	20 53 59.3 +0.3
	baz=115					
F28M	Old Crow	62.29	341	P	P	20 54 00.2 +0.7
F28M	Old Crow	62.29	341	P	P	20 53 59.8 +0.2
	baz=125					
K24K	Donnelly Dome	62.41	336	P	P	20 54 01.3 +0.9
	baz=117					
G27K	Doyon Strip	62.42	340	P	P	20 54 00.5 +0.1
G27K				IAmb	IAmb	20 54 09.8
	comp=Z,1.8nm,0.8s					
G27K	Doyon Strip	62.42	340	P	P	20 54 00.5 +0.1
	baz=123					
KNK	Knik Glacier	62.50	333	P	P	20 54 02.2 +1.2
	baz=114					
SML	Sawmill	62.60	333	P	P	20 54 02.5 +0.7
SML	Sawmill	62.60	333	P	P	20 54 03.0 +1.2
	baz=114					
J25K	Salcha River,	62.63	337	P	P	20 54 02.6 +0.7
J25K				IAmb	IAmb	20 54 03.8
	comp=Z,3.1nm,0.7s					
J25K	Salcha River,	62.63	337	P	P	20 54 02.8 +0.9
	baz=118,SNR=9.5					
WAT6	Susitna Watana	62.67	334	P	P	20 54 03.5 +1.2
	baz=115					
E28M	Babbage River	62.77	342	P	P	20 54 02.7 0.0
E28M				IAmb	IAmb	20 54 03.6
	comp=Z,2.4nm,0.6s					
E28M	Babbage River	62.77	342	P	P	20 54 02.4 -0.3
	baz=126					
GHO	Glory Hole Cre	62.84	333	P	P	20 54 04.7 +1.3
HDA	Harding Lake	63.14	336	P	P	20 54 05.4 +0.2
HDA	Harding Lake	63.14	336	P	P	20 54 05.3 +0.1
	baz=116					
E27K	Coleen River	63.16	341	P	P	20 54 05.9 +0.6
E27K				IAmb	IAmb	20 54 06.8
	comp=Z,2.1nm,0.7s					
E27K	Coleen River	63.16	341	P	P	20 54 04.9 -0.4
	baz=124					
KDAK	Kodiak Island	63.18	328	P	P	20 54 05.9 +0.4
	baz=108					
KDAK	Kodiak Island	63.18	328	LR	LR	21 22 16.3
	comp=Z,42nm,18.1s,baz=138,slow=37					
G26K	Porcupine Rive	63.21	340	P	P	20 54 05.9 +0.3
	baz=121					
ILAR	Eielson Array	63.28	337	P	P	20 54 06.5 +0.4
	comp=Z,2.0nm,0.7s,baz=130,slow=4.4,SNR=22					
ILAR				LR	LR	21 24 57.8
	comp=Z,41nm,18.8s,baz=126,slow=39					
	comp=Z,2.0nm,0.7s					
RND	Reindeer	63.47	335	P	P	20 54 08.4 +0.9
SUA	Susitna One	63.53	333	P	P	20 54 08.9 +0.9
	baz=111					
CCB	Clear Creek Bu	63.58	336	P	P	20 54 07.8 -0.3
CCB				IAmb	IAmb	20 54 21.4
	comp=Z,3.7nm,1.1s					
MCK	McKinley	63.64	335	P	P	20 54 08.5 -0.1
	baz=114					
POKR	Poker Plat Res	63.64	337	P	P	20 54 08.9 +0.4
	baz=116					
SII	Sitkinak Islan	63.66	327	P	P	20 54 09.4 +0.6
	baz=106					
F26K	Sheenjek River	63.71	340	P	P	20 54 10.0 +1.0
	baz=121					
MDM	Murphy Dome	63.88	337	P	P	20 54 10.3 +0.2
MDM				IAmb	IAmb	20 54 21.9
	comp=Z,2.3nm,0.8s					
O20K	Slope Mountain	63.92	331	P	P	20 54 11.4 +0.8
	baz=109					
NEA2	Nenana	64.05	336	P	P	20 54 12.0 +0.8
	baz=114					
SKT	Skwentna	64.07	333	P	P	20 54 12.2 +0.8
SKT				IAmb	IAmb	20 54 19.8
	comp=Z,5.5nm,1.1s					
SKT	Skwentna	64.07	333	P	P	20 54 12.5 +1.0
	baz=111					
R18K	Karluk	64.08	328	P	P	20 54 12.4 +1.0
	baz=106					
P19K	Oil Pt	64.08	330	P	P	20 54 12.9 +1.3
	baz=108					
H24K	Noodor Dome	64.13	338	P	P	20 54 11.8 0.0
H24K	Noodor Dome	64.13	338	P	P	20 54 12.8 +1.0
	baz=116,SNR=7.0					
F25K	Christian Rive	64.16	340	P	P	20 54 12.7 +0.8
	baz=119,SNR=6.6					
CHIR	Chirikof Islan	64.25	326	P	P	20 54 13.5 +0.9
	baz=104					
ICESG	Greenland Ices	64.28	18	iP	P	20 54 09.6 -3.5
G24K	Hadweenzic Riv	64.37	339	P	P	20 54 13.5 +0.2
	baz=117					
E25K	Arctic Village	64.39	340	IAmb	IAmb	20 54 15.0
	comp=Z,2.2nm,0.7s					
E25K	Arctic Village	64.39	340	P	P	20 54 14.1 +0.6
	baz=119					
I23K	Minto, Yukon-K	64.39	337	P	P	20 54 13.3 -0.1
I23K	Minto, Yukon-K	64.39	337	P	P	20 54 14.3 +0.9
	baz=114,SNR=5.7					
C27K	Jago River	64.58	342	P	P	20 54 15.2 +0.6
	baz=122					
BPAW	Bear Paw Mtn.	64.62	335	P	P	20 54 15.2 +0.2
BPAW				IAmb	IAmb	20 54 16.3
	comp=Z,4.9nm,0.8s					
BPAW	Bear Paw Mtn.	64.62	335	P	P	20 54 15.3 +0.4
	baz=112					
Q18K	Katmai Hardscr	64.66	329	P	P	20 54 16.1 +0.7
	baz=106					
PPLA	Purkeypile	64.68	334	P	P	20 54 15.9 +0.3
	baz=110					
H23K	Yukon River	64.74	337	P	P	20 54 16.4 +0.6
	baz=114					
M20K	Styx River	64.75	333	P	P	20 54 16.2 +0.3
	baz=109					
CAST	Castle Rocks	64.82	334	P	P	20 54 15.7 -0.6
CAST				IAmb	IAmb	20 54 30.0
	comp=Z,7.1nm,1.2s					
CAST	Castle Rocks	64.82	334	P	P	20 54 16.7 +0.4
	baz=111					
MLY	Manley	64.88	336	P	P	20 54 16.5 -0.2
MLY	Manley	64.88	336	P	P	20 54 17.5 +0.8
	baz=113,SNR=10					
F24K	Squaw Lake	64.88	339	P	P	20 54 17.3 +0.7
	baz=117					
P18K	Big Mountain,	64.97	330	P	P	20 54 17.9 +0.5
	baz=106					
N19K	Bonanza Creek	65.03	331	P	P	20 54 18.1 +0.3
N19K				IAmb	IAmb	20 54 31.5
	comp=Z,4.8nm,0.9s					
N19K	Bonanza Creek	65.03	331	P	P	20 54 18.8 +1.0
	baz=107					
PPT	Papeete	65.05	243	LR	LR	21 16 23.5
	comp=Z,113nm,21.0s,baz=76,slow=30					
R17L	Mt. Peulik Vol	65.08	328	P	P	20 54 19.1 +1.0
	baz=104					
C26K	Camden Bay	65.09	342	P	P	20 54 18.5 +0.6
	baz=121					
O18K	Koktuh Hills	65.09	330	P	P	20 54 19.5 +1.3
O18K	Koktuh Hills	65.09	330	P	P	20 54 19.8 +1.7
	baz=106					
D25K	Kavik River	65.24	341	P	P	20 54 19.0 0.0
D25K				IAmb	IAmb	20 54 20.3
	comp=Z,3.0nm,0.6s					
D25K	Kavik River	65.24	341	P	P	20 54 19.7 +0.8
	baz=119					
L20K	Farewell, AK	65.27	333	P	P	20 54 20.3 +1.0
	baz=109					
G23K	Bananza Creek	65.29	338	P	P	20 54 19.9 +0.6
G23K				IAmb	IAmb	20 54 20.7
	comp=Z,2.7nm,0.7s					
G23K	Bananza Creek	65.29	338	P	P	20 54 19.8 +0.6
	baz=114					
M19K	Big River Lodg	65.32	332	P	P	20 54 20.5 +1.0
	baz=108					
E24K	Your Creek	65.34	340	P	P	20 54 20.1 +0.5
	baz=116					
H22K	Ishtalitna Cre	65.46	337	P	P	20 54 21.1 +0.7
	baz=113					
P17K	Kvichak River	65.52	329	P	P	20 54 22.3 +1.5
	baz=105					
COLD	Coldfoot	65.56	339	P	P	20 54 21.9 +0.9
	baz=114					
K20K	Telida	65.64	334	P	P	20 54 21.3 -0.3
K20K	Telida	65.64	334	P	P	20 54 22.0 +0.4
	baz=109					
N18K	Kilae Creek	65.65	331	P	P	20 54 23.0 +1.2
	baz=106					
E23K	Chandalar	65.71	340	P	P	20 54 22.7 +0.7
	baz=115,SNR=5.9					
M18K	Stony River	65.85	332	P	P	20 54 23.3 +0.4
	baz=106					
CHGN	Chignik	65.88	326	P	P	20 54 23.2 +0.1
CHGN	Chignik	65.88	326	P	P	20 54 24.1 +0.9
	baz=102					
G22K	Bettles	65.91	338	P	P	20 54 23.7 +0.4
	baz=113					
H21K	Melozitna Rive	65.92	337	P	P	20 54 23.4 +0.1
H21K				IAmb	IAmb	20 54 23.8
	comp=Z,2.5nm,0.8s					
H21K	Melozitna Rive	65.92	337	P	P	20 54 23.5 +0.1
	baz=111					
D24K	Happy Valley	65.93	341	P	P	20 54 24.0 +0.7
	baz=116					
J20K	Nowinta River	65.94	335	P	P	20 54 24.5 +1.0
	baz=109					
TOLK	Toolik Lake Re	65.95	340	P	P	20 54 24.4 +0.8
	baz=116					
O17K	Koliganek Bris	65.99	330	P	P	20 54 24.9 +1.1
	baz=104					
C24K	Franklin Bluff	66.15	341	P	P	20 54 25.1 +0.4
	baz=117					
N17K	Nushagak Hills	66.23	331	P	P	20 54 26.4 +1.0
N17K				IAmb	IAmb	20 54 40.9
	comp=Z,6.8nm,1.1s					
N17K	Nushagak Hills	66.23	331	P	P	20 54 26.2 +0.8
	baz=105					
CHNA	Chernabura Isl	66.25	324	P	P	20 54 26.3 +0.7
	baz=100					
F22K	John River	66.38	339	P	P	20 54 26.7 +0.4
	baz=112					
O16K	Kokwok River B	66.44	329	P	P	20 54 27.2 +0.5
	baz=104					
L18K	Granite Mounta	66.45	332	P	P	20 54 27.4 +0.6
	baz=106					
D23K	Nanushuk River	66.45	340	P	P	20 54 27.0 +0.4
	baz=115					
EUNU	Eureka	66.45	1	P	P	20 54 25.6 -1.1
EUNU				IAmb	IAmb	20 54 32.8
	comp=Z,3.8nm,1.0s					
SUMG	Summit	66.46	15	iP	P	20 54 25.4 -1.8
SUMG				IAmb	IAmb	20 54 27.0
	comp=Z,1.2nm,0.5s					
E22K	Anaktuvuk Pass	66.49	339	P	P	20 54 27.9 +0.8
	baz=113					
G21K	Allakaket	66.49	337	P	P	20 54 27.1 +0.1
G21K	Allakaket	66.49	337	P	P	20 54 28.1 +1.0
	baz=111,SNR=6.0					
J19K	Poorman	66.50	334	P	P	20 54 26.6 -0.5
J19K				IAmb	IAmb	20 54 40.8
	comp=Z,5.8nm,1.1s					
J19K	Poorman	66.50	334	P	P	20 54 27.6 +0.5
	baz=108					
S14K	Fog Glacier	66.50	326	P	P	20 54 27.7 +0.4
	baz=101					
M17K	Holitna River	66.57	331	P	P	20 54 28.5 +0.9
	baz=105					
H20K	Anotleneega Mo	66.67	336	P	P	20 54 28.1 0.0
	baz=109					
F21K	Alatna River	66.74	338	P	P	20 54 28.7 +0.1
F21K	Alatna River	66.74	338	P	P	20 54 29.0 +0.4
	baz=111,SNR=16					
C23K	Itkillik River	66.80	341	P	P	20 54 29.0 +0.2
	baz=115					
J18K	Innoko River	66.81	334	P	P	20 54 30.0 +0.9
	baz=106					
SDPT	Sand Point	66.84	325	P	P	20 54 30.8 +1.5
	baz=100					
N16K	Nishlik Lake	66.97	330	P	P	20 54 31.3 +1.1
	baz=103					
NEEM	North Greenlan	67.01	9	iP	P	20 54 28.3 -2.2
NEEM				IAmb	IAmb	20 54 29.1
	comp=Z,4.0nm,0.8s					
D22K	Ayikyak River	67.08	340	P	P	20 54 32.2 +1.5
	baz=112					
L17K	Donlin	67.15	332	P	P	20 54 31.9 +0.7
	baz=104					
M16K	Timber Creek	67.19	331	P	P	20 54 32.2 +0.7
	baz=103					
K17K	Iditarod	67.30	333	P	P	20 54 32.2 0.0
	baz=105					
H19K	Roundabout Mou	67.30	336	P	P	20 54 31.9 -0.3
	baz=108					
E21K	Killik River	67.35	339	P	P	20 54 32.4 -0.1
E21K	Killik River	67.35	339	P	P	20 54 33.1 +0.6
	baz=111					
F20K	Avaraart Lake	67.50	338	P	P	20 54 33.7 +0.3
F20K	Avaraart Lake	67.50	338	P	P	20 54 33.7 +0.3
	baz=109,SNR=6.9					
N15K	Kwethluk River	67.55	330	P	P	20 54 34.0 +0.2
	baz=102					
L16K	Owhat River	67.59	331	P	P	20 54 33.9 -0.1
	baz=103					
G19K	Purcell Mounta	67.74	336	P	P	20 54 35.6 +0.7
	baz=107					
S12K	Black Hills	67.79	325	P	P	20 54 35.0 -0.4
	baz=98					
J17K	VABM Dome	67.81	333	P	P	20 54 35.2 -0.2
	baz=104					
B22K	Teshekpuk Lake	67.88	341	P	P	20 54 36.3 +0.6
	baz=112					
C21K	Knifeblade Rid	67.89	340	P	P	20 54 36.3 +0.5
	baz=111					
M15K	Kasigluk River	67.95	330	P	P	20 54 37.0 +0.7
	baz=102					
O14K	Tigyukauivet M	67.95	329	P	P	20 54 37.3 +1.0
	baz=100					
H18K	Honhosa River	67.97	335	P	P	20 54 37.3 +0.9
	baz=106					
B21K	Ikpikpuk River	68.00	340	P	P	20 54 37.4 +1.0
	baz=111					
E20K	Nigu River	68.06	339	P	P	20 54 38.1 +1.1
	baz=109,SNR=5.4					
E19K	Redstone River	68.19	338	P	P	20 54 38.8 +1.1
	baz=108					
F19K	Shaleruckik Mo	68.20	337	P	P	20 54 38.6 +0.8
	baz=107					
G18K	Tagagawik	68.28	336	P	P	20 54 38.9 +0.6
	baz=106					
N14K	Kuskokwak Cree	68.28	329	P	P	20 54 39.1 +0.7
	baz=100					
D20K	Etivluk River	68.36	339	P	P	20 54 39.7 +0.9
	baz=109,SNR=5.1					
J16K	Anvik River	68.46	333	P	P	20 54 40.2 +0.8
	baz=103					
L15K	Ungalak Mounta	68.52	331	P	P	20 54 40.4 +0.6
	baz=101					
H17K	Granite Mounta	68.55	335	P	P	20 54 41.0 +1.0
	baz=104					
M14K	Bethel	68.57	330	P	P	20 54 41.4 +1.3
M14K	Bethel	68.57	330	P	P	20 54 41.3 +1.2
	baz=100					
A22K	Sinclair Lake	68.61	342	P	P	20 54 40.7 +0.5
	baz=111					
K15K	Wolf Creek Mou	68.67	332	P	P	20 54 41.7 +0.9
	baz=102					
D19K	Kuna River	68.82	339	P	P	20 54 42.6 +0.9
	baz=107					
F18K	Selawik	68.86	337	P	P	20 54 42.7 +0.9
	baz=105					
B20K	Meade River	68.96	340	P	P	20 54 43.0 +0.6
	baz=108					
G17K	Kiwalik Mounta	68.98	335	P	P	20 54 43.3 +0.6
	baz=104					
L14K	Kuka Creek	69.02	331	P	P	20 54 44.3 +1.4
	baz=100					
M13K	Dall Lake	69.19	330	P	P	20 54 45.0 +1.1
	baz=99					
A21K	Barrow	69.22	342	P	P	20 54 44.9 +0.9
	baz=110					
BORG	Borgarnes	69.36	26	LR	LR	21 25 04.9
	comp=Z,58nm,18.6s,baz=281,slow=36					
E18K	Tukpahlearik C	69.43	337	P	P	20 54 46.5 +1.1
	baz=104					
F17K	Baldwin Pennin	69.44	336	P	P	20 54 46.1 +0.6
	baz=103					
C19K	Lookout Ridge	69.50	339	P	P	20 54 46.8 +0.9
	baz=106					
G16K	Koyuk River	69.65	335	P	P	20 54 47.9 +1.1
	baz=102					
J14K	Nanvaranak Lak	69.67	332	P	P	20 54 47.8 +0.8
	baz=100					
E17K	Hotham Inlet	69.81	337	P	P	20 54 48.7 +1.0
	baz=103					
C18K	Utukok River	69.95	339	P	P	20 54 49.5 +0.9
	baz=104					
K13K	Kusilvak Mount	70.05	331	P	P	20 54 49.9 +0.6
	baz=98					
UNV	Unalaska Valle	70.15	323	P	P	20 54 51.2 +1.2
	baz=94					
G15K	Niukluk	70.27	335	P	P	20 54 51.5 +0.9
	baz=100					
A19K	Wainwright	70.30	340	P	P	20 54 51.8 +1.1
	baz=105					
D17K	Noatak River	70.42	337	P	P	20 54 51.8 +0.4
	baz=102					
C17K	DeLong Mountai	70.62	338	P	P	20 54 53.2 +0.5
	baz=102					
F15K	North Star Dit	70.65	335	P	P	20 54 53.0 +0.1
	baz=100					
F14K	Arctic Creek	71.30	335	P	P	20 54 57.4 +0.6
	baz=98					
C16K	Lisburne Hills	71.37	338	P	P	20 54 57.3 +0.2
	baz=100					
DAG	Danmarks Havn	72.90	13	iP	P	20 55 04.0 -2.2
DAG				IAmb	IAmb	20 55 04.5
	comp=Z,5.0nm,0.3s					
JMIC	Jan Mayen	74.94	20	LR	LR	21 28 25.3
	comp=Z,41nm,21.5s,baz=248,slow=36					
EKA	Eskdalemuir Ar	76.03	36	P	P	20 55 33.7 -2.3
	comp=Z,2.0nm,0.9s,baz=271,slow=6.2,SNR=3.1					
BILL	Bilibino	81.89	338	P	P	20 55 57.5 +0.9
ARCES	ARCESS Array B	86.34	18	P	P	20 56 18.0 -1.2
	comp=Z,1.2nm,0.7s,baz=304,slow=5.3,SNR=6.6					
ARCES				LR	LR	21 34 19.1
	comp=Z,71nm,21.5s,baz=298,slow=35					
	comp=Z,1.2nm,0.7s					
TORD	Torodi Ar. Bea	90.12	77	LR	LR	21 32 33.6
	comp=Z,29nm,21.6s,baz=302,slow=32					
TIXI	Tiksi	90.65	348	LR	LR	21 44 26.6
	comp=Z,37nm,18.1s,baz=16,slow=40					
NRIK	Noril'sk	97.20	0	LR	LR	21 44 38.9
	comp=Z,80nm,19.5s,baz=337,slow=38					
WRA	Warramunga Arr	135.65	255	PKP	PKiKP	21 03 01.1 +1.0
	comp=Z,0.5nm,0.8s,baz=88,slow=1.8,SNR=2.8					
ASAR	Alice Springs	135.88	250	PKP	PKiKP	21 03 00.8 +0.3
	comp=Z,0.4nm,0.6s,baz=102,slow=2.0,SNR=2.8					
CMAR	Chiang Mai Arr	146.41	342	PKPbc	PKPab	21 03 19.6 -0.5
	comp=Z,2.7nm,0.6s,baz=341,slow=3.6,SNR=20					

*IDC **02** 20:58:05.2±1.1,29°.09N×139°.36E,h427km±10km, mb3.2/16,mbtmp4.1/21,Error ellipse: s-maj=16.0km s-min=11.2km az=81.0*
*JMA **02** 20:58:05.9±0.3,29°N±1°×14°0E±°,h453km±4km,MV4.1/62, NEAR TORISHIMA IS*
*NEIC **02** 20:58:06.4±1.6,29°.1N±0°.1×139°.41E±0°.09,h438km±10km, mb3.9/50,Error ellipse: s-maj=23.2km s-min=6.8km az=153.0*

ISC 02 20:58:04.9±0.5,29°.09N±0°.06×139°.38E±0°.07,h423km, n100,σ1$73/111,mb3.9/39,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.17	128	P	P	20 59 12.7	+1.4
CBIJ				S	S	21 00 05.6	+0.4
JCJ	Chichijima	3.17	128		P	20 59 11.8	+0.5
JCJ	Chichijima	3.17	128	P	P	20 59 07.9	-3.4
	163nm,0.3s,baz=294,slow=19,SNR=65						
JCJ				S	S	21 00 00.5	-4.7
	1μm,0.3s,baz=287,slow=19,SNR=31						
JHH2	Haha-jima-NKT2	3.48	134	P	P	20 59 15.3	+1.5
JHH2				S	S	21 00 10.7	+1.0
JHJ2	Mitsune	4.03	5	P	P	20 59 20.9	+2.4
JHJ	Hachijo jima 2	4.03	5	P	P	20 59 18.5	0.0
	38nm,0.2s,baz=157,slow=15,SNR=17						
JHJ				S	S	21 00 18.7	+0.2
	129nm,0.4s,baz=71,slow=23,SNR=6.8						
TTO1	TONANKAI O.B.S	5.04	334	P	P	20 59 33.3	+5.5
BSO1	Boso 1	5.71	13	eP	P	20 59 36.6	+2.2
BSO1				eS	S	21 00 47.8	0.0
JIE	Ise	5.76	337	P	P	20 59 40.0	+4.5
BSO3	Boso 3	5.78	9	eP	P	20 59 37.4	+2.1
BSO3				eS	S	21 00 49.3	-0.3
JKN2	Miekihoku	5.78	333	P	P	20 59 40.3	+4.6
HMMJ	Hamamatsu 2	5.92	347	P	P	20 59 40.5	+3.3
JOD2	Odawara 2	6.16	358	P	P	20 59 41.5	+1.8
JNY	Yasuok	6.38	349	P	P	20 59 45.1	+3.0
JAO	Obara	6.42	344	P	P	20 59 46.0	+3.5
JEG	Eigenji	6.54	338	P	P	20 59 48.6	+4.4
INU	Inuyama	6.55	343	P	P	20 59 45.9	+1.6
JGF	Kuroka	6.71	346	P	P	20 59 47.7	+1.6
JHU	Hanno	6.74	359	P	P	20 59 46.9	+0.5
JHU				eS	S	21 01 06.1	-2.9
JRY	Ryogami san	6.92	357	P	P	20 59 49.6	+1.3
JRY				S	S	21 01 11.1	-1.4

JYT Yasato 7.15 5 eP P 20 59 51.5 +0.7
JAG Ashikaga 7.32 0 i P P 20 59 52.7 0.0
JAG S S 21 01 15.6 -4.8
MJAR Matsushiro Arr 7.50 353 P P 20 59 55.3 +0.6
6.3nm,0.4s,baz=172,slow=11,SNR=26
MJAR S S 21 01 24.1 -0.1
4.3nm,0.7s,baz=140,slow=17,SNR=5.3
MAJO Matsushiro 7.50 353 P P 20 59 55.3 +0.6
MJB9 Matsu-Tunnel 7.50 353 P P 20 59 56.0 +1.4
JHO Hitachi 7.57 7 P P 20 59 56.2 +0.9
JHO S S 21 01 23.3 -2.2
JNU Nakatsue 8.32 301 P P 21 00 07.0 +3.4
JNU Nakatsue 8.32 301 P P 21 00 04.0 +0.4
6.0nm,0.5s,baz=180,slow=4.6,SNR=9.8
JFK Kawauchi 8.35 8 eP P 21 00 05.5 +1.6
JFK eS S 21 01 39.0 -2.6
JMM Marumori 8.83 7 P P 21 00 10.7 +1.6
JMK Ichinoseki 9.96 8 P P 21 00 23.5 +2.1
JKE Kume jima 2 11.50 259 P P 21 00 41.2 +2.6
JTM Tenmabayashi 11.75 6 P P 21 00 41.9 +0.7
JOT Ohata 12.34 6 P P 21 00 50.0 +2.3
KSRS Korea Array 12.70 314 P P 21 00 51.8 +0.1
3.2nm,0.7s,baz=129,slow=12,SNR=14
JOSM Okushiri--Mats 12.96 0 eP P 21 00 57.0 +2.5
ERM Erimo 13.26 12 P P 21 00 59.6 +2.0
JCH Churui 13.87 12 P P 21 01 07.6 +3.3
NEM2 Nemuro 2 15.13 18 P P 21 01 19.9 +2.0
JKA Kamikawa-asahi 15.22 9 P P 21 01 20.8 +1.9
JTKR Abashiri--Toko 15.29 12 P P 21 01 22.2 +2.7
USA0B Ussuriysk Arra 16.19 341 P P 21 01 30.7 +1.4
USRK Ussuriysk Ar. 16.19 341 P P 21 01 30.9 +1.6
4.7nm,0.5s,baz=160,slow=11,SNR=22
YHNB Yeheng 16.66 259 P P 21 01 32.4 -2.1
SSLB Suanglung 17.32 257 P P 21 01 41.1 -0.5
KLR Kul'dur 20.94 346 P P 21 02 17.3 +1.0
1.9nm,0.6s,baz=168,slow=8.3,SNR=7.5
1.9nm,0.6s
LZH Lanzhou 30.62 292 eP P 21 03 43.1 +0.4
LZH pmax pmax
comp=Z,19nm,1.3s
SONM Songino Array 31.57 316 P P 21 03 51.1 +0.5
comp=Z,1.4nm,0.7s,baz=123,slow=7.5,SNR=9.0
comp=Z,1.4nm,0.7s
SLVN Son La 32.92 265 P P 21 04 02.6 +0.1
CRAI Chiangrai 36.40 265 P P 21 04 31.7 -0.1
CRAI IAmb IAmb 21 04 33.7
comp=Z,6.9nm,0.9s
PHRA Phrae 37.19 262 P P 21 04 37.7 -0.7
CHTO Chiang Mai 38.18 264 P P 21 04 46.4 -0.2
CHTO IAmb IAmb 21 04 47.6
comp=Z,2.6nm,0.7s
CMAR Chiang Mai Arr 38.33 263 P P 21 04 47.9 +0.1
comp=Z,1.1nm,0.8s,baz=92,slow=4.2,SNR=5.4
comp=Z,1.1nm,0.8s
BILL Bilibino 42.12 15 P P 21 05 18.7 +1.1
BILL IAmb IAmb 21 05 19.8
comp=Z,6.3nm,0.9s
SHL Shillong 42.12 277 P P 21 05 18.2 -0.4
KULM Kulim 43.60 245 P P 21 05 31.1 +0.9
KULM IAmb IAmb 21 05 31.5
comp=Z,5.9nm,0.8s
IPM Ipoh 43.80 243 P P 21 05 31.8 +0.1
IPM IAmb IAmb 21 05 32.4
comp=Z,4.8nm,0.8s
ZALV Zalesovo Beam 46.36 318 PcP PcP 21 07 16.5 -1.3
comp=Z,0.4nm,0.3s,baz=147,slow=4.2,SNR=2.3
MK31 Makanchi Array 47.30 308 P P 21 05 57.9 -0.4
MKAR Makanchi Array 47.30 308 P P 21 05 57.9 -0.4
comp=Z,0.6nm,0.3s,baz=88,slow=11,SNR=20
MKAR PcP PcP 21 07 21.1 -0.3
comp=Z,0.2nm,0.3s,baz=80,slow=6.4,SNR=2.9
MKAR ScP ScP 21 10 31.6 -2.7
comp=Z,0.1nm,0.3s,baz=113,slow=3.3,SNR=4.1
comp=Z,0.6nm,0.3s
MAKZ Makanchi 47.52 308 P P 21 05 59.5 -0.4
GSI Gunungsitoli 48.46 243 P P 21 06 07.2 -0.3
WRA Warramunga Arr 48.99 186 P P 21 06 10.7 -0.5
comp=Z,1.1nm,0.3s,baz=3.4,slow=7.7,SNR=72
WRA ScP ScP 21 10 39.1 -2.5
comp=Z,0.1nm,0.4s,baz=0.3,slow=4.7,SNR=1.3
comp=Z,1.1nm,0.3s
KURK Kurchatov 49.82 313 P P 21 06 16.1 -1.0
KURBB Kurchatov Arra 49.88 313 P P 21 06 17.0 -0.5
comp=Z,2.0nm,0.5s,baz=91,slow=8.1,SNR=21
comp=Z,2.0nm,0.5s
ASAR Alice Springs 52.72 186 P P 21 06 38.7 +0.1
comp=Z,0.3nm,0.5s,baz=17,slow=12,SNR=12
comp=Z,0.3nm,0.5s
N18K Kilae Creek 52.77 34 P P 21 06 37.6 -0.9
N18K IAmb IAmb 21 06 42.2
comp=Z,9.9nm,1.4s
AAK Ala-Archa 53.09 303 P P 21 06 41.0 -0.4
AAK Ala-Archa 53.09 303 P P 21 06 41.4 +0.1
comp=Z,1.0nm,0.3s,baz=18,slow=6.4,SNR=1.9
comp=Z,1.0nm,0.3s
E19K Redstone River 53.31 25 P P 21 06 42.5 +0.2
E19K IAmb IAmb 21 06 44.5
comp=Z,7.5nm,1.1s
J19K Poorman 53.33 30 P P 21 06 43.4 +0.9
K20K Telida 53.93 31 P P 21 06 46.1 -0.7
K20K IAmb IAmb 21 06 49.7
comp=Z,5.2nm,1.1s
J20K Nowinta River 53.99 30 P P 21 06 48.1 +0.9
J20K IAmb IAmb 21 06 50.0
comp=Z,7.1nm,1.0s
B21K Ikpikpuk River 54.71 23 P P 21 06 52.3 +0.1
B21K IAmb IAmb 21 06 54.6
comp=Z,6.5nm,1.0s
E21K Killik River 54.71 25 P P 21 06 53.2 +1.0
H21K Melozitna Rive 54.75 28 IAmb IAmb 21 06 55.3
comp=Z,5.4nm,1.1s
BVAR Borovoye Array 54.90 316 P P 21 06 53.4 -0.4
comp=Z,1.2nm,0.4s,baz=99,slow=8.8,SNR=11
BVAR PcP PcP 21 07 49.2 -0.5
comp=Z,0.7nm,0.4s,baz=95,slow=6.4,SNR=4.1
comp=Z,1.2nm,0.4s
E22K Anaktuvuk Pass 55.46 25 IAmb IAmb 21 07 00.6
comp=Z,7.6nm,1.3s
NIL Nilore 55.79 293 P P 21 06 59.7 -0.8
NIL IAmb IAmb 21 07 01.9
comp=Z,6.8nm,0.7s
KK31 Karatay Array 55.92 304 P P 21 07 00.4 -0.8
KK31 IAmb IAmb 21 07 02.1
comp=Z,5.8nm,0.9s
KKAR Karatay Array 55.92 304 P P 21 07 00.8 -0.4
KKAR IAmb IAmb 21 07 02.1
comp=Z,5.8nm,0.9s
G23K Bananza Creek 55.98 27 IAmb IAmb 21 07 04.4
comp=Z,7.7nm,1.4s
ILAR Eielson Array 57.17 29 P P 21 07 09.0 -0.5
comp=Z,0.6nm,0.4s,baz=252,slow=5.7,SNR=11
comp=Z,0.6nm,0.4s
E25K Arctic Village 57.79 25 IAmb IAmb 21 07 17.2
comp=Z,4.6nm,1.2s
CHGR Chuyangaron 57.81 299 P P 21 07 14.2 -0.2
SIMJ Simiganj 57.92 300 P P 21 07 14.2 -1.1
SIMJ IAmb IAmb 21 07 16.1
comp=Z,6.7nm,0.9s
E28M Babbage River 60.02 25 P P 21 07 27.5 -1.2
E28M IAmb IAmb 21 07 30.9
comp=Z,2.9nm,0.8s
EPYK Eagle Plains 61.30 27 P P 21 07 37.3 -0.1
EPYK IAmb IAmb 21 07 39.6
comp=Z,9.6nm,1.1s
ARU Arti 61.33 321 P P 21 07 36.7 -1.0
ARU IAmb IAmb 21 07 37.6
comp=Z,3.2nm,0.5s
ARU Arti 61.33 321 P P 21 07 37.0 -0.6
comp=Z,2.1nm,0.3s,baz=252,slow=6.4,SNR=6.1
comp=Z,2.1nm,0.3s
G30M tAoh Zraii Nji 61.42 26 P P 21 07 38.6 +0.4
G30M IAmb IAmb 21 07 40.0
comp=Z,4.5nm,1.1s
I30M Mount Dempster 61.60 28 P P 21 07 39.4 -0.1
I30M IAmb IAmb 21 07 42.3
comp=Z,5.7nm,1.4s
ABKAR Akbulak array 61.93 313 P P 21 07 40.8 -1.0
ABKAR IAmb IAmb 21 07 41.7
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 62.88 315 P P 21 07 46.5 -1.4
comp=Z,1.0nm,0.4s,baz=153,slow=4.5,SNR=2.5
comp=Z,1.0nm,0.4s
KBZ Khabaz 74.84 312 P P 21 09 00.8 +0.2
comp=Z,2.9nm,0.7s,baz=56,slow=3.7,SNR=6.1
comp=Z,2.9nm,0.7s
FINES FINESS Array B 75.06 333 P P 21 09 01.3 -0.2
baz=76,slow=5.1
NVAR Mina Array Bea 81.21 51 P P 21 09 36.8 +1.1
comp=Z,0.5nm,0.5s,baz=309,slow=5.7,SNR=3.8
comp=Z,0.5nm,0.5s
RAYN Ar Rayn 82.09 292 P P 21 09 39.8 -0.4
BRTR Keskin Array B 82.83 312 P P 21 09 43.7 -0.2
comp=Z,0.7nm,0.7s,baz=76,slow=4.8,SNR=4.9
comp=Z,0.7nm,0.7s
PDAR Pinedale Array 84.51 44 P P 21 09 53.3 +0.9
comp=Z,0.2nm,0.4s,baz=333,slow=1.0,SNR=2.3
comp=Z,0.2nm,0.4s

TAP 02 20:59:13.3, 23°.49N×121°.27E, h23km±1km, ML1.1, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHY	Hungye	0.05	71	i P	Pb	20 59 18.1	+0.8
EHY	baz=75			S	Sb	20 59 21.1	+1.0
EHYH	Wanrong	0.07	85	eP	Pb	20 59 18.0	+0.6
YULB	Yu-li	0.10	163⇑	i P	Pb	20 59 18.1	+0.5
YULB	baz=163			S	Sb	20 59 21.0	+0.5
TWF1	Yuli	0.14	168	P	Pb	20 59 18.2	+0.2
TWF1	baz=165			S	Sb	20 59 21.4	+0.3
HGSD	Ruisui	0.14	88	P	Pb	20 59 18.9	+0.9
EYUL	Yuli	0.15	161	eP	Pb	20 59 18.4	+0.3
EGFH	Guangfu	0.23	39	eP	Pb	20 59 19.9	+0.8
EGFH	baz=39			eS	Sb	20 59 24.1	+1.0
WARBT	Fenglin Townsh	0.25	26	P	Pb	20 59 19.9	+0.4
WARBT	baz=25			S	Sb	20 59 24.2	+0.5
VWDT	VWDT	0.29	337	eP	Pb	20 59 20.9	+0.9
VWDT	baz=336			eS	Sb	20 59 25.8	+1.3
YUS	Yu-Shan	0.29	270	eP	Pb	20 59 20.1	-0.2
FULB	Fuli	0.29	175	eP	Pb	20 59 20.7	+0.7
FULB	baz=174			S	Sb	20 59 25.7	+1.1
ESL	Shilin	0.36	25	eP	Pb	20 59 21.5	+0.4
ESL	baz=26			eS	Sb	20 59 26.5	+0.1
ESL	Shilin	0.36	25	eP	Pn	20 59 26.3	+3.1
ELDTW	Lidau	0.38	218	eP	Pb	20 59 21.8	+0.4
CHKT	Chengkung	0.40	167	eP	Pb	20 59 22.2	+0.5
OWD	Renai	0.47	350	eP	Pb	20 59 23.8	+0.8
OWD	baz=349			eS	Sb	20 59 30.9	+1.2
OWD	Renai	0.47	350	eP	Pn	20 59 24.3	-0.5
WUSB	Renai	0.52	345	P	Pb	20 59 24.2	+0.4
WUSB	baz=344			S	Sn	20 59 32.4	-1.3
WUSB	Renai	0.52	345	P	Pb	20 59 24.3	+0.4
WUSB	baz=217			eS	Sb	20 59 32.1	+1.1
TWG	Pinlang	0.69	195	eP	Pb	20 59 25.2	-1.4

TAP 02 20:59:14.8, 24°.40N×121°.46E, h9km, ML0.9, 1C-1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	Datong	0.07	296⇓	i P	Pg	20 59 16.9	-0.1
NNSB	baz=295			i S	Sg	20 59 18.4	-0.2
NNSH	Datong	0.07	296	i P	Pg	20 59 16.9	-0.1
NNSH	baz=295			S	Sg	20 59 18.3	-0.3
NNS	Nan Shan	0.09	300	P	Pg	20 59 17.0	-0.2
NNS	baz=301			eS	Sg	20 59 18.4	-0.5
LATG	Datong	0.15	24⇑	i P	Pg	20 59 18.1	0.0
LATG	baz=24			S	Sg	20 59 20.5	0.0
NDT	Datong Townshi	0.21	14	eP	Pg	20 59 19.2	+0.1
FUSS	Fushou	0.24	233	eP	Pg	20 59 19.6	-0.2
FUSS	baz=232			eS	Sg	20 59 23.1	-0.1
NACB	Ninganchiao	0.25	150	eP	Pg	20 59 20.2	+0.4
NACB	baz=150			eS	Sg	20 59 23.6	+0.3
ENA	Nanau	0.26	83	P	Pg	20 59 19.7	-0.3
ENA	baz=83			eS	Sg	20 59 23.9	+0.3
ENTT	Nioudou	0.26	22	eP	Pg	20 59 20.2	+0.1
ETL	Fush Village	0.28	147	eP	Pg	20 59 20.1	-0.3
YHNB	Yeheng	0.28	345	eP	Pg	20 59 21.0	+0.5
YHNB	baz=344			i S	Sg	20 59 24.4	+0.1
NSK	Sanguang	0.29	342	eP	Pg	20 59 20.3	-0.4
NSK	baz=343			eS	Sg	20 59 24.5	-0.1
EWUT	Wuta	0.30	80	eP	Pg	20 59 20.8	+0.1
EWUT	baz=80			S	Sg	20 59 24.4	-0.3
WHF	Hehuan Shan	0.30	215	P	Pg	20 59 20.9	-0.1
WHF	baz=213			i S	Sg	20 59 25.1	0.0
TDCB	Techi	0.31	242	P	Pg	20 59 20.8	-0.2
TDCB	baz=242			eS	Sg	20 59 24.8	-0.2
NDS	Dongshan	0.33	45	eP	Pg	20 59 21.3	-0.1
NDS	baz=44			eS	Sg	20 59 26.4	+0.5
LXIB	Xiulin Townshi	0.38	186	P	Pg	20 59 22.7	+0.5
TWE	Neicheng	0.38	31	eP	Pg	20 59 22.6	+0.4
FUSB	Fushanzhiwuyua	0.38	18	eP	Pg	20 59 22.3	0.0
FUSB	baz=18			eS	Sg	20 59 27.4	+0.1
CHGB	Renai	0.42	218	eP	Pg	20 59 22.6	-0.5

TAP 02 21:01:31.9, 23°.73N×121°.50E, h19km±2km, ML0.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUL	Shoufeng	0.08	45	eP	Pg	21 01 35.8	+0.3
SHUL	baz=44			eS	Sg	21 01 38.8	+0.8
ESL	Shilin	0.10	321	eP	Pg	21 01 35.9	0.0
ESL	baz=323			eS	Sg	21 01 38.9	+0.5
WARBT	Fenglin Townsh	0.11	262	P	Pg	21 01 36.8	+1.0
WARBT	baz=262			eS	Sg	21 01 39.3	+0.7
HGSD	Ruisui	0.25	197	P	Pn	21 01 39.2	-1.4
HGSD	baz=197			eS	Sg	21 01 43.1	+1.4
EHY	Hungye	0.28	216	eP	Pb	21 01 38.5	+0.3
EHY	baz=215			eS	Sg	21 01 43.7	+1.1
VWDT	VWDT	0.33	274	eP	Pb	21 01 39.7	+0.5
VWDT	baz=273			eS	Sb	21 01 45.5	+1.3
YULB	Yu-li	0.39	209	P	Pg	21 01 40.0	0.0
YULB	baz=209			eS	Sb	21 01 46.3	+0.5
YULB	Yu-li	0.39	209	P	Pb	21 01 40.2	0.0

NEIC ***02*** *21:08:51.4±0.5, 35°.893N±0°.010×97°.28W±0°.01, h5km±2km, Error ellipse: s-maj=1.6km s-min=1.3km az=129.0*

TUL 02 21:08:51.5±0.5, 35°.891N±0°.009×97°.28W±0°.01, h6km±2km, ML3.5, mb_Lg3.0/104(NEIC), **ML3.1**/53(NEIC), **Error ellipse: s-maj=1.5km s-min=1.2km az=122.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.17	236	Pg	Pg	21 08 55.2	+0.3
OK029				Sg	Sg	21 08 57.8	+0.6
OK029				IAML		21 08 58.1	
	8μm,0.4s						
ADOK	Arcadia Dam	0.25	197	Pg	Pg	21 08 56.7	+0.3
ADOK				Sg	Sg	21 09 00.5	+0.8
OK031	S. Brethren Rd	0.36	80	Pg	Pg	21 08 59.0	+0.4
OK031				Sg	Sg	21 09 04.2	+0.7
OK031				IAML		21 09 04.5	
	1μm,0.3s						
OK031				IAML		21 09 04.9	
	1μm,0.3s						
OK052	Battle Ridge R	0.40	75	Pg	Pg	21 08 59.7	+0.4
OK052				Sg	Sg	21 09 05.2	+0.6
OK052				IAML		21 09 05.9	
	2μm,0.3s						
OK052				IAML		21 09 05.9	
	2μm,0.3s						
OKCSW	OKLAHOMA CITY	0.50	195	Pg	Pg	21 09 01.3	+0.1
OKCSW				Sg	Sg	21 09 08.5	+0.8
OKCSW				IAML		21 09 08.8	
	comp=N,2μm,0.4s						
OKCSW				IAML		21 09 09.0	
	comp=E,2μm,0.4s						
QUOK	Quay	0.54	59	Pg	Pg	21 09 02.1	+0.1
QUOK				Sg	Sg	21 09 09.4	+0.3
QUOK				IAML		21 09 10.2	
	comp=E,878nm,0.4s						
OK048	Pawnee Station	0.59	27	Pg	Pg	21 09 03.1	+0.2
OK048				Sg	Sg	21 09 11.0	+0.3
OK048				IAML		21 09 11.5	
	comp=E,780nm,0.6s						
DEOK	Depew	0.64	94	Pg	Pg	21 09 03.7	-0.1
DEOK				Sg	Sg	21 09 12.4	+0.3
DEOK				IAML		21 09 13.2	
	comp=E,951nm,0.4s						
FNO	Franklin	0.64	189	Pg	Pg	21 09 03.6	-0.1
FNO				Sg	Sg	21 09 12.7	+0.6
FNO				IAML		21 09 15.8	
	comp=N,722nm,0.2s						
FNO				IAML		21 09 16.2	
	comp=E,712nm,0.1s						
OK051	E0350 and S346	0.71	30	Pg	Pg	21 09 05.1	-0.1
OK051				Sg	Sg	21 09 14.7	+0.3
OK051				IAML		21 09 15.4	
	comp=E,594nm,0.2s						
CROK	Carrier	0.83	317	Pg	Pg	21 09 07.6	+0.1
CROK				Sg	Sg	21 09 18.5	+0.1
BLOK	Blackwell	0.87	4	Pg	Pg	21 09 08.0	-0.2
BLOK				Sg	Sg	21 09 19.7	+0.2
BLOK				IAML		21 09 33.8	
	comp=E,604nm,0.2s						
GC02	Grant County #	1.07	334	Pg	Pg	21 09 11.5	-0.5
GC02				Sg	Sg	21 09 25.7	-0.1
KAN13	South Haven SW	1.13	352	Pg	Pg	21 09 12.6	-0.6
KAN13				Sg	Sg	21 09 26.9	-1.0
KAN13				IAML		21 09 32.4	
	comp=N,888nm,0.3s						
CSTR	Hydro, Custer	1.17	258	Pg	Pg	21 09 13.3	-0.6
CSTR				Sg	Sg	21 09 28.8	-0.3
OK032	Salt Plains WL	1.18	321	Pg	Pg	21 09 13.5	-0.6
OK032				Sg	Sg	21 09 28.7	-0.7
OK032				IAML		21 09 33.5	
	comp=N,940nm,0.2s						
OK032				IAML		21 09 35.2	
	comp=N,798nm,0.1s						
KAN14	Manchester OK	1.20	333	Pg	Pg	21 09 13.8	-0.7
KAN14				Sg	Sg	21 09 29.6	-0.4
KAN14				IAML		21 09 32.5	
	comp=N,687nm,0.3s						
KAN14				IAML		21 09 33.7	
	comp=E,800nm,0.2s						
T35A	Sooner Cattle	1.20	31	Pg	Pg	21 09 13.7	-0.8
T35A				Sg	Sg	21 09 29.8	-0.3
T35A				IAML		21 09 30.8	
	comp=N,355nm,0.3s						
T35A				IAML		21 09 36.9	
	comp=E,640nm,0.5s						
TUL3	Leonard	1.21	89	Pg	Pg	21 09 13.4	-1.3
KAN17	Caldwell West	1.22	341	Pg	Pg	21 09 14.2	-0.6
KAN09	Caldwell North	1.27	348	Pg	Pn	21 09 15.2	-0.6
KAN05	Bluff City Nor	1.30	339	Pg	Pn	21 09 15.6	-0.7
KAN01	Argonia South	1.32	343		Pn	21 09 16.0	-0.5
OK038	West end E0370	1.32	297		Pn	21 09 15.7	-0.8
X34A	Smith Ranch, M	1.36	199		Pn	21 09 16.9	-0.2
OK035	E0210 Rd and N	1.41	306		Pn	21 09 17.1	-0.7
OK035				IAmb_Lg		21 09 37.0	
	comp=Z,71nm,0.8s						
KAN06	Argonia West S	1.43	341		Pn	21 09 17.9	-0.2
KAN08	Anthony NE Sta	1.44	338		Pn	21 09 17.9	-0.3
U32A	Winter Ranch,	1.48	290		Pn	21 09 18.1	-0.5
KAN12	Harper NE Stat	1.52	338		Pn	21 09 19.6	+0.4
NOKA	Waynoka	1.53	300		Pn	21 09 19.2	-0.1
WMOK	Wichita Mounta	1.68	227		Pn	21 09 21.7	+0.2
RO	Rose Lookout	1.85	81	Pn	Pn	21 09 24.0	+0.2
LOOK	Love County	1.90	177	Pn	Pn	21 09 25.1	+0.8
LOOK				IAmb_Lg		21 09 55.0	
	comp=Z,52nm,0.8s						
X37A	Clayton	2.03	129	Pn	Pn	21 09 27.0	+0.7
WTFS	Witchita Falls	2.33	205	Pn	Pn	21 09 31.1	+0.7
U38A	Gravette	2.41	76	Pn	Pn	21 09 32.3	+0.9
U38A				IAmb_Lg		21 10 07.8	
	comp=Z,49nm,0.8s						
SMWD	Samnorwood	2.54	253	Pn	Pn	21 09 33.8	+0.5
Z35A	Perchaven, San	2.55	179	Pn	Pn	21 09 33.5	0.0
HHAR	Hobbs	2.73	81	Pn	Pn	21 09 36.2	+0.3
FW03	Perrin-Whitt E	2.92	193	Pn	Pn	21 09 38.6	+0.1
PLPT	Palo Pinto	3.19	196	Pn	Pn	21 09 42.4	+0.2
FW07	Weatherford	3.21	188	Pn	Pn	21 09 42.8	+0.4
Z38A	Mt. Pleasant	3.24	144	Pn	Pn	21 09 42.6	-0.3
Z38A				IAmb_Lg		21 10 39.6	
	comp=Z,57nm,0.7s						
KSU1	Kansas State U	3.25	9	Pn	Pn	21 09 43.0	0.0
KSU1				IAmb_Lg		21 10 42.6	
	comp=Z,30nm,0.7s						
MIAR	Mount Ida	3.32	113	Pn	Pn	21 09 44.5	+0.6
MIAR				IAmb_Lg		21 10 43.2	
	comp=Z,40nm,0.7s						
APMT	Aspermont	3.47	223	IAmb_Lg		21 10 50.7	
	comp=Z,30nm,0.8s						
CBKS	Cedar Bluff	3.51	327	IAmb_Lg		21 10 42.7	
	comp=Z,32nm,0.7s						
S39A	Bolivar	3.65	59	Pn	Pn	21 09 49.5	+1.0
S39A				IAmb_Lg		21 10 52.1	
	comp=Z,34nm,0.7s						
DKNS	Dickens	3.73	235	IAmb_Lg		21 10 57.7	
	comp=Z,31nm,0.7s						
AMTX	Amarillo	3.73	256	IAmb_Lg		21 10 57.9	
	comp=Z,51nm,0.7s						
X40A	Basin Creek Fa	3.90	110	Pn	Pn	21 09 52.4	+0.4
X40A				IAmb_Lg		21 10 57.6	
	comp=Z,38nm,0.9s						

237A	**Washetta, Mont**	**4.07 162**	Pn	Pn	21 09 53.3	-1.0
237A			IAmb_Lg		21 11 05.8	
	comp=Z,25nm,1.0s					
WLAR	**White Oak Lake**	**4.08 121**	IAmb_Lg		21 11 04.5	
	comp=Z,34nm,0.9s					
SN07	**Snyder 07**	**4.08 228**	IAmb_Lg		21 11 04.3	
	comp=Z,44nm,0.7s					
WHAR	**Wooly Hollow**	**4.11 97**	Pn	Pn	21 09 54.9	0.0
WHAR			IAmb_Lg		21 11 05.3	
	comp=Z,26nm,0.8s					
FCAR	**Ozark Folk Cen**	**4.19 89**	Pn	Pn	21 09 56.0	+0.2
FCAR			IAmb_Lg		21 11 10.2	
	comp=Z,23nm,0.9s					
UALR	**University of**	**4.19 104**	Pn	Pn	21 09 55.8	-0.1
SN05	**Snyder 5**	**4.23 226**	IAmb_Lg		21 11 11.2	
	comp=Z,46nm,0.8s					
RTBA	**Rita Blanca**	**4.45 279**	Pn	Pn	21 09 59.2	-0.4
R40A	**Maddies Statio**	**4.67 58**	IAmb_Lg		21 11 20.8	
	comp=Z,40nm,0.8s					
P38A	**Dawn**	**4.77 37**	IAmb_Lg		21 11 24.4	
	comp=Z,20nm,0.8s					
LCAR	**Lake Charles**	**4.97 86**	Pn	Pn	21 10 05.7	-0.9
LCAR			IAmb_Lg		21 11 31.2	
	comp=Z,19nm,0.9s					
435B	**Jarrell**	**5.10 183**	IAmb_Lg		21 11 34.2	
	comp=Z,24nm,0.9s					
T42A	**Van Buren**	**5.12 75**	Pn	Pn	21 10 08.0	-0.6
T42A			IAmb_Lg		21 11 41.6	
	comp=Z,27nm,0.8s					
KSCO	**Kaye Shedlock'**	**5.27 308**	IAmb_Lg		21 11 52.3	
	comp=Z,27nm,0.8s					
CCM	**Cathedral Cave**	**5.29 64**	Pn	Pn	21 10 10.6	-0.5
CCM			IAmb_Lg		21 11 46.9	
	comp=Z,33nm,1.0s					
P40A	**Paris**	**5.51 47**	Pn	Pn	21 10 14.1	-0.1
BGNE	**Belgrade**	**5.55 353**	IAmb_Lg		21 11 56.5	
	comp=Z,24nm,0.8s					
ODSA	**Odessa**	**5.77 231**	IAmb_Lg		21 12 03.4	
	comp=Z,25nm,1.1s					
JCT	**Junction City**	**5.79 202**	Pn	Pn	21 10 16.5	-1.5
FVM	**French Village**	**5.88 67**	IAmb_Lg		21 12 07.2	
	comp=Z,18nm,0.7s					
T25A	**Trinidad**	**5.88 284**	Pn	Pn	21 10 19.2	0.0
T25A			IAmb_Lg		21 12 00.0	
	comp=Z,23nm,0.9s					
OZNA	**Ozona**	**5.91 214**	Pn	Pn	21 10 20.3	+0.7
OZNA			IAmb_Lg		21 12 02.4	
	comp=Z,27nm,0.9s					
CGM3	**Cape Girardeau**	**6.29 75**	IAmb_Lg		21 12 12.4	
	comp=Z,20nm,0.8s					
MNHN	**Monahans**	**6.44 227**	IAmb_Lg		21 12 22.0	
	comp=Z,18nm,0.9s					
HNDO	**Hondo**	**6.56 195**	IAmb_Lg		21 12 19.8	
	comp=Z,26nm,0.8s					
OXF	**Oxford**	**6.59 100**	IAmb_Lg		21 12 35.0	
	comp=Z,18nm,0.9s					
SCIA	**State Center**	**6.79 27**	IAmb_Lg		21 12 43.0	
	comp=Z,20nm,0.7s					
SDCO	**Great Sand Dun**	**6.85 288**	Pn	Pn	21 10 33.7	+1.0
SDCO			IAmb_Lg		21 12 32.1	
	comp=Z,18nm,1.3s					
Q24A	**Divide**	**6.97 298**	IAmb_Lg		21 12 40.6	
	comp=Z,14nm,0.9s					
PECS	**Pecos**	**7.10 232**	IAmb_Lg		21 12 45.0	
	comp=Z,14nm,1.0s					
SAND	**Sanderson**	**7.18 216**	IAmb_Lg		21 12 45.4	
	comp=Z,22nm,1.1s					
ALPN	**Alpine**	**7.66 226**	IAmb_Lg		21 13 00.6	
	comp=Z,12nm,0.7s					
WVT	**Waverly**	**7.66 85**	IAmb_Lg		21 13 10.1	
	comp=Z,11nm,0.9s					
ECSD	**EROS Data Cent**	**7.85 4**	Pn	Pn	21 10 43.7	-2.5
USIN	**University of**	**7.97 72**	IAmb_Lg		21 13 13.1	
	comp=Z,21nm,0.8s					
PHWY	**Pilot Hill**	**8.37 313**	IAmb_Lg		21 13 36.0	
	comp=Z,9.6nm,0.7s					
N23A	**Red Feather La**	**8.44 309**	IAmb_Lg		21 13 30.2	
	comp=Z,18nm,0.8s					
I37A	**Lemond, Waseca**	**8.64 19**	IAmb_Lg		21 13 26.1	
	comp=Z,12nm,0.8s					
JFWS	**Jewell Farm**	**8.88 36**	IAmb_Lg		21 13 31.3	
	comp=Z,16nm,0.7s					
I40A	**Norwalk**	**9.49 31**	IAmb_Lg		21 13 52.8	
	comp=Z,11nm,0.7s					
K43A	**Burlington**	**9.71 43**	IAmb_Lg		21 14 16.1	
	comp=Z,15nm,0.9s					

*TEH **02** 21:15:29.6, 33°.13N×46°.08E, h10km±60km, ML2.8*
*ISN **02** 21:15:30.9±1.7, 33°.12N×46°.12E, h32km±4km, ML2.7*
ISC 02 21:15:31.7±1.1, **33°.13N**±0°.04×**46°.10E**±0°.05, **h27**km±8km, **n12**, σ1§**62**/16, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.14**	**261**	*e*Pg	**Pb**	**21 15 36.0**	**-1.0**
IBDR				*e*Sg	**Sb**	**21 15 42.0**	**+1.4**
GLG1	**Gilan-e-Gharb**	**0.99**	**351**	Pg	**Pb**	**21 15 47.9**	**-2.5**
IGHG	**Ghaleghazi**	**1.26**	**18**	Pg	**Pb**	**21 15 54.3**	**-0.6**
RAFI	**Al-Rafai**	**1.41**	**180**	*e*Pn	**Pb**	**21 15 56.0**	**-1.3**
RAFI				*e*Sn	**Sb**	**21 16 15.0**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**1.44**	**343**	Pg	**Pb**	**21 15 57.7**	**-0.2**
BHD	**Baghdad**	**1.45**	**276**	*e*Pn	**Pb**	**21 15 56.0**	**-2.0**
BHD				*e*Sn	**Sb**	**21 16 16.0**	**0.0**
IKFM	**Kafar-mosalman**	**1.51**	**75**	Pg	**Pb**	**21 15 58.9**	**-0.3**
IDHR	**Dehrash**	**1.58**	**9**	Pg	**Pb**	**21 15 59.0**	**-1.5**
ILIN	**Lien**	**1.92**	**22**	Pn	**Pb**	**21 16 04.6**	**-1.7**
IBZA	**Bozab**	**1.98**	**47**	Pn	**Pb**	**21 16 05.4**	**-1.9**
SNQR	**Sonqor, Kerman**	**2.14**	**36**	Pn	**Pb**	**21 16 08.2**	**-1.8**
IKRK	**Kirkuk**	**2.69**	**328**	*e*Pn	**Pn**	**21 16 14.0**	**+0.7**
IKRK				*e*Sn	**Sn**	**21 16 47.0**	**+2.0**
IKRK				AML	AML	21 17 02.2	
	comp=E,43nm,0.5s						
IKRK				AML	AML	21 17 07.1	
	comp=N,44nm,0.6s						

*IDC **02** 21:40:10.2±1.2, 8°.26S×157°.27E, h0km, mb3.9/7, mbtmp3.9/7, MS3.4/1, Error ellipse: s-maj=43.3km s-min=27.1km az=118.0*
*NEIC **02** 21:40:11.9±1.9, 8°.5S±0°.1×157°.6E±0°.1, h10km±1km, mb4.4/20, Error ellipse: s-maj=24.9km s-min=20.6km az=30.0*
ISC 02 21:40:12.4±0.8, **8°.5S**±0°.1×**157°.5E**±0°.1, **h16**km, **n28**, σ1§**12**/28, **mb4.3**/16, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.55**	**111**	Pn	**Pn**	**21 40 52.1**	**-1.0**
CTAO	**Charters Tower**	**15.87**	**222**		**P**	**21 43 57.7**	**-1.3**
WR0	**Warramunga Arr**	**25.00**	**240**	P	**P**	**21 45 35.1**	**-0.7**
WR0				IAmb	IAmb	21 45 37.7	
	comp=Z,13nm,1.3s						
WB0	**Warramunga Arr**	**25.05**	**241**	P	**P**	**21 45 36.0**	**-0.2**
WB0				IAmb	IAmb	21 45 38.1	
	comp=Z,9.2nm,1.1s						
WB2	**Warramunga Arr**	**25.16**	**241**	P	**P**	**21 45 36.6**	**-0.6**
WB2				IAmb	IAmb	21 45 44.0	
	comp=Z,7.7nm,1.1s						
WRA	**Warramunga Arr**	**25.16**	**241**	P	**P**	**21 45 36.8**	**-0.5**
	comp=Z,3.2nm,0.6s,baz=68,slow=9.3,SNR=27						
	comp=Z,3.2nm,0.6s						
ASAR	**Alice Springs**	**27.19**	**234**	P	**P**	**21 45 54.2**	**-1.4**
	comp=Z,1.1nm,0.8s,baz=64,slow=8.7,SNR=7.0						
ASAR				LR	LR	21 56 03.6	
	comp=Z,68nm,18.4s,baz=324,slow=35						
	comp=Z,1.1nm,0.8s						
STKA	**Stephens Creek**	**27.58**	**210**	P	**P**	**21 45 59.6**	**+0.7**
STKA	**Stephens Creek**	**27.58**	**210**	P	**P**	**21 45 59.9**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=34,slow=16,SNR=6.3						
	comp=Z,2.8nm,0.7s						
OXZ	**Oxford**	**36.94**	**162**	P	**P**	**21 47 20.3**	**-0.4**
VNDA	**Vanda**	**69.03**	**179**	P	**P**	**21 51 18.8**	**+2.0**
VNDA	**Vanda**	**69.03**	**179**	P	**P**	**21 51 20.0**	**+3.2**
	comp=Z,0.4nm,0.3s,baz=18,slow=3.2,SNR=6.3						
	comp=Z,0.4nm,0.3s						
O14K	**Tigyukauivet M**	**75.14**	**20**	P	**P**	**21 51 54.3**	**+0.7**
M16K	**Timber Creek**	**77.23**	**20**	P	**P**	**21 52 06.7**	**+1.2**
K15K	**Wolf Creek Mou**	**77.32**	**18**	P	**P**	**21 52 07.1**	**+1.1**
P19K	**Oil Pt**	**78.38**	**23**	P	**P**	**21 52 11.2**	**-0.8**
L18K	**Granite Mounta**	**78.84**	**20**	P	**P**	**21 52 16.0**	**+1.6**
L19K	**White Mountain**	**79.45**	**21**	P	**P**	**21 52 17.6**	**-0.1**
L19K				IAmb	IAmb	21 52 26.3	
	comp=Z,3.1nm,0.8s						

J18K	**Innoko River**	**79.70**	**19**	P	**P**	**21 52 19.6**	**+0.5**
J18K				IAmb	IAmb	21 52 21.2	
	comp=Z,5.3nm,1.4s						
J20K	**Nowinta River**	**81.02**	**19**	P	**P**	**21 52 27.3**	**+1.1**
J20K				IAmb	IAmb	21 52 33.0	
	comp=Z,4.3nm,1.3s						
CAST	**Castle Rocks**	**81.22**	**21**	P	**P**	**21 52 27.4**	**+0.1**
CAST				IAmb	IAmb	21 52 34.8	
	comp=Z,2.7nm,0.6s						
G19K	**Purcell Mounta**	**81.46**	**17**	P	**P**	**21 52 29.2**	**+0.7**
G19K				IAmb	IAmb	21 52 36.9	
	comp=Z,3.4nm,0.8s						
QSPA	**South Pole Qui**	**81.48**	**180**	P	**P**	**21 52 28.0**	**-0.9**
QSPA				IAmb	IAmb	21 52 32.5	
	comp=Z,5.2nm,1.4s						
QSPA	**South Pole Qui**	**81.48**	**180**	P	**P**	**21 52 29.0**	**+0.1**
	comp=Z,1.1nm,1.1s,baz=330,slow=4.7,SNR=1.7						
	comp=Z,1.1nm,1.1s						
F19K	**Shaleruckik Mo**	**81.76**	**16**	P	**P**	**21 52 30.1**	**+0.1**
ILAR	**Eielson Array**	**83.86**	**21**	P	**P**	**21 52 40.4**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=240,slow=5.2,SNR=5.1						
	comp=Z,0.3nm,0.5s						
J25K	**Salcha River,**	**84.31**	**21**	P	**P**	**21 52 43.0**	**-0.4**
J25K				IAmb	IAmb	21 52 51.3	
	comp=Z,3.9nm,1.3s						
MKAR	**Makanchi Array**	**86.20**	**318**	P	**P**	**21 52 52.5**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=97,slow=7.1,SNR=2.5						
	comp=Z,0.3nm,0.8s						

*IDC **02** 21:43:13.0±1.1, 41°.27N×48°.53E, h0km, mb3.5/7, mbtmp3.6/17, ML3.0/10, Error ellipse: s-maj=16.0km s-min=9.5km az=161.0*
*AZER **02** 21:43:14.9, 41°.30N×48°.47E, h8km, ml3.3*
*DRS **02** 21:43:15.6, 41°.41N×48°.51E, h9km*
*MOS **02** 21:43:16.9, 41°.41N×48°.43E, h19km, MPVA4.3*
ISC 02 21:43:16.6±0.6, **41°.37N**±0°.02×**48°.57E**±0°.03, **h22**km±2km, **n119**, σ1§**88**/190, **mb3.3**/7, **1C**, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUBA	**Quba, Azerbaij**	**0.06**	**255**	P	**Pb**	**21 43 20.0**	**-0.5**
QUBA				S	**Sb**	**21 43 22.8**	**-0.4**
QSAR	**Qusar**	**0.27**	**302**	P	**Pb**	**21 43 22.6**	**-0.4**
QSAR				S	**Sb**	**21 43 27.3**	**-0.1**
XNQ	**Khinaliq**	**0.38**	**239**	P	**Pb**	**21 43 23.6**	**-1.0**
XNQ				S	**Sb**	**21 43 28.7**	**-1.5**
SIZA	**Siyzn**	**0.39**	**139**	P	**Pb**	**21 43 24.8**	**+0.1**
SIZA				S	**Sn**	**21 43 33.2**	**-0.5**
KSMR	**Kasumkent**	**0.40**	**305**	*e*Pg	**Pb**	**21 43 24.9**	**-0.1**
KSMR				*e*Sg	**Sb**	**21 43 30.4**	**-0.4**
ATGJ	**Altiaghaj**	**0.58**	**151**	P	**Pb**	**21 43 28.5**	**+0.3**
ATGJ				S	**Sn**	**21 43 38.1**	**-0.4**
PQL	**Pirkuli**	**0.58**	**178**	P	**Pb**	**21 43 28.4**	**+0.2**
PQL				S	**Sb**	**21 43 37.0**	**+0.9**
IML	**Ismayilli**	**0.65**	**207**	P	**Pb**	**21 43 28.7**	**-0.6**
IML				S	**Sb**	**21 43 38.0**	**+0.1**
DRN	**Derbent**	**0.68**	**345**	*e*Pg	**Pb**	**21 43 30.1**	**+0.3**
DRN				*e*Sg	**Sn**	**21 43 40.4**	**-0.5**
DRN	**Derbent**	**0.68**	**345**	*e*PG	**Pb**	**21 43 30.1**	**+0.3**
DRN				pmax	pmax		
	comp=Z,254nm,0.4s						
QBL	**Gabala**	**0.69**	**233**	P	**Pb**	**21 43 28.7**	**-1.3**
QBL				S	**Sb**	**21 43 37.5**	**-1.7**
GBS	**Qobustan**	**0.88**	**161**	P	**Pn**	**21 43 35.5**	**+1.8**
GBS				S	**Sn**	**21 43 50.7**	**+4.8**
KDMR	**Kurdemir**	**1.03**	**196**	P	**Pn**	**21 43 35.7**	**-0.1**
KDMR				S	**Sn**	**21 43 51.8**	**+2.3**
SEKA	**Sheki**	**1.04**	**262**	P	**Pn**	**21 43 34.7**	**-1.2**
SEKA				S	**Sb**	**21 43 48.4**	**-0.9**
SEKA	**Sheki**	**1.04**	**262**	PG	**Pn**	**21 43 34.5**	**-1.5**
URKR	**Urkarakh**	**1.06**	**319**	*e*Pg	**Pb**	**21 43 36.4**	**+0.2**
URKR				*e*Sg	**Sn**	**21 43 50.7**	**+0.3**
MNGR	**Mingechevir, A**	**1.27**	**242**	P	**Pb**	**21 43 40.1**	**+0.4**
MNGR				S	**Sb**	**21 43 58.7**	**+3.1**
MNGR	**Mingechevir, A**	**1.27**	**242**	PG	**Pb**	**21 43 39.8**	**+0.1**
ZRD	**Zardab**	**1.28**	**212**	P	**Pb**	**21 43 40.0**	**+0.1**
ZRD				S	**Sb**	**21 43 59.2**	**+3.3**
SGKR	**Sergokala**	**1.28**	**328**	*e*Pg	**Pb**	**21 43 40.2**	**+0.2**
SGKR				*e*Sg	**Sb**	**21 43 57.6**	**+1.6**
KMKR	**Kumukh**	**1.34**	**305**	*e*Pg	**Pb**	**21 43 40.8**	**-0.2**
KMKR				*e*Sg	**Sb**	**21 43 58.6**	**+0.8**
ALIB	**&Aumlli-Bayram**	**1.45**	**167**	Pn	**Pb**	**21 43 45.0**	**+2.1**
ALIB				Sn	**Sb**	**21 44 03.7**	**+2.9**
ZKTA	**Zakatala**	**1.48**	**281**	Pn	**Pb**	**21 43 43.3**	**-0.1**
ZKTA				Sn	**Sb**	**21 44 05.6**	**+3.7**
BRDA	**Brd**	**1.53**	**224**	Pn	**Pb**	**21 43 43.8**	**-0.4**
BRDA				Sn	**Sb**	**21 44 06.5**	**+3.5**
GNBR	**Gunib**	**1.57**	**311**	*e*Pg	**Pb**	**21 43 44.5**	**-0.4**
GNBR				*e*Sg	**Sb**	**21 44 06.0**	**+1.6**
GNBR	**Gunib**	**1.57**	**311**	*e*PN	**Pb**	**21 43 44.5**	**-0.4**
GNBR				pmax	pmax		
	comp=Z,105nm,0.6s						
VSHL	**Vashlovani**	**1.64**	**266**	P	**Pb**	**21 43 46.4**	**+0.3**
VSHL				S	**Sb**	**21 44 10.8**	**+4.5**
AGDM	**Agdam**	**1.68**	**222**	Pn	**Pn**	**21 43 45.6**	**+1.0**
AGDM				Sn	**Sb**	**21 44 09.1**	**+1.6**
ARKR	**Arakani**	**1.70**	**317**	*e*Pg	**Pb**	**21 43 46.9**	**-0.3**
ARKR				*e*Sg	**Sb**	**21 44 09.4**	**+1.3**
MAK	**Makhachkala**	**1.77**	**334**	*e*Pg	**Pb**	**21 43 48.7**	**+0.4**
MAK				*e*Sg	**Sb**	**21 44 11.9**	**+1.8**
MAK	**Makhachkala**	**1.77**	**334**	⇑*i*PN	**Pb**	**21 43 48.1**	**-0.3**
MAK				*e*		21 44 14.2	
MAK				pmax	pmax		
	comp=Z,137nm,0.3s						
MAK				smax	smax		
	comp=E,867nm,0.5s						
MAK				smax	smax		
	comp=E,1μm,0.6s						
LGD	**Lagodekhi**	**1.80**	**286**	P	**Pb**	**21 43 48.4**	**-0.5**
LGD				S	**Sb**	**21 44 14.4**	**+3.3**
LGD	**Lagodekhi**	**1.80**	**286**	*e*Pg	**Pb**	**21 43 48.4**	**-0.5**
LGD				*e*Sg	**Sb**	**21 44 14.4**	**+3.3**
LGD	**Lagodekhi**	**1.80**	**286**	*e*PN	**Pb**	**21 43 48.3**	**-0.5**
BUJR	**Buynaksk**	**1.81**	**324**	*e*Pg	**Pb**	**21 43 49.5**	**+0.4**
BUJR				*e*Sg	**Sb**	**21 44 12.7**	**+1.3**
XNZR	**Khunzakh**	**1.82**	**311**	*e*Pg	**Pb**	**21 43 48.8**	**-0.4**
XNZR				*e*Sg	**Sb**	**21 44 13.2**	**+1.6**
BLQ	**Beylaqan**	**1.82**	**205**	Pn	**Pn**	**21 43 47.2**	**+0.7**
BLQ				Sn	**Sb**	**21 44 12.6**	**+1.2**
HNZR	**Khunzah**	**1.82**	**311**	*e*PN	**Pb**	**21 43 49.1**	**-0.2**
GANJ	**Ganja**	**1.85**	**248**	Pn	**Pn**	**21 43 47.3**	**+0.3**
GANJ				Sn	**Sb**	**21 44 12.2**	**0.0**
GANJ	**Ganja**	**1.85**	**248**	PN	**Pn**	**21 43 47.3**	**+0.3**
UNCR	**Uncukul**	**1.88**	**316**	*e*Pg	**Pb**	**21 43 50.0**	**-0.2**
UNCR				*e*Sg	**Sb**	**21 44 16.9**	**+3.6**
KRNR	**Karanay**	**1.91**	**320**	*e*Pg	**Pb**	**21 43 51.2**	**+0.5**
KRNR				*e*Sg	**Sb**	**21 44 15.5**	**+1.3**
KANR	**Karaman**	**1.99**	**337**	*e*Pg	**Pb**	**21 43 52.9**	**+0.9**
KANR				*e*Sg	**Sb**	**21 44 18.1**	**+1.7**
DBC	**Dubki**	**2.09**	**323**	*e*Pg	**Pb**	**21 43 53.3**	**-0.5**
DBC				*e*Sg	**Sb**	**21 44 20.6**	**+1.2**
DBC	**Dubki**	**2.09**	**323**	*e*PN	**Pb**	**21 43 53.4**	**-0.5**
DBC				pmax	pmax		
	comp=Z,33nm,0.4s						
GLBA	**Ciilabad**	**2.13**	**184**	Pn	**Pn**	**21 43 51.7**	**+0.8**
GLBA				Sn	**Sb**	**21 44 21.1**	**+0.7**
QRD	**Qoradiz**	**2.13**	**207**	Pn	**Pn**	**21 43 51.2**	**+0.3**
QRD				Sn	**Sb**	**21 44 18.9**	**-1.6**
BTLR	**Botlikh**	**2.17**	**307**	*e*Pg	**Pb**	**21 43 54.0**	**-1.2**
BTLR				*e*Sg	**Sb**	**21 44 23.4**	**+1.7**
BTLR	**Botlikh**	**2.17**	**307**	*i* PN	**Pb**	**21 43 55.6**	**+0.4**
GDB	**GEDABAY**	**2.22**	**254**	Pn	**Pn**	**21 43 52.8**	**+0.5**
GDB				Sn	**Sb**	**21 44 22.7**	**-0.6**
DLMR	**Dylym**	**2.23**	**320**	*e*Pg	**Pb**	**21 43 56.7**	**+0.6**
DLMR				*e*Sg	**Sb**	**21 44 22.8**	**-0.4**
DGRG	**David-gareji**	**2.40**	**273**	P	**Pn**	**21 43 56.4**	**+1.8**
DGRG				S	**Sb**	**21 44 29.3**	**+0.9**
DGRG	**David-gareji**	**2.40**	**273**	*e*Pn	**Pn**	**21 43 56.4**	**+1.8**
DGRG				*e*Sn	**Sb**	**21 44 29.3**	**+0.9**
DGRG	**David-gareji**	**2.40**	**273**	*e*PN	**Pn**	**21 43 56.4**	**+1.8**
DGRG				*e*S	**Sb**	**21 44 29.2**	**+0.9**
DVE	**Vedeno**	**2.41**	**312**	*e*Pn	**Pb**	**21 43 58.5**	**-0.7**
DVE				*e*Sn	**Sb**	**21 44 27.2**	**-1.4**
DVE	**Vedeno**	**2.41**	**312**	*i* PN	**Pb**	**21 43 57.6**	**-1.6**
QZX	**Qazax, Azerbai**	**2.43**	**264**	Pn	**Pn**	**21 43 55.4**	**+0.4**
QZX				Sg	**Sb**	**21 44 30.0**	**+0.9**
YRD	**Yardimli**	**2.46**	**186**	Pn	**Pn**	**21 43 56.0**	**+0.4**
YRD				Sn	**Sn**	**21 44 27.2**	**+2.1**
LRK	**Lerik**	**2.73**	**184**	Pn	**Pn**	**21 43 59.9**	**+0.7**
LRK				Sn	**Sn**	**21 44 34.6**	**+2.9**

GROC	**Groznyy**	**2.75**	**313**	*e*Pn	**Pn**	**21 44 01.8**	**+2.4**
GROC				*e*Sn	**Sb**	**21 44 35.5**	**-2.8**
GROC	**Groznyy**	**2.75**	**313**	*e*PN	**Pb**	**21 44 07.1**	**+2.1**
GROC				*e*		21 44 35.1	
GROC				pmax	pmax		
	comp=Z,7.0nm,0.1s						
GROC				smax	smax		
	comp=E,87nm,0.5s						
GROC				smax	smax		
	comp=N,105nm,0.6s						
GROC				smax	smax		
	comp=N,122nm,0.6s						
ASTR	**Astara**	**2.81**	**176**	Pg	**Pb**	**21 44 03.9**	**-2.1**
ASTR				Sg	**Sb**	**21 44 41.3**	**+1.2**
SHTL	**Shatili**	**2.85**	**298**	P	**Pb**	**21 44 05.7**	**-1.2**
SHTL				S	**Sb**	**21 44 44.8**	**+3.5**
SHTL	**Shatili**	**2.85**	**298**	*e*PN	**Pb**	**21 44 05.6**	**-1.2**
SHTL				*e*S	**Sb**	**21 44 44.7**	**+3.5**
CHRG	**Chargali**	**2.88**	**291**	P	**Pn**	**21 44 02.9**	**+1.6**
CHRG	**Chargali**	**2.88**	**291**	*e*Pn	**Pn**	**21 44 02.9**	**+1.6**
SBZ	**Shahbuz**	**3.03**	**230**	Pn	**Pn**	**21 44 04.8**	**+1.4**
SBZ				Sg	**Sb**	**21 44 47.4**	**+1.0**
KZRT	**Kazreti**	**3.14**	**272**	P	**Pn**	**21 44 04.8**	**+0.1**
KZRT	**Kazreti**	**3.14**	**272**	*e*Pn	**Pn**	**21 44 04.8**	**+0.1**
KZRT	**Kazreti**	**3.14**	**272**	*e*PN	**Pn**	**21 44 04.8**	**+0.1**
GNI	**Garni**	**3.15**	**248**	*e*Pn	**Pn**	**21 44 07.0**	**+2.0**
GNI				*e*Sn	**Sn**	**21 44 45.5**	**+3.4**
GNI	**Garni**	**3.15**	**248**	Pn	**Pn**	**21 44 06.7**	**+1.7**
	comp=N,3.1nm,0.3s,baz=90,slow=20,SNR=10						
GNI				Sn	**Sb**	**21 44 50.0**	**0.0**
	comp=N,2.5nm,0.3s,baz=32,slow=9.5,SNR=3.0						
	comp=N,7.0nm,0.5s						
GNI	**Garni**	**3.15**	**248**	*i* PN	**Pn**	**21 44 06.8**	**+1.8**
KMGR	**Komgaron**	**3.23**	**303**	*e*Pn	**Pb**	**21 44 10.9**	**-2.2**
KMGR				*e*Sn	**Sb**	**21 44 47.8**	**-4.2**
GUDG	**Gudauri**	**3.24**	**291**	*e*Pn	**Pb**	**21 44 11.6**	**-2.0**
GUDG				*e*Sn	**Sb**	**21 44 48.4**	**-4.2**
MTEO	**Meteo**	**3.28**	**295**	P	**Pb**	**21 44 13.1**	**-1.1**
MTEO	**Meteo**	**3.28**	**295**	*e*PN	**Pb**	**21 44 13.1**	**-1.1**
DMNI	**Dmanisi**	**3.29**	**271**	P	**Pn**	**21 44 07.5**	**+0.5**
DMNI	**Dmanisi**	**3.29**	**271**	*e*Pn	**Pn**	**21 44 07.5**	**+0.5**
DMNI	**Dmanisi**	**3.29**	**271**	*e*PN	**Pn**	**21 44 07.4**	**+0.5**
TRLG	**Trialeti**	**3.36**	**274**	P	**Pn**	**21 44 08.0**	**+0.1**
TRLG	**Trialeti**	**3.36**	**274**	*e*Pn	**Pn**	**21 44 08.0**	**+0.1**
TRLG	**Trialeti**	**3.36**	**274**	*e*PN	**Pn**	**21 44 08.0**	**+0.1**
LACR	**Lac**	**3.50**	**296**	*e*Pn	**Pb**	**21 44 19.9**	**+2.2**
LACR				*e*Sn	**Sb**	**21 44 59.7**	**-0.1**
ALIG	**Mtskhetisjvari**	**3.75**	**283**	P	**Pn**	**21 44 14.1**	**+0.9**
ALIG	**Mtskhetisjvari**	**3.75**	**283**	*e*Pn	**Pn**	**21 44 14.1**	**+0.9**
ALIG	**Mtskhetisjvari**	**3.75**	**283**	*e*PN	**Pn**	**21 44 14.1**	**+0.9**
KORR	**Kora**	**3.75**	**299**	*e*Pn	**Pb**	**21 44 23.8**	**+1.7**
KORR				*e*Sn	**Sb**	**21 45 04.0**	**-3.2**
ONI	**Oni**	**4.00**	**289**	*e*Pn	**Pn**	**21 44 18.6**	**+2.0**
ONI				*e*Sn	**Sn**	**21 45 02.5**	**-0.4**
KBZ	**Khabaz**	**4.80**	**301**	*e*Pn	**Pn**	**21 44 31.8**	**+4.2**
KBZ				*e*Sn	**Sn**	**21 45 24.1**	**+1.6**
KBZ	**Khabaz**	**4.80**	**301**	Pn	**Pn**	**21 44 28.8**	**+1.3**
	comp=N,0.1nm,0.3s,baz=117,slow=6.8,SNR=1.5						
KBZ				Sn	**Sn**	**21 45 27.4**	**+4.9**
	comp=N,0.5nm,0.3s,baz=121,slow=12,SNR=4.0						
	comp=N,1.2nm,0.7s						
KBZ	**Khabaz**	**4.80**	**301**	*i* PN	**Pn**	**21 44 30.6**	**+3.0**
PYA1	**Pyatigorsk**	**4.85**	**306**	*e*Pn	**Pn**	**21 44 30.4**	**+2.2**
PYA1				*e*Sn	**Sn**	**21 45 23.0**	**-0.6**
SHA1	**Shidzhatmaz**	**4.96**	**300**	*e*Pn	**Pn**	**21 44 32.8**	**+2.7**
SHA1				*e*Sn	**Sn**	**21 45 25.0**	**-1.9**
SHA1	**Shidzhatmaz**	**4.96**	**300**	*i* PN	**Pn**	**21 44 32.7**	**+2.7**
KVAR	**Kislovodsk Arr**	**5.04**	**303**	Pn	**Pn**	**21 44 34.1**	**+3.2**
	baz=61,slow=18

RSSD	Black Hills	3.98	315	Pn	Pn	21 44 49.6 -1.2
PHWY	Pilot Hill	4.01	271	Pn	Pn	21 44 50.5 -0.7
PHWY				IAmb_Lg		21 45 57.9
	comp=Z,14nm,0.8s					
KAN12	Harper NE Stat	4.38	157	Pn	Pn	21 44 56.0 -0.1
KAN12				IAmb_Lg		21 46 18.3
	comp=Z,12nm,0.8s					
N23A	Red Feather La	4.41	266	Pn	Pn	21 44 56.1 -0.6
KAN06	Argonia West S	4.47	156	Pn	Pn	21 44 56.4 -1.0
Q24A	Divide	4.53	240	Pn	Pn	21 44 57.1 -1.2
Q24A				IAmb_Lg		21 46 15.4
	comp=Z,19nm,0.8s					
KAN14	Manchester OK	4.71	158	Pn	Pn	21 44 57.9 -2.8
OK032	Salt Plains WL	4.79	161	IAmb_Lg		21 46 21.4
	comp=Z,16nm,1.1s					
NOKA	Waynoka	4.81	168	Pn	Pn	21 45 01.4 -0.7
NOKA				IAmb_Lg		21 46 22.0
	comp=Z,11nm,0.9s					
K22A	Casper	4.93	287	IAmb_Lg		21 46 37.6
	comp=Z,21nm,1.0s					
SCIA	State Center	5.22	82	IAmb_Lg		21 46 32.2
	comp=Z,12nm,0.7s					
T35A	Sooner Cattle	5.26	146	Pn	Pn	21 45 07.6 -0.5
T35A				IAmb_Lg		21 46 43.4
	comp=Z,18nm,1.1s					
RTBA	Rita Blanca	5.32	203	Pn	Pn	21 45 07.8 -1.3
RTBA				IAmb_Lg		21 46 46.6
	comp=Z,15nm,1.2s					
T25A	Trinidad	5.36	220	Pn	Pn	21 45 08.4 -1.5
T25A				IAmb_Lg		21 46 38.7
	comp=Z,17nm,0.8s					
SDCO	Great Sand Dun	5.50	231	Pn	Pn	21 45 11.2 -0.4
I37A	Lemond, Waseca	5.63	60	IAmb_Lg		21 46 56.5
	comp=Z,15nm,0.8s					
SMCO	Snowmass	5.67	250	IAmb_Lg		21 46 54.5
	comp=Z,9.3nm,0.9s					
SMWD	Samnorwood	6.25	181	IAmb_Lg		21 47 21.9
	comp=Z,12nm,1.0s					
S39A	Bolivar	6.42	123	Pn	Pn	21 45 22.4 -1.6
TUL3	Leonard	6.42	147	IAmb_Lg		21 47 15.2
	comp=Z,11nm,0.7s					
P40A	Paris	6.43	104	Pn	Pn	21 45 22.8 -1.5
P40A				IAmb_Lg		21 47 15.7
	comp=Z,7.5nm,0.9s					
RLO	Rose Lookout	6.55	141	Pn	Pn	21 45 25.6 -0.3
AMTX	Amarillo	6.58	191	Pn	Pn	21 45 25.8 -0.6
SPMN	Marine on St.	6.60	52	IAmb_Lg		21 47 15.8
	comp=Z,7.2nm,0.8s					
WMOK	Wichita Mounta	6.70	170	Pn	Pn	21 45 26.6 -1.4
W35A	Tecumseh	6.71	156	IAmb_Lg		21 47 25.7
	comp=Z,7.0nm,0.9s					
L40A	Anamosa	6.71	81	IAmb_Lg		21 47 24.6
	comp=Z,9.8nm,1.1s					
R40A	Maddies Statio	6.79	114	Pn	Pn	21 45 28.7 -0.4
JFWS	Jewell Farm	7.51	75	IAmb_Lg		21 47 48.1
	comp=Z,7.8nm,0.7s					
CCM	Cathedral Cave	7.61	113	Pn	Pn	21 45 37.0 -3.3
CCM				IAmb_Lg		21 48 03.0
	comp=Z,7.4nm,1.2s					
DKNS	Dickens	7.71	185	IAmb_Lg		21 48 15.1
	comp=Z,7.1nm,0.9s					
X37A	Clayton	7.74	149	IAmb_Lg		21 48 08.4
	comp=Z,9.3nm,0.9s					
SN07	Snyder 07	8.28	184	IAmb_Lg		21 48 18.9
	comp=Z,6.5nm,0.8s					
POST	Post	8.35	188	IAmb_Lg		21 48 26.6
	comp=Z,9.6nm,1.0s					
PBMO	Poplar Bluff	8.83	118	IAmb_Lg		21 48 38.3
	comp=Z,4.8nm,0.8s					

*IDC **02** 21:58:19.5±1.2, 13°.10N×87°.96W, h149km±13km, mb3.5/6, mbtmp4.0/9, Error ellipse: s-maj=24.3km s-min=10.7km az=50.0*
*SNET **02** 21:58:21.2±0.7, 13°.07N×87°.94W, h149km±4km, ML3.8*
*CATAC **02** 21:58:21.9±0.4, 13°.17N×87°.94W, h145km±3km, ML3.8*
*NEIC **02** 21:58:21.3±1.8, 13°.14N±0°.10×87°.99W±0°.07, h151km±7km, mb4.3/63, Error ellipse: s-maj=16.2km s-min=6.7km az=209.0*
ISC 02 21:58:20.6±0.7, 13°.15N±0°.06×87°.95W±0°.04, h155km±5km, n136, σ1°.02/168, mb4.3/35, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	Intipuca	0.11	294	*i* P	Pn	21 58 41.5	+0.2
INTP				IAML		21 58 42.3	
	comp=Z,667nm,0.2s						
INTP				*e*S	Sn	21 58 57.1	0.0
INTP				*e*S		21 58 57.2	
LCND	La Caada	0.17	22	*e*P	Pn	21 58 41.5	0.0
LCND				*e*S	Sn	21 58 57.5	0.0
LCND	La Caada	0.17	22	*i* P	Pn	21 58 41.7	+0.2
LCND				*i* S	Sn	21 58 57.4	0.0
LCND				IAML		21 59 08.6	
	comp=Z,1µm,1.0s						
CNCH	Conchagua	0.17	44	*i* P	Pn	21 58 41.5	0.0
CNCH	Conchagua	0.17	44	*i* P	Pn	21 58 41.6	0.0
CNCH				*i* S	Sn	21 58 57.9	+0.3
CNCH				IAML		21 59 04.4	
	comp=Z,3µm,1.0s						
JUCU	Jucuarın	0.30	289	*e*P	Pn	21 58 41.9	0.0
JUCU	Jucuarın	0.30	289	*i* P	Pn	21 58 41.9	0.0
JUCU				*i* S	Sn	21 58 58.3	+0.3
JUCU				IAML		21 59 03.2	
	comp=Z,1µm,1.0s						
AMPH	Amapala	0.32	66	*i* P	Pn	21 58 41.9	+0.1
AMPH				*e*S	Sn	21 58 58.3	+0.4
AMPH	Amapala	0.32	66	*i* P	Pn	21 58 41.9	+0.1
AMPH				*i* S	Sn	21 58 58.1	+0.2
CNRM	Centro Naciona	0.38	327	*i* P	Pn	21 58 42.2	+0.2
CNRM				*i* S	Sn	21 58 58.8	+0.4
CNRM				IAML		21 59 01.2	
	comp=Z,8µm,1.0s						
BLLM	Bellamira	0.40	316	*i* P	Pn	21 58 42.5	+0.3
RANC	El Ranchito	0.43	311	*e*P	Pn	21 58 42.8	+0.4
RANC	El Ranchito	0.43	311	*i* P	Pn	21 58 42.7	+0.3
RANC				IAML		21 58 43.4	
	comp=Z,1µm,1.0s						
RANC				*i* S	Sn	21 58 59.7	+0.7
PACA	Pacayal	0.48	311	*e*P	Pn	21 58 43.6	+1.0
PACA	Pacayal	0.48	311	*i* P	Pn	21 58 43.3	+0.7
PACA				*i* S	Sn	21 59 00.1	+0.7
PACA				IAML		21 59 12.0	
	comp=Z,7µm,1.0s						
TECA	Tecapa	0.63	302	*e*P	Pn	21 58 44.0	+0.5
TECO	Alcaldia de Te	0.89	295	*i* P	Pn	21 58 45.2	+0.2
TECO				IAML		21 58 46.2	
	comp=Z,2µm,1.0s						
TECO				*i* S	Sn	21 59 04.1	+0.4
SCLA	Alcaldia de Sa	0.93	306	*e*P	Pn	21 58 46.2	+0.9
SCLA	Alcaldia de Sa	0.93	306	*i* P	Pn	21 58 46.1	+0.8
SCLA				*i* S	Sn	21 59 05.6	+1.3
SCLA				IAML		21 59 15.8	
	comp=Z,630nm,1.0s						
UESV	Universidad de	0.94	301	*i* P	Pn	21 58 46.2	+0.8
UESV				IAML		21 59 19.9	
	comp=Z,1µm,1.0s						
CRIN	San Cristobal	0.99	117	Pn	Pn	21 58 46.2	+0.3
CRIN				Sn	Sn	21 59 06.5	+1.3
CRIN	San Cristobal	0.99	117	*i* P	Pn	21 58 46.6	+0.7
CRIN				*i* S	Sn	21 59 06.0	+0.9
CRIN				IAML		21 59 15.9	
	comp=Z,5µm,1.0s						
MARCA	Marcala la Paz	1.00	356	*i* P	Pn	21 58 46.6	+0.6
MARCA				*i* S	Sn	21 59 05.4	-0.2
COEG	Centro de Oper	1.01	297	*e*P	Pn	21 58 46.9	+0.8
COEG				*e*S	Sn	21 59 07.1	+1.6
COEG	Centro de Oper	1.01	297	*i* P	Pn	21 58 47.1	+1.1
COEG				IAML		21 58 47.6	
	comp=Z,620nm,1.0s						
COEG				*i* S	Sn	21 59 06.1	+0.6
PKGN	Cerro Pekin	1.07	117	*i* P	Pn	21 58 46.3	-0.1
PKGN				*i* S	Sn	21 59 05.9	-0.3
PKGN				IAML		21 59 13.9	
	comp=Z,6µm,1.0s						
PAVA	Las Pavas	1.11	300	*e*P	Pn	21 58 47.7	+0.8
PAVA	Las Pavas	1.11	300	*i* P	Pn	21 58 48.0	+1.1
PAVA				*i* S	Sn	21 59 08.3	+1.3
PAVA				IAML		21 59 17.6	
	comp=Z,2µm,1.0s						
TGUH	Tegucigalpa,Un	1.11	36	Pn	Pn	21 58 46.6	-0.4
TGUH	Tegucigalpa,Un	1.11	36	*i* P	Pn	21 58 47.3	+0.3
TGUH				IAML		21 58 47.9	
	comp=Z,3µm,1.0s						
TGUH				*i* S	Sn	21 59 07.4	+0.1
LFRS	El Faro	1.17	294	*e*P	Pn	21 58 48.3	+0.8
QUEN	Al S del Volca	1.21	117	*i* P	Pn	21 58 48.0	+0.2
QUEN				IAML		21 59 13.3	
	comp=Z,4µm,1.0s						
LOMA	Loma Larga	1.28	293	*e*P	Pn	21 58 49.8	+1.2
YUSH	Yuscaran	1.34	54	*i* P	Pn	21 58 49.5	+0.4
SNET	Serv Nac Est T	1.35	293	Pn	Pn	21 58 47.5	-1.6
SNET				Sn	Sn	21 59 10.1	-0.9
CNGA	Al SSO del Vol	1.39	118	*i* P	Pn	21 58 49.0	-0.5
CNGA				*i* S	Sn	21 59 12.6	+1.1
CNGA				IAML		21 59 16.9	
	comp=Z,2µm,1.0s						
CNGN	Cerro Negro	1.39	118	Pn	Pn	21 58 48.7	-0.7
CNGN				Sn	Sn	21 59 11.1	-0.4
PIC2	El Picacho	1.40	295	*e*P	Pn	21 58 51.3	+1.6
OCON	Estacion meteo	1.51	72	*i* P	Pn	21 58 50.4	-0.3
OCON				IAML		21 58 51.0	
	comp=Z,2µm,1.0s						
JAYA	Jayaque - finc	1.54	289	*e*P	Pn	21 58 52.2	+1.1
JAYA				IAML		21 59 17.8	
	comp=Z,1µm,0.2s						
JAYA	Jayaque - finc	1.54	289	*i* P	Pn	21 58 52.2	+1.1
JAYA				*i* S	Sn	21 59 15.2	+0.7
JAYA				IAML		21 59 20.3	
	comp=Z,4µm,1.0s						
LIMN	Finca el Limon	1.55	93	*i* P	Pn	21 58 51.5	+0.3
LIMN				IAML		21 58 51.9	
	comp=Z,6µm,1.0s						
MOM2	El Cardon	1.60	116	*i* P	Pn	21 58 52.0	+0.4
MOM2				*i* S	Sn	21 59 15.8	+0.4
MOM2				IAML		21 59 26.6	
	comp=Z,1µm,1.0s						
COPN	Copaltepe	1.65	126	*i* P	Pn	21 58 52.7	+0.6
COPN				IAML		21 59 19.0	
	comp=Z,1µm,1.0s						
MTO3	Montecristo	1.84	312	Pn	Pn	21 58 55.1	+0.6
NUBE	Las Nubes	1.93	293	*e*P	Pn	21 58 56.6	+1.3
ESQI	Esquipulas	1.94	316	Pn	Pn	21 58 56.1	+0.7
MAS3	Al N del Volca	2.07	123	*i* P	Pn	21 58 57.4	+0.5
MAS3				*i* S	Sn	21 59 25.9	+1.1
MAS3				IAML		21 59 26.8	
	comp=Z,2µm,1.0s						
MASN	Masaya	2.11	123	*i* S	Sn	21 59 26.0	+0.4
BOAB	BOACO BROADBAN	2.34	107	Pn	Pn	21 58 59.9	-0.1
BOAB	BOACO BROADBAN	2.34	107	*i* P	Pn	21 59 00.2	+0.2
BOAB				IAML		21 59 01.1	
	comp=Z,870nm,1.0s						
BOAB				*i* S	Sn	21 59 31.2	+0.8
ACON	Acoyapa	2.96	113	Pn	Pn	21 59 07.8	+0.2
ACON	Acoyapa	2.96	113	*i* P	Pn	21 59 08.3	+0.6
ACON				IAML		21 59 09.0	
	comp=Z,400nm,1.0s						
ACON				*i* S	Sn	21 59 45.7	+1.6
ESPN	Las Esperanzas	3.69	105	Pn	Pn	21 59 17.5	+0.5
ESPN	Las Esperanzas	3.69	105	*i* P	Pn	21 59 18.0	+1.0
ESPN				IAML		21 59 18.6	
	comp=Z,390nm,1.0s						
ESPN				*i* S	Sn	22 00 01.9	+1.1
SAJU	San Juanillo,	3.77	144	Pn	Pn	21 59 19.3	+1.2
JUD3	Juan Diaz 3	3.80	141	Pn	Pn	21 59 19.8	+1.3
RTAL	Retalhuleu	3.88	291	Pn	Pn	21 59 17.4	-2.1
JTS	Las Juntas de	4.09	134		Pn	21 59 23.1	+0.8
JTS	Las Juntas de	4.09	134	P	Pn	21 59 22.1	-0.2
	comp=Z,40nm,0.3s,baz=309,slow=16,SNR=37						
JTS				S	Sn	22 00 07.6	-2.6
	comp=Z,78nm,0.5s,baz=307,slow=20,SNR=12						
LCR2	La Lucha 2	5.15	131	Pn	Pn	21 59 36.9	+0.6
BRU2	Volcan	6.74	129	Pn	Pn	21 59 59.2	+1.8
TEIG	Tepich	7.04	358	Pn	Pn	22 00 02.6	+1.4
TEIG	Tepich	7.04	358	P	Pn	22 00 02.7	+1.5
	comp=Z,23nm,0.8s,baz=174,slow=17,SNR=16						
TEIG				S	Sn	22 01 20.4	+0.2
	comp=Z,1.7nm,0.4s,baz=158,slow=19,SNR=1.1						
CMIG	Matias Romero	7.75	301	P	Pn	22 00 11.4	+0.7
	comp=Z,4.4nm,0.4s,baz=126,slow=12,SNR=15						
CMIG				S	Sn	22 01 31.8	-5.5
	comp=Z,4.1nm,0.5s,baz=104,slow=4.2,SNR=5.0						
BAUV	El Baul	19.98	100		P	22 02 38.7	-2.4
BAUV				IAmb	IAmb	22 02 49.1	
	comp=Z,7.7nm,0.7s						
GOGA	Godfrey	20.58	11	P	P	22 02 49.7	+2.4
GOGA				IAmb	IAmb	22 02 50.4	
	comp=Z,12nm,0.8s						
Y49A	Blount Mountai	20.66	4	P	P	22 02 49.8	+1.6
Y49A				IAmb	IAmb	22 02 50.6	
	comp=Z,8.8nm,0.6s						
Y52A	Lilburn	20.92	9	P	P	22 02 50.9	-0.1
Y52A				IAmb	IAmb	22 02 54.6	
	comp=Z,9.3nm,0.8s						
FPAL	Fort Paine	21.40	5	P	P	22 02 56.3	+0.2
HODGE	Hodges	21.61	13	P	P	22 03 00.5	+2.1
TXAR	Lajitas Array	21.72	320	P	P	22 03 00.3	+0.6
	comp=Z,0.9nm,0.8s,baz=133,slow=11,SNR=7.3						
	comp=Z,0.9nm,0.8s						
JSC	Jenkinsville	21.89	15	P	P	22 03 02.5	+1.2
MIAR	Mount Ida	21.90	347	P	P	22 03 02.3	+0.9
MIAR				IAmb	IAmb	22 03 03.3	
	comp=Z,9.7nm,0.6s						
SWET	Sewanee	22.04	4	P	P	22 03 03.0	+0.1
W50A	Signal Mountai	22.08	6	P	P	22 03 03.5	+0.3
BG3	Lake Jocassee	22.21	11	P	P	22 03 06.1	+1.6
BG3				IAmb	IAmb	22 03 07.3	
	comp=Z,13nm,0.8s						
PAULI	Pauline	22.28	13	P	P	22 03 06.9	+1.8
PAULI				IAmb	IAmb	22 03 07.8	
	comp=Z,14nm,0.9s						
WHAR	Wooly Hollow	22.39	351	P	P	22 03 07.7	+1.5
KMSC	Kings Mountain	22.70	14	P	P	22 03 11.0	+1.9
TKL	Tuckaleechee C	22.72	9	P	P	22 03 10.7	+1.4
	comp=Z,8.0nm,0.8s,baz=195,slow=12,SNR=14						
	comp=Z,8.0nm,0.8s						
V53A	Saluda	22.89	11	P	P	22 03 12.2	+1.3
V53A				IAmb	IAmb	22 03 14.9	
	comp=Z,6.5nm,0.7s						
LCAR	Lake Charles	23.00	353	P	P	22 03 11.8	-0.1
V55A	Taylorsville	23.40	14	P	P	22 03 16.6	+1.0
V55A				IAmb	IAmb	22 03 18.0	
	comp=Z,16nm,1.3s						
TZTN	Tazewell	23.62	9	P	P	22 03 18.2	+0.6
T47A	Sharon Grove	23.75	2	P	P	22 03 19.4	+0.8
V58A	Windy Hill, Pi	23.91	18	P	P	22 03 21.4	+1.2
T42A	Van Buren	23.94	354	P	P	22 03 20.2	-0.2
MGMO	Mountain Grove	24.21	352	P	P	22 03 23.5	+0.6
S51A	Beattyville	24.69	8	P	P	22 03 26.8	-0.5
CCM	Cathedral Cave	24.97	354	P	P	22 03 29.8	+0.1
CCM				IAmb	IAmb	22 03 30.7	
	comp=Z,5.6nm,0.7s						
T57A	Hurt	24.99	17	P	P	22 03 31.0	+1.1
R40A	Maddies Statio	25.33	352	P	P	22 03 32.5	-0.5
R40A				IAmb	IAmb	22 03 33.7	
	comp=Z,4.7nm,0.5s						
R55A	Marlinton	25.98	14	P	P	22 03 39.5	+0.6
R55A				IAmb	IAmb	22 03 41.2	
	comp=Z,6.3nm,0.7s						
Q54A	Coxs Mills	26.49	13	P	P	22 03 44.9	+1.5
Q56A	Snyder Ridge,	26.93	15	P	P	22 03 49.0	+1.6
Q56A				IAmb	IAmb	22 03 50.0	
	comp=Z,5.8nm,0.6s						
O53A	New Philadelph	27.63	11	P	P	22 03 54.9	+1.2
O53A				IAmb	IAmb	22 03 55.7	
	comp=Z,5.6nm,0.8s						
N53A	Lisbon	28.25	11	P	P	22 04 00.0	+0.9
SSPA	Standing Stone	28.77	16	P	P	22 04 04.4	+0.7
SSPA				IAmb	IAmb	22 04 05.5	
	comp=Z,3.8nm,0.6s						
M55A	Ridgway	29.33	14	P	P	22 04 08.4	-0.3
M55A				IAmb	IAmb	22 04 10.6	
	comp=Z,5.0nm,1.0s						
M57A	Sunshine Farm,	29.63	17	P	P	22 04 11.7	+0.4
M57A				IAmb	IAmb	22 04 13.6	
	comp=Z,5.9nm,0.8s						
BRNJ	Basking Ridge	29.83	21	P	P	22 04 14.2	+1.1
ODNJ	Ogdensburg	30.18	20	P	P	22 04 17.2	+1.1
ODNJ				IAmb	IAmb	22 04 17.6	
	comp=Z,4.6nm,0.5s						
L59A	Walton	31.03	19	P	P	22 04 24.2	+0.5
L59A				IAmb	IAmb	22 04 25.5	
	comp=Z,5.8nm,0.7s						
KSCT	Kent School, K	31.13	21	P	P	22 04 25.5	+1.0
J56A	Wolcott	31.50	16	P	P	22 04 28.6	+0.9
UCCT	U. Connecticut	31.65	23	P	P	22 04 29.9	+0.9
J58A	Remsen	32.02	18	P	P	22 04 32.5	+0.1
J58A				IAmb	IAmb	22 04 34.3	
	comp=Z,7.4nm,1.3s						
L61B	Northampton	32.05	22	P	P	22 04 33.2	+0.6
SADO	Sadowa	32.40	12	P	P	22 04 35.5	-0.1
SADO				IAmb	IAmb	22 04 36.2	
	comp=Z,4.7nm,0.6s						
DELO	Deloro Mine	32.48	14	P	P	22 04 36.5	+0.2
DELO				IAmb	IAmb	22 04 39.4	
	comp=Z,12nm,1.5s						
F33A	5 Mile Ranch,	33.34	349	P	P	22 04 42.6	-1.1
LONY	Lake Ozonia	33.38	17	P	P	22 04 44.4	+0.3
WBO	Williamsburg	33.53	16	P	P	22 04 44.6	-0.7
WBO				IAmb	IAmb	22 05 28.5	
	comp=Z,6.5nm,1.3s						
I62A	Tamworth	33.78	22	P	P	22 04 48.3	+0.8
EYMN	Ely	34.81	356	P	P	22 04 55.1	-1.3
EYMN				IAmb	IAmb	22 04 55.8	
	comp=Z,5.3nm,0.9s						
G62A	West of Eustis	35.23	22	P	P	22 05 01.1	+1.0
G62A				IAmb	IAmb	22 05 01.9	
	comp=Z,4.3nm,0.6s						
AGMN	Agassiz Nation	35.65	351	P	P	22 05 03.9	+0.3
PKME	Peaks-Kenny Pk	35.72	23	P	P	22 05 04.2	0.0
PKME				IAmb	IAmb	22 05 10.5	
	comp=Z,8.6nm,1.4s						
G65A	Princeton	36.34	25	P	P	22 05 11.0	+1.5
G65A				IAmb	IAmb	22 05 37.7	
	comp=Z,11nm,1.3s						
F64A	Sherman	36.59	23	P	P	22 05 12.5	+0.9
F64A				IAmb	IAmb	22 05 23.7	
	comp=Z,9.7nm,1.5s						
E62A	Clayton Lake	36.79	21	P	P	22 05 13.7	+0.4
E62A				IAmb	IAmb	22 05 34.5	
	comp=Z,6.3nm,1.3s						
D62A	Allapoint, All	37.36	21	P	P	22 05 18.9	+0.8
D62A				IAmb	IAmb	22 05 19.1	
	comp=Z,4.1nm,0.8s						
ULM	Lac du Bonnet	37.56	352	P	P	22 05 18.8	-0.9
	comp=Z,2.6nm,0.5s,baz=163,slow=11,SNR=7.3						
	comp=Z,2.6nm,0.5s						
LMN	Caledonia Moun	38.03	26	P	P	22 05 24.7	+0.9
LMN				IAmb	IAmb	22 05 25.5	
	comp=Z,6.4nm,1.0s						
BATG	Bathurst New B	38.64	24	P	P	22 05 28.8	0.0
BATG				IAmb	IAmb	22 05 30.5	
	comp=Z,11nm,1.2s						
FFC	Flin Flon	42.91	348	P	P	22 06 04.3	+0.6
DRLN	Deer Lake	43.86	29	P	P	22 06 11.0	-0.4
DRLN				IAmb	IAmb	22 06 23.6	
	comp=Z,13nm,1.3s						
SCHQ	Schefferville	44.75	17	P	P	22 06 17.9	-0.5
	comp=Z,3.6nm,0.5s,baz=213,slow=6.3,SNR=12						
	comp=Z,3.6nm,0.5s						
F28M	Old Crow	63.96	340	P	P	22 08 37.0	+0.1
D25K	Kavik River	66.89	341	P	P	22 08 55.8	0.0
EKA	Eskdalemuir Ar	76.34	36	P	P	22 09 51.0	-1.5
	comp=Z,0.4nm,0.5s,baz=266,slow=6.3,SNR=3.4						
	comp=Z,0.4nm,0.5s						
ESDC	Sonseca Array	77.14	52	P	P	22 09 56.4	-1.0
	comp=Z,0.3nm,0.6s,baz=289,slow=4.8,SNR=2.0						
	comp=Z,0.3nm,0.6s						
STKA	Stephens Creek	131.03	239	PKP	PKPdf	22 17 15.3	+0.9
	comp=Z,1.0nm,0.5s,baz=131,slow=3.2,SNR=4.8						
WRA	Warramunga Arr	138.99	255	PKP	PKPdf	22 17 29.7	+0.2
	comp=Z,1.4nm,0.5s,baz=89,slow=2.4,SNR=31						
ASAR	Alice Springs	139.07	249	PKP	PKPdf	22 17 29.6	-0.1
	comp=Z,1.0nm,0.6s,baz=96,slow=1.6,SNR=11						

*SJA **02** 21:58:42.6±0.8, 24°.24S×67°.18W, h202km±5km, ML4.1, MW4.1*
*NEIC **02** 21:58:43.8±2.7, 24°.30S±0°.06×67°.1W±0°.1, h169km±8km, mb4.5/14, ML4.2(GUC), Error ellipse: s-maj=14.0km s-min=8.9km az=91.0*
*IDC **02** 21:58:44.1±1.1, 24°.17S×67°.00W, h169km±13km, mb3.7/9, mbtmp4.1/15, Error ellipse: s-maj=15.8km s-min=14.2km az=107.0*
*VAO **02** 21:58:45.8±0.4, 24°.01S×67°.09W, h189km±4km, mb4.2*
*GUC **02** 21:58:45.6±0.8, 24°.25S×67°.49W, h188km±7km, ML4.2*
ISC 02 21:58:44.2±0.6, 24°.20S±0°.04×67°.19W±0°.04, h182km±6km, n151, σ1°.43/178, mb4.1/15, 10C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.54	324	Pn	Pn	21 59 18.2	+1.0
AF01	San Pedro de A	1.54	324	*e*P	Pn	21 59 19.4	+2.2
AF01				*e*S	Sn	21 59 44.7	+2.1
AF01				IAML		21 59 46.1	
	comp=N,883nm,0.5s						
SLA	San Lorenzo	1.62	109	*e*P	Pn	21 59 18.8	+1.1
SLA				*e*S	Sn	21 59 43.9	+0.3
SLA	San Lorenzo	1.62	109	*e*P	Pn	21 59 18.5	+0.8
AZAP	Zapla	1.94	91	*e*P	Pn	21 59 21.5	+0.4
AZAP				*e*S	Sn	21 59 50.6	+1.0
AZAP				IAML		21 59 52.2	
	comp=Z,310nm,1.3s						
FSA	Cafayete	2.19	150	*e*P	Pn	21 59 23.9	+0.2
LVC	Limon Verde	2.24	315	Pn	Pn	21 59 25.4	+0.9
LVC	Limon Verde	2.24	315	*e*S	Sn	21 59 56.7	+0.9
LVC	Limon Verde	2.24	315	P	Pn	21 59 25.8	+1.2
	comp=Z,70nm,0.3s,baz=133,slow=8.3,SNR=7.8						
LVC				S	Sn	21 59 56.2	+0.4
	comp=Z,260nm,0.4s,baz=108,slow=19,SNR=15						
LVC	Limon Verde	2.24	315	*e*P	Pn	21 59 25.7	+1.2
LVC				*e*S	Sn	21 59 55.9	+0.1
LVC				IAML		21 59 57.6	
	comp=Z,2µm,0.6s						
LVC	Limon Verde	2.24	315	*e*P	Pn	21 59 25.8	+1.2
LVC				*e*S	Sn	21 59 55.8	+0.1
PB15	IPOC Station P	2.32	295	Pn	Pn	21 59 26.0	+0.7
PB15	IPOC Station P	2.32	295	*e*P	Pn	21 59 25.9	+0.7
PB15				*e*S	Sn	21 59 57.7	+0.7
PB15				IAML		21 59 59.8	
	comp=Z,2µm,0

PB10	**IPOC Station P**	**3.16 282**	*e*P	**Pn**	**21 59 35.3**	**+0.4**
PB10			*e*S	**Sn**	**22 00 12.4**	**-2.1**
PB10			IAML		22 00 16.4	
	comp=E,298nm,0.4s					
PB04	**IPOC Station P**	**3.30 304**	Pn	**Pn**	**21 59 36.6**	**-0.2**
PB04	**IPOC Station P**	**3.30 304**	*e*P	**Pn**	**21 59 37.3**	**+0.5**
PB04			*e*S	**Sn**	**22 00 17.3**	**-0.6**
PB04			IAML		22 00 20.8	
	comp=Z,564nm,0.7s					
PB04	**IPOC Station P**	**3.30 304⇓**	*e*P	**Pn**	**21 59 37.5**	**+0.6**
PB04			*e*S	**Sn**	**22 00 15.8**	**-2.1**
PB04			IAML		22 00 19.0	
	comp=E,563nm,0.7s					
AC01	**Pan de Azucar**	**3.65 237**	Pn	**Pn**	**21 59 39.8**	**-1.2**
AC01	**Pan de Azucar**	**3.65 237⇑**	*e*P	**Pn**	**21 59 39.9**	**-1.0**
AC06	**Mina Casimiro**	**4.25 222**	Pn	**Pn**	**21 59 46.8**	**-1.8**
AC06	**Mina Casimiro**	**4.25 222**	*e*P	**Pn**	**21 59 47.1**	**-1.4**
PATCX	**Punta Patache**	**4.34 320**	Pn	**Pn**	**21 59 49.0**	**-0.9**
PATCX	**Punta Patache**	**4.34 320**	*e*P	**Pn**	**21 59 50.3**	**+0.4**
PATCX			*e*S	Sn	22 00 26.7	-15
PATCX			IAML		22 00 51.1	
	comp=Z,142nm,0.5s					
GO03	**Copiap**	**4.35 218**	Pn	**Pn**	**21 59 48.0**	**-1.9**
GO03	**Copiap**	**4.35 218**	*e*P	**Pn**	**21 59 48.8**	**-1.1**
GO03			*e*S	**Sn**	**22 00 38.4**	**-3.1**
GO03	**Copiap**	**4.35 218**	*e*P	**Pn**	**21 59 48.7**	**-1.2**
TA01	**Diego Aracena**	**4.56 322**	Pn	**Pn**	**21 59 52.5**	**-0.1**
TA01	**Diego Aracena**	**4.56 322**	*e*P	**Pn**	**21 59 53.4**	**+0.8**
TA01			*e*S	**Sn**	**22 00 46.4**	**+0.2**
TA01			IAML		22 00 54.7	
	comp=Z,98nm,0.8s					
VCA	**Vinchina**	**4.61 191**	*e*P	**Pn**	**21 59 54.6**	**+1.4**
VCA			IAML		22 01 34.1	
	comp=Z,146nm,3.9s					
HMBC	**Humberstone**	**4.64 327**	Pn	**Pn**	**21 59 52.0**	**-1.8**
HMBC	**Humberstone**	**4.64 327**	*e*P	**Pn**	**21 59 53.0**	**-0.8**
HMBC			*e*S	**Sn**	**22 00 44.0**	**-4.3**
HMBC			IAML		22 00 58.4	
	comp=Z,119nm,0.4s					
GO01	**Chusmiza**	**4.88 337**	Pn	**Pn**	**21 59 58.1**	**+0.9**
GO01	**Chusmiza**	**4.88 337**	*e*P	**Pn**	**21 59 57.3**	**0.0**
GO01			*e*S	**Sn**	**22 00 49.0**	**-5.5**
PB11	**IPOC Station P**	**4.98 332**	Pn	**Pn**	**21 59 57.4**	**-0.8**
PB11	**IPOC Station P**	**4.98 332**	*e*P	**Pn**	**21 59 57.1**	**-1.1**
PB11			*e*S	**Sn**	**22 00 53.8**	**-2.4**
PB11			IAML		22 00 58.0	
	comp=Z,72nm,0.4s					
PB11	**IPOC Station P**	**4.98 332**	*e*P	**Pn**	**21 59 57.3**	**-0.9**
ACLC	**CERRO LA CRUZ**	**5.21 178**	*e*P	Pn	21 59 55.5	-5.6
AC04	**Llanos de Chal**	**5.30 220**	Pn	**Pn**	**21 59 59.5**	**-2.6**
AC05	**El Transito**	**5.38 210**	Pn	**Pn**	**22 00 01.8**	**-1.5**
LCO	**Las Campanas**	**5.73 213**	Pn	**Pn**	**22 00 05.5**	**-2.4**
CO01	**Juntas del Tor**	**6.31 204**	Pn	**Pn**	**22 00 14.7**	**-0.8**
GO04	**Tololo Observa**	**6.76 208**	Pn	**Pn**	**22 00 19.4**	**-2.0**
CO03	**El Pedregal**	**7.30 204**	Pn	**Pn**	**22 00 26.1**	**-2.3**
CO06	**Fray Jorge**	**7.56 211**	Pn	**Pn**	**22 00 27.6**	**-4.1**
CO02	**Combarbal**	**7.75 205**	Pn	**Pn**	**22 00 31.9**	**-2.4**
LPAZ	**La Paz**	**7.93 353**	P	**Pn**	**22 00 37.9**	**+0.7**
	comp=Z,7.0nm,0.4s,baz=170,slow=6.9,SNR=45					
LPAZ			S	**Sn**	**22 02 05.3**	**-1.3**
	comp=Z,4.4nm,0.6s,baz=120,slow=20,SNR=7.4					
LPAZ	**La Paz**	**7.93 353**	*e*P	**Pn**	**22 00 37.2**	**0.0**
VA03	**San Esteban**	**9.03 198**	Pn	**Pn**	**22 00 47.8**	**-3.3**
BBRB	**Robore, Bolivi**	**9.06 51**	*e*P	**Pn**	**22 00 48.3**	**-3.2**
CPUP	**Villa Florida**	**9.17 105**	P	**Pn**	**22 00 51.0**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=282,slow=6.1,SNR=2.0					
MURT	**Porto Murtinho**	**9.18 76**	*e*P	**Pn**	**22 00 52.5**	**-0.5**
BBSD	**Serra de San D**	**9.30 43**	*e*P	**Pn**	**22 00 53.5**	**-1.2**
BBLB	**La Banda, Boli**	**9.56 56**	*e*P	**Pn**	**22 00 55.7**	**-2.4**
BBLB			*e*S	**Sn**	**22 02 42.6**	**-2.1**
MT02	**Curacav**	**9.66 200**	Pn	**Pn**	**22 00 56.6**	**-2.7**
LMEL	**Las Melosas**	**9.96 195**	Pn	**Pn**	**22 01 03.1**	**-0.3**
SIV	**San Ignacio**	**9.98 36**	P	**Pn**	**22 01 01.5**	**-2.1**
	comp=Z,5.0nm,0.6s,baz=214,slow=13,SNR=30					
SIV			S	Sn	22 02 43.9	-11
	comp=Z,2.1nm,0.8s,baz=195,slow=16,SNR=2.7					
MT01	**Popeta**	**10.26 199**	Pn	**Pn**	**22 01 04.4**	**-2.7**
AQDB	**Aquidauana**	**11.26 73**	Pn	**Pn**	**22 01 19.8**	**-0.3**
AQDB	**Aquidauana**	**11.26 73**	*e*P	**Pn**	**22 01 21.1**	**+1.0**
PTLB	**Pontes e Lacer**	**11.54 42**	*e*P	**Pn**	**22 01 22.1**	**-1.6**
FRBT	**Francisco Belt**	**12.92 101**	*e*P	**P**	**22 01 42.9**	**-2.4**
CHAP	**Chapeco**	**13.07 106**	*e*P	**P**	**22 01 45.4**	**-1.5**
TRCB	**Terra Rica**	**13.43 87**	P	**P**	**22 01 50.8**	**-0.1**
TRCB	**Terra Rica**	**13.43 87**	*e*P	**P**	**22 01 48.5**	**-2.4**
SALV	**Santo Antonio**	**13.59 55**	*e*P	**Pn**	**22 01 49.1**	**-0.7**
PTGB	**Pitanga**	**13.78 95**	*e*P	**P**	**22 01 53.9**	**-1.0**
ITAB	**Concordia**	**13.90 106**	P	**P**	**22 01 55.9**	**-0.2**
PLTB	**Pedras Altas**	**14.16 125**		**P**	**22 01 56.9**	**-2.0**
TRQA	**Tornquist**	**14.51 163**	Pn	**Pn**	**22 01 59.6**	**-1.5**
NBRS	**Nobres**	**14.57 50**	*e*P	**P**	**22 02 02.2**	**-1.5**
LDASE	**Londrina, Braz**	**14.73 90**	*e*P	**Pn**	**22 02 02.9**	**-1.1**
PCMB	**Pacaembu**	**14.90 83**	*e*P	**P**	**22 02 08.1**	**+0.9**
SAML	**Samuel**	**15.64 15**	Pn	**Pn**	**22 02 14.2**	**-1.0**
SAML	**Samuel**	**15.64 15**	*e*P	**Pn**	**22 02 14.6**	**-0.6**
GO06	**Curarrehue**	**15.76 192**		**Pn**	**22 02 16.5**	**0.0**
GO06			IAmb	IAmb	22 02 19.3	
	comp=Z,11nm,0.8s					
DVLD	**Doverlandia**	**15.96 65**	*e*P	**Pn**	**22 02 17.6**	**-1.4**
PDRB	**Porto dos Gac**	**15.98 40**	*e*P	**Pn**	**22 02 18.4**	**-0.9**
ITRB	**Iturama**	**16.24 77**	*e*P	**P**	**22 02 23.4**	**+1.4**
LR04	**Corral**	**16.49 197**	P	**Pn**	**22 02 25.7**	**+0.5**
LR04			IAmb	IAmb	22 02 26.2	
	comp=Z,23nm,0.9s					
PLCA	**Paso Flores**	**16.72 189**	P	**Pn**	**22 02 28.3**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=12,slow=12,SNR=7.4					
ARAG	**Araguaiana, MT**	**16.73 62**	*e*P	**Pn**	**22 02 27.0**	**-1.3**
CLDB	**Colider**	**17.12 41**	*e*P	**P**	**22 02 31.6**	**-0.2**
PET01	**Itanhaem-SP**	**18.16 94**	*e*P	**Pn**	**22 02 42.8**	**-2.3**
VAO	**Valinhos**	**18.57 90**	P	**P**	**22 02 46.9**	**-0.7**
VAO	**Valinhos**	**18.57 90**	*e*P	**P**	**22 02 47.0**	**-0.6**
LL06	**Loncomilla**	**18.74 195**	P	**P**	**22 02 50.0**	**+0.8**
LL06			IAmb	IAmb	22 03 05.2	
	comp=Z,26nm,0.9s					
IPMB	**Ipameri, GO**	**18.75 74**	*e*P	**P**	**22 02 49.3**	**-0.3**
LL02	**Futaleuf**	**19.32 190**	P	**Pn**	**22 02 58.6**	**-0.1**
SNDB	**Serra Nova Dou**	**19.37 54**	*e*P	**P**	**22 02 55.7**	**-0.5**
PARB	**Paraibuna**	**19.75 92**	*e*P	**P**	**23 00 05.5**	**+0.1**
BDFB	**Brasilia**	**19.92 68**	P	**P**	**22 03 01.8**	**-0.5**
	comp=Z,18nm,0.6s,baz=244,slow=9.8,SNR=34					
BDFB	**Brasilia**	**19.92 68**	*e*P	**P**	**22 03 02.1**	**-0.1**
PMNB	**Patos De Minas**	**20.12 78**	*e*P	**P**	**22 03 03.7**	**-0.7**
NPGB	**Novo Progresso**	**20.49 36**	*e*P	**P**	**22 03 06.0**	**-2.2**
TEFE	**Tefe**	**20.72 7**	*e*P	**P**	**22 03 10.8**	**+0.2**
BSCB	**Bom Sucesso**	**20.93 86**	*e*P	**P**	**22 03 11.9**	**-1.1**
MACA	**Manacapuru-AM**	**21.84 18**	*e*P	**P**	**22 03 20.9**	**-1.5**
ITTB	**Itaituba**	**22.60 31**	*e*P	**P**	**22 03 28.6**	**-1.0**
DIAM	**Diamantina, MG**	**22.67 80**	*e*P	**P**	**22 03 30.2**	**-0.3**
JANB	**Januaria**	**23.36 71**	*e*P	**P**	**22 03 35.8**	**-0.7**
SDBA	**SAO DESIDERIO**	**24.15 65**	*e*P	**P**	**22 03 42.9**	**-0.8**
SMTB	**Santa Maria do**	**24.15 54**	*e*P	**P**	**22 03 43.7**	**0.0**
PRPB	**Parauapebas**	**24.49 46**	*e*P	**P**	**22 03 45.9**	**-0.9**
GO08	**Villa O'Higgin**	**24.58 189**	P	**P**	**22 03 49.7**	**+2.4**
GO08			IAmb	IAmb	22 03 51.9	
	comp=Z,7.4nm,0.6s					
ALF01	**Guarapari-ES**	**24.71 87**	*e*P	**P**	**22 03 48.7**	**0.0**
BSFB	**Barra de Sao F**	**25.06 83**	*e*P	**P**	**22 03 51.2**	**-0.7**
NAN01	**Guarapari, ES**	**26.01 81**	*e*P	**P**	**22 03 59.2**	**-1.3**
BOAV	**Boa Vista**	**27.22 15**	P	**P**	**22 04 11.8**	**+0.5**
MG05	**Puerto Natales**	**27.73 187**	P	**P**	**22 04 16.3**	**+0.8**
MG05			IAmb	IAmb	22 04 32.2	
	comp=Z,6.5nm,1.0s					
GDU01	**Guandu, BA**	**28.06 73**	*e*P	**P**	**22 04 17.4**	**-1.5**
MG03	**Isla Dawson**	**29.71 184**	P	**P**	**22 04 33.5**	**+0.6**
MG03			IAmb	IAmb	22 04 56.5	
	comp=Z,18nm,1.1s					
PAYG	**Puerto Ayora**	**32.37 313**	P	**P**	**22 04 55.1**	**-1.6**
LCR2	**La Lucha 2**	**37.53 332**	P	**P**	**22 05 42.6**	**+1.6**
LCR2			IAmb	IAmb	22 06 10.0	
	comp=Z,12nm,1.2s					
TEIG	**Tepich**	**48.71 333**	P	**P**	**22 07 12.1**	**+1.8**
	comp=Z,1.5nm,0.4s,baz=148,slow=19,SNR=1.9					
	comp=Z,1.5nm,0.4s					
VNA3	**Neumayer Olymp**	**57.02 161**	⇑P	**P**	**22 08 11.4**	**+0.8**
	comp=Z,2.6nm,0.7s					
VNA2	**Neumayer--Watz**	**57.58 160**	⇑P	**P**	**22 08 15.6**	**+1.1**
	comp=Z,3.0nm,0.5s,baz=283,slow=6.8					
SNAA	**Sanae**	**59.22 161**	P	**P**	**22 08 25.9**	**0.0**
SNAA	**Sanae**	**59.22 161**	⇑P	**P**	**22 08 26.4**	**+0.5**
	comp=Z,43nm,0.6s					
SNAA	**Sanae**	**59.22 161**	P	**P**	**22 08 26.3**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=297,slow=6.8,SNR=5.1					
	comp=Z,1.6nm,0.6s					
TROLL	**Troll, Antarti**	**60.93 161**	⇑P	**P**	**22 08 38.2**	**+0.6**
	comp=Z,146nm,0.5s					
TXAR	**Lajitas Array**	**63.74 325**	P	**P**	**22 08 58.8**	**+2.0**
	comp=Z,0.1nm,0.5s,baz=148,slow=8.6,SNR=2.5					
	comp=Z,0.1nm,0.5s					
QSPA	**South Pole Qui**	**66.00 180**	P	**P**	**22 09 12.5**	**+1.6**
QSPA			IAmb	IAmb	22 09 13.4	
	comp=Z,3.5nm,0.7s					
QSPA	**South Pole Qui**	**66.00 180**	P	**P**	**22 09 12.5**	**+1.6**
	comp=Z,2.9nm,0.5s,baz=166,slow=4.2,SNR=31					
	comp=Z,2.9nm,0.5s					
DBIC	**Dimbokro**	**68.03 72**	P	**P**	**22 09 24.8**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=243,slow=4.5,SNR=1.0					
	comp=Z,2.3nm,0.9s					
VNDA	**Vanda**	**74.47 190**	P	**P**	**22 10 04.1**	**+2.2**
	comp=Z,1.0nm,0.9s,baz=105,slow=12,SNR=5.2					
	comp=Z,1.0nm,0.9s					
TORD	**Torodi Ar. Bea**	**76.80 69**	P	**P**	**22 10 16.4**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=267,slow=5.9,SNR=12					
	comp=Z,1.6nm,0.9s					
BOSA	**Boshof**	**80.79 117**	P	**P**	**22 10 38.8**	**+0.7**
	comp=Z,9.3nm,1.2s,baz=263,slow=8.1,SNR=2.4					
	comp=Z,9.3nm,1.2s					
MAW	**Mawson**	**81.29 163**	P	**P**	**22 10 40.7**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=234,slow=12,SNR=2.1					
	comp=Z,1.0nm,0.4s					
MKAR	**Makanchi Array**	**146.79 40**	PKPbc	**PKPdf**	**22 18 04.5**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=300,slow=3.9,SNR=8.3					

*IDC **02** 22:02:29.6±1.1, 35°.85N×27°.04E, h0km, mb3.7/5, mbtmp3.6/9, ML3.5/4, MS2.8/1, Error ellipse: s-maj=24.2km s-min=18.3km az=145.0*
*ISK **02** 22:02:37.5, 35°.80N×27°.12E, h27km, ML3.4/29*
*ATH **02** 22:02:38.9, 35°.77N×27°.09E, h48km±4km, ML3.2/9, Error ellipse: s-maj=4.9km s-min=1.3km az=127.0*
*NIC **02** 22:02:38.3, 35°.39N×27°.42E, h46km±2km, Ml3.5/11*
*THE **02** 22:02:39.5, 35°.80N×27°.08E, h46km±2km, ML3.2/11, Error ellipse: s-maj=2.5km s-min=0.5km az=134.0*
*AFAD **02** 22:02:39.6±0.0, 35°.95N×27°.25E, h50km±3km, ML3.0*

ISC 02 22:02:37.0±0.8, **35°.71N**±0°.03×**27°.18E**±0°.02, **h65**km±6km, **n133**, σ1§**35**/181, **mb3.5**/5, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time (h m s)	Res (ISC)
KARP	**Karpathos**	**0.16**	**184**	Pg	**Pn**	**22 02 47.2**	**+0.3**
KARP	**Karpathos**	**0.16**	**184**	P	**Pn**	**22 02 47.5**	**+0.6**
KARP				S	**Sn**	**22 02 53.9**	**-0.2**
	19μm,0.2s						
KARP	**Karpathos**	**0.16**	**184**	P	**Pn**	**22 02 47.3**	**+0.3**
KARP	**Karpathos**	**0.16**	**184**	P	**Pn**	**22 02 47.2**	**+0.3**
KARP				S	**Sn**	**22 02 52.5**	**-1.6**
KARP				AML	AML	22 02 55.5	
	comp=N,44157μm,0.3s						
KARP				AML	AML	22 02 56.1	
	comp=E,32283μm,0.1s						
KARP	**Karpathos**	**0.16**	**184**	P	**Pn**	**22 02 47.1**	**+0.3**
KARP				S	**Sn**	**22 02 53.3**	**-0.8**
KARP				AML	AML	22 02 55.1	
	comp=E,44nm,0.3s						
KARP				AML	AML	22 02 55.7	
	comp=E,32nm,0.1s						
NISR	**Nisiros**	**0.90**	**358**	P	**Pn**	**22 02 54.0**	**0.0**
NISR				S	**Sn**	**22 03 05.1**	**-1.4**
	comp=E,1μm,0.4s						
NISR	**Nisiros**	**0.90**	**358**	P	**Pn**	**22 02 54.0**	**0.0**
NISR				S	**Sn**	**22 03 04.8**	**-1.7**
NISR				AML	AML	22 03 07.0	
	comp=N,2332μm,0.4s						
NISR				AML	AML	22 03 07.7	
	comp=E,3492μm,0.4s						
ARG	**Arkhangelos**	**0.92**	**57**	Pg	**Pn**	**22 02 55.5**	**+1.3**
ARG				Sg	**Sn**	**22 03 07.8**	**+0.8**
ARG	**Arkhangelos**	**0.92**	**57**	P	**Pn**	**22 02 55.5**	**+1.3**
ARG				S	**Sn**	**22 03 08.1**	**+1.1**
	comp=E,1μm,0.4s						
ARG	**Arkhangelos**	**0.92**	**57**	P	**Pn**	**22 02 55.5**	**+1.3**
ARG				S	**Sn**	**22 03 07.8**	**+0.8**
ARG				AML	AML	22 03 09.8	
	comp=N,1859μm,0.2s						
ARG				AML	AML	22 03 10.2	
	comp=E,3383μm,0.4s						
ARG	**Arkhangelos**	**0.92**	**57**	P	**Pn**	**22 02 55.5**	**+1.3**
ARG				AML	AML	22 03 09.3	
	comp=E,1.9nm,0.4s						
ARG				AML	AML	22 03 09.9	
	comp=E,3.4nm,0.4s						
ZKR	**Zakros**	**0.98**	**233**	Pg	**Pn**	**22 02 56.6**	**+1.5**
ZKR				Sg	**Sn**	**22 03 09.9**	**+1.5**
ZKR	**Zakros**	**0.98**	**233**	P	**Pn**	**22 02 56.6**	**+1.5**
ZKR				S	**Sn**	**22 03 10.4**	**+2.0**
	comp=E,1μm,0.5s						
ZKR	**Zakros**	**0.98**	**233**	P	**Pn**	**22 02 56.3**	**+1.2**
ZKR				S	**Sn**	**22 03 07.7**	**-0.7**
ZKR				AML	AML	22 03 11.3	
	comp=E,3273μm,0.4s						
ZKR				AML	AML	22 03 12.1	
	comp=N,2325μm,0.3s						
ZKR	**Zakros**	**0.98**	**233**	P	**Pn**	**22 02 56.2**	**+1.2**
ZKR				AML	AML	22 03 10.2	
	comp=N,3.0nm,0.4s						
ZKR				S	**Sn**	**22 03 10.3**	**+1.8**
ZKR				AML	AML	22 03 11.9	
	comp=N,2.1nm,0.7s						
YAZI	**Mula-Dat§a-**	**0.99**	**13**	P	**Pn**	**22 02 55.3**	**+0.2**
YAZI				S	**Sn**	**22 03 06.7**	**-1.9**
DAT	**Datca**	**1.07**	**18**	Pg	**Pn**	**22 02 56.6**	**+0.4**
DAT				Sg	**Sn**	**22 03 09.7**	**-0.8**
DAT	**Datca**	**1.07**	**18**	P	**Pn**	**22 02 56.6**	**+0.4**
DAT				S	**Sn**	**22 03 08.9**	**-1.6**
DAT				*i* AML	AML	22 03 11.0	
	comp=N,594nm,0.4s						
DAT				*i* AML	AML	22 03 11.0	
	comp=N,599nm,0.2s						
DAT	**Datca**	**1.07**	**18**	P	**Pn**	**22 02 56.6**	**+0.4**
DAT				S	**Sn**	**22 03 10.2**	**-0.3**
BODT	**Bodrum**	**1.35**	**5**	Pn	**Pn**	**22 03 00.1**	**+0.2**
BODT				Sn	**Sn**	**22 03 16.2**	**-0.8**
BODT	**Bodrum**	**1.35**	**5**	P	**Pn**	**22 03 00.2**	**+0.3**
BODT				S	**Sn**	**22 03 17.1**	**+0.1**
BDRM	**Kayabasi**	**1.37**	**9**	P	**Pn**	**22 02 59.5**	**-0.6**
BDRM				S	**Sn**	**22 03 15.2**	**-2.2**
TURN	**Turunc**	**1.37**	**39**	Pn	**Pn**	**22 03 01.0**	**+1.0**
TURN				Sn	**Sn**	**22 03 17.9**	**+0.6**
TURN	**Turunc**	**1.37**	**39**	P	**Pn**	**22 03 00.7**	**+0.7**
TURN				S	**Sn**	**22 03 16.3**	**-1.0**
TURN				*i* AML	AML	22 03 19.0	
	comp=N,250nm,0.3s						
TURN				*i* AML	AML	22 03 20.0	
	comp=N,288nm,0.4s						
YKAV	**Yalikavak-Bodr**	**1.41**	**3**	Pn	**Pn**	**22 03 00.9**	**+0.3**
SANT	**Santorini**	**1.54**	**296**	Pn	**Pn**	**22 03 02.6**	**+0.2**
SANT				Sn	**Sn**	**22 03 21.0**	**-0.5**
SANT	**Santorini**	**1.54**	**296**	P	**Pn**	**22 03 03.0**	**+0.6**
SANT				S	**Sn**	**22 03 20.1**	**-1.4**
	comp=N,692nm,0.3s						
SANT	**Santorini**	**1.54**	**296**	P	**Pn**	**22 03 03.2**	**+0.8**
SANT				S	**Sn**	**22 03 20.6**	**-0.9**
SANT				AML	AML	22 03 23.2	
	comp=E,1716μm,0.2s						
SANT				AML	AML	22 03 23.7	
	comp=N,747μm,0.2s						
THR8	**Santorini-Mono**	**1.54**	**297**	P	**Pn**	**22 03 03.5**	**+1.2**
THR8	**Santorini-Mono**	**1.54**	**297**	P	**Pn**	**22 03 03.0**	**+0.6**
THR6	**Thira Island,**	**1.58**	**295**	P	**Pn**	**22 03 03.2**	**+0.4**
THR6	**Thira Island,**	**1.58**	**295**	P	**Pn**	**22 03 03.2**	**+0.4**
THR2	**Thira island,**	**1.59**	**298**	P	**Pn**	**22 03 03.3**	**+0.3**
THR2	**Thira island,**	**1.59**	**298**	P	**Pn**	**22 03 03.5**	**+0.5**
THR3	**Thira Island,**	**1.60**	**296**	P	**Pn**	**22 03 03.3**	**+0.2**
THR3	**Thira Island,**	**1.60**	**296**	P	**Pn**	**22 03 03.3**	**+0.2**
SNT5	**Nea Kammeni, S**	**1.60**	**296**	P	**Pn**	**22 03 03.4**	**+0.3**
THR9	**Santorini-Faro**	**1.61**	**294**	P	**Pn**	**22 03 04.5**	**+1.3**
THR9	**Santorini-Faro**	**1.61**	**294**	P	**Pn**	**22 03 03.2**	**-0.1**
CMBO	**Columbo, Santo**	**1.62**	**298**	P	**Pn**	**22 03 03.7**	**+0.2**
CMBO				S	**Sn**	**22 03 21.7**	**-1.7**
	comp=N,908nm,0.6s						
CMBO	**Columbo, Santo**	**1.62**	**298**	P	**Pn**	**22 03 03.6**	**+0.2**
CMBO				S	**Sn**	**22 03 21.3**	**-2.1**
CMBO				AML	AML	22 03 23.2	
	comp=N,2709μm,0.4s						
CMBO				AML	AML	22 03 23.3	
	comp=E,1912μm,0.3s						
DALY	**Dalyan (Mula)**	**1.62**	**47**	Pn	**Pn**	**22 03 05.1**	**+1.6**
DALY				Sn	**Sn**	**22 03 24.7**	**+1.2**
THR5	**Thira Island,**	**1.64**	**296**	P	**Pn**	**22 03 04.0**	**+0.4**
THR5	**Thira Island,**	**1.64**	**296**	P	**Pn**	**22 03 04.1**	**+0.4**
MLSB	**Milas**	**1.65**	**17**	Pn	**Pn**	**22 03 04.5**	**+0.6**
MLSB				Sn	**Sn**	**22 03 23.9**	**-0.3**
DDIM	**Aydin, Didim**	**1.74**	**2**	P	**Pn**	**22 03 05.7**	**+0.6**
DDIM				S	**Sn**	**22 03 25.1**	**-1.2**
IACM	**Heraklion**	**1.77**	**257**	P	**Pn**	**22 03 05.8**	**+0.5**
IACM				S	**Sn**	**22 03 26.5**	**-0.3**
	comp=E,1μm,0.3s						
KSTL	**Kastelli Herak**	**1.77**	**257**	P	**Pn**	**22 03 03.4**	**-1.9**
KSTL				S	**Sn**	**22 03 21.0**	**-5.9**
KSTL				AML	AML	22 03 24.4	
	comp=E,344μm,0.3s						
KSTL				AML	AML	22 03 26.3	
	comp=N,699μm,0.3s						
MULA	**Mugla, Merkez-**	**1.80**	**31**	P	**Pn**	**22 03 08.5**	**+2.6**
MULA				S	**Sn**	**22 03 26.9**	**-0.9**
MULA				*i* AML	AML	22 03 30.0	
	comp=N,158nm,0.4s						
FETY	**Fethiye**	**1.80**	**59**	Pn	**Pn**	**22 03 06.8**	**+1.0**
IZZE	**Mula-Seydike**	**1.81**	**66**	P	**Pn**	**22 03 06.9**	**+0.9**
IZZE				S	**Sn**	**22 03 25.8**	**-2.2**
IZZE				*i* AML	AML	22 03 29.0	
	comp=N,219nm,0.3s						
IZZE				*i* AML	AML	22 03 37.0	
	comp=N,209nm,0.8s						
SABU	**Mula-Dalaman**	**1.82**	**52**	P	**Pn**	**22 03 07.8**	**+1.7**
SABU				S	**Sn**	**22 03 28.0**	**-0.3**
APE	**Apeiranthos**	**1.90**	**316**	Pn	**Pn**	**22 03 07.4**	**+0.2**
APE	**Apeiranthos**	**1.90**	**316**	P	**Pn**	**22 03 07.3**	**+0.1**
APE				S	**Sn**	**22 03 28.7**	**-1.4**
	comp=N,462nm,0.2s						
APE	**Apeiranthos**	**1.90**	**316**	P	**Pn**	**22 03 07.4**	**+0.2**
APE				S	**Sn**	**22 03 28.8**	**-1.4**
APE				AML	AML	22 03 29.3	
	comp=N,916μm,0.3s						
APE				AML	AML	22 03 29.4	
	comp=E,975μm,0.4s						
IDI	**Anoyia**	**1.91**	**258**	Pn	**Pn**	**22 03 08.2**	**+0.8**
IDI	**Anoyia**	**1.91**	**258**	P	**Pn**	**22 03 07.7**	**+0.3**
IDI				S	**Sn**	**22 03 29.8**	**-0.7**
	comp=E,205nm,0.3s						
IDI	**Anoyia**	**1.91**	**258**	Pn	**Pn**	**22 03 07.6**	**+0.3**
	comp=E,17nm,0.3s,baz=78,slow=17,SNR=220						
IDI				Sn	**Sn**	**22 03 30.0**	**-0.5**
	comp=E,9.4nm,0.3s,baz=146,slow=23,SNR=3.9						
IDI	**Anoyia**	**1.91**	**258**	P	**Pn**	**22 03 07.7**	**+0.3**
IDI				S	**Sn**	**22 03 29.1**	**-1.4**
IDI				AML	AML	22 03 31.9	
	comp=E,584μm,0.3s						
IDI				AML	AML	22 03 32.3	
	comp=N,342μm,0.2s						
GCAM	**G?zelcaml?**	**1.98**	**1**	Pn	**Pn**	**22 03 08.9**	**+0.6**
GCAM	**G?zelcaml?**	**1.98**	**1**	P	**Pn**	**22 03 08.9**	**+0.6**
SMG	**Samos**	**2.01**	**352**	P	**Pn**	**22 03 09.2**	**+0.5**
AKAS	**Kas**	**2.04**	**75**	Pn	**Pn**	**22 03 10.4**	**+1.2**
CAME	**Cameli-Denizli**	**2.11**	**54**	Pn	**Pn**	**22 03 11.8**	**+1.6**
DNZT	**Denizli-Tavas-**	**2.16**	**43**	P	**Pn**	**22 03 12.3**	**+1.5**
DNZT				S	**Sn**	**22 03 37.4**	**+0.8**
DNZT				*i* AML	AML	22 03 44.0	
	comp=N,127nm,0.6s						
TAVA	**DENIZLI_Tavas**	**2.24**	**38**	P	**Pn**	**22 03 13.0**	**+1.1**
TAVA				S	**Sn**	**22 03 39.4**	**+0.9**
TAVA				*i* AML	AML	22 03 46.0	
	comp=N,157nm,1.2s						
ESEN	**Aydn-Nazilli**	**2.29**	**24**	P	**Pn**	**22 03 13.8**	**+1.4**
ESEN				S	**Sn**	**22 03 37.5**	**-1.9**
ESEN				*i* AML	AML	22 03 43.0	
	comp=N,87nm,0.5s						

HNTI	**Hanita**	**7.11**	**109**	P		**Pn**	**22 04 18.5 +0.1**
MMA0	**Mount Meron ar**	**7.31**	**109**	P		**Pn**	**22 04 21.2 0.0**
MMAI	**Mount Meron Ar**	**7.31**	**109**	Pn		Pn	22 04 18.4 -2.8
	comp=N,2.6nm,0.3s,baz=302,slow=12,SNR=16						
MMAI				Sn		**Sn**	**22 05 38.1 -4.7**
	comp=N,5.8nm,0.3s,baz=293,slow=29,SNR=12						
	comp=N,1.1nm,0.2s						
GEM	**Giv'at Ha'Em**	**7.44**	**107**	P		**Pn**	**22 04 23.1 +0.2**
KZIT	**Kziot**	**7.71**	**126**	P		Pn	22 04 24.8 -1.8
QRNJ	**Al-Qirein**	**7.74**	**113**	P		Pn	22 04 31.3 +4.3
HMDT	**Nahal Hemdat**	**7.74**	**114**	P		**Pn**	**22 04 28.7 +1.7**
YTIR	**Yattir**	**7.92**	**121**	P		Pn	22 04 27.8 -1.7
DSI	**Dead Sea**	**7.99**	**119**	P		**Pn**	**22 04 30.2 -0.2**
MSBI	**Mazada**	**8.12**	**120**	P		**Pn**	**22 04 31.5 -0.6**
LISJ	**El Lisan**	**8.24**	**120**	P		**Pn**	**22 04 34.1 +0.3**
PRNI	**Paran**	**8.47**	**127**	P		Pn	22 04 34.2 -2.8
HRFI	**Mount Harif**	**8.70**	**128**	P		Pn	22 04 38.4 -1.7
MBRI	**Mt Berech**	**8.79**	**130**	P		Pn	22 04 39.9 -1.5
EIL	**Elat**	**8.90**	**130**	Pn		**Pn**	**22 04 41.7 -1.2**
	comp=N,0.4nm,0.3s,baz=321,slow=5.8,SNR=8.5						
EIL				Sn		Sn	22 06 13.1 -8.4
	comp=N,4.0nm,0.3s,baz=304,slow=15,SNR=13						
	comp=N,1.0nm,0.4s						
MLR	**Muntele Rosu**	**9.81**	**355**	Pn		Pn	22 04 50.4 -5.0
	comp=N,0.1nm,0.3s,baz=184,slow=14,SNR=1.5						
	comp=N,0.5nm,0.4s						
ESDC	**Sonseca Array**	**24.89**	**289**	P		**P**	**22 07 53.5 -0.2**
	comp=N,0.2nm,0.4s,baz=87,slow=9.0,SNR=2.4						
	comp=N,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**32.12**	**232**	P		**P**	**22 08 58.8 +0.6**
	comp=N,2.1nm,0.4s,baz=36,slow=9.4,SNR=5.1						
	comp=N,2.1nm,0.4s						
ARCES	**ARCESS Array B**	**33.89**	**359**	P		**P**	**22 09 12.0 -1.1**
	comp=N,0.5nm,0.7s,baz=176,slow=7.2,SNR=1.5						
	comp=N,0.5nm,0.7s						
BORG	**Borgarnes**	**40.87**	**331**	LR		LR	22 27 11.6
	comp=N,12nm,18.9s,baz=343,slow=36						
DBIC	**Dimbokro**	**41.21**	**233**	P		**P**	**22 10 15.7 +0.2**
	comp=N,10nm,1.3s,baz=49,slow=9.3,SNR=2.0						
	comp=N,10nm,1.3s						
MKAR	**Makanchi Array**	**42.09**	**57**	P		**P**	**22 10 24.2 +1.7**
	comp=N,0.1nm,0.3s,baz=270,slow=7.0,SNR=2.7						
	comp=N,0.1nm,0.3s						

AUST 02 22:33:50.8±0.3, 29°S±2°×12°0E±°, h10km, mb4.6/2, Mjma4.8/9, ML3.4/6, MLv4.3/8, Error ellipse: s-maj=5.7km s-min=4.7km az=61.1, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEEK	**Meekatharra**	**2.20**	**331**	P	Pn	22 34 28.1	+0.7
MEEK	**Meekatharra**	**2.20**	**331**	S	Sn	22 34 54.4	-0.3
KMBL	**Kambalda**	**3.32**	**148**	P	Pn	22 34 42.6	-0.1
KMBL	**Kambalda**	**3.32**	**148**	S	Sn	22 35 22.7	+0.5
MORW	**Morawa**	**3.35**	**261**	P	Pn	22 34 43.4	+0.2
MORW	**Morawa**	**3.35**	**261**	S	Sn	22 35 24.1	+0.9
BLDU	**Ballidu**	**3.39**	**232**	P	Pn	22 34 45.4	+1.6
BLDU	**Ballidu**	**3.39**	**232**	S	Sn	22 35 24.0	-0.2
NWAO	**Narrogin (SRO)**	**4.88**	**206**	P	Pn	22 35 06.4	+2.1
NWAO	**Narrogin (SRO)**	**4.88**	**206**	S	Sn	22 35 58.9	-2.0
RKGY	**Rocky Gully**	**6.50**	**201**	S	Sn	22 36 39.8	-0.8
RKGY	**Rocky Gully**	**6.50**	**201**	P	Pn	22 35 30.2	+3.8
PSAD1	**Pilbara Seismi**	**7.08**	**0**	P	Pn	22 35 33.7	-0.8
FORT	**Forrest**	**7.50**	**109**	P	Pn	22 35 41.6	+1.4
	comp=Z,3μmcomp=Z,359μmcomp=Z,40nm,2.6s,comp=Z,0.2nm						
FORT	**Forrest**	**7.50**	**109**	S	Sn	22 37 02.8	-2.5
GIRL	**Giralia**	**7.76**	**318**	P	Pn	22 35 44.1	+0.3
	comp=Z,229nm,1.8s,comp=Z,4μmcomp=Z,1440μmcomp=Z,0.7nm						
GIRL	**Giralia**	**7.76**	**318**	S	Sn	22 37 08.5	-3.2
WRKA	**Warakurna**	**8.35**	**67**	P	Pn	22 35 54.0	+2.1
WRKA	**Warakurna**	**8.35**	**67**	S	Sn	22 37 23.6	-2.7
MULG	**Mulgathing**	**12.53**	**101**	P	Pn	22 36 47.6	-1.5

WEL 02 22:36:54.6±0.3, 42°S±2°×17°4E±°, h10km, M2.8/18, ML3.0/24, MLv2.8/18, Error ellipse: s-maj=0.0km s-min=0.0km az=120.3, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**256**	P	Pb	22 37 01.6	-0.4
KHZ				S	Sb	22 37 06.1	-0.7
BSWZ	**Blackbirch Sta**	**0.63**	**357**	P	Pg	22 37 06.9	0.0
BSWZ				S	Sg	22 37 15.6	+0.4
CMWZ	**Cape Campbell**	**0.64**	**20**	P	Pn	22 37 08.8	-0.9
GVZ	**Greta Valley S**	**0.90**	**226**	P	Pn	22 37 13.4	0.0
GVZ				S	Sn	22 37 27.8	+1.3
TUWZ	**Tuamarina**	**0.92**	**1**	P	Pb	22 37 12.5	-0.1
TUWZ				S	Sb	22 37 25.1	+0.3
THZ	**Tophouse**	**0.96**	**307**	P	Pg	22 37 12.4	-0.7
THZ				S	Sg	22 37 24.3	-1.2
TCW	**Tory Channel**	**1.17**	**13**	P	Pb	22 37 15.8	-1.0
TCW				S	Sb	22 37 31.6	-0.4
NNZ	**Nelson**	**1.20**	**340**	P	Pb	22 37 16.6	-0.8
NNZ				S	Sn	22 37 33.9	+0.1
WEL	**Wellington**	**1.24**	**31**	P	Pn	22 37 16.0	-2.0
MRNZ	**Matariki Terra**	**1.29**	**317**	P	Pn	22 37 18.6	0.0
LTZ	**Lake Taylor**	**1.29**	**250**	P	Pn	22 37 18.6	-0.2
MSWZ	**Moikau Station**	**1.36**	**47**	P	Pn	22 37 18.7	-0.9
PAWZ	**Paruwai Farm**	**1.48**	**50**	P	Pn	22 37 20.2	-1.2
TKNZ	**Takaka Hill**	**1.50**	**331**	P	Pn	22 37 21.8	+0.2
OKCZ	**Okains Bay**	**1.51**	**204**	P	Pn	22 37 21.8	0.0
OKCZ				S	Sb	22 37 42.2	+0.1
DUWZ	**D'Urville Isla**	**1.54**	**360**	P	Pn	22 37 22.1	-0.1
DUWZ				S	Sg	22 37 44.4	+0.1
MQZ	**McQueen's Vall**	**1.65**	**214**	P	Pn	22 37 22.7	-0.8
MQZ				S	Sn	22 37 43.4	-1.3
KIW	**Kapiti Island**	**1.66**	**27**	P	Pn	22 37 23.6	-0.2
DSZ	**Denniston Nort**	**1.69**	**290**	P	Pb	22 37 25.1	-0.7
DSZ				S	Sn	22 37 46.5	+0.6
OGWZ	**Otaki Gorge**	**1.79**	**32**	P	Pn	22 37 24.7	-0.9
QRZ	**Quartz Range**	**1.84**	**325**	P	Pn	22 37 27.0	+0.7
QRZ				S	Sb	22 37 50.8	-0.8
INZ	**Inchbonnie**	**1.87**	**258**	P	Pn	22 37 26.9	+0.2
RACZ	**Rakaia**	**1.90**	**223**	P	Pn	22 37 26.3	-0.8
MHCZ	**Mount Hutt**	**2.09**	**235**	P	Pn	22 37 28.8	-1.0
RPZ	**Rata Peaks**	**2.51**	**236**	P	Pn	22 37 34.9	-0.6
RPZ				S	Sn	22 38 04.3	-1.8
PNHZ	**Pukenui**	**2.98**	**36**	P	Pn	22 37 42.6	+0.7
KRHZ	**Kereru**	**3.28**	**35**	P	Pn	22 37 45.5	-0.5
KWHZ	**Kaweka Forest**	**3.48**	**34**	P	Pn	22 37 48.7	-0.2
BKZ	**Black Stump Fm**	**3.73**	**32**	P	Pn	22 37 51.7	-0.6

*IDC **02** 22:41:35.8±1.2, 6°29S×143°01E, h0km, mb3.8/4, mbtmp3.8/7, ML3.7/2, MS3.3/1, Error ellipse: s-maj=38.4km s-min=24.5km az=94.0*

ISC 02 22:41:40.8±0.9, 6°5S±0°1×143°0E±0°1, h35km, n8, σ1§57/8, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.06**	**125**	Pn		**Pn**	**22 42 53.8 -0.4**
	7.2nm,0.3s,baz=300,slow=14,SNR=1.5						
WRA	**Warramunga Arr**	**15.77**	**211**	Pn		**Pn**	**22 45 20.6 +0.2**
	0.3nm,0.3s,baz=31,slow=13,SNR=8.8						
WRA				Sn		**Sn**	**22 48 11.8 -2.3**
	0.2nm,0.3s,baz=32,slow=22,SNR=5.1						
WRA				Lg		Lg	22 50 02.7
	baz=28,slow=28,SNR=2.8						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**19.16**	**206**	P		**Pn**	**22 46 04.0 +1.5**
	0.4nm,0.3s,baz=33,slow=11,SNR=13						
ASAR				Lg		Lg	22 51 53.2
	0.2nm,0.3s,baz=22,slow=30,SNR=3.1						
	1.5nm,0.5s						
USRK	**Ussuriysk Ar.**	**51.43**	**350**	LR		LR	23 10 25.8
	comp=Z,26nm,19.1s,baz=156,slow=34						
MKAR	**Makanchi Array**	**75.37**	**322**	P		**P**	**22 53 21.0 +0.1**
	0.2nm,0.4s,baz=100,slow=5.3,SNR=2.1						
	0.2nm,0.4s						
QSPA	**South Pole Qui**	**83.47**	**180**	P		**P**	**22 54 06.3 +1.6**
	1.0nm,0.9s,baz=312,slow=6.1,SNR=1.8						
	1.0nm,0.9s						
BVAR	**Borovoye Array**	**84.83**	**325**	P		**P**	**22 54 11.9 +0.1**
	1.3nm,0.6s,baz=112,slow=6.4,SNR=8.7						
	1.3nm,0.6s						
ILAR	**Eielson Array**	**87.54**	**24**	P		**P**	**22 54 23.4 -1.4**
	0.3nm,0.7s,baz=264,slow=4.5,SNR=3.2						
	0.3nm,0.7s						

IDC 02 23:07:11.1±1.6, 19°71S×177°02W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=53.0km s-min=35.1km az=175.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.60**	**256**	P	P	23 15 33.7	+0.2
	0.3nm,0.4s,baz=85,slow=8.0,SNR=4.2						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**45.63**	**261**	P	P	23 15 33.4	-0.3
	0.2nm,0.3s,baz=96,slow=7.5,SNR=8.6						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**70.35**	**180**	P	P	23 18 26.4	-0.2
	2.0nm,0.9s,baz=25,slow=19,SNR=8.4						
	2.0nm,0.9s						
TXAR	**Lajitas Array**	**85.86**	**57**	P	P	23 19 53.5	+0.3
	0.2nm,0.7s,baz=240,slow=7.2,SNR=2.2						
	0.2nm,0.7s						

*SJA **02** 23:14:56.7±0.7, 31°67S×72°25W, h13km±3km, ML4.0, MW4.0*
*IDC **02** 23:14:58.6±0.8, 31°72S×71°65W, h0km, mb4.1/9, mbtmp4.0/13, ML3.9/4, MS3.1/8, Error ellipse: s-maj=30.5km s-min=18.1km az=95.0*
*NEIC **02** 23:14:59.6±1.4, 31°66S±0°03×72°04W±0°06, h10km±1km, mb4.2/3, ML4.0(GUC), Error ellipse: s-maj=8.6km s-min=4.5km az=283.0*
*GUC **02** 23:15:00.7±0.8, 31°68S×72°01W, h31km±3km, ML4.0*

ISC 02 23:14:59.1±1.3, 31°67S±0°02×72°02W±0°04, h7km±8km, n114, σ1§30/144, mb4.1/11, MS3.1/5, 15C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.98**	**62**		**Pg**	**23 15 18.6**	**+0.6**
CO02				Sg	**Sb**	**23 15 31.6**	**-0.2**
CO02	**Combarbal**	**0.98**	**62**	*eP*	**Pg**	**23 15 18.6**	**+0.6**
CO02				*eS*	**Sb**	**23 15 32.0**	**+0.2**
CO02				IAML		23 15 33.3	
	comp=Z,4μm,0.7s						
CO02	**Combarbal**	**0.98**	**62**	⇓*iP*	**Pg**	**23 15 18.6**	**+0.6**
CO02				*i S*	**Sg**	**23 15 31.3**	**+0.5**
CO06	**Fray Jorge**	**1.04**	**18**		**Pb**	**23 15 19.4**	**-0.1**
CO06	**Fray Jorge**	**1.04**	**18**	⇑*iP*	**Pb**	**23 15 19.4**	**-0.1**
CO06				*i S*	**Sg**	**23 15 33.4**	**+0.8**
CO06				IAML		23 15 39.5	
	comp=E,2μm,0.5s						
VA06	**Catapilco**	**1.08**	**146**	Pn	**Pg**	**23 15 20.3**	**+0.4**
VA06				Sg	**Sg**	**23 15 34.6**	**+0.7**
VA06	**Catapilco**	**1.08**	**146**	⇓*iP*	**Pg**	**23 15 20.3**	**+0.4**
VA06				*i S*	**Sg**	**23 15 34.4**	**+0.5**
VA06				IAML		23 15 37.8	
	comp=N,6μm,0.4s						
VA01	**Torpederas**	**1.39**	**167**	Pn	**Pn**	**23 15 24.3**	**-0.7**
VA01	**Torpederas**	**1.39**	**167**	*eP*	**Pn**	**23 15 24.1**	**-0.8**
VA01	**Torpederas**	**1.39**	**167**	*eP*	**Pn**	**23 15 24.2**	**-0.8**
CO03	**El Pedregal**	**1.40**	**54**		**Pb**	**23 15 25.4**	**-0.3**
CO03	**El Pedregal**	**1.40**	**54**	*eP*	**Pb**	**23 15 25.4**	**-0.3**
CO03				*eS*	**Sb**	**23 15 43.7**	**-0.2**
CO03				IAML		23 15 48.6	
	comp=Z,1μm,0.8s						
CO03	**El Pedregal**	**1.40**	**54**	⇓*iP*	**Pb**	**23 15 25.4**	**-0.3**
CO03				*i S*	**Sn**	**23 15 43.4**	**-0.7**
CO03				IAML		23 15 48.3	
	comp=E,3μm,0.3s						
ROCH	**El Roble**	**1.56**	**147**	*eP*	**Pn**	**23 15 27.5**	**0.0**
ROCH				*i S*	**Sn**	**23 15 47.4**	**-0.7**
ROCH				IAML		23 15 56.2	
	comp=N,4μm,0.6s						
ROC1	**El Roble**	**1.56**	**147**	*eP*	**Pn**	**23 15 27.6**	**+0.1**
ROC1				*eS*	**Sg**	**23 15 49.5**	**+0.2**
VA03	**San Esteban**	**1.66**	**132**		**Pb**	**23 15 29.4**	**-0.6**
VA03	**San Esteban**	**1.66**	**132**	*eP*	**Pb**	**23 15 29.4**	**-0.6**
VA03				*eS*	**Sg**	**23 15 54.0**	**+1.6**
VA03				IAML		23 15 59.5	
	comp=Z,2μm,0.7s						
VA03	**San Esteban**	**1.66**	**132**	⇑*iP*	**Pb**	**23 15 29.5**	**-0.6**
VA03				*i S*	**Sb**	**23 15 50.8**	**-0.4**
VA03				IAML		23 15 56.0	
	comp=N,4μm,0.7s						
MT02	**Curacav**	**1.75**	**155**		**Pn**	**23 15 30.0**	**0.0**
MT02	**Curacav**	**1.75**	**155**	*eP*	Pn	23 15 17.8	-12
MT02				*eS*	**Sn**	**23 15 48.5**	**-4.2**
MT02				IAML		23 15 58.9	
	comp=Z,792nm,0.5s						
MT02	**Curacav**	**1.75**	**155**	*eP*	**Pn**	**23 15 30.2**	**+0.2**
MT02				IAML		23 16 01.6	
	comp=N,549nm,0.4s						
GO04	**Tololo Observa**	**1.82**	**35**	Pn	**Pn**	**23 15 30.7**	**-0.4**
GO04	**Tololo Observa**	**1.82**	**35**	*eP*	**Pb**	**23 15 32.2**	**-0.7**
GO04				*eS*	**Sg**	**23 15 57.5**	**-0.1**
GO04	**Tololo Observa**	**1.82**	**35**	*eP*	**Pb**	**23 15 31.9**	**-1.0**
GO04				*i S*	**Sb**	**23 15 55.7**	**-0.3**
GO04				IAML		23 16 03.8	
	comp=E,7μm,0.5s						
PEL	**Peldehue**	**1.85**	**143**	*eP*	**Pn**	**23 15 32.2**	**+0.8**
PEL				*eS*	**Sg**	**23 15 59.9**	**+1.2**
PEL	**Peldehue**	**1.85**	**143**	⇑*iP*	**Pn**	**23 15 32.0**	**+0.5**
PEL				*i S*	**Sb**	**23 15 55.7**	**-1.2**
PEL				IAML		23 16 02.9	
	comp=E,2μm,0.3s						
CO05	**La Serena**	**1.86**	**21**		**Pn**	**23 15 31.7**	**+0.2**
VA05	**Santo Domingo**	**2.02**	**170**		**Pn**	**23 15 33.2**	**-0.3**
VA05	**Santo Domingo**	**2.02**	**170**	⇑*iP*	**Pn**	**23 15 33.2**	**-0.3**
VA05				*i S*	**Sn**	**23 15 59.4**	**+0.3**
VA05				IAML		23 16 13.9	
	comp=E,2μm,0.2s						
MT05	**Renca**	**2.03**	**148**		**Pn**	**23 15 34.8**	**+0.9**
MT05	**Renca**	**2.03**	**148**	*eP*	**Pb**	**23 15 35.6**	**-0.8**
MT05				*eS*	**Sg**	**23 16 07.0**	**+2.6**
MT05				IAML		23 16 09.3	
	comp=Z,817nm,0.4s						
MT10	**Hacienda Santa**	**2.03**	**142**	⇑*iP*	**Pn**	**23 15 34.7**	**+0.8**
MT10				*i S*	**Sb**	**23 16 00.5**	**-1.6**
MT10				IAML		23 16 08.5	
	comp=N,5μm,0.5s						
MT14	**Cerro Calıın**	**2.13**	**144**	⇑*iP*	**Pn**	**23 15 36.0**	**+0.8**
MT14				*i S*	**Sb**	**23 16 03.4**	**-1.5**
MT14				IAML		23 16 11.2	
	comp=E,2μm,0.6s						
MT16	**CCHEN**	**2.16**	**145**		**Pn**	**23 15 36.5**	**+0.8**
MT16	**CCHEN**	**2.16**	**145**	⇑*iP*	**Pn**	**23 15 36.5**	**+0.8**
MT16				*i S*	**Sn**	**23 16 03.3**	**+0.5**
MT16				IAML		23 16 12.0	
	comp=N,656nm,0.6s						
MT03	**Universidad Ad**	**2.22**	**146**		**Pn**	**23 15 37.2**	**+0.6**
MT03	**Universidad Ad**	**2.22**	**146**	*eP*	**Pn**	**23 15 37.4**	**+0.8**
MT03				*eS*	**Sb**	**23 16 07.6**	**+0.1**
MT03				IAML		23 16 16.8	
	comp=Z,758nm,0.3s						
MT03	**Universidad Ad**	**2.22**	**146**	⇑*iP*	**Pn**	**23 15 37.3**	**+0.8**
MT03				IAML		23 16 18.6	
	comp=E,2μm,0.5s						
MT09	**Talagante**	**2.28**	**158**		**Pn**	**23 15 38.0**	**+0.7**
MT09	**Talagante**	**2.28**	**158**	⇑*iP*	**Pn**	**23 15 38.1**	**+0.8**
MT09				IAML		23 16 21.7	
	comp=N,1μm,0.4s						
MT01	**Popeta**	**2.29**	**164**		**Pn**	**23 15 37.2**	**-0.1**
MT01	**Popeta**	**2.29**	**164**	*eP*	**Pn**	**23 15 36.8**	**-0.5**
MT01				*eS*	**Sn**	**23 16 06.7**	**+1.0**
MT01				IAML		23 16 18.1	
	comp=Z,475nm,0.4s						
RTLS	**Leoncito**	**2.32**	**94**	*eP*	**Pb**	**23 15 41.1**	**-0.4**
RTLS				*eS*	**Sg**	**23 16 12.9**	**-0.8**
RTLS				IAML		23 16 13.5	
	comp=Z,3μm,0.7s						
CO01	**Juntas del Tor**	**2.36**	**45**	Pn	**Pn**	**23 15 39.0**	**+0.5**
CO01	**Juntas del Tor**	**2.36**	**45**	*eP*	**Pn**	**23 15 39.8**	**+1.3**
CO01				*eS*	**Sn**	**23 16 07.5**	**-0.4**
CO01				IAML		23 16 16.4	
	comp=Z,731nm,0.5s						
MT12	**Pirque**	**2.41**	**149**	⇑*iP*	**Pn**	**23 15 39.8**	**+0.8**
MT12				IAML		23 16 24.9	
	comp=N,2μm,0.6s						
MT13	**San Alfonso**	**2.54**	**145**		**Pn**	**23 15 41.8**	**+1.0**
MT13	**San Alfonso**	**2.54**	**145**	⇑*iP*	**Pn**	**23 15 41.9**	**+1.1**
MT13				IAML		23 16 21.9	
	comp=E,1μm,0.3s						
DOCA	**Reserva Natura**	**2.61**	**75**	*eP*	**Pb**	**23 15 44.7**	**-1.8**
DOCA				*eS*	**Sb**	**23 16 17.6**	**-1.3**
DOCA				IAML		23 16 23.0	
	comp=Z,2μm,1.1s						
AROD	**Rodeo**	**2.65**	**56**	*eP*	**Pb**	**23 15 45.6**	**-1.5**
AROD				*eS*	**Sg**	**23 16 22.7**	**-1.5**
LMEL	**Las Melosas**	**2.66**	**145**		**Pn**	**23 15 43.6**	**+1.1**
ACCO	**Cerro Coronel**	**2.75**	**68**	*eP*	**Pb**	**23 15 47.2**	**-1.6**
ACCO				*eS*	**Sb**	**23 16 22.2**	**-0.7**
BO01	**Tunca**	**2.83**	**164**		**Pn**	**23 15 44.9**	**+0.1**
BO01	**Tunca**	**2.83**	**164**	*eP*	**Pn**	**23 15 44.4**	**-0.4**
BO01				*eS*	**Sb**	**23 16 25.0**	**+0.1**
BO01				IAML		23 16 33.4	
	comp=Z,388nm,1.1s						
ZON	**Zonda**	**2.85**	**88**		**Pn**	**23 15 46.2**	**+1.1**
ZON	**Zonda**	**2.85**	**88**	*eP*	**Pb**	**23 15 49.4**	**-1.0**
ZON				*eS*	**Sn**	**23 16 21.8**	**+2.1**
ZON				IAML		23 16 40.9	
	comp=Z,396nm,1.7s						
LCO	**Las Campanas**	**2.88**	**24**		**Pn**	**23 15 45.5**	**-0.2**
LCO	**Las Campanas**	**2.88**	**24**	*eP*	**Pn**	**23 15 46.4**	**+0.7**
LCO				*eS*	**Sb**	**23 16 23.3**	**-3.3**
LCO				IAML		23 16 32.2	
	comp=Z,362nm,0.6s						
ACDV	**Cuesta del Vie**	**2.90**	**60**	*eP*	**Pn**	**23 15 47.9**	**+2.0**
ACDV				*eS*	**Sb**	**23 16 27.4**	**+0.3**
ACDV				IAML		23 16 39.8	
	comp=Z,321nm,0.7s						
RTCV	**Cerro Valdivia**	**2.97**	**95**	*eP*	**Pb**	**23 15 52.3**	**-0.1**
AC05	**El Transito**	**3.20**	**29**		**Pn**	**23 15 50.2**	**+0.2**
BO02	**Sierra Bellavi**	**3.29**	**162**		**Pn**	**23 15 51.4**	**+0.3**
BO02	**Sierra Bellavi**	**3.29**	**162**	*eP*	Pn	23 15 40.9	-10
BO02				*eS*	**Sb**	**23 16 36.1**	**-2.0**
BO02				IAML		23 16 46.3	
	comp=Z,467nm,0.5s						
GO05	**Huala**	**3.34**	**179**		**Pn**	**23 15 50.9**	**-0.9**
GO05	**Huala**	**3.34**	**179**	*eP*	**Pn**	**23 15 50.2**	**-1.5**
GO05				*eS*	**Sg**	**23 16 48.8**	**+2.5**
AC04	**Llanos de Chal**	**3.54**	**14**		**Pn**	**23 15 54.0**	**-0.6**
AC04	**Llanos de Chal**	**3.54**	**14**	*eP*	**Pn**	**23 15 53.8**	**-0.8**
AC04				*eS*	**Sb**	**23 16 48.1**	**+2.6**
AC04				IAML		23 16 56.1	
	comp=Z,220nm,0.8s						
AGUA	**GUANDACOL**	**3.74**	**55**	*eP*	**Pn**	**23 16 01.2**	**+3.9**
AGUA				*eS*	**Sb**	**23 16 47.8**	**-3.3**
AGUA				IAML		23 17 02.0	
	comp=Z,420nm,0.7s						
ML02	**Panimavida**	**4.12**	**173**		**Pn**	**23 16 01.2**	**-1.3**
RFA	**San Rafael**	**4.29**	**137**	*eP*	**Pn**	**23 16 07.4**	**+2.4**
RFA				*eS*	**Sg**	**23 17 12.3**	**-4.8**
RFA				IAML		23 17 18.6	
	comp=Z,80nm,1.1s						
GO03	**Copiap**	**4.34**	**21**		**Pn**	**23 16 05.2**	**-0.5**
GO03	**Copiap**	**4.34**	**21**	*eP*	**Pn**	**23 16 07.2**	**+1.5**
GO03				*eS*	**Sb**	**23 17 07.5**	**-1.1**
VCA	**Vinchina**	**4.41**	**49**	*eP*	**Pn**	**23 16 05.4**	**-1.2**
VCA				*eS*	**Sb**	**23 17 10.0**	**-0.3**
AC06	**Mina Casimiro**	**4.53**	**19**		**Pn**	**23 16 08.6**	**+0.4**
ACHE	**Chepes**	**4.60**	**85**	*eS*	**Sb**	**23 17 14.8**	**-1.2**
ACLC	**CERRO LA CRUZ**	**4.91**	**64**	*eP*	**Pn**	**23 16 15.6**	**+2.1**
H03N1	**Juan Fernandez**	**6.08**	**251**	T	T	23 23 11.5	
	baz=79,slow=72,SNR=328						
H03N3	**Juan Fernandez**	**6.10**	**251**	T	T	23 23 19.5	
	baz=79,slow=72,SNR=324						
H03N2	**Juan Fernandez**	**6.10**	**251**	T	T	23 23 05.2	
	baz=79,slow=72,SNR=287						
GO06	**Curarrehue**	**7.91**	**177**	Pn	**Pn**	**23 16 54.0**	**-0.7**
LR04	**Corral**	**8.28**	**188**	Pn	**Pn**	**23 16 58.6**	**-1.0**
PLCA	**Paso Flores**	**9.13**	**173**	Pn	**Pn**	**23 17 11.6**	**+0.3**
PLCA	**Paso Flores**	**9.13**	**173**	Pn	**Pn**	**23 17 11.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=339,slow=12,SNR=25						
PLCA				LR	LR	23 21 04.9	
	comp=Z,90nm,21.0s,baz=356,slow=41						
	comp=Z,2.7nm,0.4s						
TRQA	**Tornquist**	**10.42**	**130**	Pn	**Pn**	**23 17 29.8**	**+0.8**
CPUP	**Villa Florida**	**13.90**	**71**	Pn	**Pn**	**23 18 15.0**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=242,slow=15,SNR=1.4						
CPUP				Sn	**Sn**	**23 20 53.8**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=204,slow=20,SNR=1.5						
CPUP				LR	LR	23 24 02.5	
	comp=Z,105nm,18.1s,baz=226,slow=40						
	comp=Z,1.3nm,0.9s						
LPAZ	**La Paz**	**15.71**	**14**	Pn	**Pn**	**23 18 42.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=192,slow=20,SNR=3.1						
	comp=Z,1.1nm,0.8s						
SIV	**San Ignacio**	**18.52**	**35**	P	**P**	**23 19 15.6**	**-0.6**
	baz=202,slow=19,SNR=3.8						

ellipse: s-maj=1.6km s-min=0.9km az=102.0
*NEIC **02** 23:25:30.1±2.6, 37.°11N±0.°04×28.°27E±0.°05, h7km±6km, mb4.2/2, Error ellipse: s-maj=6.2km s-min=4.6km az=142.0*

ISC 02 23:25:28.4±0.9, **37.°20N**±0.°02×**28.°32E**±0.°02, **h5**km±7km, **n140**, σ1°00/177, **mb4.0**/4, **MS2.6**/3, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.06**	**2**	P	**Pg**	**23 25 30.0**	**0.0**
TURN	**Turunc**	**0.43**	**188**	Pg	**Pg**	**23 25 36.5**	**-0.2**
TURN				Sg	**Sb**	**23 25 43.6**	**-1.5**
TURN	**Turunc**	**0.43**	**188**	P	**Pg**	**23 25 36.5**	**-0.2**
TURN				S	**Sg**	**23 25 42.0**	**-0.3**
MLSB	**Milas**	**0.44**	**283**	Pg	**Pg**	**23 25 37.5**	**+0.5**
MLSB				Sg	**Sg**	**23 25 43.2**	**+0.4**
DALY	**Dalyan (Mula)**	**0.47**	**145**	Pg	**Pg**	**23 25 37.0**	**-0.4**
DALY				Sg	**Sb**	**23 25 44.9**	**-1.4**
TAVA	**DENIZLI_Tavas**	**0.54**	**61**	P	**Pg**	**23 25 38.3**	**-0.6**
TAVA				S	**Sg**	**23 25 45.0**	**-1.0**
DNZT	**Denizli-Tavas-**	**0.57**	**82**	P	**Pg**	**23 25 39.1**	**-0.3**
DNZT				S	**Sg**	**23 25 45.4**	**-1.4**
ESEN	**Aydn-Nazilli**	**0.60**	**2**	P	**Pg**	**23 25 39.6**	**-0.3**
ESEN				S	**Sg**	**23 25 47.0**	**-0.8**
SABU	**Mula-Dalaman**	**0.64**	**126**	P	**Pg**	**23 25 40.1**	**-0.6**
SABU				S	**Sg**	**23 25 49.2**	**+0.1**
BDRM	**Kayabasi**	**0.71**	**259**	P	**Pg**	**23 25 41.9**	**-0.2**
DNIZ	**Denizli-Tavas-**	**0.71**	**53**	P	**Pg**	**23 25 41.3**	**-0.8**
DNIZ				S	**Sg**	**23 25 49.3**	**-2.1**
DAT	**Datca**	**0.76**	**232**	Pg	**Pg**	**23 25 42.6**	**-0.4**
DAT	**Datca**	**0.76**	**232**	P	**Pg**	**23 25 42.1**	**-0.8**
DAT	**Datca**	**0.76**	**232**	P	**Pg**	**23 25 42.5**	**-0.4**
DAT				S	**Sb**	**23 25 55.6**	**+0.9**
NAZL	**Nazilli-Aydin**	**0.76**	**358**	Pg	**Pg**	**23 25 42.9**	**-0.2**
CAEL	**Denizli, Çamel**	**0.80**	**95**	P	**Pg**	**23 25 44.0**	**+0.1**
FETI	**Fethiye-Mugla**	**0.80**	**129**	Pg	**Pb**	**23 25 44.1**	**-0.7**
BODT	**Bodrum**	**0.82**	**261**	Pg	**Pg**	**23 25 43.9**	**-0.2**
BODT	**Bodrum**	**0.82**	**261**	P	**Pg**	**23 25 43.8**	**-0.3**
BODT				S	**Sg**	**23 25 55.4**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.82**	**336**	Pg	**Pg**	**23 25 44.1**	**-0.1**
CAME	**Cameli-Denizli**	**0.83**	**108**	Pg	**Pb**	**23 25 44.6**	**-0.8**
APMY	**Acipayam-Deniz**	**0.83**	**71**	Pg	**Pg**	**23 25 43.9**	**-0.5**
FETY	**Fethiye**	**0.83**	**132**	Pg	**Pb**	**23 25 44.7**	**-0.7**
YKAV	**Yalikavak-Bodr**	**0.83**	**265**	Pg	**Pg**	**23 25 44.2**	**-0.2**
YAZI	**Mula-Datşa-**	**0.86**	**234**	P	**Pg**	**23 25 44.8**	**-0.3**
YAZI				S	**Sb**	**23 25 58.1**	**+0.4**
DDIM	**Aydin, Didim**	**0.90**	**287**	P	**Pg**	**23 25 45.8**	**+0.1**
IZMR	**zmir-demi**	**0.98**	**343**	P	**Pg**	**23 25 46.7**	**-0.5**
IZMR				S	**Sg**	**23 25 59.2**	**-0.8**
ARG	**Arkhangelos**	**0.99**	**189**	Pg	**Pb**	**23 25 47.7**	**-0.4**
ARG	**Arkhangelos**	**0.99**	**189**		**Pg**	**23 25 47.0**	**-0.5**
ARG				Sn	**Sn**	**23 26 02.6**	**-0.8**
ARG	**Arkhangelos**	**0.99**	**189**	P	**Pg**	**23 25 46.7**	**-0.8**
ARG				S	**Sn**	**23 26 03.5**	**+0.1**
	3μm,0.6s						
ARG	**Arkhangelos**	**0.99**	**189**	P	**Pg**	**23 25 47.0**	**-0.5**
ARG				S	**Sb**	**23 26 00.9**	**-0.5**
ARG				AML	AML	23 26 05.7	
	comp=N,6578μm,0.8s						
ARG				AML	AML	23 26 07.8	
	comp=E,5337μm,0.4s						
GOLH	**Golhisar**	**0.99**	**87**	P	**Pg**	**23 25 47.5**	**0.0**
GCAM	**G?zelcaml?**	**1.00**	**300**	Pg	**Pg**	**23 25 47.2**	**-0.4**
GCAM	**G?zelcaml?**	**1.00**	**300**	P	**Pg**	**23 25 47.4**	**-0.2**
KIRA	**zmir-Kiraz**	**1.00**	**4**	P	**Pg**	**23 25 47.1**	**-0.5**
IZZE	**Mula-Seydike**	**1.05**	**136**	P	**Pg**	**23 25 47.0**	**-1.6**
IZZE				S	**Sb**	**23 26 03.2**	**0.0**
KNIK	**Mula-Seydike**	**1.06**	**109**	P	**Pg**	**23 25 48.5**	**-0.4**
ODEM	**Odemis-Izmir**	**1.09**	**350**	Pn	**Pg**	**23 25 48.9**	**-0.5**
KLNA	**Kalymnos**	**1.10**	**258**	P	**Pg**	**23 25 49.5**	**-0.1**
KLNA				S	**Sb**	**23 26 04.6**	**0.0**
NISR	**Nisiros**	**1.12**	**239**	P	**Pg**	**23 25 49.8**	**-0.1**
NISR				S	**Sn**	**23 26 06.3**	**-0.2**
	comp=E,3μm,0.7s						
NISR	**Nisiros**	**1.12**	**239**	P	**Pg**	**23 25 49.8**	**-0.1**
NISR				S	**Sb**	**23 26 05.0**	**-0.1**
NISR				AML	AML	23 26 10.4	
	comp=E,8374μm,0.8s						
NISR				AML	AML	23 26 11.9	
	comp=N,3278μm,0.5s						
INCE	**Denizli-Bozkur**	**1.12**	**63**	P	**Pg**	**23 25 49.1**	**-0.9**
INCE				S	**Sb**	**23 26 05.8**	**+0.5**
SMG	**Samos**	**1.28**	**294**	P	**Pn**	**23 25 52.3**	**-0.7**
SMG				S	**Sb**	**23 26 09.8**	**-0.1**
	comp=N,1μm,0.4s						
SMG	**Samos**	**1.28**	**294**	P	**Pn**	**23 25 52.5**	**-0.5**
SMG				S	**Sb**	**23 26 09.6**	**-0.3**
SMG				AML	AML	23 26 15.8	
	comp=N,2160μm,0.3s						
SMG				AML	AML	23 26 16.0	
	comp=E,2080μm,0.3s						
KULA	**Kula-Manisa**	**1.34**	**12**	Pn	**Pn**	**23 25 53.1**	**-0.8**
KULA	**Kula-Manisa**	**1.34**	**12**	P	**Pn**	**23 25 53.2**	**-0.7**
KULA				S	**Sb**	**23 26 11.4**	**-0.2**
ELL	**Elmali**	**1.35**	**109**	Pn	**Pg**	**23 25 54.2**	**-0.1**
ELL	**Elmali**	**1.35**	**109**		**Pg**	**23 25 54.1**	**-0.3**
ELL				Sn	**Sn**	**23 26 16.2**	**+3.8**
AKAS	**Kas**	**1.41**	**133**	Pn	**Pg**	**23 25 55.2**	**-0.3**
AKAS	**Kas**	**1.41**	**133**	S	**Sg**	**23 26 16.8**	**+3.0**
GMLD	**Gumuldur**	**1.42**	**309**	Pn	**Pn**	**23 25 54.9**	**+0.1**
BRDR	**BURDUR-Merkez**	**1.47**	**70**	P	**Pb**	**23 25 56.3**	**0.0**
KHL	**Karahalli**	**1.47**	**40**	Pn	**Pn**	**23 25 55.8**	**+0.1**
PASA	**Karahalli, USA**	**1.48**	**39**	P	**Pn**	**23 25 55.1**	**-0.6**
GOMA	**Golmarmara-Man**	**1.54**	**348**	Pn	**Pn**	**23 25 56.5**	**0.0**
BASM	**Basmaki-Afyon**	**1.55**	**62**	Pn	**Pn**	**23 25 56.7**	**-0.1**
BLCB	**Balcova**	**1.56**	**320**	Pn	**Pn**	**23 25 56.6**	**-0.1**
BLCB	**Balcova**	**1.56**	**320**	P	**Pn**	**23 25 56.1**	**-0.6**
BLCB				S	**Sn**	**23 26 16.6**	**-0.7**
USAK	**Uak-Merkez**	**1.61**	**20**	P	**Pn**	**23 25 57.4**	**-0.2**
KORT	**Korkueli**	**1.64**	**96**	Pn	**Pg**	**23 25 59.3**	**-0.5**
KORT	**Korkueli**	**1.64**	**96**	P	**Pg**	**23 25 59.7**	**-0.1**
KORT				S	**Sg**	**23 26 21.9**	**+0.9**
AKS	**Akhisar**	**1.72**	**347**	Pn	**Pn**	**23 25 58.9**	**-0.2**
URLA	**Izmir**	**1.79**	**311**	Pn	**Pn**	**23 25 59.5**	**-0.5**
BCK	**Bucak**	**1.83**	**81**	Pn	**Pn**	**23 26 01.2**	**+0.6**
ANTB	**Antalya**	**1.89**	**98**	Pn	**Pb**	**23 26 02.1**	**-1.3**
KARP	**Karpathos**	**1.89**	**210**	Pn	**Pn**	**23 26 01.7**	**+0.3**
KARP	**Karpathos**	**1.89**	**210**		**Pn**	**23 26 01.4**	**0.0**
KARP				Sn	**Sn**	**23 26 25.4**	**-0.2**
KARP	**Karpathos**	**1.89**	**210**	P	**Pn**	**23 26 01.4**	**0.0**
KARP				S	**Sn**	**23 26 25.2**	**-0.5**
	comp=E,890nm,0.6s						
KARP	**Karpathos**	**1.89**	**210**	P	**Pn**	**23 26 01.6**	**+0.2**
KARP	**Karpathos**	**1.89**	**210**	P	**Pn**	**23 26 00.7**	**-0.7**
KARP				S	**Sn**	**23 26 23.5**	**-2.2**
KARP				AML	AML	23 26 31.1	
	comp=E,1368μm,0.3s						
KARP				AML	AML	23 26 33.7	
	comp=N,1770μm,0.3s						
SIMA	**Simav-Kutahya**	**1.95**	**15**	Pn	**Pn**	**23 26 02.6**	**+0.3**
FOCM	**Foa**	**1.96**	**321**	Pn	**Pn**	**23 26 02.6**	**+0.3**
SMAA	**Simav-Kutahya**	**1.97**	**15**	Pn	**Pn**	**23 26 02.7**	**+0.2**
GEDZ	**Gediz**	**2.03**	**25**	Pn	**Pn**	**23 26 03.7**	**+0.3**
SOMA	**Soma-Manisa**	**2.05**	**343**	Pn	**Pn**	**23 26 03.1**	**-0.4**
CHOS	**Chios island**	**2.15**	**304**	P	**Pn**	**23 26 04.2**	**-0.8**
CHOS				S	**Sn**	**23 26 30.4**	**-1.6**
	comp=N,315nm,0.7s						
CHOS	**Chios island**	**2.15**	**304**	P	**Pn**	**23 26 04.9**	**-0.1**
CHOS				S	**Sn**	**23 26 31.4**	**-0.6**
CHOS				AML	AML	23 26 45.1	
	comp=N,578μm,0.7s						
CHOS				AML	AML	23 26 46.1	
	comp=E,664μm,0.6s						
DKL	**Dikili**	**2.18**	**330**	Pn	**Pn**	**23 26 05.4**	**+0.2**
SHUT	**Suhut-Afyon**	**2.23**	**52**	Pn	**Pn**	**23 26 06.6**	**+0.5**
APE	**Apeiranthos**	**2.23**	**268**	Pn	**Pn**	**23 26 06.1**	**0.0**
APE	**Apeiranthos**	**2.23**	**268**	P	**Pn**	**23 26 05.9**	**-0.1**
APE				S	**Sn**	**23 26 33.5**	**-0.5**
SANT	**Santorini**	**2.44**	**251**	Pn	**Pn**	**23 26 09.6**	**+0.7**
SANT	**Santorini**	**2.44**	**251**		**Pn**	**23 26 09.9**	**+1.0**
PRK	**Paraskevi**	**2.60**	**322**	P	**Pn**	**23 26 10.1**	**-1.0**
PRK				S	**Sn**	**23 26 42.9**	**-0.2**
	comp=E,375nm,0.8s						
PRK	**Paraskevi**	**2.60**	**322**	P	**Pn**	**23 26 11.2**	**+0.1**
PRK				S	**Sn**	**23 26 41.8**	**-1.3**
PRK				AML	AML	23 26 58.1	
	comp=E,856μm,0.8s						
PRK				AML	AML	23 27 00.7	
	comp=N,640μm,0.7s						
ZKR	**Zakros**	**2.69**	**220**	Pn	**Pn**	**23 26 13.2**	**+0.9**
ZKR	**Zakros**	**2.69**	**220**	P	**Pn**	**23 26 12.1**	**-0.2**
ZKR				S	**Sn**	**23 26 42.8**	**-2.4**
ZKR				AML	AML	23 26 54.1	
	comp=E,390μm,0.4s						
ZKR				AML	AML	23 26 59.8	
	comp=N,176μm,0.5s						
SUSR	**Susurluk-Balik**	**2.77**	**356**	Pn	**Pn**	**23 26 12.8**	**-0.6**
SIGR	**SIGRI**	**2.79**	**317**	Pn	**Pn**	**23 26 14.5**	**+0.8**
SIGR	**SIGRI**	**2.79**	**317**	P	**Pn**	**23 26 13.7**	**0.0**
SIGR				S	**Sn**	**23 26 46.3**	**-1.5**
	comp=N,150nm,0.6s						
SIGR	**SIGRI**	**2.79**	**317**	P	**Pn**	**23 26 13.8**	**0.0**
IDI	**Anoyia**	**3.36**	**236**		**Pn**	**23 26 21.9**	**+0.3**
IDI				Sn	**Sn**	**23 27 02.6**	**+0.7**
IDI	**Anoyia**	**3.36**	**236**	P	**Pn**	**23 26 21.6**	**-0.1**
IDI				S	**Sn**	**23 27 01.0**	**-1.0**
	comp=N,88nm,0.5s						
LIA	**Limnos Island**	**3.65**	**319**	P	**Pn**	**23 26 25.5**	**0.0**
VLY	**Voula,Athens**	**3.66**	**282**	P	**Pn**	**23 26 26.1**	**+0.5**
SMTH	**Samothraki Isl**	**3.93**	**327**	P	**Pn**	**23 26 29.3**	**0.0**
ALN	**Alexandroupoli**	**4.09**	**335**		**Pn**	**23 26 31.7**	**+0.1**
ALN	**Alexandroupoli**	**4.09**	**335**	P	**Pn**	**23 26 31.3**	**-0.3**
VLI	**Veliai**	**4.34**	**265**	P	**Pn**	**23 26 36.0**	**+1.0**
BR231	**Keskin MP Arra**	**4.38**	**52**	Pn	**Pn**	**23 26 37.0**	**+1.3**
ANTO	**Ankara**	**4.41**	**51**	Pn	**Pn**	**23 26 38.0**	**+2.0**
THAS	**Thassos island**	**4.41**	**322**	P	**Pn**	**23 26 36.1**	**+0.1**
RDO	**Rodhopi**	**4.50**	**332**		**Pn**	**23 26 37.6**	**+0.5**
RDO	**Rodhopi**	**4.50**	**332**	P	**Pn**	**23 26 37.1**	**0.0**
CSS	**Mathiatis**	**4.63**	**117**		**Pn**	**23 26 39.5**	**+0.4**
CSS	**Mathiatis**	**4.63**	**117**	P	**Pn**	**23 26 39.4**	**+0.4**
BR131	**Keskin Array S**	**4.88**	**57**	Pn	**Pn**	**23 26 44.6**	**+2.1**
BRTR	**Keskin Array B**	**4.88**	**57**	Pn	**Pn**	**23 26 43.8**	**+1.3**
	comp=N,2.4nm,0.3s,baz=240,slow=17,SNR=45						
BRTR				Sn	**Sn**	**23 27 40.4**	**+0.9**
	comp=N,0.7nm,0.3s,baz=233,slow=25,SNR=5.6						
	comp=N,5.1nm,0.4s						
KOKK	**Kokkinochori,**	**4.94**	**318**	P	**Pn**	**23 26 43.4**	**+0.2**
AGG	**Agios Georgios**	**5.06**	**293**	Pn	**Pn**	**23 26 46.5**	**+1.6**
ITM	**Ithomi**	**5.10**	**272**	Pn	**Pn**	**23 26 49.2**	**+3.7**
LIT	**Litokhoron**	**5.40**	**304**	Pn	**Pn**	**23 26 51.2**	**+1.6**
FNA	**Florina**	**6.48**	**306**	Pn	**Pn**	**23 27 06.3**	**+1.8**
STIP	**Stip**	**6.53**	**315**	*i* P	**Pn**	**23 27 05.6**	**+0.5**
HNTI	**Hanita**	**6.96**	**124**	P	**Pn**	**23 27 09.8**	**-1.2**
MMAI	**Mount Meron Ar**	**7.15**	**124**	Pn	**Pn**	**23 27 12.6**	**-1.1**
	comp=N,7.9nm,0.3s,baz=306,slow=12,SNR=49						
MMAI				Sn	**Sn**	**23 28 32.3**	**-3.0**
	comp=N,4.0nm,0.3s,baz=308,slow=28,SNR=6.7						
	comp=N,5.7nm,0.3s						
MMA0	**Mount Meron ar**	**7.15**	**124**	P	**Pn**	**23 27 12.8**	**-0.9**
GEM	**Giv'at Ha'Em**	**7.21**	**121**	P	**Pn**	**23 27 14.1**	**-0.3**
NATI	**Neve Ativ**	**7.23**	**121**	P	**Pn**	**23 27 14.1**	**-0.6**
SHMJ	**Saham**	**7.57**	**124**	P	**Pn**	**23 27 19.3**	**-0.1**
QRNJ	**Al-Qirein**	**7.69**	**127**	P	**Pn**	**23 27 20.4**	**-0.6**
HMDT	**Nahal Hemdat**	**7.71**	**128**	P	**Pn**	**23 27 20.4**	**-1.0**
KZIT	**Kziot**	**8.05**	**139**	P	**Pn**	**23 27 25.4**	**-0.6**
MLR	**Muntele Rosu**	**8.47**	**349**		**Pn**	**23 27 33.5**	**+1.6**
PRNI	**Paran**	**8.81**	**139**	P	**Pn**	**23 27 34.9**	**-1.5**
HRFI	**Mount Harif**	**9.07**	**140**	P	**Pn**	**23 27 39.1**	**-1.0**
MBRI	**Mt Berech**	**9.21**	**141**	P	**Pn**	**23 27 42.1**	**+0.1**
TIP	**Timpagrande**	**9.31**	**286**	Pn	**Pn**	**23 27 45.2**	**+1.9**
CEL	**Celeste**	**9.90**	**280**	Pn	**Pn**	**23 27 53.9**	**+2.5**
CUC	**Castrococco**	**10.18**	**290**	Pn	**Pn**	**23 27 58.7**	**+3.5**
RAFF	**Raffo Rosso**	**11.13**	**274**	Pn	**Pn**	**23 28 11.5**	**+3.3**
GNI	**Garni**	**13.17**	**72**	LR	LR	23 34 52.1	
	comp=N,25nm,20.4s,baz=104,slow=43						
CLL	**Collm**	**17.82**	**327**	*i* P	**P**	**23 29 37.4**	**-0.3**
HFS	**Hagfors**	**24.79**	**342**	LR	LR	23 41 00.9	
	comp=N,17nm,18.7s,baz=87,slow=37						
ESDC	**Sonseca Array**	**25.34**	**286**	P	**P**	**23 30 56.8**	**+0.6**
	comp=N,0.8nm,0.7s,baz=83,slow=8.5,SNR=7.5						
	comp=N,0.8nm,0.7s						
NOA	**NORSAR Array B**	**26.19**	**341**	LR	LR	23 42 24.1	
	comp=N,8.6nm,19.3s,baz=310,slow=39						
TOA0	**Torodi Ar. Sit**	**33.76**	**232**	P	**P**	**23 32 10.7**	**-0.4**
TOA0				IAmb	IAmb	23 32 13.3	
	comp=Z,2.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**33.76**	**232**	P	**P**	**23 32 10.2**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=36,slow=9.0,SNR=11						
	comp=Z,0.9nm,0.5s						
PALK	**Pallekele**	**56.00**	**109**	LR	LR	00 00 39.9	
	comp=Z,73nm,19.6s,baz=239,slow=38						
BPAW	**Bear Paw Mtn.**	**79.04**	**360**	P	**P**	**23 37 33.1**	**0.0**
BPAW				IAmb	IAmb	23 37 34.7	
	comp=Z,3.6nm,1.0s						

*SJA **03** 00:19:32.5±0.8, 31.°62S×71.°83W, h19km±3km, ML3.5, MW3.5*
*GUC **03** 00:19:36.2±0.8, 31.°70S×71.°45W, h36km±4km, ML3.3*

ISC 03 00:19:33.7±1.3, **31.°68S**±0.°02×**71.°72W**±0.°04, **h4**km±10km, **n43**, σ1°56/83, **3C-2D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.77**	**53**	*e*P	**Pg**	**00 19 49.0**	**+0.4**
CO02				*e*S	**Sb**	**00 20 00.1**	**-0.6**
CO02				IAML		00 20 01.9	
	comp=Z,1μm,0.2s						
CO02	**Combarbal**	**0.77**	**53**	⇓*i*P	**Pb**	**00 19 49.8**	**0.0**
CO02				*e*S	**Sb**	**00 19 59.5**	**-1.3**
VA06	**Catapilco**	**0.95**	**158**	*e*P	**Pb**	**00 19 53.2**	**+0.4**
VA06				*i* S	**Sb**	**00 20 05.6**	**-0.2**
VA06				IAML		00 20 07.3	
	comp=E,3μm,0.4s						
CO06	**Fray Jorge**	**1.00**	**4**	*e*P	**Pb**	**00 19 53.9**	**+0.3**
CO06				*e*S	**Sb**	**00 20 07.2**	**0.0**
CO06				IAML		00 20 10.9	
	comp=N,1μm,0.2s						
CO03	**El Pedregal**	**1.21**	**47**	*e*P	**Pg**	**00 19 56.7**	**-0.3**
CO03				IAML		00 20 12.1	
	comp=Z,484nm,0.2s						
CO03				*e*S	**Sg**	**00 20 12.3**	**-0.5**
CO03	**El Pedregal**	**1.21**	**47**	⇓*i*P	**Pg**	**00 19 56.7**	**-0.3**
CO03				*e*S	**Sg**	**00 20 11.7**	**-1.1**
CO03				IAML		00 20 13.4	
	comp=E,2μm,0.1s						
VA01	**Torpederas**	**1.34**	**177**	*e*P	**Pg**	**00 19 59.9**	**+0.4**
VA01				*i* S	**Sb**	**00 20 16.5**	**-0.6**
ROCH	**El Roble**	**1.43**	**155**	*e*P	**Pn**	**00 20 00.7**	**+0.1**
ROCH				*e*S	**Sb**	**00 20 19.1**	**-0.5**
ROCH				IAML		00 20 21.6	
	comp=N,506nm,0.7s						
VA03	**San Esteban**	**1.47**	**138**	*e*P	**Pb**	**00 20 01.5**	**-0.2**
VA03				*e*S	**Sg**	**00 20 21.5**	**+0.5**
VA03				IAML		00 20 23.9	
	comp=Z,583nm,0.5s						
VA03	**San Esteban**	**1.47**	**138**	⇑*i*P	**Pb**	**00 20 01.4**	**-0.3**
VA03				*i* S	**Sn**	**00 20 18.4**	**-2.5**
MT02	**Curacav**	**1.66**	**163**	*e*P	**Pn**	**00 20 03.6**	**+0.1**
MT02				*e*S	**Sg**	**00 20 28.1**	**+1.2**
MT02	**Curacav**	**1.66**	**163**	*e*P	**Pn**	**00 20 03.4**	**-0.1**
MT02				*e*S	**Sn**	**00 20 23.9**	**-1.4**
GO04	**Tololo Observa**	**1.69**	**28**	*e*P	**Pn**	**00 20 03.8**	**-0.5**
GO04				*e*S	**Sn**	**00 20 26.3**	**-0.2**
GO04	**Tololo Observa**	**1.69**	**28**	⇑*e*P	**Pn**	**00 20 04.1**	**-0.2**
GO04				*i* S	**Sn**	**00 20 25.5**	**-1.0**
PEL	**Peldehue**	**1.71**	**149**	*e*P	**Pn**	**00 20 04.5**	**+0.2**
PEL				*e*S	**Sn**	**00 20 25.8**	**-0.8**
PEL				IAML		00 20 28.4	
	comp=E,448nm,0.5s						
CO05	**La Serena**	**1.80**	**13**	*e*P	**Pb**	**00 20 06.7**	**-0.6**
CO05				*e*S	**Sn**	**00 20 28.4**	**-0.3**
MT10	**Hacienda Santa**	**1.88**	**148**	*e*P	**Pn**	**00 20 07.5**	**+0.7**
MT10				*e*S	**Sn**	**00 20 30.6**	**-0.4**
MT10				IAML		00 20 34.1	
	comp=E,906nm,0.3s						
MT05	**Renca**	**1.90**	**154**	*e*P	**Pb**	**00 20 08.5**	**-0.6**
MT05				*e*S	**Sb**	**00 20 33.1**	**-0.1**
MT05				IAML		00 20 35.4	
	comp=Z,260nm,0.3s						
MT14	**Cerro Calın**	**1.99**	**150**	*e*P	**Pn**	**00 20 08.6**	**+0.4**
MT14				*e*S	**Sn**	**00 20 32.7**	**-0.9**
MT14				IAML		00 20 46.0	
	comp=E,479nm,0.6s						
RTLS	**Leoncito**	**2.07**	**94**	*e*P	**Pb**	**00 20 11.4**	**-0.6**
RTLS				*e*S	**Sg**	**00 20 38.9**	**-1.3**
RTLS				IAML		00 20 42.2	
	comp=Z,537nm,0.4s						
MT03	**Universidad Ad**	**2.08**	**151**	*e*P	**Pn**	**00 20 10.5**	**+1.0**
MT03				*e*S	**Sb**	**00 20 38.2**	**-0.2**
MT03				IAML		00 20 45.4	
	comp=Z,243nm,0.2s						
MT09	**Talagante**	**2.18**	**164**	⇑*i*P	**Pn**	**00 20 11.8**	**+0.9**
MT09				*i* S	**Sn**	**00 20 39.0**	**+0.5**
MT09				IAML		00 20 48.5	
	comp=N,241nm,0.2s						
CO01	**Juntas del Tor**	**2.20**	**40**	*e*P	**Pn**	**00 20 11.4**	**+0.2**
CO01				*e*S	**Sb**	**00 20 39.9**	**-1.9**
CO01				IAML		00 20 41.3	
	comp=Z,293nm,0.3s						
CO01	**Juntas del Tor**	**2.20**	**40**	*e*P	**Pn**	**00 20 12.1**	**+0.9**
CO01				*e*S	**Sn**	**00 20 39.2**	**+0.3**
CO01				IAML		00 20 41.6	
	comp=N,350nm,0.2s						
MT01	**Popeta**	**2.22**	**170**	*e*P	**Pn**	**00 20 11.7**	**+0.4**
MT01				*e*S	**Sb**	**00 20 43.9**	**+1.7**
DOCA	**Reserva Natura**	**2.37**	**73**	*e*P	**Pn**	**00 20 15.2**	**+1.5**
DOCA				*e*S	**Sb**	**00 20 47.4**	**+0.4**
DOCA				IAML		00 21 00.4	
	comp=Z,359nm,0.8s						
AROD	**Rodeo**	**2.45**	**53**	*e*P	**Pb**	**00 20 17.3**	**-1.2**
AROD				*e*S	**Sb**	**00 20 48.9**	**-0.2**
BO04	**La Punta**	**2.49**	**158**	*e*P	**Pn**	**00 20 15.9**	**+0.9**
ACCO	**Cerro Coronel**	**2.52**	**65**	*e*S	**Sg**	**00 20 56.4**	**+1.6**
ZON	**Zonda**	**2.60**	**88**	*e*P	**Pb**	**00 20 19.0**	**-1.9**
ZON				*e*P	**Pn**	**00 20 19.6**	**+3.0**
ZON				*e*S	**Sn**	**00 20 45.9**	**-2.7**
ZON				IAML		00 21 05.2	
	comp=Z,87nm,0.3s						
BO01	**Tunca**	**2.76**	**169**	*e*P	**Pn**	**00 20 19.3**	**+0.5**
BO01				*e*S	**Sn**	**00 20 51.4**	**-1.2**
LCO	**Las Campanas**	**2.80**	**19**	*e*P	**Pn**	**00 20 19.6**	**+0.1**
BO02	**Sierra Bellavi**	**3.21**	**166**	*e*P	**Pn**	**00 20 26.1**	**+1.2**
BO02				*e*S	**Sn**	**00 21 05.9**	**+2.2**
BO02				IAML		00 21 16.6	
	comp=Z,100nm,0.2s						
GO05	**Huala**	**3.33**	**183**	*e*P	**Pn**	**00 20 26.0**	**-0.6**
GO05				*e*S	**Sn**	**00 21 03.4**	**-3.2**
AC04	**Llanos de Chal**	**3.50**	**9**	*e*P	**Pn**	**00 20 28.4**	**-0.5**
AC04				*e*S	**Sb**	**00 21 21.8**	**+2.6**
AC04				IAML		00 21 25.9	
	comp=Z,70nm,0.3s						
AGUA	**GUANDACOL**	**3.54**	**53**	*e*P	**Pn**	**00 20 32.8**	**+3.3**
AGUA				*e*S	**Sb**	**00 21 16.9**	**-3.4**
AGUA				IAML		00 21 25.2	
	comp=Z,112nm,0.7s						
AVFE	**Valle Fertil**	**3.79**	**76**	*e*P	**Pn**	**00 20 34.6**	**+1.6**
AVFE				*e*S	**Sn**	**00 21 20.9**	**+2.7**
AVFE				IAML		00 21 29.6	
	comp=Z,65nm,0.4s						
RFA	**San Rafael**	**4.12**	**139**	*e*P	**Pn**	**00 20 38.6**	**+1.1**
VCA	**Vinchina**	**4.22**	**47**	*e*P	**Pn**	**00 20 42.1**	**+3.1**
VCA				*e*S	**Sn**	**00 21 29.4**	**+0.5**
VCA				IAML		00 21 44.6	
	comp=Z,145nm,0.6s						
GO03	**Copiap**	**4.27**	**18**	*e*P	**Pn**	**00 20 39.3**	**-0.3**
GO03				*e*S	**Sb**	**00 21 42.6**	**+1.4**
ACHE	**Chepes**	**4.35**	**85**	*e*P	**Pn**	**00 20 41.9**	**+1.1**
ACHE				*e*P	Pb	00 20 42.4	-8.5
ACHE				*e*S	**Sb**	**00 21 37.8**	**-6.0**
ACLC	**CERRO LA CRUZ**	**4.68**	**63**	*e*P	**Pn**	**00 20 47.0**	**+1.6**
ACLC				*e*S	**Sn**	**00 21 41.9**	**+1.6**
ACLC				IAML		00 21 49.5	
	comp=Z,46nm,0.4s						
MRA	**San Martin**	**5.15**	**100**	*e

KAPI			S		Sn	01 21 45.3	-0.3
	28nm,0.3s,baz=197,slow=19,SNR=14						
KAPI			LR		LR	01 23 25.5	
	comp=Z,256nm,18.1s,baz=206,slow=42						
BKSI	**Bulukumba**	**6.55**	**49**	P	**Pn**	**01 20 36.2**	**+2.8**
	71nm,0.5s,0.3nm						
KPJI	**Karang Pucung**	**6.64**	**290**	P	**Pn**	**01 20 38.4**	**+3.8**
	88nm,0.6s,989nm0.5nm						
CMJI	**Cimerak**	**6.94**	**286**	P	**Pn**	**01 20 41.9**	**+3.1**
	83nm,0.8s,3μm0.6nm						
MMRI	**Maumere**	**7.03**	**82**	P	**Pn**	**01 20 43.4**	**+3.4**
	136nm,0.9s,0.6nm						
CNJI	**Cibinong**	**8.33**	**286**	P	**Pn**	**01 21 00.4**	**+2.6**
	40nm,1.0s,899nm						
CBJI	**Citeko**	**8.89**	**291**	P	**Pn**	**01 21 06.9**	**+1.4**
XMIS	**Christmas Isla**	**9.43**	**265**	Pn	**Pn**	**01 21 13.2**	**+0.3**
STKI	**Sintang**	**10.40**	**339**	P	**Pn**	**01 21 30.4**	**+4.1**
	50nm,0.5s						
MBWA	**Marble Bar**	**12.18**	**160**	Pn	**Pn**	**01 21 48.8**	**-1.7**
PSA00	**Pilbara Seismi**	**12.60**	**160**	Pn	**Pn**	**01 21 54.2**	**-2.2**
GIRL	**Giralia**	**12.88**	**184**	Pn	**Pn**	**01 22 00.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**13.11**	**131**	Pn	**Pn**	**01 22 03.1**	**-0.1**
MNAI	**Manna**	**13.26**	**293**	Pn	**Pn**	**01 22 04.5**	**-0.9**
MNAI	**Manna**	**13.26**	**293**	P	**Pn**	**01 22 05.3**	**-0.1**
	150nm,1.5s						
KNRA	**Kununurra**	**14.49**	**115**	Pn	**Pn**	**01 22 21.6**	**-0.6**
MTN	**Manton Dam**	**15.93**	**103**	Pn	**Pn**	**01 22 41.5**	**+0.4**
FAKI	**Fak Fak**	**18.24**	**69**	P	**P**	**01 23 07.9**	**-2.0**
MORW	**Morawa**	**19.26**	**178**	P	**P**	**01 23 19.7**	**-1.3**
MORW				IAmb	IAmb	01 23 27.4	
	comp=Z,12nm,0.7s						
DAV	**Davao City (W)**	**19.63**	**32**	LR	LR	01 32 33.4	
	comp=Z,64nm,19.2s,baz=164,slow=42						
WB0	**Warramunga Arr**	**21.05**	**120**	P	**P**	**01 23 40.0**	**-0.6**
WB0				IAmb	IAmb	01 23 59.7	
	comp=Z,21nm,0.9s						
WRA	**Warramunga Arr**	**21.09**	**121**	P	**P**	**01 23 42.7**	**+1.7**
	comp=Z,2.0nm,0.5s,baz=295,slow=12,SNR=52						
WRA				S	**S**	**01 27 32.9**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=296,slow=25,SNR=4.8						
WRA				LR	LR	01 32 56.9	
	comp=Z,58nm,18.8s,baz=18,slow=39						
	comp=Z,2.0nm,0.5s						
WB2	**Warramunga Arr**	**21.10**	**121**	P	**P**	**01 23 39.8**	**-1.4**
WB2				IAmb	IAmb	01 24 00.3	
	comp=Z,14nm,0.9s						
WR0	**Warramunga Arr**	**21.26**	**121**	P	**P**	**01 23 43.0**	**+0.1**
WR0				IAmb	IAmb	01 24 02.2	
	comp=Z,24nm,0.9s						
ASAR	**Alice Springs**	**22.61**	**130**	P	**P**	**01 23 58.9**	**+1.5**
	comp=Z,2.8nm,0.6s,baz=303,slow=8.8,SNR=34						
ASAR				PcP	**PcP**	**01 27 51.0**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=333,slow=1.5,SNR=7.4						
ASAR				S	**S**	**01 28 06.4**	**+3.3**
	comp=Z,2.9nm,1.1s,baz=303,slow=22,SNR=2.8						
	comp=Z,2.8nm,0.6s						
NWAO	**Narrogin (SRO)**	**23.17**	**176**	LR	LR	01 33 23.6	
	comp=Z,84nm,21.1s,baz=230,slow=37						
FORT	**Forrest**	**24.13**	**152**	P	**P**	**01 24 10.7**	**-1.5**
CMAR	**Chiang Mai Arr**	**32.27**	**330**	P	**P**	**01 25 24.7**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=160,slow=7.6,SNR=12						
	comp=Z,1.6nm,0.5s						
STKA	**Stephens Creek**	**32.92**	**136**	P	**P**	**01 25 29.9**	**-0.7**
STKA	**Stephens Creek**	**32.92**	**136**	P	**P**	**01 25 33.5**	**+2.8**
	comp=Z,1.5nm,0.4s,baz=311,slow=9.3,SNR=6.1						
STKA				LR	LR	01 41 57.4	
	comp=Z,52nm,18.5s,baz=63,slow=42						
	comp=Z,1.5nm,0.4s						
PZH	**PanZhiHua**	**38.31**	**340**	P	**P**	**01 26 19.3**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
H08S2	**Diego Garcia H**	**42.25**	**269**	T	T	02 11 56.1	
	baz=95,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**42.26**	**269**	T	T	02 12 02.7	
	baz=95,slow=76,SNR=11						
H08S1	**Diego Carcia H**	**42.27**	**269**	T	T	02 11 57.2	
	baz=95,slow=76,SNR=10						
HHC	**Hu-ho-hao-te**	**50.43**	**356**	*e*P	**P**	**01 27 54.6**	**+0.9**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,75nm,5.1s						
SONM	**Songino Array**	**57.83**	**353**	P	**P**	**01 28 46.0**	**-1.6**
	comp=Z,1.9nm,0.7s,baz=170,slow=7.7,SNR=9.3						
SONM				PcP	**PcP**	**01 29 39.3**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=167,slow=3.7,SNR=4.5						
	comp=Z,1.9nm,0.7s						
KSH	**Kashi**	**61.03**	**326**	P	**P**	**01 29 06.0**	**-3.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOOM	**Boomskoye usch**	**63.15**	**328**	P	**P**	**01 29 22.0**	**-2.1**
BOOM				IAmb	IAmb	01 29 56.0	
	comp=Z,3.1nm,0.9s						
MK31	**Makanchi Array**	**63.47**	**335**	P	**P**	**01 29 24.1**	**-1.8**
MK31				IAmb	IAmb	01 29 24.9	
	comp=Z,1.6nm,0.6s						
MKAR	**Makanchi Array**	**63.47**	**335**	P	**P**	**01 29 24.1**	**-1.8**
	comp=Z,2.7nm,0.5s,baz=150,slow=7.2,SNR=41						
	comp=Z,2.7nm,0.5s						
MAKZ	**Makanchi**	**63.61**	**335**	P	**P**	**01 29 24.8**	**-2.0**
ARSB	**Arslanbob**	**63.92**	**326**	P	**P**	**01 29 27.0**	**-2.2**
BTK	**Batken**	**64.33**	**323**	P	**P**	**01 29 30.3**	**-1.4**
BTK				IAmb	IAmb	01 29 33.6	
	comp=Z,3.7nm,0.8s						
H04N2	**CROZET ISLANDS**	**64.69**	**223**	T	T	02 41 09.8	
	baz=75,slow=75,SNR=5.7						
H04N1	**CROZET ISLANDS**	**64.71**	**223**	T	T	02 41 06.3	
	baz=75,slow=75,SNR=3.9						
H04N3	**CROZET ISLANDS**	**64.71**	**223**	T	T	02 41 08.4	
	baz=75,slow=75,SNR=5.8						
MAW	**Mawson**	**67.30**	**199**	P	**P**	**01 29 52.5**	**+2.2**
	comp=Z,4.6nm,0.6s,baz=73,slow=7.3,SNR=15						
	comp=Z,4.6nm,0.6s						
KURBB	**Kurchatov Arra**	**68.02**	**336**	P	**P**	**01 29 53.1**	**-2.0**
	comp=Z,1.2nm,0.6s,baz=148,slow=6.3,SNR=11						
	comp=Z,1.2nm,0.6s						
KURK	**Kurchatov**	**68.05**	**336**	P	**P**	**01 29 52.3**	**-3.0**
KURK				IAmb	IAmb	01 29 54.4	
	comp=Z,1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**68.44**	**341**	P	**P**	**01 29 55.1**	**-2.5**
	comp=Z,2.5nm,0.5s,baz=143,slow=5.6,SNR=11						
	comp=Z,2.5nm,0.5s						
GEYT	**Alibeck**	**71.28**	**316**	P	**P**	**01 30 14.5**	**-1.1**
	comp=Z,2.3nm,0.4s,baz=145,slow=5.4,SNR=10						
	comp=Z,2.3nm,0.4s						
GYA0B	**ALIBECK ARRAY**	**71.28**	**316**	P	**P**	**01 30 15.0**	**-0.6**
VNDA	**Vanda**	**71.88**	**170**	P	**P**	**01 30 19.7**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=9.8,slow=4.8,SNR=4.7						
	comp=Z,1.1nm,0.7s						
PEA0B	**Petropavlovsk-**	**72.28**	**25**	P	**P**	**01 30 19.0**	**-2.2**
NIUE	**Niue**	**72.67**	**107**	P	**P**	**01 30 22.9**	**-1.3**
BVAR	**Borovoye Array**	**73.22**	**334**	P	**P**	**01 30 25.2**	**-1.5**
	comp=Z,3.1nm,0.6s,baz=139,slow=8.0,SNR=23						
	comp=Z,3.1nm,0.6s						
BRVK	**Borovoye**	**73.29**	**334**	P	**P**	**01 30 25.7**	**-1.5**
RAYN	**Ar Rayn**	**75.67**	**297**	P	**P**	**01 30 39.7**	**-2.1**
RAYN				IAmb	IAmb	01 31 00.3	
	comp=Z,4.2nm,0.9s						
ABKAR	**Akbulak array**	**76.03**	**326**	P	**P**	**01 30 41.8**	**-1.3**
ABKAR				IAmb	IAmb	01 30 42.6	
	comp=Z,2.8nm,0.8s						
SHEM	**Shemya Is, Ala**	**79.83**	**32**	LR	LR	02 06 24.5	
	comp=Z,28nm,20.6s,baz=17,slow=36						
QSPA	**South Pole Qui**	**80.28**	**180**	P	**P**	**01 31 06.7**	**0.0**
QSPA				IAmb	IAmb	01 31 20.3	
	comp=Z,7.9nm,1.4s						
QSPA	**South Pole Qui**	**80.28**	**180**	P	**P**	**01 31 08.0**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=319,slow=1.5,SNR=13						
	comp=Z,0.8nm,0.5s						
BOSA	**Boshof**	**85.36**	**242**	P	**P**	**01 31 34.9**	**+1.0**
	comp=Z,4.7nm,1.0s,baz=123,slow=6.0,SNR=5.7						
	comp=Z,4.7nm,1.0s						
MMAI	**Mount Meron Ar**	**86.80**	**304**	P	**P**	**01 31 41.9**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=78,slow=7.8,SNR=6.7						
	comp=Z,1.1nm,0.4s						
SNAA	**Sanae**	**89.28**	**196**	P	**P**	**01 31 53.6**	**+1.8**
	comp=Z,4.1nm,0.6s,baz=178,slow=4.3,SNR=14						
	comp=Z,4.1nm,0.6s						
BRTR	**Keskin Array B**	**89.72**	**310**	P	**P**	**01 31 53.5**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=141,slow=5.7,SNR=8.5						
	comp=Z,1.1nm,0.7s						
CRVS	**Cervenica-Dubn**	**99.70**	**318**	*e*PDIFF	**Pdif**	**01 32 41.9**	**+2.2**
TORD	**Torodi Ar. Bea**	**114.89**	**280**	PKP	**PKiKP**	**01 37 37.5**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=39,slow=2.5,SNR=12						
DBIC	**Dimbokro**	**120.65**	**272**	PKP	**PKiKP**	**01 37 48.6**	**-0.2**
	comp=Z,8.1nm,1.0s,baz=115,slow=2.4,SNR=4.2						
NVAR	**Mina Array Bea**	**124.36**	**50**	PKP	**PKiKP**	**01 37 55.8**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=20,slow=2.3,SNR=4.6						
BDFB	**Brasilia**	**149.81**	**214**	PKPbc	**PKiKP**	**01 38 48.7**	**+0.7**
	comp=Z,8.5nm,0.5s,baz=144,slow=2.6,SNR=20						
LPAZ	**La Paz**	**153.95**	**173**	PKPbc	**PKiKP**	**01 38 56.8**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=149,slow=3.6,SNR=4.6						
LPAZ				PKPab	**sPKPbc**	**01 39 11.7**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=115,slow=3.7,SNR=4.9						

NOU 03 01:20:56.2, 16°.13S×167°.76E, h23km, MLv4.3/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.64**	**166**	P	Pn	01 21 24.3	+0.7
MARNC	**Mare, Loyalty**	**5.33**	**177**	P	Pn	01 22 14.5	+0.1
YATNC	**Mamie plateau,**	**5.96**	**188**	P	Pn	01 22 22.4	-0.6
DZM	**Mont Dzumac**	**6.04**	**192**	P	Pn	01 22 24.6	+0.3
OUENC	**Ouen Island, N**	**6.32**	**188**	P	Pn	01 22 27.8	-0.1

*CATAC **03** 01:40:59.6±0.4, 12°.17N×87°.32W, h30km±3km, ML3.7*
*SNET **03** 01:41:01.1±1.2, 12°.25N×87°.43W, h71km±63km, ML3.3*

ISC 03 01:40:56.8±1.3, 12°.20N±0°.05×87°.35W±0°.03, h7km±10km, n49, σ0^{s}.68/83, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.58**	**30**	*i* P	**Pn**	**01 41 13.1**	**+1.5**
CRIN				*i* S	**Sn**	**01 41 20.8**	**-0.6**
CRIN				IAML		01 41 26.4	
	comp=Z,8μm,1.0s						
PKGN	**Cerro Pekin**	**0.59**	**38**	*i* P	**Pn**	**01 41 12.9**	**+1.2**
PKGN				*i* S	**Sn**	**01 41 21.1**	**-0.5**
PKGN				IAML		01 41 25.8	
	comp=Z,7μm,1.0s						
PACN	**Al O del Volca**	**0.62**	**61**	*i* P	**Pn**	**01 41 12.3**	**+0.2**
PACN				*i* S	**Sn**	**01 41 22.5**	**+0.1**
PACN				IAML		01 41 24.1	
	comp=Z,4μm,1.0s						
QUEN	**Al S del Volca**	**0.62**	**51**	*i* P	**Pn**	**01 41 13.1**	**+0.9**
QUEN				*i* S	**Sn**	**01 41 22.4**	**-0.1**
QUEN				IAML		01 41 25.0	
	comp=Z,8μm,1.0s						
CNGA	**Al SSO del Vol**	**0.70**	**65**	*i* P	**Pn**	**01 41 13.4**	**+0.2**
CNGA				*i* S	**Sn**	**01 41 24.2**	**-0.1**
CNGA				IAML		01 41 26.4	
	comp=Z,4μm,1.0s						
CNGN	**Cerro Negro**	**0.70**	**65**	*i* P	**Pn**	**01 41 13.9**	**+0.6**
CNGN				*i* S	**Sn**	**01 41 24.4**	**0.0**
CNGN				IAML		01 41 30.5	
	comp=Z,3μm,1.0s						
COPN	**Copaltepe**	**0.74**	**91**	*i* P	**Pn**	**01 41 14.1**	**+0.4**
COPN				IAML		01 41 25.6	
	comp=Z,1μm,1.0s						
LEVN	**Ruinas Leon Vi**	**0.74**	**74**	*i* P	**Pn**	**01 41 14.3**	**+0.5**
BC86	**Nagarote**	**0.77**	**85**	*i* P	**Pn**	**01 41 14.0**	**-0.1**
BC86				*i* S	**Sn**	**01 41 24.7**	**-1.3**
BC86				IAML		01 42 01.9	
	comp=Z,6μm,1.0s						
BC84	**Volcan Momotom**	**0.81**	**76**	*i* P	**Pn**	**01 41 15.1**	**+0.4**
BC84				*i* S	**Sn**	**01 41 26.4**	**-0.7**
BC84				IAML		01 42 14.5	
	comp=Z,6μm,1.0s						
MOM2	**El Cardon**	**0.88**	**74**	*i* P	**Pn**	**01 41 16.3**	**+0.7**
MOM2				*i* S	**Sn**	**01 41 28.3**	**-0.3**
MOM2				IAML		01 41 33.0	
	comp=Z,1μm,1.0s						
AMTN	**Mateare**	**0.90**	**87**	*i* P	**Pn**	**01 41 16.1**	**+0.2**
AMTN				*i* S	**Sn**	**01 41 28.2**	**-0.9**
AMTN				IAML		01 41 31.4	
	comp=Z,6μm,1.0s						
SAPS	**Ciudad Sandino**	**0.92**	**92**	*i* P	**Pn**	**01 41 16.6**	**+0.3**
SAPS				*i* S	**Sn**	**01 41 28.9**	**-0.9**
SAPS				IAML		01 41 33.7	
	comp=Z,3μm,1.0s						
APYN	**Apoyeque**	**0.98**	**88**	*i* P	**Pb**	**01 41 16.8**	**+0.7**
APYN				*i* S	**Sb**	**01 41 29.9**	**+0.7**
APYN				IAML		01 41 33.5	
	comp=Z,2μm,1.0s						
APQ2	**Apoyeque**	**1.00**	**90**	*i* P	**Pn**	**01 41 17.5**	**+0.2**
APQ2				*i* S	**Sb**	**01 41 30.7**	**+0.8**
APQ2				IAML		01 41 34.5	
	comp=Z,1μm,1.0s						
ABCN	**Banco Central**	**1.02**	**94**	*i* P	**Pb**	**01 41 17.0**	**+0.2**
ABCN				*i* S	**Sb**	**01 41 30.8**	**+0.4**
ABCN				IAML		01 41 34.8	
	comp=Z,5μm,1.0s						
CRUN	**El Crucero**	**1.05**	**102**	*i* P	**Pb**	**01 41 17.9**	**+0.5**
CRUN				IAML		01 41 36.4	
	comp=Z,7.0nm,1.0s						
RB28C	**Hialeah**	**1.05**	**94**	*i* P	**Pb**	**01 41 18.0**	**+0.6**
RB28C				IAML		01 41 32.8	
	comp=Z,2μm,1.0s						
ALLN	**Telcor Managua**	**1.05**	**92**	IAML		01 41 16.7	
	comp=Z,7μm,1.0s						
ALLN				*i* P	**Pg**	**01 41 17.5**	**+0.5**
ALLN				*i* S	**Sb**	**01 41 31.2**	**-0.2**
USIM	**UNAN**	**1.05**	**94**	*i* P	**Pn**	**01 41 18.4**	**+0.3**
USIM				*i* S	**Sb**	**01 41 32.1**	**+0.7**
USIM				IAML		01 41 33.7	
	comp=Z,6μm,1.0s						
TISN	**Laguna Tiscapa**	**1.06**	**93**	*i* P	**Pn**	**01 41 18.4**	**+0.3**
TISN				IAML		01 41 33.0	
	comp=Z,170nm,1.0s						
ENAN	**Enatrel Managu**	**1.06**	**94**	*i* P	**Pn**	**01 41 18.8**	**+0.6**
ENAN				*i* S	**Sb**	**01 41 32.2**	**+0.4**
ENAN				IAML		01 41 37.9	
	comp=Z,12μm,1.0s						
MGA1	**Managua**	**1.08**	**92**	*i* P	**Pn**	**01 41 18.8**	**+0.4**
MGA1				IAML		01 41 29.0	
	comp=Z,4μm,1.0s						
MGA1				*i* S	**Sb**	**01 41 32.8**	**+0.7**
R4DEC	**Barrio San Lui**	**1.08**	**92**	*i* P	**Pn**	**01 41 18.8**	**+0.4**
R4DEC				*i* S	**Sb**	**01 41 32.3**	**+0.2**
R4DEC				IAML		01 41 34.8	
	comp=Z,1μm,1.0s						
R0529	**La Mascota**	**1.09**	**94**	*i* P	**Pn**	**01 41 18.8**	**+0.3**
R0529				IAML		01 41 35.7	
	comp=Z,1μm,1.0s						
AMPH	**Amapala**	**1.12**	**344**	*e*P	**Pn**	**01 41 20.1**	**+1.1**
AMPH				*e*S	**Sn**	**01 41 36.1**	**+1.3**
WILN	**Americas 2**	**1.14**	**92**	*i* P	**Pb**	**01 41 19.2**	**+0.4**
WILN				*i* S	**Sb**	**01 41 34.2**	**+0.4**
WILN				IAML		01 41 38.0	
	comp=Z,580nm,1.0s						
MAS3	**Al N del Volca**	**1.16**	**98**	*i* P	**Pg**	**01 41 19.4**	**+0.3**
MAS3				*i* S	**Sg**	**01 41 34.1**	**-0.1**
MAS3				IAML		01 41 36.4	
	comp=Z,2μm,1.0s						
CNCH	**Conchagua**	**1.17**	**336**	*e*P	**Pn**	**01 41 20.8**	**+1.0**
CNCH				IAML		01 41 22.9	
	comp=Z,1μm,0.2s						
CNCH	**Conchagua**	**1.17**	**336**	*i* P	**Pn**	**01 41 20.8**	**+1.0**
CNCH				*i* S	**Sn**	**01 41 37.1**	**+0.9**
CNCH				IAML		01 41 43.6	
	comp=Z,2μm,1.0s						
MASN	**Masaya**	**1.19**	**100**	*i* P	**Pn**	**01 41 20.7**	**+0.7**
MASN				*i* S	**Sg**	**01 41 34.6**	**-0.5**
MASN				IAML		01 41 37.2	
	comp=Z,520nm,1.0s						
INTP	**Intipuca**	**1.21**	**325**	*e*P	**Pn**	**01 41 21.3**	**+1.0**
INTP				IAML		01 41 22.0	
	comp=Z,187nm,0.3s						
INTP				*e*S	**Sn**	**01 41 36.9**	**0.0**
LCND	**La Caada**	**1.23**	**334**	*e*S	**Sn**	**01 41 36.6**	**-0.7**
LIMN	**Finca el Limon**	**1.29**	**48**	*i* P	**Pn**	**01 41 22.3**	**+0.9**
LIMN				IAML		01 41 22.5	
	comp=Z,420nm,1.0s						
BLLM	**Bellamira**	**1.51**	**325**	*e*P	**Pg**	**01 41 25.7**	**-0.2**
PACA	**Pacayal**	**1.58**	**323**	*e*P	**Pg**	**01 41 26.9**	**-0.3**
PACA	**Pacayal**	**1.58**	**323**	*i* P	**Pg**	**01 41 27.0**	**-0.3**
PACA				*i* S	**Sg**	**01 41 47.1**	**-0.7**
PACA				IAML		01 41 49.3	
	comp=Z,7μm,1.0s						
BOAB	**BOACO BROADBAN**	**1.66**	**81**	*i* P	**Pn**	**01 41 26.3**	**-0.1**
BOAB				*i* S	**Sn**	**01 41 46.7**	**-1.4**
BOAB				IAML		01 41 49.9	
	comp=Z,130nm,1.0s						
JAPN	**Al SSO del Vol**	**1.77**	**112**	*i* P	**Pn**	**01 41 27.2**	**-0.7**
JAPN				*i* S	**Sn**	**01 41 49.7**	**-0.9**
JAPN				IAML		01 41 58.0	
	comp=Z,280nm,1.0s						
MORN	**Al O del Volca**	**1.79**	**111**	*i* P	**Pn**	**01 41 27.6**	**-0.6**
MORN				IAML		01 41 52.2	
	comp=Z,740nm,1.0s						
RCPN	**Sur Rio San Ju**	**1.80**	**43**	*i* P	**Pn**	**01 41 28.6**	**+0.1**
RCPN				*i* S	**Sb**	**01 41 51.4**	**-1.7**
RCPN				IAML		01 41 53.9	
	comp=Z,2.7nm,1.0s						
YUSH	**Yuscaran**	**1.81**	**16**	*i* P	**Pb**	**01 41 30.2**	**-0.2**
YUSH	**Yuscaran**	**1.81**	**16**	*i* P	**Pb**	**01 41 30.1**	**-0.4**
TGUH	**Tegucigalpa,Un**	**1.85**	**2**	*i* P	**Pb**	**01 41 30.4**	**-0.7**
TGUH				IAML		01 41 31.1	
	comp=Z,430nm,1.0s						
TGUH				*i* S	**Sb**	**01 41 53.6**	**-0.9**
TECO	**Alcaldia de Te**	**1.93**	**314**	*i* P	**Pn**	**01 41 30.5**	**+0.3**
TECO				IAML		01 41 54.4	
	comp=Z,260nm,1.0s						
TECO				*i* S	**Sn**	**01 41 54.5**	**-0.2**
SCLA	**Alcaldia de Sa**	**2.01**	**318**	*i* P	**Pn**	**01 41 32.2**	**+0.9**
SCLA				*i* S	**Sn**	**01 41 56.6**	**-0.2**
SCLA				IAML		01 42 01.7	
	comp=Z,100nm,1.0s						
ACON	**Acoyapa**	**2.14**	**96**	*i* P	**Pn**	**01 41 33.7**	**+0.7**
ACON				IAML		01 41 52.1	
	comp=Z,71nm,1.0s						
JAYA	**Jayaque - finc**	**2.51**	**305**	*i* P	**Pn**	**01 41 38.3**	**+0.1**
JAYA				*i* S	**Sn**	**01 42 08.7**	**-0.5**
JAYA				IAML		01 42 09.0	
	comp=Z,720nm,1.0s						
NUBE	**Las Nubes**	**2.91**	**306**	*i* P	**Pn**	**01 41 44.7**	**+0.9**
NUBE				*i* S	**Sn**	**01 42 18.8**	**-0.4**
NUBE				IAML		01 42 25.0	
	comp=Z,120nm,1.0s						

*JMA **03** 01:42:25.9±0.2, 34°N±1°×140°.8E±1°.0, h37km, MV3.0/24, FAR S OFF BOSO PENINSULA*
*IDC **03** 01:42:29.0±3.6, 33°.98N×140°.49E, h58km±24km, mb3.4/6, mbtmp3.6/7, ML2.4/1, MS2.3/2, Error ellipse: s-maj=52.6km s-min=9.0km az=80.0*

ISC 03 01:42:25.0±1.6, 34°.09N±0°.05×140°.85E±0°.08, h32km±11km, n19, σ1^{s}.01/24, mb3.8/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.57**	**11**	P	**Pn**	**01 42 36.3**	**-0.3**
BSO1				X		01 42 44.0	
BSO3	**Boso 3**	**0.77**	**339**	P	**Pn**	**01 42 39.7**	**+0.3**
BSO4	**Boso 4**	**0.99**	**335**	P	**Pb**	**01 42 43.2**	**-0.5**
JMKN	**Mikurajimanish**	**1.06**	**260**	P	**Pb**	**01 42 45.0**	**+0.1**
JMKN				S	**Sn**	**01 42 58.5**	**+1.1**
JHJ2	**Mitsune**	**1.30**	**222**	*e*P	**Pb**	**01 42 49.2**	**+0.3**
JHJ2				*e*S	**Sb**	**01 43 05.9**	**+0.7**
JHJ	**Hachijo jima 2**	**1.31**	**223**	P	**Pb**	**01 42 48.6**	**-0.5**
	65nm,0.3s,baz=72,slow=15,SNR=28						
JHJ				S	**Sn**	**01 43 01.0**	**-2.6**
	143nm,0.3s,baz=77,slow=6.5,SNR=8.7						
JIM2	**Oshima 3**	**1.33**	**299**	P	**Pn**	**01 42 47.5**	**0.0**
JTHY	**Toshimahigashi**	**1.36**	**289**	*e*P	**Pn**	**01 42 48.0**	**+0.2**
JKO	**Kozu shima**	**1.42**	**274**	*e*P	**Pb**	**01 42 49.8**	**-1.2**
KTJ3	**Kamata3**	**1.69**	**300**	P	**Pn**	**01 42 52.5**	**0.0**
KTJ3				S	**Sn**	**01 43 11.1**	**-1.9**
JOD2	**Odawara 2**	**1.87**	**309**	P	**Pn**	**01 42 55.0**	**+0.2**
JOD2				*e*S	**Sn**	**01 43 15.7**	**-1.6**
MJAR	**Matsushiro Arr**	**3.26**	**319**	P	**Pn**	**01 43 14.7**	**+0.7**
	0.4nm,0.3s,baz=153,slow=11,SNR=9.4						
MJAR				S	**Sn**	**01 43 52.8**	**+0.9**
	8.4nm,0.7s,baz=133,slow=15,SNR=6.3						
MJAR				LR	LR	01 44 54.2	
	comp=Z,52nm,18.7s,baz=195,slow=46						
	2.8nm,0.4s						
KSRS	**Korea Array**	**11.03**	**291**	LR	LR	01 49 03.1	
	comp=Z,14nm,21.9s,baz=230,slow=36						
SONM	**Songino Array**	**29.15**	**309**	P	**P**	**01 48 24.5**	**+1.2**
	0.6nm,0.7s,baz=115,slow=6.8,SNR=2.2						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**45.35**	**305**	P	**P**	**01 50 40.2**	**0.0**
	0.5nm,0.6s,baz=86,slow=9.2,SNR=4.3						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**47.50**	**310**	P	**P**	**01 50 56.5**	**-0.4**
	0.4nm,0.4s,baz=85,slow=7.7,SNR=5.0						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**54.09**	**188**	P	**P**	**01 51 46.9**	**+0.1**
	0.3nm,0.3s,baz=7.0,slow=8.6,SNR=6.9						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**57.81**	**188**	P	**P**	**01 52 12.8**	**-0.6**
	0.3nm,0.3s,baz=4.3,slow=7.1,SNR=6.1						

CLDB Colider 25.78 223 eP **P 01 55 39.1 +2.1**
NAN01 Guarapari, ES 25.83 184 eP **P 01 55 37.4 +0.1**
DIAM Diamantina, MG 26.77 192 eP **P 01 55 47.6 +1.6**
SJMB Sao Joao De Ma 26.78 187 eP **P 01 55 46.3 +0.4**
PDRB Porto dos Gac 26.95 224 eP **P 01 55 48.3 +0.8**
ARAG Araguaiana, MT 27.26 210 eP **P 01 55 51.5 +1.2**
RIB01 Linhares ES 27.31 185 eP **P 01 55 53.0 +2.4**
PMNB Patos De Minas 27.69 197 eP **P 01 55 55.7 +1.5**
IPMB Ipameri, GO 27.75 201 eP **P 01 55 57.3 +2.6**
H10N3 ASCENSION HYDR 28.33 123 T T 02 25 38.7
baz=303,slow=75,SNR=169
H10N2 ASCENSION HYDR 28.33 123 T T 02 25 40.0
baz=303,slow=75,SNR=191
H10N1 ASCENSION HYDR 28.35 123 T T 02 25 40.2
baz=303,slow=75,SNR=256
H10S3 ASCENSION HYDR 28.82 125 T T 02 26 15.7
baz=301,slow=74,SNR=114
H10S2 ASCENSION HYDR 28.84 125 T T 02 26 19.9
baz=279,slow=74,SNR=104
TEFE Tefe 28.87 248 eP **P 01 56 05.2 +0.4**
SJG San Juan 29.06 293 P **P 01 56 07.1 +0.8**
SALV Santo Antonio 29.52 216 eP **P 01 56 12.8 +2.4**
BSCB Bom Sucesso 29.62 193 eP **P 01 56 13.6 +2.2**
CAM01 Campos-RJ 29.92 187 eP **P 01 56 15.2 +1.4**
ITRB Iturama 30.13 204 eP **P 01 56 17.6 +1.8**
SAML Samuel 30.18 236 P **P 01 56 16.6 +0.2**
SAML Samuel 30.18 236 P **P 01 56 16.6 +0.2**
SAML pmax pmax
comp=Z,12nm,1.1s
SAML Samuel 30.18 236 eP **P 01 56 17.3 +0.9**
VILB Vilhena 30.31 227 eP **P 01 56 18.0 +0.5**
VAS01 Vassouras-RJ 30.61 190 eP **P 01 56 22.7 +2.6**
BB19B Bebedouro 30.72 199 eP **P 01 56 21.7 +0.7**
MAN01 Angra dos Reis 31.28 190 eP **P 01 56 26.0 +0.1**
PTLB Pontes e Lacer 31.32 222 P **P 01 56 28.2 +1.9**
PTLB Pontes e Lacer 31.32 222 eP **P 01 56 27.8 +1.4**
RVDE Rio Verde (Bra 31.64 212 eP **P 01 56 31.1 +1.9**
RCLB Rio Claro- Sao 31.68 197 eP **P 01 56 32.1 +2.6**
PARB Paraibuna 32.07 193 eP **P 01 56 35.1 +2.2**
VAO Valinhos 32.08 196 eP **P 01 56 34.4 +1.3**
PCMB Pacaembu 32.20 203 eP **P 01 56 35.6 +1.5**
SPB Sao Paulo 32.77 196 eP **P 01 56 41.6 +2.7**
DBIC Dimbokro 32.98 90 P P 01 56 35.1 -5.9
comp=Z,4.3nm,0.6s,baz=255,slow=6.4,SNR=10
DBIC LR LR 02 07 22.5
comp=Z,139nm,18.7s,baz=260,slow=32
comp=Z,4.3nm,0.6s
SIV San Ignacio 33.01 224 LR LR 02 09 37.3
comp=Z,560nm,18.9s,baz=99,slow=35
ETMB Extrema 33.17 238 P **P 01 56 42.0 -0.7**
ETMB Extrema 33.17 238 eP **P 01 56 43.1 +0.4**
FRTB Fartura 33.18 200 eP **P 01 56 42.7 +0.1**
AQDB Aquidauana 33.24 211 eP **P 01 56 44.8 +1.7**
PET01 Itanhaem-SP 33.39 195 eP **P 01 56 47.6 +3.2**
BBSD Serra de San D 33.55 221 eP **P 01 56 47.4 +1.5**
LDASE Londrina, Braz 33.77 202 eP **P 01 56 49.5 +1.7**
TRCB Terra Rica 33.82 205 P **P 01 56 48.2 -0.1**
TRCB lAmb lAmb 01 56 58.6
comp=Z,15nm,0.7s
TRCB Terra Rica 33.82 205 eP **P 01 56 50.0 +1.8**
SDDR Presa de Saban 33.99 292 P **P 01 56 47.2 -2.6**
SDDR lAmb lAmb 01 56 55.9
comp=Z,22nm,1.0s
TBTG Tabatinga, AM 34.00 250 eP **P 01 56 51.8 +1.9**
MURT Porto Murtinho 35.21 213 eP **P 01 57 01.6 +1.4**
PTGB Pitanga 35.32 202 eP **P 01 57 02.8 +1.6**
ROSC El Rosal 36.14 267 P **P 01 57 06.5 -2.3**
comp=Z,9.7nm,0.6s,baz=69,slow=19,SNR=8.3
ROSC LR LR 02 11 28.0
comp=Z,196nm,21.8s,baz=86,slow=36
comp=Z,9.7nm,0.6s
CZSB Cruzeiro do Su 37.91 246 eP **P 01 57 22.9 -0.5**
LPAZ La Paz 38.34 231 P **P 01 57 25.8 -2.0**
comp=Z,4.3nm,0.7s,baz=3.9,slow=4.8,SNR=15
LPAZ LR LR 02 12 31.0
comp=Z,238nm,21.3s,baz=66,slow=35
comp=Z,4.3nm,0.7s
LPAZ La Paz 38.34 231 eP **P 01 57 28.8 +1.1**
LPAZ pmax pmax
comp=Z,7.0nm,0.9s
CPUP Villa Florida 38.97 208 LR LR 02 14 02.6
comp=Z,558nm,18.2s,baz=32,slow=37
TORD Torodi Ar. Bea 39.39 79 P P 01 57 29.6 -6.3
comp=Z,24nm,0.7s,baz=276,slow=8.1,SNR=82
TORD LR LR 02 11 50.9
comp=Z,282nm,20.4s,baz=266,slow=33
comp=Z,24nm,0.7s
MORF Marmelete 39.48 38 eP **P 01 57 36.1 -0.3**
MORF Marmelete 39.48 38 eP **P 01 57 35.9 -0.5**
MORF lAmb lAmb 01 57 40.0
comp=Z,19nm,1.1s
MORF Marmelete 39.48 38 eP **P 01 57 35.9 -0.5**
PBDV Barranco-do-Ve 39.88 39 eP **P 01 57 39.3 -0.4**
comp=Z,45nm,1.5s
PNCL Nicolau / Gran 40.08 37 eP **P 01 57 40.8 -0.5**
comp=Z,27nm,1.7s
MESJ Messejana 40.09 38 eP **P 01 57 41.0 -0.4**
MESJ lAmb lAmb 01 57 44.8
comp=Z,35nm,1.9s
MESJ Messejana 40.09 38 eP **P 01 57 41.0 -0.4**
PVAQ Vaqueiros 40.12 39 eP **P 01 57 43.0 +1.4**
comp=Z,39nm,1.5s
EVO Evora 40.66 37 eP **P 01 57 45.4 -0.7**
comp=Z,18nm,1.5s
ANTS Antisana-Sarah 40.85 260 P **P 01 57 49.1 +0.3**
PMTG Montargil 40.88 36 eP **P 01 57 48.8 +0.9**
OTAV Otavalo 40.97 261 P **P 01 57 51.1 +1.6**
OTAV Otavalo 40.97 261 eP **P 01 57 50.3 +0.8**
PBAR Barrancos 41.02 38 eP **P 01 57 49.4 +0.3**
comp=Z,18nm,2.8s
PCAS Casmilo, Conde 41.38 35 eP **P 01 57 51.9 -0.1**
PMRV Marv??o 41.61 37 eP **P 01 57 53.9 0.0**
comp=Z,25nm,1.3s
PCBR Castelo Branco 41.83 36 eP **P 01 57 55.5 -0.2**
MTE Manteigas 42.16 35 eP **P 01 57 58.9 +0.5**
comp=Z,24nm,1.6s
MTE eS **S 02 04 16.1 -1.7**
MTE eLQ LQ 02 08 19.4
MTE eLR LR 02 09 20.4
comp=Z,305nm,22.0s
PVIS Viseu 42.17 35 eP **P 01 57 58.3 -0.2**
POLO Lamas de Olo 42.66 34 eP **P 01 58 00.2 -2.4**
PCAB Cabril 42.77 34 eP **P 01 58 04.7 +1.3**
PGAV Gavieira, Arco 42.81 33 eP **P 01 58 04.7 +0.9**
LVC Limon Verde 42.91 224 LR LR 02 16 18.9
comp=Z,194nm,20.4s,baz=51,slow=37
LVC Limon Verde 42.91 224 eP **P 01 58 05.0 -0.1**
ATAH Atahualpa 42.93 250 LR LR 02 17 02.1
comp=Z,149nm,18.0s,baz=75,slow=38
PSAL Palomas, Salto 43.19 205 eP **P 01 58 08.3 +1.5**
NNA Nana 43.38 243 LR LR 02 16 45.9
comp=Z,276nm,19.1s,baz=70,slow=37
PBRG Braganca 43.54 34 eP **P 01 58 10.0 +0.4**
comp=Z,20nm,2.0s
ESDC Sonseca Array 43.83 39 P P 01 58 06.3 -5.8
comp=Z,0.3nm,0.6s,baz=270,slow=2.3,SNR=2.8
ESDC LR LR 02 13 03.7
comp=Z,361nm,20.0s,baz=218,slow=32
comp=Z,0.3nm,0.6s
DRLN Deer Lake 44.17 342 P **P 01 58 14.3 -0.2**
DRLN lAmb lAmb 01 58 15.9
comp=Z,19nm,1.1s
BCX Boston College 44.87 325 P **P 01 58 19.1 -1.1**
BCX lAmb lAmb 01 58 21.8
comp=Z,21nm,1.3s
GO02 Mina Guanaco 45.08 222 P **P 01 58 23.1 +0.7**
GO02 lAmb lAmb 01 58 30.6
comp=Z,14nm,1.0s
UCCT U. Connecticut 45.13 324 P **P 01 58 21.3 -1.1**
UCCT lAmb lAmb 01 58 24.2
comp=Z,12nm,0.8s
HRV Adam Dziewonsk 45.20 325 P **P 01 58 23.7 +0.9**
baz=130
DWPF Disney Wildern 45.45 302 P **P 01 58 25.1 0.0**
baz=108
WVL Waterville 45.53 328 P **P 01 58 24.1 -1.3**
WVL lAmb lAmb 01 59 44.2
comp=Z,16nm,1.3s
PAL Palisades 45.67 322 P **P 01 58 26.9 +0.3**
baz=126
BATG Bathurst New B 45.76 334 P **P 01 58 27.4 +0.1**
L61B Northampton 45.81 324 P **P 01 58 29.4 +1.8**
baz=128
PKME Peaks-Kenny Pk 45.82 329 P **P 01 58 29.3 +1.6**
PKME lAmb lAmb 01 58 29.4
comp=Z,18nm,1.2s
PKME Peaks-Kenny Pk 45.82 329 P **P 01 58 29.2 +1.4**
baz=134
TRNY Table Rock, Ra 45.94 322 P **P 01 58 28.9 +0.1**
TRNY lAmb lAmb 01 58 31.7
comp=Z,23nm,1.4s
WUPA West Chester U 46.13 319 P **P 01 58 31.1 +0.9**
ODNJ Ogdensburg 46.14 321 P **P 01 58 29.4 -0.9**
ODNJ lAmb lAmb 01 58 32.5
comp=Z,23nm,1.6s
NHSC New Hope 46.17 309 P **P 01 58 30.6 0.0**
NHSC New Hope 46.17 309 P **P 01 58 31.0 +0.3**
baz=113
JTS Las Juntas de 46.29 277 LR LR 02 18 25.1
comp=Z,41nm,18.6s,baz=55,slow=37
J61A Chester 46.29 325 P **P 01 58 31.5 +0.1**
J61A lAmb lAmb 01 58 34.5
comp=Z,16nm,1.1s
LUPA Lehigh Univers 46.35 320 P **P 01 58 32.4 +0.4**
LUPA lAmb lAmb 01 58 34.4
comp=Z,14nm,0.9s
HNH Hanover 46.37 326 P **P 01 58 31.5 -0.6**
HNH lAmb lAmb 01 58 34.3
comp=Z,12nm,1.1s
CBN Corbin Frederi 46.39 316 P **P 01 58 33.5 +1.2**
baz=120
G62A West of Eustis 46.43 328 P **P 01 58 30.9 -1.6**
G62A lAmb lAmb 01 58 34.1
comp=Z,11nm,0.8s
V58A Windy Hill, Pi 46.49 313 P **P 01 58 33.4 +0.2**
V58A lAmb lAmb 01 58 35.6
comp=Z,15nm,1.1s
LBNH Lisbon 46.52 327 P **P 01 58 32.8 -0.4**
LBNH Lisbon 46.52 327 P **P 01 58 35.0 +1.8**
baz=131
LBNH Lisbon 46.52 327 P **P 01 58 32.8 -0.4**
LBNH pmax pmax
comp=Z,10.0nm,1.2s
R58B Mineral 46.62 316 P **P 01 58 33.8 -0.3**
R58B lAmb lAmb 01 58 36.6
comp=Z,27nm,1.5s
MVL Millersville 46.64 319 P **P 01 58 33.1 -1.2**
MVL lAmb lAmb 01 58 36.7
comp=Z,9.6nm,1.0s
Y57A Sumter 46.69 310 P **P 01 58 33.5 -1.3**
W57A Gilead 46.86 311 P **P 01 58 36.1 +0.1**
E62A Clayton Lake 46.89 331 P **P 01 58 36.7 +0.6**
E62A lAmb lAmb 01 58 37.9
comp=Z,12nm,0.9s
D62A Allapoint, All 46.99 331 P **P 01 58 36.3 -0.6**
BIRD Birdtown, Kers 47.00 311 P **P 01 58 36.7 -0.5**
L59A Walton 47.05 322 P **P 01 58 35.7 -1.8**
L59A lAmb lAmb 01 58 39.7
comp=Z,15nm,1.2s
T57A Hurt 47.13 314 P **P 01 58 38.0 -0.2**
KSPA Keystone Colle 47.13 321 P **P 01 58 37.8 -0.2**
KSPA lAmb lAmb 01 58 40.2
comp=Z,7.5nm,0.8s
S57A Dark Hollow, R 47.27 315 P **P 01 58 39.1 -0.1**
S57A lAmb lAmb 01 58 42.0
comp=Z,20nm,1.1s
JSC Jenkinsville 47.46 310 P **P 01 58 41.0 +0.3**
JSC lAmb lAmb 01 58 43.3
comp=Z,12nm,1.0s
JSC Jenkinsville 47.46 310 P **P 01 58 41.0 +0.3**
JSC pmax pmax
comp=Z,12nm,1.0s
P57A Homestead Farm 47.47 318 P **P 01 58 41.2 +0.5**
P57A lAmb lAmb 01 58 44.1
comp=Z,11nm,1.3s
BINY Binghamton 47.63 322 P **P 01 58 42.3 +0.3**
BINY lAmb lAmb 01 58 45.2
comp=Z,19nm,1.2s
BINY Binghamton 47.63 322 P **P 01 58 43.5 +1.5**
baz=125,SNR=5.6
NCB Newcomb 47.63 325 P **P 01 58 41.8 -0.1**
NCB lAmb lAmb 01 58 44.9
comp=Z,12nm,1.1s
KMSC Kings Mountain 47.85 311 P **P 01 58 43.2 -0.7**
KMSC lAmb lAmb 01 58 46.4
comp=Z,13nm,1.2s
KMSC Kings Mountain 47.85 311 P **P 01 58 45.4 +1.6**
baz=114
M57A Sunshine Farm, 47.86 320 P **P 01 58 43.1 -0.7**
M57A lAmb lAmb 01 58 46.2
comp=Z,10.0nm,1.1s
J58A Remsen 47.88 324 P **P 01 58 43.7 -0.2**
SSPA Standing Stone 47.98 319 P **P 01 58 43.9 -0.8**
SSPA lAmb lAmb 01 58 47.1
comp=Z,13nm,1.2s
SSPA Standing Stone 47.98 319 P **P 01 58 46.0 +1.3**
baz=122
Q56A Snyder Ridge, 48.04 316 P **P 01 58 44.1 -1.1**
Q56A lAmb lAmb 01 58 48.0
comp=Z,13nm,1.1s
V55A Taylorsville 48.05 312 P **P 01 58 45.2 -0.2**
V55A lAmb lAmb 01 58 48.2
comp=Z,14nm,0.8s
BLA Blacksburg 48.06 314 P **P 01 58 45.2 -0.2**
BLA Blacksburg 48.06 314 P **P 01 58 45.9 +0.5**
baz=116,SNR=8.3
BLA Blacksburg 48.06 314 P **P 01 58 45.2 -0.2**
BLA pmax pmax
comp=Z,20nm,1.0s
PAULI Pauline 48.09 310 P **P 01 58 44.2 -1.4**
PAULI lAmb lAmb 01 58 48.3
comp=Z,9.1nm,0.9s
HODGE Hodges 48.20 309 P **P 01 58 46.3 -0.2**
HODGE lAmb lAmb 01 58 49.2
comp=Z,17nm,1.1s
LONY Lake Ozonia 48.23 325 P **P 01 58 47.9 +1.3**
baz=128
K57A Scipio Center 48.25 322 P **P 01 58 45.8 -1.0**
K57A lAmb lAmb 01 58 49.9
comp=Z,19nm,1.2s
TIGA Tifton 48.27 305 P **P 01 58 48.1 +1.0**
baz=109
R55A Marlinton 48.33 315 P **P 01 58 46.1 -1.4**
R55A lAmb lAmb 01 58 50.7
comp=Z,31nm,1.6s
L56A Greenwood 48.57 321 P **P 01 58 48.8 -0.4**
L56A lAmb lAmb 01 58 51.2
comp=Z,11nm,1.1s
LDAQ Lac Daran 48.67 331 P **P 01 58 49.3 -0.7**
LDAQ lAmb lAmb 01 58 52.0
comp=Z,22nm,1.3s
U54A Nelsons Funny 48.78 312 P **P 01 58 50.3 -0.7**
U54A lAmb lAmb 01 58 53.8
comp=Z,18nm,1.1s
MCWV Mont Chateau 48.79 317 P **P 01 58 51.4 +0.5**
baz=119
GOGA Godfrey 48.84 308 P **P 01 58 51.4 0.0**
GOGA lAmb lAmb 01 58 54.2
comp=Z,19nm,1.4s
GOGA Godfrey 48.84 308 P **P 01 58 51.9 +0.5**
baz=111,SNR=6.4
GOGA Godfrey 48.84 308 P **P 01 58 51.4 0.0**
GOGA pmax pmax
comp=Z,19nm,1.4s
WBO Williamsburg 48.86 325 P **P 01 58 50.4 -0.9**
S54A Dingess, Beckl 48.95 314 P **P 01 58 52.2 -0.1**
S54A lAmb lAmb 01 58 55.7
comp=Z,27nm,1.3s
BG3 Lake Jocassee 49.00 310 P **P 01 58 52.5 -0.2**
Q54A Coxs Mills 49.15 316 P **P 01 58 52.5 -1.3**
Q54A lAmb lAmb 01 58 56.3
comp=Z,11nm,1.1s
V53A Saluda 49.17 311 P **P 01 58 52.5 -1.5**
V53A lAmb lAmb 01 58 56.7
comp=Z,9.7nm,0.9s
TRQ Mont Tremblant 49.21 327 P **P 01 58 53.1 -1.0**
TRQ lAmb lAmb 01 58 55.7
comp=Z,10nm,0.7s
352A Blakely 49.37 305 P **P 01 58 55.2 -0.3**
352A lAmb lAmb 01 58 58.6
comp=Z,22nm,1.0s
Y52A Lilburn 49.46 308 P **P 01 58 54.9 -1.3**
Y52A lAmb lAmb 01 58 59.2
comp=Z,14nm,0.8s
152A Waverly Hall 49.58 306 P **P 01 58 56.8 -0.3**
152A lAmb lAmb 01 58 59.9
comp=Z,19nm,1.1s
P53A Whipple 49.76 316 P **P 01 58 55.8 -2.6**
V52A Severville 49.83 311 P **P 01 58 59.5 +0.5**
TKL Tuckaleechee C 49.89 310 LR LR 02 15 44.9
comp=Z,150nm,21.7s,baz=124,slow=31
DELO Deloro Mine 49.92 323 P **P 01 58 58.6 -0.9**
DELO lAmb lAmb 01 59 02.3
comp=Z,16nm,1.1s
ALLY Alegheny Colle 49.96 319 P **P 01 58 59.3 -0.6**
ALLY lAmb lAmb 01 59 02.1
comp=Z,18nm,0.9s
TEIG Tepich 49.96 290 LR LR 02 18 45.6
comp=Z,39nm,20.6s,baz=135,slow=34
O53A New Philadelph 49.99 317 P **P 01 58 59.1 -1.0**
O53A lAmb lAmb 01 59 02.6
comp=Z,17nm,0.9s
O53A New Philadelph 49.99 317 P **P 01 59 00.9 +0.7**
baz=118,SNR=6.4
N53A Lisbon 50.00 318 P **P 01 58 59.5 -0.8**
TZTN Tazewell 50.06 312 P **P 01 59 00.1 -0.7**
TZTN lAmb lAmb 01 59 04.2
comp=Z,19nm,1.1s
TZTN Tazewell 50.06 312 P **P 01 59 01.8 +1.1**
baz=113,SNR=13
ERPA Erie 50.09 320 P **P 01 59 02.2 +1.3**
baz=120
Q52A Bidwell 50.14 315 P **P 01 59 00.5 -0.8**
Q52A lAmb lAmb 01 59 03.5
comp=Z,16nm,0.9s
M53A WI Miller and 50.20 319 P **P 01 59 03.2 +1.4**
baz=119
X51A Calhoun 50.32 309 P **P 01 59 02.5 -0.3**
X51A lAmb lAmb 01 59 05.5
comp=Z,12nm,1.0s
P52A Corning 50.34 316 P **P 01 59 02.6 -0.2**
P52A Corning 50.34 316 P **P 01 59 04.4 +1.6**
baz=117,SNR=14
O52A Adamsville 50.35 316 P **P 01 59 02.4 -0.5**
CPCT Cooper Cave 50.38 310 P **P 01 59 03.3 +0.1**
S51A Beattyville 50.53 313 P **P 01 59 04.5 +0.3**
250A Grady 50.61 305 lAmb lAmb 01 59 07.7
comp=Z,30nm,1.3s
W50A Signal Mountai 50.89 309 lAmb lAmb 01 59 09.8
comp=Z,15nm,0.8s
FPAL Fort Paine 50.90 308 lAmb lAmb 01 59 09.9
comp=Z,13nm,0.9s
P51A Williamsport 50.92 315 lAmb lAmb 01 59 09.4
comp=Z,22nm,0.9s
BRAL Brewton 51.02 304 P **P 01 59 09.3 +1.3**
baz=106
N51A Ashland 51.09 317 lAmb lAmb 01 59 10.6
comp=Z,14nm,1.1s
ACSO Alum Creek Sta 51.19 316 lAmb lAmb 01 59 11.5
comp=Z,26nm,1.2s
ACSO Alum Creek Sta 51.19 316 P **P 01 59 10.9 +1.7**
baz=116,SNR=5.9
T50A Nancy 51.20 312 lAmb lAmb 01 59 12.1
comp=Z,15nm,1.0s
KEST Kesra 51.24 50 P P 01 59 04.0 -5.7
comp=Z,1.4nm,0.8s,baz=202,slow=12,SNR=1.7
KEST LR LR 02 21 03.1
comp=Z,357nm,19.2s,baz=192,slow=36
comp=Z,1.4nm,0.8s
R50A Paris 51.32 313 lAmb lAmb 01 59 13.0
comp=Z,16nm,1.1s
SWET Sewanee 51.38 309 lAmb lAmb 01 59 13.4
comp=Z,36nm,1.4s
LRAL Lakeview Retre 51.51 306 lAmb lAmb 01 59 14.4
comp=Z,14nm,0.9s
LRAL Lakeview Retre 51.51 306 P **P 01 59 12.9 +1.1**
baz=108,SNR=7.4
R49A Shelbyville 51.93 313 lAmb lAmb 01 59 17.3
comp=Z,13nm,0.8s
VLDQ Val d'Or 51.94 327 lAmb lAmb 01 59 17.7
comp=Z,42nm,1.9s
SCHQ Schefferville 51.97 339 P **P 01 59 10.1 -4.7**
comp=Z,2.2nm,0.7s,baz=111,slow=17,SNR=1.6
SCHQ LR LR 02 16 40.7
comp=Z,37nm,21.8s,baz=295,slow=31
comp=Z,2.2nm,0.7s
X48A Hartselle 51.99 308 lAmb lAmb 01 59 17.8
comp=Z,12nm,0.8s
MT09 Talagante 52.02 215 P **P 01 59 15.1 -0.5**
P49A Miami Univ. Ec 52.10 315 lAmb lAmb 01 59 18.1
comp=Z,18nm,1.0s
P49A Miami Univ. Ec 52.10 315 P **P 01 59 17.2 +1.2**
baz=114,SNR=6.3
O49A Covington 52.10 315 lAmb lAmb 01 59 18.0
comp=Z,16nm,1.3s
V48A Smith Brothers 52.24 309 lAmb lAmb 01 59 19.6
comp=Z,16nm,0.8s
N49A Columbus Grove 52.31 316 lAmb lAmb 01 59 19.7
comp=Z,13nm,1.0s
Z47A Carrollton 52.42 306 lAmb lAmb 01 59 21.1
comp=Z,21nm,1.1s
AAM Ann Arbor 52.57 318 P **P 01 59 20.9 +1.4**
baz=117
P48A Milroy 52.57 314 lAmb lAmb 01 59 21.2
comp=Z,13nm,0.8s
BO02 Sierra Bellavi 52.65 214 P **P 01 59 21.3 +1.1**
BO02 lAmb lAmb 01 59 30.0
comp=Z,15nm,0.8s
O48B Farmland 52.70 315 lAmb lAmb 01 59 22.2
comp=Z,13nm,0.8s
O48B Farmland 52.70 315 P **P 01 59 21.8 +1.3**
baz=114,SNR=5.8
WCI Wyandotte Cave 52.72 312 P **P 01 59 22.6 +2.0**
WCI lAmb lAmb 01 59 23.1
comp=Z,11nm,0.7s
WCI Wyandotte Cave 52.72 312 P **P 01 59 21.6 +1.0**
baz=112
WCI Wyandotte Cave 52.72 312 P **P 01 59 22.6 +2.0**
WCI pmax pmax
comp=Z,11nm,0.7s
L48A N Adams 52.93 317 lAmb lAmb 01 59 24.2
comp=Z,21nm,1.0s
PLAL Pickwick Lake 52.96 308 lAmb lAmb 01 59 24.6
comp=Z,21nm,1.2s
WVT Waverly 53.14 309 P **P 01 59 23.5 -0.2**
WVT lAmb lAmb 01 59 25.6
comp=Z,16nm,0.7s
WVT Waverly 53.14 309 P **P 01 59 24.5 +0.8**
baz=109
WVT Waverly 53.14 309 P **P 01 59 23.5 -0.2**
WVT pmax pmax
comp=Z,16nm,0.7s
BLO Bloomington 53.24 313 lAmb lAmb 01 59 26.9
comp=Z,13nm,0.7s
OXF Oxford 53.87 307 P **P 01 59 29.9 +0.8**
baz=107
SFIN Lafayette 54.12 315 P **P 01 59 31.7 +0.8**
baz=113,SNR=8.5
GLMI Grayling 54.35 321 P **P 01 59 33.4 +0.9**
baz=118
EKA Eskdalemuir Ar 54.67 24 P P 01 59 29.3 -5.3
comp=Z,0.8nm,0.7s,baz=303,slow=9.9,SNR=1.2
comp=Z,0.8nm,0.7s
EKA Eskdalemuir Ar 54.67 24 P **P 01 59 33.2 -1.4**
E46A Sault Ste Mari 54.90 322 lAmb lAmb 01 59 40.3
comp=Z,18nm,1.3s
ECH Echery 55.25 35 P **P 01 59 39.5 +0.5**
ECH Echery 55.25 35 P **P 01 59 39.5 +0.5**
ECH pmax pmax
comp=Z,6.0nm,1.0s
L44A Lake County Fo 55.38 316 P **P 01 59 41.2 +1.2**
baz=113
OSSC Osservatorio P 55.59 42 P **P 01 59 42.6 +1.1**
OSSC lAmb lAmb 01 59 45.0
comp=Z,22nm,1.3s
FVM French Village 55.70 311 lAmb lAmb 01 59 44.0
comp=Z,13nm,0.8s
HDIL Hopedale 55.74 314 P **P 01 59 43.3 +0.7**
baz=111
K43A Burlington 55.87 317 lAmb lAmb 01 59 45.3
comp=Z,15nm,0.8s
T42A Van Buren 55.91 309 lAmb lAmb 01 59 44.8
comp=Z,8.7nm,0.8s
DAVOX Davos/Dischmat 56.15 38 LR LR 02 20 15.1
comp=Z,410nm,21.2s,baz=254,slow=32
UALR University of 56.27 307 lAmb lAmb 01 59 48.2
comp=Z,16nm,1.0s
CCM Cathedral Cave 56.34 311 P **P 01 59 46.7 -0.2**
CCM lAmb lAmb 01 59 48.4
comp=Z,11nm,0.8s
CCM Cathedral Cave 56.34 311 P **P 01 59 47.5 +0.6**
baz=108
CCM Cathedral Cave 56.34 311 P **P 01 59 46.7 -0.2**
CCM pmax pmax
comp=Z,11nm,0.9s
WHAR Wooly Hollow 56.36 307 lAmb lAmb 01 59 48.6
comp=Z,19nm,1.2s

FCAR Ozark Folk Cen 56.39 308 IAmb IAmb 01 59 48.1
comp=Z,20nm,1.7s
DAVA Damuels 56.39 37 *i* P **P 01 59 48.2 +0.8**
comp=Z,6.8nm,0.8s
L42A Oliver, Polo 56.52 316 IAmb IAmb 01 59 49.8
comp=Z,16nm,1.1s
I42A Draeger Farm, 56.73 318 IAmb IAmb 01 59 51.5
comp=Z,14nm,0.8s
FETA Feichten 56.78 38 *i* P **P 01 59 50.3 +0.2**
comp=Z,2.3nm,0.7s
MGMO Mountain Grove 56.85 309 IAmb IAmb 01 59 52.1
comp=Z,13nm,0.9s
CTI Castel Tesino 56.92 39 P **P 01 59 50.3 -0.8**
CTI IAmb IAmb 01 59 52.4
comp=Z,8.0nm,0.7s
CTI Castel Tesino 56.92 39 P **P 01 59 50.3 -0.8**
CTI pmax pmax
comp=Z,8.0nm,0.7s
RETA Reutte 57.02 38 *i* P **P 01 59 50.2 -1.4**
comp=Z,2.1nm,0.6s
PLCA Paso Flores 57.03 209 P **P 01 59 48.7 -3.1**
comp=Z,2.9nm,0.9s,baz=17,slow=5.7,SNR=1.9
PLCA LR LR 02 25 10.0
comp=Z,251nm,18.2s,baz=36,slow=37
comp=Z,2.9nm,0.9s
MOTA Moosalm 57.16 38 *e*P **P 01 59 51.2 -1.6**
comp=Z,2.1nm,0.6s
SQTA Sankt Quirin 57.16 38 *i* P **P 01 59 51.3 -1.5**
comp=Z,3.8nm,0.7s
MIAR Mount Ida 57.19 306 P **P 01 59 53.8 +0.7**
baz=104
MIAR Mount Ida 57.19 306 P **P 01 59 53.9 +0.8**
JFWS Jewell Farm 57.26 316 P **P 01 59 54.1 +0.7**
baz=112,SNR=7.9
WATA Walderalm 57.44 38 *e*P **P 01 59 54.6 -0.2**
comp=Z,1.6nm,0.5s
WTTA Wattenberg 57.44 38 *e*P **P 01 59 53.3 -1.6**
comp=Z,3.5nm,0.6s
NATX Nacogdoches 57.47 303 P **P 01 59 55.7 +0.6**
baz=102
L40A Anamosa 57.63 315 IAmb IAmb 01 59 57.1
comp=Z,14nm,0.8s
ABTA Abfaltersbach 57.76 39 *i* P **P 01 59 55.7 -1.2**
comp=Z,2.0nm,0.7s
COWI Conover 57.77 320 IAmb IAmb 01 59 59.4
comp=Z,22nm,1.4s
S39A Bolivar 57.80 310 IAmb IAmb 01 59 58.6
comp=Z,13nm,0.7s
BORG Borgarnes 57.81 8 LR LR 02 20 35.8
comp=Z,41nm,18.0s,baz=207,slow=32
I40A Norwalk 57.87 317 IAmb IAmb 01 59 59.2
comp=Z,12nm,0.7s
G40A Rib Lake 58.12 319 IAmb IAmb 02 00 01.2
comp=Z,10.0nm,0.7s
SABO M.te Sabotino 58.13 40 P **P 01 59 59.3 -0.2**
SABO IAmb IAmb 02 00 02.9
comp=Z,6.4nm,0.8s
HKT Hockley 58.14 300 *i* P **P 02 00 00.9 +1.2**
HKT pmax pmax
comp=Z,10.0nm,1.3s
LESA Schwarzleotal 58.15 38 *e*P **P 01 59 58.1 -1.6**
comp=Z,4.3nm,0.6s
KBA Koelnbreinsper 58.42 39 *e*P **P 02 00 02.3 +0.7**
comp=Z,3.2nm,0.5s
MYKA Terra Mystica 58.42 39 *i* P **P 02 00 00.8 -0.8**
comp=Z,4.2nm,0.7s
P38A Dawn 58.51 312 IAmb IAmb 02 00 03.5
comp=Z,14nm,0.8s
X37A Clayton 58.65 306 IAmb IAmb 02 00 12.9
comp=Z,16nm,1.6s
RLO Rose Lookout 58.73 307 IAmb IAmb 02 00 05.0
comp=Z,10nm,0.8s
BIOA Bad Ischl, Aus 58.85 38 *i* P **P 02 00 02.7 -1.9**
comp=Z,2.2nm,0.8s
OBKA Obir 58.94 40 *e*P **P 02 00 04.5 -0.7**
comp=Z,5.0nm,0.7s
TUL3 Leonard 59.27 307 P **P 02 00 07.9 +0.2**
baz=103,SNR=5.5
MOA Molln 59.30 38 *e*P **P 02 00 05.6 -2.1**
comp=Z,2.3nm,0.7s
SOKA Soboth 59.31 40 *i* P **P 02 00 06.6 -1.2**
comp=Z,3.3nm,0.9s
GERES GERESS Array B 59.38 37 P P 02 00 02.3 -5.9
comp=Z,0.2nm,0.4s,baz=177,slow=3.4,SNR=3.3
GERES LR LR 02 23 48.9
comp=Z,42nm,19.2s,baz=247,slow=34
comp=Z,0.2nm,0.4s
GERES GERESS Array B 59.38 37 *e*P **P 02 00 11.9 +3.7**
KHC Kasperske Hory 59.43 37 P **P 02 00 09.6 +1.1**
KHC Kasperske Hory 59.43 37 *e*P **P 02 00 05.6 -2.9**
KHC *e*S **S 02 08 19.5 +2.4**
KHC AMS AMS 02 19 50.0
comp=Z,100nm,19.5s
KHC Kasperske Hory 59.43 37 *ce*P **P 02 00 10.2 +1.7**
KHC pmax pmax
comp=Z,9.0nm,1.3s
SFJD Kangerlussuaq 59.46 354 P **P 02 00 08.7 +0.4**
SFJD IAmb IAmb 02 00 10.6
comp=Z,13nm,0.8s
SFJD Kangerlussuaq 59.46 354 LR LR 02 20 45.5
comp=Z,44nm,18.8s,baz=151,slow=31
SFJD Kangerlussuaq 59.46 354 P **P 02 00 08.7 +0.4**
SFJD pmax pmax
comp=Z,13nm,0.9s
FRB Frobisher Bay 59.70 345 LR LR 02 21 33.1
comp=Z,76nm,21.1s,baz=185,slow=32
CKRC Cesky Krumlov 59.73 37 *e*P **P 02 00 08.3 -2.3**
CKRC AMS AMS 02 21 10.0
comp=Z,300nm,20.9s
CKRC Cesky Krumlov 59.73 37 *e*P **P 02 00 08.3 -2.3**
CKRC MLR MLR
comp=Z,300nm,20.9s
435B Jarrell 59.76 301 P **P 02 00 11.6 +0.5**
baz=99
SPMN Marine on St. 59.81 318 P **P 02 00 11.1 0.0**
baz=111,SNR=10.0
ARSA Arzberg 59.85 39 *e*P **P 02 00 09.3 -2.1**
comp=Z,2.5nm,0.8s
WHTX Lake Whitney, 59.85 302 P **P 02 00 11.2 -0.5**
baz=100
ZVC Zvikov 59.92 37 *e*P **P 02 00 10.4 -1.5**
W35A Tecumseh 59.97 306 **P 02 00 13.2 +0.7**
W35A IAmb IAmb 02 00 13.7
comp=Z,18nm,1.1s
LOOK Love County 59.99 305 IAmb IAmb 02 00 13.9
comp=Z,15nm,1.0s
HSKC Hora Svate Kat 59.99 35 AMS AMS 02 22 40.0
comp=Z,200nm,21.5s
EYMN Ely 59.99 321 P **P 02 00 12.0 -0.4**
baz=113
CLL Collm 60.07 34 *e*P **P 02 00 13.0 +0.2**
comp=Z,4.0nm,1.0s
CLL *i* x x 02 00 18.9
CLL *e*S **S 02 08 27.0 +1.9**
CLL *e*SS **SS 02 12 24.0 +2.0**
CLL AMS AMS 02 25 00.0
comp=Z,200nm,18.5s
T35A Sooner Cattle 60.07 308 IAmb IAmb 02 00 14.3
comp=Z,14nm,1.0s
OK052 Battle Ridge R 60.09 307 **P 02 00 14.5 +1.2**
OK052 IAmb IAmb 02 00 14.6
comp=Z,16nm,1.0s
OK031 S. Brethren Rd 60.11 307 P **P 02 00 14.6 +1.2**
CONA Conrad Observa 60.32 39 *e*P **P 02 00 14.9 +0.2**
comp=Z,1.9nm,0.6s
BRG Berggiesshubel 60.40 35 *e*P **P 02 00 18.2 +3.1**
BRG Amp 02 00 18.6
comp=Z,2.3nm,0.9s
BRG ⇑PP **PcP 02 01 03.1 +3.2**
BRG Amp 02 01 04.4
comp=Z,4.0nm,1.1s
BRG Berggiesshubel 60.40 35 SP S 02 08 40.0 +11
BRG Amp 02 23 24.0
comp=E,0.1nm,21.9s
BRG Amp 02 23 28.0
comp=N,0.0nm,18.2s
BRG Amp 02 23 29.0
comp=Z,0.2nm,22.1s
BRG Berggiesshubel 60.40 35 *e*P **P 02 00 18.2 +3.1**
BRG 02 01 03.1
BRG SP S 02 08 40.0 +11
BRG pmax pmax
comp=Z,2.0nm,0.9s
RONA Rosalia, Austr 60.50 39 *i* P **P 02 00 14.8 -1.2**
comp=Z,3.0nm,0.6s
KSU1 Kansas State U 60.66 310 IAmb IAmb 02 00 17.6
comp=Z,12nm,0.8s
KSU1 Kansas State U 60.66 310 P **P 02 00 16.8 -0.3**
baz=104
PDG Podgorica 60.70 46 ⇑P **P 02 00 18.7 +1.4**
PDG Podgorica 60.70 46 P **P 02 00 17.6 +0.3**
PDG IAmb IAmb 02 00 33.1
comp=Z,20nm,1.2s
PLPT Palo Pinto 60.71 303 IAmb IAmb 02 00 18.7
comp=Z,20nm,1.2s
ICESG Greenland Ices 60.95 359 *i* P P 02 00 13.9 -5.0
ICESG IAmb IAmb 02 00 20.7
comp=Z,9.4nm,0.9s
833A Chaparral WMA, 60.99 298 IAmb IAmb 02 00 21.3
comp=Z,15nm,0.9s
833A Chaparral WMA, 60.99 298 P **P 02 00 20.1 +0.6**
baz=97
BRDY Brady 61.04 301 IAmb IAmb 02 00 20.8
comp=Z,15nm,1.1s
KRUC Moravsky 61.09 38 *e*P **P 02 00 18.8 -1.0**
TSUM Tsumeb 61.17 117 LR LR 02 22 35.6
comp=Z,115nm,18.2s,baz=315,slow=32
ZST Bratislava 61.19 39 *e*P **P 02 00 23.1 +2.6**
ZST Bratislava 61.19 39 *e*P **P 02 00 23.1 +2.6**
VRAC Vranov 61.30 38 *e*P **P 02 00 21.9 +0.6**
VRAC Vranov 61.30 38 LR LR 02 23 11.5
comp=Z,178nm,21.9s,baz=246,slow=33
MODS Modra-Piesok 61.37 39 *e*P **P 02 00 22.4 +0.7**
MODS Modra-Piesok 61.37 39 *e*P **P 02 00 22.4 +0.7**
OK032 Salt Plains WL 61.38 308 IAmb IAmb 02 00 23.3
comp=Z,11nm,0.7s
WMOK Wichita Mounta 61.43 305 P **P 02 00 22.6 +0.2**
baz=100,SNR=6.5
WMOK Wichita Mounta 61.43 305 P **P 02 00 21.7 -0.7**
UPC Upice 61.44 36 *e*P **P 02 00 22.0 -0.2**
UPC Upice 61.44 36 *e*P **P 02 00 22.0 -0.2**
MORH Mrgy, Hungar 61.47 41 ⇑P **P 02 00 21.5 -1.0**
JCT Junction City 61.61 300 IAmb IAmb 02 00 25.1
comp=Z,24nm,1.5s
JCT Junction City 61.61 300 P **P 02 00 24.0 +0.2**
baz=98
KRLC Kraliky 61.72 37 *e*P **P 02 00 23.3 -0.8**
KRLC Kraliky 61.72 37 *e*P **P 02 00 23.3 -0.8**
ABTX Abilene, Hawle 61.78 303 P **P 02 00 24.0 -0.9**
baz=99
SRO Srobarova 61.81 40 *e*P **P 02 00 26.1 +1.4**
SRO Srobarova 61.81 40 *e*P **P 02 00 26.1 +1.4**
ECSD EROS Data Cent 61.91 316 IAmb IAmb 02 00 26.5
comp=Z,9.4nm,0.8s
ECSD EROS Data Cent 61.91 316 P **P 02 00 25.6 0.0**
baz=107,SNR=13
MORC Moravsky Berou 62.06 37 *e*P **P 02 00 26.1 -0.3**
MAUC Maruska 62.07 38 *e*P **P 02 00 28.1 +1.6**
AGG Agios Georgios 62.08 50 P **P 02 00 27.3 +0.6**
AGG Agios Georgios 62.08 50 P **P 02 00 27.3 +0.6**
AGG pmax pmax
comp=Z,5.0nm,0.8s
APMT Aspermont 62.29 303 IAmb IAmb 02 00 29.4
comp=Z,20nm,1.4s
F33A 5 Mile Ranch, 62.33 318 IAmb IAmb 02 00 30.5
comp=Z,6.0nm,0.8s
VYHS Vyhne 62.38 39 *e*P **P 02 00 33.1 +4.6**
VYHS Vyhne 62.38 39 *e*P **P 02 00 33.1 +4.6**
BGNE Belgrade 62.38 313 P **P 02 00 29.1 +0.4**
baz=104,SNR=5.1
OKC Ostrava-Krasne 62.44 37 AMS AMS 02 23 00.0
comp=Z,200nm,24.0s
AGMN Agassiz Nation 62.84 321 P **P 02 00 31.3 -0.3**
AGMN IAmb IAmb 02 00 32.1
comp=Z,6.6nm,0.8s
AGMN Agassiz Nation 62.84 321 P **P 02 00 32.3 +0.6**
baz=110
SN05 Snyder 5 62.85 303 IAmb IAmb 02 00 33.5
comp=Z,8.5nm,0.7s
SN07 Snyder 07 62.89 303 IAmb IAmb 02 00 33.5
comp=Z,12nm,1.3s
CBKS Cedar Bluff 62.98 309 P **P 02 00 32.9 +0.1**
baz=102
LANS Liptovska Anna 63.00 38 *e*P **P 02 00 34.1 +1.4**
LANS Liptovska Anna 63.00 38 *e*P **P 02 00 34.1 +1.4**
DKNS Dickens 63.00 304 IAmb IAmb 02 00 34.3
comp=Z,22nm,1.5s
UMMG Uummannaq 63.17 355 *i* P **P 02 00 33.1 -0.2**
UMMG IAmb IAmb 02 00 34.4
comp=Z,12nm,0.8s
BZS Buzias 63.26 43 ⇑P **P 02 00 34.1 -0.3**
BZS Buzias 63.26 43 ⇑P **P 02 00 34.1 -0.3**
ULM Lac du Bonnet 63.53 323 P **P 02 00 31.8 -4.3**
comp=Z,13nm,0.8s,baz=107,slow=6.6,SNR=22
comp=Z,13nm,0.8s
ULM Lac du Bonnet 63.53 323 *e*P **P 02 00 35.7 -0.4**
ULM pmax pmax
comp=Z,13nm,0.8s
SAND Sanderson 63.54 299 IAmb IAmb 02 00 38.4
comp=Z,18nm,1.4s
HERR Herculane 63.59 44 ⇑P **P 02 00 36.1 -0.6**
SURR Surduc 63.64 43 ⇑P **P 02 00 36.6 -0.4**
AMTX Amarillo 63.80 305 IAmb IAmb 02 00 39.6
comp=Z,10nm,1.1s
AMTX Amarillo 63.80 305 P **P 02 00 38.3 0.0**
baz=99
GZR Gura Zlata 63.98 43 ⇑P **P 02 00 38.7 -0.6**
GZR Gura Zlata 63.98 43 ⇑P **P 02 00 38.7 -0.6**
NORES NORESS Array B 64.11 25 P **P 02 00 40.8 +1.0**
NORES pmax pmax
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra 64.14 24 P **P 02 00 39.2 -0.8**
comp=Z,13nm,1.2s,baz=231,slow=6.9
NB2 NORSAR Subarra 64.14 24 P **P 02 00 40.8 +0.8**
NB2 pmax pmax
comp=Z,8.0nm,1.4s
NOA NORSAR Array B 64.14 24 P P 02 00 34.3 -5.8
comp=Z,0.8nm,0.9s,baz=156,slow=9.8,SNR=2.6
NOA LR LR 02 26 35.2
comp=Z,108nm,18.1s,baz=235,slow=34
comp=Z,0.8nm,0.9s
NOA NORSAR Array B 64.14 24 *e*P **P 02 00 40.3 +0.3**
NOA pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 64.18 39 *e*P **P 02 00 43.3 +2.8**
STHS Stebnicka Huta 64.18 39 *e*P **P 02 00 43.3 +2.8**
DRGR 64.32 42 ⇑P **P 02 00 40.9 -0.6**
DRGR 64.32 42 ⇑P **P 02 00 40.9 -0.6**
SUMG Summit 64.45 360 P **P 02 00 41.6 -0.7**
SUMG Summit 64.45 360 P **P 02 00 41.6 -0.7**
SUMG pmax pmax
comp=Z,23nm,0.9s
SUMG Summit 64.45 360 *i* P **P 02 00 41.0 -1.3**
SUMG IAmb IAmb 02 00 44.0
comp=Z,17nm,0.8s
MARR Marisel-Cluj 64.56 42 ⇑P **P 02 00 42.2 -0.9**
MSTX Muleshoe 64.57 304 P **P 02 00 44.0 +0.5**
baz=98
HFS Hagfors 64.70 26 P **P 02 00 38.8 -4.8**
comp=Z,2.2nm,1.0s,baz=221,slow=5.9,SNR=10
HFS LR LR 02 24 06.4
comp=Z,108nm,21.5s,baz=241,slow=32
comp=Z,2.2nm,1.0s
TXAR Lajitas Array 64.82 299 P **P 02 00 42.6 -2.5**
comp=Z,2.0nm,0.6s,baz=104,slow=6.8,SNR=32
TXAR LR LR 02 27 16.8
comp=Z,18nm,20.7s,baz=91,slow=34
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 64.82 299 *e*P **P 02 00 44.5 -0.7**
RTBA Rita Blanca 64.89 306 IAmb IAmb 02 00 47.0
comp=Z,17nm,1.4s
ALPN Alpine 64.89 300 IAmb IAmb 02 00 47.5
comp=Z,9.4nm,0.9s
RDO Rodhopi 64.94 48 IAmb IAmb 02 00 49.3
comp=Z,9.0nm,1.1s
MDND Maddock 65.09 319 P **P 02 00 46.8 +0.3**
baz=106
OGNE Ogallala 65.13 311 P **P 02 00 47.4 +0.4**
baz=101
KSCO Kaye Shedlock' 65.22 309 P **P 02 00 48.4 +0.7**
baz=100
ARR Arges 65.24 44 ⇑P **P 02 00 47.2 -0.4**
ALN Alexandroupoli 65.26 49 P **P 02 00 47.2 -0.5**
ALN Alexandroupoli 65.26 49 P **P 02 00 47.2 -0.5**
ALN pmax pmax
comp=Z,6.0nm,0.9s
ARCR ARCALIA 65.49 42 ⇑P **P 02 00 48.6 -0.5**
VOIR 65.54 44 ⇓P **P 02 00 49.0 -0.5**
VOIR 65.54 44 ⇓P **P 02 00 49.0 -0.5**
VOIR 65.54 44 P **P 02 00 52.3 +2.8**
comp=Z,3.0nm,1.3s
JMIC Jan Mayen 65.54 10 LR LR 02 22 30.0
comp=Z,66nm,20.6s,baz=208,slow=30
ELND Elena 65.55 46 ⇑P **P 02 00 49.0 -0.5**
VHRN Van Horn 66.08 300 IAmb IAmb 02 00 56.0
comp=Z,23nm,1.6s
MLR Muntele Rosu 66.16 44 ⇑P **P 02 00 52.8 -0.8**
MLR Muntele Rosu 66.16 44 P **P 02 00 52.3 -1.3**
MLR Muntele Rosu 66.16 44 LR LR 02 29 35.9
comp=Z,119nm,18.6s,baz=280,slow=36
MLR Muntele Rosu 66.16 44 ⇑P **P 02 00 52.8 -0.8**
MLR Muntele Rosu 66.16 44 P **P 02 00 52.7 -0.9**
comp=Z,22nm,0.8s,comp=Z,275nm
BURAR Bucovina Array 66.19 41 ⇑P **P 02 00 52.6 -1.1**
T25A Trinidad 66.32 307 IAmb IAmb 02 00 58.1
comp=Z,13nm,1.2s
T25A Trinidad 66.32 307 P **P 02 00 55.2 +0.3**
baz=98
COVR Voineasa-Covas 66.42 43 ⇑P **P 02 00 52.6 -2.5**
MNTX Cornudas Mount 66.50 301 P **P 02 00 56.2 +0.3**
baz=95,SNR=5.2
VRI Vrincioaia 66.78 43 ⇑P **P 02 00 56.7 -0.7**
VRI Vrincioaia 66.78 43 ⇑P **P 02 00 56.7 -0.7**
SUW Suwalki 66.83 34 P **P 02 00 57.0 -0.5**
SUW Suwalki 66.83 34 *e*P **P 02 00 53.5 -3.9**
SUW Suwalki 66.83 34 P **P 02 00 57.0 -0.5**
SUW pmax pmax
comp=Z,24nm,0.9s
Q24A Divide 67.16 309 IAmb IAmb 02 01 11.0
comp=Z,7.6nm,1.0s
Q24A Divide 67.16 309 P **P 02 01 01.3 +1.0**
baz=98
RSSD Black Hills 67.21 314 P **P 02 01 01.0 +0.6**
baz=101
SDCO Great Sand Dun 67.26 307 P **P 02 01 01.6 +0.7**
baz=98,SNR=11
HARR Harsova 67.37 45 ⇑P **P 02 01 00.0 -1.1**
HARR Harsova 67.37 45 ⇑P **P 02 01 00.0 -1.1**
CFR Carcaliu 67.61 44 ⇑P **P 02 01 01.8 -0.8**
CFR Carcaliu 67.61 44 ⇑P **P 02 01 01.8 -0.8**
ANMO Albuquerque 67.71 304 P **P 02 01 05.4 +1.7**
ANMO Albuquerque 67.71 304 P **P 02 01 04.6 +0.9**
baz=96
ANMO Albuquerque 67.71 304 LR LR 02 26 53.0
comp=Z,118nm,21.6s,baz=204,slow=33
ANMO Albuquerque 67.71 304 *ce*P **P 02 01 05.9 +2.2**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
TPGR Topolog 67.74 45 ⇑P **P 02 01 02.2 -1.3**
PABE Paberze 67.75 33 P **P 02 01 04.2 +1.0**
PABE Paberze 67.75 33 *e*P **P 02 01 00.1 -3.2**
N23A Red Feather La 68.05 311 IAmb IAmb 02 01 08.8
comp=Z,12nm,1.1s
N23A Red Feather La 68.05 311 P **P 02 01 07.2 +1.3**
baz=99,SNR=6.2
S22A 4UR Ranch, Cre 68.31 307 IAmb IAmb 02 01 11.0
comp=Z,11nm,1.4s
S22A 4UR Ranch, Cre 68.31 307 P **P 02 01 08.6 +1.0**
baz=97,SNR=6.6
SORM Soroca 68.36 41 ⇑P **P 02 01 05.2 -2.1**
SORM Soroca 68.36 41 ⇑P **P 02 01 05.2 -2.1**
SORM Soroca 68.36 41 P **P 02 01 04.9 -2.4**
comp=Z,16nm,0.8s,comp=Z,565nm
LUBAR Lubar, Ukraine 68.39 39 P **P 02 01 05.2 -2.2**
MILM Milestii Mici 68.42 43 ⇓*e*P **P 02 01 05.0 -2.6**
comp=Z,20nm,1.0s
MILM Milestii Mici 68.42 43 *de*P **P 02 01 05.0 -2.6**
MILM *e* 02 01 14.0
MILM pmax pmax
comp=Z,20nm,1.0s
MILM MLR MLR
comp=Z,100nm,15.0s
FFC Flin Flon 68.51 326 P **P 02 01 06.8 -1.3**
FFC Flin Flon 68.51 326 P **P 02 01 06.8 -1.3**
FFC pmax pmax
comp=Z,15nm,0.9s
121A Cookes Peak, D 68.60 302 IAmb IAmb 02 01 12.3
comp=Z,16nm,1.6s
121A Cookes Peak, D 68.60 302 P **P 02 01 10.5 +1.1**
baz=94
K22A Casper 68.74 313 P **P 02 01 10.7 +0.7**
baz=99
MBAR Mbarara 69.13 94 LR LR 02 29 07.7
comp=Z,67nm,20.0s,baz=286,slow=34
MBAR Mbarara 69.13 94 *i* P **P 02 01 11.8 -1.1**
AK20 Malin Array Si 69.36 39 P **P 02 01 11.8 -1.6**
AK13 Malin Array Si 69.36 39 P **P 02 01 11.9 -1.5**
AK21 Malin Array Si 69.38 39 P **P 02 01 12.5 -1.1**
AK18 Malin Array Si 69.39 39 P **P 02 01 12.0 -1.6**
AK14 Malin Array Si 69.39 39 P **P 02 01 12.0 -1.6**
AK22 Malin Array Si 69.40 39 P **P 02 01 12.0 -1.7**
AK12 Malin Array Si 69.42 39 P **P 02 01 12.2 -1.6**
AK07 Malin Array Si 69.44 39 P **P 02 01 12.2 -1.7**
AK04 Malin Array Si 69.45 39 P **P 02 01 12.4 -1.6**
AK05 Malin Array Si 69.45 39 P **P 02 01 12.3 -1.7**
DAG Danmarks Havn 69.47 5 *i* P **P 02 01 13.0 -0.6**
DAG IAmb IAmb 02 01 14.7
comp=Z,4.6nm,0.8s
AKASG Malin Array Be 69.48 39 P P 02 01 08.6 -5.6
comp=Z,1.3nm,0.5s,baz=250,slow=8.8,SNR=7.0
AKASG LR LR 02 28 47.6
comp=Z,136nm,21.5s,baz=232,slow=34
comp=Z,1.3nm,0.5s
AKASG Malin Array Be 69.48 39 *e*P **P 02 01 17.0 +2.8**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 69.48 39 *ce*P **P 02 01 14.2 0.0**
AKBB pmax pmax
comp=Z,3.0nm,0.6s
MVCO Mesa Verde 69.57 307 IAmb IAmb 02 01 18.1
comp=Z,18nm,1.6s
MVCO Mesa Verde 69.57 307 P **P 02 01 15.1 -0.3**
baz=95
MNK Minsk 69.61 35 *i* P **P 02 01 13.3 -1.6**
MNK *i* 02 01 36.0
MNK *i* 02 03 46.9
MNK *i* PPP PPP 02 05 27.9
MNK *i* S **S 02 10 22.2 -0.3**
MNK *i* 02 11 18.5
MNK *i* SS **SS 02 14 55.6 +5.3**
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK pmax pmax
comp=E,4.0nm,0.7s
O20A White River Ci 69.68 310 IAmb IAmb 02 01 18.2
comp=Z,18nm,1.3s
O20A White River Ci 69.68 310 P **P 02 01 15.9 0.0**
baz=97,SNR=9.3
NEEM North Greenlan 69.69 357 *i* P **P 02 01 15.1 -0.3**
NEEM IAmb IAmb 02 01 16.7
comp=Z,9.9nm,0.9s
VAF Ylistaro 69.84 25 *e*P **P 02 01 15.4 -0.8**
W18A Petrified Fore 70.40 304 IAmb IAmb 02 01 23.5
comp=Z,22nm,1.4s
W18A Petrified Fore 70.40 304 P **P 02 01 21.1 +0.7**
baz=94,SNR=5.8
KEF Keuruu 70.46 26 *e*P **P 02 01 19.3 -0.7**
RDMU Red Mountain 70.74 310 IAmb IAmb 02 01 24.5
comp=Z,19nm,1.3s
FINES FINESS Array B 70.75 27 P P 02 01 16.3 -5.4
comp=Z,1.7nm,0.7s,baz=198,slow=4.1,SNR=2.5
FINES LR LR 02 30 58.2
comp=Z,102nm,19.4s,baz=220,slow=35
comp=Z,1.7nm,0.7s
FINES FINESS Array B 70.75 27 *e*P **P 02 01 21.0 -0.8**
FINES pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 70.84 51 LR LR 02 32 25.1
comp=Z,63nm,21.9s,baz=267,slow=36
BW06 Boulder Array 70.97 312 P **P 02 01 23.9 +0.1**
baz=97
PDAR Pinedale Array 70.97 312 P **P 02 01 19.1 -4.7**
comp=Z,0.6nm,1.0s,baz=116,slow=8.1,SNR=11
comp=Z,0.6nm,1.0s
RLMT Red Lodge 71.06 315 IAmb IAmb 02 01 26.5
comp=Z,10nm,0.9s
RLMT Red Lodge 71.06 315 P **P 02 01 24.9 +0.7**
baz=98,SNR=6.4
BOSA Boshof 71.08 124 P P 02 01 19.2 -5.4
comp=Z,9.6nm,0.9s,baz=308,slow=12,SNR=3.6
BOSA LR LR 02 26 48.7
comp=Z,22nm,21.3s,baz=253,slow=31
comp=Z,9.6nm,0.9s
TUC Tucson 71.12 301 P **P 02 01 26.5 +1.8**
TUC Tucson 71.12 301 P **P 02 01 25.3 +0.5**
baz=92
TUC Tucson 71.12 301 P **P 02 01 26.5 +1.8**

TUC pmax pmax
comp=Z,4.0nm,0.9s
EIL Elat 71.33 61 LR LR 02 31 21.1
comp=Z,132nm,21.5s,baz=250,slow=35
SRU San Rafael Swe 71.33 308 IAmb IAmb 02 01 28.4
comp=Z,11nm,1.3s
HMU Henry Mountain 71.41 307 IAmb IAmb 02 01 29.9
comp=Z,18nm,1.4s
BSUT Blindstream Ca 71.64 310 IAmb IAmb 02 01 37.7
comp=Z,9.8nm,0.9s
WUAZ Wupatki 71.76 305 IAmb IAmb 02 01 31.7
comp=Z,12nm,1.1s
WUAZ Wupatki 71.76 305 P **P** **02 01 29.7 +1.0**
baz=93,SNR=5.5
EGMT Eagleton 71.79 318 IAmb IAmb 02 01 30.2
comp=Z,11nm,0.8s
EGMT Eagleton 71.79 318 P **P** **02 01 29.5 +1.0**
baz=98
MMAI Mount Meron Ar 71.82 58 P **P** **02 01 24.7 -4.2**
comp=Z,2.1nm,0.8s,baz=237,slow=5.0,SNR=4.4
MMAI LR LR 02 33 17.7
comp=Z,71nm,20.7s,baz=226,slow=36
comp=Z,2.1nm,0.8s
H17A Grant Village 71.89 314 P **P** **02 01 29.8 +0.4**
baz=96
YFT Old Faithful 72.08 314 IAmb IAmb 02 01 40.2
comp=Z,17nm,0.9s
IMW Indian Meadow 72.10 313 IAmb IAmb 02 01 32.9
comp=Z,13nm,0.8s
AHID Auburn Hatcher 72.10 312 IAmb IAmb 02 01 32.5
comp=Z,22nm,1.4s
PUL Pulkovo 72.26 30 *i* P **P** **02 01 33.5 +2.6**
CTU Camp Tracy 72.40 310 IAmb IAmb 02 01 41.9
comp=Z,6.1nm,0.7s
PKCU Pink Cliffs 72.62 307 IAmb IAmb 02 01 41.8
comp=Z,25nm,1.6s
BOZ Bozeman (W) 72.77 315 P **P** **02 01 34.9 +0.5**
baz=96,SNR=11
214A Organ Pipe Nat 72.83 301 P **P** **02 01 36.1 +1.1**
baz=91
SPUT South Promonto 72.97 311 IAmb IAmb 02 01 38.0
comp=Z,18nm,1.2s
LODK Lodwar 73.15 89 P **P** **02 01 37.1 -0.1**
DUG Dugway, Tooele 73.17 309 IAmb IAmb 02 01 54.8
comp=Z,31nm,1.9s
DUG Dugway, Tooele 73.17 309 P **P** **02 01 38.1 +1.1**
baz=94
BGU Big Grassy Mou 73.39 310 IAmb IAmb 02 02 15.3
comp=Z,14nm,0.8s
ARCES ARCESS Array B 73.42 19 P P 02 01 32.4 -5.3
comp=Z,1.6nm,0.7s,baz=241,slow=4.2,SNR=20
ARCES LR LR 02 29 13.7
comp=Z,70nm,20.4s,baz=244,slow=32
comp=Z,1.6nm,0.7s
ARCES ARCESS Array B 73.42 19 *e*P **P** **02 01 36.2 -1.4**
ARCES pmax pmax
comp=Z,5.0nm,0.7s
JOF Joensuu 73.53 27 *e*P **P** **02 01 37.2 -1.2**
RES Resolute Bay 73.83 347 P **P** **02 01 41.1 +1.2**
RES IAmb IAmb 02 01 42.2
comp=Z,11nm,0.9s
RES Resolute Bay 73.83 347 LR LR 02 28 45.6
comp=Z,38nm,21.1s,baz=328,slow=32
RES Resolute Bay 73.83 347 P **P** **02 01 41.2 +1.2**
RES pmax pmax
comp=Z,11nm,1.0s
KEV Kevo 73.98 19 P **P** **02 01 39.7 -1.2**
KEV IAmb IAmb 02 01 42.0
comp=Z,11nm,0.7s
KEV Kevo 73.98 19 P **P** **02 01 39.7 -1.2**
KEV pmax pmax
comp=Z,11nm,0.7s
PDMCI Parker Dam,Lak 73.99 303 P **P** **02 01 42.9 +1.2**
baz=91
NOR Nord 74.13 3 *i* P **P** **02 01 40.5 -1.1**
NOR IAmb IAmb 02 01 42.9
comp=Z,5.6nm,0.9s
MSO Missoula 74.48 316 P **P** **02 01 45.8 +1.3**
baz=95
GLA Glamis 74.55 302 P **P** **02 01 46.1 +1.1**
baz=90
HLID Hailey 74.58 313 P **P** **02 01 46.0 +0.8**
baz=94,SNR=13
OBN Obninsk 74.65 35 LR LR 02 33 08.7
comp=Z,143nm,19.5s,baz=308,slow=35
OBN Obninsk 74.65 35 *de*P **P** **02 01 48.4 +3.4**
OBN *e* 02 04 31.1
OBN *e*PPP PPP 02 06 22.3
OBN *i* S **SKSac** **02 11 57.9 +5.1**
OBN pmax pmax
comp=Z,9.0nm,1.0s
IRM Iron Mountain 74.82 303 P **P** **02 01 47.8 +1.3**
baz=90
ELK Elko 75.05 310 P **P** **02 01 49.5 +1.5**
BC3 Big Chuckawall 75.08 303 P **P** **02 01 49.2 +1.0**
baz=90
PMSA Palmer Station 75.20 191 LR LR 02 35 16.6
comp=Z,22nm,18.7s,baz=4.0,slow=36
SPITS Spitsbergen Ar 75.22 10 LR LR 02 27 09.6
comp=Z,95nm,21.9s,baz=202,slow=30
R11B Troy Canyon, C 75.25 307 P **P** **02 01 50.4 +1.3**
baz=91,SNR=6.1
GMRC Granite Mounta 75.25 304 P **P** **02 01 50.7 +1.5**
baz=90
SWSC Sam W. Stewart 75.36 302 P **P** **02 01 51.1 +1.4**
baz=90
EUNU Eureka 75.42 352 IAmb IAmb 02 01 51.0
comp=Z,12nm,0.8s
BELC Belle Mtn. Jos 75.53 303 P **P** **02 01 51.3 +0.5**
baz=90
IKP In-Ko-Pah, Jac 75.63 302 P **P** **02 01 52.8 +1.5**
baz=90
TPNV Topopah Spring 75.75 306 P **P** **02 01 53.5 +1.5**
baz=91,SNR=5.2
HEC Hector,Ludlow 75.81 304 P **P** **02 01 53.4 +1.1**
baz=90
MONP2 Monument Peak 75.89 302 P **P** **02 01 53.7 +0.8**
baz=90
TPFO Pinon Flats 0 75.91 303 P **P** **02 01 53.9 +0.9**
baz=90
PFO Pinyon Flats O 75.91 303 P **P** **02 01 53.7 +0.7**
baz=90
PFO Pinyon Flats O 75.91 303 LR LR 02 33 54.5
comp=Z,47nm,19.3s,baz=198,slow=35
PFO Pinyon Flats O 75.91 303 *i* P **P** **02 01 56.4 +3.4**
LVZ Lovozero 76.10 22 P **P** **02 01 54.7 +1.5**
LVZ IAmb IAmb 02 01 55.4
comp=Z,12nm,0.8s
LVZ Lovozero 76.10 22 *e*P **P** **02 01 54.7 +1.5**
LVZ pmax pmax
comp=Z,35nm,2.5s
GSC Goldstone, Bar 76.19 304 P **P** **02 01 55.2 +0.7**
baz=90
MURC Murrieta 76.53 303 P **P** **02 01 57.1 +0.8**
baz=89
YKA Yellowknife Ar 76.66 332 P **P** **02 01 52.3 -4.1**
comp=Z,3.9nm,0.8s,baz=98,slow=5.5,SNR=15
YKA LR LR 02 33 37.2
comp=Z,73nm,19.4s,baz=20,slow=34
comp=Z,3.9nm,0.8s
YKA Yellowknife Ar 76.66 332 *e*P **P** **02 01 56.0 -0.4**
YKA pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 76.73 318 P **P** **02 01 57.7 +0.5**
baz=93,SNR=5.7
NEW Newport 76.73 318 LR LR 02 34 32.3
comp=Z,40nm,18.5s,baz=134,slow=35
NEW Newport 76.73 318 P **P** **02 01 57.6 +0.4**
MPMC Manual Prospec 76.75 305 P **P** **02 01 58.5 +0.7**
baz=90
BFSC Mount Baldy Ra 76.90 303 P **P** **02 01 59.1 +0.5**
baz=89
KLMR Klimovskoe 76.96 29 *e*P **P** **02 01 56.4 -1.7**
KLMR pmax pmax
comp=Z,12nm,0.8s
EDW2 Edwards Air Fo 77.17 304 P **P** **02 02 00.5 +0.5**
baz=89
CWC Cottonwood Cre 77.22 305 P **P** **02 02 01.4 +1.0**
baz=89
RPN Rapa Nui 77.26 240 LR LR 02 34 11.8
comp=Z,62nm,19.8s,baz=202,slow=34
NVAR Mina Array Bea 77.38 308 P **P** **02 01 57.5 -3.8**
comp=Z,0.1nm,0.3s,baz=92,slow=6.6,SNR=2.5
NVAR LR LR 02 32 30.5
comp=Z,39nm,21.8s,baz=98,slow=33
comp=Z,0.1nm,0.3s
ISA Isabella, Lake 77.55 305 P **P** **02 02 02.9 +0.7**
baz=89

WVOR Wild Horse Val 77.64 312 IAmb IAmb 02 02 05.8
comp=Z,22nm,1.8s
WVOR Wild Horse Val 77.64 312 P **P** **02 02 04.5 +1.9**
SHA1 Shidzhatmaz 77.79 47 *ce*P **P** **02 02 03.6 +0.1**
KIV Kislovodsk 77.81 47 *e*P **P** **02 02 03.4 0.0**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,35nm,19.0s
KVAR Kislovodsk Arr 77.82 47 LR LR 02 35 50.2
comp=Z,39nm,21.6s,baz=294,slow=36
KBZ Khabaz 77.96 47 P **P** **02 02 01.5 -2.6**
comp=Z,4.3nm,0.8s,baz=246,slow=2.4,SNR=7.4
KBZ LR LR 02 39 00.4
comp=Z,36nm,18.4s,baz=294,slow=38
KBZ Khabaz 77.96 47 *e*P **P** **02 02 04.1 0.0**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
PKM Mcpherson Peak 78.67 304 P **P** **02 02 09.4 +0.9**
baz=88
G06A Carlson Farm, 79.08 314 IAmb IAmb 02 02 13.2
comp=Z,18nm,1.3s
GNI Garni 79.38 51 LR LR 02 38 22.4
comp=Z,20nm,20.2s,baz=286,slow=37
PMPB Monarch Peak 79.42 305 IAmb IAmb 02 02 15.3
comp=Z,14nm,0.7s
YBH Yreka Blue Hor 80.68 311 LR LR 02 36 17.3
comp=Z,64nm,19.0s,baz=126,slow=34
BELG Belogornoye 81.05 38 LR LR 02 38 54.7
comp=Z,68nm,18.3s,baz=253,slow=36
BELG Belogornoye 81.05 38 *i* P **P** **02 02 20.2 -0.5**
BELG pmax pmax
comp=Z,2.0nm,0.9s
VNA3 Neumayer Olymp 81.39 171 ⇓P **P** **02 02 22.2 +0.1**
comp=Z,4.8nm,0.8s
VNA2 Neumayer--Watz 81.47 170 ⇓P **P** **02 02 21.8 -0.7**
comp=Z,2.0nm,0.7s,baz=355,slow=7.1
A36M Sachs Harbour 81.50 342 P **P** **02 02 24.3 +1.5**
baz=90
TOAD Toad River Com 81.68 328 P **P** **02 02 24.7 +0.7**
baz=88
KIRV Kirov 81.87 32 LR LR 02 36 40.4
comp=Z,124nm,20.2s,baz=277,slow=34
SNAA Sanae 82.90 169 P **P** **02 02 29.8 -0.3**
SNAA IAmb IAmb 02 02 33.2
comp=Z,30nm,2.0s
SNAA Sanae 82.90 169 ⇓P **P** **02 02 29.9 -0.3**
comp=Z,84nm,0.8s
SNAA Sanae 82.90 169 P **P** **02 02 28.2 -1.9**
comp=Z,3.5nm,0.8s,baz=317,slow=4.5,SNR=9.6
comp=Z,3.5nm,0.8s
SNAA Sanae 82.90 169 *ce*P **P** **02 02 30.5 +0.4**
SNAA pmax pmax
comp=Z,9.0nm,1.7s
TROLL Troll, Antarti 84.20 168 ⇓P **P** **02 02 36.8 0.0**
comp=Z,82nm,0.6s
DLBC Dease Lake 84.20 328 IAmb IAmb 02 02 40.2
comp=Z,8.4nm,0.9s
DLBC Dease Lake 84.20 328 P **P** **02 02 38.4 +1.2**
baz=84,SNR=5.8
T35M Bob Quinn 84.48 327 P **P** **02 02 39.8 +1.2**
baz=84
INK Inuvik 84.57 338 P **P** **02 02 38.4 -0.3**
INK IAmb IAmb 02 02 41.6
comp=Z,8.8nm,0.7s
INK Inuvik 84.57 338 P **P** **02 02 40.1 +1.4**
baz=82,SNR=9.7
INK Inuvik 84.57 338 P **P** **02 02 38.4 -0.3**
INK pmax pmax
comp=Z,9.0nm,0.7s
R33M Jennings River 84.59 329 IAmb IAmb 02 02 42.9
comp=Z,12nm,1.4s
R33M Jennings River 84.59 329 P **P** **02 02 40.0 +0.8**
baz=83
F31M Tsiigehtchic 84.78 337 P **P** **02 02 41.1 +1.3**
baz=82
S34M Telegraph Cree 84.84 328 P **P** **02 02 42.0 +1.6**
baz=83
G31M Satah River 85.06 337 P **P** **02 02 41.1 -0.1**
baz=81,SNR=12
H31M Peel River 85.26 336 IAmb IAmb 02 02 44.6
comp=Z,12nm,1.1s
H31M Peel River 85.26 336 P **P** **02 02 42.4 +0.1**
baz=81,SNR=8.8
Q32M Nakina River 85.31 329 P **P** **02 02 42.9 0.0**
baz=82
P33M Teslin, Yukon 85.41 330 IAmb IAmb 02 02 46.0
comp=Z,12nm,1.1s
P33M Teslin, Yukon 85.41 330 P **P** **02 02 43.3 0.0**
baz=82,SNR=6.2
V35K Ketchikan 85.43 325 P **P** **02 02 43.2 -0.1**
baz=82
F30M Barrier River 85.53 338 P **P** **02 02 43.9 +0.4**
baz=80,SNR=9.5
WRAK Wrangell Islan 85.69 326 P **P** **02 02 45.2 +0.6**
baz=82
G30M tAoh Zraii Nji 85.81 337 P **P** **02 02 45.8 +0.7**
baz=79
BELA Belgrano 2 85.83 179 P **P** **02 02 44.2 -0.6**
M31M Drury Creek, Y 85.86 332 P **P** **02 02 46.7 +1.4**
baz=81,SNR=13
P32M Atlin 85.95 330 P **P** **02 02 46.7 +0.8**
baz=81
EPYK Eagle Plains 86.12 336 P **P** **02 02 46.9 +0.3**
baz=79
E29M Blow River 86.16 339 P **P** **02 02 47.0 +0.4**
baz=78,SNR=7.1
U33K Whale Pass 86.17 326 P **P** **02 02 47.0 +0.1**
baz=81
I30M Mount Dempster 86.20 335 P **P** **02 02 48.0 +0.9**
baz=79,SNR=11
D28M Stokes Point 86.25 340 P **P** **02 02 47.7 +0.7**
baz=77
CRAG Craig 86.27 325 P **P** **02 02 47.8 +0.3**
baz=81
J30M Hart River 86.30 335 P **P** **02 02 48.6 +0.9**
baz=79
WHY Whitehorse 86.35 331 P **P** **02 02 48.1 +0.2**
baz=80
G29M Pine Creek 86.52 337 P **P** **02 02 49.1 +0.6**
baz=78
R32K Eaglecrest 86.57 328 P **P** **02 02 49.1 +0.2**
baz=80
N31M Braeburn, Yuko 86.63 332 IAmb IAmb 02 02 53.3
comp=Z,7.1nm,0.9s
N31M Braeburn, Yuko 86.63 332 P **P** **02 02 49.2 0.0**
baz=79
E28M Babbage River 86.70 339 P **P** **02 02 49.8 +0.4**
baz=76
S32K Killisnoo 86.74 327 P **P** **02 02 50.9 +1.2**
baz=80
H29M Whitestone 86.80 336 IAmb IAmb 02 02 52.1
comp=Z,10.0nm,0.8s
H29M Whitestone 86.80 336 P **P** **02 02 50.2 +0.3**
baz=77,SNR=16
M30M Minto, Yukon 86.89 333 P **P** **02 02 51.8 +1.3**
baz=78
O30N Mendenhall 86.92 331 P **P** **02 02 51.7 +1.1**
baz=79
K29M Barlow Dome 86.96 334 IAmb IAmb 02 02 59.4
comp=Z,24nm,1.9s
K29M Barlow Dome 86.96 334 P **P** **02 02 52.1 +1.2**
baz=78,SNR=7.1
ARU Arti 87.00 34 LR LR 02 38 49.6
comp=Z,188nm,21.4s,baz=262,slow=34
ARU Arti 87.00 34 *c i* P **P** **02 02 51.2 +0.1**
ARU 02 06 14.4
ARU S **SKSac** **02 13 17.9 +0.3**
ARU SS **SS** **02 19 09.3 -2.4**
ARU pmax pmax
comp=Z,6.0nm,0.8s
D27M Malcolm River 87.04 340 IAmb IAmb 02 02 53.6
comp=Z,7.4nm,0.7s
D27M Malcolm River 87.04 340 P **P** **02 02 51.9 +0.8**
baz=75,SNR=5.3
F28M Old Crow 87.06 338 P **P** **02 02 52.1 +1.0**
baz=76
N30M Aishikik Lake 87.25 332 P **P** **02 02 53.4 +1.1**
baz=78
L29M L29M 87.38 333 P **P** **02 02 53.4 +0.5**
baz=77
E27K Coleen River 87.54 339 IAmb IAmb 02 02 55.4
comp=Z,8.1nm,0.8s
E27K Coleen River 87.54 339 P **P** **02 02 54.2 +0.7**
baz=74,SNR=10
HYT Haines Junctio 87.58 331 P **P** **02 02 55.2 +1.3**
baz=78
I28M Miner Creek 87.61 336 P **P** **02 02 54.6 +0.7**
baz=76

M29M Somme Creek 87.68 333 P **P** **02 02 54.4 0.0**
baz=77
AKTO Aktyubinsk 87.71 40 LR LR 02 40 37.3
comp=Z,66nm,22.0s,baz=224,slow=35
DAWY Dawson 87.71 334 P **P** **02 02 55.5 +1.1**
baz=76
C27K Jago River 87.87 340 P **P** **02 02 55.1 +0.1**
baz=73,SNR=7.2
G27K Doyon Strip 87.93 337 P **P** **02 02 56.2 +0.8**
baz=74
H27K Steamboat Moun 88.04 337 P **P** **02 02 56.0 0.0**
baz=74,SNR=5.3
C26K Camden Bay 88.17 341 P **P** **02 02 56.6 +0.2**
baz=72
I27K Kandik River 88.24 336 P **P** **02 02 57.5 +0.6**
baz=74
F26K Sheenjek River 88.61 338 P **P** **02 02 58.6 +0.1**
baz=72,SNR=5.4
G26K Porcupine Rive 88.70 338 P **P** **02 02 59.3 +0.4**
baz=72
YUK3 Moose Creek 88.75 332 P **P** **02 02 59.0 -0.6**
baz=75
D25K Kavik River 88.86 340 P **P** **02 02 59.6 -0.1**
baz=70,SNR=16
K27K Chicken 88.86 335 P **P** **02 03 00.8 +1.0**
baz=74
I26K Coal Creek Min 88.94 336 P **P** **02 03 00.2 +0.1**
baz=73
E25K Arctic Village 88.98 339 P **P** **02 03 01.3 +1.0**
baz=71
L27K Beaver Creek, 89.03 334 P **P** **02 03 01.3 +0.7**
baz=74,SNR=8.2
PINM Pinnacle 89.08 331 P **P** **02 03 01.9 +1.0**
baz=75
ELIB Princess Elisa 89.13 164 *d*P **P** **02 03 01.1 +0.1**
comp=Z,2.5nm,1.0s
F25K Christian Rive 89.18 339 P **P** **02 03 01.8 +0.5**
baz=71
M27K Edge Creek, AK 89.24 333 P **P** **02 03 02.1 +0.3**
baz=74
J26L Joseph Creek 89.35 335 P **P** **02 03 02.5 +0.3**
baz=73,SNR=6.1
SCRK Sand Creek 89.69 335 P **P** **02 03 03.9 +0.1**
baz=72
D24K Happy Valley 89.73 340 P **P** **02 03 04.0 +0.2**
baz=68
F24K Squaw Lake 90.02 339 P **P** **02 03 05.2 0.0**
baz=69
E24K Your Creek 90.02 339 P **P** **02 03 05.1 -0.1**
baz=68
MCARA McCarthy VSAT 90.04 332 P **P** **02 03 05.6 +0.2**
baz=73
C23K Itkillik River 90.04 341 P **P** **02 03 05.4 +0.3**
baz=66
J25K Salcha River, 90.06 336 P **P** **02 03 06.0 +0.5**
baz=71
G24K Hadweenzic Riv 90.16 338 P **P** **02 03 06.0 +0.1**
baz=69
TOLK Toolik Lake Re 90.18 340 IAmb IAmb 02 03 08.4
comp=Z,5.6nm,0.8s
TOLK Toolik Lake Re 90.18 340 P **P** **02 03 05.8 -0.1**
baz=67,SNR=7.0
CRQE Cirque 90.25 332 P **P** **02 03 06.3 -0.3**
baz=73
D23K Nanushuk River 90.42 341 P **P** **02 03 07.6 +0.7**
baz=66
E23K Chandalar 90.42 340 P **P** **02 03 07.7 +0.5**
baz=67
K24K Donnelly Dome 90.49 335 P **P** **02 03 08.6 +1.1**
baz=71
ILAR Eielson Array 90.62 336 P **P** **02 03 03.6 -4.4**
comp=Z,0.4nm,0.7s,baz=64,slow=4.4,SNR=4.9
ILAR PP **PP** **02 06 45.0 +2.3**
comp=Z,0.9nm,1.2s,baz=58,slow=5.2,SNR=4.1
comp=Z,0.4nm,0.7s
ILAR Eielson Array 90.62 336 *e*P **P** **02 03 08.7 +0.7**
ILAR pmax pmax
comp=Z,2.0nm,0.7s
H24K Noodor Dome 90.63 337 P **P** **02 03 09.3 +1.2**
baz=69
PAX Paxson 90.64 334 P **P** **02 03 08.7 +0.5**
baz=71
N25K Chitina, Valde 90.69 333 P **P** **02 03 08.6 +0.1**
baz=72
POKR Poker Plat Res 90.71 336 P **P** **02 03 09.3 +0.9**
baz=69
HDA Harding Lake 90.77 336 P **P** **02 03 08.9 +0.2**
baz=70
A22K Sinclair Lake 90.85 343 P **P** **02 03 09.5 +0.6**
baz=62
BMRM Bremner River 90.89 332 P **P** **02 03 10.0 +0.6**
baz=72
COLD Coldfoot 90.95 339 P **P** **02 03 10.2 +0.7**
baz=66
G23K Bananza Creek 91.10 338 P **P** **02 03 10.3 +0.1**
baz=67
D22K Ayikyak River 91.11 341 P **P** **02 03 10.0 -0.2**
baz=64
E22K Anaktuvuk Pass 91.14 340 P **P** **02 03 10.6 +0.2**
baz=65
A21K Barrow 91.17 344 P **P** **02 03 10.5 +0.1**
baz=60
H23K Yukon River 91.27 337 P **P** **02 03 10.9 -0.1**
baz=67
KLU Klutina 91.33 333 P **P** **02 03 11.3 -0.1**
baz=70
DHY Denali Highway 91.42 335 P **P** **02 03 11.5 -0.4**
baz=69
I23K Minto, Yukon-K 91.46 337 P **P** **02 03 12.1 +0.2**
baz=67
F22K John River 91.54 339 P **P** **02 03 12.2 0.0**
baz=65
EYAK Cordova Ski Ar 91.56 332 P **P** **02 03 12.9 +0.5**
baz=71
WAT6 Susitna Watana 91.75 334 P **P** **02 03 13.7 +0.2**
baz=69
SCM Sheep Creek Mo 91.84 333 P **P** **02 03 14.7 +0.9**
baz=69
WAT1 Susitna Watana 92.01 335 P **P** **02 03 15.3 +0.8**
baz=68
GLI Glacier Island 92.07 332 P **P** **02 03 15.4 +0.6**
baz=70
F21K Alatna River 92.12 339 P **P** **02 03 15.1 +0.2**
baz=64
SML Sawmill 92.29 334 P **P** **02 03 16.8 +0.9**
baz=68
G21K Allakaket 92.44 339 P **P** **02 03 17.4 +1.0**
baz=64
D20K Etivluk River 92.46 341 P **P** **02 03 17.6 +1.1**
baz=60
BPAW Bear Paw Mtn. 92.52 336 P **P** **02 03 17.8 +0.9**
baz=66
P23K Montague Islan 92.53 332 P **P** **02 03 17.6 +0.7**
baz=69
E20K Nigu River 92.54 341 P **P** **02 03 18.1 +1.2**
baz=51
H21K Melozitna Rive 92.56 338 P **P** **02 03 17.7 +0.7**
baz=64
WSAR Wadi Sarin 92.97 66 LR LR 02 46 12.7
comp=Z,54nm,19.6s,baz=327,slow=36
F20K Avaraart Lake 92.97 340 P **P** **02 03 19.5 +0.7**
baz=61
SKT Skwentna 93.62 334 P **P** **02 03 22.6 +0.7**
baz=66
B18K Kokolik River 93.70 343 P **P** **02 03 22.6 +0.5**
baz=56
J20K Nowinta River 93.74 337 P **P** **02 03 22.8 +0.4**
baz=63
F19K Shaleruckik Mo 93.78 340 P **P** **02 03 23.6 +1.1**
baz=60
NRIK Noril'sk 94.27 17 LR LR 02 45 04.2
comp=Z,61nm,19.1s,baz=338,slow=35
NRIK Noril'sk 94.27 17 *i* P **P** **02 03 27.6 +2.9**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 94.42 35 *i* P **P** **02 03 27.7 +1.9**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 94.50 35 LR LR 02 45 37.0
comp=Z,148nm,19.3s,baz=294,slow=35
F18K Selawik 94.54 340 P **P** **02 03 27.1 +1.1**
baz=58
G18K Tagagawik 94.57 339 P **P** **02 03 27.0 +0.8**
baz=59
C17K DeLong Mountai 94.62 342 P **P** **02 03 27.1 +0.7**
baz=54
M19K Big River Lodg 94.87 335 P **P** **02 03 29.2 +1.5**

	baz=63					
O20K	Slope Mountain	94.90	333	P	P	02 03 28.3 +0.4
	baz=65					
L19K	White Mountain	94.94	335	P	P	02 03 28.2 +0.2
	baz=62					
E17K	Hotham Inlet	95.00	341	P	P	02 03 28.5 +0.4
	baz=56					
J18K	Innoko River	95.08	337	P	P	02 03 28.6 0.0
	baz=61					
P19K	Oil Pt	95.37	333	P	P	02 03 30.0 -0.1
	baz=64					
N19K	Bonanza Creek	95.41	334	P	P	02 03 30.7 +0.5
	baz=63					
Q20K	Shuyak Island	95.42	331	P	P	02 03 30.8 +0.6
	baz=65					
G17K	Kiwalik Mounta	95.48	339	P	P	02 03 30.9 +0.5
	baz=57					
M18K	Stony River	95.67	335	P	P	02 03 31.8 +0.5
	baz=62					
KDAK	Kodiak Island	95.87	331	P	P	02 03 33.4 +1.1
	baz=65					
KDAK	Kodiak Island	95.87	331	LR	LR	02 44 04.4
	comp=Z,59nm,21.9s,baz=137,slow=34					
Q19K	Cape Douglas,	95.87	332	P	P	02 03 32.6 +0.2
	baz=64					
J17K	VABM Dome	96.03	337	P	P	02 03 33.8 +0.9
	baz=58					
K17K	Iditarod	96.08	336	P	P	02 03 33.3 +0.1
	baz=59					
N18K	Kilae Creek	96.08	334	P	P	02 03 33.2 0.0
	baz=62					
G15K	Niukluk	96.94	340	P	P	02 03 36.7 -0.3
	baz=54					
O17K	Koliganek Bris	97.05	334	P	P	02 03 37.6 +0.1
	baz=61					
M16K	Timber Creek	97.22	335	P	P	02 03 38.2 -0.2
	baz=59					
K15K	Wolf Creek Mou	97.57	337	P	Pdif	02 03 40.3 +0.3
	baz=56					
TNA	Tin City	97.88	341	P	Pdif	02 03 41.4 +0.2
	baz=50					
J14K	Nanvaranak Lak	98.09	338	P	Pdif	02 03 42.4 +0.2
	baz=54					
M15K	Kasigluk River	98.11	335	P	P	02 03 41.8 -0.6
	baz=57					
N15K	Kwethluk River	98.14	335	P	P	02 03 42.1 -0.5
	baz=58					
CHIR	Chirikof Islan	98.23	330	P	P	02 03 43.0 -0.1
	baz=62					
O15K	Ungalikthiuk R	98.55	334	P	Pdif	02 03 45.1 +0.7
	baz=58					
N14K	Kuskokwak Cree	98.95	335	P	Pdif	02 03 46.3 +0.2
	baz=56					
O14K	Tigyukauivet M	99.14	334	P	Pdif	02 03 47.6 +0.6
	baz=57					
TIXI	Tiksi	99.98	4	LR	LR	02 41 21.5
	comp=Z,40nm,21.6s,baz=353,slow=31					
KURBB	Kurchatov Arra	100.08	35	P	Pdif	02 03 47.0 -4.4
	comp=Z,0.1nm,0.4s,baz=288,slow=10,SNR=1.7					
KURBB				LR	LR	02 46 58.4
	comp=Z,75nm,21.6s,baz=172,slow=34					
	comp=Z,0.1nm,0.4s					
KURK	Kurchatov	100.09	35	*i* P	Pdif	02 03 53.1 +1.7
KURK				pmax	pmax	
	comp=Z,1.0nm,1.0s					
TBI	Tubuai	112.75	248	*e*LR	LR	02 42 18.0
	comp=Z,3μm,42.2s					
TBI				*e*LR	LR	02 42 18.9
	comp=Z,1μm,35.8s					
PPT2	Papeete2	112.82	254	*e*LR	LR	02 42 29.1
	comp=Z,512nm,42.5s					
PPT2				*e*LR	LR	02 42 32.8
	comp=Z,1μm,42.5s					
HHC	Hu-ho-hao-te	123.88	27	*e*P	PKPdf	02 09 00.6 -3.8
PZH	PanZhiHua	128.03	47	PKP	PKPdf	02 09 12.4 -0.4
NJ2	Nanjing	134.43	28	*e*P	PKPdf	02 09 24.8 +0.2
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.6s					
DZM	Mont Dzumac	152.59	237	*e*LR	LR	03 00 33.9
	comp=Z,2μm,44.2s					
ASAR	Alice Springs	162.69	155	PKP	PKPdf	02 10 05.8 -2.9
	comp=Z,0.3nm,0.4s,baz=243,slow=0.6,SNR=4.4					
ASAR				PKPab	PKPab	02 10 55.5 -1.5
	comp=Z,2.3nm,0.8s,baz=200,slow=3.7,SNR=8.6					
WRA	Warramunga Arr	166.10	149	PKPab	PKPab	02 11 10.1 -2.0
	comp=Z,1.2nm,1.1s,baz=212,slow=4.1,SNR=4.6					

IDC 03 01:51:34.3±2.8, 2°.58S×136°.23E, h0km, mb3.4/2, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=131.2km s-min=30.6km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.35	186	P	Pn	01 55 38.4	+0.3
	0.1nm,0.3s,baz=7.6,slow=13,SNR=3.2						
	0.6nm,0.6s						
ASAR	Alice Springs	21.08	186	P	P	01 56 20.2	-0.2
	0.8nm,0.5s,baz=7.4,slow=11,SNR=6.5						
	0.8nm,0.5s						
SONM	Songino Array	56.58	336	P	P	02 01 19.0	0.0
	0.4nm,0.7s,baz=145,slow=7.7,SNR=2.1						
	0.4nm,0.7s						

IDC 03 02:14:53.9±1.9, 15°.09S×173°.70W, h0km, mb4.3/7, mbtmp4.3/7, Error ellipse: s-maj=49.9km s-min=32.7km az=44.0

ISC 03 02:14:56.9±2.0, 14°.7S±0°.3×173°.6W±0°.3, h35km, n8, σ0°42/9, mb4.3/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	24.85	198	P	P	02 20 16.1	0.0
	9.3nm,0.8s,baz=36,slow=11,SNR=1.7						
	9.3nm,0.8s						
STKA	Stephens Creek	44.25	239	P	P	02 23 02.8	-0.3
	2.6nm,0.8s,baz=121,slow=14,SNR=3.7						
	2.6nm,0.8s						
WRA	Warramunga Arr	49.85	256	P	P	02 23 47.0	-0.2
	1.4nm,0.5s,baz=90,slow=6.8,SNR=46						
WRA				PcP	PcP	02 25 08.1	+0.6
	0.5nm,0.9s,baz=92,slow=3.6,SNR=3.5						
	1.4nm,0.5s						
ASAR	Alice Springs	50.18	251	P	P	02 23 50.0	+0.4
	4.6nm,0.8s,baz=85,slow=8.2,SNR=26						
	4.6nm,0.8s						
VNDA	Vanda	64.02	186	P	P	02 25 26.2	-0.3
	1.9nm,1.0s,baz=338,slow=7.2,SNR=5.7						
	1.9nm,1.0s						
QSPA	South Pole Qui	75.31	180	P	P	02 26 36.5	+0.1
	2.9nm,0.8s,baz=77,slow=1.4,SNR=12						
	2.9nm,0.8s						
MAW	Mawson	88.38	199	P	P	02 27 45.2	+0.3
	2.2nm,0.7s,baz=89,slow=5.5,SNR=4.3						
	2.2nm,0.7s						
BRTR	Keskin Array B	145.54	321	PKPbc	PKiKP	02 34 35.5	-0.4
	0.8nm,0.7s,baz=47,slow=1.7,SNR=5.7						

DJA 03 02:16:22.8±1.6, 9°.5S±5°.×10°.9E±°, h38km±54km, M3.7/9, MLv3.7/9

ISC 03 02:16:23.6±1.4, 8°.68S±0°.09×108°.62E±0°.07, h35km, n15, σ0°92/15, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	0.90	349	P	Pn	02 16 39.4	-0.4
BBJI	Bungbulang	1.54	321	P	Pn	02 16 47.8	-0.9
YOGI	Yogyakarta	1.86	63	P	Pn	02 16 52.1	-0.9
CNJI	Cibinong	2.01	312	P	Pn	02 16 53.7	-1.3
UGM	Wanagama	2.03	68	P	Pn	02 16 54.5	-0.8
UGM	Wanagama	2.03	68	P	Pn	02 16 54.1	-1.2
LEM	Lembang	2.09	331	P	Pn	02 16 56.5	+0.2
SMRI	Semarang	2.42	48	P	Pn	02 17 00.5	-0.2
SKJI	Sukabumi	2.64	309	P	Pn	02 17 03.8	+0.2
PWJI	Pagerwojo	3.21	79	P	Pn	02 17 11.1	-0.5
XMIS	Christmas Isla	3.44	238	P	Pn	02 17 14.2	-0.5
JAGI	Jajag, Banyuwa	5.47	88	P	Pn	02 17 43.3	+0.6
MNAI	Manna	7.08	307	P	Pn	02 18 03.0	-1.7
PLAI	Plampang	9.05	92	P	Pn	02 18 31.7	-0.1
GSI	Gunungsitoli	14.82	311	P	Pn	02 19 51.5	+0.8

IDC 03 02:20:20.4±8.4, 18°.16S×174°.76W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=366.0km s-min=39.2km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.00	259	P	P	02 29 01.8	+0.2
	0.2nm,0.3s,baz=96,slow=7.6,SNR=6.3						
	0.2nm,0.3s						
ASAR	Alice Springs	48.07	254	P	P	02 29 01.6	-0.5
	0.5nm,0.8s,baz=93,slow=9.4,SNR=2.0						
	0.5nm,0.8s						
ILAR	Eielson Array	85.39	12	P	P	02 32 59.1	-0.1
	0.5nm,0.7s,baz=227,slow=6.4,SNR=6.5						
	0.5nm,0.7s						

UPA 03 02:26:30.2±0.3, 10°.24N×83°.88W, h0km±290km, MW3.7
UCR 03 02:26:30.1±0.8, 10°.23N×84°.19W, h90km±4km, MW3.7
CATAC 03 02:26:31.0±0.4, 10°.20N×84°.24W, h68km±4km, ML3.3

ISC 03 02:26:30.6±1.4, 10°.20N±0°.04×84°.21W±0°.04, h86km±7km, n66, σ0°56/79, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCS1	Tacares	0.18	211	*i* P	Pn	02 26 42.9	-0.3
TCS1				IAML		02 26 55.8	
	comp=Z,33μm,1.0s						
TCS1	Tacares	0.18	211	*e*P	Pn	02 26 43.4	+0.2
TCS1				*e*S	Sn	02 26 54.0	+1.4
HDC	Heredia	0.21	155	*e*P	Pn	02 26 43.4	0.0
HDC3	Heredia 3	0.21	154	*i* P	Pn	02 26 43.4	0.0
HDC3				IAML		02 26 43.5	
	comp=Z,1μm,1.0s						
HDC3				*i* S	Sn	02 26 51.8	-1.0
BELE	Belen	0.22	176	*e*P	Pn	02 26 43.3	-0.1
DOMI	Santo Domingo	0.24	152	*e*P	Pn	02 26 43.7	+0.2
ITAL	Pital	0.26	345	*e*P	Pn	02 26 43.6	+0.2
SANTA	Santa Ana	0.26	176	*e*P	Pn	02 26 43.5	-0.1
SRA1	San Ramn	0.29	248	*e*P	Pn	02 26 43.6	-0.1
SJS3	Mercedes San J	0.30	150	*e*P	Pn	02 26 43.8	0.0
LUJA	Lujan	0.30	154	*e*P	Pn	02 26 44.7	+0.9
CVIMO	Finca Echandi	0.31	123	*e*P	Pn	02 26 43.9	0.0
SARA	Sarapiqu	0.31	35	*e*P	Pn	02 26 43.7	+0.1
AMPA	Desamparados	0.33	155	*e*P	Pn	02 26 43.7	-0.3
TRIO	Tres Rios	0.36	144	*e*P	Pn	02 26 44.0	-0.2
TRB2	Turrubares	0.37	221	*e*P	Pn	02 26 44.2	+0.1
ACOS	Acosta	0.40	174	*e*P	Pn	02 26 44.3	-0.1
VICA	Volcano Irazu	0.41	121	*e*P	Pn	02 26 44.7	-0.2
SOCE	Pocosol	0.45	295	*i* P	Pn	02 26 44.9	+0.3
SOCE				*i* S	Sn	02 26 53.7	-1.3
SOCE				IAML		02 26 58.2	
	comp=Z,3μm,1.0s						
SOCE	Pocosol	0.45	295	*e*P	Pn	02 26 44.9	+0.3
RAFA	San Farael, Vo	0.45	121	*i* P	Pn	02 26 44.6	-0.4
RAFA				IAML		02 26 46.4	
	comp=Z,6μm,1.0s						
RAFA				*i* S	Sn	02 26 55.8	+0.2
RAFA	San Farael, Vo	0.45	121	*e*P	Pn	02 26 45.4	+0.4
VTLA	Turrialba Volc	0.47	114	*e*P	Pn	02 26 45.2	+0.1
CVTQ	Turrialba Volc	0.47	114	*e*P	Pn	02 26 45.3	+0.2
CVTR	Volcan Turrial	0.47	112	*e*P	Pn	02 26 45.1	-0.1
VTR0	Volcan Turrial	0.47	112	*e*P	Pn	02 26 45.2	0.0
PCAYA	Pacayas	0.48	126	*e*P	Pn	02 26 45.3	+0.2
CARI	Cariari	0.49	70	*e*P	Pn	02 26 45.2	+0.3
LCR2	La Lucha 2	0.49	156	*i* P	Pn	02 26 44.8	-0.4
LCR2				IAML		02 26 45.1	
	comp=Z,2μm,1.0s						
LCR2				*i* S	Sn	02 26 56.6	+0.7
LCR2	La Lucha 2	0.49	156	*e*P	Pn	02 26 44.9	-0.3
REPA	Paraso	0.49	138	*e*P	Pn	02 26 46.0	+0.9
ABE2	San Pablo	0.51	163	*e*P	Pn	02 26 45.1	-0.3
VTCV	VTCV, Calle Va	0.52	114	*e*P	Pn	02 26 45.5	+0.2
VACR	Volcan Arenal	0.54	301	*e*P	Pn	02 26 45.7	+0.4
VINA	Juan Vinas	0.54	123	*e*P	Pn	02 26 45.5	+0.1
COVE	Coope Vega, Sa	0.56	340	*i* P	Pn	02 26 45.1	-0.4
COVE				*i* S	Sn	02 26 56.9	+0.5
COVE				IAML		02 27 01.9	
	comp=Z,370nm,1.0s						
RAZU	San Marcos de	0.56	161	*e*P	Pn	02 26 45.5	-0.3
CEDE	Laguna Cedeo	0.57	301	*e*P	Pn	02 26 46.0	+0.4
ARE1	Arenal 1	0.57	298	*e*P	Pn	02 26 46.0	+0.4
RVSTA	Santa Teresita	0.59	112	*e*P	Pn	02 26 46.2	+0.3
RVLA	Villa Bonita	0.61	98	*e*P	Pn	02 26 46.4	+0.4
MTEVE	Monteverde	0.62	281	*e*P	Pn	02 26 47.6	+1.3
LCOCO	El Coco	0.65	100	*e*P	Pn	02 26 46.5	+0.2
JTS	Las Juntas de	0.74	277	*e*P	Pn	02 26 47.3	+0.1
JUNT	Juntas	0.75	277	*e*P	Pn	02 26 47.3	+0.1
CNAS	Canas	0.90	285	*e*P	Pn	02 26 50.5	+1.5
VERA	Finca Concepci	0.92	315	*e*P	Pn	02 26 49.3	+0.1
CUI	Cuipilapa	1.05	296	*e*P	Pn	02 26 51.0	+0.3
NYURE	Nandayure	1.05	259	*e*P	Pn	02 26 50.9	+0.2
COLC	Colonia	1.09	295	*e*P	Pn	02 26 51.4	+0.2
OCHAL	Ojochal	1.22	153	*i* P	Pn	02 26 52.3	-0.5
OCHAL				IAML		02 26 53.0	
	comp=Z,700nm,1.0s						
OCHAL				*i* S	Sn	02 27 09.1	-0.3
NICO	Nicoya	1.22	267	*e*P	Pn	02 26 53.2	+0.4
GPS2	Hotel Rincn d	1.26	296	*e*P	Pn	02 26 53.5	+0.2
GPS3	Bodega del ICE	1.27	296	*e*P	Pn	02 26 54.7	+1.4
JUD3	Juan Diaz 3	1.31	269	*e*P	Pn	02 26 54.1	+0.2
INDI	Punta indio, G	1.32	256	*i* P	Pn	02 26 53.2	-0.7
INDI				IAML		02 26 53.5	
	comp=Z,820nm,1.0s						
INDI				*i* S	Sn	02 27 10.2	-1.3
LCRUZ	La Cruz	1.65	302	*e*P	Pn	02 26 59.5	+1.3
PIRO	Carate, Puerto	1.98	154	*i* P	Pn	02 27 03.1	+0.7
PIRO				IAML		02 27 06.9	
	comp=Z,270nm,1.0s						
PIRO				*i* S	Sn	02 27 26.7	+0.1
PIRO	Carate, Puerto	1.98	154	*e*P	Pn	02 27 03.3	+0.9
ACON	Acoyapa	2.00	332	*i* P	Pn	02 27 02.9	+0.2
ACON				*i* S	Sn	02 27 26.7	-0.5
ACON				IAML		02 27 39.0	
	comp=Z,77nm,1.0s						
ACON	Acoyapa	2.00	332	*e*P	Pn	02 27 02.7	0.0
BRU2	Volcan	2.04	133	*e*P	Pn	02 27 03.1	-0.3
BRU2				*e*S	Sn	02 27 28.1	-0.3
BRU2	Volcan	2.04	133	*e*P	Pn	02 27 03.1	-0.3
BCO2	Palmira	2.21	131	*e*P	Pn	02 27 05.5	-0.2
BCO2				*e*S	Sn	02 27 32.4	-0.1
PTPM	Petroterminale	2.37	146	*e*P	Pn	02 27 08.5	+0.8
BOAB	BOACO BROADBAN	2.66	328	*i* P	Pn	02 27 11.5	0.0
BOAB				*i* S	Sn	02 27 42.0	-0.9
BOAB				IAML		02 28 04.7	
	comp=Z,32nm,1.0s						

NEIC 03 02:44:28.8±1.5, 15°.35N±0°.09×98°.7W±0°.1, h35km±2km, mb4.0/47, Error ellipse: s-maj=22.5km s-min=14.8km az=254.0
MEX 03 02:44:38.5±0.9, 16°.20N×99°.19W, h9km±12km, MD4.5
IDC 03 02:44:38.2±7.4, 15°.86N×98°.90W, h35km±46km, mb3.4/5, mbtmp3.5/8, ML3.3/3, MS2.9/1, Error ellipse: s-maj=66.4km s-min=27.2km az=19.0

ISC 03 02:44:32.7±1.3, 16°.07N±0°.04×99°.11W±0°.02, h6km±8km, n115, σ2°19/164, mb4.0/20, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	Cruz Grande	0.66	358	*e*P	Pn	02 44 48.2	-0.4
CRIG				*e*S	Sb	02 44 54.8	-1.5
PNIG	Pinotepa	1.00	71	*e*P	Pn	02 44 54.7	+1.4
PNIG				*e*S	Sn	02 45 08.9	+1.2
DAIG	Los Arroyos	1.08	331	*e*P	Pb	02 44 53.8	-0.1
DAIG				*e*S	Sg	02 45 06.2	-1.2
ACP2	Acapulco	1.09	317	*e*P	Pn	02 44 56.3	+1.7
ACP2				*e*S	Sg	02 45 08.6	+0.7
MGIG	Malinaltepec	1.25	21	*e*P	Pn	02 44 57.7	+0.9
MGIG				*e*S	Sn	02 45 13.9	-0.2
CAIG	El Cayaco	1.48	311	*e*P	Pn	02 44 59.5	-0.3
CAIG				*e*S	Sg	02 45 22.3	+2.1
TLIG	Tlapa	1.57	19	Pn	Pg	02 45 02.9	0.0
TLIG				Sn	Sg	02 45 28.6	+5.2
TLIG	Tlapa	1.57	19	*e*P	Pg	02 45 02.8	-0.1
TLIG				*e*S	Sg	02 45 21.0	-2.4
YOIG	Yosondua	1.69	62	*e*P	Pg	02 45 05.3	+0.1
YOIG				*e*S	Sg	02 45 34.4	+7.2
TXIG	Tlaxiaco	1.74	47	*e*P	Pg	02 45 05.9	-0.3
TXIG				*e*S	Sg	02 45 34.2	+5.3
HMTT	Tlapaneco	1.80	17	*e*P	Pg	02 45 11.4	+4.2
HMTT				*e*S	Sg	02 45 31.0	+0.5
PEIG	Puerto Escondi	1.89	92	*e*P	Pg	02 45 08.0	-0.9
PEIG				*e*S	Sb	02 45 29.9	-1.6
MEIG	Mezcala	1.91	345	*e*P	Pb	02 45 07.2	-0.8
MEIG				*e*S	Sn	02 45 29.2	-1.2
FTIG	Fresnillo de T	2.05	27	*e*P	Pb	02 45 10.0	-0.5
FTIG				*e*S	Sb	02 45 35.1	-1.3
HLIG	Huajuapan de L	2.15	35	*e*P	Pb	02 45 11.6	-0.7
HLIG				*e*S	Sg	02 45 46.8	+4.9
PLIG	Platanillo	2.34	351	*e*P	Pb	02 45 14.5	-0.9
PLIG				*e*S	Sg	02 45 49.6	+1.6
VHO	Vista Hermosa	2.49	66	*e*P	Pb	02 45 17.3	-0.7
VHO				*e*S	Sb	02 45 46.0	-2.9
ARIG	Puente Sto Nin	2.50	332	*e*P	Pb	02 45 18.2	+0.2
ARIG				*e*S	Sg	02 45 50.9	-2.1
ZIIG	Zihuatanejo	2.72	304	*e*P	Pg	02 45 24.8	-0.2
ZIIG				*e*S	Sg	02 46 00.3	0.0
YAIG	Yautepec	2.78	1	*e*P	Pg	02 45 25.5	-0.5
YAIG				*e*S	Sb	02 45 57.7	+0.4
TOIG	Toxpalan	2.81	44	*e*P	Pb	02 45 21.0	-2.4
TOIG				*e*S	Sb	02 45 56.8	-1.3
TPIG	Tehuac#an	2.87	35	*e*P	Pb	02 45 21.6	-3.0
TPIG				*e*S	Sb	02 45 59.6	-0.4
MAVM	Malinalco, Edo	2.90	353	*e*P	Pb	02 45 25.8	+0.9
MAVM				*e*S	Sn	02 45 53.1	-1.8
HUIG	Huatulco	2.90	96	*e*P	Pb	02 45 23.2	-1.7
HUIG				*e*S	Sn	02 45 53.9	-0.9
PPM	Popocatepetl	3.02	9	*e*P	Pg	02 45 30.9	+0.3
PPM				*e*S	Sg	02 46 11.3	+1.6
MZVM		3.10	358	*e*P	Pb	02 45 29.3	+1.0
MZVM				*i* S	Sn	02 45 58.4	-1.3
MPVM	San Francisco	3.12	2	*e*P	Pb	02 45 28.8	+0.1
MPVM				*e*S	Sn	02 45 58.6	-1.8
TLVM	San Miguel Top	3.12	359	*e*P	Pb	02 45 27.8	-1.1
XCVM	Xochimilco	3.17	360	*e*P	Pb	02 45 27.7	-1.9
XCVM				*e*S	Sn	02 45 59.7	-1.9
AOVM	Tlapan	3.19	356	*e*P	Pb	02 45 30.1	0.0
AOVM				*e*S	Sn	02 46 00.2	-2.2
INVM	La Marquesa	3.21	355	*e*P	Pb	02 45 30.1	-0.4
INVM				*e*S	Sn	02 46 01.2	-1.8
THVM	De Xico	3.23	2	*e*P	Pb	02 45 29.7	-0.9
THVM				*e*S	Sn	02 46 01.2	-1.9
TOVM	TOLUCA	3.24	350	*e*P	Pb	02 45 29.1	-1.9
CJVM	Cuajimalpa	3.28	357	*e*P	Pb	02 45 31.1	-0.4
CJVM				*e*S	Sn	02 46 02.8	-1.6
BJVM	Benito Juarez	3.29	359	*e*S	Sn	02 46 02.8	-1.9
PBVM	Pinon	3.35	0	*e*P	Pb	02 45 31.6	-1.0
PBVM				*e*S	Sn	02 46 03.5	-2.3
NEUV	Arroyo Zacate	3.56	62	*e*P	Pn	02 45 31.4	+2.8
NEUV				*e*S	Sg	02 46 26.9	-0.3
VTVM	Tizayuca	3.69	5	*e*P	Pb	02 45 35.5	-3.1
VTVM				*e*S	Sn	02 46 13.5	-1.2
JAUV	Jalcomulco	3.95	34	*e*P	Pn	02 45 34.6	+0.7
JAUV				*e*S	Sg	02 46 37.8	-1.8
ACIG	Acambay	3.96	349	*e*P	Pb	02 45 40.0	-3.1
ACIG				*e*S	Sn	02 46 19.8	-1.2
MOIG	Morelia	4.10	331		Pn	02 45 40.4	+4.2
MOIG	Morelia	4.10	331	*e*P	Pg	02 45 48.8	-2.5
MOIG				*e*S	Sg	02 46 40.0	-4.4
CMIG	Matias Romero	4.18	75	Pn	Pn	02 45 38.7	+1.7
	0.8nm,0.3s,baz=247,slow=11,SNR=13						
CMIG				Pg	Pg	02 45 53.5	+0.7
	1.4nm,0.3s,baz=249,slow=16,SNR=8.8						
CMIG				Sn	Sn	02 46 25.9	-0.3
	3.1nm,0.3s,baz=251,slow=18,SNR=5.0						
CMIG				Lg	Lg	02 46 46.5	
	4.9nm,0.3s,baz=286,slow=19,SNR=6.3						
CMIG				LR	LR	02 47 22.3	
	comp=Z,154nm,18.9s,baz=272,slow=41						
	2.1nm,0.3s						
CMIG	Matias Romero	4.18	75	*e*P	Pn	02 45 39.2	+2.1
CMIG				*e*S	Sb	02 46 38.7	+1.3
DEIG	Demacu	4.21	1	*e*P	Pb	02 45 48.4	+1.0
DEIG				*e*S	Sb	02 46 38.1	-0.5
CXUV	Coxquihui	4.33	19	*e*	Pg	02 45 53.3	-2.4
CXUV				*e*		02 46 42.8	
LVIG	Laguna Verde	4.45	35	*e*P	Pn	02 45 35.4	-5.3
LVIG				*e*S	Sg	02 46 48.3	-7.4
PMUV	Sontecomapan	4.54	57	*e*P	Pn	02 45 42.2	+0.2
PMUV				*e*S	Sb	02 46 48.5	+0.7
JRQG	Juriquilla Cam	4.78	345	Pn	Pn	02 45 50.2	+4.6
JRQG	Juriquilla Cam	4.78	345	*e*P	Pg	02 46 06.5	+2.1
JRQG				*e*S	Sg	02 47 06.7	+0.3
UXUV	UXUV	4.92	75	*e*P	Pn	02 45 49.0	+1.8
UXUV				*e*S	Sn	02 46 45.1	+0.6
COIG	Colima	5.35	306	*e*P	Pn	02 45 55.8	+2.5
COIG				*e*S	Sn	02 46 55.1	-0.2
CTUV	Llano Grande	5.42	7	*e*P	Pn	02 45 58.5	+4.3
CTUV				*e*S	Sn	02 47 03.6	+6.7
JUBC	Volcan de Coli	5.46	310	*e*P	Pn	02 45 57.0	+2.1
JUBC				*i* S	Sn	02 46 57.3	-0.9
MNGA	Volcan de Coli	5.47	309	*e*P	Pn	02 45 57.0	+2.0
MNGA				*e*S	Sn	02 46 57.8	-0.6
INCO	Volcan de Coli	5.49	309	*e*P	Pn	02 45 57.7	+2.2
INCO				*e*S	Sn	02 46 58.6	-0.6
SOMAC	Volcano de Col	5.51	309	*e*P	Pn	02 45 58.1	+2.4
SOMAC				*e*S	Sn	02 46 58.4	-1.2
CEGR	Campo Tres	5.60	307	*e*P	Pn	02 45 58.2	+1.4
CEGR				*e*S	Sn	02 47 00.7	-0.9
PCIG		5.68	93	*e*P	Pn	02 45 58.8	+1.1
TGIG		5.79	82	*e*P	Pn	02 46 04.6	+5.4
TGIG				*i* S	Sn	02 47 09.6	+3.5
CHUJ	Union Juarez	6.82	97	*e*P	Pn	02 46 14.3	+0.7
CHUJ				*e*S	Sn	02 47 26.6	-5.1
TEIG	Tepich	11.10	67	Pn	Pn	02 47 04.7	-7.3
TEIG	Tepich	11.10	67	Pn	Pn	02 47 11.0	-1.1
	0.3nm,0.3s,baz=344,slow=17,SNR=1.7						
TEIG

```
FPAL                                IAmb  IAmb   02 49 40.8
     comp=Z,3.7nm,0.9s
T42A Van Buren        22.06 17       P     P    02 49 27.1 -1.2
WUAZ Wupatki          22.25 333      P     P    02 49 31.2 +0.5
SDCO Great Sand Dun   22.32 347      P     P    02 49 32.1 +0.7
WVT  Waverly          22.36  25      P     P    02 49 29.6 -2.0
WVT                                 IAmb  IAmb   02 49 36.8
     comp=Z,7.2nm,0.9s
V48A Smith Brothers   22.45  27      P     P    02 49 30.6 -2.0
V48A                                IAmb  IAmb   02 49 37.9
     comp=Z,5.2nm,0.9s
MVCO Mesa Verde       22.64 340      P     P    02 49 34.9 +0.1
MVCO                                IAmb  IAmb   02 49 48.1
     comp=Z,6.9nm,1.2s
S22A 4UR Ranch, Cre   22.64 344      P     P    02 49 34.1 -0.8
S22A                                IAmb  IAmb   02 49 46.8
     comp=Z,9.2nm,1.4s
R40A Maddies Statio   22.94  14      P     P    02 49 36.0 -1.7
R40A                                IAmb  IAmb   02 49 49.3
     comp=Z,5.6nm,1.0s
CCM  Cathedral Cave   22.97  16      P     P    02 49 35.4 -2.7
FVM  French Village   23.14  18      P     P    02 49 36.8 -2.9
FVM                                 IAmb  IAmb   02 49 50.2
     comp=Z,5.9nm,0.8s
T47A Sharon Grove     23.40  25      P     P    02 49 39.3 -3.1
T47A                                IAmb  IAmb   02 49 53.2
     comp=Z,5.4nm,0.9s
TKL  Tuckaleechee C   23.84  32      P     P    02 49 48.6 +1.9
     comp=Z,1.0nm,0.7s,baz=238,slow=7.6,SNR=2.2
     comp=Z,1.0nm,0.7s
P40A Paris            24.18  13      P     P    02 49 46.8 -3.1
MTPU Mount Pierson    24.74 335      P     P    02 49 53.1 -2.3
MTPU                                IAmb  IAmb   02 50 10.5
     comp=Z,7.5nm,1.3s
SRU  San Rafael Swe   25.04 339      P     P    02 49 56.5 -1.5
SRU                                 IAmb  IAmb   02 50 04.6
     comp=Z,3.9nm,0.9s
P18A Preston Nutter   25.41 340      P     P    02 50 00.7 -0.8
P18A                                IAmb  IAmb   02 50 08.3
     comp=Z,4.2nm,0.9s
HDIL Hopedale         25.85  17      P     P    02 50 01.6 -3.5
L42A Oliver, Polo     27.09  16      P     P    02 50 12.2 -4.1
N47A Urbana           27.32  23      P     P    02 50 15.0 -3.3
Q54A Coxs Mills       27.89  32      P     P    02 50 17.2 -6.2
NVAR Mina Array Bea   27.94 327      P     P    02 50 28.1 +3.8
     comp=Z,0.1nm,0.3s,baz=136,slow=9.0,SNR=2.0
     comp=Z,0.1nm,0.3s
AGMN Agassiz Nation   32.25   4      P     P    02 50 59.8 -2.1
F10A Beach Ranch, E   33.45 337      P     P    02 51 12.2 -0.4
ULM  Lac du Bonnet    34.19   4      P     P    02 51 20.6 +1.7
     comp=Z,2.1nm,0.8s,baz=170,slow=12,SNR=4.3
     comp=Z,2.1nm,0.8s
YKA  Yellowknife Ar   47.64 350      P     P    02 53 13.3 +3.8
     comp=Z,0.6nm,0.8s,baz=154,slow=7.2,SNR=2.3
     comp=Z,0.6nm,0.8s
ILAR Eielson Array    58.30 338      P     P    02 54 31.3 +3.2
     comp=Z,0.4nm,0.9s,baz=149,slow=5.5,SNR=4.1
     comp=Z,0.4nm,0.9s
```

GCMT 03 02:54:08.0±0.2,25°.90S±0°.02×177°.13W±0°.01,h22km, MW5.3/137,Moment Tensor Solution. s87,c113; s137,c211; Duration: 1ŝ1 Moment tensor: Scale 10^{17} Nm; M_{rr}1.34±.04; $M_{\theta\theta}$-0.31±.02; $M_{\phi\phi}$-1.03±.03; $M_{r\theta}$0.09±.04; $M_{\theta\phi}$0.23±.02; $M_{\phi r}$0.08±.04; Best double couple: $M_0$1.22400×10^{17} NP1:ϕ_s348.00000°,δ46.00000°, λ95.00000°. NP2:ϕ_s160.00000°,δ44.00000°,λ84.00000°. Principal axes: T 1.3490, Plg86.0000°, Azm326.0000°; N -0.2470, Plg4.0000°, Azm164.0000°; P -1.0990, Plg1.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function South of Fiji Islands

*IDC **03** 02:59:58.1±0.6,20°.38S×173°.83W,h0km,mb4.6/14, mbtmp4.7/16,ML5.1/2,MS4.5/17 Error ellipse: s-maj=22.2km s-min=16.1km az=127.0*

*BJI **03** 02:59:59.8±0.0,20°.01S×173°.31W,h8km,mb5.0/22, mB5.6/13,Ms5.2/8,Ms7 4.8/10*

*NEIC **03** 03:00:01.0±1.2,20°.35S±0°.09×173°.6W±0°.1,h10km±1km, mb4.9/160,Error ellipse: s-maj=17.8km s-min=15.4km az=92.0*

*GCMT **03** 03:00:02.0±0.3,20°.70S±0°.04×173°.25W±0°.02,h28km, MW5.3/74,Moment Tensor Solution. s46,c55; s74,c91; Duration: 1ŝ1 Moment tensor: Scale 10^{17}Nm; M_{rr}1.38±.06; $M_{\theta\theta}$-0.31±.04; $M_{\phi\phi}$-1.06±.04; $M_{r\theta}$0.19±.07; $M_{\theta\phi}$-0.05±.03; $M_{\phi r}$-0.21±.06; Best double couple: $M_0$1.24900×10^{17} NP1:ϕ_s177.00000°,δ50.00000°, λ82.00000°. NP2:ϕ_s10.00000°,δ41.00000°,λ100.00000°. Principal axes: T 1.4180, Plg82.0000°, Azm38.0000°; N -0.3320, Plg6.0000°, Azm182.0000°; P -1.0790, Plg5.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **03** 03:00:22.2,20°.24S×174°.43W,h161km,mb4.8/17,Tonga Islands*

ISC 03 03:00:02.3±0.3,20°.51S±0°.06×173°.68W±0°.07,h21km, n609,σ1ŝ19/585,mb4.9/101,MS4.9/32,36C-5D,Tonga Islands

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Code Station Name      Δ°  AZ°  Phase ID      Time     Res
                                Op    ISC     h m s    ISC
MSVF Nonsavu           8.29 288  P     Pn    03 02 08.6 +7.1
MSVF Nonsavu           8.29 288  Pn    Pn    03 02 01.2 -0.3
RAO  Raoul Island      9.52 203  Pn    Pn    03 02 19.8 +1.6
RAO  Raoul Island      9.52 203  Pn    Pn    03 02 15.2 -2.9
     53nm,0.3s,baz=288,slow=20,SNR=2.2
RAO                              Sn    Sn    03 03 58.7 -5.8
     36nm,0.3s,baz=294,slow=22,SNR=2.0
     135nm,0.3s
RAR  Rarotonga        13.02  96  LR    LR    03 07 50.9
     comp=Z,2µm,18.4s,baz=278,slow=36
DZM  Mont Dzumac      18.59 262  P     Pn    03 04 22.0 +3.4
DZM  Mont Dzumac      18.59 262  eP    Pn    03 04 19.9 +1.3
     150nm,1.5s
DZM                              eS    Sn    03 07 44.4 -1.6
     889nm,24.8s
DZM                              eLR   LR    03 08 43.2
     3µm,25.6s
DZM  Mont Dzumac      18.59 262  P     Pn    03 04 19.4 +0.8
DZM                              IAmb  IAmb   03 04 24.5
     comp=Z,168nm,1.8s
DZM  Mont Dzumac      18.59 262  LR    LR    03 10 39.7
     comp=Z,3µm,19.0s,baz=92,slow=35
NOUC Port Laguerre    18.72 262  P     Pn    03 04 22.9 +2.8
URZ  Urewera          19.40 202  P     P     03 04 26.0 -1.0
     comp=Z,2.0nm,0.3s,baz=95,slow=1.6,SNR=13
URZ                              S     Sn    03 07 52.9 -12
     comp=Z,8.1nm,0.7s,baz=92,slow=3.0,SNR=2.6
     comp=Z,45nm,0.9s
TOZ  Tahuroa Road     19.56 206  P     Pn    03 04 29.7 -0.5
HIZ  Hauiti           20.50 206  P     Pn    03 04 40.9 -0.2
KOUNC Koumac, New Ca  20.64 266  P     P     03 04 40.7 +0.2
KOUNC                            IAmb  IAmb   03 04 47.5
     comp=Z,55nm,1.1s
TBI  Tubuai           22.64 102  eLR   LR    03 10 10.2
     comp=Z,10µm,37.5s
TBI                              eLR   LR    03 10 12.4
     comp=Z,2µm,22.5s
PPT2 Papeete2         22.96  87  eLR   LR    03 10 21.1
     comp=Z,1µm,21.8s
PPT2                             eLR   LR    03 10 21.5
     comp=Z,1µm,23.8s
NNZ  Nelson           23.39 205  P     P     03 05 19.0 +9.3
QRZ  Quartz Range     23.41 207  P     P     03 05 17.5 +7.6
MRNZ Matariki Terra   23.79 206  P     P     03 05 20.0 +6.4
THZ  Tophouse         24.04 205  P     P     03 05 18.4 +2.4
KHZ  Kahutara         24.35 203  P     P     03 05 21.2 +2.5
DSZ  Denniston Nort   24.48 207  P     P     03 05 26.5 +6.5
GVZ  Greta Valley S   25.02 204  P     P     03 05 31.9 +7.1
LTZ  Lake Taylor      25.15 205  P     P     03 05 25.9 -0.2
LTZ  Lake Taylor      25.15 205  P     P     03 05 33.1 +7.1
INZ  Inchbonnie       25.44 206  P     P     03 05 29.0 +0.4
INZ  Inchbonnie       25.44 206  P     P     03 05 33.6 +5.0
OXZ  Oxford           25.70 205  P     P     03 05 31.3 +0.3
OXZ  Oxford           25.70 205  P     P     03 05 34.2 +3.2
RPZ  Rata Peaks       26.42 205  P     P     03 05 42.4 +4.9
CAN  Canberra         35.90 238  P     P     03 07 02.3 +1.2
CAN  Canberra         35.90 238  P     P     03 07 01.7 +0.5
CAN                              IAmb  IAmb   03 07 03.7
     comp=Z,19nm,1.0s
CMSA Cobar Meteorol   37.93 245  P     P     03 07 18.7 +0.3
QLP  Quilpie          38.92 253  P     P     03 07 26.5 -0.3
TOO  Toolangi         39.19 235  P     P     03 07 30.2 +1.2
PMG  Port Moresby     39.31 280  P     P     03 07 28.5 -1.6
     comp=Z,32nm,0.9s,baz=88,slow=16,SNR=2.9
     comp=Z,32nm,0.9s
BRAT Ballarat         40.39 236  P     P     03 07 40.6 +1.7
STKA Stephens Creek   41.44 245  P     P     03 07 48.2 +0.5
STKA Stephens Creek   41.44 245  P     P     03 07 48.1 +0.4
STKA Stephens Creek   41.44 245  P     P     03 07 44.6 -3.0
     comp=Z,10nm,0.9s,baz=85,slow=8.4,SNR=10
     comp=Z,10nm,0.9s
INKA Innaminka        42.02 251  P     P     03 07 53.7 +1.2
OOD  Oodnadatta       46.50 251  P     P     03 08 29.5 +1.1
MULG Mulgathing       47.85 247  P     P     03 08 38.8 -0.1
GENI Genyem           48.37 285  P     P     03 08 43.0 0.0
AS01 Alice Springs    48.41 256  P     P     03 08 41.9 -1.4
AS31 Alice Springs    48.45 256  P     P     03 08 43.6 0.0
ASAR Alice Springs    48.45 256  P     P     03 08 42.3 -1.4
ASAR Alice Springs    48.45 256  P     P     03 08 41.2 -2.4
     comp=Z,9.0nm,0.9s,baz=87,slow=8.4,SNR=39
ASAR                             PcP   PcP   03 10 09.7 -0.1
     comp=Z,4.7nm,0.9s,baz=104,slow=4.0,SNR=7.2
ASAR                             S     S     03 15 38.5 -5.2
     comp=Z,1.9nm,1.0s,baz=90,slow=7.0,SNR=4.9
     comp=Z,9.0nm,0.9s
WB0  Warramunga Arr   48.59 261  P     P     03 08 44.1 -0.6
WB2  Warramunga Arr   48.59 261  P     P     03 08 43.1 -1.7
WRA  Warramunga Arr   48.60 261  P     P     03 08 43.3 -1.6
WRA  Warramunga Arr   48.60 261  P     P     03 08 42.0 -2.9
     comp=Z,8.6nm,1.1s,baz=95,slow=7.7,SNR=24
WRA                              PcP   PcP   03 10 10.8 +0.4
     comp=Z,4.9nm,1.0s,baz=93,slow=3.6,SNR=7.3
WRA                              LR    LR    03 28 30.4
     comp=Z,462nm,19.6s,baz=123,slow=35
     comp=Z,8.6nm,1.1s
WRKA Warakurna        53.35 254  P     P     03 09 20.6 0.0
SBA  Scott Base       58.16 185  P     P     03 09 56.7 +2.5
SBA                              IAmb  IAmb   03 10 10.8
     comp=Z,13nm,1.1s
VNDA Vanda            58.30 186  P     P     03 09 57.6 +2.6
VNDA Vanda            58.30 186  P     P     03 09 57.7 +2.6
     comp=Z,2.2nm,0.8s,baz=10,slow=6.6,SNR=13
RPN  Rapa Nui         58.69 110  LR    LR    03 29 26.1
     comp=Z,786nm,19.6s,baz=231,slow=30
TNTI Ternate          61.40 283  P     P     03 10 17.4 0.0
TNTI Ternate          61.40 283  P     P     03 10 17.5 +0.1
PSA00 Pilbara Seismi  61.60 256  P     P     03 10 18.6 -0.2
JCJ  Chichijima       63.77 316  LR    LR    03 34 04.6
     comp=Z,392nm,21.3s,baz=115,slow=32
DAV  Davao City (W)   65.66 288  LR    LR    03 36 07.6
     comp=Z,220nm,21.8s,baz=92,slow=33
CASY Casey            65.69 205  P     P     03 10 46.5 +1.6
CASY                             IAmb  IAmb   03 10 48.5
     comp=Z,9.1nm,0.9s
TOLI2 Tolitoli        67.58 280  P     P     03 10 58.0 +0.1
TOLI2 Tolitoli        67.58 280  P     P     03 10 56.8 -1.1
QSPA South Pole Qui   69.56 180  P     P     03 11 11.1 +1.6
QSPA                             IAmb  IAmb   03 11 24.2
     comp=Z,12nm,1.0s
QSPA South Pole Qui   69.56 180  P     P     03 11 10.0 +0.4
     comp=Z,4.0nm,0.8s,baz=44,slow=1.2,SNR=22
     comp=Z,4.0nm,0.8s
MJAR Matsushiro Arr   72.69 321  P     P     03 11 27.6 -1.1
     comp=Z,4.0nm,0.6s,baz=173,slow=4.9,SNR=7.0
MJAR                             LR    LR    03 38 40.3
     comp=Z,179nm,20.3s,baz=124,slow=32
     comp=Z,4.0nm,0.6s
JNU  Nakatsue         75.12 314  LR    LR    03 39 27.2
     comp=Z,141nm,20.9s,baz=138,slow=32
PKM  Mcpherson Peak   75.16  43  P     P     03 11 43.6 +0.2
     baz=232
ASAJ Asahikawa        75.74 329  LR    LR    03 39 34.5
     comp=Z,252nm,21.2s,baz=158,slow=31
MURC Murrieta         76.11  46  P     P     03 11 48.9 +0.1
     baz=234
MONP2 Monument Peak   76.21  47  P     P     03 11 49.0 -0.6
     baz=234
VES  Vestal, Richgr   76.22  43  P     P     03 11 49.1 -0.1
     baz=232
IKP  In-O-Pah, Jac    76.29  47  P     P     03 11 49.3 -0.5
     baz=234
EDW2 Edwards Air Fo   76.34  44  P     P     03 11 49.9 -0.2
     baz=233
SDPT Sand Point       76.39   8  P     P     03 11 51.0 +1.3
     baz=193
ISA  Isabella, Lake   76.50  43  P     P     03 11 50.0 -1.0
ISA                              IAmb  IAmb   03 11 52.4
     comp=Z,9.0nm,1.0s
ISA  Isabella, Lake   76.50  43  P     P     03 11 50.6 -0.4
     baz=232
PFO  Pinyon Flats O   76.61  46  P     P     03 11 50.8 -0.9
     baz=234
TPFO Pinon Flats      76.61  46  P     P     03 11 50.8 -0.9
     baz=234
SWSC Sam W. Stewart   76.67  47  P     P     03 11 51.6 -0.3
     baz=235
BBRC Big Bear Solar   76.68  45  P     P     03 11 52.1 -0.1
     baz=234
CMB  Columbia Colle   76.78  41  P     P     03 11 51.5 -0.9
LRMC Laurel Mtn Rad   76.90  44  P     P     03 11 53.3 0.0
     baz=233
BELC Belle Mtn. Jos   77.15  46  P     P     03 11 53.8 -0.9
     baz=234
CWC  Cottonwood Cre   77.23  43  P     P     03 11 55.0 -0.1
     baz=232
BC3  Big Chuckawall   77.32  47  P     P     03 11 55.5 -0.2
     baz=235
MDPB Devils Postpil   77.33  42  P     P     03 11 54.8 -1.0
MDPB                             IAmb  IAmb   03 11 56.6
     comp=Z,5.7nm,0.7s
GSC  Goldstone, Bar   77.37  45  P     P     03 11 55.4 -0.5
GSC                              IAmb  IAmb   03 12 08.4
     comp=Z,16nm,1.6s
GSC  Goldstone, Bar   77.37  45  P     P     03 11 55.2 -0.7
     baz=234
MPMC Manual Prospec   77.38  44  P     P     03 11 55.9 -0.1
     baz=233,SNR=12
PETK Petropavlovsk-   77.40 343  P     P     03 11 55.2 -0.3
PETK Petropavlovsk-   77.40 343  P     P     03 11 53.5 -2.0
     comp=Z,5.7nm,0.8s,baz=134,slow=8.4,SNR=9.6
     comp=Z,5.7nm,0.8s
GLA  Glamis           77.40  47  P     P     03 11 55.7 -0.4
     baz=235
HEC  Hector,Ludlow    77.41  45  P     P     03 11 55.8 -0.3
     baz=234
S14K Fog Glacier      77.42   8  P     P     03 11 55.7 0.0
     baz=194
MLAC Mammoth, Mammo   77.48  42  P     P     03 11 56.8 +0.2
     baz=232
TIN  Tinemaha, Big    77.51  42  P     P     03 11 56.6 0.0
     baz=232
CHIR Chirikof Islan   77.56  10  P     P     03 11 56.5 +0.2
     baz=197
WAKR Walker           77.65  41  P     P     03 11 56.8 -0.8
IRM  Iron Mountain    77.81  46  P     P     03 11 57.1 -1.2
     baz=235
GMRC Granite Mounta   77.83  46  P     P     03 11 57.4 -1.1
     baz=234
DSP  Deep Springs     77.86  42  P     P     03 11 58.0 -0.4
DSP                              IAmb  IAmb   03 12 12.2
     comp=Z,12nm,1.3s
GWY  Greenwater Val   77.99  44  P     P     03 11 58.0 -1.4
GWY                              IAmb  IAmb   03 12 14.4
     comp=Z,25nm,2.0s
GRAC Grapevine Rang   78.02  43  P     P     03 11 58.9 -0.5
     baz=233
FURC Furnace Creek,   78.03  44  P     P     03 11 59.0 -0.3
     baz=233
TUQ  Turquoise Moun   78.03  45  P     P     03 11 59.1 -0.5
     baz=234
LHV  Little Huntoon   78.07  41  P     P     03 11 59.4 -0.2
LHV                              IAmb  IAmb   03 12 13.3
     comp=Z,17nm,1.3s
SHOC Shoshone, Teco   78.07  44  P     P     03 11 59.2 -0.6
     baz=234
YERR Yerington        78.08  40  P     P     03 11 59.1 -0.8
YERR                             IAmb  IAmb   03 12 03.1
     comp=Z,30nm,1.9s
214A Organ Pipe Nat   78.20  49  P     P     03 12 00.1 -0.4
     baz=237
GMN  Gold Mountain    78.27  43  P     P     03 12 00.2 -0.8
GMN                              IAmb  IAmb   03 12 02.3
     comp=Z,7.1nm,0.8s
NVAR Mina Array Bea   78.30  41  P     P     03 12 00.2 -1.0
NVAR Mina Array Bea   78.30  41  P     P     03 12 00.4 -0.8
     comp=Z,6.5nm,0.8s,baz=224,slow=9.4,SNR=40
     comp=Z,6.5nm,0.8s
WCT  Wildcat Mounta   78.37  43  P     P     03 12 01.0 -0.5
NV11 Mina Array Sit   78.40  41  P     P     03 12 01.1 -0.6
NV11                             IAmb  IAmb   03 12 14.9
     comp=Z,15nm,1.1s
MZP  Montezuma Peak   78.44  42  P     P     03 12 01.2 -0.8
PAHR Pah Rah Range    78.44  40  P     P     03 12 00.7 -1.1
PAHR                             IAmb  IAmb   03 12 14.3
     comp=Z,10nm,1.2s
PDMCI Parker Dam,Lak  78.58  47  P     P     03 12 02.1 -0.4
     baz=235
TPNV Topopah Spring   78.71  44  P     P     03 12 02.9 -0.5
     baz=234,SNR=8.5
TPH  Tonopah          78.76  42  P     P     03 12 03.1 -0.6
KVN  Kaiserville      78.81  41  P     P     03 12 03.0 -1.0
V12A Nelson           78.91  45  P     P     03 12 04.3 -0.2
BELA Belgrano 2       79.00 172  P     P     03 12 04.5 +0.2
BELA                             IAmb  IAmb   03 14 26.8
     comp=Z,23nm,1.8s
WTNK Soaring Height   79.08  45  P     P     03 12 04.8 -0.5
Y14A Wickenburg       79.16  48  P     P     03 12 04.8 -1.0
SHPR Sheep Range      79.16  44  P     P     03 12 05.4 -0.4
R17L Mt. Peulik Vol   79.18   9  P     P     03 12 04.7 -0.5
     baz=196
W13A Hualapai Mount   79.20  46  P     P     03 12 05.5 -0.7
OHAK Old Harbor       79.30  11  P     P     03 12 06.5 +0.7
     baz=199
R18K Karluk           79.42  10  P     P     03 12 06.9 +0.3
     baz=198
S11A Rachel           79.44  43  P     P     03 12 06.5 -0.9
KSRS Korea Array      79.63 316  P     P     03 12 06.6 -1.6
     comp=Z,5.6nm,1.0s,baz=135,slow=6.0,SNR=12
KSRS                             LR    LR    03 42 35.3
     comp=Z,122nm,21.5s,baz=150,slow=32
     comp=Z,5.6nm,1.0s
PMSA Palmer Station   79.65 156  LR    LR    03 39 54.6
     comp=Z,251nm,19.8s,baz=268,slow=30
J05D Fort Rock, OR    79.67  36  P     P     03 12 08.4 -0.1
J05D                             IAmb  IAmb   03 12 09.8
     comp=Z,9.2nm,1.0s
PRN  Pahroc Range     79.75  44  P     P     03 12 08.4 -0.7
PRN                              IAmb  IAmb   03 12 22.9
     comp=Z,12nm,1.1s
TUC  Tucson           79.84  50  P     P     03 12 09.1 -0.4
TUC  Tucson           79.84  50  P     P     03 12 08.4 -1.2
     baz=238
Q17K Contact Creek    79.86   9  P     P     03 12 07.9 -1.2
     baz=197,SNR=6.3
KDAK Kodiak Island    79.96  11  P     P     03 12 10.0 +0.5
     baz=200
R11B Troy Canyon, C   79.96  43  P     P     03 12 09.7 -0.5
R11B Troy Canyon, C   79.96  43  P     P     03 12 08.6 -1.6
     baz=234,SNR=7.9
O14K Tigyukauivet M   80.12   6  P     P     03 12 10.9 +0.6
     baz=192
BMN  Battle Mountai   80.19  40  P     P     03 12 10.7 -0.7
O15K Ungalikthiuk R   80.21   7  P     P     03 12 10.4 -0.3
     baz=193
P16K Nushagak River   80.30   8  P     P     03 12 10.8 -0.4
     baz=195
Q18K Katmai Hardscr   80.36  10  P     P     03 12 10.7 -1.1
     baz=198,SNR=7.2
X16A Lo Mia Camp, P   80.50  48  P     P     03 12 12.8 -0.5
WVOR Wild Horse Val   80.59  38  P     P     03 12 12.7 -0.7
WVOR                             IAmb  IAmb   03 12 19.9
     comp=Z,12nm,1.4s
P17K Kvichak River    80.67   9  P     P     03 12 12.1 -1.1
     baz=196,SNR=5.1
LCMT Little Creek M   80.71  45  P     P     03 12 13.8 -0.4
LCMT                             IAmb  IAmb   03 12 27.2
     comp=Z,11nm,1.3s
N14K Kuskokwak Cree   80.74   6  P     P     03 12 13.2 -0.4
     baz=191
Q20K Shuyak Island    80.77  11  P     P     03 12 13.2 -0.6
     baz=200
O16K Kokwok River B   80.83   8  P     P     03 12 12.3 -1.7
O16K Kokwok River B   80.83   8  P     P     03 12 13.5 -0.6
     baz=195
M11K Mekoryuk         80.83   4  P     P     03 12 13.6 -0.5
     baz=187
Q19K Cape Douglas,    80.85  10  P     P     03 12 14.0 -0.3
     baz=199
CCUT Cedar City       80.94  44  P     P     03 12 14.8 -0.8
KNB  Kanab            80.99  45  P     P     03 12 15.4 -0.4
KNB                              IAmb  IAmb   03 12 29.8
     comp=Z,11nm,1.1s
U15A North Rim        81.02  46  P     P     03 12 15.3 -0.8
U15A                             IAmb  IAmb   03 12 30.1
     comp=Z,10nm,1.1s
P18K Big Mountain,    81.04   9  P     P     03 12 13.8 -1.6
P18K                             IAmb  IAmb   03 12 15.5
     comp=Z,12nm,0.8s
P18K Big Mountain,    81.04   9  P     P     03 12 14.2 -1.1
     baz=197,SNR=7.4
M13K Dall Lake        81.07   5  P     P     03 12 14.3 -1.1
     baz=190
O17K Koliganek Bris   81.14   8  P     P     03 12 14.8 -0.9
     baz=196
SPR3 Spring Creek 3   81.14  43  P     P     03 12 15.8 -0.9
SZCU Shurtz Canyon    81.14  44  P     P     03 12 16.0 -0.6
WUAZ Wupatki          81.14  47  P     P     03 12 14.5 -2.1
     baz=237
I07A Izee             81.14  36  P     P     03 12 16.1 -0.3
N15K Kwethluk River   81.15   7  P     P     03 12 14.8 -1.1
     baz=193
PSUT Pine Spring      81.17  43  P     P     03 12 15.6 -1.1
USRK Ussuriysk Ar.    81.31 324  LR    LR    03 44 39.2
     comp=Z,669nm,19.6s,baz=135,slow=33
O18K Koktuh Hills     81.48   9  P     P     03 12 16.8 -0.9
O18K Koktuh Hills     81.48   9  P     P     03 12 17.0 -0.7
     baz=197
M14K Bethel           81.53   6  P     P     03 12 17.3 -0.4
     baz=191
PKCU Pink Cliffs      81.57  45  P     P     03 12 17.9 -1.1
ELK  Elko             81.59  41  P     P     03 12 18.3 -0.6
M15K Kasigluk River   81.60   6  P     P     03 12 16.8 -1.4
     baz=192
N16K Nishlik Lake     81.60   7  P     P     03 12 17.5 -0.8
     baz=194
P19K Oil Pt           81.61  10  P     P     03 12 16.8 -1.5
     baz=199
N17K Nushagak Hills   81.85   8  P     P     03 12 18.0 -1.5
     baz=196
HOM  Homer            81.89  11  P     P     03 12 19.6 -0.1
     baz=201
ILSW Iliamna Southw   81.94  10  P     P     03 12 18.5 -1.6
ILSW                             IAmb  IAmb   03 12 20.3
     comp=Z,15nm,0.9s
MTPU Mount Pierson    81.98  44  P     P     03 12 19.1 -2.2
MTPU                             IAmb  IAmb   03 12 35.1
     comp=Z,14nm,1.2s
L14K Kuka Creek       82.04   5  P     P     03 12 20.5 0.0
     baz=190
W18A Petrified Fore   82.06  48  P     P     03 12 20.5 -1.0
     baz=238
M16K Timber Creek     82.11   7  P     P     03 12 20.7 -0.2
M16K                             IAmb  IAmb   03 12 22.8
     comp=Z,8.3nm,0.8s
M16K Timber Creek     82.11   7  P     P     03 12 21.4 +0.5
     baz=194
O20K Slope Mountain   82.12  10  P     P     03 12 20.6 -0.4
     baz=200
121A Cookes Peak, D   82.13  51  P     P     03 12 20.6 -1.2
     baz=240
BRSE Bradley Lake S   82.13  11  P     P     03 12 20.6 -0.5
     baz=202
N18K Kilae Creek      82.18   9  P     P     03 12 21.7 +0.5
     baz=197
G08A Pilot Rock       82.21  36  P     P     03 12 21.4 -0.6
MVU  Marysvale        82.22  44  P     P     03 12 22.5 +0.2
MSU  Marysvale        82.25  44  P     P     03 12 22.4 -0.1
K13K Kusilvak Mount   82.47   4  P     P     03 12 23.1 +0.4
     baz=188
L15K Ungalak Mounta   82.48   6  P     P     03 12 23.1 +0.3
     baz=191
N19K Bonanza Creek    82.51   9  P     P     03 12 22.4 -0.7
     baz=198
M17K Holitna River    82.66   8  P     P     03 12 24.0 +0.3
     baz=195
SEW  Seward           82.72  12  P     P     03 12 23.9 -0.1
     baz=203
L16K Owhat River      82.72   7  P     P     03 12 24.1 +0.1
L16K                             IAmb  IAmb   03 12 26.2
     comp=Z,22nm,1.8s
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L16K	Owhat River	82.72	7	P	P	03 12 24.0	0.0	
	baz=193							
DUG	Dugway, Tooele	82.78	42	P	P	03 12 24.0	-1.1	
	baz=236							
BMO	Blue Mountains	82.85	37	P	P	03 12 25.0	-0.3	
BMO				IAmb	IAmb	03 12 37.3		
	comp=Z,18nm,1.9s							
HMU	Henry Mountain	82.88	45	P	P	03 12 25.6	-0.3	
MAW	Mawson	82.89	199	P	P	03 12 25.5	+0.4	
	comp=Z,4.3nm,0.9s,baz=113,slow=8.2,SNR=5.8							
	comp=Z,4.3nm,0.9s							
MDJ	Mudanjiang	82.91	323	P	P	03 12 27.7	+2.3	
MDJ				pmax	pmax			
	comp=Z,17nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,380nm,5.2s							
MDJ				LR	LR			
	comp=Z,390nm,18.5s							
MDJ				LR	LR			
	comp=Z,390nm,18.9s							
MDJ				LR	LR			
	comp=Z,670nm,18.2s							
M18K	Stony River	82.96	9	P	P	03 12 25.5	+0.2	
	baz=197							
P23K	Montague Islan	83.03	13	P	P	03 12 25.3	-0.4	
	baz=205							
NJ2	Nanjing	83.04	308	eP	P	03 12 26.9	+0.5	
NJ2				sP	pP	03 12 32.3	+0.4	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,250nm,3.5s							
K15K	Wolf Creek Mou	83.08	6	P	P	03 12 26.1	+0.2	
K15K	Wolf Creek Mou	83.08	6	P	P	03 12 25.4	-0.5	
	baz=191							
Q16A	Castle Valley	83.13	44	P	P	03 12 26.2	-0.7	
L17K	Donlin	83.27	7	P	P	03 12 26.8	-0.1	
	baz=194							
TMUT	Trail Mountain	83.31	44	P	P	03 12 26.9	-1.2	
VHRN	Van Horn	83.36	54	P	P	03 12 26.5	-1.8	
VHRN				IAmb	IAmb	03 12 41.2		
	comp=Z,7.1nm,1.1s							
J14K	Nanvaranak Lak	83.36	5	P	P	03 12 27.4	+0.1	
	baz=190							
MPU	Maple Canyon	83.43	43	P	P	03 12 27.4	-1.2	
MPU				IAmb	IAmb	03 12 41.4		
	comp=Z,7.4nm,1.1s							
MNTX	Cornudas Mount	83.49	53	P	P	03 12 27.6	-1.2	
	baz=241							
L18K	Granite Mounta	83.55	8	P	P	03 12 27.8	-0.6	
L18K				IAmb	IAmb	03 12 31.7		
	comp=Z,21nm,1.9s							
L18K	Granite Mounta	83.55	8	P	P	03 12 28.8	+0.5	
	baz=196							
M19K	Big River Lodg	83.56	9	P	P	03 12 28.4	0.0	
	baz=198							
RC01	Rabbit Creek A	83.58	11	P	P	03 12 28.6	+0.1	
	baz=202							
V35K	Ketchikan	83.58	23	P	P	03 12 28.7	+0.1	
	baz=219							
F10A	Beach Ranch, E	83.59	36	P	P	03 12 27.9	-1.1	
F10A				IAmb	IAmb	03 12 29.6		
	comp=Z,7.2nm,0.8s							
KAIM	Kayak Island	83.63	14	P	P	03 12 28.6	-0.2	
	baz=207							
SRU	San Rafael Swe	83.66	44	P	P	03 12 29.2	-0.5	
U33K	Whale Pass	83.66	21	P	P	03 12 29.1	+0.1	
	baz=218							
TXAR	Lajitas Array	83.69	56	P	P	03 12 28.9	-1.0	
	comp=Z,1.8nm,0.8s,baz=218,slow=8.1,SNR=19							
	comp=Z,1.8nm,0.8s							
SIT	Sitka	83.69	20	P	P	03 12 29.2	+0.1	
	baz=216							
P17A	Butcher Ranch,	83.71	44	P	P	03 12 28.7	-1.3	
PLID	Pearl Lake	83.73	37	P	P	03 12 28.7	-1.3	
M20K	Styx River	83.74	10	P	P	03 12 29.5	+0.1	
	baz=199							
HLID	Hailey	83.74	39	P	P	03 12 29.3	-0.7	
HLID				IAmb	IAmb	03 12 31.6		
	comp=Z,8.2nm,0.9s							
HLID	Hailey	83.74	39	P	P	03 12 29.1	-0.9	
	baz=234,SNR=14							
SUA	Susitna One	83.74	11	P	P	03 12 27.7	-1.8	
SUA				IAmb	IAmb	03 15 05.1		
	comp=Z,11nm,1.3s							
SUA	Susitna One	83.74	11	P	P	03 12 28.3	-1.2	
	baz=202							
L19K	White Mountain	83.76	9	P	P	03 12 29.1	-0.4	
	baz=198							
K17K	Iditarod	83.83	7	P	P	03 12 30.0	+0.3	
	baz=194							
JLU	Jordanelle	83.87	43	P	P	03 12 30.1	-0.8	
JLU				IAmb	IAmb	03 12 31.6		
	comp=Z,4.3nm,0.8s							
B08A	Colville Reser	83.98	33	P	P	03 12 30.0	-1.0	
B08A				IAmb	IAmb	03 12 30.7		
	comp=Z,4.2nm,0.8s							
MVCO	Mesa Verde	84.01	47	P	P	03 12 30.1	-1.5	
MVCO				IAmb	IAmb	03 12 43.1		
	comp=Z,18nm,1.9s							
MVCO	Mesa Verde	84.01	47	P	P	03 12 31.0	-0.6	
	baz=239							
SKT	Skwentna	84.09	10	P	P	03 12 29.8	-1.3	
	baz=201							
KNK	Knik Glacier	84.12	12	P	P	03 12 31.0	-0.3	
	baz=204							
P18A	Preston Nutter	84.12	44	P	P	03 12 31.6	-0.5	
M22K	Willow	84.12	11	P	P	03 12 31.2	0.0	
	baz=202							
J16K	Anvik River	84.14	6	P	P	03 12 31.1	-0.3	
	baz=192							
S31K	Pelican	84.14	19	P	P	03 12 31.5	+0.1	
	baz=215							
PMR	Palmer	84.15	12	P	P	03 12 30.3	-1.1	
	baz=203							
C09A	Chrisman Ranch	84.17	34	P	P	03 12 30.9	-1.0	
C09A				IAmb	IAmb	03 12 33.5		
	comp=Z,3.9nm,0.6s							
TCUT	Toone Canyon	84.18	42	P	P	03 12 31.9	-0.5	
ALPN	Alpine	84.19	55	P	P	03 12 31.6	-0.9	
ALPN				IAmb	IAmb	03 12 47.7		
	comp=Z,15nm,1.7s							
L20K	Farewell, AK	84.19	9	P	P	03 12 31.4	-0.3	
	baz=198							
S32K	Killisnoo	84.26	20	P	P	03 12 30.8	-1.2	
	baz=216							
BSUT	Blindstream Ca	84.28	43	P	P	03 12 32.3	-0.8	
ANMO	Albuquerque	84.29	50	P	P	03 12 32.4	-0.6	
ANMO				IAmb	IAmb	03 12 46.9		
	comp=Z,12nm,1.3s							
ANMO	Albuquerque	84.29	50	P	P	03 12 31.2	-1.8	
	baz=240							
HWUT	Hardware Ranch	84.36	42	P	P	03 12 31.9	-1.3	
HWUT				IAmb	IAmb	03 12 33.5		
	comp=Z,6.0nm,0.8s							
GHO	Glory Hole Cre	84.36	12	P	P	03 12 31.9	-0.7	
GHO				IAmb	IAmb	03 12 33.2		
	comp=Z,8.2nm,0.8s							
J17K	VABM Dome	84.41	7	P	P	03 12 31.8	-0.9	
	baz=194							
MESA	MESA	84.44	15	P	P	03 12 32.5	-0.7	
	baz=210							
BMRM	Bremner River	84.52	14	P	P	03 12 32.6	-0.7	
	baz=207							
M23K	Glacier View	84.61	12	P	P	03 12 32.8	-1.0	
	baz=204							
PNL	Peninsula	84.66	17	P	P	03 12 32.9	-1.2	
	baz=212							
CRQE	Cirque	84.67	15	P	P	03 12 33.2	-1.1	
	baz=208							
KLU	Klutina	84.70	13	P	P	03 12 33.6	-0.8	
	baz=206							
SCM	Sheep Creek Mo	84.72	12	P	P	03 12 33.6	-0.8	
SCM				IAmb	IAmb	03 12 35.1		
	comp=Z,7.8nm,0.9s							
SCM	Sheep Creek Mo	84.72	12	P	P	03 12 34.1	-0.3	
	baz=205							
I17K	Unalakleet	84.73	6	P	P	03 12 33.9	-0.4	
	baz=192							
J18K	Innoko River	84.75	8	P	P	03 12 34.6	+0.2	
J18K	Innoko River	84.75	8	P	P	03 12 33.9	-0.6	
	baz=196							
PINM	Pinnacle	84.80	16	P	P	03 12 34.4	-0.5	
	baz=211							
BNX	BinXian	84.82	323	⇓P	P	03 12 35.9	+0.7	
BNX				pmax	pmax			
	comp=Z,15nm,1.0s							
CN2	Changchun	84.83	321	P	P	03 12 36.9	+1.6	
CN2				pmax	pmax			
	comp=Z,20nm,1.4s							
PPLA	Purkeypile	84.84	10	P	P	03 12 34.4	-0.7	
	baz=200							
R32K	Eaglecrest	84.93	20	P	P	03 12 35.3	-0.1	
	baz=216							
K20K	Telida	85.00	9	P	P	03 12 36.1	+0.4	
	baz=198							
VRDI	Verde Repeater	85.01	14	P	P	03 12 34.6	-1.4	
VRDI				IAmb	IAmb	03 13 06.1		
	comp=Z,14nm,1.6s							
ANM	Nome	85.04	4	P	P	03 12 35.1	-0.7	
	baz=188							
RDMU	Red Mountain	85.06	43	P	P	03 12 36.4	-0.4	
NEW	Newport	85.06	34	P	P	03 12 35.6	-0.8	
	baz=232							
N25K	Chitina, Valde	85.09	13	P	P	03 12 36.2	-0.1	
	baz=207							
P29M	Windy Craggy	85.09	17	P	P	03 12 35.8	-0.5	
	baz=213							
M24K	Tolsona, Glenn	85.20	13	P	P	03 12 36.8	-0.1	
	baz=206							
MCARA	McCarthy VSAT	85.24	14	P	P	03 12 37.4	+0.4	
	baz=209							
CTG	Chitna Glacier	85.28	15	P	P	03 12 37.2	-0.1	
	baz=210							
MNHN	Monahans	85.30	54	P	P	03 12 37.8	-0.3	
WAT6	Susitna Watana	85.33	12	P	P	03 12 37.4	-0.2	
	baz=204							
H16K	Elim	85.33	5	P	P	03 12 37.0	-0.3	
	baz=191							
PLBC	Pleasant Camp	85.34	18	P	P	03 12 36.9	-0.5	
	baz=215							
CAST	Castle Rocks	85.35	10	P	P	03 12 35.9	-1.6	
CAST	Castle Rocks	85.35	10	P	P	03 12 36.7	-0.7	
	baz=200							
J19K	Poorman	85.40	8	P	P	03 12 37.6	0.0	
	baz=197							
WAT1	Susitna Watana	85.40	11	P	P	03 12 36.7	-1.0	
	baz=203							
S22A	4UR Ranch, Cre	85.42	47	P	P	03 12 38.0	-0.8	
S22A				IAmb	IAmb	03 12 52.7		
	comp=Z,12nm,1.1s							
S22A	4UR Ranch, Cre	85.42	47	P	P	03 12 37.4	-1.4	
	baz=240							
G15K	Niukluk	85.55	4	P	P	03 12 38.2	-0.2	
	baz=189							
SKAG	Skagway	85.64	19	P	P	03 12 38.3	-0.6	
	baz=216							
HARP	HAARP	85.68	13	P	P	03 12 38.2	-0.9	
	baz=207							
O20A	White River Ci	85.69	44	P	P	03 12 39.0	-1.0	
	baz=239							
P30M	Million Dollar	85.72	17	P	P	03 12 38.8	-0.6	
	baz=214							
S34M	Telegraph Cree	85.75	21	P	P	03 12 39.1	-0.4	
	baz=219							
J20K	Nowinta River	85.77	8	P	P	03 12 38.8	-0.7	
J20K				IAmb	IAmb	03 12 40.2		
	comp=Z,5.1nm,0.8s							
J20K	Nowinta River	85.77	8	P	P	03 12 39.1	-0.3	
	baz=198							
H17K	Granite Mounta	85.83	6	P	P	03 12 38.9	-0.9	
	baz=193							
DHY	Denali Highway	85.85	12	P	P	03 12 39.6	-0.5	
	baz=204							
RND	Reindeer	85.88	11	P	P	03 12 39.3	-0.9	
MSO	Missoula	85.92	36	P	P	03 12 39.7	-1.1	
	baz=234							
SMCO	Snowmass	86.05	46	P	P	03 12 40.9	-1.1	
G16K	Koyuk River	86.07	5	P	P	03 12 40.5	-0.4	
	baz=191							
DRIO	Del Rio	86.10	57	P	P	03 12 41.7	-0.3	
DRIO				IAmb	IAmb	03 12 54.9		
	comp=Z,13nm,1.2s							
PAX	Paxson	86.12	13	P	P	03 12 41.5	+0.1	
	baz=206							
M26K	Nabesna, AK	86.14	14	P	P	03 12 41.3	-0.2	
M26K				IAmb	IAmb	03 13 11.7		
	comp=Z,9.2nm,1.3s							
M26K	Nabesna, AK	86.14	14	P	P	03 12 41.6	+0.1	
	baz=209							
HYT	Haines Junctio	86.15	17	P	P	03 12 41.6	0.0	
	baz=214							
BPAW	Bear Paw Mtn.	86.16	10	P	P	03 12 41.0	-0.5	
	baz=201							
MCK	McKinley	86.17	11	P	P	03 12 40.8	-0.7	
	baz=203,SNR=6.4							
Q32M	Nakina River	86.19	20	P	P	03 12 41.4	-0.5	
	baz=218							
YUK3	Moose Creek	86.19	15	P	P	03 12 41.5	-0.4	
	baz=211							
H18K	Honhosa River	86.20	6	P	P	03 12 41.8	+0.2	
	baz=194							
F15K	North Star Dit	86.22	4	P	P	03 12 41.9	+0.1	
	baz=188							
BW06	Boulder Array	86.24	42	P	P	03 12 41.6	-1.0	
	baz=238							
P32M	Atlin	86.24	19	P	P	03 12 41.7	-0.3	
	baz=217							
PLCA	Paso Flores	86.30	132	LR	LR	03 45 15.7		
	comp=Z,415nm,18.3s,baz=238,slow=31							
G17K	Kiwalik Mounta	86.32	5	P	P	03 12 42.9	+0.7	
	baz=192							
SDCO	Great Sand Dun	86.34	48	P	P	03 12 42.6	-0.7	
SDCO	Great Sand Dun	86.34	48	P	P	03 12 42.0	-1.3	
	baz=241							
M27K	Edge Creek, AK	86.36	14	P	P	03 12 42.4	-0.3	
M27K				IAmb	IAmb	03 12 58.8		
	comp=Z,11nm,1.2s							
M27K	Edge Creek, AK	86.36	14	P	P	03 12 42.5	-0.1	
	baz=210,SNR=5.8							
OZNA	Ozona	86.36	55	P	P	03 12 42.3	-1.0	
MENT	Mentasta	86.46	13	P	P	03 12 43.4	+0.4	
MENT				IAmb	IAmb	03 12 44.3		
	comp=Z,6.5nm,1.1s							
O30N	Mendenhall	86.50	17	P	P	03 12 42.9	-0.3	
O30N				IAmb	IAmb	03 12 56.6		
	comp=Z,9.9nm,1.5s							
O30N	Mendenhall	86.50	17	P	P	03 12 43.0	-0.3	
	baz=215							
DLBC	Dease Lake	86.53	21	P	P	03 12 42.7	-0.7	
	baz=220							
BOZ	Bozeman (W)	86.53	38	P	P	03 12 43.2	-0.7	
BOZ				IAmb	IAmb	03 12 45.3		
	comp=Z,5.5nm,0.9s							
BOZ	Bozeman (W)	86.53	38	P	P	03 12 43.3	-0.6	
	baz=236,SNR=8.0							
833A	Chaparral WMA,	86.59	58	P	P	03 12 43.0	-1.4	
	baz=245							
L26K	Log Cabin Wild	86.62	13	P	P	03 12 43.4	-0.4	
	baz=208							
BVCY	Beaver Creek	86.65	15	P	P	03 12 43.8	-0.1	
	baz=210							
WHY	Whitehorse	86.75	18	P	P	03 12 44.5	0.0	
	baz=216							
H19K	Roundabout Mou	86.77	7	P	P	03 12 44.0	-0.4	
H19K				IAmb	IAmb	03 12 58.0		
	comp=Z,16nm,1.4s							
H19K	Roundabout Mou	86.77	7	P	P	03 12 44.7	+0.4	
	baz=196							
N30M	Aishikik Lake	86.79	17	P	P	03 12 43.6	-1.1	
	baz=214							
K24K	Donnelly Dome	86.81	12	P	P	03 12 43.9	-0.8	
	baz=206							
G18K	Tagagawik	86.89	6	P	P	03 12 44.6	-0.4	
	baz=194							
H20K	Anotleneega Mo	86.93	8	P	P	03 12 44.8	-0.4	
	baz=198							
NEA2	Nenana	86.94	10	P	P	03 12 44.8	-0.5	
NEA2				IAmb	IAmb	03 12 46.2		
	comp=Z,6.3nm,1.1s							
NEA2	Nenana	86.94	10	P	P	03 12 44.5	-0.8	
	baz=203							
R33M	Jennings River	86.95	20	P	P	03 12 45.0	-0.6	
	baz=220							
L27K	Beaver Creek,	86.99	14	P	P	03 12 45.1	-0.4	
	baz=210							
WRH	Wood River Hil	86.99	11	P	P	03 12 44.6	-0.9	
P33M	Teslin, Yukon	87.01	19	P	P	03 12 45.4	-0.4	
	baz=218							
I21K	Tanana	87.03	9	P	P	03 12 45.3	-0.4	
	baz=200							
ELIB	Princess Elisa	87.05	185	dP	P	03 12 45.7	-0.4	
	comp=Z,2.4nm,1.0s							
MLY	Manley	87.07	10	P	P	03 12 45.4	-0.6	
	baz=201							
HDA	Harding Lake	87.14	11	P	P	03 12 45.4	-0.8	
HDA				IAmb	IAmb	03 12 46.9		
	comp=Z,8.7nm,0.8s							
HDA	Harding Lake	87.14	11	P	P	03 12 46.2	0.0	
	baz=205,SNR=6.9							
RWWY	Rawlins	87.16	43	P	P	03 12 45.5	-1.8	
RWWY				IAmb	IAmb	03 15 22.8		
	comp=Z,5.6nm,0.7s							
N31M	Braeburn, Yuko	87.17	17	P	P	03 12 46.6	+0.1	
	baz=215							
Q24A	Divide	87.17	47	P	P	03 12 45.5	-1.9	
	baz=241							
F17K	Baldwin Pennin	87.19	5	P	P	03 12 46.5	+0.2	
	baz=192							
JCT	Junction City	87.20	56	P	P	03 12 45.9	-1.5	
	baz=244							
HNDO	Hondo	87.20	57	P	P	03 12 46.9	-0.5	
CCB	Clear Creek Bu	87.20	11	P	P	03 12 45.1	-1.4	
CCB				IAmb	IAmb	03 12 47.0		
	comp=Z,7.4nm,0.8s							
M29M	Somme Creek	87.26	16	P	P	03 12 46.2	-0.8	
M29M	Somme Creek	87.26	16	P	P	03 12 46.4	-0.6	
	baz=213							
G19K	Purcell Mounta	87.30	7	P	P	03 12 47.1	+0.1	
G19K				IAmb	IAmb	03 12 48.5		
	comp=Z,7.7nm,1.1s							
G19K	Purcell Mounta	87.30	7	P	P	03 12 46.6	-0.4	
	baz=196							
SCRK	Sand Creek	87.33	13	P	P	03 12 46.7	-0.6	
	baz=208,SNR=5.4							
H21K	Melozitna Rive	87.36	9	P	P	03 12 46.8	-0.5	
	baz=199							
I23K	Minto, Yukon-K	87.40	10	P	P	03 12 46.9	-0.5	
	baz=203							
COLA	College	87.40	11	P	P	03 12 47.1	-0.4	
	baz=204							
SN05	Snyder 5	87.41	54	P	P	03 12 47.5	-0.9	
MDM	Murphy Dome	87.42	11	P	P	03 12 46.4	-1.2	
IL31		87.48	11	P	P	03 12 46.1	-1.7	
IL31				IAmb	IAmb	03 12 50.0		
	comp=Z,4.2nm,0.8s							
ILAR	Eielson Array	87.48	11	P	P	03 12 46.8	-1.1	
ILAR	Eielson Array	87.48	11	P	P	03 12 45.3	-2.6	
	comp=Z,2.3nm,0.7s,baz=216,slow=5.9,SNR=32							
	comp=Z,2.3nm,0.7s							
F18K	Selawik	87.48	6	P	P	03 12 47.1	-0.6	
	baz=193							
HEH	HeiHe	87.50	327	eP	P	03 12 49.6	+1.4	
HEH				pmax	pmax			
	comp=Z,7.0nm,0.9s							
HEH				LR	LR			
	comp=Z,430nm,15.3s							
HEH				LR	LR			
	comp=Z,320nm,15.7s							
HEH				LR	LR			
	comp=Z,780nm,17.1s							
IMAR	Indian Mountai	87.54	8	P	P	03 12 47.8	-0.3	
N23A	Red Feather La	87.59	45	P	P	03 12 48.9	-0.4	
N23A	Red Feather La	87.59	45	P	P	03 12 49.2	-0.2	
	baz=240							
J25K	Salcha River,	87.62	12	P	P	03 12 48.3	-0.4	
J25K				IAmb	IAmb	03 12 49.6		
	comp=Z,5.3nm,0.8s							
J25K	Salcha River,	87.62	12	P	P	03 12 47.7	-0.9	
	baz=206,SNR=12							
RLMT	Red Lodge	87.67	40	P	P	03 12 48.5	-1.1	
	baz=238							
TROLL	Troll, Antarti	87.69	179	⇑P	P	03 12 49.4	+0.3	
	comp=Z,53nm,0.7s							
POKR	Poker Plat Res	87.70	11	P	P	03 12 48.1	-0.8	
POKR				IAmb	IAmb	03 12 49.1		
	comp=Z,4.7nm,0.8s							
POKR	Poker Plat Res	87.70	11	P	P	03 12 47.9	-1.1	
	baz=204,SNR=7.5							
AMTX	Amarillo	87.72	51	P	P	03 12 49.0	-0.9	
AMTX				IAmb	IAmb	03 12 50.9		
	comp=Z,8.6nm,0.9s							
AMTX	Amarillo	87.72	51	P	P	03 12 48.5	-1.3	
	baz=243							
DKNS	Dickens	87.73	53	P	P	03 12 49.5	-0.4	
E17K	Hotham Inlet	87.78	5	P	P	03 12 48.5	-0.7	
	baz=191							
K27K	Chicken	87.78	13	P	P	03 12 49.2	-0.1	
K27K				IAmb	IAmb	03 13 03.0		
	comp=Z,5.7nm,1.1s							
K27K	Chicken	87.78	13	P	P	03 12 49.6	+0.3	
	baz=209							
H22K	Ishtalitna Cre	87.78	9	P	P	03 12 49.5	+0.1	
	baz=201							
M30M	Minto, Yukon	87.80	16	P	P	03 12 49.3	-0.2	
	baz=214							
VNA3	Neumayer Olymp	87.82	175	⇑P	P	03 12 50.3	+0.6	
	comp=Z,3.7nm,0.8s							
SNAA	Sanae	87.84	177	⇑P	P	03 12 49.7	-0.2	
	comp=Z,29nm,0.6s							
SNAA	Sanae	87.84	177	LR	LR	03 48 46.5		
	comp=Z,496nm,20.2s,baz=228,slow=33							
J26L	Joseph Creek	87.88	13	P	P	03 12 48.8	-1.1	
J26L				IAmb	IAmb	03 12 51.7		
	comp=Z,7.4nm,0.8s							
J26L	Joseph Creek	87.88	13	P	P	03 12 49.6	-0.3	
	baz=208,SNR=10							
F19K	Shaleruckik Mo	87.89	6	P	P	03 12 49.1	-0.7	
	baz=195							
L29M	L29M	87.90	15	P	P	03 12 49.5	-0.5	
L29M				IAmb	IAmb	03 13 03.5		
	comp=Z,7.3nm,1.0s							
L29M	L29M	87.90	15	P	P	03 12 49.3	-0.7	
	baz=213,SNR=5.7							
H23K	Yukon River	88.00	10	P	P	03 12 50.3	0.0	
	baz=202							
G21K	Allakaket	88.08	8	P	P	03 12 51.2	+0.5	
G21K				IAmb	IAmb	03 13 04.1		
	comp=Z,14nm,1.6s							
G21K	Allakaket	88.08	8	P	P	03 12 50.4	-0.3	
	baz=199							
K22A	Casper	88.09	43	P	P	03 12 50.0	-1.6	
	baz=240							
M31M	Drury Creek, Y	88.14	17	P	P	03 12 50.8	-0.3	
	baz=216							
BRDY	Brady	88.16	56	P	P	03 12 51.2	-0.8	
E18K	Tukpahlearik C	88.21	5	P	P	03 12 51.4	+0.1	
	baz=192							
ABTX	Abilene, Hawle	88.24	54	P	P	03 12 52.1	-0.3	
ABTX	Abilene, Hawle	88.24	54	P	P	03 12 50.7	-1.7	
	baz=244							
H24K	Noodor Dome	88.28	10	P	P	03 12 51.4	-0.3	
	baz=204							
D17K	Noatak River	88.30	4	P	P	03 12 51.7	0.0	
	baz=190							
VNA2	Neumayer--Watz	88.31	176	⇑P	P	03 12 51.7	-0.3	
	comp=Z,1.5nm,0.6s,baz=198,slow=4.0							
F20K	Avaraart Lake	88.32	7	P	P	03 12 52.1	+0.3	
	baz=197							
PRP	Porcupine Dome	88.41	11	P	P	03 12 53.1	+0.7	
PRP				IAmb	IAmb	03 12 54.9		
	comp=Z,9.4nm,1.2s							
PRP	Porcupine Dome	88.41	11	P	P	03 12 52.0	-0.4	
	baz=206							
DAWY	Dawson	88.41	14	P	P	03 12 51.7	-0.7	
DAWY	Dawson	88.41	14	P	P	03 12 52.5	+0.1	
	baz=212,SNR=6.4							
VNA1	Neumayer--Stat	88.51	175	⇑P	P	03 12 49.9	-3.0	
	comp=Z,2.3nm,0.6s							
TOAD	Toad River Com	88.53	23	P	P	03 12 52.5	-0.6	
	baz=224							
E19K	Redstone River	88.55	6	P	P	03 12 53.3	+0.4	
	baz=195							
HNS	HongShan	88.58	311	⇓P	P	03 12 55.8	+2.1	
EGAK	Eagle	88.63	13	P	P	03 12 52.3	-1.0	
EGAK				IAmb	IAmb	03 13 09.9		
	comp=Z,4.5nm,0.9s							
EGAK	Eagle	88.63	13	P	P	03 12 52.8	-0.5	
	baz=210							

C16K	Lisburne Hills baz=188	88.74	3	P	P	03 12 53.9 +0.1
G23K	Bananza Creek baz=202	88.75	9	P	P	03 12 54.2 +0.3
F21K	Alatna River baz=199	88.75	8	P	P	03 12 53.8 -0.1
BJI BJI	Beijing comp=Z,6.0nm,1.4s	88.78	314	P pmax	P pmax	03 12 56.6 +2.0
LYN LYN	LuoYang comp=Z,22nm,0.6s	88.94	308	*e*P pmax	P pmax	03 12 58.7 +3.2
LYN	comp=Z,360nm,4.0s			pmax	pmax	
EGMT	Eagleton baz=237	88.94	37	P	P	03 12 54.7 -0.6
435B	Jarrell baz=246	89.06	57	P	P	03 12 54.8 -1.4
C17K	DeLong Mountai baz=190	89.06	4	P	P	03 12 55.6 +0.3
G24K	Hadweenzic Riv baz=204	89.14	10	P	P	03 12 55.9 +0.2
F22K	John River baz=200	89.19	8	P	P	03 12 56.5 +0.6
COLD	Coldfoot baz=202	89.20	9	P	P	03 12 56.3 +0.3
I27K	Kandik River baz=210	89.25	13	P	P	03 12 55.9 -0.4
C18K	Utukok River baz=192	89.37	5	P	P	03 12 56.2 -0.6
E20K	Nigu River baz=196	89.43	6	P	P	03 12 56.5 -0.6
I28M I28M	Miner Creek comp=Z,21nm,1.9s	89.47	13	P IAmb	P IAmb	03 12 55.1 -2.3 03 13 00.0
I28M	Miner Creek baz=211	89.47	13	P	P	03 12 56.5 -0.9
D19K	Kuna River baz=194	89.47	6	P	P	03 12 57.6 +0.3
J30M	Hart River baz=215	89.57	15	P	P	03 12 57.6 -0.3
H27K	Steamboat Moun baz=210	89.81	12	P	P	03 12 58.3 -0.6
F24K	Squaw Lake baz=204	89.82	10	P	P	03 12 59.1 +0.2
D20K	Etivluk River baz=196	89.83	6	P	P	03 12 59.3 +0.3
E22K E22K	Anaktuvuk Pass comp=Z,7.6nm,1.4s	89.83	8	P IAmb	P IAmb	03 12 58.5 -0.4 03 13 07.3
E22K	Anaktuvuk Pass baz=200	89.83	8	P	P	03 12 58.8 -0.2
E21K	Killik River baz=198	89.86	7	P	P	03 12 59.1 +0.1
C19K	Lookout Ridge	89.94	5	P	P	03 12 59.3 -0.1
C19K	Lookout Ridge baz=193	89.94	5	P	P	03 12 59.9 +0.4
G26K	Porcupine Rive baz=208	90.01	11	P	P	03 13 00.4 +0.7
B18K	Kokolik River baz=191	90.03	4	P	P	03 13 00.2 +0.4
E23K	Chandalar baz=202	90.06	9	P	P	03 13 00.7 +0.6
I30M I30M	Mount Dempster comp=Z,6.7nm,1.2s	90.09	15	P IAmb	P IAmb	03 13 00.1 -0.2 03 13 47.7
I30M	Mount Dempster baz=214,SNR=5.4	90.09	15	P	P	03 13 00.7 +0.3
OGNE	Ogallala baz=243	90.22	46	P	P	03 13 00.6 -0.9
E24K	Your Creek baz=203	90.24	9	P	P	03 13 00.9 0.0
F25K	Christian Rive baz=206	90.26	10	P	P	03 13 01.1 +0.1
G27K	Doyon Strip baz=210	90.29	12	P	P	03 13 00.6 -0.6
BMAR	Burnt Mountain	90.29	11	P	P	03 13 00.9 -0.2
RSSD	Black Hills baz=242	90.39	42	P	P	03 13 00.9 -1.4
D22K	Ayikyak River baz=200	90.43	7	P	P	03 13 01.4 -0.2
C21K	Knifeblade Rid baz=198	90.45	7	P	P	03 13 01.6 -0.2
H29M H29M	Whitestone comp=Z,17nm,1.7s	90.47	14	P IAmb	P IAmb	03 13 01.6 -0.3 03 13 49.2
H29M	Whitestone baz=213	90.47	14	P	P	03 13 02.2 +0.2
F26K	Sheenjek River baz=207	90.61	11	P	P	03 13 02.7 +0.1
TOLK	Toolik Lake Re baz=202	90.61	9	P	P	03 13 02.6 0.0
E25K E25K	Arctic Village comp=Z,14nm,1.9s	90.75	10	P IAmb	P IAmb	03 13 03.6 +0.4 03 13 06.2
E25K	Arctic Village baz=206	90.75	10	P	P	03 13 03.6 +0.4
D23K	Nanushuk River baz=201	90.76	8	P	P	03 13 03.7 +0.4
CBKS	Cedar Bluff baz=244	90.85	49	P	P	03 13 03.4 -1.1
A19K	Wainwright baz=192	90.91	4	P	P	03 13 04.3 +0.4
EPYK	Eagle Plains baz=214	90.96	14	P	P	03 13 04.0 -0.3
B20K	Meade River baz=195	91.03	6	P	P	03 13 03.9 -0.5
H31M	Peel River baz=216	91.06	15	P	P	03 13 05.2 +0.5
G29M	Pine Creek baz=213	91.13	13	P	P	03 13 05.4 +0.4
D24K	Happy Valley baz=203	91.19	9	P	P	03 13 05.5 +0.3
F28M	Old Crow baz=211	91.34	12	P	P	03 13 06.1 +0.1
XAN XAN	Xi'an comp=Z,17nm,1.1s	91.39	306	⇑P pmax	P pmax	03 13 08.1 +1.1
E27K	Coleen River baz=210	91.50	11	P	P	03 13 06.8 +0.1
G30M	tAoh Zraii Nji	91.58	14	P	P	03 13 07.5 +0.4
G30M	tAoh Zraii Nji baz=215	91.58	14	P	P	03 13 07.6 +0.5
C23K	Itkillik River baz=202	91.58	8	P	P	03 13 07.7 +0.7
D25K	Kavik River baz=205	91.70	9	P	P	03 13 08.0 +0.3
B22K	Teshekpuk Lake baz=199	91.73	7	P	P	03 13 08.4 +0.7
G31M	Satah River baz=216	91.98	15	P	P	03 13 09.2 +0.4
NNA	Nana comp=Z,266nm,18.7s,baz=272,slow=31	92.14	104	LR	LR	03 47 07.0
A22K	Sinclair Lake baz=197	92.20	6	P	P	03 13 10.4 +0.6
E28M	Babbage River baz=212	92.25	12	P	P	03 13 10.2 0.0
HHC HHC HHC	Hu-ho-hao-te comp=Z,10.0nm,0.7s	92.29	313	*e*P *e*S pmax	P S pmax	03 13 12.2 +1.1 03 24 19.1 +5.8
HHC	comp=Z,170nm,5.1s			pmax	pmax	
HHC	comp=Z,180nm,15.8s			LR	LR	
HHC	comp=Z,190nm,17.5s			LR	LR	
HHC	comp=Z,230nm,18.6s			LR	LR	
A21K	Barrow baz=196	92.35	5	P	P	03 13 10.7 +0.2
T35A	Sooner Cattle	92.38	51	P	P	03 13 11.2 -0.3
E29M	Blow River baz=213	92.40	13	P	P	03 13 11.2 +0.3
C27K	Jago River baz=208	92.40	10	P	P	03 13 11.6 +0.8
C26K	Camden Bay baz=207	92.47	10	P	P	03 13 11.8 +0.8
TUL3	Leonard baz=246	92.51	53	P	P	03 13 11.4 -0.7
F31M	Tsiigehtchic baz=217	92.52	14	P	P	03 13 11.7 +0.4
D27M	Malcolm River baz=210	92.54	11	P	P	03 13 11.8 +0.3
KSU1	Kansas State U baz=246	93.19	49	P	P	03 13 14.6 -0.6
BTO BTO	Baotou comp=Z,13nm,0.8s	93.25	312	*e*P pmax	P pmax	03 13 18.8 +3.2
INK	Inuvik baz=217	93.27	14	P	P	03 13 15.3 +0.6
MIAR	Mount Ida baz=248	93.65	55	P	P	03 13 15.8 -1.6
CMAR	Chiang Mai Arr comp=Z,1.1nm,0.3s,baz=88,slow=3.2,SNR=1.1	93.95	288	P	P	03 13 18.1 -1.0
PZH PZH	PanZhiHua comp=Z,8.0nm,0.9s	94.31	297	P pmax	P pmax	03 13 22.7 +1.9
PZH	comp=Z,100nm,5.1s			pmax	pmax	
MDND	Maddock baz=245	94.83	41	P	P	03 13 20.9 -1.6
LVC	Limon Verde comp=Z,468nm,20.0s,baz=244,slow=30	95.03	116	LR	LR	03 47 26.0
ECSD	EROS Data Cent	95.04	45	P	P	03 13 23.2 -0.3
ECSD	EROS Data Cent baz=246	95.04	45	P	P	03 13 22.3 -1.3
AGMN	Agassiz Nation	97.31	41	P	P	03 13 33.0 -0.8
AGMN	Agassiz Nation baz=248	97.31	41	P	P	03 13 32.1 -1.6
A36M	Sachs Harbour baz=225	97.90	14	P	P	03 13 35.7 -0.2
LPAZ LPAZ	La Paz comp=Z,0.7nm,0.8s,baz=278,slow=2.0,SNR=2.3	98.29	111	P LR	Pdif LR	03 13 40.2 +0.4 03 49 20.8
LPAZ	comp=Z,310nm,20.5s,baz=254,slow=30 comp=Z,0.7nm,0.8s					
JFWS	Jewell Farm baz=251	99.06	48	P	Pdif	03 13 40.4 -1.4
EYMN	Ely baz=250	99.91	43	P	Pdif	03 13 44.7 -0.8
DWPF	Disney Wildern baz=253	101.29	64	P	Pdif	03 13 50.7 -1.3
P49A	Miami Univ. Ec baz=253	101.99	52	P	Pdif	03 13 53.6 -1.3
P52A	Corning baz=255	103.94	53	P	Pdif	03 14 01.9 -1.6
WMQ WMQ	Urumqi comp=Z,170nm,22.7s	110.00	310	*e*P LR	PKiKP LR	03 18 32.6 +0.2
MKAR	Makanchi Array comp=Z,0.6nm,0.7s,baz=79,slow=2.6,SNR=5.4	114.15	313	PKiKP	PKPdf	03 18 37.6 -2.5
KURBB	Kurchatov Arra comp=Z,0.4nm,0.7s,baz=89,slow=2.0,SNR=7.1	116.80	317	PKP	PKPdf	03 18 43.6 -1.5
BVAR	Borovoye Array comp=Z,1.7nm,0.6s,baz=54,slow=3.8,SNR=8.2	121.68	320	PKP	PKPdf	03 18 53.7 -0.6
ARCES	ARCESS Array B comp=Z,1.1nm,0.8s,baz=315,slow=0.5,SNR=8.6	129.60	351	PKP	PKPdf	03 19 08.4 -0.6
FINES	FINESS Array B comp=Z,1.1nm,0.7s,baz=57,slow=5.1,SNR=7.0	136.83	346	PKP	PKiKP	03 19 24.6 0.0
EKA	Eskdalemuir Ar comp=Z,2.0nm,0.8s,baz=347,slow=4.2,SNR=7.2	144.50	9	PKP	PKPab	03 19 34.2 -1.0
AKASG	Malin Array Be comp=Z,12nm,0.7s,baz=39,slow=4.3,SNR=12	144.87	335	PKP	PKPab	03 19 34.8 -2.0
SORM	Soroca	147.21	332	⇑P	PKPbc	03 19 43.5 -0.4
STHS	Stebnicka Huta	148.79	341	*e*PKP	PKiKP	03 19 49.3 -0.3
KOLS	Kolonicke sedl	148.89	339	*e*PKP	PKiKP	03 19 50.3 +0.5
BURAR	Bucovina Array	148.93	335	⇓P	PKPbc	03 19 48.3 -0.3
OSTC	Ostas comp=Z,200nm,20.5s	149.01	348	AMS	AMS	04 28 30.0
UPC	Upice comp=Z,200nm,22.0s	149.10	348	AMS	AMS	04 33 00.0
BRG BRG	Berggiesshubel comp=Z,7.8nm,1.2s	149.11	351	*e*PKP Amp	PKPbc	03 19 48.9 +0.1 03 19 51.2
TLCR		149.17	328	⇑P	PKiKP	03 19 49.8 -0.6
CRVS	Cervenica-Dubn	149.18	340	*e*PKP	PKiKP	03 19 50.4 0.0
DPC DPC	Dobruska-Polom comp=Z,200nm,19.5s	149.19	347	*e*PKPAB AMS	PKPab AMS	03 19 54.0 +0.5 04 28 10.0
TESR	Tescani	149.20	332	⇑P	PKPbc	03 19 49.2 -0.1
OKC	Ostrava-Krasne comp=Z,200nm,17.3s	149.26	345	AMS	AMS	04 35 50.0
PVCC	Panska Ves comp=Z,200nm,19.0s	149.34	350	AMS	AMS	04 36 40.0
HSKC	Hora Svate Kat comp=Z,200nm,18.0s	149.44	351	AMS	AMS	04 34 00.0
MORC	Moravsky Berou	149.46	346	*e*PKP	PKPbc	03 19 50.0 +0.1
CFR	Carcaliu	149.51	329	⇑P	PKPbc	03 19 50.1 +0.1
LANS	Liptovska Anna	149.55	343	*e*PKP	PKiKP	03 19 52.6 +1.4
TPGR	Topolog	149.60	328	⇑P	PKiKP	03 19 51.4 0.0
VRI	Vrincioaia	149.66	331	⇑P	PKPbc	03 19 49.3 -1.1
PLOR	Plostina	149.71	331	⇑P	PKiKP	03 19 51.2 -0.5
BRTR	Keskin Array B comp=Z,2.0nm,0.8s,baz=130,slow=4.2,SNR=15	149.77	315	PKPbc	PKPbc	03 19 50.9 -0.2
PRA	Prague comp=Z,400nm,23.7s	149.81	350	AMS	AMS	04 34 00.0
TURR	Turia	149.83	332	⇑P	PKiKP	03 19 52.2 +0.4
PRU	Pruhonice comp=Z,300nm,18.8s	149.87	349	AMS	AMS	04 34 00.0
GOPC	GO Pecny, Ondr comp=Z,300nm,20.1s	149.90	349	AMS	AMS	04 35 20.0
OZUR		149.90	332	⇑P	PKiKP	03 19 52.3 +0.3
BISRR	Bisoca	149.91	331	⇑P	PKiKP	03 19 53.3 +1.2
COVR	Voineasa-Covas	149.91	332	⇑P	PKPbc	03 19 51.5 +0.4
HARR	Harsova	149.97	328	⇑P	PKiKP	03 19 52.1 0.0
TLBR	Topalu	150.01	328	⇑P	PKiKP	03 19 52.4 +0.2
DOPR	Dopca	150.17	333	⇑P	PKiKP	03 19 53.2 +0.6
NEHR	Nehoiu	150.19	331	⇑P	PKiKP	03 19 52.3 -0.3
JAVC	Velka Javorina	150.28	345	*e*PKP	PKPbc	03 19 51.3 -0.6
CJR	Cluj-Napoca	150.30	336	⇑P	PKPdf	03 19 47.6 +0.7
MLR	Muntele Rosu	150.30	332	⇑P	PKiKP	03 19 52.7 -0.3
VYHS	Vyhne	150.32	343	*e*PKP	PKiKP	03 19 52.6 -0.2
TREC	Trest comp=Z,200nm,19.1s	150.36	348	AMS	AMS	04 35 10.0
KRUC	Moravsky	150.39	347	*e*PKP	PKPbc	03 19 51.4 -0.7
ZVC ZVC	Zvikov comp=Z,300nm,17.2s	150.46	350	⇑*e*PKP AMS	PKPbc AMS	03 19 52.0 -0.2 04 32 30.0
MARR	Marisel-Cluj	150.51	336	⇓P	PKPbc	03 19 52.7 +0.1
DRGR		150.57	337	⇑P	PKiKP	03 19 53.4 0.0
VOIR		150.74	332	⇑P	PKiKP	03 19 54.4 +0.6
MODS	Modra-Piesok	150.83	345	*e*PKP	PKiKP	03 19 53.7 -0.1
KHC KHC	Kasperske Hory comp=Z,300nm,20.0s	150.86	350	⇑*e*PKP AMS	PKiKP AMS	03 19 53.7 -0.2 04 34 30.0
ARR	Arges	150.97	333	⇑P	PKiKP	03 19 54.3 0.0
CKRC CKRC	Cesky Krumlov comp=Z,200nm,17.5s	151.03	349	*e*PKP AMS	PKPbc AMS	03 19 53.1 -0.6 04 36 40.0
SRO	Srobarova	151.08	343	*e*PKP	PKiKP	03 19 55.3 +1.0
GERES	GERESS Array B comp=Z,1.8nm,0.9s,baz=40,slow=2.3,SNR=6.5	151.11	350	PKPbc	PKPbc	03 19 52.4 -1.5
LOT	Lotru	151.27	334	⇑P	PKPbc	03 19 54.4 0.0
MMAI	Mount Meron Ar comp=Z,0.7nm,0.3s,baz=38,slow=5.8,SNR=5.9	151.30	302	PKPbc	PKPbc	03 19 54.6 -0.2
SIRR	Siria	151.40	337	⇑P	PKPbc	03 19 54.8 +0.2
CONA	Conrad Observa comp=Z,3.1nm,1.1s	151.58	346	*e*pPKP	pPKPdf	03 19 52.2 -2.4
SURR	Surduc	151.66	336	⇑P	PKiKP	03 19 55.6 0.0
RONA	Rosalia, Austr comp=Z,4.1nm,0.7s	151.69	346	*e*PKP	PKPbc	03 19 55.4 +0.1
GZR	Gura Zlata	151.71	335	⇑P	PKiKP	03 19 55.9 +0.1
BZS	Buzias	151.97	337	⇑P	PKPbc	03 19 56.0 +0.1
MOA	Molln comp=Z,2.9nm,1.2s	151.98	349	*e*PKP	PKPab	03 20 03.8 -1.3
BIOA	Bad Ischl, Aus comp=Z,3.0nm,0.8s	152.24	349	*e*PKP	PKPab	03 20 06.0 -0.2
HERR	Herculane	152.28	335	⇑P	PKPbc	03 19 56.2 -0.4
ARSA	Arzberg comp=Z,2.6nm,0.9s	152.29	346	*i* PKiKP	PKiKP	03 19 57.2 +0.4
MORH	Mrgy, Hungar	152.44	341	⇑P	PKiKP	03 19 57.4 +0.2
MDVR	Moldovita	152.64	336	⇑P	PKPbc	03 19 56.3 -1.1
LESA	Schwarzleotal comp=Z,3.7nm,1.2s	152.66	351	*i* pPKiKP	PKiKP	03 20 01.1 +3.4
RETA	Reutte comp=Z,3.6nm,1.3s	152.85	353	*e*PKP	PKPab	03 20 08.3 -0.5
KBA	Koelnbreinsper comp=Z,2.4nm,0.9s	152.88	349	*e*pPKP	PKiKP	03 20 00.7 +2.4
WATA	Walderalm comp=Z,6.2nm,1.3s	152.90	352	*i* pPKP	PKPab	03 20 10.2 +1.0
SOKA	Soboth comp=Z,2.6nm,1.2s	152.94	347	*e*PKP	PKPbc	03 19 57.0 -1.2
MOTA	Moosalm comp=Z,1.6nm,1.0s	152.95	353	*i* PKiKP	PKiKP	03 19 58.4 0.0
SQTA	Sankt Quirin comp=Z,3.0nm,0.9s	153.06	353	*e*pPKP	PKiKP	03 20 00.2 +1.6
DAVA	Damuels comp=Z,4.1nm,0.9s	153.13	355	*e*PKP	PKPab	03 20 07.3 -2.8
OBKA	Obir comp=Z,1.6nm,0.8s	153.21	347	*e*PKiKP	PKiKP	03 19 58.8 -0.1
MYKA	Terra Mystica comp=Z,1.1nm,0.7s	153.27	349	*e*PKiKP	PKiKP	03 19 59.2 +0.2
FETA	Feichten comp=Z,4.6nm,1.2s	153.31	353	*e*PKiKP	PKiKP	03 20 00.3 +1.1
ABTA	Abfaltersbach comp=Z,2.8nm,1.0s	153.34	350	*e*PKP	PKPbc	03 19 58.4 -0.6

GCMT 03 03:10:40.0±0.2, 25°.87S±0°.02×177°.22W±0°.01, h23km, MW5.5/132, Moment Tensor Solution. s77,c108; s132,c211; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}2.04±.06; $M_{r\theta\theta}$-0.33±.04; $M_{\theta\phi\phi}$-1.70±.05; $M_{r\theta}$-0.03±.06; $M_{\theta\phi}$0.18±.03; $M_{\phi r}$-0.28±.06; **Best double couple:** $M_0$1.90300×10^{17} **NP1:**ϕ_s174.00000°, δ49.00000°, λ92.00000°. **NP2:**ϕ_s351.00000°, δ41.00000°, λ87.00000°. **Principal axes:** T 2.0630, Plg85.0000°, Azm104.0000°; N -0.3100, Plg2.0000°, Azm353.0000°; P -1.7440, Plg4.0000°, Azm263.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function South of Fiji Islands**

WEL 03 03:11:23.0±0.8, 39°S±4°, 17°9E±°, h33km, M3.1/18, ML3.4/19, MLv3.1/18 Error ellipse: s-maj=0.0km s-min=0.0km az=124.4, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	Mahia Peninsul	0.54	273	P	Pb	03 11 34.1	-0.1
MHGZ				S	Sn	03 11 42.7	+0.4
PRGZ	Paritu Road	0.62	295	P	Pn	03 11 35.2	-0.2
KNZ	Kokohu	0.74	283	P	Pn	03 11 36.7	-0.4
CNGZ	Carnagh Statio	0.77	336	P	Pb	03 11 37.8	-0.1
RIGZ	Rimuhau	0.81	306	P	Pn	03 11 38.4	+0.3
RIGZ				S	Sb	03 11 50.8	+1.4
TKGZ	Te Karaka	0.95	322	P	Pb	03 11 40.7	-0.3
TKGZ				S	Sb	03 11 53.6	+0.4
SNGZ	Shannon Statio	1.06	292	P	Pn	03 11 42.1	+0.6
SNGZ				S	Sb	03 11 56.2	-0.3
WHHZ	Waihua	1.07	276	P	Pn	03 11 41.9	+0.3
WHHZ				S	Sb	03 11 56.3	-0.3
TWGZ	Tauwhareparae	1.12	334	P	Pn	03 11 42.8	+0.5
TWGZ				S	Sb	03 11 57.8	-0.3
PUZ	Puketiti	1.15	346	P	Pn	03 11 42.6	-0.2
PUZ				S	Sn	03 11 57.4	+0.1
RAGZ	Rawiri	1.15	306	P	Pn	03 11 43.3	+0.4
RAGZ				S	Sb	03 11 58.8	-0.4
MWZ	Matawai	1.20	315	P	Pn	03 11 43.6	+0.2
MWZ				S	Sn	03 11 58.4	-0.2
RAHZ	Arahi	1.21	282	P	Pn	03 11 44.0	+0.4
RAHZ				S	Sn	03 11 59.6	+0.7
ARHZ	Aropaoanui	1.25	266	P	Pn	03 11 44.9	+0.8
ARHZ				S	Sb	03 12 00.8	-0.9
CKHZ	Cape Kidnapper	1.27	248	P	Pn	03 11 43.8	-0.6
CKHZ				S	Sn	03 12 00.6	+0.3
WMGZ	Waiomatatini S	1.37	354	P	Pn	03 11 46.1	+0.3
PKGZ	Pakihiroa	1.38	343	P	Pn	03 11 46.0	0.0
PKGZ				P	Pn	03 11 46.0	0.0
PKGZ				S	Sn	03 12 03.3	+0.2
RTZ	Ruatahuna	1.39	294	P	Pn	03 11 46.6	+0.5
RTZ				S	Sn	03 12 04.1	+0.8
NMHZ	Naumai	1.40	273	P	Pn	03 11 46.6	+0.4
NMHZ				S	Sn	03 12 04.5	+0.9
MTHZ	Maungataniwha	1.41	283	P	Pn	03 11 47.2	+0.8
MTHZ				S	Sn	03 12 03.8	0.0
RUGZ	Raukumara Rang	1.42	329	P	Pn	03 11 46.6	+0.1
RUGZ				S	Sn	03 12 03.7	-0.5
KAHZ	Kahuranaki	1.46	245	P	Pn	03 11 47.2	+0.1
URZ	Urewera	1.49	308	P	Pn	03 11 47.9	+0.5
MCHZ	McNeill Hill	1.50	260	P	Pb	03 11 49.9	-0.4
HAZ	Te Kaha	1.57	336	P	Pn	03 11 46.8	-1.7
PXZ	Pawanui	1.58	237	P	Pn	03 11 47.5	-1.2
BKZ	Black Stump Fm	1.64	270	P	Pn	03 11 49.7	+0.2
MXZ	Matakaoa Point	1.64	352	P	Pn	03 11 50.0	+0.5
KWHZ	Kaweka Forest	1.71	261	P	Pn	03 11 51.1	+0.6
KRHZ	Kereru	1.79	255	P	Pn	03 11 52.9	+1.4
PRHZ	Porangahau	1.86	234	P	Pn	03 11 50.8	-1.7
WPHZ	Waipukurau	1.88	242	P	Pn	03 11 52.3	-0.5
TARZ	Mount Tarawera	1.89	299	P	Pn	03 11 54.2	+1.2
PNHZ	Pukenui	1.99	248	P	Pn	03 11 53.7	-0.7
ANWZ	Angora Road	2.07	231	P	Pn	03 11 53.4	-2.0
OPRZ	Ohinepanea	2.09	309	P	Pn	03 11 56.2	+0.6
DVHZ	Dannevirke	2.18	239	P	Pn	03 11 55.5	-1.5
TSZ	Takapari Road	2.21	246	P	Pn	03 11 56.5	-0.9
MOVZ	Moawhango	2.22	263	P	Pn	03 11 58.7	+1.1
NTVZ	North Tongarir	2.27	271	P	Pn	03 11 59.7	+1.3
OTVZ	Oturere	2.28	270	P	Pn	03 11 59.6	+1.1
SNVZ	South Ngauruho	2.30	269	P	Pn	03 11 59.8	+1.0
KRVZ	Karewarewa	2.30	271	P	Pn	03 12 00.0	+1.3
NNVZ	North Ngauruho	2.32	270	P	Pn	03 12 01.0	+2.0
WNVZ	Wahianoa	2.33	266	P	Pn	03 11 60.0	+0.8
BFZ	Birch Farm	2.34	230	P	Pn	03 11 56.5	-2.7
PRWZ	Pori Road	2.44	235	P	Pn	03 11 58.9	-1.6
POWZ	Post Office Ro	2.49	240	P	Pn	03 12 00.5	-0.8
PKVZ	Pokaka	2.53	267	P	Pb	03 12 16.9	+9.2
TIWZ	Tintock	2.62	232	P	Pn	03 12 00.8	-2.2
MRZ	Mangatainoka R	2.75	237	P	Pn	03 12 02.6	-2.1
HOWZ	Holdsworth Sta	2.92	233	P	Pn	03 12 04.3	-2.8
MTW	Mount Morrison	3.08	229	P	Pn	03 12 05.7	-3.6
OGWZ	Otaki Gorge	3.10	237	P	Pn	03 12 07.4	-2.1
KIW	Kapiti Island	3.29	238	P	Pn	03 12 10.3	-1.9
PLWZ	Palliser	3.49	226	P	Pn	03 12 11.1	-3.9
PKE	Pukeiti	3.58	268	P	Pn	03 12 18.5	+2.2
TCW	Tory Channel	3.88	237	P	Pn	03 12 17.5	-2.8
NNZ	Nelson	4.48	241	P	Pn	03 12 26.2	-2.3

GCMT 03 03:14:58.0±0.2, 25°.88S±0°.02×177°.19W±0°.01, h22km, MW5.5/149, 5C, Moment Tensor Solution. s78,c99; s149,c264; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}2.67±.07; $M_{r\theta\theta}$-0.60±.04; $M_{\theta\phi\phi}$-2.07±.05; $M_{r\theta}$-0.08±.08; $M_{\theta\phi}$0.32±.03; $M_{\phi r}$-0.20±.07; **Best double couple:** $M_0$2.41300×10^{17} **NP1:**ϕ_s170.00000°, δ47.00000°, λ93.00000°. **NP2:**ϕ_s346.00000°, δ43.00000°, λ87.00000°. **Principal axes:** T 2.6810, Plg87.0000°, Azm122.0000°; N -0.5340, Plg2.0000°, Azm348.0000°; P -2.1450, Plg2.0000°, Azm258.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TROLL	Troll, Antarti comp=Z,172nm,0.8s	82.38	180	⇑P	P	03 27 04.8	-13
SNAA	Sanae comp=Z,48nm,1.0s	82.64	178	⇑P	P	03 27 06.2	-13
VNA3	Neumayer Olymp comp=Z,1.9nm,0.8s	82.75	176	⇑P	P	03 27 05.2	-15
VNA2	Neumayer--Watz comp=Z,3.2nm,1.0s,baz=215,slow=4.9	83.19	177	⇑P	P	03 27 07.9	-14
VNA1	Neumayer--Stat comp=Z,6.5nm,0.8s	83.42	176	⇑P	P	03 27 09.8	-13

*IDC **03** 03:16:53.5±0.9, 25°.69S×178°.16W, h0km, mb3.9/5, mbtmp3.9/5 Error ellipse: s-maj=36.6km s-min=28.5km az=152.0*

ISC 03 03:17:22.0±0.8, 25°.6S±0°.2×178°.6W±0°.2, h250km, n15, σ0s89/15, mb4.1/8, 5C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs 0.3nm,0.6s,baz=92,slow=6.5,SNR=1.5 0.3nm,0.6s	43.06	262	P	P	03 24 59.5	+1.8
WRA	Warramunga Arr

comp=Z,4.1nm,0.9s
VNA2 Neumayer--Watz 83.58 177 ⇑P **P 03 29 22.0 +0.2**
comp=Z,7.3nm,1.0s,baz=189,slow=3.9
VNA1 Neumayer--Stat 83.81 177 ⇑P **P 03 29 23.0 +0.1**
comp=Z,7.3nm,0.9s
NVAR Mina Array Bea 85.07 43 P **P 03 29 30.8 +0.8**
comp=Z,2.4nm,0.9s,baz=226,slow=9.2,SNR=8.1
comp=Z,2.4nm,0.9s
TXAR Lajitas Array 90.23 57 P **P 03 29 54.9 +0.3**
comp=Z,0.6nm,1.0s,baz=208,slow=7.1,SNR=4.3
comp=Z,0.6nm,1.0s
NB2 NORSAR Subarra143.91 352 PKP **PKiKP 03 36 30.2 -0.4**
comp=Z,0.8nm,0.8s,baz=14,slow=3.4
NOA NORSAR Array B143.91 352 PKP **PKiKP 03 36 29.2 -1.3**
comp=Z,2.0nm,1.0s,baz=16,slow=4.9,SNR=4.6
HFS Hagfors 144.42 349 PKP **PKiKP 03 36 31.3 -0.2**
comp=Z,3.4nm,0.9s,baz=73,slow=5.1,SNR=4.0
BRTR Keskin Array B 149.60 306 PKPbc **PKPab 03 36 46.6 -1.6**
comp=Z,0.8nm,1.0s,baz=128,slow=2.4,SNR=3.8
TORD Torodi Ar. Bea 167.64 181 PKPab **PKPab 03 38 06.5 +0.2**
comp=Z,1.4nm,1.1s,baz=181,slow=6.3,SNR=3.7

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*JMA **03** 03:23:04.9±0.2, 40°.9N±0°.4×14°.2E±°, h51km±3km, MV3.4/35, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
*IDC **03** 03:23:05.8±3.7, 40°.85N×142°.23E, h66km±34km, mb3.6/9, mbtmp3.8/10, ML3.3/1, Error ellipse: s-maj=41.1km s-min=23.7km az=84.0*
ISC 03 03:23:05.1±1.1, 40°.87N±0°.04×142°.13E±0°.07, h55km±10km, n22, σ0°79/28, mb3.7/9, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.59**	**283**	⇓P	**Pn**	**03 23 17.8**	**0.0**
JARK				⇓S	**Sn**	**03 23 26.4**	**-0.5**
JANG	**Nango**	**0.68**	**223**	⇓*i*P	**Pn**	**03 23 19.3**	**+0.4**
JANG				⇓S	**Sn**	**03 23 29.1**	**+0.2**
JAHD	**Aomorihigashid**	**0.71**	**304**	P	**Pn**	**03 23 19.0**	**-0.3**
JKEN	**Kujiedanarisaw**	**0.74**	**206**	*i* P	**Pn**	**03 23 19.9**	**+0.4**
JKEN				S	**Sn**	**03 23 30.5**	**+0.4**
JTM	**Tenmabayashi**	**0.81**	**264**	⇓*i*P	**Pn**	**03 23 20.6**	**+0.2**
JTM				⇓S	**Sn**	**03 23 31.6**	**0.0**
JTH	**Tanohata**	**0.95**	**192**	*i* P	**Pn**	**03 23 22.2**	**-0.1**
JOT	**Ohata**	**0.96**	**302**	⇓*i*P	**Pn**	**03 23 22.2**	**-0.3**
JKB	**Kayabe**	**1.31**	**321**	⇓*i*P	**Pn**	**03 23 26.9**	**-0.1**
JAH	**Hinai**	**1.32**	**239**	P	**Pn**	**03 23 28.1**	**+0.8**
JAH				S	**Sn**	**03 23 44.9**	**+1.0**
JEM	**Erimo**	**1.38**	**34**	*e*P	**Pn**	**03 23 27.9**	**-0.1**
JSR	**Shiriuchi**	**1.45**	**298**	*i* P	**Pn**	**03 23 29.4**	**+0.4**
JIW	**Iwasaki**	**1.63**	**261**	*i* P	**Pn**	**03 23 32.0**	**+0.5**
ASAJ	**Asahikawa**	**3.26**	**6**	P	**Pn**	**03 23 54.6**	**+0.9**
	2.4nm,0.3s,baz=205,slow=12,SNR=10						
ASAJ				S	**Sn**	**03 24 33.3**	**+2.1**
	7.5nm,0.4s,baz=197,slow=20,SNR=4.4						
	5.2nm,0.3s						
SONM	**Songino Array**	**26.30**	**297**	P	**P**	**03 28 36.9**	**+1.4**
	0.3nm,0.5s,baz=110,slow=10,SNR=1.9						
	0.3nm,0.5s						
TIXI	**Tiksi**	**31.56**	**352**	P	**P**	**03 29 19.7**	**-2.0**
	1.8nm,0.3s,baz=105,slow=9.9,SNR=3.5						
	1.8nm,0.3s						
MKAR	**Makanchi Array**	**42.66**	**299**	P	**P**	**03 30 56.0**	**0.0**
	0.4nm,0.4s,baz=83,slow=9.2,SNR=9.6						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**44.17**	**305**	P	**P**	**03 31 07.8**	**-0.4**
	0.6nm,0.5s,baz=80,slow=8.5,SNR=4.9						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**48.47**	**310**	P	**P**	**03 31 42.1**	**+0.2**
	1.3nm,0.3s,baz=67,slow=9.6,SNR=5.9						
	1.3nm,0.3s						
WRA	**Warramunga Arr**	**60.93**	**188**	P	**P**	**03 33 11.7**	**-0.6**
	0.6nm,0.9s,baz=3.7,slow=7.0,SNR=6.3						
	0.6nm,0.9s						
FINES	**FINESS Array B**	**65.69**	**332**	P	**P**	**03 33 43.4**	**+0.1**
	2.8nm,0.8s,baz=37,slow=9.2,SNR=9.4						
	2.8nm,0.8s						
HFS	**Hagfors**	**70.83**	**335**	P	**P**	**03 34 15.8**	**+0.3**
	0.9nm,0.8s,baz=23,slow=7.8,SNR=1.1						
	0.9nm,0.8s						
NOA	**NORSAR Array B**	**70.87**	**337**	P	**P**	**03 34 16.4**	**+0.6**
	0.3nm,0.6s,baz=55,slow=7.7,SNR=1.9						
	0.3nm,0.6s						

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*IDC **03** 03:23:40.6±0.7, 25°.84S×177°.44W, h0km, mb4.2/9, mbtmp4.3/10, ML4.0/1, MS3.9/8, Error ellipse: s-maj=28.8km s-min=19.4km az=103.0*
*GCMT **03** 03:23:55.8±0.2, 25°.84S±0°.02×177°.22W±0°.01, h30km, MW5.6/149, Moment Tensor Solution. s61,c72; s149,c258; Duration: 1§5 Moment tensor: Scale 10^{17} Nm; M_{rr}3.46±.10; $M_{\theta\theta}$-0.84±.06; $M_{\phi\phi}$-2.62±.06; $M_{r\theta}$-0.09±.09; $M_{r\phi}$0.53±.04; $M_{\theta\phi}$-0.28±.08; Best double couple: $M_0$3.12600×10^{17} NP1:ϕ_s167.00000°, δ47.00000°, λ93.00000°. NP2:ϕ_s343.00000°, δ43.00000°, λ87.00000°. Principal axes: T 3.4760, Plg87.0000°, Azm118.0000°; N -0.7000, Plg2.0000°, Azm345.0000°; P -2.7760, Plg2.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 03:23:42.0±0.7, 25°.94S±0°.09×177°.5W±0°.2, h10km, n37, σ1§42/20, mb4.5/11, MS4.0/8, 4C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.33**	**187**	Pn	**Pn**	**03 24 36.5**	**+2.4**
	13nm,0.3s,baz=24,slow=22,SNR=6.1						
RAO				Sn	**Sb**	**03 25 18.8**	**-2.9**
	45nm,0.3s,baz=90,slow=20,SNR=1.9						
	438nm,0.7s						
ASAR	**Alice Springs**	**44.02**	**262**	P	**P**	**03 31 50.9**	**+0.7**
	2.4nm,1.0s,baz=109,slow=8.1,SNR=7.3						
ASAR				LR	LR	03 49 07.2	
	comp=Z,195nm,20.2s,baz=127,slow=35						
	2.4nm,1.0s						
WRA	**Warramunga Arr**	**44.60**	**267**	P	**P**	**03 31 55.6**	**+0.8**
	2.6nm,1.0s,baz=103,slow=8.4,SNR=5.2						
	2.6nm,1.0s						
VNDA	**Vanda**	**52.57**	**186**	LR	LR	03 49 30.2	
	comp=Z,116nm,21.6s,baz=12,slow=29						
QSPA	**South Pole Qui**	**64.16**	**180**	P	**P**	**03 34 17.8**	**+1.2**
	7.9nm,0.9s,baz=37,slow=1.4,SNR=15						
	7.9nm,0.9s						
MAW	**Mawson**	**76.65**	**200**	P	**P**	**03 35 33.2**	**+0.5**
	4.9nm,1.0s,baz=77,slow=9.5,SNR=5.0						
	4.9nm,1.0s						
PETK	**Petropavlovsk-**	**81.63**	**345**	P	**P**	**03 35 59.7**	**-0.3**
	2.1nm,0.7s,baz=112,slow=10,SNR=4.8						
	2.1nm,0.7s						
TROLL	**Troll, Antarti**	**82.32**	**180**	⇑P	**P**	**03 36 03.9**	**+0.2**
	comp=Z,350nm,0.8s						
H03S2	**Juan Fernandez**	**82.53**	**124**	T	T	05 06 38.0	
	baz=242,slow=74,SNR=276						
H03S1	**Juan Fernandez**	**82.54**	**124**	T	T	05 06 39.2	
	baz=242,slow=74,SNR=291						
H03S3	**Juan Fernandez**	**82.55**	**124**	T	T	05 06 38.0	
	baz=242,slow=74,SNR=346						
SNAA	**Sanae**	**82.59**	**178**	⇑P	**P**	**03 36 04.7**	**-0.3**
	comp=Z,89nm,0.9s						
SNAA	**Sanae**	**82.59**	**178**	P	**P**	**03 36 05.0**	**0.0**
	comp=Z,5.0nm,1.0s,baz=191,slow=3.7,SNR=8.5						
	comp=Z,5.0nm,1.0s						
H03N3	**Juan Fernandez**	**82.70**	**124**	T	T	05 06 48.3	
	baz=241,slow=75,SNR=38						
H03N2	**Juan Fernandez**	**82.70**	**124**	T	T	05 06 47.5	
	baz=241,slow=75,SNR=36						
VNA3	**Neumayer Olymp**	**82.71**	**176**	⇑P	**P**	**03 36 05.0**	**-0.6**
	comp=Z,5.1nm,0.8s						
H03N1	**Juan Fernandez**	**82.71**	**124**	T	T	05 06 47.6	
	baz=241,slow=75,SNR=46						
VNA2	**Neumayer--Watz**	**83.15**	**177**	⇑P	**P**	**03 36 07.9**	**0.0**
	comp=Z,9.2nm,0.9s,baz=181,slow=4.0						
NVAR	**Mina Array Bea**	**84.64**	**43**	P	**P**	**03 36 17.6**	**+1.5**
	comp=Z,3.0nm,0.9s,baz=226,slow=8.7,SNR=12						
	comp=Z,3.0nm,0.9s						
KDAK	**Kodiak Island**	**85.97**	**13**	LR	LR	04 09 05.9	
	comp=Z,74nm,18.7s,baz=219,slow=32						
BBB	**Bella Bella**	**88.94**	**28**	LR	LR	04 08 11.9	
	comp=Z,82nm,21.7s,baz=208,slow=30						
MA2	**Magadan**	**89.14**	**344**	LR	LR	04 12 22.9	
	comp=Z,27nm,18.9s,baz=146,slow=33						
TXAR	**Lajitas Array**	**89.56**	**57**	P	**P**	**03 36 40.6**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=213,slow=9.0,SNR=4.9						
	comp=Z,0.5nm,0.9s						
DLBC	**Dease Lake**	**92.84**	**23**	LR	LR	04 11 43.9	
	comp=Z,75nm,21.8s,baz=194,slow=31						
ILAR	**Eielson Array**	**93.48**	**13**	P	**P**	**03 36 56.0**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=224,slow=6.3,SNR=2.6						
	comp=Z,0.3nm,0.8s						
NNA	**Nana**	**94.15**	**105**	LR	LR	04 11 17.9	
	comp=Z,37nm,20.4s,baz=291,slow=30						
LVC	**Limon Verde**	**95.64**	**118**	LR	LR	04 12 28.3	
	comp=Z,55nm,18.8s,baz=246,slow=31						
H10S3	**ASCENSION HYDR**	**141.49**	**152**	T	T	06 21 27.7	
	baz=16,slow=74,SNR=268						
H10S2	**ASCENSION HYDR**	**141.49**	**152**	T	T	06 21 26.0	
	baz=204,slow=74,SNR=383						
H10N3	**ASCENSION HYDR**	**142.56**	**151**	T	T	06 22 47.6	
	baz=202,slow=75,SNR=515						
H10N1	**ASCENSION HYDR**	**142.56**	**151**	T	T	06 22 47.6	
	baz=202,slow=75,SNR=558						
H10N2	**ASCENSION HYDR**	**142.57**	**151**	T	T	06 22 47.6	
	baz=202,slow=75,SNR=556						
NB2	**NORSAR Subarra144.41**	**353**	PKP	**PKPdf**		**03 43 16.1**	**-1.9**
	comp=Z,1.1nm,0.8s,baz=14,slow=3.5						
NOA	**NORSAR Array B144.41**	**353**	PKP	**PKPdf**		**03 43 16.5**	**-1.5**
	comp=Z,2.5nm,0.9s,baz=13,slow=2.3,SNR=6.2						
HFS	**Hagfors**	**144.96**	**350**	PKP	**PKPdf**	**03 43 17.5**	**-1.4**
	comp=Z,6.2nm,1.1s,baz=337,slow=3.4,SNR=5.4						
BRTR	**Keskin Array B**	**150.65**	**306**	PKPbc	**PKPbc**	**03 43 33.0**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=90,slow=1.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**167.25**	**176**	PKPab	**PKPab**	**03 44 52.1**	**-1.3**
	comp=Z,1.4nm,1.0s,baz=129,slow=4.0,SNR=4.1						

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*IDC **03** 03:48:57.3±0.9, 15°.28N×97°.71W, h0km, mb4.2/8, mbtmp4.2/11, ML4.2/3, MS3.8/11, Error ellipse: s-maj=19.2km s-min=17.5km az=49.0*
*MEX **03** 03:48:59.5±1.1, 15°.10N×98°.21W, h24km±24km, MD4.5*
*NEIC **03** 03:49:05.4±1.3, 15°.37N±0°.10×97°.91W±0°.10, h37km±9km, mb4.7/279, Error ellipse: s-maj=17.5km s-min=9.2km az=221.0*
*CATAC **03** 03:49:17.2±1.5, 13°.67N×96°.99W, h252km±49km, MB5.0, mb4.6, ML5.0*
ISC 03 03:48:59.6±1.9, 15°.19N±0°.04×97°.97W±0°.04, h17km±11km, n413, σ1§90/458, mb4.7/101, MS3.9/8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**1.12**	**45**	*e*P	**Pb**	**03 49 19.1**	**-1.5**
PEIG				*e*S	**Sg**	**03 49 36.4**	**+0.3**
PNIG	**Pinotepa**	**1.20**	**353**	*e*P	**Pn**	**03 49 19.0**	**-2.8**
PNIG				*e*S	**Sb**	**03 49 34.0**	**-3.3**
PANG	**Puerto Angel**	**1.52**	**72**	*i* P	**Pn**	**03 49 24.2**	**-1.8**
PANG				*e*S	**Sn**	**03 49 44.2**	**-1.3**
YOIG	**Yosondua**	**1.70**	**14**	*e*P	**Pn**	**03 49 27.8**	**-1.1**
YOIG				*e*S	**Sn**	**03 49 49.9**	**-0.6**
HUIG	**Huatulco**	**1.88**	**72**	*e*P	**Pn**	**03 49 29.8**	**-1.3**
HUIG				*e*S	**Sn**	**03 49 53.9**	**-0.6**
CRIG	**Cruz Grande**	**1.90**	**324**	*e*P	Pn	03 49 27.8	-3.5
CRIG				*e*S	**Sn**	**03 49 48.1**	**-6.8**
TXIG	**Tlaxiaco**	**2.06**	**5**	*e*P	**Pn**	**03 49 32.7**	**-1.1**
TXIG				*e*S	**Sn**	**03 49 58.9**	**-0.3**
MGIG	**Malinaltepec**	**2.13**	**343**	*e*P	**Pn**	**03 49 32.8**	**-1.8**
MGIG				*i* S	**Sn**	**03 49 57.1**	**-3.7**
VHO	**Vista Hermosa**	**2.21**	**32**	*e*P	**Pn**	**03 49 35.7**	**-0.1**
VHO				*e*S	**Sn**	**03 50 05.5**	**+2.6**
TLIG	**Tlapa**	**2.42**	**346**	Pn	**Pn**	**03 49 38.0**	**-0.7**
TLIG	**Tlapa**	**2.42**	**346**	*e*P	**Pn**	**03 49 37.8**	**-0.9**
TLIG				*e*S	**Sn**	**03 50 04.3**	**-3.7**
DAIG	**Los Arroyos**	**2.43**	**319**	*e*P	**Pn**	**03 49 35.5**	**-3.2**
DAIG				*e*S	Sn	03 49 59.5	-8.6
ACP2	**Acapulco**	**2.49**	**312**	*e*P	Pn	03 49 35.7	-3.7
ACP2				*i* S	Sn	03 50 00.9	-8.6
HLIG	**Huajuapan de L**	**2.63**	**3**	*e*P	**Pn**	**03 49 41.4**	**-0.2**
HLIG				*e*S	**Sn**	**03 50 13.2**	**0.0**
HMTT	**Tlapaneco**	**2.65**	**348**	*e*P	**Pn**	**03 49 41.8**	**+0.1**
HMTT				*i* S	**Sn**	**03 50 10.8**	**-2.8**
FTIG	**Fresnillo de T**	**2.70**	**357**	*e*P	**Pn**	**03 49 42.3**	**-0.2**
FTIG				*e*S	**Sn**	**03 50 12.4**	**-2.5**
CAIG	**El Cayaco**	**2.88**	**310**	*e*P	Pn	03 49 41.0	-3.8
CAIG				*e*S	Sn	03 50 09.2	-10
TOIG	**Toxpalan**	**3.01**	**17**	*e*P	**Pn**	**03 49 47.1**	**+0.3**
TOIG				*e*S	**Sn**	**03 50 24.8**	**+2.2**
MEIG	**Mezcala**	**3.15**	**330**	*e*P	**Pn**	**03 49 47.4**	**-1.2**
MEIG				*e*S	**Sn**	**03 50 21.4**	**-4.4**
NEUV	**Arroyo Zacate**	**3.25**	**39**	*e*P	**Pn**	**03 49 49.9**	**-0.1**
NEUV				*e*S	**Sn**	**03 50 29.8**	**+1.4**
TPIG	**Tehuac#an**	**3.26**	**10**	*e*P	**Pn**	**03 49 50.6**	**+0.4**
TPIG				*e*S	**Sn**	**03 50 31.5**	**+2.7**
PLIG	**Platanillo**	**3.50**	**335**	*e*P	**Pn**	**03 49 53.5**	**0.0**
PLIG				*e*S	**Sn**	**03 50 29.9**	**-4.8**
CMIG	**Matias Romero**	**3.51**	**57**	Pn	**Pn**	**03 49 51.4**	**-2.1**
	32nm,0.3s,baz=256,slow=13,SNR=211						
CMIG				LR	LR	03 50 25.0	
	comp=Z,780nm,19.3s,baz=268,slow=27						
CMIG				Lg	Lg	03 50 38.9	
	82nm,0.3s,baz=209,slow=19,SNR=6.9						
	82nm,0.3s						
CMIG	**Matias Romero**	**3.51**	**57**	*e*P	**Pn**	**03 49 52.3**	**-1.3**
CMIG				*e*S	**Sn**	**03 50 30.1**	**-4.7**
OZST	**Orizaba**	**3.74**	**13**	*e*P	**Pn**	**03 49 55.8**	**-1.0**
OZST				*e*S	Sn	03 50 31.9	-8.7
YAIG	**Yautepec**	**3.80**	**344**	*e*P	**Pn**	**03 49 57.6**	**0.0**
YAIG				*e*S	**Sn**	**03 50 36.9**	**-5.1**
ARIG	**Puente Sto Nin**	**3.82**	**324**	*e*P	**Pn**	**03 49 57.2**	**-0.6**
ARIG				*e*S	**Sn**	**03 50 37.4**	**-5.1**
PPM	**Popocatepetl**	**3.90**	**351**	*e*P	**Pn**	**03 50 00.2**	**+0.9**
PPM				*e*S	**Sn**	**03 50 40.7**	**-4.4**
PET2	**Petatlan**	**3.93**	**307**	*e*P	**Pn**	**03 49 56.0**	**-3.2**
PET2				*i* S	Sn	03 50 35.3	-10
MAVM	**Malinalco, Edo**	**4.02**	**339**	*e*P	**Pn**	**03 50 01.3**	**+0.6**
MAVM				*e*S	**Sn**	**03 50 48.9**	**+1.4**
CARR	**Arriaga**	**4.04**	**74**	*e*P	**Pn**	**03 50 00.3**	**-0.5**
CARR				*e*S	**Sn**	**03 50 46.4**	**-1.4**
MPVM	**San Francisco**	**4.11**	**346**	*e*P	**Pn**	**03 50 04.1**	**+2.0**
MPVM				*e*S	**Sn**	**03 50 45.0**	**-4.8**
ZIIG	**Zihuatanejo**	**4.13**	**306**	*e*P	**Pn**	**03 49 58.9**	**-3.0**
ZIIG				*e*S	Sn	03 50 39.4	-10
MZVM		**4.15**	**343**	*e*P	**Pn**	**03 50 03.9**	**+1.6**
MZVM				*e*S	**Sn**	**03 50 49.0**	**-1.5**
TLVM	**San Miguel Top**	**4.15**	**344**	*e*P	**Pn**	**03 50 04.6**	**+2.0**
TLVM				*e*S	**Sn**	**03 50 51.1**	**+0.1**
XCVM	**Xochimilco**	**4.18**	**345**	*e*P	**Pn**	**03 50 05.0**	**+2.0**
XCVM				*e*S	**Sn**	**03 50 48.7**	**-3.0**
THVM	**De Xico**	**4.21**	**347**	*e*P	**Pn**	**03 50 04.4**	**+1.1**
THVM				*e*S	**Sn**	**03 50 51.2**	**-1.0**
UXUV	**UXUV**	**4.24**	**60**	*e*P	**Pn**	**03 50 02.9**	**-0.5**
UXUV				*e*S	**Sn**	**03 50 51.1**	**-1.4**
AOVM	**Tlapan**	**4.25**	**342**	*e*P	**Pn**	**03 50 05.3**	**+1.2**
AOVM				*e*S	**Sn**	**03 50 49.7**	**-4.0**
UNM	**Universidad Na**	**4.27**	**344**		**Pn**	**03 50 05.9**	**+1.7**
UNM	**Universidad Na**	**4.27**	**344**	*e*P	**Pn**	**03 50 07.2**	**+3.0**
UNM				*e*S	**Sn**	**03 50 50.2**	**-3.7**
CUP5	**Mexico City**	**4.27**	**344**	*e*P	**Pn**	**03 50 05.8**	**+1.5**
CUP5				*e*S	**Sn**	**03 50 52.0**	**-1.9**
COVM	**Coyoacan**	**4.29**	**345**	*e*S	**Sn**	**03 50 48.7**	**-5.6**
INVM	**La Marquesa**	**4.29**	**342**	*e*P	**Pn**	**03 50 03.2**	**-1.4**
INVM				*e*S	**Sn**	**03 50 49.2**	**-5.3**
JAUV	**Jalcomulco**	**4.30**	**15**	*e*P	**Pn**	**03 50 03.2**	**-1.2**
JAUV				*e*S	**Sn**	**03 50 53.2**	**-0.9**
PMUV	**Sontecomapan**	**4.30**	**39**	*e*P	**Pn**	**03 50 04.0**	**-0.5**
PMUV				*e*S	**Sn**	**03 50 54.8**	**+0.4**
TXVM	**Universitario**	**4.31**	**348**	*e*P	Pn	03 50 10.0	+5.2
TXVM				*e*S	**Sn**	**03 50 52.7**	**-2.2**
BJVM	**Benito Juarez**	**4.31**	**345**	*e*P	**Pn**	**03 50 05.6**	**+0.8**
BJVM				*e*S	**Sn**	**03 50 50.9**	**-4.1**
CJVM	**Cuajimalpa**	**4.33**	**343**	*e*P	**Pn**	**03 50 07.9**	**+2.9**
CJVM				*e*S	**Sn**	**03 50 51.5**	**-3.8**
PBVM	**Pinon**	**4.36**	**346**	*e*P	**Pn**	**03 50 06.4**	**+1.3**
PBVM				*e*S	**Sn**	**03 50 49.0**	**-6.6**
TOVM	**TOLUCA**	**4.38**	**338**	*e*P	**Pn**	**03 50 06.8**	**+1.0**
TOVM				*e*S	**Sn**	**03 50 50.9**	**-5.8**
TUIG	**Tuzandepetl**	**4.42**	**50**	*e*P	**Pn**	**03 50 06.0**	**0.0**
TUIG				*e*S	**Sn**	**03 50 56.0**	**-1.1**
APVM	**Azcapotzalco**	**4.43**	**345**	*e*P	**Pb**	**03 50 15.3**	**-1.9**
APVM				*e*S	**Sn**	**03 51 02.8**	**+5.0**
UON	**La Union**	**4.61**	**307**	*e*P	**Pn**	**03 50 07.1**	**-1.5**
UON				*i* S	Sn	03 50 53.0	-8.7
PCIG		**4.61**	**83**	*e*P	**Pn**	**03 50 08.3**	**-0.3**
PCIG				*e*S	**Sn**	**03 50 53.6**	**-8.1**
VTVM	**Tizayuca**	**4.62**	**351**	*e*P	**Pn**	**03 50 10.0**	**+1.0**
VTVM				*e*S	**Sn**	**03 50 59.6**	**-2.8**
LVIG	**Laguna Verde**	**4.74**	**18**	*e*P	**Pn**	**03 50 08.3**	**-2.1**
LVIG				*e*S	**Sn**	**03 51 02.7**	**-2.4**
TGIG		**4.92**	**71**	*e*P	**Pn**	**03 50 14.9**	**+1.9**
TGIG				*e*S	**Sn**	**03 51 12.5**	**+3.0**
CXUV	**Coxquihui**	**4.97**	**4**	*e*P	**Pn**	**03 50 13.1**	**-0.4**
CXUV				*e*S	**Sn**	**03 51 09.5**	**-1.1**
ACIG	**Acambay**	**5.10**	**339**	*e*P	**Pn**	**03 50 18.0**	**+2.5**
ACIG				*e*S	**Sn**	**03 51 21.5**	**+7.4**
DEIG	**Demacu**	**5.18**	**349**	*e*P	**Pn**	**03 50 18.0**	**+1.3**
DEIG				*e*S	**Sn**	**03 51 12.6**	**-3.6**
MOIG	**Morelia**	**5.42**	**326**		**Pn**	**03 50 21.0**	**+1.0**
MOIG	**Morelia**	**5.42**	**326**	*e*P	**Pn**	**03 50 20.9**	**+1.0**
MOIG				*e*S	Sn	03 51 04.6	-17
THIG		**5.52**	**92**	*e*P	**Pn**	**03 50 22.3**	**+1.2**
THIG				*e*S	Sn	03 51 13.2	-11
PAVE	**Pavencul**	**5.59**	**89**	*e*P	**Pn**	**03 50 22.6**	**+0.3**
PAVE				*e*S	**Sn**	**03 51 22.5**	**-3.9**
CHUJ	**Union Juarez**	**5.66**	**90**	*e*P	**Pn**	**03 50 23.6**	**+0.3**
CHUJ				*e*S	**Sn**	**03 51 23.2**	**-4.9**
CCIG	**Comitan**	**5.72**	**78**	Pn	**Pn**	**03 50 24.0**	**0.0**
CCIG	**Comitan**	**5.72**	**78**	*e*P	**Pn**	**03 50 25.3**	**+1.3**
CCIG				*e*S	**Sn**	**03 51 28.5**	**-1.0**
JRQG	**Juriquilla Cam**	**5.97**	**337**		**Pn**	**03 50 29.8**	**+2.3**
JRQG	**Juriquilla Cam**	**5.97**	**337**	*e*P	**Pn**	**03 50 25.1**	**-2.4**
JRQG				*e*S	**Sn**	**03 51 35.3**	**-0.3**
MMIG	**Aquila**	**6.00**	**302**	*e*P	**Pn**	**03 50 24.9**	**-2.8**
MMIG				*e*S	Sn	03 51 16.9	-19
RTAL	**Retalhuleu**	**6.10**	**95**	Pn	**Pn**	**03 50 31.6**	**+2.5**
RTAL	**Retalhuleu**	**6.10**	**95**	*e*P	**Pn**	**03 50 31.2**	**+2.0**
RTAL				*e*S	**Sn**	**03 51 35.9**	**-2.8**
HUEH	**Huehuetenango**	**6.24**	**88**		**Pn**	**03 50 34.2**	**+3.0**
HUEH	**Huehuetenango**	**6.24**	**88**	*e*P	**Pn**	**03 50 32.8**	**+1.6**
HUEH				*e*S	**Sn**	**03 51 42.9**	**+0.5**
CTUV	**Llano Grande**	**6.25**	**357**	*e*P	**Pn**	**03 50 31.3**	**+0.1**
CTUV				*e*S	**Sn**	**03 51 43.7**	**+1.3**
COIG	**Colima**	**6.75**	**307**	*e*P	**Pn**	**03 50 38.7**	**+0.5**
COIG				*e*S	Sn	03 51 36.5	-18
JUBC	**Volcan de Coli**	**6.86**	**310**	*e*P	**Pn**	**03 50 40.8**	**+1.0**
JUBC				*e*S	Sn	03 51 42.3	-15
MNGA	**Volcan de Coli**	**6.87**	**309**	*e*P	**Pn**	**03 50 40.3**	**+0.4**
MNGA				*e*S	Sn	03 51 41.6	-16
CDAR	**Ciudad de Arme**	**6.88**	**304**	*e*P	**Pn**	**03 50 38.4**	**-1.4**
CDAR				*e*S	Sn	03 51 36.7	-21
INCO	**Volcan de Coli**	**6.89**	**309**	*e*P	**Pn**	**03 50 41.2**	**+0.8**
INCO				*e*S	Sn	03 51 42.3	-16
SOMAC	**Volcano de Col**	**6.91**	**309**	*e*P	**Pn**	**03 50 41.8**	**+1.2**
SOMAC				*e*S	Sn	03 51 39.5	-20
RPIG	**Rio Verde**	**6.92**	**344**	*e*P	**Pn**	**03 50 44.1**	**+3.5**
RPIG				*i* S	Sn	03 52 10.9	+12
CEGR	**Campo Tres**	**7.00**	**307**	*e*P	**Pn**	**03 50 42.4**	**+0.7**
CEGR				*e*S	Sn	03 51 42.5	-19
SCIG	**Sabancuy**	**7.49**	**59**	*e*	Pn	03 50 39.5	-8.7
SCIG				*e*		03 52 09.6	
CIHU	**Emiliano Zapat**	**7.63**	**303**	*e*P	**Pn**	**03 50 49.3**	**-0.8**
CIHU				*e*S	Sn	03 52 07.9	-8.4
GTIG	**Gomez Farias**	**7.91**	**352**	*e*P	**Pn**	**03 50 55.1**	**+1.0**
GTIG				*e*S	**Sn**	**03 52 21.6**	**-1.6**
PETF	**Flores**	**7.97**	**77**		**Pn**	**03 50 55.5**	**+0.7**
PETF	**Flores**	**7.97**	**77**	*e*P	**Pn**	**03 50 55.4**	**+0.5**
CJM	**Chamela**	**8.00**	**303**	*e*P	**Pn**	**03 50 54.8**	**-0.4**
NUBE	**Las Nubes**	**8.03**	**98**	*i* P	**Pn**	**03 50 57.3**	**+1.5**
NUBE				IVmB_BB		03 51 00.3	
	comp=Z,2μm,1.0s						
NUBE				IAML		03 51 00.5	
	comp=Z,180nm,1.0s

OZNA	Ozona	15.92	350	P	Pn	03 52 45.7	+2.6	
BRDY	Brady	16.05	357	Pn	Pn	03 52 45.7	+1.1	
BRU2	Volcan	16.23	111	Pn	P	03 52 49.9	-0.4	
BRU2				IAmb	IAmb	03 53 02.4		
	comp=Z,65nm,1.0s							
MNHN	Monahans	16.66	346	Pn	Pn	03 52 54.0	+1.4	
WHTX	Lake Whitney,	16.73	2	Pn	Pn	03 52 53.9	+0.6	
WHTX				IAmb	IAmb	03 52 59.8		
	comp=Z,84nm,1.1s							
NATX	Nacogdoches	16.77	10		P	03 52 56.2	+0.3	
VHRN	Van Horn	16.80	339	Pn	Pn	03 52 55.4	+1.0	
237A	Washetta, Mont	16.85	6	Pn	Pn	03 52 55.4	+0.6	
237A				IAmb	IAmb	03 53 00.3		
	comp=Z,61nm,1.2s							
SGCY	Sterling City	16.89	351		Pn	03 52 57.6	+2.2	
SGCY				IAmb	IAmb	03 53 04.3		
	comp=Z,69nm,0.9s							
PECS	Pecos	16.98	342		P	03 52 59.1	+0.6	
FW13	Cleburne	17.09	2	P	Pn	03 52 57.8	0.0	
FW13				IAmb	IAmb	03 53 03.0		
	comp=Z,41nm,1.1s							
ODSA	Odessa	17.36	347	Pn	Pn	03 53 01.8	+0.5	
ABTX	Abilene, Hawle	17.42	355	Pn	Pn	03 53 02.0	0.0	
ABTX				IAmb	IAmb	03 53 07.1		
	comp=Z,39nm,0.8s							
FW07	Weatherford	17.43	1		Pn	03 53 03.3	+1.2	
FW07				IAmb	IAmb	03 53 07.6		
	comp=Z,83nm,1.3s							
TREL	Terrell	17.54	5	Pn	Pn	03 53 02.7	-0.8	
TREL				IAmb	IAmb	03 53 08.1		
	comp=Z,32nm,0.8s							
PLPT	Palo Pinto	17.54	359	Pn	Pn	03 53 03.5	-0.1	
PLPT				IAmb	IAmb	03 53 09.8		
	comp=Z,63nm,1.2s							
FW06	Azle	17.70	1	Pn	Pn	03 53 05.6	+0.1	
FW06				IAmb	IAmb	03 53 10.7		
	comp=Z,45nm,0.9s							
FW03	Perrin-Whitt E	17.77	360	Pn	Pn	03 53 06.3	+0.1	
FW03				IAmb	IAmb	03 53 11.8		
	comp=Z,36nm,0.9s							
SN05	Snyder 5	17.80	352		Pn	03 53 08.3	+1.5	
Z35A	Perchaven, San	18.07	2	Pn	Pn	03 53 09.2	-0.8	
POST	Post	18.08	350	Pn	Pn	03 53 09.8	-0.4	
POST				IAmb	IAmb	03 53 16.5		
	comp=Z,40nm,0.8s							
APMT	Aspermont	18.16	354		Pn	03 53 11.1	0.0	
Z38A	Mt. Pleasant	18.19	8		Pn	03 53 11.4	0.0	
Z38A				IAmb	IAmb	03 53 15.9		
	comp=Z,45nm,1.1s							
HSIG		18.25	321		Pn	03 53 13.5	+1.3	
VBMS	Vicksburg	18.26	21		Pn	03 53 12.4	+0.2	
VBMS				IAmb	IAmb	03 53 16.0		
	comp=Z,78nm,0.9s							
143A	Socs Landing,	18.43	18		P	03 53 13.9	-0.3	
143A				IAmb	IAmb	03 53 18.1		
	comp=Z,45nm,1.0s							
WTFS	Witchita Falls	18.50	359	P	P	03 53 15.6	+0.6	
DKNS	Dickens	18.59	352	P	P	03 53 16.2	+0.1	
DKNS				IAmb	IAmb	03 53 19.9		
	comp=Z,24nm,0.7s							
WLAR	White Oak Lake	18.93	13	P	P	03 53 20.1	+0.3	
319A	Douglas	19.14	329	P	P	03 53 22.7	+0.4	
319A				IAmb	IAmb	03 53 35.5		
	comp=Z,23nm,0.8s							
146A	Union	19.16	23	P	P	03 53 21.6	-0.8	
146A				IAmb	IAmb	03 53 26.6		
	comp=Z,32nm,0.8s							
MSTX	Muleshoe	19.19	348	P	P	03 53 23.2	+0.4	
MSTX				IAmb	IAmb	03 53 28.0		
	comp=Z,27nm,0.8s							
X34A	Smith Ranch, M	19.32	0		P	03 53 25.9	+1.7	
X34A				IAmb	IAmb	03 53 28.2		
	comp=Z,54nm,1.2s							
121A	Cookes Peak, D	19.43	334		P	03 53 27.1	+1.5	
X37A	Clayton	19.45	6	P	Pn	03 53 27.6	+0.8	
CCAR	Cane Creek	19.47	16	P	P	03 53 26.1	+0.5	
CCAR				IAmb	IAmb	03 53 29.8		
	comp=Z,31nm,0.7s							
WMOK	Wichita Mounta	19.48	358		P	03 53 27.0	+1.2	
MIAR	Mount Ida	19.67	11	P	P	03 53 28.7	+0.8	
MIAR				IAmb	IAmb	03 53 32.4		
	comp=Z,54nm,1.2s							
X40A	Basin Creek Fa	19.76	13	P	P	03 53 29.5	+0.7	
250A	Grady	19.82	31	P	P	03 53 29.8	+0.1	
250A				IAmb	IAmb	03 53 37.2		
	comp=Z,51nm,1.5s							
W35A	Tecumseh	19.90	3	P	P	03 53 29.3	-1.1	
W35A				IAmb	IAmb	03 53 35.0		
	comp=Z,63nm,1.2s							
SMWD	Samnorwood	19.93	355	P	P	03 53 31.0	+0.2	
SMWD				IAmb	IAmb	03 53 43.1		
	comp=Z,23nm,0.9s							
FNO	Franklin	19.99	1		P	03 53 31.5	+0.1	
FNO				IAmb	IAmb	03 53 44.2		
	comp=Z,15nm,0.5s							
DUN6	Lazy B Ranch	20.03	332	P	P	03 53 33.4	+1.4	
DUN6				IAmb	IAmb	03 53 46.4		
	comp=Z,33nm,1.0s							
Z47A	Carrollton	20.05	25	P	P	03 53 33.0	+1.0	
Z47A				IAmb	IAmb	03 53 36.2		
	comp=Z,22nm,0.9s							
Y45A	Yeager Farm, C	20.09	21		P	03 53 33.1	+0.6	
Y45A				IAmb	IAmb	03 53 38.5		
	comp=Z,59nm,1.1s							
352A	Blakely	20.12	34	P	P	03 53 32.6	-0.2	
OKCSW	OKLAHOMA CITY	20.13	1		P	03 53 34.4	+1.5	
UALR	University of	20.14	14	P	P	03 53 34.1	+1.1	
LRAL	Lakeview Retre	20.36	27	P	P	03 53 36.6	+1.2	
LRAL				IAmb	IAmb	03 53 39.6		
	comp=Z,44nm,0.9s							
CSTR	Hydro, Custer	20.38	358	P	P	03 53 37.1	+1.5	
DEOK	Depew	20.61	3		P	03 53 39.2	+1.2	
WHAR	Wooly Hollow	20.65	13	P	P	03 53 40.2	+1.6	
WHAR				IAmb	IAmb	03 53 42.6		
	comp=Z,29nm,1.1s							
TUC	Tucson	20.65	328	P	P	03 53 40.5	+1.8	
TUL3	Leonard	20.72	5	P	P	03 53 40.2	+0.9	
TUL3				IAmb	IAmb	03 53 44.8		
	comp=Z,40nm,0.9s							
OXF	Oxford	20.73	20	P	P	03 53 40.4	+1.0	
TIGA	Tifton	20.84	37	P	P	03 53 42.1	+1.5	
TIGA				IAmb	IAmb	03 53 48.3		
	comp=Z,51nm,1.0s							
RLO	Rose Lookout	21.05	7	P	P	03 53 43.5	+0.6	
RLO				IAmb	IAmb	03 53 47.6		
	comp=Z,34nm,0.9s							
CHIV	Chivirico	21.08	74	P	P	03 53 44.7	+1.4	
CHIV				IAmb	IAmb	03 53 48.6		
	comp=Z,51nm,0.9s							
ANMO	Albuquerque	21.10	340	P	P	03 53 44.6	+1.0	
ANMO	Albuquerque	21.10	340	P	P	03 53 45.3	+1.7	
	comp=Z,5.4nm,0.8s,baz=232,slow=13,SNR=23							
	comp=Z,5.4nm,0.8s							
U32A	Winter Ranch,	21.12	358		P	03 53 44.9	+1.2	
U32A				IAmb	IAmb	03 53 49.1		
	comp=Z,43nm,0.9s							
152A	Waverly Hall	21.16	32	P	P	03 53 44.8	+0.7	
152A				IAmb	IAmb	03 53 47.8		
	comp=Z,27nm,0.9s							
CROK	Carrier	21.22	360		P	03 53 45.6	+0.8	
CROK				IAmb	IAmb	03 53 49.2		
	comp=Z,38nm,1.0s							
FCAR	Ozark Folk Cen	21.26	13	P	P	03 53 46.1	+1.0	
FCAR				IAmb	IAmb	03 53 48.3		
	comp=Z,40nm,1.0s							
HHAR	Hobbs	21.31	9	P	P	03 53 46.5	+0.8	
HBAR	Harrisburg	21.31	17	P	P	03 53 47.2	+1.6	
Y49A	Blount Mountai	21.32	27	P	P	03 53 46.8	+1.0	
NOKA	Waynoka	21.37	358		P	03 53 47.6	+1.3	
NOKA				IAmb	IAmb	03 53 51.7		
	comp=Z,20nm,0.8s							
U38A	Gravette	21.40	8	P	P	03 53 47.0	+0.3	
U38A				IAmb	IAmb	03 53 51.7		
	comp=Z,28nm,1.1s							
214A	Organ Pipe Nat	21.49	324	P	P	03 53 49.1	+1.5	
214A				IAmb	IAmb	03 53 55.5		
	comp=Z,37nm,1.2s							
BLOK	Blackwell	21.49	2	P	P	03 53 48.1	+0.6	
BLOK				IAmb	IAmb	03 53 49.7		
	comp=Z,31nm,0.8s							
X48A	Hartselle	21.56	25	P	P	03 53 48.4	+0.1	
X48A				IAmb	IAmb	03 53 51.0		
	comp=Z,28nm,0.9s							
PIX	Pinacate	21.58	322	P	P	03 53 49.9	+1.3	
RTBA	Rita Blanca	21.58	349	P	P	03 53 50.0	+1.3	
RTBA				IAmb	IAmb	03 53 51.8		
	comp=Z,32nm,1.1s							
PLAL	Pickwick Lake	21.62	23	P	P	03 53 50.7	+1.7	
PLAL				IAmb	IAmb	03 53 54.6		
	comp=Z,34nm,1.1s							
LCAR	Lake Charles	21.66	15	P	P	03 53 50.5	+1.1	
T35A	Sooner Cattle	21.67	3	P	P	03 53 49.7	+0.1	
KAN14	Manchester OK	21.68	0	P	P	03 53 50.6	+1.0	
KAN14				IAmb	IAmb	03 53 54.0		
	comp=Z,22nm,1.1s							
KAN13	South Haven SW	21.74	1	P	P	03 53 51.1	+0.8	
KAN13				IAmb	IAmb	03 53 54.8		
	comp=Z,34nm,0.8s							
KAN17	Caldwell West	21.76	0	P	P	03 53 51.2	+0.7	
KAN17				IAmb	IAmb	03 53 54.9		
	comp=Z,29nm,0.8s							
KAN05	Bluff City Nor	21.83	0	P	P	03 53 51.1	-0.1	
KAN05				IAmb	IAmb	03 53 55.6		
	comp=Z,35nm,0.8s							
255A	Hazlehurst	21.84	38	P	P	03 53 51.5	+0.1	
KAN09	Caldwell North	21.86	1	P	P	03 53 52.0	+0.4	
KAN09				IAmb	IAmb	03 53 57.9		
	comp=Z,19nm,0.8s							
KAN01	Argonia South	21.87	0		P	03 53 51.9	+0.2	
KAN01				IAmb	IAmb	03 53 58.1		
	comp=Z,28nm,0.9s							
GNAR	Gosnell	21.87	18	P	P	03 53 53.6	+1.9	
154A	Montrose	21.98	35	P	P	03 53 53.9	+1.0	
PEBM	Pemiscott Bayo	22.06	18	P	P	03 53 54.9	+1.2	
X18A	Snowflake	22.07	333	P	P	03 53 55.8	+1.7	
LNXT	Lenox	22.16	18	P	P	03 53 56.1	+1.3	
FPAL	Fort Paine	22.25	28	P	P	03 53 56.1	+0.2	
FPAL				IAmb	IAmb	03 54 02.8		
	comp=Z,25nm,0.9s							
GTBY	Guantanamo Bay	22.29	75	P	P	03 53 57.2	+0.9	
GLAT	Glass	22.38	19	P	P	03 53 58.4	+1.3	
GOGA	Godfrey	22.39	33	P	P	03 53 57.8	+0.4	
Y52A	Lilburn	22.44	32	P	P	03 53 58.1	+0.3	
Y52A				IAmb	IAmb	03 54 01.3		
	comp=Z,42nm,1.1s							
MGMO	Mountain Grove	22.45	12	P	P	03 53 57.8	-0.2	
W18A	Petrified Fore	22.48	334	P	P	03 53 59.9	+1.4	
PBMO	Poplar Bluff	22.52	16	P	P	03 53 59.0	+0.4	
PBMO				IAmb	IAmb	03 54 06.8		
	comp=Z,29nm,1.1s							
T25A	Trinidad	22.59	347	P	P	03 54 01.4	+1.7	
T25A				IAmb	IAmb	03 54 28.0		
	comp=Z,31nm,1.2s							
113A	Mohawk Valley,	22.63	323	P	P	03 54 01.5	+1.6	
SWET	Sewanee	22.68	26	P	P	03 54 00.9	+0.5	
WVT	Waverly	22.73	22	P	P	03 54 01.5	+0.6	
WVT				IAmb	IAmb	03 54 04.0		
	comp=Z,18nm,0.8s							
V48A	Smith Brothers	22.77	24	P	P	03 54 01.7	+0.4	
S39A	Bolivar	22.78	10	P	P	03 54 02.1	+0.7	
S39A				IAmb	IAmb	03 54 03.9		
	comp=Z,22nm,0.9s							
W50A	Signal Mountai	22.94	27	P	P	03 54 04.0	+0.9	
Y14A	Wickenburg	23.08	327	P	P	03 54 06.0	+1.3	
R32A	Long Quarter,	23.15	359	P	P	03 54 03.7	-1.5	
R32A				IAmb	IAmb	03 54 12.9		
	comp=Z,26nm,1.1s							
CGM3	Cape Girardeau	23.22	17	P	P	03 54 05.6	-0.4	
CGM3				IAmb	IAmb	03 54 13.8		
	comp=Z,30nm,1.1s							
CLTN	Cedars of Leba	23.27	24	P	P	03 54 07.2	+0.8	
CLTN				IAmb	IAmb	03 54 09.3		
	comp=Z,52nm,1.4s							
T45A	Paducah	23.27	19	P	P	03 54 07.2	+0.8	
W52A	Murphy	23.49	30	P	P	03 54 09.3	+0.6	
HODGE	Hodges	23.67	34	P	P	03 54 10.9	+0.5	
S44A	Carbondale	23.70	17	P	P	03 54 11.9	+1.2	
S44A				IAmb	IAmb	03 54 15.4		
	comp=Z,52nm,1.5s							
T47A	Sharon Grove	23.76	22	P	P	03 54 12.3	+1.1	
S22A	4UR Ranch, Cre	23.80	342	P	P	03 54 13.2	+1.3	
MVCO	Mesa Verde	23.84	339	P	P	03 54 13.4	+1.1	
KSU1	Kansas State U	23.85	3	P	P	03 54 13.0	+0.9	
U49A	Red Boiling Sp	23.85	25	P	P	03 54 12.9	+0.7	
BG3	Lake Jocassee	23.90	32	P	P	03 54 13.4	+0.7	
BG3				IAmb	IAmb	03 54 19.2		
	comp=Z,33nm,1.0s							
TKL	Tuckaleechee C	24.02	29	P	P	03 54 14.3	+0.5	
NHSC	New Hope	24.05	39	P	P	03 54 14.6	+0.6	
V52A	Sevierville	24.25	29	P	P	03 54 16.3	+0.4	
JSC	Jenkinsville	24.25	35	P	P	03 54 16.1	+0.2	
JSC				IAmb	IAmb	03 54 20.2		
	comp=Z,17nm,0.9s							
OTAV	Otavalo	24.34	126	P	P	03 54 20.2	+2.7	
PAULI	Pauline	24.35	34	P	P	03 54 17.9	+1.1	
USIN	University of	24.45	20	P	P	03 54 19.4	+1.8	
V53A	Saluda	24.50	31	P	P	03 54 19.1	+0.9	
Y57A	Sumter	24.56	37	P	P	03 54 20.0	+1.3	
Y57A				IAmb	IAmb	03 54 21.6		
	comp=Z,24nm,1.0s							
P38A	Dawn	24.65	8	P	P	03 54 20.7	+1.2	
T50A	Nancy	24.68	26	P	P	03 54 20.9	+1.2	
U15A	North Rim	24.71	331	P	P	03 54 22.4	+2.1	
P40A	Paris	24.79	11	P	P	03 54 22.2	+1.4	
P40A				IAmb	IAmb	03 54 23.9		
	comp=Z,36nm,1.1s							
TZTN	Tazewell	24.85	29	P	P	03 54 22.9	+1.5	
KMSC	Kings Mountain	24.85	34	P	P	03 54 23.1	+1.8	
Q44A	Meyer Farm, Va	24.90	17	P	P	03 54 23.5	+1.8	
Y58A	Scranton	24.91	38	P	P	03 54 22.9	+1.0	
Y58A				IAmb	IAmb	03 54 28.4		
	comp=Z,25nm,0.8s							
BIRD	Birdtown, Kers	24.97	36	P	P	03 54 23.8	+1.4	
BIRD				IAmb	IAmb	03 54 26.3		
	comp=Z,12nm,0.9s							
OLIL	Olney	25.01	18	P	P	03 54 24.3	+1.6	
WCI	Wyandotte Cave	25.16	22	P	P	03 54 25.5	+1.4	
HMU	Henry Mountain	25.32	336	P	P	03 54 27.3	+1.4	
HMU				IAmb	IAmb	03 54 37.1		
	comp=Z,19nm,1.0s							
V55A	Taylorsville	25.45	33	P	P	03 54 27.5	+0.7	
P43A	Skaggs, Pawnee	25.46	15	P	P	03 54 28.0	+1.3	
P43A				IAmb	IAmb	03 54 32.6		
	comp=Z,22nm,0.8s							
W57A	Gilead	25.60	36	P	P	03 54 29.6	+1.4	
R49A	Shelbyville	25.63	24	P	P	03 54 29.7	+1.3	
N35A	Tabor	25.65	4	P	P	03 54 30.0	+1.4	
U54A	Nelsons Funny	25.66	31	P	P	03 54 29.6	+0.8	
S51A	Beattyville	25.73	27	P	P	03 54 30.8	+1.5	
N38A	Joes South For	25.84	8	P	P	03 54 31.4	+1.1	
BLO	Bloomington	25.92	21	P	P	03 54 32.4	+1.4	
BLO				IAmb	IAmb	03 54 35.1		
	comp=Z,16nm,0.8s							
R50A	Paris	25.96	25	P	P	03 54 32.3	+1.0	
R50A				IAmb	IAmb	03 54 37.5		
	comp=Z,18nm,0.8s							
MTPU	Mount Pierson	26.00	334	P	P	03 54 34.1	+1.9	
MTPU				IAmb	IAmb	03 54 40.3		
	comp=Z,17nm,1.2s							
P46A	Rosedale	26.10	19	P	P	03 54 33.7	+1.1	
P46A				IAmb	IAmb	03 54 36.9		
	comp=Z,23nm,0.9s							
CCUT	Cedar City	26.12	331	P	P	03 54 35.1	+2.0	
N41A	Harden Midland	26.16	12	P	P	03 54 34.3	+1.1	
N41A				IAmb	IAmb	03 54 39.5		
	comp=Z,30nm,1.1s							
SHPR	Sheep Range	26.18	327	P	P	03 54 35.1	+1.5	
SRU	San Rafael Swe	26.26	338	P	P	03 54 35.1	+0.8	
U56A	King	26.27	33	P	P	03 54 35.6	+1.4	
Q16A	Castle Valley	26.33	336	P	P	03 54 36.3	+1.3	
HDIL	Hopedale	26.38	15	P	P	03 54 36.2	+1.1	
HDIL				IAmb	IAmb	03 54 41.6		
	comp=Z,12nm,0.9s							
MSU	Marysvale	26.39	334	P	P	03 54 37.5	+2.0	
V58A	Windy Hill, Pi	26.56	36	P	P	03 54 37.6	+0.8	
V58A				IAmb	IAmb	03 54 44.5		
	comp=Z,12nm,0.9s							
P48A	Milroy	26.56	22	P	P	03 54 37.4	+0.6	
P18A	Preston Nutter	26.61	338	P	P	03 54 39.2	+1.6	
P17A	Butcher Ranch,	26.66	338	P	P	03 54 39.1	+1.3	
TMUT	Trail Mountain	26.68	337	P	P	03 54 39.5	+1.3	
SFIN	Lafayette	26.82	19	P	P	03 54 40.4	+1.2	
SFIN				IAmb	IAmb	03 54 43.6		
	comp=Z,10nm,0.8s							
P49A	Miami Univ. Ec	26.89	23	P	P	03 54 40.4	+0.7	
BLA	Blacksburg	26.90	32	P	P	03 54 41.4	+1.4	
S54A	Dingess, Beckl	26.92	30	P	P	03 54 41.0	+0.9	
T57A	Hurt	27.36	34	P	P	03 54 45.2	+1.3	
T57A				IAmb	IAmb	03 54 52.4		
	comp=Z,20nm,1.1s							
O48B	Farmland	27.36	22	P	P	03 54 44.7	+0.7	
O48B				IAmb	IAmb	03 54 55.0		
	comp=Z,20nm,1.0s							
L40A	Anamosa	27.40	11	P	P	03 54 44.9	+0.6	
L40A				IAmb	IAmb	03 54 50.5		
	comp=Z,20nm,0.9s							
Q52A	Bidwell	27.41	27	P	P	03 54 45.8	+1.3	
SDV	Santo Domingo	27.44	100	LR	LR	04 06 35.5		
	comp=Z,113nm,18.2s,baz=250,slow=39							
M44A	Midewin, Midew	27.48	16	P	P	03 54 45.9	+0.9	
M44A				IAmb	IAmb	03 54 53.0		
	comp=Z,35nm,1.4s							
P51A	Williamsport	27.50	26	P	P	03 54 46.7	+1.5	
NLU	North Lily Min	27.58	336	P	P	03 54 47.5	+1.3	
O49A	Covington	27.60	23	P	P	03 54 47.1	+1.0	
L42A	Oliver, Polo	27.66	13	P	P	03 54 47.6	+0.9	
L42A				IAmb	IAmb	03 54 48.8		
	comp=Z,14nm,0.9s							
N47A	Urbana	27.73	20	P	P	03 54 47.8	+0.6	
N47A				IAmb	IAmb	03 54 53.1		
	comp=Z,26nm,1.1s							
GMN	Gold Mountain	27.89	326	P	P	03 54 50.4	+1.3	
P52A	Corning	28.02	27	P	P	03 54 51.1	+1.2	
P52A				IAmb	IAmb	03 54 57.5		
	comp=Z,15nm,0.9s							
Q54A	Coxs Mills	28.08	29	P	P	03 54 52.2	+1.7	
Q54A				IAmb	IAmb	03 54 58.2		
	comp=Z,20nm,0.8s							
S57A	Dark Hollow, R	28.08	33	P	P	03 54 51.3	+0.8	
S57A				IAmb	IAmb	03 54 55.4		
	comp=Z,18nm,1.2s							
ACSO	Alum Creek Sta	28.17	25	P	P	03 54 52.2	+1.0	
ACSO				IAmb	IAmb	03 54 59.0		
	comp=Z,11nm,0.8s							
P53A	Whipple	28.23	28	P	P	03 54 53.1	+1.4	
P53A				IAmb	IAmb	03 54 59.9		
	comp=Z,21nm,0.9s							
MZP	Montezuma Peak	28.25	326	P	P	03 54 53.8	+1.5	
T59A	Double "B" Far	28.28	36	P	P	03 54 53.2	+1.0	
ECSD	EROS Data Cent	28.47	2	P	P	03 54 55.3	+1.5	
O52A	Adamsville	28.55	26	P	P	03 54 56.0	+1.3	
O52A				IAmb	IAmb	03 55 05.6		
	comp=Z,14nm,1.1s							
K43A	Burlington	28.64	15	P	P	03 54 56.4	+1.0	
K43A				IAmb	IAmb	03 54 57.8		
	comp=Z,14nm,1.1s							
R58B	Mineral	28.81	34	P	P	03 54 58.1	+1.2	
Q56A	Snyder Ridge,	28.93	31	P	P	03 54 58.9	+0.9	
Q56A				IAmb	IAmb	03 55 03.8		
	comp=Z,14nm,1.0s							
O53A	New Philadelph	28.93	27	P	P	03 54 59.1	+1.1	
O53A				IAmb	IAmb	03 55 04.2		
	comp=Z,15nm,1.1s							
NV11	Mina Array Sit	29.20	326	P	P	03 55 02.7	+2.1	
O54A	Avella	29.25	28	P	P	03 55 01.7	+0.9	
NVAR	Mina Array Bea	29.28	326	P	P	03 55 03.1	+1.8	
NVAR	Mina Array Bea	29.28	326	P	P	03 55 02.7	+1.3	
	comp=Z,2.2nm,0.8s,baz=149,slow=8.9,SNR=16							
	comp=Z,2.2nm,0.8s							
ELK	Elko	29.56	333	P	P	03 55 05.9	+2.0	
KVN	Kaiserville	29.63	327	P	P	03 55 06.0	+1.6	
P57A	Homestead Farm	29.86	32	P	P	03 55 07.5	+1.3	
SPMN	Marine on St.	30.25	7	P	P	03 55 10.8	+1.2	
SPMN				IAmb	IAmb	03 55 11.6		
	comp=Z,21nm,1.5s							
G40A	Rib Lake	30.69	11	P	P	03 55 14.5	+1.0	
G40A				IAmb	IAmb	03 55 15.6		
	comp=Z,7.9nm,0.9s							
M57A	Sunshine Farm,	31.70	31	P	P	03 55 24.3	+1.9	
WVNY	West Valley, N	31.83	28	P	P	03 55 25.0	+1.4	
L56A	Greenwood	32.10	29	P	P	03 55 27.4	+1.4	
L56A				IAmb	IAmb	03 55 32.0		
	comp=Z,9.0nm,0.9s							
MMNY	Mt. Morris Dam	32.40	28	P	P	03 55 29.2	+0.5	
BOZ	Bozeman (W)	32.42	342	P	P	03 55 30.4	+1.5	
BRNJ	Basking Ridge	32.55	34	P	P	03 55 30.6	+0.7	
PCRV	Puerto La Cruz	32.88	95	LR	LR	04 10 15.7		
	comp=Z,228nm,19.2s,slow=39							
AGMN	Agassiz Nation	33.06	3	P	P	03 55 35.4	+1.1	
EYMN	Ely	33.09	8	P	P	03 55 35.5	+0.8	
EYMN				IAmb	IAmb	03 55 37.2		
	comp=Z,15nm,1.2s							
J08A	Circle Bar Ran	33.10	332	P	P	03 55 36.3	+1.5	
J08A				IAmb	IAmb	03 55 46.3		
	comp=Z,7.2nm,1.1s							
PAL	Palisades	33.13	34	P	P	03 55 36.4	+1.5	
PAL				IAmb	IAmb	03 55 37.6		
	comp=Z,10nm,0.8s							
J56A	Wolcott	33.31	29	P	P	03 55 38.1	+1.6	
J58A	Remsen	34.12	30	P	P	03 55 44.9	+1.3	
J58A				IAmb	IAmb	03 55 53.9		
	comp=Z,5.7nm,0.8s							
J59A	Piesco	34.58	31	P	P	03 55 49.3	+1.7	
J59A				IAmb	IAmb	03 55 54.7		
	comp=Z,15nm,1.4s							
ULM	Lac du Bonnet	35.01	2	P	P	03 55 52.1	+1.0	
ULM				IAmb	IAmb	03 55 52.7		
	comp=Z,13nm,1.0s							
ULM	Lac du Bonnet	35.01	2	P	P	03 55 50.8	-0.4	
	comp=Z,12nm,1.1s,baz=184,slow=9.2,SNR=14							
	comp=Z,12nm,1.1s							
NCB	Newcomb	35.09	30	P	P	03 55 52.7	+0.7	
NCB		

SPU	**Mount Spurr**	**59.85**	**333**	P	**P**	**03 59 05.6**	**+1.3**
SPU				IAmb	IAmb	03 59 14.9	
comp=Z,6.3nm,1.0s							
SKT	**Skwentna**	**59.98**	**334**	P	**P**	**03 59 05.7**	**+0.7**
SKT				IAmb	IAmb	03 59 05.9	
comp=Z,4.2nm,0.9s							
ANCK	**Angle Creek**	**60.30**	**329**	P	**P**	**03 59 07.9**	**+0.6**
PPT	**Papeete**	**60.41**	**239**	LR	LR	04 18 45.6	
comp=Z,73nm,18.1s,baz=31,slow=30							
PPT2	**Papeete2**	**60.42**	**239**	*e*S	S	04 07 34.8	+11
comp=Z,108nm,26.2s							
PPT2				*e*LR	LR	04 16 43.2	
comp=Z,188nm,26.8s							
PPT2				*e*LR	LR	04 16 50.5	
comp=Z,111nm,46.5s							
H24K	**Noodor Dome**	**60.44**	**339**	P	**P**	**03 59 08.7**	**+0.5**
H24K				IAmb	IAmb	03 59 12.1	
comp=Z,5.1nm,0.9s							
I23K	**Minto, Yukon-K**	**60.62**	**338**	P	**P**	**03 59 10.1**	**+0.8**
M20K	**Styx River**	**60.62**	**333**	P	**P**	**03 59 10.1**	**+0.6**
M20K				IAmb	IAmb	03 59 13.0	
comp=Z,4.7nm,0.8s							
N19K	**Bonanza Creek**	**60.78**	**332**	P	**P**	**03 59 10.9**	**+0.3**
N19K				IAmb	IAmb	03 59 19.8	
comp=Z,7.0nm,0.9s							
M19K	**Big River Lodg**	**61.17**	**333**	P	**P**	**03 59 13.8**	**+0.6**
M19K				IAmb	IAmb	03 59 16.5	
comp=Z,4.9nm,0.9s							
PLCA	**Paso Flores**	**61.18**	**156**	P	**P**	**03 59 13.6**	**0.0**
comp=Z,3.4nm,1.0s,baz=355,slow=9.9,SNR=3.3							
N18K	**Kilae Creek**	**61.37**	**332**	IAmb	IAmb	03 59 15.0	
comp=Z,5.7nm,1.0s							
N18K				P	**P**	**03 59 15.1**	**+0.6**
N17K	**Nushagak Hills**	**61.92**	**331**	P	**P**	**03 59 18.9**	**+0.6**
N17K				IAmb	IAmb	03 59 27.2	
comp=Z,6.3nm,1.2s							
J20K	**Nowinta River**	**62.00**	**336**	P	**P**	**03 59 18.8**	**+0.1**
J20K				IAmb	IAmb	03 59 35.8	
comp=Z,3.4nm,0.9s							
O16K	**Kokwok River B**	**62.04**	**330**	P	**P**	**03 59 18.9**	**-0.2**
O16K				IAmb	IAmb	03 59 19.2	
comp=Z,5.2nm,1.0s							
L18K	**Granite Mounta**	**62.29**	**333**	P	**P**	**03 59 20.2**	**-0.5**
L18K				IAmb	IAmb	03 59 22.6	
comp=Z,4.7nm,1.1s							
M16K	**Timber Creek**	**62.90**	**331**	P	**P**	**03 59 25.3**	**+0.5**
M16K				IAmb	IAmb	03 59 34.6	
comp=Z,4.9nm,0.9s							
E22K	**Anaktuvuk Pass**	**62.94**	**340**	P	**P**	**03 59 25.9**	**+0.9**
E22K				IAmb	IAmb	03 59 34.1	
comp=Z,5.7nm,1.2s							
F21K	**Alatna River**	**63.08**	**339**	P	**P**	**03 59 26.6**	**+0.7**
F21K				IAmb	IAmb	03 59 27.7	
comp=Z,9.1nm,1.2s							
TBI	**Tubuai**	**63.27**	**234**	*e*LR	LR	04 18 15.1	
comp=Z,711nm,27.5s							
NEEM	**North Greenlan**	**66.52**	**10**	*i* P	**P**	**03 59 47.7**	**-0.8**
RAR	**Rarotonga**	**70.61**	**241**	LR	LR	04 22 08.7	
comp=Z,66nm,18.0s,baz=136,slow=28							
PCAS	**Casmilo, Conde**	**79.99**	**51**	*e*P	**P**	**04 01 09.9**	**+1.5**
PVIS	**Viseu**	**80.31**	**50**	*e*P	**P**	**04 01 08.3**	**-1.8**
PMTG	**Montargil**	**80.39**	**52**	*e*P	**P**	**04 01 11.8**	**+1.3**
MTE	**Manteigas**	**80.64**	**51**	*e*P	**P**	**04 01 12.8**	**+0.9**
EVO	**Evora**	**80.67**	**53**	*e*P	**P**	**04 01 11.7**	**-0.3**
PCBR	**Castelo Branco**	**80.80**	**51**	*e*P	**P**	**04 01 14.6**	**+1.9**
PMRV	**Marv??o**	**80.95**	**52**	*e*P	**P**	**04 01 14.8**	**+1.2**
PBAR	**Barrancos**	**81.49**	**53**	*e*P	**P**	**04 01 17.3**	**+0.9**
ESDC	**Sonseca Array**	**83.48**	**51**	P	**P**	**04 01 28.3**	**+1.5**
ESDC				IAmb	IAmb	04 01 28.9	
comp=Z,6.1nm,1.4s							
ESDC	**Sonseca Array**	**83.48**	**51**	P	**P**	**04 01 25.9**	**-1.0**
comp=Z,1.5nm,1.0s,baz=291,slow=5.2,SNR=8.9							
comp=Z,1.5nm,1.0s							
NOA	**NORSAR Array B**	**85.81**	**27**	LR	LR	04 40 15.5	
comp=Z,28nm,20.8s,baz=20,slow=36							
CEST	**Esterri de Car**	**86.48**	**47**	P	**P**	**04 01 43.3**	**+1.4**
CEST				IAmb	IAmb	04 01 44.6	
comp=Z,16nm,1.3s							
WRA	**Warramunga Arr**	**130.07**	**257**	PKP	**PKPdf**	**04 08 08.5**	**-1.0**
comp=Z,0.8nm,1.1s,baz=78,slow=2.3,SNR=2.2							
CMAR	**Chiang Mai Arr**	**142.64**	**333**	PKP	**PKPdf**	**04 08 32.9**	**0.0**
comp=Z,3.4nm,0.3s,baz=80,slow=1.1,SNR=4.7							

SSNC ***03*** *04:03:23.0±1.2, 19°.72N×76°.81W, h8km±7km, MD3.6, ML3.2, MW3.5*
OSPL ***03*** *04:03:24.1±1.1, 19°.48N×76°.67W, h4km±999km, ML2.7*
JSN ***03*** *04:03:26.2±0.3, 19°.48N×77°.11W, h15km, MD3.8*
ISC 03 04:03:20.6±1.3, 19°.70N±0°.03×76°.79W±0°.04, h18km±4km, n19, σ1s18/33, 3D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.41**	**330**	*i* P	**Pb**	**04 03 29.9**	**+0.5**
LMGC				*e*S	**Sg**	**04 03 34.7**	**-0.2**
LMGC				IAML		04 03 35.2	
comp=E,26μm,0.1s							
LMGC				IAML		04 03 35.3	
comp=N,47μm,0.1s							
CHIV	**Chivirico**	**0.44**	**52**	*e*P	**Pn**	**04 03 31.5**	**-0.5**
CHIV				*e*S	**Sb**	**04 03 37.5**	**+1.2**
CHIV				IAML		04 03 38.2	
comp=E,867nm,0.2s							
CHIV				IAML		04 03 38.5	
comp=N,2μm,0.3s							
YAR	**Yar**	**0.78**	**31**	*e*P	**Pg**	**04 03 36.3**	**+0.4**
YAR				*e*S	**Sb**	**04 03 44.4**	**-1.3**
YAR				IAML		04 03 47.9	
comp=N,2μm,0.4s							
YAR				IAML		04 03 48.1	
comp=E,1μm,0.5s							
MARVS	**Santiago de Cu**	**0.89**	**70**	*e*P	**Pn**	**04 03 38.5**	**+0.4**
MARVS				*e*S	**Sb**	**04 03 49.3**	**+0.5**
MARVS				IAML		04 03 53.7	
comp=N,624nm,0.3s							
MARVS				IAML		04 03 53.8	
comp=E,566nm,0.2s							
RCC	**Rio Carpintero**	**1.07**	**74**	*e*P	**Pg**	**04 03 41.3**	**0.0**
RCC				*e*S	**Sb**	**04 03 54.2**	**+0.1**
RCC				IAML		04 03 59.1	
comp=N,239nm,0.2s							
RCC				IAML		04 03 59.7	
comp=E,259nm,0.3s							
PINC	**Pinares de May**	**1.22**	**50**	*e*P	**Pb**	**04 03 43.3**	**+0.2**
HLGC	**Holguin**	**1.36**	**30**	*e*P	**Pn**	**04 03 45.0**	**+0.3**
HLGC				*e*S	**Sn**	**04 04 01.2**	**-1.2**
GTBY	**Guantanamo Bay**	**1.59**	**82**	*e*P	**Pb**	**04 03 49.5**	**0.0**
GTBY				*e*S	**Sn**	**04 04 08.6**	**+0.6**
GTBY				IAML		04 04 17.5	
comp=E,337nm,0.5s							
GTBY				IAML		04 04 18.1	
comp=E,327nm,0.4s							
GTBY	**Guantanamo Bay**	**1.59**	**82**	*i* P	**Pb**	**04 03 49.9**	**+0.4**
GTBY				*e*S	**Sb**	**04 04 09.2**	**0.0**
GTBY				IAML		04 04 15.1	
comp=Z,129nm,0.5s							
STH	**Stony Hill**	**1.62**	**181**	⇓*i*P	**Pb**	**04 03 50.0**	**+0.1**
STH				*i* S	**Sn**	**04 04 08.0**	**-0.7**
STH	**Stony Hill**	**1.62**	**181**	*e*P	**Pb**	**04 03 49.8**	**-0.1**
STH				*e*S	**Sn**	**04 04 07.9**	**-0.7**
GWJ	**Greenwich**	**1.62**	**178**	⇓*i*P	**Pb**	**04 03 50.3**	**+0.3**
MTDJ	**Mount Denham**	**1.63**	**206**	*e*P	**Pb**	**04 03 50.1**	**-0.1**
MTDJ	**Mount Denham**	**1.63**	**206**	*i* P	**Pb**	**04 03 50.2**	**0.0**
MTDJ				*e*S	**Sn**	**04 04 08.6**	**-0.4**
MTDJ				IAML		04 04 12.2	
comp=Z,111nm,1.9s							
HOJ	**Hope**	**1.69**	**179**	⇓*i*P	**Pb**	**04 03 51.3**	**+0.2**
QMBU	**Quimbuelo**	**1.92**	**75**	*e*P	**Pn**	**04 03 52.2**	**-0.2**
QMBU				*e*S	**Sn**	**04 04 11.8**	**-4.3**
MOAC	**Moa**	**1.96**	**61**	*e*P	**Pb**	**04 03 56.0**	**+0.2**
MASC	**Masc**	**2.45**	**79**	*e*P	**Pn**	**04 04 01.0**	**+1.4**
MASC				*e*S	**Sn**	**04 04 31.0**	**+1.9**
MASC				IAML		04 04 36.9	
comp=N,43nm,0.4s							
MASC				IAML		04 04 40.6	
comp=E,43nm,0.4s							
MASC	**Masc**	**2.45**	**79**	*i* P	**Pb**	**04 04 02.3**	**-1.8**
MASC				*e*S	**Sn**	**04 04 31.3**	**+2.2**
MASC				IAML		04 04 50.5	
comp=Z,40nm,1.2s							

IDC 03 04:14:59.9±5.4, 22°.34S×179°.16W, h0km, mb3.7/2,
mbtmp3.7/2, Error ellipse: s-maj=276.0km
s-min=79.2km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.07**	**259**	P	P	04 23 00.4	-1.6
0.8nm,0.9s,baz=92,slow=6.3,SNR=4.5							
0.8nm,0.9s							
WRA	**Warramunga Arr**	**43.31**	**264**	P	P	04 23 04.7	+0.8
0.7nm,0.4s,baz=100,slow=8.4,SNR=16							
0.7nm,0.4s							
NOA	**NORSAR Array B**	**140.66**	**352**	PKP	PKPdf	04 34 30.0	-1.0
0.8nm,0.7s,baz=21,slow=2.4,SNR=3.8							
HFS	**Hagfors**	**141.17**	**350**	PKP	PKPdf	04 34 32.1	+0.2
1.4nm,0.5s,baz=5.7,slow=1.4,SNR=12							

BGR ***03*** *04:25:48.7, 13°.04N×121°.73E, h141km, mb5.4, Hypocentre not reviewed by the ISC*
MOS ***03*** *04:25:52.1±0.8, 13°.99N×120°.60E, h134km, mb5.3/115, Error ellipse: s-maj=6.7km s-min=3.3km az=118.7*
BJI ***03*** *04:25:53.1±0.0, 13°.95N×120°.80E, h153km, mb5.1/89, mB5.2/51*
NEIC ***03*** *04:25:53.7, 14°.03N×120°.64E, h130km*
MAN ***03*** *04:25:53.6, 14°.00N×120°.37E, h125km, mb5.8, ML4.8, MS5.2*
MAN INTENSITY IV - NASUGBU BATANGAS; ABRA DE ILOG AND LUBANG OCCIDENTAL MINDORO; INTENSITY III - BALAYAN CALATAGAN TALISAY AND TUY BATANGAS; MABALACAT CITY; MAKATI CITY; MANDALUYONG CITY; PASAY CITY; QUEZON CITY; TAGAYTAY CITY; PUERTO GALERA ; ORIENTAL MINDORO; LOOC AND MAMBURAO OCCIDENTAL MINDORO; MARAGONDON AND TANZA CAVITE; INTENSITY II - CITY OF MANILA; PARAAQUE CITY; MALOLOS CITY; OBANDO AND PLARIDEL BULACAN.
NEIC ***03*** *04:25:53.4±1.7, 14°.02N±0°.07×120°.64E±0°.08, h126km±1km, mb5.4/360, Mwb5.3/12, Mww5.2/35, Error ellipse: s-maj=12.7km s-min=11.3km az=261.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}9.76; $M_{\theta\theta}$-1.86; $M_{\phi\phi}$-7.90; $M_{r\theta}$2.26; $M_{\theta\phi}$0.24; $M_{\phi r}$-2.19; Fault plane solution: $M_0$9.51000×10^16^ NP1: ϕ_s166.66000°, δ53.24000°, λ78.07000°. NP2: ϕ_p6.10000°, δ38.38000°, λ105.47000°. Principal axes: T 10.4268, Plg78.0000°, Azm33.0000°; N -2.2197, Plg10.0000°, Azm174.0000°; P -8.2071, Plg8.0000°, Azm265.0000°;*
NEIC ***03*** *04:25:53.7, 14°.13N×120°.74E, h130km, Moment Tensor Solution. Duration: 1s1.0 Moment tensor: Scale 10^16^ Nm; M_{rr}4.85; $M_{\theta\theta}$0.50; $M_{\phi\phi}$-5.35; $M_{r\theta}$1.72; $M_{\theta\phi}$-0.21; $M_{\phi r}$-4.14; Fault plane solution: $M_0$6.81000×10^16^ NP1: ϕ_s165.96000°, δ66.13000°, λ75.51000°. NP2: ϕ_s18.52000°, δ27.70000°, λ119.49000°. Principal axes: T 6.7751, Plg66.0000°, Azm50.0000°; N 0.0614, Plg13.0000°, Azm172.0000°; P -6.8365, Plg20.0000°, Azm267.0000°;*
GCMT ***03*** *04:25:54.4±0.2, 14°.03N±0°.01×120°.45E±0°.01, h142km±1km, MW5.2/141, Moment Tensor Solution. s71, c95; s141, c238; Duration: 1s0 Moment tensor: Scale 10^17^Nm; M_{rr}0.66±.02; $M_{\theta\theta}$0.21±.02; $M_{\phi\phi}$-0.87±.02; $M_{r\theta}$0.24±.01; $M_{\theta\phi}$0.11±.02; $M_{\phi r}$-0.46±.02; Best double couple: $M_0$0.94000×10^17^ NP1: ϕ_s159.00000°, δ63.00000°, λ73.00000°. NP2: ϕ_s13.00000°, δ32.00000°, λ119.00000°. Principal axes: T 0.8550, Plg68.0000°, Azm37.0000°; N 0.1700, Plg15.0000°, Azm167.0000°; P -1.0250, Plg16.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***03*** *04:25:54.7, 14°.02N×120°.64E, h138km*
IDC ***03*** *04:25:55.6±1.1, 13°.99N×120°.66E, h156km±10km, mb4.9/43, mbtmp5.3/45, MS3.8/29, Error ellipse: s-maj=9.5km s-min=6.2km az=71.0*
DJA ***03*** *04:25:56.0±0.4, 14°N±2°×12°1E±°, h157km±4km, M5.0/75, mB5.5/40, mb5.2/75, Mw(mB)5.0/40, MwMwp4.9/2, Mwp5.2/2*
ISC 03 04:25:54.0±0.3, 13°.92N±0°.02×120°.50E±0°.03, h141km±2km, h141km:pP-P, n1401, σ1s30/1421, mb5.3/400, 103C-73D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.30**	**233**	⇑*i*P	**Pn**	**04 26 12.6**	**-0.8**
LUBP				*e*S	**Sn**	**04 26 26.3**	**-1.9**
MACP	**Maragondon, Ca**	**0.40**	**32**	⇑*e*P	**Pn**	**04 26 12.4**	**-1.4**
MACP				*e*S	**Sn**	**04 26 26.4**	**-2.5**
TGY	**Tagaytay City**	**0.46**	**67**	⇑*e*P	**Pn**	**04 26 14.5**	**+0.3**
TGY				*e*S	**Sn**	**04 26 29.5**	**0.0**
QVP	**Quezon City--P**	**0.85**	**35**	⇓*e*P	**Pn**	**04 26 16.3**	**-0.4**
QVP				*e*S	**Sn**	**04 26 33.6**	**-0.3**
LQP	**Lukban**	**1.03**	**79**	⇓*i*P	**Pn**	**04 26 18.5**	**+0.1**
LQP				*i* S	**Sn**	**04 26 36.5**	**-0.4**
BOAC	**Boac**	**1.39**	**109**	⇓*e*P	**Pn**	**04 26 22.3**	**+0.6**
BOAC				*i* S	**Sn**	**04 26 43.9**	**+1.2**
SJMP	**San Jose**	**1.57**	**157**	⇑*i*P	**Pn**	**04 26 24.1**	**+0.4**
SJMP				*e*S	**Sn**	**04 26 46.0**	**-0.4**
POLP	**Polilio Island**	**1.61**	**60**	⇓*i*P	**Pn**	**04 26 24.7**	**+0.6**
POLP				*e*S	**Sn**	**04 26 48.2**	**+1.1**
GQP	**Guinayangan**	**1.89**	**90**	⇓*i*P	**Pn**	**04 26 28.3**	**+1.0**
GQP				*e*S	**Sn**	**04 26 54.0**	**+1.2**
BUSP	**Coron**	**1.93**	**189**	⇑*i*P	**Pn**	**04 26 28.0**	**+0.2**
BUSP				*e*S	**Sn**	**04 26 52.9**	**-0.7**
SCZP	**Santa Cruz**	**1.93**	**343**	⇑*e*P	**Pn**	**04 26 26.1**	**-1.7**
SCZP				*e*S	**Sn**	**04 26 50.4**	**-3.2**
BALP	**Baler**	**2.09**	**30**	⇓*e*P	**Pn**	**04 26 29.6**	**-0.1**
BALP				*e*S	**Sn**	**04 26 56.9**	**-0.2**
OTRP	**Odiongan**	**2.15**	**136**	⇑*i*P	**Pn**	**04 26 30.8**	**+0.5**
OTRP				*e*S	**Sn**	**04 26 58.1**	**-0.1**
JCNP	**Jose Panganiba**	**2.17**	**80**	⇓*e*P	**Pn**	**04 26 31.1**	**+0.5**
JCNP				*e*S	Sn	04 27 15.3	+17
SMPP	**San Manuel, Pa**	**2.23**	**5**	⇑*i*P	**Pn**	**04 26 30.0**	**-1.3**
SMPP				*e*S	**Sn**	**04 26 53.8**	**-6.3**
BOLP	**Bolinao**	**2.51**	**347**	⇑*e*P	**Pn**	**04 26 33.4**	**-1.4**
BOLP				*e*S	**Sn**	**04 27 02.8**	**-3.5**
IBAJ	**Ibajay, Aklan**	**2.65**	**142**	⇑*i*P	**Pn**	**04 26 37.7**	**+1.1**
IBAJ				*i* S	**Sn**	**04 27 09.9**	**+0.5**
ENPP	**El Nido**	**2.89**	**201**	⇑*e*P	**Pn**	**04 26 40.7**	**+1.0**
ENPP				*e*S	**Sn**	**04 27 14.2**	**-0.8**
CUYO	**Cuyo Island**	**3.09**	**170**	⇑*i*P	**Pn**	**04 26 42.9**	**+0.6**
CUYO				*e*S	**Sn**	**04 27 17.0**	**-2.5**
SAMP	**Sagada Mountai**	**3.17**	**7**	⇑*e*P	**Pn**	**04 26 42.2**	**-0.9**
SAMP				*e*S	**Sn**	**04 27 15.9**	**-5.3**
RCP	**Roxas**	**3.21**	**137**	⇑*i*P	**Pn**	**04 26 45.3**	**+1.6**
RCP				*i* S	**Sn**	**04 27 26.4**	**+4.1**
CAUP	**Cauayan**	**3.27**	**23**	⇓*i*P	**Pn**	**04 26 44.6**	**+0.1**
CAUP				*e*S	Sn	04 27 38.4	+15
MMPH	**Masbate**	**3.42**	**117**	⇑*e*P	**Pn**	**04 26 48.5**	**+2.1**
MMPH				*e*S	**Sn**	**04 27 26.9**	**-0.1**
JAP	**San Jose, Anti**	**3.46**	**156**	⇑*i*P	**Pn**	**04 26 49.0**	**+2.0**
PVCP	**Virac**	**3.57**	**95**	⇓*e*P	**Pn**	**04 26 50.0**	**+1.6**
PVCP				*e*S	**Sn**	**04 27 33.6**	**+3.1**
SZP	**Santa**	**3.61**	**359**	P	**Pn**	**04 26 49.8**	**+0.9**
ABRA	**Dolores**	**3.71**	**3**	⇑*e*P	**Pn**	**04 26 48.7**	**-1.5**
ABRA				*e*S	**Sn**	**04 27 32.2**	**-1.8**
GUIM	**Jordan**	**3.86**	**148**	⇑*e*P	**Pn**	**04 26 54.3**	**+2.1**
GUIM				*e*S	**Sn**	**04 27 40.6**	**+3.2**
CVP	**Callao Caves**	**3.97**	**19**	⇑*e*P	**Pn**	**04 26 52.9**	**-0.8**
CVP				*e*S	Sn	04 27 14.9	-25
APYP	**Conner**	**3.98**	**10**	⇑*e*P	**Pn**	**04 26 53.3**	**-0.5**
APYP				*e*S	**Sn**	**04 27 40.4**	**+0.1**
PIP	**Pasuquin**	**4.38**	**2**	⇑*e*P	**Pn**	**04 26 58.2**	**-0.9**
PIP				*e*S	**Sn**	**04 27 49.4**	**-0.3**
SGCP	**Gonzaga**	**4.55**	**19**	⇓*e*P	**Pn**	**04 27 00.4**	**-0.9**
SGCP				*e*S	**Sn**	**04 27 54.0**	**+0.4**
OCLP	**Ormoc**	**4.93**	**125**	⇑*e*P	**Pn**	**04 27 09.1**	**+2.8**
LLP	**Lapu-Lapu**	**4.93**	**136**	*e*P	**Pn**	**04 27 08.4**	**+2.0**
LLP				*e*S	Sn	04 28 14.0	+11
PLP	**Palo**	**5.16**	**122**	⇓*i*P	**Pn**	**04 27 11.8**	**+2.3**
SNPH	**Sibulan**	**5.28**	**149**	⇑*e*P	**Pn**	**04 27 14.0**	**+2.9**
SNPH				*e*S	Sn	04 27 58.9	-12
TBP	**Tagbilaran**	**5.34**	**142**	⇑*e*P	**Pn**	**04 27 14.4**	**+2.5**
TBP				*i* S	**Sn**	**04 28 16.2**	**+3.6**
BESP	**Borongan**	**5.34**	**115**	⇓*e*P	**Pn**	**04 27 14.1**	**+2.3**
BESP				*e*S	**Sn**	**04 28 12.7**	**+0.1**
MSLP	**Maasin**	**5.69**	**131**	⇓*e*P	**Pn**	**04 27 19.6**	**+3.1**
BATP	**Bataraza**	**5.74**	**208**	⇓*e*P	**Pn**	**04 27 18.6**	**+1.5**
BATP				*e*S	**Sn**	**04 28 23.1**	**+1.1**
DCPH	**Dipolog City**	**6.00**	**152**	⇑*e*P	**Pn**	**04 27 22.2**	**+1.6**
DCPH				*e*S	**Sn**	**04 28 29.7**	**+1.4**
BBP	**Basco**	**6.63**	**12**	⇓*e*P	**Pn**	**04 27 28.0**	**-1.1**
BBP				*e*S	**Sn**	**04 28 42.7**	**-0.9**
BBP	**Basco**	**6.63**	**12**	⇓*e*P	**Pn**	**04 27 28.0**	**-1.1**
BBP				*e*S	**Sn**	**04 28 43.4**	**-0.2**
PAGZ	**Pagadian**	**6.67**	**155**	⇑*e*P	**Pn**	**04 27 32.2**	**+2.7**
PAGZ				*e*S	**Sn**	**04 28 46.6**	**+2.2**
GLSP	**General Luna,**	**6.88**	**126**	⇓*e*P	**Pn**	**04 27 34.6**	**+2.2**
GLSP				*e*S	**Sn**	**04 28 52.4**	**+3.0**
BUTP	**Butuan**	**7.03**	**134**	⇑*e*P	**Pn**	**04 27 32.3**	**-2.1**
BUTP				*e*S	Sn	04 29 07.0	+14
ZCP	**Zamboanga City**	**7.12**	**167**	⇑*e*P	**Pn**	**04 27 38.7**	**+3.1**
ZCP				*e*S	**Sn**	**04 28 56.7**	**+1.5**
BUKP	**Musuan**	**7.49**	**143**	⇑*e*P	**Pn**	**04 27 44.0**	**+3.3**
KCP	**Kidapawan**	**8.22**	**146**	⇑*i*P	**Pn**	**04 27 54.9**	**+4.4**
SKMP	**Bagumbayan, Su**	**8.36**	**151**	⇑*e*P	**Pn**	**04 27 54.1**	**+1.8**
SKMP				*e*S	**Sn**	**04 29 28.1**	**+2.7**
DAV	**Davao City (W)**	**8.44**	**143**	Pn	**Pn**	**04 27 54.0**	**+0.6**
DAV	**Davao City (W)**	**8.44**	**143**	P	Pn	04 27 58.3	+4.9
169nm,0.4s,baz=30,slow=8.1,SNR=1.5							
TWGBT	**Beinan**	**8.87**	**3**	P	**Pn**	**04 27 58.4**	**-0.6**
TWG	**Pinlang**	**8.87**	**3**		**Pn**	**04 27 57.8**	**-1.3**
MYLDM	**Lahad Datu**	**8.90**	**193**	Pn	**Pn**	**04 28 00.5**	**+0.9**
MATI	**Mati**	**8.95**	**140**	⇓*e*P	**Pn**	**04 28 02.0**	**+1.8**
MATI				*e*S	**Sn**	**04 29 32.2**	**-7.3**
TPUB	**Ta-pu**	**9.33**	**1**	P	**Pn**	**04 28 04.6**	**-0.7**
TPUB	**Ta-pu**	**9.33**	**1**	Pn	**Pn**	**04 28 03.6**	**-1.7**
YULB	**Yu-li**	**9.45**	**4**	P	**Pn**	**04 28 06.5**	**-0.4**
YULB	**Yu-li**	**9.45**	**4**		**Pn**	**04 28 05.2**	**-1.6**
SSLB	**Suanglung**	**9.82**	**2**	P	**Pn**	**04 28 12.2**	**+0.3**
SSLB	**Suanglung**	**9.82**	**2**	Pn	**Pn**	**04 28 09.5**	**-2.3**
NACB	**Ninganchiao**	**10.25**	**6**	P	**Pn**	**04 28 17.3**	**-0.2**
NACB	**Ninganchiao**	**10.25**	**6**		**Pn**	**04 28 15.5**	**-2.0**
KNMB	**Chin-men Tao**	**10.68**	**350**	Pn	**Pn**	**04 28 22.8**	**-0.4**
YHNB	**Yeheng**	**10.73**	**4**	P	**Pn**	**04 28 25.2**	**+1.3**
YHNB	**Yeheng**	**10.73**	**4**	Pn	**Pn**	**04 28 22.0**	**-1.8**
YOJ	**Yonaguni jima**	**10.75**	**12**	P	**Pn**	**04 28 25.7**	**+1.6**
YOJ	**Yonaguni jima**	**10.75**	**12**		**Pn**	**04 28 22.2**	**-1.9**
YOJ	**Yonaguni jima**	**10.75**	**12**	P	**Pn**	**04 28 22.2**	**-1.9**
QZH	**Quanzhou**	**11.11**	**351**	⇓*i*P	**Pn**	**04 28 27.8**	**-1.1**
QZH				pmax	pmax		
comp=Z,220nm,0.7s							
SGSI	**Sangihe**	**11.32**	**154**	P	**Pn**	**04 28 34.0**	**+2.3**
163nm,1.0s							
QIZ	**Qiongzhong**	**11.41**	**298**	P	**Pn**	**04 28 34.1**	**+1.2**
QIZ	**Qiongzhong**	**11.41**	**298**	P	**Pn**	**04 28 33.2**	**+0.3**
QIZ				S	**Sn**	**04 30 41.0**	**+2.1**
QIZ				pmax	pmax		
comp=Z,57nm,1.1s							
QIZ				pmax	pmax		
comp=Z,700nm,4.3s							
QIZ				LR	LR		
comp=N,2μm,15.1s							
QIZ				LR	LR		
comp=E,670nm,16.8s							
QIZ				LR	LR		
comp=Z,660nm,13.5s							
QIZ	**Qiongzhong**	**11.41**	**298**	Pn	**Pn**	**04 28 32.9**	**0.0**
DLV	**T Lat**	**11.87**	**262**	P	**P**	**04 28 43.7**	**-2.6**
DLV	**T Lat**	**11.87**	**262**	Pn	**Pn**	**04 28 40.6**	**+1.5**
TOLI2	**Tolitoli**	**12.73**	**179**	P	**Pn**	**04 28 52.4**	**+2.3**
TOLI2	**Tolitoli**	**12.73**	**179**	Pn	**Pn**	**04 28 52.8**	**+2.7**
GTOI	**Gorontalo**	**13.43**	**169**	P	**Pn**	**04 28 59.9**	**+0.8**
73nm,1.2s							
MRSI	**Marisa**	**13.43**	**174**	P	**P**	**04 29 02.6**	**-0.9**
197nm,0.8s,2μm							
KMSI	**Cibinong**	**13.70**	**165**	P	**P**	**04 29 05.9**	**-0.6**
SBUM	**Sibu**	**14.03**	**216**	Pn	**P**	**04 29 09.0**	**-1.1**
UBPT	**Khong Chiam**	**14.61**	**277**		**P**	**04 29 15.9**	**-0.6**
TNTI	**Ternate**	**14.73**	**152**	Pn	**Pn**	**04 29 14.7**	**-0.8**
TNTI	**Ternate**	**14.73**	**152**	P	**P**	**04 29 18.1**	**+0.2**
48nm,0.8s							
JOW	**Kunigami**	**14.76**	**28**	P	**P**	**04 29 17.8**	**-0.4**
JOW	**Kunigami**	**14.76**	**28**	Pn	**Pn**	**04 29 13.2**	**-2.7**
JOW	**Kunigami**	**14.76**	**28**	P	**Pn**	**04 29 16.6**	**+0.7**
67nm,0.7s,baz=229,slow=8.6,SNR=9.4							
JOW				LR	LR	04 34 06.1	
comp=Z,248nm,19.4s,baz=310,slow=34							
GULI	**GuiLin**	**14.79**	**321**	⇑P	**P**	**04 29 21.5**	**+3.0**
GULI				pmax	pmax		
comp=Z,90nm,0.8s							
GULI				LR	LR		
comp=N,1μm,15.1

PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,310nm,7.3s
PZH LR LR
comp=N,200nm,14.3s
PZH LR LR
comp=E,320nm,15.9s
PZH LR LR
comp=Z,450nm,15.3s
LYN LuoYang 21.79 342 ⇓P **P 04 30 36.2 +1.5**
LYN pP pP 04 31 04.4 +4.1
LYN PP **PnPn 04 31 09.3 +4.6**
LYN S **S 04 34 23.8 -2.6**
LYN PcP **PcP 04 34 28.7 -0.7**
LYN sS sS 04 35 10.6 +0.1
LYN SS **SnSn 04 35 17.1 +10**
LYN pmax pmax
comp=Z,280nm,0.8s
LYN pmax pmax
comp=Z,350nm,3.6s
KMPI Kaimana, Papua 21.84 142 P **P 04 30 35.6 +0.2**
249nm,0.8s,2μm
JTU Tsushima 22.04 20 P **P 04 30 38.0 +0.7**
GRJI Gresik 22.18 202 P **P 04 30 41.6 +2.8**
422nm,1.1s
TIA Tai'an 22.40 353 P **P 04 30 40.2 -0.7**
TIA pmax pmax
comp=Z,63nm,0.7s
ABJI Asem Bagus 22.45 196 P **P 04 30 43.9 +2.4**
178nm,1.9s,2μm
MMRI Maumere 22.48 175 P **P 04 30 42.6 +0.9**
MMRI Maumere 22.48 175 P **P 04 30 43.5 +1.8**
277nm,1.0s,5μm
SRBI Singaraja 22.48 194 P **P 04 30 44.6 +2.8**
360nm,1.1s,3μm
EDFI Ende, Flores 22.55 177 P **P 04 30 43.2 +0.6**
BLJI Banyuglugur 22.59 198 P **P 04 30 45.7 +2.9**
148nm,0.8s,2μm
XAN Xi'an 22.61 334 ⇑P **P 04 30 42.2 -0.8**
XAN S **S 04 34 37.4 -2.8**
XAN pmax pmax
comp=Z,180nm,0.7s
PLAI Plampang 22.76 187 P **P 04 30 47.1 +2.6**
PLAI Plampang 22.76 187 P **P 04 30 46.6 +2.1**
434nm,1.4s,4μm
TWSI Taliwang, Sumb 22.80 189 P **P 04 30 46.8 +2.0**
74nm,0.7s,958nm
CD2 Chengdu 22.87 320 P **P 04 30 46.4 +1.0**
CD2 S **S 04 34 50.9 +6.5**
CD2 pmax pmax
comp=Z,60nm,0.7s
CD2 pmax pmax
comp=Z,600nm,4.4s
CD2 LR LR
comp=N,2μm,15.2s
CD2 LR LR
comp=E,1μm,15.2s
CD2 LR LR
comp=Z,400nm,11.4s
DNP Denpasar 23.05 193 P **P 04 30 49.3 +2.1**
SMRI Semarang 23.10 206 P **P 04 30 49.2 +1.6**
SMRI Semarang 23.10 206 P **P 04 30 51.2 +3.6**
341nm,1.0s
JAGI Jajag, Banyuwa 23.12 196 P **P 04 30 50.5 +2.7**
JAGI Jajag, Banyuwa 23.12 196 P **P 04 30 49.3 +1.5**
JAGI Jajag, Banyuwa 23.12 196 P **P 04 30 50.3 +2.5**
193nm,0.9s,2μm
JMN Monobe 23.16 29 P **P 04 30 48.6 +0.5**
JMN Monobe 23.16 29 P **P 04 30 46.9 -1.3**
TJN Taejon 23.20 14 P **P 04 30 47.7 -0.6**
TJN Taejon 23.20 14 P **P 04 30 47.2 -1.1**
TJN Taejon 23.20 14 P **P 04 30 47.2 -1.1**
PWJI Pagerwojo 23.44 202 P **P 04 30 52.8 +2.0**
176nm,1.0s,1μm
TNCH TengChong 23.44 301 P **P 04 30 51.9 +0.9**
TNCH pP pP 04 31 19.8 +2.5
TNCH S **S 04 34 56.1 +2.1**
TNCH pmax pmax
comp=Z,36nm,1.0s
TNCH pmax pmax
comp=Z,330nm,4.8s
BKNI Bangkinang 23.52 237 P **P 04 30 53.0 +1.5**
BKNI IAmb IAmb 04 30 54.0
comp=Z,116nm,0.6s
GUMO Guam 23.68 88 P **P 04 30 51.4 -1.5**
GUMO Guam 23.68 88 P **P 04 30 51.6 -1.3**
comp=Z,77nm,0.3s,baz=229,slow=3.7,SNR=4.1
GUMO LR LR 04 38 52.1
comp=Z,183nm,20.6s,baz=270,slow=33
comp=Z,77nm,0.3s
SOEI Soe 23.82 171 P **P 04 30 54.0 -0.3**
SOEI Soe 23.82 171 P **P 04 30 54.7 +0.4**
UGM Wanagama 23.84 205 P **P 04 30 55.4 +1.0**
UGM Wanagama 23.84 205 P **P 04 30 56.4 +2.0**
UGM Wanagama 23.84 205 P **P 04 30 56.8 +2.4**
comp=Z,213nm,1.3s
YOGI Yogyakarta 23.85 206 P **P 04 30 57.6 +3.1**
HNS HongShan 23.95 349 ⇑P **P 04 30 55.3 +0.2**
HNS S **S 04 35 03.6 +2.2**
HNS pmax pmax
comp=Z,170nm,0.9s
HNS LR LR
comp=Z,540nm,15.9s
HNS LR LR
comp=Z,270nm,15.9s
BASI Baing, Sumba 23.98 180 P P 04 31 03.3 +7.7
INCN Inchon 24.10 12 P **P 04 30 55.6 -0.9**
INCN Inchon 24.10 12 P **P 04 30 55.6 -0.9**
INCN pmax pmax
comp=Z,62nm,0.9s
JCJ Chichijima 24.12 54 P **P 04 30 57.0 +0.1**
JCJ Chichijima 24.12 54 P **P 04 30 55.7 -1.2**
JCJ Chichijima 24.12 54 P **P 04 30 54.8 -2.1**
comp=Z,166nm,0.7s,baz=218,slow=16,SNR=6.9
JCJ LR LR 04 39 22.4
comp=Z,141nm,20.2s,baz=230,slow=34
comp=Z,166nm,0.7s
BATI Baumata 24.18 172 P **P 04 30 57.8 +0.4**
KSRS Korea Array 24.36 14 P **P 04 30 58.0 -0.8**
comp=Z,14nm,0.8s,baz=193,slow=9.8,SNR=36
KSRS PcP **PcP 04 34 34.7 +0.1**
comp=Z,1.7nm,0.7s,baz=210,slow=3.4,SNR=1.7
KSRS LR LR 04 40 53.5
comp=Z,187nm,19.8s,baz=180,slow=37
comp=Z,14nm,0.8s
KS19 Wonju Array Si 24.39 14 P **P 04 30 57.7 -1.4**
KCSI Kotacane, Aceh 24.69 247 P **P 04 31 02.6 +0.4**
PDSI Padang 24.72 235 P **P 04 31 03.5 +1.1**
comp=Z,72nm,0.8s,comp=Z,4μm
LHMI Lhok Sumawe 24.75 252 P **P 04 31 06.6 +3.9**
comp=Z,172nm,1.0s
TIY Taiyuan 24.76 345 *e*P **P 04 31 02.1 -0.5**
TIY pmax pmax
comp=Z,40nm,0.5s
BBJI Bungbulang 24.78 212 P **P 04 31 05.5 +2.5**
LWLI Liwa 24.90 222 P **P 04 31 06.6 +2.4**
comp=Z,129nm,0.5s
DL2 Dalian 24.91 2 P **P 04 31 03.3 -0.5**
DL2 pmax pmax
comp=Z,140nm,0.6s
CNJI Cibinong 24.92 213 P **P 04 31 07.0 +2.9**
comp=Z,51nm,1.1s
MLSI Meulaboh, Aceh 25.62 250 P **P 04 31 12.6 +2.0**
comp=Z,52nm,0.6s
JAY Jayapura 25.85 128 P **P 04 31 11.9 -0.8**
comp=Z,41nm,1.2s
JAY Jayapura 25.85 128 P **P 04 31 12.6 -0.1**
JAY pmax pmax
comp=Z,41nm,1.2s
GSI Gunungsitoli 25.91 243 P **P 04 31 13.1 -0.1**
GSI IAmb IAmb 04 31 14.2
comp=Z,80nm,0.9s
GSI **PcP 04 34 39.6 +1.0**
GSI Gunungsitoli 25.91 243 P **P 04 31 13.1 -0.1**
comp=Z,96nm,0.8s
INU Inuyama 26.01 32 P **P 04 31 12.7 -1.2**
SISI Saibi 26.07 236 P **P 04 31 16.5 +1.9**
comp=Z,157nm,1.1s
BJT Baijiatuau 26.27 352 P **P 04 31 16.6 +0.4**
BJT Baijiatuau 26.27 352 P **P 04 31 16.5 +0.3**
BJT IAmb IAmb 04 31 18.0
comp=Z,257nm,1.7s
BJT Baijiatuau 26.27 352 P **P 04 31 16.5 +0.3**
BJT pmax pmax
comp=Z,257nm,1.7s
BJI Beijing 26.30 352 P **P 04 31 16.2 -0.1**
BJI pmax pmax
comp=Z,39nm,1.2s
BJI pmax pmax
comp=Z,220nm,3.5s
JGF Kuroka 26.39 32 P **P 04 31 16.7 -0.6**
JGF Kuroka 26.39 32 P **P 04 31 15.5 -1.7**
LZH Lanzhou 26.66 329 *e*P **P 04 31 20.8 +0.9**
LZH pP pP 04 31 50.3 +1.0
LZH sP sP 04 32 07.7 +2.2
LZH PcP **PcP 04 34 41.8 +1.6**
LZH S **S 04 35 44.1 -0.7**
LZH SS **SnSn 04 37 07.0 +1.9**
LZH pmax pmax
comp=Z,89nm,1.0s
LZH pmax pmax
comp=Z,370nm,4.1s
LZH LR LR
comp=Z,980nm,15.0s
LZH LR LR
comp=Z,750nm,13.6s
LZH LR LR
comp=Z,430nm,18.5s
MAJO Matsushiro 27.55 32 P **P 04 31 24.7 -2.9**
MAJO Matsushiro 27.55 32 *i* P **P 04 31 26.2 -1.4**
MAJO pmax pmax
comp=Z,9.0nm,1.0s
MJAR Matsushiro Arr 27.55 32 P **P 04 31 25.0 -2.6**
comp=Z,5.9nm,0.9s,baz=215,slow=7.7,SNR=13
MJAR PcP **PcP 04 34 41.9 -0.2**
comp=Z,4.0nm,0.7s,baz=175,slow=2.6,SNR=7.0
comp=Z,5.9nm,0.9s
MJB9 Matsu-Tunnel 27.55 32 P **P 04 31 25.8 -1.9**
SNY Shenyang 27.93 5 ⇓P **P 04 31 30.8 -0.2**
SNY S **S 04 36 09.0 +4.6**
SNY pmax pmax
comp=Z,33nm,0.7s
SNY pmax pmax
comp=Z,290nm,3.6s
SNY LR LR
comp=Z,170nm,5.0s
SNY LR LR
comp=Z,510nm,4.7s
SNY LR LR
comp=Z,390nm,5.1s
HHC Hu-ho-hao-te 27.94 345 ⇑*i*P **P 04 31 31.9 +0.7**
HHC pP pP 04 32 01.3 +0.1
HHC *e*S **S 04 36 08.0 +3.2**
HHC SS **SnSn 04 37 42.6 +6.5**
HHC pmax pmax
comp=Z,72nm,1.4s
HHC pmax pmax
comp=Z,98nm,4.2s
BTO Baotou 28.12 343 *e*P **P 04 31 35.0 +2.2**
BTO pP **pP 04 32 04.7 +1.9**
BTO sP **sP 04 32 21.3 +2.2**
BTO PP **PnPn 04 32 32.5 +3.8**
BTO S **S 04 36 09.9 +2.3**
BTO sS **sS 04 37 02.3 +2.1**
BTO SS **SnSn 04 37 46.4 +5.9**
BTO pmax pmax
comp=Z,81nm,0.5s
BTO pmax pmax
comp=Z,570nm,6.5s
BTO LR LR
comp=Z,570nm,14.0s
BTO LR LR
comp=Z,870nm,14.2s
BTO LR LR
comp=Z,430nm,13.9s
MTN Manton Dam 28.60 158 P **P 04 31 36.0 -1.1**
SHL Shillong 29.25 298 P **P 04 31 43.4 +0.4**
SHL IAmb IAmb 04 31 45.1
comp=Z,46nm,0.7s
SHL Shillong 29.25 298 P **P 04 31 43.4 +0.4**
SHL pmax pmax
comp=Z,46nm,0.7s
JMM Marumori 29.90 33 P **P 04 31 47.2 -1.2**
PSTR Posyet 29.98 15 *i* P **P 04 31 49.4 +0.3**
CN2 Changchun 30.08 7 P **P 04 31 48.3 -1.6**
CN2 pmax pmax
comp=Z,20nm,0.6s
XLT XiLinHaoTe 30.12 354 *e*P **P 04 31 50.7 +0.3**
XLT pmax pmax
comp=Z,40nm,1.0s
GTA Gaotai 31.25 328 P **P 04 32 01.4 +0.9**
GTA pP pP 04 32 35.0 +4.7
GTA PcP **PcP 04 34 52.6 +0.9**
GTA S **S 04 36 57.7 +1.0**
GTA SS **SnSn 04 38 57.3 +0.7**
GTA pmax pmax
comp=Z,65nm,1.6s
GTA pmax pmax
comp=Z,230nm,4.9s
GTA LR LR
comp=Z,550nm,17.5s
GTA LR LR
comp=Z,370nm,16.7s
GTA LR LR
comp=Z,430nm,14.5s
LSA Lhasa 31.32 305 P **P 04 32 04.0 +2.4**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 31.32 305 P **P 04 32 02.7 +1.1**
LSA Lhasa 31.32 305 P **P 04 32 02.7 +1.1**
LSA pmax pmax
comp=Z,34nm,1.3s
MDJ Mudanjiang 31.56 12 P **P 04 32 02.5 -0.5**
MDJ pP pP 04 32 31.7 -1.5
MDJ sP sP 04 32 48.0 -1.4
MDJ sS sS 04 37 59.2 +5.2
MDJ PcS **PcS 04 38 29.8 -6.8**
MDJ ScS **ScS 04 42 18.8 -1.6**
MDJ pmax pmax
comp=Z,26nm,0.8s
MDJ pmax pmax
comp=Z,150nm,3.8s
MDJ LR LR
comp=Z,290nm,14.8s
MDJ Mudanjiang 31.56 12 P **P 04 32 02.2 -0.8**
USA0B Ussuriysk Arra 31.74 16 P **P 04 32 03.7 -0.8**
USA0B Ussuriysk Arra 31.74 16 *i* P **P 04 32 04.9 +0.4**
USRK Ussuriysk Ar. 31.74 16 P **P 04 32 04.0 -0.5**
USRK Ussuriysk Ar. 31.74 16 P **P 04 32 04.3 -0.2**
comp=Z,22nm,0.7s,baz=204,slow=7.7,SNR=43
USRK PcP **PcP 04 34 51.7 -0.9**
comp=Z,2.0nm,0.5s,baz=234,slow=2.9,SNR=4.1
USRK LR LR 04 44 22.5
comp=Z,137nm,20.6s,baz=206,slow=35
comp=Z,22nm,0.7s
GOMU GeErMu 31.96 319 P **P 04 32 08.7 +1.6**
GOMU S **S 04 37 02.0 -6.4**
GOMU pmax pmax
comp=Z,30nm,1.2s
GOMU LR LR
comp=Z,1μm,18.8s
GOMU LR LR
comp=Z,680nm,18.0s
GOMU LR LR
comp=Z,610nm,20.0s
FITZ Fitzroy Crossi 32.22 171 P **P 04 32 09.0 +0.1**
FITZ Fitzroy Crossi 32.22 171 P **P 04 32 08.1 -0.9**
BNX BinXian 32.25 9 ⇓P **P 04 32 08.8 -0.2**
BNX pmax pmax
comp=Z,68nm,1.0s
ERM Erimo 34.19 31 P **P 04 32 26.2 +0.3**
JEM Erimo 34.20 31 P **P 04 32 26.4 +0.5**
MBWA Marble Bar 34.87 181 P **P 04 32 31.6 -0.3**
MBWA Marble Bar 34.87 181 P **P 04 32 31.5 -0.3**
MBWA IAmb IAmb 04 32 32.9
comp=Z,70nm,0.8s
MBWA Marble Bar 34.87 181 P **P 04 32 32.0 +0.2**
MBWA PcP **PcP 04 35 01.9 +0.1**
PMG Port Moresby 35.17 130 P **P 04 32 34.6 0.0**
HIA Hailar 35.25 359 P **P 04 32 34.4 -0.5**
HIA Hailar 35.25 359 P **P 04 32 34.4 -0.5**
HIA pmax pmax
comp=Z,13nm,0.8s
PSA00 Pilbara Seismi 35.28 181 P **P 04 32 35.3 -0.1**
PSA00 Pilbara Seismi 35.28 181 P **P 04 32 35.5 +0.1**
PSA00 Pilbara Seismi 35.28 181 P **P 04 32 35.2 -0.2**
PSA00 IAmb IAmb 04 32 36.6
comp=Z,49nm,0.8s
ASAJ Asahikawa 35.53 28 P **P 04 32 37.1 -0.2**
comp=Z,26nm,0.7s,baz=237,slow=11,SNR=20
comp=Z,26nm,0.7s
JKA Kamikawa-asahi 35.53 28 P **P 04 32 35.5 -1.9**
JKA IAmb IAmb 04 32 38.6
comp=Z,39nm,0.9s
ULN Ulaanbaatar 35.65 344 P **P 04 32 38.2 -0.2**
ULN Ulaanbaatar 35.65 344 *ce*P **P 04 32 38.8 +0.3**
ULN pmax pmax
comp=Z,165nm,1.6s
ULN Ulaanbaatar 35.65 344 P **P 04 32 39.0 +0.5**
ULN PcP **PcP 04 35 04.7 +0.7**
COEN Coen 35.66 140 P **P 04 32 38.1 -0.7**
COEN Coen 35.66 140 P **P 04 32 38.2 -0.6**
SONM Songino Array 35.79 344 P **P 04 32 40.2 +0.5**
SONM IAmb IAmb 04 32 41.4
comp=Z,58nm,0.7s
SONM Songino Array 35.79 344 P **P 04 32 40.0 +0.3**
comp=Z,51nm,0.6s,baz=164,slow=9.9,SNR=268
SONM PcP **PcP 04 35 04.4 +0.1**
comp=Z,3.2nm,0.6s,baz=160,slow=3.5,SNR=4.2
SONM S **S 04 38 06.8 +0.1**
comp=Z,0.4nm,0.4s,baz=213,slow=6.9,SNR=1.9
comp=Z,51nm,0.6s
WB0 Warramunga Arr 36.16 157 P **P 04 32 42.3 -0.7**
WB0 IAmb IAmb 04 32 43.1
comp=Z,58nm,0.8s
WRAB Tennant Creek 36.30 158 P **P 04 32 43.6 -0.5**
WRAB Tennant Creek 36.30 158 ⇑*i*P **P 04 32 43.5 -0.6**
WRAB pmax pmax
comp=Z,135nm,1.5s
WRA Warramunga Arr 36.30 158 P **P 04 32 42.5 -1.7**
WRA Warramunga Arr 36.30 158 P **P 04 32 43.4 -0.8**
comp=Z,40nm,0.5s,baz=336,slow=9.5,SNR=329
WRA PcP **PcP 04 35 05.6 -0.6**
comp=Z,3.2nm,0.7s,baz=336,slow=3.0,SNR=1.3
WRA S **S 04 38 11.4 -3.3**
comp=Z,3.2nm,0.7s,baz=330,slow=13,SNR=6.1
comp=Z,40nm,0.5s
WRA Warramunga Arr 36.30 158 *i* P **P 04 32 43.2 -1.0**
WRA pmax pmax
comp=Z,50nm,0.5s
WB2 Warramunga Arr 36.31 158 P **P 04 32 43.6 -0.6**
WR0 Warramunga Arr 36.39 157 P **P 04 32 44.1 -0.8**
KLR Kul'dur 36.41 12 P **P 04 32 44.2 -0.5**
comp=Z,41nm,0.8s,baz=231,slow=7.8,SNR=121
KLR PcP **PcP 04 35 05.7 -0.3**
comp=Z,4.9nm,0.5s,baz=213,slow=4.3,SNR=6.1
KLR LR LR 04 48 12.3
comp=Z,106nm,21.0s,baz=186,slow=37
comp=Z,41nm,0.8s
KLR Kul'dur 36.41 12 *ce*P **P 04 32 44.6 -0.2**
KLR pmax pmax
comp=Z,56nm,0.9s
HEH HeiHe 36.67 7 *e*P **P 04 32 47.2 +0.2**
HEH pmax pmax
comp=Z,69nm,1.0s
GIRL Giralia 36.85 190 P **P 04 32 48.5 -0.3**
YUK Yuzh-Kuril'sk 37.02 31 *i* P **P 04 32 50.8 +0.8**
YSS Yuzh-Sakhalins 37.84 25 *e*P **P 04 32 56.5 -0.3**
YSS *e*S **S 04 38 38.1 +0.7**
YSS pmax pmax
comp=Z,50nm,0.5s
YSS pmax pmax
comp=Z,200nm,3.6s
CIT Chita 38.41 353 *e*P **P 04 33 01.8 +0.1**
CIT *e* 04 33 35.0
CIT *e* 04 33 46.4
CIT *e* 04 34 41.6
CIT pmax pmax
comp=Z,118nm,1.5s
GRNR Gornyy 38.96 16 ⇓*i*P **P 04 33 06.9 +0.7**
GRNR pmax pmax
comp=Z,20nm,1.1s
ZAK Zakamensk 38.97 342 *e*P **P 04 33 05.5 -0.9**
ZAK pmax pmax
comp=Z,26nm,1.0s
QIS Mount Isa 39.07 151 P **P 04 33 07.1 -0.4**
WRKA Warakurna 39.46 169 P **P 04 33 11.0 +0.3**
MTSU Mount Surprise 39.58 143 P **P 04 33 12.4 +0.7**
AS31 Alice Springs 39.59 161 P **P 04 33 11.5 -0.2**
ASAR Alice Springs 39.59 161 P **P 04 33 12.0 +0.2**
ASAR Alice Springs 39.59 161 P **P 04 33 11.8 0.0**
comp=Z,59nm,0.8s,baz=335,slow=7.2,SNR=322
ASAR PcP **PcP 04 35 15.7 -0.6**
comp=Z,8.0nm,0.8s,baz=350,slow=3.8,SNR=5.6
ASAR ScP **ScP 04 38 49.9 -2.1**
comp=Z,2.2nm,0.9s,baz=352,slow=4.0,SNR=4.9
ASAR S **S 04 39 00.8 -3.4**
comp=Z,4.7nm,0.8s,baz=350,slow=22,SNR=10
ASAR LR LR 04 53 43.6
comp=Z,53nm,18.2s,baz=354,slow=42
comp=Z,59nm,0.8s
ASAR Alice Springs 39.59 161 P **P 04 33 12.0 +0.2**
AS01 Alice Springs 39.60 160 P **P 04 33 12.1 +0.2**
ZEA Zeya 40.08 6 *e*P **P 04 33 15.7 +0.3**
ZEA pmax pmax
comp=Z,20nm,0.5s
MEEK Meekatharra 40.35 183 P **P 04 33 18.4 +0.4**
HYB Hyderabad 40.48 281 *e*P **P 04 33 21.2 +1.9**
MOY Mondy 40.79 341 *e*P **P 04 33 21.6 +0.1**
MOY pmax pmax
comp=Z,60nm,2.0s
WMQ Urumqi 40.91 323 ⇑P **P 04 33 24.3 +1.8**
WMQ pmax pmax
comp=Z,44nm,1.1s
WMQ pmax pmax
comp=Z,350nm,3.7s
WMQ LR LR
comp=Z,1μm,13.1s
WMQ LR LR
comp=Z,600nm,16.1s
WMQ LR LR
comp=Z,300nm,16.5s
TYV Tymovskoe 40.99 21 *e*P **P 04 33 23.8 +0.9**
TYV pmax pmax
comp=Z,100nm,7.8s
TYV pmax pmax
comp=Z,15nm,1.2s
CTAO Charters Tower 42.24 143 P **P 04 33 34.5 +1.0**
CTAO Charters Tower 42.24 143 P **P 04 33 34.1 +0.6**
CTAO IAmb IAmb 04 33 35.6
comp=Z,110nm,1.0s
CTAO Charters Tower 42.24 143 P **P 04 33 34.1 +0.6**
CTAO pmax pmax
comp=Z,111nm,1.0s
CTAO Charters Tower 42.24 143 P **P 04 33 34.3 +0.8**
CTAO PcP **PcP 04 35 25.4 +0.4**
MORW Morawa 42.95 186 P **P 04 33 39.2 +0.1**
MORW Morawa 42.95 186 P **P 04 33 39.3 +0.3**
MORW IAmb IAmb 04 33 40.2
comp=Z,81nm,0.9s
OOD Oodnadatta 44.00 160 P **P 04 33 47.4 -0.1**
BOD Bodaibo 44.09 355 *e*P **P 04 33 48.0 +0.2**
BOD pmax pmax
comp=Z,38nm,1.6s
BLDU Ballidu 44.43 185 P **P 04 33 50.7 -0.2**
ZSN Zaisan 44.67 326 *e*P **P 04 33 53.3 +0.7**
baz=326
ZSN *e*S **S 04 40 19.9 +1.5**
baz=326
ZSN Zaisan 44.67 326 *e*P **P 04 33 53.3 +0.7**
ZSN *e*S **S 04 40 19.8 +1.5**
FORT Forrest 45.03 171 P **P 04 33 56.8 +1.2**
FORT Forrest 45.03 171 P **P 04 33 55.9 +0.3**
KMBL Kambalda 45.05 178 P **P 04 33 56.1 +0.3**
SHLS Shalkode 45.66 318 *e*P **P 04 33 59.6 -1.2**
comp=Z,61nm,0.8s,baz=318
SHLS Shalkode 45.66 318 *e*P **P 04 33 59.5 -1.2**
SHLS pmax pmax
comp=Z,61nm,0.8s
MK31 Makanchi Array 45.74 324 P **P 04 34 02.0 +0.8**
MK31 Makanchi Array 45.74 324 *i* P **P 04 34 01.9 +0.8**
MK31 pmax pmax
comp=Z,48nm,0.7s
MKAR Makanchi Array 45.74 324 P **P 04 34 02.2 +1.1**
comp=Z,34nm,0.7s,baz=126,slow=8.8,SNR=184
MKAR PcP **PcP 04 35 36.7 +0.1**
comp=Z,14nm,0.8s,baz=114,slow=6.0,SNR=6.9
MKAR ScP **ScP 04 39 14.6 -1.9**
comp=Z,2.0nm,0.9s,baz=138,slow=5.8,SNR=3.9
MKAR S **S 04 40 34.6 +0.7**
comp=Z,0.8nm,0.8s,baz=129,slow=11,SNR=3.5
comp=Z,34nm,0.7s
INKA Innaminka 45.83 155 P **P 04 34 03.5 +1.5**
MULG Mulgathing 45.85 164 P **P 04 34 01.7 -0.4**

MAKZ Makanchi 45.93 323 P **P** **04 34 01.9 -0.7**
MAKZ IAmb IAmb 04 34 05.0
comp=Z,36nm,0.7s
MAKZ Makanchi 45.93 323 P **P** **04 34 01.9 -0.7**
MAKZ pmax pmax
comp=Z,36nm,0.7s
MAKZ Makanchi 45.93 323 P **P** **04 34 03.3 +0.7**
MAKZ PcP **PcP** **04 35 37.6 +0.4**
UZB Uzynbulak 45.94 318 *eP* **P** **04 34 03.9 +0.9**
comp=Z,53nm,0.7s,baz=318
UZB Uzynbulak 45.94 318 *eP* **P** **04 34 03.8 +0.9**
UZB pmax pmax
comp=Z,53nm,0.7s
PRZ Przheval'sk 46.07 316 P **P** **04 34 04.5 +0.6**
PRZ IAmb IAmb 04 34 07.8
comp=Z,91nm,1.0s
PRZ Przheval'sk 46.07 316 P **P** **04 34 04.6 +0.6**
PRZ pmax pmax
comp=Z,91nm,1.0s
TARG Taragay, Kyrgy 46.15 315 P **P** **04 34 06.8 +1.9**
TARG Taragay, Kyrgy 46.15 315 P **P** **04 34 06.8 +1.9**
TARG pmax pmax
comp=Z,25nm,0.8s
KWJN Gagan, Kwajale 46.26 90 P **P** **04 34 08.2 +2.5**
KPKS Kokpek 46.31 318 *eP* **P** **04 34 06.3 +0.5**
baz=318
KPKS *e*S **S** **04 40 43.4 +1.1**
baz=318
KPKS Kokpek 46.31 318 *eP* **P** **04 34 06.2 +0.5**
KPKS *e*S **S** **04 40 43.3 +1.1**
SATY Saty 46.31 317 *eP* **P** **04 34 06.7 +0.9**
baz=317
SATY Saty 46.31 317 *eP* **P** **04 34 06.7 +0.9**
ZHN Zhinishke 46.34 317 *eP* **P** **04 34 06.1 +0.1**
baz=317
ZHN Zhinishke 46.34 317 *eP* **P** **04 34 06.9 +0.9**
KSH Kashi 46.61 312 P **P** **04 34 11.6 +3.4**
KSH pP pwP 04 34 42.6 +0.2
KSH PcP **PcP** **04 35 41.5 +1.6**
KSH S **S** **04 40 51.2 +4.5**
KSH pmax pmax
comp=Z,37nm,0.7s
KSH pmax pmax
comp=Z,140nm,3.8s
NWAO Narrogin (SRO) 46.69 184 P **P** **04 34 08.3 -0.3**
comp=Z,133nm,1.0s
NWAO Narrogin (SRO) 46.69 184 P **P** **04 34 09.0 +0.4**
NWAO IAmb IAmb 04 34 09.7
comp=Z,66nm,0.8s
NWAO Narrogin (SRO) 46.69 184 P **P** **04 34 09.0 +0.4**
NWAO pmax pmax
comp=Z,66nm,0.8s
NWAO Narrogin (SRO) 46.69 184 P **P** **04 34 08.8 +0.2**
NIL Nilore 47.02 303 P **P** **04 34 11.6 +0.2**
NIL Nilore 47.02 303 P **P** **04 34 11.6 +0.2**
NIL pmax pmax
comp=Z,40nm,0.9s
NIL Nilore 47.02 303 P **P** **04 34 12.6 +1.2**
TDK Taldyqorghan 47.18 320 *eP* **P** **04 34 13.4 +1.0**
comp=Z,99nm,0.6s,baz=320
TDK Taldyqorghan 47.18 320 *eP* **P** **04 34 13.4 +1.0**
TDK pmax pmax
comp=Z,99nm,0.6s
MDOK Medeo 47.25 317 *eP* **P** **04 34 13.8 +0.6**
baz=317
MDOK Medeo 47.25 317 *eP* **P** **04 34 13.8 +0.6**
LCRK Leigh Creek 47.30 159 P **P** **04 34 14.3 +1.0**
AAA Alma-Ata 47.36 317 *eP* **P** **04 34 14.8 +0.9**
baz=317
AAA Alma-Ata 47.36 317 *eP* **P** **04 34 14.8 +0.9**
ULHL Ulahol 47.43 315 P **P** **04 34 16.5 +1.9**
SNR=11
CHKK Chushkaly 47.58 318 *eP* **P** **04 34 16.2 +0.6**
baz=318
CHKK Chushkaly 47.58 318 *eP* **P** **04 34 16.1 +0.6**
BOOM Boomskoye usch 47.73 315 P **P** **04 34 18.2 +1.3**
BOOM IAmb IAmb 04 34 19.7
comp=Z,73nm,1.4s
BOOM Boomskoye usch 47.73 315 P **P** **04 34 18.2 +1.3**
BOOM pmax pmax
comp=Z,73nm,1.4s
TKM2 Tokmak 2 48.13 316 P **P** **04 34 21.5 +1.5**
SNR=58
TKM2 Tokmak 2 48.13 316 *i* P **P** **04 34 21.0 +1.0**
TKM2 pmax pmax
comp=Z,29nm,0.5s
KBK Karagaybulak 48.47 315 P **P** **04 34 24.6 +2.0**
SNR=38
YAK Yakutsk 48.49 6 LR LR 04 58 17.6
comp=Z,76nm,18.1s,baz=167,slow=40
YAK Yakutsk 48.49 6 *eP* **P** **04 34 21.1 -1.0**
YAK *e**PP **pP** **04 34 50.5 -3.8**
YAK *e* 04 35 45.9
YAK *e* 04 36 15.7
YAK *e*S **S** **04 41 11.7 -0.6**
YAK *e**SS **sS** **04 42 09.4 +1.5**
YAK *e* 04 43 58.8
YAK pmax pmax
comp=Z,71nm,1.0s
YAK pmax pmax
comp=N,26nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,274nm,4.7s
YAK pmax pmax
comp=N,143nm,5.1s
YAK smax smax
comp=N,16nm,1.9s
UCH Uchtor 48.61 315 P **P** **04 34 26.1 +2.1**
SNR=90
CHMS Chumysh 48.73 316 P **P** **04 34 25.7 +1.3**
SNR=17
ZAA0 Zalesovo Array 48.77 333 P **P** **04 34 24.1 -0.4**
ZAA0 IAmb IAmb 04 34 25.7
comp=Z,62nm,1.2s
ZALV Zalesovo Beam 48.77 333 P **P** **04 34 24.0 -0.4**
ZALV Zalesovo Beam 48.77 333 P **P** **04 34 24.4 0.0**
comp=Z,25nm,0.4s,baz=129,slow=7.1,SNR=76
ZALV S **S** **04 41 14.7 -1.8**
comp=Z,1.5nm,0.8s,baz=114,slow=15,SNR=4.8
comp=Z,25nm,0.4s
ZALV Zalesovo Beam 48.77 333 *i* P **P** **04 34 24.3 -0.1**
ZALV pmax pmax
comp=Z,26nm,0.4s
BBOO Buckleboo 48.79 163 P **P** **04 34 24.4 -0.4**
BBOO Buckleboo 48.79 163 P **P** **04 34 24.5 -0.4**
SEM Semipalatinsk 48.86 327 *eP* **P** **04 34 25.9 +0.4**
baz=327
SEM Semipalatinsk 48.86 327 *eP* **P** **04 34 25.8 +0.4**
PEA0B Petropavlovsk- 48.93 29 P **P** **04 34 25.5 -0.2**
PEA0B IAmb IAmb 04 34 26.8
comp=Z,44nm,0.8s
PEA0B Petropavlovsk- 48.93 29 *ceP* **P** **04 34 25.4 -0.2**
PETK Petropavlovsk- 48.93 29 P **P** **04 34 25.3 -0.4**
comp=Z,34nm,0.8s,baz=212,slow=5.3,SNR=50
PETK LR LR 04 56 51.7
comp=Z,20nm,18.5s,baz=229,slow=38
comp=Z,34nm,0.8s
SGDS Sogindy 48.99 316 *eP* **P** **04 34 27.1 +0.7**
baz=316
SGDS Sogindy 48.99 316 *eP* **P** **04 34 27.1 +0.7**
USP Ospenovka 49.01 316 P **P** **04 34 27.9 +1.4**
SNR=32
EIDS Eidsvold 49.13 143 P **P** **04 34 27.0 -0.6**
OHH Osh 49.25 312 P **P** **04 34 29.9 +1.5**
OHH pmax pmax
comp=Z,66nm,1.0s
EKS2 Erkin-Say 49.27 315 P **P** **04 34 30.2 +1.6**
SNR=39
PET Petropavlovsk 49.33 29 P **P** **04 34 28.1 -0.5**
PET Petropavlovsk 49.33 29 *eP* **P** **04 34 28.8 +0.1**
PET *e**SP **sP** **04 35 17.0 +0.3**
PET *e*S **S** **04 41 23.9 -0.3**
PET *e**SS **sS** **04 42 20.1 +0.1**
PET *e*SS **SS** **04 44 55.2 -2.4**
PET pmax pmax
comp=Z,33nm,0.5s
PET pmax pmax
comp=Z,100nm,12.3s
PET MLR MLR
comp=Z,100nm,16.0s
DRK Karamyk 49.65 310 P **P** **04 34 31.6 -0.2**
DRK IAmb IAmb 04 34 34.6
comp=Z,62nm,1.0s
DRK Karamyk 49.65 310 P **P** **04 34 31.6 -0.2**
DRK pmax pmax
comp=Z,62nm,1.0s
STKA Stephens Creek 49.83 156 P **P** **04 34 32.0 -0.7**
STKA Stephens Creek 49.83 156 P **P** **04 34 32.7 0.0**
comp=Z,41nm,0.8s,baz=332,slow=7.9,SNR=48
comp=Z,41nm,0.8s
KURBB Kurchatov Arra 49.90 326 P **P** **04 34 34.0 +0.9**
comp=Z,135nm,1.0s,baz=126,slow=7.8,SNR=361
KURBB PcP **PcP** **04 35 51.0 -0.4**
comp=Z,12nm,1.0s,baz=124,slow=4.2,SNR=5.8
KURBB S **S** **04 41 32.7 +0.4**
comp=Z,0.7nm,0.8s,baz=137,slow=14,SNR=6.6
comp=Z,135nm,1.0s
KURBB Kurchatov Arra 49.90 326 P **P** **04 34 33.4 +0.4**
KURK Kurchatov 49.90 326 P **P** **04 34 33.8 +0.8**
KURK Kurchatov 49.90 326 *ceP* **P** **04 34 33.9 +0.8**
KURK pmax pmax
comp=Z,315nm,0.8s
KURK Kurchatov 49.90 326 ⇑P **P** **04 34 34.0 +1.0**
KURK pP **pP** **04 35 05.1 +0.1**
KURK sP **sP** **04 35 18.5 -2.1**
BTLS Baital 49.99 318 *eP* **P** **04 34 34.6 +0.7**
baz=318
BTLS *e*S **S** **04 41 34.7 +0.9**
baz=318
BTLS Baital 49.99 318 *eP* **P** **04 34 34.5 +0.7**
BTLS *e*S **S** **04 41 34.7 +0.9**
ARK Arkit 50.24 313 P **P** **04 34 37.6 +1.6**
ARK pmax pmax
comp=Z,51nm,1.4s
HTT Hallett 50.26 160 P **P** **04 34 36.8 +0.8**
BTK Batken 50.54 311 P **P** **04 34 38.4 +0.2**
BTK Batken 50.54 311 P **P** **04 34 38.4 +0.2**
BTK pmax pmax
comp=Z,37nm,1.1s
KBL Kabul 50.62 303 P **P** **04 34 40.1 +1.0**
KBL Kabul 50.62 303 P **P** **04 34 40.1 +1.0**
KBL pmax pmax
comp=Z,28nm,0.9s
GAR Garm 50.63 309 P **P** **04 34 39.8 +0.9**
TRKS Terek-Say 50.75 313 P **P** **04 34 41.0 +1.2**
TRKS pmax pmax
comp=Z,67nm,0.8s
MA2 Magadan 50.76 19 P **P** **04 34 38.7 -0.7**
MA2 IAmb IAmb 04 34 40.6
comp=Z,43nm,0.8s
MA2 Magadan 50.76 19 LR LR 04 55 29.9
comp=Z,65nm,21.9s,baz=204,slow=35
MA2 Magadan 50.76 19 *ceP* **P** **04 34 39.8 +0.4**
MA2 pmax pmax
comp=Z,51nm,0.9s
MA2 Magadan 50.76 19 P **P** **04 34 39.6 +0.2**
comp=Z,65nm,0.9s,comp=Z,529nm
MA2 Magadan 50.76 19 P **P** **04 34 39.5 +0.1**
CMSA Cobar Meteorol 51.26 152 P **P** **04 34 44.3 +0.8**
CHGR Chuyangaron 51.42 309 P **P** **04 34 45.3 +0.5**
CHGR IAmb IAmb 04 34 47.6
comp=Z,62nm,0.8s
CHGR Chuyangaron 51.42 309 P **P** **04 34 45.3 +0.5**
CHGR pmax pmax
comp=Z,62nm,0.8s
SIMJ Simiganj 51.53 309 P **P** **04 34 45.7 0.0**
SIMJ Simiganj 51.53 309 P **P** **04 34 46.2 +0.5**
SIMJ PcP **PcP** **04 35 58.5 +0.6**
KK31 Karatay Array 51.68 314 P **P** **04 34 47.0 +0.5**
KK31 IAmb IAmb 04 34 48.7
comp=Z,47nm,0.9s
KK31 Karatay Array 51.68 314 *i* P **P** **04 34 47.3 +0.7**
KKAR Karatay Array 51.68 314 P **P** **04 34 47.2 +0.6**
KKAR Karatay Array 51.68 314 P **P** **04 34 47.1 +0.6**
KKAR IAmb IAmb 04 34 48.7
comp=Z,47nm,0.9s
KKAR Karatay Array 51.68 314 P **P** **04 34 47.2 +0.6**
IUG Iuzhnay 51.72 313 *eP* **P** **04 34 47.9 +0.9**
comp=Z,38nm,0.5s,baz=313
IUG *e*S **S** **04 41 59.7 +1.7**
baz=313
IUG Iuzhnay 51.72 313 *eP* **P** **04 34 47.8 +0.8**
IUG *e*S **S** **04 41 59.7 +1.7**
IUG pmax pmax
comp=Z,38nm,0.5s
BRLS Borolday 52.13 314 *eP* **P** **04 34 50.9 +1.0**
baz=314
BRLS Borolday 52.13 314 *eP* **P** **04 34 50.9 +1.0**
SEY Seymchan 53.86 17 *ceP* **P** **04 35 03.3 +1.1**
SEY pmax pmax
comp=Z,33nm,1.0s
ARPS Mount Arapiles 54.29 159 P **P** **04 35 06.0 +0.4**
YNG Young 54.81 152 P **P** **04 35 09.9 +0.5**
KOUNC Koumac, New Ca 55.01 128 P **P** **04 35 10.5 -0.6**
BVA0 Borovoye Array 55.48 326 *i* P **P** **04 35 14.7 +0.6**
BVAR Borovoye Array 55.48 326 P **P** **04 35 14.8 +0.8**
comp=Z,78nm,0.6s,baz=117,slow=9.3,SNR=333
BVAR S **S** **04 42 48.0 -0.2**
comp=Z,1.3nm,0.6s,baz=134,slow=13,SNR=6.9
BVAR LR LR 04 58 02.2
comp=Z,140nm,20.2s,baz=103,slow=35
comp=Z,78nm,0.6s
BRVK Borovoye 55.55 326 P **P** **04 35 15.4 +0.9**
BRVK Borovoye 55.55 326 *ceP* **P** **04 35 15.3 +0.7**
BRVK pmax pmax
comp=Z,215nm,0.9s
BRVK Borovoye 55.55 326 P **P** **04 35 15.4 +0.9**
BRVK sP **sP** **04 36 00.1 -2.2**
CAN Canberra 55.93 152 P **P** **04 35 17.6 +0.1**
CAN IAmb IAmb 04 35 19.2
comp=Z,29nm,0.8s
CAN Canberra 55.93 152 P **P** **04 35 17.6 +0.1**
CAN pmax pmax
comp=Z,29nm,0.8s
CAN Canberra 55.93 152 P **P** **04 35 18.1 +0.6**
CNB Canberra Magne 56.09 152 P **P** **04 35 19.4 +0.7**
HRA Herat 56.16 302 P **P** **04 35 20.1 +0.7**
TOO Toolangi 56.35 156 P **P** **04 35 20.8 +0.4**
TOO IAmb IAmb 04 35 21.9
comp=Z,39nm,0.8s
TOO Toolangi 56.35 156 P **P** **04 35 20.8 +0.4**
TOO pmax pmax
comp=Z,39nm,0.9s
DVP Devils Point 56.59 122 P **P** **04 35 22.3 -0.1**
SHEM Shemya Is, Ala 57.31 36 LR LR 04 59 11.1
comp=Z,20nm,20.3s,baz=67,slow=35
LIFNC LIFOU 57.43 126 P **P** **04 35 28.9 +0.6**
LIFNC LIFOU 57.43 126 P **P** **04 35 27.9 -0.3**
NOUC Port Laguerre 57.43 128 P **P** **04 35 29.0 +0.7**
DZM Mont Dzumac 57.52 128 P **P** **04 35 30.4 +1.4**
DZM Mont Dzumac 57.52 128 *eP* **P** **04 35 29.3 +0.3**
comp=Z,144nm,0.8s
DZM Mont Dzumac 57.52 128 P **P** **04 35 28.5 -0.5**
DZM Mont Dzumac 57.52 128 P **P** **04 35 29.7 +0.6**
YATNC Mamie plateau, 57.86 128 P **P** **04 35 31.7 +0.4**
TIXI Tiksi 57.92 3 P **P** **04 35 29.7 -1.3**
TIXI Tiksi 57.92 3 LR LR 05 01 38.5
comp=Z,82nm,19.2s,baz=204,slow=37
TIXI Tiksi 57.92 3 *ceP* **P** **04 35 30.4 -0.5**
TIXI pmax pmax
comp=Z,177nm,2.5s
TIXI Tiksi 57.92 3 P **P** **04 35 30.2 -0.8**
OUENC Ouen Island, N 58.02 128 P **P** **04 35 32.9 +0.5**
NRIK Noril'sk 59.16 347 P **P** **04 35 39.2 -0.3**
NRIK Noril'sk 59.16 347 P **P** **04 35 39.4 -0.1**
comp=Z,64nm,0.7s,baz=135,slow=6.6,SNR=55
NRIK S **S** **04 43 34.5 -1.1**
comp=Z,2.0nm,0.3s,baz=132,slow=16,SNR=2.4
comp=Z,64nm,0.7s
NRIK Noril'sk 59.16 347 *ceP* **P** **04 35 39.3 -0.3**
NRIK pmax pmax
comp=Z,94nm,0.9s
GEYT Alibeck 59.85 306 P **P** **04 35 45.7 +0.8**
GEYT Alibeck 59.85 306 P **P** **04 35 46.2 +1.2**
comp=Z,39nm,0.9s,baz=116,slow=3.4,SNR=58
GEYT S **S** **04 43 48.2 +2.6**
comp=Z,1.2nm,0.3s,baz=57,slow=10,SNR=1.2
GEYT LR LR 05 04 36.6
comp=Z,106nm,18.6s,baz=28,slow=39
comp=Z,39nm,0.9s
GYA0 ALIBECK ARRAY 59.85 306 P **P** **04 35 46.6 +1.7**
GYA0B ALIBECK ARRAY 59.85 306 P **P** **04 35 45.7 +0.8**
AB31 Akbulak array 60.44 319 *i* P **P** **04 35 48.8 +0.1**
ABKAR Akbulak array 60.44 319 P **P** **04 35 48.7 +0.1**
ABKAR Akbulak array 60.44 319 P **P** **04 35 49.1 +0.4**
ABKAR IAmb IAmb 04 35 50.5
comp=Z,52nm,0.7s
BILL Bilibino 61.56 18 P **P** **04 35 55.5 -0.4**
BILL Bilibino 61.56 18 *c i*P **P** **04 35 55.8 -0.1**
BILL *e**PP **PcP** **04 36 35.1 -1.1**
BILL *e* 04 38 20.1
BILL *e*PPP PPP 04 39 42.5
BILL *e*S **SPn** **04 44 23.0 +3.5**
BILL pmax pmax
comp=Z,101nm,1.0s
BILL Bilibino 61.56 18 P **P** **04 35 55.8 -0.1**
AKTO Aktyubinsk 61.92 320 P **P** **04 35 59.0 +0.4**
comp=Z,34nm,0.6s,baz=98,slow=7.1,SNR=77
AKTO LR LR 05 04 03.2
comp=Z,159nm,20.8s,baz=165,slow=37
comp=Z,34nm,0.6s
SVE Sverdlovsk 62.11 327 *deP* **P** **04 36 00.4 +0.6**
SVE pmax pmax
comp=Z,167nm,1.1s
ADK Adak 62.45 38 P **P** **04 36 02.1 0.0**
ADK Adak 62.45 38 P **P** **04 36 02.0 0.0**
ADK sP **sP** **04 36 47.4 -3.8**
ARU Arti 63.09 327 P **P** **04 36 06.0 -0.3**
ARU Arti 63.09 327 P **P** **04 36 06.1 -0.2**
comp=Z,46nm,0.6s,baz=113,slow=3.6,SNR=80
ARU S **S** **04 44 25.2 -0.7**
comp=Z,7.4nm,0.2s,baz=58,slow=19,SNR=1.4
ARU LR LR 05 04 20.1
comp=Z,121nm,19.2s,baz=100,slow=36
comp=Z,46nm,0.6s
ARU Arti 63.09 327 *c i*P **P** **04 36 06.0 -0.3**
ARU *PP **pP** **04 36 40.1 +0.4**
ARU 04 38 23.4
ARU S **S** **04 44 26.7 +0.8**
ARU SS **SS** **04 48 35.8 +1.8**
ARU pmax pmax
comp=Z,146nm,1.6s
ARU Arti 63.09 327 P **P** **04 36 06.0 -0.3**
comp=Z,105nm,0.7s,comp=Z,1μm
ARU Arti 63.09 327 P **P** **04 36 06.3 0.0**
ARU PcP **PcP** **04 36 42.0 -0.7**
MSVF Nonsavu 64.90 117 P **P** **04 36 18.7 -0.1**
MSVF Nonsavu 64.90 117 P **P** **04 36 21.2 +2.4**
MSVF IAmb IAmb 04 36 21.8
comp=Z,43nm,0.8s
MSVF Nonsavu 64.90 117 P **P** **04 36 21.2 +2.4**
MSVF pmax pmax
comp=Z,43nm,0.8s
MSVF Nonsavu 64.90 117 P **P** **04 36 20.7 +1.8**
SPIA Saint Paul Isl 67.18 34 P **P** **04 36 33.4 +0.8**
baz=260
NIKH Nikolski High 67.36 38 P **P** **04 36 34.4 +0.5**
baz=263
P08K Saint George I 67.47 34 P **P** **04 36 34.9 +0.5**
baz=261
MAK Makhachkala 68.23 311 *eP* **P** **04 36 38.7 -0.8**
MAK *e**PP **pP** **04 37 15.0 +1.8**
MAK *e* 04 39 11.5
MAK *e*S **S** **04 45 28.0 -0.8**
MAK *e*SS **SS** **04 49 54.7 +0.4**
MAK pmax pmax
comp=Z,16nm,0.3s
MAK MLR MLR
comp=Z,89nm,16.0s
KIRV Kirov 68.37 328 P **P** **04 36 40.3 +0.2**
comp=Z,90nm,0.7s,baz=110,slow=3.2,SNR=32
KIRV LR LR 05 07 58.0
comp=Z,74nm,18.6s,baz=118,slow=37
comp=Z,90nm,0.7s
KIRV Kirov 68.37 328 *ceP* **P** **04 36 39.9 -0.2**
SEKA Sheki 68.44 309 P **P** **04 36 41.2 +0.2**
BELG Belogornoye 68.64 321 P **P** **04 36 42.0 +0.1**
comp=Z,159nm,0.9s,baz=156,slow=1.7,SNR=67
comp=Z,159nm,0.9s
BELG Belogornoye 68.64 321 *i* P **P** **04 36 42.2 +0.3**
BELG pmax pmax
comp=Z,33nm,0.9s
UNV Unalaska Valle 68.85 37 P **P** **04 36 42.4 -0.7**
UNV Unalaska Valle 68.85 37 P **P** **04 36 44.2 +1.1**
baz=265
GANJ Ganja 69.11 308 P **P** **04 36 45.8 +0.7**
GROC Groznyy 69.49 311 P **P** **04 36 47.6 +0.3**
GROC *e* 04 37 09.5
GROC *e**PP **pwP** **04 37 25.3 +1.9**
GROC *e* 04 39 23.6
GROC *e*S **S** **04 45 42.1 -1.5**
GROC pmax pmax
comp=Z,1.0nm,0.3s
M11K Mekoryuk 69.75 30 P **P** **04 36 50.0 +1.4**
baz=262,SNR=6.4
NAX Nakhchivan 69.77 307 P **P** **04 36 49.9 +0.7**
TNA Tin City 69.82 25 P **P** **04 36 49.7 +0.9**
baz=259
GNI Garni 70.33 308 P **P** **04 36 53.7 +1.0**
GNI IAmb IAmb 04 36 55.6
comp=Z,80nm,1.4s
GNI Garni 70.33 308 P **P** **04 36 54.4 +1.7**
comp=Z,16nm,0.8s,baz=174,slow=2.7,SNR=7.1
comp=Z,16nm,0.8s
GNI Garni 70.33 308 *i* P **P** **04 36 54.1 +1.4**
GNI pmax pmax
comp=Z,72nm,1.5s
GNI Garni 70.33 308 P **P** **04 36 54.7 +2.0**
comp=Z,31nm,1.2s,comp=Z,627nm
F14K Arctic Creek 70.45 25 P **P** **04 36 54.1 +1.4**
baz=260
K13K Kusilvak Mount 70.69 29 P **P** **04 36 54.2 -0.1**
K13K IAmb IAmb 04 36 56.4
comp=Z,59nm,1.1s
K13K Kusilvak Mount 70.69 29 P **P** **04 36 55.3 +1.1**
baz=263
ANM Nome 70.72 26 P **P** **04 36 55.1 +0.7**
baz=262
RAYN Ar Rayn 71.00 290 P **P** **04 36 57.5 +0.6**
RAYN IAmb IAmb 04 36 58.9
comp=Z,51nm,1.0s
RAYN Ar Rayn 71.00 290 P **P** **04 36 58.0 +1.1**
RAYN Ar Rayn 71.00 290 P **P** **04 36 57.8 +0.9**
RAYN PcP **PcP** **04 37 17.5 +1.0**
RAYN pP **pP** **04 37 30.8 +0.1**
M13K Dall Lake 71.17 31 P **P** **04 36 57.8 +0.7**
M13K IAmb IAmb 04 36 59.3
comp=Z,55nm,0.8s
M13K Dall Lake 71.17 31 P **P** **04 36 58.2 +1.1**
baz=265,SNR=12
F15K North Star Dit 71.18 25 P **P** **04 36 57.7 +0.6**
F15K IAmb IAmb 04 36 59.3
comp=Z,43nm,0.9s
F15K North Star Dit 71.18 25 P **P** **04 36 58.1 +1.0**
baz=262,SNR=10
ONI Oni 71.22 311 P **P** **04 36 59.2 +1.3**
ONI Oni 71.22 311 P **P** **04 36 59.2 +1.3**
ONI pmax pmax
comp=Z,34nm,1.1s
J14K Nanvaranak Lak 71.29 28 P **P** **04 36 58.1 +0.3**
J14K IAmb IAmb 04 36 59.8
comp=Z,80nm,1.4s
J14K Nanvaranak Lak 71.29 28 P **P** **04 36 58.3 +0.5**
baz=264,SNR=11
C16K Lisburne Hills 71.31 22 P **P** **04 36 58.7 +0.9**
baz=260
G15K Niukluk 71.34 26 P **P** **04 36 58.7 +0.6**
baz=263,SNR=9.4
S12K Black Hills 71.55 36 P **P** **04 37 00.2 +0.6**
baz=268
L14K Kuka Creek 71.57 30 P **P** **04 37 00.2 +0.7**
L14K Kuka Creek 71.57 30 P **P** **04 37 00.5 +0.9**
baz=265,SNR=38
KBZ Khabaz 71.59 312 P **P** **04 37 00.8 +0.8**
comp=Z,25nm,0.9s,baz=107,slow=4.1,SNR=31
comp=Z,25nm,0.9s
KBZ Khabaz 71.59 312 *ceP* **P** **04 37 00.2 +0.2**
KBZ pmax pmax
comp=Z,47nm,1.1s
KIV Kislovodsk 71.73 312 ⇑P **P** **04 37 01.0 0.0**
KIV Kislovodsk 71.73 312 P **P** **04 37 01.5 +0.5**
KIV IAmb IAmb 04 37 03.4
comp=Z,70nm,0.8s
KIV Kislovodsk 71.73 312 *eP* **P** **04 37 01.8 +0.8**
KIV *e*S **S** **04 46 11.2 +1.4**
KIV pmax pmax
comp=Z,75nm,1.1s
KIV Kislovodsk 71.73 312 P **P** **04 37 02.0 +1.0**
comp=Z,82nm,1.0s,comp=Z,737nm
KIV Kislovodsk 71.73 312 P **P** **04 37 01.3 +0.3**
SHA1 Shidzhatmaz 71.76 312 *ceP* **P** **04 37 01.6 +0.2**
M14K Bethel 71.88 30 P **P** **04 37 01.8 +0.4**
M14K Bethel 71.88 30 P **P** **04 37 02.3 +0.9**

baz=260,SNR=52
N14K Kuskokwak Cree 71.96 31 P P 04 37 02.5 +0.6
baz=266,SNR=25
D17K Noatak River 72.06 23 P P 04 37 03.3 +0.9
baz=263,SNR=18
H16K Elim 72.07 26 P P 04 37 03.3 +0.9
baz=264,SNR=11
G16K Koyuk River 72.09 25 P P 04 37 01.9 -0.6
G16K IAmb IAmb 04 37 04.6
comp=Z,55nm,1.0s
G16K Koyuk River 72.09 25 P P 04 37 03.2 +0.6
baz=264,SNR=12
C17K DeLong Mountai 72.13 22 P P 04 37 03.5 +0.7
baz=262,SNR=6.3
O14K Tigyukauivet M 72.14 32 P P 04 37 02.7 -0.3
O14K IAmb IAmb 04 37 04.5
comp=Z,42nm,0.8s
O14K Tigyukauivet M 72.14 32 P P 04 37 03.5 +0.5
baz=267,SNR=14
L15K Ungalak Mounta 72.17 29 P P 04 37 03.9 +0.8
baz=266,SNR=13
RDOG Red Dog Mine 72.17 23 P P 04 37 03.2 +0.1
RDOG Red Dog Mine 72.17 23 P P 04 37 03.8 +0.7
baz=263,SNR=5.5
K15K Wolf Creek Mou 72.19 29 P P 04 37 03.0 -0.3
K15K IAmb IAmb 04 37 05.5
comp=Z,45nm,0.9s
K15K Wolf Creek Mou 72.19 29 P P 04 37 04.2 +1.0
baz=266,SNR=21
VRH Novokhopyorsk 72.26 320 eP P 04 37 03.4 -0.4
VRH pmax pmax
comp=Z,143nm,0.7s
E17K Hotham Inlet 72.48 24 P P 04 37 05.8 +1.0
baz=264,SNR=7.7
M15K Kasigluk River 72.50 30 P P 04 37 05.3 +0.2
baz=267,SNR=50
GURO Guroymak-BITLI 72.50 306 P P 04 37 07.4 +1.6
GURO IAmb IAmb 04 37 08.7
comp=Z,65nm,1.0s
JCZ Jackson Bay 72.54 146 P P 04 37 07.6 +1.9
F17K Baldwin Pennin 72.64 24 P P 04 37 06.5 +0.7
F17K IAmb IAmb 04 37 08.0
comp=Z,60nm,0.8s
F17K Baldwin Pennin 72.64 24 P P 04 37 06.9 +1.1
baz=265,SNR=8.0
I17K Unalakleet 72.68 27 P P 04 37 06.1 +0.1
I17K IAmb IAmb 04 37 08.5
comp=Z,90nm,0.9s
I17K Unalakleet 72.68 27 P P 04 37 07.2 +1.2
baz=266,SNR=26
J16K Anvik River 72.68 28 P P 04 37 06.2 0.0
J16K IAmb IAmb 04 37 08.4
comp=Z,143nm,1.6s
J16K Anvik River 72.68 28 P P 04 37 07.2 +1.1
baz=266,SNR=21
B18K Kokolik River 72.73 21 P P 04 37 07.5 +1.1
baz=263,SNR=10
N15K Kwethluk River 72.77 31 P P 04 37 07.3 +0.6
N15K Kwethluk River 72.77 31 P P 04 37 07.8 +1.0
baz=268,SNR=66
G17K Kiwalik Mounta 72.81 25 P P 04 37 07.7 +0.9
baz=266,SNR=46
C18K Utukok River 72.87 22 P P 04 37 07.5 +0.2
C18K Utukok River 72.87 22 P P 04 37 07.9 +0.7
baz=264,SNR=8.5
O15K Ungalikthiuk R 72.87 32 P P 04 37 07.8 +0.5
baz=268,SNR=17
CHNA Chernabura Isl 72.94 37 P P 04 37 07.8 0.0
baz=270,SNR=7.0
CNBA Chernabura Isl 72.94 37 P P 04 37 06.8 -1.0
CNBA IAmb IAmb 04 37 08.2
comp=Z,48nm,0.7s
S14K Fog Glacier 72.97 35 P P 04 37 07.9 -0.2
baz=270
E18K Tukpahlearik C 72.98 23 P P 04 37 08.2 +0.4
E18K IAmb IAmb 04 37 09.9
comp=Z,119nm,1.6s
E18K Tukpahlearik C 72.98 23 P P 04 37 08.9 +1.1
baz=265,SNR=16
A19K Wainwright 73.08 20 P P 04 37 09.0 +0.7
baz=264
H17K Granite Mounta 73.08 26 P P 04 37 08.7 +0.2
H17K Granite Mounta 73.08 26 P P 04 37 09.5 +1.0
baz=266,SNR=40
L16K Owhat River 73.13 29 P P 04 37 09.0 +0.2
L16K IAmb IAmb 04 37 10.6
comp=Z,63nm,0.8s
L16K Owhat River 73.13 29 P P 04 37 09.4 +0.6
baz=268,SNR=63
F18K Selawik 73.29 24 P P 04 37 10.5 +0.9
baz=266,SNR=19
M16K Timber Creek 73.35 30 P P 04 37 10.3 +0.2
M16K IAmb IAmb 04 37 12.0
comp=Z,79nm,0.8s
M16K Timber Creek 73.35 30 P P 04 37 10.8 +0.7
baz=269,SNR=58
J17K VABM Dome 73.37 28 P P 04 37 10.9 +0.7
J17K VABM Dome 73.37 28 P P 04 37 11.5 +1.3
baz=268,SNR=98
N16K Nishlik Lake 73.44 31 P P 04 37 11.5 +0.9
baz=269,SNR=68
C19K Lookout Ridge 73.49 22 P P 04 37 11.8 +1.0
C19K IAmb IAmb 04 37 13.2
comp=Z,70nm,0.8s
C19K Lookout Ridge 73.49 22 P P 04 37 11.9 +1.0
baz=266,SNR=20
LBZ Lake Benmore 73.51 145 P P 04 37 11.9 +0.6
LBZ IAmb IAmb 04 37 12.7
comp=Z,80nm,1.2s
KLMR Klimovskoe 73.56 330 c iP P 04 37 10.7 -0.6
KLMR pmax pmax
comp=Z,127nm,1.0s
RPZ Rata Peaks 73.58 144 P P 04 37 11.5 -0.2
RPZ Rata Peaks 73.58 144 P P 04 37 11.8 +0.1
RPZ IAmb IAmb 04 37 12.6
comp=Z,77nm,1.2s
G18K Tagagawik 73.66 25 IAmb IAmb 04 37 13.4
comp=Z,48nm,0.9s
G18K Tagagawik 73.66 25 P P 04 37 12.5 +0.6
baz=267,SNR=34
L17K Donlin 73.69 29 P P 04 37 13.4 +1.3
baz=269,SNR=78
K17K Iditarod 73.70 28 P P 04 37 13.2 +1.1
baz=269,SNR=80
LTZ Lake Taylor 73.71 143 IAmb IAmb 04 37 53.4
comp=Z,96nm,1.7s
H18K Honhosa River 73.75 26 IAmb IAmb 04 37 14.2
comp=Z,48nm,0.9s
H18K Honhosa River 73.75 26 P P 04 37 13.1 +0.7
baz=268,SNR=18
O16K Kokwok River B 73.77 32 IAmb IAmb 04 37 14.3
comp=Z,76nm,0.9s
O16K Kokwok River B 73.77 32 P P 04 37 13.0 +0.4
baz=270,SNR=64
VORD Divnogorie 73.79 319 eP P 04 37 11.6 -1.3
VORD pmax pmax
comp=Z,60nm,0.7s
P16K Nushagak River 73.82 32 P P 04 37 13.2 +0.4
baz=270,SNR=8.2
VORR Voronezh 73.82 320 eP P 04 37 13.4 +0.4
VORR pmax pmax
comp=Z,117nm,0.5s
VSR Storozhevoye 73.86 320 eP P 04 37 12.3 -1.0
VSR pmax pmax
comp=Z,70nm,0.6s
SOC Sochi 73.90 312 eP P 04 37 11.7 -2.0
SOC e 04 39 56.4
SOC eS S 04 46 32.8 -1.4
SOC eSS SS 04 51 24.4 +3.3
SOC pmax pmax
comp=Z,42nm,0.9s
LPSR Galich'ya Gora 73.96 321 eP P 04 37 12.9 -0.9
LPSR pmax pmax
comp=Z,170nm,0.8s
D19K Kuna River 73.99 22 P P 04 37 14.1 +0.3
baz=267,SNR=41
F19K Shaleruckik Mo 74.05 24 IAmb IAmb 04 37 15.5
comp=Z,82nm,1.8s
F19K Shaleruckik Mo 74.05 24 P P 04 37 14.3 +0.3
baz=268,SNR=13
M17K Holitna River 74.09 30 P P 04 37 15.6 +1.1
baz=270,SNR=76
ADZR Andozero 74.18 333 eP P 04 37 12.8 -2.1
ADZR pmax pmax
comp=Z,77nm,0.8s
N17K Nushagak Hills 74.22 31 IAmb IAmb 04 37 17.5
comp=Z,86nm,0.9s
N17K Nushagak Hills 74.22 31 P P 04 37 16.2 +1.0
baz=270,SNR=88
BKZ Black Stump Fm 74.23 138 P P 04 37 15.0 -0.6
BKZ Black Stump Fm 74.23 138 P P 04 37 16.0 +0.4
BKZ IAmb IAmb 04 37 16.8
comp=Z,109nm,1.2s
RTZ Ruatahuna 74.25 137 IAmb IAmb 04 37 17.7
comp=Z,49nm,1.0s
O17K Koliganek Bris 74.27 31 P P 04 37 16.1 +0.6
baz=271
E19K Redstone River 74.28 23 IAmb IAmb 04 37 17.4
comp=Z,45nm,0.9s
E19K Redstone River 74.28 23 P P 04 37 16.1 +0.6
baz=268,SNR=31
G19K Purcell Mounta 74.31 25 IAmb IAmb 04 37 17.4
comp=Z,44nm,0.8s
G19K Purcell Mounta 74.31 25 P P 04 37 16.1 +0.5
baz=269,SNR=31
GCSA Galena City Sc 74.37 26 P P 04 37 16.7 +0.8
baz=269
B20K Meade River 74.40 21 P P 04 37 16.6 +0.6
baz=268
J18K Innoko River 74.44 28 IAmb IAmb 04 37 18.0
comp=Z,41nm,0.8s
J18K Innoko River 74.44 28 P P 04 37 16.9 +0.4
baz=270,SNR=44
L18K Granite Mounta 74.45 29 IAmb IAmb 04 37 18.7
comp=Z,76nm,0.8s
L18K Granite Mounta 74.45 29 P P 04 37 17.5 +1.0
baz=270,SNR=76
Q16K King Salmon 74.52 33 P P 04 37 17.4 +0.5
baz=271
D20K Etivluk River 74.55 22 P P 04 37 17.6 +0.6
baz=268,SNR=43
H19K Roundabout Mou 74.56 25 P P 04 37 18.0 +1.0
baz=270,SNR=96
P17K Kvichak River 74.61 32 P P 04 37 18.1 +0.6
baz=271,SNR=148
MOS Moscow 74.62 324 eP P 04 37 16.3 -1.2
MOS e 04 37 53.2
MOS pmax pmax
comp=Z,114nm,0.7s
A21K Barrow 74.63 19 P P 04 37 18.1 +0.7
baz=268,SNR=20
E20K Nigu River 74.70 23 P P 04 37 18.3 +0.4
baz=269,SNR=38
R17L Mt. Peulik Vol 74.70 34 P P 04 37 17.4 -0.7
baz=272,SNR=17
N18K Kilae Creek 74.86 30 P P 04 37 19.6 +0.7
baz=271,SNR=31
F20K Avaraart Lake 74.86 24 IAmb IAmb 04 37 20.6
comp=Z,52nm,0.7s
F20K Avaraart Lake 74.86 24 P P 04 37 19.5 +0.7
baz=270
M18K Stony River 74.87 30 P P 04 37 19.8 +0.9
baz=271,SNR=90
BFZ Birch Farm 74.91 139 P P 04 37 20.9 +1.5
J19K Poorman 74.92 27 P P 04 37 19.8 +0.6
baz=271,SNR=40
Q17K Contact Creek 74.93 33 P P 04 37 18.3 -1.2
baz=272,SNR=65
A22K Sinclair Lake 75.16 20 P P 04 37 20.9 +0.5
baz=269
CHIR Chirikof Islan 75.18 35 IAmb IAmb 04 37 22.1
comp=Z,79nm,1.0s
CHIR Chirikof Islan 75.18 35 P P 04 37 20.9 +0.1
baz=273,SNR=7.3
H20K Anotleneega Mo 75.21 25 P P 04 37 21.4 +0.6
baz=271,SNR=115
C21K Knifeblade Rid 75.22 22 P P 04 37 21.4 +0.6
baz=270,SNR=24
O18K Koktuh Hills 75.22 31 P P 04 37 21.8 +0.8
baz=272,SNR=167
P18K Big Mountain, 75.23 32 IAmb IAmb 04 37 22.2
comp=Z,38nm,0.8s
P18K Big Mountain, 75.23 32 P P 04 37 20.9 -0.2
baz=272,SNR=26
OBN Obninsk 75.25 324 P P 04 37 20.7 -0.5
OBN Obninsk 75.25 324 P P 04 37 20.6 -0.5
comp=Z,71nm,0.5s,baz=68,slow=1.2,SNR=25
comp=Z,71nm,0.5s
OBN Obninsk 75.25 324 c iP P 04 37 20.5 -0.7
OBN e*PP pP 04 37 56.8 +1.3
OBN e 04 40 14.1
OBN eSS SS 04 51 40.9 0.0
OBN pmax pmax
comp=Z,148nm,1.3s
OBN Obninsk 75.25 324 P P 04 37 20.6 -0.5
comp=Z,143nm,0.8s,comp=Z,1μm
B21K Ikpikpuk River 75.28 21 IAmb IAmb 04 37 22.9
comp=Z,66nm,0.8s
B21K Ikpikpuk River 75.28 21 P P 04 37 21.8 +0.7
baz=270
L19K White Mountain 75.31 29 IAmb IAmb 04 37 23.6
comp=Z,80nm,0.8s
L19K White Mountain 75.31 29 P P 04 37 22.3 +0.8
baz=272,SNR=93
ARPR Arapgir-MALATY 75.33 307 IAmb IAmb 04 37 25.0
comp=Z,45nm,1.0s
Q18K Katmai Hardscr 75.38 33 P P 04 37 21.0 -1.0
baz=273,SNR=60
I20K Naaghedeneel 75.40 26 P P 04 37 23.1 +1.2
baz=272,SNR=23
ANN Anapa 75.44 313 eP P 04 37 20.5 -2.0
ANN e*PP pP 04 37 52.6 -4.1
ANN eS S 04 46 50.3 -0.9
ANN pmax pmax
comp=Z,47nm,0.7s
E21K Killik River 75.52 22 P P 04 37 22.9 +0.3
baz=271
M19K Big River Lodg 75.54 29 IAmb IAmb 04 37 25.0
comp=Z,43nm,0.9s
M19K Big River Lodg 75.54 29 P P 04 37 23.5 +0.7
baz=272
N19K Bonanza Creek 75.54 30 IAmb IAmb 04 37 24.9
comp=Z,84nm,0.9s
N19K Bonanza Creek 75.54 30 P P 04 37 23.7 +0.8
baz=272,SNR=64
J20K Nowinta River 75.56 27 IAmb IAmb 04 37 25.1
comp=Z,64nm,0.8s
J20K Nowinta River 75.56 27 P P 04 37 23.8 +0.9
baz=272,SNR=72
K20K Telida 75.63 28 IAmb IAmb 04 37 25.6
comp=Z,88nm,1.1s
K20K Telida 75.63 28 P P 04 37 24.2 +1.0
baz=272,SNR=70
LVZ Lovozero 75.65 337 P P 04 37 23.2 -0.2
LVZ Lovozero 75.65 337 ceP P 04 37 23.8 +0.5
LVZ pmax pmax
comp=Z,33nm,1.0s
LVZ Lovozero 75.65 337 P P 04 37 23.3 0.0
comp=Z,35nm,1.0s
O19K Port Alsworth 75.65 31 IAmb IAmb 04 37 24.9
comp=Z,68nm,0.8s
O19K Port Alsworth 75.65 31 P P 04 37 23.7 +0.3
baz=273
B22K Teshekpuk Lake 75.68 20 IAmb IAmb 04 37 25.0
comp=Z,83nm,0.8s
B22K Teshekpuk Lake 75.68 20 P P 04 37 23.5 +0.2
baz=271,SNR=48
R18K Karluk 75.73 34 P P 04 37 22.9 -0.9
baz=273
F21K Alatna River 75.73 24 P P 04 37 24.0 +0.1
baz=272,SNR=20
G21K Allakaket 75.75 24 IAmb IAmb 04 37 25.8
comp=Z,84nm,0.8s
G21K Allakaket 75.75 24 P P 04 37 24.5 +0.6
baz=272,SNR=93
L20K Farewell, AK 75.75 29 P P 04 37 24.8 +0.8
baz=273,SNR=21
SII Sitkinak Islan 75.94 35 P P 04 37 24.4 -0.8
SII Sitkinak Islan 75.94 35 IAmb IAmb 04 37 26.4
comp=Z,67nm,1.0s
SII Sitkinak Islan 75.94 35 P P 04 37 25.2 +0.1
baz=274
D22K Ayikyak River 75.98 22 P P 04 37 25.7 +0.5
baz=272,SNR=18
Q19K Cape Douglas, 76.07 32 IAmb IAmb 04 37 26.1
comp=Z,71nm,0.8s
Q19K Cape Douglas, 76.07 32 P P 04 37 25.0 -0.8
baz=274,SNR=17
H21K Melozitna Rive 76.07 25 IAmb IAmb 04 37 27.9
comp=Z,69nm,0.9s
H21K Melozitna Rive 76.07 25 P P 04 37 26.3 +0.6
baz=273,SNR=90
APA Apatity 76.13 337 ⇓ iP P 04 37 24.3 -1.7
APA i 04 40 24.0
APA iS S 04 46 57.0 -1.0
APA i 04 47 20.0
APA iPS PnS 04 47 50.0 -4.7
APA pmax pmax
comp=Z,32nm,0.8s
M20K Styx River 76.14 29 IAmb IAmb 04 37 28.4
comp=Z,75nm,0.8s
M20K Styx River 76.14 29 P P 04 37 27.0 +0.7
baz=273
F22K John River 76.23 23 P P 04 37 27.1 +0.5
baz=273
P19K Oil Pt 76.23 31 IAmb IAmb 04 37 27.2
comp=Z,46nm,0.7s
P19K Oil Pt 76.23 31 P P 04 37 26.0 -0.8
baz=274,SNR=17
E22K Anaktuvuk Pass 76.33 23 P P 04 37 27.8 +0.6
baz=273
OHAK Old Harbor 76.38 34 P P 04 37 28.2 +0.6
OHAK Old Harbor 76.38 34 IAmb IAmb 04 37 28.6
comp=Z,41nm,0.8s
OHAK Old Harbor 76.38 34 P P 04 37 27.3 -0.3
baz=274,SNR=17
CHUM Lake Minchumin 76.38 27 P P 04 37 28.4 +0.9
baz=274,SNR=22
GAZ Gaziantep 76.44 305 IAmb IAmb 04 37 31.0
comp=Z,57nm,0.9s
I21K Tanana 76.44 26 IAmb IAmb 04 37 30.0
comp=Z,81nm,0.9s
I21K Tanana 76.44 26 P P 04 37 28.8 +1.0
baz=274
O20K Slope Mountain 76.51 31 P P 04 37 27.6 -0.7
baz=274,SNR=7.1
PPLA Purkeypile 76.51 28 P P 04 37 28.8 +0.4
baz=274,SNR=32
CAST Castle Rocks 76.52 28 P P 04 37 28.8 +0.5
baz=274,SNR=367
G22K Bettles 76.52 24 P P 04 37 28.9 +0.7
baz=274
N20K Mount Spurr 76.62 30 P P 04 37 28.9 -0.1
baz=274,SNR=11
SPCR Spurr Chakacha 76.62 30 P P 04 37 25.6 -3.4
baz=274,SNR=10.0
H22K Ishtalitna Cre 76.64 25 P P 04 37 29.9 +0.9
baz=274
C23K Itkillik River 76.66 21 IAmb IAmb 04 37 30.6
comp=Z,74nm,0.7s
C23K Itkillik River 76.66 21 P P 04 37 29.4 +0.4
baz=274,SNR=52
D23K Nanushuk River 76.70 22 P P 04 37 29.8 +0.6
baz=274,SNR=45
SPU Mount Spurr 76.70 30 IAmb IAmb 04 37 30.2
comp=Z,45nm,1.0s
KDAK Kodiak Island 76.72 33 P P 04 37 29.5 0.0
KDAK IAmb IAmb 04 37 30.5
comp=Z,69nm,1.1s
KDAK Kodiak Island 76.72 33 P P 04 37 29.4 0.0
baz=275
KDAK Kodiak Island 76.72 33 i P P 04 37 29.8 +0.3
KDAK pmax pmax
comp=Z,110nm,1.3s
Q20K Shuyak Island 76.74 32 P P 04 37 29.3 -0.3
baz=275,SNR=15
SYI Shuyak Island 76.75 32 IAmb IAmb 04 37 31.1
comp=Z,54nm,0.8s
SKT Skwentna 76.88 29 IAmb IAmb 04 37 31.0
comp=Z,79nm,1.0s
SKT Skwentna 76.88 29 P P 04 37 29.7 -0.7
baz=275,SNR=45
BPAW Bear Paw Mtn. 76.95 27 P P 04 37 31.1 +0.4
baz=275,SNR=189
MLY Manley 76.98 26 P P 04 37 31.1 +0.3
baz=275,SNR=85
COLD Coldfoot 77.01 24 P P 04 37 31.7 +0.7
baz=275,SNR=16
KTH Kantishna Hill 77.03 27 IAmb IAmb 04 37 34.1
comp=Z,129nm,1.7s
HOM Homer 77.03 31 P P 04 37 31.8 +0.6
baz=275
TOLK Toolik Lake Re 77.12 22 IAmb IAmb 04 37 33.3
comp=Z,37nm,0.8s
TOLK Toolik Lake Re 77.12 22 P P 04 37 32.0 +0.4
baz=275,SNR=39
G23K Bananza Creek 77.12 24 IAmb IAmb 04 37 33.7
comp=Z,82nm,1.4s
G23K Bananza Creek 77.12 24 P P 04 37 32.3 +0.6
baz=275,SNR=59
E23K Chandalar 77.16 23 P P 04 37 32.2 +0.3
baz=275,SNR=64
CAPN Captain Cook N 77.17 30 P P 04 37 32.0 +0.1
baz=275
CNPM China Poot 77.25 31 IAmb IAmb 04 37 32.9
comp=Z,48nm,0.8s
SUA Susitna One 77.30 29 P P 04 37 32.3 -0.6
baz=276,SNR=54
C24K Franklin Bluff 77.33 21 P P 04 37 32.8 +0.2
baz=276
D24K Happy Valley 77.34 22 IAmb IAmb 04 37 34.5
comp=Z,49nm,0.8s
D24K Happy Valley 77.34 22 P P 04 37 33.2 +0.4
baz=276,SNR=28
JOF Joensuu 77.36 332 eP P 04 37 32.7 -0.2
DIKM Dikmen 77.37 310 P P 04 37 34.3 +0.8
comp=Z,22nm,0.9s,comp=Z,580nm
H23K Yukon River 77.40 25 IAmb IAmb 04 37 35.5
comp=Z,88nm,0.9s
H23K Yukon River 77.40 25 P P 04 37 33.9 +0.7
baz=276,SNR=82
VADS Vadso 77.41 339 eP P 04 37 33.1 0.0
VADS IAmb IAmb 04 37 34.6
comp=Z,50nm,1.1s
BRLK Bradley Lake 77.41 31 IAmb IAmb 04 37 35.7
comp=Z,62nm,0.7s
CUT Chulitna 77.43 28 P P 04 37 32.9 -0.5
baz=276,SNR=14
BRSE Bradley Lake S 77.48 31 P P 04 37 32.8 -1.0
baz=276,SNR=26
I23K Minto, Yukon-K 77.55 26 IAmb IAmb 04 37 36.8
comp=Z,59nm,0.8s
I23K Minto, Yukon-K 77.55 26 P P 04 37 34.5 +0.5
baz=276,SNR=66
M22K Willow 77.57 29 P P 04 37 33.8 -0.3
baz=276,SNR=38
E24K Your Creek 77.58 23 IAmb IAmb 04 37 36.0
comp=Z,42nm,0.8s
E24K Your Creek 77.58 23 P P 04 37 34.8 +0.6
baz=276
BWN Browne 77.61 27 IAmb IAmb 04 37 37.0
comp=Z,71nm,0.9s
VALR Valaam 77.72 330 i P P 04 37 34.4 -0.6
VALR pmax pmax
comp=Z,96nm,1.0s
NEA2 Nenana 77.73 26 IAmb IAmb 04 37 36.9
comp=Z,60nm,0.8s
NEA2 Nenana 77.73 26 P P 04 37 34.9 -0.1
baz=276,SNR=59
SIM Simferopol' 77.77 314 eP P 04 37 36.1 +0.5
SIM pmax pmax
comp=Z,124nm,1.0s
RC01 Rabbit Creek A 77.83 30 IAmb IAmb 04 37 36.1
comp=Z,66nm,1.0s
RC01 Rabbit Creek A 77.83 30 P P 04 37 35.0 -0.6
baz=277,SNR=19
F24K Squaw Lake 77.87 23 IAmb IAmb 04 37 37.8
comp=Z,54nm,0.8s
F24K Squaw Lake 77.87 23 P P 04 37 36.5 +0.7
baz=277,SNR=88
MCK McKinley 77.89 27 P P 04 37 35.7 -0.2
baz=277,SNR=82
MCK McKinley 77.89 27 P P 04 37 35.8 -0.2
O22K Cooper Landing 77.91 30 P P 04 37 35.3 -0.7
baz=277
RND Reindeer 77.97 27 P P 04 37 35.8 -0.6
MSF Maaselka 78.00 335 P P 04 37 36.1 -0.4
MSF pmax pmax
comp=Z,79nm,0.8s
MDM Murphy Dome 78.05 26 IAmb IAmb 04 37 39.0
comp=Z,72nm,1.0s
PMR Palmer 78.06 29 P P 04 37 37.5 +0.7
PMR Palmer 78.06 29 IAmb IAmb 04 37 37.4
comp=Z,71nm,0.9s
PMR Palmer 78.06 29 P P 04 37 36.3 -0.5
baz=277,SNR=36
H24K Noodor Dome 78.08 25 IAmb IAmb 04 37 39.0
comp=Z,49nm,0.8s
H24K Noodor Dome 78.08 25 P P 04 37 37.6 +0.6
baz=277,SNR=69
SEW Seward 78.08 31 P P 04 37 36.6 -0.4
baz=277,SNR=21

G24K	Hadweenzic Riv	78.13	24	P	P	04 37 38.0	+0.7
	baz=277,SNR=63						
GHO	Glory Hole Cre	78.13	29	IAmb	IAmb	04 37 42.7	
	comp=Z,41nm,0.8s						
WAT1	Susitna Watana	78.17	28	P	P	04 37 37.1	-0.4
	baz=277						
PUL	Pulkovo	78.19	329	*ce*P	P	04 37 38.2	+0.6
PUL				pmax	pmax		
	comp=Z,78nm,0.5s						
D25K	Kavik River	78.19	21	IAmb	IAmb	04 37 39.0	
	comp=Z,56nm,0.8s						
D25K	Kavik River	78.19	21	P	P	04 37 37.8	+0.3
	baz=278						
COLA	College	78.22	26	P	P	04 37 37.7	0.0
COLA	College	78.22	26	P	P	04 37 37.1	-0.5
COLA				IAmb	IAmb	04 37 40.0	
	comp=Z,46nm,0.8s						
COLA	College	78.22	26	P	P	04 37 37.4	-0.2
	baz=277						
COLA	College	78.22	26	*i* P	P	04 37 37.7	0.0
COLA				pmax	pmax		
	comp=Z,64nm,0.9s						
BZK	Bozkurt	78.26	311	⇓P	P	04 37 39.5	+1.2
BZK	Bozkurt	78.26	311	P	P	04 37 39.4	+1.0
KEV	Kevo	78.26	339	P	P	04 37 37.4	-0.4
KEV	Kevo	78.26	339	P	P	04 37 37.4	-0.4
KEV				pmax	pmax		
	comp=Z,19nm,0.6s						
POKR	Poker Plat Res	78.36	26	P	P	04 37 38.0	-0.5
	baz=278,SNR=11						
KNK	Knik Glacier	78.40	29	IAmb	IAmb	04 37 39.9	
	comp=Z,87nm,0.8s						
KNK	Knik Glacier	78.40	29	P	P	04 37 38.8	0.0
	baz=278,SNR=22						
SML	Sawmill	78.41	29	P	P	04 37 38.7	-0.2
	baz=278,SNR=54						
MMAI	Mount Meron Ar	78.50	301	P	P	04 37 39.8	-0.2
	comp=Z,2.7nm,0.4s,baz=83,slow=9.3,SNR=23						
	comp=Z,2.7nm,0.4s						
WAT6	Susitna Watana	78.58	28	P	P	04 37 39.7	-0.2
	baz=278,SNR=78						
C26K	Camden Bay	78.61	21	P	P	04 37 40.6	+0.8
	baz=279,SNR=55						
ILAR	Eielson Array	78.64	26	P	P	04 37 38.2	-1.9
ILAR	Eielson Array	78.64	26	P	P	04 37 38.4	-1.6
	comp=Z,11nm,0.8s,baz=276,slow=4.2,SNR=74						
	comp=Z,11nm,0.8s						
E25K	Arctic Village	78.66	22	P	P	04 37 40.7	+0.6
	baz=279,SNR=26						
G25K	Bearman Lake	78.66	24	P	P	04 37 40.8	+0.7
	baz=279,SNR=33						
HDA	Harding Lake	78.67	26	IAmb	IAmb	04 37 40.2	
	comp=Z,44nm,0.7s						
HDA	Harding Lake	78.67	26	P	P	04 37 39.2	-1.0
	baz=278,SNR=48						
DHY	Denali Highway	78.67	28	P	P	04 37 40.1	-0.4
	baz=278,SNR=40						
M23K	Glacier View	78.69	29	P	P	04 37 40.4	0.0
	baz=278,SNR=26						
F25K	Christian Rive	78.71	23	P	P	04 37 41.5	+1.0
	baz=279,SNR=84						
SGF	Sodankyl	78.78	337	P	P	04 37 38.2	-2.5
ARCES	ARCESS Array B	78.81	339	P	P	04 37 40.6	-0.2
ARCES	ARCESS Array B	78.81	339	P	P	04 37 40.7	-0.2
	comp=Z,16nm,0.5s,baz=77,slow=7.0,SNR=242						
ARCES				LR	LR	05 15 31.9	
	comp=Z,75nm,18.4s,baz=125,slow=38						
	comp=Z,16nm,0.5s						
H25L	Birch Creek	78.85	24	P	P	04 37 42.0	+0.9
	baz=279						
BRTR	Keskin Array B	78.86	308	P	P	04 37 41.7	-0.2
BRTR	Keskin Array B	78.86	308	P	P	04 37 42.2	+0.3
	comp=Z,9.3nm,0.7s,baz=122,slow=4.5,SNR=58						
BRTR				PP	PP	04 40 43.6	+1.3
	comp=Z,1.5nm,1.1s,baz=74,slow=10,SNR=2.8						
	comp=Z,9.3nm,0.7s						
BR104	Keskin Array S	78.86	308	P	P	04 37 42.2	+0.3
	comp=Z,15nm,0.8s,comp=Z,128nm						
BR106	Keskin Array S	78.87	308	P	P	04 37 42.4	+0.4
	comp=Z,13nm,1.0s,comp=Z,112nm						
SCM	Sheep Creek Mo	78.88	29	IAmb	IAmb	04 37 42.7	
	comp=Z,98nm,0.9s						
SCM	Sheep Creek Mo	78.88	29	P	P	04 37 41.5	0.0
	baz=278,SNR=51						
BR105	Keskin Array S	78.88	308	P	P	04 37 42.4	+0.4
	comp=Z,15nm,0.8s,comp=Z,133nm						
C27K	Jago River	79.07	21	P	P	04 37 42.8	+0.5
	baz=280,SNR=81						
PRP	Porcupine Dome	79.09	25	P	P	04 37 42.6	0.0
	baz=279,SNR=20						
P23K	Montague Islan	79.12	31	P	P	04 37 42.8	+0.1
	baz=279						
GLI	Glacier Island	79.13	30	IAmb	IAmb	04 37 43.8	
	comp=Z,85nm,0.8s						
GLI	Glacier Island	79.13	30	P	P	04 37 42.8	0.0
	baz=279,SNR=20						
BMAR	Burnt Mountain	79.14	23	P	P	04 37 43.6	+0.8
ABPO	Ambohimpanom	79.22	247	P	P	04 37 46.0	+1.8
ABPO	Ambohimpanom	79.22	247	P	P	04 37 46.0	+1.8
ABPO				pmax	pmax		
	comp=Z,41nm,1.1s						
HAMF	Hammerfest	79.22	340	*e*P	P	04 37 43.3	+0.2
HAMF				IAmb	IAmb	04 37 44.3	
	comp=Z,32nm,0.8s						
F26K	Sheenjek River	79.26	23	P	P	04 37 44.1	+0.7
	baz=280,SNR=50						
K24K	Donnelly Dome	79.27	27	P	P	04 37 43.0	-0.6
	baz=280,SNR=38						
J25K	Salcha River,	79.31	26	P	P	04 37 42.2	-1.5
	baz=280,SNR=34						
SPB2	Spitsbergen Ar	79.33	348	IAmb	IAmb	04 37 45.8	
	comp=Z,73nm,1.1s						
SPA0	Spitsbergen Ar	79.34	348	*e*P	P	04 37 43.6	0.0
SPA0				IAmb	IAmb	04 37 45.5	
	comp=Z,117nm,1.2s						
SPITS	Spitsbergen Ar	79.34	348	P	P	04 37 43.9	+0.3
	comp=Z,5.7nm,0.4s,baz=89,slow=7.0,SNR=38						
SPITS				LR	LR	05 19 45.9	
	comp=Z,57nm,18.1s,baz=70,slow=41						
	comp=Z,5.7nm,0.4s						
M24K	Tolsona, Glenn	79.37	29	P	P	04 37 44.9	+0.7
	baz=279,SNR=28						
OUL	Oulu	79.42	335	P	P	04 37 44.0	-0.2
OUL				pmax	pmax		
	comp=Z,54nm,1.2s						
FID	Port Fidalgo	79.45	30	IAmb	IAmb	04 37 45.7	
	comp=Z,52nm,1.0s						
ANTO	Ankara	79.48	309	⇑P	P	04 37 45.5	+0.3
ANTO	Ankara	79.48	309	P	P	04 37 45.5	+0.3
ANTO	Ankara	79.48	309	P	P	04 37 45.9	+0.7
	comp=Z,16nm,1.2s,comp=Z,198nm						
HIN	Hinchinbrook I	79.50	30	IAmb	IAmb	04 37 46.1	
	comp=Z,53nm,0.9s						
G26K	Porcupine Rive	79.53	23	P	P	04 37 45.8	+0.9
	baz=281,SNR=77						
PAX	Paxson	79.55	28	P	P	04 37 45.1	0.0
	baz=280,SNR=33						
KLU	Klutina	79.59	29	IAmb	IAmb	04 37 46.6	
	comp=Z,34nm,0.7s						
KLU	Klutina	79.59	29	P	P	04 37 45.6	+0.2
	baz=280,SNR=21						
KTK1	Kautokeino	79.70	339	*e*P	P	04 37 45.6	-0.1
KTK1				IAmb	IAmb	04 37 47.2	
	comp=Z,69nm,1.6s						
Q23K	Middleton Isla	79.74	31	P	P	04 37 46.3	+0.2
	baz=280						
NE56	Odesa	79.74	316	P	P	04 37 45.7	-0.6
HARP	HAARP	79.79	28	P	P	04 37 46.9	+0.5
	baz=280,SNR=14						
EYAK	Cordova Ski Ar	79.84	30	P	P	04 37 47.3	+0.7
EYAK	Cordova Ski Ar	79.84	30	P	P	04 37 47.0	+0.4
	baz=280,SNR=13						
CSS	Mathiatis	79.88	304	IAmb	IAmb	04 37 49.4	
	comp=Z,81nm,1.0s						
FINES	FINESS Array B	80.00	331	P	P	04 37 46.8	-0.7
FINES	FINESS Array B	80.00	331	P	P	04 37 47.1	-0.3
	comp=Z,20nm,0.5s,baz=56,slow=5.7,SNR=141						
	comp=Z,20nm,0.5s						
SCRK	Sand Creek	80.02	26	P	P	04 37 47.4	-0.3
	baz=281,SNR=46						
J26L	Joseph Creek	80.10	26	P	P	04 37 47.6	-0.4
	baz=281,SNR=46						
D27M	Malcolm River	80.10	21	IAmb	IAmb	04 37 49.8	
	comp=Z,60nm,0.8s						
D27M	Malcolm River	80.10	21	P	P	04 37 48.4	+0.4
	baz=283						
I26K	Coal Creek Min	80.11	25	P	P	04 37 47.9	0.0
	baz=282						
E27K	Coleen River	80.11	22	IAmb	IAmb	04 37 49.8	
	comp=Z,50nm,0.9s						
E27K	Coleen River	80.11	22	P	P	04 37 48.5	+0.6
	baz=282,SNR=65						
AKASG	Malin Array Be	80.17	320	P	P	04 37 48.4	-0.1
AKASG	Malin Array Be	80.17	320	P	P	04 37 47.9	-0.7
	comp=Z,7.5nm,0.5s,baz=65,slow=5.3,SNR=15						
AKASG				LR	LR	05 16 13.8	
	comp=Z,74nm,19.8s,baz=58,slow=38						
	comp=Z,7.5nm,0.5s						
AKASG	Malin Array Be	80.17	320	P	P	04 37 48.4	-0.1
AKASG				pmax	pmax		
	comp=Z,34nm,1.2s						
AKBB	Malin Array Si	80.17	320	*i* P	P	04 37 46.8	-1.8
AKBB				pmax	pmax		
	comp=Z,17nm,0.6s						
KIEV	Kiev	80.18	320	⇓P	P	04 37 48.5	-0.2
KIEV	Kiev	80.18	320	P	P	04 37 48.4	-0.2
KIEV	Kiev	80.18	320	P	P	04 37 48.4	-0.2
KIEV				pmax	pmax		
	comp=Z,37nm,1.0s						
N25K	Chitina, Valde	80.20	29	IAmb	IAmb	04 37 50.3	
	comp=Z,56nm,1.2s						
N25K	Chitina, Valde	80.20	29	P	P	04 37 48.8	+0.2
	baz=281,SNR=22						
PUH	Pauahi	80.21	72	P	P	04 37 45.8	-3.8
VSU	Vasula	80.22	328	*ce*P	P	04 37 48.6	-0.1
VSU				pmax	pmax		
	comp=Z,276nm,1.3s						
MNK	Minsk	80.31	324	*i* P	P	04 37 48.0	-1.2
MNK				*i* *PP	pP	04 38 23.0	-1.3
MNK				*i*		04 40 52.5	
MNK				*i* PPP	PPP	04 42 42.5	
MNK				*i* S	S	04 47 42.6	-0.5
MNK				*i* *SS	sS	04 48 43.6	+1.0
MNK				*i* SS	SS	04 52 57.9	+1.0
MNK				*i* SSS	SSS	04 56 16.4	
MNK				pmax	pmax		
	comp=Z,70nm,0.9s						
MNK				pmax	pmax		
	comp=E,16nm,0.9s						
MNK				pmax	pmax		
	comp=N,14nm,1.0s						
MNK				MLR	MLR		
	comp=N,132nm,22.0s						
MNK				MLR	MLR		
	comp=E,41nm,16.0s						
MNK				MLR	MLR		
	comp=Z,78nm,20.0s						
CASY	Casey	80.31	184	P	P	04 37 48.8	0.0
CASY				IAmb	IAmb	04 40 00.7	
	comp=Z,33nm,0.5s						
BMRM	Bremner River	80.31	30	P	P	04 37 49.4	+0.1
	baz=281,SNR=14						
G27K	Doyon Strip	80.39	23	IAmb	IAmb	04 37 51.5	
	comp=Z,34nm,0.7s						
G27K	Doyon Strip	80.39	23	P	P	04 37 50.2	+0.8
	baz=283,SNR=82						
RAGM	Ragged Mountai	80.39	30	IAmb	IAmb	04 37 51.2	
	comp=Z,72nm,1.2s						
ARBE	Arbavere	80.42	329	*e*P	P	04 37 50.3	+0.6
KEF	Keuruu	80.42	332	*e*P	P	04 37 49.4	-0.3
L26K	Log Cabin Wild	80.49	27	P	P	04 37 50.5	+0.4
	baz=282,SNR=18						
VOI	Vohitsoka	80.54	245	P	P	04 37 52.1	+0.9
H27K	Steamboat Moun	80.57	24	P	P	04 37 51.5	+1.0
	baz=283,SNR=72						
GLB	Gilahina Butte	80.60	29	IAmb	IAmb	04 37 52.3	
	comp=Z,53nm,1.0s						
HMT	Hamilton	80.61	30	IAmb	IAmb	04 37 52.2	
	comp=Z,40nm,0.8s						
KAIM	Kayak Island	80.61	31	IAmb	IAmb	04 37 52.6	
	comp=Z,79nm,0.8s						
KAIM	Kayak Island	80.61	31	P	P	04 37 51.2	+0.5
	baz=281,SNR=9.0						
I27K	Kandik River	80.67	25	P	P	04 37 51.8	+0.7
	baz=283,SNR=107						
E28M	Babbage River	80.75	21	P	P	04 37 51.9	+0.5
	baz=284,SNR=34						
M26K	Nabesna, AK	80.78	28	IAmb	IAmb	04 37 53.3	
	comp=Z,45nm,1.0s						
M26K	Nabesna, AK	80.78	28	P	P	04 37 51.8	+0.1
	baz=282,SNR=24						
K27K	Chicken	80.83	26	IAmb	IAmb	04 37 54.2	
	comp=Z,67nm,0.8s						
K27K	Chicken	80.83	26	P	P	04 37 52.6	+0.7
	baz=283						
D28M	Stokes Point	80.85	21	P	P	04 37 52.4	+0.6
	baz=285						
F28M	Old Crow	80.88	22	IAmb	IAmb	04 37 53.8	
	comp=Z,72nm,0.8s						
F28M	Old Crow	80.88	22	P	P	04 37 52.5	+0.4
	baz=284,SNR=119						
SUCK	Suckling Hills	80.89	30	IAmb	IAmb	04 38 04.4	
	comp=Z,176nm,2.0s						
MCARA	McCarthy VSAT	80.98	29	P	P	04 37 53.1	+0.3
	baz=282,SNR=9.6						
TRO	Tromso	81.04	340	P	P	04 37 52.5	-0.3
EGAK	Eagle	81.05	25	IAmb	IAmb	04 37 54.2	
	comp=Z,60nm,0.7s						
EGAK	Eagle	81.05	25	P	P	04 37 53.0	0.0
	baz=283,SNR=101						
MEF	Metsahovi	81.05	330	*e*P	P	04 37 53.1	+0.1
CRQM	Cirque	81.06	30	IAmb	IAmb	04 37 55.3	
	comp=Z,45nm,0.9s						
CRQE	Cirque	81.08	30	P	P	04 37 53.4	0.0
	baz=282,SNR=17						
IIGN	Ignalina	81.09	325	*e*P	P	04 37 54.8	+1.4
KIS	Kishinev	81.09	316⇑	*e*P	P	04 37 52.0	-1.6
	comp=Z,60nm,1.8s						
KIS	Kishinev	81.09	316	*e*P	P	04 37 52.0	-1.6
KIS				pmax	pmax		
	comp=Z,60nm,1.8s						
ISAL	Salakas	81.10	325	*e*P	P	04 37 54.4	+1.0
MILM	Milestii Mici	81.11	316⇑	*i* P	P	04 37 53.0	-0.7
	comp=Z,80nm,0.7s						
MILM	Milestii Mici	81.11	316	*c i* P	P	04 37 53.0	-0.7
MILM				pmax	pmax		
	comp=Z,80nm,0.7s						
BGLC	Bering Glacier	81.13	30	P	P	04 37 54.6	+1.2
	baz=282						
L27K	Beaver Creek,	81.16	27	P	P	04 37 54.5	+0.8
	baz=283,SNR=58						
BCAR	Beaver Creek A	81.17	27	P	P	04 37 54.4	+0.6
SORM	Soroca	81.19	317	⇑P	P	04 37 53.4	-0.7
SORM	Soroca	81.19	317	P	P	04 37 54.2	+0.1
TGL	Tana Glacier	81.21	30	IAmb	IAmb	04 37 55.5	
	comp=Z,47nm,0.9s						
VAF	Ylistaro	81.23	333	*e*P	P	04 37 54.2	+0.3
WAX	Waxell Ridge	81.27	30	IAmb	IAmb	04 37 56.0	
	comp=Z,55nm,0.8s						
M27K	Edge Creek, AK	81.30	28	P	P	04 37 54.9	+0.3
	baz=283,SNR=26						
SNH	Sunshine Point	81.33	30	IAmb	IAmb	04 37 56.6	
	comp=Z,56nm,0.8s						
I28M	Miner Creek	81.39	25	IAmb	IAmb	04 37 57.0	
	comp=Z,87nm,0.8s						
I28M	Miner Creek	81.39	25	P	P	04 37 55.6	+0.7
	baz=284,SNR=135						
E29M	Blow River	81.39	22	IAmb	IAmb	04 37 56.7	
	comp=Z,39nm,0.8s						
E29M	Blow River	81.39	22	P	P	04 37 55.0	+0.2
	baz=286,SNR=60						
TLCR		81.44	314	⇑P	P	04 37 55.8	+0.4
TLCR		81.44	314	P	P	04 37 55.8	+0.4
MTSE	Matsula	81.67	328	*e*P	P	04 37 56.6	+0.3
G29M	Pine Creek	81.75	23	P	P	04 37 57.1	+0.4
	baz=286,SNR=99						
MESA	MESA	81.76	30	IAmb	IAmb	04 37 59.0	
	comp=Z,54nm,0.8s						
MESA	MESA	81.76	30	P	P	04 37 57.6	+0.5
	baz=283,SNR=12						
TPGR	Topolog	81.78	314	⇓P	P	04 37 58.0	+0.7
H29M	Whitestone	81.81	24	P	P	04 37 57.4	+0.4
	baz=286,SNR=128						
CTG	Chitna Glacier	81.87	29	P	P	04 37 58.5	+0.9
	baz=284,SNR=35						
CFR	Carcaliu	81.91	314	⇓P	P	04 37 58.0	+0.1
CFR	Carcaliu	81.91	314	P	P	04 37 58.0	+0.1
DAWY	Dawson	81.97	26	IAmb	IAmb	04 38 00.1	
	comp=Z,51nm,1.0s						
DAWY	Dawson	81.97	26	P	P	04 37 58.3	+0.4
	baz=285,SNR=90						
NEGRR	Negrea	82.02	315	⇑P	P	04 37 59.3	+0.8
LOGN	Logan Glacier	82.06	29	IAmb	IAmb	04 38 01.2	
	comp=Z,71nm,1.0s						
ISK	Istanbul-Kandi	82.07	310	P	P	04 37 58.5	-0.3
I29M	Ogilvie Camp,	82.07	25	IAmb	IAmb	04 37 59.9	
	comp=Z,63nm,1.0s						
I29M	Ogilvie Camp,	82.07	25	P	P	04 37 58.6	+0.2
	baz=286,SNR=72						
YUK3	Moose Creek	82.08	28	P	P	04 37 59.3	+0.5
	baz=284,SNR=30						
RAF	Rauma	82.12	331	*e*P	P	04 37 58.6	-0.1
HARR	Harsova	82.15	314	⇓P	P	04 38 00.1	+0.9
HARR	Harsova	82.15	314	P	P	04 38 00.0	+0.9
VSVD	Vaisvydziai	82.22	326	*e*P	P	04 37 59.7	+0.4
PABE	Paberze	82.31	325	*e*P	P	04 38 00.2	+0.4
J29N	Klondike Camp	82.36	25	P	P	04 38 00.9	+1.0
	baz=286,SNR=8.0						
ICOR	Ion Corvin	82.36	313	⇓P	P	04 38 01.5	+1.2
F30M	Barrier River	82.38	22	P	P	04 38 00.2	+0.3
	baz=288,SNR=60						
EPYK	Eagle Plains	82.41	23	P	P	04 38 00.1	-0.1
	baz=287,SNR=61						
G30M	tAoh Zraii Nji	82.41	23	IAmb	IAmb	04 38 01.6	
	comp=Z,90nm,0.9s						
G30M	tAoh Zraii Nji	82.41	23	P	P	04 37 59.7	-0.5
	baz=288,SNR=88						
NOR	Nord	82.43	354	P	P	04 37 59.7	-0.3
NOR				pmax	pmax		
	comp=Z,24nm,1.3s						
NOR	Nord	82.43	354	*i* P	P	04 37 59.3	-0.6
NOR				IAmb	IAmb	04 38 00.8	
	comp=Z,11nm,0.9s						
O28M	Mount Upton	82.46	29	P	P	04 38 01.7	+0.8
	baz=285,SNR=24						
YUK8	Steele Glacier	82.53	29	P	P	04 38 02.1	+0.9
	baz=285						
PINM	Pinnacle	82.61	30	P	P	04 38 02.3	+1.0
	baz=285,SNR=24						
TESR	Tescani	82.65	316	⇓P	P	04 38 02.2	+0.4
VRI	Vrincioaia	82.74	315	⇓P	P	04 38 03.4	+1.2
VRI	Vrincioaia	82.74	315	P	P	04 38 03.4	+1.2
PRAR	RASCA	82.75	317	⇓P	P	04 38 02.7	+0.4
L29M	L29M	82.77	27	IAmb	IAmb	04 38 04.7	
	comp=Z,73nm,0.9s						
L29M	L29M	82.77	27	P	P	04 38 03.4	+1.3
	baz=286,SNR=91						
PLOR	Plostina	82.79	315	⇓P	P	04 38 03.6	+1.1
PLOR	Plostina	82.79	315	P	P	04 38 03.6	+1.1
M29M	Somme Creek	82.81	27	IAmb	IAmb	04 38 04.8	
	comp=Z,44nm,0.7s						
M29M	Somme Creek	82.81	27	P	P	04 38 03.6	+1.2
	baz=286,SNR=75						
BISRR	Bisoca	82.82	315	⇑P	P	04 38 03.6	+0.8
K29M	Barlow Dome	82.82	26	IAmb	IAmb	04 38 04.4	
	comp=Z,48nm,0.8s						
K29M	Barlow Dome	82.82	26	P	P	04 38 03.2	+0.7
	baz=287,SNR=82						
STEI	Steigen	82.83	338	*e*P	P	04 38 01.5	-0.7
STEI				IAmb	IAmb	04 38 03.0	
	comp=Z,106nm,0.9s						
PRD	Provadia	82.84	313	*e*P	P	04 38 03.8	+1.0
I30M	Mount Dempster	82.89	24	P	P	04 38 03.0	+0.2
	baz=288,SNR=152						
KULA	Kula-Manisa	82.89	308	P	P	04 38 03.1	-0.2
INK	Inuvik	82.96	21	IAmb	IAmb	04 38 04.0	
	comp=Z,57nm,0.8s						
INK	Inuvik	82.96	21	P	P	04 38 02.7	-0.2
	baz=290,SNR=52						
INK	Inuvik	82.96	21	LR	LR	05 17 37.8	
	comp=Z,37nm,18.6s,baz=231,slow=37						
INK	Inuvik	82.96	21	P	P	04 38 02.7	-0.2
INK				pmax	pmax		
	comp=Z,75nm,1.0s						
FAUS	Fauske	83.00	338	*e*P	P	04 38 02.5	-0.6
FAUS				IAmb	IAmb	04 38 04.3	
	comp=Z,30nm,0.7s						
ISR	Istrita	83.03	315	⇑P	P	04 38 04.0	+0.1
ISR	Istrita	83.03	315	P	P	04 38 03.9	+0.1
YUK4	Talbot Arm	83.03	28	P	P	04 38 04.5	+0.8
	baz=286,SNR=10						
COVR	Voineasa-Covas	83.10	315	⇑P	P	04 38 04.7	+0.5
J30M	Hart River	83.10	25	P	P	04 38 04.3	+0.4
	baz=288,SNR=39						
EDC	Edincik	83.10	310	P	P	04 38 04.2	0.0
SUW	Suwalki	83.11	324	*e*P	P	04 38 04.0	0.0
SUW	Suwalki	83.11	324	P	P	04 38 03.9	0.0
SUW				pmax	pmax		
	comp=Z,137nm,1.1s						
NEHR	Nehoiu	83.13	315	⇓P	P	04 38 05.7	+1.4
PNL	Peninsula	83.14	30	P	P	04 38 04.8	+0.8
	baz=286,SNR=12						
G31M	Satah River	83.16	23	IAmb	IAmb	04 38 04.7	
	comp=Z,52nm,0.9s						
G31M	Satah River	83.16	23	P	P	04 38 03.6	-0.3
	baz=289,SNR=40						
F31M	Tsiigehtchic	83.18	22	P	P	04 38 04.0	0.0
	baz=290,SNR=19						
TURR	Turia	83.18	316	⇓P	P	04 38 05.7	+1.1
AAL	Aland	83.19	330	*e*P	P	04 38 04.0	-0.2
YUK6	Outpost Mounta	83.28	29	P	P	04 38 05.9	+0.9
	baz=286,SNR=7.2						
PBUR	Paburge	83.30	326	*e*P	P	04 38 05.4	+0.6
MLR	Muntele Rosu	83.36	315	⇓P	P	04 38 06.4	+0.8
MLR	Muntele Rosu	83.36	315	IAmb	IAmb	04 38 07.2	
	comp=Z,44nm,0.7s						
MLR	Muntele Rosu	83.36	315	P	P	04 38 06.0	+0.4
	comp=Z,28nm,0.6s,baz=346,slow=5.5,SNR=59						
	comp=Z,28nm,0.6s						
MLR	Muntele Rosu	83.36	315	P	P	04 38 06.4	+0.8
O29M	Mount Kennedy	83.36	29	P	P	04 38 06.4	+1.1
	baz=286						
BURAR	Bucovina Array	83.36	317	⇑P	P	04 38 05.9	+0.3
BURAR	Bucovina Array	83.36	317	P	P	04 38 05.8	+0.3
BUR08	Bucovina Ar. S	83.37	317	IAmb	IAmb	04 38 07.2	
	comp=Z,51nm,0.7s						
BOSR	Bodos	83.42	316	⇓P	P	04 38 06.5	+0.7
H31M	Peel River	83.50	24	P	P	04 38 06.0	+0.2
	baz=289,SNR=68						
M30M	Minto, Yukon	83.51	27	IAmb	IAmb	04 38 08.4	
	comp=Z,82nm,1.3s						
M30M	Minto, Yukon	83.51	27	P	P	04 38 06.9	+1.0
	baz=288,SNR=68						
EDRB	Edirne	83.60	311	P	P	04 38 06.5	-0.2
LVV	L'vov	83.61	320	*e*P	P	04 38 07.3	+0.7
DOPR	Dopca	83.63	316	⇑P	P	04 38 07.2	+0.3
KMBO	Kilima Mbogo	83.71	267	P	P	04 38 10.4	+2.3
KMBO	Kilima Mbogo	83.71	267	P	P	04 38 10.4	+2.3
KMBO				pmax	pmax		
	comp=Z,32nm,1.1s						
HYT	Haines Junctio	83.72	29	IAmb	IAmb	04 38 09.4	
	comp=Z,56nm,1.0s						
HYT	Haines Junctio	83.72	29	P	P

ARR Arges 84.28 315 ⇓P **P 04 38 10.8 +0.6**
N31M Braeburn, Yuko 84.31 28 IAmb IAmb 04 38 12.3
comp=Z,69nm,0.8s
N31M Braeburn, Yuko 84.31 28 P **P 04 38 10.8 +0.8**
baz=288,SNR=54
ALN Alexandroupoli 84.33 311 IAmb IAmb 04 38 11.3
comp=Z,47nm,0.9s
ALN Alexandroupoli 84.33 311 P **P 04 38 09.9 -0.5**
EZN Ezine 84.37 309 P **P 04 38 10.4 -0.2**
EZN Ezine 84.37 309 P **P 04 38 11.0 +0.4**
O30N Mendenhall 84.39 29 IAmb IAmb 04 38 12.7
comp=Z,49nm,0.8s
O30N Mendenhall 84.39 29 P **P 04 38 11.3 +0.9**
baz=288,SNR=46
UPP Uppsala 84.42 330 *e*P **P 04 38 10.3 -0.1**
PVL Pavlikeni 84.44 313 *e*P **P 04 38 11.4 +0.4**
SMG Samos 84.47 307 P **P 04 38 11.2 0.0**
BMR Baia Mare 84.48 318 ⇑P **P 04 38 12.3 +1.2**
BMR Baia Mare 84.48 318 P **P 04 38 12.2 +1.2**
KWP Kalwaria Pacla 84.49 320 *e*P **P 04 38 12.8 +1.7**
KWP Kalwaria Pacla 84.49 320 P **P 04 38 12.9 +1.8**
KWP pmax pmax
comp=Z,143nm,1.3s
PRK Paraskevi 84.54 309 P **P 04 38 10.9 -0.6**
RDO Rodhopi 84.65 311 IAmb IAmb 04 38 12.8
comp=Z,45nm,0.9s
RDO Rodhopi 84.65 311 P **P 04 38 11.4 -0.6**
CJR Cluj-Napoca 84.65 317 ⇑P **P 04 38 12.8 +0.8**
CJR Cluj-Napoca 84.65 317 P **P 04 38 12.8 +0.8**
PLBC Pleasant Camp 84.68 30 P **P 04 38 12.3 +0.6**
baz=288,SNR=13
M31M Drury Creek, Y 84.69 27 IAmb IAmb 04 38 13.6
comp=Z,50nm,0.9s
M31M Drury Creek, Y 84.69 27 P **P 04 38 12.4 +0.5**
baz=290,SNR=34
VLAD Vladila 84.77 314 ⇓P **P 04 38 13.6 +1.1**
SMTH Samothraki Isl 84.81 310 P **P 04 38 12.0 -0.9**
LOT Lotru 84.85 315 ⇓P **P 04 38 13.8 +0.6**
KOLS Kolonicke sedl 84.94 319 *e*P **P 04 38 14.0 +0.6**
KOLS pmax pmax
comp=Z,31nm,0.7s
KOLS Kolonicke sedl 84.94 319 *e*P **P 04 38 14.0 +0.6**
MARR Marisel-Cluj 84.98 317 ⇑P **P 04 38 14.3 +0.6**
WHY Whitehorse 84.99 29 IAmb IAmb 04 38 15.7
comp=Z,83nm,1.0s
WHY Whitehorse 84.99 29 P **P 04 38 14.8 +1.3**
baz=289,SNR=44
BEL Belsk 85.07 322 *e*P **P 04 38 14.8 +0.9**
BEL Belsk 85.07 322 P **P 04 38 14.8 +0.9**
BEL pmax pmax
comp=Z,258nm,0.9s
SKAG Skagway 85.18 30 IAmb IAmb 04 38 16.6
comp=Z,66nm,1.0s
SKAG Skagway 85.18 30 P **P 04 38 15.4 +1.2**
baz=289,SNR=23
LIA Limnos Island 85.21 310 P **P 04 38 13.9 -0.9**
S31K Pelican 85.21 31 P **P 04 38 15.5 +1.1**
baz=288,SNR=5.8
DRGR 85.22 317 ⇓P **P 04 38 15.5 +0.6**
DRGR 85.22 317 P **P 04 38 15.5 +0.6**
NSS Namsos 85.29 336 *e*P **P 04 38 13.5 -1.2**
NSS IAmb IAmb 04 38 14.9
comp=Z,17nm,0.7s
PGB Panagyurishte 85.30 312 *e*P **P 04 38 15.5 +0.2**
VIKU Vikbolandet 85.30 329 *e*P **P 04 38 15.0 +0.1**
DEV Deva 85.33 316 ⇓P **P 04 38 16.6 +1.3**
DEV Deva 85.33 316 P **P 04 38 16.6 +1.3**
THAS Thassos island 85.38 311 P **P 04 38 15.1 -0.6**
MPEP Malo Peshtene 85.40 313 *e*P **P 04 38 16.1 +0.3**
KAVA Kavala 85.43 311 P **P 04 38 15.9 -0.1**
STHS Stebnicka Huta 85.47 320 *e*P **P 04 38 15.7 -0.3**
STHS pmax pmax
comp=Z,26nm,0.9s
STHS Stebnicka Huta 85.47 320 *e*P **P 04 38 15.7 -0.3**
CRVS Cervenica-Dubn 85.47 319 *e*P **P 04 38 16.9 +0.9**
CRVS pmax pmax
comp=Z,204nm,1.1s
CRVS Cervenica-Dubn 85.47 319 *e*P **P 04 38 16.9 +0.9**
VALD Valchedram 85.53 314 *e*P **P 04 38 17.2 +0.8**
GZR Gura Zlata 85.54 316 ⇓P **P 04 38 17.2 +0.7**
N32M Quiet Lake 85.65 28 P **P 04 38 17.3 +0.6**
baz=291
C36M Paulatuk 85.67 19 P **P 04 38 16.2 -0.3**
baz=298,SNR=24
PUNG Punghina 85.73 314 ⇓P **P 04 38 18.5 +1.2**
NVR Nevrokopi 85.82 311 P **P 04 38 17.9 0.0**
SANT Santorini 85.85 306 ⇓P **P 04 38 18.3 +0.1**
MMB Musomishta 85.85 312 *e*P **P 04 38 17.6 -0.5**
KOKK Kokkinochori, 85.86 311 P **P 04 38 17.2 -0.9**
SURR Surduc 85.89 316 ⇓P **P 04 38 18.8 +0.7**
P32M Atlin 85.91 29 P **P 04 38 18.5 +0.6**
baz=290,SNR=25
HERR Herculane 85.92 315 ⇓P **P 04 38 19.0 +0.7**
VTS Vitosha 85.95 313 *e*P **P 04 38 18.6 -0.1**
R32K Eaglecrest 85.97 31 P **P 04 38 19.2 +0.9**
baz=290,SNR=6.9
SIT Sitka 85.97 32 P **P 04 38 19.3 +1.0**
baz=289,SNR=6.7
OUR Ouranopolis 85.99 310 P **P 04 38 17.9 -0.8**
NIE Niedzica 86.06 320 *e*P **P 04 38 20.7 +1.7**
NIE Niedzica 86.06 320 P **P 04 38 20.4 +1.5**
NIE pmax pmax
comp=Z,41nm,1.1s
SIRR Siria 86.06 317 ⇓P **P 04 38 19.9 +0.9**
SRS Serrai 86.08 311 P **P 04 38 18.1 -1.1**
P33M Teslin, Yukon 86.11 29 IAmb IAmb 04 38 20.9
comp=Z,38nm,1.1s
P33M Teslin, Yukon 86.11 29 P **P 04 38 19.6 +0.6**
baz=291,SNR=23
OJC Ojcow 86.14 321 *e*P **P 04 38 19.8 +0.5**
OJC Ojcow 86.14 321 P **P 04 38 19.6 +0.4**
OJC pmax pmax
comp=Z,113nm,1.0s
HFS Hagfors 86.19 331 P **P 04 38 18.3 -1.0**
comp=Z,13nm,0.5s,baz=98,slow=5.2,SNR=69
HFS LR LR 05 21 41.6
comp=Z,94nm,18.7s,baz=90,slow=39
comp=Z,13nm,0.5s
KECS Kecovo 86.21 319 *e*P **P 04 38 20.5 +0.9**
KECS pmax pmax
comp=Z,68nm,0.7s
KECS Kecovo 86.21 319 *e*P **P 04 38 20.5 +0.9**
S32K Killisnoo 86.22 32 P **P 04 38 20.1 +0.7**
baz=290
KKB Krupnik 86.23 312 *e*P **P 04 38 19.6 -0.3**
BZS Buzias 86.27 316 ⇑P **P 04 38 19.9 -0.1**
BZS Buzias 86.27 316 P **P 04 38 19.8 -0.1**
PAIG Paliouri 86.32 310 P **P 04 38 19.2 -1.1**
KYMI Kymi, Euboea I 86.34 309 P **P 04 38 19.5 -1.0**
DAG Danmarks Havn 86.36 351 P **P 04 38 18.2 -1.6**
DAG pmax pmax
comp=Z,11nm,0.7s
DAG Danmarks Havn 86.36 351 *i*P **P 04 38 18.0 -1.8**
DAG IAmb IAmb 04 38 21.6
comp=Z,6.9nm,0.7s
PLG Polygyros 86.38 311 P **P 04 38 19.5 -1.2**
MDVR Moldovita 86.43 315 ⇓P **P 04 38 21.3 +0.5**
KNT Kendrikon 86.57 311 P **P 04 38 20.6 -1.0**
HORT Hortiatis 86.57 311 P **P 04 38 20.0 -1.7**
LANS Liptovska Anna 86.66 320 *e*P **P 04 38 23.2 +1.3**
LANS pmax pmax
comp=Z,14nm,1.2s
LANS Liptovska Anna 86.66 320 *e*P **P 04 38 23.2 +1.3**
PSZ Piszkesteto 86.75 319 ⇓P **P 04 38 23.2 +0.8**
PSZ Piszkesteto 86.75 319 P **P 04 38 23.1 +0.8**
BOVS Bovan 86.75 314 ⇑P **P 04 38 22.2 -0.2**
VLY Voula,Athens 86.77 308 P **P 04 38 20.8 -1.8**
Q32M Nakina River 86.83 30 P **P 04 38 23.6 +1.0**
baz=292,SNR=6.5
NB201 NORSAR Array S 86.94 333 IAmb IAmb 04 38 23.2
comp=Z,72nm,1.2s
STIP Stip 86.94 312 *i*P **P 04 38 21.9 -1.5**
NC602 NORSAR Array S 86.95 332 IAmb IAmb 04 38 23.1
comp=Z,60nm,1.3s
NC602 NORSAR Array S 86.95 332 *e*P **P 04 38 22.0 -0.9**
NC602 IAmb IAmb 04 38 23.5
comp=Z,80nm,1.4s
NORES NORESS Array B 86.95 332 P **P 04 38 22.1 -0.9**
NORES pmax pmax
comp=Z,8.0nm,1.1s
NB2 NORSAR Subarra 86.97 333 P **P 04 38 21.9 -1.3**
comp=Z,64nm,1.0s,baz=66,slow=4.8
NB2 PP PP 04 41 39.0 -8.7
comp=Z,0.8nm,0.6s,baz=69,slow=8.6
NB2 NORSAR Subarra 86.97 333 P **P 04 38 21.9 -1.3**
baz=66,slow=4.8
NOA NORSAR Array B 86.97 333 P **P 04 38 22.4 -0.7**
comp=Z,29nm,0.9s,baz=68,slow=4.6,SNR=78
NOA PP PP 04 41 38.0 -10
comp=Z,0.6nm,0.7s,baz=50,slow=7.0,SNR=3.1
NOA LR LR 05 20 06.3
comp=Z,34nm,18.9s,baz=70,slow=37
comp=Z,29nm,0.9s
NC204 NORSAR Array S 87.08 333 IAmb IAmb 04 38 24.1
comp=Z,44nm,0.8s
LIT Litokhoron 87.16 310 IAmb IAmb 04 38 24.4
comp=Z,64nm,1.2s
LIT Litokhoron 87.16 310 P **P 04 38 23.1 -1.3**
NBO00 NORSAR Array S 87.17 333 IAmb IAmb 04 38 24.4
comp=Z,39nm,1.1s
NAO01 NORSAR Array S 87.20 332 IAmb IAmb 04 38 24.3
comp=Z,41nm,0.9s
IMMV Iera Moni Meta 87.24 306 P **P 04 38 24.2 -0.7**
VYHS Vyhne 87.25 319 *e*P **P 04 38 25.2 +0.5**
VYHS pmax pmax
comp=Z,35nm,1.5s
VYHS Vyhne 87.25 319 *e*P **P 04 38 25.2 +0.5**
OKC Ostrava-Krasne 87.27 321 *e*P **P 04 38 25.6 +0.9**
OKC Ostrava-Krasne 87.27 321 *e*P **P 04 38 25.6 +0.9**
R33M Jennings River 87.28 29 P **P 04 38 25.6 +0.8**
baz=293,SNR=12
SKO Skopje 87.40 313 *i*P **P 04 38 25.6 +0.1**
U33K Whale Pass 87.44 33 P **P 04 38 25.6 +0.2**
baz=291
DOMB Dombas 87.50 334 *e*P **P 04 38 25.6 -0.1**
DOMB IAmb IAmb 04 38 26.5
comp=Z,16nm,0.8s
AGG Agios Georgios 87.57 309 P **P 04 38 24.1 -2.3**
MAUC Maruska 87.61 320 *e*P **P 04 38 27.7 +1.3**
FRGS Fruska Gora 87.62 316 ⇓P **P 04 38 26.8 +0.2**
FRGS Fruska Gora 87.62 316 ⇑*i*P **P 04 38 25.8 -0.8**
OSL Oslo 87.64 332 *e*P **P 04 38 25.9 -0.3**
OSL IAmb IAmb 04 38 27.0
comp=Z,33nm,0.9s
MORC Moravsky Berou 87.66 321 ⇑P **P 04 38 27.4 +0.7**
MORC Moravsky Berou 87.66 321 IAmb IAmb 04 38 28.3
comp=Z,38nm,1.3s
MORC Moravsky Berou 87.66 321 *e*P **P 04 38 26.7 0.0**
MORC Moravsky Berou 87.66 321 P **P 04 38 27.3 +0.7**
ANKY Antikythira Is 87.67 306 P **P 04 38 26.0 -0.9**
CRAG Craig 87.67 33 P **P 04 38 27.3 +0.8**
baz=291
VLI Veliai 87.73 307 P **P 04 38 25.0 -2.2**
WRAK Wrangell Islan 87.73 32 P **P 04 38 27.7 +0.9**
baz=292
S34M Telegraph Cree 87.78 30 P **P 04 38 27.9 +0.9**
baz=293,SNR=6.3
FNA Florina 87.78 311 IAmb IAmb 04 38 27.1
comp=Z,66nm,1.7s
GUR Goura 87.85 308 P **P 04 38 26.0 -1.9**
JAVC Velka Javorina 87.87 320 *e*P **P 04 38 28.9 +1.2**
KLV Kalavryta, Ach 87.97 309 P **P 04 38 26.6 -1.8**
ANX Ano Chora 87.99 309 P **P 04 38 27.3 -1.3**
KRLC Kraliky 88.02 321 *e*P **P 04 38 28.7 +0.3**
KRLC Kraliky 88.02 321 *e*P **P 04 38 28.7 +0.3**
SJES Sjenica 88.07 314 ⇑*i*P **P 04 38 29.0 +0.2**
MORH Mrgy, Hungar 88.08 317 ⇑P **P 04 38 29.3 +0.6**
DLBC Dease Lake 88.11 30 IAmb IAmb 04 38 31.1
comp=Z,44nm,1.6s
DLBC Dease Lake 88.11 30 P **P 04 38 29.6 +0.9**
baz=294,SNR=11
OHR Ohrid 88.11 312 *i*P **P 04 38 28.6 -0.5**
DPC Dobruska-Polom 88.21 322 *e*P **P 04 38 29.9 +0.6**
DPC Dobruska-Polom 88.21 322 *e*P **P 04 38 29.9 +0.6**
KBN Korca 88.26 311 P **P 04 38 28.9 -0.8**
KBN pmax pmax
comp=Z,19nm,1.2s
MODS Modra-Piesok 88.28 320 *e*P **P 04 38 30.2 +0.6**
MODS pmax pmax
comp=Z,31nm,1.4s
MODS Modra-Piesok 88.28 320 *e*P **P 04 38 30.2 +0.6**
BBLS Lazi&#263i 88.28 315 ⇑*i*P **P 04 38 29.5 -0.3**
UPC Upice 88.34 322 *e*P **P 04 38 30.3 +0.5**
UPC Upice 88.34 322 *e*P **P 04 38 30.3 +0.5**
ITM Ithomi 88.38 308 IAmb IAmb 04 38 31.2
comp=Z,35nm,0.6s
ITM Ithomi 88.38 308 P **P 04 38 28.7 -1.6**
RUDO Rudo 88.38 315 *e*P **P 04 38 30.0 -0.2**
VRAC Vranov 88.39 321 ⇑P **P 04 38 30.8 +0.7**
VRAC Vranov 88.39 321 *e*P **P 04 38 30.5 +0.4**
VRAC Vranov 88.39 321 P **P 04 38 30.8 +0.7**
comp=Z,12nm,0.7s,baz=74,slow=4.9,SNR=25
VRAC LR LR 05 19 04.6
comp=Z,78nm,18.2s,baz=96,slow=36
comp=Z,12nm,0.7s
SKAR Skarslia 88.42 333 *e*P **P 04 38 29.2 -0.8**
SKAR IAmb IAmb 04 38 31.2
comp=Z,15nm,1.0s
ZST Bratislava 88.44 319 *e*P **P 04 38 31.6 +1.3**
ZST pmax pmax
comp=Z,46nm,1.4s
ZST Bratislava 88.44 319 *e*P **P 04 38 31.6 +1.3**
RLS Riolos of Patr 88.48 309 P **P 04 38 29.1 -1.6**
DBG Daneborg 88.54 350 *i*P **P 04 38 29.3 -0.9**
DBG IAmb IAmb 04 38 35.2
comp=Z,2.7nm,1.0s
KRUC Moravsky 88.60 320 *e*P **P 04 38 31.5 +0.4**
KRUC Moravsky 88.60 320 P **P 04 38 31.7 +0.6**
KRUC pmax pmax
comp=Z,20nm,1.5s
PYL PYLOS 88.60 308 P **P 04 38 29.7 -1.6**
NEEM North Greenlan 88.67 358 *i*P **P 04 38 31.4 +0.1**
NEEM IAmb IAmb 04 38 32.6
comp=Z,31nm,0.7s
PDG Podgorica 88.82 313 ⇓P **P 04 38 32.4 +0.2**
PDG Podgorica 88.82 313 IAmb IAmb 04 38 33.0
comp=Z,40nm,1.0s
PDG Podgorica 88.82 313 ⇑*i*P **P 04 38 31.6 -0.6**
UPM Unac-Piva 88.83 314 *e*P **P 04 38 31.6 -0.9**
RES Resolute Bay 88.85 9 IAmb IAmb 04 38 32.7
comp=Z,25nm,0.8s
RES Resolute Bay 88.85 9 P **P 04 38 32.2 +0.5**
RES pmax pmax
comp=Z,33nm,1.0s
LKD2 Lefkada island 88.88 310 P **P 04 38 31.1 -1.6**
IGT Igoumenitsa 88.91 310 P **P 04 38 31.1 -1.6**
DRME Dracevica, Mon 88.95 313 ⇑*i*P **P 04 38 32.6 -0.2**
RUE Ruedersdorf 88.95 324 *e*P 04 38 33.3
comp=Z,60nm,0.9s,baz=66,slow=4.6
RONA Rosalia, Austr 89.12 319 *i*P **P 04 38 33.3 -0.3**
comp=Z,7.3nm,1.1s
BRY Bratogost 89.18 314 *e*P **P 04 38 33.2 -0.9**
PVCC Panska Ves 89.20 322 P **P 04 38 34.3 +0.5**
PVCC pmax pmax
comp=Z,36nm,1.5s
GOPC GO Pecny, Ondr 89.29 322 *e*P **P 04 38 34.8 +0.5**
GOPC GO Pecny, Ondr 89.29 322 *e*P **P 04 38 34.8 +0.5**
CONA Conrad Observa 89.32 319 *i*P **P 04 38 34.3 -0.3**
comp=Z,8.3nm,1.2s
HCY Herceg Novi 89.35 314 *e*P **P 04 38 31.5 -3.2**
BRG Berggiesshubel 89.45 323 ⇓*i*P **P 04 38 35.6 +0.6**
BRG Amp 04 38 36.5
comp=Z,28nm,0.9s
BRG pP **pP 04 39 10.0 -0.4**
BRG Amp 04 39 11.3
comp=Z,3.9nm,0.8s
BRG Berggiesshubel 89.45 323 ⇓*i*P **P 04 38 35.6 +0.6**
BRG 04 39 09.9
BRG pmax pmax
comp=Z,28nm,0.9s
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG Berggiesshubel 89.45 323 *e*P 04 38 35.4
comp=Z,28nm,0.9s,baz=66,slow=4.6
BLY Banja Luka 89.52 316 ⇑*i*P **P 04 38 35.5 0.0**
MGRS Mrkonjic Grad 89.69 316 *e*P **P 04 38 35.9 -0.4**
ARSA Arzberg 89.77 319 *i*P **P 04 38 36.8 +0.2**
comp=Z,9.8nm,0.9s
STON Ston 89.77 314 *e*P **P 04 38 33.1 -3.6**
BLS5 Blasjo 89.82 332 *e*P **P 04 38 36.6 +0.1**
BLS5 IAmb IAmb 04 38 37.1
comp=Z,36nm,0.9s
ZVC Zvikov 89.82 321 *e*P **P 04 38 37.2 +0.4**
CLL Collm 89.83 323 ⇓*i*P **P 04 38 36.8 0.0**
comp=Z,29nm,1.2s
CLL *e*pP **pP 04 39 12.0 -0.2**
CLL *e*PP **PP 04 42 08.0 -2.8**
CLL Collm 89.83 323 P **P 04 38 37.1 +0.3**
CLL pmax pmax
comp=Z,20nm,1.2s
CLL Collm 89.84 323 *e*P 04 38 36.7
comp=Z,20nm,1.0s,baz=66,slow=4.6
HSKC Hora Svate Kat 89.85 322 *e*P **P 04 38 37.7 +0.8**
RICI Ricice 89.96 315 *i*P **P 04 38 36.7 -0.9**
CKRC Cesky Krumlov 89.97 321 *e*P **P 04 38 38.3 +0.8**
CKRC Cesky Krumlov 89.97 321 *e*P **P 04 38 38.3 +0.8**
A050A Klekovaca 90.05 316 ⇑*i*P **P 04 38 36.9 -1.1**
GORT1 Trebel 90.14 325 *e*P 04 38 38.7
comp=Z,68nm,1.5s,baz=66,slow=4.6
TOAD Toad River Com 90.19 28 P **P 04 38 38.8 +0.5**
baz=298
SOKA Soboth 90.28 318 *i*P **P 04 38 39.2 +0.1**
comp=Z,12nm,1.0s,SNR=9.7
BSEG Bad Segeberg 90.30 326 P **P 04 38 39.5 +0.6**
BSEG pmax pmax
comp=Z,30nm,1.0s
BSEG Bad Segeberg 90.30 326 *e*P 04 38 39.2
comp=Z,24nm,0.9s,baz=66,slow=4.6
CRES Cresnjev 90.30 318 *i*P **P 04 38 39.1 0.0**
CRES Cresnjev 90.30 318 ⇑*i*P **P 04 38 39.1 0.0**
KHC Kasperske Hory 90.31 321 *e*P **P 04 38 39.4 +0.3**
KHC AMS AMS 05 18 40.0
comp=Z,100nm,17.2s
KHC Kasperske Hory 90.31 321 *c e*P **P 04 38 39.6 +0.5**
KHC pmax pmax
comp=Z,36nm,1.3s
GEC2 GERESS Array S 90.34 321 P **P 04 38 39.8 +0.5**
GEC2 pmax pmax
comp=Z,25nm,1.6s
GERES GERESS Array B 90.34 321 P **P 04 38 38.9 -0.4**
GERES GERESS Array B 90.34 321 P **P 04 38 39.4 +0.1**
comp=Z,8.9nm,0.8s,baz=64,slow=6.1,SNR=26
comp=Z,8.9nm,0.8s
GEC2 GERESS Array S 90.34 321 *e*P 04 38 39.6
comp=Z,21nm,1.0s,baz=66,slow=4.6
MOA Molln 90.35 320 *i*P **P 04 38 40.1 +0.8**
comp=Z,26nm,0.7s,SNR=22
MOA Molln 90.35 320 *e*P 04 38 39.7
comp=Z,40nm,1.0s,baz=66,slow=4.6
FLTG Flechtingen 90.45 325 *e*P 04 38 39.1
comp=Z,32nm,1.4s,baz=66,slow=4.6
TANN Tannenbergstha 90.49 323 *e*P 04 38 40.1
comp=Z,18nm,1.1s,baz=66,slow=4.6
BOJS Bojanci 90.55 317 ⇑*i*P **P 04 38 40.0 -0.2**
NEUB Neuenburg 90.59 323 *e*P 04 38 40.4
comp=Z,29nm,1.1s,baz=66,slow=4.6
OBKA Obir 90.65 318 *i*P **P 04 38 41.1 +0.3**
comp=Z,16nm,1.0s,SNR=6.9
OBKA Obir 90.65 318 *e*P **P 04 38 40.2 -0.6**
OBKA Obir 90.65 318 *e*P 04 38 40.8
comp=Z,10nm,0.8s,baz=66,slow=4.6
WET Wettzell 90.73 321 P **P 04 38 41.1 +0.1**
WET pmax pmax
comp=Z,15nm,1.5s
WET Wettzell 90.73 321 *e*P 04 38 41.4
comp=Z,30nm,1.4s,baz=66,slow=4.6
BIOA Bad Ischl, Aus 90.80 320 *i*P **P 04 38 41.8 +0.4**
comp=Z,12nm,1.1s
LJU Ljubljana 90.83 318 *e*P **P 04 38 41.6 +0.1**
MANZ Manzenberg 90.87 322 *e*P 04 38 42.2
comp=Z,4.6nm,1.3s,baz=66,slow=4.6
ROTZ Rotzenmuhle 90.89 322 *e*P 04 38 42.5
comp=Z,7.5nm,1.1s,baz=66,slow=4.6
MOX Moxa 90.90 323 P **P 04 38 42.1 +0.3**
MOX pmax pmax
comp=Z,16nm,1.3s
MOX Moxa 90.90 323 *e*P 04 38 42.0
comp=Z,25nm,1.3s,baz=66,slow=4.6
CEY Cerknica 91.01 318 ⇑*i*P **P 04 38 42.1 -0.3**
NRDL Niedersach Rie 91.01 325 *e*P 04 38 42.5
comp=Z,16nm,1.0s,baz=66,slow=4.6
CLZ Clausthal 91.13 324 *e*P 04 38 43.1
comp=Z,27nm,1.2s,baz=66,slow=4.6
MYKA Terra Mystica 91.19 319 *i*P **P 04 38 43.1 -0.2**
comp=Z,4.2nm,0.7s
MATE Matera 91.20 312 ⇑P **P 04 38 43.6 +0.3**
DUGI Dugi Otok 91.21 316 *i*P **P 04 38 42.4 -1.0**
KBA Koelnbreinsper 91.22 319 *i*P **P 04 38 43.2 -0.3**
comp=Z,15nm,1.0s,SNR=8.3
KBA Koelnbreinsper 91.22 319 P **P 04 38 42.8 -0.7**
KBA pmax pmax
comp=Z,18nm,0.8s
MAW Mawson 91.24 199 P **P 04 38 43.0 +0.3**
comp=Z,13nm,1.1s,baz=104,slow=5.8,SNR=8.8
comp=Z,13nm,1.1s
CADS Cadrg 91.28 318 *i*P **P 04 38 43.0 -0.7**
RJOB Jochberg 91.31 320 *e*P 04 38 43.9
comp=Z,21nm,1.1s,baz=66,slow=4.6
RETH Rethem/Aller, 91.32 325 *e*P 04 38 43.7
comp=Z,44nm,1.9s,baz=66,slow=4.6
GRB1 Grafenberg Arr 91.37 322 P **P 04 38 45.0 +1.0**
GRB1 pmax pmax
comp=Z,36nm,1.0s
SABO M.te Sabotino 91.46 318 IAmb IAmb 04 38 44.5
comp=Z,9.4nm,0.8s
GTTG Gottingen 91.49 324 *e*P 04 38 44.9
comp=Z,28nm,1.1s,baz=66,slow=4.6
LESA Schwarzleotal 91.51 320 *i*P **P 04 38 44.7 -0.1**
comp=Z,26nm,1.0s
TIP Timpagrande 91.65 311 ⇓P **P 04 38 46.3 +0.7**
TIP Timpagrande 91.65 311 IAmb IAmb 04 38 47.0
comp=Z,40nm,1.1s
UBBA Unterbreizbach 91.77 324 *e*P 04 38 45.8
comp=Z,24nm,1.4s,baz=66,slow=4.6
ABTA Abfaltersbach 91.87 319 *i*P **P 04 38 46.0 -0.5**
comp=Z,16nm,0.9s,SNR=13
STAL STALIGIAL 91.93 319 IAmb IAmb 04 38 47.0
comp=Z,36nm,1.0s
CUC Castrocucco 92.06 312 IAmb IAmb 04 38 47.4
comp=Z,18nm,1.1s
FUR Furstenfeldbru 92.09 321 *e*P 04 38 47.9
comp=Z,38nm,1.1s,baz=66,slow=4.6
WTTA Wattenberg 92.22 320 *i*P **P 04 38 48.1 0.0**
comp=Z,47nm,1.0s,SNR=26
WTTA Wattenberg 92.22 320 P **P 04 38 47.8 -0.4**
WTTA pmax pmax
comp=Z,61nm,1.0s
WTTA Wattenberg 92.22 320 *e*P 04 38 48.0
comp=Z,51nm,1.0s,baz=66,slow=4.6
WATA Walderalm 92.23 320 *i*P **P 04 38 48.0 -0.2**
comp=Z,29nm,1.1s,SNR=7.9
IBBN Ibbenburen 92.39 325 *e*P 04 38 49.0
comp=Z,30nm,1.1s,baz=66,slow=4.6
SQTA Sankt Quirin 92.50 320 *i*P **P 04 38 49.4 0.0**
comp=Z,38nm,1.0s,SNR=17
KASTN Kahler Asten 92.51 324 *e*P 04 38 49.6
comp=Z,41nm,1.8s,baz=66,slow=4.6
MOTA Moosalm 92.52 320 *i*P **P 04 38 49.5 -0.1**
comp=Z,38nm,0.9s,SNR=18
SUMG Summit 92.58 354 IAmb IAmb 04 38 50.9
comp=Z,24nm,1.2s
SUMG Summit 92.58 354 *i*P **P 04 38 49.0 -0.6**
SUMG IAmb IAmb 04 38 52.8
comp=Z,7.9nm,1.1s
YKA Yellowknife Ar 92.65 22 P **P 04 38 49.2 -0.4**
YKA Yellowknife Ar 92.65 22 P **P 04 38 50.0 +0.4**
comp=Z,15nm,0.8s,baz=310,slow=4.6,SNR=56
comp=Z,15nm,0.8s
YKA Yellowknife Ar 92.65 22 P **P 04 38 50.0 +0.4**
RETA Reutte 92.68 320 *i*P **P 04 38 50.1 0.0**
comp=Z,11nm,1.0s
CTI Castel Tesino 92.69 319 IAmb IAmb 04 38 50.9
comp=Z,22nm,1.2s
INTR Introdacqua 92.71 314 IAmb IAmb 04 38 52.1
comp=Z,16nm,0.8s
GUMA Gualdo di Mace 92.71 315 IAmb IAmb 04 38 51.9
comp=Z,68nm,1.2s
FETA Feichten 92.89 320 *i*PcP **P 04 38 51.5 +0.3**
comp=Z,32nm,0.9s,SNR=26
TNS Taunus Mts 92.92 323 P **P 04 38 52.0 +0.8**
TNS pmax pmax
comp=Z,17nm,1.4s
TNS Taunus Mts 92.92 323 *e*P 04 38 51.3
comp=Z,30nm,1.3s,baz=66,slow=4.6
UBR Ueberruh 93.00 321 *e*P 04 38 51.6
comp=Z,27nm,1.0s,baz=66,slow=4.6
BUG Bochum-Univer 93.05 325 *e*P 04 38 51.9
comp=Z,17nm,1.1s,baz=66,slow=4.6
STU Stuttgart 93.10 322 *e*P 04 38 52.3
comp=Z,65nm,1.1s,baz=66,slow=4.6
DAVA Damuels 93.31 320 *i*P **P 04 38 53.3 +0.2**
comp=Z,20nm,1.0s,SNR=6.5
DAVOX Davos/Dischmat 93.52 320 LR LR 05 22 39.5
comp=Z,86nm,19.7s,baz=76,slow=36
AHRW Bad Neuenahr-A 93.57 324 *e*P 04 38 53.9

comp=Z,59nm,1.9s,baz=66,slow=4.6
BFO Black Forest 93.81 322 P **P 04 38 54.8 -0.5**
BFO IAmb IAmb 04 38 56.2
comp=Z,16nm,1.2s
BFO Black Forest 93.81 322 P **P 04 38 54.8 -0.5**
BFO pmax pmax
comp=Z,16nm,1.2s
BFO Black Forest 93.81 322 *e*P 04 38 54.8
comp=Z,14nm,1.2s,baz=66,slow=4.6
SLE Schleitheim 93.96 321 P **P 04 38 55.7 -0.3**
SLE pmax pmax
comp=Z,15nm,1.6s
TUE Stuetta 93.98 320 IAmb IAmb 04 38 58.3
comp=Z,33nm,1.6s
PPT Papeete 94.05 107 LR LR 05 12 55.2
comp=Z,39nm,20.2s,baz=286,slow=30
PPT2 Papeete2 94.05 107 *e*S **S 04 50 01.1 +5.1**
comp=Z,88nm,26.8s
PPT2 Papeete2 94.05 107 *e*LR LR 05 08 57.3
comp=Z,264nm,37.0s
BTNL Ternell 94.08 324 *d*P **P 04 38 55.4 -1.1**
comp=Z,5.6nm,1.4s
MEM Membach 94.14 324 *d*P **P 04 38 57.2 +0.5**
comp=Z,10.0nm,1.3s
MEM Membach 94.14 324 P **P 04 38 57.1 +0.4**
MEM pmax pmax
comp=Z,20nm,1.3s
BHOU Houvegnez 94.26 324 *d*P **P 04 38 57.8 +0.5**
VNDA Vanda 94.29 172 P **P 04 38 56.4 -0.3**
VNDA Vanda 94.29 172 P **P 04 38 55.8 -0.9**
comp=Z,5.2nm,0.8s,baz=307,slow=4.3,SNR=27
VNDA PP **PP 04 42 41.5 -4.2**
comp=Z,1.6nm,0.7s,baz=307,slow=8.3,SNR=6.0
VNDA LR LR 05 20 49.7
comp=Z,40nm,21.6s,baz=320,slow=35
comp=Z,5.2nm,0.8s
VNDA Vanda 94.29 172 P **P 04 38 56.4 -0.3**
VNDA pmax pmax
comp=Z,6.0nm,0.9s
BSTI Sart Tilman 94.40 325 *d*P **P 04 38 58.3 +0.4**
WLF Walferdange 94.50 324 *d*P **P 04 38 59.4 +1.1**
comp=Z,15nm,1.2s
WLF Walferdange 94.50 324 *e*P 04 38 58.7
comp=Z,36nm,1.1s,baz=66,slow=4.6
ECH Echery 94.56 322 P **P 04 38 58.8 +0.1**
ECH pmax pmax
comp=Z,9.0nm,1.6s
BCLA Clavier 94.63 324 *d*P **P 04 38 59.1 +0.2**
BGES Gesves 94.77 325 *d*P **P 04 38 58.8 -0.7**
BGES *dp*P **pP 04 39 33.8 -1.3**
RCHB Rochefort 94.79 324 *d*P **P 04 38 59.9 +0.2**
comp=Z,8.8nm,1.1s
BMRD Maredsous 94.98 325 *d*P **P 04 39 00.6 +0.1**
comp=Z,10nm,1.2s
DOU Dourbes 95.18 324 *d*P **P 04 39 01.5 +0.1**
comp=Z,9.0nm,1.1s
TBI Tubuai 95.44 113 *e*S **S 04 50 12.9 +5.1**
comp=Z,552nm,24.8s
TBI Tubuai 95.44 113 *e*LR LR 05 10 06.0
comp=Z,559nm,37.2s
LSZ Lusaka 95.76 256 P **P 04 39 06.0 +1.1**
LSZ Lusaka 95.76 256 P **P 04 39 06.0 +1.1**
LSZ pmax pmax
comp=Z,40nm,1.4s
PGF Pioggiola 95.85 316 P **P 04 39 04.5 -0.3**
PGF pmax pmax
comp=Z,26nm,0.8s
BNI Bardonecchia 96.28 319 IAmb IAmb 04 39 13.2
comp=Z,9.1nm,0.9s
BNI Bardonecchia 96.28 319 P **P 04 39 06.9 +0.1**
BNI pmax pmax
comp=Z,10.0nm,1.1s
EKA Eskdalemuir Ar 96.39 331 P **P 04 39 05.2 -1.6**
comp=Z,2.8nm,0.9s,baz=88,slow=6.1,SNR=7.0
EKA PP **PP 04 42 57.5 -4.2**
comp=Z,3.7nm,1.0s,baz=60,slow=11,SNR=5.6
EKA PKKPbc **PKKPdf 04 55 50.6 -2.6**
comp=Z,0.6nm,0.7s,baz=264,slow=2.5,SNR=3.5
comp=Z,2.8nm,0.9s
BORG Borgarnes 96.40 345 *i*P **P 04 39 05.0 -1.7**
ORIF Oris-en-Rattie 96.84 319 P **P 04 39 09.7 +0.4**
ORIF pmax pmax
comp=Z,10.0nm,0.7s
YBH Yreka Blue Hor 99.73 43 LR LR 05 15 35.0
comp=Z,41nm,20.8s,baz=314,slow=30
NEW Newport 99.77 35 P **Pdif 04 39 22.0 -0.2**
baz=304
BOSA Boshof 101.06 243 P **Pdif 04 39 28.1 -0.3**
comp=Z,2.8nm,0.7s,baz=38,slow=19,SNR=5.5
QSPA South Pole Qui 103.76 180 Pdiff **Pdif 04 39 39.6 +0.1**
comp=Z,0.9nm,0.6s,baz=256,slow=1.1,SNR=7.0
QSPA PP **PKiKP 04 43 49.8 -6.9**
comp=Z,4.9nm,0.9s,baz=352,slow=3.3,SNR=6.9
QSPA PKKPbc **PKKPbc 04 55 29.5 -4.3**
comp=Z,0.9nm,0.7s,baz=178,slow=0.9,SNR=6.2
NVAR Mina Array Bea 104.31 44 Pdiff **Pdif 04 39 42.0 -0.9**
comp=Z,0.6nm,0.6s,baz=282,slow=6.3,SNR=4.6
NVAR PP **PKiKP 04 43 59.1 +0.3**
comp=Z,0.7nm,0.8s,baz=306,slow=3.5,SNR=4.5
NVAR PKKPab **PKKPab 04 55 48.3 -2.4**
comp=Z,1.5nm,0.7s,baz=133,slow=4.7,SNR=10
ESDC Sonseca Array 105.78 319 PP **PP 04 44 12.3 -0.7**
comp=Z,2.1nm,0.9s,baz=51,slow=8.5,SNR=10
RLMT Red Lodge 105.98 34 P **PKiKP 04 44 01.5 -0.3**
baz=310
SNCC San Nicolas Is 106.03 49 P **PKiKP 04 44 02.3 +0.4**
baz=299
MPMC Manual Prospec 106.08 46 P **PKiKP 04 44 02.4 +0.3**
baz=301
R11B Troy Canyon, C 106.16 43 P **PKiKP 04 44 02.6 +0.4**
baz=303
DUG Dugway, Tooele 106.90 40 P **PKiKP 04 44 03.5 +0.1**
baz=306
GSC Goldstone, Bar 106.95 46 P **PKiKP 04 44 03.8 +0.2**
baz=301
BW06 Boulder Array 107.30 36 P **PKiKP 04 44 04.3 0.0**
baz=309
GMRC Granite Mounta 108.02 46 P **PKiKP 04 44 05.9 +0.2**
baz=302
BELC Belle Mtn. Jos 108.19 47 P **PKiKP 04 44 06.2 +0.1**
baz=302
ULM Lac du Bonnet 108.58 24 PKKPab PKKPab 04 55 27.6 -4.1
comp=Z,2.2nm,0.7s,baz=88,slow=2.8,SNR=5.4
IKP In-Ko-Pah, Jac 108.81 48 P **PKiKP 04 44 07.3 +0.1**
baz=301
K22A Casper 109.09 35 P **PKiKP 04 44 07.4 -0.1**
baz=311
RSSD Black Hills 109.43 32 P **PKiKP 04 44 08.2 -0.1**
baz=314
GLA Glamis 109.53 47 P **PKiKP 04 44 08.5 0.0**
baz=302
O20A White River Ci 109.72 38 P **PKiKP 04 44 08.7 -0.1**
baz=309
SCHQ Schefferville 111.24 5 PKiKP **PKiKP 04 44 07.3 -3.7**
comp=Z,2.3nm,0.4s,baz=258,slow=9.3,SNR=9.5
MVCO Mesa Verde 111.39 40 P **PKiKP 04 44 12.1 0.0**
baz=308
TROLL Troll, Antarti 111.64 197 ⇑PKKPab **PKKPab 04 55 14.8 +0.2**
comp=Z,245nm,0.8s
TROLL ⇑PKiKP **PKiKP 04 44 11.3 -0.1**
comp=Z,130nm,0.7s
SDCO Great Sand Dun 112.89 38 P **PKiKP 04 44 14.8 -0.2**
baz=311
SNAA Sanae 113.30 197 ⇑PKKPab PKKPab 04 55 06.6 -0.6
comp=Z,66nm,0.8s
SNAA Sanae 113.30 197 PKKPab PKKPab 04 55 06.6 -0.6
comp=Z,3.3nm,0.9s,baz=248,slow=6.1,SNR=6.6
ECSD EROS Data Cent 113.37 28 P **PKiKP 04 44 15.0 -0.4**
baz=320
TORD Torodi Ar. Bea 113.68 291 PKiKP **PKiKP 04 44 15.9 -0.8**
comp=Z,1.1nm,0.7s,baz=84,slow=3.0,SNR=7.7
TORD PKKPab **PKKPab 04 55 07.1 -1.0**
comp=Z,3.8nm,0.9s,baz=280,slow=4.2,SNR=13
SPMN Marine on St. 113.86 25 P **PKiKP 04 44 16.1 -0.1**
baz=324
ANMO Albuquerque 114.09 41 P PKPdf 04 44 16.9 -0.4
baz=309
BGNE Belgrade 114.39 31 P **PKiKP 04 44 17.1 -0.4**
baz=318
VNA2 Neumayer--Watz 114.95 197 ⇑PKKPab **PKKPab 04 54 59.4 -0.4**
comp=Z,1.1nm,0.6s,baz=289,slow=1.8
VNA2 ⇑PKiKP **PKiKP 04 44 16.8 -0.8**
comp=Z,6.7nm,0.6s,baz=108,slow=1.6
VNA1 Neumayer--Stat 115.34 197 ⇑PKKPab **PKKPab 04 54 58.7 +0.6**
comp=Z,6.4nm,0.8s
VNA1 ⇑PKiKP **PKiKP 04 44 17.9 -0.3**
comp=Z,5.7nm,0.8s
VNA3 Neumayer Olymp 115.39 196 ⇑PKKPab **PKKPab 04 54 57.9 0.0**
comp=Z,2.8nm,0.9s
VNA3 ⇑PKiKP **PKiKP 04 44 17.8 -0.6**
comp=Z,4.8nm,0.7s
CBKS Cedar Bluff 115.46 34 P **PKiKP 04 44 19.3 -0.3**
baz=316
JFWS Jewell Farm 116.80 25 P **PKPdf 04 44 21.2 -0.8**
baz=326
MNTX Cornudas Mount 116.82 43 P **PKiKP 04 44 22.5 0.0**
baz=309
MSTX Muleshoe 117.04 40 P **PKPdf 04 44 22.8 -0.1**
baz=312
AMTX Amarillo 117.10 38 P **PKPdf 04 44 22.8 -0.1**
baz=313
GLMI Grayling 117.24 20 P **PKiKP 04 44 23.1 +0.3**
baz=332
VHRN Van Horn 117.66 44 **PKiKP 04 44 24.7 +0.5**
WMOK Wichita Mounta 118.91 37 P **PKiKP 04 44 26.5 +0.1**
baz=316
HDIL Hopedale 119.16 26 P **PKPdf 04 44 26.4 -0.2**
baz=326
TXAR Lajitas Array 119.45 44 PKPdf **PKiKP 04 44 27.8 +0.1**
TXAR Lajitas Array 119.45 44 PKP **PKPdf 04 44 27.4 -0.2**
comp=Z,3.4nm,0.8s,baz=234,slow=0.6,SNR=28
TXAR PKKPab **PKKPbc 04 54 41.7 +1.5**
comp=Z,1.3nm,0.9s,baz=134,slow=5.4,SNR=8.4
TXAR Lajitas Array 119.45 44 PKIKP **PKiKP 04 44 27.8 +0.1**
TUL3 Leonard 119.72 34 P **PKPdf 04 44 27.8 0.0**
baz=319
ABTX Abilene, Hawle 119.88 39 P **PKPdf 04 44 28.2 -0.1**
baz=314
LONY Lake Ozonia 120.15 12 P **PKiKP 04 44 28.5 -0.1**
baz=343
SFIN Lafayette 120.21 24 P **PKPdf 04 44 28.6 0.0**
baz=329
CCM Cathedral Cave 120.34 29 PKPdf **PKPdf 04 44 28.5 -0.4**
CCM Cathedral Cave 120.34 29 P **PKPdf 04 44 28.6 -0.4**
baz=324
CCM Cathedral Cave 120.34 29 PKIKP **PKPdf 04 44 28.5 -0.4**
PKME Peaks-Kenny Pk 120.43 8 P **PKiKP 04 44 29.1 +0.1**
baz=349
LBNH Lisbon 121.02 10 P **PKiKP 04 44 30.3 0.0**
baz=346
O48B Farmland 121.06 23 P **PKPdf 04 44 29.9 -0.4**
baz=331
ERPA Erie 121.13 18 P **PKPdf 04 44 30.4 0.0**
baz=337
JCT Junction City 121.24 41 P **PKiKP 04 44 31.0 -0.1**
baz=313
M53A WI Miller and 121.55 19 P **PKPdf 04 44 30.9 -0.3**
baz=336
WHTX Lake Whitney, 121.64 38 P **PKPdf 04 44 31.7 0.0**
baz=316
P49A Miami Univ. Ec 121.86 23 P **PKPdf 04 44 31.7 -0.2**
baz=331
ACSO Alum Creek Sta 121.87 21 P **PKPdf 04 44 31.7 -0.1**
baz=333
MIAR Mount Ida 121.94 33 P **PKiKP 04 44 32.2 0.0**
baz=320
DBIC Dimbokro 122.04 287 PKP **PKPdf 04 44 32.2 -0.6**
comp=Z,4.5nm,0.6s,baz=47,slow=3.2,SNR=7.8
BINY Binghamton 122.13 14 P **PKPdf 04 44 32.3 0.0**
baz=341
WCI Wyandotte Cave 122.37 25 PKPdf **PKPdf 04 44 32.7 -0.1**
WCI Wyandotte Cave 122.37 25 P **PKPdf 04 44 32.7 -0.1**
baz=329
WCI Wyandotte Cave 122.37 25 PKIKP **PKPdf 04 44 32.7 -0.1**
435B Jarrell 122.42 39 P **PKPdf 04 44 33.2 0.0**
baz=315
O53A New Philadelph 122.45 20 P **PKPdf 04 44 32.9 -0.1**
baz=335
L61B Northampton 122.61 12 P **PKPdf 04 44 33.2 0.0**
baz=345
P52A Corning 122.70 21 P **PKPdf 04 44 33.1 -0.4**
baz=334
HRV Adam Dziewonsk 122.77 11 P **PKiKP 04 44 33.6 -0.1**
baz=346
833A Chaparral WMA, 122.96 42 P **PKiKP 04 44 34.7 +0.2**
baz=312
SSPA Standing Stone 123.11 17 **PKPdf 04 44 34.0 -0.2**
SSPA Standing Stone 123.11 17 P **PKPdf 04 44 34.2 0.0**
baz=338
MCWV Mont Chateau 123.43 19 P **PKiKP 04 44 35.0 -0.1**
baz=336
NATX Nacogdoches 123.44 36 P **PKiKP 04 44 35.3 0.0**
baz=318
WVT Waverly 123.48 27 PKPdf **PKPdf 04 44 34.8 -0.2**
WVT Waverly 123.48 27 P **PKPdf 04 44 34.8 -0.2**
baz=326
WVT Waverly 123.48 27 PKIKP **PKPdf 04 44 34.8 -0.2**
PAL Palisades 123.75 13 P **PKiKP 04 44 35.6 -0.1**
baz=343
HKT Hockley 124.07 38 **PKiKP 04 44 37.2 +0.7**
HKT Hockley 124.07 38 PKIKP **PKiKP 04 44 37.2 +0.7**
OXF Oxford 124.07 30 P **PKPdf 04 44 36.0 -0.2**
baz=324
TZTN Tazewell 124.92 24 P **PKPdf 04 44 37.8 0.0**
baz=331
BLA Blacksburg 125.46 20 P **PKPdf 04 44 38.6 -0.2**
baz=335
CBN Corbin Frederi 125.51 17 P **PKPdf 04 44 39.0 +0.2**
baz=338
SMAI San Martin Ant 125.61 177 **PKPdf 04 44 38.2 +0.2**
LRAL Lakeview Retre 126.43 29 P **PKPdf 04 44 40.8 0.0**
baz=326
KMSC Kings Mountain 127.00 22 P **PKPdf 04 44 42.0 +0.2**
baz=333
GOGA Godfrey 127.67 25 P **PKiKP 04 44 43.5 -0.2**
baz=330
BRAL Brewton 127.94 30 P **PKiKP 04 44 44.4 +0.1**
baz=325
CNNC Cliffs of the 128.09 19 P **PKiKP 04 44 44.7 +0.2**
baz=337
NHSC New Hope 129.24 22 P **PKiKP 04 44 47.1 +0.2**
baz=334
TIGA Tifton 129.32 27 P **PKiKP 04 44 47.2 +0.2**
baz=329
DWPF Disney Wildern 133.13 27 P **PKiKP 04 44 54.5 -0.4**
baz=330
HOPE Hope Point 135.86 199 *i* PKHKP PKPpre 04 44 50.6
JTS Las Juntas de 145.13 48 **PKPbc 04 45 14.7 -0.9**
JTS Las Juntas de 145.13 48 PKIKP **PKPbc 04 45 14.7 -0.9**
MLPR Magueyes Islan 147.45 13 **PKPbc 04 45 22.2 0.0**
SJG San Juan 147.50 12 **PKPbc 04 45 22.5 +0.2**
SJG San Juan 147.50 12 PKP2 **PKPbc 04 45 22.5 +0.2**
PLCA Paso Flores 151.59 162 **PKiKP 04 45 32.6 +0.2**
PLCA Paso Flores 151.59 162 PKPbc **PKPbc 04 45 32.1 +0.2**
comp=Z,17nm,0.8s,baz=216,slow=2.6,SNR=38
ROSC El Rosal 156.26 39 PKP **PKPdf 04 45 33.8 +0.4**
comp=Z,3.6nm,0.6s,baz=272,slow=16,SNR=2.1
ROSC PKPab **PKPab 04 46 01.4 -0.5**
comp=Z,5.4nm,0.5s,baz=241,slow=23,SNR=2.7
OTAV Otavalo 156.55 55 PKPdf **PKPdf 04 45 31.6 -2.3**
OTAV Otavalo 156.55 55 PKIKP **PKPdf 04 45 31.6 -2.3**
MDP Montagnes des 159.91 340 PKPab **PKPab 04 46 16.5 -0.6**
comp=Z,13nm,1.0s,baz=356,slow=3.0,SNR=8.4
ATAH Atahualpa 160.25 72 PKPab **PKPab 04 46 17.8 -1.6**
comp=Z,7.2nm,0.8s,baz=267,slow=6.6,SNR=4.8
CO03 El Pedregal 160.26 150 **PKPab 04 46 18.6 +0.2**
ROSB Rosrio 161.27 304 **PKPab 04 46 22.9 -0.4**
VAO Valinhos 165.07 231 PKPab **PKPab 04 46 41.0 +1.2**
CPUP Villa Florida 167.49 189 PKPab **PKPab 04 46 49.6 -0.3**
comp=Z,3.3nm,1.0s,baz=154,slow=1.5,SNR=3.3
LVC Limon Verde 167.57 135 PKPab **PKPab 04 46 51.4 +0.3**
comp=Z,4.4nm,0.9s,baz=187,slow=11,SNR=3.5
BDFB Brasilia 168.76 260 PKPab **PKPab 04 46 57.9 +1.5**
BDFB Brasilia 168.76 260 PKP **PKPdf 04 45 44.4 -0.8**
comp=Z,1.7nm,0.7s,baz=69,slow=8.8,SNR=4.6
BDFB PKPab **PKPab 04 46 56.8 +0.4**
comp=Z,6.5nm,0.5s,baz=122,slow=4.7,SNR=16
LPAZ La Paz 171.34 107 PKP **PKPdf 04 45 46.0 -1.3**
comp=Z,1.5nm,0.9s,baz=208,slow=1.8,SNR=2.4
LPAZ PKPab **PKPab 04 47 09.4 +1.0**
comp=Z,14nm,1.0s,baz=294,slow=2.0,SNR=23
SAML Samuel 173.88 37 PKPab **PKPab 04 47 16.3 -2.4**
SAML Samuel 173.88 37 PKP2 **PKPab 04 47 16.3 -2.4**
SIV San Ignacio 177.44 144 PKP **PKPdf 04 45 47.9 -0.6**
comp=Z,3.7nm,1.0s,baz=149,slow=2.7,SNR=15
SIV PKPab PKPab 04 47 33.7 -0.8
comp=Z,0.8nm,0.7s,baz=195,slow=9.4,SNR=2.1

*IDC **03** 04:28:43.2±1.0, 37°.69S×73°.77W, h0km, mb3.8/6, mbtmp3.8/8, ML3.9/2, MS3.1/1, Error ellipse: s-maj=35.7km s-min=20.5km az=74.0*
*NEIC **03** 04:28:45.0±0.7, 37°.51S±0°.05×73°.3W±0°.1, h21km±6km, mb4.3/8, Mwr3.8/23, Mwr4.3(GUC), Error ellipse: s-maj=14.4km s-min=6.8km az=89.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}5.02; $M_{\theta\theta}$0.42; $M_{\phi\phi}$-5.44; $M_{r\theta}$-0.26; $M_{\theta\phi}$-2.48; $M_{\phi r}$-3.84; Fault plane solution: $M_0$6.96000×10^{14} NP1:φs33.90000°, δ29.84000°, λ111.72000°. NP2:φs189.22000°, δ62.47000°, λ78.01000°. Principal axes: T 6.3305, Plg70.0000°, Azm74.0000°; N 1.1277, Plg11.0000°, Azm195.0000°; P -7.4583, Plg17.0000°, Azm288.0000°;*
*GUC **03** 04:28:45.8±0.6, 37°.55S×73°.00W, h25km±3km, ML4.4*
*NEIC **03** 04:28:45.6, 37°.51S×73°.29W, h27km*
ISC 03 04:28:44.6±3.1, 37°.53S±0°.03×73°.14W±0°.06, h13km±21km, n78, σ1°.23/91, mb4.1/9, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI04	**Isla Mocha**	**1.06**	**213**	⇑*e*P	**Pb**	**04 29 05.1**	**+0.3**
BI04				*e*S	**Sb**	**04 29 18.7**	**+0.1**
BI04				IAML		04 29 24.8	
comp=N,17μm,0.4s							
LC02	**Puerto Saavedr**	**1.28**	**188**		**Pn**	**04 29 07.4**	**-0.7**
LC02	**Puerto Saavedr**	**1.28**	**188**	⇓*e*P	**Pn**	**04 29 07.2**	**-1.0**
LC02				*e*S	**Sb**	**04 29 23.5**	**-1.4**
LC02				IAML		04 29 31.2	
comp=N,20μm,0.4s							
BI02	**San Fabin de**	**1.72**	**61**	⇑*e*P	**Pn**	**04 29 13.3**	**-1.1**
BI02				*e*S	**Sn**	**04 29 34.1**	**-2.1**
LR03	**Panguipulli**	**2.19**	**164**		**Pn**	**04 29 20.6**	**-0.2**
LR03	**Panguipulli**	**2.19**	**164**	*e*P	**Pn**	**04 29 20.8**	**0.0**
LR03				*e*S	**Sn**	**04 29 47.1**	**-0.6**
ML02	**Panimavida**	**2.24**	**39**	Pn	**Pn**	**04 29 21.2**	**-0.2**
ML02	**Panimavida**	**2.24**	**39**	*e*P	**Pn**	**04 29 21.3**	**-0.1**
ML02				*i* S	**Sn**	**04 29 48.2**	**-0.6**
ML02				IAML		04 29 55.3	
comp=E,3μm,0.3s							
LR02	**Universidad Au**	**2.28**	**182**	⇑*e*P	**Pn**	**04 29 22.1**	**+0.2**
LR02				*e*S	**Sn**	**04 29 49.9**	**+0.1**
LR04	**Corral**	**2.36**	**185**		**Pn**	**04 29 22.6**	**-0.4**
LR04	**Corral**	**2.36**	**185**	*e*P	**Pn**	**04 29 22.9**	**-0.1**
GO06	**Curarrehue**	**2.44**	**148**	Pn	**Pn**	**04 29 23.9**	**-0.3**
GO06	**Curarrehue**	**2.44**	**148**	⇓*e*P	**Pn**	**04 29 24.1**	**-0.1**
GO06				*e*S	**Sn**	**04 29 53.8**	**-0.1**
GO05	**Huala**	**2.69**	**22**	Pn	**Pn**	**04 29 27.9**	**+0.3**
GO05	**Huala**	**2.69**	**22**	*e*P	**Pn**	**04 29 28.1**	**+0.5**
LR05	**Currie**	**2.84**	**162**	Pn	**Pn**	**04 29 30.0**	**+0.3**
LR05	**Currie**	**2.84**	**162**	*e*P	**Pn**	**04 29 30.7**	**+1.0**
LR05				IAML		04 30 15.1	
comp=N,752nm,0.4s							
BO02	**Sierra Bellavi**	**3.33**	**36**		**Pn**	**04 29 36.8**	**+0.4**
BO02	**Sierra Bellavi**	**3.33**	**36**	*e*P	**Pn**	**04 29 36.9**	**+0.4**
BO02				*i* S	**Sn**	**04 30 14.7**	**-1.1**
BO02				IAML		04 30 26.4	
comp=N,1μm,0.3s							
LL04	**Puerto Octay**	**3.43**	**171**		**Pn**	**04 29 37.0**	**-0.7**
BO01	**Tunca**	**3.54**	**29**	Pn	**Pn**	**04 29 39.6**	**+0.3**
BO01	**Tunca**	**3.54**	**29**	*e*P	**Pn**	**04 29 39.6**	**+0.3**
LL03	**Petrohue**	**3.65**	**171**		**Pn**	**04 29 40.9**	**+0.1**
PLCA	**Paso Flores**	**3.78**	**149**	Pn	**Pn**	**04 29 43.2**	**+0.5**
PLCA	**Paso Flores**	**3.78**	**149**	Pn	**Pn**	**04 29 44.1**	**+1.4**
comp=N,3.5nm,0.3s,baz=324,slow=11,SNR=58							
PLCA				Sn	**Sb**	**04 30 34.6**	**-2.4**
comp=N,7.0nm,0.3s,baz=243,slow=21,SNR=3.1							
PLCA				LR	LR	04 31 21.5	
comp=N,224nm,18.8s,baz=332,slow=40							
comp=N,14nm,0.5s							
LL05	**Los Muermos**	**3.88**	**184**		**Pn**	**04 29 43.5**	**-0.5**
MT01	**Popeta**	**3.96**	**23**		**Pn**	**04 29 44.9**	**-0.2**
MT01	**Popeta**	**3.96**	**23**	*e*P	**Pn**	**04 29 45.0**	**-0.2**
MT01				*e*S	**Sn**	**04 30 30.9**	**-0.6**
MT01				IAML		04 30 51.5	
comp=N,235nm,0.2s							
VA05	**Santo Domingo**	**4.05**	**18**		**Pn**	**04 29 46.1**	**-0.3**
VA05	**Santo Domingo**	**4.05**	**18**	*e*P	**Pn**	**04 29 46.0**	**-0.3**
VA05				*i* S	**Sn**	**04 30 31.7**	**-1.9**
BO04	**La Punta**	**4.09**	**31**		**Pn**	**04 29 46.8**	**0.0**
MT09	**Talagante**	**4.13**	**26**		**Pn**	**04 29 47.3**	**-0.2**
MT09	**Talagante**	**4.13**	**26**	*e*P	**Pn**	**04 29 47.5**	**0.0**
MT12	**Pirque**	**4.33**	**30**	*e*P	**Pn**	**04 29 50.7**	**+0.5**
LMEL	**Las Melosas**	**4.38**	**34**		**Pn**	**04 29 51.7**	**+0.7**
LMEL	**Las Melosas**	**4.38**	**34**	*e*P	**Pn**	**04 29 52.0**	**+1.0**
MT13	**San Alfonso**	**4.43**	**32**		**Pn**	**04 29 52.1**	**+0.5**
MT03	**Universidad Ad**	**4.56**	**29**		**Pn**	**04 29 53.4**	**0.0**
MT02	**Curacav**	**4.56**	**22**		**Pn**	**04 29 52.5**	**-0.8**
MT05	**Renca**	**4.57**	**26**	Pn	**Pn**	**04 29 53.6**	**+0.2**
MT05	**Renca**	**4.57**	**26**	*e*P	**Pn**	**04 29 54.0**	**+0.6**
MT05				*i* S	**Sn**	**04 30 46.4**	**0.0**
MT16	**CCHEN**	**4.61**	**28**		**Pn**	**04 29 54.0**	**-0.1**
MT14	**Cerro Calın**	**4.64**	**28**	*e*P	**Pn**	**04 29 54.4**	**0.0**
MT10	**Hacienda Santa**	**4.75**	**27**	*e*P	**Pn**	**04 29 55.9**	**-0.1**
PEL	**Peldehue**	**4.81**	**25**		**Pn**	**04 29 56.7**	**-0.1**
ROCH	**El Roble**	**4.87**	**22**	*e*P	**Pn**	**04 29 57.7**	**0.0**
ROCH				*i* S	**Sn**	**04 30 53.2**	**-0.8**
LL01	**San Ignacio de**	**4.88**	**174**		**Pn**	**04 29 57.2**	**-0.5**
VA06	**Catapilco**	**5.18**	**18**	Pn	**Pn**	**04 30 00.9**	**-0.8**
VA03	**San Esteban**	**5.20**	**25**		**Pn**	**04 30 02.1**	**-0.1**
GO07	**Milladeo Hill,**	**5.60**	**184**		**Pn**	**04 30 06.8**	**-0.7**
LL02	**Futaleuf**	**5.75**	**171**	Pn	**Pn**	**04 30 09.5**	**-0.1**
CO02	**Combarbal**	**6.55**	**16**		**Pn**	**04 30 19.9**	**-0.9**
CO06	**Fray Jorge**	**6.95**	**11**		**Pn**	**04 30 24.4**	**-1.7**
CO03	**El Pedregal**	**6.97**	**18**	Pn	**Pn**	**04 30 26.1**	**-0.4**
CO05	**La Serena**	**7.75**	**12**		**Pn**	**04 30 37.1**	**0.0**
CO01	**Juntas del Tor**	**7.94**	**20**	Pn	**Pn**	**04 30 39.7**	**-0.3**
AC05	**El Transito**	**8.99**	**16**		**Pn**	**04 30 53.3**	**-1.0**
AY03	**Cochrane**	**9.73**	**178**		**Pn**	**04 31 03.9**	**-0.3**
CPUP	**Villa Florida**	**17.43**	**55**		**Pn**	**04 32 48.4**	**+0.9**
CPUP	**Villa Florida**	**17.43**	**55**	P	**P**	**04 32 53.0**	**+4.4**
baz=191,slow=5.2,SNR=1.6							
comp=N,1.1nm,0.8s							
ITAB	**Concordia**	**20.46**	**66**	P	**P**	**04 33 18.7**	**-3.2**
ITAB				IAmb	IAmb	04 33 54.7	
comp=Z,21nm,1.4s							
LPAZ	**La Paz**	**21.61**	**13**	P	**P**	**04 33 33.9**	**-1.1**
LPAZ	**La Paz**	**21.61**	**13**	P	**P**	**04 33 39.6**	**+4.6**
comp=Z,0.9nm,0.6s,baz=188,slow=9.8,SNR=5.6							
comp=Z,0.9nm,0.6s							
BOAV	**Boa Vista**	**41.41**	**19**	P	**P**	**04 36 28.7**	**-2.0**
BOAV				IAmb	IAmb	04 36 49.0	
comp=Z,5.3nm,1.2s							
SDV	**Santo Domingo**	**46.23**	**3**	P	**P**	**04 37 06.8**	**-2.9**
VNA3	**Neumayer Olymp**	**46.47**	**156**	⇑P	**P**	**04 37 10.6**	**-0.2**
comp=Z,2.1nm,0.7s							
VNA2	**Neumayer--Watz**	**47.14**	**156**	⇑P	**P**	**04 37 16.6**	**+0.5**
comp=Z,2.0nm,0.6s,baz=272,slow=6.2							
SNAA	**Sanae**	**48.69**	**157**	P	**P**	**04 37 29.9**	**+1.8**
SNAA				IAmb	IAmb	04 37 42.4	
comp=Z,6.1nm,1.2s							
SNAA	**Sanae**	**48.69**	**157**	⇑P	**P**	**04 37 29.7**	**+1.6**
comp=Z,40nm,0.6s							
SNAA	**Sanae**	**48.69**	**157**	P	**P**	**04 37 29.3**	**+1.2**
comp=Z,0.8nm,0.5s,baz=347,slow=18,SNR=2.2							
comp=Z,0.8nm,0.5s							
TROLL	**Troll, Antarti**	**50.38**	**157**	⇑P	**P**	**04 37 39.9**	**-1.3**
comp=Z,81nm,0.8s							
QSPA	**South Pole Qui**	**52.72**	**180**	P	**P**	**04 37 58.9**	**+0.3**
QSPA				IAmb	IAmb	04 38 26.3	
comp=Z,4.2nm,1.2s							
QSPA	**South Pole Qui**	**52.72**	**180**	P	**P**	**04 37 59.0**	**+0.3**
comp=Z,1.0nm,0.9s,baz=110,slow=12,SNR=1.6							
comp=Z,1.0nm,0.9s							
TXAR	**Lajitas Array**	**72.40**	**332**	P	**P**	**04 40 10.7**	**+0.3**
comp=Z,0.5nm,0.7s,baz=141,slow=8.1,SNR=5.0							
comp=Z,0.5nm,0.7s							
DBIC	**Dimbokro**	**77.16**	**71**	P	**P**	**04 40 42.7**	**+4.4**
comp=Z,4.0nm,0.8s,baz=193,slow=5.7,SNR=4.2							
comp=Z,4.0nm,0.8s							
NVAR	**Mina Array Bea**	**86.28**	**326**	P	**P**	**04 41 26.8**	**+0.7**
comp=Z,0.5nm,0.7s,baz=152,slow=4.1,SNR=2.3							
comp=Z,0.5nm,0.7s							
WRA	**Warramunga Arr**	**117.25**	**209**	PKP	**PKPdf**	**04 47 28.9**	**-1.2**
comp=Z,0.5nm,0.8s,baz=169,slow=1.6,SNR=2.0							
BVAR	**Borovoye Array**	**150.41**	**47**	PKPbc	**PKPbc**	**04 48 34.8**	**-0.3**
comp=Z,0.6nm,0.4s,baz=248,slow=0.8,SNR=3.0							

*IDC **03** 04:51:40.1±1.8, 26°.75S×178°.67W, h304km±16km, mb3.2/4, mbtmp3.9/5, Error ellipse: s-maj=33.8km s-min=27.5km az=30.0*
**ISC 03 04:51:41.3±1.1,

348nm,0.2s,baz=19,slow=18,SNR=18
RAO S **S** **04 53 13.5 +2.7**
362nm,0.2s,baz=76,slow=11,SNR=6.5
URZ Urewera 11.78 196 P **Pn** **04 54 21.3 +0.4**
7.9nm,1.0s,baz=353,slow=4.4,SNR=7.3
URZ S **S** **04 56 29.2 -2.8**
5.6nm,0.3s,baz=318,slow=23,SNR=9.6
DZM Mont Dumac 14.34 287 P **Pn** **04 54 55.4 +3.3**
10nm,0.8s,baz=107,slow=18,SNR=3.4
ASAR Alice Springs 42.74 264 P **P** **04 59 08.8 -1.2**
0.5nm,0.5s,baz=95,slow=7.0,SNR=6.5
0.5nm,0.5s
WRA Warramunga Arr 43.41 269 P **P** **04 59 14.3 -1.0**
0.8nm,0.6s,baz=104,slow=8.6,SNR=9.8
0.8nm,0.6s
QSPA South Pole Qui 63.12 180 P **P** **05 01 37.2 0.0**
0.9nm,0.8s,baz=45,slow=1.4,SNR=2.0
0.9nm,0.8s
MAW Mawson 75.27 200 P **P** **05 02 51.0 -0.1**
1.3nm,0.7s,baz=156,slow=6.4,SNR=2.4
1.3nm,0.7s
TROLL Troll, Antarti 81.28 180 ⇓P **P** **05 03 23.1 -0.9**
comp=Z,125nm,0.8s
VNA3 Neumayer Olymp 81.75 176 ⇓P **P** **05 03 24.9 -1.4**
comp=Z,2.6nm,0.6s
VNA2 Neumayer--Watz 82.17 177 ⇓P **P** **05 03 27.4 -1.1**
comp=Z,3.9nm,0.6s,baz=183,slow=4.6
HFS Hagfors 145.78 349 PKPbc **PKPdf** **05 10 40.9 -2.7**
comp=Z,0.8nm,0.4s,baz=29,slow=3.3,SNR=8.0
MMAI Mount Meron Ar 149.91 290 PKPbc **PKPbc** **05 10 55.4 -1.1**
comp=Z,0.5nm,0.3s,baz=52,slow=2.4,SNR=1.8
BRTR Keskin Array B 150.28 304 PKPbc **PKPbc** **05 10 55.5 -1.8**
comp=Z,0.4nm,0.5s,baz=80,slow=3.5,SNR=2.4

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*HVO **03** 05:00:52.5±1.8, 19°.42N±0°.02×155°.276W±0°.009, h1km±2km, ML4.3/8, mb4.2/12(NEIC), ML3.5/33(NEIC), Error ellipse: s-maj=2.2km s-min=1.2km az=171.0*
*NEIC **03** 05:00:52.9±1.8, 19°.410N±0°.010×155°.287W±0°.009, h4km±1km, Error ellipse: s-maj=1.6km s-min=1.0km az=211.0*
*IDC **03** 05:00:54.3±14.0, 19°.70N×155°.29W, h0km, mb3.6/4, mbtmp3.6/4, MS3.4/1, Error ellipse: s-maj=297.4km s-min=50.8km az=35.0*
ISC 03 05:00:53.0±1.0, 19°.43N±0°.03×155°.26W±0°.02, h2km±5km, n45, σ0§81/39, mb4.1/10, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLHI	**Steaming Bluff**	**0.01**	**235**		**Pg**	**05 00 53.4**	**-0.1**
HATHI	**Halema'uma'u T**	**0.01**	**175**	Pg	**Pg**	**05 00 53.0**	**-0.5**
BYL	**Byron's Ledge**	**0.02**	**175**		**Pg**	**05 00 52.8**	**-0.8**
BYL				IAML		05 00 53.0	
	comp=E,107μm,0.2s						
OBL	**Observatory Le**	**0.03**	**237**		**Pg**	**05 00 53.1**	**-0.6**
UWE	**Uwekahuna**	**0.03**	**251**		**Pg**	**05 00 52.7**	**-1.0**
KKO	**Keanakako`i**	**0.03**	**187**		**Pg**	**05 00 54.0**	**+0.3**
RSD	**Rainshed**	**0.04**	**334**	Pg	**Pg**	**05 00 53.2**	**-0.5**
RSD				IAML		05 00 54.5	
	comp=E,49μm,0.4s						
RSD				IAML		05 00 54.7	
	comp=N,68μm,0.4s						
RIM	**Rim**	**0.04**	**198**		**Pg**	**05 00 54.1**	**+0.4**
WRMHI	**West Rim**	**0.04**	**236**		**Pg**	**05 00 54.5**	**+0.6**
SDHHI	**Sand Hill**	**0.05**	**216**		**Pg**	**05 00 54.7**	**+0.6**
PUH	**Pauahi**	**0.07**	**143**	Pg	**Pg**	**05 00 53.8**	**-0.7**
PUH				IAML		05 00 56.2	
	comp=E,23μm,0.7s						
KNHH	**Kane Nui o Ham**	**0.10**	**121**		**Pg**	**05 00 54.4**	**-0.6**
MLH	**Mauna Loa**	**0.13**	**298**		**Pg**	**05 00 56.8**	**+1.2**
MLH	**Mauna Loa**	**0.13**	**298**		**Sg**	**05 00 59.9**	**+2.4**
MLH	**Mauna Loa**	**0.13**	**298**	IAML		05 00 57.4	
	comp=E,16μm,0.7s						
MLH				IAML		05 00 58.1	
	comp=N,14μm,0.7s						
STCH	**Steam Cracks**	**0.14**	**109**		**Sg**	**05 00 59.4**	**+1.9**
STCH	**Steam Cracks**	**0.14**	**109**	Pg	**Pg**	**05 00 55.1**	**-0.6**
STCH				IAML		05 00 59.8	
	comp=N,28μm,0.8s						
STCH				IAML		05 01 00.3	
	comp=E,37μm,0.9s						
HLP	**Hilina Pali**	**0.14**	**198**	Pg	**Pg**	**05 00 55.6**	**-0.2**
HLP				IAML		05 00 58.8	
	comp=E,26μm,0.8s						
HLP				IAML		05 00 59.0	
	comp=N,29μm,0.5s						
NPOC	**North of Pu'u**	**0.15**	**105**		**Pg**	**05 00 56.4**	**+0.5**
JCUZ	**Jacuzzi**	**0.16**	**107**		**Pg**	**05 00 56.5**	**+0.4**
HTC	**Hot Caves**	**0.23**	**214**		**Pg**	**05 00 57.4**	**0.0**
JOKA	**Jonika Flow**	**0.24**	**89**	Pg	**Pg**	**05 00 58.1**	**+0.4**
JOKA				IAML		05 01 05.4	
	comp=E,9μm,0.8s						
HMH	**Humu`ula Sheep**	**0.27**	**309**	Pg	**Pg**	**05 00 58.4**	**+0.2**
HMH				IAML		05 01 06.6	
	comp=N,12μm,0.4s						
HMH				IAML		05 01 06.7	
	comp=E,9μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.31**	**289**		**Pg**	**05 00 59.2**	**+0.1**
MLOA	**Mauna Loa Obse**	**0.31**	**289**	IAML		05 01 03.7	
	comp=E,8μm,0.7s						
MLOA				IAML		05 01 06.7	
	comp=N,13μm,0.7s						
KHU	**Kahuku**	**0.38**	**241**		**Pg**	**05 00 59.2**	**-1.1**
POHA	**Pohakuloa**	**0.41**	**322**	Pg	**Pg**	**05 01 01.4**	**+0.4**
HUH	**Hualalai**	**0.60**	**295**	Pg	**Pg**	**05 01 04.3**	**-0.2**
CPH	**Captain Cook**	**0.62**	**275**		**Pg**	**05 01 04.1**	**-0.8**
HPAH	**Hawaii Prepara**	**0.72**	**326**		**Pg**	**05 01 05.5**	**-1.4**
NVAR	**Mina Array Bea**	**37.16**	**51**	P	**P**	**05 08 05.9**	**+0.1**
	comp=N,0.2nm,0.3s,baz=239,slow=8.3,SNR=2.5						
	comp=N,0.2nm,0.3s						
N19K	**Bonanza Creek**	**41.34**	**1**	P	**P**	**05 08 40.3**	**0.0**
N19K				IAmb	IAmb	05 08 42.3	
	comp=Z,3.8nm,0.8s						
L19K	**White Mountain**	**42.71**	**0**	P	**P**	**05 08 51.0**	**-0.4**
M29M	**Somme Creek**	**44.53**	**11**	IAmb	IAmb	05 09 08.9	
	comp=Z,3.7nm,0.8s						
CCB	**Clear Creek Bu**	**45.46**	**4**	IAmb	IAmb	05 09 14.7	
	comp=Z,1.6nm,0.8s						
J25K	**Salcha River,**	**45.64**	**6**	IAmb	IAmb	05 09 16.4	
	comp=Z,2.4nm,0.9s						
ILAR	**Eielson Array**	**45.66**	**5**	P	**P**	**05 09 14.2**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=198,slow=7.1,SNR=12						
	comp=Z,1.1nm,0.9s						
J26L	**Joseph Creek**	**45.72**	**7**	P	**P**	**05 09 15.2**	**-0.3**
EGAK	**Eagle**	**46.29**	**8**	P	**P**	**05 09 20.3**	**+0.4**
EGAK				IAmb	IAmb	05 09 22.2	
	comp=Z,2.7nm,0.9s						
TX31	**Lajitas Ar. Si**	**47.69**	**68**	P	**P**	**05 09 31.6**	**0.0**
TX31				IAmb	IAmb	05 09 34.1	
	comp=Z,1.5nm,0.9s						
TXAR	**Lajitas Array**	**47.69**	**68**	P	**P**	**05 09 31.6**	**0.0**
TXAR	**Lajitas Array**	**47.69**	**68**	P	**P**	**05 09 32.3**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=256,slow=8.2,SNR=16						
	comp=Z,1.3nm,0.8s						
YKA	**Yellowknife Ar**	**51.30**	**23**	P	**P**	**05 09 58.0**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=235,slow=8.7,SNR=3.2						
	comp=Z,0.8nm,0.9s						
CMIG	**Matias Romero**	**57.13**	**82**	LR	LR	05 31 60.0	
	comp=Z,38nm,21.0s,baz=357,slow=33						
G40A	**Rib Lake**	**58.99**	**48**	P	**P**	**05 10 53.2**	**-1.1**

IDC 03 05:16:37.1±8.9, 5°.66S×145°.59E, h142km±90km, mb3.0/2, mbtmp3.5/4, MS3.0/2, Error ellipse: s-maj=91.7km s-min=32.9km az=139.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.04**	**157**	P	Pn	05 17 38.8	+1.2
	12nm,0.4s,baz=276,slow=18,SNR=2.3						
PMG				S	Sn	05 18 24.6	0.0
	22nm,0.4s,baz=315,slow=20,SNR=1.7						
PMG				LR	LR	05 19 45.1	
	comp=Z,205nm,20.7s,baz=156,slow=47						
WRA	**Warramunga Arr**	**17.93**	**217**	P	P	05 20 34.4	-1.8
	0.7nm,0.9s,baz=40,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**21.15**	**211**	P	P	05 21 12.1	+1.1
	1.2nm,0.8s,baz=33,slow=10.0,SNR=7.1						
	1.2nm,0.8s						
KSRS	**Korea Array**	**45.95**	**340**	LR	LR	05 42 39.5	
	comp=Z,17nm,20.3s,baz=175,slow=34						
ILAR	**Eielson Array**	**85.72**	**23**	P	P	05 28 59.6	-0.2
	0.3nm,0.8s,baz=251,slow=5.2,SNR=2.6						
	0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**143.65**	**284**	PKP	PKPdf	05 35 55.5	-0.7
	0.7nm,0.9s,baz=90,slow=2.9,SNR=2.4						

IDC 03 05:18:44.1±3.6, 54°.46N×86°.96E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=31.5km s-min=20.1km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**249**	I	I	05 26 40.0	
	baz=68,slow=314,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.36**	**249**	Pg	Pg	05 19 07.9	-2.3
	0.5nm,0.3s,baz=65,slow=14,SNR=1.8						
ZALV				Lg	Lg	05 19 27.8	
	0.7nm,0.3s,baz=69,slow=29,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.42**	**237**	Pn	Pn	05 20 20.6	+0.7
	0.1nm,0.3s,baz=52,slow=14,SNR=2.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.23**	**203**	Pn	Pn	05 20 46.3	+1.6
	0.1nm,0.3s,baz=26,slow=39,SNR=1.4						
	0.1nm,0.3s						

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*IDC **03** 05:47:09.9±1.4, 0°.67S×124°.36E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=188.0km s-min=22.9km az=63.0*
*DJA **03** 05:47:23.2±1.6, 0°.N±11°×12°.5E±1°.0, h14km±10km, M3.5/5, MLv3.5/5*
ISC 03 05:47:10.9±1.5, 0°.3S±0°.3×125°.2E±0°.4, h10km, n7, σ1§09/6, mb3.5/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.44**	**305**	P	**Pg**	**05 47 38.5**	**-0.1**
SANI	**Sanana**	**1.96**	**155**	P	**Pn**	**05 47 44.6**	**+0.3**
LUWI	**Luwuk**	**2.51**	**252**	P	Pg	05 48 01.9	+2.9
LUWI				S	Sg	05 48 30.7	-0.9
WRA	**Warramunga Arr**	**21.53**	**156**	P	**P**	**05 51 59.0**	**-1.5**
	0.7nm,0.8s,baz=331,slow=11,SNR=6.7						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**24.77**	**161**	P	**P**	**05 52 34.0**	**+0.9**
	0.2nm,0.3s,baz=347,slow=12,SNR=4.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.98**	**327**	P	**P**	**05 57 17.2**	**-0.5**
	0.6nm,0.4s,baz=124,slow=7.7,SNR=7.5						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**64.28**	**329**	P	**P**	**05 57 46.9**	**+0.5**
	0.4nm,0.6s,baz=125,slow=4.7,SNR=4.5						
	0.4nm,0.6s						

IDC 03 05:55:39.2±3.6, 53°.46N×87°.45E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=34.7km s-min=17.6km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**288**	I	I	06 05 40.0	
	baz=106,slow=312,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.64**	**288**	Pg	Pn	05 56 08.8	-0.4
	0.6nm,0.3s,baz=108,slow=14,SNR=7.0						
ZALV				Lg	Lg	05 56 30.6	
	0.5nm,0.3s,baz=105,slow=25,SNR=1.6						
KURBB	**Kurchatov Arra**	**6.20**	**246**	Pn	Pn	05 57 13.1	+1.3
	baz=63,slow=14,SNR=2.8						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.45**	**208**	Pn	Pn	05 57 29.8	+0.7
	0.1nm,0.3s,baz=25,slow=12,SNR=1.6						
	0.1nm,0.4s						

IDC 03 06:05:16.6±3.5, 53°.61N×87°.32E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=34.3km s-min=18.5km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.52**	**284**	Pg	Pn	06 05 43.8	-1.3
	0.5nm,0.3s,baz=106,slow=15,SNR=10.0						
ZALV				Lg	Lg	06 06 05.3	
	0.3nm,0.3s,baz=103,slow=25,SNR=2.1						
I46RU	**ZALESOVO INFRA**	**1.52**	**284**	I	I	06 14 00.0	
	baz=102,slow=316,SNR=4.2						
KURBB	**Kurchatov Arra**	**6.19**	**245**	Pn	Pn	06 06 49.7	+0.6
	baz=64,slow=14,SNR=3.3						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.55**	**207**	Pn	Pn	06 07 09.3	+1.4
	0.1nm,0.3s,baz=26,slow=15,SNR=2.4						
	0.2nm,0.2s						

IDC 03 06:11:42.7±3.1, 53°.48N×87°.44E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=27.1km s-min=16.1km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.63**	**288**	I	I	06 22 35.0	
	0.1nm,1.4s,baz=101,slow=309,SNR=7.0						
ZALV	**Zalesovo Beam**	**1.63**	**288**	Pg	Pn	06 12 11.7	-0.9
	0.7nm,0.3s,baz=110,slow=16,SNR=7.3						
ZALV				Lg	Lg	06 12 34.0	
	0.8nm,0.3s,baz=106,slow=30,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.19**	**246**	Pn	Pn	06 13 16.5	+1.2
	0.1nm,0.3s,baz=62,slow=14,SNR=4.8						
KURBB				Lg	Lg	06 14 58.2	
	0.6nm,0.3s,baz=63,slow=32,SNR=7.9						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**7.46**	**208**	Pn	Pn	06 13 33.9	+1.1
	0.2nm,0.3s,baz=30,slow=13,SNR=3.1						
MKAR				Lg	Lg	06 15 35.7	
	baz=23,slow=27,SNR=2.3						
	0.3nm,0.3s						

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*MEX **03** 06:14:04.3±0.5, 13°.46N×92°.96W, h10km, MD4.0*
*GCG **03** 06:14:06.7±0.6, 13°.98N×93°.01W, h60km±55km, MD3.8*
*IDC **03** 06:14:09.9±8.0, 13°.92N×92°.86W, h57km±48km, mb3.2/3, mbtmp3.5/6, ML3.6/3, MS2.5/1, Error ellipse: s-maj=82.1km s-min=27.5km az=23.0*
*CATAC **03** 06:14:09.3±0.7, 13°.65N×92°.56W, h64km±21km, ML3.7*
ISC 03 06:13:58.2±2.0, 13°.45N±0°.06×93°.01W±0°.04, h3km±11km, n41, σ2§85/71, mb3.6/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.62**	**26**	*e*P	**Pg**	**06 14 29.0**	**-0.2**
THIG				*e*S	**Sn**	**06 14 47.2**	**-1.7**
SULM	**Suchitepequez,**	**1.64**	**59**	*i* P	**Pg**	**06 14 30.7**	**+1.1**
RTAL	**Retalhuleu**	**1.66**	**50**	*e*P	**Pb**	**06 14 29.5**	**0.0**
RTAL				*e*S	**Sn**	**06 14 48.9**	**-1.2**
RTAL	**Retalhuleu**	**1.66**	**50**	*i* P	**Pb**	**06 14 29.5**	**0.0**
RTAL				*i* S	**Sn**	**06 14 47.1**	**-3.0**
RTAL				IAML		06 14 52.2	
	comp=Z,390nm,1.0s						
PATR	**El Naranjo**	**1.82**	**24**	*e*P	**Pb**	**06 14 31.5**	**-0.8**
PATR				*e*S	**Sg**	**06 14 54.3**	**-2.4**
CHUJ	**Union Juarez**	**1.85**	**28**	*e*P	**Pb**	**06 14 32.2**	**-0.7**
CHUJ				*e*S	**Sb**	**06 14 54.5**	**-2.1**
STG3	**Santiaguito 3,**	**1.87**	**48**	*i* P	**Pb**	**06 14 33.0**	**-0.2**
STG3				*i* S	**Sn**	**06 14 53.7**	**-1.9**
PAVE	**Pavencul**	**1.91**	**25**	*e*P	**Pb**	**06 14 33.0**	**-0.9**
PAVE				*e*S	**Sn**	**06 14 55.5**	**-1.1**
SOKI	**Kika Raxquin**	**2.07**	**49**	*i* P	**Pn**	**06 14 35.4**	**+1.2**
SOKI				*i* S	**Sn**	**06 14 56.2**	**-4.5**
SOKI				IAML		06 15 01.1	
	comp=Z,220nm,1.0s						
PCIG		**2.25**	**355**	*e*P	**Pb**	**06 14 38.1**	**-1.5**
PCIG				*e*S	**Sn**	**06 15 02.2**	**-2.4**
FUG	**Fuego 3**	**2.32**	**64**	*i* P	**Pn**	**06 14 38.9**	**+1.4**
FUG				*i* S	**Sn**	**06 15 07.4**	**+0.7**
HUEH	**Huehuetenango**	**2.36**	**38**	*e*P	**Pb**	**06 14 40.7**	**-0.8**
HUEH	**Huehuetenango**	**2.36**	**38**	*i* P	**Pb**	**06 14 40.9**	**-0.6**
HUEH				IAML		06 14 41.3	
	comp=Z,950nm,1.0s						
HUEH				*i* S	**Sn**	**06 15 04.2**	**-3.5**
NBG	**Las Nubes**	**2.82**	**66**	*i* P	**Pb**	**06 14 48.1**	**-1.2**
NBG				*i* S	**Sn**	**06 15 21.0**	**+2.0**
CARR	**Arriaga**	**2.92**	**343**	*e*P	**Pb**	**06 14 48.6**	**-2.2**
CARR				*e*S	**Sn**	**06 15 20.9**	**-0.2**
CCIG	**Comitan**	**2.94**	**16**	*e*P	**Pb**	**06 14 50.5**	**-0.9**
CCIG				*e*S	**Sn**	**06 15 20.8**	**-1.1**
CCIG	**Comitan**	**2.94**	**16**	*i* P	**Pb**	**06 14 50.1**	**-1.3**
CCIG				IAML		06 14 51.5	
	comp=Z,280nm,1.0s						
CCIG				*i* S	**Sn**	**06 15 20.4**	**-1.5**
NUBE	**Las Nubes**	**3.17**	**81**	*i* P	**Pn**	**06 14 49.7**	**+0.6**
NUBE				*i* S	**Sn**	**06 15 23.4**	**-4.1**
NUBE				IAML		06 15 33.3	
	comp=Z,98nm,1.0s						
LOAL	**Lomas de Alarc**	**3.18**	**80**	*i* P	**Pn**	**06 14 51.2**	**+2.0**
LOAL				IAML		06 15 11.8	
	comp=Z,1μm,1.0s						
LOAL				*i* S	**Sn**	**06 15 22.6**	**-5.1**
CEVE	**Cerro Verde**	**3.31**	**83**	*i* P	**Pn**	**06 14 51.9**	**+0.8**
CEVE				*i* S	**Sn**	**06 15 25.8**	**-5.3**
CEVE				IAML		06 15 35.9	
	comp=Z,220nm,1.0s						
TGIG		**3.31**	**358**	*e*P	**Pb**	**06 14 54.8**	**-2.8**
TGIG				*e*S	**Sn**	**06 15 30.9**	**0.0**
UNIC	**Universidad Ca**	**3.40**	**81**	*i* P	**Pn**	**06 14 53.6**	**+1.4**
UNIC				*i* S	**Sn**	**06 15 28.6**	**-4.5**
UNIC				IAML		06 16 28.2	
	comp=Z,190nm,1.0s						
JAYA	**Jayaque - finc**	**3.46**	**86**	*i* P	**Pn**	**06 14 55.6**	**+2.4**
JAYA				*i* S	**Sn**	**06 15 29.9**	**-4.9**
JAYA				IAML		06 15 32.6	
	comp=Z,460nm,1.0s						
PMON	**Piamonte**	**3.60**	**85**	*i* P	**Pn**	**06 14 56.5**	**+1.5**
PMON				*i* S	**Sn**	**06 15 33.5**	**-4.6**
PMON				IAML		06 15 40.7	
	comp=Z,190nm,1.0s						
HUIG	**Huatulco**	**3.79**	**308**	*e*P	**Pn**	**06 15 00.1**	**+2.7**
HUIG				*e*S	**Sn**	**06 15 38.5**	**-4.1**
UXUV	**UXUV**	**4.00**	**344**	*e*P	**Pb**	**06 15 05.4**	**-3.9**
UXUV				*e*S	**Sn**	**06 15 47.1**	**-0.7**
COEG	**Centro de Oper**	**4.01**	**87**	*i* P	**Pn**	**06 15 03.0**	**+2.3**
COEG				*i* S	**Sn**	**06 15 44.5**	**-3.8**
COEG				IAML		06 15 49.7	
	comp=Z,59nm,1.0s						
CMIG	**Matias Romero**	**4.05**	**334**	P	**Pn**	**06 15 04.7**	**+3.6**
	comp=Z,2.7nm,0.3s,baz=150,slow=11,SNR=66						
CMIG				S	**Sn**	**06 15 47.6**	**-1.4**
	comp=Z,19nm,0.3s,baz=106,slow=18,SNR=14						
CMIG				LR	LR	06 16 38.5	
	comp=Z,64nm,21.1s,baz=145,slow=40						
	comp=Z,5.4nm,0.3s						
CMIG	**Matias Romero**	**4.05**	**334**	*e*P	**Pn**	**06 15 04.7**	**+3.6**
CMIG				*e*S	**Sn**	**06 15 47.3**	**-1.8**
SCLA	**Alcaldia de Sa**	**4.17**	**86**	*i* P	**Pn**	**06 15 04.5**	**+1.7**
SCLA				*i* S	**Sn**	**06 15 47.7**	**-4.3**
SCLA				IAML		06 15 55.3	
	comp=Z,17nm,1.0s						
PETF	**Flores**	**4.59**	**41**	*e*P	**Pn**	**06 15 11.7**	**+3.1**
PETF	**Flores**	**4.59**	**41**	*i* P	**Pn**	**06 15 10.9**	**+2.4**
PETF				IAML		06 15 22.2	
	comp=Z,49nm,1.0s						
NEUV	**Arroyo Zacate**	**5.02**	**328**	*e*P	**Pn**	**06 15 18.2**	**+3.8**
NEUV				*e*S	**Sn**	**06 16 05.6**	**-7.5**
LIMN	**Finca el Limon**	**6.47**	**93**	*i* P	**Pn**	**06 15 35.8**	**+1.2**
BRAN	**Las Pilas**	**6.53**	**96**	*i* P	**Pn**	**06 15 32.9**	**-2.2**
JAUV	**Jalcomulco**	**6.92**	**329**	*e*P	**Pn**	**06 15 42.3**	**+1.7**
JAUV				*e*S	**Sn**	**06 16 52.2**	**-7.8**
TEIG	**Tepich**	**8.12**	**33**	P	**Pn**	**06 15 58.4**	**+1.4**
	comp=Z,3.6nm,0.3s,baz=220,slow=2.3,SNR=28						
	comp=Z,7.3nm,0.3s						
TXAR	**Lajitas Array**	**18.64**	**330**	P	**Pn**	**06 18 21.4**	**+3.9**
	baz=137,slow=14,SNR=3.0						
	comp=Z,0.2nm,0.8s						
TKL	**Tuckaleechee C**	**23.63**	**19**	P	**P**	**06 19 11.7**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=193,slow=16,SNR=2.9						
	comp=Z,0.8nm,0.4s						
YKA	**Yellowknife Ar**	**51.34**	**347**	P	**P**	**06 23 05.5**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=154,slow=7.5,SNR=2.3						
	comp=Z,0.8nm,0.8s						
ILAR	**Eielson Array**	**62.96**	**337**	P	**P**	**06 24 26.8**	**+0.9**
	comp=Z,0.2nm,0.8s,baz=151,slow=4.1,SNR=2.4						
	comp=Z,0.2nm,0.8s						

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*GEN **03** 06:58:48.0, 45°.42N×6°.41E, h6km±3km, MI2.9*
*STR **03** 06:58:47.8±0.2, 45°N±1°×±°, h9km±2km, MLv3.3/47, Error ellipse: s-maj=0.0km s-min=0.0km az=75.4, preliminary*
*LDG **03** 06:58:47.5±0.1, 45°.44N×6°.30E, h6km, Md1.8/2, MI3.5/31, Error ellipse: s-maj=1.2km s-min=0.9km az=65.0*
*ZUR **03** 06:58:47.7, 45°.45N×6°.33E, h-1km±6km, MLh3.1/77, Error ellipse: s-maj=9999.0km s-min=995.0km az=145.0*
*ROM **03** 06:58:48.7±0.5, 45°.437N±0°.009×6°.44E±0°.02, h9km±3km, ML2.8/40, Error ellipse: s-maj=1.7km s-min=0.9km az=85.0*
*PRU **03** 06:58:49.7, 45°.45N×6°.56E, h1km*
ISC 03 06:58:46.5±1.0, 45°.47N±0°.01×6°.27E±0°.01, h9km±8km, n208, σ1§44/286, 21C-1D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.33**	**81**	*e*Pg	**Pg**	**06 58 53.4**	**+0.3**
LPL				*e*Sg	**Sg**	**06 58 57.1**	**-0.4**
	2μm,0.4s						
LPG	**La Plagne**	**0.34**	**85**	*e*Pg	**Pb**	**06 58 53.8**	**-1.1**
LPG				*e*Sg	**Sg**	**06 58 58.1**	**+0.2**
	1μm,0.4s						
OGMO	**Fort Saint-Gob**	**0.39**	**131**	Pg	**Pb**	**06 58 54.6**	**-1.1**
OGMO				Sg	**Sg**	**06 58 59.3**	**-0.1**
OGMO	**Fort Saint-Gob**	**0.39**	**131**	P	**Pb**	**06 58 54.7**	**-1.0**
OGMO				S	**Sg**	**06 58 59.2**	**-0.1**
OGSM	**Saint Maurice**	**0.43**	**290**	Pg	**Pb**	**06 58 57.3**	**+1.1**
OGSM				Sg	**Sb**	**06 59 04.4**	**+1.6**
BNI	**Bardonecchia**	**0.51**	**145**	⇑Pg	**Pb**	**06 58 56.6**	**-1.0**
BNI				Sg	**Sg**	**06 59 02.6**	**-0.4**
BNI	**Bardonecchia**	**0.51**	**145**	P	**Pb**	**06 58 56.6**	**-1.0**
BNI				S	**Sg**	**06 59 02.7**	**-0.4**
BNI				AML	AML		
	comp=E,883μm,0.8s						
BNI				AML	AML		
	comp=N,670μm,1.3s						
BNI				AML	AML		
	comp=E,882μm,0.8s						
BNI				AML	AML		
	comp=N,670μm,1.3s						
BNI				AML	AML		
	comp=N,823μm,1.3s						
BNI				AML	AML		
	comp=E,1085μm,0.8s						
BNI				AML	AML		
	comp=N,823μm,0.7s						
BNI				AML	AML		
	comp=N,670μm

	comp=E,843µm,0.5s						
MRGE					AML	AML	
	comp=N,838µm,0.5s						
MRGE	**Morge**	**0.63**	**61**	P	**Pb**	**06 58 59.4**	**-0.4**
RRL	**Rocca Remolon**	**0.66**	**146**	⇓*i*P	**Pb**	**06 58 59.9**	**-0.4**
RRL				S	**Sg**	**06 59 07.8**	**-0.1**
RRL				AML	AML		
	comp=E,2805µm,0.3s						
RRL				AML	AML		
	comp=N,1320µm,0.5s						
RRL				AML	AML		
	comp=N,1321µm,0.5s						
RRL				AML	AML		
	comp=E,2804µm,0.3s						
RRL	**Rocca Remolon**	**0.66**	**146**	Pg	**Pb**	**06 58 59.6**	**-0.7**
RRL	**Rocca Remolon**	**0.66**	**146**	Sg	**Sg**	**06 59 07.8**	**-0.1**
RRL	**Rocca Remolon**	**0.66**	**146**	P	**Pb**	**06 58 59.6**	**-0.7**
RRL				S	**Sg**	**06 59 07.9**	**0.0**
OG02	**Monnetier-Morn**	**0.69**	**357**	⇑Pg	**Pb**	**06 59 01.7**	**+1.0**
OG02				Sg	**Sb**	**06 59 11.5**	**+1.2**
OG02				SmS		06 59 16.6	
OGSI	**Sixt**	**0.69**	**29**	⇑Pg	**Pb**	**06 59 00.5**	**-0.2**
OGSI	**Sixt**	**0.69**	**29**	Pg	**Pb**	**06 59 00.5**	**-0.2**
OGSI				Sg	**Sb**	**06 59 10.0**	**-0.3**
OG35	**Corcelles**	**0.76**	**320**	⇑Pg	**Pn**	**06 59 03.5**	**+0.1**
OG35				Sg	**Sb**	**06 59 14.1**	**+1.9**
OG35	**Corcelles**	**0.76**	**320**	Pg	**Pn**	**06 59 03.5**	**+0.1**
OG35				Sg	**Sb**	**06 59 14.2**	**+1.9**
RSP	**Reno Superiore**	**0.77**	**114**	Pg	**Pb**	**06 59 01.5**	**-0.6**
RSP				Sg	**Sg**	**06 59 10.5**	**-0.9**
RSP	**Reno Superiore**	**0.77**	**114**	P	**Pb**	**06 59 01.6**	**-0.6**
RSP				S	**Sg**	**06 59 10.7**	**-0.7**
RSP				AML	AML		
	comp=E,957µm,0.6s						
RSP				AML	AML		
	comp=N,931µm,0.4s						
RSP				AML	AML		
	comp=N,932µm,0.4s						
RSP				AML	AML		
	comp=N,967µm,0.4s						
RSP				AML	AML		
	comp=E,1007µm,0.3s						
RSP				AML	AML		
	comp=E,960µm,0.6s						
RSP				AML	AML		
	comp=N,930µm,0.4s						
RSP				AML	AML		
	comp=N,968µm,0.4s						
RSP				AML	AML		
	comp=E,953µm,0.3s						
RSP				AML	AML		
	comp=E,1006µm,0.3s						
RSP	**Reno Superiore**	**0.77**	**114**	Pg	**Pb**	**06 59 01.5**	**-0.6**
RSP	**Reno Superiore**	**0.77**	**114**	P	**Pb**	**06 59 01.6**	**-0.6**
RSP				S	**Sg**	**06 59 10.7**	**-0.7**
MBDF	**Montbardon**	**0.82**	**154**	*e*Pg	**Pb**	**06 59 02.6**	**-0.4**
MBDF				*e*Sg	**Sg**	**06 59 11.8**	**-1.2**
	comp=E,482nm,0.6s						
SALAN	**Lac Salanfe**	**0.84**	**36**	⇑Pg	**Pb**	**06 59 03.3**	**0.0**
BHB	**Bricherasio**	**0.94**	**131**	P	**Pb**	**06 59 04.7**	**-0.3**
BHB				AML	AML		
	comp=E,522µm,0.4s						
BHB				AML	AML		
	comp=N,618µm,0.7s						
BHB				AML	AML		
	comp=N,618µm,0.7s						
BHB				AML	AML		
	comp=E,522µm,0.4s						
BHB	**Bricherasio**	**0.94**	**131**	Pg	**Pb**	**06 59 04.4**	**-0.5**
BHB	**Bricherasio**	**0.94**	**131**	P	**Pb**	**06 59 04.7**	**-0.3**
BHB				S	**Sb**	**06 59 18.0**	**+0.5**
CREF	**Crivoux**	**0.95**	**165**	Pg	**Pg**	**06 59 04.7**	**-0.2**
CREF				Sg	**Sg**	**06 59 17.0**	**-0.2**
GRYON	**Gryon**	**0.98**	**37**	⇑Pg	**Pb**	**06 59 05.9**	**+0.2**
AIGLE	**Aigle**	**0.99**	**28**	⇑Pg	**Pb**	**06 59 06.4**	**+0.5**
AIGLE	**Aigle**	**0.99**	**28**	Pg	**Pb**	**06 59 06.5**	**+0.5**
DIX	**Grande Dixence**	**1.00**	**52**	⇑Pg	**Pb**	**06 59 06.1**	**-0.1**
DIX	**Grande Dixence**	**1.00**	**52**	⇑*i*P	**Pb**	**06 59 06.2**	**-0.1**
DIX				AML	AML		
	comp=E,1430µm,0.3s						
DIX				AML	AML		
	comp=N,1795µm,0.4s						
DIX				AML	AML		
	comp=N,1795µm,0.4s						
DIX				AML	AML		
	comp=E,1430µm,0.3s						
DIX				AML	AML		
	comp=N,1794µm,0.4s						
DIX				AML	AML		
	comp=E,1431µm,0.3s						
DIX	**Grande Dixence**	**1.00**	**52**	Pg	**Pb**	**06 59 06.1**	**-0.1**
DIX	**Grande Dixence**	**1.00**	**52**	P	**Pb**	**06 59 06.2**	**-0.1**
DIX				S	**Sn**	**06 59 21.1**	**-0.3**
OGAG	**Argentiere**	**1.03**	**169**	Pg	Pg	06 59 00.3	-6.0
OGAG				Sg	Sg	06 59 09.5	-10
OGAG	**Argentiere**	**1.03**	**169**	P	Pg	06 59 00.4	-5.9
OGAG				S	Sg	06 59 09.3	-10
TRAV	**Traversella**	**1.04**	**87**	P	**Pb**	**06 59 06.4**	**-0.3**
TRAV				S	**Sg**	**06 59 18.7**	**-1.3**
TRAV				AML	AML		
	comp=N,751µm,0.4s						
TRAV				AML	AML		
	comp=N,751µm,1.6s						
TRAV				AML	AML		
	comp=E,730µm,1.0s						
TRAV				AML	AML		
	comp=N,751µm,0.4s						
TRAV				AML	AML		
	comp=E,679µm,0.4s						
TRAV	**Traversella**	**1.04**	**87**	Pg	**Pb**	**06 59 06.5**	**-0.3**
TRAV	**Traversella**	**1.04**	**87**	Sg	**Sg**	**06 59 19.0**	**-1.0**
TRAV	**Traversella**	**1.04**	**87**	P	**Pb**	**06 59 06.4**	**-0.3**
TRAV				S	**Sg**	**06 59 18.9**	**-1.1**
SURF	**Saint Ours**	**1.06**	**158**	Pg	**Pb**	**06 59 06.9**	**-0.2**
SURF	**Saint Ours**	**1.06**	**158**	P	**Pb**	**06 59 07.1**	**0.0**
SHER	**Hrmence, R**	**1.06**	**47**	⇑Pg	**Pb**	**06 59 07.4**	**+0.3**
GIMEL	**St. Georges /**	**1.07**	**360**	⇑Pg	**Pn**	**06 59 08.9**	**+1.2**
GIMEL	**St. Georges /**	**1.07**	**360**	P	**Pn**	**06 59 08.9**	**+1.2**
GIMEL				S	**Sn**	**06 59 24.0**	**+1.3**
GIMEL				AML	AML		
	comp=E,830µm,1.1s						
GIMEL				AML	AML		
	comp=N,540µm,0.8s						
GIMEL				AML	AML		
	comp=N,540µm,0.8s						
GIMEL				AML	AML		
	comp=N,540µm,1.2s						
GIMEL				AML	AML		
	comp=E,830µm,0.9s						
GIMEL	**St. Georges /**	**1.07**	**360**	Pg	**Pn**	**06 59 08.9**	**+1.2**
SIOV	**Sion-Valere**	**1.08**	**45**	Pg	**Pb**	**06 59 07.7**	**+0.3**
JAUF	**Jausiers**	**1.09**	**162**	Pg	**Pb**	**06 59 07.5**	**-0.2**
PZZ	**Stroppo**	**1.13**	**148**	Pg	**Pg**	**06 59 07.8**	**-0.4**
PZZ	**Stroppo**	**1.13**	**148**	P	**Pg**	**06 59 07.8**	**-0.4**
PZZ				S	**Sb**	**06 59 23.4**	**+0.2**
PZZ				AML	AML		
	comp=E,1032µm,0.4s						
PZZ				AML	AML		
	comp=N,978µm,0.3s						
PZZ				AML	AML		
	comp=N,978µm,1.7s						
PZZ				AML	AML		
	comp=E,1032µm,1.6s						
PZZ				AML	AML		
	comp=N,976µm,0.3s						
PZZ				AML	AML		
	comp=E,1032µm,0.4s						
PZZ	**Stroppo**	**1.13**	**148**	Pg	**Pg**	**06 59 07.9**	**-0.4**
PZZ	**Stroppo**	**1.13**	**148**	Sg	**Sb**	**06 59 23.5**	**+0.4**
PZZ	**Stroppo**	**1.13**	**148**	P	**Pb**	**06 59 08.0**	**-0.3**
SENIN	**Lac Senin/Sane**	**1.15**	**38**	⇑Pg	**Pn**	**06 59 09.0**	**+0.1**
SENIN	**Lac Senin/Sane**	**1.15**	**38**	P	**Pn**	**06 59 09.0**	**+0.1**
CABF	**La Chapelle**	**1.15**	**354**	*e*Pg	**Pn**	**06 59 10.1**	**+1.3**
CABF				*e*Sg	**Sb**	**06 59 24.5**	**+0.9**
	comp=E,162nm,0.2s						
VIVF	**Saint-Julien-l**	**1.28**	**242**	*e*Pg	**Pb**	**06 59 11.7**	**+0.9**
VIVF				*e*Sg	**Sb**	**06 59 28.0**	**+0.6**
	comp=E,805nm,0.3s						
LKBD2	**Leukerbad 2**	**1.32**	**46**	⇑Pg	**Pb**	**06 59 11.9**	**+0.3**
OGDI	**Digne**	**1.36**	**179**	Pg	**Pg**	**06 59 13.6**	**+1.1**
OGDI				Sg	**Sn**	**06 59 31.7**	**+1.9**
OGDI	**Digne**	**1.36**	**179**	P	**Pg**	**06 59 13.7**	**+1.1**
TORNY	**Torny/Romont**	**1.39**	**20**	⇑Pg	**Pg**	**06 59 14.1**	**+1.0**
TORNY	**Torny/Romont**	**1.39**	**20**	Sg	**Sn**	**06 59 35.2**	**+4.6**
TORNY	**Torny/Romont**	**1.39**	**20**	Pg	**Pg**	**06 59 14.2**	**+1.0**
ISO	**Isola**	**1.40**	**156**	Pn	**Pg**	**06 59 12.9**	**-0.4**
ISO	**Isola**	**1.40**	**156**	P	**Pg**	**06 59 13.5**	**+0.2**
ENAUX	**Enaux**	**1.41**	**165**	Pn	**Pg**	**06 59 13.5**	**+0.1**
LAUCH	**Lauchernalp**	**1.41**	**47**	⇑Pg	**Pg**	**06 59 13.6**	**0.0**
LAUCH	**Lauchernalp**	**1.41**	**47**	P	**Pg**	**06 59 13.6**	**0.0**
STV	**Sant Anna di V**	**1.44**	**148**	P	**Pg**	**06 59 13.8**	**-0.2**
STV	**Sant Anna di V**	**1.44**	**148**	Pg	**Pg**	**06 59 14.4**	**+0.4**
STV	**Sant Anna di V**	**1.44**	**148**	P	**Pg**	**06 59 13.9**	**-0.2**
BRANT	**Les Verrieres**	**1.48**	**5**	⇑Pn	**Pg**	**06 59 15.2**	**+0.4**
BRANT	**Les Verrieres**	**1.48**	**5**	Sg	**Sg**	**06 59 37.8**	**+3.8**
BRANT	**Les Verrieres**	**1.48**	**5**	Pn	**Pg**	**06 59 15.2**	**+0.4**
BRANT				Pg	**Pb**	**06 59 16.4**	**+2.2**
ENR	**Entracque**	**1.49**	**146**	P	**Pg**	**06 59 14.3**	**-0.6**
ENR				AML	AML		
	comp=E,219µm,0.7s						
ENR				AML	AML		
	comp=N,273µm,1.1s						
ENR				AML	AML		
	comp=E,199µm,0.8s						
ENR	**Entracque**	**1.49**	**146**	Pn	**Pb**	**06 59 14.2**	**-0.1**
ENR	**Entracque**	**1.49**	**146**	Sn	**Sg**	**06 59 34.2**	**-0.1**
ENR	**Entracque**	**1.49**	**146**	P	**Pg**	**06 59 14.4**	**-0.6**
MLYF	**Mely**	**1.52**	**194**	Pg	**Pg**	**06 59 16.5**	**+0.8**
MLYF				Sg	**Sg**	**06 59 38.7**	**+3.2**
WIMIS	**Wimmis**	**1.52**	**38**	⇑Pn	**Pg**	**06 59 15.9**	**+0.2**
BLAF	**les Blancs**	**1.53**	**186**	Pn	**Pg**	**06 59 15.9**	**+0.1**
BLAF				Sn	**Sg**	**06 59 35.9**	**+0.4**
SPIF	**crte de Spivo**	**1.57**	**154**	Pg	**Pg**	**06 59 16.7**	**+0.1**
SMRF	**Simiane la Rot**	**1.57**	**199**	*e*PKIKP	**Pb**	**06 59 15.9**	**+0.2**
SMRF				*e*Sg	**Sg**	**06 59 36.8**	**-0.2**
	comp=E,158nm,0.4s						
FIESA	**Fiescheralp**	**1.61**	**52**	Pg	**Pg**	**06 59 17.1**	**-0.2**
SALSA	**La sagne**	**1.61**	**169**	Pg	**Pg**	**06 59 18.1**	**+0.7**
SALSA				Sg	**Sg**	**06 59 40.4**	**+2.0**
BSTF	**la Bastide-des**	**1.65**	**196**	Pn	**Pg**	**06 59 18.4**	**+0.3**
BSTF				Sn	**Sg**	**06 59 41.1**	**+1.7**
GBOS	**Grotte di Boss**	**1.66**	**137**	P	**Pb**	**06 59 16.9**	**-0.3**
GBOS				AML	AML		
	comp=N,136µm,0.5s						
GBOS				AML	AML		
	comp=E,244µm,0.5s						
GBOS				AML	AML		
	comp=N,136µm,0.5s						
GBOS				AML	AML		
	comp=E,245µm,0.5s						
GBOS	**Grotte di Boss**	**1.66**	**137**	Pn	**Pb**	**06 59 16.9**	**-0.3**
MVIF	**Mont Vial**	**1.69**	**158**	Pg	**Pg**	**06 59 19.3**	**+0.3**
MVIF				Sg	**Sg**	**06 59 42.8**	**+1.9**
TURF	**col de Turini**	**1.69**	**151**	Pg	**Pg**	**06 59 18.9**	**-0.1**
TRIGF	**Trigance**	**1.72**	**177**	Pg	**Pg**	**06 59 19.0**	**-0.5**
TRIGF				Sg	**Sg**	**06 59 42.3**	**+0.5**
SAUF	**chteau de Sau**	**1.74**	**209**	Pg	**Pg**	**06 59 22.4**	**+2.6**
SAOF	**Saorge**	**1.74**	**148**	P	**Pb**	**06 59 18.8**	**+0.1**
SAOF				AML	AML		
	comp=E,300µm,0.4s						
SAOF				AML	AML		
	comp=E,300µm,1.6s						
SAOF				AML	AML		
	comp=N,230µm,1.0s						
SAOF				AML	AML		
	comp=E,300µm,0.4s						
SAOF				AML	AML		
	comp=N,213µm,0.4s						
SAOF	**Saorge**	**1.74**	**148**	Pg	**Pg**	**06 59 19.0**	**-0.9**
CALF	**Calern**	**1.78**	**165**	Pg	**Pg**	**06 59 20.2**	**-0.4**
CALF				Sg	**Sg**	**06 59 44.5**	**+0.9**
BOUC	**Bouclans**	**1.78**	**360**	Pg	**Pg**	**06 59 21.9**	**+1.3**
CHMF	**Charmoille**	**1.80**	**8**	⇑Pn	**Pb**	**06 59 19.1**	**-0.5**
CHMF	**Charmoille**	**1.80**	**8**	Pn	**Pb**	**06 59 19.2**	**-0.5**
CHMF				Pg	**Pg**	**06 59 22.5**	**+1.5**
CHMF				Sn	**Sn**	**06 59 41.8**	**+1.1**
CHMF				Sg	**Sg**	**06 59 46.3**	**+1.9**
SBF	**Sospel**	**1.81**	**152**	*e*Pg	**Pb**	**06 59 20.1**	**+0.4**
SBF				*e*Sg	**Sb**	**06 59 43.1**	**+0.6**
	comp=N,166nm,0.3s						
COLF	**Collangettes**	**1.81**	**272**	Pn	**Pb**	**06 59 19.3**	**-0.5**
COLF				Pg	**Pg**	**06 59 22.4**	**+1.2**
COLF				Sn	**Sg**	**06 59 45.2**	**+0.5**
ESCA	**l'Escarene**	**1.82**	**154**	Pg	**Pg**	**06 59 21.3**	**0.0**
ESCA				Sg	**Sg**	**06 59 45.6**	**+0.7**
HASLI	**Hasliberg/Brie**	**1.84**	**45**	Pn	**Pb**	**06 59 20.5**	**+0.3**
PCP	**Piancastagn**	**1.86**	**119**	Pg	**Pb**	**06 59 20.9**	**+0.2**
RORO	**Rocca Rossa**	**1.86**	**136**	P	**Pb**	**06 59 20.5**	**-0.2**
RORO				AML	AML		
	comp=N,120µm,0.4s						
RORO				AML	AML		
	comp=E,148µm,0.5s						
RORO				AML	AML		
	comp=E,149µm,0.5s						
RORO				AML	AML		
	comp=N,119µm,0.4s						
RORO	**Rocca Rossa**	**1.86**	**136**	Pg	**Pb**	**06 59 20.6**	**0.0**
QLNO	**Quiliano**	**1.87**	**127**	P	**Pb**	**06 59 21.0**	**+0.2**
QLNO				AML	AML		
	comp=E,220µm,0.4s						
QLNO				AML	AML		
	comp=N,180µm,1.1s						
QLNO				AML	AML		
	comp=N,153µm,1.0s						
QLNO				AML	AML		
	comp=E,221µm,0.4s						
CANO	**Canova, Maglio**	**1.88**	**131**	P	**Pb**	**06 59 21.2**	**+0.2**
CANO				AML	AML		
	comp=E,612µm,0.9s						
CANO				AML	AML		
	comp=N,383µm,0.5s						
CANO				AML	AML		
	comp=N,383µm,0.5s						
CANO	**Canova, Maglio**	**1.88**	**131**	Pg	**Pb**	**06 59 21.3**	**+0.3**
ARTF	**Artigues**	**1.91**	**190**	Pn	**Pb**	**06 59 21.1**	**-0.4**
FUSIO	**Fusio**	**1.94**	**59**	P	**Pg**	**06 59 23.1**	**-0.6**
FUSIO				AML	AML		
	comp=E,190µm,0.5s						
FUSIO				AML	AML		
	comp=E,190µm,1.5s						
FUSIO				AML	AML		
	comp=N,168µm,0.5s						
IMI	**Imperia**	**1.94**	**143**	P	**Pb**	**06 59 21.9**	**-0.1**
IMI				AML	AML		
	comp=N,385µm,0.4s						
IMI				AML	AML		
	comp=E,279µm,1.5s						
IMI				AML	AML		
	comp=N,385µm,1.6s						
IMI				AML	AML		
	comp=E,259µm,0.4s						
BOURR	**Bourrignon**	**2.04**	**19**	Sg	**Sg**	**06 59 54.6**	**+2.7**
BOURR	**Bourrignon**	**2.04**	**19**	Pn	**Pn**	**06 59 22.3**	**+1.3**
BOURR	**Bourrignon**	**2.04**	**19**	Pg	**Pg**	**06 59 26.4**	**+0.8**
BNALP	**Bannalp**	**2.05**	**46**	P	**Pb**	**06 59 24.2**	**+0.2**
BNALP				AML	AML		
	comp=E,130µm,0.9s						
BNALP				AML	AML		
	comp=N,104µm,0.4s						
BNALP				AML	AML		
	comp=N,104µm,1.6s						
BNALP				AML	AML		
	comp=E,130µm,1.1s						
BNALP				AML	AML		
	comp=N,105µm,0.4s						
SMF	**Signal de Mont**	**2.06**	**306**	*e*PKP2	**Pb**	**06 59 23.7**	**-0.3**
SMF	**Signal de Mont**	**2.06**	**306**	*e*Pg	**Pg**	**06 59 26.3**	**+0.3**
SMF				*e*Sn	**Sn**	**06 59 47.0**	**0.0**
SMF				*e*Sg	**Sg**	**06 59 53.6**	**+0.9**
	comp=N,68nm,0.2s						
LMR	**La Mourre**	**2.14**	**175**	*e*PKIKP	**Pn**	**06 59 23.5**	**+1.2**
LMR	**La Mourre**	**2.14**	**175**	*e*Pg	**Pg**	**06 59 26.4**	**-1.1**
LMR				*e*Sg	**Sg**	**06 59 53.5**	**-1.7**
	comp=N,55nm,0.2s						
LBL	**Lubilhac**	**2.14**	**265**	Pn	**Pb**	**06 59 24.5**	**-1.0**
LBL				Sg	**Sg**	**06 59 55.6**	**+0.3**
LASF	**Ste Croix**	**2.21**	**232**	*e*Pg	**Pg**	**06 59 28.0**	**-0.8**
LASF				*e*Sn	**Sn**	**06 59 49.6**	**-1.2**
LASF				*e*Sg	**Sg**	**06 59 56.9**	**-0.6**
	comp=N,44nm,0.3s						
TUE	**Stuetta**	**2.37**	**64**	P	**Pb**	**06 59 29.0**	**-0.5**
TUE				AML	AML		
	comp=E,54µm,1.5s						
TUE				AML	AML		
	comp=N,108µm,0.6s						
TUE				AML	AML		
	comp=N,94µm,0.6s						
TUE				AML	AML		
	comp=E,69µm,1.1s						
TUE				AML	AML		
	comp=E,54µm,0.5s						
TUE				AML	AML		
	comp=N,108µm,0.6s						
TUE				AML	AML		
	comp=N,94µm,0.6s						
HINF	**Hinteralfeld**	**2.38**	**10**	*e*P	**Pn**	**06 59 26.5**	**+0.8**
HINF	**Hinteralfeld**	**2.38**	**10**	*e*Pg	**Pg**	**06 59 31.5**	**-0.6**
HINF				*e*Sg	**Sg**	**07 00 02.2**	**-0.8**
	comp=N,57nm,0.3s						
AVF	**Avril sur Loir**	**2.42**	**304**	*e*Pn	**Pn**	**06 59 26.9**	**+0.7**
AVF	**Avril sur Loir**	**2.42**	**304**	*e*Pg	**Pg**	**06 59 32.9**	**0.0**
AVF				*e*Sn	**Sn**	**06 59 55.0**	**-0.9**
AVF				*e*Sg	**Sg**	**07 00 04.5**	**+0.3**
	comp=N,23nm,0.3s						
SULZ	**Cheisacher**	**2.42**	**31**	Pg	**Pg**	**06 59 33.8**	**+0.9**
SULZ	**Cheisacher**	**2.42**	**31**	Sg	**Sg**	**07 00 05.2**	**+1.0**
SULZ	**Cheisacher**	**2.42**	**31**	Pn	**Pn**	**06 59 27.4**	**+1.2**
LOR	**Lormes**	**2.46**	**318**	*e*P	**Pn**	**06 59 28.8**	**+2.1**
LOR	**Lormes**	**2.46**	**318**	*e*Pg	**Pg**	**06 59 33.2**	**-0.3**
LOR				*e*Sg	**Sg**	**07 00 05.4**	**+0.1**
	comp=N,71nm,0.3s						
SSF	**Saint Saulge**	**2.49**	**311**	*e*PKIKP	**Pn**	**06 59 29.5**	**+2.3**
SSF	**Saint Saulge**	**2.49**	**311**	*e*Pg	**Pg**	**06 59 33.9**	**-0.3**
SSF				*e*Sn	**Sn**	**06 59 57.2**	**-0.5**
SSF				*e*Sg	**Sg**	**07 00 06.7**	**+0.2**
	comp=N,28nm,0.2s						
HAU	**Haudompre**	**2.54**	**1**	*e*P	**Pn**	**06 59 29.1**	**+1.3**
HAU	**Haudompre**	**2.54**	**1**	*e*Pg	**Pg**	**06 59 35.4**	**+0.3**
HAU				*e*Sg	**Sg**	**07 00 07.6**	**-0.4**
	comp=N,90nm,0.3s						
MSSA	**Maissana**	**2.58**	**115**	AML	AML		
	comp=E,56µm,0.7s						
MSSA				AML	AML		
	comp=E,56µm,0.7s						
MSSA				AML	AML		
	comp=N,53µm,1.1s						
MSSA				AML	AML		
	comp=E,56µm,1.3s						
WALT	**Westhalten**	**2.59**	**15**	Pn	**Pn**	**06 59 29.2**	**+0.6**
WALT				Pg	**Pg**	**06 59 36.8**	**+0.7**
BGF	**Bois d'Agland**	**2.62**	**296**	*e*P	**Pn**	**06 59 31.1**	**+2.1**
BGF	**Bois d'Agland**	**2.62**	**296**	*e*Pg	**Pg**	**06 59 36.8**	**+0.1**
BGF				*e*Sg	**Sg**	**07 00 11.0**	**+0.3**
	comp=E,87nm,0.3s						
VERF	**Verneugheol**	**2.67**	**277**	Pn	**Pn**	**06 59 31.6**	**+1.9**
VERF				Sg	**Sg**	**07 00 11.1**	**-1.2**
SLE	**Schleitheim**	**2.76**	**33**	Pg	**Pg**	**06 59 39.7**	**+0.3**
SLE	**Schleitheim**	**2.76**	**33**	Pn	**Pn**	**06 59 31.6**	**+0.7**
DAVOX	**Davos/Dischmat**	**2.83**	**61**	AML	AML		
	comp=N,78µm,0.5s						
DAVOX				AML	AML		
	comp=E,72µm,1.3s						
DAVOX				AML	AML		
	comp=N,89µm,1.3s						
DAVOX				AML	AML		
	comp=E,72µm,0.7s						
DAVOX				AML	AML		
	comp=N,89µm,0.7s						
DAVOX				AML	AML		
	comp=E,66µm,0.6s						
SFTF	**Sexfontaines**	**2.87**	**343**	*e*PKP2	**Pn**	**06 59 34.6**	**+2.3**
SFTF	**Sexfontaines**	**2.87**	**343**	*e*Pg	**Pg**	**06 59 41.0**	**-0.4**
SFTF				*e*Sg	**Sg**	**07 00 18.2**	**-0.3**
	comp=E,32nm,0.2s						
XAFF	**Xaffevillers**	**2.95**	**5**	Pn	**Pn**	**06 59 34.7**	**+1.2**
XAFF				Pg	**Pg**	**06 59 43.6**	**+0.6**
CAF	**Calviac**	**3.02**	**261**	*e*PKP2	**Pn**	**06 59 36.7**	**+2.2**
CAF				*e*Sg	**Sg**	**07 00 22.2**	**-1.3**
	comp=E,21nm,0.2s						
CDF	**Champ du Feu**	**3.02**	**13**	*e*Pn	**Pn**	**06 59 34.9**	**+0.3**
CDF	**Champ du Feu**	**3.02**	**13**	*e*Pg	**Pg**	**06 59 43.3**	**-1.1**
CDF				*e*Sn	**Sn**	**07 00 09.2**	**-1.7**
CDF				*e*Sg	**Sg**	**07 00 22.5**	**-1.1**
	comp=E,33nm,0.3s						
EQUI	**Equi**	**3.06**	**114**	AML	AML		
	comp=N,40µm,1.2s						
EQUI				AML	AML		
	comp=E,26µm,1.5s						
EQUI				AML	AML		
	comp=N,40µm,0.8s						
EQUI				AML	AML		
	comp=E,26µm,0.5s						
EQUI				AML	AML		
	comp=E,24µm,0.8s						
DAVA	**Damuels**	**3.09**	**53**	*i* Pn	**Pn**	**06 59 36.0**	**+0.4**
	comp=E,16nm,0.4s						
PAGF	**Fort de Pagny**	**3.11**	**353**	*e*P	**Pn**	**06 59 37.5**	**+1.8**
PAGF	**Fort de Pagny**	**3.11**	**353**	*e*Pg	**Pg**	**06 59 45.0**	**-1.0**
PAGF				*e*Sn	**Sn**	**07 00 11.6**	**-1.3**
PAGF				*e*Sg	**Sg**	**07 00 25.2**	**-1.1**
	comp=E,19nm,0.2s						
MEZF	**Maizieres J'vi**	**3.15**	**345**	*e*Pg	**Pg**	**06 59 46.0**	**-0.7**
MEZF				*e*Sg	**Sg**	**07 00 26.6**	**-0.9**
	comp=E,35nm,0.3s						
SARO	**Sassorosso**	**3.21**	**112**	AML	AML		
	comp=E,67µm,0.6s						
SARO				AML	AML		
	comp=N,77µm,0.7s						
NDIM	**Novi di Modena**	**3.33**	**98**	AML	AML		
	comp=N,1505µm,1.2s						
NDIM				AML	AML		
	comp=N,1290µm,1.2s						
NDIM				AML	AML		
	comp=E,1310µm,0.3s						
NDIM				AML	AML		
	comp=E,1495µm,0.2s						
NDIM				AML	AML		
	comp=N,1505µm,0.8s						
NDIM				AML	AML		
	comp=N,1290µm,0.8s						
RJF	**Les Rejaudoux**	**3.35**	**269**	*e*Pn	**Pn**	**06 59 38.8**	**-0.2**
RJF	**Les Rejaudoux**	**3.35**	**269**	*e*Pg	**Pg**	**06 59 49.6**	**-1.1**
RJF				*e*Sn	**Sn**	**07 00 17.0**	**-1.9**
RJF				*e*Sg	**Sg**	**07 00 31.2**	**-2.9**
	comp=N,34nm,0.4s						
MORSI	**Morsiglia**	**3.36**	**137**	Pn	**Pn**	**06 59 40.8**	**+1.8**
CIEL	**Dossenheim-sur**	**3.45**	**12**	Pn	**Pn**	**06 59 40.9**	**+0.6**
CIEL				Sn	**Sn**	**07 00 20.9**	**-0.3**
FETA	**Feichten**	**3.46**	**62**	*i* Pn	**Pn**	**06 59 44.2**	**+3.6**
	comp=N,9.7nm,0.5s						
PGF	**Pioggiola**	**3.52**	**145**	*e*Pn	**Pn**	**06 59 40.6**	**-0.8**
PGF	**Pioggiola**	**3.52**	**145**	*e*PKIKP	**Pn**	**06 59 43.9**	**+2.5**
PGF				*e*Sg	**Sg**	**07 00 35.7**	**-3.8**
	comp=N,4.6nm,0.3s						
PGF	**Pioggiola**	**3.52**	**145**	AML	AML		
	comp=N,18µm,1.0s						
PGF				AML	AML		
	comp=N,18µm,1.0s						

GIVF	**Givet**	**4.74**	**349**	*e*Pg	**Pg**	**07 00 14.9**	**-2.3**
GIVF				*e*Sn	**Sn**	**07 00 50.1**	**-2.9**
GIVF				*e*Sg	**Sg**	**07 01 16.0**	**-2.5**
	comp=N,10nm,0.3s						
LESA	**Schwarzleotal**	**4.84**	**64**	*i* Pn	**Pn**	**07 00 02.2**	**+2.7**
	comp=N,3.1nm,0.3s						
EPF	**Esparros**	**4.91**	**242**	*e*Pn	**Pn**	**06 59 59.9**	**-0.5**
EPF	**Esparros**	**4.91**	**242**	*e*Pg	**Pg**	**07 00 18.1**	**-2.3**
EPF				*e*Sg	**Sg**	**07 01 21.2**	**-2.8**
	comp=N,13nm,0.3s						
KBA	**Koelnbreinsper**	**5.16**	**69**	*e*Pn	**Pn**	**07 00 07.9**	**+3.9**
	comp=N,0.8nm,0.3s						
MYKA	**Terra Mystica**	**5.26**	**75**	*e*Pn	**Pb**	**07 00 15.7**	**-3.0**
	comp=N,2.3nm,0.4s						
LDF	**La Druitiere**	**5.37**	**308**	*e*Pn	**Pn**	**07 00 05.2**	**-1.5**
LDF	**La Druitiere**	**5.37**	**308**	*e*Pg	**Pg**	**07 00 26.3**	**-3.0**
LDF				*e*Sg	**Sg**	**07 01 36.3**	**-2.6**
	comp=N,6.7nm,0.4s						
ETSF	**Étsaut**	**5.54**	**245**	*e*Pn	**Pn**	**07 00 08.8**	**-0.3**
ETSF	**Etsaut**	**5.54**	**245**	*e*Pg	**Pg**	**07 00 30.0**	**-2.6**
ETSF				*e*Sn	**Sn**	**07 01 09.8**	**-3.2**
ETSF				*e*Sg	**Sg**	**07 01 41.4**	**-2.9**
	comp=N,7.0nm,0.4s						
FLN	**La Foliniere**	**5.66**	**308**	*e*Pn	**Pn**	**07 00 09.1**	**-1.6**
FLN	**La Foliniere**	**5.66**	**308**	*e*Pg	**Pg**	**07 00 31.4**	**-3.5**
FLN				*e*Sg	**Sg**	**07 01 45.3**	**-2.9**
	comp=N,5.2nm,0.3s						
GRR	**Gorron**	**5.69**	**303**	*e*Pn	**Pn**	**07 00 11.0**	**-0.1**
GRR	**Gorron**	**5.69**	**303**	*e*Pg	**Pg**	**07 00 32.3**	**-3.1**
GRR				*e*Sn	**Sn**	**07 01 13.1**	**-3.3**
GRR				*e*Sg	**Sg**	**07 01 46.7**	**-2.3**
OBKA	**Obir**	**5.86**	**77**	*e*Pn	**Pn**	**07 00 15.3**	**+1.7**
	comp=N,1.4nm,0.3s						
SJPF	**Ste Jean**	**5.87**	**249**	*e*Sg	**Sg**	**07 01 51.6**	**-3.3**
	comp=N,15nm,0.6s						
KHC	**Kasperske Hory**	**6.17**	**51**	*e*PN	**Pn**	**07 00 18.6**	**+0.8**
KHC				*e*SN	**Sn**	**07 01 26.0**	**-2.5**
ARSA	**Arzberg**	**6.65**	**71**	*i* Pn	Pn	07 00 32.1	+7.8
	comp=N,2.8nm,0.5s						
CLL	**Collm**	**7.36**	**35**	*ex*	x	07 02 35.0	
CLL				*e*Sg	**Sg**	**07 02 46.0**	**+3.4**
	comp=Z,5.0nm,0.9s						

KRNET ***03*** *07:04:01.8±0.1, 43.°78N×70.°65E, mb2.1*
SOME 03 07:04:01.7, 42.°52N×70.°02E, 7C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.69**	**32**	⇓P	Pg	07 04 15.0	+0.1
	0.3nm,0.5s,baz=218,slow=17,SNR=4.5						
KK31				⇑S	Sg	07 04 24.4	+0.7
	0.5nm,0.3s,baz=215,slow=25,SNR=7.5						
KKAR	**Karatay Array**	**0.69**	**32**	⇑*i*P	Pg	07 04 15.0	+0.1
	baz=89						
KKAR				⇑*i*S	Sg	07 04 24.2	+0.4
	baz=89						
MNAS	**Manas**	**1.84**	**90**	⇑*e*P	Pb	07 04 36.0	-0.3
	baz=33						
MNAS				⇑*i*S	Sg	07 05 01.3	+0.6
	baz=33						
EKS2	**Erkin-Say**	**2.78**	**86**	⇑*i*P	Pn	07 04 45.5	-2.1
	baz=15						
EKS2				⇑*i*S	Sn	07 05 17.5	-4.4
	baz=15						

NEIC ***03*** *07:07:09.8, 57.°07N×158.°00W, h4km*
AEIC ***03*** *07:07:09.8±1.8, 57.°04N±0.°02×157.°95W±0.°05, h6km±2km, ML4.6, mb4.9/157(NEIC), ML4.8/80(NEIC), Mwr4.5/60(NEIC), Mww4.8/44(NEIC), Error ellipse: s-maj=4.7km s-min=1.8km az=130.0*
IDC ***03*** *07:07:09.6±0.5, 57.°21N×158.°05W, h0km, mb4.4/27, mbtmp4.4/30, ML4.1/3, MS3.8/65, Error ellipse: s-maj=16.6km s-min=9.9km az=5.0*
NEIC ***03*** *07:07:09.8, 56.°44N×158.°13W, h18km, Moment Tensor Solution. Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.72; $M_{\theta\theta}$-0.58; $M_{\phi\phi}$-0.15; $M_{r\theta}$2.04; $M_{\theta\phi}$-0.26; $M_{\phi r}$0.69; Fault plane solution: $M_0$2.27000×10^{16} NP1:ϕ_s70.84000°, δ80.89000°, λ91.78000°. NP2:ϕ_s239.75000°, δ9.28000°, λ79.05000°. Principal axes: T 2.2834, Plg54.0000°, Azm343.0000°; N -0.0316, Plg2.0000°, Azm251.0000°; P -2.2517, Plg36.0000°, Azm159.0000°;*
NEIC ***03*** *07:07:09.8, 57.°04N×157.°95W, h18km*
NEIC ***03*** *07:07:10.5±1.7, 57.°06N±0.°02×157.°97W±0.°05, h6km±3km, Error ellipse: s-maj=4.6km s-min=1.9km az=130.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}5.31; $M_{\theta\theta}$-4.92; $M_{\phi\phi}$-0.40; $M_{r\theta}$-2.26; $M_{\theta\phi}$-1.85; $M_{\phi r}$-1.98; Fault plane solution: $M_0$6.22000×10^{15} NP1: ϕ_s240.02000°, δ59.43000°, λ79.04000°. NP2:ϕ_s80.87000°, δ32.30000°, λ107.84000°. Principal axes: T 6.1829, Plg73.0000°, Azm122.0000°; N 0.0788, Plg9.0000°, Azm246.0000°; P -6.2617, Plg14.0000°, Azm338.0000°;*
ISC 03 07:07:10.7±1.1, 57.°06N±0.°03×157.°95W±0.°03, h11km±6km, n911, σ1§11/892, mb4.9/110, MS3.8/62, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.80**	**199**		**Pg**	**07 07 24.5**	**-1.7**
CHGN	**Chignik**	**0.80**	**199**	Sg	**Sg**	**07 07 36.2**	**-0.3**
CHGN				IAML		07 07 37.4	
	comp=N,44μm,0.7s						
CHGN	**Chignik**	**0.80**	**199**	P	**Pg**	**07 07 24.4**	**-1.7**
	baz=18,SNR=1000						
CHGN				S	**Sg**	**07 07 36.6**	**+0.1**
	baz=18						
PLBL	**Peulik Blue Cr**	**0.89**	**43**		**Pg**	**07 07 27.1**	**-0.7**
PLBL					**Sg**	**07 07 39.6**	**+0.2**
R17L	**Mt. Peulik Vol**	**1.04**	**56**	P	**Pg**	**07 07 29.0**	**-1.6**
	baz=237,SNR=1000						
PLK4	**Peulik 4**	**1.04**	**56**		**Pg**	**07 07 28.9**	**-1.7**
PLK4					**Sb**	**07 07 45.0**	**+0.6**
PLK1	**Peulik 1**	**1.04**	**44**		**Pg**	**07 07 29.8**	**-0.9**
PLK1					**Sb**	**07 07 44.8**	**+0.4**
VNHG	**Veniaminof 1**	**1.07**	**219**		**Pg**	**07 07 29.8**	**-1.5**
PLK5	**Peulik 5**	**1.11**	**31**		**Pg**	**07 07 31.2**	**-0.7**
PLK5					**Sb**	**07 07 47.4**	**+1.2**
PLK3	**Peulik 3**	**1.11**	**55**		**Pg**	**07 07 30.5**	**-1.5**
PLK3					**Sb**	**07 07 47.2**	**+0.9**
VNSG	**Veniaminof 6**	**1.12**	**214**		**Pg**	**07 07 30.2**	**-2.1**
PLK2	**Peulik 2**	**1.13**	**51**		**Pg**	**07 07 30.9**	**-1.5**
PLK2					**Sn**	**07 07 48.4**	**+0.5**
S14K	**Fog Glacier**	**1.18**	**229**	P	**Pg**	**07 07 32.1**	**-1.1**
	baz=48,SNR=559						
VNFG	**Fog Glacier, M**	**1.18**	**229**		**Pg**	**07 07 32.0**	**-1.2**
VNFG					**Sn**	**07 07 50.2**	**+1.0**
VNFG	**Fog Glacier, M**	**1.18**	**229**	IAML		07 07 58.5	
	comp=N,23μm,0.8s						
VNFG				IAML		07 08 05.0	
	comp=E,22μm,0.9s						
VNSS	**Veniaminof 8**	**1.18**	**226**		**Pg**	**07 07 31.9**	**-1.4**
VNWF	**Veniaminof 8**	**1.27**	**225**		**Pg**	**07 07 33.6**	**-1.4**
VNKR	**Veniaminof 5**	**1.29**	**218**		**Pn**	**07 07 33.6**	**-1.1**
Q17K	**Contact Creek**	**1.64**	**42**	P	**Pn**	**07 07 38.7**	**-0.9**
	baz=224,SNR=1000						
Q17K				S	**Sn**	**07 08 01.2**	**+0.5**
	baz=224						
CNTC	**Contact Creek**	**1.64**	**42**		**Pn**	**07 07 38.5**	**-1.0**
CNTC					**Sn**	**07 08 01.9**	**+1.1**
ANCK	**Angle Creek**	**1.75**	**48**	Pn	**Pn**	**07 07 40.4**	**-0.6**
ANCK				IAML		07 08 10.0	
	comp=E,15μm,1.1s						
ANCK				IAML		07 08 11.8	
	comp=N,14μm,0.7s						
ANCK	**Angle Creek**	**1.75**	**48**		**Sn**	**07 08 04.8**	**+1.5**
Q16K	**King Salmon**	**1.77**	**23**		**Pn**	**07 07 40.8**	**-0.4**
Q16K					**Sb**	**07 08 06.3**	**+1.2**
Q16K	**King Salmon**	**1.77**	**23**	P	**Pn**	**07 07 40.7**	**-0.4**
	baz=204,SNR=586						
Q16K				S	**Sb**	**07 08 05.4**	**+0.2**
	baz=204						
CHIR	**Chirikof Islan**	**1.79**	**133**	Pn	**Pn**	**07 07 41.8**	**+0.3**
CHIR				IAML		07 08 09.8	
	comp=E,14μm,1.0s						
CHIR	**Chirikof Islan**	**1.79**	**133**		**Sb**	**07 08 07.2**	**+1.4**
CHIR	**Chirikof Islan**	**1.79**	**133**	P	**Pn**	**07 07 41.7**	**+0.2**
	baz=314,SNR=313						
CHIR				S	**Sg**	**07 08 07.5**	**-0.7**
	baz=314						
ACHA	**Angle Creek He**	**1.82**	**50**		**Pn**	**07 07 41.4**	**-0.7**
KABU	**Katmai Buttres**	**1.88**	**49**		**Pn**	**07 07 42.3**	**-0.5**
KABU	**Katmai Buttres**	**1.88**	**49**	IAML		07 08 11.3	
	comp=E,10μm,0.4s						
KCE	**Katmai Mt Cerb**	**1.91**	**50**		**Pn**	**07 07 43.3**	**+0.2**
KVTA	**Katmai Vly 10**	**1.95**	**46**		**Pn**	**07 07 43.4**	**-0.3**
R18K	**Karluk**	**1.97**	**73**		**Pn**	**07 07 42.9**	**-1.0**
R18K	**Karluk**	**1.97**	**73**	IAML		07 08 14.2	
	comp=E,6μm,0.5s						
R18K				IAML		07 08 15.2	
	comp=N,8μm,0.6s						
R18K	**Karluk**	**1.97**	**73**	P	**Pn**	**07 07 42.9**	**-1.0**
	baz=256						
P16K	**Nushagak River**	**1.98**	**359**		**Pn**	**07 07 44.0**	**0.0**
P16K					**Sb**	**07 08 11.2**	**-0.1**
P16K	**Nushagak River**	**1.98**	**359**	P	**Pn**	**07 07 43.0**	**-1.1**
	baz=180,SNR=271						
SII	**Sitkinak Islan**	**2.13**	**102**	P	**Pn**	**07 07 47.4**	**+1.2**
SII	**Sitkinak Islan**	**2.13**	**102**	Pn	**Pn**	**07 07 47.0**	**+0.7**
SII				IAML		07 08 29.3	
	comp=E,10μm,0.7s						
SII	**Sitkinak Islan**	**2.13**	**102**	P	**Pn**	**07 07 46.3**	**+0.1**
	baz=285,SNR=429						
SDPT	**Sand Point**	**2.22**	**221**	P	**Pn**	**07 07 48.8**	**+1.5**
SDPT	**Sand Point**	**2.22**	**221**		**Pn**	**07 07 47.1**	**-0.2**
SDPT	**Sand Point**	**2.22**	**221**	IAML		07 08 26.0	
	comp=E,7μm,1.2s						
SDPT				IAML		07 08 28.6	
	comp=N,4μm,1.0s						
SDPT	**Sand Point**	**2.22**	**221**	P	**Pn**	**07 07 47.1**	**-0.2**
	baz=38,SNR=29						
KAHC	**Katmai Hardscr**	**2.24**	**43**		**Pn**	**07 07 47.4**	**-0.4**
KAHC	**Katmai Hardscr**	**2.24**	**43**		**Pn**	**07 07 47.4**	**-0.4**
Q18K	**Katmai Hardscr**	**2.24**	**43**	P	**Pn**	**07 07 47.5**	**-0.3**
	baz=226,SNR=466						
Q18K				S	**Sb**	**07 08 18.7**	**-0.2**
	baz=226						
KAHG	**Katmai Hook Gl**	**2.32**	**50**		**Pn**	**07 07 48.7**	**-0.2**
O15K	**Ungalikthiuk R**	**2.35**	**336**		**Pn**	**07 07 49.0**	**-0.1**
O15K	**Ungalikthiuk R**	**2.35**	**336**	P	**Pn**	**07 07 49.1**	**0.0**
	baz=154,SNR=132						
CHNA	**Chernabura Isl**	**2.42**	**203**	P	**Pn**	**07 07 49.8**	**-0.2**
	baz=22,SNR=124						
CHNA				S	**Sb**	**07 08 23.7**	**-0.2**
	baz=22						
CNBA	**Chernabura Isl**	**2.42**	**203**	Pn	**Pn**	**07 07 49.9**	**-0.3**
CNBA				IAML		07 08 30.4	
	comp=E,4μm,0.8s						
CNBA				IAML		07 08 30.6	
	comp=N,5μm,0.8s						
O16K	**Kokwok River B**	**2.54**	**358**		**Pn**	**07 07 51.2**	**-0.6**
O16K				IAML		07 08 37.5	
	comp=N,3μm,1.1s						
O16K				IAML		07 08 48.5	
	comp=E,3μm,1.2s						
O16K	**Kokwok River B**	**2.54**	**358**	P	**Pn**	**07 07 51.5**	**-0.4**
	baz=178,SNR=237						
O16K				Sb	**Sb**	**07 08 29.7**	**+2.1**
	baz=178						
OHAK	**Old Harbor**	**2.55**	**84**	P	**Pn**	**07 07 52.8**	**+0.9**
OHAK	**Old Harbor**	**2.55**	**84**	Pn	**Pn**	**07 07 52.8**	**+0.9**
OHAK	**Old Harbor**	**2.55**	**84**	P	**Pn**	**07 07 52.3**	**+0.5**
	baz=268,SNR=586						
S12K	**Black Hills**	**2.66**	**241**	Pn	**Pn**	**07 07 53.6**	**+0.2**
S12K				IAML		07 08 34.7	
	comp=E,4μm,0.6s						
S12K				IAML		07 08 34.9	
	comp=N,4μm,0.5s						
S12K	**Black Hills**	**2.66**	**241**	P	**Pn**	**07 07 53.5**	**0.0**
	baz=58,SNR=14						
PS1A	**Pavlof South-1**	**2.68**	**234**		**Pn**	**07 07 53.9**	**+0.2**
PVV	**Pavlof Volcano**	**2.73**	**233**		**Pn**	**07 07 54.2**	**-0.2**
P18K	**Big Mountain,**	**2.75**	**30**		**Pn**	**07 07 54.4**	**-0.4**
P18K	**Big Mountain,**	**2.75**	**30**	P	**Pn**	**07 07 54.3**	**-0.4**
	baz=213,SNR=94						
P18K				Sb	**Sg**	**07 08 36.5**	**-2.4**
	baz=213						
O17K	**Koliganek Bris**	**2.76**	**9**	P	**Pn**	**07 07 54.6**	**-0.2**
	baz=190						
PS4A	**Pavlof South-4**	**2.77**	**233**		**Pn**	**07 07 55.2**	**+0.1**
PN7A	**Pavlof North-7**	**2.78**	**236**		**Pn**	**07 07 55.7**	**+0.5**
HAG	**Hague Volcano**	**2.81**	**233**		**Pn**	**07 07 55.7**	**+0.2**
O14K	**Tigyukauivet M**	**2.82**	**323**	Pn	**Pn**	**07 07 55.8**	**+0.3**
O14K				IAML		07 08 55.9	
	comp=N,2μm,1.2s						
O14K	**Tigyukauivet M**	**2.82**	**323**	P	**Pn**	**07 07 55.6**	**0.0**
	baz=140,SNR=48						
Q19K	**Cape Douglas,**	**2.96**	**49**		**Pn**	**07 07 57.8**	**+0.2**
Q19K				IAML		07 08 50.2	
	comp=E,4μm,1.1s						
Q19K				IAML		07 09 11.0	
	comp=N,4μm,0.9s						
Q19K	**Cape Douglas,**	**2.96**	**49**	P	**Pn**	**07 07 57.9**	**+0.2**
	baz=233,SNR=94						
KDAK	**Kodiak Island**	**2.99**	**74**		**Pn**	**07 07 58.5**	**+0.5**
KDAK	**Kodiak Island**	**2.99**	**74**	P	**Pn**	**07 07 58.6**	**+0.5**
	baz=256						
KDAK	**Kodiak Island**	**2.99**	**74**	Pn	**Pn**	**07 07 59.0**	**+1.0**
	comp=N,71nm,0.3s,baz=247,slow=3.9,SNR=1561						
KDAK				Sn	**Sn**	**07 08 32.0**	**-1.9**
	comp=N,36nm,0.3s,baz=295,slow=17,SNR=5.9						
KDAK				Lg	Lg	07 08 42.4	
	comp=N,41nm,0.3s,baz=220,slow=19,SNR=6.5						
KDAK				LR	LR	07 09 19.0	
	comp=N,869nm,18.3s,baz=313,slow=43						
	comp=N,216nm,0.3s						
O18K	**Koktuh Hills**	**3.15**	**26**	Pn	**Pn**	**07 08 00.4**	**+0.2**
O18K				IAML		07 09 08.3	
	comp=N,2μm,1.0s						
O18K	**Koktuh Hills**	**3.15**	**26**	P	**Pn**	**07 08 00.1**	**-0.2**
	baz=208,SNR=114						
N15K	**Kwethluk River**	**3.31**	**341**	Pn	**Pn**	**07 08 02.6**	**+0.1**
N15K				IAML		07 09 05.8	
	comp=N,3μm,0.7s						
N15K				IAML		07 09 06.2	
	comp=E,3μm,1.1s						
N15K	**Kwethluk River**	**3.31**	**341**	P	**Pn**	**07 08 02.9**	**+0.5**
	baz=160,SNR=149						
AUL	**Augustine Lava**	**3.34**	**44**		**Pn**	**07 08 03.1**	**+0.4**
Q20K	**Shuyak Island**	**3.35**	**60**	P	**Pn**	**07 08 03.8**	**+0.8**
	baz=245,SNR=38						
SYI	**Shuyak Island**	**3.36**	**60**		**Pn**	**07 08 04.1**	**+1.1**
AU22	**Augustine Moun**	**3.36**	**44**		**Pn**	**07 08 03.4**	**+0.3**
N16K	**Nishlik Lake**	**3.45**	**353**		**Pn**	**07 08 04.6**	**+0.3**
N16K	**Nishlik Lake**	**3.45**	**353**	P	**Pn**	**07 08 04.7**	**+0.3**
	baz=173,SNR=103						
N14K	**Kuskokwak Cree**	**3.48**	**327**		**Pn**	**07 08 04.9**	**+0.3**
N14K	**Kuskokwak Cree**	**3.48**	**327**	P	**Pn**	**07 08 04.9**	**+0.3**
	baz=144,SNR=48						
N17K	**Nushagak Hills**	**3.50**	**6**	Pn	**Pn**	**07 08 04.5**	**-0.5**
N17K				IAML		07 09 10.6	
	comp=E,2μm,1.8s						
N17K				IAML		07 09 11.6	
	comp=N,2μm,1.4s						
N17K	**Nushagak Hills**	**3.50**	**6**	P	**Pn**	**07 08 04.7**	**-0.3**
	baz=187,SNR=91						
P19K	**Oil Pt**	**3.60**	**42**		**Pn**	**07 08 06.5**	**+0.1**
P19K				IAML		07 09 10.8	
	comp=E,2μm,1.0s						
P19K				IAML		07 09 19.5	
	comp=N,2μm,1.1s						
P19K	**Oil Pt**	**3.60**	**42**	P	**Pn**	**07 08 06.7**	**+0.3**
	baz=226,SNR=17						
O19K	**Port Alsworth**	**3.67**	**30**		**Pn**	**07 08 07.6**	**+0.2**
O19K	**Port Alsworth**	**3.67**	**30**	P	**Pn**	**07 08 07.9**	**+0.6**
	baz=213						
FALS	**False Pass**	**3.78**	**237**	P	**Pn**	**07 08 12.7**	**+3.9**
FALS	**False Pass**	**3.78**	**237**	P	**Pn**	**07 08 09.6**	**+0.8**
	baz=52						
N18K	**Kilae Creek**	**3.79**	**16**	Pn	**Pn**	**07 08 09.0**	**0.0**
N18K				IAML		07 09 25.1	
	comp=E,2μm,1.2s						
N18K				IAML		07 09 25.3	
	comp=N,1μm,1.1s						
N18K	**Kilae Creek**	**3.79**	**16**	P	**Pn**	**07 08 09.0**	**0.0**
	baz=197,SNR=67						
ILSW	**Iliamna Southw**	**3.87**	**39**		**Pn**	**07 08 10.3**	**+0.2**
M15K	**Kasigluk River**	**3.92**	**340**		**Pn**	**07 08 11.1**	**+0.4**
M15K	**Kasigluk River**	**3.92**	**340**	P	**Pn**	**07 08 10.8**	**+0.2**
	baz=158,SNR=113						
IVE	**Iliamna Volcan**	**3.94**	**39**		**Pn**	**07 08 11.3**	**+0.3**
ISNN	**Isanotski Nort**	**3.96**	**238**		**Pn**	**07 08 11.2**	**-0.1**
ISLZ	**Isanotski Laza**	**4.00**	**237**		**Pn**	**07 08 11.7**	**-0.1**
M16K	**Timber Creek**	**4.01**	**353**	Pn	**Pn**	**07 08 12.0**	**+0.1**
M16K				IAML		07 09 31.3	
	comp=E,1μm,1.4s						
M16K				IAML		07 09 38.1	
	comp=N,2μm,1.1s						
M16K	**Timber Creek**	**4.01**	**353**	P	**Pn**	**07 08 12.1**	**+0.1**
	baz=172,SNR=80						
O20K	**Slope Mountain**	**4.12**	**40**		**Pn**	**07 08 14.1**	**+0.6**
O20K	**Slope Mountain**	**4.12**	**40**	P	**Pn**	**07 08 14.3**	**+0.7**
	baz=225,SNR=48						
N19K	**Bonanza Creek**	**4.17**	**24**	Pn	**Pn**	**07 08 14.7**	**+0.4**
N19K				IAML		07 09 34.8	
	comp=E,2μm,1.3s						
N19K				IAML		07 09 36.0	
	comp=N,999nm,1.3s						
N19K	**Bonanza Creek**	**4.17**	**24**	P	**Pn**	**07 08 14.8**	**+0.4**
	baz=207,SNR=131						
HOM	**Homer**	**4.22**	**49**		**Pn**	**07 08 13.7**	**-1.3**
HOM				IAML		07 09 53.3	
	comp=E,2μm,1.4s						
HOM	**Homer**	**4.22**	**49**	P	**Pn**	**07 08 15.9**	**+1.0**
	baz=235						
SVW2	**Sparrevohn**	**4.23**	**16**	P	**Pn**	**07 08 16.7**	**+1.6**
SVW2	**Sparrevohn**	**4.23**	**16**		**Pn**	**07 08 15.9**	**+0.9**
SVW2				IAML		07 09 30.5	
	comp=E,1μm,1.9s						
SVW2				IAML		07 09 35.4	
	comp=N,681nm,1.2s						
M14K	**Bethel**	**4.25**	**332**	Pn	**Pn**	**07 08 15.1**	**-0.1**
M14K	**Bethel**	**4.25**	**332**	P	**Pn**	**07 08 15.6**	**+0.4**
	baz=149,SNR=60						
RED	**Redoubt Volcan**	**4.32**	**37**		**Pn**	**07 08 17.0**	**+0.7**
CNPM	**China Poot**	**4.32**	**52**	Pn	**Pn**	**07 08 17.4**	**+1.1**
RDWB	**Redoubt West**	**4.35**	**36**		**Pn**	**07 08 17.3**	**+0.5**
RDSO	**Redoubt South**	**4.35**	**36**		**Pn**	**07 08 17.6**	**+0.7**
RSO	**Redoubt South**	**4.36**	**36**		**Pn**	**07 08 18.0**	**+1.1**
M17K	**Holitna River**	**4.37**	**3**	Pn	**Pn**	**07 08 17.2**	**+0.3**
M17K	**Holitna River**	**4.37**	**3**	P	**Pn**	**07 08 17.4**	**+0.5**
	baz=184,SNR=44						
NCT	**North Crescent**	**4.38**	**35**		**Pn**	**07 08 18.0**	**+0.9**
M13K	**Dall Lake**	**4.38**	**322**	Pn	**Pn**	**07 08 17.3**	**+0.2**
M13K	**Dall Lake**	**4.38**	**322**	P	**Pn**	**07 08 18.0**	**+0.9**
	baz=138,SNR=46						
RDT	**Redoubt**	**4.55**	**37**		**Pn**	**07 08 20.0**	**+0.5**
M18K	**Stony River**	**4.58**	**13**		**Pn**	**07 08 20.1**	**+0.3**
M18K	**Stony River**	**4.58**	**13**	P	**Pn**	**07 08 20.3**	**+0.5**
	baz=195,SNR=119						
BRLK	**Bradley Lake**	**4.60**	**51**		**Pn**	**07 08 21.2**	**+1.1**
BRSE	**Bradley Lake S**	**4.65**	**52**		**Pn**	**07 08 21.5**	**+0.7**
BRSE	**Bradley Lake S**	**4.65**	**52**	P	**Pn**	**07 08 20.8**	**0.0**
	baz=238,SNR=16						
L16K	**Owhat River**	**4.73**	**351**		**Pn**	**07 08 21.8**	**-0.1**
L16K				IAML		07 09 57.9	
	comp=E,1μm,1.2s						
L16K	**Owhat River**	**4.73**	**351**	P	**Pn**	**07 08 22.2**	**+0.3**
	baz=170,SNR=18						
L14K	**Kuka Creek**	**4.94**	**332**		**Pn**	**07 08 25.0**	**+0.3**
L14K	**Kuka Creek**	**4.94**	**332**	P	**Pn**	**07 08 24.9**	**+0.2**
	baz=149,SNR=81						
L15K	**Ungalak Mounta**	**4.97**	**340**		**Pn**	**07 08 25.0**	**-0.2**
L15K	**Ungalak Mounta**	**4.97**	**340**	P	**Pn**	**07 08 25.3**	**+0.1**
	baz=157,SNR=48						
SPNN	**North Nagishla**	**5.09**	**30**		**Pn**	**07 08 27.5**	**+0.5**
L17K	**Donlin**	**5.10**	**358**		**Pn**	**07 08 27.0**	**+0.1**
L17K	**Donlin**	**5.10**	**358**	P	**Pn**	**07 08 26.6**	**-0.3**
	baz=178,SNR=84						
N20K	**Mount Spurr**	**5.10**	**33**	P	**Pn**	**07 08 27.2**	**+0.2**
	baz=218,SNR=15						
SPCR	**Spurr Chakacha**	**5.10**	**33**		**Pn**	**07 08 27.2**	**+0.2**
SPCR	**Spurr Chakacha**	**5.10**	**33**	P	**Pn**	**07 08 27.6**	**+0.6**
	baz=218,SNR=14						
CAPN	**Captain Cook N**	**5.12**	**41**		**Pn**	**07 08 28.1**	**+0.9**
CAPN	**Captain Cook N**	**5.12**	**41**	P	**Pn**	**07 08 28.2**	**+1.0**
	baz=226						
SPCP	**Crater Peak Br**	**5.17**	**33**		**Pn**	**07 08 28.2**	**+0.2**
M19K	**Big River Lodg**	**5.19**	**19**		**Pn**	**07 08 28.5**	**+0.4**
M19K	**Big River Lodg**	**5.19**	**19**	IAML		07 10 03.3	
	comp=E,863nm,1.6s						
M19K				IAML		07 10 23.7	
	comp=N,638nm,1.4s						
M19K	**Big River Lodg**	**5.19**	**19**	P	**Pn**	**07 08 28.8**	**+0.6**
	baz=202						
L18K	**Granite Mounta**	**5.22**	**7**		**Pn**	**07 08 28.5**	**-0.1**
L18K	**Granite Mounta**	**5.22**	**7**	P	**Pn**	**07 08 28.8**	**+0.2**
	baz=188,SNR=37						
SPCG	**Spurr Capps Gl**	**5.23**	**33**		**Pn**	**07 08 29.2**	**+0.4**
SLKM	**Skilak Lake**	**5.30**	**46**		**Pn**	**07 08 29.9**	**+0.2**
L19K	**White Mountain**	**5.38**	**16**	Pn	**Pn**	**07 08 30.9**	**+0.2**
L19K	**White Mountain**	**5.38**	**16**	P	**Pn**	**07 08 30.8**	**+0.1**
	baz=198,SNR=117						
SEW	**Seward**	**5.39**	**52**	Pn	**Pn**	**07 08 34.1**	**+3.2**
SEW	**Seward**	**5.39**	**52**	P	**Pn**	**07 08 33.4**	**+2.5**
	baz=239,SNR=16						
M20K	**Styx River**	**5.43**	**25**		**Pn**	**07 08 32.1**	**+0.6**
M20K	**Styx River**	**5.43**	**25**	P	**Pn**	**07 08 32.3**	**+0.8**
	baz=209						
M11K	**M

SPIA	Saint Paul Isl	6.70	276	P	Pn	07 08 49.7	+0.9
SPIA	Saint Paul Isl	6.70	276		Pn	07 08 49.7	+0.9
SPIA	Saint Paul Isl	6.70	276	P	Pn	07 08 49.7	+0.9
	baz=86,SNR=6.2						
GLI	Glacier Island	6.79	51	Pn	Pn	07 08 49.9	-0.3
GLI	Glacier Island	6.79	51	P	Pn	07 08 50.5	+0.4
	baz=240						
SML	Sawmill	6.83	42	Pn	Pn	07 08 51.5	+0.7
SML	Sawmill	6.83	42	P	Pn	07 08 51.4	+0.7
	baz=230,SNR=19						
HIN	Hinchinbrook I	6.83	56	Pn	Pn	07 08 52.1	+1.4
I17K	Unalakleet	6.98	350		Pn	07 08 53.3	+0.6
I17K	Unalakleet	6.98	350	P	Pn	07 08 53.1	+0.4
	baz=168						
FID	Port Fidalgo	7.00	53	Pn	Pn	07 08 53.5	+0.6
CAST	Castle Rocks	7.01	22	Pn	Pn	07 08 54.1	+0.9
CAST	Castle Rocks	7.01	22	P	Pn	07 08 53.9	+0.7
	baz=207,SNR=84						
M23K	Glacier View	7.05	43		Pn	07 08 53.8	+0.1
M23K	Glacier View	7.05	43	P	Pn	07 08 54.5	+0.8
	baz=232,SNR=12						
J19K	Poorman	7.05	8	Pn	Pn	07 08 53.9	+0.2
J19K	Poorman	7.05	8	P	Pn	07 08 54.5	+0.7
	baz=190,SNR=54						
SCM	Sheep Creek Mo	7.22	44	Pn	Pn	07 08 56.6	+0.5
SCM	Sheep Creek Mo	7.22	44	P	Pn	07 08 57.0	+0.9
	baz=233,SNR=15						
EYAK	Cordova Ski Ar	7.24	56	P	Pn	07 08 56.5	+0.3
EYAK	Cordova Ski Ar	7.24	56		Pn	07 08 56.3	+0.1
EYAK	Cordova Ski Ar	7.24	56	P	Pn	07 08 56.3	+0.1
	baz=246,SNR=5.3						
WAT7	Susitna Watana	7.37	34		Pn	07 08 59.2	+1.0
J20K	Nowinta River	7.38	13	Pn	Pn	07 08 58.7	+0.4
J20K	Nowinta River	7.38	13	P	Pn	07 08 58.8	+0.6
	baz=196,SNR=18						
KTH	Kantishna Hill	7.39	25	Pn	Pn	07 08 59.9	+1.5
CHUM	Lake Minchumin	7.39	20		Pn	07 08 58.7	+0.4
CHUM	Lake Minchumin	7.39	20	P	Pn	07 08 58.7	+0.4
	baz=205,SNR=31						
WAT1	Susitna Watana	7.46	35		Pn	07 09 00.6	+1.2
WAT1	Susitna Watana	7.46	35	P	Pn	07 09 00.1	+0.7
	baz=223						
NIKH	Nikolski High	7.48	241	P	Pn	07 08 59.7	0.0
	baz=52						
WAT6	Susitna Watana	7.55	39		Pn	07 09 00.9	+0.2
WAT6	Susitna Watana	7.55	39	P	Pn	07 09 01.4	+0.6
	baz=228,SNR=21						
KLU	Klutina	7.59	49	Pn	Pn	07 09 01.1	-0.2
KLU	Klutina	7.59	49	P	Pn	07 09 01.7	+0.5
	baz=240,SNR=24						
KAIM	Kayak Island	7.65	62	Pn	Pn	07 09 03.8	+1.9
KAIM	Kayak Island	7.65	62	P	Pn	07 09 02.5	+0.6
	baz=254						
RAGM	Ragged Mountai	7.67	59	Pn	Pn	07 09 03.0	+0.7
GOAT	Goat Mountain	7.72	57		Pn	07 09 02.8	-0.1
GCSA	Galena City Sc	7.73	3	P	Pn	07 09 03.5	+0.5
	baz=184						
RND	Reindeer	7.81	32	Pn	Pn	07 09 05.6	+1.5
M24K	Tolsona, Glenn	7.83	45	Pn	Pn	07 09 05.5	+1.1
M24K	Tolsona, Glenn	7.83	45	P	Pn	07 09 05.5	+1.1
	baz=235,SNR=13						
BPAW	Bear Paw Mtn.	7.85	23	Pn	Pn	07 09 05.5	+0.9
BPAW	Bear Paw Mtn.	7.85	23	P	Pn	07 09 05.6	+0.9
	baz=209,SNR=97						
HMT	Hamilton	7.85	60	Pn	Pn	07 09 05.4	+0.7
H16K	Elim	7.89	346		Pn	07 09 05.5	+0.3
H16K	Elim	7.89	346	P	Pn	07 09 05.2	+0.1
	baz=163,SNR=10						
BMRM	Bremner River	7.92	55	P	Pn	07 09 06.2	+0.5
	baz=246						
I20K	Naaghedeneel	7.95	11		Pn	07 09 07.8	+1.9
I20K	Naaghedeneel	7.95	11	P	Pn	07 09 06.6	+0.7
	baz=194						
NICHA	Nichawak Mount	7.96	61		Pn	07 09 06.4	+0.3
H17K	Granite Mounta	7.96	354		Pn	07 09 06.7	+0.5
H17K	Granite Mounta	7.96	354	P	Pn	07 09 06.9	+0.7
	baz=172,SNR=6.7						
SUCK	Suckling Hills	8.00	62	Pn	Pn	07 09 07.9	+1.1
DHY	Denali Highway	8.02	37		Pn	07 09 07.5	+0.4
DHY	Denali Highway	8.02	37	P	Pn	07 09 08.8	+1.7
	baz=226,SNR=13						
MCK	McKinley	8.04	30		Pn	07 09 07.0	-0.3
MCK	McKinley	8.04	30	P	Pn	07 09 09.2	+1.9
	baz=218,SNR=11						
H18K	Honhosa River	8.13	359		Pn	07 09 08.6	+0.1
H18K	Honhosa River	8.13	359	P	Pn	07 09 09.9	+1.5
	baz=178,SNR=8.3						
N25K	Chitina, Valde	8.20	51		Pn	07 09 09.5	-0.1
N25K	Chitina, Valde	8.20	51	P	Pn	07 09 10.2	+0.6
	baz=242						
BWN	Browne	8.26	27		Pn	07 09 11.3	+1.0
GRIN	Grindle Hills	8.28	61		Pn	07 09 10.5	-0.1
ANM	Nome	8.35	337	P	Pn	07 09 12.4	+0.9
	baz=151						
KHIT	Khitrov Hills	8.36	60		Pn	07 09 11.6	-0.2
HARP	HAARP	8.38	45	P	Pn	07 09 13.8	+1.8
	baz=236						
GLB	Gilahina Butte	8.47	53	Pn	Pn	07 09 13.9	+0.8
SNH	Sunshine Point	8.48	62		Pn	07 09 14.2	+0.9
G15K	Niukluk	8.49	342	P	Pn	07 09 14.9	+1.6
	baz=157						
WACK	Wrangell Chich	8.50	49		Pn	07 09 13.6	-0.2
CRQM	Cirque	8.51	58		Pn	07 09 13.9	0.0
CRQE	Cirque	8.53	58	P	Pn	07 09 15.2	+1.1
	baz=251,SNR=6.9						
H19K	Roundabout Mou	8.53	4		Pn	07 09 14.2	+0.3
H19K	Roundabout Mou	8.53	4	P	Pn	07 09 15.5	+1.6
	baz=186,SNR=14						
VRDI	Verde Repeater	8.54	55		Pn	07 09 13.8	-0.5
WAX	Waxell Ridge	8.55	60		Pn	07 09 15.0	+0.7
G17K	Kiwalik Mounta	8.57	352	P	Pn	07 09 15.9	+1.4
	baz=170						
H20K	Anotleneega Mo	8.59	9		Pn	07 09 15.2	+0.4
H20K	Anotleneega Mo	8.59	9	P	Pn	07 09 15.8	+0.9
	baz=191,SNR=21						
PAX	Paxson	8.60	41		Pn	07 09 15.6	+0.5
PAX	Paxson	8.60	41	P	Pn	07 09 16.5	+1.4
	baz=232,SNR=33						
G16K	Koyuk River	8.63	348		Pn	07 09 15.7	+0.4
G16K	Koyuk River	8.63	348	P	Pn	07 09 16.7	+1.4
	baz=164						
I21K	Tanana	8.64	17		Pn	07 09 16.2	+0.7
I21K	Tanana	8.64	17	P	Pn	07 09 18.1	+2.6
	baz=202						
TGL	Tana Glacier	8.65	58		Pn	07 09 15.8	0.0
NEA2	Nenana	8.71	26		Pn	07 09 16.2	-0.2
NEA2	Nenana	8.71	26	P	Pn	07 09 18.1	+1.7
	baz=214,SNR=29						
BARK	Barkley Ridge	8.71	61		Pn	07 09 16.2	-0.3
MLY	Manley	8.72	21		Pn	07 09 16.7	0.0
MLY	Manley	8.72	21	P	Pn	07 09 17.5	+0.8
	baz=207,SNR=54						
MCARA	McCarthy VSAT	8.79	54		Pn	07 09 18.6	+1.1
MCARA	McCarthy VSAT	8.79	54	P	Pn	07 09 18.6	+1.1
	baz=247						
ISLE	Juniper Island	8.84	60		Pn	07 09 19.6	+1.2
WRH	Wood River Hil	8.85	29		Pn	07 09 19.4	+1.0
G18K	Tagagawik	8.88	358		Pn	07 09 19.2	+0.5
G18K	Tagagawik	8.88	358	P	Pn	07 09 19.3	+0.6
	baz=178,SNR=6.0						
MESA	MESA	8.91	63		Pn	07 09 19.1	-0.3
MESA	MESA	8.91	63	P	Pn	07 09 19.9	+0.5
	baz=256						
KIAG	Kiagna River	8.93	58		Pn	07 09 20.7	+1.1
H21K	Melozitna Rive	8.97	14	Pn	Pn	07 09 19.9	-0.1
H21K	Melozitna Rive	8.97	14	P	Pn	07 09 20.5	+0.5
	baz=198,SNR=157						
K24K	Donnelly Dome	9.04	37	P	Pn	07 09 21.5	+0.5
	baz=227,SNR=14						
CCB	Clear Creek Bu	9.07	29		Pn	07 09 21.8	+0.5
I23K	Minto, Yukon-K	9.11	24		Pn	07 09 22.2	+0.4
I23K	Minto, Yukon-K	9.11	24	P	Pn	07 09 23.1	+1.2
	baz=211,SNR=46						
HDA	Harding Lake	9.12	32		Pn	07 09 23.6	+1.5
HDA	Harding Lake	9.12	32	P	Pn	07 09 23.5	+1.5
	baz=221,SNR=23						
G19K	Purcell Mounta	9.13	2		Pn	07 09 22.5	+0.4
G19K	Purcell Mounta	9.13	2	P	Pn	07 09 23.0	+0.9
	baz=183						
GRNC	Granite Creek	9.15	60		Pn	07 09 22.7	+0.1
IMAR	Indian Mountai	9.18	11		Pn	07 09 22.9	+0.1
MDM	Murphy Dome	9.21	27		Pn	07 09 23.8	+0.5
MENT	Mentasta	9.24	44		Pn	07 09 24.1	+0.4
COLA	College	9.24	28	P	Pn	07 09 25.5	+1.9
COLA	College	9.24	28		Pn	07 09 24.1	+0.4
COLA	College	9.24	28	P	Pn	07 09 24.4	+0.8
	baz=217						
M26K	Nabesna, AK	9.25	48		Pn	07 09 23.8	-0.1
M26K	Nabesna, AK	9.25	48	P	Pn	07 09 25.0	+1.2
	baz=241						
F15K	North Star Dit	9.25	343		Pn	07 09 25.5	+1.7
F15K	North Star Dit	9.25	343	P	Pn	07 09 25.7	+1.9
	baz=157						
F14K	Arctic Creek	9.35	338	P	Pn	07 09 27.0	+1.9
	baz=151						
H22K	Ishtalitna Cre	9.40	17	P	Pn	07 09 27.6	+1.7
	baz=203						
CTG	Chitna Glacier	9.41	59	P	Pn	07 09 28.1	+1.9
	baz=253,SNR=10						
IL31		9.41	30		Pn	07 09 26.7	+0.7
ILAR	Eielson Array	9.41	30		Pn	07 09 26.5	+0.4
ILAR	Eielson Array	9.41	30	Pn	Pn	07 09 26.8	+0.7
	comp=N,0.9nm,0.3s,baz=215,slow=14,SNR=48						
ILAR				Lg	Lg	07 12 03.9	
	comp=N,0.1nm,0.3s,baz=168,slow=31,SNR=2.8						
ILAR				LR	LR	07 13 12.9	
	comp=N,1μm,18.0s,baz=225,slow=39						
CTGM	Chitina Glacie	9.42	59		Pn	07 09 27.0	+0.8
L26K	Log Cabin Wild	9.43	45		Pn	07 09 27.4	+1.1
L26K	Log Cabin Wild	9.43	45	P	Pn	07 09 28.6	+2.4
	baz=237,SNR=11						
LOGN	Logan Glacier	9.53	60		Pn	07 09 29.3	+1.4
POKR	Poker Plat Res	9.54	28		Pn	07 09 29.4	+1.6
POKR	Poker Plat Res	9.54	28	P	Pn	07 09 29.6	+1.8
	baz=217,SNR=19						
F17K	Baldwin Pennin	9.54	352	P	Pn	07 09 29.6	+1.8
	baz=169						
F18K	Selawik	9.61	356	P	Pn	07 09 29.5	+0.8
	baz=174						
H23K	Yukon River	9.66	21		Pn	07 09 30.1	+0.6
H23K	Yukon River	9.66	21	P	Pn	07 09 30.1	+0.6
	baz=208,SNR=46						
M27K	Edge Creek, AK	9.69	50		Pn	07 09 30.9	+0.9
M27K	Edge Creek, AK	9.69	50	P	Pn	07 09 31.4	+1.4
	baz=244						
G21K	Allakaket	9.72	11		Pn	07 09 30.6	+0.4
G21K	Allakaket	9.72	11	P	Pn	07 09 31.9	+1.6
	baz=195,SNR=29						
PCA	Pinnacle	9.72	64		Pn	07 09 30.2	-0.2
PINM	Pinnacle	9.73	64	P	Pn	07 09 30.7	+0.2
	baz=260						
J25K	Salcha River,	9.73	34	Pn	Pn	07 09 30.8	+0.3
J25K	Salcha River,	9.73	34	P	Pn	07 09 31.3	+0.8
	baz=225,SNR=28						
SCRK	Sand Creek	9.76	39		Pn	07 09 31.5	+0.6
SCRK	Sand Creek	9.76	39	P	Pn	07 09 32.4	+1.5
	baz=231,SNR=7.0						
TNA	Tin City	9.77	335	P	Pn	07 09 33.3	+2.3
	baz=146						
F19K	Shaleruckik Mo	9.81	0		Pn	07 09 32.0	+0.5
F19K	Shaleruckik Mo	9.81	0	P	Pn	07 09 32.7	+1.2
	baz=181						
O28M	Mount Upton	9.90	61		Pn	07 09 33.7	+0.7
O28M	Mount Upton	9.90	61	P	Pn	07 09 34.6	+1.5
	baz=256,SNR=24						
YUK2	White River	9.91	54		Pn	07 09 32.9	-0.1
H24K	Noodor Dome	10.03	24		Pn	07 09 34.7	+0.2
H24K	Noodor Dome	10.03	24	P	Pn	07 09 36.3	+1.8
	baz=213,SNR=17						
L27K	Beaver Creek,	10.04	47	Pn	Pn	07 09 35.8	+1.0
L27K	Beaver Creek,	10.04	47	P	Pn	07 09 35.7	+1.0
	baz=240,SNR=14						
BCAR	Beaver Creek A	10.06	47	Pn	Pn	07 09 35.4	+0.4
YUK3	Moose Creek	10.07	55	P	Pn	07 09 36.5	+1.2
	baz=250,SNR=14						
F20K	Avaraart Lake	10.08	5		Pn	07 09 36.3	+1.1
F20K	Avaraart Lake	10.08	5	P	Pn	07 09 36.8	+1.6
	baz=187						
PNL	Peninsula	10.09	67	P	Pn	07 09 36.1	+0.8
PNL	Peninsula	10.09	67	P	Pn	07 09 35.6	+0.3
	baz=263,SNR=7.5						
E17K	Hotham Inlet	10.22	351	P	Pn	07 09 36.9	-0.2
	baz=168						
J26L	Joseph Creek	10.23	37	Pn	Pn	07 09 38.4	+1.0
J26L	Joseph Creek	10.23	37	P	Pn	07 09 37.7	+0.3
	baz=230,SNR=17						
YUK8	Steele Glacier	10.24	58	P	Pn	07 09 37.7	+0.1
	baz=254,SNR=11						
G22K	Bettles	10.34	14	P	Pn	07 09 40.4	+1.7
	baz=200						
PRP	Porcupine Dome	10.36	30		Pn	07 09 39.4	+0.3
PRP	Porcupine Dome	10.36	30	P	Pn	07 09 39.5	+0.3
	baz=221						
G23K	Bananza Creek	10.37	18		Pn	07 09 39.9	+0.7
G23K	Bananza Creek	10.37	18	P	Pn	07 09 40.6	+1.4
	baz=205,SNR=60						
F21K	Alatna River	10.41	10		Pn	07 09 41.4	+1.7
F21K	Alatna River	10.41	10	P	Pn	07 09 42.1	+2.4
	baz=194,SNR=48						
E19K	Redstone River	10.44	2		Pn	07 09 41.3	+1.1
E19K	Redstone River	10.44	2	P	Pn	07 09 42.2	+2.0
	baz=182,SNR=5.8						
K27K	Chicken	10.46	42		Pn	07 09 40.6	+0.3
K27K	Chicken	10.46	42	P	Pn	07 09 41.5	+1.2
	baz=235						
E18K	Tukpahlearik C	10.47	354		Pn	07 09 42.0	+1.4
E18K	Tukpahlearik C	10.47	354	P	Pn	07 09 42.3	+1.8
	baz=172						
O29M	Mount Kennedy	10.59	64	P	Pn	07 09 43.0	+0.7
	baz=261						
ATKA	Atka Island	10.59	250	P	Pn	07 09 44.7	+2.6
YUK4	Talbot Arm	10.77	58	P	Pn	07 09 47.0	+2.1
	baz=255						
YUK6	Outpost Mounta	10.81	61	P	Pn	07 09 47.2	+1.7
	baz=258						
COLD	Coldfoot	10.82	16	P	Pn	07 09 48.0	+2.7
	baz=203,SNR=46						
F22K	John River	10.82	12	P	Pn	07 09 47.2	+1.9
	baz=197						
G24K	Hadweenzic Riv	10.84	23	P	Pn	07 09 47.5	+1.9
	baz=212,SNR=14						
H25L	Birch Creek	10.87	27	P	Pn	07 09 48.0	+2.1
	baz=218						
I26K	Coal Creek Min	10.90	35		Pn	07 09 47.2	+0.8
I26K	Coal Creek Min	10.90	35	P	Pn	07 09 46.3	0.0
	baz=228,SNR=17						
P29M	Windy Craggy	10.92	68		Pn	07 09 47.4	+0.7
P29M	Windy Craggy	10.92	68	P	Pn	07 09 48.3	+1.5
	baz=265						
D17K	Noatak River	10.94	350	P	Pn	07 09 47.9	+1.1
	baz=165						
M29M	Somme Creek	11.19	53	Pn	Pn	07 09 51.3	+0.9
M29M	Somme Creek	11.19	53	P	Pn	07 09 51.4	+0.9
	baz=250,SNR=34						
G25K	Bearman Lake	11.20	25	P	Pn	07 09 51.2	+0.7
	baz=215						
HYT	Haines Junctio	11.20	62		Pn	07 09 51.3	+0.6
HYT	Haines Junctio	11.20	62	P	Pn	07 09 52.5	+1.8
	baz=259						
EGAK	Eagle	11.22	40		Pn	07 09 51.5	+0.7
EGAK	Eagle	11.22	40	P	Pn	07 09 51.8	+1.0
	baz=234						
RDOG	Red Dog Mine	11.27	350	P	Pn	07 09 52.2	+0.8
	baz=166						
E20K	Nigu River	11.27	3	P	Pn	07 09 51.5	0.0
	baz=185						
P30M	Million Dollar	11.36	66	P	Pn	07 09 53.1	+0.4
	baz=264						
E22K	Anaktuvuk Pass	11.46	12		Pn	07 09 56.4	+2.3
E22K	Anaktuvuk Pass	11.46	12	P	Pn	07 09 54.5	+0.4
	baz=197						
F24K	Squaw Lake	11.47	20	Pn	Pn	07 09 55.8	+1.5
F24K	Squaw Lake	11.47	20	P	Pn	07 09 54.5	+0.2
	baz=209						
D19K	Kuna River	11.48	360		Pn	07 09 55.9	+1.6
D19K	Kuna River	11.48	360	P	Pn	07 09 54.7	+0.3
	baz=180						
DAWY	Dawson	11.48	45		Pn	07 09 55.4	+1.0
DAWY	Dawson	11.48	45	P	Pn	07 09 55.4	+1.0
	baz=241,SNR=18						
N30M	Aishikik Lake	11.53	59		Pn	07 09 55.8	+0.7
N30M	Aishikik Lake	11.53	59	P	Pn	07 09 55.2	+0.2
	baz=257						
E21K	Killik River	11.57	7		Pn	07 09 56.9	+1.3
E21K	Killik River	11.57	7	P	Pn	07 09 55.8	+0.2
	baz=191						
L29M	L29M	11.57	50		Pn	07 09 56.3	+0.6
L29M	L29M	11.57	50	P	Pn	07 09 56.4	+0.8
	baz=247						
I27K	Kandik River	11.58	36	P	Pn	07 09 56.7	+1.0
	baz=230,SNR=9.4						
PLBC	Pleasant Camp	11.61	69	P	Pn	07 09 57.0	+0.9
	baz=267						
E23K	Chandalar	11.67	16	P	Pn	07 09 59.3	+2.3
	baz=203,SNR=33						
C17K	DeLong Mountai	11.70	350	P	Pn	07 09 58.8	+1.4
	baz=166						
S31K	Pelican	11.71	76	Pn	Pn	07 09 57.0	-0.4
S31K	Pelican	11.71	76	P	Pn	07 09 58.6	+1.2
	baz=275						
D20K	Etivluk River	11.72	2	P	Pn	07 09 57.5	0.0
	baz=184						
C18K	Utukok River	11.73	354	P	Pn	07 09 59.1	+1.4
	baz=171						
C16K	Lisburne Hills	11.75	346	P	Pn	07 09 58.7	+0.8
	baz=160						
E24K	Your Creek	11.87	17		Pn	07 10 01.8	+2.2
E24K	Your Creek	11.87	17	P	Pn	07 10 01.1	+1.5
	baz=206						
O30N	Mendenhall	11.87	63		Pn	07 10 00.9	+1.1
O30N	Mendenhall	11.87	63	P	Pn	07 10 01.7	+1.9
	baz=261						
G26K	Porcupine Rive	11.91	28	P	Pn	07 10 01.4	+1.2
	baz=220						
R31K	City Hall, Gus	11.94	74	P	Pn	07 10 02.4	+1.8
	baz=273						
M30M	Minto, Yukon	11.96	54	Pn	Pn	07 10 02.1	+1.2
M30M	Minto, Yukon	11.96	54	P	Pn	07 10 02.0	+1.0
	baz=252						
F25K	Christian Rive	11.99	23	P	Pn	07 10 02.1	+0.8
	baz=214						
H27K	Steamboat Moun	12.02	33	P	Pn	07 10 03.2	+1.5
	baz=228,SNR=8.1						
I28M	Miner Creek	12.03	38	Pn	Pn	07 10 03.8	+1.8
I28M	Miner Creek	12.03	38	P	Pn	07 10 02.8	+0.8
	baz=234,SNR=10						
ADK	Adak	12.05	252	P	Pn	07 10 05.6	+3.5
ADK	Adak	12.05	252	Pn	Pn	07 10 05.0	+2.9
BMAR	Burnt Mountain	12.09	25		Pn	07 10 02.3	-0.4
D22K	Ayikyak River	12.10	9		Pn	07 10 04.9	+2.2
D22K	Ayikyak River	12.10	9	P	Pn	07 10 04.9	+2.2
	baz=194						
C19K	Lookout Ridge	12.12	357	P	Pn	07 10 04.5	+1.4
	baz=176						
K29M	Barlow Dome	12.12	47	Pn	Pn	07 10 03.8	+0.6
K29M	Barlow Dome	12.12	47	P	Pn	07 10 04.7	+1.5
	baz=245						
J29N	Klondike Camp	12.12	44	P	Pn	07 10 03.7	+0.5
	baz=242						
SKAG	Skagway	12.14	69		Pn	07 10 04.5	+1.3
SKAG	Skagway	12.14	69	P	Pn	07 10 04.7	+1.4
	baz=268						
N31M	Braeburn, Yuko	12.15	59		Pn	07 10 04.0	+0.5
N31M	Braeburn, Yuko	12.15	59	P	Pn	07 10 04.8	+1.3
	baz=258						
TOLK	Toolik Lake Re	12.22	15		Pn	07 10 04.6	+0.2
TOLK	Toolik Lake Re	12.22	15	P	Pn	07 10 04.8	+0.3
	baz=202,SNR=9.7						
C21K	Knifeblade Rid	12.23	5	P	Pn	07 10 04.5	0.0
	baz=188						
SIT	Sitka	12.31	80	P	Pn	07 10 05.9	+0.3
	baz=280						
KIWB	Kanaga Island	12.31	253	Pn	Pn	07 10 08.1	+2.4
G27K	Doyon Strip	12.38	31	Pn	Pn	07 10 06.7	+0.1
G27K	Doyon Strip	12.38	31	P	Pn	07 10 06.9	+0.2
	baz=226						
D23K	Nanushuk River	12.39	12	P	Pn	07 10 07.6	+0.9
	baz=199						
F26K	Sheenjek River	12.40	25	P	Pn	07 10 07.0	0.0
	baz=217						
E25K	Arctic Village	12.44	22		Pn	07 10 09.3	+1.8
E25K	Arctic Village	12.44	22	P	Pn	07 10 08.4	+0.9
	baz=213						
WHY	Whitehorse	12.45	64		Pn	07 10 07.9	+0.2
WHY	Whitehorse	12.45	64	P	Pn	07 10 07.8	+0.1
	baz=263						
B18K	Kokolik River	12.47	354	P	Pn	07 10 07.4	-0.5
	baz=170						
I29M	Ogilvie Camp,	12.55	40	P	Pn	07 10 09.6	+0.6
	baz=238						
R32K	Eaglecrest	12.59	75	P	Pn	07 10 10.2	+0.7
	baz=274						
S32K	Killisnoo	12.65	78	Pn	Pn	07 10 10.2	0.0
S32K	Killisnoo	12.65	78	P	Pn	07 10 11.4	+1.2
	baz=278						
JIS	Juneau Island	12.66	75		Pn	07 10 11.3	+0.9
B21K	Ikpikpuk River	12.70	5		Pn	07 10 14.2	+3.3
B21K	Ikpikpuk River	12.70	5	P	Pn	07 10 11.1	+0.2
	baz=188						
D24K	Happy Valley	12.80	15		Pn	07 10 15.8	+3.4
D24K	Happy Valley	12.80	15	P	Pn	07 10 13.5	+1.2
	baz=203,SNR=8.1						
J30M	Hart River	12.90	45	Pn	Pn	07 10 15.2	+1.2
J30M	Hart River	12.90	45	P	Pn	07 10 15.1	+1.2
	baz=244,SNR=11						
M31M	Drury Creek, Y	12.94	57		Pn	07 10 15.4	+1.0
M31M	Drury Creek, Y	12.94	57	P	Pn	07 10 15.3	+1.0
	baz=257						
P32M	Atlin	12.96	69		Pn	07 10 15.3	+0.7
P32M	Atlin	12.96	69	P	Pn	07 10 15.4	+0.8
	baz=269						
B20K	Meade River	13.01	1		Pn	07 10 16.7	+1.6
B20K	Meade River	13.01	1	P	Pn	07 10 16.2	+1.1
	baz=182						
H29M	Whitestone	13.01	37		Pn	07 10 15.0	-0.2
H29M	Whitestone	13.01	37	P	Pn	07 10 15.7	+0.5
	baz=234						
I30M	Mount Dempster	13.18	43		Pn	07 10 17.9	+0.2
I30M	Mount Dempster	13.18	43	P	Pn	07 10 19.1	+1.5
	baz=242,SNR=7.1						
C23K	Itkillik River	13.22

A21K Barrow 14.33 2 P Pn 07 10 33.2 0.0
baz=183
D27M Malcolm River 14.35 25 P Pn 07 10 34.1 +0.5
baz=220
R33M Jennings River 14.37 69 Pn 07 10 32.6 -1.3
R33M Jennings River 14.37 69 P Pn 07 10 34.8 +0.9
baz=272
S34M Telegraph Cree 14.42 75 P Pn 07 10 35.1 +0.6
baz=278,SNR=8.8
AMKA Amchitka 14.43 256 Pn 07 10 35.4 +0.8
E29M Blow River 14.52 30 Pn 07 10 35.6 -0.1
E29M Blow River 14.52 30 P Pn 07 10 35.5 -0.2
baz=228
F30M Barrier River 14.65 35 P Pn 07 10 37.3 -0.3
baz=235
V35K Ketchikan 14.73 86 P Pn 07 10 39.7 +1.0
baz=288
G31M Satah River 14.77 38 Pn 07 10 36.9 -2.3
G31M Satah River 14.77 38 P Pn 07 10 38.1 -1.0
baz=239
DLBC Dease Lake 14.93 73 Pn **Pn 07 10 41.4 -0.1**
DLBC Dease Lake 14.93 73 P **Pn 07 10 42.6 +1.1**
baz=277,SNR=12
DLBC Dease Lake 14.93 73 Pn **Pn 07 10 42.6 +1.1**
comp=N,0.3nm,0.3s,baz=276,slow=12,SNR=14
DLBC LR LR 07 17 07.2
comp=N,147nm,18.4s,baz=252,slow=40
comp=N,8.7nm,1.0s
T35M Bob Quinn 15.05 79 P Pn 07 10 44.2 +1.2
baz=282,SNR=10
F31M Tsiigehtchic 15.21 37 P Pn 07 10 44.8 -0.3
baz=239
INK Inuvik 15.75 35 Pn **Pn 07 10 50.6 -1.4**
INK Inuvik 15.75 35 P Pn 07 10 53.1 +1.0
baz=236,SNR=11
INK Inuvik 15.75 35 Pn **Pn 07 10 52.3 +0.2**
comp=N,0.6nm,0.3s,baz=234,slow=12,SNR=13
INK LR LR 07 16 48.5
comp=N,387nm,21.8s,baz=206,slow=37
comp=N,9.3nm,0.8s
SHEM Shemya Is, Ala 16.59 267 LR LR 07 17 47.1
comp=N,183nm,19.4s,baz=57,slow=38
TOAD Toad River Com 17.36 70 P Pn 07 11 13.4 +0.8
baz=278,SNR=36
BBB Bella Bella 17.87 93 LR LR 07 17 10.4
comp=N,106nm,20.4s,baz=288,slow=34
C36M Paulatuk 19.27 37 P P 07 11 34.3 -0.5
C36M Paulatuk 19.27 37 P P 07 11 35.2 +0.4
baz=247
BILL Bilibino 19.48 319 P Pn 07 11 40.6 +2.2
CBB Campbell River 20.45 96 P P 07 11 49.2 +1.4
YKA Yellowknife Ar 22.14 58 P P 07 12 06.8 +0.9
YKA Yellowknife Ar 22.14 58 P P 07 12 06.3 +0.3
comp=N,20nm,0.8s,baz=274,slow=10,SNR=96
YKA PcP **PcP 07 16 03.2 +0.7**
comp=N,2.0nm,0.7s,baz=292,slow=2.2,SNR=9.3
YKA LR LR 07 21 29.7
comp=N,363nm,18.9s,baz=244,slow=39
comp=N,20nm,0.8s
D05A Enumclaw 23.92 99 P P 07 12 25.9 +1.6
D05A IAmb IAmb 07 12 30.7
comp=Z,76nm,1.7s
B08A Colville Reser 24.66 94 P P 07 12 33.1 +1.9
PEA0B Petropavlovsk- 25.34 280 P P 07 12 38.2 +1.0
PEA0B IAmb IAmb 07 12 41.4
comp=Z,35nm,1.1s
PETK Petropavlovsk- 25.34 280 P P 07 12 39.3 +2.1
PETK Petropavlovsk- 25.34 280 P P 07 12 37.6 +0.4
comp=Z,16nm,1.1s,baz=69,slow=16,SNR=14
PETK LR LR 07 22 53.8
comp=Z,43nm,19.7s,baz=69,slow=37
comp=Z,16nm,1.1s
C09A Chrisman Ranch 25.57 94 P P 07 12 39.8 +0.4
HAWA Hanford 25.74 98 P P 07 12 42.4 +1.5
NEW Newport 25.93 92 P P 07 12 44.5 +1.9
NEW Newport 25.93 92 P P 07 12 44.2 +1.6
baz=305,SNR=11
NEW Newport 25.93 92 LR LR 07 21 42.0
comp=Z,121nm,21.6s,baz=292,slow=34
E09A Wood Farm, Sta 26.41 96 P P 07 12 49.0 +2.0
E09A IAmb IAmb 07 12 52.1
comp=Z,53nm,1.6s
MA2 Magadan 26.50 297 LR LR 07 24 22.3
comp=Z,241nm,18.3s,baz=79,slow=39
G08A Pilot Rock 26.75 99 P P 07 12 51.5 +1.3
YBH Yreka Blue Hor 27.20 109 LR LR 07 21 37.3
comp=Z,195nm,18.5s,baz=314,slow=32
F10A Beach Ranch, E 27.25 96 P P 07 12 55.6 +0.9
I07A Izee 27.25 102 P P 07 12 55.2 +0.5
BMO Blue Mountains 27.92 98 P P 07 13 02.1 +1.4
MSO Missoula 28.51 92 P P 07 13 06.6 +0.7
baz=307
WVOR Wild Horse Val 28.84 103 P P 07 13 09.8 +0.9
OVMT Ovando 28.89 91 P P 07 13 11.1 +1.8
BPMT Black Pine Rid 29.02 92 P P 07 13 11.5 +0.8
LYMT Lyon Mountain 29.33 90 P P 07 13 14.2 +0.9
MFID Camas Ranch 29.67 99 P P 07 13 17.8 +1.6
EGMT Eagleton 30.09 87 P P 07 13 20.8 +0.9
EGMT IAmb IAmb 07 13 21.7
comp=Z,30nm,1.5s
EGMT Eagleton 30.09 87 P P 07 13 20.5 +0.6
baz=306,SNR=6.7
HLID Hailey 30.34 98 P P 07 13 23.3 +1.1
baz=312,SNR=12
BOZ Bozeman (W) 30.54 92 P P 07 13 24.0 0.0
baz=309
FFC Flin Flon 30.73 70 P P 07 13 26.1 +0.7
PNTR Pine Nut 30.75 109 P P 07 13 28.9 +2.9
PNTR IAmb IAmb 07 13 33.1
comp=Z,32nm,1.2s
ELK Elko 31.84 102 P P 07 13 37.4 +1.8
ELK Elko 31.84 102 LR LR 07 25 05.8
comp=Z,95nm,19.1s,baz=310,slow=34
H17A Grant Village 31.88 93 P P 07 13 37.3 +1.4
H17A IAmb IAmb 07 13 42.5
comp=Z,15nm,1.2s
H17A Grant Village 31.88 93 P P 07 13 36.4 +0.5
baz=310
NVAR Mina Array Bea 31.91 109 P P 07 13 38.9 +2.7
NVAR Mina Array Bea 31.91 109 P P 07 13 38.5 +2.3
comp=Z,4.9nm,0.7s,baz=310,slow=8.4,SNR=40
NVAR PcP **PcP 07 16 26.7 +0.3**
comp=Z,1.1nm,0.7s,baz=291,slow=2.8,SNR=5.8
NVAR LR LR 07 24 35.3
comp=Z,233nm,20.2s,baz=314,slow=33
comp=Z,4.9nm,0.7s
RLMT Red Lodge 32.13 91 P P 07 13 38.9 +0.9
baz=310
MLAC Mammoth, Mammo 32.24 110 P P 07 13 40.2 +1.1
baz=320
TIXI Tiksi 32.38 326 LR LR 07 27 55.3
comp=Z,179nm,18.7s,baz=120,slow=39
TPH Tonopah 32.74 108 P P 07 13 45.5 +2.1
FCC Fort Churchill 32.84 60 P P 07 13 44.2 +0.4
FCC IAmb IAmb 07 13 45.6
comp=Z,17nm,0.8s
HWUT Hardware Ranch 33.21 98 P P 07 13 48.7 +1.2
R11B Troy Canyon, C 33.39 106 P P 07 13 51.0 +1.9
R11B IAmb IAmb 07 13 54.8
comp=Z,33nm,1.8s
R11B Troy Canyon, C 33.39 106 P P 07 13 50.5 +1.3
baz=318,SNR=16
SMMC Simmler 33.46 114 P P 07 13 51.3 +1.8
baz=323
GRAC Grapevine Rang 33.48 109 P P 07 13 52.0 +2.3
GRAC Grapevine Rang 33.48 109 P P 07 13 51.0 +1.2
baz=320,SNR=13
VES Vestal, Richgr 33.50 113 P P 07 13 52.1 +2.2
baz=322
BW06 Boulder Array 33.51 94 P P 07 13 50.9 +0.7
baz=312,SNR=6.6
PDAR Pinedale Array 33.51 94 P P 07 13 51.5 +1.4
comp=Z,1.9nm,0.6s,baz=316,slow=6.2,SNR=18
PDAR PcP **PcP 07 16 30.3 -0.4**
comp=Z,0.4nm,0.7s,baz=264,slow=0.8,SNR=2.3
comp=Z,1.9nm,0.6s
DUG Dugway, Tooele 33.53 101 P P 07 13 52.0 +1.7
baz=316
CWC Cottonwood Cre 33.54 111 P P 07 13 52.9 +2.5
baz=321
PKM Mcpherson Peak 33.88 114 P P 07 13 55.8 +2.4
baz=323
ISA Isabella, Lake 33.95 112 P P 07 13 56.1 +2.2
baz=322,SNR=5.5
TPNV Topopah Spring 34.10 108 P P 07 13 57.9 +2.7
baz=320,SNR=19
MPMC Manual Prospec 34.14 110 P P 07 13 58.3 +2.7
baz=321,SNR=16
FURC Furnace Creek, 34.15 109 P P 07 13 58.5 +3.0
baz=320,SNR=12
SBC Santa Barbara 34.29 115 P P 07 13 57.9 +1.1
baz=323
GWY Greenwater Val 34.46 109 P P 07 14 00.8 +2.3
GWY IAmb IAmb 07 14 05.6
comp=Z,21nm,1.1s
LRMC Laurel Mtn Rad 34.49 111 P P 07 14 00.9 +2.2
baz=322
EDW2 Edwards Air Fo 34.80 112 P P 07 14 03.5 +2.3
baz=322
SHOC Shoshone, Teco 34.89 109 P P 07 14 04.8 +2.9
baz=321,SNR=6.0
RDMU Red Mountain 35.01 97 P P 07 14 05.7 +2.5
MVU Marysvale 35.07 102 P P 07 14 05.8 +2.0
GSC Goldstone, Bar 35.08 111 P P 07 14 05.4 +1.8
GSC IAmb IAmb 07 14 09.6
comp=Z,20nm,1.3s
GSC Goldstone, Bar 35.08 111 P P 07 14 05.3 +1.7
baz=321,SNR=7.6
DECC Green Verdugo 35.13 113 P P 07 14 06.3 +2.2
baz=323
K22A Casper 35.24 92 P P 07 14 06.2 +1.1
K22A Casper 35.24 92 P P 07 14 06.5 +1.4
baz=312
YAK Yakutsk 35.25 309 LR LR 07 29 51.6
comp=Z,230nm,20.6s,baz=64,slow=39
SNCC San Nicolas Is 35.34 116 P P 07 14 08.0 +2.2
baz=324
TUQ Turquoise Moun 35.43 109 P P 07 14 08.6 +1.9
baz=321
BFSC Mount Baldy Ra 35.48 113 P P 07 14 08.3 +1.2
baz=323
SRU San Rafael Swe 35.53 100 P P 07 14 09.6 +1.9
RSSD Black Hills 35.63 88 P P 07 14 09.3 +0.8
RSSD Black Hills 35.63 88 P P 07 14 09.6 +1.1
baz=311
HEC Hector,Ludlow 35.69 111 P P 07 14 11.0 +2.1
baz=322,SNR=6.4
MDND Maddock 35.69 79 P P 07 14 09.6 +0.9
MDND Maddock 35.69 79 P P 07 14 09.7 +1.0
baz=307,SNR=9.5
CIS Catalina Islan 35.77 114 P P 07 14 10.9 +1.4
baz=324
BBRC Big Bear Solar 35.83 112 P P 07 14 12.4 +2.1
baz=322
E28A Huff 35.88 82 P P 07 14 11.3 +0.9
O20A White River Ci 36.04 96 P P 07 14 13.1 +1.1
O20A IAmb IAmb 07 14 15.9
comp=Z,12nm,0.9s
O20A White River Ci 36.04 96 P P 07 14 13.1 +1.1
baz=315,SNR=16
SCI2 San Clemente I 36.04 115 P P 07 14 12.7 +0.9
baz=324
GMRC Granite Mounta 36.07 110 P P 07 14 13.7 +1.5
baz=322,SNR=9.3
MURC Murrieta 36.22 113 P P 07 14 15.4 +2.0
baz=323
ULM Lac du Bonnet 36.25 74 P P 07 14 14.0 +0.5
ULM IAmb IAmb 07 14 15.2
comp=Z,22nm,0.9s
ULM Lac du Bonnet 36.25 74 P P 07 14 14.3 +0.8
comp=Z,19nm,0.9s,baz=305,slow=8.8,SNR=26
ULM PcP **PcP 07 16 38.2 0.0**
comp=Z,3.8nm,0.7s,baz=351,slow=1.8,SNR=4.3
ULM LR LR 07 29 11.7
comp=Z,65nm,19.8s,baz=195,slow=36
comp=Z,19nm,0.9s
BELC Belle Mtn. Jos 36.51 111 P P 07 14 18.2 +2.2
baz=322,SNR=11
U15A North Rim 36.57 104 P P 07 14 17.6 +0.9
U15A IAmb IAmb 07 14 22.4
comp=Z,31nm,1.9s
PFO Pinyon Flats O 36.58 112 P P 07 14 17.7 +1.1
PFO IAmb IAmb 07 14 20.9
comp=Z,22nm,1.5s
PFO Pinyon Flats O 36.58 112 P P 07 14 18.2 +1.6
baz=323
PFO Pinyon Flats O 36.58 112 LR LR 07 27 19.1
comp=Z,200nm,18.4s,baz=34,slow=33
TPFO Pinon Flats 36.59 112 P P 07 14 18.5 +1.9
baz=323,SNR=5.1
W13A Hualapai Mount 36.74 108 P P 07 14 20.6 +2.5
W13A IAmb IAmb 07 14 23.7
comp=Z,31nm,1.8s
N23A Red Feather La 36.76 93 P P 07 14 19.9 +1.7
baz=314,SNR=6.5
IRM Iron Mountain 36.82 110 P P 07 14 21.2 +2.7
baz=322,SNR=13
109C Camp Elliot, M 36.83 113 P P 07 14 20.7 +2.1
baz=324
BC3 Big Chuckawall 37.06 111 P P 07 14 22.5 +1.8
baz=322
MONP2 Monument Peak 37.17 113 P P 07 14 23.7 +2.0
baz=323
PDMCI Parker Dam,Lak 37.23 109 P P 07 14 22.6 +0.7
baz=321
AGMN Agassiz Nation 37.42 76 P P 07 14 23.3 -0.1
AGMN IAmb IAmb 07 14 25.5
comp=Z,25nm,0.9s
AGMN Agassiz Nation 37.42 76 P P 07 14 24.3 +0.9
baz=308,SNR=22
SWSC Sam W. Stewart 37.45 112 P P 07 14 25.3 +1.5
baz=323
IKP In-Ko-Pah, Jac 37.52 112 P P 07 14 26.3 +1.7
baz=323
WUAZ Wupatki 37.74 105 P P 07 14 28.0 +1.5
baz=320
GLA Glamis 37.86 111 P P 07 14 29.5 +2.2
baz=323,SNR=5.6
MVCO Mesa Verde 38.01 100 P P 07 14 29.8 +1.0
baz=318
Y14A Wickenburg 38.10 108 P P 07 14 31.4 +2.0
SUSD Miller 38.19 83 P P 07 14 30.7 +0.7
baz=311
S22A 4UR Ranch, Cre 38.52 98 P P 07 14 33.9 +0.8
baz=317
X16A Lo Mia Camp, P 38.55 106 P P 07 14 35.2 +1.9
Q24A Divide 38.55 95 P P 07 14 34.1 +0.6
baz=316
113A Mohawk Valley, 38.62 110 P P 07 14 35.0 +1.3
113A IAmb IAmb 07 14 39.0
comp=Z,36nm,1.8s
F33A 5 Mile Ranch, 38.72 80 P P 07 14 34.3 -0.1
OGNE Ogallala 38.86 90 P P 07 14 36.1 +0.3
baz=314
W18A Petrified Fore 38.91 103 P P 07 14 37.3 +0.9
baz=320
SDCO Great Sand Dun 39.24 96 P P 07 14 39.8 +0.7
baz=317,SNR=10
X18A Snowflake 39.25 104 P P 07 14 40.6 +1.5
214A Organ Pipe Nat 39.76 110 P P 07 14 44.9 +1.6
214A Organ Pipe Nat 39.76 110 P P 07 14 44.8 +1.6
baz=323,SNR=6.3
KSCO Kaye Shedlock' 39.89 93 P P 07 14 45.8 +1.3
KSCO IAmb IAmb 07 14 47.0
comp=Z,29nm,1.1s
KSCO Kaye Shedlock' 39.89 93 P P 07 14 46.5 +2.0
baz=316,SNR=5.8
ECSD EROS Data Cent 39.92 82 P P 07 14 44.7 +0.2
baz=312
EYMN Ely 39.94 74 P P 07 14 45.5 +0.9
EYMN Ely 39.94 74 P P 07 14 45.6 +1.1
baz=309,SNR=39
NOR Nord 40.02 8 *eP* **P 07 14 45.4 +0.5**
NOR IAmb IAmb 07 14 51.7
comp=Z,1.1nm,0.6s
T25A Trinidad 40.27 96 P P 07 14 48.7 +1.0
baz=317
TUC Tucson 40.53 107 P P 07 14 51.2 +1.5
baz=322
BGNE Belgrade 40.66 86 P P 07 14 51.4 +0.8
baz=314
E38A The Farm, Brul 40.76 75 P P 07 14 51.9 +0.5
E38A IAmb IAmb 07 14 52.7
comp=Z,30nm,0.7s
ANMO Albuquerque 40.80 100 P P 07 14 53.3 +1.3
ANMO Albuquerque 40.80 100 P P 07 14 53.0 +1.0
baz=319
ANMO Albuquerque 40.80 100 LR LR 07 31 02.0
comp=Z,51nm,18.8s,baz=52,slow=35
SPMN Marine on St. 40.99 78 P P 07 14 53.3 +0.1
SPMN Marine on St. 40.99 78 P P 07 14 54.5 +1.2
baz=311,SNR=9.6
KLR Kul'dur 41.13 290 LR LR 07 32 09.2
comp=Z,47nm,20.5s,baz=53,slow=37
FRB Frobisher Bay 41.18 42 LR LR 07 33 47.6
comp=Z,69nm,21.1s,baz=346,slow=39
NUUG Nuugaatsiaq 41.45 28 *i* P **P 07 14 55.0 -1.7**
NUUG IAmb IAmb 07 14 56.1
comp=Z,4.1nm,0.7s
I37A Lemond, Waseca 41.47 80 P P 07 14 57.3 +0.1
I37A IAmb IAmb 07 14 59.0
comp=Z,36nm,0.8s
CBKS Cedar Bluff 41.61 90 P P 07 14 59.1 +0.6
baz=316
121A Cookes Peak, D 41.94 104 P P 07 15 03.1 +1.8
121A Cookes Peak, D 41.94 104 P P 07 15 02.7 +1.3
baz=321,SNR=6.3
319A Douglas 42.05 106 P P 07 15 03.0 +0.7
G40A Rib Lake 42.34 76 P P 07 15 04.7 +0.3
G40A IAmb IAmb 07 15 05.8
comp=Z,24nm,0.7s
SCIA State Center 43.00 82 P P 07 15 10.1 +0.4
baz=314
F42A Maple Grove Fa 43.11 74 P P 07 15 11.6 +1.0
KSU1 Kansas State U 43.12 87 P P 07 15 10.8 +0.1
baz=316
AMTX Amarillo 43.43 96 P P 07 15 13.8 +0.4
baz=319
MSTX Muleshoe 43.52 98 P P 07 15 14.7 +0.5
baz=320
MNTX Cornudas Mount 43.86 102 P P 07 15 18.6 +1.8
baz=321,SNR=15
JFWS Jewell Farm 43.90 79 P P 07 15 17.0 0.0
JFWS IAmb IAmb 07 15 17.6
comp=Z,18nm,0.7s
JFWS Jewell Farm 43.90 79 P P 07 15 16.9 0.0
baz=313,SNR=13
DAG Danmarks Havn 43.98 12 *i* P **P 07 15 16.8 -0.4**
DAG IAmb IAmb 07 15 18.3
comp=Z,1.7nm,0.7s
SMWD Samnorwood 44.05 94 P P 07 15 19.1 +0.8
SMWD IAmb IAmb 07 15 22.6
comp=Z,28nm,1.4s
USRK Ussuriysk Ar. 44.28 284 PcP **PcP 07 17 03.8 -0.3**
comp=Z,1.6nm,0.6s,baz=70,slow=2.2,SNR=3.3
USRK LR LR 07 34 50.2
comp=Z,93nm,19.4s,baz=43,slow=38
SPITS Spitsbergen Ar 44.97 2 P P 07 15 24.8 -0.3
comp=Z,3.2nm,0.7s,baz=16,slow=12,SNR=6.2
SPITS LR LR 07 34 17.5
comp=Z,194nm,19.3s,baz=338,slow=36
comp=Z,3.2nm,0.7s
K43A Burlington 45.07 77 P P 07 15 26.0 -0.3
SFJD Kangerlussuaq 45.08 32 LR LR 07 33 09.0
comp=Z,71nm,20.7s,baz=289,slow=35
WMOK Wichita Mounta 45.12 94 P P 07 15 27.4 +0.6
WMOK IAmb IAmb 07 15 29.7
comp=Z,15nm,1.1s
WMOK Wichita Mounta 45.12 94 P P 07 15 28.0 +1.2
baz=319,SNR=22
NRIK Noril'sk 45.36 333 P P 07 15 28.7 +0.4
NRIK Noril'sk 45.36 333 P P 07 15 29.1 +0.8
comp=Z,5.1nm,0.7s,baz=55,slow=5.2,SNR=6.0
NRIK LR LR 07 39 01.5
comp=Z,161nm,18.1s,baz=353,slow=42
comp=Z,5.1nm,0.7s
GLMI Grayling 45.58 73 P P 07 15 30.5 +0.2
baz=313
L44A Lake County Fo 45.66 78 P P 07 15 30.5 -0.5
baz=314
W35A Tecumseh 45.85 91 P 07 15 32.3 -0.3
W35A IAmb IAmb 07 15 34.0
comp=Z,17nm,1.0s
TUL3 Leonard 45.88 90 P P 07 15 33.0 +0.2
TUL3 Leonard 45.88 90 P P 07 15 32.6 -0.2
baz=318
DBG Daneborg 45.90 15 *i* P **P 07 15 30.6 -1.9**
DBG IAmb IAmb 07 15 33.4
comp=Z,1.2nm,0.7s
HDIL Hopedale 46.06 80 P P 07 15 33.9 -0.2
baz=315
ABTX Abilene, Hawle 46.24 96 P P 07 15 36.3 +0.5
baz=320
MJAR Matsushiro Arr 46.33 272 P P 07 15 35.6 -0.7
comp=Z,1.0nm,0.3s,baz=28,slow=6.3,SNR=7.8
MJAR LR LR 07 33 48.7
comp=Z,58nm,19.8s,baz=76,slow=35
comp=Z,1.0nm,0.3s
HHAR Hobbs 46.62 88 P P 07 15 37.8 -0.9
HHAR IAmb IAmb 07 15 41.6
comp=Z,9.5nm,1.2s
TX31 Lajitas Ar. Si 46.63 103 P P 07 15 39.8 +0.9
TX31 IAmb IAmb 07 15 44.0
comp=Z,21nm,1.6s
TXAR Lajitas Array 46.63 103 P P 07 15 40.5 +1.6
comp=Z,4.5nm,0.9s,baz=305,slow=5.6,SNR=41
TXAR PcP **PcP 07 17 13.3 +0.6**
comp=Z,1.3nm,0.9s,baz=180,slow=1.3,SNR=2.2
TXAR LR LR 07 34 27.5
comp=Z,94nm,18.6s,baz=310,slow=35
comp=Z,4.5nm,0.9s
CCM Cathedral Cave 46.79 84 P P 07 15 38.9 -1.0
CCM IAmb IAmb 07 17 14.4
comp=Z,10nm,1.1s
CCM Cathedral Cave 46.79 84 P P 07 15 39.4 -0.5
baz=317
VLDQ Val d'Or 46.99 65 P P 07 15 39.1 -2.2
VLDQ IAmb IAmb 07 15 40.8
comp=Z,14nm,0.8s
SFIN Lafayette 47.36 79 P P 07 15 44.3 -0.1
baz=316
SCHQ Schefferville 47.39 52 P P 07 15 44.1 -0.4
SCHQ Schefferville 47.39 52 P P 07 15 44.3 -0.2
comp=Z,21nm,1.1s,baz=307,slow=6.6,SNR=12
SCHQ LR LR 07 36 01.6
comp=Z,86nm,20.8s,baz=328,slow=37
comp=Z,21nm,1.1s
T42A Van Buren 47.62 85 P P 07 15 45.0 -1.4
T42A IAmb IAmb 07 17 17.4
comp=Z,9.0nm,0.8s
BRDY Brady 47.62 97 P P 07 15 46.9 +0.4
BRDY IAmb IAmb 07 15 50.5
comp=Z,30nm,1.6s
N47A Urbana 47.76 77 P P 07 15 46.9 -0.6
JCT Junction City 47.81 98 P P 07 15 48.1 +0.1
JCT Junction City 47.81 98 P P 07 15 48.3 +0.3
baz=321,SNR=9.3
AAM Ann Arbor 47.83 74 P P 07 15 48.1 +0.1
baz=315
FCAR Ozark Folk Cen 47.90 87 P P 07 15 47.3 -1.2
FCAR IAmb IAmb 07 15 50.9
comp=Z,8.5nm,1.0s
WHTX Lake Whitney, 47.92 95 P P 07 15 49.2 +0.4
baz=320
OLIL Olney 48.00 81 P P 07 15 49.7 +0.4
MIAR Mount Ida 48.10 89 P P 07 15 50.6 +0.5
MIAR Mount Ida 48.10 89 P P 07 15 49.9 -0.2
baz=319,SNR=12
LCAR Lake Charles 48.29 86 P P 07 15 51.2 -0.4
LCAR IAmb IAmb 07 17 19.8
comp=Z,10nm,1.0s
SADO Sadowa 48.44 69 P P 07 15 52.3 -0.3
SADO IAmb IAmb 07 15 53.5
comp=Z,16nm,0.8s
SADO Sadowa 48.44 69 LR LR 07 38 09.6
comp=Z,74nm,18.7s,baz=254,slow=38
O48B Farmland 48.49 77 P P 07 15 52.5 -0.6
O48B Farmland 48.49 77 P P 07 15 52.5 -0.6
baz=316,SNR=14
435B Jarrell 48.78 96 P P 07 15 56.1 +0.7
baz=321
WLAR White Oak Lake 49.00 90 P P 07 15 57.3 +0.3
WLAR IAmb IAmb 07 16 01.0
comp=Z,23nm,1.1s
P49A Miami Univ. Ec 49.24 78 P P 07 15 58.2 -0.7
P49A IAmb IAmb 07 15 58.8
comp=Z,15nm,1.1s
P49A Miami Univ. Ec 49.24 78 P P 07 15 58.2 -0.7
baz=316
WCI Wyandotte Cave 49.34 80 P P 07 15 59.5 -0.1
WCI IAmb IAmb 07 17 23.6
comp=Z,9.1nm,0.8s
WCI Wyandotte Cave 49.34 80 P P 07 15 59.3 -0.4
baz=317
CCAR Cane Creek 49.56 88 P P 07 16 02.2 +0.9
NATX Nacogdoches 49.62 93 P P 07 16 01.8 0.0
baz=320
ACSO Alum Creek Sta 49.66 76 P P 07 16 01.9 -0.1
baz=316
833A Chaparral WMA, 49.72 100 P P 07 16 03.5 +0.9
baz=322

TRQ Mont Tremblant 49.73 65 P **P 07 16 02.6 0.0**
ERPA Erie 49.88 72 P **P 07 16 04.3 +0.6**
ERPA IAmb IAmb 07 16 04.9
comp=Z,16nm,0.7s
ERPA Erie 49.88 72 P **P 07 16 03.7 0.0**
baz=316,SNR=11
M53A Wl Miller and 50.01 73 P **P 07 16 04.6 -0.1**
M53A Wl Miller and 50.01 73 P **P 07 16 04.4 -0.3**
baz=316,SNR=17
WVT Waverly 50.05 83 P **P 07 16 05.6 +0.5**
WVT IAmb IAmb 07 16 06.2
comp=Z,11nm,0.9s
WVT Waverly 50.05 83 P **P 07 16 05.1 0.0**
baz=318
WBO Williamsburg 50.23 66 P **P 07 16 05.5 -0.9**
OXF Oxford 50.40 86 P **P 07 16 07.6 -0.2**
baz=319,SNR=19
JMIC Jan Mayen 50.43 12 LR LR 07 38 26.4
comp=Z,130nm,19.8s,baz=26,slow=37
P52A Corning 50.54 76 P **P 07 16 07.9 -0.9**
baz=317,SNR=7.3
O53A New Philadelph 50.58 75 P **P 07 16 08.2 -0.9**
baz=317,SNR=7.6
MNTQ Montreal, Queb 50.70 65 P **P 07 16 09.2 -0.7**
MNTQ IAmb IAmb 07 16 09.8
comp=Z,14nm,0.9s
LONY Lake Ozonia 50.85 66 P **P 07 16 10.9 -0.2**
baz=316,SNR=11
U49A Red Boiling Sp 50.88 81 P **P 07 16 10.8 -0.6**
CLTN Cedars of Leba 50.90 82 P **P 07 16 12.2 +0.7**
CLTN IAmb IAmb 07 16 12.9
comp=Z,29nm,1.1s
P53A Whipple 51.04 75 P **P 07 16 11.8 -0.8**
P53A IAmb IAmb 07 16 12.9
comp=Z,14nm,0.8s
KSRS Korea Array 51.24 281 P **P 07 16 14.1 +0.1**
comp=Z,2.4nm,0.8s,baz=53,slow=7.2,SNR=8.8
KSRS PcP **PcP 07 17 28.8 -0.3**
comp=Z,1.7nm,0.7s,baz=46,slow=3.9,SNR=2.5
KSRS LR LR 07 38 20.6
comp=Z,44nm,19.7s,baz=55,slow=37
comp=Z,2.4nm,0.8s
VBMS Vicksburg 51.53 89 P **P 07 16 16.7 +0.5**
baz=320
J59A Piesco 51.72 67 P **P 07 16 17.5 -0.1**
J59A IAmb IAmb 07 16 18.4
comp=Z,14nm,1.1s
MCWV Mont Chateau 51.73 74 P **P 07 16 17.4 -0.3**
MCWV IAmb IAmb 07 16 18.4
comp=Z,22nm,0.9s
MCWV Mont Chateau 51.73 74 P **P 07 16 17.9 +0.2**
baz=317,SNR=5.6
X48A Hartselle 51.73 84 P **P 07 16 17.1 -0.7**
X48A IAmb IAmb 07 16 23.1
comp=Z,21nm,1.5s
SWET Sewanee 51.76 83 P **P 07 16 17.9 -0.1**
SWET IAmb IAmb 07 16 20.9
comp=Z,32nm,1.6s
D62A Allapoint, All 51.79 60 P **P 07 16 17.9 -0.1**
D62A IAmb IAmb 07 16 18.8
comp=Z,15nm,1.1s
BINY Binghamton 51.88 69 P **P 07 16 19.2 +0.3**
BINY Binghamton 51.88 69 P **P 07 16 18.8 -0.1**
baz=317,SNR=25
146A Union 52.01 87 P **P 07 16 20.6 +0.8**
SSPA Standing Stone 52.04 72 P **P 07 16 19.7 -0.3**
SSPA Standing Stone 52.04 72 P **P 07 16 19.8 -0.2**
baz=317
TZTN Tazewell 52.06 80 P **P 07 16 19.9 -0.3**
baz=318,SNR=9.1
ACCN Adirondack Com 52.20 67 P **P 07 16 20.9 -0.3**
ACCN IAmb IAmb 07 16 22.0
comp=Z,9.1nm,0.8s
S54A Dingess, Beckl 52.33 77 P **P 07 16 21.0 -1.2**
S54A IAmb IAmb 07 16 22.8
comp=Z,10nm,0.8s
CPCT Cooper Cave 52.35 81 P **P 07 16 21.8 -0.6**
CPCT IAmb IAmb 07 16 24.6
comp=Z,18nm,1.4s
L59A Walton 52.37 69 P **P 07 16 22.7 +0.2**
LBNH Lisbon 52.45 65 P **P 07 16 22.1 -0.8**
baz=317
KSPA Keystone Colle 52.46 70 P **P 07 16 23.3 +0.1**
KSPA IAmb IAmb 07 16 24.4
comp=Z,20nm,1.0s
Y49A Blount Mountai 52.52 84 P **P 07 16 22.0 -1.7**
V52A Sevierville 52.56 80 P **P 07 16 24.0 +0.1**
V52A IAmb IAmb 07 16 24.7
comp=Z,13nm,1.0s
TKL Tuckaleechee C 52.60 80 P **P 07 16 24.1 -0.2**
TKL IAmb IAmb 07 16 24.8
comp=Z,14nm,1.1s
TKL Tuckaleechee C 52.60 80 LR LR 07 39 12.6
comp=Z,104nm,18.4s,baz=328,slow=36
R55A Marlinton 52.60 76 P **P 07 16 24.3 0.0**
R55A IAmb IAmb 07 16 27.6
comp=Z,33nm,1.4s
P57A Homestead Farm 52.82 73 P **P 07 16 26.1 +0.3**
P57A IAmb IAmb 07 16 26.7
comp=Z,24nm,0.9s
LRAL Lakeview Retre 52.83 85 P **P 07 16 25.0 -1.0**
baz=320
W52A Murphy 52.94 81 P **P 07 16 26.1 -0.7**
W52A IAmb IAmb 07 16 27.5
comp=Z,14nm,1.0s
PKME Peaks-Kenny Pk 52.99 62 P **P 07 16 26.2 -0.7**
baz=317
U54A Nelsons Funny 53.00 78 P **P 07 16 27.7 +0.4**
U54A IAmb IAmb 07 16 28.4
comp=Z,25nm,1.2s
BATG Bathurst New B 53.05 58 P **P 07 16 27.2 -0.2**
BATG IAmb IAmb 07 16 28.2
comp=Z,23nm,1.1s
V53A Saluda 53.11 80 P **P 07 16 27.6 -0.4**
V53A IAmb IAmb 07 16 29.1
comp=Z,17nm,0.9s
BLA Blacksburg 53.24 77 P **P 07 16 28.4 -0.5**
baz=318,SNR=9.3
MVL Millersville 53.31 71 P **P 07 16 29.3 -0.1**
MVL IAmb IAmb 07 16 32.8
comp=Z,15nm,1.2s
LUPA Lehigh Univers 53.37 70 P **P 07 16 30.2 +0.4**
L61B Northampton 53.38 67 P **P 07 16 29.8 -0.1**
baz=317
K62A Royalston 53.44 66 P **P 07 16 30.9 +0.6**
S57A Dark Hollow, R 53.60 75 P **P 07 16 30.8 -0.8**
S57A IAmb IAmb 07 16 35.0
comp=Z,24nm,1.4s
ARCES ARCESS Array B 53.69 358 P **P 07 16 30.9 -0.9**
comp=Z,1.0nm,0.6s,baz=10,slow=7.4,SNR=6.8
ARCES LR LR 07 40 21.0
comp=Z,104nm,19.1s,baz=31,slow=37
comp=Z,1.0nm,0.6s
BRNJ Basking Ridge 53.72 70 P **P 07 16 32.5 +0.2**
PAL Palisades 53.82 69 P **P 07 16 32.7 -0.4**
baz=318
V55A Taylorsville 53.83 78 P **P 07 16 32.7 -0.6**
V55A IAmb IAmb 07 16 34.2
comp=Z,8.2nm,0.8s
G65A Princeton 53.87 61 P **P 07 16 32.8 -0.6**
G65A IAmb IAmb 07 16 33.8
comp=Z,13nm,0.9s
HRV Adam Dziewonsk 53.90 66 P **P 07 16 33.4 -0.3**
baz=318
U56A King 53.90 77 P **P 07 16 33.7 -0.1**
U56A IAmb IAmb 07 16 34.7
comp=Z,13nm,0.7s
CPNY Central Park 53.95 69 P **P 07 16 34.4 +0.4**
T57A Hurt 54.01 76 P **P 07 16 33.9 -0.7**
T57A IAmb IAmb 07 16 36.8
comp=Z,16nm,1.2s
R58B Mineral 54.02 74 P **P 07 16 34.9 +0.3**
R58B IAmb IAmb 07 16 36.4
comp=Z,12nm,0.9s
250A Grady 54.03 85 P **P 07 16 34.5 -0.3**
N62A Caumsett State 54.10 69 P **P 07 16 35.3 +0.2**
CBN Corbin Frederi 54.10 74 P **P 07 16 35.0 -0.2**
baz=318
BORG Borgarnes 54.11 21 LR LR 07 40 36.7
comp=Z,69nm,21.2s,baz=341,slow=37
BRAL Brewton 54.23 87 P **P 07 16 36.2 +0.1**
baz=321
KMSC Kings Mountain 54.30 79 P **P 07 16 36.6 0.0**
baz=319,SNR=5.8
SONM Songino Array 54.36 304 P **P 07 16 37.8 +0.6**
comp=Z,3.5nm,0.7s,baz=44,slow=6.6,SNR=5.2
SONM PcP **PcP 07 17 40.7 -0.2**
comp=Z,4.1nm,0.7s,baz=45,slow=1.0,SNR=4.6
SONM LR LR 07 42 59.8
comp=Z,92nm,19.8s,baz=56,slow=40
comp=Z,3.5nm,0.7s
GOGA Godfrey 54.46 82 P **P 07 16 36.6 -1.2**
GOGA Godfrey 54.46 82 P **P 07 16 37.3 -0.5**
baz=320
HODGE Hodges 54.49 80 P **P 07 16 37.1 -1.0**
HODGE IAmb IAmb 07 16 38.5
comp=Z,10nm,0.9s
T59A Double "B" Far 54.93 75 P **P 07 16 40.9 -0.3**
T59A IAmb IAmb 07 16 42.2
comp=Z,15nm,0.8s
W57A Gilead 55.01 78 P **P 07 16 41.6 -0.2**
W57A IAmb IAmb 07 16 42.4
comp=Z,8.4nm,0.8s
154A Montrose 55.26 82 P **P 07 16 42.0 -1.7**
W59A Clinton 55.82 77 P **P 07 16 47.4 -0.3**
TIGA Tifton 55.90 84 P **P 07 16 47.4 -0.9**
baz=321
CNNC Cliffs of the 56.06 76 P **P 07 16 49.7 +0.3**
CNNC IAmb IAmb 07 16 51.6
comp=Z,18nm,0.9s
CNNC Cliffs of the 56.06 76 P **P 07 16 48.3 -1.1**
baz=320
V61A Roper 56.34 75 P **P 07 16 51.7 +0.3**
NHSC New Hope 56.47 80 P **P 07 16 51.9 -0.4**
baz=320
HHC Hu-ho-hao-te 57.17 295 *eP* **P 07 16 55.2 -2.1**
HHC pP pP 07 16 59.3 -1.7
HHC sP sP 07 17 02.4 +0.1
HHC *eS* **S 07 24 48.2 -4.2**
HHC pmax pmax
comp=Z,5.0nm,0.8s
HHC pmax pmax
comp=Z,88nm,5.0s
HHC LR LR
comp=N,230nm,12.9s
HHC LR LR
comp=E,250nm,12.6s
HHC LR LR
comp=Z,200nm,14.1s
ZALV Zalesovo Beam 58.14 322 P **P 07 17 03.7 -0.1**
comp=Z,1.1nm,0.4s,baz=42,slow=6.6,SNR=1.7
ZALV LR LR 07 44 34.7
comp=Z,277nm,18.1s,baz=40,slow=39
comp=Z,1.1nm,0.4s
TLIG Tlapa 58.89 106 P **P 07 17 08.7 -1.0**
TLIG IAmb IAmb 07 17 11.4
comp=Z,12nm,1.0s
NJ2 Nanjing 60.18 284 *eP* **P 07 17 18.0 -0.2**
NJ2 pmax pmax
comp=Z,11nm,0.5s
CMIG Matias Romero 61.23 103 LR LR 07 43 21.5
comp=Z,35nm,18.1s,baz=326,slow=35
NC204 NORSAR Array S 61.67 6 P **P 07 17 27.0 -1.0**
NC204 IAmb IAmb 07 18 21.5
comp=Z,13nm,1.2s
FINES FINESS Array B 61.79 358 P **P 07 17 28.3 -0.5**
comp=Z,2.8nm,0.7s,baz=19,slow=8.7,SNR=10.0
FINES LR LR 07 45 22.1
comp=Z,54nm,19.1s,baz=20,slow=37
comp=Z,2.8nm,0.7s
NB2 NORSAR Subarra 61.94 6 P **P 07 17 29.3 -0.5**
comp=Z,2.6nm,0.7s,baz=353,slow=6.9
NOA NORSAR Array B 61.94 6 P **P 07 17 29.3 -0.5**
comp=Z,2.3nm,0.7s,baz=353,slow=6.8,SNR=14
NOA LR LR 07 46 05.1
comp=Z,55nm,18.6s,baz=10.0,slow=38
comp=Z,2.3nm,0.7s
KIRV Kirov 62.66 344 LR LR 07 48 52.5
comp=Z,142nm,18.3s,baz=12,slow=40
HFS Hagfors 62.97 5 P **P 07 17 36.2 -0.4**
comp=Z,4.1nm,0.7s,baz=22,slow=5.3,SNR=12
HFS LR LR 07 44 26.4
comp=Z,30nm,21.8s,baz=344,slow=36
comp=Z,4.1nm,0.7s
KURBB Kurchatov Arra 63.03 323 P **P 07 17 37.0 -0.2**
comp=Z,1.1nm,0.7s,baz=24,slow=6.5,SNR=4.7
comp=Z,1.1nm,0.7s
ARU Arti 63.10 338 LR LR 07 48 03.5
comp=Z,159nm,19.4s,baz=342,slow=39
BVAR Borovoye Array 63.38 330 P **P 07 17 38.6 -0.9**
comp=Z,1.1nm,0.5s,baz=37,slow=7.6,SNR=7.6
BVAR LR LR 07 49 10.4
comp=Z,126nm,18.1s,baz=5.2,slow=40
comp=Z,1.1nm,0.5s
LZH Lanzhou 64.66 297 *eP* **P 07 17 48.9 +0.5**
LZH pmax pmax
comp=Z,9.0nm,0.9s
LZH LR LR
comp=N,350nm,15.8s
LZH LR LR
comp=E,450nm,13.7s
LZH LR LR
comp=Z,220nm,11.7s
MKAR Makanchi Array 65.02 319 P **P 07 17 49.9 -0.5**
comp=Z,0.7nm,0.6s,baz=40,slow=5.9,SNR=3.7
MKAR LR LR 07 49 27.7
comp=Z,187nm,18.1s,baz=52,slow=39
comp=Z,0.7nm,0.6s
WMQ Urumqi 65.49 314 *eP* **P 07 17 56.6 +3.0**
WMQ LR LR
comp=Z,270nm,19.7s
EKA Eskdalemuir Ar 66.11 15 P **P 07 17 57.2 -0.1**
comp=Z,3.5nm,0.6s,baz=341,slow=5.2,SNR=15
comp=Z,3.5nm,0.6s
MTO3 Montecristo 66.41 100 P **P 07 17 58.6 -1.4**
MTO3 IAmb IAmb 07 19 08.9
comp=Z,7.9nm,0.8s
OBN Obninsk 67.56 351 LR LR 07 52 07.1
comp=Z,67nm,20.6s,baz=188,slow=40
AKTO Aktyubinsk 68.83 336 LR LR 07 51 25.8
comp=Z,129nm,19.5s,baz=223,slow=39
CHIV Chivirico 68.90 86 P **P 07 18 14.6 -0.8**
CHIV IAmb IAmb 07 18 16.9
comp=Z,26nm,1.0s
BELG Belogornoye 68.91 344 LR LR 07 51 46.1
comp=Z,233nm,20.0s,baz=42,slow=39
ABKAR Akbulak array 69.50 335 P **P 07 18 17.3 -1.4**
ABKAR Akbulak array 69.50 335 P **P 07 18 18.2 -0.5**
JTS Las Juntas de 72.19 99 LR LR 07 52 53.4
comp=Z,37nm,18.2s,baz=310,slow=38
KKAR Karatay Array 72.25 325 P **P 07 18 34.8 -0.7**
AKASG Malin Array Be 72.44 355 P **P 07 18 35.4 -1.1**
comp=Z,1.4nm,0.5s,baz=4.7,slow=5.2,SNR=6.0
AKASG LR LR 07 53 44.9
comp=Z,74nm,18.3s,baz=44,slow=39
comp=Z,1.4nm,0.5s
KIEV Kiev 72.45 355 P **P 07 18 35.1 -1.4**
KIEV IAmb IAmb 07 18 37.8
comp=Z,18nm,1.8s
SDDR Presa de Saban 72.49 82 P **P 07 18 36.9 -0.5**
SDDR IAmb IAmb 07 18 38.9
comp=Z,15nm,0.8s
PZH PanZhiHua 73.49 293 P **P 07 18 43.7 +0.4**
PZH pmax pmax
comp=Z,9.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.1s
KSH Kashi 73.62 319 P P 07 18 49.4 +5.5
KSH pmax pmax
comp=Z,5.0nm,0.8s
VRAC Vranov 73.90 4 LR LR 07 52 17.5
comp=Z,32nm,19.9s,baz=16,slow=37
KHC Kasperske Hory 73.94 6 P **P 07 18 45.0 -0.5**
GERES GERESS Array B 74.24 6 P **P 07 18 47.1 -0.2**
comp=Z,1.2nm,0.7s,baz=352,slow=3.0,SNR=3.9
GERES LR LR 07 53 21.4
comp=Z,28nm,19.7s,baz=341,slow=37
comp=Z,1.2nm,0.7s
PPT Papeete 74.67 172 LR LR 07 45 27.8
comp=Z,84nm,20.9s,baz=350,slow=31
PPT2 Papeete2 74.69 172 *eLR* LR 07 41 40.5
comp=Z,142nm,25.0s
PPT2 *eLR* LR 07 41 43.9
comp=Z,168nm,27.2s
DAVOX Davos/Dischmat 76.03 9 LR LR 07 55 37.3
comp=Z,21nm,18.4s,baz=81,slow=38
RAR Rarotonga 77.98 182 LR LR 07 49 56.4
comp=Z,82nm,18.3s,baz=329,slow=33
KBZ Khabaz 78.07 345 LR LR 07 56 42.1
comp=Z,118nm,21.6s,baz=5.5,slow=38
TBI Tubuai 80.41 172 *eLR* LR 07 44 19.1
comp=Z,764nm,31.0s
GEYT Alibeck 80.59 332 LR LR 07 59 42.0
comp=Z,117nm,19.0s,baz=26,slow=39
SDV Santo Domingo 81.15 87 LR LR 07 58 29.4
comp=Z,31nm,18.2s,baz=350,slow=38
ESDC Sonseca Array 81.16 20 P **P 07 19 25.3 -0.8**
ESDC Sonseca Array 81.16 20 P **P 07 19 26.2 +0.1**
comp=Z,3.1nm,0.9s,baz=344,slow=5.0,SNR=16
ESDC LR LR 07 55 04.7
comp=Z,39nm,21.7s,baz=348,slow=36
comp=Z,3.1nm,0.9s
GNI Garni 81.28 343 LR LR 08 01 21.5
comp=Z,142nm,19.0s,baz=20,slow=40
CMAR Chiang Mai Arr 81.61 291 P **P 07 19 28.4 -0.1**
comp=Z,2.0nm,0.3s,baz=14,slow=5.4,SNR=6.4
CMAR LR LR 07 59 09.4
comp=Z,21nm,18.1s,baz=250,slow=38
comp=Z,2.0nm,0.3s
BAUV El Baul 82.52 85 P **P 07 19 32.2 -1.2**
BRTR Keskin Array B 83.09 351 P **P 07 19 36.1 -0.1**
comp=Z,0.6nm,0.4s,baz=29,slow=2.8,SNR=4.7
BRTR LR LR 08 02 41.6
comp=Z,31nm,19.7s,baz=30,slow=40
comp=Z,0.6nm,0.4s
OTAV Otavalo 84.09 99 P **P 07 19 41.5 -0.6**
DZM Mont Dzumac 84.31 213 *e*LR LR 07 46 07.9
comp=Z,103nm,23.9s
DZM Mont Dzumac 84.31 213 LR LR 07 56 09.8
comp=Z,50nm,18.1s,baz=110,slow=35
ATAH Atahualpa 90.29 103 P **P 07 20 13.1 +1.1**
comp=Z,6.3nm,0.9s,baz=299,slow=6.4,SNR=3.6
comp=Z,6.3nm,0.9s
EIL Elat 92.92 349 LR LR 08 05 29.0
comp=Z,36nm,21.8s,baz=65,slow=38
RPN Rapa Nui 93.32 138 LR LR 07 52 29.7
comp=Z,43nm,21.0s,baz=223,slow=29
MDP Montagnes des 94.00 74 LR LR 08 01 04.5
comp=Z,19nm,22.0s,baz=56,slow=34
WSAR Wadi Sarin 94.30 327 LR LR 08 06 51.1
comp=Z,42nm,18.6s,baz=83,slow=38
QSPA South Pole Qui 146.84 180 PKPbc **PKPbc 07 26 51.6 +0.2**
comp=Z,38nm,1.0s,baz=30,slow=1.0,SNR=79
BOSA Boshof 151.48 354 PKPbc **PKPbc 07 27 03.8 -0.6**
comp=Z,5.6nm,0.7s,baz=42,slow=3.0,SNR=10.0
MAW Mawson 158.76 224 PKPab **PKPab 07 27 43.5 +1.0**
comp=Z,4.6nm,0.9s,baz=72,slow=4.1,SNR=7.8

NEIC ***03*** *07:11:29.1±1.5, 57°.05N±0°.03×158°.05W±0°.07, h10km±2km, Error ellipse: s-maj=7.3km s-min=3.2km az=303.0*
AEIC 03 07:11:28.8±1.2, 57°.03N±0°.04×157°.96W±0°.08, h4km±6km, ML3.2, ML3.5/54(NEIC), Error ellipse: s-maj=6.8km s-min=5.1km az=113.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID / Op		ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.77**	**199**			Pg	07 11 43.4	-0.2
CHGN						Sb	07 11 54.8	-0.7
PLK4	**Peulik 4**	**1.06**	**55**			Pg	07 11 48.0	-1.1
PLK4						Sb	07 12 04.3	+0.4
VNSG	**Veniaminof 6**	**1.10**	**215**			Pg	07 11 48.8	-1.1
VNSS	**Veniaminof 8**	**1.15**	**226**			Pg	07 11 50.7	-0.2
VNFG	**Fog Glacier, M**	**1.15**	**230**			Pg	07 11 50.8	-0.1
VNFG	**Fog Glacier, M**	**1.15**	**230**			Pg	07 11 50.8	-0.1
VNWF	**Veniaminof 8**	**1.25**	**226**			Pg	07 11 52.1	-0.6
VNKR	**Veniaminof 5**	**1.27**	**218**			Pg	07 11 52.2	-0.9
CNTC	**Contact Creek**	**1.67**	**41**			Pn	07 11 58.9	+0.1
CNTC						Sn	07 12 20.8	+0.1
ANCK	**Angle Creek**	**1.77**	**48**			Pn	07 12 00.3	+0.1
ANCK						Sb	07 12 24.1	-0.2
ANCK	**Angle Creek**	**1.77**	**48**	IAML			07 12 25.8	
	comp=N,541nm,0.7s							
ANCK				IAML			07 12 28.1	
	comp=E,660nm,1.5s							
CHIR	**Chirikof Islan**	**1.78**	**132**			Pn	07 12 00.0	-0.2
CHIR						Sg	07 12 25.8	-0.1
CHIR	**Chirikof Islan**	**1.78**	**132**	IAML			07 12 28.7	
	comp=E,587nm,1.1s							
CHIR				IAML			07 12 30.8	
	comp=N,458nm,1.3s							
Q16K	**King Salmon**	**1.79**	**22**			Pn	07 12 00.5	+0.1
ACHA	**Angle Creek He**	**1.85**	**49**	Pn		Pn	07 12 01.1	-0.2
KABU	**Katmai Buttres**	**1.90**	**48**			Pn	07 12 01.7	-0.4
KABU	**Katmai Buttres**	**1.90**	**48**	IAML			07 12 29.6	
	comp=E,537nm,0.5s							
KABU				IAML			07 12 30.1	
	comp=N,208nm,1.0s							
R18K	**Karluk**	**1.98**	**73**			Pn	07 12 02.8	-0.2
R18K	**Karluk**	**1.98**	**73**	IAML			07 12 34.8	
	comp=N,247nm,1.3s							
P16K	**Nushagak River**	**2.01**	**360**			Pn	07 12 03.5	+0.1
SII	**Sitkinak Islan**	**2.13**	**101**			Pn	07 12 05.7	+0.5
SII	**Sitkinak Islan**	**2.13**	**101**	IAML			07 12 42.6	
	comp=E,338nm,0.9s							
SII				IAML			07 12 43.9	
	comp=N,421nm,0.9s							
KAHC	**Katmai Hardscr**	**2.26**	**43**			Pn	07 12 07.1	+0.1
CNBA	**Chernabura Isl**	**2.40**	**203**			Pn	07 12 08.1	-0.6
CNBA	**Chernabura Isl**	**2.40**	**203**	IAML			07 12 48.7	
	comp=N,315nm,0.7s							
CNBA				IAML			07 12 52.2	
	comp=E,271nm,1.4s							
OHAK	**Old Harbor**	**2.56**	**84**			Pn	07 12 10.9	0.0
O16K	**Kokwok River B**	**2.57**	**359**	Pn		Pn	07 12 10.4	-0.7
O16K				IAML			07 12 59.3	
	comp=E,197nm,0.9s							
O16K				IAML			07 13 00.0	
	comp=N,166nm,0.8s							
S12K	**Black Hills**	**2.64**	**241**	Pn	Pn	Pn	07 12 12.0	-0.1
S12K				IAML			07 12 53.1	
	comp=N,251nm,0.5s							
S12K				IAML			07 13 02.5	
	comp=E,282nm,0.6s							
PS1A	**Pavlof South-1**	**2.66**	**234**			Pn	07 12 12.5	+0.2
PVV	**Pavlof Volcano**	**2.71**	**234**			Pn	07 12 12.7	-0.2
P18K	**Big Mountain,**	**2.77**	**30**			Pn	07 12 13.8	-0.2
HAG	**Hague Volcano**	**2.79**	**234**			Pn	07 12 14.2	0.0
O14K	**Tigyukauivet M**	**2.83**	**323**	Pn	Pn	Pn	07 12 13.4	-1.3
O14K				IAML			07 13 06.8	
	comp=E,147nm,0.8s							
O14K				IAML			07 13 09.8	
	comp=N,128nm,1.0s							
KDAK	**Kodiak Island**	**3.01**	**73**			Pn	07 12 17.7	+0.6
O18K	**Koktuh Hills**	**3.18**	**26**	Pn	Pn	Pn	07 12 17.3	-2.2
O18K				IAML			07 13 18.4	
	comp=N,127nm,1.5s							
O18K				IAML			07 13 39.9	
	comp=E,94nm,1.1s							
N15K	**Kwethluk River**	**3.34**	**341**	Pn	Pn	Pn	07 12 19.7	-2.0
SYI	**Shuyak Island**	**3.38**	**60**	Pn	Pn	Pn	07 12 20.6	-1.5
P19K	**Oil Pt**	**3.62**	**42**	Pn	Pn	Pn	07 12 25.1	-0.5
P19K				IAML			07 13 32.5	
	comp=N,128nm,1.3s							
P19K				IAML			07 13 40.8	
	comp=E,130nm,0.8s							
M15K	**Kasigluk River**	**3.94**	**340**			Pn	07 12 30.1	+0.2
M16K	**Timber Creek**	**4.04**	**353**	Pn		Pn	07 12 31.7	+0.4
M16K				IAML			07 13 50.6	
	comp=N,80nm,1.2s							
N19K	**Bonanza Creek**	**4.20**	**24**	Pn	Pn	Pn	07 12 31.8	-1.8
N19K				IAML			07 13 49.1	
	comp=E,81nm,1.3s							
N19K				IAML			07 13 53.6	
	comp=N,82nm,1.3s							
SVW2	**Sparrevohn**	**4.26**	**16**	Pn	Pn	Pn	07 12 32.4	-1.9
SVW2				IAML			07 13 50.9	
	comp=N,33nm,0.9s							
SVW2				IAML			07 13 53.9	
	comp=E,48nm,1.2s							
M14K	**Bethel**	**4.27**	**333**	Pn	Pn	Pn	07 12 32.7	-1.7
RED	**Redoubt Volcan**	**4.34**	**36**			Pn	07 12 35.5	-0.1
CNPM	**China Poot**	**4.34**	**52**	Pn	Pn	Pn	07 12 33.9	-1.6
M17K	**Holitna River**	**4.39**	**3**	Pn	Pn	Pn	07 12 36.3	+0.2
M13K	**Dall Lake**	**4.40**	**323**	Pn	Pn	Pn	07 12 36.9	+0.7
M13K				IAML			07 13 08.1	
	comp=N,74nm,1.5s							
M18K	**Stony River**	**4.61**	**13**			Pn	07 12 39.1	+0.1
L14K	**Kuka Creek**	**4.96**	**333**	Pn	Pn	Pn	07 12 43.2	-0.6
M19K	**Big River Lodg**	**5.21**	**19**	Pn	Pn	Pn	07 12 46.4	-1.1
M19K				IAML			07 14 38.9	
	comp=N,32nm,1.5s							
K15K	**Wolf Creek Mou**	**5.58**	**343**	Pn	Pn	Pn	07 12 51.1	-1.4

IDC ***03*** *07:14:28.9±0.5, 9°.97S×107°.22E, h0km, mb4.3/17, mbtmp4.3/17, MS3.2/4, Error ellipse: s-maj=27.7km s-min=13.3km az=62.0*

*NEIC **03** 07:14:29.4±1.7, 9.°97S±0.°08×107.°13E±0.°06, h10km±1km, mb4.5/14, Error ellipse: s-maj=14.8km s-min=9.5km az=339.0*
*DJA **03** 07:14:31.0±1.2, 10.°5S±5.°5×10.°7E±.°, h27km±15km, M5.0/19, mB5.6/6, mb5.1/9, MLv4.9/19, Mw(mB)5.2/6, MwMwp5.0/1, Mwp5.3/1*
ISC 03 07:14:33.2±0.5, 10.°05S±0.°05×107.°20E±0.°06, h35km, n82, σ1°76/78, mb4.3/22, MS3.2/3, 4C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**1.54**	**255**	P	**Pn**	**07 14 56.8**	**-1.4**
XMIS	**Christmas Isla**	**1.58**	**254**	P	**Pn**	**07 14 56.9**	**-1.8**
XMIS	**Christmas Isla**	**1.58**	**254**	Pn	**Pn**	**07 14 57.0**	**-1.8**
XMIS				Sn	**Sn**	**07 15 13.6**	**-4.4**
CMJI	**Cimerak**	**2.57**	**29**	P	**Pn**	**07 15 10.7**	**-1.6**
BBJI	**Bungbulang**	**2.61**	**10**	P	**Pn**	**07 15 11.2**	**-1.8**
CNJI	**Cibinong**	**2.73**	**359**	P	**Pn**	**07 15 12.6**	**-1.9**
SKJI	**Sukabumi**	**3.09**	**348**	P	**Pn**	**07 15 18.4**	**-1.2**
SKJI				S	**Sn**	**07 15 54.1**	**-1.2**
LEM	**Lembang**	**3.23**	**7**	P	**Pn**	**07 15 20.6**	**-1.0**
LEM				S	**Sn**	**07 15 58.9**	**0.0**
DBJI	**Dramaga**	**3.50**	**353**	P	**Pn**	**07 15 24.0**	**-1.2**
DBJI				S	**Sn**	**07 16 04.4**	**-1.1**
YOGI	**Yogyakarta**	**3.78**	**54**	P	**Pn**	**07 15 28.2**	**-0.8**
UGM	**Wanagama**	**3.91**	**57**	P	**Pn**	**07 15 30.1**	**-0.7**
UGM	**Wanagama**	**3.91**	**57**	Pn	**Pn**	**07 15 29.8**	**-1.0**
UGM	**Wanagama**	**3.91**	**57**	P	**Pn**	**07 15 29.2**	**-1.6**
SBJI	**Serang**	**4.05**	**345**	P	**Pn**	**07 15 31.5**	**-1.2**
SMRI	**Semarang**	**4.38**	**47**	Pn	**Pn**	**07 15 35.9**	**-1.3**
SMRI	**Semarang**	**4.38**	**47**	P	**Pn**	**07 15 35.9**	**-1.3**
PWJI	**Pagerwojo**	**4.97**	**66**	P	**Pn**	**07 15 44.8**	**-0.6**
KASI	**Kota Agung**	**5.24**	**329**	P	**Pn**	**07 15 47.0**	**-2.0**
71nm,0.4s,4µm1.2nm							
LWLI	**Liwa**	**5.89**	**328**	P	**Pn**	**07 15 56.5**	**-1.7**
150nm,0.7s,2.0nm							
BLJI	**Banyuglugur**	**6.72**	**71**	P	**Pn**	**07 16 10.0**	**+0.6**
JAGI	**Jajag, Banyuwa**	**7.04**	**78**	P	**Pn**	**07 16 13.7**	**-0.1**
JAGI	**Jajag, Banyuwa**	**7.04**	**78**		**Pn**	**07 16 13.3**	**-0.6**
JAGI	**Jajag, Banyuwa**	**7.04**	**78**	P	**Pn**	**07 16 12.9**	**-0.9**
78nm,0.5s,1.1nm							
MNAI	**Manna**	**7.05**	**323**	P	**Pn**	**07 16 11.4**	**-2.6**
MNAI	**Manna**	**7.05**	**323**	Pn	**Pn**	**07 16 10.9**	**-3.1**
MNAI	**Manna**	**7.05**	**323**	P	**Pn**	**07 16 11.8**	**-2.2**
99nm,1.1s							
ABJI	**Asem Bagus**	**7.30**	**73**	P	**Pn**	**07 16 17.8**	**+0.4**
132nm,0.7s,0.5nm							
DNP	**Denpasar**	**8.02**	**81**	P	**Pn**	**07 16 26.8**	**-0.5**
TWSI	**Taliwang, Sumb**	**9.64**	**83**	P	**Pn**	**07 16 48.9**	**-0.6**
32nm,0.6s							
PLAI	**Plampang**	**10.50**	**84**	P	**Pn**	**07 16 59.9**	**-1.5**
PLAI	**Plampang**	**10.50**	**84**	P	**Pn**	**07 17 00.2**	**-1.2**
KAPI	**Kappang**	**13.41**	**69**	LR	LR	07 23 27.1	
comp=Z,40nm,19.6s,baz=309,slow=40							
GIRL	**Giralia**	**14.22**	**153**	P	Pn	07 17 48.4	-3.7
GIRL	**Giralia**	**14.22**	**153**	Pn	Pn	07 17 48.3	-3.7
MBWA	**Marble Bar**	**16.34**	**134**	P	**Pn**	**07 18 16.3**	**-3.8**
MBWA	**Marble Bar**	**16.34**	**134**	Pn	**Pn**	**07 18 15.9**	**-4.2**
MBWA				IAmb	IAmb	07 18 17.0	
comp=Z,19nm,0.9s							
PSA00	**Pilbara Seismi**	**16.70**	**135**	P	**Pn**	**07 18 20.4**	**-4.1**
PSA00	**Pilbara Seismi**	**16.70**	**135**		**Pn**	**07 18 20.6**	**-3.9**
PSA00				IAmb	IAmb	07 18 33.7	
comp=Z,31nm,1.4s							
FITZ	**Fitzroy Crossi**	**19.58**	**116**	Pn	**P**	**07 18 59.3**	**+0.9**
WB0	**Warramunga Arr**	**27.95**	**113**	P	**P**	**07 20 18.0**	**-2.6**
WB0				IAmb	IAmb	07 20 42.3	
comp=Z,10nm,1.4s							
WRA	**Warramunga Arr**	**27.96**	**114**	P	**P**	**07 20 17.9**	**-2.8**
WRA	**Warramunga Arr**	**27.96**	**114**	P	**P**	**07 20 21.0**	**+0.3**
comp=Z,0.7nm,0.6s,baz=284,slow=12,SNR=11							
WRA				PcP	**PcP**	**07 23 36.7**	**+1.1**
comp=Z,0.6nm,0.5s,baz=303,slow=1.8,SNR=2.8							
comp=Z,0.7nm,0.6s							
WB2	**Warramunga Arr**	**27.97**	**114**	P	**P**	**07 20 20.4**	**-0.3**
WB2				IAmb	IAmb	07 20 48.8	
comp=Z,15nm,1.4s							
WR0	**Warramunga Arr**	**28.14**	**114**	P	**P**	**07 20 22.8**	**+0.5**
WR0				IAmb	IAmb	07 20 30.1	
comp=Z,15nm,1.5s							
FORT	**Forrest**	**28.31**	**140**	P	**P**	**07 20 22.0**	**-1.7**
FORT				IAmb	IAmb	07 20 30.1	
comp=Z,42nm,1.1s							
ASAR	**Alice Springs**	**28.85**	**121**	P	**P**	**07 20 29.2**	**+0.7**
comp=Z,0.3nm,0.4s,baz=300,slow=8.4,SNR=5.8							
ASAR				PcP	**PcP**	**07 23 39.2**	**+1.4**
comp=Z,0.6nm,0.8s,baz=346,slow=1.8,SNR=7.0							
ASAR				LR	LR	07 32 43.4	
comp=Z,49nm,20.0s,baz=284,slow=38							
comp=Z,0.3nm,0.4s							
CMAR	**Chiang Mai Arr**	**29.48**	**344**	LR	LR	07 33 12.6	
comp=Z,50nm,18.9s,baz=150,slow=38							
H08S2	**Diego Garcia H**	**34.37**	**271**	T	T	07 56 09.0	
baz=97,slow=75,SNR=4.6							
H08S3	**Diego Garcia H**	**34.38**	**271**	T	T	07 56 11.3	
baz=97,slow=75,SNR=5.8							
H08S1	**Diego Garcia H**	**34.39**	**271**	T	T	07 56 12.4	
baz=97,slow=75,SNR=5.3							
STKA	**Stephens Creek**	**38.51**	**129**	P	**P**	**07 21 51.3**	**-1.0**
STKA	**Stephens Creek**	**38.51**	**129**	P	**P**	**07 21 53.5**	**+1.2**
comp=Z,2.7nm,0.4s,baz=300,slow=9.0,SNR=9.3							
STKA				LR	LR	07 38 22.8	
comp=Z,56nm,19.4s,baz=234,slow=37							
comp=Z,2.7nm,0.4s							
INU	**Inuyama**	**53.23**	**30**	P	**P**	**07 23 46.1**	**-2.2**
SONM	**Songino Array**	**57.63**	**359**	P	**P**	**07 24 19.1**	**-0.8**
SONM	**Songino Array**	**57.63**	**359**	P	**P**	**07 24 20.6**	**+0.7**
comp=Z,1.5nm,0.5s,baz=179,slow=8.3,SNR=7.5							
comp=Z,1.5nm,0.5s							
USA0B	**Ussuriysk Arra**	**58.49**	**21**	P	**P**	**07 24 23.2**	**-2.6**
USA0B				IAmb	IAmb	07 24 28.9	
comp=Z,6.3nm,0.8s							
H04N2	**CROZET ISLANDS**	**59.11**	**222**	T	T	08 27 30.6	
baz=70,slow=75,SNR=8.1							
H04N1	**CROZET ISLANDS**	**59.13**	**222**	T	T	08 27 31.1	
baz=70,slow=75,SNR=7.9							
H04N3	**CROZET ISLANDS**	**59.13**	**222**	T	T	08 27 30.2	
baz=70,slow=75,SNR=8.0							
MKAR	**Makanchi Array**	**60.81**	**341**	P	**P**	**07 24 41.6**	**-0.2**
comp=Z,3.8nm,0.7s,baz=150,slow=8.4,SNR=6.4							
comp=Z,3.8nm,0.7s							
MAW	**Mawson**	**64.53**	**197**	P	**P**	**07 25 08.1**	**+1.9**
comp=Z,2.2nm,0.5s,baz=73,slow=5.8,SNR=19							
comp=Z,2.2nm,0.5s							
KURBB	**Kurchatov Arra**	**65.37**	**340**	P	**P**	**07 25 12.6**	**+0.6**
comp=Z,0.9nm,0.5s,baz=151,slow=6.1,SNR=4.0							
comp=Z,0.9nm,0.5s							
ZALV	**Zalesovo Beam**	**66.52**	**346**	P	**P**	**07 25 19.3**	**+0.1**
comp=Z,0.7nm,0.4s,baz=171,slow=5.7,SNR=2.1							
comp=Z,0.7nm,0.4s							
BVAR	**Borovoye Array**	**70.24**	**337**	P	**P**	**07 25 43.2**	**+0.6**
comp=Z,4.7nm,0.7s,baz=142,slow=8.6,SNR=11							
comp=Z,4.7nm,0.7s							
ABKAR	**Akbulak array**	**72.12**	**330**	P	**P**	**07 25 54.1**	**+0.1**
VNDA	**Vanda**	**72.95**	**169**	P	**P**	**07 25 58.7**	**+0.1**
VNDA				IAmb	IAmb	07 26 00.7	
comp=Z,2.2nm,1.1s							
VNDA	**Vanda**	**72.95**	**169**	P	**P**	**07 26 00.2**	**+1.6**
comp=Z,0.8nm,0.8s,baz=306,slow=8.0,SNR=5.4							
comp=Z,0.8nm,0.8s							
AKTO	**Aktyubinsk**	**73.84**	**330**	P	**P**	**07 26 04.7**	**+0.5**
comp=Z,3.2nm,0.9s,baz=164,slow=7.8,SNR=4.4							
comp=Z,3.2nm,0.9s							
ARU	**Arti**	**77.45**	**335**	P	**P**	**07 26 25.3**	**+0.6**
comp=Z,2.3nm,0.4s,baz=250,slow=12,SNR=5.4							
comp=Z,2.3nm,0.4s							
KBZ	**Khabaz**	**79.04**	**318**	P	**P**	**07 26 35.1**	**+1.3**
comp=Z,2.5nm,0.8s,baz=124,slow=8.0,SNR=6.2							
comp=Z,2.5nm,0.8s							
QSPA	**South Pole Qui**	**79.96**	**180**	P	**P**	**07 26 40.5**	**+1.9**
QSPA	**South Pole Qui**	**79.96**	**180**	P	**P**	**07 26 40.1**	**+1.5**
comp=Z,2.3nm,0.9s,baz=14,slow=4.2,SNR=11							
comp=Z,2.3nm,0.9s							
NRIK	**Noril'sk**	**80.38**	**353**	P	**P**	**07 26 41.0**	**+0.5**
comp=Z,3.9nm,0.8s,baz=180,slow=3.4,SNR=3.8							
comp=Z,3.9nm,0.8s							
MMAI	**Mount Meron Ar**	**80.54**	**306**	P	**P**	**07 26 44.1**	**+1.8**
comp=Z,1.6nm,0.4s,baz=116,slow=6.6,SNR=4.1							
comp=Z,1.6nm,0.4s							
BRTR	**Keskin Array B**	**84.00**	**312**	P	**P**	**07 27 01.4**	**+1.0**
comp=Z,1.5nm,0.7s,baz=124,slow=5.9,SNR=8.2							
comp=Z,1.5nm,0.7s							
TROLL	**Troll, Antarti**	**84.99**	**198**	⇑P	**P**	**07 27 06.8**	**+2.0**
comp=Z,143nm,0.5s							
VNA2	**Neumayer--Watz**	**88.34**	**197**	⇑P	**P**	**07 27 23.7**	**+2.8**
baz=102,slow=3.8							
VNA1	**Neumayer--Stat**	**88.72**	**198**	⇑P	**P**	**07 27 24.6**	**+1.9**
VNA3	**Neumayer Olymp**	**88.85**	**197**	⇑P	**P**	**07 27 24.9**	**+1.5**
BDFB	**Brasilia**	**144.59**	**224**	PKP	**PKPdf**	**07 34 08.1**	**+0.9**
comp=Z,3.3nm,0.7s,baz=76,slow=2.4,SNR=7.8							
TXAR	**Lajitas Array**	**145.35**	**52**	PKPbc	**PKPdf**	**07 34 10.2**	**+2.0**
comp=Z,2.8nm,0.9s,baz=261,slow=2.1,SNR=35							
LPAZ	**La Paz**	**153.43**	**190**	PKPbc	**PKiKP**	**07 34 30.7**	**+0.9**
comp=Z,0.9nm,0.8s,baz=194,slow=6.9,SNR=5.8							

*NEIC **03** 07:24:04.0±1.3, 56.°10N±0.°08×149.°3W±0.°1, h22km±9km, ML3.7/58, ML3.5(AEIC), Error ellipse: s-maj=12.3km s-min=8.5km az=169.0*
*AEIC **03** 07:24:07.0±1.2, 56.°10N±0.°08×149.°3W±0.°1, h10km±7km, Error ellipse: s-maj=11.1km s-min=8.2km az=184.0*
ISC 03 07:24:04.5±1.4, 56.°08N±0.°09×149.°35W±0.°06, h35km, n254, σ0°81/257, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.46**	**299**	P	**Pn**	**07 24 42.2**	**+0.2**
OHAK	**Old Harbor**	**2.46**	**299**	Pn	**Pn**	**07 24 42.1**	**+0.1**
OHAK	**Old Harbor**	**2.46**	**299**		**Sn**	**07 25 09.8**	**-1.1**
OHAK	**Old Harbor**	**2.46**	**299**	P	**Pn**	**07 24 42.3**	**+0.2**
baz=116							
OHAK				S	**Sn**	**07 25 09.8**	**-1.1**
baz=116							
KDAK	**Kodiak Island**	**2.46**	**315**	Pn	**Pn**	**07 24 42.0**	**-0.1**
KDAK	**Kodiak Island**	**2.46**	**315**		**Sn**	**07 25 09.7**	**-1.2**
KDAK	**Kodiak Island**	**2.46**	**315**	S	**Sn**	**07 25 09.7**	**-1.2**
baz=132							
SII	**Sitkinak Islan**	**2.74**	**282**	P	**Pn**	**07 24 46.3**	**+0.4**
SII	**Sitkinak Islan**	**2.74**	**282**		**Pn**	**07 24 45.9**	**0.0**
SII				IAML		07 25 18.4	
comp=E,309nm,0.8s							
SII				IAML		07 25 18.7	
comp=N,254nm,0.7s							
SII	**Sitkinak Islan**	**2.74**	**282**	P	**Pn**	**07 24 46.5**	**+0.6**
baz=98							
SII				S	**Sn**	**07 25 17.4**	**-0.3**
baz=98							
Q20K	**Shuyak Island**	**3.03**	**328**	P	**Pn**	**07 24 50.1**	**+0.2**
baz=145							
Q20K				S	**Sn**	**07 25 24.6**	**-0.3**
baz=145							
SYI	**Shuyak Island**	**3.03**	**328**	Pn	**Pn**	**07 24 49.9**	**+0.1**
SYI				IAML		07 25 26.5	
comp=E,123nm,0.3s							
SYI	**Shuyak Island**	**3.03**	**328**		**Sn**	**07 25 24.6**	**-0.2**
R18K	**Karluk**	**3.18**	**300**		**Pn**	**07 24 52.8**	**+0.9**
R18K					**Sn**	**07 25 28.2**	**-0.3**
R18K	**Karluk**	**3.18**	**300**	IAML		07 25 32.5	
comp=N,182nm,0.5s							
R18K				IAML		07 25 33.4	
comp=E,148nm,0.3s							
R18K	**Karluk**	**3.18**	**300**	P	**Pn**	**07 24 52.8**	**+0.9**
baz=115							
R18K				S	**Sn**	**07 25 28.2**	**-0.3**
baz=115							
CHIR	**Chirikof Islan**	**3.54**	**268**		**Pn**	**07 24 57.3**	**+0.4**
CHIR				IAML		07 25 36.4	
comp=N,117nm,0.4s							
CHIR				IAML		07 25 36.4	
comp=E,107nm,0.8s							
CHIR	**Chirikof Islan**	**3.54**	**268**	P	**Pn**	**07 24 57.6**	**+0.7**
baz=83							
CHIR				S	**Sn**	**07 25 35.8**	**-1.6**
baz=83							
CNPM	**China Poot**	**3.60**	**344**		**Pn**	**07 24 57.5**	**-0.3**
CNPM					**Sn**	**07 25 37.9**	**-1.1**
CNPM	**China Poot**	**3.60**	**344**	IAML		07 25 40.0	
comp=N,152nm,0.5s							
CNPM				IAML		07 25 40.2	
comp=E,85nm,0.4s							
Q19K	**Cape Douglas,**	**3.68**	**323**		**Pn**	**07 24 59.6**	**+0.8**
Q19K				IAML		07 25 46.2	
comp=N,168nm,0.7s							
Q23K	**Middleton Isla**	**3.73**	**24**	Pn	**Pn**	**07 24 58.4**	**-1.0**
Q23K	**Middleton Isla**	**3.73**	**24**	P	**Pn**	**07 24 58.8**	**-0.6**
baz=207							
MID	**Middleton Isla**	**3.73**	**24**	P	**Pn**	**07 24 58.9**	**-0.5**
MID	**Middleton Isla**	**3.73**	**24**	Pn	**Pn**	**07 24 58.3**	**-1.1**
MID				IAML		07 25 39.6	
comp=E,67nm,0.6s							
BRSE	**Bradley Lake S**	**3.75**	**349**		**Pn**	**07 24 59.1**	**-0.7**
BRSE	**Bradley Lake S**	**3.75**	**349**	P	**Pn**	**07 24 59.1**	**-0.7**
baz=168							
BRLK	**Bradley Lake**	**3.79**	**348**		**Pn**	**07 24 59.8**	**-0.6**
BRLK				IAML		07 25 44.0	
comp=N,151nm,0.1s							
BRLK				IAML		07 25 44.9	
comp=E,106nm,0.2s							
HOM	**Homer**	**3.79**	**342**		**Pn**	**07 25 00.6**	**+0.2**
HOM	**Homer**	**3.79**	**342**	P	**Pn**	**07 25 00.4**	**0.0**
baz=160							
ANCK	**Angle Creek**	**3.97**	**305**	Pn	**Pn**	**07 25 04.3**	**+1.5**
KAHC	**Katmai Hardscr**	**4.00**	**312**		**Pn**	**07 25 04.7**	**+1.3**
Q18K	**Katmai Hardscr**	**4.00**	**312**	P	**Pn**	**07 25 04.7**	**+1.3**
baz=127							
SEW	**Seward**	**4.04**	**359**		**Pn**	**07 25 02.9**	**-0.9**
SEW	**Seward**	**4.04**	**359**	P	**Pn**	**07 25 02.8**	**-0.9**
baz=179							
P23K	**Montague Islan**	**4.07**	**14**		**Pn**	**07 25 03.8**	**-0.4**
P23K	**Montague Islan**	**4.07**	**14**	P	**Pn**	**07 25 03.8**	**-0.4**
baz=195							
P19K	**Oil Pt**	**4.14**	**332**		**Pn**	**07 25 05.0**	**-0.2**
PLK4	**Peulik 4**	**4.15**	**295**		**Pn**	**07 25 06.5**	**+1.1**
R17L	**Mt. Peulik Vol**	**4.15**	**295**	P	**Pn**	**07 25 06.5**	**+1.1**
baz=109							
CNTC	**Contact Creek**	**4.18**	**304**		**Pn**	**07 25 07.0**	**+1.2**
Q17K	**Contact Creek**	**4.18**	**304**	P	**Pn**	**07 25 07.0**	**+1.2**
baz=118							
O20K	**Slope Mountain**	**4.38**	**338**		**Pn**	**07 25 08.7**	**+0.3**
O20K	**Slope Mountain**	**4.38**	**338**	P	**Pn**	**07 25 08.7**	**+0.3**
baz=155							
ILSW	**Iliamna Southw**	**4.41**	**334**		**Pn**	**07 25 08.7**	**-0.2**
ILSW	**Iliamna Southw**	**4.41**	**334**	IAML		07 25 59.9	
comp=N,66nm,0.3s							
ILSW				IAML		07 26 00.1	
comp=E,73nm,0.6s							
O22K	**Cooper Landing**	**4.42**	**358**		**Pn**	**07 25 09.1**	**+0.1**
SLKM	**Skilak Lake**	**4.47**	**354**		**Pn**	**07 25 09.1**	**-0.5**
P18K	**Big Mountain,**	**4.58**	**319**		**Pn**	**07 25 09.6**	**-1.6**
P18K	**Big Mountain,**	**4.58**	**319**	P	**Pn**	**07 25 11.4**	**+0.2**
baz=134							
HIN	**Hinchinbrook I**	**4.58**	**18**	Pn	**Pn**	**07 25 11.1**	**-0.2**
HIN				IAML		07 26 01.5	
comp=N,90nm,0.5s							
HIN				IAML		07 26 02.9	
comp=E,103nm,0.4s							
KAIM	**Kayak Island**	**4.67**	**32**	Pn	**Pn**	**07 25 11.4**	**-0.9**
KAIM				IAML		07 26 06.3	
comp=N,79nm,0.5s							
KAIM				IAML		07 26 06.4	
comp=E,79nm,0.3s							
KAIM	**Kayak Island**	**4.67**	**32**	P	**Pn**	**07 25 12.5**	**+0.1**
baz=216							
Q16K	**King Salmon**	**4.74**	**306**		**Pn**	**07 25 14.1**	**+0.8**
Q16K	**King Salmon**	**4.74**	**306**	P	**Pn**	**07 25 14.1**	**+0.8**
baz=120							
RSO	**Redoubt South**	**4.75**	**339**		**Pn**	**07 25 13.9**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.87**	**21**	P	**Pn**	**07 25 14.9**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.87**	**21**		**Pn**	**07 25 15.0**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.87**	**21**	P	**Pn**	**07 25 15.0**	**-0.2**
baz=204							
O19K	**Port Alsworth**	**4.90**	**330**		**Pn**	**07 25 15.1**	**-0.4**
O19K	**Port Alsworth**	**4.90**	**330**	P	**Pn**	**07 25 15.1**	**-0.4**
baz=145							
O18K	**Koktuh Hills**	**4.91**	**323**	Pn	**Pn**	**07 25 16.0**	**+0.3**
O18K	**Koktuh Hills**	**4.91**	**323**	P	**Pn**	**07 25 15.8**	**+0.2**
baz=138							
FID	**Port Fidalgo**	**4.92**	**17**		**Pn**	**07 25 15.9**	**0.0**
FID				IAML		07 26 11.2	
comp=N,64nm,0.4s							
FID				IAML		07 26 11.7	
comp=E,61nm,0.3s							
GLI	**Glacier Island**	**4.96**	**13**		**Pn**	**07 25 16.1**	**-0.3**
GLI	**Glacier Island**	**4.96**	**13**	IAML		07 26 10.9	
comp=E,54nm,0.5s							
GLI				IAML		07 26 11.8	
comp=N,40nm,0.6s							
GLI	**Glacier Island**	**4.96**	**13**	P	**Pn**	**07 25 16.1**	**-0.3**
baz=194							
RAGM	**Ragged Mountai**	**4.98**	**28**		**Pn**	**07 25 16.9**	**+0.3**
SUCK	**Suckling Hills**	**4.98**	**34**		**Pn**	**07 25 17.3**	**+0.6**
SUCK				IAML		07 26 12.5	
comp=N,80nm,0.4s							
SUCK				IAML		07 26 12.6	
comp=E,49nm,0.5s							
RC01	**Rabbit Creek A**	**5.03**	**358**		**Pn**	**07 25 17.7**	**+0.3**
RC01				IAML		07 26 15.5	
comp=N,82nm,0.5s							
RC01	**Rabbit Creek A**	**5.03**	**358**	P	**Pn**	**07 25 17.0**	**-0.4**
baz=177							
HMT	**Hamilton**	**5.05**	**30**		**Pn**	**07 25 18.0**	**+0.4**
NICHA	**Nichawak Mount**	**5.05**	**32**		**Pn**	**07 25 18.0**	**+0.4**
GOAT	**Goat Mountain**	**5.13**	**26**		**Pn**	**07 25 19.0**	**+0.2**
GRIN	**Grindle Hills**	**5.29**	**35**		**Pn**	**07 25 21.3**	**+0.4**
SNH	**Sunshine Point**	**5.37**	**37**		**Pn**	**07 25 22.4**	**+0.3**
SNH				IAML		07 26 20.7	
comp=E,28nm,0.5s							
SNH				IAML		07 26 21.7	
comp=N,32nm,0.5s							
KNK	**Knik Glacier**	**5.37**	**5**		**Pn**	**07 25 21.4**	**-0.7**
KNK				IAML		07 26 27.6	
comp=E,48nm,0.6s							
KNK				IAML		07 26 29.2	
comp=N,39nm,0.6s							
DIV	**Divide**	**5.40**	**19**		**Pn**	**07 25 22.6**	**+0.1**
KHIT	**Khitrov Hills**	**5.43**	**34**		**Pn**	**07 25 22.9**	**0.0**
SUA	**Susitna One**	**5.45**	**353**	Pn	**Pn**	**07 25 22.8**	**-0.4**
N19K	**Bonanza Creek**	**5.46**	**333**		**Pn**	**07 25 22.7**	**-0.6**
N19K	**Bonanza Creek**	**5.46**	**333**	P	**Pn**	**07 25 23.0**	**-0.4**
baz=148							
BMRM	**Bremner River**	**5.50**	**25**		**Pn**	**07 25 24.0**	**+0.2**
BMRM	**Bremner River**	**5.50**	**25**	P	**Pn**	**07 25 24.0**	**+0.2**
baz=209							
P16K	**Nushagak River**	**5.51**	**306**		**Pn**	**07 25 25.1**	**+1.2**
P16K	**Nushagak River**	**5.51**	**306**	P	**Pn**	**07 25 25.1**	**+1.2**
baz=118							
PMR	**Palmer**	**5.53**	**1**	P	**Pn**	**07 25 24.0**	**-0.2**
PMR	**Palmer**	**5.53**	**1**		**Pn**	**07 25 24.4**	**+0.2**
PMR	**Palmer**	**5.53**	**1**	P	**Pn**	**07 25 24.3**	**+0.1**
baz=181							
WAX	**Waxell Ridge**	**5.56**	**35**		**Pn**	**07 25 25.1**	**+0.4**
STLK	**Strandline Lak**	**5.59**	**348**		**Pn**	**07 25 24.9**	**-0.1**
BARK	**Barkley Ridge**	**5.65**	**37**		**Pn**	**07 25 26.2**	**+0.3**
MESA	**MESA**	**5.68**	**41**		**Pn**	**07 25 27.1**	**+0.6**
MESA	**MESA**	**5.68**	**41**	P	**Pn**	**07 25 27.1**	**+0.6**
baz=227							
M22K	**Willow**	**5.71**	**356**		**Pn**	**07 25 28.1**	**+1.5**
CRQM	**Cirque**	**5.71**	**32**		**Pn**	**07 25 27.0**	**+0.1**
KLU	**Klutina**	**5.71**	**17**		**Pn**	**07 25 27.0**	**+0.2**
KLU	**Klutina**	**5.71**	**17**	P	**Pn**	**07 25 27.0**	**+0.2**
baz=200							
GHO	**Glory Hole Cre**	**5.72**	**2**		**Pn**	**07 25 27.1**	**+0.3**
CRQE	**Cirque**	**5.72**	**32**	P	**Pn**	**07 25 27.3**	**+0.3**
baz=218							
N18K	**Kilae Creek**	**5.75**	**326**	Pn	**Pn**	**07 25 27.1**	**-0.2**
N18K	**Kilae Creek**	**5.75**	**326**	P	**Pn**	**07 25 27.1**	**-0.2**
baz=140							
SML	**Sawmill**	**5.77**	**5**		**Pn**	**07 25 27.5**	**-0.1**
SML	**Sawmill**	**5.77**	**5**	P	**Pn**	**07 25 27.8**	**+0.2**
baz=185							
M23K	**Glacier View**	**5.79**	**8**		**Pn**	**07 25 28.2**	**+0.3**
M23K	**Glacier View**	**5.79**	**8**	P	**Pn**	**07 25 28.2**	**+0.3**
baz=189							
TGL	**Tana Glacier**	**5.81**	**33**		**Pn**	**07 25 28.4**	**+0.3**
ISLE	**Juniper Island**	**5.85**	**36**		**Pn**	**07 25 29.1**	**+0.4**
O16K	**Kokwok River B**	**5.85**	**311**		**Pn**	**07 25 29.6**	**+1.0**
O16K	**Kokwok River B**	**5.85**	**311**	P	**Pn**	**07 25 29.6**	**+1.0**
baz=123							
SCM	**Sheep Creek Mo**	**5.87**	**9**		**Pn**	**07 25 29.4**	**+0.6**
SCM	**Sheep Creek Mo**	**5.87**	**9**	P	**Pn**	**07 25 29.5**	**+0.6**
baz=191							
CHNA	**Chernabura Isl**	**5.96**	**262**	P	**Pn**	**07 25 30.8**	**+0.7**
baz=74							
CNBA	**Chernabura Isl**	**5.96**	**262**	Pn	**Pn**	**07 25 30.1**	**-0.1**
VRDI	**Verde Repeater**	**6.01**	**28**		**Pn**	**07 25 31.1**	**+0.1**
SKT	**Skwentna**	**6.03**	**350**		**Pn**	**07 25 31.8**	**+0.7**
N25K	**Chitina, Valde**	**6.07**	**22**	Pn	**Pn**	**07 25 32.3**	**+0.6**
N25K	**Chitina, Valde**	**6.07**	**22**	P	**Pn

SIT	Sitka	7.81	77		Pn	07 25 53.5	-1.9
SIT	Sitka	7.81	77	P	Pn	07 25 53.5	-1.9
	baz=269						
HYT	Haines Junctio	7.82	48		Pn	07 25 56.3	+0.6
HYT	Haines Junctio	7.82	48	P	Pn	07 25 56.3	+0.6
	baz=238						
K24K	Donnelly Dome	7.95	12		Pn	07 25 58.5	+1.0
K24K	Donnelly Dome	7.95	12	P	Pn	07 25 58.5	+1.0
	baz=194						
L27K	Beaver Creek,	7.97	25		Pn	07 25 58.5	+0.7
L27K	Beaver Creek,	7.97	25	P	Pn	07 25 58.5	+0.7
	baz=212						
BCAR	Beaver Creek A	7.99	26	Pn	Pn	07 25 58.5	+0.6
BPAW	Bear Paw Mtn.	8.09	355		Pn	07 25 59.0	-0.3
BPAW	Bear Paw Mtn.	8.09	355	P	Pn	07 25 58.6	-0.7
	baz=173						
M14K	Bethel	8.11	310	Pn	Pn	07 26 00.7	+1.2
SKAG	Skagway	8.22	60	P	Pn	07 26 02.1	+1.0
SKAG	Skagway	8.22	60		Pn	07 26 01.8	+0.7
BESE	Bessie Mountai	8.23	66		Pn	07 26 01.5	+0.1
N30M	Aishikik Lake	8.34	45		Pn	07 26 03.4	+0.5
N30M	Aishikik Lake	8.34	45	P	Pn	07 26 03.6	+0.8
	baz=235						
R32K	Eaglecrest	8.35	69	Pn	Pn	07 26 03.3	+0.4
O30N	Mendenhall	8.39	50		Pn	07 26 04.6	+1.1
O30N	Mendenhall	8.39	50	P	Pn	07 26 04.3	+0.8
	baz=242						
JIS	Juneau Island	8.42	69	P	Pn	07 26 04.0	+0.1
JIS	Juneau Island	8.42	69	Pn	Pn	07 26 03.4	-0.4
HDA	Harding Lake	8.44	7	Pn	Pn	07 26 04.8	+0.7
WRH	Wood River Hil	8.45	4	Pn	Pn	07 26 04.8	+0.7
M29M	Somme Creek	8.47	37	Pn	Pn	07 26 05.7	+1.1
M29M	Somme Creek	8.47	37	P	Pn	07 26 05.6	+1.1
	baz=226						
J20K	Nowinta River	8.47	346	Pn	Pn	07 26 06.3	+1.8
CCB	Clear Creek Bu	8.63	4		Pn	07 26 06.3	-0.4
L14K	Kuka Creek	8.71	313	Pn	Pn	07 26 09.0	+1.2
J25K	Salcha River,	8.79	11	Pn	Pn	07 26 09.1	+0.2
J25K	Salcha River,	8.79	11	P	Pn	07 26 09.1	+0.2
	baz=195						
IL31		8.81	7		Pn	07 26 09.8	+0.7
ILAR	Eielson Array	8.81	7	Pn	Pn	07 26 10.0	+0.9
WHY	Whitehorse	8.87	53	Pn	Pn	07 26 11.4	+1.3
N31M	Braeburn, Yuko	8.88	47	Pn	Pn	07 26 11.6	+1.4
J26L	Joseph Creek	8.92	16		Pn	07 26 10.5	-0.2
J26L	Joseph Creek	8.92	16	P	Pn	07 26 10.5	-0.2
	baz=201						
MDM	Murphy Dome	8.93	3		Pn	07 26 11.5	+0.6
L29M	L29M	9.05	34		Pn	07 26 13.2	+0.8
L29M	L29M	9.05	34	P	Pn	07 26 13.2	+0.8
	baz=224						
P32M	Atlin	9.05	61	Pn	Pn	07 26 13.0	+0.5
P32M	Atlin	9.05	61	P	Pn	07 26 12.9	+0.4
	baz=254						
U33K	Whale Pass	9.07	83	Pn	Pn	07 26 10.8	-1.9
U33K	Whale Pass	9.07	83	P	Pn	07 26 10.2	-2.6
	baz=277						
M30M	Minto, Yukon	9.13	39		Pn	07 26 13.8	+0.1
M30M	Minto, Yukon	9.13	39	P	Pn	07 26 13.7	+0.1
	baz=230						
CRAG	Craig	9.17	87	P	Pn	07 26 13.1	-1.0
DAWY	Dawson	9.42	28		Pn	07 26 18.6	+1.1
EGAK	Eagle	9.61	21	Pn	Pn	07 26 22.1	+2.0
Q32M	Nakina River	9.63	66	Pn	Pn	07 26 21.5	+0.9
Q32M	Nakina River	9.63	66	P	Pn	07 26 20.7	+0.1
	baz=260						
P33M	Teslin, Yukon	9.66	58	Pn	Pn	07 26 21.5	+0.5
P33M	Teslin, Yukon	9.66	58	P	Pn	07 26 21.4	+0.5
	baz=252						
I26K	Coal Creek Min	9.74	16		Pn	07 26 22.4	+0.6
H21K	Melozitna Rive	9.76	352	Pn	Pn	07 26 22.9	+0.7
H21K	Melozitna Rive	9.76	352	P	Pn	07 26 22.4	+0.2
	baz=168						
K29M	Barlow Dome	9.77	32		Pn	07 26 23.4	+0.9
K29M	Barlow Dome	9.77	32	P	Pn	07 26 23.4	+0.9
	baz=222						
H24K	Noodor Dome	9.82	4	Pn	Pn	07 26 24.3	+1.3
M31M	Drury Creek, Y	9.82	45		Pn	07 26 24.6	+1.5
IMAR	Indian Mountai	10.16	350	Pn	Pn	07 26 27.6	-0.1
R33M	Jennings River	10.37	64	Pn	Pn	07 26 31.5	+0.9
I28M	Miner Creek	10.45	22	Pn	Pn	07 26 33.2	+1.5
J30M	Hart River	10.66	32	Pn	Pn	07 26 36.4	+1.7
DLBC	Dease Lake	10.72	69	Pn	Pn	07 26 35.3	-0.1
I30M	Mount Dempster	11.13	29	Pn	Pn	07 26 43.0	+1.9
H29M	Whitestone	11.45	23	Pn	Pn	07 26 46.0	+0.7
BMAR	Burnt Mountain	11.61	9	Pn	Pn	07 26 47.9	+0.5
G29M	Pine Creek	12.11	22	Pn	Pn	07 26 56.8	+2.5
H31M	Peel River	12.14	30	Pn	Pn	07 26 56.0	+1.4
G31M	Satah River	12.99	27	Pn	Pn	07 27 07.3	+1.0
C23K	Itkillik River	13.82	358	Pn	Pn	07 27 18.1	+0.6
INK	Inuvik	14.25	24	Pn	Pn	07 27 23.6	+0.2

*IDC **03** 07:32:27.9±0.8, 52°.06N×170°.38E, h0km, mb3.8/17, mbtmp3.8/19, ML3.9/2, MS2.9/3, Error ellipse: s-maj=25.7km s-min=13.9km az=172.0*
*NEIC **03** 07:32:30.3±1.6, 52°.1N±0°.1×170°.4E±0°.1, h10km±2km, mb4.1/61, Error ellipse: s-maj=21.0km s-min=9.0km az=207.0*
*KRSC **03** 07:32:32.7±2.1, 52°.14N×169°.45E, h10km±82km, Ml4.2*
ISC 03 07:32:29.9±0.6, **52°.11N**±0°.10×**170°.35E**±0°.05, **h10km**, **n109**, σ1°**08**/110, **mb4.0**/45, **Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	2.38	73	Pn	Pn	07 33 07.2	-1.7
	115nm,0.3s,baz=328,slow=19,SNR=69						
SHEM				Sn	Sn	07 33 34.1	-4.1
	147nm,0.3s,baz=229,slow=22,SNR=90						
SHEM				LR	LR	07 33 51.4	
	comp=Z,90nm,18.9s,baz=116,slow=35						
	313nm,0.3s						
BKI	Bering	4.05	322	eS	Sn	07 34 16.5	-2.8
AMKA	Amchitka	5.61	94	Pn	Pn	07 33 53.9	+0.6
AMKA				Sn	Sn	07 34 49.1	-8.7
TUMD	Tumrok D	6.68	302	eS	Sn	07 35 21.7	-2.4
TUMR	Tumrok	6.84	302	eP	Pn	07 34 11.0	+0.7
KII	Karymskiy	6.85	291	eP	Pn	07 34 10.0	-0.4
KII				eS	Sn	07 35 22.1	-6.3
ZLN	Zelenaya	6.85	309	eS	Sn	07 35 28.0	-0.4
BZGR	Bezymyannyi-Gr	6.86	308	eP	Pn	07 34 10.3	-0.3
UGLR	Uglovaya	7.10	283	eP	Pn	07 34 14.5	+0.7
SMAR	Somma	7.12	284	eP	Pn	07 34 14.3	+0.1
KRER	Koryakskii	7.15	284	eP	Pn	07 34 15.1	+0.4
AVH	Avacha	7.16	284	eP	Pn	07 34 15.1	+0.5
PET	Petropavlovsk	7.19	282	Pn	Pn	07 34 15.1	+0.1
KRX	Arik	7.22	285	eP	Pn	07 34 15.3	-0.2
KOK	Koryaka	7.22	284	eP	Pn	07 34 15.5	0.0
MTVR	Mutnovka	7.47	278	eP	Pn	07 34 18.8	-0.2
MTVR				eS	Sn	07 35 36.6	-7.2
KRMR	Karymshinskiy	7.50	280	eP	Pn	07 34 19.9	+0.7
GRL	Gorelyy	7.54	278	eP	Pn	07 34 21.2	+1.3
ASAK	Asacha	7.65	277	eP	Pn	07 34 21.2	-0.2
ASAK				eS	Sn	07 35 41.4	-6.7
GNL	Ganaly	7.67	287	eP	Pn	07 34 22.7	+1.0
PEA0B	Petropavlovsk-	7.77	282	Pn	Pn	07 34 24.4	+1.4
PEA0B				Sn	Sn	07 35 45.2	-5.8
PETK	Petropavlovsk-	7.77	282	Pn	Pn	07 34 23.3	+0.4
PETK	Petropavlovsk-	7.77	282	Pn	Pn	07 34 23.0	0.0
	2.3nm,0.3s,baz=87,slow=17,SNR=44						
PETK				Sn	Sn	07 35 45.5	-5.4
	0.6nm,0.3s,baz=100,slow=24,SNR=1.4						
	15nm,0.6s						
K13K	Kusilvak Mount	16.68	44	P	Pn	07 36 24.5	+1.1
M14K	Bethel	17.47	49		Pn	07 36 34.9	+1.6
K15K	Wolf Creek Mou	18.17	45		Pn	07 36 41.7	-0.3
N15K	Kwethluk River	18.21	52		Pn	07 36 42.5	0.0
K17K	Iditarod	19.73	45	P	P	07 36 59.6	+0.3
K17K				IAmb	IAmb	07 37 03.0	
	comp=Z,9.5nm,1.2s						
M17K	Holitna River	19.76	49	P	P	07 36 59.7	-0.1
ANCK	Angle Creek	20.28	59	P	P	07 37 06.3	+0.8
L18K	Granite Mounta	20.30	47	P	P	07 37 05.8	+0.1
P18K	Big Mountain,	20.51	56	P	P	07 37 08.2	+0.3
P18K				IAmb	IAmb	07 37 13.0	
	comp=Z,13nm,1.3s						
O18K	Koktuh Hills	20.57	54	P	P	07 37 09.2	+0.7
O18K				IAmb	IAmb	07 37 13.9	
	comp=Z,9.1nm,1.1s						
H18K	Honhosa River	20.59	39	P	P	07 37 08.8	+0.1
H18K				IAmb	IAmb	07 37 35.6	
	comp=Z,16nm,1.5s						
J18K	Innoko River	20.65	44	P	P	07 37 10.0	+0.7
J18K				IAmb	IAmb	07 37 14.8	
	comp=Z,11nm,1.2s						
G18K	Tagagawik	20.80	37	P	P	07 37 11.1	+0.1
G18K				IAmb	IAmb	07 37 12.8	
	comp=Z,6.5nm,0.8s						
SII	Sitkinak Islan	21.00	64	P	P	07 37 12.2	-1.0
N19K	Bonanza Creek	21.06	52	P	P	07 37 14.0	+0.1
L19K	White Mountain	21.13	48	P	P	07 37 14.9	+0.3
L19K				IAmb	IAmb	07 37 20.1	
	comp=Z,17nm,1.5s						
J19K	Poorman	21.27	43	P	P	07 37 16.9	+0.8
Q19K	Cape Douglas,	21.29	57	P	P	07 37 16.0	-0.3
OHAK	Old Harbor	21.46	62	P	P	07 37 16.9	-1.2
OHAK				IAmb	IAmb	07 37 36.0	
	comp=Z,8.4nm,1.1s						
K20K	Telida	21.76	45	P	P	07 37 21.9	+0.6
KDAK	Kodiak Island	21.83	60	P	P	07 37 20.4	-1.6
KDAK	Kodiak Island	21.83	60	P	P	07 37 20.6	-1.5
	comp=Z,2.7nm,0.4s,baz=259,slow=6.4,SNR=13						
KDAK				LR	LR	07 45 38.3	
	comp=Z,39nm,18.9s,baz=292,slow=36						
	comp=Z,2.7nm,0.4s						
SYI	Shuyak Island	21.93	58	P	P	07 37 22.9	-0.2
J20K	Nowinta River	21.95	43	P	P	07 37 23.4	+0.1
D19K	Kuna River	22.25	31	P	P	07 37 26.6	-0.1
D19K				IAmb	IAmb	07 37 32.7	
	comp=Z,12nm,1.2s						
CNPM	China Poot	22.55	56	P	P	07 37 30.4	+0.5
CNPM				IAmb	IAmb	07 37 32.8	
	comp=Z,8.3nm,1.0s						
CAST	Castle Rocks	22.64	45	P	P	07 37 31.1	+0.3
CAST				IAmb	IAmb	07 37 37.3	
	comp=Z,8.6nm,1.3s						
IMAR	Indian Mountai	22.68	38	P	P	07 37 30.2	-0.9
H21K	Melozitna Rive	22.94	40	P	P	07 37 33.8	-0.1
H21K				IAmb	IAmb	07 37 39.6	
	comp=Z,6.1nm,1.2s						
RND	Reindeer	24.07	46	P	P	07 37 44.3	-0.8
RND				IAmb	IAmb	07 37 46.3	
	comp=Z,7.5nm,1.4s						
SML	Sawmill	24.12	50	P	P	07 37 45.5	-0.1
E22K	Anaktuvuk Pass	24.18	34	P	P	07 37 46.0	0.0
E22K				IAmb	IAmb	07 37 50.6	
	comp=Z,2.7nm,0.8s						
D22K	Ayikyak River	24.19	32	P	P	07 37 46.0	-0.1
D22K				IAmb	IAmb	07 37 53.0	
	comp=Z,9.2nm,1.4s						
G23K	Bananza Creek	24.34	38	P	P	07 37 48.3	+0.8
SCM	Sheep Creek Mo	24.60	50	P	P	07 37 50.4	+0.4
MDM	Murphy Dome	24.61	43	P	P	07 37 50.3	+0.2
MDM				IAmb	IAmb	07 37 55.0	
	comp=Z,6.2nm,1.0s						
B22K	Teshekpuk Lake	24.62	29	P	P	07 37 50.1	+0.1
B22K				IAmb	IAmb	07 38 03.1	
	comp=Z,5.7nm,0.9s						
CCB	Clear Creek Bu	24.73	43	P	P	07 37 51.4	+0.4
COLA	College	24.76	43	P	P	07 37 51.3	+0.1
H24K	Noodor Dome	24.95	41	P	P	07 37 52.8	-0.2
TOLK	Toolik Lake Re	25.14	34	P	P	07 37 54.0	-0.7
IL31		25.14	43	P	P	07 37 53.6	-1.1
IL31				IAmb	IAmb	07 38 06.4	
	comp=Z,5.7nm,1.4s						
ILAR	Eielson Array	25.14	43	P	P	07 37 53.4	-1.4
ILAR	Eielson Array	25.14	43	P	P	07 37 54.0	-0.8
	comp=Z,0.9nm,0.5s,baz=248,slow=7.5,SNR=23						
ILAR				LR	LR	07 46 44.7	
	comp=Z,49nm,20.8s,baz=244,slow=34						
	comp=Z,0.9nm,0.5s						
M24K	Tolsona, Glenn	25.16	50	P	P	07 37 54.3	-0.7
C23K	Itkillik River	25.25	31	P	P	07 37 55.2	-0.5
E24K	Your Creek	25.32	35	P	P	07 37 57.8	+1.3
E24K				IAmb	IAmb	07 38 14.3	
	comp=Z,2.4nm,0.8s						
J25K	Salcha River,	25.76	44	P	P	07 37 59.3	-1.2
J25K				IAmb	IAmb	07 38 11.5	
	comp=Z,3.0nm,1.1s						
GLB	Gilahina Butte	26.26	51	P	P	07 38 05.7	+0.6
GLB				IAmb	IAmb	07 38 24.5	
	comp=Z,5.3nm,1.0s						
SCRK	Sand Creek	26.29	45	P	P	07 38 04.5	-0.9
SCRK				IAmb	IAmb	07 38 07.8	
	comp=Z,3.1nm,0.8s						
E25K	Arctic Village	26.39	36	P	P	07 38 06.7	+0.6
E25K				IAmb	IAmb	07 38 19.0	
	comp=Z,6.4nm,1.3s						
D25K	Kavik River	26.45	33	P	P	07 38 05.8	-0.9
D25K				IAmb	IAmb	07 38 13.6	
	comp=Z,2.7nm,0.7s						
J26L	Joseph Creek	26.52	44	P	P	07 38 06.8	-0.6
J26L				IAmb	IAmb	07 38 43.6	
	comp=Z,4.8nm,1.3s						
BMAR	Burnt Mountain	26.59	38	P	P	07 38 08.7	+0.8
K27K	Chicken	27.14	45	P	P	07 38 13.4	+0.6
K27K				IAmb	IAmb	07 38 24.6	
	comp=Z,5.3nm,1.4s						
M27K	Edge Creek, AK	27.18	49	P	P	07 38 13.6	+0.3
M27K				IAmb	IAmb	07 38 22.4	
	comp=Z,5.2nm,1.1s						
L27K	Beaver Creek,	27.21	48	P	P	07 38 13.9	+0.4
BCAR	Beaver Creek A	27.23	48	P	P	07 38 14.9	+1.2
EGAK	Eagle	27.58	44	P	P	07 38 15.9	-0.9
G27K	Doyon Strip	27.60	39	P	P	07 38 16.8	-0.2
E28M	Babbage River	28.68	36	P	P	07 38 27.2	+0.7
E28M				IAmb	IAmb	07 39 11.4	
	comp=Z,3.2nm,1.4s						
H29M	Whitestone	28.84	41	P	P	07 38 27.4	-0.6
G29M	Pine Creek	29.03	40	P	P	07 38 29.5	-0.2
K29M	Barlow Dome	29.14	46	P	P	07 38 31.4	+0.6
K29M				IAmb	IAmb	07 38 36.3	
	comp=Z,4.7nm,1.2s						
HYT	Haines Junctio	29.35	52	P	P	07 38 33.5	+0.8
HYT				IAmb	IAmb	07 38 52.6	
	comp=Z,6.0nm,1.4s						
I30M	Mount Dempster	29.63	43	P	P	07 38 34.6	-0.5
G31M	Satah River	30.51	40	P	P	07 38 43.6	+0.9
G31M				IAmb	IAmb	07 38 57.0	
	comp=Z,4.6nm,1.1s						
YKA	Yellowknife Ar	39.55	45	P	P	07 39 59.7	-0.9
	comp=Z,0.6nm,0.7s,baz=297,slow=8.5,SNR=5.2						
	comp=Z,0.6nm,0.7s						
SONM	Songino Array	40.17	290	P	P	07 40 06.4	+0.3
	comp=Z,0.7nm,0.4s,baz=53,slow=9.2,SNR=2.1						
	comp=Z,0.7nm,0.4s						
HHC	Hu-ho-hao-te	40.95	278	eP	P	07 40 12.6	+0.1
HHC				pP	pP	07 40 17.0	+2.9
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,65nm,4.0s						
LZH	Lanzhou	48.64	278	eP	P	07 41 14.2	+0.2
LZH				sP	sP	07 41 21.5	+5.3
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
SPITS	Spitsbergen Ar	49.01	353	P	P	07 41 16.2	+0.1
	comp=Z,1.5nm,0.6s,baz=27,slow=16,SNR=1.9						
	comp=Z,1.5nm,0.6s						
NVAR	Mina Array Bea	50.05	76	P	P	07 41 25.0	+0.2
	comp=Z,0.4nm,0.6s,baz=288,slow=7.6,SNR=4.8						
	comp=Z,0.4nm,0.6s						
PDAR	Pinedale Array	52.36	66	P	P	07 41 41.6	-0.6
	comp=Z,0.2nm,0.6s,baz=318,slow=2.0,SNR=1.8						
	comp=Z,0.2nm,0.6s						
KURBB	Kurchatov Arra	53.54	308	P	P	07 41 49.6	-0.7
	comp=Z,1.5nm,0.7s,baz=54,slow=7.8,SNR=11						
	comp=Z,1.5nm,0.7s						
MKAR	Makanchi Array	54.11	302	P	P	07 41 54.1	-0.6
	comp=Z,0.2nm,0.5s,baz=39,slow=7.8,SNR=2.3						
	comp=Z,0.2nm,0.5s						
BVAR	Borovoye Array	55.75	314	P	P	07 42 05.8	-0.5
	comp=Z,1.3nm,0.7s,baz=51,slow=9.7,SNR=6.4						
	comp=Z,1.3nm,0.7s						
ARCES	ARCESS Array B	55.98	346	P	P	07 42 07.0	-0.8
	comp=Z,0.6nm,0.6s,baz=45,slow=12,SNR=1.4						
	comp=Z,0.6nm,0.6s						
PZH	PanZhiHua	56.57	271	P	P	07 42 14.8	+2.1
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
CMAR	Chiang Mai Arr	64.25	267	P	P	07 43 05.6	+0.4
	comp=Z,0.9nm,0.3s,baz=26,slow=5.0,SNR=1.1						
	comp=Z,0.9nm,0.3s						
TXAR	Lajitas Array	65.08	74	P	P	07 43 11.2	+0.5
	comp=Z,0.6nm,0.5s,baz=307,slow=5.1,SNR=14						
	comp=Z,0.6nm,0.5s						
NOA	NORSAR Array B	65.98	349	P	P	07 43 16.0	+0.1
	comp=Z,0.4nm,0.5s,baz=16,slow=5.9,SNR=2.3						
	comp=Z,0.4nm,0.5s						
CLL	Collm	75.20	346	i P	P	07 44 15.4	+3.2
WRA	Warramunga Arr	78.32	214	P	P	07 44 28.8	-1.3
	comp=Z,0.7nm,0.8s,baz=25,slow=5.9,SNR=3.8						
	comp=Z,0.7nm,0.8s						
ASAR	Alice Springs	81.91	213	P	P	07 44 48.4	-1.1
	comp=Z,0.5nm,0.7s,baz=21,slow=5.3,SNR=3.2						
	comp=Z,0.5nm,0.7s						
ESDC	Sonseca Array	88.46	356	P	P	07 45 23.8	+1.5
	comp=Z,0.4nm,0.7s,baz=1.1,slow=7.0,SNR=2.1						
	comp=Z,0.4nm,0.7s						

IDC 03 07:33:28.0±3.6, **53°.48N**×**90°.73E**, **h0km**, **mbtmp2.9**/3, **ML2.3**/3, **Error ellipse: s-maj=29.0km s-min=24.4km az=67.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.54	280	I	I	07 54 50.0	
	baz=90,slow=313,SNR=1.7						
ZALV	Zalesovo Beam	3.54	280	Pn	Pn	07 34 26.3	+2.2
	0.6nm,0.3s,baz=99,slow=13,SNR=2.6						
ZALV				Lg	Lg	07 35 20.1	
	0.2nm,0.3s,baz=96,slow=26,SNR=2.0						
	1.4nm,0.3s						
KURBB	Kurchatov Arra	8.04	254	Pn	Pn	07 35 25.6	-0.3
	0.1nm,0.3s,baz=65,slow=15,SNR=6.7						
KURBB				Sn	Sn	07 36 56.0	-1.6
	baz=66,slow=26,SNR=3.1						
KURBB				Lg	Lg	07 37 44.8	
	baz=63,slow=34,SNR=1.6						
	0.9nm,0.7s						
MKAR	Makanchi Array	8.60	222	Pn	Pn	07 35 34.3	+0.6
	0.1nm,0.3s,baz=37,slow=11,SNR=2.3						
MKAR				Sn	Sn	07 37 09.9	-1.5
	0.1nm,0.3s,baz=31,slow=24,SNR=1.4						
MKAR				Lg	Lg	07 38 01.8	
	0.1nm,0.3s,baz=30,slow=30,SNR=1.3						
	0.3nm,0.5s						

NEIC 03 07:45:17.4±0.7, **40°.61N**±0°.02×**106°.41W**±0°.03, **h4km**±**5km**, **mb_Lg2.3**/26, **ML2.6**/68, **Error ellipse: s-maj=2.9km s-min=2.6km az=111.0, Colorado**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
N23A	Red Feather La	0.46	51	Pg	Pg	07 45 27.0	+0.7
N23A				Sg	Sg	07 45 33.5	+1.2
N23A				IAML		07 45 34.3	
	comp=E,505nm,0.2s						
N23A				IAML		07 45 34.3	
	comp=N,398nm,0.1s						
PHWY	Pilot Hill	1.00	46		Pg	07 45 36.4	-0.3
RWWY	Rawlins	1.24	331		Pg	07 45 40.8	-0.5
O20A	White River Ci	1.48	252		Pb	07 45 45.4	-0.2
O20A				IAML		07 46 09.5	
	comp=N,69nm,0.6s						
SMCO	Snowmass	1.49	197		Pn	07 45 45.3	-0.1
Q24A	Divide	1.91	149	Pn	Pb	07 45 52.8	-0.2
Q24A				IAML		07 46 21.5	
	comp=N,44nm,0.2s						
Q24A				IAML		07 46 23.7	
	comp=E,60nm,0.7s						
K22A	Casper	2.05	358	Pn	Pg	07 45 56.8	+0.1
K22A				IAML		07 46 25.8	
	comp=E,66nm,0.2s						
RDMU	Red Mountain	2.41	270	Pn	Pb	07 46 01.9	+0.4
RDMU				IAML		07 46 36.0	
	comp=N,26nm,0.7s						
RDMU				IAML		07 46 39.4	
	comp=E,34nm,1.1s						
RDMU				IAmb_Lg		07 46 40.6	
	comp=Z,13nm,0.8s						
S22A	4UR Ranch, Cre	2.87	187	Pn	Pn	07 46 02.5	-1.9
SDCO	Great Sand Dun	2.94	166	Pn	Pn	07 46 05.3	0.0
SDCO				IAmb_Lg		07 46 55.6	
	comp=Z,5.4nm,1.1s						
P18A	Preston Nutter	3.10	253	Pn	Pb	07 46 12.0	-1.3
P18A				IAML		07 46 57.3	
	comp=N,20nm,0.5s						
BSUT	Blindstream Ca	3.31	270	Pn	Pb	07 46 16.3	-0.7
BSUT				IAmb_Lg		07 47 03.5	
	comp=Z,8.2nm,0.9s						
BSUT				IAML		07 47 05.0	
	comp=N,15nm,1.1s						
BSUT				IAML		07 47 05.4	
	comp=E,13nm,0.6s						
KSCO	Kaye Shedlock'	3.32	117	IAmb_Lg		07 47 12.0	
	comp=Z,7.3nm,0.9s						
OGNE	Ogallala	3.34	83		Pn	07 46 13.8	+3.1
OGNE				IAmb_Lg		07 47 04.4	
	comp=Z,9.9nm,0.8s						
SRU	San Rafael Swe	3.50	246	Pn	Pn	07 46 16.1	+3.3
P17A	Butcher Ranch,	3.51	253	Pn	Pb	07 46 20.0	-0.2
P17A				IAmb_Lg		07 47 09.3	
	comp=Z,13nm,0.8s						
MVCO	Mesa Verde	3.76	206	Pn	Pn	07 46 15.0	-1.5
TCUT	Toone Canyon	3.82	279	Pn	Pn	07 46 15.9	-1.5
TCUT				IAmb_Lg		07 47 21.1	
	comp=Z,6.1nm,0.7s						
JLU	Jordanelle	3.84	272		Pn	07 46 16.3	-1.3
JLU				IAML		07 47 20.9	
	comp=N,8.7nm,0.6s						
JLU				IAML		07 47 32.4	
	comp=E,8.3nm,1.0s						
TMUT	Trail Mountain	3.91	252		Pn	07 46 18.4	-0.2
RSSD	Black Hills	3.93	26	Pn	Pn	07 46 18.6	-0.2
RSSD				IAML		07 47 28.4	
	comp=E,9.8nm,0.6s						
HWUT	Hardware Ranch	4.

Fault plane solution: $M_0$7.76696×10^{20} NP1: ϕ_s107.66000°,δ85.65000°,λ-153.86000°. NP2: ϕ_s15.52000°,δ63.94000°,λ-4.85000°. Principal axes: T Plg14.8880°, Azm238.7130°; N Plg63.5240°, Azm116.4520°; P Plg21.3670°, Azm334.6840°;

ISC 03 08:32:05.0±0.8,24°.10N±0°.01×121°.14E±0°.01,h10km±4km, n121,σ0§58/201,20C-14D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGB	**Renai** baz=139	**0.05**	**145**	⇓*iP*	**Pg**	**08 32 07.3**	**0.0**
CHGB	baz=139			*i* S	**Sg**	**08 32 08.8**	**-0.1**
WUSB	**Renai** baz=188	**0.11**	**192**	⇓*iP*	**Pg**	**08 32 07.8**	**-0.1**
WUSB	baz=188			S	**Sg**	**08 32 09.8**	**-0.1**
WHF	**Hehuan Shan** baz=80	**0.12**	**68**	⇑*iP*	**Pg**	**08 32 08.9**	**+0.7**
WHF	baz=80			S	**Sg**	**08 32 10.4**	**-0.2**
OWD	**Renai** baz=165	**0.15**	**168**	⇓*iP*	**Pg**	**08 32 08.6**	**+0.2**
OWD	baz=165			S	**Sg**	**08 32 10.5**	**-0.3**
TDCB	**Techi** baz=1.0	**0.15**	**5**	⇑*iP*	**Pg**	**08 32 08.5**	**0.0**
TDCB	baz=1.0			S	**Sg**	**08 32 10.7**	**-0.3**
TWT	**Tachien** baz=10.0	**0.15**	**11**	⇑*iP*	**Pg**	**08 32 08.5**	**-0.1**
TWT	baz=10.0			*e*S	**Sg**	**08 32 11.1**	**0.0**
FUSS	**Fushou** baz=35	**0.17**	**32**	⇑*iP*	**Pg**	**08 32 09.0**	**+0.1**
FUSS	baz=35			*e*S	**Sg**	**08 32 11.7**	**+0.1**
WCS	**Beigang Elemen** baz=257	**0.22**	**258**	⇑*iP*	**Pg**	**08 32 09.7**	**+0.2**
WCS	baz=257			S	**Sg**	**08 32 12.7**	**+0.1**
WHP	**Taichung City** baz=321	**0.25**	**314**	⇓*iP*	**Pg**	**08 32 10.6**	**+0.4**
WHP	baz=321			*e*S	**Sg**	**08 32 14.1**	**+0.4**
LXIB	**Xiulin Townshi** baz=108	**0.26**	**108**	⇑*iP*	**Pg**	**08 32 10.8**	**+0.5**
LXIB	baz=108			*i* S	**Sg**	**08 32 14.9**	**+0.9**
SMLT	**Sun Moon Lake** baz=223	**0.31**	**226**	⇑*iP*	**Pg**	**08 32 11.2**	**0.0**
SMLT	baz=223			*e*S	**Sg**	**08 32 14.9**	**-0.6**
VWDT	**VWDT** baz=179	**0.35**	**180**	⇓*iP*	**Pg**	**08 32 11.8**	**-0.1**
VWDT	baz=179			*i* S	**Sg**	**08 32 15.9**	**-0.6**
ETM	**Tongmen** baz=117	**0.35**	**113**	⇓P	**Pg**	**08 32 12.4**	**+0.5**
ETM	baz=117			*e*S	**Sg**	**08 32 17.1**	**+0.6**
SSLB	**Suanglung**	**0.36**	**209**	P	**Pg**	**08 32 11.6**	**-0.5**
SSLB	**Suanglung** baz=200	**0.36**	**209**	⇑*iP*	**Pg**	**08 32 11.5**	**-0.5**
SSLB	baz=200			S	**Sg**	**08 32 15.8**	**-1.1**
ESL	**Shilin** baz=136	**0.39**	**137**	⇓*iP*	**Pb**	**08 32 13.2**	**-0.7**
ESL	baz=136			S	**Sg**	**08 32 17.9**	**+0.1**
NNSB	**Datong** baz=43	**0.39**	**34**	⇑*iP*	**Pg**	**08 32 12.6**	**-0.2**
NNSB	baz=43			*e*S	**Sg**	**08 32 18.0**	**-0.1**
NNS	**Nan Shan** baz=34	**0.40**	**32**	⇑P	**Pg**	**08 32 12.8**	**-0.1**
NNS	baz=34			*e*S	**Sg**	**08 32 17.6**	**-0.6**
TWD	**Chiawan** baz=94	**0.41**	**93**	⇑*iP*	**Pg**	**08 32 13.7**	**+0.5**
TWD	baz=94			S	**Sg**	**08 32 19.4**	**+0.8**
NACB	**Ninganchiao**	**0.42**	**80**	P	**Pg**	**08 32 13.7**	**+0.4**
NACB	**Ninganchiao** baz=75	**0.42**	**80**	⇑*iP*	**Pg**	**08 32 13.6**	**+0.4**
NACB	baz=75			S	**Sg**	**08 32 18.7**	**-0.1**
HWA	**Hwalien** baz=116	**0.44**	**106**	*e*P	**Pb**	**08 32 14.6**	**-0.2**
HWA	baz=116			*i* S	**Sb**	**08 32 20.9**	**-0.6**
ETL	**Fush Village** baz=84	**0.44**	**82**	*e*P	**Pg**	**08 32 14.0**	**+0.4**
ETL	baz=84			*e*S	**Sg**	**08 32 19.8**	**+0.3**
WARBT	**Fenglin Townsh** baz=149	**0.44**	**150**	⇓*iP*	**Pg**	**08 32 14.0**	**+0.3**
WARBT	baz=149			S	**Sg**	**08 32 19.0**	**-0.5**
WJS	**Zhushan** baz=229	**0.47**	**234**	⇑*iP*	**Pb**	**08 32 15.1**	**-0.3**
WJS	baz=229			*e*S	**Sb**	**08 32 22.1**	**-0.3**
WNT	**Mingjian** baz=234	**0.47**	**242**	*e*P	**Pb**	**08 32 15.3**	**-0.1**
WNT	baz=234			*e*S	**Sb**	**08 32 22.9**	**+0.4**
TEYL	**Yanliau Villag** baz=124	**0.48**	**119**	P	**Pg**	**08 32 14.7**	**+0.4**
TEYL	baz=124			*e*S	**Sg**	**08 32 21.3**	**+0.7**
WHYT	**Xinyi Township** baz=206	**0.48**	**213**	*e*P	**Pg**	**08 32 14.2**	**-0.2**
WHYT	baz=206			*e*S	**Sg**	**08 32 21.1**	**+0.3**
SHUL	**Shoufeng** baz=129	**0.49**	**129**	⇓*iP*	**Pb**	**08 32 15.6**	**-0.2**
SHUL	baz=129			*i* S	**Sb**	**08 32 22.6**	**-0.4**
EGFH	**Guangfu** baz=148	**0.50**	**149**	⇑*e*P	**Pg**	**08 32 15.0**	**+0.2**
EGFH	baz=148			*i* S	**Sg**	**08 32 21.0**	**-0.5**
WDJ	**Dajia District** baz=307	**0.52**	**298**	*e*P	**Pb**	**08 32 16.5**	**+0.3**
NFF	**Wufeng Townshi** baz=7.0	**0.53**	**358**	⇓*iP*	**Pg**	**08 32 15.5**	**+0.2**
NFF	baz=7.0			*e*S	**Sb**	**08 32 23.1**	**-1.0**
NMLH	**Miaoli** baz=323	**0.54**	**324**	*e*P	**Pb**	**08 32 16.4**	**-0.1**
NMLH	baz=323			*e*S	**Sb**	**08 32 24.9**	**+0.5**
NSTT	**Nanjuang** baz=348	**0.54**	**346**	*e*P	**Pg**	**08 32 15.8**	**+0.2**
NSTT	baz=348			S	**Sg**	**08 32 23.3**	**+0.6**
LATG	**Datong** baz=41	**0.56**	**39**	⇑*iP*	**Pg**	**08 32 15.5**	**-0.3**
LATG	baz=41			S	**Sg**	**08 32 23.3**	**+0.1**
EAHA	**Aohua** baz=61	**0.59**	**67**	*e*P	**Pg**	**08 32 16.6**	**+0.2**
EAHA	baz=61			*e*S	**Sg**	**08 32 24.7**	**+0.5**
NDT	**Datong Townshi** baz=35	**0.60**	**34**	*e*P	**Pg**	**08 32 16.4**	**-0.3**
NDT	baz=35			*e*S	**Sb**	**08 32 26.5**	**+0.3**
NSK	**Sanguang** baz=21	**0.60**	**19**	⇑*iP*	**Pg**	**08 32 16.4**	**-0.3**
NSK	baz=21			*e*S	**Sg**	**08 32 23.9**	**-0.9**
YHNB	**Yeheng**	**0.60**	**20**	P	**Pg**	**08 32 16.6**	**-0.2**
YHNB	**Yeheng** baz=22	**0.60**	**20**	⇑*iP*	**Pg**	**08 32 16.4**	**-0.3**
YHNB	baz=22			*e*S	**Sg**	**08 32 23.5**	**-1.2**
EHY	**Hungye** baz=163	**0.61**	**164**	⇓*iP*	**Pg**	**08 32 16.9**	**-0.1**
EHY	baz=163			*e*S	**Sg**	**08 32 24.7**	**-0.3**
EHYH	**Wanrong** baz=162	**0.63**	**163**	*i* P	**Pg**	**08 32 17.1**	**-0.1**
EHYH	baz=162			*e*S	**Sg**	**08 32 25.1**	**-0.5**
YUS	**Yu-Shan** baz=203	**0.63**	**196**	*e*P	**Pg**	**08 32 16.6**	**-0.8**
ENA	**Nanau** baz=61	**0.64**	**59**	⇑*iP*	**Pg**	**08 32 17.4**	**+0.1**
ENA	baz=61			*e*S	**Sg**	**08 32 25.4**	**-0.3**
HGSD	**Ruisui** baz=163	**0.66**	**157**	⇓*iP*	**Pb**	**08 32 18.2**	**-0.3**
HGSD	baz=163			*e*S	**Sb**	**08 32 26.9**	**-0.8**
ENTT	**Nioudou** baz=31	**0.66**	**36**	⇑*iP*	**Pg**	**08 32 17.6**	**-0.2**
ENTT	baz=31			*e*S	**Sg**	**08 32 26.7**	**+0.2**
WGK	**Gukeng** baz=230	**0.67**	**232**	*e*P	**Pb**	**08 32 19.2**	**+0.4**
WGK	baz=230			*e*S	**Sb**	**08 32 29.1**	**+0.9**
EWUT	**Wuta** baz=54	**0.67**	**59**	⇑P	**Pg**	**08 32 17.9**	**-0.2**
EWUT	baz=54			*e*S	**Sg**	**08 32 26.6**	**-0.2**
WDLH	**Douliu** baz=232	**0.69**	**234**	*i* P	**Pn**	**08 32 19.7**	**-1.1**
WDLH	baz=232			*e*S	**Sn**	**08 32 30.6**	**-0.9**
SBCB	**Hsinchu** baz=348	**0.70**	**348**	*e*P	**Pb**	**08 32 20.0**	**+0.7**
HSN	**Hsinchu** baz=2.0	**0.72**	**347**	*e*P	**Pn**	**08 32 21.1**	**-0.1**
HSN	baz=2.0			*e*S	**Sb**	**08 32 30.5**	**+1.1**
YULB	**Yu-li**	**0.72**	**169**	P	**Pg**	**08 32 18.5**	**-0.4**
YULB	**Yu-li** baz=159	**0.72**	**169**	⇓*iP*	**Pg**	**08 32 18.5**	**-0.4**
YULB	baz=159			S	**Sg**	**08 32 28.1**	**-0.2**
WRL	**Guolierlin Hig** baz=254	**0.73**	**254**	*e*P	**Pb**	**08 32 20.0**	**+0.2**
NDS	**Dongshan** baz=46	**0.74**	**44**	*e*P	**Pg**	**08 32 19.1**	**-0.3**
NDS	baz=46			*i* S	**Sg**	**08 32 29.7**	**+0.5**
NWLT	**Wulai** baz=27	**0.75**	**26**	*e*P	**Pg**	**08 32 19.0**	**-0.4**
NWLT	baz=27			*e*S	**Sg**	**08 32 28.3**	**-0.9**
TWF1	**Yuli** baz=160	**0.76**	**169**	⇓*iP*	**Pg**	**08 32 19.3**	**-0.3**
TWF1	baz=160			*i* S	**Sg**	**08 32 29.4**	**-0.2**
EYUL	**Yuli** baz=167	**0.77**	**168**	*e*P	**Pg**	**08 32 19.6**	**-0.2**
EYUL	baz=167			*i* S	**Sg**	**08 32 30.0**	**+0.2**
FUSB	**Fushanzhiwuyua** baz=25	**0.77**	**32**	*e*P	**Pg**	**08 32 19.5**	**-0.4**
FUSB	baz=25			*e*S	**Sg**	**08 32 28.3**	**-1.7**
TWE	**Neicheng** baz=36	**0.78**	**38**	*e*P	**Pg**	**08 32 19.8**	**-0.2**
TWE	baz=36			*e*S	**Sg**	**08 32 30.1**	**-0.2**
ESAO	**Su ao** baz=55	**0.80**	**53**	*e*P	**Pg**	**08 32 20.1**	**-0.2**
ESAO	baz=55			S	**Sg**	**08 32 30.5**	**-0.2**
TWC	**Suao** baz=54	**0.82**	**52**	*e*P	**Pg**	**08 32 20.7**	**-0.1**
TWC	baz=54			S	**Sg**	**08 32 31.4**	**-0.1**
WCKO	**Fanlu** baz=215	**0.82**	**217**	*i* P	**Pb**	**08 32 21.6**	**+0.3**
WCKO	baz=215			*e*S	**Sn**	**08 32 33.5**	**-1.4**
WTCT	**Ta-ch'eng** baz=253	**0.82**	**254**	*e*P	**Pn**	**08 32 21.9**	**-0.7**
ECBN	**Changbin** baz=159	**0.83**	**160**	*e*P	**Pn**	**08 32 22.2**	**-0.5**
ECBN	baz=159			*e*S	**Sn**	**08 32 34.7**	**-0.3**
CHN2	**Minshiung** baz=226	**0.83**	**227**	*e*P	**Pn**	**08 32 22.3**	**-0.5**
CHN2	baz=226			*i* S	**Sn**	**08 32 35.0**	**0.0**
NCUH	**Zhongli** baz=4.0	**0.86**	**3**	*e*P	**Pn**	**08 32 23.2**	**0.0**
NCUH	baz=4.0			*e*S	**Sn**	**08 32 35.6**	**-0.2**
FULB	**Fuli** baz=170	**0.91**	**171**	P	**Pb**	**08 32 22.7**	**-0.1**
FULB	baz=170			*i* S	**Sb**	**08 32 35.7**	**+0.7**
ELDTW	**Lidau** baz=182	**0.92**	**187**	*e*P	**Pg**	**08 32 21.2**	**-1.5**
TPUB	**Ta-pu** baz=209	**0.93**	**211**	P	**Pb**	**08 32 23.3**	**+0.2**
TPUB	**Ta-pu** baz=209	**0.93**	**211**	*e*P	**Pb**	**08 32 23.1**	**0.0**
TPUB	baz=209			*e*S	**Sb**	**08 32 35.7**	**+0.2**
TATO	**Taipei** baz=148	**0.93**	**20**	P	**Pb**	**08 32 23.3**	**+0.2**
CHKH	**Chenggong** baz=177	**0.93**	**166**	*e*P	**Pb**	**08 32 23.5**	**+0.2**
EHD	**Haiduan** baz=240	**0.95**	**176**	*e*P	**Pg**	**08 32 22.6**	**-0.7**
WSF	**Szhu** baz=240	**0.96**	**242**	*e*P	**Pn**	**08 32 23.9**	**-0.6**
WSF	baz=240			*i* S	**Sn**	**08 32 38.4**	**+0.2**
TWA	**Mucha** baz=208	**0.96**	**25**	*e*P	**Pg**	**08 32 23.4**	**-0.2**
WTP	**Ta-pu** baz=208	**0.98**	**210**	*e*P	**Pb**	**08 32 24.1**	**+0.1**
WTP	baz=208			*e*S	**Sn**	**08 32 38.2**	**-0.6**
STYH	**Taoyuan** baz=214	**0.99**	**200**	P	**Pg**	**08 32 23.7**	**-0.2**
ECS	**Chishang** baz=176	**1.00**	**176**	*e*P	**Pg**	**08 32 24.0**	**-0.3**
WSL	**Shuilin Townsh** baz=235	**1.02**	**236**	*e*P	**Pn**	**08 32 24.7**	**-0.5**
CHKT	**Chengkung** baz=151	**1.02**	**168**	*e*P	**Pn**	**08 32 25.1**	**-0.2**
CHKT	baz=151			*e*S	**Sn**	**08 32 39.5**	**-0.1**
TWK	**Hsinying** baz=213	**1.02**	**216**	*e*P	**Pn**	**08 32 25.1**	**-0.4**
TWK	baz=213			*e*S	**Sn**	**08 32 40.0**	**+0.1**
TWS1	**Kuangyinshan** baz=29	**1.03**	**14**	*e*P	**Pn**	**08 32 26.2**	**+0.8**
EGS	baz=58	**1.03**	**44**	*e*P	**Pn**	**08 32 25.6**	**+0.1**
EOS2	**EOS2** baz=70	**1.04**	**72**	*e*P	**Pn**	**08 32 26.1**	**+0.6**
SNST	**Tainan City** baz=212	**1.06**	**214**	*e*P	**Pn**	**08 32 25.7**	**-0.1**
SNST	baz=212			*i* S	**Sn**	**08 32 41.3**	**+0.7**
TIPB	**Shuangxi** baz=23	**1.07**	**35**	P	**Pg**	**08 32 25.2**	**-0.4**
CHN1	**Nanshi** baz=222	**1.07**	**212**	*e*P	**Pn**	**08 32 25.9**	**-0.1**
CHN1	baz=222			*i* S	**Sn**	**08 32 41.1**	**+0.1**
EOS3	**EOS3** baz=80	**1.09**	**80**	*e*P	**Pn**	**08 32 27.2**	**+1.1**
YM01	**YM01** baz=20	**1.11**	**20**	*e*P	**Pn**	**08 32 26.6**	**0.0**
NWF	**Wu-fen Shan** baz=43	**1.13**	**31**	*e*P	**Pg**	**08 32 26.6**	**0.0**
NWF	baz=43			*e*S	**Sg**	**08 32 40.7**	**-0.7**
WFSB	**Wu-fen Shan** baz=43	**1.13**	**31**	*e*P	**Pg**	**08 32 26.6**	**-0.1**
WFSB	baz=43			*e*S	**Sg**	**08 32 40.5**	**-0.9**
EDH	**Donghe** baz=155	**1.13**	**172**	*e*P	**Pn**	**08 32 27.4**	**+0.5**
ANP	**Anpu** baz=18	**1.13**	**18**	*e*P	**Pn**	**08 32 27.8**	**+0.8**
SGST	**Jiashian** baz=204	**1.14**	**207**	*i* P	**Pn**	**08 32 26.8**	**-0.2**
SGST	baz=204			S	**Sn**	**08 32 43.1**	**+0.5**
CHN8	**Yiju** baz=227	**1.14**	**229**	*e*P	**Pn**	**08 32 26.9**	**0.0**
CHN8	baz=227			*e*S	**Sn**	**08 32 43.5**	**+1.0**
YM08	**YM08** baz=35	**1.16**	**20**	*e*P	**Pb**	**08 32 26.6**	**-0.4**
YM08	baz=35			*e*S	**Sg**	**08 32 42.5**	**+0.2**
TWB1	**Santiao Chiao** baz=31	**1.19**	**40**	*e*P	**Pn**	**08 32 27.6**	**0.0**
LONT	**Longtian** baz=170	**1.19**	**181**	*e*P	**Pb**	**08 32 26.9**	**-0.8**
TNOU	**National Taiwa** baz=28	**1.19**	**29**	*e*P	**Pg**	**08 32 28.2**	**+0.3**
SLGT	**Liugui** baz=200	**1.19**	**203**	*e*P	**Pg**	**08 32 28.0**	**+0.1**
SLGT	baz=200			*e*S	**Sn**	**08 32 45.0**	**+1.0**
SXI1	**Grass Mountain** baz=22	**1.19**	**34**	*e*P	**Pb**	**08 32 27.6**	**-0.2**
TWY	**Chenhua** baz=32	**1.24**	**19**	*e*P	**Pg**	**08 32 29.2**	**+0.4**
CHN3	**Shinhua** baz=215	**1.25**	**215**	*e*P	**Pg**	**08 32 30.4**	**+1.5**
SCLT	**Jiali** baz=223	**1.27**	**224**	*e*P	**Pg**	**08 32 30.2**	**+0.8**
TWG	**Pinlang** baz=172	**1.28**	**183**	*e*P	**Pn**	**08 32 28.5**	**-0.4**
TWGBT	**Beinan**	**1.28**	**183**	P	**Pn**	**08 32 28.6**	**-0.3**
TWGBT	**Beinan** baz=175	**1.28**	**183**	*e*P	**Pn**	**08 32 28.2**	**-0.7**
TWGBT	baz=175			*e*S	**Sn**	**08 32 46.1**	**0.0**
SHHT	**Tainan City** baz=226	**1.30**	**214**	*e*P	**Pg**	**08 32 30.7**	**+0.8**
SHHT	baz=226			*e*S	**Sg**	**08 32 49.5**	**+2.6**
TSCK	**Chigu Township** baz=237	**1.36**	**226**	*e*P	**Pg**	**08 32 31.5**	**+0.5**
TSCK	baz=237			S	**Sg**	**08 32 51.3**	**+2.7**
TWM1	**Shoushan** baz=203	**1.43**	**208**	*e*P	**Pg**	**08 32 33.0**	**+0.5**
PNG	**Penghu** baz=249	**1.55**	**250**	*e*P	**Pn**	**08 32 32.7**	**+0.2**
PHUB	**P'eng-hu** baz=247	**1.55**	**248**	*e*P	**Pn**	**08 32 32.5**	**-0.1**
PHUB	baz=247			*e*S	**Sn**	**08 32 51.6**	**-1.2**
MASBT	**Mashibuluo** baz=195	**1.56**	**198**	*e*P	**Pb**	**08 32 34.0**	**+0.1**
MASBT	baz=195			*e*S	**Sg**	**08 32 55.7**	**+0.7**
WDGT	**Dungji** baz=237	**1.60**	**239**	*e*P	**Pb**	**08 32 33.7**	**-0.9**
WDGT	baz=237			*i* S	**Sg**	**08 32 55.6**	**-0.8**
EAST	**Anshuo** baz=177	**1.73**	**189**	*e*P	**Pb**	**08 32 37.0**	**+0.2**
YOJ	**Yonaguni jima**	**1.74**	**78**	P	**Pb**	**08 32 36.9**	**-0.1**
YOJ	**Yonaguni jima** baz=95	**1.74**	**78**	*e*P	**Pn**	**08 32 36.1**	**+0.8**
VWUC	**VWUC** baz=300	**1.78**	**300**	*e*P	**Pn**	**08 32 34.9**	**-0.9**
SCZT	**Fangliau** baz=208	**1.79**	**196**	*e*P	**Pb**	**08 32 37.6**	**-0.2**
SCZT	baz=208			*e*S	**Sb**	**08 33 01.0**	**+0.7**
VCHM	**Qimei** baz=240	**1.81**	**241**	*e*P	**Pn**	**08 32 35.7**	**-0.4**
VCHM	baz=240			*i* S	**Sb**	**08 33 00.5**	**-0.3**

IDC 03 08:35:38.1±3.4,53°.61N×87°.89E,h0km,mbtmp3.0/2, ML2.8/2,Error ellipse: s-maj=34.5km s-min=18.2km az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=100,slow=320,SNR=3.5	**1.85**	**282**	I	I	08 46 50.0	
ZALV	**Zalesovo Beam** 2.1nm,0.3s,baz=98,slow=14,SNR=14	**1.85**	**282**	Pn	Pn	08 36 11.5	+0.4
ZALV	2.9nm,0.3s,baz=96,slow=30,SNR=12			Lg	Lg	08 36 36.6	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=61,slow=13,SNR=4.7	**6.49**	**246**	Pn	Pn	08 37 15.4	+0.6
MKAR	**Makanchi Array** 0.7nm,0.3s 0.2nm,0.3s,baz=27,slow=14,SNR=6.4 0.2nm,0.3s	**7.71**	**210**	Pn	Pn	08 37 32.6	+1.0

CATAC 03 08:38:54.3±1.0,15°.48N×84°.94W,h0km,ML4.5, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUTIH	**Juticalpa Olan**	**1.47**	**237**	*i* P	Pn	08 39 16.0	-6.1
JUTIH				*i* S	Sg	08 39 35.6	-6.0
YUSH	**Yuscaran**	**2.38**	**231**	*i* P	Pn	08 39 33.1	-1.6
YUSH				*i* S	Sn	08 40 03.0	-1.7
TGUH	**Tegucigalpa,Un**	**2.66**	**238**	*i* P	Pn	08 39 38.0	-0.6
TGUH				*i* S	Sn	08 40 13.3	+1.7
TGUH	comp=Z,840nm,1.0s			IAML		08 40 23.5	
COMHN	**El Horno**	**2.73**	**248**	*i* P	Pn	08 39 38.8	-0.8
COMHN				*i* S	Sn	08 40 12.7	-0.7
LIMN	**Finca el Limon**	**2.77**	**210**	*i* P	Pb	08 39 43.2	-1.6
BOAB	**BOACO BROADBAN**	**3.09**	**193**	*i* P	Pb	08 39 48.2	-2.0
BOAB				*i* S	Sg	08 40 32.3	-1.4
MARCA	**Marcala la Paz**	**3.27**	**247**	*i* P	Pn	08 39 47.7	+0.8
MARCA				*i* S	Sn	08 40 26.6	0.0
INTHN	**La Esperanza I**	**3.27**	**250**	*i* P	Pn	08 39 47.2	+0.1
INTHN				*i* S	Sn	08 40 29.7	+2.9
ESPN	**Las Esperanzas**	**3.32**	**169**	*i* P	Pb	08 39 50.9	-3.2
ESPN				*i* S	Sb	08 40 38.0	+2.9
CNGN	**Cerro Negro**	**3.42**	**210**	*i* P	Pb	08 39 53.3	-2.5
CNGN				*i* S	Sb	08 40 39.9	+2.0
PKGN	**Cerro Pekin**	**3.42**	**216**	*i* P	Pb	08 39 52.4	-3.4
PKGN				*i* S	Sb	08 40 40.6	+2.7
CNGA	**Al SSO del Vol**	**3.42**	**210**	*i* P	Pn	08 39 52.0	+3.0
CNGA				*i* S	Sb	08 40 40.3	+2.3
PACN	**Al O del Volca**	**3.46**	**212**	*i* P	Pb	08 39 53.9	-2.6
PACN				*i* S	Sb	08 40 41.5	+2.4
WILN	**Americas 2**	**3.51**	**200**	*i* P	Pn	08 39 53.7	+3.5
WILN				*i* S	Sg	08 40 44.0	-3.2
R4DEC	**Barrio San Lui**	**3.54**	**201**	*i* P	Pb	08 39 54.8	-3.1
R4DEC				*i* P	Pn	08 39 55.5	+4.9
R4DEC				*i* S	Sb	08 40 44.5	+3.0
CNCH	**Conchagua**	**3.56**	**232**	*i* P	Pn	08 39 53.7	+2.8
CNCH				*i* S	Sb	08 40 41.6	-0.4
CNCH	comp=Z,810nm,1.0s			IAML		08 40 46.5	
TISN	**Laguna Tiscapa**	**3.56**	**201**	*i* P	Pb	08 39 54.7	-3.4
R0529	**La Mascota**	**3.56**	**201**	*i* P	Pb	08 39 55.0	-3.2
SAPS	**Ciudad Sandino**	**3.58**	**204**	*i* P	Pn	08 39 54.8	+3.7
SAPS				*i* S	Sb	08 40 44.4	+1.8
COPN	**Copaltepe**	**3.65**	**206**	*i* P	Pb	08 39 56.1	-3.6
PAVA	**Las Pavas**	**4.25**	**246**	*i* P	Pn	08 40 01.6	+1.2
PAVA				*i* S	Sb	08 41 01.5	-0.4

IDC 03 08:54:40.6±2.8,15°.31S×174°.90W,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=246.0km s-min=23.4km az=153.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=92,slow=7.2,SNR=7.6 0.2nm,0.6s	**48.46**	**257**	P	P	09 03 25.1	-0.2
ASAR	**Alice Springs** 0.6nm,0.4s,baz=87,slow=7.7,SNR=19 0.6nm,0.4s	**48.77**	**252**	P	P	09 03 27.7	0.0
NVAR	**Mina Array Bea** 0.7nm,0.7s,baz=221,slow=9.5,SNR=6.2 0.7nm,0.7s	**75.23**	**43**	P	P	09 06 25.9	+0.3
TXAR	**Lajitas Array** 0.5nm,0.9s,baz=230,slow=9.5,SNR=4.2 0.5nm,0.9s	**81.76**	**57**	P	P	09 07 01.9	0.0
PDAR	**Pinedale Array** 0.5nm,0.5s,baz=214,slow=3.6,SNR=6.2 0.5nm,0.5s	**83.17**	**42**	P	P	09 07 08.8	-0.3

*IDC **03** 09:20:52.7±0.6,22°.85N×121°.03E,h0km,mb4.2/23, mbtmp4.2/25,ML3.8/2,MS4.0/23,Error ellipse: s-maj=18.7km s-min=13.6km az=66.0*

JMA ***03*** *09:20:53.7±0.2,23°.2N±0°.3×120°.9E±0°.8,h0km,MV4.5/13, MW4.7/13,TAIWAN REGION*
NIED ***03*** *09:20:53.7,23°.19N×120°.90E,h0km,MW4.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.77; $M_{\theta\theta}$1.50; $M_{\phi\phi}$0.28; $M_{r\theta}$0.56; $M_{\theta\phi}$0.02; $M_{\phi r}$-0.51; Fault plane solution: $M_0$1.79000×10^{16} NP1: ϕ_s283.00000°,δ56.00000°,λ-76.00000°. NP2:ϕ_s79.00000°, δ37.00000°,λ-110.00000°.*
ASIES ***03*** *09:20:54.1,23°.16N×120°.90E,h1km,ML4.8,Mw4.6, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}-3.96; $M_{\theta\theta}$2.29; $M_{\phi\phi}$1.60; $M_{r\theta}$-2.77; $M_{\theta\phi}$-6.60; $M_{\phi r}$-4.13; Fault plane solution: $M_0$8.94338×10^{22} NP1: ϕ_s349.92000°,δ64.67000°,λ-36.48000°. NP2:ϕ_s97.47000°, δ57.49000°,λ-149.51000°. Principal axes: T Plg4.4440°, Azm45.1440°; N Plg46.6090°, Azm139.8590°; P Plg43.0460°, Azm310.9810°;*
TAP ***03*** *09:20:54.1,23°.16N×120°.90E,h1km,ML4.8,C*
BJI ***03*** *09:20:54.6±0.0,23°.13N×120°.93E,h6km,mb4.5/65, mB5.0/28,ML4.8/10,Ms4.8/72,Ms7 4.5/71*
NEIC ***03*** *09:20:57.5±2.1,23°.25N±0°.04×120°.92E±0°.06,h10km±1km, mb4.7/135,Mwr4.6/12,Error ellipse: s-maj=9.5km s-min=6.7km az=290.0,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.56; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$-0.08; $M_{r\theta}$-0.32; $M_{\theta\phi}$-0.78; $M_{\phi r}$0.26; Fault plane solution: $M_0$1.02000×10^{16} NP1:ϕ_s266.53000°,δ62.08000°, λ141.21000°. NP2:ϕ_s17.15000°,δ56.39000°,λ34.21000°. Principal axes: T 0.9449, Plg46.0000°, Azm229.0000°; N 0.1398, Plg44.0000°, Azm56.0000°; P -1.0847, Plg3.0000°, Azm323.0000°;*
NEIC ***03*** *09:20:58.2,23°.27N×120°.83E,h10km*
ISC 03 09:20:57.1±0.5,23°.15N±0°.01×120°.92E±0°.01,h14km±3km, n613,σ1§62/695,mb4.6/100,MS4.1/28,62C-29D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ELDTW	**Lidau** baz=68	**0.10**	**66**	⇑*iP*			**Pg**	**09 20 57.3**	**-3.0**
STYH	**Taoyuan** baz=275	**0.13**	**279**	⇓*iP*			**Pg**	**09 20 57.0**	**-3.6**
STYH	baz=275			*i* S			**Sg**	**09 20 59.1**	**-4.0**
STYT	**Tauyuan** baz=270	**0.15**	**275**	⇑*iP*			**Pg**	**09 20 57.4**	**-3.6**
STYT	baz=270			*i* S			**Sg**	**09 20 59.6**	**-3.9**
EHD	**Haiduan** baz=92	**0.27**	**90**	⇑*iP*			**Pg**	**09 21 00.6**	**-2.1**
EHD	baz=92			*i* S			**Sg**	**09 21 04.6**	**-2.0**
ECS	**Chishang** baz=102	**0.28**	**101**	⇑P			**Pg**	**09 21 01.4**	**-1.6**
ECS	baz=102			*i* S			**Sg**	**09 21 06.2**	**-0.9**
SLGT	**Liugui** baz=223	**0.29**	**238**	⇑*iP*			**Pg**	**09 21 00.9**	**-2.4**
SLGT	baz=223			*i* S			**Sg**	**09 21 05.1**	**-2.4**
WTP	**Ta-pu** baz=288	**0.30**	**289**	⇓*iP*			**Pg**	**09 21 00.9**	**-2.4**
WTP	baz=288			*i* S			**Sg**	**09 21 05.6**	**-1.9**
TPUB	**Ta-pu**	**0.30**	**300**	P			**Pg**	**09 21 01.2**	**-2.3**
TPUB	**Ta-pu**	**0.30**	**300**				**Pg**	**09 21 00.8**	**-2.7**
TPUB					Sg		**Sg**	**09 21 06.1**	**-1.7**
TPUB	**Ta-pu** baz=299	**0.30**	**300**	⇓*iP*			**Pg**	**09 21 01.0**	**-2.5**
TPUB	baz=299			*i* S			**Sg**	**09 21 05.6**	**-2.1**
LONT	**Longtian** baz=140	**0.31**	**141**	⇓*iP*			**Pg**	**09 21 01.8**	**-1.8**
LONT	baz=140			*i* S			**Sg**	**09 21 06.6**	**-1.3**
SGST	**Jiashian** baz=244	**0.32**	**258**	⇑*iP*			**Pg**	**09 21 00.4**	**-3.2**
SGST	baz=244			S			**Sg**	**09 21 05.4**	**-2.7**
YUS	**Yu-Shan** baz=23	**0.34**	**5**	⇑*iP*			**Pg**	**09 21 01.3**	**-3.0**
YUS	baz=23			*i* S			**Sg**	**09 21 06.5**	**-2.7**
FULB	**Fuli** baz=72	**0.35**	**82**	⇑P			**Pg**	**09 21 02.8**	**-1.4**
FULB	baz=72			*i* S			**Sg**	**09 21 08.4**	**-0.7**
TWG	**Pinlang**	**0.36**	**157**	Pg			**Pg**	**09 21 02.0**	**-2.3**
TWG	**Pinlang** baz=146	**0.36**	**157**	⇓*iP*			**Pg**	**09 21 02.5**	**-1.8**
TWG	baz=146			*i* S			**Sg**	**09 21 07.7**	**-1.6**
CHN1	**Nanshi** baz=274	**0.36**	**276**	⇓*iP*			**Pg**	**09 21 02.5**	**-2.0**
CHN1	baz=274			*i* S			**Sg**	**09 21 08.5**	**-1.0**
CHN4	**Tsaushan** baz=305	**0.36**	**304**	⇓*iP*			**Pg**	**09 21 02.3**	**-2.2**
CHN4	baz=305			*i* S			**Sg**	**09 21 08.0**	**-1.4**
TWGBT	**Beinan**	**0.36**	**156**	P			**Pg**	**09 21 03.0**	**-1.5**
TWGBT	**Beinan** baz=146	**0.36**	**156**	⇓*iP*			**Pg**	**09 21 02.6**	**-1.9**
TWGBT	baz=146			*i* S			**Sg**	**09 21 07.5**	**-1.9**
SNST	**Tainan City** baz=279	**0.39**	**280**	⇓*iP*			**Pg**	**09 21 03.3**	**-1.7**
SNST	baz=279			*i* S			**Sg**	**09 21 10.2**	**-0.2**
EDH	**Donghe** baz=128	**0.40**	**116**	⇓P			**Pg**	**09 21 03.9**	**-1.1**
EDH	baz=128			*i* S			**Sg**	**09 21 10.6**	**+0.1**
TWF1	**Yuli** baz=63	**0.40**	**60**	⇑*iP*			**Pg**	**09 21 03.0**	**-2.2**
TWF1	baz=63			*i* S			**Sg**	**09 21 08.2**	**-2.5**
WCKO	**Fanlu** baz=328	**0.41**	**315**	⇓*iP*			**Pg**	**09 21 03.2**	**-2.1**
WCKO	baz=328			*i* S			**Sg**	**09 21 09.7**	**-1.1**
TWK	**Hsinying** baz=286	**0.41**	**287**	⇓*iP*			**Pg**	**09 21 03.6**	**-1.8**
TWK	baz=286			*i* S			**Sg**	**09 21 10.1**	**-0.9**
CHKT	**Chengkung** baz=98	**0.41**	**97**	⇑*iP*			**Pg**	**09 21 04.6**	**-0.8**
CHKT	baz=98			S			**Sb**	**09 21 11.8**	**-0.6**
EYUL	**Yuli** baz=64	**0.42**	**62**	⇑P			**Pg**	**09 21 03.3**	**-2.2**
EYUL	baz=64			S			**Sg**	**09 21 09.0**	**-2.2**
YULB	**Yu-li**	**0.42**	**55**	P			**Pg**	**09 21 03.4**	**-2.2**
YULB	**Yu-li**	**0.42**	**55**	Pg			**Pg**	**09 21 02.3**	**-3.3**
YULB					Sg		**Sg**	**09 21 08.8**	**-2.6**
YULB	**Yu-li** baz=58	**0.42**	**55**	⇑*iP*			**Pg**	**09 21 03.1**	**-2.5**
YULB	baz=58			S			**Sg**	**09 21 08.2**	**-3.1**
CHKH	**Chenggong** baz=73	**0.44**	**84**	⇑P			**Pg**	**09 21 04.6**	**-1.3**
TTN	**Taitung** baz=141	**0.45**	**152**	⇓P			**Pg**	**09 21 05.2**	**-0.8**
TTN	baz=141			S			**Sb**	**09 21 12.5**	**-0.7**
SCST	**Cishan** baz=233	**0.47**	**236**	⇑P			**Pg**	**09 21 04.8**	**-1.7**
SCST	baz=233			S			**Sb**	**09 21 13.6**	**-0.4**
SSD	**Sandimen** baz=209	**0.48**	**213**	⇑*iP*			**Pg**	**09 21 03.9**	**-2.8**
SSD	baz=209			*e*S			**Sg**	**09 21 09.5**	**-3.5**
EHY	**Hungye** baz=63	**0.51**	**46**	⇑*iP*			**Pg**	**09 21 04.7**	**-2.6**
CHN3	**Shinhua** baz=263	**0.52**	**262**	P			**Pb**	**09 21 06.9**	**-1.0**
CHN3	baz=263			*e*S			**Sb**	**09 21 16.3**	**+1.0**
ECBN	**Changbin** baz=62	**0.52**	**71**	⇑*e*P			**Pg**	**09 21 06.3**	**-1.0**
ECBN	baz=62			*e*S			**Sb**	**09 21 15.6**	**+0.3**
EHYH	**Wanrong** baz=65	**0.52**	**49**	⇑*iP*			**Pg**	**09 21 04.9**	**-2.5**
SHHT	**Tainan City** baz=257	**0.54**	**256**	⇑*iP*			**Pb**	**09 21 07.7**	**-0.7**
SHHT	baz=257			*e*S			**Sn**	**09 21 18.5**	**-0.8**
WHYT	**Xinyi Township** baz=8.0	**0.55**	**354**	⇑P			**Pg**	**09 21 05.4**	**-2.5**
WHYT	baz=8.0			*i* S			**Sg**	**09 21 13.1**	**-2.1**
ECL	**Taimali** baz=173	**0.55**	**177**	⇑*iP*			**Pg**	**09 21 05.5**	**-2.4**
ECL	baz=173			S			**Sg**	**09 21 12.7**	**-2.5**
CHN2	**Minshiung** baz=313	**0.56**	**313**	⇓*iP*			**Pg**	**09 21 06.9**	**-1.2**
CHN2	baz=313			S			**Sb**	**09 21 16.3**	**-0.2**
TWM1	**Shoushan** baz=228	**0.56**	**235**	⇑*iP*			**Pg**	**09 21 07.2**	**-0.9**
CHY	**Chiayi** baz=308	**0.57**	**307**	*e*P			**Pg**	**09 21 06.9**	**-1.5**
CHY	baz=308			*e*S			**Sb**	**09 21 16.2**	**-0.7**
HGSD	**Ruisui** baz=44	**0.58**	**54**	⇑*iP*			**Pg**	**09 21 06.6**	**-1.8**
HGSD	baz=44			*e*S			**Sb**	**09 21 17.1**	**0.0**
SSHA	**Shanhua** baz=267	**0.58**	**269**	⇓*e*P			**Pb**	**09 21 08.1**	**-0.9**
SSHA	baz=267			*e*S			**Sb**	**09 21 18.0**	**+0.9**
MASBT	**Mashibuluo** baz=210	**0.60**	**206**	⇑*iP*			**Pg**	**09 21 06.1**	**-2.7**
TSPT	**Pingtung City** baz=207	**0.61**	**220**	*e*P			**Pg**	**09 21 07.4**	**-1.7**
WGK	**Gukeng** baz=330	**0.63**	**329**	⇓P			**Pg**	**09 21 08.2**	**-1.2**
WGK	baz=330			S			**Sb**	**09 21 18.3**	**-0.2**
VWDT	**VWDT** baz=22	**0.64**	**19**	⇑*iP*			**Pg**	**09 21 06.5**	**-3.1**
SSLB	**Suanglung**	**0.64**	**3**	P			**Pg**	**09 21 06.8**	**-2.8**
SSLB	**Suanglung**	**0.64**	**3**	Pg			**Pg**	**09 21 06.3**	**-3.3**
SSLB					Sg		**Sg**	**09 21 14.9**	**-3.1**
SSLB	**Suanglung** baz=13	**0.64**	**3**	⇑*iP*			**Pg**	**09 21 06.3**	**-3.3**
SSLB	baz=13			*e*S			**Sg**	**09 21 15.9**	**-2.2**
WDLH	**Douliu** baz=328	**0.64**	**327**	⇓P			**Pg**	**09 21 08.5**	**-1.1**
WDLH	baz=328			*e*S			**Sb**	**09 21 19.3**	**+0.4**
TAI1	**Yung-k'ang** baz=275	**0.65**	**260**	*e*P			**Pb**	**09 21 09.7**	**-0.5**
SCLT	**Jiali** baz=271	**0.67**	**272**	*e*P			**Pg**	**09 21 09.5**	**-0.7**
SCLT	baz=271			*e*S			**Sb**	**09 21 18.8**	**-0.9**
SNJT	**Kaohsiung City** baz=224	**0.67**	**234**	⇑*iP*			**Pb**	**09 21 10.6**	**+0.1**
SNJT	baz=224			*e*S			**Sn**	**09 21 22.8**	**+0.5**
CHN8	**Yiju** baz=286	**0.68**	**287**	⇓*e*P			**Pg**	**09 21 08.8**	**-1.6**
TAI	**Tainan** baz=272	**0.68**	**257**	*e*P			**Pb**	**09 21 10.9**	**+0.1**
TAI	baz=272			*e*S			**Sn**	**09 21 23.2**	**+0.5**
WJS	**Zhushan** baz=348	**0.69**	**345**	P			**Pg**	**09 21 09.4**	**-1.2**
WJS	baz=348			S			**Sb**	**09 21 20.0**	**-0.4**
LDUT	**Ludao** baz=132	**0.69**	**133**	*e*P			**Pg**	**09 21 09.0**	**-1.6**
LDUT	baz=132			*e*S			**Sg**	**09 21 19.7**	**-0.1**
WARBT	**Fenglin Townsh** baz=50	**0.71**	**37**	⇑P			**Pg**	**09 21 07.9**	**-3.1**
SMLT	**Sun Moon Lake** baz=11	**0.73**	**359**	⇑*iP*			**Pg**	**09 21 08.7**	**-2.6**
SMLT	baz=11			S			**Sg**	**09 21 20.7**	**-0.3**
WSL	**Shuilin Townsh** baz=301	**0.74**	**300**	*e*P			**Pg**	**09 21 10.3**	**-1.2**
WSL	baz=301			*e*S			**Sb**	**09 21 21.9**	**+0.3**
TYC	**Yuchr** baz=8.0	**0.75**	**356**	⇑*iP*			**Pg**	**09 21 09.4**	**-2.4**
TYC	baz=8.0			*e*S			**Sb**	**09 21 22.1**	**-0.1**
WNT	**Mingjian** baz=345	**0.76**	**344**	P			**Pg**	**09 21 10.7**	**-1.2**
WNT	baz=345			*i* S			**Sb**	**09 21 22.2**	**-0.1**
EAST	**Anshuo** baz=182	**0.77**	**185**	⇑*iP*			**Pg**	**09 21 09.8**	**-2.2**
EAST	baz=182			S			**Sg**	**09 21 20.0**	**-2.1**
TSCK	**Chigu Township** baz=288	**0.77**	**270**	*e*P			**Pg**	**09 21 11.1**	**-0.9**
TSCK	baz=288			*e*S			**Sn**	**09 21 23.6**	**-1.2**
WNT1	**Nantou City** baz=345	**0.79**	**344**	P			**Pg**	**09 21 11.2**	**-1.1**
WNT1	baz=345			*e*S			**Sb**	**09 21 23.4**	**+0.3**
TAW	**Tawu** baz=179	**0.79**	**182**	⇑P			**Pg**	**09 21 10.0**	**-2.4**
WSF	**Szhu** baz=308	**0.80**	**307**	P			**Pg**	**09 21 10.9**	**-1.8**
WSF	baz=308			S			**Sb**	**09 21 23.0**	**-0.6**
TAWH	**Dawu Township** baz=180	**0.81**	**182**	P			**Pg**	**09 21 10.5**	**-2.3**
TAWH	baz=180			*e*S			**Sg**	**09 21 21.1**	**-2.3**
KAU	**Kaohsiung** baz=219	**0.81**	**224**	*e*P			**Pn**	**09 21 13.9**	**-0.1**
ESL	**Shilin** baz=47	**0.81**	**35**	⇑P			**Pg**	**09 21 09.7**	**-3.2**
SCZT	**Fangliau** baz=187	**0.82**	**200**	⇑*iP*			**Pg**	**09 21 10.5**	**-2.6**
SCZT	baz=187			*e*S			**Sg**	**09 21 21.0**	**-2.9**
OWD	**Renai** baz=20	**0.84**	**16**	⇑*e*P			**Pg**	**09 21 09.8**	**-3.6**
WUSB	**Renai** baz=15	**0.86**	**12**	⇑*e*P			**Pg**	**09 21 10.2**	**-3.5**
WUSB	baz=15			*e*S			**Sb**	**09 21 25.1**	**-0.2**
WPL	**Puli Township** baz=17	**0.86**	**2**	*e*P			**Pg**	**09 21 10.4**	**-3.4**
WYL	**Yuanlin Townsh** baz=340	**0.87**	**339**	P			**Pg**	**09 21 12.3**	**-1.6**
WYL	baz=340			S			**Sb**	**09 21 25.3**	**-0.1**
SHUL	**Shoufeng** baz=45	**0.87**	**43**	⇑*e*P			**Pg**	**09 21 11.8**	**-2.2**
DPDB	**Guoxing** baz=16	**0.88**	**0**	*e*P			**Pg**	**09 21 11.3**	**-2.9**
WRL	**Guolierlin Hig** baz=327	**0.90**	**327**	⇓*e*P			**Pg**	**09 21 12.9**	**-1.6**
WRL	baz=327			S			**Sb**	**09 21 26.5**	**+0.2**
RLNB	**Erlin** baz=326	**0.90**	**325**	⇓P			**Pg**	**09 21 12.8**	**-1.7**
RLNB	baz=326			*i* S			**Sg**	**09 21 25.4**	**-1.0**
WCS	**Beigang Elemen** baz=15	**0.90**	**360**	*e*P			**Pg**	**09 21 12.4**	**-2.3**
WWF	**Wufeng** baz=348	**0.91**	**347**	P			**Pg**	**09 21 13.4**	**-1.4**
WWF	baz=348			S			**Sb**	**09 21 26.9**	**+0.2**
WTCT	**Ta-ch'eng** baz=321	**0.92**	**321**	P			**Pg**	**09 21 12.9**	**-2.0**
WTCT	baz=321			S			**Sb**	**09 21 27.1**	**+0.1**
CHGB	**Renai** baz=28	**0.94**	**14**	⇑*e*P			**Pg**	**09 21 11.6**	**-3.7**
TEYL	**Yanliau Villag** baz=42	**0.95**	**41**	*e*P			**Pg**	**09 21 13.7**	**-1.8**
TEYL	baz=42			*e*S			**Sn**	**09 21 29.0**	**-0.3**
TWP	**Hsiaoliuchiu** baz=211	**0.95**	**213**	⇑P			**Pn**	**09 21 16.3**	**+0.3**
TWP	baz=211			*e*S			**Sn**	**09 21 33.5**	**+4.1**
ETM	**Tongmen** baz=42	**0.97**	**33**	*e*P			**Pg**	**09 21 13.4**	**-2.4**
LXIB	**Xiulin Townshi** baz=42	**0.98**	**28**	⇑*e*P			**Pg**	**09 21 12.6**	**-3.5**
LXIB	baz=42			*e*S			**Sb**	**09 21 29.6**	**+0.7**
TCU	**Taichung** baz=349	**1.02**	**347**	*e*P			**Pg**	**09 21 15.2**	**-1.6**
TCU	baz=349			S			**Sb**	**09 21 30.1**	**+0.3**
HWA	**Hwalien** baz=47	**1.04**	**37**	*e*P			**Pg**	**09 21 14.6**	**-2.5**
WHF	**Hehuan Shan** baz=12	**1.04**	**18**	⇑P			**Pg**	**09 21 13.6**	**-3.7**
WHF	baz=12			*e*S			**Sn**	**09 21 31.8**	**-0.5**
TWD	**Chiawan** baz=56	**1.11**	**34**	⇑*e*P			**Pb**	**09 21 16.0**	**-2.2**
TDCB	**Techi** baz=33	**1.12**	**11**	⇑*e*P			**Pg**	**09 21 14.8**	**-4.0**
TWT	**Tachien** baz=33	**1.12**	**12**	*e*P			**Pg**	**09 21 14.8**	**-4.0**
WHP	**Taichung City** baz=13	**1.12**	**1**	⇑*e*P			**Pg**	**09 21 15.7**	**-3.1**
WHP	baz=13			S			**Sb**	**09 21 33.2**	**+0.3**
SMST	**Manzhou Townsh** baz=168	**1.13**	**184**	*e*P			**Pb**	**09 21 17.1**	**-1.2**
FUSS	**Fushou** baz=16	**1.13**	**15**	*e*P			**Pg**	**09 21 14.9**	**-4.1**
HEN	**Hengchun** baz=180	**1.15**	**188**	*e*P			**Pb**	**09 21 17.8**	**-1.0**
HEN	baz=180			*e*S			**Sn**	**09 21 36.7**	**+2.4**
WDGT	**Dungji** baz=274	**1.16**	**276**	⇓*iP*			**Pb**	**09 21 16.6**	**-2.3**
WDGT	baz=274			*i* S			**Sb**	**09 21 32.2**	**-1.7**
NACB	**Ninganchiao**	**1.19**	**31**	P			**Pb**	**09 21 17.6**	**-1.9**
NACB	**Ninganchiao**	**1.19**	**31**				**Pb**	**09 21 16.4**	**-3.1**
NACB	**Ninganchiao** baz=58	**1.19**	**31**	⇑*iP*			**Pb**	**09 21 16.6**	**-2.9**
SNW	**Nanwan** baz=171	**1.19**	**188**	*e*P			**Pg**	**09 21 20.7**	**+0.6**
ETL	**Fush Village** baz=55	**1.20**	**33**	*e*P			**Pb**	**09 21 17.5**	**-2.1**
TWK1	**Hengchun** baz=183	**1.21**	**185**	⇑*e*P			**Pb**	**09 21 18.4**	**-1.3**
TWK1	baz=183			S			**Sn**	**09 21 38.4**	**+2.7**
TWKBT	**Hengchun** baz=183	**1.21**	**185**	⇑*iP*			**Pb**	**09 21 18.3**	**-1.4**
TWKBT	baz=183			*i* S			**Sn**	**09 21 37.5**	**+1.8**
WDJ	**Dajia District** baz=349	**1.22**	**348**	*e*P			**Pn**	**09 21 19.2**	**-0.6**
WDJ	baz=349			*e*S			**Sn**	**09 21 36.6**	**+0.5**
PHUB	**P'eng-hu** baz=285	**1.29**	**287**	⇓*iP*			**Pn**	**09 21 18.2**	**-2.4**
PHUB	baz=285			*i* S			**Sb**	**09 21 35.8**	**-1.8**
LYUB	**Lan-yu** baz=153	**1.30**	**152**	*e*P			**Pn**	**09 21 16.5**	**-4.3**
PNG	**Penghu** baz=287	**1.32**	**289**	⇓*iP*			**Pn**	**09 21 19.0**	**-2.1**
PNG	baz=287			*i* S			**Sb**	**09 21 36.9**	**-1.6**
NNSB	**Datong** baz=15	**1.34**	**18**	⇑*e*P			**Pn**	**09 21 18.6**	**-3.0**
NNSB	baz=15			*e*S			**Sg**	**09 21 40.0**	**-0.5**
NNSH	**Datong** baz=22	**1.34**	**18**	*e*P			**Pn**	**09 21 18.8**	**-2.7**
NNS	**Nan Shan** baz=19	**1.35**	**18**	*e*P			**Pn**	**09 21 19.1**	**-2.5**
VCHM	**Qimei** baz=272	**1.37**	**273**	*e*P			**Pn**	**09 21 19.4**	**-2.4**
VCHM	baz=272			*e*S			**Sb**	**09 21 37.7**	**-2.2**
NMLH	**Miaoli** baz=356	**1.39**	**355**	*e*P			**Pb**	**09 21 22.4**	**-0.4**
NMLH	baz=356			*e*S			**Sg**	**09 21 41.9**	**0.0**
EAHA	**Aohua** baz=48	**1.40**	**32**	⇑*e*P			**Pn**	**09 21 20.1**	**-2.1**
NSTT	**Nanjuang** baz=340	**1.48**	**3**	*e*P			**Pn**	**09 21 22.8**	**-0.5**
ENA	**Nanau** baz=53	**1.48**	**30**	*e*P			**Pn**	**09 21 21.8**	**-1.5**
NFF	**Wufeng Townshi** baz=352	**1.49**	**7**	*e*P			**Pn**	**09 21 22.3**	**-1.2**
LATG	**Datong** baz=38	**1.49**	**22**	⇑*e*P			**Pn**	**09 21 21.4**	**-2.2**
LATG	baz=38			*e*S			**Sg**	**09 21 45.5**	**+0.3**
LIOB	**Emei** baz=340	**1.49**	**3**	*e*P			**Pn**	**09 21 23.4**	**-0.1**
EWUT	**Wuta** baz=38	**1.51**	**31**	*e*P			**Pn**	**09 21 22.4**	**-1.4**
NJN	**Zhunan** baz=357	**1.53**	**358**	*e*P			**Pn**	**09 21 24.0**	**0.0**
NDT	**Datong Townshi** baz=34	**1.54**	**20**	*e*P			**Pn**	**09 21 22.9**	**-1.3**
NDT	baz=34			*e*S			**Sg**	**09 21 47.7**	**+0.8**
YHNB	**Yeheng**	**1.57**	**15**	P			**Pn**	**09 21 23.9**	**-0.7**
YHNB	**Yeheng**	**1.57**	**15**				**Pn**	**09 21 23.2**	**-1.4**
YHNB	**Yeheng** baz=32	**1.57**	**15**	*e*P			**Pn**	**09 21 22.8**	**-1.8**
YHNB	baz=32			*e*S			**Sg**	**09 21 47.5**	**-0.2**
NSK	**Sanguang** baz=32	**1.57**	**15**	⇑*e*P			**Pn**	**09 21 23.0**	**-1.6**
NSK	baz=32			*e*S			**Sg**	**09 21 47.3**	**-0.5**
NJD	**Zhudong** baz=352	**1.59**	**6**	*e*P			**Pn**	**09 21 25.0**	**+0.2**
NJD	baz=352			S			**Sg**	**09 21 48.2**	**0.0**
ENTT	**Nioudou** baz=23	**1.60**	**22**	*e*P			**Pn**	**09 21 24.0**	**-1.0**
EOS4	**EOS4** baz=75	**1.61**	**53**	*e*P			**Pn**	**09 21 23.3**	**-1.4**
HSN1	**Hsinchu** baz=341	**1.62**	**3**	*e*P			**Pb**	**09 21 26.6**	**-0.3**
SBCB	**Hsinchu** baz=3.0	**1.64**	**2**	*e*P			**Pn**	**09 21 25.4**	**-0.1**
SBCB	baz=3.0			*e*S			**Sg**	**09 21 48.3**	**-1.6**
HSN	**Hsinchu** baz=341	**1.65**	**2**	*e*P			**Pb**	**09 21 26.4**	**-0.9**
NDS	**Dongshan** baz=48	**1.65**	**26**	*e*P			**Pn**	**09 21 25.3**	**-0.4**
ESAO	**Su ao** baz=46	**1.65**	**31**	⇑*e*P			**Pn**	**09 21 24.8**	**-0.9**
TWC	**Suao** baz=34	**1.68**	**30**	⇑P			**Pn**	**09 21 25.8**	**-0.4**
TWC	baz=34			*e*S			**Sg**	**09 21 50.7**	**-0.7**
NWLT	**Wulai** baz=20	**1.71**	**18**	*e*P			**Pn**	**09 21 26.4**	**-0.1**
TWE	**Neicheng** baz=40	**1.71**	**23**	*e*P			**Pn**	**09 21 26.2**	**-0.3**
TWE	baz=40			*e*S			**Sg**	**09 21 51.9**	**-0.2**
EOS3	**EOS3** baz=51	**1.71**	**48**	*e*P			**Pn**	**09 21 25.2**	**-1.1**
FUSB	**Fushanzhiwuyua** baz=22	**1.72**	**21**	⇑P			**Pn**	**09 21 26.5**	**-0.1**
FUSB	baz=22			*e*S			**Sg**	**09 21 51.9**	**-0.5**
EOS2	**EOS2** baz=64	**1.75**	**43**	*e*P			**Pn**	**09 21 25.8**	**-1.1**
ILA	**Ilan** baz=42	**1.78**	**25**	*e*P			**Pb**	**09 21 28.6**	**-0.8**
NCUH	**Zhongli** baz=6.0	**1.83**	**8**	*e*P			**Pb**	**09 21 30.2**	**-0.1**
NCU	**National Centr** baz=6.0	**1.83**	**8**	*e*P			**Pn**	**09 21 27.9**	**-0.2**
NHW	**Xinwu Township** baz=2.0	**1.85**	**4**	*e*P			**Pn**	**09 21 28.0**	**-0.5**
NTY	**Taoyuan** baz=10.0	**1.87**	**11**	*e*P			**Pb**	**09 21 31.1**	**-0.1**
TATO	**Taipei**	**1.89**	**16**	Pn			**Pn**	**09 21 28.8**	**-0.2**
TATO	**Taipei** baz=31	**1.89**	**16**	⇑P			**Pn**	**09 21 29.6**	**+0.6**
TATO	baz=31			S			**Sg**	**09 21 56.2**	**-1.8**

TWA	**Mucha**	**1.92**	**18**	*e*P		**Pn**	**09 21 29.8 +0.4**
	baz=33						
TWA				*e*S		**Sg**	**09 21 58.8 -0.2**
	baz=33						
EGS		**1.93**	**29**	⇑P		**Pn**	**09 21 29.8 +0.4**
	baz=48						
TAP	**Taipei**	**1.96**	**16**	*e*P		**Pb**	**09 21 31.7 -0.8**
	baz=18						
TAP				*e*S		**Sg**	**09 22 00.4 +0.4**
	baz=18						
NHY	**Taipei**	**1.97**	**17**	*e*P		**Pg**	**09 21 33.4 -1.6**
	baz=355						
TIPB	**Shuangxi**	**2.00**	**24**	*e*P		**Pn**	**09 21 30.7 +0.3**
	baz=42						
TIPB				*e*S		**Sg**	**09 21 59.3 -2.0**
	baz=42						
TWS1	**Kuangyinshan**	**2.00**	**13**	*e*P		**Pn**	**09 21 31.2 +0.8**
	baz=29						
TWS1				*e*S		**Sg**	**09 22 01.2 -0.1**
	baz=29						
NTST	**Danshui**	**2.06**	**13**	*e*P		**Pn**	**09 21 32.4 +1.0**
	baz=12						
NWF	**Wu-fen Shan**	**2.07**	**22**	*e*P		**Pn**	**09 21 32.4 +0.9**
	baz=48						
WFSB	**Wu-fen Shan**	**2.07**	**22**	*e*P		**Pb**	**09 21 32.9 -1.6**
	baz=41						
WFSB				*e*S		**Sb**	**09 22 01.4 +1.3**
	baz=41						
YM01	**YM01**	**2.08**	**17**	*e*P		**Pn**	**09 21 31.5 0.0**
	baz=19						
YM01				*e*S		**Sg**	**09 22 01.8 -2.1**
	baz=19						
TWB1	**Santiao Chiao**	**2.09**	**28**	*e*P		**Pn**	**09 21 32.8 +1.1**
	baz=44						
TWB1				*e*S		**Sb**	**09 22 01.2 +0.5**
	baz=44						
ANP	**Anpu**	**2.10**	**15**	*e*P		**Pn**	**09 21 32.6 +0.7**
	baz=14						
YM08	**YM08**	**2.12**	**17**	*e*P		**Pb**	**09 21 34.0 -1.3**
	baz=16						
SXI1	**Grass Mountain**	**2.12**	**24**	*e*P		**Pn**	**09 21 33.6 +1.4**
	baz=5.0						
SXI1				*e*S		**Sb**	**09 22 03.1 +1.4**
	baz=5.0						
TNOU	**National Taiwa**	**2.14**	**21**	*e*P		**Pn**	**09 21 33.5 +1.1**
	baz=3.0						
TNOU				*e*S		**Sb**	**09 22 03.2 +1.2**
	baz=3.0						
TWY	**Chenhua**	**2.21**	**16**	*e*P		**Pb**	**09 21 35.6 -1.1**
	baz=15						
JYNG	**Yonagunijimaku**	**2.26**	**55**	P		**Pn**	**09 21 33.1 -1.0**
JYNG				S		**Sn**	**09 22 03.2 +1.4**
VWUC	**VWUC**	**2.27**	**324**	*e*P		**Pn**	**09 21 31.2 -3.0**
	baz=322						
YOJ	**Yonaguni jima**	**2.32**	**55**	P		**Pn**	**09 21 34.1 -0.7**
YOJ	**Yonaguni jima**	**2.32**	**55**	Pn		**Pn**	**09 21 34.2 -0.7**
YOJ	**Yonaguni jima**	**2.32**	**55**	⇑P		**Pn**	**09 21 33.8 -1.0**
	baz=74						
YOJ	**Yonaguni jima**	**2.32**	**55**	P		**Pn**	**09 21 34.1 -0.7**
YOJ				S		**Sn**	**09 22 03.8 +0.6**
PTMZ	**Houxiangcun**	**2.50**	**319**	⇓*e*P		**Pn**	**09 21 35.2 -2.2**
	baz=317						
KNM	**Kinmen**	**2.60**	**299**	⇓*e*P		**Pn**	**09 21 38.3 -0.4**
	baz=296						
KNMB	**Chin-men Tao**	**2.66**	**300**			**Pn**	**09 21 38.0 -1.6**
KNMB	**Chin-men Tao**	**2.66**	**300**	⇓*e*P		**Pn**	**09 21 37.2 -2.4**
	baz=298						
PCYT	**Pengchaiyu**	**2.68**	**23**	*e*P		**Pb**	**09 21 42.5 -2.4**
	baz=21						
QZH	**Quanzhou**	**2.78**	**310**	⇓*i*Pn		**Pn**	**09 21 38.9 -2.3**
QZH				Pg		**Pb**	**09 21 46.9 +0.4**
QZH				Sn		**Sn**	**09 22 09.4 -5.1**
QZH				smax		smax	
	comp=N,890nm,0.9s						
QZH				smax		smax	
	comp=E,2μm,0.9s						
HATJ	**Hateruma jima**	**2.80**	**71**	*e*S		**Sn**	**09 22 11.6 -3.4**
IRIF	**Iriomote-Funau**	**2.83**	**65**	P		**Pn**	**09 21 41.0 -0.9**
IRIF				*e*S		**Sn**	**09 22 15.5 -0.4**
BBP	**Basco**	**2.87**	**160**	⇑*e*P		**Pb**	**09 21 45.1 -2.9**
BBP				*e*S		**Sn**	**09 22 17.9 +1.2**
ZPLA	**Ao Xicun**	**3.01**	**286**	*e*P		**Pn**	**09 21 42.5 -1.9**
	baz=284						
JKRS	**Kuro-shima**	**3.03**	**68**	S		**Sn**	**09 22 20.7 -0.1**
MATB	**Ma-tsu**	**3.12**	**344**	*e*P		**Pn**	**09 21 44.1 -1.7**
	baz=342						
MSUT	**Lienchiang**	**3.14**	**343**	*e*P		**Pn**	**09 21 45.0 -1.1**
	baz=342						
JIJ	**Ishigaki jima**	**3.19**	**67**	P		**Pn**	**09 21 45.1 -1.8**
JIJ				*e*S		**Sn**	**09 22 23.9 -0.9**
DSXP	**Dongshan**	**3.26**	**281**	*e*P		**Pn**	**09 21 45.9 -1.8**
	baz=278						
MHZQ	**Yeshan**	**3.40**	**330**	*e*P		**Pn**	**09 21 48.4 -1.3**
	baz=326						
JISG	**Ishigakijimahi**	**3.42**	**65**	P		**Pn**	**09 21 48.3 -1.7**
JISG				*e*S		**Sn**	**09 22 28.6 -1.8**
LYJJ	**Jianjiangzhen**	**3.55**	**343**	*e*P		**Pn**	**09 21 50.9 -0.9**
	baz=340						
XPSS	**Dashiqiu**	**3.82**	**350**	*e*P		**Pn**	**09 21 54.8 -0.8**
	baz=346						
JMJ	**Miyako jima 2**	**4.33**	**67**	P		**Pn**	**09 22 02.3 -0.2**
JMJ	**Miyako jima 2**	**4.33**	**67**	*e*P		**Pn**	**09 22 02.4 -0.1**
	baz=74						
SXFK	**Yanhouchang**	**4.39**	**318**	*e*P		**Pn**	**09 22 01.4 -2.0**
	baz=314						
VDOS	**Pratas Island**	**4.59**	**239**	*e*P		**Pn**	**09 22 08.8 +2.7**
	baz=233						
PIP	**Pasuquin**	**4.81**	**183**	⇑*e*P		**Pn**	**09 22 08.5 -0.6**
HKPS	**Hong Kong Po S**	**6.32**	**263**	Pn		**Pn**	**09 22 28.7 -1.2**
JOW	**Kunigami**	**7.61**	**60**	P		**Pn**	**09 22 46.8 -0.9**
JOW	**Kunigami**	**7.61**	**60**	Pn		**Pn**	**09 22 45.6 -2.1**
JOW	**Kunigami**	**7.61**	**60**	Pn		**Pn**	**09 22 45.2 -2.5**
	4.0nm,0.3s,baz=124,slow=17,SNR=12						
JOW				Sn		**Sn**	**09 24 13.8 0.0**
	0.5nm,0.3s,baz=127,slow=25,SNR=1.7 11nm,0.3s						
JOW	**Kunigami**	**7.61**	**60**	*e*P		**Pn**	**09 22 45.2 -2.5**
	baz=78						
CNSH	**ChangSha**	**8.78**	**306**	P		**Pn**	**09 23 01.3 -2.3**
CNSH				S		**Sn**	**09 24 39.9 -2.4**
CNSH				smax		smax	
	comp=N,230nm,1.0s						
CNSH				smax		smax	
	comp=E,360nm,1.2s						
CNSH				LR		LR	
	comp=N,3μm,6.7s						
CNSH				LR		LR	
	comp=E,2μm,6.9s						
CNSH				LR		LR	
	comp=Z,2μm,8.6s						
NJ2	**Nanjing**	**9.05**	**349**	⇑P		**Pn**	**09 23 05.8 -1.6**
NJ2				S		**Sn**	**09 24 48.0 -1.2**
NJ2				pmax		pmax	
	comp=Z,16nm,0.6s						
NJ2				smax		smax	
	comp=N,210nm,1.6s						
NJ2				smax		smax	
	comp=E,290nm,1.8s						
NJ2				LR		LR	
	comp=N,3μm,6.2s						
NJ2				LR		LR	
	comp=E,4μm,8.5s						
NJ2				LR		LR	
	comp=Z,2μm,6.4s						
WHN	**Wuhan**	**9.41**	**323**	P		**Pn**	**09 23 12.1 -0.2**
WHN				*e*S		**Sn**	**09 24 58.2 +0.2**
WHN				LR		LR	
	comp=N,3μm,4.2s						
WHN				LR		LR	
	comp=E,9μm,4.7s						
WHN				LR		LR	
	comp=Z,8μm,4.3s						
JMZ	**Minamidaito 2**	**9.76**	**72**	Pn		**Pn**	**09 23 15.7 -1.3**
GULI	**GuiLin**	**9.86**	**285**	*e*P		**Pn**	**09 23 16.7 -1.8**
QIZ	**Qiongzhong**	**11.12**	**250**	P		**Pn**	**09 23 37.0 +1.2**
QIZ				S		**Sn**	**09 25 43.4 +3.4**
QIZ				pmax		pmax	
	comp=Z,31nm,1.1s						
QIZ				LR		LR	
	comp=N,2μm,21.0s						
QIZ				LR		LR	
	comp=E,1μm,17.7s						
QIZ				LR		LR	
	comp=Z,2μm,16.8s						
QIZ	**Qiongzhong**	**11.12**	**250**	Pn		**Pn**	**09 23 36.5 +0.7**
ENH	**Enshi**	**12.43**	**307**	Pn		**Pn**	**09 23 52.4 -1.4**
JNU	**Nakatsue**	**13.25**	**39**	LR		LR	09 30 16.8
	comp=Z,700nm,19.2s,baz=198,slow=42						
GYA	**Guiyang**	**13.36**	**287**	P		**Pn**	**09 24 06.1 -0.4**
GYA				S		**Sn**	**09 26 38.2 +3.3**
GYA				LR		LR	
	comp=N,1μm,7.6s						
GYA				LR		LR	
	comp=E,2μm,10.9s						
GYA				LR		LR	
	comp=Z,2μm,10.2s						
LYN	**LuoYang**	**13.55**	**329**	*e*P		**Pn**	**09 24 10.7 +1.8**
LYN				PP		**P**	**09 24 22.2 +4.2**
LYN				S		Sn	09 26 49.1 +10
LYN				pmax		pmax	
	comp=Z,23nm,1.2s						
LYN				pmax		pmax	
	comp=Z,330nm,4.6s						
LYN				LR		LR	
	comp=N,4μm,10.3s						
LYN				LR		LR	
	comp=E,3μm,11.3s						
LYN				LR		LR	
	comp=Z,5μm,11.3s						
XAN	**Xi'an**	**15.11**	**319**	⇑P		**Pn**	**09 24 29.6 -0.6**
XAN				sP		P	09 24 36.5 +1.1
XAN				pmax		pmax	
	comp=Z,16nm,1.7s						
XAN				LR		LR	
	comp=N,3μm,9.8s						
XAN				LR		LR	
	comp=E,2μm,10.2s						
XAN				LR		LR	
	comp=Z,3μm,13.0s						
HNS	**HongShan**	**15.18**	**341**	⇓P		**P**	**09 24 33.8 -2.2**
HNS				S		**S**	**09 27 28.9 -6.9**
HNS				pmax		pmax	
	comp=Z,39nm,1.4s						
HNS				LR		LR	
	comp=N,2μm,11.2s						
HNS				LR		LR	
	comp=E,2μm,12.0s						
HNS				LR		LR	
	comp=Z,1μm,15.1s						
KSRS	**Korea Array**	**15.48**	**21**	Pn		**Pn**	**09 24 36.6 +1.6**
	0.3nm,0.3s,baz=207,slow=13,SNR=17						
KSRS				LR		LR	09 31 52.9
	comp=Z,396nm,18.2s,baz=205,slow=42 8.7nm,1.0s						
DL2	**Dalian**	**15.72**	**2**	P		**Pn**	**09 24 35.2 -2.9**
DL2				S		**Sn**	**09 27 29.0 -3.1**
DL2				pmax		pmax	
	comp=Z,40nm,1.8s						
DL2				pmax		pmax	
	comp=Z,510nm,4.0s						
DL2				LR		LR	
	comp=N,1μm,13.5s						
DL2				LR		LR	
	comp=E,2μm,10.9s						
DL2				LR		LR	
	comp=Z,2μm,14.7s						
SLVN	**Son La**	**15.86**	**267**	Pn		**Pn**	**09 24 39.0 -1.1**
TIY	**Taiyuan**	**16.24**	**335**	*e*P		**P**	**09 24 50.4 +2.4**
TIY				pmax		pmax	
	comp=Z,14nm,0.5s						
TIY				LR		LR	
	comp=N,2μm,12.9s						
TIY				LR		LR	
	comp=E,2μm,10.4s						
TIY				LR		LR	
	comp=Z,2μm,15.9s						
KMI	**Kunming**	**16.71**	**280**	⇑P		**P**	**09 24 54.8 +1.4**
KMI				pmax		pmax	
	comp=Z,13nm,1.3s						
KMI				LR		LR	
	comp=N,810nm,7.4s						
KMI				LR		LR	
	comp=E,700nm,13.3s						
KMI				LR		LR	
	comp=Z,610nm,12.4s						
CD2	**Chengdu**	**17.12**	**301**	P		**P**	**09 24 57.7 0.0**
CD2				pmax		pmax	
	comp=Z,50nm,1.1s						
CD2				LR		LR	
	comp=N,3μm,8.1s						
CD2				LR		LR	
	comp=E,1μm,7.2s						
CD2				LR		LR	
	comp=Z,890nm,10.2s						
BJT	**Baijiatuau**	**17.29**	**348**	Pn		**Pn**	**09 24 55.8 -2.3**
BJI	**Beijing**	**17.31**	**348**	P		**P**	**09 25 01.9 +2.2**
BJI				pmax		pmax	
	comp=Z,11nm,1.4s						
BJI				pmax		pmax	
	comp=Z,140nm,6.4s						
BJI				LR		LR	
	comp=N,320nm,12.9s						
BJI				LR		LR	
	comp=E,930nm,14.3s						
BJI				LR		LR	
	comp=Z,440nm,11.4s						
PZH	**PanZhiHua**	**17.72**	**285**	P		**P**	**09 25 05.1 +0.6**
PZH				S		**Sn**	**09 28 19.4 -1.7**
PZH				PcS		**PcS**	**09 33 19.2 +0.9**
PZH				pmax		pmax	
	comp=Z,20nm,0.9s						
PZH				pmax		pmax	
	comp=Z,130nm,4.8s						
PZH				LR		LR	
	comp=N,490nm,15.3s						
PZH				LR		LR	
	comp=E,480nm,10.0s						
PZH				LR		LR	
	comp=Z,420nm,12.4s						
MYLDM	**Lahad Datu**	**18.02**	**188**	Pn		**Pn**	**09 25 06.8 -0.5**
MYLDM				IAmb		IAmb	09 25 34.4
	comp=Z,73nm,1.4s						
SNY	**Shenyang**	**18.76**	**6**	⇓P		**P**	**09 25 10.5 -5.1**
SNY				S		**S**	**09 28 54.1 +5.3**
SNY				pmax		pmax	
	comp=Z,25nm,1.2s						
SNY				pmax		pmax	
	comp=Z,480nm,4.6s						
SNY				LR		LR	
	comp=N,1μm,12.8s						
SNY				LR		LR	
	comp=E,1μm,11.0s						
SNY				LR		LR	
	comp=Z,1μm,12.9s						
CRAI	**Chiangrai**	**19.31**	**265**			**Pn**	**09 25 25.1 +2.2**
HHC	**Hu-ho-hao-te**	**19.33**	**338**	*e*P		**Pn**	**09 25 23.0 -0.1**
HHC				pP		sP	09 25 26.4 -2.2
HHC				*e*S		**Sn**	**09 28 55.2 -4.5**
HHC				sS		S	09 29 02.4 +1.9
HHC				SS		**SnSn**	**09 29 19.4 +5.4**
HHC				pmax		pmax	
	comp=Z,9.0nm,0.6s						
HHC				pmax		pmax	
	comp=Z,230nm,3.9s						
HHC				LR		LR	
	comp=Z,2μm,11.2s						
HHC				LR		LR	
	comp=Z,500nm,12.4s						
HHC				LR		LR	
	comp=Z,2μm,13.4s						
JHJ	**Hachijo jima 2**	**19.35**	**55**	LR		LR	09 32 33.2
	comp=Z,165nm,21.4s,baz=112,slow=36						
LZH	**Lanzhou**	**19.62**	**315**	*e*P		**Pn**	**09 25 26.8 0.0**
LZH				sP		sP	09 25 35.0 +2.9
LZH				pmax		pmax	
	comp=Z,19nm,1.2s						
LZH				pmax		pmax	
	comp=Z,500nm,4.3s						
LZH				LR		LR	
	comp=Z,1μm,8.7s						
LZH				LR		LR	
	comp=Z,2μm,8.1s						
LZH				LR		LR	
	comp=Z,2μm,8.6s						
BTO	**Baotou**	**19.68**	**335**	*e*P		**Pn**	**09 25 29.4 +2.0**
BTO				pP		**sP**	**09 25 33.4 +0.9**
BTO				sP		**pP**	**09 25 36.3 +5.8**
BTO				PP		**PnPn**	**09 25 48.5 +7.4**
BTO				pmax		pmax	
	comp=Z,28nm,1.6s						
BTO				pmax		pmax	
	comp=Z,530nm,8.1s						
BTO				LR		LR	
	comp=Z,4μm,10.3s						
BTO				LR		LR	
	comp=Z,3μm,13.1s						
BTO				LR		LR	
	comp=Z,6μm,12.2s						
PHRA	**Phrae**	**19.88**	**260**	P		**Pn**	**09 25 29.8 0.0**
MAJO	**Matsushiro**	**20.03**	**44**	P		**P**	**09 25 28.1 -1.6**
MJB9	**Matsu-Tunnel**	**20.03**	**44**	P		**P**	**09 25 29.2 -0.5**
MJAR	**Matsushiro Arr**	**20.03**	**44**	P		**P**	**09 25 29.5 -0.2**
	comp=Z,1.4nm,0.6s,baz=228,slow=10,SNR=3.3						
MJAR				LR		LR	09 34 08.3
	comp=Z,329nm,18.4s,baz=224,slow=39 comp=Z,1.4nm,0.6s						
TNCH	**TengChong**	**20.53**	**280**	P		Pn	09 25 37.2 -0.4
TNCH				S		**S**	**09 29 21.8 -3.2**
TNCH				pmax		pmax	
	comp=Z,83nm,1.1s						
TNCH				pmax		pmax	
	comp=Z,390nm,3.0s						
TNCH				LR		LR	
	comp=Z,490nm,7.0s						
TNCH				LR		LR	
	comp=Z,560nm,7.1s						
TNCH				LR		LR	
	comp=Z,500nm,13.0s						
CN2	**Changchun**	**20.93**	**9**	P		Pn	09 25 41.2 -0.7
CN2				S		**S**	**09 29 30.0 -2.3**
CN2				pmax		pmax	
	comp=Z,10.0nm,0.6s						
CN2				LR		LR	
	comp=Z,2μm,14.0s						
CN2				LR		LR	
	comp=Z,1μm,14.0s						
CN2				LR		LR	
	comp=Z,2μm,14.0s						
CHTO	**Chiang Mai**	**20.96**	**262**	P		**P**	**09 25 40.2 +0.3**
CM31	**Chiang Mai Arr**	**21.06**	**261**	P		**P**	**09 25 42.5 +1.6**
CMAR	**Chiang Mai Arr**	**21.06**	**261**	P		**P**	**09 25 41.1 +0.1**
XLT	**XiLinHaoTe**	**21.08**	**350**	*e*P		**P**	**09 25 42.2 +1.2**
XLT				S		**S**	**09 29 38.2 +2.9**
XLT				pmax		pmax	
	comp=Z,12nm,0.9s						
XLT				LR		LR	
	comp=Z,2μm,17.8s						
XLT				LR		LR	
	comp=Z,560nm,13.1s						
TOLI2	**Tolitoli**	**21.91**	**180**	P		**P**	**09 25 50.1 +0.1**
TOLI2				IAmb		IAmb	09 26 24.9
	comp=Z,32nm,0.8s						
SBUM	**Sibu**	**22.24**	**204**	P		**P**	**09 25 54.6 +1.0**
JMM	**Marumori**	**22.48**	**45**	P		**P**	**09 25 56.4 +0.4**
JMM				IAmb		IAmb	09 26 27.3
	comp=Z,32nm,1.3s						
MDJ	**Mudanjiang**	**22.56**	**16**	P		**P**	**09 25 56.7 -0.2**
MDJ				pmax		pmax	
	comp=Z,12nm,1.0s						
MDJ				LR		LR	
	comp=Z,1μm,16.5s						
MDJ				LR		LR	
	comp=Z,2μm,15.1s						
MDJ				LR		LR	
	comp=Z,1μm,14.8s						
USRK	**Ussuriysk Ar.**	**22.89**	**21**	P		**P**	**09 26 01.2 +1.0**
	comp=Z,8.2nm,1.0s,baz=210,slow=10,SNR=6.1						
USRK				LR		LR	09 34 23.8
	comp=Z,288nm,21.1s,baz=195,slow=35 comp=Z,8.2nm,1.0s						
GTA	**Gaotai**	**24.16**	**317**	*e*P		**P**	**09 26 13.1 +0.1**
GTA				pP		sP	09 26 22.4 +2.5
GTA				sS		sS	09 30 38.3 -0.2
GTA				pmax		pmax	
	comp=Z,19nm,1.5s						
GTA				LR		LR	
	comp=Z,490nm,11.6s						
GTA				LR		LR	
	comp=Z,630nm,9.1s						
GTA				LR		LR	
	comp=Z,690nm,11.6s						
GUMO	**Guam**	**24.61**	**109**	LR		LR	09 36 34.4
	comp=Z,52nm,18.0s,baz=26,slow=39						
GOMU	**GeErMu**	**26.05**	**306**	P		**P**	**09 26 31.2 +0.7**
GOMU				pP		sP	09 26 40.2 +2.8
GOMU				sP		pP	09 26 44.8 +9.4
GOMU				pmax		pmax	
	comp=Z,27nm,1.2s						
GOMU				LR		LR	
	comp=Z,1μm,8.1s						
GOMU				LR		LR	
	comp=Z,1μm,8.6s						
GOMU				LR		LR	
	comp=Z,1μm,9.1s						
SHL	**Shillong**	**26.54**	**281**	P		**P**	**09 26 34.8 0.0**
IPM	**Ipoh**	**26.72**	**229**	P		**P**	**09 26 36.4 +0.1**
IPM				IAmb		IAmb	09 26 42.1
	comp=Z,15nm,1.1s						
ULN	**Ulaanbaatar**	**27.04**	**339**	P		**P**	**09 26 38.6 -0.4**
SONM	**Songino Array**	**27.23**	**338**	P		**P**	**09 26 40.6 -0.1**
SONM	**Songino Array**	**27.23**	**338**	P		**P**	**09 26 41.5 +0.8**
	comp=Z,5.0nm,1.2s,baz=159,slow=8.9,SNR=12						
SONM				LR		LR	09 38 48.9
	comp=Z,848nm,19.3s,baz=150,slow=39 comp=Z,5.0nm,1.2s						
LSA	**Lhasa**	**27.40**	**290**	P		**P**	**09 26 44.6 +1.8**
LSA				pmax		pmax	
	comp=Z,11nm,0.9s						
KLR	**Kul'dur**	**27.40**	**16**	LR		LR	09 37 35.0
	comp=Z,413nm,19.9s,baz=198,slow=36						
ASAJ	**Asahikawa**	**27.47**	**35**	LR		LR	09 38 00.5
	comp=Z,529nm,21.0s,baz=223,slow=37						
HEH	**HeiHe**	**27.53**	**9**	*e*P		**P**	**09 26 47.6 +4.4**
HEH				sP		**sP**	**09 26 53.7 +3.6**
HEH				pmax		pmax	
	comp=Z,12nm,1.2s						
HEH				pmax		pmax	
	comp=Z,170nm,3.5s						
HEH				LR		LR	
	comp=Z,590nm,15.6s						
HEH				LR		LR	
	comp=Z,710nm,14.2s						
HEH				LR		LR	
	comp=Z,1μm,14.9s						
KAPI	**Kappang**	**28.02**	**182**	LR		LR	09 38 54.4
	comp=Z,130nm,19.1s,baz=316,slow=39						
WMQ	**Urumqi**	**34.20**	**315**	*e*P		**P**	**09 27 44.2 +1.9**
WMQ				sP		sP	09 27 54.1 +4.9
WMQ				PP		**PP**	**09 28 59.1 -0.6**
WMQ				pmax		pmax	
	comp=Z,20nm,1.1s						
WMQ				LR		LR	
	comp=Z,430nm,15.7s						
WMQ				LR		LR	
	comp=Z,300nm,15.7s						
WMQ				LR		LR	
	comp=Z,160nm,14.9s						
MK31	**Makanchi Array**	**38.92**	**317**	P		**P**	**09 28 23.1 +0.7**
MKAR	**Makanchi Array**	**38.92**	**317**	P		**P**	**09 28 22.4 +0.1**
MKAR	**Makanchi Array**	**38.92**	**317**	P		**P**	**09 28 22.8 +0.4**
	comp=Z,3.5nm,0.8s,baz=112,slow=9.3,SNR=17						
MKAR				PcP		**PcP**	**09 30 32.6 -0.3**
	comp=Z,3.2nm,0.8s,baz=131,slow=4.4,SNR=1.6						
MKAR				LR		LR	09 45 52.0
	comp=Z,313nm,18.5s,baz=115,slow=38 comp=Z,3.5nm,0.8s						
MAKZ	**Makanchi**	**39.12**	**317**	P		**P**	**09 28 24.4 +0.3**
MAKZ				IAmb		IAmb	09 28 52.1
	comp=Z,7.8nm,0.6s						
YAK	**Yakutsk**	**39.32**	**7**	LR		LR	09 46 14.3
	comp=Z,230nm,20.9s,baz=188,slow=38						
TARG	**Taragay, Kyrgy**	**40.35**	**308**	P		**P**	**09 28 34.7 -0.2**
PETK	**Petropavlovsk-**	**40.86**	**33**	P		**P**	**09 28 39.4 +1.0**
PETK	**Petropavlovsk-**	**40.86**	**33**	P		**P**	**09 28 38.3 -0.1**
	comp=Z,2.5nm,0.8s,baz=232,slow=4.9,SNR=5.0						
PETK				LR		LR	09 45 25.6
	comp=Z,260nm,21.2s,baz=232,slow=36 comp=Z,2.5nm,0.8s						
ZAA0	**Zalesovo Array**	**40.98**	**328**	P		**P**	**09 28 39.0 -0.4**
ZALV	**Zalesovo Beam**	**40.98**	**328**	P		**P**	**09 28 39.4 0.0**
ZALV	**Zalesovo Beam**	**40.98**	**328**	P		**P**	**09 28 39.0 -0.4**
	comp=Z,1.9nm,0.4s,baz=117,slow=8.6,SNR=9.8						
ZALV				LR		LR	09 46 38.7
	comp=Z,181nm,18.9s,baz=80,slow=37 comp=Z,1.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**41.25**	**173**	P		**P**	**09 28 40.5 -1.4**
KSH	**Kashi**	**41.27**	**304**	P		**P**	**09 28 45.8 +3.7**
KSH				pmax		pmax	

comp=Z,8.0nm,0.8s
PALK Pallekele 41.72 254 LR LR 09 47 34.2
comp=Z,271nm,18.9s,baz=170,slow=38
MA2 Magadan 42.03 22 P **P 09 28 48.9 +1.0**
MA2 Magadan 42.03 22 LR LR 09 47 08.0
comp=Z,186nm,21.1s,baz=218,slow=37
KURK Kurchatov 42.73 321 P **P 09 28 53.9 +0.2**
KURBB Kurchatov Arra 42.75 321 P **P 09 28 53.9 0.0**
comp=Z,2.7nm,0.9s,baz=122,slow=7.6,SNR=20
comp=Z,2.7nm,0.9s
H11N1 WAKE ISLAND Hy 42.80 86 T T 10 14 08.5
baz=283
H11N2 WAKE ISLAND Hy 42.80 86 T T 10 14 10.7
baz=283
H11N3 WAKE ISLAND Hy 42.81 86 T T 10 14 07.8
baz=283
H11S3 WAKE ISLAND Hy 42.90 87 T T 10 14 19.2
baz=284,slow=75,SNR=23
H11S1 WAKE ISLAND Hy 42.91 87 T T 10 14 13.9
baz=284,slow=75,SNR=12
H11S2 WAKE ISLAND Hy 42.92 87 T T 10 14 14.5
baz=284,slow=75,SNR=12
AAK Ala-Archa 42.95 308 LR LR 09 48 55.3
comp=Z,166nm,19.5s,baz=100,slow=39
MBWA Marble Bar 44.06 182 P **P 09 29 03.9 -0.8**
PSA00 Pilbara Seismi 44.46 181 P **P 09 29 09.4 +1.5**
WB0 Warramunga Arr 44.64 162 P **P 09 29 10.5 +1.2**
WRAB Tennant Creek 44.78 162 P **P 09 29 08.7 -1.8**
WRAB IAmb IAmb 09 29 12.5
comp=Z,14nm,1.1s
WRA Warramunga Arr 44.79 162 P **P 09 29 10.7 +0.1**
WRA Warramunga Arr 44.79 162 P P 09 29 04.0 -6.6
comp=Z,2.9nm,0.8s,baz=340,slow=9.3,SNR=12
comp=Z,2.9nm,0.8s
WB2 Warramunga Arr 44.79 162 P **P 09 29 09.1 -1.5**
WB2 IAmb IAmb 09 29 12.5
comp=Z,8.3nm,0.9s
WR0 Warramunga Arr 44.86 162 P **P 09 29 09.4 -1.8**
WR0 IAmb IAmb 09 29 17.6
comp=Z,6.0nm,0.8s
BTK Batken 45.27 304 P **P 09 29 14.8 +0.4**
BTK IAmb IAmb 09 29 22.9
comp=Z,8.7nm,1.2s
GAR Garm 45.56 302 P **P 09 29 17.6 +0.9**
KK31 Karatay Array 45.91 308 P **P 09 29 20.1 +0.7**
KK31 IAmb IAmb 09 29 21.1
comp=Z,13nm,1.4s
KK31 PcP **PcP 09 30 55.8 -0.5**
KKAR Karatay Array 45.91 308 P **P 09 29 20.0 +0.6**
KKAR PcP **PcP 09 30 56.1 -0.2**
KBL Kabul 46.39 296 P **P 09 29 25.0 +1.5**
SIMJ Simiganj 46.55 302 P **P 09 29 23.9 -0.7**
SIMJ IAmb IAmb 09 29 29.9
comp=Z,6.2nm,1.1s
AS31 Alice Springs 48.22 164 P **P 09 29 37.0 -0.4**
ASAR Alice Springs 48.22 164 P **P 09 29 37.1 -0.4**
ASAR Alice Springs 48.22 164 P **P 09 29 33.3 -4.2**
comp=Z,2.4nm,0.8s,baz=340,slow=8.2,SNR=14
ASAR PcP **PcP 09 31 02.6 -2.0**
comp=Z,1.3nm,0.9s,baz=354,slow=4.7,SNR=3.3
ASAR ScP **ScP 09 34 54.9 -4.0**
comp=Z,0.3nm,0.8s,baz=342,slow=4.9,SNR=2.3
comp=Z,2.4nm,0.8s
BVAR Borovoye Array 48.32 321 P **P 09 29 37.9 -0.1**
BVAR PcP **PcP 09 31 04.3 -0.3**
comp=Z,1.9nm,0.9s,baz=85,slow=18,SNR=9.7
BVAR LR LR 09 51 16.1
comp=Z,0.5nm,0.5s,baz=315,slow=41,SNR=2.0
comp=Z,116nm,19.6s,baz=97,slow=38
comp=Z,1.9nm,0.9s
BRVK Borovoye 48.39 321 P **P 09 29 39.1 +0.6**
HMDM Hanimaadhoo 48.66 258 P **P 09 29 39.4 -1.7**
TIXI Tiksi 48.74 3 LR LR 09 52 16.6
comp=Z,330nm,18.6s,baz=202,slow=38
SHEM Shemya Is, Ala 49.78 40 LR LR 09 49 56.0
comp=Z,89nm,21.9s,baz=328,slow=35
NRIK Noril'sk 50.34 345 P **P 09 29 52.5 -0.6**
NRIK IAmb IAmb 09 29 56.1
comp=Z,7.8nm,1.1s
NRIK Noril'sk 50.34 345 P **P 09 29 52.2 -0.9**
comp=Z,3.7nm,0.8s,baz=86,slow=4.8,SNR=3.9
NRIK LR LR 09 51 24.5
comp=Z,183nm,19.8s,baz=150,slow=36
comp=Z,3.7nm,0.8s
HRA Herat 52.01 296 P **P 09 30 07.3 +0.7**
HRA IAmb IAmb 09 30 08.1
comp=Z,14nm,1.4s
ABKAR Akbulak array 53.99 315 P **P 09 30 20.8 +0.2**
ABKAR IAmb IAmb 09 30 25.4
comp=Z,14nm,1.4s
GEYT Alibeck 55.11 301 P **P 09 30 29.8 +0.8**
comp=Z,4.5nm,0.8s,baz=104,slow=4.7,SNR=9.0
comp=Z,4.5nm,0.8s
GYA0B ALIBECK ARRAY 55.11 301 P **P 09 30 30.2 +1.1**
AKTO Aktyubinsk 55.34 316 LR LR 09 55 46.1
comp=Z,166nm,19.5s,baz=118,slow=38
ARU Arti 55.79 323 P **P 09 30 33.7 +0.2**
ARU IAmb IAmb 09 30 43.1
comp=Z,11nm,1.0s
ARU Arti 55.79 323 LR LR 09 56 02.1
comp=Z,130nm,18.2s,baz=100,slow=38
STKA Stephens Creek 58.18 159 P **P 09 30 47.4 -3.3**
comp=Z,3.0nm,0.9s,baz=209,slow=7.1,SNR=3.0
comp=Z,3.0nm,0.9s
TNA Tin City 61.37 27 P **P 09 31 13.2 +0.9**
baz=263
F14K Arctic Creek 62.02 27 P **P 09 31 18.5 +1.8**
baz=265
K13K Kusilvak Mount 62.53 31 P **P 09 31 21.3 +1.2**
baz=268
C16K Lisburne Hills 62.69 24 P **P 09 31 22.6 +1.5**
baz=264
DZM Mont Dzumac 63.12 132 *e*LR LR 09 50 14.7
comp=Z,110nm,23.9s
L14K Kuka Creek 63.46 32 P **P 09 31 29.4 +3.2**
L14K Kuka Creek 63.46 32 P **P 09 31 27.9 +1.6**
baz=270
D17K Noatak River 63.49 24 P **P 09 31 27.9 +1.5**
baz=266
H16K Elim 63.70 28 P **P 09 31 29.1 +1.2**
baz=269
M14K Bethel 63.81 32 P **P 09 31 30.1 +1.5**
baz=271
K15K Wolf Creek Mou 64.00 31 P **P 09 31 30.6 +0.7**
baz=271
I17K Unalakleet 64.37 29 P **P 09 31 33.7 +1.5**
baz=271
J16K Anvik River 64.42 29 P **P 09 31 33.8 +1.2**
baz=271
E18K Tukpahlearik C 64.43 25 P **P 09 31 34.2 +1.6**
baz=269
M15K Kasigluk River 64.44 32 P **P 09 31 33.6 +0.9**
baz=272
H17K Granite Mounta 64.70 28 P **P 09 31 35.1 +0.6**
baz=271
N15K Kwethluk River 64.76 33 P **P 09 31 36.1 +1.2**
baz=273
F18K Selawik 64.80 26 P **P 09 31 35.8 +0.8**
baz=270
C19K Lookout Ridge 64.84 23 P **P 09 31 36.4 +1.0**
baz=269
O15K Ungalikthiuk R 64.95 34 P **P 09 31 37.4 +1.3**
baz=274
L16K Owhat River 64.99 31 IAmb IAmb 09 31 41.5
comp=Z,5.0nm,1.1s
L16K Owhat River 64.99 31 P **P 09 31 37.9 +1.5**
baz=273
J17K VABM Dome 65.10 29 IAmb IAmb 09 31 43.1
comp=Z,4.5nm,0.8s
J17K VABM Dome 65.10 29 P **P 09 31 37.5 +0.4**
baz=272
G18K Tagagawik 65.21 26 P **P 09 31 38.8 +1.1**
baz=271
M16K Timber Creek 65.27 32 pP 09 31 42.0 -1.5
M16K Timber Creek 65.27 32 P **P 09 31 39.3 +1.1**
baz=273
D19K Kuna River 65.38 24 P **P 09 31 40.4 +1.5**
D19K Kuna River 65.38 24 P **P 09 31 40.0 +1.1**
baz=271
N16K Nishlik Lake 65.40 32 P **P 09 31 40.2 +1.1**
baz=274
K17K Iditarod 65.49 30 P **P 09 31 40.5 +0.9**
K17K IAmb IAmb 09 31 51.8
comp=Z,7.3nm,1.1s
K17K Iditarod 65.49 30 P **P 09 31 40.9 +1.3**
baz=273
L17K Donlin 65.52 31 P **P 09 31 41.7 +1.9**
baz=274
F19K Shaleruckik Mo 65.54 25 P **P 09 31 41.9 +2.1**
baz=272
B20K Meade River 65.70 22 P **P 09 31 43.0 +2.3**
baz=271
E19K Redstone River 65.73 25 P **P 09 31 42.5 +1.4**
baz=272
O16K Kokwok River B 65.80 33 P **P 09 31 43.1 +1.4**
baz=275
P16K Nushagak River 65.90 34 P **P 09 31 43.9 +1.7**
baz=275
D20K Etivluk River 65.92 23 P **P 09 31 44.0 +1.7**
baz=272
CHGN Chignik 65.94 37 P **P 09 31 44.3 +1.8**
baz=276
KBZ Khabaz 65.94 309 P **P 09 31 41.5 -1.2**
comp=Z,4.3nm,1.0s,baz=131,slow=2.6,SNR=6.4
comp=Z,4.3nm,1.0s
M17K Holitna River 65.98 31 pP 09 31 47.3 -0.8
M17K Holitna River 65.98 31 P **P 09 31 44.4 +1.6**
baz=275
E20K Nigu River 66.10 24 P **P 09 31 44.1 +0.6**
baz=273,SNR=6.1
H19K Roundabout Mou 66.14 27 P **P 09 31 44.4 +0.8**
baz=274
J18K Innoko River 66.16 29 P **P 09 31 45.3 +1.4**
baz=274
N17K Nushagak Hills 66.18 32 pP 09 31 48.3 -1.0
N17K Nushagak Hills 66.18 32 P **P 09 31 45.9 +1.9**
baz=275
L18K Granite Mounta 66.27 30 IAmb IAmb 09 31 49.2
comp=Z,6.5nm,1.2s
L18K Granite Mounta 66.27 30 P **P 09 31 46.8 +2.2**
baz=275
O17K Koliganek Bris 66.29 33 P **P 09 31 44.1 -0.6**
baz=276
F20K Avaraart Lake 66.34 25 P **P 09 31 45.1 +0.2**
baz=274
A22K Sinclair Lake 66.40 21 P **P 09 31 45.7 +0.4**
baz=272
C21K Knifeblade Rid 66.56 23 P **P 09 31 46.9 +0.5**
baz=274
B21K Ikpikpuk River 66.60 22 P **P 09 31 47.2 +0.6**
B21K Ikpikpuk River 66.60 22 P **P 09 31 47.0 +0.4**
baz=274
J19K Poorman 66.60 29 P **P 09 31 47.6 +0.8**
J19K IAmb IAmb 09 31 50.4
comp=Z,6.6nm,1.1s
J19K Poorman 66.60 29 P **P 09 31 47.5 +0.8**
baz=275
Q16K King Salmon 66.63 34 P **P 09 31 47.9 +1.0**
baz=276
M18K Stony River 66.75 31 P **P 09 31 48.5 +0.8**
baz=276
H20K Anotleneega Mo 66.79 27 P **P 09 31 49.0 +1.1**
baz=275
N18K Kilae Creek 66.80 32 P **P 09 31 48.4 +0.3**
baz=276
R17L Mt. Peulik Vol 66.91 35 P **P 09 31 49.6 +0.8**
baz=277
E21K Killik River 66.91 24 P **P 09 31 49.0 +0.3**
baz=275
B22K Teshekpuk Lake 66.96 22 P **P 09 31 49.7 +0.8**
baz=274
I20K Naaghedeneel 67.03 28 P **P 09 31 49.7 +0.3**
baz=276
Q17K Contact Creek 67.08 35 P **P 09 31 50.1 +0.1**
baz=277
L19K White Mountain 67.13 30 IAmb IAmb 09 31 54.5
comp=Z,7.7nm,1.2s
L19K White Mountain 67.13 30 P **P 09 31 50.9 +0.8**
baz=276
F21K Alatna River 67.20 25 P **P 09 31 51.3 +0.8**
baz=276
O18K Koktuh Hills 67.23 33 IAmb IAmb 09 31 55.2
comp=Z,6.8nm,1.1s
O18K Koktuh Hills 67.23 33 P **P 09 31 51.8 +1.0**
baz=277
J20K Nowinta River 67.23 28 IAmb IAmb 09 31 58.5
comp=Z,5.7nm,1.2s
J20K Nowinta River 67.23 28 P **P 09 31 51.7 +0.9**
baz=276
G21K Allakaket 67.26 26 P **P 09 31 52.3 +1.4**
G21K IAmb IAmb 09 31 55.0
comp=Z,9.5nm,1.2s
G21K Allakaket 67.26 26 P **P 09 31 52.0 +1.1**
baz=276
P18K Big Mountain, 67.28 33 P **P 09 31 51.9 +0.8**
baz=277
ANCK Angle Creek 67.29 35 P **P 09 31 51.5 +0.2**
D22K Ayikyak River 67.34 23 P **P 09 31 52.4 +1.0**
D22K Ayikyak River 67.34 23 P **P 09 31 52.5 +1.1**
baz=276
K20K Telida 67.36 29 P **P 09 31 51.9 +0.3**
K20K IAmb IAmb 09 32 26.6
comp=Z,10nm,1.5s
K20K Telida 67.36 29 P **P 09 31 52.3 +0.8**
baz=277
M19K Big River Lodg 67.38 31 P **P 09 31 53.1 +1.4**
baz=277
N19K Bonanza Creek 67.47 32 P **P 09 31 53.0 +0.6**
baz=277
Q18K Katmai Hardscr 67.49 34 P **P 09 31 53.3 +0.8**
baz=278
L20K Farewell, AK 67.55 30 P **P 09 31 53.3 +0.5**
baz=277
H21K Melozitna Rive 67.63 27 IAmb IAmb 09 31 57.4
comp=Z,8.5nm,1.2s
H21K Melozitna Rive 67.63 27 P **P 09 31 53.0 -0.2**
baz=277,SNR=6.4
F22K John River 67.67 25 P **P 09 31 54.1 +0.7**
baz=277
E22K Anaktuvuk Pass 67.74 24 P **P 09 31 54.4 +0.5**
E22K IAmb IAmb 09 31 57.9
comp=Z,9.5nm,1.2s
E22K Anaktuvuk Pass 67.74 24 P **P 09 31 54.6 +0.6**
baz=277
R18K Karluk 67.93 35 P **P 09 31 55.1 -0.1**
baz=279
C23K Itkillik River 67.97 22 P **P 09 31 55.3 0.0**
baz=277
M20K Styx River 67.97 31 P **P 09 31 54.7 -0.8**
M20K IAmb IAmb 09 32 00.1
comp=Z,4.9nm,1.1s
M20K Styx River 67.97 31 P **P 09 31 55.9 +0.3**
baz=278
G22K Bettles 68.00 25 P **P 09 31 56.1 +0.6**
baz=277
I21K Tanana 68.03 27 P **P 09 31 55.4 -0.4**
I21K IAmb IAmb 09 32 00.3
comp=Z,7.8nm,1.4s
I21K Tanana 68.03 27 P **P 09 31 56.5 +0.7**
baz=278
D23K Nanushuk River 68.05 23 P **P 09 31 57.1 +1.3**
baz=277
CHUM Lake Minchumin 68.07 28 P **P 09 31 56.8 +0.8**
baz=278
H22K Ishtalitna Cre 68.19 26 P **P 09 31 57.3 +0.5**
baz=278
CAST Castle Rocks 68.23 29 P **P 09 31 58.8 +1.7**
CAST IAmb IAmb 09 32 00.6
comp=Z,11nm,1.4s
CAST Castle Rocks 68.23 29 P **P 09 31 58.2 +1.1**
baz=278
PPLA Purkeypile 68.26 29 P **P 09 31 58.0 +0.6**
baz=278
RAYN Ar Rayn 68.42 287 P **P 09 31 59.8 +0.8**
TOLK Toolik Lake Re 68.49 23 P **P 09 31 59.6 +1.0**
baz=278
E23K Chandalar 68.56 24 P **P 09 31 59.8 +0.7**
baz=279
MLY Manley 68.58 27 P **P 09 32 00.5 +1.3**
MLY IAmb IAmb 09 32 03.4
comp=Z,11nm,1.5s
MLY Manley 68.58 27 P **P 09 31 60.0 +0.7**
baz=279
OHAK Old Harbor 68.61 36 P **P 09 32 00.3 +0.8**
baz=280
G23K Bananza Creek 68.61 25 P **P 09 32 00.6 +1.2**
G23K IAmb IAmb 09 32 03.5
comp=Z,8.1nm,1.3s
G23K Bananza Creek 68.61 25 P **P 09 32 00.1 +0.6**
baz=279
BPAW Bear Paw Mtn. 68.61 28 P **P 09 32 00.9 +1.5**
BPAW IAmb IAmb 09 32 04.2
comp=Z,9.3nm,1.4s
BPAW Bear Paw Mtn. 68.61 28 P **P 09 31 59.9 +0.4**
baz=279
C24K Franklin Bluff 68.64 22 P **P 09 31 59.4 -0.1**
baz=279
D24K Happy Valley 68.68 23 IAmb IAmb 09 32 01.9
comp=Z,4.3nm,0.8s
D24K Happy Valley 68.68 23 P **P 09 32 00.6 +0.8**
baz=279
SKT Skwentna 68.71 30 P **P 09 32 00.6 +0.5**
baz=279
KDAK Kodiak Island 68.89 35 P **P 09 32 01.5 +0.3**
baz=280
H23K Yukon River 68.94 26 P **P 09 32 02.5 +1.0**
baz=280
E24K Your Creek 68.98 24 P **P 09 32 02.7 +0.9**
baz=280
I23K Minto, Yukon-K 69.14 27 P **P 09 32 03.4 +0.8**
baz=280
SUA Susitna One 69.16 31 P **P 09 32 03.4 +0.4**
baz=280
F24K Squaw Lake 69.30 24 IAmb IAmb 09 32 07.0
comp=Z,6.4nm,1.1s
F24K Squaw Lake 69.30 24 P **P 09 32 04.4 +0.7**
baz=280
NEA2 Nenana 69.36 27 P **P 09 32 05.4 +1.3**
NEA2 IAmb IAmb 09 32 07.0
comp=Z,8.5nm,1.2s
NEA2 Nenana 69.36 27 P **P 09 32 05.0 +1.0**
baz=280,SNR=6.4
M22K Willow 69.40 31 P **P 09 32 05.4 +1.1**
baz=281
BRSE Bradley Lake S 69.48 33 P **P 09 32 05.2 +0.3**
baz=281
JOF Joensuu 69.48 331 *e*P **P 09 32 05.3 +0.5**
D25K Kavik River 69.51 22 IAmb IAmb 09 32 08.0
comp=Z,5.2nm,1.1s
D25K Kavik River 69.51 22 P **P 09 32 06.0 +1.0**
baz=281
MCK McKinley 69.57 28 P **P 09 32 05.9 +0.5**
baz=281
G24K Hadweenzic Riv 69.61 25 P **P 09 32 06.4 +0.8**
baz=281
H24K Noodor Dome 69.62 26 IAmb IAmb 09 32 10.2
comp=Z,7.8nm,1.4s
H24K Noodor Dome 69.62 26 P **P 09 32 06.7 +1.0**
baz=281
MDM Murphy Dome 69.64 27 P **P 09 32 06.7 +0.9**
MDM IAmb IAmb 09 32 08.9
comp=Z,6.8nm,1.2s
WRH Wood River Hil 69.79 27 IAmb IAmb 09 32 11.0
comp=Z,6.7nm,1.2s
C26K Camden Bay 69.90 22 P **P 09 32 08.2 +0.9**
baz=282
PMR Palmer 69.90 31 P **P 09 32 07.7 +0.3**
baz=282
SEW Seward 70.04 32 P **P 09 32 08.9 +0.6**
baz=282
E25K Arctic Village 70.05 23 P **P 09 32 09.0 +0.7**
baz=282
F25K Christian Rive 70.13 24 P **P 09 32 09.8 +1.0**
baz=282
G25K Bearman Lake 70.13 25 P **P 09 32 09.8 +1.1**
baz=282
SML Sawmill 70.23 30 P **P 09 32 10.5 +1.0**
baz=282
ILAR Eielson Array 70.24 27 P **P 09 32 07.5 -2.0**
comp=Z,0.2nm,0.6s,baz=289,slow=5.5,SNR=3.5
comp=Z,0.2nm,0.6s
HDA Harding Lake 70.29 27 P **P 09 32 10.5 +0.7**
HDA Harding Lake 70.29 27 P **P 09 32 10.2 +0.4**
baz=282
WAT6 Susitna Watana 70.33 29 P **P 09 32 10.6 +0.3**
baz=282
H25L Birch Creek 70.35 25 P **P 09 32 11.5 +1.4**
baz=283
C27K Jago River 70.37 22 P **P 09 32 10.9 +0.8**
baz=284
DHY Denali Highway 70.39 29 P **P 09 32 11.4 +0.8**
baz=282
ARCES ARCESS Array B 70.40 338 P **P 09 32 10.5 +0.1**
comp=Z,1.6nm,0.8s,baz=46,slow=6.9,SNR=4.2
comp=Z,1.6nm,0.8s
SPITS Spitsbergen Ar 70.44 348 P **P 09 32 10.1 -0.4**
comp=Z,2.5nm,0.7s,baz=61,slow=13,SNR=1.9
comp=Z,2.5nm,0.7s
M23K Glacier View 70.51 30 P **P 09 32 10.9 -0.3**
baz=283
BMAR Burnt Mountain 70.57 24 P **P 09 32 12.4 +0.9**
PRP Porcupine Dome 70.64 26 P **P 09 32 11.4 -0.7**
baz=283
F26K Sheenjek River 70.67 24 P **P 09 32 12.2 +0.2**
baz=284
SCM Sheep Creek Mo 70.69 30 P **P 09 32 13.5 +1.2**
SCM Sheep Creek Mo 70.69 30 P **P 09 32 13.2 +0.9**
baz=283
J25K Salcha River, 70.91 27 P **P 09 32 14.2 +0.6**
baz=284
K24K Donnelly Dome 70.93 28 P **P 09 32 14.7 +1.0**
baz=284
G26K Porcupine Rive 70.98 25 P **P 09 32 14.7 +0.8**
baz=284
GLI Glacier Island 71.01 31 P **P 09 32 13.8 -0.5**
baz=284
P23K Montague Islan 71.07 32 P **P 09 32 14.7 +0.1**
baz=284
M24K Tolsona, Glenn 71.15 30 P **P 09 32 15.4 +0.2**
baz=284
PAX Paxson 71.26 29 P **P 09 32 16.8 +0.9**
baz=284
D27M Malcolm River 71.40 22 P **P 09 32 17.5 +0.9**
baz=286
KLU Klutina 71.42 30 P **P 09 32 17.1 +0.3**
baz=284
E27K Coleen River 71.47 23 P **P 09 32 18.3 +1.3**
baz=286
I26K Coal Creek Min 71.65 26 P **P 09 32 19.1 +1.0**
baz=285
SCRK Sand Creek 71.65 28 P **P 09 32 19.7 +1.5**
baz=285
J26L Joseph Creek 71.69 27 P **P 09 32 19.3 +0.9**
baz=285
Q23K Middleton Isla 71.73 33 P **P 09 32 19.6 +1.1**
baz=285
G27K Doyon Strip 71.83 24 P **P 09 32 20.2 +1.0**
G27K Doyon Strip 71.83 24 P **P 09 32 19.8 +0.7**
baz=286
N25K Chitina, Valde 72.00 30 P **P 09 32 20.6 +0.3**
baz=285
H27K Steamboat Moun 72.04 25 P **P 09 32 21.1 +0.7**
baz=287
MENT Mentasta 72.05 29 P **P 09 32 20.0 -0.5**
MENT IAmb IAmb 09 32 23.0
comp=Z,5.7nm,1.2s
E28M Babbage River 72.08 22 P **P 09 32 21.3 +0.7**
baz=288
D28M Stokes Point 72.14 22 P **P 09 32 20.4 -0.5**
baz=288
L26K Log Cabin Wild 72.18 28 P **P 09 32 21.7 +0.4**
baz=286
I27K Kandik River 72.19 26 P **P 09 32 21.6 +0.3**
baz=287
FINES FINESS Array B 72.21 330 P **P 09 32 21.3 -0.1**
FINES FINESS Array B 72.21 330 P **P 09 32 20.4 -1.0**
comp=Z,4.1nm,0.8s,baz=79,slow=7.2,SNR=14
comp=Z,4.1nm,0.8s
F28M Old Crow 72.26 23 P **P 09 32 22.4 +0.7**
F28M IAmb IAmb 09 32 25.3
comp=Z,6.2nm,1.1s
F28M Old Crow 72.26 23 P **P 09 32 22.3 +0.6**
baz=288
RAGM Ragged Mountai 72.29 31 P **P 09 32 20.9 -1.1**
GLB Gilahina Butte 72.41 30 P **P 09 32 22.5 -0.2**
GLB IAmb IAmb 09 32 26.3
comp=Z,11nm,1.3s
K27K Chicken 72.45 27 P **P 09 32 23.3 +0.5**
baz=287
M26K Nabesna, AK 72.51 29 IAmb IAmb 09 32 26.3
comp=Z,9.0nm,1.1s
M26K Nabesna, AK 72.51 29 P **P 09 32 23.6 +0.3**
baz=286
KEF Keuruu 72.56 331 *e*P **P 09 32 24.5 +1.0**
EGAK Eagle 72.61 26 P **P 09 32 24.5 +0.7**
EGAK Eagle 72.61 26 P **P 09 32 24.0 +0.2**
baz=287
VRDI Verde Repeater 72.64 30 P **P 09 32 24.5 +0.2**
VRDI IAmb IAmb 09 32 27.6
comp=Z,6.4nm,1.1s
E29M Blow River 72.72 22 P **P 09 32 24.4 0.0**
E29M Blow River 72.72 22 P **P 09 32 24.8 +0.4**
baz=289

L27K Beaver Creek, 72.84 28 P P 09 32 27.0 +1.8
L27K IAmb IAmb 09 32 28.8
comp=Z,6.8nm,1.1s
L27K Beaver Creek, 72.84 28 P P 09 32 26.1 +0.9
baz=287,SNR=9.2
I28M Miner Creek 72.90 26 IAmb IAmb 09 32 33.4
comp=Z,9.3nm,1.5s
I28M Miner Creek 72.90 26 P P 09 32 26.6 +0.9
baz=288
M27K Edge Creek, AK 73.03 29 P P 09 32 27.0 +0.5
baz=287
G29M Pine Creek 73.17 24 IAmb IAmb 09 32 41.6
comp=Z,7.9nm,1.1s
G29M Pine Creek 73.17 24 P P 09 32 27.5 +0.5
baz=289
H29M Whitestone 73.27 25 P P 09 32 27.9 +0.3
baz=289
NOR Nord 73.34 354 *i* P **P 09 32 28.5 +0.6**
NOR IAmb IAmb 09 32 29.8
comp=Z,2.2nm,1.0s
MEF Metsahovi 73.35 329 *e*P **P 09 32 28.6 +0.4**
DAWY Dawson 73.56 27 P **P 09 32 30.3 +0.8**
DAWY Dawson 73.56 27 P P 09 32 29.4 -0.1
baz=289
BRTR Keskin Array B 73.59 307 P P 09 32 30.1 -0.1
BRTR Keskin Array B 73.59 307 P P 09 32 30.4 +0.2
comp=Z,1.4nm,1.0s,baz=126,slow=6.3,SNR=6.0
comp=Z,1.4nm,1.0s
CTG Chitna Glacier 73.69 30 P P 09 32 30.4 0.0
baz=288
CTGM Chitina Glacie 73.70 30 P P 09 32 31.8 +1.3
CTGM IAmb IAmb 09 32 33.6
comp=Z,5.3nm,0.9s
F30M Barrier River 73.74 23 P P 09 32 30.8 +0.4
baz=291
G30M tAoh Zraii Nji 73.81 24 IAmb IAmb 09 32 33.5
comp=Z,10.0nm,1.1s
G30M tAoh Zraii Nji 73.81 24 P P 09 32 30.9 0.0
baz=291
EPYK Eagle Plains 73.84 24 IAmb IAmb 09 32 32.6
comp=Z,5.7nm,1.1s
EPYK Eagle Plains 73.84 24 P P 09 32 31.1 0.0
baz=291
YUK3 Moose Creek 73.84 29 P P 09 32 31.4 0.0
baz=289
MTSE Matsula 74.09 327 *e*P **P 09 32 32.9 +0.4**
INK Inuvik 74.27 22 IAmb IAmb 09 32 36.2
comp=Z,6.6nm,1.1s
INK Inuvik 74.27 22 P P 09 32 33.5 +0.1
baz=293
I30M Mount Dempster 74.38 25 IAmb IAmb 09 32 39.2
comp=Z,6.0nm,1.1s
I30M Mount Dempster 74.38 25 P P 09 32 34.2 -0.1
baz=291
K29M Barlow Dome 74.42 27 P P 09 32 35.1 +0.5
K29M Barlow Dome 74.42 27 P P 09 32 34.6 0.0
baz=291
L29M L29M 74.42 28 IAmb IAmb 09 32 40.9
comp=Z,9.9nm,1.3s
L29M L29M 74.42 28 P P 09 32 34.4 -0.1
baz=290,SNR=5.7
M29M Somme Creek 74.50 28 P P 09 32 36.2 +1.1
M29M Somme Creek 74.50 28 P P 09 32 35.1 0.0
baz=290,SNR=5.6
F31M Tsiigehtchic 74.53 23 P P 09 32 36.6 +1.6
F31M IAmb IAmb 09 32 38.7
comp=Z,10nm,1.3s
F31M Tsiigehtchic 74.53 23 P P 09 32 34.5 -0.5
baz=293
G31M Satah River 74.54 23 P P 09 32 34.7 -0.4
baz=293
J30M Hart River 74.64 26 P P 09 32 35.7 -0.1
baz=292
H31M Peel River 74.95 24 P P 09 32 37.9 +0.3
baz=293
PABE Paberze 75.04 324 *e*P **P 09 32 38.8 +0.6**
M30M Minto, Yukon 75.18 28 P **P 09 32 38.4 -0.5**
baz=292,SNR=7.5
N30M Aishikik Lake 75.46 29 IAmb IAmb 09 32 44.1
comp=Z,7.0nm,1.1s
N30M Aishikik Lake 75.46 29 P P 09 32 41.2 +0.6
baz=292
HYT Haines Junctio 75.51 30 P P 09 32 41.1 +0.2
baz=292
P29M Windy Craggy 75.84 31 P P 09 32 42.8 +0.1
baz=292
N31M Braeburn, Yuko 76.03 29 P P 09 32 44.6 +0.8
baz=293
O30N Mendenhall 76.17 30 IAmb IAmb 09 32 47.9
comp=Z,6.8nm,1.1s
O30N Mendenhall 76.17 30 P P 09 32 45.0 +0.4
baz=293
M31M Drury Creek, Y 76.36 28 P P 09 32 46.4 +0.8
baz=294
WHY Whitehorse 76.76 29 P P 09 32 48.7 +0.6
baz=294
C36M Paulatuk 76.86 19 P P 09 32 48.7 +0.5
baz=301
BUR08 Bucovina Ar. S 76.94 316 P P 09 32 50.1 +0.8
BUR08 IAmb IAmb 09 33 02.6
comp=Z,8.5nm,1.3s
BURAR Bucovina Array 76.94 316 P P 09 32 49.5 +0.2
SKAG Skagway 77.04 31 P P 09 32 50.0 +0.6
SKAG IAmb IAmb 09 32 53.5
comp=Z,8.8nm,1.2s
SKAG Skagway 77.04 31 P P 09 32 50.2 +0.7
baz=294
MLR Muntele Rosu 77.19 314 P P 09 32 51.2 +0.4
MLR IAmb IAmb 09 32 57.0
comp=Z,10nm,1.3s
S31K Pelican 77.20 32 P P 09 32 51.4 +1.0
baz=293
DAG Danmarks Havn 77.35 351 *i* P **P 09 32 50.0 -0.9**
DAG IAmb IAmb 09 32 52.5
comp=Z,2.6nm,1.1s
P32M Atlin 77.73 30 P P 09 32 52.8 -0.7
P32M IAmb IAmb 09 33 37.4
comp=Z,6.2nm,1.2s
P32M Atlin 77.73 30 P P 09 32 53.6 +0.1
baz=295
P33M Teslin, Yukon 77.88 29 P P 09 32 55.0 +0.6
P33M Teslin, Yukon 77.88 29 P P 09 32 54.9 +0.6
baz=296
SIT Sitka 78.01 33 P P 09 32 56.0 +1.1
baz=294
HFS Hagfors 78.35 331 P P 09 32 56.2 -0.6
comp=Z,7.8nm,1.1s,baz=104,slow=3.1,SNR=6.7
comp=Z,7.8nm,1.1s
NC405 NORSAR Array S 78.77 332 P P 09 32 58.5 -0.6
NC303 NORSAR Array S 78.87 332 P P 09 32 59.8 +0.1
NC303 IAmb IAmb 09 33 06.8
comp=Z,8.7nm,1.1s
NB201 NORSAR Array S 78.98 332 P P 09 32 59.5 -0.8
NB2 NORSAR Subarra 79.02 332 P P 09 32 59.3 -1.2
comp=Z,9.2nm,1.2s,baz=62,slow=5.6
NOA NORSAR Array B 79.02 332 P P 09 32 59.4 -1.1
comp=Z,6.3nm,1.1s,baz=61,slow=5.5,SNR=6.6
comp=Z,6.3nm,1.1s
R33M Jennings River 79.08 30 P P 09 33 01.1 +0.1
baz=297
OJC Ojcow 79.31 320 P P 09 33 02.7 +0.5
OJC IAmb IAmb 09 33 08.3
comp=Z,9.7nm,0.9s
NEEM North Greenlan 79.51 358 *i* P **P 09 33 01.4 -1.9**
NEEM IAmb IAmb 09 33 13.7
comp=Z,8.3nm,0.8s
DBG Daneborg 79.57 350 *i* P **P 09 33 02.5 -0.7**
DBG IAmb IAmb 09 33 06.0
comp=Z,3.4nm,1.1s
RES Resolute Bay 79.72 9 P P 09 33 04.6 +0.6
RES IAmb IAmb 09 33 06.5
comp=Z,12nm,1.1s
DLBC Dease Lake 79.96 30 P P 09 33 06.4 +0.6
baz=298
VYHS Vyhne 80.58 319 *e*P **P 09 33 09.8 +0.6**
V35K Ketchikan 80.62 34 P **P 09 33 08.7 -0.5**
MORC Moravsky Berou 80.82 320 P **P 09 33 10.4 -0.1**
MORC Moravsky Berou 80.82 320 *e*P **P 09 33 10.9 +0.4**
JAVC Velka Javorina 81.13 319 *e*P **P 09 33 14.0 +1.8**
MODS Modra-Piesok 81.57 319 *e*P **P 09 33 17.0 +2.5**
VRAC Vranov 81.58 320 *e*P **P 09 33 15.3 +0.8**
KRUC Moravsky 81.80 320 *e*P **P 09 33 16.4 +0.7**
TOAD Toad River Com 81.92 29 P **P 09 33 16.6 +0.4**
baz=302
CLL Collm 82.73 323 *e*P **P 09 33 22.0 +1.5**
comp=Z,16nm,1.5s
CLL AMS AMS 10 15 00.0
comp=N,200nm,18.5s
CLL AMS AMS 10 15 00.0
comp=E,100nm,21.0s
KHC Kasperske Hory 83.42 321 P **P 09 33 24.7 +0.5**
KHC IAmb IAmb 09 33 25.4
comp=Z,4.8nm,1.0s
GEC2 GERESS Array S 83.48 321 P **P 09 33 24.8 +0.2**
GEC2 IAmb IAmb 09 33 27.5
comp=Z,7.3nm,1.1s
GERES GERESS Array B 83.48 321 P **P 09 33 24.8 +0.2**
GERES GERESS Array B 83.48 321 P **P 09 33 24.6 0.0**
comp=Z,2.6nm,0.8s,baz=61,slow=11,SNR=5.4
comp=Z,2.6nm,0.8s
SUMG Summit 83.50 354 P **P 09 33 25.9 +1.4**
SUMG Summit 83.50 354 *i* P **P 09 33 22.6 -2.0**
SUMG IAmb IAmb 09 33 26.8
comp=Z,4.6nm,1.0s
YKA Yellowknife Ar 84.01 23 P **P 09 33 26.8 -0.1**
comp=Z,2.4nm,1.0s,baz=313,slow=5.2,SNR=9.8
comp=Z,2.4nm,1.0s
STAL STALIGIAL 85.30 319 P **P 09 33 32.8 -0.9**
NRCA Norcia 86.69 315 P **P 09 33 38.4 -2.4**
ICESG Greenland Ices 86.95 353 *i* P **P 09 33 42.2 +0.4**
ICESG IAmb IAmb 09 33 44.3
comp=Z,6.2nm,1.0s
NEW Newport 91.99 35 P **P 09 34 05.6 +0.1**
baz=309
PPT2 Papeete2 96.31 106 *e*LR LR 10 05 43.3
comp=Z,56nm,23.8s
TBI Tubuai 98.54 112 *e*LR LR 10 06 46.1
comp=Z,894nm,32.2s
TBI *e*LR LR 10 06 46.4
comp=Z,919nm,27.2s

*NEIC **03** 09:22:00.7±1.1, 19°.407N±0°.007×155°.287W±0°.007, h2km±2km, Error ellipse: s-maj=1.1km s-min=0.9km az=168.0*
HVO 03 09:22:00.2±1.0, **19°.416N**±0°.008×**155°.279W**±0°.007, **h0**km±3km, **ML3.9**/9, **ML3.3**/28(NEIC), **Error ellipse: s-maj=1.3km s-min=0.7km az=216.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**292**		Pg	09 22 01.2	+0.8
UWB	**Uwekahuna B**	**0.01**	**4**		Pg	09 22 01.1	+0.6
SBLHI	**Steaming Bluff**	**0.01**	**41**		Pg	09 22 01.6	+1.0
UWE	**Uwekahuna**	**0.01**	**292**		Pg	09 22 01.0	+0.4
BYL	**Byron's Ledge**	**0.02**	**101**	Pg	Pg	09 22 01.1	+0.4
BYL				Sg	Sg	09 22 01.7	+0.8
HATHI	**Halema'uma'u T**	**0.02**	**66**	Pg	Pg	09 22 01.0	+0.4
KKO	**Keanakako'i**	**0.02**	**146**		Pg	09 22 02.0	+1.3
RIM	**Rim**	**0.02**	**168**		Pg	09 22 01.9	+1.3
WRMHI	**West Rim**	**0.02**	**246**		Pg	09 22 01.9	+1.3
SDHHI	**Sand Hill**	**0.03**	**209**		Pg	09 22 02.4	+1.7
RSD	**Rainshed**	**0.05**	**1**	Pg	Pg	09 22 01.7	+0.5
RSD				IAML		09 22 02.4	
	comp=E,23μm,0.6s						
RSD				IAML		09 22 02.5	
	comp=N,29μm,0.3s						
PUH	**Pauahi**	**0.07**	**125**	Pg	Pg	09 22 02.5	+0.9
PUH				IAML		09 22 03.8	
	comp=E,13μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.11**	**109**	Pg	Pg	09 22 02.5	+0.3
HLP	**Hilina Pali**	**0.12**	**193**	Pg	Pg	09 22 02.6	+0.1
HLP				IAML		09 22 06.5	
	comp=N,14μm,1.1s						
HLP				IAML		09 22 06.6	
	comp=E,14μm,0.7s						
STCH	**Steam Cracks**	**0.15**	**102**	Pg	Pg	09 22 03.0	0.0
STCH				IAML		09 22 06.5	
	comp=E,8μm,1.1s						
STCH				IAML		09 22 07.3	
	comp=N,7μm,0.5s						
NPOC	**North of Pu'u**	**0.16**	**98**		Pg	09 22 04.1	+0.8
NPOC					Sg	09 22 07.6	+2.2
JCUZ	**Jacuzzi**	**0.17**	**101**		Pg	09 22 04.6	+1.1
JCUZ					Sg	09 22 07.5	+1.8
HTC	**Hot Caves**	**0.21**	**212**		Pg	09 22 05.1	+0.9
JOKA	**Jonika Flow**	**0.26**	**86**	Pg	Pg	09 22 05.0	-0.2
JOKA				IAML		09 22 09.8	
	comp=E,4μm,1.2s						
HMH	**Humu'ula Sheep**	**0.27**	**314**	Pg	Pg	09 22 05.8	+0.5
HMH				Sg	Sg	09 22 09.0	+0.2
HMH				IAML		09 22 14.4	
	comp=N,8μm,1.0s						
HMH				IAML		09 22 14.7	
	comp=E,5μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.30**	**293**	Pg	Pg	09 22 06.4	+0.4
MWH	**Moku'aweowe**	**0.31**	**283**	Pg	Pg	09 22 06.2	+0.1
KHU	**Kahuku**	**0.36**	**242**		Pg	09 22 07.1	+0.1
KHU				IAML		09 22 10.8	
	comp=E,5μm,1.4s						
KHU				IAML		09 22 16.2	
	comp=N,4μm,0.7s						
HPO	**Honuapo**	**0.42**	**219**	Pg	Pg	09 22 08.8	+0.6
POHA	**Pohakuloa**	**0.42**	**325**		Sg	09 22 14.4	+0.8
POHA	**Pohakuloa**	**0.42**	**325**	Pg	Pg	09 22 08.3	+0.1
POHA				IAML		09 22 16.1	
	comp=N,5μm,0.9s						
POHA				IAML		09 22 19.7	
	comp=N,4μm,0.6s						
HUH	**Hualalai**	**0.59**	**297**		Pg	09 22 12.4	+0.9
HPAH	**Hawaii Prepara**	**0.73**	**327**	Pg	Pg	09 22 13.4	-0.8

*IDC **03** 09:34:01.4±12.0, 13°.93N×120°.69E, h163km±119km, mb3.3/5, mbtmp3.7/5, Error ellipse: s-maj=66.9km s-min=20.3km az=64.0*
ISC 03 09:34:00.2±1.0, **14°.0N**±0°.2×**120°.9E**±0°.2, **h152**km, **n6**, σ**0°35/8**, **mb3.6**/5, **1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LQP	**Lukban**	**0.64**	**80**	↓*e*P	**Pn**	**09 34 22.9**	**0.0**
LQP				*e*S	**Sn**	**09 34 39.7**	**-0.3**
WRA	**Warramunga Arr**	**36.24**	**158**	P	**P**	**09 40 48.7**	**-0.1**
	0.5nm,0.3s,baz=330,slow=10,SNR=41						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**39.54**	**161**	P	**P**	**09 41 16.6**	**0.0**
	0.9nm,0.4s,baz=339,slow=6.9,SNR=39						
ASAR				PcP	**PcP**	**09 43 21.3**	**+0.2**
	0.5nm,0.9s,baz=338,slow=4.1,SNR=2.8						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**45.90**	**323**	P	**P**	**09 42 07.7**	**+0.2**
	0.2nm,0.3s,baz=111,slow=7.5,SNR=4.5						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**78.40**	**26**	P	**P**	**09 45 44.0**	**+0.3**
	0.3nm,0.7s,baz=263,slow=4.3,SNR=4.6						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**80.11**	**331**	P	**P**	**09 45 52.4**	**-0.6**
	1.3nm,0.8s,baz=20,slow=4.4,SNR=3.7						
	1.3nm,0.8s						

*IDC **03** 09:46:14.9±1.3, 7°.88S×106°.28E, h0km, mb4.0/9, mbtmp4.0/9, Error ellipse: s-maj=74.1km s-min=16.5km az=51.0*
*NEIC **03** 09:46:20.7±2.4, 7°.99S±0°.06×106°.39E±0°.08, h35km±2km, mb4.3/11, Error ellipse: s-maj=13.1km s-min=10.2km az=89.0*
*DJA **03** 09:46:23.3±0.4, 8°.S±4°.×10°.6E±°, h41km±49km, M4.4/14, mb4.6/4, mB6.4/1, MLv4.3/14, Mw(mB)6.2/1*
ISC 03 09:46:20.1±0.6, **8°.13S**±0°.06×**106°.32E**±0°.07, **h35**km, **n47**, σ**1°89/45**, **mb4.3**/14, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**1.14**	**12**	P	**Pn**	**09 46 41.8**	**+2.2**
CNJI	**Cibinong**	**1.14**	**45**	P	**Pn**	**09 46 41.8**	**+2.2**
DBJI	**Dramaga**	**1.62**	**15**	P	**Pn**	**09 46 48.7**	**+2.5**
LEM	**Lembang**	**1.82**	**45**	P	**Pn**	**09 46 52.8**	**+3.6**
SBJI	**Serang**	**2.00**	**355**	P	**Pn**	**09 46 54.3**	**+2.8**
SBJI				S	**Sn**	**09 47 18.1**	**+2.8**
CMJI	**Cimerak**	**2.14**	**81**	P	**Pn**	**09 46 55.7**	**+2.4**
XMIS	**Christmas Isla**	**2.43**	**196**		Pn	09 47 01.2	+3.8
XMIS				Sn	**Sn**	**09 47 28.4**	**+2.4**
KASI	**Kota Agung**	**3.15**	**325**	P	**Pn**	**09 47 10.3**	**+2.9**
LWLI	**Liwa**	**3.82**	**324**	P	**Pn**	**09 47 19.5**	**+2.9**
UGM	**Wanagama**	**4.17**	**87**	Pn	**Pn**	**09 47 22.2**	**+0.9**
UGM	**Wanagama**	**4.17**	**87**	P	**Pn**	**09 47 23.4**	**+2.1**
MNAI	**Manna**	**5.02**	**318**	Pn	**Pn**	**09 47 34.5**	**+1.5**
MNAI	**Manna**	**5.02**	**318**	P	**Pn**	**09 47 35.8**	**+2.8**
	224nm,1.0s						
PWJI	**Pagerwojo**	**5.43**	**89**	P	**Pn**	**09 47 41.6**	**+2.9**
	36nm,0.8s,0.3nm						
PPBI	**Pangkal Pinang**	**5.93**	**358**	P	**Pn**	**09 47 47.8**	**+2.3**
	30nm,0.6s,33μm						
JAGI	**Jajag, Banyuwa**	**7.76**	**93**	Pn	**Pn**	**09 48 10.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**7.76**	**93**	P	**Pn**	**09 48 13.3**	**+2.6**
PSA00	**Pilbara Seismi**	**18.68**	**137**	P	**Pn**	**09 50 35.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**21.25**	**120**	P	**P**	**09 51 03.8**	**+0.4**
KNRA	**Kununurra**	**23.19**	**111**	P	**P**	**09 51 24.2**	**+0.2**
KNRA				IAmb	IAmb	09 51 43.9	
	comp=Z,23nm,1.5s						
WB0	**Warramunga Arr**	**29.55**	**116**	P	**P**	**09 52 22.2**	**+0.4**
WRA	**Warramunga Arr**	**29.56**	**116**	P	**P**	**09 52 22.6**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=291,slow=11,SNR=10						
WRA				PcP	**PcP**	**09 55 26.6**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=304,slow=2.0,SNR=5.9						
	comp=Z,0.4nm,0.5s						
WB2	**Warramunga Arr**	**29.57**	**116**	P	**P**	**09 52 20.2**	**-1.7**
WB2				IAmb	IAmb	09 52 43.3	
	comp=Z,8.2nm,1.2s						
WR0	**Warramunga Arr**	**29.74**	**116**	P	**P**	**09 52 24.3**	**+0.8**
WR0				IAmb	IAmb	09 52 27.1	
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**30.61**	**124**	P	**P**	**09 52 32.4**	**+1.2**
	comp=Z,1.0nm,1.0s,baz=303,slow=8.2,SNR=5.5						
ASAR				PcP	**PcP**	**09 55 29.4**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=299,slow=3.1,SNR=1.5						
	comp=Z,1.0nm,1.0s						
H08S2	**Diego Garcia H**	**33.50**	**268**	T	T	10 28 36.3	
	baz=92,slow=76,SNR=19						
H08S3	**Diego Garcia H**	**33.51**	**268**	T	T	10 28 36.0	
	baz=92,slow=76,SNR=26						
H08S1	**Diego Carcia H**	**33.52**	**268**	T	T	10 28 37.7	
	baz=92,slow=76,SNR=13						
TWGBT	**Beinan**	**33.98**	**25**	P	**P**	**09 52 57.9**	**-2.7**
STKA	**Stephens Creek**	**40.41**	**131**	P	**P**	**09 53 55.0**	**-0.1**
STKA	**Stephens Creek**	**40.41**	**131**	P	**P**	**09 53 57.4**	**+2.3**
	comp=Z,3.3nm,1.0s,baz=297,slow=7.6,SNR=6.5						
	comp=Z,3.3nm,1.0s						
SONM	**Songino Array**	**55.72**	**0**	P	**P**	**09 55 52.4**	**-0.9**
SONM				IAmb	IAmb	09 55 52.8	
	comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**55.72**	**0**	P	**P**	**09 55 52.0**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=171,slow=8.2,SNR=9.4						
SONM				PcP	**PcP**	**09 56 51.1**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=187,slow=3.5,SNR=3.9						
	comp=Z,1.8nm,0.5s						
MK31	**Makanchi Array**	**58.72**	**341**	P	**P**	**09 56 13.3**	**-1.0**
MK31				IAmb	IAmb	09 56 13.7	
	comp=Z,1.9nm,1.1s						
MKAR	**Makanchi Array**	**58.72**	**341**	P	**P**	**09 56 12.9**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=153,slow=8.7,SNR=13						
	comp=Z,0.7nm,0.4s						
H04N2	**CROZET ISLANDS**	**59.97**	**221**	T	T	11 02 28.9	
	baz=68,slow=75,SNR=11						
H04N1	**CROZET ISLANDS**	**59.99**	**221**	T	T	11 02 31.9	
	baz=68,slow=75,SNR=6.2						
H04N3	**CROZET ISLANDS**	**59.99**	**221**	T	T	11 02 30.8	
	baz=68,slow=75,SNR=6.9						
KURBB	**Kurchatov Arra**	**63.28**	**341**	P	**P**	**09 56 43.8**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=155,slow=6.2,SNR=6.7						
	comp=Z,1.4nm,0.6s						
KURK	**Kurchatov**	**63.33**	**341**	P	**P**	**09 56 44.9**	**-0.6**
ZAA0	**Zalesovo Array**	**64.45**	**346**	P	**P**	**09 56 51.3**	**-1.5**
ZAA0				IAmb	IAmb	09 56 51.7	
	comp=Z,2.6nm,0.9s						
ZALV	**Zalesovo Beam**	**64.45**	**346**	P	**P**	**09 56 51.1**	**-1.7**
ZALV	**Zalesovo Beam**	**64.45**	**346**	P	**P**	**09 56 50.6**	**-2.3**
	comp=Z,1.1nm,0.3s,baz=102,slow=6.2,SNR=3.7						
	comp=Z,1.1nm,0.3s						
BVAR	**Borovoye Array**	**68.14**	**338**	P	**P**	**09 57 15.4**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=149,slow=8.6,SNR=9.7						
	comp=Z,1.6nm,0.3s						
ABKAR	**Akbulak array**	**70.03**	**330**	P	**P**	**09 57 27.4**	**-0.9**
BRTR	**Keskin Array B**	**82.07**	**312**	P	**P**	**09 58 36.9**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=129,slow=5.3,SNR=4.3						
	comp=Z,0.7nm,0.6s						
TXAR	**Lajitas Array**	**144.81**	**49**	PKP	**PKPbc**	**10 05 53.0**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=294,slow=1.6,SNR=12						

*INMG **03** 09:47:23.9±2.0, 37°.07N×5°.36W, h10km±4km, ML2.1, Error ellipse: s-maj=3.1km s-min=2.9km az=66.0*
*SFS **03** 09:47:24.3, 37°.06N×5°.42W, h14km, ML2.3/14, ML2.5/14, MLv2.2/14*
*IGIL **03** 09:47:24.2, 37°.07N×5°.38W, h11km*
*MDD **03** 09:47:24.1±0.5, 37°.07N×5°.38W, h11km±1km, mb_Lg2.4/7, Error ellipse: s-maj=3.7km s-min=2.8km az=6.0*
*CNRM **03** 09:47:26.3, 36°.57N×5°.83W, h120km, ML1.8*
ISC 03 09:47:23.8±1.0, **37°.06N**±0°.03×**5°.38W**±0°.02, **h18**km±8km, **n47**, σ**1°11/74**, **Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.43**	**243**	Pg	**Pg**	**09 47 32.9**	**+0.3**
ESPR	**Espera**	**0.43**	**243**	Pg	**Pg**	**09 47 32.8**	**+0.3**
ESPR				Sg	**Sg**	**09 47 38.9**	**+0.4**
ESPR				*i* Vmb_Lg		09 47 48.0	
EJIF	**Jimena Fronter**	**0.61**	**187**	Pg	**Pg**	**09 47 34.8**	**-1.1**
EJIF				Sg	**Sg**	**09 47 44.6**	**+0.4**
EMAL	**Malaga-Limoner**	**0.82**	**111**	Pg	**Pg**	**09 47 39.0**	**-0.7**
ECAB	**El Cabril**	**1.01**	**358**	Pg	**Pg**	**09 47 42.2**	**-1.3**
ECAB				Sg	**Sg**	**09 47 56.6**	**-0.1**
ECAB	**El Cabril**	**1.01**	**358**	Pg	**Pg**	**09 47 42.1**	**-1.3**
ECAB				Sg	**Sg**	**09 47 56.4**	**-0.3**
ECAB				*i* Vmb_Lg		09 47 58.5	
EGOR	**Sierra Gorda,**	**1.02**	**87**	Pg	**Pg**	**09 47 42.2**	**-1.3**
EGOR	**Sierra Gorda,**	**1.02**	**87**	Pg	**Pg**	**09 47 42.5**	**-1.1**
EGOR				Sg	**Sg**	**09 47 56.7**	**-0.1**
EGOR				*i* Vmb_Lg		09 47 59.4	
EADA	**Adamuz**	**1.27**	**30**	Pn	**Pn**	**09 47 46.0**	**-0.7**
EADA				Sn	**Sb**	**09 48 04.5**	**+1.1**
EADA	**Adamuz**	**1.27**	**30**	Pg	**Pn**	**09 47 46.0**	**-0.7**
EADA				Sg	**Sb**	**09 48 04.7**	**+1.3**
EADA				*i* Vmb_Lg		09 48 06.7	
ELGU	**Los Guajares,**	**1.42**	**97**	Pn	**Pn**	**09 47 48.9**	**+0.2**
ELGU	**Los Guajares,**	**1.42**	**97**	Pg	**Pn**	**09 47 48.5**	**-0.2**
ELGU				Sn	**Sn**	**09 48 06.9**	**0.0**
ELGU				Sg	**Sg**	**09 48 10.2**	**+0.6**
ELGU				*i* Vmb_Lg		09 48 13.7	
PBAR	**Barrancos**	**1.72**	**311**	*e*Pn	**Pn**	**09 47 52.4**	**-0.5**
PBAR				*e*Sn	**Sn**	**09 48 14.0**	**-0.4**
PBAR				A	A	09 48 20.8	
	6.2nm,0.4s						
PBAR	**Barrancos**	**1.72**	**311**	Pn	**Pn**	**09 47 52.3**	**-0.6**
PBAR				Sn	**Sn**	**09 48 12.0**	**-2.5**
PVAQ	**Vaqueiros**	**1.90**	**281**	*e*Pn	**Pn**	**09 47 54.6**	**-0.7**
PVAQ				*e*Sn	**Sn**	**09 48 17.8**	**-0.9**
PVAQ				A	A	09 48 25.3	
	9.5nm,0.4s						
PVAQ	**Vaqueiros**	**1.90**	**281**	Pn	**Pn**	**09 47 54.6**	**-0.7**
PVAQ				Sn	**Sn**	**09 48 17.6**	**-1.1**
PVAQ	**Vaqueiros**	**1.90**	**281**	P	**Pn**	**09 47 54.1**	**-1.2**
PVAQ	**Vaqueiros**	**1.90**	**281**	S	**Sn**	**09 48 20.5**	**+1.8**
EBER	**Berja**	**2.00**	**94**	Pn	**Pn**	**09 47 57.6**	**+0.8**
EBER	**Berja**	**2.00**	**94**	Pg	**Pb**	**09 48 00.2**	**+0.5**
EBER				Sg	**Sb**	**09 48 27.1**	**+2.7**
EBER				*i* Vmb_Lg		09 48 36.2	
PBDV	**Barranco-do-Ve**	**2.05**	**276**	*e*Pn	**Pn**	**09 47 56.8**	**-0.5**
PBDV				*e*Sn	**Sn**	**09 48 22.3**	**-0.2**
PBDV				A	A	09 48 37.5	
	8.1nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.05**	**276**	Pn	**Pn**	**09 47 56.8**	**-0.5**
PBDV				Sn	**Sn**	**09 48 19.9**	**-2.5**
EBAD	**Badajoz**	**2.13**	**323**	Pn	**Pn**	**09 47 57.9**	**-0.5**
EBAD	**Badajoz**	**2.13**	**323**	Pn	**Pn**	**09 47 57.9**	**-0.5**
EBAD				Sn	**Sn**	**09 48 25.3**	**+0.8**
EBAD				*i* Vmb_Lg		09 48 35.3	
PCVE	**Castro Verde**	**2.19**	**286**	*e*Pn	**Pn**	**09 47 58.8**	**-0.6**
PCVE				*e*Sg	**Sb**	**09 48 32.0**	**+2.2**
PCVE				A	A	09 48 39.0	
	5.7nm,0.3s						
PCVE	**Castro Verde**	**2.19**	**286**	Pn	**Pn**	**09 47 58.8**	**-0.6**
MESJ	**Messejana**	**2.39**	**290**	*e*Pn	**Pn**	**09 48 01.6**	**-0.4**
MESJ				*e*Sn	**Sn**	**09 48 31.3**	**+0.4**
MESJ				A	A	09 48 44.5	
	6.3nm,0.2s						
MESJ	**Messejana**	**2.39**	**290**	*e*P

PESTR	Estremoz	2.51 317	S	Sb	09 48 41.8	+2.9
EVO	Evora	2.55 306	eSn	Sn	09 48 33.9	-1.0
EVO			A	A	09 48 50.2	
7.4nm,0.1s						
MORF	Marmelete	2.63 276	ePn	Pn	09 48 04.5	-0.8
MORF			eSn	Sn	09 48 36.7	-0.1
MORF			A	A	09 48 39.1	
6.6nm,0.1s						
MORF	Marmelete	2.63 276	eP	Pn	09 48 04.7	-0.6
PTEO	Sao Teotonio	2.71 281	ePn	Pn	09 48 06.1	-0.3
PTEO			eSn	Sn	09 48 39.2	+0.4
PTEO			A	A	09 49 02.8	
7.3nm,0.5s						
PNCL	Nicolau / Gran	2.71 294	ePn	Pn	09 48 06.1	-0.3
PNCL			eSn	Sn	09 48 39.0	+0.2
PNCL			eSg	Sg	09 48 51.2	+0.2
PNCL			A	A	09 48 52.7	
4.0nm,0.6s						
PNCL	Nicolau / Gran	2.71 294	Pn	Pn	09 48 06.1	-0.3
PFVI	Vila Bisbo	2.76 273	ePn	Pn	09 48 06.2	-0.9
PFVI			eSn	Sn	09 48 39.1	-0.8
PFVI			A	A	09 48 39.9	
6.6nm,0.1s						
PFVI	Vila Bisbo	2.76 273	Pn	Pn	09 48 06.1	-0.9
PFVI			Sn	Sn	09 48 38.9	-1.0
PFVI	Vila Bisbo	2.76 273	P	Pn	09 48 05.6	-1.4
PFVI	Vila Bisbo	2.76 273	S	Sn	09 48 36.8	-3.1
PMRV	Marv??o	2.84 327	ePn	Pn	09 48 07.9	-0.4
PMRV			eSn	Sn	09 48 42.4	+0.3
PMRV			eSg	Sg	09 48 53.9	-1.3
PMRV			A	A	09 49 04.0	
4.6nm,0.7s						
PMTG	Montargil	3.01 313	ePn	Pn	09 48 10.3	-0.3
PMTG			eSn	Sn	09 48 46.1	-0.1
PMTG			eSg	Sg	09 49 00.7	+0.2
PMTG			A	A	09 49 08.0	
5.0nm,0.3s						
ZHG	ZHG	3.75 196	P	Pn	09 48 17.1	-3.8
ZHG	ZHG	3.75 196	S	Sn	09 48 56.5	-8.1
MD31	MD31	4.22 173	P	Pn	09 48 24.6	-2.6
MD31	MD31	4.22 173	S	Sn	09 49 07.8	-8.2

*BJI **03** 09:59:50.9±0.0, 5°.63N×125°.50E, h113km, mb5.2/84, mB5.5/54*

*MOS **03** 09:59:51.5±1.0, 5°.93N×125°.02E, h93km, mb5.5/61, MS4.7/7, Error ellipse: s-maj=7.5km s-min=3.9km az=113.5*

*IDC **03** 09:59:53.3±0.4, 5°.77N×124°.96E, h100km±3km, mb4.9/41, mbtmp5.2/41, MS4.5/57, Error ellipse: s-maj=10.0km s-min=6.3km az=101.0*

*MAN **03** 09:59:53.5, 5°.84N×125°.24E, h90km, mb6.1, ML5.1, MS5.7*

MAN INTENSITY V - ALABEL GLAN MALAPATAN AND MALUNGON SARANGANI; GENERAL SANTOS CITY; POLOMOLOK AND TUPI SOUTH COTABATO; INTENSITY IV- KORONADAL CITY; MATI CITY; DAVAO CITY; SANTA CRUZ DAVAO DEL SUR; INTENSITY III - SURALLAH SOUTH COTABATO; INTENSITY II - KIDAPAWAN CITY; MAKILALA AND M"LANG COTABATO; TACURONG CITY; KALAMANSIG SULTAN KUDARAT; SANTO NIO SOUTH COTABATO.

*GCMT **03** 09:59:53.6±0.1, 5°.89N±0°.01×125°.17E±0°.01, h104km, MW5.7/163, Moment Tensor Solution. s158,c295; s163,c345; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr=2.78±.04; Mθθ=3.12±.04; Mφφ=-0.34±.05; Mrθ=2.31±.03; Mrφ=-1.01±.04; Mθφ=-1.49±.03; Best double couple: M0=4.14900×10^17 NP1:φs=298.00000°, δ66.00000°, λ=-78.00000°. NP2:φs=89.00000°, δ27.00000°, λ=-116.00000°. Principal axes: T 4.3710, Plg20.0000°, Azm19.0000°; N -0.4480, Plg11.0000°, Azm113.0000°; P -3.9280, Plg66.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **03** 09:59:54.6, 5°.89N×125°.13E, h100km*

*NEIC **03** 09:59:54.5, 5°.89N×125°.20E, h97km*

*DJA **03** 09:59:54.5±0.2, 6°N±2°×12°5E±°, h100km±2km, M5.7/104, mb5.6/104, mB6.1/76, MLv6.2/13, Mw(mB)5.7/76, MwMwp5.5/49, Mwp5.7/49*

*IPGP **03** 09:59:54.0, 5°.88N×125°.23E, h92km, Mw5.6, Fault plane solution: NP1:φs=297.00000°, δ67.00000°, λ=-92.00000°. NP2:φs=122.00000°, δ23.00000°, λ=-86.00000°.*

*NEIC **03** 09:59:54.6±2.3, 5°.90N±0°.06×125°.13E±0°.07, h97km±1km, mb5.6/333, Mwb5.6/58, Mww5.7/41, Error ellipse: s-maj=11.9km s-min=9.4km az=96.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=2.17; Mθθ=1.44; Mφφ=0.73; Mrθ=1.85; Mθφ=-0.39; Mrφ=-1.04; Fault plane solution: M0=2.88000×10^17 NP1:φs=297.89000°, δ69.12000°, λ=-88.18000°. NP2:φs=112.79000°, δ20.95000°, λ=-94.76000°. Principal axes: T 2.5613, Plg24.0000°, Azm26.0000°; N 0.5639, Plg2.0000°, Azm117.0000°; P -3.1253, Plg66.0000°, Azm211.0000°;*

*NEIC **03** 09:59:54.6, 5°.99N×125°.23E, h100km, Moment Tensor Solution. Duration: 3s4 Moment tensor: Scale 10^17Nm; Mrr=3.30; Mθθ=2.66; Mφφ=0.64; Mrθ=1.39; Mθφ=-1.43; Mrφ=-1.69; Fault plane solution: M0=4.00000×10^17 NP1: φs=309.69000°, δ61.62000°, λ=-77.86000°. NP2: φs=105.34000°, δ30.66000°, λ=-111.27000°. Principal axes: T 3.9692, Plg16.0000°, Azm31.0000°; N 0.0663, Plg11.0000°, Azm124.0000°; P -4.0354, Plg71.0000°, Azm247.0000°;*

ISC 03 09:59:54.1±0.2, 5°.87N±0°.02×125°.16E±0°.03, h108km±1km, h109km; pP-P, n1436, σ1s52/1743, mb5.5/307, 71C-27D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.30	315	⇓iP	Pn	10 00 08.6	-1.3
GSPH				i S	Sn	10 00 21.1	-0.5
DDMP	Don Marcelino,	0.59	67	⇓iP	Pn	10 00 10.9	-0.6
DDMP				eS	Sn	10 00 21.3	-3.2
SKMP	Bagumbayan, Su	0.89	316	⇓eP	Pn	10 00 13.2	-0.9
SKMP				eS	Sn	10 00 28.2	-1.0
KCP	Kidapawan	1.14	356	⇓iP	Pn	10 00 16.1	-0.6
KCP				i S	Sn	10 00 34.4	+0.6
DAV	Davao City (W)	1.26	19	P	Pn	10 00 19.5	+1.4
DAV	Davao City (W)	1.26	19		Pn	10 00 18.7	+0.6
DAV	Davao City (W)	1.26	19	P	Pn	10 00 18.9	+0.8
24μm,0.4s,baz=183,slow=1.8,SNR=701							
DAV				S	Sn	10 00 36.4	+0.2
151μm,0.3s,baz=284,slow=8.1,SNR=19							
DAV	Davao City (W)	1.26	19	P	Pn	10 00 16.0	-2.1
DAV	Davao City (W)	1.26	19	P	Pn	10 00 19.8	+1.7
DAV				S	Sn	10 00 39.3	+3.0
MATI	Mati	1.52	45	⇓eP	Pn	10 00 19.8	-1.3
MATI				eS	Sn	10 00 38.3	-3.4
BUKP	Musuan	2.00	357	⇑eP	Pn	10 00 27.0	-0.1
BUKP				eS	Sn	10 00 51.2	-1.1
SGSI	Sangihe	2.20	170	P	Pn	10 00 29.5	-0.1
BIPH	Bislig	2.59	27	⇑eP	Pn	10 00 33.9	-0.8
BIPH				eS	Sn	10 01 04.3	-1.5
BUTP	Butuan	3.11	8	⇑eP	Pn	10 00 42.5	+0.9
BUTP				eS	Sn	10 01 17.7	-0.5
DCPH	Dipolog City	3.24	326	⇑eP	Pn	10 00 44.7	+1.4
DCPH				eS	Sn	10 01 39.4	+18
ZCP	Zamboanga City	3.25	289	⇑iP	Pn	10 00 47.4	+4.1
ZCP				i S	Sn	10 01 19.7	-1.7
SNPH	Sibulan	3.95	331	⇑iP	Pn	10 00 54.7	+1.9
SNPH				i S	Sn	10 02 03.9	+26
GLSP	General Luna,	4.01	14	⇑iP	Pn	10 00 53.4	-0.2
GLSP				eS	Sn	10 01 36.9	-2.7
TBP	Tagbilaran	4.01	341	⇑iP	Pn	10 00 53.7	+0.1
TBP				i S	Sn	10 01 42.7	+2.9
MSLP	Maasin	4.25	356	⇑eP	Pn	10 00 57.3	+0.5
MSLP				eS	Sn	10 01 47.9	+2.3
LLP	Lapu-Lapu	4.58	345	⇑eP	Pn	10 01 02.1	+0.8
LLP				eS	Sn	10 01 55.4	+2.0
OCLP	Ormoc	5.18	354	⇑eP	Pn	10 01 10.8	+1.4
OCLP				eS	Sn	10 02 10.8	+2.8
PLP	Palo	5.27	358	⇓eP	Pn	10 01 11.2	+0.6
GUIM	Jordan	5.37	332	⇑eP	Pn	10 01 13.1	+1.1
GUIM				eS	Sn	10 02 11.6	-1.0
KMSI	Cibinong	5.39	193	P	Pn	10 01 12.5	+0.2
TNTI	Ternate	5.52	156	P	Pn	10 01 14.4	+0.4
TNTI	Ternate	5.52	156	Pn	Pn	10 01 13.2	-0.8
TNTI	Ternate	5.52	156	P	Pn	10 01 13.6	-0.4
803nm,0.6s,8μm							
GTOI	Gorontalo	5.62	203	P	Pn	10 01 15.0	-0.4
BESP	Borongan	5.70	3	⇑eP	Pn	10 01 17.2	+0.7
BESP				eS	Sn	10 02 25.8	+5.1
JAP	San Jose, Anti	5.80	327	⇑eP	Pn	10 01 20.6	+2.8
JAP				eS	Sn	10 02 47.9	+25
RCP	Roxas	6.14	337	⇑iP	Pn	10 01 24.6	+2.2
TOLI2	Tolitoli	6.44	223	Pn	Pn	10 01 25.3	-1.2
IBAJ	Ibajay, Aklan	6.61	334	⇑iP	Pn	10 01 31.0	+2.2
MMPH	Masbate	6.62	347	⇑eP	Pn	10 01 30.7	+1.7
MYLDM	Lahad Datu	6.67	264	Pn	Pn	10 01 32.2	+2.6
LBMI	Labuha	6.87	160	P	Pn	10 01 32.9	+0.5
775nm,0.7s,12μm11nm							
OTRP	Odiongan	7.16	335	⇑eP	Pn	10 01 37.8	+1.6
LUWI	Luwuk	7.27	199	P	Pn	10 01 41.8	+4.1
LUWI	Luwuk	7.27	199		Pn	10 01 40.6	+2.9
LUWI	Luwuk	7.27	199	P	Pn	10 01 35.0	-2.8
LUWI	Luwuk	7.27	199	P	Pn	10 01 39.3	+1.6
PPR	Puerto Princes	7.46	302	⇓iP	Pn	10 01 43.1	+2.8
MPSI	Mapaga	7.60	224	P	Pn	10 01 40.5	-1.8
498nm,0.6s,13μm3.2nm							
SJMP	San Jose	7.67	329	⇑eP	Pn	10 01 44.7	+1.5
SJMP				eS	Sn	10 03 09.5	+1.0
PVCP	Virac	7.74	353	⇑eP	Pn	10 01 45.7	+1.6
ENPP	El Nido	7.77	313	⇑eP	Pn	10 01 45.6	+1.2
BATP	Bataraza	7.86	292	⇑eP	Pn	10 01 54.4	+8.7
SANI	Sanana	7.91	174	P	Pn	10 01 41.4	-5.1
SANI	Sanana	7.91	174	P	Pn	10 01 44.4	-2.0
542nm,0.8s,8μm18μm2.5nm							
BOAC	Boac	8.22	337	⇑eP	Pn	10 01 52.9	+2.2
GQP	Guinayangan	8.42	342	⇑eP	Pn	10 01 56.7	+3.3
JCNP	Jose Panganiba	8.71	344	⇑eP	Pn	10 01 59.6	+2.2
JCNP				eS	Sn	10 03 32.3	-1.5
LQP	Lukban	8.94	337	⇑eP	Pn	10 02 03.6	+3.1
SWI	Sorong	9.04	137	P	Pn	10 02 01.7	-0.1
303nm,1.2s							
SWI	Sorong	9.04	137	P	Pn	10 02 02.5	+0.7
SWI				pmax	pmax		
comp=Z,301nm,1.2s							
TGY	Tagaytay City	9.18	333	⇑eP	Pn	10 02 05.0	+1.3
TGY				eS	Sn	10 04 11.0	+26
LUBP	Lubang	9.20	329	⇑iP	Pn	10 02 06.3	+2.5
LUBP				eS	Sn	10 04 26.6	+41
NLAI	Namlea	9.25	168	P	Pn	10 02 04.6	-0.1
comp=Z,305nm,0.8s							
POLP	Polillo Island	9.36	340	⇑eP	Pn	10 02 08.6	+2.5
MACP	Maragondon, Ca	9.42	333	⇑eP	Pn	10 02 09.1	+2.2
QVP	Quezon City--P	9.61	335	⇑eP	Pn	10 02 14.5	+4.9
BALP	Baler	10.42	341	⇓eP	Pn	10 02 24.6	+4.0
BKB	Balikpapan	10.88	230	P	Pn	10 02 28.0	+1.3
BKB	Balikpapan	10.88	230		Pn	10 02 25.5	-1.3
BKB	Balikpapan	10.88	230	P	Pn	10 02 27.4	+0.7
comp=Z,969nm,1.0s,comp=Z,8μmcomp=Z,10μm							
SMPP	San Manuel, Pa	11.12	337	⇑eP	Pn	10 02 31.2	+1.1
SMPP				eS	Sn	10 05 05.0	+32
FAKI	Fak Fak	11.24	141	P	Pn	10 02 33.2	+1.6
FAKI	Fak Fak	11.24	141	Pn	Pn	10 02 31.5	-0.1
FAKI	Fak Fak	11.24	141	P	Pn	10 02 32.6	+1.0
comp=Z,324nm,1.2s,comp=Z,4μm							
CAUP	Cauayan	11.48	344	⇑eP	Pn	10 02 36.4	+1.6
BBSI	Bau Bau	11.57	193	P	Pn	10 02 38.0	+1.9
comp=Z,286nm,0.8s,comp=Z,7μmcomp=Z,9μm							
BOLP	Bolinao	11.65	334	⇑eP	Pn	10 02 39.6	+2.7
SAMP	Sagada Mountai	11.90	340	⇑eP	Pn	10 02 41.5	+1.2
SAMP				eS	Sn	10 05 16.3	+25
KAPI	Kappang	12.09	207	P	Pn	10 02 46.9	+4.0
KAPI	Kappang	12.09	207	Pn	Pn	10 02 46.3	+3.4
KAPI	Kappang	12.09	207	P	Pn	10 02 43.4	+0.6
comp=Z,133nm,0.7s,baz=35,slow=9.0,SNR=23							
KAPI				S	Sn	10 04 52.0	-3.9
comp=Z,45nm,0.7s,baz=217,slow=19,SNR=2.0							
KAPI				LR	LR	10 07 29.7	
comp=Z,4μm,21.0s,baz=8.5,slow=38							
KAPI	Kappang	12.09	207	P	Pn	10 02 46.6	+3.8
KAPI	Kappang	12.09	207	i P	Pn	10 02 42.3	-0.6
CVP	Callao Caves	12.21	345	⇑eP	Pn	10 02 46.1	+1.7
MTKI	Muara Teweh, K	12.28	237	P	Pn	10 02 48.0	+2.5
comp=Z,829nm,0.9s,comp=Z,17μmcomp=Z,8μm							
SZP	Santa	12.49	339	P	Pn	10 02 48.7	+0.6
ABRA	Dolores	12.49	340	⇓eP	Pn	10 02 49.8	+1.7
SGCP	Gonzaga	12.67	346	⇑eP	Pn	10 02 51.5	+1.0
PIP	Pasuquin	13.15	341	⇑eP	Pn	10 02 57.0	+0.2
SBUM	Sibu	13.35	256	Pn	Pn	10 03 01.5	+2.1
MMRI	Maumere	14.70	191		P	10 03 22.3	+2.3
MMRI	Maumere	14.70	191	P	P	10 03 18.8	-1.3
comp=Z,370nm,1.3s,comp=Z,9μm							
BBP	Basco	14.82	348	⇑eP	Pn	10 03 17.9	-0.3
BBP	Basco	14.82	348	⇓eP	P	10 03 19.7	-1.6
STKI	Sintang	14.83	248	P	P	10 03 22.1	+0.6
EDFI	Ende, Flores	14.93	193	P	P	10 03 22.0	-0.7
comp=Z,73nm,0.5s,comp=Z,13μm							
SAUI	Saumlaki	15.06	156	Pn	Pn	10 03 21.2	-0.1
SOEI	Soe	15.55	183	P	P	10 03 30.2	+0.6
SOEI	Soe	15.55	183	Pn	Pn	10 03 27.3	-0.3
SOEI	Soe	15.55	183	P	P	10 03 29.8	+0.2
SOEI	Soe	15.55	183	P	P	10 03 30.0	+0.4
comp=Z,271nm,1.5s,comp=Z,7μmcomp=Z,13μm							
BATI	Baumata	16.04	185	P	P	10 03 36.1	+1.2
comp=Z,341nm,0.5s,comp=Z,6μmcomp=Z,10μm							
PLAI	Plampang	16.35	207	P	P	10 03 40.7	+2.3
PLAI	Plampang	16.35	207	P	P	10 03 40.6	+2.2
comp=Z,373nm,1.4s,comp=Z,7μm							
TWSI	Taliwang, Sumb	16.70	210	P	P	10 03 45.1	+2.9
comp=Z,610nm,1.9s,comp=Z,11μmcomp=Z,14μm							
SRBI	Singaraja	17.05	216	P	P	10 03 48.8	+2.7
comp=Z,367nm,1.9s,comp=Z,10μmcomp=Z,12μm							
GENI	Genyem	17.18	119	P	P	10 03 50.2	+2.6
GENI	Genyem	17.18	119	P	P	10 03 47.7	+0.1
comp=Z,694nm,1.0s,comp=Z,8μm							
TWGBT	Beinan	17.31	347	P	P	10 03 48.6	-0.3
TWG	Pinlang	17.31	347	P	P	10 03 47.6	-1.4
ABJI	Asem Bagus	17.41	219	P	Pn	10 03 53.4	+3.0
DNP	Denpasar	17.53	215	P	Pn	10 03 53.4	+1.6
comp=Z,783nm,1.5s							
DNP	Denpasar	17.53	215	P	Pn	10 03 54.5	+2.7
DNP				pmax	pmax		
comp=Z,1μm,2.2s							
DLV	T Lat	17.54	291	P	Pn	10 03 55.9	+3.7
DLV	T Lat	17.54	291	P	P	10 03 51.5	-0.2
JAY	Jayapura	17.61	118	P	Pn	10 03 52.6	-0.3
JAY	Jayapura	17.61	118	P	Pn	10 03 53.7	+0.8
JAY				pmax	pmax		
comp=Z,105nm,1.0s							
BLJI	Banyuglugur	17.78	221	P	Pn	10 03 57.4	+2.6
comp=Z,189nm,0.8s,comp=Z,5μm							
YULB	Yu-li	17.82	348	P	P	10 03 53.7	-0.8
YULB	Yu-li	17.82	348	P	P	10 03 53.8	-0.7
TPUB	Ta-pu	17.87	346	P	Pn	10 03 55.9	-0.1
TPUB	Ta-pu	17.87	346		P	10 03 55.5	+0.3
GRJI	Gresik	17.93	225	P	Pn	10 03 59.5	+2.8
comp=Z,282nm,0.9s,comp=Z,9μm							
JAGI	Jajag, Banyuwa	17.98	218	P	Pn	10 03 59.6	+2.3
JAGI	Jajag, Banyuwa	17.98	218		Pn	10 03 57.9	+0.5
JAGI	Jajag, Banyuwa	17.98	218	P	Pn	10 03 58.6	+1.3
comp=Z,315nm,1.3s,comp=Z,7μmcomp=Z,14μm							
SSLB	Suanglung	18.27	348	P	P	10 03 59.4	-0.1
SSLB	Suanglung	18.27	348		P	10 03 59.4	-0.1
NACB	Ninganchiao	18.52	350	P	P	10 04 02.0	-0.2
NACB	Ninganchiao	18.52	350	P	P	10 04 02.5	+0.3
YOJ	Yonaguni jima	18.60	354	P	Pn	10 04 05.8	+1.2
YOJ	Yonaguni jima	18.60	354	P	Pn	10 04 04.1	-0.5
YOJ	Yonaguni jima	18.60	354	P	Pn	10 04 04.1	-0.5
YHNB	Yeheng	19.05	349	P	P	10 04 08.6	+0.6
YHNB	Yeheng	19.05	349	P	P	10 04 07.9	-0.1
DRS	Darwin Rock St	19.05	163	P	P	10 04 08.7	+0.7
PWJI	Pagerwojo	19.18	224	P	P	10 04 11.2	+1.7
TATO	Taipei	19.32	350	P	Pn	10 04 12.4	-0.7
TATO	Taipei	19.32	350	P	Pn	10 04 11.9	-1.1
TATO	Taipei	19.32	350	P	Pn	10 04 12.2	-0.8
TABU	Tabubil	19.48	124	P	Pn	10 04 14.3	-0.8
HKPS	Hong Kong Po S	19.48	328	P	Pn	10 04 15.6	+0.6
HKPS	Hong Kong Po S	19.48	328	P	Pn	10 04 12.9	+0.2
SMRI	Semarang	19.51	229	P	Pn	10 04 16.5	+1.2
SMRI	Semarang	19.51	229	P	Pn	10 04 15.3	0.0
SMRI	Semarang	19.51	229	P	Pn	10 04 16.2	+0.9
comp=Z,543nm,0.8s,comp=Z,11μm							
MTN	Manton Dam	19.51	162	P	P	10 04 13.7	+0.6
MTN	Manton Dam	19.51	162	P	P	10 04 14.2	+1.1
KNMB	Chin-men Tao	19.60	341	P	P	10 04 14.7	+0.8
KDU	Kakadu	19.81	159	P	P	10 04 17.2	+0.9
QIZ	Qiongzhong	19.85	313	P	Pn	10 04 20.1	+0.8
QIZ	Qiongzhong	19.85	313	P	Pn	10 04 20.0	+0.8
QIZ				S	S	10 07 57.6	+3.1
QIZ				sS	sS	10 08 27.9	0.0
QIZ				pmax	pmax		
comp=Z,97nm,1.7s							
QIZ				LR	LR		
comp=Z,4μm,15.1s							
QIZ				LR	LR		
comp=Z,3μm,18.5s							
QIZ				LR	LR		
comp=Z,2μm,13.5s							
QIZ	Qiongzhong	19.85	313		P	10 04 16.2	-0.5
QZH	Quanzhou	19.99	342	⇑iP	Pn	10 04 19.8	-1.0
QZH				pP	pP	10 04 41.5	+3.2
QZH				S	S	10 07 56.9	-0.2
QZH				pmax	pmax		
comp=Z,750nm,0.9s							
UGM	Wanagama	20.02	227	P	Pn	10 04 21.4	+0.1
UGM	Wanagama	20.02	227	P	P	10 04 19.1	+0.5
UGM	Wanagama	20.02	227	P	Pn	10 04 20.9	-0.4
comp=Z,296nm,2.0s,comp=Z,8μm							
YOGI	Yogyakarta	20.12	228	P	Pn	10 04 22.7	+0.2
comp=Z,590nm,1.6s,comp=Z,9μm							
GZH	Guangzhou	20.57	328	P	Pn	10 04 29.7	+2.1
GZH				sP	sP	10 05 06.7	+8.4
GZH				S	Sn	10 08 16.4	-3.6
GZH				SS	S	10 08 50.9	+42
GZH				pmax	pmax		
comp=Z,410nm,1.1s							
GZH				LR	LR		
comp=Z,800nm,5.1s							
GZH				LR	LR		
comp=Z,1μm,7.3s							
GZH				LR	LR		
comp=Z,3μm,16.1s							
PPBI	Pangkal Pinang	20.61	248	P	P	10 04 26.6	+1.7
comp=Z,215nm,0.7s,comp=Z,13μm							
JMZ	Minamidaito 2	20.67	16	P	Pn	10 04 28.7	-0.1
JMZ	Minamidaito 2	20.67	16	P	P	10 04 24.9	-0.6
MMPI	Merauke	20.81	133	P	Pn	10 04 29.4	-1.1
JCJI	Jatiwangi	20.86	234	P	Pn	10 04 32.4	+1.3
comp=Z,507nm,0.7s,comp=Z,14μm							
GUMO	Guam	20.87	67	P	P	10 04 27.0	-0.7
GUMO	Guam	20.87	67	P	P	10 04 28.7	+1.0
comp=Z,87nm,0.5s,baz=191,slow=8.7,SNR=3.3							
comp=Z,87nm,0.5s							
JOW	Kunigami	21.06	8	P	P	10 04 31.6	+2.0
JOW	Kunigami	21.06	8	P	P	10 04 31.2	+1.6
JOW	Kunigami	21.06	8	P	P	10 04 30.2	+0.6
comp=Z,623nm,0.8s,baz=199,slow=8.4,SNR=84							
JOW				S	S	10 08 21.1	+3.0
comp=Z,30nm,1.0s,baz=160,slow=16,SNR=2.3							
JOW				LR	LR	10 12 29.1	
comp=Z,2μm,22.0s,baz=144,slow=36							
comp=Z,623nm,0.8s							
TPRI	Tanjung Pinang	21.17	257	P	P	10 04 33.1	+2.1
comp=Z,235nm,1.2s,comp=Z,9μm							
UBPT	Khong Chiam	21.48	297	P	P	10 04 36.0	+1.7
UBPT	Khong Chiam	21.48	297	P	P	10 04 35.6	+1.3
CMJI	Cimerak	21.49	231	P	P	10 04 35.3	+0.9
comp=Z,417nm,1.5s,comp=Z,9μmcomp=Z,11μm							
LEM	Lembang	21.58	234	P	P	10 04 38.6	+3.1
comp=Z,648nm,1.0s,comp=Z,22μm							
LEM	Lembang	21.58	234	P	P	10 04 38.5	+3.1
LEM				pmax	pmax		
comp=Z,648nm,1.0s							
KNRA	Kununurra	21.70	171	P	P	10 04 36.6	+0.1
BTDF	Bukit Timah Da	21.81	259	P	P	10 04 40.4	+2.6
BBJI	Bungbulang	21.92	233	P	P	10 04 41.2	+2.1
CBJI	Citeko	21.98	237	P	P	10 04 43.3	+3.7
comp=Z,785nm,0.7s							
TNG	Tangerang	22.02	237	P	pP	10 04 43.7	-15
comp=Z,541nm,1.1s							
TNG				P	P	10 04 42.1	+2.2
comp=Z,807nm,1.2s							
DBJI	Dramaga	22.14	236	P	P	10 04 44.5	+3.3
comp=Z,1μm,2.0s							
PMBI	Palembang	22.16	247	P	P	10 04 46.4	+4.9
PMBI	Palembang	22.16	247	P	P	10 04 44.5	+3.0
PMBI	Palembang	22.16	247	P	P	10 04 45.6	+4.1
CNJI	Cibinong	22.25	234	P	P	10 04 44.1	+1.7
comp=Z,177nm,1.1s,comp=Z,5μmcomp=Z,4μm							
SBJI	Serang	22.42	238	P	P	10 04 46.8	+2.6
comp=Z,782nm,2.1s,comp=Z,21μm							
SKJI	Sukabumi	22.55	236	P	P	10 04 47.2	+1.8
BLSI	Bandar Lampung	22.80	241	P	P	10 04 50.7	+2.7
MANU	Manus Island	23.52	109	P	P	10 04 58.3	+3.5
MANU	Manus Island	23.52	109	P	P	10 04 56.6	+1.9
KASI	Kota Agung	23.53	242	P	P	10 04 56.6	+1.8
LWLI	Liwa	23.68	243	P	P	10 04 58.4	+2.1
FITZ	Fitzroy Crossi	23.82	179	P	P	10 04 57.7	+0.4
FITZ	Fitzroy Crossi	23.82	179	P	P	10 04 57.3	0.0
GULI	GuiLin	23.96	325	⇑iP	P	10 05 01.7	+3.2
GULI				S	S	10 09 11.8	+4.3
GULI				pmax	pmax		
comp=Z,110nm,1.3s							
GULI				pmax	pmax		
comp=Z,710nm,3.0s							
GULI				LR	LR		
comp=Z,3μm,17.8s							
GULI				LR	LR		
comp=Z,4μm,17.7s							
GULI				LR	LR		
comp=Z,2μm,19.0s							
IPM	Ipoh	24.08	268	P	P	10 05 01.6	+1.8
IPM	Ipoh	24.08	268	P	P	10 05 01

SISI	**Saibi**	**27.00 255**	P	**P**	**10 05 26.6 +0.4**
GYA	**Guiyang**	**27.03 321**	⇑P	**P**	**10 05 29.0 +2.5**
GYA			pP	pP	10 05 53.2 +2.9
GYA			S	**S**	**10 09 59.3 +2.8**
GYA			sS	sS	10 10 43.2 +5.2
GYA			pmax	pmax	
	comp=Z,50nm,1.2s				
GYA			pmax	pmax	
	comp=Z,470nm,4.4s				
GYA			LR	LR	
	comp=Z,1μm,16.8s				
GYA			LR	LR	
	comp=Z,2μm,22.7s				
GYA			LR	LR	
	comp=Z,3μm,21.3s				
WB0	**Warramunga Arr**	**27.05 161**	P	**P**	**10 05 26.1 -0.4**
WB0			IAmb	IAmb	10 05 31.6
	comp=Z,298nm,1.3s				
WRAB	**Tennant Creek**	**27.19 161**	P	**P**	**10 05 27.6 -0.1**
WRAB			IAmb	IAmb	10 05 29.5
	comp=Z,184nm,1.1s				
WRAB	**Tennant Creek**	**27.19 161**	*i* P	**P**	**10 05 27.5 -0.3**
WRAB			pmax	pmax	
	comp=Z,201nm,1.2s				
WRA	**Warramunga Arr**	**27.19 161**	P	**P**	**10 05 27.8 0.0**
WRA	**Warramunga Arr**	**27.19 161**	P	**P**	**10 05 27.0 -0.8**
	comp=Z,61nm,0.7s,baz=330,slow=11,SNR=141				
WRA			S	**S**	**10 09 55.6 -3.2**
	comp=Z,8.0nm,0.9s,baz=338,slow=16,SNR=5.0				
WRA			ScP	**ScP**	**10 12 14.8 -1.6**
	comp=Z,3.9nm,0.5s,baz=344,slow=3.2,SNR=2.9				
	comp=Z,61nm,0.7s				
WRA	**Warramunga Arr**	**27.19 161**	P	**P**	**10 05 27.8 0.0**
WRA			pmax	pmax	
	comp=Z,23nm,1.8s				
WB2	**Warramunga Arr**	**27.20 161**	P	**P**	**10 05 27.4 -0.5**
WB2			IAmb	IAmb	10 06 01.9
	comp=Z,228nm,1.2s				
WR0	**Warramunga Arr**	**27.27 160**	P	**P**	**10 05 28.2 -0.4**
WR0			IAmb	IAmb	10 06 06.8
	comp=Z,233nm,1.3s				
PHRA	**Phrae**	**27.36 300**	P	**P**	**10 05 31.3 +1.9**
MBWA	**Marble Bar**	**27.38 191**	P	**P**	**10 05 30.0 +0.5**
MBWA	**Marble Bar**	**27.38 191**	P	**P**	**10 05 29.3 -0.2**
MBWA			IAmb	IAmb	10 05 31.8
	comp=Z,260nm,1.6s				
MBWA	**Marble Bar**	**27.38 191**	P	**P**	**10 05 29.3 -0.2**
KCSI	**Kotacane, Aceh**	**27.40 266**	P	**P**	**10 05 31.0 +1.2**
	comp=Z,194nm,0.9s,comp=Z,3μm				
PBSI	**Pulau Batu**	**27.48 259**	P	**P**	**10 05 32.3 +1.9**
	comp=Z,101nm,1.2s				
JNU	**Nakatsue**	**27.63 10**	P	**P**	**10 05 32.1 +0.4**
JNU	**Nakatsue**	**27.63 10**	IAmb	IAmb	10 05 38.9
	comp=Z,96nm,0.9s				
JNU	**Nakatsue**	**27.63 10**	LR	LR	10 16 14.0
	comp=Z,1μm,21.3s,baz=172,slow=35				
PSA00	**Pilbara Seismi**	**27.77 191**	P	**P**	**10 05 32.8 -0.1**
PSA00	**Pilbara Seismi**	**27.77 191**	P	**P**	**10 05 33.7 +0.8**
PSA00	**Pilbara Seismi**	**27.77 191**	IAmb	IAmb	10 05 35.3
	comp=Z,265nm,1.4s				
GSI	**Gunungsitoli**	**27.90 262**	P	**P**	**10 05 35.3 +1.1**
GSI	**Gunungsitoli**	**27.90 262**	IAmb	IAmb	10 05 38.0
	comp=Z,142nm,0.7s				
GSI	**Gunungsitoli**	**27.90 262**	P	**P**	**10 05 34.1 -0.1**
	comp=Z,230nm,0.7s,comp=Z,7μm				
CRAI	**Chiangrai**	**27.99 303**	P	**P**	**10 05 35.8 +0.8**
ENH	**Enshi**	**28.41 331**	P	**P**	**10 05 40.2 +1.6**
ENH	**Enshi**	**28.41 331**	P	**P**	**10 05 39.8 +1.1**
ENH			IAmb	IAmb	10 06 06.7
	comp=Z,216nm,1.1s				
CM31	**Chiang Mai Arr**	**28.47 298**	IAmb	IAmb	10 05 42.9
	comp=Z,306nm,1.6s				
CMAR	**Chiang Mai Arr**	**28.47 298**	P	**P**	**10 05 40.9 +1.6**
CMAR	**Chiang Mai Arr**	**28.47 298**	P	**P**	**10 05 40.9 +1.6**
CHTO	**Chiang Mai**	**28.61 299**	P	**P**	**10 05 42.1 +1.6**
CHTO			IAmb	IAmb	10 05 44.3
	comp=Z,89nm,0.9s				
CHTO	**Chiang Mai**	**28.61 299**	P	**P**	**10 05 42.1 +1.6**
CHTO			pmax	pmax	
	comp=Z,89nm,0.9s				
MLSI	**Meulaboh, Aceh**	**28.69 268**	P	**P**	**10 05 41.4 +0.1**
	comp=Z,197nm,0.7s				
KMI	**Kunming**	**28.78 314**	⇓P	**P**	**10 05 44.5 +2.3**
KMI			pP	pP	10 06 07.3 +1.1
KMI			S	**S**	**10 10 26.8 +2.6**
KMI			pmax	pmax	
	comp=Z,46nm,1.6s				
KMI			pmax	pmax	
	comp=Z,450nm,3.3s				
KMI			LR	LR	
	comp=Z,1μm,15.3s				
KMI			LR	LR	
	comp=Z,1μm,17.8s				
KMI			LR	LR	
	comp=Z,2μm,16.2s				
JMN	**Monobe**	**28.88 15**	P	**P**	**10 05 44.2 +1.5**
JMN	**Monobe**	**28.88 15**	P	**P**	**10 05 43.5 +0.7**
JMN			IAmb	IAmb	10 06 18.5
	comp=Z,205nm,1.1s				
QIS	**Mount Isa**	**29.85 152**	P	**P**	**10 05 52.0 +0.6**
PZH	**PanZhiHua**	**30.33 315**	P	**P**	**10 05 57.8 +2.0**
PZH			S	**S**	**10 10 48.7 +0.3**
PZH			sS	**sS**	**10 11 31.9 +1.8**
PZH			pmax	pmax	
	comp=Z,40nm,1.4s				
PZH			pmax	pmax	
	comp=Z,320nm,5.5s				
PZH			LR	LR	
	comp=Z,2μm,17.9s				
PZH			LR	LR	
	comp=Z,1μm,19.6s				
PZH			LR	LR	
	comp=Z,1μm,18.0s				
JHJ	**Hachijo jima 2**	**30.34 25**	LR	LR	10 18 54.7
	comp=Z,1μm,19.0s,baz=247,slow=37				
MTSU	**Mount Surprise**	**30.43 142**	P	**P**	**10 05 57.8 +1.2**
TJN	**Taejon**	**30.43 4**	P	**P**	**10 05 57.7 +1.4**
ASAR	**Alice Springs**	**30.57 164**	P	**P**	**10 05 57.8 0.0**
	comp=Z,17nm,0.4s,baz=343,slow=7.2,SNR=442				
ASAR			PcP	**PcP**	**10 08 53.9 -0.3**
	comp=Z,9.6nm,0.4s,baz=345,slow=2.4,SNR=6.2				
ASAR			ScP	**ScP**	**10 12 24.6 -2.3**
	comp=Z,4.5nm,0.5s,baz=339,slow=3.0,SNR=11				
	comp=Z,17nm,0.4s				
AS01	**Alice Springs**	**30.58 164**	P	**P**	**10 05 58.5 +0.6**
LYN	**LuoYang**	**30.86 339**	*e*P	**P**	**10 06 02.1 +1.9**
LYN			pP	pP	10 06 26.2 +2.0
LYN			sP	sP	10 06 37.5 +0.7
LYN			PP	**PP**	**10 07 10.3 -1.7**
LYN			S	**S**	**10 10 55.3 -0.9**
LYN			sS	sS	10 11 39.4 +1.5
LYN			SS	**SnSn**	**10 12 49.8 +1.9**
LYN			pmax	pmax	
	comp=Z,42nm,0.6s				
LYN			pmax	pmax	
	comp=Z,370nm,3.8s				
WRKA	**Warakurna**	**30.87 174**	P	**P**	**10 06 02.5 +2.1**
JSG	**Sagara**	**31.09 21**	P	**P**	**10 06 03.7 +1.5**
JSG	**Sagara**	**31.09 21**	P	**P**	**10 06 01.4 -0.8**
INU	**Inuyama**	**31.31 19**	P	**P**	**10 06 04.5 +0.4**
INU	**Inuyama**	**31.31 19**	P	**P**	**10 06 04.3 +0.3**
INU			IAmb	IAmb	10 06 08.0
	comp=Z,126nm,0.7s				
INU	**Inuyama**	**31.31 19**	P	**P**	**10 06 04.4 +0.3**
INU			pP	**pP**	**10 06 27.7 -0.5**
KSAR	**Wonju Array Be**	**31.52 4**	P	**P**	**10 06 06.5 +0.5**
KSAR	**Wonju Array Be**	**31.52 4**	P	**P**	**10 06 06.5 +0.5**
KSRS	**Korea Array**	**31.54 4**	P	**P**	**10 06 06.0 0.0**
	comp=Z,35nm,0.8s,baz=183,slow=10,SNR=92				
KSRS			PcP	**PcP**	**10 08 57.4 +1.0**
	comp=Z,7.8nm,1.0s,baz=188,slow=4.2,SNR=4.6				
KSRS			ScP	**ScP**	**10 12 29.4 -0.5**
	comp=Z,0.5nm,0.5s,baz=244,slow=42,SNR=2.8				
KSRS			LR	LR	10 18 25.8
	comp=Z,936nm,21.2s,baz=185,slow=35				
	comp=Z,35nm,0.8s				
KS19	**Wonju Array Si**	**31.58 4**	P	**P**	**10 06 06.6 +0.1**
KS19			IAmb	IAmb	10 06 32.9
	comp=Z,203nm,1.4s				
JGF	**Kuroka**	**31.65 19**	P	**P**	**10 06 07.7 +0.6**
JGF	**Kuroka**	**31.65 19**	P	**P**	**10 06 07.3 +0.2**
XAN	**Xi'an**	**31.82 334**	⇑P	**P**	**10 06 09.4 +0.7**
XAN			pP	pP	10 06 34.5 +1.7
XAN			sP	sP	10 06 45.4 +0.1
XAN			S	**S**	**10 11 09.4 -1.9**
XAN			sS	sS	10 11 54.7 +1.6
XAN			pmax	pmax	
	comp=Z,54nm,0.8s				
XAN			LR	LR	
	comp=Z,2μm,14.9s				
XAN			LR	LR	
	comp=Z,2μm,14.0s				
XAN			LR	LR	
	comp=Z,4μm,16.2s				
TNCH	**TengChong**	**31.86 310**	⇓P	**P**	**10 06 10.8 +1.5**
TNCH			pP	pP	10 06 32.0 -1.4
TNCH			S	**S**	**10 11 13.4 +1.1**
TNCH			pmax	pmax	
	comp=Z,67nm,0.5s				
TNCH			pmax	pmax	
	comp=Z,400nm,4.3s				
TNCH			LR	LR	
	comp=Z,580nm,11.2s				
TNCH			LR	LR	
	comp=Z,650nm,13.0s				
TNCH			LR	LR	
	comp=Z,870nm,17.0s				
CD2	**Chengdu**	**32.01 324**	P	**P**	**10 06 11.7 +1.3**
CD2			pP	pP	10 06 34.2 -0.3
CD2			S	**S**	**10 11 14.1 -0.2**
CD2			sS	sS	10 11 57.8 +1.7
CD2			pmax	pmax	
	comp=Z,150nm,1.2s				
CD2			LR	LR	
	comp=Z,2μm,18.4s				
CD2			LR	LR	
	comp=Z,830nm,14.0s				
CD2			LR	LR	
	comp=Z,2μm,19.0s				
MAJO	**Matsushiro**	**32.79 20**	P	**P**	**10 06 16.6 -0.5**
MAJO	**Matsushiro**	**32.79 20**	P	**P**	**10 06 16.4 -0.8**
MAJO			IAmb	IAmb	10 06 19.9
	comp=Z,55nm,0.8s				
MAJO	**Matsushiro**	**32.79 20**	*i* P	**P**	**10 06 16.3 -0.8**
MAJO			pmax	pmax	
	comp=Z,101nm,1.3s				
MAJO	**Matsushiro**	**32.79 20**	P	**P**	**10 06 16.2 -0.8**
MAJO			pP	**pP**	**10 06 40.4 -0.8**
MJAR	**Matsushiro Arr**	**32.79 20**	P	**P**	**10 06 16.4 -0.7**
	comp=Z,47nm,0.7s,baz=191,slow=8.6,SNR=63				
MJAR			S	**S**	**10 11 23.2 -3.0**
	comp=Z,1.1nm,0.9s,baz=303,slow=40,SNR=2.1				
MJAR			ScP	**ScP**	**10 12 33.3 -0.9**
	comp=Z,5.6nm,0.9s,baz=211,slow=3.9,SNR=6.7				
MJAR			LR	LR	10 18 36.9
	comp=Z,1μm,21.4s,baz=216,slow=34				
	comp=Z,47nm,0.7s				
MJB9	**Matsu-Tunnel**	**32.79 20**	IAmb	IAmb	10 06 20.9
	comp=Z,53nm,0.8s				
HNS	**HongShan**	**32.80 345**	⇓P	**P**	**10 06 17.3 +0.1**
HNS			pP	**pP**	**10 06 41.2 -0.2**
HNS			PP	**PP**	**10 07 32.6 -0.8**
HNS			S	**S**	**10 11 24.4 -1.9**
HNS			pmax	pmax	
	comp=Z,21nm,1.0s				
HNS			LR	LR	
	comp=Z,1μm,19.1s				
HNS			LR	LR	
	comp=Z,2μm,22.6s				
TV1H	**Townsville Har**	**32.83 140**	P	**P**	**10 06 19.3 +1.7**
MEEK	**Meekatharra**	**32.93 191**	P	**P**	**10 06 18.7 +0.3**
DL2	**Dalian**	**33.04 355**	P	**P**	**10 06 18.8 -0.4**
DL2			pP	**pP**	**10 06 43.8 +0.3**
DL2			sP	**sP**	**10 06 55.3 -0.7**
DL2			PP	**PnPn**	**10 07 29.7 -3.1**
DL2			S	**S**	**10 11 26.6 -3.4**
DL2			pmax	pmax	
	comp=Z,88nm,0.8s				
DL2			pmax	pmax	
	comp=Z,410nm,6.7s				
DL2			LR	LR	
	comp=Z,2μm,19.0s				
DL2			LR	LR	
	comp=Z,3μm,19.3s				
DL2			LR	LR	
	comp=Z,3μm,21.5s				
CTAO	**Charters Tower**	**33.10 142**	P	**P**	**10 06 21.7 +1.7**
CTAO	**Charters Tower**	**33.10 142**	P	**P**	**10 06 21.3 +1.3**
CTAO			IAmb	IAmb	10 06 23.3
	comp=Z,124nm,1.1s				
CTAO	**Charters Tower**	**33.10 142**	P	**P**	**10 06 21.3 +1.3**
CTAO			pmax	pmax	
	comp=Z,124nm,1.1s				
CTAO	**Charters Tower**	**33.10 142**	P	**P**	**10 06 21.1 +1.1**
CTAO			PcP	**PcP**	**10 09 02.2 +1.2**
CTAO			ScP	**ScP**	**10 12 38.3 +2.7**
COCO	**West Island**	**33.40 237**	P	**P**	**10 06 23.0 +0.4**
COCO	**West Island**	**33.40 237**	P	**P**	**10 06 21.2 -1.4**
COCO			pmax	pmax	
	comp=Z,198nm,1.3s				
AUAYR	**Ayr State High**	**33.45 140**	P	**P**	**10 06 25.0 +2.0**
JMM	**Marumori**	**34.88 22**	P	**P**	**10 06 35.2 0.0**
BJT	**Baijiatuau**	**34.95 348**	P	**P**	**10 06 36.0 +0.3**
BJT	**Baijiatuau**	**34.95 348**	IAmb	IAmb	10 07 16.9
	comp=Z,121nm,1.1s				
BJT	**Baijiatuau**	**34.95 348**	P	**P**	**10 06 35.8 +0.1**
BJT	**Baijiatuau**	**34.95 348**	P	**P**	**10 06 35.8 +0.1**
BJT			pP	**pP**	**10 07 00.9 +0.5**
BJT			sP	**sP**	**10 07 11.9 -1.1**
BJT			ScP	**ScP**	**10 12 43.1 +1.3**
BJI	**Beijing**	**34.97 348**	P	**P**	**10 06 35.7 -0.2**
BJI			pP	**pP**	**10 07 00.8 +0.3**
BJI			sP	**sP**	**10 07 11.6 -1.5**
BJI			S	**S**	**10 11 58.2 -1.5**
BJI			sS	**ScP**	**10 12 42.4 +0.6**
BJI			PcS	**PcS**	**10 12 52.5 -0.3**
BJI			pmax	pmax	
	comp=Z,56nm,1.0s				
BJI			pmax	pmax	
	comp=Z,440nm,5.2s				
BJI			LR	LR	
	comp=Z,450nm,15.0s				
BJI			LR	LR	
	comp=Z,490nm,17.8s				
BJI			LR	LR	
	comp=Z,720nm,18.5s				
OOD	**Oodnadatta**	**34.98 164**	P	**P**	**10 06 36.6 +0.5**
MORW	**Morawa**	**35.83 194**	P	**P**	**10 06 44.2 +0.8**
MORW	**Morawa**	**35.83 194**	IAmb	IAmb	10 06 45.8
	comp=Z,64nm,1.1s				
SNY	**Shenyang**	**35.84 358**	⇑P	**P**	**10 06 43.4 +0.1**
SNY			pP	**pP**	**10 07 09.5 +1.7**
SNY			sP	**sP**	**10 07 20.3 -0.2**
SNY			S	**S**	**10 12 12.0 -0.9**
SNY			pmax	pmax	
	comp=Z,47nm,0.7s				
SNY			pmax	pmax	
	comp=Z,480nm,4.6s				
SNY			LR	LR	
	comp=Z,1μm,21.0s				
SNY			LR	LR	
	comp=Z,1μm,20.8s				
SNY			LR	LR	
	comp=Z,3μm,24.5s				
LZH	**Lanzhou**	**35.88 330**	P	**P**	**10 06 46.0 +2.0**
LZH			pP	pP	10 07 10.3 +1.9
LZH			sP	sP	10 07 22.2 +1.3
LZH			S	**S**	**10 12 15.6 +1.4**
LZH			sS	sS	10 13 00.8 +4.4
LZH			pmax	pmax	
	comp=Z,120nm,1.1s				
LZH			LR	LR	
	comp=Z,5μm,16.7s				
LZH			LR	LR	
	comp=Z,4μm,17.5s				
LZH			LR	LR	
	comp=Z,3μm,18.5s				
FORT	**Forrest**	**36.55 176**	P	**P**	**10 06 50.3 +0.9**
INKA	**Innaminka**	**36.65 156**	P	**P**	**10 06 51.3 +1.0**
HHC	**Hu-ho-hao-te**	**36.90 343**	*e*P	**P**	**10 06 53.4 +0.9**
HHC			pP	pP	10 07 17.2 +0.1
HHC			PP	**PnPn**	**10 08 25.7 +5.5**
HHC			S	**S**	**10 12 29.2 -0.3**
HHC			pmax	pmax	
	comp=Z,24nm,0.8s				
HHC			pmax	pmax	
	comp=Z,200nm,4.2s				
MULG	**Mulgathing**	**36.94 167**	P	**P**	**10 06 54.3 +1.5**
MSHR	**Mys Shultsa**	**36.94 7**	*ce*P	**P**	**10 06 54.4 +1.7**
MSHR			pmax	pmax	
	comp=Z,38nm,0.7s				
PSTR	**Posyet**	**36.97 7**	*i* P	**P**	**10 06 54.2 +1.3**
BTO	**Baotou**	**37.16 341**	*e*P	P	10 06 59.9 +5.2
BTO			pP	sP	10 07 25.3 -6.5
BTO			sP	pP	10 07 38.7 +19
BTO			S	**S**	**10 12 29.9 -3.5**
BTO			pmax	pmax	
	comp=Z,18nm,0.4s				
BTO			pmax	pmax	
	comp=Z,270nm,5.8s				
KMBL	**Kambalda**	**37.16 185**	P	**P**	**10 06 54.7 0.0**
BLDU	**Ballidu**	**37.17 192**	P	**P**	**10 06 55.2 +0.5**
QLP	**Quilpie**	**37.18 151**	P	**P**	**10 06 55.4 +0.5**
SHL	**Shillong**	**37.37 305**	P	**P**	**10 06 58.6 +1.8**
	SNR=34				
SHL	**Shillong**	**37.37 305**	P	**P**	**10 06 57.9 +1.1**
JTM	**Tenmabayashi**	**37.58 20**	P	**P**	**10 06 59.7 +1.7**
CN2	**Changchun**	**37.78 0**	P	**P**	**10 07 01.0 +1.3**
CN2			pP	pP	10 07 24.9 +0.5
CN2			PP	**PnPn**	**10 08 31.3 +0.7**
CN2			S	**S**	**10 12 43.3 +0.8**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.6s				
CN2			pmax	pmax	
	comp=Z,200nm,3.0s				
HNR	**Honiara**	**37.85 113**	LR	LR	10 22 08.0
	comp=Z,5μm,21.0s,baz=289,slow=35				
LCRK	**Leigh Creek**	**38.21 162**	P	**P**	**10 07 05.4 +1.9**
USA0B	**Ussuriysk Arra**	**38.65 8**	P	**P**	**10 07 07.6 +0.6**
USA0B	**Ussuriysk Arra**	**38.65 8**	P	**P**	**10 07 07.6 +0.6**
USA0B			pmax	pmax	
	comp=Z,318nm,1.5s				
USRK	**Ussuriysk Ar.**	**38.65 8**	P	**P**	**10 07 07.2 +0.2**
USRK	**Ussuriysk Ar.**	**38.65 8**	P	**P**	**10 07 07.3 +0.3**
	comp=Z,55nm,0.9s,baz=192,slow=7.1,SNR=63				
USRK			LR	LR	10 22 42.0
	comp=Z,423nm,21.9s,baz=186,slow=35				
	comp=Z,55nm,0.9s				
XLT	**XiLinHaoTe**	**38.71 349**	*e*P	**P**	**10 07 08.3 +0.6**
XLT			pP	pP	10 07 33.0 +0.4
XLT			S	**S**	**10 12 53.0 -3.7**
XLT			SS	**SS**	**10 15 48.2 -3.5**
XLT			pmax	pmax	
	comp=Z,11nm,0.6s				
MDJ	**Mudanjiang**	**38.79 5**	P	**P**	**10 07 09.2 +1.0**
MDJ	**Mudanjiang**	**38.79 5**	P	**P**	**10 07 08.2 0.0**
MDJ			pP	pP	10 07 31.3 -1.7
MDJ			ScP	**ScP**	**10 12 54.5 -1.5**
MDJ			S	**S**	**10 13 03.3 +5.6**
MDJ			PcS	**PcS**	**10 13 05.0 -1.9**
MDJ			ScS	**ScS**	**10 17 06.0 -0.9**
MDJ			pmax	pmax	
	comp=Z,43nm,0.9s				
MDJ			pmax	pmax	
	comp=Z,380nm,4.8s				
MDJ			LR	LR	
	comp=Z,870nm,21.3s				
MDJ			LR	LR	
	comp=Z,710nm,17.5s				
MDJ			LR	LR	
	comp=Z,1μm,23.4s				
MDJ	**Mudanjiang**	**38.79 5**	P	**P**	**10 07 08.7 +0.5**
MDJ			pP	**pP**	**10 07 33.3 +0.3**
NWAO	**Narrogin (SRO)**	**39.31 191**	P	**P**	**10 07 13.9 +1.2**
NWAO	**Narrogin (SRO)**	**39.31 191**	P	**P**	**10 07 13.3 +0.6**
NWAO			IAmb	IAmb	10 07 15.7
	comp=Z,105nm,0.9s				
NWAO	**Narrogin (SRO)**	**39.31 191**	LR	LR	10 24 36.4
	comp=Z,400nm,20.4s,baz=26,slow=38				
NWAO	**Narrogin (SRO)**	**39.31 191**	P	**P**	**10 07 13.0 +0.4**
NWAO	**Narrogin (SRO)**	**39.31 191**	P	**P**	**10 07 13.3 +0.6**
NWAO			pmax	pmax	
	comp=Z,105nm,1.0s				
NWAO	**Narrogin (SRO)**	**39.31 191**	P	**P**	**10 07 12.6 -0.1**
ERM	**Erimo**	**39.39 21**	P	**P**	**10 07 14.9 +1.6**
ERM	**Erimo**	**39.39 21**	P	**P**	**10 07 14.8 +1.6**
ERM			IAmb	IAmb	10 08 08.1
	comp=Z,95nm,1.1s				
ERM	**Erimo**	**39.39 21**	*ce*P	**P**	**10 07 14.6 +1.4**
ERM			pmax	pmax	
	comp=Z,66nm,1.1s				
ERM	**Erimo**	**39.39 21**	P	**P**	**10 07 14.4 +1.2**
JEM	**Erimo**	**39.39 21**	P	**P**	**10 07 14.6 +1.4**
BNX	**BinXian**	**39.77 2**	⇓P	**P**	**10 07 16.4 +0.1**
BNX			pP	**pP**	**10 07 40.7 -0.4**
BNX			sP	**sP**	**10 07 53.2 -0.3**
BNX			PP	**PP**	**10 08 52.5 +2.7**
BNX			S	**S**	**10 13 12.7 +0.4**
BNX			sS	**sS**	**10 14 00.3 +5.4**
BNX			SS	**SS**	**10 16 13.5 +1.0**
BNX			pmax	pmax	
	comp=Z,17nm,1.1s				
BNX			pmax	pmax	
	comp=Z,260nm,5.4s				
BBOO	**Buckleboo**	**39.84 166**	P	**P**	**10 07 17.3 +0.3**
LSA	**Lhasa**	**39.87 311**	P	**P**	**10 07 20.2 +2.2**
LSA			S	**S**	**10 13 18.0 +2.8**
LSA			LR	LR	
	comp=Z,650nm,16.5s				
LSA			LR	LR	
	comp=Z,500nm,18.7s				
LSA			LR	LR	
	comp=Z,560nm,14.0s				
LSA	**Lhasa**	**39.87 311**	P	**P**	**10 07 20.1 +2.2**
LSA	**Lhasa**	**39.87 311**	P	**P**	**10 07 20.5 +2.5**
LSA	**Lhasa**	**39.87 311**	P	**P**	**10 07 20.2 +2.2**
EIDS	**Eidsvold**	**39.99 142**	P	**P**	**10 07 18.6 +0.2**
EIDS	**Eidsvold**	**39.99 142**	P	**P**	**10 07 18.6 +0.2**
EIDS			IAmb	IAmb	10 07 20.3
	comp=Z,110nm,1.1s				
TEY	**Ternei**	**40.27 13**	*e*P	**P**	**10 07 19.7 -0.8**
TEY			*e*		10 07 47.0
TEY			*e*		10 13 15.3
TEY			pmax	pmax	
	comp=E,20nm,1.2s				
TEY			pmax	pmax	
	comp=N,140nm,1.1s				
TEY			pmax	pmax	
	comp=Z,190nm,1.1s				
WHYH	**Whyalla**	**40.44 164**	P	**P**	**10 07 23.2 +1.2**
GTA	**Gaotai**	**40.47 329**	P	**P**	**10 07 23.8 +1.4**
GTA			pP	pP	10 07 48.4 +1.1
GTA			sP	sP	10 07 59.5 -0.1
GTA			S	**S**	**10 13 21.0 -2.3**
GTA			SS	**SS**	**10 16 29.7 +2.7**
GTA			pmax	pmax	
	comp=Z,33nm,1.7s				
GTA			pmax	pmax	
	comp=Z,290nm,6.5s				
GTA			LR	LR	
	comp=Z,2μm,18.5s				
GTA			LR	LR	
	comp=Z,2μm,16.0s				
GTA			LR	LR	
	comp=Z,2μm,14.9s				
STKA	**Stephens Creek**	**40.67 158**	P	**P**	**10 07 25.1 +1.1**
STKA	**Stephens Creek**	**40.67 158**	P	**P**	**10 07 24.9 +0.9**
STKA	**Stephens Creek**	**40.67 158**	P	**P**	**10 07 24.9 +0.9**
	comp=Z,83nm,0.7s,baz=336,slow=8.5,SNR=89				
STKA			PcP	**PcP**	**10 09 23.4 -0.4**
	comp=Z,28nm,0.5s,baz=350,slow=5.6,SNR=4.3				
STKA			ScP	**ScP**	**10 13 02.6 -0.9**
	comp=Z,5.4nm,0.4s,baz=340,slow=5.2,SNR=7.5				
	comp=Z,83nm,0.7s				
STKA	**Stephens Creek**	**40.67 158**	*i* P	**P**	**10 07 25.2 +1.2**
RKGY	**Rocky Gully**	**40.99 190**	P	**P**	**10 07 29.0 +2.4**
GOMU	**GeErMu**	**41.05 322**	P	**P**	**10 07 29.9 +2.4**
GOMU			S	**S**	**10 13 29.6 -2.8**
GOMU			sS	sS	10 14 21.4 +6.1
GOMU			pmax	pmax	
	comp=Z,69nm,1.3s				
GOMU			LR	LR	
	comp=Z,2μm,17.9s				
GOMU			LR	LR	
	comp=Z,2μm,17.8s				
GOMU			LR	LR	
	comp=Z,3μm,18.7s				
ASAJ	**Asahikawa**	**41.05 19**	LR	LR	10 22 09.1
	comp=Z,722nm,21.0s,baz=214,slow=32				
ASAJ	**Asahikawa**	**41.05 19**	P	**P**	**10 07 28.9 +2.0**
ASAJ			pmax	pmax	
	comp=Z,159nm,1.3s				
JKA	**Kamikawa-asahi**	**41.06 19**	P	**P**	**10 07 28.9 +1.9**
JKA			IAmb	IAmb	10 08 17.4

comp=Z,159nm,1.3s
HTT Hallett 41.20 162 P **P** **10 07 29.9 +1.6**
HTT Hallett 41.20 162 P **P** **10 07 30.0 +1.6**
AULRC Lightning Ridg 41.38 149 P **P** **10 07 30.4 +0.6**
CMSA Cobar Meteorol 42.04 153 P **P** **10 07 37.2 +2.0**
YUK Yuzh-Kuril'sk 42.13 22 *i* P **P** **10 07 36.9 +1.2**
H11S3 WAKE ISLAND Hy 42.37 69 T T 10 52 02.4
baz=258,slow=75,SNR=100
H11S1 WAKE ISLAND Hy 42.38 69 T T 10 51 59.8
baz=258,slow=75,SNR=71
H11S2 WAKE ISLAND Hy 42.38 69 T T 10 52 00.9
baz=258,slow=75,SNR=71
AUWSH Wavell State H 42.66 142 P **P** **10 07 41.3 +1.1**
KLR Kul'dur 43.57 6 P **P** **10 07 47.1 -0.2**
comp=Z,15nm,0.9s,baz=214,slow=4.8,SNR=30
KLR LR LR 10 27 36.5
comp=Z,442nm,19.5s,baz=203,slow=38
comp=Z,15nm,0.9s
KLR Kul'dur 43.57 6 *ce*P **P** **10 07 47.4 +0.1**
KLR pmax pmax
comp=Z,26nm,1.3s
YSS Yuzh-Sakhalins 43.65 17 P **P** **10 07 49.2 +1.3**
YSS Yuzh-Sakhalins 43.65 17 P **P** **10 07 48.1 +0.3**
YSS IAmb IAmb 10 08 14.9
comp=Z,173nm,1.5s
YSS Yuzh-Sakhalins 43.65 17 *e*P **P** **10 07 48.4 +0.5**
YSS *e**PP **pP** **10 08 12.1 -1.0**
YSS *e* 10 09 31.0
YSS *e*S **S** **10 14 08.6 -0.9**
YSS *e*SS **SS** **10 17 32.0 +3.2**
YSS pmax pmax
comp=Z,300nm,2.2s
YSS pmax pmax
comp=Z,60nm,1.1s
YSS smax smax
comp=N,700nm,10.8s
YSS smax smax
comp=E,600nm,7.3s
YSS Yuzh-Sakhalins 43.65 17 P **P** **10 07 48.6 +0.7**
YSS pP **pP** **10 08 13.8 +0.7**
YSS PcP **PcP** **10 09 34.4 +1.1**
AUDCS Dubbo College 43.99 151 P **P** **10 07 52.6 +1.8**
ARMA Armidale 44.10 146 P **P** **10 07 53.6 +1.7**
ARMA Armidale 44.10 146 P **P** **10 07 52.6 +0.7**
ARMA IAmb IAmb 10 07 55.2
comp=Z,113nm,0.9s
PALK Pallekele 44.18 274 P **P** **10 07 54.6 +1.9**
PALK IAmb IAmb 10 07 56.0
comp=Z,151nm,1.6s
PALK Pallekele 44.18 274 LR LR 10 28 35.2
comp=Z,342nm,19.1s,baz=186,slow=39
PALK Pallekele 44.18 274 P **P** **10 07 54.3 +1.5**
PALK Pallekele 44.18 274 P **P** **10 07 54.6 +1.9**
PALK pmax pmax
comp=Z,151nm,1.7s
AUPHS Peel High Scho 44.23 148 P **P** **10 07 55.6 +2.8**
HEH HeiHe 44.27 2 *e*P **P** **10 07 53.0 +0.1**
HEH pP **pP** **10 08 17.9 -0.2**
HEH S **S** **10 14 13.6 -4.9**
HEH ScS **SS** **10 17 38.0 -2.6**
HEH pmax pmax
comp=Z,32nm,0.8s
HEH pmax pmax
comp=Z,200nm,4.7s
MALK Mahakanadarawa 44.33 276 P **P** **10 07 54.0 +0.1**
ULN Ulaanbaatar 44.62 343 P **P** **10 07 56.4 +0.5**
ULN Ulaanbaatar 44.62 343 P **P** **10 07 56.9 +1.1**
ULN Ulaanbaatar 44.62 343 *ce*P **P** **10 07 56.2 +0.3**
ULN pmax pmax
comp=Z,30nm,1.0s
ULN Ulaanbaatar 44.62 343 P **P** **10 07 56.0 +0.1**
ULN pP **pP** **10 08 21.9 +0.8**
SONM Songino Array 44.79 342 P **P** **10 07 57.3 +0.2**
SONM Songino Array 44.79 342 P **P** **10 07 57.4 +0.2**
comp=Z,14nm,0.8s,baz=157,slow=8.9,SNR=49
SONM LR LR 10 27 43.1
comp=Z,920nm,20.8s,baz=155,slow=37
comp=Z,14nm,0.8s
ARPS Mount Arapiles 45.20 161 P **P** **10 08 01.7 +1.3**
UGL Uglegorsk 45.38 16 *e*P **P** **10 07 58.7 -2.9**
UGL *e* 10 08 27.7
UGL *e*S **S** **10 14 34.8 +0.3**
UGL smax smax
comp=E,1μm,4.0s
UGL smax smax
comp=N,2μm,7.0s
YNG Young 45.59 153 P **P** **10 08 06.3 +2.8**
AUMAG Moama Anglican 45.61 158 P **P** **10 08 06.8 +3.1**
GRNR Gornyy 45.73 10 ⇑ *i* P **P** **10 08 04.9 +0.5**
GRNR pmax pmax
comp=Z,20nm,1.0s
RIV Riverview 46.52 150 P **P** **10 08 14.8 +4.0**
RIV Riverview 46.52 150 P **P** **10 08 14.4 +3.6**
RIV pmax pmax
comp=Z,191nm,2.1s
BRAT Ballarat 46.61 159 P **P** **10 08 14.0 +2.6**
CAN Canberra 46.71 153 P **P** **10 08 14.4 +2.0**
CAN Canberra 46.71 153 P **P** **10 08 14.1 +1.8**
CAN Canberra 46.71 153 P **P** **10 08 14.1 +1.8**
CAN pmax pmax
comp=Z,286nm,1.2s
CAN Canberra 46.71 153 P **P** **10 08 14.3 +2.0**
CAN pP **pP** **10 08 40.5 +3.2**
CAN PcP **PcP** **10 09 45.3 +1.1**
WOLH Wollongong Har 46.84 151 P **P** **10 08 15.8 +2.5**
CNB Canberra Magne 46.87 153 P **P** **10 08 16.2 +2.6**
HYB Hyderabad 46.95 288 *e*P **P** **10 08 15.8 +1.3**
HYB IVmB_BB 10 08 16.5
comp=Z,2μm,1.6s
HYB *e* 10 08 44.3
HYB *e*PcP **PcP** **10 09 46.0 +0.5**
HYB *e*ScP **ScP** **10 13 30.1 +0.6**
HYB *e*S **S** **10 14 59.0 +1.1**
HYB *es*S **sS** **10 15 40.9 -0.6**
TYV Tymovskoe 47.17 15 *e*P **P** **10 08 16.3 +0.7**
TYV *e*S **S** **10 15 02.8 +2.8**
TYV pmax pmax
comp=Z,100nm,3.9s
TYV pmax pmax
comp=Z,15nm,1.2s
TYV smax smax
comp=N,700nm,6.2s
TYV smax smax
comp=E,400nm,6.2s
TOO Toolangi 47.19 158 P **P** **10 08 18.6 +2.6**
TOO Toolangi 47.19 158 P **P** **10 08 18.3 +2.3**
TOO Toolangi 47.19 158 P **P** **10 08 18.3 +2.3**
TOO pmax pmax
comp=Z,203nm,1.0s
MLBS Spotswood, Mel 47.20 159 P **P** **10 08 18.8 +2.8**
GEXS Deakin Univers 47.31 159 P **P** **10 08 20.3 +3.4**
AUUHS Ulladulla High 47.42 152 P **P** **10 08 20.4 +2.6**
ZEA Zeya 47.76 2 *e*P **P** **10 08 20.1 0.0**
ZEA *e**SP **sP** **10 08 58.1 +0.2**
ZEA *e* 10 10 16.8
ZEA *e*S **S** **10 15 11.0 +2.7**
ZEA pmax pmax
comp=N,200nm,2.9s
ZEA pmax pmax
comp=Z,300nm,4.5s
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,40nm,1.2s
ZEA pmax pmax
comp=N,200nm,4.5s
ZEA pmax pmax
comp=Z,300nm,4.9s
ZAK Zakamensk 48.01 341 *e*P **P** **10 08 22.6 +0.3**
ZAK pmax pmax
comp=Z,13nm,1.6s
MILA Mila 48.23 154 P **P** **10 08 26.5 +2.4**
NOUC Port Laguerre 48.94 126 P **P** **10 08 31.7 +2.0**
NOUC Port Laguerre 48.94 126 P **P** **10 08 31.1 +1.4**
NOUC pP **pwP** **10 08 56.7 -0.1**
NOUC sP **sP** **10 09 08.5 +1.8**
NOUC PcP **PcP** **10 09 54.6 +2.1**
DZM Mont Dzumac 49.04 126 P **P** **10 08 32.4 +1.8**
DZM Mont Dzumac 49.04 126 *e*P **P** **10 08 31.4 +0.8**
comp=Z,259nm,1.4s
DZM *ep*P **pP** **10 08 55.1 -0.6**
comp=Z,229nm,1.3s
DZM *e*S **S** **10 15 24.1 -3.3**
comp=Z,517nm,27.2s
DZM *e*LR LR 10 22 27.5
comp=Z,1μm,29.3s
DZM Mont Dzumac 49.04 126 P **P** **10 08 31.7 +1.1**
DZM IAmb IAmb 10 08 33.7
comp=Z,75nm,0.8s
DZM Mont Dzumac 49.04 126 P **P** **10 08 31.5 +0.8**
DZM pP **pwP** **10 08 57.5 -0.2**
DZM sP **sP** **10 09 07.8 +0.2**
LIFNC LIFOU 49.07 124 P **P** **10 08 32.2 +1.5**
YATNC Mamie plateau, 49.40 126 P **P** **10 08 35.2 +2.0**
MOY Mondy 49.85 341 *e*P **P** **10 08 37.6 +1.2**
MOY pmax pmax
comp=Z,62nm,2.1s
WMQ Urumqi 50.09 325 *e*P **P** **10 08 39.7 +1.5**
WMQ pP pP 10 09 05.4 +1.5
WMQ S **S** **10 15 40.2 -1.3**
WMQ sS sS 10 16 25.3 -0.2
WMQ pmax pmax
comp=Z,38nm,1.3s
WMQ pmax pmax
comp=Z,890nm,3.9s
WMQ LR LR
comp=Z,4μm,18.1s
WMQ LR LR
comp=Z,2μm,14.9s
WMQ LR LR
comp=Z,1μm,22.3s
AULHS Lilydale High 51.06 159 P **P** **10 08 47.3 +1.9**
SKR Severo-Kuril's 51.60 25 *e*P **P** **10 08 47.6 -1.7**
SKR *e*S **S** **10 16 00.6 -1.3**
SKR *e*SS **ScS** **10 18 25.6 -3.2**
SKR pmax pmax
comp=Z,200nm,3.0s
SKR MLR MLR
comp=Z,400nm,17.0s
BOD Bodaibo 52.55 353 *e*P **P** **10 08 59.1 +2.9**
BOD pmax pmax
comp=Z,53nm,1.6s
TAU Tasmania Unive 52.55 160 P **P** **10 08 59.0 +2.6**
ZSN Zaisan 53.88 327 *e*P **P** **10 09 06.3 +0.1**
comp=Z,17nm,0.7s,baz=327
ZSN Zaisan 53.88 327 *e*P **P** **10 09 06.3 +0.1**
ZSN pmax pmax
comp=Z,17nm,0.7s
PEA0B Petropavlovsk- 54.08 24 *ce*P **P** **10 09 08.5 +1.0**
PETK Petropavlovsk- 54.08 24 P **P** **10 09 07.5 -0.1**
PETK Petropavlovsk- 54.08 24 P **P** **10 09 08.6 +1.0**
comp=Z,74nm,0.8s,baz=198,slow=4.2,SNR=77
PETK LR LR 10 31 22.0
comp=Z,346nm,20.3s,baz=215,slow=35
comp=Z,74nm,0.8s
PET Petropavlovsk 54.40 24 P **P** **10 09 10.8 +1.0**
PET Petropavlovsk 54.40 24 P **P** **10 09 10.5 +0.6**
PET Petropavlovsk 54.40 24 *e*P **P** **10 09 10.6 +0.8**
PET *e**PP **pP** **10 09 36.7 +0.8**
PET *e* 10 11 14.1
PET *e*S **S** **10 16 40.1 +0.3**
PET *e**SS **sS** **10 17 25.0 +3.5**
PET *e* 10 18 50.3
PET pmax pmax
comp=Z,100nm,1.4s
PET pmax pmax
comp=Z,100nm,13.2s
PET Petropavlovsk 54.40 24 P **P** **10 09 11.8 +2.0**
comp=Z,88nm,1.2s,comp=Z,1μm
PET Petropavlovsk 54.40 24 P **P** **10 09 10.2 +0.4**
SHLS Shalkode 54.72 320 *e*P **P** **10 09 11.0 -1.6**
comp=Z,37nm,1.1s,baz=320
SHLS *e*S **S** **10 16 42.5 -2.3**
baz=320
SHLS Shalkode 54.72 320 *e*P **P** **10 09 10.9 -1.6**
SHLS *e*S **S** **10 16 42.4 -2.3**
SHLS pmax pmax
comp=Z,37nm,1.1s
MK31 Makanchi Array 54.92 325 P **P** **10 09 14.7 +0.9**
MK31 IAmb IAmb 10 09 41.0
comp=Z,65nm,1.0s
MK31 Makanchi Array 54.92 325 *ce*P **P** **10 09 15.4 +1.6**
MKAR Makanchi Array 54.92 325 P **P** **10 09 14.8 +1.0**
MKAR Makanchi Array 54.92 325 P **P** **10 09 14.4 +0.6**
comp=Z,16nm,0.7s,baz=126,slow=7.6,SNR=6.2
MKAR pP **pP** **10 09 39.2 -0.8**
comp=Z,57nm,0.8s,baz=126,slow=8.2,SNR=10
MKAR LR LR 10 34 10.7
comp=Z,762nm,18.9s,baz=120,slow=38
MKAR PKPPKP **P'P'df** **10 39 14.9 -7.3**
comp=Z,0.5nm,0.7s,baz=95,slow=2.9,SNR=4.5
MKAR PKP2bc 10 39 35.3
comp=Z,1.4nm,1.0s,baz=191,slow=1.2,SNR=3.8
comp=Z,16nm,0.7s
UZB Uzynbulak 54.99 320 *e*P **P** **10 09 14.8 +0.3**
comp=Z,23nm,1.1s,baz=320
UZB Uzynbulak 54.99 320 *e*P **P** **10 09 14.8 +0.3**
UZB pmax pmax
comp=Z,23nm,1.1s
MAKZ Makanchi 55.11 325 P **P** **10 09 15.4 +0.3**
MAKZ pP **pP** **10 09 41.3 -0.1**
MAKZ sP **sP** **10 09 51.9 -1.5**
SATY Saty 55.35 320 *e*P **P** **10 09 17.6 +0.5**
comp=Z,28nm,0.8s,baz=320
SATY Saty 55.35 320 *e*P **P** **10 09 17.5 +0.5**
SATY pmax pmax
comp=Z,28nm,0.8s
KPKS Kokpek 55.36 320 *e*P **P** **10 09 17.7 +0.5**
comp=Z,30nm,0.9s,baz=320
KPKS *e*S **S** **10 16 54.2 +0.9**
baz=320
KPKS Kokpek 55.36 320 *e*P **P** **10 09 17.6 +0.5**
KPKS *e*S **S** **10 16 54.2 +0.9**
KPKS pmax pmax
comp=Z,30nm,0.9s
ZHN Zhinishke 55.38 320 *e*P **P** **10 09 17.3 0.0**
baz=320
ZHN Zhinishke 55.38 320 *e*P **P** **10 09 17.2 0.0**
NIL Nilore 55.40 307 P **P** **10 09 18.5 +1.0**
NIL Nilore 55.40 307 P **P** **10 09 18.5 +1.0**
NIL pmax pmax
comp=Z,187nm,0.9s
NIL Nilore 55.40 307 P **P** **10 09 18.4 +1.0**
NIL pP **pP** **10 09 44.5 +0.6**
KSH Kashi 55.44 315 P **P** **10 09 20.0 +2.2**
KSH pP pP 10 09 46.4 +2.5
KSH sP sP 10 09 56.3 +0.3
KSH S **S** **10 16 58.3 +3.8**
KSH sS sS 10 17 44.4 +4.9
KSH pmax pmax
comp=Z,58nm,1.4s
KSH LR LR
comp=Z,2μm,22.0s
KSH LR LR
comp=Z,1μm,16.5s
KSH LR LR
comp=Z,910nm,19.2s
YAK Yakutsk 56.14 3 P **P** **10 09 22.3 +0.1**
YAK Yakutsk 56.14 3 P **P** **10 09 22.5 +0.3**
comp=Z,86nm,0.8s,baz=8.5,slow=3.3,SNR=9.0
YAK pP **pP** **10 09 47.8 -0.7**
comp=Z,206nm,0.8s,baz=237,slow=2.1,SNR=6.3
YAK LR LR 10 34 11.2
comp=Z,339nm,20.1s,baz=177,slow=37
comp=Z,86nm,0.8s
YAK Yakutsk 56.14 3 *e*P **P** **10 09 22.0 -0.2**
YAK *e**PP **pP** **10 09 47.7 -0.7**
YAK *e* 10 10 18.1
YAK *e* 10 11 31.7
YAK *e*S **S** **10 17 03.7 +1.0**
YAK *e* 10 19 01.4
YAK pmax pmax
comp=Z,175nm,0.9s
YAK pmax pmax
comp=N,41nm,1.2s
YAK pmax pmax
comp=E,12nm,1.5s
YAK pmax pmax
comp=Z,101nm,2.0s
YAK pmax pmax
comp=E,42nm,2.0s
YAK pmax pmax
comp=N,73nm,2.0s
YAK smax smax
comp=N,177nm,2.5s
YAK smax smax
comp=E,76nm,2.3s
MDOK Medeo 56.27 319 *e*P **P** **10 09 24.0 +0.3**
baz=319
MDOK *e*S **S** **10 17 06.3 +0.8**
baz=319
MDOK Medeo 56.27 319 *e*P **P** **10 09 24.0 +0.3**
MDOK *e*S **S** **10 17 06.3 +0.8**
TDK Taldyqorghan 56.28 322 *e*P **P** **10 09 23.8 +0.2**
comp=E,23nm,0.7s,baz=322
TDK Taldyqorghan 56.28 322 *e*P **P** **10 09 23.7 +0.2**
TDK pmax pmax
comp=Z,23nm,0.7s
TNSS Tian-Shan 56.28 319 *e*P **P** **10 09 24.2 +0.1**
baz=319
TNSS Tian-Shan 56.28 319 *e*P **P** **10 09 24.1 +0.1**
AAA Alma-Ata 56.38 319 *e*P **P** **10 09 24.6 +0.2**
comp=Z,31nm,0.7s,baz=319
AAA Alma-Ata 56.38 319 *e*P **P** **10 09 24.6 +0.2**
AAA pmax pmax
comp=Z,31nm,0.7s
CHKK Chushkaly 56.63 320 *e*P **P** **10 09 26.2 +0.1**
baz=320
CHKK Chushkaly 56.63 320 *e*P **P** **10 09 26.1 +0.1**
BOOM Boomskoye usch 56.71 318 P **P** **10 09 27.1 +0.3**
BOOM Boomskoye usch 56.71 318 P **P** **10 09 27.1 +0.3**
BOOM pmax pmax
comp=Z,33nm,1.0s
MA2 Magadan 57.04 15 P **P** **10 09 28.9 +0.3**
MA2 Magadan 57.04 15 P **P** **10 09 29.1 +0.5**
MA2 IAmb IAmb 10 09 38.9
comp=Z,39nm,0.6s
MA2 Magadan 57.04 15 P **P** **10 09 29.2 +0.7**
comp=Z,28nm,0.6s,baz=194,slow=4.7,SNR=31
MA2 LR LR 10 37 16.1
comp=Z,142nm,18.5s,baz=210,slow=39
comp=Z,28nm,0.6s
MA2 Magadan 57.04 15 *ce*P **P** **10 09 28.9 +0.3**
MA2 pmax pmax
comp=Z,39nm,0.8s
MA2 Magadan 57.04 15 P **P** **10 09 29.3 +0.7**
comp=Z,57nm,0.7s,comp=Z,1μm
MA2 Magadan 57.04 15 P **P** **10 09 29.1 +0.5**
MA2 pP **pP** **10 09 54.0 -0.9**
MA2 sP **sP** **10 10 06.5 -0.5**
MA2 PcP **PcP** **10 10 22.3 -0.1**
TKM2 Tokmak 2 57.12 318 *i* P **P** **10 09 28.4 -1.4**
TKM2 pmax pmax
comp=Z,61nm,1.0s
MSVF Nonsavu 57.22 115 P **P** **10 09 33.4 +2.7**
MSVF Nonsavu 57.22 115 P **P** **10 09 31.6 +0.9**
MSVF Nonsavu 57.22 115 P **P** **10 09 31.6 +0.9**
MSVF pmax pmax
comp=Z,138nm,1.2s
MSVF Nonsavu 57.22 115 P **P** **10 09 33.7 +3.0**
MSVF pP **pwP** **10 09 59.0 +0.3**
FRU1 Bishkek 57.72 318 P **P** **10 09 35.6 +1.9**
FRU1 Bishkek 57.72 318 P **P** **10 09 35.7 +1.9**
FRU1 pmax pmax
comp=Z,313nm,2.0s
AAK Ala-Archa 57.74 318 P **P** **10 09 34.3 +0.3**
AAK IAmb IAmb 10 09 38.5
comp=Z,33nm,0.9s
AAK Ala-Archa 57.74 318 *i* P **P** **10 09 35.3 +1.2**
SNR=12
AAK Ala-Archa 57.74 318 P **P** **10 09 33.8 -0.2**
comp=Z,14nm,0.6s,baz=121,slow=8.7,SNR=16
AAK LR LR 10 37 48.3
comp=Z,687nm,18.6s,baz=113,slow=39
comp=Z,14nm,0.6s
AAK Ala-Archa 57.74 318 *i* P **P** **10 09 34.9 +0.9**
AAK pmax pmax
comp=Z,37nm,1.4s
ZAA0 Zalesovo Array 57.99 333 IAmb IAmb 10 10 01.5
comp=Z,49nm,1.1s
ZALV Zalesovo Beam 57.99 333 P **P** **10 09 34.5 -0.8**
comp=Z,8.6nm,0.8s,baz=122,slow=7.0,SNR=23
ZALV pP **pP** **10 09 59.8 -2.0**
comp=Z,25nm,1.0s,baz=116,slow=6.8,SNR=7.0
ZALV LR LR 10 35 06.6
comp=Z,435nm,19.9s,baz=124,slow=36
ZALV PKP2bc 10 39 26.2
comp=Z,5.0nm,0.9s,baz=298,slow=3.2,SNR=10
comp=Z,8.6nm,0.8s
SGDS Sogindy 57.99 318 *e*P **P** **10 09 35.8 +0.1**
baz=318
SGDS Sogindy 57.99 318 *e*P **P** **10 09 35.8 +0.1**
KBL Kabul 58.99 307 P **P** **10 09 43.9 +0.9**
KBL Kabul 58.99 307 P **P** **10 09 44.0 +0.9**
SNR=35
KBL Kabul 58.99 307 P **P** **10 09 43.9 +0.9**
KBL pmax pmax
comp=Z,82nm,0.8s
BTLS Baital 59.05 320 *e*P **P** **10 09 42.7 -0.2**
comp=Z,17nm,0.9s,baz=320
BTLS Baital 59.05 320 *e*P **P** **10 09 42.7 -0.2**
BTLS pmax pmax
comp=Z,17nm,0.9s
KURBB Kurchatov Arra 59.11 327 P **P** **10 09 43.0 -0.2**
comp=Z,10.0nm,0.7s,baz=128,slow=5.9,SNR=48
KURBB pP **pP** **10 10 09.0 -0.7**
comp=Z,54nm,0.9s,baz=127,slow=5.9,SNR=11
KURBB PKPPKP P'P'df 10 39 06.2 -9.4
comp=Z,2.4nm,1.1s,baz=270,slow=3.3,SNR=6.9
KURBB PKP2bc 10 39 22.9
comp=Z,0.8nm,0.7s,baz=306,slow=2.8,SNR=4.1
comp=Z,10.0nm,0.7s
KURK Kurchatov 59.11 327 P **P** **10 09 43.1 -0.1**
KURK Kurchatov 59.11 327 P **P** **10 09 44.1 +0.9**
KURK Kurchatov 59.11 327 *ce*P **P** **10 09 44.1 +0.9**
KURK pmax pmax
comp=Z,95nm,2.5s
KURK Kurchatov 59.11 327 P **P** **10 09 43.4 +0.2**
KURK pP **pP** **10 10 09.1 -0.6**
GAR Garm 59.34 312 P **P** **10 09 45.8 +0.6**
CHGR Chuyangaron 60.09 312 P **P** **10 09 51.1 +0.8**
CHGR Chuyangaron 60.09 312 P **P** **10 09 51.1 +0.8**
CHGR pmax pmax
comp=Z,588nm,1.8s
SIMJ Simiganj 60.20 311 P **P** **10 09 51.6 +0.5**
SIMJ Simiganj 60.20 311 P **P** **10 09 51.2 +0.1**
SIMJ pP **pP** **10 10 18.4 +0.6**
SEY Seymchan 60.33 14 P **P** **10 09 52.3 +1.0**
comp=Z,18nm,0.9s,baz=225,slow=5.2,SNR=32
comp=Z,18nm,0.9s
SEY Seymchan 60.33 14 *e*P **P** **10 09 51.7 +0.4**
SEY pmax pmax
comp=Z,36nm,1.5s
IUG Iuzhnay 60.60 316 *e*P **P** **10 09 54.1 +0.4**
comp=Z,24nm,0.8s,baz=316
IUG Iuzhnay 60.60 316 *e*P **P** **10 09 54.1 +0.4**
IUG pmax pmax
comp=Z,24nm,0.8s
KK31 Karatay Array 60.61 317 P **P** **10 09 54.4 +0.7**
KK31 IAmb IAmb 10 09 55.5
comp=Z,83nm,1.1s
KK31 Karatay Array 60.61 317 *i* P **P** **10 09 54.1 +0.4**
KKAR Karatay Array 60.61 317 P **P** **10 09 54.5 +0.8**
KKAR IAmb IAmb 10 09 55.4
comp=Z,83nm,1.1s
KKAR Karatay Array 60.61 317 P **P** **10 09 54.5 +0.8**
KKAR pmax pmax
comp=Z,83nm,1.2s
BRLS Borolday 61.05 316 *e*P **P** **10 09 56.9 +0.3**
comp=Z,21nm,0.9s,baz=316
BRLS Borolday 61.05 316 *e*P **P** **10 09 56.9 +0.3**
BRLS pmax pmax
comp=Z,21nm,0.9s
SHEM Shemya Is, Ala 61.44 31 LR LR 10 32 06.7
comp=Z,186nm,21.4s,baz=263,slow=31
MKAZ Moumakai 63.24 137 P **P** **10 10 14.8 +3.5**
JCZ Jackson Bay 63.34 146 P **P** **10 10 14.1 +2.2**
DCZ Deep Cove 63.37 148 P **P** **10 10 13.4 +1.4**
DCZ IAmb IAmb 10 10 41.8
comp=Z,105nm,0.9s
QRZ Quartz Range 63.56 141 P **P** **10 10 16.0 +2.7**
FOZ Fox Glacier 63.58 145 IAmb IAmb 10 10 16.4
comp=Z,126nm,1.4s
HIZ Hauiti 63.78 138 P **P** **10 10 18.2 +3.4**
TOZ Tahuroa Road 63.80 137 IAmb IAmb 10 10 18.8
comp=Z,121nm,1.3s
WKZ Wanaka 63.95 147 IAmb IAmb 10 10 48.9
comp=Z,77nm,1.1s
INZ Inchbonnie 64.02 144 IAmb IAmb 10 10 19.5
comp=Z,64nm,1.3s
NGCH Negor - Chabah 64.06 295 P **P** **10 10 18.5 +1.5**
NNZ Nelson 64.31 141 IAmb IAmb 10 10 21.6
comp=Z,145nm,1.2s
THZ Tophouse 64.33 142 P **P** **10 10 19.2 +0.8**
THZ IAmb IAmb 10 10 22.0

comp=Z,68nm,0.7s
RPZ Rata Peaks 64.40 145 P **P 10 10 20.9 +2.1**
RPZ Rata Peaks 64.40 145 LR LR 10 37 38.2
comp=Z,396nm,21.5s,baz=315,slow=35
HRA Herat 64.43 305 P **P 10 10 20.1 +0.6**
HRA IAmb IAmb 10 10 51.1
comp=Z,111nm,1.5s
TWVZ Taurewa 64.46 138 P **P 10 10 21.9 +2.5**
PKVZ Pokaka 64.51 139 P **P 10 10 22.2 +2.5**
LTZ Lake Taylor 64.55 143 P **P 10 10 21.4 +1.6**
OPRZ Ohinepanea 64.57 137 P **P 10 10 23.2 +3.2**
COVZ Chatham Observ 64.59 139 P **P 10 10 23.0 +2.8**
NNVZ North Ngauruho 64.61 138 P **P 10 10 22.3 +1.9**
OTVZ Oturere 64.66 138 P **P 10 10 22.7 +1.9**
BVA0 Borovoye Array 64.69 327 *i* P **P 10 10 19.6 -0.9**
BVAR Borovoye Array 64.69 327 P **P 10 10 20.4 -0.1**
comp=Z,28nm,1.0s,baz=120,slow=8.7,SNR=30
BVAR pP **pP 10 10 46.5 -1.0**
comp=Z,70nm,1.0s,baz=121,slow=7.8,SNR=14
BVAR S **S 10 18 49.4 -2.8**
comp=Z,0.4nm,0.4s,baz=216,slow=42,SNR=1.0
BVAR PKPPKP **P'P'df 10 39 05.9 -0.9**
comp=Z,0.2nm,0.3s,baz=8.7,slow=2.0,SNR=4.1
BVAR PKP2bc 10 39 11.3
comp=Z,5.3nm,1.0s,baz=268,slow=5.2,SNR=16
BVAR LR LR 10 41 37.6
comp=Z,445nm,18.2s,baz=112,slow=39
comp=Z,28nm,1.0s
OXZ Oxford 64.73 144 IAmb IAmb 10 10 52.3
comp=Z,38nm,0.6s
BRVK Borovoye 64.76 327 P **P 10 10 20.4 -0.6**
BRVK IAmb IAmb 10 10 47.7
comp=Z,123nm,1.1s
BRVK Borovoye 64.76 327 P **P 10 10 21.6 +0.6**
BRVK Borovoye 64.76 327 *de* P **P 10 10 20.2 -0.8**
BRVK pmax pmax
comp=Z,71nm,1.7s
BRVK Borovoye 64.76 327 P **P 10 10 21.4 +0.4**
BRVK pP **pP 10 10 46.8 -1.1**
MOVZ Moawhango 64.84 139 P **P 10 10 22.4 +0.6**
KHZ Kahutara 65.10 142 IAmb IAmb 10 10 25.4
comp=Z,101nm,1.3s
URZ Urewera 65.16 137 P **P 10 10 25.9 +2.1**
URZ Urewera 65.16 137 LR LR 10 37 56.5
comp=Z,269nm,21.6s,baz=18,slow=35
SNZO South Karori 65.20 141 P **P 10 10 24.9 +0.9**
SNZO South Karori 65.20 141 P **P 10 10 24.5 +0.6**
SNZO pP **pP 10 10 51.2 +0.4**
BKZ Black Stump Fm 65.21 138 P **P 10 10 25.6 +1.4**
BKZ Black Stump Fm 65.21 138 P **P 10 10 24.9 +0.7**
KWHZ Kaweka Forest 65.29 138 P **P 10 10 25.7 +0.9**
BHW Baring Head 65.35 141 IAmb IAmb 10 10 27.0
comp=Z,54nm,0.8s
JLN Jalan Bani Buh 65.37 292 P **P 10 10 25.6 +0.1**
NMHZ Naumai 65.38 138 P **P 10 10 27.0 +1.7**
RAHZ Arahi 65.47 138 P **P 10 10 26.9 +1.0**
MWZ Matawai 65.48 137 P **P 10 10 25.9 0.0**
TIXI Tiksi 65.75 1 P **P 10 10 26.8 -0.2**
TIXI IAmb IAmb 10 10 53.5
comp=Z,77nm,1.0s
TIXI Tiksi 65.75 1 P **P 10 10 27.6 +0.7**
comp=Z,15nm,0.7s,baz=155,slow=5.8,SNR=4.5
TIXI LR LR 10 39 20.2
comp=Z,869nm,21.8s,baz=203,slow=36
comp=Z,15nm,0.7s
TIXI Tiksi 65.75 1 *ce* P **P 10 10 28.3 +1.3**
TIXI pmax pmax
comp=Z,14nm,0.8s
TIXI Tiksi 65.75 1 P **P 10 10 27.1 +0.1**
TIXI pP **pP 10 10 52.5 -1.4**
WBK Wadi Bani Khal 65.80 292 P **P 10 10 28.0 -0.3**
BFZ Birch Farm 65.84 140 P **P 10 10 29.8 +1.6**
BFZ IAmb IAmb 10 10 58.5
comp=Z,114nm,1.1s
ADK Adak 66.10 35 P **P 10 10 29.9 +0.2**
ADK sP **sP 10 11 07.0 -1.6**
WSAR Wadi Sarin 66.16 293 P **P 10 10 30.8 +0.3**
JMDO Jabal Madar 66.59 292 P **P 10 10 33.6 +0.3**
BIDO Bidbid 66.64 293 P **P 10 10 35.0 +1.3**
SNR=7.0
MHTO MHTO 66.64 290 P **P 10 10 34.2 +0.5**
SNR=5.2
SMDO Samad 66.68 292 P **P 10 10 34.9 +0.9**
DQM DQM 67.00 289 P **P 10 10 36.9 +0.9**
JASK Jask - Hormozg 67.05 295 P **P 10 10 38.2 +2.0**
SNR=5.4
HOQ Hoqain 67.39 293 P **P 10 10 39.3 +0.9**
SNR=5.1
BSY Bisya 67.44 292 P **P 10 10 40.0 +1.3**
ATKA Atka Island 67.65 35 P **P 10 10 41.0 +1.6**
comp=Z,166nm,0.8s
NRIK Noril'sk 68.00 346 IAmb IAmb 10 11 08.4
comp=Z,113nm,1.5s
NRIK Noril'sk 68.00 346 P **P 10 10 41.2 -0.1**
comp=Z,4.6nm,0.5s,baz=136,slow=6.3,SNR=7.9
NRIK S **S 10 19 29.4 -2.2**
comp=Z,1.0nm,0.3s,baz=341,slow=22,SNR=9.7
comp=Z,4.6nm,0.5s
NRIK Noril'sk 68.00 346 *ce* P **P 10 10 41.0 -0.3**
NRIK pmax pmax
comp=Z,24nm,1.6s
SOHO SOHO 68.13 294 *i* P **P 10 10 42.7 -0.4**
SNR=5.1
SOHO SOHO 68.13 294 P **P 10 10 44.0 +1.0**
GEYT Alibeck 68.35 308 P **P 10 10 44.7 +0.5**
comp=Z,17nm,0.9s,baz=131,slow=4.1,SNR=30
GEYT S **S 10 19 35.5 -1.6**
comp=Z,0.8nm,0.3s,baz=268,slow=37,SNR=1.4
GEYT LR LR 10 43 28.2
comp=Z,314nm,20.8s,baz=92,slow=38
comp=Z,17nm,0.9s
GYA0 ALIBECK ARRAY 68.35 308 P **P 10 10 44.0 -0.2**
GYA0B ALIBECK ARRAY 68.35 308 IAmb IAmb 10 11 16.4
comp=Z,97nm,1.4s
MDH Madha 68.42 295 P **P 10 10 43.5 -1.3**
UOSS Minazif 68.48 294 P **P 10 10 45.4 +0.2**
UOSS Minazif 68.48 294 P **P 10 10 44.3 -0.9**
UOSS Minazif 68.48 294 P **P 10 10 45.6 +0.4**
UOSS Minazif 68.48 294 P **P 10 10 45.6 +0.4**
UOSS PcP **PcP 10 11 09.8 +0.1**
HATD Hatta, Dubai 68.54 294 *i* P **P 10 10 45.2 -0.3**
SNR=7.0
HATD Hatta, Dubai 68.54 294 P **P 10 10 46.6 +1.0**
SNR=6.3
MASF Masafi 68.55 295 P **P 10 10 47.0 +1.3**
ASHO Ashiyiah 68.60 294 *i* P **P 10 10 46.0 0.0**
SNR=11
ASHO Ashiyiah 68.60 294 P **P 10 10 46.9 +0.9**
SHME Shamm 68.61 296 *i* P **P 10 10 46.0 +0.1**
SNR=9.8
SHME Shamm 68.61 296 P **P 10 10 47.1 +1.1**
SHAO Shalim 68.77 287 P **P 10 10 48.6 +1.5**
ALNE Al Ain 68.84 293 *i* P **P 10 10 47.8 +0.3**
SNR=21
ALNE Al Ain 68.84 293 P **P 10 10 48.8 +1.3**
SNR=9.1
NAZ Nazwa, Dubai 68.97 294 P **P 10 10 48.9 +0.6**
FAQ Al Faqa, Dubai 69.02 294 *i* P **P 10 10 48.8 +0.2**
SNR=5.8
FAQ Al Faqa, Dubai 69.02 294 P **P 10 10 49.5 +0.9**
ASUD Al Ashush, Dub 69.25 294 *i* P **P 10 10 50.4 +0.4**
SNR=8.9
ASUD Al Ashush, Dub 69.25 294 P **P 10 10 51.3 +1.3**
SNR=5.4
UMZA Um Al Zommool 69.32 292 P **P 10 10 51.1 +0.7**
DMTO DMTO 69.41 287 P **P 10 10 51.7 +0.6**
AB31 Akbulak array 69.52 321 *i* P **P 10 10 48.7 -2.4**
ABKAR Akbulak array 69.52 321 P **P 10 10 51.0 -0.1**
AJN Ajban 69.56 294 *i* P **P 10 10 51.6 -0.3**
SNR=6.1
AJN Ajban 69.56 294 P **P 10 10 52.5 +0.6**
SNR=6.1
RBK Rabkut 70.12 286 P **P 10 10 56.2 +0.7**
DOK Doka 70.19 288 P **P 10 10 56.5 +0.6**
WHFO Wadi Hawf 70.53 287 P **P 10 10 58.0 0.0**
MZWR Madinat Zayed 70.54 293 P **P 10 10 58.2 +0.4**
MZR Muzera 70.88 292 *i* P **P 10 11 00.2 +0.3**
SNR=34
MZR Muzera 70.88 292 P **P 10 11 01.2 +1.2**
SNR=16
ABTO Aybut 70.99 286 P **P 10 11 01.3 +0.6**
NIKH Nikolski High 70.99 36 P **P 10 11 00.5 +0.5**
baz=254
NIKH S **S 10 20 08.5 +1.3**
baz=254

AKTO Aktyubinsk 71.03 321 P **P 10 10 59.8 -0.5**
comp=Z,17nm,0.6s,baz=99,slow=5.5,SNR=64
AKTO pP **pP 10 11 26.1 -1.7**
comp=Z,36nm,0.9s,baz=90,slow=5.2,SNR=9.0
AKTO LR LR 10 45 01.6
comp=Z,761nm,18.4s,baz=91,slow=38
comp=Z,17nm,0.6s
SVE Sverdlovsk 71.33 328 *eP* **P 10 11 01.9 -0.1**
SVE pmax pmax
comp=Z,91nm,1.5s
GHWR Ruwais 71.47 293 P **P 10 11 04.7 +1.2**
SPIA Saint Paul Isl 71.48 31 P **P 10 11 04.0 +1.1**
baz=251
SPIA S **S 10 20 15.8 +3.1**
baz=251
JRN Qarnain Island 71.52 294 P **P 10 11 04.7 +0.9**
P08K Saint George I 71.66 32 P **P 10 11 04.5 +0.5**
baz=252
ARU Arti 72.31 328 P **P 10 11 07.2 -0.7**
ARU Arti 72.31 328 LR LR 10 45 13.3
comp=Z,476nm,18.8s,baz=99,slow=38
ARU Arti 72.31 328 *d i* P **P 10 11 06.3 -1.6**
ARU *PP **pP 10 11 32.2 -3.1**
ARU S **S 10 20 20.8 -1.5**
ARU *SS **SKSac 10 20 59.1 -3.3**
ARU pmax pmax
comp=Z,82nm,1.8s
ARU MLR MLR
comp=Z,447nm,18.0s
ARU Arti 72.31 328 P **P 10 11 07.2 -0.7**
comp=Z,56nm,1.7s,comp=Z,808nm
SLWR Sila 72.55 293 P **P 10 11 10.6 +0.7**
UNV Unalaska Valle 72.57 35 P **P 10 11 09.6 +0.2**
baz=256
UNV S **S 10 20 24.3 -1.1**
baz=256
CASY Casey 72.75 186 P **P 10 11 10.6 +0.4**
CASY IAmb IAmb 10 11 12.6
comp=Z,45nm,0.7s
TRNA Turayna 73.00 294 P **P 10 11 13.9 +1.3**
SNR=5.2
SHMA Al-Shehemyia 73.25 295 P **P 10 11 14.9 +0.9**
SNR=5.6
SMRA Abu-Samra 73.36 294 P **P 10 11 15.6 +0.9**
SNR=6.5
M11K Mekoryuk 74.44 29 P **P 10 11 20.8 +0.6**
baz=254
M11K S **S 10 20 50.6 +4.4**
baz=254
FALS False Pass 74.56 35 P **P 10 11 21.6 +0.6**
baz=258
TNA Tin City 75.25 23 P **P 10 11 25.7 +0.9**
baz=251
S12K Black Hills 75.49 34 P **P 10 11 27.2 +0.7**
baz=259
K13K Kusilvak Mount 75.58 27 IAmb IAmb 10 11 55.2
comp=Z,201nm,1.9s
K13K Kusilvak Mount 75.58 27 P **P 10 11 27.9 +1.0**
baz=255
K13K S **S 10 21 00.4 +1.6**
baz=255
M13K Dall Lake 75.82 29 IAmb IAmb 10 11 56.6
comp=Z,150nm,1.6s
M13K Dall Lake 75.82 29 P **P 10 11 29.1 +0.9**
baz=257
M13K S **S 10 21 05.4 +4.0**
baz=257
F14K Arctic Creek 75.85 24 P **P 10 11 28.8 +0.5**
baz=253
F14K S **S 10 21 03.7 +2.0**
baz=253
ANM Nome 75.98 25 P **P 10 11 29.8 +0.8**
baz=254
ANM S **S 10 21 04.2 +1.1**
baz=254
KBD Kabd 76.23 298 P **P 10 11 31.6 +0.4**
J14K Nanvaranak Lak 76.28 27 P **P 10 11 31.4 +0.7**
baz=256
J14K S **S 10 21 07.1 +0.7**
baz=256
SDPT Sand Point 76.32 34 P **P 10 11 31.6 +0.5**
baz=260
SDPT S **S 10 21 06.8 -0.3**
baz=260
L14K Kuka Creek 76.35 28 IAmb IAmb 10 12 13.5
comp=Z,87nm,1.1s
L14K Kuka Creek 76.35 28 P **P 10 11 32.2 +1.0**
baz=257,SNR=24
L14K S **S 10 21 08.4 +1.2**
baz=257
N14K Kuskokwak Cree 76.53 30 P **P 10 11 32.9 +0.7**
baz=258,SNR=27
N14K S **S 10 21 10.6 +1.4**
baz=258
M14K Bethel 76.57 29 IAmb IAmb 10 11 35.8
comp=Z,90nm,0.7s
M14K Bethel 76.57 29 P **P 10 11 33.7 +1.3**
baz=258,SNR=51
M14K S **S 10 21 11.2 +1.6**
baz=258
F15K North Star Dit 76.59 24 P **P 10 11 33.5 +1.0**
baz=254
F15K S **S 10 21 11.2 +1.4**
baz=254
O14K Tigyukauivet M 76.60 30 P **P 10 11 33.3 +0.7**
O14K IAmb IAmb 10 12 00.5
comp=Z,94nm,1.1s
O14K Tigyukauivet M 76.60 30 P **P 10 11 33.3 +0.7**
baz=259,SNR=17
O14K S **S 10 21 09.8 -0.2**
baz=259
G15K Niukluk 76.64 24 P **P 10 11 33.7 +0.9**
baz=255
G15K S **S 10 21 12.5 +2.1**
baz=255
CNBA Chernabura Isl 76.74 35 IAmb IAmb 10 12 01.9
comp=Z,91nm,1.2s
CHNA Chernabura Isl 76.74 35 P **P 10 11 34.2 +0.7**
baz=261
CHNA S **S 10 21 12.1 +0.4**
baz=261
S14K Fog Glacier 76.98 34 P **P 10 11 35.1 +0.1**
baz=261
S14K S **S 10 21 13.5 -1.1**
baz=261
L15K Ungalak Mounta 76.98 28 P **P 10 11 35.5 +0.7**
baz=258,SNR=13
L15K S **S 10 21 14.7 +0.6**
baz=258
MAK Makhachkala 76.99 313 *c i* P **P 10 11 36.0 +0.8**
MAK *e*PP **pP 10 12 00.8 -2.3**
MAK *e*SP **sP 10 12 13.1 -1.8**
MAK *e* 10 14 32.9
MAK *e*PPP PPP 10 16 17.4
MAK *e*S **S 10 21 16.0 +1.0**
MAK *e*SS **sS 10 22 02.4 -0.3**
MAK *e*SS **SS 10 26 09.5 -4.5**
MAK pmax pmax
comp=Z,172nm,1.2s
MAK MLR MLR
comp=Z,482nm,17.0s
C16K Lisburne Hills 77.06 21 P **P 10 11 35.9 +0.9**
baz=253
C16K S **S 10 21 16.0 +1.3**
baz=253
K15K Wolf Creek Mou 77.09 27 P **P 10 11 36.5 +1.1**
baz=258,SNR=11
K15K S **S 10 21 16.3 +1.0**
baz=258
M15K Kasigluk River 77.17 29 P **P 10 11 36.8 +1.0**
baz=259,SNR=49
M15K S **S 10 21 16.3 +0.2**
baz=259
H16K Elim 77.30 25 P **P 10 11 37.5 +1.0**
baz=257,SNR=8.8
H16K S **S 10 21 18.5 +1.0**
baz=257
O15K Ungalikthiuk R 77.32 31 P **P 10 11 37.4 +0.7**
baz=260,SNR=13
O15K S **S 10 21 18.7 +0.8**
baz=260
N15K Kwethluk River 77.36 30 IAmb IAmb 10 11 40.3
comp=Z,62nm,0.9s
N15K Kwethluk River 77.36 30 P **P 10 11 38.1 +1.2**
baz=260,SNR=28
N15K S **S 10 21 19.0 +0.6**
baz=260

G16K Koyuk River 77.43 24 P **P 10 11 38.5 +1.3**
baz=256
G16K S **S 10 21 19.2 +0.3**
baz=256
KIRV Kirov 77.60 329 P **P 10 11 38.0 -0.2**
comp=Z,26nm,0.6s,baz=94,slow=3.1,SNR=11
KIRV LR LR 10 49 55.1
comp=Z,704nm,18.4s,baz=97,slow=39
comp=Z,26nm,0.6s
KIRV Kirov 77.60 329 *ce* P **P 10 11 37.9 -0.2**
CHGN Chignik 77.61 34 IAmb IAmb 10 12 05.1
comp=Z,140nm,1.2s
CHGN Chignik 77.61 34 P **P 10 11 39.1 +0.7**
baz=262,SNR=9.2
CHGN S **S 10 21 18.6 -2.5**
baz=262
J16K Anvik River 77.72 26 P **P 10 11 39.9 +1.1**
J16K Anvik River 77.72 26 P **P 10 11 40.1 +1.3**
baz=258,SNR=13
J16K S **S 10 21 23.9 +1.9**
baz=258
D17K Noatak River 77.72 22 P **P 10 11 39.7 +1.0**
baz=255,SNR=15
D17K S **S 10 21 24.3 +2.5**
baz=255
BELG Belogornoye 77.77 322 P **P 10 11 39.0 -0.3**
comp=Z,58nm,1.0s,baz=289,slow=1.9,SNR=40
BELG LR LR 10 48 27.7
comp=Z,222nm,20.3s,baz=83,slow=38
comp=Z,58nm,1.0s
BELG Belogornoye 77.77 322 *i* P **P 10 11 38.3 -1.0**
BELG pmax pmax
comp=Z,27nm,1.4s
I17K Unalakleet 77.80 26 P **P 10 11 40.4 +1.2**
baz=258,SNR=13
I17K S **S 10 21 23.9 +1.1**
baz=258
RDOG Red Dog Mine 77.87 21 P **P 10 11 40.2 +0.6**
baz=255
RDOG S **S 10 21 24.6 +1.0**
baz=255
C17K DeLong Mountai 77.88 21 P **P 10 11 40.3 +0.6**
baz=255
C17K S **S 10 21 24.3 +0.6**
baz=255
L16K Owhat River 77.93 28 IAmb IAmb 10 11 43.0
comp=Z,47nm,0.8s
L16K Owhat River 77.93 28 P **P 10 11 41.1 +1.1**
baz=260,SNR=47
L16K S **S 10 21 24.5 +0.1**
baz=260
E17K Hotham Inlet 78.04 23 P **P 10 11 41.5 +1.0**
baz=256,SNR=9.3
E17K S **S 10 21 26.7 +1.3**
baz=256
M16K Timber Creek 78.06 29 IAmb IAmb 10 11 44.2
comp=Z,66nm,0.8s
M16K Timber Creek 78.06 29 P **P 10 11 41.5 +0.8**
baz=260,SNR=46
M16K S **S 10 21 26.9 +1.1**
baz=260
N16K Nishlik Lake 78.06 29 P **P 10 11 41.8 +1.0**
baz=261,SNR=81
N16K S **S 10 21 26.2 +0.2**
baz=261
F17K Baldwin Pennin 78.11 23 P **P 10 11 42.1 +1.2**
baz=257
F17K S **S 10 21 27.3 +1.2**
baz=257
G17K Kiwalik Mounta 78.15 24 P **P 10 11 42.4 +1.2**
baz=258,SNR=17
G17K S **S 10 21 28.4 +1.8**
baz=258
RAYN Ar Rayn 78.22 293 P **P 10 11 42.4 -0.1**
RAYN Ar Rayn 78.22 293 *i* P **P 10 11 41.5 -1.0**
SNR=17
RAYN Ar Rayn 78.22 293 P **P 10 11 43.1 +0.6**
RAYN Ar Rayn 78.22 293 P **P 10 11 42.4 -0.1**
RAYN pmax pmax
comp=Z,76nm,1.4s
P16K Nushagak River 78.23 31 P **P 10 11 42.4 +0.6**
baz=262,SNR=10
P16K S **S 10 21 28.6 +1.0**
baz=262
O16K Kokwok River B 78.26 30 IAmb IAmb 10 12 10.0
comp=Z,115nm,1.3s
O16K Kokwok River B 78.26 30 P **P 10 11 43.0 +1.2**
baz=261,SNR=34
O16K S **S 10 21 29.0 +1.0**
baz=261
RAR Rarotonga 78.30 113 LR LR 10 42 38.0
comp=Z,151nm,21.3s,baz=282,slow=33
H17K Granite Mounta 78.34 25 P **P 10 11 42.8 +0.5**
baz=259,SNR=18
H17K S **S 10 21 29.9 +1.2**
baz=259
J17K VABM Dome 78.41 26 P **P 10 11 43.7 +1.0**
baz=260,SNR=23
J17K S **S 10 21 30.3 +0.8**
baz=260
L17K Donlin 78.55 28 P **P 10 11 44.7 +1.3**
baz=261,SNR=36
L17K S **S 10 21 32.4 +1.3**
baz=261
E18K Tukpahlearik C 78.58 22 P **P 10 11 44.5 +1.0**
E18K Tukpahlearik C 78.58 22 P **P 10 11 43.9 +0.4**
baz=258,SNR=15
E18K S **S 10 21 32.2 +1.1**
baz=258
B18K Kokolik River 78.59 20 P **P 10 11 44.2 +0.7**
baz=256
B18K S **S 10 21 32.6 +1.5**
baz=256
C18K Utukok River 78.63 21 P **P 10 11 44.4 +0.5**
baz=257,SNR=6.7
C18K S **S 10 21 31.3 -0.5**
baz=257
K17K Iditarod 78.64 27 IAmb IAmb 10 11 47.8
comp=Z,80nm,0.9s
K17K Iditarod 78.64 27 P **P 10 11 44.9 +0.9**
baz=261,SNR=40
K17K S **S 10 21 33.5 +1.5**
baz=261
F18K Selawik 78.77 23 P **P 10 11 45.6 +1.1**
baz=259,SNR=11
F18K S **S 10 21 32.6 -0.5**
baz=259
O17K Koliganek Bris 78.79 30 P **P 10 11 45.5 +0.7**
baz=262,SNR=27
O17K S **S 10 21 35.0 +1.4**
baz=262
N17K Nushagak Hills 78.84 29 P **P 10 11 46.1 +1.1**
N17K IAmb IAmb 10 12 27.2
comp=Z,94nm,1.4s
N17K Nushagak Hills 78.84 29 P **P 10 11 46.1 +1.1**
baz=262,SNR=35
N17K S **S 10 21 36.7 +2.5**
baz=262
M17K Holitna River 78.84 29 P **P 10 11 46.5 +1.4**
baz=262,SNR=25
M17K S **S 10 21 36.5 +2.3**
baz=262
Q16K King Salmon 78.87 31 P **P 10 11 45.5 +0.3**
baz=263,SNR=7.3
Q16K S **S 10 21 33.5 -1.0**
baz=263
R17L Mt. Peulik Vol 78.90 32 P **P 10 11 45.8 +0.3**
baz=263,SNR=20
R17L S **S 10 21 32.5 -2.5**
baz=263
GNI Garni 78.92 310 P **P 10 11 47.6 +1.4**
GNI Garni 78.92 310 P **P 10 11 47.1 +1.0**
comp=Z,15nm,0.9s,baz=290,slow=1.9,SNR=9.7
comp=Z,15nm,0.9s
GNI Garni 78.92 310 P **P 10 11 47.2 +1.0**
GNI Garni 78.92 310 P **P 10 11 47.6 +1.4**
GNI pmax pmax
comp=Z,370nm,1.9s
H18K Honhosa River 79.03 25 P **P 10 11 47.0 +1.0**
H18K Honhosa River 79.03 25 P **P 10 11 47.0 +1.0**
baz=260,SNR=16
H18K S **S 10 21 36.0 -0.1**
baz=260
A19K Wainwright 79.03 19 P **P 10 11 47.3 +1.4**
baz=257
A19K S **S 10 21 36.8 +1.0**
baz=257
G18K Tagagawik 79.04 24 P **P 10 11 46.4 +0.4**

baz=260,SNR=12
G18K S **S** **10 21 35.8 -0.3**
baz=260
CHIR **Chirikof Islan** **79.11 34** P **P** **10 11 47.5 +0.9**
baz=264,SNR=11
CHIR S **S** **10 21 38.7 +1.5**
baz=264
Q17K **Contact Creek** **79.22 32** P **P** **10 11 47.4 +0.1**
baz=264,SNR=44
Q17K S **S** **10 21 36.4 -2.1**
baz=264
C19K **Lookout Ridge** **79.30 21** IAmb IAmb 10 12 18.6
comp=Z,246nm,1.9s
C19K **Lookout Ridge** **79.30 21** P **P** **10 11 48.7 +1.2**
baz=258,SNR=11
C19K S **S** **10 21 39.2 +0.4**
baz=258
L18K **Granite Mounta** **79.31 28** P **P** **10 11 48.5 +0.9**
baz=262,SNR=37
L18K S **S** **10 21 40.8 +1.7**
baz=262
ANCK **Angle Creek** **79.42 32** P **P** **10 11 48.7 +0.3**
ANCK IAmb IAmb 10 12 17.2
comp=Z,149nm,1.0s
TRLG **Trialeti** **79.45 311** P **P** **10 11 49.1 +0.1**
J18K **Innoko River** **79.47 27** P **P** **10 11 49.5 +1.0**
baz=262,SNR=34
J18K S **S** **10 21 42.3 +1.5**
baz=262
N18K **Kilae Creek** **79.50 29** P **P** **10 11 49.8 +1.1**
baz=263,SNR=25
N18K S **S** **10 21 43.4 +2.2**
baz=263
ACHA **Angle Creek He** **79.51 32** P **P** **10 11 49.4 +0.5**
F19K **Shaleruckik Mo** **79.55 23** P **P** **10 11 49.6 +0.8**
baz=260,SNR=11
F19K S **S** **10 21 41.2 -0.3**
baz=260
GCSA **Galena City Sc** **79.58 25** P **P** **10 11 49.9 +0.9**
baz=262
GCSA S **S** **10 21 42.3 +0.5**
baz=262
M18K **Stony River** **79.62 29** P **P** **10 11 50.5 +1.2**
baz=263,SNR=46
M18K S **S** **10 21 44.1 +1.6**
baz=263
P18K **Big Mountain,** **79.68 31** IAmb IAmb 10 12 19.5
comp=Z,123nm,1.9s
P18K **Big Mountain,** **79.68 31** P **P** **10 11 50.0 +0.2**
baz=264,SNR=15
P18K S **S** **10 21 42.6 -0.6**
baz=264
SVW2 **Sparrevohn** **79.69 29** P **P** **10 11 52.4 +2.7**
D19K **Kuna River** **79.71 21** IAmb IAmb 10 11 52.4
comp=Z,43nm,0.8s
D19K **Kuna River** **79.71 21** P **P** **10 11 50.6 +0.9**
baz=260,SNR=30
D19K S **S** **10 21 43.2 0.0**
baz=260
G19K **Purcell Mounta** **79.71 24** P **P** **10 11 50.8 +1.1**
G19K **Purcell Mounta** **79.71 24** P **P** **10 11 50.9 +1.1**
baz=261,SNR=31
G19K S **S** **10 21 43.0 -0.2**
baz=261
Q18K **Katmai Hardscr** **79.72 32** P **P** **10 11 49.8 -0.3**
baz=264,SNR=20
Q18K S **S** **10 21 40.7 -3.2**
baz=264
O18K **Koktuh Hills** **79.74 30** IAmb IAmb 10 11 53.0
comp=Z,84nm,0.9s
O18K **Koktuh Hills** **79.74 30** P **P** **10 11 51.1 +1.1**
baz=264,SNR=67
O18K S **S** **10 21 45.7 +1.9**
baz=264
E19K **Redstone River** **79.86 22** IAmb IAmb 10 11 55.9
comp=Z,62nm,0.9s
E19K **Redstone River** **79.86 22** P **P** **10 11 51.4 +0.9**
baz=261,SNR=32
E19K S **S** **10 21 45.2 +0.4**
baz=261
H19K **Roundabout Mou** **79.88 24** IAmb IAmb 10 11 54.2
comp=Z,77nm,0.8s
H19K **Roundabout Mou** **79.88 24** P **P** **10 11 51.7 +1.1**
baz=262,SNR=59
H19K S **S** **10 21 46.0 +1.1**
baz=262
R18K **Karluk** **79.92 33** P **P** **10 11 51.7 +0.8**
baz=265
R18K S **S** **10 21 44.6 -0.9**
baz=265
ONI **Oni** **79.96 312** IAmb IAmb 10 11 54.6
comp=Z,92nm,1.4s
ONI **Oni** **79.96 312** P **P** **10 11 51.7 +0.1**
SII **Sitkinak Islan** **79.98 34** P **P** **10 11 54.1 +2.8**
SII **Sitkinak Islan** **79.98 34** P **P** **10 11 52.4 +1.0**
baz=265,SNR=9.9
SII S **S** **10 21 47.5 +1.1**
baz=265
J19K **Poorman** **80.02 26** IAmb IAmb 10 11 55.0
comp=Z,49nm,0.8s
J19K **Poorman** **80.02 26** P **P** **10 11 52.5 +1.0**
baz=263,SNR=45
J19K S **S** **10 21 47.0 +0.4**
baz=263
L19K **White Mountain** **80.16 28** P **P** **10 11 53.5 +1.2**
L19K IAmb IAmb 10 11 55.8
comp=Z,48nm,0.8s
L19K **White Mountain** **80.16 28** P **P** **10 11 53.0 +0.8**
baz=264,SNR=58
L19K S **S** **10 21 49.5 +1.4**
baz=264
N19K **Bonanza Creek** **80.20 29** IAmb IAmb 10 11 55.8
comp=Z,63nm,0.9s
N19K **Bonanza Creek** **80.20 29** P **P** **10 11 53.9 +1.3**
baz=264,SNR=63
N19K S **S** **10 21 50.3 +1.6**
baz=264
O19K **Port Alsworth** **80.22 30** P **P** **10 11 53.5 +1.0**
O19K IAmb IAmb 10 12 21.8
comp=Z,129nm,1.5s
O19K **Port Alsworth** **80.22 30** P **P** **10 11 53.2 +0.6**
baz=265
O19K S **S** **10 21 49.6 +0.9**
baz=265
D20K **Etivluk River** **80.29 21** P **P** **10 11 54.1 +1.3**
baz=261,SNR=20
D20K S **S** **10 21 49.0 -0.2**
baz=261
B20K **Meade River** **80.31 20** P **P** **10 11 53.9 +1.1**
baz=260
B20K S **S** **10 21 49.3 +0.1**
baz=260
M19K **Big River Lodg** **80.35 28** P **P** **10 11 54.2 +0.9**
baz=264
M19K S **S** **10 21 52.1 +2.0**
baz=264
E20K **Nigu River** **80.37 22** P **P** **10 11 54.5 +1.2**
baz=262,SNR=30
E20K S **S** **10 21 49.1 -1.1**
baz=262
F20K **Avaraart Lake** **80.38 23** P **P** **10 11 53.9 +0.6**
baz=262
F20K S **S** **10 21 50.1 0.0**
baz=262
KBZ **Khabaz** **80.39 313** P **P** **10 11 53.7 -0.1**
comp=Z,29nm,1.2s,baz=82,slow=6.3,SNR=42
KBZ S **S** **10 21 48.1 -2.9**
comp=Z,0.5nm,0.3s,baz=329,slow=16,SNR=6.2
KBZ LR LR 10 53 40.4
comp=Z,378nm,18.5s,baz=66,slow=40
comp=Z,29nm,1.2s
KBZ **Khabaz** **80.39 313** *ce*P **P** **10 11 53.1 -0.7**
Q19K **Cape Douglas,** **80.45 31** IAmb IAmb 10 12 21.9
comp=Z,231nm,1.6s
Q19K **Cape Douglas,** **80.45 31** P **P** **10 11 54.3 +0.4**
baz=265,SNR=8.5
Q19K S **S** **10 21 49.7 -1.6**
baz=265
OHAK **Old Harbor** **80.52 33** P **P** **10 11 56.4 +2.2**
OHAK **Old Harbor** **80.52 33** P **P** **10 11 55.4 +1.3**
OHAK IAmb IAmb 10 12 23.3
comp=Z,84nm,1.0s
OHAK **Old Harbor** **80.52 33** P **P** **10 11 55.2 +1.0**
baz=266,SNR=31
OHAK S **S** **10 21 51.9 +0.1**
baz=266
H20K **Anotleneega Mo** **80.52 25** P **P** **10 11 55.0 +0.9**
baz=263,SNR=76
H20K S **S** **10 21 52.6 +0.9**
baz=263
KIV **Kislovodsk** **80.54 313** P **P** **10 11 54.8 0.0**
KIV IAmb IAmb 10 11 56.8
comp=Z,126nm,1.5s
KIV **Kislovodsk** **80.54 313** *i* P **P** **10 11 54.4 -0.4**
SNR=14
KIV **Kislovodsk** **80.54 313** P **P** **10 11 56.0 +1.2**
KIV **Kislovodsk** **80.54 313** *e*P **P** **10 11 54.2 -0.6**
KIV *e*S **S** **10 21 52.0 -1.0**
KIV *e*SS **SS** **10 27 08.2 +0.8**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV **Kislovodsk** **80.54 313** P **P** **10 11 55.1 +0.3**
comp=Z,38nm,1.2s,comp=Z,685nm
SHA1 **Shidzhatmaz** **80.56 313** *ce*P **P** **10 11 54.3 -0.7**
ABPO **Ambohimpanom** **80.57 250** P **P** **10 11 55.0 -0.4**
ABPO **Ambohimpanom** **80.57 250** P **P** **10 11 55.1 -0.4**
ABPO pmax pmax
comp=Z,17nm,0.8s
I20K **Naaghedeneel** **80.61 25** P **P** **10 11 56.1 +1.6**
I20K **Naaghedeneel** **80.61 25** P **P** **10 11 55.8 +1.2**
baz=264,SNR=54
I20K S **S** **10 21 54.4 +1.9**
baz=264
K20K **Telida** **80.64 27** P **P** **10 11 56.0 +1.2**
K20K **Telida** **80.64 27** P **P** **10 11 55.6 +0.8**
baz=264,SNR=55
K20K S **S** **10 21 54.2 +1.1**
baz=264
L20K **Farewell, AK** **80.64 28** P **P** **10 11 55.7 +0.8**
baz=265,SNR=33
L20K S **S** **10 21 55.4 +2.2**
baz=265
J20K **Nowinta River** **80.69 26** P **P** **10 11 56.4 +1.4**
J20K IAmb IAmb 10 11 58.2
comp=Z,51nm,0.8s
J20K **Nowinta River** **80.69 26** P **P** **10 11 56.0 +1.0**
baz=264,SNR=82
J20K S **S** **10 21 54.3 +0.8**
baz=264
A21K **Barrow** **80.70 19** P **P** **10 11 55.6 +0.8**
baz=261
A21K S **S** **10 21 53.2 -0.1**
baz=261
P19K **Oil Pt** **80.72 31** P **P** **10 11 56.1 +0.8**
P19K **Oil Pt** **80.72 31** P **P** **10 11 55.3 0.0**
baz=266
P19K S **S** **10 21 52.1 -2.0**
baz=266
ILSW **Iliamna Southw** **80.79 30** IAmb IAmb 10 12 23.8
comp=Z,117nm,1.8s
KDAK **Kodiak Island** **80.93 33** P **P** **10 11 56.9 +0.5**
KDAK IAmb IAmb 10 12 26.3
comp=Z,150nm,1.2s
KDAK **Kodiak Island** **80.93 33** P **P** **10 11 56.9 +0.5**
baz=266
KDAK S **S** **10 21 56.1 -0.1**
baz=266
KDAK **Kodiak Island** **80.93 33** LR LR 10 45 00.7
comp=Z,344nm,20.7s,baz=273,slow=33
KDAK **Kodiak Island** **80.93 33** P **P** **10 11 56.9 +0.5**
KDAK pmax pmax
comp=Z,150nm,1.3s
M20K **Styx River** **80.94 28** P **P** **10 11 57.9 +1.3**
M20K IAmb IAmb 10 12 00.1
comp=Z,82nm,0.7s
M20K **Styx River** **80.94 28** P **P** **10 11 57.6 +1.1**
baz=265
M20K S **S** **10 21 57.5 +1.1**
baz=265
C21K **Knifeblade Rid** **81.00 21** P **P** **10 11 57.8 +1.2**
baz=263,SNR=9.1
C21K S **S** **10 21 56.6 -0.1**
baz=263
GURO **Guroymak-BITLI** **81.01 308** IAmb IAmb 10 11 59.6
comp=Z,144nm,1.5s
IMAR **Indian Mountai** **81.04 24** P **P** **10 11 57.5 +0.7**
O20K **Slope Mountain** **81.06 30** P **P** **10 11 57.6 +0.5**
baz=266
O20K S **S** **10 21 55.8 -1.8**
baz=266
Q20K **Shuyak Island** **81.08 32** P **P** **10 11 57.6 +0.4**
baz=267,SNR=6.0
Q20K S **S** **10 21 57.1 -0.6**
baz=267
SYI **Shuyak Island** **81.08 32** P **P** **10 11 58.2 +1.1**
SYI IAmb IAmb 10 12 26.8
comp=Z,75nm,0.9s
B21K **Ikpikpuk River** **81.12 20** IAmb IAmb 10 12 29.2
comp=Z,66nm,0.9s
B21K **Ikpikpuk River** **81.12 20** P **P** **10 11 58.5 +1.4**
baz=263,SNR=32
B21K S **S** **10 21 57.8 0.0**
baz=263
A22K **Sinclair Lake** **81.18 19** P **P** **10 11 58.7 +1.3**
baz=262,SNR=26
A22K S **S** **10 21 59.3 +0.9**
baz=262
G21K **Allakaket** **81.19 24** P **P** **10 11 58.8 +1.1**
baz=264,SNR=49
G21K S **S** **10 21 59.5 +0.8**
baz=264
E21K **Killik River** **81.21 22** P **P** **10 11 58.6 +0.8**
baz=264
E21K S **S** **10 21 57.8 -1.0**
baz=264
F21K **Alatna River** **81.27 23** P **P** **10 11 58.8 +0.7**
F21K **Alatna River** **81.27 23** P **P** **10 11 58.5 +0.5**
baz=264,SNR=19
F21K S **S** **10 21 58.5 -1.0**
baz=264
SPCR **Spurr Chakacha** **81.33 29** P **P** **10 11 55.7 -2.9**
baz=266,SNR=7.4
SPCR S **S** **10 21 56.7 -3.8**
baz=266
N20K **Mount Spurr** **81.33 29** P **P** **10 11 58.7 +0.2**
baz=266,SNR=9.0
N20K S **S** **10 21 59.8 -0.7**
baz=266
VRH **Novokhopyorsk** **81.35 321** *e*P **P** **10 11 57.0 -1.7**
VRH pmax pmax
comp=Z,109nm,1.6s
H21K **Melozitna Rive** **81.40 25** P **P** **10 11 59.8 +1.1**
baz=265,SNR=64
H21K S **S** **10 22 01.1 +0.3**
baz=265
PPLA **Purkeypile** **81.45 27** P **P** **10 12 00.3 +1.0**
PPLA IAmb IAmb 10 12 01.8
comp=Z,56nm,0.8s
PPLA **Purkeypile** **81.45 27** P **P** **10 12 00.2 +1.0**
baz=266,SNR=43
PPLA S **S** **10 22 01.0 -0.8**
baz=266
VOI **Vohitsoka** **81.46 247** P **P** **10 11 59.9 -0.2**
CHUM **Lake Minchumin** **81.47 26** P **P** **10 12 00.2 +1.1**
baz=266,SNR=72
CHUM S **S** **10 22 02.1 +0.6**
baz=266
HOM **Homer** **81.53 31** P **P** **10 11 59.8 +0.3**
baz=267
HOM S **S** **10 22 01.0 -1.3**
baz=267
CAST **Castle Rocks** **81.54 27** IAmb IAmb 10 12 02.7
comp=Z,70nm,0.8s
CAST **Castle Rocks** **81.54 27** P **P** **10 12 00.4 +0.9**
baz=266,SNR=110
CAST S **S** **10 22 02.4 +0.1**
baz=266
B22K **Teshekpuk Lake** **81.61 20** P **P** **10 11 59.9 +0.2**
baz=264,SNR=25
B22K S **S** **10 22 02.1 -0.7**
baz=264
I21K **Tanana** **81.70 25** IAmb IAmb 10 12 04.0
comp=Z,58nm,0.7s
I21K **Tanana** **81.70 25** P **P** **10 12 01.4 +1.1**
baz=266
I21K S **S** **10 22 05.3 +1.4**
baz=266
SKT **Skwentna** **81.70 28** IAmb IAmb 10 12 02.7
comp=Z,64nm,1.1s
SKT **Skwentna** **81.70 28** P **P** **10 12 00.4 0.0**
baz=267,SNR=48
SKT S **S** **10 22 01.5 -2.6**
baz=267
CNPM **China Poot** **81.73 31** IAmb IAmb 10 12 02.8
comp=Z,72nm,0.6s
D22K **Ayikyak River** **81.73 21** P **P** **10 12 01.9 +1.4**
D22K **Ayikyak River** **81.73 21** P **P** **10 12 01.6 +1.1**
baz=265
D22K S **S** **10 22 04.1 -0.1**
baz=265
F22K **John River** **81.80 23** P **P** **10 12 02.2 +1.4**
baz=265
F22K S **S** **10 22 05.2 +0.3**
baz=265
FOMA **Nahampoana Res** **81.82 244** P **P** **10 12 01.4 -0.3**
FOMA **Nahampoana Res** **81.82 244** P **P** **10 12 01.5 -0.3**
BRLK **Bradley Lake** **81.91 31** IAmb IAmb 10 12 06.7
comp=Z,92nm,0.8s
LABN **Labinsk** **81.96 314** *e*P **P** **10 12 01.8 -0.3**
LABN *e**PP **pP** **10 12 25.6 -4.7**
LABN *e*S **S** **10 22 06.3 -1.1**
LABN *e*SS **SS** **10 27 29.5 +1.3**
LABN pmax pmax
comp=Z,26nm,0.4s
E22K **Anaktuvuk Pass** **81.98 22** IAmb IAmb 10 12 45.2
comp=Z,121nm,1.5s
E22K **Anaktuvuk Pass** **81.98 22** P **P** **10 12 02.8 +0.9**
baz=266
E22K S **S** **10 22 06.6 -0.3**
baz=266
BRSE **Bradley Lake S** **81.99 31** P **P** **10 12 02.1 +0.1**
baz=268,SNR=32
BRSE S **S** **10 22 05.2 -1.9**
baz=268
H22K **Ishtalitna Cre** **82.00 24** P **P** **10 12 02.9 +1.0**
baz=266,SNR=46
H22K S **S** **10 22 08.6 +1.5**
baz=266
G22K **Bettles** **82.02 23** P **P** **10 12 02.5 +0.6**
baz=266
G22K S **S** **10 22 07.9 +0.8**
baz=266
SUA **Susitna One** **82.05 29** IAmb IAmb 10 12 31.8
comp=Z,90nm,0.9s
SUA **Susitna One** **82.05 29** P **P** **10 12 02.1 -0.3**
baz=268,SNR=28
SUA S **S** **10 22 04.9 -3.0**
baz=268
BPAW **Bear Paw Mtn.** **82.06 26** IAmb IAmb 10 12 04.9
comp=Z,79nm,0.8s
BPAW **Bear Paw Mtn.** **82.06 26** P **P** **10 12 02.8 +0.5**
baz=267,SNR=130
BPAW S **S** **10 22 07.2 -0.6**
baz=267
KTH **Kantishna Hill** **82.06 27** IAmb IAmb 10 12 05.4
comp=Z,73nm,1.1s
MLY **Manley** **82.22 25** IAmb IAmb 10 12 32.5
comp=Z,62nm,0.8s
MLY **Manley** **82.22 25** P **P** **10 12 04.2 +1.1**
baz=267,SNR=70
MLY S **S** **10 22 09.3 -0.1**
baz=267
CUT **Chulitna** **82.31 28** P **P** **10 12 03.3 -0.2**
baz=268,SNR=9.0
CUT S **S** **10 22 07.1 -3.2**
baz=268
M22K **Willow** **82.36 29** P **P** **10 12 03.9 +0.1**
M22K **Willow** **82.36 29** P **P** **10 12 04.2 +0.4**
baz=268,SNR=34
M22K S **S** **10 22 08.9 -1.9**
baz=268
D23K **Nanushuk River** **82.46 21** P **P** **10 12 05.5 +1.3**
baz=267
D23K S **S** **10 22 11.8 +0.2**
baz=267
O22K **Cooper Landing** **82.52 30** P **P** **10 12 05.2 +0.5**
baz=269,SNR=6.9
O22K S **S** **10 22 11.3 -1.2**
baz=269
RC01 **Rabbit Creek A** **82.53 29** IAmb IAmb 10 12 07.1
comp=Z,71nm,1.0s
RC01 **Rabbit Creek A** **82.53 29** P **P** **10 12 05.1 +0.4**
baz=268,SNR=26
RC01 S **S** **10 22 10.1 -2.4**
baz=268
C23K **Itkillik River** **82.53 20** P **P** **10 12 06.1 +1.5**
C23K IAmb IAmb 10 12 08.6
comp=Z,51nm,0.7s
C23K **Itkillik River** **82.53 20** P **P** **10 12 05.4 +0.9**
baz=267,SNR=47
C23K S **S** **10 22 11.6 -0.7**
baz=267
COLD **Coldfoot** **82.54 23** P **P** **10 12 05.8 +1.1**
baz=267,SNR=36
COLD S **S** **10 22 13.4 +0.9**
baz=267
G23K **Bananza Creek** **82.59 24** IAmb IAmb 10 12 34.4
comp=Z,54nm,1.1s
G23K **Bananza Creek** **82.59 24** P **P** **10 12 05.9 +0.9**
baz=268,SNR=70
G23K S **S** **10 22 13.4 +0.3**
baz=268
SEW **Seward** **82.64 30** P **P** **10 12 05.8 +0.5**
baz=269,SNR=36
SEW S **S** **10 22 13.3 -0.4**
baz=269
SOC **Sochi** **82.69 313** *e*P **P** **10 12 03.6 -2.4**
SOC *e* 10 15 14.7
SOC *e*PPP PPP 10 17 06.0
SOC *e*S **S** **10 22 13.2 -1.7**
SOC *e*SS **SS** **10 27 40.2 +1.0**
SOC *e*SSS SSS 10 31 07.1
SOC pmax pmax
comp=Z,23nm,0.9s
H23K **Yukon River** **82.75 24** IAmb IAmb 10 12 35.6
comp=Z,51nm,0.8s
H23K **Yukon River** **82.75 24** P **P** **10 12 07.0 +1.2**
baz=268,SNR=70
H23K S **S** **10 22 15.0 +0.3**
baz=268
KLMR **Klimovskoe** **82.79 331** *c i*P **P** **10 12 04.6 -1.4**
KLMR *e**PP **pP** **10 12 30.0 -4.2**
KLMR *e* 10 15 16.2
KLMR pmax pmax
comp=Z,294nm,2.0s
KLMR pmax pmax
comp=Z,123nm,1.9s
KLMR MLR MLR
comp=Z,571nm,18.0s
E23K **Chandalar** **82.80 22** P **P** **10 12 07.5 +1.3**
baz=268,SNR=36
E23K S **S** **10 22 16.3 +1.0**
baz=268
I23K **Minto, Yukon-K** **82.81 25** P **P** **10 12 07.2 +1.1**
baz=268,SNR=245
I23K S **S** **10 22 15.7 +0.5**
baz=268
PMR **Palmer** **82.83 29** P **P** **10 12 07.3 +1.1**
PMR **Palmer** **82.83 29** IAmb IAmb 10 12 08.7
comp=Z,81nm,1.0s
PMR **Palmer** **82.83 29** P **P** **10 12 06.5 +0.3**
baz=269,SNR=55
PMR S **S** **10 22 13.4 -2.1**
baz=269
TOLK **Toolik Lake Re** **82.84 22** P **P** **10 12 07.8 +1.5**
TOLK **Toolik Lake Re** **82.84 22** P **P** **10 12 07.3 +1.0**
baz=268,SNR=37
TOLK S **S** **10 22 15.5 -0.1**
baz=268
VORD **Divnogorie** **82.88 321** *e*P **P** **10 12 04.2 -2.5**
VORD *e**PP **pP** **10 12 29.1 -5.8**
VORD pmax pmax
comp=Z,20nm,1.0s
NEA2 **Nenana** **82.92 26** IAmb IAmb 10 12 35.9
comp=Z,70nm,1.0s
NEA2 **Nenana** **82.92 26** P **P** **10 12 06.7 +0.1**
baz=269,SNR=67
VORR **Voronezh** **82.92 321** *e*P **P** **10 12 06.0 -1.0**
VORR pmax pmax
comp=Z,113nm,1.7s
GHO **Glory Hole Cre** **82.93 29** IAmb IAmb 10 12 56.3
comp=Z,188nm,1.7s
VSR **Storozhevoye** **82.96 321** *e*P **P** **10 12 03.7 -3.4**
VSR *e**PP **pP** **10 12 28.7 -6.6**
VSR pmax pmax
comp=Z,10.0nm,0.9s
MCK **McKinley** **82.96 27** P **P** **10 12 07.3 +0.4**
MCK **McKinley** **82.96 27** P **P** **10 12 07.3 +0.4**
baz=269,SNR=71
MCK **McKinley** **82.96 27** P **P** **10 12 07.3 +0.4**
MCK pmax pmax
comp=Z,147nm,0.8s

RND	**Reindeer**	**82.99**	**27**	IAmb	IAmb	10 12 08.8	
	comp=Z,85nm,0.8s						
LPSR	**Galich'ya Gora**	**83.09**	**322**	*e*P	**P**	**10 12 05.1**	**-2.7**
LPSR				*e**PP	**pP**	**10 12 32.4**	**-3.6**
LPSR				pmax	pmax		
	comp=Z,30nm,1.0s						
WAT1	**Susitna Watana**	**83.12**	**27**	P	**P**	**10 12 08.3**	**+0.5**
	baz=269						
D24K	**Happy Valley**	**83.13**	**21**	IAmb	IAmb	10 12 10.9	
	comp=Z,54nm,0.8s						
D24K	**Happy Valley**	**83.13**	**21**	P	**P**	**10 12 08.9**	**+1.2**
	baz=268,SNR=27						
KNK	**Knik Glacier**	**83.15**	**29**	P	**P**	**10 12 08.5**	**+0.5**
	baz=270,SNR=28						
C24K	**Franklin Bluff**	**83.19**	**21**	P	**P**	**10 12 08.3**	**+0.3**
	baz=268,SNR=6.3						
SML	**Sawmill**	**83.21**	**29**	P	**P**	**10 12 09.0**	**+0.6**
	baz=270,SNR=59						
E24K	**Your Creek**	**83.23**	**22**	P	**P**	**10 12 09.5**	**+1.3**
E24K	**Your Creek**	**83.23**	**22**	P	**P**	**10 12 09.6**	**+1.3**
	baz=269						
MDM	**Murphy Dome**	**83.28**	**25**	IAmb	IAmb	10 12 10.9	
	comp=Z,51nm,0.8s						
WRH	**Wood River Hil**	**83.34**	**26**	IAmb	IAmb	10 12 11.2	
	comp=Z,103nm,0.9s						
ADZR	**Andozero**	**83.39**	**334**	*e*P	**P**	**10 12 07.1**	**-2.0**
ADZR				*e**PP	**pP**	**10 12 31.7**	**-5.4**
ADZR				pmax	pmax		
	comp=Z,24nm,1.3s						
H24K	**Noodor Dome**	**83.44**	**24**	P	**P**	**10 12 10.5**	**+1.1**
	baz=270,SNR=143						
COLA	**College**	**83.44**	**25**	P	**P**	**10 12 10.2**	**+0.9**
COLA	**College**	**83.44**	**25**	P	**P**	**10 12 09.4**	**0.0**
COLA				IAmb	IAmb	10 12 38.4	
	comp=Z,85nm,1.0s						
COLA	**College**	**83.44**	**25**	P	**P**	**10 12 09.2**	**-0.2**
	baz=270						
COLA	**College**	**83.44**	**25**	*i* P	**P**	**10 12 09.7**	**+0.4**
COLA				pmax	pmax		
	comp=Z,49nm,0.8s						
F24K	**Squaw Lake**	**83.45**	**23**	P	**P**	**10 12 10.6**	**+1.2**
	baz=269,SNR=48						
CCB	**Clear Creek Bu**	**83.46**	**26**	P	**P**	**10 12 09.4**	**0.0**
CCB				IAmb	IAmb	10 12 11.6	
	comp=Z,102nm,1.1s						
WAT6	**Susitna Watana**	**83.49**	**28**	P	**P**	**10 12 10.5**	**+0.6**
	baz=270,SNR=96						
M23K	**Glacier View**	**83.50**	**29**	P	**P**	**10 12 10.2**	**+0.4**
	baz=270,SNR=20						
G24K	**Hadweenzic Riv**	**83.60**	**24**	P	**P**	**10 12 11.4**	**+1.2**
	baz=270,SNR=96						
POKR	**Poker Plat Res**	**83.62**	**25**	P	**P**	**10 12 10.7**	**+0.3**
POKR	**Poker Plat Res**	**83.62**	**25**	P	**P**	**10 12 10.3**	**0.0**
	baz=270,SNR=9.7						
DHY	**Denali Highway**	**83.66**	**27**	IAmb	IAmb	10 12 17.0	
	comp=Z,32nm,0.6s						
DHY	**Denali Highway**	**83.66**	**27**	P	**P**	**10 12 11.2**	**+0.4**
	baz=270,SNR=48						
P23K	**Montague Islan**	**83.67**	**30**	P	**P**	**10 12 11.5**	**+0.8**
	baz=271,SNR=28						
SCM	**Sheep Creek Mo**	**83.69**	**28**	IAmb	IAmb	10 12 13.2	
	comp=Z,101nm,1.1s						
SCM	**Sheep Creek Mo**	**83.69**	**28**	P	**P**	**10 12 11.6**	**+0.8**
	baz=270,SNR=35						
MOS	**Moscow**	**83.80**	**325**	*e*P	**P**	**10 12 07.6**	**-3.8**
MOS				*e**PP	**pP**	**10 12 35.1**	**-4.4**
MOS				*e*		10 15 20.6	
MOS				*e*S	**SKSac**	**10 22 17.6**	**-6.7**
MOS				pmax	pmax		
	comp=Z,300nm,1.7s						
MOS				pmax	pmax		
	comp=Z,132nm,1.5s						
GLI	**Glacier Island**	**83.81**	**29**	P	**P**	**10 12 12.0**	**+0.7**
	baz=271,SNR=29						
HDA	**Harding Lake**	**83.83**	**26**	P	**P**	**10 12 10.9**	**-0.5**
	baz=271,SNR=162						
IL31		**83.86**	**26**	IAmb	IAmb	10 12 13.6	
	comp=Z,42nm,0.8s						
ILAR	**Eielson Array**	**83.86**	**26**	P	**P**	**10 12 10.6**	**-0.9**
ILAR	**Eielson Array**	**83.86**	**26**	P	**P**	**10 12 11.4**	**0.0**
	comp=Z,30nm,0.7s,baz=257,slow=4.4,SNR=288						
ILAR				S	**SKSac**	**10 22 18.6**	**-5.8**
	comp=Z,0.2nm,0.6s,baz=321,slow=34,SNR=1.3						
ILAR				PKKPbc	**PKKPbc**	**10 30 25.9**	**-3.6**
	comp=Z,0.2nm,0.5s,baz=96,slow=1.1,SNR=5.0						
ILAR				LR	LR	10 52 59.5	
	comp=Z,93nm,18.9s,baz=260,slow=38						
	comp=Z,30nm,0.7s						
IL03	**Eielson Array**	**83.87**	**26**	P	**P**	**10 12 12.1**	**+0.5**
ARPR	**Arapgir-MALATY**	**83.88**	**309**	P	**P**	**10 12 13.1**	**+0.8**
ARPR				IAmb	IAmb	10 12 14.7	
	comp=Z,188nm,1.6s						
D25K	**Kavik River**	**84.00**	**21**	P	**P**	**10 12 13.2**	**+0.9**
D25K				IAmb	IAmb	10 12 15.0	
	comp=Z,64nm,1.0s						
D25K	**Kavik River**	**84.00**	**21**	P	**P**	**10 12 13.1**	**+0.9**
	baz=271,SNR=38						
HIN	**Hinchinbrook I**	**84.12**	**30**	P	**P**	**10 12 13.7**	**+0.8**
FID	**Port Fidalgo**	**84.12**	**30**	P	**P**	**10 12 13.9**	**+1.0**
FID				IAmb	IAmb	10 12 15.2	
	comp=Z,90nm,0.8s						
G25K	**Bearman Lake**	**84.15**	**23**	P	**P**	**10 12 14.2**	**+1.3**
	baz=271,SNR=54						
Q23K	**Middleton Isla**	**84.22**	**31**	P	**P**	**10 12 14.2**	**+0.9**
	baz=272						
M24K	**Tolsona, Glenn**	**84.23**	**28**	P	**P**	**10 12 14.4**	**+0.9**
	baz=272,SNR=35						
H25L	**Birch Creek**	**84.27**	**24**	P	**P**	**10 12 14.9**	**+1.4**
	baz=271,SNR=145						
ANN	**Anapa**	**84.30**	**314**	*d i* P	**P**	**10 12 12.8**	**-1.3**
ANN				*e**PP	**pP**	**10 12 38.8**	**-3.6**
ANN				*e*S	**SKSac**	**10 22 25.7**	**-2.2**
ANN				pmax	pmax		
	comp=Z,138nm,1.0s						
F25K	**Christian Rive**	**84.31**	**23**	P	**P**	**10 12 15.0**	**+1.2**
	baz=271,SNR=68						
E25K	**Arctic Village**	**84.32**	**22**	P	**P**	**10 12 15.2**	**+1.3**
	baz=272,SNR=120						
K24K	**Donnelly Dome**	**84.36**	**26**	P	**P**	**10 12 14.3**	**+0.2**
	baz=272,SNR=40						
KLU	**Klutina**	**84.37**	**29**	IAmb	IAmb	10 12 43.7	
	comp=Z,63nm,1.1s						
KLU	**Klutina**	**84.37**	**29**	P	**P**	**10 12 15.1**	**+0.8**
	baz=272,SNR=17						
PRP	**Porcupine Dome**	**84.42**	**25**	P	**P**	**10 12 14.3**	**-0.2**
	baz=272,SNR=25						
OBN	**Obninsk**	**84.42**	**325**	P	**P**	**10 12 14.0**	**-0.5**
OBN	**Obninsk**	**84.42**	**325**	P	**P**	**10 12 14.1**	**-0.4**
	comp=Z,19nm,0.3s,baz=70,slow=3.9,SNR=34						
OBN				LR	LR	10 53 26.2	
	comp=Z,381nm,19.3s,baz=70,slow=38						
	comp=Z,19nm,0.3s						
OBN	**Obninsk**	**84.42**	**325**	*d i* P	**P**	**10 12 13.2**	**-1.3**
OBN				*e**PP	**pP**	**10 12 42.8**	**0.0**
OBN				*e*		10 15 32.2	
OBN				pmax	pmax		
	comp=Z,244nm,1.7s						
EYAK	**Cordova Ski Ar**	**84.48**	**30**	P	**P**	**10 12 16.3**	**+1.6**
EYAK	**Cordova Ski Ar**	**84.48**	**30**	P	**P**	**10 12 15.6**	**+0.9**
	baz=272,SNR=15						
C26K	**Camden Bay**	**84.50**	**20**	P	**P**	**10 12 16.3**	**+1.6**
	baz=272,SNR=89						
J25K	**Salcha River,**	**84.51**	**26**	IAmb	IAmb	10 12 43.5	
	comp=Z,51nm,0.8s						
J25K	**Salcha River,**	**84.51**	**26**	P	**P**	**10 12 14.7**	**-0.2**
	baz=272,SNR=102						
PAX	**Paxson**	**84.53**	**27**	P	**P**	**10 12 15.7**	**+0.7**
	baz=272,SNR=55						
HARP	**HAARP**	**84.69**	**28**	P	**P**	**10 12 16.6**	**+0.8**
	baz=272,SNR=9.1						
BMAR	**Burnt Mountain**	**84.72**	**23**	P	**P**	**10 12 17.6**	**+1.8**
GAZ	**Gaziantep**	**84.86**	**307**	IAmb	IAmb	10 12 18.9	
	comp=Z,143nm,1.4s						
F26K	**Sheenjek River**	**84.88**	**23**	P	**P**	**10 12 18.4**	**+1.7**
	baz=273,SNR=42						
C27K	**Jago River**	**84.93**	**21**	P	**P**	**10 12 18.6**	**+1.8**
	baz=273,SNR=62						
C27K				S	**S**	**10 22 40.2**	**+3.8**
	baz=273						
N25K	**Chitina, Valde**	**85.00**	**29**	IAmb	IAmb	10 12 49.2	
	comp=Z,97nm,1.2s						
N25K	**Chitina, Valde**	**85.00**	**29**	P	**P**	**10 12 18.4**	**+0.9**
	baz=273,SNR=18						
RAGM	**Ragged Mountai**	**85.02**	**30**	IAmb	IAmb	10 12 47.2	
	comp=Z,74nm,0.9s						
BMRM	**Bremner River**	**85.03**	**29**	P	**P**	**10 12 18.1**	**+0.6**
	baz=273,SNR=25						
BMRM				S	**S**	**10 22 39.2**	**+1.5**
	baz=273						
G26K	**Porcupine Rive**	**85.06**	**23**	P	**P**	**10 12 19.0**	**+1.5**
	baz=273,SNR=85						
SCRK	**Sand Creek**	**85.14**	**26**	IAmb	IAmb	10 12 48.7	
	comp=Z,56nm,1.0s						
SCRK	**Sand Creek**	**85.14**	**26**	P	**P**	**10 12 19.0**	**+0.8**
	baz=273,SNR=42						
KAIM	**Kayak Island**	**85.18**	**30**	P	**P**	**10 12 19.0**	**+0.8**
	baz=273,SNR=7.7						
KAIM				S	**S**	**10 22 41.0**	**+1.9**
	baz=273						
MAW	**Mawson**	**85.21**	**200**	P	**P**	**10 12 17.6**	**-0.6**
	comp=Z,11nm,0.7s,baz=80,slow=6.8,SNR=25						
MAW				LR	LR	10 45 10.1	
	comp=Z,314nm,21.6s,baz=54,slow=32						
	comp=Z,11nm,0.7s						
HMT	**Hamilton**	**85.23**	**30**	P	**P**	**10 12 19.8**	**+1.3**
HMT				IAmb	IAmb	10 12 49.3	
	comp=Z,145nm,1.4s						
APA	**Apatity**	**85.29**	**337**	‖ *i* P	P	10 12 13.4	-5.2
APA				*i* *PP	pP	10 12 44.7	-2.1
APA				*i* S	S	10 22 24.0	-16
APA				pmax	pmax		
	comp=Z,32nm,0.7s						
J26L	**Joseph Creek**	**85.30**	**26**	IAmb	IAmb	10 12 51.5	
	comp=Z,50nm,0.9s						
J26L	**Joseph Creek**	**85.30**	**26**	P	**P**	**10 12 19.6**	**+0.7**
	baz=274,SNR=89						
J26L				S	**S**	**10 22 42.9**	**+2.5**
	baz=274						
MENT	**Mentasta**	**85.33**	**27**	P	**P**	**10 12 20.4**	**+1.4**
GLB	**Gilahina Butte**	**85.38**	**29**	IAmb	IAmb	10 12 50.8	
	comp=Z,93nm,1.2s						
I26K	**Coal Creek Min**	**85.42**	**25**	P	**P**	**10 12 19.9**	**+0.6**
	baz=274						
I26K				S	**S**	**10 22 43.7**	**+2.4**
	baz=274						
SUCK	**Suckling Hills**	**85.49**	**30**	IAmb	IAmb	10 12 56.7	
	comp=Z,70nm,1.2s						
L26K	**Log Cabin Wild**	**85.49**	**27**	P	**P**	**10 12 20.5**	**+0.7**
	baz=274,SNR=16						
L26K				S	**S**	**10 22 42.8**	**+0.6**
	baz=274						
VRDI	**Verde Repeater**	**85.57**	**29**	P	**P**	**10 12 21.7**	**+1.3**
M26K	**Nabesna, AK**	**85.70**	**28**	IAmb	IAmb	10 12 51.7	
	comp=Z,74nm,1.4s						
M26K	**Nabesna, AK**	**85.70**	**28**	P	**P**	**10 12 21.7**	**+0.8**
	baz=274,SNR=9.1						
M26K				S	**S**	**10 22 44.7**	**+0.4**
	baz=274						
BGLC	**Bering Glacier**	**85.73**	**30**	P	**P**	**10 12 22.0**	**+1.1**
	baz=274						
BGLC				S	**S**	**10 22 47.5**	**+3.0**
	baz=274						
VNDA	**Vanda**	**85.73**	**173**	P	**P**	**10 12 20.8**	**+0.2**
VNDA				IAmb	IAmb	10 12 22.6	
	comp=Z,110nm,1.7s						
VNDA	**Vanda**	**85.73**	**173**	P	**P**	**10 12 20.4**	**-0.1**
	comp=Z,6.2nm,0.4s,baz=320,slow=6.8,SNR=76						
VNDA				LR	LR	10 50 01.2	
	comp=Z,210nm,20.9s,baz=342,slow=35						
	comp=Z,6.2nm,0.4s						
VNDA	**Vanda**	**85.73**	**173**	P	**P**	**10 12 20.8**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,110nm,1.7s						
CRQM	**Cirque**	**85.76**	**29**	IAmb	IAmb	10 12 52.1	
	comp=Z,90nm,1.1s						
MCARA	**McCarthy VSAT**	**85.76**	**29**	P	**P**	**10 12 22.4**	**+1.2**
MCARA				IAmb	IAmb	10 12 52.2	
	comp=Z,71nm,1.0s						
MCARA	**McCarthy VSAT**	**85.76**	**29**	P	**P**	**10 12 22.0**	**+0.9**
	baz=274,SNR=8.4						
MCARA				S	**S**	**10 22 45.7**	**+0.8**
	baz=274						
CRQE	**Cirque**	**85.78**	**29**	P	**P**	**10 12 22.3**	**+0.9**
	baz=274,SNR=9.1						
E27K	**Coleen River**	**85.80**	**22**	IAmb	IAmb	10 13 11.2	
	comp=Z,54nm,1.1s						
E27K	**Coleen River**	**85.80**	**22**	P	**P**	**10 12 22.4**	**+1.1**
	baz=275,SNR=38						
E27K				S	**S**	**10 22 45.6**	**+0.5**
	baz=275						
G27K	**Doyon Strip**	**85.91**	**23**	IAmb	IAmb	10 13 03.6	
	comp=Z,53nm,1.2s						
G27K	**Doyon Strip**	**85.91**	**23**	P	**P**	**10 12 23.0**	**+1.3**
	baz=275,SNR=40						
G27K				S	**S**	**10 22 49.4**	**+3.3**
	baz=275						
TGL	**Tana Glacier**	**85.91**	**29**	P	**P**	**10 12 23.4**	**+1.4**
D27M	**Malcolm River**	**85.93**	**21**	IAmb	IAmb	10 13 04.5	
	comp=Z,75nm,1.2s						
D27M	**Malcolm River**	**85.93**	**21**	P	**P**	**10 12 23.0**	**+1.1**
	baz=276,SNR=23						
D27M				S	**S**	**10 22 46.9**	**+0.5**
	baz=276						
K27K	**Chicken**	**85.98**	**26**	P	**P**	**10 12 23.6**	**+1.5**
K27K	**Chicken**	**85.98**	**26**	P	**P**	**10 12 23.5**	**+1.3**
	baz=275						
K27K				S	**S**	**10 22 47.8**	**+1.0**
	baz=275						
H27K	**Steamboat Moun**	**86.01**	**24**	P	**P**	**10 12 23.6**	**+1.3**
	baz=275,SNR=52						
H27K				S	**S**	**10 22 48.5**	**+1.3**
	baz=275						
I27K	**Kandik River**	**86.03**	**25**	P	**P**	**10 12 23.6**	**+1.2**
	baz=275,SNR=156						
I27K				S	**S**	**10 22 48.4**	**+1.0**
	baz=275						
L27K	**Beaver Creek,**	**86.18**	**27**	IAmb	IAmb	10 12 55.4	
	comp=Z,86nm,1.4s						
L27K	**Beaver Creek,**	**86.18**	**27**	P	**P**	**10 12 24.4**	**+1.2**
	baz=275,SNR=31						
L27K				S	**S**	**10 22 49.8**	**+0.9**
	baz=275						
BCAR	**Beaver Creek A**	**86.20**	**27**	P	**P**	**10 12 24.3**	**+1.0**
M27K	**Edge Creek, AK**	**86.22**	**28**	IAmb	IAmb	10 12 54.8	
	comp=Z,47nm,1.2s						
M27K	**Edge Creek, AK**	**86.22**	**28**	P	**P**	**10 12 24.2**	**+0.7**
	baz=275						
M27K				S	**S**	**10 22 49.7**	**+0.1**
	baz=275						
EGAK	**Eagle**	**86.31**	**25**	P	**P**	**10 12 24.4**	**+0.6**
EGAK				IAmb	IAmb	10 12 54.6	
	comp=Z,44nm,1.1s						
EGAK	**Eagle**	**86.31**	**25**	P	**P**	**10 12 24.3**	**+0.6**
	baz=276,SNR=32						
EGAK				S	**S**	**10 22 51.7**	**+1.7**
	baz=276						
MESA	**MESA**	**86.39**	**30**	P	**P**	**10 12 25.6**	**+1.2**
	baz=275,SNR=6.1						
MESA				S	**S**	**10 22 53.0**	**+1.6**
	baz=275						
GRNC	**Granite Creek**	**86.44**	**29**	P	**P**	**10 12 25.1**	**+0.4**
F28M	**Old Crow**	**86.51**	**22**	P	**P**	**10 12 25.1**	**+0.4**
F28M				IAmb	IAmb	10 12 53.9	
	comp=Z,45nm,0.9s						
F28M	**Old Crow**	**86.51**	**22**	P	**P**	**10 12 26.0**	**+1.3**
	baz=277,SNR=52						
F28M				S	**S**	**10 22 52.2**	**+0.2**
	baz=277						
E28M	**Babbage River**	**86.52**	**21**	IAmb	IAmb	10 13 14.7	
	comp=Z,66nm,1.2s						
E28M	**Babbage River**	**86.52**	**21**	P	**P**	**10 12 25.9**	**+1.2**
	baz=277,SNR=28						
E28M				S	**S**	**10 22 51.7**	**-0.3**
	baz=277						
JOF	**Joensuu**	**86.58**	**333**	*e*P	**P**	**10 12 24.4**	**-0.7**
CTG	**Chitna Glacier**	**86.61**	**29**	P	**P**	**10 12 26.3**	**+0.8**
	baz=276,SNR=38						
CTG				S	**S**	**10 22 54.9**	**+1.5**
	baz=276						
SIM	**Simferopol'**	**86.64**	**315**	*e*P	**P**	**10 12 25.8**	**0.0**
SIM				pmax	pmax		
	comp=Z,47nm,1.3s						
MMAI	**Mount Meron Ar**	**86.64**	**303**	P	**P**	**10 12 26.9**	**+0.7**
	comp=Z,4.2nm,0.5s,baz=74,slow=6.2,SNR=27						
MMAI				pP	**pP**	**10 12 53.0**	**-1.6**
	comp=Z,3.8nm,0.6s,baz=85,slow=10,SNR=2.2						
MMAI				S	**SKSac**	**10 22 49.5**	**+6.0**
	comp=Z,1.3nm,0.3s,baz=96,slow=31,SNR=2.0						
MMAI				LR	LR	10 56 50.0	
	comp=Z,157nm,20.7s,baz=30,slow=40						
	comp=Z,4.2nm,0.5s						
SBA	**Scott Base**	**86.66**	**172**	P	**P**	**10 12 27.0**	**+1.9**
SBA	**Scott Base**	**86.66**	**172**	P	**P**	**10 12 27.0**	**+1.9**
SBA				pmax	pmax		
	comp=Z,180nm,1.8s						
BVCY	**Beaver Creek**	**86.69**	**28**	P	**P**	**10 12 26.7**	**+1.1**
	baz=276						
BVCY				S	**S**	**10 22 55.1**	**+1.3**
	baz=276						
D28M	**Stokes Point**	**86.71**	**21**	P	**P**	**10 12 26.4**	**+0.8**
	baz=278						
D28M				S	**S**	**10 22 54.7**	**+1.1**
	baz=278						
I28M	**Miner Creek**	**86.75**	**25**	P	**P**	**10 12 26.8**	**+0.8**
I28M				IAmb	IAmb	10 12 55.3	
	comp=Z,60nm,0.8s						
I28M	**Miner Creek**	**86.75**	**25**	P	**P**	**10 12 27.3**	**+1.3**
	baz=277,SNR=96						
I28M				S	**S**	**10 22 55.6**	**+1.1**
	baz=277						
LOGN	**Logan Glacier**	**86.79**	**29**	P	**P**	**10 12 28.1**	**+1.7**
LOGN				IAmb	IAmb	10 12 58.6	
	comp=Z,50nm,1.0s						
YUK3	**Moose Creek**	**86.95**	**28**	P	**P**	**10 12 27.8**	**+0.6**
	baz=277,SNR=5.7						
YUK3				S	**S**	**10 22 58.5**	**+1.7**
	baz=277						
E29M	**Blow River**	**87.14**	**22**	IAmb	IAmb	10 13 18.3	
	comp=Z,92nm,2.0s						
E29M	**Blow River**	**87.14**	**22**	P	**P**	**10 12 28.5**	**+0.8**
	baz=279,SNR=10.0						
E29M				S	**S**	**10 22 57.7**	**-0.3**
	baz=279						
DAWY	**Dawson**	**87.15**	**26**	P	**P**	**10 12 29.1**	**+1.2**
	baz=277,SNR=29						
DAWY				S	**S**	**10 22 59.3**	**+1.0**
	baz=277						
O28M	**Mount Upton**	**87.19**	**29**	P	**P**	**10 12 29.2**	**+0.7**
	baz=277,SNR=9.6						
O28M				S	**S**	**10 23 01.2**	**+1.9**
	baz=277						
PINM	**Pinnacle**	**87.25**	**30**	P	**P**	**10 12 29.3**	**+0.8**
	baz=277						
PINM				S	**S**	**10 23 00.8**	**+1.4**
	baz=277						
PPT	**Papeete**	**87.25**	**108**	LR	LR	10 46 08.7	
	comp=Z,221nm,19.6s,baz=272,slow=32						
PPT2	**Papeete2**	**87.25**	**108**	*e*P	**P**	**10 12 24.8**	**-4.5**
	comp=Z,134nm,25.5s						
PPT2	**Papeete2**	**87.25**	**108**	*e*S	**SKSac**	**10 22 54.5**	**+6.9**
	comp=Z,183nm,25.2s						
PPT2				*e*SS	**SS**	**10 28 47.0**	**-0.8**
	comp=Z,480nm,24.2s						
PPT2	**Papeete2**	**87.25**	**108**	*e*LR	LR	10 40 00.9	
	comp=Z,721nm,27.0s						
PPT2				*e*LR	LR	10 40 11.4	
	comp=Z,496nm,33.0s						
H29M	**Whitestone**	**87.28**	**24**	P	**P**	**10 12 29.3**	**+0.9**
H29M				IAmb	IAmb	10 13 10.9	
	comp=Z,86nm,1.4s						
H29M	**Whitestone**	**87.28**	**24**	P	**P**	**10 12 29.4**	**+0.9**
	baz=278,SNR=27						
H29M				S	**S**	**10 23 00.6**	**+1.2**
	baz=278						
EIL	**Elat**	**87.32**	**299**	LR	LR	10 58 37.7	
	comp=Z,138nm,18.4s,baz=66,slow=40						
G29M	**Pine Creek**	**87.32**	**23**	IAmb	IAmb	10 12 31.2	
	comp=Z,61nm,0.8s						
G29M	**Pine Creek**	**87.32**	**23**	P	**P**	**10 12 29.8**	**+1.2**
	baz=278,SNR=52						
G29M				S	**S**	**10 23 00.4**	**+0.7**
	baz=278						
YUK8	**Steele Glacier**	**87.34**	**29**	P	**P**	**10 12 29.9**	**+0.8**
	baz=277						
KIBK	**Kibwezi**	**87.37**	**267**	IAmb	IAmb	10 12 31.7	
	comp=Z,84nm,1.7s						
KIBK	**Kibwezi**	**87.37**	**267**	P	**P**	**10 12 31.5**	**+1.5**
I29M	**Ogilvie Camp,**	**87.43**	**25**	IAmb	IAmb	10 13 12.2	
	comp=Z,53nm,1.2s						
I29M	**Ogilvie Camp,**	**87.43**	**25**	P	**P**	**10 12 30.0**	**+0.8**
	baz=278,SNR=50						
I29M				S	**S**	**10 23 01.3**	**+0.4**
	baz=278						
BR131	**Keskin Array S**	**87.47**	**309**	P	**P**	**10 12 28.9**	**-1.1**
BR131	**Keskin Array S**	**87.47**	**309**	P	**P**	**10 12 30.6**	**+0.6**
BR131	**Keskin Array S**	**87.47**	**309**	P	**P**	**10 12 28.9**	**-1.1**
BR131				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRTR	**Keskin Array B**	**87.47**	**309**	P	**P**	**10 12 28.7**	**-1.4**
BRTR	**Keskin Array B**	**87.47**	**309**	P	**P**	**10 12 28.9**	**-1.1**
	comp=Z,6.1nm,0.9s,baz=130,slow=3.9,SNR=22						
BRTR				LR	LR	10 58 15.7	
	comp=Z,134nm,18.5s,baz=77,slow=40						
	comp=Z,6.1nm,0.9s						
BRTR	**Keskin Array B**	**87.47**	**309**	P	**P**	**10 12 29.0**	**-1.1**
BR106	**Keskin Array S**	**87.48**	**310**	P	**P**	**10 12 29.0**	**-1.1**
	comp=Z,8.1nm,0.9s,comp=Z,77nm						
BCPM	**Bancas Point**	**87.57**	**30**	P	**P**	**10 12 29.5**	**-0.4**
BCPM				IAmb	IAmb	10 15 19.0	
	comp=Z,30nm,0.5s						
J29N	**Klondike Camp**	**87.61**	**26**	P	**P**	**10 12 31.1**	**+1.0**
	baz=278						
J29N				S	**S**	**10 23 04.4**	**+1.7**
	baz=278						
PNL	**Peninsula**	**87.73**	**30**	P	**P**	**10 12 31.7**	**+1.0**
	baz=278						
PNL				S	**S**	**10 23 05.7**	**+1.8**
	baz=278						
M29M	**Somme Creek**	**87.79**	**28**	P	**P**	**10 12 32.0**	**+0.9**
	baz=278,SNR=36						
M29M				S	**S**	**10 23 06.5**	**+1.9**
	baz=278						
L29M	**L29M**	**87.84**	**27**	IAmb	IAmb	10 13 01.8	
	comp=Z,36nm,0.8s						
L29M	**L29M**	**87.84**	**27**	P	**P**	**10 12 32.1**	**+0.9**
	baz=279,SNR=40						
L29M				S	**S**	**10 23 07.1**	**+2.2**
	baz=279						
YUK4	**Talbot Arm**	**87.86**	**29**	P	**P**	**10 12 32.2**	**+0.6**
	baz=278,SNR=5.1						
ARCES	**ARCESS Array B**	**87.92**	**340**	P	**P**	**10 12 30.7**	**-0.8**
ARCES	**ARCESS Array B**	**87.92**	**340**	P	**P**	**10 12 30.6**	**-0.8**
	comp=Z,4.1nm,0.8s,baz=69,slow=6.8,SNR=6.7						
ARCES				PKKPbc	**PKKPdf**	**10 30 16.9**	**+3.6**
	comp=Z,0.5nm,0.4s,baz=252,slow=3.1,SNR=9.6						
ARCES				LR	LR	10 57 44.4	
	comp=Z,337nm,18.8s,baz=78,slow=40						
	comp=Z,4.1nm,0.8s						
ARCES	**ARCESS Array B**	**87.92**	**340**	P	**P**	**10 12 30.7**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,21nm,1.1s						
EPYK	**Eagle Plains**	**87.92**	**24**	IAmb	IAmb	10 12 33.7	
	comp=Z,48nm,1.0s						
EPYK	**Eagle Plains**	**87.92**	**24**	P	**P**	**10 12 32.5**	**+1.0**
	baz=280,SNR=26	

SPITS Spitsbergen Ar 88.09 349 P **P 10 12 31.6 -0.5**
comp=Z,2.5nm,0.5s,baz=91,slow=7.5,SNR=8.1
SPITS LR LR 10 56 34.5
comp=Z,447nm,19.8s,baz=18,slow=39
comp=Z,2.5nm,0.5s
CSS Mathiatis 88.18 305 P **P 10 12 32.0 -1.4**
I30M Mount Dempster 88.26 25 P **P 10 12 33.2 0.0**
baz=280,SNR=29
I30M S **S 10 23 08.7 -0.2**
baz=280
J30M Hart River 88.39 25 P **P 10 12 34.4 +0.5**
baz=280,SNR=18
J30M S **S 10 23 11.3 +1.0**
baz=280
HYT Haines Junctio 88.49 29 P **P 10 12 35.0 +0.5**
baz=279,SNR=19
HYT S **S 10 23 13.0 +1.6**
baz=279
M30M Minto, Yukon 88.53 27 P **P 10 12 35.3 +0.8**
baz=280,SNR=19
M30M S **S 10 23 14.0 +2.5**
baz=280
P29M Windy Craggy 88.57 30 P **P 10 12 35.6 +0.9**
baz=279,SNR=10
P29M S **S 10 23 14.4 +2.5**
baz=279
N30M Aishikik Lake 88.59 28 P **P 10 12 35.6 +0.8**
baz=280,SNR=21
N30M S **S 10 23 14.3 +2.2**
baz=280
INK Inuvik 88.75 21 P **P 10 12 35.2 -0.1**
INK Inuvik 88.75 21 P **P 10 12 35.7 +0.3**
baz=283,SNR=26
INK S **S 10 23 11.4 -1.8**
baz=283
INK Inuvik 88.75 21 LR LR 10 57 19.4
comp=Z,105nm,18.8s,baz=332,slow=39
INK Inuvik 88.75 21 P **P 10 12 35.2 -0.1**
INK pmax pmax
comp=Z,25nm,1.1s
G31M Satah River 88.77 23 IAmb IAmb 10 12 37.3
comp=Z,39nm,0.9s
G31M Satah River 88.77 23 P **P 10 12 34.6 -0.8**
baz=282,SNR=27
G31M S **S 10 23 11.0 -2.4**
baz=282
F31M Tsiigehtchic 88.86 22 P **P 10 12 36.4 +0.5**
baz=282,SNR=26
F31M S **S 10 23 12.3 -2.0**
baz=282
P30M Million Dollar 88.87 30 P **P 10 12 36.6 +0.4**
baz=280,SNR=6.0
P30M S **S 10 23 16.1 +1.3**
baz=280
H31M Peel River 88.98 24 P **P 10 12 36.5 0.0**
H31M Peel River 88.98 24 P **P 10 12 36.4 -0.1**
baz=282
H31M S **S 10 23 15.9 +0.4**
baz=282
O30N Mendenhall 89.18 29 P **P 10 12 37.9 +0.3**
baz=280,SNR=16
O30N S **S 10 23 19.9 +2.2**
baz=280
N31M Braeburn, Yuko 89.20 28 IAmb IAmb 10 13 06.7
comp=Z,45nm,0.9s
N31M Braeburn, Yuko 89.20 28 P **P 10 12 37.9 +0.2**
baz=281,SNR=28
N31M S **S 10 23 19.9 +2.2**
baz=281
FINES FINESS Array B 89.22 332 P **P 10 12 37.0 -0.6**
FINES FINESS Array B 89.22 332 P **P 10 12 36.8 -0.9**
comp=Z,5.2nm,0.6s,baz=50,slow=5.0,SNR=25
FINES PKKPbc **PKKPbc 10 30 14.5 -2.0**
comp=Z,0.8nm,0.5s,baz=206,slow=3.2,SNR=6.8
FINES LR LR 10 56 32.6
comp=Z,622nm,18.6s,baz=80,slow=38
comp=Z,5.2nm,0.6s
AK09 Malin Array Si 89.23 321 P **P 10 12 36.6 -1.4**
AKASG Malin Array Be 89.26 321 P **P 10 12 37.4 -0.6**
comp=Z,8.3nm,0.9s,baz=74,slow=4.1,SNR=6.8
AKASG LR LR 10 56 16.3
comp=Z,330nm,19.9s,baz=66,slow=38
comp=Z,8.3nm,0.9s
AKASG Malin Array Be 89.26 321 *i* P **P 10 12 37.9 -0.2**
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 89.26 321 P **P 10 12 37.0 -1.1**
AKBB Malin Array Si 89.26 321 *ce*P **P 10 12 35.9 -2.2**
AKBB pmax pmax
comp=Z,24nm,1.5s
AKBB Malin Array Si 89.26 321 P **P 10 12 36.8 -1.3**
KIEV Kiev 89.27 321 ⇑P **P 10 12 37.7 -0.4**
KIEV Kiev 89.27 321 P **P 10 12 36.5 -1.6**
KIEV Kiev 89.27 321 ⇑P **P 10 12 37.7 -0.4**
KIEV Kiev 89.27 321 P **P 10 12 36.8 -1.3**
comp=Z,67nm,1.1s
AK05 Malin Array Si 89.28 321 P **P 10 12 37.5 -0.7**
PLBC Pleasant Camp 89.28 30 P **P 10 12 38.2 +0.2**
baz=280,SNR=5.6
PLBC S **S 10 23 20.3 +1.8**
baz=280
AK13 Malin Array Si 89.38 321 P **P 10 12 37.6 -1.0**
VSU Vasula 89.44 329 *ce*P **P 10 12 37.5 -1.2**
VSU pmax pmax
comp=Z,30nm,1.7s
LODK Lodwar 89.46 273 P **P 10 12 40.0 +0.1**
MNK Minsk 89.49 325 *i* P **P 10 12 37.2 -1.8**
MNK *i* *PP **pP 10 13 03.5 -4.2**
MNK *i* 10 16 09.7
MNK *i* PPP PPP 10 18 06.8
MNK *i* S **SKSac 10 22 57.5 -1.9**
MNK *i* 10 23 23.5
MNK *i* SS **SS 10 29 18.7 +0.7**
MNK *i* SSS SSS 10 32 55.0
MNK pmax pmax
comp=E,8.0nm,1.0s
MNK pmax pmax
comp=N,5.0nm,0.6s
MNK pmax pmax
comp=Z,19nm,0.8s
MNK MLR MLR
comp=N,392nm,20.0s
MNK MLR MLR
comp=Z,197nm,17.0s
MNK MLR MLR
comp=E,153nm,19.0s
S31K Pelican 89.62 32 P **P 10 12 40.4 +0.8**
baz=280
S31K S **S 10 23 23.5 +1.9**
baz=280
KEF Keuruu 89.64 332 *e*P **P 10 12 40.0 +0.4**
M31M Drury Creek, Y 89.70 27 P **P 10 12 40.3 +0.3**
baz=282,SNR=11
M31M S **S 10 23 23.0 +0.6**
baz=282
WHY Whitehorse 89.79 29 P **P 10 12 40.9 +0.4**
WHY IAmb IAmb 10 12 43.0
comp=Z,31nm,0.8s
WHY Whitehorse 89.79 29 P **P 10 12 41.5 +1.0**
baz=282,SNR=32
WHY S **S 10 23 24.6 +1.2**
baz=282
SKAG Skagway 89.80 30 P **P 10 12 42.3 +1.9**
SKAG Skagway 89.80 30 P **P 10 12 40.8 +0.4**
baz=281,SNR=12
SKAG S **S 10 23 25.9 +2.6**
baz=281
MILM Milestii Mici 90.08 317 *e*P **P 10 12 41.0 -1.0**
MILM *e*pP pP 10 13 02.0 -8.5
MILM *i* S **S 10 23 19.5 -6.9**
comp=Z,220nm,3.0s
MILM Milestii Mici 90.08 317 *e*P **P 10 12 41.0 -1.0**
MILM *e**PP pP 10 13 02.0 -8.5
MILM *i* S **S 10 23 19.5 -6.9**
MILM smax smax
comp=N,220nm,3.0s
SIT Sitka 90.27 33 P **P 10 12 43.2 +0.6**
baz=281
SIT S **S 10 23 29.3 +1.6**
baz=281
MEF Metsahovi 90.27 331 *e*P **P 10 12 42.2 -0.3**
LUBAR Lubar, Ukraine 90.31 320 P **P 10 12 41.8 -1.2**
A36M Sachs Harbour 90.42 17 P **P 10 12 44.0 +1.0**
baz=290
A36M S **S 10 23 28.4 -0.1**
baz=290
VAF Ylistaro 90.44 334 *e*P **P 10 12 42.0 -1.3**

R32K Eaglecrest 90.45 31 P **P 10 12 44.5 +1.0**
baz=282
R32K S **S 10 23 33.6 +4.3**
baz=282
JIS Juneau Island 90.52 31 P **P 10 12 46.1 +2.3**
N32M Quiet Lake 90.54 28 P **P 10 12 44.4 +0.5**
baz=283
N32M S **S 10 23 31.1 +0.9**
baz=283
P32M Atlin 90.58 30 P **P 10 12 44.9 +0.7**
baz=282,SNR=5.4
P32M S **S 10 23 32.5 +1.9**
baz=282
S32K Killisnoo 90.59 32 P **P 10 12 44.6 +0.5**
baz=282
TPGR Topolog 90.67 315 ⇑P **P 10 12 42.5 -2.3**
NOR Nord 90.83 355 *i* P **P 10 12 44.3 -0.5**
NOR IAmb IAmb 10 12 47.1
comp=Z,4.0nm,0.8s
P33M Teslin, Yukon 90.88 29 P **P 10 12 45.9 +0.3**
baz=283,SNR=9.5
P33M S **S 10 23 34.8 +1.3**
baz=283
RNPP9 Sopachiv 91.22 322 P **P 10 12 45.5 -1.7**
RNPP5 Staryi Chortor 91.25 322 P **P 10 12 46.3 -1.1**
RAF Rauma 91.35 332 *e*P **P 10 12 47.8 +0.3**
Q32M Nakina River 91.45 30 P **P 10 12 49.6 +1.2**
Q32M Nakina River 91.45 30 P **P 10 12 48.9 +0.6**
baz=284,SNR=5.1
PABE Paberze 91.51 326 *e*P **P 10 12 46.0 -2.4**
T33K Petersburg 91.59 33 P **P 10 12 49.0 +0.2**
baz=283
TESR Tescani 91.62 317 P **P 10 12 48.5 -0.7**
comp=Z,38nm,1.7s,comp=Z,677nm
U33K Whale Pass 91.66 33 P **P 10 12 49.5 +0.4**
baz=283
VRI Vrincioaia 91.68 316 ⇑P **P 10 12 48.5 -1.0**
VRI Vrincioaia 91.68 316 ⇑P **P 10 12 48.5 -1.0**
VRI Vrincioaia 91.68 316 P **P 10 12 49.4 -0.1**
comp=Z,30nm,1.5s,comp=Z,553nm
C36M Paulatuk 91.73 19 IAmb IAmb 10 13 38.2
comp=Z,30nm,1.2s
C36M Paulatuk 91.73 19 P **P 10 12 48.9 -0.2**
baz=291
C36M S **S 10 23 40.9 +0.5**
baz=291
PLOR Plostina 91.74 316 ⇓P **P 10 12 50.0 +0.2**
PLOR Plostina 91.74 316 ⇓P **P 10 12 50.0 +0.2**
CRAG Craig 91.81 34 P **P 10 12 50.3 +0.5**
baz=283
R33M Jennings River 91.99 30 IAmb IAmb 10 12 53.5
comp=Z,17nm,0.9s
R33M Jennings River 91.99 30 P **P 10 12 51.7 +0.9**
baz=285,SNR=20
WRAK Wrangell Islan 92.01 33 IAmb IAmb 10 12 53.6
comp=Z,56nm,1.3s
WRAK Wrangell Islan 92.01 33 P **P 10 12 52.0 +1.3**
baz=284,SNR=8.4
NEHR Nehoiu 92.06 316 ⇑P **P 10 12 52.2 +0.9**
MLR Muntele Rosu 92.29 316 ⇑P **P 10 12 52.5 +0.1**
MLR Muntele Rosu 92.29 316 IAmb IAmb 10 13 22.0
comp=Z,24nm,1.1s
MLR Muntele Rosu 92.29 316 ⇑P **P 10 12 52.5 +0.1**
MLR Muntele Rosu 92.29 316 P **P 10 12 51.8 -0.7**
S34M Telegraph Cree 92.29 31 IAmb IAmb 10 12 54.7
comp=Z,19nm,1.0s
S34M Telegraph Cree 92.29 31 P **P 10 12 53.1 +1.1**
baz=285,SNR=11
BURAR Bucovina Array 92.38 318 ⇓P **P 10 12 53.2 +0.4**
BURAR Bucovina Array 92.38 318 P **P 10 12 52.1 -0.7**
BURAR Bucovina Array 92.38 318 P **P 10 12 52.2 -0.6**
BURAR pmax pmax
comp=Z,7.0nm,0.9s
BUR08 Bucovina Ar. S 92.38 318 P **P 10 12 52.5 -0.3**
V35K Ketchikan 92.67 34 P **P 10 12 53.9 +0.1**
baz=284
DIB Dawson Inlet, 92.69 36 P **P 10 12 55.0 +1.0**
EUNU Eureka 92.71 5 P **P 10 12 54.6 +0.9**
EUNU IAmb IAmb 10 13 21.8
comp=Z,36nm,1.2s
DLBC Dease Lake 92.72 31 P **P 10 12 55.5 +1.4**
DLBC IAmb IAmb 10 12 56.7
comp=Z,23nm,1.1s
DLBC Dease Lake 92.72 31 P **P 10 12 54.9 +0.8**
baz=286,SNR=14
DLBC Dease Lake 92.72 31 LR LR 10 50 35.0
comp=Z,97nm,21.1s,baz=292,slow=33
T35M Bob Quinn 92.99 32 P **P 10 12 56.1 +0.8**
baz=285,SNR=8.4
ALN Alexandroupoli 93.05 311 P **P 10 12 54.3 -1.6**
ALN IAmb IAmb 10 12 55.2
comp=Z,30nm,1.5s
ALN Alexandroupoli 93.05 311 P **P 10 12 54.3 -1.6**
ALN pmax pmax
comp=Z,30nm,1.5s
MARR Marisel-Cluj 93.97 318 ⇓P **P 10 13 00.3 +0.2**
DRGR 94.22 318 ⇓P **P 10 13 01.2 -0.1**
DRGR 94.22 318 ⇓P **P 10 13 01.2 -0.1**
CRVS Cervenica-Dubn 94.54 320 *e*P **P 10 13 02.5 -0.1**
CRVS Cervenica-Dubn 94.54 320 *e*P **P 10 13 02.5 -0.1**
DAG Danmarks Havn 94.94 352 P P 10 13 13.8 +10
DAG Danmarks Havn 94.94 352 *i* P **P 10 13 02.0 -1.8**
DAG IAmb IAmb 10 13 05.5
comp=Z,5.7nm,1.0s
TOAD Toad River Com 94.98 29 P **P 10 13 05.4 +1.0**
baz=290
MDVR Moldovita 95.36 316 ⇑P **P 10 13 05.9 -0.6**
HFS Hagfors 95.41 332 P **P 10 13 05.7 -0.6**
comp=Z,1.4nm,0.5s,baz=90,slow=6.5,SNR=7.2
HFS PKKPbc **PKKPdf 10 29 57.6 -2.4**
comp=Z,1.4nm,0.3s,baz=197,slow=4.6,SNR=14
HFS LR LR 10 57 55.6
comp=Z,542nm,21.7s,baz=66,slow=36
comp=Z,1.4nm,0.5s
BBB Bella Bella 95.52 36 LR LR 10 51 29.1
comp=Z,79nm,21.7s,baz=292,slow=32
QSPA South Pole Qui 95.76 180 P **P 10 13 08.8 +1.0**
QSPA South Pole Qui 95.76 180 P **P 10 13 07.9 0.0**
comp=Z,10.0nm,0.9s,baz=320,slow=2.0,SNR=18
QSPA PKKPbc **PKKPdf 10 29 56.3 -4.5**
comp=Z,1.0nm,0.7s,baz=246,slow=1.2,SNR=6.7
QSPA LR LR 10 57 11.7
comp=Z,115nm,19.6s,baz=340,slow=36
comp=Z,10.0nm,0.9s
RES Resolute Bay 95.99 10 IAmb IAmb 10 13 36.9
comp=Z,14nm,1.0s
RES Resolute Bay 95.99 10 LR LR 10 57 40.7
comp=Z,192nm,22.0s,baz=332,slow=36
NB2 NORSAR Subarra 96.19 333 P **P 10 13 08.0 -1.9**
comp=Z,13nm,1.2s,baz=67,slow=4.8
NB2 PKKP **PKKPbc 10 29 56.8 -1.8**
comp=Z,2.1nm,0.8s,baz=235,slow=3.0
NB2 NORSAR Subarra 96.19 333 P **P 10 13 08.0 -1.9**
baz=67,slow=4.8
NOA NORSAR Array B 96.19 333 P **P 10 13 08.2 -1.7**
comp=Z,1.8nm,0.7s,baz=66,slow=4.6,SNR=6.3
NOA PKKPbc **PKKPbc 10 29 56.6 -1.9**
comp=Z,0.5nm,0.4s,baz=250,slow=2.3,SNR=4.7
NOA LR LR 11 00 42.5
comp=Z,511nm,18.9s,baz=45,slow=38
comp=Z,1.8nm,0.7s
AGG Agios Georgios 96.22 310 IAmb IAmb 10 13 09.3
comp=Z,30nm,1.5s
MORC Moravsky Berou 96.77 322 *e*P **P 10 13 11.9 -0.9**
NEEM North Greenlan 96.78 359 *i* P **P 10 13 12.9 +0.3**
JAVC Velka Javorina 96.96 321 *e*P **P 10 13 13.7 0.0**
DBG Daneborg 97.19 351 *i* P **P 10 13 12.9 -1.2**
DBG IAMs_20 IAMs_20 10 13 16.6
comp=Z,2.0nm,1.2s
DBG IAmb IAmb 10 13 16.6
comp=Z,2.0nm,0.9s
DPC Dobruska-Polom 97.34 322 *e*S **S 10 24 23.0 -7.4**
DPC AMS AMS 11 00 10.0
comp=Z,300nm,20.5s
JMIC Jan Mayen 97.42 346 LR LR 11 01 34.1
comp=Z,130nm,21.1s,baz=53,slow=38
VRAC Vranov 97.50 321 *e*P **P 10 13 15.8 -0.2**
VRAC Vranov 97.50 321 LR LR 11 01 15.8
comp=Z,291nm,20.2s,baz=66,slow=38
KRUC Moravsky 97.70 321 *e*P **P 10 13 16.4 -0.5**
RONA Rosalia, Austr 98.19 320 *e*PP **PP 10 17 22.4 +2.7**
comp=Z,8.5nm,1.5s
RONA *i* PKKP **PKKPbc 10 29 52.1 -0.5**
comp=Z,1.4nm,0.5s
YKA Yellowknife Ar 98.20 24 P Pdif 10 13 19.1 +0.2
YKA Yellowknife Ar 98.20 24 P Pdif 10 13 20.1 +1.3
comp=Z,5.3nm,0.8s,baz=301,slow=5.2,SNR=29
YKA PKKPbc **PKKPbc 10 29 48.0 -5.0**
comp=Z,0.2nm,0.3s,baz=144,slow=9.2,SNR=7.4
YKA LR LR 10 58 52.5
comp=Z,116nm,21.0s,baz=280,slow=36
comp=Z,5.3nm,0.8s
LSZ Lusaka 98.23 255 LR LR 10 53 47.8
comp=Z,182nm,21.5s,baz=135,slow=33
CONA Conrad Observa 98.39 320 *e*Pdiff **P 10 13 19.8 -0.4**
comp=Z,5.7nm,1.7s
CONA *e*PP **PP 10 17 22.9 +1.6**
comp=Z,7.9nm,1.1s
CONA *i* PKKP **PKKPbc 10 29 51.3 -0.9**
comp=Z,2.7nm,0.6s
PRU Pruhonice 98.55 322 *e*S **S 10 24 35.7 -4.8**
PRU AMS AMS 11 01 20.0
comp=Z,400nm,18.1s
BRG Berggiesshubel 98.60 323 *e*P **P 10 13 21.1 +0.1**
BRG Amp 10 13 22.3
comp=Z,5.0nm,1.0s
BRG pP **pP 10 13 47.4 -2.2**
BRG Amp 10 13 50.5
comp=Z,9.1nm,1.0s
BRG Amp 10 14 56.0
comp=N,0.1nm,17.2s
BRG Amp 10 14 56.0
comp=E,0.1nm,18.3s
BRG Amp 10 15 05.0
comp=Z,0.2nm,16.5s
BRG Berggiesshubel 98.60 323 P PKiKP 10 17 44.4 -7.6
BRG Amp 10 17 47.1
comp=Z,5.1nm,1.2s
BRG Berggiesshubel 98.60 323 S **S 10 24 38.0 -2.9**
BRG Berggiesshubel 98.60 323 SS SS 10 31 26.0 -1.9
BRG Amp 11 04 15.0
comp=E,0.2nm,18.3s
BRG Amp 11 04 21.0
comp=Z,0.3nm,15.5s
BRG Amp 11 04 22.0
comp=N,0.2nm,16.5s
BRG Berggiesshubel 98.60 323 *e*P **P 10 13 21.0 +0.1**
BRG 10 13 47.4
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG pmax pmax
comp=Z,9.0nm,1.0s
ARSA Arzberg 98.83 320 *e*Pdiff **P 10 13 22.0 -0.1**
comp=Z,2.6nm,1.0s
ARSA *e*PKKP **PKKPbc 10 29 50.8 0.0**
comp=Z,2.4nm,0.5s
CLL Collm 99.00 324 P **Pdif 10 13 22.9 +0.2**
CLL IAmb IAmb 10 14 00.0
comp=Z,19nm,1.6s
CLL Collm 99.00 324 P **Pdif 10 13 22.9 +0.2**
CLL pmax pmax
comp=Z,19nm,1.6s
CKRC Cesky Krumlov 99.08 321 *e*S **S 10 24 41.5 -3.6**
CKRC AMS AMS 10 56 10.0
comp=Z,400nm,20.8s
GCIS Gornji Cirnik 99.19 318 *e*Pdiff **Pdif 10 13 22.6 -1.1**
GCIS *e*PP **PP 10 17 31.2 +3.9**
GCIS *e* 10 17 54.5
ELIB Princess Elisa 99.21 198 *d*P **Pdif 10 13 23.9 +0.6**
comp=Z,6.5nm,1.4s
SOKA Soboth 99.33 319 *e*PP **PP 10 17 31.2 +2.7**
comp=Z,8.3nm,1.1s
SOKA *e*PKKP **PKKPbc 10 29 48.1 -1.3**
comp=Z,1.4nm,0.6s
KHC Kasperske Hory 99.43 322 *e*P **Pdif 10 13 24.0 -0.7**
KHC *e*PP **PP 10 17 35.0 +6.0**
KHC *e*S **S 10 24 44.1 -3.9**
KHC AMS AMS 10 56 40.0
comp=Z,400nm,20.0s
KHC Kasperske Hory 99.43 322 *e*P **Pdif 10 13 24.0 -0.7**
KHC *e* 10 17 35.0
KHC *e*S **S 10 24 44.1 -3.9**
KHC MLR MLR
comp=Z,400nm,20.0s
MOA Molln 99.44 320 *e*Pdiff **Pdif 10 13 24.8 +0.1**
comp=Z,9.3nm,1.3s
MOA *e*PKKP **PKKPbc 10 29 47.7 -1.4**
comp=Z,2.8nm,0.6s
GERES GERESS Array B 99.45 321 PKKPbc PKKPbc 10 29 49.4 +0.2
comp=Z,0.8nm,0.5s,baz=247,slow=2.8,SNR=3.7
GERES LR LR 11 02 12.9
comp=Z,367nm,19.9s,baz=63,slow=38
OBKA Obir 99.70 319 *e*PP **PP 10 17 33.9 +2.7**
comp=Z,4.5nm,1.0s
OBKA *i* PKKP **PKKPbc 10 29 47.5 -0.9**
comp=Z,5.0nm,0.9s
LJU Ljubljana 99.86 319 *e*Pdiff **Pdif 10 13 25.4 -1.3**
LJU *e* 10 18 00.0
BIOA Bad Ischl, Aus 99.89 320 *i* PKKP 10 29 47.0
comp=Z,0.8nm,0.3s
MYKA Terra Mystica 100.25 319 *e*PKKP 10 29 46.1
comp=Z,6.8nm,0.5s
KBA Koelnbreinsper 100.29 320 *i* PKKP 10 29 45.5
comp=Z,1.6nm,0.5s
LESA Schwarzleotal 100.59 320 *i* Pdiff **Pdif 10 13 28.8 -1.2**
comp=Z,2.4nm,0.9s
LESA *e*PP **PP 10 17 37.0 -1.0**
comp=Z,2.8nm,0.8s
LESA *i* PKKP **PKKPbc 10 29 44.7 -1.2**
comp=Z,6.5nm,0.5s
ABTA Abfaltersbach 100.94 320 *i* Pdiff **Pdif 10 13 30.7 -0.9**
comp=Z,4.7nm,1.1s
ABTA *i* PKKP **PKKPbc 10 29 43.8 -1.1**
comp=Z,8.7nm,1.1s
WTTA Wattenberg 101.31 320 *e*Pdiff **Pdif 10 13 33.0 -0.3**
comp=Z,6.0nm,0.9s
WTTA *e*PP **PP 10 17 44.4 +0.9**
comp=Z,12nm,1.7s
WTTA *e*PKKP **PKKPbc 10 29 43.6 -0.4**
comp=Z,8.5nm,1.4s
WATA Walderalm 101.32 321 *e*Pdiff **Pdif 10 13 33.3 0.0**
WATA *e*PP **PP 10 17 45.7 +2.2**
comp=Z,9.0nm,1.5s
SQTA Sankt Quirin 101.60 321 *i* PP **PP 10 17 46.3 +0.8**
comp=Z,7.7nm,1.4s
SQTA *e*PKKP **PKKPbc 10 29 42.0 -1.0**
comp=Z,4.2nm,1.0s
MOTA Moosalm 101.62 321 *e*PP **PP 10 17 47.0 +1.3**
comp=Z,7.0nm,1.0s
MOTA *i* PKKP **PKKPbc 10 29 43.2 +0.1**
comp=Z,4.2nm,0.5s
RETA Reutte 101.78 321 *e*PP **PP 10 17 47.9 +1.0**
comp=Z,5.2nm,1.3s
FETA Feichten 101.97 320 *e*Pdiff **Pdif 10 13 35.6 -0.6**
comp=Z,3.8nm,1.4s
FETA *e*PP **PP 10 17 49.4 +0.9**
comp=Z,8.9nm,1.9s
FETA *e*PKKP **PKKPbc 10 29 42.7 +0.7**
comp=Z,6.6nm,1.2s
DAVA Damuels 102.41 321 *e*PP **PP 10 17 48.2 -3.4**
comp=Z,3.9nm,0.9s
NEW Newport 103.51 37 P **Pdif 10 13 43.2 +0.3**
baz=295
EKA Eskdalemuir Ar 105.61 332 PKKPbc PKKPbc 10 29 29.9 -1.4
comp=Z,1.0nm,0.4s,baz=242,slow=3.7,SNR=12
EKA PKKPab PKKPab 10 29 46.6 -1.3
comp=Z,0.9nm,0.6s,baz=285,slow=1.6,SNR=4.5
MSO Missoula 106.08 38 P **PKiKP 10 18 06.9 +1.0**
baz=297
NVAR Mina Array Bea 106.63 47 Pdiff **Pdif 10 13 58.4 +1.2**
comp=Z,1.6nm,0.9s,baz=283,slow=5.1,SNR=8.5
NVAR PKIKP **PKiKP 10 18 07.7 +0.4**
comp=Z,0.5nm,0.7s,baz=257,slow=1.2,SNR=3.6
PKM Mcpherson Peak 106.74 51 P **PKiKP 10 18 07.5 -0.2**
baz=290
SNAA Sanae 106.87 195 PKKPbc PKKPbc 10 29 25.4 -2.7
comp=Z,3.2nm,1.0s,baz=352,slow=6.2,SNR=4.3
SNAA PKKPab PKKPab 10 29 40.5 -0.3
comp=Z,2.0nm,0.9s,baz=268,slow=12,SNR=4.9
KEST Kesra 107.06 310 PKKPbc PKKPbc 10 29 26.6 +0.4
comp=Z,1.9nm,0.6s,baz=211,slow=3.2,SNR=4.8
HLID Hailey 107.24 41 P **PKiKP 10 18 08.8 +0.5**
baz=296
EGMT Eagleton 107.97 35 P **PKiKP 10 18 09.6 +0.2**
baz=301
BOZ Bozeman (W) 108.07 38 P **PKiKP 10 18 10.1 +0.4**
baz=299
MPMC Manual Prospec 108.11 49 P **PKiKP 10 18 10.4 +0.3**
baz=292
EDW2 Edwards Air Fo 108.15 51 P **PKiKP 10 18 10.3 +0.2**
baz=291
R11B Troy Canyon, C 108.63 46 P **PKiKP 10 18 11.0 -0.1**
baz=294

BFSC	Mount Baldy Ra	108.64	51	P		PKiKP	10 18 11.4	+0.3
	baz=291							
GSC	Goldstone, Bar	108.90	50	P		PKiKP	10 18 11.7	+0.1
	baz=292							
SHOC	Shoshone, Teco	109.08	49	P		PKiKP	10 18 12.2	+0.5
	baz=292							
BBRC	Big Bear Solar	109.20	51	P		PKiKP	10 18 12.4	+0.1
	baz=292							
H17A	Grant Village	109.31	39	P		PKiKP	10 18 12.2	0.0
	baz=299							
HEC	Hector,Ludlow	109.44	50	P		PKiKP	10 18 12.3	-0.2
	baz=292							
109C	Camp Elliot, M	109.55	52	P		PKiKP	10 18 13.0	+0.3
	baz=291							
RLMT	Red Lodge	109.75	38	P		PKiKP	10 18 13.8	+0.8
	baz=301							
PFO	Pinyon Flats O	109.79	51	P		PKiKP	10 18 13.4	+0.1
	baz=292							
TPFO	Pinon Flats	109.80	51	P		PKiKP	10 18 13.6	+0.3
	baz=292							
DUG	Dugway, Tooele	109.80	44	P		PKiKP	10 18 13.2	0.0
	baz=296							
GMRC	Granite Mounta	109.97	50	P		PKiKP	10 18 14.1	+0.5
	baz=292							
BELC	Belle Mtn. Jos	110.00	51	P		PKiKP	10 18 13.8	+0.1
	baz=292							
MONP2	Monument Peak	110.08	52	P		PKiKP	10 18 14.7	+0.8
	baz=291							
IKP	In-Ko-Pah, Jac	110.42	52	P		PKiKP	10 18 14.4	-0.1
	baz=292							
SWSC	Sam W. Stewart	110.55	52	P		PKiKP	10 18 14.6	+0.1
	baz=292							
BC3	Big Chuckawall	110.55	51	P		PKiKP	10 18 14.7	0.0
	baz=292							
IRM	Iron Mountain	110.60	50	P		PKiKP	10 18 15.0	+0.3
	baz=293							
BW06	Boulder Array	110.76	40	P		PKiKP	10 18 15.1	+0.1
	baz=300							
GLA	Glamis	111.27	51	P		PKiKP	10 18 16.3	+0.3
	baz=292							
K22A	Casper	112.73	39	P		PKiKP	10 18 18.6	-0.1
	baz=302							
WUAZ	Wupatki	112.88	48	P		PKiKP	10 18 19.4	+0.3
	baz=296							
O20A	White River Ci	112.92	42	P		PKiKP	10 18 18.8	-0.3
	baz=300							
214A	Organ Pipe Nat	113.26	52	P		PKiKP	10 18 19.8	0.0
	baz=293							
RSSD	Black Hills	113.43	36	P		PKiKP	10 18 20.3	+0.3
	baz=305							
ULM	Lac du Bonnet	113.82	27	PKP		PKiKP	10 18 20.3	0.0
	comp=Z,3.8nm,0.7s,baz=264,slow=1.3,SNR=7.8							
N23A	Red Feather La	114.03	40	P		PKiKP	10 18 21.3	0.0
	baz=302							
MVCO	Mesa Verde	114.17	45	P		PKPdf	10 18 21.9	+0.2
	baz=299							
W18A	Petrified Fore	114.25	47	P		PKiKP	10 18 22.2	+0.4
	baz=297							
TUC	Tucson	114.69	51	P		PKPdf	10 18 23.1	+0.5
	baz=295							
ESDC	Sonseca Array	114.83	319	PKKPbc		PKKPbc	10 29 01.9	+0.9
	comp=Z,0.3nm,0.5s,baz=256,slow=4.4,SNR=4.6							
S22A	4UR Ranch, Cre	115.07	44	P		PKPdf	10 18 24.3	+0.8
	baz=300							
SDCO	Great Sand Dun	115.97	43	P		PKiKP	10 18 25.6	+0.4
	baz=301							
OGNE	Ogallala	116.47	38	P		PKPdf	10 18 25.1	-0.7
	baz=305							
ANMO	Albuquerque	116.71	46	P		PKiKP	10 18 27.3	+0.7
	baz=299							
121A	Cookes Peak, D	116.87	49	PKPdf		PKPdf	10 18 26.9	0.0
121A	Cookes Peak, D	116.87	49	P		PKPdf	10 18 27.2	+0.3
	baz=297							
T25A	Trinidad	117.03	43	P		PKiKP	10 18 27.7	+0.6
	baz=302							
KSCO	Kaye Shedlock'	117.20	40	P		PKPdf	10 18 27.5	+0.2
	baz=304							
EYMN	Ely	117.47	27	P		PKPdf	10 18 27.5	0.0
	baz=318							
ECSD	EROS Data Cent	117.89	33	P		PKPdf	10 18 28.0	-0.4
	baz=312							
BGNE	Belgrade	118.53	36	P		PKPdf	10 18 29.6	-0.1
	baz=309							
SLBS	Sierra La Lagu	118.76	59			PKiKP	10 18 31.6	+1.0
SPMN	Marine on St.	118.84	30	PKPdf		PKPdf	10 18 30.5	+0.4
SPMN	Marine on St.	118.84	30	P		PKPdf	10 18 30.2	+0.1
	baz=316							
MNTX	Cornudas Mount	119.06	49	P		PKiKP	10 18 31.4	+0.4
	baz=299,SNR=12							
CBKS	Cedar Bluff	119.15	39	PKPdf		PKiKP	10 18 31.8	+0.8
CBKS	Cedar Bluff	119.15	39	P		PKPdf	10 18 30.6	-0.3
	baz=306							
CBKS	Cedar Bluff	119.15	39	PKIKP		PKiKP	10 18 31.8	+0.8
I37A	Lemond, Waseca	119.40	31			PKiKP	10 18 32.2	+0.9
MSTX	Muleshoe	119.83	45	P		PKPdf	10 18 32.7	+0.2
	baz=302							
TOA0	Torodi Ar. Sit	120.76	289			PKPdf	10 18 34.0	-0.6
TORD	Torodi Ar. Bea	120.76	289			PKPdf	10 18 33.5	-1.1
TORD	Torodi Ar. Bea	120.76	289	PKP		PKPdf	10 18 33.8	-0.8
	comp=Z,2.6nm,0.7s,baz=56,slow=2.0,SNR=14							
TORD				PKKPbc		PKKPab	10 28 41.1	+0.3
	comp=Z,2.4nm,0.7s,baz=298,slow=1.9,SNR=9.9							
TORD				PKKP		PKKPdf	10 29 08.9	-3.5
	comp=Z,1.1nm,0.7s,baz=290,slow=2.8,SNR=5.1							
I40A	Norwalk	120.89	30			PKPdf	10 18 34.2	+0.1
KSU1	Kansas State U	120.90	37	PKPdf		PKPdf	10 18 34.5	+0.2
KSU1	Kansas State U	120.90	37	P		PKPdf	10 18 34.0	-0.2
	baz=310,SNR=6.0							
SCIA	State Center	120.97	33	P		PKPdf	10 18 34.3	0.0
	baz=314							
TXAR	Lajitas Array	121.49	50	PKPdf		PKPdf	10 18 36.1	+0.3
TXAR	Lajitas Array	121.49	50	PKP		PKiKP	10 18 36.5	+0.6
	comp=Z,4.2nm,0.9s,baz=270,slow=1.3,SNR=30							
TXAR				pPKP		pPKPdf	10 19 04.2	-1.2
	comp=Z,3.5nm,0.8s,baz=240,slow=2.5,SNR=6.5							
TXAR				PKKPbc		PKKPbc	10 28 37.4	+0.5
	comp=Z,0.5nm,0.9s,baz=115,slow=6.0,SNR=3.6							
KAN09	Caldwell North	121.50	40	PKPdf		PKPdf	10 18 35.5	+0.1
SN07	Snyder 07	121.62	45			PKPdf	10 18 36.1	+0.2
JFWS	Jewell Farm	121.78	30	P		PKPdf	10 18 35.1	-0.7
	baz=317,SNR=11							
H43A	Windswept, Lux	121.80	27	PKPdf		PKPdf	10 18 36.1	+0.3
WMOK	Wichita Mounta	122.16	42	P		PKPdf	10 18 36.6	-0.3
	baz=305							
OZNA	Ozona	122.60	48	PKPdf		PKiKP	10 18 38.4	+0.3
VLDQ	Val d'Or	122.69	18	PKPdf		PKPdf	10 18 35.6	-1.7
ABTX	Abilene, Hawle	122.76	45	P		PKPdf	10 18 38.0	-0.1
	baz=304							
W35A	Tecumseh	123.18	41			PKiKP	10 18 39.4	+0.4
TUL3	Leonard	123.41	40	P		PKPdf	10 18 38.7	-0.5
	baz=309							
L44A	Lake County Fo	123.48	29	P		PKPdf	10 18 38.7	-0.4
	baz=319							
JCT	Junction City	123.81	47	P		PKPdf	10 18 40.1	0.0
	baz=302							
R40A	Maddies Statio	123.98	35	PKPdf		PKPdf	10 18 40.0	-0.1
HDIL	Hopedale	124.00	31	P		PKPdf	10 18 39.9	-0.2
	baz=317							
Z35A	Perchaven, San	124.01	43			PKiKP	10 18 41.0	+0.4
HHAR	Hobbs	124.33	38	PKPdf		PKPdf	10 18 40.7	-0.3
X37A	Clayton	124.50	41			PKPdf	10 18 41.7	+0.4
WHTX	Lake Whitney,	124.64	44	P		PKPdf	10 18 41.4	-0.2
	baz=305,SNR=5.5							
CCM	Cathedral Cave	124.73	35	PKPdf		PKPdf	10 18 41.8	+0.2
CCM	Cathedral Cave	124.73	35	P		PKPdf	10 18 41.0	-0.6
	baz=314							
CCM	Cathedral Cave	124.73	35	PKIKP		PKPdf	10 18 41.8	+0.2
435B	Jarrell	125.24	46	P		PKPdf	10 18 42.8	0.0
	baz=304							
833A	Chaparral WMA,	125.24	49	P		PKPdf	10 18 43.2	+0.3
	baz=301							
SFIN	Lafayette	125.25	30	P		PKPdf	10 18 42.0	-0.6
	baz=320							
L48A	N Adams	125.29	27			PKPdf	10 18 42.9	+0.3
AAM	Ann Arbor	125.34	26	P		PKPdf	10 18 41.9	-0.8
	baz=324							
MIAR	Mount Ida	125.67	39	P		PKPdf	10 18 43.4	-0.1
	baz=310,SNR=27							
WHAR	Wooly Hollow	125.99	38	PKPdf		PKPdf	10 18 43.9	-0.2
LCAR	Lake Charles	126.15	36	PKPdf		PKPdf	10 18 44.6	+0.3
X40A	Basin Creek Fa	126.18	39			PKiKP	10 18 45.5	+0.6
O48B	Farmland	126.29	29	P		PKPdf	10 18 44.1	-0.5
	baz=322							
PARMO	Parma	126.55	35			PKPdf	10 18 45.5	+0.4
LONY	Lake Ozonia	126.70	18	P		PKPdf	10 18 44.3	-0.9
	baz=335,SNR=7.4							
NATX	Nacogdoches	126.70	43	P		PKPdf	10 18 45.9	+0.4
	baz=308							
M52A	Chesterland	126.95	25			PKPdf	10 18 46.2	+0.5
ERPA	Erie	127.02	23	P		PKPdf	10 18 45.5	-0.4
	baz=328,SNR=6.3							
P49A	Miami Univ. Ec	127.06	29	P		PKPdf	10 18 45.6	-0.5
	baz=322,SNR=10.0							
F63A	Nahmakanta, Br	127.10	13	PKPdf		PKiKP	10 18 46.9	+0.4
MMNY	Mt. Morris Dam	127.28	21			PKPdf	10 18 46.7	+0.3
WCI	Wyandotte Cave	127.28	31	PKPdf		PKPdf	10 18 47.1	+0.6
WCI	Wyandotte Cave	127.28	31	P		PKPdf	10 18 46.5	0.0
	baz=319							
WCI	Wyandotte Cave	127.28	31	PKIKP		PKPdf	10 18 47.1	+0.6
WVNY	West Valley, N	127.31	22			PKPdf	10 18 46.7	+0.2
ACSO	Alum Creek Sta	127.32	27			PKPdf	10 18 46.8	+0.3
ACSO	Alum Creek Sta	127.32	27	P		PKPdf	10 18 46.4	-0.1
	baz=324,SNR=8.9							
M53A	WI Miller and	127.32	24	P		PKPdf	10 18 46.2	-0.3
	baz=327,SNR=8.4							
PKME	Peaks-Kenny Pk	127.47	13	P		PKPdf	10 18 46.6	0.0
	baz=342							
K57A	Scipio Center	127.77	20			PKPdf	10 18 47.3	0.0
LBNH	Lisbon	127.80	16	P		PKPdf	10 18 47.3	0.0
	baz=338							
O52A	Adamsville	127.92	26	PKPdf		PKPdf	10 18 48.1	+0.4
WVT	Waverly	128.01	34	PKPdf		PKPdf	10 18 48.4	+0.5
WVT	Waverly	128.01	34	P		PKPdf	10 18 47.7	-0.2
	baz=317							
WVT	Waverly	128.01	34	PKIKP		PKPdf	10 18 48.4	+0.5
M55A	Ridgway	128.05	23	PKPdf		PKPdf	10 18 48.1	+0.2
O53A	New Philadelph	128.08	26			PKiKP	10 18 48.7	+0.1
O53A	New Philadelph	128.08	26	P		PKPdf	10 18 47.9	-0.1
	baz=326,SNR=7.9							
P52A	Corning	128.18	27	P		PKPdf	10 18 47.4	-0.7
	baz=325,SNR=12							
OXF	Oxford	128.25	37	P		PKPdf	10 18 47.9	-0.5
	baz=314,SNR=7.0							
BINY	Binghamton	128.42	20	PKPdf		PKPdf	10 18 49.1	+0.5
BINY	Binghamton	128.42	20	P		PKPdf	10 18 48.4	-0.2
	baz=333,SNR=8.8							
DBIC	Dimbokro	128.59	283	PKP		PKPdf	10 18 49.0	-0.6
	comp=Z,5.5nm,0.8s,baz=271,slow=9.2,SNR=2.7							
GBN	Guysborough	128.61	6			PKPdf	10 18 49.4	+0.6
U49A	Red Boiling Sp	128.85	32	PKPdf		PKPdf	10 18 49.6	+0.1
SSPA	Standing Stone	129.10	23			PKPdf	10 18 50.1	+0.2
SSPA	Standing Stone	129.10	23	P		PKPdf	10 18 49.7	-0.2
	baz=330							
VBMS	Vicksburg	129.13	40	P		PKPdf	10 18 50.3	+0.1
	baz=312							
MCWV	Mont Chateau	129.15	25	P		PKPdf	10 18 49.8	-0.2
	baz=327							
K62A	Royalston	129.17	17			PKPdf	10 18 50.5	+0.6
L61B	Northampton	129.24	17	P		PKPdf	10 18 49.7	-0.5
	baz=337							
HRV	Adam Dziewonsk	129.50	16			PKPdf	10 18 51.0	+0.4
HRV	Adam Dziewonsk	129.50	16	P		PKPdf	10 18 50.7	+0.1
	baz=338							
HRV	Adam Dziewonsk	129.50	16	PKIKP		PKPdf	10 18 51.0	+0.4
KSCT	Kent School, K	129.66	18			PKPdf	10 18 51.7	+0.8
TZTN	Tazewell	129.97	30	P		PKPdf	10 18 51.6	-0.1
	baz=322							
S54A	Dingess, Beckl	130.05	27	PKPdf		PKPdf	10 18 52.1	+0.2
PAL	Palisades	130.18	19	P		PKPdf	10 18 51.8	-0.2
	baz=335							
TKL	Tuckaleechee C	130.55	31	PKPdf		PKPdf	10 18 53.0	+0.2
TKL	Tuckaleechee C	130.55	31	PKIKP		PKPdf	10 18 53.0	+0.2
LRAL	Lakeview Retre	130.72	36	P		PKPdf	10 18 53.1	-0.1
	baz=316							
BLA	Blacksburg	130.94	27	P		PKPdf	10 18 53.5	0.0
	baz=325							
S57A	Dark Hollow, R	131.12	25			PKPdf	10 18 54.7	+0.8
CBN	Corbin Frederi	131.40	24	P		PKPdf	10 18 54.7	+0.4
	baz=330							
BRAL	Brewton	132.00	38	P		PKPdf	10 18 56.2	+0.6
	baz=315							
MG05	Puerto Natales	132.04	165	PKPdf		PKiKP	10 18 56.9	+0.8
KMSC	Kings Mountain	132.18	30	P		PKPdf	10 18 56.3	+0.4
	baz=323							
GOGA	Godfrey	132.43	33	P		PKPdf	10 18 56.4	-0.1
	baz=320							
CNNC	Cliffs of the	133.71	26	P		PKPdf	10 18 59.2	+0.5
	baz=327							
TIGA	Tifton	133.85	35	P		PKPdf	10 18 59.2	0.0
	baz=318							
NHSC	New Hope	134.38	30	P		PKPdf	10 19 00.5	+0.5
	baz=324							
DWPF	Disney Wildern	137.58	36	P		PKPdf	10 19 05.8	-0.3
	baz=319							
COYC	Coyhaique	137.70	162	PKPdf		PKiKP	10 19 07.3	-0.5
PLCA	Paso Flores	142.54	160	PKhKP		PKPpre	10 19 10.2	
	comp=Z,6.1nm,0.5s,baz=181,slow=3.3,SNR=27							
PLCA				SKPbc		SKPbc	10 22 43.1	0.0
	comp=Z,14nm,1.2s,baz=232,slow=4.1,SNR=6.6							
JTS	Las Juntas de	145.98	62			PKPdf	10 19 22.0	+0.5
JTS	Las Juntas de	145.98	62	PKPbc		PKPdf	10 19 22.2	+0.7
	comp=Z,60nm,0.9s,baz=295,slow=3.7,SNR=27							
JTS				pPKPbc		pPKPab	10 19 50.4	-1.6
	comp=Z,68nm,1.1s,baz=342,slow=4.0,SNR=6.0							
ML02	Panimavida	146.57	155			PKPbc	10 19 24.0	+0.5
CHIV	Chivirico	146.68	39	PKPbc		PKPbc	10 19 24.1	-0.1
TRQA	Tornquist	147.31	170			PKPbc	10 19 25.9	+0.3
TRQA	Tornquist	147.31	170	PKP2		PKPbc	10 19 25.9	+0.3
GTBY	Guantanamo Bay	147.52	37	PKPbc		PKPbc	10 19 27.0	+0.4
MT09	Talagante	148.44	154			PKPdf	10 19 26.0	+0.7
MT09				PKPbc		PKPbc	10 19 30.0	+1.1
VA01	Torpederas	148.78	152			PKPbc	10 19 30.0	+0.4
LCO	Las Campanas	152.52	149			PKiKP	10 19 39.5	+0.4
LCO	Las Campanas	152.52	149	PKIKP		PKiKP	10 19 39.5	+0.4
CELP	Cerrillos	153.54	26	PKPdf		PKPdf	10 19 32.7	-0.6
CELP				PKPbc		PKPbc	10 19 40.5	-0.5
CELP				PKPab		PKPab	10 19 52.8	-0.8
OBIP	Obispado Ponce	153.55	26	PKPdf		PKPdf	10 19 32.8	-0.6
OBIP				PKPbc		PKiKP	10 19 41.8	+0.6
OBIP				PKPab		PKPab	10 19 51.6	-2.1
SJG	San Juan	153.69	25	PKPdf		PKPdf	10 19 31.2	-2.3
SJG				PKPbc		PKPbc	10 19 41.4	+0.1
SJG				PKPab		PKPab	10 19 54.1	-0.1
SJG	San Juan	153.69	25	PKIKP		PKPdf	10 19 31.2	-2.3
SJG							10 19 54.1	
HUMP	Col San Antoni	153.78	24	PKPdf		PKPdf	10 19 32.5	-1.1
HUMP				PKPbc		PKPbc	10 19 40.5	-1.1
HUMP				PKPab		PKPab	10 19 54.0	-0.7
GO03	Copiap	153.90	148	PKPdf		PKPdf	10 19 32.9	-0.8
GO03				PKPbc		PKPbc	10 19 42.0	+0.3
GO03				PKPab		PKPab	10 19 54.3	-0.8
AC06	Mina Casimiro	154.03	147	PKPdf		PKPdf	10 19 32.7	-1.1
AC06						PKiKP	10 19 42.8	+0.8
AC06				PKPab		PKPab	10 19 56.0	+0.5
PLTB	Pedras Altas	154.21	182	PKPdf		PKPdf	10 19 32.5	-1.5
PLTB				PKPab		PKPab	10 19 57.0	+0.9
ATAH	Atahualpa	156.56	94	PKP		PKPdf	10 19 39.7	+1.6
	comp=Z,25nm,1.1s,baz=267,slow=1.3,SNR=19							
NNA	Nana	157.44	107	PKP		PKPdf	10 19 39.3	+0.6
	comp=Z,7.4nm,0.3s,baz=80,slow=1.8,SNR=4.9							
ROSC	El Rosal	157.83	62	PKP		PKPdf	10 19 40.6	+1.0
	comp=Z,13nm,0.5s,baz=6.5,slow=2.5,SNR=13							
ROSC				pPKP		pPKPdf	10 20 07.8	-1.5
	comp=Z,8.7nm,0.4s,baz=81,slow=7.5,SNR=1.7							
SDV	Santo Domingo	158.49	47	PKP		PKPdf	10 19 40.7	+0.5
	comp=Z,10nm,0.4s,baz=308,slow=1.1,SNR=12							
LVC	Limon Verde	158.51	142	PKP		PKPdf	10 19 41.1	+0.9
	comp=Z,7.9nm,1.1s,baz=218,slow=1.2,SNR=4.8							
LVC				PKPab		PKPab	10 20 16.2	+0.8
	comp=Z,8.1nm,0.6s,baz=244,slow=4.1,SNR=7.1							
CPUP	Villa Florida	159.51	174	PKP		PKPdf	10 19 41.5	+0.7
	comp=Z,7.2nm,1.1s,baz=340,slow=0.5,SNR=5.2							
CPUP				PKPab		PKPab	10 20 19.8	+0.7
	comp=Z,6.5nm,0.7s,baz=118,slow=3.2,SNR=3.8							
LPAZ	La Paz	163.36	130	PKP		PKPdf	10 19 46.1	+0.2
	comp=Z,15nm,1.0s,baz=334,slow=0.8,SNR=39							
LPAZ				PKPab		PKPab	10 20 38.7	+1.6
	comp=Z,28nm,1.0s,baz=180,slow=3.5,SNR=12							
ETMB	Extrema	168.07	110			PKPdf	10 19 46.6	-2.4
ETMB						pPKPdf	10 20 15.3	-3.4
ETMB				PKPab		PKPab	10 20 57.8	+0.5
BDFB	Brasilia	168.20	214			PKPdf	10 19 48.9	-0.3
BDFB				PKPab		PKPab	10 20 57.8	+0.1
BDFB	Brasilia	168.20	214	PKP		PKPdf	10 19 48.9	-0.3
	comp=Z,14nm,1.1s,baz=75,slow=2.0,SNR=10							
SIV	San Ignacio	168.23	149	PKP		PKPdf	10 19 48.6	-0.4
	comp=Z,8.2nm,0.8s,baz=187,slow=0.7,SNR=30							
SIV				PKPab		PKPab	10 20 59.0	+1.3
	comp=Z,11nm,0.8s,baz=195,slow=5.8,SNR=9.9							
ROSB	Rosario	168.92	285			PKPdf	10 19 49.2	-0.3
ROSB				PKPab		PKPab	10 21 00.0	-1.1
PTLB	Pontes e Lacer	169.59	156			PKPdf	10 19 50.0	+0.2
PTLB				PKPab		PKPab	10 21 04.8	+1.2
SAML	Samuel	171.18	111			PKPdf	10 19 49.7	-1.1
SAML				PKPab		PKPab	10 21 10.7	-0.4
SAML	Samuel	171.18	111	PKIKP		PKPdf	10 19 49.7	-1.1
SAML							10 21 10.7	
VILB	Vilhena	171.19	143	PKPdf		PKPdf	10 19 50.8	-0.1
VILB				PKPab		PKPab	10 21 12.2	+1.4
MACA	Manacapuru-AM	173.58	65	PKPdf		PKPdf	10 19 50.7	-1.2
MACA				PKPab		PKPab	10 21 22.1	+0.4

*HEL **03** 10:01:51.8±0.2, 64°.77N×30°.69E, h0km, ML2.1, Suspected explosion*
*IDC **03** 10:01:52.6±2.4, 64°.72N×30°.91E, h0km, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=35.4km s-min=8.9km az=101.0*
*KOLA **03** 10:01:52.8, 64°.74N×31°.28E, h0km, ML2.3, Error ellipse: s-maj=18.0km s-min=8.8km az=160.0, Karelia*

ISC 03 10:01:51.1±0.9, **64°.82N**±0°.02×**30°.85E**±0°.04, **h0km, n42,** σ1§68/64, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RMF	Romuvaara	0.72	214	PG		Pg	10 02 03.9	-1.0
RMF				SG		Sg	10 02 11.2	-3.0
RMF				MSG			10 02 12.3	
	comp=Z,31nm,0.2s							
KU6	Riekki	1.28	342	PG		Pg	10 02 15.0	-0.5
	baz=163							
KU6				MSG			10 02 31.2	
	comp=Z,20nm,0.2s							
KU6				SB		Sg	10 02 32.3	+0.3
MSF	Maaselka	1.33	326	PG		Pg	10 02 15.6	-0.9
MSF				SN		Sb	10 02 35.5	+1.0
OLKF	Oulanka, Finla	1.62	339	PG		Pn	10 02 21.2	+0.3
OLKF				MSG			10 02 41.0	
	comp=Z,14nm,0.2s							
OLKF				SN		Sb	10 02 43.4	+0.5
JOF	Joensuu	1.92	174	PG		Pn	10 02 24.8	-0.2
	baz=348							
JOF				SG		Sb	10 02 52.0	+0.6
NIF	Nilsia	1.96	224	PG		Pn	10 02 25.6	+0.1
RANF	Ranua	2.08	307	PG		Pn	10 02 28.2	+1.0
	baz=130							
RANF				SG		Sn	10 02 54.2	+0.5
OUL	Oulu	2.12	279	PG		Pn	10 02 28.7	+0.9
	baz=95							
OUL				SG		Sn	10 02 55.0	+0.2
OBF4	Vikkela, Lumij	2.46	272	PB		Pn	10 02 33.1	+0.8
	baz=85							
OBF4				MSG			10 03 02.5	
	comp=Z,12nm,0.2s							
OBF4				SG		Sn	10 03 05.9	+2.9
OUF	Merijarvi	2.68	263	PN		Pn	10 02 36.0	+0.7
OUF				MSG			10 03 08.5	
	comp=Z,12nm,0.2s							
OUF				SG		Sn	10 03 11.4	+3.1
RNF	Rovaniemi	2.69	314	PN		Pn	10 02 36.5	+1.0
	baz=134							
RNF				SG		Sb	10 03 13.0	-0.5
OBF0	Syolatti, Pyha	2.86	267	PN		Pn	10 02 38.5	+0.6
OBF0				MSG			10 03 13.9	
	comp=Z,10nm,0.2s							
OBF0				SG		Sb	10 03 17.7	-0.7
APA0	Apatity Array	2.93	16	P		Pn	10 02 40.6	+1.8
APA0				S		Sn	10 03 16.0	+1.3
APA	Apatity	2.95	19	S		Sn	10 03 15.2	+0.1
SUF	Sumiainen	2.96	227	PN		Pn	10 02 40.6	+1.3
SUF				MSG			10 03 16.8	
	comp=Z,5.6nm,0.2s							
VRF	Varrio	2.98	351	PN		Pn	10 02 41.0	+1.4
	baz=174							
VRF				MSG			10 03 20.7	
	comp=Z,5.1nm,0.2s							
VRF				SG		Sb	10 03 23.4	+1.4
TOF	Tornio	3.00	298	PB		Pn	10 02 43.2	+3.4
TOF				MSG			10 03 18.9	
	comp=Z,4.0nm,0.2s							
TOF				SG		Sb	10 03 21.3	-1.2
SGF	Sodankyl	3.17	328	PB		Pb	10 02 46.8	-1.3
SGF				SN		Sn	10 03 19.0	-1.5
OBF8	Ulkokalla	3.23	265	PN		Pn	10 02 43.4	+0.5
KALU	Kalix	3.31	292	PB		Pn	10 02 47.6	+3.6
KALU			

PDGK	**Podgornoye**	**1.96 230**	⇑Pn		**Pb**	**10 07 02.5 +0.3**
	15nm,0.2s					
PDGK			⇑Sn		**Sg**	**10 07 29.1 -0.8**
	162nm,0.5s					
SHLS	**Shalkode**	**2.10 227**	*e*P		**Pn**	**10 07 02.8 +1.4**
	120nm,0.1s					
SHLS			*e*S		**Sn**	**10 07 26.4 -0.9**
	528nm,0.4s					
SHLS	**Shalkode**	**2.10 227**	P		**Pn**	**10 07 02.4 +1.1**
	117nm,0.3s					
SHLS			S		**Sn**	**10 07 27.2 0.0**
	367nm,0.5s					
MAKZ	**Makanchi**	**2.23 7**	⇓Pn		**Pb**	**10 07 05.7 -0.9**
	9.4nm,0.4s					
MAKZ			⇑Sn		**Sb**	**10 07 33.9 -0.1**
	43nm,0.3s					
MK31	**Makanchi Array**	**2.25 13**	⇑Pn		**Pb**	**10 07 06.0 -1.1**
	8.6nm,0.3s,baz=200,slow=12,SNR=244					
MK31			⇓Sn		**Sb**	**10 07 34.4 -0.4**
	17nm,0.2s,baz=232,slow=64,SNR=32					
BLB	**Baldybastay**	**2.27 258**	Pg		**Pg**	**10 07 09.8 -0.4**
	191nm,0.1s					
BLB			Lg		Lg	10 07 39.0
	220nm,0.5s					
TDK	**Taldyqorghan**	**2.28 281**	*e*P		**Pg**	**10 07 11.2 +0.8**
	74nm,0.2s					
TDK			*e*S		**Sg**	**10 07 40.8 +0.8**
	790nm,0.4s					
TDK	**Taldyqorghan**	**2.28 281**	Pg		**Pg**	**10 07 09.5 -0.9**
	101nm,0.4s					
TDK			Lg		Lg	10 07 37.8
	790nm,0.4s					
UZB	**Uzynbulak**	**2.34 233**	*e*P		**Pg**	**10 07 11.0 -0.6**
	26nm,0.2s					
UZB			*e*S		**Sg**	**10 07 40.4 -1.6**
	110nm,0.2s					
UZB	**Uzynbulak**	**2.34 233**	Pg		**Pb**	**10 07 09.5 +0.8**
	26nm,0.2s					
UZB			Lg		Lg	10 07 38.0
	163nm,0.4s					
KPKS	**Kokpek**	**2.37 242**	*e*P		**Pg**	**10 07 11.3 -0.7**
	54nm,0.1s					
KPKS			*e*S		**Sg**	**10 07 41.5 -1.2**
	701nm,0.4s					
KPKS	**Kokpek**	**2.37 242**	Pg		**Pg**	**10 07 11.3 -0.7**
	54nm,0.1s					
KPKS			Lg		Lg	10 07 41.5
	701nm,0.4s					
ZHN	**Zhinishke**	**2.68 239**	*e*P		**Pg**	**10 07 17.0 -1.0**
	21nm,0.1s					
ZHN			*e*S		**Sg**	**10 07 50.8 -1.9**
	269nm,0.2s					
ZHN	**Zhinishke**	**2.68 239**	Pg		**Pb**	**10 07 16.3 +2.0**
	37nm,0.3s					
ZHN			Lg		Lg	10 07 49.8
	264nm,0.2s					
KURS	**Kuram**	**2.69 247**	*e*P		**Pg**	**10 07 17.8 -0.4**
	6.4nm,0.3s					
KURS			*e*S		**Sg**	**10 07 52.2 -0.8**
	45nm,0.3s					
KURS	**Kuram**	**2.69 247**	Pg		**Pg**	**10 07 17.8 -0.4**
	6.4nm,0.3s					
KURS			Lg		Lg	10 07 52.2
	45nm,0.3s					
ARXS	**Arharly**	**2.70 263**	*e*P		**Pg**	**10 07 17.4 -1.1**
	24nm,0.3s					
ARXS			*e*S		**Sg**	**10 07 51.6 -2.0**
	270nm,0.5s					
SATY	**Saty**	**2.75 237**	*e*P		**Pg**	**10 07 18.2 -1.3**
	31nm,0.2s					
SATY			*e*S		**Sg**	**10 07 52.9 -2.3**
	318nm,0.3s					
SATY	**Saty**	**2.75 237**	Pg		**Pg**	**10 07 18.2 -1.3**
	31nm,0.2s					
SATY			Lg		Lg	10 07 52.8
	318nm,0.3s					
CHKK	**Chushkaly**	**3.37 259**	*e*P		**Pg**	**10 07 29.7 -1.6**
	7.1nm,0.2s					
CHKK			*e*S		**Sg**	**10 08 12.6 -2.4**
	166nm,0.2s					
CHKK	**Chushkaly**	**3.37 259**	Pg		**Pb**	**10 07 28.4 +2.3**
	7.3nm,0.2s					
CHKK			Lg		Lg	10 08 10.9
	100nm,0.3s					
KOTS	**Kotyrbulak**	**3.49 249**	*e*P		**Pg**	**10 07 32.8 -0.8**
	57nm,0.4s					
KOTS			*e*S		**Sg**	**10 08 18.0 -0.8**
	130nm,0.4s					
MDOK	**Medeo**	**3.57 248**	*e*P		**Pg**	**10 07 33.9 -1.1**
	56nm,0.4s					
MDOK			*e*S		**Sg**	**10 08 19.8 -1.4**
	44nm,0.4s					
MDOK	**Medeo**	**3.57 248**	Pg		**Pg**	**10 07 33.8 -1.2**
	38nm,0.5s					
MDOK			Pg		Pb	10 07 35.2 +5.6
	56nm,0.4s					
MDOK			Lg		Lg	10 08 18.8
	66nm,0.7s					
MDOK			Lg		Lg	10 08 21.9
	46nm,0.5s					
ZSN	**Zaisan**	**3.66 38**	*e*P		**Pb**	**10 07 34.2 +3.1**
	11nm,0.3s					
ZSN			*e*S		**Sg**	**10 08 20.2 -4.0**
	39nm,0.5s					
ZSN	**Zaisan**	**3.66 38**	Pg		**Pg**	**10 07 35.2 -1.7**
ZSN			Lg		Lg	10 08 22.0
TNSS	**Tian-Shan**	**3.69 247**	*e*P		**Pg**	**10 07 36.1 -1.2**
	7.8nm,0.5s					
TNSS			*e*S		**Sg**	**10 08 23.6 -1.5**
	19nm,0.3s					
IZV	**Izvestkoviy**	**3.91 248**	*e*P		**Pg**	**10 07 40.4 -1.1**
	13nm,0.5s					
IZV			*e*S		**Sg**	**10 08 30.9 -1.3**
	26nm,0.2s					
MTBS	**Maitube**	**3.99 250**	*e*P		**Pg**	**10 07 41.8 -1.3**
	14nm,0.4s					
MTBS			*e*S		**Sg**	**10 08 33.4 -1.5**
	75nm,0.5s					
KRBS	**Karabastau**	**4.33 260**	*e*P		**Pg**	**10 07 47.0 -2.6**
	2.4nm,0.2s					
KRBS			*e*S		**Sg**	**10 08 42.2 -3.5**
	16nm,0.5s					
DGS	**Degeres**	**4.40 254**	*e*P		**Pg**	**10 07 48.5 -2.4**
	9.6nm,0.3s					
DGS			*e*S		**Sg**	**10 08 44.8 -3.0**
	73nm,0.5s					
TKM2	**Tokmak 2**	**4.63 251**	⇓Pg		**Pg**	**10 07 53.1 -2.3**
	6.8nm,0.6s					
TKM2			⇑Lg		Lg	10 08 52.3
	18nm,0.4s					
CHMS	**Chumysh**	**5.18 254**	⇑Pg		**Pg**	**10 08 02.4 -3.5**
	5.9nm,0.6s					
CHMS			⇑Lg		Lg	10 09 09.5
	16nm,0.6s					
BTLS	**Baital**	**5.37 277**	*e*P		**Pg**	**10 08 08.3 -1.0**
	1.8nm,0.1s					
BTLS			*e*S		**Sg**	**10 09 18.7 -0.1**
	8.3nm,0.5s					
SEM	**Semipalatinsk**	**5.88 352**	*e*P		**Pg**	**10 08 19.6 +0.4**
	4.1nm,0.3s					
SEM			*e*S		**Sg**	**10 09 39.7 +4.4**
	21nm,0.3s					

NNC 03 10:15:24.9±2.5, 51°.23N×75°.46E, h0^{km}, mb3.5, mpv3.1, 6C, Error ellipse: s-maj=74.7km s-min=11.6km az=23.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.04**	**106**	⇑Pg	Pb	10 16 02.8	+0.1
	9.4nm,0.4s						
KURBB				⇑Lg	Lg	10 16 29.7	
	26nm,0.3s						
KURK	**Kurchatov**	**2.06**	**103**	⇑Pg	Pb	10 16 02.4	-0.8
	7.4nm,0.8s						
KURK				⇑Lg	Lg	10 16 28.6	
	7.2nm,0.4s						
BVA0	**Borovoye Array**	**3.61**	**302**	Lg	Lg	10 17 18.6	
	2.4nm,0.4s,baz=125,slow=28,SNR=4.4						
BRVK	**Borovoye**	**3.68**	**302**	⇑Lg	Lg	10 17 21.2	
	2.7nm,0.5s						
MK31	**Makanchi Array**	**6.31**	**132**	⇑Lg	Lg	10 18 45.1	
	1.5nm,0.6s,baz=319,slow=26,SNR=3.1						

*IDC **03** 10:23:51.1±8.2, 17°.93S×170°.26E, h222^{km}±52^{km}, mb3.6/4, mbtmp4.2/5, Error ellipse: s-maj=77.4km s-min=27.0km az=34.0*

*NEIC **03** 10:23:59.8±2.3, 18°.92S±0°.10×169°.90E±0°.07, h250^{km}±13^{km}, mb4.4/14, Error ellipse: s-maj=17.2km s-min=3.6km az=214.0*

*NOU **03** 10:24:07.1, 19°.10S×169°.57E, h203^{km}, MLv4.0/7, Vanuatu Islands*

ISC 03 10:23:59.6±1.0, 18°.9S±0°.1×169°.9E±0°.1, h250^{km}, n32, σ1°17/32, mb4.2/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.10**	**213**	P	**Pn**	**10 24 54.4**	**+1.3**
LIFNC	**LIFOU**	**3.10**	**232**	P	**Pn**	**10 24 53.9**	**+0.7**
LIFNC	**LIFOU**	**3.10**	**232**		**Pn**	**10 24 53.9**	**+0.7**
PINNC	**Pines Island,**	**4.34**	**211**	P	**Pn**	**10 25 09.0**	**+1.6**
DZM	**Mont Dzumac**	**4.50**	**225**	P	**Pn**	**10 25 11.1**	**+1.6**
DZM	**Mont Dzumac**	**4.50**	**225**		**Pn**	**10 25 08.9**	**-0.5**
DZM	**Mont Dzumac**	**4.50**	**225**	P	**Pn**	**10 25 10.9**	**+1.4**
	16nm,0.8s,baz=52,slow=17,SNR=12						
DZM				S	S	10 26 17.7	+13
	10nm,0.7s,baz=75,slow=19,SNR=1.9						
OUENC	**Ouen Island, N**	**4.51**	**218**	Pn	**Pn**	**10 25 10.2**	**+0.8**
NOUC	**Port Laguerre**	**4.62**	**226**	P	**Pn**	**10 25 12.3**	**+1.6**
ONTNC	**Ouen Toro**	**4.66**	**223**	Pn	**Pn**	**10 25 12.9**	**+1.6**
KOUNC	**Koumac, New Ca**	**5.50**	**252**	P	**Pn**	**10 25 23.8**	**+2.2**
KOUNC	**Koumac, New Ca**	**5.50**	**252**		**Pn**	**10 25 22.9**	**+1.4**
FUNA	**Funafuti**	**13.72**	**43**		**Pn**	**10 27 04.6**	**+0.2**
ARMA	**Armidale**	**20.12**	**232**	P	**P**	**10 28 14.7**	**-0.5**
ARMA				IAmb	IAmb	10 28 35.4	
	comp=Z,18nm,1.2s						
SNZO	**South Karori**	**22.73**	**171**	P	**P**	**10 28 39.5**	**-0.6**
THZ	**Tophouse**	**22.95**	**174**	P	**P**	**10 28 42.6**	**+0.4**
THZ				IAmb	IAmb	10 28 49.6	
	comp=Z,27nm,1.4s						
FOZ	**Fox Glacier**	**24.57**	**180**	P	**P**	**10 28 56.2**	**-0.6**
ODZ	**Otahua Downs**	**26.09**	**179**	P	**P**	**10 29 08.4**	**-2.0**
ODZ				IAmb	IAmb	10 29 21.5	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**28.53**	**238**	P	**P**	**10 29 33.0**	**+0.6**
STKA	**Stephens Creek**	**28.53**	**238**	P	**P**	**10 29 32.5**	**+0.2**
	comp=Z,4.6nm,0.8s,baz=50,slow=7.4,SNR=6.0						
	comp=Z,4.6nm,0.8s						
BBOO	**Buckleboo**	**33.27**	**239**	P	**P**	**10 30 12.4**	**-1.4**
BBOO				IAmb	IAmb	10 30 36.1	
	comp=Z,23nm,1.2s						
WR0	**Warramunga Arr**	**33.29**	**262**	P	**P**	**10 30 13.5**	**-0.7**
WR0				IAmb	IAmb	10 30 37.9	
	comp=Z,7.6nm,1.3s						
WB0	**Warramunga Arr**	**33.44**	**263**	P	**P**	**10 30 14.5**	**-0.9**
WB0				IAmb	IAmb	10 30 39.9	
	comp=Z,6.9nm,1.1s						
WB2	**Warramunga Arr**	**33.47**	**262**	P	**P**	**10 30 14.5**	**-1.2**
WB2				IAmb	IAmb	10 30 23.0	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**33.48**	**262**	P	**P**	**10 30 14.5**	**-1.2**
WRA	**Warramunga Arr**	**33.48**	**262**	P	**P**	**10 30 14.3**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=95,slow=8.6,SNR=13						
	comp=Z,0.7nm,0.8s						
AS31	**Alice Springs**	**33.78**	**256**	P	**P**	**10 30 17.7**	**-0.7**
AS31				IAmb	IAmb	10 30 18.2	
	comp=Z,2.6nm,0.5s						
ASAR	**Alice Springs**	**33.78**	**256**	P	**P**	**10 30 18.0**	**-0.4**
ASAR	**Alice Springs**	**33.78**	**256**	P	**P**	**10 30 17.7**	**-0.7**
	comp=Z,4.6nm,0.6s,baz=83,slow=9.0,SNR=82						
	comp=Z,4.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**41.86**	**264**	P	**P**	**10 31 26.1**	**+0.4**
QSPA	**South Pole Qui**	**71.16**	**180**	P	**P**	**10 34 52.3**	**+1.2**
QSPA	**South Pole Qui**	**71.16**	**180**	P	**P**	**10 34 51.6**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=65,slow=0.7,SNR=12						
	comp=Z,2.2nm,0.8s						

*NEIC **03** 10:27:09.4±1.3, 23°.6N±0°.1×126°.39E±0°.08, h10^{km}±1^{km}, mb4.0/10, Error ellipse: s-maj=18.0km s-min=11.6km az=160.0*

*IDC **03** 10:27:10.4±1.1, 23°.61N×126°.43E, h0^{km}, mb3.9/5, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=48.0km s-min=18.9km az=71.0*

*JMA **03** 10:27:14.8±0.3, 24°.N±1°.×126°.2E±1°.0, h119^{km}, MV3.5/15, NEAR MIYAKOJIMA ISLAND*

ISC 03 10:27:10.1±2.1, 23°.59N±0°.07×126°.39E±0°.05, h15^{km}±13^{km}, n41, σ1°46/51, mb4.0/9, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.48**	**323**	P	**Pg**	**10 27 38.1**	**-0.4**
JOGS				S	**Sn**	**10 27 55.6**	**+0.5**
JMJ2	**Miyako jima3**	**1.51**	**320**	P	**Pb**	**10 27 38.2**	**+0.5**
JMJ2				S	**Sn**	**10 27 56.4**	**+0.5**
JIRB	**Irabujima**	**1.66**	**318**	P	**Pb**	**10 27 40.1**	**-0.3**
JIRB				S	**Sn**	**10 27 59.8**	**0.0**
JIKM	**Ikemajima**	**1.69**	**322**	P	**Pb**	**10 27 40.7**	**-0.2**
JTJ	**Tarama**	**1.87**	**305**	P	**Pn**	**10 27 42.8**	**+1.3**
JTJ				*e*S	**Sn**	**10 28 03.5**	**-1.3**
JISG	**Ishigakijimahi**	**2.15**	**298**	P	**Pn**	**10 27 46.6**	**+1.3**
JISG				S	**Sn**	**10 28 11.1**	**-0.6**
JIJ	**Ishigaki jima**	**2.20**	**291**	P	**Pn**	**10 27 47.5**	**+1.5**
JIJ				S	**Sn**	**10 28 11.3**	**-1.6**
JKRS	**Kuro-shima**	**2.27**	**287**	P	**Pn**	**10 27 48.9**	**+1.8**
JKRS				*e*S	**Sn**	**10 28 13.4**	**-1.4**
HATJ	**Hateruma jima**	**2.42**	**282**	P	**Pn**	**10 27 50.5**	**+1.5**
HATJ				*e*S	**Sn**	**10 28 16.4**	**-2.0**
IRIF	**Iriomote-Funau**	**2.55**	**288**	*e*P	**Pn**	**10 27 52.4**	**+1.6**
IRIF				S	**Sn**	**10 28 20.0**	**-1.6**
JKE	**Kume jima 2**	**2.75**	**7**	P	**Pn**	**10 27 54.8**	**+1.1**
JAGN	**Aguni-jima**	**3.09**	**14**	P	**Pn**	**10 27 59.5**	**+1.2**
YOJ	**Yonaguni jima**	**3.21**	**286**	Pn	**Pn**	**10 28 00.7**	**+0.7**
JOW	**Kunigami**	**3.66**	**27**	Pn	**Pn**	**10 28 07.2**	**+1.2**
JOW	**Kunigami**	**3.66**	**27**	Pn	**Pn**	**10 28 07.5**	**+1.4**
	8.6nm,0.3s,baz=155,slow=20,SNR=32						
JOW				Sn	**Sn**	**10 28 45.8**	**-3.2**
	4.4nm,0.3s,baz=129,slow=28,SNR=1.9						
	23nm,0.2s						
NACB	**Ninganchiao**	**4.43**	**279**	Pn	**Pn**	**10 28 16.5**	**-0.2**
YULB	**Yu-li**	**4.68**	**269**	Pn	**Pn**	**10 28 19.4**	**-0.8**
TATO	**Taipei**	**4.68**	**288**	Pn	**Pn**	**10 28 19.8**	**-0.4**
YHNB	**Yeheng**	**4.71**	**284**		**Pn**	**10 28 22.9**	**+2.2**
JMZ	**Minamidaito 2**	**4.92**	**62**	Pn	**Pn**	**10 28 22.3**	**-1.2**
TWG	**Pinlang**	**4.95**	**262**	Pn	**Pn**	**10 28 21.8**	**-2.1**
SSLB	**Suanglung**	**4.99**	**273**	Pn	**Pn**	**10 28 23.2**	**-1.2**
TPUB	**Ta-pu**	**5.30**	**268**	Pn	**Pn**	**10 28 28.0**	**-0.7**
MAJO	**Matsushiro**	**16.45**	**36**	Pn	**Pn**	**10 31 00.2**	**-0.2**
MAJO				IAmb	IAmb	10 31 07.7	
	comp=Z,4.6nm,1.1s						
MJB9	**Matsu-Tunnel**	**16.45**	**36**	Pn	**Pn**	**10 31 00.3**	**-0.1**
JMM	**Marumori**	**18.83**	**38**	P	**P**	**10 31 28.0**	**-1.2**
JMM				IAmb	IAmb	10 31 38.6	
	comp=Z,33nm,1.5s						
COEN	**Coen**	**40.76**	**155**	P	**P**	**10 34 49.6**	**-1.1**
MK31	**Makanchi Array**	**42.12**	**315**	P	**P**	**10 35 02.0**	**+0.4**
MK31				IAmb	IAmb	10 35 05.3	
	comp=Z,4.8nm,1.4s						
MKAR	**Makanchi Array**	**42.12**	**315**	P	**P**	**10 35 01.5**	**-0.2**
MKAR	**Makanchi Array**	**42.12**	**315**	P	**P**	**10 35 04.6**	**+2.9**
	comp=Z,0.9nm,0.6s,baz=97,slow=12,SNR=8.2						
	comp=Z,0.9nm,0.6s						
MAKZ	**Makanchi**	**42.33**	**314**	P	**P**	**10 35 02.5**	**-0.9**
MAKZ				IAmb	IAmb	10 35 06.1	
	comp=Z,2.1nm,0.6s						
ZAA0	**Zalesovo Array**	**43.40**	**325**	P	**P**	**10 35 11.2**	**-0.6**
ZAA0				IAmb	IAmb	10 35 14.7	
	comp=Z,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**43.40**	**325**	P	**P**	**10 35 11.2**	**-0.6**
ZALV	**Zalesovo Beam**	**43.40**	**325**	P	**P**	**10 35 13.8**	**+1.9**
	comp=Z,1.1nm,0.5s,baz=109,slow=8.3,SNR=5.6						
	comp=Z,1.1nm,0.5s						
WRA	**Warramunga Arr**	**43.95**	**169**	P	**P**	**10 35 17.7**	**+1.0**
WRA	**Warramunga Arr**	**43.95**	**169**	P	**P**	**10 35 19.2**	**+2.5**
	comp=Z,1.8nm,0.7s,baz=348,slow=8.9,SNR=22						
	comp=Z,1.8nm,0.7s						
WB2	**Warramunga Arr**	**43.95**	**169**	P	**P**	**10 35 16.1**	**-0.5**
KURBB	**Kurchatov Arra**	**45.67**	**319**	P	**P**	**10 35 32.9**	**+2.8**
	comp=Z,1.4nm,0.6s,baz=107,slow=8.7,SNR=6.0						
	comp=Z,1.4nm,0.6s						
AS31	**Alice Springs**	**47.53**	**171**	P	**P**	**10 35 45.8**	**+0.8**
AS31				IAmb	IAmb	10 35 58.9	
	comp=Z,2.6nm,1.4s						
ASAR	**Alice Springs**	**47.53**	**171**	P	**P**	**10 35 47.9**	**+3.0**
	comp=Z,0.3nm,0.5s,baz=354,slow=13,SNR=12						
	comp=Z,0.3nm,0.5s						
BCAR	**Beaver Creek A**	**70.07**	**29**	P	**P**	**10 38 20.9**	**-0.4**

*CATAC **03** 10:32:22.3±0.2, 13°.01N×89°.45W, h42^{km}±4^{km}, ML4.4*

*GCG **03** 10:32:23.1±0.6, 13°.04N×89°.50W, h51^{km}±232^{km}, MD4.0*

*NEIC **03** 10:32:24.0±1.2, 13°.17N±0°.07×89°.34W±0°.05, h82^{km}±11^{km}, mb4.0/63, Error ellipse: s-maj=12.1km s-min=0.9km az=217.0*

ISC 03 10:32:21.6±0.8, 13°.07N±0°.05×89°.45W±0°.03, h69^{km}±7^{km}, n181, σ1°04/238, mb4.0/26, 15C-20D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.44**	**17**	*i* P	**Pn**	**10 32 33.9**	**+0.1**
LALI	**Alcalda de L**	**0.44**	**17**	⇓*i*P	**Pn**	**10 32 33.8**	**+0.1**
LALI				*i* S	**Sn**	**10 32 41.6**	**-1.0**
LALI				IAML		10 32 42.6	
	comp=Z,3μm,1.0s						
LALI						10 32 43.8	
	comp=Z,25nm,1.0s						
JAYA	**Jayaque - finc**	**0.58**	**0**	*i* P	**Pn**	**10 32 35.4**	**0.0**
JAYA	**Jayaque - finc**	**0.58**	**0**	⇓*i*P	**Pn**	**10 32 35.3**	**0.0**
JAYA				*i* S	**Sn**	**10 32 44.6**	**-0.8**
JAYA						10 32 48.0	
	comp=Z,300nm,1.0s						
JAYA				IAML		10 32 48.1	
	comp=Z,80μm,1.0s						
PANCS	**Alcalda de**	**0.60**	**26**	*e*P	**Pn**	**10 32 35.6**	**+0.1**
PANCS	**Alcalda de**	**0.60**	**26**	⇓*i*P	**Pn**	**10 32 35.5**	**+0.1**
PANCS				*i* S	**Sn**	**10 32 45.0**	**-0.6**
PANCS						10 32 48.1	
	comp=Z,130nm,1.0s						
PANCS				IAML		10 32 50.2	
	comp=Z,41μm,1.0s						
MAGS	**Ministerio de**	**0.63**	**15**	*e*P	**Pn**	**10 32 36.1**	**+0.2**
LOMA	**Loma Larga**	**0.63**	**26**	*e*P	**Pn**	**10 32 36.2**	**+0.3**
LOMA				*e*S	**Sn**	**10 32 47.6**	**+1.3**
LOMA	**Loma Larga**	**0.63**	**26**	⇓*i*P	**Pn**	**10 32 36.1**	**+0.2**
LOMA				*i* S	**Sn**	**10 32 46.3**	**0.0**
LOMA						10 32 50.3	
	comp=Z,130nm,1.0s						
LOMA				IAML		10 32 50.6	
	comp=Z,18μm,1.0s						
SNET	**Serv Nac Est T**	**0.65**	**19**		**Pn**	**10 32 36.4**	**+0.3**
SNET	**Serv Nac Est T**	**0.65**	**19**	*e*P	**Pn**	**10 32 36.3**	**+0.3**
SNET				*e*S	**Sn**	**10 32 47.2**	**+0.7**
SNET	**Serv Nac Est T**	**0.65**	**19**	⇓*i*P	**Pn**	**10 32 36.3**	**+0.3**
SNET				*i* S	**Sn**	**10 32 47.2**	**+0.7**
SNET						10 32 49.5	
	comp=Z,350nm,1.0s						
SNET				IAML		10 32 49.8	
	comp=Z,70μm,1.0s						
PMON	**Piamonte**	**0.65**	**12**	*e*P	**Pn**	**10 32 36.4**	**+0.3**
PMON	**Piamonte**	**0.65**	**12**	⇓*i*P	**Pn**	**10 32 36.3**	**+0.3**
PMON				*i* S	**Sn**	**10 32 47.3**	**+0.6**
PMON						10 32 53.6	
	comp=Z,110nm,1.0s						
PMON				IAML		10 32 58.5	
	comp=Z,20μm,1.0s						
LFRS	**El Faro**	**0.67**	**35**	*e*P	**Pn**	**10 32 36.8**	**+0.5**
UTEC	**Universidad Te**	**0.67**	**21**	*e*P	**Pn**	**10 32 36.8**	**+0.5**
UEES	**Universidad Ev**	**0.68**	**18**	*e*P	**Pn**	**10 32 36.8**	**+0.4**
UEES				*e*S	**Sn**	**10 32 47.9**	**+0.8**
UEES	**Universidad Ev**	**0.68**	**18**	⇓*i*P	**Pn**	**10 32 36.7**	**+0.4**
UEES				*i* S	**Sn**	**10 32 47.8**	**+0.7**
UEES						10 32 48.5	
	comp=Z,130nm,1.0s						
UEES				IAML		10 32 50.2	
	comp=Z,21μm,1.0s						
BOQS	**Boqueron**	**0.68**	**14**	*i* P	**Pn**	**10 32 37.0**	**+0.5**
UESS	**Universidad de**	**0.69**	**21**	*e*P	**Pn**	**10 32 37.1**	**+0.6**
UESS				*e*S	**Sn**	**10 32 48.6**	**+1.3**
IGN	**Direccin Gen**	**0.70**	**23**	*e*P	**Pn**	**10 32 37.2**	**+0.6**
IGN	**Direccin Gen**	**0.70**	**23**	*i* P	**Pn**	**10 32 37.1**	**+0.6**
IGN				*i* S	**Sn**	**10 32 48.2**	**+0.8**
IGN				IAML		10 32 51.6	
	comp=Z,40μm,1.0s						
IGN						10 32 55.0	
	comp=Z,410nm,1.0s						
PIC2	**El Picacho**	**0.70**	**16**	*e*P	**Pn**	**10 32 37.5**	**+0.8**
UDBS	**Universidad Do**	**0.70**	**24**	*i* P	**Pn**	**10 32 37.3**	**+0.7**
UDBS				*i* S	**Sn**	**10 32 48.4**	**+0.8**
UDBS						10 32 49.4	
	comp=Z,74nm,1.0s						
UDBS				IAML		10 32 52.7	
	comp=Z,14μm,1.0s						
CEDA	**San Andres**	**0.73**	**4**	*i* P	**Pn**	**10 32 37.4**	**+0.5**
CEDA				*e*S	**Sn**	**10 32 49.1**	**+1.0**
CEDA	**San Andres**	**0.73**	**4**	⇓*i*P	**Pn**	**10 32 37.3**	**+0.5**
CEDA				*i* S	**Sn**	**10 32 49.0**	**+0.9**
CEDA						10 32 51.6	
	comp=Z,320nm,1.0s						
CEDA				IAML		10 32 53.2	
	comp=Z,58μm,1.0s						
LFU	**La Fuente**	**0.75**	**26**	*e*P	**Pn**	**10 32 38.1**	**+1.0**
CEVE	**Cerro Verde**	**0.77**	**348**	*e*P	**Pn**	**10 32 37.9**	**+0.3**
CEVE				*e*S	**Sn**	**10 32 50.0**	**+0.8**
CEVE	**Cerro Verde**	**0.77**	**348**	⇓*i*P	**Pn**	**10 32 37.8**	**+0.2**
CEVE				*i* S	**Sn**	**10 32 50.1**	**+0.8**
CEVE				IAML		10 32 54.1	
	comp=Z,15μm,1.0s						
CEVE						10 33 01.4	
	comp=Z,440nm,1.0s						
COEG	**Centro de Oper**	**0.78**	**45**	*e*P	**Pn**	**10 32 37.8**	**+0.3**
COEG				*e*S	**Sn**	**10 32 49.5**	**+0.4**
COEG	**Centro de Oper**	**0.78**	**45**	⇑*i*P	**Pn**	**10 32 37.7**	**+0.3**
COEG				*i* S	**Sn**	**10 32 48.9**	**-0.3**
COEG						10 32 51.5	
	comp=Z,32nm,1.0s						
COEG				IAML		10 32 54.8	
	comp=Z,9μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.78**	**13**	*e*P	**Pn**	**10 32 38.3**	**+0.9**
QUEZ	**Alcaldia de Qu**	**0.78**	**13**	⇓*i*P	**Pn**	**10 32 38.3**	**+0.9**
QUEZ				*i* S	**Sn**	**10 32 50.9**	**+1.8**
QUEZ					

TECA Tecapa 1.02 65 *e*P **Pn 10 32 41.0 +0.5**
PACA Pacayal 1.17 70 *e*P **Pn 10 32 43.9 +1.6**
PACA *e*S **Sn 10 32 60.0 +2.2**
PACA Pacayal 1.17 70 *i*P **Pn 10 32 43.6 +1.3**
PACA *i*S **Sn 10 32 59.6 +1.8**
PACA 10 33 03.7
comp=Z,190nm,1.0s
PACA IAML 10 33 04.1
comp=Z,110μm,1.0s
RANC El Ranchito 1.19 72 *e*P **Pn 10 32 43.9 +1.2**
RANC El Ranchito 1.19 72⇓*i*P **Pn 10 32 43.7 +1.1**
RANC *i*S **Sn 10 33 00.4 +2.1**
RANC IAML 10 33 01.9
comp=Z,10μm,1.0s
RANC 10 33 06.8
comp=Z,69nm,1.0s
BLLM Bellamira 1.24 72 *e*P **Pn 10 32 44.3 +1.1**
CNRM Centro Naciona 1.31 72 *e*P **Pn 10 32 45.3 +1.2**
CNRM *e*S **Sn 10 33 03.1 +2.2**
CNRM Centro Naciona 1.31 72⇓*i*P **Pn 10 32 45.1 +1.0**
CNRM *i*S **Sn 10 33 03.0 +2.1**
CNRM 10 33 13.9
comp=Z,96nm,1.0s
CNRM IAML 10 33 22.9
comp=Z,41μm,1.0s
MTO3 Montecristo 1.32 4 Pn **Pn 10 32 45.1 +0.6**
MTO3 Sn **Sn 10 33 02.5 +0.9**
MTO3 Montecristo 1.32 4 *e*P **Pn 10 32 45.1 +0.6**
MTO3 Montecristo 1.32 4 *i*P **Pn 10 32 45.0 +0.6**
MTO3 *i*S **Sn 10 33 02.5 +0.9**
MTO3 IAML 10 33 03.2
comp=Z,2μm,1.0s
MTO3 10 33 04.5
comp=Z,10.0nm,1.0s
INTP Intipuca 1.37 84 *e*P **Pn 10 32 45.7 +0.9**
INTP *e*S **Sn 10 33 03.4 +1.1**
ESQI Esquipulas 1.49 4 **Pn 10 32 47.5 +1.0**
ESQI Sn **Sn 10 33 05.5 +0.3**
ESQI Esquipulas 1.49 4 *i*P **Pn 10 32 47.4 +0.9**
ESQI *i*S **Sn 10 33 06.5 +1.3**
CNCH Conchagua 1.59 82 *e*P **Pn 10 32 48.7 +0.8**
CNCH Conchagua 1.59 82⇑*i*P **Pn 10 32 48.7 +0.8**
CNCH *i*S **Sn 10 33 08.7 +1.0**
CNCH 10 33 14.2
comp=Z,83nm,1.0s
CNCH IAML 10 33 15.0
comp=Z,9μm,1.0s
NBG Las Nubes 1.74 330 *i*P **Pn 10 32 52.1 +2.1**
MARCA Marcala la Paz 1.75 52⇑*i*P **Pn 10 32 51.0 +0.9**
MARCA *i*S **Sn 10 33 13.3 +1.7**
AMPH Amapala 1.76 83 *e*P **Pn 10 32 50.9 +0.9**
AMPH Amapala 1.76 83 *i*P **Pn 10 32 50.9 +0.9**
INTHN La Esperanza I 1.80 47⇑*i*P **Pn 10 32 51.8 +1.0**
INTHN *i*S **Sn 10 33 13.1 +0.1**
FUG Fuego 3 1.92 316 *i*P **Pn 10 32 54.1 +1.7**
FUG *i*S **Sn 10 33 18.0 +2.2**
MRL Marmol 2.01 354 *i*P **Pn 10 32 55.7 +2.1**
COMHN El Horno 2.29 53 *i*P **Pn 10 32 57.9 +0.5**
TGUH Tegucigalpa,Un 2.34 65 **Pn 10 32 58.9 +0.9**
TGUH Tegucigalpa,Un 2.34 65⇑*i*P **Pn 10 32 58.8 +0.9**
TGUH 10 33 22.2
comp=Z,0.0nm,0.4s
TGUH *i*S **Sn 10 33 26.2 +0.5**
TGUH IAML 10 33 48.2
comp=Z,820nm,1.0s
CRIN San Cristobal 2.37 99 **Pn 10 32 59.6 +1.3**
CRIN San Cristobal 2.37 99 *i*P **Pn 10 32 59.6 +1.3**
CRIN *i*S **Sn 10 33 27.8 +1.3**
CRIN 10 33 36.0
comp=Z,0.0nm,0.2s
CRIN 10 33 37.1
comp=Z,24nm,1.0s
CRIN IAML 10 33 45.4
comp=Z,4μm,1.0s
SULM Suchitepequez, 2.39 301 *i*P **Pn 10 32 59.2 +0.7**
PKGN Cerro Pekin 2.45 99⇓*i*P **Pn 10 33 00.0 +0.7**
PKGN *i*S **Sn 10 33 28.6 +0.4**
PKGN IAML 10 33 32.0
comp=Z,4μm,1.0s
PKGN 10 33 34.1
comp=Z,17nm,1.0s
PKGN 10 33 34.4
comp=Z,0.0nm,0.2s
SOKI Kika Raxquin 2.57 313 *i*P **Pn 10 33 02.7 +1.3**
SOKI *i*S **Sn 10 33 33.8 +2.0**
SOKI IAML 10 33 37.3
comp=Z,540nm,1.0s
SOKI 10 33 41.9
comp=Z,3.6nm,1.0s
SOKI 10 34 03.8
comp=Z,0.0nm,0.2s
QUEN Al S del Volca 2.58 100⇑*i*P **Pn 10 33 01.6 +0.4**
QUEN 10 33 34.5
comp=Z,0.0nm,0.2s
QUEN IAML 10 33 34.8
comp=Z,2μm,1.0s
QUEN 10 34 01.2
comp=Z,0.1nm,1.0s
RTAL Retalhuleu 2.62 304 Pn **Pn 10 33 02.6 +1.0**
RTAL Retalhuleu 2.62 304 *i*P **Pn 10 33 02.2 +0.6**
RTAL *i*S **Sn 10 33 31.3 -1.0**
RTAL IAML 10 33 43.4
comp=Z,490nm,1.0s
RTAL 10 33 44.2
comp=Z,0.0nm,0.3s
RTAL 10 33 48.7
comp=Z,2.5nm,1.0s
STG3 Santiaguito 3, 2.63 309 *i*P **Pn 10 33 03.9 +2.0**
STG3 *i*S **Sn 10 33 34.1 +1.3**
PACN Al O del Volca 2.66 102 *i*P **Pn 10 33 02.0 -0.2**
PACN *i*S **Sn 10 33 33.7 +0.4**
PACN 10 33 35.5
comp=Z,7.0nm,1.0s
PACN IAML 10 33 37.0
comp=Z,2μm,1.0s
PACN 10 33 38.7
comp=Z,0.0nm,0.3s
YUSH Yuscaran 2.69 71⇑*i*P **Pn 10 33 03.6 +0.9**
CNGA Al SSO del Vol 2.74 102 *i*P **Pn 10 33 03.7 +0.3**
CNGA *i*S **Sn 10 33 36.0 +0.5**
CNGA IAML 10 33 37.5
comp=Z,920nm,1.0s
CNGA 10 33 40.5
comp=Z,4.7nm,1.0s
CNGA 10 33 43.2
comp=Z,0.0nm,0.1s
CNGN Cerro Negro 2.75 102 Pn **Pn 10 33 04.3 +0.9**
CNGN Cerro Negro 2.75 102⇓*i*P **Pn 10 33 04.1 +0.7**
CNGN *i*S **Sn 10 33 35.4 -0.1**
CNGN IAML 10 33 41.5
comp=Z,830nm,1.0s
CNGN 10 33 42.6
comp=Z,0.0nm,0.2s
CNGN 10 33 42.9
comp=Z,6.7nm,1.0s
MACN El Madrono 2.77 102⇑*i*P **Pn 10 33 04.6 +0.8**
LEVN Ruinas Leon Vi 2.85 103 *i*P **Pn 10 33 05.2 +0.5**
LEVN *i*S **Sn 10 33 38.2 +0.3**
LEVN 10 33 42.1
comp=Z,5.0nm,1.0s
LEVN IAML 10 33 44.6
comp=Z,800nm,1.0s
LEVN 10 33 44.6
comp=Z,0.0nm,0.3s
COPN Copaltepe 2.93 107⇑*i*P **Pn 10 33 05.9 0.0**
COPN 10 33 40.3
comp=Z,0.0nm,0.0s
COPN IAML 10 33 41.2
comp=Z,370nm,1.0s
MOM2 El Cardon 2.96 102⇓*i*P **Pn 10 33 07.5 +1.2**
MOM2 *i*S **Sn 10 33 41.4 +0.6**
MOM2 10 33 43.3
comp=Z,0.0nm,0.3s
MOM2 10 33 45.1
comp=Z,1.7nm,1.0s
MOM2 IAML 10 33 47.9
comp=Z,290nm,1.0s
HUEH Huehuetenango 2.99 319 Pn **Pn 10 33 09.3 +2.4**
LIMN Finca el Limon 3.01 90 **Pn 10 33 02.7 -4.3**
comp=Z,0.0nm,1.0s
LIMN ⇑*i*P **Pn 10 33 07.7 +0.7**
LIMN 10 33 08.1
comp=Z,0.0nm,0.7s
LIMN IAML 10 33 08.2
comp=Z,590nm,1.0s
SAPS Ciudad Sandino 3.11 106 *i*P **Pn 10 33 09.5 +1.2**
SAPS *i*S **Sn 10 33 44.7 +0.4**
SAPS 10 33 48.4
comp=Z,0.0nm,0.2s
SAPS IAML 10 33 49.0
comp=Z,1μm,1.0s
SAPS 10 33 49.6
comp=Z,5.3nm,1.0s
APQ2 Apoyeque 3.17 105 *i*P **Pn 10 33 10.4 +1.2**
APQ2 *i*S **Sn 10 33 45.9 0.0**
APQ2 10 33 49.7
comp=Z,3.0nm,1.0s
APQ2 IAML 10 33 51.1
comp=Z,590nm,1.0s
APQ2 10 33 51.1
comp=Z,0.0nm,0.3s
TISN Laguna Tiscapa 3.24 106 *i*P **Pn 10 33 10.0 -0.1**
TISN IAML 10 33 48.4
comp=Z,71nm,1.0s
TISN 10 33 48.4
comp=Z,0.0nm,0.3s
R4DEC Barrio San Lui 3.26 106 *i*P **Pn 10 33 11.0 +0.6**
R4DEC IAML 10 33 56.2
comp=Z,490nm,1.0s
R4DEC 10 34 21.4
comp=Z,0.0nm,0.1s
R0529 La Mascota 3.28 106 *i*P **Pn 10 33 11.5 +0.9**
R0529 IAML 10 33 49.0
comp=Z,710nm,1.0s
R0529 10 33 50.7
comp=Z,0.0nm,0.2s
RCPN Sur Rio San Ju 3.30 82 *i*P **Pn 10 33 10.9 -0.1**
RCPN 10 33 14.6
comp=Z,0.0nm,1.0s
RCPN IAML 10 33 27.5
comp=Z,1.0nm,1.0s
RCPN 10 33 27.5
comp=Z,0.0nm,0.0s
WILN Americas 2 3.31 105 *i*P **Pn 10 33 11.6 +0.5**
WILN *i*S **Sn 10 33 49.3 0.0**
WILN 10 33 49.6
comp=Z,1.4nm,1.0s
WILN IAML 10 33 53.7
comp=Z,360nm,1.0s
WILN 10 33 53.7
comp=Z,0.0nm,0.3s
JUTIH Juticalpa Olan 3.52 63⇑*i*P **Pn 10 33 15.5 +1.5**
BOAB BOACO BROADBAN 3.75 99 Pn **Pn 10 33 17.3 +0.2**
BOAB BOACO BROADBAN 3.75 99⇑*i*P **Pn 10 33 17.2 +0.2**
BOAB 10 33 17.5
comp=Z,0.0nm,0.1s
BOAB IAML 10 33 17.6
comp=Z,120nm,1.0s
BOAB 10 34 07.2
comp=Z,0.3nm,1.0s
PETF Flores 3.85 354 Pn **Pn 10 33 20.7 +2.3**
PETF Flores 3.85 354⇓*i*P **Pn 10 33 20.9 +2.5**
PETF 10 33 21.3
comp=Z,0.0nm,0.4s
PETF IAML 10 33 21.4
comp=Z,150nm,1.0s
PETF 10 34 49.5
comp=Z,0.9nm,1.0s
CCIG Comitan 4.12 321 Pn **Pn 10 33 25.0 +2.8**
ACON Acoyapa 4.32 104 Pn **Pn 10 33 25.7 +0.9**
SAJU San Juanillo, 4.73 129 Pn **Pn 10 33 32.2 +1.8**
JUD3 Juan Diaz 3 4.80 127 **Pn 10 33 33.5 +2.0**
JTS Las Juntas de 5.20 122 Pn **Pn 10 33 38.8 +1.9**
SOCE Pocosol 5.43 119 Pn **Pn 10 33 41.8 +1.6**
LCR2 La Lucha 2 6.28 121 **Pn 10 33 52.8 +0.9**
TEIG Tepich 7.21 9 Pn **Pn 10 34 05.8 +1.4**
BRU2 Volcan 7.88 122 Pn **Pn 10 34 13.9 +0.2**
TLIG Tlapa 9.86 298 Pn **Pn 10 34 44.1 +3.3**
BCIP Isla Barro Col 10.20 111 Pn **Pn 10 34 45.7 +0.4**
SOR Soroa 11.45 31 Pn **Pn 10 35 01.8 -0.5**
MTDJ Mount Denham 12.57 64 Pn **Pn 10 35 18.3 +0.6**
GTBY Guantanamo Bay 15.34 62 Pn **Pn 10 35 51.7 -2.5**
656A Willston 17.45 21 Pn **Pn 10 36 17.6 -2.8**
553A Crawfordville 17.66 14 **Pn 10 36 22.0 -1.0**
HKT Hockley 17.81 342 **P 10 36 24.1 -0.5**
HNDO Hondo 18.75 332 P **P 10 36 35.2 +0.1**
VBMS Vicksburg 19.09 357 P **P 10 36 38.3 -0.4**
VBMS IAmb IAmb 10 36 41.9
comp=Z,16nm,0.8s
435B Jarrell 19.16 338 P **P 10 36 39.2 -0.4**
JCT Junction City 19.79 333 P **P 10 36 46.9 +0.4**
152A Waverly Hall 19.98 12 P **P 10 36 48.1 -0.4**
152A IAmb IAmb 10 36 50.7
comp=Z,6.6nm,0.8s
LRAL Lakeview Retre 20.00 6 **P 10 36 47.5 -1.2**
LRAL IAmb IAmb 10 36 51.5
comp=Z,8.9nm,1.2s
Z47A Carrollton 20.08 3 P **P 10 36 49.5 0.0**
Z47A IAmb IAmb 10 36 51.9
comp=Z,9.8nm,1.1s
BRDY Brady 20.15 336 P **P 10 36 50.4 +0.1**
BRDY IAmb IAmb 10 36 51.7
comp=Z,5.6nm,0.7s
WHTX Lake Whitney, 20.22 340 P **P 10 36 51.1 +0.1**
WHTX IAmb IAmb 10 36 52.5
comp=Z,11nm,0.8s
154A Montrose 20.30 16 P **P 10 36 51.5 -0.5**
Y49A Blount Mountai 20.88 7 **P 10 36 58.9 +0.7**
Y49A IAmb IAmb 10 36 59.9
comp=Z,7.1nm,0.6s
TXAR Lajitas Array 20.88 323 P Pn 10 37 00.1 -1.5
TX31 Lajitas Ar. Si 20.88 323 P **P 10 36 59.8 +1.5**
GOGA Godfrey 20.97 14 P **P 10 36 58.7 -0.5**
PLPT Palo Pinto 21.26 339 P **P 10 37 02.0 -0.2**
PLPT IAmb IAmb 10 37 02.9
comp=Z,5.4nm,0.7s
Y52A Lilburn 21.27 12 P **P 10 37 01.9 -0.5**
OXF Oxford 21.35 0 P **P 10 37 03.0 -0.2**
X48A Hartselle 21.40 5 P **P 10 37 04.3 +0.6**
BAUV El Baul 21.41 99 P **P 10 37 03.6 -0.5**
FPAL Fort Paine 21.66 9 P **P 10 37 06.7 +0.1**
FPAL IAmb IAmb 10 37 31.8
comp=Z,8.7nm,1.3s
MIAR Mount Ida 21.71 351 P **P 10 37 06.9 -0.1**
MIAR IAmb IAmb 10 37 10.3
comp=Z,4.7nm,0.9s
HODGE Hodges 22.06 16 P **P 10 37 10.5 -0.3**
HODGE IAmb IAmb 10 37 12.4
comp=Z,5.3nm,0.8s
X37A Clayton 22.09 347 P **P 10 37 11.1 0.0**
X37A IAmb IAmb 10 37 31.7
comp=Z,6.3nm,1.0s
SWET Sewanee 22.28 8 P **P 10 37 12.2 -1.0**
SWET IAmb IAmb 10 37 14.1
comp=Z,3.1nm,0.7s
W50A Signal Mountai 22.35 9 P **P 10 37 14.6 +0.6**
W50A IAmb IAmb 10 37 35.0
comp=Z,3.0nm,0.7s
JSC Jenkinsville 22.39 18 P **P 10 37 12.2 -2.1**
CPCT Cooper Cave 22.73 10 P **P 10 37 17.5 -0.4**
CPCT IAmb IAmb 10 37 18.0
comp=Z,2.6nm,0.5s
PAULI Pauline 22.73 16 P **P 10 37 16.6 -1.4**
PAULI IAmb IAmb 10 37 20.4
comp=Z,6.7nm,1.2s
POST Post 22.75 333 P **P 10 37 17.4 -0.9**
GNAR Gosnell 22.80 359 P **P 10 37 18.2 -0.5**
FCAR Ozark Folk Cen 22.85 354 P **P 10 37 17.7 -1.5**
LCAR Lake Charles 22.95 356 P **P 10 37 20.2 -0.1**
LCAR IAmb IAmb 10 37 21.8
comp=Z,4.9nm,0.9s
DKNS Dickens 23.01 335 P **P 10 37 21.4 +0.4**
TKL Tuckaleechee C 23.07 12 P **P 10 37 21.2 -0.2**
TKL IAmb IAmb 10 37 31.5
comp=Z,9.1nm,1.5s
CLTN Cedars of Leba 23.09 6 P **P 10 37 21.4 -0.2**
CLTN IAmb IAmb 10 37 22.1
comp=Z,3.7nm,0.6s
GLAT Glass 23.10 0 P **P 10 37 21.8 +0.1**
WMOK Wichita Mounta 23.17 340 P **P 10 37 21.7 -0.8**
V53A Saluda 23.29 14 P **P 10 37 24.0 +0.4**
V53A IAmb IAmb 10 37 25.2
comp=Z,5.2nm,1.1s
PARMO Parma 23.50 359 P **P 10 37 25.9 +0.6**
U49A Red Boiling Sp 23.58 7 **P 10 37 25.8 -0.3**
U49A IAmb IAmb 10 37 26.3
comp=Z,3.4nm,0.7s
PBMO Poplar Bluff 23.63 358 P **P 10 37 26.6 0.0**
PBMO IAmb IAmb 10 37 27.8
comp=Z,12nm,0.8s
V55A Taylorsville 23.87 17 P **P 10 37 28.0 -0.8**
V55A IAmb IAmb 10 37 30.3
comp=Z,3.2nm,0.7s
T42A Van Buren 23.91 357 P **P 10 37 28.8 -0.3**
T42A IAmb IAmb 10 37 30.3
comp=Z,5.2nm,0.6s
T47A Sharon Grove 23.91 5 P **P 10 37 28.4 -0.7**
T47A IAmb IAmb 10 37 29.9
comp=Z,12nm,1.3s
TZTN Tazewell 23.97 12 P **P 10 37 28.9 -0.8**
SMWD Samnorwood 24.01 338 P **P 10 37 30.5 +0.3**
SMWD IAmb IAmb 10 37 31.0
comp=Z,8.6nm,0.9s
MGMO Mountain Grove 24.12 354 P **P 10 37 30.6 -0.4**
MGMO IAmb IAmb 10 37 33.2
comp=Z,3.8nm,0.8s
CGM3 Cape Girardeau 24.13 360 P **P 10 37 30.9 -0.2**
CGM3 IAmb IAmb 10 37 31.6
comp=Z,3.9nm,0.8s
T50A Nancy 24.21 9 P **P 10 37 31.5 -0.3**
U54A Nelsons Funny 24.34 15 P **P 10 37 32.7 -0.4**
V58A Windy Hill, Pi 24.47 21 **P 10 37 33.9 -0.3**
V58A IAmb IAmb 10 37 36.0
comp=Z,5.3nm,0.7s
S39A Bolivar 24.76 353 P **P 10 37 36.6 -0.2**
FVM French Village 24.83 358 P **P 10 37 37.6 +0.1**
FVM IAmb IAmb 10 37 38.7
comp=Z,4.2nm,0.7s
CCM Cathedral Cave 24.94 357 P **P 10 37 38.5 +0.1**
CCM IAmb IAmb 10 37 40.6
comp=Z,4.0nm,0.7s
S51A Beattyville 25.02 11 P **P 10 37 37.5 -1.8**
S51A IAmb IAmb 10 37 41.4
comp=Z,3.6nm,0.7s
SMRT St. Maarten 25.88 76 P **P 10 37 44.8 -2.4**
SPMN Marine on St. 32.17 356 P **P 10 38 41.9 -0.9**
ETMB Extrema 32.40 133 P **P 10 38 46.2 +1.0**
COWI Conover 32.92 0 P **P 10 38 48.4 -1.0**
COWI IAmb IAmb 10 38 49.6
comp=Z,4.3nm,0.8s

JMA ***03*** *10:54:14.2±0.3,23°.2N±0°.5×12°1E±°, h0km, MV3.4/11, TAIWAN REGION*
TAP ***03*** *10:54:14.1,23°.15N×120°.90E, h1km, ML3.7, C*
ASIES ***03*** *10:54:14.1,23°.15N×120°.90E, h1km, ML3.7, Mw3.2, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}-2.68; $M_{\theta\theta}$3.59; $M_{\phi\phi}$-0.91; $M_{r\theta}$-0.73; $M_{\theta\phi}$-4.20; $M_{\phi r}$-4.23; Fault plane solution: $M_0$6.81968×10^{20} NP1: ϕ_s338.45000°, δ70.26000°, λ-41.50000°. NP2:ϕ_s85.09000°, δ51.42000°, λ-154.40000°. Principal axes: T Plg11.6600°, Azm35.7170°; N Plg44.8290°, Azm137.5550°; P Plg42.8280°, Azm294.6890°;*
ISC 03 10:54:14.7±0.8, 23°.15N±0°.01×120°.90E±0°.01, h8km±6km, n128, σ0.984/208, 25C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.11**	**68**	⇑*i*P	**Pg**	**10 54 17.4**	**-0.1**
ELDTW	baz=71			S	**Sg**	**10 54 19.2**	**-0.1**
STYH	**Taoyuan**	**0.12**	**281**	⇓*i*P	**Pg**	**10 54 17.1**	**-0.3**
STYH	baz=280			*i*S	**Sg**	**10 54 18.9**	**-0.3**
EHD	**Haiduan**	**0.28**	**90**	*e*P	**Pg**	**10 54 20.6**	**+0.3**
EHD	baz=90			*e*S	**Sg**	**10 54 24.5**	**+0.4**
SLGT	**Liugui**	**0.28**	**237**	⇑*i*P	**Pg**	**10 54 20.6**	**+0.3**
SLGT	baz=227			*e*S	**Sg**	**10 54 24.5**	**+0.4**
WTP	**Ta-pu**	**0.28**	**290**	⇓*i*P	**Pb**	**10 54 21.0**	**-1.1**
WTP	baz=290			*e*S	**Sb**	**10 54 25.8**	**-1.3**
TPUB	**Ta-pu**	**0.29**	**301**	P	**Pb**	**10 54 21.4**	**-0.9**
TPUB	**Ta-pu**	**0.29**	**301**	⇓*i*P	**Pb**	**10 54 21.2**	**-1.1**
TPUB	baz=301			S	**Sg**	**10 54 25.4**	**+0.9**
ECS	**Chishang**	**0.30**	**100**	P	**Pb**	**10 54 21.3**	**-1.0**
ECS	baz=100			S	**Sb**	**10 54 26.1**	**-1.3**
SGST	**Jiashian**	**0.30**	**258**	⇑*i*P	**Pg**	**10 54 20.3**	**-0.5**
SGST	baz=246			*e*S	**Sg**	**10 54 25.2**	**+0.5**
LONT	**Longtian**	**0.32**	**139**	⇓*i*P	**Pg**	**10 54 21.4**	**+0.4**
LONT	baz=139			S	**Sg**	**10 54 26.1**	**+0.8**
YUS	**Yu-Shan**	**0.34**	**8**	⇑*i*P	**Pg**	**10 54 21.5**	**-0.2**
YUS	baz=22			*e*S	**Sg**	**10 54 26.2**	**-0.1**
CHN1	**Nanshi**	**0.35**	**276**	⇓*i*P	**Pb**	**10 54 22.6**	**-0.6**
CHN1	baz=276			*e*S	**Sb**	**10 54 28.1**	**-0.8**
TWG	**Pinlang**	**0.36**	**154**	⇓*i*P	**Pb**	**10 54 22.2**	**-1.2**
TWG	baz=146			S	**Sg**	**10 54 26.5**	**-0.1**
FULB	**Fuli**	**0.36**	**82**	⇑*i*P	**Pb**	**10 54 22.8**	**-0.7**
FULB	baz=70			*i*S	**Sb**	**10 54 28.5**	**-0.9**
TWGBT	**Beinan**	**0.37**	**153**	P	**Pb**	**10 54 22.5**	**-1.0**
TWGBT	**Beinan**	**0.37**	**153**	⇓*i*P	**Pg**	**10 54 22.2**	**+0.3**
TWGBT	baz=146			S	**Sg**	**10 54 26.4**	**-0.4**
SNST	**Tainan City**	**0.38**	**281**	⇓*i*P	**Pb**	**10 54 23.4**	**-0.3**
SNST	baz=281			*e*S	**Sb**	**10 54 29.7**	**-0.1**
WCKO	**Fanlu**	**0.40**	**317**	*e*P	**Pb**	**10 54 23.5**	**-0.6**
WCKO	baz=328			*i*S	**Sb**	**10 54 30.1**	**-0.2**
TWK	**Hsinying**	**0.40**	**287**	⇓*i*P	**Pb**	**10 54 23.7**	**-0.4**
TWK	baz=287			*e*S	**Sb**	**10 54 30.4**	**0.0**
EDH	**Donghe**	**0.41**	**115**	*e*P	**Pb**	**10 54 23.7**	**-0.5**
EDH	baz=126			*e*S	**Sb**	**10 54 30.0**	**-0.6**
TWF1	**Yuli**	**0.42**	**61**	⇑*i*P	**Pg**	**10 54 23.1**	**+0.2**
TWF1	baz=61			*i*S	**Sg**	**10 54 28.5**	**+0.1**
CHKT	**Chengkung**	**0.43**	**96**	⇑*i*P	**Pb**	**10 54 24.4**	**-0.1**
CHKT	baz=97			*e*S	**Sb**	**10 54 31.0**	**-0.1**
EYUL	**Yuli**	**0.43**	**62**	⇑*i*P	**Pg**	**10 54 23.4**	**+0.2**
EYUL	baz=63			*e*S	**Sg**	**10 54 28.8**	**0.0**
YULB	**Yu-li**	**0.44**	**56**	P	**Pg**	**10 54 23.0**	**-0.3**
YULB	**Yu-li**	**0.44**	**56**	⇑*i*P	**Pg**	**10 54 23.2**	**-0.1**
YULB	baz=57			S	**Sg**	**10 54 28.4**	**-0.6**
TTN	**Taitung**	**0.45**	**150**	*e*P	**Pb**	**10 54 24.4**	**-0.5**
TTN	baz=140			*e*S	**Sb**	**10 54 31.2**	**-0.6**
CHKH	**Chenggong**	**0.46**	**84**	⇑P	**Pb**	**10 54 24.4**	**-0.7**
CHKH	baz=75			S	**Sb**	**10 54 30.8**	**-1.1**
SCST	**Cishan**	**0.46**	**235**	⇑*i*P	**Pb**	**10 54 24.5**	**-0.5**
SCST	baz=235			*e*S	**Sb**	**10 54 32.4**	**+0.4**
CHN3	**Shinhua**	**0.50**	**262**	⇑*e*P	**Pn**	**10 54 27.2**	**-1.0**
	baz=264						

CHN3					S	Sb	10 54 33.4	+0.2
	baz=264								
EHY	Hungye	0.53	47	⇑	iP	Pg	10 54 24.8	-0.1
	baz=48								
EHY					S	Sg	10 54 31.2	-0.6
	baz=48								
SHHT	Tainan City	0.53	256		eP	Pn	10 54 27.8	-0.7
	baz=259								
SHHT					eS	Sn	10 54 37.1	-0.5
	baz=259								
ECBN	Changbin	0.53	71		eP	Pb	10 54 26.3	0.0
	baz=61								
ECBN					eS	Sb	10 54 33.9	-0.2
	baz=61								
EHYH	Wanrong	0.53	50	⇑	iP	Pg	10 54 25.0	-0.1
	baz=51								
EHYH					eS	Sg	10 54 32.2	+0.1
	baz=51								
TWM1	Shoushan	0.55	234		eP	Pb	10 54 26.9	+0.3
	baz=233								
TWM1					eS	Sb	10 54 35.6	+1.0
	baz=233								
WHYT	Xinyi Township	0.55	355	⇑	iP	Pb	10 54 25.7	-0.9
	baz=6.0								
WHYT					i S	Sb	10 54 33.4	-1.3
	baz=6.0								
ECL	Taimali	0.55	175		eP	Pg	10 54 25.2	-0.2
	baz=174								
ECL					i S	Sg	10 54 32.5	-0.1
	baz=174								
CHY	Chiayi	0.56	309		eP	Pb	10 54 27.0	+0.2
	baz=308								
CHY					eS	Sb	10 54 36.5	+1.5
	baz=308								
MASBT	Mashibuluo	0.59	205	⇑	iP	Pg	10 54 25.5	-0.6
	baz=204								
MASBT					S	Sg	10 54 34.1	+0.3
	baz=204								
HGSD	Ruisui	0.59	54	⇑	P	Pb	10 54 26.7	-0.6
	baz=53								
WGK	Gukeng	0.62	330		eP	Pb	10 54 28.4	+0.6
	baz=330								
WGK					eS	Sb	10 54 38.5	+1.7
	baz=330								
WDLH	Douliu	0.64	328	⇓	P	Pb	10 54 28.7	+0.6
	baz=328								
WDLH					eS	Sn	10 54 39.2	-1.1
	baz=328								
SSLB	Suanglung	0.64	4		P	Pg	10 54 26.9	-0.2
SSLB	Suanglung	0.64	4	⇑	iP	Pg	10 54 26.7	-0.4
	baz=13								
SSLB					eS	Sg	10 54 35.0	-0.5
	baz=13								
VWDT	VWDT	0.64	20	⇑	iP	Pg	10 54 26.6	-0.5
	baz=22								
SCLT	Jiali	0.65	273		eP	Pb	10 54 28.8	+0.4
	baz=272								
SCLT					eS	Sn	10 54 40.2	-0.5
	baz=272								
CHN8	Yiju	0.67	287		eP	Pb	10 54 28.9	+0.3
	baz=287								
CHN8					eS	Sn	10 54 40.9	-0.3
	baz=287								
WJS	Zhushan	0.69	347		eP	Pb	10 54 29.4	+0.4
	baz=348								
WJS					i S	Sn	10 54 40.7	-1.1
	baz=348								
LDUT	Ludao	0.70	132		eP	Pg	10 54 28.3	0.0
	baz=132								
LDUT					eS	Sb	10 54 38.5	-0.6
	baz=132								
EGFH	Guangfu	0.71	43		eP	Pg	10 54 28.0	-0.4
	baz=50								
WARBT	Fenglin Townsh	0.72	38	⇑	iP	Pg	10 54 28.0	-0.6
	baz=49								
WARBT					eS	Sg	10 54 37.8	-0.2
	baz=49								
WSL	Shuilin Townsh	0.72	301		eP	Pb	10 54 30.3	+0.7
	baz=301								
WSL					i S	Sn	10 54 42.7	+0.1
	baz=301								
SMLT	Sun Moon Lake	0.73	360	⇑	iP	Pb	10 54 29.0	-0.8
	baz=10.0								
SMLT					eS	Sb	10 54 39.3	-0.8
	baz=10.0								
TSCK	Chigu Township	0.75	270		P	Pn	10 54 31.7	+0.1
	baz=288								
TSCK					eS	Sn	10 54 44.4	+1.2
	baz=288								
WNT	Mingjian	0.76	345		eP	Pn	10 54 31.0	-0.7
	baz=345								
WNT					i S	Sn	10 54 42.4	-0.9
	baz=345								
EAST	Anshuo	0.76	184		i P	Pg	10 54 29.3	-0.1
	baz=185								
TAW	Tawu	0.79	180		eP	Pg	10 54 29.9	0.0
	baz=180								
TAW					eS	Sb	10 54 42.0	+0.6
	baz=180								
WSF	Szhu	0.79	308		eP	Pb	10 54 31.0	+0.2
	baz=308								
WSF					eS	Sn	10 54 43.7	-0.6
	baz=308								
TAWH	Dawu Township	0.80	181		eP	Pg	10 54 30.1	-0.2
	baz=181								
TAWH					eS	Sg	10 54 40.4	-0.2
	baz=181								
SCZT	Fangliau	0.81	199	⇑	eP	Pg	10 54 30.2	-0.2
	baz=188								
SCZT					eS	Sg	10 54 40.4	-0.7
	baz=188								
ESL	Shilin	0.82	36		P	Pg	10 54 29.8	-0.8
	baz=45								
OWD	Renai	0.84	17	⇑	P	Pg	10 54 29.9	-1.0
	baz=19								
WUSB	Renai	0.86	13	⇑	iP	Pg	10 54 30.5	-0.9
	baz=26								
SHUL	Shoufeng	0.88	43		eP	Pg	10 54 31.4	-0.3
	baz=42								
WRL	Guolierlin Hig	0.89	327		eP	Pb	10 54 32.7	+0.2
	baz=327								
WRL					eS	Sn	10 54 46.9	+0.1
	baz=327								
WCS	Beigang Elemen	0.91	1		eP	Pg	10 54 31.9	-0.2
	baz=10.0								
WCS					eS	Sn	10 54 46.6	-0.5
	baz=10.0								
WTCT	Ta-ch'eng	0.91	321		eP	Pn	10 54 33.5	-0.4
	baz=321								
WTCT					eS	Sn	10 54 46.9	-0.3
	baz=321								
CHGB	Renai	0.94	15	⇑	iP	Pg	10 54 31.9	-1.0
	baz=26								
TEYL	Yanliau Villag	0.96	42		eP	Pb	10 54 34.0	+0.4
	baz=56								
ETM	Tongmen	0.98	34		P	Pb	10 54 33.4	-0.6
	baz=40								
LXIB	Xiulin Townshi	0.99	28		eP	Pg	10 54 32.7	-1.1
	baz=41								
WHF	Hehuan Shan	1.05	18		eP	Pg	10 54 34.4	-0.6
	baz=21								
HWA	Hwalien	1.05	38		eP	Pn	10 54 36.3	+0.6
	baz=46								
TDCB	Techi	1.12	12		eP	Pg	10 54 34.5	-1.9
	baz=31								
TDCB					eS	Sg	10 54 50.7	-0.3
	baz=31								
TWD	Chiawan	1.12	34		eP	Pb	10 54 36.4	-0.1
	baz=52								
WHP	Taichung City	1.13	2		eP	Pn	10 54 37.4	+0.5
	baz=13								
WHP					eS	Sn	10 54 52.6	0.0
	baz=13								
TWT	Tachien	1.13	13		eP	Pg	10 54 34.6	-1.9
	baz=12								
FUSS	Fushou	1.14	16		eP	Pg	10 54 35.7	-1.0
	baz=30								
FUSS					eS	Sn	10 54 52.9	-0.3
	baz=30								
HEN	Hengchun	1.15	188		eP	Pn	10 54 37.6	+0.5
	baz=189								
WDGT	Dungji	1.15	276		P	Pb	10 54 36.8	-0.1
	baz=275								
WDGT					i S	Sn	10 54 53.2	+0.2
	baz=275								
TWK1	Hengchun	1.20	184		eP	Pn	10 54 38.7	+0.8
	baz=186								
NACB	Ninganchiao	1.20	32		P	Pg	10 54 37.2	-0.7
NACB	Ninganchiao	1.20	32		eP	Pg	10 54 36.5	-1.3
	baz=56								
ETL	Fush Village	1.20	33		eP	Pg	10 54 37.2	-0.7
	baz=55								
TWKBT	Hengchun	1.20	184		eP	Pn	10 54 38.1	+0.2
	baz=186								
WDJ	Dajia District	1.22	349		eP	Pn	10 54 40.4	+2.3
	baz=348								
WDJ					eS	Sn	10 54 57.4	+2.6
	baz=348								
NSY	Sanyi	1.27	354		eP	Pn	10 54 40.2	+1.4
	baz=354								
NSY					eS	Sn	10 54 58.1	+2.1
	baz=354								
PHUB	P'eng-hu	1.28	287		eP	Pg	10 54 38.2	-1.1
	baz=285								
PHUB					eS	Sb	10 54 55.9	+0.3
	baz=285								
PNG	Penghu	1.31	289		i P	Pg	10 54 39.0	-0.8
	baz=288								
PNG					eS	Sb	10 54 56.7	+0.2
	baz=288								
NNSB	Datong	1.35	19		eP	Pg	10 54 39.3	-1.4
	baz=23								
NNS	Nan Shan	1.36	18		eP	Pg	10 54 39.2	-1.6
	baz=14								
NNS					eS	Sg	10 54 57.8	-0.7
	baz=14								
VCHM	Qimei	1.36	273		i P	Pg	10 54 39.9	-0.9
	baz=272								
VCHM					eS	Sn	10 54 58.5	+0.3
	baz=272								
NMLH	Miaoli	1.39	356		eP	Pb	10 54 41.3	+0.4
	baz=355								
NMLH					eS	Sn	10 55 02.1	+3.2
	baz=355								
EAHA	Aohua	1.40	33		eP	Pn	10 54 40.5	-0.2
	baz=35								
EAHA					eS	Sg	10 54 58.9	-1.0
	baz=35								
NSTT	Nanjuang	1.48	3		eP	Pg	10 54 42.9	-0.3
	baz=349								
NSTT					eS	Sn	10 55 03.7	+2.5
	baz=349								
ENA	Nanau	1.49	31		eP	Pn	10 54 41.9	+0.1
	baz=34								
ENA					eS	Sn	10 55 03.1	+1.6
	baz=34								
NFF	Wufeng Townshi	1.49	8		P	Pg	10 54 43.9	+0.5
	baz=7.0								
NFF					i S	Sn	10 55 04.3	+2.7
	baz=7.0								
LATG	Datong	1.50	22		eP	Pn	10 54 41.9	-0.1
	baz=28								
LIOB	Emei	1.50	4		eP	Pg	10 54 43.8	+0.4
	baz=350								
LIOB					eS	Sn	10 55 04.3	+2.7
	baz=350								
EWUT	Wuta	1.52	32		eP	Pb	10 54 42.9	-0.3
	baz=47								
NDT	Datong Townshi	1.55	21		eP	Pn	10 54 42.9	+0.2
	baz=32								
NDT					eS	Sg	10 55 04.2	-0.5
	baz=32								
YHNB	Yeheng	1.58	16		P	Pb	10 54 43.7	-0.5
YHNB	Yeheng	1.58	16		eP	Pn	10 54 43.3	+0.2
	baz=15								
NSK	Sanguang	1.58	15		eP	Pn	10 54 43.5	+0.4
	baz=32								
NSK					eS	Sg	10 55 05.9	+0.4
	baz=32								
ENTT	Nioudou	1.60	22		P	Pb	10 54 44.5	-0.2
	baz=28								
SBCB	Hsinchu	1.64	3		eP	Pg	10 54 47.6	+1.4
	baz=340								
NDS	Dongshan	1.66	27		eP	Pg	10 54 46.0	-0.5
	baz=51								
ESAO	Su ao	1.66	31		eP	Pg	10 54 45.8	-0.9
	baz=45								
TWC	Suao	1.69	31		eP	Pb	10 54 46.1	0.0
	baz=33								
TWC					eS	Sg	10 55 08.6	-0.6
	baz=33								
NWLT	Wulai	1.71	19		eP	Pg	10 54 47.2	-0.4
	baz=10.0								
NWLT					eS	Sg	10 55 09.9	0.0
	baz=10.0								
TWE	Neicheng	1.72	24		eP	Pb	10 54 46.6	+0.1
	baz=40								
TWE					eS	Sg	10 55 09.5	-0.5
	baz=40								
EOS3	EOS3	1.72	49		eP	Pn	10 54 45.5	+0.6
	baz=52								
FUSB	Fushanzhiwuyua	1.72	21		eP	Pb	10 54 46.1	-0.6
	baz=20								
FUSB					eS	Sg	10 55 10.5	+0.3
	baz=20								
NCUH	Zhongli	1.83	8		eP	Pg	10 54 50.2	+0.3
	baz=7.0								
TWA	Mucha	1.93	19		eP	Pg	10 54 50.6	-1.1
	baz=34								
TWA					eS	Sg	10 55 18.0	+1.3
	baz=34								
TWS1	Kuangyinshan	2.00	14		eP	Pg	10 54 53.2	0.0
	baz=13								
TIPB	Shuangxi	2.00	25		eP	Pb	10 54 51.8	+0.3
	baz=47								
NWF	Wu-fen Shan	2.08	23		eP	Pg	10 54 53.4	-1.2
	baz=42								
NWF					eS	Sb	10 55 19.4	+0.7
	baz=42								
WFSB	Wu-fen Shan	2.08	23		eP	Pg	10 54 53.5	-1.1
	baz=24								
YM01	YM01	2.08	17		eP	Pb	10 54 53.2	+0.4
	baz=16								
TWB1	Santiao Chiao	2.10	28		eP	Pb	10 54 52.2	-0.9
	baz=48								
ANP	Anpu	2.11	15		eP	Pb	10 54 52.1	-1.1
	baz=14								
YM08	YM08	2.13	17		eP	Pb	10 54 52.8	-0.8
	baz=16								
SXI1	Grass Mountain	2.13	24		eP	Pb	10 54 52.6	-1.1
	baz=1.0								
VWUC	VWUC	2.27	324		eP	Pn	10 54 52.0	-0.5
	baz=322								
YOJ	Yonaguni jima	2.33	55		P	Pn	10 54 54.0	+0.6
IRIF	Iriomote-Funau	2.85	65		eP	Pn	10 55 01.5	+1.0
JIJ	Ishigaki jima	3.21	67		P	Pn	10 55 06.7	+1.3
JIJ					eS	Sn	10 55 45.2	+1.3
JISG	Ishigakijimahi	3.43	65		P	Pn	10 55 08.8	+0.3
JISG					eS	Sn	10 55 48.9	-0.6

*SKHL **03** 10:59:23.5±0.7, 42°.50N×146°.10E, h93km±5km, mb3.9/2, msha4.3/2*

JMA 03 10:59:22.9±0.2, 44°N±1°×14°5E±°, h142km±1km, MV2.1/25, NEMURO REGION, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNSB	Nemuroshibetsu	0.18	321	P	Pn	10 59 42.4	+0.2
JNSB				S	Sn	10 59 57.1	+0.3
JRA	Rausu	0.30	355	P	Pn	10 59 42.6	+0.1
JRA				S	Sn	10 59 56.9	-0.5
JNK	Nakash	0.32	261	P	Pn	10 59 42.6	0.0
JNK				S	Sn	10 59 57.0	-0.5
NMR	Nemuro--Hokkai	0.49	123	eP	Pn	10 59 43.1	-0.2
NMR				eS	Sn	10 59 57.6	-1.1
NEM2	Nemuro 2	0.50	122	i P	Pn	10 59 43.1	-0.2
NEM2				S	Sn	10 59 58.0	-0.8
JKHN	Kushirohamanak	0.55	180	i P	Pn	10 59 43.8	+0.2
JKHN				S	Sn	10 59 59.3	0.0
YUK	Yuzh-Kuril'sk	0.65	52	eS	Sn	11 00 10.1	+10
YUK				eP	Pn	10 59 50.0	+5.9
YUK				AMB	AMB	10 59 51.3	
	30nm,0.3s						
YUK				A	A	11 00 11.9	
	40nm,0.3s						
YUK				A	A	11 00 11.9	
	30nm,0.3s						
AKK	Akkeshi	0.66	201	eP	Pn	10 59 44.1	-0.2
AKK				eS	Sn	10 59 59.8	-0.7
JAK	Akkeshi	0.72	208	P	Pn	10 59 44.8	+0.1
JAK				S	Sn	11 00 01.0	-0.2
JTKR	Abashiri--Toko	0.97	291	P	Pn	10 59 46.4	-0.2
JTKR				eS	Sn	11 00 04.1	-0.5
JAR	Ashorobuto	1.07	252	P	Pn	10 59 48.0	+0.5
JAR				S	Sn	11 00 06.3	+0.1
JOB	Onbets	1.21	233	P	Pn	10 59 49.3	+0.4
JOB				S	Sn	11 00 08.5	-0.2
SHO	Shikotan	1.23	78	eS	Sn	11 00 07.9	-1.1
SHO				eP	Pn	10 59 48.6	-0.4
SHO				AMB	AMB	10 59 49.0	
	20nm,0.3s						
SHO				A	A	11 00 09.2	
	30nm,0.3s						
SHO				A	A	11 00 09.2	
	40nm,0.3s						
JMP	Maruseppu	1.35	287	P	Pn	10 59 50.0	-0.3
JCH	Churui	1.67	233	P	Pn	10 59 53.9	+0.3
JCH				S	Sn	11 00 16.1	-1.0
ASAJ	Asahikawa	1.91	285	P	Pn	10 59 56.8	+0.3

IDC 03 11:00:22.1±2.5, 8°38N×103°.02W, h0km, mb3.6/5, mbtmp3.6/5, MS3.7/4, Error ellipse: s-maj=116.9km s-min=26.6km az=56.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	20.85	358	P	P	11 05 06.2	+0.4
	0.9nm,0.8s,baz=180,slow=13,SNR=11						
	0.9nm,0.8s						
ANMO	Albuquerque	26.63	354	LR	LR	11 16 46.7	
	comp=Z,142nm,18.1s,baz=101,slow=37						
NVAR	Mina Array Bea	32.94	338	P	P	11 06 59.9	+1.2
	0.7nm,0.8s,baz=154,slow=11,SNR=5.8						
	0.7nm,0.8s						
LPAZ	La Paz	42.35	125	P	P	11 08 19.1	+0.1
	1.4nm,0.8s,baz=297,slow=6.8,SNR=5.1						
	1.4nm,0.8s						
H03N2	Juan Fernandez	47.48	152	T	T	12 00 14.3	
	baz=329,slow=78,SNR=3.9						
H03N1	Juan Fernandez	47.49	152	T	T	12 00 29.0	
	baz=329,slow=78,SNR=5.0						
H03N3	Juan Fernandez	47.49	152	T	T	12 00 23.2	
	baz=329,slow=78,SNR=4.0						
PPT	Papeete	52.73	241	LR	LR	11 26 42.0	
	comp=Z,59nm,18.1s,baz=111,slow=30						
YKA	Yellowknife Ar	54.67	353	P	P	11 09 51.9	-0.8
	0.4nm,0.8s,baz=164,slow=7.4,SNR=2.8						
YKA				LR	LR	11 33 39.1	
	comp=Z,103nm,18.7s,baz=74,slow=36						
	0.4nm,0.8s						
ILAR	Eielson Array	64.11	341	P	P	11 10 57.4	-0.5
	1.5nm,0.7s,baz=156,slow=4.9,SNR=22						
	1.5nm,0.7s						
SFJD	Kangerlussuaq	68.26	20	LR	LR	11 40 55.6	
	comp=Z,45nm,19.4s,baz=234,slow=36						

*NEIC **03** 11:35:36.6±1.1, 19°.415N±0°.004×155°.288W±0°.007, h3km±2km, Error ellipse: s-maj=0.9km s-min=0.5km az=107.0*

HVO 03 11:35:36.4±1.2, 19°.414N±0°.005×155°.273W±0°.005, h1km±2km, ML3.6/33, ML3.1/28(NEIC), Error ellipse: s-maj=0.9km s-min=0.4km az=141.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	Observatory Le	0.01	290		Pg	11 35 36.9	0.0
UWB	Uwekahuna B	0.01	337		Pg	11 35 36.9	0.0
BYL	Byron's Ledge	0.01	98		Pg	11 35 37.0	+0.1
BYL				Sg	Sg	11 35 38.0	+0.7
SBLHI	Steaming Bluff	0.01	20		Pg	11 35 37.1	+0.1
HATHI	Halema'uma'u T	0.01	52		Pg	11 35 37.0	+0.1
HATHI				Sg	Sg	11 35 38.2	+0.9
KKO	Keanakako`i	0.02	157		Pg	11 35 37.3	+0.3
RIM	Rim	0.02	182		Pg	11 35 37.3	+0.3
UWE	Uwekahuna	0.02	291		Pg	11 35 37.0	0.0
UWE				Sg	Sg	11 35 38.0	+0.6
WRMHI	West Rim	0.03	254		Pg	11 35 37.5	+0.5
SDHHI	Sand Hill	0.03	219		Pg	11 35 37.5	+0.5
RSD	Rainshed	0.05	355	Pg	Pg	11 35 37.8	+0.3
RSD				Sg	Sg	11 35 38.2	+0.1
RSD				IAML		11 35 38.4	
	comp=E,9μm,0.5s						
RSD				IAML		11 35 38.7	
	comp=N,15μm,0.4s						
PUH	Pauahi	0.07	126		Pg	11 35 38.4	+0.6
PUH				Sg	Sg	11 35 39.1	+0.4
PUH				IAML		11 35 39.6	
	comp=E,15μm,0.8s						
KNHH	Kane Nui o Ham	0.10	109		Pg	11 35 39.1	+0.7
HLP	Hilina Pali	0.12	196		Pg	11 35 39.7	+0.9
HLP				Sg	Sg	11 35 40.7	+0.3
HLP				IAML		11 35 42.8	
	comp=N,12μm,0.5s						
HLP				IAML		11 35 42.8	
	comp=E,10μm,0.4s						
STCH	Steam Cracks	0.14	101		Pg	11 35 38.8	-0.4
STCH				Sg	Sg	11 35 40.8	-0.3
STCH				IAML		11 35 43.7	
	comp=N,7μm,0.4s						
STCH				IAML		11 35 44.0	
	comp=E,9μm,0.8s						
NPOC	North of Pu'u	0.16	98		Pg	11 35 40.2	+0.8
JCUZ	Jacuzzi	0.17	100		Pg	11 35 40.4	+0.7
HTC	Hot Caves	0.21	214		Pg	11 35 41.2	+0.7
JOKA	Jonika Flow	0.25	86		Pg	11 35 41.8	+0.5
JOKA				Sg	Sg	11 35 44.1	-0.5
JOKA				IAML		11 35 49.6	
	comp=N,5μm,0.8s						
JOKA				IAML		11 35 49.8	
	comp=E,2μm,0.7s						
HMH	Humu'ula Sheep	0.27	314		Pg	11 35 41.5	-0.2
HMH				Sg	Sg	11 35 45.0	-0.3
HMH				IAML		11 35 51.1	
	comp=E,4μm,0.7s						
MLOA	Mauna Loa Obse	0.31	293	Pg	Pg	11 35 43.0	+0.6
MWH	Moku'aweowe	0.31	283		Pg	11 35 42.6	+0.2
MWH					Sg	11 35 45.4	-1.2
PAH	Pahoa	0.32	75	Pg	Pg	11 35 43.0	+0.5
KHU	Kahuku	0.36	243		Pg	11 35 43.5	0.0
ALEP	Alea Permanent	0.37	290		Pg	11 35 43.9	+0.3
HPO	Honuapo	0.42	219		Pg	11 35 44.2	-0.2
POHA	Pohakuloa	0.42	324	Pg	Pg	11 35 45.3	+0.8
HUH	Hualalai	0.59	297		Pg	11 35 48.2	+0.3
CPH	Captain Cook	0.61	277		Pg	11 35 47.9	-0.3
HPAH	Hawaii Prepara	0.73	327		Pg	11 35 49.5	-0.9
HPAH					Sg	11 35 59.2	-0.8
KKH	Kailua Kona	0.74	289	Pg	Pg	11 35 50.1	-0.6

*NEIC **03** 11:37:22.3±1.0, 19°.423N±0°.007×155°.263W±0°.005, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.2km az=225.0*

HVO 03 11:37:22.7±1.3, 19°.412N±0°.005×155°.259W±0°.007, h0km±3km, ML3.7/24, ML3.0/33(NEIC), Error ellipse: s-maj=1.0km s-min=0.8km az=125.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	Byron's Ledge	0.00	248		Pg	11 37 22.8	+0.1
BYL				Sg	Sg	11 37 23.4	+0.6
HATHI	Halema'uma'u T	0.01	351	Pg	Pg	11 37 22.9	0.0
HATHI				Sg	Sg	11 37 23.7	+0.6
KKO	Keanakako`i	0.02	204		Pg	11 37 23.4	+0.4
SBLHI	Steaming Bluff	0.02	330		Pg	11 37 23.2	+0.2
RIM	Rim	0.02	220		Pg	11 37 23.5	+0.4
UWB	Uwekahuna B	0.02	305		Pg	11 37 23.4	+0.3
OBL	Observatory Le	0.02	282		Pg	11 37 23.5	+0.3
UWE	Uwekahuna	0.03	285	Pg	Pg	11 37 23.1	-0.2
UWE				IAML		11 37 23.8	
	comp=E,17μm,0.8s						
UWE				Sg	Sg	11 37 23.9	+0.1
WRMHI	West Rim	0.04	261		Pg	11 37 24.0	+0.6
SDHHI	Sand Hill	0.04	235		Pg	11 37 24.4	+0.9
RSD	Rainshed	0.05	341	Pg	Pg	11 37 23.7	-0.1
RSD				Sg	Sg	11 37 24.4	0.0
RSD				IAML		11 37 25.2	
	comp=N,10μm,0.3s						
PUH	Pauahi	0.06	133		Pg	11 37 23.6	-0.1
PUH				Sg	Sg	11 37 25.0	+0.5
KNHH	Kane Nui o Ham	0.09	111		Pg	11 37 24.4	-0.1
HLP	Hilina Pali	0.12	202		Pg	11 37 25.0	-0.1
HLP				Sg	Sg	11 37 27.0	+0.3
HLP				IAML		11 37 28.4	
	comp=N,5μm,1.3s						
HLP				IAML		11 37 29.2	
	comp=E,6μm,0.4s						

STCH	**Steam Cracks**	**0.13 102**		Pg		11 37 24.9 -0.3
STCH			Sg	Sg		11 37 26.8 0.0
STCH			IAML			11 37 29.3
comp=E,8μm,0.5s						
NPOC	**North of Pu'u**	**0.14 98**		Pg		11 37 26.1 +0.7
JCUZ	**Jacuzzi**	**0.15 101**		Pg		11 37 26.3 +0.7
JOKA	**Jonika Flow**	**0.24 85**	Pg	Pg		11 37 26.8 -0.6
JOKA			Sg	Sg		11 37 31.7 +1.3
JOKA			IAML			11 37 35.0
comp=N,4μm,0.9s						
JOKA			IAML			11 37 35.0
comp=E,2μm,0.7s						
HMH	**Humu'ula Sheep**	**0.28 312**	Pg	Pg		11 37 27.8 -0.3
HMH			Sg	Sg		11 37 33.4 +1.6
HMH			IAML			11 37 37.4
comp=N,3μm,0.6s						
HMH			IAML			11 37 37.9
comp=E,2μm,0.6s						
PAH	**Pahoa**	**0.31 74**	Pg	Pg		11 37 27.9 -0.6
PAH			Sg	Sg		11 37 33.7 +1.2
MLOA	**Mauna Loa Obse**	**0.32 292**	Pg	Pg		11 37 28.1 -0.7
MLOA			Sg	Sg		11 37 33.2 +0.1
MLOA			IAML			11 37 37.5
comp=E,2μm,1.2s						
MLOA			IAML			11 37 40.1
comp=N,2μm,0.8s						
MWH	**Moku'aweowe**	**0.33 283**	Pg	Pg		11 37 28.2 -0.8
MWH			Sg	Sg		11 37 33.5 +0.3
KHU	**Kahuku**	**0.37 244**		Pg		11 37 29.2 -0.6
KHU			Sg	Sg		11 37 35.1 +0.4
KHU			IAML			11 37 36.0
comp=E,2μm,1.2s						
KHU			IAML			11 37 37.6
comp=N,2μm,1.2s						
HPO	**Honuapo**	**0.43 221**	Pg	Pg		11 37 30.6 -0.3
HPO				Sg		11 37 37.9 +1.5
POHA	**Pohakuloa**	**0.43 323**	Pg	Pg		11 37 30.4 -0.5
HUH	**Hualalai**	**0.61 297**	Pg	Pg		11 37 33.6 -0.7
HPAH	**Hawaii Prepara**	**0.74 326**	Pg	Pg		11 37 35.8 -1.1
KKH	**Kailua Kona**	**0.76 289**	Pg	Pg		11 37 36.2 -0.9

*IDC **03** 11:38:45.9±2.4, 32°.57N×132°.07E, h26km±16km, mb3.9/16, mbtmp4.0/21, ML3.4/5, MS3.4/13, Error ellipse: s-maj=16.4km s-min=13.1km az=79.0*
*NIED **03** 11:38:47.3, 32°.63N×132°.12E, h37km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=1.75; $M_{\theta\theta}$0.13; $M_{\phi\phi}$1.62; $M_{r\theta}$0.37; $M_{\theta\phi}$0.34; $M_{\phi r}$1.56; Fault plane solution: $M_0$2.35000×10^{15} NP1: ϕ_s193.00000°, δ66.00000°, λ-89.00000°. NP2:ϕ_s12.00000°, δ24.00000°, λ-91.00000°.*
*JMA **03** 11:38:47.3±0.0, 32°.6N±0°.2×132°.1E±0°.2, h37km, MD4.1/39, MV4.3/39, HYUGANADA REGION*
JMA Felt III J1 at HYUGANADA REGION .
*NEIC **03** 11:38:48.2±1.5, 32°.47N±0°.06×132°.05E±0°.06, h40km±6km, mb4.5/110, Error ellipse: s-maj=9.0km s-min=7.1km az=209.0*
ISC 03 11:38:46.7±0.9, 32°.55N±0°.04×132°.14E±0°.03, h31km±6km, n205, σ1$00/184, mb4.4/70, MS3.5/9, 1C-2D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSKE	**Saikikamae**	**0.32**	**321**	⇓*i*P	**Pb**	**11 38 54.7**	**+0.2**
JSKE				⇓S	**Sb**	**11 38 59.9**	**+0.1**
JSKE	**Saikikamae**	**0.32**	**321**	A	A	11 38 54.7	
comp=E,76nm,0.3s,comp=N,66nm,0.3s							
JHHC	**Hyugahichiya**	**0.44**	**256**	*i* P	**Pn**	**11 38 56.9**	**+0.1**
JHHC				S	**Sn**	**11 39 03.9**	**+0.2**
JHHC	**Hyugahichiya**	**0.44**	**256**	A	A	11 38 56.9	
comp=E,49nm,1.1s,comp=N,24nm,0.2s							
JKIT	**Kitakata**	**0.58**	**278**	*i* P	**Pb**	**11 38 58.7**	**+0.2**
JKIT				S	**Sb**	**11 39 06.8**	**+0.1**
JKIT	**Kitakata**	**0.58**	**278**	A	A	11 38 58.7	
comp=E,27nm,0.3s,comp=N,45nm,0.3s							
JUS	**Usuki**	**0.61**	**328**	*i* P	**Pb**	**11 38 58.4**	**-0.6**
JUS				S	**Sb**	**11 39 06.3**	**-1.1**
JUS	**Usuki**	**0.61**	**328**	A	A	11 38 58.4	
comp=E,35nm,1.5s,comp=N,27nm,1.1s							
JTSN	**Tsuno**	**0.61**	**241**	*i* P	**Pn**	**11 38 59.8**	**+0.5**
JTSN				S	**Sn**	**11 39 09.1**	**+1.0**
JTSN	**Tsuno**	**0.61**	**241**	A	A	11 38 59.8	
comp=E,9.0nm,0.9s,comp=N,17nm,1.5s							
JTO	**Tosashimizu**	**0.64**	**61**	*i* P	**Pb**	**11 38 59.5**	**0.0**
JTO				S	**Sb**	**11 39 08.2**	**-0.1**
JTO	**Tosashimizu**	**0.64**	**61**	A	A	11 38 59.5	
comp=E,9.0nm,1.1s,comp=N,9.0nm,1.6s							
UWA2	**Uwa jima 2**	**0.78**	**32**	*i* P	**Pn**	**11 39 00.8**	**-0.8**
UWA2				S	**Sb**	**11 39 10.7**	**-1.5**
UWA2	**Uwa jima 2**	**0.78**	**32**	A	A	11 39 00.8	
comp=E,6.0nm,3.8s,comp=N,6.0nm,5.9s							
JBEP	**Beppuamama**	**1.00**	**322**	A	A	11 39 04.1	
comp=E,29nm,0.9s,comp=N,22nm,1.3s							
JNA	**Nagahama**	**1.05**	**16**	P	**Pn**	**11 39 04.5**	**-0.7**
JNA				*e*S	**Sn**	**11 39 17.4**	**-1.3**
JNA	**Nagahama**	**1.05**	**16**	A	A	11 39 04.5	
comp=E,4.0nm,6.6s,comp=N,3.0nm,1.2s							
JKU	**Kubokawa**	**1.09**	**45**	P	**Pn**	**11 39 05.4**	**-0.4**
JKU	**Kubokawa**	**1.09**	**45**	A	A	11 39 05.4	
comp=E,4.0nm,4.1s,comp=N,6.0nm,2.1s							
JTZ	**Takazaki**	**1.10**	**234**	*i* P	**Pb**	**11 39 07.1**	**0.0**
JIU3	**Izumi3**	**1.12**	**270**	*i* P	**Pn**	**11 39 07.0**	**+0.8**
JIU3				*e*S	**Sb**	**11 39 22.2**	**+0.5**
JIU3	**Izumi3**	**1.12**	**270**	A	A	11 39 07.0	
comp=E,8.0nm,0.8s,comp=N,8.0nm,2.0s							
JKI	**Kunimi**	**1.18**	**336**	A	A	11 39 06.8	
comp=E,16nm,2.3s,comp=N,29nm,0.8s							
JNU	**Nakatsue**	**1.20**	**299**	Pg	**Pn**	**11 39 07.9**	**+0.5**
comp=N,864nm,0.3s,baz=107,slow=4.1,SNR=2171							
JNU				Lg	Lg	11 39 22.3	
comp=N,672nm,0.3s,baz=180,slow=23,SNR=23							
JNU	**Nakatsue**	**1.20**	**299**	A	A	11 39 07.6	
comp=E,7.0nm,2.9s,comp=N,8.0nm,0.8s							
JZO	**Okuchi**	**1.36**	**253**	A	A	11 39 10.8	
comp=E,6.0nm,2.1s,comp=N,9.0nm,2.2s							
JKHR	**Kochiharuno**	**1.49**	**50**	A	A	11 39 11.9	
comp=E,5.0nm,3.9s,comp=N,6.0nm,6.0s							
JHM	**Kurahashi**	**1.62**	**12**	A	A	11 39 13.3	
comp=E,4.0nm,1.5s,comp=N,2.0nm,1.9s							
JHD	**Hondo**	**1.69**	**268**	A	A	11 39 15.3	
comp=E,5.0nm,1.9s,comp=N,6.0nm,3.2s							
JFI	**Itaya**	**1.71**	**301**	A	A	11 39 15.0	
comp=E,3.0nm,5.2s,comp=N,4.0nm,3.5s							
JMN	**Monobe**	**1.88**	**51**	Pn	**Pn**	**11 39 18.0**	**+1.4**
JMN	**Monobe**	**1.88**	**51**	A	A	11 39 17.5	
comp=E,3.0nm,1.9s,comp=N,4.0nm,1.8s							
INU	**Inuyama**	**4.92**	**54**	Pn	**Pn**	**11 39 59.9**	**+1.4**
JGF	**Kuroka**	**5.29**	**53**	Pn	**Pn**	**11 40 05.3**	**+1.6**
JSG	**Sagara**	**5.47**	**66**	Pn	**Pn**	**11 40 07.9**	**+1.8**
TJN	**Taejon**	**5.49**	**315**	Pn	**Pn**	**11 40 06.3**	**0.0**
KSRS	**Korea Array**	**5.99**	**326**	Pn	**Pn**	**11 40 13.2**	**0.0**
comp=N,1.7nm,0.3s,baz=145,slow=15,SNR=16							
KSRS				Sn	**Sn**	**11 41 20.7**	**+0.1**
comp=N,1.5nm,0.3s,baz=147,slow=25,SNR=5.2							
KSRS				Lg	Lg	11 41 51.1	
comp=N,1.0nm,0.3s,baz=149,slow=32,SNR=5.4							
KSRS				LR	LR	11 42 45.2	
comp=N,258nm,20.3s,baz=140,slow=40							
comp=N,3.7nm,0.4s							
KSAR	**Wonju Array Be**	**6.00**	**326**	Pn	**Pn**	**11 40 14.1**	**+0.8**
KS19	**Wonju Array Si**	**6.06**	**326**	Pn	**Pn**	**11 40 14.5**	**+0.4**
MJB9	**Matsu-Tunnel**	**6.40**	**50**		**Pn**	**11 40 20.5**	**+1.7**
MAJO	**Matsushiro**	**6.40**	**50**	Pn	**Pn**	**11 40 20.1**	**+1.3**
MJAR	**Matsushiro Arr**	**6.40**	**50**	Pn	**Pn**	**11 40 19.2**	**+0.4**
comp=N,0.3nm,0.3s,baz=239,slow=13,SNR=17							
comp=N,3.4nm,0.6s							
JHJ	**Hachijo jima 2**	**6.46**	**83**	Pn	**Pn**	**11 40 20.4**	**+0.8**
comp=N,22nm,0.3s,baz=270,slow=20,SNR=16							
JHJ				Sn	**Sn**	**11 41 33.6**	**+1.3**
baz=58,slow=17							
comp=N,44nm,0.3s							
JHJ2	**Mitsune**	**6.49**	**83**	Pn	**Pn**	**11 40 21.5**	**+1.5**
JOW	**Kunigami**	**6.61**	**212**	Pn	**Pn**	**11 40 19.2**	**-2.6**
JOW	**Kunigami**	**6.61**	**212**	Pn	**Pn**	**11 40 22.4**	**+0.6**
comp=N,0.7nm,0.3s,baz=119,slow=18,SNR=2.0							
JOW				Sn	**Sn**	**11 41 33.9**	**-2.2**
comp=N,3.7nm,0.3s,baz=104,slow=27,SNR=11							
comp=N,19nm,1.0s							
INCN	**Inchon**	**6.68**	**319**	Pn	**Pn**	**11 40 21.4**	**-1.2**
JMZ	**Minamidaito 2**	**6.75**	**187**	Pn	**Pn**	**11 40 22.6**	**-1.0**
JCJ	**Chichijima**	**10.28**	**119**	Pn	**Pn**	**11 41 11.6**	**-0.4**
JCJ	**Chichijima**	**10.28**	**119**	LR	LR	11 44 35.7	
comp=N,122nm,21.0s,baz=284,slow=34							
NJ2	**Nanjing**	**11.25**	**271**	*e*P	**Pn**	**11 41 25.6**	**+0.3**
NJ2				pmax	pmax		
comp=Z,15nm,0.6s							
YOJ	**Yonaguni jima**	**11.37**	**227**	Pn	**Pn**	**11 41 24.6**	**-2.3**
USRK	**Ussuriysk Ar.**	**11.63**	**359**	Pn	**Pn**	**11 41 31.6**	**+1.1**
USA0B	**Ussuriysk Arra**	**11.63**	**359**	Pn	**Pn**	**11 41 31.4**	**+0.9**
ASAJ	**Asahikawa**	**14.15**	**32**	LR	LR	11 47 07.6	
comp=Z,67nm,20.2s,baz=310,slow=35							
HNS	**HongShan**	**15.08**	**294**	⇑P	**P**	**11 42 24.4**	**+2.0**
HNS				pmax	pmax		
comp=Z,16nm,0.8s							
KLR	**Kul'dur**	**16.67**	**359**	Pn	**Pn**	**11 42 38.5**	**+0.7**
comp=Z,0.4nm,0.3s,baz=172,slow=7.8,SNR=13							
KLR				LR	LR	11 48 29.5	
comp=Z,88nm,21.6s,baz=126,slow=35							
comp=Z,4.0nm,0.8s							
HEH	**HeiHe**	**18.03**	**350**	*e*P	**P**	**11 42 57.3**	**+2.3**
HHC	**Hu-ho-hao-te**	**18.43**	**303**	*e*P	**Pn**	**11 43 00.3**	**+0.5**
HHC				pP	pP	11 43 06.8	-1.0
HHC				pmax	pmax		
comp=Z,5.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,100nm,4.2s							
HHC				LR	LR		
comp=E,180nm,11.4s							
HHC				LR	LR		
comp=Z,250nm,14.2s							
LZH	**Lanzhou**	**23.60**	**286**	*e*P	**P**	**11 43 56.3**	**+1.3**
LZH				pP	pP	11 44 05.2	+1.5
LZH				pmax	pmax		
comp=Z,13nm,1.0s							
SONM	**Songino Array**	**24.74**	**316**	P	**P**	**11 44 04.4**	**-1.0**
SONM	**Songino Array**	**24.74**	**316**	P	**P**	**11 44 05.4**	**0.0**
comp=Z,1.6nm,0.7s,baz=136,slow=9.9,SNR=3.9							
comp=Z,1.6nm,0.7s							
PZH	**PanZhiHua**	**27.07**	**265**	P	**P**	**11 44 27.3**	**+0.6**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,100nm,4.8s							
PETK	**Petropavlovsk-**	**27.56**	**34**	P	**P**	**11 44 31.0**	**+0.4**
PETK	**Petropavlovsk-**	**27.56**	**34**	P	**P**	**11 44 30.5**	**-0.1**
comp=Z,2.3nm,0.9s,baz=222,slow=4.4,SNR=3.9							
comp=Z,2.3nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**33.56**	**104**	T	T	12 21 20.3	
baz=297,slow=75,SNR=5.5							
H11N1	**WAKE ISLAND Hy**	**33.56**	**104**	T	T	12 21 25.4	
baz=297,slow=75,SNR=3.7							
H11N3	**WAKE ISLAND Hy**	**33.58**	**104**	T	T	12 21 21.5	
baz=297,slow=75,SNR=4.6							
H11S3	**WAKE ISLAND Hy**	**34.01**	**106**	T	T	12 21 49.2	
baz=301,slow=76,SNR=8.2							
H11S1	**WAKE ISLAND Hy**	**34.01**	**106**	T	T	12 21 53.9	
baz=301,slow=76,SNR=7.2							
H11S2	**WAKE ISLAND Hy**	**34.02**	**106**	T	T	12 21 57.4	
baz=301,slow=76,SNR=4.5							
FAKI	**Fak Fak**	**35.27**	**180**	P	**P**	**11 45 36.8**	**-2.0**
KAPI	**Kappang**	**39.17**	**200**	LR	LR	12 01 13.7	
comp=Z,110nm,20.9s,baz=168,slow=34							
ZALV	**Zalesovo Beam**	**39.62**	**317**	LR	LR	12 03 47.1	
comp=Z,64nm,18.6s,baz=84,slow=38							
MKAR	**Makanchi Array**	**40.25**	**306**	P	**P**	**11 46 20.2**	**-0.4**
MKAR	**Makanchi Array**	**40.25**	**306**	P	**P**	**11 46 19.9**	**-0.7**
comp=Z,0.6nm,0.7s,baz=96,slow=9.4,SNR=4.6							
MKAR				LR	LR	12 04 12.7	
comp=Z,67nm,19.5s,baz=68,slow=38							
comp=Z,0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**42.95**	**311**	P	**P**	**11 46 43.0**	**+0.4**
comp=Z,0.4nm,0.6s,baz=98,slow=9.0,SNR=2.1							
KURBB				LR	LR	12 05 53.8	
comp=Z,83nm,19.5s,baz=180,slow=38							
comp=Z,0.4nm,0.6s							
NRIK	**Noril'sk**	**44.43**	**339**	P	**P**	**11 46 52.7**	**-1.5**
comp=Z,2.1nm,0.8s,baz=141,slow=6.9,SNR=1.8							
comp=Z,2.1nm,0.8s							
KSH	**Kashi**	**45.32**	**295**	P	**P**	**11 47 03.9**	**+2.0**
KSH				sP	sP	11 47 17.7	+2.8
KSH				pmax	pmax		
comp=Z,4.0nm,0.6s							
AAK	**Ala-Archa**	**45.98**	**300**	LR	LR	12 07 33.1	
comp=Z,44nm,19.0s,baz=124,slow=38							
KNRA	**Kununurra**	**48.06**	**184**	P	**P**	**11 47 23.9**	**+0.6**
BVAR	**Borovoye Array**	**48.07**	**314**	P	**P**	**11 47 21.1**	**-2.0**
comp=Z,0.5nm,0.6s,baz=141,slow=9.3,SNR=2.3							
comp=Z,0.5nm,0.6s							
KK31	**Karatay Array**	**48.81**	**301**	P	**P**	**11 47 28.4**	**-0.6**
KK31				IAmb	IAmb	11 47 40.1	
comp=Z,4.3nm,0.7s							
KKAR	**Karatay Array**	**48.81**	**301**	P	**P**	**11 47 27.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**50.74**	**188**	P	**P**	**11 47 43.5**	**-0.2**
E18K	**Tukpahlearik C**	**51.69**	**27**	P	**P**	**11 47 51.7**	**+1.4**
E18K				IAmb	IAmb	11 47 52.3	
comp=Z,3.9nm,0.7s							
H17K	**Granite Mounta**	**51.72**	**30**	P	**P**	**11 47 52.1**	**+1.5**
H17K				IAmb	IAmb	11 48 10.3	
comp=Z,7.5nm,1.4s							
J17K	**VABM Dome**	**52.00**	**32**	P	**P**	**11 47 54.4**	**+1.7**
J17K				IAmb	IAmb	11 48 09.7	
comp=Z,4.8nm,0.9s							
WB0	**Warramunga Arr**	**52.06**	**177**	P	**P**	**11 47 53.9**	**+0.3**
WRAB	**Tennant Creek**	**52.23**	**177**	P	**P**	**11 47 55.1**	**+0.3**
WRAB				IAmb	IAmb	11 48 22.8	
comp=Z,5.4nm,1.2s							
WB2	**Warramunga Arr**	**52.24**	**177**	P	**P**	**11 47 55.3**	**+0.4**
WRA	**Warramunga Arr**	**52.24**	**177**	P	**P**	**11 47 55.4**	**+0.4**
WRA	**Warramunga Arr**	**52.24**	**177**	P	**P**	**11 47 54.3**	**-0.7**
comp=Z,2.8nm,0.8s,baz=354,slow=8.1,SNR=31							
comp=Z,2.8nm,0.8s							
WR0	**Warramunga Arr**	**52.26**	**177**	P	**P**	**11 47 55.3**	**+0.2**
WR0				IAmb	IAmb	11 47 56.5	
comp=Z,6.3nm,0.9s							
K17K	**Iditarod**	**52.33**	**33**	P	**P**	**11 47 56.7**	**+1.6**
K17K				IAmb	IAmb	11 47 57.4	
comp=Z,10nm,1.4s							
H18K	**Honhosa River**	**52.39**	**30**	P	**P**	**11 47 57.0**	**+1.4**
F19K	**Shaleruckik Mo**	**52.73**	**28**	P	**P**	**11 47 58.0**	**-0.1**
F19K				IAmb	IAmb	11 48 12.6	
comp=Z,7.4nm,1.5s							
D19K	**Kuna River**	**52.73**	**26**	P	**P**	**11 47 59.3**	**+1.2**
D19K				IAmb	IAmb	11 48 02.1	
comp=Z,6.2nm,1.0s							
N17K	**Nushagak Hills**	**52.87**	**36**	P	**P**	**11 48 00.7**	**+1.5**
N17K				IAmb	IAmb	11 48 08.5	
comp=Z,6.0nm,1.4s							
E19K	**Redstone River**	**52.98**	**27**	P	**P**	**11 48 00.9**	**+1.0**
E19K				IAmb	IAmb	11 48 01.2	
comp=Z,3.1nm,0.7s							
L18K	**Granite Mounta**	**53.08**	**34**	P	**P**	**11 48 02.0**	**+1.3**
L18K				IAmb	IAmb	11 48 33.1	
comp=Z,5.8nm,1.4s							
H19K	**Roundabout Mou**	**53.21**	**30**	P	**P**	**11 48 03.1**	**+1.5**
B20K	**Meade River**	**53.22**	**24**	P	**P**	**11 48 02.5**	**+0.9**
J19K	**Poorman**	**53.55**	**31**	P	**P**	**11 48 05.0**	**+0.9**
J19K				IAmb	IAmb	11 48 20.7	
comp=Z,2.9nm,0.8s							
F20K	**Avaraart Lake**	**53.55**	**28**	P	**P**	**11 48 03.9**	**-0.2**
CHIR	**Chirikof Islan**	**54.03**	**42**	P	**P**	**11 48 08.7**	**+0.9**
J20K	**Nowinta River**	**54.19**	**31**	P	**P**	**11 48 09.7**	**+0.9**
J20K				IAmb	IAmb	11 48 11.0	
comp=Z,4.6nm,0.9s							
K20K	**Telida**	**54.25**	**32**	P	**P**	**11 48 10.9**	**+1.6**
K20K				IAmb	IAmb	11 48 12.1	
comp=Z,7.5nm,1.4s							
IMAR	**Indian Mountai**	**54.33**	**29**	P	**P**	**11 48 10.4**	**+0.6**
IMAR					**PcP**	**11 49 14.2**	**+0.7**
G21K	**Allakaket**	**54.42**	**28**	P	**P**	**11 48 10.9**	**+0.4**
G21K				IAmb	IAmb	11 48 12.7	
comp=Z,3.8nm,0.8s							
F21K	**Alatna River**	**54.43**	**27**	P	**P**	**11 48 11.5**	**+0.9**
JOHN	**Johnston Islan**	**54.69**	**92**	P	**P**	**11 48 13.2**	**+0.1**
H21K	**Melozitna Rive**	**54.72**	**29**	P	**P**	**11 48 13.9**	**+1.2**
D22K	**Ayikyak River**	**54.74**	**25**	P	**P**	**11 48 12.2**	**-0.5**
D22K				IAmb	IAmb	11 48 14.6	
comp=Z,4.9nm,0.9s							
ABKAR	**Akbulak array**	**54.99**	**310**	P	**P**	**11 48 13.9**	**-1.0**
E22K	**Anaktuvuk Pass**	**55.06**	**26**	P	**P**	**11 48 16.5**	**+1.3**
I21K	**Tanana**	**55.08**	**30**	P	**P**	**11 48 16.8**	**+1.5**
I21K				IAmb	IAmb	11 48 17.6	
comp=Z,3.1nm,0.9s							
CAST	**Castle Rocks**	**55.14**	**32**	P	**P**	**11 48 17.1**	**+1.3**
BPAW	**Bear Paw Mtn.**	**55.58**	**31**	P	**P**	**11 48 20.2**	**+1.3**
BPAW				IAmb	IAmb	11 48 39.6	
comp=Z,4.8nm,1.4s							
MLY	**Manley**	**55.62**	**30**		**P**	**11 48 20.7**	**+1.5**
G23K	**Bananza Creek**	**55.80**	**28**	P	**P**	**11 48 20.7**	**+0.2**
TOLK	**Toolik Lake Re**	**55.87**	**26**	P	**P**	**11 48 21.5**	**+0.5**
TOLK				IAmb	IAmb	11 48 35.8	
comp=Z,8.5nm,1.5s							
AS31	**Alice Springs**	**55.92**	**178**	P	**P**	**11 48 22.0**	**+0.2**
ASAR	**Alice Springs**	**55.92**	**178**	P	**P**	**11 48 22.3**	**+0.5**
ASAR	**Alice Springs**	**55.92**	**178**	P	**P**	**11 48 21.7**	**-0.1**
comp=Z,2.4nm,0.9s,baz=12,slow=13,SNR=21							
comp=Z,2.4nm,0.9s							
H23K	**Yukon River**	**56.06**	**29**	P	**P**	**11 48 23.7**	**+1.3**
H23K				IAmb	IAmb	11 48 24.8	
comp=Z,4.3nm,0.8s							
D24K	**Happy Valley**	**56.12**	**25**	P	**P**	**11 48 23.7**	**+1.0**
D24K				IAmb	IAmb	11 48 24.7	
comp=Z,3.3nm,0.8s							
I23K	**Minto, Yukon-K**	**56.19**	**30**	P	**P**	**11 48 23.8**	**+0.6**
BWN	**Browne**	**56.24**	**31**	P	**P**	**11 48 23.5**	**-0.1**
E24K	**Your Creek**	**56.31**	**26**	P	**P**	**11 48 25.4**	**+1.3**
NEA2	**Nenana**	**56.37**	**31**	P	**P**	**11 48 25.6**	**+1.1**
NEA2				IAmb	IAmb	11 48 26.2	
comp=Z,3.3nm,0.8s							
RC01	**Rabbit Creek A**	**56.47**	**35**	P	**P**	**11 48 25.5**	**+0.2**
RC01				IAmb	IAmb	11 48 26.6	
comp=Z,5.3nm,1.1s							
O22K	**Cooper Landing**	**56.55**	**36**	P	**P**	**11 48 27.7**	**+1.9**
F24K	**Squaw Lake**	**56.58**	**27**	P	**P**	**11 48 27.1**	**+1.0**
RND	**Reindeer**	**56.59**	**32**	P	**P**	**11 48 26.5**	**+0.3**
RND				IAmb	IAmb	11 48 39.1	
comp=Z,3.0nm,0.9s							
MDM	**Murphy Dome**	**56.69**	**30**	P	**P**	**11 48 28.1**	**+1.2**
MDM				IAmb	IAmb	11 48 28.6	
comp=Z,5.1nm,0.8s							
H24K	**Noodor Dome**	**56.74**	**29**	P	**P**	**11 48 28.2**	**+1.0**
GHO	**Glory Hole Cre**	**56.76**	**34**	P	**P**	**11 48 27.0**	**-0.5**
GHO				IAmb	IAmb	11 48 27.6	
comp=Z,5.7nm,1.1s							
G24K	**Hadweenzic Riv**	**56.81**	**28**	P	**P**	**11 48 28.8**	**+1.1**
CCB	**Clear Creek Bu**	**56.90**	**30**	P	**P**	**11 48 28.4**	**+0.1**
ILAR	**Eielson Array**	**57.28**	**30**	P	**P**	**11 48 30.8**	**-0.2**
comp=Z,0.8nm,0.7s,baz=289,slow=8.3,SNR=13							
comp=Z,0.8nm,0.7s							
BMAR	**Burnt Mountain**	**57.85**	**27**	P	**P**	**11 48 36.6**	**+1.6**
SCRK	**Sand Creek**	**58.65**	**31**	P	**P**	**11 48 40.8**	**0.0**
SCRK				IAmb	IAmb	11 48 41.7	
comp=Z,4.6nm,1.2s							
I26K	**Coal Creek Min**	**58.76**	**29**	P	**P**	**11 48 41.6**	**+0.2**
MENT	**Mentasta**	**58.96**	**32**	P	**P**	**11 48 43.9**	**+1.1**
MENT				IAmb	IAmb	11 48 44.7	
comp=Z,2.8nm,1.0s							
G27K	**Doyon Strip**	**59.08**	**27**	P	**P**	**11 48 45.2**	**+1.6**
K27K	**Chicken**	**59.46**	**31**	P	**P**	**11 48 47.4**	**+1.2**
K27K				IAmb	IAmb	11 48 48.0	
comp=Z,3.1nm,1.1s							
E28M	**Babbage River**	**59.53**	**25**	P	**P**	**11 48 47.0**	**+0.4**
F28M	**Old Crow**	**59.60**	**26**	P	**P**	**11 48 48.6**	**+1.4**
F28M				IAmb	IAmb	11 48 49.5	
comp=Z,5.3nm,1.4s							
L27K	**Beaver Creek,**	**59.78**	**32**	P	**P**	**11 48 49.7**	**+1.2**
BCAR	**Beaver Creek A**	**59.80**	**32**	P	**P**	**11 48 49.6**	**+0.9**
M27K	**Edge Creek, AK**	**59.92**	**33**	P	**P**	**11 48 50.5**	**+0.9**
I28M	**Miner Creek**	**60.05**	**29**	P	**P**	**11 48 51.6**	**+1.2**
I28M				IAmb	IAmb	11 48 52.1	
comp=Z,2.0nm,0.7s							
E29M	**Blow River**	**60.16**	**25**	P	**P**	**11 48 52.0**	**+1.1**
E29M				IAmb	IAmb	11 49 24.4	
comp=Z,4.8nm,1.4s							
G29M	**Pine Creek**	**60.46**	**27**	P	**P**	**11 48 54.7**	**+1.6**
G29M				IAmb	IAmb	11 49 35.9	
comp=Z,5.2nm,1.1s							
H29M	**Whitestone**	**60.50**	**28**	P	**P**	**11 48 53.9**	**+0.6**
H29M				IAmb	IAmb	11 48 55.4	
comp=Z,4.2nm,1.1s							
FUNA	**Funafuti**	**60.65**	**124**	P	**P**	**11 48 53.8**	**-1.2**
EPYK	**Eagle Plains**	**61.10**	**27**	P	**P**	**11 48 58.4**	**+0.9**
G30M	**tAoh Zraii Nji**	**61.13**	**27**	P	**P**	**11 48 58.2**	**+0.5**
L29M	**L29M**	**61.40**	**31**	P	**P**	**11 49 00.1**	**+0.5**
M29M	**Somme Creek**	**61.44**	**32**	P	**P**	**11 49 01.1**	**+1.2**
K29M	**Barlow Dome**	**61.46**	**30**	P	**P**	**11 49 01.0**	**+1.0**
I30M	**Mount Dempster**	**61.55**	**29**	P	**P**	**11 49 01.8**	**+1.1**
I30M				IAmb	IAmb	11 49 02.6	
comp=

PV05	Paradox Valley	89.53	44	P	P	11 51 42.5	+1.1
PV03	Paradox Valley	89.56	44	P	P	11 51 42.5	+1.0
PV15	Paradox Valley	89.72	43	P	P	11 51 43.1	+0.8
PV01	Paradox Valley	89.80	43	P	P	11 51 43.6	+1.0
TXAR	Lajitas Array	98.83	47	P	Pdif	11 52 24.3	+0.3
	comp=Z,0.4nm,0.8s,baz=278,slow=3.1,SNR=5.5						
	comp=Z,0.4nm,0.8s						
LPAZ	La Paz	155.52	53	PKPab	PKPab	11 59 03.6	-0.7
	comp=Z,0.9nm,0.6s,baz=307,slow=5.1,SNR=5.3						

TAP ***03*** *11:48:44.3,23.°14N×120.°91E,h1km,ML3.6,C*
ASIES ***03*** *11:48:44.3,23.°14N×120.°91E,h1km,ML3.6,Mw3.3,*
Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm;
M_{rr}-7.17; $M_{\theta\theta}$3.32; $M_{\phi\phi}$3.77; $M_{r\theta}$5.31; $M_{\theta\phi}$-6.22; $M_{\phi r}$2.73;
Fault plane solution: $M_0$10.61600×10^{20} NP1:
ϕ_s286.08000°,δ59.87000°,λ-129.44000°. NP2:
ϕ_s164.69000°,δ48.09000°,λ-42.41000°. Principal axes:
T Plg6.7430°, Azm42.9730°; N Plg33.3300°,
Azm308.5140°; P Plg55.8150°, Azm142.9980°;
JMA ***03*** *11:48:45.4±0.1,23.°14N±0.°08×121.°0E±0.°3,h4km±1km,*
MV3.3/11,TAIWAN REGION
ISC 03 11:48:45.1±0.9,23.°14N±0.°01×120.°91E±0.°01,h6km±7km,
n157,σ0.9°94/304,24C-8D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	Lidau	0.11	63	⇑iP	Pg	11 48 47.5	0.0
ELDTW	baz=64			eS	Sg	11 48 49.4	+0.2
STYH	Taoyuan	0.13	285	⇑iP	Pg	11 48 47.5	-0.2
STYH	baz=286			S	Sg	11 48 49.4	0.0
STYT	Tauyuan	0.14	281	⇑iP	Pg	11 48 47.7	-0.3
STYT	baz=280			iS	Sg	11 48 50.0	0.0
EHD	Haiduan	0.27	87	⇑P	Pg	11 48 50.7	+0.3
EHD	baz=87			iS	Sg	11 48 54.5	+0.5
SLGT	Liugui	0.28	239	⇑iP	Pg	11 48 50.8	+0.2
SLGT	baz=230			iS	Sg	11 48 55.2	+0.9
ECS	Chishang	0.29	98	⇑iP	Pb	11 48 51.3	-1.4
ECS	baz=98			S	Sb	11 48 55.9	-1.8
WTP	Ta-pu	0.29	292	⇓iP	Pb	11 48 51.3	-1.4
WTP	baz=293			iS	Sb	11 48 56.4	-1.5
SGST	Jiashian	0.30	260	⇑iP	Pg	11 48 50.5	-0.5
SGST	baz=250			iS	Sg	11 48 55.4	+0.4
TPUB	Ta-pu	0.30	302	P	Pb	11 48 51.8	-1.1
TPUB	Ta-pu	0.30	302	⇓iP	Pb	11 48 51.6	-1.3
TPUB	baz=303			iS	Sb	11 48 56.5	-1.7
LONT	Longtian	0.31	138	⇓P	Pg	11 48 51.4	+0.3
LONT	baz=139			iS	Sg	11 48 55.7	+0.6
TWG	Pinlang	0.35	154	iP	Pb	11 48 52.2	-1.4
TWG	baz=146			S	Sg	11 48 57.3	+0.9
CHN1	Nanshi	0.35	278	P	Pb	11 48 53.0	-0.8
CHN1	baz=278			S	Sb	11 48 59.4	-0.3
YUS	Yu-Shan	0.35	7	⇑iP	Pg	11 48 51.9	-0.2
YUS	baz=18			iS	Sg	11 48 57.1	+0.2
TWGBT	Beinan	0.35	154	P	Pb	11 48 52.4	-1.4
TWGBT	Beinan	0.35	154	⇑P	Pg	11 48 52.2	+0.2
TWGBT	baz=146			S	Sg	11 48 57.1	+0.5
CHN4	Tsaushan	0.36	306	⇓iP	Pb	11 48 52.9	-1.0
CHN4	baz=307			iS	Sb	11 48 58.7	-1.1
FULB	Fuli	0.36	80	⇑iP	Pb	11 48 53.0	-1.0
FULB	baz=67			iS	Sb	11 48 58.5	-1.3
SNST	Tainan City	0.39	282	P	Pb	11 48 53.7	-0.6
SNST	baz=283			S	Sb	11 49 00.6	0.0
EDH	Donghe	0.40	114	iP	Pb	11 48 53.4	-1.2
EDH	baz=126			S	Sb	11 49 00.2	-0.7
TWK	Hsinying	0.41	289	⇓iP	Pb	11 48 54.0	-0.7
TWK	baz=289			iS	Sb	11 49 01.1	-0.1
WCKO	Fanlu	0.41	317	⇓P	Pb	11 48 53.8	-0.9
WCKO	baz=329			S	Sb	11 49 00.6	-0.7
TWF1	Yuli	0.42	59	⇑iP	Pg	11 48 53.3	+0.1
TWF1	baz=59			iS	Sg	11 48 58.7	+0.1
CHKT	Chengkung	0.42	95	⇑iP	Pb	11 48 54.5	-0.4
CHKT	baz=95			iS	Sb	11 49 01.7	+0.1
EYUL	Yuli	0.43	61	⇑iP	Pg	11 48 53.6	+0.1
EYUL	baz=60			S	Sg	11 48 59.2	+0.1
YULB	Yu-li	0.44	55	P	Pg	11 48 53.3	-0.3
YULB	Yu-li	0.44	55	⇑iP	Pg	11 48 53.4	-0.1
YULB	baz=54			eS	Sg	11 48 59.7	+0.4
TTN	Taitung	0.44	150	eP	Pb	11 48 55.3	+0.1
TTN	baz=140			S	Sb	11 49 02.0	-0.1
CHKH	Chenggong	0.45	83	P	Pb	11 48 54.5	-0.9
CHKH	baz=72			eS	Sb	11 49 02.1	-0.3
SCST	Cishan	0.46	237	⇑P	Pb	11 48 54.6	-0.9
SCST	baz=238			iS	Sb	11 49 05.0	+2.5
CHN3	Shinhua	0.50	263	iP	Pb	11 48 57.2	+0.9
CHN3	baz=266			S	Sn	11 49 06.5	-1.3
EHY	Hungye	0.53	46	⇑iP	Pg	11 48 55.1	-0.2
EHY	baz=46			iS	Sg	11 49 01.9	-0.3
SHHT	Tainan City	0.53	258	P	Pn	11 48 58.2	-0.9
SHHT	baz=261			S	Sn	11 49 07.8	-0.6
ECBN	Changbin	0.53	70	P	Pb	11 48 56.4	-0.4
ECBN	baz=59			eS	Sb	11 49 04.7	0.0
EHYH	Wanrong	0.54	48	⇑iP	Pg	11 48 55.3	-0.1
EHYH	baz=48			S	Sg	11 49 02.4	0.0
ECL	Taimali	0.54	176	iP	Pg	11 48 55.2	-0.2
ECL	baz=175			iS	Sg	11 49 02.3	-0.2
TWM1	Shoushan	0.55	235	iP	Pb	11 48 57.1	0.0
TWM1	baz=235			S	Sn	11 49 07.1	-1.8
WHYT	Xinyi Township	0.56	355	⇑P	Pb	11 48 56.1	-1.2
WHYT	baz=4.0			S	Sg	11 49 03.8	+0.6
CHN2	Minshiung	0.56	315	iP	Pb	11 48 57.6	+0.3
CHN2	baz=314			S	Sb	11 49 07.1	+1.5
SSHA	Shanhua	0.57	270	eP	Pn	11 48 58.5	-1.2
SSHA	baz=285			eS	Sn	11 49 09.1	-0.4
CHY	Chiayi	0.57	309	P	Pb	11 48 57.5	0.0
CHY	baz=309			S	Sb	11 49 07.1	+1.2
MASBT	Mashibuluo	0.58	206	⇑P	Pg	11 48 55.8	-0.5
MASBT	baz=215			eS	Sg	11 49 03.2	-0.6
HGSD	Ruisui	0.59	53	⇑P	Pb	11 48 56.9	-0.9
HGSD	baz=41			eS	Sb	11 49 05.2	-1.2
TSPT	Pingtung City	0.59	220	eP	Pb	11 48 57.9	+0.1
TSPT	baz=213			eS	Sb	11 49 07.4	+0.8
WGK	Gukeng	0.63	330	iP	Pb	11 48 58.8	+0.2
WGK	baz=330			iS	Sb	11 49 09.1	+1.4
TAI1	Yung-k'ang	0.63	261	eP	Pn	11 49 00.7	+0.2
TAI1	baz=279			eS	Sn	11 49 09.7	-1.3
WDLH	Douliu	0.65	328	P	Pb	11 48 59.0	+0.3
WDLH	baz=327			S	Sb	11 49 09.5	+1.4
SSLB	Suanglung	0.65	4	P	Pg	11 48 57.2	-0.4
SSLB	Suanglung	0.65	4	P	Pg	11 48 57.1	-0.5
SSLB	baz=3.0			eS	Sg	11 49 05.4	-0.7
VWDT	VWDT	0.65	19	⇑P	Pg	11 48 56.9	-0.7
VWDT	baz=13			S	Sb	11 49 06.8	-1.4
SNJT	Kaohsiung City	0.65	234	P	Pn	11 49 00.4	-0.5
SNJT	baz=223			S	Sn	11 49 12.7	+1.3
SCLT	Jiali	0.66	273	iP	Pn	11 48 59.9	-1.0
SCLT	baz=274			eS	Sb	11 49 09.2	+0.8
TAI	Tainan	0.67	258	eP	Pb	11 48 58.9	-0.2
TAI	baz=258			S	Sn	11 49 11.8	-0.1
CHN8	Yiju	0.67	288	iP	Pb	11 48 59.6	+0.4
CHN8	baz=289			S	Sn	11 49 10.9	-1.1
LDUT	Ludao	0.69	132	P	Pb	11 48 59.1	-0.4
LDUT	baz=132			S	Sb	11 49 09.9	+0.5
WJS	Zhushan	0.70	346	P	Pb	11 49 00.1	+0.3
WJS	baz=357			S	Sn	11 49 11.3	-1.4
EGFH	Guangfu	0.71	42	iP	Pg	11 48 58.5	-0.3
EGFH	baz=52			S	Sg	11 49 08.2	+0.2
WARBT	Fenglin Townsh	0.73	37	⇑P	Pg	11 48 58.3	-0.8
WARBT	baz=47			S	Sb	11 49 09.0	-1.4
WSL	Shuilin Townsh	0.73	302	P	Pb	11 49 00.7	+0.5
WSL	baz=302			eS	Sn	11 49 12.8	-0.7
SMLT	Sun Moon Lake	0.74	359	⇑iP	Pb	11 48 59.4	-1.1
SMLT	baz=7.0			eS	Sb	11 49 11.6	+0.7
EAST	Anshuo	0.75	184	iP	Pg	11 48 59.3	-0.2
EAST	baz=185			iS	Sb	11 49 10.0	-1.1
TSCK	Chigu Township	0.76	271	P	Pn	11 49 01.9	-0.3
TSCK	baz=289			S	Sn	11 49 14.7	+0.7
TYC	Yuchr	0.77	356	iP	Pb	11 49 00.1	-0.7
TYC	baz=4.0			iS	Sb	11 49 12.4	+0.9
WNT	Mingjian	0.77	344	iP	Pb	11 49 01.4	+0.5
WNT	baz=344			iS	Sn	11 49 12.9	-1.4
TAW	Tawu	0.78	181	iP	Pb	11 48 59.9	-1.0
TAW	baz=181			eS	Sb	11 49 10.8	-0.9
TAWH	Dawu Township	0.79	181	P	Pg	11 48 60.0	-0.3
TAWH	baz=182			S	Sg	11 49 10.9	+0.3
WNT1	Nantou City	0.80	345	P	Pn	11 49 02.2	-0.6
WNT1	baz=343			S	Sn	11 49 14.5	-0.5
WSF	Szhu	0.80	308	iP	Pb	11 49 01.7	+0.2
WSF	baz=308			iS	Sn	11 49 14.2	-1.0
SCZT	Fangliau	0.81	199	P	Pg	11 49 00.2	-0.4
SCZT	baz=190			S	Sg	11 49 11.2	+0.2
ESL	Shilin	0.83	35	iP	Pg	11 49 00.3	-0.6
ESL	baz=44			eS	Sb	11 49 13.3	-0.1
OWD	Renai	0.85	17	eP	Pg	11 49 00.2	-1.3
OWD	baz=4.0			eS	Sb	11 49 13.1	-1.0
WPL	Puli Township	0.87	3	P	Pg	11 49 01.6	-0.2
WPL	baz=9.0			S	Sb	11 49 15.4	+0.8
WUSB	Renai	0.87	13	⇑eP	Pg	11 49 00.8	-1.0
WUSB	baz=11			eS	Sb	11 49 13.7	-1.0
WYL	Yuanlin Townsh	0.87	340	eP	Pn	11 49 03.1	-0.8
WYL	baz=340			S	Sn	11 49 16.5	-0.4
SHUL	Shoufeng	0.88	43	iP	Pb	11 49 01.9	-0.9
SHUL	baz=41			eS	Sb	11 49 14.9	0.0
DPDB	Guoxing	0.89	1	iP	Pb	11 49 02.2	-0.8
DPDB	baz=13			S	Sb	11 49 16.1	+0.9
RLNB	Erlin	0.90	326	eP	Pg	11 49 01.8	-0.7
RLNB	baz=325			S	Sn	11 49 17.0	-0.7
WRL	Guolierlin Hig	0.90	327	P	Pb	11 49 03.3	+0.1
WRL	baz=327			iS	Sb	11 49 16.3	+0.8
WCS	Beigang Elemen	0.92	0	P	Pb	11 49 02.8	-0.6
WCS	baz=7.0			S	Sb	11 49 16.9	+1.0
WWF	Wufeng	0.92	348	P	Pn	11 49 04.0	-0.6
WWF	baz=347			S	Sn	11 49 18.1	0.0
WTCT	Ta-ch'eng	0.93	322	eP	Pg	11 49 01.8	-1.0
WTCT	baz=321			iS	Sn	11 49 17.6	-0.6
CHGB	Renai	0.95	15	eP	Pg	11 49 02.1	-1.2
CHGB	baz=24			S	Sb	11 49 17.6	+0.5
TEYL	Yanliau Villag	0.96	41	eP	Pn	11 49 04.6	-0.5
TEYL	baz=48			eS	Sn	11 49 18.5	-0.7
ETM	Tongmen	0.98	33	P	Pg	11 49 03.7	-0.3
ETM	baz=32			eS	Sb	11 49 17.2	-0.6
LXIB	Xiulin Townshi	0.99	28	P	Pg	11 49 03.6	-0.6
LXIB	baz=40			S	Sn	11 49 19.3	-0.8
HWA	Hwalien	1.05	37	iP	Pb	11 49 05.6	-0.1
HWA	baz=25			eS	Sb	11 49 20.2	+0.5
WHF	Hehuan Shan	1.05	18	iP	Pg	11 49 05.0	-0.4
WHF	baz=33			iS	Sb	11 49 21.2	+0.9
TWD	Chiawan	1.13	34	iP	Pb	11 49 06.4	-0.7
TWD	baz=34			iS	Sn	11 49 22.8	-0.6
TDCB	Techi	1.14	12	eP	Pg	11 49 06.1	-0.8
TDCB	baz=10.0			eS	Sb	11 49 22.7	+0.5
WHP	Taichung City	1.14	2	P	Pn	11 49 07.7	+0.1
WHP	baz=10.0			eS	Sn	11 49 24.6	+1.1
HEN	Hengchun	1.14	188	eP	Pn	11 49 08.6	+1.0
HEN	baz=181			eS	Sn	11 49 24.1	+0.7
TWT	Tachien	1.14	12	iP	Pn	11 49 07.3	-0.4
TWT	baz=10.0			eS	Sn	11 49 24.0	+0.3
FUSS	Fushou	1.15	15	P	Pg	11 49 05.8	-1.3
FUSS	baz=6.0			eS	Sn	11 49 25.0	+0.9
WDGT	Dungji	1.16	276	iP	Pb	11 49 07.0	-0.5
WDGT	baz=276			iS	Sn	11 49 23.4	-0.5
TWK1	Hengchun	1.19	185	eP	Pn	11 49 08.8	+0.5
TWK1	baz=185			eS	Sn	11 49 25.9	+1.1
TWKBT	Hengchun	1.19	184	eP	Pn	11 49 09.2	+0.9
TWKBT	baz=185			eS	Sn	11 49 27.2	+2.3
NACB	Ninganchiao	1.21	31	P	Pg	11 49 07.5	-0.8
NACB	Ninganchiao	1.21	31	iP	Pg	11 49 07.7	-0.6
NACB	baz=32			S	Sb	11 49 24.2	0.0
ETL	Fush Village	1.21	33	P	Pg	11 49 07.8	-0.5
ETL	baz=33			eS	Sn	11 49 26.4	+1.1
WDJ	Dajia District	1.23	349	P	Pn	11 49 09.5	+0.6
WDJ	baz=347			iS	Sn	11 49 28.3	+2.5
NSY	Sanyi	1.28	354	iP	Pn	11 49 10.4	+0.9
NSY	baz=353			iS	Sn	11 49 29.1	+2.0
PHUB	P'eng-hu	1.28	287	P	Pg	11 49 08.9	-0.8
PHUB	baz=286			S	Sb	11 49 26.3	-0.1
PNG	Penghu	1.31	289	iP	Pg	11 49 09.3	-1.0
PNG	baz=289			iS	Sb	11 49 27.4	+0.1
NNSB	Datong	1.36	19	⇓eP	Pg	11 49 09.8	-1.4
NNSB	baz=29			S	Sn	11 49 30.1	+1.0
NNSH	Datong	1.36	19	P	Pn	11 49 10.6	-0.1
NNSH	baz=10.0			eS	Sn	11 49 32.3	+3.2
VCHM	Qimei	1.36	273	iP	Pg	11 49 10.1	-1.1
VCHM	baz=272			iS	Sn	11 49 28.9	-0.1
NNS	Nan Shan	1.36	18	eP	Pg	11 49 09.9	-1.4
NNS	baz=29			eS	Sn	11 49 31.6	+2.4
NMLH	Miaoli	1.40	356	P	Pb	11 49 12.8	+1.2
NMLH	baz=354			S	Sn	11 49 32.7	+2.7
EAHA	Aohua	1.41	33	P	Pn	11 49 11.0	-0.2
EAHA	baz=34			eS	Sn	11 49 31.2	+1.0
NSTT	Nanjuang	1.49	3	iP	Pg	11 49 14.0	+0.3
NSTT	baz=7.0			iS	Sn	11 49 35.3	+3.1
ENA	Nanau	1.50	31	iP	Pg	11 49 13.2	-0.5
ENA	baz=33			iS	Sn	11 49 33.2	+0.9
NFF	Wufeng Townshi	1.50	7	P	Pg	11 49 14.0	+0.2
NFF	baz=9.0			S	Sn	11 49 35.1	+2.5
LATG	Datong	1.50	22	iP	Pb	11 49 12.9	-0.6
LATG	baz=34			S	Sn	11 49 34.4	+1.8
LIOB	Emei	1.50	4	iP	Pg	11 49 14.1	+0.2
LIOB	baz=8.0			S	Sn	11 49 35.3	+2.7
EWUT	Wuta	1.53	31	P	Pb	11 49 13.4	-0.4
EWUT	baz=33			S	Sg	11 49 34.0	-0.2
NDT	Datong Townshi	1.56	21	P	Pb	11 49 13.7	-0.7
NDT	baz=30			S	Sg	11 49 36.2	+0.9
YHNB	Yeheng	1.58	16	P	Pn	11 49 13.9	+0.1
YHNB	Yeheng	1.58	16	iP	Pn	11 49 13.9	+0.1
YHNB	baz=30			S	Sg	11 49 36.1	0.0
NSK	Sanguang	1.59	15	iP	Pg	11 49 14.8	-0.7
NSK	baz=30			iS	Sg	11 49 36.9	+0.8
ENTT	Nioudou	1.61	22	eP	Pg	11 49 15.3	-0.7
ENTT	baz=32			eS	Sg	11 49 38.4	+1.4
EOS4	EOS4	1.62	53	eP	Pb	11 49 14.7	-0.5
EOS4	baz=70			eS	Sn	11 49 35.2	+0.3
HSN1	Hsinchu	1.64	3	eP	Pg	11 49 17.6	+1.1
HSN1	baz=9.0			eS	Sg	11 49 39.2	+1.4
SBCB	Hsinchu	1.65	2	eP	Pg	11 49 17.4	+0.7
SBCB	baz=8.0			eS	Sg	11 49 39.9	+1.7
NDS	Dongshan	1.66	26	P	Pg	11 49 16.2	-0.8

	baz=42								
NDS					*e*S		**Sg**	**11 49 38.5**	**0.0**
	baz=42								
ESAO	**Su ao**	**1.67**	**31**		P		**Pb**	**11 49 15.9**	**-0.3**
	baz=33								
ESAO					S		**Sg**	**11 49 38.3**	**-0.5**
	baz=33								
TWC	**Suao**	**1.70**	**30**	⇓	*i* P		**Pb**	**11 49 16.6**	**-0.1**
	baz=33								
TWC					*i* S		**Sg**	**11 49 39.3**	**-0.4**
	baz=33								
NWLT	**Wulai**	**1.72**	**18**		P		**Pg**	**11 49 17.1**	**-1.0**
	baz=21								
NWLT					S		**Sg**	**11 49 41.0**	**+0.6**
	baz=21								
TWE	**Neicheng**	**1.72**	**24**		*i* P		**Pg**	**11 49 17.3**	**-0.8**
	baz=38								
TWE					S		**Sg**	**11 49 41.4**	**+0.9**
	baz=38								
EOS3	**EOS3**	**1.73**	**48**		*e*P		**Pn**	**11 49 15.5**	**0.0**
	baz=48								
EOS3					*e*S		**Sn**	**11 49 37.0**	**-0.7**
	baz=48								
FUSB	**Fushanzhiwuyua**	**1.73**	**21**		*i* P		**Pg**	**11 49 17.6**	**-0.7**
	baz=24								
FUSB					S		**Sg**	**11 49 42.4**	**+1.6**
	baz=24								
EOS2	**EOS2**	**1.76**	**43**		*e*P		**Pn**	**11 49 15.8**	**-0.2**
	baz=59								
EOS2					*e*S		**Sn**	**11 49 37.7**	**-0.9**
	baz=59								
NCUH	**Zhongli**	**1.84**	**8**		P		**Pb**	**11 49 18.9**	**-0.3**
	baz=13								
NCUH					*e*S		**Sg**	**11 49 43.4**	**-0.8**
	baz=13								
NHDH	**Xindian Distri**	**1.90**	**17**		P		**Pg**	**11 49 20.7**	**-0.9**
	baz=20								
NHDH					S		**Sg**	**11 49 45.9**	**-0.4**
	baz=20								
TWA	**Mucha**	**1.94**	**18**		*i* P		**Pb**	**11 49 20.7**	**-0.1**
	baz=22								
TWA					S		**Sg**	**11 49 47.3**	**-0.1**
	baz=22								
EGS		**1.94**	**29**		*i* P		**Pb**	**11 49 20.7**	**-0.2**
	baz=45								
EGS					*e*S		**Sg**	**11 49 46.1**	**-1.4**
	baz=45								
TIPB	**Shuangxi**	**2.01**	**24**		*i* P		**Pb**	**11 49 21.3**	**-0.8**
	baz=41								
TIPB					S		**Sb**	**11 49 47.8**	**+0.5**
	baz=41								
TWS1	**Kuangyinshan**	**2.01**	**13**		*e*P		**Pb**	**11 49 21.8**	**-0.2**
	baz=28								
TWS1					S		**Sg**	**11 49 49.5**	**-0.2**
	baz=28								
NTST	**Danshui**	**2.08**	**14**		*e*P		**Pb**	**11 49 23.3**	**+0.1**
	baz=17								
NTST					S		**Sb**	**11 49 49.1**	**-0.2**
	baz=17								
NWF	**Wu-fen Shan**	**2.08**	**22**		*i* P		**Pb**	**11 49 23.1**	**-0.3**
	baz=40								
NWF					S		**Sg**	**11 49 50.5**	**-1.5**
	baz=40								
WFSB	**Wu-fen Shan**	**2.08**	**22**		P		**Pg**	**11 49 23.6**	**-1.4**
	baz=40								
WFSB					*e*S		**Sb**	**11 49 50.0**	**+0.5**
	baz=40								
YM01	**YM01**	**2.09**	**17**		P		**Pb**	**11 49 23.6**	**+0.1**
	baz=19								
YM01					S		**Sg**	**11 49 51.3**	**-1.0**
	baz=19								
TWB1	**Santiao Chiao**	**2.11**	**28**		P		**Pb**	**11 49 22.2**	**-1.5**
	baz=44								
TWB1					*e*S		**Sb**	**11 49 49.9**	**-0.3**
	baz=44								
ANP	**Anpu**	**2.12**	**15**		*i* P		**Pb**	**11 49 23.3**	**-0.6**
	baz=18								
ANP					S		**Sg**	**11 49 51.6**	**-1.5**
	baz=18								
SXI1	**Grass Mountain**	**2.14**	**24**		P		**Pb**	**11 49 23.2**	**-1.1**
	baz=10.0								
SXI1					S		**Sg**	**11 49 52.5**	**-1.4**
	baz=10.0								
TNOU	**National Taiwa**	**2.15**	**21**		P		**Pg**	**11 49 25.2**	**-1.1**
	baz=42								
TNOU					S		**Sg**	**11 49 54.1**	**-0.3**
	baz=42								
VWUC	**VWUC**	**2.28**	**324**		P		**Pb**	**11 49 25.0**	**-1.6**
	baz=325								
VWUC					*e*S		**Sn**	**11 49 52.3**	**+0.7**
	baz=325								
JYNG	**Yonagunijimaku**	**2.28**	**55**		*e*S		**Sn**	**11 49 52.2**	**+0.6**
YOJ	**Yonaguni jima**	**2.33**	**55**		P		**Pn**	**11 49 24.2**	**+0.2**
YOJ	**Yonaguni jima**	**2.33**	**55**		P		**Pn**	**11 49 23.9**	**-0.1**
	baz=71								
YOJ					*e*S		**Sn**	**11 49 54.1**	**+1.1**
	baz=71								
PTMZ	**Houxiangcun**	**2.50**	**320**		P		**Pn**	**11 49 27.4**	**+1.1**
	baz=319								
PTMZ					*e*S		**Sn**	**11 49 57.7**	**+0.6**
	baz=319								
KNM	**Kinmen**	**2.60**	**300**		*e*P		**Pn**	**11 49 29.0**	**+1.3**
	baz=295								
KNM					*e*S		**Sb**	**11 50 03.4**	**-1.0**
	baz=295								
KNMB	**Chin-men Tao**	**2.66**	**300**		P		**Pn**	**11 49 28.2**	**-0.3**
	baz=297								
KNMB					*e*S		**Sn**	**11 50 02.7**	**+1.7**
	baz=297								
IRIF	**Iriomote-Funau**	**2.85**	**65**		*e*S		**Sn**	**11 50 07.5**	**+1.8**
MATB	**Ma-tsu**	**3.13**	**344**		*e*P		**Pn**	**11 49 36.2**	**+1.3**
	baz=345								
MATB					*e*S		**Sn**	**11 50 14.1**	**+1.5**
	baz=345								
JIJ	**Ishigaki jima**	**3.21**	**67**		*e*S		**Sn**	**11 50 15.8**	**+1.3**
MHZQ	**Yeshan**	**3.41**	**330**		*e*P		**Pn**	**11 49 40.0**	**+1.2**
	baz=332								
MHZQ					*e*S		**Sn**	**11 50 21.3**	**+1.8**
	baz=332								
JISG	**Ishigakijimahi**	**3.43**	**64**		*e*P		**Pn**	**11 49 39.8**	**+0.7**
JISG					*e*S		**Sn**	**11 50 20.7**	**+0.5**

HEL 03 11:56:35.6±0.2, 67°88N×20°06E, h0km, ML0.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.75**	**76**	PB	Pg	11 56 49.9	0.0
	baz=262						
LANU				SB	Sg	11 56 59.0	-0.6
HEF	**Hetta**	**1.45**	**67**	PG	Pn	11 56 59.9	-3.1
HEF				MSG		11 57 19.1	
	comp=Z,0.6nm,0.2s						
HEF				SN	Sn	11 57 24.6	+1.9
ERTU	**Ertsjaerv**	**1.57**	**147**	SN	Sn	11 57 25.3	-0.5
KTK1	**Kautokeino**	**1.63**	**45**	SN	Sg	11 57 29.7	+1.7
KLF	**Kolari**	**1.63**	**112**	PN	Pn	11 57 05.5	-0.1
	baz=300						
KLF				MSG		11 57 24.6	
	comp=Z,0.5nm,0.2s						
KLF				SN	Sn	11 57 26.9	-0.3
ARA0	**ARCESS Array S**	**2.59**	**48**	PB	Pb	11 57 21.4	-1.4
ARA0				SG	Sb	11 57 55.3	+0.1
RNF	**Rovaniemi**	**2.65**	**116**	PG	Pb	11 57 21.8	-2.0
OUF	**Merijarvi**	**4.01**	**150**	SN	Sn	11 58 23.7	-2.1

*NEIC **03** 12:16:45.9±0.9, 19°.40N±0°.01×155°.264W±0°.008, h2km±4km, Error ellipse: s-maj=1.7km s-min=1.0km az=169.0*
*HVO **03** 12:16:45.7±0.9, 19°.40N±0°.01×155°.266W±0°.008, h0km±6km, ML3.6, mb4.1/37(NEIC), ML3.3/38(NEIC), Error ellipse: s-maj=1.6km s-min=1.0km az=167.0*
*IDC **03** 12:16:51.9±1.7, 19°.95N×155°.00W, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=56.6km s-min=34.2km az=144.0*
ISC 03 12:16:47.2±0.8, 19°.40N±0°.04×155°.26W±0°.03, h10km, n69, σ1°.42/63, mb4.0/24, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**15**	Pg	**Pg**	**12 16 46.3**	**-2.9**
HATHI	**Halema'uma'u T**	**0.02**	**5**	IAML		12 16 46.5	
	comp=N,5μm,0.8s						
HATHI				IAML		12 16 46.5	
	comp=E,3μm,0.5s						
HATHI				Pg	**Pg**	**12 16 46.6**	**-2.6**
UWE	**Uwekahuna**	**0.04**	**305**	Pg	**Pg**	**12 16 46.2**	**-3.1**
UWE				IAML		12 16 46.4	
	comp=E,3μm,0.8s						
UWE				IAML		12 16 46.5	
	comp=N,5μm,0.9s						
PUH	**Pauahi**	**0.05**	**122**	Pg	**Pg**	**12 16 47.1**	**-2.3**
PUH				IAML		12 16 48.3	
	comp=E,7μm,0.8s						
PUH				IAML		12 16 48.5	
	comp=N,6μm,0.2s						
RSD	**Rainshed**	**0.06**	**347**	Pg	**Pg**	**12 16 46.9**	**-2.7**
RSD				IAML		12 16 48.6	
	comp=N,3μm,0.3s						
RSD				IAML		12 16 48.7	
	comp=E,4μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.09**	**104**	Pg	**Pg**	**12 16 47.8**	**-2.1**
HLP	**Hilina Pali**	**0.11**	**202**		**Pg**	**12 16 47.7**	**-2.4**
HLP				IAML		12 16 51.1	
	comp=E,8μm,0.5s						
HLP				IAML		12 16 51.2	
	comp=N,9μm,0.8s						
STCH	**Steam Cracks**	**0.13**	**97**		**Pg**	**12 16 48.9**	**-1.5**
STCH				IAML		12 16 52.6	
	comp=E,17μm,0.9s						
STCH				IAML		12 16 52.6	
	comp=N,7μm,0.5s						
MLH	**Mauna Loa**	**0.15**	**308**	Pg	**Pg**	**12 16 48.8**	**-2.0**
JOKA	**Jonika Flow**	**0.25**	**82**	Pg	**Pg**	**12 16 50.5**	**-1.8**
JOKA				IAML		12 16 55.9	
	comp=E,3μm,1.2s						
JOKA				IAML		12 16 58.7	
	comp=N,6μm,1.1s						
HMH	**Humu'ula Sheep**	**0.29**	**314**		**Pg**	**12 16 51.3**	**-1.9**
HMH				IAML		12 16 58.9	
	comp=N,5μm,1.5s						
HMH				IAML		12 16 59.5	
	comp=E,6μm,1.8s						
PAH	**Pahoa**	**0.31**	**73**	Pg	**Pg**	**12 16 52.2**	**-1.4**
MLOA	**Mauna Loa Obse**	**0.32**	**294**	Pg	**Pg**	**12 16 51.9**	**-2.0**
MWH	**Moku'aweowe**	**0.33**	**285**		**Pg**	**12 16 52.7**	**-1.3**
KHU	**Kahuku**	**0.37**	**245**	Pg	**Pg**	**12 16 53.2**	**-1.4**
KHU				IAML		12 17 04.9	
	comp=N,5μm,1.5s						
KHU				IAML		12 17 05.4	
	comp=E,4μm,0.8s						
HPO	**Honuapo**	**0.41**	**222**		**Pg**	**12 16 54.2**	**-1.2**
POHA	**Pohakuloa**	**0.44**	**324**	Pg	**Pg**	**12 16 55.0**	**-0.9**
POHA				IAML		12 17 08.9	
	comp=E,6μm,0.9s						
HUH	**Hualalai**	**0.61**	**298**		**Pg**	**12 16 58.4**	**-0.8**
I59US	**HAWAII INFRASO**	**0.62**	**288**		Pn	12 17 07.2	+4.9
I59US	**HAWAII INFRASO**	**0.62**	**288**	Pg	Pn	12 17 07.2	+4.9
	baz=114,slow=26						
HPAH	**Hawaii Prepara**	**0.75**	**327**	Pg	**Pg**	**12 16 59.7**	**-2.0**
NVAR	**Mina Array Bea**	**37.18**	**51**	P	**P**	**12 23 59.1**	**+0.2**
PPT2	**Papeete2**	**37.18**	**171**	*e*P	P	12 24 14.7	+16
	comp=E,89nm,24.0s						
PPT2				*e*S	S	12 30 06.3	+21
	comp=E,330nm,25.2s						
PPT2				*e*LR	LR	12 34 14.3	
	comp=E,2μm,27.2s						
PPT2				*e*LR	LR	12 34 14.8	
	comp=E,3μm,25.2s						
PFO	**Pinyon Flats O**	**37.27**	**60**	P	**P**	**12 23 58.7**	**-0.9**
PFO				IAmb	IAmb	12 24 01.3	
	comp=Z,5.2nm,1.4s						
PMD	**Palm Desert**	**37.34**	**60**	P	**P**	**12 23 59.8**	**-0.2**
GWY	**Greenwater Val**	**37.73**	**56**	P	**P**	**12 24 06.2**	**+2.7**
GWY				IAmb	IAmb	12 24 08.6	
	comp=Z,4.7nm,1.2s						
ANCK	**Angle Creek**	**38.75**	**360**	P	**P**	**12 24 11.2**	**-0.4**
R11B	**Troy Canyon, C**	**39.17**	**53**	P	**P**	**12 24 15.2**	**-0.4**
G08A	**Pilot Rock**	**39.57**	**41**	P	**P**	**12 24 18.3**	**-0.5**
P18K	**Big Mountain,**	**39.94**	**0**	P	**P**	**12 24 21.2**	**-0.4**
P18K				IAmb	IAmb	12 24 28.8	
	comp=Z,3.8nm,1.2s						
SPR3	**Spring Creek 3**	**40.30**	**52**	P	**P**	**12 24 25.1**	**-0.1**
SZCU	**Shurtz Canyon**	**40.87**	**55**	P	**P**	**12 24 29.3**	**-0.5**
ISLE	**Juniper Island**	**42.17**	**9**	P	**P**	**12 24 38.9**	**-1.2**
GRNC	**Granite Creek**	**42.39**	**10**	P	**P**	**12 24 42.5**	**+0.7**
M22K	**Willow**	**42.47**	**4**	P	**P**	**12 24 41.7**	**-0.5**
SKT	**Skwentna**	**42.62**	**3**	P	**P**	**12 24 43.6**	**+0.1**
TBI	**Tubuai**	**42.87**	**172**	*e*S	S	12 31 25.8	+15
	comp=Z,1μm,27.2s						
TBI				*e*LR	LR	12 36 43.9	
	comp=Z,2μm,32.0s						
TBI				*e*LR	LR	12 36 50.4	
	comp=Z,11μm,28.5s						
BCAR	**Beaver Creek A**	**44.60**	**9**	P	**P**	**12 24 59.6**	**+0.1**
BPAW	**Bear Paw Mtn.**	**44.76**	**3**	P	**P**	**12 25 00.3**	**-0.4**
BPAW				IAmb	IAmb	12 25 04.3	
	comp=Z,2.5nm,1.2s						
PDAR	**Pinedale Array**	**44.86**	**48**	P	**P**	**12 25 04.1**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=256,slow=7.3,SNR=1.6						
	comp=Z,0.1nm,0.3s						
BWN	**Browne**	**44.91**	**4**	P	**P**	**12 25 01.3**	**-0.6**
M31M	**Drury Creek, Y**	**45.16**	**14**	P	**P**	**12 25 04.8**	**+0.9**
M31M				IAmb	IAmb	12 25 12.1	
	comp=Z,1.7nm,0.6s						
SCRK	**Sand Creek**	**45.20**	**7**		**P**	**12 25 04.3**	**0.0**
L29M	**L29M**	**45.23**	**11**	P	**P**	**12 25 03.1**	**-1.4**
L29M				IAmb	IAmb	12 25 03.3	
	comp=Z,3.3nm,1.3s						
WRH	**Wood River Hil**	**45.30**	**4**	P	**P**	**12 25 04.6**	**-0.4**
WRH				IAmb	IAmb	12 25 09.4	
	comp=Z,2.3nm,0.9s						
HDA	**Harding Lake**	**45.33**	**5**	P	**P**	**12 25 05.1**	**-0.1**
HDA				IAmb	IAmb	12 25 08.0	
	comp=Z,2.4nm,1.2s						
NEA2	**Nenana**	**45.35**	**4**	P	**P**	**12 25 04.3**	**-1.1**
J25K	**Salcha River,**	**45.67**	**6**	P	**P**	**12 25 08.5**	**+0.5**
J25K				IAmb	IAmb	12 25 12.9	
	comp=Z,2.5nm,1.1s						
ILAR	**Eielson Array**	**45.69**	**5**	P	**P**	**12 25 07.8**	**-0.2**
ILAR	**Eielson Array**	**45.69**	**5**	P	**P**	**12 25 09.4**	**+1.4**
	comp=Z,0.8nm,1.0s,baz=210,slow=7.2,SNR=5.9						
	comp=Z,0.8nm,1.0s						
J26L	**Joseph Creek**	**45.75**	**7**	P	**P**	**12 25 09.1**	**+0.5**
J26L				IAmb	IAmb	12 25 14.1	
	comp=Z,2.2nm,1.0s						
MDM	**Murphy Dome**	**45.77**	**4**	P	**P**	**12 25 08.8**	**0.0**
TXAR	**Lajitas Array**	**47.71**	**68**	P	**P**	**12 25 24.9**	**+0.3**
TXAR	**Lajitas Array**	**47.71**	**68**	P	**P**	**12 25 27.0**	**+2.5**
	comp=Z,1.8nm,1.0s,baz=255,slow=7.6,SNR=8.9						
	comp=Z,1.8nm,1.0s						
ALPN	**Alpine**	**47.73**	**66**	P	**P**	**12 25 24.9**	**+0.1**
F21K	**Alatna River**	**47.82**	**1**	P	**P**	**12 25 23.9**	**-0.8**
F21K				IAmb	IAmb	12 25 29.0	
	comp=Z,2.2nm,1.1s						
H29M	**Whitestone**	**48.08**	**9**	P	**P**	**12 25 28.3**	**+1.5**
G29M	**Pine Creek**	**48.78**	**9**	P	**P**	**12 25 33.7**	**+1.6**
E25K	**Arctic Village**	**49.09**	**5**	P	**P**	**12 25 35.4**	**+0.8**
E25K				IAmb	IAmb	12 25 38.5	
	comp=Z,2.3nm,1.5s						
RSSD	**Black Hills**	**49.09**	**48**	P	**P**	**12 25 35.8**	**+0.6**
RSSD				IAmb	IAmb	12 25 38.4	
	comp=Z,2.3nm,1.1s						
G30M	**tAoh Zraii Nji**	**49.12**	**10**	P	**P**	**12 25 35.3**	**+0.6**
G30M				IAmb	IAmb	12 25 39.3	
	comp=Z,1.7nm,1.1s						
F28M	**Old Crow**	**49.19**	**8**	P	**P**	**12 25 36.1**	**+0.8**
F28M				IAmb	IAmb	12 25 37.8	
	comp=Z,1.7nm,1.0s						
G31M	**Satah River**	**49.39**	**11**	P	**P**	**12 25 37.7**	**+0.9**
G31M				IAmb	IAmb	12 25 39.2	
	comp=Z,1.9nm,1.0s						
E27K	**Coleen River**	**49.53**	**7**	P	**P**	**12 25 38.0**	**+0.1**
E27K				IAmb	IAmb	12 25 40.7	
	comp=Z,1.7nm,1.1s						
E28M	**Babbage River**	**50.17**	**7**	P	**P**	**12 25 44.1**	**+1.4**
E28M				IAmb	IAmb	12 25 46.4	
	comp=Z,2.6nm,1.1s						
E29M	**Blow River**	**50.17**	**8**	P	**P**	**12 25 41.7**	**-1.0**
E29M				IAmb	IAmb	12 25 46.2	
	comp=Z,2.0nm,1.1s						
YKA	**Yellowknife Ar**	**51.32**	**23**	P	**P**	**12 25 53.2**	**+1.7**
	comp=Z,0.4nm,0.9s,baz=241,slow=8.9,SNR=2.5						
	comp=Z,0.4nm,0.9s						
DZM	**Mont Dzumac**	**55.68**	**224**	*e*P	P	12 26 44.1	+20
	comp=Z,84nm,24.7s						
DZM				*e*S	S	12 34 31.0	+20
	comp=Z,202nm,24.6s						
DZM				*e*SS	SS	12 38 15.3	+19
	comp=Z,154nm,25.9s						
DZM				*e*LR	LR	12 42 33.1	
	comp=Z,408nm,31.6s						
ASAR	**Alice Springs**	**81.24**	**241**	P	P	12 29 12.9	+8.9
	comp=Z,0.4nm,0.8s,baz=74,slow=6.8,SNR=2.6						
	comp=Z,0.4nm,0.8s						

*HVO **03** 12:16:55.4±0.7, 19°.419N±0°.005×155°.288W±0°.008, h-1km±5km, ML3.9/43, mb4.7/93(NEIC), ML4.0/25(NEIC), Error ellipse: s-maj=1.1km s-min=0.7km az=90.0*
NEIC 03 12:16:55.0±0.8, 19°.422N±0°.004×155°.291W±0°.008, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.4km az=145.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.00**	**250**	Pg	Pg	12 16 55.7	-0.4
OBL	**Observatory Le**	**0.01**	**123**		Pg	12 16 55.7	-0.4
UWB	**Uwekahuna B**	**0.01**	**77**		Pg	12 16 56.7	+0.7
WRMHI	**West Rim**	**0.02**	**209**		Pg	12 16 56.9	+0.8
SBLHI	**Steaming Bluff**	**0.02**	**77**		Pg	12 16 56.4	+0.3
HATHI	**Halema'uma'u T**	**0.03**	**88**	Pg	Pg	12 16 55.9	-0.3
HATHI				IAML		12 16 56.5	
	comp=E,343μm,0.9s						
HATHI				Sg	Sg	12 16 57.5	+0.5
BYL	**Byron's Ledge**	**0.03**	**108**	Pg	Pg	12 16 55.9	-0.3
BYL				Sg	Sg	12 16 57.6	+0.6
SDHHI	**Sand Hill**	**0.03**	**185**		Pg	12 16 57.8	+1.6
KKO	**Keanakako`i**	**0.03**	**135**		Pg	12 16 57.6	+1.4
RSD	**Rainshed**	**0.04**	**17**	Pg	Pg	12 16 55.9	-0.4
RSD				IAML		12 16 56.4	
	comp=N,175μm,1.7s						
RSD				Sg	Sg	12 16 58.4	+1.1
PUH	**Pauahi**	**0.09**	**124**	Pg	Pg	12 16 56.4	-0.5
PUH				IAML		12 16 58.6	
	comp=E,116μm,1.1s						
PUH				Sg	Sg	12 16 58.9	+0.7
PUH				IAML		12 16 59.4	
	comp=N,84μm,0.9s						
KNHH	**Kane Nui o Ham**	**0.12**	**110**	Pg	Pg	12 16 57.1	-0.5
HLP	**Hilina Pali**	**0.13**	**187**	Pg	Pg	12 16 57.4	-0.2
HLP				IAML		12 16 58.7	
	comp=E,88μm,1.1s						
STCH	**Steam Cracks**	**0.16**	**103**	Pg	Pg	12 16 57.9	-0.3
STCH				IAML		12 17 01.8	
	comp=E,40μm,1.1s						
STCH				IAML		12 17 02.6	
	comp=N,43μm,1.3s						
NPOC	**North of Pu'u**	**0.17**	**99**		Pg	12 17 00.1	+1.7
HMH	**Humu'ula Sheep**	**0.26**	**315**	Pg	Pg	12 17 00.1	0.0
JOKA	**Jonika Flow**	**0.27**	**87**	Pg	Pg	12 16 59.9	-0.3
JOKA				IAML		12 17 09.8	
	comp=N,23μm,0.6s						
MLOA	**Mauna Loa Obse**	**0.29**	**293**	Pg	Pg	12 17 01.5	+0.7
MLOA				IAML		12 17 07.5	
	comp=E,17μm,1.0s						
MLOA				IAML		12 17 10.2	
	comp=N,23μm,0.8s						
MWH	**Moku'aweowe**	**0.30**	**282**	Pg	Pg	12 17 01.0	+0.1
PAH	**Pahoa**	**0.33**	**77**	Pg	Pg	12 17 01.7	+0.3
KHU	**Kahuku**	**0.35**	**240**	Pg	Pg	12 17 01.8	-0.1
POHA	**Pohakuloa**	**0.40**	**326**	Pg	Pg	12 17 03.4	+0.5
POHA				IAML		12 17 14.9	
	comp=N,24μm,0.9s						
POHA				IAML		12 17 15.3	
	comp=N,24μm,0.9s						
HPO	**Honuapo**	**0.41**	**217**	Pg	Pg	12 17 02.9	-0.1
HUH	**Hualalai**	**0.58**	**297**	Pg	Pg	12 17 06.0	-0.1
HPAH	**Hawaii Prepara**	**0.72**	**328**	Pg	Pg	12 17 08.7	0.0
MHA	**Mahukona**	**0.95**	**323**	Pg	Pg	12 17 12.3	-1.0
HON	**Honolulu**	**3.17**	**307**	Pn	Pn	12 17 45.1	-0.4
KEKH	**Kekaha**	**4.86**	**302**	Pn	Pn	12 18 07.8	-1.0
O02D	**Mt. Diablo Mer**	**34.69**	**46**	P	P	12 23 46.5	+0.7
O02D				IAmb	IAmb	12 24 09.2	
	comp=Z,15nm,1.2s						
HATC	**Hat Creek Radi**	**35.88**	**46**	P	P	12 23 55.2	-0.9
FALS	**False Pass**	**35.91**	**352**	P	P	12 23 54.1	-1.9
TARA	**Tarawa**	**35.92**	**244**	P	P	12 23 54.2	-2.4
EMB	**Emerald Bay**	**36.07**	**50**	P	P	12 23 56.8	-1.1
ISA	**Isabella, Lake**	**36.19**	**56**	P	P	12 23 58.2	-0.5
ISA				IAmb	IAmb	12 24 21.1	
	comp=Z,11nm,1.2s						
KIWB	**Kanaga Island**	**36.62**	**337**	P	P	12 24 02.3	+0.1
ANCK	**Angle Creek**	**38.73**	**360**	P	P	12 24 21.7	+1.8
ANCK				IAmb	IAmb	12 24 37.7	
	comp=Z,28nm,1.1s						
ACHA	**Angle Creek He**	**38.74**	**360**	P	P	12 24 21.5	+1.4
KABU	**Katmai Buttres**	**38.80**	**0**	P	P	12 24 20.8	+0.3
P18K	**Big Mountain,**	**39.92**	**0**	P	P	12 24 30.0	+0.1
P18K				IAmb	IAmb	12 24 46.8	
	comp=Z,7.0nm,1.1s						
O14K	**Tigyukauivet M**	**40.02**	**355**	P	P	12 24 32.9	+2.3
V35K	**Ketchikan**	**40.08**	**21**	P	P	12 24 31.2	0.0
V35K				IAmb	IAmb	12 24 49.3	
	comp=Z,25nm,1.3s						
E08A	**Dider Farm, El**	**40.10**	**39**	P	P	12 24 30.7	-0.8
O16K	**Kokwok River B**	**40.17**	**358**	P	P	12 24 32.7	+0.8
ELK	**Elko**	**40.20**	**49**	P	P	12 24 33.4	+0.7
N17K	**Nushagak Hills**	**41.08**	**359**	P	P	12 24 39.9	+0.5
N17K				IAmb	IAmb	12 24 56.8	
	comp=Z,19nm,1.5s						
N18K	**Kilae Creek**	**41.22**	**360**	P	P	12 24 40.5	-0.1
N18K				IAmb	IAmb	12 24 58.0	
	comp=Z,25nm,1.4s						
HSIG		**41.35**	**68**	P	P	12 24 41.2	-0.8
N19K	**Bonanza Creek**	**41.35**	**1**	P	P	12 24 41.5	-0.3
PKCU	**Pink Cliffs**	**41.44**	**55**	P	P	12 24 43.2	+0.1
PKCU				IAmb	IAmb	12 25 17.4	
	comp=Z,24nm,1.4s						
X16A	**Lo Mia Camp, P**	**41.53**	**60**	P	P	12 24 43.4	-0.3
M14K	**Bethel**	**41.56**	**355**	P	P	12 24 44.2	+1.0
RAGM	**Ragged Mountai**	**41.62**	**8**	P	P	12 24 43.9	0.0
TCRU	**Three Creeks R**	**41.62**	**53**	P	P	12 24 43.5	-1.0
TCRU				IAmb	IAmb	12 25 04.5	
	comp=Z,16nm,1.5s						
WUAZ	**Wupatki**	**41.77**	**58**	P	P	12 24 45.8	+0.1
HLID	**Hailey**	**41.78**	**46**	P	P	12 24 44.9	-0.7
SPU	**Mount Spurr**	**41.78**	**2**	P	P	12 24 45.5	+0.3
DUG	**Dug

PV10					IAmb	IAmb	12 25 23.8	
	comp=Z,11nm,1.0s							
RND	**Reindeer**	**44.17**	**4**		P	P	12 25 04.3	-0.3
KTH	**Kantishna Hill**	**44.20**	**3**		P	P	12 25 05.5	+0.7
PV23	**Carpenter Ridg**	**44.20**	**54**		P	P	12 25 03.9	-1.6
PV16	**Nyswonger Mesa**	**44.25**	**55**		P	P	12 25 05.1	-0.7
J19K	**Poorman**	**44.54**	**360**		P	P	12 25 07.7	+0.3
J19K					IAmb	IAmb	12 25 23.4	
	comp=Z,18nm,1.4s							
PV15	**Paradox Valley**	**44.59**	**55**		P	P	12 25 07.8	-0.7
PV15					IAmb	IAmb	12 25 33.0	
	comp=Z,9.9nm,1.5s							
HDA	**Harding Lake**	**45.31**	**5**		P	P	12 25 14.9	+1.4
HDA					IAmb	IAmb	12 25 30.0	
	comp=Z,19nm,1.4s							
K27K	**Chicken**	**45.47**	**8**		P	P	12 25 14.0	-0.8
K27K					IAmb	IAmb	12 25 48.1	
	comp=Z,9.9nm,1.2s							
CCB	**Clear Creek Bu**	**45.48**	**5**		P	P	12 25 16.1	+1.2
CCB					IAmb	IAmb	12 25 30.4	
	comp=Z,14nm,1.2s							
IL31		**45.67**	**5**		P	P	12 25 16.3	-0.1
IL31					IAmb	IAmb	12 25 31.7	
	comp=Z,8.5nm,1.1s							
MLY	**Manley**	**45.68**	**3**		P	P	12 25 17.2	+0.6
MLY					IAmb	IAmb	12 25 32.2	
	comp=Z,12nm,1.2s							
MNTX	**Cornudas Mount**	**46.30**	**64**		P	P	12 25 21.9	0.0
EGAK	**Eagle**	**46.30**	**8**		P	P	12 25 21.3	-0.1
EGMT	**Eagleton**	**46.47**	**41**		P	P	12 25 22.8	-0.3
PRP	**Porcupine Dome**	**46.52**	**6**		P	P	12 25 23.4	+0.1
VHRN	**Van Horn**	**46.60**	**66**		P	P	12 25 26.3	+1.9
VHRN					IAmb	IAmb	12 25 47.3	
	comp=Z,12nm,1.2s							
G19K	**Purcell Mounta**	**46.71**	**359**		P	P	12 25 25.3	+0.7
G19K					IAmb	IAmb	12 25 50.9	
	comp=Z,15nm,1.5s							
J30M	**Hart River**	**46.88**	**11**		P	P	12 25 27.8	+1.6
J30M					IAmb	IAmb	12 25 42.5	
	comp=Z,8.6nm,1.2s							
K22A	**Casper**	**46.99**	**49**		P	P	12 25 26.1	-1.3
K22A					IAmb	IAmb	12 25 42.7	
	comp=Z,8.0nm,1.1s							
Q24A	**Divide**	**47.27**	**55**		P	P	12 25 28.9	-0.8
Q24A					IAmb	IAmb	12 25 46.6	
	comp=Z,9.8nm,1.1s							
I29M	**Ogilvie Camp,**	**47.27**	**10**		P	P	12 25 27.5	-1.5
I29M					IAmb	IAmb	12 25 44.7	
	comp=Z,4.2nm,0.9s							
I30M	**Mount Dempster**	**47.47**	**11**		P	P	12 25 30.1	-0.6
FYU	**Fort Yukon**	**47.58**	**5**		P	P	12 25 31.2	-0.1
TX31	**Lajitas Ar. Si**	**47.72**	**68**		P	P	12 25 33.1	0.0
F21K	**Alatna River**	**47.80**	**1**		P	P	12 25 33.1	0.0
MSTX	**Muleshoe**	**48.62**	**62**		P	P	12 25 39.4	-0.7
ODSA	**Odessa**	**48.72**	**64**		P	P	12 25 41.8	+1.0
E24K	**Your Creek**	**48.83**	**3**		P	P	12 25 41.3	+0.3
E21K	**Killik River**	**49.02**	**1**		P	P	12 25 43.4	+1.0
E21K					IAmb	IAmb	12 26 14.1	
	comp=Z,10nm,1.2s							
D22K	**Ayikyak River**	**49.48**	**1**		P	P	12 25 45.4	-0.6
AMTX	**Amarillo**	**49.57**	**60**		P	P	12 25 47.5	+0.1
AMTX					IAmb	IAmb	12 26 24.7	
	comp=Z,12nm,1.5s							
OZNA	**Ozona**	**49.92**	**66**		P	P	12 25 50.0	0.0
K30B	**Basset**	**52.00**	**51**		P	P	12 26 06.0	+0.5
P40A	**Paris**	**57.44**	**55**		P	P	12 26 44.5	-0.4
G40A	**Rib Lake**	**59.02**	**48**		P	P	12 26 55.8	-0.1
CGM3	**Cape Girardeau**	**59.34**	**58**		P	P	12 26 58.4	+0.2
H43A	**Windswept, Lux**	**60.72**	**49**		P	P	12 27 07.9	+0.3
E46A	**Sault Ste Mari**	**63.17**	**47**		P	P	12 27 23.8	-0.2
GOGA	**Godfrey**	**64.70**	**62**		P	P	12 27 33.1	-1.3
GOGA					IAmb	IAmb	12 27 49.1	
	comp=Z,7.3nm,1.1s							
EUNU	**Eureka**	**67.38**	**10**		P	P	12 27 50.2	-0.7
Q56A	**Snyder Ridge,**	**67.43**	**55**		P	P	12 27 50.6	-1.2
VLDQ	**Val d'Or**	**67.75**	**45**		P	P	12 27 51.2	-2.4
VLDQ					IAmb	IAmb	12 28 06.1	
	comp=Z,5.4nm,1.0s							
L56A	**Greenwood**	**68.28**	**51**		P	P	12 27 56.4	-0.8

*NEIC **03** 12:17:03.8, 19°.42N×155°.28W, h12km*
*NEIC **03** 12:17:03.3±0.9, 19°.42N±0°.01×155°.279W±0°.007, h5km±1km, Error ellipse: s-maj=1.9km s-min=1.5km az=196.0*
*NEIC **03** 12:17:03.8, 19°.22N×154°.96W, h12km, Moment Tensor Solution. Duration: 7s2 Moment tensor: Scale 10^17 Nm; Mrr=0.85; Mθθ=0.42; Mφφ=0.43; Mrθ=0.07; Mθφ=0.46; Mφr=0.51; Fault plane solution: M0 1.00000×10^17 NP1:φ=23.05000°, δ=58.86000°, λ=-113.64000°. NP2:φ=243.30000°, δ=38.36000°, λ=-56.43000°. Principal axes: T 0.9415, Plg=11.0000°, Azm=130.0000°; N 0.1181, Plg=20.0000°, Azm=36.0000°; P -1.0597, Plg=67.0000°, Azm=247.0000°;*
*HVO **03** 12:17:03.8±0.8, 19°.416N±0°.009×155°.275W±0°.006, h-0km±4km, ML4.2/34, mb4.7/112(NEIC), ML4.1/23(NEIC), Mww5.3/8(NEIC) Error ellipse: s-maj=1.4km s-min=0.6km az=152.0*
*BJI **03** 12:17:03.0±0.0, 19°.40N×155°.30W, h5km, mb4.9/7, mB5.8/11, Ms5.2/15, Ms7 4.9/15*
*IDC **03** 12:17:05.4±1.4, 19°.10N×155°.25W, h0km, mb4.2/9, mbtmp4.2/9, MS4.6/27, Error ellipse: s-maj=44.8km s-min=22.3km az=160.0*
*GCMT **03** 12:17:11.8±0.1, 19°.36N±0°.01×155°.17W±0°.01, h12km, MW5.2/155, Moment Tensor Solution. s84, c114; s155, c263; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.85±.01; Mθθ=0.42±.01; Mφφ=0.43±.01; Mrθ=0.19±.03; Mθφ=0.30±.01; Mφr=0.05±.03; Best double couple: M0=0.80600×10^17 NP1:φ=234.00000°, δ=49.00000°, λ=-77.00000°. NP2:φ=36.00000°, δ=42.00000°, λ=-104.00000°. Principal axes: T 0.7270, Plg=4.0000°, Azm=316.0000°; N 0.1580, Plg=10.0000°, Azm=46.0000°; P -0.8840, Plg=80.0000°, Azm=204.0000°; nsta=1 refers to body waves, cutoff=40s. nsta=2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 12:17:05.2±0.4, 19°.43N±0°.04×155°.26W±0°.03, h10km, n567, σ1$47/508, mb4.7/66, MS4.7/32, 1C, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLHI	**Steaming Bluff**	**0.01**	**219**		**Pg**	**12 17 05.0**	**-2.2**
HATHI	**Halema'uma'u T**	**0.01**	**178**	Pg	**Pg**	**12 17 04.4**	**-2.8**
UWB	**Uwekahuna B**	**0.02**	**238**		**Pg**	**12 17 04.8**	**-2.4**
BYL	**Byron's Ledge**	**0.02**	**176**	Pg	**Pg**	**12 17 04.6**	**-2.6**
OBL	**Observatory Le**	**0.03**	**231**		**Pg**	**12 17 04.6**	**-2.7**
RSD	**Rainshed**	**0.03**	**331**	Pg	**Pg**	**12 17 04.2**	**-3.1**
RSD				IAML		12 17 05.1	
	comp=N,217μm,1.0s						
RSD				IAML		12 17 05.5	
	comp=E,243μm,1.7s						
UWE	**Uwekahuna**	**0.03**	**246**	IAML	**Pg**	**12 17 04.4**	**-2.9**
	comp=N,269μm,0.6s						
UWE				Pg	**Pg**	**12 17 04.4**	**-2.9**
KKO	**Keanakako`i**	**0.04**	**187**		**Pg**	**12 17 05.6**	**-1.7**
RIM	**Rim**	**0.04**	**197**		**Pg**	**12 17 04.9**	**-2.4**
WRMHI	**West Rim**	**0.05**	**233**		**Pg**	**12 17 05.8**	**-1.6**
SDHHI	**Sand Hill**	**0.05**	**214**		**Pg**	**12 17 05.8**	**-1.7**
PUH	**Pauahi**	**0.07**	**144**	Pg	**Pg**	**12 17 04.5**	**-3.1**
PUH				IAML		12 17 05.8	
	comp=N,141μm,2.0s						
PUH				IAML		12 17 06.1	
	comp=E,54μm,1.2s						
KNHH	**Kane Nui o Ham**	**0.10**	**122**	Pg	**Pg**	**12 17 05.2**	**-2.8**
STCH	**Steam Cracks**	**0.14**	**111**	Pg	**Pg**	**12 17 06.0**	**-2.5**
STCH				IAML		12 17 07.8	
	comp=E,42μm,1.9s						
STCH				IAML		12 17 09.1	
	comp=N,52μm,0.9s						
HLP	**Hilina Pali**	**0.14**	**198**	Pg	**Pg**	**12 17 06.1**	**-2.5**
HLP				IAML		12 17 07.5	
	comp=E,115μm,0.8s						
HLP				IAML		12 17 07.8	
	comp=N,146μm,1.4s						
JOKA	**Jonika Flow**	**0.24**	**90**	Pg	**Pg**	**12 17 08.1**	**-2.2**
JOKA				IAML		12 17 16.0	
	comp=E,26μm,2.5s						
JOKA				IAML		12 17 16.9	
	comp=N,37μm,1.3s						
HMH	**Humu'ula Sheep**	**0.27**	**309**	Pg	**Pg**	**12 17 08.4**	**-2.4**
HMH				IAML		12 17 16.9	
	comp=E,33μm,1.9s						
HMH				IAML		12 17 18.1	
	comp=N,37μm,0.7s						
PAH	**Pahoa**	**0.30**	**78**	Pg	**Pg**	**12 17 09.4**	**-2.0**
MLOA	**Mauna Loa Obse**	**0.31**	**289**	Pg	**Pg**	**12 17 08.9**	**-2.8**
MLOA				IAML		12 17 16.6	
	comp=E,25μm,1.2s						
MLOA				IAML		12 17 20.2	
	comp=N,56μm,1.7s						
MWH	**Moku'aweowe**	**0.32**	**279**	Pg	**Pg**	**12 17 09.5**	**-2.4**
KHU	**Kahuku**	**0.38**	**241**	Pg	**Pg**	**12 17 10.5**	**-2.4**
POHA	**Pohakuloa**	**0.41**	**322**	Pg	**Pg**	**12 17 11.1**	**-2.3**
POHA	**Pohakuloa**	**0.41**	**322**	IAML		12 17 23.1	
	comp=N,21μm,1.8s						
HPO	**Honuapo**	**0.44**	**219**	Pg	**Pg**	**12 17 11.3**	**-2.6**
HUH	**Hualalai**	**0.60**	**295**	Pg	**Pg**	**12 17 14.8**	**-2.1**
I59US	**HAWAII INFRASO**	**0.62**	**285**	Pg	**Pn**	**12 17 19.8**	**-0.4**
	baz=122,slow=18						
I59US				I	I	12 20 30.0	
	comp=N,0.1nm,0.9s,baz=107,slow=322,SNR=4.8						
HPAH	**Hawaii Prepara**	**0.72**	**325**	Pg	**Pg**	**12 17 17.5**	**-1.7**
MHA	**Mahukona**	**0.96**	**321**	Pg	**Pg**	**12 17 21.5**	**-2.3**
HLK	**Haleakala**	**1.61**	**325**	Pn	**Pn**	**12 17 32.2**	**-1.8**
KHLH	**Kahului Airpor**	**1.82**	**323**	Pn	**Pb**	**12 17 37.0**	**-1.7**
KPA	**Kalaupapa**	**2.38**	**317**	Pn	**Pb**	**12 17 46.7**	**-1.5**
DHH	**Diamond Head**	**3.00**	**308**	Pn	**Pb**	**12 17 56.9**	**-1.9**
H11N3	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	13 01 10.9	
	baz=84,slow=73,SNR=60						
H11N2	**WAKE ISLAND Hy**	**35.61**	**277**	T	T	13 01 11.8	
	baz=84,slow=73,SNR=25						
H11N1	**WAKE ISLAND Hy**	**35.61**	**277**	T	T	13 01 12.4	
	baz=84,slow=73,SNR=16						
ARVC	**Arvin**	**35.72**	**56**	P	**P**	**12 24 03.9**	**-0.3**
	baz=254						
FMP	**Fort Macarthur**	**35.78**	**59**	P	**P**	**12 24 02.2**	**-2.5**
	baz=256						
DECC	**Green Verdugo**	**35.89**	**58**	P	**P**	**12 24 04.4**	**-1.3**
	baz=255						
H11S2	**WAKE ISLAND Hy**	**35.93**	**275**	T	T	13 01 41.7	
	baz=83,slow=74,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**35.94**	**275**	T	T	13 01 36.5	
	baz=83,slow=74,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**35.95**	**275**	T	T	13 01 38.3	
	baz=83,slow=74,SNR=6.3						
ISA	**Isabella, Lake**	**36.16**	**56**	P	**P**	**12 24 07.9**	**-0.1**
	baz=253						
CHIR	**Chirikof Islan**	**36.33**	**360**	P	**P**	**12 24 09.4**	**+0.4**
	baz=179						
MLAC	**Mammoth, Mammo**	**36.49**	**52**	P	**P**	**12 24 10.2**	**-0.8**
	baz=250						
S12K	**Black Hills**	**36.57**	**354**	P	**P**	**12 24 10.8**	**-0.4**
	baz=169						
MURC	**Murrieta**	**36.65**	**60**	P	**P**	**12 24 10.7**	**-1.5**
	baz=257						
CWC	**Cottonwood Cre**	**36.69**	**55**	P	**P**	**12 24 12.1**	**-0.5**
	baz=253						
LRMC	**Laurel Mtn Rad**	**36.72**	**56**	P	**P**	**12 24 12.4**	**-0.5**
	baz=254						
TIN	**Tinemaha, Big**	**36.76**	**54**	P	**P**	**12 24 11.7**	**-1.5**
	baz=252						
CHGN	**Chignik**	**36.89**	**357**	P	**P**	**12 24 12.6**	**-1.2**
	baz=175						
S14K	**Fog Glacier**	**36.93**	**356**	P	**P**	**12 24 13.5**	**-0.8**
	baz=173						
BBRC	**Big Bear Solar**	**37.02**	**59**	P	**P**	**12 24 12.9**	**-2.8**
	baz=256						
MPMC	**Manual Prospec**	**37.03**	**55**	P	**P**	**12 24 13.3**	**-2.4**
	baz=254						
SII	**Sitkinak Islan**	**37.08**	**1**	P	**P**	**12 24 15.3**	**-0.2**
	baz=182						
RRX	**Edison Barstow**	**37.11**	**58**	P	**P**	**12 24 13.9**	**-2.2**
	baz=256						
MONP2	**Monument Peak**	**37.13**	**61**	P	**P**	**12 24 15.3**	**-1.2**
	baz=259						
NVAR	**Mina Array Bea**	**37.16**	**51**	P	P	12 24 20.8	+4.1
	comp=N,2.6nm,1.1s,baz=236,slow=11,SNR=5.3						
	comp=N,2.6nm,1.1s						
PPT	**Papeete**	**37.19**	**171**	LR	LR	12 35 16.8	
	comp=N,1μm,21.3s,baz=344,slow=30						
PFO	**Pinyon Flats O**	**37.25**	**60**	P	**P**	**12 24 14.5**	**-2.9**
	baz=258						
TPFO	**Pinon Flats**	**37.26**	**60**	P	**P**	**12 24 15.6**	**-1.9**
	baz=258						
IKP	**In-Ko-Pah, Jac**	**37.35**	**61**	P	**P**	**12 24 15.1**	**-3.2**
	baz=259						
GSC	**Goldstone, Bar**	**37.37**	**57**	P	**P**	**12 24 15.0**	**-3.3**
	baz=255						
GRAC	**Grapevine Rang**	**37.40**	**54**	P	**P**	**12 24 17.2**	**-1.4**
	baz=252						
HEC	**Hector,Ludlow**	**37.63**	**58**	P	**P**	**12 24 17.5**	**-3.1**
	baz=256						
FURC	**Furnace Creek,**	**37.63**	**55**	P	**P**	**12 24 19.4**	**-1.1**
	baz=254						
SWSC	**Sam W. Stewart**	**37.66**	**61**	P	**P**	**12 24 18.2**	**-2.5**
	baz=259						
BELC	**Belle Mtn. Jos**	**37.71**	**59**	P	**P**	**12 24 18.4**	**-2.9**
	baz=258						
OHAK	**Old Harbor**	**37.76**	**2**	P	**P**	**12 24 19.2**	**-2.0**
	baz=183						
SHOC	**Shoshone, Teco**	**37.94**	**56**	P	**P**	**12 24 19.9**	**-3.3**
	baz=255						
BC3	**Big Chuckawall**	**38.08**	**60**	P	**P**	**12 24 22.6**	**-1.9**
	baz=258						
R18K	**Karluk**	**38.08**	**1**	P	**P**	**12 24 21.7**	**-2.2**
	baz=181						
TUQ	**Turquoise Moun**	**38.10**	**57**	P	**P**	**12 24 23.0**	**-1.6**
	baz=256						
R17L	**Mt. Peulik Vol**	**38.15**	**359**	P	**P**	**12 24 25.4**	**+0.8**
	baz=178						
GMRC	**Granite Mounta**	**38.16**	**58**	P	**P**	**12 24 22.4**	**-2.7**
	baz=257						
TPNV	**Topopah Spring**	**38.24**	**55**	P	**P**	**12 24 24.5**	**-1.3**
	baz=254						
KDAK	**Kodiak Island**	**38.35**	**2**	P	**P**	**12 24 27.5**	**+1.4**
	baz=184						
KDAK	**Kodiak Island**	**38.35**	**2**	LR	LR	12 36 33.8	
	comp=N,857nm,21.6s,baz=209,slow=30						
IRM	**Iron Mountain**	**38.44**	**59**	P	**P**	**12 24 26.6**	**-0.7**
	baz=258						
GLA	**Glamis**	**38.48**	**61**	P	**P**	**12 24 26.4**	**-1.3**
	baz=260						
Q17K	**Contact Creek**	**38.78**	**359**	P	**P**	**12 24 31.1**	**+1.2**
	baz=179						
NEE2	**Needles Airpor**	**38.99**	**58**	P	**P**	**12 24 30.4**	**-1.5**
	baz=258						
R11B	**Troy Canyon, C**	**39.15**	**53**	P	**P**	**12 24 32.1**	**-1.3**
	baz=252						
Q18K	**Katmai Hardscr**	**39.16**	**0**	P	**P**	**12 24 33.6**	**+0.4**
	baz=180						
Q20K	**Shuyak Island**	**39.18**	**2**	P	**P**	**12 24 33.2**	**0.0**
	baz=184						
Q16K	**King Salmon**	**39.20**	**359**	P	**P**	**12 24 33.4**	**+0.1**
	baz=178						
PDMCI	**Parker Dam,Lak**	**39.28**	**59**	P	**P**	**12 24 33.1**	**-1.2**
	baz=258						
Q19K	**Cape Douglas,**	**39.46**	**1**	P	**P**	**12 24 36.6**	**+1.0**
	baz=182						
P16K	**Nushagak River**	**39.60**	**358**	P	**P**	**12 24 36.4**	**-0.2**
	baz=176						
CRAG	**Craig**	**39.68**	**20**	P	**P**	**12 24 37.0**	**-0.3**
	baz=214						
O15K	**Ungalikthiuk R**	**39.83**	**356**	P	**P**	**12 24 39.1**	**+0.5**
	baz=173						
P18K	**Big Mountain,**	**39.91**	**0**	P	**P**	**12 24 40.3**	**+1.0**
	baz=180						
214A	**Organ Pipe Nat**	**39.99**	**63**	P	**P**	**12 24 39.8**	**-0.6**
	baz=262						
O14K	**Tigyukauivet M**	**40.01**	**355**	P	**P**	**12 24 40.5**	**+0.5**
	baz=171						
V35K	**Ketchikan**	**40.05**	**21**	P	**P**	**12 24 39.8**	**-0.6**
	baz=216						
O16K	**Kokwok River B**	**40.16**	**358**	P	**P**	**12 24 40.3**	**-1.0**
	baz=176						
P19K	**Oil Pt**	**40.20**	**2**	P	**P**	**12 24 40.8**	**-0.8**
	baz=183						
HOM	**Homer**	**40.26**	**3**	P	**P**	**12 24 41.1**	**-1.0**
	baz=185						
O17K	**Koliganek Bris**	**40.31**	**359**	P	**P**	**12 24 41.3**	**-1.3**
	baz=177						
O18K	**Koktuh Hills**	**40.37**	**0**	P	**P**	**12 24 43.1**	**0.0**
	baz=180						
SIT	**Sitka**	**40.38**	**17**	P	**P**	**12 24 43.1**	**-0.1**
	baz=210						
BRSE	**Bradley Lake S**	**40.39**	**4**	P	**P**	**12 24 43.7**	**+0.5**
	baz=187						
Q23K	**Middleton Isla**	**40.46**	**7**	P	**P**	**12 24 43.6**	**-0.2**
	baz=193						
O20K	**Slope Mountain**	**40.65**	**2**	P	**P**	**12 24 45.0**	**-0.4**
	baz=184						
N14K	**Kuskokwak Cree**	**40.70**	**355**	P	**P**	**12 24 45.0**	**-0.8**
	baz=171						
WRAK	**Wrangell Islan**	**40.71**	**19**	P	**P**	**12 24 45.2**	**-0.6**
	baz=214						
O19K	**Port Alsworth**	**40.72**	**1**	P	**P**	**12 24 45.4**	**-0.5**
	baz=181						
N15K	**Kwethluk River**	**40.84**	**356**	P	**P**	**12 24 45.6**	**-1.3**
	baz=173						
SEW	**Seward**	**40.84**	**4**	P	**P**	**12 24 45.3**	**-1.5**
	baz=188						
T33K	**Petersburg**	**40.85**	**19**	P	**P**	**12 24 45.7**	**-1.4**
	baz=213						
SHEM	**Shemya Is, Ala**	**40.86**	**332**	LR	LR	12 38 20.1	
	comp=N,834nm,21.5s,baz=132,slow=31						
P23K	**Montague Islan**	**40.91**	**6**	P	**P**	**12 24 47.0**	**-0.5**
	baz=191						
S31K	**Pelican**	**40.94**	**15**	P	**P**	**12 24 46.4**	**-1.3**
	baz=208						
S32K	**Killisnoo**	**40.94**	**17**	P	**P**	**12 24 48.5**	**+0.7**
	baz=210						
U35K	**Hyder**	**41.07**	**21**	P	**P**	**12 24 50.0**	**+1.2**
	baz=218						
N16K	**Nishlik Lake**	**41.07**	**357**	P	**P**	**12 24 49.1**	**+0.2**
	baz=175						
N17K	**Nushagak Hills**	**41.07**	**359**	P	**P**	**12 24 49.6**	**+0.8**
	baz=177						
KAIM	**Kayak Island**	**41.19**	**8**	P	**P**	**12 24 50.8**	**+1.0**
	baz=196						
O22K	**Cooper Landing**	**41.19**	**4**	P	**P**	**12 24 50.8**	**+1.0**
	baz=188						
N18K	**Kilae Creek**	**41.20**	**360**	P	**P**	**12 24 50.9**	**+1.0**
	baz=179						
HSIG		**41.32**	**68**	P	P	12 24 55.1	+3.8
HSIG				IAmb	IAmb	12 25 02.2	
	comp=Z,26nm,1.7s						
N19K	**Bonanza Creek**	**41.34**	**1**	P	**P**	**12 24 53.1**	**+1.9**
N19K	**Bonanza Creek**	**41.34**	**1**	P	**P**	**12 24 50.5**	**-0.7**
	baz=181,SNR=5.3						
M13K	**Dall Lake**	**41.34**	**354**	P	**P**	**12 24 51.5**	**+0.5**
	baz=168						
CAPN	**Captain Cook N**	**41.39**	**3**	P	P	12 24 55.2	+3.7
CAPN	**Captain Cook N**	**41.39**	**3**	P	**P**	**12 24 50.9**	**-0.5**
	baz=186						
M15K	**Kasigluk River**	**41.40**	**356**	P	**P**	**12 24 51.2**	**-0.3**
	baz=172						
PKCU	**Pink Cliffs**	**41.41**	**55**	P	**P**	**12 24 53.6**	**+1.3**
R31K	**City Hall, Gus**	**41.46**	**15**	P	**P**	**12 24 52.0**	**-0.1**
	baz=208						
X16A	**Lo Mia Camp, P**	**41.50**	**60**	P	**P**	**12 24 55.0**	**+2.1**
BGLC	**Bering Glacier**	**41.54**	**9**	P	**P**	**12 24 52.1**	**-0.5**
	baz=197						
M14K	**Bethel**	**41.55**	**355**	P	**P**	**12 24 55.7**	**+3.0**
M14K				IAmb	IAmb	12 24 60.0	
	comp=Z,30nm,1.4s						
M14K	**Bethel**	**41.55**	**355**	P	**P**	**12 24 53.7**	**+1.0**
	baz=170						
TCRU	**Three Creeks R**	**41.59**	**53**	P	**P**	**12 24 56.3**	**+2.6**
TCRU				IAmb	IAmb	12 25 33.7	
	comp=Z,21nm,1.6s						
RAGM	**Ragged Mountai**	**41.60**	**8**	P	P	12 24 56.8	+3.5
RAGM				IAmb	IAmb	12 25 07.1	
	comp=Z,15nm,1.0s						
HMT	**Hamilton**	**41.61**	**8**	P	**P**	**12 24 54.8**	**+1.5**
HMT				IAmb	IAmb	12 25 00.8	
	comp=Z,16nm,1.2s						
SVW2	**Sparrevohn**	**41.62**	**360**	P	**P**	**12 24 54.8**	**+1.4**
EYAK	**Cordova Ski Ar**	**41.63**	**7**	P	**P**	**12 24 54.1**	**+0.8**
	baz=194						
M16K	**Timber Creek**	**41.63**	**357**	P	**P**	**12 24 56.5**	**+3.1**
M16K				IAmb	IAmb	12 26 00.6	
	comp=Z,24nm,1.7s						
M16K	**Timber Creek**	**41.63**	**357**	P	**P**	**12 24 53.6**	**+0.2**
	baz=175						
M11K	**Mekoryuk**	**41.65**	**352**	P	**P**	**12 24 53.2**	**-0.3**
	baz=164						
R32K	**Eaglecrest**	**41.66**	**16**	P	P	12 24 57.3	+3.6
R32K				IAmb	IAmb	12 25 16.5	
	comp=Z,23nm,1.6s						
R32K	**Eaglecrest**	**41.66**	**16**	P	**P**	**12 24 53.0**	**-0.7**
	baz=210						
MVU	**Marysvale**	**41.74**	**54**	P	**P**	**12 24 56.6**	**+1.6**
TUC	**Tucson**	**41.74**	**63**	P	**P**	**12 24 57.1**	**+2.2**
TUC	**Tucson**	**41.74**	**63**	P	**P**	**12 24 53.2**	**-1.7**
	baz=263						
WUAZ	**Wupatki**	**41.74**	**58**	P	**P**	**12 24 56.2**	**+1.3**
WUAZ	**Wupatki**	**41.74**	**58**	P	**P**	**12 24 54.3**	**-0.7**
	baz=259						
HLID	**Hailey**	**41.75**	**46**	P	**P**	**12 24 56.0**	**+1.1**
HLID	**Hailey**	**41.75**	**46**	P	**P**	**12 24 53.9**	**-1.0**
	baz=248						
DUG	**Dugway, Tooele**	**41.75**	**51**	P	**P**	**12 24 54.2**	**-0.8**
	baz=253						
SPU	**Mount Spurr**	**41.77**	**2**	P	P	12 24 58.8	+4.2
MSU	**Marysvale**	**41.77**	**54**	P	**P**	**12 24 57.9**	**+2.7**
N20K	**Mount Spurr**	**41.78**	**2**	P	**P**	**12 24 53.6**	**-1.2**
	baz=184						
SPCR	**Spurr Chakacha**	**41.78**	**2**	P	**P**	**12 24 54.6**	**-0.1**
	baz=184						
PNL	**Peninsula**	**41.78**	**12**	P	**P**	**12 24 54.3**	**-0.4**
	baz=203						
RC01	**Rabbit Creek A**	**41.80**	**4**	P	**P**	**12 24 56.7**	**+1.9**
RC01				IAmb	IAmb	12 25 02.7	
	comp=Z,25nm,1.4s						
RC01	**Rabbit Creek A**	**41.80**	**4**	P	**P**	**12 24 54.5**	**-0.3**
	baz=188						
MESA	**MESA**	**41.80**	**10**	P	**P**	**12 24 55.5**	**+0.5**
	baz=199						
GLI	**Glacier Island**	**41.80**	**6**	P	**P**	**12 24 55.3**	**+0.5**
	baz=192						
BGU	**Big Grassy Mou**	**41.81**	**50**	P	**P**	**12 24 58.0**	**+2.6**
T35M	**Bob Quinn**	**41.84**	**20**	P	**P**	**12 24 57.1**	**+1.8**
T35M	**Bob Quinn**	**41.84**	**20**	P	**P**	**12 24 55.8**	**+0.6**
	baz=217						
WAX	**Waxell Ridge**	**41.92**	**9**	P	**P**	**12 24 57.9**	**+2.0**
WAX				IAmb	IAmb

L16K	Owhat River	42.34	357	P	P	12 24 58.6	-0.6
	baz=174						
GRNC	Granite Creek	42.36	10	P	P	12 25 02.7	+3.1
GRNC				IAmb	IAmb	12 25 11.1	
	comp=Z,14nm,1.2s						
L15K	Ungalak Mounta	42.43	356	P	P	12 25 00.4	+0.5
	baz=171						
M22K	Willow	42.43	4	P	P	12 25 01.9	+2.0
M22K				IAmb	IAmb	12 25 15.7	
	comp=Z,34nm,1.4s						
M22K	Willow	42.43	4	P	P	12 24 59.9	0.0
	baz=187						
M19K	Big River Lodg	42.43	1	P	P	12 25 00.7	+0.7
	baz=181						
M20K	Styx River	42.43	1	P	P	12 25 02.0	+1.9
M20K	Styx River	42.43	1	P	P	12 25 00.7	+0.6
	baz=183						
SKAG	Skagway	42.49	15	P	P	12 25 01.1	+0.7
	baz=208						
KLU	Klutina	42.53	7	P	P	12 25 04.1	+3.2
KLU	Klutina	42.53	7	P	P	12 25 00.9	+0.1
	baz=193						
O29M	Mount Kennedy	42.53	12	P	P	12 25 02.8	+1.8
O29M	Mount Kennedy	42.53	12	P	P	12 25 01.2	+0.3
	baz=204						
GHO	Glory Hole Cre	42.53	4	P	P	12 25 04.1	+3.2
LOGN	Logan Glacier	42.57	10	P	P	12 25 04.4	+3.1
MPU	Maple Canyon	42.57	52	P	P	12 25 05.3	+3.6
VRDI	Verde Repeater	42.58	8	P	P	12 25 03.4	+2.0
SKT	Skwentna	42.59	3		P	12 25 04.1	+2.9
SKT	Skwentna	42.59	3	P	P	12 25 00.9	-0.3
	baz=185						
SML	Sawmill	42.61	5	P	P	12 25 03.6	+2.2
SML				IAmb	IAmb	12 25 09.0	
	comp=Z,17nm,1.2s						
SML	Sawmill	42.61	5	P	P	12 25 00.8	-0.7
	baz=190						
Q16A	Castle Valley	42.63	53	P	P	12 25 04.4	+2.2
Q16A				IAmb	IAmb	12 25 42.9	
	comp=Z,37nm,1.8s						
CTG	Chitna Glacier	42.64	10	P	P	12 25 00.6	-1.3
	baz=200						
CTGM	Chitina Glacie	42.65	10	P	P	12 25 02.9	+1.0
CTGM				IAmb	IAmb	12 25 10.2	
	comp=Z,16nm,1.2s						
M23K	Glacier View	42.65	5	P	P	12 25 01.9	+0.2
	baz=190						
O28M	Mount Upton	42.66	11	P	P	12 25 02.5	+0.3
	baz=201						
P30M	Million Dollar	42.70	13	P	P	12 25 02.1	-0.2
	baz=206						
L19K	White Mountain	42.71	0	P	P	12 25 03.7	+1.5
L19K				IAmb	IAmb	12 25 09.3	
	comp=Z,24nm,1.4s						
L19K	White Mountain	42.71	0	P	P	12 25 02.1	-0.1
	baz=181						
L17K	Donlin	42.71	358	P	P	12 25 02.2	-0.1
	baz=176						
SCM	Sheep Creek Mo	42.72	6	P	P	12 25 05.3	+2.9
SCM	Sheep Creek Mo	42.72	6	P	P	12 25 02.5	+0.1
	baz=191						
L18K	Granite Mounta	42.76	359	P	P	12 25 03.1	+0.5
	baz=178,SNR=5.3						
MCARA	McCarthy VSAT	42.79	9	P	P	12 25 02.8	-0.1
	baz=197						
N25K	Chitina, Valde	42.79	7	P	P	12 25 03.3	+0.3
	baz=195						
Q32M	Nakina River	42.86	17	P	P	12 25 04.3	+0.6
	baz=213						
K13K	Kusilvak Mount	42.97	353	P	P	12 25 04.7	+0.5
	baz=167						
W18A	Petrified Fore	42.99	59	P	P	12 25 04.4	-0.8
	baz=261						
P32M	Atlin	43.01	16	P	P	12 25 05.3	+0.6
	baz=210						
L20K	Farewell, AK	43.02	1	P	P	12 25 04.9	+0.2
	baz=182,SNR=8.8						
K15K	Wolf Creek Mou	43.04	356	P	P	12 25 04.8	-0.1
	baz=171						
CUT	Chulitna	43.07	3	P	P	12 25 06.1	+1.0
	baz=187						
DLBC	Dease Lake	43.09	19	P	P	12 25 05.6	+0.2
	baz=216						
M24K	Tolsona, Glenn	43.10	6	P	P	12 25 05.6	+0.1
	baz=193						
YUK6	Outpost Mounta	43.16	12	P	P	12 25 06.8	+0.6
	baz=204						
YUK8	Steele Glacier	43.21	11	P	P	12 25 06.7	+0.1
	baz=202						
HYT	Haines Junctio	43.22	13	P	P	12 25 06.0	-0.5
	baz=205						
K17K	Iditarod	43.30	358	P	P	12 25 07.7	+0.7
	baz=176						
MSO	Missoula	43.36	41	P	P	12 25 07.3	-0.5
	baz=245						
WAT6	Susitna Watana	43.42	5	P	P	12 25 08.7	+0.5
	baz=190,SNR=5.5						
YUK4	Talbot Arm	43.47	12	P	P	12 25 11.7	+3.0
	baz=203						
O30N	Mendenhall	43.48	14	P	P	12 25 09.1	+0.6
	baz=207						
PPLA	Purkeypile	43.48	2	P	P	12 25 08.3	-0.2
	baz=184,SNR=5.3						
HARP	HAARP	43.50	7	P	P	12 25 10.1	+1.4
	baz=194						
YUK3	Moose Creek	43.55	10	P	P	12 25 11.3	+2.0
	baz=200						
R33M	Jennings River	43.59	18	P	P	12 25 11.0	+1.5
	baz=214						
WAT1	Susitna Watana	43.61	4	P	P	12 25 10.4	+0.9
	baz=189						
WHY	Whitehorse	43.65	14	P	P	12 25 10.7	+0.7
	baz=208						
J14K	Nanvaranak Lak	43.66	354	P	P	12 25 10.5	+0.7
	baz=169						
M26K	Nabesna, AK	43.77	8	P	P	12 25 11.9	+1.1
	baz=197						
P33M	Teslin, Yukon	43.77	16	P	P	12 25 11.7	+0.8
	baz=211						
M27K	Edge Creek, AK	43.88	9	P	P	12 25 13.1	+1.3
	baz=198						
N30M	Aishikik Lake	43.88	12	P	P	12 25 13.1	+1.3
	baz=205						
K20K	Telida	43.90	1	P	P	12 25 11.4	-0.4
	baz=182						
DHY	Denali Highway	43.94	5	P	P	12 25 13.1	+0.8
	baz=191						
J16K	Anvik River	43.97	357	P	P	12 25 12.5	+0.2
	baz=173						
CAST	Castle Rocks	44.00	2	P	P	12 25 12.6	-0.1
CAST	Castle Rocks	44.00	2	P	P	12 25 12.8	+0.1
	baz=184						
J17K	VABM Dome	44.01	358	P	P	12 25 12.3	-0.3
	baz=175						
J18K	Innoko River	44.01	359		P	12 25 14.0	+1.3
J18K	Innoko River	44.01	359	P	P	12 25 12.8	+0.2
	baz=178						
PAX	Paxson	44.02	6	P	P	12 25 14.7	+1.8
PAX				IAmb	IAmb	12 25 19.4	
	comp=Z,14nm,1.0s						
PAX	Paxson	44.02	6	P	P	12 25 12.4	-0.5
	baz=193						
OVMT	Ovando	44.04	41	P	P	12 25 15.8	+2.5
RND	Reindeer	44.16	4	P	P	12 25 14.8	+0.8
RND				IAmb	IAmb	12 25 20.6	
	comp=Z,13nm,1.0s						
N31M	Braeburn, Yuko	44.19	13	P	P	12 25 14.5	+0.3
	baz=207						
121A	Cookes Peak, D	44.29	63	P	P	12 25 14.0	-1.6
	baz=265						
L26K	Log Cabin Wild	44.32	8	P	P	12 25 14.0	-1.2
	baz=196						
MVCO	Mesa Verde	44.33	56	P	P	12 25 14.4	-1.5
	baz=260						
BOZ	Bozeman (W)	44.35	44	IAmb	IAmb	12 25 49.4	
	comp=Z,21nm,1.9s						
BOZ	Bozeman (W)	44.35	44	P	P	12 25 14.4	-1.5
	baz=249						
CHUM	Lake Minchumin	44.46	2	P	P	12 25 15.7	-0.6
	baz=184						
MCK	McKinley	44.48	4	P	P	12 25 15.5	-0.9
	baz=188						
N32M	Quiet Lake	44.52	15	P	P	12 25 16.6	-0.2
	baz=210						
M29M	Somme Creek	44.52	11	IAmb	IAmb	12 25 24.6	
	comp=Z,9.6nm,0.9s						
M29M	Somme Creek	44.52	11	P	P	12 25 18.0	+1.0
	baz=203,SNR=5.1						
J19K	Poorman	44.53	360	P	P	12 25 17.5	+0.7
	baz=180,SNR=5.8						
PV15	Paradox Valley	44.56	55	P	P	12 25 18.1	+0.3
L27K	Beaver Creek,	44.56	9	P	P	12 25 17.0	-0.2
	baz=198						
BCAR	Beaver Creek A	44.57	9	P	P	12 25 19.4	+2.1
I17K	Unalakleet	44.57	357	P	P	12 25 17.1	-0.1
	baz=173						
H17A	Grant Village	44.63	46	P	P	12 25 17.2	-1.1
	baz=251						
J20K	Nowinta River	44.72	1	P	P	12 25 17.5	-0.9
	baz=182						
BPAW	Bear Paw Mtn.	44.73	3	IAmb	IAmb	12 25 23.9	
	comp=Z,12nm,1.2s						
BPAW	Bear Paw Mtn.	44.73	3	P	P	12 25 18.1	-0.4
	baz=186						
K24K	Donnelly Dome	44.80	6	P	P	12 25 18.7	-0.4
	baz=193						
BW06	Boulder Array	44.84	48	P	P	12 25 18.5	-1.4
	baz=253						
PDAR	Pinedale Array	44.84	48	P	P	12 25 23.3	+3.4
	comp=Z,2.7nm,1.0s,baz=251,slow=5.4,SNR=6.3						
	comp=Z,2.7nm,1.0s						
M30M	Minto, Yukon	44.96	12	P	P	12 25 21.7	+1.3
	baz=205						
TOAD	Toad River Com	44.99	22	P	P	12 25 22.1	+1.5
	baz=222						
O20A	White River Ci	45.12	52	P	P	12 25 22.0	-0.2
	baz=257						
M31M	Drury Creek, Y	45.13	14	P	P	12 25 22.2	+0.6
	baz=208						
Y22D	IRIS PASSCAL I	45.16	61	P	P	12 25 22.3	-0.3
	baz=264						
SCRK	Sand Creek	45.16	7	P	P	12 25 23.3	+1.3
	baz=195						
L29M	L29M	45.20	11	P	P	12 25 22.8	+0.6
	baz=203						
HDA	Harding Lake	45.29	5	P	P	12 25 23.8	+0.9
	baz=191						
GCSA	Galena City Sc	45.30	359	P	P	12 25 23.9	+1.0
	baz=178						
NEA2	Nenana	45.32	4	P	P	12 25 24.1	+0.9
	baz=188						
I20K	Naaghedeneel	45.34	0	P	P	12 25 24.4	+1.2
	baz=181						
H16K	Elim	45.42	356	P	P	12 25 25.3	+1.5
	baz=171						
K27K	Chicken	45.45	8	P	P	12 25 25.3	+1.2
	baz=198						
H17K	Granite Mounta	45.58	357	P	P	12 25 25.6	+0.4
	baz=174						
ANM	Nome	45.61	354	P	P	12 25 26.1	+0.6
	baz=167						
ANMO	Albuquerque	45.64	60	P	P	12 25 25.8	-0.6
	baz=263						
J25K	Salcha River,	45.64	6	P	P	12 25 26.3	+0.6
	baz=193						
ILAR	Eielson Array	45.66	5	P	P	12 25 29.2	+3.5
	comp=Z,3.6nm,0.9s,baz=191,slow=6.9,SNR=16						
	comp=Z,3.6nm,0.9s						
MLY	Manley	45.67	3	P	P	12 25 26.3	+0.3
	baz=186						
COLA	College	45.68	4	P	P	12 25 27.2	+1.2
	baz=190						
J26L	Joseph Creek	45.72	7	IAmb	IAmb	12 25 33.2	
	comp=Z,9.0nm,1.1s						
J26L	Joseph Creek	45.72	7	P	P	12 25 27.5	+1.0
	baz=196						
S22A	4UR Ranch, Cre	45.73	56	P	P	12 25 26.6	-0.6
	baz=260,SNR=6.1						
H18K	Honhosa River	45.74	358	P	P	12 25 27.6	+1.2
	baz=176						
RLMT	Red Lodge	45.75	45	P	P	12 25 27.4	+0.2
	baz=251						
I21K	Tanana	45.77	2	P	P	12 25 27.1	+0.4
	baz=184						
I23K	Minto, Yukon-K	45.86	3	P	P	12 25 27.5	+0.2
	baz=188						
DAWY	Dawson	45.88	10	IAmb	IAmb	12 25 34.4	
	comp=Z,8.1nm,1.0s						
DAWY	Dawson	45.88	10	P	P	12 25 28.9	+1.3
	baz=201,SNR=6.2						
G15K	Niukluk	45.91	355	P	P	12 25 29.2	+1.4
	baz=168						
POKR	Poker Plat Res	45.95	5	P	P	12 25 29.0	+0.9
	baz=190						
K29M	Barlow Dome	45.98	11	IAmb	IAmb	12 25 49.1	
	comp=Z,18nm,1.9s						
K29M	Barlow Dome	45.98	11	P	P	12 25 28.2	-0.3
	baz=204						
H20K	Anotleneega Mo	46.03	0	P	P	12 25 29.4	+0.6
	baz=180						
H19K	Roundabout Mou	46.08	359	P	P	12 25 29.7	+0.7
	baz=178						
G16K	Koyuk River	46.17	356	P	P	12 25 30.5	+0.7
	baz=171						
G17K	Kiwalik Mounta	46.18	357	P	P	12 25 30.8	+0.9
	baz=173						
H21K	Melozitna Rive	46.23	1	P	P	12 25 31.5	+1.1
	baz=183						
MNTX	Cornudas Mount	46.27	64	P	P	12 25 32.0	+0.9
MNTX				IAmb	IAmb	12 25 38.3	
	comp=Z,8.6nm,1.1s						
MNTX	Cornudas Mount	46.27	64	P	P	12 25 31.0	-0.2
	baz=267						
EGAK	Eagle	46.29	8	P	P	12 25 32.3	+1.6
EGAK				IAmb	IAmb	12 25 37.8	
	comp=Z,11nm,1.1s						
EGAK	Eagle	46.29	8	P	P	12 25 32.2	+1.4
	baz=198,SNR=5.2						
J29N	Klondike Camp	46.43	10	P	P	12 25 30.2	-1.8
	baz=202						
EGMT	Eagleton	46.44	41	P	P	12 25 33.1	+0.7
EGMT	Eagleton	46.44	41	P	P	12 25 32.0	-0.3
	baz=248						
G18K	Tagagawik	46.49	358	P	P	12 25 30.7	-1.7
	baz=176						
H22K	Ishtalitna Cre	46.51	2	P	P	12 25 30.5	-2.0
	baz=185						
PRP	Porcupine Dome	46.51	6	P	P	12 25 32.1	-0.6
	baz=193,SNR=6.2						
H23K	Yukon River	46.52	3	P	P	12 25 31.1	-1.5
	baz=187						
I26K	Coal Creek Min	46.55	7	P	P	12 25 32.4	-0.4
	baz=196						
F14K	Arctic Creek	46.59	354	P	P	12 25 33.0	-0.1
	baz=166						
H24K	Nodor Dome	46.63	4	P	P	12 25 33.1	-0.5
	baz=190						
F15K	North Star Dit	46.66	355	P	P	12 25 32.5	-1.2
	baz=168						
G19K	Purcell Mounta	46.70	359	P	P	12 25 33.3	-0.7
	baz=178						
SDCO	Great Sand Dun	46.77	56	P	P	12 25 33.5	-1.9
	baz=261,SNR=5.3						
J30M	Hart River	46.87	11	P	P	12 25 35.7	+0.2
	baz=205						
K22A	Casper	46.97	49	P	P	12 25 34.7	-1.9
	baz=256						
N23A	Red Feather La	46.99	52	P	P	12 25 39.1	+2.1
N23A	Red Feather La	46.99	52	P	P	12 25 36.3	-0.8
	baz=258,SNR=6.1						
I27K	Kandik River	47.02	8	P	P	12 25 36.1	-0.5
	baz=198						
G21K	Allakaket	47.07	1	P	P	12 25 36.3	-0.7
	baz=182						
I28M	Miner Creek	47.09	9	P	P	12 25 36.4	-0.8
	baz=200						
F17K	Baldwin Pennin	47.15	357	P	P	12 25 35.5	-1.9
	baz=172						
H25L	Birch Creek	47.22	5	P	P	12 25 37.6	-0.4
	baz=192,SNR=8.2						
F18K	Selawik	47.23	358	P	P	12 25 37.2	-0.9
	baz=174						
Q24A	Divide	47.24	55	P	P	12 25 36.6	-2.5
	baz=260						
I29M	Ogilvie Camp,	47.26	10	P	P	12 25 36.4	-2.0
	baz=202						
G23K	Bananza Creek	47.38	3	IAmb	IAmb	12 25 45.1	
	comp=Z,11nm,1.4s						
G23K	Bananza Creek	47.38	3	P	P	12 25 39.1	-0.2
	baz=187						
F19K	Shaleruckik Mo	47.41	359	P	P	12 25 38.1	-1.4
	baz=177						
I30M	Mount Dempster	47.45	11	P	P	12 25 39.9	-0.1
	baz=204,SNR=6.2						
G24K	Hadweenzic Riv	47.52	4	P	P	12 25 40.2	-0.2
	baz=190						
G22K	Bettles	47.53	2	P	P	12 25 39.8	-0.6
	baz=185						
T25A	Trinidad	47.55	57	P	P	12 25 40.3	-1.1
	baz=263						
F20K	Avaraart Lake	47.60	360	P	P	12 25 40.8	-0.1
	baz=179						
H27K	Steamboat Moun	47.63	7	P	P	12 25 40.8	-0.5
	baz=198,SNR=5.4						
G25K	Bearman Lake	47.68	5	P	P	12 25 42.0	+0.4
	baz=192						
TX31	Lajitas Ar. Si	47.69	68		P	12 25 45.0	+2.6
TXAR	Lajitas Array	47.69	68	P	P	12 25 43.8	+1.4
TXAR	Lajitas Array	47.69	68	P	P	12 25 44.1	+1.7
	comp=Z,6.0nm,0.9s,baz=251,slow=8.0,SNR=14						
	comp=Z,6.0nm,0.9s						
ALPN	Alpine	47.72	66	P	P	12 25 43.9	+1.2
F21K	Alatna River	47.78	1	P	P	12 25 45.0	+2.5
F21K	Alatna River	47.78	1	P	P	12 25 42.5	+0.1
	baz=182						
E17K	Hotham Inlet	47.82	357	P	P	12 25 41.2	-1.4
	baz=172						
COLD	Coldfoot	47.89	3	P	P	12 25 42.0	-1.2
	baz=186						
E19K	Redstone River	48.02	359	P	P	12 25 43.1	-1.2
	baz=178						
H29M	Whitestone	48.05	9	P	P	12 25 43.8	-0.7
	baz=202						
G26K	Porcupine Rive	48.07	6	P	P	12 25 43.7	-0.9
	baz=195,SNR=7.8						
E18K	Tukpahlearik C	48.09	357	P	P	12 25 44.9	+0.1
	baz=173						
F22K	John River	48.10	2	P	P	12 25 45.9	+1.1
	baz=184						
G27K	Doyon Strip	48.17	7	P	P	12 25 45.5	0.0
	baz=197						
F24K	Squaw Lake	48.30	4	P	P	12 25 45.2	-1.3
	baz=189						
H31M	Peel River	48.34	11	P	P	12 25 45.5	-1.3
	baz=207						
EPYK	Eagle Plains	48.45	10	IAmb	IAmb	12 25 53.9	
	comp=Z,14nm,1.2s						
EPYK	Eagle Plains	48.45	10	P	P	12 25 47.3	-0.3
	baz=204						
BMAR	Burnt Mountain	48.46	5		P	12 25 49.8	+2.0
D17K	Noatak River	48.51	356	P	P	12 25 47.6	-0.4
	baz=170						
F25K	Christian Rive	48.53	5	P	P	12 25 48.0	-0.3
	baz=192						
MSTX	Muleshoe	48.58	62	P	P	12 25 51.1	+1.9
MSTX	Muleshoe	48.58	62	P	P	12 25 48.5	-0.8
	baz=267,SNR=5.6						
ODSA	Odessa	48.69	64	P	P	12 25 53.5	+3.4
E22K	Anaktuvuk Pass	48.74	2	P	P	12 25 49.8	0.0
	baz=184						
E23K	Chandalar	48.74	3	P	P	12 25 50.2	+0.2
	baz=187						
G29M	Pine Creek	48.74	9	P	P	12 25 49.7	-0.2
	baz=202						
F26K	Sheenjek River	48.76	6	P	P	12 25 49.8	-0.2
	baz=194						
E20K	Nigu River	48.81	360	P	P	12 25 51.0	+0.5
	baz=179						
E24K	Your Creek	48.82	3	P	P	12 25 50.5	0.0
	baz=188						
RDOG	Red Dog Mine	48.85	356	P	P	12 25 48.6	-2.0
	baz=170						
E21K	Killik River	49.00	1	P	P	12 25 50.3	-1.5
	baz=182						
E25K	Arctic Village	49.06	5	P	P	12 25 51.5	-0.8
	baz=192						
RSSD	Black Hills	49.07	48	P	P	12 25 51.3	-1.7
	baz=257						
D19K	Kuna River	49.08	359	P	P	12 25 50.9	-1.5
	baz=176						
G30M	tAoh Zraii Nji	49.09	10	IAmb	IAmb	12 25 58.5	
	comp=Z,13nm,1.2s						
G30M	tAoh Zraii Nji	49.09	10	P	P	12 25 51.2	-1.3
	baz=204,SNR=5.5						
F28M	Old Crow	49.15	8	P	P	12 25 52.2	-0.8
	baz=199						
KSCO	Kaye Shedlock'	49.19	55	P	P	12 25 52.4	-1.5
	baz=262						
C16K	Lisburne Hills	49.24	355	P	P	12 25 52.6	-0.9
	baz=167						
D20K	Etivluk River	49.28	359	P	P	12 25 52.7	-1.3
	baz=178						
C17K	DeLong Mountai	49.28	356	P	P	12 25 53.5	-0.5
	baz=170						
TOLK	Toolik Lake Re	49.33	3	P	P	12 25 52.8	-1.5
	baz=187						
PETK	Petropavlovsk-	49.34	324	LR	LR	12 44 07.0	
	comp=Z,728nm,20.1s,baz=111,slow=33						
C18K	Utukok River	49.34	357	P	P	12 25 54.2	-0.3
	baz=173						
G31M	Satah River	49.36	11		P	12 25 56.4	+1.8
G31M				IAmb	IAmb	12 26 00.5	
	comp=Z,12nm,1.1s						
G31M	Satah River	49.36	11	P	P	12 25 54.6	+0.1
	baz=206						
D22K	Ayikyak River	49.46	1	P	P	12 25 57.9	+2.6
D22K				IAmb	IAmb	12 26 06.5	
	comp=Z,17nm,1.4s						
D22K	Ayikyak River	49.46	1	P	P	12 25 54.9	-0.5
	baz=183						
E27K	Coleen River	49.50	7		P	12 25 57.7	+2.1
E27K				IAmb	IAmb	12 26 02.4	
	comp=Z,12nm,1.3s						
E27K	Coleen River	49.50	7	P	P	12 25 54.1	-1.5
	baz=197						
AMTX	Amarillo	49.54	60	P	P	12 25 58.9	+2.3
AMTX				IAmb	IAmb	12 27 38.3	
	comp=Z,6.0nm,0.8s						
AMTX	Amarillo	49.54	60	P	P	12 25 55.0	-1.5
	baz=266						
POST	Post	49.60	63	P	P	12 25 59.6	+2.6
POST				IAmb	IAmb	12 26 03.2	
	comp=Z,9.6nm,0.9s						
D23K	Nanushuk River	49.60	2	P	P	12 25 55.7	-0.7
	baz=186						
C21K	Knifeblade Rid	49.72	0	P	P	12 25 56.5	-0.7
	baz=181						
F30M	Barrier River	49.73	10	P	P	12 25 56.4	-1.0
	baz=204						
C19K	Lookout Ridge	49.73	358	P	P	12 25 56.7	-0.8
	baz=175						
D24K	Happy Valley	49.87	3	P	P	12 25 57.2	-1.2
	baz=188						
OZNA	Ozona	49.89	66	P	P	12 26 01.1	+1.9
OZNA				IAmb	IAmb	12 26 06.1	
	comp=Z,13nm,1.0s						
F31M	Tsiigehtchic	49.92	11		P	12 26 00.8	+2.1
F31M	Tsiigehtchic	49.92	11	P	P	12 25 59.1	+0.3
	baz=207						
OGNE	Ogallala	49.92	52	P	P	12 25 58.8	-0.6
	baz=261						
B18K	Kokolik River	50.09	357	P	P	12 26 00.4	+0.3
	baz=172						
DKNS	Dickens	50.11	62	P	P	12 26 03.0	+2.2
DKNS				IAmb	IAmb	12 26 07.5	
	comp=Z,18nm,1.1s						
E28M	Babbage River	50.13	7	P	P	12 26 01.8	+1.3
	baz=200,SNR=5.2						
E29M	Blow River	50.14	8	P	P	12 26 03.5	+3.0
E29M				IAmb	IAmb	12 26 06.7	
	comp=Z,12nm,1.3s						
E29M	Blow River	50.14	8	P	P	12 26 00.3	-0.2
	baz=202,SNR=5.8						
D25K	Kavik River	50.18	4	P	P	12 26 02.3	+1.4
	baz=191						
B21K	Ikpikpuk River	50.18	0	P	P	12 26 01.1	+0.4
	baz=181						
C24K	Franklin Bluff	50.44	3	P	P	12 26 04.1	+1.4
	baz=188						
C23K	Itkillik River	50.48	2	P	P	12 26 03.6	+0.6
	baz=186						
D27M	Malcolm River	50.58	7	P	P	12 26 04.3	+0.5
	baz=198						
B20K	Meade River	50.58	359	P	P	12 26 04.1	+0.3
	baz=178						
C27K	Jago River	50.68	5	P	P	12 26 05.1	+0.6
	baz=194						
INK	Inuvik	50.73	10		P	12 26 07.0	+2.1
INK				IAmb	IAmb	12 26 11.3	
	comp=Z,17nm,1.2s						
INK	Inuvik	50.73	10	P	P	12 26 04.4	-0.5
	baz=207,SNR=6.7						
APMT	Aspermont	50.77	62	P	P	12 26 06.8	+1.0

APMT				IAmb	IAmb	12 26 11.9
	comp=Z,24nm,1.6s					
C26K	**Camden Bay**	**50.87**	**5**	P	**P**	**12 26 06.5 +0.6**
	baz=193,SNR=6.3					
A19K	**Wainwright**	**50.89**	**357**	P	**P**	**12 26 05.4 -0.7**
	baz=173					
B22K	**Teshekpuk Lake**	**50.92**	**1**	P	**P**	**12 26 06.1 -0.2**
	baz=182					
D28M	**Stokes Point**	**50.92**	**7**	P	**P**	**12 26 06.6 +0.3**
	baz=200					
JCT	**Junction City**	**51.03**	**66**	P	**P**	**12 26 05.3 -2.6**
	baz=271					
ABTX	**Abilene, Hawle**	**51.16**	**63**	P	**P**	**12 26 06.7 -2.0**
	baz=270					
YKA	**Yellowknife Ar**	**51.29**	**23**	P	P	12 26 13.1 +3.8
	comp=Z,2.4nm,1.0s,baz=236,slow=7.6,SNR=10					
	comp=Z,2.4nm,1.0s					
CBKS	**Cedar Bluff**	**51.41**	**55**	P	**P**	**12 26 10.2 -0.4**
	baz=264					
833A	**Chaparral WMA,**	**51.47**	**69**	P	**P**	**12 26 10.9 -0.2**
	baz=273					
A22K	**Sinclair Lake**	**51.57**	**0**	P	**P**	**12 26 11.5 +0.3**
	baz=180					
BRDY	**Brady**	**51.71**	**65**	P	P	12 26 16.3 +3.3
A21K	**Barrow**	**51.90**	**359**	P	**P**	**12 26 13.7 +0.1**
	baz=178					
E28A	**Huff**	**51.91**	**46**	P	**P**	**12 26 16.2 +2.0**
WMOK	**Wichita Mounta**	**51.92**	**61**	P	**P**	**12 26 17.5 +3.0**
WMOK	**Wichita Mounta**	**51.92**	**61**	P	**P**	**12 26 13.5 -1.0**
	baz=268					
K30B	**Basset**	**51.97**	**51**	P	**P**	**12 26 16.1 +1.4**
HBVL	**Hebbronville**	**52.19**	**70**	P	**P**	**12 26 18.5 +2.0**
HBVL				IAmb	IAmb	12 26 29.6
	comp=Z,14nm,1.1s					
HNR	**Honiara**	**52.63**	**241**	LR	LR	12 46 15.3
	comp=Z,1μm,19.2s,baz=72,slow=33					
SUSD	**Miller**	**52.71**	**49**	P	**P**	**12 26 18.9 -1.3**
	baz=261					
BGNE	**Belgrade**	**52.89**	**52**	P	**P**	**12 26 20.4 -1.1**
	baz=264					
MDND	**Maddock**	**52.91**	**44**	P	**P**	**12 26 20.4 -1.2**
	baz=258					
435B	**Jarrell**	**52.94**	**66**	P	**P**	**12 26 20.5 -1.5**
	baz=272					
WHTX	**Lake Whitney,**	**53.01**	**64**	P	**P**	**12 26 20.6 -2.0**
	baz=271					
C36M	**Paulatuk**	**53.44**	**13**	P	**P**	**12 26 24.0 -1.1**
	baz=218					
TLIG	**Tlapa**	**53.59**	**82**	P	**P**	**12 26 28.4 +1.2**
T35A	**Sooner Cattle**	**53.83**	**58**	P	**P**	**12 26 30.1 +1.6**
KSU1	**Kansas State U**	**53.86**	**55**	P	**P**	**12 26 28.9 +0.2**
	baz=266					
BILL	**Bilibino**	**54.24**	**343**	P	**P**	**12 26 31.5 +0.5**
ECSD	**EROS Data Cent**	**54.28**	**50**		**P**	**12 26 33.5 +1.8**
ECSD	**EROS Data Cent**	**54.28**	**50**	P	**P**	**12 26 30.4 -1.3**
	baz=263					
TUL3	**Leonard**	**54.39**	**59**	P	**P**	**12 26 29.6 -3.0**
	baz=269					
A36M	**Sachs Harbour**	**55.35**	**11**	P	**P**	**12 26 38.1 -0.8**
	baz=215					
NATX	**Nacogdoches**	**55.40**	**64**	P	**P**	**12 26 37.4 -2.6**
	baz=273					
MA2	**Magadan**	**55.44**	**330**	LR	LR	12 46 07.5
	comp=Z,804nm,21.8s,baz=114,slow=31					
AGMN	**Agassiz Nation**	**55.46**	**44**	P	**P**	**12 26 38.9 -1.2**
	baz=260					
ULM	**Lac du Bonnet**	**55.80**	**42**		**P**	**12 26 45.4 +2.8**
ULM				IAmb	IAmb	12 26 48.3
	comp=Z,14nm,1.2s					
ULM	**Lac du Bonnet**	**55.80**	**42**	P	**P**	**12 26 45.7 +3.2**
	comp=Z,7.9nm,1.1s,baz=268,slow=10,SNR=5.3					
	comp=Z,7.9nm,1.1s					
HHAR	**Hobbs**	**55.89**	**59**	P	**P**	**12 26 46.6 +3.2**
HHAR				IAmb	IAmb	12 26 49.1
	comp=Z,7.0nm,1.1s					
MIAR	**Mount Ida**	**56.21**	**61**	P	**P**	**12 26 47.0 +1.2**
MIAR				IAmb	IAmb	12 26 52.5
	comp=Z,18nm,1.5s					
MIAR	**Mount Ida**	**56.21**	**61**	P	**P**	**12 26 43.7 -2.0**
	baz=271					
S39A	**Bolivar**	**56.39**	**57**	P	**P**	**12 26 49.9 +2.9**
S39A				IAmb	IAmb	12 26 53.3
	comp=Z,6.8nm,1.1s					
SCIA	**State Center**	**56.61**	**52**	P	**P**	**12 26 45.6 -2.9**
	baz=267					
ASAJ	**Asahikawa**	**56.83**	**310**	LR	LR	12 45 57.2
	comp=Z,956nm,21.8s,baz=121,slow=30					
SPMN	**Marine on St.**	**57.15**	**48**	P	**P**	**12 26 50.2 -2.1**
	baz=265					
R40A	**Maddies Statio**	**57.23**	**56**	P	**P**	**12 26 54.2 +1.3**
R40A				IAmb	IAmb	12 26 58.5
	comp=Z,8.9nm,0.9s					
MGMO	**Mountain Grove**	**57.23**	**58**	P	**P**	**12 26 55.6 +2.6**
MGMO				IAmb	IAmb	12 26 58.7
	comp=Z,12nm,1.4s					
P40A	**Paris**	**57.41**	**55**	P	**P**	**12 26 56.1 +1.9**
P40A				IAmb	IAmb	12 27 00.4
	comp=Z,14nm,1.4s					
CCM	**Cathedral Cave**	**58.03**	**57**	P	**P**	**12 26 56.1 -2.5**
	baz=270					
T42A	**Van Buren**	**58.17**	**58**	P	**P**	**12 27 02.5 +2.9**
T42A				IAmb	IAmb	12 27 05.7
	comp=Z,14nm,1.2s					
EYMN	**Ely**	**58.31**	**45**	P	**P**	**12 26 59.4 -1.0**
	baz=264					
N41A	**Harden Midland**	**58.34**	**54**	P	**P**	**12 27 02.6 +1.9**
PBMO	**Poplar Bluff**	**58.71**	**58**	P	**P**	**12 27 05.7 +2.3**
PBMO				IAmb	IAmb	12 27 08.6
	comp=Z,8.2nm,0.8s					
JFWS	**Jewell Farm**	**58.85**	**51**	P	**P**	**12 27 04.2 -0.1**
	baz=268					
VBMS	**Vicksburg**	**58.88**	**64**	P	**P**	**12 27 04.4 -0.2**
	baz=274					
G40A	**Rib Lake**	**58.99**	**48**	P	**P**	**12 27 06.9 +1.7**
HDIL	**Hopedale**	**59.53**	**54**	P	**P**	**12 27 09.0 +0.1**
	baz=270					
OXF	**Oxford**	**59.65**	**61**	P	**P**	**12 27 09.5 -0.4**
	baz=274					
MJAR	**Matsushiro Arr**	**60.08**	**302**	P	**P**	**12 27 14.7 +1.8**
	comp=Z,1.3nm,0.8s,baz=68,slow=7.5,SNR=2.0					
MJAR				LR	LR	12 48 35.1
	comp=Z,236nm,21.6s,baz=70,slow=31					
	comp=Z,1.3nm,0.8s					
L44A	**Lake County Fo**	**60.57**	**52**	P	**P**	**12 27 16.1 +0.1**
	baz=270					
H43A	**Windswept, Lux**	**60.69**	**49**	P	**P**	**12 27 19.3 +2.4**
WVT	**Waverly**	**60.83**	**59**	P	**P**	**12 27 16.8 -1.2**
	baz=274					
SFIN	**Lafayette**	**61.21**	**54**	P	**P**	**12 27 20.5 0.0**
	baz=272					
LRAL	**Lakeview Retre**	**61.77**	**62**	P	**P**	**12 27 24.3 -0.1**
	baz=276					
BRAL	**Brewton**	**61.93**	**64**	P	**P**	**12 27 24.5 -1.0**
	baz=277					
WCI	**Wyandotte Cave**	**61.93**	**56**	P	**P**	**12 27 24.5 -0.8**
	baz=273					
O48B	**Farmland**	**62.70**	**54**	P	**P**	**12 27 30.4 -0.2**
	baz=273					
GLMI	**Grayling**	**62.94**	**49**	P	**P**	**12 27 31.7 -0.3**
	baz=271					
P49A	**Miami Univ. Ec**	**63.08**	**55**	P	**P**	**12 27 32.2 -0.8**
	baz=274					
E46A	**Sault Ste Mari**	**63.14**	**47**	P	**P**	**12 27 35.9 +2.6**
AAM	**Ann Arbor**	**63.72**	**52**	P	**P**	**12 27 36.6 -0.6**
	baz=273					
RPN	**Rapa Nui**	**64.21**	**135**	LR	LR	12 48 18.5
	comp=Z,494nm,21.6s,baz=308,slow=29					
TZTN	**Tazewell**	**64.24**	**58**	P	**P**	**12 27 40.1 -0.7**
	baz=276					
ACSO	**Alum Creek Sta**	**64.36**	**54**	P	**P**	**12 27 41.3 -0.2**
	baz=274					
USRK	**Ussuriysk Ar.**	**64.46**	**310**	LR	LR	12 51 01.2
	comp=Z,489nm,20.7s,baz=96,slow=32					
GOGA	**Godfrey**	**64.67**	**62**	P	**P**	**12 27 43.5 -0.1**
	baz=277					
TIGA	**Tifton**	**64.83**	**64**	P	**P**	**12 27 44.8 +0.1**
	baz=278					
P52A	**Corning**	**65.06**	**55**	P	**P**	**12 27 45.3 -0.8**
	baz=275					
O53A	**New Philadelph**	**65.71**	**54**	P	**P**	**12 27 49.9 -0.4**
	baz=275					
M53A	**Wl Miller and**	**66.00**	**53**	P	**P**	**12 27 52.2 0.0**
	baz=275					
YAK	**Yakutsk**	**66.02**	**330**	LR	LR	12 52 45.3
	comp=Z,784nm,21.9s,baz=96,slow=32					
KMSC	**Kings Mountain**	**66.19**	**59**	P	**P**	**12 27 53.4 -0.1**
	baz=278					
ERPA	**Erie**	**66.45**	**52**	P	**P**	**12 27 54.9 -0.1**
	baz=275					
BLA	**Blacksburg**	**66.66**	**57**	P	**P**	**12 27 56.7 +0.2**
	baz=277					
MCWV	**Mont Chateau**	**66.82**	**54**	P	**P**	**12 27 54.9 -2.5**
	baz=276					
DWPF	**Disney Wildern**	**67.22**	**67**	P	**P**	**12 27 59.2 -0.9**
	baz=281					
NHSC	**New Hope**	**67.44**	**61**	P	**P**	**12 28 01.2 -0.2**
	baz=279					
SSPA	**Standing Stone**	**68.19**	**53**	P	**P**	**12 28 05.0 -1.0**
	baz=277					
L56A	**Greenwood**	**68.25**	**51**	P	**P**	**12 28 09.4 +3.0**
CBN	**Corbin Frederi**	**68.92**	**56**	P	**P**	**12 28 09.8 -0.8**
	baz=279					
CNNC	**Cliffs of the**	**68.97**	**59**	P	**P**	**12 28 10.1 -0.9**
	baz=279					
BINY	**Binghamton**	**69.40**	**51**	P	**P**	**12 28 12.7 -0.9**
	baz=278					
LONY	**Lake Ozonia**	**70.08**	**49**	P	**P**	**12 28 17.7 0.0**
	baz=278					
PAL	**Palisades**	**71.12**	**52**	P	**P**	**12 28 24.3 +0.2**
	baz=280					
L61B	**Northampton**	**71.78**	**51**	P	**P**	**12 28 27.1 -1.0**
	baz=280					
LBNH	**Lisbon**	**72.02**	**49**	P	**P**	**12 28 28.5 -1.0**
	baz=280					
HRV	**Adam Dziewonsk**	**72.59**	**50**	P	**P**	**12 28 32.7 -0.2**
	baz=281					
M65A	**Busby, Falmout**	**73.44**	**51**	P	**P**	**12 28 37.3 -0.7**
	baz=281					
PKME	**Peaks-Kenny Pk**	**73.68**	**47**	P	**P**	**12 28 39.9 +0.7**
	baz=281					
NJ2	**Nanjing**	**76.57**	**299**	*e*P	**P**	**12 28 56.3 +0.1**
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.5s					
HNS	**HongShan**	**78.48**	**306**	⇑P	P	12 29 14.0 +7.2
HNS				S	S	12 39 14.1 +11
HNS				pmax	pmax	
	comp=Z,520nm,7.1s					
HNS				LR	LR	
	comp=E,510nm,21.2s					
HNS				LR	LR	
	comp=Z,470nm,19.6s					
HHC	**Hu-ho-hao-te**	**79.87**	**310**	*e*P	**P**	**12 29 13.4 -1.1**
HHC				*e*S	**S**	**12 39 24.9 +6.7**
HHC				SS	**SS**	**12 44 27.1 +0.1**
HHC				pmax	pmax	
	comp=Z,8.0nm,0.5s					
HHC				pmax	pmax	
	comp=Z,330nm,5.8s					
HHC				LR	LR	
	comp=Z,170nm,15.7s					
HHC				LR	LR	
	comp=Z,400nm,20.2s					
HHC				LR	LR	
	comp=Z,490nm,19.8s					
SONM	**Songino Array**	**81.25**	**318**	P	**P**	**12 29 25.1 +3.3**
	comp=Z,1.3nm,0.8s,baz=90,slow=4.3,SNR=3.5					
ASAR	**Alice Springs**	**81.25**	**241**	P	**P**	**12 29 23.0 +0.9**
	comp=Z,1.2nm,0.9s,baz=64,slow=5.6,SNR=5.1					
	comp=Z,1.2nm,0.9s					
JMIC	**Jan Mayen**	**86.92**	**10**	LR	LR	13 05 32.6
	comp=Z,108nm,21.5s,baz=332,slow=33					
KAPI	**Kappang**	**86.94**	**264**	LR	LR	13 04 58.1
	comp=Z,87nm,19.7s,baz=94,slow=33					
LZH	**Lanzhou**	**87.16**	**307**	P	P	12 29 57.1 +4.9
LZH				S	**S**	**12 40 33.0 +0.8**
LZH				pmax	pmax	
	comp=Z,430nm,6.7s					
LZH				LR	LR	
	comp=Z,250nm,14.4s					
LZH				LR	LR	
	comp=Z,370nm,17.9s					
LZH				LR	LR	
	comp=Z,540nm,20.6s					
PCRV	**Puerto La Cruz**	**87.25**	**80**	LR	LR	13 05 34.8
	comp=Z,117nm,20.1s,slow=33					
QIZ	**Qiongzhong**	**88.22**	**289**	P	**P**	**12 29 56.5 -0.8**
QIZ				S	**S**	**12 40 44.7 +2.2**
QIZ				SS	**SS**	**12 46 30.3 -1.0**
QIZ				LR	LR	
	comp=Z,340nm,17.6s					
QIZ				LR	LR	
	comp=Z,450nm,19.6s					
QIZ				LR	LR	
	comp=Z,250nm,18.5s					
GTA	**Gaotai**	**88.81**	**312**	P	P	12 30 07.0 +7.1
H03N2	**Juan Fernandez**	**89.71**	**126**	T	T	14 09 08.8
	baz=298					
H03N3	**Juan Fernandez**	**89.72**	**126**	T	T	14 09 09.0
	baz=298					
H03N1	**Juan Fernandez**	**89.72**	**126**	T	T	14 09 10.0
	baz=298					
ZALV	**Zalesovo Beam**	**90.66**	**329**	P	P	12 30 13.0 +4.9
	comp=Z,0.4nm,0.3s,baz=35,slow=5.3,SNR=5.6					
ZALV				LR	LR	13 08 40.2
	comp=Z,429nm,20.7s,baz=58,slow=34					
	comp=Z,0.4nm,0.3s					
ARCES	**ARCESS Array B**	**91.28**	**360**	LR	LR	13 12 28.2
	comp=Z,122nm,18.5s,baz=348,slow=36					
PZH	**PanZhiHua**	**92.49**	**299**	P	**P**	**12 30 16.7 -0.6**
PZH				pmax	pmax	
	comp=Z,7.0nm,0.8s					
PZH				pmax	pmax	
	comp=Z,90nm,4.7s					
LPAZ	**La Paz**	**92.68**	**106**	LR	LR	13 04 12.7
	comp=Z,168nm,21.4s,baz=296,slow=30					
LVC	**Limon Verde**	**94.07**	**112**	LR	LR	13 03 39.3
	comp=Z,343nm,20.0s,baz=280,slow=30					
WMQ	**Urumqi**	**94.72**	**320**	*e*P	**P**	**12 30 28.3 +1.1**
WMQ				LR	LR	
	comp=Z,370nm,18.5s					
WMQ				LR	LR	
	comp=Z,180nm,15.1s					
WMQ				LR	LR	
	comp=Z,240nm,24.1s					
KURBB	**Kurchatov Arra**	**95.75**	**329**	LR	LR	13 11 42.2
	comp=Z,420nm,21.7s,baz=130,slow=34					
MKAR	**Makanchi Array**	**96.17**	**324**	LR	LR	13 11 05.3
	comp=Z,340nm,21.9s,baz=61,slow=34					
BVAR	**Borovoye Array**	**97.75**	**334**	LR	LR	13 15 39.6
	comp=Z,165nm,20.0s,baz=51,slow=36					
NWAO	**Narrogin (SRO)**	**98.30**	**238**	LR	LR	13 10 50.3
	comp=Z,78nm,18.3s,baz=86,slow=30					
PLCA	**Paso Flores**	**98.56**	**130**	LR	LR	13 05 07.5
	comp=Z,369nm,20.9s,baz=276,slow=29					
SIV	**San Ignacio**	**99.03**	**104**	LR	LR	13 08 43.3
	comp=Z,345nm,19.8s,baz=294,slow=31					
ARU	**Arti**	**99.24**	**342**	LR	LR	13 16 11.3
	comp=Z,384nm,21.4s,baz=43,slow=36					
KIRV	**Kirov**	**99.64**	**347**	LR	LR	13 18 20.5
	comp=Z,296nm,20.0s,baz=26,slow=37					
VNDA	**Vanda**	**99.93**	**189**	LR	LR	13 06 05.5
	comp=Z,167nm,21.8s,baz=8.0,slow=30					

UUSS ***03*** *12:19:43.8±1.8, 42°.71N±0°.03×111°.53W±0°.05, h7km±6km, Error ellipse: s-maj=6.2km s-min=2.5km az=127.0*

NEIC 03 12:19:43.2±2.1, 42°.65N±0°.03×111°.48W±0°.05, h5km±2km, ML2.8/98, ML3.0/18(UUSS), Error ellipse: s-maj=7.7km s-min=3.0km az=306.0, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
AHID	**Auburn Hatcher**	**0.30**	**68**	Pg	Pg	12 19 50.1		+1.0
AHID				Sg	Sg	12 19 54.7		+1.7
AHID				IAML		12 19 55.0		
	2μm,0.5s							
AHID				IAML		12 19 57.7		
	2μm,0.3s							
BEI	**Bear River Ran**	**0.58**	**203**		Pg	12 19 55.2		+0.7
L17A	**Cokeville**	**0.71**	**141**		Pb	12 19 58.2		-0.1
L17A					Sb	12 20 09.1		+0.7
BMUT	**Black Mountain**	**0.72**	**166**		Pb	12 19 58.1		-0.3
MLI	**Malad Range**	**0.79**	**218**		Pg	12 19 58.9		+0.4
HDU	**Hyde Park**	**0.88**	**194**		Pb	12 20 00.8		-0.2
NPI	**North Pocatell**	**0.92**	**237**		Pg	12 20 01.3		+0.4
PTU	**Portage**	**0.96**	**221**		Pb	12 20 02.2		-0.3
FXWY	**Fox Creek**	**1.04**	**18**	Pg	Pb	12 20 03.8		-0.1
HWUT	**Hardware Ranch**	**1.05**	**184**	Pg	Pb	12 20 04.2		+0.2
HWUT				IAML		12 20 23.7		
	187nm,0.7s							
HWUT				IAML		12 20 23.9		
	168nm,0.6s							
WVUT	**Wellsville**	**1.10**	**199**		Pn	12 20 05.3		-0.2
LOHW	**Long Hollow**	**1.15**	**33**		Pg	12 20 05.4		+0.1
MCU	**Monte Cristo P**	**1.19**	**181**		Pn	12 20 07.1		+0.3
LTU	**Little Mountai**	**1.21**	**209**		Pg	12 20 06.3		0.0
HVU	**Hansel Valley**	**1.30**	**228**		Pg	12 20 07.7		-0.5
BW06	**Boulder Array**	**1.42**	**85**		Pg	12 20 10.8		+0.4
PD31	**Pinedale Array**	**1.42**	**85**		Pn	12 20 09.4		-0.5
EPU	**East Promontor**	**1.44**	**209**		Pn	12 20 10.1		0.0
SPUT	**South Promonto**	**1.53**	**209**		Pn	12 20 11.7		+0.3
SPUT				IAML		12 20 36.8		
	comp=N,214nm,0.3s							
SPUT				IAML		12 20 37.2		
	comp=E,126nm,0.8s							
FLWY	**Flagg Ranch**	**1.54**	**21**		Pn	12 20 11.8		+0.2
FLWY				IAML		12 20 34.6		
	comp=E,88nm,1.0s							
FLWY				IAML		12 20 38.7		
	comp=E,71nm,0.8s							
TCUT	**Toone Canyon**	**1.54**	**178**	Pg	Pn	12 20 11.7		+0.1
YFT	**Old Faithful**	**1.86**	**14**	Pn	Pn	12 20 15.5		-0.4
H17A	**Grant Village**	**1.86**	**20**		Pn	12 20 15.2		-0.8
CTU	**Camp Tracy**	**1.97**	**186**		Pb	12 20 19.3		-0.4
CTU				IAML		12 20 51.2		
	comp=N,75nm,0.4s							
CTU				IAML		12 20 53.2		
	comp=E,105nm,0.5s							
JLU	**Jordanelle**	**2.05**	**179**		Pn	12 20 19.8		+1.2
JLU				IAML		12 20 53.2		
	comp=E,190nm,0.5s							
JLU				IAML		12 20 56.2		
	comp=N,87nm,0.6s							
BGU	**Big Grassy Mou**	**2.08**	**214**	Pn	Pn	12 20 19.5		+0.5
BGU				IAML		12 20 54.4		
	comp=E,41nm,0.3s							
BGU				IAML		12 20 56.3		
	comp=N,43nm,0.6s							
QLMT	**Earthquake Lak**	**2.18**	**1**	Pn	Pn	12 20 19.5		-0.8
YHH	**Holmes Hill**	**2.18**	**12**		Pn	12 20 21.6		+1.1
BSUT	**Blindstream Ca**	**2.18**	**166**	Pn	Pb	12 20 22.1		-1.4
BSUT				IAML		12 20 55.0		
	comp=N,113nm,0.6s							
BSUT				IAML		12 20 55.9		
	comp=E,119nm,0.6s							
YMP	**Mirror Lake Pl**	**2.29**	**24**	Pn	Pn	12 20 23.2		+1.2
HLID	**Hailey**	**2.34**	**294**		Pb	12 20 24.3		-1.7
HLID				IAML		12 21 03.0		
	comp=E,31nm,0.7s							
RDMU	**Red Mountain**	**2.52**	**145**		Pn	12 20 26.1		+1.0
RDMU				IAML		12 21 13.1		
	comp=N,43nm,0.7s							
RDMU				IAML		12 21 14.9		
	comp=E,57nm,0.9s							
MPU	**Maple Canyon**	**2.64**	**183**		Pn	12 20 28.1		+1.4
MPU				IAML		12 21 12.8		
	comp=N,32nm,0.6s							
MPU				IAML		12 21 13.3		
	comp=E,23nm,0.6s							
DUG	**Dugway, Tooele**	**2.66**	**203**		Pn	12 20 27.8		+0.9
DUG				IAML		12 21 11.6		
	comp=E,32nm,0.7s							
DUG				IAML		12 21 13.0		
	comp=E,39nm,0.4s							
NLU	**North Lily Min**	**2.73**	**190**		Pn	12 20 29.5		+1.5
RLMT	**Red Lodge**	**2.94**	**32**	Pn	Pn	12 20 31.4		+0.6
BOZ	**Bozeman (W)**	**2.94**	**358**		Pn	12 20 33.4		+2.5
P18A	**Preston Nutter**	**3.16**	**163**		Pn	12 20 36.1		+2.1
P18A				IAML		12 21 29.9		
	comp=E,39nm,0.7s							
P18A				IAML		12 21 35.5		
	comp=N,39nm,0.8s							
P17A	**Butcher Ranch,**	**3.23**	**170**		Pn	12 20 36.5		+1.8
P17A				IAML		12 21 27.9		
	comp=E,50nm,0.7s							
MFID	**Camas Ranch**	**3.28**	**285**		Pn	12 20 37.9		+2.5
MFID				IAML		12 21 31.6		
	comp=E,40nm,0.8s							
MFID				IAML		12 21 35.5		
	comp=E,27nm,0.8s							
TMUT	**Trail Mountain**	**3.36**	**176**		Pn	12 20 38.3		+1.6
ELK	**Elko**	**3.40**	**237**	Pn	Pn	12 20 38.5		+1.3
O20A	**White River Ci**	**3.50**	**135**		Pn	12 20 39.4		+0.9
SRU	**San Rafael Swe**	**3.61**	**168**	Pn	Pn	12 20 41.4		+1.4
SRU				IAML		12 21 40.9		
	comp=N,42nm,0.5s							
K22A	**Casper**	**3.65**	**88**		Pn	12 20 43.3		+2.7
K22A				IAML		12 21 45.9		
	comp=E,31nm,1.0s							
K22A				IAML		12 21 51.5		
	comp=N,24nm,0.5s							
Q16A	**Castle Valley**	**3.74**	**176**	Pn	Pn	12 20 43.1		+1.3
Q16A				IAML		12 21 42.4		
	comp=N,19nm,1.0s							
Q16A				IAML		12 21 42.7		
	comp=E,26nm,1.1s							
BPMT	**Black Pine Rid**	**4.04**	**340**	Pn	Pn	12 20 48.0		+2.0
TCRU	**Three Creeks R**	**4.11**	**191**	Pn	Pn	12 20 47.3		+0.4
TCRU				IAML		12 22 01.7		
	comp=N,10nm,1.0s							
TCRU				IAML		12 22 57.0		
	comp=E,11nm,4.5s							
MSU	**Marysvale**	**4.17**	**188**	Pn	Pn	12 20 49.4		+1.6
MVU	**Marysvale**	**4.18**	**188**	Pn	Pn	12 20 49.0		+1.0
SPR3	**Spring Creek 3**	**4.25**	**212**	Pn	Pn	12 20 51.7		+2.8
LYMT	**Lyon Mountain**	**4.35**	**353**	Pn	Pn	12 20 49.2		-1.1
N23A	**Red Feather La**	**4.49**	**111**		Pn	12 20 52.4		+0.1
PSUT	**Pine Spring**	**4.50**	**205**		Pn	12 20 50.6		-1.6
PSUT				IAML		12 22 00.1		
	comp=N,4.9nm,4.7s							
PSUT				IAML		12 22 16.9		
	comp=E,4.9nm,1.7s							
PV21	**Cone Mtn., Par**	**4.51**	**154**	Pn	Pn	12 20 51.5		-0.9
MSO	**Missoula**	**4.53**	**338**	Pn	Pn	12 20 53.0		+0.4
MSO				IAML		12 22 21.0		
	comp=E,6.0nm,1.2s							
MSO				IAML		12 22 22.5		
	comp=E,5.5nm,2.4s							
OVMT	**Ovando**	**4.54**	**347**	Pn	Pn	12 20 52.4		-0.3
MTPU	**Mount Pierson**	**4.64**	**187**	Pn	Pn	12 20 54.1		-0.2
MTPU				IAML		12 22 17.1		
	comp=E,6.3nm,0.9s							
MTPU				IAML		12 22 45.0		
	comp=N,6.6nm,4.4s							
PV10	**Paradox Valley**	**4.66**	**156**	Pn	Pn	12 20 54.8		+0.3
HMU	**Henry Mountain**	**4.74**	**173**	Pn	Pn	12 20 54.5		-1.1
PV16	**Nyswonger Mesa**	**4.76**	**155**	Pn	Pn	12 20 54.0		-1.8
BMO	**Blue Mountains**	**4.76**	**299**	Pn	Pn	12 20 55.2		-0.5
BMO				IAML		12 22 00.3		
	comp=N,3.9nm,4.0s							
BMO				IAML		12 22 20.9		
	comp=N,5.1nm,1.7s							
PV17	**East Wray Mesa**	**4.77**	**155**	Pn	Pn	12 20 55.0		-1.0
BMN	**Battle Mountai**	**4.85**	**245**	Pn	Pn	12 20 55.4		-1.7
BMN				IAML		12 22 20.3		
	comp=N,8.2nm,0.8s							
BMN				IAML		12 22 22.3		
	comp=E,8.0nm,0.9s							
J08A	**Circle Bar Ran**	**5.18**	**280**	Pn	Pn	12 21 01.8		+0.3
PKCU	**Pink Cliffs**	**5.24**	**187**	Pn	Pn	12 21 02.7		+0.1
F10A	**Beach Ranch, E**	**5.30**	**311**	Pn	Pn	12 21 03.7	

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.84**	**160**	P	**Pn**	**12 37 01.5**	**+0.5**
	620nm,0.6s,baz=41,slow=5.0,SNR=288						
PMG				S	**Sn**	**12 37 43.3**	**-1.8**
	838nm,0.4s,baz=340,slow=21,SNR=6.6						
MANU	**Manus Island**	**4.04**	**23**		**Pn**	**12 37 06.2**	**+2.5**
JAY	**Jayapura**	**6.03**	**302**	P	**Pn**	**12 37 29.6**	**-1.2**
GENI	**Genyem**	**6.45**	**299**	P	**Pn**	**12 37 37.6**	**+1.2**
	44nm,0.7s,0.5nm						
COEN	**Coen**	**8.52**	**197**	P	**Pn**	**12 38 07.2**	**+2.6**
COEN	**Coen**	**8.52**	**197**	Pn	**Pn**	**12 38 07.0**	**+2.4**
MTSU	**Mount Surprise**	**12.36**	**187**	P	**Pn**	**12 38 59.2**	**+2.8**
TV1H	**Townsville Har**	**13.43**	**176**	P	**Pn**	**12 39 14.4**	**+3.9**
	22nm,0.7s						
CTAO	**Charters Tower**	**14.22**	**178**		**P**	**12 39 26.0**	**+0.9**
KDU	**Kakadu**	**14.83**	**242**	P	**Pn**	**12 39 30.2**	**+1.6**
SWI	**Sorong**	**15.31**	**288**	P	**Pn**	**12 39 36.3**	**+1.5**
	52nm,0.9s						
MTN	**Manton Dam**	**16.07**	**243**	P	**Pn**	**12 39 44.7**	**+0.4**
DRS	**Darwin Rock St**	**16.12**	**245**	P	**P**	**12 39 48.8**	**+2.6**
	22nm,0.5s						
WB0	**Warramunga Arr**	**17.78**	**218**	P	**P**	**12 40 04.4**	**-0.2**
WR0	**Warramunga Arr**	**17.84**	**217**	P	**P**	**12 40 04.6**	**-0.6**
WR0				IAmb	IAmb	12 40 13.6	
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**17.93**	**217**	P	**P**	**12 40 06.2**	**0.0**
WB2	**Warramunga Arr**	**17.94**	**217**	P	**P**	**12 40 05.5**	**-0.8**
WB2				IAmb	IAmb	12 40 42.2	
	comp=Z,34nm,1.2s						
WRA	**Warramunga Arr**	**17.95**	**217**	P	**P**	**12 40 05.6**	**-0.8**
WRA	**Warramunga Arr**	**17.95**	**217**	P	**P**	**12 40 05.6**	**-0.8**
	comp=Z,6.1nm,0.8s,baz=37,slow=12,SNR=28						
WRA				S	**S**	**12 43 26.4**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=51,slow=21,SNR=1.6						
WRA				PcP	**PcP**	**12 44 37.0**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=30,slow=2.1,SNR=1.2						
WRA				ScP	**ScP**	**12 48 04.0**	**0.0**
	comp=Z,0.7nm,0.6s,baz=36,slow=2.2,SNR=5.8						
WB1	**Warramunga Ar.**	**17.96**	**217**	P	**P**	**12 40 05.6**	**-0.9**
	comp=Z,15nm,0.7s						
KNRA	**Kununurra**	**19.39**	**238**	P	**P**	**12 40 22.1**	**-0.1**
KNRA				IAmb	IAmb	12 40 52.4	
	comp=Z,24nm,1.1s						
EIDS	**Eidsvold**	**20.11**	**166**	P	**P**	**12 40 29.7**	**-0.3**
EIDS				IAmb	IAmb	12 40 48.6	
	comp=Z,18nm,0.5s						
QLP	**Quilpie**	**20.73**	**184**	P	**P**	**12 40 37.5**	**+0.9**
AS01	**Alice Springs**	**21.12**	**212**	P	**P**	**12 40 41.5**	**+0.7**
	comp=Z,20nm,0.9s						
AS31	**Alice Springs**	**21.14**	**212**	P	**P**	**12 40 41.2**	**+0.1**
ASAR	**Alice Springs**	**21.14**	**212**	P	**P**	**12 40 40.3**	**-0.8**
	comp=Z,6.7nm,0.8s,baz=55,slow=8.3,SNR=34						
ASAR				S	**S**	**12 44 30.8**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=28,slow=22,SNR=4.4						
ASAR				ScP	**ScP**	**12 48 11.3**	**0.0**
	comp=Z,0.6nm,0.7s,baz=50,slow=1.4,SNR=0.8						
	comp=Z,6.7nm,0.8s						
BATI	**Baumata**	**22.35**	**257**	P	**P**	**12 40 54.8**	**+0.8**
	comp=Z,100nm,0.8s						
INKA	**Innaminka**	**22.35**	**192**	P	**P**	**12 40 53.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**23.18**	**236**	P	**P**	**12 41 01.6**	**-0.5**
LUWI	**Luwuk**	**23.46**	**281**	P	**P**	**12 41 04.8**	**0.0**
MMRI	**Maumere**	**23.55**	**262**	P	**P**	**12 41 04.8**	**-0.7**
GTOI	**Gorontalo**	**23.63**	**285**	P	**P**	**12 41 07.9**	**+1.6**
	comp=Z,48nm,0.8s,comp=Z,384nm						
OOD	**Oodnadatta**	**23.90**	**203**	P	**P**	**12 41 08.6**	**0.0**
EDFI	**Ende, Flores**	**24.09**	**262**	P	**P**	**12 41 09.6**	**-1.0**
	comp=Z,38nm,0.8s						
MRSI	**Marisa**	**24.62**	**284**	P	P	12 41 29.1	+14
ARMA	**Armidale**	**25.11**	**168**	P	**P**	**12 41 19.2**	**-0.4**
ARMA				IAmb	IAmb	12 41 44.6	
	comp=Z,29nm,1.3s						
WRKA	**Warakurna**	**25.45**	**219**	P	**P**	**12 41 22.3**	**-0.5**
LCRK	**Leigh Creek**	**25.55**	**195**	P	**P**	**12 41 24.4**	**+0.9**
CMSA	**Cobar Meteorol**	**25.61**	**180**	P	**P**	**12 41 25.1**	**+1.0**
DZM	**Mont Dzumac**	**25.70**	**131**	P	**P**	**12 41 25.4**	**+0.4**
DZM	**Mont Dzumac**	**25.70**	**131**	P	**P**	**12 41 24.9**	**-0.1**
	comp=Z,6.1nm,0.7s,baz=298,slow=17,SNR=6.9						
	comp=Z,6.1nm,0.7s						
TOLI2	**Tolitoli**	**25.91**	**285**	P	**P**	**12 41 27.1**	**+0.2**
TOLI2				IAmb	IAmb	12 42 11.4	
	comp=Z,17nm,0.9s						
STKA	**Stephens Creek**	**26.25**	**188**	P	**P**	**12 41 30.0**	**+0.2**
STKA	**Stephens Creek**	**26.25**	**188**	P	**P**	**12 41 29.7**	**-0.1**
STKA	**Stephens Creek**	**26.25**	**188**	P	**P**	**12 41 29.8**	**0.0**
	comp=Z,5.2nm,0.6s,baz=355,slow=9.1,SNR=11						
	comp=Z,5.2nm,0.6s						
MULG	**Mulgathing**	**26.75**	**203**	P	**P**	**12 41 34.2**	**-0.2**
BBOO	**Buckleboo**	**28.38**	**197**	P	**P**	**12 41 48.4**	**-0.4**
BBOO				IAmb	IAmb	12 42 30.7	
	comp=Z,23nm,1.2s						
MBWA	**Marble Bar**	**29.52**	**236**	P	**P**	**12 41 59.3**	**+0.2**
CAN	**Canberra**	**29.54**	**175**	P	**P**	**12 41 59.2**	**+0.1**
CAN				IAmb	IAmb	12 42 12.6	
	comp=Z,21nm,1.4s						
FORT	**Forrest**	**29.93**	**212**	P	**P**	**12 42 01.9**	**-0.8**
TOO	**Toolangi**	**31.64**	**180**	P	**P**	**12 42 15.6**	**-2.0**
TOO				IAmb	IAmb	12 42 42.9	
	comp=Z,14nm,1.2s						
MORW	**Morawa**	**36.43**	**227**	P	**P**	**12 42 58.5**	**-0.7**
YOJ	**Yonaguni jima**	**37.38**	**324**	P	**P**	**12 43 05.1**	**-2.1**
NWAO	**Narrogin (SRO)**	**37.90**	**221**	P	**P**	**12 43 10.6**	**-1.0**
JHJ	**Hachijo jima 2**	**39.11**	**352**	P	**P**	**12 43 20.2**	**-1.5**
	comp=Z,23nm,0.4s,baz=238,slow=8.3,SNR=1.3						
JGF	**Kuroka**	**41.93**	**350**	P	**P**	**12 43 43.3**	**-1.6**
JGF				IAmb	IAmb	12 43 44.9	
	comp=Z,8.7nm,0.9s						
MJAR	**Matsushiro Arr**	**42.71**	**351**	P	**P**	**12 43 49.6**	**-1.5**
	comp=Z,3.0nm,0.6s,baz=160,slow=6.2,SNR=9.4						
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**42.71**	**351**	P	**P**	**12 43 49.7**	**-1.4**
MAJO				IAmb	IAmb	12 43 50.8	
	comp=Z,22nm,1.5s						
MJB9	**Matsu-Tunnel**	**42.71**	**351**	P	**P**	**12 43 50.5**	**-0.6**
MJB9				IAmb	IAmb	12 44 21.5	
	comp=Z,9.8nm,1.1s						
URZ	**Urewera**	**43.03**	**143**	P	**P**	**12 43 53.8**	**+0.1**
	comp=Z,5.8nm,0.5s,baz=343,slow=5.4,SNR=9.9						
	comp=Z,5.8nm,0.5s						
RTZ	**Ruatahuna**	**43.19**	**144**	P	**P**	**12 43 56.1**	**+1.1**
NJ2	**Nanjing**	**45.55**	**327**	*e*P	**P**	**12 44 15.9**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,820nm,4.4s						
KSRS	**Korea Array**	**46.14**	**340**	P	**P**	**12 44 17.5**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=133,slow=26,SNR=4.0						
	comp=Z,1.3nm,0.7s						
JTM	**Tenmabayashi**	**46.55**	**355**	P	**P**	**12 44 20.8**	**-0.8**
WHN	**Wuhan**	**47.03**	**322**	P	**P**	**12 44 26.4**	**+0.9**
SRIT	**Nakonsritamara**	**48.23**	**287**	P	**P**	**12 44 34.7**	**-0.4**
JKA	**Kamikawa-asahi**	**49.76**	**357**	P	**P**	**12 44 45.1**	**-1.1**
PHRA	**Phrae**	**51.00**	**299**	P	**P**	**12 44 57.1**	**+1.1**
USRK	**Ussuriysk Ar.**	**51.30**	**347**	P	**P**	**12 44 57.5**	**-0.2**
USRK	**Ussuriysk Ar.**	**51.30**	**347**	P	**P**	**12 44 57.0**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=178,slow=10,SNR=3.8						
	comp=Z,1.3nm,0.5s						
CRAI	**Chiangrai**	**51.59**	**301**	P	**P**	**12 45 00.9**	**+0.5**
CRAI				IAmb	IAmb	12 45 02.6	
	comp=Z,13nm,1.4s						
CMAR	**Chiang Mai Arr**	**52.10**	**299**	P	**P**	**12 45 04.3**	**0.0**
CHTO	**Chiang Mai**	**52.24**	**299**	P	**P**	**12 45 05.2**	**-0.1**
CHTO				IAmb	IAmb	12 45 06.8	
	comp=Z,7.2nm,1.1s						
PZH	**PanZhiHua**	**53.40**	**309**	P	**P**	**12 45 16.3**	**+2.5**
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
HHC	**Hu-ho-hao-te**	**56.03**	**329**	*e*P	**P**	**12 45 35.3**	**+2.7**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,150nm,4.6s						
LZH	**Lanzhou**	**57.28**	**320**	*e*P	P	12 45 50.3	+8.7
LZH				sP	sP	12 46 23.4	+6.1
LZH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PETK	**Petropavlovsk-**	**59.53**	**8**	P	**P**	**12 45 57.0**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=165,slow=6.9,SNR=6.2						
	comp=Z,2.1nm,0.6s						
SONM	**Songino Array**	**63.65**	**331**	P	**P**	**12 46 24.7**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=157,slow=4.8,SNR=5.5						
	comp=Z,0.8nm,0.5s						
WMQ	**Urumqi**	**71.86**	**320**	*e*P	**P**	**12 47 18.3**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,27nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,80nm,3.8s						
WMQ				LR	LR		
	comp=Z,190nm,16.9s						
WMQ				LR	LR		
	comp=Z,170nm,19.1s						
WMQ				LR	LR		
	comp=Z,170nm,19.1s						
P08K	**Saint George I**	**72.06**	**24**	P	**P**	**12 47 17.8**	**+0.8**
	baz=227						
SPIA	**Saint Paul Isl**	**72.18**	**23**	P	**P**	**12 47 18.2**	**+0.6**
	baz=226						
VNDA	**Vanda**	**72.19**	**176**	P	**P**	**12 47 17.7**	**+0.2**
VNDA	**Vanda**	**72.19**	**176**	P	**P**	**12 47 17.7**	**+0.2**
	comp=Z,3.9nm,0.8s,baz=324,slow=7.1,SNR=20						
	comp=Z,3.9nm,0.8s						
KAAM	**Kaadhehdhoo**	**72.95**	**272**	P	**P**	**12 47 22.2**	**-1.0**
MKAR	**Makanchi Array**	**76.58**	**321**	P	**P**	**12 47 42.9**	**-0.6**
MKAR	**Makanchi Array**	**76.58**	**321**	P	**P**	**12 47 43.2**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=100,slow=7.3,SNR=12						
	comp=Z,1.7nm,0.6s						
MAKZ	**Makanchi**	**76.78**	**321**	P	**P**	**12 47 44.2**	**-0.4**
MAKZ				IAmb	IAmb	12 47 45.3	
	comp=Z,9.0nm,1.2s						
M13K	**Dall Lake**	**77.01**	**23**	P	**P**	**12 47 44.9**	**-0.6**
K13K	**Kusilvak Mount**	**77.46**	**22**	P	**P**	**12 47 48.7**	**+0.6**
	baz=231						
M14K	**Bethel**	**77.77**	**23**	P	**P**	**12 47 50.4**	**+0.7**
	baz=234						
ZALV	**Zalesovo Beam**	**78.20**	**328**	P	**P**	**12 47 50.5**	**-1.8**
	comp=Z,1.5nm,0.5s,baz=107,slow=6.1,SNR=8.5						
	comp=Z,1.5nm,0.5s						
KSH	**Kashi**	**78.35**	**312**	P	**P**	**12 47 55.0**	**+1.3**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
J14K	**Nanvaranak Lak**	**78.38**	**21**	P	**P**	**12 47 53.9**	**+0.8**
	baz=232						
NIL	**Nilore**	**78.84**	**306**	P	**P**	**12 47 56.9**	**+0.5**
K15K	**Wolf Creek Mou**	**78.85**	**22**		**P**	**12 47 56.2**	**+0.5**
K15K	**Wolf Creek Mou**	**78.85**	**22**	P	**P**	**12 47 56.3**	**+0.5**
	baz=234						
J16K	**Anvik River**	**79.78**	**22**	P	**P**	**12 48 01.1**	**+0.4**
	baz=234						
H16K	**Elim**	**80.00**	**20**	P	**P**	**12 48 02.4**	**+0.4**
	baz=233						
I17K	**Unalakleet**	**80.09**	**21**	P	**P**	**12 48 02.9**	**+0.4**
	baz=234						
K17K	**Iditarod**	**80.32**	**23**	P	**P**	**12 48 04.0**	**+0.3**
	baz=237						
KURBB	**Kurchatov Arra**	**80.35**	**323**	P	**P**	**12 48 03.1**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=119,slow=4.4,SNR=8.1						
	comp=Z,0.8nm,0.4s						
J17K	**VABM Dome**	**80.41**	**22**	Pn	**P**	**12 48 04.8**	**+0.6**
J17K	**VABM Dome**	**80.41**	**22**	P	**P**	**12 48 04.4**	**+0.3**
	baz=236						
G16K	**Koyuk River**	**80.42**	**20**	P	**P**	**12 48 04.3**	**+0.1**
	baz=232						
L18K	**Granite Mounta**	**80.68**	**24**	P	**P**	**12 48 06.3**	**+0.7**
	baz=238						
H17K	**Granite Mounta**	**80.98**	**20**	P	**P**	**12 48 07.5**	**+0.3**
	baz=235						
G17K	**Kiwalik Mounta**	**81.06**	**20**	P	**P**	**12 48 08.0**	**+0.4**
	baz=234						
J18K	**Innoko River**	**81.33**	**23**	P	**P**	**12 48 09.2**	**0.0**
	baz=238						
L19K	**White Mountain**	**81.40**	**24**	P	**P**	**12 48 09.8**	**+0.2**
	baz=240						
D17K	**Noatak River**	**81.62**	**17**	P	**P**	**12 48 11.2**	**+0.7**
	baz=231						
E17K	**Hotham Inlet**	**81.62**	**18**	P	**P**	**12 48 10.9**	**+0.3**
	baz=233						
G18K	**Tagagawik**	**81.96**	**20**	P	**P**	**12 48 12.3**	**-0.1**
	baz=236						
MAW	**Mawson**	**81.98**	**203**	P	**P**	**12 48 12.3**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=106,slow=8.7,SNR=8.9						
	comp=Z,3.8nm,0.7s						
J19K	**Poorman**	**82.03**	**22**	Pn	**P**	**12 48 12.9**	**+0.2**
J19K	**Poorman**	**82.03**	**22**	P	**P**	**12 48 12.9**	**+0.2**
	baz=239						
F18K	**Selawik**	**82.03**	**19**	P	**P**	**12 48 13.4**	**+0.8**
	baz=235						
C17K	**DeLong Mountai**	**82.08**	**17**	P	**P**	**12 48 13.1**	**+0.2**
	baz=231						
K20K	**Telida**	**82.30**	**23**	P	**P**	**12 48 14.4**	**+0.2**
	baz=240						
H19K	**Roundabout Mou**	**82.53**	**21**	P	**P**	**12 48 15.4**	**+0.2**
H19K				IAmb	IAmb	12 48 16.6	
	comp=Z,7.9nm,1.1s						
H19K	**Roundabout Mou**	**82.53**	**21**	P	**P**	**12 48 15.7**	**+0.4**
	baz=238						
G19K	**Purcell Mounta**	**82.64**	**20**	P	**P**	**12 48 16.1**	**+0.2**
	baz=237						
J20K	**Nowinta River**	**82.68**	**22**	P	**P**	**12 48 16.0**	**-0.1**
J20K	**Nowinta River**	**82.68**	**22**	P	**P**	**12 48 16.6**	**+0.5**
	baz=240						
SUA	**Susitna One**	**82.78**	**26**	P	**P**	**12 48 16.7**	**-0.2**
	baz=244						
B18K	**Kokolik River**	**83.02**	**16**	P	**P**	**12 48 18.0**	**+0.2**
	baz=232						
H20K	**Anotleneega Mo**	**83.07**	**21**	P	**P**	**12 48 18.2**	**+0.1**
	baz=240						
CAST	**Castle Rocks**	**83.12**	**24**	P	**P**	**12 48 17.7**	**-0.7**
	baz=242						
CHUM	**Lake Minchumin**	**83.24**	**23**	P	**P**	**12 48 19.0**	**0.0**
	baz=242,SNR=6.7						
KKAR	**Karatay Array**	**83.29**	**314**	P	**P**	**12 48 19.3**	**-0.5**
E19K	**Redstone River**	**83.30**	**19**	P	**P**	**12 48 19.3**	**+0.1**
	baz=237						
SIMJ	**Simiganj**	**83.36**	**310**	P	**P**	**12 48 19.2**	**-1.2**
SIMJ				IAmb	IAmb	12 48 20.8	
	comp=Z,5.3nm,0.9s						
C19K	**Lookout Ridge**	**83.50**	**17**	P	**P**	**12 48 20.3**	**0.0**
	baz=235						
PMR	**Palmer**	**83.54**	**26**	P	**P**	**12 48 18.5**	**-2.0**
F20K	**Avaraart Lake**	**83.58**	**20**	IAmb	IAmb	12 48 21.4	
	comp=Z,3.1nm,0.6s						
F20K	**Avaraart Lake**	**83.58**	**20**	P	**P**	**12 48 20.7**	**+0.1**
	baz=238						
D19K	**Kuna River**	**83.59**	**18**	P	**P**	**12 48 20.8**	**0.0**
	baz=236						
BPAW	**Bear Paw Mtn.**	**83.86**	**23**	P	**P**	**12 48 21.5**	**-0.8**
	baz=243						
SML	**Sawmill**	**83.97**	**26**	P	**P**	**12 48 22.3**	**-0.6**
	baz=246						
I21K	**Tanana**	**83.98**	**22**	P	**P**	**12 48 22.9**	**+0.1**
	baz=242						
E20K	**Nigu River**	**84.07**	**19**	P	**P**	**12 48 23.2**	**0.0**
	baz=238						
G21K	**Allakaket**	**84.07**	**21**	P	**P**	**12 48 23.0**	**-0.2**
	baz=241						
GLI	**Glacier Island**	**84.15**	**27**	P	**P**	**12 48 23.1**	**-0.6**
	baz=247						
QSPA	**South Pole Qui**	**84.18**	**180**	P	**P**	**12 48 22.9**	**-1.1**
	comp=Z,5.8nm,0.6s,baz=339,slow=1.3,SNR=53						
	comp=Z,5.8nm,0.6s						
D20K	**Etivluk River**	**84.18**	**18**	P	**P**	**12 48 23.3**	**-0.4**
	baz=238						
M23K	**Glacier View**	**84.23**	**26**	P	**P**	**12 48 23.6**	**-0.6**
	baz=246						
WAT1	**Susitna Watana**	**84.30**	**25**	P	**P**	**12 48 23.6**	**-0.9**
	baz=246						
MLY	**Manley**	**84.38**	**22**	IAmb	IAmb	12 48 24.8	
	comp=Z,5.3nm,0.7s						
MLY	**Manley**	**84.38**	**22**	P	**P**	**12 48 24.3**	**-0.6**
	baz=243						
RND	**Reindeer**	**84.42**	**24**	IAmb	IAmb	12 48 24.2	
	comp=Z,7.0nm,0.7s						
SCM	**Sheep Creek Mo**	**84.42**	**26**	P	**P**	**12 48 24.4**	**-0.8**
	baz=247						
MCK	**McKinley**	**84.52**	**24**	P	**P**	**12 48 24.3**	**-1.3**
	baz=245						
H22K	**Ishtalitna Cre**	**84.53**	**22**	P	**P**	**12 48 25.2**	**-0.4**
	baz=243						
WAT6	**Susitna Watana**	**84.54**	**25**	P	**P**	**12 48 24.1**	**-1.7**
	baz=246						
NEA2	**Nenana**	**84.83**	**23**	P	**P**	**12 48 25.6**	**-1.5**
NEA2	**Nenana**	**84.83**	**23**	P	**P**	**12 48 26.0**	**-1.1**
	baz=245						
E21K	**Killik River**	**84.87**	**19**	P	**P**	**12 48 27.1**	**-0.1**
	baz=240						
DHY	**Denali Highway**	**84.89**	**25**		**P**	**12 48 26.9**	**-0.8**
DHY				IAmb	IAmb	12 48 27.5	
	comp=Z,4.8nm,0.8s						
DHY	**Denali Highway**	**84.89**	**25**	P	**P**	**12 48 27.0**	**-0.7**
	baz=247,SNR=7.2						
KLU	**Klutina**	**84.91**	**27**	P	**P**	**12 48 26.9**	**-0.8**
	baz=248						
I23K	**Minto, Yukon-K**	**84.95**	**23**	P	**P**	**12 48 27.4**	**-0.3**
I23K	**Minto, Yukon-K**	**84.95**	**23**	P	**P**	**12 48 27.1**	**-0.6**
	baz=245						
G22K	**Bettles**	**84.96**	**21**	P	**P**	**12 48 27.3**	**-0.4**
	baz=242						
C21K	**Knifeblade Rid**	**84.97**	**18**	P	**P**	**12 48 27.6**	**-0.1**
	baz=239						
F22K	**John River**	**85.00**	**20**	P	**P**	**12 48 27.6**	**-0.3**
	baz=242						
M24K	**Tolsona, Glenn**	**85.03**	**26**	P	**P**	**12 48 27.6**	**-0.6**
	baz=248						
WRH	**Wood River Hil**	**85.17**	**23**	IAmb	IAmb	12 48 27.7	
	comp=Z,3.7nm,0.8s						
H23K	**Yukon River**	**85.18**	**22**	P	**P**	**12 48 28.5**	**-0.3**
	baz=244						
B21K	**Ikpikpuk River**	**85.26**	**18**	P	**P**	**12 48 29.0**	**-0.1**
	baz=239						
BMRM	**Bremner River**	**85.31**	**27**	P	**P**	**12 48 29.3**	**-0.4**
	baz=249						
CCB	**Clear Creek Bu**	**85.35**	**23**	IAmb	IAmb	12 48 28.4	
	comp=Z,5.3nm,0.7s						
G23K	**Bananza Creek**	**85.39**	**21**	P	**P**	**12 48 30.0**	**+0.1**
	baz=244						
E22K	**Anaktuvuk Pass**	**85.42**	**19**	P	**P**	**12 48 29.8**	**-0.2**
	baz=242						
COLA	**College**	**85.42**	**23**	P	**P**	**12 48 28.8**	**-1.2**
COLA				IAmb	IAmb	12 48 29.2	
	comp=Z,5.9nm,0.6s						
COLA	**College**	**85.42**	**23**	P	**P**	**12 48 28.8**	**-1.2**
	baz=246						
D22K	**Ayikyak River**	**85.49**	**19**	P	**P**	**12 48 30.6**	**+0.3**
D22K				IAmb	IAmb	12 48 31.2	
	comp=Z,8.6nm,1.2s						
D22K	**Ayikyak River**	**85.49**	**19**	P	**P**	**12 48 30.8**	**+0.5**
	baz=241						
COLD	**Coldfoot**	**85.56**	**21**	P	**P**	**12 48 30.5**	**-0.1**
	baz=244						
HDA	**Harding Lake**	**85.59**	**24**	P	**P**	**12 48 29.2**	**-1.7**
PAX	**Paxson**	**85.66**	**25**	P	**P**	**12 48 30.7**	**-0.7**
	baz=248						
IL31		**85.76**	**23**	P	**P**	**12 48 29.6**	**-2.0**
IL31				IAmb	IAmb	12 48 30.2	
	comp=Z,5.5nm,0.7s						
ILAR	**Eielson Array**	**85.76**	**23**	P	**P**	**12 48 29.5**	**-2.2**
	comp=Z,5.1nm,0.6s,baz=253,slow=5.0,SNR=84						
	comp=Z,5.1nm,0.6s						
H24K	**Noodor Dome**	**85.81**	**22**	P	**P**	**12 48 31.3**	**-0.6**
	baz=246						
K24K	**Donnelly Dome**	**85.84**	**24**	P	**P**	**12 48 31.7**	**-0.4**
	baz=248						
GLB	**Gilahina Butte**	**85.84**	**27**	P	**P**	**12 48 31.9**	**-0.3**
GLB				IAmb	IAmb	12 48 32.2	
	comp=Z,3.1nm,0.7s						
A22K	**Sinclair Lake**	**85.87**	**16**	P	**P**	**12 48 32.2**	**+0.1**
	baz=239						
BVAR	**Borovoye Array**	**85.90**	**324**	P	**P**	**12 48 31.4**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=104,slow=6.3,SNR=8.2						
	comp=Z,1.3nm,0.5s						
CRQE	**Cirque**	**85.93**	**28**	P	**P**	**12 48 32.4**	**-0.4**
	baz=251						
B22K	**Teshekpuk Lake**	**85.98**	**17**	P	**P**	**12 48 32.4**	**-0.2**
	baz=240						
E23K	**Chandalar**	**86.12**	**20**	P	**P**	**12 48 33.5**	**0.0**
	baz=244						
D23K	**Nanushuk River**	**86.17**	**19**	P	**P**	**12 48 34.2**	**+0.6**
	baz=243						
J25K	**Salcha River,**	**86.30**	**24**	IAmb	IAmb	12 48 33.9	
	comp=Z,7.0nm,0.8s						
J25K	**Salcha River,**	**86.30**	**24**	P	**P**	**12 48 33.3**	**-1.2**
	baz=248						
G24K	**Hadweenzic Riv**	**86.30**	**21**	P	**P**	**12 48 33.9**	**-0.4**
	baz=246						
TOLK	**Toolik Lake Re**	**86.39**	**19**	P	**P**	**12 48 34.5**	**-0.3**
	baz=244						
F24K	**Squaw Lake**	**86.49**	**21**	P	**P**	**12 48 35.2**	**-0.1**
	baz=246						
E24K	**Your Creek**	**86.51**	**20**	P	**P**	**12 48 35.0**	**-0.5**
	baz=245						
L26K	**Log Cabin Wild**	**86.58**	**26**	P	**P**	**12 48 35.3**	**-0.5**
	baz=250						
C23K	**Itkillik River**	**86.59**	**18**		**P**	**12 48 35.6**	**0.0**
C23K	**Itkillik River**	**86.59**	**18**	P	**P**	**12 48 35.5**	**-0.2**
	baz=243,SNR=5.7						
SCRK	**Sand Creek**	**86.64**	**25**	P	**P**	**12 48 35.1**	**-1.1**
SCRK	**Sand Creek**	**86.64**	**25**	P	**P**	**12 48 35.5**	**-0.7**
	baz=250						
H25L	**Birch Creek**	**86.75**	**22**	P	**P**	**12 48 36.1**	**-0.4**
	baz=248						
CTG	**Chitna Glacier**	**86.81**	**28**	P	**P**	**12 48 37.0**	**-0.1**
	baz=252						
CTGM	**Chitina Glacie**	**86.82**	**28**	P	**P**	**12 48 36.5**	**-0.7**
D24K	**Happy Valley**	**86.86**	**19**	P	**P**	**12 48 36.6**	**-0.4**
D24K				IAmb	IAmb	12 48 38.1	
	comp=Z,9.4nm,1.1s						
D24K	**Happy Valley**	**86.86**	**19**	P	**P**	**12 48 36.9**	**-0.1**
	baz=245						
LOGN	**Logan Glacier**	**86.93**	**28**	P	**P**	**12 48 37.2**	**-0.5**

HYT	Haines Junctio	88.58	28	P	P	12 48 45.6	0.0
	baz=256						
DAWY	Dawson	88.59	25	IAmb	IAmb	12 48 45.8	
	comp=Z,3.9nm,0.7s						
DAWY	Dawson	88.59	25	P	P	12 48 45.1	-0.3
	baz=254,SNR=8.2						
P30M	Million Dollar	88.67	29	P	P	12 48 45.9	0.0
	baz=256						
C27K	Jago River	88.71	19	P	P	12 48 45.5	-0.3
	baz=250						
I28M	Miner Creek	88.76	24	P	P	12 48 45.9	-0.4
	baz=253						
L29M	L29M	88.87	26	IAmb	IAmb	12 48 47.3	
	comp=Z,2.8nm,0.6s						
L29M	L29M	88.87	26	P	P	12 48 46.6	-0.1
	baz=255						
N30M	Aishikik Lake	88.93	28	P	P	12 48 46.8	-0.3
	baz=256						
E27K	Coleen River	88.96	21	P	P	12 48 47.4	+0.4
	baz=252						
S32K	Killisnoo	89.28	32	P	P	12 48 48.7	0.0
	baz=258						
K29M	Barlow Dome	89.33	26	P	P	12 48 48.8	-0.2
K29M	Barlow Dome	89.33	26	P	P	12 48 48.5	-0.5
	baz=256,SNR=17						
M30M	Minto, Yukon	89.33	27	P	P	12 48 48.8	-0.2
M30M	Minto, Yukon	89.33	27	P	P	12 48 48.7	-0.2
	baz=256						
F28M	Old Crow	89.41	22	P	P	12 48 48.9	-0.3
F28M	Old Crow	89.41	22	P	P	12 48 49.0	-0.1
	baz=253						
N31M	Braeburn, Yuko	89.55	28	P	P	12 48 49.7	-0.2
	baz=257						
H29M	Whitestone	89.59	23	P	P	12 48 49.4	-0.6
	baz=255						
E28M	Babbage River	89.81	21	P	P	12 48 50.9	-0.1
	baz=254						
G29M	Pine Creek	89.91	23	P	P	12 48 51.2	-0.3
	baz=255						
J30M	Hart River	90.01	25	P	P	12 48 52.0	-0.1
J30M				IAmb	IAmb	12 48 52.5	
	comp=Z,3.3nm,0.7s						
J30M	Hart River	90.01	25	P	P	12 48 52.0	-0.1
	baz=256						
I30M	Mount Dempster	90.14	24	P	P	12 48 51.8	-0.9
I30M	Mount Dempster	90.14	24	P	P	12 48 52.0	-0.7
	baz=256						
P32M	Atlin	90.15	30	P	P	12 48 52.1	-0.7
	baz=259						
EPYK	Eagle Plains	90.27	23	P	P	12 48 52.5	-0.8
EPYK				IAmb	IAmb	12 48 53.1	
	comp=Z,3.2nm,0.7s						
EPYK	Eagle Plains	90.27	23	P	P	12 48 52.7	-0.5
	baz=256						
E29M	Blow River	90.33	21	P	P	12 48 52.6	-0.9
	baz=255						
V35K	Ketchikan	90.51	35	P	P	12 48 54.1	-0.3
	baz=261						
G30M	tAoh Zraii Nji	90.61	23	P	P	12 48 53.9	-0.9
G30M				IAmb	IAmb	12 49 35.3	
	comp=Z,4.7nm,1.2s						
N32M	Quiet Lake	90.75	29	P	P	12 48 55.6	0.0
	baz=259						
F30M	Barrier River	90.92	22	P	P	12 48 55.9	-0.3
	baz=257						
H31M	Peel River	91.09	24	P	P	12 48 56.1	-0.9
H31M				IAmb	IAmb	12 49 33.8	
	comp=Z,7.4nm,1.4s						
H31M	Peel River	91.09	24	P	P	12 48 56.5	-0.6
	baz=258						
G31M	Satah River	91.35	23	P	P	12 48 57.4	-0.7
	baz=258						
ABKAR	Akbulak array	91.64	319	P	P	12 48 57.9	-2.0
GEYT	Alibeck	91.69	308	P	P	12 48 59.9	-0.5
	comp=Z,1.1nm,0.4s,baz=85,slow=6.7,SNR=1.6						
	comp=Z,1.1nm,0.4s						
DLBC	Dease Lake	91.84	32	P	P	12 49 00.1	-0.6
	baz=262						
ELIB	Princess Elisa	94.09	195	*d*P	P	12 49 10.4	-0.6
	comp=Z,3.6nm,1.0s						
A36M	Sachs Harbour	95.14	18	P	P	12 49 14.9	-0.6
	baz=267						
NVAR	Mina Array Bea	98.18	52	P	P	12 49 30.1	-0.3
	comp=Z,0.7nm,0.9s,baz=203,slow=3.9,SNR=2.7						
	comp=Z,0.7nm,0.9s						
PLCA	Paso Flores	122.94	148	PKP	PKPdf	12 54 48.9	-0.2
	comp=Z,3.5nm,0.8s,baz=266,slow=1.8,SNR=9.0						
EKA	Eskdalemuir Ar	124.70	339	PKP	PKPdf	12 54 50.4	-1.4
	comp=Z,0.3nm,0.4s,baz=107,slow=9.8,SNR=1.6						
LPAZ	La Paz	139.90	124	PKP	PKPdf	12 55 20.9	-1.4
	comp=Z,1.9nm,0.6s,baz=285,slow=3.6,SNR=7.4						
CPUP	Villa Florida	140.98	146	PKP	PKPdf	12 55 23.1	-0.1
	comp=Z,6.2nm,1.0s,baz=218,slow=0.5,SNR=6.0						
TORD	Torodi Ar. Bea	143.88	284	PKP	PKPab	12 55 26.5	+0.6
	comp=Z,2.5nm,0.5s,baz=55,slow=4.0,SNR=18						
DBIC	Dimbokro	150.82	273	PKPbc	PKPbc	12 55 45.7	-0.2
	comp=Z,22nm,0.7s,baz=109,slow=1.6,SNR=18						
BDFB	Brasilia	154.69	147	PKP	PKPdf	12 55 44.8	-1.2
	comp=Z,2.2nm,0.5s,baz=143,slow=7.2,SNR=3.9						
BDFB				PKPbc	PKPbc	12 55 54.4	-0.2
	comp=Z,2.1nm,0.4s,baz=199,slow=8.2,SNR=3.7						

*IDC **03** 12:42:56.2±14.0, 18°.50S×178°.73W, h579km±116km, mb3.1/5, mbtmp4.1/6, Error ellipse: s-maj=164.6km s-min=22.4km az=42.0*

ISC 03 12:42:51.5±2.9, 18°.2S±0°.4×178°.4W±0°.3, h550km, n6, σ0°.89/8, mb3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.77	252	P	P	12 45 59.3	+0.6
	5.3nm,0.6s,baz=94,slow=17,SNR=1.8						
URZ	Urewera	20.39	190	P	P	12 46 50.0	-1.0
	14nm,1.0s,baz=0.0,slow=3.0,SNR=2.8						
	14nm,1.0s						
WRA	Warramunga Arr	44.61	260	P	P	12 50 14.9	-0.6
	0.1nm,0.3s,baz=97,slow=7.4,SNR=7.3						
WRA				PcP	PcP	12 51 46.2	-0.3
	0.4nm,0.8s,baz=76,slow=4.0,SNR=2.5						
	0.1nm,0.3s						
ASAR	Alice Springs	44.74	254	P	P	12 50 16.6	0.0
	1.8nm,0.4s,baz=89,slow=7.7,SNR=63						
ASAR				PcP	PcP	12 51 46.5	-0.5
	0.4nm,0.5s,baz=101,slow=4.2,SNR=6.6						
	1.8nm,0.4s						
VNDA	Vanda	60.18	185	P	P	12 52 05.5	-0.5
	0.6nm,0.5s,baz=260,slow=6.1,SNR=8.0						
	0.6nm,0.5s						
QSPA	South Pole Qui	71.88	180	P	P	12 53 20.3	+1.3
	2.7nm,0.8s,baz=92,slow=0.7,SNR=12						
	2.7nm,0.8s						

RSNC 03 12:44:03.8±0.0, 12°N±1°×7°3W±°, h10km±1km, M3.1, mb4.1, ML2.5, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	Cerrejon, Guaj	0.89	157	P	Pg	12 44 19.6	-1.4
CRJC				S	Sg	12 44 31.7	-1.0
URIC	Uribia, Colomb	1.22	97	P	Pn	12 44 24.7	-2.2
URIC				S	Sb	12 44 40.8	-2.0
ARGC	Ariguani, Magd	2.22	207	P	Pn	12 44 38.2	-2.5
ARGC				S	Sn	12 45 05.5	-2.7
SJCC	San Jacinto, C	2.73	225	P	Pn	12 44 44.5	-3.2
SJCC				S	Sn	12 45 22.4	+1.6
OCAC	Ocana	3.59	181	P	Pn	12 44 57.1	-2.6
OCAC				S	Sn	12 45 38.9	-3.4
SDV	Santo Domingo	3.90	139	P	Pn	12 45 04.7	+0.7
SDV				S	Sn	12 45 46.3	-3.7
PAMC	Pamplona, Colo	4.51	173	P	Pn	12 45 10.4	-2.3
PAMC				S	Sn	12 46 01.3	-4.2
ZARC	Zaragoza, Cauc	4.62	200	P	Pn	12 45 14.4	+0.7
ZARC				S	Sn	12 46 10.7	+3.2
PTBC	PUERTO BERRIO,	5.41	193	P	Pn	12 45 24.2	-0.5
	7.3nm,0.6s						
PTBC				S	Sn	12 46 26.2	-0.9
	7.3nm,0.6s						
TAMC	Tame, Arauca	5.56	165	P	Pn	12 45 24.6	-2.2
	19nm,0.5s						
TAMC				S	Sn	12 46 28.4	-2.5
	19nm,0.5s						
SPBC	San Pablo de B	6.21	188	P	Pn	12 45 35.6	-0.2
	14nm,0.5s						
NORC	Norcasia	6.45	195	P	Pn	12 45 39.9	+0.9
GUY2C	Guyana, Caldas	6.91	198	P	Pn	12 45 47.5	+1.8

*NEIC **03** 12:46:32.9±1.3, 57°.03N±0°.03×157°.92W±0°.06, h10km±2km, Error ellipse: s-maj=6.9km s-min=3.0km az=130.0*

AEIC 03 12:46:32.4±1.1, 57°.06N±0°.03×157°.94W±0°.06, h5km±2km, ML3.1, ML3.3/72(NEIC), Error ellipse: s-maj=6.3km s-min=2.1km az=126.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNE	Aniakchak Nort	0.16	204		Pg	12 46 35.6	0.0
CHGN	Chignik	0.80	199		Pg	12 46 47.4	-0.4
CHGN					Sg	12 46 58.6	+0.3
CHGN	Chignik	0.80	199	P	Pg	12 46 47.4	-0.4
	baz=18						
CHGN				S	Sg	12 46 58.6	+0.4
	baz=18						
PLBL	Peulik Blue Cr	0.88	43		Pg	12 46 49.6	+0.2
PLBL					Sb	12 47 02.0	-0.3
R17L	Mt. Peulik Vol	1.03	56	S	Sb	12 47 07.3	+0.7
	baz=237						
PLK4	Peulik 4	1.03	56		Pg	12 46 51.5	-0.7
PLK4					Sb	12 47 07.3	+0.6
PLK1	Peulik 1	1.04	43		Pg	12 46 52.3	0.0
PLK5	Peulik 5	1.10	31		Pg	12 46 53.5	0.0
PLK5					Sn	12 47 09.3	-0.7
PLK3	Peulik 3	1.10	54		Pg	12 46 52.8	-0.8
PLK3					Sn	12 47 09.7	-0.5
PLK2	Peulik 2	1.12	50		Pg	12 46 53.6	-0.4
S14K	Fog Glacier	1.18	230	P	Pg	12 46 55.1	0.0
	baz=48						
VNFG	Fog Glacier, M	1.18	230		Pg	12 46 54.9	-0.1
VNFG				IAML		12 47 15.1	
	comp=E,714nm,0.9s						
VNFG	Fog Glacier, M	1.18	230		Pg	12 46 54.9	-0.1
VNFG	Fog Glacier, M	1.18	230	P	Pg	12 46 54.9	-0.1
	baz=48						
VNSS	Veniaminof 8	1.18	226		Pg	12 46 54.7	-0.3
VNWF	Veniaminof 8	1.28	225		Pg	12 46 56.5	-0.4
VNKR	Veniaminof 5	1.30	218		Pn	12 46 56.5	-0.8
Q17K	Contact Creek	1.64	42	P	Pn	12 47 01.4	-0.5
	baz=223						
Q17K				S	Sb	12 47 24.1	0.0
	baz=223						
CNTC	Contact Creek	1.64	42		Pn	12 47 01.4	-0.5
CNTC					Sb	12 47 24.1	0.0
ANCK	Angle Creek	1.74	48		Pn	12 47 03.0	-0.4
Q16K	King Salmon	1.76	22		Pn	12 47 03.3	-0.2
Q16K	King Salmon	1.76	22	P	Pn	12 47 03.3	-0.2
	baz=204						
CHIR	Chirikof Islan	1.79	133		Pn	12 47 04.2	+0.2
CHIR				IAML		12 47 34.2	
	comp=N,207nm,1.3s						
CHIR				IAML		12 47 35.1	
	comp=E,208nm,0.8s						
CHIR	Chirikof Islan	1.79	133	P	Pn	12 47 04.0	+0.1
	baz=315						
ACHA	Angle Creek He	1.82	49		Pn	12 47 03.9	-0.6
KABU	Katmai Buttres	1.88	48		Pn	12 47 04.7	-0.5
KABU				IAML		12 47 33.5	
	comp=N,154nm,0.6s						
KVTA	Katmai Vly 10	1.94	46		Pn	12 47 06.0	-0.1
R18K	Karluk	1.96	73		Pn	12 47 06.0	-0.2
R18K				IAML		12 47 41.1	
	comp=N,238nm,0.6s						
R18K				IAML		12 47 42.1	
	comp=E,240nm,0.5s						
R18K	Karluk	1.96	73	P	Pn	12 47 06.2	-0.1
	baz=256						
P16K	Nushagak River	1.98	359		Pn	12 47 06.6	+0.1
P16K	Nushagak River	1.98	359	P	Pn	12 47 06.6	+0.1
	baz=179						
SII	Sitkinak Islan	2.12	102		Pn	12 47 09.0	+0.4
SII				IAML		12 47 47.5	
	comp=N,242nm,0.6s						
SII	Sitkinak Islan	2.12	102	P	Pn	12 47 09.3	+0.7
	baz=285						
SDPT	Sand Point	2.22	221		Pn	12 47 10.1	+0.2
SDPT				IAML		12 47 44.7	
	comp=E,131nm,1.1s						
SDPT	Sand Point	2.22	221	P	Pn	12 47 10.0	+0.1
	baz=38						
KAHC	Katmai Hardscr	2.23	43		Pn	12 47 10.2	0.0
Q18K	Katmai Hardscr	2.23	43	P	Pn	12 47 10.4	+0.2
	baz=226						
O15K	Ungalikthiuk R	2.35	336		Pn	12 47 11.5	-0.1
O15K	Ungalikthiuk R	2.35	336	P	Pn	12 47 11.5	-0.1
	baz=154						
CHNA	Chernabura Isl	2.42	203	P	Pn	12 47 12.1	-0.5
	baz=22						
CNBA	Chernabura Isl	2.43	203		Pn	12 47 13.2	+0.5
OHAK	Old Harbor	2.54	84		Pn	12 47 14.9	+0.7
OHAK	Old Harbor	2.54	84	P	Pn	12 47 14.9	+0.7
	baz=268						
O16K	Kokwok River B	2.54	358		Pn	12 47 15.0	+0.7
O16K				IAML		12 47 59.5	
	comp=N,95nm,0.8s						
O16K				IAML		12 48 03.2	
	comp=E,102nm,0.8s						
O16K	Kokwok River B	2.54	358	P	Pn	12 47 14.8	+0.5
	baz=178						
S12K	Black Hills	2.66	241	Pn	Pn	12 47 16.4	+0.4
S12K				IAML		12 47 58.7	
	comp=N,129nm,0.7s						
S12K				IAML		12 48 06.8	
	comp=E,149nm,1.1s						
PS1A	Pavlof South-1	2.68	234		Pn	12 47 16.1	-0.1
P18K	Big Mountain,	2.74	30		Pn	12 47 17.1	0.0
P18K	Big Mountain,	2.74	30	P	Pn	12 47 17.1	0.0
	baz=213						
O17K	Koliganek Bris	2.76	9		Pn	12 47 17.6	+0.4
O17K	Koliganek Bris	2.76	9	P	Pn	12 47 17.6	+0.4
	baz=190						
O14K	Tigyukauivet M	2.82	323		Pn	12 47 18.6	+0.5
O14K				IAML		12 48 20.3	
	comp=N,59nm,0.7s						
O14K	Tigyukauivet M	2.82	323	P	Pn	12 47 18.4	+0.4
	baz=140						
Q19K	Cape Douglas,	2.96	49	Pn	Pn	12 47 20.3	+0.2
KDAK	Kodiak Island	2.99	74		Pn	12 47 21.4	+1.1
O18K	Koktuh Hills	3.15	26	Pn	Pn	12 47 22.8	+0.1
O18K				IAML		12 48 13.6	
	comp=N,68nm,0.5s						
O18K				IAML		12 48 16.7	
	comp=E,62nm,0.6s						
O18K	Koktuh Hills	3.15	26	P	Pn	12 47 23.2	+0.5
	baz=208						
N15K	Kwethluk River	3.32	341		Pn	12 47 25.2	+0.3
N15K				IAML		12 48 41.8	
	comp=N,74nm,1.0s						
N15K	Kwethluk River	3.32	341	P	Pn	12 47 25.4	+0.4
	baz=159						
SYI	Shuyak Island	3.35	60	Pn	Pn	12 47 25.5	+0.1
N16K	Nishlik Lake	3.45	353		Pn	12 47 27.4	+0.6
N16K	Nishlik Lake	3.45	353	P	Pn	12 47 27.8	+0.9
	baz=172						
N14K	Kuskokwak Cree	3.48	327		Pn	12 47 27.5	+0.3
N14K	Kuskokwak Cree	3.48	327	P	Pn	12 47 27.5	+0.3
	baz=144						
N17K	Nushagak Hills	3.50	6	Pn	Pn	12 47 27.8	+0.3
N17K				IAML		12 48 27.6	
	comp=N,52nm,0.5s						
N17K				IAML		12 48 36.6	
	comp=E,54nm,0.8s						
N17K	Nushagak Hills	3.50	6	P	Pn	12 47 28.1	+0.7
	baz=187						
P19K	Oil Pt	3.59	42	Pn	Pn	12 47 29.6	+0.8
P19K				IAML		12 48 32.3	
	comp=N,61nm,0.7s						
O19K	Port Alsworth	3.67	30	Pn	Pn	12 47 30.2	+0.4
O19K	Port Alsworth	3.67	30	P	Pn	12 47 30.0	+0.2
	baz=213						
N18K	Kilae Creek	3.79	15	Pn	Pn	12 47 32.0	+0.7
N18K				IAML		12 48 47.2	
	comp=N,38nm,0.7s						
N18K				IAML		12 48 49.4	
	comp=E,42nm,0.8s						
N18K	Kilae Creek	3.79	15	P	Pn	12 47 32.0	+0.6
	baz=197						
ILSW	Iliamna Southw	3.86	39	Pn	Pn	12 47 32.8	+0.3
ILSW				IAML		12 48 41.9	
	comp=N,25nm,1.0s						
ILSW				IAML		12 48 43.3	
	comp=E,24nm,0.9s						
M15K	Kasigluk River	3.92	340		Pn	12 47 33.6	+0.4
M15K	Kasigluk River	3.92	340	P	Pn	12 47 33.6	+0.4
	baz=158						
IVE	Iliamna Volcan	3.93	39		Pn	12 47 33.8	+0.3
M16K	Timber Creek	4.01	353	Pn	Pn	12 47 35.1	+0.6
M16K				IAML		12 48 53.3	
	comp=E,49nm,0.8s						
M16K				IAML		12 49 02.7	
	comp=N,40nm,1.1s						
M16K	Timber Creek	4.01	353	P	Pn	12 47 34.9	+0.4
	baz=172						
N19K	Bonanza Creek	4.17	24	Pn	Pn	12 47 37.2	+0.5
N19K				IAML		12 48 49.5	
	comp=E,38nm,1.2s						
N19K				IAML		12 48 54.2	
	comp=N,36nm,0.8s						
N19K	Bonanza Creek	4.17	24	P	Pn	12 47 37.0	+0.3
	baz=207						
M14K	Bethel	4.25	332	Pn	Pn	12 47 38.5	+0.8
M14K				IAML		12 49 02.9	
	comp=E,43nm,1.3s						
M14K	Bethel	4.25	332	P	Pn	12 47 38.0	+0.3
	baz=149						
CNPM	China Poot	4.32	52	Pn	Pn	12 47 40.2	+1.5
M17K	Holitna River	4.36	3	Pn	Pn	12 47 39.5	+0.2
M17K	Holitna River	4.36	3	P	Pn	12 47 39.6	+0.3
	baz=184						
M13K	Dall Lake	4.39	322	Pn	Pn	12 47 40.6	+1.0
M13K				IAML		12 49 07.4	
	comp=N,31nm,1.2s						
M13K				IAML		12 49 16.6	
	comp=E,35nm,1.1s						
M13K	Dall Lake	4.39	322	P	Pn	12 47 39.9	+0.3
	baz=138						
RDT	Redoubt	4.55	37		Pn	12 47 42.1	+0.2
M18K	Stony River	4.58	13		Pn	12 47 42.6	+0.4
M18K	Stony River	4.58	13	P	Pn	12 47 42.7	+0.4
	baz=195						
L16K	Owhat River	4.73	351	Pn	Pn	12 47 46.2	+1.9
L16K				IAML		12 49 19.7	
	comp=E,22nm,1.2s						
L16K				IAML		12 49 33.1	
	comp=N,22nm,1.2s						
L14K	Kuka Creek	4.94	332		Pn	12 47 47.2	+0.1
L14K				IAML		12 49 23.9	
	comp=E,25nm,1.2s						
L14K	Kuka Creek	4.94	332	P	Pn	12 47 47.5	+0.3
	baz=148						
L15K	Ungalak Mounta	4.97	340		Pn	12 47 47.9	+0.2
L15K	Ungalak Mounta	4.97	340	P	Pn	12 47 47.9	+0.2
	baz=157						
L17K	Donlin	5.09	358		Pn	12 47 49.2	-0.1
L17K	Donlin	5.09	358	P	Pn	12 47 49.6	+0.3
	baz=178						
M19K	Big River Lodg	5.18	19		Pn	12 47 50.9	+0.3
M19K				IAML		12 49 35.3	
	comp=E,21nm,0.9s						
M19K				IAML		12 49 39.6	
	comp=N,19nm,1.0s						
M19K	Big River Lodg	5.18	19	P	Pn	12 47 51.0	+0.4
	baz=202						
L18K	Granite Mounta	5.22	6		Pn	12 47 50.4	-0.6
L18K				IAML		12 49 40.6	
	comp=E,18nm,0.9s						
L18K	Granite Mounta	5.22	6	P	Pn	12 47 51.3	+0.3
	baz=188						
L19K	White Mountain	5.37	16	Pn	Pn	12 47 53.1	-0.1
L19K	White Mountain	5.37	16	P	Pn	12 47 53.8	+0.6
	baz=198						
M20K	Styx River	5.42	25	Pn	Pn	12 47 53.8	-0.1
K17K	Iditarod	5.68	358	Pn	Pn	12 47 57.2	-0.1
K17K	Iditarod	5.68	358	P	Pn	12 47 57.5	+0.2
	baz=178						
SUA	Susitna One	5.75	37	Pn	Pn	12 47 59.6	+1.1
L20K	Farewell, AK	5.81	19		Pn	12 47 59.6	+0.4
L20K	Farewell, AK	5.81	19	P	Pn	12 47 59.9	+0.7
	baz=202						
SKT	Skwentna	5.91	31	Pn	Pn	12 48 02.1	+1.5
K13K	Kusilvak Mount	5.96	328	Pn	Pn	12 48 00.8	-0.4
M22K	Willow	6.17	37	Pn	Pn	12 48 04.2	+0.1
J14K	Nanvaranak Lak	6.37	336	Pn	Pn	12 48 07.2	+0.4
J16K	Anvik River	6.38	349	Pn	Pn	12 48 06.8	-0.2
PMR	Palmer	6.40	41	Pn	Pn	12 48 07.0	-0.2
J18K	Innoko River	6.46	5	Pn	Pn	12 48 08.0	-0.1
I17K	Unalakleet	6.98	350	Pn	Pn	12 48 16.3	+1.1
CAST	Castle Rocks	7.01	22		Pn	12 48 17.0	+1.3
M24K	Tolsona, Glenn	7.82	45	Pn	Pn	12 48 25.9	-0.9
CLES	Cleveland East	8.08	243	Pn	Pn	12 48 28.1	-2.2
ANM	Nome	8.35	337	Pn	Pn	12 48 33.3	-0.7
CRQM	Cirque	8.51	58	Pn	Pn	12 48 36.9	+0.6
H19K	Roundabout Mou	8.53	4	Pn	Pn	12 48 37.6	+1.2
G16K	Koyuk River	8.63	348	Pn	Pn	12 48 37.2	-0.5
I21K	Tanana	8.64	17	Pn	Pn	12 48 38.8	+0.9
G18K	Tagagawik	8.88	358	Pn	Pn	12 48 41.4	+0.3
H21K	Melozitna Rive	8.97	14	Pn	Pn	12 48 42.4	-0.1
H23K	Yukon River	9.66	21	Pn	Pn	12 48 51.9	0.0
M27K	Edge Creek, AK	9.68	50	Pn	Pn	12 48 50.2	-2.2
H24K	Noodor Dome	10.02	24	Pn	Pn	12 48 57.5	+0.6
E19K	Redstone River	10.44	2	Pn	Pn	12 49 01.3	-1.3

*ISK **03** 12:56:43.6, 40°.84N×34°.71E, h4km, ML3.8/24*
*AFAD **03** 12:56:43.9±0.0, 40°.82N×34°.72E, h14km±3km, MW3.9*
*MCSM **03** 12:56:45.0±0.8, 41°N±5°×3°5E±1°3, h13km±12km, mb4.5, mB5.1, MLv3.9, Mw(mB)4.4*

ISC 03 12:56:44.1±1.1, 40°.85N±0°.02×34°.72E±0°.02, h10km±9km, n63, σ0°.98/83, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAGI	orum-Kargı	0.34	327	P	Pg	12 56 51.2	+0.2
TOS	Tosya	0.56	289	Pg	Pg	12 56 55.1	0.0
TOS				Sg	Sb	12 57 03.3	-1.0
COAL	Corum-Alaca	0.63	161	P	Pg	12 56 56.1	-0.2
BOYA	Sinop/Boyabat-	0.68	357	P	Pb	12 56 57.7	-0.5
YENC	ankr-Yen	0.69	256	P	Pb	12 56 57.8	-0.5
YENC				S	Sb	12 57 08.3	+0.4
YENC				*i* AML	AML	12 57 10.0	
	comp=N,6μm,0.2s						
YENC				*i* AML	AML	12 57 10.0	
	comp=E,3μm,0.2s						
SUNG	orum-Sungurl	0.76	209	P	Pb	12 56 59.0	-0.4
SUNG				S	Sb	12 57 09.8	0.0
SUNG				*i* AML	AML	12 57 10.0	
	comp=N,4μm,0.3s						
SUNG				*i* AML	AML	12 57 11.0	
	comp=E,4μm,0.5s						
ILGA	Ilgaz	0.79	285	P	Pg	12 56 59.4	0.0
ILGA				S	Sg	12 57 09.5	-0.2
ILGA				*i* AML	AML	12 57 12.0	
	comp=E,2μm,0.6s						
ILGA				*i* AML	AML	12 57 12.0	
	comp=N,2μm,0.6s						
YARM	Yarimca-Ladik(	0.84	85	Pg	Pb	12 57 00.8	-0.1
YARM				Sg	Sn	12 57 12.8	-1.8
KMON	Kastamonu	0.88	307	Pg	Pb	12 57 01.2	-0.4
KMON				Sg	Sn	12 57 14.1	-1.6
DIKM	Dikmen	0.89	27	Pg	Pn	12 57 01.9	-0.9
DIKM				Sg	Sn	12 57 15.2	-0.6
DIKM	Dikmen	0.89	27	P	Pn	12 57 02.0	-0.9
KIZO	Buyukk

SINP	**Sinop**	**1.17**	**14**	Pn	**Pg**	**12 57 06.8**	**+0.3**
SNOP	**Sinop**	**1.22**	**17**	Pn	**Pg**	**12 57 07.9**	**+0.3**
BZK	**Bozkurt**	**1.23**	**334**	Pn	**Pg**	**12 57 07.7**	**-0.1**
BZK	**Bozkurt**	**1.23**	**334**	P	**Pg**	**12 57 07.8**	**-0.1**
CDAG	**Cicekdag**	**1.25**	**193**	P	**Pb**	**12 57 07.5**	**-0.5**
CDAG				S	**Sg**	**12 57 24.4**	**-0.1**
CDAG				*i* AML	AML	12 57 27.0	
	comp=N,3μm,0.3s						
CDAG				*i* AML	AML	12 57 28.0	
	comp=E,5μm,0.4s						
BR131	**Keskin Array S**	**1.40**	**217**	Pn	**Pb**	**12 57 09.6**	**-0.8**
BR106	**Keskin Array S**	**1.40**	**218**	P	**Pb**	**12 57 10.2**	**-0.3**
BR104	**Keskin Array S**	**1.41**	**216**	P	**Pb**	**12 57 10.2**	**-0.4**
BR105	**Keskin Array S**	**1.41**	**217**	P	**Pb**	**12 57 10.1**	**-0.6**
AKPI	**Kirsehir/Akpin**	**1.46**	**203**	P	**Pb**	**12 57 10.4**	**-1.0**
AKPI				S	**Sb**	**12 57 29.6**	**-0.4**
AKPI				*i* AML	AML	12 57 34.0	
	comp=E,1μm,0.5s						
AKPI				*i* AML	AML	12 57 34.0	
	comp=N,737nm,0.3s						
TOKT	**Tokat**	**1.48**	**110**	Pn	**Pg**	**12 57 12.4**	**-0.2**
KESK	**Krkkale-Ke**	**1.50**	**216**	P	**Pb**	**12 57 11.0**	**-1.1**
KESK				S	**Sb**	**12 57 30.7**	**-0.5**
KESK				*i* AML	AML	12 57 35.0	
	comp=E,2μm,0.4s						
KESK				*i* AML	AML	12 57 36.0	
	comp=N,2μm,0.5s						
SIRC	**Yozgat**	**1.55**	**168**	P	**Pb**	**12 57 12.8**	**-0.2**
SIRC				S	**Sg**	**12 57 34.4**	**+0.6**
SIRC				*i* AML	AML	12 57 36.0	
	comp=E,1μm,0.5s						
SIRC				*i* AML	AML	12 57 38.0	
	comp=N,922nm,0.3s						
SAFT	**Safranbolu**	**1.59**	**285**	Pn	**Pb**	**12 57 13.3**	**-0.3**
KOZK	**Kozakli-Nevseh**	**1.64**	**176**	Pn	**Pb**	**12 57 14.3**	**-0.3**
MCUR	**KIREHR**	**1.69**	**185**	P	**Pb**	**12 57 14.6**	**-0.9**
MCUR				S	**Sb**	**12 57 36.9**	**0.0**
MCUR				*i* AML	AML	12 57 39.0	
	comp=N,1μm,0.7s						
MCUR				*i* AML	AML	12 57 40.0	
	comp=E,2μm,0.6s						
ANTO	**Ankara**	**1.77**	**237**	P	**Pb**	**12 57 15.7**	**-1.1**
AFSR	**Afar-Bala (An**	**1.89**	**223**	Pn	**Pb**	**12 57 17.6**	**-1.2**
SVSK	**Karacayir**	**1.97**	**117**	Pn	**Pb**	**12 57 19.1**	**-1.0**
BTIN	**Bartın**	**2.02**	**294**	P	**Pb**	**12 57 21.1**	**+0.1**
BTIN				S	**Sb**	**12 57 45.1**	**-1.2**
BTIN				*i* AML	AML	12 57 59.0	
	comp=N,416nm,0.8s						
BTIN				*i* AML	AML	12 58 00.0	
	comp=E,362nm,0.9s						
RSDY	**Resadiye-TOKAT**	**2.03**	**102**	Pn	**Pb**	**12 57 20.1**	**-1.1**
SERE	**Sereflikochisa**	**2.10**	**206**	Pn	**Pb**	**12 57 20.8**	**-1.6**
BNN	**Bunyan**	**2.17**	**156**	Pn	**Pb**	**12 57 21.9**	**-1.8**
KKUL	**Konya-Kulu**	**2.18**	**220**	P	**Pb**	**12 57 21.5**	**-2.2**
KKUL				S	**Sb**	**12 57 51.1**	**+0.3**
KULU	**Kulu**	**2.24**	**217**	Pn	**Pb**	**12 57 22.7**	**-2.0**
YUVA	**Yuva-Kibriscik**	**2.36**	**260**	Pn	**Pn**	**12 57 24.1**	**+1.1**
BSIR	**Belisirma, Guz**	**2.60**	**188**	P	**Pb**	**12 57 29.1**	**-1.8**
CHBY	**Cihanbeyli**	**2.67**	**213**	Pn	**Pn**	**12 57 28.5**	**+1.2**
SARI	**SarD1z-Kayseri**	**2.77**	**151**	Pn	**Pn**	**12 57 30.3**	**+1.6**
SULT	**Sultanhani-AKS**	**2.81**	**200**	Pn	**Pn**	**12 57 30.6**	**+1.4**
SVRH	**Sivrihisar-ESK**	**2.83**	**241**	Pn	**Pn**	**12 57 30.3**	**+0.9**
CMRD	**Camardi-Nigde**	**3.19**	**176**	Pn	**Pn**	**12 57 36.2**	**+1.7**
LADK	**Ladik-KONYA**	**3.21**	**215**	Pn	**Pn**	**12 57 36.1**	**+1.3**
EZN	**Ezine**	**6.50**	**264**	P	**Pn**	**12 58 21.7**	**+1.9**
TESR	**Tescani**	**8.14**	**317**	P	**Pn**	**12 58 42.6**	**+0.3**
SORM	**Soroca**	**8.59**	**330**	P	**Pn**	**12 58 48.2**	**-0.2**
KMPD	**K-Podol'skiy**	**9.69**	**325**	P	**Pn**	**12 59 03.4**	**-0.2**
LUBAR	**Lubar, Ukraine**	**10.30**	**334**	P	**Pn**	**12 59 13.2**	**+1.3**
AK05	**Malin Array Si**	**10.50**	**340**	P	**Pn**	**12 59 15.9**	**+1.3**
AK13	**Malin Array Si**	**10.53**	**340**	P	**Pn**	**12 59 15.4**	**+0.4**
AK14	**Malin Array Si**	**10.54**	**340**	P	**Pn**	**12 59 15.4**	**+0.3**
AK19	**Malin Array Si**	**10.64**	**340**	P	**Pn**	**12 59 17.2**	**+0.6**
AK23	**Malin Array Si**	**10.65**	**340**	P	**Pn**	**12 59 17.5**	**+0.8**
RNPP5	**Staryi Chortor**	**12.05**	**332**	P	**Pn**	**12 59 36.5**	**+0.7**

IDC 03 13:00:04.5±7.0, 6°30S×150°18E, h0km, mb3.3/3, mbtmp3.4/3, MS3.6/1, Error ellipse: s-maj=155.9km s-min=55.9km az=171.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.51**	**227**	P	P	13 04 44.4	-0.1
	0.4nm,0.7s,baz=54,slow=11,SNR=2.5 0.4nm,0.7s						
ASAR	**Alice Springs**	**23.30**	**221**	P	P	13 05 13.8	-0.6
	0.3nm,0.5s,baz=58,slow=9.0,SNR=4.9 0.3nm,0.5s						
RPZ	**Rata Peaks**	**41.53**	**157**	LR	LR	13 24 01.3	
	comp=Z,82nm,20.6s,baz=292,slow=35						
VNDA	**Vanda**	**71.44**	**177**	P	P	13 11 26.7	+0.3
	1.5nm,0.9s,baz=327,slow=7.0,SNR=7.3 1.5nm,0.9s						

NEIC 03 13:07:07.2±1.0, 31°61N±0°01×104°51W±0°03, h5km±2km, mb_Lg2.5/27, ML2.5/20, Error ellipse: s-maj=5.2km s-min=3.0km az=253.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.60**	**113**	Pg	Pb	13 07 20.4	+0.1
GDL2	**Guadalupe Moun**	**0.60**	**12**	Pg	Pg	13 07 18.8	0.0
VHRN	**Van Horn**	**0.91**	**206**		Pn	13 07 27.0	+0.1
CLN7	**Carlsbad 7**	**1.00**	**37**	Pg	Pg	13 07 26.5	+0.1
HTMS	**Hat Mesa**	**1.14**	**41**	Pg	Pg	13 07 28.2	-0.9
ALPN	**Alpine**	**1.44**	**148**		Pn	13 07 34.1	0.0
MNHN	**Monahans**	**1.52**	**100**		Pn	13 07 35.2	+0.1
CPRX	**Cap Rock**	**1.52**	**21**		Pb	13 07 35.9	-0.1
ODSA	**Odessa**	**1.75**	**72**	Pn	Pb	13 07 39.4	-0.4
TX31	**Lajitas Ar. Si**	**2.38**	**162**		Pn	13 07 47.5	+0.5
TXAR	**Lajitas Array**	**2.38**	**162**		Pn	13 07 48.4	+1.4
SAND	**Sanderson**	**2.63**	**128**		Pn	13 07 51.2	+0.8
SAND				IAmb_Lg		13 08 36.6	
	comp=Z,16nm,0.8s						
MSTX	**Muleshoe**	**2.77**	**31**	Pn	Pn	13 07 53.8	+1.4
SGCY	**Sterling City**	**2.90**	**83**	Pn	Pn	13 07 54.8	+0.6
SGCY				IAmb_Lg		13 08 46.6	
	comp=Z,16nm,1.0s						
121A	**Cookes Peak, D**	**2.93**	**289**		Pn	13 07 56.0	+1.4
121A				IAML		13 08 53.3	
	comp=E,14nm,0.7s						
121A				IAML		13 08 53.8	
	comp=N,15nm,1.1s						
POST	**Post**	**2.94**	**59**	Pn	Pn	13 07 54.1	-0.5
POST				IAmb_Lg		13 08 46.8	
	comp=Z,13nm,0.8s						
OZNA	**Ozona**	**2.98**	**102**	Pn	Pn	13 07 54.6	-0.6
SN05	**Snyder 5**	**3.33**	**67**		Pn	13 08 00.1	+0.2
SN05				IAmb_Lg		13 08 53.2	
	comp=Z,15nm,0.9s						
SN07	**Snyder 07**	**3.40**	**63**		Pn	13 08 01.0	0.0
SN07				IAmb_Lg		13 08 55.2	
	comp=Z,14nm,0.7s						
DKNS	**Dickens**	**3.66**	**55**	Pn	Pn	13 08 03.5	-1.0
ANMO	**Albuquerque**	**3.71**	**334**		Pn	13 08 03.5	-1.9
ANMO				IAML		13 09 01.5	
	comp=Z,9.9nm,0.8s						
DRIO	**Del Rio**	**4.00**	**122**	Pn	Pn	13 08 08.8	-0.4
DRIO				IAmb_Lg		13 09 19.0	
	comp=Z,14nm,0.7s						
APMT	**Aspermont**	**4.09**	**64**	IAmb_Lg		13 09 18.9	
	comp=Z,13nm,0.8s						
ABTX	**Abilene, Hawle**	**4.25**	**75**	Pn	Pn	13 08 10.3	-2.4
ABTX				IAmb_Lg		13 09 27.2	
	comp=Z,12nm,0.9s						
BRDY	**Brady**	**4.72**	**92**	Pn	Pn	13 08 19.0	-0.2
BRDY				IAmb_Lg		13 09 39.3	
	comp=Z,7.1nm,0.8s						
HPIG		**4.76**	**192**	Pn	Pn	13 08 19.5	-0.3
HPIG				IAML		13 09 28.5	
	comp=N,5.1nm,5.0s						
RTBA	**Rita Blanca**	**5.04**	**17**	IAmb_Lg		13 09 44.2	
	comp=Z,6.8nm,0.8s						
PLPT	**Palo Pinto**	**5.39**	**75**	IAmb_Lg		13 10 05.0	
	comp=Z,4.9nm,0.7s						

*ISK **03** 13:16:17.8, 37°69N×37°41E, h5km, ML4.0/18*
*AFAD **03** 13:16:18.1±0.0, 37°69N×37°40E, h11km±1km, MW4.1*
*IDC **03** 13:16:20.1±1.2, 37°54N×36°96E, h0km, mb3.4/4, mbtmp3.5/8, ML3.4/3, Error ellipse: s-maj=17.6km s-min=12.3km az=58.0*

ISC 03 13:16:18.5±0.9, 37°69N±0°01×37°41E±0°01, h11km±7km, n96, σ1§52/161, mb3.6/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCA	**Adyaman/G¶l**	**0.24**	**65**	P	**Pg**	**13 16 23.3**	**-0.3**
AKCA				S	**Sg**	**13 16 27.4**	**+0.4**
GZT	**Gaziantep**	**0.35**	**160**	P	**Pg**	**13 16 25.6**	**0.0**
GZT				S	**Sg**	**13 16 31.0**	**+0.6**
KHMN	**Narli-Kahraman**	**0.36**	**214**	Pg	**Pb**	**13 16 26.0**	**-0.9**
KHMN				Sg	**Sg**	**13 16 30.9**	**+0.5**
KAHM	**Kahramanmaras,**	**0.38**	**243**	P	**Pg**	**13 16 25.9**	**0.0**
KAHM				S	**Sg**	**13 16 31.0**	**+0.1**
KMRS	**Kahramanmaras**	**0.44**	**246**	Pg	**Pg**	**13 16 27.0**	**-0.2**
KMRS				Sg	**Sb**	**13 16 33.6**	**-1.5**
HCB	**Kahramanmara**	**0.53**	**229**	P	**Pb**	**13 16 29.0**	**-0.8**
HCB				S	**Sb**	**13 16 36.3**	**-1.1**
KHMR	**Kahramanmara**	**0.53**	**229**	P	**Pg**	**13 16 28.7**	**0.0**
KHMR				P	**Pb**	**13 16 29.0**	**-0.8**
KHMR				S	**Sb**	**13 16 36.4**	**-1.0**
GAZ	**Gaziantep**	**0.54**	**197**	Pg	**Pg**	**13 16 28.8**	**-0.2**
GAZ				Sg	**Sb**	**13 16 36.7**	**-1.1**
ELBS	**KAHRAMANMARAS**	**0.67**	**341**	P	**Pg**	**13 16 31.3**	**-0.2**
ELBS				S	**Sb**	**13 16 40.7**	**-1.0**
NZIP	**Nizip/Gaziante**	**0.68**	**162**	P	**Pb**	**13 16 31.9**	**-0.5**
NZIP				S	**Sb**	**13 16 41.4**	**-0.5**
AKCD	**Akcadag**	**0.73**	**34**	P	**Pg**	**13 16 31.9**	**-0.7**
AKCD				S	**Sb**	**13 16 42.7**	**-0.7**
KAMA	**Osmaniye**	**0.77**	**230**	P	**Pb**	**13 16 33.4**	**-0.7**
KAMA				S	**Sb**	**13 16 43.8**	**-0.8**
ANDN	**Andirin**	**0.85**	**263**	P	**Pg**	**13 16 34.6**	**-0.3**
ANDN				S	**Sb**	**13 16 46.9**	**0.0**
DARE	**Darende-Malaty**	**0.88**	**4**	Pg	**Pg**	**13 16 34.8**	**-0.7**
DARE				Sg	**Sb**	**13 16 48.1**	**+0.3**
MAYA	**Malatya/Merkez**	**1.02**	**51**	P	**Pg**	**13 16 35.2**	**-3.0**
MAYA				S	**Sg**	**13 16 51.0**	**-0.6**
CUGUR	**Gurin_SVAS**	**1.04**	**354**	P	**Pg**	**13 16 37.8**	**-0.7**
CUGUR				S	**Sn**	**13 16 54.1**	**+0.3**
SARI	**SarD1z-Kayseri**	**1.06**	**313**	Pg	**Pg**	**13 16 38.4**	**-0.5**
SARI				Sg	**Sn**	**13 16 53.5**	**-0.9**
NARI	**Adyaman-Kaht**	**1.09**	**79**	P	**Pb**	**13 16 38.8**	**-0.6**
NARI				S	**Sb**	**13 16 53.8**	**+0.2**
SAIM	**ADANA**	**1.09**	**286**	P	**Pg**	**13 16 38.6**	**-0.9**
SAIM				S	**Sn**	**13 16 56.1**	**+1.1**
URFA	**Urfa**	**1.15**	**102**	Pn	**Pb**	**13 16 39.8**	**-0.6**
URFA				Sn	**Sn**	**13 16 56.8**	**+0.4**
HANM	**anlurfa/Hi**	**1.17**	**95**	P	**Pb**	**13 16 40.3**	**-0.5**
HANM				S	**Sn**	**13 16 57.2**	**+0.2**
HASA	**Hatay-Hassa-Ha**	**1.19**	**218**	P	**Pg**	**13 16 41.9**	**+0.6**
HASA				S	**Sn**	**13 16 59.5**	**+2.1**
KOZT	**Kozan**	**1.27**	**261**	Pn	**Pg**	**13 16 42.3**	**-0.6**
KOZT				Sn	**Sg**	**13 17 00.6**	**+1.1**
SANL	**SANLIURFA_Merk**	**1.36**	**112**	P	**Pn**	**13 16 42.8**	**-0.7**
SANL				S	**Sb**	**13 16 59.9**	**-1.5**
ELZG	**Elazig**	**1.48**	**57**	P	**Pn**	**13 16 45.3**	**0.0**
ELZG				S	**Sg**	**13 17 06.2**	**0.0**
RHAN	**Hatay/Reyhanl**	**1.57**	**205**	P	**Pg**	**13 16 48.3**	**-0.2**
RHAN				S	**Sg**	**13 17 07.7**	**-1.1**
AKO	**Adana**	**1.58**	**262**	P	**Pb**	**13 16 47.1**	**-0.5**
AKO				S	**Sg**	**13 17 08.9**	**-0.3**
ARPR	**Arapgir-MALATY**	**1.58**	**27**	Pn	**Pb**	**13 16 47.1**	**-0.7**
CUKAN	**kangal_SIVAS**	**1.62**	**2**	P	**Pb**	**13 16 48.6**	**-0.1**
CUKAN				S	**Sg**	**13 17 13.5**	**+2.7**
TAHT	**Tahtakopru-Hat**	**1.64**	**217**	Pn	**Pb**	**13 16 48.2**	**-0.5**
CUAYA	**Sivas-Altinyay**	**1.66**	**342**	P	**Pg**	**13 16 49.8**	**-0.5**
CUAYA				S	**Sg**	**13 17 14.8**	**+3.0**
YURE	**YUREGIR**	**1.66**	**239**	P	**Pb**	**13 16 48.8**	**-0.3**
YURE				S	**Sg**	**13 17 14.1**	**+2.3**
YAHY	**KAYSERI_Yahyal**	**1.67**	**285**	P	**Pg**	**13 16 49.5**	**-1.0**
YAHY				S	**Sg**	**13 17 11.7**	**-0.5**
BNN	**Bunyan**	**1.69**	**314**	Pn	**Pb**	**13 16 48.8**	**-0.9**
KEMA	**Kemaliye**	**1.79**	**28**	P	**Pb**	**13 16 50.5**	**-0.9**
KEMA				S	**Sb**	**13 17 14.5**	**+0.5**
GUNE	**Kayseri**	**1.85**	**311**	P	**Pg**	**13 16 54.0**	**0.0**
GUNE				S	**Sg**	**13 17 18.7**	**+0.6**
CMRD	**Camardi-Nigde**	**1.92**	**270**	Pn	**Pn**	**13 16 51.9**	**+0.6**
PTK	**Pertek**	**1.97**	**52**	Pn	**Pb**	**13 16 53.2**	**-1.3**
ILIC	**ilic-Erzincan**	**1.98**	**27**	Pn	**Pn**	**13 16 52.8**	**+0.7**
NIDE	**Nigde/Merkez-G**	**2.11**	**279**	P	**Pb**	**13 16 55.3**	**-1.5**
NIDE				S	**Sg**	**13 17 25.9**	**-0.3**
GULE	**Gulek**	**2.13**	**260**	P	**Pn**	**13 16 55.2**	**+1.0**
GULE				S	**Sb**	**13 17 23.2**	**-0.6**
KOVA	**Elazig, Kovanc**	**2.15**	**61**	P	**Pg**	**13 16 59.0**	**-0.7**
KOVA				S	**Sg**	**13 17 32.8**	**+5.3**
DIYA	**Diyarbakir**	**2.16**	**83**	P	**Pn**	**13 16 54.9**	**+0.4**
DIYA				S	**Sg**	**13 17 29.3**	**+1.4**
TNCL	**Tunceli-Merkez**	**2.20**	**49**	P	**Pg**	**13 16 59.4**	**-1.3**
DED	**Mersin**	**2.20**	**252**	P	**Pb**	**13 16 58.8**	**+0.5**
DED				S	**Sn**	**13 17 22.7**	**+0.3**
SVSK	**Karacayir**	**2.25**	**352**	Pn	**Pb**	**13 16 57.3**	**-1.8**
NIG	**Nigde**	**2.25**	**282**	Pn	**Pn**	**13 16 56.7**	**+0.7**
AVNS	**Nevsehir-Avano**	**2.31**	**300**	P	**Pb**	**13 17 00.1**	**-0.1**
AVNS				S	**Sg**	**13 17 30.4**	**-2.1**
HACI	**Hacifakili, Ak**	**2.40**	**327**	P	**Pb**	**13 16 59.8**	**-2.0**
HACI				S	**Sg**	**13 17 36.0**	**+0.4**
SIRC	**Yozgat**	**2.42**	**314**	P	**Pn**	**13 16 59.2**	**+1.1**
SIRC				S	**Sg**	**13 17 35.4**	**-0.8**
HANI	**Diyarbakir_Han**	**2.47**	**72**	P	**Pn**	**13 16 59.2**	**+0.4**
HANI				S	**Sn**	**13 17 29.6**	**+0.6**
KOZK	**Kozakli-Nevseh**	**2.51**	**308**	Pn	**Pn**	**13 17 00.5**	**+1.2**
BSIR	**Belisirma, Guz**	**2.53**	**284**	P	**Pb**	**13 17 04.4**	**+0.3**
BSIR				S	**Sb**	**13 17 33.9**	**-1.3**
SUSE	**Susehri**	**2.59**	**14**	P	**Pn**	**13 17 02.1**	**+1.6**
SUSE				S	**Sg**	**13 17 45.5**	**+3.8**
KERG	**Konya-Eregli**	**2.62**	**265**	P	**Pn**	**13 17 02.2**	**+1.3**
KERG				S	**Sn**	**13 17 34.2**	**+1.3**
EUZM	**Uzumlu**	**2.70**	**41**	P	**Pg**	**13 17 09.0**	**-1.1**
EUZM				S	**Sg**	**13 17 50.8**	**+5.7**
MCUR	**KIREHR**	**2.70**	**304**	P	**Pn**	**13 17 03.5**	**+1.5**
MCUR				S	**Sg**	**13 17 44.7**	**-0.4**
MARD	**Mardin**	**2.71**	**97**	P	**Pb**	**13 17 07.8**	**+0.8**
MARD				S	**Sg**	**13 17 43.9**	**-1.6**
TOKA	**Tokat**	**2.73**	**345**	P	**Pn**	**13 17 04.4**	**+2.0**
TOKA				S	**Sb**	**13 17 37.9**	**-2.9**
KELT	**Kelkit**	**2.85**	**30**	P	**Pn**	**13 17 05.2**	**+1.1**
KELT				S	**Sn**	**13 17 39.6**	**+1.0**
ALUC	**Giresun/Alucra**	**2.86**	**21**	P	**Pn**	**13 17 05.7**	**+1.5**
KIZK	**Mersin**	**2.88**	**246**	Pn	**Pn**	**13 17 05.2**	**+0.9**
KIZK	**Mersin**	**2.88**	**246**	P	**Pn**	**13 17 04.5**	**+0.2**
KIZK				S	**Sb**	**13 17 41.8**	**-3.2**
YOZG	**Bozok Univ. Me**	**2.92**	**316**	P	**Pn**	**13 17 05.9**	**+0.8**
YOZG				S	**Sg**	**13 17 51.0**	**-1.3**
SVAN	**Silvan-Diyarba**	**3.03**	**80**	P	**Pb**	**13 17 13.7**	**+1.1**
SVAN				S	**Sg**	**13 17 54.7**	**-1.2**
SLFK	**Silifke-Mersin**	**3.06**	**246**	Pn	**Pn**	**13 17 08.2**	**+1.4**
BTMN	**Batman**	**3.07**	**85**	P	**Pg**	**13 17 15.2**	**-2.0**
BTMN				S	**Sg**	**13 17 56.2**	**-0.7**
SILI	**Silifke-Mersin**	**3.08**	**246**	Pn	**Pn**	**13 17 08.4**	**+1.2**
COAL	**Corum-Alaca**	**3.18**	**324**	P	**Pn**	**13 17 09.7**	**+1.1**
COAL				S	**Sg**	**13 18 02.6**	**+1.9**
MIDY	**Mardin/Midyat-**	**3.18**	**94**	P	**Pb**	**13 17 16.9**	**+1.8**
MIDY				S	**Sg**	**13 17 59.2**	**-1.5**
BEIL	**Beino**	**3.29**	**198**	*e*P	**Pn**	**13 17 11.2**	**+1.2**
KOPT	**Kop Dagi**	**3.35**	**45**	P	**Pg**	**13 17 20.5**	**-2.1**
KOPT				S	**Sn**	**13 17 54.5**	**+3.5**
MUSM	**Mu-Merkez**	**3.39**	**71**	P	**Pn**	**13 17 12.6**	**+1.1**
MUSM				S	**Sg**	**13 18 04.8**	**-2.6**
GULN	**MERSIN_Gulnar**	**3.44**	**245**	P	**Pn**	**13 17 11.2**	**-0.8**
GULN				S	**Sn**	**13 17 53.6**	**+0.7**
SUNG	**orum-Sungurl**	**3.51**	**316**	P	**Pn**	**13 17 14.8**	**+1.8**
SUNG				S	**Sg**	**13 18 11.7**	**+0.5**
DELI	**KIRIKKALE**	**3.57**	**311**	P	**Pn**	**13 17 15.4**	**+1.4**
DELI				S	**Sg**	**13 18 12.1**	**-0.9**
BRTR	**Keskin Array B**	**3.58**	**306**	Pn	**Pn**	**13 17 15.9**	**+1.8**
	1.4nm,0.3s,baz=132,slow=17,SNR=21						
BRTR				Pg	**Pb**	**13 17 23.9**	**+2.0**
	4.7nm,0.3s,baz=132,slow=19,SNR=36						
BRTR				Sn	**Sn**	**13 17 56.3**	**-0.2**
	3.2nm,0.3s,baz=124,slow=30,SNR=5.1						
BRTR				Lg	Lg	13 18 08.2	
	2.2nm,0.3s,baz=128,slow=29,SNR=4.5 3.8nm,0.5s						
SRTM	**Siirt_Merkez**	**3.59**	**84**	P	**Pb**	**13 17 22.0**	**0.0**
SRTM				S	**Sg**	**13 18 11.3**	**-2.4**
HWQ	**Hawqa**	**3.60**	**200**	*e*P	**Pn**	**13 17 15.6**	**+1.2**
SIRN	**Sırnak**	**3.98**	**91**	P	**Pg**	**13 17 34.2**	**-0.5**
SIRN				S	**Sg**	**13 18 25.9**	**-0.4**
PERV	**Siirt/Pervari-**	**4.07**	**85**	P	**Pb**	**13 17 26.9**	**-3.5**
PERV				S	**Sg**	**13 18 27.7**	**-1.6**
YENC	**ankr-Yen**	**4.07**	**318**	P	**Pn**	**13 17 23.0**	**+2.1**
YENC				S	**Sg**	**13 18 27.8**	**-1.5**
CSS	**Mathiatis**	**4.27**	**232**	P	**Pg**	**13 17 40.8**	**+0.5**
RCY	**Rachaya**	**4.38**	**197**	*e*P	**Pn**	**13 17 26.9**	**+1.9**
NATI	**Neve Ativ**	**4.62**	**198**	P	**Pn**	**13 17 31.0**	**+2.7**
GEM	**Giv'at Ha'Em**	**4.69**	**198**	P	**Pn**	**13 17 33.3**	**+4.1**
MMAI	**Mount Meron Ar**	**4.94**	**200**	Pn	**Pn**	**13 17 32.9**	**+0.1**
	2.7nm,0.3s,baz=18,slow=14,SNR=5.3						
MMAI				Pg	**Pb**	**13 17 45.0**	**-0.1**
	6.8nm,0.3s,baz=16,slow=17,SNR=11						
MMAI				Lg	Lg	13 18 48.7	
	4.9nm,0.3s,baz=16,slow=41,SNR=1.4 1.3nm,0.3s						
HAKT	**HAKKARI**	**5.00**	**90**	P	**Pb**	**13 17 49.0**	**+2.8**
HAKT				S	**Sg**	**13 19 02.9**	**+3.8**
ASF	**Jabal al Asfar**	**5.52**	**185**	Pn	**Pn**	**13 17 42.2**	**+1.5**
	1.5nm,0.3s,baz=229,slow=0.3,SNR=5.9						
ASF				Lg	Lg	13 19 08.9	
	3.2nm,0.3s,baz=61,slow=0.0,SNR=7.9 3.4nm,0.3s						
ASF	**Jabal al Asfar**	**5.52**	**185**	P	Pn	13 17 46.6	+5.9
EIL	**Elat**	**8.26**	**195**	Lg	Lg	13 20 36.9	
	0.5nm,0.3s,baz=99,slow=5.0,SNR=3.7						
IDI	**Anoyia**	**10.36**	**260**	Pn	**Pn**	**13 18 44.4**	**-2.7**
	5.7nm,0.8s,baz=65,slow=19,SNR=2.1						
GERES	**GERESS Array B**	**20.46**	**311**	P	Pn	13 20 57.2	-1.1
	0.5nm,0.4s,baz=130,slow=9.1,SNR=2.3 0.5nm,0.4s						
KEST	**Kesra**	**22.55**	**274**	P	**P**	**13 21 17.7**	**-1.0**
	2.3nm,0.9s,baz=51,slow=6.5,SNR=2.5 2.3nm,0.9s						
MKAR	**Makanchi Array**	**34.05**	**60**	P	P	13 23 09.3	+6.6
	0.2nm,0.6s,baz=263,slow=8.4,SNR=2.2 0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**36.06**	**48**	P	P	13 23 25.6	+5.8
	0.3nm,0.3s,baz=258,slow=7.2,SNR=1.9 0.3nm,0.3s						

UCR 03 13:17:37.9±1.2, 9°09N×83°78W, h54km±4km, MW3.6, 5C-16D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZELE	**Perez Zeledon**	**0.29**	**14⇓**	*e*P	Pn	13 17 46.9	-0.6
ZELE				*e*S	Sn	13 17 53.6	-0.7
EDPN	**Palmar Norte**	**0.34**	**111⇑**	*i*P	Pn	13 17 47.4	-0.3
EDPN				*e*S	Sn	13 17 55.2	+0.4
LLNJ	**Naranjito**	**0.50**	**321⇓**	*e*P	Pn	13 17 48.7	-0.7
LLNJ				*e*S	Sn	13 17 57.4	-0.4
EDP2	**Potrero Grande**	**0.60**	**97⇑**	*e*P	Pn	13 17 50.5	-0.1
EDP2				*e*S	Sn	13 18 00.6	+0.9
RAZU	**San Marcos de**	**0.62**	**337**	*e*P	Pn	13 17 50.6	-0.5
RAZU				*e*S	Sn	13 18 00.6	+0.1
ABE2	**San Pablo**	**0.67**	**336**	*e*P	Pn	13 17 51.3	-0.4
ABE2				*e*S	Sn	13 18 02.1	+0.3
LCR2	**La Lucha 2**	**0.69**	**341⇓**	*i*P	Pn	13 17 51.5	-0.5
LCR2				*e*S	Sn	13 18 01.7	-0.4
REPA	**Paraso**	**0.74**	**353⇓**	*i*P	Pn	13 17 53.2	+0.6
REPA				*e*S	Sn	13 18 04.2	+1.0
ACOS	**Acosta**	**0.80**	**332⇓**	*e*P	Pn	13 17 52.9	-0.4
ACOS				*e*S	Sn	13 18 04.4	-0.1
PIRO	**Carate, Puerto**	**0.81**	**147**	*e*P	Pn	13 17 53.3	+0.1
VINA	**Juan Vinas**	**0.81**	**2⇓**	*e*P	Pn	13 17 53.1	-0.3
VINA				*e*S	Sn	13 18 04.7	+0.1
TURIB	**Turrialba**	**0

EIDS IAmb IAmb 13 36 25.8
comp=Z,17nm,1.3s
ARMA Armidale 29.09 244 P **P 13 36 23.2 +0.6**
ARMA IAmb IAmb 13 36 59.6
comp=Z,28nm,1.2s
CTAO Charters Tower 33.55 264 P **P 13 37 00.4 -0.4**
CTAO IAmb IAmb 13 37 00.9
comp=Z,12nm,0.8s
COEN Coen 37.65 274 P **P 13 37 34.7 -0.3**
COEN IAmb IAmb 13 38 07.3
comp=Z,23nm,1.2s
STKA Stephens Creek 37.81 244 P **P 13 37 35.9 -0.1**
STKA Stephens Creek 37.81 244 P **P 13 37 35.5 -0.4**
comp=Z,2.0nm,0.5s,baz=80,slow=8.8,SNR=6.0
comp=Z,2.0nm,0.5s
MANU Manus Island 38.55 294 P **P 13 37 42.0 -0.2**
BBOO Buckleboo 42.56 244 P **P 13 38 13.3 -0.8**
BBOO IAmb IAmb 13 38 42.8
comp=Z,22nm,1.1s
WR0 Warramunga Arr 44.46 262 P **P 13 38 27.6 -1.4**
AS31 Alice Springs 44.56 257 P **P 13 38 28.8 -0.9**
ASAR Alice Springs 44.56 257 P **P 13 38 28.3 -1.4**
ASAR Alice Springs 44.56 257 P **P 13 38 28.9 -0.8**
comp=Z,8.9nm,0.5s,baz=90,slow=7.8,SNR=261
ASAR PcP **PcP 13 40 00.1 -1.3**
comp=Z,0.8nm,0.5s,baz=103,slow=4.0,SNR=4.7
comp=Z,8.9nm,0.5s
WB0 Warramunga Arr 44.63 262 P **P 13 38 29.1 -1.2**
WB0 IAmb IAmb 13 38 29.5
comp=Z,12nm,0.4s
WB2 Warramunga Arr 44.64 262 **P 13 38 28.9 -1.5**
WB2 IAmb IAmb 13 38 30.2
comp=Z,12nm,1.0s
WRAB Tennant Creek 44.64 262 P **P 13 38 29.1 -1.2**
WRAB IAmb IAmb 13 38 30.1
comp=Z,9.2nm,0.9s
WRA Warramunga Arr 44.65 262 **P 13 38 29.2 -1.2**
WRA Warramunga Arr 44.65 262 P **P 13 38 29.1 -1.3**
comp=Z,4.7nm,0.3s,baz=97,slow=7.7,SNR=240
comp=Z,4.7nm,0.3s
MTN Manton Dam 49.23 271 P **P 13 39 03.8 -1.2**
MTN IAmb IAmb 13 39 04.7
comp=Z,11nm,0.6s
FORT Forrest 49.32 247 P **P 13 39 04.2 -1.3**
FORT IAmb IAmb 13 39 26.5
comp=Z,39nm,1.1s
FITZ Fitzroy Crossi 53.08 262 P **P 13 39 32.0 -0.9**
SOEI Soe 56.57 272 P **P 13 39 57.2 -0.3**
SOEI IAmb IAmb 13 40 04.1
comp=Z,56nm,1.3s
PSA00 Pilbara Seismi 57.71 257 P **P 13 40 03.9 -1.2**
MBWA Marble Bar 57.90 257 P **P 13 40 04.8 -1.5**
MORW Morawa 59.85 248 P **P 13 40 18.6 -0.8**
MORW IAmb IAmb 13 40 57.4
comp=Z,31nm,1.4s
JCJ Chichijima 61.15 319 P **P 13 40 28.0 +0.1**
VA02 Isla de Pascua 62.30 111 P **P 13 40 37.1 +1.6**
QSPA South Pole Qui 69.47 180 P **P 13 41 20.4 +0.7**
QSPA South Pole Qui 69.47 180 P **P 13 41 20.0 +0.4**
comp=Z,2.0nm,1.0s,baz=42,slow=16,SNR=6.9
comp=Z,2.0nm,1.0s
UGM Wanagama 70.03 269 P **P 13 41 22.5 -1.3**
MJAR Matsushiro Arr 70.32 324 P **P 13 41 23.6 -1.4**
comp=Z,1.5nm,0.7s,baz=151,slow=6.2,SNR=5.0
comp=Z,1.5nm,0.7s
JSD Sado 71.38 325 P **P 13 41 31.4 +0.2**
NVAR Mina Array Bea 81.05 43 P **P 13 42 22.4 -2.3**
comp=Z,0.2nm,0.5s,baz=230,slow=5.4,SNR=2.2
comp=Z,0.2nm,0.5s
IL31 88.39 13 P **P 13 43 00.6 +1.1**
RDOG Red Dog Mine 89.08 6 P **P 13 43 04.0 +1.3**
RDOG IAmb IAmb 13 43 37.6
comp=Z,9.8nm,0.7s
BVAR Borovoye Array 119.19 320 PKP **PKPdf 13 48 51.2 -2.0**
comp=Z,0.9nm,0.4s,baz=90,slow=1.4,SNR=4.3
AKASG Malin Array Be 143.13 331 PKhKP PKPpre 13 49 33.5
comp=Z,2.2nm,0.5s,baz=44,slow=4.1,SNR=4.1
BRTR Keskin Array B 146.95 312 PKPbc **PKPdf 13 49 46.3 +1.1**
comp=Z,0.9nm,0.6s,baz=145,slow=6.5,SNR=4.4
MMAI Mount Meron Ar 147.92 300 PKPbc **PKPbc 13 49 49.1 -1.6**
comp=Z,2.5nm,0.6s,baz=53,slow=4.3,SNR=5.0

*NIED **03** 13:33:54.5, 36.°25N×141.°13E, h46km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-8.92; $M_{\theta\theta}$2.42; $M_{\phi\phi}$6.49; $M_{r\theta}$-1.63; $M_{\theta\phi}$2.90; $M_{r\phi}$0.36; Fault plane solution: $M_0$8.60000×10^{14} NP1:ϕ_s37.00000°, δ47.00000°, λ-78.00000°. NP2:ϕ_s199.00000°, δ44.00000°, λ-103.00000°.*
*JMA **03** 13:33:54.5±0.2, 36.°3N±0.°3×14.°1E±.°, h46km±2km, MD3.9/38, MV3.9/38, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .
*IDC **03** 13:33:55.3±3.4, 36.°20N×141.°15E, h36km±29km, mb3.6/10, mbtmp3.8/14, ML3.5/4, MS3.2/4, Error ellipse: s-maj=20.8km s-min=17.2km az=95.0*
*NEIC **03** 13:33:57.3±2.9, 36.°31N±0.°05×141.°20E±0.°10, h44km±7km, mb4.4/36, Error ellipse: s-maj=13.2km s-min=4.3km az=120.0*
ISC 03 13:33:54.3±1.4, 36.°25N±0.°04×141.°21E±0.°05, h27km±10km, n108, σ1^{s}29/98, mb4.3/26, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.52 280**		P	**Pb**	**13 34 05.1**	**+0.3**
JHYU				S	**Sb**	**13 34 12.2**	**+0.3**
JHYU	**Hitachinakayam**	**0.52 280**		A	A	13 34 05.1	
	comp=E,31nm,0.6s,comp=N,23nm,0.4s						
JIHU	**Itakohorinouch**	**0.62 243**		P	**Pb**	**13 34 07.0**	**+0.4**
JIHU				S	**Sb**	**13 34 15.7**	**+0.7**
JIHU	**Itakohorinouch**	**0.62 243**		A	A	13 34 07.0	
	comp=E,20nm,1.8s,comp=N,30nm,0.9s						
JHO	**Hitachi**	**0.63 305**		P	**Pb**	**13 34 06.3**	**-0.5**
JHO				S	**Sb**	**13 34 14.5**	**-0.8**
JHO	**Hitachi**	**0.63 305**		A	A	13 34 06.3	
	comp=E,6.0nm,2.8s,comp=N,7.0nm,0.5s						
JYT	**Yasato**	**0.82 269**		P	**Pn**	**13 34 08.9**	**-1.2**
JYT				S	**Sb**	**13 34 18.9**	**-1.9**
JYT	**Yasato**	**0.82 269**		A	A	13 34 08.9	
	comp=E,9.0nm,0.4s,comp=N,14nm,0.3s						
JSMT	**Sammumatsuo**	**0.87 226**		P	**Pn**	**13 34 10.2**	**-0.5**
JSMT	**Sammumatsuo**	**0.87 226**		A	A	13 34 10.2	
	comp=E,7.0nm,3.1s,comp=N,8.0nm,2.7s						
ONAJ	**Iwakimizuishiy**	**0.91 339**		P	**Pn**	**13 34 10.4**	**-1.0**
ONAJ				*e*S	**Sb**	**13 34 21.8**	**-1.6**
JFK	**Kawauchi**	**1.15 346**		P	**Pn**	**13 34 13.7**	**-0.9**
JFK				*e*S	**Sn**	**13 34 27.5**	**-2.0**
JFK	**Kawauchi**	**1.15 346**		A	A	13 34 13.7	
	comp=E,2.0nm,7.3s						
JSB	**Shiboa**	**1.27 305**		A	A	13 34 15.5	
	comp=E,5.0nm,1.0s,comp=N,6.0nm,1.0s						
JAG	**Ashikaga**	**1.43 278**		P	**Pn**	**13 34 17.5**	**-1.0**
JOTO	**OTAMA OYAMA**	**1.49 332**		P	**Pn**	**13 34 19.8**	**+0.5**
JOTO				S	**Sn**	**13 34 38.2**	**+0.3**
BSO3	**Boso 3**	**1.55 202**		P	**Pn**	**13 34 21.1**	**+1.2**
BSO1	**Boso 1**	**1.60 187**		*e*P	**Pn**	**13 34 19.7**	**-0.7**
JMM	**Marumori**	**1.65 348**		P	**Pn**	**13 34 21.7**	**+0.2**
JMM	**Marumori**	**1.65 348**			**Pn**	**13 34 21.2**	**-0.2**
JMM	**Marumori**	**1.65 348**		A	A	13 34 21.6	
	comp=E,3.0nm,4.2s,comp=N,3.0nm,6.9s						
JKT	**Katashina**	**1.67 289**		P	**Pn**	**13 34 21.6**	**-0.1**
JKT				S	**Sn**	**13 34 41.5**	**-0.8**
MJAR	**Matsushiro Arr**	**2.44 278**		Pn	**Pn**	**13 34 31.9**	**-0.5**
	comp=N,3.6nm,0.3s,baz=52,slow=14,SNR=173						
MJAR				Sn	**Sn**	**13 35 00.1**	**-1.3**
	comp=N,1.7nm,0.3s,baz=100,slow=21,SNR=3.5						
MJAR				LR	LR	13 35 43.9	
	comp=N,165nm,19.7s,baz=120,slow=45						
	comp=N,24nm,0.4s						
MAJO	**Matsushiro**	**2.44 278**		P	**Pn**	**13 34 32.7**	**+0.3**
MAJO	**Matsushiro**	**2.44 278**			**Pn**	**13 34 32.4**	**-0.1**
MJB9	**Matsu-Tunnel**	**2.45 278**			**Pn**	**13 34 33.2**	**+0.8**
JSG	**Sagara**	**2.93 238**		P	**Pn**	**13 34 42.3**	**+3.2**
JSG	**Sagara**	**2.93 238**		Pn	**Pn**	**13 34 40.9**	**+1.8**
JSD	**Sado**	**2.96 308**		Pn	**Pn**	**13 34 40.1**	**+0.6**
JGF	**Kuroka**	**3.20 259**		P	**Pn**	**13 34 45.0**	**+2.2**
JGF	**Kuroka**	**3.20 259**			**Pn**	**13 34 44.6**	**+1.8**
JHJ2	**Mitsune**	**3.33 201**		P	**Pn**	**13 34 46.4**	**+1.8**
JHJ2	**Mitsune**	**3.33 201**		Pn	**Pn**	**13 34 45.6**	**+1.0**
JHJ	**Hachijo jima 2**	**3.34 201**		Pn	**Pn**	**13 34 44.6**	**-0.1**
	comp=N,17nm,0.3s,baz=309,slow=21,SNR=16						
JHJ				Sn	**Sn**	**13 35 21.8**	**-1.7**
	comp=N,43nm,0.3s,baz=96,slow=20,SNR=11						
	comp=N,45nm,0.3s						
INU	**Inuyama**	**3.53 256**		P	**Pn**	**13 34 49.5**	**+2.2**
INU	**Inuyama**	**3.53 256**			**Pn**	**13 34 49.0**	**+1.8**
JTM	**Tenmabayashi**	**4.53 359**		P	**Pn**	**13 35 02.9**	**+1.8**
JTM	**Tenmabayashi**	**4.53 359**			**Pn**	**13 35 02.1**	**+1.0**
ERM	**Erimo**	**5.95 14**		P	**Pn**	**13 35 20.1**	**-0.5**
ERM	**Erimo**	**5.95 14**		Pn	**Pn**	**13 35 20.4**	**-0.2**
JEM	**Erimo**	**5.95 14**		P	**Pn**	**13 35 20.3**	**-0.3**
ASAJ	**Asahikawa**	**7.93 7**		Pn	**Pn**	**13 35 47.2**	**-0.5**
	comp=N,1.9nm,0.3s,baz=239,slow=9.9,SNR=14						
ASAJ				Sn	**Sn**	**13 37 19.4**	**+2.9**
	comp=N,0.1nm,0.3s,baz=3.5,slow=30,SNR=2.3						
	comp=N,4.3nm,0.4s						
JKA	**Kamikawa-asahi**	**7.93 7**		Pn	**Pn**	**13 35 46.7**	**-1.0**
JNU	**Nakatsue**	**9.06 253**		LR	LR	13 40 04.3	
	comp=N,127nm,18.4s,baz=27,slow=41						
JCJ	**Chichijima**	**9.16 175**		Pn	Pn	13 35 59.8	-4.9
	comp=N,8.2nm,0.3s,baz=260,slow=20,SNR=2.1						
JCJ				Sn	Sn	13 37 31.0	-16
	comp=N,0.6nm,0.3s,baz=312,slow=21,SNR=0.7						
USRK	**Ussuriysk Ar.**	**10.61 321**		Pn	**Pn**	**13 36 25.2**	**+0.7**
	comp=N,0.1nm,0.3s,baz=147,slow=11,SNR=1.9						
	comp=N,1.4nm,0.8s						
YSS	**Yuzh-Sakhalins**	**10.76 6**		Pn	**Pn**	**13 36 27.0**	**+0.6**
KLR	**Kul'dur**	**14.70 335**		LR	LR	13 42 48.2	
	comp=N,61nm,18.5s,baz=184,slow=36						
PEA0B	**Petropavlovsk-**	**20.45 29**		P	**P**	**13 38 29.5**	**+0.1**
PEA0B				IAmb	IAmb	13 39 06.2	
	comp=Z,18nm,1.2s						
YHNB	**Yeheng**	**20.59 241**		P	**P**	**13 38 31.9**	**+0.7**
YHNB				IAmb	IAmb	13 39 01.8	
	comp=Z,37nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**27.89 119**		T	T	14 08 57.6	
	baz=312,slow=75,SNR=45						
H11N1	**WAKE ISLAND Hy**	**27.90 119**		T	T	14 08 57.8	
	baz=312,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**27.91 119**		T	T	14 08 53.9	
	baz=312,slow=75,SNR=28						
SONM	**Songino Array**	**28.10 305**		P	**P**	**13 39 43.4**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=103,slow=8.8,SNR=3.6						
	comp=Z,0.7nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**28.58 121**		T	T	14 09 39.4	
	baz=314,slow=76,SNR=82						
H11S3	**WAKE ISLAND Hy**	**28.58 121**		T	T	14 09 41.9	
	baz=314,slow=76,SNR=95						
H11S2	**WAKE ISLAND Hy**	**28.59 121**		T	T	14 09 51.5	
	baz=314,slow=76,SNR=70						
LVA	**Lava Point**	**40.19 47**		P	**P**	**13 41 25.9**	**-2.2**
ZALV	**Zalesovo Beam**	**42.33 313**		P	**P**	**13 41 45.6**	**0.0**
	comp=Z,1.1nm,0.5s,baz=82,slow=6.0,SNR=4.6						
	comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**44.40 303**		P	**P**	**13 42 02.0**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=82,slow=10,SNR=3.0						
	comp=Z,0.3nm,0.6s						
L16K	**Owhat River**	**44.43 36**		P	**P**	**13 42 02.8**	**+0.4**
H17K	**Granite Mounta**	**44.71 31**		P	**P**	**13 42 06.4**	**+1.7**
H17K				IAmb	IAmb	13 42 20.5	
	comp=Z,6.5nm,1.2s						
J17K	**VABM Dome**	**44.83 33**		P	**P**	**13 42 08.2**	**+2.5**
J17K				IAmb	IAmb	13 42 42.0	
	comp=Z,11nm,1.4s						
K17K	**Iditarod**	**45.09 34**		P	**P**	**13 42 09.8**	**+2.1**
K17K				IAmb	IAmb	13 42 48.0	
	comp=Z,12nm,1.5s						
H18K	**Honhosa River**	**45.40 31**		P	**P**	**13 42 11.6**	**+1.5**
H18K				IAmb	IAmb	13 42 27.4	
	comp=Z,8.3nm,1.1s						
C19K	**Lookout Ridge**	**45.73 25**		P	**P**	**13 42 14.5**	**+1.7**
G19K	**Purcell Mounta**	**46.08 30**		P	**P**	**13 42 16.5**	**+1.0**
G19K				IAmb	IAmb	13 42 26.8	
	comp=Z,5.8nm,1.4s						
E19K	**Redstone River**	**46.24 28**		P	**P**	**13 42 17.3**	**+0.6**
E19K				IAmb	IAmb	13 42 19.3	
	comp=Z,3.7nm,0.7s						
KURK	**Kurchatov**	**46.29 309**		P	**P**	**13 42 16.8**	**-0.5**
KURK				IAmb	IAmb	13 42 17.9	
	comp=Z,3.1nm,0.8s						
KURBB	**Kurchatov Arra**	**46.36 309**		P	**P**	**13 42 17.4**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=83,slow=7.7,SNR=16						
	comp=Z,1.8nm,0.5s						
J19K	**Poorman**	**46.43 33**		P	**P**	**13 42 19.7**	**+1.5**
J19K				IAmb	IAmb	13 42 20.6	
	comp=Z,5.3nm,1.1s						
B20K	**Meade River**	**46.77 25**		P	**P**	**13 42 22.5**	**+1.6**
K20K	**Telida**	**47.07 34**		P	**P**	**13 42 25.3**	**+2.0**
IMAR	**Indian Mountai**	**47.41 30**		P	**P**	**13 42 27.1**	**+1.2**
G21K	**Allakaket**	**47.56 30**		P	**P**	**13 42 28.7**	**+1.6**
G21K				IAmb	IAmb	13 42 35.1	
	comp=Z,7.6nm,1.4s						
KDAK	**Kodiak Island**	**47.79 41**		P	**P**	**13 42 28.8**	**-0.1**
B22K	**Teshekpuk Lake**	**48.09 24**		P	**P**	**13 42 32.4**	**+1.4**
E22K	**Anaktuvuk Pass**	**48.37 27**		P	**P**	**13 42 35.0**	**+1.7**
E22K				IAmb	IAmb	13 42 39.9	
	comp=Z,5.0nm,1.2s						
SUA	**Susitna One**	**48.58 36**		P	**P**	**13 42 36.4**	**+1.2**
SUA				IAmb	IAmb	13 43 13.9	
	comp=Z,6.9nm,1.4s						
G23K	**Bananza Creek**	**48.96 29**		P	**P**	**13 42 39.3**	**+1.4**
H23K	**Yukon River**	**49.12 31**		P	**P**	**13 42 41.3**	**+2.1**
H24K	**Noodor Dome**	**49.81 31**		P	**P**	**13 42 45.6**	**+1.1**
IL31		**50.24 32**		P	**P**	**13 42 48.2**	**+0.7**
ILAR	**Eielson Array**	**50.24 32**		P	**P**	**13 42 48.3**	**+0.7**
ILAR	**Eielson Array**	**50.24 32**		P	**P**	**13 42 48.5**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=270,slow=6.1,SNR=10						
	comp=Z,1.2nm,0.8s						
BMAR	**Burnt Mountain**	**51.10 29**		P	**P**	**13 42 56.6**	**+2.5**
E27K	**Coleen River**	**52.19 27**		P	**P**	**13 43 04.1**	**+1.8**
BCAR	**Beaver Creek A**	**52.63 34**		P	**P**	**13 43 07.6**	**+2.0**
F28M	**Old Crow**	**52.89 28**		P	**P**	**13 43 09.0**	**+1.6**
F28M				IAmb	IAmb	13 43 26.9	
	comp=Z,4.6nm,1.4s						
I28M	**Miner Creek**	**53.12 31**		P	**P**	**13 43 11.1**	**+1.8**
G29M	**Pine Creek**	**53.69 29**		P	**P**	**13 43 15.3**	**+2.0**
G29M				IAmb	IAmb	13 43 19.6	
	comp=Z,5.0nm,1.4s						
G31M	**Satah River**	**55.15 29**		P	**P**	**13 43 24.6**	**+0.7**
G31M				IAmb	IAmb	13 43 52.3	
	comp=Z,8.3nm,1.5s						
H31M	**Peel River**	**55.34 30**		P	**P**	**13 43 26.3**	**+0.9**
H31M				IAmb	IAmb	13 43 39.5	
	comp=Z,6.5nm,1.1s						
WB0	**Warramunga Arr**	**56.08 188**		P	**P**	**13 43 30.2**	**-0.9**
CTAO	**Charters Tower**	**56.23 174**		P	**P**	**13 43 32.0**	**-0.2**
WRAB	**Tennant Creek**	**56.25 188**		P	**P**	**13 43 32.9**	**+0.6**
WRA	**Warramunga Arr**	**56.26 188**		P	**P**	**13 43 31.4**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=2.9,slow=7.4,SNR=8.3						
	comp=Z,0.7nm,0.8s						
ABKAR	**Akbulak array**	**58.32 310**		P	**P**	**13 43 45.9**	**-0.8**
WSAR	**Wadi Sarin**	**70.92 285**		LR	LR	14 18 59.9	
	comp=Z,77nm,19.9s,baz=212,slow=38						
NC303	**NORSAR Array S**	**74.66 337**		P	**P**	**13 45 30.9**	**0.0**
NC303				IAmb	IAmb	13 45 31.1	
	comp=Z,7.1nm,1.1s						
NC204	**NORSAR Array S**	**74.80 338**		P	**P**	**13 45 31.7**	**-0.1**
NOA	**NORSAR Array B**	**74.85 337**		P	**P**	**13 45 32.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=40,slow=5.8,SNR=3.3						
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**75.59 53**		P	**P**	**13 45 37.0**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=305,slow=5.2,SNR=4.1						
	comp=Z,0.6nm,0.7s						
PDAR	**Pinedale Array**	**78.33 45**		P	**P**	**13 45 52.7**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=266,slow=3.6,SNR=4.5						
	comp=Z,0.4nm,0.6s						
TXAR	**Lajitas Array**	**90.73 52**		P	**P**	**13 46 55.1**	**0.0**
	comp=Z,0.4nm,0.9s,baz=298,slow=2.7,SNR=4.0						
	comp=Z,0.4nm,0.9s						
H03N2	**Juan Fernandez**	**147.09 97**		T	T	16 38 16.8	
	baz=291,slow=76,SNR=7.0						
H03N3	**Juan Fernandez**	**147.10 97**		T	T	16 38 19.5	
	baz=291,slow=76,SNR=7.8						
H03N1	**Juan Fernandez**	**147.11 97**		T	T	16 38 10.9	
	baz=291,slow=76,SNR=7.3						

*IDC **03** 13:41:45.9±1.0, 0.°53N×122.°73E, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=156.6km s-min=17.0km az=64.0*
*NEIC **03** 13:42:14.2±1.6, 0.°8N±0.°1×123.°79E±0.°05, h267km±12km, mb4.4/13, Error ellipse: s-maj=18.0km s-min=7.4km az=187.0*
*DJA **03** 13:42:14.2±0.5, 1.°N±5.°×12.°4E±.°, h264km±4km, M3.9/12, mb4.1/1, MLv3.8/12*
ISC 03 13:42:13.5±0.7, 0.°70N±0.°08×123.°83E±0.°06, h250km, n32, σ2^{s}05/36, mb4.3/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.20 129**		P	**Pn**	**13 42 48.8**	**+3.1**
KMSI				S	**S**	**13 43 16.0**	**+4.9**
GTOI	**Gorontalo**	**0.82 266**		P	**Pn**	**13 42 51.1**	**+3.6**
GTOI				S	**S**	**13 43 19.3**	**+5.0**
MRSI	**Marisa**	**1.90 263**		P	**Pn**	**13 42 57.6**	**+2.6**
MRSI				S	**S**	**13 43 30.2**	**+2.5**
LUWI	**Luwuk**	**2.02 211**		Pn	**Pn**	**13 42 58.2**	**+2.1**
LUWI	**Luwuk**	**2.02 211**		P	**Pn**	**13 42 58.0**	**+1.8**
LUWI				S	**S**	**13 43 30.7**	**+0.8**
TOLI2	**Tolitoli**	**3.07 278**		Pn	**Pn**	**13 43 08.4**	**+1.7**
SANI	**Sanana**	**3.48 142**		P	**Pn**	**13 43 12.4**	**+1.1**
TNTI	**Ternate**	**3.54 89**			**Pn**	**13 43 14.1**	**+2.1**
TNTI	**Ternate**	**3.54 89**		P	**Pn**	**13 43 14.1**	**+2.1**
LBMI	**Labuha**	**3.91 110**		P	**Pn**	**13 43 17.5**	**+1.3**
MPSI	**Mapaga**	**3.94 265**		P	**Pn**	**13 43 17.1**	**+0.5**
MTN	**Manton Dam**	**15.29 152**		P	**P**	**13 45 37.1**	**+0.6**
MTN				IAmb	IAmb	13 45 37.4	
	comp=Z,27nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.77 175**		P	**P**	**13 46 13.9**	**-0.5**
PSA00	**Pilbara Seismi**	**22.48 190**		P	**P**	**13 46 50.3**	**-1.6**
PSA00				IAmb	IAmb	13 46 53.3	
	comp=Z,21nm,1.4s						
WB0	**Warramunga Arr**	**22.83 154**		P	**P**	**13 46 54.3**	**-0.8**
WRAB	**Tennant Creek**	**22.95 154**		P	**P**	**13 46 55.7**	**-0.6**
WRAB				IAmb	IAmb	13 46 58.3	
	comp=Z,8.6nm,0.8s						
WRA	**Warramunga Arr**	**22.96 154**		P	**P**	**13 46 55.7**	**-0.6**
	comp=Z,6.5nm,0.6s,baz=330,slow=10.0,SNR=65						
	comp=Z,6.5nm,0.6s						
WB2	**Warramunga Arr**	**22.96 154**		P	**P**	**13 46 55.8**	**-0.6**
WB2				IAmb	IAmb	13 46 58.1	
	comp=Z,7.3nm,0.7s						
WR0	**Warramunga Arr**	**23.06 153**		P	**P**	**13 46 56.6**	**-0.7**
AS31	**Alice Springs**	**26.13 159**		P	**P**	**13 47 22.9**	**-2.1**
ASAR	**Alice Springs**	**26.13 159**		P	**P**	**13 47 22.8**	**-2.2**
ASAR	**Alice Springs**	**26.13 159**		P	**P**	**13 47 24.5**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=344,slow=7.0,SNR=11						
	comp=Z,0.5nm,0.4s						
FORT	**Forrest**	**31.56 173**		P	**P**	**13 48 12.6**	**-0.2**
BBOO	**Buckleboo**	**35.27 162**		P	**P**	**13 48 44.1**	**-0.7**
BBOO				IAmb	IAmb	13 49 26.2	
	comp=Z,26nm,1.4s						
STKA	**Stephens Creek**	**36.51 154**		P	**P**	**13 48 55.2**	**0.0**
STKA	**Stephens Creek**	**36.51 154**		P	**P**	**13 48 55.3**	**0.0**
	comp=Z,1.8nm,0.5s,baz=328,slow=9.5,SNR=6.3						
	comp=Z,1.8nm,0.5s						
CAN	**Canberra**	**42.86 149**		P	**P**	**13 49 48.2**	**+0.8**
CAN				IAmb	IAmb	13 50 30.9	
	comp=Z,22nm,1.3s						
TOO	**Toolangi**	**43.03 155**		P	**P**	**13 49 49.4**	**+0.6**
TOO				IAmb	IAmb	13 50 17.7	
	comp=Z,31nm,1.5s						
USRK	**Ussuriysk Ar.**	**43.92 8**		P	**P**	**13 49 54.3**	**-1.3**
SONM	**Songino Array**	**49.33 345**		P	**P**	**13 50 37.1**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=162,slow=8.3,SNR=4.9						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**58.46 328**		P	**P**	**13 51 40.8**	**-2.7**
	comp=Z,0.7nm,0.4s,baz=123,slow=8.7,SNR=15						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**62.78 329**		P	**P**	**13 52 09.8**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=121,slow=6.2,SNR=4.6						
	comp=Z,0.5nm,0.3s						

*SOME **03** 13:49:21.3, 44.°20N×79.°22E, h0km*
*NNC **03** 13:49:23.4±0.7, 44.°30N×79.°28E, h0km, mb4.0, mpv2.6, Error ellipse: s-maj=5.3km s-min=4.1km az=46.0*
ISC 03 13:49:22.6±0.9, 44.°25N±0.°05×79.°22E±0.°03, h10km, n10, σ1^{s}18/20, 3C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNOS	**Konyrlen**	**0.12 345**		P	**Pg**	**13 49 25.3**	**-0.3**
	1.8nm,0.3s						
KNOS				S	**Sg**	**13 49 28.4**	**+0.7**
	19nm,0.2s						
DJR	**Jarkent**	**0.42 78**		*e*P	**Pg**	**13 49 29.7**	**-1.1**
	5.6nm,0.1s						
DJR				*e*S	**Sg**	**13 49 35.8**	**-0.6**
	17nm,0.1s						
DJR	**Jarkent**	**0.42 78**		P	**Pg**	**13 49 29.7**	**-1.1**
	5.1nm,0.1s						
DJR				S	**Sg**	**13 49 35.8**	**-0.6**
	25nm,0.2s						
BLB	**Baldybastay**	**0.55 255**		P	**Pb**	**13 49 33.9**	**-0.6**
	12nm,0.1s						
BLB				S	**Sb**	**13 49 43.0**	**+0.5**
	9.1nm,0.2s						
KPKS	**Kokpek**	**0.87 207**		*e*P	**Pg**	**13 49 38.2**	**-1.2**
	0.4nm,0.1s						
KPKS				*e*S	**Sb**	**13 49 50.4**	**-1.2**
	0.9nm,0.1s						
KPKS	**Kokpek**	**0.87 207**		P	**Pn**	**13 49 41.5**	**+0.6**
	2.6nm,0.3s						
KPKS				S	**Sn**	**13 49 56.1**	**+2.3**
	6.8nm,0.2s						
PDGK	**Podgornoye**	**0.94 168**		P	**Pn**	**13 49 42.4**	**+0.5**
	0.6nm,0.3s						
PDGK				S	**Sn**	**13 49 57.8**	**+2.4**
	0.8nm,0.3s						
PDGK	**Podgornoye**	**0.94 168**		⇑P	**Pn**	**13 49 42.4**	**+0.5**
	2.9nm,1

comp=N,8.4nm,0.1s
MESJ Messejana 3.62 74 *e*P **Pn 13 52 34.9 +4.0**
MESJ *e*S **Sb 13 53 20.4 -2.5**
MESJ A A 13 53 25.8
comp=N,8.6nm,0.3s
MESJ Messejana 3.62 74 *e*P **Pb 13 52 35.3 -3.6**
MESJ *e*S **Sb 13 53 20.4 -2.5**
MESJ IAML 13 53 23.9
comp=E,5.2nm,0.1s
PCVE Castro Verde 3.72 77 *e*P **Pb 13 52 36.8 -3.7**
PCVE *e*S **Sb 13 53 22.8 -2.9**
PCVE A A 13 53 28.5
comp=E,7.4nm,0.3s
PBDV Barranco-do-Ve 3.76 84 *e*S **Sb 13 53 25.3 -1.6**
PBDV A A 13 53 31.8
comp=E,10.0nm,0.3s
PBEJ Beja 3.94 72 *e*S **Sn 13 53 27.6 +6.1**
PBEJ A A 13 53 32.2
comp=E,7.3nm,0.3s
PVAQ Vaqueiros 3.94 81 *e*P **Pb 13 52 40.4 -3.9**
PVAQ *e*S **Sb 13 53 28.9 -3.2**
PVAQ A A 13 53 33.8
comp=E,13nm,0.2s
PVAQ Vaqueiros 3.94 81 P **Pn 13 52 38.0 +2.7**
PVAQ Vaqueiros 3.94 81 S **Sn 13 53 24.3 +2.6**
PSBE So Bento 3.98 48 *e*P **Pn 13 52 38.0 +2.2**
PSBE *e*S **Sn 13 53 25.5 +3.0**
EVO Evora 3.99 65 *e*S **Sn 13 53 28.4 +5.6**
EVO A A 13 53 32.9
comp=E,12nm,0.1s
PMTG Montargil 4.08 57 *e*P **Pn 13 52 39.7 +2.5**
PMTG *e*S **Sn 13 53 28.7 +3.7**
PMTG A A 13 53 35.0
comp=E,5.9nm,0.1s
PESTR Estremoz 4.43 62 *e*P **Pn 13 52 45.7 +3.7**
PESTR *e*S **Sn 13 53 37.8 +4.2**
PESTR A A 13 53 44.4
comp=E,3.8nm,0.6s
PESTR Estremoz 4.43 62 P **Pn 13 52 43.8 +1.8**
PCAS Casmilo, Conde 4.50 45 *e*P **Pn 13 52 44.2 +1.2**
PCAS *e*S **Sn 13 53 27.2 +1.8**
PCAS A A 13 53 39.3
comp=E,3.2nm,0.2s
PBAR Barrancos 4.61 72 *e*P **Pn 13 52 48.9 +4.5**
PBAR *e*S **Sn 13 53 43.6 +5.6**
PBAR A A 13 53 48.5
comp=E,4.4nm,0.1s
PMRV Marv??o 4.82 57 *e*P **Pn 13 52 50.1 +2.7**
PMRV *e*S **Sn 13 53 46.4 +3.1**
PMRV A A 13 53 49.4
comp=E,4.8nm,0.2s
PCBR Castelo Branco 4.99 53 *e*P **Pn 13 52 52.1 +2.5**
PCBR *e*S **Sn 13 53 49.7 +2.4**
PCBR A A 13 53 54.0
comp=E,3.6nm,0.2s
MTE Manteigas 5.28 47 *e*S **Sn 13 53 56.7 +2.0**
MTE A A 13 54 04.2
comp=E,5.5nm,0.4s
PVIS Viseu 5.29 43 *e*S **Sn 13 53 55.4 +0.4**
PVIS A A 13 53 59.1
comp=E,6.0nm,0.1s
POLO Lamas de Olo 5.82 39 *e*P **Pn 13 53 01.4 +0.2**
POLO *e*S **Sn 13 54 06.4 -1.7**
POLO A A 13 54 09.0
comp=E,1.2nm,0.4s
PCAB Cabril 5.97 35 *e*P **Pn 13 53 02.9 -0.2**
PCAB *e*S **Sn 13 54 08.6 -3.0**
PCAB A A 13 54 10.6
comp=E,5.0nm,0.1s
PGAV Gavieira, Arco 6.07 32 *e*P **Pn 13 53 03.8 -0.7**
PGAV *e*S **Sn 13 54 09.5 -4.5**
PGAV A A 13 54 15.1
comp=E,4.5nm,0.1s
PBRG Braganca 6.68 41 *e*S **Sn 13 54 28.3 -0.8**
PBRG A A 13 54 31.8
comp=E,1.9nm,0.2s
TTIG Tnine Tigouga, 7.24 150 P **Pn 13 53 18.3 -2.3**
TTIG Tnine Tigouga, 7.24 150 S **Sn 13 54 39.9 -3.1**
TISM Timmit 7.27 134 P **Pn 13 53 19.9 -1.1**
TISM Timmit 7.27 134 S **Sn 13 54 43.5 -0.1**
MD31 MD31 7.61 120 P **Pn 13 53 26.1 +0.4**
MD31 MD31 7.61 120 S **Sn 13 54 50.9 -1.2**
OUZM OUZ 7.71 139 P **Pn 13 53 26.4 -0.8**
OUZM OUZ 7.71 139 S **Sn 13 54 52.0 -2.7**

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*IDC **03** 14:05:53.6±0.7, 0°.83N×99°.14E, h0km, mb4.1/13, mbtmp4.1/13, MS3.8/1, Error ellipse: s-maj=40.3km s-min=14.5km az=59.0*
*NEIC **03** 14:06:04.3±2.5, 1°.1N±0°.1×99°.20E±0°.08, h98km±9km, mb4.7/9, Error ellipse: s-maj=20.5km s-min=9.1km az=205.0*
*DJA **03** 14:06:05.4±0.4, 1°N±2°×9°9E±°, h80km±6km, M4.5/12, mb4.7/3, MLv4.4/12*
ISC 03 14:06:04.5±0.6, 0°.86N±0°.05×99°.15E±0°.05, h86km, n46, σ1°31/44, mb4.3/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**1.25**	**224**	P	**Pn**	**14 06 28.3**	**+1.3**
PBSI				S	**Sn**	**14 06 45.2**	**+1.3**
GSI	**Gunungsitoli**	**1.64**	**286**	Pn	**Pn**	**14 06 32.9**	**+1.1**
GSI	**Gunungsitoli**	**1.64**	**286**	P	**Pn**	**14 06 33.1**	**+1.3**
BKNI	**Bangkinang**	**1.96**	**105**	Pn	**Pn**	**14 06 37.6**	**+1.5**
BKNI	**Bangkinang**	**1.96**	**105**	P	**Pn**	**14 06 37.4**	**+1.3**
BKNI				S	**Sn**	**14 07 00.0**	**-0.2**
SISI	**Saibi**	**2.17**	**182**	P	**Pn**	**14 06 39.4**	**+0.5**
SISI				S	**Sn**	**14 07 06.6**	**+1.6**
PDSI	**Padang**	**2.19**	**143**	P	**Pn**	**14 06 41.2**	**+2.0**
KCSI	**Kotacane, Aceh**	**2.99**	**333**	P	**Pn**	**14 06 51.5**	**+1.7**
SNSI	**Sinabang, Aceh**	**3.22**	**299**	P	**Pn**	**14 06 53.8**	**+0.9**
SNSI				S	**Sn**	**14 07 28.2**	**-2.1**
PPSI	**Pulau Pagai**	**3.69**	**167**	P	**Pn**	**14 06 58.7**	**-0.7**
PPSI				S	**Sn**	**14 07 40.9**	**-1.0**
LHMI	**Lhok Sumawe**	**4.87**	**333**	P	**Pn**	**14 07 18.5**	**+3.1**
MNAI	**Manna**	**6.43**	**144**	Pn	**Pn**	**14 07 38.2**	**+1.6**
SRIT	**Nakonsritamara**	**7.70**	**3**	Pn	Pn	14 07 47.9	-6.2
H08S2	**Diego Garcia H** baz=73	**27.89**	**252**	T	T	14 39 24.4	
H08S3	**Diego Garcia H** baz=73	**27.90**	**252**	T	T	14 39 26.2	
H08S1	**Diego Carcia H** baz=73	**27.91**	**252**	T	T	14 39 26.9	
FITZ	**Fitzroy Crossi**	**32.16**	**127**	P	**P**	**14 12 22.2**	**-2.1**
WB0	**Warramunga Arr**	**40.17**	**123**	P	**P**	**14 13 31.1**	**-1.6**
WB0				IAmb	IAmb	14 13 48.4	
comp=Z,13nm,1.5s							
WRA	**Warramunga Arr**	**40.21**	**123**	P	**P**	**14 13 31.6**	**-1.4**
comp=Z,1.6nm,0.4s,baz=306,slow=8.9,SNR=26							
WRA				PcP	**PcP**	**14 15 35.4**	**-0.2**
comp=Z,0.4nm,0.5s,baz=311,slow=2.4,SNR=6.1							
comp=Z,1.6nm,0.4s							
WRAB	**Tennant Creek**	**40.21**	**123**	P	**P**	**14 13 31.3**	**-1.7**
WRAB				IAmb	IAmb	14 13 49.4	
comp=Z,8.6nm,1.2s							
WB2	**Warramunga Arr**	**40.22**	**123**	P	**P**	**14 13 31.4**	**-1.7**
WR0	**Warramunga Arr**	**40.38**	**123**	P	**P**	**14 13 32.7**	**-1.7**
ASAR	**Alice Springs**	**41.64**	**128**	P	**P**	**14 13 43.2**	**-1.5**
comp=Z,1.0nm,0.7s,baz=296,slow=7.9,SNR=14							
ASAR				PcP	**PcP**	**14 15 40.4**	**+0.1**
comp=Z,0.4nm,0.6s,baz=305,slow=2.8,SNR=5.7							
comp=Z,1.0nm,0.7s							
FORT	**Forrest**	**41.77**	**141**	P	**P**	**14 13 46.0**	**+0.4**
SONM	**Songino Array**	**47.22**	**7**	P	**P**	**14 14 29.3**	**+0.4**
comp=Z,1.3nm,0.6s,baz=190,slow=9.1,SNR=5.0							
comp=Z,1.3nm,0.6s							
MKAR	**Makanchi Array**	**48.07**	**344**	P	**P**	**14 14 35.8**	**+0.4**
comp=Z,1.6nm,0.5s,baz=159,slow=7.8,SNR=24							
comp=Z,1.6nm,0.5s							
BBOO	**Buckleboo**	**48.30**	**137**	P	**P**	**14 14 36.4**	**-0.9**
BBOO				IAmb	IAmb	14 14 54.4	
comp=Z,29nm,1.2s							
STKA	**Stephens Creek**	**51.69**	**133**	P	**P**	**14 15 04.5**	**+1.4**
comp=Z,2.0nm,0.7s,baz=302,slow=9.5,SNR=4.3							
comp=Z,2.0nm,0.7s							
KURBB	**Kurchatov Arra**	**52.59**	**344**	P	**P**	**14 15 09.9**	**+0.5**
comp=Z,0.8nm,0.2s,baz=164,slow=6.6,SNR=5.2							
comp=Z,0.8nm,0.2s							
ZALV	**Zalesovo Beam**	**54.23**	**350**	P	**P**	**14 15 21.3**	**0.0**
comp=Z,1.0nm,0.3s,baz=176,slow=5.6,SNR=5.9							
comp=Z,1.0nm,0.3s							
OPO	**Ambohidratompo**	**54.57**	**246**	LR	LR	14 34 54.6	
comp=Z,90nm,18.4s,baz=58,slow=32							
BVAR	**Borovoye Array**	**57.23**	**340**	P	**P**	**14 15 42.7**	**-0.1**
comp=Z,0.7nm,0.5s,baz=140,slow=9.7,SNR=1.6							
comp=Z,0.7nm,0.5s							
ABKAR	**Akbulak array**	**58.75**	**331**	P	P	14 15 48.9	-4.6
CAN	**Canberra**	**58.76**	**133**	P	**P**	**14 15 53.3**	**-0.6**
CAN				IAmb	IAmb	14 16 29.6	
comp=Z,17nm,1.3s							
H04N2	**CROZET ISLANDS**	**62.60**	**215**	T	T	15 23 00.0	
baz=55,slow=75,SNR=11							
H04N1	**CROZET ISLANDS**	**62.61**	**215**	T	T	15 23 18.8	
baz=55,slow=75,SNR=12							
H04N3	**CROZET ISLANDS**	**62.62**	**215**	T	T	15 23 04.9	
baz=55,slow=75,SNR=9.9							
BRTR	**Keskin Array B**	**70.79**	**312**	P	**P**	**14 17 11.7**	**-0.5**
comp=Z,1.0nm,0.7s,baz=125,slow=8.2,SNR=6.3							
comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**81.21**	**332**	P	**P**	**14 18 09.5**	**-1.1**
FINES	**FINESS Array B**	**81.21**	**332**	P	**P**	**14 18 10.5**	**-0.2**
comp=Z,0.6nm,0.4s,baz=107,slow=6.4,SNR=7.6							
comp=Z,0.6nm,0.4s							
ARCES	**ARCESS Array B**	**83.52**	**340**	P	**P**	**14 18 21.9**	**-0.7**
ARCES				IAmb	IAmb	14 18 41.8	
comp=Z,13nm,1.4s							
ARCES	**ARCESS Array B**	**83.52**	**340**	P	**P**	**14 18 22.4**	**-0.2**
comp=Z,0.9nm,0.7s,baz=117,slow=6.9,SNR=6.6							
comp=Z,0.9nm,0.7s							
VNDA	**Vanda**	**85.11**	**169**	P	**P**	**14 18 31.4**	**+0.9**
comp=Z,0.5nm,0.6s,baz=304,slow=6.4,SNR=2.5							
comp=Z,0.5nm,0.6s							
QSPA	**South Pole Qui**	**90.80**	**180**	P	**P**	**14 18 59.4**	**+1.4**
comp=Z,0.8nm,0.5s,baz=289,slow=0.4,SNR=14							
comp=Z,0.8nm,0.5s							
TXAR	**Lajitas Array**	**142.90**	**34**	PKP	**PKPdf**	**14 25 27.3**	**-1.8**
comp=Z,0.2nm,0.4s,baz=244,slow=1.1,SNR=5.5							
CPUP	**Villa Florida**	**146.03**	**220**	PKPbc	**PKPbc**	**14 25 35.8**	**+0.5**
comp=Z,1.9nm,0.4s,baz=80,slow=2.2,SNR=3.8							

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*IDC **03** 14:30:17.5±1.1, 13°.07S×45°.83E, h0km, mb3.6/5, mbtmp3.7/7, ML4.0/2, MS3.2/7, Error ellipse: s-maj=34.5km s-min=25.7km az=110.0*
ISC 03 14:30:19.1±0.9, 13°.12S±0°.10×45°.8E±0°.2, h10km, n13, σ1°25/8, mb3.7/5, MS3.2/6, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.57**	**167**	Pn	**Pn**	**14 31 43.5**	**+1.3**
1.5nm,0.3s,baz=336,slow=12,SNR=108							
OPO				Sn	**Sn**	**14 32 45.2**	**-1.3**
7.1nm,0.3s,baz=262,slow=21,SNR=17							
43nm,0.5s							
MATP	**Matopo**	**18.10**	**244**	P	**Pn**	**14 34 30.4**	**-0.6**
0.1nm,0.3s,baz=64,slow=10,SNR=6.0							
2.0nm,0.6s							
MBAR	**Mbarara**	**19.45**	**309**	LR	LR	14 41 54.3	
comp=Z,51nm,20.4s,baz=82,slow=36							
BOSA	**Boshof**	**24.58**	**228**	P	**P**	**14 35 39.2**	**-0.4**
1.5nm,0.4s,baz=63,slow=8.6,SNR=6.0							
BOSA				LR	LR	14 46 07.0	
comp=Z,55nm,19.3s,baz=96,slow=39							
1.5nm,0.4s							
TSUM	**Tsumeb**	**27.77**	**254**	LR	LR	14 48 05.2	
comp=Z,43nm,18.5s,baz=334,slow=38							
GNI	**Garni**	**53.01**	**359**	LR	LR	15 02 48.3	
comp=Z,36nm,20.6s,baz=148,slow=37							
DBIC	**Dimbokro**	**54.05**	**288**	LR	LR	15 03 22.0	
comp=Z,19nm,18.8s,baz=138,slow=37							
KBZ	**Khabaz**	**56.64**	**357**	LR	LR	15 06 04.3	
comp=Z,29nm,19.4s,baz=134,slow=38							
MKAR	**Makanchi Array**	**68.01**	**26**	P	**P**	**14 41 17.0**	**-1.6**
0.3nm,0.7s,baz=205,slow=6.4,SNR=2.1							
0.3nm,0.7s							
ESDC	**Sonseca Array**	**70.01**	**321**	P	**P**	**14 41 32.3**	**+1.1**
0.1nm,0.3s,baz=128,slow=5.8,SNR=1.3							
0.1nm,0.3s							
ARU	**Arti**	**70.10**	**7**	LR	LR	15 15 58.9	
comp=Z,15nm,18.1s,baz=137,slow=39							
FINES	**FINESS Array B**	**75.95**	**350**	P	**P**	**14 42 05.9**	**+0.1**
0.4nm,0.6s,baz=168,slow=8.5,SNR=1.4							
0.4nm,0.6s							
ASAR	**Alice Springs**	**83.10**	**113**	P	**P**	**14 42 46.3**	**+0.5**
0.4nm,0.8s,baz=271,slow=4.9,SNR=1.5							
0.4nm,0.8s							

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*IDC **03** 14:51:25.9±0.8, 2°.97N×126°.65E, h0km, mb4.0/8, mbtmp4.0/8, Error ellipse: s-maj=60.0km s-min=16.3km az=70.0*
*NEIC **03** 14:51:33.1±1.5, 2°.96N±0°.09×126°.9E±0°.1, h51km±6km, mb4.5/18, Error ellipse: s-maj=16.4km s-min=12.2km az=63.0*
ISC 03 14:51:32.8±0.5, 2°.98N±0°.05×126°.8E±0°.1, h50km, n36, σ0°90/39, mb4.4/18, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.27**	**165**	Pn	**Pn**	**14 52 07.6**	**-0.2**
BIPH	**Bislig**	**5.19**	**356**	*e*P	**Pn**	**14 52 47.6**	**-0.4**
BIPH				*i* S	**Sn**	**14 53 46.4**	**-0.2**
TOLI2	**Tolitoli**	**6.26**	**253**	Pn	**Pn**	**14 53 04.1**	**+1.5**
FAKI	**Fak Fak**	**8.02**	**137**	Pn	**Pn**	**14 53 28.9**	**+2.1**
MTN	**Manton Dam**	**16.30**	**165**	Pn	**Pn**	**14 55 17.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**20.97**	**183**		**P**	**14 56 12.0**	**+0.2**
YHNB	**Yeheng**	**22.19**	**347**	P	**P**	**14 56 24.6**	**-0.3**
YHNB				IAmb	IAmb	14 57 01.0	
comp=Z,35nm,1.3s							
JOW	**Kunigami**	**23.77**	**3**	P	**P**	**14 56 41.2**	**+0.5**
WB0	**Warramunga Arr**	**23.81**	**162**	P	**P**	**14 56 40.4**	**-0.9**
WB0				IAmb	IAmb	14 56 41.1	
comp=Z,6.0nm,0.7s							
WRAB	**Tennant Creek**	**23.95**	**162**	P	**P**	**14 56 41.2**	**-1.3**
WRAB				IAmb	IAmb	14 56 55.0	
comp=Z,16nm,1.3s							
WRA	**Warramunga Arr**	**23.96**	**162**	P	**P**	**14 56 41.9**	**-0.7**
comp=Z,2.4nm,0.6s,baz=338,slow=11,SNR=27							
WRA				PcP	**PcP**	**15 00 24.9**	**+0.8**
comp=Z,0.8nm,1.1s,baz=341,slow=2.2,SNR=2.5							
comp=Z,2.4nm,0.6s							
WB2	**Warramunga Arr**	**23.96**	**162**	P	**P**	**14 56 41.5**	**-1.1**
WB2				IAmb	IAmb	14 56 43.3	
comp=Z,23nm,1.4s							
WR0	**Warramunga Arr**	**24.04**	**162**	P	**P**	**14 56 42.4**	**-0.9**
WR0				IAmb	IAmb	14 56 47.9	
comp=Z,16nm,1.4s							
MBWA	**Marble Bar**	**24.96**	**196**	P	**P**	**14 56 51.4**	**-0.3**
MBWA				IAmb	IAmb	14 56 59.6	
comp=Z,13nm,1.2s							
AS31	**Alice Springs**	**27.38**	**166**	P	**P**	**14 57 13.3**	**-0.3**
ASAR	**Alice Springs**	**27.38**	**166**	P	**P**	**14 57 12.3**	**-1.3**
ASAR	**Alice Springs**	**27.38**	**166**	P	**P**	**14 57 13.3**	**-0.3**
comp=Z,0.3nm,0.3s,baz=348,slow=8.1,SNR=19							
ASAR				PcP	**PcP**	**15 00 33.0**	**+1.1**
comp=Z,0.5nm,1.0s,baz=352,slow=2.2,SNR=4.2							
comp=Z,0.3nm,0.3s							
BBOO	**Buckleboo**	**36.66**	**167**	P	**P**	**14 58 34.4**	**-0.4**
STKA	**Stephens Creek**	**37.42**	**159**	P	**P**	**14 58 40.9**	**-0.3**
STKA	**Stephens Creek**	**37.42**	**159**	P	**P**	**14 58 41.1**	**-0.1**
comp=Z,3.4nm,0.7s,baz=342,slow=7.7,SNR=6.8							
comp=Z,3.4nm,0.7s							
SHL	**Shillong**	**40.35**	**307**	P	**P**	**14 59 06.0**	**-0.1**
USA0B	**Ussuriysk Arra**	**41.31**	**6**	P	**P**	**14 59 13.3**	**-0.1**
USA0B				IAmb	IAmb	14 59 27.7	
comp=Z,10nm,1.0s							
USRK	**Ussuriysk Ar.**	**41.31**	**6**	P	**P**	**14 59 13.7**	**+0.2**
PALK	**Pallekele**	**46.06**	**277**	P	**P**	**14 59 50.5**	**-1.7**
PALK				IAmb	IAmb	15 00 26.6	
comp=Z,30nm,1.4s							
PETK	**Petropavlovsk-**	**56.11**	**22**	P	**P**	**15 01 06.5**	**-0.5**
PETK	**Petropavlovsk-**	**56.11**	**22**	P	**P**	**15 01 07.1**	**+0.2**
comp=Z,7.0nm,1.1s,baz=194,slow=5.4,SNR=5.2							
comp=Z,7.0nm,1.1s							
MK31	**Makanchi Array**	**58.19**	**325**	P	**P**	**15 01 20.8**	**-1.0**
MKAR	**Makanchi Array**	**58.19**	**325**	P	**P**	**15 01 20.9**	**-1.0**
MKAR	**Makanchi Array**	**58.19**	**325**	P	**P**	**15 01 21.4**	**-0.4**
comp=Z,0.8nm,0.5s,baz=120,slow=8.0,SNR=17							
comp=Z,0.8nm,0.5s							
KURBB	**Kurchatov Arra**	**62.39**	**328**	P	**P**	**15 01 49.9**	**-0.5**
comp=Z,0.9nm,0.5s,baz=129,slow=6.4,SNR=6.9							
comp=Z,0.9nm,0.5s							
KURK	**Kurchatov**	**62.39**	**328**	P	**P**	**15 01 49.0**	**-1.4**
KURK				IAmb	IAmb	15 01 52.1	
comp=Z,7.8nm,1.5s							
BVAR	**Borovoye Array**	**67.97**	**327**	P	**P**	**15 02 26.2**	**-0.4**
comp=Z,0.4nm,0.4s,baz=123,slow=5.3,SNR=3.1							
comp=Z,0.4nm,0.4s							
ABKAR	**Akbulak array**	**72.75**	**321**	P	**P**	**15 02 55.2**	**-0.6**
D19K	**Kuna River**	**81.81**	**21**	P	**P**	**15 03 47.4**	**+1.2**
D19K				IAmb	IAmb	15 04 21.6	
comp=Z,12nm,1.4s							
VNDA	**Vanda**	**82.68**	**173**	P	**P**	**15 03 51.0**	**+0.5**
comp=Z,0.8nm,0.9s,baz=288,slow=5.8,SNR=2.8							
comp=Z,0.8nm,0.9s							
BMAR	**Burnt Mountain**	**86.75**	**23**	P	**P**	**15 04 12.4**	**+1.1**

IDC 03 15:08:28.2±2.1, 6°.03S×130°.45E, h0km, mb3.8/2, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=146.1km s-min=29.5km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.34**	**165**	Pn	Pn	15 11 52.8	+0.2
0.2nm,0.3s,baz=348,slow=13,SNR=1.6							
WRA				Sn	Sn	15 14 19.4	-13
1.6nm,0.3s,baz=333,slow=22,SNR=11							
0.3nm,0.5s							
ASAR	**Alice Springs**	**17.85**	**170**	P	Pn	15 12 37.9	-0.3
0.2nm,0.3s,baz=343,slow=10,SNR=33							
ASAR				S	Sn	15 15 42.3	-16
1.0nm,0.6s,baz=344,slow=26,SNR=2.5							
1.2nm,0.6s							
MKAR	**Makanchi Array**	**67.66**	**326**	P	P	15 19 27.2	+0.1
0.4nm,0.3s,baz=128,slow=8.1,SNR=12							
0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**71.92**	**328**	P	P	15 19 53.3	0.0
0.3nm,0.2s,baz=124,slow=4.9,SNR=2.7							
0.3nm,0.2s							

IDC 03 15:18:17.8±2.4, 6°.09S×130°.46E, h0km, mb3.4/1, mbtmp3.2/3, ML3.1/2, MS3.4/1, Error ellipse: s-maj=108.1km s-min=33.6km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.28**	**165**	Pn	Pn	15 21 42.8	+1.4
0.1nm,0.3s,baz=345,slow=10,SNR=1.1							
WRA				Sn	Sn	15 24 11.2	-9.4
0.2nm,0.3s,baz=334,slow=25,SNR=7.2							
0.5nm,1.1s							
ASAR	**Alice Springs**	**17.79**	**170**	P	Pn	15 22 25.9	-1.0
0.1nm,0.3s,baz=346,slow=11,SNR=6.6							
ASAR				S	Sn	15 25 35.0	-11
0.3nm,0.8s,baz=345,slow=25,SNR=1.5							
0.5nm,0.8s							
DZM	**Mont Dzumac**	**38.21**	**118**	LR	LR	15 41 41.8	
comp=Z,44nm,18.2s,baz=358,slow=37							
MKAR	**Makanchi Array**	**67.72**	**326**	P	P	15 29 17.2	+0.1
0.2nm,0.5s,baz=124,slow=6.6,SNR=2.2							
0.2nm,0.5s							

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*IDC **03** 15:31:57.5±1.0, 12°.40S×166°.59E, h144km±8km, mb3.9/15, mbtmp4.2/16, MS3.5/3, Error ellipse: s-maj=20.5km s-min=12.8km az=100.0*
*NEIC **03** 15:31:58.3±1.4, 12°.4S±0°.1×166°.7E±0°.1, h147km±6km, mb4.6/27, Error ellipse: s-maj=20.4km s-min=14.8km az=74.0*
ISC 03 15:31:58.1±0.5, 12°.43S±0°.06×166°.63E±0°.10, h150km, n74, σ0°98/78, mb4.4/31, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.21**	**294**	Pn	**Pn**	**15 33 39.4**	**-1.5**
HNR	**Honiara**	**7.21**	**294**	LR	LR	15 36 55.2	
comp=Z,725nm,18.3s,baz=34,slow=42							
LIFNC	**LIFOU**	**8.32**	**176**	Pn	**Pn**	**15 33 52.4**	**-3.3**
DZM	**Mont Dzumac**	**9.59**	**181**	Pn	**Pn**	**15 34 14.7**	**+1.9**
DZM	**Mont Dzumac**	**9.59**	**181**	P	**Pn**	**15 34 14.5**	**+1.8**
5.7nm,0.5s,baz=342,slow=20,SNR=0.6							
DZM				S	**Sn**	**15 35 57.1**	**-2.0**
2.7nm,0.4s,baz=322,slow=19,SNR=1.2							
OUENC	**Ouen Island, N**	**9.93**	**179**	Pn	**Pn**	**15 34 18.0**	**+0.8**
EIDS	**Eidsvold**	**19.52**	**227**	P	**P**	**15 36 15.6**	**+1.7**
CTAO	**Charters Tower**	**20.97**	**246**	P	**P**	**15 36 30.1**	**+0.5**
CTAO				IAmb	IAmb	15 36 57.0	
comp=Z,27nm,1.4s							
ARMA	**Armidale**	**22.65**	**215**	P	**P**	**15 36 48.8**	**+2.0**
ARMA				IAmb	IAmb	15 37 17.6	
comp=Z,44nm,1.4s							
RTZ	**Ruatahuna**	**27.66**	**162**	P	**P**	**15 37 32.1**	**+0.2**
RTZ				IAmb	IAmb	15 37 32.7	
comp=Z,22nm,1.0s							
MSWZ	**Moikau Station**	**29.84**	**167**	P	**P**	**15 37 50.7**	**-0.5**
PLWZ	**Palliser**	**29.99**	**167**	P	**P**	**15 37 52.6**	**+0.1**
STKA	**Stephens Creek**	**30.07**	**226**	P	**P**	**15 37 52.6**	**-0.6**
STKA	**Stephens Creek**	**30.07**	**226**	P	**P**	**15 37 54.1**	**+0.9**
comp=Z,5.2nm,0.7s,baz=65,slow=9.7,SNR=14							
STKA				LR	LR	15 48 24.0	
comp=Z,67nm,21.9s,baz=9.2,slow=33							
comp=Z,5.2nm,0.7s							
MQZ	**McQueen's Vall**	**31.59**	**172**	P	**P**	**15 38 07.1**	**+0.7**
WB0	**Warramunga Arr**	**31.78**	**253**	P	**P**	**15 38 08.1**	**-0.3**
WB0				IAmb	IAmb	15 38 40.1	
comp=Z,18nm,1.4s							
WB2	**Warramunga Arr**	**31.84**	**252**	P	**P**	**15 38 08.1**	**-1.0**
WB2				IAmb	IAmb	15 38 22.4	
comp=Z,12nm,1.5s							
WRA	**Warramunga Arr**	**31.85**	**252**	P	**P**	**15 38 07.9**	**-1.2**
comp=Z,1.0nm,0.8s,baz=82,slow=8.7,SNR=6.3							
WRA				pP	**pP**	**15 38 40.3**	**+0.5**
comp=Z,0.4nm,0.3s,baz=82,slow=8.7,SNR=2.2							
comp=Z,1.0nm,0.8s							
AS31	**Alice Springs**	**32.98**	**246**	P	**P**	**15 38 18.4**	**-0.5**
ASAR	**Alice Springs**	**32.98**	**246**	P	**P**	**15 38 18.1**	**-0.8**
comp=Z,1.9nm,0.8s,baz=69,slow=9.9,SNR=22							
ASAR				pP	**pP**	**15 38 49.2**	**-0.6**
comp=Z,1.4nm,0.8s,baz=73,slow=7.8,SNR=4.5							
ASAR				PcP	**PcP**	**15 40 59.2**	**-0.4**
comp=Z,0.5nm,0.9s,baz=38,slow=4.7,SNR=2.5							
ASAR				LR	LR	15 52 34.5	
comp=Z,55nm,18.1s,baz=300,slow=38							
comp=Z,1.9nm,0.8s							
BBOO	**Buckleboo**	**34.55**	**229**	P	**P**	**15 38 32.4**	**0.0**
FITZ	**Fitzroy Crossi**	**39.88**	**257**	P	**P**	**15 39 17.9**	**+0.4**
FORT	**Forrest**	**39.98**	**237**	P	**P**	**15 39 18.7**	**+0.6**
MBWA	**Mar

comp=Z,4.0nm,1.4s
IMAR Indian Mountai 83.52 15 P P 15 44 09.1 +0.4
MAW Mawson 83.77 202 P P 15 44 10.4 +0.4
comp=Z,2.6nm,0.7s,baz=74,slow=4.1,SNR=4.3
comp=Z,2.6nm,0.7s
ILAR Eielson Array 84.55 18 P P 15 44 12.9 -1.0
ILAR Eielson Array 84.55 18 P P 15 44 12.4 -1.5
comp=Z,1.1nm,0.8s,baz=231,slow=5.6,SNR=11
ILAR pP **pP 15 44 50.0 -0.9**
comp=Z,0.8nm,0.9s,baz=228,slow=5.1,SNR=3.8
comp=Z,1.1nm,0.8s
J25K Salcha River, 84.91 19 P P 15 44 16.2 +0.4
NVAR Mina Array Bea 86.26 50 P P 15 44 24.4 +1.1
comp=Z,0.2nm,0.6s,baz=252,slow=4.6,SNR=1.7
comp=Z,0.2nm,0.6s
BELA Belgrano 2 89.05 176 P P 15 44 36.0 +0.3
BELA IAmb IAmb 15 44 37.0
comp=Z,3.3nm,0.7s
MK31 Makanchi Array 95.12 317 P 15 45 04.3 +0.1
MK31 IAmb IAmb 15 45 05.8
comp=Z,2.9nm,0.9s
MKAR Makanchi Array 95.12 317 P P 15 45 04.5 +0.3
comp=Z,2.7nm,0.7s,baz=96,slow=6.5,SNR=23
MKAR PKKPbc **PKKPdf 16 01 57.1 -2.7**
comp=Z,0.6nm,0.6s,baz=282,slow=2.8,SNR=6.0
comp=Z,2.7nm,0.7s
ZALV Zalesovo Beam 95.18 324 P P 15 45 03.8 -0.5
comp=Z,1.7nm,0.7s,baz=102,slow=5.0,SNR=6.6
comp=Z,1.7nm,0.7s
MAKZ Makanchi 95.33 317 P P 15 45 05.5 +0.3
MAKZ IAmb IAmb 15 45 06.7
comp=Z,4.9nm,1.1s
MAKZ Makanchi 95.33 317 ⇑Pn **P 15 45 05.2 0.0**
comp=Z,5.2nm,1.1s
SNAA Sanae 95.79 183 P P 15 45 05.8 -1.2
comp=Z,2.1nm,1.0s,baz=117,slow=1.1,SNR=5.1
comp=Z,2.1nm,1.0s
ARCES ARCESS Array B 117.89 346 PKP **PKPdf 15 50 26.3 +0.1**
comp=Z,2.1nm,0.6s,baz=5.7,slow=1.2,SNR=7.6
KBZ Khabaz 122.72 314 PKP **PKiKP 15 50 37.6 +1.2**
comp=Z,1.0nm,0.4s,baz=135,slow=1.4,SNR=2.2
FINES FINESS Array B 123.37 339 PKP **PKPdf 15 50 35.9 -1.0**
comp=Z,2.5nm,0.9s,baz=97,slow=4.8,SNR=6.5
NOA NORSAR Array B 128.26 345 PKP **PKPdf 15 50 46.1 -0.3**
comp=Z,1.0nm,0.7s,baz=30,slow=2.0,SNR=4.3
HFS Hagfors 128.36 343 PKP **PKPdf 15 50 46.3 -0.2**
comp=Z,0.9nm,0.6s,baz=108,slow=9.5,SNR=1.8
BRTR Keskin Array B 130.53 212 PKP **PKPdf 15 50 50.8 -0.7**
comp=Z,0.5nm,0.6s,baz=116,slow=3.4,SNR=2.1
EKA Eskdalemuir Ar 136.46 352 PKP **PKPdf 15 51 01.8 -0.2**
comp=Z,0.3nm,0.4s,baz=297,slow=0.6,SNR=3.5
GERES GERESS Array B 137.32 334 PKP **PKPdf 15 51 04.7 +0.8**
comp=Z,0.3nm,0.3s,baz=46,slow=2.8,SNR=1.8
SSB Saint Sauveur 143.88 338 PKPdf PKPbc 15 51 14.4 +0.5
VSL Villasalto 146.36 327 PKPdf 15 51 20.7 +0.6
CEST Esterri de Car 147.37 340 PKPbc **PKPbc 15 51 25.2 +0.6**
KEST Kesra 149.03 322 PKPab **PKiKP 15 51 30.3 0.0**
KEST Kesra 149.03 322 PKPbc **PKPbc 15 51 29.8 +0.8**
comp=Z,9.7nm,0.7s,baz=359,slow=4.4,SNR=12
TATN Tataouine 150.30 316 PKPbc 15 51 32.7 +0.6
ESDC Sonseca Array 151.62 345 PKPbc **PKiKP 15 51 35.8 +0.4**
ESDC Sonseca Array 151.62 345 PKPbc **PKiKP 15 51 35.4 0.0**
comp=Z,2.8nm,0.8s,baz=8.0,slow=2.6,SNR=18
MTE Manteigas 151.67 351 PKPbc **PKiKP 15 51 35.7 +0.2**
TORD Torodi Ar. Bea 165.29 274 PKPab **PKPab 15 52 43.6 -0.4**
comp=Z,2.2nm,1.0s,baz=61,slow=6.0,SNR=6.8

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*ISK **03** 15:32:43.6, 36°.70N×35°.38E, h14km, ML2.6/8*
*AFAD **03** 15:32:46.0±0.0, 36°.76N×35°.51E, h7km±1km, ML3.2*
ISC 03 15:32:45.0±1.1, 36°.70N±0°.05×35°.44E±0°.03, h31km±9km, n17, σ0°89/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YURE	**YUREGIR**	**0.20**	**51**	P	**Pn**	15 32 52.2	+0.2
YURE				S	**Sb**	15 32 57.3	+1.5
DED	**Mersin**	**0.58**	**297**	P	**Pb**	15 32 55.8	-1.0
DED				S	**Sb**	15 33 04.0	-0.8
TAHT	**Tahtakopru-Hat**	**0.68**	**118**	Pg	**Pn**	15 32 58.5	-0.1
TAHT				Sg	**Sn**	15 33 08.7	+0.6
AKO	**Adana**	**0.76**	**0**	P	**Pn**	15 32 59.5	-0.2
AKO				S	**Sb**	15 33 09.4	-0.5
GULE	**Gulek**	**0.79**	**318**	P	**Pn**	15 33 01.4	+1.1
GULE				S	**Sn**	15 33 12.8	+1.8
GULE				*i* AML	AML	15 33 14.0	
	comp=N,797nm,0.4s						
GULE				*i* AML	AML	15 33 15.0	
	comp=E,919nm,0.5s						
KOZT	**Kozan**	**0.84**	**21**	Pg	**Pn**	15 33 00.2	-0.6
HASA	**Hatay-Hassa-Ha**	**0.84**	**86**	P	**Pn**	15 33 01.1	+0.3
HASA				S	**Sn**	15 33 12.3	+0.2
HASA				*i* AML	AML	15 33 15.0	
	comp=N,1μm,0.3s						
HASA				*i* AML	AML	15 33 15.0	
	comp=E,1μm,0.3s						
CMRD	**Camardi-Nigde**	**1.03**	**340**	Pg	**Pb**	15 33 03.8	-0.6
KIZK	**Mersin**	**1.07**	**259**	Pg	**Pn**	15 33 03.7	-0.1
KIZK				Sg	**Sn**	15 33 17.8	+0.2
KAMA	**Osmaniye**	**1.10**	**63**	P	**Pb**	15 33 05.4	-0.1
KAMA				S	**Sb**	15 33 19.6	+0.1
ANDN	**Andirin**	**1.14**	**39**	P	**Pb**	15 33 06.2	0.0
ANDN				S	**Sb**	15 33 21.6	+0.8
KEBE	**Keben-Mersin**	**1.41**	**260**	Pn	**Pn**	15 33 09.0	+0.3
KEBE				Sn	**Sn**	15 33 27.3	+1.0
KMRS	**Kahramanmaras**	**1.42**	**55**	Pn	**Pb**	15 33 10.2	-0.7
IKL	**Isikli**	**1.49**	**253**	Pn	**Pb**	15 33 09.5	-0.1
GAZ	**Gaziantep**	**1.50**	**71**	Pn	**Pb**	15 33 10.8	-1.4
AKKU	**Akkuyu-Mersin**	**1.62**	**251**	Pn	**Pn**	15 33 11.8	+0.4
SARI	**SarD1z-Kayseri**	**1.87**	**24**	Pn	**Pb**	15 33 16.8	-1.9

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*NNC **03** 15:43:51.5±3.2, 49°.81N×75°.95E, h0km, mb3.5, mpv3.1,*
Error ellipse: s-maj=30.6km s-min=19.8km az=170.0,
Suspected Mining explosion.
*IDC **03** 15:43:58.8±1.2, 50°.27N×76°.18E, h0km, mbtmp2.6/3,*
ML1.8/3, Error ellipse: s-maj=15.6km s-min=8.2km
az=27.0
ISC 03 15:43:46.1±1.1, 49°.61N±0°.08×75°.65E±0°.05, h0km, n11, σ2°79/14, 4C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.11**	**60**	Pg	**Pg**	15 44 27.0	+0.4
	0.7nm,0.3s,baz=255,slow=15,SNR=25						
KURBB				Lg	Lg	15 44 48.0	
	0.7nm,0.3s,baz=258,slow=30,SNR=23						
KURBB	**Kurchatov Arra**	**2.11**	**60**	⇓P	**Pg**	15 44 26.8	+0.2
	18nm,0.8s						
KURBB				⇓S	**Sn**	15 44 48.2	-1.5
	86nm,0.9s						
KURK	**Kurchatov**	**2.21**	**59**	⇑P	**Pg**	15 44 28.4	0.0
	26nm,1.0s						
KURK				⇑S	**Sn**	15 44 51.2	-0.8
	48nm,0.9s						
BVA0	**Borovoye Array**	**4.76**	**318**	Pg	**Pg**	15 45 15.5	-1.7
	1.8nm,1.0s,baz=114,slow=11,SNR=6.3						
BVA0				⇓Lg	Lg	15 46 18.8	
	9.4nm,1.4s,baz=118,slow=28,SNR=4.7						
BVAR	**Borovoye Array**	**4.76**	**318**	Pn	**Pb**	15 45 09.2	-1.1
	baz=125,slow=15,SNR=5.6						
BVAR				Sn	**Sn**	15 45 59.0	+4.2
	baz=122,slow=27,SNR=2.4						
BVAR				Lg	Lg	15 46 23.2	
	baz=132,slow=26,SNR=6.4						
	1.3nm,0.8s						
BRVK	**Borovoye**	**4.83**	**318**	⇓Pg	**Pg**	15 45 16.4	-2.1
	1.7nm,0.8s						
BRVK				⇑Lg	Lg	15 46 22.5	
	6.4nm,1.3s						
MAKZ	**Makanchi**	**5.07**	**121**	⇓Lg	Lg	15 46 30.7	
	8.2nm,0.9s						
MK31	**Makanchi Array**	**5.25**	**120**	Pn	**Pn**	15 45 07.3	+1.4
	3.3nm,0.8s,baz=102,slow=5.5,SNR=14						
MK31				⇑Lg	Lg	15 46 38.2	
	7.8nm,1.1s,baz=308,slow=26,SNR=3.6						
MKAR	**Makanchi Array**	**5.25**	**120**	Pn	**Pb**	15 45 18.6	-0.2
	baz=315,slow=26,SNR=1.8						
MKAR				Sn	**Sb**	15 46 22.0	-0.4
	0.1nm,0.3s,baz=313,slow=23,SNR=7.8						
MKAR				Lg	Lg	15 46 49.4	
	0.2nm,0.3s,baz=318,slow=25,SNR=5.1						
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**7.16**	**49**	Pn	**Pn**	15 45 36.4	+4.4
	0.2nm,0.3s,baz=235,slow=15,SNR=3.1						
ZALV				Sn	**Sn**	15 46 48.0	-5.9
	0.1nm,0.3s,baz=233,slow=21,SNR=2.7						
ZALV				Lg	Lg	15 47 25.3	
	0.1nm,0.3s,baz=235,slow=24,SNR=2.5						
	0.5nm,0.4s						
I31KZ	**AKTYUBINSK INF**	**11.37**	**281**	I	I	16 50 10.0	
	baz=86,slow=309,SNR=1.5						

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*NOU **03** 15:47:24.8, 37°.87S×175°.87E, h189km, ML3.5/7, North Island, New Zealand*
*WEL **03** 15:47:32.4, 38°.5S±8°.×17°.6E±1°.0, h148km±14km, M2.8/54, MLv2.8/54, Error ellipse: s-maj=0.0km s-min=0.0km*
az=112.0
ISC 03 15:47:25.4±1.7, 38°.03S±0°.06×176°.18E±0°.06, h203km, n106, σ0°87/106, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRZ	**Kaimai**	**0.26**	**313**	P	**Pn**	15 47 52.4	+0.1
HSRZ	**Hossack Road**	**0.29**	**170**	P	**Pn**	15 47 52.7	+0.4
GRRZ	**Galatos Road**	**0.33**	**190**	P	**Pn**	15 47 52.8	+0.4
OPRZ	**Ohinepanea**	**0.35**	**58**	P	**Pn**	15 47 52.0	-0.4
HRRZ	**Handcock Road**	**0.37**	**168**	P	**Pn**	15 47 52.8	+0.3
WPRZ	**Whakapapatarin**	**0.49**	**182**	P	**Pn**	15 47 53.3	+0.4
PRRZ	**Plateau Road**	**0.50**	**161**	P	**Pn**	15 47 53.0	+0.2
TLZ	**Tolley Road**	**0.59**	**239**	P	**Pn**	15 47 53.9	+0.7
TOZ	**Tahuroa Road**	**0.61**	**298**	P	**Pn**	15 47 53.8	+0.4
MUGZ	**Murupara**	**0.65**	**134**	P	**Pn**	15 47 53.3	-0.2
URZ	**Urewera**	**0.77**	**108**	P	**Pn**	15 47 53.5	-0.5
URZ	**Urewera**	**0.77**	**108**	P	**Pn**	15 47 53.6	-0.4
MRHZ	**Matea Rd**	**0.83**	**167**	P	**Pn**	15 47 54.8	+0.3
RTZ	**Ruatahuna**	**0.86**	**133**	P	**Pn**	15 47 54.8	+0.1
RATZ	**Rangitukua**	**0.90**	**201**	P	**Pn**	15 47 55.6	+0.7
MTHZ	**Maungataniwha**	**0.97**	**148**	P	**Pn**	15 47 55.7	+0.3
RITZ	**Rihia Road**	**0.98**	**195**	P	**Pn**	15 47 56.4	+1.0
MWZ	**Matawai**	**1.10**	**107**	P	**Pn**	15 47 56.3	0.0
RAHZ	**Arahi**	**1.14**	**142**	P	**Pn**	15 47 57.3	+0.9
NTVZ	**North Tongarir**	**1.14**	**200**	P	**Pn**	15 47 57.5	+0.9
KRVZ	**Karewarewa**	**1.15**	**202**	P	**Pn**	15 47 57.3	+0.7
TMVZ	**Te Maari**	**1.15**	**199**	P	**Pn**	15 47 57.6	+0.9
HIZ	**Hauiti**	**1.15**	**245**	P	**Pn**	15 47 57.7	+1.1
BKZ	**Black Stump Fm**	**1.16**	**168**	P	**Pn**	15 47 56.9	+0.2
BKZ	**Black Stump Fm**	**1.16**	**168**	P	**Pn**	15 47 57.1	+0.4
ETVZ	**East Tongariro**	**1.17**	**198**	P	**Pn**	15 47 57.7	+0.9
NMHZ	**Naumai**	**1.18**	**156**	P	**Pn**	15 47 58.1	+1.3
RUGZ	**Raukumara Rang**	**1.18**	**87**	P	**Pn**	15 47 55.9	-1.0
WTVZ	**West Tongariro**	**1.18**	**203**	P	**Pn**	15 47 57.7	+0.8
NNVZ	**North Ngauruho**	**1.19**	**202**	P	**Pn**	15 47 58.0	+1.0
TWVZ	**Taurewa**	**1.20**	**209**	P	**Pn**	15 47 57.8	+0.8
OTVZ	**Oturere**	**1.21**	**200**	P	**Pn**	15 47 58.1	+1.0
MKAZ	**Moumakai**	**1.23**	**318**	P	**Pn**	15 47 57.9	+0.8
SNVZ	**South Ngauruho**	**1.23**	**200**	P	**Pn**	15 47 58.2	+0.9
COVZ	**Chateau Observ**	**1.27**	**203**	P	**Pn**	15 47 58.5	+0.9
HAZ	**Te Kaha**	**1.29**	**78**	P	**Pn**	15 47 56.9	-0.7
TUVZ	**Tukino**	**1.31**	**198**	P	**Pn**	15 47 58.9	+1.0
FWVZ	**Far West T-bar**	**1.32**	**202**	P	**Pn**	15 47 59.1	+0.9
WHVZ	**Whangaehu Hut**	**1.34**	**200**	P	**Pn**	15 47 59.2	+0.9
TKGZ	**Te Karaka**	**1.38**	**108**	P	**Pn**	15 47 58.9	+0.6
WNVZ	**Wahianoa**	**1.38**	**199**	P	**Pn**	15 47 59.3	+0.9
ARHZ	**Aropaoanui**	**1.39**	**153**	P	**Pn**	15 47 59.6	+1.2
KWHZ	**Kaweka Forest**	**1.41**	**172**	P	**Pn**	15 47 59.6	+1.0
RIGZ	**Rimuhau**	**1.42**	**119**	P	**Pn**	15 47 59.5	+0.8
MOVZ	**Moawhango**	**1.42**	**194**	P	**Pn**	15 47 59.2	+0.5
PKVZ	**Pokaka**	**1.42**	**207**	P	**Pn**	15 47 59.7	+1.0
TWGZ	**Tauwhareparae**	**1.43**	**97**	P	**Pn**	15 47 59.4	+0.6
MTVZ	**Mangateitei**	**1.47**	**202**	P	**Pn**	15 48 00.1	+1.0
MCHZ	**McNeill Hill**	**1.47**	**164**	P	**Pn**	15 48 00.5	+1.4
PKGZ	**Pakihiroa**	**1.50**	**85**	P	**Pn**	15 47 59.6	+0.1
VRZ	**Vera Road**	**1.56**	**225**	P	**Pn**	15 48 01.6	+1.7
PRGZ	**Paritu Road**	**1.61**	**124**	P	**Pn**	15 48 01.2	+0.9
KRHZ	**Kereru**	**1.62**	**175**	P	**Pn**	15 48 01.4	+0.9
PUZ	**Puketiti**	**1.64**	**92**	P	**Pn**	15 48 00.5	-0.1
CNGZ	**Carnagh Statio**	**1.66**	**107**	P	**Pn**	15 48 02.0	+1.3
MXZ	**Matakaoa Point**	**1.75**	**75**	P	**Pn**	15 48 02.1	+0.5
MXZ	**Matakaoa Point**	**1.75**	**75**	P	**Pn**	15 48 02.0	+0.4
MHGZ	**Mahia Peninsul**	**1.76**	**130**	P	**Pn**	15 48 02.9	+1.2
CKHZ	**Cape Kidnapper**	**1.77**	**157**	P	**Pn**	15 48 03.2	+1.4
WMGZ	**Waiomatatini S**	**1.78**	**84**	P	**Pn**	15 48 02.2	+0.3
KAHZ	**Kahuranaki**	**1.85**	**163**	P	**Pn**	15 48 03.9	+1.3
PNHZ	**Pukenui**	**1.88**	**180**	P	**Pn**	15 48 03.6	+0.7
WAZ	**Wanganui**	**1.96**	**208**	P	**Pn**	15 48 05.1	+1.3
LREZ	**Lake Rotokare**	**2.00**	**224**	P	**Pn**	15 48 06.1	+2.0
TSZ	**Takapari Road**	**2.04**	**185**	P	**Pn**	15 48 05.2	+0.7
WPHZ	**Waipukurau**	**2.04**	**174**	P	**Pn**	15 48 05.4	+0.9
NEZ	**North Egmont**	**2.05**	**232**	P	**Pn**	15 48 07.1	+2.3
PXZ	**Pawanui**	**2.07**	**165**	P	**Pn**	15 48 05.8	+1.0
PKE	**Pukeiti**	**2.08**	**235**	P	**Pn**	15 48 07.2	+2.3
PRHZ	**Porangahau**	**2.26**	**171**	P	**Pn**	15 48 07.8	+0.9
DVHZ	**Dannevirke**	**2.27**	**180**	P	**Pn**	15 48 07.4	+0.5
POWZ	**Post Office Ro**	**2.38**	**188**	P	**Pn**	15 48 08.7	+0.5
ANWZ	**Angora Road**	**2.44**	**175**	P	**Pn**	15 48 09.7	+1.0
PRWZ	**Pori Road**	**2.53**	**184**	P	**Pn**	15 48 10.6	+0.8
BFZ	**Birch Farm**	**2.65**	**179**	P	**Pn**	15 48 11.6	+0.4
BFZ	**Birch Farm**	**2.65**	**179**	P	**Pn**	15 48 11.5	+0.4
MRZ	**Mangatainoka R**	**2.67**	**190**	P	**Pn**	15 48 11.6	+0.2
TIWZ	**Tintock**	**2.76**	**185**	P	**Pn**	15 48 12.7	+0.4
OGWZ	**Otaki Gorge**	**2.90**	**195**	P	**Pn**	15 48 14.2	+0.3
HOWZ	**Holdsworth Sta**	**2.91**	**190**	P	**Pn**	15 48 14.1	0.0
KIW	**Kapiti Island**	**3.00**	**199**	P	**Pn**	15 48 15.1	-0.1
TMWZ	**Te Maipa**	**3.08**	**184**	P	**Pn**	15 48 16.3	+0.1
MTW	**Mount Morrison**	**3.17**	**189**	P	**Pn**	15 48 16.8	-0.3
DUWZ	**D'Urville Isla**	**3.28**	**212**	P	**Pn**	15 48 18.4	-0.1
PAWZ	**Paruwai Farm**	**3.40**	**190**	P	**Pn**	15 48 19.5	-0.4
WEL	**Wellington**	**3.43**	**198**	P	**Pn**	15 48 20.2	-0.1
MSWZ	**Moikau Station**	**3.46**	**192**	P	**Pn**	15 48 20.1	-0.5
SNZO	**South Karori**	**3.47**	**199**	P	**Pn**	15 48 20.3	-0.4
TCW	**Tory Channel**	**3.50**	**204**	P	**Pn**	15 48 21.1	-0.1
BHW	**Baring Head**	**3.53**	**196**	P	**Pn**	15 48 20.9	-0.5
PLWZ	**Palliser**	**3.61**	**191**	P	**Pn**	15 48 21.9	-0.6
TUWZ	**Tuamarina**	**3.81**	**206**	P	**Pn**	15 48 24.7	-0.2
NNZ	**Nelson**	**3.85**	**213**	P	**Pn**	15 48 24.7	-0.6
TKNZ	**Takaka Hill**	**3.90**	**219**	P	**Pn**	15 48 25.3	-0.7
QRZ	**Quartz Range**	**3.98**	**224**	P	**Pn**	15 48 25.1	-1.9
QRZ	**Quartz Range**	**3.98**	**224**	P	**Pn**	15 48 26.2	-0.7
BSWZ	**Blackbirch Sta**	**4.09**	**205**	P	**Pn**	15 48 28.3	-0.1
MRNZ	**Matariki Terra**	**4.28**	**217**	P	**Pn**	15 48 30.0	-0.8
THZ	**Tophouse**	**4.50**	**213**	P	**Pn**	15 48 33.0	-0.6
KHZ	**Kahutara**	**4.83**	**204**	P	**Pn**	15 48 37.4	-0.2
KHZ	**Kahutara**	**4.83**	**204**	P	**Pn**	15 48 37.3	-0.2
DSZ	**Denniston Nort**	**5.01**	**221**	P	**Pn**	15 48 39.5	-0.6
GVZ	**Greta Valley S**	**5.49**	**205**	P	**Pn**	15 48 45.2	-0.8
LTZ	**Lake Taylor**	**5.61**	**211**	P	**Pn**	15 48 47.1	-0.6
INZ	**Inchbonnie**	**5.92**	**216**	P	**Pn**	15 48 50.2	-1.4
MQZ	**McQueen's Vall**	**6.27**	**204**	P	**Pn**	15 48 54.3	-1.8

IDC 03 15:50:03.4±4.2, 19°.56S×177°.35W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=266.7km s-min=32.8km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.34**	**256**	P	P	15 58 22.7	-1.0
	1.5nm,0.7s,baz=92,slow=7.6,SNR=24						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**45.35**	**261**	P	P	15 58 24.3	+0.6
	1.5nm,0.6s,baz=95,slow=8.4,SNR=23						
	1.5nm,0.6s						
NVAR	**Mina Array Bea**	**79.92**	**43**	P	P	16 02 14.4	-0.2
	0.1nm,0.3s,baz=219,slow=7.0,SNR=2.0						
	0.1nm,0.3s						
BRTR	**Keskin Array B**	**146.65**	**314**	PKPbc	PKPbc	16 09 47.3	-0.2
	0.2nm,0.3s,baz=73,slow=4.2,SNR=2.0						

IDC 03 15:57:09.6±2.4, 4°.90N×125°.64E, h0km, mb3.4/3, mbtmp3.4/3, MS3.4/1, Error ellipse: s-maj=218.9km s-min=26.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.13**	**161**	P	P	16 02 45.5	-0.1
	0.4nm,0.5s,baz=341,slow=10,SNR=7.5						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**29.52**	**164**	P	P	16 03 16.1	+0.1
	0.4nm,0.6s,baz=341,slow=7.3,SNR=12						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**55.98**	**325**	P	P	16 06 49.8	-0.1
	0.2nm,0.5s,baz=120,slow=8.6,SNR=5.3						
	0.2nm,0.5s						
YAK	**Yakutsk**	**57.08**	**2**	LR	LR	16 32 47.4	
	comp=Z,36nm,20.1s,baz=217,slow=38						

IDC 03 16:12:21.8±4.8, 47°.69N×93°.23W, h0km, mbtmp2.2/1, ML0.1/1, Error ellipse: s-maj=71.0km s-min=31.0km az=57.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.10**	**327**	Pn	Pn	16 13 10.8	-1.1
	baz=146,slow=11,SNR=1.4						
ULM				Lg	Lg	16 13 57.5	
	0.6nm,0.3s,baz=108,slow=16,SNR=3.5						
	1.5nm,0.9s						
I10CA	**LAC DU BONNET**	**3.12**	**325**	I	I	16 32 25.0	
	0.1nm,1.1s,baz=143,slow=313,SNR=8.6						
I56US	**NEWPORT INFRASI**	**6.00**	**281**	I	I	17 49 20.2	
	baz=83,slow=317,SNR=1.7						

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*SJA **03** 16:12:54.2±0.6, 24°.53S×67°.88W, h165km±5km, ML3.7, MW3.6*
*IDC **03** 16:12:55.5±5.9, 24°.47S×67°.55W, h119km±52km, mb3.8/2, mbtmp4.2/5, Error ellipse: s-maj=69.7km s-min=25.3km*
az=172.0
*NEIC **03** 16:12:55.8±1.3, 24°.52S±0°.07×67°.9W±0°.1, h147km±9km, mb4.1/6, ML3.9(GUC), Error ellipse: s-maj=17.0km*
s-min=9.7km az=100.0
*GUC **03** 16:12:56.9±0.7, 24°.52S×67°.95W, h140km±7km, ML3.9*
ISC 03 16:12:55.5±0.8, 24°.51S±0°.03×67°.91W±0°.04, h150km±8km, n93, σ1°28/124, mb4.1/3, 5C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.57**	**351**		**Pn**	**16 13 26.1**	**-0.1**
AF01	**San Pedro de A**	**1.57**	**351**	⇑*iP*	**Pn**	**16 13 26.4**	**+0.3**
AF01				*i* S	**Sn**	**16 13 48.8**	**-0.8**
AF01				IAML		16 13 54.0	
	comp=E,1μm,0.1s						
GO02	**Mina Guanaco**	**1.66**	**247**	Pn	**Pn**	**16 13 28.0**	**+0.9**
GO02	**Mina Guanaco**	**1.66**	**247**	*eP*	**Pn**	**16 13 28.1**	**+1.0**
GO02				*eS*	**Sn**	**16 13 52.8**	**+1.5**
GO02	**Mina Guanaco**	**1.66**	**247**	⇑*iP*	**Pn**	**16 13 28.0**	**+0.9**
GO02				*i* S	**Sn**	**16 13 52.5**	**+1.2**
PB15	**IPOC Station P**	**1.93**	**312**		**Pn**	**16 13 30.8**	**+0.7**
PB15	**IPOC Station P**	**1.93**	**312**	*eP*	**Pn**	**16 13 30.8**	**+0.7**
PB15				*eS*	**Sn**	**16 13 57.8**	**+1.3**
PB15	**IPOC Station P**	**1.93**	**312**	⇓*iP*	**Pn**	**16 13 30.7**	**+0.7**
PB15				*i* S	**Sn**	**16 13 57.3**	**+0.8**
LVC	**Limon Verde**	**2.10**	**334**	Pn	**Pn**	**16 13 32.7**	**+0.5**
LVC	**Limon Verde**	**2.10**	**334**	*eP*	**Pn**	**16 13 32.9**	**+0.7**
LVC				*eS*	**Sn**	**16 14 00.9**	**+0.6**
LVC				IAML		16 14 02.9	
	comp=Z,200nm,0.5s						
LVC	**Limon Verde**	**2.10**	**334**	P	**Pn**	**16 13 32.8**	**+0.7**
	comp=Z,54nm,0.3s,baz=155,slow=8.9,SNR=352						
LVC				S	**Sn**	**16 14 00.7**	**+0.3**
	comp=Z,204nm,0.3s,baz=352,slow=21,SNR=64						
LVC	**Limon Verde**	**2.10**	**334**	⇓*iP*	**Pn**	**16 13 32.9**	**+0.7**
LVC				*i* S	**Sn**	**16 13 60.0**	**-0.4**
LVC				IAML		16 14 01.8	
	comp=Z,2μm,0.3s						
SLA	**San Lorenzo**	**2.20**	**96**	*eP*	**Pn**	**16 13 33.0**	**-0.1**
PB14	**IPOC Station P**	**2.27**	**267**	Pn	**Pn**	**16 13 34.4**	**+0.2**
PB14	**IPOC Station P**	**2.27**	**267**	*eP*	**Pn**	**16 13 34.8**	**+0.5**
PB14				*eS*	**Sn**	**16 14 03.8**	**-0.1**
PB14				IAML		16 14 08.4	
	comp=Z,324nm,0.4s						
PB14	**IPOC Station P**	**2.27**	**267**	*eP*	**Pn**	**16 13 34.7**	**+0.5**
PB14				*i* S	**Sn**	**16 14 03.8**	**-0.1**
PB14				IAML		16 14 08.8	
	comp=N,243nm,0.2s						
PB06	**IPOC Station P**	**2.35**	**319**		**Pn**	**16 13 35.7**	**+0.7**
PB06	**IPOC Station P**	**2.35**	**319**	*eP*	**Pn**	**16 13 36.0**	**+1.0**
PB06				*eS*	**Sn**	**16 14 06.1**	**+0.6**
PB06				IAML		16 14 08.5	
	comp=Z,470nm,1.0s						
PB06	**IPOC Station P**	**2.35**	**319**	⇓*iP*	**Pn**	**16 13 35.8**	**+0.7**
PB06				*i* S	**Sn**	**16 14 05.5**	**+0.1**
PB06				IAML		16 14 06.7	
	comp=E,694nm,0.4s						
FSA	**Cafayete**	**2.37**	**133**	*eP*

AC05 IAML 16 15 06.6
comp=Z,33nm,0.3s
GO01 Chusmiza 4.96 346 Pn 16 14 08.7 -0.2
GO01 Chusmiza 4.96 346 *eP* **Pn 16 14 08.8 -0.1**
GO01 *eS* **Sn 16 15 06.7 +0.6**
ACLC CERRO LA CRUZ 4.97 170 *eP* **Pn 16 14 09.6 +0.9**
AGUA GUANDACOL 4.99 186 *eP* **Pn 16 14 09.3 +0.5**
AGUA *eS* **Sn 16 15 08.3 +2.3**
AGUA IAML 16 15 09.0
comp=Z,33nm,1.9s
PB11 IPOC Station P 4.99 341 Pn 16 14 07.5 -1.5
PB11 IPOC Station P 4.99 341 *eP* **Pn 16 14 07.5 -1.5**
PB11 *eS* **Sn 16 15 04.1 -2.3**
PB11 IAML 16 15 13.8
comp=Z,44nm,0.4s
LCO Las Campanas 5.13 208 Pn 16 14 09.9 -1.0
LCO Las Campanas 5.13 208 *eP* **Pn 16 14 10.1 -0.7**
LCO *eS* **Sn 16 15 10.2 +0.5**
LCO IAML 16 15 12.3
comp=Z,97nm,0.2s
CO01 Juntas del Tor 5.78 199 Pn 16 14 19.5 0.0
CO05 La Serena 6.15 208 Pn **Pn 16 14 21.9 -2.3**
GO04 Tololo Observa 6.20 204 Pn 16 14 23.2 -1.8
CO03 El Pedregal 6.77 201 Pn 16 14 30.5 -2.0
CO06 Fray Jorge 6.97 207 Pn 16 14 32.2 -2.9
CO02 Combarbal 7.21 202 Pn 16 14 35.8 -2.6
LPAZ La Paz 8.18 359 Pn 16 14 51.7 -0.2
LPAZ La Paz 8.18 359 P **Pn 16 14 51.6 -0.3**
comp=Z,5.3nm,0.3s,baz=157,slow=6.1,SNR=35
VA03 San Esteban 8.55 195 Pn 16 14 54.3 -1.9
VA06 Catapilco 8.56 200 Pn 16 14 52.6 -3.6
MT02 Curacav 9.17 197 Pn **Pn 16 15 00.4 -4.0**
MT13 San Alfonso 9.43 192 Pn **Pn 16 15 07.4 -0.7**
MT09 Talagante 9.62 196 Pn **Pn 16 15 07.2 -3.3**
BO04 La Punta 9.74 193 Pn **Pn 16 15 09.7 -2.3**
BO02 Sierra Bellavi 10.55 193 Pn **Pn 16 15 20.7 -2.0**
SIV San Ignacio 10.62 38 P **Pn 16 15 19.8 -4.1**
comp=Z,5.2nm,0.4s,baz=226,slow=13,SNR=22
PTLB Pontes e Lacer 12.21 44 Pn 16 15 43.3 -1.3
VILB Vilhena 13.61 34 Pn 16 16 02.1 -0.5
SAML Samuel 16.12 17 Pn **Pn 16 16 32.3 -1.4**
BDFB Brasilia 20.64 68 P **P 16 17 23.2 -0.4**
BDFB IAmb IAmb 16 17 24.3
comp=Z,7.1nm,1.1s
BDFB Brasilia 20.64 68 P **P 16 17 22.7 -0.8**
comp=Z,3.9nm,0.5s,baz=224,slow=12,SNR=3.4
comp=Z,3.9nm,0.5s
MACA Manacapuru-AM 22.34 19 P **P 16 17 40.5 -0.7**
CPCT Cooper Cave 61.67 345 P **P 16 22 58.5 +1.1**
CPCT IAmb IAmb 16 23 14.3
comp=Z,3.3nm,1.0s
TXAR Lajitas Array 63.61 325 P **P 16 23 10.4 -0.2**
TOA0 Torodi Ar. Sit 77.52 69 P **P 16 24 37.1 +2.0**
TOA0 IAmb IAmb 16 25 12.8
comp=Z,4.3nm,1.1s
TORD Torodi Ar. Bea 77.52 69 P **P 16 24 37.0 +1.9**
TORD IAmb IAmb 16 24 39.6
comp=Z,3.4nm,1.3s
TORD Torodi Ar. Bea 77.52 69 P **P 16 24 37.3 +2.2**
comp=Z,1.4nm,0.5s,baz=258,slow=4.9,SNR=16
comp=Z,1.4nm,0.5s
ASAR Alice Springs 127.64 205 PKP **PKiKP 16 31 47.0 +2.8**
comp=Z,0.3nm,1.0s,baz=131,slow=2.6,SNR=4.6
WRA Warramunga Arr 130.79 208 PKP **PKiKP 16 31 53.1 +2.6**
comp=Z,0.4nm,0.6s,baz=154,slow=1.9,SNR=1.9

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*NEIC **03** 16:28:14.2±0.3, 36°.21N±0°.02×97°.57W±0°.02, h9km±8km, Error ellipse: s-maj=2.2km s-min=1.8km az=208.0*
TUL 03 16:28:14.2±0.3, 36°.22N±0°.01×97°.563W±0°.007, h5km±5km, ML2.8, mb_Lg2.7/71(NEIC), ML2.9/69(NEIC), Error ellipse: s-maj=1.5km s-min=0.8km az=166.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.43**	**168**		Pg	16 28 22.7	+0.2
OK029				IAML		16 28 29.0	
831nm,0.4s							
CROK	**Carrier**	**0.45**	**310**	Pg	Pg	16 28 22.9	+0.1
CROK				Sg	Sg	16 28 28.6	0.0
CROK				IAML		16 28 31.9	
comp=E,2μm,0.4s							
OK048	**Pawnee Station**	**0.54**	**68**	Pg	Pg	16 28 24.8	+0.2
ADOK	**Arcadia Dam**	**0.58**	**165**	Pg	Pg	16 28 25.5	+0.1
BLOK	**Blackwell**	**0.61**	**27**		Pg	16 28 26.2	+0.2
BLOK				IAML		16 28 42.3	
comp=E,1μm,0.2s							
OK031	**S. Brethren Rd**	**0.64**	**114**		Pg	16 28 26.7	+0.2
OK031				IAML		16 28 35.8	
comp=E,783nm,0.4s							
OK051	**E0350 and S346**	**0.65**	**64**	Pg	Pg	16 28 26.8	0.0
OK051				IAML		16 28 41.6	
comp=E,681nm,0.2s							
OK051				IAML		16 28 45.6	
comp=E,626nm,0.2s							
OK052	**Battle Ridge R**	**0.65**	**110**		Pg	16 28 26.8	0.0
OK052				Sg	Sg	16 28 34.8	-0.4
OK052				IAML		16 28 38.3	
comp=E,759nm,0.3s							
GC02	**Grant County #**	**0.68**	**339**		Pg	16 28 27.1	-0.1
OK032	**Salt Plains WL**	**0.79**	**319**		Pg	16 28 29.2	-0.1
OK032				IAML		16 28 45.3	
comp=E,495nm,0.2s							
OK032				IAML		16 28 48.7	
comp=E,553nm,0.2s							
KAN13	**South Haven SW**	**0.80**	**5**		Pg	16 28 29.4	-0.1
KAN13				IAML		16 28 46.8	
comp=N,766nm,0.3s							
KAN14	**Manchester OK**	**0.81**	**337**		Pg	16 28 29.4	-0.2
KAN14				IAML		16 28 43.0	
comp=E,438nm,0.3s							
KAN14				IAML		16 28 46.2	
comp=N,424nm,0.2s							
OKCSW	**OKLAHOMA CITY**	**0.81**	**173**	Pg	Pg	16 28 29.8	0.0
OKCSW				IAML		16 28 42.0	
comp=E,657nm,0.2s							
KAN17	**Caldwell West**	**0.84**	**349**		Pg	16 28 30.3	-0.1
KAN17				IAML		16 28 45.4	
comp=E,570nm,0.2s							
KAN09	**Caldwell North**	**0.92**	**357**	Pg	Pg	16 28 31.7	-0.2
KAN05	**Bluff City Nor**	**0.93**	**344**		Pg	16 28 31.8	-0.2
KAN05				Sg	Sg	16 28 43.9	-0.1
KAN05				IAML		16 28 49.7	
comp=N,626nm,0.2s							
DEOK	**Depew**	**0.94**	**113**	Pg	Pg	16 28 31.8	-0.4
DEOK				IAML		16 28 47.7	
comp=E,436nm,0.2s							
KAN01	**Argonia South**	**0.95**	**350**	Pg	Pg	16 28 32.1	-0.3
KAN01				IAML		16 28 45.2	
comp=N,335nm,0.3s							
KAN01				IAML		16 28 45.3	
comp=E,378nm,0.3s							
FNO	**Franklin**	**0.97**	**172**	Pg	Pg	16 28 32.4	-0.3
FNO				IAML		16 28 48.0	
comp=N,285nm,0.3s							
FNO				IAML		16 28 55.6	
comp=E,352nm,0.6s							
OK038	**West end E0370**	**0.99**	**286**		Pg	16 28 32.8	-0.4
OK035	**E0210 Rd and N**	**1.05**	**298**		Pg	16 28 33.7	-0.6
KAN06	**Argonia West S**	**1.06**	**347**		Pg	16 28 34.1	-0.4
KAN06				IAML		16 28 52.7	
comp=E,280nm,0.2s							
KAN06				IAML		16 28 54.1	
comp=N,290nm,0.1s							
KAN08	**Anthony NE Sta**	**1.06**	**342**		Pg	16 28 34.1	-0.4
KAN08				IAML		16 28 51.1	
comp=E,262nm,0.3s							
CSTR	**Hydro, Custer**	**1.08**	**238**	Pg	Pg	16 28 34.4	-0.5
T35A	**Sooner Cattle**	**1.10**	**50**	Pg	Pg	16 28 34.9	-0.3
T35A				IAML		16 28 54.5	
comp=E,372nm,0.2s							
U32A	**Winter Ranch,**	**1.17**	**278**	Pg	Pg	16 28 36.0	-0.7
U32A				IAML		16 28 59.4	
comp=E,194nm,0.1s							
U32A				IAML		16 29 01.9	
comp=N,358nm,0.6s							
NOKA	**Waynoka**	**1.18**	**291**	Pg	Pg	16 28 36.0	-0.9
W35A	**Tecumseh**	**1.20**	**152**	Pg	Pg	16 28 36.2	-1.0
W35A				IAML		16 28 57.6	
comp=N,171nm,0.4s							
W35A				IAML		16 28 57.8	
comp=E,295nm,0.4s							
TUL3	**Leonard**	**1.47**	**101**		Pn	16 28 40.8	-0.6
X34A	**Smith Ranch, M**	**1.63**	**188**		Pn	16 28 43.2	-0.3
WMOK	**Wichita Mounta**	**1.78**	**214**	Pn	Pn	16 28 45.5	-0.2
WMOK				IAmb_Lg		16 29 13.3	
comp=Z,39nm,0.7s							
RLO	**Rose Lookout**	**2.06**	**91**		Pn	16 28 49.5	+0.1
LOOK	**Love County**	**2.24**	**172**		Pn	16 28 51.9	-0.1
LOOK				IAmb_Lg		16 29 28.7	
comp=Z,27nm,0.8s							
R32A	**Long Quarter,**	**2.38**	**338**	Pn	Pn	16 28 51.8	-2.2
X37A	**Clayton**	**2.42**	**132**		Pn	16 28 53.9	-0.4
SMWD	**Samnorwood**	**2.45**	**244**		Pn	16 28 54.2	-0.6
SMWD				IAmb_Lg		16 29 34.3	
comp=Z,26nm,0.8s							
HHAR	**Hobbs**	**2.93**	**88**	Pn	Pn	16 29 01.3	-0.1
KSU1	**Kansas State U**	**2.98**	**14**	IAmb_Lg		16 29 50.9	
comp=Z,16nm,0.9s							
CBKS	**Cedar Bluff**	**3.12**	**327**	Pn	Pn	16 29 03.5	-0.5
APMT	**Aspermont**	**3.57**	**217**	Pn	Pn	16 29 09.5	-0.8
Z38A	**Mt. Pleasant**	**3.63**	**144**	Pn	Pn	16 29 11.1	0.0
Z38A				IAmb_Lg		16 30 17.9	
comp=Z,30nm,0.8s							
MIAR	**Mount Ida**	**3.66**	**116**	Pn	Pn	16 29 11.8	+0.4
MIAR				IAmb_Lg		16 30 19.7	
comp=Z,16nm,0.8s							
S39A	**Bolivar**	**3.70**	**65**	Pn	Pn	16 29 11.2	-0.9
S39A					Pb	16 29 20.6	+0.5
S39A				IAmb_Lg		16 30 17.1	
comp=Z,22nm,0.7s							
ABTX	**Abilene, Hawle**	**3.98**	**206**	IAmb_Lg		16 30 21.4	
comp=Z,15nm,0.9s							
X40A	**Basin Creek Fa**	**4.23**	**113**	IAmb_Lg		16 30 30.0	
comp=Z,19nm,0.8s							
SN05	**Snyder 5**	**4.31**	**220**	IAmb_Lg		16 30 35.2	
comp=Z,22nm,0.9s							
WHAR	**Wooly Hollow**	**4.39**	**101**	IAmb_Lg		16 30 40.7	
comp=Z,16nm,0.7s							
FCAR	**Ozark Folk Cen**	**4.42**	**93**	IAmb_Lg		16 30 37.5	
comp=Z,18nm,0.7s							
P38A	**Dawn**	**4.66**	**42**	IAmb_Lg		16 30 44.4	
comp=Z,20nm,0.8s							
R40A	**Maddies Statio**	**4.70**	**62**	IAmb_Lg		16 30 54.1	
comp=Z,11nm,0.8s							
KSCO	**Kaye Shedlock'**	**4.89**	**306**	IAmb_Lg		16 31 00.7	
comp=Z,14nm,0.8s							
BRDY	**Brady**	**5.06**	**194**	IAmb_Lg		16 31 03.3	
comp=Z,11nm,0.8s							
LCAR	**Lake Charles**	**5.19**	**90**	IAmb_Lg		16 30 57.9	
comp=Z,10.0nm,0.8s							
T42A	**Van Buren**	**5.27**	**79**	IAmb_Lg		16 31 02.0	
comp=Z,15nm,0.8s							
CCM	**Cathedral Cave**	**5.37**	**68**	IAmb_Lg		16 31 09.6	
comp=Z,15nm,0.9s							
435B	**Jarrell**	**5.42**	**180**	IAmb_Lg		16 31 10.8	
comp=Z,17nm,0.7s							
T25A	**Trinidad**	**5.58**	**282**	IAmb_Lg		16 31 21.0	
comp=Z,15nm,0.8s							
PBMO	**Poplar Bluff**	**5.77**	**82**	IAmb_Lg		16 31 18.4	
comp=Z,17nm,0.8s							
FVM	**French Village**	**5.97**	**71**	IAmb_Lg		16 31 23.8	
comp=Z,10nm,0.9s							
OZNA	**Ozona**	**6.06**	**210**	IAmb_Lg		16 31 31.5	
comp=Z,12nm,0.9s							
CGM3	**Cape Girardeau**	**6.44**	**78**	IAmb_Lg		16 31 43.8	
comp=Z,9.8nm,0.8s							
MNHN	**Monahans**	**6.51**	**223**	IAmb_Lg		16 31 55.8	
comp=Z,7.5nm,1.1s							
HNDO	**Hondo**	**6.82**	**193**	IAmb_Lg		16 31 56.8	
comp=Z,12nm,0.8s							
DRIO	**Del Rio**	**7.25**	**202**	IAmb_Lg		16 32 16.3	
comp=Z,7.7nm,0.9s							
SAND	**Sanderson**	**7.32**	**213**	IAmb_Lg		16 32 12.1	
comp=Z,7.4nm,0.8s							
L40A	**Anamosa**	**7.64**	**38**	IAmb_Lg		16 32 22.4	
comp=Z,9.3nm,0.8s							
N23A	**Red Feather La**	**8.06**	**308**	IAmb_Lg		16 32 42.3	
comp=Z,7.4nm,0.8s							
L42A	**Oliver, Polo**	**8.43**	**44**	IAmb_Lg		16 32 53.8	
comp=Z,7.8nm,0.7s							
I40A	**Norwalk**	**9.33**	**33**	IAmb_Lg		16 33 15.3	
comp=Z,5.2nm,0.8s							
K22A	**Casper**	**9.45**	**316**	IAmb_Lg		16 33 39.1	
comp=Z,5.7nm,0.8s							

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*IDC **03** 17:02:01.6±1.3, 67°.14N×21°.43E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=23.8km s-min=8.5km az=106.0*
*UPP **03** 17:02:01.0±0.1, 67°.07N×20°.93E, h0km, ML1.9, Unknown*
*BER **03** 17:02:03.4±1.8, 66°.98N×21°.31E, h0km, ML1.7, Suspected explosion*
ISC 03 17:02:00.5±0.8, 67°.07N±0°.03×20°.92E±0°.03, h0km, n26, σ0°.71/31, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**292**	P	**Pg**	**17 02 04.2**	**+0.9**
MASU	**Masugnsbyn**	**0.58**	**47**	P	**Pg**	**17 02 12.0**	**+0.5**
ERTU	**Ertsjaerv**	**0.72**	**135**	P	**Pg**	**17 02 14.5**	**+0.2**
HARU	**Harads**	**0.91**	**178**	P	**Pg**	**17 02 18.0**	**+0.1**
RATU	**Laukkuluspa**	**0.92**	**327**	P	**Pg**	**17 02 18.0**	**-0.1**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**	**17 02 17.8**	**-0.3**
SALU	**Saltoluokta**	**0.99**	**290**	*eP*	**Pg**	**17 02 19.7**	**+0.3**
SALU				*eS*	**Sb**	**17 02 33.7**	**-0.4**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**17 02 19.6**	**+0.3**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**17 02 20.6**	**-0.3**
KOVU	**Salmi**	**1.20**	**346**	P	**Pg**	**17 02 23.0**	**-0.4**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**17 02 29.2**	**-0.2**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**17 02 30.2**	**+0.3**
HEF	**Hetta**	**1.71**	**37**	*eP*	**Pn**	**17 02 31.4**	**-0.1**
HEF				*eS*	**Sn**	**17 02 53.7**	**-0.3**
KIF	**Kilpisjarvi**	**1.95**	**359**	*eP*	**Pb**	**17 02 36.6**	**-0.1**
KIF				*eS*	**Sg**	**17 03 03.3**	**+0.3**
KTK1	**Kautokeino**	**2.14**	**23**	*eP*	**Pb**	**17 02 39.8**	**-0.4**
KTK1				*eS*	**Sb**	**17 03 07.2**	**+0.1**
KTK1				IAML		17 03 11.1	
comp=Z,8.0nm,0.2s							
I37NO	**I37NO**	**2.19**	**338**	I	I	17 15 40.0	
baz=155,slow=325,SNR=3.3							
FAUS	**Fauske**	**2.21**	**281**	*eP*	**Pb**	**17 02 40.8**	**-0.6**
FAUS				*eS*	**Sg**	**17 03 11.0**	**-0.5**
FAUS				IAML		17 03 14.2	
comp=Z,16nm,0.2s							
STEI	**Steigen**	**2.35**	**294**	*eP*	**Pb**	**17 02 43.2**	**-0.4**
MOR8	**Moi Rana**	**2.73**	**254**	*eP*	**Pn**	**17 02 46.1**	**+0.5**
MOR8				*eS*	**Sb**	**17 03 22.4**	**-1.9**
MOR8				IAML		17 03 30.0	
comp=Z,5.8nm,0.2s							
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**17 02 49.8**	**+0.5**
comp=Z,0.2nm,0.3s,baz=210,slow=14,SNR=24							
ARCES				Lg	Lg	17 03 28.9	
comp=Z,0.6nm,0.3s,baz=214,slow=26,SNR=11							
comp=Z,0.6nm,0.2s							
KONS	**Konsvik**	**3.14**	**263**	IAML		17 03 46.2	
comp=Z,4.6nm,0.6s							
STOK	**Stokkvaagen**	**3.22**	**260**	*eP*	**Pn**	**17 02 54.1**	**+1.8**
KEV	**Kevo**	**3.52**	**37**	*eP*	**Pn**	**17 02 56.8**	**+0.5**
VADS	**Vadso**	**4.36**	**41**	*eP*	**Pn**	**17 03 08.9**	**+1.1**
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**17 03 32.9**	**+1.5**
comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=6.4							
FINES				Sn	**Sn**	**17 04 41.3**	**-0.2**
comp=Z,0.2nm,0.3s,baz=338,slow=25,SNR=2.5							
comp=Z,0.6nm,0.7s							
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**17 03 53.6**	**+0.4**
comp=Z,0.1nm,0.3s,baz=25,slow=15,SNR=1.5							
comp=Z,0.4nm,0.4s							

IDC 03 17:04:24.5±8.0, 31°.33S×179°.59W, h450km±98km, mb2.5/2, mbtmp3.5/3, Error ellipse: s-maj=99.4km s-min=41.2km az=8.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.43**	**200**	P	P	17 06 11.9	-1.7
2.5nm,0.3s,baz=26,slow=4.2,SNR=24							
URZ				S	S	17 07 45.1	+2.0
7.6nm,0.5s,baz=345,slow=20,SNR=12							
ASAR	**Alice Springs**	**41.70**	**269**	P	P	17 11 33.0	+0.3
0.3nm,0.8s,baz=103,slow=6.8,SNR=4.6							
0.3nm,0.8s							
WRA	**Warramunga Arr**	**42.78**	**274**	P	P	17 11 40.8	-0.4
0.3nm,0.4s,baz=112,slow=7.8,SNR=11							
0.3nm,0.4s							
FINES	**FINESS Array B**	**145.52**	**338**	PKPbc	PKPdf	17 23 10.2	+0.5
1.2nm,0.6s,baz=54,slow=4.3,SNR=11							

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*IDC **03** 17:18:07.7±2.4, 22°.17N×13°.38W, h0km, mb3.8/5, mbtmp3.8/7, ML3.8/2, Error ellipse: s-maj=77.0km s-min=28.5km az=81.0*
ISC 03 17:18:12.7±1.9, 22°.3N±0°.2×12°.7W±0°.4, h10km, n10, σ0°.94/11, mb3.8/5, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.47**	**121**	Pn	**Pn**	**17 22 03.9**	**-0.1**
0.4nm,0.3s,baz=313,slow=11,SNR=14							
0.7nm,0.4s							
DBIC	**Dimbokro**	**17.31**	**153**	P	**Pn**	**17 22 13.8**	**-0.7**
0.2nm,0.3s,baz=317,slow=18,SNR=1.6							
2.9nm,0.8s							
I42PT	**GRACIOSA ISLAN**	**21.18**	**325**	I	I	19 24 00.0	
baz=140,slow=325,SNR=2.1							
HFS	**Hagfors**	**42.10**	**19**	P	**P**	**17 26 03.6**	**-1.1**
0.9nm,0.5s,baz=218,slow=9.1,SNR=5.8							
0.9nm,0.5s							
BRTR	**Keskin Array B**	**42.85**	**55**	P	**P**	**17 26 12.0**	**+0.7**
0.3nm,0.5s,baz=262,slow=7.2,SNR=2.2							
0.3nm,0.5s							
FINES	**FINESS Array B**	**47.32**	**24**	P	**P**	**17 26 44.9**	**-1.4**
0.7nm,0.6s,baz=233,slow=6.6,SNR=5.2							
0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**73.85**	**42**	P	**P**	**17 29 48.4**	**+0.8**
0.7nm,0.6s,baz=284,slow=6.1,SNR=6.0							
0.7nm,0.6s							
MKAR	**Makanchi Array**	**77.36**	**45**	P	**P**	**17 30 08.2**	**+0.3**
0.4nm,0.5s,baz=287,slow=5.4,SNR=8.0							
0.4nm,0.5s							
WRA	**Warramunga Arr**	**149.22**	**92**	PKPbc	**PKPdf**	**17 37 58.8**	**+0.8**
0.1nm,0.3s,baz=318,slow=2.8,SNR=4.6							
WRA				PKPab	**pPKPbc**	**17 38 06.0**	**+0.2**
0.4nm,0.6s,baz=287,slow=2.9,SNR=2.5							
ASAR	**Alice Springs**	**149.28**	**99**	PKPbc	**PKPdf**	**17 37 59.2**	**+1.1**
0.2nm,0.4s,baz=315,slow=0.3,SNR=5.7							
ASAR				PKPab	**PKPab**	**17 38 06.7**	**-0.3**
0.5nm,0.6s,baz=286,slow=2.1,SNR=9.4							

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*JSN **03** 17:26:06.2±0.3, 18°.20N×76°.78W, h18km±7km, MD2.4*
*SSNC **03** 17:26:07.2±1.7, 18°.35N×76°.78W, h18km±14km, MD2.7, ML2.0*
ISC 03 17:26:02.4±1.2, 18°.42N±0°.03×76°.77W±0°.06, h7km±12km, n11, σ0°.77/20, 2C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.35**	**186**	↑*i*P	**Pg**	**17 26 10.0**	**+0.8**
STH				*i* S	**Sg**	**17 26 12.8**	**-0.9**
GWJ	**Greenwich**	**0.35**	**173**	↑*i*P	**Pb**	**17 26 10.2**	**-0.9**
HOJ	**Hope**	**0.42**	**177**	*i* P	**Pg**	**17 26 10.8**	**+0.3**
MTDJ	**Mount Denham**	**0.75**	**255**	*eP*	**Pn**	**17 26 19.6**	**+0.1**
MTDJ				*eS*	**Sb**	**17 26 29.0**	**+0.7**
CHIV	**Chivirico**	**1.58**	**12**	*eP*	**Pg**	**17 26 33.6**	**+0.8**
CHIV				*eS*	**Sn**	**17 26 51.6**	**0.0**
LMGC	**Las Mercedes**	**1.65**	**352**	*eP*	**Pg**	**17 26 34.3**	**+0.3**
LMGC				*eS*	**Sb**	**17 26 54.1**	**+0.1**
LMGC				IAML		17 26 56.7	
comp=N,64nm,0.1s							
LMGC				IAML		17 26 56.8	
comp=E,58nm,0.1s							
MARVS	**Santiago de Cu**	**1.77**	**28**	*eP*	**Pb**	**17 26 34.8**	**-0.5**
MARVS				*eS*	**Sn**	**17 26 55.2**	**-1.0**
RCC	**Rio Carpintero**	**1.86**	**33**	*eP*	**Pg**	**17 26 37.8**	**-0.4**
RCC				*eS*	**Sb**	**17 26 59.8**	**-0.5**
RCC				*e*Sg	**Sg**	**17 27 02.5**	**+0.1**
RCC				IAML		17 27 03.3	
comp=N,12nm,0.1s							
RCC				IAML		17 27 03.5	
comp=E,8.9nm,0.1s							
YAR	**Yar**	**1.98**	**11**	*eP*	**Pg**	**17 26 39.8**	**-0.6**
YAR				*eS*	**Sb**	**17 27 03.9**	**+0.4**
YAR				IAML		17 27 05.9	
comp=N,3.6nm,0.1s							
YAR				IAML		17 27 05.9	
comp=E,2.7nm,0.1s							
PINC	**Pinares de May**	**2.25**	**24**	*eP*	**Pb**	**17 26 42.7**	**-0.7**
PINC				*eS*	**Sn**	**17 27 08.0**	**-0.2**
QMBU	**Quimbuelo**	**2.56**	**46**	*eP*	**Pn**	**17 26 46.1**	**+1.8**

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*IDC **03** 17:40:53.1±2.3, 10°.09S×118°.71E, h0km, mb3.5/1, mbtmp3.4/4, ML3.3/3, MS3.5/3, Error ellipse: s-maj=76.5km s-min=27.2km az=59.0*
*DJA **03** 17:41:01.0±0.4, 10°.5±5°.×11°.9E±°, h51km±28km, M3.9/13, mb4.0/3, MLv3.8/13*
ISC 03 17:40:59.6±1.0, 9°.92S±0°.09×119°.03E±0°.05, h33km, n16, σ1°.38/17, MS3.7/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.55**	**101**	P	**Pn**	**17 41 26.4**	**+1.5**
PLAI	**Plampang**	**1.65**	**311**	P	**Pn**	**17 41 26.6**	**+0.4**
PLAI				S	**Sn**	**17 41 47.1**	**+0.8**
TWSI	**Taliwang, Sumb**	**2.42**	**299**	P	**Pn**	**17 41 38.5**	**+1.6**
TWSI				S	**Sn**	**17 42 07.0**	**+1.5**
EDFI	**Ende, Flores**	**2.87**	**66**	P	**Pn**	**17 41 44.6**	**+1.5**
MMRI	**Maumere**	**3.41**	**68**	P	**Pn**	**17 41 51.3**	**+0.8**
MMRI				S	**Sn**	**17 42 30.1**	**+0.3**
SRBI	**Singaraja**	**4.19**	**295**	P	**Pn**	**17 42 02.0**	**+0.8**
BATI	**Baumata**	**4.57**	**94**	P	**Pn**	**17 42 08.5**	**+2.0**
KAPI	**Kappang**	**4.92**	**8**	Pn	**Pn**	**17 42 12.8**	**+1.5**
1.8nm,0.3s,baz=195,slow=4.8,SNR=10							
KAPI				Sn	**Sn**	**17 43 06.5**	**-0.7**
4.5nm,0.3s,baz=148,slow=21,SNR=7.8							
4.8nm,0.3s							
JAGI	**Jajag, Banyuwa**	**5.03**	**286**	P	**Pn**	**17 42 12.5**	**-0.2**
29nm,0.8s,0.2nm							
PWJI	**Pagerwojo**	**7.38**	**284**	P	**Pn**	**17 42 46.6**	**+1.5**
WRA	**Warramunga Arr**	**17.82**	**126**	P	**Pn**	**17 45 03.4**	**-1.7**
0.1nm,0.3s,baz=297,slow=13,SNR=2.2							
WRA				S	Sn	17 48 10.1	-13
0.7nm,0.9s,baz=292,slow=25,SNR=1.5							
0.7nm,1.1s							
ASAR	**Alice Springs**	**19.71**	**136**	P	**P**	**17 45 26.4**	**0.0**
0.1nm,0.3s,baz=319,slow=11,SNR=11							
0.7nm,0.8s							
KSRS	**Korea Array**	**47.85**	**10**	LR	LR	18 10 41.3	
comp=Z,24nm,19.0s,baz=240,slow=37							
USRK	**Ussuriysk Ar.**	**55.13**	**11**	LR	LR	18 13 34.3	
comp=Z,78nm,

n351,σ1$23/346,mb4.3/91,MS3.5/17,8C,Andreanof Islands

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.71**	**331**	P	**Pn**	**18 17 28.9**	**-0.6**
ATKA	**Atka Island**	**0.71**	**331**		**Pn**	**18 17 29.1**	**-0.5**
ATKA				Sn	**Sn**	**18 17 38.3**	**-0.9**
ATKA				IAML		18 17 39.2	
	comp=N,4μm,0.7s						
KOFP	**Korovin Flat P**	**0.75**	**338**		**Pn**	**18 17 30.4**	**+0.3**
KOSE	**Korovin Southe**	**0.81**	**342**		**Pn**	**18 17 31.4**	**+0.6**
KOKL	**Mount Kliuchef**	**0.82**	**335**		**Pn**	**18 17 31.3**	**+0.3**
KOKL					**Sn**	**18 17 41.4**	**-0.7**
KONE	**Korovin Northe**	**0.87**	**340**		**Pn**	**18 17 32.1**	**+0.5**
GSMY	**Great Sitkin M**	**1.57**	**288**		**Pn**	**18 17 40.6**	**-0.7**
GSTR	**Great Sitkin T**	**1.59**	**290**		**Pn**	**18 17 40.5**	**-1.0**
GSCK	**Great Sitkin C**	**1.63**	**286**		**Sn**	**18 18 01.2**	**-0.5**
GSTD	**Great Sitkin T**	**1.63**	**288**		**Pn**	**18 17 42.0**	**-0.1**
GSTD					**Sn**	**18 18 02.9**	**+1.0**
ADK	**Adak**	**1.92**	**280**	P	**Pn**	**18 17 45.6**	**-0.4**
ADK	**Adak**	**1.92**	**280**		**Pn**	**18 17 44.7**	**-1.3**
ADK				Sn	**Sn**	**18 18 08.6**	**-0.3**
ADK				IAML		18 18 18.4	
	comp=N,3μm,0.7s						
ADK				IAML		18 18 19.2	
	comp=N,3μm,0.6s						
ADK	**Adak**	**1.92**	**280**	P	**Pn**	**18 17 44.7**	**-1.3**
ADK						18 18 08.6	
KIRH	**Kanaga Island**	**2.17**	**280**		**Pn**	**18 17 49.7**	**+0.2**
KINC	**Kanaga Island**	**2.20**	**281**		**Pn**	**18 17 50.6**	**+0.7**
KIWB	**Kanaga Island**	**2.20**	**278**		**Pn**	**18 17 49.6**	**-0.3**
KIKV	**Kanaga Island**	**2.22**	**279**		**Pn**	**18 17 50.1**	**0.0**
KIKV					**Sn**	**18 18 16.4**	**+0.1**
KICM	**Kanaga Island**	**2.24**	**280**		**Pn**	**18 17 50.4**	**0.0**
CLES	**Cleveland East**	**2.62**	**60**		**Pn**	**18 17 57.1**	**+1.5**
CLES				IAML		18 18 43.7	
	comp=E,1μm,0.9s						
CLCO	**Concord Point,**	**2.69**	**62**		**Pn**	**18 17 58.6**	**+1.9**
CLCO					**Sn**	**18 18 28.4**	**+0.3**
CLCO					LR	18 18 31.5	
TAFP	**Tanaga Falls P**	**2.72**	**278**		**Pn**	**18 17 57.9**	**+0.8**
TAFP					**Sn**	**18 18 28.6**	**-0.1**
TAFP					LR	18 18 30.9	
TASE	**Tanaga Southea**	**2.75**	**277**		**Pn**	**18 17 58.2**	**+0.7**
TANO	**Tanaga North**	**2.81**	**279**		**Pn**	**18 17 59.1**	**+0.8**
GAEA	**Gareloi East**	**3.19**	**276**		**Pn**	**18 18 04.4**	**+0.9**
GANE	**Gareloi Northe**	**3.21**	**276**		**Pn**	**18 18 05.0**	**+1.2**
GANO	**Gareloi North**	**3.22**	**276**		**Pn**	**18 18 05.1**	**+1.1**
NIKH	**Nikolski High**	**3.25**	**63**	P	**Pn**	**18 18 07.1**	**+2.8**
NIKH	**Nikolski High**	**3.25**	**63**		**Pn**	**18 18 04.8**	**+0.5**
CEPE	**Semis' Perret**	**4.19**	**278**		**Pn**	**18 18 18.4**	**+1.2**
CESW	**Semis' Southwe**	**4.24**	**277**		**Pn**	**18 18 18.9**	**+1.0**
AMKA	**Amchitka**	**4.42**	**270**		**Pn**	**18 18 20.0**	**-0.3**
MSW	**Makushin Switc**	**4.78**	**58**		**Pn**	**18 18 27.0**	**+1.7**
LSNW	**Little Sitkin**	**4.89**	**278**		**Pn**	**18 18 28.1**	**+1.3**
UNV	**Unalaska Valle**	**4.89**	**60**		**Sn**	**18 19 24.8**	**+2.7**
P08K	**Saint George I**	**5.58**	**24**		**Sn**	**18 19 39.2**	**+0.3**
SPIA	**Saint Paul Isl**	**5.95**	**18**	P	Pn	18 18 45.8	+4.5
	comp=E,217nm,1.7s						
SHEM	**Shemya Is, Ala**	**7.63**	**283**	Pn	**Pn**	**18 19 04.2**	**-0.3**
	comp=E,2.2nm,0.3s,baz=303,slow=21,SNR=2.3						
	comp=E,36nm,0.7s						
S12K	**Black Hills**	**8.02**	**54**	Pn	**Pn**	**18 19 11.3**	**+1.5**
CNBA	**Chernabura Isl**	**9.03**	**63**	Pn	**Pn**	**18 19 23.3**	**-0.3**
CHGN	**Chignik**	**10.14**	**56**	Pn	**Pn**	**18 19 38.6**	**0.0**
O14K	**Tigyukauivet M**	**10.40**	**38**	Pn	**Pn**	**18 19 45.0**	**+2.6**
M13K	**Dall Lake**	**10.55**	**29**	Pn	**Pn**	**18 19 43.4**	**-0.9**
M14K	**Bethel**	**11.24**	**31**	Pn	**Pn**	**18 19 54.3**	**+0.6**
N15K	**Kwethluk River**	**11.46**	**36**		**Pn**	**18 19 57.5**	**+0.6**
K13K	**Kusilvak Mount**	**11.47**	**22**		**Pn**	**18 19 58.3**	**+1.3**
CHIR	**Chirikof Islan**	**11.48**	**61**	Pn	**Pn**	**18 19 55.6**	**-1.5**
L14K	**Kuka Creek**	**11.49**	**27**	Pn	**Pn**	**18 19 57.5**	**+0.4**
O16K	**Kokwok River B**	**11.88**	**41**	Pn	**Pn**	**18 20 03.7**	**+1.2**
ANCK	**Angle Creek**	**12.35**	**50**	Pn	**Pn**	**18 20 08.4**	**-0.5**
J14K	**Nanvaranak Lak**	**12.44**	**22**	Pn	**Pn**	**18 20 10.8**	**+0.6**
SII	**Sitkinak Islan**	**12.45**	**59**	P	P	18 20 15.3	-6.3
SII	**Sitkinak Islan**	**12.45**	**59**	Pn	**Pn**	**18 20 10.7**	**+0.4**
M16K	**Timber Creek**	**12.45**	**35**		**Pn**	**18 20 10.5**	**+0.1**
K15K	**Wolf Creek Mou**	**12.58**	**27**	Pn	**Pn**	**18 20 11.6**	**-0.5**
L16K	**Owhat River**	**12.76**	**32**	Pn	**Pn**	**18 20 13.6**	**-1.0**
N17K	**Nushagak Hills**	**12.80**	**39**	Pn	**Pn**	**18 20 13.4**	**-1.7**
P18K	**Big Mountain,**	**13.01**	**46**	Pn	**Pn**	**18 20 15.9**	**-2.0**
OHAK	**Old Harbor**	**13.11**	**57**	P	P	18 20 23.1	-5.7
OHAK	**Old Harbor**	**13.11**	**57**		**Pn**	**18 20 16.9**	**-2.3**
O18K	**Koktuh Hills**	**13.25**	**44**	Pn	**Pn**	**18 20 19.6**	**-1.6**
M17K	**Holitna River**	**13.26**	**36**	Pn	**Pn**	**18 20 19.6**	**-1.7**
N18K	**Kilae Creek**	**13.41**	**40**	Pn	**Pn**	**18 20 21.5**	**-1.9**
Q19K	**Cape Douglas,**	**13.53**	**49**	Pn	**Pn**	**18 20 23.1**	**-2.0**
J16K	**Anvik River**	**13.63**	**26**	Pn	**Pn**	**18 20 25.5**	**-0.9**
KDAK	**Kodiak Island**	**13.64**	**55**	Pn	**Pn**	**18 20 25.0**	**-1.5**
KDAK	**Kodiak Island**	**13.64**	**55**	Pn	**Pn**	**18 20 26.9**	**+0.4**
	comp=E,1.0nm,0.3s,baz=239,slow=7.5,SNR=6.9						
	comp=E,2.3nm,0.3s						
KDAK	**Kodiak Island**	**13.64**	**55**	*i* P	**Pn**	**18 20 24.6**	**-1.9**
K17K	**Iditarod**	**13.87**	**31**		P	18 20 32.2	-5.2
SYI	**Shuyak Island**	**14.01**	**52**	Pn	**Pn**	**18 20 30.2**	**-1.4**
P19K	**Oil Pt**	**14.03**	**47**	Pn	**Pn**	**18 20 31.8**	**-0.2**
N19K	**Bonanza Creek**	**14.06**	**41**		**Pn**	**18 20 30.1**	**-2.2**
L18K	**Granite Mounta**	**14.06**	**34**		**Pn**	**18 20 30.3**	**-2.0**
J17K	**VABM Dome**	**14.15**	**28**		**Pn**	**18 20 31.1**	**-2.3**
TNA	**Tin City**	**14.32**	**10**	Pn	**Pn**	**18 20 37.0**	**+1.2**
L19K	**White Mountain**	**14.70**	**37**	Pn	**Pn**	**18 20 38.9**	**-2.1**
M19K	**Big River Lodg**	**14.71**	**38**		**Pn**	**18 20 39.3**	**-1.8**
F15K	**North Star Dit**	**14.89**	**15**		**Pn**	**18 20 43.4**	**-0.1**
CNPM	**China Poot**	**14.90**	**49**		**Pn**	**18 20 42.2**	**-1.5**
J18K	**Innoko River**	**14.91**	**31**		**Pn**	**18 20 43.9**	**+0.1**
G16K	**Koyuk River**	**15.02**	**18**	Pn	**Pn**	**18 20 45.1**	**0.0**
H17K	**Granite Mounta**	**15.16**	**23**	Pn	**Pn**	**18 20 44.8**	**-2.2**
BRLK	**Bradley Lake**	**15.16**	**48**	Pn	**Pn**	**18 20 45.7**	**-1.4**
BRLK				IAmb	IAmb	18 20 56.1	
	comp=Z,7.7nm,0.7s						
J19K	**Poorman**	**15.63**	**30**		**Pn**	**18 20 52.0**	**-1.2**
J19K				IAmb	IAmb	18 21 00.4	
	comp=Z,15nm,0.9s						
H18K	**Honhosa River**	**15.72**	**24**		**Pn**	**18 20 54.4**	**+0.1**
K20K	**Telida**	**15.72**	**34**		**Pn**	**18 20 52.3**	**-2.0**
SKT	**Skwentna**	**15.88**	**40**		**Pn**	**18 20 54.2**	**-2.2**
SUA	**Susitna One**	**15.95**	**43**	Pn	**Pn**	**18 20 55.6**	**-1.8**
SEW	**Seward**	**15.96**	**48**	Pn	**Pn**	**18 20 55.5**	**-1.8**
O22K	**Cooper Landing**	**15.98**	**47**		**Pn**	**18 20 55.2**	**-2.3**
F17K	**Baldwin Pennin**	**16.16**	**18**	Pn	**Pn**	**18 20 58.4**	**-1.4**
F17K				IAmb	IAmb	18 21 19.4	
	comp=Z,24nm,1.1s						
J20K	**Nowinta River**	**16.23**	**32**		**Pn**	**18 21 00.6**	**-0.2**
G18K	**Tagagawik**	**16.25**	**22**	Pn	**P**	**18 21 01.4**	**-2.3**
CAST	**Castle Rocks**	**16.47**	**36**	P	**P**	**18 21 04.4**	**-1.7**
G19K	**Purcell Mounta**	**16.83**	**24**	P	**P**	**18 21 08.5**	**-1.6**
GHO	**Glory Hole Cre**	**16.87**	**43**		**P**	**18 21 09.2**	**-1.5**
KTH	**Kantishna Hill**	**16.97**	**36**	P	**P**	**18 21 12.1**	**+0.3**
KTH				IAmb	IAmb	18 21 13.8	
	comp=Z,11nm,1.0s						
PET	**Petropavlovsk**	**16.97**	**286**		**P**	**18 21 12.1**	**+0.4**
PET				IAmb	IAmb	18 21 24.6	
	comp=Z,30nm,1.3s						
PET	**Petropavlovsk**	**16.97**	**286**	*i* P	**P**	**18 21 12.6**	**+0.9**
PET				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SML	**Sawmill**	**17.14**	**44**		**P**	**18 21 12.0**	**-1.6**
E18K	**Tukpahlearik C**	**17.14**	**17**		**P**	**18 21 13.1**	**-0.4**
C16K	**Lisburne Hills**	**17.23**	**10**		**P**	**18 21 14.4**	**0.0**
C16K				IAmb	IAmb	18 21 54.6	
	comp=Z,34nm,1.2s						
BPAW	**Bear Paw Mtn.**	**17.26**	**35**	P	**Pn**	**18 21 13.0**	**-0.8**
GLI	**Glacier Island**	**17.33**	**47**	Pn	**Pn**	**18 21 12.1**	**-2.5**
HIN	**Hinchinbrook I**	**17.44**	**49**	Pn	**Pn**	**18 21 14.2**	**-1.8**
HIN				IAmb	IAmb	18 21 31.8	
	comp=Z,22nm,1.2s						
PEA0B	**Petropavlovsk-**	**17.53**	**286**	P	**P**	**18 21 18.4**	**+0.4**
PEA0B				IAmb	IAmb	18 21 40.0	
	comp=Z,11nm,0.9s						
PEA0B	**Petropavlovsk-**	**17.53**	**286**	*i* P	**P**	**18 21 19.6**	**+1.6**
PETK	**Petropavlovsk-**	**17.53**	**286**	P	**Pn**	**18 21 17.6**	**+0.5**
PETK	**Petropavlovsk-**	**17.53**	**286**	P	**Pn**	**18 21 16.6**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=88,slow=14,SNR=12						
	comp=Z,2.7nm,0.6s						
PETK	**Petropavlovsk-**	**17.53**	**286**	P	**Pn**	**18 21 17.7**	**+0.5**
FID	**Port Fidalgo**	**17.57**	**48**	Pn	**Pn**	**18 21 15.1**	**-2.5**
SCM	**Sheep Creek Mo**	**17.58**	**44**	P	**P**	**18 21 17.1**	**-1.5**
SCM				IAmb	IAmb	18 21 38.8	
	comp=Z,13nm,1.0s						
SCM	**Sheep Creek Mo**	**17.58**	**44**	P	**P**	**18 21 17.1**	**-1.5**
SCM				pmax	pmax		
	comp=Z,13nm,1.0s						
IMAR	**Indian Mountai**	**17.61**	**27**		**Pn**	**18 21 16.9**	**-1.1**
H21K	**Melozitna Rive**	**17.66**	**29**	P	**Pn**	**18 21 16.9**	**-1.8**
RND	**Reindeer**	**17.68**	**38**	P	**Pn**	**18 21 17.8**	**-1.2**
RND	**Reindeer**	**17.68**	**38**	P	**Pn**	**18 21 17.8**	**-1.2**
RND				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MCK	**McKinley**	**17.81**	**37**		**Pn**	**18 21 18.8**	**-1.8**
MCK	**McKinley**	**17.81**	**37**	P	**Pn**	**18 21 18.8**	**-1.8**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BWN	**Browne**	**17.85**	**36**	P	**P**	**18 21 20.0**	**-1.4**
BWN				IAmb	IAmb	18 21 31.8	
	comp=Z,17nm,1.0s						
E19K	**Redstone River**	**17.86**	**21**	P	**P**	**18 21 21.2**	**-0.2**
F20K	**Avaraart Lake**	**17.88**	**23**	P	**P**	**18 21 21.7**	**0.0**
MLY	**Manley**	**17.91**	**32**	P	**Pn**	**18 21 20.3**	**-1.5**
MLY				IAmb	IAmb	18 21 27.1	
	comp=Z,13nm,1.1s						
KLU	**Klutina**	**18.07**	**46**	P	**P**	**18 21 22.9**	**-1.1**
DHY	**Denali Highway**	**18.10**	**40**	P	**Pn**	**18 21 22.5**	**-1.7**
NEA2	**Nenana**	**18.23**	**35**	P	**Pn**	**18 21 23.9**	**-1.8**
KAIM	**Kayak Island**	**18.31**	**51**		**Pn**	**18 21 26.7**	**+0.1**
KAIM				IAmb	IAmb	18 21 32.1	
	comp=Z,23nm,0.8s						
I23K	**Minto, Yukon-K**	**18.45**	**33**	P	**Pn**	**18 21 27.5**	**-0.8**
I23K				IAmb	IAmb	18 21 36.3	
	comp=Z,18nm,1.2s						
WRH	**Wood River Hil**	**18.52**	**36**	P	**P**	**18 21 27.3**	**-1.4**
D19K	**Kuna River**	**18.55**	**18**	P	**Pn**	**18 21 30.4**	**+0.9**
D19K				IAmb	IAmb	18 21 38.0	
	comp=Z,11nm,0.8s						
F21K	**Alatna River**	**18.58**	**25**		**Pn**	**18 21 31.1**	**+1.1**
CCB	**Clear Creek Bu**	**18.72**	**36**	P	**P**	**18 21 29.7**	**-1.1**
MDM	**Murphy Dome**	**18.73**	**35**	P	**P**	**18 21 30.0**	**-1.1**
H23K	**Yukon River**	**18.79**	**31**	P	**Pn**	**18 21 31.0**	**-1.5**
H23K				IAmb	IAmb	18 21 51.8	
	comp=Z,14nm,1.5s						
COLA	**College**	**18.82**	**35**	*i* P	**Pn**	**18 21 31.2**	**-1.6**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HDA	**Harding Lake**	**18.91**	**37**	P	**Pn**	**18 21 32.6**	**-1.3**
HDA				IAmb	IAmb	18 21 35.0	
	comp=Z,13nm,0.7s						
IL31		**19.12**	**36**		**P**	**18 21 34.1**	**-1.2**
ILAR	**Eielson Array**	**19.12**	**36**		**P**	**18 21 34.1**	**-1.1**
ILAR	**Eielson Array**	**19.12**	**36**	P	**P**	**18 21 33.5**	**-1.8**
	comp=Z,1.2nm,0.3s,baz=234,slow=9.4,SNR=66						
	comp=Z,3.5nm,0.6s						
ILAR	**Eielson Array**	**19.12**	**36**	P	**P**	**18 21 34.2**	**-1.1**
BILL	**Bilibino**	**19.18**	**337**	P	**P**	**18 21 35.4**	**-0.5**
BILL				IAmb	IAmb	18 21 41.8	
	comp=Z,14nm,1.1s						
BILL	**Bilibino**	**19.18**	**337⇑**	*eP*	**Pn**	**18 21 37.6**	**+0.5**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,103nm,17.0s						
WAX	**Waxell Ridge**	**19.20**	**50**	P	**Pn**	**18 21 35.7**	**-1.7**
WAX				IAmb	IAmb	18 21 41.6	
	comp=Z,12nm,0.8s						
G23K	**Bananza Creek**	**19.20**	**29**		**Pn**	**18 21 36.1**	**-1.3**
G23K				IAmb	IAmb	18 21 42.5	
	comp=Z,10nm,1.1s						
H24K	**Noodor Dome**	**19.35**	**33**		**Pn**	**18 21 37.4**	**-1.8**
H24K				IAmb	IAmb	18 21 40.8	
	comp=Z,10nm,0.8s						
E21K	**Killik River**	**19.39**	**22**	P	**Pn**	**18 21 38.0**	**-1.6**
E21K				IAmb	IAmb	18 21 54.3	
	comp=Z,17nm,1.4s						
J25K	**Salcha River,**	**19.61**	**37**		**P**	**18 21 39.6**	**-1.1**
J25K				IAmb	IAmb	18 21 41.2	
	comp=Z,24nm,0.8s						
M26K	**Nabesna, AK**	**19.69**	**45**	P	**P**	**18 21 40.9**	**-0.7**
GRNC	**Granite Creek**	**19.79**	**50**	P	**P**	**18 21 42.4**	**-0.5**
GRNC				IAmb	IAmb	18 21 48.1	
	comp=Z,8.3nm,0.6s						
SCRK	**Sand Creek**	**19.86**	**40**		**P**	**18 21 42.1**	**-1.5**
SCRK				IAmb	IAmb	18 21 44.5	
	comp=Z,11nm,0.5s						
CTGM	**Chitina Glacie**	**20.04**	**50**	P	**Pn**	**18 21 45.5**	**-2.0**
CTGM				IAmb	IAmb	18 21 52.2	
	comp=Z,11nm,1.1s						
M27K	**Edge Creek, AK**	**20.17**	**45**	P	Pn	18 21 47.9	-1.1
LOGN	**Logan Glacier**	**20.17**	**50**	P	**P**	**18 21 46.5**	**-0.4**
LOGN				IAmb	IAmb	18 21 52.2	
	comp=Z,16nm,1.1s						
B21K	**Ikpikpuk River**	**20.19**	**19**	P	Pn	18 21 47.5	-1.4
B21K				IAmb	IAmb	18 21 52.8	
	comp=Z,8.8nm,0.6s						
J26L	**Joseph Creek**	**20.25**	**39**	P	**P**	**18 21 47.1**	**-0.7**
J26L				IAmb	IAmb	18 21 48.3	
	comp=Z,22nm,0.9s						
F24K	**Squaw Lake**	**20.37**	**29**	P	**P**	**18 21 47.4**	**-1.6**
L27K	**Beaver Creek,**	**20.41**	**43**	P	**P**	**18 21 48.5**	**-1.0**
BCAR	**Beaver Creek A**	**20.43**	**43**		**P**	**18 21 48.2**	**-1.5**
E24K	**Your Creek**	**20.55**	**27**	P	**P**	**18 21 49.3**	**-1.6**
E24K				IAmb	IAmb	18 22 03.1	
	comp=Z,5.9nm,0.9s						
TOLK	**Toolik Lake Re**	**20.64**	**25**	P	**P**	**18 21 49.6**	**-2.2**
TOLK				IAmb	IAmb	18 22 11.3	
	comp=Z,8.7nm,0.8s						
I26K	**Coal Creek Min**	**20.77**	**37**	P	**P**	**18 21 51.2**	**-2.0**
I26K				IAmb	IAmb	18 21 57.8	
	comp=Z,14nm,0.8s						
B22K	**Teshekpuk Lake**	**21.01**	**19**	P	**P**	**18 21 53.9**	**-1.9**
B22K				IAmb	IAmb	18 22 01.2	
	comp=Z,8.2nm,0.8s						
C23K	**Itkillik River**	**21.24**	**22**	P	**P**	**18 21 57.9**	**-0.3**
C23K				IAmb	IAmb	18 22 14.2	
	comp=Z,21nm,1.1s						
EGAK	**Eagle**	**21.31**	**39**	P	**P**	**18 21 58.5**	**-0.5**
SEY	**Seymchan**	**21.32**	**315**	P	**P**	**18 21 57.5**	**-1.6**
	comp=Z,1.4nm,0.9s,baz=146,slow=20,SNR=2.0						
	comp=Z,1.4nm,0.9s						
SEY	**Seymchan**	**21.32**	**315**	*eP*	**P**	**18 22 00.8**	**+1.7**
SEY				pmax	pmax		
	comp=Z,11nm,1.3s						
BMAR	**Burnt Mountain**	**21.34**	**31**	P	**P**	**18 21 58.7**	**-0.7**
E25K	**Arctic Village**	**21.43**	**29**	P	**P**	**18 21 59.5**	**-0.9**
E25K				IAmb	IAmb	18 22 20.7	
	comp=Z,10nm,1.4s						
M29M	**Somme Creek**	**21.72**	**46**		**P**	**18 22 02.6**	**-1.0**
DAWY	**Dawson**	**21.77**	**42**	P	**P**	**18 22 02.7**	**-1.4**
DAWY				IAmb	IAmb	18 22 11.0	
	comp=Z,4.2nm,0.7s						
D25K	**Kavik River**	**21.95**	**26**	P	**P**	**18 22 05.2**	**-0.8**
G27K	**Doyon Strip**	**22.00**	**34**	P	**P**	**18 22 04.2**	**-2.3**
L29M	**L29M**	**22.04**	**45**		**P**	**18 22 06.4**	**-0.5**
I28M	**Miner Creek**	**22.05**	**38**	P	**P**	**18 22 05.4**	**-1.7**
I28M				IAmb	IAmb	18 22 09.5	
	comp=Z,8.0nm,0.9s						
N30M	**Aishikik Lake**	**22.16**	**49**	P	**P**	**18 22 06.1**	**-2.1**
K29M	**Barlow Dome**	**22.50**	**43**	P	**P**	**18 22 10.7**	**-1.2**
K29M				IAmb	IAmb	18 22 13.9	
	comp=Z,5.4nm,0.9s						
I29M	**Ogilvie Camp,**	**22.65**	**39**	P	**P**	**18 22 11.8**	**-1.6**
I29M				IAmb	IAmb	18 22 15.4	
	comp=Z,14nm,1.1s						
E27K	**Coleen River**	**22.71**	**31**	P	**P**	**18 22 12.4**	**-1.6**
E27K				IAmb	IAmb	18 22 17.0	
	comp=Z,5.9nm,0.9s						
H29M	**Whitestone**	**22.94**	**37**	P	**P**	**18 22 14.9**	**-1.5**
H29M				IAmb	IAmb	18 22 20.0	
	comp=Z,9.6nm,0.7s						
F28M	**Old Crow**	**23.00**	**33**	P	**P**	**18 22 16.4**	**-0.6**
J30M	**Hart River**	**23.20**	**42**	P	**P**	**18 22 18.6**	**-0.6**
J30M				IAmb	IAmb	18 22 35.6	
	comp=Z,3.6nm,0.7s						
G29M	**Pine Creek**	**23.34**	**35**	P	**P**	**18 22 18.2**	**-2.2**
G29M				IAmb	IAmb	18 22 51.3	
	comp=Z,6.6nm,0.8s						
I30M	**Mount Dempster**	**23.37**	**40**	P	**P**	**18 22 18.8**	**-2.1**
I30M				IAmb	IAmb	18 22 38.7	
	comp=Z,7.2nm,0.8s						
D27M	**Malcolm River**	**23.46**	**29**	P	**P**	**18 22 20.5**	**-1.1**
E28M	**Babbage River**	**23.58**	**31**	P	**P**	**18 22 21.1**	**-1.6**
E28M				IAmb	IAmb	18 22 25.6	
	comp=Z,5.2nm,0.9s						
EPYK	**Eagle Plains**	**23.62**	**37**	P	**P**	**18 22 21.6**	**-1.5**
EPYK				IAmb	IAmb	18 22 26.0	
	comp=Z,14nm,1.2s						
E29M	**Blow River**	**24.01**	**32**	P	**P**	**18 22 25.6**	**-1.2**
E29M				IAmb	IAmb	18 22 29.3	
	comp=Z,11nm,0.8s						
G30M	**tAoh Zraii Nji**	**24.02**	**36**	P	**P**	**18 22 25.3**	**-1.6**
G30M				IAmb	IAmb	18 22 49.4	
	comp=Z,6.7nm,1.1s						
Q32M	**Nakina River**	**24.36**	**56**	P	**P**	**18 22 30.6**	**+0.4**
Q32M				IAmb	IAmb	18 22 34.6	
	comp=Z,15nm,1.0s						
G31M	**Satah River**	**24.72**	**37**	P	**P**	**18 22 32.4**	**-0.8**
G31M				IAmb	IAmb	18 22 38.8	
	comp=Z,15nm,1.5s						
S34M	**Telegraph Cree**	**24.99**	**59**		**P**	**18 22 37.3**	**+1.5**
S34M				IAmb	IAmb	18 22 39.4	
	comp=Z,6.2nm,0.7s						
R33M	**Jennings River**	**25.02**	**55**		**P**	**18 22 36.3**	**+0.1**
R33M				IAmb	IAmb	18 22 39.8	
	comp=Z,4.6nm,0.8s						
INK	**Inuvik**	**25.46**	**34**		**P**	**18 22 37.6**	**-2.3**
INK				IAmb	IAmb	18 22 55.9	
	comp=Z,5.3nm,0.7s						
INK	**Inuvik**	**25.46**	**34**	P	**P**	**18 22 37.6**	**-2.3**
INK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
DLBC	**Dease Lake**	**25.55**	**57**		**P**	**18 22 43.1**	**+2.2**
DLBC				IAmb	IAmb	18 22 46.3	
	comp=Z,7.1nm,0.9s						
YSS	**Yuzh-Sakhalins**	**28.50**	**278**	*eP*	**P**	**18 23 09.0**	**+1.6**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ASAJ	**Asahikawa**	**29.93**	**273**	LR	LR	18 35 48.7	
	comp=Z,25nm,20.1s,baz=182,slow=37						
ERM	**Erimo**	**30.68**	**269**	P	**P**	**18 23 28.8**	**+2.1**
	comp=Z,19nm,1.1s						
ERM	**Erimo**	**30.68**	**269**	P	**P**	**18 23 28.1**	**+1.4**
ERM	**Erimo**	**30.68**	**269**	P	**P**	**18 23 28.1**	**+1.4**
ERM				pmax	pmax		
	comp=Z,21nm,1.3s						
YAK	**Yakutsk**	**31.71**	**311**	LR	LR	18 36 54.2	
	comp=Z,89nm,18.0s,baz=132,slow=38						
TIXI	**Tiksi**	**32.07**	**330**	LR	LR	18 38 04.2	
	comp=Z,69nm,18.6s,baz=187,slow=39						
TIXI	**Tiksi**	**32.07**	**330**	*i* P	**P**	**18 23 41.2**	**+2.6**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
JTM	**Tenmabayashi**	**32.67**	**269**	P	**P**	**18 23 44.0**	**-0.2**
YKA	**Yellowknife Ar**	**32.73**	**47**	P	**P**	**18 23 44.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=313,slow=10.0,SNR=2.4						
YKA				PcP	**PcP**	**18 26 30.9**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=288,slow=2.9,SNR=4.2						
YKA				LR	LR	18 38 50.4	
	comp=Z,83nm,18.4s,baz=252,slow=40						
	comp=Z,0.4nm,0.6s						
KLR	**Kul'dur**	**34.21**	**288**	*eP*	**P**	**18 23 55.8**	**-1.8**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
B08A	**Colville Reser**	**34.40**	**73**	P	**P**	**18 23 59.7**	**+0.4**
ZEA	**Zeya**	**35.03**	**297**	*eP*	**P**	**18 24 04.2**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**35.27**	**213**	T	T	19 02 02.0	
	baz=21,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy**	**35.28**	**213**	T	T	19 02 04.5	
	baz=21,slow=76,SNR=35						
H11N1	**WAKE ISLAND Hy**	**35.29**	**213**	T	T	19 02 03.7	
	baz=21,slow=76,SNR=29						
NEW	**Newport**	**35.76**	**72**	P	**P**	**18 24 11.7**	**+0.7**
NEW				IAmb	IAmb	18 24 13.3	
	comp=Z,4.5nm,0.8s						
NEW	**Newport**	**35.76**	**72**	P	**P**	**18 24 11.7**	**+0.7**
NEW				pmax	pmax	

ULN	**Ulaanbaatar**	**49.03 299**	P	**P**	**18 25 57.4**	**-1.5**
ULN			IAmb	IAmb	18 25 59.9	
comp=Z,4.3nm,1.1s						
ULN	**Ulaanbaatar**	**49.03 299**	*i* P	**P**	**18 25 59.0**	**+0.1**
ULN			pmax	pmax		
comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**49.41 299**	P	**P**	**18 26 01.6**	**-0.1**
SONM			IAmb	IAmb	18 26 03.1	
comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**49.41 299**	P	**P**	**18 26 02.2**	**+0.4**
comp=Z,2.0nm,0.6s,baz=48,slow=8.5,SNR=8.5						
SONM			LR	LR	18 48 52.8	
comp=Z,62nm,18.8s,baz=218,slow=39						
comp=Z,2.0nm,0.6s						
T25A	**Trinidad**	**49.71 78**	P	**P**	**18 26 05.1**	**+0.8**
T25A			IAmb	IAmb	18 26 27.4	
comp=Z,4.1nm,1.0s						
ECSD	**EROS Data Cent**	**50.22 67**	P	**P**	**18 26 07.3**	**-0.5**
ECSD			IAmb	IAmb	18 26 23.8	
comp=Z,3.2nm,0.7s						
SPA3	**Spitsbergen Ar**	**50.36 357**	P	**P**	**18 26 07.8**	**-0.6**
SPITS	**Spitsbergen Ar**	**50.36 357**	P	**P**	**18 26 08.2**	**-0.3**
comp=Z,3.3nm,0.8s,baz=61,slow=6.8,SNR=1.8						
comp=Z,3.3nm,0.8s						
EYMN	**Ely**	**50.52 60**	P	**P**	**18 26 10.4**	**+0.4**
EYMN			IAmb	IAmb	18 26 26.8	
comp=Z,3.8nm,0.8s						
121A	**Cookes Peak, D**	**50.66 85**	P	**P**	**18 26 10.0**	**-1.5**
121A			IAmb	IAmb	18 26 24.9	
comp=Z,3.0nm,0.8s						
E43A	**Lone Tree Farm**	**53.90 59**	P	**P**	**18 26 35.8**	**+0.6**
TX31	**Lajitas Ar. Si**	**55.42 85**	P	**P**	**18 26 46.9**	**+0.3**
TX31			IAmb	IAmb	18 27 22.1	
comp=Z,1.9nm,0.9s						
TXAR	**Lajitas Array**	**55.42 85**	P	**P**	**18 26 46.8**	**+0.2**
TXAR	**Lajitas Array**	**55.42 85**	P	**P**	**18 26 47.0**	**+0.5**
comp=Z,0.3nm,0.4s,baz=312,slow=5.0,SNR=5.9						
comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**56.19 316**	PcP	**PcP**	**18 27 50.0**	**+1.1**
comp=Z,1.7nm,0.7s,baz=40,slow=4.0,SNR=7.5						
ZALV			LR	LR	18 52 42.2	
comp=Z,30nm,19.5s,baz=209,slow=38						
R40A	**Maddies Statio**	**56.23 69**	P	**P**	**18 26 50.9**	**-1.2**
SSLB	**Suanglung**	**56.55 267**	P	**P**	**18 26 55.0**	**+0.5**
YULB	**Yu-li**	**56.62 266**	P	**P**	**18 26 54.2**	**-0.8**
X37A	**Clayton**	**56.89 75**	P	**P**	**18 26 57.6**	**+0.8**
CCM	**Cathedral Cave**	**56.98 69**	P	**P**	**18 26 58.3**	**+0.9**
CCM	**Cathedral Cave**	**56.98 69**	P	**P**	**18 26 58.3**	**+0.9**
CCM			pmax	pmax		
comp=Z,4.0nm,0.7s						
SCHQ	**Schefferville**	**57.79 41**	P	**P**	**18 27 00.9**	**-2.0**
FCAR	**Ozark Folk Cen**	**57.94 71**	P	**P**	**18 27 02.5**	**-1.6**
MIAR	**Mount Ida**	**57.99 73**	P	**P**	**18 27 04.2**	**-0.4**
MIAR	**Mount Ida**	**57.99 73**	P	**P**	**18 27 04.2**	**-0.4**
MIAR			pmax	pmax		
comp=Z,5.0nm,0.9s						
ARCES	**ARCESS Array B**	**58.39 352**	P	**P**	**18 27 06.6**	**-0.3**
ARCES			PcP	**PcP**	**18 27 57.6**	**+0.3**
ARCES	**ARCESS Array B**	**58.39 352**	P	**P**	**18 27 06.0**	**-0.8**
comp=Z,1.0nm,0.5s,baz=28,slow=7.8,SNR=17						
ARCES			PcP	**PcP**	**18 27 57.6**	**+0.3**
comp=Z,3.1nm,0.7s,baz=14,slow=5.5,SNR=7.9						
ARCES			LR	LR	18 54 59.1	
comp=Z,18nm,20.0s,baz=112,slow=39						
comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**58.39 352**	P	**P**	**18 27 06.6**	**-0.3**
ARCES					18 27 57.6	
ARCES			pmax	pmax		
comp=Z,9.0nm,1.4s						
LVZ	**Lovozero**	**58.98 348**	P	**P**	**18 27 10.3**	**-0.7**
LVZ	**Lovozero**	**58.98 348**	P	**P**	**18 27 10.3**	**-0.7**
LVZ			pmax	pmax		
comp=Z,20nm,1.2s						
DELO	**Deloro Mine**	**60.05 55**	P	**P**	**18 27 18.6**	**-0.1**
TRQ	**Mont Tremblant**	**60.39 52**	P	**P**	**18 27 20.4**	**-0.7**
WBO	**Williamsburg**	**60.90 53**	P	**P**	**18 27 24.4**	**0.0**
KURK	**Kurchatov**	**61.16 316**	P	**P**	**18 27 26.2**	**0.0**
KURK	**Kurchatov**	**61.16 316** *ce*	P	**P**	**18 27 26.6**	**+0.4**
KURK			pmax	pmax		
comp=Z,7.0nm,1.7s						
KURBB	**Kurchatov Arra**	**61.27 316**	P	**P**	**18 27 25.7**	**-1.2**
comp=Z,2.6nm,0.6s,baz=46,slow=6.6,SNR=22						
KURBB			PcP	**PcP**	**18 28 10.0**	**+0.9**
comp=Z,1.6nm,0.5s,baz=39,slow=3.8,SNR=9.5						
comp=Z,2.6nm,0.6s						
LONY	**Lake Ozonia**	**61.52 53**	P	**P**	**18 27 28.4**	**-0.3**
MK31	**Makanchi Array**	**62.38 311**	P	**P**	**18 27 33.5**	**-1.1**
MK31			IAmb	IAmb	18 27 53.4	
comp=Z,4.1nm,1.4s						
MK31	**Makanchi Array**	**62.38 311** *ce*	P	**P**	**18 27 35.2**	**+0.7**
MKAR	**Makanchi Array**	**62.38 311**	P	**P**	**18 27 33.3**	**-1.2**
MKAR	**Makanchi Array**	**62.38 311**	P	**P**	**18 27 33.6**	**-0.9**
comp=Z,0.8nm,0.5s,baz=44,slow=6.9,SNR=14						
MKAR			LR	LR	18 55 15.3	
comp=Z,42nm,19.8s,baz=94,slow=37						
comp=Z,0.8nm,0.5s						
MKAR	**Makanchi Array**	**62.38 311** *i* P		**P**	**18 27 33.7**	**-0.8**
MKAR			pmax	pmax		
comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**62.76 322**	P	**P**	**18 27 37.0**	**+0.1**
comp=Z,3.1nm,0.6s,baz=49,slow=7.2,SNR=21						
BVAR			PcP	**PcP**	**18 28 16.0**	**+0.8**
comp=Z,3.4nm,0.5s,baz=44,slow=3.7,SNR=11						
BVAR			LR	LR	18 58 02.3	
comp=Z,56nm,18.2s,baz=42,slow=39						
comp=Z,3.1nm,0.6s						
KSPA	**Keystone Colle**	**63.11 56**	P	**P**	**18 27 40.2**	**+0.8**
ARU	**Arti**	**64.07 331**	P	**P**	**18 27 45.4**	**-0.1**
ARU	**Arti**	**64.07 331**	LR	LR	19 00 09.5	
comp=Z,39nm,18.1s,baz=122,slow=40						
ARU	**Arti**	**64.07 331** *c i* P		**P**	**18 27 45.2**	**-0.3**
ARU					18 30 03.8	
ARU			S	**S**	**18 36 23.2**	**+4.3**
ARU			SS	**SS**	**18 40 30.0**	**+2.8**
ARU			pmax	pmax		
comp=Z,3.0nm,0.6s						
KIRV	**Kirov**	**64.73 337** *ce*	P	**P**	**18 27 50.3**	**+0.6**
FINES	**FINESS Array B**	**66.23 350**	P	**P**	**18 27 58.4**	**-1.0**
comp=Z,0.8nm,0.4s,baz=10,slow=7.7,SNR=14						
comp=Z,0.8nm,0.4s						
NOA	**NORSAR Array B**	**67.66 357**	P	**P**	**18 28 08.3**	**-0.3**
comp=Z,0.3nm,0.4s,baz=2.1,slow=7.4,SNR=2.1						
comp=Z,0.3nm,0.4s						
HFS	**Hagfors**	**68.48 356**	P	**P**	**18 28 13.4**	**-0.3**
comp=Z,1.0nm,0.4s,baz=42,slow=4.6,SNR=13						
HFS			LR	LR	18 59 13.7	
comp=Z,12nm,18.2s,baz=38,slow=37						
comp=Z,1.0nm,0.4s						
BOOM	**Boomskoye usch**	**68.60 312**	P	**P**	**18 28 15.8**	**+0.9**
BOOM	**Boomskoye usch**	**68.60 312**	P	**P**	**18 28 15.9**	**+0.9**
BOOM			pmax	pmax		
comp=Z,52nm,1.4s						
ABKAR	**Akbulak array**	**69.66 326**	P	**P**	**18 28 21.2**	**+0.1**
ABKAR			IAmb	IAmb	18 28 22.7	
comp=Z,2.3nm,0.7s						
ABKAR	**Akbulak array**	**69.66 326**	P	**P**	**18 28 21.0**	**-0.2**
KKAR	**Karatay Array**	**70.56 316**	P	**P**	**18 28 26.5**	**-0.3**
KKAR	**Karatay Array**	**70.56 316**	P	**P**	**18 28 26.5**	**-0.3**
OBN	**Obninsk**	**70.75 342** *e P*		**P**	**18 28 30.3**	**+2.7**
OBN		*e*			18 31 04.1	
OBN			pmax	pmax		
comp=Z,5.0nm,0.9s						
OBN			MLR	MLR		
comp=Z,20nm,15.0s						
ARSB	**Arslanbob**	**70.88 313**	P	**P**	**18 28 30.1**	**+1.2**
ARSB			IAmb	IAmb	18 28 33.3	
comp=Z,2.3nm,1.4s						
ARSB	**Arslanbob**	**70.88 313**	P	**P**	**18 28 30.2**	**+1.2**
ARSB			pmax	pmax		
comp=Z,2.0nm,1.4s						
CRAI	**Chiangrai**	**71.97 280**	P	**P**	**18 28 35.8**	**+0.2**
PPT	**Papeete**	**72.00 156**	LR	LR	18 57 32.0	
comp=Z,31nm,18.3s,baz=343,slow=34						
PPT2	**Papeete2**	**72.02 156** *e*	LR	LR	18 50 36.8	
comp=Z,60nm,24.2s						
SHL	**Shillong**	**73.06 290**	P	**P**	**18 28 42.2**	**-0.1**
SHL	**Shillong**	**73.06 290**	P	**P**	**18 28 42.2**	**-0.1**
SHL			pmax	pmax		
comp=Z,13nm,0.9s						
VRH	**Novokhopyorsk**	**73.31 338** *e P*		**P**	**18 28 40.6**	**-2.4**
VRH			pmax	pmax		
comp=Z,9.0nm,0.7s						
PHRA	**Phrae**	**73.36 279**	P	**P**	**18 28 44.8**	**+0.9**
VSR	**Storozhevoye**	**73.88 339** *e P*		**P**	**18 28 44.4**	**-2.0**
VSR			pmax	pmax		
comp=Z,8.0nm,0.5s						
GAR	**Garm**	**73.96 313**	P	**P**	**18 28 47.3**	**0.0**
VORD	**Divnogorie**	**74.08 339** *e P*		**P**	**18 28 46.4**	**-1.2**
VORD			pmax	pmax		
comp=Z,5.0nm,0.4s						
CM31	**Chiang Mai Arr**	**74.18 280**	P	**P**	**18 28 49.9**	**+1.2**
CM31			IAmb	IAmb	18 29 03.7	
comp=Z,7.2nm,1.3s						
CMAR	**Chiang Mai Arr**	**74.18 280**	P	**P**	**18 28 49.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**74.18 280**	P	**P**	**18 28 49.5**	**+0.8**
AKASG	**Malin Array Be**	**76.26 345**	P	**P**	**18 28 59.4**	**-0.8**
comp=Z,0.7nm,0.3s,baz=18,slow=6.0,SNR=9.5						
comp=Z,0.7nm,0.3s						
CLL	**Collm**	**77.33 356** *e P*		**P**	**18 29 07.0**	**+0.8**
BRG	**Berggiesshubel**	**77.72 355** *e P*		**P**	**18 29 08.8**	**+0.5**
BRG			Amp		18 29 09.4	
comp=Z,2.6nm,0.6s						
BRG	**Berggiesshubel**	**77.72 355** *e P*		**P**	**18 29 08.8**	**+0.5**
BRG			pmax	pmax		
comp=Z,3.0nm,0.6s						
KHC	**Kasperske Hory**	**79.48 355** *ce P*		**P**	**18 29 18.9**	**+0.8**
KHC			pmax	pmax		
comp=Z,6.0nm,0.8s						
GERES	**GERESS Array B**	**79.76 355**	P	**P**	**18 29 20.1**	**+0.3**
comp=Z,0.7nm,0.6s,baz=100,slow=1.6,SNR=4.8						
comp=Z,0.7nm,0.6s						
KIV	**Kislovodsk**	**79.78 334** *e P*		**P**	**18 29 20.2**	**+0.3**
KIV			pmax	pmax		
comp=Z,6.0nm,1.1s						
KBZ	**Khabaz**	**79.93 334**	P	**P**	**18 29 19.9**	**-0.8**
comp=Z,2.6nm,0.8s,baz=305,slow=2.8,SNR=3.1						
comp=Z,2.6nm,0.8s						
MTN	**Manton Dam**	**79.95 234**	P	**P**	**18 29 21.3**	**+0.3**
GNI	**Garni**	**82.71 331**	LR	LR	19 12 13.4	
comp=Z,20nm,20.6s,baz=48,slow=40						
WR0	**Warramunga Arr**	**84.40 228**	P	**P**	**18 29 43.3**	**-0.9**
WB2	**Warramunga Arr**	**84.47 228**	P	**P**	**18 29 44.4**	**-0.1**
WRA	**Warramunga Arr**	**84.48 228**	P	**P**	**18 29 44.0**	**-0.6**
comp=Z,0.7nm,0.8s,baz=31,slow=5.6,SNR=7.0						
comp=Z,0.7nm,0.8s						
WRA	**Warramunga Arr**	**84.48 228**	P	**P**	**18 29 44.0**	**-0.6**
BRTR	**Keskin Array B**	**86.00 339**	P	**P**	**18 29 52.3**	**0.0**
comp=Z,0.9nm,0.7s,baz=57,slow=4.6,SNR=6.3						
comp=Z,0.9nm,0.7s						
BRTR	**Keskin Array B**	**86.00 339** *i* P		**P**	**18 29 53.4**	**+1.1**
BRTR			pmax	pmax		
comp=Z,1.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**87.19 236**	P	**P**	**18 29 58.1**	**+0.1**
AS31	**Alice Springs**	**87.90 227**	P	**P**	**18 30 02.6**	**+1.2**
AS31			IAmb	IAmb	18 30 21.3	
comp=Z,2.5nm,1.4s						
ASAR	**Alice Springs**	**87.90 227**	P	**P**	**18 30 02.0**	**+0.6**
ASAR	**Alice Springs**	**87.90 227**	P	**P**	**18 30 01.5**	**+0.1**
comp=Z,1.2nm,0.7s,baz=26,slow=4.2,SNR=16						
comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**87.90 227**	P	**P**	**18 30 02.0**	**+0.6**
ESDC	**Sonseca Array**	**88.67 8**	P	**P**	**18 30 04.2**	**-0.9**
comp=Z,0.4nm,0.6s,baz=348,slow=5.4,SNR=4.1						
comp=Z,0.4nm,0.6s						
STKA	**Stephens Creek**	**91.94 217**	P	**P**	**18 30 21.1**	**+1.1**
comp=Z,2.9nm,0.8s,baz=320,slow=2.9,SNR=3.4						
comp=Z,2.9nm,0.8s						
QSPA	**South Pole Qui**	**141.34 180**	PKP	**PKPdf**	**18 36 40.0**	**-1.1**
comp=Z,0.3nm,0.5s,baz=72,slow=3.2,SNR=5.7						
MAW	**Mawson**	**148.62 218**	PKPbc	**PKPbc**	**18 36 57.7**	**+0.4**
comp=Z,2.6nm,0.8s,baz=88,slow=4.5,SNR=4.6						
BOSA	**Boshof**	**153.04 321**	PKPbc	**PKiKP**	**18 37 09.3**	**0.0**
comp=Z,1.8nm,0.5s,baz=17,slow=2.6,SNR=7.6						

IDC 03 18:53:01.6±2.5, 3°.05N×126°.80E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=227.5km s-min=25.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.02**	**162**	P	P	18 58 17.3	-1.1
0.7nm,0.4s,baz=340,slow=11,SNR=40							
0.7nm,0.4s							
ASAR	**Alice Springs**	**27.44**	**166**	P	P	18 58 51.1	+1.8
0.2nm,0.6s,baz=347,slow=7.6,SNR=1.2							
0.2nm,0.6s							
MKAR	**Makanchi Array**	**58.15**	**325**	P	P	19 02 57.0	-0.3
0.2nm,0.5s,baz=119,slow=8.4,SNR=7.1							
0.2nm,0.5s							

*NEIC **03** 18:55:05.9±1.5, 14°.81S±0°.04×167°.9E±0°.2, h100km±11km, mb4.3/15, Error ellipse: s-maj=24.9km s-min=1.9km az=102.0*
*IDC **03** 18:55:10.8±4.8, 15°.30S×167°.55E, h120km±37km, mb3.6/7, mbtmp4.0/8, Error ellipse: s-maj=33.0km s-min=25.0km az=42.0*
*NOU **03** 18:55:16.0, 15°.50S×167°.65E, h85km, MLv4.3/8, Vanuatu Islands*

ISC 03 18:55:11.2±1.0, 15°.3S±0°.1×167°.6E±0°.1, h124km, n36, σ1°25/37, mb4.1/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**6.12**	**210**	P	**Pn**	**18 56 40.4**	**+1.2**
KOUNC	**Koumac, New Ca**	**6.12**	**210**		**Pn**	**18 56 39.7**	**+0.5**
YATNC	**Mamie plateau,**	**6.79**	**185**	P	**Pn**	**18 56 49.6**	**+1.3**
DZM	**Mont Dzumac**	**6.86**	**189**	P	**Pn**	**18 56 51.3**	**+2.0**
DZM	**Mont Dzumac**	**6.86**	**189**	Pn	**Pn**	**18 56 50.3**	**+1.1**
DZM	**Mont Dzumac**	**6.86**	**189**	P	**Pn**	**18 56 49.7**	**+0.4**
8.6nm,0.4s,baz=18,slow=20,SNR=25							
DZM				S	**Sn**	**18 58 03.3**	**-2.6**
11nm,0.6s,baz=343,slow=24,SNR=3.5							
NOUC	**Port Laguerre**	**6.91**	**190**	P	**Pn**	**18 56 52.4**	**+2.5**
ONTNC	**Ouen Toro**	**7.09**	**188**	P	**Pn**	**18 56 55.1**	**+2.8**
ONTNC	**Ouen Toro**	**7.09**	**188**	Pn	**Pn**	**18 56 54.4**	**+2.1**
PINNC	**Pines Island,**	**7.31**	**181**	Pn	**Pn**	**18 56 56.0**	**+0.8**
EIDS	**Eidsvold**	**18.43**	**234**		**Pn**	**18 59 19.3**	**+0.7**
EIDS				IAmb	IAmb	18 59 28.9	
comp=Z,19nm,1.2s							
TOZ	**Tahuroa Road**	**23.45**	**164**	P	**P**	**19 00 10.5**	**+1.1**
TOZ				IAmb	IAmb	19 00 11.1	
comp=Z,6.8nm,0.8s							
RTZ	**Ruatahuna**	**24.69**	**162**	P	**P**	**19 00 20.1**	**-0.6**
BKZ	**Black Stump Fm**	**25.07**	**163**	P	**P**	**19 00 24.2**	**+0.1**
BKZ				IAmb	IAmb	19 00 25.9	
comp=Z,25nm,1.3s							
MRZ	**Mangatainoka R**	**26.25**	**166**	P	**P**	**19 00 33.7**	**-0.9**
BFZ	**Birch Farm**	**26.43**	**165**	P	**P**	**19 00 35.2**	**-1.1**
MRNZ	**Matariki Terra**	**26.43**	**171**	P	**P**	**19 00 34.6**	**-1.7**
MSWZ	**Moikau Station**	**26.89**	**167**	P	**P**	**19 00 39.2**	**-1.3**
LTZ	**Lake Taylor**	**27.72**	**173**	P	**P**	**19 00 47.6**	**-0.3**
STKA	**Stephens Creek**	**28.88**	**231**	P	**P**	**19 00 59.3**	**+1.1**
STKA	**Stephens Creek**	**28.88**	**231**	P	**P**	**19 00 59.1**	**+0.8**
comp=Z,2.3nm,0.8s,baz=20,slow=10,SNR=4.4							
comp=Z,2.3nm,0.8s							
WB0	**Warramunga Arr**	**31.93**	**257**	P	**P**	**19 01 25.1**	**-0.3**
WB0				IAmb	IAmb	19 02 08.4	
comp=Z,6.9nm,0.7s							
WB2	**Warramunga Arr**	**31.98**	**257**	P	**P**	**19 01 24.3**	**-1.4**
WB2				IAmb	IAmb	19 01 35.4	
comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**31.99**	**257**	P	**P**	**19 01 24.6**	**-1.2**
comp=Z,0.3nm,0.4s,baz=84,slow=8.6,SNR=10.0							
comp=Z,0.3nm,0.4s							
AS31	**Alice Springs**	**32.76**	**250**	P	**P**	**19 01 32.2**	**-0.4**
ASAR	**Alice Springs**	**32.77**	**250**	P	**P**	**19 01 32.2**	**-0.4**
ASAR	**Alice Springs**	**32.77**	**250**	P	**P**	**19 01 32.5**	**-0.2**
comp=Z,0.9nm,0.4s,baz=79,slow=8.8,SNR=11							
comp=Z,0.9nm,0.4s							
FITZ	**Fitzroy Crossi**	**40.21**	**260**	P	**P**	**19 02 35.2**	**-0.6**
VNDA	**Vanda**	**62.34**	**181**	P	**P**	**19 05 19.7**	**-0.3**
VNDA	**Vanda**	**62.34**	**181**	P	**P**	**19 05 19.9**	**0.0**
comp=Z,0.7nm,0.8s,baz=6.6,slow=5.8,SNR=7.5							
comp=Z,0.7nm,0.8s							
SBA	**Scott Base**	**62.60**	**180**	P	**P**	**19 05 22.9**	**+1.2**
SBA				IAmb	IAmb	19 05 23.7	
comp=Z,2.9nm,0.9s							
QSPA	**South Pole Qui**	**74.77**	**180**	P	**P**	**19 06 37.7**	**+0.2**
QSPA				IAmb	IAmb	19 06 38.3	
comp=Z,3.9nm,1.0s							
QSPA	**South Pole Qui**	**74.77**	**180**	P	**P**	**19 06 37.6**	**+0.2**
comp=Z,2.1nm,0.6s,baz=66,slow=1.2,SNR=20							
comp=Z,2.1nm,0.6s							
ILAR	**Eielson Array**	**86.94**	**18**	P	**P**	**19 07 41.4**	**-0.4**
comp=Z,0.3nm,0.8s,baz=246,slow=6.5,SNR=2.9							
comp=Z,0.3nm,0.8s							
SNAA	**Sanae**	**93.03**	**183**	P	**P**	**19 08 09.5**	**-1.0**
comp=Z,0.8nm,0.5s,baz=205,slow=9.3,SNR=7.0							
comp=Z,0.8nm,0.5s							
ARCES	**ARCESS Array B**	**120.84**	**345**	PKP	**PKiKP**	**19 13 48.5**	**+0.3**
comp=Z,0.8nm,0.4s,baz=81,slow=2.3,SNR=12							

*IDC **03** 18:56:52.9±0.8, 3°.01N×126°.71E, h0km, mb4.0/9, mbtmp4.0/9, MS2.8/1, Error ellipse: s-maj=63.2km s-min=16.1km az=71.0*
*NEIC **03** 18:57:00.9±1.7, 3°.01N±0°.09×126°.72E±0°.08, h57km±7km, mb4.2/16, Error ellipse: s-maj=15.5km s-min=8.6km az=215.0*

ISC 03 18:56:59.2±0.6, 3°.06N±0°.07×126°.77E±0°.08, h44km, n33, σ1°16/34, mb4.2/15, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.35**	**165**	Pn	**Pn**	**18 57 34.4**	**-1.0**
TNTI				Sn	**Sn**	**18 58 06.4**	**+3.3**
TOLI2	**Tolitoli**	**6.29**	**252**	Pn	**Pn**	**18 58 30.5**	**+1.1**
TOLI2				Sn	**Sn**	**18 59 40.6**	**+0.7**
FAKI	**Fak Fak**	**8.09**	**137**	Pn	**Pn**	**18 58 55.4**	**+1.3**
MTN	**Manton Dam**	**16.39**	**165**	Pn	**Pn**	**19 00 44.2**	**-2.1**
MTN				IAmb	IAmb	19 00 59.3	
comp=Z,32nm,1.4s							
KNRA	**Kununurra**	**18.72**	**174**	P	**P**	**19 01 13.3**	**-0.9**
GUMO	**Guam**	**20.72**	**59**	LR	LR	19 09 32.5	
comp=Z,26nm,19.1s,baz=285,slow=36							
FITZ	**Fitzroy Crossi**	**21.06**	**183**	P	**P**	**19 01 38.5**	**-1.2**
SSLB	**Suanglung**	**21.36**	**345**	P	**P**	**19 01 42.3**	**-0.6**
WB0	**Warramunga Arr**	**23.89**	**162**	P	**P**	**19 02 07.4**	**-1.6**
WRA	**Warramunga Arr**	**24.04**	**162**	P	**P**	**19 02 08.8**	**-1.6**
comp=Z,1.9nm,0.5s,baz=337,slow=10,SNR=24							
comp=Z,1.9nm,0.5s							
WB2	**Warramunga Arr**	**24.05**	**162**	P	**P**	**19 02 08.9**	**-1.5**
WB2				IAmb	IAmb	19 02 37.0	
comp=Z,9.6nm,1.0s							
MBWA	**Marble Bar**	**25.04**	**196**	P	**P**	**19 02 18.8**	**-0.6**
MBWA				IAmb	IAmb	19 02 36.0	
comp=Z,7.3nm,1.0s							
PSA00	**Pilbara Seismi**	**25.40**	**195**	P	**P**	**19 02 22.6**	**-0.1**
PSA00				IAmb	IAmb	19 02 32.7	
comp=Z,8.6nm,0.9s							
AS31	**Alice Springs**	**27.46**	**166**	P	**P**	**19 02 42.6**	**+1.2**
ASAR	**Alice Springs**	**27.46**	**166**	P	**P**	**19 02 40.6**	**-0.7**
ASAR	**Alice Springs**	**27.46**	**166**	P	**P**	**19 02 40.5**	**-0.9**
comp=Z,0.2nm,0.3s,baz=343,slow=6.7,SNR=4.4							
comp=Z,0.2nm,0.3s							
STKA	**Stephens Creek**	**37.50**	**159**	P	**P**	**19 04 07.8**	**-1.0**
STKA	**Stephens Creek**	**37.50**	**159**	P	**P**	**19 04 08.2**	**-0.7**
comp=Z,5.1nm,1.0s,baz=338,slow=8.4,SNR=7.0							
comp=Z,5.1nm,1.0s							
LIFNC	**LIFOU**	**46.20**	**123**	P	**P**	**19 05 19.8**	**-0.4**
PETK	**Petropavlovsk-**	**56.03**	**22**	P	**P**	**19 06 33.4**	**0.0**
PETK	**Petropavlovsk-**	**56.03**	**22**	P	**P**	**19 06 33.8**	**+0.4**
comp=Z,1.8nm,0.7s,baz=178,slow=4.3,SNR=3.7							
comp=Z,1.8nm,0.7s							
MK31	**Makanchi Array**	**58.12**	**325**	P	**P**	**19 06 48.2**	**-0.2**
MK31				IAmb	IAmb	19 06 54.8	
comp=Z,2.2nm,1.1s							
MKAR	**Makanchi Array**	**58.12**	**325**	P	**P**	**19 06 48.5**	**+0.1**
MKAR	**Makanchi Array**	**58.12**	**325**	P	**P**	**19 06 48.7**	**+0.3**
comp=Z,0.7nm,0.5s,baz=123,slow=7.8,SNR=19							
comp=Z,0.7nm,0.5s							
TARG	**Taragay, Kyrgy**	**58.27**	**318**	P	**P**	**19 06 48.8**	**-1.2**
MAKZ	**Makanchi**	**58.31**	**325**	P	**P**	**19 06 48.9**	**-0.7**
MAKZ				IAmb	IAmb	19 06 58.0	
comp=Z,1.9nm,0.9s							
THZ	**Tophouse**	**61.16**	**142**	P	**P**	**19 07 08.3**	**-1.1**
ZALV	**Zalesovo Beam**	**61.19**	**333**	P	**P**	**19 07 08.5**	**-0.8**
comp=Z,0.6nm,0.6s,baz=134,slow=12,SNR=2.3							
comp=Z,0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**62.32**	**328**	P	**P**	**19 07 16.8**	**-0.1**
comp=Z,0.7nm,0.5s,baz=131,slow=6.4,SNR=11							
comp=Z,0.7nm,0.5s							
NRIK	**Noril'sk**	**71.08**	**346**	P	**P**	**19 08 13.2**	**+0.7**
comp=Z,1.7nm,0.5s,baz=135,slow=2.9,SNR=3.8							
comp=Z,1.7nm,0.5s							
ABKAR	**Akbulak array**	**72.69**	**321**	P	**P**	**19 08 22.7**	**+0.2**
E19K	**Redstone River**	**81.83**	**22**	P	**P**	**19 09 14.4**	**+1.0**
E19K				IAmb	IAmb	19 09 18.8	
comp=Z,4.2nm,1.1s							
VNDA	**Vanda**	**82.77**	**173**	P	**P**	**19 09 19.3**	**+1.3**
comp=Z,0.5nm,0.9s,baz=297,slow=4.5,SNR=2.1							
comp=Z,0.5nm,0.9s							

*IDC **03** 19:03:56.7±3.5, 17°.69S×178°.77W, h558km±39km, mb3.3/13, mbtmp4.2/14, Error ellipse: s-maj=20.5km s-min=17.3km az=73.0*
*NOU **03** 19:03:56.7,

BBOO IAmb IAmb 19 11 09.9
comp=Z,29nm,0.8s
WB0 Warramunga Arr 44.32 260 P **P** **19 11 16.5 -1.3**
WB0 IAmb IAmb 19 11 17.6
comp=Z,8.6nm,0.9s
WB2 Warramunga Arr 44.34 259 P **P** **19 11 16.8 -1.1**
WB2 IAmb IAmb 19 11 17.9
comp=Z,6.9nm,0.6s
WB2 PcP **PcP** **19 12 49.4 +0.1**
WRA Warramunga Arr 44.35 259 P **P** **19 11 16.6 -1.4**
WRA PcP **PcP** **19 12 49.2 -0.1**
WRA Warramunga Arr 44.35 259 P **P** **19 11 17.2 -0.8**
comp=Z,5.1nm,0.6s,baz=98,slow=6.9,SNR=57
WRA PcP **PcP** **19 12 49.5 +0.1**
comp=Z,1.4nm,0.7s,baz=91,slow=3.0,SNR=5.9
comp=Z,5.1nm,0.6s
AS31 Alice Springs 44.54 254 P **P** **19 11 19.0 -0.4**
AS31 IAmb IAmb 19 11 19.8
comp=Z,15nm,0.6s
AS31 PcP **PcP** **19 12 49.5 -0.5**
ASAR Alice Springs 44.54 254 P **P** **19 11 18.9 -0.5**
ASAR PcP **PcP** **19 12 50.1 +0.1**
ASAR Alice Springs 44.54 254 P **P** **19 11 19.1 -0.3**
comp=Z,50nm,0.6s,baz=89,slow=7.9,SNR=1262
ASAR PcP **PcP** **19 12 50.4 +0.3**
comp=Z,1.6nm,0.4s,baz=103,slow=3.9,SNR=6.0
MULG Mulgathing 44.61 245 P **P** **19 11 19.8 0.0**
MIDW Midway 45.65 2 P **P** **19 11 28.1 +0.5**
MTN Manton Dam 48.48 268 P **P** **19 11 48.5 -0.7**
MTN IAmb IAmb 19 12 28.4
comp=Z,32nm,1.4s
WRKA Warakurna 49.60 252 P **P** **19 11 57.5 +0.1**
FORT Forrest 49.81 244 P **P** **19 11 58.2 -0.6**
FORT Forrest 49.81 244 P **P** **19 11 58.1 -0.6**
KNRA Kununurra 50.19 264 P **P** **19 12 01.5 -0.2**
KNRA IAmb IAmb 19 12 02.1
comp=Z,11nm,0.6s
FAKI Fak Fak 50.22 281 P **P** **19 12 01.7 -0.3**
FAKI IAmb IAmb 19 12 41.9
comp=Z,48nm,1.3s
FITZ Fitzroy Crossi 52.75 260 P **P** **19 12 20.2 +0.1**
SOEI Soe 55.75 270 P **P** **19 12 42.8 +1.4**
SOEI IAmb IAmb 19 12 43.6
comp=Z,40nm,0.9s
TNTI Ternate 56.10 283 P **P** **19 12 42.6 -1.0**
TNTI IAmb IAmb 19 12 45.2
comp=Z,9.8nm,0.8s
PSA00 Pilbara Seismi 57.65 255 P **P** **19 12 53.5 -0.7**
PSA00 Pilbara Seismi 57.65 255 P **P** **19 12 53.5 -0.7**
PSA00 IAmb IAmb 19 12 54.6
comp=Z,12nm,0.7s
MBWA Marble Bar 57.81 256 P **P** **19 12 54.0 -1.3**
JCJ Chichijima 58.47 319 P **P** **19 12 59.0 -0.5**
NWAO Narrogin (SRO) 59.03 242 P **P** **19 13 03.3 +0.1**
MORW Morawa 60.27 246 P **P** **19 13 10.8 -0.8**
VNDA Vanda 60.63 185 P **P** **19 13 14.6 +1.5**
VNDA Vanda 60.63 185 P **P** **19 13 14.4 +1.3**
comp=Z,0.6nm,0.7s,baz=350,slow=6.1,SNR=2.9
comp=Z,0.6nm,0.7s
TOLI2 Tolitoli 62.36 281 P **P** **19 13 26.3 +0.9**
GIRL Giralia 62.65 253 P **P** **19 13 27.9 +0.7**
JAGI Jajag, Banyuwa 65.72 269 P **P** **19 13 45.8 -1.0**
JAGI IAmb IAmb 19 14 11.3
comp=Z,31nm,1.1s
CASY Casey 66.20 205 P **P** **19 13 48.7 0.0**
CASY IAmb IAmb 19 14 31.1
comp=Z,13nm,1.4s
UGM Wanagama 69.33 268 P **P** **19 14 08.7 -0.2**
AKRB Akutan Reef Bi 72.35 8 P **P** **19 14 25.3 -0.3**
QSPA South Pole Qui 72.36 180 P **P** **19 14 25.3 -0.5**
QSPA IAmb IAmb 19 14 29.6
comp=Z,10nm,1.4s
QSPA South Pole Qui 72.36 180 P **P** **19 14 26.5 +0.7**
comp=Z,2.7nm,0.5s,baz=91,slow=4.1,SNR=37
comp=Z,2.7nm,0.5s
P18K Big Mountain, 79.17 12 P **P** **19 15 02.9 -0.3**
NVAR Mina Array Bea 79.49 44 P **P** **19 15 06.3 +0.7**
comp=Z,0.6nm,0.7s,baz=210,slow=8.6,SNR=4.2
comp=Z,0.6nm,0.7s
O18K Koktuh Hills 79.61 12 P **P** **19 15 05.5 0.0**
J05D Fort Rock, OR 80.35 39 P **P** **19 15 11.5 +1.6**
BELA Belgrano 2 82.42 173 P **P** **19 15 19.2 -0.6**
SEY Seymchan 83.49 347 P **P** **19 15 25.3 +0.2**
comp=Z,0.8nm,0.5s,baz=166,slow=10,SNR=2.5
comp=Z,0.8nm,0.5s
MAW Mawson 83.95 200 P **P** **19 15 28.0 +0.5**
comp=Z,2.3nm,0.6s,baz=106,slow=3.5,SNR=5.2
comp=Z,2.3nm,0.6s
BWN Browne 84.68 12 P **P** **19 15 31.9 +1.0**
ILAR Eielson Array 85.75 13 P **P** **19 15 35.6 -0.5**
comp=Z,0.1nm,0.4s,baz=218,slow=6.1,SNR=4.1
comp=Z,0.1nm,0.4s
TXAR Lajitas Array 86.15 58 P **P** **19 15 40.9 +1.9**
comp=Z,0.3nm,0.7s,baz=236,slow=7.4,SNR=4.4
comp=Z,0.3nm,0.7s
PDAR Pinedale Array 87.42 44 P **P** **19 15 45.4 +0.6**
comp=Z,0.3nm,0.6s,baz=259,slow=7.3,SNR=2.5
comp=Z,0.3nm,0.6s
TROLL Troll, Antarti 90.52 180 ⇑P **P** **19 15 58.3 -0.3**
comp=Z,143nm,0.5s
SNAA Sanae 90.82 179 ⇑P **P** **19 15 59.8 -0.1**
SNAA Sanae 90.82 179 P **P** **19 15 59.8 -0.1**
comp=Z,1.0nm,0.5s,baz=197,slow=8.7,SNR=16
comp=Z,1.0nm,0.5s
VNA3 Neumayer Olymp 90.98 176 ⇑P **P** **19 16 00.9 +0.3**
VNA2 Neumayer-Watz 91.41 177 ⇑P **P** **19 16 02.8 +0.3**
baz=241,slow=11
MKAR Makanchi Array 108.75 314 PKiKP **PKiKP** **19 21 21.1 -0.9**
comp=Z,0.4nm,0.9s,baz=238,slow=2.1,SNR=6.0
KURBB Kurchatov Arra 111.50 318 PKiKP **PKiKP** **19 21 26.3 -0.7**
comp=Z,0.3nm,0.2s,baz=83,slow=1.7,SNR=2.0
BNN Bunyan 143.27 312 **PKPdf** **19 22 26.7 -0.7**
LODK Lodwar 143.69 251 PKPbc 19 22 27.2 -0.7
BR131 Keskin Array S 144.40 315 **PKPab** **19 22 29.3 -0.7**
BRTR Keskin Array B 144.40 315 **PKPdf** **19 22 28.8 -0.6**
BRTR Keskin Array B 144.40 315 PKP **PKPab** **19 22 29.8 -0.2**
comp=Z,1nm,0.8s,baz=104,slow=2.3,SNR=11
MMAI Mount Meron Ar 145.75 303 PKPbc **PKPbc** **19 22 33.9 +0.4**
comp=Z,3.3nm,0.5s,baz=69,slow=5.5,SNR=7.9
GERES GERESS Array B 147.32 345 PKPbc **PKPbc** **19 22 37.5 +0.2**
comp=Z,0.2nm,0.3s,baz=348,slow=4.1,SNR=4.6
CONA Conrad Observa 147.56 342 *e*PKiKP **PKiKP** **19 22 38.8 -0.7**
comp=Z,2.7nm,0.9s
RONA Rosalia, Austr 147.63 341 *e*PKiKP **PKiKP** **19 22 38.8 -0.8**
comp=Z,2.2nm,0.6s
LESA Schwarzleotal 148.89 345 *e*PKiKP **PKiKP** **19 22 41.5 -0.8**
comp=Z,1.0nm,0.4s
SOKA Soboth 148.93 341 *i* PKiKP **PKPbc** **19 22 41.3 -0.1**
comp=Z,2.2nm,1.2s
KBA Koelnbreinsper 149.04 344 *i* PKP **PKPbc** **19 22 41.4 -0.4**
comp=Z,1.2nm,0.5s
WTTA Wattenberg 149.29 346 *i* PKiKP **PKiKP** **19 22 42.7 -0.5**
comp=Z,1.7nm,0.4s
MYKA Terra Mystica 149.37 343 *e*PKP **PKPbc** **19 22 42.1 -0.4**
comp=Z,2.0nm,0.4s
SQTA Sankt Quirin 149.43 347 *e*PKiKP **PKiKP** **19 22 42.6 -0.8**
comp=Z,2.0nm,0.6s
ABTA Abfaltersbach 149.56 345 *i* PKP **PKPbc** **19 22 42.6 -0.3**
comp=Z,2.6nm,0.6s

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*NEIC **03** 19:04:24.4±2.6, 43°.72N±0°.07×105°.25W±0°.09, h0km±1km, ML2.9/22, Error ellipse: s-maj=13.4km s-min=10.1km az=31.0*
*IDC **03** 19:04:26.2±2.4, 43°.50N×105°.39W, h0km, mbtmp3.3/2, ML3.2/2, Error ellipse: s-maj=52.9km s-min=10.2km az=153.0*
ISC 03 19:04:25.7±1.0, **43°.63N**±0°.07×**105°.27W**±0°.06, **h0km, n21,** σ1$**53**/20, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.02**	**61**		**Pg**	**19 04 44.9**	**-0.3**
RSSD				IAML		19 05 01.6	
269nm,0.6s							
K22A	**Casper**	**1.34**	**223**		**Pb**	**19 04 51.2**	**-0.7**
N23A	**Red Feather La**	**2.78**	**191**		**Pn**	**19 05 12.9**	**+1.1**
N23A				IAML		19 05 56.8	
comp=E,64nm,0.7s							
RLMT	**Red Lodge**	**3.23**	**299**		**Pn**	**19 05 17.7**	**-0.2**
RLMT				IAML		19 06 18.0	
comp=E,36nm,0.5s							
RLMT				IAML		19 06 31.2	
comp=E,26nm,0.8s							
PD31	**Pinedale Array**	**3.25**	**256**		**Pn**	**19 05 18.2**	**0.0**
PDAR	**Pinedale Array**	**3.25**	**256**		**Pn**	**19 05 19.0**	**+0.8**
PDAR	**Pinedale Array**	**3.25**	**256**	Pn	**Pn**	**19 05 19.9**	**+1.7**
comp=E,3.1nm,0.3s,baz=86,slow=14,SNR=16							
PDAR				Lg	Lg	19 06 04.5	
comp=E,6.3nm,0.3s,baz=78,slow=30,SNR=20							
comp=E,2.1nm,0.4s							
OGNE	**Ogallala**	**3.60**	**137**		**Pn**	**19 05 25.8**	**+2.9**
LOHW	**Long Hollow**	**3.87**	**272**		**Pn**	**19 05 28.9**	**+2.1**
MOOW	**Moose Ponds**	**3.97**	**274**	Pn	**Pn**	**19 05 29.4**	**+1.3**
REDW	**Red Top Meadow**	**4.07**	**268**		**Pn**	**19 05 29.2**	**-0.3**
IMW	**Indian Meadow**	**4.11**	**276**		**Pn**	**19 05 28.8**	**-1.4**
FXWY	**Fox Creek**	**4.18**	**272**		**Pn**	**19 05 33.7**	**+2.7**
K30B	**Basset**	**4.25**	**101**		**Pn**	**19 05 32.5**	**+0.8**
RDMU	**Red Mountain**	**4.42**	**228**		**Pn**	**19 05 35.8**	**+1.5**
RDMU				IAML		19 07 02.3	
comp=N,14nm,1.5s							
SMCO	**Snowmass**	**4.63**	**197**		**Pn**	**19 05 36.4**	**-0.9**
BOZ	**Bozeman (W)**	**4.95**	**296**		**Pn**	**19 05 40.5**	**-0.9**
BOZ				IAML		19 07 12.3	
comp=N,6.2nm,0.8s							
BOZ				IAML		19 07 14.4	
comp=N,8.3nm,0.7s							
P18A	**Preston Nutter**	**5.47**	**225**		**Pn**	**19 05 49.2**	**+0.4**
ECSD	**EROS Data Cent**	**6.28**	**86**	Pn	**Pn**	**19 05 57.6**	**-2.0**
ULM	**Lac du Bonnet**	**9.22**	**41**	Pn	**Pn**	**19 06 41.3**	**+1.4**
comp=N,0.4nm,0.3s,baz=236,slow=11,SNR=2.2							
ULM				Lg	Lg	19 09 11.8	
baz=143,slow=23							
comp=N,1.2nm,0.4s							
I56US	**NEWPORT INFRAS**	**9.46**	**303**	I	I	20 02 00.0	
baz=117,slow=313,SNR=2.1							

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*IDC **03** 19:18:55.3±1.1, 54°.61N×154°.09W, h0km, mb4.0/20, mbtmp4.0/22, ML3.9/2, MS2.8/10, Error ellipse: s-maj=29.4km s-min=18.0km az=7.0*
*NEIC **03** 19:18:56.1±1.3, 54°.58N±0°.08×154°.05W±0°.09, h20km±7km, mb3.8/5, ML3.7/36, ML3.6(AEIC), Error ellipse: s-maj=12.4km s-min=5.8km az=152.0*
*AEIC **03** 19:18:58.9±1.3, 54°.52N±0°.07×154°.0W±0°.1, h12km±5km, Error ellipse: s-maj=11.2km s-min=9.1km az=136.0*
ISC 03 19:19:00.3±0.6, **54°.75N**±0°.07×**154°.04W**±0°.05, **h35**km, **n317,** σ1$**37**/308, **mb4.**1/20, **MS2.8**/7, **South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**1.41**	**321**	Pn	**Pn**	**19 19 21.6**	**-1.8**
CHIR	**Chirikof Islan**	**1.41**	**321**		**Sn**	**19 19 39.7**	**-1.0**
CHIR	**Chirikof Islan**	**1.41**	**321**	IAML		19 19 40.7	
comp=E,575nm,0.7s							
CHIR				IAML		19 19 40.8	
comp=N,525nm,0.9s							
CHIR	**Chirikof Islan**	**1.41**	**321**	P	**Pn**	**19 19 21.8**	**-1.6**
baz=143							
CHIR				S	**Sn**	**19 19 39.7**	**-1.0**
baz=143							
SII	**Sitkinak Islan**	**1.82**	**358**	P	**Pn**	**19 19 28.3**	**-0.8**
SII	**Sitkinak Islan**	**1.82**	**358**	Pn	**Pn**	**19 19 28.0**	**-1.1**
SII	**Sitkinak Islan**	**1.82**	**358**		**Sn**	**19 19 50.1**	**-0.8**
SII	**Sitkinak Islan**	**1.82**	**358**	IAML		19 19 51.4	
comp=N,698nm,0.6s							
SII				IAML		19 19 52.0	
comp=E,737nm,0.3s							
SII	**Sitkinak Islan**	**1.82**	**358**	P	**Pn**	**19 19 28.1**	**-1.0**
baz=176							
SII				S	**Sn**	**19 19 50.1**	**-0.8**
baz=176							
OHAK	**Old Harbor**	**2.52**	**9**	P	**Pn**	**19 19 37.6**	**-1.1**
OHAK	**Old Harbor**	**2.52**	**9**	Pn	**Pn**	**19 19 37.5**	**-1.1**
OHAK	**Old Harbor**	**2.52**	**9**		**Sn**	**19 20 06.5**	**-1.6**
OHAK	**Old Harbor**	**2.52**	**9**	IAML		19 20 08.7	
comp=E,222nm,0.4s							
OHAK				IAML		19 20 09.2	
comp=N,228nm,0.6s							
OHAK	**Old Harbor**	**2.52**	**9**	P	**Pn**	**19 19 37.5**	**-1.1**
baz=188							
OHAK				S	**Sn**	**19 20 06.5**	**-1.6**
baz=188							
R18K	**Karluk**	**2.83**	**356**		**Pn**	**19 19 42.6**	**-0.4**
R18K					**Sn**	**19 20 15.5**	**-0.4**
R18K	**Karluk**	**2.83**	**356**	P	**Pn**	**19 19 42.6**	**-0.4**
baz=174							
R18K				S	**Sn**	**19 20 15.5**	**-0.4**
baz=174							
CHGN	**Chignik**	**2.93**	**304**	Pn	**Pn**	**19 19 42.1**	**-2.2**
CHGN				IAML		19 20 18.1	
comp=N,280nm,0.7s							
CHGN				IAML		19 20 20.4	
comp=E,252nm,0.1s							
CHGN	**Chignik**	**2.93**	**304**	P	**Pn**	**19 19 42.5**	**-1.9**
baz=123							
KDAK	**Kodiak Island**	**3.15**	**14**	Pn	**Pn**	**19 19 46.2**	**-1.2**
KDAK				IAML		19 20 22.7	
comp=E,207nm,0.4s							
KDAK				IAML		19 20 23.0	
comp=E,148nm,0.4s							
KDAK	**Kodiak Island**	**3.15**	**14**		**Sn**	**19 20 21.3**	**-2.4**
KDAK	**Kodiak Island**	**3.15**	**14**	Pn	**Pn**	**19 19 46.2**	**-1.2**
comp=E,9.9nm,0.3s,baz=209,slow=4.7,SNR=417							
KDAK				Sn	**Sn**	**19 20 20.7**	**-3.0**
comp=E,24nm,0.3s,baz=110,slow=21,SNR=31							
KDAK				LR	LR	19 20 47.6	
comp=E,26nm,18.5s,baz=166,slow=34							
comp=E,47nm,0.2s							
CHNA	**Chernabura Isl**	**3.21**	**274**	P	**Pn**	**19 19 44.8**	**-3.5**
baz=93							
CHNA				S	**Sn**	**19 20 21.5**	**-3.7**
baz=93							
CNBA	**Chernabura Isl**	**3.21**	**274**	Pn	**Pn**	**19 19 44.7**	**-3.5**
CNBA	**Chernabura Isl**	**3.21**	**274**		**Sn**	**19 20 21.6**	**-3.7**
VNKR	**Veniaminof 5**	**3.30**	**295**		**Pn**	**19 19 47.8**	**-1.6**
VNSS	**Veniaminof 8**	**3.42**	**298**		**Pn**	**19 19 49.9**	**-1.3**
S14K	**Fog Glacier**	**3.49**	**298**	P	**Pn**	**19 19 50.8**	**-1.4**
baz=117							
S14K				S	**Sn**	**19 20 32.2**	**-0.1**
baz=117							
VNFG	**Fog Glacier, M**	**3.49**	**298**		**Pn**	**19 19 50.8**	**-1.4**
VNFG					**Sn**	**19 20 32.2**	**-0.1**
ANCK	**Angle Creek**	**3.55**	**348**		**Pn**	**19 19 52.8**	**-0.2**
ANCK				IAML		19 20 39.4	
comp=N,112nm,0.9s							
ANCK				IAML		19 20 40.1	
comp=E,107nm,1.1s							
KABU	**Katmai Buttres**	**3.60**	**350**		**Pn**	**19 19 53.2**	**-0.4**
CNTC	**Contact Creek**	**3.67**	**345**		**Pn**	**19 19 54.0**	**-0.6**
Q17K	**Contact Creek**	**3.67**	**345**	P	**Pn**	**19 19 54.1**	**-0.6**
baz=163							
SDPT	**Sand Point**	**3.75**	**282**		**Pn**	**19 19 52.1**	**-3.5**
SDPT	**Sand Point**	**3.75**	**282**	IAML		19 20 40.5	
comp=E,86nm,1.0s							
SDPT				IAML		19 20 41.4	
comp=N,87nm,1.1s							
SDPT	**Sand Point**	**3.75**	**282**	P	**Pn**	**19 19 52.1**	**-3.5**
baz=100							
KAHC	**Katmai Hardscr**	**3.95**	**353**		**Pn**	**19 19 58.0**	**-0.4**
Q18K	**Katmai Hardscr**	**3.95**	**353**	P	**Pn**	**19 19 58.0**	**-0.4**
baz=172							
Q20K	**Shuyak Island**	**3.98**	**13**	P	**Pn**	**19 19 58.0**	**-0.8**
baz=192							
SYI	**Shuyak Island**	**3.98**	**13**		**Pn**	**19 19 58.2**	**-0.5**
SYI				IAML		19 20 47.9	
comp=E,66nm,0.3s							
SYI				IAML		19 20 49.0	
comp=N,83nm,0.6s							
Q19K	**Cape Douglas,**	**4.20**	**3**	Pn	**Pn**	**19 20 01.9**	**+0.1**
PS1A	**Pavlof South-1**	**4.47**	**282**		**Pn**	**19 20 02.8**	**-2.8**
PS4A	**Pavlof South-4**	**4.53**	**281**		**Pn**	**19 20 03.2**	**-3.2**
P17K	**Kvichak River**	**4.65**	**345**		**Pn**	**19 20 07.4**	**-0.5**
P17K	**Kvichak River**	**4.65**	**345**	P	**Pn**	**19 20 07.4**	**-0.5**
baz=163							
S12K	**Black Hills**	**4.69**	**285**	Pn	**Pn**	**19 20 06.2**	**-2.3**
S12K				IAML		19 21 03.4	
comp=N,91nm,0.4s							
S12K	**Black Hills**	**4.69**	**285**	P	**Pn**	**19 20 05.8**	**-2.8**
baz=101							
P18K	**Big Mountain,**	**4.70**	**353**	Pn	**Pn**	**19 20 08.2**	**-0.5**
P18K	**Big Mountain,**	**4.70**	**353**	P	**Pn**	**19 20 07.9**	**-0.8**
baz=171							
P16K	**Nushagak River**	**4.81**	**335**		**Pn**	**19 20 09.6**	**-0.6**
P16K	**Nushagak River**	**4.81**	**335**	P	**Pn**	**19 20 09.6**	**-0.6**
baz=152							
P19K	**Oil Pt**	**4.94**	**5**		**Pn**	**19 20 11.7**	**-0.3**
P19K	**Oil Pt**	**4.94**	**5**	P	**Pn**	**19 20 11.9**	**-0.1**
baz=185							
CNPM	**China Poot**	**5.03**	**17**	Pn	**Pn**	**19 20 12.2**	**-1.0**
CNPM				IAML		19 21 10.6	
comp=E,74nm,0.5s							
CNPM				IAML		19 21 13.2	
comp=N,57nm,0.6s							
O18K	**Koktuh Hills**	**5.16**	**353**	Pn	**Pn**	**19 20 13.8**	**-1.2**
O18K				IAML		19 21 15.6	
comp=N,52nm,0.8s							
O18K	**Koktuh Hills**	**5.16**	**353**	P	**Pn**	**19 20 14.6**	**-0.4**
baz=172							
ILSW	**Iliamna Southw**	**5.27**	**5**		**Pn**	**19 20 16.1**	**-0.5**
O17K	**Koliganek Bris**	**5.30**	**343**		**Pn**	**19 20 16.0**	**-1.0**
O17K	**Koliganek Bris**	**5.30**	**343**	P	**Pn**	**19 20 16.0**	**-1.0**
baz=161							
BRLK	**Bradley Lake**	**5.31**	**18**	Pn	**Pn**	**19 20 15.8**	**-1.3**
IVE	**Iliamna Volcan**	**5.31**	**6**		**Pn**	**19 20 16.7**	**-0.5**
BRSE	**Bradley Lake S**	**5.32**	**18**		**Pn**	**19 20 15.7**	**-1.5**
BRSE	**Bradley Lake S**	**5.32**	**18**	P	**Pn**	**19 20 15.6**	**-1.5**
baz=200							
O16K	**Kokwok River B**	**5.33**	**337**	Pn	**Pn**	**19 20 16.5**	**-0.9**
O16K	**Kokwok River B**	**5.33**	**337**	P	**Pn**	**19 20 16.5**	**-0.9**
baz=154							
O15K	**Ungalikthiuk R**	**5.45**	**327**		**Pn**	**19 20 18.1**	**-0.8**
O15K	**Ungalikthiuk R**	**5.45**	**327**	P	**Pn**	**19 20 18.1**	**-0.8**
baz=143							
RED	**Redoubt Volcan**	**5.73**	**6**		**Pn**	**19 20 21.9**	**-1.0**
RSO	**Redoubt South**	**5.77**	**6**		**Pn**	**19 20 22.5**	**-1.1**
RDT	**Redoubt**	**5.91**	**8**		**Pn**	**19 20 24.1**	**-1.2**
SEW	**Seward**	**5.91**	**23**		**Pn**	**19 20 23.2**	**-2.1**
SEW	**Seward**	**5.91**	**23**	P	**Pn**	**19 20 23.2**	**-2.1**
baz=205							
O14K	**Tigyukauivet M**	**6.00**	**322**	Pn	**Pn**	**19 20 25.8**	**-0.6**
O14K	**Tigyukauivet M**	**6.00**	**322**	P	**Pn**	**19 20 25.4**	**-1.0**
baz=137							
N18K	**Kilae Creek**	**6.03**	**351**	Pn	**Pn**	**19 20 26.3**	**-0.7**
N18K	**Kilae Creek**	**6.03**	**351**	P	**Pn**	**19 20 26.4**	**-0.5**
baz=170							
N17K	**Nushagak Hills**	**6.04**	**345**		**Pn**	**19 20 26.1**	**-0.9**
N17K	**Nushagak Hills**	**6.04**	**345**	P	**Pn**	**19 20 26.0**	**-0.9**
baz=162							
N19K	**Bonanza Creek**	**6.09**	**358**	Pn	**Pn**	**19 20 27.6**	**-0.2**
N19K	**Bonanza Creek**	**6.09**	**358**	P	**Pn**	**19 20 27.3**	**-0.5**
baz=177							
SLKM	**Skilak Lake**	**6.13**	**18**		**Pn**	**19 20 26.4**	**-1.9**
O22K	**Cooper Landing**	**6.20**	**20**		**Pn**	**19 20 28.9**	**-0.3**
CAPN	**Captain Cook N**	**6.23**	**13**	Pn	**Pn**	**19 20 30.4**	**+0.7**
N16K	**Nishlik Lake**	**6.28**	**338**		**Pn**	**19 20 29.4**	**-0.9**
N16K	**Nishlik Lake**	**6.28**	**338**	P	**Pn**	**19 20 29.4**	**-0.9**
baz=154							
Q23K	**Middleton Isla**	**6.29**	**39**	Pn	**Pn**	**19 20 28.6**	**-1.9**
Q23K	**Middleton Isla**	**6.29**	**39**	P	**Pn**	**19 20 27.8**	**-2.7**
baz=223							
MID	**Middleton Isla**	**6.29**	**39**	P	**Pn**	**19 20 30.4**	**-0.1**
MID	**Middleton Isla**	**6.29**	**39**	Pn	**Pn**	**19 20 28.5**	**-2.0**
N15K	**Kwethluk River**	**6.34**	**331**	Pn	**Pn**	**19 20 30.7**	**-0.5**
N15K	**Kwethluk River**	**6.34**	**331**	P	**Pn**	**19 20 30.4**	**-0.8**
baz=147							
P23K	**Montague Islan**	**6.37**	**32**		**Pn**	**19 20 29.6**	**-1.9**
P23K	**Montague Islan**	**6.37**	**32**	P	**Pn**	**19 20 29.6**	**-1.9**
baz=216							
SVW2	**Sparrevohn**	**6.42**	**353**	P	**Pn**	**19 20 32.2**	**-0.1**
SVW2	**Sparrevohn**	**6.42**	**353**	Pn	**Pn**	**19 20 31.6**	**-0.7**
SPU	**Mount Spurr**	**6.54**	**8**		**Pn**	**19 20 33.0**	**-1.0**
N14K	**Kuskokwak Cree**	**6.63**	**325**		**Pn**	**19 20 34.4**	**-0.8**
N14K	**Kuskokwak Cree**	**6.63**	**325**	P	**Pn**	**19 20 34.4**	**-0.8**
baz=139							
FIS	**Fire Island**	**6.73**	**16**	Pn	**Pn**	**19 20 37.0**	**+0.6**
RC01	**Rabbit Creek A**	**6.76**	**18**	Pn	**Pn**	**19 20 36.0**	**-0.9**
RC01	**Rabbit Creek A**	**6.76**	**18**	P	**Pn**	**19 20 34.7**	**-2.2**
baz=201							
M16K	**Timber Creek**	**6.81**	**339**	Pn	**Pn**	**19 20 37.1**	**-0.5**
M16K	**Timber Creek**	**6.81**	**339**	P	**Pn**	**19 20 37.5**	**-0.2**
baz=156							
M18K	**Stony River**	**6.83**	**353**		**Pn**	**19 20 37.1**	**-0.8**
M18K	**Stony River**	**6.83**	**353**	P	**Pn**	**19 20 37.1**	**-0.8**
baz=171							
STLK	**Strandline Lak**	**6.87**	**9**		**Pn**	**19 20 37.4**	**-1.1**
M17K	**Holitna River**	**6.91**	**346**	Pn	**Pn**	**19 20 38.5**	**-0.4**
M17K	**Holitna River**	**6.91**	**346**	P	**Pn**	**19 20 38.5**	**-0.4**
baz=163							
M15K	**Kasigluk River**	**6.94**	**332**		**Pn**	**19 20 38.7**	**-0.7**
M15K	**Kasigluk River**	**6.94**	**332**	P	**Pn**	**19 20 38.7**	**-0.7**
baz=147							
SUA	**Susitna One**	**6.96**	**13**	Pn	**Pn**	**19 20 38.5**	**-1.3**
SUA	**Susitna One**	**6.96**	**13**	P	**Pn**	**19 20 38.8**	**-1.0**
baz=195							
HIN	**Hinchinbrook I**	**6.96**	**33**	Pn	**Pn**	**19 20 38.4**	**-1.3**
M20K	**Styx River**	**7.17**	**3**		**Pn**	**19 20 42.9**	**+0.2**
GLI	**Glacier Island**	**7.18**	**28**		**Pn**	**19 20 41.4**	**-1.2**
GLI	**Glacier Island**	**7.18**	**28**	P	**Pn**	**19 20 40.1**	**-2.6**
baz=213							
M19K	**Big River Lodg**	**7.18**	**359**		**Pn**	**19 20 41.7**	**-1.0**
FID	**Port Fidalgo**	**7.25**	**31**		**Pn**	**19 20 41.3**	**-2.3**
KNK	**Knik Glacier**	**7.31**	**22**		**Pn**	**19 20 43.4**	**-1.1**
EYAK	**Cordova Ski Ar**	**7.32**	**34**	P	**Pn**	**19 20 45.2**	**+0.6**
KAIM	**Kayak Island**	**7.35**	**41**		**Pn**	**19 20 43.8**	**-1.2**
KAIM	**Kayak Island**	**7.35**	**41**	P	**Pn**	**19 20 43.6**	**-1.4**
baz=228							
M14K	**Bethel**	**7.36**	**328**	Pn	**Pn**	**19 20 43.3**	**-1.8**
M14K	**Bethel**	**7.36**	**328**	P	**Pn**	**19 20 44.8**	**-0.3**
baz=142							
SKT	**Skwentna**	**7.37**	**9**	Pn	**Pn**	**19 20 44.7**	**-0.6**
SKT	**Skwentna**	**7.37**	**9**	P	**Pn**	**19 20 43.8**	**-1.5**
baz=191							
L19K	**White Mountain**	**7.47**	**357**	Pn	**Pn**	**19 20 46.5**	**-0.2**
L19K	**White Mountain**	**7.47**	**357**	P	**Pn**	**19 20 46.1**	**-0.6**
baz=176							
GHO	**Glory Hole Cre**	**7.54**	**19**		**Pn**	**19 20 46.7**	**-1.0**
L16K	**Owhat River**	**7.54**	**340**	Pn	**Pn**	**19 20 46.1**	**-1.6**
M13K	**Dall Lake**	**7.56**	**322**	Pn	**Pn**	**19 20 46.2**	**-1.7**
RAGM	**Ragged Mountai**	**7.57**	**38**		**Pn**	**19 20 47.0**	**-1.1**
L18K	**Granite Mounta**	**7.62**	**351**		**Pn**	**19 20 48.3**	**-0.4**
L18K	**Granite Mounta**	**7.62**	**351**	P	**Pn**	**19 20 48.7**	**0.0**
baz=168							
HMT	**Ham

CAST	Castle Rocks	8.76	6	Pn	Pn	19 21 03.5	-0.8
CAST	Castle Rocks	8.76	6	P	Pn	19 21 04.7	+0.4
	baz=187						
MCARA	McCarthy VSAT	8.84	37		Pn	19 21 03.5	-1.9
J18K	Innoko River	8.85	352	Pn	Pn	19 21 04.1	-1.5
BALM	Baldy	8.85	40		Pn	19 21 04.5	-1.2
GRNC	Granite Creek	8.89	43		Pn	19 21 04.5	-1.8
PTPK	Patty Peak	8.91	39		Pn	19 21 05.7	-0.9
KTH	Kantishna Hill	8.98	9	Pn	Pn	19 21 06.2	-1.2
DHY	Denali Highway	9.03	20	Pn	Pn	19 21 07.0	-1.2
DHY	Denali Highway	9.03	20	P	Pn	19 21 07.0	-1.2
	baz=205						
J17K	VABM Dome	9.05	345	Pn	Pn	19 21 06.9	-1.3
J17K	VABM Dome	9.05	345	P	Pn	19 21 07.0	-1.3
	baz=161						
RND	Reindeer	9.08	15	Pn	Pn	19 21 07.2	-1.6
K13K	Kusilvak Mount	9.10	327	Pn	Pn	19 21 07.5	-1.5
K13K	Kusilvak Mount	9.10	327	P	Pn	19 21 08.3	-0.7
	baz=138						
YKU2	Yakutat	9.15	53	Pn	Pn	19 21 08.5	-1.2
PCA	Pinnacle	9.16	49		Pn	19 21 08.8	-1.1
PINM	Pinnacle	9.16	49	P	Pn	19 21 08.8	-1.1
	baz=239						
CTG	Chitna Glacier	9.19	42	P	Pn	19 21 09.1	-1.3
	baz=232						
CTGM	Chitina Glacie	9.19	42		Pn	19 21 09.1	-1.3
J16K	Anvik River	9.20	341	Pn	Pn	19 21 09.4	-0.9
J16K	Anvik River	9.20	341	P	Pn	19 21 09.0	-1.3
	baz=156						
LOGN	Logan Glacier	9.24	44		Pn	19 21 09.7	-1.3
J19K	Poorman	9.31	356	Pn	Pn	19 21 11.2	-0.7
J19K	Poorman	9.31	356	P	Pn	19 21 10.5	-1.3
	baz=174						
PNL	Peninsula	9.34	52	P	Pn	19 21 11.7	-0.7
J14K	Nanvaranak Lak	9.41	332	Pn	Pn	19 21 13.1	-0.2
J20K	Nowinta River	9.46	360	Pn	Pn	19 21 13.8	-0.1
J20K	Nowinta River	9.46	360	P	Pn	19 21 12.6	-1.3
	baz=179						
BPAW	Bear Paw Mtn.	9.51	8	Pn	Pn	19 21 14.3	-0.3
O28M	Mount Upton	9.54	45		Pn	19 21 12.8	-2.5
O28M	Mount Upton	9.54	45	P	Pn	19 21 12.8	-2.5
	baz=236						
I17K	Unalakleet	9.77	342	Pn	Pn	19 21 17.1	-1.0
M27K	Edge Creek, AK	9.91	35		Pn	19 21 19.6	-0.6
O29M	Mount Kennedy	9.99	50		Pn	19 21 20.6	-0.7
O29M	Mount Kennedy	9.99	50	P	Pn	19 21 17.6	-3.8
	baz=242						
P29M	Windy Craggy	10.10	54		Pn	19 21 21.7	-1.0
NEA2	Nenana	10.19	12		Pn	19 21 21.9	-2.0
WRH	Wood River Hil	10.20	15		Pn	19 21 23.2	-0.9
HDA	Harding Lake	10.33	17		Pn	19 21 25.7	-0.1
S31K	Pelican	10.39	65	Pn	Pn	19 21 23.9	-2.7
S31K	Pelican	10.39	65	P	Pn	19 21 22.2	-4.4
	baz=258						
CCB	Clear Creek Bu	10.41	15		Pn	19 21 25.6	-1.3
L27K	Beaver Creek,	10.44	32	Pn	Pn	19 21 26.7	-0.6
BCAR	Beaver Creek A	10.46	32		Pn	19 21 27.1	-0.5
SCRK	Sand Creek	10.57	25		Pn	19 21 29.3	+0.1
H17K	Granite Mounta	10.63	346	Pn	Pn	19 21 29.6	-0.4
MDM	Murphy Dome	10.65	13		Pn	19 21 28.8	-1.4
H18K	Honhosa River	10.66	350	Pn	Pn	19 21 30.0	-0.3
IL31		10.67	17		Pn	19 21 30.2	-0.2
ILAR	Eielson Array	10.67	17	Pn	Pn	19 21 29.4	-1.1
ILAR	Eielson Array	10.67	17	Pn	Pn	19 21 30.2	-0.3
	comp=N,0.8nm,0.3s,baz=216,slow=13,SNR=51						
ILAR				Sn	Sn	19 23 22.8	-5.8
	comp=N,0.6nm,0.3s,baz=240,slow=7.9,SNR=8.1						
I23K	Minto, Yukon-K	10.69	11		Pn	19 21 29.2	-1.5
HYT	Haines Junctio	10.71	49	Pn	Pn	19 21 30.6	-0.5
J25K	Salcha River,	10.81	20	Pn	Pn	19 21 31.4	-1.0
H19K	Roundabout Mou	10.88	355	Pn	Pn	19 21 32.4	-0.9
POKR	Poker Plat Res	10.91	15	Pn	Pn	19 21 33.1	-0.7
H21K	Melozitna Rive	10.96	3	Pn	Pn	19 21 33.6	-0.9
J26L	Joseph Creek	11.11	24	Pn	Pn	19 21 36.0	-0.6
M29M	Somme Creek	11.18	40		Pn	19 21 37.5	0.0
N30M	Aishikik Lake	11.19	46		Pn	19 21 36.8	-0.8
S32K	Kiliisnoo	11.20	68	Pn	Pn	19 21 34.2	-3.4
IMAR	Indian Mountai	11.28	1	Pn	Pn	19 21 37.6	-1.1
O30N	Mendenhall	11.31	51	Pn	Pn	19 21 38.7	-0.5
H23K	Yukon River	11.33	9		Pn	19 21 38.4	-1.1
G18K	Tagagawik	11.41	350	Pn	Pn	19 21 39.9	-0.7
JIS	Juneau Island	11.41	64	P	Pn	19 21 40.7	+0.1
G16K	Koyuk River	11.44	342	Pn	Pn	19 21 40.6	-0.4
H24K	Noodor Dome	11.53	13	Pn	Pn	19 21 41.1	-1.2
G19K	Purcell Mounta	11.53	354	Pn	Pn	19 21 41.7	-0.5
L29M	L29M	11.71	38		Pn	19 21 43.7	-1.0
WHY	Whitehorse	11.81	52	Pn	Pn	19 21 45.0	-1.1
G21K	Allakaket	11.81	1	Pn	Pn	19 21 45.1	-0.9
I26K	Coal Creek Min	11.88	23		Pn	19 21 46.8	-0.2
U33K	Whale Pass	11.96	75	Pn	Pn	19 21 45.3	-2.7
P32M	Atlin	12.03	58	Pn	Pn	19 21 47.2	-1.9
G23K	Bananza Creek	12.16	8	Pn	Pn	19 21 49.5	-1.4
F20K	Avaraart Lake	12.37	357	Pn	Pn	19 21 53.4	-0.3
K29M	Barlow Dome	12.38	36	Pn	Pn	19 21 53.4	-0.6
F21K	Alatna River	12.52	1	Pn	Pn	19 21 55.1	-0.7
Q32M	Nakina River	12.62	62	Pn	Pn	19 21 56.6	-0.6
P33M	Teslin, Yukon	12.63	56	Pn	Pn	19 21 55.7	-1.7
M31M	Drury Creek, Y	12.67	46	Pn	Pn	19 21 57.3	-0.5
I28M	Miner Creek	12.79	27		Pn	19 21 58.5	-1.0
E19K	Redstone River	12.84	354	Pn	Pn	19 21 59.3	-0.8
E18K	Tukpahlearik C	13.09	349	Pn	Pn	19 22 03.5	0.0
J30M	Hart River	13.25	35	Pn	Pn	19 22 06.0	+0.2
R33M	Jennings River	13.35	60	Pn	Pn	19 22 06.1	-1.1
GSTR	Great Sitkin T	13.38	268	Pn	Pn	19 22 03.7	-3.9
G27K	Doyon Strip	13.49	21		Pn	19 22 07.7	-1.3
BMAR	Burnt Mountain	13.49	16	Pn	Pn	19 22 07.0	-2.1
E24K	Your Creek	13.63	9	Pn	Pn	19 22 09.7	-1.1
I30M	Mount Dempster	13.66	33	Pn	Pn	19 22 12.4	+0.9
E21K	Killik River	13.74	0	Pn	Pn	19 22 11.9	-0.5
H29M	Whitestone	13.80	27	Pn	Pn	19 22 12.3	-0.8
D19K	Kuna River	13.93	354	Pn	Pn	19 22 14.2	-0.7
E25K	Arctic Village	13.99	13	Pn	Pn	19 22 12.6	-3.3
G29M	Pine Creek	14.42	26	Pn	Pn	19 22 21.0	-0.6
F28M	Old Crow	14.54	22	Pn	Pn	19 22 22.2	-1.1
C19K	Lookout Ridge	14.63	352	Pn	Pn	19 22 23.1	-1.4
E27K	Coleen River	14.69	19	Pn	Pn	19 22 24.2	-1.0
C23K	Itkillik River	15.22	5	Pn	Pn	19 22 31.8	-0.5
C23K				IAmb	IAmb	19 22 44.6	
	comp=Z,6.2nm,1.2s						
E28M	Babbage River	15.44	20		Pn	19 22 34.7	-0.5
G31M	Satah River	15.45	30		Pn	19 22 35.2	0.0
G31M				IAmb	IAmb	19 22 36.3	
	comp=Z,5.9nm,0.8s						
E29M	Blow River	15.61	23		Pn	19 22 36.9	-0.5
BBB	Bella Bella	15.62	89	LR	LR	19 26 53.2	
	comp=Z,56nm,21.0s,baz=106,slow=30						
D27M	Malcolm River	15.72	17		Pn	19 22 39.4	+0.5
D27M				IAmb	IAmb	19 23 01.0	
	comp=Z,5.5nm,0.8s						
INK	Inuvik	16.61	27	Pn	Pn	19 22 51.0	+0.9
	comp=Z,0.4nm,0.3s,baz=230,slow=7.7,SNR=3.1						
	comp=Z,1.9nm,0.5s						
SHEM	Shemya Is, Ala	18.87	277	LR	LR	19 29 38.4	
	comp=Z,29nm,21.3s,baz=334,slow=34						
YKA	Yellowknife Ar	21.64	53	P	P	19 23 44.5	-2.7
YKA	Yellowknife Ar	21.64	53	P	P	19 23 47.9	+0.7
	comp=Z,2.7nm,0.7s,baz=271,slow=9.8,SNR=17						
	comp=Z,2.7nm,0.7s						
NEW	Newport	23.67	91	LR	LR	19 31 43.3	
	comp=Z,30nm,19.5s,baz=312,slow=32						
YBH	Yreka Blue Hor	24.36	109	LR	LR	19 31 31.3	
	comp=Z,22nm,21.6s,baz=304,slow=31						
PETK	Petropavlovsk-	28.02	287	LR	LR	19 36 22.9	
	comp=Z,19nm,20.6s,baz=328,slow=37						
ELK	Elko	29.19	102	LR	LR	19 34 08.1	
	comp=Z,35nm,21.1s,baz=304,slow=31						
MA2	Magadan	29.56	302	LR	LR	19 39 11.4	
	comp=Z,13nm,18.3s,baz=284,slow=41						
PDAR	Pinedale Array	31.15	94	P	P	19 25 16.5	+0.7
	comp=Z,0.4nm,0.6s,baz=298,slow=6.2,SNR=4.2						
	comp=Z,0.4nm,0.6s						
TXAR	Lajitas Array	43.95	104	P	P	19 27 04.6	+0.7
	comp=Z,0.3nm,0.6s,baz=323,slow=5.7,SNR=2.5						
TXAR				LR	LR	19 43 49.1	
	comp=Z,23nm,18.5s,baz=328,slow=34						
	comp=Z,0.3nm,0.6s						
KLR	Kul'dur	44.05	295	P	P	19 27 04.6	+0.3
	comp=Z,1.8nm,0.8s,baz=27,slow=6.8,SNR=3.6						
	comp=Z,1.8nm,0.8s						
H11N2	WAKE ISLAND Hy	45.77	236	T	T	20 17 14.3	
	baz=29,slow=76,SNR=30						
H11N3	WAKE ISLAND Hy	45.78	236	T	T	20 17 17.0	
	baz=29,slow=76,SNR=29						
H11N1	WAKE ISLAND Hy	45.79	236	T	T	20 17 15.6	
	baz=29,slow=76,SNR=24						
H11S1	WAKE ISLAND Hy	46.91	235	T	T	20 18 49.0	
	baz=28,slow=76,SNR=28						
H11S2	WAKE ISLAND Hy	46.93	235	T	T	20 18 46.8	
	baz=28,slow=76,SNR=25						
H11S3	WAKE ISLAND Hy	46.93	235	T	T	20 18 42.1	
	baz=28,slow=76,SNR=24						
NRIK	Noril'sk	48.40	335	P	P	19 27 39.7	+1.4
	comp=Z,4.2nm,0.5s,baz=72,slow=7.3,SNR=7.5						
	comp=Z,4.2nm,0.5s						
JMIC	Jan Mayen	52.19	14	LR	LR	19 50 26.0	
	comp=Z,14nm,22.0s,baz=66,slow=36						
KSRS	Korea Array	53.91	286	P	P	19 28 21.1	+1.2
	comp=Z,1.4nm,0.7s,baz=55,slow=6.8,SNR=3.0						
	comp=Z,1.4nm,0.7s						
ARCES	ARCESS Array B	56.02	0	P	P	19 28 35.6	+0.8
	comp=Z,0.5nm,0.5s,baz=19,slow=7.7,SNR=5.1						
	comp=Z,0.5nm,0.5s						
SONM	Songino Array	57.51	308	P	P	19 28 46.8	+0.9
	comp=Z,1.1nm,0.7s,baz=60,slow=5.5,SNR=6.8						
	comp=Z,1.1nm,0.7s						
ZALV	Zalesovo Beam	61.31	325	P	P	19 29 13.4	+1.6
	comp=Z,1.5nm,0.8s,baz=41,slow=7.9,SNR=5.7						
	comp=Z,1.5nm,0.8s						
NB2	NORSAR Subarra	63.97	8	P	P	19 29 30.5	+1.0
	comp=Z,0.7nm,0.5s,baz=352,slow=6.9						
NOA	NORSAR Array B	63.97	8	P	P	19 29 30.4	+1.0
	comp=Z,1.6nm,0.8s,baz=351,slow=6.6,SNR=5.3						
	comp=Z,1.6nm,0.8s						
FINES	FINESS Array B	64.15	360	P	P	19 29 31.4	+0.9
	comp=Z,1.0nm,0.5s,baz=1.2,slow=8.3,SNR=11						
	comp=Z,1.0nm,0.5s						
HFS	Hagfors	65.05	7	P	P	19 29 37.2	+0.7
	comp=Z,2.9nm,0.9s,baz=354,slow=1.4,SNR=5.3						
	comp=Z,2.9nm,0.9s						
KURBB	Kurchatov Arra	66.19	326	P	P	19 29 45.1	+1.1
	comp=Z,1.3nm,0.2s,baz=30,slow=5.7,SNR=6.7						
	comp=Z,1.3nm,0.2s						
BVAR	Borovoye Array	66.47	333	P	P	19 29 46.8	+1.1
	comp=Z,2.5nm,0.6s,baz=40,slow=6.5,SNR=17						
	comp=Z,2.5nm,0.6s						
EKA	Eskdalemuir Ar	67.71	17	P	P	19 29 54.7	+1.1
	comp=Z,1.8nm,0.7s,baz=318,slow=4.9,SNR=9.7						
	comp=Z,1.8nm,0.7s						
MKAR	Makanchi Array	68.21	322	P	P	19 29 57.6	+0.7
	comp=Z,1.3nm,0.9s,baz=43,slow=5.5,SNR=6.9						
	comp=Z,1.3nm,0.9s						
GERES	GERESS Array B	76.27	8	P	P	19 30 46.1	+1.1
	comp=Z,0.4nm,0.7s,baz=353,slow=15,SNR=2.0						
	comp=Z,0.4nm,0.7s						
KBZ	Khabaz	80.84	348	P	P	19 31 12.2	+2.1
	comp=Z,1.9nm,0.7s,baz=71,slow=9.8,SNR=3.7						
	comp=Z,1.9nm,0.7s						
ESDC	Sonseca Array	82.51	23	P	P	19 31 19.8	+0.6
	comp=Z,0.7nm,0.7s,baz=337,slow=4.6,SNR=7.4						
	comp=Z,0.7nm,0.7s						
BRTR	Keskin Array B	85.67	354	P	P	19 31 35.8	+0.5
	comp=Z,0.4nm,0.8s,baz=346,slow=9.5,SNR=2.1						
	comp=Z,0.4nm,0.8s						
QSPA	South Pole Qui	144.53	180	PKP	PKPab	19 38 29.3	-0.7
	comp=Z,1.1nm,0.6s,baz=95,slow=0.6,SNR=9.7						

*AEIC **03** 19:35:45.1±2.0, 55°.89N±0°.07×150°.8W±0°.1, h8km±6km, Error ellipse: s-maj=13.1km s-min=6.5km az=138.0*
NEIC 03 19:35:39.4±1.4, 55.85N±0°.09×150°.7W±0°.1, h9km±8km, ML2.7/28, ML2.6(AEIC), Error ellipse: s-maj=13.6km s-min=8.8km az=161.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	1.98	315		Pn	19 36 12.6	-0.5
SII	Sitkinak Islan	2.06	291		Pn	19 36 13.7	-0.6
SII				IAML		19 37 14.1	
	comp=N,30nm,1.2s						
SII	Sitkinak Islan	2.06	291		Sn	19 36 37.3	-2.9
KDAK	Kodiak Island	2.19	333		Pn	19 36 16.0	0.0
KDAK	Kodiak Island	2.19	333		Sn	19 36 40.9	-2.4
R18K	Karluk	2.68	311		Pn	19 36 22.9	+0.1
R18K				IAML		19 38 06.8	
	comp=N,28nm,0.3s						
R18K				IAML		19 38 07.9	
	comp=E,44nm,0.5s						
SYI	Shuyak Island	2.91	342		Pn	19 36 26.1	+0.2
SYI				IAML		19 36 56.0	
	comp=E,11nm,1.2s						
SYI				IAML		19 38 10.5	
	comp=N,10nm,1.1s						
SYI	Shuyak Island	2.91	342		Sn	19 36 56.2	-4.8
ACHA	Angle Creek He	3.46	315	Pn	Pn	19 36 34.8	+1.3
ACHA				IAML		19 38 33.2	
	comp=E,7.6nm,0.4s						
ACHA				IAML		19 38 34.3	
	comp=N,13nm,0.5s						
Q19K	Cape Douglas,	3.47	334	Pn	Pn	19 36 35.0	+1.3
KABU	Katmai Buttres	3.48	316	Pn	Pn	19 36 34.9	+1.1
KABU				IAML		19 38 33.1	
	comp=N,35nm,0.6s						
ANCK	Angle Creek	3.52	314	Pn	Pn	19 36 34.8	+0.5
KAHC	Katmai Hardscr	3.65	322		Pn	19 36 36.4	+0.3
CNPM	China Poot	3.69	356		Sn	19 37 17.7	-2.6
CNPM	China Poot	3.69	356	Pn	Pn	19 36 36.1	-0.6
CNTC	Contact Creek	3.72	313		Pn	19 36 37.5	+0.4
P19K	Oil Pt	4.04	342		Pn	19 36 41.6	+0.1
P19K				IAML		19 39 24.9	
	comp=E,17nm,0.8s						
MID	Middleton Isla	4.29	31	Pn	Pn	19 36 44.4	-0.4
P18K	Big Mountain,	4.30	327		Pn	19 36 44.7	-0.3
P18K				IAML		19 38 52.9	
	comp=E,14nm,1.2s						
P18K				IAML		19 38 53.3	
	comp=N,14nm,0.7s						
ILSW	Iliamna Southw	4.34	344	Pn	Pn	19 36 45.5	-0.2
ILSW				IAML		19 39 27.5	
	comp=E,6.4nm,1.0s						
ILSW				IAML		19 39 33.5	
	comp=N,6.2nm,0.9s						
O20K	Slope Mountain	4.36	347		Pn	19 36 46.1	+0.2
O18K	Koktuh Hills	4.67	331		Pn	19 36 50.1	-0.1
CAPN	Captain Cook N	4.94	357	Pn	Pn	19 36 52.9	-0.8
HIN	Hinchinbrook I	5.07	24	Pn	Pn	19 36 54.5	-1.2
CNBA	Chernabura Isl	5.17	262	Pn	Pn	19 36 54.9	-2.0
RC01	Rabbit Creek A	5.28	5	Pn	Pn	19 36 57.9	-0.5
KAIM	Kayak Island	5.29	37		Pn	19 36 58.6	+0.1
FIS	Fire Island	5.31	3	Pn	Pn	19 36 57.1	-1.8
N19K	Bonanza Creek	5.36	340	Pn	Pn	19 36 59.4	-0.2
GLI	Glacier Island	5.39	19	Pn	Pn	19 36 59.7	-0.3
FID	Port Fidalgo	5.39	23	Pn	Pn	19 36 57.2	-2.9
O16K	Kokwok River B	5.45	317	Pn	Pn	19 37 01.0	+0.2
SPCP	Crater Peak Br	5.48	353		Pn	19 37 01.3	-0.1
N18K	Kilae Creek	5.56	333	Pn	Pn	19 37 02.2	-0.1
SUCK	Suckling Hills	5.61	38	Pn	Pn	19 37 03.1	0.0
M18K	Stony River	6.25	337		Pn	19 37 11.7	0.0
MESA	MESA	6.36	43	Pn	Pn	19 37 14.9	+1.4
M17K	Holitna River	6.58	331	Pn	Pn	19 37 16.8	+0.6
N15K	Kwethluk River	6.60	315	Pn	Pn	19 37 16.9	+0.4
L19K	White Mountain	6.70	343	Pn	Pn	19 37 19.2	+1.3
M16K	Timber Creek	6.75	324	Pn	Pn	19 37 19.2	+0.6
S31K	Pelican	8.20	69		Pn	19 37 37.2	-1.3

*VIE **03** 19:38:45.9±0.5, 51°.77N×16°.28E, h0km, mb3.7/22, ml4.1/13, ms4.0/8, Error ellipse: s-maj=5.6km s-min=3.3km az=7.0, Suspected Mining induced.*
*BGS **03** 19:38:47.8±2.4, 52°.18N×16°.50E, h10km, ML4.4*
*IPEC **03** 19:38:47.7±0.2, 51°.62N×16°.23E, h1km, ML3.7/4, Error ellipse: s-maj=2.0km s-min=1.2km az=37.0*
*MCSM **03** 19:38:48.5±0.5, 52°N±4°×1°6E±°, h10km±4km, mb4.3, mB4.9, MLv4.4, Mw(mB)4.2*
*MOS **03** 19:38:48.0±1.0, 51°.60N×16°.18E, h10km, mb4.6/11, Error ellipse: s-maj=5.2km s-min=3.1km az=85.2*
*BUG **03** 19:38:48.7±0.4, 51°.51N×16°.27E, h0km, MD4.9/2, ML4.9/25*
*IDC **03** 19:38:49.3±0.4, 51°.53N×16°.11E, h0km, mb3.9/11, mbtmp3.9/22, ML3.4/10, Error ellipse: s-maj=8.5km s-min=5.3km az=107.0*
*NEIC **03** 19:38:49.2±2.7, 51°.56N±0°.04×16°.16E±0°.05, h9km±4km, mb4.4/40, ML4.1/13(VIE), Error ellipse: s-maj=6.7km s-min=4.0km az=158.0*
*LDG **03** 19:38:49.0±0.2, 51°.61N×16°.22E, h1km, Ml4.5/21, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*BNS **03** 19:38:50.3±0.4, 51°.43N×16°.11E, h1km, ML4.0*

*BGR **03** 19:38:51.0±0.2, 51°.47N×16°.11E, h1km, ML4.1/46, Error ellipse: s-maj=2.2km s-min=1.1km az=25.0*
*DNK **03** 19:39:28.4±0.9, 54°.20N×14°.34E, h14km±26km, ML2.3*
ISC 03 19:38:47.8±0.3, 51°.51N±0°.02×16°.14E±0°.02, h0km, n496, σ1991/638, mb4.4/40, 22C-23D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	Chvalec	0.93	183	ePG	Pb	19 39 08.0	+1.3
CHVC				eSG	Sb	19 39 20.3	+0.7
CHVC	Chvalec	0.93	183	eP	Pb	19 39 08.0	+1.3
CHVC				e		19 39 20.3	
OSTC	Ostas	0.96	177	ePG	Pb	19 39 08.5	+1.2
OSTC				eSG	Sb	19 39 21.1	+0.6
OSTC	Ostas	0.96	177	eP	Pb	19 39 08.5	+1.2
OSTC				e		19 39 21.1	
UPC	Upice	1.01	185	ePG	Pb	19 39 09.2	+1.1
UPC				eSG	Sb	19 39 22.8	+0.8
	comp=Z,1μm,0.6s						
UPC	Upice	1.01	185	eP	Pb	19 39 09.2	+1.1
UPC				e		19 39 22.8	
UPC				smax	smax		
	comp=N,1μm,0.6s						
DPC	Dobruska-Polom	1.17	174	ePG	Pn	19 39 12.0	+0.5
DPC				eSG	Sg	19 39 27.1	+1.8
	comp=N,598nm,0.3s						
DPC				AMS	AMS	19 39 30.0	
	comp=N,900nm,5.3s						
DPC	Dobruska-Polom	1.17	174	ePg	Pn	19 39 12.0	+0.5
DPC				eSg	Sb	19 39 27.6	+0.9
DPC	Dobruska-Polom	1.17	174	eP	Pn	19 39 12.0	+0.5
DPC				e		19 39 27.1	
DPC				smax	smax		
	comp=N,598nm,0.3s						
DPC				MLR	MLR		
	comp=Z,900nm,5.3s						
DPC	Dobruska-Polom	1.17	174	ePg		19 39 12.0	
DPC				eSg		19 39 27.6	
PVCC	Panska Ves	1.40	226	ePG	Pb	19 39 16.3	+1.6
PVCC				eSG	Sn	19 39 36.2	+2.5
	comp=Z,1μm,0.4s						
PVCC	Panska Ves	1.40	226	ePn	Pb	19 39 16.2	+1.4
PVCC	Panska Ves	1.40	226	eP	Pb	19 39 16.3	+1.6
PVCC				e		19 39 36.2	
PVCC				smax	smax		
	comp=N,1μm,0.4s						
PVCC	Panska Ves	1.40	226	ePn		19 39 16.2	
KRLC	Kraliky	1.50	164	ePG	Pb	19 39 17.1	+0.7
KRLC				eSG	Sn	19 39 37.4	+1.2
	comp=N,430nm,0.3s						
KRLC	Kraliky	1.50	164	eP	Pb	19 39 17.1	+0.7
KRLC				e		19 39 37.4	
KRLC				smax	smax		
	comp=N,431nm,0.3s						
BRG	Berggiesshubel	1.52	246	Pn	Pn	19 39 17.1	+0.9
BRG				Pg	Pg	19 39 19.1	+2.2
BRG				Sg	Sg	19 39 39.6	+3.0
BRG				Amp		19 39 41.6	
	comp=Z,1μm,0.4s						
BRG				Amp		19 39 50.0	
	comp=N,0.8nm,3.4s						
BRG				Amp		19 39 53.0	
	comp=E,0.8nm,3.8s						
BRG				Amp		19 39 55.0	
	comp=Z,1.0nm,5.4s						
BRG	Berggiesshubel	1.52	246	ePn	Pg	19 39 17.9	+1.0
BRG				ePg	Pb	19 39 18.9	+2.0
BRG	Berggiesshubel	1.52	246	P	Pn	19 39 17.1	+0.9
BRG	Berggiesshubel	1.52	246	ePn		19 39 17.9	
BRG				ePg		19 39 18.9	
RICC	Richard	1.61	234	ePG	Pg	19 39 19.4	+0.7
RICC				eSG	Sg	19 39 41.7	+2.2
RUE	Ruedersdorf	1.75	304	eP	Pn	19 39 20.2	+0.9
PRA	Prague	1.81	217	ePN	Pb	19 39 21.8	+0.1
PRA				ePG	Pg	19 39 24.3	+2.0
PRA				eSG	Sg	19 39 48.3	+2.6
PRA				AMS	AMS	19 40 10.0	
	comp=Z,2μm,2.2s						
PRA	Prague	1.81	217	eP	Pb	19 39 21.8	+0.1
PRA				e		19 39 48.3	
PRA				MLR	MLR		
	comp=Z,2μm,2.2s						
GOPC	GO Pecny, Ondr	1.82	209	eSG	Sg	19 39 47.9	+1.8
PRU	Pruhonice	1.83	214	ePN	Pn	19 39 21.8	+1.3
PRU				ePG	Pg	19 39 23.7	+0.8
PRU				eSG	Sg	19 39 49.0	+2.4
	comp=Z,522nm,0.6s						
PRU				AMS	AMS	19 40 00.0	
	comp=Z,1μm,3.6s						
PRU	Pruhonice	1.83	214	ePn	Pn	19 39 21.7	+1.2
PRU				ePg	Pg	19 39 24.0	+1.1
PRU	Pruhonice	1.83	214	eP	Pn	19 39 21.8	+1.3
PRU				e		19 39 49.0	
PRU				smax	smax		
	comp=N,522nm,0.6s						
PRU				MLR	MLR		
	comp=Z,1μm,3.6s						
PRU	Pruhonice	1.

TREC *ePg* 19 39 31.7
TREC *eSn* 19 39 54.1
TREC *eSg* 19 40 01.7
ABG1 Leinawald 2.31 258 *eSg* **Sg 19 40 03.3 +1.5**
ABG1 Leinawald 2.31 258 *eSg* 19 40 03.3
MODW Modelwitz 2.38 257 *ePn* **Pn 19 39 29.4 +1.5**
MODW *ePg* **Pg 19 39 35.6 +2.4**
MODW *eSg* **Sg 19 40 05.3 +1.2**
MODW Modelwitz 2.38 257 *ePn* 19 39 29.4
MODW *ePg* 19 39 35.6
MODW *eSg* 19 40 05.3
MAUC Maruska 2.41 153 *ePG* **Pg 19 39 34.4 +0.5**
MAUC *eSG* **Sg 19 40 07.1 +2.1**
ZVC Zvikov 2.42 212 *ePG* **Pg 19 39 35.1 +1.0**
KRUC Moravsky 2.46 176 *ePn* **Pn 19 39 30.3 +1.2**
baz=358
KRUC *eSg* **Sg 19 40 08.1 +1.3**
comp=Z,254nm,0.6s,baz=358
KRUC Moravsky 2.46 176 *ePn* **Pn 19 39 31.1 +2.0**
KRUC *eSg* **Sg 19 40 07.7 +0.9**
KRUC Moravsky 2.46 176 P **Pn 19 39 30.7 +1.6**
KRUC Moravsky 2.46 176 *ePn* 19 39 31.1
KRUC *eSg* 19 40 07.7
HKWD Heukewalde 2.53 256 *ePn* **Pn 19 39 32.0 +1.9**
HKWD *ePg* **Pg 19 39 38.0 +1.8**
HKWD *eSg* **Sg 19 40 10.4 +1.4**
HKWD Heukewalde 2.53 256 *ePn* 19 39 32.0
HKWD *ePg* 19 39 38.0
HKWD *eSg* 19 40 10.4
ZEITZ Schloss Moritz 2.56 261 *ePg* **Pg 19 39 38.1 +1.3**
ZEITZ Schloss Moritz 2.56 261 *ePg* 19 39 38.1
TANN Tannenbergstha 2.57 246 *ePn* **Pn 19 39 32.6 +1.9**
TANN *eSg* **Sg 19 40 10.5 +0.2**
TANN Tannenbergstha 2.57 246 *ePn* 19 39 32.6
TANN *eSg* 19 40 10.5
GRZ1 Mausoleum Wald 2.60 253 *ePn* **Pn 19 39 32.6 +1.5**
GRZ1 *ePg* **Pg 19 39 38.9 +1.3**
GRZ1 *eSg* **Sg 19 40 12.8 +1.5**
GRZ1 Mausoleum Wald 2.60 253 *ePn* 19 39 32.6
GRZ1 *ePg* 19 39 38.9
GRZ1 *eSg* 19 40 12.8
MULD Muldenberg 2.61 246 *ePn* **Pn 19 39 33.0 +1.8**
MULD *ePg* **Pg 19 39 40.2 +2.5**
MULD *eSg* **Sg 19 40 12.1 +0.7**
MULD Muldenberg 2.61 246 *ePn* 19 39 33.0
MULD *ePg* 19 39 40.2
MULD *eSg* 19 40 12.1
WERD Werda 2.65 248 *ePn* **Pn 19 39 33.3 +1.6**
WERD *ePg* **Pg 19 39 40.1 +1.7**
WERD *eSg* **Sg 19 40 14.2 +1.4**
WERD Werda 2.65 248 *ePn* 19 39 33.3
WERD *ePg* 19 39 40.1
WERD *eSg* 19 40 14.2
MLFH Mildenfurth 2.66 256 *ePn* **Pn 19 39 33.2 +1.4**
MLFH *ePg* **Pg 19 39 40.6 +2.0**
MLFH *eSg* **Sg 19 40 14.2 +1.1**
MLFH Mildenfurth 2.66 256 *ePn* 19 39 33.2
MLFH *ePg* 19 39 40.6
MLFH *eSg* 19 40 14.2
OJC Ojcow 2.66 118 *ePn* **Pn 19 39 31.0 -0.9**
OJC *ePg* **Pg 19 39 38.5 -0.2**
OJC *eSg* **Sg 19 40 14.0 +1.0**
OJC Ojcow 2.66 118 **Pn 19 39 30.9 -0.9**
OJC Pg **Pg 19 39 38.2 -0.4**
OJC Sn **Sn 19 40 02.4 -2.3**
OJC Ojcow 2.66 118 *eSg* **Sg 19 40 15.1 +2.0**
OJC Ojcow 2.66 118 P **Pg 19 39 38.2 -0.4**
OJC 19 40 02.4
OJC Ojcow 2.66 118 *eSg* 19 40 15.1
GUNZ Gunzen 2.67 246 *ePn* **Pn 19 39 33.5 +1.5**
GUNZ *ePg* **Pg 19 39 41.0 +2.1**
GUNZ Gunzen 2.67 246 *ePn* 19 39 33.5
GUNZ *ePg* 19 39 41.0
WERN Wernitzgruen 2.68 244 *ePn* **Pn 19 39 34.4 +2.3**
WERN *ePg* **Pg 19 39 40.9 +1.9**
WERN *eSg* **Sg 19 40 14.4 +0.6**
WERN Wernitzgruen 2.68 244 *ePn* 19 39 34.4
WERN *ePg* 19 39 40.9
WERN *eSg* 19 40 14.4
ROHR Rohrbach 2.74 244 *ePn* **Pn 19 39 34.6 +1.6**
ROHR *eSg* **Sg 19 40 16.9 +1.2**
ROHR Rohrbach 2.74 244 *ePn* 19 39 34.6
ROHR *eSg* 19 40 16.9
NEUB Neuenburg 2.75 265 *ePg* **Pg 19 39 41.8 +1.3**
NEUB Neuenburg 2.75 265 *ePg* 19 39 41.8
TRIB Obertriebel 2.79 247 *ePn* **Pn 19 39 35.1 +1.5**
TRIB *eSg* **Sg 19 40 17.8 +0.5**
TRIB Obertriebel 2.79 247 *ePn* 19 39 35.1
TRIB *eSg* 19 40 17.8
TAUT Tautenburg 2.83 261 *ePn* **Pn 19 39 35.6 +1.3**
TAUT *ePg* **Pg 19 39 43.2 +1.2**
TAUT *eSg* **Sg 19 40 20.5 +1.8**
TAUT Tautenburg 2.83 261 *ePn* 19 39 35.6
TAUT *ePg* 19 39 43.2
TAUT *eSg* 19 40 20.5
JAVC Velka Javorina 2.83 159 *ePn* **Pn 19 39 34.9 +0.6**
baz=342
JAVC Velka Javorina 2.83 159 *ePN* **Pn 19 39 35.0 +0.6**
WIMM Wimmelburg 2.89 272 *ePn* **Pn 19 39 37.1 +2.0**
WIMM *ePg* **Pg 19 39 44.1 +0.9**
WIMM Wimmelburg 2.89 272 *ePn* 19 39 37.1
WIMM *ePg* 19 39 44.1
KHC Kasperske Hory 2.90 215 **Pn 19 39 36.0 +0.9**
KHC Sn **Sn 19 40 09.1 -1.5**
KHC Kasperske Hory 2.90 215 *ePN* **Pn 19 39 36.8 +1.6**
KHC *ePG* **Pg 19 39 43.0 -0.2**
KHC *eSG* **Sg 19 40 21.6 +0.9**
comp=Z,226nm,0.5s
KHC AMS AMS 19 40 40.0
comp=Z,500nm,5.5s
KHC Kasperske Hory 2.90 215 *ePn* **Pn 19 39 36.7 +1.6**
KHC *eSg* **Sg 19 40 21.3 +0.5**
KHC Kasperske Hory 2.90 215 *ceP* **Pn 19 39 36.3 +1.2**
KHC pmax pmax
comp=Z,46nm,0.6s
KHC Kasperske Hory 2.90 215 P **Pn 19 39 36.5 +1.4**
KHC Kasperske Hory 2.90 215 *ePn* 19 39 36.7
KHC *eSg* 19 40 21.3
BEL Belsk 2.91 82 *ePn* **Pn 19 39 37.0 +1.6**
BEL *ePg* **Pg 19 39 48.0 +4.4**
BEL *eSg* **Sg 19 40 29.4 +8.1**
BEL Belsk 2.91 82 P **Pn 19 39 36.4 +1.1**
CKRC Cesky Krumlov 2.94 204 *ePN* **Pn 19 39 38.1 +2.3**
CKRC *ePG* **Pg 19 39 44.2 +0.1**
CKRC *eSG* **Sg 19 40 22.4 +0.2**
comp=Z,250nm,0.5s
CKRC AMS AMS 19 40 40.0
comp=Z,400nm,5.6s
CKRC Cesky Krumlov 2.94 204 *ePn* **Pn 19 39 37.9 +2.1**
CKRC *eSg* **Sg 19 40 22.5 +0.3**
CKRC Cesky Krumlov 2.94 204 *eP* **Pn 19 39 38.1 +2.3**
CKRC *e* 19 40 22.4
CKRC smax smax
comp=N,250nm,0.5s
CKRC MLR MLR
comp=Z,400nm,5.6s
CKRC Cesky Krumlov 2.94 204 *ePn* 19 39 37.9
CKRC *eSg* 19 40 22.5
MANZ Manzenberg 2.98 241 *ePn* **Pn 19 39 38.2 +1.9**
MANZ *eSg* **Sg 19 40 24.1 +0.6**
MANZ Manzenberg 2.98 241 *ePn* 19 39 38.2
MANZ *eSg* 19 40 24.1
MOX Moxa 2.98 255 Pn **Pn 19 39 37.6 +1.3**
MOX Pg **Pg 19 39 46.5 +1.7**
MOX *eSg* **Sg 19 40 25.2 +1.7**
MOX Moxa 2.98 255 P **Pn 19 39 37.8 +1.5**
MOX Moxa 2.98 255 *eSg* 19 40 25.2
ROTZ Rotzenmuhle 3.05 237 *ePn* **Pn 19 39 39.1 +1.8**
ROTZ *ePg* **Pg 19 39 47.8 +1.6**
ROTZ *eSg* **Sg 19 40 26.1 +0.3**
ROTZ Rotzenmuhle 3.05 237 *ePn* 19 39 39.1
ROTZ *ePg* 19 39 47.8
ROTZ *eSg* 19 40 26.1
HWTS Hohenwarte Tal 3.08 254 *eSg* **Sg 19 40 28.0 +1.2**
HWTS Hohenwarte Tal 3.08 254 *eSg* 19 40 28.0
GEC2 GERESS Array S 3.10 211 **Pn 19 39 38.9 +1.0**
GEC2 GERESS Array S 3.10 211 *ePn* **Pn 19 39 39.5 +1.6**
GEC2 Pg **Pg 19 39 48.9 +1.8**
GEC2 GERESS Array S 3.10 211 *ePn* 19 39 39.5
GERES GERESS Array B 3.10 211 **Pn 19 39 39.0 +1.1**
GERES Pg **Pg 19 39 46.7 -0.4**
GERES GERESS Array B 3.10 211 Pn **Pn 19 39 39.6 +1.6**
comp=Z,8.5nm,0.3s,baz=32,slow=13,SNR=137
GERES Pg **Pb 19 39 46.1 +2.4**
comp=Z,18nm,0.3s,baz=31,slow=17,SNR=39
GERES Lg Lg 19 40 27.6
comp=Z,36nm,0.3s,baz=39,slow=26,SNR=8.5
comp=Z,24nm,0.5s
SMOL Smolenice 3.12 164 *eP* **Pn 19 39 40.6 +2.5**
FLTG Flechtingen 3.14 287 *eSg* **Sg 19 40 29.6 +0.9**
FLTG Flechtingen 3.14 287 *eSg* 19 40 29.6
WET Wettzell 3.16 223 *ePn* **Pn 19 39 40.3 +1.6**
WET Pg **Pg 19 39 50.2 +1.9**
WET *eSg* **Sg 19 40 29.4 +0.1**
WET Wettzell 3.16 223 P **Pn 19 39 40.4 +1.6**
WET Wettzell 3.16 223 *ePn* 19 39 40.3
WET *eSg* 19 40 29.4
LANS Liptovska Anna 3.19 137 *eP* **Pn 19 39 40.5 +1.4**
LANS Liptovska Anna 3.19 137 *ePN* **Pn 19 39 40.5 +1.4**
LANS *ePG* **Pg 19 39 50.0 +1.2**
LANS *eSG* **Sg 19 40 30.1 0.0**
MODS Modra-Piesok 3.23 166 *eP* **Pn 19 39 41.6 +1.9**
MODS Modra-Piesok 3.23 166 *ePN* **Pn 19 39 41.6 +1.9**
MODS *ePG* **Pg 19 39 50.8 +1.2**
MODS *eSG* **Sg 19 40 34.4 +3.0**
POSS Possen 3.31 269 *ePn* **Pn 19 39 42.2 +1.5**
POSS *ePg* **Pg 19 39 52.7 +1.7**
POSS Possen 3.31 269 *ePn* 19 39 42.2
POSS *ePg* 19 39 52.7
GORT1 Trebel 3.32 298 Pn **Pn 19 39 43.1 +2.3**
GORT1 Pg **Pg 19 39 53.8 +2.6**
CHRS Christianenhau 3.32 274 *ePn* **Pn 19 39 42.5 +1.5**
CHRS *ePg* **Pg 19 39 52.2 +0.8**
CHRS *eSg* **Sg 19 40 34.4 0.0**
CHRS Christianenhau 3.32 274 *ePn* 19 39 42.5
CHRS *ePg* 19 39 52.2
CHRS *eSg* 19 40 34.4
ZST Bratislava 3.38 169 *eP* **Pn 19 39 44.4 +2.7**
ZST Bratislava 3.38 169 *ePN* **Pn 19 39 44.4 +2.7**
ZST *ePG* **Pg 19 39 52.5 0.0**
NIE Niedzica 3.39 127 *ePn* **Pn 19 39 43.8 +1.9**
NIE *ePg* **Pg 19 39 54.5 +1.8**
NIE *eSg* **Sg 19 40 38.5 +2.0**
NIE Niedzica 3.39 127 P **Pn 19 39 44.0 +2.1**
RGN Rugen 3.48 332 **Pn 19 39 41.9 -1.2**
VYHS Vyhne 3.49 149 *eP* **Pn 19 39 44.3 +1.0**
VYHS Vyhne 3.49 149 *ePN* **Pn 19 39 44.3 +1.0**
VYHS *ePG* **Pg 19 39 56.6 +2.0**
VYHS *eSG* **Sg 19 40 41.5 +1.7**
CLNZ Clenze 3.49 296 Pn **Pn 19 39 45.8 +2.5**
CLNZ Pg **Pg 19 39 57.5 +2.9**
GRB1 Grafenberg Arr 3.57 235 P **Pn 19 39 46.4 +2.1**
CONA Conrad Observa 3.59 183 *i* Pn **Pn 19 39 46.3 +1.5**
comp=Z,12nm,0.3s,SNR=32
CLZ Clausthal 3.60 277 *ePn* **Pn 19 39 46.9 +2.0**
CLZ Pg **Pg 19 39 58.1 +1.3**
CLZ Clausthal 3.60 277 *ePn* 19 39 46.9
GRA1 Grafenberg Arr 3.62 242 **Pn 19 39 46.8 +1.7**
GRF Grafenberg Arr 3.62 242 *ePn* **Pn 19 39 46.9 +1.8**
GRF *eSg* **Sg 19 40 46.1 +2.0**
GRF Grafenberg Arr 3.62 242 P **Pn 19 39 46.8 +1.7**
GRF Grafenberg Arr 3.62 242 *ePn* 19 39 46.9
GRF *eSg* 19 40 46.1
GRFO Grafenberg 3.63 242 **Pn 19 39 46.8 +1.7**
GRFO Pg **Pg 19 39 58.5 +1.3**
BSD Bornholm Skovb 3.68 349 *i* P **Pn 19 39 45.5 -0.3**
BSD IAML 19 41 01.3
comp=Z,24nm,0.4s
RONA Rosalia, Austr 3.82 178 *i* Pn **Pn 19 39 49.1 +1.3**
comp=Z,9.7nm,0.4s,SNR=17
SOP Sopron 3.84 176 P **Pn 19 39 49.9 +1.8**
SOP pmax pmax
comp=Z,68nm,0.6s
VITZ Vitzeroda 3.85 263 *ePn* **Pn 19 39 49.8 +1.5**
VITZ *ePg* **Pg 19 40 03.0 +1.4**
VITZ Vitzeroda 3.85 263 *ePn* 19 39 49.8
VITZ *ePg* 19 40 03.0
GTTG Gottingen 3.85 273 Pn **Pn 19 39 50.4 +2.1**
GTTG Pg **Pg 19 40 04.0 +2.4**
MOA Molln 3.87 199 *i* Pn **Pn 19 39 49.8 +1.3**
comp=Z,29nm,0.4s,SNR=62
STHS Stebnicka Huta 3.88 121 *eSG* **Sg 19 40 56.6 +4.3**
HROE Hohe Rhon--Fla 3.90 258 *ePn* **Pn 19 39 50.7 +1.8**
HROE *ePg* **Pg 19 40 02.9 +0.5**
HROE *eSg* **Sg 19 40 53.8 +0.8**
HROE Hohe Rhon--Fla 3.90 258 *ePn* 19 39 50.7
HROE *ePg* 19 40 02.9
HROE *eSg* 19 40 53.8
UBBA Unterbreizbach 3.92 262 *ePn* **Pn 19 39 50.4 +1.2**
UBBA *ePg* **Pg 19 40 03.8 +0.8**
UBBA Unterbreizbach 3.92 262 *ePn* 19 39 50.4
UBBA *ePg* 19 40 03.8
SRO Srobarova 3.96 158 *ePG* **Pg 19 40 03.2 -0.5**
HAM4 Hamburger Ster 4.11 301 *ePn* **Pn 19 39 53.7 +2.1**
HAM4 Hamburger Ster 4.11 301 *ePn* 19 39 53.7
KECS Kecovo 4.13 136 *eP* **Pn 19 39 52.2 +0.1**
KECS Kecovo 4.13 136 *ePN* **Pn 19 39 52.2 +0.1**
KECS *ePG* **Pg 19 40 08.6 +1.7**
KECS *eSG* **Sg 19 41 04.0 +3.6**
BIOA Bad Ischl, Aus 4.16 204 *i* Pn **Pn 19 39 54.2 +1.7**
comp=Z,22nm,0.4s,SNR=36
ARSA Arzberg 4.29 186 *ePn* **Pn 19 39 56.4 +2.2**
comp=Z,8.0nm,0.3s,SNR=12
BSEG Bad Segeberg 4.29 307 P **Pn 19 39 54.2 0.0**
CRVS Cervenica-Dubn 4.30 125 *eP* **Pn 19 39 56.0 +1.5**
CRVS Cervenica-Dubn 4.30 125 *ePN* **Pn 19 39 56.0 +1.5**
CRVS *ePG* **Pg 19 40 11.6 +1.4**
CRVS *eSG* **Sg 19 41 08.0 +2.1**
PSZ Piszkesteto 4.35 144 ⇓P **Pn 19 39 57.2 +2.1**
PSZ Piszkesteto 4.35 144 **Pn 19 39 56.5 +1.4**
PSZ Piszkesteto 4.35 144 P **Pn 19 39 56.5 +1.4**
RETH Rethem/Aller, 4.35 289 *ePn* **Pn 19 39 57.1 +2.0**
RETH Rethem/Aller, 4.35 289 *ePn* 19 39 57.1
LUNU Lund 4.43 340 *i* P **Pn 19 39 55.0 -1.1**
MPLH Magyarpolny 4.44 168 P **Pn 19 39 58.4 +2.0**
KWP Kalwaria Pacla 4.59 112 **Pn 19 39 59.1 +0.7**
KWP Kalwaria Pacla 4.59 112 P **Pn 19 39 59.1 +0.7**
KWP Kalwaria Pacla 4.59 112 P **Pn 19 40 00.1 +1.7**
FUR Furstenfeldbru 4.60 225 P **Pn 19 40 00.4 +1.9**
MILB Miltenberg 4.67 251 *ePn* **Pn 19 40 00.5 +1.0**
MILB *ePg* **Pg 19 40 18.2 +1.0**
MILB *eSg* **Sg 19 41 18.6 +1.0**
MILB Miltenberg 4.67 251 *ePn* 19 40 00.5
MILB *ePg* 19 40 18.2
MILB *eSg* 19 41 18.6
LESA Schwarzleotal 4.67 210 *i* Pn **Pn 19 40 01.2 +1.6**
comp=Z,7.0nm,0.3s
KOLS Kolonicke sedl 4.71 121 *eP* **Pn 19 40 00.8 +0.8**
KOLS Kolonicke sedl 4.71 121 *ePN* **Pn 19 40 00.8 +0.8**
KOLS *ePG* **Pg 19 40 19.1 +1.1**
KBA Koelnbreinsper 4.80 203 *i* Pn **Pn 19 40 03.1 +1.7**
comp=Z,33nm,0.5s,SNR=48
KBA Koelnbreinsper 4.80 203 P **Pn 19 40 03.6 +2.2**
KASTN Kahler Asten 4.85 269 *ePn* **Pn 19 40 03.0 +1.0**
KASTN Pg **Pg 19 40 22.6 +2.0**
KASTN Sg **Sg 19 41 31.3 +7.8**
KASTN Kahler Asten 4.85 269 *ePn* 19 40 03.0
SOKA Soboth 4.89 189 *i* Pn **Pn 19 40 04.3 +1.6**
comp=Z,4.1nm,0.3s,SNR=13
BJUU Bjuv 4.93 339 *i* P **Pn 19 40 01.9 -1.0**
SUW Suwalki 4.96 57 **Pn 19 40 01.4 -2.0**
SUW Sn **Sn 19 41 00.7 -0.6**
SUW Suwalki 4.96 57 *eP* **Pn 19 40 04.0 +0.6**
SUW Suwalki 4.96 57 P **Pn 19 40 01.4 -2.0**
SUW 19 41 00.7
A106B Goeppingen, Ma 4.97 239 Pn **Pn 19 40 04.9 +1.4**
A106B Pg **Pg 19 40 25.9 +3.1**
A106B Sg **Sg 19 41 34.4 +7.2**
comp=Z,210nm,0.6s
TNS Taunus Mts 5.04 258 *ePn* **Pn 19 40 05.9 +1.3**
TNS *eSg* **Sg 19 41 31.1 +1.5**
TNS Taunus Mts 5.04 258 P **Pn 19 40 06.2 +1.6**
TNS pmax pmax
comp=Z,63nm,0.6s
TNS Taunus Mts 5.04 258 *ePn* 19 40 05.9
TNS *eSg* 19 41 31.1
KOGS Kog 5.07 179 *ePn* **Pn 19 40 06.7 +1.7**
OBKA Obir 5.12 192 *i* Pn **Pn 19 40 06.9 +1.2**
comp=Z,3.2nm,0.3s,SNR=9.6
WATA Walderalm 5.13 217 *ePn* **Pn 19 40 07.6 +1.6**
comp=Z,35nm,0.6s,SNR=26
MYKA Terra Mystica 5.16 200 *i* Pn **Pn 19 40 07.5 +1.3**
comp=Z,3.9nm,0.3s
A108A Ulm, Ringingen 5.16 235 Pn **Pn 19 40 07.3 +1.0**
A108A Pg **Pg 19 40 29.1 +2.5**
WTTA Wattenberg 5.17 216 *ePn* **Pn 19 40 07.8 +1.3**
comp=Z,18nm,0.4s,SNR=23
WTTA Wattenberg 5.17 216 P **Pn 19 40 08.5 +2.0**
WTTA pmax pmax
comp=Z,44nm,0.7s
A107C Memmingen - Ei 5.20 230 Pn **Pn 19 40 09.0 +2.2**
A107C Pg **Pg 19 40 29.7 +2.3**
A107C Sg **Sg 19 41 40.4 +5.7**
comp=Z,433nm,1.0s
IBBE Ibbenbueren Ea 5.22 282 Pn **Pn 19 40 09.3 +2.2**
STU Stuttgart 5.24 241 **Pn 19 40 08.1 +0.8**
STU Stuttgart 5.24 241 P **Pn 19 40 08.1 +0.8**
HMES Hamm, Michael- 5.25 275 Pn **Pn 19 40 09.3 +2.0**
IBBN Ibbenbueren 5.25 282 Pn **Pn 19 40 09.4 +2.1**
IBBN Pg **Pg 19 40 32.1 +3.8**
IBBS Ibbenbueren So 5.25 282 Pn **Pn 19 40 09.5 +2.1**
LVV L'vov 5.30 106 *eP* **Pn 19 40 08.7 +0.6**
LVV *e* 19 41 08.7
LVV MLR MLR
comp=Z,100nm,4.0s
ABTA Abfaltersbach 5.33 208 *i* Pn **Pn 19 40 11.0 +2.4**
comp=Z,13nm,0.6s,SNR=35
RETA Reutte 5.34 223 *i* Pn **Pn 19 40 09.5 +0.7**
comp=Z,3.6nm,0.3s,SNR=7.6
PRED Cave del Predi 5.35 199 **Pn 19 40 10.5 +1.6**
PRED Sn **Sn 19 41 11.7 +0.4**
LOBO Lobor 5.36 181 *i* P **Pn 19 40 11.0 +2.0**
SQTA Sankt Quirin 5.37 219 *i* Pn **Pn 19 40 10.5 +1.3**
comp=Z,27nm,0.5s,SNR=22
KALN Kalnik 5.39 178 *i* P **Pn 19 40 11.2 +1.7**
A104C Biberach, Ahle 5.39 234 Pn **Pn 19 40 11.5 +2.1**
A104C Pg **Pg 19 40 33.1 +2.1**
A104A Biberach, Staf 5.41 233 Pg **Pg 19 40 33.0 +1.7**
KOE Koeppel 5.42 262 *ePn* **Pn 19 40 10.7 +0.9**
BTEZ Ruhr-Universit 5.54 273 Pn **Pn 19 40 13.0 +1.7**
BKLB Ruhr-Universit 5.54 273 Pn **Pn 19 40 12.6 +1.2**
BUG Bochum--Univer 5.54 273 Pn **Pn 19 40 12.6 +1.2**
BUG Bochum--Univer 5.54 273 P **Pn 19 40 12.9 +1.5**
BUG pmax pmax
comp=Z,31nm,0.7s
BULI Ruhr-Universit 5.55 273 Pn **Pn 19 40 12.8 +1.3**
BULI Pg **Pg 19 40 36.8 +2.8**
HOBG Hohbusch 5.55 268 *ePn* **Pn 19 40 13.1 +1.5**
MORH Mrgy, Hungar 5.55 162 ⇑P **Pn 19 40 12.9 +1.4**
MORH Mrgy, Hungar 5.55 162 P **Pn 19 40 13.0 +1.4**
comp=Z,20nm,0.7s,comp=Z,0.1nm
A100A Rottenburg, We 5.57 239 Pn **Pn 19 40 13.0 +1.2**
A100A Pg **Pg 19 40 37.7 +3.3**
A105A Obersdorf, Sch 5.60 225 Pn **Pn 19 40 13.8 +1.4**
PTJ Puntijarka 5.61 181 P **Pn 19 40 14.7 +2.2**
PTJ Puntijarka 5.61 181 P **Pn 19 40 14.6 +2.1**
A102A Sigmaringen, J 5.62 236 Pn **Pn 19 40 13.5 +1.0**
A102A Pg **Pg 19 40 39.0 +3.6**
A103D Ravensburg, Wa 5.67 232 Pn **Pn 19 40 15.3 +2.1**
A103D Pg **Pg 19 40 37.9 +1.6**
HLG Helgoland 5.67 301 *ePn* **Pn 19 40 14.0 +0.9**
HLG Helgoland 5.67 301 *ePn* 19 40 14.0
PBUR Paburge 5.67 35 *eP* **Pn 19 40 16.6 +3.4**
FETA Feichten 5.72 220 *ePn* **Pn 19 40 15.7 +1.6**
comp=Z,1.4nm,0.2s,SNR=8.0
STAL STALIGIAL 5.72 205 **Pn 19 40 15.8 +1.8**
BGG Burgeitz 5.73 260 *ePn* **Pn 19 40 14.6 +0.7**
LAUG Laupendahl 5.75 272 *ePn* **Pn 19 40 15.0 +0.7**
VISS Visnje 5.78 189 *i* Pn **Pn 19 40 16.6 +1.9**
SABO M.te Sabotino 5.79 198 **Pn 19 40 16.5 +1.6**
FABU Falkenberg 5.85 341 *eP* **Pn 19 40 15.8 +0.1**
FABU IAML 19 41 37.2
comp=Z,7.3nm,0.4s
DAVA Damuels 5.88 226 *i* Pn **Pn 19 40 17.2 +0.9**
comp=Z,7.0nm,0.3s,SNR=5.5
MOSL Moslavina 5.92 176 *i* P **Pn 19 40 18.2 +1.6**
OZLJ Ozalj 5.92 185 *i* P **Pn 19 40 18.7 +2.1**
STB Steinbach 5.94 265 *ePn* **Pn 19 40 17.6 +0.8**
STB *eSn* **Sn 19 41 24.0 -1.5**
comp=Z,32nm,0.8s
BFO Black Forest 5.96 241 **Pn 19 40 17.1 -0.2**
BFO Black Forest 5.96 241 Pn **Pn 19 40 18.6 +1.3**
BFO Pg **Pg 19 40 44.3 +2.3**
BFO Black Forest 5.96 241 P **Pn 19 40 17.1 -0.2**
A101B Rottweil, Deis 5.97 238 Pn **Pn 19 40 18.9 +1.5**
A101B Pg **Pg 19 40 45.1 +3.0**
RNPP8 Varash 6.08 88 P **Pn 19 40 19.2 +0.4**
RNPP9 Sopachiv 6.10 87 P **Pn 19 40 19.1 +0.1**
RNPP5 Staryi Chortor 6.11 89 P **Pn 19 40 18.7 -0.5**
BMR Baia Mare 6.14 126 P **Pn 19 40 20.5 +0.9**
BMR pmax pmax
comp=Z,34nm,0.6s
PABE Paberze 6.15 46 **Pn 19 40 20.0 +0.3**
PABE Paberze 6.15 46 *eP* **Pn 19 40 20.4 +0.7**
CTI Castel Tesino 6.22 210 **Pn 19 40 23.0 +2.1**
CTI Castel Tesino 6.22 210 P **Pn 19 40 23.0 +2.1**
SLE Schleitheim 6.22 236 P **Pn 19 40 24.1 +3.3**
SLE pmax pmax
comp=Z,32nm,0.6s
FUORN Ofenpass-Fuorn 6.24 221 **Pn 19 40 22.7 +1.5**
MESR Meseseni 6.24 132 ⇑P **Pn 19 40 23.2 +2.3**
DAVOX Davos/Dischmat 6.27 223 Pn **Pn 19 40 23.0 +1.4**
comp=Z,1.6nm,0.3s,baz=14,slow=13,SNR=22
DAVOX Sn **Sn 19 41 36.0 +2.0**
comp=Z,1.6nm,0.3s,baz=26,slow=18,SNR=3.1
DAVOX Lg Lg 19 42 08.2
comp=Z,1.3nm,0.3s,baz=113,slow=22,SNR=5.0
comp=Z,6.2nm,0.4s
DAVOX Davos/Dischmat 6.27 223 P **Pn 19 40 23.0 +1.4**
DAVOX 19 41 36.0
BTNL Ternell 6.38 266 *dP* **Pn 19 40 24.2 +1.3**
SIRR Siria 6.39 143 ⇑P **Pn 19 40 24.6 +1.5**
DRGR 6.40 135 ⇓P **Pn 19 40 25.7 +2.5**
DRGR 6.40 135 P **Pn 19 40 25.7 +2.5**
MUD Monsted U'grnd 6.43 323 *i* P **Pn 19 40 26.0 +2.4**
BORU Boraas 6.44 344 *eP* **Pn 19 40 23.7 0.0**
MEM Membach 6.45 266 *dP* **Pn 19 40 25.0 +1.1**
MEM *dS* **Sn 19 41 37.6 -0.6**
MEM Membach 6.45 266 P **Pn 19 40 25.9 +2.0**
MEM pmax pmax
comp=Z,32nm,0.8s
CDF Champ du Feu 6.50 245 *ePn* **Pn 19 40 24.3 -0.5**
CDF Champ du Feu 6.50 245 *ePg* **Pg 19 40 50.7 -1.6**
CDF *eSg* **Sg 19 42 15.3 -1.3**
comp=Z,186nm,0.9s
BHOU Houvegnez 6.51 264 *dP* **Pn 19 40 26.7 +1.9**
SMRN Sveta Marina 6.62 192 *i* P **Pn 19 40 27.9 +1.7**
WLF Walferdange 6.62 258 Pn **Pn 19 40 26.5 +0.2**
WLF Walferdange 6.62 258 *dP* **Pn 19 40 26.9 +0.6**
WLF Walferdange 6.62 258 P **Pn 19 40 26.5 +0.2**
PLIT Plitvice 6.65 183 *i* P **Pn 19 40 28.9 +2.2**
MARR Marisel-Cluj 6.67 134 ⇑P **Pn 19 40 29.0 +2.0**
ECH Echery 6.68 244 **Pn 19 40 26.7 -0.4**
ECH Echery 6.68 244 P **Pn 19 40 26.7 -0.4**
BSTI Sart Tilman 6.73 266 *dP* **Pn 19 40 29.9 +2.1**
TUE Stuetta 6.74 224 **Pn 19 40 28.7 +0.7**
BRJN Brijuni 6.80 194 *i* P **Pn 19 40 29.8 +1.1**
FRGS Fruska Gora 6.81 158 ⇓P **Pn 19 40 31.0 +2.1**
FRGS Fruska Gora 6.81 158 P **Pn 19 40 30.8 +1.9**
comp=Z,15nm,0.7s,comp=Z,0.1nm
RABC Rab 6.83 188 *i* P **Pn 19 40 31.6 +2.5**
BZS Buzias 6.93 146 ⇑P **Pn 19 40 32.9 +2.3**
BZS Buzias 6.93 146 P **Pn 19 40 32.8 +2.3**
BCLA Clavier 6.93 265 *dP* **Pn 19 40 32.3 +1.8**
BCLA *dS* **Sb 19 42 13.2 +1.0**
SURR Surduc 7.00 143 ⇓P **Pn 19 40 33.1 +1.7**
UDBI Udbina 7.00 182 *i* P **Pn 19 40 34.3 +2.9**
RCHB Rochefort 7.04 263 *dP* **Pn 19 40 34.0 +1.9**
BUR08 Bucovina Ar. S 7.05 120 **Pn 19 40 33.0 +0.7**
HINF Hinteralfeld 7.07 242 *ePn* **Pn 19 40 33.3 +0.8**
HINF Hinteralfeld 7.07 242 *ePg* **Pg 19 41 01.5 -1.6**
HINF *eSg* **Sg 19 42 32.2 -2.5**
comp=Z,84nm,0.7s
BGES Gesves 7.07 265 *dP* **Pn 19 40 34.1 +1.6**
BURAR Bucovina Array 7.08 120 ⇓P **Pn 19 40 34.3 +1.7**
BURAR Bucovina Array 7.08 120 **Pn 19 40 33.1 +0.5**
IIGN Ignalina 7.14 54 *eP* **Pn 19 40 37.1 +3.7**
DEV Deva 7.20 139 P **Pn 19 40 36.3 +2.2**
DEV pmax pmax
comp=Z,18nm,0.7s
ISAL Salakas 7.20 52 *eP* **Pn 19 40 35.9 +1.7**
NACGM Naroch 7.24 58 *eP* **Pn 19 40 33.1 -1.6**
HAU Haudompre 7.25 245 *ePn* **Pn 19 40 35.4 +0.5**

HAU Haudompre 7.25 245 *e*Pg **Pg** **19 41 04.7 -1.8**
HAU *e*Sg **Sg** **19 42 39.6 -0.8**
comp=Z,113nm,0.9s
VIRC Vir 7.26 186 *i* P **Pn** **19 40 37.0 +1.9**
BMRD Maredsous 7.29 265 *d*P **Pn** **19 40 36.4 +1.0**
BMRD *d*S **Sn** **19 41 50.8 -8.0**
GIVF Givet 7.31 263 *e*Pn **Pn** **19 40 37.2 +1.5**
GIVF Givet 7.31 263 *e*Pg **Pg** **19 41 08.2 +0.5**
PAGF Fort de Pagny 7.33 250 *e*Pn **Pn** **19 40 38.2 +2.2**
PAGF Fort de Pagny 7.33 250 *e*Pg **Pg** **19 41 06.7 -1.4**
PAGF *e*Sg **Sg** **19 42 43.1 +0.1**
comp=Z,171nm,1.1s
DOU Dourbes 7.45 264 *d*P **Pn** **19 40 40.1 +2.4**
MI29 MI29, Kamyanyy 7.48 94 P **Pn** **19 40 38.2 +0.2**
GZR Gura Zlata 7.55 142 ⇑P **Pn** **19 40 41.5 +2.4**
GZR Gura Zlata 7.55 142 P **Pn** **19 40 41.4 +2.4**
LUBAR Lubar, Ukraine 7.55 98 P **Pn** **19 40 37.5 -1.5**
DUGI Dugi Otok 7.56 186 *i* P **Pn** **19 40 41.5 +2.3**
MNK Minsk 7.69 63 *i* P **Pn** **19 40 38.8 -2.2**
comp=E,5.0nm,0.8s,baz=252
MNK *i* P **Pn** **19 40 38.8 -2.2**
comp=N,7.0nm,0.8s,baz=252
MNK *i* P **Pn** **19 40 38.8 -2.2**
comp=Z,5.0nm,0.8s,baz=252
MNK *i* PP **PnPn** **19 40 46.4 -1.8**
baz=252
MNK *i* S **Sn** **19 42 06.0 -2.6**
baz=252
MNK *i* SS **SnSn** **19 42 18.5 -1.1**
baz=252
MNK *i* SSS SSS 19 42 30.9
baz=252
MNK *i* LR LR 19 42 48.7
baz=252
MNK Minsk 7.69 63 *i* P **Pn** **19 40 38.7 -2.2**
MNK *i* S **Sn** **19 42 06.0 -2.6**
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.8s
MDVR Moldovita 7.70 149 ⇓P **Pn** **19 40 42.8 +1.7**
BAIF Baives 7.70 264 *e*Pn **Pn** **19 40 42.2 +1.1**
BAIF Baives 7.70 264 *e*Pg **Pg** **19 41 15.5 +0.3**
MEZF Maizieres J'vi 7.75 251 *e*Pn **Pn** **19 40 42.1 +0.3**
MEZF *e*Sg **Sg** **19 42 56.4 -0.1**
comp=N,255nm,1.4s
SENIN Lac Senin/Sane 7.77 232 Pn **Pn** **19 40 42.8 +0.6**
SFTF Sexfontaines 7.90 250 *e*Pn **Pn** **19 40 44.1 +0.3**
SFTF Sexfontaines 7.90 250 *e*Pg **Pg** **19 41 17.7 -1.3**
SFTF *e*Sg **Sg** **19 43 00.9 -0.4**
comp=N,236nm,1.4s
LOT Lotru 7.91 137 ⇑P **Pn** **19 40 46.3 +2.3**
ZCCA Zocca 7.96 208 **Pn** **19 40 46.5 +1.8**
AK20 Malin Array Si 8.14 90 P **Pn** **19 40 46.4 -0.6**
AK19 Malin Array Si 8.14 91 P **Pn** **19 40 46.5 -0.6**
AK21 Malin Array Si 8.15 90 P **Pn** **19 40 46.1 -1.1**
AK22 Malin Array Si 8.17 90 P **Pn** **19 40 46.9 -0.6**
AK18 Malin Array Si 8.18 91 P **Pn** **19 40 47.0 -0.6**
AK13 Malin Array Si 8.19 91 P **Pn** **19 40 47.1 -0.7**
AK14 Malin Array Si 8.22 91 P **Pn** **19 40 47.5 -0.6**
CABF La Chapelle 8.22 237 *e*Pn **Pn** **19 40 47.8 -0.5**
CABF La Chapelle 8.22 237 *e*Pg **Pg** **19 41 22.0 -3.2**
CABF *e*Sg **Sg** **19 43 08.1 -3.5**
comp=N,150nm,1.0s
AK04 Malin Array Si 8.24 90 P **Pn** **19 40 47.8 -0.6**
AK12 Malin Array Si 8.25 91 P **Pn** **19 40 47.7 -0.8**
KIEV Kiev 8.27 91 **Pn** **19 40 47.8 -1.0**
KIEV Kiev 8.27 91 P **Pn** **19 40 48.3 -0.6**
KIEV pmax pmax
comp=Z,49nm,0.7s
KIEV Kiev 8.27 91 P **Pn** **19 40 48.2 -0.6**
comp=Z,192nm,0.7s,comp=Z,2μm
AK01 Malin Array Si 8.27 91 P **Pn** **19 40 48.1 -0.8**
AKASG Malin Array Be 8.28 91 Pn **Pn** **19 40 48.6 -0.3**
AKASG Malin Array Be 8.28 91 Pn **Pn** **19 40 48.2 -0.7**
comp=Z,8.2nm,0.5s,baz=280,slow=12,SNR=12
AKASG Sn **Sn** **19 42 17.3 -5.8**
comp=Z,3.8nm,0.3s,baz=268,slow=26,SNR=3.9
AKASG Lg Lg 19 43 13.5
comp=Z,1.5nm,0.3s,baz=274,slow=27,SNR=1.8
AKASG Malin Array Be 8.28 91 *i* P **Pn** **19 40 50.4 +1.4**
AKASG pmax pmax
comp=Z,8.0nm,0.3s
AKBB Malin Array Si 8.28 91 Pn **Pn** **19 40 47.9 -1.0**
AKBB Malin Array Si 8.28 91 P **Pn** **19 40 47.9 -1.0**
AKBB Malin Array Si 8.28 91 P **Pn** **19 40 48.2 -0.8**
AK05 Malin Array Si 8.28 91 Pn **Pn** **19 40 48.2 -0.8**
AK07 Malin Array Si 8.30 92 P **Pn** **19 40 48.3 -0.9**
OZUR 8.36 127 ⇑P **Pn** **19 40 52.9 +2.8**
MTSE Matsula 8.45 28 *e*P **Pn** **19 40 51.8 +0.6**
MSSA Maissana 8.46 214 Pn **Pn** **19 40 53.3 +1.7**
VOIR 8.48 132 ⇑P **Pn** **19 40 54.6 +2.7**
VOIR 8.48 132 P **Pn** **19 40 54.6 +2.7**
TURR Turia 8.50 126 ⇓P **Pn** **19 40 55.2 +3.1**
TESR Tescani 8.53 122 ⇑P **Pn** **19 40 55.4 +3.0**
SORM Soroca 8.59 108 ⇑P **Pn** **19 40 54.5 +1.2**
SORM Soroca 8.59 108 P **Pn** **19 40 54.4 +1.2**
OSSC Osservatorio P 8.65 204 Pn **Pn** **19 40 54.0 -0.1**
LPL La Plagne 8.66 230 *e*Pn **Pn** **19 40 53.5 -0.9**
LPL La Plagne 8.66 230 *e*Pg **Pg** **19 41 29.8 -3.7**
LPL *e*Sg **Sg** **19 43 20.7 -4.8**
comp=Z,29nm,0.9s
LPG La Plagne 8.66 230 *e*Pn **Pn** **19 40 53.6 -0.9**
LPG La Plagne 8.66 230 *e*Pg **Pg** **19 41 34.0 +0.4**
LPG *e*Sg **Sg** **19 43 21.1 -4.6**
comp=Z,89nm,1.2s
GUMA Gualdo di Mace 8.67 194 Pn **Pn** **19 40 54.3 -0.1**
HFS Hagfors 8.75 352 Pn **Pn** **19 40 54.9 -0.5**
comp=Z,0.4nm,0.3s,baz=162,slow=14,SNR=15
HFS Sn **Sn** **19 42 28.7 -5.9**
comp=Z,0.4nm,0.3s,baz=178,slow=21,SNR=2.4
HFS Lg Lg 19 43 24.5
comp=Z,0.7nm,0.3s,baz=168,slow=28,SNR=1.8
comp=Z,3.6nm,0.7s
MLR Muntele Rosu 8.87 129 Pn **Pn** **19 40 57.6 +0.4**
MLR Muntele Rosu 8.87 129 P **Pn** **19 40 57.6 +0.4**
NRCA Norcia 8.93 194 **Pn** **19 40 59.0 +1.1**
KONO Kongsberg 8.95 338 Pn **Pn** **19 40 56.9 -1.2**
KONO Kongsberg 8.95 338 *i* P **Pn** **19 40 59.5 +1.4**
KONO pmax pmax
comp=Z,8.0nm,1.3s
BNI Bardonecchia 9.03 228 **Pn** **19 41 00.0 +0.6**
BNI Bardonecchia 9.03 228 P **Pn** **19 41 00.0 +0.6**
LOR Lormes 9.06 247 *e*Pn **Pn** **19 40 59.3 -0.5**
baz=68
LOR Lormes 9.06 247 *e*Pg Pn 19 41 38.1 +38
LOR *e*Sg Sn 19 43 35.5 +53
comp=Z,70nm,1.1s,baz=62
RRL Rocca Remolon 9.07 227 P Pn 19 41 05.7 +5.6
RRL pmax pmax
comp=Z,9.0nm,0.7s
CESX Cesi 9.23 197 Pn **Pn** **19 41 01.9 -0.2**
MBDF Montbardon 9.23 226 *e*Pn **Pn** **19 41 01.1 -1.1**
VSU Vasula 9.24 37 *ce*P **Pn** **19 41 03.2 +1.1**
VSU pmax pmax
comp=Z,21nm,0.9s
PZZ Stroppo 9.25 224 P **Pn** **19 41 04.9 +2.4**
PZZ pmax pmax
comp=Z,12nm,0.6s
SSF Saint Saulge 9.38 247 *e*Pn **Pn** **19 41 04.6 +0.5**
SSF Saint Saulge 9.38 247 *e*Pg Pn 19 41 44.0 +40
SSF *e*Sg Sn 19 43 45.7 +56
comp=Z,42nm,1.0s
SMF Signal de Mont 9.42 244 *e*Pn **Pn** **19 41 04.0 -0.7**
SMF Signal de Mont 9.42 244 *e*Pg Pn 19 41 45.2 +41
SMF *e*Sg Sn 19 43 46.9 +56
comp=Z,153nm,1.5s
SAOF Saorge 9.49 221 P **Pn** **19 41 07.8 +2.2**
SAOF pmax pmax
comp=Z,18nm,0.8s
ORIF Oris-en-Rattie 9.50 230 *e*Pn **Pn** **19 41 04.7 -1.2**
ORIF *e*Sg Sn 19 43 47.5 +54
comp=Z,88nm,1.2s
ORIF Oris-en-Rattie 9.50 230 P **Pn** **19 41 09.0 +3.1**
ORIF pmax pmax
comp=Z,8.0nm,1.2s
ISO Isola 9.54 223 P **Pn** **19 41 10.6 +4.3**
ISO pmax pmax
comp=Z,9.0nm,0.7s
NC602 NORSAR Array S 9.59 346 **Pn** **19 41 04.9 -2.0**
NORES NORESS Array B 9.59 346 P **Pn** **19 41 07.4 +0.5**
AVF Avril sur Loir 9.62 246 *e*Pn **Pn** **19 41 06.8 -0.5**
AVF Avril sur Loir 9.62 246 *e*Pg Pn 19 41 48.8 +42
AVF *e*Sg Sn 19 43 53.0 +57
comp=Z,59nm,1.0s
INTR Introdacqua 9.63 190 Pn **Pn** **19 41 06.2 -1.4**
SBF Sospel 9.64 221 *e*Pn **Pn** **19 41 07.0 -0.7**
SGRT San Giovanni R 9.77 182 Pn **Pn** **19 41 09.3 -0.1**
NAO01 NORSAR Array S 9.80 345 Pn **Pn** **19 41 07.3 -2.5**
MEF Metsahovi 9.87 25 *e*P **Pn** **19 41 11.3 +0.5**
SSB Saint Sauveur 9.91 236 Pn **Pn** **19 41 11.0 -0.4**
SSB Saint Sauveur 9.91 236 P **Pn** **19 41 11.0 -0.4**
NB201 NORSAR Array S 9.93 346 **Pn** **19 41 09.0 -2.6**
NC405 NORSAR Array S 9.93 347 Pn **Pn** **19 41 09.5 -2.1**
NOA NORSAR Array B 9.93 346 Pn **Pn** **19 41 10.4 -1.2**
baz=157,slow=13,SNR=6.8
NOA Sn **Sn** **19 42 57.1 -6.5**
baz=53,slow=23,SNR=2.9
NOA Lg Lg 19 43 60.0
comp=Z,0.1nm,0.3s,baz=137,slow=21,SNR=1.8
comp=Z,0.3nm,0.5s
NBO00 NORSAR Array S 9.99 345 Pn **Pn** **19 41 10.1 -2.3**
RAF Rauma 10.03 16 *e*P **Pn** **19 41 12.1 -0.8**
BGF Bois d'Agland 10.03 246 *e*Pn **Pn** **19 41 13.1 0.0**
BGF Bois d'Agland 10.03 246 *e*Pg Pn 19 41 55.9 +43
BGF *e*Sg Sn 19 44 05.6 +59
comp=Z,141nm,1.3s
NC303 NORSAR Array S 10.08 347 Pn **Pn** **19 41 12.1 -1.6**
VIVF Saint-Julien-l 10.14 233 *e*Pn **Pn** **19 41 13.5 -1.0**
VIVF *e*Sg Sn 19 44 07.5 +59
comp=Z,67nm,1.5s
NC204 NORSAR Array S 10.22 345 **Pn** **19 41 13.4 -2.2**
SMRF Simiane la Rot 10.36 227 *e*Pn **Pn** **19 41 15.3 -2.2**
LMR La Mourre 10.46 222 *e*Pn **Pn** **19 41 17.2 -1.6**
TCF Toulx Ste Croi 10.55 246 *e*Pn **Pn** **19 41 20.0 -0.1**
TCF *e*Sg 19 44 22.5
comp=Z,51nm,1.3s
LASF Ste Croix 11.11 233 *e*Pn **Pn** **19 41 26.7 -1.1**
LASF *e*Sg 19 44 37.7
comp=Z,46nm,1.5s
FINES FINESS Array B 11.35 25 Pn **Pn** **19 41 28.8 -2.2**
comp=Z,0.7nm,0.3s,baz=201,slow=10.0,SNR=33
FINES Sn Sn 19 43 28.3 -10
comp=Z,1.5nm,0.3s,baz=218,slow=20,SNR=11
FINES Lg Lg 19 44 46.2
comp=Z,0.5nm,0.3s,baz=221,slow=25,SNR=2.0
comp=Z,4.7nm,0.5s
FIA1 FINESS Array S 11.35 25 Pn **Pn** **19 41 29.1 -1.9**
EDMD Edmundbyers 11.36 294 *e*P **Pn** **19 41 29.1 -2.0**
EDMD IAML 19 41 30.7
comp=Z,6.1nm,0.4s
RJF Les Rejaudoux 11.52 243 *e*Sg 19 44 52.9
comp=Z,48nm,1.3s
HLM1 Long Mynd 11.76 282 *e*P **Pn** **19 41 37.0 +0.4**
HLM1 IAML 19 41 40.1
comp=Z,2.6nm,0.7s
EKA Eskdalemuir Ar 12.12 296 Pn **Pn** **19 41 38.6 -2.9**
baz=102,slow=14
EKA Sn **Sn** **19 43 48.6 -8.6**
baz=94,slow=25
EKB Eskdalemuir 12.14 296 Pn **Pn** **19 41 38.5 -3.2**
ESK Eskdalemuir 12.14 296 Pn **Pn** **19 41 38.5 -3.3**
ESK Eskdalemuir 12.14 296 *e*P **Pn** **19 41 39.0 -2.8**
ESK IAML 19 41 42.7
comp=Z,3.2nm,0.4s
ESK Eskdalemuir 12.14 296 P **Pn** **19 41 38.5 -3.3**
DRUM Mains of Drumt 12.15 304 *e*P **Pn** **19 41 39.0 -2.9**
DRUM IAML 19 41 41.9
comp=Z,7.4nm,0.6s
LFF La Frestale 12.18 243 *e*Sg 19 45 13.5
comp=Z,80nm,1.3s
OBN Obninsk 12.73 66 Pn **Pn** **19 41 46.3 -3.5**
OBN Obninsk 12.73 66 *ce*P **Pn** **19 41 47.6 -2.2**
OBN pmax pmax
comp=Z,8.0nm,0.9s
VALR Valaam 12.77 34 *i* P **Pn** **19 41 46.9 -3.4**
VALR pmax pmax
comp=Z,5.0nm,0.5s
INVG Invergeldie, C 12.84 300 *e*P **Pn** **19 41 48.5 -2.9**
INVG IAML 19 41 52.8
comp=Z,0.8nm,0.6s
VSL Villasalto 12.91 204 Pn **Pn** **19 41 52.0 -0.4**
MOS Moscow 13.42 63 *e*P Pn 19 41 52.7 -6.5
MOS *e*SS **Sn** **19 44 31.0 +2.1**
LAWE Loch Awe, Argy 13.54 299 *e*P **Pn** **19 41 59.4 -1.5**
LAWE IAML 19 42 05.0
comp=Z,1.2nm,0.7s
KPL Plockton 13.93 303 *e*P **Pn** **19 42 03.4 -2.7**
LINV Loch Inver, As 13.94 307 *e*P **Pn** **19 42 02.0 -4.2**
VORR Voronezh 14.33 80 *e*P **P** **19 42 16.7 -2.4**
VORR pmax pmax
comp=Z,28nm,0.5s
VSR Storozhevoye 14.38 82 *e*P Pn 19 42 04.9 -7.5
VSR pmax pmax
comp=Z,6.0nm,0.5s
KLMR Klimovskoe 15.94 45 *e*P Pn 19 42 25.2 -7.9
KLMR pmax pmax
comp=Z,12nm,1.6s
VRH Novokhopyorsk 15.96 81 *e*P **Pn** **19 42 26.7 -6.8**
VRH pmax pmax
comp=Z,10.0nm,0.6s
KEST Kesra 16.51 200 Pn **Pn** **19 42 41.5 +0.8**
comp=Z,0.1nm,0.3s,baz=346,slow=8.3,SNR=1.6
comp=Z,0.8nm,0.5s
BRTR Keskin Array B 16.94 127 Pn **Pn** **19 42 47.7 +1.5**
comp=Z,0.1nm,0.3s,baz=326,slow=9.4,SNR=1.6
comp=Z,0.3nm,0.5s
SOC Sochi 17.73 107 *e*P **Pn** **19 42 56.4 +0.6**
SOC *e* 19 46 15.8
SOC MLR MLR
comp=Z,61nm,15.0s
APA Apatity 18.21 21 ⇓*i*P **Pn** **19 42 57.0 -4.5**
APA pmax pmax
comp=Z,5μm,0.7s
ESDC Sonseca Array 18.32 238 P **Pn** **19 43 02.8 -0.4**
baz=50,slow=10.0,SNR=2.7
comp=Z,1.8nm,1.2s
ARCES ARCESS Array B 18.61 10 P **P** **19 43 02.2 -4.2**
ARCES ARCESS Array B 18.61 10 P **P** **19 43 03.7 -2.7**
comp=Z,2.1nm,0.8s,baz=189,slow=11,SNR=19
ARCES ARCESS Array B 18.61 10 P **P** **19 43 02.2 -4.2**
ARCES pmax pmax
comp=Z,7.0nm,1.3s
LVZ Lovozero 18.76 22 P **P** **19 43 03.8 -4.2**
LVZ IAmb IAmb 19 43 32.9
comp=Z,21nm,1.3s
LVZ Lovozero 18.76 22 *i* P **Pn** **19 43 08.8 +0.5**
LVZ pmax pmax
comp=Z,17nm,1.7s
KEV Kevo 19.00 12 P **P** **19 43 06.8 -3.8**
KEV IAmb IAmb 19 43 14.6
comp=Z,27nm,1.5s
KEV Kevo 19.00 12 P **P** **19 43 06.8 -3.8**
KEV pmax pmax
comp=Z,27nm,1.5s
KIV Kislovodsk 19.32 103 *e*P **Pn** **19 43 16.2 +0.9**
KIV pmax pmax
comp=Z,5.0nm,1.1s
BELG Belogornoye 19.35 75 P **P** **19 43 15.0 +0.5**
comp=Z,0.5nm,0.3s,baz=288,slow=20,SNR=4.2
comp=Z,14nm,0.8s
BELG Belogornoye 19.35 75 *i* P **Pn** **19 43 15.5 0.0**
BELG pmax pmax
comp=Z,3.0nm,0.9s
GHAJ Ghor Haditha 24.76 137 P **P** **19 44 10.4 -0.4**
ARU Arti 25.12 62 P **P** **19 44 12.8 -1.2**
ARU IAmb IAmb 19 44 17.6
comp=Z,4.9nm,0.6s
ARU Arti 25.12 62 P **P** **19 44 14.4 +0.4**
comp=Z,4.1nm,0.6s,baz=280,slow=9.2,SNR=11
comp=Z,4.1nm,0.6s
ARU Arti 25.12 62 *ce*P **P** **19 44 14.1 +0.1**
ARU pmax pmax
comp=Z,6.0nm,1.0s
SCO Scoresbysund 25.76 332 P **P** **19 44 19.0 -0.6**
SCO IAmb IAmb 19 44 30.7
comp=Z,15nm,1.2s
SCO Scoresbysund 25.76 332 P **P** **19 44 19.0 -0.6**
SCO pmax pmax
comp=Z,15nm,1.2s
AKTO Aktyubinsk 26.14 76 P **P** **19 44 24.1 +0.8**
comp=Z,3.9nm,0.7s,baz=282,slow=8.7,SNR=12
comp=Z,3.9nm,0.7s
ABKAR Akbulak array 27.71 77 P **P** **19 44 36.5 -0.9**
GEYT Alibeck 32.30 98 P **P** **19 45 17.3 -1.0**
GEYT IAmb IAmb 19 45 55.3
comp=Z,7.5nm,0.9s
GEYT Alibeck 32.30 98 P **P** **19 45 17.3 -1.0**
GEYT pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 32.50 66 P **P** **19 45 19.5 -0.3**
BRVK IAmb IAmb 19 45 22.5
comp=Z,2.9nm,0.7s
BRVK Borovoye 32.50 66 *ce*P **P** **19 45 20.5 +0.7**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
BVAR Borovoye Array 32.57 66 P **P** **19 45 22.2 +1.8**
comp=Z,2.3nm,0.6s,baz=296,slow=7.8,SNR=24
comp=Z,2.3nm,0.6s
KURBB Kurchatov Arra 38.16 66 P **P** **19 46 09.6 +1.1**
comp=Z,1.3nm,0.4s,baz=298,slow=9.3,SNR=7.2
comp=Z,1.3nm,0.4s
KURK Kurchatov 38.17 66 P **P** **19 46 09.3 +0.8**
KURK Kurchatov 38.17 66 *ce*P **P** **19 46 09.7 +1.2**
KURK pmax pmax
comp=Z,8.0nm,2.5s
ARK Arkit 38.66 82 P **P** **19 46 16.3 +3.4**
ARSB Arslanbob 39.56 82 P **P** **19 46 22.3 +1.8**
ARSB Arslanbob 39.56 82 P **P** **19 46 22.3 +1.8**
ARSB pmax pmax
comp=Z,1.0nm,0.8s
AAK Ala-Archa 39.75 79 *ce*P **P** **19 46 23.1 +1.0**
AAK pmax pmax
comp=Z,4.0nm,0.7s
TORD Torodi Ar. Bea 40.01 202 P **P** **19 46 25.4 +1.2**
comp=Z,1.0nm,0.7s,baz=11,slow=9.8,SNR=6.3
comp=Z,1.0nm,0.7s
ZAA0 Zalesovo Array 40.18 59 P **P** **19 46 24.2 -1.1**
ZALV Zalesovo Beam 40.18 59 P **P** **19 46 24.1 -1.2**
ZALV Zalesovo Beam 40.18 59 P **P** **19 46 26.9 +1.6**
comp=Z,0.3nm,0.2s,baz=288,slow=11,SNR=4.5
comp=Z,0.3nm,0.2s
ZALV Zalesovo Beam 40.18 59 *i* P **P** **19 46 28.2 +2.9**
ZALV pmax pmax
comp=Z,1.0nm,0.7s
BOOM Boomskoye usch 40.72 78 P **P** **19 46 31.8 +1.6**
BOOM Boomskoye usch 40.72 78 P **P** **19 46 31.8 +1.6**
BOOM pmax pmax
comp=Z,16nm,1.1s
MK31 Makanchi Array 42.20 69 P **P** **19 46 41.5 -0.5**
MK31 Makanchi Array 42.20 69 P **P** **19 46 41.5 -0.5**
MK31 pmax pmax
comp=Z,4.0nm,1.5s
MKAR Makanchi Array 42.20 69 P **P** **19 46 42.1 +0.1**
MKAR Makanchi Array 42.20 69 P **P** **19 46 43.3 +1.2**
comp=Z,0.8nm,0.8s,baz=309,slow=6.1,SNR=7.2
comp=Z,0.8nm,0.8s
MKAR Makanchi Array 42.20 69 *ce*P **P** **19 46 43.4 +1.4**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
KSH Kashi 42.47 82 P **P** **19 46 47.5 +3.1**
KSH pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 54.90 55 P **P** **19 48 21.9 +1.9**
comp=Z,1.0nm,0.8s,baz=292,slow=10.0,SNR=7.8
comp=Z,1.0nm,0.8s
YAK Yakutsk 55.19 32 P **P** **19 48 20.1 -1.5**
YAK Yakutsk 55.19 32 *ce*P **P** **19 48 22.2 +0.6**
YAK pmax pmax
comp=Z,7.0nm,0.8s
C23K Itkillik River 58.58 355 P **P** **19 48 46.2 +0.6**
C23K IAmb IAmb 19 48 55.3
comp=Z,6.5nm,1.5s
BILL Bilibino 58.70 13 ⇑*e*P **P** **19 48 48.1 +1.7**
BILL *e* 19 51 01.5
BILL *e*S S 19 57 14.8 +23
BILL pmax pmax
comp=Z,7.0nm,1.3s
BILL MLR MLR
comp=Z,29nm,16.0s
E29M Blow River 58.87 349 **P** **19 48 48.7 +1.1**
E29M IAmb IAmb 19 48 58.8
comp=Z,4.6nm,1.5s
G31M Satah River 59.78 347 P **P** **19 48 54.0 +0.1**
G31M IAmb IAmb 19 49 20.6
comp=Z,6.4nm,1.4s
G29M Pine Creek 60.29 349 P **P** **19 48 58.0 +0.5**
ZEA Zeya 60.38 40 *i* P **P** **19 48 59.8 +1.6**
G27K Doyon Strip 60.81 350 P **P** **19 49 01.3 +0.3**
H29M Whitestone 60.99 348 P **P** **19 49 03.3 +1.0**
E19K Redstone River 61.25 357 P **P** **19 49 05.0 +1.0**
E19K IAmb IAmb 19 49 28.6
comp=Z,3.3nm,1.0s
I30M Mount Dempster 61.68 347 P **P** **19 49 07.1 +0.1**
I30M IAmb IAmb 19 49 50.1
comp=Z,3.8nm,1.5s
F19K Shaleruckik Mo 61.89 357 P **P** **19 49 09.6 +1.3**
I28M Miner Creek 61.92 349 P **P** **19 49 09.6 +0.9**
I28M IAmb IAmb 19 49 53.8
comp=Z,4.4nm,1.5s
J30M Hart River 62.29 347 P **P** **19 49 12.5 +1.3**
J30M IAmb IAmb 19 49 14.6
comp=Z,2.5nm,0.9s
G19K Purcell Mounta 62.56 357 P **P** **19 49 11.8 -1.0**
G19K IAmb IAmb 19 49 32.5
comp=Z,4.1nm,1.2s
IMAR Indian Mountai 62.58 355 P **P** **19 49 14.6 +1.6**
K29M Barlow Dome 63.15 347 P **P** **19 49 18.0 +1.1**
K29M IAmb IAmb 19 49 38.7
comp=Z,3.1nm,1.3s
EYMN Ely 63.21 314 P **P** **19 49 18.7 +1.2**
EYMN IAmb IAmb 19 49 24.9
comp=Z,4.3nm,1.0s
J26L Joseph Creek 63.25 350 P **P** **19 49 18.6 +1.0**
ILAR Eielson Array 63.30 352 P **P** **19 49 19.9 +2.1**
comp=Z,0.2nm,0.7s,baz=352,slow=5.2,SNR=4.3
comp=Z,0.2nm,0.7s
BCAR Beaver Creek A 64.44 349 P **P** **19 49 27.3 +1.9**
DHY Denali Highway 65.02 352 **P** **19 49 31.1 +1.9**
DHY IAmb IAmb 19 49 34.4
comp=Z,2.3nm,1.0s
CAST Castle Rocks 65.03 354 P **P** **19 49 31.4 +2.2**
CAST IAmb IAmb 19 49 47.9
comp=Z,3.8nm,1.4s
N30M Aishikik Lake 65.36 346 P **P** **19 49 31.6 +0.2**
N30M IAmb IAmb 19 50 10.6
comp=Z,5.8nm,1.3s
KLR Kul'dur 65.64 40 *ce*P **P** **19 49 34.2 +0.9**
KLR pmax pmax
comp=Z,10.0nm,2.5s
SCM Sheep Creek Mo 66.23 352 P **P** **19 49 39.3 +2.2**
SCM Sheep Creek Mo 66.23 352 P **P** **19 49 39.3 +2.2**
SCM pmax pmax
comp=Z,4.0nm,0.8s
L19K White Mountain 66.42 355 P **P** **19 49 39.6 +1.4**
L19K IAmb IAmb 19 49 41.9
comp=Z,1.9nm,0.8s
L18K Granite Mounta 66.47 356 P **P** **19 49 40.8 +2.4**
L18K IAmb IAmb 19 50 19.1
comp=Z,2.6nm,1.1s
SUA Susitna One 66.89 353 P **P** **19 49 43.0 +1.8**
M17K Holitna River 67.32 357 P **P** **19 49 45.9 +2.0**
CAPN Captain Cook N 67.60 353 P **P** **19 49 45.9 +0.3**
N19K Bonanza Creek 67.77 355 P **P** **19 49 48.4 +1.5**
PDAR Pinedale Array 74.95 322 P **P** **19 50 32.2 +1.4**
comp=Z,0.7nm,0.5s,baz=55,slow=5.8,SNR=10
comp=Z,0.7nm,0.5s
DUG Dugway, Tooele 78.41 323 P **P** **19 50 53.3 +3.1**
DUG pmax pmax
comp=Z,5.0nm,1.2s
TXAR Lajitas Array 83.72 310 P **P** **19 51 20.5 +1.9**
comp=Z,0.4nm,0.6s,baz=23,slow=6.8,SNR=3.9
comp=Z,0.4nm,0.6s
ASAR Alice Springs 125.35 84 PKP **PKPdf** **19 57 50.8 +0.4**
comp=Z,0.3nm,0.7s,baz=327,slow=2.4,SNR=4.6
VNDA Vanda 150.97 165 PKPbc **PKPbc** **19 58 41.3 +0.6**
comp=Z,0.9nm,1.1s,baz=244,slow=2.1,SNR=2.7

PGC 03 19:44:16.4±1.0,54°24N×117°36W,h1km,ML3.5/5,
151km northeast of Jasper, Alberta Alberta, Canada, Alberta

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BMTB	**Bullhead Mount**	**3.05**	**308**	Pn	Pn	19 45 05.3	-0.5
BMTB				Sn	Sn	19 45 42.6	-0.4
UBRB	**Upper Baezaeko**	**3.95**	**253**	Pn	Pn	19 45 17.9	-0.3
UBRB				Sg	Sg	19 46 19.2	-3.9
LLLB	**Lillooet**	**4.39**	**216**	Sg	Sb	19 46 31.4	+3.8
WSLR	**Whistler**	**5.16**	**219**	Sg	Sg	19 46 56.8	-5.2
FNSB	**Fort Nelson**	**5.32**	**331**	Sn	Sn	19 46 33.3	-5.4

FNSB			Sg	Sg	19 47 01.8	-5.1
HOPB	**Hope**	**5.33 206**	Sg	Sb	19 47 01.0	+6.2
HNBB	**Haney**	**5.75 212**	Sg	Sg	19 47 14.1	-7.0
B08A	**Colville Reser**	**5.96 190**	Pn	Pn	19 45 45.0	-0.7
B08A			Pg	Pb	19 46 02.3	+1.4
B08A			Sg	Sg	19 47 21.2	-6.4
RPW	**Rockport**	**6.23 203**	Pg	Pb	19 46 07.6	+2.0
BSMT	**Bassoo Peak**	**6.68 162**	Pn	Pn	19 45 54.7	-1.0
JTMT	**Jette**	**6.88 159**	Pn	Pn	19 45 57.0	-1.4

*IDC **03** 19:59:30.3±1.2,24.′74N×122.′63E, h0km, mb3.7/9, mbtmp3.7/10, ML3.1/1, MS3.2/11, Error ellipse: s-maj=66.0km s-min=20.1km az=66.0*
*JMA **03** 19:59:30.4±0.2,25.′1N±0.′7×123.′6E±0.′3, h13km, MV3.3/9, NW OFF ISHIGAKIJIMA IS*
ISC 03 19:59:30.0±1.9,25.′13N±0.′07×123.′57E±0.′05, h9km±12km, n25,σ0§49/22, mb3.7/9, MS3.2/7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.80**	**169**	P	**Pg**	**19 59 45.6**	**+0.1**
IRIF				*e*S	**Sg**	**19 59 56.4**	**+0.4**
YOJ	**Yonaguni jima**	**0.83**	**217**	*e*P	**Pg**	**19 59 46.3**	**+0.2**
YOJ				*e*S	**Sg**	**19 59 56.7**	**-0.2**
JISG	**Ishigakijimahi**	**0.86**	**128**	P	**Pg**	**19 59 46.7**	**0.0**
JISG				*e*S	**Sg**	**19 59 58.3**	**+0.4**
JYNG	**Yonagunijimaku**	**0.88**	**220**	P	**Pg**	**19 59 46.9**	**0.0**
JYNG				*e*S	**Sg**	**19 59 58.5**	**+0.2**
JIJ	**Ishigaki jima**	**0.92**	**145**	P	**Pb**	**19 59 47.4**	**-0.9**
JKRS	**Kuro-shima**	**0.97**	**155**	P	**Pb**	**19 59 48.7**	**-0.4**
JKRS				*e*S	**Sb**	**20 00 02.1**	**+0.1**
HATJ	**Hateruma jima**	**1.09**	**168**	*e*P	**Pb**	**19 59 50.4**	**-0.6**
HATJ				*e*S	**Sb**	**20 00 05.4**	**+0.1**
JNU	**Nakatsue**	**10.21**	**37**	LR	LR	20 06 33.4	
	comp=Z,94nm,20.1s,baz=256,slow=38						
KSRS	**Korea Array**	**12.84**	**16**	Pn		20 02 43.5	
	0.1nm,0.3s,baz=188,slow=11,SNR=5.6						
KSRS				LR	LR	20 07 33.9	
	comp=Z,56nm,20.0s,baz=205,slow=36 2.5nm,0.9s						
MJAR	**Matsushiro Arr**	**16.94**	**44**	LR	LR	20 11 01.9	
	comp=Z,41nm,19.6s,baz=290,slow=39						
DAV	**Davao City (W)**	**18.06**	**174**	LR	LR	20 10 44.6	
	comp=Z,66nm,20.0s,baz=355,slow=38						
GUMO	**Guam**	**23.11**	**116**	LR	LR	20 12 24.0	
	comp=Z,14nm,21.4s,baz=266,slow=33						
SONM	**Songino Array**	**26.42**	**333**	P	**P**	**20 05 08.4**	**+1.2**
	0.5nm,0.7s,baz=141,slow=9.3,SNR=2.0						
SONM				LR	LR	20 16 49.9	
	comp=Z,48nm,20.4s,baz=194,slow=39 0.5nm,0.7s						
MKAR	**Makanchi Array**	**39.20**	**314**	P	**P**	**20 06 58.0**	**-0.6**
	2.1nm,0.9s,baz=108,slow=9.3,SNR=12 2.1nm,0.9s						
MA2	**Magadan**	**39.30**	**22**	LR	LR	20 25 09.1	
	comp=Z,34nm,18.9s,baz=240,slow=38						
ZALV	**Zalesovo Beam**	**40.67**	**325**	P	**P**	**20 07 10.3**	**-0.2**
	0.6nm,0.5s,baz=116,slow=9.9,SNR=3.6						
ZALV				LR	LR	20 25 39.7	
	comp=Z,30nm,19.8s,baz=183,slow=39 0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**42.81**	**318**	P	**P**	**20 07 28.1**	**-0.1**
	1.2nm,0.6s,baz=106,slow=8.0,SNR=6.4 1.2nm,0.6s						
WRA	**Warramunga Arr**	**46.01**	**166**	P	**P**	**20 07 54.1**	**+0.1**
	0.7nm,0.8s,baz=347,slow=8.5,SNR=3.6 0.7nm,0.8s						
TIXI	**Tiksi**	**46.65**	**2**	LR	LR	20 28 48.2	
	comp=Z,48nm,19.1s,baz=216,slow=37						
BVAR	**Borovoye Array**	**48.34**	**320**	P	**P**	**20 08 11.4**	**-0.6**
	0.3nm,0.5s,baz=111,slow=7.9,SNR=3.1 0.3nm,0.5s						
ASAR	**Alice Springs**	**49.53**	**168**	P	**P**	**20 08 22.0**	**+0.6**
	0.3nm,0.8s,baz=350,slow=8.8,SNR=2.2 0.3nm,0.8s						
ARU	**Arti**	**55.67**	**322**	P	**P**	**20 09 06.1**	**-0.4**
	1.5nm,0.6s,baz=108,slow=20,SNR=3.9 1.5nm,0.6s						
FINES	**FINESS Array B**	**71.72**	**330**	P	**P**	**20 10 52.4**	**+0.2**
	0.7nm,0.6s,baz=82,slow=10.0,SNR=2.9 0.7nm,0.6s						
HFS	**Hagfors**	**77.80**	**331**	LR	LR	20 49 20.6	
	comp=Z,36nm,19.4s,baz=94,slow=38						
NOA	**NORSAR Array B**	**78.40**	**333**	LR	LR	20 49 51.5	
	comp=Z,23nm,18.6s,baz=255,slow=39						

*IDC **03** 20:07:16.7±7.4,23.′00N×122.′16E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=175.1km s-min=137.4km az=42.0*
*TAP **03** 20:07:21.8,23.′02N×121.′19E, h10km, ML3.7, B*
*ASIES **03** 20:07:21.8,23.′02N×121.′19E, h10km, ML3.7, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.41; $M_{\theta\theta}$1.26; $M_{\phi\phi}$-2.04; $M_{r\theta}$1.27; $M_{\theta r}$-1.24; $M_{\phi r}$-0.30; Fault plane solution: $M_0$2.66463×10^{21} NP1:ϕ_s55.01000°, δ63.23000°, λ146.02000°. NP2:ϕ_s161.90000°, δ60.07000°, λ31.31000°. Principal axes: T Plg42.1640°, Azm17.3080°; N Plg47.7680°, Azm201.2620°; P Plg1.9690°, Azm109.0920°;*
ISC 03 20:07:22.2±0.7,23.′01N±0.′01×121.′21E±0.′02, h16km±4km, n119,σ0§89/166, mb3.5/4, 8C-14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECS	**Chishang**	**0.09**	**5**	⇓*i*P	**Pg**	**20 07 24.9**	**-0.6**
	baz=18						
ECS				*i*S	**Sg**	**20 07 27.7**	**0.0**
	baz=18						
EDH	**Donghe**	**0.09**	**112**	⇓*i*P	**Pg**	**20 07 25.2**	**-0.3**
	baz=112						
EDH				*e*S	**Sg**	**20 07 28.1**	**+0.4**
	baz=112						
LONT	**Longtian**	**0.12**	**217**	⇑*i*P	**Pg**	**20 07 25.1**	**-0.8**
	baz=206						
LONT				*i*S	**Sg**	**20 07 27.8**	**-0.5**
	baz=206						
EHD	**Haiduan**	**0.14**	**358**	⇑*i*P	**Pg**	**20 07 25.2**	**-1.0**
	baz=359						
EHD				S	**Sg**	**20 07 27.4**	**-1.3**
	baz=359						
CHKT	**Chengkung**	**0.17**	**57**	⇓*i*P	**Pb**	**20 07 26.8**	**-0.1**
	baz=75						
CHKT				*e*S	**Sg**	**20 07 30.5**	**+1.2**
	baz=75						
FULB	**Fuli**	**0.21**	**22**	⇑*i*P	**Pb**	**20 07 27.3**	**-0.3**
	baz=22						
FULB				*e*S	**Sg**	**20 07 30.4**	**0.0**
	baz=22						
TWGBT	**Beinan**	**0.22**	**213**	P	**Pg**	**20 07 26.7**	**-0.6**
TWGBT	**Beinan**	**0.22**	**213**	⇑P	**Pg**	**20 07 26.7**	**-0.6**
	baz=212						
TWGBT				S	**Sg**	**20 07 30.6**	**-0.2**
	baz=212						
TWG	**Pinlang**	**0.23**	**215**	⇑P	**Pg**	**20 07 26.7**	**-0.6**
	baz=212						
TWG				*i*S	**Sg**	**20 07 30.6**	**-0.2**
	baz=212						
CHKH	**Chenggong**	**0.25**	**43**	*e*P	**Pb**	**20 07 28.1**	**-0.3**
	baz=63						
CHKH				*e*S	**Sb**	**20 07 33.1**	**+0.7**
	baz=63						
ELDTW	**Lidau**	**0.26**	**316**	⇓*i*P	**Pg**	**20 07 26.9**	**-1.0**
	baz=318						
ELDTW				S	**Sg**	**20 07 30.3**	**-1.5**
	baz=318						
TTN	**Taitung**	**0.26**	**193**	⇓*e*P	**Pb**	**20 07 28.7**	**+0.3**
	baz=192						
TTN				*e*S	**Sb**	**20 07 33.4**	**+0.8**
	baz=192						
EYUL	**Yuli**	**0.35**	**16**	*e*P	**Pg**	**20 07 29.3**	**-0.2**
	baz=13						
TWF1	**Yuli**	**0.35**	**13**	⇑*i*P	**Pg**	**20 07 29.0**	**-0.5**
	baz=6.0						
TWF1				*e*S	**Sb**	**20 07 34.7**	**-0.8**
	baz=6.0						
ECBN	**Changbin**	**0.38**	**36**	*e*P	**Pb**	**20 07 30.4**	**-0.1**
	baz=52						
ECBN				*e*S	**Sb**	**20 07 36.8**	**+0.6**
	baz=52						
YULB	**Yu-li**	**0.39**	**12**	P	**Pg**	**20 07 29.8**	**-0.4**
YULB	**Yu-li**	**0.39**	**12**	⇑*i*P	**Pg**	**20 07 29.5**	**-0.7**
	baz=15						
YULB				*e*S	**Sg**	**20 07 35.5**	**-0.2**
	baz=15						
LDUT	**Ludao**	**0.41**	**144**	*e*P	**Pb**	**20 07 31.0**	**0.0**
	baz=128						
LDUT				*e*S	**Sb**	**20 07 38.4**	**+1.5**
	baz=128						
STYH	**Taoyuan**	**0.43**	**292**	⇓*i*P	**Pg**	**20 07 30.4**	**-0.5**
	baz=299						
STYH				*e*S	**Sg**	**20 07 35.6**	**-1.3**
	baz=299						
ECL	**Taimali**	**0.47**	**210**	⇓P	**Pg**	**20 07 30.6**	**-1.0**
	baz=207						
ECL				*e*S	**Sg**	**20 07 36.9**	**-1.1**
	baz=207						
EHYH	**Wanrong**	**0.50**	**14**	*e*P	**Pg**	**20 07 32.0**	**-0.2**
	baz=6.0						
EHYH				*e*S	**Sg**	**20 07 38.7**	**-0.2**
	baz=6.0						
EHY	**Hungye**	**0.51**	**12**	*i*P	**Pg**	**20 07 31.2**	**-1.1**
	baz=15						
SLGT	**Liugui**	**0.52**	**269**	⇓P	**Pb**	**20 07 32.0**	**-0.9**
	baz=266						
SLGT				S	**Sb**	**20 07 39.3**	**-1.0**
	baz=266						
HGSD	**Ruisui**	**0.52**	**22**	*e*P	**Pg**	**20 07 32.3**	**-0.3**
	baz=15						
YUS	**Yu-Shan**	**0.54**	**334**	*e*P	**Pg**	**20 07 32.5**	**-0.6**
	baz=334						
YUS				S	**Sg**	**20 07 39.0**	**-1.3**
	baz=334						
SGST	**Jiashian**	**0.58**	**278**	⇓*i*P	**Pg**	**20 07 32.7**	**-1.0**
	baz=275						
SGST				*e*S	**Sb**	**20 07 42.3**	**+0.2**
	baz=275						
WTP	**Ta-pu**	**0.60**	**294**	⇓*i*P	**Pb**	**20 07 33.8**	**-0.5**
	baz=296						
WTP				*e*S	**Sb**	**20 07 41.6**	**-0.9**
	baz=296						
TPUB	**Ta-pu**	**0.61**	**299**	P	**Pb**	**20 07 34.3**	**-0.2**
TPUB	**Ta-pu**	**0.61**	**299**	⇓*i*P	**Pb**	**20 07 34.1**	**-0.4**
	baz=309						
TPUB				S	**Sb**	**20 07 42.4**	**-0.4**
	baz=309						
CHN1	**Nanshi**	**0.65**	**286**	⇓*i*P	**Pb**	**20 07 35.3**	**+0.1**
	baz=286						
CHN1				S	**Sb**	**20 07 44.5**	**+0.4**
	baz=286						
MASBT	**Mashibuluo**	**0.66**	**234**	⇓*i*P	**Pg**	**20 07 34.2**	**-1.0**
	baz=237						
MASBT				*e*S	**Sg**	**20 07 42.0**	**-2.0**
	baz=237						
SCST	**Cishan**	**0.67**	**260**	*e*P	**Pb**	**20 07 35.5**	**0.0**
	baz=254						
SNST	**Tainan City**	**0.69**	**288**	⇓*i*P	**Pb**	**20 07 36.1**	**+0.2**
	baz=288						
SNST				*e*S	**Sn**	**20 07 46.3**	**-1.4**
	baz=288						
WCKO	**Fanlu**	**0.70**	**308**	*e*P	**Pb**	**20 07 36.0**	**0.0**
	baz=317						
WCKO				*e*S	**Sb**	**20 07 46.3**	**+0.8**
	baz=317						
EAST	**Anshuo**	**0.70**	**208**	*e*P	**Pg**	**20 07 34.9**	**-1.1**
	baz=206						
EAST				S	**Sb**	**20 07 45.4**	**-0.1**
	baz=206						
TAW	**Tawu**	**0.71**	**204**	*e*P	**Pg**	**20 07 34.6**	**-1.4**
	baz=202						
TAW				*e*S	**Sg**	**20 07 44.2**	**-1.3**
	baz=202						
TWK	**Hsinying**	**0.71**	**291**	*e*P	**Pb**	**20 07 36.4**	**+0.1**
	baz=291						
TWK				*e*S	**Sb**	**20 07 46.5**	**+0.7**
	baz=291						
WARBT	**Fenglin Townsh**	**0.73**	**13**	*e*P	**Pg**	**20 07 34.4**	**-2.0**
	baz=34						
TAWH	**Dawu Township**	**0.73**	**204**	*e*P	**Pg**	**20 07 35.0**	**-1.4**
	baz=203						
TAWH				*e*S	**Sg**	**20 07 45.1**	**-0.9**
	baz=203						
VWDT	**VWDT**	**0.75**	**355**	⇑*i*P	**Pg**	**20 07 36.0**	**-0.7**
	baz=350						
VWDT				*e*S	**Sg**	**20 07 45.8**	**-0.8**
	baz=350						
TWM1	**Shoushan**	**0.75**	**256**	*e*P	**Pn**	**20 07 37.6**	**-0.5**
	baz=248						
WHYT	**Xinyi Township**	**0.76**	**334**	*e*P	**Pb**	**20 07 36.8**	**-0.3**
	baz=335						
WHYT				*e*S	**Sb**	**20 07 46.6**	**-0.7**
	baz=335						
CHN3	**Shinhua**	**0.78**	**275**	*i*P	**Pn**	**20 07 39.2**	**+0.7**
	baz=275						
CHN3				*e*S	**Sn**	**20 07 50.9**	**+1.0**
	baz=275						
SHHT	**Tainan City**	**0.80**	**271**	*e*P	**Pn**	**20 07 39.5**	**+0.8**
	baz=271						
SHHT				*e*S	**Sn**	**20 07 51.7**	**+1.4**
	baz=271						
SSLB	**Suanglung**	**0.81**	**343**	P	**Pb**	**20 07 37.7**	**-0.2**
SSLB	**Suanglung**	**0.81**	**343**	P	**Pb**	**20 07 37.5**	**-0.5**
	baz=342						
SSLB				*e*S	**Sg**	**20 07 47.9**	**-0.9**
	baz=342						
ESL	**Shilin**	**0.83**	**14**	*e*P	**Pg**	**20 07 37.6**	**-0.7**
	baz=18						
SCZT	**Fangliau**	**0.83**	**221**	P	**Pg**	**20 07 37.5**	**-0.9**
	baz=225						
SCZT				*e*S	**Sb**	**20 07 49.2**	**-0.1**
	baz=225						
SHUL	**Shoufeng**	**0.84**	**22**	*e*P	**Pb**	**20 07 38.6**	**+0.2**
	baz=27						
CHN2	**Minshiung**	**0.85**	**308**	*e*P	**Pn**	**20 07 39.4**	**-0.1**
	baz=307						
CHN2				*i*S	**Sn**	**20 07 52.3**	**+0.5**
	baz=307						
SSHA	**Shanhua**	**0.86**	**279**	*e*P	**Pn**	**20 07 39.9**	**+0.3**
	baz=291						
WGK	**Gukeng**	**0.90**	**319**	*i*P	**Pn**	**20 07 40.6**	**+0.5**
	baz=318						
WGK				*e*S	**Sn**	**20 07 53.5**	**+0.6**
	baz=318						
SMLT	**Sun Moon Lake**	**0.92**	**342**	*e*P	**Pb**	**20 07 40.0**	**+0.2**
	baz=349						
SMLT				*e*S	**Sn**	**20 07 53.1**	**-0.4**
	baz=349						
WDLH	**Douliu**	**0.92**	**318**	*e*P	**Pn**	**20 07 40.9**	**+0.5**
	baz=317						
WDLH				*i*S	**Sn**	**20 07 54.5**	**+1.2**
	baz=317						
TEYL	**Yanliau Villag**	**0.93**	**22**	*e*P	**Pg**	**20 07 39.6**	**-0.6**
	baz=26						
OWD	**Renai**	**0.94**	**358**	*e*P	**Pg**	**20 07 39.7**	**-0.8**
	baz=1.0						
SCLT	**Jiali**	**0.95**	**280**	*e*P	**Pn**	**20 07 41.5**	**+0.6**
	baz=280						
SCLT				*e*S	**Sn**	**20 07 56.8**	**+2.8**
	baz=280						
TYC	**Yuchr**	**0.95**	**340**	*i*P	**Pn**	**20 07 41.1**	**+0.3**
	baz=346						
TYC				*e*S	**Sn**	**20 07 54.0**	**0.0**
	baz=346						
CHN8	**Yiju**	**0.98**	**290**	*e*P	**Pn**	**20 07 41.7**	**+0.5**
	baz=290						
CHN8				*e*S	**Sn**	**20 07 56.5**	**+1.7**
	baz=290						
WUSB	**Renai**	**0.98**	**355**	*e*P	**Pg**	**20 07 40.3**	**-1.0**
	baz=357						
ETM	**Tongmen**	**0.99**	**15**	*e*P	**Pg**	**20 07 40.5**	**-0.9**
	baz=18						
WNT	**Mingjian**	**0.99**	**331**	*i*P	**Pn**	**20 07 42.2**	**+0.8**
	baz=330						
WNT				*i*S	**Sn**	**20 07 56.6**	**+1.5**
	baz=330						
LAY	**Lan-yu**	**1.01**	**162**	P	**Pg**	**20 07 40.3**	**-1.5**
	baz=147						
LXIB	**Xiulin Townshi**	**1.03**	**10**	*e*P	**Pg**	**20 07 39.2**	**-2.9**
	baz=31						
WSL	**Shuilin Townsh**	**1.04**	**300**	*e*P	**Pn**	**20 07 42.5**	**+0.5**
	baz=299						
WSL				*e*S	**Sn**	**20 07 58.5**	**+2.2**
	baz=299						
TSCK	**Chigu Township**	**1.04**	**278**	*e*P	**Pn**	**20 07 43.6**	**+1.5**
	baz=277						
CHGB	**Renai**	**1.05**	**358**	*e*P	**Pg**	**20 07 41.2**	**-1.4**
	baz=1.0						
LYUB	**Lan-yu**	**1.06**	**161**	*e*P	**Pb**	**20 07 40.9**	**-1.2**
	baz=147						
WCS	**Beigang Elemen**	**1.08**	**345**	*e*P	**Pn**	**20 07 43.4**	**+0.8**
	baz=346						
HEN	**Hengchun**	**1.09**	**204**	*e*P	**Pn**	**20 07 43.3**	**+0.6**
	baz=189						
WSF	**Szhu**	**1.10**	**305**	*e*P	**Pn**	**20 07 42.9**	**-0.1**
	baz=304						
WSF				*i*S	**Sn**	**20 07 59.0**	**+1.1**
	baz=304						
TWKBT	**Hengchun**	**1.12**	**199**	*e*P	**Pb**	**20 07 42.9**	**-0.3**
	baz=181						
TWD	**Chiawan**	**1.12**	**18**	*e*P	**Pb**	**20 07 42.0**	**-1.2**
	baz=24						
WHF	**Hehuan Shan**	**1.13**	**2**	*e*P	**Pg**	**20 07 43.1**	**-1.1**
	baz=17						
WRL	**Guolierlin Hig**	**1.18**	**319**	*e*P	**Pn**	**20 07 44.8**	**+0.9**
	baz=318						
WRL				*e*S	**Sn**	**20 08 00.3**	**+0.7**
	baz=318						
ETL	**Fush Village**	**1.21**	**18**	*e*P	**Pn**	**20 07 44.3**	**-0.1**
	baz=24						
NACB	**Ninganchiao**	**1.21**	**17**	P	**Pn**	**20 07 42.4**	**-2.1**
NACB	**Ninganchiao**	**1.21**	**17**	*e*P	**Pn**	**20 07 42.2**	**-2.3**
	baz=34						
FUSS	**Fushou**	**1.24**	**1**	*e*P	**Pn**	**20 07 44.1**	**-0.9**
	baz=22						
TDCB	**Techi**	**1.24**	**358**	*e*P	**Pn**	**20 07 44.4**	**-0.6**
	baz=360						
TWT	**Tachien**	**1.24**	**359**	*e*P	**Pn**	**20 07 45.1**	**0.0**
	baz=1.0						
WHP	**Taichung City**	**1.29**	**349**	*e*P	**Pg**	**20 07 47.0**	**0.0**
	baz=352						
WHP				*e*S	**Sn**	**20 08 03.5**	**+0.9**
	baz=352						
NNSB	**Datong**	**1.42**	**6**	*e*P	**Pn**	**20 07 46.0**	**-1.5**
	baz=21						
WDJ	**Dajia District**	**1.43**	**339**	*e*P	**Pg**	**20 07 50.0**	**+0.2**
	baz=338						
NNS	**Nan Shan**	**1.44**	**6**	*e*P	**Pg**	**20 07 49.0**	**-0.9**
	baz=21						
WDGT	**Dungji**	**1.45**	**280**	*e*P	**Pn**	**20 07 47.7**	**0.0**
	baz=279						
WDGT				*e*S	**Sb**	**20 08 06.8**	**-0.1**
	baz=279						
NSY	**Sanyi**	**1.46**	**344**	*e*P	**Pg**	**20 07 50.3**	**0.0**
	baz=344						
ENA	**Nanau**	**1.50**	**19**	*e*P	**Pn**	**20 07 47.1**	**-1.2**
	baz=26						
EOS4	**EOS4**	**1.50**	**42**	*e*P	**Pn**	**20 07 47.5**	**-0.6**
	baz=49						
EWUT	**Wuta**	**1.52**	**20**	*e*P	**Pn**	**20 07 47.8**	**-0.9**
	baz=27						
LATG	**Datong**	**1.55**	**11**	*e*P	**Pn**	**20 07 48.6**	**-0.6**
	baz=36						
NMLH	**Miaoli**	**1.57**	**346**	*e*P	**Pg**	**20 07 51.2**	**-1.2**
	baz=348						
PHUB	**P'eng-hu**	**1.59**	**289**	*e*P	**Pn**	**20 07 49.5**	**-0.1**
	baz=288						
NDT	**Datong Townshi**	**1.61**	**10**	*e*P	**Pn**	**20 07 49.7**	**-0.3**
	baz=34						
NFF	**Wufeng Townshi**	**1.62**	**357**	*e*P	**Pb**	**20 07 51.6**	**-0.1**
	baz=16						
PNG	**Penghu**	**1.62**	**290**	*e*P	**Pn**	**20 07 50.2**	**+0.1**
	baz=290						
EOS3	**EOS3**	**1.63**	**38**	*e*P	**Pn**	**20 07 49.4**	**-0.7**
	baz=44						
NSTT	**Nanjuang**	**1.63**	**353**	*e*P	**Pb**	**20 07 51.8**	**0.0**
	baz=336						
LIOB	**Emei**	**1.64**	**354**	*e*P	**Pb**	**20 07 52.3**	**+0.2**
VCHM	**Qimei**	**1.65**	**277**	*e*P	**Pn**	**20 07 50.2**	**-0.3**
	baz=277						
ENTT	**Nioudou**	**1.66**	**11**	*e*P	**Pn**	**20 07 49.9**	**-0.7**
	baz=35						
YHNB	**Yeheng**	**1.66**	**5**	P	**Pn**	**20 07 50.9**	**+0.2**
YHNB	**Yeheng**	**1.66**	**5**	*e*P	**Pn**	**20 07 50.6**	**-0.1**
	baz=349						
NSK	**Sanguang**	**1.67**	**5**	*e*P	**Pn**	**20 07 50.5**	**-0.2**
	baz=349						
TWC	**Suao**	**1.70**	**20**	*e*P	**Pn**	**20 07 51.7**	**+0.6**
	baz=30						
FUSB	**Fushanzhiwuyua**	**1.78**	**11**	*e*P	**Pn**	**20 07 51.7**	**-0.6**
	baz=39						
NWLT	**Wulai**	**1.78**	**9**	*e*P	**Pn**	**20 07 52.5**	**+0.2**
	baz=32						
TATO	**Taipei**	**1.98**	**7**	P	**Pn**	**20 07 56.1**	**+1.1**
TIPB	**Shuangxi**	**2.04**	**16**	*e*P	**Pn**	**20 07 56.0**	**+0.1**
	baz=26						
YOJ	**Yonaguni jima**	**2.19**	**48**	P	**Pn**	**20 07 58.0**	**0.0**
YOJ	**Yonaguni jima**	**2.19**	**48**	*e*P	**Pn**	**20 07 57.5**	**-0.5**
	baz=56						
VWUC	**VWUC**	**2.55**	**321**	*e*P	**Pn**	**20 08 02.9**	**0.0**
	baz=319						
SONM	**Songino Array**	**27.46**	**338**	P	**P**	**20 13 07.6**	**+0.1**
	0.3nm,0.7s,baz=153,slow=9.7,SNR=1.5 0.3nm,0.7s						
MKAR	**Makanchi Array**	**39.20**	**317**	P	**P**	**20 14 51.4**	**+1.9**
	0.6nm,0.7s,baz=113,slow=9.3,SNR=5.6 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**41.25**	**328**	P	**P**	**20 15 07.2**	**+0.9**
	0.8nm,0.6s,baz=115,slow=9.7,SNR=2.2 0.8nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**42.54**	**85**	T	T	21 00 30.2	
	baz=282,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy**	**42.54**	**85**	T	T	21 00 31.2	
	baz=282,slow=74,SNR=23						
H11N3	**WAKE ISLAND Hy**	**42.56**	**85**	T	T	21 00 34.3	
	baz=282,slow=74,SNR=18						
NOA	**NORSAR Array B**	**79.27**	**332**	P	**P**	**20 19 26.1**	**-0.5**
	0.6nm,0.8s,baz=56,slow=7.4,SNR=3.6 0.6nm,0.8s						

*IDC **03** 20:10:14.0±0.7,22.′87N×121.′25E, h0km, mb3.9/16, mbtmp3.9/17, ML3.4/1, MS3.6/3, Error ellipse: s-maj=30.7km s-min=16.3km az=66.0*
*JMA **03** 20:10:15.9±0.1,23.′0N±0.′2×121.′3E±0.′6, h11km±1km, MV4.0/17, TAIWAN REGION*
*NIED **03** 20:10:15.9,22.′97N×121.′31E, h11km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}0.85; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$-0.79; $M_{r\theta}$0.78; $M_{\theta r}$0.21; $M_{\phi r}$-0.10; Fault plane solution: $M_0$1.11000×10^{15} NP1: ϕ_s133.00000°, δ64.00000°, λ61.00000°. NP2:ϕ_s5.00000°, δ39.00000°, λ135.00000°.*
*NEIC **03** 20:10:16.3±2.0,23.′06N±0.′02×121.′28E±0.′03, h7km±4km, mb4.5/24, Mwr4.1/25 Error ellipse: s-maj=3.8km s-min=2.1km az=114.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.11; $M_{\theta\theta}$0.11; $M_{\phi\phi}$-1.22; $M_{r\theta}$0.51; $M_{\theta\theta}$-0.35; $M_{\theta r}$-1.04; Fault plane solution: $M_0$1.69000×10^{15} NP1:ϕ_s168.66000°, δ67.85000°, λ67.26000°. NP2:ϕ_s36.69000°, δ31.33000°, λ133.52000°. Principal axes: T 1.7333, Plg61.0000°, Azm45.0000°; N -0.1004, Plg21.0000°, Azm178.0000°; P -1.6329, Plg20.0000°, Azm276.0000°;*
*ASIES **03** 20:10:16.3,23.′01N×121.′18E, h10km, ML4.4, Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}7.46; $M_{\theta\theta}$-1.10; $M_{\phi\phi}$-6.36; $M_{r\theta}$3.85; $M_{\theta r}$-0.13; $M_{\phi r}$-8.87; Fault plane solution: $M_0$11.92410×10^{21} NP1: ϕ_s162.07000°, δ72.66000°, λ81.00000°. NP2:ϕ_s10.07000°, δ19.47000°, λ116.63000°. Principal axes: T Plg61.3250°, Azm58.7300°; N Plg8.5920°, Azm164.7680°; P Plg27.1280°, Azm259.2080°;*
*NEIC **03** 20:10:16.1,23.′07N×121.′28E, h5km*
*BJI **03** 20:10

CHKT					eS	Sg	20 10 24.8	+0.8
	baz=78								
FULB	**Fuli**	0.20	14	⇑	iP	Pg	20 10 22.0	-0.1
	baz=22								
FULB					eS	Sg	20 10 26.4	+1.1
	baz=22								
TWGBT	**Beinan**	0.23	219		P	Pg	20 10 21.4	-1.0
TWGBT	**Beinan**	0.23	219	⇑	P	Pg	20 10 21.2	-1.2
	baz=212								
TWGBT					i S	Sg	20 10 24.7	-1.3
	baz=212								
TWG	**Pinlang**	0.23	221			Pg	20 10 20.4	-2.0
TWG					Sg	Sg	20 10 23.9	-2.2
TWG	**Pinlang**	0.23	221	⇑	iP	Pg	20 10 21.2	-1.3
	baz=212								
TWG					i S	Sg	20 10 24.9	-1.2
	baz=212								
CHKH	**Chenggong**	0.24	37	⇓	iP	Pg	20 10 22.6	0.0
	baz=62								
CHKH					eS	Sg	20 10 27.9	+1.6
	baz=62								
TTN	**Taitung**	0.26	199	⇓	P	Pb	20 10 23.3	-0.1
	baz=191								
TTN					eS	Sb	20 10 29.6	+2.1
	baz=191								
ELDTW	**Lidau**	0.28	313	⇓	iP	Pg	20 10 21.5	-1.8
	baz=320								
ELDTW					i S	Sg	20 10 24.7	-2.8
	baz=320								
EYUL	**Yuli**	0.35	12	⇑	P	Pg	20 10 23.8	-0.7
	baz=9.0								
EYUL					eS	Sb	20 10 29.7	-0.6
	baz=9.0								
TWF1	**Yuli**	0.36	8	⇑	iP	Pg	20 10 23.6	-0.9
	baz=6.0								
TWF1					eS	Sg	20 10 28.6	-1.0
	baz=6.0								
ECBN	**Changbin**	0.37	32	⇑	iP	Pb	20 10 25.2	-0.1
	baz=52								
ECBN					eS	Sb	20 10 32.5	+1.7
	baz=52								
LDUT	**Ludao**	0.39	147		eP	Pb	20 10 25.5	0.0
	baz=127								
LDUT					eS	Sb	20 10 33.6	+2.4
	baz=127								
YULB	**Yu-li**	0.40	8		P	Pg	20 10 24.5	-0.7
YULB	**Yu-li**	0.40	8			Pg	20 10 23.6	-1.6
YULB					Sg	Sg	20 10 28.6	-2.2
YULB	**Yu-li**	0.40	8	⇑	iP	Pg	20 10 24.2	-1.1
	baz=15								
YULB					S	Sg	20 10 29.7	-1.0
	baz=15								
STYH	**Taoyuan**	0.46	292	⇓	iP	Pg	20 10 25.0	-1.4
	baz=300								
STYH					S	Sg	20 10 30.8	-1.9
	baz=300								
STYT	**Tauyuan**	0.47	290	⇓	iP	Pg	20 10 25.1	-1.5
	baz=292								
STYT					i S	Sg	20 10 31.1	-2.0
	baz=292								
ECL	**Taimali**	0.48	213	⇓	P	Pg	20 10 25.1	-1.6
	baz=207								
ECL					S	Sg	20 10 31.6	-1.6
	baz=207								
EHYH	**Wanrong**	0.50	11		eP	Pg	20 10 26.2	-1.0
	baz=6.0								
EHYH					S	Sg	20 10 33.2	-0.8
	baz=6.0								
EHY	**Hungye**	0.51	8	⇑	P	Pg	20 10 25.9	-1.4
	baz=15								
EHY					S	Sg	20 10 33.4	-0.9
	baz=15								
HGSD	**Ruisui**	0.52	19	⇑	iP	Pb	20 10 27.1	-0.7
	baz=12								
HGSD					eS	Sb	20 10 36.1	+1.1
	baz=12								
SLGT	**Liugui**	0.55	270	⇓	iP	Pg	20 10 26.7	-1.3
	baz=269								
SLGT					eS	Sg	20 10 33.2	-2.1
	baz=269								
YUS	**Yu-Shan**	0.56	332	⇑	iP	Pg	20 10 27.0	-1.4
	baz=335								
YUS					i S	Sg	20 10 33.6	-2.3
	baz=335								
SGST	**Jiashian**	0.61	278	⇓	iP	Pg	20 10 27.3	-1.9
	baz=279								
SGST					eS	Sg	20 10 35.7	-1.7
	baz=279								
SSD	**Sandimen**	0.61	246	⇓	iP	Pg	20 10 27.3	-1.9
	baz=244								
SSD					eS	Sg	20 10 33.8	-3.6
	baz=244								
WTP	**Ta-pu**	0.63	293	⇓	iP	Pg	20 10 28.5	-1.0
	baz=297								
WTP					S	Sg	20 10 36.5	-1.4
	baz=297								
TPUB	**Ta-pu**	0.64	298		P	Pg	20 10 28.9	-0.8
TPUB	**Ta-pu**	0.64	298			Pg	20 10 28.2	-1.5
TPUB					Sg	Sg	20 10 36.8	-1.4
TPUB	**Ta-pu**	0.64	298	⇓	iP	Pg	20 10 28.7	-1.0
	baz=310								
TPUB					i S	Sg	20 10 37.1	-1.1
	baz=310								
MASBT	**Mashibuluo**	0.68	236	⇓	iP	Pg	20 10 28.7	-1.7
	baz=237								
MASBT					eS	Sg	20 10 36.6	-2.9
	baz=237								
CHN1	**Nanshi**	0.68	286	⇓	iP	Pg	20 10 29.9	-0.6
	baz=286								
CHN1					S	Sb	20 10 39.8	0.0
	baz=286								
CHN4	**Tsaushan**	0.69	301	⇓	iP	Pg	20 10 29.9	-0.8
	baz=311								
CHN4					S	Sg	20 10 39.1	-0.8
	baz=311								
SCST	**Cishan**	0.70	261	⇓	iP	Pg	20 10 30.0	-0.8
	baz=255								
SCST					eS	Sb	20 10 42.2	+2.0
	baz=255								
EAST	**Anshuo**	0.71	211		eP	Pg	20 10 29.2	-1.9
	baz=206								
EAST					eS	Sg	20 10 40.1	-0.4
	baz=206								
TAW	**Tawu**	0.71	207		eP	Pg	20 10 29.3	-1.7
	baz=201								
SNST	**Tainan City**	0.72	288	⇓	iP	Pg	20 10 30.6	-0.6
	baz=293								
SNST					S	Sb	20 10 41.0	+0.2
	baz=293								
WARBT	**Fenglin Townsh**	0.73	11	⇑	P	Pg	20 10 29.0	-2.4
	baz=34								
WCKO	**Fanlu**	0.73	307	⇓	P	Pg	20 10 30.7	-0.7
	baz=317								
WCKO					S	Sg	20 10 40.7	-0.5
	baz=317								
TAWH	**Dawu Township**	0.73	206		eP	Pg	20 10 29.7	-1.7
	baz=202								
TWK	**Hsinying**	0.74	291	⇓	iP	Pg	20 10 30.9	-0.8
	baz=292								
TWK					S	Sg	20 10 41.1	-0.3
	baz=292								
TSPT	**Pingtung City**	0.76	245		eP	Pg	20 10 31.1	-0.8
	baz=242								
VWDT	**VWDT**	0.76	353	⇑	iP	Pg	20 10 30.7	-1.2
	baz=350								
VWDT					eS	Sb	20 10 41.4	-0.6
	baz=350								
TWM1	**Shoushan**	0.77	257	⇓	iP	Pb	20 10 32.0	-0.1
	baz=249								
WHYT	**Xinyi Township**	0.78	333	⇑	P	Pg	20 10 31.4	-1.0
	baz=335								
WHYT					eS	Sg	20 10 41.1	-1.6
	baz=335								
CHN3	**Shinhua**	0.81	276	⇓	iP	Pn	20 10 33.7	0.0
	baz=276								
CHN3					eS	Sn	20 10 45.9	+0.4
	baz=276								
SHHT	**Tainan City**	0.82	272	⇓	iP	Pn	20 10 34.1	+0.2
	baz=271								
SHHT					eS	Sn	20 10 47.3	+1.5
	baz=271								
SSLB	**Suanglung**	0.83	342		P	Pb	20 10 32.6	-0.5
SSLB	**Suanglung**	0.83	342			Pg	20 10 31.5	-1.8
SSLB					Sg	Sg	20 10 39.3	-4.9
SSLB	**Suanglung**	0.83	342	⇑	P	Pg	20 10 31.7	-1.6
	baz=342								
SSLB					eS	Sg	20 10 42.3	-1.9
	baz=342								
ESL	**Shilin**	0.83	12		eP	Pg	20 10 30.8	-2.5
	baz=18								
SHUL	**Shoufeng**	0.84	21		eP	Pg	20 10 32.1	-1.4
	baz=26								
SCZT	**Fangliau**	0.85	223	⇓	iP	Pg	20 10 32.1	-1.5
	baz=225								
SCZT					eS	Sg	20 10 43.5	-1.3
	baz=225								
SNJT	**Kaohsiung City**	0.87	254		eP	Pn	20 10 36.0	+1.4
	baz=253								
SNJT					eS	Sn	20 10 49.7	+2.8
	baz=253								
CHN2	**Minshiung**	0.88	307		P	Pb	20 10 33.9	-0.1
	baz=308								
CHN2					S	Sn	20 10 47.1	-0.1
	baz=308								
SSHA	**Shanhua**	0.89	279		eP	Pn	20 10 34.7	-0.2
	baz=290								
SSHA					eS	Sn	20 10 47.8	+0.5
	baz=290								
CHY	**Chiayi**	0.90	304		eP	Pb	20 10 34.3	0.0
	baz=304								
CHY					i S	Sb	20 10 47.2	+1.2
	baz=304								
WGK	**Gukeng**	0.93	318		P	Pn	20 10 35.1	-0.3
	baz=319								
WGK					eS	Sn	20 10 48.1	-0.2
	baz=319								
TEYL	**Yanliau Villag**	0.93	21		eP	Pb	20 10 34.1	-0.7
	baz=26								
TAI1	**Yung-k'ang**	0.93	273		P	Pn	20 10 35.8	+0.4
	baz=284								
TAI1					eS	Sn	20 10 49.5	+1.0
	baz=284								
SMLT	**Sun Moon Lake**	0.93	341		eP	Pg	20 10 34.2	-1.1
	baz=343								
SMLT					eS	Sb	20 10 48.0	+0.8
	baz=343								
WDLH	**Douliu**	0.94	317		P	Pb	20 10 35.2	+0.2
	baz=317								
WDLH					S	Sn	20 10 48.9	+0.2
	baz=317								
WJS	**Zhushan**	0.94	330		eP	Pn	20 10 35.2	-0.4
	baz=333								
WJS					eS	Sn	20 10 49.2	+0.4
	baz=333								
OWD	**Renai**	0.95	356		eP	Pg	20 10 33.7	-1.9
	baz=1.0								
TAI	**Tainan**	0.96	270		eP	Pn	20 10 36.1	+0.2
	baz=270								
TAI					eS	Sn	20 10 50.8	+1.7
	baz=270								
TYC	**Yuchr**	0.97	339		eP	Pb	20 10 35.2	-0.2
	baz=341								
TYC					S	Sn	20 10 49.4	+0.1
	baz=341								
SCLT	**Jiali**	0.98	281		eP	Pn	20 10 36.1	0.0
	baz=281								
SCLT					eS	Sn	20 10 50.0	+0.4
	baz=281								
ETM	**Tongmen**	0.99	14		eP	Pg	20 10 34.1	-2.2
	baz=36								
WUSB	**Renai**	0.99	354	⇑	eP	Pg	20 10 34.6	-1.8
	baz=347								
WUSB					S	Sn	20 10 50.2	0.0
	baz=347								
LAY	**Lan-yu**	1.00	163		eP	Pg	20 10 35.2	-1.3
	baz=147								
CHN8	**Yiju**	1.01	290		P	Pg	20 10 35.9	-0.8
	baz=291								
CHN8					S	Sn	20 10 50.7	+0.4
	baz=291								
WNT	**Mingjian**	1.01	330	⇑	iP	Pn	20 10 36.7	+0.1
	baz=330								
WNT					eS	Sn	20 10 50.7	+0.2
	baz=330								
HWA	**Hwalien**	1.03	19		eP	Pn	20 10 36.6	-0.2
	baz=25								
LXIB	**Xiulin Townshi**	1.03	9		eP	Pg	20 10 34.0	-3.1
	baz=31								
WNT1	**Nantou City**	1.04	330	⇑	P	Pn	20 10 37.3	+0.3
	baz=331								
WNT1					S	Sn	20 10 51.8	+0.7
	baz=331								
WPL	**Puli Township**	1.04	346		eP	Pn	20 10 36.7	-0.3
	baz=358								
LYUB	**Lan-yu**	1.04	162		eP	Pg	20 10 32.7	-4.6
	baz=147								
SMST	**Manzhou Townsh**	1.04	201		eP	Pb	20 10 37.0	+0.3
	baz=180								
CHGB	**Renai**	1.06	357	⇑	P	Pg	20 10 36.0	-1.7
	baz=359								
CHGB					eS	Sn	20 10 52.5	+0.6
	baz=359								
WSL	**Shuilin Townsh**	1.07	299	⇓	P	Pg	20 10 37.0	-0.7
	baz=300								
WSL					S	Sn	20 10 52.4	+0.6
	baz=300								
DPDB	**Guoxing**	1.07	344		eP	Pg	20 10 36.8	-1.0
	baz=345								
DPDB					eS	Sn	20 10 52.2	+0.2
	baz=345								
TSCK	**Chigu Township**	1.07	278		eP	Pn	20 10 38.6	+1.2
	baz=278								
HEN	**Hengchun**	1.09	205		eP	Pn	20 10 38.6	+0.9
	baz=190								
WCS	**Beigang Elemen**	1.10	344		eP	Pn	20 10 37.8	+0.1
	baz=346								
TWD	**Chiawan**	1.12	17		eP	Pb	20 10 36.3	-1.8
	baz=23								
TWK1	**Hengchun**	1.12	201		eP	Pb	20 10 36.4	-1.7
	baz=181								
TWKBT	**Hengchun**	1.12	201		eP	Pn	20 10 38.9	+0.8
	baz=181								
WSF	**Szhu**	1.13	304		P	Pb	20 10 37.7	-0.6
	baz=304								
WSF					S	Sn	20 10 53.8	+0.4
	baz=304								
WYL	**Yuanlin Townsh**	1.13	328		eP	Pn	20 10 38.5	+0.3
	baz=328								
WYL					eS	Sn	20 10 54.0	+0.6
	baz=328								
WHF	**Hehuan Shan**	1.14	1		eP	Pg	20 10 37.0	-2.3
	baz=17								
WWF	**Wufeng**	1.15	335	⇓	P	Pn	20 10 39.2	+0.7
	baz=334								
WWF					S	Sn	20 10 55.4	+1.5
	baz=334								
WRL	**Guolierlin Hig**	1.20	319		eP	Pb	20 10 39.1	-0.3
	baz=319								
WRL					eS	Sn	20 10 56.0	+1.0
	baz=319								
RLNB	**Erlin**	1.20	318		eP	Pg	20 10 39.5	-0.9
	baz=305								
RLNB					eS	Sn	20 10 55.5	+0.4
	baz=305								
ETL	**Fush Village**	1.21	17		eP	Pg	20 10 39.3	-1.2
	baz=23								
NACB	**Ninganchiao**	1.21	15		P	Pb	20 10 37.0	-2.7
NACB	**Ninganchiao**	1.21	15			Pb	20 10 36.6	-3.1
NACB	**Ninganchiao**	1.21	15		eP	Pb	20 10 36.8	-2.9
	baz=19								
NACB					eS	Sn	20 10 57.0	+1.6
	baz=19								
WTCT	**Ta-ch'eng**	1.23	315		eP	Pn	20 10 39.7	+0.1
	baz=302								
WTCT					eS	Sn	20 10 56.6	+0.8
	baz=302								
FUSS	**Fushou**	1.24	0		eP	Pn	20 10 39.5	-0.5
	baz=21								
TWT	**Tachien**	1.25	357		eP	Pn	20 10 39.5	-0.5
	baz=360								
TDCB	**Techi**	1.25	357		eP	Pn	20 10 39.4	-0.6
	baz=358								
TDCB					eS	Sn	20 10 58.9	+2.3
	baz=358								
TCU	**Taichung**	1.25	336		eP	Pg	20 10 40.7	-0.6
	baz=335								
TCU					eS	Sn	20 10 58.2	+1.8
	baz=335								
WHP	**Taichung City**	1.30	348		eP	Pg	20 10 41.4	-0.9
	baz=352								
WHP					eS	Sg	20 10 59.6	+0.3
	baz=352								
EAHA	**Aohua**	1.40	19		eP	Pn	20 10 39.3	-2.6
	baz=26								
NNSB	**Datong**	1.43	5		eP	Pn	20 10 41.5	-0.9
	baz=23								
NNSB					eS	Sg	20 11 02.1	-1.3
	baz=23								
NNSH	**Datong**	1.43	5		eP	Pb	20 10 43.0	-0.4
	baz=20								
NNS	**Nan Shan**	1.44	5		eP	Pb	20 10 42.9	-0.7
	baz=20								
WDJ	**Dajia District**	1.45	338		eP	Pg	20 10 44.0	-1.1
	baz=336								
WDJ					eS	Sg	20 11 04.1	+0.1
	baz=336								
NSY	**Sanyi**	1.48	343	⇑	P	Pg	20 10 44.8	-0.8
	baz=342								
NSY					eS	Sg	20 11 05.5	+0.7
	baz=342								
WDGT	**Dungji**	1.48	280		eP	Pn	20 10 42.4	-0.6
	baz=280								
WDGT					eS	Sn	20 11 00.5	-1.4
	baz=280								
EOS4	**EOS4**	1.49	41		eP	Pn	20 10 42.5	-0.3
	baz=49								
ENA	**Nanau**	1.50	18		eP	Pn	20 10 42.2	-1.1
	baz=26								
EWUT	**Wuta**	1.52	19		eP	Pn	20 10 42.5	-1.1
	baz=26								
LATG	**Datong**	1.55	10		eP	Pb	20 10 44.7	-0.8
	baz=35								
NMLH	**Miaoli**	1.59	345		eP	Pb	20 10 45.8	-0.2
	baz=344								
NMLH					eS	Sg	20 11 08.4	+0.1
	baz=344								
NDT	**Datong Townshi**	1.62	9		eP	Pb	20 10 45.6	-0.9
	baz=33								
PHUB	**P'eng-hu**	1.62	289		eP	Pn	20 10 44.5	-0.4
	baz=288								
PHUB					S	Sn	20 11 04.1	-1.3
	baz=288								
EOS3	**EOS3**	1.62	37		eP	Pn	20 10 44.5	-0.3
	baz=44								
NFF	**Wufeng Townshi**	1.63	356		eP	Pb	20 10 46.6	-0.2
	baz=13								
NFF					eS	Sg	20 11 10.1	+0.4
	baz=13								
NSTT	**Nanjuang**	1.64	352		eP	Pb	20 10 46.3	-0.6
	baz=352								
NSTT					eS	Sg	20 11 09.2	-0.8
	baz=352								
PNG	**Penghu**	1.65	290	⇑	P	Pn	20 10 45.1	-0.2
	baz=290								
PNG					S	Sn	20 11 05.5	-0.6
	baz=290								
LIOB	**Emei**	1.65	353		eP	Pb	20 10 46.7	-0.5
	baz=351								
LIOB					eS	Sg	20 11 09.5	-1.0
	baz=351								
ENTT	**Nioudou**	1.66	10		eP	Pn	20 10 45.5	0.0
	baz=34								
ESAO	**Su ao**	1.66	19		eP	Pn	20 10 45.6	0.0
	baz=29								
YHNB	**Yeheng**	1.67	4		P	Pn	20 10 45.9	+0.2
YHNB	**Yeheng**	1.67	4			Pn	20 10 45.2	-0.5
YHNB	**Yeheng**	1.67	4		eP	Pn	20 10 45.4	-0.3
	baz=349								
NSK	**Sanguang**	1.67	4		eP	Pn	20 10 45.5	-0.3
	baz=25								
VCHM	**Qimei**	1.68	277		eP	Pn	20 10 45.1	-0.7
	baz=289								
VCHM					eS	Sn	20 11 05.1	-1.8
	baz=289								
EOS2	**EOS2**	1.68	33		eP	Pn	20 10 45.8	+0.2
	baz=53								
NDS	**Dongshan**	1.69	15		eP	Pg	20 10 47.7	-1.8
	baz=39								
TWC	**Suao**	1.70	19		eP	Pn	20 10 45.5	-0.5
	baz=29								
NJN	**Zhunan**	1.71	349		eP	Pb	20 10 47.6	-0.6
	baz=350								
NJD	**Zhudong**	1.73	355		eP	Pb	20 10 48.5	-0.1
	baz=2.0								
TWE	**Neicheng**	1.76	13		eP	Pn	20 10 45.9	-0.9
	baz=36								
FUSB	**Fushanzhiwuyua**	1.78	10		eP	Pn	20 10 47.6	+0.4
	baz=38								
HSN1	**Hsinchu**	1.78	353		eP	Pb	20 10 48.4	-1.0
	baz=357								
NWLT	**Wulai**	1.79	8		eP	Pn	20 10 47.6	+0.4
	baz=31								
SBCB	**Hsinchu**	1.80	353		eP	Pb	20 10 49.2	-0.5
	baz=355								
HSN	**Hsinchu**	1.81	352		eP	Pb	20 10 48.7	-1.1
	baz=356								
NCUH	**Zhongli**	1.96	359		eP	Pg	20 10 53.3	-1.5
	baz=6.0								
TATO	**Taipei**	1.98	7		P	Pn	20 10 50.0	+0.1
TATO	**Taipei**	1.98	7			Pn	20 10 49.2	-0.7
TATO	**Taipei**	1.98	7		eP	Pn	20 10 50.6	+0.7
	baz=40								
TWA	**Mucha**	2.00	9		eP	Pb	20 10 52.0	-1.0
	baz=34								
TIPB	**Shuangxi**	2.04	15		eP	Pn	20 10 51.1	+0.5
	baz=26								
TAP	**Taipei**	2.05	7		eP	Pb	20 10 53.8	-0.1
	baz=345								
NHY	**Taipei**	2.05	8		eP	Pb	20 10 54.2	+0.2
	baz=41								
TWS1	**Kuangyinshan**	2.10	4		eP	Pb	20 10 54.3	-0.4
	baz=343								
TWB1	**Santiao Chiao**	2.11	19		eP	Pn	20 10 52.0	+0.2
	baz=30								
NWF	**Wu-fen Shan**	2.12	13		eP	Pb	20 10 53.5	-1.7
	baz=36								
WFSB	**Wu-fen Shan**	2.12	13		eP	Pb	20 10 53.5	-1.6
	baz=36								
JYNG	**Yonagunijimaku**	2.13	47		P	Pn	20 10 51.9	-0.1
JYNG					S	Sn	20 11 18.4	+0.4
YM01	**YM01**	2.16	8		eP	Pb	20 10 55.1	-0.7
	baz=41								
NTST	**Danshui**	2.16	5		eP	Pb	20 10 56.3	+0.5
	baz=344								
SXI1	**Grass Mountain**	2.17	15		eP	Pb	20 10 54.0	-2.0
	baz=30								
YOJ	**Yonaguni jima**	2.18	48			Pn	20 10 51.9	-0.7
YOJ	**Yonaguni jima**	2.18	48	⇑	eP	Pn	20 10 52.6	0.0
	baz=55								
YOJ	**Yonaguni jima**	2.18	48		P	Pn	20 10 52.8	+0.1
YOJ					S	Sn	20 11 20.1	+0.9
ANP	**Anpu**	2.19	7		eP	Pb	20 10 55.6	-0.8
	baz=346								
TNOU	**National Taiwa**	2.20	13		eP	Pb	20 10 54.5	-1.9
	baz=36								
YM08	**YM08**	2.20	8		eP	Pn	20 10 53.8	+0.8
	baz=40								
TWY	**Chenhua**	2.29	8		eP	Pb	20 10 56.6	-1.4
	baz=40								
VWUC	**VWUC**	2.57	321		eP	Pn	20 10 57.6	-0.5
	baz=317								
HATJ	**Hateruma jima**	2.58	65		S	Sn	20 11 29.1	0.0
BBP	**Basco**	2.63	165	⇑	eP	Pb	20 11 02.1	-1.8
BBP					eS	Sn	20 11 32.2	+1.7
IRIF	**Iriomote-Funau**	2.64	59		P	Pn	20 10 59.1	+0.1
PTMZ	**Houxiangcun**	2.81	317		eP	Pn	20 11 01.5	+0.3
	baz=314								
JKRS	**Kuro-shima**	2.82	64		P	Pn	20 11 01.4	0.0
JKRS					S	Sn	20 11 35.5	+0.3
KNM	**Kinmen**	2.93	299		eP	Pn	20 11 04.8	+1.8
	baz=296								
JIJ	**Ishigaki jima**	2.99	62		P	Pn	20 11 03.3	-0.5
JIJ					S	Sn	20 11 37.9	-1.3
KNMB	**Chin-men Tao**	2.99	300			Pn	20 11 03.9	+0.1
KNMB	**Chin-men Tao**	2.99	300		eP	Pn	20 11 03.4	-0.4
	baz=298								
QZH	**Quanzhou**	3.10	309		Pn	Pn	20 11 05.1	-0.2
QZH					Pg	Pg	20 11 14.1	-2.5
QZH					Sn	Sn	20 11 41.1	-0.9
QZH					smax	smax		
	comp=N,660nm,0.7s							
QZH					smax	smax	

JTJ	**Tarama**	**3.57**	**62**	P		**Pn**	**20 11 12.6 +0.9**
JTJ				S		**Sn**	**20 11 54.2 +0.7**
DSXP	**Dongshan**	**3.58**	**282**	*e*P		**Pn**	**20 11 12.3 +0.5**
baz=282							
MHZQ	**Yeshan**	**3.69**	**327**	*e*P		**Pn**	**20 11 13.7 +0.3**
baz=323							
XPSS	**Dashiqiu**	**4.03**	**347**	*e*P		**Pn**	**20 11 18.4 +0.4**
baz=337							
JIRB	**Irabujima**	**4.03**	**62**	P		**Pn**	**20 11 17.9 -0.3**
JIRB				S		**Sn**	**20 12 03.5 -1.6**
JMJ2	**Miyako jima3**	**4.12**	**64**	P		**Pn**	**20 11 20.1 +0.7**
JMJ2				S		**Sn**	**20 12 07.6 +0.3**
JMJ	**Miyako jima 2**	**4.13**	**63**	*e*P		**Pn**	**20 11 20.6 +1.2**
baz=65							
SXFK	**Yanhouchang**	**4.71**	**317**	*e*P		**Pn**	**20 11 27.9 +0.5**
baz=314							
VDOS	**Pratas Island**	**4.77**	**242**	*e*P		**Pn**	**20 11 30.1 +1.8**
baz=241							
HKPS	**Hong Kong Po S**	**6.60**	**265**	Pn		**Pn**	**20 11 54.6 +1.2**
HKPS	**Hong Kong Po S**	**6.60**	**265**	*e*P		**Pn**	**20 11 55.0 +1.6**
baz=265							
JOW	**Kunigami**	**7.44**	**58**	Pn		**Pn**	**20 12 01.1 -3.8**
JMZ	**Minamidaito 2**	**9.52**	**71**	Pn		**Pn**	**20 12 32.3 -1.2**
KSRS	**Korea Array**	**15.51**	**20**	Pn		**P**	**20 13 57.3 -2.2**
0.1nm,0.3s,baz=194,slow=11,SNR=6.9							
1.6nm,0.7s							
MJAR	**Matsushiro Arr**	**19.94**	**44**	P		**Pn**	**20 14 49.5 -0.5**
1.2nm,0.5s,baz=228,slow=8.5,SNR=4.7							
MJAR				LR		LR	20 22 04.5
comp=Z,53nm,21.4s,baz=214,slow=36							
1.2nm,0.5s							
BTO	**Baotou**	**19.95**	**334**	*e*P		**Pn**	**20 14 51.6 +1.5**
BTO				S		**Sn**	**20 18 38.3 +4.2**
BTO				pmax		pmax	
comp=Z,8.0nm,0.4s							
BTO				pmax		pmax	
comp=Z,160nm,6.1s							
BTO				LR		LR	
comp=N,570nm,13.0s							
BTO				LR		LR	
comp=E,820nm,14.3s							
BTO				LR		LR	
comp=Z,1μm,11.8s							
TOLI2	**Tolitoli**	**21.76**	**181**	P		**P**	**20 15 09.4 +1.4**
GTA	**Gaotai**	**24.47**	**317**	*e*P		**P**	**20 15 37.6 +2.1**
GTA				pP		sP	20 15 42.2 -0.6
GTA				pmax		pmax	
comp=Z,4.0nm,1.3s							
SONM	**Songino Array**	**27.48**	**338**	P		**P**	**20 16 03.2 +0.6**
0.6nm,0.7s,baz=154,slow=8.5,SNR=2.6							
0.6nm,0.7s							
KNRA	**Kununurra**	**39.14**	**168**	P		**P**	**20 17 46.7 +2.7**
KNRA				IAmb		IAmb	20 18 29.5
comp=Z,12nm,1.1s							
MK31	**Makanchi Array**	**39.23**	**317**			**P**	**20 17 45.4 +0.8**
MKAR	**Makanchi Array**	**39.23**	**317**			**P**	**20 17 45.6 +1.0**
MKAR	**Makanchi Array**	**39.23**	**317**	P		**P**	**20 17 46.0 +1.4**
comp=Z,2.8nm,0.7s,baz=112,slow=10.0,SNR=26							
MKAR				PcP		**PcP**	**20 19 52.6 -1.0**
comp=Z,0.5nm,0.7s,baz=67,slow=4.3,SNR=4.3							
comp=Z,2.8nm,0.7s							
MAKZ	**Makanchi**	**39.43**	**317**	P		**P**	**20 17 47.4 +1.2**
PETK	**Petropavlovsk-**	**40.82**	**33**	P		**P**	**20 17 57.3 -0.4**
PETK	**Petropavlovsk-**	**40.82**	**33**	P		**P**	**20 17 57.9 +0.2**
comp=Z,1.5nm,0.7s,baz=213,slow=10,SNR=2.9							
PETK				LR		LR	20 36 07.5
comp=Z,42nm,18.8s,baz=222,slow=38							
comp=Z,1.5nm,0.7s							
ZAA0	**Zalesovo Array**	**41.27**	**328**	P		**P**	**20 18 00.4 -0.9**
ZAA0				IAmb		IAmb	20 18 02.7
comp=Z,4.2nm,0.7s							
ZALV	**Zalesovo Beam**	**41.27**	**328**	P		**P**	**20 18 01.6 +0.2**
ZALV	**Zalesovo Beam**	**41.27**	**328**	P		**P**	**20 18 01.8 +0.4**
comp=Z,3.8nm,0.6s,baz=110,slow=8.4,SNR=18							
comp=Z,3.8nm,0.6s							
KSH	**Kashi**	**41.59**	**304**	P		**P**	**20 18 08.0 +3.6**
KSH				pmax		pmax	
comp=Z,4.0nm,1.3s							
H11N1	**WAKE ISLAND Hy**	**42.52**	**85**	T		T	21 03 26.8
baz=282,slow=74,SNR=46							
H11N2	**WAKE ISLAND Hy**	**42.52**	**85**	T		T	21 03 30.9
baz=282,slow=74,SNR=55							
H11N3	**WAKE ISLAND Hy**	**42.53**	**85**	T		T	21 03 32.1
baz=282,slow=74,SNR=56							
H11S3	**WAKE ISLAND Hy**	**42.61**	**87**	T		T	21 03 37.1
baz=284,slow=75,SNR=81							
H11S1	**WAKE ISLAND Hy**	**42.62**	**87**	T		T	21 03 37.1
baz=284,slow=75,SNR=52							
H11S2	**WAKE ISLAND Hy**	**42.63**	**87**	T		T	21 03 32.8
baz=284,slow=75,SNR=34							
KURBB	**Kurchatov Arra**	**43.05**	**321**	P		**P**	**20 18 17.0 +1.1**
comp=Z,1.8nm,0.9s,baz=113,slow=7.6,SNR=9.9							
comp=Z,1.8nm,0.9s							
WB0	**Warramunga Arr**	**44.40**	**162**	P		**P**	**20 18 26.2 -0.8**
WRA	**Warramunga Arr**	**44.55**	**162**	P		**P**	**20 18 26.4 -1.9**
comp=Z,0.4nm,0.6s,baz=344,slow=8.8,SNR=6.4							
comp=Z,0.4nm,0.6s							
KK31	**Karatay Array**	**46.23**	**308**	P		**P**	**20 18 42.2 +0.7**
KK31				IAmb		IAmb	20 18 44.7
comp=Z,2.9nm,1.1s							
KK31				PcP		**PcP**	**20 20 16.2 -0.7**
KKAR	**Karatay Array**	**46.23**	**308**	P		**P**	**20 18 42.3 +0.8**
KKAR				PcP		**PcP**	**20 20 16.6 -0.4**
KKAR	**Karatay Array**	**46.23**	**308**	P		**P**	**20 18 41.8 +0.3**
KKAR				IAmb		IAmb	20 18 44.7
comp=Z,2.9nm,1.1s							
KBL	**Kabul**	**46.72**	**296**	P		**P**	**20 18 47.2 +1.5**
KBL				IAmb		IAmb	20 18 51.9
comp=Z,3.7nm,0.8s							
SIMJ	**Simiganj**	**46.88**	**302**	P		**P**	**20 18 48.3 +1.5**
SIMJ				IAmb		IAmb	20 18 55.0
comp=Z,4.7nm,1.3s							
ASAR	**Alice Springs**	**47.99**	**164**	P		**P**	**20 18 54.8 -0.6**
comp=Z,0.4nm,0.8s,baz=348,slow=6.7,SNR=2.2							
comp=Z,0.4nm,0.8s							
BVAR	**Borovoye Array**	**48.62**	**321**	P		**P**	**20 19 01.2 +1.2**
comp=Z,0.9nm,0.7s,baz=133,slow=6.1,SNR=5.6							
BVAR				PcP		**PcP**	**20 20 24.1 -1.2**
comp=Z,0.4nm,0.5s,baz=129,slow=4.0,SNR=3.7							
comp=Z,0.9nm,0.7s							
BRVK	**Borovoye**	**48.69**	**321**	P		**P**	**20 19 00.1 -0.3**
BRVK				IAmb		IAmb	20 19 02.0
comp=Z,4.0nm,1.2s							
ABKAR	**Akbulak array**	**54.31**	**315**			**P**	**20 19 43.1 +0.6**
ABKAR	**Akbulak array**	**54.31**	**315**	P		**P**	**20 19 43.2 +0.7**
ARU	**Arti**	**56.08**	**324**	P		**P**	**20 19 55.9 +0.6**
ARU				IAmb		IAmb	20 19 56.7
comp=Z,3.7nm,0.6s							
STKA	**Stephens Creek**	**57.94**	**160**	P		**P**	**20 20 08.0 -0.6**
comp=Z,1.7nm,0.7s,baz=11,slow=5.8,SNR=2.9							
comp=Z,1.7nm,0.7s							
J17K	**VABM Dome**	**65.09**	**29**	P		**P**	**20 20 57.6 +1.1**
M16K	**Timber Creek**	**65.24**	**32**	P		**P**	**20 20 59.2 +1.6**
D19K	**Kuna River**	**65.40**	**24**	P		**P**	**20 20 58.0 -0.5**
K17K	**Iditarod**	**65.47**	**30**	P		**P**	**20 20 59.5 +0.4**
K17K				IAmb		IAmb	20 21 06.0
comp=Z,6.7nm,1.2s							
O18K	**Koktuh Hills**	**67.19**	**33**	P		**P**	**20 21 10.6 +0.4**
O18K				IAmb		IAmb	20 21 33.8
comp=Z,4.4nm,1.2s							
IMAR	**Indian Mountai**	**67.22**	**26**	P		**P**	**20 21 09.7 -0.4**
J20K	**Nowinta River**	**67.22**	**28**	P		**P**	**20 21 09.9 -0.3**
J20K				IAmb		IAmb	20 21 31.0
comp=Z,4.8nm,1.3s							
SII	**Sitkinak Islan**	**68.18**	**36**	P		**P**	**20 21 15.0 -1.4**
BMAR	**Burnt Mountain**	**70.58**	**24**	P		**P**	**20 21 30.6 -0.6**
ARCES	**ARCESS Array B**	**70.65**	**338**	P		**P**	**20 21 31.1 -0.4**
ARCES				IAmb		IAmb	20 21 39.4
comp=Z,5.9nm,1.2s							
ARCES	**ARCESS Array B**	**70.65**	**338**	P		**P**	**20 21 31.2 -0.3**
comp=Z,1.7nm,0.8s,baz=72,slow=7.8,SNR=4.8							
comp=Z,1.7nm,0.8s							
FIA1	**FINESS Array S**	**72.49**	**330**	P		**P**	**20 21 42.8 +0.1**
FINES	**FINESS Array B**	**72.49**	**330**	P		**P**	**20 21 42.7 0.0**
FINES	**FINESS Array B**	**72.49**	**330**	P		**P**	**20 21 42.4 -0.2**
comp=Z,1.8nm,0.8s,baz=93,slow=7.6,SNR=7.3							
comp=Z,1.8nm,0.8s							
BRTR	**Keskin Array B**	**73.92**	**307**	P		**P**	**20 21 52.0 +0.3**
comp=Z,0.7nm,0.8s,baz=92,slow=6.2,SNR=4.0							
comp=Z,0.7nm,0.8s							
RAO	**Raoul Island**	**78.26**	**129**	LR		LR	20 50 57.8
comp=Z,247nm,20.4s,baz=156,slow=31							
HFS	**Hagfors**	**78.62**	**331**	P		**P**	**20 22 17.9 0.0**
comp=Z,2.5nm,0.7s,baz=64,slow=6.8,SNR=6.3							
comp=Z,2.5nm,0.7s							
NB2	**NORSAR Subarra**	**79.29**	**332**	P		**P**	**20 22 20.7 -0.9**
comp=Z,1.1nm,0.7s,baz=59,slow=5.3							
NOA	**NORSAR Array B**	**79.29**	**332**	P		**P**	**20 22 20.9 -0.7**
comp=Z,1.2nm,0.7s,baz=62,slow=5.3,SNR=7.5							
comp=Z,1.2nm,0.7s							
GERES	**GERESS Array B**	**83.79**	**321**	P		**P**	**20 22 45.6 -0.1**
comp=Z,0.7nm,0.6s,baz=148,slow=5.7,SNR=3.1							
comp=Z,0.7nm,0.6s							

*IDC **03** 20:15:20.4±0.9, 41°.33N×100°.31W, h0km, mb3.5/2, mbtmp3.7/8, ML3.8/5, MS2.6/6, Error ellipse: s-maj=11.3km s-min=10.0km az=163.0*

*NEIC **03** 20:15:21.3±1.3, 41°.40N±0°.05×100°.14W±0°.04, h3km±7km, mb3.8/5, mb_Lg3.7/135, Mwr3.6/14, Error ellipse: s-maj=7.8km s-min=4.1km az=157.0, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr-1.52; Mθθ1.40; Mφφ0.11; Mrθ-1.00; Mθφ-2.40; Mφr-0.29; Fault plane solution: M0=3.00000×10^14 NP1:φs=345.31000°, δ55.43000°, λ-27.90000°. NP2:φs=92.03000°, δ67.34000°, λ-142.05000°. Principal axes: T 3.3272, Plg7.0000°, Azm216.0000°; N -0.8282, Plg47.0000°, Azm118.0000°; P -2.4990, Plg42.0000°, Azm313.0000°;*

*ANF **03** 20:15:22.4±0.7, 41°.38N×100°.12W, h21km±7km, ML4.7/13 Error ellipse: s-maj=2.4km s-min=2.3km az=2.0*

*NEIC **03** 20:15:22.3, 41°.40N×100°.12W, h11km*

ISC 03 20:15:20.2±0.6, **41°.39N**±0°.03×**100°.10W**±0°.03, **h10**km, **n206**, σ1.9**38**/212, **Nebraska**

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
K30B	**Basset**	**1.33**	**16**	Pg	**Pn**	**20 15 45.6**	**+0.7**
K30B					**Pb**	**20 15 45.7**	**+0.4**
BGNE	**Belgrade**	**1.47**	**89**		**Pn**	**20 15 47.5**	**+0.8**
BGNE	**Belgrade**	**1.47**	**89**	P	**Pn**	**20 15 47.6**	**+0.9**
baz=270,SNR=94							
BGNE				S	**Sn**	**20 16 07.3**	**+1.3**
baz=270							
OGNE	**Ogallala**	**1.52**	**254**		**Pn**	**20 15 47.8**	**+0.2**
OGNE				Sg	**Sb**	**20 16 07.5**	**-0.5**
OGNE	**Ogallala**	**1.52**	**254**	P	**Pb**	**20 15 48.0**	**-0.6**
baz=72,SNR=178							
OGNE				S	**Sg**	**20 16 07.9**	**-1.3**
baz=72							
CBKS	**Cedar Bluff**	**2.59**	**174**		**Pn**	**20 16 04.3**	**+2.0**
CBKS	**Cedar Bluff**	**2.59**	**174**	P	**Pn**	**20 16 03.4**	**+1.1**
baz=354,SNR=15							
CBKS				Sb	**Sb**	**20 16 39.9**	**+1.2**
baz=354							
L34A	**Svendsen Farm,**	**2.85**	**77**		**Pn**	**20 16 08.3**	**+2.5**
KSCO	**Kaye Shedlock'**	**3.07**	**220**		**Pn**	**20 16 10.0**	**+1.1**
KSCO	**Kaye Shedlock'**	**3.07**	**220**	P	**Pn**	**20 16 10.1**	**+1.2**
baz=38,SNR=11							
KSCO				S	**Sn**	**20 16 46.9**	**+1.2**
baz=38							
R32A	**Long Quarter,**	**3.15**	**160**	Pn	**Pn**	**20 16 11.2**	**+1.2**
R32A				IAmb_Lg		20 17 01.2	
comp=Z,183nm,0.7s							
SUSD	**Miller**	**3.16**	**15**		**Pn**	**20 16 10.9**	**+0.8**
SUSD				IAmb_Lg		20 17 03.4	
comp=Z,167nm,0.8s							
SUSD	**Miller**	**3.16**	**15**	P	**Pn**	**20 16 12.5**	**+2.5**
baz=196							
SUSD				S	**Sn**	**20 16 49.1**	**+1.2**
baz=196							
BRIGG	**Briggsdale**	**3.29**	**257**		**Pn**	**20 16 13.4**	**+1.5**
N35A	**Tabor**	**3.41**	**98**		**Pn**	**20 16 15.5**	**+2.0**
N35A				IAmb_Lg		20 17 15.8	
comp=Z,211nm,0.9s							
ECSD	**EROS Data Cent**	**3.48**	**47**	Pn	**Pn**	**20 16 16.3**	**+1.9**
ECSD	**EROS Data Cent**	**3.48**	**47**	P	**Pn**	**20 16 16.8**	**+2.4**
baz=229,SNR=47							
KSU1	**Kansas State U**	**3.52**	**129**		**Pn**	**20 16 16.7**	**+1.7**
KSU1				IAmb_Lg		20 17 22.2	
comp=Z,211nm,0.7s							
KSU1	**Kansas State U**	**3.52**	**129**	P	**Pn**	**20 16 17.0**	**+2.0**
baz=312,SNR=29							
KSU1				Sb	**Sb**	**20 17 08.8**	**+3.4**
baz=312							
RSSD	**Black Hills**	**3.98**	**315**	Pn	**Pn**	**20 16 23.4**	**+2.0**
RSSD				IAmb_Lg		20 17 34.1	
comp=Z,130nm,0.8s							
RSSD	**Black Hills**	**3.98**	**315**	P	**Pn**	**20 16 23.1**	**+1.6**
baz=132							
RSSD				Sb	**Sb**	**20 17 23.0**	**+4.2**
baz=132							
PHWY	**Pilot Hill**	**4.03**	**270**		**Pn**	**20 16 23.0**	**+0.7**
PHWY				IAmb_Lg		20 17 31.4	
comp=Z,164nm,0.8s							
KAN12	**Harper NE Stat**	**4.40**	**158**		**Pn**	**20 16 29.2**	**+2.0**
N23A	**Red Feather La**	**4.44**	**265**	Pn	**Pn**	**20 16 29.2**	**+1.4**
N23A	**Red Feather La**	**4.44**	**265**	P	**Pn**	**20 16 29.0**	**+1.2**
baz=82,SNR=18							
N23A				S	**Sn**	**20 17 20.3**	**+0.6**
baz=82							
KAN08	**Anthony NE Sta**	**4.48**	**158**		**Pn**	**20 16 29.5**	**+1.3**
KAN06	**Argonia West S**	**4.49**	**156**		**Pn**	**20 16 29.3**	**+1.0**
Q24A	**Divide**	**4.56**	**240**		**Pn**	**20 16 29.9**	**+0.3**
Q24A				IAmb_Lg		20 17 47.1	
comp=Z,204nm,0.7s							
Q24A	**Divide**	**4.56**	**240**	P	**Pn**	**20 16 30.1**	**+0.5**
baz=56,SNR=10							
Q24A				S	**Sn**	**20 17 22.7**	**-0.1**
baz=56							
KAN01	**Argonia South**	**4.61**	**156**		**Pn**	**20 16 31.9**	**+2.0**
KAN05	**Bluff City Nor**	**4.62**	**157**		**Pn**	**20 16 32.2**	**+2.2**
KAN17	**Caldwell West**	**4.71**	**157**		**Pn**	**20 16 32.8**	**+1.5**
KAN14	**Manchester OK**	**4.73**	**159**		**Pn**	**20 16 32.6**	**+1.0**
KAN14				IAmb_Lg		20 17 51.4	
comp=Z,176nm,0.7s							
OK035	**E0210 Rd and N**	**4.80**	**167**		**Pn**	**20 16 33.5**	**+0.9**
OK032	**Salt Plains WL**	**4.81**	**162**		**Pn**	**20 16 34.0**	**+1.2**
OK032				IAmb_Lg		20 18 05.6	
comp=Z,144nm,0.8s							
KAN13	**South Haven SW**	**4.83**	**154**		**Pn**	**20 16 34.2**	**+1.2**
NOKA	**Waynoka**	**4.84**	**169**		**Pn**	**20 16 34.5**	**+1.4**
GC02	**Grant County #**	**4.86**	**158**		**Pn**	**20 16 33.8**	**+0.4**
K22A	**Casper**	**4.95**	**287**		**Pn**	**20 16 34.5**	**-0.2**
K22A	**Casper**	**4.95**	**287**	P	**Pn**	**20 16 34.9**	**+0.2**
baz=103,SNR=9.9							
K22A				Sb	**Sb**	**20 17 51.2**	**+4.7**
baz=103							
OK038	**West end E0370**	**5.02**	**167**		**Pn**	**20 16 37.2**	**+1.5**
U32A	**Winter Ranch,**	**5.08**	**170**		**Pn**	**20 16 38.6**	**+2.1**
U32A				IAmb_Lg		20 18 15.5	
comp=Z,195nm,0.9s							
BLOK	**Blackwell**	**5.14**	**153**		**Pn**	**20 16 38.6**	**+1.4**
CROK	**Carrier**	**5.15**	**161**		**Pn**	**20 16 38.3**	**+0.9**
SCIA	**State Center**	**5.18**	**82**		**Pn**	**20 16 39.4**	**+1.6**
SCIA				IAmb_Lg		20 18 15.7	
comp=Z,142nm,0.8s							
SCIA	**State Center**	**5.18**	**82**	S	**Sn**	**20 17 39.9**	**+2.2**
baz=267							
E28A	**Huff**	**5.20**	**355**	Pn	**Pn**	**20 16 40.0**	**+2.0**
N38A	**Joes South For**	**5.22**	**94**	Pn	**Pn**	**20 16 39.3**	**+1.0**
N38A				IAmb_Lg		20 18 04.5	
comp=Z,146nm,0.9s							
F33A	**5 Mile Ranch,**	**5.23**	**31**		**Pn**	**20 16 39.5**	**+1.0**
T35A	**Sooner Cattle**	**5.27**	**147**	Pn	**Pn**	**20 16 39.4**	**+0.4**
P38A	**Dawn**	**5.31**	**107**		**Pn**	**20 16 41.3**	**+1.8**
RWWY	**Rawlins**	**5.34**	**276**		**Pn**	**20 16 41.0**	**+0.7**
RWWY				IAmb_Lg		20 18 15.7	
comp=Z,141nm,0.9s							
RTBA	**Rita Blanca**	**5.36**	**203**	Pn	**Pn**	**20 16 41.2**	**+0.9**
RTBA				IAmb_Lg		20 18 19.6	
comp=Z,102nm,0.8s							
T25A	**Trinidad**	**5.41**	**220**		**Pn**	**20 16 41.0**	**-0.1**
T25A	**Trinidad**	**5.41**	**220**	P	**Pn**	**20 16 41.5**	**+0.4**
baz=37							
T25A				Sb	**Sb**	**20 18 04.5**	**+4.6**
baz=37							
OK051	**E0350 and S346**	**5.50**	**151**		**Pn**	**20 16 42.9**	**+0.7**
SDCO	**Great Sand Dun**	**5.54**	**231**		**Pn**	**20 16 43.9**	**+0.9**
SDCO	**Great Sand Dun**	**5.54**	**231**	P	**Pn**	**20 16 43.6**	**+0.7**
baz=47,SNR=8.6							
SDCO				Sb	**Sb**	**20 18 08.0**	**+4.3**
baz=47							
OK048	**Pawnee Station**	**5.55**	**153**		**Pn**	**20 16 42.1**	**-0.7**
I37A	**Lemond, Waseca**	**5.59**	**60**	Pn	**Pn**	**20 16 43.7**	**+0.3**
SMCO	**Snowmass**	**5.70**	**249**	Pn	**Pn**	**20 16 46.5**	**+1.2**
SMCO				IAmb_Lg		20 18 24.8	
comp=Z,163nm,1.1s							
CSTR	**Hydro, Custer**	**5.85**	**169**		**Pn**	**20 16 47.3**	**+0.4**
OK029	**Liberty Lake**	**5.96**	**159**		**Pn**	**20 16 49.4**	**+0.9**
OK029				IAmb_Lg		20 18 34.5	
comp=Z,82nm,0.8s							
OK052	**Battle Ridge R**	**5.98**	**153**	Pn	**Pn**	**20 16 49.4**	**+0.6**
OK031	**S. Brethren Rd**	**6.00**	**154**		**Pn**	**20 16 49.9**	**+0.9**
ADOK	**Arcadia Dam**	**6.12**	**159**		**Pn**	**20 16 51.4**	**+0.7**
DEOK	**Depew**	**6.22**	**152**		**Pn**	**20 16 52.5**	**+0.4**
DEOK				IAmb_Lg		20 18 55.9	
comp=Z,74nm,1.0s							
SMWD	**Samnorwood**	**6.28**	**181**	Pn	**Pn**	**20 16 53.2**	**+0.3**
SMWD				IAmb_Lg		20 18 58.2	
comp=Z,125nm,0.8s							
O20A	**White River Ci**	**6.31**	**261**		**Pn**	**20 16 52.9**	**-0.5**
O20A				IAmb_Lg		20 18 47.9	
comp=Z,95nm,1.1s							
O20A	**White River Ci**	**6.31**	**261**	P	**Pn**	**20 16 53.9**	**+0.5**
baz=76							
S22A	**4UR Ranch, Cre**	**6.35**	**237**	Pn	**Pn**	**20 16 55.1**	**+1.1**
S22A				IAmb_Lg		20 18 55.7	
comp=Z,83nm,1.2s							
S22A	**4UR Ranch, Cre**	**6.35**	**237**	P	**Pn**	**20 16 54.8**	**+0.7**
baz=53,SNR=219							
S39A	**Bolivar**	**6.41**	**123**	Pn	**Pn**	**20 16 56.4**	**+1.7**
P40A	**Paris**	**6.42**	**104**	Pn	**Pn**	**20 16 56.3**	**+1.5**
P40A				IAmb_Lg		20 18 45.9	
comp=Z,95nm,0.8s							
TUL3	**Leonard**	**6.43**	**147**	Pn	**Pn**	**20 16 54.8**	**-0.2**
TUL3				IAmb_Lg		20 18 52.3	
comp=Z,132nm,0.7s							
TUL3	**Leonard**	**6.43**	**147**	P	**Pn**	**20 16 54.9**	**0.0**
baz=330,SNR=11							
MDND	**Maddock**	**6.46**	**3**		**Pn**	**20 16 56.1**	**+0.7**
MDND	**Maddock**	**6.46**	**3**	P	**Pn**	**20 16 55.8**	**+0.5**
baz=184							
MDND				S	**Sn**	**20 18 08.1**	**-1.1**
baz=184							
SPMN	**Marine on St.**	**6.56**	**52**	Pn	**Pn**	**20 16 57.7**	**+1.1**
SPMN				IAmb_Lg		20 18 46.8	
comp=Z,81nm,0.8s							
SPMN	**Marine on St.**	**6.56**	**52**	P	**Pn**	**20 16 58.2**	**+1.6**
baz=237							
SPMN				S	**Sn**	**20 18 13.3**	**+1.9**
baz=237							
RLO	**Rose Lookout**	**6.56**	**141**		**Pn**	**20 16 56.8**	**+0.1**
RLO				IAmb_Lg		20 18 59.0	
comp=Z,82nm,0.7s							
AMTX	**Amarillo**	**6.62**	**191**		**Pn**	**20 16 58.3**	**+0.7**
AMTX	**Amarillo**	**6.62**	**191**	P	**Pn**	**20 16 58.5**	**+0.9**
baz=10							
AMTX				S	**Sn**	**20 18 14.2**	**+1.0**
baz=10							
U38A	**Gravette**	**6.66**	**136**	Pn	**Pn**	**20 16 59.2**	**+1.2**
L40A	**Anamosa**	**6.68**	**81**		**Pn**	**20 16 59.8**	**+1.4**
L40A				IAmb_Lg		20 18 57.3	
comp=Z,130nm,1.1s							
WMOK	**Wichita Mounta**	**6.73**	**171**	Pn	**Pn**	**20 16 58.7**	**-0.4**
WMOK				IAmb_Lg		20 18 58.5	
comp=Z,72nm,0.7s							
WMOK	**Wichita Mounta**	**6.73**	**171**	P	**Pn**	**20 16 58.9**	**-0.1**
baz=351,SNR=11							
WMOK				S	**Sn**	**20 18 15.2**	**-0.6**
baz=351							
W35A	**Tecumseh**	**6.73**	**157**	IAmb_Lg		20 19 05.4	
comp=Z,98nm,0.8s							
R40A	**Maddes Statio**	**6.78**	**115**	Pn	**Pn**	**20 17 00.6**	**+0.9**
R40A				IAmb_Lg		20 19 08.8	
comp=Z,72nm,0.7s							
LAO	**LASA Array**	**6.89**	**322**	IAmb_Lg		20 19 02.4	
comp=Z,123nm,1.1s							
HHAR	**Hobbs**	**7.01**	**135**	Pn	**Pn**	**20 17 03.8**	**+0.8**
X34A	**Smith Ranch, M**	**7.01**	**164**		**Pn**	**20 17 04.4**	**+1.5**
N41A	**Harden Midland**	**7.02**	**93**	IAmb_Lg		20 19 03.5	
comp=Z,83nm,0.8s							
BW06	**Boulder Array**	**7.17**	**284**	P	**Pn**	**20 17 05.7**	**+0.4**
baz=98							
BW06				S	**Sn**	**20 18 27.3**	**+0.4**
baz=98							
PD31	**Pinedale Array**	**7.17**	**284**		**Pn**	**20 17 05.9**	**+0.6**
PDAR	**Pinedale Array**	**7.17**	**284**	Pn	**Pn**	**20 17 05.4**	**+0.2**
PDAR	**Pinedale Array**	**7.17**	**284**	Pn	**Pn**	**20 17 06.6**	**+1.3**
comp=Z,1.4nm,0.3s,baz=101,slow=14,SNR=32							
PDAR				Sn	**Sn**	**20 18 27.1**	**+0.3**
comp=Z,1.3nm,0.3s,baz=108,slow=21,SNR=2.0							
PDAR				Lg	Lg	20 18 58.6	
comp=Z,2.2nm,0.3s,baz=103,slow=32,SNR=2.8							
PDAR				LR	LR	20 20 04.3	
comp=Z,21nm,21.4s,baz=95,slow=40							
comp=Z,2.3nm,0.5s							
RDMU	**Red Mountain**	**7.21**	**267**		**Pn**	**20 17 06.8**	**+0.9**
RDMU				IAmb_Lg		20 19 11.4	
comp=Z,87nm,1.1s							
MGMO	**Mountain Grove**	**7.41**	**122**		**Pn**	**20 17 08.7**	**+0.4**
I40A	**Norwalk**	**7.42**	**67**		**Pn**	**20 17 09.8**	**+1.2**
I40A				IAmb_Lg		20 19 34.5	
comp=Z,61nm,0.9s							
JFWS	**Jewell

baz=325,SNR=9.3
HWUT Hardware Ranch 8.61 275 Pn Pn 20 17 24.6 -0.4
WHAR Wooly Hollow 8.65 132 Pn Pn 20 17 25.7 +0.3
WHAR IAmb_Lg 20 20 12.6
comp=Z,59nm,0.8s
FW06 Azle 8.65 166 IAmb_Lg 20 20 15.1
comp=Z,48nm,0.9s
TMUT Trail Mountain 8.74 260 Pn 20 17 26.9 0.0
ABTX Abilene, Hawle 8.76 177 Pn 20 17 27.1 +0.1
ABTX Abilene, Hawle 8.76 177 P **Pn 20 17 27.2 +0.2**
baz=358
LCAR Lake Charles 8.78 124 Pn 20 17 27.3 +0.2
PBMO Poplar Bluff 8.82 118 IAmb_Lg 20 20 19.6
comp=Z,67nm,0.7s
Q44A Meyer Farm, Va 8.85 103 Pn 20 17 28.6 +0.6
MPU Maple Canyon 8.87 265 Pn 20 17 28.6 0.0
EYMN Ely 8.97 40 Pn **Pn 20 17 30.0 +0.2**
EYMN IAmb_Lg 20 20 08.2
comp=Z,68nm,1.0s
EYMN Ely 8.97 40 P **Pn 20 17 30.6 +0.8**
baz=226,SNR=5.7
X40A Basin Creek Fa 8.97 138 Pn 20 17 29.4 -0.4
X40A IAmb_Lg 20 20 17.4
comp=Z,56nm,1.1s
UALR University of 9.00 135 Pn **Pn 20 17 29.9 -0.3**
UALR IAmb_Lg 20 20 22.1
comp=Z,59nm,0.7s
CGM3 Cape Girardeau 9.06 113 Pn 20 17 31.0 -0.1
Z38A Mt. Pleasant 9.08 152 Pn **Pn 20 17 31.6 +0.2**
Y22D IRIS PASSCAL I 9.08 219 IAmb_Lg 20 20 25.5
comp=Z,93nm,1.1s
S44A Carbondale 9.16 110 Pn 20 17 33.0 +0.7
TREL Terrell 9.22 158 IAmb_Lg 20 20 26.8
comp=Z,85nm,0.8s
COWI Conover 9.22 56 Pn 20 17 34.2 +1.0
FW13 Cleburne 9.28 166 IAmb_Lg 20 20 23.4
comp=Z,75nm,1.3s
FW14 Alvarado 9.28 165 IAmb_Lg 20 20 40.6
comp=Z,47nm,0.8s
ULM Lac du Bonnet 9.33 17 Pn **Pn 20 17 34.3 -0.4**
ULM IAmb_Lg 20 20 13.5
comp=Z,50nm,1.0s
ULM Lac du Bonnet 9.33 17 Pn **Pn 20 17 34.3 -0.4**
comp=Z,2.3nm,0.3s,baz=202,slow=12,SNR=22
ULM Sn **Sn 20 19 13.7 -5.9**
comp=Z,2.7nm,0.3s,baz=270,slow=16,SNR=2.5
ULM Lg Lg 20 20 07.0
comp=Z,2.5nm,0.3s,baz=94,slow=23,SNR=5.4
ULM LR LR 20 21 26.7
comp=Z,29nm,20.0s,baz=255,slow=39
comp=Z,7.4nm,0.4s
ODSA Odessa 9.46 193 Pn **Pn 20 17 36.4 -0.2**
ODSA IAmb_Lg 20 20 33.6
comp=Z,46nm,1.1s
WLAR White Oak Lake 9.48 142 IAmb_Lg 20 20 30.0
comp=Z,75nm,0.8s
EGMT Eagleton 9.54 317 IAmb_Lg 20 20 28.7
comp=Z,43nm,0.8s
WHTX Lake Whitney, 9.62 166 P **Pn 20 17 39.2 +0.5**
baz=348
W18A Petrified Fore 9.83 233 Pn **Pn 20 17 41.5 -0.2**
D41A Chassel 10.03 52 Pn 20 17 44.2 0.0
BRDY Brady 10.13 175 Pn 20 17 44.8 -0.9
OZNA Ozona 10.48 185 Pn 20 17 48.6 -2.0
E43A Lone Tree Farm 10.69 58 Pn **Pn 20 17 52.4 -0.9**
121A Cookes Peak, D 10.77 217 Pn 20 17 52.7 -1.9
OXF Oxford 10.88 126 P **Pn 20 17 57.1 +1.1**
baz=312
JCT Junction City 10.89 179 Pn 20 17 54.7 -1.5
WVT Waverly 10.93 115 Pn 20 17 55.5 -1.1
WVT Waverly 10.93 115 P **Pn 20 17 56.7 +0.1**
baz=302
VHRN Van Horn 11.29 202 Pn **Pn 20 18 00.6 -1.2**
ALPN Alpine 11.36 196 Pn **Pn 20 18 03.0 +0.3**
ELK Elko 11.45 272 Pn **Pn 20 18 03.9 -0.1**
comp=Z,0.3nm,0.4s
ELK Lg Lg 20 21 13.3
comp=Z,0.1nm,0.3s,baz=176,slow=19,SNR=1.4
SAND Sanderson 11.53 189 Pn **Pn 20 18 00.8 -4.1**
R49A Shelbyville 11.89 100 Pn **Pn 20 18 09.0 -0.8**
TX31 Lajitas Ar. Si 12.38 195 Pn **Pn 20 18 15.8 -0.8**
TXAR Lajitas Array 12.38 195 Pn **Pn 20 18 15.6 -1.0**
comp=Z,0.2nm,0.3s,baz=12,slow=13,SNR=8.6
TXAR Pg 20 19 05.6
comp=Z,0.4nm,0.3s,baz=23,slow=14,SNR=5.8
TXAR Lg Lg 20 21 40.1
comp=Z,0.5nm,0.3s,baz=16,slow=30,SNR=3.2
comp=Z,0.3nm,0.5s
SWET Sewanee 12.72 114 Pn 20 18 21.4 +0.3
Y49A Blount Mountai 13.19 120 Pn **Pn 20 18 27.5 -0.1**
FPAL Fort Paine 13.31 116 Pn 20 18 28.6 -0.6
FFC Flin Flon 13.40 355 Pn **Pn 20 18 28.4 -1.8**
CPCT Cooper Cave 13.57 111 Pn 20 18 31.3 -1.4
WCT Wildcat Mounta 13.63 256 Pn **Pn 20 18 32.4 -1.2**
TZTN Tazewell 13.76 105 Pn **Pn 20 18 33.8 -1.5**
P52A Corning 13.79 91 Pn **Pn 20 18 34.2 -1.4**
Q52A Bidwell 13.85 94 Pn **Pn 20 18 36.1 -0.4**
TKL Tuckaleechee C 14.00 109 Pn **Pn 20 18 38.2 -0.4**
comp=Z,0.8nm,0.3s,baz=293,slow=7.7,SNR=5.8
TKL Lg Lg 20 22 36.3
comp=Z,0.7nm,0.3s,baz=24,slow=18,SNR=6.5
comp=Z,2.4nm,0.4s
P53A Whipple 14.38 91 Pn **Pn 20 18 43.1 -0.6**
N53A Lisbon 14.54 86 Pn **Pn 20 18 42.5 -3.5**
V53A Saluda 14.68 107 Pn 20 18 45.6 -2.4
Q54A Coxs Mills 14.92 93 Pn **Pn 20 18 48.2 -3.0**
PFO Pinyon Flats O 15.11 244 LR LR 20 24 07.8
comp=Z,21nm,18.0s,baz=358,slow=35
SADO Sadowa 15.68 71 Lg Lg 20 23 28.4
comp=Z,0.3nm,0.3s,baz=188,slow=17,SNR=3.3
V55A Taylorsville 15.76 104 Pn 20 19 00.7 -1.5
V55A IAmb IAmb 20 19 24.9
comp=Z,5.2nm,0.7s
PAULI Pauline 15.81 109 Pn 20 19 01.3 -1.5
G05A Wamic 15.90 291 Pn **Pn 20 19 02.2 -1.8**
G05A IAmb IAmb 20 19 12.6
comp=Z,10.0nm,1.0s
T57A Hurt 16.74 98 Pn **Pn 20 19 13.2 -1.6**
T57A IAmb IAmb 20 19 38.0
comp=Z,5.0nm,0.8s
YBH Yreka Blue Hor 16.92 279 Pn **P 20 19 19.2 +0.1**
comp=Z,0.1nm,0.3s,baz=90,slow=15,SNR=2.0
comp=Z,1.3nm,0.5s
FCC Fort Churchill 17.80 10 P **Pn 20 19 27.4 -0.3**
YKA Yellowknife Ar 22.84 343 P **P 20 20 24.3 +1.1**
comp=Z,1.1nm,0.6s,baz=151,slow=10.0,SNR=5.8
comp=Z,1.1nm,0.6s
SCHQ Schefferville 25.68 47 LR LR 20 31 01.3
comp=Z,42nm,21.6s,baz=282,slow=36
FRB Frobisher Bay 28.94 29 LR LR 20 31 56.7
comp=Z,26nm,18.9s,baz=211,slow=34
ILAR Eielson Array 35.32 327 P **P 20 22 16.8 +1.6**
comp=Z,0.7nm,0.7s,baz=108,slow=7.6,SNR=8.8
comp=Z,0.7nm,0.7s

IDC 03 20:25:25.5±18.0, 29°.97N×67°.17E, h0km, mb3.2/3, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=280.8km s-min=56.0km az=4.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**10.92**	**319**	Pn	Pn	20 28 02.8	-0.3
	0.4nm,0.3s,baz=127,slow=9.3,SNR=4.7						
	6.8nm,0.8s						
MKAR	**Makanchi Array**	**20.50**	**31**	P	P	20 30 05.0	0.0
	0.7nm,0.8s,baz=208,slow=11,SNR=4.4						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**22.32**	**19**	P	P	20 30 25.2	+0.6
	0.8nm,0.8s,baz=207,slow=11,SNR=4.4						
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**27.16**	**23**	P	P	20 31 10.0	-0.4
	0.2nm,0.3s,baz=218,slow=11,SNR=1.8						
	0.2nm,0.3s						

*IDC **03** 20:44:07.2±1.4, 33°.14N×138°.92E, h0km, mb3.6/2, mbtmp3.5/3, ML2.4/1, MS2.8/1, Error ellipse: s-maj=24.8km s-min=18.6km az=164.0*
*JMA **03** 20:44:08.9±0.1, 33°.7N±0°.4×140°.6E±0°.8, h47km, MV3.1/31, E OFF HACHIJOJIMA ISLAND*
ISC 03 20:44:09.1±1.2, 33°.69N±0°.04×140°.63E±0°.07, h50km±15km, n26, σ0°.79/31, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMKN	**Mikurajimanish**	**0.88**	**283**	P	**Pn**	**20 44 25.4**	**+0.2**
JMKN				S	**Sn**	**20 44 37.4**	**+0.3**
JHJ2	**Mitsune**	**0.89**	**230**	P	**Pn**	**20 44 25.8**	**+0.5**
JHJ2				S	**Sn**	**20 44 37.3**	**+0.1**
JHJ	**Hachijo jima 2**	**0.91**	**231**	Pn	**Pn**	**20 44 25.6**	**0.0**
	59nm,0.3s,baz=100,slow=22,SNR=52						
JHJ				Sn	**Sn**	**20 44 37.1**	**-0.6**
	162nm,0.3s,baz=81,slow=22,SNR=21						
JHCJ	**Hachijojimakas**	**0.93**	**228**	P	**Pn**	**20 44 26.1**	**+0.2**
JHCJ				*e*S	**Sn**	**20 44 37.6**	**-0.5**
JMYK	**Miyake Tsubota**	**0.97**	**292**	*e*S	**Sn**	**20 44 39.1**	**0.0**
BSO1	**Boso 1**	**1.00**	**17**	P	**Pn**	**20 44 26.1**	**-0.2**
BSO1				S	**Sn**	**20 44 39.4**	**+0.3**
BSO3	**Boso 3**	**1.11**	**355**	P	**Pn**	**20 44 28.1**	**0.0**
BSO3				S	**Sn**	**20 44 42.3**	**+0.1**
JNIO	**Niijimaoohara**	**1.30**	**301**	*e*S	**Sn**	**20 44 46.2**	**-1.0**
BSO4	**Boso 4**	**1.31**	**350**	P	**Pn**	**20 44 31.2**	**+0.2**
JKO	**Kozu shima**	**1.33**	**292**	P	**Pn**	**20 44 31.6**	**+0.3**
JKO				*e*S	**Sn**	**20 44 48.2**	**+0.2**
JTHY	**Toshimahigashi**	**1.38**	**307**	P	**Pn**	**20 44 32.4**	**+0.3**
JTHY				*e*S	**Sn**	**20 44 49.0**	**-0.2**
JIM2	**Oshima 3**	**1.42**	**316**	P	**Pn**	**20 44 32.4**	**-0.2**
JAOM	**Aogashimamukai**	**1.42**	**211**	*e*S	**Sn**	**20 44 50.9**	**+0.7**
JIZS	**Izushimoda**	**1.77**	**306**	P	**Pn**	**20 44 37.9**	**+0.6**
JIZS				S	**Sn**	**20 44 58.4**	**-0.3**
KTJ3	**Kamata3**	**1.79**	**314**	P	**Pn**	**20 44 37.4**	**-0.1**
KTJ3				S	**Sn**	**20 44 57.5**	**-1.5**
JOD2	**Odawara 2**	**2.02**	**321**	*i* P	**Pn**	**20 44 40.8**	**+0.1**
JOD2				S	**Sn**	**20 45 02.7**	**-2.0**
MJAR	**Matsushiro Arr**	**3.46**	**326**	Pn	**Pn**	**20 45 02.3**	**+1.7**
	0.4nm,0.3s,baz=170,slow=13,SNR=14						
MJAR				Sn	**Sn**	**20 45 42.3**	**+2.0**
	0.2nm,0.3s,baz=184,slow=17,SNR=1.7						
	3.1nm,0.4s						
H11N2	**WAKE ISLAND Hy 27.18**	**114**		T	T	21 18 35.0	
	baz=306,slow=75,SNR=7.3						
H11N1	**WAKE ISLAND Hy 27.19**	**114**		T	T	21 18 38.3	
	baz=306,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy 27.20**	**114**		T	T	21 18 38.6	
	baz=306,slow=75,SNR=4.9						
H11S3	**WAKE ISLAND Hy 27.77**	**116**		T	T	21 19 25.1	
	baz=308						
H11S1	**WAKE ISLAND Hy 27.77**	**116**		T	T	21 19 27.7	
	baz=308						
H11S2	**WAKE ISLAND Hy 27.78**	**116**		T	T	21 19 20.2	
	baz=308						
SHEM	**Shemya Is, Ala**	**30.54**	**41**	LR	LR	21 02 33.6	
	comp=Z,17nm,19.7s,baz=302,slow=35						
WRA	**Warramunga Arr**	**53.67**	**187**	P	**P**	**20 53 25.4**	**-0.5**
	0.5nm,0.4s,baz=3.9,slow=7.7,SNR=18						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**57.40**	**187**	P	**P**	**20 53 52.3**	**-0.3**
	0.5nm,0.8s,baz=2.6,slow=6.8,SNR=4.7						
	0.5nm,0.8s						

IDC 03 21:02:58.8±1.4, 8°.51S×158°.31E, h0km, mb3.8/4, mbtmp3.8/4, MS3.1/1, Error ellipse: s-maj=84.1km s-min=38.0km az=79.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**36.80**	**165**	LR	LR	21 21 31.4	
	comp=Z,30nm,21.4s,baz=150,slow=30						
VNDA	**Vanda**	**69.01**	**179**	P	P	21 14 05.7	0.0
	0.6nm,0.8s,baz=330,slow=8.1,SNR=2.0						
	0.6nm,0.8s						
SONM	**Songino Array**	**72.39**	**326**	P	P	21 14 27.1	+0.2
	0.8nm,0.6s,baz=131,slow=4.4,SNR=5.4						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**83.60**	**21**	P	P	21 15 28.7	0.0
	0.4nm,0.8s,baz=232,slow=5.6,SNR=4.2						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**86.71**	**318**	P	P	21 15 44.5	-0.2
	0.5nm,0.7s,baz=108,slow=5.7,SNR=4.9						
	0.5nm,0.7s						

IDC 03 21:03:29.4±8.5, 5°.01S×151°.16E, h116km±58km, mb3.5/2, mbtmp3.8/3, Error ellipse: s-maj=114.2km s-min=56.7km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.90**	**222**	P	Pn	21 04 54.7	+0.1
	4.9nm,0.4s,baz=78,slow=17,SNR=1.2						
PMG				S	Sn	21 06 01.9	+0.9
	34nm,0.5s,baz=39,slow=23,SNR=13						
WRA	**Warramunga Arr**	**22.10**	**226**	P	P	21 08 15.2	-0.3
	0.7nm,0.3s,baz=51,slow=9.9,SNR=15						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**24.92**	**220**	P	P	21 08 41.9	0.0
	1.1nm,0.4s,baz=56,slow=8.9,SNR=24						
	1.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**148.81**	**287**	PKPbc	PKPbc	21 23 04.0	-0.4
	0.2nm,0.4s,baz=65,slow=1.7,SNR=1.9						

*IDC **03** 21:15:19.4±1.3, 0°.67N×122°.49E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=156.6km s-min=21.7km az=65.0*
*DJA **03** 21:15:28.8±0.3, 1°.N±3°.×12°.3E±°, h33km±4km, M4.3/11, mb4.5/5, MLv4.2/11*
ISC 03 21:15:27.7±2.9, 0°.8N±0°.3×122°.65E±0°.09, h35km, n13, σ2°.89/10, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.39**	**111**	P	**Pn**	**21 15 38.0**	**+1.2**
MRSI	**Marisa**	**0.77**	**247**	P	Pn	21 15 43.3	+1.3
MRSI				S	**Sn**	**21 15 54.5**	**+2.2**
KMSI	**Cibinong**	**1.35**	**99**	P	**Pn**	**21 15 52.0**	**+2.0**
KMSI				S	**Sn**	**21 16 10.8**	**+4.1**
LUWI	**Luwuk**	**1.81**	**176**	P	**Pn**	**21 15 56.9**	**+0.5**
MPSI	**Mapaga**	**2.78**	**261**	P	Pn	21 16 11.1	+1.3
SANI	**Sanana**	**4.36**	**130**	P	**Pn**	**21 16 29.8**	**-1.7**
BKB	**Balikpapan**	**6.10**	**251**	P	Pn	21 16 54.9	-0.4
	84nm,1.5s						
BBSI	**Bau Bau**	**6.22**	**181**	P	**Pn**	**21 16 58.4**	**+1.3**
EDFI	**Ende, Flores**	**9.51**	**186**	P	**Pn**	**21 17 43.3**	**+0.9**
WRA	**Warramunga Arr**	**23.57**	**152**	P	**P**	**21 20 31.5**	**-3.8**
	0.7nm,0.6s,baz=328,slow=10,SNR=13						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**26.65**	**156**	P	**P**	**21 20 59.9**	**-3.5**
	0.2nm,0.4s,baz=333,slow=8.9,SNR=4.6						
	0.2nm,0.4s						
SONM	**Songino Array**	**48.95**	**346**	P	P	21 24 08.0	-2.6
	0.8nm,0.8s,baz=153,slow=7.3,SNR=4.1						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**57.77**	**328**	P	P	21 25 12.6	-2.8
	0.3nm,0.5s,baz=121,slow=8.7,SNR=6.3						
	0.3nm,0.5s						

NEIC 03 21:16:08.6±1.4, 36°.97N±0°.01×104°.86W±0°.02, h8km±8km, mb_Lg2.8/91, ML3.1/16, Error ellipse: s-maj=2.6km s-min=2.0km az=107.0, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.40**	**64**	Pg	Pg	21 16 16.8	+0.2
T25A				Sg	Sg	21 16 22.3	+0.5
SDCO	**Great Sand Dun**	**0.93**	**327**	Pg	Pg	21 16 26.0	-0.6
SDCO				Sg	Sg	21 16 37.9	-0.7
S22A	**4UR Ranch, Cre**	**1.75**	**297**	Pn	Pb	21 16 41.3	+0.1
S22A				IAML		21 17 06.3	
	comp=N,157nm,0.1s						
S22A				IAML		21 17 08.1	
	comp=E,120nm,0.2s						
RTBA	**Rita Blanca**	**1.79**	**107**	Pn	Pb	21 16 41.7	0.0
Q24A	**Divide**	**2.01**	**354**	Pn	Pb	21 16 45.4	-0.2
Q24A				IAML		21 17 11.9	
	comp=E,204nm,0.4s						
Q24A				IAML		21 17 12.0	
	comp=N,136nm,0.1s						
ANMO	**Albuquerque**	**2.40**	**213**	Pn	Pb	21 16 50.4	-1.7
KSCO	**Kaye Shedlock'**	**2.70**	**40**		Pn	21 16 54.4	+1.9
SMCO	**Snowmass**	**2.77**	**324**		Pn	21 16 55.4	+1.7
MVCO	**Mesa Verde**	**2.92**	**276**	Pn	Pn	21 16 57.8	+2.2
AMTX	**Amarillo**	**3.31**	**128**		Pn	21 17 03.7	+2.8
AMTX				IAmb_Lg		21 18 03.1	
	comp=Z,28nm,0.8s						
MSTX	**Muleshoe**	**3.44**	**150**		Pb	21 17 06.3	-3.6
SMWD	**Samnorwood**	**4.18**	**115**	IAmb_Lg		21 18 26.7	
	comp=Z,25nm,0.9s						
PHWY	**Pilot Hill**	**4.35**	**354**	Pn	Pn	21 17 15.7	+0.4
ELIS	**Ellis County**	**4.47**	**100**	IAmb_Lg		21 18 32.5	
	comp=Z,26nm,0.7s						
OGNE	**Ogallala**	**4.54**	**28**	IAmb_Lg		21 18 40.7	
	comp=Z,20nm,0.8s						
DKNS	**Dickens**	**4.60**	**134**	IAmb_Lg		21 18 37.2	
	comp=Z,21nm,0.7s						
U32A	**Winter Ranch,**	**4.75**	**95**	IAmb_Lg		21 18 52.4	
	comp=Z,29nm,0.7s						
POST	**Post**	**4.77**	**144**	Pn	Pn	21 17 22.5	+1.7
OK038	**West end E0370**	**4.94**	**94**	IAmb_Lg		21 18 58.6	
	comp=Z,28nm,0.7s						
OK035	**E0210 Rd and N**	**4.94**	**91**	IAmb_Lg		21 18 55.8	
	comp=Z,29nm,0.8s						
121A	**Cookes Peak, D**	**5.04**	**209**		Pn	21 17 25.8	+1.1
SN07	**Snyder 07**	**5.05**	**139**	IAmb_Lg		21 18 56.9	
	comp=Z,21nm,0.8s						
R32A	**Long Quarter,**	**5.09**	**72**	IAmb_Lg		21 18 57.5	
	comp=Z,23nm,0.9s						
APMT	**Aspermont**	**5.32**	**132**	Pn	Pn	21 17 30.0	+1.7
OK032	**Salt Plains WL**	**5.33**	**90**	IAmb_Lg		21 19 00.8	
	comp=Z,15nm,0.7s						
WMOK	**Wichita Mounta**	**5.42**	**112**	Pn	Pn	21 17 31.0	+1.3
KAN08	**Anthony NE Sta**	**5.51**	**85**	IAmb_Lg		21 19 17.5	
	comp=Z,17nm,0.8s						
KAN14	**Manchester OK**	**5.52**	**88**	IAmb_Lg		21 19 14.6	
	comp=Z,20nm,1.0s						
CROK	**Carrier**	**5.54**	**93**	IAmb_Lg		21 19 05.2	
	comp=Z,19nm,0.9s						
KAN17	**Caldwell West**	**5.68**	**87**	IAmb_Lg		21 19 11.0	
	comp=Z,15nm,0.9s						
MNHN	**Monahans**	**5.88**	**162**	IAmb_Lg		21 19 19.4	
	comp=Z,16nm,1.0s						
SGCY	**Sterling City**	**5.91**	**147**	IAmb_Lg		21 19 27.3	
	comp=Z,12nm,1.1s						
OK029	**Liberty Lake**	**6.09**	**99**	IAmb_Lg		21 19 32.9	
	comp=Z,11nm,0.9s						
ABTX	**Abilene, Hawle**	**6.10**	**134**	IAmb_Lg		21 19 26.2	
	comp=Z,11nm,0.9s						
X34A	**Smith Ranch, M**	**6.18**	**110**	IAmb_Lg		21 19 41.4	
	comp=Z,14nm,0.9s						
OK052	**Battle Ridge R**	**6.56**	**96**	IAmb_Lg		21 19 43.6	
	comp=Z,10nm,0.9s						
RSSD	**Black Hills**	**7.17**	**5**	IAmb_Lg		21 20 10.4	
	comp=Z,12nm,1.1s						
JCT	**Junction City**	**7.72**	**145**	IAmb_Lg		21 20 29.8	
	comp=Z,13nm,1.0s						
X37A	**Clayton**	**8.07**	**104**	IAmb_Lg		21 20 34.7	
	comp=Z,13nm,0.7s						
DRIO	**Del Rio**	**8.32**	**154**	IAmb_Lg		21 20 37.1	
	comp=Z,7.1nm,0.7s						
HNDO	**Hondo**	**8.76**	**146**	IAmb_Lg		21 20 53.2	
	comp=Z,7.8nm,0.9s						
ECSD	**EROS Data Cent**	**9.23**	**40**	IAmb_Lg		21 21 23.5	
	comp=Z,6.6nm,1.0s						

*NEIC **03** 21:25:21.6±2.3, 12°.84S±0°.09×45°.6E±0°.1, h10km±1km, mb4.5/11, Error ellipse: s-maj=23.0km s-min=13.4km az=73.0*
*IDC **03** 21:25:24.0±0.6, 13°.44S×45°.80E, h0km, mb3.8/17, mbtmp3.8/18, ML3.8/1, MS3.5/17, Error ellipse: s-maj=23.8km s-min=17.1km az=98.0*
ISC 03 21:25:25.1±0.5, 13°.33S±0°.07×45°.56E±0°.08, h10km, n68, σ2°.19/50, mb4.1/24, MS3.5/16, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.44**	**163**	Pn	**Pn**	**21 26 48.3**	**+1.9**
	1.7nm,0.3s,baz=340,slow=12,SNR=18						
OPO				Sn	**Sn**	**21 27 50.3**	**+1.0**
	10.0nm,0.3s,baz=275,slow=17,SNR=18						
ABPO	**Ambohimpanom**	**5.88**	**164**	Pn	**Pn**	**21 26 54.2**	**+1.7**
VOI	**Vohitsoka**	**8.61**	**172**	Pn	**Pn**	**21 27 32.5**	**+2.6**
RER	**Riviere de l'E**	**12.46**	**130**	Pn	**Pn**	**21 28 21.6**	**-1.1**
KIBK	**Kibwezi**	**13.21**	**325**	Pn	Pn	21 28 20.7	-12
CHIPN	**CHIPINGE**	**14.13**	**239**	*i* P	Pn	21 28 37.3	-8.2
CHIPN	**CHIPINGE**	**14.13**	**239**	*i* P	**Pn**	**21 28 41.7**	**-3.8**
KRI	**Karoi**	**15.78**	**255**	*i* P	**Pn**	**21 29 04.1**	**-3.6**
KRI	**Karoi**	**15.78**	**255**	*i* P	**Pn**	**21 29 04.1**	**-3.6**
MOPA	**Mopani**	**16.81**	**231**	*i* P	**Pn**	**21 29 17.0**	**-3.7**
MOPA	**Mopani**	**16.81**	**231**	*i* P	**Pn**	**21 29 17.0**	**-3.7**
LSZ	**Lusaka**	**16.94**	**261**	Pn	**Pn**	**21 29 18.9**	**-3.7**
MUSN	**Musina, Limpop**	**17.39**	**237**	*i* P	**Pn**	**21 29 25.3**	**-2.6**
MUSN	**Musina, Limpop**	**17.39**	**237**	*i* P	**Pn**	**21 29 25.3**	**-2.6**
MATP	**Matopo**	**17.77**	**244**	P	**P**	**21 29 34.3**	**+0.6**
	0.3nm,0.3s,baz=59,slow=12,SNR=20						
	4.7nm,0.7s						
MATP	**Matopo**	**17.77**	**244**	*i* P	**Pn**	**21 29 32.0**	**-0.9**
MATP	**Matopo**	**17.77**	**244**	*i* P	**Pn**	**21 29 32.0**	**-0.9**
POGA	**Pongola**	**19.03**	**221**		**Pn**	**21 29 48.6**	**+0.6**
POGA				IAmb	IAmb	21 29 53.1	
	comp=Z,29nm,0.8s						
MBAR	**Mbarara**	**19.38**	**310**	LR	LR	21 36 40.0	
	comp=Z,143nm,19.9s,baz=120,slow=34						
LBTB	**Lobatse**	**22.11**	**235**	P	**P**	**21 30 19.6**	**-1.4**
LBTB				IAmb	IAmb	21 30 26.7	
	comp=Z,8.5nm,0.7s						
LBTB	**Lobatse**	**22.11**	**235**	*i* P	**P**	**21 30 20.5**	**-0.4**
LBTB	**Lobatse**	**22.11**	**235**	*i* P	**P**	**21 30 20.5**	**-0.4**
BOSA	**Boshof**	**24.24**	**228**	P	**P**	**21 30 42.0**	**-0.5**
BOSA				IAmb	IAmb	21 30 44.6	
	comp=Z,6.5nm,0.6s						
BOSA	**Boshof**	**24.24**	**228**	P	**P**	**21 30 42.6**	**+0.2**
	comp=Z,4.4nm,0.4s,baz=48,slow=8.0,SNR=23						
BOSA				LR	LR	21 40 52.3	
	comp=Z,74nm,20.1s,baz=62,slow=38						
	comp=Z,4.4nm,0.4s						
BOSA	**Boshof**	**24.24**	**228**	*i* P	**P**	**21 30 43.0**	**+0.5**
BOSA	**Boshof**	**24.24**	**228**	*i* P	**P**	**21 30 43.6**	**+1.1**
TSUM	**Tsumeb**	**27.46**	**254**	LR	LR	21 41 57.1	
	comp=Z,88nm,18.5s,baz=243,slow=36						
SUR	**Sutherland**	**29.53**	**226**	P	**P**	**21 31 29.3**	**-0.8**
SUR	**Sutherland**	**29.53**	**226**	LR	LR	21 43 39.4	
	comp=Z,65nm,18.3s,baz=64,slow=37						
WSAR	**Wadi Sarin**	**38.53**	**20**	LR	LR	21 44 54.7	
	comp=Z,81nm,20.4s,baz=187,slow=30						
PALK	**Pallekele**	**40.46**	**62**	LR	LR	21 45 34.9	
	comp=Z,76nm,19.6s,baz=109,slow=30						
TORD	**Torodi Ar. Bea**	**50.81**	**299**	P	**P**	**21 34 27.9**	**+1.8**
	comp=Z,0.5nm,0.9s,baz=123,slow=5.3,SNR=2.5						
TORD				LR	LR	21 56 38.1	
	comp=Z,31nm,20.5s,baz=134,slow=37						
	comp=Z,0.5nm,0.9s						
DBIC	**Dimbokro**	**53.86**	**289**	P	**P**	**21 34 44.6**	**-4.3**
DBIC	**Dimbokro**	**53.86**	**289**	LR	LR	21 57 29.0	
	comp=Z,38nm,18.3s,baz=62,slow=36						
BRTR	**Keskin Array B**	**53.94**	**349**	P	**P**	**21 34 50.7**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=155,slow=7.9,SNR=4.0

comp=Z,0.6nm,0.9s,baz=114,slow=5.1,SNR=2.1
ESDC LR LR 22 08 31.5
comp=Z,32nm,18.2s,baz=130,slow=37
comp=Z,0.6nm,0.9s
KIRV Kirov 71.73 2 LR LR 22 11 31.3
comp=Z,30nm,18.7s,baz=137,slow=38
LZH Lanzhou 73.73 46 *e*P **P 21 36 57.8 -2.0**
LZH pmax pmax
comp=Z,9.0nm,1.1s
ZALV Zalesovo Beam 74.89 23 P **P 21 37 04.8 -1.0**
comp=Z,0.6nm,0.6s,baz=247,slow=7.6,SNR=3.7
comp=Z,0.6nm,0.6s
FINES FINESS Array B 76.11 350 P **P 21 37 14.9 +2.2**
comp=Z,0.9nm,0.7s,baz=144,slow=13,SNR=3.7
comp=Z,0.9nm,0.7s
QSPA South Pole Qui 76.77 180 P **P 21 37 17.9 +1.2**
QSPA IAmb IAmb 21 37 35.1
comp=Z,5.4nm,1.2s
QSPA South Pole Qui 76.77 180 P **P 21 37 18.3 +1.6**
comp=Z,1.2nm,0.8s,baz=276,slow=1.2,SNR=5.7
QSPA LR LR 22 07 56.0
comp=Z,44nm,19.1s,baz=250,slow=33
comp=Z,1.2nm,0.8s
HFS Hagfors 77.56 344 P **P 21 37 23.8 +2.9**
comp=Z,1.6nm,0.6s,baz=145,slow=5.3,SNR=4.3
comp=Z,1.6nm,0.6s
NB2 NORSAR Subarra 78.99 344 P **P 21 37 33.4 +4.5**
comp=Z,3.5nm,1.4s,baz=146,slow=5.6
NOA NORSAR Array B 78.99 344 P **P 21 37 31.2 +2.4**
comp=Z,0.5nm,0.8s,baz=159,slow=7.6,SNR=4.2
comp=Z,0.5nm,0.8s
HHC Hu-ho-hao-te 81.32 45 *e*P P 21 37 34.2 -7.8
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,91nm,5.2s
SONM Songino Array 81.36 37 P **P 21 37 42.1 0.0**
comp=Z,0.8nm,0.9s,baz=206,slow=6.4,SNR=4.0
comp=Z,0.8nm,0.9s
VNDA Vanda 82.54 169 P **P 21 37 46.1 -1.6**
VNDA Vanda 82.54 169 P **P 21 37 48.0 +0.3**
comp=Z,0.8nm,1.1s,baz=260,slow=6.1,SNR=3.0
comp=Z,0.8nm,1.1s
ASAR Alice Springs 83.27 113 P **P 21 37 51.7 -0.9**
comp=Z,0.5nm,0.8s,baz=259,slow=5.2,SNR=7.0
ASAR LR LR 22 10 15.1
comp=Z,92nm,18.8s,baz=295,slow=32
comp=Z,0.5nm,0.8s
NJ2 Nanjing 83.31 55 *e*P P 21 37 47.3 -5.1
NJ2 sP pP 21 37 52.0 -2.6
NJ2 pmax pmax
comp=Z,13nm,0.6s
WRA Warramunga Arr 84.43 109 P **P 21 37 57.5 -1.0**
comp=Z,0.5nm,0.9s,baz=259,slow=3.3,SNR=2.0
comp=Z,0.5nm,0.9s
NRIK Noril'sk 87.56 14 LR LR 22 17 54.5
comp=Z,33nm,21.5s,baz=198,slow=36
TXAR Lajitas Array 147.34 304 PKPbc **PKPdf 21 45 08.6 +1.2**
comp=Z,0.2nm,0.6s,baz=111,slow=2.8,SNR=4.0
NVAR Mina Array Bea 151.19 333 PKP **PKPdf 21 45 12.2 -1.3**
comp=Z,0.3nm,0.3s,baz=25,slow=5.2,SNR=2.8

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*TEH **03** 21:46:33.6, 34°.41N×45°.63E, h11^{km}±9^{km}, ML3.6*
*AFAD **03** 21:46:36.7±0.0, 34°.43N×45°.30E, h8^{km}±4^{km}, MW4.1*
*ISN **03** 21:46:36.0±1.7, 34°.44N×45°.60E, h25^{km}±11^{km}, ML3.6*
ISC 03 21:46:33.9±0.9, 34°.37N±0°.03×45°.60E±0°.04, h18^{km}±2^{km}, n46, σ2°.02/60, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.14**	**357**	Pg	**Pb**	**21 46 36.6**	**0.0**
KGS1				Sg	**Sb**	**21 46 38.9**	**+0.7**
GLG1	**Gilan-e-Gharb**	**0.36**	**134**	Pg	**Pg**	**21 46 41.1**	**-0.5**
IDHR	**Dehrash**	**0.73**	**63**	Pg	**Pb**	**21 46 46.8**	**-1.4**
IDHR				Sg	**Sb**	**21 46 57.7**	**-0.2**
IGHG	**Ghaleghazi**	**0.81**	**93**	Pg	**Pb**	**21 46 49.2**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.20**	**94**	Pg	**Pn**	**21 46 56.3**	**+0.4**
IBDR	**Badra**	**1.29**	**167**	*e*Pg	**Pg**	**21 47 00.0**	**+1.2**
IBDR				*e*Sg	**Sg**	**21 47 19.0**	**+3.4**
IBDR				AML	AML	21 47 39.0	
	comp=E,1μm,0.4s						
IBDR				AML	AML	21 47 41.5	
	comp=N,1μm,0.3s						
IKRK	**Kirkuk**	**1.46**	**315**	*e*Pg	**Pb**	**21 47 01.0**	**+0.5**
IKRK				*e*Sg	**Sg**	**21 47 21.0**	**-0.1**
BHD	**Baghdad**	**1.49**	**223**	*e*Pn	**Pg**	**21 47 03.0**	**+0.3**
BHD				*e*Sn	**Sg**	**21 47 24.0**	**+1.9**
SNQR	**Sonqor, Kerman**	**1.75**	**73**	Pg	**Pn**	**21 47 05.8**	**+2.3**
SDS1	**Sardasht. Az.**	**1.78**	**357**	Pg	**Pn**	**21 47 05.8**	**+1.9**
IBZA	**Bozab**	**1.87**	**86**	Pn	**Pn**	**21 47 07.9**	**+2.6**
IKFM	**Kafar-mosalman**	**2.05**	**114**	Pn	**Pn**	**21 47 10.4**	**+3.0**
IDOB	**Doab**	**2.22**	**104**	Pn	**Pn**	**21 47 12.4**	**+2.4**
MAHB	**Mahabad**	**2.39**	**2**	Pn	**Pn**	**21 47 13.9**	**+1.6**
HSAM	**Samen**	**2.49**	**93**	Pn	**Pn**	**21 47 16.0**	**+2.2**
RAFI	**Al-Rafai**	**2.67**	**171**	*e*Pn	**Pb**	**21 47 20.0**	**-1.2**
RAFI				*e*Sn	**Sb**	**21 47 54.0**	**+0.4**
IHSH	**Hashtrud**	**3.23**	**24**	Pn	**Pn**	**21 47 26.0**	**+2.1**
IAZR	**Azarshahr**	**3.32**	**5**	Pn	**Pn**	**21 47 27.3**	**+2.2**
YOVA	**Hakkari_Yksek**	**3.38**	**342**	P	**Pn**	**21 47 28.1**	**+2.1**
YOVA				S	**Sn**	**21 48 06.7**	**+1.0**
HAKT	**HAKKARI**	**3.53**	**335**	P	**Pn**	**21 47 31.0**	**+2.9**
HAKT				S	**Sn**	**21 48 09.3**	**-0.2**
HAKT				*i* AML	AML	21 48 43.0	
	comp=N,62nm,0.7s						
HAKT				*i* AML	AML	21 48 45.0	
	comp=N,70nm,0.6s						
QABG	**Abgarm-Qazvin**	**3.53**	**67**	Pn	**Pn**	**21 47 30.7**	**+2.7**
IRAZ	**Razeghan**	**3.71**	**73**	Pn	**Pn**	**21 47 32.8**	**+2.4**
ISRB	**Sarab**	**3.83**	**25**	Pn	**Pn**	**21 47 34.1**	**+2.0**
IMRD	**Marand**	**4.34**	**1**	Pn	**Pn**	**21 47 40.4**	**+1.4**
PERV	**Siirt/Pervari-**	**4.34**	**326**	P	**Pn**	**21 47 40.8**	**+1.7**
PERV				S	**Sn**	**21 48 29.2**	**0.0**
PERV				*i* AML	AML	21 49 09.0	
	comp=N,63nm,0.7s						
PERV				*i* AML	AML	21 49 26.0	
	comp=N,70nm,1.2s						
MIDY	**Mardin/Midyat-**	**4.56**	**313**	P	**Pn**	**21 47 43.6**	**+1.6**
MIDY				S	**Sn**	**21 48 33.8**	**-0.8**
MIDY				*i* AML	AML	21 49 11.0	
	comp=N,60nm,0.6s						
MIDY				*i* AML	AML	21 49 22.0	
	comp=N,44nm,0.6s						
SRTM	**Siirt_Merkez**	**4.68**	**322**	P	**Pn**	**21 47 44.1**	**+0.5**
SRTM				*i* AML	AML	21 49 24.0	
	comp=N,68nm,0.8s						
SRTM				*i* AML	AML	21 49 38.0	
	comp=N,66nm,0.9s						
IPIR	**Pirpir**	**4.73**	**109**	Pn	**Pn**	**21 47 46.9**	**+2.3**
JHBN	**Jahan bin**	**4.75**	**115**	Pn	**Pn**	**21 47 46.7**	**+1.8**
QAMS	**Qamsar**	**4.86**	**96**	Pn	**Pn**	**21 47 49.1**	**+2.8**
MARD	**Mardin**	**4.89**	**308**	P	**Pn**	**21 47 47.5**	**+0.9**
MARD				S	**Sn**	**21 48 40.3**	**-2.5**
MARD				*i* AML	AML	21 49 29.0	
	comp=N,83nm,0.9s						
MARD				*i* AML	AML	21 49 30.0	
	comp=N,90nm,0.9s						
IKLH	**Kolahrood**	**5.09**	**100**	Pn	**Pn**	**21 47 51.8**	**+2.4**
IBRJ	**Brojen**	**5.35**	**116**	Pn	**Pn**	**21 47 55.4**	**+2.4**
MUSM	**Mu-Merkez**	**5.45**	**324**	P	**Pn**	**21 47 53.9**	**-0.4**
MUSM				S	**Sn**	**21 48 52.1**	**-4.5**
MUSM				*i* AML	AML	21 49 57.0	
	comp=N,8.9nm,0.8s						
MUSM				*i* AML	AML	21 50 02.0	
	comp=N,9.9nm,0.9s						
ISFB	**Sefidab**	**5.50**	**88**	Pn	**Pn**	**21 47 56.5**	**+1.7**
IRAM	**Ramesheh**	**6.24**	**112**	Pn	**Pn**	**21 48 07.0**	**+1.7**
HANM	**anlurfa/Hi**	**6.32**	**302**	P	**Pg**	**21 48 34.7**	**-0.1**
HANM				S	**Sg**	**21 49 53.4**	**-3.2**
NARI	**Adyaman-Kaht**	**6.55**	**304**	P	**Pg**	**21 48 43.3**	**+4.1**
NARI				S	**Sg**	**21 50 03.5**	**-0.5**
RAYN	**Ar Rayn**	**10.81**	**180**	Pn	**Pn**	**21 49 06.1**	**-1.7**
MSFE	**Esma-Masafi**	**12.82**	**132**	Pn	**Pn**	**21 49 33.9**	**-1.4**
ASUD	**Al Ashush, Dub**	**12.88**	**136**	Pn	**Pn**	**21 49 35.0**	**-1.0**
MDH	**Madha**	**12.95**	**131**	Pn	**Pn**	**21 49 34.4**	**-2.6**
UOSS	**Minazif**	**13.15**	**133**	Pn	**Pn**	**21 49 36.7**	**-3.1**
HATD	**Hatta, Dubai**	**13.20**	**133**	Pn	**Pn**	**21 49 39.3**	**-1.2**
ASHO	**Ashiyiah**	**13.26**	**134**	Pn	**Pn**	**21 49 38.9**	**-2.3**
MZR	**Muzera**	**13.26**	**147**	Pn	**Pn**	**21 49 39.6**	**-1.7**

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*IDC **03** 22:10:14.1±0.6, 15°.19N×120°.36E, h0^{km}, mb4.1/20, mbtmp4.1/20, MS2.8/4, Error ellipse: s-maj=34.6km s-min=15.0km az=64.0*

*NEIC **03** 22:10:23.9±1.1, 15°.1N±0°.1×120°.2E±0°.2, h73^{km}±8^{km}, mb4.5/24, Error ellipse: s-maj=29.8km s-min=14.4km az=75.0*
ISC 03 22:10:26.5±0.5, 15°.16N±0°.05×120°.16E±0°.09, h100^{km}, n72, σ1°.22/71, mb4.2/29, 6C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.29**	**144**	⇑*e*P	**Pn**	**22 10 50.9**	**+0.5**
TGY				*e*S	**Sn**	**22 11 08.4**	**0.0**
LQP	**Lukban**	**1.69**	**128**	⇑*e*P	**Pn**	**22 10 55.5**	**+0.1**
GQP	**Guinayangan**	**2.54**	**119**	⇑*e*P	Pn	22 11 07.5	+1.3
CVP	**Callao Caves**	**2.99**	**32**	⇑*e*P	**Pn**	**22 11 11.7**	**-0.4**
CVP				*e*S	**Sn**	**22 11 47.1**	**-0.2**
PIP	**Pasuquin**	**3.18**	**8**	⇑*e*P	**Pn**	**22 11 14.6**	**0.0**
PIP				*e*S	**Sn**	**22 11 51.3**	**-0.5**
PPR	**Puerto Princes**	**5.53**	**195**	⇑*i*P	**Pn**	**22 11 44.4**	**-2.1**
YULB	**Yu-li**	**8.26**	**7**	Pn	**Pn**	**22 12 21.5**	**-2.0**
SSLB	**Suanglung**	**8.61**	**5**	Pn	**Pn**	**22 12 26.7**	**-1.7**
YHNB	**Yeheng**	**9.53**	**7**	Pn	**Pn**	**22 12 38.2**	**-2.6**
DAV	**Davao City (W)**	**9.64**	**146**	Pn	Pn	22 12 36.4	-5.9
DAV	**Davao City (W)**	**9.64**	**146**	LR	LR	22 16 52.2	
	comp=Z,52nm,21.0s,baz=324,slow=42						
MYLDM	**Lahad Datu**	**10.05**	**190**		Pn	22 12 49.9	+1.9
KSRS	**Korea Array**	**23.25**	**16**	LR	LR	22 24 23.4	
	comp=Z,14nm,19.7s,baz=190,slow=37						
MJAR	**Matsushiro Arr**	**26.69**	**34**	LR	LR	22 26 39.2	
	comp=Z,29nm,21.3s,baz=210,slow=37						
SONM	**Songino Array**	**34.52**	**344**	P	**P**	**22 17 04.1**	**-1.1**
	0.4nm,0.4s,baz=161,slow=9.2,SNR=1.8						
	0.4nm,0.4s						
MBWA	**Marble Bar**	**36.10**	**181**	P	**P**	**22 17 17.1**	**-1.7**
MBWA				IAmb	IAmb	22 17 39.2	
	comp=Z,6.7nm,1.2s						
WB0	**Warramunga Arr**	**37.43**	**158**	P	**P**	**22 17 28.4**	**-1.8**
WRA	**Warramunga Arr**	**37.57**	**158**	P	**P**	**22 17 29.7**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=336,slow=9.6,SNR=12						
WRA				PcP	**PcP**	**22 19 48.5**	**+1.0**
	comp=Z,0.6nm,1.0s,baz=342,slow=3.2,SNR=2.5						
	comp=Z,1.3nm,0.8s						
AS31	**Alice Springs**	**40.86**	**161**	P	**P**	**22 17 57.7**	**-1.1**
ASAR	**Alice Springs**	**40.86**	**161**	P	**P**	**22 17 57.4**	**-1.4**
ASAR	**Alice Springs**	**40.86**	**161**	P	**P**	**22 17 57.9**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=337,slow=6.8,SNR=11						
ASAR				PcP	**PcP**	**22 19 58.4**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=344,slow=3.0,SNR=1.8						
	comp=Z,1.0nm,0.7s						
MK31	**Makanchi Array**	**44.55**	**323**	P	**P**	**22 18 28.6**	**+0.2**
MKAR	**Makanchi Array**	**44.55**	**323**	P	**P**	**22 18 28.7**	**+0.3**
MKAR	**Makanchi Array**	**44.55**	**323**	P	**P**	**22 18 29.1**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=128,slow=9.4,SNR=8.8						
MKAR				PcP	**PP**	**22 20 10.4**	**-3.8**
	comp=Z,0.7nm,0.9s,baz=108,slow=3.2,SNR=2.7						
	comp=Z,1.0nm,0.8s						
MAKZ	**Makanchi**	**44.74**	**323**	P	**P**	**22 18 30.7**	**+0.8**
ZALV	**Zalesovo Beam**	**47.53**	**332**	P	**P**	**22 18 51.0**	**-0.5**
ZALV	**Zalesovo Beam**	**47.53**	**332**	P	**P**	**22 18 51.6**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=142,slow=7.2,SNR=4.8						
	comp=Z,1.1nm,0.6s						
PETK	**Petropavlovsk-**	**48.01**	**30**	P	**P**	**22 18 52.1**	**-3.2**
	comp=Z,0.7nm,0.6s,baz=243,slow=5.8,SNR=1.7						
PETK				LR	LR	22 38 44.1	
	comp=Z,24nm,21.8s,baz=265,slow=36						
	comp=Z,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**48.69**	**326**	P	**P**	**22 19 01.4**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=123,slow=8.6,SNR=15						
	comp=Z,2.4nm,0.6s						
KURK	**Kurchatov**	**48.69**	**326**	P	**P**	**22 19 01.2**	**+0.7**
KK31	**Karatay Array**	**50.59**	**314**	P	**P**	**22 19 15.8**	**+0.6**
KK31				IAmb	IAmb	22 19 17.4	
	comp=Z,5.8nm,1.2s						
KKAR	**Karatay Array**	**50.59**	**314**	P	**P**	**22 19 15.8**	**+0.7**
BVAR	**Borovoye Array**	**54.28**	**325**	P	**P**	**22 19 43.1**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=109,slow=8.2,SNR=7.5						
	comp=Z,1.3nm,0.5s						
TIXI	**Tiksi**	**56.71**	**3**	P	**P**	**22 19 59.2**	**0.0**
TIXI				IAmb	IAmb	22 19 59.5	
	comp=Z,4.4nm,0.8s						
NRIK	**Noril'sk**	**57.88**	**347**	P	**P**	**22 20 07.9**	**+0.3**
NRIK				IAmb	IAmb	22 20 09.3	
	comp=Z,5.2nm,0.9s						
NRIK	**Noril'sk**	**57.88**	**347**	P	**P**	**22 20 08.2**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=121,slow=7.0,SNR=4.8						
	comp=Z,3.4nm,0.7s						
GEYT	**Alibeck**	**58.86**	**305**	P	**P**	**22 20 16.4**	**+1.3**
	comp=Z,2.3nm,0.6s,baz=86,slow=7.4,SNR=2.5						
	comp=Z,2.3nm,0.6s						
ABKAR	**Akbulak array**	**59.29**	**319**	P	**P**	**22 20 18.6**	**+0.8**
ABKAR	**Akbulak array**	**59.29**	**319**	P	**P**	**22 20 18.7**	**+1.0**
ABKAR				IAmb	IAmb	22 20 19.5	
	comp=Z,7.7nm,1.4s						
ARU	**Arti**	**61.88**	**326**	P	**P**	**22 20 35.2**	**0.0**
ARU				IAmb	IAmb	22 20 36.4	
	comp=Z,3.2nm,0.7s						
KBZ	**Khabaz**	**70.53**	**311**	P	**P**	**22 21 31.3**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=135,slow=4.3,SNR=2.8						
	comp=Z,1.6nm,0.7s						
J17K	**VABM Dome**	**72.43**	**28**	P	**P**	**22 21 42.9**	**+1.2**
J17K				IAmb	IAmb	22 22 11.9	
	comp=Z,7.4nm,1.4s						
K17K	**Iditarod**	**72.77**	**29**	P	**P**	**22 21 44.3**	**+0.5**
L18K	**Granite Mounta**	**73.53**	**29**	P	**P**	**22 21 48.7**	**+0.5**
RAO	**Raoul Island**	**74.29**	**127**	LR	LR	22 53 40.0	
	comp=Z,135nm,19.0s,baz=156,slow=35						
IMAR	**Indian Mountai**	**74.69**	**25**	P	**P**	**22 21 55.8**	**+0.9**
CAST	**Castle Rocks**	**75.57**	**28**	P	**P**	**22 22 00.7**	**+0.6**
ARCES	**ARCESS Array B**	**77.54**	**339**	P	**P**	**22 22 11.1**	**0.0**
ARCES				IAmb	IAmb	22 22 31.6	
	comp=Z,9.4nm,1.4s						
ARCES	**ARCESS Array B**	**77.54**	**339**	P	**P**	**22 22 11.6**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=78,slow=6.9,SNR=10.0						
	comp=Z,0.9nm,0.5s						
ILAR	**Eielson Array**	**77.67**	**26**	P	**P**	**22 22 12.8**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=232,slow=6.7,SNR=4.9						
	comp=Z,0.4nm,0.8s						
BRTR	**Keskin Array B**	**77.84**	**308**	P	**P**	**22 22 14.5**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=116,slow=3.4,SNR=4.9						
	comp=Z,0.7nm,0.7s						
SPITS	**Spitsbergen Ar**	**78.06**	**348**	P	**P**	**22 22 14.4**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=73,slow=6.3,SNR=10						
	comp=Z,1.7nm,0.5s						
BMAR	**Burnt Mountain**	**78.14**	**23**	P	**P**	**22 22 15.7**	**+1.2**
FIA1	**FINESS Array S**	**78.76**	**331**	P	**P**	**22 22 18.2**	**+0.3**
FINES	**FINESS Array B**	**78.76**	**331**	P	**P**	**22 22 18.2**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=52,slow=6.1,SNR=41						
	comp=Z,2.3nm,0.5s						
BCAR	**Beaver Creek A**	**80.22**	**27**	P	**P**	**22 22 26.6**	**+0.7**
SUW	**Suwalki**	**81.92**	**324**	P	**P**	**22 22 35.0**	**+0.1**
BURAR	**Bucovina Array**	**82.23**	**317**	P	**P**	**22 22 37.8**	**+0.9**
BURAR				IAmb	IAmb	22 22 39.1	
	comp=Z,5.3nm,0.7s						
BUR08	**Bucovina Ar. S**	**82.24**	**317**	P	**P**	**22 22 37.8**	**+0.9**
BUR08				IAmb	IAmb	22 22 38.8	
	comp=Z,3.6nm,0.7s						
MLR	**Muntele Rosu**	**82.25**	**315**	P	**P**	**22 22 37.7**	**+0.6**
MLR				IAmb	IAmb	22 22 39.0	
	comp=Z,3.3nm,0.6s						
KOLS	**Kolonicke sedl**	**83.80**	**319**	*e*P	**P**	**22 22 46.4**	**+1.6**
STHS	**Stebnicka Huta**	**84.31**	**320**	*e*P	**P**	**22 22 49.9**	**+2.5**
CRVS	**Cervenica-Dubn**	**84.32**	**319**	*e*P	**P**	**22 22 49.1**	**+1.6**
HFS	**Hagfors**	**84.95**	**331**	P	**P**	**22 22 50.2**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=116,slow=3.4,SNR=12						
	comp=Z,1.8nm,0.6s						
NC405	**NORSAR Array S**	**85.48**	**332**	P	**P**	**22 22 53.1**	**+0.1**
LANS	**Liptovska Anna**	**85.50**	**320**	*e*P	**P**	**22 22 55.3**	**+1.9**
NB2	**NORSAR Subarra**	**85.73**	**333**	P	**P**	**22 22 54.1**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=68,slow=5.3						
NOA	**NORSAR Array B**	**85.73**	**333**	P	**P**	**22 22 54.2**	**0.0**
	comp=Z,3.0nm,0.7s,baz=67,slow=4.8,SNR=19						
	comp=Z,3.0nm,0.7s						
VYHS	**Vyhne**	**86.10**	**319**	*e*P	**P**	**22 22 57.9**	**+1.5**
GERES	**GERESS Array B**	**89.17**	**321**	P	**P**	**22 23 12.0**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=67,slow=5.9,SNR=2.6						
	comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**91.63**	**22**	P	**P**	**22 23 23.4**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=316,slow=3.5,SNR=2.7						
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**118.79**	**44**	PKP	**PKiKP**	**22 29 05.7**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=236,slow=1.0,SNR=4.4						

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*NEIC **03** 22:10:37.0±2.6, 31°.99N±0°.02×115°.00W±0°.01, h10^{km}±2^{km}, Error ellipse: s-maj=3.5km s-min=3.1km az=158.0*
*PAS **03** 22:10:39.0±2.9, 32°.02N±0°.02×114°.98W±0°.02, h19^{km}±6^{km}, ML3.1/64, ML3.1/38(NEIC), Error ellipse: s-maj=2.3km s-min=1.9km az=209.0*

*ECX **03** 22:10:40.8±0.7, 32°.08N×115°.11W, h16^{km}±3^{km}, MD3.1, ML3.3*
ISC 03 22:10:39.6±1.0, 32°.07N±0°.02×115°.09W±0°.02, h19^{km}±2^{km}, n74, σ0°.91/99, 28C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITX	**Riito Sonora**	**0.15**	**49**	⇑*i*P	**Pg**	**22 10 44.1**	**+0.2**
RITX				*e*S	**Sg**	**22 10 47.5**	**+0.7**
RHX	**Rio Hardy**	**0.18**	**292**	⇑*i*P	**Pg**	**22 10 43.8**	**-0.5**
RHX				*e*S	**Sg**	**22 10 46.4**	**-1.0**
AGSX	**Ej. Aguas Cali**	**0.21**	**344**	⇓*i*P	**Pg**	**22 10 44.5**	**-0.2**
AGSX				*e*S	**Sg**	**22 10 48.4**	**+0.2**
GUVIX	**Guadalupe Vict**	**0.23**	**3**		**Pg**	**22 10 45.5**	**+0.4**
GUVIX					**Sg**	**22 10 49.9**	**+1.1**
GUVIX	**Guadalupe Vict**	**0.23**	**3**	⇑*i*P	**Pg**	**22 10 45.5**	**+0.4**
GUVIX				*e*S	**Sg**	**22 10 50.0**	**+1.1**
EDOMX	**El Doctor, EDO**	**0.31**	**110**	⇑*i*P	**Pg**	**22 10 47.5**	**+1.1**
EDOMX				*e*S	**Sb**	**22 10 53.1**	**+1.7**
MBIG	**Mexicali**	**0.35**	**345**	⇑*i*P	**Pg**	**22 10 47.6**	**+0.6**
PESCX	**Ej. Pescaderos**	**0.38**	**17**	⇑*i*P	**Pg**	**22 10 47.8**	**+0.3**
PESCX				*e*S	**Sg**	**22 10 54.2**	**+1.3**
CPBX	**Cerro Prieto**	**0.39**	**333**		**Pg**	**22 10 48.2**	**+0.4**
CPBX					**Sg**	**22 10 54.4**	**+1.1**
CPBX	**Cerro Prieto**	**0.39**	**333**	⇓*e*P	**Pg**	**22 10 48.4**	**+0.6**
CPBX				*e*S	**Sg**	**22 10 54.3**	**+0.9**
CPBX				⇑*e*		22 10 56.2	
CPBX				IAML		22 10 56.2	
	comp=E,7μm,0.4s						
CPBX				⇑*e*		22 10 56.7	
CPBX				IAML		22 10 56.7	
	comp=N,6μm,0.2s						
CTLX	**Tlaxcala, TLX**	**0.41**	**354**	⇑*i*P	**Pg**	**22 10 47.9**	**-0.1**
CTLX				IAML		22 10 56.2	
	comp=N,5μm,0.2s						
CTLX				⇓*e*		22 10 56.2	
SLRCX	**San Luis Rio C**	**0.51**	**40**	⇑*i*P	**Pg**	**22 10 50.0**	**+0.2**
ALAMX	**Rancho Alamar**	**0.53**	**264**	⇑*i*P	**Pg**	**22 10 50.4**	**+0.2**
ALAMX				IAML		22 10 59.0	
	comp=E,4μm,0.4s						
ALAMX				⇑*e*		22 10 59.0	
YUCAX	**Ej. Yucat¡n**	**0.54**	**360**	⇑*i*P	**Pg**	**22 10 50.6**	**+0.3**
YUCAX				*e*S	**Sb**	**22 10 59.2**	**+1.5**
ECBX	**El Chinero**	**0.59**	**177**	⇓*i*P	**Pg**	**22 10 51.6**	**+0.2**
ECBX				*e*S	**Sg**	**22 11 00.1**	**+0.7**
UABX	**UABC, Campus M**	**0.64**	**332**		**Sb**	**22 11 02.3**	**+1.8**
5054	**Holtville Bond**	**0.66**	**342**		**Pg**	**22 10 52.6**	**0.0**
5054					**Sb**	**22 11 02.6**	**+1.4**
EMSC	**East Mesa**	**0.68**	**8**		**Pg**	**22 10 52.6**	**-0.3**
EMSC					**Sg**	**22 11 02.8**	**+0.8**
EMSC	**East Mesa**	**0.68**	**8**	⇑*e*P	**Pg**	**22 10 52.6**	**-0.3**
EMSC				*e*S	**Sg**	**22 11 02.8**	**+0.8**
ESJX	**Sierra Juarez**	**0.73**	**265**		**Pg**	**22 10 53.9**	**-0.1**
ESJX					**Sg**	**22 11 03.6**	**-0.2**
ESJX				IAML		22 11 04.6	
	comp=N,937nm,0.1s						
ESJX				IAML		22 11 05.5	
	comp=E,1μm,0.1s						
SGL	**Mount Signal**	**0.79**	**317**		**Pb**	**22 10 54.5**	**-0.3**
SGL					**Sg**	**22 11 05.2**	**-0.3**
SGL	**Mount Signal**	**0.79**	**317**	⇑*i*P	**Pb**	**22 10 54.5**	**-0.3**
SGL				*i* S	**Sg**	**22 11 05.2**	**-0.3**
COA	**Coachella**	**0.79**	**358**		**Pb**	**22 10 55.2**	**+0.4**
COA					**Sb**	**22 11 05.5**	**+0.3**
COA	**Coachella**	**0.79**	**358**	*e*P	**Pb**	**22 10 55.2**	**+0.4**
SJX	**San Joaquin**	**0.80**	**248**	⇑*e*P	**Pb**	**22 10 53.9**	**-0.9**
SNR	**Schaffner Ranc**	**0.84**	**340**		**Pb**	**22 10 55.8**	**+0.2**
WESC	**Westside Schoo**	**0.88**	**322**		**Pb**	**22 10 56.5**	**+0.4**
WESC					**Sg**	**22 11 09.3**	**+1.1**
WESC	**Westside Schoo**	**0.88**	**322**	⇓*e*P	**Pb**	**22 10 56.9**	**+0.7**
VTX	**Valle De La Tr**	**0.90**	**221**		**Pb**	**22 10 57.0**	**+0.4**
VTX					**Sb**	**22 11 08.8**	**+0.7**
VTX				IAML		22 11 10.3	
	comp=E,421nm,0.1s						
VTX				IAML		22 11 10.9	
	comp=N,334nm,0.2s						
VTX	**Valle De La Tr**	**0.

*NNC **03** 22:13:08.2±0.4, 43°.19N×78°.68E, h0km, mb2.8, mpv2.7, Error ellipse: s-maj=4.5km s-min=1.8km az=174.0*
*SOME **03** 22:13:09.1, 43°.17N×78°.68E, h5km*

ISC 03 22:13:08.9±0.9, 43°20N±0°.02×78°.63E±0°.02, h8km±7km, n25, σ0.92/48, 3C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke** 7.2nm,0.0s	**0.15**	**256**	*eP*	**Pg**	**22 13 12.4**	**+0.2**
ZHN	118nm,0.1s			*eS*	**Sg**	**22 13 14.7**	**+0.2**
ZHN	**Zhinishke** 90nm,0.1s	**0.15**	**256**	Lg	Lg	22 13 14.7	
SATY	**Saty** 18nm,0.1s	**0.22**	**229**	*eP*	**Pg**	**22 13 13.6**	**+0.2**
SATY	178nm,0.1s			*eS*	**Sg**	**22 13 17.2**	**+0.8**
SATY	**Saty** 18nm,0.1s	**0.22**	**229**	P	**Pg**	**22 13 13.6**	**+0.2**
SATY	178nm,0.1s			S	**Sg**	**22 13 17.2**	**+0.8**
KPKS	**Kokpek** 22nm,0.1s	**0.27**	**8**	*eP*	**Pg**	**22 13 14.2**	**0.0**
KPKS	63nm,0.2s			*eS*	**Sg**	**22 13 18.0**	**+0.1**
KPKS	**Kokpek** 22nm,0.1s	**0.27**	**8**	P	**Pg**	**22 13 14.2**	**0.0**
KPKS	63nm,0.2s			S	**Sg**	**22 13 18.0**	**+0.1**
UZB	**Uzynbulak** 12nm,0.1s	**0.29**	**101**	*eP*	**Pg**	**22 13 14.2**	**-0.6**
UZB	23nm,0.1s			*eS*	**Sg**	**22 13 17.8**	**-0.8**
UZB	**Uzynbulak** 12nm,0.1s	**0.29**	**101**	P	**Pg**	**22 13 14.2**	**-0.6**
UZB	23nm,0.1s			S	**Sg**	**22 13 17.8**	**-0.8**
SHLS	**Shalkode** 6.6nm,2.0s	**0.61**	**94**	*eP*	**Pn**	**22 13 25.3**	**+1.3**
SHLS	4.4nm,0.3s			*eS*	**Sn**	**22 13 36.9**	**+2.9**
SHLS	**Shalkode** 6.6nm,2.0s	**0.61**	**94**	P	**Pn**	**22 13 25.3**	**+1.3**
SHLS	4.4nm,0.3s			S	**Sn**	**22 13 36.9**	**+2.9**
PDGK	**Podgornoye** 0.5nm,0.2s	**0.64**	**78**	P	**Pg**	**22 13 20.5**	**-0.8**
PDGK	1.7nm,0.2s			S	**Sg**	**22 13 28.7**	**-1.0**
PDGK	**Podgornoye** 1.6nm,0.7s	**0.64**	**78**	⇑P	**Pg**	**22 13 20.2**	**-1.1**
PDGK	2.6nm,0.5s			⇑S	**Sg**	**22 13 28.5**	**-1.2**
PRZ	**Przheval'sk** baz=91	**0.74**	**193**	⇓*eP*	**Pg**	**22 13 22.7**	**-0.5**
PRZ	baz=91			⇓*eS*	**Sb**	**22 13 33.9**	**-0.6**
BLB	**Baldybastay** 2.7nm,0.1s	**0.90**	**353**	P	**Pg**	**22 13 26.7**	**-0.2**
BLB	1.4nm,0.1s			S	**Sb**	**22 13 39.3**	**+0.2**
KOTS	**Kotyrbulak** 3.2nm,0.1s	**1.11**	**272**	*eP*	**Pg**	**22 13 30.2**	**-0.1**
KOTS	2.2nm,0.3s			*eS*	**Sg**	**22 13 45.1**	**+0.4**
KOTS	**Kotyrbulak** 3.2nm,0.1s	**1.11**	**272**	P	**Pg**	**22 13 30.2**	**-0.1**
KOTS	2.2nm,0.3s			S	**Sg**	**22 13 45.1**	**+0.4**
ARXS	**Arharly** 0.4nm,0.1s	**1.17**	**330**	*eP*	**Pb**	**22 13 31.4**	**0.0**
ARXS	2.1nm,0.1s			*eS*	**Sb**	**22 13 47.3**	**+0.6**
ARXS	**Arharly** 0.6nm,0.1s	**1.17**	**330**	P	**Pg**	**22 13 30.6**	**-0.7**
ARXS	0.7nm,0.1s			S	**Sg**	**22 13 46.1**	**-0.4**
KNDC	**Almaty** 12nm,0.6s	**1.22**	**271**	⇓P	**Pg**	**22 13 32.2**	**-0.2**
KNDC	6.6nm,0.6s			⇑S	**Sg**	**22 13 48.6**	**+0.4**
DJR	**Jarkent** 1.0nm,0.1s	**1.41**	**36**	*eP*	**Pg**	**22 13 35.3**	**-0.6**
DJR	3.1nm,0.2s			*eS*	**Sn**	**22 13 54.2**	**+0.5**
DJR	**Jarkent** 1.0nm,0.1s	**1.41**	**36**	P	**Pg**	**22 13 35.3**	**-0.6**
DJR	3.1nm,0.2s			S	**Sn**	**22 13 54.2**	**+0.5**
KDJ	**Kajisay** baz=22	**1.52**	**225**	⇓*iP*	**Pn**	**22 13 35.7**	**-0.8**
KDJ	baz=22			⇓*iS*	**Sb**	**22 13 56.9**	**0.0**
TARG	**Taragay, Kyrgy** baz=1.0	**1.60**	**203**	⇓*iP*	**Pn**	**22 13 37.9**	**+0.1**
TARG	baz=1.0			⇓*iS*	**Sg**	**22 13 59.6**	**-0.7**
BOOM	**Boomskoye usch** baz=49	**2.10**	**251**	⇓*eP*	**Pn**	**22 13 44.3**	**-0.3**
BOOM	baz=49			⇓*eS*	**Sn**	**22 14 10.7**	**-0.4**
TKM2	**Tokmak 2** baz=61	**2.24**	**264**	⇓*iP*	**Pn**	**22 13 45.3**	**-1.3**
TKM2	baz=61			⇓*iS*	**Sn**	**22 14 12.9**	**-1.6**

*SJA **03** 22:15:22.4±0.7, 20°.81S×69°.15W, h118km±5km, ML3.6, MW3.8*
*NEIC **03** 22:15:23.5±1.1, 20°.82S±0°.04×69°.12W±0°.05, h110km±7km, mb4.2/10, ML4.0(GUC), Error ellipse: s-maj=7.3km s-min=5.0km az=109.0*
*GUC **03** 22:15:24.2±0.7, 20°.84S×69°.09W, h107km±5km, ML4.0*
*VAO **03** 22:15:25.6±0.5, 20°.91S×68°.67W, h109km±7km, mb4.4*
*IDC **03** 22:15:48.5±6.0, 18°.34S×67°.93W, h253km±33km, mb3.1/2, mbtmp3.7/4, Error ellipse: s-maj=108.9km s-min=22.8km az=22.0*

ISC 03 22:15:23.1±0.7, 20°82S±0°.03×69°.14W±0°.05, h112km±6km, n69, σ1.23/96, mb4.0/5, 6C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PX03	**IPOC Station P**	**0.62**	**312**	*iP*	**Pn**	**22 15 40.8**	**-0.4**
PX03				*eS*	**Sn**	**22 15 54.6**	**0.0**
PX03	comp=N,9μm,0.1s			IAML		22 15 55.1	
HMBC	**Humberstone**	**0.88**	**307**		**Pn**	**22 15 43.7**	**+0.3**
HMBC				Sn	**Sn**	**22 15 59.1**	**+0.4**
HMBC	**Humberstone**	**0.88**	**307**	*eP*	**Pn**	**22 15 44.0**	**+0.5**
HMBC				*eS*	**Sn**	**22 15 59.6**	**+0.9**
HMBC	**Humberstone**	**0.88**	**307**	⇑*iP*	**Pn**	**22 15 44.0**	**+0.5**
HMBC				*eS*	**Sn**	**22 15 59.2**	**+0.5**
HMBC	comp=N,10μm,0.3s			IAML		22 15 60.0	
PATCX	**Punta Patache**	**0.95**	**270**		**Pn**	**22 15 44.6**	**+0.6**
PATCX				Sn	**Sn**	**22 16 00.5**	**+0.7**
PATCX	**Punta Patache**	**0.95**	**270**	*eP*	**Pn**	**22 15 44.8**	**+0.8**
PATCX				*eS*	**Sn**	**22 16 01.8**	**+2.0**
PATCX	comp=Z,817nm,0.3s			IAML		22 16 03.2	
PATCX	**Punta Patache**	**0.95**	**270**	⇑*iP*	**Pn**	**22 15 44.8**	**+0.8**
PATCX				*eS*	**Sn**	**22 16 01.0**	**+1.2**
PATCX	comp=N,3μm,0.2s			IAML		22 16 02.6	
PB09	**IPOC Station P**	**0.98**	**186**		**Pn**	**22 15 44.6**	**+0.2**
PB09				Sn	**Sn**	**22 16 00.5**	**0.0**
PB09	**IPOC Station P**	**0.98**	**186**	*eP*	**Pn**	**22 15 44.8**	**+0.3**
PB09				*eS*	**Sn**	**22 16 01.5**	**+0.9**
PB09	comp=Z,2μm,0.4s			IAML		22 16 03.3	
PB09	**IPOC Station P**	**0.98**	**186**	⇑*iP*	**Pn**	**22 15 44.9**	**+0.5**
PB09				*eS*	**Sn**	**22 16 01.3**	**+0.7**
PB09	comp=E,3μm,0.4s			IAML		22 16 03.2	
TA01	**Diego Aracena**	**1.01**	**284**		**Pn**	**22 15 45.0**	**+0.5**
TA01	**Diego Aracena**	**1.01**	**284**	*eP*	**Pn**	**22 15 45.0**	**+0.5**
TA01				*eS*	**Sn**	**22 16 02.2**	**+1.6**
TA01	comp=Z,646nm,0.1s			IAML		22 16 04.9	
TA01	**Diego Aracena**	**1.01**	**284**	⇑*iP*	**Pn**	**22 15 45.1**	**+0.6**
TA01				*eS*	**Sn**	**22 16 01.2**	**+0.6**
TA02	**Huaiquique**	**1.08**	**300**	*eP*	**Pn**	**22 15 45.9**	**+0.7**
GO01	**Chusmiza**	**1.14**	**357**		**Pn**	**22 15 47.2**	**+0.6**
GO01	**Chusmiza**	**1.14**	**357**	*eP*	**Pn**	**22 15 47.2**	**+0.6**
GO01				*eS*	**Sn**	**22 16 05.5**	**+1.4**
GO01	**Chusmiza**	**1.14**	**357**	⇓*iP*	**Pn**	**22 15 47.1**	**+0.6**
GO01				*eS*	**Sn**	**22 16 05.0**	**+0.9**
PB11	**IPOC Station P**	**1.16**	**335**		**Pn**	**22 15 46.9**	**+0.6**
PB11	**IPOC Station P**	**1.16**	**335**	*eP*	**Pn**	**22 15 46.7**	**+0.4**
PB11				*eS*	**Sn**	**22 16 04.6**	**+0.8**
PB11	comp=Z,2μm,0.2s			IAML		22 16 05.6	
PB11	**IPOC Station P**	**1.16**	**335**	⇑*iP*	**Pn**	**22 15 46.9**	**+0.6**
PB11				*eS*	**Sn**	**22 16 04.3**	**+0.4**
PB11	comp=E,7μm,0.6s			IAML		22 16 05.4	
PB04	**IPOC Station P**	**1.78**	**212**		**Pn**	**22 15 54.0**	**+0.3**
PB04	**IPOC Station P**	**1.78**	**212**	*eP*	**Pn**	**22 15 54.3**	**+0.7**
PB04				*eS*	**Sn**	**22 16 18.8**	**+2.0**
PB04	comp=Z,549nm,0.7s			IAML		22 16 24.5	
PB04	**IPOC Station P**	**1.78**	**212**	⇓*eP*	**Pn**	**22 15 53.9**	**+0.3**
PB04				*eS*	**Sn**	**22 16 16.5**	**-0.3**
PB04	comp=E,834nm,0.4s			IAML		22 16 20.1	
LVC	**Limon Verde**	**1.80**	**173**		**Pn**	**22 15 55.1**	**+1.1**
LVC	**Limon Verde**	**1.80**	**173**	*eP*	**Pn**	**22 15 55.0**	**+1.0**
LVC				*eS*	**Sn**	**22 16 19.5**	**+2.0**
LVC	comp=Z,265nm,0.4s			IAML		22 16 22.1	
LVC	**Limon Verde**	**1.80**	**173**	⇑*eP*	**Pn**	**22 15 54.9**	**+0.8**
LVC	**Limon Verde**	**1.80**	**173**	*eP*	**Pn**	**22 15 54.8**	**+0.8**
LVC				*eS*	**Sn**	**22 16 18.0**	**+0.5**
PB06	**IPOC Station P**	**1.92**	**192**		**Pn**	**22 15 55.9**	**+0.5**
PB06	**IPOC Station P**	**1.92**	**192**	*eP*	**Pn**	**22 15 56.0**	**+0.5**
PB06				*eS*	**Sn**	**22 16 21.4**	**+1.4**
PB06	comp=Z,397nm,0.4s			IAML		22 16 26.2	
PB06	**IPOC Station P**	**1.92**	**192**	*eP*	**Pn**	**22 15 55.9**	**+0.5**
PB06				*eS*	**Sn**	**22 16 19.6**	**-0.3**
PB06	comp=E,731nm,0.3s			IAML		22 16 24.3	
PB05	**IPOC Station P**	**2.25**	**206**		**Pn**	**22 15 59.9**	**+0.3**
PB05	**IPOC Station P**	**2.25**	**206**	*eP*	**Pn**	**22 15 59.8**	**+0.3**
PB05				*eS*	**Sn**	**22 16 27.7**	**+0.3**
PB05	comp=Z,161nm,0.3s			IAML		22 16 31.5	
PB05	**IPOC Station P**	**2.25**	**206**	*eP*	**Pn**	**22 15 59.7**	**+0.2**
PB05				*eS*	**Sn**	**22 16 23.4**	**-4.1**
AF01	**San Pedro de A**	**2.31**	**157**	Pn	**Pn**	**22 16 00.0**	**-0.4**
PB15	**IPOC Station P**	**2.40**	**187**		**Pn**	**22 16 02.1**	**+0.6**
PB15	**IPOC Station P**	**2.40**	**187**	*eP*	**Pn**	**22 16 03.1**	**+1.6**
PB15				*eS*	**Sn**	**22 16 33.7**	**+2.8**
PB15	comp=Z,871nm,0.2s			IAML		22 16 37.3	
PB15	**IPOC Station P**	**2.40**	**187**	*eP*	**Pn**	**22 16 02.4**	**+0.9**
PB15				*eS*	**Sn**	**22 16 31.8**	**+0.8**
PB10	**IPOC Station P**	**2.99**	**206**		**Pn**	**22 16 09.0**	**0.0**
PB10	**IPOC Station P**	**2.99**	**206**	*eP*	**Pn**	**22 16 08.1**	**-0.9**
PB10	comp=Z,62nm,0.4s			IAML		22 16 59.4	
YJA	**Yavi**	**3.64**	**112**	*eP*	**Pn**	**22 16 19.6**	**+1.5**
YJA				*eS*	**Sn**	**22 17 03.4**	**+2.9**
YJA	**Yavi**	**3.64**	**112**	*eP*	**Pn**	**22 16 19.6**	**+1.5**
GO02	**Mina Guanaco**	**4.34**	**185**		**Pn**	**22 16 27.5**	**0.0**
GO02	**Mina Guanaco**	**4.34**	**185**	*eP*	**Pn**	**22 16 27.8**	**+0.4**
LPAZ	**La Paz** comp=Z,2.5nm,0.4s,baz=178,slow=4.6,SNR=15	**4.61**	**12**	P	**Pn**	**22 16 33.9**	**+2.6**
LPAZ	comp=Z,3.0nm,0.3s,baz=195,slow=14,SNR=6.0			S	Sn	22 17 07.1	-17
LPAZ	**La Paz**	**4.61**	**12**	*eP*	**Pn**	**22 16 33.9**	**+2.6**
BBSD	**Serra de San D**	**8.84**	**67**	*eP*	**Pn**	**22 17 24.4**	**-3.6**
VILB	**Vilhena**	**11.59**	**49**	Pn	**Pn**	**22 18 02.5**	**-2.6**
SALV	**Santo Antonio**	**13.67**	**71**	*eP*	**Pn**	**22 18 31.1**	**-1.2**
PDRB	**Porto dos Gac**	**15.02**	**54**	*eP*	**Pn**	**22 18 49.4**	**-0.2**
TRCB	**Terra Rica**	**15.46**	**100**		**Pn**	**22 18 54.7**	**-0.4**
ITAB	**Concordia**	**16.79**	**116**		**Pn**	**22 19 11.2**	**-0.4**
NPGB	**Novo Progresso**	**19.12**	**46**	*eP*	**Pn**	**22 19 38.3**	**-1.2**
SNDB	**Serra Nova Dou**	**19.23**	**66**	*eP*	**P**	**22 19 37.0**	**-1.7**
MACA	**Manacapuru-AM**	**19.39**	**26**	P	**P**	**22 19 39.8**	**-0.6**
MACA	comp=Z,19nm,0.7s			IAmb	IAmb	22 19 42.5	
MACA	**Manacapuru-AM**	**19.39**	**26**	*eP*	**Pn**	**22 19 41.9**	**-0.7**
IPMB	**Ipameri, GO**	**19.94**	**85**	*eP*	**P**	**22 19 44.9**	**-1.5**
VAO	**Valinhos**	**20.69**	**100**	P	**P**	**22 19 52.8**	**-1.7**
VAO	comp=Z,30nm,1.5s			IAmb	IAmb	22 20 08.3	
BDFB	**Brasilia**	**20.71**	**79**	P	**P**	**22 19 53.5**	**-1.3**
BDFB	comp=Z,5.6nm,0.4s			IAmb	IAmb	22 19 57.5	
BDFB	**Brasilia** comp=Z,4.3nm,0.4s,baz=257,slow=7.1,SNR=8.8	**20.71**	**79**	P	**P**	**22 19 54.0**	**-0.8**
ITTB	**Itaituba**	**20.91**	**40**	*eP*	**P**	**22 19 55.2**	**-1.7**
SMTB	**Santa Maria do**	**23.95**	**63**	*eP*	**P**	**22 20 27.0**	**-0.2**
BOAV	**Boa Vista**	**24.57**	**21**	P	**P**	**22 20 31.7**	**-1.0**
BOAV	comp=Z,4.5nm,0.8s			IAmb	IAmb	22 20 34.2	
TXAR	**Lajitas Array** comp=Z,0.2nm,0.6s,baz=144,slow=7.8,SNR=1.5	**59.95**	**325**	P	**P**	**22 25 19.6**	**+1.8**
QSPA	**South Pole Qui** comp=Z,0.2nm,0.6s	**69.37**	**180**	P	**P**	**22 26 20.4**	**+1.8**
QSPA	comp=Z,4.0nm,1.3s			IAmb	IAmb	22 26 39.0	
TOA0	**Torodi Ar. Sit**	**77.33**	**71**	P	**P**	**22 27 06.0**	**-0.1**
TOA0	comp=Z,5.7nm,1.4s			IAmb	IAmb	22 27 29.7	
TORD	**Torodi Ar. Bea**	**77.33**	**71**	P	**P**	**22 27 06.0**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.3s,baz=257,slow=5.1,SNR=30	**77.33**	**71**	P	**P**	**22 27 05.8**	**-0.2**
VNDA	**Vanda** comp=Z,0.9nm,0.3s	**77.48**	**190**	P	**P**	**22 27 05.6**	**-0.2**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.7s,baz=316,slow=4.0,SNR=4.0	**145.21**	**35**	PKP	**PKPab**	**22 34 48.7**	**+1.1**

*IDC **03** 22:27:05.5±1.3, 36°.43N×21°.79E, h0km, mb3.6/9, mbtmp3.6/9, MS3.2/3, Error ellipse: s-maj=28.3km s-min=22.4km az=161.0*
*THE **03** 22:27:08.2, 36°.38N×21°.64E, h1km±1km, ML3.1/7, Error ellipse: s-maj=2.3km s-min=0.9km az=238.0*
*ATH **03** 22:27:09.3, 36°.38N×21°.71E, h14km±4km, ML3.2/28, Manual Solution by N.Liadopoulou This location: 2020/06/16 07:10:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 03 22:27:07.4±1.6, 36°35N±0°.05×21°.65E±0°.04, h10km±9km, n81, σ1.38/94, mb3.7/8, MS3.1/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.55**	**8**	P	**Pg**	**22 27 17.2**	**-0.9**
PYL				S	**Sg**	**22 27 26.2**	**+0.8**
PYL	**PYLOS** 3μm,0.4s	**0.55**	**8**	P	**Pg**	**22 27 17.5**	**-0.7**
PYL				S	**Sg**	**22 27 26.3**	**+0.8**
ITM	**Ithomi**	**0.86**	**15**	P	**Pg**	**22 27 23.5**	**-0.5**
ITM				S	**Sg**	**22 27 35.4**	**+0.2**
ITM	**Ithomi** 2μm,0.5s	**0.86**	**15**	P	**Pg**	**22 27 23.7**	**-0.3**
ITM				S	**Sb**	**22 27 36.6**	**+0.5**
VLI	**Veliai**	**1.10**	**70**	P	**Pb**	**22 27 28.8**	**+0.3**
VLI				S	**Sn**	**22 27 45.2**	**+1.0**
VLI	**Veliai** 870nm,0.9s	**1.10**	**70**	P	**Pb**	**22 27 28.8**	**+0.3**
VLI				S	**Sb**	**22 27 43.2**	**+0.2**
MNVA	**Monemvasia**	**1.17**	**73**	P	**Pb**	**22 27 30.1**	**+0.4**
MNVA				S	**Sb**	**22 27 45.1**	**+0.3**
ANKY	**Antikythira Is**	**1.42**	**109**	P	**Pn**	**22 27 34.1**	**+0.8**
ANKY				S	**Sn**	**22 27 54.7**	**+2.6**
ANKY	**Antikythira Is** 522nm,0.9s	**1.42**	**109**	P	**Pn**	**22 27 34.1**	**+0.8**
LTHK	**Lithakia**	**1.51**	**335**	P	**Pn**	**22 27 35.4**	**+0.9**
KRND	**KRANIDI**	**1.58**	**49**	P	**Pn**	**22 27 36.9**	**+1.3**
KRND	**KRANIDI**	**1.58**	**49**	P	**Pn**	**22 27 36.5**	**+1.0**
KRND				S	**Sn**	**22 27 55.4**	**-0.7**
GUR	**Goura**	**1.68**	**19**	P	**Pn**	**22 27 37.4**	**+0.4**
GUR	**Goura**	**1.68**	**19**	P	**Pn**	**22 27 37.7**	**+0.7**
RLS	**Riolos of Patr**	**1.71**	**355**	P	**Pn**	**22 27 38.8**	**+1.5**
RLS				S	**Sn**	**22 28 00.3**	**+1.0**
RLS	**Riolos of Patr** 298nm,0.6s	**1.71**	**355**	P	**Pn**	**22 27 38.9**	**+1.5**
RLS				S	**Sn**	**22 27 59.6**	**+0.3**
EPID	**Epidavros**	**1.73**	**42**	P	**Pn**	**22 27 38.8**	**+1.2**
EPID	**Epidavros**	**1.73**	**42**	P	**Pn**	**22 27 38.1**	**+0.5**
KLV	**Kalavryta, Ach**	**1.74**	**13**	P	**Pn**	**22 27 38.8**	**+1.0**
KLV				S	**Sb**	**22 28 02.1**	**+0.7**
KLV	338nm,0.7s			P	**Pn**	**22 27 38.9**	**+1.2**
LOUT	**Loutraki**	**1.95**	**32**	P	**Pn**	**22 27 41.0**	**+0.4**
PSDA	**Pessada-Kefalo**	**1.96**	**335**	P	**Pn**	**22 27 41.7**	**+1.0**
PSDA				S	**Sn**	**22 28 06.6**	**+1.3**
VLS	**Valsamata**	**2.01**	**335**	P	**Pn**	**22 27 42.5**	**+1.0**
KALE	**Kalithea**	**2.08**	**11**	P	**Pn**	**22 27 43.7**	**+1.3**
EFP	**Efpalio**	**2.08**	**6**	P	**Pn**	**22 27 43.9**	**+1.4**
IMMV	**Iera Moni Meta**	**2.09**	**114**	P	**Pn**	**22 27 43.9**	**+1.4**
CHAN	**Chania**	**2.11**	**112**	P	**Pn**	**22 27 43.4**	**+0.6**
DMLN	**Damoulianata-K**	**2.15**	**332**	P	**Pn**	**22 27 44.1**	**+0.8**
MHLO	**Agia Marina, M**	**2.24**	**80**	P	**Pn**	**22 27 45.4**	**+0.8**
VILL	**Villia**	**2.25**	**36**	P	**Pn**	**22 27 45.9**	**+1.2**
VILL	445nm,0.8s			S	**Sn**	**22 28 14.8**	**+2.2**
ANX	**Ano Chora**	**2.25**	**5**	P	**Pn**	**22 27 47.0**	**+2.2**
VIL2	**Platees**	**2.26**	**34**	P	**Pn**	**22 27 45.7**	**+0.8**
PVO	**Paravola**	**2.27**	**358**	P	**Pn**	**22 27 47.0**	**+2.1**
VLY	**Voula,Athens**	**2.28**	**48**	P	**Pn**	**22 27 45.5**	**+0.4**
VLY	**Voula,Athens**	**2.28**	**48**	P	**Pn**	**22 27 45.3**	**+0.2**
ATH	**Athens Observa**	**2.31**	**45**	P	**Pn**	**22 27 46.5**	**+0.9**
ATHU	**Athens Univers**	**2.35**	**46**	P	**Pn**	**22 27 46.6**	**+0.5**
EVGI	**Lefkada island**	**2.40**	**341**	P	**Pn**	**22 27 48.2**	**+1.4**
PTL	**Penteli**	**2.45**	**45**	P	**Pn**	**22 27 48.0**	**+0.5**
NYDR	**Nydri-Lefkada**	**2.48**	**343**	P	**Pn**	**22 27 49.5**	**+1.6**
GVD	**Gavdhos**	**2.49**	**126**	P	**Pn**	**22 27 49.8**	**+1.8**
DION	**Dionisos Attik**	**2.51**	**46**	P	**Pn**	**22 27 50.0**	**+1.7**
DION	**Dionisos Attik**	**2.51**	**46**	P	**Pn**	**22 27 49.3**	**+0.9**
AXAR	**Agios Charalam**	**2.54**	**18**	P	**Pn**	**22 27 49.9**	**+1.1**
LKD2	**Lefkada island**	**2.56**	**342**	P	**Pn**	**22 27 51.0**	**+1.9**
EVR	**Evrytania**	**2.57**	**3**	P	**Pn**	**22 27 50.5**	**+1.3**
TSLK	**Tsoukalades, L**	**2.60**	**343**	P	**Pn**	**22 27 51.5**	**+2.0**
MAKR	**Makrakomi, Fth**	**2.69**	**8**	P	**Pn**	**22 27 52.4**	**+1.6**
AGG	**Agios Georgios**	**2.72**	**11**	P	**Pn**	**22 27 53.3**	**+2.0**
AGG	**Agios Georgios**	**2.72**	**11**	P	**Pn**	**22 27 52.5**	**+1.2**
IDI	**Anoyia**	**2.84**	**111**	P	**Pn**	**22 27 54.3**	**+1.4**
THR5	**Thira Island,**	**2.98**	**88**	P	**Pn**	**22 27 55.7**	**+0.9**
KYMI	**Kymi, Euboea I**	**3.00**	**40**	P	**Pn**	**22 27 55.4**	**+0.4**
SNT5	**Nea Kammeni, S**	**3.02**	**88**	P	**Pn**	**22 27 56.0**	**+0.7**
THR6	**Thira Island,**	**3.02**	**89**	P	**Pn**	**22 27 56.3**	**+1.0**
THR3	**Thira Island,**	**3.03**	**88**	P	**Pn**	**22 27 56.4**	**+1.0**
APE	**Apeiranthos**	**3.20**	**76**	P	**Pn**	**22 27 58.1**	**+0.3**
THL	**Klokotos Trika**	**3.22**	**5**	P	**Pn**	**22 27 59.3**	**+1.2**
TYRN	**Tyrnavos**	**3.39**	**8**	P	**Pn**	**22 28 01.8**	**+1.4**
TYRN	**Tyrnavos**	**3.39**	**8**	P	**Pn**	**22 28 01.4**	**+1.0**
LSK	**Leskovik**	**3.88**	**348**	P	**Pn**	**22 28 08.7**	**+1.4**
OHR	**Ohrid**	**4.80**	**352**	*i* Pn	**Pn**	**22 28 22.3**	**+2.5**
OHR				*i* Sn	**Sn**	**22 29 18.1**	**+2.5**
STIP	**Stip**	**5.36**	**4**	*i* Pn	**Pn**	**22 28 29.6**	**+2.2**
STIP				*i* Sn	**Sn**	**22 29 32.7**	**+3.5**
STON	**Ston**	**7.19**	**336**	*e*Pn	**Pn**	**22 28 49.9**	**-2.7**
RICI	**Ricice**	**7.94**	**335**	*e*Pn	**Pn**	**22 29 00.8**	**-2.0**
ZIRJ	**Zirje**	**8.63**	**330**	*e*Pn	**Pn**	**22 29 10.0**	**-2.3**
MORI	**Morici**	**8.78**	**331**	*e*Pn	**Pn**	**22 29 12.7**	**-1.7**
DUGI	**Dugi Otok**	**9.15**	**329**	*e*Pn	**Pn**	**22 29 17.7**	**-1.7**
DUGI				Sn	Sn	22 30 53.7	-8.8
VIRC	**Vir**	**9.40**	**330**	*e*Pn	**Pn**	**22 29 21.1**	**-1.7**
ESDC	**Sonseca Array** 0.6nm,0.8s,baz=81,slow=9.6,SNR=4.7	**20.43**	**287**	P	**P**	**22 31 45.0**	**0.0**
	0.6nm,0.8s						
HFS	**Hagfors** 1.0nm,0.5s,baz=162,slow=10,SNR=8.5	**24.35**	**350**	P	**P**	**22 32 23.8**	**-1.5**
	1.0nm,0.5s						
FINES	**FINESS Array B** 1.6nm,0.7s,baz=159,slow=12,SNR=9.6	**25.27**	**5**	P	**P**	**22 32 32.0**	**-1.6**
	1.6nm,0.7s						
EKA	**Eskdalemuir Ar** 0.2nm,0.4s,baz=133,slow=8.9,SNR=3.5	**25.44**	**326**	P	**P**	**22 32 35.6**	**+0.4**
	0.2nm,0.4s						
NOA	**NORSAR Array B** 0.8nm,0.8s,baz=160,slow=9.7,SNR=3.7	**25.59**	**348**	P	**P**	**22 32 35.9**	**-0.7**
	0.8nm,0.8s						
GEYT	**Alibeck** 2.8nm,1.0s,baz=292,slow=7.6,SNR=2.5	**29.00**	**76**	P	**P**	**22 33 06.4**	**-1.0**
	2.8nm,1.0s						
TORD	**Torodi Ar. Bea** 0.7nm,0.7s,baz=32,slow=12,SNR=4.9	**29.24**	**223**	P	**P**	**22 33 10.2**	**+0.6**
	0.7nm,0.7s						
BBTS	**Babate** comp=Z,27nm,18.4s,baz=328,slow=39	**40.31**	**248**	LR	LR	22 53 35.0	
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=270,slow=7.9,SNR=10.0	**45.51**	**57**	P	**P**	**22 35 25.7**	**-1.3**
	0.4nm,0.4s						
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=270,slow=8.6,SNR=2.4	**46.26**	**47**	P	**P**	**22 35 29.8**	**-2.9**
	0.5nm,0.3s						
TKL	**Tuckaleechee C** comp=Z,8.8nm,19.3s,baz=143,slow=36	**80.35**	**307**	LR	LR	23 14 53.8	
PETK	**Petropavlovsk-** comp=Z,19nm,18.4s,baz=249,slow=38	**83.08**	**25**	LR	LR	23 19 13.5	

TAP 03 22:49:05.4, 23°.16N×120°.90E, h3km, ML1.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau** baz=80	**0.11**	**76**	P	Pg	22 49 08.5	+0.9
ELDTW	baz=80			*i* S	Sg	22 49 10.3	+1.2
STYH	**Taoyuan** baz=272	**0.12**	**274**	P	Pg	22 49 08.4	+0.7
STYH	baz=272			*i* S	Sg	22 49 10.0	+0.8
STYT	**Tauyuan** baz=268	**0.13**	**270**	P	Pg	22 49 08.8	+0.7
STYT	baz=268			*i* S	Sg	22 49 10.6	+0.8
WTP	**Ta-pu** baz=286	**0.28**	**288**	*eP*	Pb	22 49 12.0	-1.0
WTP	baz=286			*eS*	Sb	22 49 16.4	-1.7
TPUB	**Ta-pu** baz=305	**0.28**	**299**	*eP*	Pb	22 49 12.4	-0.7
TPUB	baz=305			S	Sb	22 49 16.8	-1.6
**SLG

160nm,0.8s
KLV Kalavryta, Ach 1.66 12 P Pn 23 12 04.7 +1.3
LOUT Loutraki 1.86 32 P Pn 23 12 07.7 +1.6
PSDA Pessada-Kefalo 1.93 332 P Pn 23 12 08.4 +1.5
KNDR Palaiochora Ch 1.98 126 P Pn 23 12 08.8 +1.2
VLS Valsamata 1.98 333 P Pn 23 12 09.6 +1.8
KALE Kalithea 2.00 9 P Pn 23 12 10.4 +2.3
KALE Kalithea 2.00 9 P Pn 23 12 09.6 +1.5
EFP Efpalio 2.02 4 P Pn 23 12 09.8 +1.6
IMMV Iera Moni Meta 2.06 117 P Pn 23 12 10.7 +1.9
IMMV Iera Moni Meta 2.06 117 P Pn 23 12 10.0 +1.2
CHAN Chania 2.08 115 P Pn 23 12 10.5 +1.4
DMLN Damoulianata-K 2.12 330 P Pn 23 12 10.6 +1.0
VIL2 Platees 2.18 34 P Pn 23 12 11.6 +1.1
ANX Ano Chora 2.18 4 P Pn 23 12 12.0 +1.4
VLY Voula,Athens 2.19 48 P Pn 23 12 11.7 +1.1
PVO Paravola 2.21 356 P Pn 23 12 12.4 +1.6
FSK Fiskardo 2.24 336 P Pn 23 12 12.6 +1.3
ATHU Athens Univers 2.26 46 P Pn 23 12 13.1 +1.5
EVGI Lefkada island 2.36 339 P Pn 23 12 14.2 +1.2
DION Dionisos Attik 2.42 46 P Pn 23 12 15.1 +1.3
NYDR Nydri-Lefkada 2.44 341 P Pn 23 12 15.4 +1.4
AXAR Agios Charalam 2.46 17 P Pn 23 12 15.6 +1.2
GVD Gavdhos 2.48 129 P Pn 23 12 16.3 +1.7
EVR Evrytania 2.50 1 P Pn 23 12 16.4 +1.4
LKD2 Lefkada island 2.52 341 P Pn 23 12 16.7 +1.6
TSLK Tsoukalades, L 2.55 341 P Pn 23 12 17.3 +1.7
MAKR Makrakomi, Fth 2.62 7 P Pn 23 12 18.0 +1.5
AGG Agios Georgios 2.65 10 P Pn 23 12 18.4 +1.4
IDI Anoyia 2.81 113 P Pn 23 12 20.4 +1.3
APE Apeiranthos 3.13 77 P Pn 23 12 24.2 +0.7
TYRN Tyrnavos 3.32 7 P Pn 23 12 28.1 +2.1
MLR Muntele Rosu 9.61 18 LR LR 23 18 32.2
comp=Z,24nm,18.1s,baz=88,slow=44
BRTR Keskin Array B 9.96 67 LR LR 23 18 26.3
comp=Z,27nm,21.1s,baz=280,slow=42
FINES FINESS Array B 25.20 5 P P 23 16 58.4 -0.9
0.5nm,0.5s,baz=165,slow=11,SNR=7.4
0.5nm,0.5s
EKA Eskdalemuir Ar 25.43 326 P P 23 17 02.8 +1.5
0.5nm,0.7s,baz=130,slow=9.4,SNR=2.1
0.5nm,0.7s
NOA NORSAR Array B 25.54 348 P P 23 16 60.0 -2.4
0.9nm,0.9s,baz=160,slow=9.6,SNR=3.6
0.9nm,0.9s
TORD Torodi Ar. Bea 29.33 223 P P 23 17 36.9 +0.2
0.5nm,0.7s,baz=27,slow=10,SNR=2.8
0.5nm,0.7s
BVAR Borovoye Array 37.55 48 P P 23 18 47.1 -0.8
0.2nm,0.5s,baz=262,slow=4.1,SNR=1.9
0.2nm,0.5s
MKAR Makanchi Array 45.43 57 P P 23 19 51.9 -0.7
0.2nm,0.4s,baz=268,slow=8.0,SNR=5.5
0.2nm,0.4s

JMA 03 23:33:19.1±0.3,25°N±2°×123°.5E±0°.4,h42km,MV1.6/8, NW OFF ISHIGAKIJIMA IS,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.65	221	eP	Pn	23 33 31.7	-0.2
YOJ				eS	Sn	23 33 40.6	-0.5
IRIF	Iriomote-Funau	0.66	159	eP	Pn	23 33 32.1	+0.1
JYNG	Yonagunijimaku	0.70	224	eS	Sn	23 33 43.0	+0.8
JISG	Ishigakijimahi	0.84	116	eS	Sn	23 33 45.7	0.0
JIJ	Ishigaki jima	0.84	134	eP	Pn	23 33 34.5	-0.1
JIJ				eS	Sn	23 33 45.7	-0.1
JKRS	Kuro-shima	0.86	146	eS	Sn	23 33 46.0	-0.3

TAP 03 23:34:03.8,24°.71N×122°.41E,h14km,ML2.3,C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.33	209	eP	Pg	23 34 10.2	-0.4
EOS2				eS	Sb	23 34 16.2	-0.3
EOS3	EOS3	0.43	191	P	Pg	23 34 12.1	-0.2
EOS3				eS	Sn	23 34 21.3	-1.7
TWB1	Santiao Chiao	0.48	308	eP	Pg	23 34 12.2	-1.2
TWB1				S	Sg	23 34 19.9	0.0
TWC	Suao	0.52	259	eP	Pg	23 34 12.9	-1.1
TWC				eS	Sg	23 34 20.0	-0.9
ESAO	Su ao	0.53	256	eP	Pg	23 34 14.2	0.0
ESAO				eS	Sg	23 34 21.6	+0.3
TIPB	Shuangxi	0.59	296	eP	Pg	23 34 15.6	+0.2
TIPB				S	Sb	23 34 23.9	-0.4
EOS4	EOS4	0.59	188	P	Pg	23 34 15.2	-0.1
EOS4				i S	Sb	23 34 23.5	-0.4
YOJ	Yonaguni jima	0.60	114	eP	Pg	23 34 14.9	-0.7
YOJ				eS	Sb	23 34 25.4	+0.9
SXI1	Grass Mountain	0.62	309	i P	Pg	23 34 15.3	-0.6
SXI1				S	Sg	23 34 24.5	+0.4
EWUT	Wuta	0.63	246	eP	Pg	23 34 13.7	-2.5
EWUT				i S	Sg	23 34 24.8	+0.3
NDS	Dongshan	0.63	263	eP	Pg	23 34 16.2	0.0
NDS				eS	Sb	23 34 26.8	+1.3
ENA	Nanau	0.67	245	eP	Pg	23 34 15.9	-1.0
ENA				S	Sg	23 34 25.3	-0.4
NWF	Wu-fen Shan	0.67	302	i S	Sg	23 34 25.7	-0.2
FUSB	Fushanzhiwuyua	0.75	274	P	Pg	23 34 18.0	-0.4
FUSB				i S	Sg	23 34 28.1	-0.2
ENTT	Nioudou	0.77	265	eP	Pg	23 34 18.4	-0.3
ENTT				eS	Sg	23 34 27.1	-1.8
LATG	Datong	0.82	258	P	Pg	23 34 19.2	-0.6
LATG				eS	Sb	23 34 31.0	0.0
NDT	Datong Townshi	0.82	263	P	Pg	23 34 19.1	-0.7
NDT				S	Sg	23 34 29.7	-0.8
NWLT	Wulai	0.83	275	eP	Pb	23 34 20.2	+0.2
NWLT				eS	Sg	23 34 28.7	-2.0
NACB	Ninganchiao	0.91	234	eP	Pb	23 34 18.9	-2.5
NACB				eS	Sg	23 34 31.5	-1.9
YHNB	Yeheng	0.94	268	P	Pb	23 34 21.0	-1.0
YHNB				S	Sg	23 34 33.4	-0.9
NSK	Sanguang	0.96	268	P	Pb	23 34 20.6	-1.6
NSK				eS	Sb	23 34 32.5	-2.4
NNSB	Datong	0.97	254	P	Pb	23 34 21.9	-0.7
NNSB				eS	Sb	23 34 35.0	-0.3
LXIB	Xiulin Townshi	1.14	233	eP	Pb	23 34 25.4	0.0
LXIB				i S	Sb	23 34 39.3	-0.8

FUSS Fushou 1.16 247 eP Pg 23 34 26.9 +0.8
baz=246
FUSS i S Sb 23 34 39.9 -0.8
baz=246
WHF Hehuan Shan 1.18 242 eP Pb 23 34 25.9 -0.4
baz=241
WHF eS Sb 23 34 39.7 -2.0
baz=241
TDCB Techi 1.23 249 eP Pn 23 34 26.6 -0.1
baz=248
TDCB i S Sb 23 34 41.8 -0.8
baz=248

*NDI **03** 23:55:21.6±3.6, 13°.41N×93°.39E, h18km±20km, ML4.3, MW4.1, mb4.4(NEIC)*
*IDC **03** 23:55:22.2±2.2, 13°.16N×93°.59E, h71km±18km, mb3.7/20, mbtmp4.0/20, MS3.4/3, Error ellipse: s-maj=28.0km s-min=12.2km az=53.0*
*NEIC **03** 23:55:23.5±2.1, 13°.28N±0°.07×93°.60E±0°.09, h75km±8km, mb4.4/24, Error ellipse: s-maj=12.0km s-min=10.9km az=89.0*

ISC 03 23:55:18.8±0.4,13°.34N±0°.06×93°.88E±0°.07,h35km,n68, σ1972/68,mb4.2/30,MS3.3/3,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	2.01	214	Pn	Pn	23 55 52.8	+2.6
PBA	Port Blair	2.01	214	eP	Pn	23 55 53.0	+2.8
PBA				i x	x	23 55 57.2	
PBA				eSN	Sn	23 56 16.5	+2.4
PBA				eSG		23 56 23.2	
PBA				IAML		23 56 23.6	
	comp=E,3μm,0.3s						
PBA				IAML		23 56 26.2	
	comp=N,2μm,0.3s						
CM31	Chiang Mai Arr	7.04	43	Pn	Pn	23 57 06.9	+7.4
CMAR	Chiang Mai Arr	7.04	43	Pn	Pn	23 57 06.5	+7.0
CHTO	Chiang Mai	7.30	41	Pn	Pn	23 57 09.5	+6.5
PHRA	Phrae	7.97	49	Pn	Pn	23 57 20.6	+8.4
KULM	Kulim	10.42	140	Pn	Pn	23 57 52.1	+6.3
VIS	Vishakhapatnam	11.06	295	eP	Pn	23 57 53.8	-0.7
VIS				eS	Sn	23 59 41.9	-15
VIS				IAML		23 59 46.6	
	comp=E,128nm,0.2s						
VIS				IAML		23 59 46.7	
	comp=N,204nm,0.3s						
UBPT	Khong Chiam	11.40	79	Pn	Pn	23 58 08.2	+9.0
IMP	Imphal	11.43	0	eP	Pn	23 58 02.1	+2.4
IMP				IAmb	IAmb	23 58 04.9	
	comp=Z,32nm,0.4s						
SHL	Shillong	12.31	352	Pn	Pn	23 58 13.7	+2.0
MDRS	Chennai	13.28	270	eS	Sn	00 00 32.7	-19
ZIRO	ZIRO	14.11	360	eP	Pn	23 58 36.3	-0.1
ZIRO				IAML		23 58 39.6	
	comp=Z,69nm,0.2s						
GTK	Tadong	14.76	341	eP	Pn	23 58 47.0	+1.9
GTK				IAML		23 58 48.7	
	comp=Z,21nm,0.2s						
LSA	Lhasa	16.48	352	P	P	23 59 10.2	+0.1
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LSA	Lhasa	16.48	352	P	P	23 59 12.0	+1.9
LSA				IAmb	IAmb	23 59 15.7	
	comp=Z,10nm,0.5s						
NIL	Nilore	27.58	321	P	P	00 01 02.8	0.0
NIL				IAmb	IAmb	00 01 03.5	
	comp=Z,11nm,1.1s						
KAPI	Kappang	31.51	124	LR	LR	00 16 05.5	
	comp=Z,91nm,18.1s,baz=259,slow=39						
MK31	Makanchi Array	34.74	346	P	P	00 02 06.2	+0.5
MKAR	Makanchi Array	34.74	346	P	P	00 02 06.0	+0.4
MKAR	Makanchi Array	34.74	346	P	P	00 02 06.3	+0.7
	comp=Z,0.5nm,0.3s,baz=162,slow=7.5,SNR=12						
MKAR				PcP	PcP	00 04 38.1	-0.7
	comp=Z,0.1nm,0.3s,baz=154,slow=2.5,SNR=1.1						
	comp=Z,0.5nm,0.3s						
MAKZ	Makanchi	34.83	346	P	P	00 02 06.3	0.0
MAKZ				IAmb	IAmb	00 02 19.5	
	comp=Z,3.1nm,1.0s						
KK31	Karatay Array	35.85	330	P	P	00 02 16.2	+1.0
KK31				IAmb	IAmb	00 02 51.1	
	comp=Z,3.0nm,0.6s						
KKAR	Karatay Array	35.85	330	P	P	00 02 15.2	0.0
SONM	Songino Array	35.94	14	P	P	00 02 19.7	+3.6
	comp=Z,0.4nm,0.4s,baz=200,slow=9.9,SNR=2.5						
SONM				PcP	PcP	00 04 43.3	+0.9
	comp=Z,0.4nm,0.5s,baz=189,slow=5.3,SNR=1.9						
SONM				ScP	ScP	00 08 22.6	-3.5
	comp=Z,0.5nm,0.8s,baz=210,slow=4.6,SNR=2.5						
SONM				LR	LR	00 18 03.5	
	comp=Z,52nm,18.7s,baz=189,slow=38						
	comp=Z,0.4nm,0.4s						
SOEI	Soe	37.90	126	P	P	00 02 35.7	+2.6
KSRS	Korea Array	38.68	45	P	P	00 02 41.0	+1.8
	comp=Z,0.7nm,0.5s,baz=241,slow=9.4,SNR=2.2						
	comp=Z,0.7nm,0.5s						
KURBB	Kurchatov Arra	39.23	345	P	P	00 02 44.0	+0.4
	comp=Z,0.4nm,0.5s,baz=174,slow=7.1,SNR=7.7						
KURBB				ScP	ScP	00 08 34.5	-3.7
	comp=Z,0.2nm,0.3s,baz=140,slow=4.9,SNR=1.6						
	comp=Z,0.4nm,0.5s						
KURK	Kurchatov	39.29	345	P	P	00 02 43.6	-0.5
KURK				IAmb	IAmb	00 03 16.7	
	comp=Z,5.5nm,1.4s						
GEYT	Alibeck	40.10	314	P	P	00 02 51.2	+0.1
GEYT				IAmb	IAmb	00 02 52.9	
	comp=Z,4.7nm,0.6s						
GEYT	Alibeck	40.10	314	P	P	00 02 51.7	+0.6
	comp=Z,4.3nm,0.5s,baz=139,slow=8.0,SNR=11						
	comp=Z,4.3nm,0.5s						
GYA0B	ALIBECK ARRAY	40.10	314	P	P	00 02 51.4	+0.3
GYA0B				IAmb	IAmb	00 02 52.9	
	comp=Z,4.1nm,0.6s						
ZAA0	Zalesovo Array	41.14	352	P	P	00 03 00.1	+0.7
ZAA0				IAmb	IAmb	00 03 00.7	
	comp=Z,3.3nm,0.6s						
ZALV	Zalesovo Beam	41.14	352	P	P	00 03 00.2	+0.8
	comp=Z,4.7nm,0.5s,baz=178,slow=8.0,SNR=20						
	comp=Z,4.7nm,0.5s						
BVAR	Borovoye Array	43.78	340	P	P	00 03 20.6	-0.4
	comp=Z,0.3nm,0.4s,baz=128,slow=9.5,SNR=3.6						
	comp=Z,0.3nm,0.4s						
FITZ	Fitzroy Crossi	44.24	134	P	P	00 03 25.4	+0.4
ABKAR	Akbulak array	45.39	329	P	P	00 03 33.5	-0.3
GNI	Garni	50.55	311	LR	LR	00 30 15.1	
	comp=Z,20nm,18.0s,baz=123,slow=42						
NWAO	Narrogin (SRO)	51.13	155	P	P	00 04 18.0	-0.3
WB0	Warramunga Arr	51.70	129	P	P	00 04 22.7	0.0
WB0				IAmb	IAmb	00 04 37.0	
	comp=Z,18nm,1.4s						
WRA	Warramunga Arr	51.76	129	P	P	00 04 23.1	-0.2
WRA	Warramunga Arr	51.76	129	P	P	00 04 23.4	+0.1
	comp=Z,2.2nm,0.6s,baz=297,slow=9.6,SNR=55						
WRA				PcP	PcP	00 05 35.4	-0.9
	comp=Z,0.2nm,0.4s,baz=311,slow=3.3,SNR=7.0						
WRA				ScP	ScP	00 09 25.3	-5.2
	comp=Z,0.2nm,0.7s,baz=312,slow=3.6,SNR=1.2						
	comp=Z,2.2nm,0.6s						
WB2	Warramunga Arr	51.77	129	P	P	00 04 23.4	+0.1
WB2				IAmb	IAmb	00 04 24.4	
	comp=Z,5.3nm,0.7s						
WR0	Warramunga Arr	51.92	129	P	P	00 04 24.5	+0.1
WR0				IAmb	IAmb	00 04 42.4	
	comp=Z,7.3nm,1.3s						
ASAR	Alice Springs	53.71	133	P	P	00 04 37.8	+0.1
	comp=Z,3.9nm,0.4s,baz=309,slow=6.9,SNR=67						
ASAR				PcP	PcP	00 05 42.8	-0.8
	comp=Z,0.7nm,0.8s,baz=318,slow=4.8,SNR=2.1						
ASAR				ScP	ScP	00 09 33.1	-5.9
	comp=Z,0.5nm,0.8s,baz=286,slow=4.4,SNR=2.9						
	comp=Z,3.9nm,0.4s						
AS31	Alice Springs	53.71	133	P	P	00 04 37.7	+0.1
AS31				IAmb	IAmb	00 04 38.2	
	comp=Z,1.4nm,0.5s						
BRTR	Keskin Array B	58.76	308	P	P	00 05 10.8	-2.9
BRTR	Keskin Array B	58.76	308	P	P	00 05 10.6	-3.1
	comp=Z,0.8nm,0.6s,baz=137,slow=6.5,SNR=5.8						
	comp=Z,0.8nm,0.6s						
ELL	Elmali	61.34	305	P	P	00 05 30.3	-1.1
STKA	Stephens Creek	64.11	136	P	P	00 05 50.3	+0.7
STKA	Stephens Creek	64.11	136	P	P	00 05 49.5	-0.2
	comp=Z,1.0nm,0.5s,baz=321,slow=6.5,SNR=3.2						
	comp=Z,1.0nm,0.5s						
BURAR	Bucovina Array	65.89	316	P	P	00 06 00.3	-0.9
BUR08	Bucovina Ar. S	65.91	316	P	P	00 06 00.4	-0.9
FIA1	FINESS Array S	67.80	331	P	P	00 06 11.1	-1.9
FINES	FINESS Array B	67.80	331	P	P	00 06 11.5	-1.5
FINES	FINESS Array B	67.80	331	P	P	00 06 11.9	-1.0
	comp=Z,0.6nm,0.3s,baz=105,slow=6.2,SNR=17						
	comp=Z,0.6nm,0.3s						
ARCES	ARCESS Array B	70.07	340	P	P	00 06 26.7	-0.3
	comp=Z,0.4nm,0.5s,baz=108,slow=8.6,SNR=4.4						
	comp=Z,0.4nm,0.5s						
GERES	GERESS Array B	73.63	317	P	P	00 06 48.1	-0.8
	comp=Z,0.4nm,0.4s,baz=64,slow=6.7,SNR=3.4						
	comp=Z,0.4nm,0.4s						
HFS	Hagfors	73.65	329	P	P	00 06 47.8	-0.8
	comp=Z,1.2nm,0.4s,baz=116,slow=6.8,SNR=16						
	comp=Z,1.2nm,0.4s						
SPITS	Spitsbergen Ar	74.47	348	P	P	00 06 53.5	+0.4
	comp=Z,1.0nm,0.5s,baz=46,slow=8.4,SNR=4.7						
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	74.88	330	P	P	00 06 54.6	-1.2
	comp=Z,0.5nm,0.7s,baz=90,slow=5.7,SNR=2.2						
	comp=Z,0.5nm,0.7s						
EKA	Eskdalemuir Ar	83.11	325	P	P	00 07 39.8	-1.1
	comp=Z,0.5nm,0.6s,baz=104,slow=6.1,SNR=1.7						
	comp=Z,0.5nm,0.6s						
TORD	Torodi Ar. Bea	89.10	283	P	P	00 08 10.1	-1.1
	comp=Z,0.6nm,0.9s,baz=83,slow=6.5,SNR=2.3						
	comp=Z,0.6nm,0.9s						
ILAR	Eielson Array	89.80	22	P	P	00 08 13.4	-0.2
	comp=Z,0.2nm,0.6s,baz=292,slow=4.8,SNR=2.8						
	comp=Z,0.2nm,0.6s						
PDAR	Pinedale Array	120.17	20	PKP	PKPdf	00 14 05.7	-1.0
	comp=Z,0.1nm,0.4s,baz=349,slow=1.8,SNR=2.3						
NVAR	Mina Array Bea	120.34	29	PKP	PKPdf	00 14 07.7	+0.6
	comp=Z,0.3nm,0.5s,baz=274,slow=2.6,SNR=2.3						
TXAR	Lajitas Array	134.32	22	PKP	PKPdf	00 14 34.6	+0.8
	comp=Z,0.1nm,0.4s,baz=294,slow=0.6,SNR=5.9						
PLCA	Paso Flores	149.49	204	PKPbc	PKPbc	00 15 04.1	-0.6
	comp=Z,1.5nm,0.9s,baz=45,slow=3.0,SNR=3.7						

NNC 04 00:01:05.8±3.0,37°.16N×71°.29E,h0km,mb4.0,mpv3.6, 3C,Error ellipse: s-maj=30.9km s-min=18.3km az=45.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	5.08	349	Lg	Lg	00 03 26.7	
	27nm,0.3s						
MRKS	Merke	5.78	14	Lg	Lg	00 03 42.5	
	8.3nm,0.5s						
KK31	Karatay Array	5.97	355	⇑P	Pn	00 02 35.9	+0.5
	0.7nm,0.3s,baz=175,slow=12,SNR=16						
KK31				⇑S	Sn	00 03 45.7	+1.1
	3.0nm,0.3s,baz=174,slow=21						
TKM2	Tokmak 2	6.64	29	⇑P	Pn	00 02 44.9	0.0
	8.5nm,0.6s,baz=128,slow=8.0						
SGDS	Sogindy	6.79	21	P	Pn	00 02 46.1	-0.6

NAM 04 00:23:53.4±4.3,19°.70S×14°.48E,h16km±15km,ML0.8,1D, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ST3N	ST3	0.05	160	i P	Pg	00 23 58.6	+2.0
ST3N				i P		00 23 59.1	
ST3N	ST3	0.05	160	i P	Pg	00 23 58.8	+2.2
ST3N				i S	Sg	00 23 59.9	+1.1
ST3N	ST3	0.05	160	i P	Pg	00 23 60.0	+3.3
ST3N				i S	Sg	00 24 00.2	+1.5
ST9N	ST9	0.12	149	i P	Pb	00 23 57.7	+0.4
ST9N				i S	Sg	00 23 58.2	-1.5
ST9N				IAML		00 23 58.8	
	comp=Z,101nm,0.3s						
ST9N	ST9	0.12	149	eP	Pb	00 23 57.6	+0.2
ST9N				i S	Sg	00 23 58.2	-1.5
ST9N				IAML		00 23 58.9	
	comp=Z,98nm,0.3s						
ST9N	ST9	0.12	149	i P	Pb	00 23 57.8	+0.4
ST9N				i S	Sg	00 23 58.4	-1.3
ST9N				IAML		00 23 59.4	
	comp=Z,51nm,0.3s						
ST1N	ST1	0.13	107	i Pn	Pg	00 23 54.5	-2.9
ST1N				i Pg	Pb	00 23 58.4	+0.8
ST1N				i S	Sg	00 23 59.6	-0.4
ST1N	ST1	0.13	107	i P	Pb	00 23 58.3	+0.8
ST1N				i S	Sg	00 23 59.7	-0.3
ST1N				IAML		00 23 59.8	
	comp=Z,69nm,0.3s						
ST1N	ST1	0.13	107	i P	Pb	00 23 58.3	+0.8
ST1N				i S	Sg	00 23 59.7	-0.3
ST1N				IAML		00 23 59.8	
	comp=Z,69nm,0.3s						
ST1N	ST1	0.13	107	i P	Pb	00 23 59.5	+2.0
ST1N				i S	Sg	00 23 59.8	-0.2
ST1N				IAML		00 23 59.9	
	comp=Z,71nm,0.3s						
ST6N	ST6	0.13	217	i P	Pb	00 23 59.9	+2.4
ST6N				i S	Sg	00 23 60.0	0.0
ST6N				IAML		00 24 02.6	
	comp=Z,10nm,0.3s						
ST6N	ST6	0.13	217	i P	Pb	00 23 59.9	+2.4
ST6N				i S	Sb	00 24 00.4	+0.1
ST6N				IAML		00 24 02.6	
	comp=Z,10nm,0.3s						
ST6N	ST6	0.13	217	i P	Pb	00 23 59.9	+2.3
ST6N				i S	Sb	00 24 00.2	-0.1
ST6N				IAML		00 24 02.5	
	comp=Z,11nm,0.3s						
ST8N	ST8	0.15	273	i P	Pb	00 24 02.0	+4.0
ST8N				i S	Sb	00 24 05.4	+4.4
ST8N				IAML		00 24 06.4	
	comp=Z,4.9nm,0.3s						
ST8N	ST8	0.15	273	i P	Pb	00 24 01.9	+3.9
ST8N				i S	Sb	00 24 05.5	+4.4
ST8N				IAML		00 24 06.4	
	comp=Z,5.0nm,0.3s						
ST8N	ST8	0.15	273	i P	Pb	00 24 05.3	+7.3
ST8N				i S	Sb	00 24 05.6	+4.6
ST8N				IAML		00 24 06.4	
	comp=Z,5.1nm,0.3s						
ST2N	ST2	0.25	155	i P	Pb	00 24 00.4	+0.8
ST2N				i S	Sg	00 24 01.4	-1.6
ST2N				IAML		00 24 01.5	
	comp=Z,9.1nm,0.3s						
ST2N	ST2	0.25	155	i P	Pb	00 23 59.4	-0.2
ST2N				i S	Sg	00 24 01.4	-1.7
ST2N				IAML		00 24 01.5	
	comp=Z,9.1nm,0.3s						
ST2N	ST2	0.25	155	i P	Pb	00 24 00.4	+0.7
ST2N				i S	Sg	00 24 01.4	-1.6
ST2N				IAML		00 24 01.5	
	comp=Z,9.3nm,0.3s						
ST5N	ST5	0.28	110	i P	Pb	00 24 00.3	+0.3
ST5N				i S	Sg	00 24 00.4	-3.3
ST5N	ST5	0.28	110	i P	Pb	00 24 00.2	+0.2
ST5N				⇓i S	Sg	00 24 01.7	-2.0
ST5N				IAML		00 24 02.9	
	comp=Z,7.1nm,0.4s						
ST5N	ST5	0.28	110	i P	Pb	00 24 00.3	+0.3
ST5N				i S	Sg	00 24 00.5	-3.2
ST5N				IAML		00 24 03.0	
	comp=Z,7.2nm,0.4s						
ST10N	ST10	0.31	197	i P	Pb	00 24 01.7	+1.1
ST10N				i S	Sb	00 24 05.2	-0.3
ST10N				IAML		00 24 06.3	
	comp=Z,18nm,0.3s						
ST10N	ST10	0.31	197	i P	Pb	00 24 01.6	+1.0
ST10N				i S	Sb	00 24 05.2	-0.3
ST10N				IAML		00 24 06.3	
	comp=Z,18nm,0.3s						
ST10N	ST10	0.31	197	i P	Pn	00 24 05.2	+1.9
ST10N				i S	Sb	00 24 05.3	-0.2
ST10N				IAML		00 24 06.3	
	comp=Z,19nm,0.3s						
ST4N	ST4	0.50	113	i P	Pb	00 24 04.1	+0.2
ST4N				i S	Sg	00 24 04.3	-6.0
ST4N				IAML		00 24 10.1	
	comp=Z,2.1nm,0.3s						
ST4N	ST4	0.50	113	i P	Pb	00 24 04.3	+0.4
ST4N				i S	Sg	00 24 09.5	-0.8
ST4N				IAML		00 24 10.1	
	comp=Z,2.1nm,0.3s						
ST4N	ST4	0.50	113	i P	Pb	00 24 04.2	+0.3
ST4N				i S	Sg	00 24 04.6	-5.7
ST4N				IAML		00 24 10.0	

comp=Z,2.2nm,0.3s

DSN ***04*** *00:57:26.1±1.7,29°.27N×57°.52E, h15km, ML4.2/13, Error ellipse: s-maj=21.2km s-min=11.5km az=66.0*
IDC ***04*** *00:57:40.6±0.7,27°.96N×56°.88E, h0km, mb4.1/25, mbtmp4.1/33, ML3.7/8, MS3.4/21, Error ellipse: s-maj=14.7km s-min=13.4km az=174.0*
OMAN ***04*** *00:57:41.3±0.2,28°.21N×56°.99E, h10km, mb5.0/10, ml4.1/18, ms3.0/1, Error ellipse: s-maj=3.7km s-min=0.9km az=19.0*
NEIC ***04*** *00:57:42.2±1.8,27°.91N±0°.04×56°.80E±0°.09, h10km±1km, mb4.3/40, Error ellipse: s-maj=14.3km s-min=6.9km az=102.0*
MOS ***04*** *00:57:42.9±1.0,28°.03N×56°.78E, h24km, mb4.5/34, Error ellipse: s-maj=7.2km s-min=4.5km az=91.5*
TEH ***04*** *00:57:44.3,27°.97N×56°.95E, h25km±33km, ML4.2*
SGS ***04*** *00:57:47.6,27°.58N×56°.90E, h13km, Ml4.2*
ISC 04 00:57:44.8±0.4, 28°.02N±0°.03×56°.88E±0°.04, h24km, n275, σ**1§42**/273, **mb4.2**/66, **MS3.2**/19, **5C-1D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.64**	**208**	Pg	**Pb**	**00 57 56.1**	**-1.4**
IBND				Sg	**Sn**	**00 58 07.0**	**-0.9**
KHNJ	**Kahnooj**	**0.74**	**96**	Pg	**Pb**	**00 57 57.1**	**-1.9**
GENO	**Geno**	**0.88**	**225**	Pg	**Pb**	**00 58 01.1**	**-0.5**
GENO				Sg	**Sn**	**00 58 14.5**	**+0.5**
NGRK	**Negar Kerman**	**1.62**	**355**	Pg	**Pn**	**00 58 13.7**	**+1.4**
KBAM	**BAM**	**1.77**	**51**	Pg	**Pn**	**00 58 14.8**	**+0.6**
CHMN	**Cheshme madani**	**1.92**	**17**	Pn	**Pn**	**00 58 18.0**	**+1.6**
TVBK	**TV Kerman**	**1.96**	**357**	Pn	**Pn**	**00 58 19.0**	**+2.0**
SHME	**Shamm**	**2.07**	**199**	P	**Pn**	**00 58 19.0**	**+0.9**
SHME	**Shamm**	**2.07**	**199**	P	**Pn**	**00 58 19.2**	**+1.0**
	SNR=39						
BANOM	**Banah**	**2.15**	**194**	P	**Pn**	**00 58 20.0**	**+0.8**
BANOM	**Banah**	**2.15**	**194**	P	**Pn**	**00 58 20.3**	**+1.0**
JASK	**Jask - Hormozg**	**2.32**	**157**	Pn	**Pn**	**00 58 21.9**	**+0.4**
JASK	**Jask - Hormozg**	**2.32**	**157**	P	**Pn**	**00 58 22.4**	**+0.8**
	SNR=51						
KHGB	**Koh Gabri**	**2.37**	**352**	Pn	**Pb**	**00 58 25.3**	**-1.7**
UMQ	**Umm Al-Quwin**	**2.71**	**204**	P	**Pn**	**00 58 29.3**	**+2.4**
UMQ	**Umm Al-Quwin**	**2.71**	**204**	P	**Pn**	**00 58 29.4**	**+2.5**
MASF	**Masafi**	**2.72**	**194**	P	**Pn**	**00 58 28.1**	**+1.0**
	SNR=31						
MSFE	**Esma-Masafi**	**2.73**	**194**	P	**Pn**	**00 58 28.2**	**+1.0**
MDH	**Madha**	**2.76**	**191**	P	**Pn**	**00 58 27.3**	**-0.3**
MDH	**Madha**	**2.76**	**191**	P	**Pn**	**00 58 27.7**	**+0.1**
ZRDN	**Zarand Kerman**	**2.95**	**354**	Pn	**Pn**	**00 58 32.6**	**+2.1**
UOSS	**Minazif**	**3.12**	**191**	Pn	**Pn**	**00 58 30.6**	**-2.0**
NAZ	**Nazwa, Dubai**	**3.21**	**200**	P	**Pn**	**00 58 34.7**	**+0.9**
NAZ	**Nazwa, Dubai**	**3.21**	**200**	P	**Pn**	**00 58 35.7**	**+1.9**
	SNR=8.9						
HATD	**Hatta, Dubai**	**3.25**	**192**	P	**Pn**	**00 58 36.1**	**+1.7**
ASHO	**Ashiyiah**	**3.40**	**193**	P	**Pn**	**00 58 37.3**	**+0.7**
ASHO				S	**Sb**	**00 59 33.5**	**+8.0**
ASHO	**Ashiyiah**	**3.40**	**193**	P	**Pn**	**00 58 37.7**	**+1.1**
QIR1	**Qir**	**3.41**	**279**	Pn	**Pn**	**00 58 38.1**	**+1.5**
FAQ	**Al Faqa, Dubai**	**3.46**	**200**	P	**Pn**	**00 58 38.5**	**+1.2**
FAQ	**Al Faqa, Dubai**	**3.46**	**200**	P	**Pn**	**00 58 38.9**	**+1.6**
	SNR=9.7						
ASUD	**Al Ashush, Dub**	**3.66**	**203**	P	**Pn**	**00 58 42.0**	**+2.1**
ASUD	**Al Ashush, Dub**	**3.66**	**203**	P	**Pn**	**00 58 42.1**	**+2.1**
	SNR=13						
IBAF	**Bafgh**	**3.73**	**343**	Pn	**Pn**	**00 58 43.4**	**+2.3**
AJN	**Ajban**	**3.84**	**207**	P	**Pn**	**00 58 44.0**	**+1.6**
AJN	**Ajban**	**3.84**	**207**	P	**Pn**	**00 58 44.1**	**+1.6**
	SNR=9.7						
SOHO	**SOHO**	**3.88**	**185**	P	**Pn**	**00 58 44.1**	**+1.0**
IMEH	**Mehriz**	**3.89**	**330**	Pn	**Pn**	**00 58 45.7**	**+2.3**
HOQ	**Hoqain**	**4.44**	**175**	Pn	**Pn**	**00 58 49.7**	**-1.1**
HOQ	**Hoqain**	**4.44**	**175**	P	**Pn**	**00 58 50.5**	**-0.2**
BIDO	**Bidbid**	**4.62**	**166**	P	**Pn**	**00 58 52.4**	**-0.8**
NGCH	**Negor - Chabah**	**4.64**	**124**	Pn	**Pn**	**00 58 53.8**	**+0.4**
ARQ	**Araqi**	**4.68**	**184**	P	**Pn**	**00 58 55.2**	**+1.2**
ICHK	**Chekchek**	**4.72**	**334**	Pn	**Pn**	**00 58 57.6**	**+2.8**
JRN	**Qarnain Island**	**4.74**	**231**	P	**Pn**	**00 58 55.5**	**+0.7**
ISAD	**Sadrabad**	**4.76**	**325**	Pn	**Pn**	**00 58 57.5**	**+2.1**
SRVN	**Saravan**	**4.93**	**96**	Pn	**Pn**	**00 58 59.2**	**+1.6**
DSBU	**Dashti - Bushe**	**4.97**	**275**	Pn	**Pn**	**00 58 59.1**	**+1.1**
TPRV	**Parvadeh(Tabas**	**4.99**	**358**	Pn	**Pn**	**00 59 00.8**	**+2.4**
WSAR	**Wadi Sarin**	**5.02**	**161**	Pn	**Pn**	**00 58 58.0**	**-0.7**
	28nm,0.3s,baz=340,slow=9.1,SNR=183						
WSAR				Sn	**Sn**	**00 59 53.6**	**-2.3**
	52nm,0.3s,baz=306,slow=18,SNR=13						
	86nm,0.4s						
WSAR	**Wadi Sarin**	**5.02**	**161**	P	**Pn**	**00 58 58.8**	**+0.1**
MZWR	**Madinat Zayed**	**5.03**	**213**	P	**Pn**	**00 58 59.4**	**+0.6**
SMDO	**Samad**	**5.05**	**168**	P	**Pn**	**00 58 59.5**	**+0.2**
BSY	**Bisya**	**5.26**	**177**	P	**Pn**	**00 59 03.3**	**+1.3**
GHWR	**Ruwais**	**5.41**	**223**	P	**Pn**	**00 59 03.8**	**-0.2**
IRAM	**Ramesheh**	**5.43**	**315**	Pn	**Pn**	**00 59 06.8**	**+2.2**
KLNJ	**Kolanjah**	**5.48**	**304**	Pn	**Pn**	**00 59 07.0**	**+1.6**
TKDS	**Koohdasht(Taba**	**5.58**	**2**	Pn	**Pn**	**00 59 08.9**	**+2.4**
SHMA	**Al-Shehemyia**	**5.70**	**249**	P	**Pn**	**00 59 08.6**	**+0.6**
WBK	**Wadi Bani Khal**	**5.71**	**160**	P	**Pn**	**00 59 08.1**	**-0.1**
JMDO	**Jabal Madar**	**5.74**	**169**	P	**Pn**	**00 59 09.8**	**+1.3**
ANAR	**Anarak**	**5.82**	**333**	Pn	**Pn**	**00 59 11.9**	**+2.0**
MZR	**Muzera**	**5.87**	**212**	P	**Pn**	**00 59 09.9**	**-0.4**
MZR	**Muzera**	**5.87**	**212**	P	**Pn**	**00 59 10.0**	**-0.4**
TRNA	**Turayna**	**6.04**	**238**	P	**Pn**	**00 59 12.8**	**+0.1**
IBRJ	**Brojen**	**6.22**	**310**	Pn	**Pn**	**00 59 16.9**	**+1.4**
IZEF	**Zefreh**	**6.25**	**322**	Pn	**Pn**	**00 59 17.5**	**+1.7**
JLN	**Jalan Bani Buh**	**6.28**	**158**	P	**Pn**	**00 59 16.1**	**0.0**
SMRA	**Abu-Samra**	**6.33**	**240**	P	**Pn**	**00 59 17.4**	**+0.7**
SHBH1	**SHBH1**	**6.55**	**228**	P	**Pn**	**00 59 18.4**	**-1.4**
ZNGN	**Zangian**	**6.62**	**309**	Pn	**Pn**	**00 59 23.2**	**+2.2**
HOFOF	**Al Hofuf**	**6.76**	**249**	P	**Pn**	**00 59 23.6**	**+0.9**
JHBN	**Jahan bin**	**6.82**	**309**	Pn	**Pn**	**00 59 25.2**	**+1.5**
IPIR	**Pirpir**	**6.95**	**313**	Pn	**Pn**	**00 59 27.0**	**+1.5**
MHTO	**MHTO**	**7.07**	**172**	P	**Pn**	**00 59 27.5**	**+0.6**
QAMS	**Qamsar**	**7.39**	**322**	Pn	**Pn**	**00 59 33.5**	**+2.0**
ISFB	**Sefidab**	**7.46**	**329**	Pn	**Pn**	**00 59 34.2**	**+2.0**
HRA	**Herat**	**7.83**	**35**	Pn	**Pn**	**00 59 39.6**	**+2.1**
IVRN	**Varamin**	**8.22**	**329**	Pn	**Pn**	**00 59 45.4**	**+2.7**
KHRJ	**Al Kharj**	**9.27**	**245**	P	**Pn**	**00 59 56.2**	**-0.8**
GEYT	**Alibeck**	**9.94**	**6**	Pn	**Pn**	**01 00 06.4**	**+0.3**
GEYT	**Alibeck**	**9.94**	**6**	Pn	**Pn**	**01 00 07.5**	**+1.3**
	0.3nm,0.3s,baz=193,slow=15,SNR=3.1						
GEYT				LR	LR	01 04 34.8	
	comp=Z,316nm,18.4s,baz=183,slow=42						
	1.6nm,0.3s						
GYA0	**ALIBECK ARRAY**	**9.94**	**6**	P	**Pn**	**01 00 07.5**	**+1.3**
GYA0B	**ALIBECK ARRAY**	**9.94**	**6**		**Pn**	**01 00 06.7**	**+0.6**
WHFO	**Wadi Hawf**	**10.45**	**197**	P	**Pn**	**01 00 12.8**	**-0.5**
ABTO	**Aybut**	**11.12**	**198**	P	**Pn**	**01 00 21.0**	**-1.5**
RAYN	**Ar Rayn**	**11.19**	**249**	Pn	**Pn**	**01 00 19.4**	**-4.0**
RAYN	**Ar Rayn**	**11.19**	**249**	P	**Pn**	**01 00 20.0**	**-3.4**
RAYN	**Ar Rayn**	**11.19**	**249**	P	**Pn**	**01 00 20.3**	**-3.0**
RAYN				pmax	pmax		
	comp=Z,28nm,0.8s						
NAX	**Nakhchivan**	**14.60**	**323**	P	**P**	**01 01 15.0**	**-1.2**
CHGR	**Chuyangaron**	**14.74**	**41**	Pn	**Pn**	**01 01 12.4**	**+0.4**
CHGR	**Chuyangaron**	**14.74**	**41**	P	**Pn**	**01 01 12.4**	**+0.4**
MNGR	**Mingechevir, A**	**15.06**	**330**	P	**P**	**01 01 22.4**	**+1.3**
NIL	**Nilore**	**15.14**	**64**	Pn	**Pn**	**01 01 17.9**	**+0.7**
NIL				IAmb	IAmb	01 01 26.1	
	comp=Z,5.7nm,0.6s						
NIL	**Nilore**	**15.14**	**64**	P	**Pn**	**01 01 17.9**	**+0.7**
NIL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GANJ	**Ganja**	**15.30**	**328**	P	**P**	**01 01 25.5**	**+1.6**
SEKA	**Sheki**	**15.37**	**331**	P	**P**	**01 01 26.2**	**+1.6**
GAR	**Garm**	**15.65**	**42**	P	**P**	**01 01 27.4**	**-0.5**
GAR				IAmb	IAmb	01 01 28.8	
	comp=Z,25nm,0.7s						
GNI	**Garni**	**15.71**	**323**	Pn	**P**	**01 01 27.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=162,slow=19,SNR=2.6						
GNI				LR	LR	01 08 19.9	
	comp=Z,110nm,18.3s,baz=132,slow=41						
	comp=Z,2.0nm,0.5s						
GNI	**Garni**	**15.71**	**323**	P	**P**	**01 01 31.2**	**+2.6**
BTK	**Batken**	**16.64**	**40**	P	**Pn**	**01 01 38.2**	**+1.7**
BTK	**Batken**	**16.64**	**40**	P	**P**	**01 01 39.1**	**+0.3**
BTK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAK	**Makhachkala**	**16.73**	**335**	*e*P	Pn	01 01 30.0	-7.5
MAK				*e*S	Sn	01 04 31.7	-11
MAK				pmax	pmax		
	comp=Z,92nm,1.4s						
MAK				MLR	MLR		
	comp=Z,88nm,18.0s						
DRK	**Karamyk**	**16.84**	**43**	P	**P**	**01 01 41.0**	**-0.3**
DRK	**Karamyk**	**16.84**	**43**	P	**P**	**01 01 41.8**	**+0.5**
DRK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ASF	**Jabal al Asfar**	**17.77**	**288**	P	**P**	**01 01 51.5**	**0.0**
	comp=Z,0.5nm,0.3s,baz=86,slow=0.2,SNR=4.3						
	comp=Z,2.1nm,0.4s						
TRKS	**Terek-Say**	**17.82**	**37**	P	**P**	**01 01 52.8**	**+0.8**
TRKS				pmax	pmax		
	comp=Z,14nm,0.9s						
ARK	**Arkit**	**18.45**	**38**	P	**Pn**	**01 02 01.1**	**+2.0**
ARK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KK31	**Karatay Array**	**18.66**	**33**	P	**P**	**01 02 01.1**	**+0.2**
KK31	**Karatay Array**	**18.66**	**33**	*e*P	**P**	**01 02 01.2**	**+0.2**
KKAR	**Karatay Array**	**18.66**	**33**	P	**P**	**01 02 01.4**	**+0.4**
KKAR	**Karatay Array**	**18.66**	**33**	P	**P**	**01 02 01.4**	**+0.4**
GAZ	**Gaziantep**	**18.89**	**304**	P	**P**	**01 02 01.5**	**-2.1**
MMAI	**Mount Meron Ar**	**19.15**	**290**	P	**Pn**	**01 02 07.2**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=99,slow=8.9,SNR=4.5						
MMAI				LR	LR	01 11 17.9	
	comp=Z,92nm,18.3s,baz=56,slow=43						
	comp=Z,0.6nm,0.4s						
EIL	**Elat**	**19.28**	**280**	P	**Pn**	**01 02 08.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=101,slow=5.2,SNR=1.8						
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**19.30**	**328**	P	**P**	**01 02 08.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=146,slow=7.8,SNR=2.1						
	comp=Z,1.4nm,0.7s						
KBZ	**Khabaz**	**19.30**	**328**	*i* P	**P**	**01 02 08.0**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SHA1	**Shidzhatmaz**	**19.41**	**328**	*i* P	**P**	**01 02 08.3**	**-1.2**
KSH	**Kashi**	**19.54**	**49**	P	**P**	**01 02 10.8**	**0.0**
KSH				PP	**P**	**01 02 10.8**	**0.0**
KSH				pmax	pmax		
	comp=Z,16nm,0.8s						
KVAR	**Kislovodsk Arr**	**19.56**	**328**	P	**P**	**01 02 10.9**	**-0.1**
	baz=165,slow=16						
	comp=Z,1.5nm,0.7s						
KIV	**Kislovodsk**	**19.57**	**328**	P	**P**	**01 02 11.4**	**+0.4**
KIV	**Kislovodsk**	**19.57**	**328**	*e*P	**P**	**01 02 11.3**	**+0.3**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,13nm,14.0s						
ARLS	**Aral**	**19.83**	**41**	P	**P**	**01 02 14.7**	**+0.7**
ARLS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AAK	**Ala-Archa**	**20.42**	**40**	P	**P**	**01 02 20.8**	**+0.4**
AAK				IAmb	IAmb	01 02 22.5	
	comp=Z,11nm,0.5s						
AAK	**Ala-Archa**	**20.42**	**40**	P	**P**	**01 02 21.2**	**+0.8**
	comp=Z,8.5nm,0.5s,baz=217,slow=5.1,SNR=8.3						
AAK				LR	LR	01 11 16.9	
	comp=Z,96nm,19.1s,baz=191,slow=40						
	comp=Z,8.5nm,0.5s						
AAK	**Ala-Archa**	**20.42**	**40**	*ce*P	**P**	**01 02 20.4**	**0.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BNN	**Bunyan**	**20.56**	**307**	P	**P**	**01 02 21.2**	**-0.7**
BNN				IAmb	IAmb	01 02 34.5	
	comp=Z,21nm,1.0s						
BOOM	**Boomskoye usch**	**21.16**	**42**	P	**P**	**01 02 29.5**	**+1.1**
BOOM				IAmb	IAmb	01 02 36.1	
	comp=Z,10nm,0.7s						
BOOM	**Boomskoye usch**	**21.16**	**42**	P	**P**	**01 02 29.5**	**+1.1**
BOOM				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TKM2	**Tokmak 2**	**21.22**	**41**	P	**P**	**01 02 29.2**	**0.0**
AB31	**Akbulak array**	**21.33**	**6**	*e*P	**P**	**01 02 30.1**	**+0.1**
ABKAR	**Akbulak array**	**21.33**	**6**	P	**P**	**01 02 29.9**	**-0.1**
ABKAR				IAmb	IAmb	01 02 33.9	
	comp=Z,12nm,0.7s						
AKTO	**Aktyubinsk**	**22.40**	**2**	P	**P**	**01 02 41.5**	**0.0**
	comp=Z,7.2nm,0.5s,baz=188,slow=9.2,SNR=21						
AKTO				LR	LR	01 13 04.9	
	comp=Z,160nm,18.8s,baz=221,slow=41						
	comp=Z,7.2nm,0.5s						
BR131	**Keskin Array S**	**22.48**	**307**	P	**P**	**01 02 41.7**	**-0.9**
BR131				IAmb	IAmb	01 03 04.9	
	comp=Z,6.5nm,0.8s						
BR131	**Keskin Array S**	**22.48**	**307**	P	**P**	**01 02 41.7**	**-0.9**
BR131				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BRTR	**Keskin Array B**	**22.48**	**307**	P	**P**	**01 02 41.5**	**-1.1**
BRTR	**Keskin Array B**	**22.48**	**307**	P	**P**	**01 02 43.1**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=118,slow=8.4,SNR=10.0						
BRTR				LR	LR	01 13 08.4	
	comp=Z,103nm,19.2s,baz=112,slow=41						
	comp=Z,1.6nm,0.7s						
BRTR	**Keskin Array B**	**22.48**	**307**	P	**P**	**01 02 41.5**	**-1.1**
BELG	**Belogornoye**	**25.31**	**347**	P	**P**	**01 03 08.4**	**-1.0**
	comp=Z,22nm,0.7s,baz=142,slow=20,SNR=5.7						
	comp=Z,22nm,0.7s						
BELG	**Belogornoye**	**25.31**	**347**	*i* P	**P**	**01 03 09.2**	**-0.2**
BELG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VRH	**Novokhopyorsk**	**25.83**	**338**	*e*P	**P**	**01 03 12.3**	**-1.8**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORD	**Divnogorie**	**26.50**	**335**	*e*P	**P**	**01 03 18.5**	**-1.7**
VORD				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VSR	**Storozhevoye**	**26.75**	**335**	*e*P	**P**	**01 03 20.9**	**-1.5**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BVA0	**Borovoye Array**	**26.91**	**18**	*i* P	**P**	**01 03 23.8**	**-0.2**
BVAR	**Borovoye Array**	**26.91**	**18**	P	**P**	**01 03 24.2**	**+0.2**
	comp=Z,8.2nm,0.9s,baz=207,slow=7.8,SNR=36						
BVAR				PcP	**PcP**	**01 06 45.0**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=222,slow=1.9,SNR=4.2						
BVAR				LR	LR	01 15 51.8	
	comp=Z,68nm,21.2s,baz=198,slow=40						
	comp=Z,8.2nm,0.9s						
BRVK	**Borovoye**	**26.91**	**18**	P	**P**	**01 03 23.6**	**-0.4**
BRVK				IAmb	IAmb	01 03 25.3	
	comp=Z,4.6nm,0.9s						
BRVK	**Borovoye**	**26.91**	**18**	*ce*P	**P**	**01 03 24.5**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VORR	**Voronezh**	**27.10**	**335**	*e*P	**P**	**01 03 24.2**	**-1.4**
VORR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAKZ	**Makanchi**	**27.18**	**40**	P	**P**	**01 03 26.3**	**-0.2**
MAKZ				IAmb	IAmb	01 03 49.9	
	comp=Z,5.3nm,1.2s						
MAKZ	**Makanchi**	**27.18**	**40**	P	**P**	**01 03 26.3**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MK31	**Makanchi Array**	**27.35**	**40**	P	**P**	**01 03 26.4**	**-1.6**
MK31	**Makanchi Array**	**27.35**	**40**	*e*P	**P**	**01 03 27.1**	**-0.9**
MKAR	**Makanchi Array**	**27.35**	**40**	P	**P**	**01 03 28.5**	**+0.5**
MKAR	**Makanchi Array**	**27.35**	**40**	P	**P**	**01 03 28.1**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=233,slow=8.6,SNR=12						
MKAR				LR	LR	01 15 58.2	
	comp=Z,75nm,18.3s,baz=228,slow=40						
	comp=Z,0.7nm,0.4s						
MKAR	**Makanchi Array**	**27.35**	**40**	*e*P	**P**	**01 03 28.7**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**27.91**	**30**	P	**P**	**01 03 33.2**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=228,slow=8.5,SNR=29						
	comp=Z,3.2nm,0.8s						
LPSR	**Galich'ya Gora**	**27.95**	**336**	*e*P	**P**	**01 03 31.4**	**-1.8**
LPSR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KURK	**Kurchatov**	**28.02**	**30**	P	**P**	**01 03 33.4**	**-0.5**
KURK				IAmb	IAmb	01 03 42.3	
	comp=Z,4.3nm,0.9s						
KURK	**Kurchatov**	**28.02**	**30**	*ce*P	**P**	**01 03 34.4**	**+0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARU	**Arti**	**28.41**	**2**	P	**P**	**01 03 37.1**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=112,slow=19,SNR=3.8						
ARU				LR	LR	01 15 58.3	
	comp=Z,43nm,21.8s,baz=162,slow=39						
	comp=Z,1.4nm,0.4s						
ARU	**Arti**	**28.41**	**2**	*c i*P	**P**	**01 03 37.6**	**+0.3**
ARU						01 04 25.3	
ARU				S	**S**	**01 08 27.8**	**+4.9**
ARU				SS	**SnSn**	**01 09 45.0**	**+3.2**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WMQ	**Urumqi**	**29.31**	**49**	*e*P	**P**	**01 03 48.5**	**+3.0**
OBN	**Obninsk**	**30.81**	**337**	↓*e*P	**P**	**01 03 59.0**	**+0.5**
OBN				*e*		01 05 00.8	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
OBN				MLR	MLR		
	comp=Z,25nm,15.0s						
AKASG	**Malin Array Be**	**30.83**	**325**	LR	LR	01 17 40.4	
	comp=Z,31nm,20.0s,baz=96,slow=39						
AKBB	**Malin Array Si**	**30.83**	**325**	*i* P	**P**	**01 03 58.0**	**-0.8**
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIRV	**Kirov**	**30.99**	**352**	P	**P**	**01 04 00.6**	**+0.6**
	comp=Z,3.4nm,0.5s,baz=170,slow=6.1,SNR=2.5						
KIRV				LR	LR	01 19 14.1	
	comp=Z,131nm,18.7s,baz=168,slow=42						
	comp=Z,3.4nm,0.5s						
BURAR	**Bucovina Array**	**31.43**	**317**	P	**P**	**01 04 04.4**	**+0.1**
BURAR	**Bucovina Array**	**31.43**	**317**	P	**P**	**01 04 04.4**	**+0.1**
BUR08	**Bucovina Ar. S**	**31.45**	**317**	P	**P**	**01 04 04.3**	**-0.2**
BUR08				IAmb	IAmb	01 04 28.2	
	comp=Z,5.5nm,1.5s						
KBN	**Korca**	**32.12**	**303**	P	**P**	**01 04 11.0**	**+0.6**
KBN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BZS	**Buzias**	**32.91**	**312**	P	**P**	**01 04 20.6**	**+3.5**
ZAA0	**Zalesovo Array**	**33.01**	**31**	P	**P**	**01 04 17.3**	**-0.6**
ZALV	**Zalesovo Beam**	**33.01**	**31**	P	**P**	**01 04 17.8**	**-0.1**
	comp=Z,7.8nm,0.5s,baz=230,slow=8.8,SNR=41						
ZALV				LR	LR	01 20 00.9	
	comp=Z,25nm,18.3s,baz=244,slow=40						
	comp=Z,7.8nm,0.5s						
KOLS	**Kolonicke sedl**	**33.78**	**318**	*e*P	**P**	**01 04 26.2**	**+1.5**
KOLS	**Kolonicke sedl**	**33.78**	**318**	*e*P	**P**	**01 04 26.2**	**+1.5**
KWP	**Kalwaria Pacla**	**33.83**	**319**	P	**P**	**01 04 26.8**	**+1.6**
KWP				pmax	pmax		
	comp=Z,8.0nm,1.5s						
KLMR	**Klimovskoe**	**34.86**	**345**	*e*P	**P**	**01 04 30.5**	**-3.3**
KLMR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
RICI	**Ricice**	**35.39**	**307**	*i* P	**P**	**01 04 37.4**	**-1.4**
SUW	**Suwalki**	**35.77**	**326**	P	**P**	**01 04 41.7**	**-0.1**
SUW				pmax	pmax		
	comp=Z,11nm,0.4s						
OJC	**Ojcow**	**35.78**	**319**	P	**P**	**01 04 41.7**	**-0.3**
OJC				IAmb	IAmb	01 04 48.4	
	comp=Z,5.9nm,0.7s						
OJC	**Ojcow**	**35.78**	**319**	P	**P**	**01 04 41.7**	**-0.3**
OJC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KIJV	**Kijevo**	**36.02**	**307**	*i* P	**P**	**01 04 43.2**	**-0.9**
VSU	**Vasula**	**36.92**	**334**	*i* P	**P**	**01 04 51.0**	**-0.6**
VSU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MORC	**Moravsky Berou**	**36.95**	**317**	P	**P**	**01 04 51.5**	**-0.5**
MORC				pmax	pmax		
	comp=Z,3.0nm,1.4s						
DUGI	**Dugi Otok**	**36.96**	**307**	*i* P	**P**	**01 04 51.2**	**-0.9**
VIRC	**Vir**	**37.03**	**307**	*i* P	**P**	**01 04 52.4**	**-0.2**
RONA	**Rosalia, Austr**	**37.05**	**313**	*e*P	**P**	**01 04 51.7**	**-1.2**
	comp=Z,0.6nm,0.2s						
VRAC	**Vranov**	**37.37**	**316**	LR	LR	01 23 12.1	
	comp=Z,29nm,18.2s,baz=100,slow=41						
VALR	**Valaam**	**37.59**	**340**	*i* P	**P**	**01 04 56.5**	**-0.7**
VALR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARBE	**Arbavere**	**37.87**	**335**	*e*P	**P**	**01 05 00.1**	**+0.6**
DPC	**Dobruska-Polom**	**37.89**	**317**	*e*P	**P**	**01 04 59.2**	**-0.8**
DPC	**Dobruska-Polom**	**37.89**	**317**	*e*P	**P**	**01 04 59.2**	**-0.8**
MBAR	**Mbarara**	**37.93**	**226**	LR	LR	01 22 51.9	
	comp=Z,119nm,18.9s,baz=35,slow=40						
OSTC	**Ostas**	**38.03**	**318**	*e*P	**P**	**01 05 00.9**	**-0.2**
OSTC	**Ostas**	**38.03**	**318**	*e*P	**P**	**01 05 00.9**	**-0.2**
CHVC	**Chvalec**	**

comp=Z,41nm,19.2s,baz=94,slow=41
comp=Z,1.2nm,0.4s
ULN Ulaanbaatar 43.38 49 *i* P **P 01 05 45.6 +0.1**
ULN pmax pmax
comp=Z,5.0nm,2.1s
SGF Sodankyl 43.49 344 P **P 01 05 45.2 -0.7**
SGF pmax pmax
comp=Z,6.0nm,0.8s
MUD Monsted U'grnd 44.03 324 P **P 01 05 50.1 -0.2**
MUD pmax pmax
comp=Z,20nm,1.1s
NC405 NORSAR Array S 44.66 331 P **P 01 05 54.9 -0.5**
NB2 NORSAR Subarra 44.85 330 P **P 01 05 55.3 -1.6**
comp=Z,0.6nm,0.6s,baz=112,slow=7.9
NOA NORSAR Array B 44.85 330 P **P 01 05 55.5 -1.4**
comp=Z,0.9nm,0.6s,baz=116,slow=7.9,SNR=7.4
NOA LR LR 01 27 58.1
comp=Z,28nm,19.1s,baz=110,slow=40
comp=Z,0.9nm,0.6s
NOA NORSAR Array B 44.85 330 *e*P **P 01 05 56.0 -0.9**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NBO00 NORSAR Array S 45.04 330 P **P 01 05 57.0 -1.3**
ARCES ARCESS Array B 45.33 345 P **P 01 06 00.1 -0.6**
ARCES ARCESS Array B 45.33 345 P **P 01 05 59.5 -1.1**
comp=Z,2.0nm,0.8s,baz=142,slow=10,SNR=9.6
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 45.33 345 *e*P **P 01 06 01.4 +0.8**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
HHC Hu-ho-hao-te 46.20 59 *e*P **P 01 06 08.7 +0.7**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,140nm,4.0s
WHN Wuhan 49.73 72 P **P 01 06 34.7 -0.6**
EKA Eskdalemuir Ar 50.52 320 P **P 01 06 39.6 -1.3**
comp=Z,0.5nm,0.3s,baz=98,slow=7.7,SNR=12
comp=Z,0.5nm,0.3s
ESDC Sonseca Array 50.98 300 P **P 01 06 44.5 -0.2**
comp=Z,0.4nm,0.6s,baz=74,slow=7.3,SNR=8.1
comp=Z,0.4nm,0.6s
PAB San Pablo 51.29 300 P **P 01 06 46.4 -0.7**
PAB IAmb IAmb 01 07 08.4
comp=Z,3.7nm,1.0s
PAB San Pablo 51.29 300 P **P 01 06 46.4 -0.7**
PAB pmax pmax
comp=Z,4.0nm,1.0s
TOA0 Torodi Ar. Sit 53.32 266 P **P 01 07 00.6 -1.8**
TOA0 IAmb IAmb 01 07 10.4
comp=Z,3.1nm,0.6s
TORD Torodi Ar. Bea 53.32 266 P **P 01 07 01.1 -1.2**
TORD IAmb IAmb 01 07 10.7
comp=Z,1.8nm,0.7s
TORD Torodi Ar. Bea 53.32 266 P **P 01 07 01.6 -0.8**
comp=Z,1.6nm,0.5s,baz=62,slow=8.3,SNR=22
comp=Z,1.6nm,0.5s
SPB2 Spitsbergen Ar 53.42 350 P **P 01 07 01.9 -0.4**
SPITS Spitsbergen Ar 53.42 350 P **P 01 07 01.8 -0.5**
comp=Z,1.3nm,0.5s,baz=132,slow=12,SNR=7.9
comp=Z,1.3nm,0.5s
JMIC Jan Mayen 55.79 339 LR LR 01 34 01.2
comp=Z,17nm,20.5s,baz=61,slow=39
YAK Yakutsk 57.63 32 *i* P **P 01 07 32.7 0.0**
YAK pmax pmax
comp=Z,4.0nm,0.6s
KSRS Korea Array 59.23 61 P **P 01 07 42.1 -2.2**
comp=Z,0.9nm,0.6s,baz=282,slow=8.1,SNR=2.2
comp=Z,0.9nm,0.6s
KLR Kul'dur 59.72 47 LR LR 01 35 42.8
comp=Z,49nm,20.4s,baz=206,slow=38
BOSA Boshof 63.95 211 P **P 01 08 14.4 -1.8**
BOSA Boshof 63.95 211 P **P 01 08 14.9 -1.3**
comp=Z,2.1nm,0.9s,baz=24,slow=20,SNR=2.0
comp=Z,2.1nm,0.9s
SUMG Summit 65.11 341 P **P 01 08 23.7 +0.1**
SUMG Summit 65.11 341 P **P 01 08 23.7 +0.1**
SUMG pmax pmax
comp=Z,9.0nm,1.4s
BILL Bilibino 71.18 22 *e*P **P 01 09 03.2 +1.9**
BILL pmax pmax
comp=Z,3.0nm,1.0s
IMAR Indian Mountai 83.39 12 P **P 01 10 09.1 -0.7**
BMAR Burnt Mountain 83.48 8 P **P 01 10 09.7 -0.5**
WRA Warramunga Arr 88.73 113 P **P 01 10 36.3 -0.6**
comp=Z,0.3nm,0.8s,baz=302,slow=6.4,SNR=2.2
comp=Z,0.3nm,0.8s
ASAR Alice Springs 90.26 117 P **P 01 10 45.0 +1.0**
comp=Z,0.4nm,0.5s,baz=304,slow=5.0,SNR=1.9
comp=Z,0.4nm,0.5s
ASAR Alice Springs 90.26 117 P **P 01 10 45.0 +1.0**
KDAK Kodiak Island 91.02 15 LR LR 02 01 33.5
comp=Z,30nm,18.1s,baz=359,slow=42

*IDC **04** 01:04:21.6±2.7, 32°.31N×139°.44E, h0km, mb3.5/2, mbtmp3.6/3, ML3.0/1, Error ellipse: s-maj=105.5km s-min=29.2km az=76.0*
*JMA **04** 01:04:24.5±0.2, 32°.9N±0°.5×14°1E±°, h59km, MV3.6/26, E OFF HACHIJOJIMA ISLAND*
ISC 04 01:04:24.1±1.7, 32°.90N±0°.06×140°.8E±0°.1, h56km±16km, n20, σ0°90/24, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.88**	**284**	P	**Pn**	**01 04 40.9**	**+0.4**
JHJ2				*e*S	**Sn**	**01 04 52.5**	**0.0**
JHCJ	**Hachijojimakas**	**0.89**	**282**	*e*P	**Pn**	**01 04 41.0**	**+0.4**
JHCJ				*e*S	**Sn**	**01 04 51.3**	**-1.5**
JAOM	**Aogashimamukai**	**1.00**	**245**	P	**Pn**	**01 04 42.7**	**+0.7**
JAOM				*e*S	**Sn**	**01 04 55.6**	**+0.3**
JMKN	**Mikurajimanish**	**1.44**	**314**	*e*P	**Pn**	**01 04 48.2**	**+0.3**
JMKN				*e*S	**Sn**	**01 05 05.4**	**-0.4**
JMYK	**Miyake Tsubota**	**1.58**	**318**	*e*P	**Pn**	**01 04 50.0**	**+0.1**
JMYK				*e*S	**Sn**	**01 05 09.1**	**-0.2**
BSO1	**Boso 1**	**1.76**	**4**	*e*P	**Pn**	**01 04 51.7**	**0.0**
BSO1				*e*S	**Sn**	**01 05 12.7**	**-0.1**
BSO3	**Boso 3**	**1.92**	**352**	*e*P	**Pn**	**01 04 54.5**	**+0.3**
BSO3				*e*S	**Sn**	**01 05 17.5**	**+0.4**
JIM2	**Oshima 3**	**2.16**	**328**	P	**Pn**	**01 04 58.0**	**+0.3**
JIM2				*e*S	**Sn**	**01 05 21.9**	**-1.5**
JIZS	**Izushimoda**	**2.44**	**319**	*e*P	**Pn**	**01 05 02.5**	**+1.0**
JOD2	**Odawara 2**	**2.77**	**329**	*e*P	**Pn**	**01 05 06.6**	**+0.5**
JOD2				*e*S	**Sn**	**01 05 37.2**	**-1.2**
JYN	**Shimob**	**3.22**	**324**	*e*P	**Pn**	**01 05 13.7**	**+1.4**
MJAR	**Matsushiro Arr**	**4.23**	**330**	Pn	**Pn**	**01 05 28.5**	**+2.4**
	0.8nm,0.3s,baz=165,slow=14,SNR=24						
MJAR				Sn	**Sn**	**01 06 14.1**	**-0.2**
	baz=157,slow=13						
	8.4nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**26.70**	**113**	T	T	01 38 19.3	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**26.71**	**113**	T	T	01 38 47.9	
	baz=305,slow=74						
H11N3	**WAKE ISLAND Hy**	**26.72**	**113**	T	T	01 38 51.2	
	baz=305,slow=74						
H11S3	**WAKE ISLAND Hy**	**27.26**	**115**	T	T	01 39 33.5	
	baz=307,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.26**	**115**	T	T	01 39 36.6	
	baz=307,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.27**	**115**	T	T	01 39 35.4	
	baz=307						
MKAR	**Makanchi Array**	**46.02**	**305**	P	**P**	**01 12 42.0**	**0.0**
	0.5nm,0.8s,baz=91,slow=7.2,SNR=2.4						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**52.91**	**188**	P	**P**	**01 13 34.0**	**-0.6**
	0.3nm,0.3s,baz=3.5,slow=7.5,SNR=8.0						
	0.3nm,0.3s						

*FUNV **04** 01:24:59.5, 10°.38N×71°.30W, h3km, MW3.4*
*RSNC **04** 01:25:01.1±0.0, 11°N±4°×7°1W±°, h99km±11km, M2.5, ML2.5*
ISC 04 01:24:58.1±1.6, 10°.34N±0°.04×71°.25W±0°.03, h3km±13km, n10, σ1°04/20, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**1.30**	**257**	*e*P	**Pb**	**01 25 22.7**	**-0.5**
MCQV				*e*S	**Sg**	**01 25 41.2**	**+1.3**
URIC	**Uribia, Colomb**	**1.54**	**332**	P	**Pn**	**01 25 26.6**	**+0.2**
URIC				S	**Sb**	**01 25 46.7**	**-0.4**
SDV	**Santo Domingo**	**1.57**	**157**	P	**Pg**	**01 25 28.1**	**-0.2**
SDV				S	**Sg**	**01 25 48.3**	**-0.3**
CRJC	**Cerrejon, Guaj**	**1.74**	**293**	P	**Pn**	**01 25 29.5**	**+0.2**
CRJC				S	**Sn**	**01 25 50.7**	**-1.4**
TEPV	**Terepaima**	**2.06**	**100**	*e*P	**Pb**	**01 25 35.8**	**-0.4**
TEPV				*e*S	**Sb**	**01 26 02.4**	**+0.2**
SOCV	**Socops**	**2.08**	**169**	*e*P	**Pb**	**01 25 34.9**	**-1.7**
SOCV				*e*S	**Sb**	**01 26 02.8**	**-0.1**
CAPV	**Capacho**	**2.68**	**203**	*e*P	**Pn**	**01 25 43.3**	**+1.0**
CAPV				*e*S	**Sn**	**01 26 15.3**	**-0.1**
OCAC	**Ocana**	**2.92**	**225**	P	**Pb**	**01 25 50.4**	**-0.6**
OCAC				S	**Sn**	**01 26 20.3**	**-1.1**
BAUV	**El Baul**	**3.45**	**113**	*e*P	**Pn**	**01 25 54.6**	**+1.8**
BAUV				*e*S	**Sn**	**01 26 33.8**	**-0.5**
SJCC	**San Jacinto, C**	**3.90**	**264**	P	**Pn**	**01 25 59.8**	**+0.8**
SJCC				S	**Sn**	**01 26 47.1**	**+1.8**

*NEIC **04** 01:33:54.1±1.6, 19°.60N±0°.07×64°.61W±0°.06, h26km±10km, mb4.1/4, ML3.5/32, Md3.8/15(RSPR), Error ellipse: s-maj=10.9km s-min=7.9km az=202.0*
*RSPR **04** 01:33:55.8, 19°.56N×64°.60W, h14km±5km, MD3.8/15*
ISC 04 01:33:54.5±1.0, 19°.61N±0°.06×64°.60W±0°.07, h35km, n59, σ1°01/68, 4C-13D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.88**	**219**	‖*e*P	**Pn**	**01 34 24.1**	**-0.1**
HUMP	**Col San Antoni**	**1.88**	**219**	*e*S	**Sn**	**01 34 45.9**	**-0.7**
HUMP	**Col San Antoni**	**1.88**	**219**		**Pn**	**01 34 24.1**	**-0.1**
HUMP					**Sn**	**01 34 45.8**	**-0.7**
HUMP				IAML		01 34 54.9	
	comp=E,302nm,0.2s						
HUMP				IAML		01 35 02.3	
	comp=N,248nm,0.8s						
GCPR	**Guaynabo City**	**1.91**	**228**	‖*e*P	**Pn**	**01 34 24.1**	**-0.4**
GCPR	**Guaynabo City**	**1.91**	**228**	*e*S	**Sn**	**01 34 47.0**	**-0.3**
GCPR	**Guaynabo City**	**1.91**	**228**	Pn	**Pn**	**01 34 23.9**	**-0.6**
GCPR				Sn	**Sn**	**01 34 46.7**	**-0.7**
SJG	**San Juan**	**2.09**	**225**	‖*e*P	**Pn**	**01 34 26.9**	**-0.1**
SJG	**San Juan**	**2.09**	**225**	*e*S	**Sn**	**01 34 50.6**	**-1.3**
SJG	**San Juan**	**2.09**	**225**	Pn	**Pn**	**01 34 26.6**	**-0.5**
SJG				IAML		01 35 09.1	
	comp=N,191nm,0.7s						
SMRT	**St. Maarten**	**2.12**	**137**	Pn	**Pn**	**01 34 28.0**	**+0.6**
SMRT				IAML		01 34 55.9	
	comp=N,359nm,0.3s						
SMRT				IAML		01 35 10.1	
	comp=E,485nm,0.1s						
EMPR	**Esperanza - Ma**	**2.15**	**239**	‖*e*P	**Pn**	**01 34 28.1**	**+0.3**
EMPR	**Esperanza - Ma**	**2.15**	**239**	*e*S	**Sn**	**01 34 53.4**	**+0.3**
EMPR	**Esperanza - Ma**	**2.15**	**239**	Pn	**Pn**	**01 34 27.6**	**-0.2**
EMPR				Sn	**Sn**	**01 34 53.7**	**+0.5**
EMPR				IAML		01 35 10.9	
	comp=N,410nm,1.0s						
EMPR				IAML		01 35 15.3	
	comp=E,425nm,0.8s						
IGPR	**InterUniversit**	**2.17**	**221**	‖*e*P	**Pn**	**01 34 28.4**	**+0.2**
IGPR	**InterUniversit**	**2.17**	**221**	*e*S	**Sn**	**01 34 53.8**	**0.0**
IGPR	**InterUniversit**	**2.17**	**221**	Pn	**Pn**	**01 34 28.2**	**0.0**
IGPR				Sn	**Sn**	**01 34 54.0**	**+0.2**
IGPR				IAML		01 35 02.0	
	comp=N,426nm,0.3s						
SABA	**Saba**	**2.36**	**147**	Pn	**Pn**	**01 34 31.0**	**+0.3**
SABA				IAML		01 35 18.7	
	comp=N,200nm,0.6s						
AOPR	**Arecibo Observ**	**2.40**	**239**	‖*e*P	**Pn**	**01 34 31.2**	**-0.1**
AOPR	**Arecibo Observ**	**2.40**	**239**	*e*S	**Sn**	**01 34 59.5**	**+0.1**
AOPR	**Arecibo Observ**	**2.40**	**239**	Pn	**Pn**	**01 34 31.0**	**-0.3**
CELP	**Cerrillos**	**2.42**	**231**	‖*e*P	**Pn**	**01 34 31.6**	**+0.1**
CELP	**Cerrillos**	**2.42**	**231**	*e*S	**Sn**	**01 34 58.4**	**-1.5**
CELP	**Cerrillos**	**2.42**	**231**	Pn	**Pn**	**01 34 31.4**	**-0.2**
CELP				IAML		01 35 15.4	
	comp=N,150nm,0.6s						
UUPR	**Utuado, UPR, P**	**2.42**	**236**	‖*e*P	**Pn**	**01 34 31.9**	**+0.4**
UUPR	**Utuado, UPR, P**	**2.42**	**236**	*e*S	**Sn**	**01 35 00.6**	**+0.6**
OBIP	**Obispado Ponce**	**2.46**	**231**	‖*e*P	**Pn**	**01 34 32.5**	**+0.4**
OBIP	**Obispado Ponce**	**2.46**	**231**	*e*S	**Sn**	**01 35 01.8**	**+0.9**
OBIP	**Obispado Ponce**	**2.46**	**231**	Pn	**Pn**	**01 34 31.9**	**-0.2**
OBIP				Sn	**Sn**	**01 35 00.4**	**-0.5**
OBIP				IAML		01 35 15.8	
	comp=E,159nm,0.9s						
AGPR	**Aguadilla, PR**	**2.63**	**245**	‖*e*P	**Pn**	**01 34 35.3**	**+0.8**
AGPR	**Aguadilla, PR**	**2.63**	**245**	*e*S	**Sn**	**01 35 05.2**	**-0.1**
AGPR	**Aguadilla, PR**	**2.63**	**245**	Pn	**Pn**	**01 34 34.9**	**+0.4**
AGPR				Sn	**Sn**	**01 35 04.1**	**-1.2**
AGPR				IAML		01 35 17.7	
	comp=E,149nm,0.7s						
AGPR				IAML		01 35 19.1	
	comp=N,205nm,0.8s						
GBPR	**Guanica, Bosqu**	**2.70**	**233**	‖*e*P	**Pn**	**01 34 36.5**	**+1.1**
GBPR	**Guanica, Bosqu**	**2.70**	**233**		**Pn**	**01 34 36.5**	**+1.1**
LSP	**Las Mesas**	**2.75**	**239**	‖*e*P	**Pn**	**01 34 37.1**	**+1.0**
LSP	**Las Mesas**	**2.75**	**239**		**Pn**	**01 34 37.1**	**+1.0**
PRSN	**Puerto Rico Se**	**2.78**	**241**	‖*e*P	**Pn**	**01 34 37.7**	**+1.2**
PRSN	**Puerto Rico Se**	**2.78**	**241**	*e*S	**Sn**	**01 35 09.6**	**+0.8**
PRSN	**Puerto Rico Se**	**2.78**	**241**	Pn	**Pn**	**01 34 36.7**	**+0.2**
PRSN				Sn	**Sn**	**01 35 07.8**	**-1.0**
PRSN				IAML		01 35 19.9	
	comp=E,242nm,0.3s						
MLPR	**Magueyes Islan**	**2.83**	**235**	‖*e*P	**Pn**	**01 34 37.6**	**+0.3**
MLPR	**Magueyes Islan**	**2.83**	**235**	*e*S	**Sn**	**01 35 09.8**	**-0.4**
MLPR	**Magueyes Islan**	**2.83**	**235**	Pn	**Pn**	**01 34 37.2**	**0.0**
MLPR				IAML		01 35 35.9	
	comp=E,100nm,0.9s						
CRPR	**Cabo Rojo, PR**	**2.86**	**237**	‖*e*P	**Pn**	**01 34 38.4**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.86**	**237**	*e*S	**Sn**	**01 35 12.4**	**+1.5**
CRPR	**Cabo Rojo, PR**	**2.86**	**237**	Pn	**Pn**	**01 34 38.1**	**+0.4**
CRPR				Sn	**Sn**	**01 35 12.1**	**+1.2**
PCDR	**Punta Cana, DR**	**3.74**	**254**	‖*e*P	**Pn**	**01 34 50.8**	**+1.0**
PCDR	**Punta Cana, DR**	**3.74**	**254**	*e*S	**Sn**	**01 35 34.5**	**+2.0**
PCDR	**Punta Cana, DR**	**3.74**	**254**	Pn	**Pn**	**01 34 50.2**	**+0.5**
PCDR				Sn	**Sn**	**01 35 33.7**	**+1.1**
PCDR				IAML		01 35 34.8	
	comp=E,84nm,2.3s						
CBE	**Ff, Capester**	**4.53**	**141**	Pn	**Pn**	**01 35 01.1**	**+0.5**
SC01	**Santiago de lo**	**5.78**	**269**	Pn	**Pn**	**01 35 19.4**	**+1.6**
SDDR	**Presa de Saban**	**6.35**	**265**	‖*e*P	**Pn**	**01 35 27.1**	**+1.4**
SDDR	**Presa de Saban**	**6.35**	**265**	*e*S	**Sn**	**01 36 39.2**	**+2.2**
SDDR	**Presa de Saban**	**6.35**	**265**	Pn	**Pn**	**01 35 26.7**	**+1.1**
GRTK	**Grand Turk**	**6.41**	**288**	Pn	**Pn**	**01 35 24.8**	**-1.6**
GTBY	**Guantanamo Bay**	**9.90**	**274**	Pn	**Pn**	**01 36 10.5**	**-3.9**
BBSR	**BB Station**	**12.71**	**360**	Pn	**Pn**	**01 36 50.9**	**-1.9**
BOAV	**Boa Vista**	**17.57**	**166**	Pn	**Pn**	**01 37 55.9**	**-0.8**
T50A	**Nancy**	**24.78**	**319**	P	**P**	**01 39 14.7**	**+1.6**
T50A				IAmb	IAmb	01 39 55.1	
	comp=Z,2.8nm,0.6s						
I62A	**Tamworth**	**24.84**	**348**	P	**P**	**01 39 14.2**	**+0.7**
I62A				IAmb	IAmb	01 39 53.2	
	comp=Z,8.6nm,1.2s						
L56A	**Greenwood**	**25.00**	**337**	P	**P**	**01 39 15.2**	**+0.2**

*HLW **04** 01:49:48.9, 34°.14N×36°.36E, h10km±17km, Ml4.1*
*IDC **04** 01:50:06.2±0.7, 32°.74N×35°.49E, h0km, mb3.8/15, mbtmp3.8/23, ML3.7/7, MS3.2/14, Error ellipse: s-maj=11.2km s-min=5.4km az=68.0*
*ISK **04** 01:50:06.7, 32°.89N×35°.48E, h5km, ML4.1/28*
*JSO **04** 01:50:07, 32°.85N×35°.57E, h4km, ML4.2/27*
*MOS **04** 01:50:07.3±1.0, 32°.81N×35°.42E, h18km, mb4.4/5, Error ellipse: s-maj=9.6km s-min=5.2km az=114.4*
*GRAL **04** 01:50:08.1±0.3, 32°.85N×35°.56E, h1km±1km, MD4.2*
*NEIC **04** 01:50:08.3±2.0, 32°.79N±0°.06×35°.44E±0°.08, h10km±2km, mb4.0/20, Error ellipse: s-maj=13.1km s-min=8.3km az=231.0*
*SGS **04** 01:50:12.4, 32°.71N×35°.61E, h22km, Ml4.5*
*AFAD **04** 01:50:13.2±0.0, 33°.33N×35°.03E, h10km±4km, MW4.1*
ISC 04 01:50:07.9±0.7, 32°.86N±0°.02×35°.48E±0°.03, h10km±4km, n255, σ1°50/277, mb3.8/26, MS3.2/10, 2C, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	**Mount Meron ar**	**0.17**	**339**	P	**Pg**	**01 50 11.8**	**+0.2**
MMAI	**Mount Meron Ar**	**0.17**	**337**	Pg	**Pg**	**01 50 12.1**	**+0.4**
	2μm,0.3s,baz=138,slow=18,SNR=3368						
MMAI				Lg	Lg	01 50 16.2	
	7μm,0.3s,baz=138,slow=37,SNR=58						
BLGI	**Bet Lehem HaGe**	**0.27**	**244**	P	**Pb**	**01 50 14.3**	**-0.6**
HNTI	**Hanita**	**0.34**	**311**	P	**Pb**	**01 50 15.5**	**-0.6**
GEM	**Giv'at Ha'Em**	**0.39**	**23**	P	**Pg**	**01 50 14.6**	**-0.9**
MMLI	**Mount Malkishu**	**0.42**	**187**	Pg	**Pg**	**01 50 15.9**	**-0.2**
MMLI				Sg	**Sb**	**01 50 22.9**	**-0.9**
MMLI	**Mount Malkishu**	**0.42**	**187**	P	**Pg**	**01 50 15.9**	**-0.2**
NATI	**Neve Ativ**	**0.46**	**28**	P	**Pg**	**01 50 15.7**	**-1.1**
OFRI	**`Ofer**	**0.48**	**241**	P	**Pb**	**01 50 18.0**	**-0.4**
SHBL	**Chebaa**	**0.54**	**24**	*e*P	**Pg**	**01 50 17.3**	**-1.1**
HMDT	**Nahal Hemdat**	**0.60**	**176**	P	**Pg**	**01 50 18.9**	**-0.6**
RCY	**Rachaya**	**0.70**	**25**	*e*P	**Pg**	**01 50 20.4**	**-1.2**
RCY				*e*S	**Sg**	**01 50 29.6**	**-1.2**
QRWL	**Qaraoun**	**0.71**	**14**	*e*P	**Pg**	**01 50 20.8**	**-0.8**
SLTI	**Sal'it**	**0.72**	**211**	P	**Pb**	**01 50 21.8**	**-0.6**
DQRL	**Deir Qamar**	**0.85**	**5**	*e*P	**Pg**	**01 50 23.6**	**-0.7**
HSUJ	**Al Zarqa**	**0.96**	**141**	P	**Pg**	**01 50 24.6**	**-1.8**
BHL	**Bhannes**	**1.05**	**8**	*e*P	**Pg**	**01 50 27.0**	**-1.2**
ZAHL	**Zahle**	**1.05**	**19**	*e*P	**Pg**	**01 50 26.9**	**-1.3**
DSI	**Dead Sea**	**1.28**	**184**	P	**Pn**	**01 50 30.5**	**-1.3**
ASF	**Jabal al Asfar**	**1.38**	**119**	Pg	**Pn**	**01 50 32.2**	**-0.9**
	220nm,0.3s,baz=209,slow=0.0,SNR=273						
ASF				Lg	Lg	01 50 50.2	
	1μm,0.3s,baz=292,slow=0.0,SNR=25						
ASF	**Jabal al Asfar**	**1.38**	**119**	P	**Pn**	**01 50 31.7**	**-1.5**
HWQ	**Hawqa**	**1.47**	**15**	*e*P	**Pn**	**01 50 33.8**	**-0.7**
HWQ				*e*S	**Sn**	**01 50 52.9**	**-1.0**
YTIR	**Yattir**	**1.52**	**192**	P	**Pn**	**01 50 35.0**	**-0.2**
MDBI	**Mazsada**	**1.54**	**184**	P	**Pn**	**01 50 34.9**	**-0.4**
MSBI	**Mazada**	**1.54**	**184**	P	**Pn**	**01 50 34.9**	**-0.4**
GHAJ	**Ghor Haditha**	**1.55**	**177**		**Pn**	**01 50 34.2**	**-1.2**
GHAJ	**Ghor Haditha**	**1.55**	**177**	P	**Pn**	**01 50 34.9**	**-0.6**
FKH	**Fakeheh**	**1.59**	**29**	*e*P	**Pn**	**01 50 35.5**	**-0.7**
BEIL	**Beino**	**1.78**	**19**	*e*P	**Pn**	**01 50 38.6**	**-0.1**
KZIT	**Kziot**	**2.15**	**206**	P	**Pb**	**01 50 45.1**	**-1.8**
ZFRI	**Zfri**	**2.31**	**187**	P	**Pn**	**01 50 46.0**	**+0.1**
PRNI	**Paran**	**2.53**	**189**	P	**Pn**	**01 50 49.5**	**+0.5**
HSNJ	**Maan**	**2.60**	**176**	P	**Pn**	**01 50 49.9**	**-0.1**
AKIN	**Akıncılar- Kıb**	**2.73**	**323**	Pn	**Pn**	**01 50 52.5**	**+0.8**
AKIN				Sn	**Sn**	**01 51 24.9**	**+0.1**
CSS	**Mathiatis**	**2.76**	**320**	Pn	**Pn**	**01 50 52.6**	**+0.5**
CSS				Sn	**Sn**	**01 51 25.9**	**+0.4**
CSS	**Mathiatis**	**2.76**	**320**	Pn	**Pn**	**01 50 52.0**	**-0.1**
KRMI	**Paran Flat**	**2.81**	**194**	P	**Pn**	**01 50 53.3**	**+0.5**
HANO	**Al Hamad**	**2.83**	**120**	P	**Pn**	**01 50 51.9**	**-1.2**
HRFI	**Mount Harif**	**2.84**	**188**	P	**Pn**	**01 50 53.3**	**+0.1**
EREN	**Erenkoy**	**2.88**	**338**	Pn	**Pn**	**01 50 54.5**	**+0.7**
EREN				Sn	**Sn**	**01 51 28.6**	**+0.1**
MBRI	**Mt Berech**	**3.09**	**189**	P	**Pn**	**01 50 56.8**	**0.0**
WELAS	**Turaif**	**3.09**	**109**	P	**Pn**	**01 50 56.4**	**-0.4**
LEF	**Lefka**	**3.12**	**317**	Pn	**Pn**	**01 50 58.3**	**+1.2**
LEF				Sn	**Sn**	**01 51 35.1**	**+0.7**
LEF	**Lefka**	**3.12**	**317**	P	**Pn**	**01 50 58.3**	**+1.2**
LEF				S	**Sn**	**01 51 37.5**	**+3.2**
AKDN	**Akdeniz- Kıbrı**	**3.21**	**320**	Pn	**Pn**	**01 50 58.9**	**+0.6**
AKDN				Sn	**Sn**	**01 51 37.0**	**+0.5**
EIL	**Elat**	**3.21**	**188**	Pn	**Pn**	**01 50 58.2**	**-0.1**
	16nm,0.3s,baz=55,slow=2.7,SNR=126						
EIL				Lg	Lg	01 51 43.5	
	36nm,0.3s,baz=20,slow=17,SNR=5.7						
	42nm,0.4s						
EIL	**Elat**	**3.21**	**188**	P	**Pn**	**01 50 58.2**	**-0.1**
TAHT	**Tahtakopru-Hat**	**3.56**	**9**	Pn	**Pn**	**01 51 04.3**	**+1.2**
TAHT				Sn	**Sn**	**01 51 45.9**	**+0.7**
TISA	**Tisan-Mersin**	**3.62**	**336**	Pn	**Pn**	**01 51 05.1**	**+1.2**
KARG	**Kargicak-Mersi**	**3.65**	**337**	Pn	**Pn**	**01 51 04.8**	**+0.5**
AKK1	**Akkuyu-Mersin**	**3.65**	**334**	Pn	**Pn**	**01 51 05.7**	**+1.4**
TRAF	**Turaif**	**3.66**	**115**	P	**Pn**	**01 51 04.1**	**-0.4**
AKKU	**Akkuyu-Mersin**	**3.66**	**335**	Pn	**Pn**	**01 51 04.6**	**+0.1**
YESI	**Yesilovacik-Me**	**3.66**	**336**	Pn	**Pn**	**01 51 05.0**	**+0.5**
HBST	**Basata**	**3.68**	**190**	P	**Pn**	**01 51 05.5**	**+0.7**
	baz=197						
HBST				S	**Sb**	**01 52 00.9**	**+3.1**
	baz=197						
GULN	**MERSIN_Gulnar**	**3.69**	**335**	P	**Pn**	**01 51 04.1**	**-0.8**
GULN				S	**Sn**	**01 51 48.0**	**-0.4**
GULN				*i* AML	AML	01 51 50.0	
	comp=E,154nm,0.7s						
GULN				*i* AML	AML	01 51 53.0	
	comp=N,139nm,0.6s						
IKL	**Isikli**	**3.69**	**337**	Pn	**Pn**	**01 51 04.8**	**-0.1**
JMOS	**Jabal al Moall**	**3.69**	**185**	P	**Pn**	**01 51 04.8**	**-0.1**
YORU	**Yoruktepe-Mers**	**3.71**	**333**	Pn	**Pn**	**01 51 06.0**	**+0.8**
SILI	**Silifke-Mersin**	**3.73**	**340**	Pn	**Pn**	**01 51 06.1**	**+0.6**
OREN	**Orenkoy-Mersin**	**3.74**	**334**	Pn	**Pn**	**01 51 06.9**	**+1.3**
SLFK	**Silifke-Mersin**	**3.75**	**341**	Pn	**Pn**	**01 51 06.3**	**+0.6**
SUZ	**Suez**	**3.76**	**218**	P	**Pn**	**01 51 07.1**	**+1.1**
	baz=216						
KIZK	**Mersin**	**3.78**	**343**	Pn	**Pn**	**01 51 06.4**	**+0.2**
KIZK	**Mersin**	**3.78**	**343**	P	**Pn**	**01 51 06.3**	**+0.2**
KIZK				S	**Sn**	**01 51 46.9**	**-3.8**
KIZK				*i* AML	AML	01 51 52.0	
	comp=N,286nm,0.6s						
KIZK				*i* AML	AML	01 51 55.0	
	comp=E,173nm,0.6s						
TEKE	**Tekeli-Mersin**	**3.82**	**330**	Pn	**Pn**	**01 51 07.0**	**+0.3**
HAQS	**Haql**	**3.82**	**187**	P	**Pn**	**

IZZE Mula-Seydike 6.27 306 P Pn 01 51 40.5 +0.1
IZZE S Sn 01 52 49.8 -2.3
IZZE *i* AML AML 01 52 52.0
comp=N,80nm,0.5s
IZZE *i* AML AML 01 52 56.0
comp=E,52nm,0.5s
KNIK Mula-Seydike 6.28 311 P Pn 01 51 42.3 +1.7
KNIK S Sn 01 52 53.3 +0.9
KNIK *i* AML AML 01 52 59.0
comp=E,33nm,0.5s
KNIK *i* AML AML 01 53 04.0
comp=N,27nm,0.8s
STAIM STAIM 6.37 152 P Pn 01 51 40.9 -0.8
URD03 Al Ula 6.40 164 P Pn 01 51 42.0 -0.2
GOLH Golhisar 6.53 314 P Pn 01 51 45.9 +1.8
GOLH S Sn 01 52 58.8 +0.1
GOLH *i* AML AML 01 53 06.0
comp=N,45nm,0.4s
GOLH *i* AML AML 01 53 07.0
comp=E,55nm,0.5s
CAEL Denizli, Camel 6.61 312 P Pn 01 51 46.1 +0.9
CAEL S Sn 01 53 01.9 +1.2
CAEL *i* AML AML 01 53 12.0
comp=N,67nm,0.6s
CAEL *i* AML AML 01 53 25.0
comp=E,71nm,1.0s
ARPR Arapgir-MALATY 6.64 20 Pn Pn 01 51 45.4 -0.2
SABU Mula-Dalaman 6.66 308 P Pn 01 51 46.2 +0.5
SABU S Sn 01 52 58.9 -2.8
SABU *i* AML AML 01 53 04.0
comp=E,46nm,0.9s
SABU *i* AML AML 01 53 05.0
comp=N,46nm,0.5s
EWJHS Al Wajh 6.75 171 P Pn 01 51 46.4 -0.6
INCE Denizli-Bozkur 6.84 317 P Pn 01 51 50.2 +1.9
INCE S Sn 01 53 06.2 0.0
INCE *i* AML AML 01 53 15.0
comp=E,26nm,0.5s
INCE *i* AML AML 01 53 20.0
comp=N,30nm,0.7s
DNZT Denizli-Tavas- 6.89 312 P Pn 01 51 49.7 +0.7
DNZT S Sn 01 53 05.1 -2.4
DNZT *i* AML AML 01 53 08.0
comp=N,27nm,0.5s
DNZT *i* AML AML 01 53 10.0
comp=E,22nm,0.5s
ARG Arkhangelos 6.93 301 Pn Pn 01 51 49.4 -0.1
ARG Arkhangelos 6.93 301 P Pn 01 51 49.4 -0.1
BRTR Keskin Array B 7.01 348 Pn Pn 01 51 52.9 +2.2
BRTR Keskin Array B 7.01 348 Pn Pn 01 51 53.6 +2.9
1.0nm,0.3s,baz=160,slow=17,SNR=36
BRTR Sn Sn 01 53 11.6 +1.0
0.1nm,0.3s,baz=189,slow=30,SNR=1.4
BRTR LR LR 01 55 00.0
comp=Z,68nm,20.8s,baz=162,slow=41
3.5nm,0.5s
BR131 Keskin Array S 7.01 348 Pn Pn 01 51 53.2 +2.5
BR131 Keskin Array S 7.01 348 P Pn 01 51 53.2 +2.5
TAVA DENIZLI_Tavas 7.08 312 P Pn 01 51 52.5 +1.0
TAVA S Sn 01 53 09.0 -3.1
TAVA *i* AML AML 01 53 22.0
comp=N,24nm,0.5s
TAVA *i* AML AML 01 53 23.0
comp=E,22nm,0.7s
DNIZ Denizli-Tavas- 7.10 314 P Pn 01 51 53.1 +1.2
DNIZ S Sn 01 53 11.1 -1.5
DNIZ *i* AML AML 01 53 20.0
comp=N,57nm,0.4s
DNIZ *i* AML AML 01 53 20.0
comp=E,62nm,0.5s
TURN Turunc 7.12 305 P Pn 01 51 51.7 -0.3
TURN S Sn 01 53 07.3 -5.6
TURN *i* AML AML 01 53 27.0
comp=N,40nm,0.6s
TURN *i* AML AML 01 53 28.0
comp=E,25nm,0.9s
MULA Mugla, Merkez- 7.33 309 P Pn 01 51 54.1 -0.9
MULA S Sn 01 53 13.1 -5.2
KARP Karpathos 7.40 294 Pn Pn 01 51 57.4 +1.5
DAT Datca 7.56 303 P Pn 01 51 57.9 -0.3
DAT S Sn 01 53 19.7 -4.4
DAT *i* AML AML 01 53 25.0
comp=E,31nm,0.8s
DAT *i* AML AML 01 53 26.0
comp=N,40nm,0.5s
YAZI Mula-Datşa- 7.63 302 P Pn 01 51 58.3 -0.7
YAZI S Sn 01 53 20.2 -5.3
ESEN Aydn-Nazilli 7.63 312 P Pn 01 51 59.2 +0.1
ESEN S Sn 01 53 22.0 -3.6
ESEN *i* AML AML 01 53 26.0
comp=N,33nm,0.8s
ESEN *i* AML AML 01 53 26.0
comp=E,31nm,0.6s
GURO Guroymak-BITLI 7.79 41 Pn Pn 01 52 00.7 -0.6
BDRM Kayabasi 7.82 305 P Pn 01 52 01.0 -0.6
BDRM S Sn 01 53 25.7 -4.6
IZMR zmir-demi 8.09 313 P Pn 01 52 04.5 -0.8
IZMR S Sn 01 53 31.1 -5.7
GCAM G?zelcaml? 8.29 308 P Pn 01 52 07.9 -0.3
GCAM S Sn 01 53 37.0 -4.9
GCAM *i* AML AML 01 53 42.0
comp=N,39nm,0.6s
GCAM *i* AML AML 01 54 09.0
comp=E,19nm,0.9s
IDI Anoyia 9.12 288 Pn Pn 01 52 19.1 -0.4
12nm,0.6s,baz=119,slow=13,SNR=14
IDI Sn Sn 01 53 58.6 -3.6
3.6nm,0.3s,baz=43,slow=23,SNR=8.8
GNI Garni 10.41 43 Pn Pn 01 52 40.9 +3.6
GNI Garni 10.41 43 Pn Pn 01 52 40.5 +3.2
0.6nm,0.3s,baz=167,slow=18,SNR=5.1
GNI Lg Lg 01 55 38.5
0.6nm,0.3s,baz=278,slow=22,SNR=1.9
GNI LR LR 01 57 04.3
comp=Z,97nm,21.5s,baz=248,slow=40
7.5nm,0.7s
GNI Garni 10.41 43 P Pn 01 52 40.9 +3.6
GNI Garni 10.41 43 P Pn 01 52 41.9 +4.6
15nm,1.1s
RDO Rodhopi 11.47 319 Pn Pn 01 52 52.2 +0.6
ITM Ithomi 11.92 295 Pn Pn 01 52 56.0 -1.8
AGG Agios Georgios 12.30 304 Pn Pn 01 53 04.1 +1.1
AGG Agios Georgios 12.30 304 P Pn 01 53 04.1 +1.1
KBZ Khabaz 12.31 26 LR LR 01 58 26.5
comp=Z,141nm,18.9s,baz=192,slow=40
KVAR Kislovodsk Arr 12.44 25 Pn Pn 01 53 10.3 +5.3
baz=243,slow=18
0.6nm,0.4s
LIT Litokhoron 12.70 308 Pn Pn 01 53 09.8 +1.3
LIT Litokhoron 12.70 308 P Pn 01 53 09.8 +1.3
FNA Florina 13.78 309 Pn Pn 01 53 24.2 +0.9
FNA Florina 13.78 309 P Pn 01 53 24.2 +0.9
MAK Makhachkala 13.84 40 *c i P* **Pn 01 53 20.1 -3.8**
MAK *e*S **Sn 01 55 52.5 -5.1**
MAK pmax pmax
comp=Z,53nm,0.8s
MAK MLR MLR
comp=Z,103nm,17.0s
IGT Igoumenitsa 13.92 303 P P 01 53 34.1 +0.7
IGT pmax pmax
comp=Z,9.0nm,1.2s
KBN Korca 14.09 308 Pn Pn 01 53 28.1 +0.5
KBN Korca 14.09 308 P Pn 01 53 28.1 +0.5
MLR Muntele Rosu 14.61 332 Pn P 01 53 38.2 -2.9
comp=Z,0.1nm,0.3s,baz=143,slow=19,SNR=1.5
comp=Z,1.2nm,1.0s
PUK Puka 15.39 311 P 01 53 47.7 -2.0
PUK IAmb IAmb 01 53 52.1
comp=Z,8.8nm,1.0s
SORM Soroca 16.18 343 P Pn 01 53 55.3 +0.1
SORM Soroca 16.18 343 P Pn 01 53 55.3 +0.1
comp=Z,16nm,1.1s
TIP Timpagrande 16.40 298 Pn Pn 01 53 58.9 +0.7
TIP Timpagrande 16.40 298 P P 01 53 59.5 -1.5
comp=Z,11nm,1.3s
BZS Buzias 16.63 324 P P 01 54 04.5 +1.1
BZS pmax pmax
comp=Z,4.0nm,1.0s
CUC Castrocucco 17.34 300 Pn Pn 01 54 09.0 -0.9
CUC IAmb IAmb 01 54 16.3
comp=Z,9.6nm,0.8s
LUBAR Lubar, Ukraine 17.99 344 P P 01 54 18.3 -0.1
AK10 Malin Array Si 18.32 347 P Pn 01 54 21.1 -0.8
AK09 Malin Array Si 18.32 347 P Pn 01 54 21.4 -0.6
AK05 Malin Array Si 18.34 347 P P 01 54 23.1 +0.8
AK08 Malin Array Si 18.35 347 P P 01 54 22.2 -0.1
KIEV Kiev 18.41 347 Pn 01 54 23.6 +0.5
KIEV Kiev 18.41 347 P Pn 01 54 23.6 +0.5
KIEV pmax pmax
comp=Z,10.0nm,1.3s
KIEV Kiev 18.41 347 P Pn 01 54 23.1 0.0
comp=Z,21nm,1.0s
AKASG Malin Array Be 18.42 347 P Pn 01 54 22.8 -0.3
comp=Z,0.3nm,0.3s,baz=234,slow=15,SNR=4.3
AKASG LR LR 02 02 20.8
comp=Z,25nm,18.8s,baz=58,slow=40
comp=Z,0.4nm,0.3s
AKBB Malin Array Si 18.42 347 Pn 01 54 23.6 +0.5
AKBB IAmb IAmb 01 54 24.9
comp=Z,12nm,1.3s
AKBB Malin Array Si 18.42 347 P Pn 01 54 23.6 +0.5
AKBB pmax pmax
comp=Z,12nm,1.3s
AKBB Malin Array Si 18.42 347 P Pn 01 54 23.3 +0.2
AK04 Malin Array Si 18.45 347 P Pn 01 54 23.9 +0.4
AK18 Malin Array Si 18.47 347 P Pn 01 54 23.8 +0.1
GEYT Alibeck 19.12 68 P Pn 01 54 31.5 -0.3
comp=Z,0.3nm,0.3s,baz=299,slow=3.0,SNR=2.7
comp=Z,1.9nm,0.6s
INTR Introdacqua 19.38 304 P 01 54 33.3 -0.5
INTR IAmb IAmb 01 54 41.2
comp=Z,13nm,1.3s
MPLH Magyarpolny 19.76 322 P Pn 01 54 39.0 -0.4
comp=Z,14nm,1.2s
RNPP9 Sopachiv 19.83 342 P Pn 01 54 39.4 -0.7
PTJ Puntijarka 19.87 317 P Pn 01 54 41.2 +0.5
VYHS Vyhne 20.02 326 *e*P Pn 01 54 42.6 +0.2
VYHS Vyhne 20.02 326 *e*P Pn 01 54 42.5 +0.1
NIE Niedzica 20.05 330 P Pn 01 54 41.6 -1.2
NIE Niedzica 20.05 330 P Pn 01 54 41.6 -1.2
comp=Z,1.9nm,1.9s
LANS Liptovska Anna 20.20 328 *e*P Pn 01 54 45.2 +0.6
LANS Liptovska Anna 20.20 328 *e*P Pn 01 54 45.2 +0.6
NRCA Norcia 20.23 306 P **P 01 54 43.6 +0.5**
NRCA IAmb IAmb 01 54 46.1
comp=Z,6.4nm,0.8s
CESX Cesi 20.51 305 P **P 01 54 46.5 +0.4**
CESX IAmb IAmb 01 54 49.7
comp=Z,9.9nm,1.3s
MODS Modra-Piesok 20.68 324 *e*P Pn 01 54 49.4 -0.9
MODS Modra-Piesok 20.68 324 *e*P Pn 01 54 49.4 -0.9
OJC Ojcow 20.87 331 P 01 54 50.4 +0.5
OJC Ojcow 20.87 331 P **P 01 54 50.4 +0.5**
OJC pmax pmax
comp=Z,17nm,1.4s
OJC Ojcow 20.87 331 P **P 01 54 50.2 +0.3**
comp=Z,6.9nm,0.8s
TATN Tataouine 20.99 276 P 01 54 51.7 +0.4
BELG Belogornoye 21.42 21 P **P 01 54 55.4 -0.3**
comp=Z,9.3nm,0.7s,baz=150,slow=6.2,SNR=2.5
comp=Z,9.3nm,0.7s
VRAC Vranov 21.65 325 P **P 01 54 58.3 0.0**
comp=Z,0.9nm,0.3s,baz=121,slow=7.9,SNR=3.0
comp=Z,0.9nm,0.3s
KEST Kesra 21.76 285 P **P 01 54 59.4 -0.3**
KEST IAmb IAmb 01 55 10.3
comp=Z,6.2nm,0.9s
KEST Kesra 21.76 285 P **P 01 55 00.5 +0.7**
comp=Z,2.9nm,1.0s,baz=97,slow=8.1,SNR=6.7
comp=Z,2.9nm,1.0s
STAL STALIGIAL 21.98 314 P **P 01 55 03.3 +1.4**
VSL Villasalto 22.05 295 P **P 01 55 02.6 0.0**
VSL IAmb IAmb 01 55 06.0
comp=Z,5.2nm,0.9s
HRA Herat 22.32 79 P **P 01 55 07.3 +1.4**
CKRC Cesky Krumlov 22.49 321 *e*P **P 01 55 07.3 0.0**
CKRC Cesky Krumlov 22.49 321 *e*P **P 01 55 07.3 0.0**
DPC Dobruska-Polom 22.49 327 P **P 01 55 07.4 +0.1**
comp=Z,3.1nm,1.1s
DPC pP **sP 01 55 11.9 +0.3**
comp=Z,3.1nm,1.1s
CTI Castel Tesino 22.53 313 P **P 01 55 09.5 +1.6**
CTI Castel Tesino 22.53 313 P **P 01 55 09.5 +1.6**
CTI pmax pmax
comp=Z,8.0nm,1.1s
GEC2 GERESS Array S 22.82 321 P **P 01 55 11.2 +0.2**
GEC2 IAmb IAmb 01 55 14.0
comp=Z,5.2nm,1.1s
GERES GERESS Array B 22.82 321 P **P 01 55 11.2 +0.2**
GERES GERESS Array B 22.82 321 P **P 01 55 10.4 -0.6**
comp=Z,0.6nm,0.4s,baz=98,slow=7.0,SNR=5.1
comp=Z,0.6nm,0.4s
GERES GERESS Array B 22.82 321 P **P 01 55 11.2 +0.2**
KHC Kasperske Hory 23.06 321 *e*P **P 01 55 16.3 +3.0**
KHC Kasperske Hory 23.06 321 *e*P **P 01 55 16.3 +3.0**
AKTO Aktyubinsk 24.18 37 LR LR 02 07 08.5
comp=Z,60nm,19.3s,baz=176,slow=42
ABKAR Akbulak array 24.51 41 P **P 01 55 27.2 -0.1**
CLL Collm 24.70 325 *i* P **P 01 55 28.8 -0.1**
comp=Z,19nm,2.0s
CLL *i* pP **sP 01 55 33.0 -0.4**
comp=Z,7.0nm,1.4s
CLL *e*PPP PPP 01 56 11.0
BFO Black Forest 25.59 315 P **P 01 55 37.3 +0.2**
BFO Black Forest 25.59 315 P **P 01 55 37.3 +0.2**
BFO pmax pmax
comp=Z,18nm,1.1s
FINES FINESS Array B 29.25 351 P **P 01 56 09.0 -0.6**
comp=Z,1.0nm,0.7s,baz=147,slow=11,SNR=6.3
comp=Z,1.0nm,0.7s
KK31 Karatay Array 29.26 59 P **P 01 56 11.1 +1.1**
KK31 IAmb IAmb 01 56 50.5
comp=Z,3.2nm,1.5s
KK31 Karatay Array 29.26 59 P **P 01 56 11.1 +1.1**
KK31 pmax pmax
comp=Z,3.0nm,1.5s
KKAR Karatay Array 29.26 59 P **P 01 56 11.2 +1.2**
KKAR Karatay Array 29.26 59 P **P 01 56 11.2 +1.2**
HFS Hagfors 30.84 339 P **P 01 56 23.3 -0.4**
comp=Z,0.7nm,0.7s,baz=129,slow=8.6,SNR=1.2
comp=Z,0.7nm,0.7s
BVAR Borovoye Array 32.08 41 P **P 01 56 35.1 +0.2**
comp=Z,0.5nm,0.6s,baz=245,slow=6.2,SNR=2.7
BVAR LR LR 02 11 46.8
comp=Z,43nm,20.9s,baz=241,slow=40
comp=Z,0.5nm,0.6s
AAK Ala-Archa 32.11 61 LR LR 02 12 32.3
comp=Z,58nm,18.5s,baz=178,slow=42
ESDC Sonseca Array 32.33 294 P **P 01 56 38.7 +1.5**
comp=Z,2.0nm,0.9s,baz=79,slow=9.0,SNR=18
comp=Z,2.0nm,0.9s
MBAR Mbarara 33.58 189 LR LR 02 09 24.6
comp=Z,43nm,20.1s,baz=59,slow=35
EKA Eskdalemuir Ar 35.04 322 P **P 01 57 00.3 -0.2**
comp=Z,0.2nm,0.3s,baz=94,slow=9.7,SNR=5.0
comp=Z,0.2nm,0.3s
KURBB Kurchatov Arra 36.09 48 P **P 01 57 09.6 0.0**
comp=Z,0.7nm,0.5s,baz=264,slow=8.7,SNR=7.1
comp=Z,0.7nm,0.5s
KURK Kurchatov 36.17 47 P **P 01 57 09.6 -0.7**
TORD Torodi Ar. Bea 36.54 245 P **P 01 57 14.1 +0.3**
comp=Z,0.9nm,0.7s,baz=63,slow=5.8,SNR=13
TORD LR LR 02 12 22.5
comp=Z,49nm,21.5s,baz=104,slow=37
comp=Z,0.9nm,0.7s
ARCES ARCESS Array B 37.15 354 P **P 01 57 18.7 +0.3**
comp=Z,1.0nm,0.7s,baz=162,slow=6.0,SNR=3.5
comp=Z,1.0nm,0.7s
MK31 Makanchi Array 37.99 54 P **P 01 57 26.3 +0.4**
MK31 Makanchi Array 37.99 54 P **P 01 57 26.3 +0.4**
MK31 pmax pmax
comp=Z,2.0nm,1.2s
MKAR Makanchi Array 37.99 54 P **P 01 57 25.6 -0.3**
MKAR Makanchi Array 37.99 54 P **P 01 57 26.5 +0.7**
comp=Z,0.7nm,0.5s,baz=259,slow=6.5,SNR=8.2
MKAR LR LR 02 15 46.0
comp=Z,36nm,19.9s,baz=207,slow=40
comp=Z,0.7nm,0.5s
ZALV Zalesovo Beam 40.56 44 P **P 01 57 46.8 -0.3**
comp=Z,0.4nm,0.3s,baz=230,slow=7.1,SNR=2.1
ZALV LR LR 02 17 00.5
comp=Z,30nm,21.7s,baz=259,slow=40
comp=Z,0.4nm,0.3s
WMQ Urumqi 41.77 59 *e*P **P 01 58 00.7 +3.3**
WMQ pmax pmax
comp=Z,16nm,0.7s
DBIC Dimbokro 45.61 244 LR LR 02 18 23.9
comp=Z,36nm,20.5s,baz=26,slow=37
SPITS Spitsbergen Ar 46.18 355 P **P 01 58 33.3 +1.0**
comp=Z,2.8nm,0.6s,baz=163,slow=7.0,SNR=5.4
comp=Z,2.8nm,0.6s
SONM Songino Array 54.24 52 LR LR 02 25 13.3
comp=Z,35nm,19.3s,baz=182,slow=39
SONM Songino Array 54.24 52 *e*P **P 01 59 37.0 +3.1**
SONM pmax pmax
comp=Z,1.0nm,0.4s
TSUM Tsumeb 54.52 201 LR LR 02 23 19.4
comp=Z,70nm,18.3s,baz=346,slow=37
ULN Ulaanbaatar 54.66 52 *c e*P **P 01 59 34.1 -2.9**
ULN pmax pmax
comp=Z,5.0nm,1.3s
LZH Lanzhou 55.39 66 *e*P **P 01 59 46.5 +4.1**
LZH sP sP 01 59 53.2 +6.2
LZH pmax pmax
comp=Z,19nm,0.9s
HHC Hu-ho-hao-te 59.64 59 *e*P **P 02 00 11.6 -0.7**
HHC pP sP 02 00 16.1 -0.7
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,130nm,4.5s

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*JMA **04** 01:53:59.5±0.2,30°N±2°×13°9E±°, h427km, MV3.6/22, NEAR TORISHIMA IS*
*IDC **04** 01:54:00.5±1.2,29.97N×138.92E, h436km±12km, mb3.5/22, mbtmp4.2/27, Error ellipse: s-maj=16.6km s-min=9.4km az=77.0*
*NEIC **04** 01:54:00.0±2.7,30.0N±0.1×139.1E±0.1, h426km±9km, mb4.0/59, Error ellipse: s-maj=18.8km s-min=14.6km az=101.0*
ISC 04 01:53:58.9±0.4,29.94N±0.06×139.05E±0.07,h421km, n120,σ1$41/133,mb4.0/51,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op		Time ISC	Res h m s	Res ISC
JHJ2	**Mitsune**	**3.23**	**11**	P	**P**	**01 55 07.8**	**+2.5**	
JHJ2	**Mitsune**	**3.23**	**11**	*e*S	**S**	**01 55 59.1**	**-0.3**	
JHJ	**Hachijo jima 2**	**3.23**	**11**	P	**P**	**01 55 07.7**	**+2.3**	
	68nm,0.3s,baz=130,slow=2.2,SNR=8.8							
JHJ				S	**S**	**01 56 00.1**	**+0.6**	
	86nm,0.3s,baz=143,slow=20,SNR=4.3							
CBIJ	**Chichi jima**	**3.95**	**135**	*e*P	**P**	**01 55 12.0**	**+0.2**	
CBIJ				*e*S	**S**	**01 56 09.9**	**-1.2**	
JCJ	**Chichijima**	**3.95**	**135**	P	**P**	**01 55 12.1**	**+0.2**	
JCJ	**Chichijima**	**3.95**	**135**	P	**P**	**01 55 07.8**	**-4.0**	
	58nm,0.4s,baz=280,slow=18,SNR=11							
JCJ				S	**S**	**01 56 05.8**	**-5.4**	
	177nm,0.5s,baz=311,slow=21,SNR=13							
JMKN	**Mikurajimanish**	**3.96**	**6**	*e*S	**S**	**01 56 10.1**	**-1.1**	
JTNC	**Tanabenakahech**	**4.85**	**324**	*e*P	**P**	**01 55 22.6**	**+2.4**	
JIE	**Ise**	**4.86**	**336**	*e*P	**P**	**01 55 23.3**	**+3.1**	
JKN2	**Miekihoku**	**4.89**	**332**	*e*P	**P**	**01 55 23.2**	**+2.7**	
BSO1	**Boso 1**	**4.97**	**19**	*e*P	**P**	**01 55 22.4**	**+1.6**	
BSO1				*e*S	**S**	**01 56 27.4**	**-0.5**	
JOD2	**Odawara 2**	**5.31**	**0**	*e*P	**P**	**01 55 26.0**	**+1.3**	
JOD2				*e*S	**S**	**01 56 34.2**	**-0.8**	
INU	**Inuyama**	**5.66**	**343**	P	**P**	**01 55 31.8**	**+3.5**	
JMN	**Monobe**	**5.80**	**312**	P	**P**	**01 55 31.4**	**+1.5**	
JGF	**Kuroka**	**5.82**	**346**	P	**P**	**01 55 32.8**	**+2.7**	
JRY	**Ryogami san**	**6.06**	**359**	*e*P	**P**	**01 55 33.3**	**+0.7**	
JRY				*e*S	**S**	**01 56 47.6**	**-1.8**	
JTO	**Tosashimizu**	**6.08**	**300**	*e*P	**P**	**01 55 35.5**	**+2.6**	
MJAR	**Matsushiro Arr**	**6.62**	**354**	P	**P**	**01 55 38.6**	**-0.5**	
	2.1nm,0.4s,baz=200,slow=6.2,SNR=9.1							
MJAR				S	**S**	**01 56 57.8**	**-2.7**	
	1.1nm,0.3s,baz=159,slow=14,SNR=5.0							
MAJO	**Matsushiro**	**6.62**	**354**	P	**P**	**01 55 38.8**	**-0.2**	
MJB9	**Matsu-Tunnel**	**6.62**	**354**	P	**P**	**01 55 40.1**	**+1.0**	
JHS	**Saijyo**	**7.11**	**317**	*e*P	**P**	**01 55 46.6**	**+2.2**	
JNU	**Nakatsue**	**7.66**	**297**	P	**P**	**01 55 52.2**	**+1.7**	
	9.7nm,0.8s,baz=126,slow=8.7,SNR=2.5							
JMM	**Marumori**	**8.04**	**10**	P	**P**	**01 55 54.3**	**-0.1**	
JMK	**Ichinoseki**	**9.16**	**11**	*e*P	**P**	**01 56 08.0**	**+1.2**	
JMK				*e*S	**S**	**01 57 49.8**	**-2.4**	
KSRS	**Korea Array**	**11.91**	**312**	P	**P**	**01 56 38.5**	**+1.4**	
	12nm,0.8s,baz=127,slow=10,SNR=24							
ERM	**Erimo**	**12.49**	**14**	P	**P**	**01 56 42.1**	**-1.2**	
USRK	**Ussuriysk Ar.**	**15.30**	**340**	P	**P**	**01 57 14.7**	**+1.0**	
	3.2nm,0.6s,baz=151,slow=9.1,SNR=7.6							
KLR	**Kul'dur**	**20.05**	**346**	P	**P**	**01 58 03.0**	**+0.8**	
	1.2nm,0.4s,baz=166,slow=13,SNR=7.8							
	1.2nm,0.4s							
HEH	**HeiHe**	**22.10**	**340**	*e*P	**P**	**01 58 21.8**	**+0.9**	
HEH				pmax	pmax			
	comp=Z,9.0nm,0.8s							
PETK	**Petropavlovsk-**	**26.87**	**25**	P	**P**	**01 59 04.8**	**+1.4**	
PETK	**Petropavlovsk-**	**26.87**	**25**	P	**P**	**01 59 04.9**	**+1.5**	
	comp=Z,1.4nm,0.7s,baz=194,slow=2.1,SNR=4.8							
	comp=Z,1.4nm,0.7s							
SONM	**Songino Array**	**30.76**	**315**	P	**P**	**01 59 37.7**	**-0.1**	
	comp=Z,1.3nm,0.4s,baz=130,slow=9.8,SNR=5.9							
	comp=Z,1.3nm,0.4s							
PHRA	**Phrae**	**37.03**	**261**	P	**P**	**02 00 31.7**	**+0.6**	
GOMU	**GeErMu**	**37.34**	**292**	P	**P**	**02 00 34.8**	**+0.8**	
GOMU				PP	**pP**	**02 01 46.1**	**-5.0**	
GOMU				pmax	pmax			
	comp=Z,27nm,0.7s							
CHTO	**Chiang Mai**	**38.00**	**262**	P	**P**	**02 00 39.2**	**0.0**	
ZAA0	**Zalesovo Array**	**45.54**	**318**	P	**P**	**02 01 38.4**	**-0.4**	
ZAA0				IAmb	IAmb	02 01 38.9		
	comp=Z,2.9nm,0.6s							
ZALV	**Zalesovo Beam**	**45.54**	**318**	P	**P**	**02 01 38.2**	**-0.5**	
ZALV	**Zalesovo Beam**	**45.54**	**318**	P	**P**	**02 01 38.5**	**-0.3**	
	comp=Z,2.1nm,0.4s,baz=95,slow=8.2,SNR=9.9							
ZALV				PcP	**PcP**	**02 03 08.3**	**-0.8**	
	comp=Z,0.8nm,0.4s,baz=116,slow=3.4,SNR=3.8							
	comp=Z,2.1nm,0.4s							
MK31	**Makanchi Array**	**46.55**	**308**	P	**P**	**02 01 45.9**	**-0.9**	
MKAR	**Makanchi Array**	**46.55**	**308**	P	**P**	**02 01 46.4**	**-0.3**	
MKAR	**Makanchi Array**	**46.55**	**308**	P	**P**	**02 01 46.3**	**-0.4**	
	comp=Z,1.1nm,0.3s,baz=83,slow=10.0,SNR=20							
MKAR				PcP	**PcP**	**02 03 12.2**	**-0.7**	
	comp=Z,0.7nm,0.5s,baz=85,slow=5.4,SNR=5.8							
	comp=Z,1.1nm,0.3s							
GSI	**Gunungsitoli**	**48.60**	**242**	P	**P**	**02 02 02.3**	**-0.3**	
NRIK	**Noril'sk**	**49.00**	**338**	P	**P**	**02 02 04.7**	**-0.1**	
NRIK				IAmb	IAmb	02 02 05.5		
	comp=Z,4.2nm,0.5s							
NRIK	**Noril'sk**	**49.00**	**338**	P	**P**	**02 02 04.7**	**-0.1**	
	comp=Z,3.4nm,0.4s,baz=131,slow=9.6,SNR=5.4							
	comp=Z,3.4nm,0.4s							
KURK	**Kurchatov**	**49.03**	**313**	P	**P**	**02 02 04.6**	**-0.8**	
KURBB	**Kurchatov Arra**	**49.09**	**313**	P	**P**	**02 02 05.2**	**-0.6**	
	comp=Z,2.5nm,0.3s,baz=91,slow=8.1,SNR=22							
	comp=Z,2.5nm,0.3s							
F15K	**North Star Dit**	**49.36**	**27**	P	**P**	**02 02 09.4**	**+1.9**	
F15K				IAmb	IAmb	02 02 15.3		
	comp=Z,8.6nm,1.0s							
FITZ	**Fitzroy Crossi**	**49.48**	**197**	P	**P**	**02 02 09.4**	**+0.4**	
PRZ	**Przheval'sk**	**49.55**	**302**	P	**P**	**02 02 10.2**	**+0.6**	
WB0	**Warramunga Arr**	**49.62**	**186**	P	**P**	**02 02 10.5**	**+0.4**	
WB0				IAmb	IAmb	02 02 23.4		
	comp=Z,13nm,1.4s							
K15K	**Wolf Creek Mou**	**49.80**	**32**	P	**P**	**02 02 13.1**	**+2.2**	
K15K				IAmb	IAmb	02 02 13.5		
	comp=Z,2.8nm,0.8s							
WB2	**Warramunga Arr**	**49.80**	**186**	P	**P**	**02 02 11.5**	**+0.1**	
WB2				IAmb	IAmb	02 02 14.8		
	comp=Z,15nm,1.5s							
WR0	**Warramunga Arr**	**49.80**	**186**	P	**P**	**02 02 11.2**	**-0.2**	
WR0				IAmb	IAmb	02 02 22.6		
	comp=Z,8.0nm,1.1s							
WRA	**Warramunga Arr**	**49.80**	**186**	P	**P**	**02 02 11.4**	**0.0**	
WRA	**Warramunga Arr**	**49.80**	**186**	P	**P**	**02 02 11.5**	**0.0**	
	comp=Z,0.9nm,0.4s,baz=1.1,slow=7.8,SNR=31							
WRA				PcP	**PcP**	**02 03 25.6**	**+0.7**	
	comp=Z,0.3nm,0.5s,baz=357,slow=4.0,SNR=5.2							
	comp=Z,0.9nm,0.4s							
N15K	**Kwethluk River**	**50.10**	**35**	P	**P**	**02 02 14.6**	**+1.5**	
N15K				IAmb	IAmb	02 02 21.9		
	comp=Z,13nm,1.3s							
L16K	**Owhat River**	**50.65**	**33**	P	**P**	**02 02 18.8**	**+1.7**	
M16K	**Timber Creek**	**50.78**	**34**	P	**P**	**02 02 19.8**	**+1.6**	
M16K				IAmb	IAmb	02 02 26.3		
	comp=Z,14nm,1.4s							
F17K	**Baldwin Pennin**	**50.89**	**27**	P	**P**	**02 02 20.8**	**+1.9**	
F17K				IAmb	IAmb	02 02 48.4		
	comp=Z,9.9nm,0.9s							
H18K	**Honhosa River**	**51.76**	**29**	P	**P**	**02 02 26.7**	**+1.4**	
P18K	**Big Mountain,**	**52.46**	**36**	P	**P**	**02 02 31.3**	**+0.8**	
P18K				IAmb	IAmb	02 02 48.7		
	comp=Z,4.4nm,1.1s							
E19K	**Redstone River**	**52.67**	**26**	P	**P**	**02 02 33.1**	**+1.3**	
E19K				IAmb	IAmb	02 02 34.3		
	comp=Z,3.7nm,0.7s							

F20K	Avaraart Lake	53.17	26	P	P	02 02 36.4	+1.1
K20K	Telida	53.35	31	P	P	02 02 38.5	+1.8
K20K				IAmb	IAmb	02 02 40.0	
	comp=Z,3.7nm,0.8s						
J20K	Nowinta River	53.40	30	P	P	02 02 38.9	+1.8
J20K				IAmb	IAmb	02 02 40.2	
	comp=Z,3.9nm,0.8s						
ASAR	Alice Springs	53.53	186	P	P	02 02 37.8	-0.8
ASAR	Alice Springs	53.53	186	P	P	02 02 39.0	+0.5
	comp=Z,1.1nm,0.5s,baz=1.5,slow=6.1,SNR=16						
	comp=Z,1.1nm,0.5s						
ARSB	Arslanbob	53.71	301	P	P	02 02 40.5	+0.6
BVAR	Borovoye Array	54.09	316	P	P	02 02 42.2	0.0
	comp=Z,9.9nm,0.5s,baz=92,slow=7.4,SNR=54						
BVAR				PcP	PcP	02 03 40.8	0.0
	comp=Z,1.5nm,0.7s,baz=114,slow=3.7,SNR=4.1						
	comp=Z,9.9nm,0.5s						
MBWA	Marble Bar	54.10	202	P	P	02 02 43.5	+0.8
MBWA				IAmb	IAmb	02 03 07.1	
	comp=Z,6.1nm,1.1s						
BRVK	Borovoye	54.15	316	P	P	02 02 42.2	-0.4
BRVK				IAmb	IAmb	02 02 43.2	
	comp=Z,4.8nm,0.7s						
SKT	Skwentna	54.42	33	P	P	02 02 45.0	+0.6
KK31	Karatay Array	55.20	304	P	P	02 02 49.5	-0.8
KK31				IAmb	IAmb	02 02 50.9	
	comp=Z,5.3nm,0.8s						
KKAR	Karatay Array	55.20	304	P	P	02 02 49.9	-0.3
KKAR				IAmb	IAmb	02 02 50.9	
	comp=Z,5.2nm,0.8s						
NIL	Nilore	55.20	292	P	P	02 02 50.9	+0.5
NIL				IAmb	IAmb	02 02 51.5	
	comp=Z,6.6nm,0.8s						
G23K	Bananza Creek	55.36	27	P	P	02 02 52.4	+1.4
RND	Reindeer	55.70	31	P	P	02 02 54.3	+0.8
RND				IAmb	IAmb	02 02 55.0	
	comp=Z,2.4nm,0.6s						
MDM	Murphy Dome	56.00	29	P	P	02 02 56.0	+0.5
H24K	Noodor Dome	56.18	28	P	P	02 02 57.2	+0.5
F24K	Squaw Lake	56.24	26	P	P	02 02 58.5	+1.4
ILAR	Eielson Array	56.58	30	P	P	02 02 59.5	+0.1
	comp=Z,0.3nm,0.6s,baz=269,slow=4.0,SNR=7.8						
	comp=Z,0.3nm,0.6s						
CHGR	Chuyangaron	57.14	299	P	P	02 03 03.4	-0.5
E25K	Arctic Village	57.15	26	P	P	02 03 05.7	+2.3
SIMJ	Simiganj	57.26	299	P	P	02 03 02.6	-2.3
SIMJ				IAmb	IAmb	02 03 05.3	
	comp=Z,6.5nm,0.8s						
J26L	Joseph Creek	58.01	30	P	P	02 03 10.0	+0.5
I28M	Miner Creek	59.48	29	P	P	02 03 20.9	+1.5
I28M				IAmb	IAmb	02 03 39.3	
	comp=Z,4.6nm,1.4s						
ARU	Arti	60.49	321	P	P	02 03 24.8	-1.4
I30M	Mount Dempster	60.99	29	P	P	02 03 31.3	+1.7
I30M				IAmb	IAmb	02 03 31.9	
	comp=Z,1.5nm,0.6s						
ABKAR	Akbulak array	61.14	313	P	P	02 03 29.9	-0.8
FORT	Forrest	61.28	191	P	P	02 03 32.5	+0.7
STKA	Stephens Creek	61.53	178	P	P	02 03 34.6	+1.3
	comp=Z,1.5nm,0.6s,baz=3.5,slow=7.6,SNR=3.6						
	comp=Z,1.5nm,0.6s						
G31M	Satah River	61.56	27	P	P	02 03 33.4	+0.3
H31M	Peel River	61.73	28	P	P	02 03 36.0	+1.7
H31M				IAmb	IAmb	02 03 43.6	
	comp=Z,3.6nm,1.1s						
SPITS	Spitsbergen Ar	67.09	349	P	P	02 04 09.1	+0.7
	comp=Z,1.9nm,0.6s,baz=101,slow=7.8,SNR=2.1						
	comp=Z,1.9nm,0.6s						
ARCES	ARCESS Array B	69.94	340	P	P	02 04 25.7	-0.2
ARCES				IAmb	IAmb	02 04 38.7	
	comp=Z,4.0nm,1.1s						
ARCES	ARCESS Array B	69.94	340	P	P	02 04 26.1	+0.2
	comp=Z,3.3nm,0.6s,baz=67,slow=9.3,SNR=18						
	comp=Z,3.3nm,0.6s						
KBZ	Khabaz	74.06	311	P	P	02 04 50.0	-0.4
	comp=Z,4.4nm,0.7s,baz=100,slow=1.8,SNR=10						
	comp=Z,4.4nm,0.7s						
FIA1	FINESS Array S	74.17	333	P	P	02 04 50.2	-0.4
FINES	FINESS Array B	74.17	333	P	P	02 04 50.0	-0.7
FINES	FINESS Array B	74.17	333	P	P	02 04 50.4	-0.3
	comp=Z,2.0nm,0.4s,baz=71,slow=5.3,SNR=36						
	comp=Z,2.0nm,0.4s						
AKASG	Malin Array Be	78.69	322	P	P	02 05 15.1	-0.9
	comp=Z,1.1nm,0.3s,baz=51,slow=5.5,SNR=2.9						
	comp=Z,1.1nm,0.3s						
AKBB	Malin Array Si	78.69	322	P	P	02 05 14.7	-1.2
AKBB				IAmb	IAmb	02 05 16.0	
	comp=Z,3.7nm,0.8s						
KIEV	Kiev	78.71	322	P	P	02 05 14.8	-1.2
KIEV				IAmb	IAmb	02 05 16.1	
	comp=Z,3.4nm,0.8s						
HFS	Hagfors	79.72	335	P	P	02 05 20.5	-0.7
	comp=Z,2.3nm,0.4s,baz=92,slow=4.7,SNR=35						
	comp=Z,2.3nm,0.4s						
NC405	NORSAR Array S	79.72	337	P	P	02 05 20.8	-0.4
NC303	NORSAR Array S	79.75	337	P	P	02 05 21.4	0.0
NC303				IAmb	IAmb	02 05 22.5	
	comp=Z,4.8nm,1.0s						
NC204	NORSAR Array S	79.92	337	P	P	02 05 21.9	-0.5
NB2	NORSAR Subarra	79.94	337	P	P	02 05 22.1	-0.4
	comp=Z,1.4nm,0.6s,baz=44,slow=5.1						
NOA	NORSAR Array B	79.94	337	P	P	02 05 22.0	-0.5
	comp=Z,1.8nm,0.6s,baz=46,slow=5.1,SNR=14						
	comp=Z,1.8nm,0.6s						
NVAR	Mina Array Bea	80.90	51	P	P	02 05 29.4	+1.3
	comp=Z,0.4nm,0.6s,baz=262,slow=5.1,SNR=2.0						
	comp=Z,0.4nm,0.6s						
RAYN	Ar Rayn	81.50	292	P	P	02 05 31.0	-0.4
BR131	Keskin Array S	82.06	311	P	P	02 05 34.3	+0.2
BR131				IAmb	IAmb	02 05 34.8	
	comp=Z,5.0nm,0.8s						
BRTR	Keskin Array B	82.06	311	P	P	02 05 33.3	-0.7
BRTR	Keskin Array B	82.06	311	P	P	02 05 33.9	-0.2
	comp=Z,3.9nm,0.9s,baz=88,slow=3.5,SNR=20						
	comp=Z,3.9nm,0.9s						
BUR08	Bucovina Ar. S	82.62	321	P	P	02 05 36.1	-0.6
BUR08				IAmb	IAmb	02 05 37.5	
	comp=Z,3.5nm,0.7s						
BURAR	Bucovina Array	82.62	321	P	P	02 05 36.2	-0.5
BURAR				IAmb	IAmb	02 05 37.8	
	comp=Z,3.4nm,0.8s						
EKA	Eskdalemuir Ar	89.11	340	P	P	02 06 07.1	-0.6
	comp=Z,0.3nm,0.4s,baz=44,slow=4.9,SNR=3.7						
	comp=Z,0.3nm,0.4s						
QSPA	South Pole Qui	119.70	180	PKP	PKPdf	02 11 58.7	-0.4
	comp=Z,1.1nm,1.0s,baz=302,slow=1.7,SNR=7.0						
TORD	Torodi Ar. Bea	120.64	310	PKP	PKPdf	02 12 01.6	-0.9
	comp=Z,0.2nm,0.4s,baz=112,slow=1.5,SNR=5.6						
LPAZ	La Paz	151.63	67	PKPbc	PKiKP	02 13 07.0	+0.9
	comp=Z,0.6nm,0.5s,baz=238,slow=9.5,SNR=3.7						

*JSO **04** 01:58:13, 32°.86N×35°.58E, h2km, ML3.2/24*
*GRAL **04** 01:58:14.9±0.2, 32°.85N×35°.55E, h1km±2km, MD3.7*
ISC 04 01:58:14.3±1.0, 32°.85N±0°.03×35°.59E±0°.04, h13km, n30, σ0°78/32, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MMB1	Mount Meron ar	0.22	317	P		Pg	01 58 18.5	-0.6
BLGI	Bet Lehem HaGe	0.35	250	P		Pg	01 58 21.2	-0.3
GEM	Giv'at Ha'Em	0.36	10	P		Pg	01 58 21.5	-0.1
HNTI	Hanita	0.42	303	P		Pg	01 58 22.4	-0.2
NATI	Neve Ativ	0.42	17	P		Pg	01 58 22.6	-0.2
SHBL	Chebaa	0.51	15	eP		Pg	01 58 24.3	-0.1
OFRI	`Ofer	0.56	246	P		Pg	01 58 24.8	-0.5
HMDT	Nahal Hemdat	0.60	185	P		Pg	01 58 25.4	-0.7
RCY	Rachaya	0.67	18	eP		Pg	01 58 27.3	-0.2
RCY				eS		Sg	01 58 36.5	+0.1
QRWL	Qaraoun	0.70	6	eP		Pg	01 58 27.5	-0.3
SLTI	Sal'it	0.77	217	P		Pg	01 58 28.5	-0.7
DQRL	Deir Qamar	0.85	359	eP		Pg	01 58 30.3	-0.5
DQRL				eS		Sg	01 58 41.7	-0.3
HSUJ	Al Zarqa	0.91	145	P		Pg	01 58 31.4	-0.4
UJAP	Al Uja	0.91	187	P		Pg	01 58 31.5	-0.3
ZAHL	Zahle	1.03	14	eP		Pb	01 58 33.6	-0.5
BHL	Bhannes	1.05	3	eP		Pb	01 58 33.8	-0.6
DSI	Dead Sea	1.29	188	P		Pn	01 58 37.1	-1.0
ASF	Jabal al Asfar	1.30	121	P		Pn	01 58 38.5	+0.3
HWQ	Hawqa	1.45	12	eP		Pn	01 58 40.7	+0.3
YTIR	Yattir	1.54	195	P		Pn	01 58 42.0	+0.4
GHAJ	Ghor Haditha	1.55	181	P		Pn	01 58 42.4	+0.9
MDBI	Mazsada	1.55	187	P		Pn	01 58 41.9	+0.3
MSBI	Mazada	1.55	187	P		Pn	01 58 41.8	+0.2
BEIL	Beino	1.75	16	eP		Pn	01 58 45.3	+0.8

KZIT	Kziot	2.19	208	P		Pn	01 58 51.6	+1.2
ZFRI	Zfri	2.32	189	P		Pn	01 58 53.7	+1.5
PRNI	Paran	2.54	191	P		Pn	01 58 56.3	+1.0
KRMI	Paran Flat	2.83	195	P		Pn	01 59 00.9	+1.7
HRFI	Mount Harif	2.85	190	P		Pn	01 59 01.1	+1.6
MBRI	Mt Berech	3.10	191	P		Pn	01 59 04.3	+1.2

*TAP **04** 02:07:10.5, 23°.88N×122°.57E, h28km, ML2.7, D*
*JMA **04** 02:07:11.3±0.2, 24°.N±1°.×122°.5E±0°.6, h33km, MV2.1/11, NW OFF ISHIGAKIJIMA IS*
ISC 04 02:07:10.6±1.1, 23°.86N±0°.04×122°.54E±0°.02, h29km±10km, n44, σ0°84/74, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.33	323	i P		Pb	02 07 18.0	-0.1
	baz=317							
EOS4				S		Sb	02 07 23.7	+0.5
	baz=317							
EOS3	EOS3	0.47	335	i P		Pn	02 07 20.7	-0.7
	baz=323							
EOS3				S		Sn	02 07 28.2	-0.5
	baz=323							
EOS2	EOS2	0.63	333	i P		Pn	02 07 23.7	+0.2
	baz=323							
JYNG	Yonagunijimaku	0.70	32	eP		Pn	02 07 23.7	-0.9
JYNG				S		Sb	02 07 32.2	-1.4
YOJ	Yonaguni jima	0.74	35	eP		Pn	02 07 24.4	-0.7
	baz=40							
YOJ				eS		Sb	02 07 33.3	-1.5
	baz=40							
YOJ	Yonaguni jima	0.74	35	eP		Pn	02 07 24.5	-0.7
YOJ				eS		Sb	02 07 33.5	-1.3
TWD	Chiawan	0.89	285	eP		Pb	02 07 27.0	-0.2
	baz=284							
TWD				eS		Sb	02 07 39.2	+0.2
	baz=284							
EWUT	Wuta	0.91	310	eP		Pb	02 07 27.6	-0.2
	baz=309							
EWUT				eS		Sb	02 07 42.1	+2.5
	baz=309							
NACB	Ninganchiao	0.92	290	eP		Pn	02 07 27.4	-0.3
	baz=290							
NACB				eS		Sb	02 07 39.6	-0.3
	baz=290							
ENA	Nanau	0.93	308	eP		Pb	02 07 27.6	-0.5
	baz=306							
ETM	Tongmen	0.96	277	P		Pn	02 07 27.9	-0.4
	baz=267							
ETM				eS		Sb	02 07 41.0	-0.1
	baz=267							
TWC	Suao	0.98	320	eP		Pb	02 07 28.5	-0.5
	baz=313							
TWC				eS		Sb	02 07 41.4	-0.2
	baz=313							
EGFH	Guangfu	1.03	260	eS		Sb	02 07 43.6	+0.4
	baz=260							
LXIB	Xiulin Townshi	1.04	279	eP		Pn	02 07 29.5	0.0
	baz=270							
LXIB				eS		Sb	02 07 43.6	+0.1
	baz=270							
WARBT	Fenglin Townsh	1.06	263	eP		Pn	02 07 29.0	-0.7
	baz=251							
WARBT				eS		Sn	02 07 43.1	-0.4
	baz=251							
HGSD	Ruisui	1.08	251	P		Pn	02 07 29.2	-0.7
	baz=250							
HGSD				eS		Sn	02 07 43.4	-0.6
	baz=250							
EGS		1.13	331	eP		Pb	02 07 31.5	-0.1
	baz=319							
EGS				eS		Sb	02 07 48.0	+2.1
	baz=319							
ECBN	Changbin	1.13	242	eP		Pn	02 07 30.6	0.0
	baz=228							
ECBN				eS		Sn	02 07 45.2	0.0
	baz=228							
LATG	Datong	1.15	306	eP		Pb	02 07 31.7	-0.2
	baz=304							
EHY	Hungye	1.17	253	eP		Pn	02 07 31.1	0.0
	baz=253							
EHY				eS		Sn	02 07 46.4	+0.3
	baz=253							
HATJ	Hateruma jima	1.18	80	eS		Sb	02 07 47.9	+0.8
ENTT	Nioudou	1.18	312	eP		Pb	02 07 32.7	+0.3
	baz=317							
ENTT				eS		Sb	02 07 48.7	+1.2
	baz=317							
IRIF	Iriomote-Funau	1.19	66	eP		Pn	02 07 32.1	+0.7
IRIF				eS		Sb	02 07 47.6	0.0
NDT	Datong Townshi	1.20	309	eP		Pb	02 07 33.3	+0.6
	baz=313							
NDT				eS		Sb	02 07 49.2	+1.4
	baz=313							
NNSB	Datong	1.20	299	eP		Pb	02 07 32.3	-0.5
	baz=298							
NNSB				eS		Sb	02 07 47.9	-0.1
	baz=298							
WHF	Hehuan Shan	1.20	284	P		Pn	02 07 32.1	+0.2
	baz=270							
EYUL	Yuli	1.23	246	eP		Pn	02 07 31.7	-0.2
	baz=246							
EYUL				eS		Sn	02 07 48.4	+0.8
	baz=246							
YULB	Yu-li	1.23	248	P		Pn	02 07 32.0	+0.1
	baz=248							
YULB				S		Sn	02 07 47.8	+0.2
	baz=248							
CHKH	Chenggong	1.24	238	eP		Pn	02 07 31.4	-0.6
	baz=237							
CHKH				S		Sn	02 07 46.6	-1.2
	baz=237							
TWF1	Yuli	1.24	246	P		Pn	02 07 31.9	-0.2
	baz=246							
TWF1				eS		Sn	02 07 48.7	+0.7
	baz=246							
FUSS	Fushou	1.25	288	eP		Pn	02 07 32.8	+0.4
	baz=288							
FUSS				eS		Sb	02 07 49.4	-0.1
	baz=288							
FUSB	Fushanzhiwuyua	1.25	316	eP		Pb	02 07 33.5	-0.2
	baz=314							
CHGB	Renai	1.27	280	eP		Pn	02 07 33.0	+0.4
	baz=267							
VWDT	VWDT	1.28	266	P		Pn	02 07 32.8	+0.1
	baz=266							
VWDT				eS		Sn	02 07 49.4	+0.5
	baz=266							
TIPB	Shuangxi	1.29	330	P		Pb	02 07 34.7	+0.5
	baz=329							
TIPB				eS		Sb	02 07 52.5	+2.0
	baz=329							
WUSB	Renai	1.31	276	eP		Pn	02 07 33.5	+0.4
	baz=276							
WUSB				eS		Sn	02 07 47.0	-2.6
	baz=276							
FULB	Fuli	1.32	240	eP		Pn	02 07 32.7	-0.4
	baz=228							
FULB				eS		Sn	02 07 49.8	0.0
	baz=228							
NWLT	Wulai	1.32	314	eP		Pb	02 07 35.3	+0.6
	baz=312							
TDCB	Techi	1.32	288	eP		Pb	02 07 34.0	-0.9
	baz=275							
YHNB	Yeheng	1.33	308	eP		Pb	02 07 34.5	-0.6
	baz=306							
SXI1	Grass Mountain	1.37	334	eP		Pb	02 07 35.1	-0.7
	baz=332							
JKRS	Kuro-shima	1.40	74	eP		Pn	02 07 35.4	+1.2
JKRS				eS		Sb	02 07 54.4	+0.9
SSLB	Suanglung	1.45	268	eP		Pn	02 07 35.6	+0.6
	baz=267							
JIJ	Ishigaki jima	1.55	71	eS		Sn	02 07 56.6	+1.1

*IDC **04** 02:11:44.4±3.5, 10°.73N×141°.70E, h79km±33km, mb3.5/8, mbtmp3.8/9, MS3.3/1, Error ellipse: s-maj=29.5km s-min=19.0km az=101.0*
ISC 04 02:11:41.9±0.9, 10°.8N±0°.2×141°.5E±0°.1, h50km, n11, σ2°14/11, mb3.9/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.37	49	P		Pn	02 12 47.8	+2.1
	21nm,0.5s,baz=191,slow=19,SNR=1.0							
GUMO				S		Sn	02 13 34.0	-1.4
	27nm,0.4s,baz=180,slow=20,SNR=1.5							
PMG	Port Moresby	20.82	164	LR		LR	02 24 34.6	
	comp=Z,70nm,18.1s,baz=180,slow=37							
WRA	Warramunga Arr	31.30	193	P		P	02 17 56.7	-0.9
	1.0nm,0.9s,baz=13,slow=9.8,SNR=1.2							
	1.0nm,0.9s							
ASAR	Alice Springs	35.00	192	P		P	02 18 29.6	-0.1
	0.3nm,0.5s,baz=24,slow=12,SNR=4.4							
	0.3nm,0.5s							
MKAR	Makanchi Array	61.27	318	P		P	02 21 53.0	+0.8
	0.4nm,0.5s,baz=94,slow=8.0,SNR=5.6							
	0.4nm,0.5s							
KURBB	Kurchatov Arra	64.67	321	P		P	02 22 14.8	+0.2
	0.8nm,0.6s,baz=107,slow=6.7,SNR=8.4							
	0.8nm,0.6s							
BVAR	Borovoye Array	70.10	323	P		P	02 22 49.5	+0.5
	1.2nm,0.5s,baz=109,slow=8.0,SNR=7.1							
	1.2nm,0.5s							
ILAR	Eielson Array	72.54	25	P		P	02 23 02.6	-0.9
	0.2nm,0.5s,baz=256,slow=6.2,SNR=3.1							
	0.2nm,0.5s							
NVAR	Mina Array Bea	91.28	51	P		P	02 24 40.2	-2.5
	0.2nm,0.3s,baz=270,slow=5.9,SNR=3.6							
	0.2nm,0.3s							
FINES	FINESS Array B	92.28	334	P		P	02 24 45.1	-1.4
	0.8nm,0.9s,baz=60,slow=4.6,SNR=5.0							
	0.8nm,0.9s							
LPAZ	La Paz	150.73	104	PKPbc		PKPdf	02 31 29.4	+4.5
	1.7nm,0.7s,baz=265,slow=0.8,SNR=6.5							

WEL 04 02:14:22.6±0.7, 38°S±3°×17°7E±°, h4km±3km, M3.5/13, ML3.7/13, MLv3.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=158.9, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.12	30	P		Pg	02 14 25.2	+0.2
WIZ				S		Sg	02 14 27.3	+0.8
WSRZ	White Island S	0.12	24	P		Pg	02 14 25.3	+0.3
WSRZ				S		Sg	02 14 27.6	+1.0
WHRZ	Whale Island	0.25	206	P		Pg	02 14 28.2	+0.7
OPRZ	Ohinepanea	0.49	244	P		Pg	02 14 32.0	-0.1
OPRZ				S		Sg	02 14 38.8	+0.3
MARZ	Manawahe	0.50	224	P		Pg	02 14 32.6	+0.4
HAZ	Te Kaha	0.54	104	P		Pg	02 14 33.2	+0.2
HAZ				S		Sg	02 14 41.3	+1.2
RUGZ	Raukumara Rang	0.56	127	P		Pg	02 14 33.4	0.0
RUGZ				S		Sg	02 14 41.3	+0.7
EDRZ	Edgecumbe	0.56	212	P		Pg	02 14 34.1	+0.7
URZ	Urewera	0.63	180	P		Pg	02 14 34.6	-0.1
TGRZ	Tauranga	0.69	261	P		Pg	02 14 35.9	+0.2
LIRZ	Lichensteins R	0.69	237	P		Pg	02 14 36.5	+0.6
LIRZ				S		Sg	02 14 45.7	+0.9
MKRZ	Makatiti	0.72	225	P		Pb	02 14 37.4	-0.4
OMRZ	Omania	0.76	231	P		Pg	02 14 37.6	+0.4
TARZ	Mount Tarawera	0.78	218	P		Pb	02 14 38.4	-0.3
MWZ	Matawai	0.78	155	P		Pg	02 14 37.4	-0.1
KARZ	Kaharoa	0.79	240	P		Pg	02 14 38.2	+0.4
PKGZ	Pakihiroa	0.80	108	P		Pg	02 14 38.2	+0.2
RRRZ	Republican Roa	0.85	214	P		Pn	02 14 41.0	-0.5
HLRZ	Highlands Stat	0.87	224	P		Pb	02 14 40.6	+0.3
NGRZ	Ngongotaha	0.87	237	P		Pg	02 14 39.9	+0.5
TWGZ	Tauwhareparae	0.88	129	P		Pb	02 14 40.1	-0.4
MUGZ	Murupara	0.89	198	P		Pg	02 14 39.2	-0.5
RAGZ	Rawiri	0.90	165	P		Pg	02 14 39.8	-0.1
UTU	Utuhina	0.91	233	P		Pb	02 14 41.3	+0.3
MXZ	Matakaoa Point	0.95	86	P		Pg	02 14 40.9	+0.1
KMRZ	Kaimai	0.96	256	P		Pg	02 14 40.6	-0.3
HSRZ	Hossack Road	0.97	225	P		Pb	02 14 42.2	+0.2
RTZ	Ruatahuna	0.99	186	P		Pg	02 14 41.3	-0.3
TKGZ	Te Karaka	1.00	145	P		Pb	02 14 42.5	0.0
PRRZ	Plateau Road	1.04	213	P		Pb	02 14 43.0	-0.2
WMGZ	Waiomatatini S	1.05	101	P		Pb	02 14 43.7	+0.4
GRRZ	Galatos Road	1.07	227	P		Pn	02 14 49.8	+5.3
SNGZ	Shannon Statio	1.17	171	P		Pg	02 14 45.1	+0.2
RIGZ	Rimuhau	1.19	155	P		Pn	02 14 46.3	+0.2
MTHZ	Maungataniwha	1.24	190	P		Pg	02 14 45.6	-0.9
TOZ	Tahuroa Road	1.28	265	P		Pg	02 14 44.4	-2.8
RAHZ	Arahi	1.29	181	P		Pg	02 14 47.4	+0.1
MRHZ	Matea Rd	1.32	204	P		Pn	02 14 46.0	-2.0
KUZ	Kuaotunu	1.42	308	P		Pn	02 14 45.5	-3.7
PRGZ	Paritu Road	1.43	155	P		Pg	02 14 51.6	+1.6
TLZ	Tolley Road	1.43	240	P		Pn	02 14 49.4	0.0
WHHZ	Waihua	1.45	176	P		Pg	02 14 52.0	+1.6
KNZ	Kokohu	1.46	163	P		Pg	02 14 51.5	+0.9
NMHZ	Naumai	1.49	189	P		Pg	02 14 52.1	+0.9
BKZ	Black Stump Fm	1.61	197	P		Pg	02 14 53.8	+0.3
ARHZ	Aropaoanui	1.64	183	P		Pg	02 14 53.7	-0.3
MKAZ	Moumakai	1.64	288	P		Pn	02 14 49.3	-3.0
MHGZ	Mahia Peninsul	1.65	158	P		Pg	02 14 54.6	+0.4
WIAZ	Waiheke Island	1.79	297	P		Pn	02 14 51.4	-2.9
MCHZ	McNeill Hill	1.84	190	P		Pb	02 14 56.4	-0.5
NTVZ	North Tongarir	1.85	217	P		Pg	02 14 59.6	+1.4
TMVZ	Te Maari	1.85	216	P		Pg	02 14 59.2	+1.1
ETAZ	East Tamaki Re	1.87	290	P		Pn	02 14 53.2	-2.2
KWHZ	Kaweka Forest	1.87	197	P		Pb	02 14 57.2	-0.3
NNVZ	North Ngauruho	1.91	218	P		Pg	02 15 01.0	+1.8
OTVZ	Oturere	1.91	216	P		Pb	02 14 57.3	-0.8
GRZ	Great Barrier	1.91	315	P		Pn	02 14 53.3	-2.6
SNVZ	South Ngauruho	1.94	216	P		Pg	02 15 00.6	+0.8
MBAZ	Motutapu North	1.97	295	P		Pn	02 14 54.3	-2.5
HIZ	Hauiti	1.99	243	P		Pg	02 15 00.5	-0.3
TUVZ	Tukino	2.00	215	P		Pg	02 15 00.7	-0.2
WHVZ	Whangaehu Hut	2.04	215	P		Pg	02 15 04.0	+2.2
AWAZ	Awhitu Peninsu	2.05	285	P		Pb	02 14 59.7	-0.7
MOVZ	Moawhango	2.07	211	P		Pb	02 15 00.7	-0.2
WNVZ	Wahianoa	2.07

HLRZ	Highlands Stat	0.92	221	P	Pn	02 31 10.3 0.0
MXZ	Matakaoa Point	0.94	90	P	Pg	02 31 09.8 -0.2
MXZ	Matakaoa Point	0.94	90	P	Pg	02 31 09.8 -0.2
MUGZ	Murupara	0.95	197	P	Pb	02 31 09.1 -0.9
RAGZ	Rawiri	0.96	166	P	Pb	02 31 09.4 -0.8
KMRZ	Kaimai	0.98	253	P	Pg	02 31 10.8 +0.1
HSRZ	Hossack Road	1.02	223	P	Pg	02 31 12.0 +0.6
TKGZ	Te Karaka	1.04	147	P	Pg	02 31 12.2 +0.3
RTZ	Ruatahuna	1.05	186	P	Pb	02 31 11.1 -0.7
HRRZ	Handcock Road	1.06	219	P	Pg	02 31 12.8 +0.7
WMGZ	Waiomatatini S	1.06	104	P	Pg	02 31 13.4 +1.3
PRRZ	Plateau Road	1.09	212	P	Pb	02 31 11.8 -0.7
GRRZ	Galatos Road	1.12	225	P	Pg	02 31 13.1 -0.2
ALRZ	Allen Road	1.17	212	P	Pg	02 31 14.1 -0.2
SNGZ	Shannon Statio	1.23	172	P	Pb	02 31 14.8 +0.1
RIGZ	Rimuhau	1.24	156	P	Pg	02 31 15.9 +0.2
CNGZ	Carnagh Statio	1.25	137	P	Pg	02 31 16.8 +0.9
TOZ	Tahuroa Road	1.30	262	P	Pn	02 31 14.1 -1.3
MTHZ	Maungataniwha	1.30	190	P	Pn	02 31 15.1 -0.5
RAHZ	Arahi	1.35	181	P	Pb	02 31 17.0 +0.2
MRHZ	Matea Rd	1.38	203	P	Pn	02 31 15.8 -0.9
KUZ	Kuaotunu	1.39	306	P	Pn	02 31 15.3 -1.4
KUZ	Kuaotunu	1.39	306	P	Pn	02 31 15.3 -1.4
TLZ	Tolley Road	1.47	238	P	Pb	02 31 19.2 +0.3
PRGZ	Paritu Road	1.48	156	P	Pg	02 31 20.3 +0.1
WHHZ	Waihua	1.51	177	P	Pg	02 31 21.9 +1.1
KNZ	Kokohu	1.52	164	P	Pg	02 31 21.1 +0.2
NMHZ	Naumai	1.55	189	P	Pb	02 31 20.0 -0.3
MKAZ	Moumakai	1.63	286	P	Pn	02 31 18.0 -2.0
BKZ	Black Stump Fm	1.67	197	P	Pn	02 31 19.8 -0.9
BKZ	Black Stump Fm	1.67	197	P	Pn	02 31 19.7 -1.0
ARHZ	Aropaoanui	1.70	183	P	Pb	02 31 22.8 +0.1
WIAZ	Waiheke Island	1.77	295	P	Pn	02 31 21.0 -0.9
ETAZ	East Tamaki Re	1.85	289	P	Pn	02 31 22.8 -0.3
GRZ	Great Barrier	1.87	314	P	Pn	02 31 22.5 -0.9
MCHZ	McNeill Hill	1.90	190	P	Pb	02 31 25.9 -0.3
NTVZ	North Tongarir	1.91	216	P	Pg	02 31 28.2 -0.1
TMVZ	Te Maari	1.91	215	P	Pb	02 31 26.6 +0.2
KRVZ	Karewarewa	1.92	217	P	Pg	02 31 30.1 +1.5
KWHZ	Kaweka Forest	1.93	196	P	Pb	02 31 26.2 -0.7
MBAZ	Motutapu North	1.95	293	P	Pn	02 31 23.9 -0.4
NNVZ	North Ngauruho	1.96	217	P	Pb	02 31 28.1 +0.8
OTVZ	Oturere	1.96	215	P	Pb	02 31 26.9 -0.5
SNVZ	South Ngauruho	1.99	215	P	Pb	02 31 28.2 +0.4
HIZ	Hauiti	2.02	241	P	Pn	02 31 24.8 -0.6
HIZ	Hauiti	2.02	241	P	Pn	02 31 26.1 +0.7
AWAZ	Awhitu Peninsu	2.04	283	P	Pb	02 31 29.5 +1.0
TUVZ	Tukino	2.05	214	P	Pg	02 31 30.6 -0.6
ABAZ	Army Bay	2.07	297	P	Pg	02 31 31.8 +0.4
FWVZ	Far West T-bar	2.09	216	P	Pg	02 31 33.1 +1.3
WHVZ	Whangaehu Hut	2.09	215	P	Pg	02 31 32.6 +0.7
WNVZ	Wahianoa	2.13	214	P	Pb	02 31 30.3 +0.1
MOVZ	Moawhango	2.13	210	P	Pb	02 31 29.5 -0.6
WTAZ	Waiatarua	2.13	287	P	Pg	02 31 32.0 -0.6
KRHZ	Kereru	2.15	196	P	Pn	02 31 28.2 +0.9
KAHZ	Kahuranaki	2.23	185	P	Pn	02 31 29.3 +0.9
PNHZ	Pukenui	2.45	197	P	Pn	02 31 31.8 +0.5
PXZ	Pawanui	2.47	185	P	Pn	02 31 31.7 +0.2
WPHZ	Waipukurau	2.55	192	P	Pg	02 31 40.3 -0.3
TSZ	Takapari Road	2.65	200	P	Pn	02 31 34.9 +0.8
WCZ	Waipu Caves	2.76	305	P	Pn	02 31 35.2 -0.4
ANWZ	Angora Road	2.93	190	P	Pb	02 31 45.1 +1.3
KHEZ	Kahui Hut	2.99	234	P	Pn	02 31 38.2 -0.6
KHEZ	Kahui Hut	2.99	234	P	Pb	02 31 45.6 +0.8
BFZ	Birch Farm	3.18	192	P	Pn	02 31 40.6 -0.8
MRZ	Mangatainoka R	3.31	201	P	Pn	02 31 46.3 +3.1
HOWZ	Holdsworth Sta	3.55	200	P	Pb	02 31 53.4 -1.0
OUZ	Omahuta	3.69	308	P	Pn	02 31 48.4 +0.1
OUZ	Omahuta	3.69	308	P	Pn	02 31 48.4 +0.1
CTZ	Chatham Island	7.78	144	P	Pn	02 32 47.0 +2.4

*IDC **04** 02:53:43.2±0.8, 1.°55N×126.°87E, h0km, mb4.1/10, mbtmp4.2/10, MS3.3/1, Error ellipse: s-maj=83.1km s-min=14.5km az=70.0*
*NEIC **04** 02:53:56.8±2.2, 1.°62N±0.°10×127.°4E±0.°1, h116km±7km, mb4.2/16, Error ellipse: s-maj=17.6km s-min=12.5km az=54.0*
*DJA **04** 02:53:57.7±0.8, 2.°N±6.°×12.°7E±.°, h112km±9km, M4.1/6, MLv4.1/6*
ISC 04 02:53:57.7±0.6, 1.°58N±0.°09×127.°28E±0.°10, h128km, n39, σ0s89/37, mb4.3/17, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.81	174	Pn	Pn	02 54 19.6	+0.8
TNTI	Ternate	0.81	174	P	Pn	02 54 19.3	+0.5
KMSI	Cibinong	3.45	253	P	Pn	02 54 50.6	+0.5
SANI	Sanana	3.83	200	P	Pn	02 54 54.6	-0.6
GTOI	Gorontalo	4.37	258	P	Pn	02 55 03.9	+1.6
LUWI	Luwuk	5.21	240	Pn	Pn	02 55 20.3	+6.8
TOLI2	Tolitoli	6.51	266	Pn	Pn	02 55 31.5	+0.4
FAKI	Fak Fak	6.69	132	Pn	Pn	02 55 35.9	+2.4
MTN	Manton Dam	14.84	165	Pn	Pn	02 57 20.4	-0.8
FITZ	Fitzroy Crossi	19.62	185	P	P	02 58 15.2	-1.1
WB0	Warramunga Arr	22.34	162	P	P	02 58 44.4	-0.8
WB0				IAmb	IAmb	02 58 52.8	
	comp=Z,12nm,0.9s						
WRAB	Tennant Creek	22.48	162	P	P	02 58 45.4	-1.2
WRAB				IAmb	IAmb	02 58 54.1	
	comp=Z,10nm,0.8s						
WRA	Warramunga Arr	22.49	162	P	P	02 58 44.5	-2.2
WRA	Warramunga Arr	22.49	162	P	P	02 58 46.3	-0.4
	comp=Z,6.5nm,0.5s,baz=338,slow=11,SNR=66						
	comp=Z,6.5nm,0.5s						
WB2	Warramunga Arr	22.49	162	P	P	02 58 46.3	-0.4
WB2				IAmb	IAmb	02 58 54.1	
	comp=Z,11nm,0.8s						
WR0	Warramunga Arr	22.56	162	P	P	02 58 47.1	-0.4
WR0				IAmb	IAmb	02 58 56.4	
	comp=Z,14nm,1.4s						
MBWA	Marble Bar	23.78	198	P	P	02 58 59.5	+0.8
MBWA				IAmb	IAmb	02 58 59.9	
	comp=Z,5.8nm,1.1s						
AS31	Alice Springs	25.91	166	P	P	02 59 17.5	-0.6
ASAR	Alice Springs	25.91	166	P	P	02 59 17.4	-0.6
ASAR	Alice Springs	25.91	166	P	P	02 59 17.8	-0.2
	comp=Z,1.4nm,0.5s,baz=349,slow=7.3,SNR=26						
	comp=Z,1.4nm,0.5s						
PHRA	Phrae	31.41	304	P	P	03 00 07.9	+1.0
KSRS	Korea Array	35.70	1	P	P	03 00 43.8	0.0
	comp=Z,1.5nm,0.6s,baz=181,slow=10,SNR=4.9						
	comp=Z,1.5nm,0.6s						
STKA	Stephens Creek	35.94	159	P	P	03 00 46.5	+0.6
STKA	Stephens Creek	35.94	159	P	P	03 00 47.0	+1.0
	comp=Z,4.2nm,0.7s,baz=355,slow=8.7,SNR=8.0						
	comp=Z,4.2nm,0.7s						
DZM	Mont Dzumac	44.88	124	LR	LR	03 23 34.8	
	comp=Z,30nm,18.2s,baz=87,slow=40						
SONM	Songino Array	49.49	342	P	P	03 02 34.0	-1.2
	comp=Z,0.8nm,0.6s,baz=160,slow=7.4,SNR=4.8						
	comp=Z,0.8nm,0.6s						
LBZ	Lake Benmore	59.61	146	P	P	03 03 48.5	+0.3
MK31	Makanchi Array	59.62	326	P	P	03 03 48.3	0.0
MK31				IAmb	IAmb	03 03 49.4	
	comp=Z,2.8nm,0.8s						
MKAR	Makanchi Array	59.62	326	P	P	03 03 48.4	+0.1
MKAR	Makanchi Array	59.62	326	P	P	03 03 48.7	+0.4
	comp=Z,2.7nm,0.4s,baz=117,slow=7.8,SNR=38						
	comp=Z,2.7nm,0.4s						
MAKZ	Makanchi	59.81	326	P	P	03 03 50.0	+0.5
MAKZ				IAmb	IAmb	03 03 50.6	
	comp=Z,3.0nm,0.7s						
ZALV	Zalesovo Beam	62.74	333	P	P	03 04 08.0	-1.0
	comp=Z,0.6nm,0.4s,baz=132,slow=7.3,SNR=2.3						
	comp=Z,0.6nm,0.4s						
KURBB	Kurchatov Arra	63.83	328	P	P	03 04 16.4	0.0
	comp=Z,2.6nm,0.4s,baz=127,slow=6.1,SNR=11						
	comp=Z,2.6nm,0.4s						
KURK	Kurchatov	63.84	328	P	P	03 04 15.8	-0.6
KKAR	Karatay Array	65.17	318	P	P	03 04 25.4	+0.1
BVAR	Borovoye Array	69.41	327	P	P	03 04 51.6	-0.1
	comp=Z,1.6nm,0.6s,baz=142,slow=7.5,SNR=8.6						
	comp=Z,1.6nm,0.6s						
ABKAR	Akbulak array	74.15	321	P	P	03 05 19.4	-0.7
VNDA	Vanda	81.24	173	P	P	03 05 58.5	-0.4
VNDA				IAmb	IAmb	03 06 29.5	
	comp=Z,3.0nm,1.2s						
VNDA	Vanda	81.24	173	P	P	03 05 58.9	-0.1
	comp=Z,0.3nm,0.5s,baz=287,slow=14,SNR=1.1						
	comp=Z,0.3nm,0.5s						

*NNC **04** 02:57:25.8±0.7, 43.°06N×74.°92E, h0km, mb2.6, mpv2.6, Error ellipse: s-maj=8.8km s-min=3.6km az=177.0, Suspected Mining explosion.*
*SOME **04** 02:57:25.6, 43.°05N×74.°90E, h0km*
ISC 04 02:57:26.1±0.8, 43.°04N±0.°03×74.°90E±0.°02, h0km, n27, σ0s58/42, 12C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	Chumysh	0.12	249	⇑P	Pg	02 57 28.1	-0.2
	42nm,0.2s,SNR=46						
CHMS	Chumysh	0.12	249	⇑P	Pg	02 57 27.9	-0.4
	130nm,0.8s						
USP	Ospenovka	0.37	308	⇑P	Pg	02 57 32.9	-0.2
	19nm,0.1s,SNR=16						
KBK	Karagaybulak	0.39	175	⇑P	Pg	02 57 33.5	+0.1
	21nm,0.1s,SNR=37						
TKM2	Tokmak 2	0.52	103	⇑P	Pg	02 57 35.6	-0.5
	5.6nm,0.1s,SNR=32						
TKM2	Tokmak 2	0.52	103	⇓P	Pg	02 57 35.7	-0.4
	1.0nm,0.2s						
TKM2				⇑S	Sg	02 57 43.3	+0.4
	3.7nm,0.3s						
DGS	Degeres	0.67	72	eP	Pg	02 57 39.0	+0.1
	3.6nm,0.2s						
DGS				eS	Sg	02 57 48.7	+1.2
	7.5nm,0.1s						
DGS	Degeres	0.67	72	P	Pg	02 57 38.7	-0.2
	3.6nm,0.2s						
DGS				S	Sg	02 57 47.6	+0.1
	7.5nm,0.3s						
KST	Kastek	0.78	89	eP	Pg	02 57 40.9	-0.1
	2.6nm,0.1s						
KST				eS	Sg	02 57 52.0	+1.0
	7.3nm,0.2s						
KST	Kastek	0.78	89	P	Pg	02 57 41.1	+0.1
	2.9nm,0.2s						
KST				S	Sg	02 57 51.6	+0.6
	4.6nm,0.3s						
UCH	Uchtor	0.86	200	⇑P	Pg	02 57 41.8	-0.7
	1.3nm,0.2s,SNR=9.6						
KRBS	Karabastau	0.86	40	eP	Pg	02 57 42.3	-0.3
	2.1nm,0.1s						
KRBS				eS	Sg	02 57 54.4	+0.6
	2.2nm,0.1s						
KRBS	Karabastau	0.86	40	P	Pg	02 57 42.4	-0.2
	2.1nm,0.1s						
KRBS				S	Sg	02 57 54.2	+0.3
	2.1nm,0.2s						
EKS2	Erkin-Say	0.91	246	⇑P	Pg	02 57 43.1	-0.4
	2.7nm,0.1s,SNR=9.0						
MRKS	Merke	1.27	257	eP	Pg	02 57 49.8	-0.5
	2.2nm,0.1s						
MRKS				eS	Sb	02 58 07.3	-0.4
	4.4nm,0.1s						
MRKS	Merke	1.27	257	P	Pn	02 57 52.0	+0.9
	2.6nm,0.1s						
MRKS				S	Sn	02 58 10.5	+1.6
	4.6nm,0.2s						
KTBS	Karatobe	1.46	62	eP	Pn	02 57 53.5	-0.3
	2.9nm,0.1s						
KTBS				eS	Sn	02 58 13.6	-0.1
	2.8nm,0.2s						
KTBS	Karatobe	1.46	62	P	Pn	02 57 53.4	-0.3
	3.2nm,0.2s						
KTBS				S	Sg	02 58 13.1	+0.1
	2.9nm,0.2s						
TNSS	Tian-Shan	1.50	89	eP	Pn	02 57 54.1	-0.5
	9.2nm,0.1s						
TNSS				eS	Sb	02 58 14.5	-0.2
	2.2nm,0.1s						
MDOK	Medeo	1.58	85	eP	Pn	02 57 55.2	-0.3
	7.0nm,0.1s						
MDOK				eS	Sn	02 58 16.4	-0.3
	3.3nm,0.1s						
MDOK	Medeo	1.58	85	⇑P	Pn	02 57 54.6	-0.9
	2.1nm,0.3s						
MDOK				⇑S	Sn	02 58 15.9	-0.7
	2.9nm,0.5s						
BTLS	Baital	2.09	343	eP	Pb	02 58 04.9	0.0
	2.0nm,0.1s						
BTLS				eS	Sg	02 58 33.2	-0.1
	7.9nm,0.2s						
BTLS	Baital	2.09	343	Lg	Lg	02 58 32.2	
	7.9nm,0.2s						
ARXS	Arharly	2.43	60	eP	Pb	02 58 11.2	+0.6
	1.2nm,0.1s						
ARXS				eS	Sg	02 58 44.1	+0.1
	4.7nm,0.2s						
ARXS	Arharly	2.43	60	Lg	Lg	02 58 41.1	
	3.7nm,0.5s						
KPKS	Kokpek	2.80	80	eP	Pb	02 58 17.7	+0.7
	2.4nm,0.1s						
KPKS				eS	Sg	02 58 54.9	-1.0
	2.3nm,0.2s						
KK31	Karatay Array	3.22	273	⇑Pg	Pb	02 58 23.6	-0.4
	0.2nm,0.3s,baz=87,slow=16,SNR=5.7						
KK31				⇑Lg	Lg	02 59 07.5	
	0.2nm,0.2s,baz=78,slow=31						

*SJA **04** 03:02:10.8±0.7, 23.°94S×66.°69W, h238km±5km, ML4.3, MW4.0*
*IDC **04** 03:02:12.4±0.9, 23.°86S×66.°59W, h203km±9km, mb3.5/8, mbtmp4.0/14, Error ellipse: s-maj=12.7km s-min=11.8km az=146.0*
*NEIC **04** 03:02:12.3±2.0, 23.°97S±0.°07×66.°78W±0.°07, h231km±7km, mb4.2/7, Mwr4.4(GUC), Error ellipse: s-maj=10.2km s-min=9.4km az=206.0*
*GUC **04** 03:02:14.1±0.5, 23.°93S×67.°03W, h237km±5km, ML4.4*
*VAO **04** 03:02:14.9±0.5, 23.°68S×66.°60W, h207km±9km, mb4.3*
ISC 04 03:02:12.3±0.6, 23.°94S±0.°04×66.°75W±0.°05, h219km±6km, n110, σ1s56/145, mb3.9/9, 15C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.38	125	eP	Pn	03 02 47.4	+0.4
SLA	San Lorenzo	1.38	125	⇓iP	Pn	03 02 47.3	+0.4
AZAP	Zapla	1.56	101	eP	Pn	03 02 48.4	-0.1
AF01	San Pedro de A	1.64	307		Pn	03 02 50.7	+1.4
AF01				Sn	S	03 03 19.9	+2.1
AF01	San Pedro de A	1.64	307	⇑eP	Pn	03 02 50.7	+1.4
AF01				i S	S	03 03 18.3	+0.4
AF01				IAML		03 03 23.9	
	comp=E,625nm,0.4s						
YJA	Yavi	2.09	33	eP	Pn	03 02 48.4	-5.3
YJA				eP	Pn	03 02 54.3	+0.6
YJA				eS	S	03 03 26.2	+0.5
YJA	Yavi	2.09	33	⇓iP	Pn	03 02 54.2	+0.6
ASTB	Santa Barbara	2.10	91	eP	Pn	03 02 53.8	+0.3
FSA	Cafayete	2.27	162	eP	Pn	03 02 55.3	+0.1
LVC	Limon Verde	2.39	303	eP	Pn	03 02 57.1	+0.5
LVC				eS	S	03 03 31.9	+0.9
LVC	Limon Verde	2.39	303	P	Pn	03 02 57.4	+0.8
	comp=E,319nm,0.3s,baz=132,slow=6.6,SNR=746						
LVC				S	S	03 03 30.8	-0.2
	comp=E,144nm,0.3s,baz=60,slow=20,SNR=16						
LVC	Limon Verde	2.39	303	eP	Pn	03 02 57.2	+0.6
LVC				eS	S	03 03 29.8	-1.1
LVC				IAML		03 03 31.9	
	comp=E,1μm,0.5s						
LVC	Limon Verde	2.39	303	eP	Pn	03 02 57.4	+0.8
ALOL	LOMAS DE OLMED	2.54	88	eP	Pn	03 02 57.7	-0.2
PB15	IPOC Station P	2.60	286		Pn	03 02 59.5	+0.8
PB15				Sn	S	03 03 34.4	-0.3
PB15	IPOC Station P	2.60	286	eP	Pn	03 02 59.6	+0.8
PB15				eS	S	03 03 34.8	0.0
PB15	IPOC Station P	2.60	286	⇑iP	Pn	03 02 59.5	+0.8
PB15				eS	S	03 03 33.8	-1.0
GO02	Mina Guanaco	2.86	244	Pn	Pn	03 03 02.5	+0.9
GO02	Mina Guanaco	2.86	244	eP	Pn	03 03 02.3	+0.7
GO02				eS	S	03 03 40.4	+0.3
GO02	Mina Guanaco	2.86	244	⇑iP	Pn	03 03 02.3	+0.7
GO02				eS	S	03 03 39.8	-0.3
GO02				IAML		03 03 40.8	
	comp=E,2μm,0.2s						
PB06	IPOC Station P	2.87	295		Pn	03 03 02.2	+0.6
PB06	IPOC Station P	2.87	295	eP	Pn	03 03 02.5	+0.8
PB06				eS	S	03 03 40.0	0.0
PB06				IAML		03 03 42.8	
	comp=Z,454nm,0.3s						
PB06	IPOC Station P	2.87	295	⇑iP	Pn	03 03 02.4	+0.8
PB06				eS	S	03 03 38.9	-1.2
PB09	IPOC Station P	3.13	312		Pn	03 03 05.8	+1.1
PB09	IPOC Station P	3.13	312	eP	Pn	03 03 05.7	+1.0
PB09				eS	S	03 03 45.6	+0.1
PB09				IAML		03 03 45.8	
	comp=Z,361nm,0.3s						
PB09	IPOC Station P	3.13	312	⇑iP	Pn	03 03 05.7	+1.0
PB09				eS	S	03 03 44.8	-0.8
PB14	IPOC Station P	3.40	258	Pn	Pn	03 03 08.0	+0.1
PB14	IPOC Station P	3.40	258	eP	Pn	03 03 08.4	+0.4
PB14				eS	S	03 03 49.8	-1.6
PB14				IAML		03 03 51.5	
	comp=Z,511nm,0.4s						
PB14	IPOC Station P	3.40	258	⇑iP	Pn	03 03 08.2	+0.2
PB14				i S	S	03 03 49.4	-2.0
PB10	IPOC Station P	3.51	276	Pn	Pn	03 03 09.4	+0.5
PB10	IPOC Station P	3.51	276	eP	Pn	03 03 09.3	+0.3
PB10				eS	S	03 03 52.8	-0.4
PB10				IAML		03 03 57.5	
	comp=Z,344nm,0.5s						
PB10	IPOC Station P	3.51	276	⇑iP	Pn	03 03 09.2	+0.3
PB10				eS	S	03 03 50.7	-2.5
PB04	IPOC Station P	3.51	296		Pn	03 03 09.4	+0.2
PB04	IPOC Station P	3.51	296	eP	Pn	03 03 09.4	+0.2
PB04				eS	S	03 03 53.8	+0.2
PB04				IAML		03 03 55.4	
	comp=Z,605nm,0.3s						
PB04	IPOC Station P	3.51	296	⇑iP	Pn	03 03 09.4	+0.2
PB04				eS	S	03 03 51.4	-2.1
AC01	Pan de Azucar	4.13	237	Pn	Pn	03 03 15.9	-0.5
AC01	Pan de Azucar	4.13	237	eP	Pn	03 03 15.6	-0.7
AC01				eS	S	03 04 03.5	-3.1
AC01				IAML		03 04 06.0	
	comp=Z,233nm,0.2s						
PATCX	Punta Patache	4.42	314	Pn	Pn	03 03 19.2	-0.9
PATCX	Punta Patache	4.42	314	eP	Pn	03 03 19.5	-0.6
PATCX				eS	S	03 04 11.1	-2.3
PATCX				IAML		03 04 16.3	
	comp=Z,160nm,0.6s						
PATCX	Punta Patache	4.42	314	⇑iP	Pn	03 03 18.9	-1.1
PATCX				eS	S	03 04 09.3	-4.1
CYA	Choya	4.56	169	eP	Pn	03 03 22.6	+0.8
CYA				eS	S	03 04 14.9	-1.6
TA01	Diego Aracena	4.62	316		Pn	03 03 21.9	-0.7
TA01	Diego Aracena	4.62	316	eP	Pn	03 03 22.0	-0.5
TA01				eS	S	03 04 15.6	-2.1
TA01				IAML		03 04 20.5	
	comp=Z,89nm,0.4s						
TA01	Diego Aracena	4.62	316	eP	Pn	03 03 21.3	-1.2
HMBC	Humberstone	4.66	321		Pn	03 03 22.3	-0.8
HMBC	Humberstone	4.66	321	eP	Pn	03 03 22.0	-1.2
HMBC				eS	S	03 04 15.6	-3.3
HMBC				IAML		03 04 18.1	
	comp=Z,301nm,0.5s						
HMBC	Humberstone	4.66	321	⇑iP	Pn	03 03 21.8	-1.4
HMBC				i S	S	03 04 14.5	-4.4
AC06	Mina Casimiro	4.71	223		Pn	03 03 22.8	-0.7
GO03	Copiap	4.81	220		Pn	03 03 24.1	-0.7
GO03	Copiap	4.81	220	eP	Pn	03 03 24.2	-0.6
GO03				eS	S	03 04 20.4	-1.6
GO03	Copiap	4.81	220	eP	Pn	03 03 24.0	-0.8
GO03				i S	S	03 04 18.2	-3.8
GO01	Chusmiza	4.82	331		Pn	03 03 26.0	+0.6
GO01	Chusmiza	4.82	331	eP	Pn	03 03 25.5	0.0
GO01				eS	S	03 04 21.9	-1.0
GO01	Chusmiza	4.82	331	⇑iP	Pn	03 03 25.4	0.0
GO01				i S	S	03 04 20.5	-2.5
VCA	Vinchina	4.95	195	eP	Pn	03 03 23.1	-3.6
VCA	Vinchina	4.95	195	eP	Pn	03 03 28.0	+1.2
PB11	IPOC Station P	4.96	326	Pn	Pn	03 03 26.2	-0.7
PB11	IPOC Station P	4.96	326	eP	Pn	03 03 25.9	-1.0
PB11				eS	S	03 04 18.1	-7.5
PB11				IAML		03 04 26.4	
	comp=Z,201nm,0.3s						
AC04	Llanos de Chal	5.76	222	Pn	Pn	03 03 35.3	-1.4
AC05	El Transito	5.81	212		Pn	03 03 36.8	-0.8
CO01	Juntas del Tor	6.71	206		Pn	03 03 48.6	-0.6
PB18	Visviri	6.81	337		Pn	03 03 51.1	+0.3
CO03	El Pedregal	7.71	206	Pn	Pn	03 04 00.3	-1.5
LPAZ	La Paz	7.72	350	Pn	Pn	03 04 03.1	+0.5
LPAZ	La Paz	7.72	350	P	Pn	03 04 03.0	+0.3
	comp=Z,3.4nm,0.4s,baz=169,slow=6.2,SNR=40						
LPAZ				S	S	03 05 28.1	-2.5
	comp=Z,6.3nm,0.8s,baz=176,slow=23,SNR=7.9						
LPAZ	La Paz	7.72	350	eP	Pn	03 04 03.0	+0.3
ZON	Zonda	7.77	192		Pn	03 04 01.3	-1.3
CO02	Combarbal	8.16	207	Pn	Pn	03 04 05.5	-2.2
BBSD	Serra de San D	8.84	42	eP	Pn	03 04 15.0	-1.4
CPUP	Villa Florida	8.86	108	Pn	Pn	03 04 15.3	-1.3
CPUP	Villa Florida	8.86	108	P	Pn	03 04 14.9	-1.7
	comp=Z,1.4nm,0.6s,baz=278,slow=11,SNR=3.9						
SIV	San Ignacio	9.54	35	P	Pn	03 04 23.7	-1.8
	comp=Z,6.0nm,0.4s,baz=211,slow=13,SNR=47						
SIV				S	S	03 06 09.4	-3.3
	comp=Z,1.9nm,0.2s,baz=256,slow=14,SNR=1.1						
PTLB	Pontes e Lacer	11.07	42		Pn	03 04 44.9	-0.1
PTLB	Pontes e Lacer	11.07	42	eP	Pn	03 04 43.8	-1.2
CRSM	Crissiumal (Br	11.99	110	eP	P	03 04 59.4	-1.2
RODS	Rosario do Sul	12.10	124	eP	P	03 05 02.1	+0.3
VILB	Vilhena	12.56	31		Pn	03 05 04.8	+0.9
VILB	Vilhena	12.56	31	eP	Pn	03 05 04.3	+0.4
TRCB	Terra Rica

comp=Z,0.7nm,1.1s,baz=153,slow=1.7,SNR=2.2
WRA SKPbc **SKPab** **03 24 07.6 +1.5**
comp=Z,0.2nm,0.5s,baz=153,slow=3.7,SNR=4.8
MKAR Makanchi Array 146.33 40 PKPbc **PKPab** **03 21 28.6 +0.2**
comp=Z,1.0nm,0.6s,baz=304,slow=3.1,SNR=9.2

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*IDC **04** 03:33:27.6±1.7, 35°.86N×137°.10E, h235km±11km, mb2.8/2, mbtmp3.4/2, Error ellipse: s-maj=55.7km s-min=24.8km az=112.0*
*JMA **04** 03:33:28.1±0.3, 36°N±1°×13°8E±°, h245km±2km, MV2.6/24, WESTERN NAGANO PREF*
ISC 04 03:33:28.2±1.1, 35°.86N±0°.08×137°.51E±0°.08, h250km, n12, σ1°9.08/15, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**0.69**	**248**	P	**Pn**	**03 34 01.2**	**-0.6**
JYTA				*e*S	**S**	**03 34 26.5**	**-1.6**
MAT	**Matsushiro**	**0.88**	**39**	P	**Pn**	**03 34 02.0**	**-0.6**
MJAR	**Matsushiro Arr**	**0.88**	**39**	P	**Pn**	**03 34 02.2**	**-0.4**
	9.3nm,0.4s,baz=230,slow=5.9,SNR=33						
MJAR				S	**S**	**03 34 28.9**	**-0.8**
	2.1nm,0.6s,baz=238,slow=11,SNR=4.9						
JKG	**Kaga**	**1.05**	**294**	P	**Pn**	**03 34 03.0**	**-0.4**
JSZ	**Suzu**	**1.59**	**356**	*e*P	**Pn**	**03 34 06.1**	**-1.0**
JAG	**Ashikaga**	**1.67**	**70**	P	**Pn**	**03 34 07.2**	**-0.6**
JWT	**Wachi**	**1.81**	**252**	P	**Pn**	**03 34 09.0**	**-0.1**
JSD	**Sado**	**2.26**	**15**	P	**Pn**	**03 34 12.3**	**-0.7**
TTO1	**TONANKAI O.B.S**	**2.31**	**195**	*e*P	**Pn**	**03 34 12.7**	**-0.6**
BSO1	**Boso 1**	**3.08**	**112**	P	**Pn**	**03 34 20.8**	**-0.2**
BSO1				*e*S	**S**	**03 35 01.5**	**-1.3**
PETK	**Petropavlovsk-**	**22.34**	**33**	P	**P**	**03 38 07.4**	**+2.3**
	0.8nm,0.7s,baz=210,slow=8.0,SNR=1.3						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**55.58**	**184**	P	**P**	**03 42 38.6**	**+0.5**
	0.2nm,0.5s,baz=359,slow=7.4,SNR=5.0						
	0.2nm,0.5s						

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*IDC **04** 03:37:15.3±0.8, 48°.62N×51°.65E, h0km, mb3.3/6, mbtmp3.5/14, ML3.0/8, Error ellipse: s-maj=19.4km s-min=7.4km az=148.0*
*NNC **04** 03:37:36.3±11.0, 49°.31N×53°.89E, h0km, mb3.7, mpv2.5, Error ellipse: s-maj=112.2km s-min=78.5km az=76.0*
ISC 04 03:37:15.0±0.7, 48°.52N±0°.07×51°.81E±0°.05, h10km, n19, σ2°.41/23, mb3.6/5, 2C-4D, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**4.48**	**62**	Pn	**Pn**	**03 38 26.0**	**+3.2**
	1.0nm,0.3s,baz=224,slow=4.4,SNR=9.1						
AKTO				Sn	**Sn**	**03 39 15.9**	**+0.9**
	0.8nm,0.3s,baz=221,slow=21,SNR=1.6						
	2.1nm,0.3s						
BELG	**Belogornoye**	**4.71**	**327**	Pn	Pn	03 38 29.7	+3.8
	1.9nm,0.3s,baz=135,slow=21,SNR=7.3						
BELG				Sn	**Sn**	**03 39 23.7**	**+3.2**
	2.4nm,0.3s,baz=204,slow=22,SNR=7.3						
AB31	**Akbulak array**	**5.42**	**79**	⇓Pn	**Pn**	**03 38 38.6**	**+2.9**
	0.3nm,0.2s,baz=267,slow=13,SNR=30						
AB31				⇓Lg	Lg	03 39 41.2	
	1.8nm,0.2s,baz=274,slow=23						
KBZ	**Khabaz**	**7.83**	**236**	Pn	**Pn**	**03 39 09.6**	**+0.8**
	0.5nm,0.3s,baz=69,slow=23,SNR=10.0						
KBZ				Sn	**Sn**	**03 40 35.1**	**-2.3**
	baz=340,slow=23,SNR=1.5						
	1.1nm,0.2s						
ARU	**Arti**	**8.92**	**25**	Pn	**Pn**	**03 39 21.4**	**-2.4**
	baz=253,slow=19,SNR=1.3						
ARU				Sn	**Sn**	**03 40 59.9**	**-4.4**
	baz=270,slow=20,SNR=2.2						
	1.6nm,0.3s						
GEYT	**Alibeck**	**11.54**	**154**	Sn	**Sn**	**03 42 05.2**	**-3.4**
	1.0nm,0.3s,baz=286,slow=5.8,SNR=2.5						
BRVK	**Borovoye**	**12.53**	**62**	⇑Pn	**Pn**	**03 40 13.9**	**+0.7**
	1.6nm,0.6s						
BRVK				⇓Lg	Lg	03 42 33.1	
	1.5nm,0.7s						
BVA0	**Borovoye Array**	**12.59**	**62**	⇑Pn	**Pn**	**03 40 14.3**	**+0.4**
	3.7nm,0.9s,baz=266,slow=16,SNR=3.9						
BVA0				⇓Lg	Lg	03 42 32.3	
	2.3nm,0.6s,baz=268,slow=30						
BVAR	**Borovoye Array**	**12.59**	**62**	Pn	**Pn**	**03 40 13.6**	**-0.3**
	0.1nm,0.3s,baz=246,slow=13,SNR=7.8						
BVAR				Sn	**Sn**	**03 42 28.8**	**-5.2**
	0.1nm,0.3s,baz=225,slow=30,SNR=1.9						
	0.8nm,0.3s						
BRTR	**Keskin Array B**	**15.70**	**243**	Pn	**Pn**	**03 40 54.4**	**-2.0**
	baz=65,slow=12,SNR=1.4						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**17.43**	**73**	P	**Pn**	**03 41 19.1**	**+1.1**
	0.1nm,0.3s,baz=276,slow=12,SNR=6.4						
	0.7nm,0.3s						
MLR	**Muntele Rosu**	**17.87**	**270**	P	**P**	**03 41 25.5**	**+1.3**
	baz=56,slow=7.3,SNR=1.9						
	1.0nm,0.7s						
FINES	**FINESS Array B**	**19.46**	**321**	P	**Pn**	**03 41 41.5**	**-1.2**
	0.2nm,0.3s,baz=125,slow=12,SNR=8.5						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**20.54**	**83**	P	**P**	**03 41 54.5**	**+1.1**
	0.3nm,0.6s,baz=250,slow=12,SNR=2.0						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**21.24**	**63**	P	**P**	**03 42 02.3**	**+1.4**
	0.4nm,0.3s,baz=279,slow=11,SNR=1.8						
	0.4nm,0.3s						
ARCES	**ARCESS Array B**	**24.65**	**338**	P	**P**	**03 42 35.5**	**+0.2**
	1.3nm,0.9s,baz=134,slow=9.0,SNR=1.8						
	1.3nm,0.9s						
HFS	**Hagfors**	**24.70**	**312**	P	**P**	**03 42 36.6**	**+0.7**
	1.2nm,0.8s,baz=134,slow=12,SNR=1.2						
	1.2nm,0.8s						
NOA	**NORSAR Array B**	**26.07**	**314**	P	**P**	**03 42 50.4**	**+2.1**
	0.1nm,0.4s,baz=108,slow=9.6,SNR=1.2						
	0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**54.26**	**247**	P	**P**	**03 46 40.7**	**-0.4**
	0.8nm,1.0s,baz=23,slow=8.8,SNR=2.7						
	0.8nm,1.0s						

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*IDC **04** 03:39:10.1±11.0, 14°.99S×174°.75W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=492.4km s-min=39.5km az=139.0*
*NEIC **04** 03:39:29.8±1.0, 15°.1S±0°.1×174°.7W±0°.1, h167km±9km, mb4.4/16, Error ellipse: s-maj=21.5km s-min=4.1km az=220.0*
ISC 04 03:39:28.1±0.8, 15°.1S±0°.1×174°.9W±0°.1, h150km, n21, σ0°.55/20, mb4.4/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.18**	**131**	Pn	**Pn**	**03 40 57.4**	**+0.2**
RTZ	**Ruatahuna**	**24.50**	**195**	P	**P**	**03 44 33.0**	**-0.6**
RTZ				IAmb	IAmb	03 44 56.5	
	comp=Z,34nm,1.5s						
PMG	**Port Moresby**	**37.48**	**274**	P	P	03 46 25.5	-2.0
BBOO	**Buckleboo**	**47.73**	**239**	P	**P**	**03 47 50.1**	**+0.1**
WR0	**Warramunga Arr**	**48.33**	**257**	P	**P**	**03 47 55.3**	**+0.5**
WR0				IAmb	IAmb	03 48 31.8	
	comp=Z,15nm,1.4s						
WB0	**Warramunga Arr**	**48.47**	**257**	P	**P**	**03 47 56.0**	**0.0**
WB0				IAmb	IAmb	03 48 25.5	
	comp=Z,9.8nm,1.3s						
WB2	**Warramunga Arr**	**48.50**	**257**	P	**P**	**03 47 56.4**	**+0.2**
WB2				IAmb	IAmb	03 48 18.1	
	comp=Z,17nm,1.4s						
WRAB	**Tennant Creek**	**48.51**	**257**	P	**P**	**03 47 57.2**	**+1.0**
WRAB				IAmb	IAmb	03 48 02.6	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**48.52**	**257**	P	**P**	**03 47 55.6**	**-0.6**
WRA	**Warramunga Arr**	**48.52**	**257**	P	**P**	**03 47 56.0**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=90,slow=7.2,SNR=24						
	comp=Z,1.0nm,0.5s						
AS31	**Alice Springs**	**48.84**	**252**	P	**P**	**03 47 59.0**	**+0.3**
ASAR	**Alice Springs**	**48.84**	**252**	P	**P**	**03 47 58.4**	**-0.3**
ASAR	**Alice Springs**	**48.84**	**252**	P	**P**	**03 47 59.2**	**+0.5**
	comp=Z,10nm,0.5s,baz=87,slow=8.0,SNR=135						
	comp=Z,10nm,0.5s						
PSA00	**Pilbara Seismi**	**61.91**	**253**	P	**P**	**03 49 32.1**	**-0.1**
VNDA	**Vanda**	**63.54**	**186**	P	**P**	**03 49 42.2**	**+0.2**
NIKH	**Nikolski High**	**67.98**	**4**	P	**P**	**03 50 11.2**	**+0.5**
QSPA	**South Pole Qui**	**74.95**	**180**	P	**P**	**03 50 52.5**	**-0.1**
J16K	**Anvik River**	**78.91**	**7**	P	**P**	**03 51 13.8**	**-0.7**
J16K				IAmb	IAmb	03 51 19.0	
	comp=Z,8.0nm,1.2s						
KTH	**Kantishna Hill**	**80.57**	**11**	P	**P**	**03 51 23.3**	**-0.1**
KTH				IAmb	IAmb	03 51 24.3	
	comp=Z,9.3nm,1.0s						
ILAR	**Eielson Array**	**82.43**	**12**	P	**P**	**03 51 33.2**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=193,slow=3.6,SNR=1.4						
	comp=Z,0.1nm,0.4s						
K29M	**Barlow Dome**	**83.78**	**16**	P	**P**	**03 51 39.0**	**-1.2**
K29M				IAmb	IAmb	03 51 53.5	
	comp=Z,6.9nm,1.4s						

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*HLW **04** 03:51:48.2, 33°.92N×35°.91E, h14km±10km, Ml4.0*
*ISK **04** 03:51:59.3, 32°.88N×35°.40E, h1km, ML4.1/20*
*SGS **04** 03:52:00.7, 33°.00N×35°.49E, h6km, Ml4.0*
*JSO **04** 03:52:00, 32°.87N×35°.57E, h6km, ML4.0/29*
*IDC **04** 03:52:00.3±0.8, 33°.00N×35°.71E, h0km, mb3.6/8, mbtmp3.7/11, ML2.9/3, MS3.1/9, Error ellipse: s-maj=13.7km s-min=5.5km az=6.0*
*GRAL **04** 03:52:01.3±0.2, 32°.85N×35°.52E, h0km±2km, MD4.0*
*AFAD **04** 03:52:02.9±0.0, 33°.23N×35°.47E, h10km±3km, MW3.7*
ISC 04 03:52:00.7±0.8, 32°.86N±0°.02×35°.57E±0°.03, h9km±5km, n108, σ1°9.10/122, mb3.8/9, MS3.1/7, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	**Mount Meron ar**	**0.20**	**320**	P	**Pg**	**03 52 04.9**	**-0.1**
MMAI	**Mount Meron Ar**	**0.21**	**318**	Pg	**Pg**	**03 52 05.2**	**+0.1**
	2μm,0.3s,baz=138,slow=19,SNR=640						
MMAI				Lg	Lg	03 52 09.4	
	9μm,0.3s,baz=144,slow=39,SNR=45						
MMAI				LR	LR	03 52 26.6	
	comp=Z,817nm,21.0s,baz=118,slow=100						
SHMJ	**Saham**	**0.21**	**128**	P	**Pg**	**03 52 04.7**	**-0.4**
BLGI	**Bet Lehem HaGe**	**0.34**	**249**	P	**Pg**	**03 52 07.5**	**0.0**
GEM	**Giv'at Ha'Em**	**0.36**	**13**	P	**Pg**	**03 52 07.6**	**-0.3**
HNTI	**Hanita**	**0.40**	**304**	P	**Pb**	**03 52 08.8**	**-1.2**
NATI	**Neve Ativ**	**0.43**	**19**	P	**Pg**	**03 52 08.7**	**-0.4**
MMLI	**Mount Malkishu**	**0.44**	**196**	Pg	**Pg**	**03 52 08.9**	**-0.4**
MMLI				Sg	**Sg**	**03 52 16.1**	**+1.0**
QRNJ	**Al-Qirein**	**0.52**	**179**	P	**Pg**	**03 52 10.8**	**-0.1**
OFRI	**`Ofer**	**0.55**	**244**	P	**Pb**	**03 52 11.1**	**-1.4**
HMDT	**Nahal Hemdat**	**0.60**	**183**	P	**Pg**	**03 52 12.2**	**-0.3**
RCY	**Rachaya**	**0.68**	**19**	*e*P	**Pg**	**03 52 13.8**	**-0.1**
RCY				*e*S	**Sg**	**03 52 23.1**	**+0.4**
QRWL	**Qaraoun**	**0.69**	**8**	*e*P	**Pg**	**03 52 14.0**	**-0.2**
SLTI	**Sal'it**	**0.76**	**216**	P	**Pg**	**03 52 14.9**	**-0.5**
DQRL	**Deir Qamar**	**0.84**	**0**	*e*P	**Pg**	**03 52 16.6**	**-0.4**
DQRL				*e*S	**Sg**	**03 52 28.0**	**-0.1**
HSUJ	**Al Zarqa**	**0.92**	**145**	P	**Pg**	**03 52 18.0**	**-0.4**
ZAHL	**Zahle**	**1.03**	**15**	*e*P	**Pg**	**03 52 20.1**	**-0.5**
BHL	**Bhannes**	**1.04**	**4**	*e*P	**Pg**	**03 52 20.2**	**-0.6**
DSI	**Dead Sea**	**1.29**	**187**	P	**Pg**	**03 52 23.6**	**-2.0**
ASF	**Jabal al Asfar**	**1.31**	**121**	Pg	**Pn**	**03 52 25.4**	**0.0**
	101nm,0.3s,baz=231,slow=0.0,SNR=99						
ASF				Lg	Lg	03 52 43.3	
	171nm,0.3s,baz=218,slow=0.0,SNR=9.0						
ASF	**Jabal al Asfar**	**1.31**	**121**	P	**Pn**	**03 52 24.8**	**-0.6**
HWQ	**Hawqa**	**1.45**	**12**	*e*P	**Pn**	**03 52 27.3**	**0.0**
YTIR	**Yattir**	**1.54**	**195**	P	**Pn**	**03 52 28.2**	**-0.3**
GHAJ	**Ghor Haditha**	**1.55**	**180**	P	**Pn**	**03 52 29.0**	**+0.5**
FKH	**Fakeheh**	**1.55**	**27**	*e*P	**Pn**	**03 52 29.1**	**+0.4**
LISJ	**El Lisan**	**1.61**	**183**	P	**Pn**	**03 52 30.3**	**+0.9**
SWQJ	**Swaqa**	**1.66**	**165**	P	**Pn**	**03 52 28.5**	**-1.7**
KARJ	**KARJ**	**1.73**	**178**	P	Pn	03 52 16.6	-14
BEIL	**Beino**	**1.76**	**17**	*e*P	**Pn**	**03 52 31.9**	**+0.5**
ZFRI	**Zfri**	**2.32**	**188**	P	**Pn**	**03 52 39.5**	**+0.4**
PRNI	**Paran**	**2.54**	**191**	P	**Pn**	**03 52 42.7**	**+0.5**
HSNJ	**Maan**	**2.60**	**178**	P	**Pn**	**03 52 45.2**	**+2.2**
HANO	**Al Hamad**	**2.76**	**121**	P	**Pn**	**03 52 45.4**	**+0.1**
AKIN	**Akıncılar- Kıb**	**2.77**	**321**	Pn	**Pn**	**03 52 44.9**	**-0.4**
CSS	**Mathiatis**	**2.80**	**319**	Pn	**Pn**	**03 52 45.3**	**-0.5**
CSS				Sn	**Sn**	**03 53 18.8**	**-1.0**
KRMI	**Paran Flat**	**2.83**	**195**	P	**Pn**	**03 52 47.6**	**+1.5**
HRFI	**Mount Harif**	**2.85**	**189**	Pn	**Pn**	**03 52 47.2**	**+0.8**
HRFI				Sn	**Sn**	**03 53 22.4**	**+1.5**
EREN	**Erenkoy**	**2.91**	**337**	Pn	**Pn**	**03 52 47.1**	**-0.1**
EREN				Sn	**Sn**	**03 53 22.3**	**+0.1**
WELAS	**Turaif**	**3.03**	**110**	P	**Pn**	**03 52 49.4**	**+0.5**
MBRI	**Mt Berech**	**3.11**	**191**	P	**Pn**	**03 52 50.9**	**+0.9**
LEF	**Lefka**	**3.17**	**316**	Pn	**Pn**	**03 52 50.7**	**-0.1**
LEF				Sn	**Sn**	**03 53 28.2**	**-0.5**
LEF	**Lefka**	**3.17**	**316**	P	**Pn**	**03 52 51.9**	**+1.1**
LEF				S	**Sn**	**03 53 28.9**	**+0.2**
EIL	**Elat**	**3.22**	**190**	Pn	**Pn**	**03 52 52.5**	**+0.9**
	4.3nm,0.3s,baz=2.4,slow=6.9,SNR=22						
EIL				Sn	**Sb**	**03 53 36.9**	**-0.7**
	9.3nm,0.3s,baz=5.9,slow=17,SNR=3.7						
	9.9nm,0.4s						
AKDN	**Akdeniz- Kıbrı**	**3.25**	**319**	Pn	**Pn**	**03 52 51.7**	**-0.2**
TAHT	**Tahtakopru-Hat**	**3.54**	**8**	Pn	**Pn**	**03 52 57.4**	**+1.4**
TRAF	**Turaif**	**3.59**	**115**	P	**Pn**	**03 52 57.1**	**+0.4**
TISA	**Tisan-Mersin**	**3.65**	**335**	Pn	**Pn**	**03 52 57.8**	**+0.5**
KARG	**Kargicak-Mersi**	**3.67**	**336**	Pn	**Pn**	**03 52 58.4**	**+0.7**
AKK1	**Akkuyu-Mersin**	**3.68**	**333**	Pn	**Pn**	**03 52 58.2**	**+0.4**
YESI	**Yesilovacik-Me**	**3.69**	**335**	Pn	**Pn**	**03 52 57.9**	**0.0**
AKKU	**Akkuyu-Mersin**	**3.69**	**334**	Pn	**Pn**	**03 52 58.3**	**+0.4**
HBST	**Basata**	**3.70**	**191**	P	**Pn**	**03 53 00.1**	**+2.0**
	baz=193						
HBST				S	**Sb**	**03 53 52.0**	**+0.7**
	baz=193						
IKL	**Isikli**	**3.71**	**336**	Pn	**Pn**	**03 52 57.6**	**-0.7**
GULN	**MERSIN_Gulnar**	**3.71**	**334**	P	**Pn**	**03 52 57.8**	**-0.5**
GULN				S	**Sn**	**03 53 40.5**	**-1.6**
GULN				*i* AML	AML	03 53 45.0	
	comp=N,110nm,0.5s						
GULN				*i* AML	AML	03 53 46.0	
	comp=E,125nm,0.6s						
YORU	**Yoruktepe-Mers**	**3.74**	**332**	Pn	**Pn**	**03 52 58.9**	**+0.2**
SILI	**Silifke-Mersin**	**3.75**	**339**	Pn	**Pn**	**03 52 59.4**	**+0.6**
OREN	**Orenkoy-Mersin**	**3.77**	**333**	Pn	**Pn**	**03 52 59.5**	**+0.5**
SLFK	**Silifke-Mersin**	**3.77**	**340**	Pn	**Pn**	**03 52 59.6**	**+0.6**
KIZK	**Mersin**	**3.80**	**342**	Pn	**Pn**	**03 52 59.2**	**-0.2**
KIZK	**Mersin**	**3.80**	**342**	P	**Pn**	**03 52 59.2**	**-0.2**
KIZK				S	**Sn**	**03 53 41.2**	**-3.1**
KIZK				*i* AML	AML	03 53 44.0	
	comp=N,113nm,0.7s						
KIZK				*i* AML	AML	03 53 48.0	
	comp=E,90nm,0.6s						
SUZ	**Suez**	**3.81**	**219**	P	**Pn**	**03 53 00.3**	**+0.7**
	baz=214						
TEKE	**Tekeli-Mersin**	**3.85**	**329**	Pn	**Pn**	**03 53 00.1**	**-0.1**
BOZY	**Bozyazi-Mersin**	**3.88**	**327**	Pn	**Pn**	**03 53 01.0**	**+0.4**
KEBE	**Keben-Mersin**	**3.89**	**337**	Pn	**Pn**	**03 53 00.1**	**-0.7**
NUB	**Nuweibaa**	**3.90**	**192**	P	**Pn**	**03 53 03.0**	**+2.2**
	baz=193						
WSKAK	**WSKAK**	**3.92**	**129**	P	**Pn**	**03 53 02.0**	**+0.9**
WSKAK	**WSKAK**	**3.92**	**129**	S	**Sn**	**03 53 47.9**	**+0.7**
TEVE	**Tevekalti-Mers**	**3.98**	**344**	Pn	**Pn**	**03 53 02.2**	**+0.2**
BERE	**Bereket-Mersin**	**3.98**	**332**	Pn	**Pn**	**03 53 00.8**	**-1.3**
DED	**Mersin**	**4.14**	**351**	P	**Pn**	**03 53 03.5**	**-0.7**
DED				S	**Sn**	**03 53 50.2**	**-2.6**
DED				*i* AML	AML	03 53 59.0	
	comp=N,56nm,0.6s						
DED				*i* AML	AML	03 53 59.0	
	comp=E,112nm,0.6s						
HDHB	**Dhahab**	**4.20**	**191**	P	**Pn**	**03 53 06.7**	**+1.7**
	baz=193						
GAZI	**Gazipasa**	**4.31**	**322**	Pn	**Pn**	**03 53 06.7**	**+0.2**
GAZI	**Gazipasa**	**4.31**	**322**	P	**Pn**	**03 53 06.7**	**+0.2**
GAZI				S	**Sn**	**03 53 54.9**	**-1.9**
GAZI				*i* AML	AML	03 54 03.0	
	comp=N,129nm,0.9s						
GAZI				*i* AML	AML	03 54 05.0	
	comp=E,119nm,0.7s						
KOT	**Kottamia**	**4.33**	**229**	P	**Pn**	**03 53 06.9**	**+0.1**
	baz=223						
GAZ	**Gaziantep**	**4.51**	**17**	Pn	**Pn**	**03 53 11.4**	**+2.1**
HKAT	**Jabal Katrina**	**4.53**	**198**	P	**Pn**	**03 53 09.4**	**-0.3**
	baz=198						
KOZT	**Kozan**	**4.62**	**3**	Pn	**Pn**	**03 53 12.7**	**+2.0**
KERG	**Konya-Eregli**	**4.70**	**346**	P	**Pn**	**03 53 12.7**	**+0.8**
KERG				S	**Sn**	**03 54 06.1**	**-0.5**
KERG				*i* AML	AML	03 54 09.0	
	comp=N,182nm,0.6s						
KERG				*i* AML	AML	03 54 13.0	
	comp=E,136nm,0.9s						
KRMN	**Karaman**	**4.70**	**337**	Pn	**Pn**	**03 53 12.8**	**+0.8**
KMRS	**Kahramanmaras**	**4.76**	**13**	Pn	**Pn**	**03 53 15.1**	**+2.4**
HDMB	**Hadim**	**4.81**	**329**	Pn	**Pn**	**03 53 14.1**	**+0.5**
CMRD	**Camardi-Nigde**	**4.82**	**355**	Pn	**Pn**	**03 53 15.0**	**+1.4**
KKBE	**Karaman, Kazim**	**4.86**	**334**	P	**Pn**	**03 53 15.0**	**+0.9**
KKBE				S	**Sn**	**03 54 09.8**	**-0.7**
KKBE				*i* AML	AML	03 54 18.0	
	comp=N,35nm,0.7s						
KKBE				*i* AML	AML	03 54 18.0	
	comp=E,33nm,0.6s						
URD10	**Hayder**	**4.86**	**164**	S	**Sn**	**03 54 09.5**	**-1.0**
URD10				P	**Pn**	**03 53 14.1**	**0.0**
GRB	**Gharib**	**5.16**	**208**	P	**Pn**	**03 53 17.7**	**-0.6**
	baz=207						
URD11	**Tayma**	**5.17**	**161**	P	**Pn**	**03 53 18.7**	**+0.3**
URD12	**Shuwaq**	**5.24**	**165**	P	**Pn**	**03 53 19.3**	**-0.1**
URD06	**Shuwaq**	**5.49**	**169**	P	**Pn**	**03 53 23.7**	**+0.8**
SEDI	**Konya, Seydise**	**5.54**	**327**	P	**Pn**	**03 53 24.9**	**+1.3**
SEDI				S	**Sn**	**03 54 28.4**	**+0.9**
SEDI				*i* AML	AML	03 54 40.0	
	comp=E,42nm,1.2s						
SEDI				*i* AML	AML	03 54 45.0	
	comp=N,34nm,0.6s						
BIDS	**Bi'r al Bayda'**	**6.09**	**168**	P	**Pn**	**03 53 31.6**	**+0.6**
BRTR	**Keskin Array B**	**7.03**	**348**	Pn	**Pn**	**03 53 46.3**	**+2.4**
	0.4nm,0.3s,baz=159,slow=18,SNR=18						
BRTR				Sn	**Sn**	**03 55 02.2**	**-1.8**
	baz=150,slow=15						
BRTR				LR	LR	03 56 52.9	
	comp=Z,42nm,19.9s,baz=184,slow=42						
	2.6nm,0.7s						
IDI	**Anoyia**	**9.18**	**288**	Pn	**Pn**	**03 54 13.0**	**-0.5**
	0.7nm,0.3s,baz=104,slow=12,SNR=7.1						
IDI				Sn	**Sn**	**03 55 52.0**	**-5.0**
	1.1nm,0.3s,baz=32,slow=19,SNR=2.9						
	6.9nm,0.6s						
KBZ	**Khabaz**	**12.28**	**26**	LR	LR	04 00 19.8	
	comp=Z,62nm,18.5s,baz=184,slow=41						
VYHS	**Vyhne**	**20.05**	**326**	*e*P	**Pn**	**03 56 35.5**	**-0.4**
MODS	**Modra-Piesok**	**20.73**	**324**	*e*P	Pn	03 56 43.5	-0.3
KEST	**Kesra**	**21.83**	**285**	P	**P**	**03 56 55.7**	**+2.2**
	3.1nm,0.9s,baz=12,slow=4.4,SNR=5.2						
	3.1nm,0.9s						
GERES	**GERESS Array B**	**22.87**	**321**	P	**P**	**03 57 03.9**	**-0.6**
	0.3nm,0.3s,baz=153,slow=12,SNR=5.1						
GERES				LR	LR	04 08 49.6	
	comp=Z,27nm,19.4s,baz=140,slow=44						
	0.3nm,0.3s						
AKTO	**Aktyubinsk**	**24.13**	**37**	P	**P**	**03 57 16.5**	**-0.4**
	1.7nm,0.6s,baz=248,slow=8.9,SNR=4.6						
AKTO				LR	LR	04 08 40.8	
	comp=Z,41nm,19.6s,baz=280,slow=42						
	1.7nm,0.6s						
CLL	**Collm**	**24.74**	**325**	*e*P	**P**	**03 57 23.0**	**+0.7**
	comp=Z,4.0nm,1.2s						
CLL				*i* pP	**sP**	**03 57 26.1**	**-0.1**
	comp=Z,14nm,1.8s						
CLL				*e*PPP	PPP	03 58 02.0	
FINES	**FINESS Array B**	**29.25**	**351**	P	**P**	**03 58 02.5**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=123,slow=14,SNR=4.0						
	comp=Z,1.1nm,0.7s						
HFS	**Hagfors**	**30.86**	**339**	P	**P**	**03 58 17.2**	**+0.1**
	comp=Z,2.7nm,1.1s,baz=156,slow=14,SNR=1.9						
	comp=Z,2.7nm,1.1s						
BVAR	**Borovoye Array**	**32.03**	**41**	LR	LR	04 13 21.6	
	comp=Z,29nm,19.2s,baz=213,slow=40						
ESDC	**Sonseca Array**	**32.39**	**294**	P	**P**	**03 58 31.5**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=82,slow=8.8,SNR=9.5						
	comp=Z,1.0nm,0.8s						
MBAR	**Mbarara**	**33.59**	**189**	LR	LR	04 12 33.5	
	comp=Z,48nm,19.9s,baz=78,slow=36						
TORD	**Torodi Ar. Bea**	**36.60**	**246**	P	**P**	**03 59 08.7**	**+1.3**
	comp=Z,0.6nm,1.0s,baz=66,slow=6.9,SNR=2.3						
	comp=Z,0.6nm,1.0s						
MKAR	**Makanchi Array**	**37.93**	**54**	P	**P**	**03 59 18.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=285,slow=5.5,SNR=2.3						
MKAR				LR	LR	04 17 56.4	
	comp=Z,36nm,20.3s,baz=180,slow=41						
	comp=Z,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**40.51**	**44**	LR	LR	04 19 21.9	
	comp=Z,26nm,18.9s,baz=212,slow=41						
PALK	**Pallekele**	**48.93**	**111**	LR	LR	04 22 34.7	
	comp=Z,75nm,18.2s,baz=206,slow=38						

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*NEIC **04** 03:54:30.3±0.8, 18°.2N±0°.2×68°.08W±0°.09, h106km±9km, ML2.4/16,

MLPR	Magueyes Islan	0.98	105	*e*Pg	Pn	03 54 52.1	+0.8
MLPR			⇓	*e*Sg	Sn	03 55 06.6	-0.7
MLPR				IAML		03 55 07.9	
	comp=N,21nm,2.8s						
MLPR				IAML		03 55 09.8	
	comp=E,16nm,1.9s						
MIDR	Miches	1.22	308	⇑*e*Pg	Pn	03 54 54.2	+0.4
MIDR			⇑	*e*Sg	Sn	03 55 11.4	-0.4
MIDR				IAML		03 55 13.3	
	comp=N,31nm,2.9s						
AOPR	Arecibo Observ	1.23	84	⇓*e*P	Pn	03 54 54.9	+0.8
AOPR	Arecibo Observ	1.23	84	*e*S	Sn	03 55 11.5	-0.6
AOPR	Arecibo Observ	1.23	84		Pn	03 54 53.8	-0.2
AOPR	Arecibo Observ	1.23	84		Sn	03 55 11.5	-0.6
AOPR	Arecibo Observ	1.23	84	IAML		03 55 12.9	
	comp=E,69nm,0.4s						
AOPR				IAML		03 55 13.5	
	comp=N,58nm,0.2s						
AOPR	Arecibo Observ	1.23	84	*e*Pg	Pn	03 54 54.4	+0.4
AOPR				*e*Sg	Sn	03 55 11.4	-0.6
AOPR				IAML		03 55 13.3	
	comp=N,57nm,0.2s						
AOPR	Arecibo Observ	1.23	84	*e*Pg	Pn	03 54 54.6	+0.6
AOPR				*e*Sg	Sn	03 55 11.4	-0.7
AOPR				IAML		03 55 13.4	
	comp=N,57nm,0.2s						
AOPR				IAML		03 55 13.4	
	comp=E,56nm,0.6s						
UUPR	Utuado, UPR, P	1.26	88	⇑*e*P	Pn	03 54 54.6	+0.3
UUPR	Utuado, UPR, P	1.26	88	*e*S	Sn	03 55 12.3	-0.3
UUPR	Utuado, UPR, P	1.26	88		Pn	03 54 54.6	+0.3
UUPR					Sn	03 55 12.3	-0.3
HATOM	Hato Mayor del	1.39	294	*e*Pg	Pn	03 54 55.7	-0.2
HATOM				*e*Sg	Sn	03 55 15.2	-0.2
HATOM	Hato Mayor del	1.39	294	⇑*e*Pg	Pn	03 54 56.0	+0.1
HATOM				*e*Sg	Sn	03 55 14.6	-0.8
HATOM				IAML		03 55 18.8	
	comp=E,15nm,1.8s						
HATOM				IAML		03 55 21.3	
	comp=N,23nm,1.8s						
CELP	Cerrillos	1.40	96	⇓*e*P	Pn	03 54 56.1	+0.2
CELP	Cerrillos	1.40	96	*e*S	Sn	03 55 15.1	-0.4
CELP	Cerrillos	1.40	96		Pn	03 54 56.1	+0.2
CELP	Cerrillos	1.40	96		Sn	03 55 15.1	-0.4
CELP				IAML		03 55 47.0	
	comp=N,16nm,2.4s						
CELP	Cerrillos	1.40	96	*e*Pg	Pn	03 54 56.7	+0.8
CELP				*e*Sg	Sn	03 55 15.6	+0.1
CELP				IAML		03 55 46.4	
	comp=N,14nm,2.4s						
CELP	Cerrillos	1.40	96	*e*Pg	Pn	03 54 56.6	+0.7
CELP			⇑	*e*Sg	Sn	03 55 14.7	-0.7
CELP				IAML		03 55 22.9	
	comp=N,13nm,1.4s						
EMPR	Esperanza - Ma	1.46	80	⇑*e*P	Pn	03 54 56.9	+0.3
EMPR	Esperanza - Ma	1.46	80	*e*S	Sn	03 55 16.9	+0.2
EMPR	Esperanza - Ma	1.46	80		Pn	03 54 57.0	+0.3
EMPR					Sn	03 55 16.2	-0.5

JSO ***04*** *04:19:18, 32.°88N×35.°57E, h6km, ML2.8/15*
GRAL ***04*** *04:19:19.0±0.2, 32.°88N×35.°56E, h0km±2km, MD3.3*
ISC 04 04:19:18.6±1.0, 32.°87N±0.°03×35.°67E±0.°05, h13km, n19, σ1§24/21, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHMJ	Saham	0.17	151	P	Pg	04 19 22.3	-0.2
GEM	Giv'at Ha'Em	0.34	359	P	Pg	04 19 25.3	-0.1
BLGI	Bet Lehem HaGe	0.42	251	P	Pn	04 19 31.1	+0.7
HNTI	Hanita	0.46	297	P	Pn	04 19 33.9	+2.9
QRNJ	Al-Qirein	0.54	188	P	Pg	04 19 29.0	-0.2
HMDT	Nahal Hemdat	0.63	191	P	Pg	04 19 29.9	-1.0
RCY	Rachaya	0.64	13	*e*P	Pg	04 19 30.8	-0.3
RCY				*e*S	Sg	04 19 39.6	+0.1
QRWL	Qaraoun	0.67	1	*e*P	Pg	04 19 31.2	-0.5
SLTI	Sal'it	0.82	220	P	Pg	04 19 33.4	-1.2
DQRL	Deir Qamar	0.83	354	*e*P	Pg	04 19 33.9	-0.9
DQRL				*e*S	Sg	04 19 44.9	-0.8
HSUJ	Al Zarqa	0.89	150	P	Pg	04 19 35.9	+0.2
ZAHL	Zahle	1.00	10	*e*P	Pb	04 19 37.3	-0.6
BHL	Bhannes	1.03	359	*e*P	Pb	04 19 37.5	-0.8
ASF	Jabal al Asfar	1.25	124	P	Pn	04 19 42.9	+1.0
DSI	Dead Sea	1.32	191	P	Pn	04 19 41.5	-1.3
HWQ	Hawqa	1.42	9	*e*P	Pn	04 19 44.4	+0.2
BEIL	Beino	1.72	14	*e*P	Pn	04 19 49.2	+0.9
PRNI	Paran	2.58	193	P	Pn	04 20 01.3	+1.2
MBRI	Mt Berech	3.14	192	P	Pn	04 20 10.7	+2.9

HEL 04 04:39:49.1±0.2, 67.°76N×33.°71E, h0km, ML1.2, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	Lovozero	0.39	68	PG	Pg	04 39 56.1	-0.4
LVZ				SG	Sg	04 40 01.6	+0.1
VRF	Varrio	1.56	272	PG	Pn	04 40 17.6	-0.5
VRF				MSG		04 40 35.8	
	comp=Z,1.5nm,0.2s						
VRF				SN	Sn	04 40 37.9	-1.1
RAJF	Raja-Jooseppi	2.15	292	PG	Pb	04 40 27.7	-1.1
OLKF	Oulanka, Finla	2.22	232	MSG		04 40 54.9	
	comp=Z,1.0nm,0.2s						
KU6	Riekki	2.30	223	PB	Pn	04 40 28.5	+0.3
KU6				MSG		04 40 57.2	
	comp=Z,0.6nm,0.2s						
KU6				SN	Sn	04 40 57.4	+0.2
MSF	Maaselka	2.62	227	SB	Sb	04 41 07.8	-1.6
KEV	Kevo	3.16	313	PB	Pn	04 40 41.1	+1.1
ARA0	ARCESS Array S	3.49	305	PN	Pn	04 40 44.5	-0.1
	baz=117						
HEF	Hetta	3.82	284	PB	Pn	04 40 52.5	+3.4
HEF				SN	Sn	04 41 31.7	-3.0

ASIES ***04*** *04:50:59.9, 24.°07N×122.°27E, h21km, ML3.6, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}2.55; $M_{\theta\theta}$-2.68; $M_{\phi\phi}$0.13; $M_{r\theta}$-0.34; $M_{\theta\phi}$0.43; $M_{\phi r}$1.27; Fault plane solution: $M_0$2.96254×10^{21} NP1: ϕ_s300.02000°, δ54.83000°, λ117.32000°. NP2: ϕ_s78.13000°, δ43.42000°, λ56.92000°. Principal axes: T Plg67.0490°, Azm266.3390°; N Plg22.0340°, Azm103.4500°; P Plg6.1050°, Azm10.9690°;*
TAP ***04*** *04:50:59.9, 24.°07N×122.°27E, h21km, ML3.6, C*
JMA ***04*** *04:50:59.0±0.1, 24.°0N±0.°7×122.°3E±0.°3, h30km±2km, MV3.5/14, TAIWAN REGION*
ISC 04 04:50:59.6±0.9, 24.°02N±0.°02×122.°30E±0.°02, h24km±6km, n126, σ0§84/168, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.10	10	*e*P	Pb	04 51 03.4	-0.4
	baz=41						
EOS4				*e*S	Sb	04 51 06.7	+0.2
	baz=41						
EOS3	EOS3	0.26	3	⇓P	Pb	04 51 05.6	-0.3
	baz=350						
EOS3				*e*S	Sb	04 51 10.4	+0.2
	baz=350						
EOS2	EOS2	0.40	351	⇓*i*P	Pb	04 51 08.1	0.0
	baz=340						
EOS2				*e*S	Sn	04 51 14.4	-2.1
	baz=340						
EAHA	Aohua	0.60	301	*e*P	Pb	04 51 10.8	-0.6
	baz=298						
ETL	Fush Village	0.63	282	*e*P	Pb	04 51 12.3	+0.2
	baz=261						
EWUT	Wuta	0.64	312	*i* P	Pb	04 51 11.1	-1.0
	baz=317						
HWA	Hwalien	0.64	266	*e*P	Pb	04 51 12.1	0.0
	baz=246						
TWD	Chiawan	0.65	275	*e*P	Pb	04 51 12.0	-0.3
	baz=272						
TWD				*e*S	Sb	04 51 21.2	+0.3
	baz=272						
ENA	Nanau	0.65	308	P	Pb	04 51 11.3	-1.0
	baz=314						
TEYL	Yanliau Villag	0.66	257	*e*P	Pb	04 51 12.4	-0.1
	baz=241						
NACB	Ninganchiao	0.66	283	P	Pb	04 51 12.3	-0.2
NACB	Ninganchiao	0.66	283	P	Pb	04 51 12.1	-0.4
	baz=263						
ESAO	Su ao	0.69	323	P	Pb	04 51 11.7	-1.3
	baz=329						
ESAO				*e*S	Sb	04 51 20.6	-1.5
	baz=329						
TWC	Suao	0.71	325	⇓*i*P	Pb	04 51 12.1	-1.4
	baz=332						
SHUL	Shoufeng	0.71	251	*e*P	Pb	04 51 13.2	-0.2
	baz=247						
JYNG	Yonaguni jima	0.73	54	*e*P	Pb	04 51 13.2	-0.5
JYNG				*e*S	Sb	04 51 24.1	+0.9
ETM	Tongmen	0.74	266	*e*P	Pb	04 51 13.1	-0.7
	baz=249						
YOJ	Yonaguni jima	0.78	56	P	Pb	04 51 14.5	-0.1
YOJ	Yonaguni jima	0.78	56	*e*P	Pb	04 51 14.5	-0.1
	baz=58						
YOJ				*e*S	Sn	04 51 26.2	+0.1
	baz=58						
YOJ	Yonaguni jima	0.78	56	*e*P	Pb	04 51 14.2	-0.4
YOJ				*e*S	Sb	04 51 25.6	+0.8
NDS	Dongshan	0.81	319	P	Pb	04 51 14.3	-0.8
	baz=324						
LXIB	Xiulin Townshi	0.81	270	*e*P	Pb	04 51 14.4	-0.7
	baz=267						
LXIB				*e*S	Sn	04 51 26.1	-0.9
	baz=267						
ESL	Shilin	0.82	255	*e*P	Pb	04 51 14.3	-1.0
	baz=240						
LATG	Datong	0.87	306	*e*P	Pb	04 51 15.7	-0.5
	baz=304						
EGS		0.88	338	*e*P	Pb	04 51 15.6	-0.7
	baz=338						
EGS				*e*S	Sn	04 51 28.1	-0.5
	baz=338						
WARBT	Fenglin Townsh	0.89	250	*e*P	Pb	04 51 15.1	-1.3
	baz=236						
ILA	Ilan	0.89	326	*e*P	Pn	04 51 16.2	-0.5
	baz=326						
ILA				*e*S	Sn	04 51 28.0	-0.9
	baz=326						
TWE	Neicheng	0.90	320	*e*P	Pb	04 51 15.8	-0.9
	baz=329						
ENTT	Nioudou	0.91	313	*e*P	Pb	04 51 16.2	-0.6
	baz=311						
NDT	Datong Townshi	0.92	309	*e*P	Pn	04 51 16.8	-0.3
	baz=307						
NNS	Nan Shan	0.94	296	*e*P	Pb	04 51 17.1	-0.3
	baz=295						
NNS				S	Sn	04 51 30.1	-0.1
	baz=295						
WHF	Hehuan Shan	0.95	277	*e*P	Pb	04 51 17.1	-0.7
	baz=260						
HGSD	Ruisui	0.96	237	*e*P	Pb	04 51 16.7	-0.9
	baz=234						
FUSB	Fushanzhiwuyua	0.98	319	*e*P	Pn	04 51 17.6	-0.3
	baz=318						
FUSB				*e*S	Sn	04 51 31.2	+0.2
	baz=318						
FUSS	Fushou	0.99	283	*e*P	Pb	04 51 17.9	-0.3
	baz=281						
TWB1	Santiao Chiao	1.02	344	*e*P	Pn	04 51 18.2	-0.2
	baz=344						
EHYH	Wanrong	1.02	239	*e*P	Pn	04 51 19.0	+0.6
	baz=225						
CHGB	Renai	1.03	272	*e*P	Pb	04 51 18.1	-0.8
	baz=257						
OWD	Renai	1.03	266	*e*P	Pb	04 51 18.0	-0.9
	baz=264						
EHY	Hungye	1.03	240	*e*P	Pb	04 51 17.6	-1.3
	baz=226						
TIPB	Shuangxi	1.04	336	*e*P	Pn	04 51 18.5	-0.2
	baz=335						
TIPB				*e*S	Sn	04 51 31.4	-1.1
	baz=335						
NWLT	Wulai	1.04	316	*i* P	Pn	04 51 18.9	+0.2
	baz=325						
NWLT				*e*S	Sn	04 51 32.1	-0.5
	baz=325						
ECBN	Changbin	1.05	228	*e*P	Pb	04 51 17.9	-1.2
	baz=226						
ECBN				*e*S	Sb	04 51 31.8	-0.7
	baz=226						
TWT	Tachien	1.05	283	*e*P	Pn	04 51 19.6	+0.6
	baz=266						
YHNB	Yeheng	1.06	308	P	Pn	04 51 19.1	0.0
YHNB	Yeheng	1.06	308	*e*P	Pn	04 51 19.0	-0.1
	baz=306						
TDCB	Techi	1.07	283	*e*P	Pb	04 51 19.2	-0.4
	baz=266						
NSK	Sanguang	1.08	307	*e*P	Pn	04 51 19.1	-0.2
	baz=306						
WUSB	Renai	1.08	269	*e*P	Pb	04 51 19.0	-0.7
	baz=266						
VWDT	VWDT	1.09	256	*e*P	Pn	04 51 19.1	-0.3
	baz=245						
YULB	Yu-li	1.11	236	P	Pn	04 51 18.9	-0.8
YULB	Yu-li	1.11	236	*i* P	Pn	04 51 18.9	-0.8
	baz=221						
YULB				S	Sb	04 51 33.7	-0.6
	baz=221						
EYUL	Yuli	1.12	233	*e*P	Pn	04 51 19.4	-0.4
	baz=219						
EYUL				*e*S	Sb	04 51 34.4	-0.2
	baz=219						
SXI1	Grass Mountain	1.13	340	P	Pn	04 51 19.6	-0.5
	baz=339						
TWF1	Yuli	1.14	234	*e*P	Pn	04 51 19.2	-0.9
	baz=232						
NWF	Wu-fen Shan	1.15	336	*e*P	Pb	04 51 20.2	-0.6
	baz=335						
NWF				*e*S	Sn	04 51 35.1	-0.1
	baz=335						
WFSB	Wu-fen Shan	1.15	336	*e*P	Pb	04 51 20.2	-0.5
	baz=335						
WFSB				*e*S	Sn	04 51 35.3	+0.2
	baz=335						
TWA	Mucha	1.16	326	*e*P	Pb	04 51 21.1	+0.2
	baz=333						
TWA				*e*S	Sn	04 51 36.2	+0.8
	baz=333						
CHKH	Chenggong	1.17	225	*e*P	Pn	04 51 19.9	-0.6
	baz=211						
CHKH				*e*S	Sb	04 51 34.2	-1.8
	baz=211						
NHDH	Xindian Distri	1.17	323	*e*P	Pb	04 51 21.5	+0.2
	baz=322						
NHDH				*e*S	Sn	04 51 37.1	+1.4
	baz=322						
TATO	Taipei	1.20	322	P	Pb	04 51 22.3	+0.6
TNOU	National Taiwa	1.22	337	*e*P	Pb	04 51 21.8	-0.2
	baz=351						
FULB	Fuli	1.23	229	*e*P	Pn	04 51 20.3	-1.1
	baz=213						
NFF	Wufeng Townshi	1.24	300	*e*P	Pb	04 51 22.5	+0.1
	baz=298						
SSLB	Suanglung	1.25	259	P	Pn	04 51 21.7	0.0
SSLB	Suanglung	1.25	259	*e*P	Pn	04 51 21.5	-0.1
	baz=258						
CHKT	Chengkung	1.26	223	*e*P	Pn	04 51 22.6	+0.9
	baz=221						
WHP	Taichung City	1.26	282	*e*P	Pb	04 51 23.5	+0.7
	baz=268						
WCS	Beigang Elemen	1.27	272	*e*P	Pn	04 51 22.1	+0.3
	baz=270						
SMLT	Sun Moon Lake	1.29	264	*e*P	Pn	04 51 22.3	+0.1
	baz=262						
YM01	YM01	1.30	329	*e*P	Pb	04 51 23.5	+0.1
	baz=345						
TYC	Yuchr	1.32	265	*e*P	Pn	04 51 23.1	+0.5
	baz=264						
YM08	YM08	1.33	331	*e*P	Pb	04 51 23.6	-0.3
	baz=346						
EHD	Haiduan	1.33	229	*e*P	Pn	04 51 21.9	-0.8
	baz=215						
NSTT	Nanjuang	1.33	297	*e*P	Pb	04 51 24.0	+0.1
	baz=296						
NSTT				*e*S	Sb	04 51 40.6	0.0
	baz=296						
TWS1	Kuangyinshan	1.34	323	*e*S	Sb	04 51 41.6	+0.8
	baz=334						
IRIF	Iriomote-Funau	1.34	76	*e*P	Pn	04 51 23.0	+0.2
YUS	Yu-Shan	1.34	247	*e*P	Pn	04 51 23.6	+0.3
	baz=246						
YUS				*i* S	Sn	04 51 40.2	-0.5
	baz=246						
ANP	Anpu	1.36	329	*e*P	Pb	04 51 23.6	-0.9
	baz=327						
WHYT	Xinyi Township	1.36	256	P	Pn	04 51 23.8	+0.6
	baz=245						
WHYT				*e*S	Sb	04 51 41.2	-0.3
	baz=245						
NTST	Danshui	1.38	326	*e*P	Pb	04 51 24.1	-0.5
	baz=342						
HATJ	Hateruma jima	1.38	88	*e*S	Sn	04 51 40.8	0.0
NCUH	Zhongli	1.38	313	*e*P	Pb	04 51 24.4	-0.4
	baz=311						
TWY	Chenhua	1.40	333	*e*P	Pb	04 51 24.7	-0.4
	baz=348						
TWQ1	Liyutan	1.43	283	*e*P	Pb	04 51 26.0	+0.4
	baz=269						
TWQ1				*e*S	Sb	04 51 44.2	+0.7
	baz=269						
ELDTW	Lidau	1.44	235	*e*P	Pn	04 51 23.4	-0.9
	baz=221						
ELDTW				*e*S	Sn	04 51 41.1	-1.4
	baz=221						
NSY	Sanyi	1.46	286	*e*P	Pb	04 51 26.6	+0.5
	baz=272						
NSY				*e*S	Sb	04 51 45.4	+1.1
	baz=272						
NMLH	Miaoli	1.47	291	*e*S	Sb	04 51 45.6	+1.0
	baz=276						
LDUT	Ludao	1.55	210	*e*P	Pn	04 51 25.1	-0.5
	baz=209						
LONT	Longtian	1.55	224	*e*P	Pn	04 51 24.9	-0.8
	baz=223						
JKRS	Kuro-shima	1.58	82	*e*S	Sn	04 51 45.4	-0.2
PCYT	Pengchaiyu	1.61	353	*e*P	Pn	04 51 26.4	-0.2
	baz=352						
WGK	Gukeng	1.63	258	*e*P	Pb	04 51 29.3	+0.4
	baz=258						
WGK				*e*S	Sb	04 51 49.8	+0.8
	baz=258						
STYH	Taoyuan	1.64	239	*e*S	Sn	04 51 47.4	+0.3
	baz=227						
TWGBT	Beinan	1.64	223	P	Pn	04 51 25.8	-1.2
TWGBT	Beinan	1.64	223	*e*P	Pn	04 51 26.1	-0.9
	baz=223						
TWG	Pinlang	1.65	224	*e*P	Pn	04 51 26.9	-0.2
	baz=223						
WDLH	Douliu	1.65	259	*e*P	Pb	04 51 29.2	-0.1
	baz=258						
WCKO	Fanlu	1.66	250	*e*P	Pb	04 51 29.2	-0.4
	baz=238						
WCKO				*e*S	Sb	04 51 50.0	0.0
	baz=238						
TPUB	Ta-pu	1.69	245	P	Pn	04 51 29.0	+1.3
TPUB	Ta-pu	1.69	245	*e*P	Pn	04 51 29.0	+1.3
	baz=244						
JIJ	Ishigaki jima	1.72	78	*e*P	Pn	04 51 28.1	+0.1
JIJ				*e*S	Sn	04 51 48.7	-0.5
WTP	Ta-pu	1.73	244	*e*P	Pn	04 51 29.5	+1.3
	baz=243						
WTP				*e*S	Sb	04 51 52.1	0.0
	baz=243						
WRL	Guolierlin Hig	1.76	266	*e*P	Pb	04 51 30.1	-1.2
	baz=266						
WRL				*e*S	Sb	04 51 53.1	+0.1
	baz=266						
TWK	Hsinying	1.82	246	*e*P	Pn	04 51 30.9	+1.4
	baz=245						
CHN1	Nanshi	1.83	243	*e*P	Pn	04 51 31.0	+1.5
	baz=243						
CHN1				*e*S	Sb	04 51 55.1	+0.2
	baz=243						
SLGT	Liugui	1.83	236	*e*P	Pn	04 51 30.7	+1.1
	baz=224						
SGST	Jiashian	1.83	240	*e*P	Pn	04 51 30.8	+1.2
	baz=239						
SGST				*e*S	Sb	04 51 54.6	-0.4
	baz=239						
SNST	Tainan City	1.84	245	*e*P	Pn	04 51 31.0	+1.4
	baz=244						
ECL	Taimali	1.88	221	*e*P	Pn	04 51 32.2	+1.9
	baz=232						
JISG	Ishigakijimahi	1.92	73	*e*P	Pn	04 51 30.8	+0.1
JISG				*e*S	Sn	04 51 53.8	-0.4
WSF	Szhu	1.94	259	*e*S	Sb	04 51 58.0	-0.1
	baz=258						
SSD	Sandimen	1.99	231	*e*P	Pn	04 51 33.6	+1.8
	baz=223						
SSD				*e*S	Sn	04 51 58.1	+2.2
	baz=223						
SCST	Cishan	2.01	236	*e*P	Pb	04 51 34.7	-0.8
	baz=223						
SCST				*e*S	Sb	04 52 01.3	+1.3
	baz=223						
MASBT	Mashibuluo	2.08	228	*e*P	Pn	04 51 33.8	+0.8
	baz=218						
TAW	Tawu	2.10	218	*e*P	Pn	04 51 35.0	+1.7
	baz=218						
EAST	Anshuo	2.11	220	*e*P	Pn	04 51 35.3	+1.8
	baz=219						
TSCK	Chigu Township	2.21	247	*e*P	Pn	04 51 37.1	+2.3
	baz=247						
TSCK				*e*S	Sb	04 52 04.5	-1.3
	baz=247						
SCZT	Fangliau	2.26	224	*e*P	Pn	04 51 37.9	+2.5
	baz=216						
PHUB	P'eng-hu	2.55	259	*e*P	Pn	04 51 40.3	+0.9
	baz=259						
PHUB				*e*S	Sn	04 52 10.2	+0.5
	baz=259						
PNG	Penghu	2.56	260	*e*P	Pn	04 51 40.6	+1.0
	baz=260						
PNG				*e*S	Sn	04 52 10.4	+0.5
	baz=260						
VCHM	Qimei	2.75	253	*e*P	Pn	04 51 43.2	+0.9
	baz=253						
VWUC	VWUC	2.77	291	*e*P	Pn	04 51 42.8	+0.4
	baz=290						
PTMZ	Houxiangcun	3.07	290	*e*P	Pn	04 51 46.9	+0.3
	baz=289						
KNMB	Chin-men Tao	3.60	278	*e*P	Pn	04 51 54.5	+0.7
	baz=276						
MHZQ	Yeshan	3.62	306	*e*P	Pn	04 51 54.6	+0.5
	baz=304						

TAP ***04*** *04:52:57.2, 23.°89N×122.°61E, h27km, ML3.5, D*
JMA ***04*** *04:52:57.6±0.2, 24.°N±1.°×122.°5E±0.°6, h23km, MV3.1/14, NW OFF ISHIGAKIJIMA IS*
ISC 04 04:52:56.5±1.2, 23.°78N±0.°03×122.°57E±0.°02, h19km±3km, n109, σ0§67/144, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.41	325	*i* P	Pg	04 53 04.9	0.0
	baz=311						
EOS4				S	Sg	04 53 10.7	+0.1
	baz=311						
EOS3	EOS3	0.56	335	*i* P	Pb	04 53 07.5	+0.1
	baz=328						
EOS2	EOS2	0.71	334	*e*P	Pb	04 53 10.5	+0.4
	baz=320						
JYNG	Yonagunijimaku	0.75	27	*e*P	Pb	04 53 10.4	-0.5
JYNG				*e*S	Sb	04 53 18.6	-2.1
YOJ	Yonaguni jima	0.79	30	*e*P	Pb	04 53 10.9	-0.6
	baz=38						
YOJ				*e*S	Sb	04 53 20.0	-1.8
	baz=38						
YOJ	Yonaguni jima	0.79	30	P	Pb	04 53 11.2	-0.3
YOJ				*e*S	Sb	04 53 20.0	-1.8
TEYL	Yanliau Villag	0.90	276	*e*P	Pg	04 53 13.8	-0.3
	baz=272						
TEYL				*e*S	Sn	04 53 26.5	0.0
	baz=272						
SHUL	Shoufeng	0.93	271	*e*P	Pg	04 53 14.8	+0.2
	baz=264						
EAHA	Aohua	0.94	306	*i* P	Pb	04 53 14.3	+0.2
	baz=299						
TWD	Chiawan	0.94	289	*e*P	Pb	04 53 13.8	-0.4
	baz=283						
TWD				*e*S	Sb	04 53 25.9	-0.3
	baz=283						
ETL	Fush Village	0.95	294	*e*P	Pn	04 53 14.9	+0.1
	baz=286						
NACB	Ninganchiao	0.98	294	*e*P	Pb	04 53 14.3	-0.5
	baz=287						
EWUT	Wuta	0.98	312	*i* P	Pb	04 53 14.5	-0.4
	baz=307						
EWUT				*e*S	Sb	04 53 28.1	+0.6
	baz=307						
ENA	Nanau	1.00	310	P	Pb	04 53 14.8	-0.4
	baz=304						

ETM	Tongmen	1.01 281	eP	Pb	04 53 14.8	-0.5
	baz=264					
ESAO	Su ao	1.03 320	eP	Pb	04 53 15.0	-0.8
	baz=314					
EGFH	Guangfu	1.06 264	eP	Pn	04 53 16.3	+0.1
	baz=259					
EGFH			S	Sg	04 53 30.7	-0.2
	baz=259					
TWC	Suao	1.06 321	i P	Pb	04 53 15.3	-0.9
	baz=311					
TWC			eS	Sb	04 53 28.4	-1.2
	baz=311					
LXIB	Xiulin Townshi	1.09 283	eP	Pb	04 53 16.5	-0.3
	baz=264					
WARBT	Fenglin Townsh	1.09 267	P	Pb	04 53 16.1	-0.6
	baz=249					
WARBT			eS	Sb	04 53 30.7	+0.1
	baz=249					
HGSD	Ruisui	1.09 255	eP	Pb	04 53 16.3	-0.5
	baz=250					
ECBN	Changbin	1.13 246	eP	Pb	04 53 17.4	0.0
	baz=228					
ECBN			eS	Sn	04 53 32.1	-0.1
	baz=228					
NDS	Dongshan	1.16 317	eP	Pn	04 53 17.6	0.0
	baz=312					
HATJ	Hateruma jima	1.16 76	eP	Pb	04 53 18.7	+0.8
HATJ			eS	Sn	04 53 33.8	+0.9
EHYH	Wanrong	1.16 256	eP	Pb	04 53 18.1	+0.2
	baz=251					
EHY	Hungye	1.18 257	eP	Pn	04 53 18.0	0.0
	baz=253					
EHY			eS	Sn	04 53 33.8	+0.3
	baz=253					
IRIF	Iriomote-Funau	1.19 62	eP	Pb	04 53 18.9	+0.5
IRIF			eS	Sn	04 53 34.7	+1.0
EGS		1.21 331	eP	Pn	04 53 18.5	+0.1
	baz=327					
LATG	Datong	1.22 308	eP	Pn	04 53 18.7	+0.1
	baz=303					
EYUL	Yuli	1.23 250	i P	Pb	04 53 19.0	-0.1
	baz=246					
EYUL			eS	Sg	04 53 35.7	-0.8
	baz=246					
YULB	Yu-li	1.23 252	i P	Pb	04 53 18.9	-0.3
	baz=248					
YULB			i S	Sn	04 53 35.2	+0.4
	baz=248					
TWF1	Yuli	1.25 250	i P	Pb	04 53 19.1	-0.3
	baz=235					
TWE	Neicheng	1.25 319	P	Pn	04 53 19.3	+0.4
	baz=315					
TWE			eS	Sb	04 53 35.0	-0.1
	baz=315					
WHF	Hehuan Shan	1.25 287	i P	Pn	04 53 19.1	-0.2
	baz=283					
WHF			eS	Sb	04 53 35.5	-0.1
	baz=283					
ENTT	Nioudou	1.26 313	eP	Pn	04 53 19.4	+0.4
	baz=294					
NNSB	Datong	1.27 301	P	Pn	04 53 19.2	0.0
	baz=295					
NDT	Datong Townshi	1.27 310	eP	Pb	04 53 20.1	+0.3
	baz=305					
NNS	Nan Shan	1.28 301	eP	Pn	04 53 19.7	+0.3
	baz=297					
NNS			S	Sn	04 53 35.7	-0.4
	baz=297					
OWD	Renai	1.29 278	eP	Pn	04 53 19.7	0.0
	baz=273					
CHKT	Chengkung	1.30 239	eP	Pn	04 53 19.5	-0.1
	baz=223					
CHKT			S	Sn	04 53 35.3	-1.1
	baz=223					
FUSS	Fushou	1.30 291	i P	Pn	04 53 20.0	+0.1
	baz=287					
FUSS			eS	Sn	04 53 36.8	-0.1
	baz=287					
FULB	Fuli	1.31 244	P	Pn	04 53 19.5	-0.3
	baz=228					
FULB			eS	Sn	04 53 36.4	-0.3
	baz=228					
CHGB	Renai	1.31 283	eP	Pn	04 53 19.9	0.0
	baz=266					
VWDT	VWDT	1.31 269	P	Pn	04 53 20.0	+0.2
	baz=264					
FUSB	Fushanzhiwuyua	1.33 317	P	Pn	04 53 20.4	+0.3
	baz=313					
TWB1	Santiao Chiao	1.33 337	eP	Pb	04 53 20.9	0.0
	baz=333					
WUSB	Renai	1.35 279	eP	Pn	04 53 20.5	+0.1
	baz=274					
TWT	Tachien	1.36 290	eP	Pb	04 53 21.3	-0.2
	baz=286					
TWT			eS	Sb	04 53 38.9	+0.4
	baz=286					
TIPB	Shuangxi	1.37 330	eP	Pb	04 53 21.5	0.0
	baz=326					
TDCB	Techi	1.38 290	eP	Pn	04 53 21.2	+0.4
	baz=287					
TDCB			eS	Sn	04 53 38.6	0.0
	baz=287					
JKRS	Kuro-shima	1.39 71	eP	Pb	04 53 22.0	+0.2
NWLT	Wulai	1.39 316	eP	Pb	04 53 21.9	0.0
	baz=311					
EHD	Haiduan	1.41 244	eP	Pn	04 53 21.3	+0.2
	baz=230					
YHNB	Yeheng	1.41 309‖	eP	Pn	04 53 21.4	+0.3
	baz=304					
ECS	Chishang	1.42 242	eP	Pg	04 53 22.9	-1.0
	baz=228					
NSK	Sanguang	1.42 309	eP	Pn	04 53 22.2	+0.8
	baz=304					
SXI1	Grass Mountain	1.45 334	P	Pn	04 53 21.8	0.0
	baz=345					
NWF	Wu-fen Shan	1.47 331	eP	Pn	04 53 23.0	+0.9
	baz=327					
WFSB	Wu-fen Shan	1.47 331	eP	Pn	04 53 22.9	+0.9
	baz=327					
SSLB	Suanglung	1.48 271	eP	Pn	04 53 22.6	+0.4
	baz=266					
TWA	Mucha	1.50 323	eP	Pb	04 53 24.0	+0.3
	baz=319					
YUS	Yu-Shan	1.52 259	P	Pb	04 53 23.6	-0.7
	baz=256					
SMLT	Sun Moon Lake	1.54 274	P	Pb	04 53 23.7	-0.7
	baz=271					
SMLT			eS	Sn	04 53 42.9	+0.4
	baz=271					
ELDTW	Lidau	1.55 248	eP	Pn	04 53 23.2	+0.1
	baz=245					
TNOU	National Taiwa	1.55 332	eP	Pn	04 53 23.1	+0.1
	baz=328					
WCS	Beigang Elemen	1.55 281	eP	Pn	04 53 23.8	+0.8
	baz=276					
JIJ	Ishigaki jima	1.55 68	eP	Pn	04 53 23.6	+0.6
JIJ			eS	Sn	04 53 42.8	+0.3
WHP	Taichung City	1.57 289	eP	Pb	04 53 25.5	+0.5
	baz=274					
NFF	Wufeng Townshi	1.58 303	eP	Pb	04 53 25.3	+0.3
	baz=298					
TYC	Yuchr	1.58 275	eP	Pn	04 53 23.9	+0.5
	baz=271					
WHYT	Xinyi Township	1.58 267	eP	Pb	04 53 24.6	-0.5
	baz=263					
LONT	Longtian	1.59 237	eP	Pn	04 53 24.1	+0.6
	baz=226					
YM01	YM01	1.64 326	eP	Pb	04 53 25.8	-0.4
	baz=323					
YM08	YM08	1.66 328	eP	Pb	04 53 27.2	+0.6
	baz=324					
NSTT	Nanjuang	1.67 301	eP	Pb	04 53 26.2	-0.4
	baz=287					
NSTT			eS	Sn	04 53 46.1	+0.6
	baz=287					
TWGBT	Beinan	1.68 235	eP	Pn	04 53 25.1	+0.3
	baz=224					
TWG	Pinlang	1.68 236	eP	Pn	04 53 25.2	+0.4
	baz=222					
TWG			eS	Sn	04 53 45.9	+0.1
	baz=222					
TWS1	Kuangyinshan	1.69 322	eP	Pn	04 53 25.1	+0.2
	baz=334					
ANP	Anpu	1.70 326	eP	Pn	04 53 25.0	-0.2
	baz=322					
TWY	Chenhua	1.73 329	eP	Pn	04 53 25.9	+0.3
	baz=326					
WNT	Mingjian	1.73 274	eP	Pb	04 53 26.8	-0.9
	baz=270					
TWQ1	Liyutan	1.74 289	eP	Pb	04 53 27.8	-0.1
	baz=287					
TWQ1			eS	Sb	04 53 49.5	+0.2
	baz=287					
NSY	Sanyi	1.77 291	eS	Sb	04 53 50.5	+0.3
	baz=289					
JISG	Ishigakijimahi	1.78 63	eP	Pn	04 53 26.7	+0.5
NMLH	Miaoli	1.79 295	eS	Sb	04 53 51.1	+0.3
	baz=293					
WCKO	Fanlu	1.84 260	eP	Pb	04 53 29.5	0.0
	baz=247					
WCKO			eS	Sb	04 53 53.0	+0.9
	baz=247					
TPUB	Ta-pu	1.85 255	eP	Pb	04 53 29.2	-0.5
	baz=242					
TPUB			eS	Sb	04 53 52.8	+0.5
	baz=242					
WDLH	Douliu	1.87 268	eP	Pb	04 53 29.7	-0.2
	baz=264					
WTP	Ta-pu	1.88 254	eP	Pb	04 53 29.5	-0.7
	baz=241					
ECL	Taimali	1.90 232	eP	Pn	04 53 28.1	+0.2
	baz=242					
SLGT	Liugui	1.94 247	eP	Pb	04 53 30.3	-0.9
	baz=236					
CHN1	Nanshi	1.97 253	eP	Pb	04 53 31.4	-0.4
	baz=251					
CHN1			eS	Sb	04 53 57.1	+1.2
	baz=251					
TWK	Hsinying	1.98 255	eP	Pb	04 53 31.0	-0.9
	baz=243					
SNST	Tainan City	1.99 254	eP	Pb	04 53 31.5	-0.5
	baz=242					
WRL	Guolierlin Hig	2.02 274	eP	Pb	04 53 31.9	-0.6
	baz=261					
WRL			eS	Sb	04 53 57.3	+0.1
	baz=261					
SSD	Sandimen	2.06 240	eP	Pn	04 53 31.4	+1.3
	baz=231					
SCST	Cishan	2.11 245	eP	Pb	04 53 33.8	-0.3
	baz=235					
EAST	Anshuo	2.11 229	eP	Pn	04 53 31.6	+0.8
	baz=238					
MASBT	Mashibuluo	2.13 237	eP	Pn	04 53 32.4	+1.4
	baz=228					
WSF	Szhu	2.16 267	eP	Pb	04 53 34.1	-0.8
	baz=264					
SCZT	Fangliau	2.28 232	eP	Pb	04 53 35.3	-1.7
	baz=224					
TSCK	Chigu Township	2.37 255	eP	Pb	04 53 37.8	-0.7
	baz=254					
TSCK			S	Sb	04 54 07.3	-0.1
	baz=254					
PHUB	P'eng-hu	2.77 265	eP	Pn	04 53 41.5	+1.7
	baz=253					
PHUB			eS	Sn	04 54 13.5	+0.9
	baz=253					
PNG	Penghu	2.78 266	eP	Pn	04 53 41.4	+1.6
	baz=264					
VWUC	VWUC	3.09 294	eP	Pn	04 53 44.7	+0.5
	baz=291					
PTMZ	Houxiangcun	3.39 292	eP	Pn	04 53 48.7	+0.4
	baz=290					
XPSS	Dashiqiu	3.81 326	eP	Pn	04 53 54.0	0.0
	baz=324					
KNM	Kinmen	3.84 280	eP	Pn	04 53 57.3	+2.9
	baz=278					
KNMB	Chin-men Tao	3.88 281	eP	Pn	04 53 56.0	+0.8
	baz=279					

IDC 04 05:09:22.7±3.4, 54°.44N×87°.07E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=31.1km s-min=19.9km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.41	251	I	I	05 17 30.0	
	baz=69,slow=316,SNR=4.8						
ZALV	Zalesovo Beam	1.41	251	Pg	Pn	05 09 47.6	-2.0
	0.7nm,0.3s,baz=67,slow=11,SNR=9.0						
ZALV				Lg	Lg	05 10 08.1	
	1.0nm,0.3s,baz=71,slow=30,SNR=7.1						
KURBB	Kurchatov Arra	6.46	237	Pn	Pn	05 10 59.3	+0.3
	0.1nm,0.3s,baz=55,slow=14,SNR=5.6						
	1.0nm,0.5s						
MKAR	Makanchi Array	8.23	204	Pn	Pn	05 11 25.1	+1.8
	0.1nm,0.3s,baz=21,slow=11,SNR=2.1						
	0.2nm,0.4s						

*IDC **04** 05:14:41.3±0.4, 9°.62S×119°.12E, h0km, mb4.7/27, mbtmp4.7/29, ML4.5/2, MS4.2/51, Error ellipse: s-maj=20.9km s-min=11.3km az=81.0*

*MOS **04** 05:14:45.0±1.0, 9°.69S×119°.15E, h41km, mb5.3/51, Error ellipse: s-maj=10.6km s-min=4.9km az=120.9*

*BJI **04** 05:14:45.0±0.0, 9°.90S×119°.00E, h40km, mb5.0/69, mB5.3/25, Ms4.7/35, Ms7 4.5/41*

*NEIC **04** 05:14:47.5±1.9, 9°.89S±0°.07×118°.96E±0°.07, h48km±5km, mb5.2/68, Error ellipse: s-maj=10.1km s-min=8.8km az=220.0*

*GCMT **04** 05:14:48.5±0.2, 9°.98S±0°.01×118°.99E±0°.02, h39km±1km, MW5.1/104, Moment Tensor Solution. s74,c100; s104,c167; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}2.14±.17; $M_{\theta\theta}$-4.04±.12; $M_{\phi\phi}$1.90±.14; $M_{r\theta}$4.36±.20; $M_{\theta\phi}$1.68±.10; $M_{\phi r}$1.67±.17; Best double couple: $M_0$6.04800×10^16^ NP1:ϕ_s72.00000°, δ77.00000°, λ59.00000°. NP2:ϕ_s322.00000°, δ33.00000°, λ156.00000°. Principal axes: T 5.7350, Plg49.0000°, Azm310.0000°; N 0.6260, Plg30.0000°, Azm80.0000°; P -6.3620, Plg26.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **04** 05:14:48.2±0.2, 10°.S±2°×11°.9E±°, h48km±2km, M5.2/60, mb5.2/60, mB5.6/32, MLv5.6/22, Mw(mB)5.2/32, MwMwp4.9/4, Mwp5.2/4*

ISC 04 05:14:47.0±0.3, 9°.88S±0°.04×119°.06E±0°.04, h42km±2km, h42km:pP-P, n452, σ1§49/444, mb5.0/110, MS4.3/76, 19C-4D, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	Baing, Sumba	1.54	103	P	Pn	05 15 13.9	+1.9
PLAI	Plampang	1.64	310	P	Pn	05 15 14.9	+1.5
PLAI	Plampang	1.64	310	P	Pn	05 15 14.3	+0.9
PLAI				S	Sn	05 15 33.4	+0.1
TWSI	Taliwang, Sumb	2.43	298	P	Pn	05 15 26.1	+1.9
MMRI	Maumere	3.38	69	P	Pn	05 15 40.3	+3.0
MMRI	Maumere	3.38	69	Pn	Pn	05 15 40.0	+2.7
MMRI	Maumere	3.38	69	P	Pn	05 15 40.0	+2.7
DNP	Denpasar	3.98	287	P	Pn	05 15 47.0	+1.4
DNP	Denpasar	3.98	287	P	Pn	05 15 47.5	+1.9
IGBI	Denpasar	4.00	285	P	Pn	05 15 46.2	+0.3
SRBI	Singaraja	4.20	295	P	Pn	05 15 49.7	+1.2
BATI	Baumata	4.55	94	P	Pn	05 15 55.9	+2.5
BKSI	Bulukumba	4.65	13	P	Pn	05 15 57.1	+2.3
KAPI	Kappang	4.88	8	P	Pn	05 16 00.2	+2.2
KAPI	Kappang	4.88	8	Pn	Pn	05 16 00.2	+2.2
KAPI	Kappang	4.88	8	Pn	Pn	05 15 59.4	+1.4
	49nm,0.3s,baz=184,slow=4.1,SNR=96						
KAPI				Sn	Sn	05 16 53.4	+0.1
	163nm,0.3s,baz=150,slow=20,SNR=9.5						
KAPI				LR	LR	05 18 09.7	
	comp=Z,8μm,19.9s,baz=154,slow=45						
KAPI	Kappang	4.88	8	P	Pn	05 16 00.4	+2.4
KAPI				S	Sn	05 16 54.8	+1.5
KAPI	Kappang	4.88	8	P	Pn	05 16 00.2	+2.2
JAGI	Jajag, Banyuwa	5.04	286	P	Pn	05 16 00.6	+0.4
JAGI	Jajag, Banyuwa	5.04	286	Pn	Pn	05 15 59.6	-0.6
JAGI	Jajag, Banyuwa	5.04	286	P	Pn	05 15 59.5	-0.6
SOEI	Soe	5.14	89	P	Pn	05 16 04.0	+2.5
SOEI	Soe	5.14	89	Pn	Pn	05 16 04.1	+2.5
SOEI	Soe	5.14	89	P	Pn	05 16 04.1	+2.5
	411nm,0.8s,5μm3.8nm						
ABJI	Asem Bagus	5.20	293	P	Pn	05 16 03.7	+1.4
BBSI	Bau Bau	5.58	39	P	Pn	05 16 10.6	+3.0
	316nm,0.7s,4μm1.4nm						
BLJI	Banyuglugur	5.80	291	P	Pn	05 16 11.0	+0.4
GRJI	Gresik	7.14	294	P	Pn	05 16 30.5	+1.5
PWJI	Pagerwojo	7.40	284	P	Pn	05 16 33.1	+0.6
UGM	Wanagama	8.65	282	P	Pn	05 16 51.8	+2.0
UGM	Wanagama	8.65	282		Pn	05 16 50.7	+0.9
UGM	Wanagama	8.65	282	P	Pn	05 16 50.7	+0.9
BKB	Balikpapan	8.83	346	Pn	Pn	05 16 54.2	+2.0
YOGI	Yogyakarta	8.90	283	P	Pn	05 16 54.6	+1.5
	329nm,0.7s						
SMRI	Semarang	8.97	288	Pn	Pn	05 16 54.2	0.0
LUWI	Luwuk	9.53	23		Pn	05 17 02.6	+0.9
MPSI	Mapaga	10.19	5	P	Pn	05 17 14.2	+3.4
KPJI	Karang Pucung	10.33	283	P	Pn	05 17 13.3	+0.6
	104nm,0.5s,2μm						
FITZ	Fitzroy Crossi	10.37	143	Pn	Pn	05 17 12.9	-0.3
TOLI2	Tolitoli	11.05	9		Pn	05 17 23.8	+1.2
KNRA	Kununurra	11.08	122	P	Pn	05 17 23.1	+0.1
	comp=Z,75nm,0.8s						
MBWA	Marble Bar	11.23	177	P	Pn	05 17 24.2	-0.9
MBWA	Marble Bar	11.23	177	Pn	Pn	05 17 23.8	-1.3
MBWA	Marble Bar	11.23	177	P	Pn	05 17 23.4	-1.7
MBWA				S	Sn	05 19 18.3	-11
MBWA	Marble Bar	11.23	177	P	Pn	05 17 23.8	-1.3
	comp=Z,2μmcomp=Z,89nm,1.1s						
BBJI	Bungbulang	11.53	281	P	Pn	05 17 29.4	+0.2
PSAC1	Pilbara Seismi	11.61	177	P	Pn	05 17 28.4	-1.8
	comp=Z,0.0nmcomp=Z,163nm,0.7s						
PSA00	Pilbara Seismi	11.65	176	P	Pn	05 17 29.2	-1.6
PSA00	Pilbara Seismi	11.65	176	Pn	Pn	05 17 29.0	-1.8
PSA00	Pilbara Seismi	11.65	176	P	Pn	05 17 28.8	-2.0
	comp=Z,107nm,0.7s						
LEM	Lembang	11.72	284	P	Pn	05 17 33.6	+1.7
LEM				pmax	pmax		
	comp=Z,138nm,0.8s						
DRS	Darwin Rock St	11.89	103	P	Pn	05 17 33.3	-0.8
	comp=Z,55nm,0.5s						
CNJI	Cibinong	12.07	281	P	Pn	05 17 36.5	0.0
	comp=Z,103nm,1.1s,comp=Z,1μm						
MTN	Manton Dam	12.20	105	P	Pn	05 17 37.6	-0.7
MTN	Manton Dam	12.20	105	Pn	Pn	05 17 36.6	-1.7
MTN	Manton Dam	12.20	105	P	Pn	05 17 36.4	-1.9
STKI	Sintang	12.43	322	P	Pn	05 17 43.8	+2.3
	comp=Z,194nm,1.9s						
DBJI	Dramaga	12.62	284	P	Pn	05 17 44.8	+0.7
	comp=Z,148nm,0.9s						
XMIS	Christmas Isla	13.21	266	Pn	Pn	05 17 49.7	-2.4
TNTI	Ternate	13.43	38	Pn	Pn	05 17 57.0	+1.8
KDU	Kakadu	13.45	103	P	Pn	05 17 54.8	-0.6
GIRL	Giralia	13.51	199	P	Pn	05 17 55.6	-0.5
GIRL	Giralia	13.51	199	Pn	Pn	05 17 54.9	-1.2
SBUM	Sibu	14.01	331		Pn	05 18 02.5	-0.6
FAKI	Fak Fak	14.82	63	P	Pn	05 18 15.8	+1.9
PPBI	Pangkal Pinang	14.96	300	P	Pn	05 18 17.2	+1.5
MYLDM	Lahad Datu	14.97	358	P	P	05 18 22.7	+1.9
KASI	Kota Agung	15.06	286	P	Pn	05 18 18.5	+1.4
	comp=Z,204nm,1.1s,comp=Z,2μm						
SWI	Sorong	15.09	54	P	Pn	05 18 17.5	+0.1
	comp=Z,127nm,1.0s,comp=Z,1μm						
LWLI	Liwa	15.63	287	P	Pn	05 18 25.4	+0.7
MEEK	Meekatharra	16.67	181	P	Pn	05 18 37.9	+0.2
WRKA	Warakurna	17.45	151	P	Pn	05 18 47.0	-0.4
WRA	Warramunga Arr	17.82	126	P	Pn	05 18 51.4	-0.7
WRA	Warramunga Arr	17.82	126	P	Pn	05 18 50.8	-1.3
	comp=Z,1.3nm,0.3s,baz=298,slow=14,SNR=38						
WRA				S	Sn	05 21 58.8	-11
	comp=Z,3.8nm,0.5s,baz=302,slow=22,SNR=6.9						
WRA				LR	LR	05 26 08.3	
	comp=Z,1μm,21.6s,baz=307,slow=38						
	comp=Z,3.2nm,0.5s						
WRA	Warramunga Arr	17.82	126	P	Pn	05 18 51.4	-0.7
WRA				pmax	pmax		
	comp=Z,2.0nm,1.6s						
WRAB	Tennant Creek	17.82	126		Pn	05 18 50.3	-1.8
WRAB	Tennant Creek	17.82	126	i P	Pn	05 18 52.3	+0.2
WRAB				pmax	pmax		
	comp=Z,24nm,0.8s						
WR0	Warramunga Arr	17.99	126	P	P	05 18 53.7	-0.5
TPRI	Tanjung Pinang	18.01	306	P	Pn	05 18 55.6	+1.3
	comp=Z,122nm,0.8s						
DAV	Davao City (W)	18.05	21	LR	LR	05 27 06.0	
	comp=Z,550nm,18.6s,baz=168,slow=42						
MORW	Morawa	19.30	188	P	Pn	05 19 09.6	-0.2
MORW	Morawa	19.30	188	P	P	05 19 09.2	+0.7
MORW				IAmb	IAmb	05 19 14.7	
	comp=Z,110nm,1.0s						
AS31	Alice Springs	19.72	136	P	P	05 19 12.3	-0.9
ASAR	Alice Springs	19.72	136	P	P	05 19 13.0	-0.2
ASAR	Alice Springs	19.72	136	P	P	05 19 14.3	+1.1
	comp=Z,2.6nm,0.3s,baz=314,slow=11,SNR=136						
ASAR				S	S	05 22 45.8	-7.7
	comp=Z,4.6nm,0.7s,baz=305,slow=22,SNR=4.0						
ASAR				LR	LR	05 27 25.1	
	comp=Z,1μm,18.8s,baz=302,slow=38						
	comp=Z,21nm,0.7s						
AS01	Alice Springs	19.75	136	P	P	05 19 14.4	+0.8
	comp=Z,58nm,1.1s						
PPSI	Pulau Pagai	20.20	289	P	P	05 19 18.5	+0.1
	comp=Z,221nm,1.1s						
PDSI	Padang	20.53	295	P	P	05 19 20.4	-1.6
	comp=Z,48nm,0.9s,comp=Z,6μm						
BKNI	Bangkinang	20.60	298	P	P	05 19 22.3	-0.5
BKNI	Bangkinang	20.60	298	P	P	05 19 22.2	-0.5
	comp=Z,560nm,1.2s,comp=Z,5μm						
BLDU	Ballidu	20.75	186	P	Pn	05 19 26.7	-0.2
KMBL	Kambalda	21.54	173	P	P	05 19 34.8	+2.0
FORT	Forrest	22.42	159	P	P	05 19 43.1	+0.9
FORT	Forrest	22.42	159	P	P	05 19 42.0	-0.2
FORT				IAmb	IAmb	05 19 50.5	
	comp=Z,55nm,0.8s						
QIS	Mount Isa	22.46	121	P	P	05 19 44.2	+1.4
NWAO	Narrogin (SRO)	23.00	184	P	P	05 19 49.0	+0.8
NWAO	Narrogin (SRO)	23.00	184	P	P	05 19 47.6	-0.7
NWAO				IAmb	IAmb	05 19 50.7	
	comp=Z,98nm,1.1s						
NWAO	Narrogin (SRO)	23.00	184	LR	LR	05 28 36.2	
	comp=Z,1μm,21.8s,baz=356,slow=36						
NWAO	Narrogin (SRO)	23.00	184	P	P	05 19 49.2	+1.0
NWAO				S	S	05 23 53.9	-1.9
NWAO	Narrogin (SRO)	23.00	184	P	P	05 19 47.6	-0.7
NWAO				pmax	pmax		
	comp=Z,98nm,1.1s						
OOD	Oodnadatta	23.72	141	P	P	05 19 56.9	+1.6
KULM	Kulim	23.74	309	P	P	05 19 54.7	-0.9
KULM				IAmb	IAmb	05 19 56.2	
	comp=Z,80nm,1.3s						
COEN	Coen	23.94	102	P	P	05 19 58.1	+0.6
COEN	Coen	23.94	102	P	P	05 19 57.3	-0.2
GSI	Gunungsitoli	24.10	296	P	P	05 19 56.6	-2.3
GSI	Gunungsitoli	24.10	296	P	P	05 19 56.7	-2.3
	comp=Z,47nm,1.0s						
MULG	Mulgathing	24.65	148	P	P	05 20 05.7	+1.8
KCSI	Kotacane, Aceh	25.04	301	P	P	05 20 07.8	+0.3
	comp=Z,70nm,1.1s,comp=Z,3μm						
MLSI	Meulaboh, Aceh	26.59	301	P	P	05 20 21.7	+0.2
	comp=Z,59nm,0.7s						
BBOO	Buckleboo	27.69	148	P	P	05 20 32.4	+1.1
BBOO	Buckleboo	27.69	148	P	P	05 20 31.2	-0.1
BBOO				IAmb	IAmb	05 21 00.3	
	comp=Z,73nm,1.5s						
PMG	Port Moresby	27.71	91	LR	LR	05 33 23.2	
	comp=Z,546nm,19.8s,baz=274,slow=41						
HTT	Hallett	29.72	145	P	P	05 20 52.0	+2.6
QIZ	Qiongzhong	30.13	342	P	P	05 20 54.6	+1.6
QIZ				S	S	05 25 53.0	+3.8
QIZ				pmax	pmax		
	comp=Z,40nm,2.1s						
QIZ				LR	LR		
	comp=Z,500nm,22.7s						
QIZ				LR	LR		
	comp=Z,480nm,16.8s						
QIZ				LR	LR		
	comp=Z,750nm,26.9s						
STKA	Stephens Creek	30.25	140	P	P	05 20 54.3	+0.3
STKA	Stephens Creek	30.25	140	P	P	05 20 55.0	+1.0
	comp=Z,1.9nm,0.4s,baz=319,slow=10,SNR=9.0						
STKA				LR	LR	05 33 30.2	
	comp=Z,803nm,21.9s,baz=303,slow=37						
	comp=Z,1.9nm,0.4s						
STKA	Stephens Creek	30.25	140	i P	P	05 20 52.9	-1.1
ARPS	Mount Arapiles	33.79	146	P	P	05 21 27.2	+2.2
GUMO	Guam	34.64

comp=Z,92nm,1.7s
TOO Toolangi 36.43 143 P P 05 21 49.2 +1.4
TOO pmax pmax
comp=Z,92nm,1.7s
JOW Kunigami 37.58 14 LR LR 05 36 57.6
comp=Z,399nm,21.2s,baz=170,slow=36
GYA Guiyang 38.08 342 P P 05 21 59.9 -2.0
GYA pmax pmax
comp=Z,17nm,0.9s
GYA LR LR
comp=Z,850nm,23.2s
KMI Kunming 38.26 336 ⇓P **P 05 22 04.5 +0.9**
KMI pP pP 05 22 17.8 +2.7
KMI pmax pmax
comp=Z,29nm,1.3s
KMI LR LR
comp=Z,520nm,27.8s
PZH PanZhiHua 39.89 335 P P 05 22 16.9 -0.2
PZH S **S 05 28 21.9 +2.6**
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,280nm,4.5s
PZH LR LR
comp=Z,260nm,20.0s
PZH LR LR
comp=Z,510nm,19.6s
PZH LR LR
comp=Z,350nm,19.2s
TNCH TengChong 40.06 330 P P 05 22 18.8 +0.2
TNCH pP pP 05 22 30.0 -0.2
TNCH S **S 05 28 23.0 +0.9**
TNCH pmax pmax
comp=Z,57nm,1.1s
TNCH pmax pmax
comp=Z,160nm,4.6s
TNCH LR LR
comp=Z,770nm,13.6s
TNCH LR LR
comp=Z,780nm,17.8s
TNCH LR LR
comp=Z,830nm,24.0s
HNR Honiara 40.30 93 LR LR 05 39 45.0
comp=Z,4μm,21.6s,baz=216,slow=37
WHN Wuhan 40.45 354 ⇓P **P 05 22 23.8 +2.3**
ENH Enshi 40.97 347 IAmb IAmb 05 22 28.0
comp=Z,61nm,1.3s
NJ2 Nanjing 41.70 360 *e*P **P 05 22 33.6 +1.9**
NJ2 pmax pmax
comp=Z,25nm,0.7s
NJ2 pmax pmax
comp=Z,1μm,4.5s
PALK Pallekele 41.83 293 P P 05 22 32.1 -1.1
PALK IAmb IAmb 05 22 34.8
comp=Z,83nm,1.2s
PALK Pallekele 41.83 293 LR LR 05 39 52.6
comp=Z,488nm,21.8s,baz=219,slow=36
PALK Pallekele 41.83 293 P P 05 22 33.6 +0.4
PALK Pallekele 41.83 293 P P 05 22 32.2 -1.1
PALK pmax pmax
comp=Z,83nm,1.2s
PALK Pallekele 41.83 293 P P 05 22 33.2 0.0
PALK pP **pP 05 22 43.3 -1.4**
JCJ Chichijima 43.06 31 LR LR 05 40 13.3
comp=Z,83nm,20.8s,baz=125,slow=36
CD2 Chengdu 43.13 341 P P 05 22 43.0 -0.6
CD2 pmax pmax
comp=Z,50nm,0.6s
CD2 LR LR
comp=Z,310nm,13.3s
SHL Shillong 44.06 324 P P 05 22 49.7 -1.6
SHL IAmb IAmb 05 22 51.2
comp=Z,39nm,0.9s
SHL Shillong 44.06 324 P P 05 22 50.3 -1.0
SHL Shillong 44.06 324 P P 05 22 49.7 -1.6
SHL pmax pmax
comp=Z,39nm,0.9s
LYN LuoYang 44.63 352 P P 05 22 55.4 0.0
LYN pmax pmax
comp=Z,27nm,1.6s
LYN LR LR
comp=Z,700nm,25.7s
XAN Xi'an 44.73 348 ⇑P **P 05 22 55.5 -0.8**
XAN pP pP 05 23 10.1 +2.1
XAN S **S 05 29 27.3 -3.0**
XAN pmax pmax
comp=Z,39nm,1.2s
XAN LR LR
comp=Z,1μm,17.8s
XAN LR LR
comp=Z,470nm,17.8s
XAN LR LR
comp=Z,2μm,19.4s
H08S2 Diego Garcia H 46.05 269 T T 06 12 28.2
baz=96,slow=76,SNR=94
H08S3 Diego Garcia H 46.06 269 T T 06 12 29.1
baz=96,slow=76,SNR=105
H08S1 Diego Carcia H 46.06 269 T T 06 12 29.8
baz=96,slow=76,SNR=71
DZM Mont Dzumac 46.96 111 *e*S **S 05 30 04.2 +1.2**
comp=Z,147nm,31.7s
DZM *e*SS **SS 05 33 27.9 -2.4**
comp=Z,104nm,25.1s
DZM *e*LR LR 05 36 30.9
comp=Z,1μm,23.6s
DZM Mont Dzumac 46.96 111 LR LR 05 43 18.8
comp=Z,437nm,21.9s,baz=255,slow=36
KAAM Kaadhehdhoo 46.98 280 P P 05 23 16.1 +1.7
HNS HongShan 47.21 355 ⇑P **P 05 23 15.0 -0.7**
HNS S **S 05 30 06.0 +0.4**
HNS pmax pmax
comp=Z,12nm,1.5s
HNS LR LR
comp=Z,410nm,18.3s
HNS LR LR
comp=Z,380nm,17.2s
LSA Lhasa 47.66 327 P P 05 23 20.2 +0.2
LSA pmax pmax
comp=Z,29nm,1.2s
LSA Lhasa 47.66 327 P P 05 23 20.1 +0.2
TIY Taiyuan 47.75 353 *e*P **P 05 23 19.6 -0.4**
TIY pP **pP 05 23 30.2 -1.6**
KSAR Wonju Array Be 47.80 9 P P 05 23 19.2 -1.1
KSAR Wonju Array Be 47.80 9 P P 05 23 19.2 -1.1
KSRS Korea Array 47.81 10 P P 05 23 19.4 -1.0
comp=Z,4.9nm,0.9s,baz=186,slow=8.1,SNR=16
comp=Z,4.9nm,0.9s
LZH Lanzhou 47.92 343 ⇑P **P 05 23 21.9 +0.4**
LZH pP pP 05 23 32.9 -0.4
LZH pmax pmax
comp=Z,37nm,1.3s
LZH pmax pmax
comp=Z,350nm,4.4s
LZH LR LR
comp=Z,590nm,21.6s
LZH LR LR
comp=Z,430nm,19.9s
LZH LR LR
comp=Z,690nm,21.3s
HYB Hyderabad 48.35 304 *e*P **P 05 23 24.2 -0.7**
MJAR Matsushiro Arr 49.57 20 P P 05 23 31.7 -2.3
comp=Z,3.9nm,0.7s,baz=201,slow=7.3,SNR=7.5
MJAR LR LR 05 43 26.2
comp=Z,108nm,21.7s,baz=213,slow=35
comp=Z,3.9nm,0.7s
BJT Baijiatuau 49.72 357 IAmb IAmb 05 23 46.1
comp=Z,38nm,1.3s
BJT Baijiatuau 49.72 357 P P 05 23 34.9 -0.1
BJT pP **pP 05 23 45.0 -1.9**
BJI Beijing 49.74 357 P P 05 23 34.6 -0.5
BJI pmax pmax
comp=Z,12nm,1.1s
BJI LR LR
comp=Z,130nm,18.5s
BJI LR LR
comp=Z,160nm,17.7s
BJI LR LR
comp=Z,210nm,20.0s
BTO Baotou 50.92 351 *e*P **P 05 23 45.2 +1.0**
BTO pP **pP 05 23 57.8 +1.6**
BTO sP **sP 05 24 03.1 +2.0**
BTO PP **PP 05 25 43.6 +2.5**
BTO pmax pmax
comp=Z,66nm,0.9s
BTO pmax pmax
comp=Z,340nm,9.2s
BTO LR LR
comp=Z,740nm,19.2s
BTO LR LR
comp=Z,490nm,16.6s
BTO LR LR
comp=Z,600nm,18.9s
HHC Hu-ho-hao-te 50.95 353 *e*P **P 05 23 44.1 -0.3**
HHC pP pP 05 23 54.9 -1.5
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,92nm,4.1s
HHC LR LR
comp=Z,160nm,18.9s
HHC LR LR
comp=Z,160nm,16.5s
HHC LR LR
comp=Z,240nm,17.4s
GTA Gaotai 52.20 341 ⇑P **P 05 23 53.8 -0.1**
GTA pP pP 05 24 04.6 -1.1
GTA pmax pmax
comp=Z,30nm,1.4s
GTA LR LR
comp=Z,230nm,21.4s
GTA LR LR
comp=Z,420nm,20.0s
GTA LR LR
comp=Z,460nm,20.0s
PSTR Posyet 53.37 11 *i* P **P 05 24 01.6 -0.6**
XLT XiLinHaoTe 53.59 357 *e*P **P 05 24 03.7 -0.3**
XLT pP pP 05 24 14.1 -1.9
XLT pmax pmax
comp=Z,17nm,1.1s
XLT LR LR
comp=Z,29nm,18.7s
XLT LR LR
comp=Z,200nm,17.8s
XLT LR LR
comp=Z,250nm,23.7s
CN2 Changchun 53.74 6 *e*P **P 05 24 08.7 +3.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
MDJ Mudanjiang 55.07 9 P P 05 24 14.0 -0.6
MDJ pP pP 05 24 26.6 -0.1
MDJ ScP **ScP 05 29 05.3 -5.8**
MDJ S **S 05 31 59.0 +4.8**
MDJ pmax pmax
comp=Z,29nm,1.3s
MDJ LR LR
comp=Z,170nm,5.4s
MDJ LR LR
comp=Z,310nm,4.2s
MDJ LR LR
comp=Z,490nm,23.3s
MDJ Mudanjiang 55.07 9 IAmb IAmb 05 24 24.8
comp=Z,20nm,0.7s
USA0B Ussuriysk Arra 55.09 11 P P 05 24 13.1 -1.7
USA0B Ussuriysk Arra 55.09 11 P P 05 24 13.1 -1.7
USA0B pmax pmax
comp=Z,14nm,0.8s
USRK Ussuriysk Ar. 55.09 11 P P 05 24 13.7 -1.1
USRK Ussuriysk Ar. 55.09 11 P P 05 24 13.3 -1.4
comp=Z,6.4nm,0.6s,baz=196,slow=6.5,SNR=22
USRK LR LR 05 47 19.2
comp=Z,109nm,21.8s,baz=203,slow=36
comp=Z,6.4nm,0.6s
BNX BinXian 55.87 7 ⇓P **P 05 24 23.0 +2.7**
BNX pmax pmax
comp=Z,6.0nm,1.5s
RPZ Rata Peaks 56.13 137 LR LR 05 48 53.7
comp=Z,822nm,19.6s,baz=300,slow=36
CASY Casey 56.62 184 P P 05 24 26.1 +0.7
CASY Casey 56.62 184 P P 05 24 26.6 +1.1
ASAJ Asahikawa 57.83 20 P P 05 24 33.1 -1.1
comp=Z,6.3nm,0.5s,baz=205,slow=8.4,SNR=2.1
ASAJ LR LR 05 48 44.0
comp=Z,134nm,21.7s,baz=228,slow=36
comp=Z,6.3nm,0.5s
ULN Ulaanbaatar 58.47 351 P P 05 24 38.2 -0.7
ULN IAmb IAmb 05 24 45.9
comp=Z,16nm,0.9s
ULN Ulaanbaatar 58.47 351 P P 05 24 39.2 +0.3
ULN Ulaanbaatar 58.47 351 P P 05 24 38.2 -0.7
ULN pmax pmax
comp=Z,16nm,0.9s
ULN Ulaanbaatar 58.47 351 P P 05 24 38.4 -0.5
ULN pP **pP 05 24 49.2 -1.8**
DRV Dumont d'Urvil 58.47 170 P P 05 24 40.0 +1.6
DRV pP **pP 05 24 50.9 +0.8**
SONM Songino Array 58.55 350 P P 05 24 38.6 -0.8
SONM IAmb IAmb 05 24 50.3
comp=Z,18nm,0.8s
SONM Songino Array 58.55 350 P P 05 24 38.3 -1.1
comp=Z,5.8nm,0.5s,baz=173,slow=6.5,SNR=49
SONM LR LR 05 54 03.9
comp=Z,139nm,18.5s,baz=180,slow=40
comp=Z,5.8nm,0.5s
SONM Songino Array 58.55 350 P P 05 24 38.6 -0.8
SONM pmax pmax
comp=Z,18nm,0.8s
URZ Urewera 58.97 129 LR LR 05 50 18.0
comp=Z,516nm,20.9s,baz=26,slow=36
KLR Kul'dur 59.91 10 P **P 05 24 47.1 -1.5**
comp=Z,0.9nm,0.4s,baz=202,slow=5.1,SNR=7.0
KLR LR LR 05 49 42.6
comp=Z,100nm,21.4s,baz=207,slow=35
comp=Z,0.9nm,0.4s
KLR Kul'dur 59.91 10 *ce*P **P 05 24 47.1 -1.5**
KLR pmax pmax
comp=Z,14nm,1.7s
HEH HeiHe 60.32 6 *e*P **P 05 24 50.1 -1.3**
HEH pP **pP 05 24 59.1 -4.5**
HEH pmax pmax
comp=Z,26nm,1.2s
HEH pmax pmax
comp=Z,100nm,3.9s
YSS Yuzh-Sakhalins 60.40 18 *e*P **P 05 24 52.1 +0.1**
WMQ Urumqi 60.57 334 *e*P **P 05 24 52.8 -0.5**
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ LR LR
comp=Z,310nm,24.0s
ZAK Zakamensk 61.57 349 *e*P **P 05 24 59.3 -0.7**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
GRNR Gornyy 62.26 12 ⇓*i*P **P 05 25 02.9 -1.6**
GRNR pmax pmax
comp=Z,7.0nm,1.2s
WUS Wushi 62.67 327 P P 05 25 07.0 -0.7
KSH Kashi 63.34 324 P P 05 25 11.3 -0.8
KSH pmax pmax
comp=Z,24nm,1.0s
ZEA Zeya 63.75 5 *e*P **P 05 25 13.9 -0.4**
ZEA pmax pmax
comp=Z,20nm,0.9s
TARG Taragay, Kyrgy 63.80 327 P P 05 25 14.3 -1.2
TARG IAmb IAmb 05 25 18.2
comp=Z,22nm,1.1s
TARG Taragay, Kyrgy 63.80 327 P P 05 25 14.3 -1.2
TARG pmax pmax
comp=Z,22nm,1.1s
SHLS Shalkode 63.93 329 *e*P **P 05 25 14.0 -2.0**
comp=Z,8.8nm,1.0s,baz=329
SHLS Shalkode 63.93 329 *e*P **P 05 25 13.9 -2.0**
SHLS pmax pmax
comp=Z,9.0nm,1.0s
PDGK Podgornoye 64.04 329 P P 05 25 14.9 -1.8
UZB Uzynbulak 64.15 328 *e*P **P 05 25 16.8 -0.7**
comp=Z,15nm,1.2s,baz=328
UZB *e*S **S 05 33 50.4 -1.3**
baz=328
UZB Uzynbulak 64.15 328 *e*P **P 05 25 16.7 -0.7**
UZB *e*S **S 05 33 50.4 -1.3**
UZB pmax pmax
comp=Z,15nm,1.2s
SATY Saty 64.41 328 *e*P **P 05 25 18.5 -0.6**
comp=Z,19nm,1.3s,baz=328
SATY Saty 64.41 328 *e*P **P 05 25 18.4 -0.6**
SATY pmax pmax
comp=Z,19nm,1.3s
ZHN Zhinishke 64.47 328 *e*P **P 05 25 18.6 -0.8**
comp=Z,12nm,1.2s,baz=328
ZHN Zhinishke 64.47 328 *e*P **P 05 25 18.6 -0.8**
ZHN pmax pmax
comp=Z,12nm,1.2s
KPKS Kokpek 64.55 329 *e*P **P 05 25 19.1 -0.8**
comp=Z,20nm,1.0s,baz=329
KPKS Kokpek 64.55 329 *e*P **P 05 25 19.1 -0.8**
KPKS pmax pmax
comp=Z,20nm,1.0s
KBL Kabul 64.75 316 P P 05 25 20.1 -1.5
KBL IAmb IAmb 05 25 31.4
comp=Z,23nm,0.8s
KBL Kabul 64.75 316 P P 05 25 21.0 -0.6
SNR=11
KBL Kabul 64.75 316 P P 05 25 20.1 -1.5
KBL pmax pmax
comp=Z,23nm,0.8s
TNSS Tian-Shan 65.16 327 *e*P **P 05 25 23.4 -0.9**
baz=327
TNSS Tian-Shan 65.16 327 *e*P **P 05 25 23.4 -0.9**
MDOK Medeo 65.19 327 *e*P **P 05 25 23.6 -0.7**
baz=327
MDOK Medeo 65.19 327 *e*P **P 05 25 23.5 -0.7**
CCD Concordia, Ant 65.24 179 P P 05 25 26.5 +2.2
MK31 Makanchi Array 65.26 333 P P 05 25 23.4 -1.0
MK31 IAmb IAmb 05 25 24.8
comp=Z,49nm,1.2s
MK31 Makanchi Array 65.26 333 *i* P **P 05 25 22.6 -1.8**
MKAR Makanchi Array 65.26 333 P P 05 25 23.1 -1.3
MKAR Makanchi Array 65.26 333 P P 05 25 23.6 -0.8
comp=Z,19nm,0.8s,baz=148,slow=6.2,SNR=94
MKAR LR LR 05 57 34.8
comp=Z,157nm,18.9s,baz=144,slow=40
comp=Z,19nm,0.8s
AAA Alma-Ata 65.30 327 *e*P **P 05 25 24.1 -0.8**
baz=327
AAA Alma-Ata 65.30 327 *e*P **P 05 25 24.0 -0.8**
BOOM Boomskoye usch 65.34 326 P P 05 25 23.9 -1.3
BOOM IAmb IAmb 05 25 26.3
comp=Z,36nm,1.0s
BOOM Boomskoye usch 65.34 326 P P 05 25 23.9 -1.3
BOOM pmax pmax
comp=Z,36nm,1.0s
MAKZ Makanchi 65.41 333 P P 05 25 24.4 -1.0
MAKZ IAmb IAmb 05 25 25.7
comp=Z,44nm,1.4s
MAKZ Makanchi 65.41 333 P P 05 25 24.4 -1.0
MAKZ pmax pmax
comp=Z,44nm,1.4s
MAKZ Makanchi 65.41 333 P P 05 25 24.4 -1.0
CHKK Chushkaly 65.70 328 *e*P **P 05 25 26.8 -0.6**
baz=328
CHKK Chushkaly 65.70 328 *e*P **P 05 25 26.7 -0.6**
TDK Taldyqorghan 65.78 330 *e*P **P 05 25 26.9 -1.0**
baz=330
TDK Taldyqorghan 65.78 330 *e*P **P 05 25 26.8 -1.0**
TKM2 Tokmak 2 65.81 326 P P 05 25 27.5 -0.8
SNR=19
TKM2 Tokmak 2 65.81 326 P P 05 25 26.0 -2.3
DRK Karamyk 65.82 321 P P 05 25 28.0 -0.5
DRK Karamyk 65.82 321 P P 05 25 28.0 -0.5
DRK pmax pmax
comp=Z,61nm,1.4s
UCH Uchtor 65.95 325 P P 05 25 29.0 -0.5
SNR=13
KBK Karagaybulak 65.99 326 P P 05 25 29.2 -0.2
SNR=20
AAK Ala-Archa 66.23 326 P P 05 25 29.6 -1.3
AAK Ala-Archa 66.23 326 LR LR 05 58 21.1
comp=Z,296nm,19.5s,baz=139,slow=40
AAK Ala-Archa 66.23 326 P P 05 25 30.9 -0.1
AAK Ala-Archa 66.23 326 *ce*P **P 05 25 30.2 -0.8**
AAK pmax pmax
comp=Z,67nm,1.7s
AAK Ala-Archa 66.23 326 P P 05 25 30.4 -0.5
AAK pP **pP 05 25 41.4 -1.6**
AAK sP **sP 05 25 46.1 -1.7**
ARSB Arslanbob 66.25 324 P P 05 25 30.4 -0.7
ARSB IAmb IAmb 05 25 31.7
comp=Z,43nm,1.3s
ARSB Arslanbob 66.25 324 P P 05 25 30.4 -0.7
ARSB pmax pmax
comp=Z,43nm,1.3s
GAR Garm 66.45 320 P P 05 25 30.6 -1.8
USP Ospenovka 66.64 326 P P 05 25 32.3 -1.1
SNR=14
EKS2 Erkin-Say 66.65 325 P P 05 25 33.2 -0.3
SNR=22
SGDS Sogindy 66.69 326 *e*P **P 05 25 32.4 -1.4**
comp=Z,7.6nm,0.9s,baz=326
SGDS Sogindy 66.69 326 *e*P **P 05 25 32.3 -1.4**
SGDS pmax pmax
comp=Z,8.0nm,0.9s
BTK Batken 66.77 321 P P 05 25 33.3 -1.1
BTK Batken 66.77 321 P P 05 25 33.3 -1.1
BTK pmax pmax
comp=Z,67nm,1.5s
CHGR Chuyangaron 66.99 319 P P 05 25 34.1 -1.7
CHGR Chuyangaron 66.99 319 P P 05 25 34.1 -1.7
CHGR pmax pmax
comp=Z,162nm,1.4s
SIMJ Simiganj 67.09 319 P P 05 25 34.7 -1.7
SIMJ Simiganj 67.09 319 P P 05 25 34.9 -1.6
SIMJ pP **pP 05 25 46.1 -2.4**
H04N2 CROZET ISLANDS 67.21 224 T T 06 39 23.9
baz=79
H04N1 CROZET ISLANDS 67.22 224 T T 06 39 24.6
baz=79
H04N3 CROZET ISLANDS 67.22 224 T T 06 39 27.7
baz=79
MHTO MHTO 67.39 298 P P 05 25 37.7 -0.8
DQM DQM 67.40 296 P P 05 25 35.5 -3.1
BOD Bodaibo 67.59 357 *e*P **P 05 25 38.1 -0.9**
BOD pmax pmax
comp=Z,41nm,1.9s
WSAR Wadi Sarin 67.64 300 P P 05 25 40.1 0.0
JMDO Jabal Madar 67.77 299 P P 05 25 41.2 +0.3
BTLS Baital 68.06 327 *e*P **P 05 25 41.0 -1.3**
baz=327
BTLS Baital 68.06 327 *e*P **P 05 25 40.9 -1.3**
SMDO Samad 68.07 300 P P 05 25 41.9 -1.0
BIDO Bidbid 68.17 300 P P 05 25 44.0 +0.5
MAW Mawson 68.43 200 P P 05 25 46.2 +2.0
comp=Z,15nm,1.0s,baz=58,slow=9.2,SNR=10
MAW LR LR 05 51 09.4
comp=Z,177nm,20.4s,baz=58,slow=32
comp=Z,15nm,1.0s
SHAO Shalim 68.47 294 P P 05 25 44.7 -0.7
IUG Iuzhnay 68.50 323 *e*P **P 05 25 44.3 -0.9**
comp=Z,14nm,0.7s,baz=323
IUG Iuzhnay 68.50 323 *e*P **P 05 25 44.3 -0.9**
IUG pmax pmax
comp=Z,14nm,0.7s
BSY Bisya 68.68 299 P P 05 25 46.2 -0.4
KK31 Karatay Array 68.80 324 P P 05 25 45.2 -1.7
KK31 Karatay Array 68.80 324 *i* P **P 05 25 44.8 -2.1**
KKAR Karatay Array 68.80 324 P P 05 25 44.9 -2.0
KKAR Karatay Array 68.80 324 P P 05 25 45.6 -1.3
KKAR IAmb IAmb 05 25 47.9
comp=Z,18nm,1.1s
KKAR Karatay Array 68.80 324 P P 05 25 45.6 -1.3
KKAR pmax pmax
comp=Z,18nm,1.2s
CHM Chimkent 68.86 323 *e*P **P 05 25 46.7 -0.7**
baz=323
CHM Chimkent 68.86 323 *e*P **P 05 25 46.6 -0.7**
BRLS Borolday 69.14 324 *e*P **P 05 25 47.5 -1.6**
comp=Z,11nm,1.2s,baz=323
BRLS Borolday 69.14 324 *e*P **P 05 25 47.5 -1.6**
BRLS pmax pmax
comp=Z,11nm,1.2s
KURBB Kurchatov Arra 69.78 334 P P 05 25 51.5 -1.3
comp=Z,13nm,1.0s,baz=144,slow=5.3,SNR=57
KURBB LR LR 05 59 55.6
comp=Z,338nm,20.2s,baz=176,slow=39
comp=Z,13nm,1.0s
KURK Kurchatov 69.81 334 P P 05 25 51.8 -1.1
KURK IAmb IAmb 05 25 53.4
comp=Z,59nm,1.2s
KURK Kurchatov 69.81 334 P P 05 25 52.3 -0.7
KURK Kurchatov 69.81 334 P P 05 25 51.8 -1.1
KURK pmax pmax
comp=Z,59nm,1.3s
KURK Kurchatov 69.81 334 P P 05 25 51.9 -1.1
KURK pP **pP 05 26 02.8 -2.5**
ZAA0 Zalesovo Array 69.88 339 P P 05 25 51.2 -2.1
ZAA0 IAmb IAmb 05 25 53.1
comp=Z,36nm,1.2s
ZALV Zalesovo Beam 69.88 339 P P 05 25 51.9 -1.4
ZALV Zalesovo Beam 69.88 339 P P 05 25 52.0 -1.4

comp=Z,6.1nm,0.4s,baz=142,slow=5.1,SNR=41
ZALV LR LR 05 59 20.2
comp=Z,86nm,18.6s,baz=174,slow=38
comp=Z,6.1nm,0.4s
ZALV Zalesovo Beam 69.88 339 *i* P **P 05 25 51.5 -1.9**
ZALV pmax pmax
comp=Z,6.0nm,0.4s
DOK Doka 70.01 294 P **P 05 25 54.4 -0.5**
WHFO Wadi Hawf 70.12 293 P **P 05 25 55.0 -0.7**
UOSS Minazif 70.33 301 P **P 05 25 54.9 -1.9**
UOSS IAmb IAmb 05 25 56.9
comp=Z,28nm,1.2s
UOSS Minazif 70.33 301 P **P 05 25 56.3 -0.5**
UOSS Minazif 70.33 301 P **P 05 25 55.5 -1.3**
UOSS pP **pP 05 26 06.7 -2.3**
HATD Hatta, Dubai 70.34 301 P **P 05 25 56.8 -0.1**
ASHO Ashiyiah 70.36 301 P **P 05 25 56.4 -0.6**
SNR=5.7
ABTO Aybut 70.38 292 P **P 05 25 57.1 -0.2**
UMZA Um Al Zommool 70.43 298 P **P 05 25 57.2 -0.2**
MASF Masafi 70.52 301 P **P 05 25 59.2 +1.2**
FAQ Al Faqa, Dubai 70.77 301 P **P 05 25 59.4 -0.1**
SNR=6.9
SHME Shamm 70.78 302 P **P 05 25 59.5 0.0**
PETK Petropavlovsk- 70.85 23 P **P 05 25 59.6 +0.3**
PETK Petropavlovsk- 70.85 23 P **P 05 25 57.8 -1.6**
comp=Z,2.2nm,0.6s,baz=207,slow=1.6,SNR=6.4
comp=Z,2.2nm,0.6s
PETK Petropavlovsk- 70.85 23 P **P 05 25 59.6 +0.3**
ASUD Al Ashush, Dub 70.95 300 P **P 05 26 01.0 +0.4**
VNDA Vanda 71.11 171 P **P 05 26 02.1 +1.5**
VNDA Vanda 71.11 171 P **P 05 26 02.3 +1.7**
comp=Z,7.1nm,1.0s,baz=308,slow=5.2,SNR=9.8
VNDA LR LR 05 56 05.2
comp=Z,245nm,19.6s,baz=352,slow=35
comp=Z,7.1nm,1.0s
VNDA Vanda 71.11 171 P **P 05 26 02.4 +1.8**
VNDA pP **pP 05 26 13.7 +1.3**
SBA Scott Base 72.12 171 P **P 05 26 07.9 +1.3**
SBA Scott Base 72.12 171 P **P 05 26 07.9 +1.3**
SBA pmax pmax
comp=Z,15nm,1.2s
YAK Yakutsk 72.17 5 LR LR 05 59 05.1
comp=Z,96nm,20.1s,baz=196,slow=37
YAK Yakutsk 72.17 5 *i* P **P 05 26 07.0 0.0**
YAK pmax pmax
comp=Z,13nm,1.0s
JRN Qarnain Island 73.18 300 P **P 05 26 13.4 -0.5**
MA2 Magadan 73.75 16 P **P 05 26 16.7 +0.2**
MA2 IAmb IAmb 05 26 28.7
comp=Z,32nm,1.0s
MA2 Magadan 73.75 16 P **P 05 26 15.1 -1.3**
comp=Z,4.6nm,0.3s,baz=198,slow=7.5,SNR=4.5
MA2 LR LR 05 57 50.9
comp=Z,52nm,21.8s,baz=206,slow=35
comp=Z,4.6nm,0.3s
MA2 Magadan 73.75 16 *i* P **P 05 26 16.5 0.0**
MA2 pmax pmax
comp=Z,19nm,1.3s
GEYT Alibeck 74.09 314 P **P 05 26 18.3 -0.7**
GEYT IAmb IAmb 05 26 20.3
comp=Z,45nm,1.4s
GEYT Alibeck 74.09 314 P **P 05 26 18.4 -0.7**
comp=Z,5.7nm,0.6s,baz=107,slow=5.1,SNR=10.0
GEYT LR LR 06 04 45.4
comp=Z,76nm,18.5s,baz=136,slow=41
comp=Z,5.7nm,0.6s
GYA0B ALIBECK ARRAY 74.09 314 P **P 05 26 17.6 -1.4**
GYA0B IAmb IAmb 05 26 20.3
comp=Z,55nm,1.5s
TRNA Turayna 74.52 299 P **P 05 26 21.2 -0.5**
SMRA Abu-Samra 74.85 299 P **P 05 26 23.2 -0.4**
SNR=6.3
SHMA Al-Shehemyia 75.09 300 P **P 05 26 23.5 -1.5**
SNR=5.0
BVA0 Borovoye Array 75.09 332 *i* P **P 05 26 22.3 -2.2**
BVAR Borovoye Array 75.09 332 P **P 05 26 23.3 -1.2**
comp=Z,12nm,1.0s,baz=146,slow=8.2,SNR=43
BVAR LR LR 06 03 00.9
comp=Z,191nm,20.0s,baz=138,slow=39
comp=Z,12nm,1.0s
BRVK Borovoye 75.17 332 P **P 05 26 23.9 -1.0**
BRVK IAmb IAmb 05 26 25.3
comp=Z,38nm,1.3s
BRVK Borovoye 75.17 332 P **P 05 26 24.0 -0.8**
BRVK Borovoye 75.17 332 *ce*P **P 05 26 23.6 -1.3**
BRVK pmax pmax
comp=Z,45nm,1.7s
SAKB Bahrain 75.49 300 P **P 05 26 27.5 +0.2**
SEY Seymchan 76.99 15 P **P 05 26 33.8 -1.2**
comp=Z,9.4nm,0.6s,baz=222,slow=4.6,SNR=6.0
comp=Z,9.4nm,0.6s
SEY Seymchan 76.99 15 *ce*P **P 05 26 35.0 0.0**
SEY pmax pmax
comp=Z,31nm,1.7s
SHEM Shemya Is, Ala 77.99 31 LR LR 05 58 01.2
comp=Z,48nm,21.9s,baz=229,slow=33
AB31 Akbulak array 78.31 325 *i* P **P 05 26 40.8 -1.9**
ABKAR Akbulak array 78.31 325 P **P 05 26 41.4 -1.3**
RAR Rarotonga 78.32 110 LR LR 05 59 33.5
comp=Z,137nm,21.8s,baz=266,slow=34
KBD Kabd 78.89 302 P **P 05 26 46.3 0.0**
RAYN Ar Rayn 79.14 296 P **P 05 26 45.8 -2.1**
RAYN Ar Rayn 79.14 296 P **P 05 26 48.2 +0.3**
RAYN Ar Rayn 79.14 296 P **P 05 26 45.8 -2.1**
RAYN pmax pmax
comp=Z,27nm,1.2s
AKTO Aktyubinsk 79.98 325 LR LR 06 06 37.5
comp=Z,276nm,21.6s,baz=97,slow=39
QSPA South Pole Qui 80.12 180 P **P 05 26 52.6 +0.1**
QSPA South Pole Qui 80.12 180 P **P 05 26 54.2 +1.7**
comp=Z,9.7nm,1.0s,baz=345,slow=4.2,SNR=22
QSPA LR LR 05 59 32.8
comp=Z,250nm,21.9s,baz=330,slow=34
comp=Z,9.7nm,1.0s
LKRN Lenkeran, Azer 81.14 312 P **P 05 26 59.6 +1.3**
TIXI Tiksi 81.61 3 P **P 05 26 58.7 -1.4**
comp=Z,2.5nm,0.4s,baz=212,slow=8.0,SNR=3.4
TIXI LR LR 06 09 49.3
comp=Z,107nm,19.1s,baz=200,slow=41
comp=Z,2.5nm,0.4s
TIXI Tiksi 81.61 3 *i* P **P 05 26 59.4 -0.6**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
KMBO Kilima Mbogo 81.73 270 P **P 05 27 05.1 +2.8**
NRIK Noril'sk 82.02 349 P **P 05 27 01.3 -0.9**
NRIK IAmb IAmb 05 27 10.3
comp=Z,43nm,1.7s
NRIK Noril'sk 82.02 349 P **P 05 27 01.6 -0.6**
comp=Z,2.5nm,0.5s,baz=149,slow=7.1,SNR=6.8
NRIK PP **PP 05 30 10.8 +0.2**
comp=Z,1.6nm,0.3s,baz=137,slow=9.4,SNR=4.5
NRIK LR LR 06 06 53.9
comp=Z,133nm,20.4s,baz=150,slow=38
comp=Z,2.5nm,0.5s
NRIK Noril'sk 82.02 349 *ce*P **P 05 27 02.2 -0.1**
NRIK pmax pmax
comp=Z,7.0nm,1.1s
SEKA Sheki 83.13 314 P **P 05 27 09.1 +0.3**
MAK Makhachkala 83.50 316 *e*P **P 05 27 08.8 -1.7**
MAK *e**PP **pP 05 27 22.4 -0.6**
MAK *e**SP **sP 05 27 28.2 +0.6**
MAK *e* 05 30 17.8
MAK *e*S **S 05 37 26.3 -2.9**
MAK *e*SS **SS 05 42 54.4 -1.7**
MAK pmax pmax
comp=Z,125nm,1.0s
MAK MLR MLR
comp=Z,136nm,20.0s
GANJ Ganja 83.57 313 P **P 05 27 11.4 +0.4**
NAX Nakhchivan 83.71 311 P **P 05 27 12.5 +0.7**
GNI Garni 84.57 312 P **P 05 27 16.6 +0.4**
GNI IAmb IAmb 05 27 18.5
comp=Z,30nm,1.2s
GNI Garni 84.57 312 LR LR 06 09 29.2
comp=Z,70nm,20.9s,baz=99,slow=39
GNI Garni 84.57 312 *ce*P **P 05 27 16.9 +0.6**
GNI pmax pmax
comp=Z,31nm,1.7s
BILL Bilibino 84.62 16 *e*P **P 05 27 15.7 0.0**
BILL pmax pmax
comp=Z,8.0nm,1.8s
BILL MLR MLR
comp=Z,80nm,21.0s
KARS Kars 85.92 312 P **P 05 27 24.2 +1.2**
KARS Kars 85.92 312 P **P 05 27 24.2 +1.2**
KARS pmax pmax
comp=Z,267nm,1.5s
GURO Guroymak-BITLI 86.12 310 P **P 05 27 24.4 +0.4**
BELG Belogornoye 86.70 324 LR LR 06 11 18.2
comp=Z,129nm,21.2s,baz=104,slow=39
BELG Belogornoye 86.70 324 *c i* P **P 05 27 25.2 -1.1**
BELG pmax pmax
comp=Z,16nm,1.3s
KBZ Khabaz 86.94 315 P **P 05 27 27.7 0.0**
comp=Z,10nm,1.0s,baz=144,slow=4.9,SNR=14
KBZ LR LR 06 13 04.2
comp=Z,52nm,19.8s,baz=100,slow=40
comp=Z,10nm,1.0s
KBZ Khabaz 86.94 315 *ce*P **P 05 27 27.8 +0.1**
KBZ pmax pmax
comp=Z,16nm,1.0s
SHA1 Shidzhatmaz 87.11 315 *ce*P **P 05 27 28.5 -0.3**
KIV Kislovodsk 87.15 315 *e*P **P 05 27 28.9 0.0**
KIV *e* 05 37 51.0
KIV pmax pmax
comp=Z,6.0nm,1.0s
TBI Tubuai 87.49 113 *e*LR LR 05 55 18.7
comp=Z,1μm,31.2s
KIRV Kirov 88.03 331 LR LR 06 10 59.2
comp=Z,291nm,21.7s,baz=122,slow=38
KIRV Kirov 88.03 331 *i* P **P 05 27 32.6 0.0**
MBAR Mbarara 88.24 270 P **P 05 27 37.4 +2.5**
LSZ Lusaka 88.27 255 P **P 05 27 36.2 +1.3**
PPT2 Papeete2 88.35 107 *e*S **S 05 38 11.3 -6.6**
comp=Z,68nm,26.2s
PPT2 Papeete2 88.35 107 *e*LQ LQ 05 51 59.0
comp=Z,393nm,34.8s
PPT2 *e*LR LR 05 55 46.5
comp=Z,332nm,29.0s
PPT2 *e*LR LR 05 55 51.3
comp=Z,408nm,24.0s
PPT Papeete 88.36 107 LR LR 06 02 06.1
comp=Z,174nm,21.5s,baz=274,slow=32
TROLL Troll, Antarti 88.55 196 ⇑P **P 05 27 38.0 +2.8**
comp=Z,296nm,0.9s
BOSA Boshof 88.64 241 P **P 05 27 37.9 +1.4**
comp=Z,3.5nm,1.0s,baz=106,slow=4.6,SNR=2.0
BOSA LR LR 06 01 30.2
comp=Z,119nm,19.1s,baz=102,slow=32
comp=Z,3.5nm,1.0s
EIL Elat 89.76 300 LR LR 06 07 53.1
comp=Z,133nm,22.0s,baz=67,slow=36
VRH Novokhopyorsk 89.81 322 *e*P **P 05 27 39.4 -1.7**
VRH pmax pmax
comp=Z,33nm,1.8s
MMAI Mount Meron Ar 90.05 303 P **P 05 27 43.9 +1.0**
comp=Z,2.8nm,0.6s,baz=78,slow=7.9,SNR=8.4
MMAI LR LR 06 13 39.6
comp=Z,100nm,18.9s,baz=54,slow=39
comp=Z,2.8nm,0.6s
SNAA Sanae 90.17 196 P **P 05 27 43.9 +1.3**
SNAA IAmb IAmb 05 27 46.3
comp=Z,11nm,1.1s
SNAA Sanae 90.17 196 ⇑P **P 05 27 45.3 +2.7**
comp=Z,129nm,1.0s
SNAA Sanae 90.17 196 P **P 05 27 44.7 +2.1**
comp=Z,7.0nm,1.0s,baz=113,slow=4.1,SNR=17
SNAA LR LR 06 06 31.9
comp=Z,430nm,19.0s,baz=98,slow=34
comp=Z,7.0nm,1.0s
SNAA Sanae 90.17 196 *i* P **P 05 27 42.7 +0.1**
SNAA pmax pmax
comp=Z,8.0nm,1.0s
BELA Belgrano 2 91.15 185 P **P 05 27 47.3 +0.3**
BELA pP **pP 05 27 59.7 +0.3**
VORD Divnogorie 91.22 322 *e*P **P 05 27 49.0 +1.3**
VORD pmax pmax
comp=Z,5.0nm,1.0s
VSR Storozhevoye 91.36 322 *e*P **P 05 27 46.3 -2.1**
VSR pmax pmax
comp=Z,3.0nm,0.9s
SUR Sutherland 91.64 237 LR LR 06 03 09.0
comp=Z,127nm,20.6s,baz=106,slow=32
VNA2 Neumayer–Watz 91.80 195 ⇑P **P 05 27 52.7 +2.6**
comp=Z,3.8nm,1.0s,baz=134,slow=2.7
VNA3 Neumayer Olymp 92.18 195 ⇑P **P 05 27 53.8 +1.9**
comp=Z,2.8nm,0.8s
BR104 Keskin Array S 92.73 310 P **P 05 27 54.4 -0.8**
comp=Z,3.0nm,1.0s,comp=Z,32nm
BR131 Keskin Array S 92.74 310 P **P 05 27 54.2 -1.0**
BR131 Keskin Array S 92.74 310 P **P 05 27 54.2 -1.0**
BR131 pmax pmax
comp=Z,5.0nm,1.1s
BRTR Keskin Array B 92.74 310 P **P 05 27 53.8 -1.4**
BRTR Keskin Array B 92.74 310 P **P 05 27 54.8 -0.4**
comp=Z,2.3nm,0.9s,baz=122,slow=4.7,SNR=9.9
BRTR LR LR 06 13 14.8
comp=Z,60nm,21.5s,baz=110,slow=38
comp=Z,2.3nm,0.9s
BRTR Keskin Array B 92.74 310 *i* P **P 05 27 54.0 -1.2**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BR105 Keskin Array S 92.75 310 P **P 05 27 54.0 -1.3**
BR106 Keskin Array S 92.76 310 P **P 05 27 53.7 -1.6**
MOS Moscow 93.30 326 *e*P **P 05 27 55.3 -1.9**
KLMR Klimovskoe 93.50 331 *e*P P 05 27 52.0 -6.0
KLMR pmax pmax
comp=Z,16nm,1.3s
OBN Obninsk 93.76 325 LR LR 06 14 00.0
comp=Z,164nm,22.0s,baz=137,slow=38
OBN Obninsk 93.76 325 ⇑ *e*P **P 05 27 59.1 -0.2**
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,262nm,24.0s
KDAK Kodiak Island 97.40 33 LR LR 06 07 50.0
comp=Z,49nm,21.9s,baz=292,slow=33
AK09 Malin Array Si 97.41 320 P **P 05 28 15.4 -0.7**
TSUM Tsumeb 97.44 249 LR LR 06 09 45.8
comp=Z,112nm,18.2s,baz=149,slow=34
AKASG Malin Array Be 97.45 320 P Pdif 05 28 16.0 -0.3
comp=Z,1.2nm,0.4s,baz=222,slow=12,SNR=1.9
AKASG LR LR 06 18 10.4
comp=Z,127nm,21.8s,baz=60,slow=39
comp=Z,1.2nm,0.4s
AKBB Malin Array Si 97.45 320 *ce*P **P 05 28 15.2 -1.1**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
MNK Minsk 98.64 324 *i* P **P 05 28 19.4 -2.1**
MNK *i* *PP **pP 05 28 34.2 +0.1**
MNK *i* *SP **sP 05 28 40.0 +1.2**
MNK *i* 05 32 21.8
MNK *i* PPP PPP 05 34 26.9
MNK *i* S **SKSac 05 38 52.9 -3.2**
MNK *i* SS **SS 05 46 34.9 +1.1**
MNK pmax pmax
comp=Z,8.0nm,0.7s
MNK pmax pmax
comp=N,5.0nm,0.8s
MNK pmax pmax
comp=E,5.0nm,0.9s
FINES FINESS Array B 100.03 331 P **Pdif 05 28 27.5 0.0**
comp=E,0.9nm,0.7s,baz=98,slow=6.2,SNR=4.3
FINES LR LR 06 18 18.8
comp=E,144nm,20.3s,baz=97,slow=38
comp=E,0.9nm,0.7s
FINES FINESS Array B 100.03 331 *i* P **Pdif 05 28 29.7 +2.2**
FINES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 100.43 339 P **Pdif 05 28 29.0 -0.2**
comp=Z,1.2nm,0.8s,baz=35,slow=4.4,SNR=2.2
ARCES ARCESS Array B 100.43 339 P **Pdif 05 28 29.0 -0.2**
SPITS Spitsbergen Ar 102.21 348 P **Pdif 05 28 36.8 -0.2**
comp=Z,1.5nm,0.6s,baz=23,slow=4.7,SNR=1.6
OKC Ostrava-Krasne 104.52 319 AMS AMS 06 19 00.0
comp=Z,100nm,19.7s
DPC Dobruska-Polom 105.67 320 AMS AMS 06 22 20.0
comp=Z,100nm,20.4s
OSTC Ostas 105.72 320 AMS AMS 06 22 10.0
comp=Z,200nm,23.9s
UPC Upice 105.86 320 AMS AMS 06 19 10.0
comp=Z,200nm,20.9s
GOPC GO Pecny, Ondr 106.68 319 AMS AMS 06 20 10.0
comp=Z,200nm,23.7s
PRU Pruhonice 106.83 319 AMS AMS 06 20 30.0
comp=Z,100nm,21.4s
CKRC Cesky Krumlov 107.08 318 AMS AMS 06 22 10.0
comp=Z,100nm,23.3s
HSKC Hora Svate Kat 107.49 320 AMS AMS 06 23 00.0
comp=Z,200nm,24.3s
KHC Kasperske Hory 107.53 318 *e*SKS **SKSac 05 39 38.3 +0.2**
KHC AMS AMS 06 20 50.0
comp=Z,200nm,21.9s
YKA Yellowknife Ar 114.97 24 PKP PKPdf 05 33 23.7 +0.7
comp=Z,0.4nm,0.5s,baz=311,slow=1.8,SNR=4.8
TORD Torodi Ar. Bea 118.67 280 PKP **PKiKP 05 33 32.5 +1.0**
comp=Z,1.2nm,0.5s,baz=44,slow=2.3,SNR=14
ESDC Sonseca Array 121.52 311 PKP **PKiKP 05 33 37.5 +1.0**
comp=Z,0.9nm,0.9s,baz=12,slow=2.6,SNR=7.7
NVAR Mina Array Bea 121.53 51 PKP **PKiKP 05 33 38.4 +1.5**
comp=Z,0.8nm,0.7s,baz=254,slow=1.1,SNR=5.7
DBIC Dimbokro 124.45 271 PKP **PKiKP 05 33 43.7 +0.7**
comp=Z,9.1nm,1.1s,baz=143,slow=5.1,SNR=2.8
PDAR Pinedale Array 126.52 43 PKP **PKiKP 05 33 47.4 +0.8**
comp=Z,0.5nm,0.8s,baz=224,slow=4.1,SNR=6.5
ULM Lac du Bonnet 130.49 29 PKP **PKiKP 05 33 54.1 +0.1**
comp=Z,1.3nm,0.7s,baz=90,slow=9.1,SNR=1.8
SCHQ Schefferville 134.92 5 PKP **PKiKP 05 34 02.5 -0.3**
comp=Z,2.1nm,0.7s,baz=340,slow=5.5,SNR=1.3
TXAR Lajitas Array 135.66 58 PKP **PKiKP 05 34 04.3 -1.0**
comp=Z,0.4nm,0.7s,baz=218,slow=2.5,SNR=4.3
TXAR SKPbc **SKPab 05 37 34.1 -2.4**
comp=Z,1.1nm,1.0s,baz=298,slow=2.7,SNR=6.1
T42A Van Buren 141.64 40 PKPdf **PKPdf 05 34 12.2 -2.1**
CPUP Villa Florida 143.84 186 PKP **PKPdf 05 34 19.6 +1.1**
comp=Z,3.5nm,1.1s,baz=146,slow=7.5,SNR=3.2
WVT Waverly 144.25 39 **PKPdf 05 34 17.9 -1.0**
WVT Waverly 144.25 39 PKIKP **PKPdf 05 34 17.9 -1.0**
L56A Greenwood 144.71 22 PKPbc 05 34 18.1 -0.4
HRV Adam Dziewonsk 146.19 14 **PKPab 05 34 23.9 +0.2**
HRV Adam Dziewonsk 146.19 14 PKP2 **PKPab 05 34 24.0 +0.2**
Y49A Blount Mountai 146.60 41 PKPab **PKPbc 05 34 23.8 -0.8**
LVC Limon Verde 146.78 166 PKPbc **PKiKP 05 34 28.0 -0.6**
comp=Z,3.1nm,0.9s,baz=184,slow=5.0,SNR=3.2
152A Waverly Hall 148.45 41 **PKPbc 05 34 28.1 -1.5**
KMSC Kings Mountain 148.72 33 **PKiKP 05 34 31.1 -0.7**
T59A Double "B" Far 149.13 26 PKPbc **PKPdf 05 34 28.3 +1.2**
PB11 IPOC Station P 149.32 164 **PKiKP 05 34 34.6 +0.9**
AQDB Aquidauana 149.40 190 PKPab **PKiKP 05 34 34.5 +1.0**
BDFB Brasilia 151.59 207 PKPbc **PKiKP 05 34 39.2 +0.9**
comp=Z,1.0nm,0.3s,baz=138,slow=6.7,SNR=2.4
LPAZ La Paz 153.04 165 PKPbc **PKiKP 05 34 43.5 +1.6**
comp=Z,2.4nm,1.0s,baz=315,slow=2.9,SNR=5.0
SIV San Ignacio 154.29 180 PKP **PKPdf 05 34 36.2 +0.7**
comp=Z,0.4nm,0.4s,baz=117,slow=2.3,SNR=1.8

GRAL ***04*** *05:22:38.6±0.3, 32°.85N×35°.54E, h0km±3km, MD3.0*
JSO ***04*** *05:22:38, 32°.89N×35°.59E, h2km, ML2.5/18*
ISC 04 05:22:37.3±1.1, 32°.86N±0°.03×35°.58E±0°.05, h17km±8km, n15, σ0s57/21, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHMJ	**Saham**	**0.21**	**130**	P	**Pg**	**05 22 42.0**	**-0.3**
SHMJ				S	**Sg**	**05 22 46.1**	**+0.5**
BLGI	**Bet Lehem HaGe**	**0.35**	**249**	P	**Pb**	**05 22 45.1**	**0.0**
GEM	**Giv'at Ha'Em**	**0.36**	**12**	P	**Pb**	**05 22 44.9**	**-0.4**
GEM				S	**Sb**	**05 22 50.5**	**-0.2**
QRNJ	**Al-Qirein**	**0.52**	**180**	P	**Pb**	**05 22 48.0**	**-0.1**
OFRI	**`Ofer**	**0.55**	**245**	P	**Pb**	**05 22 49.1**	**+0.5**
OFRI				S	**Sb**	**05 22 56.6**	**+0.3**
HMDT	**Nahal Hemdat**	**0.61**	**184**	P	**Pb**	**05 22 49.6**	**+0.1**
RCY	**Rachaya**	**0.67**	**19**	*e*P	**Pb**	**05 22 51.0**	**+0.2**
RCY				*e*S	**Sb**	**05 23 00.2**	**+0.3**
DQRL	**Deir Qamar**	**0.84**	**360**	*e*P	**Pb**	**05 22 53.9**	**+0.2**
DQRL				*e*S	**Sb**	**05 23 05.3**	**+0.5**
HSUJ	**Al Zarqa**	**0.92**	**145**	P	**Pn**	**05 22 55.6**	**+0.1**
HSUJ				S	**Sn**	**05 23 08.5**	**+0.1**
DSI	**Dead Sea**	**1.30**	**187**	P	**Pn**	**05 23 00.9**	**+0.2**
ASF	**Jabal al Asfar**	**1.31**	**121**	P	**Pg**	**05 23 02.7**	**+0.1**
HWQ	**Hawqa**	**1.45**	**12**	*e*P	**Pg**	**05 23 04.5**	**-0.8**
GHAJ	**Ghor Haditha**	**1.55**	**180**	P	**Pb**	**05 23 06.0**	**+0.4**
BEIL	**Beino**	**1.75**	**17**	*e*P	**Pb**	**05 23 09.2**	**+0.1**
PRNI	**Paran**	**2.55**	**191**	P	**Pb**	**05 23 20.8**	**-1.8**

IDC ***04*** *05:27:24.1±2.2, 21°.76N×143°.27E, h257km±19km, mb3.3/12, mbtmp3.9/13, Error ellipse: s-maj=30.5km s-min=15.7km az=86.0*
ISC 04 05:27:23.2±1.0, 21°.7N±0°.1×143°.3E±0°.2, h250km, n13, σ0s96/14, mb3.6/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.46**	**350**	P	**Pn**	**05 28 45.9**	**+1.3**
	44nm,0.3s,baz=135,slow=17,SNR=5.4						
JCJ				S	**S**	**05 29 48.8**	**-0.9**
	32nm,0.5s,baz=252,slow=20,SNR=1.4						
KLR	**Kul'dur**	**28.96**	**344**	P	**P**	**05 33 00.6**	**+1.2**
	1.9nm,0.6s,baz=180,slow=8.0,SNR=6.4						
	1.9nm,0.6s						
SONM	**Songino Array**	**39.39**	**320**	P	**P**	**05 34 28.2**	**-0.7**
	0.2nm,0.3s,baz=106,slow=3.1,SNR=1.6						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**42.30**	**193**	P	**P**	**05 34 53.3**	**+0.6**
	0.7nm,0.3s,baz=13,slow=9.5,SNR=30						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**54.75**	**313**	P	**P**	**05 36 27.6**	**+0.5**
	0.2nm,0.3s,baz=91,slow=8.1,SNR=3.0						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**57.58**	**317**	P	**P**	**05 36 46.9**	**+0.1**
	0.7nm,0.5s,baz=92,slow=7.7,SNR=8.2						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**62.00**	**27**	P	**P**	**05 37 17.1**	**+0.4**
	0.6nm,1.0s,baz=266,slow=5.1,SNR=3.5						
	0.6nm,1.0s						
BVAR	**Borovoye Array**	**62.72**	**319**	P	**P**	**05 37 21.3**	**-0.3**
	0.9nm,0.3s,baz=94,slow=9.0,SNR=4.6						
	0.9nm,0.3s						
GEYT	**Alibeck**	**73.31**	**305**	P	**P**	**05 38 27.5**	**-0.2**
	1.3nm,0.5s,baz=92,slow=9.1,SNR=1.4						
	1.3nm,0.5s						
ARCES	**ARCESS Array B**	**78.94**	**342**	P	**P**	**05 38 59.1**	**+0.4**
	1.1nm,0.5s,baz=60,slow=6.0,SNR=7.5						
	1.1nm,0.5s						
NVAR	**Mina Array Bea**	**83.08**	**52**	P	**P**	**05 39 20.7**	**-0.8**
	0.2nm,0.6s,baz=289,slow=2.8,SNR=2.2						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**83.21**	**335**	P	**P**	**05 39 20.5**	**-0.8**
	0.8nm,0.5s,baz=64,slow=4.4,SNR=9.9						
	0.8nm,0.5s						
HFS	**Hagfors**	**88.76**	**337**	P	**P**	**05 39 46.5**	**-1.9**
	0.6nm,0.3s,baz=66,slow=5.4,SNR=4.7						
	0.6nm,0.3s						

KRNET ***04*** *05:45:14.2±0.1, 39°.26N×77°.59E, mb2.5*
SOME 04 05:45:11.9, 42°.42N×81°.03E, h0km, 10C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.95**	**273**	⇑ *e*P	Pg	05 46 08.9	+20
	baz=11						
PRZ				⇑ *e*S	Sg	05 46 49.2	+35
	baz=11						
KPKS	**Kokpek**	**2.02**	**302**	*e*P	Pg	05 45 50.7	+0.1
	4.3nm,0.2s						
KPKS				*e*S	Sg	05 46 18.6	+1.9
	5.5nm,0.2s						
DJR	**Jarkent**	**2.12**	**335**	*e*P	Pg	05 45 53.0	+0.6
	0.9nm,0.1s						
DJR				*e*S	Sg	05 46 22.6	+2.6
	2.0nm,0.2s						
TARG	**Taragay, Kyrgy**	**2.50**	**255**	⇑ *e*P	Pb	05 45 57.7	-0.2
	baz=4.0						
TARG				⇑ *i*S	Sb	05 46 29.6	+0.2
	baz=4.0						
KDJ	**Kajisay**	**2.87**	**266**	⇑ *e*P	Pb	05 46 03.5	-0.7
	baz=54						
KDJ				⇑ *i*S	Sb	05 46 39.1	-0.8
	baz=54						
ULHL	**Ulahol**	**3.56**	**269**	⇑ *i*P	Pn	05 46 07.1	-1.5
	baz=42						
ULHL				⇑ *i*S	Sn	05 46 46.1	-5.3
	baz=42						
BOOM	**Boomskoye usch**	**3.77**	**273**	⇑ *e*P	Pn	05 46 11.3	-0.1
	baz=39						
BOOM				⇑ *e*S	Sn	05 46 53.0	-3.6
	baz=39						

JSO ***04*** *05:57:22, 32°.87N×35°.57E, h3km, ML3.3/19*
GRAL ***04*** *05:57:24.1±0.3, 32°.87N×35°.55E, h0km±2km, MD3.6*
ISC 04 05:57:23.0±0.9, 32°.87N±0°.03×35°.59E±0°.05, h13km, n24, σ0s51/25, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHMJ	**Saham**	**0.20**	**134**	P	**Pg**	**05 57 27.1**	**-0.4**
GEM	**Giv'at Ha'Em**	**0.35**	**10**	P	**Pg**	**05 57 30.1**	**0.0**
BLGI	**Bet Lehem HaGe**	**0.36**	**249**	P	**Pg**	**05 57 30.0**	**-0.3**
HNTI	**Hanita**	**0.41**	**302**	P	**Pg**	**05 57 31.1**	**-0.2**
NATI	**Neve Ativ**	**0.41**	**17**	P	**Pg**	**05 57 31.2**	**-0.1**
RCY	**Rachaya**	**0.66**	**18**	*eP*	**Pg**	**05 57 36.1**	**+0.1**
RCY				*eS*	**Sg**	**05 57 45.0**	**+0.2**
QRWL	**Qaraoun**	**0.69**	**6**	*eP*	**Pg**	**05 57 36.4**	**+0.1**
DQRL	**Deir Qamar**	**0.84**	**359**	*eP*	**Pg**	**05 57 39.1**	**-0.2**
DQRL				*eS*	**Sg**	**05 57 50.2**	**-0.1**
HSUJ	**Al Zarqa**	**0.91**	**146**	P	**Pg**	**05 57 40.6**	**0.0**
ZAHL	**Zahle**	**1.02**	**14**	*eP*	**Pg**	**05 57 42.5**	**-0.2**
BHL	**Bhannes**	**1.04**	**3**	*eP*	**Pb**	**05 57 42.7**	**-0.2**
ASF	**Jabal al Asfar**	**1.30**	**122**	P	**Pb**	**05 57 47.6**	**+0.2**
DSI	**Dead Sea**	**1.30**	**188**	P	**Pn**	**05 57 45.9**	**-1.0**
HWQ	**Hawqa**	**1.44**	**12**	*eP*	**Pb**	**05 57 49.6**	**-0.1**
FKH	**Fakeheh**	**1.54**	**26**	*eP*	**Pb**	**05 57 51.6**	**+0.2**
YTIR	**Yattir**	**1.55**	**195**	P	**Pn**	**05 57 50.5**	**+0.1**
MDBI	**Mazsada**	**1.56**	**187**	P	**Pn**	**05 57 50.9**	**+0.5**
LISJ	**El Lisan**	**1.62**	**183**	P	**Pb**	**05 57 52.7**	**-0.1**
SWQJ	**Swaqa**	**1.67**	**166**	P	**Pn**	**05 57 50.9**	**-1.1**
KARJ	**KARJ**	**1.74**	**178**	P	Pn	05 57 39.1	-14
BEIL	**Beino**	**1.74**	**16**	*eP*	**Pb**	**05 57 54.4**	**-0.5**
PRNI	**Paran**	**2.56**	**191**	P	**Pn**	**05 58 05.0**	**+0.8**
KRMI	**Paran Flat**	**2.84**	**195**	P	**Pn**	**05 58 09.0**	**+0.9**
MBRI	**Mt Berech**	**3.12**	**191**	P	**Pn**	**05 58 12.9**	**+1.0**

IDC 04 06:00:23.9±2.6, 54°.13N×86°.48E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=21.5km s-min=13.5km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**260**	I	I	06 07 02.3	
	baz=80,slow=323,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.00**	**260**	Pg	Pg	06 00 41.3	-1.7
	1.2nm,0.3s,baz=77,slow=16,SNR=10.0						
ZALV				Lg	Lg	06 00 57.1	
	1.7nm,0.3s,baz=81,slow=30,SNR=7.7						
KURBB	**Kurchatov Arra**	**6.00**	**237**	Pn	Pn	06 01 54.9	+1.0
	0.2nm,0.3s,baz=55,slow=13,SNR=7.8						
KURBB				Lg	Lg	06 03 38.0	
	baz=47,slow=30,SNR=1.6						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.82**	**202**	Pn	Pn	06 02 19.9	+1.1
	0.2nm,0.3s,baz=24,slow=14,SNR=7.7						
	0.3nm,0.3s						

*IDC **04** 06:00:56.8±1.9, 23°.74S×67°.28W, h197km±27km, mb3.1/3, mbtmp3.6/5, Error ellipse: s-maj=43.9km s-min=19.5km az=127.0*

*GUC **04** 06:00:57.4±0.7, 23°.89S×67°.38W, h190km±6km, ML3.4*

ISC 04 06:00:56.2±1.1, 23°.84S±0°.07×67°.3W±0°.1, h190km±11km, n15, σ0°.90/25, mb3.3/3, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.21**	**317**	*eP*	**Pn**	**06 01 27.5**	**+0.6**
AF01				*eS*	**Sn**	**06 01 49.8**	**-0.8**
LVC	**Limon Verde**	**1.93**	**309**	P	**Pn**	**06 01 34.5**	**+0.8**
	11nm,0.3s,baz=126,slow=10,SNR=66						
LVC				S	**Sn**	**06 02 03.2**	**+0.5**
	26nm,0.2s,baz=66,slow=20,SNR=50						
LVC	**Limon Verde**	**1.93**	**309**	*eP*	**Pn**	**06 01 34.3**	**+0.5**
LVC				*eS*	**Sn**	**06 02 02.1**	**-0.6**
LVC				IAML		06 02 04.7	
	277nm,0.3s						
PB15	**IPOC Station P**	**2.10**	**287⇑**	*iP*	**Pn**	**06 01 36.2**	**+0.8**
PB15				*eS*	**Sn**	**06 02 05.4**	**-0.2**
PB06	**IPOC Station P**	**2.38**	**298⇑**	*iP*	**Pn**	**06 01 39.2**	**+0.8**
PB06				*eS*	**Sn**	**06 02 10.3**	**-0.8**
PB06				IAML		06 02 13.1	
	comp=E,165nm,0.1s						
GO02	**Mina Guanaco**	**2.47**	**237⇑**	*iP*	**Pn**	**06 01 39.7**	**+0.2**
GO02				*eS*	**Sn**	**06 02 12.3**	**-0.9**
GO02				IAML		06 02 14.6	
	comp=E,118nm,0.2s						
PB09	**IPOC Station P**	**2.72**	**318**	*eP*	**Pn**	**06 01 43.6**	**+1.3**
PB09				*eS*	**Sn**	**06 02 18.1**	**0.0**
PB09				IAML		06 02 21.4	
	comp=N,44nm,0.2s						
PB14	**IPOC Station P**	**2.95**	**254**	*eP*	**Pn**	**06 01 45.1**	**0.0**
PB10	**IPOC Station P**	**3.01**	**276**	*eP*	**Pn**	**06 01 45.8**	**+0.3**
PB10				*eS*	**Sn**	**06 02 22.4**	**-1.5**
PB10				IAML		06 02 27.1	
	comp=E,49nm,0.3s						
PB04	**IPOC Station P**	**3.03**	**299**	*eP*	**Pn**	**06 01 46.4**	**+0.5**
PB04				*eS*	**Sn**	**06 02 23.7**	**-1.0**
LPAZ	**La Paz**	**7.56**	**354**	P	**Pn**	**06 02 44.5**	**+0.1**
	comp=E,0.4nm,0.4s,baz=166,slow=4.2,SNR=2.3						
LPAZ				S	**Sn**	**06 04 08.8**	**-1.3**
	comp=E,0.7nm,0.5s,baz=251,slow=12,SNR=2.1						
BDFB	**Brasilia**	**19.88**	**69**	P	**P**	**06 05 12.3**	**-0.9**
	comp=E,3.4nm,0.6s,baz=246,slow=11,SNR=6.6						
QSPA	**South Pole Qui**	**66.36**	**180**	P	**P**	**06 11 26.1**	**+1.8**
	comp=E,1.1nm,1.1s,baz=174,slow=4.8,SNR=1.4						
	comp=E,1.1nm,1.1s						
VNDA	**Vanda**	**74.81**	**190**	P	**P**	**06 12 14.7**	**-0.3**
	comp=E,0.3nm,0.5s,baz=180,slow=2.0,SNR=6.4						
	comp=E,0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.76**	**69**	P	**P**	**06 12 26.6**	**-0.5**
	comp=E,0.2nm,0.4s,baz=242,slow=6.1,SNR=1.4						
	comp=E,0.2nm,0.4s						

*IDC **04** 06:04:28.5±0.5, 9°.64S×119°.06E, h0km, mb4.5/19, mbtmp4.5/21, ML4.2/2, MS3.9/40, Error ellipse: s-maj=25.7km s-min=12.6km az=74.0*

*BJI **04** 06:04:32.0±0.0, 10°.00S×119°.00E, h46km, mb4.9/46, mB5.1/12, Ms4.5/6, Ms7 4.2/11*

*GCMT **04** 06:04:34.5±0.3, 10°.13S±0°.03×118°.90E±0°.03, h45km±1km, MW4.9/63, Moment Tensor Solution. s40,c46; s63,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.91±.16; $M_{\theta\theta}$-2.62±.10; $M_{\phi\phi}$0.71±.13; $M_{r\theta}$1.44±.09; $M_{\theta\phi}$0.52±.12; $M_{\phi r}$0.44±.12; Best double couple: $M_0$2.79500×10^{16} NP1:φs81.00000°, δ63.00000°, λ69.00000°. NP2: φs301.00000°, δ34.00000°, λ126.00000°. Principal axes: T 2.5130, Plg65.0000°, Azm313.0000°; N 0.5680, Plg19.0000°, Azm91.0000°; P -3.0780, Plg16.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **04** 06:04:34.5±1.4, 9°.92S±0°.06×118°.93E±0°.05, h55km±9km, mb4.9/41 Error ellipse: s-maj=10.3km s-min=3.7km az=144.0*

*DJA **04** 06:04:34.9±0.5, 10°S±2°×11°9E±°, h37km±10km, M4.8/16, mb4.9/16, mB5.3/7, MLv4.9/11, Mw(mB)4.7/7, MwMwp4.7/1, Mwp5.0/1*

ISC 04 06:04:35.0±0.4, 9°.89S±0°.04×119°.04E±0°.04, h52km±3km, h52km:pP-P, n197, σ1s81/181, mb4.8/47, MS4.0/41, 1C-3D, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.55**	**102**	P	**Pn**	**06 05 00.8**	**+0.5**
BASI				S	**Sn**	**06 05 21.4**	**+2.1**
PLAI	**Plampang**	**1.63**	**310**	P	**Pn**	**06 05 00.7**	**-0.6**
PLAI	**Plampang**	**1.63**	**310**	P	**Pn**	**06 05 00.3**	**-1.0**
PLAI				S	**Sn**	**06 05 20.4**	**-0.8**
TWSI	**Taliwang, Sumb**	**2.41**	**298**	P	**Pn**	**06 05 12.4**	**+0.4**
TWSI				S	**Sn**	**06 05 41.0**	**+0.6**
MMRI	**Maumere**	**3.40**	**69**	P	**Pn**	**06 05 28.2**	**+2.7**
MMRI	**Maumere**	**3.40**	**69**		**Pn**	**06 05 26.3**	**+0.7**
MMRI	**Maumere**	**3.40**	**69**	P	**Pn**	**06 05 26.9**	**+1.4**
MMRI				S	**Sn**	**06 06 05.0**	**+0.4**
DNP	**Denpasar**	**3.96**	**287**	P	**Pn**	**06 05 33.2**	**-0.1**
DNP				S	**Sn**	**06 06 19.0**	**+0.5**
IGBI	**Denpasar**	**3.98**	**285**	P	**Pn**	**06 05 32.4**	**-1.2**
SRBI	**Singaraja**	**4.18**	**295**	P	**Pn**	**06 05 36.8**	**+0.5**
SRBI				S	**Sn**	**06 06 25.1**	**+1.2**
BATI	**Baumata**	**4.57**	**94**	P	**Pn**	**06 05 42.8**	**+1.2**
BATI				S	**Sn**	**06 06 33.4**	**-0.1**
BKSI	**Bulukumba**	**4.66**	**13**	P	**Pn**	**06 05 43.6**	**+0.7**
KAPI	**Kappang**	**4.89**	**8**	P	**Pn**	**06 05 47.4**	**+1.3**
KAPI	**Kappang**	**4.89**	**8**		**Pn**	**06 05 46.0**	**-0.1**
KAPI	**Kappang**	**4.89**	**8**	Pn	**Pn**	**06 05 47.0**	**+0.9**
	21nm,0.3s,baz=163,slow=7.7,SNR=47						
KAPI				Sn	**Sn**	**06 06 40.5**	**-1.0**
	98nm,0.3s,baz=256,slow=21,SNR=16						
KAPI				LR	LR	06 07 55.5	
	comp=Z,3μm,20.2s,baz=153,slow=45						
JAGI	**Jajag, Banyuwa**	**5.02**	**286**	P	**Pn**	**06 05 46.5**	**-1.3**
JAGI	**Jajag, Banyuwa**	**5.02**	**286**		**Pn**	**06 05 45.6**	**-2.2**
JAGI	**Jajag, Banyuwa**	**5.02**	**286**	P	**Pn**	**06 05 45.9**	**-1.9**
JAGI				S	**Sn**	**06 06 43.2**	**-1.4**
SOEI	**Soe**	**5.16**	**89**	P	**Pn**	**06 05 51.3**	**+1.5**
SOEI	**Soe**	**5.16**	**89**		**Pn**	**06 05 50.6**	**+0.7**
SOEI	**Soe**	**5.16**	**89**	P	**Pn**	**06 05 51.0**	**+1.2**
	181nm,0.8s,2μm1.4nm						
ABJI	**Asem Bagus**	**5.18**	**293**	P	**Pn**	**06 05 50.1**	**+0.1**
BLJI	**Banyuglugur**	**5.78**	**291**	P	**Pn**	**06 05 57.4**	**-0.9**
GRJI	**Gresik**	**7.13**	**294**	P	**Pn**	**06 06 16.7**	**0.0**
PWJI	**Pagerwojo**	**7.38**	**284**	P	**Pn**	**06 06 20.8**	**+0.6**
	116nm,1.1s,2μm						
UGM	**Wanagama**	**8.64**	**282**	P	**Pn**	**06 06 38.2**	**+0.8**
UGM	**Wanagama**	**8.64**	**282**	Pn	**Pn**	**06 06 35.5**	**-1.9**
UGM	**Wanagama**	**8.64**	**282**	P	**Pn**	**06 06 37.4**	**0.0**
	160nm,1.1s						
KPJI	**Karang Pucung**	**10.31**	**283**	P	**Pn**	**06 07 01.4**	**+1.1**
	41nm,0.5s						
FITZ	**Fitzroy Crossi**	**10.38**	**143**		**Pn**	**06 06 59.1**	**-2.1**
MBWA	**Marble Bar**	**11.23**	**177**	P	**Pn**	**06 07 10.9**	**-1.9**
MBWA	**Marble Bar**	**11.23**	**177**		**Pn**	**06 07 09.7**	**-3.1**
BBJI	**Bungbulang**	**11.51**	**281**	P	**Pn**	**06 07 17.0**	**+0.2**
PSA00	**Pilbara Seismi**	**11.64**	**176**	P	**Pn**	**06 07 16.6**	**-1.9**
PSA00	**Pilbara Seismi**	**11.64**	**176**		**Pn**	**06 07 16.4**	**-2.1**
MTN	**Manton Dam**	**12.22**	**105**		**Pn**	**06 07 24.5**	**-1.9**
STKI	**Sintang**	**12.42**	**322**	P	**P**	**06 07 35.2**	**-4.5**
KDU	**Kakadu**	**13.47**	**103**	P	**Pn**	**06 07 42.6**	**-0.9**
GIRL	**Giralia**	**13.49**	**199**	P	**Pn**	**06 07 43.0**	**-0.8**
GIRL	**Giralia**	**13.49**	**199**	Pn	**Pn**	**06 07 41.5**	**-2.2**
FAKI	**Fak Fak**	**14.84**	**63**	Pn	**Pn**	**06 08 01.7**	**-0.1**
SWI	**Sorong**	**15.11**	**54**	P	**Pn**	**06 08 06.2**	**+0.9**
	64nm,0.8s						
MEEK	**Meekatharra**	**16.66**	**181**	P	**Pn**	**06 08 24.4**	**-0.7**
WRKA	**Warakurna**	**17.45**	**151**	P	**Pn**	**06 08 34.2**	**-0.7**
WB0	**Warramunga Arr**	**17.79**	**125**	P	**Pn**	**06 08 38.1**	**-0.9**
WRA	**Warramunga Arr**	**17.83**	**126**	P	**Pn**	**06 08 38.1**	**-1.5**
WRA	**Warramunga Arr**	**17.83**	**126**	P	**Pn**	**06 08 38.4**	**-1.2**
	0.8nm,0.3s,baz=298,slow=13,SNR=28						
WRA				S	Sn	06 11 45.6	-12
	5.8nm,0.7s,baz=304,slow=24,SNR=8.1						
WRA				LR	LR	06 15 45.8	
	comp=Z,679nm,20.9s,baz=276,slow=38						
	2.2nm,0.5s						
WB2	**Warramunga Arr**	**17.84**	**126**		**Pn**	**06 08 38.6**	**-1.1**
WR0	**Warramunga Arr**	**18.00**	**126**	P	**P**	**06 08 41.4**	**-0.2**
DAV	**Davao City (W)**	**18.06**	**21**	LR	LR	06 16 51.9	
	comp=Z,230nm,18.7s,baz=170,slow=42						
MORW	**Morawa**	**19.29**	**188**	P	**Pn**	**06 08 57.5**	**+0.5**
MORW	**Morawa**	**19.29**	**188**	P	**P**	**06 08 55.0**	**-0.5**
MORW				IAmb	IAmb	06 09 00.6	
	comp=Z,54nm,1.0s						
AS31	**Alice Springs**	**19.73**	**136**	P	**P**	**06 09 00.7**	**+0.1**
ASAR	**Alice Springs**	**19.73**	**136**	P	**P**	**06 09 00.9**	**+0.4**
ASAR	**Alice Springs**	**19.73**	**136**	P	**Pn**	**06 09 01.6**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=315,slow=10,SNR=55						
ASAR				S	**S**	**06 12 32.4**	**-8.0**
	comp=Z,3.1nm,0.8s,baz=314,slow=24,SNR=5.7						
ASAR				LR	LR	06 17 13.3	
	comp=Z,533nm,18.2s,baz=308,slow=38						
	comp=Z,5.2nm,0.7s						
AS01	**Alice Springs**	**19.76**	**136**	P	**Pn**	**06 09 02.4**	**-0.4**
PDSI	**Padang**	**20.51**	**295**	P	**P**	**06 09 07.0**	**-2.1**
BKNI	**Bangkinang**	**20.58**	**299**	P	**P**	**06 09 08.4**	**-1.4**
BKNI	**Bangkinang**	**20.58**	**299**	P	**P**	**06 09 10.8**	**+1.0**
BLDU	**Ballidu**	**20.74**	**186**	P	Pn	06 09 12.7	-1.5
KMBL	**Kambalda**	**21.54**	**173**	P	**P**	**06 09 20.8**	**+0.9**
FORT	**Forrest**	**22.42**	**159**	P	**P**	**06 09 30.6**	**+1.2**
FORT	**Forrest**	**22.42**	**159**	P	**P**	**06 09 28.6**	**-0.8**
FORT				IAmb	IAmb	06 09 58.4	
	comp=Z,35nm,0.8s						
QIS	**Mount Isa**	**22.48**	**121**	P	**P**	**06 09 31.9**	**+1.7**
NWAO	**Narrogin (SRO)**	**22.99**	**184**	P	**P**	**06 09 36.8**	**+1.5**
NWAO	**Narrogin (SRO)**	**22.99**	**184**	P	**P**	**06 09 34.8**	**-0.5**
NWAO				IAmb	IAmb	06 09 37.2	
	comp=Z,57nm,1.1s						
NWAO	**Narrogin (SRO)**	**22.99**	**184**	P	**P**	**06 09 36.5**	**+1.2**
	comp=Z,24nm,0.8s,baz=14,slow=10,SNR=4.8						
NWAO				S	**S**	**06 13 39.5**	**-2.4**
	comp=Z,20nm,0.9s,baz=15,slow=20,SNR=2.8						
NWAO				LR	LR	06 18 23.8	
	comp=Z,492nm,21.7s,baz=2.5,slow=36						
	comp=Z,24nm,0.8s						
KULM	**Kulim**	**23.73**	**309**	P	**P**	**06 09 40.2**	**-2.3**
OOD	**Oodnadatta**	**23.73**	**141**	P	**P**	**06 09 44.8**	**+2.3**
COEN	**Coen**	**23.96**	**102**	P	**P**	**06 09 47.7**	**+3.0**
COEN	**Coen**	**23.96**	**102**	P	**P**	**06 09 44.6**	**-0.1**
MULG	**Mulgathing**	**24.66**	**147**	P	**P**	**06 09 53.1**	**+2.2**
KCSI	**Kotacane, Aceh**	**25.02**	**301**	P	**P**	**06 09 53.5**	**-0.9**
BBOO	**Buckleboo**	**27.70**	**148**	P	**P**	**06 10 21.0**	**+2.6**
BBOO	**Buckleboo**	**27.70**	**148**	P	**P**	**06 10 18.6**	**+0.2**
BBOO				IAmb	IAmb	06 10 40.1	
	comp=Z,32nm,1.4s						
PMG	**Port Moresby**	**27.73**	**91**	LR	LR	06 23 01.8	
	comp=Z,219nm,19.8s,baz=258,slow=40						
QIZ	**Qiongzhong**	**30.13**	**342**	P	**P**	**06 10 42.5**	**+2.4**
QIZ				S	**S**	**06 15 38.7**	**+3.2**
QIZ				LR	LR		
	comp=Z,390nm,19.1s						
QIZ				LR	LR		
	comp=Z,320nm,18.6s						
QIZ				LR	LR		
	comp=Z,400nm,23.6s						
STKA	**Stephens Creek**	**30.25**	**140**	P	**P**	**06 10 41.4**	**+0.3**
STKA	**Stephens Creek**	**30.25**	**140**	P	**P**	**06 10 41.9**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=286,slow=6.2,SNR=3.4						
STKA				LR	LR	06 23 07.8	
	comp=Z,362nm,22.0s,baz=305,slow=37						
	comp=Z,2.4nm,0.7s						
PHRA	**Phrae**	**33.76**	**327**	P	**P**	**06 11 12.0**	**0.0**
CMAR	**Chiang Mai Arr**	**34.45**	**325**	P	**P**	**06 11 16.9**	**-1.0**
GUMO	**Guam**	**34.66**	**48**	LR	LR	06 25 09.7	
	comp=Z,49nm,21.2s,baz=34,slow=36						
CHTO	**Chiang Mai**	**34.73**	**325**	P	**P**	**06 11 18.4**	**-1.9**
CRAI	**Chiangrai**	**35.11**	**329**	P	**P**	**06 11 22.6**	**-1.1**
JOW	**Kunigami**	**37.59**	**14**	LR	LR	06 26 32.2	
	comp=Z,224nm,21.3s,baz=106,slow=35						
PZH	**PanZhiHua**	**39.89**	**335**	P	**P**	**06 12 06.3**	**+2.2**
PZH				pmax	pmax		
	comp=Z,70nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
HNR	**Honiara**	**40.32**	**93**	LR	LR	06 31 24.0	
	comp=Z,1μm,19.2s,baz=0.5,slow=40						
ENH	**Enshi**	**40.97**	**347**	IAmb	IAmb	06 12 14.5	
	comp=Z,22nm,1.1s						
NJ2	**Nanjing**	**41.70**	**360**	*eP*	**P**	**06 12 21.3**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,510nm,4.5s						
PALK	**Pallekele**	**41.81**	**293**	LR	LR	06 30 44.0	
	comp=Z,120nm,20.7s,baz=211,slow=38						
CD2	**Chengdu**	**43.13**	**341**	P	**P**	**06 12 29.9**	**-0.6**
CD2				pmax	pmax		
	comp=Z,50nm,0.5s						
JNU	**Nakatsue**	**44.23**	**14**	LR	LR	06 33 09.7	
	comp=Z,40nm,19.2s,baz=144,slow=39						
XAN	**Xi'an**	**44.73**	**348**	⇓P	**P**	**06 12 42.4**	**-0.9**
XAN				pmax	pmax		
	comp=Z,24nm,1.1s						
H08S2	**Diego Garcia H**	**46.02**	**269**	T	T	07 02 12.4	
	baz=96,slow=76,SNR=102						
H08S3	**Diego Garcia H**	**46.04**	**269**	T	T	07 02 12.3	
	baz=96,slow=76,SNR=90						
H08S1	**Diego Carcia H**	**46.04**	**269**	T	T	07 02 13.9	
	baz=96,slow=76,SNR=84						
DZM	**Mont Dzumac**	**46.98**	**111**	*eS*	**S**	**06 19 42.5**	**-6.9**
	comp=Z,62nm,26.6s						
DZM				*eSS*	**SS**	**06 23 18.6**	**+1.7**
	comp=Z,93nm,25.4s						
DZM				*eLR*	LR	06 26 23.5	
	comp=Z,505nm,23.1s						
DZM	**Mont Dzumac**	**46.98**	**111**	LR	LR	06 33 07.0	
	comp=Z,214nm,21.7s,baz=230,slow=36						
KSAR	**Wonju Array Be**	**47.81**	**10**	P	**P**	**06 13 06.7**	**-0.7**
KSRS	**Korea Array**	**47.82**	**10**	P	**P**	**06 13 07.1**	**-0.3**
	comp=Z,4.3nm,0.8s,baz=188,slow=8.1,SNR=12						
KSRS				LR	LR	06 33 29.3	
	comp=Z,102nm,21.1s,baz=200,slow=37						
	comp=Z,4.3nm,0.8s						
LZH	**Lanzhou**	**47.92**	**343**	*eP*	**P**	**06 13 11.1**	**+2.7**
LZH				sP	sP	06 13 28.1	-0.2
LZH				pmax	pmax		
	comp=Z,30nm,1.2s						
LZH				LR	LR		
	comp=Z,230nm,14.1s						
LZH				LR	LR		
	comp=Z,330nm,18.6s						
MJAR	**Matsushiro Arr**	**49.58**	**20**	P	**P**	**06 13 18.1**	**-2.9**
	comp=Z,2.0nm,0.5s,baz=197,slow=9.4,SNR=5.0						
MJAR				LR	LR	06 33 12.3	
	comp=Z,43nm,21.8s,baz=222,slow=35						
	comp=Z,2.0nm,0.5s						
BJT	**Baijiatuau**	**49.72**	**357**	P	**P**	**06 13 21.9**	**-0.1**
BJT				pP	**pP**	**06 13 34.1**	**-2.0**
BJI	**Beijing**	**49.74**	**357**	P	**P**	**06 13 21.9**	**-0.2**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BTO	**Baotou**	**50.93**	**351**	*eP*	**P**	**06 13 31.6**	**+0.4**
BTO				pP	**pP**	**06 13 47.4**	**+2.2**
BTO				sP	**sP**	**06 13 54.4**	**+3.2**
BTO				pmax	pmax		
	comp=Z,35nm,1.5s						
BTO				pmax	pmax		
	comp=Z,170nm,5.8s						
HHC	**Hu-ho-hao-te**	**50.95**	**353**	*eP*	**P**	**06 13 33.2**	**+1.8**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,49nm,5.4s						
GTA	**Gaotai**	**52.20**	**341**	*eP*	**P**	**06 13 40.5**	**-0.3**
GTA				sP	pP	06 13 55.5	+0.6
GTA				pmax	pmax		
	comp=Z,12nm,1.3s						
XLT	**XiLinHaoTe**	**53.60**	**357**	*eP*	**P**	**06 13 49.3**	**-1.7**
XLT				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,110nm,4.4s						
XLT				LR	LR		
	comp=Z,270nm,18.6s						
XLT				LR	LR		
	comp=Z,160nm,17.5s						
USA0B	**Ussuriysk Arra**	**55.10**	**11**	P	**P**	**06 14 00.9**	**-0.9**
USA0B				IAmb	IAmb	06 14 27.7	
	comp=Z,22nm,1.4s						
USRK	**Ussuriysk Ar.**	**55.10**	**11**	P	**P**	**06 14 00.6**	**-1.1**
USRK	**Ussuriysk Ar.**	**55.10**	**11**	P	**P**	**06 14 00.8**	**-0.9**
	comp=Z,3.7nm,0.5s,baz=194,slow=6.8,SNR=17						
	comp=Z,3.7nm,0.5s						
RPZ	**Rata Peaks**	**56.14**	**137**	LR	LR	06 38 31.8	
	comp=Z,333nm,19.0s,baz=316,slow=36						
ASAJ	**Asahikawa**	**57.85**	**20**	LR	LR	06 39 22.8	
	comp=Z,55nm,20.4s,baz=239,slow=36						
DRV	**Dumont d'Urvil**	**58.47**	**170**	P	**P**	**06 14 26.1**	**+0.8**
ULN	**Ulaanbaatar**	**58.47**	**351**	P	**P**	**06 14 25.4**	**-0.4**
ULN				IAmb	IAmb	06 14 27.3	
	comp=Z,5.8nm,0.8s						
SONM	**Songino Array**	**58.55**	**350**	P	**P**	**06 14 25.7**	**-0.7**
SONM				IAmb	IAmb	06 14 27.0	
	comp=Z,16nm,1.4s						
SONM	**Songino Array**	**58.55**	**350**	P	**P**	**06 14 25.6**	**-0.7**
	comp=Z,5.9nm,0.7s,baz=173,slow=6.3,SNR=18						
SONM				LR	LR	06 43 30.3	
	comp=Z,72nm,18.1s,baz=188,slow=40						
	comp=Z,5.9nm,0.7s						
URZ	**Urewera**	**58.98**	**129**	LR	LR	06 42 43.1	
	comp=Z,192nm,18.3s,baz=28,slow=39						
HEH	**HeiHe**	**60.33**	**6**	*eP*	**P**	**06 14 37.7**	**-0.7**
HEH				pmax	pmax		
	comp=Z,15nm,0.6s						
HEH				pmax	pmax		
	comp=Z,69nm,4.2s						
WMQ	**Urumqi**	**60.56**	**334**	*eP*	**P**	**06 14 43.9**	**+3.7**
WMQ				LR	LR		
	comp=Z,140nm,24.0s						
KSH	**Kashi**	**63.34**	**324**	P	**P**	**06 14 58.0**	**-1.0**
KSH				pP	pP	06 15 07.5	-5.7
KSH				pmax	pmax		
	comp=Z,11nm,0.8s						
KSH				LR	LR		
	comp=Z,820nm,21.0s						
KSH				LR	LR		
	comp=Z,590nm,21.3s						
KBL	**Kabul**	**64.75**	**316**	P	**P**	**06 15 06.9**	**-1.6**
CCD	**Concordia, Ant**	**65.23**	**179**	P	**P**	**06 15 13.6**	**+2.4**
CCD				sP	**sP**	**06 15 33.0**	**+2.5**
MK31	**Makanchi Array**	**65.26**	**333**	P	**P**	**06 15 09.9**	**-1.4**
MK31				IAmb	IAmb	06 15 11.9	
	comp=Z,14nm,0.9s						
MKAR	**Makanchi Array**	**65.26**	**333**	P	**P**	**06 15 10.0**	**-1.3**
MKAR	**Makanchi Array**	**65.26**	**333**	P	**P**	**06 15 10.7**	**-0.6**
	comp=Z,18nm,0.8s,baz=145,

VNDA Vanda 71.11 171 P P 06 15 49.9 +2.4
VNDA pP **pwP 06 16 02.9 -1.0**
YAK Yakutsk 72.18 5 LR LR 06 47 49.8
comp=Z,31nm,21.4s,baz=170,slow=36
GEYT Alibeck 74.08 314 P **P 06 16 06.1 +0.2**
comp=Z,5.5nm,0.9s,baz=184,slow=5.9,SNR=3.7
GEYT LR LR 06 53 51.2
comp=Z,38nm,18.7s,baz=133,slow=40
comp=Z,5.5nm,0.9s
BVAR Borovoye Array 75.09 332 P **P 06 16 10.3 -1.0**
comp=Z,4.8nm,0.8s,baz=141,slow=7.5,SNR=23
comp=Z,4.8nm,0.8s
BRVK Borovoye 75.16 332 P **P 06 16 10.4 -1.3**
BRVK IAmb IAmb 06 16 11.8
comp=Z,14nm,1.1s
SHEM Shemya Is, Ala 78.01 31 LR LR 06 47 11.9
comp=Z,29nm,20.1s,baz=244,slow=33
ABKAR Akbulak array 78.30 325 P **P 06 16 27.5 -2.0**
ABKAR Akbulak array 78.30 325 P **P 06 16 28.4 -1.1**
ABKAR IAmb IAmb 06 16 29.6
comp=Z,22nm,1.3s
RAR Rarotonga 78.34 110 LR LR 06 49 10.2
comp=Z,59nm,21.7s,baz=266,slow=34
QSPA South Pole Qui 80.11 180 P **P 06 16 41.4 +2.1**
comp=Z,2.3nm,1.0s,baz=240,slow=0.5,SNR=8.7
QSPA LR LR 06 51 49.4
comp=Z,71nm,18.5s,baz=336,slow=35
comp=Z,2.3nm,1.0s
TIXI Tiksi 81.62 3 LR LR 06 59 35.2
comp=Z,66nm,18.2s,baz=194,slow=41
NRIK Noril'sk 82.03 349 P **P 06 16 48.6 -0.5**
comp=Z,2.4nm,0.5s,baz=116,slow=5.6,SNR=5.2
NRIK LR LR 06 58 07.8
comp=Z,45nm,19.2s,baz=134,slow=39
comp=Z,2.4nm,0.5s
GNI Garni 84.56 312 LR LR 06 59 03.5
comp=Z,30nm,22.0s,baz=114,slow=39
BELG Belogornoye 86.69 324 LR LR 07 01 03.5
comp=Z,60nm,20.5s,baz=143,slow=39
KBZ Khabaz 86.93 315 P **P 06 17 15.3 +0.9**
comp=Z,6.9nm,0.9s,baz=96,slow=3.7,SNR=11
comp=Z,6.9nm,0.9s
TBI Tubuai 87.51 113 *e*S **S 06 27 56.1 +0.6**
comp=Z,1μm,36.8s
TBI Tubuai 87.51 113 *e*LR LR 06 45 04.8
TBI comp=Z,807nm,36.2s *e*LR LR 06 45 12.3
comp=Z,795nm,31.8s
PPT2 Papeete2 88.37 107 *e*S **S 06 27 57.2 -6.8**
comp=Z,73nm,27.5s
PPT2 Papeete2 88.37 107 *e*LR LR 06 45 30.6
PPT2 comp=Z,131nm,26.0s *e*LR LR 06 45 35.9
comp=Z,178nm,24.5s
PPT Papeete 88.37 107 LR LR 06 52 18.4
comp=Z,69nm,21.9s,baz=268,slow=32
TROLL Troll, Antarti 88.54 196 ⇑P **P 06 17 24.5 +2.6**
comp=Z,88nm,0.8s
BOSA Boshof 88.61 241 LR LR 06 52 03.9
comp=Z,71nm,18.8s,baz=64,slow=32
EIL Elat 89.75 300 LR LR 06 57 58.5
comp=Z,48nm,22.0s,baz=66,slow=36
MMAI Mount Meron Ar 90.04 303 P **P 06 17 31.0 +1.5**
comp=Z,0.9nm,0.3s,baz=83,slow=4.5,SNR=0.8
comp=Z,0.9nm,0.3s
SNAA Sanae 90.16 196 ⇓P **P 06 17 31.6 +2.2**
comp=Z,31nm,1.0s
SNAA Sanae 90.16 196 P **P 06 17 32.2 +2.8**
comp=Z,1.5nm,0.9s,baz=195,slow=5.0,SNR=5.0
SNAA LR LR 06 56 09.7
comp=Z,227nm,19.1s,baz=103,slow=34
comp=Z,1.5nm,0.9s
SUR Sutherland 91.62 237 LR LR 06 54 25.5
comp=Z,56nm,18.2s,baz=98,slow=33
VNA2 Neumayer--Watz 91.79 195 ⇓P **P 06 17 38.3 +1.4**
comp=Z,1.1nm,0.8s,baz=131,slow=1.2
BRTR Keskin Array B 92.73 310 P **P 06 17 42.0 0.0**
comp=Z,1.1nm,0.6s,baz=132,slow=5.5,SNR=6.2
comp=Z,1.1nm,0.6s
AKASG Malin Array Be 97.45 320 LR LR 07 07 55.0
comp=Z,58nm,21.0s,baz=53,slow=39
FINES FINESS Array B 100.02 331 LR LR 07 08 13.5
comp=Z,45nm,20.2s,baz=88,slow=38
YKA Yellowknife Ar 114.98 24 PKP PKPdf 06 23 11.0 +1.2
comp=Z,0.6nm,0.5s,baz=308,slow=2.4,SNR=3.3
EKA Eskdalemuir Ar 116.10 327 PKP **PKiKP 06 23 14.2 +2.0**
comp=Z,0.3nm,0.4s,baz=88,slow=1.7,SNR=2.2
TORD Torodi Ar. Bea 118.65 280 PKP **PKiKP 06 23 19.8 +1.5**
comp=Z,2.4nm,0.7s,baz=61,slow=2.0,SNR=15
ESDC Sonseca Array 121.51 311 PKP **PKiKP 06 23 24.1 +0.8**
comp=Z,0.3nm,0.6s,baz=32,slow=1.1,SNR=6.2
NVAR Mina Array Bea 121.55 51 PKP **PKiKP 06 23 25.5 +1.9**
comp=Z,0.6nm,0.6s,baz=251,slow=2.6,SNR=6.1
PDAR Pinedale Array 126.54 43 PKP **PKiKP 06 23 34.1 +0.7**
comp=Z,1.1nm,0.9s,baz=199,slow=2.7,SNR=6.2
SCHQ Schefferville 134.93 5 PKP **PKiKP 06 23 50.2 +0.5**
comp=Z,1.3nm,0.3s,baz=36,slow=3.2,SNR=5.7
TXAR Lajitas Array 135.68 58 PKhKP PKPpre 06 23 42.7
comp=Z,0.1nm,0.5s,baz=240,slow=2.8,SNR=3.8
TXAR PKP **PKiKP 06 23 53.6 +1.5**
comp=Z,0.6nm,0.8s,baz=233,slow=0.6,SNR=7.6
TXAR SKPbc **SKPab 06 27 21.1 -1.3**
comp=Z,0.5nm,1.0s,baz=310,slow=2.8,SNR=3.8
LPAZ La Paz 153.04 165 PKPab **PKPab 06 24 42.2 +2.4**
comp=Z,1.8nm,1.2s,baz=141,slow=6.7,SNR=3.6

*KRNET **04** 06:10:23.6±0.1, 39°.47N×80°.07E, mb2.5*
SOME 04 06:10:27.5, 42°.52N×81°.20E, h15km, 4C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**1.72**	**292**	*e*P	Pg	06 11 00.2	-0.4
1.9nm,0.2s							
UZB				*e*S	Sg	06 11 23.7	+0.7
3.0nm,0.1s							
KPKS	**Kokpek**	**2.08**	**298**	*e*P	Pb	06 11 05.8	+0.8
3.0nm,0.2s							
KPKS				*e*S	Sg	06 11 33.5	-0.8
4.8nm,0.1s							
DJR	**Jarkent**	**2.08**	**331**	*e*P	Pg	06 11 07.4	-0.1
0.6nm,0.1s							
DJR				*e*S	Sg	06 11 36.0	+1.5
1.2nm,0.1s							
SATY	**Saty**	**2.13**	**286**	*e*P	Pg	06 11 07.3	-1.0
3.5nm,0.2s							
SATY				*e*S	Sg	06 11 35.7	-0.2
4.4nm,0.1s							
TARG	**Taragay, Kyrgy**	**2.65**	**254**	⇑*e*P	Pn	06 11 11.9	+1.9
baz=23							
TARG				⇑*e*S	Sb	06 11 47.2	-0.1
baz=23							
ARXS	**Arharly**	**2.99**	**306**	*e*P	Pb	06 11 21.5	+1.1
0.9nm,0.2s							
ARXS				*e*S	Sg	06 12 00.4	-3.0
2.5nm,0.4s							
KDJ	**Kajisay**	**3.01**	**264**	⇑*i*P	Pb	06 11 20.2	-0.6
baz=21							
KDJ				⇑*i*S	Sg	06 12 01.4	-2.7
baz=21							
ULHL	**Ulahol**	**3.68**	**267**	⇓*i*P	Pn	06 11 28.1	+4.0
baz=15							
ULHL				⇓*i*S	Sb	06 12 15.3	-1.6
baz=15							
BOOM	**Boomskoye usch**	**3.89**	**271**	⇓*e*P	Pb	06 11 33.0	-2.9
baz=15							
BOOM				⇓*e*S	Sb	06 12 23.5	+0.7
baz=15							

*SNET **04** 06:11:27.6±1.0, 13°.27N×88°.05W, h7km±3km, ML2.4*
*CATAC **04** 06:11:28.0±0.2, 13°.27N×88°.03W, h5km±1km, ML2.6*
ISC 04 06:11:27.6±0.8, 13°23N±0°.04×88°.03W±0°.02, h15km±5km, n38, σ0°60/65, 2C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.03**	**215**	⇓*e*P	**Pg**	**06 11 30.3**	**0.0**
INTP				*e*S	**Sg**	**06 11 31.6**	**-0.5**
INTP				IAML		06 11 33.1	
comp=Z,1μm,0.2s							
LCND	**La Caada**	**0.16**	**59**	⇑*e*P	**Pb**	**06 11 31.8**	**-0.6**
LCND				*e*P	**Pb**	**06 11 31.8**	**-0.6**
LCND				*e*S	**Sg**	**06 11 34.0**	**-0.3**
LCND				*e*S	**Sg**	**06 11 34.0**	**-0.3**
LCND				IAML		06 11 36.0	
comp=Z,1μm,0.3s							
LCND	**La Caada**	**0.16**	**59**	*i*P	**Pb**	**06 11 31.6**	**-0.7**
LCND				IAML		06 11 31.9	
comp=Z,2μm,1.0s							
CNCH	**Conchagua**	**0.20**	**75**	*e*P	**Pb**	**06 11 32.6**	**-0.5**
CNCH				*e*S	**Sg**	**06 11 36.1**	**+0.6**
CNCH	**Conchagua**	**0.20**	**75**	*i*P	**Pb**	**06 11 32.6**	**-0.5**
CNCH				*i*S	**Sg**	**06 11 36.0**	**+0.5**
CNCH				IAML		06 11 36.5	
comp=Z,2μm,1.0s							
JUCU	**Jucuarǰn**	**0.21**	**278**	*e*P	**Pb**	**06 11 32.4**	**-0.8**
JUCU				*e*S	**Sg**	**06 11 35.8**	**+0.1**
JUCU				IAML		06 11 39.5	
comp=Z,1μm,0.4s							
JUCU	**Jucuarǰn**	**0.21**	**278**	*i*P	**Pb**	**06 11 32.4**	**-0.8**
JUCU				*i*S	**Sg**	**06 11 36.2**	**+0.5**
JUCU				IAML		06 11 39.0	
comp=Z,890nm,1.0s							
CNRM	**Centro Naciona**	**0.28**	**332**	*e*P	**Pg**	**06 11 33.0**	**-0.6**
CNRM	**Centro Naciona**	**0.28**	**332**	*i*P	**Pg**	**06 11 33.4**	**-0.2**
CNRM				*i*S	**Sg**	**06 11 37.5**	**-0.1**
CNRM				IAML		06 11 39.8	
comp=Z,2μm,1.0s							
BLLM	**Bellamira**	**0.29**	**317**	*e*P	**Pg**	**06 11 33.6**	**-0.2**
LCY	**Lacayo**	**0.32**	**308**	*e*P	**Pb**	**06 11 34.5**	**-0.6**
LCY				*e*S	**Sg**	**06 11 39.1**	**+0.2**
AMPH	**Amapala**	**0.37**	**81**	⇑*e*P	**Pb**	**06 11 35.5**	**-0.4**
PACA	**Pacayal**	**0.37**	**311**	*e*P	**Pg**	**06 11 35.2**	**0.0**
PACA	**Pacayal**	**0.37**	**311**	*i*P	**Pb**	**06 11 35.7**	**-0.3**
PACA				*i*S	**Sg**	**06 11 40.8**	**+0.4**
PACA				IAML		06 11 46.1	
comp=Z,3μm,1.0s							
TECA	**Tecapa**	**0.53**	**300**	*e*P	**Pg**	**06 11 38.1**	**0.0**
TECA				*e*S	**Sg**	**06 11 45.2**	**0.0**
PQSS	**Presa 15 de Se**	**0.65**	**308**	*e*P	**Pg**	**06 11 40.0**	**-0.2**
PQSS	**Presa 15 de Se**	**0.65**	**308**	*i*P	**Pb**	**06 11 40.3**	**-0.3**
PQSS				IAML		06 11 41.3	
comp=Z,79nm,1.0s							
TECO	**Alcaldia de Te**	**0.79**	**293**	*e*P	**Pg**	**06 11 42.2**	**-0.7**
TECO				*e*S	**Sg**	**06 11 53.2**	**-0.2**
TECO	**Alcaldia de Te**	**0.79**	**293**	*i*P	**Pg**	**06 11 42.4**	**-0.5**
TECO				*i*S	**Sg**	**06 11 53.3**	**-0.1**
TECO				IAML		06 11 55.8	
comp=Z,130nm,1.0s							
SCLA	**Alcaldia de Sa**	**0.82**	**305**	*e*P	**Pg**	**06 11 43.3**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.82**	**305**	*i*P	**Pg**	**06 11 43.3**	**-0.3**
SCLA				*i*S	**Sb**	**06 11 55.7**	**+1.1**
SCLA				IAML		06 11 57.0	
comp=Z,40nm,1.0s							
UESV	**Universidad de**	**0.84**	**299**	*i*P	**Pg**	**06 11 43.4**	**-0.5**
UESV				IAML		06 11 49.7	
comp=Z,150nm,1.0s							
UESV				*i*S	**Sb**	**06 11 55.3**	**+0.3**
COEG	**Centro de Oper**	**0.91**	**296**	*e*P	**Pg**	**06 11 44.5**	**-0.7**
COEG				*e*S	**Sb**	**06 11 57.3**	**+0.2**
COEG				IAML		06 11 58.1	
comp=Z,180nm,0.2s							
COEG	**Centro de Oper**	**0.91**	**296**	*i*P	**Pg**	**06 11 44.8**	**-0.5**
COEG				*i*S	**Sb**	**06 11 57.5**	**+0.4**
COEG				IAML		06 11 57.9	
comp=Z,150nm,1.0s							
PAVA	**Las Pavas**	**1.00**	**299**	*e*P	**Pg**	**06 11 46.0**	**-1.0**
PAVA				*e*S	**Sb**	**06 12 00.3**	**+0.5**
PAVA				IAML		06 12 02.5	
comp=Z,100nm,0.2s							
PAVA	**Las Pavas**	**1.00**	**299**	*i*P	**Pg**	**06 11 46.6**	**-0.4**
PAVA				*i*S	**Sb**	**06 12 00.8**	**+1.0**
PAVA				IAML		06 12 02.2	
comp=Z,240nm,1.0s							
LFRS	**El Faro**	**1.07**	**292**	*e*P	**Pg**	**06 11 47.6**	**-0.8**
TGUH	**Tegucigalpa,Un**	**1.11**	**42**	*i*P	**Pb**	**06 11 47.6**	**-1.0**
TGUH				*i*S	**Sg**	**06 12 02.6**	**-1.0**
TGUH				IAML		06 12 03.7	
comp=Z,180nm,1.0s							
PKGN	**Cerro Pekin**	**1.17**	**118**	*i*P	**Pn**	**06 11 50.1**	**+0.7**
PKGN				*i*S	**Sn**	**06 12 06.3**	**+1.2**
PKGN				IAML		06 12 07.2	
comp=Z,310nm,1.0s							
PMON	**Piamonte**	**1.34**	**291**	*e*P	**Pn**	**06 11 51.5**	**-0.3**
PMON	**Piamonte**	**1.34**	**291**	*i*P	**Pb**	**06 11 52.6**	**+0.2**
PMON				*i*S	**Sg**	**06 12 10.5**	**-0.3**
PMON				IAML		06 12 11.4	
comp=Z,100nm,1.0s							
JAYA	**Jayaque - finc**	**1.44**	**287**	*e*P	**Pn**	**06 11 53.1**	**-0.2**
JAYA	**Jayaque - finc**	**1.44**	**287**	*i*P	**Pb**	**06 11 53.8**	**-0.4**
JAYA				IAML		06 11 56.4	
comp=Z,220nm,1.0s							
JAYA				*i*S	**Sg**	**06 12 13.7**	**-0.4**
MACN	**El Madrono**	**1.53**	**120**	*i*P	**Pg**	**06 11 56.2**	**-0.7**
MACN				*i*S	**Sg**	**06 12 16.2**	**-0.6**
MACN				IAML		06 12 22.5	
comp=Z,25nm,1.0s							
LIMN	**Finca el Limon**	**1.63**	**96**	*i*P	**Pb**	**06 11 56.7**	**-0.8**
LIMN				IAML		06 12 22.9	
comp=Z,38nm,1.0s							
NUBE	**Las Nubes**	**1.83**	**292**	*i*P	**Pb**	**06 12 00.0**	**-0.8**
NUBE				*i*S	**Sb**	**06 12 24.7**	**+1.1**
NUBE				IAML		06 13 28.8	
comp=Z,84nm,1.0s							
RCPN	**Sur Rio San Ju**	**1.91**	**81**	*i*P	**Pn**	**06 12 00.5**	**+0.8**
RCPN				*i*S	**Sb**	**06 12 27.0**	**+1.0**
RCPN				IAML		06 12 28.6	
comp=Z,0.4nm,1.0s							
BOAB	**BOACO BROADBAN**	**2.44**	**108**	*i*P	**Pb**	**06 12 10.1**	**-1.0**
BOAB				IAML		06 12 40.1	
comp=Z,24nm,1.0s							

*IDC **04** 06:14:41.5±4.5, 0°.58N×98°.82E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=176.2km s-min=32.1km az=56.0*
*DJA **04** 06:14:43.1±0.6, 0°N±3°×9°9E±°, h11km±7km, M3.7/8, MLv3.7/8*
ISC 04 06:14:42.6±0.9, 0°.29N±0°.04×98°.64E±0°.07, h10km, n14, σ1°29/12, mb3.8/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.50**	**226**	P	**Pg**	**06 14 53.5**	**+1.2**
SBSI	**Sibolga**	**1.28**	**11**	P	**Pg**	**06 15 07.8**	**+0.7**
SBSI				S	**Sg**	**06 15 25.2**	**+1.5**
GSI	**Gunungsitoli**	**1.46**	**313**	P	**Pn**	**06 15 09.7**	**+0.6**
SISI	**Saibi**	**1.67**	**164**	P	**Pn**	**06 15 12.5**	**+0.6**
PDSI	**Padang**	**2.18**	**123**	P	**Pn**	**06 15 19.2**	**+0.2**
BKNI	**Bangkinang**	**2.40**	**89**	P	**Pn**	**06 15 23.3**	**+1.3**
KCSI	**Kotacane, Aceh**	**3.32**	**345**	P	**Pn**	**06 15 35.7**	**+1.0**
H08S2	**Diego Garcia H**	**27.23**	**253**	T	T	06 48 15.3	
baz=75,slow=76,SNR=8.3							
H08S3	**Diego Garcia H**	**27.24**	**253**	T	T	06 48 15.7	
baz=75,slow=76,SNR=15							
H08S1	**Diego Carcia H**	**27.25**	**253**	T	T	06 48 16.7	
baz=75,slow=76,SNR=10							
WRA	**Warramunga Arr**	**40.34**	**122**	P	**P**	**06 22 20.9**	**+0.1**
0.9nm,1.1s,baz=305,slow=9.0,SNR=2.4							
0.9nm,1.1s							
SONM	**Songino Array**	**47.83**	**7**	P	**P**	**06 23 19.6**	**-1.0**
0.9nm,0.7s,baz=189,slow=8.6,SNR=4.3							
0.9nm,0.7s							
MKAR	**Makanchi Array**	**48.48**	**345**	P	**P**	**06 23 23.4**	**-2.1**
0.4nm,0.6s,baz=154,slow=7.7,SNR=3.9							
0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**54.69**	**350**	P	**P**	**06 24 10.2**	**-1.5**
0.7nm,0.2s,baz=165,slow=6.0,SNR=1.3							
0.7nm,0.2s							

*IDC **04** 07:00:12.5±3.2, 53°.60N×87°.80E, h0km, mbtmp3.3/2, ML2.8/2, Error ellipse: s-maj=27.3km s-min=15.2km az=58.0*
*NNC **04** 07:00:12.4±3.0, 53°.59N×87°.81E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=21.6km s-min=14.1km az=88.0, Suspected Mining explosion.*
ISC 04 07:00:11.7±3.3, 53°.7N±0°.1×87°.8E±0°.2, h0km, n8, σ1°11/11, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**279**	I	I	07 11 45.2	
0.1nm,0.8s,baz=99,slow=312,SNR=0.4							
ZAA0	**Zalesovo Array**	**1.80**	**279**	⇓Pn	**Pn**	**07 00 44.2**	**+0.2**
0.3nm,0.3s,baz=95,slow=16							
ZAA0				⇑Sn	**Sg**	**07 01 09.4**	**-0.1**
1.9nm,0.3s,baz=103,slow=24							
ZALV	**Zalesovo Beam**	**1.80**	**279**	Pg	**Pb**	**07 00 44.9**	**-0.7**
3.1nm,0.3s,baz=102,slow=20,SNR=18							
ZALV				Lg	Lg	07 01 09.8	
5.2nm,0.3s,baz=106,slow=29,SNR=14							
KURK	**Kurchatov**	**6.40**	**246**	⇑Pn	**Pn**	**07 01 47.8**	**+0.7**
0.8nm,0.6s							
KURK				⇑Sn	**Sn**	**07 03 01.7**	**+0.9**
0.5nm,0.4s							
KURK				⇓Lg	Lg	07 03 34.3	
1.6nm,0.5s							
KURBB	**Kurchatov Arra**	**6.50**	**245**	Pn	**Pn**	**07 01 49.3**	**+0.8**
0.2nm,0.3s,baz=61,slow=14,SNR=2.3							
KURBB				Lg	Lg	07 03 38.0	
0.1nm,0.3s,baz=59,slow=33,SNR=2.7							
2.5nm,0.3s							
KURBB	**Kurchatov Arra**	**6.50**	**245**	⇑Pn	**Pn**	**07 01 49.5**	**+1.0**
2.0nm,0.6s,baz=63,slow=13							
KURBB				⇑Sn	**Sn**	**07 03 03.4**	**+0.2**
2.7nm,0.5s,baz=65,slow=20							
KURBB				⇓Lg	Lg	07 03 35.8	
3.1nm,0.6s							
MK31	**Makanchi Array**	**7.76**	**209**	⇑P	**Pn**	**07 02 06.8**	**+0.9**
0.2nm,0.4s,baz=28,slow=15,SNR=11							
MKAR	**Makanchi Array**	**7.76**	**209**	Pn	**Pn**	**07 02 06.8**	**+0.9**
0.2nm,0.3s,baz=28,slow=13,SNR=7.6							
MKAR				Sn	**Sn**	**07 03 32.4**	**-2.1**
0.1nm,0.3s,baz=30,slow=27,SNR=2.8							
MKAR				Lg	Lg	07 04 15.7	
0.1nm,0.3s,baz=22,slow=31,SNR=3.6							
0.2nm,0.3s							

*HVO **04** 07:09:47.0±0.9, 19°.416N±0°.010×155°.277W±0°.003, h1km±4km, ML3.6/23, ML3.4/31(NEIC), Error ellipse: s-maj=1.5km s-min=0.4km az=178.0*
*NEIC **04** 07:09:47.5±1.0, 19°.433N±0°.009×155°.281W±0°.008, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.4km az=165.0*
*IDC **04** 07:09:48.0±2.3, 19°.60N×155°.39W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=72.8km s-min=15.2km az=169.0*
ISC 04 07:09:47.8±1.0, 19°.44N±0°.03×155°.28W±0°.02, h2km±6km, n42, σ0°76/39, mb3.6/4, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.02**	**169**		**Pg**	**07 09 48.1**	**-0.3**
RSD	**Rainshed**	**0.02**	**10**		**Pg**	**07 09 48.7**	**+0.2**
RSD				IAML		07 09 49.1	
comp=E,32μm,0.6s							
RSD				IAML		07 09 49.1	
comp=N,51μm,0.5s							
SBLHI	**Steaming Bluff**	**0.02**	**141**		**Pg**	**07 09 48.4**	**-0.1**
UWE	**Uwekahuna**	**0.02**	**206**		**Pg**	**07 09 47.9**	**-0.5**
OBL	**Observatory Le**	**0.03**	**185**		**Pg**	**07 09 48.0**	**-0.4**
HATHI	**Halema'uma'u T**	**0.03**	**136**		**Pg**	**07 09 48.0**	**-0.5**
BYL	**Byron's Ledge**	**0.04**	**146**		**Pg**	**07 09 47.9**	**-0.7**
WRMHI	**West Rim**	**0.04**	**206**		**Pg**	**07 09 48.7**	**0.0**
KKO	**Keanakako`i**	**0.05**	**162**		**Pg**	**07 09 48.8**	**0.0**
RIM	**Rim**	**0.05**	**171**		**Pg**	**07 09 48.9**	**+0.1**
SDHHI	**Sand Hill**	**0.05**	**192**		**Pg**	**07 09 49.3**	**+0.3**
PUH	**Pauahi**	**0.09**	**138**		**Pg**	**07 09 49.4**	**-0.2**
PUH				IAML		07 09 50.4	
comp=E,16μm,1.2s							
KNHH	**Kane Nui o Ham**	**0.12**	**121**		**Pg**	**07 09 50.1**	**-0.1**
HLP	**Hilina Pali**	**0.15**	**190**		**Pg**	**07 09 50.2**	**-0.5**
HLP				IAML		07 09 53.2	
comp=N,8μm,0.4s							
HLP				IAML		07 09 53.6	
comp=E,10μm,0.4s							
STCH	**Steam Cracks**	**0.16**	**111**		**Pg**	**07 09 50.7**	**-0.3**
STCH				IAML		07 09 55.0	
comp=E,18μm,0.8s							
STCH				IAML		07 09 55.3	
comp=N,24μm,0.9s							
NPOC	**North of Pu'u**	**0.17**	**107**		**Pg**	**07 09 50.9**	**-0.3**
NPOC					**Sg**	**07 09 53.6**	**+0.2**
JCUZ	**Jacuzzi**	**0.18**	**109**		**Pg**	**07 09 51.0**	**-0.3**
JCUZ					**Sg**	**07 09 53.5**	**-0.2**
HTC	**Hot Caves**	**0.23**	**208**		**Pg**	**07 09 51.9**	**-0.4**
HMH	**Humu'ula Sheep**	**0.25**	**310**		**Pg**	**07 09 53.1**	**+0.5**
HMH				IAML		07 09 59.8	
comp=N,10μm,0.9s							
HMH				IAML		07 10 01.1	
comp=E,12μm,0.8s							
JOKA	**Jonika Flow**	**0.26**	**92**		**Pg**	**07 09 52.2**	**-0.7**
JOKA				IAML		07 10 00.6	
comp=E,5μm,0.8s							
MLOA	**Mauna Loa Obse**	**0.29**	**288**	Pg	**Pg**	**07 09 53.7**	**+0.2**
MLOA				IAML		07 10 02.6	
comp=E,9μm,0.8s							
MWH	**Moku'aweowe**	**0.30**	**278**		**Pg**	**07 09 53.6**	**-0.1**
MWH	**Moku'aweowe**	**0.30**	**278**		**Sg**	**07 09 59.4**	**+1.7**
ALEP	**Alea Permanent**	**0.36**	**286**		**Pg**	**07 09 54.6**	**-0.1**
ALEP					**Sb**	**07 10 01.5**	**-1.8**
KHU	**Kahuku**	**0.37**	**238**	Pg	**Pg**	**07 09 54.2**	**-0.8**
POHA	**Pohakuloa**	**0.39**	**323**	Pg	**Pg**	**07 09 55.0**	**-0.4**
POHA	**Pohakuloa**	**0.39**	**323**		**Sg**	**07 10 00.4**	**-0.2**
HPO	**Honuapo**	**0.44**	**216**		**Pn**	**07 10 02.7**	**+1.5**
HUH	**Hualalai**	**0.57**	**295**		**Pg**	**07 09 58.7**	**-0.2**
I59US	**HAWAII INFRASO**	**0.60**	**284**	Pg	**Pg**	**07 09 57.1**	**-2.2**
baz=120,slow=72							
CPH	**Captain Cook**	**0.60**	**274**		**Pg**	**07 09 58.3**	**-1.1**
HPAH	**Hawaii Prepara**	**0.70**	**326**		**Sg**	**07 10 10.3**	**-0.2**
H11N3	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	07 53 49.9	
baz=84,slow=73,SNR=12							
H11N2	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	07 53 50.9	
baz=84,slow=73,SNR=17							
H11N1	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	07 53 50.2	
baz=84,slow=73,SNR=11							
H11S2	**WAKE ISLAND Hy**	**35.91**	**275**	T	T	07 54 15.3	
baz=87							
H11S1	**WAKE ISLAND Hy**	**35.92**	**275**	T	T	07 54 15.5	
baz=87							
H11S3	**WAKE ISLAND Hy**	**35.93**	**275**	T	T	07 54 16.0	
baz=87							
NVAR	**Mina Array Bea**	**37.16**	**51**	P	**P**	**07 17 01.2**	**+0.6**
comp=E,0.3nm,0.7s,baz=265,slow=5.4,SNR=2.4							
comp=E,0.3nm,0.7s							
PDAR	**Pinedale Array**	**44.85**	**48**	P	**P**	**07 18 03.2**	**-0.7**
comp=E,0.5nm,0.9s,baz=258,slow=6.4,SNR=2.6							
comp=E,0.5nm,0.9s							
ILAR	**Eielson Array**	**45.65**	**5**	P	**P**	**07 18 08.9**	**-0.7**
comp=E,0.8nm,0.8s,baz=199,slow=7.4,SNR=9.6							
comp=E,0.8nm,0.8s							
TXAR	**Lajitas Array**	**47.71**	**68**	P	**P**	**07 18 27.1**	**+0.7**
comp=E,1.0nm,0.8s,baz=257,slow=8.2,SNR=14							
comp=E,1.0nm,0.8s							

*BJI **04** 07:12:46.7±0.0, 12°.87N×92°.50E, h34km, mb5.1/78, mB5.2/28, Ms4.4/51, Ms7 4.1/54*
*MOS **04** 07:12:47.6±0.8, 13°.10N×92°.52E, h31km, mb5.4/101, MS4.2/13, Error ellipse: s-maj=6.3km s-min=3.2km az=118.0*
*GCMT **04** 07:12:48.9±0.3, 13°.16N±0°.02×92°.61E±0°.02, h32km, MW4.9/73, Mo

*DJA **04** 07:12:51.3±0.5, 13°N±3°×9°2E±°, h38km±5km, M5.3/27, mB5.6/11, mb5.0/27, MLv5.7/2, Mw(mB)5.1/11*
*IDC **04** 07:12:56.6±2.8, 13°10N×92°58E, h94km±23km, mb4.7/44, mbtmp5.1/44, MS4.1/58, Error ellipse: s-maj=12.1km s-min=9.3km az=28.0*
ISC 04 07:12:49.3±0.3, 13°04N±0°03×92°56E±0°03, h33km±1km, h33km:pP-P, n1223, σ1°41/1199, mb5.3/356, MS4.2/83, 46C-42D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.39**	**70**	*eP*		**Pn**	**07 13 00.6**	**+2.0**
PBA	**Port Blair**	**1.39**	**172**			**Pb**	**07 13 15.2**	**+0.5**
PBA	**Port Blair**	**1.39**	**172**	*eP*		**Pb**	**07 13 15.3**	**+0.6**
PBA				*eS*		**Sb**	**07 13 35.4**	**+3.3**
PBA				IAML			07 13 52.6	
	comp=E,33μm,0.4s							
PBA				IAML			07 13 54.8	
	comp=E,17μm,0.2s							
PBA				IAML			07 13 56.5	
	comp=E,15μm,0.4s							
PBA				IAML			07 14 09.0	
	comp=E,15μm,1.2s							
PBA				IAML			07 14 15.3	
	comp=E,12μm,0.2s							
PBA	**Port Blair**	**1.39**	**172**	P		**Pb**	**07 13 15.3**	**+0.6**
	SNR=91							
CM31	**Chiang Mai Arr**	**8.17**	**48**			**Pn**	**07 14 46.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**8.17**	**48**	Pn		**Pn**	**07 14 45.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**8.17**	**48**	P		**Pn**	**07 14 45.9**	**+0.3**
SRIT	**Nakonsritamara**	**8.21**	**122**	Pn		**Pn**	**07 14 49.3**	**+3.1**
CHTO	**Chiang Mai**	**8.40**	**46**	Pn		**Pn**	**07 14 49.4**	**+0.5**
CHTO	**Chiang Mai**	**8.40**	**46**	P		**Pn**	**07 14 49.4**	**+0.5**
PHRA	**Phrae**	**9.16**	**53**	Pn		**Pn**	**07 15 00.5**	**+1.3**
SAIH	**SAIHA**	**9.40**	**2**	*ex*		**Pn**	**07 15 03.7**	**+1.1**
MLSI	**Meulaboh, Aceh**	**9.51**	**156**	P		**Pn**	**07 15 05.8**	**+1.8**
VIS	**Vishakhapatnam**	**10.04**	**299**	*eP*		**Pn**	**07 15 10.3**	**-0.9**
VIS				*i x*		x	07 15 20.2	
VIS				*eS*		Sn	07 16 51.9	-11
VIS				IAML			07 16 54.4	
	comp=N,2μm,0.2s							
VIS				IAML			07 16 54.6	
	comp=E,2μm,0.5s							
CRAI	**Chiangrai**	**10.35**	**45**	Pn		**Pn**	**07 15 17.1**	**+1.6**
RAGD	**RAYAGADA**	**10.70**	**306**	*eP*		**Pn**	**07 15 20.0**	**-0.2**
KCSI	**Kotacane, Aceh**	**10.77**	**151**	P		**Pn**	**07 15 25.2**	**+3.9**
	comp=E,76nm,1.0s,comp=E,2μm							
KULM	**Kulim**	**11.10**	**133**			**Pn**	**07 15 28.1**	**+2.4**
IPM	**Ipoh**	**11.93**	**135**			**Pn**	**07 15 38.9**	**+1.7**
MDRS	**Chennai**	**11.99**	**272**	*eP*		**Pn**	**07 15 38.4**	**+0.4**
MDRS				*eP*			07 15 38.5	
MDRS				*eS*		Sn	07 17 40.6	-10
JHSG	**JHARSUGUGA**	**12.05**	**317**	*eP*		**Pn**	**07 15 39.5**	**+0.7**
JHSG				IAmb		IAmb	07 15 41.0	
	comp=Z,91nm,0.6s							
BOK	**Bokaro**	**12.42**	**330**	*eP*		**Pn**	**07 15 44.1**	**+0.2**
BOK				*eS*		Sn	07 17 50.4	-11
SHL	**Shillong**	**12.47**	**357**	Pn		**Pn**	**07 15 43.8**	**-0.9**
SHL	**Shillong**	**12.47**	**357**	*eP*		**Pn**	**07 15 43.6**	**-1.1**
SHL	**Shillong**	**12.47**	**357**	P		**Pn**	**07 15 43.5**	**-1.2**
	SNR=7.2							
SHL	**Shillong**	**12.47**	**357**	P		**Pn**	**07 15 43.8**	**-0.9**
KOHI	**KOHIMA**	**12.70**	**6**	*eP*		**Pn**	**07 15 46.1**	**-1.5**
KOHI				*ex*		**Sn**	**07 18 00.4**	**-7.7**
PALK	**Pallekele**	**13.00**	**245**	Pn		**Pn**	**07 15 51.1**	**-0.7**
PALK	**Pallekele**	**13.00**	**245**	P		**Pn**	**07 15 52.2**	**+0.4**
	comp=Z,6.0nm,0.3s,baz=173,slow=14,SNR=9.8							
PALK				S		Sn	07 18 04.7	-11
	comp=Z,163nm,0.4s,baz=76,slow=19,SNR=12							
PALK				LR		LR	07 20 35.5	
	comp=Z,1μm,18.9s,baz=167,slow=35							
PALK	**Pallekele**	**13.00**	**245**	P		**Pn**	**07 15 52.4**	**+0.6**
TNCH	**TengChong**	**13.18**	**24**	P		**Pn**	**07 15 56.9**	**+2.5**
TNCH				S		**Sn**	**07 18 24.3**	**+4.3**
TNCH				pmax		pmax		
	comp=Z,120nm,0.7s							
TNCH				pmax		pmax		
	comp=Z,260nm,4.1s							
TNCH				LR		LR		
	comp=Z,320nm,9.5s							
TNCH				LR		LR		
	comp=Z,600nm,9.3s							
TNCH				LR		LR		
	comp=Z,1μm,17.5s							
TEZP	**TEZPUR**	**13.51**	**1**	*eP*		**Pn**	**07 15 54.9**	**-3.7**
TEZP				*ex*		x	07 18 15.5	
SLVN	**Son La**	**13.62**	**51**	Pn		**Pn**	**07 16 02.5**	**+2.3**
SALM	**Salem**	**14.10**	**266**	*eP*		**Pn**	**07 16 07.8**	**+1.1**
HYB	**Hyderabad**	**14.19**	**290**	*eP*		**Pn**	**07 16 07.2**	**-0.9**
HYB				*e*			07 18 29.8	
HYB				*eS*		**Sn**	**07 18 42.8**	**-1.7**
ZIRO	**ZIRO**	**14.46**	**5**	*eP*		**Pn**	**07 16 11.7**	**-0.1**
ZIRO				*ex*		Sn	07 18 41.2	-10
GTK	**Tadong**	**14.68**	**346**	*ex*		**Pn**	**07 16 16.9**	**+2.1**
GTK				*ex*		Sn	07 18 46.1	-10
KOD	**Kodaikanal**	**15.04**	**261**	*eP*		**Pn**	**07 16 20.5**	**+0.7**
KOD				IAmb		IAmb	07 16 28.4	
	comp=Z,23nm,0.7s							
KMI	**Kunming**	**15.38**	**37**	⇑P		**P**	**07 16 27.7**	**-0.8**
KMI				pP		pP	07 16 32.0	-5.2
KMI				sP		sP	07 16 38.4	-3.0
KMI				pmax		pmax		
	comp=Z,25nm,1.3s							
KMI				LR		LR		
	comp=Z,810nm,16.3s							
KMI				LR		LR		
	comp=Z,530nm,13.6s							
KMI				LR		LR		
	comp=Z,610nm,15.0s							
ALBI	**Allahabad**	**15.86**	**322**	*eP*		**Pn**	**07 16 31.0**	**+0.8**
ALBI				IAmb		IAmb	07 16 31.7	
	comp=Z,75nm,0.7s							
PZH	**PanZhiHua**	**15.93**	**31**	P		**P**	**07 16 33.0**	**-1.4**
PZH				S		**Sn**	**07 19 28.2**	**+1.4**
PZH				pmax		pmax		
	comp=Z,50nm,1.1s							
PZH				pmax		pmax		
	comp=Z,190nm,4.7s							
PZH				LR		LR		
	comp=Z,650nm,18.2s							
PZH				LR		LR		
	comp=Z,640nm,19.6s							
PZH				LR		LR		
	comp=Z,830nm,19.0s							
LSA	**Lhasa**	**16.63**	**356**	P		**P**	**07 16 43.5**	**+1.0**
LSA				S		**Sn**	**07 19 47.0**	**+2.8**
LSA				pmax		pmax		
	comp=Z,58nm,1.1s							
LSA				LR		LR		
	comp=Z,350nm,16.5s							
LSA				LR		LR		
	comp=Z,260nm,14.4s							
LSA				LR		LR		
	comp=Z,560nm,14.4s							
LSA	**Lhasa**	**16.63**	**356**	P		**Pn**	**07 16 41.5**	**+1.2**
TPRI	**Tanjung Pinang**	**16.91**	**135**	P		**P**	**07 16 45.7**	**+0.5**
MNGI	**Mangalore**	**17.28**	**272**	*eP*		**P**	**07 16 51.3**	**+1.9**
BHPL	**Bhopal**	**17.58**	**307**	*eP*		**P**	**07 16 53.4**	**+0.7**
BHPL				*i x*		x	07 17 03.4	
BHPL				*ex*		Sn	07 19 56.3	-11
QIZ	**Qiongzhong**	**17.64**	**68**	P		**Pn**	**07 16 53.0**	**+0.4**
QIZ				PP		**sP**	**07 17 07.3**	**+1.3**
QIZ				S		**Sn**	**07 20 09.5**	**+1.2**
QIZ				LR		LR		
	comp=Z,470nm,16.8s							
QIZ				LR		LR		
	comp=Z,470nm,16.8s							
QIZ				LR		LR		
	comp=Z,430nm,18.5s							
JHNI	**Jhansi**	**18.08**	**315**	*eP*		**Pn**	**07 16 56.8**	**-1.2**
JHNI				IAmb		IAmb	07 17 00.4	
	comp=Z,193nm,0.1s							
GYA	**Guiyang**	**18.80**	**43**	⇓P		**Pn**	**07 17 08.1**	**+1.2**
GYA				pmax		pmax		
	comp=Z,54nm,0.8s							
GYA				LR		LR		
	comp=Z,780nm,15.0s							
MNCI	**Minicoy**	**19.73**	**258**	P		**P**	**07 17 16.9**	**+0.6**
LGTI	**Lohaghat**	**19.93**	**327**	*eP*		**Pn**	**07 17 19.8**	**-0.3**
LGTI				IAmb		IAmb	07 17 21.8	
	comp=Z,26nm,0.6s							
PTH	**Pithoragarh**	**20.02**	**327**	*eP*		Pn	07 17 21.1	-0.4
PPBI	**Pangkal Pinang**	**20.25**	**137**	P		**P**	**07 17 22.7**	**+0.8**
	comp=Z,41nm,0.4s,comp=Z,10μm							
CD2	**Chengdu**	**20.57**	**28**	P		Pn	07 17 26.9	-0.8
CD2				S		**S**	**07 21 14.3**	**+0.6**
CD2				pmax		pmax		
	comp=Z,100nm,0.6s							
CD2				LR		LR		
	comp=Z,670nm,12.1s							
CD2				LR		LR		
	comp=Z,480nm,10.2s							
CD2				LR		LR		
	comp=Z,530nm,19.0s							
GULI	**GuiLin**	**20.74**	**51**	⇓P		Pn	07 17 28.9	-0.8
GULI				pmax		pmax		
	comp=Z,80nm,0.8s							
NDI	**New Delhi**	**21.12**	**320**	*eP*		**P**	**07 17 32.7**	**+1.4**
KUDL	**Kundal**	**21.22**	**318**	*eP*		**P**	**07 17 33.0**	**+0.7**
AJM	**Ajmer**	**21.48**	**311**	*eP*		**P**	**07 17 36.5**	**+1.3**
AJM				IAmb		IAmb	07 17 37.7	
	comp=Z,103nm,0.4s							
DDI	**Dehra Dun**	**21.80**	**324**	*ex*		**P**	**07 17 42.8**	**+4.1**
DDI				*ex*		**S**	**07 21 30.9**	**-7.3**
SBUM	**Sibu**	**22.12**	**117**	P		**P**	**07 17 43.5**	**+1.4**
KAAM	**Kaadhehdhoo**	**23.05**	**239**	P		**P**	**07 17 56.1**	**+4.1**
ENH	**Enshi**	**23.22**	**40**	IAmb		IAmb	07 17 54.4	
	comp=Z,103nm,0.7s							
CNSH	**ChangSha**	**24.24**	**48**	P		**P**	**07 18 04.1**	**+0.8**
CNSH				pmax		pmax		
	comp=Z,60nm,0.7s							
THN	**Thein Dam**	**24.71**	**324**	*eP*		**P**	**07 18 08.0**	**+0.6**
THN				IAmb		IAmb	07 18 09.2	
	comp=Z,71nm,0.8s							
LZH	**Lanzhou**	**25.09**	**22**	⇓P		**P**	**07 18 12.6**	**+1.5**
LZH				sP		sP	07 18 28.4	+3.7
LZH				pmax		pmax		
	comp=Z,160nm,1.0s							
LZH				LR		LR		
	comp=Z,840nm,18.2s							
LZH				LR		LR		
	comp=Z,640nm,18.0s							
LZH				LR		LR		
	comp=Z,1μm,19.6s							
COCO	**West Island**	**25.43**	**170**	P		**P**	**07 18 12.9**	**-1.1**
XAN	**Xi'an**	**25.66**	**33**	⇑P		**P**	**07 18 16.2**	**+0.1**
XAN				pP		pP	07 18 26.3	+0.7
XAN				PcP		**PcP**	**07 21 47.7**	**+1.4**
XAN				S		**S**	**07 22 39.1**	**-3.4**
XAN				pmax		pmax		
	comp=Z,120nm,0.9s							
XAN				LR		LR		
	comp=Z,760nm,14.0s							
XAN				LR		LR		
	comp=Z,830nm,14.6s							
XAN				LR		LR		
	comp=Z,780nm,15.6s							
WHN	**Wuhan**	**26.61**	**46**	⇑P		**P**	**07 18 26.9**	**+2.2**
NIL	**Nilore**	**27.02**	**323**	P		**P**	**07 18 28.6**	**+0.2**
NIL				IAmb		IAmb	07 18 30.0	
	comp=Z,86nm,0.9s							
NIL	**Nilore**	**27.02**	**323**	P		**P**	**07 18 28.9**	**+0.5**
NIL	**Nilore**	**27.02**	**323**	P		**P**	**07 18 28.6**	**+0.2**
NIL				pmax		pmax		
	comp=Z,86nm,1.0s							
GTA	**Gaotai**	**27.04**	**12**	⇓P		**P**	**07 18 30.2**	**+1.6**
GTA				pP		pP	07 18 38.9	+0.7
GTA				PcP		**PcP**	**07 21 51.2**	**+1.7**
GTA				sS		sS	07 23 20.9	+0.8
GTA				pmax		pmax		
	comp=Z,60nm,1.2s							
GTA				LR		LR		
	comp=Z,240nm,15.6s							
GTA				LR		LR		
	comp=Z,270nm,18.9s							
GTA				LR		LR		
	comp=Z,320nm,18.2s							
LYN	**LuoYang**	**28.01**	**37**	P		**P**	**07 18 38.6**	**+1.4**
LYN				pP		pP	07 18 48.1	+1.3
LYN				sP		sP	07 18 50.9	+0.1
LYN				pmax		pmax		
	comp=Z,48nm,0.8s							
LYN				pmax		pmax		
	comp=Z,310nm,5.4s							
LYN				LR		LR		
	comp=Z,1μm,14.1s							
LYN				LR		LR		
	comp=Z,900nm,17.2s							
LYN				LR		LR		
	comp=Z,1μm,14.1s							
H08S3	**Diego Garcia H**	**28.62**	**225**	T		T	07 48 34.1	
	baz=44,slow=76,SNR=279							
H08S2	**Diego Garcia H**	**28.63**	**225**	T		T	07 48 34.5	
	baz=44,slow=76,SNR=347							
H08S1	**Diego Carcia H**	**28.64**	**225**	T		T	07 48 33.8	
	baz=44,slow=76,SNR=215							
SSLB	**Suanglung**	**28.93**	**64**	P		**P**	**07 18 47.6**	**+1.9**
YULB	**Yu-li**	**29.12**	**65**	P		**P**	**07 18 49.3**	**+2.0**
YULB				IAmb		IAmb	07 19 02.2	
	comp=Z,144nm,2.0s							
KSH	**Kashi**	**30.16**	**334**	P		**P**	**07 18 55.9**	**-0.6**
KSH				PcP		**PcP**	**07 21 58.6**	**+1.3**
KSH				pmax		pmax		
	comp=Z,38nm,0.7s							
KSH				LR		LR		
	comp=Z,930nm,22.7s							
KSH				LR		LR		
	comp=Z,510nm,23.0s							
KSH				LR		LR		
	comp=Z,410nm,17.2s							
KBL	**Kabul**	**30.20**	**319**	P		**P**	**07 18 57.2**	**+0.2**
KBL	**Kabul**	**30.20**	**319**	P		**P**	**07 18 57.7**	**+0.7**
KBL	SNR=6.9							
KBL				P		**P**	**07 18 57.7**	**+0.7**
	SNR=6.9							
KBL	**Kabul**	**30.20**	**319**	P		**P**	**07 18 57.2**	**+0.2**
KBL				pmax		pmax		
	comp=Z,21nm,0.8s							
NJ2	**Nanjing**	**30.65**	**48**	*eP*		**P**	**07 19 02.1**	**+1.4**
NJ2				pmax		pmax		
	comp=Z,41nm,0.6s							
NJ2				pmax		pmax		
	comp=Z,180nm,3.5s							
WMQ	**Urumqi**	**30.95**	**353**	⇓P		**P**	**07 19 05.1**	**+1.8**
WMQ				pmax		pmax		
	comp=Z,29nm,1.1s							
WMQ				LR		LR		
	comp=Z,410nm,14.3s							
WMQ				LR		LR		
	comp=Z,320nm,17.7s							
WMQ				LR		LR		
	comp=Z,260nm,22.1s							
HNS	**HongShan**	**31.30**	**35**	⇓P		**P**	**07 19 07.6**	**+1.2**
HNS				pmax		pmax		
	comp=Z,42nm,1.2s							
HNS				LR		LR		
	comp=Z,690nm,19.1s							
HNS				LR		LR		
	comp=Z,600nm,20.7s							
TARG	**Taragay, Kyrgy**	**31.34**	**339**	P		**P**	**07 19 08.2**	**+1.0**
TARG				IAmb		IAmb	07 19 10.0	
	comp=Z,33nm,0.9s							
TARG	**Taragay, Kyrgy**	**31.34**	**339**	P		**P**	**07 19 08.2**	**+1.0**
TARG				pmax		pmax		
	comp=Z,33nm,0.9s							
BTO	**Baotou**	**31.44**	**26**	*iP*		**P**	**07 19 08.6**	**+0.9**
BTO				pP		**pP**	**07 19 18.1**	**+0.8**
BTO				sP		**sP**	**07 19 22.2**	**+0.9**
BTO				PP		**PnPn**	**07 20 13.5**	**+2.3**
BTO				pmax		pmax		
	comp=Z,100nm,0.7s							
BTO				pmax		pmax		
	comp=Z,360nm,8.5s							
BTO				LR		LR		
	comp=Z,950nm,18.0s							
BTO				LR		LR		
	comp=Z,900nm,15.5s							
BTO				LR		LR		
	comp=Z,850nm,19.2s							
PRZ	**Przheval'sk**	**31.80**	**340**	P		**P**	**07 19 12.5**	**+1.6**
PRZ				IAmb		IAmb	07 19 14.4	
	comp=Z,42nm,0.6s							
PRZ	**Przheval'sk**	**31.80**	**340**	P		**P**	**07 19 12.5**	**+1.6**
PRZ				pmax		pmax		
	comp=Z,42nm,0.6s							
NGCH	**Negor - Chabah**	**32.01**	**297**	P		**P**	**07 19 13.9**	**+1.1**
SHLS	**Shalkode**	**32.07**	**342**	*eP*		**P**	**07 19 12.9**	**-0.4**
	comp=Z,16nm,0.6s,baz=342							
SHLS	**Shalkode**	**32.07**	**342**	*eP*		**P**	**07 19 12.8**	**-0.4**
SHLS				pmax		pmax		
	comp=Z,16nm,0.6s							
UZB	**Uzynbulak**	**32.19**	**341**	*eP*		**P**	**07 19 14.8**	**+0.5**
	baz=341							
UZB	**Uzynbulak**	**32.19**	**341**	*eP*		**P**	**07 19 14.8**	**+0.5**
PDGK	**Podgornoye**	**32.22**	**342**	P		**P**	**07 19 15.5**	**+1.0**
SATY	**Saty**	**32.31**	**340**	*eP*		**P**	**07 19 15.1**	**-0.3**
	comp=Z,14nm,0.7s,baz=340							
SATY	**Saty**	**32.31**	**340**	*eP*		**P**	**07 19 15.9**	**+0.5**
SATY				pmax		pmax		
	comp=Z,14nm,0.7s							
HHC	**Hu-ho-hao-te**	**32.32**	**28**	⇓*iP*		**P**	**07 19 16.7**	**+1.3**
HHC				pP		sP	07 19 26.8	-2.3
HHC				sP		pP	07 19 29.4	+4.4
HHC				S		**S**	**07 24 26.5**	**-0.7**
HHC				pmax		pmax		
	comp=Z,34nm,0.9s							
HHC				pmax		pmax		
	comp=Z,130nm,4.6s							
HHC				LR		LR		
	comp=Z,170nm,16.9s							
HHC				LR		LR		
	comp=Z,320nm,16.8s							
HHC				LR		LR		
	comp=Z,250nm,16.1s							
ULHL	**Ulahol**	**32.36**	**337**	P		**P**	**07 19 17.4**	**+1.4**
	SNR=7.7							
ZHN	**Zhinishke**	**32.40**	**341**	*eP*		**P**	**07 19 16.6**	**+0.5**
	baz=341							
ZHN	**Zhinishke**	**32.40**	**341**	*eP*		**P**	**07 19 16.6**	**+0.5**
OHH	**Osh**	**32.41**	**331**	P		**P**	**07 19 18.0**	**+1.8**
OHH				pmax		pmax		
	comp=Z,34nm,1.2s							
KAPI	**Kappang**	**32.43**	**122**	LR		LR	07 32 42.3	
	comp=Z,223nm,21.6s,baz=271,slow=37							
KAPI	**Kappang**	**32.43**	**122**	P		**P**	**07 19 13.8**	**-2.8**
GAR	**Garm**	**32.50**	**327**	P		**P**	**07 19 16.9**	**-0.1**
KPKS	**Kokpek**	**32.59**	**341**	*eP*		**P**	**07 19 18.1**	**+0.3**
	baz=341							
KPKS	**Kokpek**	**32.59**	**341**	*eP*		**P**	**07 19 18.0**	**+0.3**
BOOM	**Boomskoye usch**	**32.69**	**337**	P		**P**	**07 19 18.6**	**-0.1**
BOOM	**Boomskoye usch**	**32.69**	**337**	P		**P**	**07 19 18.6**	**-0.1**
BOOM				pmax		pmax		
	comp=Z,15nm,0.7s							
TNSS	**Tian-Shan**	**32.79**	**339**	*eP*		**P**	**07 19 20.3**	**+0.3**
	baz=339							
TNSS	**Tian-Shan**	**32.79**	**339**	*eP*		**P**	**07 19 20.2**	**+0.3**
JLN	**Jalan Bani Buh**	**32.80**	**291**	P		**P**	**07 19 22.3**	**+2.5**
MDOK	**Medeo**	**32.86**	**339**	*eP*		**P**	**07 19 20.8**	**+0.6**
	baz=339							
MDOK	**Medeo**	**32.86**	**339**	P		**P**	**07 19 21.1**	**+0.9**
CHGR	**Chuyangaron**	**32.88**	**325**	P		**P**	**07 19 20.2**	**-0.2**
CHGR	**Chuyangaron**	**32.88**	**325**	P		**P**	**07 19 20.2**	**-0.2**
CHGR				pmax		pmax		
	comp=Z,113nm,1.0s							
AAA	**Alma-Ata**	**32.95**	**339**	*eP*		**P**	**07 19 21.7**	**+0.8**
	comp=Z,17nm,0.4s,baz=339							
AAA	**Alma-Ata**	**32.95**	**339**	*eP*		**P**	**07 19 21.7**	**+0.8**
AAA				pmax		pmax		
	comp=Z,17nm,0.4s							
ARSB	**Arslanbob**	**32.95**	**332**	P		**P**	**07 19 21.5**	**+0.4**
ARSB	**Arslanbob**	**32.95**	**332**	P		**P**	**07 19 21.5**	**+0.4**
ARSB				pmax		pmax		
	comp=Z,20nm,1.1s							
SIMJ	**Simiganj**	**32.97**	**325**	P		**P**	**07 19 21.1**	**-0.2**
SIMJ				IAmb		IAmb	07 19 22.4	
	comp=Z,52nm,0.8s							
BTK	**Batken**	**33.02**	**329**	P		**P**	**07 19 22.7**	**+1.2**
BTK	**Batken**	**33.02**	**329**	P		**P**	**07 19 22.7**	**+1.2**
BTK				pmax		pmax		
	comp=Z,105nm,0.8s							
DAV	**Davao City (W)**	**33.03**	**97**	LR		LR	07 33 31.5	
	comp=Z,77nm,18.5s,baz=358,slow=37							
UCH	**Uchtor**	**33.03**	**335**	P		**P**	**07 19 23.6**	**+1.5**
	SNR=31							
TKM2	**Tokmak 2**	**33.19**	**337**	P		**P**	**07 19 24.1**	**+1.0**
	SNR=28							
TKM2	**Tokmak 2**	**33.19**	**337**	P		**P**	**07 19 23.6**	**+0.5**
KBK	**Karagaybulak**	**33.22**	**336**	P		**P**	**07 19 25.2**	**+1.9**
	SNR=16							
AAK	**Ala-Archa**	**33.38**	**335**	P		**P**	**07 19 25.8**	**+1.0**
AAK				IAmb		IAmb	07 19 27.6	
	comp=Z,32nm,0.8s							
AAK	**Ala-Archa**	**33.38**	**335**	*i* P		**P**	**07 19 26.5**	**+1.7**
	SNR=19							
AAK	**Ala-Archa**	**33.38**	**335**	P		**P**	**07 19 26.4**	**+1.6**
	comp=Z,24nm,0.7s,baz=157,slow=7.1,SNR=40							
AAK				PcP		**PcP**	**07 22 06.6**	**+0.7**
	comp=Z,6.6nm,0.7s,baz=182,slow=6.7,SNR=2.7							
AAK				LR		LR	07 34 28.8	
	comp=Z,741nm,20.6s,baz=156,slow=39							
	comp=Z,24nm,0.7s							
AAK	**Ala-Archa**	**33.38**	**335**	P		**P**	**07 19 26.7**	**+1.9**
AAK				P		**P**	**07 19 26.7**	**+1.9**
AAK	**Ala-Archa**	**33.38**	**335**	P		**P**	**07 19 25.8**	**+1.0**
AAK				pmax		pmax		
	comp=Z,31nm,0.9s							
CHKK	**Chushkaly**	**33.49**	**339**	*eP*		**P**	**07 19 25.8**	**+0.2**
	baz=340							
CHKK	**Chushkaly**	**33.49**	**339**	*eP*		**P**	**07 19 25.7**	**+0.2**
CHMS	**Chumysh**	**33.58**	**336**	P		**P**	**07 19 28.0**	**+1.6**
	SNR=12							
EKS2	**Erkin-Say**	**33.70**	**335**	P		**P**	**07 19 29.4**	**+2.0**
	SNR=31							
WSAR	**Wadi Sarin**	**33.72**	**292**	LR		LR	07 32 58.1	
	comp=Z,540nm,20.6s,baz=109,slow=36							
WSAR	**Wadi Sarin**	**33.72**	**292**	P		**P**	**07 19 30.1**	**+2.3**
USP	**Ospenovka**	**33.91**	**336**	P		**P**	**07 19 30.6**	**+1.4**
	SNR=26							
BJT	**Baijiatuau**	**33.97**	**33**	IAmb		IAmb	07 19 32.3	
	comp=Z,32nm,0.7s							
TRKS	**Terek-Say**	**33.97**	**331**	P		**P**	**07 19 31.0**	**+1.0**
TRKS				pmax		pmax		
	comp=Z,45nm,0.9s							
BJI	**Beijing**	**33.98**	**33**	P		**P**	**07 19 31.4**	**+1.6**
BJI				sP		**sP**	**07 19 41.5**	**-2.0**
BJI				pmax		pmax		
	comp=Z,22nm,0.8s							
BJI				LR		LR		
	comp=Z,75nm,17.6s							
BJI				LR		LR		
	comp=Z,200nm,17.1s							
BJI				LR		LR		
	comp=Z,200nm,19.9s							
SGDS	**Sogindy**	**34.01**	**336**	*eP*		**P**	**07 19 30.4**	**+0.3**
	baz=336							
SGDS	**Sogindy**	**34.01**	**336**	*eP*		**P**	**07 19 30.4**	**+0.3**
JMDO	**Jabal Madar**	**34.03**	**291**	P		**P**	**07 19 33.3**	**+2.7**
TDK	**Taldyqorghan**	**34.06**	**342**	*eP*		**P**	**07 19 30.9**	**+0.4**
	comp=Z,24nm,1.1s,baz=342							
TDK	**Taldyqorghan**	**34.06**	**342**	*eP*		**P**	**07 19 30.8**	**+0.4**
TDK				pmax		pmax		
	comp=Z,24nm,1.1s							
SMDO	**Samad**	**34.21**	**292**	P		**P**	**07 19 34.8**	**+2.6**
SMDO				P		**P**	**07 19 34.8**	**+2.6**
BIDO	**Bidbid**	**34.23**	**293**	P		**P**	**07 19 34.7**	**+2.5**
HRA	**Herat**	**34.73**	**

CHM Chimkent 35.32 330 *e*P **P 07 19 41.8 +0.4**
comp=Z,8.0nm,0.4s,baz=330
CHM Chimkent 35.32 330 *e*P **P 07 19 41.8 +0.4**
CHM pmax pmax
comp=Z,8.0nm,0.4s
KK31 Karatay Array 35.49 332 P **P 07 19 43.5 +0.6**
KK31 IAmb IAmb 07 19 44.9
comp=Z,30nm,1.0s
KK31 Karatay Array 35.49 332 *i*P **P 07 19 43.2 +0.4**
KKAR Karatay Array 35.49 332 P **P 07 19 42.9 +0.1**
KKAR Karatay Array 35.49 332 P **P 07 19 43.5 +0.6**
KKAR IAmb IAmb 07 19 44.9
comp=Z,30nm,1.0s
KKAR Karatay Array 35.49 332 P **P 07 19 42.9 +0.1**
KKAR pmax pmax
comp=Z,30nm,1.0s
BTLS Baital 35.58 337 *e*P **P 07 19 44.1 +0.5**
comp=Z,15nm,0.7s,baz=337
BTLS Baital 35.58 337 *e*P **P 07 19 44.0 +0.5**
BTLS pmax pmax
comp=Z,15nm,0.7s
BRLS Borolday 35.74 331 *e*P **P 07 19 44.6 -0.5**
baz=331
BRLS Borolday 35.74 331 *e*P **P 07 19 44.6 -0.5**
JOW Kunigami 36.13 62 LR LR 07 35 05.3
comp=Z,450nm,21.5s,baz=306,slow=37
EDFI Ende, Flores 36.14 125 P **P 07 19 46.7 -2.1**
MDH Madha 36.23 295 P **P 07 19 51.0 +1.6**
MDH Madha 36.23 295 P **P 07 19 51.1 +1.6**
MDH P **P 07 19 51.1 +1.6**
UOSS Minazif 36.24 294 P **P 07 19 50.4 +0.8**
UOSS Minazif 36.24 294 P **P 07 19 52.1 +2.6**
UOSS Minazif 36.24 294 P **P 07 19 51.1 +1.5**
UOSS P **P 07 19 51.1 +1.5**
HATD Hatta, Dubai 36.28 294 *i*P **P 07 19 53.0 +3.1**
SNR=6.1
ASHO Ashiyiah 36.31 294 *i*P **P 07 19 53.2 +3.0**
SNR=8.6
ASHO Ashiyiah 36.31 294 P **P 07 19 52.1 +1.9**
ASHO P **P 07 19 52.1 +1.9**
MASF Masafi 36.37 295 P **P 07 19 53.3 +2.6**
MASF P **P 07 19 53.3 +2.6**
DL2 Dalian 36.41 40 P **P 07 19 52.5 +1.8**
DL2 pmax pmax
comp=Z,43nm,1.0s
DL2 LR LR
comp=Z,430nm,17.9s
DL2 LR LR
comp=Z,310nm,17.0s
DL2 LR LR
comp=Z,590nm,17.7s
ALNE Al Ain 36.47 293 P **P 07 19 53.9 +2.5**
SHME Shamm 36.54 296 P **P 07 19 54.7 +2.6**
SHME Shamm 36.54 296 P **P 07 19 54.1 +2.0**
SONM Songino Array 36.56 16 P **P 07 19 52.8 +0.7**
SONM IAmb IAmb 07 19 54.6
comp=Z,76nm,1.3s
SONM Songino Array 36.56 16 P **P 07 19 53.4 +1.3**
comp=Z,22nm,0.7s,baz=202,slow=8.4,SNR=101
SONM PcP **PcP 07 22 15.7 +0.6**
comp=Z,8.3nm,0.8s,baz=209,slow=3.6,SNR=6.9
SONM LR LR 07 37 17.1
comp=Z,258nm,21.3s,baz=200,slow=40
comp=Z,22nm,0.7s
FAQ Al Faqa, Dubai 36.74 294 P **P 07 19 56.3 +2.5**
ULN Ulaanbaatar 36.76 16 P **P 07 19 54.4 +0.6**
ULN Ulaanbaatar 36.76 16*d i*P **P 07 19 54.6 +0.8**
ULN pmax pmax
comp=Z,47nm,1.7s
XLT XiLinHaoTe 36.79 29 *e*P **P 07 19 55.0 +1.0**
XLT pP pP 07 20 05.0 +1.3
XLT PcP **PcP 07 22 17.0 +1.2**
XLT pmax pmax
comp=Z,25nm,1.0s
XLT pmax pmax
comp=Z,110nm,3.7s
XLT LR LR
comp=Z,230nm,19.7s
XLT LR LR
comp=Z,200nm,21.3s
ASUD Al Ashush, Dub 36.95 294 *i*P **P 07 19 59.0 +3.4**
SNR=7.4
ASUD Al Ashush, Dub 36.95 294 P **P 07 19 58.2 +2.6**
SNR=5.3
ASUD P **P 07 19 58.2 +2.6**
SNR=5.3
AJN Ajban 37.25 293 P **P 07 20 00.3 +2.2**
SNR=6.3
AJN P **P 07 20 00.3 +2.2**
SNR=6.3
DOK Doka 37.33 284 P **P 07 20 00.9 +2.1**
WHFO Wadi Hawf 37.64 282 P **P 07 20 03.5 +2.0**
TJN Taejon 38.91 47 P **P 07 20 12.1 +0.2**
TJN Taejon 38.91 47*d i*P **P 07 20 12.7 +0.8**
GHWR Ruwais 39.04 292 P **P 07 20 14.6 +1.4**
GHWR P **P 07 20 14.6 +1.4**
MOY Mondy 39.12 8 *e*P **P 07 20 15.4 +1.8**
MOY pmax pmax
comp=Z,25nm,1.7s
KURBB Kurchatov Arra 39.19 346 P **P 07 20 14.8 +0.8**
comp=Z,49nm,0.7s,baz=162,slow=8.0,SNR=66
KURBB PcP **PcP 07 22 22.9 +0.1**
comp=Z,4.4nm,0.6s,baz=162,slow=2.6,SNR=5.2
KURBB LR LR 07 39 06.6
comp=Z,566nm,19.9s,baz=168,slow=40
comp=Z,49nm,0.7s
JRN Qarnain Island 39.23 293 P **P 07 20 16.3 +1.6**
SNR=5.3
JRN P **P 07 20 16.3 +1.6**
SNR=5.3
KURK Kurchatov 39.25 346 P **P 07 20 14.7 +0.2**
KURK IAmb IAmb 07 20 16.4
comp=Z,66nm,1.0s
KURK Kurchatov 39.25 346*d i*P **P 07 20 15.1 +0.6**
KURK pmax pmax
comp=Z,58nm,1.0s
SNY Shenyang 39.36 37 ⇓P **P 07 20 16.2 +0.6**
SNY pmax pmax
comp=Z,34nm,1.0s
GEYT Alibeck 39.39 315 P **P 07 20 17.6 +1.5**
GEYT IAmb IAmb 07 20 18.7
comp=Z,59nm,0.8s
GEYT Alibeck 39.39 315 P **P 07 20 17.5 +1.5**
comp=Z,53nm,0.8s,baz=146,slow=8.6,SNR=36
GEYT PcP **PcP 07 22 24.6 +0.6**
comp=Z,8.7nm,0.6s,baz=151,slow=3.3,SNR=3.6
GEYT LR LR 07 37 30.0
comp=Z,310nm,21.6s,baz=128,slow=37
comp=Z,53nm,0.8s
GYA0 ALIBECK ARRAY 39.39 315 P **P 07 20 17.1 +1.1**
GYA0B ALIBECK ARRAY 39.39 315 P **P 07 20 17.1 +1.0**
GYA0B IAmb IAmb 07 20 18.7
comp=Z,54nm,0.8s
KSAR Wonju Array Be 39.77 46 P **P 07 20 20.0 +0.9**
KSAR Wonju Array Be 39.77 46 P **P 07 20 20.0 +0.9**
KS19 Wonju Array Si 39.79 46 P **P 07 20 19.3 0.0**
KSRS Korea Array 39.81 46 P **P 07 20 19.9 +0.5**
comp=Z,23nm,0.7s,baz=241,slow=8.7,SNR=81
KSRS PcP **PcP 07 22 25.8 +0.6**
comp=Z,1.4nm,0.5s,baz=240,slow=3.1,SNR=2.5
KSRS LR LR 07 39 36.9
comp=Z,383nm,19.0s,baz=245,slow=40
comp=Z,23nm,0.7s
JNU Nakatsue 40.22 54 LR LR 07 39 59.3
comp=Z,282nm,18.4s,baz=240,slow=40
TRNA Turayna 40.66 293 P **P 07 20 29.0 +2.3**
SNR=7.0
MSEY Mahe Island 40.82 247 P **P 07 20 30.2 +2.0**
SMRA Abu-Samra 41.01 293 P **P 07 20 30.5 +0.9**
SNR=7.0
ZAA0 Zalesovo Array 41.26 353 P **P 07 20 31.3 +0.1**
ZAA0 IAmb IAmb 07 20 32.7
comp=Z,54nm,0.9s
ZALV Zalesovo Beam 41.26 353 P **P 07 20 30.9 -0.3**
ZALV Zalesovo Beam 41.26 353 P **P 07 20 31.4 +0.2**
comp=Z,42nm,0.7s,baz=174,slow=8.9,SNR=53
ZALV LR LR 07 41 46.2
comp=Z,179nm,19.4s,baz=182,slow=42
comp=Z,42nm,0.7s
CN2 Changchun 41.65 36 ⇑P **P 07 20 35.0 +0.4**
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
MBWA Marble Bar 43.22 142 P **P 07 20 48.8 +1.2**
MBWA Marble Bar 43.22 142 P **P 07 20 48.2 +0.7**
comp=Z,17nm,2.5s
PSAC1 Pilbara Seismi 43.55 142 P **P 07 20 52.3 +2.1**
BVA0 Borovoye Array 43.62 341 *i*P **P 07 20 50.4 0.0**
BVAR Borovoye Array 43.62 341 P **P 07 20 50.5 0.0**
comp=Z,9.4nm,0.6s,baz=145,slow=8.1,SNR=52
BVAR PcP **PcP 07 22 38.0 +0.6**
comp=Z,7.1nm,0.8s,baz=123,slow=5.3,SNR=4.3
BVAR LR LR 07 41 58.8
comp=Z,161nm,18.7s,baz=152,slow=40
comp=Z,9.4nm,0.6s
BRVK Borovoye 43.69 341 P **P 07 20 51.1 +0.2**
BRVK Borovoye 43.69 341 P **P 07 20 51.4 +0.5**
BRVK Borovoye 43.69 341*d i*P **P 07 20 51.2 +0.2**
BRVK pmax pmax
comp=Z,27nm,1.0s
BNX BinXian 43.93 35 ⇓P **P 07 20 52.7 -0.3**
BNX pmax pmax
comp=Z,23nm,1.0s
KBD Kabd 44.53 298 P **P 07 20 58.7 +0.6**
MDJ Mudanjiang 44.56 38 P **P 07 20 58.4 +0.4**
MDJ PcP **PcP 07 22 38.6 -2.2**
MDJ S **S 07 27 34.7 +3.1**
MDJ pmax pmax
comp=Z,16nm,1.2s
MDJ LR LR
comp=Z,600nm,4.0s
MDJ LR LR
comp=Z,240nm,4.3s
MDJ LR LR
comp=Z,320nm,3.8s
FITZ Fitzroy Crossi 44.98 133 P **P 07 21 02.1 +0.5**
FITZ Fitzroy Crossi 44.98 133 P **P 07 21 00.9 -0.8**
comp=Z,1μm,0.7s
AB31 Akbulak array 44.99 330 *i*P **P 07 21 01.6 +0.2**
ABKAR Akbulak array 44.99 330 P **P 07 21 01.4 0.0**
RAYN Ar Rayn 45.70 290 P **P 07 21 08.1 +0.6**
RAYN Ar Rayn 45.70 290 *i*P **P 07 21 08.5 +1.1**
SNR=6.6
RAYN Ar Rayn 45.70 290 P **P 07 21 08.6 +1.1**
RAYN Ar Rayn 45.70 290 P **P 07 21 08.1 +0.6**
RAYN pmax pmax
comp=Z,12nm,0.9s
USA0B Ussuriysk Arra 45.80 40*d i*P **P 07 21 07.8 -0.1**
USRK Ussuriysk Ar. 45.80 40 P **P 07 21 06.9 -1.0**
USRK Ussuriysk Ar. 45.80 40 P **P 07 21 08.4 +0.5**
comp=Z,11nm,0.7s,baz=259,slow=6.6,SNR=13
USRK LR LR 07 43 18.3
comp=Z,193nm,19.0s,baz=230,slow=40
comp=Z,11nm,0.7s
AKTO Aktyubinsk 46.70 330 P **P 07 21 15.5 +0.5**
comp=Z,14nm,0.5s,baz=116,slow=9.8,SNR=58
AKTO LR LR 07 43 31.8
comp=Z,236nm,18.5s,baz=54,slow=39
comp=Z,14nm,0.5s
HEH HeiHe 46.74 30 *e*P **P 07 21 15.4 +0.2**
HEH pP **pP 07 21 25.6 +0.5**
HEH pmax pmax
comp=Z,14nm,0.9s
HEH LR LR
comp=Z,310nm,18.0s
HEH LR LR
comp=Z,300nm,17.3s
MJB9 Matsu-Tunnel 47.03 52 P **P 07 21 19.8 +2.0**
MAJO Matsushiro 47.03 52 P **P 07 21 18.7 +0.9**
MAJO Matsushiro 47.03 52*ce*P **P 07 21 18.9 +1.1**
MAJO pmax pmax
comp=Z,20nm,0.8s
MJAR Matsushiro Arr 47.04 52 P **P 07 21 19.5 +1.7**
comp=Z,7.0nm,0.8s,baz=263,slow=8.7,SNR=14
MJAR PcP **PcP 07 22 50.1 +0.4**
comp=Z,5.4nm,0.7s,baz=252,slow=3.4,SNR=6.6
comp=Z,7.0nm,0.8s
BOD Bodaibo 47.56 15 *e*P **P 07 21 22.2 +0.8**
BOD pmax pmax
comp=Z,66nm,1.0s
KLR Kul'dur 48.36 34*ce*P **P 07 21 28.5 +0.7**
KLR pmax pmax
comp=Z,4.0nm,1.0s
MAK Makhachkala 48.88 316 *e*P **P 07 21 31.8 -0.1**
MAK *e* 07 23 27.5
MAK *e*S **S 07 28 34.8 +1.5**
MAK pmax pmax
comp=Z,326nm,1.4s
MAK MLR MLR
comp=Z,367nm,15.0s
ZEA Zeya 48.98 27 *e*P **P 07 21 33.1 +0.7**
ZEA MLR MLR
comp=Z,100nm,13.0s
JMM Marumori 49.40 51 P **P 07 21 36.4 +0.4**
GNI Garni 49.79 312 P **P 07 21 40.6 +1.5**
GNI Garni 49.79 312 P **P 07 21 41.6 +2.5**
GNI Garni 49.79 312 LR LR 07 45 47.0
comp=Z,230nm,19.6s,baz=122,slow=40
GNI Garni 49.79 312 P **P 07 21 41.6 +2.5**
GNI Garni 49.79 312*d i*P **P 07 21 40.9 +1.8**
GNI pmax pmax
comp=Z,71nm,1.0s
SVE Sverdlovsk 50.05 338 *e*P **P 07 21 41.6 +1.0**
SVE pmax pmax
comp=Z,116nm,1.0s
JTM Tenmabayashi 50.50 47 P **P 07 21 44.5 +0.3**
TRLG Trialeti 50.70 313 P **P 07 21 46.6 +0.6**
NWAO Narrogin (SRO) 51.43 153 LR LR 07 44 24.2
comp=Z,111nm,19.5s,baz=296,slow=37
ONI Oni 51.51 315 P **P 07 21 53.3 +1.4**
ONI Oni 51.51 315 P **P 07 21 53.3 +1.4**
ONI pmax pmax
comp=Z,11nm,0.7s
KBZ Khabaz 52.28 316 P **P 07 21 58.6 +1.1**
comp=Z,8.8nm,0.7s,baz=121,slow=7.5,SNR=17
KBZ PcP **PcP 07 23 09.1 +0.5**
comp=Z,8.8nm,0.9s,baz=72,slow=5.1,SNR=2.7
KBZ LR LR 07 47 41.5
comp=Z,152nm,20.0s,baz=92,slow=40
comp=Z,8.8nm,0.7s
KBZ Khabaz 52.28 316*d i*P **P 07 21 58.4 +0.9**
KBZ pmax pmax
comp=Z,11nm,0.9s
SHA1 Shidzhatmaz 52.45 316*d i*P **P 07 22 00.4 +1.3**
KIV Kislovodsk 52.50 316 P **P 07 21 60.0 +0.6**
KIV Kislovodsk 52.50 316 *i*P **P 07 22 00.8 +1.5**
SNR=7.9
KIV Kislovodsk 52.50 316 P **P 07 22 00.8 +1.5**
KIV Kislovodsk 52.50 316 *e*P **P 07 22 00.4 +1.1**
KIV *e*S **S 07 29 25.9 +2.0**
KIV *e*SS **SS 07 33 06.0 +3.8**
KIV pmax pmax
comp=Z,70nm,1.0s
KIV pmax pmax
comp=Z,14nm,3.0s
KIV MLR MLR
comp=Z,113nm,17.0s
KIV Kislovodsk 52.50 316 P **P 07 21 59.4 +0.1**
comp=Z,81nm,0.9s,comp=Z,678nm
WB0 Warramunga Arr 52.52 128 P **P 07 21 59.8 +0.1**
WB0 IAmb IAmb 07 22 10.1
comp=Z,28nm,0.8s
WRA Warramunga Arr 52.58 128 P **P 07 22 00.3 +0.2**
comp=Z,5.5nm,0.6s,baz=301,slow=9.8,SNR=76
WRA PcP **PcP 07 23 10.8 +0.7**
comp=Z,7.2nm,0.8s,baz=317,slow=3.5,SNR=6.4
WRA S **S 07 29 20.4 -4.9**
comp=Z,6.3nm,1.0s,baz=308,slow=15,SNR=11
comp=Z,5.5nm,0.6s
WRAB Tennant Creek 52.59 128 P **P 07 22 00.3 +0.2**
WRAB IAmb IAmb 07 22 10.8
comp=Z,32nm,0.6s
WRAB Tennant Creek 52.59 128⇓*i*P **P 07 22 00.2 0.0**
WRAB pmax pmax
comp=Z,10.0nm,0.9s
WB2 Warramunga Arr 52.59 128 P **P 07 21 59.8 -0.4**
WB2 IAmb IAmb 07 22 10.7
comp=Z,32nm,0.6s
GOF Gofitskoye 52.65 317*ce*P **P 07 22 01.2 +0.9**
ASAJ Asahikawa 52.67 44 LR LR 07 47 25.0
comp=Z,280nm,18.0s,baz=240,slow=39
ASAJ Asahikawa 52.67 44 P **P 07 22 00.4 -0.1**
ASAJ pmax pmax
comp=Z,56nm,1.2s
JKA Kamikawa-asahi 52.67 44 P **P 07 22 00.4 -0.1**
JKA IAmb IAmb 07 22 18.8
comp=Z,56nm,1.2s
WR0 Warramunga Arr 52.75 128 P **P 07 22 01.2 -0.1**
WR0 IAmb IAmb 07 22 11.9
comp=Z,26nm,0.7s
BELG Belogornoye 53.13 327 LR LR 07 48 18.8
comp=Z,192nm,19.3s,baz=94,slow=40
BELG Belogornoye 53.13 327*d i*P **P 07 22 03.3 -0.4**
BELG pmax pmax
comp=Z,10.0nm,0.9s
YSS Yuzh-Sakhalins 53.79 41 *e*P **P 07 22 09.5 +0.9**
YSS pmax pmax
comp=Z,40nm,0.8s
VSLR Vesyoloye 54.16 315*d i*P **P 07 22 12.0 +0.5**
VSLR pmax pmax
comp=Z,34nm,0.9s
ARPR Arapgir-MALATY 54.25 309 P **P 07 22 13.3 +0.9**
ARPR IAmb IAmb 07 22 14.7
comp=Z,53nm,1.3s
SOC Sochi 54.42 315 *e*P **P 07 22 13.4 +0.1**
SOC *e*S **S 07 29 54.2 +4.5**
SOC *e*SS **SS 07 33 36.8 +4.6**
SOC pmax pmax
comp=Z,51nm,1.2s
SOC MLR MLR
comp=Z,98nm,15.0s
AS31 Alice Springs 54.46 132 P **P 07 22 14.2 +0.3**
ASAR Alice Springs 54.46 132 P **P 07 22 15.2 +1.3**
ASAR Alice Springs 54.46 132 P **P 07 22 14.0 +0.1**
comp=Z,3.9nm,0.5s,baz=308,slow=6.7,SNR=80
ASAR PcP **PcP 07 23 17.7 +0.5**
comp=Z,7.3nm,0.8s,baz=313,slow=5.1,SNR=8.5
ASAR S **S 07 29 46.8 -4.0**
comp=Z,3.6nm,0.9s,baz=302,slow=14,SNR=14
ASAR ScS **ScS 07 31 55.8 -5.4**
comp=Z,0.9nm,0.9s,baz=304,slow=7.2,SNR=3.6
ASAR LR LR 07 47 27.4
comp=Z,138nm,20.6s,baz=302,slow=38
comp=Z,3.9nm,0.5s
ASAR Alice Springs 54.46 132 P **P 07 22 15.2 +1.3**
GAZ Gaziantep 54.72 306 P **P 07 22 15.8 +0.1**
GAZ IAmb IAmb 07 22 17.6
comp=Z,38nm,0.9s
MMAI Mount Meron Ar 55.55 301 P **P 07 22 22.7 +0.9**
comp=Z,3.8nm,0.8s,baz=103,slow=10,SNR=1.0
MMAI PcP **PcP 07 23 22.3 +0.9**
comp=Z,2.3nm,0.6s,baz=119,slow=1.8,SNR=4.4
MMAI LR LR 07 49 09.9
comp=Z,255nm,20.0s,baz=30,slow=39
comp=Z,3.8nm,0.8s
EIL Elat 55.61 297 LR LR 07 49 60.0
comp=Z,135nm,18.5s,baz=67,slow=40
YAK Yakutsk 55.66 20 P **P 07 22 22.0 +0.1**
comp=Z,90nm,0.7s,baz=224,slow=1.4,SNR=16
YAK LR LR 07 49 15.9
comp=Z,208nm,19.1s,baz=215,slow=39
comp=Z,90nm,0.7s
YAK Yakutsk 55.66 20 *e*P **P 07 22 21.7 -0.2**
YAK *e**PP **pP 07 22 32.8 +0.8**
YAK *e* 07 23 18.7
YAK *e* 07 24 28.9
YAK *e*S **S 07 30 05.0 -0.7**
YAK *e**SS **sS 07 30 22.6 +0.4**
YAK *e*SS **SS 07 33 47.3 -3.8**
YAK pmax pmax
comp=Z,84nm,0.9s
YAK pmax pmax
comp=E,22nm,1.1s
YAK pmax pmax
comp=N,23nm,1.2s
YAK pmax pmax
comp=Z,13nm,0.6s
YAK smax smax
comp=N,27nm,1.7s
YAK smax smax
comp=E,31nm,1.8s
KIRV Kirov 55.70 334 P **P 07 22 22.8 +0.6**
comp=E,43nm,0.6s,baz=87,slow=2.6,SNR=8.4
KIRV LR LR 07 49 01.1
comp=E,232nm,18.4s,baz=141,slow=39
comp=E,43nm,0.6s
KIRV Kirov 55.70 334*d i*P **P 07 22 22.5 +0.3**
VRH Novokhopyorsk 55.84 324 *e*P **P 07 22 22.0 -1.4**
VRH pmax pmax
comp=Z,80nm,0.7s
BNN Bunyan 56.10 308 P **P 07 22 25.3 -0.4**
BNN IAmb IAmb 07 22 26.9
comp=Z,52nm,1.0s
KIBK Kibwezi 56.21 258 P **P 07 22 27.6 +0.9**
KIBK Kibwezi 56.21 258 P **P 07 22 28.4 +1.7**
NRIK Noril'sk 56.34 358 P **P 07 22 26.7 0.0**
NRIK Noril'sk 56.34 358 P **P 07 22 26.6 -0.1**
comp=Z,12nm,0.6s,baz=169,slow=6.4,SNR=14
NRIK LR LR 07 51 26.9
comp=Z,176nm,20.6s,baz=179,slow=41
comp=Z,12nm,0.6s
NRIK Noril'sk 56.34 358*d i*P **P 07 22 27.1 +0.4**
NRIK pmax pmax
comp=Z,17nm,1.0s
KMBO Kilima Mbogo 56.62 260 P **P 07 22 30.9 +1.0**
KMBO Kilima Mbogo 56.62 260 P **P 07 22 31.7 +1.8**
KMBO Kilima Mbogo 56.62 260 P **P 07 22 31.9 +2.0**
KMBO Kilima Mbogo 56.62 260 P **P 07 22 30.9 +1.0**
KMBO pmax pmax
comp=Z,10.0nm,1.1s
VOI Vohitsoka 56.76 233 P **P 07 22 32.1 +1.6**
QIS Mount Isa 57.05 125 P **P 07 22 30.6 -1.9**
comp=Z,19nm,0.9s
DIKM Dikmen 57.11 311 ⇑P **P 07 22 32.8 +0.2**
DIKM Dikmen 57.11 311 P **P 07 22 33.0 +0.4**
VORD Divnogorie 57.16 323 *e*P **P 07 22 31.4 -1.4**
VORD pmax pmax
comp=Z,50nm,0.7s
LODK Lodwar 57.29 266 P **P 07 22 36.4 +2.0**
VSR Storozhevoye 57.33 323 *e*P **P 07 22 31.4 -2.6**
VSR pmax pmax
comp=Z,20nm,0.6s
VORR Voronezh 57.47 324 *e*P **P 07 22 33.9 -1.1**
VORR pmax pmax
comp=Z,47nm,1.4s
BR104 Keskin Array S 57.94 309 P **P 07 22 38.0 -0.7**
comp=Z,31nm,0.9s,comp=Z,226nm
BR131 Keskin Array S 57.94 309 P **P 07 22 37.8 -1.0**
BR131 IAmb IAmb 07 22 39.3
comp=Z,33nm,0.8s
BR131 Keskin Array S 57.94 309 P **P 07 22 38.2 -0.5**
SNR=22
BR131 Keskin Array S 57.94 309*d i*P **P 07 22 38.0 -0.7**
BRTR Keskin Array B 57.94 309 P **P 07 22 37.9 -0.8**
BRTR Keskin Array B 57.94 309 P **P 07 22 38.3 -0.5**
comp=Z,22nm,0.8s,baz=121,slow=7.3,SNR=107
BRTR PcP **PcP 07 23 30.7 0.0**
comp=Z,6.5nm,0.9s,baz=127,slow=6.8,SNR=1.7
BRTR LR LR 07 51 06.6
comp=Z,142nm,18.9s,baz=110,slow=40
comp=Z,22nm,0.8s
BRTR Keskin Array B 57.94 309*ce*P **P 07 22 38.2 -0.5**
BRTR pmax pmax
comp=Z,23nm,0.8s
BR105 Keskin Array S 57.96 309 P **P 07 22 38.2 -0.6**
comp=Z,38nm,0.9s,comp=Z,260nm
BR106 Keskin Array S 57.96 309 P **P 07 22 38.3 -0.5**
comp=Z,38nm,0.8s,comp=Z,255nm
LPSR Galich'ya Gora 57.98 325 *e*P **P 07 22 36.8 -1.7**
LPSR pmax pmax
comp=Z,60nm,1.0s
BZK Bozkurt 58.09 311 ⇑P **P 07 22 40.7 +1.2**
BZK Bozkurt 58.09 311 P **P 07 22 39.6 +0.1**
BZK Bozkurt 58.09 311 P **P 07 22 40.2 +0.7**
comp=Z,126nm,1.0s,comp=Z,1μm
ANTO Ankara 58.61 309 P **P 07 22 40.5 -2.8**
ANTO pmax pmax
comp=Z,29nm,1.1s
ANTO Ankara 58.61 309 P **P 07 22 43.4 +0.1**
comp=Z,15nm,1.1s
KHAM Kharkiv 58.66 321 P **P 07 22 43.5 +0.1**
SIM Simferopol' 58.66 315 *e*P **P 07 22 43.7 +0.2**
SIM *e*S **S 07 30 44.8 -1.0**
SIM pmax pmax
comp=Z,114nm,1.2s
MOS Moscow 59.89 328 *e*P **P 07 22 51.0 -0.7**
MOS *e* 07 25 02.4
MOS *e* 07 26 26.5
MOS pmax pmax
comp=Z,63nm,0.6s
OBN Obninsk 60.22 327 P **P 07 22 53.8 -0.2**
comp=Z,20nm,0.3s,baz=112,slow=2.0,SNR=11
comp=Z,20nm,0.3s
OBN Obninsk 60.22 327*de*P **P 07 22 54.0 0.0**
OBN *i* 07 23 04.7
OBN *e* 07 23 39.7
OBN *e* 07 25 06.7

OBN pmax pmax
comp=Z,73nm,1.3s
OBN MLR MLR
comp=Z,272nm,18.0s
OBN Obninsk 60.22 327 P **P 07 22 53.9 0.0**
comp=Z,66nm,0.9s
ELL Elmali 60.45 305 P **P 07 22 55.3 -0.8**
ELL Elmali 60.45 305 P **P 07 22 55.3 -0.8**
ELL pmax pmax
comp=Z,220nm,0.7s
KLMR Klimovskoe 61.16 333 *e*P **P 07 22 58.1 -2.2**
KLMR pmax pmax
comp=Z,65nm,1.2s
KLMR MLR MLR
comp=Z,224nm,16.0s
ISK Istanbul-Kandi 61.60 310 P **P 07 23 03.6 -0.1**
ISK pmax pmax
comp=Z,44nm,0.8s
KLYT Kilyos 61.64 310 P **P 07 23 03.6 -0.3**
comp=Z,81nm,0.9s,comp=Z,777nm
PURM Purcari 61.90 316 P **P 07 23 05.7 +0.1**
comp=Z,148nm,0.8s,comp=Z,4µm
JURR Jurilovca 62.28 314 ⇑P **P 07 23 08.5 +0.4**
TLCR 62.39 314 ⇓P **P 07 23 09.3 +0.4**
TLCR 62.39 314 P **P 07 23 09.3 +0.4**
TIXI Tiksi 62.52 12 P **P 07 23 09.3 0.0**
TIXI Tiksi 62.52 12 P **P 07 23 09.1 -0.2**
comp=Z,60nm,0.6s,baz=222,slow=4.6,SNR=77
TIXI LR LR 07 53 12.0
comp=Z,123nm,20.8s,baz=222,slow=39
comp=Z,60nm,0.6s
TIXI Tiksi 62.52 12 *i* P **P 07 23 09.2 0.0**
TIXI pmax pmax
comp=Z,197nm,1.7s
KARP Karpathos 62.57 303 P **P 07 23 09.7 -0.6**
KARP Karpathos 62.57 303 P **P 07 23 10.2 -0.1**
comp=Z,150nm,0.9s
TPGR Topolog 62.61 314 ⇑P **P 07 23 10.0 -0.5**
PSN Preselentsi 62.63 312 P **P 07 23 10.0 -0.5**
MILM Milestii Mici 62.69 316 ⇑P **P 07 23 10.4 -0.4**
MILM Milestii Mici 62.69 316 ⇓*i*P **P 07 23 10.0 -0.8**
comp=Z,110nm,0.7s
MILM *e*L L 07 52 28.0
MILM LRM MLR 07 52 41.0
comp=Z,200nm,24.0s
MILM Milestii Mici 62.69 316*d i*P **P 07 23 10.0 -0.8**
MILM pmax pmax
comp=Z,110nm,0.7s
KIS Kishinev 62.70 316 *e*P **P 07 23 10.0 -0.9**
comp=Z,60nm,0.4s
KIS Kishinev 62.70 316 *e*P **P 07 23 10.0 -0.9**
KIS pmax pmax
comp=Z,60nm,0.4s
MBAR Mbarara 62.75 262 LR LR 07 49 49.5
comp=Z,191nm,18.1s,baz=96,slow=35
MBAR Mbarara 62.75 262 P **P 07 23 13.7 +1.6**
MBAR Mbarara 62.75 262⇓*e*P **P 07 23 13.0 +1.0**
MBAR pmax pmax
comp=Z,29nm,1.1s
CFR Carcaliu 62.86 314 ⇑P **P 07 23 12.1 0.0**
CFR Carcaliu 62.86 314 P **P 07 23 12.0 0.0**
HARR Harsova 62.93 314 ⇑P **P 07 23 12.1 -0.5**
HARR Harsova 62.93 314 P **P 07 23 12.0 -0.5**
MA2 Magadan 62.98 29 P **P 07 23 12.8 +0.2**
MA2 IAmb IAmb 07 23 13.9
comp=Z,49nm,1.3s
MA2 Magadan 62.98 29 LR LR 07 54 27.2
comp=Z,98nm,18.8s,baz=276,slow=40
MA2 Magadan 62.98 29*de*P **P 07 23 12.5 -0.1**
MA2 pmax pmax
comp=Z,25nm,1.1s
MA2 Magadan 62.98 29 P **P 07 23 12.7 +0.2**
comp=Z,34nm,1.1s,comp=Z,471nm
VLDR Vladesti 63.01 315 ⇑P **P 07 23 13.9 +0.9**
SCTR Scanteiesti 63.04 315 ⇑P **P 07 23 14.3 +1.1**
ADZR Andozero 63.09 336 *e*P **P 07 23 12.6 -0.6**
ADZR pmax pmax
comp=Z,44nm,1.0s
PRD Provadia 63.09 312 P **P 07 23 13.5 -0.1**
AK09 Malin Array Si 63.12 320 P **P 07 23 13.2 -0.5**
AK10 Malin Array Si 63.14 320 P **P 07 23 13.4 -0.4**
AK08 Malin Array Si 63.15 320 P **P 07 23 13.4 -0.4**
AK07 Malin Array Si 63.16 320 P **P 07 23 13.4 -0.5**
AKASG Malin Array Be 63.18 320 P **P 07 23 13.6 -0.4**
AKASG Malin Array Be 63.18 320 P **P 07 23 13.2 -0.8**
comp=Z,5.4nm,0.6s,baz=89,slow=4.9,SNR=15
AKASG LR LR 07 53 41.3
comp=Z,115nm,21.1s,baz=58,slow=39
comp=Z,5.4nm,0.6s
AKASG Malin Array Be 63.18 320*ce*P **P 07 23 13.5 -0.5**
AKASG pmax pmax
comp=Z,14nm,0.6s
AKBB Malin Array Si 63.18 320 P **P 07 23 12.5 -1.5**
AKBB IAmb IAmb 07 23 14.4
comp=Z,20nm,0.8s
AKBB Malin Array Si 63.18 320*de*P **P 07 23 13.4 -0.6**
AKBB Malin Array Si 63.18 320 P **P 07 23 13.3 -0.7**
AK03 Malin Array Si 63.19 320 P **P 07 23 13.3 -0.8**
KIEV Kiev 63.19 320 ⇓P **P 07 23 13.5 -0.6**
KIEV Kiev 63.19 320 P **P 07 23 13.2 -0.9**
KIEV IAmb IAmb 07 23 14.4
comp=Z,18nm,0.8s
KIEV Kiev 63.19 320 *i* P **P 07 23 13.4 -0.6**
SNR=15
KIEV Kiev 63.19 320 P **P 07 23 13.5 -0.6**
KIEV Kiev 63.19 320 P **P 07 23 13.2 -0.9**
comp=Z,123nm,0.9s
SORM Soroca 63.22 318 ⇑P **P 07 23 14.5 +0.2**
SORM Soroca 63.22 318 P **P 07 23 14.5 +0.2**
AK19 Malin Array Si 63.31 320 pP pP 07 23 24.9 -0.2
EZN Ezine 63.54 308 P **P 07 23 16.5 -0.1**
ALN Alexandroupoli 63.85 309 P **P 07 23 18.9 +0.3**
ALN IAmb IAmb 07 23 19.6
comp=Z,56nm,1.3s
ALN Alexandroupoli 63.85 309 P **P 07 23 18.9 +0.3**
ALN pmax pmax
comp=Z,56nm,1.3s
SIGR SIGRI 63.85 307 P **P 07 23 18.5 -0.2**
BISRR Bisoca 63.91 314 ⇑P **P 07 23 20.3 +1.3**
BISRR Bisoca 63.91 314 P **P 07 23 20.4 +1.3**
comp=Z,184nm,0.9s,comp=Z,5µm
LUBAR Lubar, Ukraine 63.94 319 P **P 07 23 18.4 -0.7**
VRI Vrincioaia 63.94 315 ⇑P **P 07 23 20.0 +0.8**
VRI Vrincioaia 63.94 315 P **P 07 23 20.0 +0.8**
VRI Vrincioaia 63.94 315 P **P 07 23 20.1 +0.8**
comp=Z,109nm,1.0s,comp=Z,1µm
MI29 MI29, Kamyanyy 63.98 320 P **P 07 23 18.7 -0.6**
PLOR5 Plostina Array 63.98 315 P **P 07 23 20.6 +1.1**
comp=Z,204nm,0.9s,comp=Z,2µm
PLOR Plostina 64.00 315 ⇑P **P 07 23 20.7 +1.1**
PLOR Plostina 64.00 315 P **P 07 23 20.7 +1.1**
PLOR3 Plostina Array 64.00 315 P **P 07 23 20.6 +1.0**
comp=Z,154nm,1.0s,comp=Z,1µm
TESR Tescani 64.09 316 ⇑P **P 07 23 20.6 +0.5**
TESR Tescani 64.09 316 P **P 07 23 20.5 +0.3**
comp=Z,60nm,0.8s,comp=Z,699nm
ELND Elena 64.18 311 ⇑P **P 07 23 20.7 -0.1**
NEHR Nehoiu 64.18 314 ⇓P **P 07 23 21.3 +0.5**
SMTH Samothraki Isl 64.20 309 P **P 07 23 20.5 -0.5**
RDO Rodhopi 64.26 309 P **P 07 23 20.9 -0.4**
RDO IAmb IAmb 07 23 22.3
comp=Z,26nm,1.2s
COVR Voineasa-Covas 64.30 315 ⇑P **P 07 23 22.4 +0.8**
IDI Anoyia 64.41 303 P **P 07 23 21.8 -0.7**
comp=Z,12nm,0.8s,baz=104,slow=7.7,SNR=7.0
comp=Z,12nm,0.8s
LIA Limnos Island 64.42 308 P **P 07 23 22.1 -0.3**
MLR Muntele Rosu 64.44 314 ⇓P **P 07 23 22.9 +0.3**
MLR Muntele Rosu 64.44 314 P **P 07 23 22.8 +0.1**
MLR Muntele Rosu 64.44 314 P **P 07 23 23.6 +1.0**
comp=Z,58nm,0.9s,baz=112,slow=1.5,SNR=64
MLR LR LR 07 55 48.3
comp=Z,321nm,20.1s,baz=64,slow=40
comp=Z,58nm,0.9s
MLR Muntele Rosu 64.44 314 P **P 07 23 23.4 +0.8**
comp=Z,94nm,1.2s,comp=Z,766nm
TURR Turia 64.46 315 ⇑P **P 07 23 23.4 +0.7**
KMPD K-Podol'skiy 64.54 318 P **P 07 23 22.0 -1.0**
OZUR 64.63 315 ⇑P **P 07 23 24.4 +0.6**
BOSR Bodos 64.71 315 ⇑P **P 07 23 24.0 -0.2**
PETK Petropavlovsk- 64.79 37 P **P 07 23 24.1 -0.5**
comp=Z,3.8nm,0.5s,baz=236,slow=6.8,SNR=6.9
PETK LR LR 07 54 45.4
comp=Z,83nm,18.5s,baz=254,slow=39
comp=Z,3.8nm,0.5s

STKA Stephens Creek 64.81 135 P **P 07 23 26.8 +1.8**
STKA Stephens Creek 64.81 135 P **P 07 23 25.9 +0.9**
comp=Z,2.6nm,0.6s,baz=292,slow=3.4,SNR=4.0
comp=Z,2.6nm,0.6s
MNK Minsk 64.83 324 *i* P **P 07 23 25.3 +0.5**
MNK *i* 07 23 57.0
MNK *i* 07 25 49.7
MNK *i* PPP PPP 07 27 19.4
MNK *i* S **S 07 32 05.3 +1.8**
MNK *i* SS **SS 07 36 18.5 +3.4**
MNK pmax pmax
comp=Z,89nm,0.9s
MNK pmax pmax
comp=E,22nm,0.9s
MNK pmax pmax
comp=N,15nm,0.9s
MNK MLR MLR
comp=N,265nm,20.0s
MNK MLR MLR
comp=E,105nm,23.0s
MNK MLR MLR
comp=Z,173nm,19.0s
DOPR Dopca 64.88 315 ⇑P **P 07 23 26.2 +0.8**
RZN Rozhen 64.90 310 P **P 07 23 25.0 -0.8**
SEY Seymchan 64.94 26 *e*P P 07 23 17.9 -7.5
SEY pmax pmax
comp=Z,10.0nm,0.7s
HUMR Humele 65.00 313 ⇑P **P 07 23 25.7 -0.4**
KAVA Kavala 65.02 309 P **P 07 23 26.0 -0.3**
MTUR Matau 65.02 314 ⇑P **P 07 23 27.5 +1.1**
MTUR Matau 65.02 314 P **P 07 23 27.5 +1.1**
VOIR 65.06 314 ⇑P **P 07 23 26.5 -0.1**
VOIR 65.06 314 P **P 07 23 26.5 -0.1**
VOIR 65.06 314 P **P 07 23 26.5 -0.1**
comp=Z,18nm,0.7s
IMMV Iera Moni Meta 65.16 303 P **P 07 23 27.2 -0.1**
VALR Valaam 65.21 332*d i*P **P 07 23 26.7 -0.4**
VALR pmax pmax
comp=Z,56nm,0.9s
BURAR Bucovina Array 65.22 317 P **P 07 23 27.9 +0.2**
BURAR IAmb IAmb 07 23 29.2
comp=Z,24nm,0.7s
BURAR Bucovina Array 65.22 317 P **P 07 23 27.8 +0.2**
BURAR pmax pmax
comp=Z,24nm,0.7s
BUR08 Bucovina Ar. S 65.23 317 P **P 07 23 27.9 +0.2**
BUR08 IAmb IAmb 07 23 29.4
comp=Z,19nm,0.9s
ARR Arges 65.34 314 ⇑P **P 07 23 28.6 +0.2**
RNPP5 Staryi Chortor 65.35 321 P **P 07 23 27.8 -0.5**
RNPP9 Sopachiv 65.38 321 P **P 07 23 27.9 -0.5**
RNPP8 Varash 65.39 321 P **P 07 23 28.0 -0.5**
KOKK Kokkinochori, 65.39 309 P **P 07 23 28.2 -0.6**
NVR Nevrokopi 65.53 310 P **P 07 23 30.4 +0.7**
JOF Joensuu 65.55 334 *e*P **P 07 23 29.9 +0.6**
SRS Serrai 65.72 309 P **P 07 23 30.1 -0.8**
MPEP Malo Peshtene 65.78 312 P **P 07 23 31.5 +0.3**
IIGN Ignalina 65.95 325 *e*P **P 07 23 34.1 +2.0**
ISAL Salakas 66.05 325 *e*P **P 07 23 34.7 +2.0**
VTS Vitosha 66.09 311 P **P 07 23 32.0 -1.4**
KKB Krupnik 66.11 310 P **P 07 23 33.0 -0.4**
LVZ Lovozero 66.20 339*d i*P **P 07 23 33.3 -0.2**
LVZ pmax pmax
comp=Z,27nm,1.0s
CJR Cluj-Napoca 66.20 315 ⇑P **P 07 23 35.1 +1.1**
CJR Cluj-Napoca 66.20 315 P **P 07 23 35.0 +1.1**
KNT Kendrikon 66.25 309 P **P 07 23 33.6 -0.7**
VSU Vasula 66.39 328*de*P **P 07 23 34.6 -0.2**
VSU pmax pmax
comp=Z,37nm,0.9s
APA Apatity 66.49 339⇓*i*P **P 07 23 34.5 -0.8**
APA pmax pmax
comp=Z,25nm,0.8s
LIT Litokhoron 66.50 308 P **P 07 23 34.9 -1.0**
LIT IAmb IAmb 07 23 35.9
comp=Z,45nm,1.1s
LIT Litokhoron 66.50 308 P **P 07 23 34.8 -1.1**
LIT Litokhoron 66.50 308 P **P 07 23 34.9 -1.0**
LIT pmax pmax
comp=Z,45nm,1.1s
MARR Marisel-Cluj 66.53 315 ⇑P **P 07 23 37.1 +1.1**
GUR Goura 66.54 306 P **P 07 23 34.0 -2.3**
GZR Gura Zlata 66.64 314 ⇑P **P 07 23 36.5 -0.3**
GZR Gura Zlata 66.64 314 P **P 07 23 36.5 -0.3**
TYRN Tyrnavos 66.68 308 P **P 07 23 35.5 -1.6**
KLV Kalavryta, Ach 66.69 305 P **P 07 23 35.2 -2.1**
MAKR Makrakomi, Fth 66.74 307 P **P 07 23 35.6 -1.9**
KTI Kastanea 66.80 308 P **P 07 23 37.2 -0.8**
STIP Stip 66.81 310 *i* P **P 07 23 35.9 -1.9**
DRGR 66.82 315 ⇑P **P 07 23 39.1 +1.2**
DRGR 66.82 315 P **P 07 23 39.1 +1.2**
ITM Ithomi 66.85 305 P **P 07 23 36.9 -1.3**
HERR Herculane 66.85 313 ⇑P **P 07 23 37.9 -0.1**
ANX Ano Chora 66.89 307 P **P 07 23 36.8 -1.7**
PYL PYLOS 67.00 305 P **P 07 23 37.2 -1.9**
ARBE Arbavere 67.00 329 *e*P **P 07 23 39.3 +0.6**
KWP Kalwaria Pacla 67.13 319 P **P 07 23 40.1 +0.4**
KWP Kalwaria Pacla 67.13 319 P **P 07 23 40.1 +0.4**
KWP pmax pmax
comp=Z,71nm,1.1s
SURR Surduc 67.13 314 ⇑P **P 07 23 40.2 +0.4**
PABE Paberze 67.24 325 *e*P **P 07 23 40.4 +0.1**
KOLS Kolonicke sedl 67.33 318 *e*P **P 07 23 42.0 +1.0**
KOLS pmax pmax
comp=Z,13nm,0.7s
KOLS Kolonicke sedl 67.33 318 *e*P **P 07 23 42.0 +1.0**
VSVD Vaisvydziai 67.35 325 *e*P **P 07 23 41.9 +0.9**
SKO Skopje 67.38 310 *i* P **P 07 23 40.5 -1.0**
SUW Suwalki 67.44 323 *e*P **P 07 23 41.5 -0.1**
SUW Suwalki 67.44 323 P **P 07 23 41.4 -0.2**
SUW Suwalki 67.44 323 *e*P **P 07 23 41.9 +0.3**
SUW Suwalki 67.44 323 P **P 07 23 41.4 -0.2**
SUW pmax pmax
comp=Z,103nm,0.8s
FINES FINESS Array B 67.45 332 P **P 07 23 40.8 -0.7**
FINES FINESS Array B 67.45 332 P **P 07 23 41.6 +0.2**
comp=Z,32nm,0.7s,baz=104,slow=8.0,SNR=117
FINES LR LR 07 56 34.7
comp=Z,172nm,20.2s,baz=132,slow=39
comp=Z,32nm,0.7s
FINES FINESS Array B 67.45 332*ce*P **P 07 23 41.5 0.0**
FINES pmax pmax
comp=Z,32nm,0.7s
SIRR Siria 67.50 315 ⇑P **P 07 23 43.3 +1.1**
OHR Ohrid 67.83 309 *i* P **P 07 23 43.4 -0.9**
CRVS Cervenica-Dubn 67.86 318 *e*P **P 07 23 45.4 +1.0**
CRVS pmax pmax
comp=Z,81nm,1.1s
CRVS Cervenica-Dubn 67.86 318 *e*P **P 07 23 45.4 +1.0**
LKD2 Lefkada island 67.88 307 P **P 07 23 43.2 -1.5**
MTSE Matsula 67.93 328 *e*P **P 07 23 45.1 +0.5**
MEF Metsahovi 67.96 330 *e*P **P 07 23 45.1 +0.4**
STHS Stebnicka Huta 68.05 318 *e*P **P 07 23 45.2 -0.4**
STHS pmax pmax
comp=Z,14nm,0.9s
STHS Stebnicka Huta 68.05 318 *e*P **P 07 23 45.2 -0.4**
DMLN Damoulianata-K 68.10 306 P **P 07 23 44.9 -1.2**
IGT Igoumenitsa 68.14 307 P **P 07 23 43.5 -2.8**
KEF Keuruu 68.18 332 *e*P **P 07 23 46.2 +0.1**
PBUR Paburge 68.47 325 *e*P **P 07 23 48.6 +0.7**
KECS Kecovo 68.47 317 *e*P **P 07 23 48.9 +0.7**
KECS pmax pmax
comp=Z,22nm,0.9s
KECS Kecovo 68.47 317 *e*P **P 07 23 48.9 +0.7**
OUL Oulu 68.49 335 P **P 07 23 48.3 +0.4**
OUL pmax pmax
comp=Z,57nm,0.9s
PUK Puka 68.53 310 P **P 07 23 47.4 -1.5**
PUK IAmb IAmb 07 23 48.8
comp=Z,40nm,0.9s
BEL Belsk 68.59 321 *e*P **P 07 23 49.3 +0.4**
NIE Niedzica 68.67 318 *e*P **P 07 23 51.2 +1.7**
NIE Niedzica 68.67 318 P **P 07 23 51.1 +1.7**
NIE pmax pmax
comp=Z,14nm,1.1s
FRGS Fruska Gora 68.72 314 P **P 07 23 49.9 +0.1**
comp=Z,16nm,1.2s
PSZ Piszkesteto 68.82 316 ⇑P **P 07 23 51.1 +0.6**
PSZ Piszkesteto 68.82 316 P **P 07 23 49.9 -0.6**
PSZ IAmb IAmb 07 23 51.8
comp=Z,43nm,1.4s
PSZ Piszkesteto 68.82 316 P **P 07 23 51.1 +0.6**
VADS Vadso 68.83 341 IAmb IAmb 07 23 51.5

comp=Z,29nm,0.6s
SGF Sodankyl 68.92 338 P **P 07 23 51.2 +0.6**
PDG Podgorica 69.02 311 P **P 07 23 50.8 -0.9**
PDG IAmb IAmb 07 23 51.9
comp=Z,18nm,0.6s
OJC Ojcow 69.06 319 *e*P **P 07 23 52.0 +0.2**
OJC Ojcow 69.06 319 P **P 07 23 51.4 -0.4**
OJC Ojcow 69.06 319 P **P 07 23 51.4 -0.4**
OJC pmax pmax
comp=Z,34nm,0.7s
OJC Ojcow 69.06 319 P **P 07 23 51.1 -0.7**
comp=Z,54nm,0.9s,comp=Z,434nm
LANS Liptovska Anna 69.19 318 *e*P **P 07 23 53.7 +1.0**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 69.19 318 *e*P **P 07 23 53.7 +1.0**
VAF Ylistaro 69.37 333 *e*P **P 07 23 54.0 +0.6**
RAF Rauma 69.39 331 *e*P **P 07 23 53.9 +0.2**
H04N2 CROZET ISLANDS 69.40 209 T T 08 39 22.9
baz=43,slow=75,SNR=226
H04N1 CROZET ISLANDS 69.41 209 T T 08 39 23.6
baz=43,slow=75,SNR=126
H04N3 CROZET ISLANDS 69.42 209 T T 08 39 17.7
baz=43,slow=75,SNR=253
VYHS Vyhne 69.56 317 *e*P **P 07 23 55.2 +0.2**
VYHS pmax pmax
comp=Z,20nm,1.2s
VYHS Vyhne 69.56 317 *e*P **P 07 23 55.2 +0.2**
MORH Mrgy, Hungar 69.58 315 P **P 07 23 54.5 -0.6**
comp=Z,21nm,1.3s
LSZ Lusaka 69.63 248 P **P 07 23 57.6 +1.6**
LSZ IAmb IAmb 07 23 58.7
comp=Z,38nm,1.3s
LSZ Lusaka 69.63 248 P **P 07 23 57.5 +1.5**
LSZ Lusaka 69.63 248 P **P 07 23 57.7 +1.6**
LSZ pmax pmax
comp=Z,38nm,1.3s
ARCES ARCESS Array B 69.91 340 P **P 07 23 56.7 0.0**
ARCES IAmb IAmb 07 23 58.4
comp=Z,20nm,0.9s
ARCES ARCESS Array B 69.91 340 P **P 07 23 57.1 +0.4**
comp=Z,15nm,0.6s,baz=87,slow=7.3,SNR=63
ARCES LR LR 07 57 43.1
comp=Z,402nm,19.3s,baz=110,slow=38
comp=Z,15nm,0.6s
MAUC Maruska 70.28 318 *e*P **P 07 24 00.0 +0.6**
JAVC Velka Javorina 70.35 317 *e*P **P 07 24 00.9 +1.0**
MPLH Magyarpolny 70.38 316 P **P 07 23 59.9 -0.1**
comp=Z,117nm,1.2s,comp=Z,1µm
MORC Moravsky Berou 70.48 318 P **P 07 24 00.6 -0.1**
MORC IAmb IAmb 07 24 02.4
comp=Z,26nm,0.8s
MORC Moravsky Berou 70.48 318 *e*P **P 07 24 01.0 +0.3**
MORC Moravsky Berou 70.48 318 P **P 07 24 00.6 -0.1**
MORC pmax pmax
comp=Z,26nm,0.8s
KTK1 Kautokeino 70.54 339 *e*P **P 07 24 00.2 -0.4**
KTK1 IAmb IAmb 07 24 01.2
comp=Z,22nm,0.8s
MODS Modra-Piesok 70.59 317 *e*P **P 07 24 02.0 +0.7**
MODS pmax pmax
comp=Z,41nm,1.3s
MODS Modra-Piesok 70.59 317 *e*P **P 07 24 02.0 +0.7**
ZST Bratislava 70.70 317 *e*P **P 07 24 02.4 +0.4**
ZST Bratislava 70.70 317 *e*P **P 07 24 02.4 +0.4**
HAMF Hammerfest 70.82 341 *e*P **P 07 24 03.0 +0.8**
HAMF IAmb IAmb 07 24 03.6
comp=Z,54nm,0.9s
SOP Sopron 71.06 316 P **P 07 24 04.7 +0.6**
VRAC Vranov 71.08 318 *e*P **P 07 24 04.3 0.0**
VRAC Vranov 71.08 318 P **P 07 24 04.2 0.0**
comp=Z,2.4nm,0.4s,baz=120,slow=8.9,SNR=5.2
VRAC LR LR 08 00 28.6
comp=Z,98nm,19.2s,baz=85,slow=40
comp=Z,2.4nm,0.4s
KRUC Moravsky 71.20 318 *e*P **P 07 24 05.2 +0.2**
RONA Rosalia, Austr 71.23 316 *e*P **P 07 24 05.3 +0.1**
comp=Z,13nm,1.0s,SNR=6.1
KOGS Kog 71.25 315 *i* P **P 07 24 05.5 +0.2**
DPC Dobruska-Polom 71.29 319 *e*P **P 07 24 06.5 +0.9**
DPC Dobruska-Polom 71.29 319 *e*P **P 07 24 06.5 +0.9**
DPC Dobruska-Polom 71.29 319 P **P 07 24 06.2 +0.6**
comp=Z,24nm,1.3s
POGA Pongola 71.35 235 P **P 07 24 06.8 +0.6**
POGA IAmb IAmb 07 24 08.6
comp=Z,31nm,0.8s
ARMA Armidale 71.36 129 P **P 07 24 07.0 +0.7**
ARMA IAmb IAmb 07 24 19.5
comp=Z,22nm,0.9s
PTJ Puntijarka 71.44 314 P **P 07 24 07.0 +0.4**
CHVC Chvalec 71.47 319 *e*P **P 07 24 07.6 +1.0**
CHVC AMS AMS 07 59 20.0
comp=Z,200nm,24.0s
CHVC Chvalec 71.47 319 *e*P **P 07 24 07.6 +1.0**
CHVC MLR MLR
comp=Z,200nm,24.0s
CONA Conrad Observa 71.53 316 *e*P **P 07 24 07.2 0.0**
comp=Z,9.4nm,1.0s,SNR=6.5
CUC Castrocucco 71.62 308 P **P 07 24 06.7 -1.0**
SGRT San Giovanni R 71.63 310 P **P 07 24 06.5 -1.3**
SGRT IAmb IAmb 07 24 07.7
comp=Z,27nm,0.7s
GCIS Gornji Cirnik 71.67 314 *i* P **P 07 24 08.0 +0.1**
ARSA Arzberg 71.75 316 *e*P **P 07 24 08.5 +0.1**
comp=Z,11nm,1.0s,SNR=5.4
BILL Bilibino 71.91 22*d i*P **P 07 24 09.1 +0.2**
BILL *i* 07 24 20.0
BILL pmax pmax
comp=Z,45nm,1.7s
BILL MLR MLR
comp=Z,201nm,19.0s
SOKA Soboth 72.09 315 *e*P **P 07 24 10.6 +0.1**
comp=Z,6.2nm,0.6s,SNR=14
PDKS Podkum 72.11 314 *i* P **P 07 24 11.0 +0.4**
TRO Tromso 72.17 339 *e*P **P 07 24 10.4 0.0**
TRO IAmb IAmb 07 24 10.7
comp=Z,26nm,0.6s
BSD Bornholm Skovb 72.34 324 *e*P **P 07 24 12.0 +0.3**
BSD Bornholm Skovb 72.34 324 *i* P **P 07 24 10.5 -1.1**
BSD IAmb IAmb 07 24 12.5
comp=Z,18nm,0.8s
OBKA Obir 72.42 315 *e*P **P 07 24 12.8 +0.3**
comp=Z,9.2nm,0.7s,SNR=9.5
PRU Pruhonice 72.43 319 *e*P **P 07 24 13.0 +0.7**
PRU Pruhonice 72.43 319 *e*P **P 07 24 13.0 +0.7**
MOA Molln 72.60 316 *e*P **P 07 24 12.9 -0.5**
comp=Z,10nm,0.9s,SNR=6.7
ZVC Zvikov 72.65 318 *e*P **P 07 24 14.2 +0.5**
BRG Berggiesshubel 72.82 319 *i* P **P 07 24 15.4 +0.8**
BRG Amp 07 24 16.4
comp=Z,18nm,0.8s
BRG pP **pP 07 24 26.3 +1.3**
BRG Amp 07 24 27.0
comp=Z,9.8nm,0.8s
BRG Amp 08 00 40.0
comp=E,0.1nm,14.8s
BRG Amp 08 00 43.0
comp=Z,0.1nm,13.2s
BRG Amp 08 00 46.0
comp=N,0.1nm,14.5s
BRG Berggiesshubel 72.82 319 *i* P **P 07 24 15.4 +0.8**
BRG 07 24 26.2
BRG pmax pmax
comp=Z,18nm,0.9s
BRG MLR MLR
comp=E,76nm,14.8s
BRG MLR MLR
comp=Z,114nm,13.2s
BRG MLR MLR
comp=N,72nm,14.5s
VOJS Vojsko 72.89 314 *i* P **P 07 24 15.0 -0.3**
RUE Ruedersdorf 72.94 321 *e*P **P 07 24 16.1 +0.9**
GEC2 GERESS Array S 72.97 317 P **P 07 24 15.6 -0.1**
GEC2 IAmb IAmb 07 24 17.2
comp=Z,29nm,0.9s
GERES GERESS Array B 72.97 317 P **P 07 24 15.3 -0.4**
GERES GERESS Array B 72.97 317 P **P 07 24 15.9 +0.2**
comp=Z,16nm,0.8s,baz=106,slow=7.2,SNR=18
GERES LR LR 08 02 39.5
comp=Z,72nm,18.0s,baz=78,slow=41
comp=Z,16nm,0.8s
GERES GERESS Array B 72.97 317 P **P 07 24 16.0 +0.2**
BIOA Bad Ischl, Aus 73.03 316 *i* P **P 07 24 15.3 -0.7**
comp=Z,12nm,0.8s
MYKA Terra Mystica 73.05 315 *e*P **P 07 24 16.1 0.0**

comp=Z,4.3nm,0.6s
KHC Kasperske Hory 73.05 318 P P 07 24 16.1 0.0
KHC Kasperske Hory 73.05 318 *e*P P 07 24 16.5 +0.3
KHC *e*pP **pP 07 24 26.5 0.0**
KHC Kasperske Hory 73.05 318*d* *i*P P 07 24 16.4 +0.3
KHC pmax pmax
comp=Z,18nm,1.3s
KHC Kasperske Hory 73.05 318 P P 07 24 16.1 0.0
comp=Z,20nm,0.9s,comp=Z,271nm
PRED Cave del Predi 73.10 315 P P 07 24 16.2 -0.3
PRED IAmb IAmb 07 24 17.4
comp=Z,25nm,0.8s
BJO1 Bjornoya 73.13 344 *e*P P 07 24 16.0 0.0
BJO1 IAmb IAmb 07 24 16.9
comp=Z,16nm,1.0s
HSKC Hora Svate Kat 73.14 319 AMS AMS 08 01 00.0
comp=Z,100nm,18.0s
FAUS Fauske 73.15 337 *e*P P 07 24 16.3 +0.1
FAUS IAmb IAmb 07 24 17.1
comp=Z,40nm,0.7s
STEI Steigen 73.23 337 *e*P P 07 24 15.9 -0.8
STEI IAmb IAmb 07 24 17.9
comp=Z,18nm,0.7s
KBA Koelnbreinsper 73.24 315 *e*P P 07 24 16.9 -0.5
comp=Z,12nm,1.2s,SNR=6.0
KBA Koelnbreinsper 73.24 315 P P 07 24 16.7 -0.7
HFS Hagfors 73.24 329 P P 07 24 17.0 +0.1
comp=Z,29nm,0.7s,baz=104,slow=6.3,SNR=57
comp=Z,29nm,0.7s
HFS Hagfors 73.24 329 P P 07 24 17.0 +0.1
MOR8 Moi Rana 73.35 335 *e*P P 07 24 17.0 -0.5
MOR8 IAmb IAmb 07 24 17.8
comp=Z,33nm,0.8s
GUMA Gualdo di Mace 73.37 311 P P 07 24 16.9 -1.3
GUMA IAmb IAmb 07 24 18.7
comp=Z,22nm,0.9s
CLL Collm 73.41 320 P P 07 24 18.2 +0.1
CLL Collm 73.41 320‖ *i*P P 07 24 18.2 +0.1
comp=Z,25nm,1.3s
CLL *e*pP **pP 07 24 29.0 +0.5**
CLL AMS AMS 08 01 00.0
comp=Z,100nm,18.8s
CLL Collm 73.41 320 P P 07 24 18.2 +0.1
CLL pmax pmax
comp=Z,20nm,1.1s
CLL Collm 73.41 320 P P 07 24 18.0 -0.1
comp=Z,20nm,1.2s
NRCA Norcia 73.55 311 P P 07 24 17.9 -1.3
LESA Schwarzleotal 73.69 316 *e*P P 07 24 19.3 -0.7
comp=Z,6.7nm,0.5s
ABTA Abfaltersbach 73.82 315 *e*P P 07 24 19.6 -1.2
comp=Z,11nm,1.2s
LOF Lofoten 73.89 337 *e*P P 07 24 20.2 -0.4
LOF IAmb IAmb 07 24 20.5
comp=Z,22nm,0.6s
KONS Konsvik 73.91 336 *e*P P 07 24 20.8 +0.1
NC405 NORSAR Array S 74.25 330 IAmb IAmb 07 24 23.9
comp=Z,27nm,0.8s
NSS Namsos 74.27 334 *e*P P 07 24 22.6 -0.3
NSS IAmb IAmb 07 24 24.0
comp=Z,24nm,0.8s
NC602 NORSAR Array S 74.33 330 IAmb IAmb 07 24 24.0
comp=Z,33nm,0.7s
NC602 NORSAR Array S 74.33 330 *e*P P 07 24 23.0 -0.3
NC602 IAmb IAmb 07 24 23.8
comp=Z,34nm,0.8s
NORES NORESS Array B 74.33 330 P P 07 24 23.0 -0.3
NORES pmax pmax
comp=Z,5.0nm,0.6s
WTTA Wattenberg 74.40 316 *i*P P 07 24 23.6 -0.7
comp=Z,25nm,1.1s
NC303 NORSAR Array S 74.42 330 IAmb IAmb 07 24 24.4
comp=Z,20nm,0.7s
HSPB Hornsund (broa 74.46 347 *e*P P 07 24 24.3 +0.5
HSPB Hornsund (broa 74.46 347 *e*P P 07 24 24.6 +0.8
SPB2 Spitsbergen Ar 74.49 348 P P 07 24 24.4 +0.5
SPB2 IAmb IAmb 07 24 41.1
comp=Z,34nm,1.1s
SPA0 Spitsbergen Ar 74.49 348 *e*P P 07 24 24.4 +0.4
SPA0 IAmb IAmb 07 24 25.3
comp=Z,57nm,1.3s
SPITS Spitsbergen Ar 74.49 348 P P 07 24 24.2 +0.2
comp=Z,10nm,0.5s,baz=105,slow=8.7,SNR=40
SPITS LR LR 08 03 36.0
comp=Z,143nm,19.1s,baz=78,slow=41
comp=Z,10nm,0.5s
NB2 NORSAR Subarra 74.50 330 P P 07 24 23.8 -0.5
comp=Z,21nm,0.7s,baz=91,slow=5.9
NB2 NORSAR Subarra 74.50 330 P P 07 24 23.8 -0.5
baz=91,slow=5.9
NB2 NORSAR Subarra 74.50 330 P P 07 24 20.5 -3.8
NB2 pmax pmax
comp=Z,10.0nm,1.1s
NOA NORSAR Array B 74.50 330 P P 07 24 23.6 -0.8
comp=Z,14nm,0.6s,baz=91,slow=5.7,SNR=56
NOA LR LR 08 00 06.1
comp=Z,182nm,21.5s,baz=100,slow=38
comp=Z,14nm,0.6s
SHEM Shemya Is, Ala 74.62 39 LR LR 08 01 15.2
comp=Z,64nm,19.4s,baz=287,slow=39
NAO01 NORSAR Array S 74.65 330 IAmb IAmb 07 24 26.0
comp=Z,26nm,0.9s
SQTA Sankt Quirin 74.69 316 *e*P P 07 24 25.2 -0.7
comp=Z,11nm,0.6s
NC204 NORSAR Array S 74.72 330 IAmb IAmb 07 24 26.6
comp=Z,29nm,1.1s
OSL Oslo 74.72 329 *e*P P 07 24 26.2 +0.7
OSL IAmb IAmb 07 24 28.2
comp=Z,86nm,0.5s
RETA Reutte 74.98 316 *e*P P 07 24 27.1 -0.3
comp=Z,10.0nm,0.6s,SNR=7.3
FETA Feichten 75.03 315 *e*P P 07 24 27.4 -0.5
comp=Z,16nm,1.1s,SNR=6.1
KONO Kongsberg 75.29 329 *e*P P 07 24 29.2 +0.3
KONO Kongsberg 75.29 329*c* *i*P P 07 24 29.2 +0.3
KONO pmax pmax
comp=Z,22nm,1.2s
FUORN Ofenpass-Fuorn 75.37 315 P P 07 24 29.6 -0.4
LBTB Lobatse 75.42 240 P P 07 24 30.7 +0.3
LBTB Lobatse 75.42 240 P P 07 24 30.7 +0.3
LBTB pmax pmax
comp=Z,23nm,1.0s
KBS Kingsbay 75.48 349*c* *e*P P 07 24 30.1 +0.5
KBS pmax pmax
comp=Z,18nm,1.3s
DOMB Dombas 75.53 331 *e*P P 07 24 30.5 +0.2
DOMB IAmb IAmb 07 24 30.8
comp=Z,20nm,0.7s
MUD Monsted U'grnd 75.59 325 *i*P P 07 24 31.0 +0.4
MUD IAmb IAmb 07 24 32.9
comp=Z,20nm,0.8s
DAVA Damuels 75.59 316 *e*P P 07 24 30.8 -0.3
comp=Z,15nm,0.6s,SNR=6.1
DAVOX Davos/Dischmat 75.62 315 P P 07 24 31.1 -0.2
comp=Z,7.6nm,0.6s,baz=312,slow=4.2,SNR=14
comp=Z,7.6nm,0.6s
SKAR Skarslia 75.92 330 *e*P P 07 24 33.1 +0.5
SKAR IAmb IAmb 07 24 34.6
comp=Z,11nm,0.8s
TUE Stuetta 76.01 315 P P 07 24 33.0 -0.6
TUE IAmb IAmb 07 24 34.9
comp=Z,53nm,1.7s
TUE Stuetta 76.01 315 P P 07 24 33.2 -0.4
comp=Z,67nm,0.9s,comp=Z,1μm
MOL Molde 76.23 332 *e*P P 07 24 35.0 +0.9
MOL IAmb IAmb 07 24 35.5
comp=Z,20nm,0.7s
SLE Schleitheim 76.50 316 P P 07 24 35.8 -0.3
BFO Black Forest 76.56 317 P P 07 24 35.4 -1.0
BFO Black Forest 76.56 317 P P 07 24 35.4 -1.0
BFO pmax pmax
comp=Z,11nm,1.1s
PGF Pioggiola 76.59 311 *e*P P 07 24 35.7 -1.1
PGF pmax pmax
comp=Z,15nm,1.1s
BLS5 Blasjo 76.90 328 *e*P P 07 24 38.7 +0.6
BLS5 IAmb IAmb 07 24 39.5
comp=Z,26nm,0.8s
HYA Hoyanger 76.94 330 *e*P P 07 24 38.6 +0.4
HYA IAmb IAmb 07 24 39.3
comp=Z,15nm,0.8s
KEST Kesra 77.05 304 P P 07 24 38.4 -1.1
KEST IAmb IAmb 07 24 40.6
comp=Z,29nm,1.1s
KEST Kesra 77.05 304 P P 07 24 39.4 -0.1
comp=Z,18nm,0.9s,baz=63,slow=6.8,SNR=14
comp=Z,18nm,0.9s
KEST Kesra 77.05 304 P P 07 24 39.6 +0.1
BOSA Boshof 77.07 236 P P 07 24 40.5 +0.8
BOSA IAmb IAmb 07 24 41.9
comp=Z,24nm,0.7s
BOSA Boshof 77.07 236 P P 07 24 40.5 +0.8
comp=Z,22nm,0.6s,baz=75,slow=4.3,SNR=50
BOSA LR LR 07 55 54.3
comp=Z,95nm,19.4s,baz=55,slow=33
comp=Z,22nm,0.6s
BOSA Boshof 77.07 236 P P 07 24 40.5 +0.8
BOSA pmax pmax
comp=Z,25nm,0.7s
CDF Champ du Feu 77.25 317 *e*P P 07 24 39.4 -1.0
CDF pmax pmax
comp=Z,9.0nm,0.9s
HINF Hinteralfeld 77.59 317 *e*P P 07 24 42.4 +0.2
HINF pmax pmax
comp=Z,2.0nm,0.4s
SBF Sospel 77.60 312 *e*P P 07 24 44.2 +1.8
SBF pmax pmax
comp=Z,14nm,0.8s
LPG La Plagne 77.90 314 *e*P P 07 24 43.8 -0.5
LPG pmax pmax
comp=Z,31nm,0.8s
HAU Haudompre 77.91 317 *e*P P 07 24 43.0 -1.0
HAU pmax pmax
comp=Z,15nm,0.9s
LPL La Plagne 77.92 314 *e*P P 07 24 43.8 -0.5
LPL pmax pmax
comp=Z,46nm,0.8s
MBDF Montbardon 77.97 313 *e*P P 07 24 43.2 -1.4
MBDF pmax pmax
comp=Z,18nm,0.9s
BNI Bardonecchia 78.00 314 P P 07 24 44.2 -0.5
BNI Bardonecchia 78.00 314 P P 07 24 44.2 -0.5
BNI pmax pmax
comp=Z,20nm,0.9s
CABF La Chapelle 78.24 315 *e*P P 07 24 45.5 -0.4
CABF pmax pmax
comp=Z,42nm,1.3s
ORIF Oris-en-Rattie 78.58 314 *e*P P 07 24 47.5 -0.4
ORIF pmax pmax
comp=Z,9.0nm,0.9s
BAIF Baives 79.07 319 *e*P P 07 24 50.0 -0.3
BAIF pmax pmax
comp=Z,25nm,1.0s
VIVF Saint-Julien-l 79.44 314 *e*P P 07 24 51.9 -0.6
VIVF pmax pmax
comp=Z,27nm,1.1s
NOR Nord 79.94 352 *i*P P 07 24 53.0 -1.5
NOR IAmb IAmb 07 24 55.6
comp=Z,25nm,0.7s
AVF Avril sur Loir 80.08 316 P P 07 24 54.9 -1.0
AVF pmax pmax
comp=Z,12nm,0.8s
CASY Casey 80.22 173 P P 07 24 56.9 +0.9
DZM Mont Dzumac 80.38 115 *e*LR LR 07 50 04.4
comp=Z,108nm,22.1s
DZM Mont Dzumac 80.38 115 LR LR 08 02 31.9
comp=Z,61nm,20.8s,baz=171,slow=37
TSUM Tsumeb 80.47 248 P P 07 24 59.4 +0.8
TSUM Tsumeb 80.47 248 LR LR 07 58 50.7
comp=Z,181nm,18.4s,baz=354,slow=34
CLF Chambon-Foret 80.63 317 P P 07 24 59.1 +0.3
LRW Lerwick 80.66 330 *e*P P 07 24 59.2 +0.5
LRW IAmb IAmb 07 24 59.5
comp=Z,18nm,0.8s
CAF Calviac 81.26 314 *e*P P 07 25 02.0 -0.3
CAF pmax pmax
comp=Z,8.0nm,0.9s
JMIC Jan Mayen 81.34 341 LR LR 08 03 15.1
comp=Z,134nm,21.2s,baz=68,slow=37
RJF Les Rejaudoux 81.58 314 *e*P P 07 25 03.8 -0.1
RJF pmax pmax
comp=Z,21nm,1.0s
SUR Sutherland 82.02 234 P P 07 25 08.1 +1.5
SUR Sutherland 82.02 234 LR LR 07 56 25.5
comp=Z,213nm,19.4s,baz=75,slow=32
SUR Sutherland 82.02 234 P P 07 25 08.9 +2.3
EDMD Edmundbyers 82.04 324 *e*P P 07 25 06.1 0.0
EDMD IAmb IAmb 07 25 07.3
comp=Z,42nm,1.2s
LDF La Druitiere 82.10 318 *e*P P 07 25 05.8 -0.8
LDF pmax pmax
comp=Z,17nm,0.8s
DAG Danmarks Havn 82.12 347 P P 07 25 05.4 -0.8
DAG Danmarks Havn 82.12 347 *i*P P 07 25 04.0 -2.2
DAG IAmb IAmb 07 25 07.0
comp=Z,6.6nm,1.0s
TNA Tin City 82.13 24 P P 07 25 07.4 +1.0
baz=284
LBWR Ladybower, Pea 82.18 323 *e*P P 07 25 06.9 0.0
LBWR IAmb IAmb 07 25 08.1
comp=Z,33nm,0.9s
MCD Coleburn Disti 82.19 327 *e*P P 07 25 07.1 +0.3
MCD IAmb IAmb 07 25 07.9
comp=Z,25nm,0.8s
CEST Esterri de Car 82.25 312 IAmb IAmb 07 25 09.1
comp=Z,25nm,1.1s
FLN La Foliniere 82.30 318 *e*P P 07 25 06.9 -0.7
FLN pmax pmax
comp=Z,17nm,0.9s
TAM Tamanrasset 82.36 292 P P 07 25 09.2 +0.6
TAM Tamanrasset 82.36 292 P P 07 25 09.2 +0.6
TAM pmax pmax
comp=Z,23nm,1.3s
C16K Lisburne Hills 82.41 22 P P 07 25 08.6 +0.8
baz=286
EKA Eskdalemuir Ar 82.61 325 P P 07 25 09.3 +0.2
comp=Z,8.0nm,0.6s,baz=88,slow=5.4,SNR=32
comp=Z,8.0nm,0.6s
GRR Gorron 82.62 318 *e*P P 07 25 13.8 +4.5
GRR pmax pmax
comp=Z,61nm,1.9s
ESK Eskdalemuir 82.64 325 *e*P P 07 25 09.7 +0.4
ESK IAmb IAmb 07 25 10.0
comp=Z,16nm,0.8s
F14K Arctic Creek 82.80 24 P P 07 25 11.1 +1.2
baz=286
EPF Esparros 82.83 312 *e*P P 07 25 11.3 +0.7
EPF pmax pmax
comp=Z,4.0nm,0.9s
SPIA Saint Paul Isl 83.02 33 P P 07 25 12.2 +1.1
baz=283
LINV Loch Inver, As 83.08 328 *e*P P 07 25 12.2 +0.7
C17K DeLong Mountai 83.12 21 P P 07 25 12.0 +0.5
baz=288
FOEL Foel Wylfa 83.16 323 *e*P P 07 25 12.6 +0.6
FOEL IAmb IAmb 07 25 13.3
comp=Z,19nm,0.9s
MCH1 Michaelchurch 83.23 322 *e*P P 07 25 12.4 0.0
PGBU Glenifferbraes 83.24 326 *e*P P 07 25 13.3 +0.9
PGBU IAmb IAmb 07 25 14.0
comp=Z,29nm,1.0s
NEWG New Galloway 83.26 325 *e*P P 07 25 12.8 +0.3
NEWG IAmb IAmb 07 25 14.9
comp=Z,11nm,0.8s
MAW Mawson 83.26 191 P P 07 25 13.3 +1.2
comp=Z,7.0nm,0.7s,baz=27,slow=5.6,SNR=12
MAW LR LR 07 55 19.9
comp=Z,80nm,20.4s,baz=20,slow=30
comp=Z,7.0nm,0.7s
A19K Wainwright 83.27 19 P P 07 25 13.1 +0.9
baz=290
B18K Kokolik River 83.31 20 P P 07 25 14.3 +1.9
baz=289
RDOG Red Dog Mine 83.35 21 P P 07 25 13.8 +1.1
baz=288
D17K Noatak River 83.39 22 P P 07 25 14.5 +1.6
baz=288
F15K North Star Dit 83.40 24 P P 07 25 14.2 +1.2
baz=287
ANM Nome 83.44 25 IAmb IAmb 07 25 15.7
comp=Z,31nm,1.1s
ANM Nome 83.44 25 P P 07 25 14.6 +1.4
baz=286
ETSF Etsaut 83.50 312 *e*P P 07 25 13.8 -0.3
ETSF pmax pmax
comp=Z,4.0nm,0.7s
DBG Daneborg 83.50 345 *i*P P 07 25 12.2 -1.2
DBG IAmb IAmb 07 25 14.9
comp=Z,4.5nm,0.8s
KPL Plockton 83.51 327 *e*P P 07 25 14.4 +0.7
KPL IAmb IAmb 07 25 14.8
comp=Z,20nm,0.9s
P08K Saint George I 83.52 33 P P 07 25 14.3 +0.6
baz=284
LAWE Loch Awe, Argy 83.64 326 *e*P P 07 25 15.2 +0.9
LAWE IAmb IAmb 07 25 15.9
comp=Z,16nm,0.8s
YLL Llanberis 83.67 323 *e*P P 07 25 15.2 +0.6
WME Myndd Eilian 83.69 323 *e*P P 07 25 15.4 +0.7
WME IAmb IAmb 07 25 15.8
comp=Z,15nm,0.6s
C18K Utukok River 83.75 21 P P 07 25 16.2 +1.4
baz=290,SNR=10
WLF1 Llynfaes 83.77 323 *e*P P 07 25 16.1 +1.0
WLF1 IAmb IAmb 07 25 16.6
comp=Z,45nm,1.0s
G15K Niukluk 83.86 25 P P 07 25 16.2 +0.9
baz=288
SJPF Ste Jean 83.94 313 *e*P P 07 25 17.2 +1.0
SJPF pmax pmax
comp=Z,12nm,1.0s
LEWI Lewis, Hebride 83.94 328 *e*P P 07 25 16.7 +0.8
E17K Hotham Inlet 84.05 22 P P 07 25 17.9 +1.6
baz=289
C19K Lookout Ridge 84.14 20 P P 07 25 18.5 +1.7
baz=291,SNR=5.4
A21K Barrow 84.22 18 P P 07 25 17.8 +0.8
baz=294
M11K Mekoryuk 84.25 29 P P 07 25 18.1 +0.8
baz=286
RSBS Rosebush, Pemb 84.29 322 *e*P P 07 25 18.1 +0.3
RSBS IAmb IAmb 07 25 19.1
comp=Z,29nm,0.8s
E18K Tukpahlearik C 84.39 22 P P 07 25 19.4 +1.4
baz=290,SNR=20
G16K Koyuk River 84.41 24 IAmb IAmb 07 25 20.6
comp=Z,30nm,0.9s
G16K Koyuk River 84.41 24 P P 07 25 19.4 +1.3
baz=289,SNR=12
F17K Baldwin Pennin 84.48 23 P P 07 25 20.0 +1.5
baz=290,SNR=12
K13K Kusilvak Mount 84.52 28 IAmb IAmb 07 25 20.9
comp=Z,22nm,1.1s
K13K Kusilvak Mount 84.52 28 P P 07 25 19.9 +1.2
baz=287
B20K Meade River 84.58 19 P P 07 25 20.4 +1.5
baz=293
H16K Elim 84.70 25 P P 07 25 20.8 +1.2
baz=289,SNR=9.8
J14K Nanvaranak Lak 84.76 27 IAmb IAmb 07 25 22.1
comp=Z,18nm,0.9s
J14K Nanvaranak Lak 84.76 27 P P 07 25 20.8 +0.9
baz=288,SNR=5.2
NIKH Nikolski High 84.80 37 P P 07 25 21.2 +0.8
baz=285
A22K Sinclair Lake 84.84 18 P P 07 25 21.4 +1.2
baz=295
D19K Kuna River 84.86 20 P P 07 25 21.9 +1.4
baz=293,SNR=13
F18K Selawik 85.03 22 P P 07 25 22.5 +1.3
baz=291,SNR=16
G17K Kiwalik Mounta 85.04 24 P P 07 25 22.6 +1.2
baz=291,SNR=8.9
D20K Etivluk River 85.28 20 P P 07 25 24.1 +1.5
baz=294,SNR=19
H17K Granite Mounta 85.53 24 IAmb IAmb 07 25 26.3
comp=Z,27nm,0.8s
H17K Granite Mounta 85.53 24 P P 07 25 25.4 +1.5
baz=291,SNR=25
E19K Redstone River 85.58 21 P P 07 25 25.4 +1.4
baz=294,SNR=34
M13K Dall Lake 85.59 29 P P 07 25 25.7 +1.6
baz=289
I17K Unalakleet 85.59 25 IAmb IAmb 07 25 26.8
comp=Z,22nm,1.1s
I17K Unalakleet 85.59 25 P P 07 25 25.8 +1.7
baz=291,SNR=6.8
L14K Kuka Creek 85.60 28 IAmb IAmb 07 25 26.4
comp=Z,61nm,1.8s
L14K Kuka Creek 85.60 28 P P 07 25 25.4 +1.3
baz=289,SNR=6.7
B22K Teshekpuk Lake 85.60 18 P P 07 25 25.1 +1.1
baz=297,SNR=7.7
E20K Nigu River 85.61 20 P P 07 25 25.5 +1.3
baz=294
F19K Shaleruckik Mo 85.63 22 IAmb IAmb 07 25 26.2
comp=Z,31nm,0.9s
F19K Shaleruckik Mo 85.63 22 P P 07 25 25.2 +1.0
baz=293,SNR=22
G18K Tagagawik 85.67 23 IAmb IAmb 07 25 26.3
comp=Z,22nm,1.2s
G18K Tagagawik 85.67 23 P P 07 25 25.1 +0.7
baz=292,SNR=11
C21K Knifeblade Rid 85.70 19 P P 07 25 25.9 +1.4
baz=296,SNR=12
K15K Wolf Creek Mou 85.79 27 IAmb IAmb 07 25 38.3
comp=Z,17nm,0.9s
K15K Wolf Creek Mou 85.79 27 P P 07 25 26.6 +1.4
baz=290,SNR=6.9
J16K Anvik River 85.85 26 P P 07 25 27.1 +1.7
baz=291,SNR=26
L15K Ungalak Mounta 86.02 27 P P 07 25 27.4 +1.2
baz=290,SNR=6.8
H18K Honhosa River 86.06 24 IAmb IAmb 07 25 28.7
comp=Z,18nm,0.8s
H18K Honhosa River 86.06 24 P P 07 25 27.8 +1.3
baz=293,SNR=11
M14K Bethel 86.12 28 IAmb IAmb 07 25 28.9
comp=Z,20nm,0.9s
M14K Bethel 86.12 28 P P 07 25 27.9 +1.1
baz=290
G19K Purcell Mounta 86.16 22 P P 07 25 28.2 +1.4
baz=294
E21K Killik River 86.28 20 P P 07 25 28.4 +1.0
baz=296
F20K Avaraart Lake 86.28 21 P P 07 25 28.5 +1.1
baz=295
J17K VABM Dome 86.45 25 IAmb IAmb 07 25 31.0
comp=Z,24nm,1.0s
J17K VABM Dome 86.45 25 P P 07 25 30.0 +1.7
baz=292,SNR=13
D22K Ayikyak River 86.50 19 IAmb IAmb 07 25 30.9
comp=Z,27nm,0.8s
D22K Ayikyak River 86.50 19 P P 07 25 29.7 +1.2
baz=298
N14K Kuskokwak Cree 86.54 29 P P 07 25 29.8 +1.0
baz=290,SNR=5.3
H19K Roundabout Mou 86.65 23 P P 07 25 30.9 +1.6
baz=294
C23K Itkillik River 86.69 18 P P 07 25 30.4 +1.0
baz=300,SNR=20
ESDC Sonseca Array 86.72 310 P P 07 25 28.6 -1.7
ESDC pP **pP 07 25 40.5 -0.3**
ESDC Sonseca Array 86.72 310 P P 07 25 30.3 0.0
comp=Z,8.1nm,0.9s,baz=55,slow=4.4,SNR=52
ESDC LR LR 08 10 24.7
comp=Z,48nm,18.5s,baz=118,slow=40
comp=Z,8.1nm,0.9s
M15K Kasigluk River 86.73 28 P P 07 25 30.6 +0.8
baz=291,SNR=7.7
GCSA Galena City Sc 86.81 24 P P 07 25 31.7 +1.7
baz=294,SNR=5.5
L16K Owhat River 86.91 27 P P 07 25 31.9 +1.3
baz=292,SNR=6.7
O14K Tigyukauivet M 86.97 30 P P 07 25 32.0 +1.1
baz=290
F21K Alatna River 86.99 21 IAmb IAmb 07 25 33.5
comp=Z,25nm,0.9s
F21K Alatna River 86.99 21 P P 07 25 32.0 +1.0
baz=297,SNR=32
K17K Iditarod 87.03 26 P P 07 25 32.8 +1.6
baz=293,SNR=19
EUNU Eureka 87.05 360 P P 07 25 31.5 +0.4
EUNU IAmb IAmb 07 25 32.8
comp=Z,15nm,0.9s
D23K Nanushuk River 87.09 19 P P 07 25 32.9 +1.5
baz=300
E22K Anaktuvuk Pass 87.13 20 IAmb IAmb 07 25 44.5
comp=Z,29nm,1.2s
E22K Anaktuvuk Pass 87.13 20 P P 07 25 32.8 +1.1
baz=298
N15K Kwethluk River 87.20 29 P P 07 25 33.3 +1.3
baz=292,SNR=7.8
H20K Anotleneega Mo 87.26 23 P P 07 25 33.7 +1.4
baz=296,SNR=39
L17K Donlin 87.26 26 P P 07 25 34.1 +1.8
baz=293,SNR=7.7
NEEM North Greenlan 87.30 353 *i*P P 07 25 31.9 -0.8
NEEM IAmb IAmb 07 25 34.2
comp=Z,10nm,0.7s

G21K **Allakaket** 87.31 22 P P 07 25 33.5 +1.1
baz=297,SNR=34
F22K **John River** 87.31 20 P P 07 25 33.9 +1.4
baz=298
C24K **Franklin Bluff** 87.32 18 P P 07 25 33.4 +0.9
baz=301
FALS **False Pass** 87.34 34 P P 07 25 34.1 +1.3
baz=289
J18K **Innoko River** 87.40 25 IAmb IAmb 07 25 35.4
comp=Z,17nm,1.0s
J18K **Innoko River** 87.40 25 P P 07 25 34.1 +1.1
baz=294,SNR=18
M16K **Timber Creek** 87.40 28 IAmb IAmb 07 25 35.5
comp=Z,20nm,1.1s
M16K **Timber Creek** 87.40 28 P P 07 25 34.1 +1.1
baz=292,SNR=6.1
IMAR **Indian Mountai** 87.46 22 P P 07 25 33.6 +0.3
D24K **Happy Valley** 87.58 18 IAmb IAmb 07 25 35.7
comp=Z,19nm,0.9s
D24K **Happy Valley** 87.58 18 P P 07 25 34.9 +1.2
baz=301,SNR=8.2
TOLK **Toolik Lake Re** 87.61 19 P P 07 25 35.2 +1.3
baz=300,SNR=22
J19K **Poorman** 87.62 24 IAmb IAmb 07 25 36.9
comp=Z,24nm,0.9s
J19K **Poorman** 87.62 24 P P 07 25 35.7 +1.6
baz=295,SNR=32
O15K **Ungalikthiuk R** 87.69 29 P P 07 25 35.4 +1.0
baz=292
N16K **Nishlik Lake** 87.69 28 P P 07 25 35.9 +1.4
baz=293,SNR=12
I20K **Naaghedeneel** 87.72 23 P P 07 25 36.4 +2.0
baz=296,SNR=16
S12K **Black Hills** 87.79 33 P P 07 25 36.7 +1.6
baz=290
G22K **Bettles** 87.82 21 P P 07 25 35.7 +0.8
baz=299
E23K **Chandalar** 87.89 19 P P 07 25 36.5 +1.2
baz=300,SNR=20
TOA0 **Torodi Ar. Sit** 87.91 283 P P 07 25 35.7 -0.7
TOA0 IAmb IAmb 07 25 37.5
comp=Z,12nm,0.8s
TOA0 pP pP 07 25 44.2 -2.7
TOA0 **Torodi Ar. Sit** 87.91 283 P P 07 25 36.9 +0.5
TORD **Torodi Ar. Bea** 87.91 283 P P 07 25 36.3 -0.1
TORD IAmb IAmb 07 25 37.5
comp=Z,11nm,0.8s
TORD **Torodi Ar. Bea** 87.91 283 P P 07 25 36.8 +0.3
comp=Z,8.9nm,0.6s,baz=79,slow=5.5,SNR=59
TORD PP PP 07 29 01.7 -1.2
comp=Z,3.3nm,1.1s,baz=56,slow=8.8,SNR=5.1
comp=Z,8.9nm,0.6s
L18K **Granite Mounta** 87.92 26 P P 07 25 37.2 +1.7
baz=294,SNR=7.8
M17K **Holitna River** 87.93 27 IAmb IAmb 07 25 48.6
comp=Z,12nm,0.9s
M17K **Holitna River** 87.93 27 P P 07 25 37.4 +1.8
baz=294
H21K **Melozitna Rive** 87.95 22 P P 07 25 37.2 +1.6
baz=298,SNR=42
BORG **Borgarnes** 88.09 337 LR LR 08 06 30.2
comp=Z,159nm,21.3s,baz=37,slow=36
COLD **Coldfoot** 88.11 20 P P 07 25 37.5 +1.2
baz=300,SNR=7.8
J20K **Nowinta River** 88.12 24 P P 07 25 38.3 +1.8
baz=296,SNR=27
PBRG **Braganca** 88.21 312 eP P 07 25 37.8 +0.4
comp=Z,13nm,1.6s
D25K **Kavik River** 88.22 18 P P 07 25 38.0 +1.1
baz=304
E24K **Your Creek** 88.24 19 IAmb IAmb 07 25 39.1
comp=Z,22nm,1.1s
E24K **Your Creek** 88.24 19 P P 07 25 38.1 +1.1
baz=302
C26K **Camden Bay** 88.31 17 P P 07 25 38.6 +1.4
baz=305,SNR=18
O16K **Kokwok River B** 88.35 29 IAmb IAmb 07 26 02.6
comp=Z,18nm,1.3s
O16K **Kokwok River B** 88.35 29 P P 07 25 38.8 +1.2
baz=293
H22K **Ishtalitna Cre** 88.36 22 P P 07 25 39.3 +1.8
baz=299,SNR=29
N17K **Nushagak Hills** 88.39 28 IAmb IAmb 07 25 40.7
comp=Z,27nm,1.4s
N17K **Nushagak Hills** 88.39 28 P P 07 25 39.5 +1.8
baz=294,SNR=7.5
G23K **Bananza Creek** 88.43 21 IAmb IAmb 07 25 40.3
comp=Z,17nm,0.9s
G23K **Bananza Creek** 88.43 21 P P 07 25 39.0 +1.1
baz=300,SNR=17
K20K **Telida** 88.52 24 P P 07 25 40.1 +1.8
baz=297
M18K **Stony River** 88.60 26 P P 07 25 40.4 +1.7
baz=295,SNR=5.8
L19K **White Mountain** 88.72 26 IAmb IAmb 07 25 42.3
comp=Z,20nm,1.1s
L19K **White Mountain** 88.72 26 P P 07 25 41.2 +1.9
baz=296,SNR=10.0
F24K **Squaw Lake** 88.73 20 IAmb IAmb 07 25 41.5
comp=Z,11nm,0.8s
F24K **Squaw Lake** 88.73 20 P P 07 25 40.7 +1.4
baz=302,SNR=18
O17K **Koliganek Bris** 88.74 28 P P 07 25 40.6 +1.2
baz=294
SUMG **Summit** 88.79 347 IAmb IAmb 07 25 41.3
comp=Z,21nm,1.0s
SUMG **Summit** 88.79 347 P P 07 25 39.9 0.0
SUMG **Summit** 88.79 347 i P P 07 25 39.1 -0.8
C27K **Jago River** 88.82 17 P P 07 25 41.0 +1.4
baz=306,SNR=17
S14K **Fog Glacier** 88.90 32 P P 07 25 41.4 +1.1
baz=292
N18K **Kilae Creek** 88.91 27 IAmb IAmb 07 25 53.5
comp=Z,19nm,1.5s
N18K **Kilae Creek** 88.91 27 P P 07 25 41.8 +1.6
baz=295
MDT **Midelt** 88.93 303 P P 07 25 41.2 +0.2
comp=Z,4.8nm,0.8s,baz=62,slow=6.7,SNR=7.3
MDT LR LR 08 12 24.5
comp=Z,61nm,18.1s,baz=121,slow=40
comp=Z,4.8nm,0.8s
CHUM **Lake Minchumin** 88.97 24 P P 07 25 42.3 +1.9
baz=298,SNR=37
L20K **Farewell, AK** 88.99 25 P P 07 25 42.6 +2.0
baz=297,SNR=18
MLY **Manley** 89.02 22 IAmb IAmb 07 25 43.0
comp=Z,17nm,0.8s
MLY **Manley** 89.02 22 P P 07 25 41.8 +1.1
baz=300,SNR=20
M19K **Big River Lodg** 89.03 26 IAmb IAmb 07 25 55.4
comp=Z,48nm,1.9s
M19K **Big River Lodg** 89.03 26 P P 07 25 42.8 +2.0
baz=296
H23K **Yukon River** 89.05 21 IAmb IAmb 07 25 43.4
comp=Z,21nm,1.0s
H23K **Yukon River** 89.05 21 P P 07 25 42.3 +1.5
baz=301,SNR=15
POLO **Lamas de Olo** 89.09 312 eP P 07 25 41.1 -0.5
comp=Z,7.7nm,1.7s
POLO epP pP 07 25 52.5 +0.3
E25K **Arctic Village** 89.14 19 P P 07 25 42.2 +1.0
baz=304,SNR=13
PCAB **Cabril** 89.16 313 eP P 07 25 42.7 +0.8
comp=Z,26nm,2.4s
PCAB epP sP 07 25 54.2 -2.0
MTE **Manteigas** 89.18 311 IAmb IAmb 07 25 44.1
comp=Z,26nm,1.2s
MTE **Manteigas** 89.18 311 eP P 07 25 43.1 +1.1
comp=Z,27nm,1.4s
PGAV **Gavieira, Arco** 89.26 313 eP P 07 25 43.1 +0.7
comp=Z,18nm,1.3s
PGAV epP pP 07 25 53.8 +0.8
CAST **Castle Rocks** 89.28 24 P P 07 25 43.4 +1.4
baz=298,SNR=65
P17K **Kvichak River** 89.28 29 P P 07 25 43.2 +1.2
baz=295
PCBR **Castelo Branco** 89.29 311 eP P 07 25 43.4 +1.0
comp=Z,17nm,1.5s
G24K **Hadweenzic Riv** 89.31 20 P P 07 25 43.5 +1.5
baz=302,SNR=7.7
PMRV **Marv??o** 89.34 310 eP P 07 25 43.5 +0.8
comp=Z,16nm,1.7s
PVIS **Viseu** 89.35 312 eP P 07 25 43.8 +1.0
comp=Z,18nm,1.4s
PVIS epP sP 07 25 55.1 -2.1
BPAW **Bear Paw Mtn.** 89.38 23 P P 07 25 43.0 +0.6
BPAW **Bear Paw Mtn.** 89.38 23 P P 07 25 43.7 +1.3
baz=299,SNR=43

Q16K **King Salmon** 89.40 29 P P 07 25 43.3 +0.8
baz=294
F25K **Christian Rive** 89.41 19 P P 07 25 44.2 +1.7
baz=304,SNR=33
CHNA **Chernabura Isl** 89.42 33 P P 07 25 43.5 +0.8
baz=292
PBAR **Barrancos** 89.43 309 eP P 07 25 44.1 +1.0
comp=Z,33nm,1.4s
PBAR epP pP 07 25 54.8 +1.1
I23K **Minto, Yukon-K** 89.46 22 IAmb IAmb 07 25 45.7
comp=Z,14nm,0.8s
I23K **Minto, Yukon-K** 89.46 22 P P 07 25 44.2 +1.5
baz=301,SNR=6.7
N19K **Bonanza Creek** 89.48 27 P P 07 25 44.7 +1.7
baz=296,SNR=15
PPLA **Purkeypile** 89.49 24 P P 07 25 44.2 +1.1
baz=298,SNR=7.5
O18K **Koktuh Hills** 89.57 28 P P 07 25 45.1 +1.7
baz=296,SNR=9.5
M20K **Styx River** 89.58 26 P P 07 25 45.1 +1.7
baz=298
H24K **Noodor Dome** 89.63 21 IAmb IAmb 07 25 45.9
comp=Z,13nm,0.9s
H24K **Noodor Dome** 89.63 21 P P 07 25 44.9 +1.4
baz=302,SNR=15
G25K **Bearman Lake** 89.73 20 P P 07 25 45.7 +1.8
baz=304,SNR=10.0
P18K **Big Mountain,** 89.76 28 P P 07 25 44.7 +0.4
baz=296
O19K **Port Alsworth** 89.82 27 P P 07 25 45.5 +1.1
baz=296
F26K **Sheenjek River** 89.83 19 P P 07 25 45.9 +1.5
baz=306,SNR=50
D27M **Malcolm River** 89.83 17 IAmb IAmb 07 25 46.7
comp=Z,29nm,1.2s
D27M **Malcolm River** 89.83 17 P P 07 25 45.7 +1.3
baz=308
BMAR **Burnt Mountain** 89.84 19 P P 07 25 45.2 +0.7
NEA2 **Nenana** 89.86 22 IAmb IAmb 07 25 47.0
comp=Z,13nm,0.8s
NEA2 **Nenana** 89.86 22 P P 07 25 45.3 +0.7
baz=301,SNR=21
TULEG **Thule** 89.91 356 IAmb IAmb 07 25 45.5
comp=Z,21nm,0.7s
BWN **Browne** 89.92 23 IAmb IAmb 07 25 48.3
comp=Z,32nm,1.0s
Q17K **Contact Creek** 89.94 29 P P 07 25 45.1 -0.1
baz=295
R17L **Mt. Peulik Vol** 89.97 30 P P 07 25 46.7 +1.4
baz=295
PCAS **Casmilo, Conde** 89.98 311 eP P 07 25 47.0 +1.3
comp=Z,22nm,1.2s
EVO **Evora** 90.06 310 eP P 07 25 46.9 +0.8
comp=Z,22nm,1.4s
PMTG **Montargil** 90.07 310 eP P 07 25 46.5 +0.4
comp=Z,15nm,1.4s
PBEJ **Beja** 90.09 309 eP P 07 25 47.2 +0.9
comp=Z,24nm,1.3s
H25L **Birch Creek** 90.10 20 P P 07 25 47.2 +1.6
baz=304,SNR=12
FYU **Fort Yukon** 90.13 20 IAmb IAmb 07 25 48.5
comp=Z,21nm,1.0s
ANCK **Angle Creek** 90.15 29 IAmb IAmb 07 25 47.3
comp=Z,35nm,1.1s
COLA **College** 90.15 22 P P 07 25 46.4 +0.6
baz=302
COLA **College** 90.15 22 i P P 07 25 46.5 +0.6
COLA pmax pmax
comp=Z,5.0nm,0.9s
PVAQ **Vaqueiros** 90.16 308 IAmb IAmb 07 25 48.6
comp=Z,18nm,0.9s
PVAQ **Vaqueiros** 90.16 308 eP P 07 25 47.8 +1.2
comp=Z,36nm,1.5s
POKR **Poker Plat Res** 90.17 21 P P 07 25 45.9 -0.1
POKR **Poker Plat Res** 90.17 21 P P 07 25 46.9 +0.8
baz=303
Q18K **Katmai Hardscr** 90.19 29 P P 07 25 46.0 -0.4
baz=296
SKT **Skwentna** 90.20 25 P P 07 25 47.0 +0.8
baz=299,SNR=41
N20K **Mount Spurr** 90.28 26 P P 07 25 47.4 +0.7
baz=298
SPCR **Spurr Chakacha** 90.28 26 P P 07 25 43.8 -3.0
baz=298
E27K **Coleen River** 90.30 18 P P 07 25 47.6 +1.0
baz=308,SNR=17
PCVE **Castro Verde** 90.34 309 eP P 07 25 48.6 +1.2
MCK **McKinley** 90.35 23 P P 07 25 47.6 +0.7
baz=301,SNR=13
MCK **McKinley** 90.35 23 P P 07 25 47.2 +0.3
SPU **Mount Spurr** 90.36 26 IAmb IAmb 07 25 48.9
comp=Z,23nm,1.0s
PBDV **Barranco-do-Ve** 90.37 308 eP P 07 25 48.5 +0.9
comp=Z,55nm,1.5s
G26K **Porcupine Rive** 90.38 19 P P 07 25 48.6 +1.7
baz=306,SNR=44
D28M **Stokes Point** 90.39 16 P P 07 25 48.6 +1.7
baz=311,SNR=5.8
MESJ **Messejana** 90.42 309 IAmb IAmb 07 25 49.9
comp=Z,14nm,0.8s
MESJ **Messejana** 90.42 309 eP P 07 25 48.9 +1.1
MESJ epP pP 07 25 57.9 -0.4
MESJ **Messejana** 90.42 309 eP P 07 25 48.6 +0.8
MESJ IAmb IAmb 07 25 49.6
comp=Z,15nm,0.9s
ILSW **Iliamna Southw** 90.45 27 IAmb IAmb 07 26 04.3
comp=Z,15nm,0.8s
KULLO **Kullorsuaq** 90.53 352 i P P 07 25 47.2 -0.3
KULLO IAmb IAmb 07 25 49.2
comp=Z,38nm,0.7s
RND **Reindeer** 90.55 23 IAmb IAmb 07 25 49.4
comp=Z,28nm,1.2s
RND **Reindeer** 90.55 23 P P 07 25 48.2 +0.3
ILAR **Eielson Array** 90.56 22 P P 07 25 46.8 -1.0
ILAR **Eielson Array** 90.56 22 P P 07 25 47.4 -0.5
comp=Z,5.4nm,0.7s,baz=298,slow=4.5,SNR=54
ILAR PP PP 07 29 19.2 -3.2
comp=Z,1.1nm,0.7s,baz=299,slow=6.9,SNR=5.3
ILAR PKKPbc PKKPdf 07 43 14.8 +2.4
comp=Z,0.3nm,0.6s,baz=152,slow=1.2,SNR=4.1
ILAR LR LR 08 10 08.5
comp=Z,74nm,19.6s,baz=262,slow=38
comp=Z,5.4nm,0.7s
P19K **Oil Pt** 90.56 28 P P 07 25 48.6 +0.7
P19K IAmb IAmb 07 25 50.0
comp=Z,22nm,0.9s
P19K **Oil Pt** 90.56 28 P P 07 25 48.5 +0.5
baz=297
PNCL **Nicolau / Gran** 90.57 309 eP P 07 25 49.5 +1.1
comp=Z,27nm,1.6s
PNCL epP sP 07 26 00.9 -1.9
PRP **Porcupine Dome** 90.62 21 P P 07 25 49.5 +1.1
baz=304
O20K **Slope Mountain** 90.63 27 P P 07 25 49.8 +1.5
baz=298
E28M **Babbage River** 90.64 17 IAmb IAmb 07 25 50.3
comp=Z,16nm,0.9s
E28M **Babbage River** 90.64 17 P P 07 25 49.4 +1.2
baz=310,SNR=30
Q19K **Cape Douglas,** 90.70 28 P P 07 25 48.8 +0.2
baz=297
HDA **Harding Lake** 90.73 22 IAmb IAmb 07 25 49.2
comp=Z,9.1nm,0.7s
HDA **Harding Lake** 90.73 22 P P 07 25 48.2 -0.5
baz=303,SNR=9.7
RPZ **Rata Peaks** 90.78 135 LR LR 08 07 07.9
comp=Z,159nm,21.9s,baz=194,slow=36
SUA **Susitna One** 90.78 25 P P 07 25 49.2 +0.2
SUA **Susitna One** 90.78 25 P P 07 25 49.8 +0.8
baz=300,SNR=22
PTEO **Sao Teotonio** 90.89 309 eP P 07 25 51.3 +1.4
PTEO epP sP 07 26 02.3 -2.0
M22K **Willow** 90.89 25 P P 07 25 50.3 +0.9
baz=300,SNR=25
MORF **Marmelete** 90.90 309 eP P 07 25 51.8 +1.7
MORF epP pP 07 26 00.7 0.0
MORF **Marmelete** 90.90 309 eP P 07 25 50.9 +0.8
MORF IAmb IAmb 07 25 52.6
comp=Z,28nm,1.2s
R18K **Karluk** 90.93 30 P P 07 25 49.7 +0.1
baz=296
CAPN **Captain Cook N** 90.94 26 P P 07 25 49.8 +0.2
baz=299
WAT1 **Susitna Watana** 90.97 24 P P 07 25 50.0 +0.1
baz=302
PFVI **Vila Bisbo** 91.08 308 eP P 07 25 52.2 +1.3
CHIR **Chirikof Islan** 91.11 32 P P 07 25 51.4 +0.8
baz=295

G27K **Doyon Strip** 91.13 19 P P 07 25 51.3 +0.7
baz=308,SNR=12
F28M **Old Crow** 91.17 18 IAmb IAmb 07 25 52.6
comp=Z,13nm,0.9s
F28M **Old Crow** 91.17 18 P P 07 25 51.7 +1.0
baz=310,SNR=20
J25K **Salcha River,** 91.19 21 IAmb IAmb 07 25 51.8
comp=Z,10nm,0.8s
J25K **Salcha River,** 91.19 21 P P 07 25 51.0 +0.1
baz=304,SNR=22
E29M **Blow River** 91.23 17 IAmb IAmb 07 25 53.0
comp=Z,26nm,1.2s
E29M **Blow River** 91.23 17 P P 07 25 52.0 +1.1
baz=311,SNR=23
HOM **Homer** 91.27 27 P P 07 25 52.1 +0.9
baz=299
DHY **Denali Highway** 91.30 23 P P 07 25 52.2 +0.7
baz=303,SNR=5.0
GHO **Glory Hole Cre** 91.37 25 IAmb IAmb 07 26 06.9
comp=Z,34nm,1.5s
PMR **Palmer** 91.38 25 P P 07 25 52.4 +0.8
baz=301,SNR=13
RC01 **Rabbit Creek A** 91.39 25 P P 07 25 52.8 +1.1
baz=300,SNR=6.8
WAT6 **Susitna Watana** 91.42 24 P P 07 25 52.8 +0.7
baz=302,SNR=20
Q20K **Shuyak Island** 91.43 28 P P 07 25 52.7 +0.7
baz=298
ICESG **Greenland Ices** 91.47 345 i P P 07 25 52.0 -0.4
ICESG IAmb IAmb 07 25 54.4
comp=Z,18nm,0.7s
K24K **Donnelly Dome** 91.50 22 P P 07 25 52.8 +0.5
baz=304,SNR=11
SII **Sitkinak Islan** 91.51 31 P P 07 25 53.4 +0.9
baz=296
A36M **Sachs Harbour** 91.52 11 P P 07 25 52.7 +0.6
baz=323,SNR=5.6
H27K **Steamboat Moun** 91.53 19 P P 07 25 53.6 +1.2
baz=308,SNR=19
I26K **Coal Creek Min** 91.56 20 IAmb IAmb 07 25 54.6
comp=Z,21nm,1.2s
SML **Sawmill** 91.59 25 P P 07 25 54.0 +1.3
baz=302,SNR=11
BRSE **Bradley Lake S** 91.63 27 P P 07 25 53.6 +0.7
baz=300
OHAK **Old Harbor** 91.65 30 P P 07 25 53.7 +0.7
baz=297
O22K **Cooper Landing** 91.70 26 P P 07 25 53.8 +0.6
baz=300
KDAK **Kodiak Island** 91.73 29 P P 07 25 53.8 +0.4
baz=298
KDAK **Kodiak Island** 91.73 29 LR LR 08 08 58.9
comp=Z,68nm,20.8s,baz=345,slow=37
KDAK **Kodiak Island** 91.73 29 deP P 07 25 53.6 +0.2
KDAK pmax pmax
comp=Z,56nm,1.3s
KNK **Knik Glacier** 91.75 25 P P 07 25 54.6 +1.1
baz=302
M23K **Glacier View** 91.85 24 P P 07 25 54.4 +0.5
baz=302
I27K **Kandik River** 91.89 20 P P 07 25 55.7 +1.6
baz=308,SNR=24
J26L **Joseph Creek** 91.89 21 P P 07 25 55.0 +0.9
baz=306,SNR=30
UPNV **Upernavik** 91.94 351 i P P 07 25 53.9 -0.1
UPNV IAmb IAmb 07 25 56.5
comp=Z,8.3nm,0.8s
SCM **Sheep Creek Mo** 91.98 24 P P 07 25 55.7 +1.0
baz=303,SNR=11
SEW **Seward** 92.01 26 P P 07 25 55.5 +0.9
baz=301
SCRK **Sand Creek** 92.05 22 P P 07 25 55.9 +1.0
baz=306,SNR=39
PAX **Paxson** 92.08 23 P P 07 25 56.1 +1.1
baz=304,SNR=10
G29M **Pine Creek** 92.18 18 P P 07 25 56.2 +0.8
baz=311,SNR=10
M24K **Tolsona, Glenn** 92.29 24 P P 07 25 57.5 +1.4
baz=304
F30M **Barrier River** 92.35 17 P P 07 25 57.1 +1.0
baz=313,SNR=7.1
INK **Inuvik** 92.47 16 P P 07 25 57.2 +0.6
baz=315,SNR=17
INK **Inuvik** 92.47 16 LR LR 08 13 20.7
comp=Z,94nm,21.6s,baz=353,slow=39
INK **Inuvik** 92.47 16 P P 07 25 57.0 +0.4
HARP **HAARP** 92.52 23 P P 07 25 58.6 +1.6
baz=305,SNR=5.2
H29M **Whitestone** 92.53 18 P P 07 25 57.5 +0.5
baz=311,SNR=11
I28M **Miner Creek** 92.53 19 P P 07 25 57.8 +0.7
baz=309,SNR=14
EGAK **Eagle** 92.55 20 P P 07 25 57.9 +0.8
baz=308,SNR=9.7
GLI **Glacier Island** 92.59 25 P P 07 25 58.2 +0.8
baz=303
G30M **tAoh Zraii Nji** 92.66 17 P P 07 25 57.9 +0.3
baz=313,SNR=16
K27K **Chicken** 92.69 21 IAmb IAmb 07 26 00.6
comp=Z,15nm,1.0s
K27K **Chicken** 92.69 21 P P 07 25 59.4 +1.6
baz=307
KLU **Klutina** 92.73 24 P P 07 25 59.6 +1.5
baz=304,SNR=7.9
L26K **Log Cabin Wild** 92.84 22 P P 07 26 00.3 +1.8
baz=306,SNR=6.2
EPYK **Eagle Plains** 92.93 18 P P 07 25 59.1 +0.3
baz=312,SNR=9.5
P23K **Montague Islan** 92.94 26 P P 07 26 00.2 +1.2
baz=302
F31M **Tsiigehtchic** 93.03 16 P P 07 25 59.7 +0.5
baz=315
I29M **Ogilvie Camp,** 93.11 19 P P 07 26 00.1 +0.4
baz=311,SNR=6.2
N25K **Chitina, Valde** 93.19 24 P P 07 26 02.0 +1.8
baz=305,SNR=13
G31M **Satah River** 93.25 17 P P 07 26 00.6 +0.4
baz=315,SNR=6.1
EYAK **Cordova Ski Ar** 93.33 25 P P 07 26 01.9 +1.2
baz=304
M26K **Nabesna, AK** 93.34 23 P P 07 26 02.5 +1.7
baz=306,SNR=22
L27K **Beaver Creek,** 93.37 22 P P 07 26 02.6 +1.7
baz=308,SNR=16
BMRM **Bremner River** 93.56 24 P P 07 26 03.1 +1.2
baz=305,SNR=12
DAWY **Dawson** 93.60 20 P P 07 26 02.8 +0.8
baz=310,SNR=17
GLB **Gilahina Butte** 93.60 24 IAmb IAmb 07 26 04.5
comp=Z,11nm,1.0s
Q23K **Middleton Isla** 93.70 26 P P 07 26 03.9 +1.5
baz=303
J29N **Klondike Camp** 93.74 20 P P 07 26 03.9 +1.2
baz=311
URZ **Urewera** 93.75 128 LR LR 08 11 39.2
comp=Z,71nm,18.4s,baz=26,slow=38
M27K **Edge Creek, AK** 93.78 22 P P 07 26 04.5 +1.5
baz=308,SNR=22
I30M **Mount Dempster** 93.81 19 P P 07 26 03.6 +0.6
baz=313,SNR=17
C36M **Paulatuk** 93.89 12 P P 07 26 02.9 -0.2
baz=324,SNR=12
MCARA **McCarthy VSAT** 93.94 23 P P 07 26 02.7 -0.8
MCARA **McCarthy VSAT** 93.94 23 P P 07 26 05.3 +1.8
baz=306,SNR=11
KAIM **Kayak Island** 94.23 25 P P 07 26 05.6 +0.7
baz=305
J30M **Hart River** 94.26 19 P P 07 26 06.4 +1.2
baz=313,SNR=12
CRQE **Cirque** 94.28 24 P P 07 26 06.5 +1.2
baz=306
K29M **Barlow Dome** 94.37 20 P P 07 26 06.9 +1.3
baz=312,SNR=10
L29M **L29M** 94.65 21 P P 07 26 08.4 +1.6
baz=311,SNR=11
YUK3 **Moose Creek** 94.67 22 P P 07 26 08.4 +1.3
baz=309
CTG **Chitna Glacier** 94.84 23 P P 07 26 09.7 +1.8
baz=308,SNR=8.0
M29M **Somme Creek** 94.97 21 P P 07 26 10.2 +1.8
baz=311,SNR=19
MESA **MESA** 95.08 24 P P 07 26 10.4 +1.4
baz=307,SNR=8.9
DY2G **Dye2** 95.11 345 i P P 07 26 09.0 0.0
DY2G IAmb IAmb 07 26 10.8
comp=Z,3.3nm,0.9s
O28M **Mount Upton** 95.40 23 P P 07 26 12.0 +1.4

	baz=309							
M30M	Minto, Yukon	95.46	21	P		P	07 26 11.8	+1.2
	baz=312,SNR=14							
YUK4	Talbot Arm	95.61	22	P		P	07 26 12.3	+0.8
	baz=310,SNR=5.8							
DBIC	Dimbokro	95.68	278	P		P	07 26 12.8	+0.3
	comp=Z,4.2nm,0.7s,baz=93,slow=4.5,SNR=4.0							
DBIC				LR		LR	08 09 35.2	
	comp=Z,67nm,19.6s,baz=68,slow=36							
	comp=Z,4.2nm,0.7s							
SFJD	Kangerlussuaq	95.76	346	LR		LR	08 17 30.8	
	comp=Z,78nm,18.8s,baz=20,slow=40							
PINM	Pinnacle	95.80	24	P		P	07 26 13.7	+1.5
	baz=309							
YUK6	Outpost Mounta	95.98	22	P		P	07 26 14.6	+1.4
	baz=311							
N30M	Aishikik Lake	96.11	22	P		P	07 26 15.0	+1.5
	baz=312,SNR=6.2							
HYT	Haines Junctio	96.38	22	P		P	07 26 16.2	+1.4
	baz=311,SNR=6.0							
M31M	Drury Creek, Y	96.53	20	P		P	07 26 16.3	+0.8
	baz=314,SNR=5.2							
N31M	Braeburn, Yuko	96.55	21	P		P	07 26 16.8	+1.2
	baz=313,SNR=11							
O30N	Mendenhall	96.93	22	P		P	07 26 18.7	+1.4
	baz=313,SNR=9.6							
P30M	Million Dollar	97.05	23	P		Pdif	07 26 18.9	+1.0
	baz=312							
P29M	Windy Craggy	97.08	23	P		Pdif	07 26 19.3	+1.3
	baz=311							
WHY	Whitehorse	97.44	21	P		Pdif	07 26 20.5	+0.8
	baz=314							
PLBC	Pleasant Camp	97.72	23	P		Pdif	07 26 21.7	+0.9
	baz=312							
N32M	Quiet Lake	97.72	20	P		Pdif	07 26 21.7	+0.9
	baz=315							
SKAG	Skagway	98.10	22	P		Pdif	07 26 23.6	+1.1
	baz=313							
VNDA	Vanda	98.28	168	P		P	07 26 22.4	-0.4
	comp=Z,0.7nm,0.8s,baz=292,slow=4.7,SNR=2.0							
VNDA				LR		LR	08 07 21.7	
	comp=Z,144nm,19.6s,baz=323,slow=33							
	comp=Z,0.7nm,0.8s							
P33M	Teslin, Yukon	98.48	21	P		Pdif	07 26 24.7	+0.4
	baz=316							
P32M	Atlin	98.61	22	P		Pdif	07 26 25.2	+0.4
	baz=315							
S31K	Pelican	98.77	24	P		Pdif	07 26 26.2	+0.7
	baz=312							
R32K	Eaglecrest	99.22	23	P		Pdif	07 26 27.3	-0.2
	baz=314							
Q32M	Nakina River	99.58	22	P		Pdif	07 26 29.3	-0.1
	baz=316							
R33M	Jennings River	99.72	21	P		Pdif	07 26 30.2	+0.3
	baz=317							
SIT	Sitka	99.75	24	P		Pdif	07 26 30.8	+0.9
	baz=313							
S32K	Killisnoo	99.76	24	P		Pdif	07 26 30.8	+0.9
	baz=314							
S34M	Telegraph Cree	100.75	22	P		Pdif	07 26 34.7	+0.4
	baz=317							
DLBC	Dease Lake	100.76	21	P		Pdif	07 26 34.2	-0.3
	baz=318							
U33K	Whale Pass	101.28	24	P		Pdif	07 26 37.1	+0.4
	baz=315							
WRAK	Wrangell Islan	101.37	24	P		Pdif	07 26 37.7	+0.7
	baz=316							
CRAG	Craig	101.73	25	P		Pdif	07 26 39.5	+0.8
	baz=315							
YKA	Yellowknife Ar	101.77	13	PP		PP	07 30 46.1	-2.7
	comp=Z,2.2nm,0.9s,baz=335,slow=8.1,SNR=5.5							
QSPA	South Pole Qui	102.92	180	PKKPbc		PKKPbc	07 42 41.3	-3.2
	comp=Z,1.0nm,0.7s,baz=150,slow=1.3,SNR=7.4							
SNAA	Sanae	103.99	199	PKKPbc		PKKPbc	07 42 37.7	-3.1
	comp=Z,1.4nm,1.1s,baz=311,slow=4.3,SNR=10							
SNAA				PKKP		PKKPdf	07 42 48.4	-1.5
	comp=Z,0.9nm,0.8s,baz=231,slow=6.5,SNR=3.7							
MSO	Missoula	115.84	20	P		PKiKP	07 31 28.7	-0.1
	baz=331							
EGMT	Eagleton	116.04	16	P		PKPdf	07 31 29.3	+0.2
	baz=336							
ULM	Lac du Bonnet	116.55	6	PKP		PKPdf	07 31 29.2	-0.7
	comp=Z,0.9nm,0.5s,baz=22,slow=1.0,SNR=3.0							
ULM				PP		PP	07 32 30.6	-5.4
	comp=Z,2.8nm,0.8s,baz=355,slow=8.0,SNR=3.2							
BOZ	Bozeman (W)	117.68	19	P		PKiKP	07 31 32.9	+0.4
	baz=333							
HLID	Hailey	118.51	22	P		PKiKP	07 31 34.8	+0.6
	baz=330							
RLMT	Red Lodge	118.82	17	P		PKiKP	07 31 35.3	+0.5
	baz=336							
EYMN	Ely	119.18	3	P		PKiKP	07 31 35.3	+0.1
	baz=356							
PKME	Peaks-Kenny Pk	119.68	345	P		PKiKP	07 31 36.5	+0.4
	baz=20							
PPT2	Papeete2	120.12	103	*e*LR		LR	08 08 25.2	
	comp=Z,72nm,26.8s							
PPT2				*e*LR		LR	08 08 27.9	
	comp=Z,86nm,29.2s							
TBI	Tubuai	120.57	109	*e*LR		LR	08 08 40.2	
	comp=Z,421nm,27.8s							
BW06	Boulder Array	120.87	19	P		PKPdf	07 31 39.0	+0.1
	baz=335,SNR=5.8							
PDAR	Pinedale Array	120.87	19	PKP		PKPdf	07 31 38.8	-0.1
	comp=Z,2.6nm,0.6s,baz=101,slow=0.9,SNR=34							
PDAR				PP		PP	07 33 03.2	-3.2
	comp=Z,1.2nm,0.9s,baz=20,slow=2.9,SNR=2.4							
PDAR				PKKPbc		PKKPbc	07 41 41.5	-2.3
	comp=Z,0.3nm,0.5s,baz=162,slow=4.7,SNR=4.4							
RSSD	Black Hills	121.14	14	P		PKPdf	07 31 39.2	0.0
	baz=341							
NVAR	Mina Array Bea	121.21	28	PKP		PKiKP	07 31 40.5	+0.8
	comp=Z,7.4nm,0.7s,baz=299,slow=2.0,SNR=63							
NVAR				PKKPbc		PKKPbc	07 41 41.1	-1.2
	comp=Z,0.1nm,0.4s,baz=138,slow=5.9,SNR=4.5							
LBNH	Lisbon	121.27	347	P		PKPdf	07 31 39.3	+0.1
	baz=18							
LONY	Lake Ozonia	121.43	349	P		PKPdf	07 31 39.3	-0.2
	baz=15							
K22A	Casper	121.88	16	P		PKPdf	07 31 40.4	-0.2
	baz=338,SNR=5.4							
DUG	Dugway, Tooele	122.03	23	P		PKiKP	07 31 41.8	+0.7
	baz=331,SNR=6.0							
R11B	Troy Canyon, C	122.49	26	P		PKiKP	07 31 42.8	+0.7
	baz=327,SNR=11							
GRAC	Grapevine Rang	122.81	28	P		PKPdf	07 31 42.6	+0.1
	baz=325							
HRV	Adam Dziewonsk	122.83	346	P		PKPdf	07 31 42.3	0.0
	baz=18							
SMMC	Simmler	122.87	32	P		PKiKP	07 31 43.1	+0.3
	baz=322							
ECSD	EROS Data Cent	122.88	8	P		PKPdf	07 31 42.5	+0.2
	baz=349							
VES	Vestal, Richgr	122.91	31	P		PKiKP	07 31 43.1	+0.4
	baz=323							
CWC	Cottonwood Cre	122.92	29	P		PKiKP	07 31 43.7	+0.7
	baz=324							
L61B	Northampton	123.14	347	P		PKiKP	07 31 43.4	+0.4
	baz=17							
PKM	Mcpherson Peak	123.30	32	P		PKiKP	07 31 44.1	+0.3
	baz=322							
TPNV	Topopah Spring	123.36	28	P		PKiKP	07 31 44.4	+0.5
	baz=326							
FURC	Furnace Creek,	123.47	28	P		PKiKP	07 31 44.6	+0.8
	baz=325							
MPMC	Manual Prospec	123.51	29	P		PKiKP	07 31 45.1	+0.9
	baz=324							
ARVC	Arvin	123.61	31	P		PKiKP	07 31 44.6	+0.4
	baz=323							
N23A	Red Feather La	123.67	17	P		PKPdf	07 31 44.5	+0.2
	baz=338							
O20A	White River Ci	123.67	19	P		PKiKP	07 31 44.8	+0.3
	baz=336							
SBC	Santa Barbara	123.69	32	P		PKiKP	07 31 44.5	+0.1
	baz=322							
BINY	Binghamton	124.03	350	P		PKPdf	07 31 44.7	+0.1
	baz=14							
SHOC	Shoshone, Teco	124.21	28	P		PKiKP	07 31 46.0	+0.5
	baz=326							
EDW2	Edwards Air Fo	124.22	30	P		PKiKP	07 31 46.0	+0.5
	baz=323							
JFWS	Jewell Farm	124.26	2	P		PKPdf	07 31 44.8	-0.2
	baz=357							
GSC	Goldstone, Bar	124.45	29	P		PKiKP	07 31 46.7	+0.7
	baz=325							
ERPA	Erie	124.69	353	P		PKiKP	07 31 46.3	+0.2
	baz=8.8							
PAL	Palisades	124.78	348	P		PKPdf	07 31 46.0	0.0
	baz=16							
AAM	Ann Arbor	124.82	357	P		PKPdf	07 31 46.1	0.0
	baz=4.5							
BFSC	Mount Baldy Ra	124.89	31	P		PKiKP	07 31 47.5	+0.5
	baz=324							
BGNE	Belgrade	124.93	10	P		PKiKP	07 31 47.0	+0.3
	baz=347							
GMRC	Granite Mounta	125.41	29	P		PKiKP	07 31 48.9	+0.9
	baz=326,SNR=5.6							
M53A	WI Miller and	125.43	354	P		PKPdf	07 31 47.3	+0.1
	baz=8.1							
SCI2	San Clemente I	125.44	32	P		PKiKP	07 31 48.4	+0.5
	baz=322							
MURC	Murrieta	125.64	31	P		PKiKP	07 31 48.8	+0.5
	baz=324							
SSPA	Standing Stone	125.86	351	P		PKPdf	07 31 48.5	+0.3
	baz=12							
BELC	Belle Mtn. Jos	125.89	29	P		PKiKP	07 31 50.2	+1.3
	baz=325,SNR=6.8							
PFO	Pinyon Flats O	125.99	30	P		PKiKP	07 31 50.7	+1.5
	baz=324							
TPFO	Pinon Flats	126.00	30	P		PKiKP	07 31 50.6	+1.4
	baz=324							
IRM	Iron Mountain	126.17	29	P		PKiKP	07 31 50.7	+1.3
	baz=326,SNR=5.6							
MVCO	Mesa Verde	126.23	21	P		PKiKP	07 31 50.4	+0.7
	baz=334							
109C	Camp Elliot, M	126.25	31	P		PKiKP	07 31 51.1	+1.6
	baz=324							
S22A	4UR Ranch, Cre	126.30	19	P		PKiKP	07 31 50.2	+0.3
	baz=336							
KSCO	Kaye Shedlock'	126.31	15	P		PKiKP	07 31 50.2	+0.6
	baz=342							
BC3	Big Chuckawall	126.44	29	P		PKiKP	07 31 51.5	+1.5
	baz=326							
PDMCI	Parker Dam,Lak	126.51	28	P		PKiKP	07 31 51.0	+1.0
	baz=327							
MONP2	Monument Peak	126.59	31	P		PKiKP	07 31 51.0	+0.5
	baz=324							
HDIL	Hopedale	126.65	2	P		PKPdf	07 31 49.8	+0.2
	baz=358							
WUAZ	Wupatki	126.65	24	P		PKiKP	07 31 50.9	+0.4
	baz=331							
O53A	New Philadelph	126.67	354	P		PKiKP	07 31 50.1	0.0
	baz=7.6							
SDCO	Great Sand Dun	126.71	18	P		PKPdf	07 31 50.5	+0.3
	baz=338,SNR=5.3							
ACSO	Alum Creek Sta	126.84	356	P		PKPdf	07 31 50.3	+0.3
	baz=5.5							
SFIN	Lafayette	126.85	360	P		PKPdf	07 31 50.0	0.0
	baz=0.5							
SWSC	Sam W. Stewart	126.85	30	P		PKiKP	07 31 51.4	+0.7
	baz=325							
O48B	Farmland	126.93	358	P		PKPdf	07 31 49.9	-0.3
	baz=2.8							
IKP	In-Ko-Pah, Jac	126.94	30	P		PKiKP	07 31 51.5	+0.5
	baz=324							
GLA	Glamis	127.23	29	P		PKiKP	07 31 51.9	+0.3
	baz=326							
P52A	Corning	127.36	355	P		PKPdf	07 31 51.3	+0.3
	baz=6.5							
KSU1	Kansas State U	127.43	9	P		PKiKP	07 31 51.9	+0.2
	baz=349							
T25A	Trinidad	127.59	17	P		PKiKP	07 31 52.5	+0.2
	baz=339,SNR=7.3							
P49A	Miami Univ. Ec	127.63	357	P		PKPdf	07 31 51.1	-0.4
	baz=3.4							
W18A	Petrified Fore	127.64	23	P		PKiKP	07 31 53.5	+1.0
	baz=332,SNR=8.6							
CBN	Corbin Frederi	128.16	350	P		PKPdf	07 31 52.9	+0.4
	baz=12							
ANMO	Albuquerque	128.98	20	P		PKiKP	07 31 56.0	+0.9
	baz=336							
ANMO	Albuquerque	128.98	20	*c i*	PKIKP	PKiKP	07 31 56.1	+0.9
ANMO					pmax	pmax		
	comp=Z,7.0nm,0.8s							
CCM	Cathedral Cave	129.05	4	P		PKiKP	07 31 54.8	-0.2
	baz=355							
214A	Organ Pipe Nat	129.08	28	P		PKiKP	07 31 55.1	-0.1
	baz=328							
BLA	Blacksburg	129.58	353	P		PKPdf	07 31 55.8	+0.4
	baz=8.9							
TUC	Tucson	129.67	26	P		PKiKP	07 31 56.9	+0.4
	baz=330							
TZTN	Tazewell	130.54	356	P		PKiKP	07 31 58.1	0.0
	baz=5.0							
TUL3	Leonard	130.68	9	P		PKiKP	07 31 58.2	-0.1
	baz=349							
121A	Cookes Peak, D	130.68	23	P		PKiKP	07 31 58.4	-0.2
	baz=334							
MSTX	Muleshoe	131.02	17	P		PKiKP	07 31 59.4	+0.2
	baz=340							
WVT	Waverly	131.09	0	P		PKPdf	07 31 58.8	+0.6
	baz=360							
WMOK	Wichita Mounta	131.28	12	P		PKiKP	07 31 59.3	-0.3
	baz=345							
KMSC	Kings Mountain	131.73	353	P		PKiKP	07 32 00.1	-0.3
	baz=8.0							
MNTX	Cornudas Mount	132.30	21	P		PKiKP	07 32 02.1	+0.4
	baz=336							
MIAR	Mount Ida	132.32	7	P		PKiKP	07 32 01.7	0.0
	baz=352							
OXF	Oxford	132.67	2	P		PKiKP	07 32 02.7	+0.4
	baz=358							
ABTX	Abilene, Hawle	133.12	14	P		PKiKP	07 32 03.5	+0.1
	baz=344							
NATX	Nacogdoches	134.92	9	P		PKiKP	07 32 07.4	+0.4
	baz=350							
TXAR	Lajitas Array	135.05	20	PKhKP		PKPpre	07 31 54.9	
	comp=Z,0.2nm,0.4s,baz=320,slow=1.1,SNR=7.9							
TXAR				PKP		PKPdf	07 32 06.6	+0.6
	comp=Z,3.0nm,0.5s,baz=131,slow=0.6,SNR=48							
TXAR				PP		PP	07 34 33.6	-5.9
	comp=Z,0.6nm,0.7s,baz=9.2,slow=4.6,SNR=4.1							
JCT	Junction City	135.12	15	P		PKiKP	07 32 07.9	+0.4
	baz=343							
435B	Jarrell	135.35	12	P		PKiKP	07 32 08.6	+0.7
	baz=346							
ROSB	Rosrio	136.00	279	*e* P		PKPdf	07 32 03.1	-4.9
833A	Chaparral WMA,	137.28	16	P		PKiKP	07 32 12.8	+0.9
	baz=343							
TMAB	Tom-Au,PA,Br	139.66	282	*e* P		PKPdf	07 32 09.8	-4.9
BDFB	Brasilia	141.75	261	PKhKP		PKPpre	07 32 13.8	
	comp=Z,2.2nm,0.8s,baz=180,slow=7.2,SNR=2.6							
ITAB	Concordia	144.11	241	*e* P		PKPab	07 32 16.7	-3.2
CPSB	Cacapava Do Su	144.18	236	*e* P		PKPab	07 32 16.8	-3.3
PTGB	Pitanga	144.67	246	*e* P		PKPab	07 32 17.7	-4.5
SNDB	Serra Nova Dou	144.71	268	*e* P		PKPab	07 32 18.4	-4.1
TRN	Trinidad (W)	145.04	311	*e* P		PKPdf	07 32 24.6	+0.4
RODS	Rosario do Sul	145.61	235	*e* P		PKPdf	07 32 19.0	-5.8
TBOT	Tacuaremb	145.65	232	*e* P		PKPdf	07 32 18.7	-6.1
CRSM	Crissiumal (Br	145.66	240	*e* P		PKPdf	07 32 19.2	-5.8
PSAL	Palomas, Salto	147.19	232	*e* P		PKPdf	07 32 21.7	-5.7
PCRV	Puerto La Cruz	147.67	314	*e* P		PKPdf	07 32 29.4	+0.6
PLCA	Paso Flores	148.69	205	PKPbc		PKPbc	07 32 33.9	+0.4
	comp=Z,13nm,0.7s,baz=136,slow=1.9,SNR=27							
PLCA	Paso Flores	148.69	205	*e* P		PKPdf	07 32 23.3	-6.5
AQDB	Aquidauana	148.76	252	*e* P		PKPdf	07 32 24.7	-5.6
CPUP	Villa Florida	148.81	240	PKP		PKPdf	07 32 30.5	+0.3
	comp=Z,8.7nm,0.9s,baz=123,slow=4.2,SNR=5.1							
CPUP				PKPbc		PKPbc	07 32 33.9	-0.2
	comp=Z,9.3nm,0.8s,baz=145,slow=1.1,SNR=8.0							
SALV	Santo Antonio	149.14	261	*e* P		PKPdf	07 32 24.9	-6.1
BOAV	Boa Vista	149.19	298	*e* P		PKPdf	07 32 26.3	-4.9
BAUV	El Baul	150.87	318	*e* P		PKPbc	07 32 39.1	-0.4
MACA	Manacapuru-AM	151.78	288	*e* P		PKPdf	07 32 30.1	-5.2
VILB	Vilhena	153.46	267	*e* P		PKPdf	07 32 32.0	-5.7
BBSD	Serra de San D	153.78	258	*e* P		PKPdf	07 32 32.3	-5.8
SIV	San Ignacio	154.31	260	PKPbc		PKPbc	07 32 46.2	-0.9
	comp=Z,1.1nm,0.2s,baz=119,slow=3.6,SNR=9.7							
TEFE	Tefe	155.55	291	*e* P		PKPdf	07 32 35.2	-5.4
ROSC	El Rosal	157.96	323	PKP		PKPdf	07 32 44.5	+0.3
	comp=Z,5.2nm,0.4s,baz=163,slow=20,SNR=5.1							
ROSC				PKPab		PKPab	07 33 18.3	+1.1
	comp=Z,19nm,0.7s,baz=174,slow=18,SNR=3.8							
ETMB	Extrema	158.95	277	*e* P		PKPdf	07 32 39.4	-5.5
LVC	Limon Verde	159.97	239	*e* P		PKPdf	07 32 40.0	-6.3
LPAZ	La Paz	161.04	258	PKP		PKPdf	07 32 48.2	+0.3
	comp=Z,2.4nm,0.7s,baz=268,slow=3.2,SNR=12							
LPAZ				PKPab		PKPab	07 33 30.4	-0.6
	comp=Z,6.3nm,0.9s,baz=110,slow=4.5,SNR=14							

IDC 04 07:15:08.0±3.3, 53°.74N×90°.87E, h0^{km}, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=28.6km s-min=23.3km az=39.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.59	276	I	I	07 36 44.5	
	0.1nm,1.0s,baz=90,slow=321,SNR=6.8						
ZALV	Zalesovo Beam	3.59	276	Pn	Pn	07 16 06.1	+1.3
	0.5nm,0.3s,baz=94,slow=14,SNR=4.3						
ZALV				Lg	Lg	07 17 00.8	
	3.3nm,0.3s,baz=86,slow=30,SNR=7.1						
	2.9nm,0.4s						
KURBB	Kurchatov Arra	8.20	253	Pn	Pn	07 17 08.2	0.0
	0.2nm,0.3s,baz=65,slow=16,SNR=8.9						
KURBB				Sn	Sn	07 18 39.2	-2.2
	0.1nm,0.3s,baz=66,slow=25,SNR=14						
KURBB				Lg	Lg	07 19 31.4	
	0.1nm,0.3s,baz=65,slow=33,SNR=12						
	1.0nm,0.4s						
MKAR	Makanchi Array	8.86	222	Pn	Pn	07 17 17.5	+0.3
	0.3nm,0.3s,baz=39,slow=12,SNR=12						
MKAR				Sn	Sn	07 18 56.9	-0.8
	0.1nm,0.3s,baz=31,slow=25,SNR=5.4						
	0.6nm,0.4s						

*IDC **04** 07:21:28.0±4.5, 33°.40S×71°.50W, h66^{km}±38^{km}, mb3.6/2, mbtmp3.6/6, ML3.7/4, Error ellipse: s-maj=87.1km s-min=23.1km az=106.0*

*SJA **04** 07:21:28.0±0.7, 33°.40S×71°.30W, h52^{km}±3^{km}, ML3.9, MW3.8*

*GUC **04** 07:21:29.5±0.8, 33°.38S×71°.28W, h48^{km}±4^{km}, ML3.7*

ISC 04 07:21:27.8±0.8, 33°.41S±0°.03×71°.41W±0°.03, h48^{km}±6^{km}, n55, σ2.29/83, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MT02	Curacav	0.27	56	*e* P	Pn	07 21 36.9	+0.3
MT02	Curacav	0.27	56	⇑ *i* P	Pn	07 21 37.2	+0.6
MT02				*e* S	Sn	07 21 42.6	-0.2
MT02				IAML		07 21 43.5	
	comp=E,7μm,0.2s						
VA05	Santo Domingo	0.30	215	⇓ *i* P	Pn	07 21 39.1	+2.2
VA05				*e* S	Sn	07 21 45.9	+2.6
VA05				IAML		07 21 47.7	
	comp=N,16μm,0.4s						
VA01	Torpederas	0.43	332	*e* P	Pn	07 21 39.8	+1.6
VA01				*e* P	Pn	07 21 39.9	+1.6
VA01				*e* S	Pn	07 21 39.9	+1.6
VA01				*e* S	Sn	07 21 39.9	-5.7
VA01				IAML		07 21 49.5	
	comp=Z,6μm,0.1s						
VA01	Torpederas	0.43	332	*i* P	Pn	07 21 39.6	+1.3
VA01				*e* S	Sn	07 21 47.6	+2.0
MT01	Popeta	0.47	164	*e* P	Pn	07 21 39.9	+1.1
MT01				*e* S	Sn	07 21 48.4	+1.9
MT01				IAML		07 21 49.1	
	comp=Z,3μm,0.1s						
MT01	Popeta	0.47	164	⇓ *i* P	Pn	07 21 40.1	+1.4
MT01				*e* S	Sn	07 21 47.9	+1.4
MT01				IAML		07 21 48.8	
	comp=N,9μm,0.3s						
MT09	Talagante	0.51	137	*i* P	Pn	07 21 40.4	+1.2
MT09				*e* S	Sn	07 21 48.6	+1.2
MT09				IAML		07 21 49.9	
	comp=N,5μm,0.2s						
ROC1	El Roble	0.54	37	*e* P	Pn	07 21 40.1	+0.3
ROC1				*e* S	Sn	07 21 49.8	+1.5
ROCH	El Roble	0.55	37	⇑ *i* P	Pn	07 21 40.3	+0.4
ROCH				*e* S	Sn	07 21 48.0	-0.4
ROCH				IAML		07 21 50.2	
	comp=N,8μm,0.2s						
MT05	Renca	0.56	89	*e* P	Pn	07 21 41.1	+1.3
MT05				*e* S	Sn	07 21 50.1	+1.8
MT05	Renca	0.56	89	⇑ *i* P	Pn	07 21 41.2	+1.3
MT05				*e* S	Sn	07 21 49.5	+1.1
MT05				IAML		07 21 50.8	
	comp=E,5μm,0.4s						
MT14	Cerro Cal¡n	0.73	89	⇑ *i* P	Pn	07 21 42.3	+0.4
MT14				*e* S	Sn	07 21 51.0	-1.2
MT14				IAML		07 21 55.0	
	comp=N,4μm,0.4s						
MT16	CCHEN	0.74	92	*e* P	Pn	07 21 42.5	+0.4
MT16				*e* S	Sn	07 21 51.6	-0.8
MT10	Hacienda Santa	0.74	80	⇑ *i* P	Pn	07 21 42.6	+0.4
MT10				*e* S	Sn	07 21 52.1	-0.5
MT10				IAML		07 21 53.6	
	comp=N,10μm,0.4s						
MT03	Universidad Ad	0.75	97	*e* P	Pn	07 21 42.6	+0.3
MT03				*e* S	Sn	07 21 53.0	+0.1
MT03	Universidad Ad	0.75	97	⇑ *i* P	Pn	07 21 42.7	+0.4
MT03				*e* S	Sn	07 21 52.2	-0.6
MT03				IAML		07 21 53.5	
	comp=N,8μm,0.2s						
MT12	Pirque	0.79	115	⇑ *i* P	Pn	07 21 43.3	+0.6
MT12				*e* S	Sn	07 21 53.4	-0.1
MT12				IAML		07 21 55.1	
	comp=N,4μm,0.3s						
VA03	San Esteban	0.96	48	*e* P	Pn	07 21 39.9	-5.3
VA03				*e* P		07 21 45.5	
VA03				*e* S	Sn	07 21 58.4	+0.6
VA03				IAML		07 21 59.5	
	comp=Z,6μm,0.2s						
BO01	Tunca	1.02	165	*e* P	Pn	07 21 47.2	+1.4
BO01				*e* S	Sn	07 22 01.3	+2.3
BO02	Sierra Bellavi	1.48	160	*e* P	Pn	07 21 53.6	+1.5
BO02				*e* S	Sn	07 22 09.1	-1.1
BO02				IAML		07 22 21.4	
	comp=Z,1μm,0.2s						
GO05	Huala	1.66	195	*e* P	Pn	07 21 56.4	+1.9
GO05				*e* S	Sn	07 22 18.7	+4.0
GO05				*e* S		07 22 19.9	
CO02	Combarbal	2.23	9	*e* P	Pn	07 22 03.3	+0.9
CO02				*e* S	Sn	07 22

H03S1	**Juan Fernandez**	**6.27**	**264**	P	**Pn**	**07 22 59.0**	**+1.5**
H03S1				S	**Sn**	**07 24 02.2**	**-5.5**
H03S1				T	T	07 29 17.2	
	baz=86,slow=75,SNR=974						
H03S3	**Juan Fernandez**	**6.27**	**264**	P	**Pn**	**07 22 59.5**	**+1.9**
H03S3				S	**Sn**	**07 24 02.5**	**-5.3**
	baz=123,slow=74,SNR=3.9						
H03S3				T	T	07 29 18.6	
	baz=86,slow=75,SNR=454						
H03N1	**Juan Fernandez**	**6.28**	**268**	P	**Pn**	**07 23 00.9**	**+3.3**
	SNR=5.3						
H03N1				T	T	07 29 41.6	
	baz=88,slow=74,SNR=121						
H03N3	**Juan Fernandez**	**6.29**	**268**	P	**Pn**	**07 23 00.3**	**+2.6**
	SNR=5.3						
H03N3				T	T	07 29 37.5	
	baz=88,slow=74,SNR=149						
H03S2	**Juan Fernandez**	**6.29**	**264**	P	**Pn**	**07 22 59.3**	**+1.6**
H03S2				S	Sn	07 24 01.1	-7.0
	baz=177,slow=74,SNR=3.3						
H03S2				T	T	07 29 15.8	
	baz=86,slow=75,SNR=1024						
H03N2	**Juan Fernandez**	**6.29**	**268**	P	**Pn**	**07 23 01.1**	**+3.3**
	SNR=4.4						
H03N2				T	T	07 30 01.3	
	baz=88,slow=74,SNR=154						
PLCA	**Paso Flores**	**7.34**	**175**	P	**Pn**	**07 23 13.4**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=336,slow=14,SNR=24						
PLCA				Lg		07 25 14.2	
	comp=Z,0.1nm,0.3s,baz=21,slow=20,SNR=1.3						
	comp=Z,1.1nm,0.3s						
CPUP	**Villa Florida**	**14.10**	**64**	P	**Pn**	**07 24 44.3**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=228,slow=18,SNR=1.2						
	comp=Z,0.7nm,0.5s						
LPAZ	**La Paz**	**17.30**	**11**	P	**Pn**	**07 25 26.6**	**0.0**
	baz=190,slow=6.3,SNR=2.2						
	comp=Z,0.9nm,0.9s						
SIV	**San Ignacio**	**19.70**	**31**	P	**P**	**07 25 51.8**	**-1.4**
	baz=208,slow=11,SNR=5.0						
	comp=Z,0.5nm,0.2s						
QSPA	**South Pole Qui**	**56.83**	**180**	P	**P**	**07 31 04.9**	**-2.2**
	comp=Z,2.1nm,1.1s,baz=247,slow=3.7,SNR=1.6						
	comp=Z,2.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**83.51**	**70**	P	**P**	**07 33 50.1**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=246,slow=3.8,SNR=1.6						
	comp=Z,0.4nm,0.7s						
H11S2	**WAKE ISLAND Hyl**	**26.31**	**269**	T	T	09 59 25.1	
	baz=118,slow=75,SNR=68						
H11S1	**WAKE ISLAND Hyl**	**26.32**	**269**	T	T	09 59 26.0	
	baz=118,slow=75,SNR=110						
H11S3	**WAKE ISLAND Hyl**	**26.32**	**269**	T	T	09 59 26.6	
	baz=118,slow=75,SNR=64						

IDC 04 07:30:21.0±3.6, 53°.65N×87°.95E, h0km, mbtmp2.6/2, ML1.6/1, Error ellipse: s-maj=33.7km s-min=19.4km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**281**	I	I	07 42 07.5	
	baz=97,slow=313,SNR=0.6						
ZALV	**Zalesovo Beam**	**1.88**	**281**	Pg	Pn	07 30 54.8	+0.4
	0.3nm,0.3s,baz=102,slow=12,SNR=5.7						
ZALV				Lg	Lg	07 31 21.0	
	1.1nm,0.3s,baz=100,slow=25,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.54**	**246**	Pn	Pn	07 31 59.0	+0.6
	baz=63,slow=14,SNR=3.1						
KURBB				Lg	Lg	07 33 48.4	
	baz=63,slow=30,SNR=4.3						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**7.76**	**210**	Pn	Pn	07 32 16.3	+1.2
	0.1nm,0.4s,baz=27,slow=15,SNR=1.5						

*IDC **04** 07:45:32.9±0.9, 22°.88N×120°.77E, h0km, mb3.7/12, mbtmp3.8/13, ML3.5/1, MS3.3/10, Error ellipse: s-maj=32.0km s-min=18.4km az=67.0*

*ASIES **04** 07:45:32.9, 23°.13N×120°.91E, h2km, ML4.3, Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-9.26; $M_{\theta\theta}$3.87; $M_{\phi\phi}$5.50; $M_{r\theta}$-1.97; $M_{\phi\phi}$-5.05; $M_{\phi r}$-3.69; Fault plane solution: $M_0$10.41550×10^{21} NP1: ϕ_s339.30000°, δ53.15000°, λ-64.39000°. NP2: ϕ_s120.67000°, δ43.81000°, λ-119.97000°. Principal axes: T Plg4.9460°, Azm51.4360°; N Plg20.2320°, Azm143.2640°; P Plg69.1200°, Azm308.3230°;*

*TAP **04** 07:45:32.9, 23°.13N×120°.91E, h2km, ML4.3, C*

*JMA **04** 07:45:34.4±0.2, 23°.1N±0°.4×12°.1E±°, h11km±3km, MV3.8/12, TAIWAN REGION*

*NIED **04** 07:45:34.4, 23°.13N×121°.00E, h11km, MW4.2, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.52; $M_{\theta\theta}$1.73; $M_{\phi\phi}$0.79; $M_{r\theta}$0.83; $M_{\theta\phi}$-0.12; $M_{\phi r}$-0.71; Fault plane solution: $M_0$2.37000×10^{15} NP1: ϕ_s290.00000°, δ58.00000°, λ-81.00000°. NP2:ϕ_s93.00000°, δ34.00000°, λ-104.00000°.*

ISC 04 07:45:33.5±1.0, 23°.13N±0°.01×120°.92E±0°.01, h4km±7km, n175, σ0.92/245, mb3.7/11, MS3.4/8, 27C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.11**	**55**	⇑*i*P	**Pg**	**07 45 36.1**	**+0.3**
	baz=62						
ELDTW				*i* S	**Sg**	**07 45 37.8**	**+0.5**
	baz=62						
STYH	**Taoyuan**	**0.14**	**288**	⇑*i*P	**Pg**	**07 45 36.1**	**-0.2**
	baz=288						
STYH				*i* S	**Sg**	**07 45 38.4**	**+0.2**
	baz=288						
EHD	**Haiduan**	**0.26**	**85**	⇑*i*P	**Pg**	**07 45 39.2**	**+0.6**
	baz=87						
EHD				S	**Sg**	**07 45 43.0**	**+0.8**
	baz=87						
ECS	**Chishang**	**0.28**	**96**	⇑*i*P	**Pb**	**07 45 39.9**	**-1.3**
	baz=97						
ECS				S	**Sb**	**07 45 44.4**	**-1.7**
	baz=97						
SLGT	**Liugui**	**0.28**	**242**	⇑*i*P	**Pg**	**07 45 39.3**	**+0.3**
	baz=232						
SLGT				S	**Sg**	**07 45 43.4**	**+0.6**
	baz=232						
LONT	**Longtian**	**0.29**	**138**	⇓P	**Pb**	**07 45 40.0**	**-1.4**
	baz=138						
LONT				S	**Sg**	**07 45 44.3**	**+1.3**
	baz=138						
WTP	**Ta-pu**	**0.31**	**293**	⇑*i*P	**Pb**	**07 45 40.0**	**-1.6**
	baz=293						
WTP				S	**Sb**	**07 45 44.7**	**-2.4**
	baz=293						
SGST	**Jiashian**	**0.31**	**262**	⇑*i*P	**Pg**	**07 45 39.1**	**-0.5**
	baz=251						
SGST				S	**Sg**	**07 45 44.4**	**+0.7**
	baz=251						
TPUB	**Ta-pu**	**0.32**	**303**	⇓*i*P	**Pb**	**07 45 40.4**	**-1.5**
	baz=303						
TPUB				S	**Sb**	**07 45 45.2**	**-2.2**
	baz=303						
TWG	**Pinlang**	**0.34**	**155**	⇓*i*P	**Pb**	**07 45 40.7**	**-1.4**
	baz=145						
TWG				S	**Sg**	**07 45 45.5**	**+1.2**
	baz=145						
TWGBT	**Beinan**	**0.34**	**154**	⇓*i*P	**Pg**	**07 45 40.7**	**+0.6**
	baz=145						
TWGBT				S	**Sg**	**07 45 45.6**	**+1.0**
	baz=145						
FULB	**Fuli**	**0.35**	**78**	⇑*i*P	**Pb**	**07 45 41.5**	**-0.9**
	baz=67						
FULB				*e*S	**Sb**	**07 45 47.0**	**-1.3**
	baz=67						
YUS	**Yu-Shan**	**0.36**	**5**	⇑*i*P	**Pg**	**07 45 40.5**	**-0.2**
	baz=18						
YUS				*i* S	**Sg**	**07 45 45.4**	**-0.1**
	baz=18						
CHN1	**Nanshi**	**0.37**	**279**	⇑P	**Pb**	**07 45 41.5**	**-1.1**
	baz=279						
CHN1				S	**Sb**	**07 45 47.3**	**-1.4**
	baz=279						
SNST	**Tainan City**	**0.40**	**284**	⇑*e*P	**Pb**	**07 45 42.4**	**-0.8**
	baz=283						
SNST				S	**Sb**	**07 45 49.1**	**-0.6**
	baz=283						
CHKT	**Chengkung**	**0.41**	**94**	⇑*i*P	**Pb**	**07 45 43.1**	**-0.3**
	baz=95						
CHKT				*e*S	**Sb**	**07 45 49.2**	**-0.7**
	baz=95						
TWF1	**Yuli**	**0.41**	**57**	⇑*i*P	**Pg**	**07 45 41.8**	**+0.3**
	baz=58						
TWF1				*e*S	**Sg**	**07 45 47.2**	**+0.3**
	baz=58						
TWK	**Hsinying**	**0.42**	**289**	*e*P	**Pb**	**07 45 42.7**	**-0.9**
	baz=290						
TWK				S	**Sb**	**07 45 49.7**	**-0.7**
	baz=290						
TTN	**Taitung**	**0.42**	**150**	*e*P	**Pb**	**07 45 43.4**	**-0.2**
	baz=149						
TTN				*e*S	**Sb**	**07 45 50.3**	**-0.1**
	baz=149						
WCKO	**Fanlu**	**0.42**	**317**	⇓P	**Pb**	**07 45 42.7**	**-0.9**
	baz=328						
WCKO				*e*S	**Sb**	**07 45 49.0**	**-1.5**
	baz=328						
EYUL	**Yuli**	**0.43**	**59**	⇑P	**Pg**	**07 45 42.2**	**+0.4**
	baz=60						
EYUL				*e*S	**Sg**	**07 45 47.9**	**+0.6**
	baz=60						
YULB	**Yu-li**	**0.44**	**53**	⇑*i*P	**Pg**	**07 45 42.0**	**0.0**
	baz=55						
YULB				*e*S	**Sg**	**07 45 46.5**	**-1.2**
	baz=55						
CHKH	**Chenggong**	**0.44**	**81**	⇑*i*P	**Pb**	**07 45 43.0**	**-0.9**
	baz=72						
CHKH				S	**Sb**	**07 45 49.5**	**-1.4**
	baz=72						
SCST	**Cishan**	**0.46**	**239**	⇑P	**Pb**	**07 45 43.2**	**-1.0**
	baz=238						
SCST				*e*S	**Sb**	**07 45 51.0**	**-0.4**
	baz=238						
SSD	**Sandimen**	**0.46**	**215**	⇑*i*P	**Pg**	**07 45 42.2**	**-0.2**
	baz=213						
SSD				*e*S	**Sg**	**07 45 48.0**	**-0.4**
	baz=213						
CHN3	**Shinhua**	**0.51**	**265**	*e*P	**Pn**	**07 45 45.9**	**-1.7**
	baz=267						
CHN3				*e*S	**Sb**	**07 45 54.1**	**+1.2**
	baz=267						
ECBN	**Changbin**	**0.52**	**69**	*e*P	**Pb**	**07 45 44.9**	**-0.4**
	baz=61						
ECL	**Taimali**	**0.53**	**177**	P	**Pg**	**07 45 43.7**	**+0.1**
	baz=175						
ECL				*e*S	**Sg**	**07 45 50.2**	**-0.3**
	baz=175						
EHY	**Hungye**	**0.53**	**44**	⇑*i*P	**Pg**	**07 45 43.6**	**0.0**
	baz=47						
EHY				*e*S	**Sg**	**07 45 49.4**	**-1.2**
	baz=47						
EHYH	**Wanrong**	**0.54**	**47**	⇑*i*P	**Pg**	**07 45 43.8**	**0.0**
	baz=49						
EHYH				*e*S	**Sg**	**07 45 50.4**	**-0.4**
	baz=49						
SHHT	**Tainan City**	**0.54**	**259**	*e*P	**Pn**	**07 45 46.4**	**-1.6**
	baz=261						
SHHT				*e*S	**Sn**	**07 45 55.8**	**-1.6**
	baz=261						
TWM1	**Shoushan**	**0.55**	**237**	*e*P	**Pb**	**07 45 45.7**	**0.0**
	baz=236						
TWM1				S	**Sb**	**07 45 55.2**	**+1.2**
	baz=236						
WHYT	**Xinyi Township**	**0.57**	**354**	⇑*e*P	**Pg**	**07 45 44.6**	**+0.1**
	baz=5.0						
WHYT				*e*S	**Sg**	**07 45 51.8**	**-0.2**
	baz=5.0						
CHN2	**Minshiung**	**0.57**	**315**	⇓P	**Pb**	**07 45 46.2**	**0.0**
	baz=314						
CHN2				*i* S	**Sb**	**07 45 55.9**	**+1.2**
	baz=314						
MASBT	**Mashibuluo**	**0.58**	**207**	⇑*i*P	**Pg**	**07 45 44.3**	**-0.3**
	baz=207						
MASBT				S	**Sg**	**07 45 51.5**	**-0.5**
	baz=207						
SSHA	**Shanhua**	**0.58**	**271**	*e*P	**Pb**	**07 45 46.2**	**-0.1**
	baz=285						
SSHA				*e*S	**Sb**	**07 45 55.6**	**+0.7**
	baz=285						
CHY	**Chiayi**	**0.59**	**309**	*e*P	**Pb**	**07 45 46.3**	**-0.1**
	baz=309						
CHY				*e*S	**Sb**	**07 45 55.9**	**+0.8**
	baz=309						
HGSD	**Ruisui**	**0.59**	**52**	⇑*e*P	**Pb**	**07 45 45.4**	**-1.0**
	baz=41						
HGSD				S	**Sg**	**07 45 53.1**	**+0.6**
	baz=41						
TAI1	**Yung-k'ang**	**0.64**	**262**	*e*P	**Pn**	**07 45 49.1**	**-0.3**
	baz=278						
WGK	**Gukeng**	**0.65**	**330**	*e*P	**Pb**	**07 45 47.4**	**0.0**
	baz=330						
WGK				*e*S	**Sb**	**07 45 57.0**	**+0.1**
	baz=330						
SNJT	**Kaohsiung City**	**0.65**	**236**	*e*P	**Pn**	**07 45 49.8**	**+0.2**
	baz=228						
SNJT				*e*S	**Sn**	**07 45 59.6**	**-0.8**
	baz=228						
VWDT	**VWDT**	**0.66**	**18**	⇑P	**Pg**	**07 45 45.5**	**-0.6**
	baz=13						
VWDT				*e*S	**Sg**	**07 45 55.2**	**+0.5**
	baz=13						
SSLB	**Suanglung**	**0.66**	**3**	*e*P	**Pg**	**07 45 45.2**	**-1.0**
	baz=3.0						
SSLB				*e*S	**Sg**	**07 45 54.1**	**-0.7**
	baz=3.0						
WDLH	**Douliu**	**0.66**	**328**	⇓P	**Pb**	**07 45 47.7**	**+0.1**
	baz=327						
WDLH				*i* S	**Sb**	**07 45 58.2**	**+1.0**
	baz=327						
SCLT	**Jiali**	**0.67**	**274**	*e*P	**Pn**	**07 45 48.9**	**-0.9**
	baz=274						
SCLT				*e*S	**Sn**	**07 46 00.3**	**-0.5**
	baz=274						
LDUT	**Ludao**	**0.68**	**132**	*i* P	**Pb**	**07 45 47.1**	**-0.8**
	baz=131						
LDUT				*e*S	**Sb**	**07 45 57.5**	**-0.1**
	baz=131						
CHN8	**Yiju**	**0.69**	**289**	*e*P	**Pb**	**07 45 48.1**	**0.0**
	baz=289						
CHN8				S	**Sn**	**07 45 59.8**	**-1.4**
	baz=289						
EGFH	**Guangfu**	**0.71**	**41**	*e*P	**Pg**	**07 45 46.5**	**-0.8**
	baz=50						
WJS	**Zhushan**	**0.71**	**346**	*e*P	**Pb**	**07 45 48.9**	**+0.3**
	baz=357						
WJS				*e*S	**Sb**	**07 45 59.7**	**+0.9**
	baz=357						
WARBT	**Fenglin Townsh**	**0.73**	**36**	P	**Pg**	**07 45 46.8**	**-0.7**
	baz=47						
WARBT				*e*S	**Sg**	**07 45 57.4**	**+0.5**
	baz=47						
EAST	**Anshuo**	**0.74**	**185**	P	**Pg**	**07 45 48.0**	**+0.2**
	baz=184						
EAST				*e*S	**Sg**	**07 45 58.0**	**+0.6**
	baz=184						
WSL	**Shuilin Townsh**	**0.75**	**302**	*e*P	**Pb**	**07 45 49.4**	**+0.2**
	baz=302						
WSL				*e*S	**Sn**	**07 46 01.5**	**-1.2**
	baz=302						
SMLT	**Sun Moon Lake**	**0.75**	**359**	⇓P	**Pg**	**07 45 48.0**	**0.0**
	baz=8.0						
SMLT				*e*S	**Sb**	**07 45 59.4**	**-0.7**
	baz=8.0						
TAW	**Tawu**	**0.77**	**182**	*e*P	**Pg**	**07 45 48.3**	**+0.1**
	baz=182						
TSCK	**Chigu Township**	**0.77**	**272**	*e*P	**Pn**	**07 45 50.9**	**-0.3**
	baz=289						
TSCK				*e*S	**Sn**	**07 46 02.7**	**-0.5**
	baz=289						
TYC	**Yuchr**	**0.78**	**356**	⇑P	**Pb**	**07 45 48.5**	**-1.1**
	baz=5.0						
TYC				S	**Sb**	**07 46 01.3**	**+0.8**
	baz=5.0						
WNT	**Mingjian**	**0.78**	**344**	⇑P	**Pb**	**07 45 49.8**	**+0.1**
	baz=344						
WNT				*i* S	**Sn**	**07 46 01.7**	**-1.8**
	baz=344						
TAWH	**Dawu Township**	**0.78**	**182**	*e*P	**Pg**	**07 45 48.6**	**+0.1**
	baz=183						
SCZT	**Fangliau**	**0.80**	**200**	⇓P	**Pg**	**07 45 48.8**	**-0.1**
	baz=189						
SCZT				*e*S	**Sg**	**07 45 58.7**	**-0.6**
	baz=189						
WSF	**Szhu**	**0.82**	**309**	*e*P	**Pb**	**07 45 49.9**	**-0.5**
	baz=308						
WSF				*e*S	**Sn**	**07 46 03.1**	**-1.4**
	baz=308						
ESL	**Shilin**	**0.83**	**34**	*e*P	**Pg**	**07 45 48.8**	**-0.7**
	baz=45						
ESL				*e*S	**Sb**	**07 46 00.8**	**-1.3**
	baz=45						
OWD	**Renai**	**0.86**	**16**	*e*P	**Pg**	**07 45 49.0**	**-1.0**
	baz=16						
WUSB	**Renai**	**0.88**	**12**	*e*P	**Pg**	**07 45 49.3**	**-1.1**
	baz=22						
SHUL	**Shoufeng**	**0.88**	**42**	*e*P	**Pb**	**07 45 50.7**	**-0.7**
	baz=42						
WRL	**Guolierlin Hig**	**0.92**	**327**	*e*P	**Pn**	**07 45 52.2**	**-1.0**
	baz=326						
WRL				*e*S	**Sn**	**07 46 06.3**	**-0.7**
	baz=326						
WCS	**Beigang Elemen**	**0.93**	**360**	*e*P	**Pg**	**07 45 51.1**	**-0.2**
	baz=10.0						
WCS				*e*S	**Sn**	**07 46 05.6**	**-1.5**
	baz=10.0						
CHGB	**Renai**	**0.96**	**14**	⇑P	**Pg**	**07 45 50.7**	**-1.3**
	baz=25						
CHGB				*e*S	**Sb**	**07 46 04.9**	**-1.1**
	baz=25						
TEYL	**Yanliau Villag**	**0.97**	**40**	*e*P	**Pb**	**07 45 52.9**	**0.0**
	baz=47						
TEYL				*e*S	**Sn**	**07 46 08.0**	**-0.1**
	baz=47						
ETM	**Tongmen**	**0.99**	**32**	*e*P	**Pg**	**07 45 52.0**	**-0.5**
	baz=40						
LXIB	**Xiulin Townshi**	**1.00**	**27**	*e*P	**Pg**	**07 45 52.0**	**-0.7**
	baz=41						
HWA	**Hwalien**	**1.05**	**36**	*e*P	**Pn**	**07 45 54.5**	**-0.6**
	baz=27						
HWA				*e*S	**Sb**	**07 46 09.1**	**+0.5**
	baz=27						
WHF	**Hehuan Shan**	**1.06**	**17**	*e*P	**Pg**	**07 45 53.0**	**-0.9**
	baz=17						
SMST	**Manzhou Townsh**	**1.10**	**184**	*e*P	**Pn**	**07 45 55.6**	**-0.1**
	baz=193						
HEN	**Hengchun**	**1.13**	**189**	*e*P	**Pn**	**07 45 56.4**	**+0.3**
	baz=181						
HEN				*e*S	**Sn**	**07 46 12.5**	**+0.4**
	baz=181						
TWD	**Chiawan**	**1.13**	**33**	*e*P	**Pb**	**07 45 55.2**	**-0.6**
	baz=52						
TDCB	**Techi**	**1.14**	**11**	*e*P	**Pg**	**07 45 54.2**	**-1.3**
	baz=13						
TWT	**Tachien**	**1.15**	**12**	*e*P	**Pg**	**07 45 54.8**	**-0.7**
	baz=11						
TWT				*e*S	**Sg**	**07 46 09.7**	**-0.7**
	baz=11						
WHP	**Taichung City**	**1.15**	**1**	*i* P	**Pn**	**07 45 56.4**	**-0.1**
	baz=12						
WHP				S	**Sn**	**07 46 12.9**	**+0.2**
	baz=12						
FUSS	**Fushou**	**1.16**	**15**	*e*P	**Pg**	**07 45 54.5**	**-1.2**
	baz=17						
WDGT	**Dungji**	**1.17**	**277**	*i* P	**Pb**	**07 45 55.8**	**-0.5**
	baz=276						
WDGT				*i* S	**Sn**	**07 46 12.0**	**-1.0**
	baz=276						
TWK1	**Hengchun**	**1.18**	**185**	*e*P	**Pn**	**07 45 56.9**	**+0.1**
	baz=186						
TWKBT	**Hengchun**	**1.18**	**185**	*e*P	**Pn**	**07 45 57.0**	**+0.1**
	baz=184						
TWKBT				*e*S	**Sn**	**07 46 13.2**	**-0.3**
	baz=184						
NACB	**Ninganchiao**	**1.21**	**31**	*e*P	**Pg**	**07 45 56.3**	**-0.5**
	baz=33						
NACB				*e*S	**Sg**	**07 46 10.9**	**-1.7**
	baz=33						
ETL	**Fush Village**	**1.21**	**32**	*e*P	**Pg**	**07 45 55.6**	**-1.2**
	baz=54						
TWQ1	**Liyutan**	**1.22**	**354**	*e*P	**Pn**	**07 45 57.9**	**+0.4**
	baz=355						
TWQ1				S	**Sn**	**07 46 15.5**	**+1.0**
	baz=355						
LAY	**Lan-yu**	**1.23**	**152**	*e*P	**Pg**	**07 45 55.8**	**-1.3**
	baz=152						
WDJ	**Dajia District**	**1.24**	**348**	*e*P	**Pn**	**07 45 58.8**	**+1.1**
	baz=347						
WDJ				*e*S	**Sn**	**07 46 17.0**	**+2.0**
	baz=347						
LYUB	**Lan-yu**	**1.28**	**151**	*e*P	**Pg**	**07 45 55.5**	**-2.5**
	baz=152						
NSY	**Sanyi**	**1.29**	**354**	*e*P	**Pn**	**07 45 59.4**	**+1.0**
	baz=354						
NSY				*i* S	**Sn**	**07 46 17.8**	**+1.6**
	baz=354						
PHUB	**P'eng-hu**	**1.30**	**288**	*i* P	**Pg**	**07 45 57.7**	**-0.7**
	baz=286						
PHUB				*i* S	**Sn**	**07 46 15.5**	**-0.8**
	baz=286						
PNG	**Penghu**	**1.33**	**290**	P	**Pn**	**07 45 58.4**	**-0.5**
	baz=288						
PNG				*e*S	**Sn**	**07 46 16.6**	**-0.5**
	baz=288						
NNSB	**Datong**	**1.36**	**18**	*e*P	**Pg**	**07 45 58.5**	**-1.2**
	baz=31						
NNSB				*e*S	**Sn**	**07 46 20.2**	**+2.1**
	baz=31						
NNS	**Nan Shan**	**1.37**	**18**	*e*P	**Pg**	**07 45 58.7**	**-1.2**
	baz=21						
VCHM	**Qimei**	**1.37**	**274**	*e*P	**Pn**	**07 45 58.8**	**-0.7**
	baz=273						
VCHM				*i* S	**Sn**	**07 46 17.8**	**-0.4**
	baz=273						
NMLH	**Miaoli**	**1.41**	**355**	*e*P	**Pb**	**07 46 01.7**	**+1.3**
	baz=356						
NMLH				S	**Sn**	**07 46 20.6**	**+1.5**
	baz=356						
EAHA	**Aohua**	**1.41**	**32**	P	**Pb**	**07 46 00.1**	**-0.3**
	baz=35						
EAHA				*e*S	**Sb**	**07 46 18.5**	**-0.4**
	baz=35						
ENA	**Nanau**	**1.50**	**30**	*e*P	**Pb**	**07 46 01.4**	**-0.6**
	baz=34						
ENA				*e*S	**Sb**	**07 46 20.1**	**-1.2**
	baz=34						
NSTT	**Nanjuang**	**1.50**	**3**	*e*P	**Pg**	**07 46 02.5**	**+0.3**
	baz=340						
LATG	**Datong**	**1.51**	**21**	*e*P	**Pn**	**07 46 01.3**	**-0.2**
	baz=25						
NFF	**Wufeng Townshi**	**1.51**	**7**	*e*P	**Pg**	**07 46 02.6**	**+0.1**
	baz=11						
NFF				*i* S	**Sg**	**07 46 23.8**	**+1.7**
	baz=11						
EWUT	**Wuta**	**1.53**	**31**	*e*P	**Pb**	**07 46 02.1**	**-0.4**
	baz=47						
NDT	**Datong Townshi**	**1.57**	**20**	*e*P	**Pn**	**07 46 02.1**	**-0.1**
	baz=32						
NDT				*e*S	**Sg**	**07 46 23.8**	**-0.1**
	baz=32						
YHNB	**Yeheng**	**1.59**	**15**	*e*P	**Pn**	**07 46 02.5**	**-0.1**
	baz=32						
YHNB				*e*S	**Sn**	**07 46 23.6**	**-0.1**
	baz=32						
NSK	**Sanguang**	**1.59**	**14**	*e*P	**Pn**	**07 46 02.4**	**-0.2**
	baz=18						
ENTT	**Nioudou**	**1.62**	**21**	P	**Pg**	**07 46 03.8**	**-0.8**
	baz=33						
ENTT				*e*S	**Sg**	**07 46 24.9**	**-0.7**
	baz=33						
EOS4	**EOS4**	**1.62**	**52**	*e*P	**Pn**	**07 46 01.6**	**-1.0**
	baz=74						
SBCB	**Hsinchu**	**1.66**	**2**	*e*P	**Pg**	**07 46 05.1**	**-0.3**
	baz=340						
NDS	**Dongshan**	**1.67**	**26**	*e*P	**Pg**	**07 46 05.3**	**-0.2**
	baz=49						
HSN	**Hsinchu**	**1.67**	**2**	*e*P	**Pg**	**07 46 06.0**	**+0.5**
	baz=342						
ESAO	**Su ao**	**1.67**	**30**	*e*P	**Pg**	**07 46 05.2**	**-0.4**
	baz=46						
TWC	**Suao**	**1.70**	**30**	P	**Pb**	**07 46 05.2**	**-0.2**
	baz=34						
TWC				*e*S	**Sg**	**07 46 27.8**	**-0.5**
	baz=34						
EOS3	**EOS3**	**1.73**	**48**	*e*P	**Pn**	**07 46 04.1**	**-0.1**
	baz=69						
NWLT	**Wulai**	**1.73**	**18**	*e*P	**Pb**	**07 46 05.1**	**-0.8**
	baz=22						
TWE	**Neicheng**	**1.73**	**23**	*e*P	**Pg**	**07 46 06.1**	**-0.5**
	baz=39						
TWE				*e*S	**Sg**	**07 46 28.3**	**-0.8**
	baz=39						
FUSB	**Fushanzhiwuyua**	**1.74**	**20**	*e*P	**Pb**	**07 46 05.7**	**-0.4**
	baz=24						
EOS2	**EOS2**	**1.76**

TWA					*e*S		Sg	07 46 35.6	-0.4
	baz=33								
EGS		1.94	28	*e*P		Pb	07 46 09.0	-0.6
	baz=49								
TIPB	Shuangxi	2.02	24	*e*P		Pg	07 46 11.2	-1.0
	baz=45								
TWS1	Kuangyinshan	2.02	13	*e*P		Pg	07 46 11.4	-0.8
	baz=17								
NTST	Danshui	2.09	13	*e*P		Pg	07 46 12.4	-1.1
	baz=17								
NWF	Wu-fen Shan	2.09	22	*e*P		Pb	07 46 11.8	-0.3
	baz=45								
WFSB	Wu-fen Shan	2.09	22	*e*P		Pg	07 46 12.7	-0.9
	baz=45								
YM01	YM01	2.10	16	*e*P		Pb	07 46 11.4	-0.7
	baz=20								
TWB1	Santiao Chiao	2.11	27	*e*P		Pb	07 46 12.0	-0.4
	baz=47								
ANP	Anpu	2.12	15	*e*P		Pb	07 46 12.4	-0.2
	baz=19								
YM08	YM08	2.14	16	*e*P		Pb	07 46 12.7	-0.2
	baz=20								
SXI1	Grass Mountain	2.15	24	*e*P		Pb	07 46 11.9	-1.1
	baz=45								
TNOU	National Taiwa	2.16	21	*e*P		Pb	07 46 12.2	-1.0
	baz=45								
JYNG	Yonaguni jima	2.28	54	*e*P		Pn	07 46 12.2	+0.3
VWUC	VWUC	2.29	324	*e*P		Pn	07 46 11.7	-0.4
	baz=322								
YOJ	Yonaguni jima	2.33	55	*e*P		Pn	07 46 13.1	+0.4
	baz=60								
YOJ	Yonaguni jima	2.33	55	*e*P		Pn	07 46 12.9	+0.2
PTMZ	Houxiangcun	2.52	320	*e*P		Pn	07 46 14.6	-0.6
	baz=317								
KNM	Kinmen	2.62	300	*e*P		Pn	07 46 17.0	+0.5
	baz=295								
KNMB	Chin-men Tao	2.67	300	*e*P		Pn	07 46 16.1	-1.3
	baz=297								
HATJ	Hateruma jima	2.80	70	*e*P		Pn	07 46 20.5	+1.3
IRIF	Iriomote-Funau	2.84	64	*e*P		Pn	07 46 19.9	+0.2
ZPLA	Ao Xicun	3.02	286	*e*P		Pn	07 46 21.7	-0.4
	baz=283								
MATB	Ma-tsu	3.14	344	*e*P		Pn	07 46 22.8	-1.0
	baz=341								
JIJ	Ishigaki jima	3.20	67	*e*P		Pn	07 46 23.6	-1.0
JIJ				*e*S		Sn	07 47 02.1	-1.1
DSXP	Dongshan	3.26	281	*e*P		Pn	07 46 25.1	-0.4
	baz=278								
MHZQ	Yeshan	3.42	330	*e*P		Pn	07 46 28.0	+0.3
	baz=327								
JISG	Ishigakijimahi	3.43	64	*e*P		Pn	07 46 26.9	-0.8
LYJJ	Jianjiangzhen	3.57	343	*e*P		Pn	07 46 29.9	+0.2
	baz=340								
XPSS	Dashiqiu	3.84	350	*e*P		Pn	07 46 33.0	-0.5
	baz=348								
SXFK	Yanhouchang	4.41	318	*e*P		Pn	07 46 40.5	-0.8
	baz=313								
JNU	Nakatsue	13.27	39	LR		LR	07 54 45.6	
	comp=Z,104nm,20.1s,baz=180,slow=41								
KSRS	Korea Array	15.50	21	Pn		P	07 49 15.2	-2.3
	0.2nm,0.3s,baz=200,slow=12,SNR=8.6								
KSRS				LR		LR	07 55 19.7	
	comp=Z,62nm,19.0s,baz=195,slow=37								
	2.0nm,0.8s								
MJAR	Matsushiro Arr	20.05	44	P		Pn	07 50 11.1	+1.7
	1.1nm,0.3s,baz=224,slow=5.1,SNR=1.7								
MJAR				LR		LR	07 57 57.3	
	comp=Z,77nm,21.8s,baz=219,slow=37								
	1.1nm,0.3s								
SONM	Songino Array	27.25	338	P		P	07 51 22.1	+3.2
	0.6nm,0.5s,baz=153,slow=9.7,SNR=3.4								
	0.6nm,0.5s								
KLR	Kul'dur	27.42	16	LR		LR	08 02 05.5	
	comp=Z,72nm,19.1s,baz=220,slow=36								
ASAJ	Asahikawa	27.49	35	LR		LR	08 02 39.5	
	comp=Z,106nm,20.5s,baz=308,slow=37								
MKAR	Makanchi Array	38.93	317	P		P	07 53 01.0	+0.5
	1.1nm,0.8s,baz=110,slow=9.2,SNR=6.4								
	1.1nm,0.8s								
PETK	Petropavlovsk-	40.88	33	LR		LR	08 10 15.2	
	comp=Z,57nm,20.8s,baz=253,slow=36								
ZALV	Zalesovo Beam	41.00	328	P		P	07 53 17.9	+0.3
	0.7nm,0.4s,baz=138,slow=11,SNR=4.2								
	0.7nm,0.4s								
PALK	Pallekele	41.71	254	LR		LR	08 09 42.8	
	comp=Z,70nm,20.6s,baz=193,slow=35								
MA2	Magadan	42.05	22	LR		LR	08 10 52.9	
	comp=Z,42nm,21.4s,baz=226,slow=36								
KURBB	Kurchatov Arra	42.77	321	P		P	07 53 33.8	+1.7
	0.4nm,0.5s,baz=115,slow=7.6,SNR=4.5								
	0.4nm,0.5s								
H11N1	WAKE ISLAND Hy	42.80	86	T		T	08 38 49.4	
	baz=282,slow=75,SNR=4.0								
H11N2	WAKE ISLAND Hy	42.80	86	T		T	08 38 48.8	
	baz=282,slow=75,SNR=4.2								
H11N3	WAKE ISLAND Hy	42.82	86	T		T	08 38 48.3	
	baz=282,slow=75,SNR=4.6								
H11S3	WAKE ISLAND Hy	42.90	87	T		T	08 38 52.2	
	baz=286								
H11S1	WAKE ISLAND Hy	42.91	87	T		T	08 38 56.8	
	baz=286								
H11S2	WAKE ISLAND Hy	42.92	87	T		T	08 38 52.8	
	baz=286								
WRA	Warramunga Arr	44.77	162	P		P	07 53 46.3	-2.2
	0.6nm,0.6s,baz=342,slow=8.4,SNR=7.1								
	0.6nm,0.6s								
ASAR	Alice Springs	48.19	164	P		P	07 54 14.4	-0.9
	0.3nm,0.4s,baz=338,slow=7.0,SNR=6.5								
	0.3nm,0.4s								
TIXI	Tiksi	48.76	3	LR		LR	08 17 51.2	
	comp=Z,56nm,18.0s,baz=210,slow=40								
SHEM	Shemya Is, Ala	49.79	40	LR		LR	08 19 50.4	
	comp=Z,11nm,18.1s,baz=282,slow=41								
GEYT	Alibeck	55.13	301	P		P	07 55 06.6	-0.6
	2.9nm,0.7s,baz=92,slow=9.2,SNR=1.8								
	2.9nm,0.7s								
ILAR	Eielson Array	70.26	27	P		P	07 56 48.1	+0.4
	0.2nm,0.5s,baz=283,slow=4.5,SNR=2.4								
	0.2nm,0.5s								
ARCES	ARCESS Array B	70.43	338	P		P	07 56 49.4	+0.8
	1.1nm,0.8s,baz=74,slow=10,SNR=1.6								
	1.1nm,0.8s								
NOA	NORSAR Array B	79.04	332	P		P	07 57 38.5	-0.3
	0.6nm,0.6s,baz=65,slow=5.3,SNR=2.4								
	0.6nm,0.6s								
YKA	Yellowknife Ar	84.03	23	P		P	07 58 08.3	+3.2
	0.8nm,0.9s,baz=308,slow=6.2,SNR=2.7								
	0.8nm,0.9s								

IDC 04 08:04:45.1±4.3, 18°.87S×175°.55W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=296.7km s-min=33.6km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	47.13	260	P	P	08 13 18.9	-0.5
	0.4nm,0.5s,baz=98,slow=6.4,SNR=13						
	0.4nm,0.5s						
ASAR	Alice Springs	47.16	255	P	P	08 13 19.9	+0.2
	2.1nm,0.6s,baz=88,slow=8.6,SNR=36						
	2.1nm,0.6s						
NVAR	Mina Array Bea	78.27	42	P	P	08 16 47.3	+0.1
	0.4nm,0.8s,baz=219,slow=5.2,SNR=2.6						
	0.4nm,0.8s						

*IDC **04** 08:05:22.8±2.9, 53°.99N×86°.73E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=25.1km s-min=15.4km az=49.0*
*NNC **04** 08:05:31.3±2.1, 53°.85N×86°.23E, h0km, mb3.4, mpv2.6, Error ellipse: s-maj=12.2km s-min=9.6km az=75.0, Suspected Mining explosion.*

ISC 04 08:05:24.9±4.3, 54°.0N±0°.2×86°.6E±0°.2, h0km, n8, σ1§76/8, 6C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.04	266	I	I	08 12 10.0	
	baz=89,slow=315,SNR=6.1						
ZAA0	Zalesovo Array	1.04	266	⇑P		Pn	08 05 47.9	+1.2
	0.3nm,0.5s,baz=99,slow=15						
ZAA0				⇑S		Sg	08 05 59.2	+0.9
	5.8nm,0.9s,baz=93,slow=22						
ZALV	Zalesovo Beam	1.04	266	Pg		Pg	08 05 43.0	-1.8
	0.4nm,0.3s,baz=86,slow=18,SNR=3.1						
ZALV				Lg		Lg	08 06 00.5	
	4.0nm,0.3s,baz=94,slow=30,SNR=16						
KURK	Kurchatov	5.90	239	⇑Pn		Pn	08 06 55.1	+1.7
	1.2nm,0.8s						
KURK				⇑Lg		Lg	08 08 30.2	
	3.4nm,0.6s						
KURBB	Kurchatov Arra	6.00	239	Pn		Pn	08 06 53.8	-1.0
	0.1nm,0.3s,baz=58,slow=13,SNR=4.7						
KURBB				Lg		Lg	08 08 36.0	
	baz=60,slow=30,SNR=5.8						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	6.00	239	⇑Pn		Pn	08 06 56.5	+1.6
	2.8nm,1.1s,baz=61,slow=13						
KURBB				⇑Lg		Lg	08 08 34.1	
	8.9nm,0.8s						
MK31	Makanchi Array	7.75	202	Pn		Pn	08 07 20.6	+1.8
	0.3nm,0.5s,baz=27,slow=12,SNR=11						
MKAR	Makanchi Array	7.75	202	Pn		Pn	08 07 18.2	-0.7
	0.1nm,0.3s,baz=24,slow=12,SNR=8.4						
MKAR				Lg		Lg	08 09 30.3	
	0.1nm,0.3s,baz=18,slow=28,SNR=2.7						
	0.3nm,0.4s						

IDC 04 08:12:25.4±3.0, 54°.18N×86°.32E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=22.3km s-min=13.6km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.91	256	I	I	08 18 40.0	
	baz=77,slow=324,SNR=2.6						
ZALV	Zalesovo Beam	0.91	256	Pg	Pg	08 12 41.4	-1.4
	0.9nm,0.3s,baz=74,slow=16,SNR=6.7						
ZALV				Lg	Lg	08 12 56.2	
	1.6nm,0.3s,baz=74,slow=30,SNR=8.8						
KURBB	Kurchatov Arra	5.95	236	Pn	Pn	08 13 55.4	+0.8
	baz=56,slow=14,SNR=3.7						
	0.4nm,0.5s						
MKAR	Makanchi Array	7.83	201	Pn	Pn	08 14 21.8	+1.3
	0.1nm,0.3s,baz=22,slow=16,SNR=1.9						
MKAR				Lg	Lg	08 16 36.2	
	0.1nm,0.3s,baz=24,slow=27,SNR=5.0						
	0.4nm,0.6s						

*IPEC **04** 08:30:22.9±0.2, 50°.06N×18°.49E, h1km, ML2.6/4, Error ellipse: s-maj=2.0km s-min=1.0km az=163.0*
*PRU **04** 08:30:24.8, 50°.06N×18°.36E, h0km*
ISC 04 08:30:22.8±0.8, 50°.06N±0°.03×18°.45E±0°.02, h0km, n27, σ0§89/51, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.17	278	*e*PG	Pg	08 30 27.3	+1.3
RAC				*e*SG	Sg	08 30 30.8	+2.7
OKC	Ostrava-Krasne	0.30	221	*e*PG	Pg	08 30 29.4	+0.9
OKC				*e*SG	Sg	08 30 34.0	+1.7
	comp=Z,342nm,0.8s						
MORC	Moravsky Berou	0.65	244	*e*Pg	Pg	08 30 35.5	+0.3
	baz=65						
MORC				*e*Sg	Sg	08 30 43.9	+0.2
	108nm,0.5s,baz=65						
MORC	Moravsky Berou	0.65	244	*e*PG	Pg	08 30 35.6	+0.3
MORC				*e*SG	Sg	08 30 44.0	+0.2
MAUC	Maruska	0.81	210	*e*PG	Pb	08 30 39.0	-0.7
OJC	Ojcow	0.88	79	*e*Pg	Pg	08 30 39.5	-0.2
OJC				*e*Sg	Sb	08 30 52.0	-1.3
KRLC	Kraliky	1.07	271	*e*PG	Pg	08 30 42.6	-0.8
KRLC				*e*SG	Sg	08 30 57.1	-0.2
JAVC	Velka Javorina	1.31	203	*e*Pg	Pg	08 30 47.9	+0.1
	baz=24						
NIE	Niedzica	1.36	118	*e*Pg	Pb	08 30 49.2	0.0
NIE				*e*Sg	Sn	08 31 08.7	+0.8
DPC	Dobruska-Polom	1.40	283	*e*PG	Pg	08 30 49.3	-0.3
DPC				*e*SG	Sb	08 31 08.2	0.0
	comp=Z,121nm,0.5s						
VRAC	Vranov	1.42	239	*e*Pg	Pn	08 30 49.5	-0.4
	baz=58						
VRAC				*e*Sg	Sg	08 31 08.3	-0.1
	52nm,0.4s,baz=58						
OSTC	Ostas	1.52	290	*e*PG	Pn	08 30 51.1	-0.1
OSTC				*e*SG	Sn	08 31 12.1	+0.4
	comp=Z,77nm,0.8s						
VYHS	Vyhne	1.59	171	*e*PG	Pn	08 30 51.7	-0.5
VYHS				*e*SG	Sb	08 31 13.6	-0.1
CHVC	Chvalec	1.62	290	*e*PG	Pn	08 30 52.6	-0.1
CHVC				*e*SG	Sb	08 31 14.7	0.0
UPC	Upice	1.62	287	*e*PG	Pn	08 30 53.1	+0.4
UPC				*e*SG	Sg	08 31 15.2	+0.2
KRUC	Moravsky	1.67	234	*e*Pn	Pn	08 30 53.4	+0.1
	baz=53						
KRUC				*e*Sg	Sb	08 31 16.0	0.0
	38nm,0.5s,baz=53						
MODS	Modra-Piesok	1.86	205	*e*PG	Pn	08 30 55.6	-0.3
MODS				*e*SG	Sn	08 31 19.7	-0.3
MODS				*e*LG	Lg	08 31 29.8	
STHS	Stebnicka Huta	1.93	109	*e*PN	Pb	08 30 58.8	0.0
STHS				*e*SG	Sg	08 31 26.5	+1.9
STHS				*e*LG	Lg	08 31 38.1	
KECS	Kecovo	2.07	139	*e*PN	Pn	08 30 58.5	-0.3
KECS				*e*SN	Sn	08 31 24.1	-1.1
CRVS	Cervenica-Dubn	2.28	119	*e*PG	Pb	08 31 05.1	+0.2
CRVS				*e*SG	Sg	08 31 37.7	+1.6
GOPC	GO Pecny, Ondr	2.37	268	*e*PG	Pb	08 31 05.1	-1.2
GOPC				*e*SG	Sb	08 31 36.6	+0.5
	comp=Z,23nm,0.6s						
PRU	Pruhonice	2.52	270	*e*SG	Sb	08 31 41.0	+0.5
	comp=Z,13nm,0.5s						
KOLS	Kolonicke sedl	2.74	113	*e*PG	Pg	08 31 14.8	-0.4
KOLS				*e*LG	Lg	08 32 01.5	
CKRC	Cesky Krumlov	2.97	247	*e*PG	Pb	08 31 17.6	+0.9
CKRC				*e*SG	Sg	08 31 57.0	-1.3
	comp=Z,26nm,0.9s						
BRG	Berggiesshubel	2.99	287	Pg	Pb	08 31 17.9	+1.0
BRG				Sg	Sg	08 31 57.3	-1.6
BRG				Amp		08 32 01.7	
	comp=Z,10nm,0.4s						
KHC	Kasperske Hory	3.30	255	*e*PN	Pn	08 31 15.0	-0.8
KHC				*e*PG	Pb	08 31 22.8	+0.5
KHC				*e*SG	Sg	08 32 07.0	-1.9
	comp=Z,14nm,0.4s						
CLL	Collm	3.68	292	*e*Pg	Pg	08 31 33.0	-0.3
CLL				*e*Sg	Sg	08 32 21.0	0.0
	comp=Z,38nm,1.6s						

*SJA **04** 08:36:24.4±0.7, 23°.87S×70°.42W, h24km±3km, ML3.4, MW3.5*
*GUC **04** 08:36:27.9±0.7, 23°.97S×70°.19W, h31km±3km, ML3.6*
ISC 04 08:36:25.6±1.1, 23°.94S±0°.02×70°.30W±0°.04, h22km±6km, n29, σ1§41/50, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB10	IPOC Station P	0.49	332	*e*P	Pb	08 36 32.8	-2.7
PB10				*e*S	Sn	08 36 46.4	+1.3
PB10				IAML		08 36 48.8	
	comp=Z,2μm,0.2s						
PB10	IPOC Station P	0.49	332	⇑*i*P	Pn	08 36 38.5	+1.2
PB10				*e*S	Sn	08 36 46.6	+1.5
PB10				IAML		08 36 49.0	
	comp=E,3μm,0.4s						
PB14	IPOC Station P	0.69	188	*e*P	Pn	08 36 40.0	-0.3
PB14				*e*S	Sn	08 36 50.5	0.0
PB14				IAML		08 36 50.8	
	comp=Z,1μm,0.7s						
PB14	IPOC Station P	0.69	188	⇑*i*P	Pn	08 36 40.7	+0.4
PB14				*e*S	Sn	08 36 50.4	-0.1
PB15	IPOC Station P	1.06	46	*e*P	Pn	08 36 45.6	+0.2
PB15				*e*S	Sn	08 36 59.9	+0.4
PB15				IAML		08 37 04.6	
	comp=Z,4μm,0.2s						
PB15	IPOC Station P	1.06	46	*e*P	Pn	08 36 45.5	+0.2
PB15				*i*S	Sn	08 36 59.3	-0.2
GO02	Mina Guanaco	1.38	152	*e*P	Pb	08 36 51.1	+0.2
GO02				*e*S	Sb	08 37 09.5	+1.4
GO02				IAML		08 37 12.1	
	comp=Z,1μm,0.1s						
GO02	Mina Guanaco	1.38	152	⇓*i*P	Pb	08 36 51.0	+0.2
GO02				*e*S	Sb	08 37 08.8	+0.7
GO02				IAML		08 37 11.2	
	comp=N,3μm,0.2s						
PB06	IPOC Station P	1.40	29	*e*P	Pb	08 36 50.6	-0.6
PB06				*e*S	Sb	08 37 10.2	+1.5
PB06				IAML		08 37 13.8	
	comp=Z,516nm,0.1s						
PB06	IPOC Station P	1.40	29	*e*P	Pb	08 36 50.9	-0.3
PB06				*e*S	Sb	08 37 09.5	+0.8
PB06				IAML		08 37 11.0	
	comp=N,922nm,0.4s						
PB04	IPOC Station P	1.61	5	*e*P	Pn	08 36 53.0	+0.1
PB04				*e*S	Sb	08 37 18.0	+3.4
PB04				IAML		08 37 21.3	
	comp=Z,387nm,0.3s						
PB04	IPOC Station P	1.61	5	*e*P	Pb	08 36 53.7	-1.0
PB04				*i*S	Sb	08 37 13.8	-0.9
LVC	Limon Verde	1.84	44	*e*P	Pb	08 36 57.7	-1.1
LVC				*e*S	Sb	08 37 22.3	+0.7
LVC				IAML		08 37 24.9	
	comp=Z,320nm,0.2s						
LVC	Limon Verde	1.84	44	*e*P	Pb	08 36 58.2	-0.6
LVC				*e*S	Sb	08 37 21.7	+0.1
LVC				IAML		08 37 24.0	
	comp=Z,1μm,0.3s						
AF01	San Pedro de A	2.19	64	*e*P	Pb	08 37 03.3	-1.3
AF01				*e*S	Sb	08 37 30.6	-0.8
AF01				IAML		08 37 46.9	
	comp=E,992nm,0.4s						
AC01	Pan de Azucar	2.21	187	*e*P	Pn	08 37 01.4	+0.3
AC01				*e*S	Sn	08 37 26.8	-0.9
AC01				IAML		08 37 34.0	
	comp=Z,208nm,0.3s						
AC01	Pan de Azucar	2.21	187	*e*P	Pn	08 37 01.4	+0.3
PB09	IPOC Station P	2.35	25	*e*P	Pn	08 37 04.4	+1.3
PB09				*e*S	Sn	08 37 29.8	-1.6
PB09				IAML		08 37 49.7	
	comp=Z,190nm,0.4s						
PB09	IPOC Station P	2.35	25	*i*P	Pb	08 37 05.1	-2.3
PB09				*e*S	Sb	08 37 35.6	-0.4
PATCX	Punta Patache	3.11	3	*e*P	Pn	08 37 13.1	-0.4
PATCX				*e*S	Sb	08 37 56.3	-1.5
PATCX	Punta Patache	3.11	3	*e*P	Pn	08 37 13.2	-0.3
PATCX				IAML		08 38 08.5	
	comp=N,72nm,0.3s						
TA01	Diego Aracena	3.36	2	*e*P	Pn	08 37 16.5	-0.4
TA01				*e*S	Sb	08 38 09.9	+4.9
AC06	Mina Casimiro	3.40	181	*e*P	Pn	08 37 17.7	+0.3
GO03	Copiap	3.64	179	*e*P	Pn	08 37 22.3	+1.6
HMBC	Humberstone	3.67	6	*e*P	Pn	08 37 21.5	+0.3
HMBC	Humberstone	3.67	6	*e*P	Pn	08 37 21.4	+0.2
PB11	IPOC Station P	4.21	8	*e*P	Pn	08 37 15.5	-13
PB11				*e*P	Pb	08 37 27.9	-11
PB11				IAML		08 38 36.5	
	comp=Z,31nm,0.9s						
AC04	Llanos de Chal	4.30	189	*e*P	Pn	08 37 27.9	-1.8
AC04				*e*S	Sb	08 38 32.8	+0.8
AC04				IAML		08 38 52.5	
	comp=Z,43nm,0.3s						
GO01	Chusmiza	4.38	14	*e*P	Pn	08 37 32.8	+1.6
GO01				*e*S	Sb	08 38 37.6	+2.9
GO01				IAML		08 38 45.3	
	comp=Z,32nm,0.3s						

IDC 04 08:41:57.6±2.1, 8°.85S×147°.42E, h0km, mb3.8/1, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=111.3km s-min=33.9km az=126.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.78	228	Pn	P	08 45 55.9	-0.5
	0.1nm,0.3s,baz=53,slow=11,SNR=7.4						
	0.6nm,0.8s						
ASAR	Alice Springs	19.60	220	P	P	08 46 26.4	-1.2
	0.1nm,0.3s,baz=54,slow=8.7,SNR=5.6						
	0.3nm,0.6s						
ILAR	Eielson Array	87.93	23	P	P	08 54 49.1	+0.1
	0.5nm,0.7s,baz=262,slow=4.9,SNR=6.4						
	0.5nm,0.7s						

*IDC **04** 08:52:25.5±1.0, 28°.80N×143°.02E, h0km, mb3.6/7, mbtmp3.6/8, ML2.8/1, Error ellipse: s-maj=31.3km s-min=17.5km az=92.0*
ISC 04 08:52:26.7±0.9, 28°.79N±0°.08×142°.9E±0°.2, h10km, n15, σ1§47/10, mb3.7/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.81	201	Pn	Pn	08 52 56.8	-1.2
	10.0nm,0.3s,baz=285,slow=20,SNR=2.3						
JCJ				Sn	Sb	08 53 22.0	-0.7
	17nm,0.3s,baz=263,slow=23,SNR=2.3						
MJAR	Matsushiro Arr	8.68	334	Pn	Pn	08 54 30.6	-1.8
	0.1nm,0.3s,baz=152,slow=11,SNR=5.9						
	1.7nm,0.7s						
H11N2	WAKE ISLAND Hy	23.62	107	T	T	09 21 47.6	
	baz=303						
H11N1	WAKE ISLAND Hy	23.62	107	T	T	09 21 48.1	
	baz=303						
H11N3	WAKE ISLAND Hy	23.64	107	T	T	09 21 48.9	
	baz=303						
H11S3	WAKE ISLAND Hy	24.03	110	T	T	09 22 04.2	
	baz=291,slow=75,SNR=17						
H11S1	WAKE ISLAND Hy	24.03	110	T	T	09 22 04.7	
	baz=291,slow=75,SNR=26						
H11S2	WAKE ISLAND Hy	24.05	110	T	T	09 22 05.6	
	baz=291,slow=75,SNR=37						
SONM	Songino Array	33.97	314	P	P	08 59 11.9	+1.4
	1.1nm,0.7s,baz=115,slow=7.6,SNR=5.3						
	1.1nm,0.7s						
WRA	Warramunga Arr	49.15	191	P	P	09 01 15.0	+0.2
	1.7nm,0.9s,baz=15,slow=8.9,SNR=8.1						
	1.7nm,0.9s						
MKAR	Makanchi Array	49.91	309	P	P	09 01 21.6	+1.1
	1.0nm,0.7s,baz=82,slow=9.9,SNR=7.9						
	1.0nm,0.7s						
KURBB	Kurchatov Arra	52.33	313	P	P	09 01 39.3	+0.7
	0.6nm,0.6s,baz=91,slow=7.4,SNR=5.5						
	0.6nm,0.6s						
ASAR	Alice Springs	52.87	190	P	P	09 01 44.9	+2.1
	0.4nm,0.9s,baz=6.8,slow=9.3,SNR=2.0						
	0.4nm,0.9s						
ILAR	Eielson Array	55.92	29	P	P	09 02 03.3	-1.3
	0.3nm,0.7s,baz=248,slow=6.7,SNR=3.6						
	0.3nm,0.7s						
NVAR	Mina Array Bea	78.97	52	P	P	09 04 31.6	+0.5
	0.2nm,0.7s,baz=296,slow=6.9,SNR=2.1						
	0.2nm,0.7s						

*NOU **04** 08:57:23.2, 20°.17S×175°.80W, h270km, mb4.9/28, Tonga Islands*
*NEIC **04** 08:57:24.3±2.6, 20°.1S±0°.1×176°.25W±0°.09, h248km±7km, mb4.5/50, Error ellipse: s-maj=17.5km s-min=12.1km az=173.0*
*IDC **04** 08:57:26.8±2.1, 20°.28S×176°.53W, h269km±19km, mb3.9/14, mbtmp4.5/15, Error ellipse: s-maj=13.6km s-min=9.3km az=119.0*
**ISC 04 08:57:24.3±0.

TWGZ	Tauwhareparae	18.56	194	P	P	09 01 22.6 -0.3
OPRZ	Ohinepanea	18.62	198	P	P	09 01 24.5 +1.0
MARZ	Manawahe	18.71	198	P	P	09 01 26.7 +2.1
CNGZ	Carnagh Statio	18.80	194	P	P	09 01 27.0 +1.6
MWZ	Matawai	18.82	195	P	P	09 01 24.3 -1.4
TKGZ	Te Karaka	18.84	194	P	P	09 01 24.9 -1.0
TOZ	Tahuroa Road	18.84	201		P	09 01 26.6 +0.7
TOZ				IAmb	IAmb	09 01 42.1
	comp=Z,12nm,0.9s					
TOZ	Tahuroa Road	18.84	201	P	P	09 01 27.1 +1.1
URZ	Urewera	18.85	196	P	P	09 01 24.8 -1.2
URZ	Urewera	18.85	196	P	P	09 01 24.9 -1.2
	comp=Z,10nm,0.3s,baz=336,slow=3.8,SNR=62					
URZ				S	S	09 04 42.5 -4.2
	comp=Z,18nm,0.7s,baz=163,slow=19,SNR=13					
URZ	Urewera	18.85	196	P	P	09 01 24.5 -1.5
RAGZ	Rawiri	19.00	195	P	P	09 01 25.3 -2.4
RIGZ	Rimuhau	19.11	194	P	P	09 01 28.3 -0.6
MUGZ	Murupara	19.15	197	P	P	09 01 28.0 -1.2
RTZ	Ruatahuna	19.22	196	P	P	09 01 22.7 -7.4
SNGZ	Shannon Statio	19.29	195	P	P	09 01 30.0 -0.7
PRGZ	Paritu Road	19.29	194	P	P	09 01 32.7 +2.0
TLZ	Tolley Road	19.38	200	P	P	09 01 32.8 +1.1
RAHZ	Arahi	19.48	196	P	P	09 01 32.5 -0.2
MTHZ	Maungataniwha	19.48	196	P	P	09 01 31.9 -0.9
MHGZ	Mahia Peninsul	19.51	194	P	P	09 01 34.2 +1.2
MRHZ	Matea Rd	19.58	197	P	P	09 01 32.9 -1.0
NMHZ	Naumai	19.72	196	P	P	09 01 34.9 -0.4
HIZ	Hauiti	19.77	201	P	P	09 01 36.0 +0.3
HIZ	Hauiti	19.77	201	P	P	09 01 37.0 +1.3
BKZ	Black Stump Fm	19.87	197	P	P	09 01 33.8 -3.1
NTVZ	North Tongarir	20.04	199	P	P	09 01 39.6 +0.8
MCHZ	McNeill Hill	20.07	196	P	P	09 01 37.7 -1.4
OTVZ	Oturere	20.10	199	P	P	09 01 37.2 -2.4
KWHZ	Kaweka Forest	20.13	197	P	P	09 01 37.3 -2.4
SNVZ	South Ngauruho	20.13	199	P	P	09 01 38.3 -1.6
WNVZ	Wahianoa	20.27	199	P	P	09 01 38.6 -2.7
KRHZ	Kereru	20.35	197	P	P	09 01 40.8 -1.3
KAHZ	Kaharunaki	20.36	195	P	P	09 01 42.2 0.0
PNHZ	Pukenui	20.65	197	P	P	09 01 44.0 -1.2
PNHZ	Pukenui	20.65	197	P	S	09 05 19.5 -1.0
WPHZ	Waipukurau	20.73	196	P	S	09 05 21.2 -0.6
TSZ	Takapari Road	20.85	197	P	S	09 05 22.3 -1.6
PRHZ	Porangahau	20.87	195	P	S	09 05 29.4 +5.3
ANWZ	Angora Road	21.09	196	P	S	09 05 29.3 +1.5
POWZ	Post Office Ro	21.21	197	P	S	09 05 30.4 +0.6
BFZ	Birch Farm	21.36	196	P	P	09 01 52.4 +0.1
BFZ				IAmb	IAmb	09 02 21.6
	comp=Z,38nm,1.5s					
BFZ	Birch Farm	21.36	196	P	S	09 05 33.8 +1.6
MRZ	Mangatainoka R	21.51	197	P	S	09 05 34.9 +0.2
TIWZ	Tintock	21.54	196	P	S	09 05 35.4 +0.2
HOWZ	Holdsworth Sta	21.75	197	P	S	09 05 37.3 -1.3
OGWZ	Otaki Gorge	21.77	198	P	S	09 05 41.5 +2.6
TMWZ	Te Maipa	21.85	196	P	S	09 05 45.4 +5.2
KIW	Kapiti Island	21.89	198	P	S	09 05 42.3 +1.4
MTW	Mount Morrison	22.00	197	P	S	09 05 44.6 +2.1
PAWZ	Paruwai Farm	22.23	197	P	S	09 05 51.3 +5.0
MSWZ	Moikau Station	22.31	197	P	S	09 05 48.8 +1.3
PLWZ	Palliser	22.45	197	P	S	09 05 54.4 +4.5
TKNZ	Takaka Hill	22.67	202	P	P	09 02 03.5 -0.9
TUWZ	Tuamarina	22.70	199	P	S	09 05 57.6 +3.7
THZ	Tophouse	23.34	201	P	P	09 02 10.7 +0.2
KHZ	Kahutara	23.73	199	P	P	09 02 14.6 +0.7
LTZ	Lake Taylor	24.46	201	P	P	09 02 20.3 -0.3
LTZ				IAmb	IAmb	09 02 30.2
	comp=Z,24nm,1.0s					
EIDS	Eidsvold	30.50	254	P	P	09 03 14.5 0.0
EIDS				IAmb	IAmb	09 03 14.9
	comp=Z,12nm,0.7s					
ARMA	Armidale	30.66	244	P	P	09 03 16.3 +0.4
ARMA				IAmb	IAmb	09 03 32.7
	comp=Z,16nm,1.1s					
CTAO	Charters Tower	35.15	264	P	P	09 03 54.7 -0.1
CTAO	Charters Tower	35.15	264	P	P	09 03 54.2 -0.6
CMSA	Cobar Meteorol	35.87	244	P	P	09 04 00.9 +0.1
QLP	Quilpie	36.70	252	P	P	09 04 07.4 -0.5
MTSU	Mount Surprise	37.25	266	P	P	09 04 12.4 -0.1
TOO	Toolangi	37.38	234	P	P	09 04 13.1 -0.3
TOO				IAmb	IAmb	09 04 53.1
	comp=Z,17nm,1.1s					
COEN	Coen	39.21	273	P	P	09 04 29.1 +0.2
COEN	Coen	39.21	273	P	P	09 04 27.8 -1.1
STKA	Stephens Creek	39.38	244	P	P	09 04 29.0 -1.1
STKA	Stephens Creek	39.38	244	P	P	09 04 29.1 -0.9
	comp=Z,5.3nm,0.8s,baz=91,slow=9.7,SNR=13					
	comp=Z,5.3nm,0.8s					
INKA	Innaminka	39.84	251	P	P	09 04 34.3 +0.4
LCRK	Leigh Creek	42.15	247	P	P	09 04 52.8 +0.2
TABU	Tabubil	43.91	284	P	P	09 05 08.0 +1.0
BBOO	Buckleboo	44.13	243	P	P	09 05 07.5 -0.9
GENI	Genyem	45.98	287	P	P	09 05 23.8 +0.6
WR0	Warramunga Arr	46.08	261	P	P	09 05 22.0 -1.9
WR0				IAmb	IAmb	09 05 24.1
	comp=Z,10nm,0.6s					
AS01	Alice Springs	46.13	256	P	P	09 05 23.9 -0.4
AS31	Alice Springs	46.18	256	P	P	09 05 23.3 -1.4
AS31				IAmb	IAmb	09 05 25.0
	comp=Z,8.0nm,0.6s					
ASAR	Alice Springs	46.18	256	P	P	09 05 23.6 -1.1
	comp=Z,27nm,0.7s,baz=96,slow=8.2,SNR=303					
ASAR				PcP	PcP	09 06 55.7 -0.5
	comp=Z,1.6nm,0.7s,baz=100,slow=4.1,SNR=2.7					
ASAR				ScP	ScP	09 10 24.9 -0.4
	comp=Z,1.0nm,0.9s,baz=120,slow=3.7,SNR=6.2					
ASAR				S	S	09 11 48.0 -3.8
	comp=Z,0.8nm,1.0s,baz=97,slow=15,SNR=6.1					
	comp=Z,27nm,0.7s					
WRAB	Tennant Creek	46.26	261	P	P	09 05 23.6 -1.7
WRAB				IAmb	IAmb	09 05 25.1
	comp=Z,26nm,0.9s					
WRA	Warramunga Arr	46.27	261	P	P	09 05 23.8 -1.6
WRA	Warramunga Arr	46.27	261	P	P	09 05 24.1 -1.3
	comp=Z,14nm,0.3s,baz=95,slow=7.5,SNR=562					
WRA				PcP	PcP	09 06 56.1 -0.4
	comp=Z,1.2nm,0.8s,baz=84,slow=3.9,SNR=2.4					
WRA				S	S	09 11 48.0 -5.0
	comp=Z,0.6nm,0.7s,baz=95,slow=14,SNR=2.7					
	comp=Z,14nm,0.3s					
MTN	Manton Dam	50.81	270	P	P	09 05 58.4 -1.4
MTN				IAmb	IAmb	09 06 38.3
	comp=Z,50nm,1.5s					
FORT	Forrest	50.90	246	P	P	09 05 58.6 -1.8
FORT				IAmb	IAmb	09 06 09.0
	comp=Z,36nm,1.1s					
FAKI	Fak Fak	53.05	282	P	P	09 06 15.4 -1.0
FITZ	Fitzroy Crossi	54.69	262	P	P	09 06 28.8 +0.6
FITZ	Fitzroy Crossi	54.69	262	P	P	09 06 27.5 -0.7
SBA	Scott Base	58.24	184	P	P	09 06 55.0 +2.8
SBA				IAmb	IAmb	09 06 56.5
	comp=Z,9.9nm,0.8s					
VNDA	Vanda	58.31	185	P	P	09 06 55.0 +2.3
VNDA	Vanda	58.31	185	P	P	09 06 54.7 +2.0
	comp=Z,3.6nm,0.8s,baz=0.0,slow=6.5,SNR=20					
	comp=Z,3.6nm,0.8s					
PSA00	Pilbara Seismi	59.33	256	P	P	09 06 59.7 -0.9
PSA00	Pilbara Seismi	59.33	256	P	P	09 06 59.1 -1.5
PSA00				IAmb	IAmb	09 07 01.7
	comp=Z,9.7nm,0.7s					
MBWA	Marble Bar	59.51	257	P	P	09 07 00.7 -1.2
MBWA	Marble Bar	59.51	257	P	P	09 07 00.2 -1.7
MBWA				IAmb	IAmb	09 07 02.9
	comp=Z,12nm,0.7s					
QSPA	South Pole Qui	69.82	180	P	P	09 08 08.9 +1.2
QSPA				IAmb	IAmb	09 08 10.4
	comp=Z,14nm,0.9s					
QSPA	South Pole Qui	69.82	180	P	P	09 08 09.0 +1.2
	comp=Z,11nm,0.8s,baz=13,slow=0.6,SNR=68					
	comp=Z,11nm,0.8s					
MJAR	Matsushiro Arr	70.99	323	P	P	09 08 14.3 -0.8
	comp=Z,2.2nm,0.5s,baz=157,slow=4.9,SNR=5.8					
	comp=Z,2.2nm,0.5s					
YULB	Yu-li	74.74	302	P	P	09 08 34.9 -2.4
SSLB	Suanglung	75.21	303	P	P	09 08 38.1 -1.9
SSLB				IAmb	IAmb	09 09 17.8
	comp=Z,17nm,1.0s					
PETK	Petropavlovsk-	76.46	344	P	P	09 08 45.9 -0.5
	comp=Z,6.6nm,0.9s,baz=116,slow=9.9,SNR=5.2					
	comp=Z,6.6nm,0.9s					
SMAI	San Martin Ant	78.25	159	P	P	09 08 57.4 +1.3
SMAI				IAmb	IAmb	09 08 58.9
	comp=Z,14nm,1.1s					
PNTR	Pine Nut	79.30	41	P	P	09 09 01.9 -0.6
PNTR				IAmb	IAmb	09 09 05.7
	comp=Z,7.2nm,0.7s					
YERR	Yerington	79.46	42	P	P	09 09 04.0 +0.6
YERR				IAmb	IAmb	09 09 06.0
	comp=Z,3.7nm,0.7s					
BELA	Belgrano 2	79.59	172	P	P	09 09 03.3 0.0
NVAR	Mina Array Bea	79.72	43	P	P	09 09 06.2 +1.4
	comp=Z,1.5nm,0.7s,baz=224,slow=8.5,SNR=20					
	comp=Z,1.5nm,0.7s					
NJ2	Nanjing	80.99	309	*e*P	P	09 09 13.2 +1.8
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.5s					
NJ2				pmax	pmax	
	comp=Z,970nm,3.6s					
MAW	Mawson	82.35	199	P	P	09 09 18.9 +1.0
	comp=Z,1.6nm,0.6s,baz=149,slow=5.9,SNR=6.2					
	comp=Z,1.6nm,0.6s					
K15K	Wolf Creek Mou	83.09	7	P	P	09 09 22.7 +1.2
K15K				IAmb	IAmb	09 09 24.0
	comp=Z,13nm,0.8s					
G08A	Pilot Rock	83.42	37	P	P	09 09 25.1 +1.3
L18K	Granite Mounta	83.65	9	P	P	09 09 25.4 +1.0
K17K	Iditarod	83.89	8	P	P	09 09 26.6 +1.0
K17K				IAmb	IAmb	09 10 02.0
	comp=Z,12nm,1.5s					
J16K	Anvik River	84.16	7	P	P	09 09 27.1 +0.2
J16K				IAmb	IAmb	09 09 29.0
	comp=Z,5.1nm,0.7s					
J17K	VABM Dome	84.45	8	P	P	09 09 29.0 +0.6
J17K				IAmb	IAmb	09 09 32.3
	comp=Z,8.4nm,1.4s					
H03S2	Juan Fernandez	84.77	124	T	T	10 42 17.4
	baz=248,slow=74,SNR=32					
H03S1	Juan Fernandez	84.79	124	T	T	10 42 18.5
	baz=248,slow=74,SNR=37					
H03S3	Juan Fernandez	84.79	124	T	T	10 42 17.3
	baz=248,slow=74,SNR=30					
F10A	Beach Ranch, E	84.81	37	P	P	09 09 31.3 +0.5
J18K	Innoko River	84.83	9	P	P	09 09 30.5 +0.2
J18K				IAmb	IAmb	09 09 32.0
	comp=Z,3.2nm,0.8s					
H03N2	Juan Fernandez	84.91	124	T	T	10 42 18.4
	baz=248,slow=74					
H03N3	Juan Fernandez	84.91	124	T	T	10 42 19.7
	baz=248,slow=74					
H03N1	Juan Fernandez	84.92	124	T	T	10 42 22.1
	baz=248					
TXAR	Lajitas Array	85.54	57	P	P	09 09 34.5 -0.3
TXAR	Lajitas Array	85.54	57	P	P	09 09 36.5 +1.7
	comp=Z,1.8nm,0.8s,baz=215,slow=7.6,SNR=25					
	comp=Z,1.8nm,0.8s					
RND	Reindeer	86.10	12	P	P	09 09 36.3 -0.4
RND				IAmb	IAmb	09 09 37.9
	comp=Z,4.1nm,0.7s					
ELIB	Princess Elisa	87.07	186	*d*P	P	09 09 42.3 +0.7
ELIB				*dp*P	pwP	09 10 43.6 -0.6
G19K	Purcell Mounta	87.34	8	P	P	09 09 43.3 +0.8
PDAR	Pinedale Array	87.66	43	P	P	09 09 46.2 +1.4
	comp=Z,0.4nm,0.7s,baz=179,slow=8.1,SNR=4.4					
	comp=Z,0.4nm,0.7s					
ILAR	Eielson Array	87.71	12	P	P	09 09 44.2 -0.1
	comp=Z,0.7nm,0.6s,baz=224,slow=5.4,SNR=14					
	comp=Z,0.7nm,0.6s					
TROLL	Troll, Antarti	87.98	180	⇑P	P	09 09 46.3 +0.5
	comp=Z,79nm,0.3s					
G21K	Allakaket	88.17	9	P	P	09 09 46.1 -0.3
SNAA	Sanae	88.21	178	P	P	09 09 47.2 +0.3
SNAA				IAmb	IAmb	09 09 47.6
	comp=Z,5.7nm,1.2s					
SNAA	Sanae	88.21	178	⇑P	P	09 09 46.4 -0.5
	comp=Z,49nm,0.9s					
SNAA	Sanae	88.21	178	P	P	09 09 46.5 -0.3
	comp=Z,1.9nm,0.9s,baz=201,slow=8.3,SNR=6.7					
	comp=Z,1.9nm,0.9s					
PLCA	Paso Flores	88.25	133	P	P	09 09 47.2 -0.5
	comp=Z,2.7nm,1.0s,baz=207,slow=4.5,SNR=3.4					
	comp=Z,2.7nm,1.0s					
VNA3	Neumayer Olymp	88.28	176	⇑P	P	09 09 47.8 +0.7
	comp=Z,7.5nm,0.8s					
E19K	Redstone River	88.57	7	P	P	09 09 48.1 -0.2
VNA2	Neumayer--Watz	88.74	176	⇑P	P	09 09 50.0 +0.8
	comp=Z,2.8nm,0.6s,baz=189,slow=4.2					
VNA1	Neumayer--Stat	88.96	176	⇑P	P	09 09 51.3 +1.1
	comp=Z,7.5nm,0.8s					
XAN	Xi'an	89.29	307	P	P	09 09 53.1 +0.6
XAN				pmax	pmax	
	comp=Z,11nm,1.0s					
HHC	Hu-ho-hao-te	90.36	314	*e*P	P	09 09 59.0 +1.6
PZH	PanZhiHua	92.05	297	P	P	09 10 06.8 +1.2
PZH				pmax	pmax	
	comp=Z,10.0nm,0.7s					
PZH				pmax	pmax	
	comp=Z,110nm,5.1s					
MKAR	Makanchi Array	112.22	313	PKiKP	PKiKP	09 15 29.3 -0.9
	comp=Z,0.9nm,0.5s,baz=145,slow=0.6,SNR=12					
KURBB	Kurchatov Arra	114.98	317	PKP	PKPdf	09 15 34.1 -1.2
	comp=Z,0.6nm,0.6s,baz=95,slow=1.8,SNR=7.4					
KURBB				PP	PP	09 16 38.7 0.0
	comp=Z,0.6nm,0.5s,baz=92,slow=4.6,SNR=4.3					
BVAR	Borovoye Array	119.94	320	PKP	PKPdf	09 15 43.9 -0.9
	comp=Z,3.2nm,0.5s,baz=69,slow=1.8,SNR=7.0					
ARCES	ARCESS Array B	128.96	350	PKP	PKPdf	09 16 00.5 -1.1
	comp=Z,0.7nm,0.4s,baz=29,slow=2.1,SNR=6.9					
HFS	Hagfors	139.53	352	PKhKP	PKPpre	09 16 14.5
	comp=Z,1.3nm,0.4s,baz=94,slow=4.3,SNR=7.6					
EKA	Eskdalemuir Ar	144.58	7	PKP	PKPbc	09 16 29.9 -0.1
	comp=Z,3.5nm,0.6s,baz=336,slow=3.1,SNR=13					
BRTR	Keskin Array B	147.87	314	PKPbc	PKPbc	09 16 39.8 -0.5
	comp=Z,3.0nm,0.7s,baz=123,slow=4.1,SNR=12					
DPC	Dobruska-Polom	148.35	345	⇑*e*PKP	PKiKP	09 16 42.3 -0.2
KRLC	Kraliky	148.48	344	⇑*e*PKP	PKiKP	09 16 41.9 -0.9
KRLC				*e*PKPAB	PKPab	09 16 46.4 +0.9
MMAI	Mount Meron Ar	149.11	301	PKPbc	PKPbc	09 16 43.6 +0.1
	comp=Z,2.0nm,0.3s,baz=78,slow=7.5,SNR=4.8					
KHC	Kasperske Hory	150.12	347	⇑*e*PKP	PKiKP	09 16 46.1 -0.1
GERES	GERESS Array B	150.37	347	PKPbc	PKPbc	09 16 46.0 -0.1
	comp=Z,2.6nm,0.6s,baz=23,slow=5.3,SNR=6.8					
CONA	Conrad Observa	150.69	343	*e*PKiKP	PKiKP	09 16 47.5 +0.1
	comp=Z,4.0nm,0.6s					
RONA	Rosalia, Austr	150.78	343	*e*PKiKP	PKiKP	09 16 47.7 +0.1
	comp=Z,8.4nm,0.5s					
MOA	Molln	151.18	345	*i* PKP	PKiKP	09 16 48.0 -0.3
	comp=Z,2.0nm,0.6s					
BIOA	Bad Ischl, Aus	151.47	346	*e*PKP	PKiKP	09 16 48.7 -0.3
	comp=Z,2.9nm,0.7s					
SOKA	Soboth	152.07	343	*e*PKP	PKiKP	09 16 50.0 -0.4
	comp=Z,2.7nm,0.8s					
KBA	Koenbreinsper	152.12	346	*e*PKiKP	PKiKP	09 16 50.3 -0.2
	comp=Z,3.9nm,0.7s					
WTTA	Wattenberg	152.29	348	*e*PKP	PKPbc	09 16 50.3 -0.4
	comp=Z,2.3nm,0.5s					
MYKA	Terra Mystica	152.47	345	*e*PKP	PKPbc	09 16 50.5 -0.4
	comp=Z,2.7nm,0.5s					
ABTA	Abfaltersbach	152.61	347	*e*PKP	PKPbc	09 16 50.9 -0.3
	comp=Z,4.2nm,0.5s					
ESDC	Sonseca Array	159.53	17	PKPab	PKPab	09 17 33.6 +1.0
	comp=Z,0.4nm,0.5s,baz=335,slow=5.7,SNR=4.1					
TORD	Torodi Ar. Bea	172.67	164	PKPab	PKPab	09 18 32.3 +1.3
	comp=Z,1.7nm,0.8s,baz=174,slow=2.9,SNR=6.1					

AFAD 04 08:58:09.3±0.0, 37°.63N×29°.24E, h7km±3km, ML1.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNIZ	Denizli-Tavas-	0.16	270	P	Pg	08 58 12.8	+0.3
DNIZ				S	Sg	08 58 15.9	+1.1
INCE	Denizli-Bozkur	0.28	73	P	Pg	08 58 15.1	+0.2
INCE				S	Sb	08 58 21.3	-0.5
INCE				*i* AML	AML	08 58 23.0	
	comp=N,22nm,0.2s						
TAVA	DENIZLI_Tavas	0.30	238	P	Pb	08 58 16.2	-0.9
TAVA				S	Sg	08 58 20.5	+1.2
TAVA				*i* AML	AML	08 58 25.0	
	comp=N,19nm,1.5s						
DNZT	Denizli-Tavas-	0.38	206	P	Pg	08 58 16.7	-0.1
DNZT				S	Sb	08 58 23.7	-0.9
GOLH	Golhisar	0.47	146	P	Pg	08 58 18.2	-0.1
GOLH				S	Sb	08 58 26.0	-1.0
GOLH				*i* AML	AML	08 58 30.0	
	comp=N,11nm,1.2s						
ESEN	Aydn-Nazilli	0.72	284	P	Pb	08 58 23.7	-0.5
ESEN				S	Sb	08 58 34.4	0.0
ESEN				*i* AML	AML	08 58 40.0	
	comp=E,6.5nm,0.6s						
ESEN				*i* AML	AML	08 58 54.0	
	comp=N,7.0nm,0.9s						
KIRA	zmir-Kiraz	0.87	311	P	Pg	08 58 26.0	-0.1
KIRA				S	Sn	08 58 40.3	-0.8
KIRA				*i* AML	AML	08 58 58.0	
	comp=N,7.6nm,1.0s						

ISK 04 08:59:01.9, 37°.21N×27°.88E, h0km±1km, ML1.7/6, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.12	318	Pg	Pg	08 59 05.8	+1.6
MLSB				Sg	Sg	08 59 09.0	+3.2
BODT	Bodrum	0.48	253	Pg	Pg	08 59 11.8	+0.8
BODT				Sg	Sb	08 59 19.3	-1.4
TURN	Turunc	0.52	146	Pg	Pb	08 59 12.9	-1.0
TURN				Sg	Sb	08 59 20.8	-1.2
DAT	Datca	0.53	207	Pg	Pg	08 59 12.8	+0.7
GCAM	G?zelcaml?	0.71	314	Pg	Pb	08 59 16.7	-0.5
DALY	Dalyan (Mula)	0.73	122	Pg	Pg	08 59 16.5	+0.6

AFAD ***04*** *08:59:31.6±0.0, 38°.90N×37°.41E, h7km±5km, ML1.4*

ISK 04 08:59:35.9, 39°.04N×37°.17E, h0km, ML1.7/6, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUGUR	Gurin_SVAS	0.33	166	P	Pg	08 59 42.7	+0.5
CUGUR				S	Sb	08 59 49.5	-1.1
CUGUR				*i* AML	AML	08 59 52.0	
	comp=N,181nm,0.3s						
CUKAN	kangal_SIVAS	0.36	40	P	Pg	08 59 40.3	-2.5
CUKAN				*i* AML	AML	08 59 50.0	
	comp=N,46nm,0.4s						
CUKAN				*i* AML	AML	08 59 51.0	
	comp=E,48nm,0.3s						
CUAYA	Sivas-Altinyay	0.40	304	P	Pg	08 59 44.2	+0.6
CUAYA				S	Sb	08 59 53.1	+0.4
CUAYA				*i* AML	AML	08 59 56.0	
	comp=N,22nm,0.4s						
CUAYA				*i* AML	AML	08 59 58.0	
	comp=E,14nm,0.4s						
DARE	Darende-Malaty	0.53	153	Pg	Pg	08 59 46.3	+0.3
DARE				Sg	Sg	08 59 54.5	+1.7
SARI	SarD1z-Kayseri	0.86	223	Pg	Pg	08 59 52.9	+0.4
SVSK	Karacayir	0.89	351	Pg	Pg	08 59 53.5	+0.6
SVSK				Sg	Sb	09 00 06.0	-0.5
ARPR	Arapgir-MALATY	0.91	86	Pg	Pb	08 59 54.3	-0.3
AKCD	Akcadag	0.95	141	P	Pg	08 59 44.8	-9.2
AKCD				S	Sg	08 59 57.4	-9.0
AKCD				*i* AML	AML	08 59 59.0	
	comp=N,16nm,0.3s						
KEMA	Kemaliye	1.05	77	P	Pg	08 59 48.6	-7.5
ILIC	ilic-Erzincan	1.16	69	Pn	Pg	08 59 58.5	+0.4
PTK	Pertek	1.74	94	Pn	Pn	09 00 06.9	-0.6
PTK				Sn	Sn	09 00 29.9	-0.6

BJI ***04*** *09:01:02.5±0.0, 41°.41N×19°.32E, h5km, mb5.2/70, mB5.3/32, Ms5.3/46, Ms7 5.0/46*

SKO ***04*** *09:01:05.8, 41°.25N×19°.23E, h19km, ML5.1*

NAO ***04*** *09:01:05.8, 41°.40N×19°.53E, h10km, mb4.6*

RHSSO ***04*** *09:01:06.4±0.6, 41°.28N×19°.64E, h5km±2km, ML5.2/18*

TIR ***04*** *09:01:07.1, 41°.47N×19°.50E, h18km±1km, Ml5.1*

LDG ***04*** *09:01:07.4±0.2, 41°.40N×19°.53E, h15km, Ml4.9/16, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

BGS ***04*** *09:01:07.5±2.9, 41°.46N×19°.52E, h10km, mb4.8*

MOS ***04*** *09:01:07.7±1.0, 41°.44N×19°.48E, h25km, mb5.2/48, MS4.8/23, Error ellipse: s-maj=3.0km s-min=2.1km az=95.1*

NEIC ***04*** *09:01:08.3, 41°.54N×19°.54E, h24km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^{16}Nm; M_{rr}5.80; $M_{\theta\theta}$-1.16; $M_{\phi\phi}$-4.64; $M_{r\theta}$0.44; $M_{r\phi}$3.22; $M_{\theta r}$-1.46; Fault plane solution: $M_0$6.37000×10^{16} NP1: ϕ_s153.08000°, δ51.88000°, λ95.04000°. NP2: ϕ_s324.95000°, δ38.40000°, λ83.61000°. Principal axes: T 6.0005, Plg82.0000°, Azm90.0000°; N 0.7377, Plg4.0000°, Azm330.0000°; P -6.7382, Plg7.0000°, Azm239.0000°;*

ROM ***04*** *09:01:09.0, 41°.45N×19°.56E, h15km, mb5.1/38, Mwp5.4/29 Error ellipse: s-maj=1.5km s-min=0.1km az=36.0*

MED_RC ***04*** *09:01:08.0±0.3, 41°.43N×19°.47E, h23km, MW5.1/50, Moment Tensor Solution. Body waves: s2,c2;Mantle waves: s50,c86; Duration: 1s2 Moment tensor: Scale 10^{16}Nm; M_{rr}4.35±.22; $M_{\theta\theta}$0.12±.15; $M_{\phi\phi}$-4.46±.14; $M_{r\theta}$2.73±.17; $M_{\theta\phi}$3.01±.08; $M_{\phi r}$-2.02±.12; Best double couple: $M_0$6.26000×10^{16} NP1: ϕ_s135.00000°, δ63.00000°, λ69.00000°. NP2: ϕ_s356.00000°, δ34.00000°, λ125.00000°. Principal axes: T 5.7200, Plg65.0000°, Azm8.0000°; N 1.0800, Plg19.0000°, Azm145.0000°; P -6.7900, Plg16.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

NEIC ***04*** *09:01:08.3, 41°.44N×19°.54E, h24km*

PDG ***04*** *09:01:09.0±0.2, 41°.49N×19°.62E, h10km, MD5.1/13, ML5.0/11, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*

BEO ***04*** *09:01:09.3±0.5, 41°.42N×19°.59E, h12km±1km, ML5.1/11*

NEIC ***04*** *09:01:09.6±1.4, 41°.45N±0°.02×19°.58E±0°.05, h22km±1km, mb5.1/533, Mww5.1/20, ML5.3/2(BUC), Error ellipse: s-maj=6.7km s-min=2.8km az=116.0*

THE

DRME Dracevica, Mon 0.79 336 *e*Pg **Pb 09 01 23.9 +0.1**
DRME *e*Sg **Sn 09 01 36.1 -0.2**
DRME Dracevica, Mon 0.79 336 ⇓*i*Pg **Pb 09 01 23.6 -0.3**
DRME *e*Sg **Sn 09 01 37.6 +1.3**
DRME Dracevica, Mon 0.79 336 ⇓*i*Pg **Pb 09 01 23.5 -0.3**
DRME *i* Sg **Sn 09 01 35.7 -0.6**
BCI Bajram Curri 0.96 21 P **Pb 09 01 26.5 -0.3**
baz=25
BCI S **Sn 09 01 41.5 +0.9**
baz=25
BCI AMP
comp=E,219nm,0.5s,baz=25
OHR Ohrid 0.96 112 ⇓*i*Pg **Pb 09 01 26.6 -0.2**
OHR *i* Sg **Sn 09 01 44.1 +3.4**
OHR *e*Lg Lg 09 01 45.6
comp=E,12μm,0.5s
OHR *e*Lg Lg 09 01 48.4
comp=N,74μm,1.1s
BUM Brajici-Budva 0.99 327 ⇓*i*Pg **Pb 09 01 27.0 -0.3**
BUM *i* Sg **Sn 09 01 42.3 +0.9**
PDG Podgorica 1.00 344 ⇑P **Pg 09 01 28.2 +0.3**
PDG ⇓S **Sn 09 01 42.2 +0.8**
PDG Podgorica 1.00 344 **Pb 09 01 27.4 0.0**
PDG Sn **Sn 09 01 42.7 +1.3**
PDG Podgorica 1.00 344 *e*Pg **Pb 09 01 27.3 0.0**
PDG *e*Sg **Sn 09 01 43.8 +2.4**
PDG Podgorica 1.00 344 ⇓P **Pb 09 01 26.8 -0.6**
PDG Podgorica 1.00 344 ⇓*i*Pg **Pb 09 01 26.8 -0.6**
PDG *e*Sg **Sn 09 01 43.4 +2.0**
PDG Podgorica 1.00 344 ⇓*i*Pg **Pb 09 01 27.0 -0.4**
PDG *i* Sg **Sn 09 01 42.7 +1.3**
TTG Podgorica 1.00 344 P **Pg 09 01 28.4 +0.5**
TTG S **Sn 09 01 43.0 +1.6**
VLO Vlora 1.00 185 P **Pg 09 01 29.8 +1.7**
baz=179
VLO AMP
comp=E,230nm,0.6s,baz=179
VLO Vlora 1.00 185 **Pg 09 01 28.3 +0.2**
VLO Vlora 1.00 185 P **Pg 09 01 29.8 +1.7**
VLO Vlora 1.00 185 P **Pg 09 01 28.3 +0.2**
PVY Plav 1.15 13 *e*Pg **Pn 09 01 30.1 0.0**
PVY *e*Sg **Sg 09 01 46.5 +0.5**
PVY Plav 1.15 13 ⇓*i*Pg **Pn 09 01 29.8 -0.3**
PVY *i* Sg **Sg 09 01 48.0 +2.0**
CEME Cevo 1.19 334 ⇓*i*Pg **Pn 09 01 30.2 -0.4**
CEME *i* Sg **Sg 09 01 49.4 +2.1**
KBN Korca 1.23 133 P **Pg 09 01 32.3 0.0**
baz=130
KBN S **Sg 09 01 51.0 +2.7**
baz=130
KBN AMP
comp=E,87nm,0.6s,baz=130
KBN Korca 1.23 133 **Pg 09 01 32.0 -0.2**
KBN Korca 1.23 133 P **Pg 09 01 32.1 -0.2**
KBN Korca 1.23 133 P **Pg 09 01 32.0 -0.2**
HCY Herceg Novi 1.28 320 ⇑*i*Pg **Pg 09 01 33.0 -0.5**
HCY *e*Sg **Sg 09 01 52.4 +2.3**
HCY Herceg Novi 1.28 320 ⇑*i*Pg **Pb 09 01 32.6 +0.3**
HCY *i* Sg **Sg 09 01 52.5 +2.3**
HCY Herceg Novi 1.28 320 P **Pg 09 01 32.9 -0.5**
HCY S **Sg 09 01 53.0 +2.8**
KOME Kolasin 1.38 357 *e*Pg **Pg 09 01 35.4 +0.1**
KOME *e*Sg **Sg 09 01 54.8 +1.5**
KOME Kolasin 1.38 357 ⇓*i*Pg **Pn 09 01 33.8 +0.6**
KOME *i* Sg **Sg 09 01 55.7 +2.4**
NKME Niksic 1.39 339 ⇑*i*Pg **Pb 09 01 34.4 +0.3**
NKME *i* Sg **Sg 09 01 56.0 +2.6**
BEY Berane 1.42 8 *e*Pg **Pb 09 01 35.0 +0.4**
BEY *e*Sg **Sg 09 01 55.9 +1.5**
IVA Berane 1.42 8 ⇓*i*Pg **Pb 09 01 34.7 +0.1**
IVA *i* Sg **Sg 09 01 56.8 +2.4**
SKO Skopje 1.46 69 *i* Pn **Pn 09 01 34.5 +0.3**
SKO *i* Sn **Sg 09 01 58.6 +3.0**
FNA Florina 1.50 117 *e*P **Pb 09 01 36.6 +0.6**
FNA Florina 1.50 117 P **Pb 09 01 36.2 +0.3**
baz=114
FNA S **Sg 09 01 58.7 +1.7**
baz=114
FNA AMP
comp=N,49nm,0.9s,baz=114
FNA Florina 1.50 117 **Pn 09 01 35.0 +0.3**
FNA Florina 1.50 117 P **Pb 09 01 36.2 +0.3**
FNA S **Sg 09 01 58.6 +1.7**
comp=N,31μm,0.8s
FNA Florina 1.50 117 ⇑P **Pn 09 01 35.3 +0.6**
FNA Florina 1.50 117 *i* Pn **Pb 09 01 35.8 -0.1**
FNA Florina 1.50 117 P **Pn 09 01 35.0 +0.3**
NEST Nestorio 1.51 134 P **Pg 09 01 37.5 -0.3**
NEST S **Sg 09 01 59.9 +2.4**
comp=N,17μm,1.1s
LSK Leskovik 1.52 150 P **Pb 09 01 37.0 +0.7**
baz=147
LSK S **Sg 09 01 60.0 +2.4**
baz=147
LSK AMP
comp=N,145nm,0.8s,baz=147
LSK Leskovik 1.52 150 P **Pg 09 01 37.2 -0.6**
LSK S **Sg 09 01 58.7 +1.1**
comp=N,35μm,1.0s
TREB Trebinje 1.56 323 ⇑*i*Pn **Pb 09 01 36.6 -0.4**
TREB *e*Sn **Sg 09 01 58.7 -0.3**
SRN Sarande 1.62 169 P **Pb 09 01 37.7 -0.3**
baz=166
SRN S **Sg 09 02 00.7 0.0**
baz=166
SRN AMP
comp=N,56nm,0.7s,baz=166
SRN Sarande 1.62 169 P **Pb 09 01 37.6 -0.3**
SRN S **Sg 09 01 59.7 -1.0**
comp=N,15μm,0.6s
DBRK Dubrovnik 1.62 318 *e*Pn **Pb 09 01 37.9 -0.2**
DBRK Sn **Sg 09 01 60.0 -0.9**
BRY Bratogost 1.64 331 ⇑*i*Pn **Pb 09 01 38.0 -0.4**
BRY *e*Sn **Sg 09 02 00.9 -0.6**
BRY Bratogost 1.64 331 ⇑*i*Pn **Pb 09 01 38.2 -0.2**
BRY *i* Sn **Sg 09 02 02.1 +0.6**
BRY Bratogost 1.64 331 P **Pb 09 01 38.8 +0.4**
BRY S **Sg 09 02 02.0 +0.6**
SCTE Santa Cesarea 1.65 212 P **Pn 09 01 36.8 +0.1**
baz=210
SCTE Santa Cesarea 1.65 212 Pn **Pn 09 01 37.0 +0.3**
PENT Pentalofos 1.72 137 P **Pb 09 01 40.8 +1.0**
SJES Sjenica 1.81 8 *e*Pg **Pb 09 01 42.5 +1.2**
SJES *e*Sg **Sg 09 02 09.1 +2.2**
SJES Sjenica 1.81 8 ⇓*i*Pn **Pb 09 01 41.2 -0.1**
SJES *e*Sn **Sb 09 02 05.8 +2.0**
UPM Unac-Piva 1.81 343 ⇑*i*Pn **Pb 09 01 41.4 0.0**
UPM *e*Sn **Sg 09 02 06.4 -0.6**
UPM Unac-Piva 1.81 343 ⇑*i*Pn **Pb 09 01 41.1 -0.3**
UPM *i* Sn **Sg 09 02 06.2 -0.8**
KLINJ Klinje 1.86 336 *e*Pn **Pb 09 01 41.4 -0.8**
KLINJ *e*Sn **Sg 09 02 07.3 -1.3**
PLE Pljevlja 1.87 355 *e*Pn **Pb 09 01 43.0 +0.6**
PLE Pljevlja 1.87 355 ⇓*i*Pn **Pb 09 01 42.6 +0.3**
PLE *i* Sn **Sg 09 02 07.6 -1.1**
PLE Pljevlja 1.87 355 P **Pb 09 01 42.9 +0.6**
PLE S **Sg 09 02 08.0 -0.7**
STIP Stip 1.94 83 ⇑*i*Pn **Pb 09 01 44.9 +1.4**
STIP *i* Sn **Sg 09 02 15.5 +4.4**
STON Ston 2.00 315 *e*Pn **Pn 09 01 42.6 +1.1**
STON Ston 2.00 315 ⇑*i*Pn **Pn 09 01 42.1 +0.6**
STON *e*Sn **Sb 09 02 08.9 -0.1**
IGT Igoumenitsa 2.01 164 P **Pn 09 01 43.2 +1.4**
baz=161
IGT S **Sg 09 02 12.2 -1.1**
baz=161
IGT AMP
comp=E,69nm,1.0s,baz=161
IGT Igoumenitsa 2.01 164 P **Pn 09 01 43.2 +1.4**
IGT S **Sb 09 02 09.3 -0.2**
comp=E,15μm,1.0s
KPRO Kipourio 2.01 138 P **Pb 09 01 45.0 +0.2**
JAN Janina 2.04 152 P **Pg 09 01 46.7 -1.1**
PRVS Prvonek 2.11 60 *e*Pn **Pb 09 01 45.4 -1.0**
PRVS *e*Sn **Sb 09 02 11.6 -0.7**
BARS Barje 2.12 50 *e*Pn **Pb 09 01 45.5 -1.0**
IVAS Ivanjica 2.14 11 *e*Pn **Pn 09 01 45.5 +1.9**
RUDO Rudo 2.15 355 *e*Pn **Pb 09 01 45.3 +1.6**
RUDO *e*Sn **Sb 09 02 14.7 +1.1**
MATE Matera 2.35 251 ⇓P **Pn 09 01 46.3 0.0**
MATE Matera 2.35 251 *e*P **Pn 09 01 45.6 -0.8**
MATE Matera 2.35 251 **Pn 09 01 46.3 0.0**
MATE Matera 2.35 251 ⇓P **Pn 09 01 46.1 -0.3**
BOSS Bosilegrad 2.37 63 *e*Pn **Pn 09 01 48.6 +1.9**
BBLS Lazi&#263i 2.40 356 *e*Pn **Pb 09 01 49.7 -1.7**
BBLS *e*Sn **Sb 09 02 19.7 -1.0**
BBLS Lazi&#263i 2.40 356 ⇑*i*Pn **Pn 09 01 49.3 +2.1**
BBLS *e*Sn **Sb 09 02 21.2 +0.5**
KNT Kendrikon 2.49 96 *e*P **Pb 09 01 51.6 -1.3**
KNT Kendrikon 2.49 96 P **Pn 09 01 50.3 +1.9**
KNT S **Sn 09 02 21.0 +2.6**
comp=E,6μm,1.6s
KNT Kendrikon 2.49 96 P **Pn 09 01 50.3 +1.9**
KNT S **Sn 09 02 21.0 +2.6**
GRUS Gruza 2.55 18 *e*Pn **Pn 09 01 51.6 +2.4**
GRUS *e*Sn **Sn 09 02 21.7 +1.9**
LIT Litokhoron 2.58 121 *e*P **Pn 09 01 51.1 +1.5**
LIT Litokhoron 2.58 121 Pn **Pn 09 01 50.3 +0.7**
LIT Litokhoron 2.58 121 P **Pn 09 01 51.4 +1.8**
LIT Litokhoron 2.58 121 ⇑P **Pn 09 01 50.9 +1.3**
LIT Litokhoron 2.58 121 P **Pn 09 01 50.3 +0.7**
DIVS Divibare 2.64 6 *e*Pn **Pn 09 01 52.3 +1.8**
DIVS *e*Sn **Sb 09 02 25.6 -2.1**
MAKA Makarska 2.65 314 *i* Pn **Pn 09 01 51.5 +1.1**
MAKA Sn **Sn 09 02 23.2 +1.1**
TYRN Tyrnavos 2.66 131 P **Pn 09 01 52.9 +2.3**
BOVS Bovan 2.66 35 ⇑P **Pn 09 01 52.8 +2.2**
BOVS ⇑S **Sb 09 02 27.1 -1.0**
BOVS Bovan 2.66 35 **Pn 09 01 52.8 +2.2**
BOVS **Sb 09 02 27.1 -1.0**
BOVS Bovan 2.66 35 *e*Pn **Pn 09 01 52.2 +1.6**
KKB Krupnik 2.66 81 P **Pn 09 01 52.8 +2.1**
HAPS Han Pijesak,BI 2.66 350 ⇑*i*Pn **Pn 09 01 52.7 +1.9**
HAPS *e*Sn **Sb 09 02 27.2 -1.0**
THE Thessaloniki 2.67 107 P **Pn 09 01 52.8 +2.0**
RICI Ricice 2.73 319 *i* Pn **Pn 09 01 52.8 +1.2**
TSLK Tsoukalades, L 2.76 163 P **Pn 09 01 53.4 +1.3**
HORT Hortiatis 2.78 107 *e*P **Pn 09 01 53.7 +1.3**
LKD2 Lefkada island 2.79 163 *e*P **Pn 09 01 53.6 +1.0**
TRUS Trudelj 2.81 12 *e*Pn **Pn 09 01 54.7 +1.9**
NYDR Nydri-Lefkada 2.88 163 P **Pn 09 01 54.5 +0.9**
HVAR Hvar 2.90 307 *i* Pn **Pn 09 01 54.8 +0.8**
SGRT San Giovanni R 2.92 277 Pn **Pn 09 01 53.5 -0.8**
SRS Serrai 3.02 95 *e*P **Pn 09 01 56.7 +1.1**
SRS Serrai 3.02 95 P **Pn 09 01 57.3 +1.7**
SVIS Svilajnac 3.03 22 *e*Pn **Pn 09 01 58.3 +2.5**
ZAGS Zajecar 3.03 39 *e*Pn **Pn 09 01 57.7 +1.9**
TEKS Tekeris 3.08 359 *e*Pn **Pn 09 01 57.6 +1.1**
TEKS Tekeris 3.08 359 ⇑*i*Pn **Pn 09 01 57.5 +1.1**
TEKS *e*Sn **Sb 09 02 37.0 -3.2**
MMB Musomishta 3.11 87 P **Pn 09 01 59.2 +2.3**
TIP Timpagrande 3.16 225 ⇑P **Pn 09 01 58.0 +0.4**
TIP Timpagrande 3.16 225 Pn **Pn 09 01 57.5 -0.2**
TIP Timpagrande 3.16 225 ⇓P **Pn 09 01 57.2 -0.5**
TIP Timpagrande 3.16 225 P **Pn 09 01 56.8 -0.9**
AGG Agios Georgios 3.21 139 *e*P **Pn 09 01 56.3 -2.0**
AGG Agios Georgios 3.21 139 Pn **Pn 09 02 00.0 +1.7**
AGG Agios Georgios 3.21 139 P **Pn 09 02 00.2 +1.9**
AGG Agios Georgios 3.21 139 ⇑P **Pn 09 01 59.9 +1.7**
AGG Agios Georgios 3.21 139 P **Pn 09 02 00.0 +1.7**
CUC Castrocucco 3.24 244 Pn **Pn 09 01 58.6 -0.1**
CUC Castrocucco 3.24 244 ⇓P **Pn 09 01 58.6 -0.1**
AVAS Avala Beograd 3.29 11 *e*Pn **Pn 09 02 00.8 +1.4**
KUBS Kucevo 3.31 27 *e*Pn **Pn 09 02 00.3 +0.7**
BEO Beograd 3.40 10 *e*Pn **Pn 09 02 00.8 0.0**
BEO Beograd 3.40 10 P **Pn 09 02 00.6 -0.2**
DOB Doboj 3.44 342 *e*Pn **Pn 09 02 02.9 +1.5**
DOB *e*Sn **Sn 09 02 45.5 +3.7**
PAIG Paliouri 3.45 115 *e*P **Pn 09 02 01.3 -0.3**
KIJV Kijevo 3.46 318 *i* Pn **Pn 09 02 03.2 +1.5**
MGRS Mrkonjic Grad 3.48 329 ⇑*i*Pn **Pn 09 02 04.2 +2.2**
MGRS *e*Sn **Sn 09 02 46.1 +3.3**
OUR Ouranopolis 3.50 107 *e*P **Pn 09 02 03.9 +1.7**
PGB Panagyurishte 3.55 71 P **Pn 09 02 06.0 +3.0**
MDVR Moldovita 3.65 24 ⇓P **Pn 09 02 06.1 +1.8**
MDVR ⇓S **Sn 09 02 50.7 +3.8**
ZIRJ Zirje 3.66 308 *e*Pn **Pn 09 02 05.7 +1.4**
FRGS Fruska Gora 3.69 2 ⇑P **Pn 09 02 07.0 +2.1**
FRGS Fruska Gora 3.69 2 *e*Pn **Pn 09 02 06.1 +1.3**
FRGS Fruska Gora 3.69 2 ⇑*i*Pn **Pn 09 02 05.8 +1.0**
FRGS *e*Sn **Sn 09 02 51.6 +3.7**
BLY Banja Luka 3.73 332 ⇑P **Pn 09 02 07.1 +1.8**
BLY Banja Luka 3.73 332 ⇑*i*Pn **Pn 09 02 07.0 +1.6**
BLY *e*Sn **Sn 09 02 52.9 +4.0**
MORI Morici 3.75 311 *i* Pn **Pn 09 02 07.0 +1.4**
BAIL Bailesti 3.75 46 ⇓P **Pn 09 02 08.2 +2.7**
A050A Klekovaca 3.77 324 ⇑*i*Pn **Pn 09 02 07.8 +1.9**
A050A *e*Sn **Sn 09 02 53.0 +3.1**
PAOL Paolisi 3.83 265 **Pn 09 02 08.0 +1.1**
DJES Djerdap 3.84 33 ⇓P **Pn 09 02 09.7 +2.8**
DJES Djerdap 3.84 33 *e*Pn **Pn 09 02 10.4 +3.5**
RZN Rozhen 3.85 85 P **Pn 09 02 09.6 +2.4**
PLD Plovdiv 3.90 78 *e*P **Pn 09 02 09.9 +2.2**
PLD Plovdiv 3.90 78 P **Pn 09 02 09.9 +2.2**
HERR Herculane 3.98 30 ⇑P **Pn 09 02 11.5 +2.8**
BANR Banloc 4.06 15 ⇑P **Pn 09 02 11.7 +1.8**
PRIJ Prijedor 4.09 330 *e*Pn **Pn 09 02 11.9 +1.5**
PRIJ *e*Sn **Sn 09 03 00.5 +2.6**
SRE Strehaia 4.13 38 ⇑P **Pn 09 02 13.9 +3.0**
SRE Strehaia 4.13 38 P **Pn 09 02 13.9 +3.0**
UDBI Udbina 4.16 319 *e*Pn **Pn 09 02 13.5 +2.1**
DUGI Dugi Otok 4.20 308 *i* Pn **Pn 09 02 12.9 +1.1**
KDZ Kurdzhali 4.30 86 *e*P **Pn 09 02 15.8 +2.6**
KDZ Kurdzhali 4.30 86 P **Pn 09 02 16.2 +3.0**
INTR Introdacqua 4.31 279 Pn **Pn 09 02 14.0 +0.6**
VLAD Vladila 4.34 53 ⇑P **Pn 09 02 17.6 +3.9**
VIRC Vir 4.38 312 *i* Pn **Pn 09 02 15.3 +1.0**
BZS Buzias 4.39 19 ⇑P **Pn 09 02 16.1 +1.6**
BZS Buzias 4.39 19 *e*P **Pn 09 02 15.9 +1.4**
BZS Buzias 4.39 19 ⇑P **Pn 09 02 15.7 +1.2**
BZS Buzias 4.39 19 P **Pn 09 02 16.1 +1.6**
RDO Rodhopi 4.47 92 *e*P **Pn 09 02 15.5 -0.1**
RDO Rodhopi 4.47 92 **Pn 09 02 17.4 +1.9**
RDO Rodhopi 4.47 92 ⇓P **Pn 09 02 17.1 +1.5**
PLIT Plitvice 4.49 321 *i* Pn **Pn 09 02 17.7 +1.9**
LIA Limnos Island 4.51 109 *e*P **Pn 09 02 18.8 +2.6**
GZR Gura Zlata 4.55 29 ⇑P **Pn 09 02 18.7 +2.0**
MOSL Moslavina 4.63 334 *i* Pn **Pn 09 02 18.9 +1.1**
ITM Ithomi 4.64 157 *e*P **Pn 09 02 18.7 +0.7**
ITM Ithomi 4.64 157 **Pn 09 02 19.2 +1.2**
ITM Ithomi 4.64 157 ⇑P **Pn 09 02 18.9 +1.0**
NVLJ Novalja 4.65 313 *e*Pn **Pn 09 02 18.7 +0.7**
SURR Surduc 4.65 22 ⇓P **Pn 09 02 19.3 +1.3**
SURR Surduc 4.65 22 **Pn 09 02 19.3 +1.3**
CAMP Campotosto 4.75 285 **Pn 09 02 20.1 +0.7**
KOVH Kovagotottos 4.75 347 ⇑P **Pn 09 02 20.1 +0.7**
MORH Mrgy, Hungar 4.79 352 ⇓P **Pn 09 02 21.2 +1.2**
MORH Mrgy, Hungar 4.79 352 ⇑*i*Pn **Pn 09 02 20.6 +0.6**
MORH *e*Sn **Sn 09 03 18.4 +3.3**
MORH Mrgy, Hungar 4.79 352 P **Pn 09 02 20.6 +0.6**
RABC Rab 4.82 314 *i* Pn **Pn 09 02 21.1 +0.7**
ELND Elena 4.87 71 ⇓P **Pn 09 02 24.7 +3.6**
ELND Elena 4.87 71 **Pn 09 02 24.7 +3.6**
ALN Alexandroupoli 4.89 95 *e*P **Pn 09 02 25.0 +3.7**
ALN Alexandroupoli 4.89 95 **Pn 09 02 23.0 +1.7**
ALN Alexandroupoli 4.89 95 ⇑P **Pn 09 02 23.0 +1.7**
ALN Alexandroupoli 4.89 95 P **Pn 09 02 23.0 +1.7**
COPA Copaceanca 4.91 55 ⇑P **Pn 09 02 24.7 +3.2**
GUMA Gualdo di Mace 4.92 291 **Pn 09 02 22.6 +0.8**
GADA Gvkgeada 4.94 103 *e*P **Pn 09 02 23.3 +1.4**
HUMR Humele 4.98 50 ⇑P **Pn 09 02 25.9 +3.3**
ENEZ Enez 4.99 96 *e*P **Pn 09 02 24.1 +1.4**
LOT Lotru 4.99 36 ⇓P **Pn 09 02 25.1 +2.2**
LOT Lotru 4.99 36 *e*P **Pn 09 02 26.8 +3.9**
DEV Deva 5.01 27 ⇓P **Pn 09 02 25.8 +2.7**
DEV Deva 5.01 27 P **Pn 09 02 25.7 +2.7**
SIRR Siria 5.02 16 ⇓P **Pn 09 02 24.7 +1.6**
NRCA Norcia 5.02 288 **Pn 09 02 24.0 +0.8**
ZAG Zagreb 5.09 330 *i* Pn **Pn 09 02 25.5 +1.5**
ZAG Zagreb 5.09 330 P **Pn 09 02 25.2 +1.2**
OZLJ Ozalj 5.12 325 *e*Pn **Pn 09 02 26.1 +1.6**
BOJS Bojanci 5.13 323 *i* Pn **Pn 09 02 25.7 +1.0**
BOJS IAML 09 03 56.9
comp=Z,2μm,0.8s
BOJS Bojanci 5.13 323 ⇑*i*Pn **Pn 09 02 25.6 +1.0**
BOJS *e*Sn **Sn 09 03 24.8 +1.4**
PTJ Puntijarka 5.16 330 *e*Pn **Pn 09 02 25.8 +0.7**
PTJ Puntijarka 5.16 330 P **Pn 09 02 25.6 +0.4**
STFAR Stefanesti-Arg 5.17 47 ⇑P **Pn 09 02 28.6 +3.4**
STFAR Stefanesti-Arg 5.17 47 **Pn 09 02 28.6 +3.4**
KALN Kalnik 5.19 335 *i* Pn **Pn 09 02 26.4 +1.0**
JMB Yambol 5.25 77 P **Pn 09 02 29.1 +2.8**
GCIS Gornji Cirnik 5.26 328 *i* Pn **Pn 09 02 27.2 +0.8**
GCIS IAML 09 04 16.0
comp=Z,2μm,1.2s
ERIK Erikli-Kesan 5.28 96 *e*P **Pn 09 02 28.6 +2.0**
SIGR SIGRI 5.28 113 *e*P **Pn 09 02 26.1 -0.5**
UKOP Uzunkopru-Edir 5.30 91 *e*P **Pn 09 02 29.2 +2.3**
GELI Tayfur-Gelibol 5.30 99 *e*P **Pn 09 02 28.4 +1.4**
LOBO Lobor 5.34 332 *e*Pn **Pn 09 02 28.4 +0.9**
ARR Arges 5.34 41 ⇑P **Pn 09 02 30.7 +3.1**
SMRN Sveta Marina 5.35 314 *e*Pn **Pn 09 02 27.6 0.0**
EDRB Edirne 5.35 84 *e*P **Pn 09 02 30.1 +2.4**
CESX Cesi 5.36 285 Pn **Pn 09 02 28.7 +0.9**
EZN Ezine 5.36 106 *e*P **Pn 09 02 29.2 +1.4**
RIY Rijeka 5.37 318 *e*Pn **Pn 09 02 28.9 +1.0**
COMU Canakkale 5.38 102 *e*P **Pn 09 02 29.5 +1.4**
BEHE Becsehely 5.40 339 ⇑*i*Pn **Pn 09 02 29.6 +1.3**
BEHE *e*Sn **Sn 09 03 32.0 +1.9**
SGRR Singureni 5.42 57 ⇑P **Pn 09 02 31.9 +3.3**
MTUR Matau 5.46 45 ⇑P **Pn 09 02 32.5 +3.2**
MTUR Matau 5.46 45 **Pn 09 02 32.5 +3.2**
MTUR Matau 5.46 45 P **Pn 09 02 32.5 +3.2**
BRJN Brijuni 5.49 311 *e*Pn **Pn 09 02 30.3 +0.8**
VISS Visnje 5.55 323 *i* Pn **Pn 09 02 31.0 +0.7**
VISS IAML 09 04 44.3
comp=Z,3μm,1.1s
VOIR 5.60 43 ⇑P **Pn 09 02 34.7 +3.6**
VOIR 5.60 43 P **Pn 09 02 34.7 +3.6**
VOIR 5.60 43 P **Pn 09 02 33.3 +2.2**
comp=Z,302nm,1.1s,comp=Z,3μmcomp=Z,1.7nm
CEY Cerknica 5.69 320 ⇑*i*Pn **Pn 09 02 33.4 +1.1**
CEY Cerknica 5.69 320 ⇑*i*Pn **Pn 09 02 33.3 +1.0**
CEY *e*Sn **Sn 09 03 38.7 +1.4**
SKDS Skadanscina 5.76 317 *i* Pn **Pn 09 02 33.5 +0.2**
SKDS IAML 09 04 09.2
comp=Z,1μm,0.3s
DRGR 5.77 22 ⇑P **Pn 09 02 35.4 +2.0**
DRGR 5.77 22 *e*P Pn 09 02 39.2 +5.8
DRGR 5.77 22 P **Pn 09 02 35.4 +2.0**
MARR Marisel-Cluj 5.78 25 ⇑P **Pn 09 02 36.7 +3.0**
MARR Marisel-Cluj 5.78 25 **Pn 09 02 36.7 +3.0**
SULR 5.82 54 ⇑P **Pn 09 02 37.7 +3.6**
BORR Bors 5.83 15 ⇓P **Pn 09 02 37.3 +3.1**
BORR Bors 5.83 15 **Pn 09 02 37.3 +3.1**
RAFF Raffo Rosso 5.88 226 Pn **Pn 09 02 34.1 -0.8**
KRBG Karabiga-Canak 5.92 98 *e*P **Pn 09 02 37.4 +2.0**
PHSR Pinarhisar 5.94 86 *e*P **Pn 09 02 38.6 +2.9**
CJR Cluj-Napoca 5.97 27 ⇑P **Pn 09 02 39.2 +3.0**
CJR Cluj-Napoca 5.97 27 P **Pn 09 02 39.2 +3.0**
BUD Budapest 6.03 356 P **Pn 09 02 38.4 +1.5**
BUD S **Sn 09 03 51.1 +5.6**
DKL Dikili 6.07 111 *e*P **Pn 09 02 37.7 +0.2**
MLR Muntele Rosu 6.11 47 ⇑P **Pn 09 02 42.0 +3.8**
MLR Muntele Rosu 6.11 47 *e*P **Pn 09 02 41.2 +3.0**
MLR Muntele Rosu 6.11 47 **Pn 09 02 41.0 +2.8**
MLR Muntele Rosu 6.11 47 P **Pn 09 02 41.0 +2.8**
comp=Z,44nm,0.3s,baz=203,slow=6.2,SNR=102
MLR S **Sn 09 03 47.8 +0.1**
comp=Z,109nm,0.6s,baz=310,slow=14,SNR=1.0
MLR Muntele Rosu 6.11 47 P **Pn 09 02 41.2 +3.0**
comp=Z,396nm,0.9s,comp=Z,5μmcomp=Z,2.8nm
LTVH Ltavrtes, Hu 6.13 15 ⇑P **Pn 09 02 41.1 +2.7**
LTVH Ltavrtes, Hu 6.13 15 ⇑P **Pn 09 02 41.7 +3.3**
DOPR Dopca 6.14 41 ⇑P **Pn 09 02 41.9 +3.4**
SOKA Soboth 6.16 329 *i* Pn **Pn 09 02 39.5 +0.6**
comp=Z,39nm,0.3s,SNR=91
SOKA *e*Sn **Sb 09 04 15.8 +6.9**
comp=Z,187nm,0.6s
VOJS Vojsko 6.17 320 ⇑*i*Pn **Pn 09 02 39.4 +0.5**
URLA Izmir 6.20 118 *e*P **Pn 09 02 39.5 +0.1**
OBKA Obir 6.22 326 *i* Pn **Pn 09 02 40.2 +0.5**
comp=Z,20nm,0.2s,SNR=53
OBKA Obir 6.22 326 ⇑*i*Pn **Pn 09 02 40.0 +0.3**
OBKA *e*Sn **Sn 09 03 51.1 +0.7**
ISR Istrita 6.23 52 ⇓P **Pn 09 02 43.5 +3.7**
ISR Istrita 6.23 52 P **Pn 09 02 43.5 +3.7**
ISR Istrita 6.23 52 P **Pn 09 02 42.7 +2.9**
comp=Z,788nm,0.8s,comp=Z,8μmcomp=Z,4.5nm
NEHR Nehoiu 6.27 49 ⇓P **Pn 09 02 43.8 +3.6**
NEHR Nehoiu 6.27 49 **Pn 09 02 43.8 +3.6**
SABO M.te Sabotino 6.27 318 **Pn 09 02 40.4 +0.1**
CLTB Caltabellotta 6.29 234 **Pn 09 02 42.2 +1.6**
CLTB Caltabellotta 6.29 234 ⇓P **Pn 09 02 41.9 +1.2**
EDC Edincik 6.35 97 *e*P **Pn 09 02 43.3 +1.9**
APE Apeiranthos 6.35 132 ⇓P **Pn 09 02 43.6 +2.1**
APE Apeiranthos 6.35 132 *e*P **Pn 09 02 38.6 -2.9**
APE Apeiranthos 6.35 132 **Pn 09 02 43.6 +2.1**
APE Apeiranthos 6.35 132 ⇑P **Pn 09 02 42.7 +1.2**
APE Apeiranthos 6.35 132 *ce*P **Pn 09 02 42.0 +0.5**
SRO Srobarova 6.41 352 P **Pn 09 02 45.5 +3.3**
SRO pmax pmax
comp=Z,1μm,0.9s
OZUR 6.43 42 ⇓P **Pn 09 02 45.2 +2.8**
PSZ Piszkesteto 6.45 2 ⇓P **Pn 09 02 44.1 +1.3**
PSZ Piszkesteto 6.45 2 **Pn 09 02 43.6 +0.8**
PSZ Piszkesteto 6.45 2 **Pn 09 02 44.1 +1.3**
PSZ Piszkesteto 6.45 2 ⇑P **Pn 09 02 43.2 +0.4**
PSZ Piszkesteto 6.45 2 P **Pn 09 02 44.1 +1.3**
AMRR Amara 6.47 58 ⇓P **Pn 09 02 46.2 +3.2**
AMRR Amara 6.47 58 P **Pn 09 02 46.1 +3.2**
SLVT Silivri 6.47 89 *e*P **Pn 09 02 45.6 +2.5**
COVR Voineasa-Covas 6.48 45 ⇑P **Pn 09 02 46.8 +3.7**
COVR Voineasa-Covas 6.48 45 **Pn 09 02 46.8 +3.7**
ARSA Arzberg 6.48 334 *i* Pn **Pn 09 02 43.7 +0.5**
comp=Z,51nm,0.4s,SNR=34
ARSA Arzberg 6.48 334 ⇑P **Pn 09 02 44.0 +0.8**
BLCB Balcova 6.49 116 *e*P **Pn 09 02 42.4 -0.8**
CTYL Yalikoy Yolu 6.52 87 *e*P **Pn 09 02 45.9 +2.3**
CTYL Yalikoy Yolu 6.52 87 P **Pn 09 02 45.8 +2.2**
TURR Turia 6.52 43 ⇓P **Pn 09 02 47.1 +3.4**
OSSC Osservatorio P 6.52 291 **Pn 09 02 44.9 +1.2**
ARCR ARCALIA 6.56 30 ⇑P **Pn 09 02 47.3 +3.0**
ARCR ARCALIA 6.56 30 **Pn 09 02 47.3 +3.0**
BISRR Bisoca 6.57 49 ⇑P **Pn 09 02 47.6 +3.1**
BISRR Bisoca 6.57 49 P **Pn 09 02 48.4 +3.9**
comp=Z,1μm,1.0s,comp=Z,10μmcomp=Z,5.5nm
SOP Sopron 6.58 342 P **Pn 09 02 46.2 +1.6**
PRED Cave del Predi 6.61 321 Pn **Pn 09 02 43.7 -1.3**
CASP Castiglione de 6.64 284 **Pn 09 02 45.7 +0.3**
PSN Preselentsi 6.65 68 P **Pn 09 02 49.1 +3.6**
RONA Rosalia, Austr 6.66 340 *i* Pn **Pn 09 02 46.2 +0.5**
comp=Z,32nm,0.7s,SNR=36
PTCC Patocco-Chiusa 6.69 320 ⇑P **Pn 09 02 45.0 -1.1**
CTKS Kestanelik-??a 6.70 89 *e*P **Pn 09 02 47.2 +1.1**
SPBR Spulber 6.71 48 ⇑P **Pn 09 02 49.6 +3.2**
MYKA Terra Mystica 6.72 322 *i* Pn **Pn 09 02 47.0 +0.6**
comp=Z,27nm,0.3s,SNR=46
MYKA *e*Sn **Sn 09 04 02.5 -0.1**
comp=Z,60nm,0.3s
PLOR3 Plostina Array 6.72 47 P **Pn 09 02 48.9 +2.4**
comp=Z,744nm,1.0s,comp=Z,6μmcomp=Z,2.3nm
PLOR Plostina 6.72 47 ⇑P **Pn 09 02 49.9 +3.3**
PLOR Plostina 6.72 47 P **Pn 09 02 49.8 +3.3**
PLOR5 Plostina Array 6.73 47 P **Pn 09 02 49.4 +2.8**
comp=Z,399nm,1.0s,comp=Z,4μmcomp=Z,1.5nm
KCTX Karacabey (Bur 6.74 97 *e*P **Pn 09 02 47.7 +1.0**
VRI Vrincioaia 6.77 47 ⇑P **Pn 09 02 50.7 +3.5**
VRI Vrincioaia 6.77 47 *e*P **Pn 09 02 50.5 +3.3**
VRI Vrincioaia 6.77 47 P **Pn 09 02 50.7 +3.5**
VRI Vrincioaia 6.77 47 P **Pn 09 02 50.2 +3.0**
comp=Z,311nm,0.8s,comp=Z,4μmcomp=Z,1.5nm
BMR Baia Mare 6.79 23 ⇑

MFTR Murfatlar 7.02 64 ⇑P Pn 09 02 54.1 +3.5
MFTR Murfatlar 7.02 64 Pn 09 02 54.1 +3.5
KECS Kecovo 7.04 5 eP Pn 09 02 53.1 +2.3
KECS Kecovo 7.04 5 ePN Pn 09 02 53.1 +2.3
VYHS Vyhne 7.04 356 eP Pn 09 02 52.7 +1.8
VYHS Vyhne 7.04 356 ePN Pn 09 02 52.7 +1.8
ARMT Armutlu 7.05 94 eP Pn 09 02 52.4 +1.4
MODS Modra-Piesok 7.10 347 eP Pn 09 02 53.7 +2.0
MODS Modra-Piesok 7.10 347 ePN Pn 09 02 53.7 +2.0
TIRR Tirgusor 7.11 62 Pn Pn 09 02 53.9 +2.1
TIRR Tirgusor 7.11 62 P Pn 09 02 53.9 +2.1
ISK Istanbul-Kandi 7.13 90 eP Pn 09 02 50.5 -1.5
TESR Tescani 7.15 43 ⇑P Pn 09 02 55.4 +3.1
TESR Tescani 7.15 43 P Pn 09 02 55.0 +2.7
comp=Z,143nm,0.8s,comp=Z,2μmcomp=Z,1.5nm
KBA Koelnbreinsper 7.19 323 *i* Pn **Pn 09 02 53.5 +0.5**
comp=Z,24nm,0.3s,SNR=66
KBA *e*Sn **Sn 09 04 13.2 -1.1**
comp=Z,111nm,0.7s
KBA Koelnbreinsper 7.19 323 ⇑P Pn 09 02 53.5 +0.5
KBA Koelnbreinsper 7.19 323 P Pn 09 02 53.1 +0.1
CFR Carcaliu 7.23 56 ⇑P Pn 09 02 56.2 +2.7
CFR Carcaliu 7.23 56 P Pn 09 02 56.1 +2.7
GHRR 7.27 48 P Pn 09 02 56.9 +2.9
TPGR Topolog 7.27 59 ⇓P Pn 09 02 56.8 +2.8
TPGR Topolog 7.27 59 Pn 09 02 56.8 +2.8
AYDB Zeytinkoy-Aydi 7.29 116 eP Pn 09 02 52.7 -1.6
VLC Villacollemand 7.39 295 ⇓P Pn 09 02 54.4 0.0
BUR01 Bucovina Ar. S 7.33 31 Pn 09 02 58.0 +3.1
BURAR Bucovina Array 7.33 31 ⇓P Pn 09 02 58.0 +3.1
BURAR Bucovina Array 7.33 31 Pn 09 02 56.8 +1.9
BURAR Bucovina Array 7.33 31 P Pn 09 02 57.8 +2.9
ABTA Abfaltersbach 7.34 318 *i* Pn **Pn 09 02 55.2 +0.1**
comp=Z,16nm,0.3s,SNR=52
ABTA *e*Sn **Sn 09 04 18.0 0.0**
comp=Z,273nm,0.5s
BUR08 Bucovina Ar. S 7.35 31 Pn 09 02 58.3 +3.1
CTI Castel Tesino 7.36 311 Pn 09 02 55.0 -0.3
CTI Castel Tesino 7.36 311 P Pn 09 02 55.0 -0.3
TATR Tatarca 7.39 53 ⇑P Pn 09 02 58.2 +2.6
TATR Tatarca 7.39 53 Pn 09 02 58.2 +2.6
SCTR Scanteiesti 7.39 53 ⇓P Pn 09 02 58.3 +2.6
SCTR Scanteiesti 7.39 53 Pn 09 02 58.3 +2.6
BODT Bodrum 7.42 124 eP Pn 09 02 53.3 -2.7
GIUM Giurgiulesti 7.43 54 ⇑P Pn 09 02 59.4 +3.3
GIUM Giurgiulesti 7.43 54 Pn 09 02 59.4 +3.3
MOA Molln 7.43 331 *i* Pn **Pn 09 02 57.2 +1.1**
comp=Z,23nm,0.4s,SNR=64
IDI Anoyia 7.43 144 eP Pn 09 02 52.4 -3.9
IDI Anoyia 7.43 144 Pn 09 02 55.5 -0.8
IDI Anoyia 7.43 144 P Pn 09 02 55.4 -1.0
comp=Z,12nm,0.3s,baz=329,slow=15,SNR=29
IDI S **Sn 09 04 17.1 -3.1**
comp=Z,70nm,0.3s,baz=248,slow=8.2,SNR=6.9
GVD Gavdhos 7.50 151 eP Pn 09 02 53.3 -3.9
JAVC Velka Javorina 7.51 350 ePN Pn 09 03 00.1 +2.7
VLDR Vladesti 7.54 52 ⇓P Pn 09 03 00.9 +3.3
VLDR Vladesti 7.54 52 Pn 09 03 00.9 +3.3
BIOA Bad Ischl, Aus 7.54 328 *i* Pn **Pn 09 02 58.8 +1.1**
comp=Z,61nm,0.3s,SNR=52
BIOA *e*Sn **Sb 09 04 52.9 +4.4**
comp=Z,175nm,0.5s
CRVS Cervenica-Dubn 7.54 9 eP Pn 09 03 00.3 +2.5
CRVS Cervenica-Dubn 7.54 9 ePN Pn 09 03 00.2 +2.5
CRVS *e*PG Pb 09 03 31.2 +12
KULA Kula-Manisa 7.55 110 eP Pn 09 03 00.1 +2.2
SIMA Simav-Kutahya 7.55 105 eP Pn 09 02 58.3 +0.4
SILT Sile 7.56 89 eP Pn 09 02 58.4 +0.5
PRMA PARMA 7.56 299 Pn 09 02 58.6 +0.7
MLSB Milas 7.57 121 eP Pn 09 02 56.2 -2.0
LANS Liptovska Anna 7.68 359 eP Pn 09 03 04.3 +4.6
LANS Liptovska Anna 7.68 359 ePN Pn 09 03 04.3 +4.6
KOLS Kolonicke sedl 7.70 13 ePN Pn 09 03 03.2 +3.4
KOLS *e*PG Pb 09 03 34.7 +13
ADVT Abdulvahap 7.73 94 eP Pn 09 02 59.8 -0.6
LESA Schwarzleotal 7.75 323 *i* Pn **Pn 09 03 01.4 +0.7**
comp=Z,41nm,0.3s
DAT Datca 7.79 125 eP Pn 09 02 57.7 -3.6
CAVI Cavuskoy 7.86 96 eP Pn 09 03 02.2 +0.1
KRUC Moravsky 7.92 344 ePN Pn 09 03 04.9 +2.0
KRUC Moravsky 7.92 344 P Pn 09 03 04.6 +1.7
MSSA Maissana 7.94 294 Pn Pn 09 03 03.0 -0.3
NIE Niedzica 7.96 3 eP Pn 09 03 06.8 +3.3
NIE Niedzica 7.96 3 P Pn 09 03 07.4 +3.9
PGF Pioggiola 7.98 281 eP Pn 09 03 05.0 +1.2
PGF Pioggiola 7.98 281 *e*Pg Pb 09 03 33.9 +7.5
PGF Pioggiola 7.98 281 ⇓P Pn 09 03 04.4 +0.6
PGF Pioggiola 7.98 281 eP Pn 09 03 05.4 +1.6
PGF pmax pmax
comp=Z,65nm,0.5s
MAUC Maruska 8.00 352 ePN Pn 09 03 06.7 +2.7
STHS Stebnicka Huta 8.03 8 eP Pn 09 03 08.2 +3.8
STHS Stebnicka Huta 8.03 8 ePN Pn 09 03 08.2 +3.8
VSL Villasalto 8.05 259 Pn 09 03 03.5 -1.2
VRAC Vranov 8.12 346 ePN Pn 09 03 07.5 +1.9
VRAC Vranov 8.12 346 P Pn 09 03 07.6 +1.9
comp=Z,1.1nm,0.3s,baz=170,slow=12,SNR=28
VRAC S **Sn 09 04 35.2 -1.8**
comp=Z,22nm,0.6s,baz=151,slow=18,SNR=1.1
comp=Z,23nm,0.7s
SAUV Serdivan-Sakar 8.12 92 eP Pn 09 03 06.5 +0.8
BOB Bobbio (Coli) 8.13 297 P Pn 09 03 07.0 +1.1
BOB pmax pmax
comp=Z,298nm,0.7s
WTTA Wattenberg 8.13 318 *i* Pn **Pn 09 03 06.5 +0.5**
comp=Z,42nm,0.3s,SNR=67
WTTA *e*Sn **Sn 09 04 39.2 +1.6**
comp=Z,538nm,0.7s
WTTA Wattenberg 8.13 318 P Pn 09 03 06.8 +0.8
WTTA pmax pmax
comp=Z,139nm,1.2s
TURN Turunc 8.18 122 eP Pn 09 03 03.9 -2.6
WATA Walderalm 8.21 318 ePn Pn 09 03 07.6 +0.5
comp=Z,105nm,0.3s,SNR=121
WATA *e*Sn **Sn 09 04 38.0 -1.5**
comp=Z,78nm,0.3s
CKRC Cesky Krumlov 8.25 335 ePN Pn 09 03 09.2 +1.8
CKRC AMS AMS 09 06 30.0
comp=Z,8μm,15.1s
CKRC Cesky Krumlov 8.25 335 eP Pn 09 03 09.2 +1.8
CKRC MLR MLR
comp=Z,8μm,15.1s
GULT Gulveren 8.31 94 eP Pn 09 03 08.9 +0.5
SQTA Sankt Quirin 8.32 316 *i* Pn **Pn 09 03 09.3 +0.8**
comp=Z,54nm,0.4s,SNR=58
SQTA *e*Sn **Sn 09 04 40.6 -1.6**
comp=Z,94nm,0.4s
TREC Trest 8.35 341 P Pn 09 03 10.4 +1.7
KARP Karpathos 8.36 133 eP Pn 09 03 05.6 -3.4
KARP Karpathos 8.36 133 Pn 09 03 09.5 +0.5
KARP Karpathos 8.36 133 ⇑P Pn 09 03 10.6 +1.6
KARP Karpathos 8.36 133 P Pn 09 03 10.8 +1.8
comp=Z,211nm,1.2s,comp=Z,2μm
DALY Dalyan (Mula) 8.42 121 eP Pn 09 03 07.7 -2.1
OKC Ostrava-Krasne 8.43 354 ePN Pn 09 03 12.6 +2.7
OKC Ostrava-Krasne 8.43 354 eP Pn 09 03 12.6 +2.7
MORC Moravsky Berou 8.43 351 Pn 09 03 10.7 +0.7
MORC Moravsky Berou 8.43 351 ePN Pn 09 03 12.1 +2.1
MORC Moravsky Berou 8.43 351 ⇑P Pn 09 03 12.2 +2.2
MORC Moravsky Berou 8.43 351 P Pn 09 03 10.7 +0.7
KWP Kalwaria Pacla 8.44 14 eP Pn 09 03 16.1 +6.0
KWP Kalwaria Pacla 8.44 14 P Pn 09 03 15.6 +5.5
FETA Feichten 8.45 314 *i* Pn **Pn 09 03 11.0 +0.6**
comp=Z,14nm,0.3s,SNR=22
ARG Arkhangelos 8.46 126 Pn 09 03 13.6 +3.3
ARG Arkhangelos 8.46 126 P Pn 09 03 13.6 +3.3
GEC2 GERESS Array S 8.47 332 Pn **Pn 09 03 10.8 +0.2**
GEC2 GERESS Array S 8.47 332 P **Pn 09 03 11.4 +0.8**
GEC2 pmax pmax
comp=Z,50nm,0.7s
GERES GERESS Array B 8.47 332 Pn 09 03 11.0 +0.5
GERES GERESS Array B 8.47 332 P **Pn 09 03 11.3 +0.7**
comp=Z,4.4nm,0.3s,baz=152,slow=15,SNR=36
GERES S **Sn 09 04 50.2 +4.4**
comp=Z,22nm,0.4s,baz=153,slow=27,SNR=5.3
comp=Z,14nm,0.5s
FUORN Ofenpass-Fuorn 8.47 311 Pn **Pn 09 03 11.3 +0.5**
SRCK Saricakaya, Es 8.48 96 eP Pn 09 03 12.7 +2.1
APMY Acipayam-Deniz 8.49 115 eP Pn 09 03 09.6 -1.2
MILM Milestii Mici 8.56 47 ⇑P Pn 09 03 15.2 +3.6
MILM Milestii Mici 8.56 47 eP Pn 09 03 14.0 +2.3
comp=Z,310nm,1.0s
MILM *e*S Sn 09 05 45.0 +57

MILM LqM 09 07 12.0
comp=Z,10μm,13.0s
MILM LRM MLR 09 07 26.0
comp=Z,18μm,15.0s
MILM Milestii Mici 8.56 47 eP Pn 09 03 14.0 +2.3
MILM *e*S **Sn 09 04 45.0 -2.8**
MILM pmax pmax
comp=Z,310nm,1.0s
MILM MLR MLR
comp=Z,18μm,15.0s
MILM MLR MLR
comp=E,13μm,12.5s
KMPD K-Podol'skiy 8.59 32 P Pn 09 03 14.4 +2.4
KIS Kishinev 8.61 47 eP Pn 09 03 14.5 +2.2
KIS *e*S **Sn 09 04 45.0 -4.0**
KIS *e*Lq LQ 09 05 50.0
KIS LQM 09 07 13.0
comp=E,5μm,15.5s
KIS LRM MLR 09 07 26.0
comp=E,8μm,14.4s
KIS Kishinev 8.61 47 eP Pn 09 03 14.5 +2.2
KIS *e*S **Sn 09 04 45.0 -4.0**
KIS MLR MLR
comp=Z,8μm,14.4s
KIS MLR MLR
comp=E,6μm,15.0s
KIS Kishinev 8.61 47 P Pn 09 03 15.5 +3.2
comp=E,155nm,0.7s,comp=E,3μm
PCP Piancastagn 8.67 294 P Pn 09 03 13.7 +0.4
PCP pmax pmax
comp=Z,64nm,0.6s
RETA Reutte 8.73 317 *e*Pn **Pn 09 03 14.1 0.0**
comp=Z,21nm,0.3s,SNR=20
RETA *e*Sn **Sn 09 04 50.0 -2.0**
comp=Z,90nm,0.4s
OJC Ojcow 8.75 1 eP Pn 09 03 17.4 +3.1
OJC Ojcow 8.75 1 Pn 09 03 15.6 +1.3
OJC Ojcow 8.75 1 ⇑P Pn 09 03 16.9 +2.7
OJC Ojcow 8.75 1 P Pn 09 03 15.6 +1.3
OJC Ojcow 8.75 1 P Pn 09 03 17.1 +2.8
comp=Z,46nm,0.7s,comp=Z,896nm
KHC Kasperske Hory 8.76 333 Pn 09 03 15.2 +0.7
KHC Kasperske Hory 8.76 333 ⇑P Pn 09 03 15.0 +0.5
KHC Kasperske Hory 8.76 333 ePN Pn 09 03 15.1 +0.7
KHC *e*SN **Sn 09 04 54.0 +1.3**
KHC *ex* x 09 05 22.5
KHC AMS AMS 09 06 50.0
comp=Z,9μm,13.4s
KHC Kasperske Hory 8.76 333 *c i* P **Pn 09 03 15.0 +0.5**
KHC pmax pmax
comp=Z,80nm,1.0s
KHC Kasperske Hory 8.76 333 P Pn 09 03 14.8 +0.4
comp=Z,56nm,1.2s,comp=Z,706nm
CAME Cameli-Denizli 8.77 118 eP Pn 09 03 12.0 -2.8
DAVOX Davos/Dischmat 8.78 310 P Pn 09 03 16.0 +1.1
comp=Z,18nm,0.3s,baz=164,slow=22,SNR=45
DAVOX S **Sn 09 04 53.0 -0.6**
comp=Z,99nm,0.4s,baz=335,slow=23,SNR=5.6
DAVOX LR LR 09 07 11.0
comp=Z,4μm,21.2s,slow=41
comp=Z,54nm,0.4s
FETY Fethiye 8.80 120 eP Pn 09 03 10.8 -4.3
KRLC Kraliky 8.83 348 ePN Pn 09 03 17.8 +2.4
KRLC Kraliky 8.83 348 eP Pn 09 03 17.8 +2.4
SHUT Suhut-Afyon 8.88 106 eP Pn 09 03 15.3 -1.0
LVV L'vov 8.90 19 eP Pn 09 03 19.0 +2.6
LVV *e*S **Sn 09 05 01.0 +4.8**
LVV MLR MLR
comp=Z,8μm,11.0s
TUE Stuetta 8.93 307 Pn 09 03 17.3 +0.4
TUE Stuetta 8.93 307 ⇓P Pn 09 03 17.4 +0.4
TUE Stuetta 8.93 307 P Pn 09 03 17.3 +0.4
comp=Z,434nm,0.6s,comp=Z,6μm
FUR Furstenfeldbru 8.94 321 P Pn 09 03 18.0 +1.1
FUR pmax pmax
comp=Z,88nm,0.6s
PURM Purcari 8.95 52 P Pn 09 03 19.2 +2.2
comp=Z,290nm,0.6s,comp=Z,16μm
WET Wettzell 9.02 331 P Pn 09 03 18.1 +0.1
WET pmax pmax
comp=Z,52nm,0.8s
DAVA Damuels 9.07 313 *i* Pn **Pn 09 03 19.6 +0.7**
comp=Z,25nm,0.3s,SNR=26
DAVA *e*Sn **Sn 09 05 00.3 -0.3**
comp=Z,67nm,0.4s
DAVA Damuels 9.07 313 ⇓P Pn 09 03 19.7 +0.9
GOPC GO Pecny, Ondr 9.09 340 ePN Pn 09 03 21.5 +2.5
GOPC GO Pecny, Ondr 9.09 340 eP Pn 09 03 21.5 +2.5
SORM Soroca 9.10 40 ⇑P Pn 09 03 22.5 +3.3
SORM Soroca 9.10 40 Pn 09 03 22.5 +3.3
SORM Soroca 9.10 40 P Pn 09 03 22.4 +3.3
SORM Soroca 9.10 40 P Pn 09 03 22.6 +3.5
comp=Z,66nm,1.1s,comp=Z,2μm
DPC Dobruska-Polom 9.17 347 ePN Pn 09 03 22.2 +2.1
DPC AMS AMS 09 07 40.0
comp=Z,18μm,13.1s
DPC Dobruska-Polom 9.17 347 eP Pn 09 03 22.2 +2.1
DPC MLR MLR
comp=Z,18μm,13.1s
DPC Dobruska-Polom 9.17 347 P Pn 09 03 21.4 +1.3
comp=Z,28nm,0.7s,comp=Z,592nm
PRU Pruhonice 9.22 339 ePN Pn 09 03 22.8 +2.0
PRU AMS AMS 09 07 10.0
comp=Z,8μm,14.5s
PRU Pruhonice 9.22 339 eP Pn 09 03 22.8 +2.0
PRU MLR MLR
comp=Z,8μm,14.5s
SAOF Saorge 9.22 290 P Pn 09 03 23.6 +2.8
SAOF pmax pmax
comp=Z,51nm,0.5s
SBF Sospel 9.29 289 eP Pn 09 03 22.2 +0.5
SBF *e*Sn Sn 09 04 56.1 -10
comp=Z,81nm,0.4s
SBF Sospel 9.29 289 eP Pn 09 03 22.1 +0.4
SBF pmax pmax
comp=Z,52nm,0.5s
SVRH Sivrihisar-ESK 9.30 99 eP Pn 09 03 22.2 +0.3
UPC Upice 9.38 346 ePN Pn 09 03 25.0 +2.1
UPC AMS AMS 09 07 50.0
comp=Z,14μm,14.0s
UPC Upice 9.38 346 eP Pn 09 03 25.0 +2.1
UPC MLR MLR
comp=Z,14μm,14.0s
AKAS Kas 9.38 121 eP Pn 09 03 20.0 -3.1
BCK Bucak 9.38 112 eP Pn 09 03 23.2 +0.1
KORT Korkueli 9.45 115 eP Pn 09 03 21.9 -2.1
CHVC Chvalec 9.45 346 ePN Pn 09 03 25.6 +1.7
CHVC AMS AMS 09 07 50.0
comp=Z,14μm,13.2s
CHVC Chvalec 9.45 346 eP Pn 09 03 25.6 +1.7
CHVC MLR MLR
comp=Z,14μm,13.2s
MMK Mattmark 9.59 302 P Pn 09 03 26.1 +0.1
MMK pmax pmax
comp=Z,38nm,0.4s
PZZ Stroppo 9.65 292 P Pn 09 03 27.1 +0.4
PZZ pmax pmax
comp=Z,64nm,0.5s
GRB1 Grafenberg Arr 9.69 327 P Pn 09 03 26.7 -0.5
GRB1 pmax pmax
comp=Z,71nm,0.6s
PVCC Panska Ves 9.71 341 ePN Pn 09 03 29.4 +1.9
PVCC Panska Ves 9.71 341 eP Pn 09 03 29.4 +1.9
RSP Reno Superiore 9.72 296 P Pn 09 03 29.6 +1.9
RSP pmax pmax
comp=Z,36nm,0.6s
KEST Kesra 9.87 238 Pn **Pn 09 03 31.0 +1.3**
KEST Kesra 9.87 238 P Pn 09 03 32.9 +3.2
comp=Z,1.1nm,0.3s,baz=257,slow=1.5,SNR=23
KEST S **Sn 09 05 22.3 +2.2**
comp=Z,6.2nm,0.6s,baz=95,slow=23,SNR=0.7
comp=Z,28nm,0.7s
LMR La Mourre 9.87 285 eP Pn 09 03 30.2 +0.5
LMR *e*Sn Sn 09 05 06.2 -14
comp=Z,16nm,0.4s
MBDF Montbardon 9.94 293 eP Pn 09 03 29.4 -1.4
MBDF *e*Sn Sn 09 05 08.1 -14
comp=Z,58nm,0.3s
MBDF Montbardon 9.94 293 eP Pn 09 03 29.4 -1.4
MBDF pmax pmax
comp=Z,31nm,0.5s
RRL Rocca Remolon 9.98 294 P Pn 09 03 30.7 -0.7
RRL pmax pmax
comp=Z,39nm,0.5s
BNI Bardonecchia 10.09 295 Pn **Pn 09 03 32.1 -0.7**

BNI Bardonecchia 10.09 295 ⇓P Pn 09 03 32.1 -0.7
BNI Bardonecchia 10.09 295 P Pn 09 03 32.1 -0.7
HSKC Hora Svate Kat 10.09 337 *e*PN **Pn 09 03 34.4 +1.7**
GRA1 Grafenberg Arr 10.10 327 Pn **Pn 09 03 32.5 -0.3**
GRF Grafenberg Arr 10.10 327 P Pn 09 03 32.5 -0.3
GRFO Grafenberg 10.10 327 Pn **Pn 09 03 33.1 +0.3**
GRFO Grafenberg 10.10 327 P Pn 09 03 33.1 +0.3
SLE Schleitheim 10.12 312 P Pn 09 03 33.4 +0.3
SLE pmax pmax
comp=Z,78nm,0.6s
SENIN Lac Senin/Sane 10.14 303 Pn **Pn 09 03 33.4 -0.1**
ANTO Ankara 10.14 95 Pn **Pn 09 03 32.8 -0.6**
ANTO Ankara 10.14 95 P Pn 09 03 32.8 -0.6
LPG La Plagne 10.18 298 eP Pn 09 03 36.9 +2.8
LUBAR Lubar, Ukraine 10.18 31 P Pn 09 03 36.1 +2.2
BRG Berggiesshubel 10.19 339 eP Pn 09 03 35.1 +1.1
BRG Amp 09 03 36.9
comp=Z,23nm,0.8s
BRG r 09 06 09.6
BRG Amp 09 06 42.3
comp=Z,48nm,0.9s
BRG Amp 09 08 00.0
comp=N,5.7nm,14.2s
BRG Amp 09 08 01.0
comp=E,2.8nm,11.4s
BRG Amp 09 08 04.0
comp=Z,7.7nm,13.4s
BRG Berggiesshubel 10.19 339 eP Pn 09 03 35.1 +1.1
BRG pmax pmax
comp=Z,23nm,0.9s
BRG MLR MLR
comp=N,6μm,14.2s
BRG MLR MLR
comp=E,3μm,11.4s
BRG MLR MLR
comp=Z,8μm,13.4s
LPL La Plagne 10.20 298 eP Pn 09 03 37.0 +2.7
LPL *e*Sn Sn 09 05 17.8 -10
comp=Z,57nm,0.3s
STU Stuttgart 10.36 318 Pn **Pn 09 03 35.9 -0.5**
STU Stuttgart 10.36 318 P Pn 09 03 35.9 -0.5
BEL Belsk 10.40 4 eP Pn 09 03 42.2 +5.4
KULU Kulu 10.52 99 eP Pn 09 03 37.2 -1.4
BFO Black Forest 10.53 314 Pn **Pn 09 03 37.8 -0.9**
BFO Black Forest 10.53 314 ⇑P Pn 09 03 37.4 -1.3
BFO Black Forest 10.53 314 P Pn 09 03 37.8 -0.9
ORIF Oris-en-Rattie 10.60 294 eP Pn 09 03 40.1 +0.3
ORIF Oris-en-Rattie 10.60 294 eP Pn 09 03 39.6 -0.2
ORIF pmax pmax
comp=Z,20nm,0.4s
MI29 MI29, Kamyanyy 10.62 30 P Pn 09 03 42.1 +2.2
SMRF Simiane la Rot 10.63 288 eP Pn 09 03 41.2 +1.1
RNPP5 Staryi Chortor 10.68 22 P Pn 09 03 43.2 +2.6
MOX Moxa 10.72 332 P Pn 09 03 41.3 0.0
MOX pmax pmax
comp=Z,38nm,0.8s
RNPP8 Varash 10.76 21 P Pn 09 03 44.3 +2.5
BZK Bozkurt 10.77 83 eP Pn 09 03 42.8 +0.8
BR105 Keskin Array S 10.79 95 P Pn 09 03 45.0 +2.6
comp=Z,13nm,1.0s,comp=Z,112nm
BR131 Keskin Array S 10.81 95 eP Pn 09 03 43.4 +0.8
BR131 Keskin Array S 10.81 95 Pn Pn 09 03 44.2 +1.6
BR131 Keskin Array S 10.81 95 *c e* P **Pn 09 03 45.4 +2.8**
BRTR Keskin Array B 10.81 95 Pn Pn 09 03 42.7 +0.1
BRTR Keskin Array B 10.81 95 P Pn 09 03 45.1 +2.4
comp=Z,2.2nm,0.7s,baz=285,slow=13,SNR=15
BR104 Keskin Array S 10.81 95 P Pn 09 03 44.7 +2.0
comp=Z,12nm,1.2s,comp=Z,106nm
RNPP9 Sopachiv 10.84 21 P Pn 09 03 45.3 +2.4
CLL Collm 10.84 337 Pn **Pn 09 03 43.2 +0.3**
CLL Collm 10.84 337 *i* Pn **Pn 09 03 44.2 +1.3**
comp=Z,15nm,1.0s
CLL *e*Pg 09 04 36.0
CLL *e*Sn **Sn 09 05 43.0 -0.7**
CLL *e*Sb 09 06 01.0
CLL *ex* x 09 06 37.0
CLL *e*Sg 09 06 50.0
CLL *ex* x 09 07 01.0
CLL *ex* x 09 07 16.0
comp=Z,153nm,1.0s
CLL *e*AMS AMS 09 07 33.0
CLL Collm 10.84 337 P Pn 09 03 43.2 +0.3
CLL Collm 10.84 337 P Pn 09 03 43.9 +1.0
comp=Z,25nm,1.0s,comp=Z,365nm
SERE Sereflikochisa 10.96 99 eP Pn 09 03 44.4 -0.3
MI28 MI28,Pidlybu 10.98 28 P Pn 09 03 47.1 +2.4
CABF La Chapelle 11.01 302 eP Pn 09 03 43.5 -1.8
HINF Hinteralfeld 11.08 309 eP Pn 09 03 45.9 -0.3
HINF *e*Sn Sn 09 05 39.1 -11
comp=Z,56nm,0.4s
ECH Echery 11.11 312 Pn 09 03 46.6 -0.1
ECH Echery 11.11 312 ⇑P Pn 09 03 46.4 -0.3
ECH Echery 11.11 312 P Pn 09 03 46.6 -0.1
SIM Simferopol' 11.14 67 eP Pn 09 03 47.8 +0.8
SIM *e*S **Sn 09 05 57.1 +6.0**
SIM pmax pmax
comp=Z,64nm,1.1s
SIM smax smax
comp=N,128nm,1.2s
SIM MLR MLR
comp=Z,3μm,16.0s
CDF Champ du Feu 11.16 313 *e*Pn **Pn 09 03 45.5 -1.8**
CDF Champ du Feu 11.16 313 eP Pn 09 03 45.9 -1.4
CDF pmax pmax
comp=Z,22nm,0.4s
SULT Sultanhani-AKS 11.18 102 eP Pn 09 03 46.7 -0.9
GAZI Gazipasa 11.20 114 eP Pn 09 03 46.8 -1.0
AK13 Malin Array Si 11.24 32 P Pn 09 03 50.6 +2.2
AK07 Malin Array Si 11.26 33 P Pn 09 03 50.6 +2.0
AK22 Malin Array Si 11.37 32 P Pn 09 03 52.2 +2.1
KIEV Kiev 11.37 33 Pn 09 03 51.5 +1.4
KIEV Kiev 11.37 33 Pn **Pn 09 03 51.8 +1.7**
KIEV Kiev 11.37 33 ⇑P Pn 09 03 52.0 +1.9
KIEV Kiev 11.37 33 P Pn 09 03 51.5 +1.4
AKASG Malin Array Be 11.38 33 P Pn 09 03 52.2 +1.9
comp=Z,2.1nm,0.3s,baz=231,slow=12,SNR=14
comp=Z,9.5nm,0.9s
AKBB Malin Array Si 11.38 33 Pn 09 03 51.3 +1.1
AKBB Malin Array Si 11.38 33 *c e* P **Pn 09 03 52.5 +2.2**
AKBB Malin Array Si 11.38 33 P Pn 09 03 52.4 +2.2
VIVF Saint-Julien-l 11.43 292 eP Pn 09 03 50.3 -0.7
VIVF *e*Sn Sn 09 05 47.8 -10
comp=Z,23nm,0.3s
TATN Tatacuine 11.46 222 Pn 09 03 50.3 -1.2
HAU Haudompre 11.47 309 eP Pn 09 03 51.7 +0.2
HAU *e*Sn Sn 09 05 48.3 -11
comp=Z,58nm,0.3s
HAU Haudompre 11.47 309 eP Pn 09 03 49.4 -2.1
HAU pmax pmax
comp=Z,60nm,0.4s
SSB Saint Sauveur 11.61 294 Pn 09 03 52.1 -1.4
SSB Saint Sauveur 11.61 294 ⇑P Pn 09 03 52.3 -1.2
SSB Saint Sauveur 11.61 294 P Pn 09 03 52.1 -1.4
TNS Taunus Mts 11.70 322 P Pn 09 03 54.6 -0.2
TNS pmax pmax
comp=Z,54nm,0.6s
BERE Bereket-Mersin 11.77 111 eP Pn 09 03 53.5 -2.3
LASF Ste Croix 11.87 288 eP Pn 09 03 59.4 +2.3
KEBE Keben-Mersin 12.06 110 eP Pn 09 03 58.7 -1.0
PAGF Fort de Pagny 12.11 310 eP Pn 09 04 01.6 +1.4
IKL Isikli 12.14 111 eP Pn 09 03 57.8 -3.0
SFTF Sexfontaines 12.33 308 *e*Pn **Pn 09 04 02.7 -0.6**
baz=119
CAZD Ain Tagrout 12.45 250 P P 09 04 11.6 -5.3
SMF Signal de Mont 12.46 300 *e*Pn **Pn 09 04 03.3 -1.8**
SMF *e*Sn Sn 09 06 12.3 -11
comp=Z,50nm,0.3s
SMF Signal de Mont 12.46 300 eP Pn 09 04 04.0 -1.1
SMF pmax pmax
comp=Z,28nm,0.4s
MEZF Maizieres J'vi 12.47 309 eP Pn 09 04 06.7 +1.6
baz=108
WLF Walferdange 12.48 316 *d* **P Pn 09 04 07.5 +2.2**
CSS Mathiatis 12.59 117 Pn **Pn 09 04 08.6 +1.7**
CSS Mathiatis 12.59 117 P Pn 09 04 10.2 +3.4
comp=Z,30nm,1.3s,comp=Z,561nm
LOR Lormes 12.67 303 *e*Pn **Pn 09 04 04.8 -3.1**
baz=112
LOR Lormes 12.67 303 eP Pn 09 04 08.8 +0.9
LOR *e*Sn Sn 09 06 17.3 -11
comp=Z,99nm,0.4s
LOR Lormes 12.67 303 ⇑P Pn 09 04 06.1 -1.8
LOR Lormes 12.67 303 eP Pn 09 04 06.2 -1.7

LOR pmax pmax
comp=Z,29nm,0.3s
BNN Bunyan 12.69 97 *e*P **Pn 09 04 06.4 -2.0**
SUW Suwalki 12.77 10 *e*P **Pn 09 04 10.8 +1.5**
SUW *e*PcP **PcP 09 09 50.7 +6.0**
SUW Suwalki 12.77 10 Pn **Pn 09 04 09.9 +0.6**
SUW Suwalki 12.77 10 ⇑P **Pn 09 04 10.8 +1.5**
SUW Suwalki 12.77 10 *e*P **Pn 09 04 13.6 +4.3**
SUW Suwalki 12.77 10 P **Pn 09 04 09.9 +0.6**
SSF Saint Saulge 12.82 301 *e*Pn **Pn 09 04 07.0 -3.0**
SSF *e*Sn Sn 09 06 20.6 -12
comp=Z,30nm,0.4s
SSF Saint Saulge 12.82 301 *e*P **Pn 09 04 08.2 -1.8**
SSF pmax pmax
comp=Z,11nm,0.4s
AVF Avril sur Loir 12.83 300 *e*Pn **Pn 09 04 08.2 -1.9**
AVF *e*Sn Sn 09 06 21.0 -11
comp=Z,12nm,0.3s
AVF Avril sur Loir 12.83 300 *e*P **Pn 09 04 08.9 -1.2**
AVF pmax pmax
comp=Z,10.0nm,0.4s
EREN Erenkoy 12.85 113 *e*P **Pn 09 04 06.1 -4.3**
TOKT Tokat 12.87 90 *e*P **Pn 09 04 11.0 +0.3**
MTLF Montolieu 13.00 284 *e*P **Pn 09 04 14.3 +1.9**
BTNL Ternell 13.05 319 *d*P **Pn 09 04 14.8 +1.7**
BGF Bois d'Agland 13.09 298 *e*Pn **Pn 09 04 12.0 -1.7**
BGF *e*Sn Sn 09 06 27.0 -12
comp=Z,27nm,0.3s
BGF Bois d'Agland 13.09 298 *e*P **Pn 09 04 11.9 -1.7**
BGF pmax pmax
comp=Z,19nm,0.4s
MEM Membach 13.13 319 *d*P **Pn 09 04 15.2 +1.0**
MEM Membach 13.13 319 P **Pn 09 04 18.2 +4.0**
MEM pmax pmax
comp=Z,24nm,1.0s
RCHB Rochefort 13.25 316 *d*P **Pn 09 04 16.3 +0.5**
SARI SarD1z-Kayseri 13.25 98 *e*P **Pn 09 04 18.7 +2.6**
CAF Calviac 13.26 291 *e*P **Pn 09 04 17.0 +1.0**
SVSK Karacayir 13.29 91 *e*P **Pn 09 04 16.9 +0.6**
BSTI Sart Tilman 13.33 318 *d*x x 09 04 20.6
BCLA Clavier 13.37 317 *d*P **Pn 09 04 18.5 +1.0**
BCLA *d*x x 09 04 27.2
AKET Djebel Ketaf 13.41 251 P **Pn 09 04 21.2 +2.9**
ANN Anapa 13.43 70 *e*P **Pn 09 04 17.8 -0.5**
ANN *e*S **Sn 09 06 48.4 +1.3**
ANN pmax pmax
comp=Z,65nm,1.2s
ANN MLR MLR
comp=E,1μm,10.0s
ANN MLR MLR
comp=N,895nm,13.0s
ANN MLR MLR
comp=Z,3μm,12.0s
GIVF Givet 13.44 315 *e*Pn **Pn 09 04 15.3 -3.0**
GIVF Givet 13.44 315 *e*P **Pn 09 04 18.3 0.0**
GIVF pmax pmax
comp=Z,4.0nm,0.3s
TCF Toulx Ste Croi 13.44 297 *e*Pn **Pn 09 04 15.4 -3.1**
TCF *e*Sn Sn 09 06 35.2 -12
comp=Z,22nm,0.4s
ABSD Ouled Sidi Bra 13.49 248 P **Pn 09 04 20.6 +1.3**
DOU Dourbes 13.55 315 *d*P **Pn 09 04 19.9 0.0**
DOU Dourbes 13.55 315 P **Pn 09 04 21.4 +1.5**
DOU pmax pmax
comp=Z,19nm,0.9s
BMRD Maredsous 13.58 316 *d*P **Pn 09 04 22.3 +2.0**
ADJB Djebel Djouab 13.68 252 P **Pn 09 04 25.1 +3.2**
ABA Alger-Bouzarea 13.69 255 P **Pn 09 04 20.5 -1.3**
CEST Esterri de Car 13.70 281 Pn **Pn 09 04 22.8 +0.7**
AFRS Ain Fares 13.70 245 P **Pn 09 04 24.8 +2.7**
RJF Les Rejaudoux 13.71 292 *e*P **Pn 09 04 22.5 +0.4**
BAIF Baives 13.74 314 *e*Pn **Pn 09 04 21.4 -1.1**
BAIF Baives 13.74 314 *e*P **Pn 09 04 22.6 +0.1**
BAIF pmax pmax
comp=Z,44nm,1.5s
KMRS Kahramanmaras 13.92 101 *e*P **Pn 09 04 23.4 -1.7**
CLF Chambon-Foret 13.95 304 **Pn 09 04 25.2 -0.2**
DARE Darende-Malaty 14.00 96 *e*P **Pn 09 04 24.8 -1.4**
BSD Bornholm Skovb 14.00 349 *i* P **P 09 04 33.0 -0.9**
MNK Minsk 14.15 20 *i* P **Pn 09 04 31.7 +3.6**
comp=E,30nm,1.1s
MNK *i* P **Pn 09 04 31.7 +3.6**
comp=N,145nm,0.9s
MNK *i* P **Pn 09 04 31.7 +3.6**
comp=Z,186nm,0.8s,baz=207
MNK *i* PP **PnPn 09 04 42.8 +6.9**
MNK *i* S **Sn 09 07 09.7 +5.1**
MNK *i* SS **S 09 07 23.2 -2.2**
MNK *i* LR LR 09 08 54.9
MNK *i* LRM MLR 09 10 07.0
comp=N,6μm,13.6s
MNK *i* LRM MLR 09 10 09.7
comp=Z,9μm,14.8s
MNK *i* LRM MLR 09 10 13.7
comp=E,1μm,15.0s
MNK Minsk 14.15 20 *i* P **Pn 09 04 31.6 +3.6**
MNK *i* S **Sn 09 07 09.7 +5.1**
MNK pmax pmax
comp=N,145nm,0.9s
MNK pmax pmax
comp=E,30nm,1.1s
MNK pmax pmax
comp=Z,186nm,0.8s
MNK MLR MLR
comp=N,6μm,14.0s
MNK MLR MLR
comp=Z,9μm,15.0s
MNK MLR MLR
comp=E,1μm,15.0s
ABRIN Birine 14.16 251 P **Pn 09 04 31.6 +3.3**
NACGM Naroch 14.26 17 *e*P **Pn 09 04 30.5 +1.0**
comp=Z,296nm,0.9s,baz=203
GAZ Gaziantep 14.28 102 *e*P **Pn 09 04 28.9 -1.1**
PABE Paberze 14.33 10 **Pn 09 04 31.2 +0.6**
PABE Paberze 14.33 10 *e*P **P 09 04 34.5 -3.0**
ARPR Arapgir-MALATY 14.49 93 *e*P **Pn 09 04 30.7 -2.3**
ARPR Arapgir-MALATY 14.49 93 Pn **Pn 09 04 34.3 +1.3**
IIGN Ignalina 14.55 15 *e*P **P 09 04 40.1 0.0**
ILIC ilic-Erzincan 14.57 92 *e*P **Pn 09 04 34.9 +0.8**
PBUR Paburge 14.64 5 *e*P **P 09 04 38.5 -2.5**
AFDJ Sidi Ladjel 14.66 251 P **P 09 04 38.1 -3.3**
LUNU Lund 14.74 346 *i* P **P 09 04 42.0 -0.1**
ISAL Salakas 14.74 15 *e*P **P 09 04 43.7 +1.5**
VSVD Vaisvydziai 14.79 10 *e*P **P 09 04 42.9 +0.2**
ADJF Tadmit 14.91 246 P **Pn 09 04 40.5 +1.8**
SOC Sochi 14.97 75 *e*P **Pn 09 04 41.5 +2.2**
SOC *e*S **Sn 09 07 29.4 +4.7**
SOC pmax pmax
comp=Z,397nm,1.2s
SOC MLR MLR
comp=Z,1μm,15.0s
ETSF Etsaut 15.03 282 *e*P **Pn 09 04 41.4 +1.3**
MFF Saint Martin d 15.10 296 *e*P **Pn 09 04 39.8 -1.2**
MMAI Mount Meron Ar 15.13 119 P **Pn 09 04 43.1 +1.5**
comp=Z,22nm,0.5s,baz=301,slow=17,SNR=1.4
MMAI LR LR 09 11 36.5
comp=Z,2μm,20.5s,baz=261,slow=41
VSLR Vesyoloye 15.20 76 *ce*P **Pn 09 04 45.1 +2.7**
VSLR pmax pmax
comp=Z,114nm,1.2s
DEL Delary 15.47 348 *i* P **P 09 04 51.0 +0.8**
SJPF Ste Jean 15.51 283 *e*P **Pn 09 04 47.8 +1.4**
LDF La Druitiere 15.64 304 *e*P **Pn 09 04 48.7 +0.6**
LABN Labinsk 15.75 71 *e*P **P 09 04 51.8 -1.6**
LABN *e*S **Sn 09 07 50.8 +7.3**
LABN pmax pmax
comp=Z,367nm,1.2s
LABN MLR MLR
comp=N,7μm,17.0s
LABN MLR MLR
comp=Z,2μm,14.0s
FLN La Foliniere 15.92 304 *e*P **Pn 09 04 51.6 -0.1**
baz=127
GRR Gorron 16.04 302 *e*P **Pn 09 04 53.3 +0.1**
DSI Dead Sea 16.05 123 P **P 09 05 01.7 +4.9**
SLIT Slitere, Latvi 16.27 5 ⇓P **Pn 09 04 57.6 +1.6**
SLIT Slitere, Latvi 16.27 5 *e*P **P 09 04 57.8 -1.2**
GHAJ Ghor Haditha 16.34 123 Pn **Pn 09 04 56.4 -0.8**
GHAJ IAmb IAmb 09 05 03.6
comp=Z,241nm,1.9s
GHAJ Ghor Haditha 16.34 123 P **P 09 05 02.8 +2.8**
MUD Monsted U'grnd 16.46 339 P **P 09 05 01.2 +0.1**
MUD Monsted U'grnd 16.46 339 *i* P **P 09 05 02.0 +0.9**

KARJ KARJ 16.52 124 P **Pn 09 04 57.3 -2.2**
BATM Batumi 16.53 82 *e*P **Pn 09 05 00.1 +0.6**
VORD Divnogorie 16.56 48 *e*P **Pn 09 04 57.6 -2.2**
VORD pmax pmax
comp=Z,70nm,0.5s
VORD MLR MLR
comp=Z,4μm,9.0s
VSR Storozhevoye 16.60 47 *e*P **Pn 09 04 59.4 -1.0**
VSR pmax pmax
comp=Z,130nm,1.3s
VSR MLR MLR
comp=Z,9μm,13.0s
ASF Jabal al Asfar 16.64 118 P **P 09 05 03.3 -0.1**
comp=Z,1.1nm,0.3s,baz=306,slow=0.0,SNR=4.9
comp=Z,3.5nm,0.3s
ASF Jabal al Asfar 16.64 118 P **P 09 05 06.0 +2.6**
VRTB Varto-Mus 16.81 91 *e*P **P 09 05 06.2 +0.8**
VORR Voronezh 16.85 46 *e*P **Pn 09 05 04.2 +0.7**
VORR pmax pmax
comp=Z,163nm,1.4s
VORR MLR MLR
comp=Z,7μm,16.0s
HRFI Mount Harif 16.91 128 *e*P **Pn 09 04 58.6 -5.8**
SGMF Saint Gilles 17.09 301 *e*P **P 09 05 07.5 -0.7**
SGMF Saint Gilles 17.09 301 *e*P **Pn 09 05 07.2 +0.7**
SGMF pmax pmax
comp=Z,10.0nm,0.7s
SHA1 Shidzhatmaz 17.11 75 *de*P **P 09 05 10.2 +1.5**
EIL Elat 17.12 129 *e*P Pn 09 04 59.9 -7.2
EIL Elat 17.12 129 ⇑P **Pn 09 05 05.2 -1.9**
EIL Elat 17.12 129 P **Pn 09 05 06.6 -0.5**
comp=Z,7.7nm,0.6s,baz=340,slow=12,SNR=8.2
EIL S **Sn 09 08 08.8 -8.3**
comp=Z,20nm,0.9s,baz=10,slow=20,SNR=5.6
KIV Kislovodsk 17.13 74 **P 09 05 09.1 +0.4**
KIV IAmb IAmb 09 05 16.6
comp=Z,125nm,1.2s
KIV Kislovodsk 17.13 74 Pn **P 09 05 09.3 +0.6**
KIV Kislovodsk 17.13 74 ⇑P **Pn 09 05 07.9 +0.7**
KIV Kislovodsk 17.13 74 *e*P **P 09 05 11.7 +2.9**
KIV *e*S **S 09 08 23.8 -2.8**
KIV pmax pmax
comp=Z,88nm,1.1s
KIV MLR MLR
comp=Z,620nm,14.0s
KVAR Kislovodsk Arr 17.13 74 P **P 09 05 09.3 +0.4**
baz=353,slow=16
comp=Z,2.2nm,0.3s
LPSR Galich'ya Gora 17.18 43 *e*P **Pn 09 05 05.9 -1.7**
LPSR pmax pmax
comp=Z,190nm,1.1s
LPSR MLR MLR
comp=Z,7μm,17.0s
KBZ Khabaz 17.28 75 P **P 09 05 10.7 +0.4**
comp=Z,0.7nm,0.3s,baz=280,slow=7.5,SNR=17
comp=Z,16nm,0.9s
KBZ Khabaz 17.28 75 *ce*P **P 09 05 11.5 +1.2**
KBZ pmax pmax
comp=Z,55nm,1.0s
QUIF Quistinic 17.40 299 *e*P **P 09 05 11.5 -0.1**
QUIF Quistinic 17.40 299 *e*P **Pn 09 05 09.4 -1.0**
QUIF pmax pmax
comp=Z,20nm,0.8s
GURO Guroymak-BITLI 17.41 92 P **P 09 05 14.3 +2.3**
GOF Gofitskoye 17.42 70 *ce*P **P 09 05 13.2 +1.3**
MTSE Matsula 17.47 7 *e*P **Pn 09 05 11.1 0.0**
ROSF Rostrenen 17.57 301 *e*P **Pn 09 05 12.7 +0.2**
VSU Vasula 17.60 12 ⇑P **Pn 09 05 10.9 -1.8**
VSU Vasula 17.60 12 *de*P **Pn 09 05 12.6 -0.2**
VSU pmax pmax
comp=Z,115nm,0.7s
OBN Obninsk 17.64 34 P **P 09 05 14.2 0.0**
OBN Obninsk 17.64 34 P **Pn 09 05 13.4 +0.1**
comp=Z,7.1nm,0.3s,baz=24,slow=7.1,SNR=28
comp=Z,83nm,0.6s
OBN Obninsk 17.64 34 *ce*P **Pn 09 05 13.9 +0.6**
OBN *e*S **S 09 08 33.6 -3.0**
OBN pmax pmax
comp=Z,162nm,1.1s
OBN MLR MLR
comp=Z,4μm,17.0s
ONI Oni 17.74 78 *e*P **P 09 05 15.6 +0.1**
ONI Oni 17.74 78 P **P 09 05 17.2 +1.7**
ONI Oni 17.74 78 P **P 09 05 17.2 +1.7**
ONI pmax pmax
comp=Z,45nm,0.9s
NCK Nalchik 17.79 75 ⇓*e*P **P 09 05 18.8 +2.8**
NCK pmax pmax
comp=Z,54nm,1.2s
AKH Akhalkalaki 17.90 82 *e*P **Pn 09 05 17.1 +0.3**
ESBB Sonseca Array 17.99 272 P **Pn 09 05 15.3 -2.6**
ESDC Sonseca Array 17.99 272 P **Pn 09 05 17.6 -0.3**
ESDC Sonseca Array 17.99 272 P **P 09 05 19.3 +1.0**
comp=Z,0.2nm,0.3s,baz=73,slow=11,SNR=27
comp=Z,2.6nm,0.6s
VRH Novokhopyorsk 18.04 50 *e*P **Pn 09 05 18.3 0.0**
VRH pmax pmax
comp=Z,90nm,1.3s
VRH MLR MLR
comp=Z,3μm,14.0s
PAB San Pablo 18.31 272 P **Pn 09 05 21.4 -0.4**
PAB San Pablo 18.31 272 P **Pn 09 05 21.4 -0.4**
PAB pmax pmax
comp=Z,35nm,1.8s
VANB Van 18.42 91 *e*P **Pn 09 05 24.2 +1.0**
ARBE Arbavere 18.42 10 *e*P **P 09 05 22.6 -0.1**
MONM Monmouth 18.48 312 *e*P **Pn 09 05 24.8 +1.0**
MONM IAmb IAmb 09 05 26.2
comp=Z,48nm,0.8s
MONM IAMs_20 IAMs_20 09 12 08.0
comp=Z,736nm,3.8s
MOS Moscow 18.51 33 *e*P **P 09 05 23.4 -0.4**
MOS *e*S **Sn 09 08 50.7 +0.5**
MOS pmax pmax
comp=Z,105nm,0.8s
MOS MLR MLR
comp=Z,3μm,17.0s
LBWR Ladybower, Pea 18.64 317 *e*P **P 09 05 24.9 -0.4**
LBWR IAmb IAmb 09 05 26.9
comp=Z,47nm,0.9s
MCH1 Michaelchurch 18.66 312 *e*P **Pn 09 05 26.6 +0.7**
MCH1 IAmb IAmb 09 05 30.6
comp=Z,49nm,1.2s
MCH1 IAMs_20 IAMs_20 09 14 01.0
comp=Z,172nm,5.6s
MCH1 Michaelchurch 18.66 312 ⇓P **Pn 09 05 26.4 +0.6**
CLDR Caldiran 18.67 89 *e*P **P 09 05 24.8 -1.1**
HLM1 Long Mynd 18.82 314 *e*P **P 09 05 27.1 -0.3**
HLM1 IAmb IAmb 09 05 29.3
comp=Z,34nm,1.1s
HLM1 IAMs_20 IAMs_20 09 16 38.8
comp=Z,157nm,4.7s
HPK Haverah Park 18.89 319 *e*P **P 09 05 27.5 -0.5**
HPK IAmb IAmb 09 05 29.1
comp=Z,75nm,1.2s
MEF Metsahovi 19.00 7 *e*P **P 09 05 28.1 -1.0**
HFS Hagfors 19.04 351 P **P 09 05 29.0 -0.6**
comp=Z,3.1nm,0.3s,baz=155,slow=11,SNR=52
comp=Z,84nm,0.7s
GNI Garni 19.05 86 P **Pn 09 05 31.8 +0.9**
GNI Garni 19.05 86 P **Pn 09 05 31.3 +0.4**
GNI Garni 19.05 86 ⇑P **Pn 09 05 31.5 +0.6**
GNI Garni 19.05 86 P **Pn 09 05 30.9 0.0**
comp=Z,2.8nm,0.3s,baz=235,slow=1.6,SNR=35
comp=Z,72nm,0.8s
GNI Garni 19.05 86 *ce*P **Pn 09 05 31.4 +0.5**
GNI pmax pmax
comp=Z,204nm,1.3s
GNI Garni 19.05 86 P **Pn 09 05 31.2 +0.4**
comp=Z,156nm,1.2s,comp=Z,1μm
FOEL Foel Wylfa 19.17 314 *e*P **P 09 05 31.5 +0.4**
FOEL IAMs_20 IAMs_20 09 14 42.5
comp=Z,173nm,4.5s
KONO Kongsberg 19.24 344 P **P 09 05 31.2 -0.5**
KONO Kongsberg 19.24 344 *e*P **P 09 05 31.8 0.0**
KONO IAmb IAmb 09 05 33.1
comp=Z,42nm,1.3s
KONO Kongsberg 19.24 344 *ce*P **P 09 05 31.5 -0.3**
KONO pmax pmax
comp=Z,48nm,1.7s
OSL Oslo 19.30 346 *e*P **P 09 05 32.5 +0.2**
PUL Pulkovo 19.50 16 ⇑*e*P **P 09 05 34.7 +0.1**
PUL pmax pmax
comp=Z,93nm,0.8s
EDMD Edmundbyers 19.54 320 *e*P **P 09 05 34.2 -0.8**

EDMD IAmb IAmb 09 05 37.8
comp=Z,27nm,0.9s
EDMD IAMs_20 IAMs_20 09 16 13.7
comp=Z,124nm,4.2s
RAF Rauma 19.62 3 *e*P **P 09 05 34.2 -1.7**
PBRG Braganca 19.68 280 *e*P **Pn 09 05 39.7 +1.4**
comp=Z,34nm,1.4s
BLS5 Blasjo 19.76 340 *e*P **Pn 09 05 38.6 -0.5**
BLS5 IAmb IAmb 09 05 43.0
comp=Z,60nm,1.5s
YLL Llanberis 19.80 314 ⇑*e*P **Pn 09 05 39.0 -0.5**
NAX Nakhchivan 19.84 88 P **Pn 09 05 40.2 -0.1**
KMY Karmoy 19.91 338 *e*P **P 09 05 39.9 +0.8**
KMY IAmb IAmb 09 05 40.9
comp=Z,25nm,0.9s
NC602 NORSAR Array S 19.92 348 P **P 09 05 38.5 -0.7**
NC602 IAmb IAmb 09 05 40.6
comp=Z,42nm,0.6s
NC602 NORSAR Array S 19.92 348 *e*P **P 09 05 38.1 -1.0**
NC602 IAmb IAmb 09 05 40.4
comp=Z,41nm,0.7s
KESW Keswick, Cumbr 19.96 319 *e*P **Pn 09 05 40.6 -0.8**
KESW IAmb IAmb 09 05 43.0
comp=Z,39nm,0.9s
WPS Cemaes, Angles 20.10 315 *e*P Pn 09 05 42.6 -0.4
WPS IAmb IAmb 09 05 45.5
comp=Z,113nm,1.3s
WPS IAMs_20 IAMs_20 09 15 05.9
comp=Z,160nm,5.0s
NAO01 NORSAR Array S 20.12 348 P **P 09 05 41.1 -0.3**
GANJ Ganja 20.13 83 P Pn 09 05 43.9 +0.3
NC405 NORSAR Array S 20.25 349 P **P 09 05 42.6 -0.3**
NB201 NORSAR Array S 20.25 348 P **P 09 05 42.4 -0.5**
NB2 NORSAR Subarra 20.26 348 P **P 09 05 41.6 -1.3**
comp=Z,34nm,1.0s,baz=162,slow=11
NB2 NORSAR Subarra 20.26 348 P **P 09 05 41.6 -1.3**
baz=162,slow=11
NOA NORSAR Array B 20.26 348 P **P 09 05 42.6 -0.3**
comp=Z,13nm,0.7s,baz=155,slow=11,SNR=88
comp=Z,13nm,0.7s
NBO00 NORSAR Array S 20.32 348 P **P 09 05 42.9 -0.7**
NBO00 IAmb IAmb 09 05 48.0
comp=Z,69nm,1.1s
FINES FINESS Array B 20.38 9 P **P 09 05 43.4 -0.8**
comp=Z,142nm,0.7s,baz=183,slow=10,SNR=282
FINES PcP **PcP 09 09 55.7 -0.5**
comp=Z,2.8nm,0.5s,baz=149,slow=4.0,SNR=4.4
comp=Z,142nm,0.7s
EKA Eskdalemuir Ar 20.39 321 P **P 09 05 44.2 -0.1**
comp=Z,13nm,0.6s,baz=118,slow=11,SNR=75
EKA PcP **PcP 09 09 56.5 +0.1**
comp=Z,1.6nm,0.6s,baz=108,slow=2.7,SNR=5.3
comp=Z,13nm,0.6s
ESK Eskdalemuir 20.40 321 P **P 09 05 44.8 +0.3**
ESK Eskdalemuir 20.40 321 *e*P **P 09 05 44.2 -0.3**
ESK IAmb IAmb 09 05 45.8
comp=Z,46nm,0.9s
ESK IAMs_20 IAMs_20 09 15 35.9
comp=Z,213nm,4.0s
ESK Eskdalemuir 20.40 321 ⇑P **P 09 05 44.6 +0.1**
ESK Eskdalemuir 20.40 321 P **P 09 05 44.8 +0.3**
ESK pmax pmax
comp=Z,48nm,0.9s
NC303 NORSAR Array S 20.41 349 P **P 09 05 43.7 -0.8**
SKAR Skarslia 20.45 344 *e*P **P 09 05 44.9 -0.1**
SKAR IAmb IAmb 09 05 50.5
comp=Z,17nm,1.2s
ESY Stoneypath 20.47 322 ⇑*e*P **P 09 05 44.4 -0.8**
MTE Manteigas 20.52 276 P **P 09 05 44.2 -1.8**
MTE Manteigas 20.52 276 *e*P Pn 09 05 48.7 +0.5
comp=Z,56nm,1.4s
MTE *e*S Sn 09 09 37.2 -1.9
MTE *e*LR LR 09 14 53.8
comp=Z,2μm,16.0s
POLO Lamas de Olo 20.53 279 *e*P Pn 09 05 50.0 +1.7
comp=Z,29nm,1.6s
WIM Isle of Man 20.53 316 ⇑*e*P **P 09 05 45.6 -0.3**
PCBR Castelo Branco 20.59 274 *e*P Pn 09 05 48.1 -0.9
comp=Z,27nm,1.6s
PMRV Marv??o 20.63 273 *e*P Pn 09 05 49.4 0.0
comp=Z,44nm,1.4s
PMRV *e*S Sn 09 09 39.3 -2.3
PMRV *e*LR LR 09 14 52.3
comp=Z,1μm,16.0s
PCAB Cabril 20.65 280 *e*P Pn 09 05 49.0 -0.6
comp=Z,58nm,2.1s
MAK Makhachkala 20.68 77 *c i*P **P 09 05 44.9 -2.7**
MAK *e*S **S 09 09 35.4 -2.4**
MAK *e*SS **SnSn 09 09 55.3 -2.0**
MAK pmax pmax
comp=Z,398nm,1.5s
MAK MLR MLR
comp=Z,3μm,14.0s
SEKA Sheki 20.68 82 P Pn 09 05 49.8 -0.3
PBAR Barrancos 20.71 270 *e*P Pn 09 05 50.0 -0.3
comp=Z,127nm,1.0s
PVIS Viseu 20.72 277 *e*P **P 09 05 47.5 -0.6**
comp=Z,52nm,1.5s
PGAV Gavieira, Arco 20.79 281 *e*P **P 09 05 49.8 +0.9**
comp=Z,66nm,1.7s
PGAV *e*S Sn 09 09 44.6 -1.0
PGAV *e*LR LR 09 14 46.8
comp=Z,2μm,16.0s
NEWG New Galloway 20.79 319 *e*P **P 09 05 48.7 0.0**
NEWG IAmb IAmb 09 05 51.5
comp=Z,21nm,0.8s
NEWG IAMs_20 IAMs_20 09 15 35.1
comp=Z,110nm,5.2s
BER Bergen 20.88 340 *e*P **P 09 05 49.2 -0.4**
PESTR Estremoz 20.92 272 P Pn 09 05 51.6 -1.2
PESTR Estremoz 20.92 272 *e*P **P 09 05 50.6 +0.3**
comp=Z,67nm,1.3s
KEF Keuruu 20.97 7 *e*P **P 09 05 49.6 -0.9**
DRUM Mains of Drumt 21.01 325 *e*P **P 09 05 49.1 -1.9**
DRUM IAMs_20 IAMs_20 09 16 09.3
comp=Z,218nm,4.1s
DSB Dublin 21.05 313 P **P 09 05 52.1 +0.6**
VALR Valaam 21.06 15 *c i*P **P 09 05 49.8 -1.7**
VALR pmax pmax
comp=Z,279nm,1.1s
MDT Midelt 21.10 254 P **P 09 05 53.6 +1.3**
comp=Z,9.3nm,0.7s,baz=81,slow=13,SNR=14
MDT LR LR 09 13 40.2
comp=Z,1μm,20.9s,baz=66,slow=35
comp=Z,9.3nm,0.7s
PGBU Glenifferbraes 21.28 321 *e*P **P 09 05 52.5 -1.4**
PGBU IAmb IAmb 09 05 58.0
comp=Z,17nm,0.8s
PCAS Casmilo, Conde 21.31 276 *e*P **P 09 05 57.8 +3.4**
comp=Z,54nm,1.4s
EVO Evora 21.33 271 *e*P **P 09 05 56.0 +1.3**
comp=Z,52nm,1.5s
PMTG Montargil 21.34 273 *e*P **P 09 05 56.5 +1.7**
comp=Z,89nm,2.1s
HYA Hoyanger 21.35 342 *e*P **P 09 05 54.4 -0.2**
HYA IAmb IAmb 09 05 57.9
comp=Z,42nm,0.8s
PBEJ Beja 21.37 270 *e*P **P 09 05 57.6 +2.5**
comp=Z,58nm,1.2s
INVG Invergeldie, C 21.41 322 *e*P **P 09 05 54.8 -0.6**
INVG IAmb IAmb 09 05 57.3
comp=Z,26nm,0.9s
INVG IAMs_20 IAMs_20 09 14 48.8
comp=Z,131nm,4.3s
PVAQ Vaqueiros 21.46 268 P **P 09 05 55.7 -0.3**
PVAQ Vaqueiros 21.46 268 *e*P **P 09 05 58.3 +2.2**
comp=Z,91nm,1.3s
PVAQ *e*S **S 09 09 53.2 -0.2**
PVAQ *e*LR LR 09 14 43.6
comp=Z,2μm,18.0s
DOMB Dombas 21.56 346 *e*P **P 09 05 57.6 +0.6**
DOMB IAmb IAmb 09 06 06.6
comp=Z,35nm,1.0s
PCVE Castro Verde 21.63 269 *e*P **P 09 05 59.2 +1.4**
comp=Z,83nm,1.4s
PBDV Barranco-do-Ve 21.67 268 *e*P **P 09 06 01.5 +3.1**
comp=Z,70nm,1.4s
VAF Ylistaro 21.68 4 *e*P **P 09 05 57.0 -1.2**
VAF Ylistaro 21.68 4 P **P 09 05 57.6 -0.6**
VAF pmax pmax
comp=Z,267nm,0.9s
MESJ Messejana 21.70 270 *e*P **P 09 06 00.7 +2.1**
comp=Z,73nm,1.4s
MESJ Messejana 21.70 270 *e*P **P 09 05 59.1 +0.5**
MESJ *e*S **S 09 09 59.5 +1.4**
MESJ IAMs_20 IAMs_20 09 15 47.3

comp=Z,4μm,15.2s
CLGH Cloghs, Cushen 21.71 318 *e*P **P 09 05 58.6 0.0**
CLGH IAmb IAmb 09 05 59.8
comp=Z,88nm,1.1s
CLGH IAMs_20 IAMs_20 09 18 07.2
comp=Z,215nm,4.6s
MCD Coleburn Disti 21.75 326 *e*P **P 09 05 57.8 -1.2**
MCD IAmb IAmb 09 05 58.3
comp=Z,40nm,0.7s
PNCL Nicolau / Gran 21.84 270 *e*P **P 09 06 03.8 +3.6**
comp=Z,83nm,2.0s
BELG Belogornoye 21.89 51*c i*P **P 09 06 00.2 -0.3**
BELG pmax pmax
comp=Z,74nm,1.0s
LAWE Loch Awe, Argy 21.95 321 *e*P **P 09 06 00.8 -0.4**
LAWE IAmb IAmb 09 06 03.3
comp=Z,35nm,1.4s
LAWE IAMs_20 IAMs_20 09 17 18.8
comp=Z,211nm,4.5s
TAM Tamanrasset 22.07 217 P **P 09 06 02.3 -0.5**
TAM Tamanrasset 22.07 217 ⇓P **P 09 06 04.7 +1.8**
TAM Tamanrasset 22.07 217 P **P 09 06 02.3 -0.5**
TAM pmax pmax
comp=Z,31nm,1.0s
LIS Lisbon 22.13 272 *e*S **S 09 10 07.9 +1.4**
LIS IAMs_20 IAMs_20 09 16 42.4
comp=E,6μm,14.6s
MORF Marmelete 22.20 269 *e*P **P 09 06 04.5 +0.5**
MORF *e*S **S 09 10 09.2 +1.4**
MORF IAMs_20 IAMs_20 09 16 11.7
comp=Z,2μm,21.4s
MOL Molde 22.32 345 *e*P **P 09 06 02.8 -2.2**
MOL IAmb IAmb 09 06 07.8
comp=Z,26nm,0.9s
IDGL Inch Island, C 22.43 317 *e*P **P 09 06 05.6 -0.7**
IDGL IAmb IAmb 09 06 07.4
comp=Z,45nm,0.9s
LKRN Lenkeran, Azer 22.44 87 P **P 09 06 06.5 0.0**
JOF Joensuu 22.57 14 *e*P **P 09 06 08.2 +0.5**
BIGH Upper Bighouse 22.59 327 *e*P **P 09 06 06.2 -1.7**
BIGH IAmb IAmb 09 06 08.2
comp=Z,24nm,0.7s
BIGH IAMs_20 IAMs_20 09 19 23.5
comp=Z,224nm,4.1s
KPL Plockton 22.66 323 *e*P **P 09 06 07.2 -1.5**
KPL IAmb IAmb 09 06 10.6
comp=Z,27nm,0.7s
KPL IAMs_20 IAMs_20 09 18 03.2
comp=Z,204nm,4.7s
LRW Lerwick 22.66 333 *e*P **P 09 06 07.0 -1.8**
LRW IAmb IAmb 09 06 11.3
comp=Z,31nm,1.1s
LRW IAMs_20 IAMs_20 09 17 58.8
comp=Z,260nm,3.9s
LRW Lerwick 22.66 333 ⇓P **P 09 06 08.0 -0.8**
IGLA Glengowla, Co 22.79 311 *e*P **P 09 06 09.4 -0.7**
IGLA IAmb IAmb 09 06 12.5
comp=Z,19nm,0.9s
KLMR Klimovskoe 22.90 25*c i*P **P 09 06 09.7 -1.5**
KLMR S **S 09 10 17.1 -2.9**
KLMR pmax pmax
comp=Z,276nm,1.0s
KLMR MLR MLR
comp=Z,6μm,15.0s
LINV Loch Inver, As 22.92 325 *e*P **P 09 06 09.3 -2.1**
LINV IAmb IAmb 09 06 12.5
comp=Z,20nm,0.7s
LINV IAMs_20 IAMs_20 09 17 20.3
comp=Z,207nm,4.6s
NSS Namsos 23.52 352 *e*P **P 09 06 16.4 -1.0**
NSS IAmb IAmb 09 06 18.6
comp=Z,42nm,1.0s
LEWI Lewis, Hebride 23.65 324 *e*P **P 09 06 16.6 -2.1**
LEWI IAmb IAmb 09 06 21.1
comp=Z,15nm,0.7s
OUL Oulu 23.93 7 P **P 09 06 19.8 -1.6**
MOR8 Moi Rana 24.92 355 *e*P **P 09 06 32.7 +2.3**
MOR8 IAmb IAmb 09 06 39.6
comp=Z,18nm,0.8s
KONS Konsvik 25.34 354 *e*P **P 09 06 34.2 +0.1**
KIRV Kirov 25.37 37*ce*P **P 09 06 33.7 -0.8**
FAUS Fauske 26.07 356 *e*P **P 09 06 38.8 -2.0**
FAUS IAmb IAmb 09 06 41.8
comp=Z,18nm,0.9s
STEI Steigen 26.62 356 *e*P **P 09 06 44.7 -1.0**
STEI IAmb IAmb 09 06 46.5
comp=Z,22nm,1.0s
APA Apatity 27.21 12⇓*i*P **P 09 06 48.9 -2.2**
APA *i* 09 10 05.0
APA *i* S **S 09 11 23.0 -6.0**
APA pmax pmax
comp=Z,29nm,0.9s
APA MLR MLR
comp=Z,5μm,15.0s
KTK1 Kautokeino 27.67 3 *e*P **P 09 06 53.9 -1.4**
KTK1 IAmb IAmb 09 06 55.8
comp=Z,17nm,0.7s
LVZ Lovozero 27.71 12 P **P 09 06 55.0 -0.6**
LVZ Lovozero 27.71 12⇑P **P 09 06 54.9 -0.8**
LVZ Lovozero 27.71 12*de*P **P 09 06 54.8 -0.8**
LVZ pmax pmax
comp=Z,62nm,2.5s
LVZ Lovozero 27.71 12 P **P 09 06 55.6 0.0**
comp=Z,61nm,0.7s
RAYN Ar Rayn 28.07 122 P **P 09 06 59.9 +0.6**
TRO Tromso 28.23 359 *e*P **P 09 06 59.0 -1.1**
TRO IAmb IAmb 09 07 01.2
comp=Z,35nm,1.3s
ARCES ARCESS Array B 28.30 4 P **P 09 06 59.5 -1.3**
ARCES ARCESS Array B 28.30 4 P **P 09 06 59.1 -1.7**
comp=Z,6.8nm,0.5s,baz=192,slow=10.0,SNR=42
comp=Z,6.8nm,0.5s
ARCES ARCESS Array B 28.30 4 P **P 09 06 59.5 -1.3**
ARCES pmax pmax
comp=Z,11nm,0.7s
KEV Kevo 28.61 5 P **P 09 07 02.6 -1.0**
KEV IAmb IAmb 09 07 58.1
comp=Z,32nm,0.7s
KEV Kevo 28.61 5 P **P 09 07 02.6 -1.0**
KEV pmax pmax
comp=Z,32nm,0.7s
AB31 Akbulak array 29.10 61 *e*P **P 09 07 07.2 -1.0**
ABKAR Akbulak array 29.10 61 P **P 09 07 07.9 -0.3**
ABKAR Akbulak array 29.10 61 P **P 09 07 07.8 -0.4**
ABKAR Akbulak array 29.10 61⇑P **P 09 07 06.9 -1.3**
VADS Vadso 29.16 7 *e*P **P 09 07 07.6 -0.8**
VADS IAmb IAmb 09 07 10.0
comp=Z,48nm,1.0s
GEYT Alibeck 29.67 84 P **P 09 07 13.1 -0.3**
GEYT IAmb IAmb 09 07 17.4
comp=Z,21nm,0.8s
GEYT Alibeck 29.67 84 P **P 09 07 12.8 -0.6**
comp=Z,17nm,0.6s,baz=275,slow=8.6,SNR=13
comp=Z,17nm,0.6s
GEYT Alibeck 29.67 84 P **P 09 07 13.1 -0.3**
GEYT pmax pmax
comp=Z,21nm,0.8s
GYA0 ALIBECK ARRAY 29.67 84 P **P 09 07 13.0 -0.4**
GYA0B ALIBECK ARRAY 29.67 84 P **P 09 07 12.9 -0.5**
GYA0B IAmb IAmb 09 07 17.4
comp=Z,20nm,0.8s
SVE Sverdlovsk 30.37 46*de*P **P 09 07 19.3 0.0**
SVE pmax pmax
comp=Z,125nm,1.0s
SVE MLR MLR
comp=Z,4μm,15.0s
TOA0 Torodi Ar. Sit 32.26 214 P **P 09 07 36.0 -0.3**
TOA0 IAmb IAmb 09 08 01.6
comp=Z,24nm,1.2s
TORD Torodi Ar. Bea 32.26 214 P **P 09 07 36.0 -0.3**
TORD Torodi Ar. Bea 32.26 214 P **P 09 07 37.0 +0.8**
comp=Z,4.2nm,0.7s,baz=23,slow=9.3,SNR=23
comp=Z,4.2nm,0.7s
SHME Shamm 33.76 106 P **P 09 07 47.2 -2.1**
ASUD Al Ashush, Dub 34.03 108 P **P 09 07 47.3 -4.4**
MSFE Esma-Masafi 34.18 106 P **P 09 07 51.3 -1.8**
MDH Madha 34.32 106 P **P 09 07 51.0 -3.2**
UOSS Minazif 34.47 107 P **P 09 07 53.6 -1.9**
UOSS IAmb IAmb 09 08 04.8
comp=Z,40nm,1.1s
UOSS Minazif 34.47 107 P **P 09 07 52.9 -2.6**
UOSS Minazif 34.47 107 ⇓P **P 09 07 53.8 -1.8**
HATD Hatta, Dubai 34.49 107 P **P 09 07 53.2 -2.5**
ASHO Ashiyiah 34.52 108 P **P 09 07 53.9 -2.2**
ALNE Al Ain 34.69 109 P **P 09 07 54.8 -2.6**

SOHO SOHO 35.20 108 P **P 09 07 58.9 -3.0**
BRVK Borovoye 35.56 53 P **P 09 08 05.3 +0.6**
BRVK Borovoye 35.56 53⇑P **P 09 08 05.0 +0.3**
BRVK Borovoye 35.56 53*c i*P **P 09 08 04.8 +0.1**
BRVK pmax pmax
comp=Z,52nm,0.8s
BVA0 Borovoye Array 35.63 53 *i*P **P 09 08 04.9 -0.3**
BVAR Borovoye Array 35.63 53 P **P 09 08 05.6 +0.3**
comp=Z,39nm,0.7s,baz=276,slow=5.8,SNR=73
comp=Z,39nm,0.7s
BRLS Borolday 36.76 70 *e*P **P 09 08 14.9 -0.2**
baz=71
BRLS Borolday 36.76 70 *e*P **P 09 08 14.9 -0.2**
CHM Chimkent 36.78 72 *e*P **P 09 08 15.4 +0.1**
baz=72
CHM Chimkent 36.78 72 *e*P **P 09 08 15.4 +0.1**
SPB2 Spitsbergen Ar 36.84 359 P **P 09 08 15.3 0.0**
SPB2 IAmb IAmb 09 09 39.0
comp=Z,17nm,0.8s
SPA2 Spitsbergen Ar 36.84 359 P **P 09 08 14.5 -0.8**
SPITS Spitsbergen Ar 36.84 359 P **P 09 08 14.8 -0.6**
comp=Z,2.5nm,0.6s,baz=147,slow=14,SNR=3.2
SPITS PP **PP 09 09 37.8 -1.4**
comp=Z,13nm,0.7s,baz=152,slow=17,SNR=6.5
comp=Z,2.5nm,0.6s
IUG Iuzhnay 37.14 72 *e*P **P 09 08 18.4 0.0**
comp=Z,14nm,0.7s,baz=72
IUG Iuzhnay 37.14 72 *e*P **P 09 08 18.4 0.0**
IUG pmax pmax
comp=Z,14nm,0.7s
KK31 Karatay Array 37.22 70 P **P 09 08 19.0 0.0**
KK31 Karatay Array 37.22 70 *e*P **P 09 08 18.5 -0.5**
KKAR Karatay Array 37.22 70 P **P 09 08 19.3 +0.3**
KKAR Karatay Array 37.22 70 P **P 09 08 18.7 -0.3**
KKAR Karatay Array 37.22 70 P **P 09 08 19.3 +0.3**
KKAR pmax pmax
comp=Z,8.0nm,0.9s
SIMJ Simiganj 37.50 78 P **P 09 08 20.9 -0.6**
CHGR Chuyangaron 37.61 77 P **P 09 08 22.1 -0.3**
CHGR Chuyangaron 37.61 77 P **P 09 08 22.1 -0.3**
CHGR pmax pmax
comp=Z,44nm,0.8s
DBG Daneborg 37.64 343 *i*P **P 09 08 23.4 +1.3**
DBG IAmb IAmb 09 08 27.5
comp=Z,2.0nm,0.9s
KBS Kingsbay 37.70 358 *e*P **P 09 08 22.6 0.0**
KBS IAmb IAmb 09 08 24.7
comp=Z,28nm,1.1s
KBS Kingsbay 37.70 358*de*P **P 09 08 23.6 +1.0**
KBS pmax pmax
comp=Z,38nm,2.5s
KBS Kingsbay 37.70 358 *i*P **P 09 08 22.0 -0.5**
GAR Garm 38.34 76 P **P 09 08 28.8 +0.2**
GAR IAmb IAmb 09 08 30.7
comp=Z,33nm,1.0s
BTK Batken 38.34 75 P **P 09 08 28.2 -0.4**
BTK IAmb IAmb 09 09 02.0
comp=Z,15nm,0.6s
BTK Batken 38.34 75 P **P 09 08 28.2 -0.4**
BTK pmax pmax
comp=Z,15nm,0.6s
DAG Danmarks Havn 38.93 347 P **P 09 08 31.7 -1.3**
DAG Danmarks Havn 38.93 347 *i*P **P 09 08 32.0 -1.0**
DAG IAmb IAmb 09 08 34.9
comp=Z,4.5nm,0.8s
BTLS Baital 39.18 66 *e*P **P 09 08 35.4 -0.1**
baz=66
BTLS Baital 39.18 66 *e*P **P 09 08 35.3 -0.1**
ARSB Arslanbob 39.49 72 P **P 09 08 38.6 +0.3**
ARSB Arslanbob 39.49 72 P **P 09 08 38.6 +0.3**
ARSB pmax pmax
comp=Z,5.0nm,0.6s
SGDS Sogindy 40.01 68 *e*P **P 09 08 42.5 0.0**
baz=68
SGDS Sogindy 40.01 68 *e*P **P 09 08 42.5 0.0**
AAK Ala-Archa 40.16 69 P **P 09 08 44.0 +0.2**
AAK Ala-Archa 40.16 69⇓*e*P **P 09 08 45.7 +1.9**
AAK pmax pmax
comp=Z,29nm,1.7s
ISOG Isortoq, Green 40.28 327 *i*P **P 09 08 46.2 +1.9**
ISOG IAmb IAmb 09 08 47.9
comp=Z,17nm,0.7s
LODK Lodwar 40.44 155 P **P 09 08 46.1 0.0**
TKM2 Tokmak 2 40.84 69 P **P 09 08 49.7 +0.1**
KURBB Kurchatov Arra 40.91 56 P **P 09 08 49.4 -0.3**
comp=Z,18nm,1.1s,baz=281,slow=8.4,SNR=47
KURBB PP **PnPn 09 10 28.4 +0.2**
comp=Z,9.3nm,1.0s,baz=286,slow=11,SNR=5.2
comp=Z,18nm,1.1s
DBIC Dimbokro 40.93 219 P **P 09 08 50.9 +0.7**
comp=Z,4.6nm,0.5s,baz=26,slow=7.8,SNR=8.1
comp=Z,4.6nm,0.5s
KURK Kurchatov 40.95 56 P **P 09 08 49.5 -0.6**
KURK Kurchatov 40.95 56⇑P **P 09 08 49.7 -0.4**
KURK Kurchatov 40.95 56 P **P 09 08 49.5 -0.6**
KURK pmax pmax
comp=Z,98nm,1.7s
TIC Toumodi 41.03 219⇑*e*P P 09 08 56.0 +5.0
comp=Z,10nm,0.7s
ICESG Greenland Ices 41.09 332 ⇓P **P 09 08 51.6 +0.1**
ICESG Greenland Ices 41.09 332 *i*P **P 09 08 51.5 +0.1**
ICESG IAmb IAmb 09 08 55.3
comp=Z,17nm,0.7s
KIC Kosan Boka 41.14 219⇑*e*P **P 09 08 53.2 +1.2**
comp=Z,3.6nm,0.4s
BOOM Boomskoye usch 41.22 69 P **P 09 08 52.9 +0.3**
BOOM Boomskoye usch 41.22 69 P **P 09 08 52.9 +0.3**
BOOM pmax pmax
comp=Z,9.0nm,0.6s
LIC Lamto 41.40 219⇑*e*P **P 09 08 54.5 +0.4**
comp=Z,17nm,0.5s
SUMG Summit 41.51 337 P **P 09 08 54.9 0.0**
SUMG Summit 41.51 337 ⇓P **P 09 08 55.3 +0.4**
SUMG Summit 41.51 337 P **P 09 08 54.9 0.0**
SUMG pmax pmax
comp=Z,22nm,1.0s
SUMG Summit 41.51 337 *i*P **P 09 08 54.0 -0.9**
SUMG IAmb IAmb 09 08 57.5
comp=Z,8.7nm,0.8s
MDOK Medeo 41.78 68 *e*P **P 09 08 57.3 +0.1**
baz=68
MDOK Medeo 41.78 68 *e*P **P 09 08 57.3 +0.1**
NOR Nord 42.13 353⇑P **P 09 08 58.5 -0.9**
NOR Nord 42.13 353⇑P **P 09 08 58.5 -0.9**
NOR Nord 42.13 353 *i*P **P 09 08 58.4 -1.0**
NOR IAmb IAmb 09 09 00.6
comp=Z,11nm,0.7s
TDK Taldyqorghan 42.17 65 *e*P **P 09 08 59.9 -0.2**
comp=Z,13nm,0.5s,baz=65
TDK Taldyqorghan 42.17 65 *e*P **P 09 08 59.9 -0.2**
TDK pmax pmax
comp=Z,13nm,0.5s
KSH Kashi 42.26 73 P **P 09 09 00.9 -0.2**
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH LR LR
comp=Z,1μm,15.5s
KSH LR LR
comp=Z,1μm,14.8s
KSH LR LR
comp=Z,2μm,15.8s
NIL Nilore 42.65 83 P **P 09 09 04.3 +0.1**
NIL Nilore 42.65 83 P **P 09 09 04.3 +0.1**
NIL pmax pmax
comp=Z,73nm,1.3s
ZHN Zhinishke 42.74 67 *e*P **P 09 09 04.8 -0.3**
baz=67
ZHN Zhinishke 42.74 67 *e*P **P 09 09 04.7 -0.3**
SATY Saty 42.76 67 *e*P **P 09 09 05.3 +0.1**
baz=67
SATY Saty 42.76 67 *e*P **P 09 09 05.2 +0.1**
KPKS Kokpek 42.82 67 *e*P **P 09 09 05.4 -0.2**
baz=67
KPKS Kokpek 42.82 67 *e*P **P 09 09 05.3 -0.2**
UZB Uzynbulak 43.16 67 *e*P **P 09 09 07.8 -0.6**
baz=67
UZB Uzynbulak 43.16 67 *e*P **P 09 09 07.8 -0.6**
DY2G Dye2 43.32 328⇑P **P 09 09 09.7 +0.2**
DY2G Dye2 43.32 328 *i*P **P 09 09 10.2 +0.7**
DY2G IAmb IAmb 09 09 11.9
comp=Z,20nm,0.6s
PDGK Podgornoye 43.42 67 P **P 09 09 09.2 -1.3**
SHLS Shalkode 43.46 67 *e*P **P 09 09 13.4 +2.7**
comp=Z,16nm,0.7s,baz=67
SHLS Shalkode 43.46 67 *e*P **P 09 09 13.4 +2.7**

SHLS pmax pmax
comp=Z,16nm,0.7s
MAKZ Makanchi 44.03 61 P **P 09 09 15.3 +0.1**
MAKZ IAmb IAmb 09 09 17.5
comp=Z,32nm,0.9s
MAKZ Makanchi 44.03 61⇑P **P 09 09 15.2 -0.1**
MAKZ Makanchi 44.03 61 P **P 09 09 15.3 +0.1**
MAKZ pmax pmax
comp=Z,33nm,0.9s
ZAA0 Zalesovo Array 44.07 50 P **P 09 09 15.4 +0.1**
ZALV Zalesovo Beam 44.07 50 P **P 09 09 15.4 +0.1**
ZALV Zalesovo Beam 44.07 50 P **P 09 09 15.2 -0.1**
comp=Z,83nm,0.6s,baz=280,slow=8.3,SNR=140
comp=Z,83nm,0.6s
NRIK Noril'sk 44.20 28 P **P 09 09 16.4 +0.2**
NRIK IAmb IAmb 09 09 18.7
comp=Z,37nm,0.9s
NRIK Noril'sk 44.20 28 P **P 09 09 16.4 +0.2**
comp=Z,25nm,0.7s,baz=262,slow=3.8,SNR=31
comp=Z,25nm,0.7s
NRIK Noril'sk 44.20 28 *e*P **P 09 09 16.4 +0.2**
NRIK pmax pmax
comp=Z,33nm,0.9s
MK31 Makanchi Array 44.24 61 P **P 09 09 16.8 -0.2**
MK31 Makanchi Array 44.24 61*c i*P **P 09 09 16.7 -0.2**
MKAR Makanchi Array 44.24 61 P **P 09 09 16.7 -0.2**
MKAR Makanchi Array 44.24 61 P **P 09 09 16.9 0.0**
comp=Z,62nm,0.7s,baz=283,slow=6.9,SNR=243
comp=Z,62nm,0.7s
MKAR Makanchi Array 44.24 61 *i*P **P 09 09 16.8 -0.2**
MKAR pmax pmax
comp=Z,63nm,0.7s
SFJD Kangerlussuaq 45.05 328 P **P 09 09 22.2 -0.8**
SFJD IAmb IAmb 09 09 24.1
comp=Z,11nm,0.7s
SFJD Kangerlussuaq 45.05 328 P **P 09 09 22.2 -0.8**
SFJD pmax pmax
comp=Z,11nm,0.7s
SFJD Kangerlussuaq 45.05 328 *i*P **P 09 09 22.5 -0.5**
SFJD IAmb IAmb 09 09 25.5
comp=Z,7.5nm,0.7s
NEEM North Greenlan 45.72 343⇑P **P 09 09 27.9 -0.6**
NEEM North Greenlan 45.72 343 *i*P **P 09 09 27.3 -1.3**
NEEM IAmb IAmb 09 09 30.6
comp=Z,10nm,0.8s
ZSN Zaisan 45.73 59 *e*P **P 09 09 29.1 +0.3**
comp=Z,22nm,0.7s,baz=59
ZSN Zaisan 45.73 59 *e*P **P 09 09 29.0 +0.3**
ZSN pmax pmax
comp=Z,22nm,0.7s
KULLO Kullorsuaq 47.04 339 *i*P **P 09 09 38.2 -0.4**
KULLO IAmb IAmb 09 09 40.6
comp=Z,13nm,0.8s
WMQ Urumqi 48.83 63⇑*i*P **P 09 09 53.2 +0.2**
WMQ pmax pmax
comp=Z,46nm,0.9s
WMQ LR LR
comp=Z,1μm,23.9s
WMQ LR LR
comp=Z,2μm,18.3s
WMQ LR LR
comp=Z,1μm,16.9s
SCHQ Schefferville 55.59 316 P **P 09 10 42.8 -0.2**
SCHQ IAmb IAmb 09 10 46.0
comp=Z,15nm,0.7s
SCHQ Schefferville 55.59 316 P **P 09 10 43.0 0.0**
comp=Z,14nm,0.7s,baz=63,slow=5.7,SNR=22
comp=Z,14nm,0.7s
IRK Irkutsk 55.72 48 *e*P **P 09 10 42.9 -1.0**
IRK pmax pmax
comp=Z,79nm,2.3s
ZAK Zakamensk 55.95 50 *e*P **P 09 10 46.0 +0.2**
ZAK pmax pmax
comp=Z,19nm,1.5s
TIXI Tiksi 56.82 21 P **P 09 10 51.4 -0.1**
TIXI IAmb IAmb 09 10 54.1
comp=Z,22nm,1.5s
TIXI Tiksi 56.82 21⇓*e*P **P 09 10 51.1 -0.3**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
LSA Lhasa 57.84 77 P **P 09 10 59.1 -0.8**
LSA Lhasa 57.84 77 P **P 09 10 58.9 -1.0**
LSA Lhasa 57.84 77 P **P 09 10 58.9 -1.0**
LSA pmax pmax
comp=Z,23nm,0.7s
HAL Halifax 58.30 304 P **P 09 11 02.5 +0.2**
HAL Halifax 58.30 304 P **P 09 11 02.5 +0.2**
HAL pmax pmax
comp=Z,24nm,0.7s
LMN Caledonia Moun 58.47 305 P **P 09 11 03.4 -0.1**
LMN IAmb IAmb 09 11 05.6
comp=Z,16nm,0.7s
BATG Bathurst New B 58.55 307 P **P 09 11 04.2 +0.2**
BATG IAmb IAmb 09 11 06.5
comp=Z,15nm,0.8s
GTA Gaotai 58.92 63 P **P 09 11 06.8 -0.1**
GTA pmax pmax
comp=Z,18nm,0.8s
GTA pmax pmax
comp=Z,250nm,6.3s
GTA LR LR
comp=Z,450nm,22.5s
GTA LR LR
comp=Z,860nm,21.1s
GTA LR LR
comp=Z,1μm,18.9s
SONM Songino Array 58.94 52 P **P 09 11 07.2 +0.3**
SONM Songino Array 58.94 52 P **P 09 11 07.1 +0.3**
comp=Z,29nm,0.8s,baz=286,slow=7.3,SNR=87
comp=Z,29nm,0.8s
SONM Songino Array 58.94 52 P **P 09 11 07.2 +0.3**
SONM pmax pmax
comp=Z,53nm,1.0s
ULN Ulaanbaatar 59.31 51 P **P 09 11 09.5 0.0**
ULN **P 09 11 09.8 +0.2**
ULN Ulaanbaatar 59.31 51*c i*P **P 09 11 09.7 +0.2**
ULN pmax pmax
comp=Z,30nm,1.0s
GGN Saint George 60.08 305 P **P 09 11 14.7 +0.1**
GGN IAmb IAmb 09 11 16.7
comp=Z,20nm,1.0s
D62A Allapoint, All 60.42 308 P **P 09 11 17.4 +0.5**
D62A IAmb IAmb 09 11 19.7
comp=Z,18nm,0.9s
G65A Princeton 60.48 306 P **P 09 11 17.5 +0.2**
G65A IAmb IAmb 09 11 19.8
comp=Z,9.9nm,0.8s
F64A Sherman 60.62 307 P **P 09 11 18.2 -0.1**
F64A IAmb IAmb 09 11 20.9
comp=Z,20nm,1.1s
EMMW East Machias 60.66 305 P **P 09 11 18.8 +0.2**
EMMW IAmb IAmb 09 11 21.1
comp=Z,21nm,1.0s
SHL Shillong 60.67 81 P **P 09 11 17.6 -1.5**
SHL Shillong 60.67 81 P **P 09 11 17.7 -1.5**
SHL pmax pmax
comp=Z,41nm,1.0s
LMQ La Malbaie 60.94 309 P **P 09 11 20.4 -0.1**
LMQ IAmb IAmb 09 11 22.9
comp=Z,10nm,1.0s
E62A Clayton Lake 60.94 308 P **P 09 11 20.6 +0.2**
E62A IAmb IAmb 09 11 22.0
comp=Z,14nm,0.9s
LDAQ Lac Daran 61.25 310 P **P 09 11 22.8 +0.1**
LDAQ IAmb IAmb 09 11 25.2
comp=Z,9.3nm,0.8s
PKME Peaks-Kenny Pk 61.50 307 IAmb IAmb 09 11 27.2
comp=Z,14nm,0.9s
PKME Peaks-Kenny Pk 61.50 307 P **P 09 11 24.2 0.0**
baz=59
F62A Pittston Farm, 61.57 307 IAmb IAmb 09 11 59.8
comp=Z,34nm,1.8s
G62A West of Eustis 62.27 307 P **P 09 11 29.1 -0.4**
G62A IAmb IAmb 09 12 00.5
comp=Z,14nm,1.2s
YAK Yakutsk 62.60 30 **P 09 11 30.4 -0.9**
YAK Yakutsk 62.60 30*de*P **P 09 11 31.5 +0.2**
YAK pmax pmax
comp=Z,15nm,0.8s
LZH Lanzhou 63.38 64 *e*P **P 09 11 37.5 +0.3**
LZH pmax pmax
comp=Z,110nm,1.1s
LZH LR LR
comp=Z,990nm,14.6s
LZH LR LR
comp=Z,790nm,14.8s

LZH			LR	LR		
	comp=Z,1μm,18.2s					
I62A	**Tamworth**	**63.47 306**	P	**P**	**09 11 37.4**	**-0.1**
I62A			IAmb	IAmb	09 11 42.2	
	comp=Z,20nm,1.1s					
LBNH	**Lisbon**	**63.63 307**	P	**P**	**09 11 38.4**	**-0.1**
LBNH			IAmb	IAmb	09 12 10.3	
	comp=Z,11nm,0.9s					
LBNH	**Lisbon**	**63.63 307**	P	**P**	**09 11 38.2**	**-0.4**
	baz=57					
LBNH	**Lisbon**	**63.63 307**	P	**P**	**09 11 38.4**	**-0.1**
LBNH			pmax	pmax		
	comp=Z,11nm,1.0s					
PALK	**Pallekele**	**63.68 104⇓**	*e*P	**P**	**09 11 38.4**	**-0.9**
PALK			pmax	pmax		
	comp=Z,30nm,1.1s					
TRQ	**Mont Tremblant**	**64.10 310**	IAmb	IAmb	09 11 44.1	
	comp=Z,13nm,0.9s					
HNH	**Hanover**	**64.14 306**	IAmb	IAmb	09 11 45.3	
	comp=Z,11nm,1.0s					
A36M	**Sachs Harbour**	**64.16 349**	P	**P**	**09 11 41.2**	**-0.3**
A36M	**Sachs Harbour**	**64.16 349**	P	**P**	**09 11 40.9**	**-0.7**
	baz=29,SNR=11					
BCX	**Boston College**	**64.21 305**	P	**P**	**09 11 42.5**	**+0.1**
BCX			IAmb	IAmb	09 11 45.4	
	comp=Z,21nm,1.2s					
WES	**Weston**	**64.28 305**	IAmb	IAmb	09 11 46.3	
	comp=Z,19nm,1.0s					
HRV	**Adam Dziewonsk**	**64.36 305**	P	**P**	**09 11 44.0**	**+0.7**
HRV			IAmb	IAmb	09 11 45.7	
	comp=Z,14nm,1.1s					
HRV	**Adam Dziewonsk**	**64.36 305**	P	**P**	**09 11 43.3**	**0.0**
	baz=56					
HRV	**Adam Dziewonsk**	**64.36 305**	P	**P**	**09 11 44.0**	**+0.7**
HRV			pmax	pmax		
	comp=Z,14nm,1.1s					
J61A	**Chester**	**64.50 306**	IAmb	IAmb	09 11 47.3	
	comp=Z,15nm,1.2s					
VLDQ	**Val d'Or**	**64.68 313**	IAmb	IAmb	09 11 48.7	
	comp=Z,15nm,0.8s					
K62A	**Royalston**	**64.69 305**	IAmb	IAmb	09 11 48.5	
	comp=Z,18nm,1.2s					
BTO	**Baotou**	**64.93 57⇓**	*i*P	**P**	**09 11 46.7**	**-0.6**
BTO			pP	**pP**	**09 11 51.4**	**-1.4**
BTO			sP	**sP**	**09 11 53.8**	**-1.1**
BTO			S	**S**	**09 20 29.6**	**+1.4**
BTO			sS	**pS**	**09 20 35.8**	**+0.6**
BTO			pmax	pmax		
	comp=Z,79nm,1.2s					
BTO			pmax	pmax		
	comp=Z,570nm,4.6s					
BTO			LR	LR		
	comp=Z,2μm,16.3s					
BTO			LR	LR		
	comp=Z,2μm,15.7s					
BTO			LR	LR		
	comp=Z,3μm,17.8s					
LONY	**Lake Ozonia**	**65.00 308**	IAmb	IAmb	09 12 54.2	
	comp=Z,32nm,1.7s					
LONY	**Lake Ozonia**	**65.00 308**	P	**P**	**09 11 47.4**	**-0.2**
	baz=56					
L61B	**Northampton**	**65.08 305**	IAmb	IAmb	09 11 51.5	
	comp=Z,9.2nm,0.9s					
L61B	**Northampton**	**65.08 305**	P	**P**	**09 11 47.6**	**-0.5**
	baz=56					
ACCN	**Adirondack Com**	**65.15 307**	IAmb	IAmb	09 11 52.0	
	comp=Z,14nm,0.8s					
M63A	**Gales Ferry**	**65.27 304**	IAmb	IAmb	09 11 52.6	
	comp=Z,14nm,0.8s					
HIA	**Hailar**	**65.67 45**	P	**P**	**09 11 53.9**	**+2.1**
HHC	**Hu-ho-hao-te**	**65.77 56⇓**	*i*P	**P**	**09 11 52.5**	**-0.2**
HHC			sP	sP	09 11 59.7	-0.6
HHC			S	**S**	**09 20 36.0**	**-2.4**
HHC			pmax	pmax		
	comp=Z,40nm,1.2s					
HHC			pmax	pmax		
	comp=Z,89nm,5.7s					
HHC			LR	LR		
	comp=Z,550nm,16.8s					
HHC			LR	LR		
	comp=Z,1μm,14.7s					
HHC			LR	LR		
	comp=Z,2μm,14.1s					
TNCH	**TengChong**	**65.87 77**	*e*P	**P**	**09 11 53.5**	**-0.2**
TNCH			pmax	pmax		
	comp=Z,42nm,1.1s					
J58A	**Remsen**	**66.14 307**	IAmb	IAmb	09 11 58.3	
	comp=Z,11nm,0.9s					
CD2	**Chengdu**	**66.23 69**	P	**P**	**09 11 55.4**	**-0.3**
CD2			PcP	**PcP**	**09 12 25.3**	**-0.5**
CD2			pmax	pmax		
	comp=Z,40nm,0.8s					
CD2			LR	LR		
	comp=Z,560nm,9.5s					
CD2			LR	LR		
	comp=Z,260nm,8.9s					
CD2			LR	LR		
	comp=Z,740nm,19.7s					
C36M	**Paulatuk**	**66.30 347**	P	**P**	**09 11 55.0**	**-0.4**
	baz=29,SNR=15					
PAL	**Palisades**	**66.66 305**	P	**P**	**09 11 57.9**	**-0.3**
	baz=55					
ZEA	**Zeya**	**66.71 38⇓**	*e*P	**P**	**09 11 59.9**	**+1.6**
XLT	**XiLinHaoTe**	**66.75 51**	*e*P	**P**	**09 11 59.1**	**+0.2**
XLT			PcP	**PcP**	**09 12 29.0**	**+1.2**
XLT			pmax	pmax		
	comp=Z,18nm,1.0s					
XLT			pmax	pmax		
	comp=Z,140nm,4.3s					
XLT			LR	LR		
	comp=Z,1μm,16.3s					
XLT			LR	LR		
	comp=Z,3μm,17.6s					
TRNY	**Table Rock, Ra**	**66.77 305**	IAmb	IAmb	09 12 02.4	
	comp=Z,6.5nm,0.7s					
DELO	**Deloro Mine**	**66.84 309**	IAmb	IAmb	09 12 30.4	
	comp=Z,7.9nm,0.8s					
J56A	**Wolcott**	**67.12 308**	IAmb	IAmb	09 12 04.4	
	comp=Z,17nm,0.9s					
BINY	**Binghamton**	**67.23 307**	IAmb	IAmb	09 12 05.1	
	comp=Z,9.4nm,0.8s					
BINY	**Binghamton**	**67.23 307**	P	**P**	**09 12 00.8**	**-1.1**
	baz=54					
K57A	**Scipio Center**	**67.24 307**	IAmb	IAmb	09 12 05.3	
	comp=Z,13nm,0.8s					
PZH	**PanZhiHua**	**67.35 74**	P	**P**	**09 12 05.1**	**+2.1**
PZH			pmax	pmax		
	comp=Z,9.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,100nm,4.7s					
KSPA	**Keystone Colle**	**67.47 306**	IAmb	IAmb	09 12 35.0	
	comp=Z,10nm,0.9s					
SADO	**Sadowa**	**67.57 310**	P	**P**	**09 12 04.8**	**+0.9**
J55A	**Hilton**	**67.69 308**	IAmb	IAmb	09 12 08.3	
	comp=Z,18nm,0.8s					
A22K	**Sinclair Lake**	**67.77 358**	P	**P**	**09 12 04.4**	**-0.3**
	baz=4.4					
LUPA	**Lehigh Univers**	**67.80 305**	IAmb	IAmb	09 12 37.0	
	comp=Z,8.1nm,0.8s					
BILL	**Bilibino**	**67.97 13⇓**	*e*P	**P**	**09 12 05.6**	**-0.5**
BILL			pmax	pmax		
	comp=Z,8.0nm,1.0s					
XAN	**Xi'an**	**67.97 64**	⇑P	**P**	**09 12 06.6**	**-0.1**
XAN			pP	pP	09 12 10.0	-2.3
XAN			PcP	**PcP**	**09 12 35.3**	**+2.3**
XAN			pmax	pmax		
	comp=Z,140nm,1.2s					
XAN			LR	LR		
	comp=Z,930nm,16.5s					
XAN			LR	LR		
	comp=Z,750nm,18.1s					
XAN			LR	LR		
	comp=Z,1μm,16.2s					
MEDO	**Medina**	**68.13 309**	IAmb	IAmb	09 12 10.6	
	comp=Z,8.2nm,0.8s					
L56A	**Greenwood**	**68.21 307**	IAmb	IAmb	09 12 12.2	
	comp=Z,14nm,0.8s					
C26K	**Camden Bay**	**68.35 354**	P	**P**	**09 12 07.3**	**-1.2**
	baz=12					
D28M	**Stokes Point**	**68.36 352**	P	**P**	**09 12 08.1**	**-0.4**
	baz=17					
B22K	**Teshekpuk Lake**	**68.39 357**	P	**P**	**09 12 08.5**	**-0.1**
	baz=5.7					
N58A	**Sunbury**	**68.48 306**	IAmb	IAmb	09 12 12.8	
	comp=Z,14nm,0.8s					
C27K	**Jago River**	**68.54 354**	P	**P**	**09 12 09.5**	**-0.2**
	baz=13,SNR=21					
A19K	**Wainwright**	**68.64 0**	P	**P**	**09 12 09.3**	**-0.9**
	baz=360					
D27M	**Malcolm River**	**68.67 353**	P	**P**	**09 12 10.7**	**+0.2**
	baz=16					
INK	**Inuvik**	**68.70 350**	P	**P**	**09 12 10.1**	**-0.6**
	baz=21,SNR=12					
INK	**Inuvik**	**68.70 350**	P	**P**	**09 12 09.2**	**-1.4**
C23K	**Itkillik River**	**68.78 356**	P	**P**	**09 12 10.1**	**-1.1**
	baz=7.9,SNR=12					
C24K	**Franklin Bluff**	**68.79 356**	P	**P**	**09 12 10.0**	**-1.2**
	baz=9.4					
B20K	**Meade River**	**68.81 359**	P	**P**	**09 12 10.4**	**-0.9**
	baz=2.6					
KMI	**Kunming**	**68.89 75**	⇑P	**P**	**09 12 12.7**	**-0.2**
KMI			PcP	**PcP**	**09 12 40.7**	**+3.5**
KMI			pmax	pmax		
	comp=Z,23nm,1.3s					
KMI			LR	LR		
	comp=Z,320nm,13.3s					
KMI			LR	LR		
	comp=Z,470nm,12.2s					
KMI			LR	LR		
	comp=Z,610nm,18.2s					
HEH	**HeiHe**	**69.00 41**	*e*P	**P**	**09 12 12.5**	**-0.3**
HEH			pmax	pmax		
	comp=Z,30nm,1.0s					
HEH			pmax	pmax		
	comp=Z,110nm,3.6s					
HEH			LR	LR		
	comp=Z,1μm,14.0s					
HEH			LR	LR		
	comp=Z,3μm,13.3s					
HEH			LR	LR		
	comp=Z,3μm,14.6s					
D25K	**Kavik River**	**69.04 355**	IAmb	IAmb	09 12 15.2	
	comp=Z,8.0nm,0.8s					
D25K	**Kavik River**	**69.04 355**	P	**P**	**09 12 11.9**	**-0.9**
	baz=11,SNR=7.1					
BJI	**Beijing**	**69.09 55**	P	**P**	**09 12 13.2**	**-0.4**
BJI			sP	**pP**	**09 12 18.2**	**-0.9**
BJI			pmax	pmax		
	comp=Z,8.0nm,1.1s					
BJI			LR	LR		
	comp=Z,560nm,17.4s					
BJI			LR	LR		
	comp=Z,490nm,17.9s					
BJI			LR	LR		
	comp=Z,1μm,18.9s					
RCBR	**Riachuelo**	**69.10 241**	*e*P	**P**	**09 12 13.5**	**-0.4**
BJT	**Baijiatuau**	**69.10 55**	P	**P**	**09 12 14.1**	**+0.5**
B21K	**Ikpikpuk River**	**69.14 358**	P	**P**	**09 12 13.7**	**+0.3**
	baz=4.7					
E28M	**Babbage River**	**69.14 352**	IAmb	IAmb	09 12 16.0	
	comp=Z,14nm,1.2s					
E28M	**Babbage River**	**69.14 352**	P	**P**	**09 12 12.9**	**-0.6**
	baz=17,SNR=16					
E29M	**Blow River**	**69.17 351**	P	**P**	**09 12 13.9**	**+0.3**
	baz=18,SNR=53					
SSPA	**Standing Stone**	**69.31 306**	P	**P**	**09 12 15.8**	**+0.9**
SSPA	**Standing Stone**	**69.31 306**	P	**P**	**09 12 14.7**	**-0.2**
	baz=53					
SEY	**Seymchan**	**69.32 21**	*e*P	**P**	**09 12 13.4**	**-1.1**
SEY			pmax	pmax		
	comp=Z,7.0nm,1.0s					
M55A	**Ridgway**	**69.33 307**	P	**P**	**09 12 16.2**	**+1.1**
D24K	**Happy Valley**	**69.36 356**	IAmb	IAmb	09 12 30.5	
	comp=Z,11nm,0.9s					
D24K	**Happy Valley**	**69.36 356**	P	**P**	**09 12 13.9**	**-0.9**
	baz=9.3					
E46A	**Sault Ste Mari**	**69.47 314**	IAmb	IAmb	09 12 18.8	
	comp=Z,17nm,0.8s					
B18K	**Kokolik River**	**69.48 1**	P	**P**	**09 12 15.3**	**-0.1**
	baz=359					
NBCL	**Cascavel-CE**	**69.52 244**	*e*P	**P**	**09 12 18.0**	**+1.6**
F31M	**Tsiigehtchic**	**69.54 349**	P	**P**	**09 12 15.9**	**+0.1**
	baz=21,SNR=12					
C21K	**Knifeblade Rid**	**69.61 358**	P	**P**	**09 12 15.8**	**-0.5**
	baz=4.5					
D23K	**Nanushuk River**	**69.65 356**	P	**P**	**09 12 16.4**	**-0.2**
	baz=7.8					
F30M	**Barrier River**	**69.66 350**	P	**P**	**09 12 16.6**	**-0.1**
	baz=20,SNR=6.7					
ERPA	**Erie**	**69.66 309**	P	**P**	**09 12 16.3**	**-0.8**
	baz=52,SNR=19					
C19K	**Lookout Ridge**	**69.74 360**	P	**P**	**09 12 16.6**	**-0.6**
	baz=0.7					
E27K	**Coleen River**	**69.76 353**	IAmb	IAmb	09 12 19.8	
	comp=Z,13nm,1.1s					
E27K	**Coleen River**	**69.76 353**	P	**P**	**09 12 16.9**	**-0.4**
	baz=15,SNR=17					
HNS	**HongShan**	**69.77 58**	⇑P	**P**	**09 12 17.6**	**-0.2**
HNS			*e*S	**S**	**09 21 34.3**	**+8.2**
HNS			pmax	pmax		
	comp=Z,25nm,1.4s					
HNS			LR	LR		
	comp=Z,1μm,16.7s					
HNS			LR	LR		
	comp=Z,790nm,19.1s					
HNS			LR	LR		
	comp=Z,1μm,19.1s					
D22K	**Ayikyak River**	**69.82 357**	P	**P**	**09 12 17.2**	**-0.4**
	baz=6.2					
TOLK	**Toolik Lake Re**	**69.91 356**	P	**P**	**09 12 18.9**	**+0.6**
TOLK			IAmb	IAmb	09 12 22.1	
	comp=Z,14nm,1.1s					
TOLK	**Toolik Lake Re**	**69.91 356**	P	**P**	**09 12 17.4**	**-0.8**
	baz=8.7					
CHTO	**Chiang Mai**	**69.92 82**	P	**P**	**09 12 17.7**	**-1.3**
CHTO	**Chiang Mai**	**69.92 82**	P	**P**	**09 12 17.7**	**-1.3**
CHTO			pmax	pmax		
	comp=Z,18nm,0.8s					
BOSA	**Boshof**	**69.93 175**	P	**P**	**09 12 20.1**	**+1.3**
BOSA			IAmb	IAmb	09 12 23.6	
	comp=Z,77nm,2.0s					
BOSA	**Boshof**	**69.93 175**	P	**P**	**09 12 19.6**	**+0.8**
	comp=Z,5.0nm,0.5s,baz=3.9,slow=7.0,SNR=15					
	comp=Z,5.0nm,0.5s					
LYN	**LuoYang**	**70.03 61**	P	**P**	**09 12 19.8**	**+0.4**
LYN			pmax	pmax		
	comp=Z,45nm,0.8s					
LYN			pmax	pmax		
	comp=Z,250nm,5.4s					
LYN			LR	LR		
	comp=Z,870nm,15.5s					
LYN			LR	LR		
	comp=Z,920nm,12.9s					
LYN			LR	LR		
	comp=Z,1μm,16.9s					
ALLY	**Alegheny Colle**	**70.04 308**	IAmb	IAmb	09 12 22.4	
	comp=Z,17nm,0.8s					
YKA	**Yellowknife Ar**	**70.06 339**	P	**P**	**09 12 19.2**	**+0.1**
	comp=Z,6.6nm,0.7s,baz=34,slow=6.2,SNR=23					
	comp=Z,6.6nm,0.7s					
P57A	**Homestead Farm**	**70.08 305**	IAmb	IAmb	09 12 22.9	
	comp=Z,12nm,0.8s					
D20K	**Etivluk River**	**70.10 359**	P	**P**	**09 12 18.7**	**-0.7**
	baz=3.0,SNR=5.3					
G31M	**Satah River**	**70.10 349**	P	**P**	**09 12 18.8**	**-0.6**
	baz=21,SNR=17					
F28M	**Old Crow**	**70.13 352**	IAmb	IAmb	09 12 22.2	
	comp=Z,14nm,0.7s					
F28M	**Old Crow**	**70.13 352**	P	**P**	**09 12 19.5**	**-0.1**
	baz=16,SNR=36					
CMAR	**Chiang Mai Arr**	**70.14 83**	P	**P**	**09 12 19.2**	**-1.2**
CMAR	**Chiang Mai Arr**	**70.14 83**	P	**P**	**09 12 19.2**	**-1.2**
E25K	**Arctic Village**	**70.16 354**	IAmb	IAmb	09 12 22.5	
	comp=Z,27nm,1.8s					
E25K	**Arctic Village**	**70.16 354**	P	**P**	**09 12 19.3**	**-0.5**
	baz=12,SNR=7.3					
C18K	**Utukok River**	**70.20 0**	IAmb	IAmb	09 12 22.6	
	comp=Z,16nm,0.8s					
C18K	**Utukok River**	**70.20 0**	P	**P**	**09 12 20.0**	**0.0**
	baz=359					
E21K	**Killik River**	**70.31 357**	P	**P**	**09 12 20.4**	**-0.2**
	baz=5.2					
G30M	**tAoh Zraii Nji**	**70.31 350**	P	**P**	**09 12 20.2**	**-0.4**
	baz=19,SNR=8.0					
D19K	**Kuna River**	**70.34 359**	IAmb	IAmb	09 12 23.4	
	comp=Z,17nm,0.8s					
D19K	**Kuna River**	**70.34 359**	P	**P**	**09 12 20.5**	**-0.3**
	baz=1.8,SNR=7.8					
C17K	**DeLong Mountai**	**70.36 1**	P	**P**	**09 12 20.2**	**-0.7**
	baz=358					
E24K	**Your Creek**	**70.41 355**	P	**P**	**09 12 21.3**	**0.0**
	baz=9.5					
F26K	**Sheenjek River**	**70.47 353**	P	**P**	**09 12 21.4**	**-0.3**
	baz=13,SNR=14					
CBN	**Corbin Frederi**	**70.47 304**	P	**P**	**09 12 21.8**	**-0.3**
	baz=52					
M53A	**WI Miller and**	**70.48 308**	P	**P**	**09 12 21.1**	**-1.0**
	baz=52,SNR=6.9					
E23K	**Chandalar**	**70.49 356**	P	**P**	**09 12 21.7**	**-0.2**
	baz=8.6,SNR=13					
C16K	**Lisburne Hills**	**70.52 2**	P	**P**	**09 12 21.7**	**-0.1**
	baz=356					
E22K	**Anaktuvuk Pass**	**70.53 357**	P	**P**	**09 12 22.2**	**+0.2**
	baz=6.8					
E20K	**Nigu River**	**70.55 358**	P	**P**	**09 12 21.9**	**-0.3**
	baz=3.4					
G29M	**Pine Creek**	**70.60 351**	P	**P**	**09 12 22.3**	**-0.1**
	baz=18,SNR=24					
GLMI	**Grayling**	**70.61 313**	P	**P**	**09 12 22.4**	**-0.5**
	baz=50					
F25K	**Christian Rive**	**70.69 354**	P	**P**	**09 12 22.8**	**-0.2**
	baz=12,SNR=11					
BMAR	**Burnt Mountain**	**70.76 354**	P	**P**	**09 12 24.0**	**+0.5**
RDOG	**Red Dog Mine**	**70.78 1**	P	**P**	**09 12 23.4**	**-0.1**
	baz=358					
GYA	**Guiyang**	**70.91 71**	⇑P	**P**	**09 12 24.8**	**-0.3**
GYA			pmax	pmax		
	comp=Z,31nm,1.1s					
F24K	**Squaw Lake**	**70.92 355**	IAmb	IAmb	09 12 27.5	
	comp=Z,11nm,0.8s					
F24K	**Squaw Lake**	**70.92 355**	P	**P**	**09 12 24.3**	**-0.2**
	baz=9.9,SNR=16					
R58B	**Mineral**	**70.93 304**	IAmb	IAmb	09 12 27.8	
	comp=Z,16nm,0.8s					
EPYK	**Eagle Plains**	**70.95 350**	IAmb	IAmb	09 12 26.6	
	comp=Z,14nm,0.7s					
EPYK	**Eagle Plains**	**70.95 350**	P	**P**	**09 12 24.1**	**-0.6**
	baz=19,SNR=17					
MCWV	**Mont Chateau**	**71.09 306**	P	**P**	**09 12 26.3**	**+0.5**
	baz=52,SNR=8.8					
G27K	**Doyon Strip**	**71.10 352**	P	**P**	**09 12 25.3**	**-0.2**
	baz=15,SNR=16					
D17K	**Noatak River**	**71.14 1**	P	**P**	**09 12 25.5**	**-0.1**
	baz=358					
G26K	**Porcupine Rive**	**71.17 353**	P	**P**	**09 12 25.9**	**+0.1**
	baz=13,SNR=23					
F22K	**John River**	**71.17 357**	P	**P**	**09 12 25.5**	**-0.3**
	baz=6.5					
H29M	**Whitestone**	**71.31 351**	P	**P**	**09 12 26.6**	**-0.1**
	baz=17,SNR=33					
T59A	**Double "B" Far**	**71.34 303**	IAmb	IAmb	09 12 30.3	
	comp=Z,13nm,0.9s					
COLD	**Coldfoot**	**71.35 356**	P	**P**	**09 12 26.8**	**-0.2**
	baz=8.1,SNR=12					
E19K	**Redstone River**	**71.37 359**	P	**P**	**09 12 26.8**	**-0.3**
	baz=2.5,SNR=20					
E18K	**Tukpahlearik C**	**71.44 0**	IAmb	IAmb	09 12 31.5	
	comp=Z,13nm,0.9s					
E18K	**Tukpahlearik C**	**71.44 0**	P	**P**	**09 12 27.1**	**-0.4**
	baz=360,SNR=6.5					
F21K	**Alatna River**	**71.51 357**	IAmb	IAmb	09 12 30.8	
	comp=Z,13nm,0.8s					
F21K	**Alatna River**	**71.51 357**	P	**P**	**09 12 27.9**	**0.0**
	baz=5.5,SNR=16					
G25K	**Bearman Lake**	**71.54 354**	P	**P**	**09 12 28.1**	**0.0**
	baz=11,SNR=7.2					
O53A	**New Philadelph**	**71.55 308**	P	**P**	**09 12 28.5**	**-0.1**
	baz=51,SNR=13					
MA2	**Magadan**	**71.57 24**	*ce*P	**P**	**09 12 28.3**	**-0.1**
MA2			pmax	pmax		
	comp=Z,11nm,1.0s					
H27K	**Steamboat Moun**	**71.65 352**	P	**P**	**09 12 28.5**	**-0.3**
	baz=15,SNR=21					
FYU	**Fort Yukon**	**71.67 354**	IAmb	IAmb	09 12 32.2	
	comp=Z,23nm,1.1s					
AAM	**Ann Arbor**	**71.67 310**	IAmb	IAmb	09 12 32.0	
	comp=Z,20nm,1.0s					
AAM	**Ann Arbor**	**71.67 310**	P	**P**	**09 12 28.7**	**-0.7**
	baz=50					
G24K	**Hadweenzic Riv**	**71.70 355**	P	**P**	**09 12 28.9**	**-0.2**
	baz=10					
G22K	**Bettles**	**71.72 356**	P	**P**	**09 12 28.7**	**-0.5**
	baz=7.0,SNR=11					
S57A	**Dark Hollow, R**	**71.73 304**	IAmb	IAmb	09 12 32.6	
	comp=Z,18nm,1.4s					
F20K	**Avaraart Lake**	**71.75 358**	P	**P**	**09 12 28.6**	**-0.7**
	baz=3.7					
E17K	**Hotham Inlet**	**71.77 1**	P	**P**	**09 12 28.9**	**-0.6**
	baz=359					
KLR	**Kul'dur**	**71.78 40**	*e*P	**P**	**09 12 28.6**	**-1.3**
KLR			pmax	pmax		
	comp=Z,18nm,1.2s					
G23K	**Bananza Creek**	**71.86 356**	P	**P**	**09 12 29.9**	**-0.2**
	baz=8.2,SNR=9.0					
BNX	**BinXian**	**71.93 45**	⇓P	**P**	**09 12 30.7**	**-0.1**
BNX			pmax	pmax		
	comp=Z,22nm,1.2s					
FFC	**Flin Flon**	**72.00 329**	P	**P**	**09 12 31.4**	**+0.3**
FFC	**Flin Flon**	**72.00 329**	P	**P**	**09 12 31.4**	**+0.3**
FFC			pmax	pmax		
	comp=Z,8.0nm,0.8s					
I30M	**Mount Dempster**	**72.00 350**	IAmb	IAmb	09 12 33.1	
	comp=Z,18nm,0.7s					
I30M	**Mount Dempster**	**72.00 350**	P	**P**	**09 12 31.0**	**-0.1**
	baz=19,SNR=38					
H25L	**Birch Creek**	**72.01 354**	P	**P**	**09 12 31.0**	**+0.1**
	baz=12,SNR=15					
F19K	**Shaleruckik Mo**	**72.01 359**	IAmb	IAmb	09 12 32.8	
	comp=Z,13nm,1.0s					
F19K	**Shaleruckik Mo**	**72.01 359**	P	**P**	**09 12 31.1**	**+0.2**
	baz=2.1,SNR=9.3					
TIA	**Tai'an**	**72.02 57**	P	**P**	**09 12 30.9**	**-0.6**
TIA			pmax	pmax		
	comp=Z,12nm,0.9s					
SLVN	**Son La**	**72.04 77**	IAmb	IAmb	09 12 38.3	
	comp=Z,14nm,1.0s					
Q54A	**Coxs Mills**	**72.11 306**	IAmb	IAmb	09 12 34.8	
	comp=Z,16nm,0.8s					
R55A	**Marlinton**	**72.12 305**	IAmb	IAmb	09 12 35.3	
	comp=Z,19nm,0.8s					
I29M	**Ogilvie Camp,**	**72.12 350**	IAmb	IAmb	09 12 33.5	
	comp=Z,18nm,0.7s					
I29M	**Ogilvie Camp,**	**72.12 350**	P	**P**	**09 12 31.4**	**-0.2**
	baz=17,SNR=33					
EYMN	**Ely**	**72.16 319**	IAmb	IAmb	09 12 34.5	
	comp=Z,14nm,0.7s					
EYMN	**Ely**	**72.16 319**	P	**P**	**09 12 31.6**	**-0.6**
	baz=47,SNR=16					
COWI	**Conover**	**72.20 316**	IAmb	IAmb	09 12 35.0	
	comp=Z,16nm,0.7s					
G21K	**Allakaket**	**72.22 357**	IAmb	IAmb	09 12 34.8	
	comp=Z,12nm,0.9s					
G21K	**Allakaket**	**72.22 357**	P	**P**	**09 12 31.9**	**-0.2**
	baz=5.5,SNR=11					
I28M	**Miner Creek**	**72.23 351**	P	**P**	**09 12 31.9**	**-0.5**
	baz=16,SNR=15					
F18K	**Selawik**	**72.26 360**	P	**P**	**09 12 32.0**	**-0.4**
	baz=0.6,SNR=8.0					
I27K	**Kandik River**	**72.27 352**	P	**P**	**09 12 32.1**	**-0.4**
	baz=15,SNR=24					
T57A	**Hurt**	**72.39 304**	IAmb	IAmb	09 13 05.2	
	comp=Z,18nm,1.2s					
F17K	**Baldwin Pennin**	**72.42 0**	IAmb	IAmb	09 13 03.9	
	comp=Z,11nm,0.8s					
F17K	**Baldwin Pennin**	**72.42 0**	P	**P**	**09 12 33.3**	**0.0**
	baz=359					
P52A	**Corning**	**72.48 308**	IAmb	IAmb	09 12 36.9	
	comp=Z,23nm,0.8s					
P52A	**Corning**	**72.48 308**	P	**P**	**09 12 33.4**	**-0.8**
	baz=50,SNR=8.5					
H24K	**Noodor Dome**	**72.59 355**	P	**P**	**09 12 33.9**	**-0.5**
	baz=9.8,SNR=9.9					
ACSO	**Alum Creek Sta**	**72.60 308**	IAmb	IAmb	09 12 37.6	
	comp=Z,24nm,1.0s					
ACSO	**Alum Creek Sta**	**72.60 308**	P	**P**	**09 12 34.5**	**-0.4**
	baz=50,SNR=8.7					
ROSB	**Rosrio**	**72.60 250**	*e*P	**P**	**09 12 35.4**	**+0.2**
J30M	**Hart River**	**72.61 349**	P	**P**	**09 12 34.5**	**-0.2**
	baz=19,SNR=39					
CNNC	**Cliffs of the**	**72.63 302**	P	**P**	**09 12 34.1**	**-1.0**
	baz=51					
ULM	**Lac du Bonnet**	**72.65 323**	P	**P**	**09 12 35.1**	**+0.1**
	comp=Z,24nm,0.6s,baz=38,slow=6.3,SNR=33					
	comp=Z,24nm,0.6s					
ULM	**Lac du Bonnet**	**72.65 323**	*c i*P	**P**	**09 12 34.5**	**-0.5**
G19K	**Purcell Mounta**	**72.69 359**	IAmb	IAmb	09 12 37.7	
	comp=Z,12nm,0.9s					
G19K	**Purcell Mounta**	**72.

baz=8.5,SNR=12
I26K **Coal Creek Min** 72.71 353 P P 09 12 34.4 -0.7
baz=14
PRP **Porcupine Dome** 72.72 354 IAmb IAmb 09 13 06.5
comp=Z,20nm,1.4s
PRP **Porcupine Dome** 72.72 354 P P 09 12 34.8 -0.5
baz=12,SNR=6.0
H22K **Ishtalitna Cre** 72.74 356 P P 09 12 35.0 -0.4
baz=7.1
IMAR **Indian Mountai** 72.76 357 P P 09 12 35.9 +0.5
G18K **Tagagawik** 72.96 359 IAmb IAmb 09 12 39.1
comp=Z,13nm,0.9s
G18K **Tagagawik** 72.96 359 P P 09 12 36.1 -0.6
baz=1.4,SNR=12
BLA **Blacksburg** 72.98 305 P P 09 12 36.6 -0.7
baz=51
J29N **Klondike Camp** 72.98 350 P P 09 12 37.2 +0.3
baz=17
EGAK **Eagle** 73.02 352 P P 09 12 36.6 -0.4
baz=15,SNR=8.1
H21K **Melozitna Rive** 73.05 357 IAmb IAmb 09 12 40.5
comp=Z,22nm,0.9s
H21K **Melozitna Rive** 73.05 357 P P 09 12 37.0 -0.1
baz=6.0,SNR=30
E38A **The Farm, Brul** 73.10 318 IAmb IAmb 09 12 39.4
comp=Z,16nm,1.1s
F15K **North Star Dit** 73.11 2 P P 09 12 37.4 -0.1
baz=357
P51A **Williamsport** 73.13 308 IAmb IAmb 09 13 08.6
comp=Z,15nm,0.8s
TNA **Tin City** 73.14 3 P P 09 12 36.6 -1.0
baz=354
S54A **Dingess, Beckl** 73.15 306 IAmb IAmb 09 12 40.7
comp=Z,11nm,0.7s
POKR **Poker Plat Res** 73.27 354 IAmb IAmb 09 12 41.2
comp=Z,14nm,0.9s
POKR **Poker Plat Res** 73.27 354 P P 09 12 37.6 -0.8
baz=10
H20K **Anotleneega Mo** 73.29 358 P P 09 12 38.4 -0.1
baz=4.3,SNR=12
F14K **Arctic Creek** 73.29 3 P P 09 12 38.3 -0.3
baz=355
H19K **Roundabout Mou** 73.29 358 P P 09 12 38.0 -0.5
baz=3.1,SNR=11
G40A **Rib Lake** 73.31 316 IAmb IAmb 09 12 41.6
comp=Z,12nm,0.7s
G17K **Kiwalik Mounta** 73.36 0 P P 09 12 38.7 -0.3
baz=360,SNR=6.1
I23K **Minto, Yukon-K** 73.37 355 IAmb IAmb 09 12 41.8
comp=Z,12nm,0.9s
I23K **Minto, Yukon-K** 73.37 355 P P 09 12 38.6 -0.4
baz=8.7,SNR=16
G16K **Koyuk River** 73.46 1 IAmb IAmb 09 12 42.1
comp=Z,11nm,0.8s
G16K **Koyuk River** 73.46 1 P P 09 12 39.1 -0.4
baz=358,SNR=6.4
K29M **Barlow Dome** 73.47 350 P P 09 12 39.5 -0.3
baz=18,SNR=10
MDM **Murphy Dome** 73.48 355 IAmb IAmb 09 12 42.2
comp=Z,16nm,0.9s
DAWY **Dawson** 73.50 351 IAmb IAmb 09 12 42.4
comp=Z,19nm,0.8s
DAWY **Dawson** 73.50 351 P P 09 12 39.6 -0.3
baz=16,SNR=38
U56A **King** 73.50 304 IAmb IAmb 09 12 43.4
comp=Z,18nm,0.8s
COLA **College** 73.54 354 P P 09 12 42.6 +2.6
COLA **College** 73.54 354 P P 09 12 39.3 -0.7
COLA **College** 73.54 354 P P 09 12 40.0 0.0
baz=9.8
COLA **College** 73.54 354 *de*P P 09 12 40.3 +0.3
COLA pmax pmax
comp=Z,8.0nm,1.0s
J26L **Joseph Creek** 73.54 352 IAmb IAmb 09 12 42.5
comp=Z,12nm,0.8s
J26L **Joseph Creek** 73.54 352 P P 09 12 40.0 -0.2
baz=13,SNR=22
I42A **Draeger Farm,** 73.55 314 IAmb IAmb 09 12 43.0
comp=Z,8.8nm,0.7s
IL03 **Eielson Array** 73.56 354 P P 09 12 40.1 -0.1
IL31 73.57 354 P P 09 12 39.9 -0.3
ILAR **Eielson Array** 73.57 354 P P 09 12 40.3 +0.1
ILAR **Eielson Array** 73.57 354 P P 09 12 40.6 +0.4
comp=Z,3.2nm,0.7s,baz=2.7,slow=4.2,SNR=35
comp=Z,3.2nm,0.7s
MLY **Manley** 73.57 356 P P 09 12 40.9 +0.6
MLY IAmb IAmb 09 13 11.6
comp=Z,17nm,1.3s
MLY **Manley** 73.57 356 P P 09 12 40.3 0.0
baz=7.6,SNR=16
J25K **Salcha River,** 73.60 353 P P 09 12 40.2 -0.3
J25K **Salcha River,** 73.60 353 P P 09 12 40.8 +0.4
baz=12,SNR=5.5
H18K **Honhosa River** 73.70 359 P P 09 12 40.3 -0.7
baz=1.6,SNR=5.7
SSFO **Shawnee State** 73.72 307 IAmb IAmb 09 12 44.0
comp=Z,20nm,0.8s
WHN **Wuhan** 73.73 64 ⇓P P 09 12 42.5 +0.8
WHN LR LR
comp=Z,3μm,12.9s
N47A **Urbana** 73.76 310 IAmb IAmb 09 12 43.8
comp=Z,20nm,0.8s
MDJ **Mudanjiang** 73.83 44 P P 09 12 43.3 +1.2
MDJ pmax pmax
comp=Z,16nm,1.3s
G15K **Niukluk** 73.83 2 P P 09 12 40.9 -0.9
baz=357
K27K **Chicken** 73.85 352 IAmb IAmb 09 12 44.9
comp=Z,18nm,1.0s
K27K **Chicken** 73.85 352 P P 09 12 40.9 -0.9
baz=14,SNR=26
O48B **Farmland** 73.86 310 IAmb IAmb 09 12 44.4
comp=Z,19nm,0.8s
O48B **Farmland** 73.86 310 P P 09 12 41.0 -1.3
baz=49,SNR=8.3
NEA2 **Nenana** 73.90 355 P P 09 12 41.6 -0.6
baz=8.8
HDA **Harding Lake** 73.93 354 IAmb IAmb 09 12 44.2
comp=Z,16nm,0.8s
HDA **Harding Lake** 73.93 354 P P 09 12 41.7 -0.6
baz=10,SNR=18
H17K **Granite Mounta** 73.93 360 P P 09 12 42.1 -0.2
baz=0.4
WRH **Wood River Hil** 73.95 354 IAmb IAmb 09 12 44.5
comp=Z,17nm,1.0s
I20K **Naaghedeneel** 73.97 357 IAmb IAmb 09 12 45.7
comp=Z,17nm,0.9s
I20K **Naaghedeneel** 73.97 357 P P 09 12 42.1 -0.4
baz=4.6,SNR=6.3
AGMN **Agassiz Nation** 74.02 321 P P 09 12 42.2 -1.0
baz=45,SNR=5.3
K43A **Burlington** 74.03 313 IAmb IAmb 09 12 45.4
comp=Z,29nm,1.2s
P49A **Miami Univ. Ec** 74.07 309 IAmb IAmb 09 12 45.5
comp=Z,13nm,0.8s
P49A **Miami Univ. Ec** 74.07 309 P P 09 12 42.6 -1.0
baz=49
GCSA **Galena City Sc** 74.09 358 P P 09 12 42.5 -0.7
baz=2.8
SCRK **Sand Creek** 74.09 353 P P 09 12 42.8 -0.6
baz=13,SNR=11
L44A **Lake County Fo** 74.15 313 P P 09 12 43.2 -0.8
baz=48
NBLA **Lagarto - SE** 74.19 239 *e*P P 09 12 44.9 +0.4
H16K **Elim** 74.22 1 P P 09 12 43.8 -0.2
baz=359,SNR=6.4
ANM **Nome** 74.23 2 P P 09 12 43.4 -0.7
baz=356
CNSH **ChangSha** 74.24 66 P P 09 12 44.6 -0.2
CNSH pmax pmax
comp=Z,72nm,0.8s
L29M **L29M** 74.26 350 P P 09 12 43.9 -0.5
baz=17,SNR=8.0
V55A **Taylorsville** 74.34 304 IAmb IAmb 09 12 48.2
comp=Z,17nm,0.8s
K24K **Donnelly Dome** 74.43 353 P P 09 12 44.5 -0.8
baz=11,SNR=6.0
BPAW **Bear Paw Mtn.** 74.51 356 IAmb IAmb 09 12 47.5
comp=Z,11nm,0.8s
BPAW **Bear Paw Mtn.** 74.51 356 P P 09 12 45.5 -0.2
baz=7.3,SNR=14
P48A **Milroy** 74.54 309 IAmb IAmb 09 12 48.1
comp=Z,17nm,1.1s
M31M **Drury Creek, Y** 74.57 348 P P 09 12 45.6 -0.6
baz=20,SNR=12
J20K **Nowinta River** 74.58 357 P P 09 12 45.7 -0.5
baz=4.9,SNR=12
M30M **Minto, Yukon** 74.58 349 P P 09 12 46.1 -0.1
baz=18,SNR=7.7
SPMN **Marine on St.** 74.68 317 IAmb IAmb 09 12 49.4
comp=Z,12nm,0.8s
SPMN **Marine on St.** 74.68 317 P P 09 12 46.6 -0.4
baz=46,SNR=6.2
MCK **McKinley** 74.75 355 P P 09 12 46.6 -0.5
baz=8.9,SNR=8.6
BCAR **Beaver Creek A** 74.75 351 P P 09 12 47.6 +0.4
L27K **Beaver Creek,** 74.76 351 IAmb IAmb 09 12 50.2
comp=Z,13nm,0.8s
L27K **Beaver Creek,** 74.76 351 P P 09 12 46.9 -0.3
baz=14,SNR=25
CHUM **Lake Minchumin** 74.80 356 P P 09 12 46.9 -0.4
baz=6.3,SNR=16
J19K **Poorman** 74.81 358 P P 09 12 47.3 -0.1
baz=3.7,SNR=11
KMSC **Kings Mountain** 74.87 304 IAmb IAmb 09 12 51.1
comp=Z,10nm,0.7s
KMSC **Kings Mountain** 74.87 304 P P 09 12 48.0 -0.3
baz=50,SNR=6.0
SFIN **Lafayette** 74.89 311 IAmb IAmb 09 12 50.5
comp=Z,14nm,0.7s
SFIN **Lafayette** 74.89 311 P P 09 12 47.5 -0.9
baz=48,SNR=9.0
JFWS **Jewell Farm** 74.93 314 IAmb IAmb 09 12 50.6
comp=Z,12nm,0.8s
JFWS **Jewell Farm** 74.93 314 P P 09 12 47.9 -0.7
baz=47,SNR=9.3
M29M **Somme Creek** 74.94 350 IAmb IAmb 09 12 51.5
comp=Z,18nm,0.8s
M29M **Somme Creek** 74.94 350 P P 09 12 48.2 -0.2
baz=17,SNR=37
L26K **Log Cabin Wild** 74.96 352 P P 09 12 48.3 -0.1
baz=13,SNR=11
I17K **Unalakleet** 74.99 0 P P 09 12 47.7 -0.7
baz=360
KTH **Kantishna Hill** 75.05 356 IAmb IAmb 09 13 20.6
comp=Z,19nm,1.4s
MENT **Mentasta** 75.08 352 P P 09 12 51.7 +2.6
R49A **Shelbyville** 75.16 308 IAmb IAmb 09 13 20.6
comp=Z,17nm,1.2s
PAX **Paxson** 75.22 353 P P 09 12 49.2 -0.7
baz=12,SNR=7.7
CAST **Castle Rocks** 75.25 356 P P 09 12 49.6 -0.4
baz=6.5,SNR=16
DHY **Denali Highway** 75.28 354 P P 09 12 49.5 -0.9
baz=10,SNR=34
TZTN **Tazewell** 75.33 306 P P 09 12 50.5 -0.4
baz=49
N32M **Quiet Lake** 75.34 347 P P 09 12 50.1 -0.5
baz=21
BLO **Bloomington** 75.36 309 IAmb IAmb 09 12 53.5
comp=Z,20nm,0.8s
USA0B **Ussuriysk Arra** 75.37 43 ⇑*i*P P 09 12 51.3 +0.3
USRK **Ussuriysk Ar.** 75.37 43 P P 09 12 50.6 -0.4
comp=Z,4.5nm,0.7s,baz=300,slow=3.8,SNR=5.9
comp=Z,4.5nm,0.7s
J18K **Innoko River** 75.37 358 P P 09 12 50.1 -0.6
baz=2.9,SNR=11
JSC **Jenkinsville** 75.38 303 IAmb IAmb 09 12 54.1
comp=Z,10nm,0.8s
PAULI **Pauline** 75.38 304 IAmb IAmb 09 12 54.0
comp=Z,19nm,0.8s
K20K **Telida** 75.40 357 IAmb IAmb 09 12 53.4
comp=Z,17nm,1.2s
K20K **Telida** 75.40 357 P P 09 12 51.2 +0.3
baz=4.9,SNR=14
NHSC **New Hope** 75.44 301 P P 09 12 51.5 -0.1
baz=50
M27K **Edge Creek, AK** 75.45 351 IAmb IAmb 09 12 54.6
comp=Z,29nm,1.5s
M27K **Edge Creek, AK** 75.45 351 P P 09 12 51.1 -0.2
baz=14,SNR=12
P46A **Rosedale** 75.46 310 IAmb IAmb 09 12 53.8
comp=Z,10nm,0.8s
N31M **Braeburn, Yuko** 75.47 348 IAmb IAmb 09 12 56.9
comp=Z,13nm,0.9s
N31M **Braeburn, Yuko** 75.47 348 P P 09 12 51.0 -0.4
baz=19,SNR=7.7
J17K **VABM Dome** 75.47 359 IAmb IAmb 09 12 54.1
comp=Z,14nm,0.9s
J17K **VABM Dome** 75.47 359 P P 09 12 51.2 -0.1
baz=1.1,SNR=11
M26K **Nabesna, AK** 75.53 352 P P 09 12 51.4 -0.4
baz=13,SNR=7.5
J16K **Anvik River** 75.59 0 P P 09 12 51.1 -0.9
baz=360,SNR=7.0
WAT1 **Susitna Watana** 75.61 354 P P 09 12 51.2 -1.0
baz=9.2
N30M **Aishikik Lake** 75.69 349 IAmb IAmb 09 12 55.3
comp=Z,18nm,1.4s
N30M **Aishikik Lake** 75.69 349 P P 09 12 51.5 -1.2
baz=18,SNR=8.0
HARP **HAARP** 75.75 353 P P 09 12 51.5 -1.4
baz=12
NJ2 **Nanjing** 75.76 60 *e*P P 09 12 53.4 -0.1
NJ2 pmax pmax
comp=Z,17nm,0.7s
NJ2 pmax pmax
comp=Z,780nm,3.7s
PPLA **Puteypile** 75.77 356 P P 09 12 52.2 -1.0
baz=6.4,SNR=8.1
WAT6 **Susitna Watana** 75.80 354 P P 09 12 52.0 -1.4
baz=9.8,SNR=6.9
I37A **Lemond, Waseca** 75.83 317 IAmb IAmb 09 12 56.2
comp=Z,24nm,0.9s
YUK3 **Moose Creek** 75.84 350 P P 09 12 52.7 -1.0
baz=15,SNR=15
WCI **Wyandotte Cave** 75.86 309 P P 09 12 52.5 -1.5
WCI IAmb IAmb 09 12 56.5
comp=Z,20nm,0.8s
WCI **Wyandotte Cave** 75.86 309 P P 09 12 52.1 -1.9
baz=48
WCI **Wyandotte Cave** 75.86 309 P P 09 12 52.5 -1.5
WCI pmax pmax
comp=Z,20nm,0.8s
TOAD **Toad River Com** 75.87 342 P P 09 12 52.8 -0.8
baz=26,SNR=9.4
F33A **5 Mile Ranch,** 75.98 320 IAmb IAmb 09 12 56.7
comp=Z,11nm,0.8s
HDIL **Hopedale** 76.01 312 P P 09 12 53.9 -0.9
baz=47
YUK4 **Talbot Arm** 76.02 349 P P 09 12 52.7 -2.0
baz=17,SNR=11
L40A **Anamosa** 76.04 314 IAmb IAmb 09 12 56.9
comp=Z,12nm,0.8s
MDND **Maddock** 76.08 323 P P 09 12 54.2 -0.9
baz=42
J14K **Nanvaranak Lak** 76.10 2 P P 09 12 54.5 -0.3
baz=358
WHY **Whitehorse** 76.11 347 P P 09 12 53.2 -1.9
baz=20
M24K **Tolsona, Glenn** 76.14 353 P P 09 12 53.8 -1.4
baz=11
K17K **Iditarod** 76.15 359 IAmb IAmb 09 13 11.0
comp=Z,13nm,0.9s
K17K **Iditarod** 76.15 359 P P 09 12 53.9 -1.3
baz=1.6,SNR=8.3
CUT **Chulitna** 76.15 355 P P 09 12 54.2 -0.9
baz=7.8
P33M **Teslin, Yukon** 76.17 346 P P 09 12 54.3 -1.1
baz=21,SNR=7.5
O30N **Mendenhall** 76.19 348 IAmb IAmb 09 13 36.5
comp=Z,19nm,1.5s
O30N **Mendenhall** 76.19 348 P P 09 12 54.7 -0.8
baz=19,SNR=6.9
L20K **Farewell, AK** 76.27 357 P P 09 12 55.2 -0.6
baz=5.1
HYT **Haines Junctio** 76.36 349 P P 09 12 56.2 -0.4
baz=18,SNR=7.9
YUK6 **Outpost Mounta** 76.37 349 P P 09 12 55.8 -0.9
baz=17,SNR=9.8
N25K **Chitina, Valde** 76.48 352 P P 09 12 56.1 -1.1
baz=12
SCM **Sheep Creek Mo** 76.50 354 IAmb IAmb 09 13 28.6
comp=Z,22nm,1.1s
SCM **Sheep Creek Mo** 76.50 354 P P 09 12 56.8 -0.5
baz=10,SNR=7.5
W52A **Murphy** 76.51 305 IAmb IAmb 09 13 00.2
comp=Z,9.5nm,0.7s
MCARA **McCarthy VSAT** 76.53 352 P P 09 12 57.3 -0.1
baz=13
OLIL **Olney** 76.57 310 IAmb IAmb 09 13 00.1
comp=Z,18nm,0.8s
MCPB **Macapa, AP** 76.57 257 *e*P P 09 12 58.5 +0.2
M23K **Glacier View** 76.58 354 P P 09 12 56.9 -0.8
baz=9.8,SNR=5.8
K15K **Wolf Creek Mou** 76.58 1 P P 09 12 57.2 -0.5
baz=359
R33M **Jennings River** 76.59 345 IAmb IAmb 09 13 01.7
comp=Z,15nm,1.1s
R33M **Jennings River** 76.59 345 P P 09 12 57.2 -0.7
baz=22,SNR=13
L19K **White Mountain** 76.60 357 IAmb IAmb 09 13 00.5
comp=Z,15nm,0.8s
L19K **White Mountain** 76.60 357 P P 09 12 56.7 -1.1
baz=4.3,SNR=18
SML **Sawmill** 76.61 354 IAmb IAmb 09 12 60.0
comp=Z,20nm,1.1s
SML **Sawmill** 76.61 354 P P 09 12 57.4 -0.5
baz=9.3,SNR=8.3
L18K **Granite Mounta** 76.62 358 IAmb IAmb 09 13 00.8
comp=Z,12nm,0.8s
L18K **Granite Mounta** 76.62 358 P P 09 12 56.7 -1.1
baz=2.9,SNR=13
SKT **Skwentna** 76.65 356 IAmb IAmb 09 12 59.2
comp=Z,11nm,0.7s
SKT **Skwentna** 76.65 356 P P 09 12 57.0 -1.0
baz=6.8,SNR=14
GHO **Glory Hole Cre** 76.69 354 IAmb IAmb 09 13 35.2
comp=Z,12nm,0.9s
U49A **Red Boiling Sp** 76.70 307 IAmb IAmb 09 13 01.4
comp=Z,18nm,0.8s
KLU **Klutina** 76.72 353 P P 09 12 58.5 0.0
baz=11
L17K **Donlin** 76.73 359 P P 09 12 57.7 -0.8
baz=1.6,SNR=11
CTG **Chitna Glacier** 76.74 351 P P 09 12 58.0 -0.7
baz=15
O28M **Mount Upton** 76.78 350 P P 09 12 58.7 -0.4
baz=16
M20K **Styx River** 76.83 356 P P 09 12 59.0 -0.2
baz=5.6
LOGN **Logan Glacier** 76.83 350 IAmb IAmb 09 13 02.0
comp=Z,10nm,0.8s
USIN **University of** 76.84 309 IAmb IAmb 09 13 01.5
comp=Z,25nm,1.1s
M19K **Big River Lodg** 76.86 357 P P 09 12 59.5 +0.3
baz=4.7
PMR **Palmer** 76.88 355 P P 09 13 01.5 +2.2
PMR **Palmer** 76.88 355 P P 09 12 59.0 -0.3
baz=8.7,SNR=7.1
K13K **Kusilvak Mount** 76.89 2 P P 09 12 58.2 -1.1
baz=357
P32M **Atlin** 76.92 346 P P 09 12 58.9 -0.7
baz=20,SNR=5.8
P30M **Million Dollar** 76.95 348 P P 09 12 59.1 -0.7
baz=18
Q44A **Meyer Farm, Va** 76.98 311 IAmb IAmb 09 13 02.6
comp=Z,13nm,0.8s
KNK **Knik Glacier** 77.01 354 IAmb IAmb 09 13 02.5
comp=Z,12nm,0.8s
KNK **Knik Glacier** 77.01 354 P P 09 12 58.9 -1.2
baz=9.2
O29M **Mount Kennedy** 77.01 349 P P 09 12 58.9 -1.4
baz=17
GRNC **Granite Creek** 77.02 351 IAmb IAmb 09 13 02.9
comp=Z,23nm,1.0s
BMRM **Bremner River** 77.11 352 P P 09 12 58.9 -1.7
baz=12,SNR=7.5
SUA **Susitna One** 77.12 355 IAmb IAmb 09 13 03.2
comp=Z,26nm,1.0s
SUA **Susitna One** 77.12 355 P P 09 12 59.6 -1.2
baz=7.4,SNR=13
CRQE **Cirque** 77.15 351 P P 09 13 00.1 -0.9
baz=13
CRQM **Cirque** 77.16 351 IAmb IAmb 09 13 35.1
comp=Z,17nm,0.6s
L16K **Owhat River** 77.17 360 P P 09 12 59.8 -1.1
baz=0.7
L15K **Ungalak Mounta** 77.20 1 P P 09 13 00.4 -0.7
baz=359,SNR=7.0
SCIA **State Center** 77.21 315 P P 09 13 01.3 -0.2
baz=45
Q32M **Nakina River** 77.24 346 P P 09 13 00.3 -1.4
baz=21
DLBC **Dease Lake** 77.29 344 P P 09 13 00.8 -1.0
baz=23
CLTN **Cedars of Leba** 77.31 307 IAmb IAmb 09 13 33.0
comp=Z,16nm,0.8s
SKAG **Skagway** 77.32 347 P P 09 13 04.0 +2.2
SKAG **Skagway** 77.32 347 P P 09 13 01.6 -0.2
baz=19
M18K **Stony River** 77.32 358 P P 09 13 01.2 -0.6
baz=3.5,SNR=8.0
GOGA **Godfrey** 77.33 303 P P 09 13 01.5 -0.8
baz=48
Y52A **Lilburn** 77.41 304 IAmb IAmb 09 13 05.7
comp=Z,19nm,0.7s
WAX **Waxell Ridge** 77.42 351 IAmb IAmb 09 13 43.4
comp=Z,12nm,0.7s
RC01 **Rabbit Creek A** 77.42 355 P P 09 13 01.5 -0.8
baz=8.2,SNR=17
GLI **Glacier Island** 77.43 353 P P 09 13 01.6 -0.9
baz=10
X51A **Calhoun** 77.43 305 IAmb IAmb 09 13 05.6
comp=Z,14nm,0.7s
PINM **Pinnacle** 77.44 350 P P 09 13 02.3 -0.3
baz=15,SNR=5.4
M17K **Holitna River** 77.45 359 IAmb IAmb 09 13 05.7
comp=Z,21nm,0.9s
M17K **Holitna River** 77.45 359 P P 09 13 02.6 +0.1
baz=2.3,SNR=8.1
N20K **Mount Spurr** 77.47 356 P P 09 13 02.3 -0.4
baz=6.3
PLBC **Pleasant Camp** 77.49 348 P P 09 13 02.8 +0.1
baz=18
FID **Port Fidalgo** 77.50 353 IAmb IAmb 09 13 05.5
comp=Z,10nm,0.8s
L14K **Kuka Creek** 77.52 1 P P 09 13 02.9 0.0
baz=358
P29M **Windy Craggy** 77.54 348 IAmb IAmb 09 13 05.8
comp=Z,15nm,0.8s
P29M **Windy Craggy** 77.54 348 P P 09 13 03.1 0.0
baz=17,SNR=7.6
MESA **MESA** 77.58 351 IAmb IAmb 09 13 06.3
comp=Z,18nm,0.8s
MESA **MESA** 77.58 351 P P 09 13 03.4 -0.1
baz=14
EYAK **Cordova Ski Ar** 77.63 353 P P 09 13 06.7 +3.2
EYAK **Cordova Ski Ar** 77.63 353 P P 09 13 03.9 +0.4
baz=11
ECSD **EROS Data Cent** 77.66 318 IAmb IAmb 09 13 06.4
comp=Z,13nm,0.7s
ECSD **EROS Data Cent** 77.66 318 P P 09 13 04.0 0.0
baz=44,SNR=16
PNL **Peninsula** 77.74 349 P P 09 13 07.3 +3.1
PNL **Peninsula** 77.74 349 P P 09 13 04.1 -0.1
baz=16
KSAR **Wonju Array Be** 77.77 51 P P 09 13 03.9 -0.8
KSAR **Wonju Array Be** 77.77 51 P P 09 13 03.9 -0.8
KSRS **Korea Array** 77.78 51 P P 09 13 04.8 0.0
comp=Z,8.1nm,0.7s,baz=317,slow=5.3,SNR=24
comp=Z,8.1nm,0.7s
QIZ **Qiongzhong** 77.82 75 P P 09 13 05.9 +0.6
QIZ S S 09 23 00.4 +2.9
QIZ LR LR
comp=Z,260nm,20.2s
QIZ LR LR
comp=Z,400nm,18.5s
QIZ LR LR
comp=Z,460nm,15.1s
V48A **Smith Brothers** 77.84 307 P P 09 13 05.1 -0.1
V48A IAmb IAmb 09 13 07.5
comp=Z,15nm,0.9s
M16K **Timber Creek** 77.86 359 IAmb IAmb 09 13 07.8
comp=Z,12nm,0.8s
M16K **Timber Creek** 77.86 359 P P 09 13 04.8 0.0
baz=1.1,SNR=8.1
FPAL **Fort Paine** 77.91 305 IAmb IAmb 09 13 08.3
comp=Z,12nm,0.8s
S44A **Carbondale** 77.94 310 IAmb IAmb 09 13 07.9
comp=Z,16nm,0.9s
N19K **Bonanza Creek** 77.96 357 IAmb IAmb 09 13 07.9
comp=Z,25nm,1.5s
N19K **Bonanza Creek** 77.96 357 P P 09 13 05.3 -0.2
baz=4.6
S34M **Telegraph Cree** 78.00 345 P P 09 13 05.9 +0.2
baz=22
N38A **Joes South For** 78.01 314 IAmb IAmb 09 13 09.2
comp=Z,15nm,0.7s
O22K **Cooper Landing** 78.03 355 P P 09 13 06.0 +0.3
baz=8.2
KAIM **Kayak Island** 78.11 352 P P 09 13 05.6 -0.6
baz=12
M14K **Bethel** 78.12 1 P P 09 13 06.3 0.0

M14K IAmb IAmb 09 13 08.7
comp=Z,19nm,1.1s
M14K Bethel 78.12 1 P P 09 13 05.5 -0.8
baz=359
N18K Kilae Creek 78.14 358 P P 09 13 06.3 -0.1
baz=3.5
WVT Waverly 78.18 308 P P 09 13 06.6 -0.4
WVT Waverly 78.18 308 P P 09 13 06.4 -0.6
baz=47
WVT Waverly 78.18 308 P P 09 13 06.6 -0.4
WVT pmax pmax
comp=Z,10.0nm,0.9s
M15K Kasigluk River 78.19 0 P P 09 13 05.9 -0.7
baz=360,SNR=7.3
RSO Redoubt South 78.23 356 P P 09 13 07.1 -0.1
R32K Eaglecrest 78.30 346 P P 09 13 06.5 -0.8
baz=20
N17K Nushagak Hills 78.33 358 P P 09 13 07.4 0.0
baz=2.5
P23K Montague Islan 78.33 353 P P 09 13 07.2 -0.2
baz=9.9
R31K City Hall, Gus 78.38 347 P P 09 13 07.5 -0.2
baz=19
SEW Seward 78.38 354 P P 09 13 07.2 -0.5
baz=8.4
M11K Mekoryuk 78.39 3 P P 09 13 06.8 -0.9
baz=356
N16K Nishlik Lake 78.40 359 P P 09 13 06.8 -1.1
baz=1.3
M13K Dall Lake 78.44 2 P P 09 13 07.7 -0.3
baz=358
CGM3 Cape Girardeau 78.45 310 IAmb IAmb 09 13 10.7
comp=Z,15nm,1.0s
YSS Yuzh-Sakhalins 78.51 36 *e*P **P 09 13 08.6 0.0**
YSS *e* 09 16 02.4
YSS *e*S **S 09 23 02.9 -1.1**
YSS *e*PS PnS 09 23 20.0 -26
YSS *e*PPS PPS 09 23 47.0
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,1μm,15.0s
O19K Port Alsworth 78.57 357 P P 09 13 07.9 -0.8
baz=4.7
O20K Slope Mountain 78.60 356 P P 09 13 08.1 -0.9
baz=6.0
152A Waverly Hall 78.61 304 IAmb IAmb 09 13 12.2
comp=Z,13nm,0.9s
T35M Bob Quinn 78.68 344 P P 09 13 09.0 -0.5
baz=23
TIGA Tifton 78.72 302 P P 09 13 09.1 -1.0
baz=48
N15K Kwethluk River 78.72 360 P P 09 13 09.2 -0.4
baz=0.3
BRLK Bradley Lake 78.82 355 IAmb IAmb 09 13 23.6
comp=Z,19nm,1.1s
CCM Cathedral Cave 78.83 311 P P 09 13 10.4 -0.2
CCM IAmb IAmb 09 13 13.1
comp=Z,14nm,0.7s
CCM Cathedral Cave 78.83 311 P P 09 13 09.5 -1.1
baz=46
CCM Cathedral Cave 78.83 311 P P 09 13 10.4 -0.2
CCM pmax pmax
comp=Z,14nm,0.7s
BRSE Bradley Lake S 78.83 355 P P 09 13 09.8 -0.4
baz=7.4
X48A Hartselle 78.84 306 IAmb IAmb 09 13 13.3
comp=Z,19nm,0.8s
Y49A Blount Mountai 78.86 305 IAmb IAmb 09 13 42.2
comp=Z,11nm,0.8s
S31K Pelican 78.89 347 P P 09 13 09.7 -0.8
baz=18
PRPB Parauapebas 78.93 252 *e*P **P 09 13 12.2 +0.8**
O18K Koktuh Hills 78.94 357 IAmb IAmb 09 13 13.3
comp=Z,18nm,0.8s
O18K Koktuh Hills 78.94 357 P P 09 13 09.5 -1.3
baz=4.0,SNR=6.3
N14K Kuskokwak Cree 78.96 1 P P 09 13 10.0 -0.9
baz=359
HOM Homer 78.97 355 P P 09 13 09.9 -1.0
baz=6.7
P38A Dawn 78.99 314 IAmb IAmb 09 13 13.8
comp=Z,16nm,0.8s
P19K Oil Pt 79.06 356 P P 09 13 11.3 -0.2
baz=5.5
S32K Killisnoo 79.07 346 P P 09 13 11.0 -0.5
baz=20
O17K Koliganek Bris 79.08 358 P P 09 13 11.5 0.0
baz=2.5
PETK Petropavlovsk- 79.09 24 P **P 09 13 11.5 -0.2**
comp=Z,7.4nm,1.1s,baz=344,slow=2.1,SNR=3.7
comp=Z,7.4nm,1.1s
PLAL Pickwick Lake 79.10 307 IAmb IAmb 09 13 14.1
comp=Z,17nm,1.0s
SMTB Santa Maria do 79.23 248 *e*P **P 09 13 14.2 +1.1**
R40A Maddies Statio 79.24 312 IAmb IAmb 09 13 15.3
comp=Z,13nm,0.8s
O16K Kokwok River B 79.28 359 IAmb IAmb 09 13 15.3
comp=Z,15nm,0.9s
O16K Kokwok River B 79.28 359 P P 09 13 11.6 -1.0
baz=1.8,SNR=6.3
P18K Big Mountain, 79.41 357 P P 09 13 12.4 -1.0
baz=4.0
T42A Van Buren 79.46 310 IAmb IAmb 09 13 16.5
comp=Z,15nm,0.9s
DWPF Disney Wildern 79.51 298 P P 09 13 13.2 -1.3
baz=48
SIT Sitka 79.59 346 P P 09 13 13.4 -1.0
baz=19
U35K Hyder 79.62 343 P P 09 13 14.2 -0.3
baz=23
O14K Tigyukauivet M 79.63 0 P P 09 13 13.2 -1.4
baz=359
WRAK Wrangell Islan 79.64 345 P P 09 13 14.3 -0.3
baz=21
P17K Kvichak River 79.64 358 P P 09 13 13.2 -1.4
baz=3.0
O15K Ungalikthiuk R 79.71 360 P P 09 13 14.5 -0.5
baz=0.5
LRAL Lakeview Retre 79.78 305 IAmb IAmb 09 13 18.5
comp=Z,22nm,0.8s
LRAL Lakeview Retre 79.78 305 P P 09 13 14.8 -1.0
baz=47,SNR=18
KULM Kulim 79.80 92 IAmb IAmb 09 13 16.9
comp=Z,21nm,0.9s
Q19K Cape Douglas, 79.81 356 P P 09 13 14.7 -0.9
baz=5.2
P16K Nushagak River 79.84 359 P P 09 13 14.9 -0.8
baz=1.9
250A Grady 80.04 304 IAmb IAmb 09 13 20.0
comp=Z,22nm,0.9s
Q20K Shuyak Island 80.06 356 P P 09 13 15.7 -1.2
baz=6.1
U33K Whale Pass 80.07 345 P P 09 13 16.2 -0.8
baz=20
BGNE Belgrade 80.13 317 P P 09 13 16.9 -0.8
baz=42
Q18K Katmai Hardscr 80.14 357 P P 09 13 16.0 -1.5
baz=4.1
Q16K King Salmon 80.17 358 P P 09 13 16.6 -0.8
baz=2.9
OXF Oxford 80.22 308 P P 09 13 18.0 -0.2
baz=46
S39A Bolivar 80.25 312 IAmb IAmb 09 13 20.9
comp=Z,12nm,0.8s
EGMT Eagleton 80.27 328 P P 09 13 17.5 -0.9
baz=36,SNR=31
Z47A Carrollton 80.32 306 IAmb IAmb 09 13 20.2
comp=Z,40nm,1.7s
V35K Ketchikan 80.50 344 P P 09 13 18.4 -0.9
baz=22
Q17K Contact Creek 80.56 358 P P 09 13 18.4 -1.3
baz=3.5
IPM Ipoh 80.61 92 P P 09 13 20.6 0.0
IPM Ipoh 80.61 92 IAmb IAmb 09 13 20.8
comp=Z,29nm,1.2s
CRAG Craig 80.68 345 P P 09 13 19.4 -0.9
baz=20
FCAR Ozark Folk Cen 80.85 310 IAmb IAmb 09 13 24.2
comp=Z,12nm,0.9s
KDAK Kodiak Island 80.89 356 P P 09 13 20.4 -1.0
baz=6.0
RSSD Black Hills 80.92 323 P P 09 13 22.0 -0.1
RSSD Black Hills 80.92 323 P P 09 13 20.8 -1.3
baz=39
RSSD Black Hills 80.92 323 P P 09 13 22.0 -0.1
RSSD pmax pmax
comp=Z,5.0nm,0.9s
KSU1 Kansas State U 81.03 315 P P 09 13 21.8 -0.7
baz=43,SNR=8.9
BRAL Brewton 81.08 304 P P 09 13 22.1 -0.8
baz=47
R18K Karluk 81.20 357 P P 09 13 23.0 0.0
baz=4.5
R17L Mt. Peulik Vol 81.21 358 P P 09 13 23.0 -0.1
baz=3.1
WHAR Wooly Hollow 81.37 310 IAmb IAmb 09 13 27.1
comp=Z,18nm,0.9s
SPIA Saint Paul Isl 81.37 5 P P 09 13 23.1 -0.8
baz=353
OHAK Old Harbor 81.49 356 P P 09 13 23.1 -1.4
baz=5.4
U38A Gravette 81.74 312 IAmb IAmb 09 13 28.8
comp=Z,15nm,0.9s
UALR University of 81.76 310 IAmb IAmb 09 13 29.0
comp=Z,13nm,0.8s
ITTB Itaituba 81.97 257 *e*P **P 09 13 28.4 +0.7**
P08K Saint George I 81.99 5 P P 09 13 25.9 -1.2
baz=353
SII Sitkinak Islan 82.20 357 P P 09 13 28.0 -0.3
baz=4.7
RLO Rose Lookout 82.29 312 IAmb IAmb 09 13 31.6
comp=Z,14nm,0.8s
OGNE Ogallala 82.42 319 IAmb IAmb 09 13 32.8
comp=Z,11nm,0.7s
OGNE Ogallala 82.42 319 P P 09 13 29.1 -0.8
baz=40
RLMT Red Lodge 82.42 326 P P 09 13 29.4 -0.6
baz=36
VBMS Vicksburg 82.48 307 P P 09 13 29.9 -0.3
baz=45
CHGN Chignik 82.58 359 P P 09 13 30.0 -0.3
baz=1.5
S14K Fog Glacier 82.61 360 P P 09 13 30.0 -0.7
baz=0.7
MIAR Mount Ida 82.64 310 IAmb IAmb 09 13 34.1
comp=Z,15nm,0.8s
MIAR Mount Ida 82.64 310 P P 09 13 30.0 -1.1
baz=44,SNR=14
NEW Newport 82.81 333 P P 09 13 31.1 -0.6
baz=31
MSO Missoula 82.87 330 P P 09 13 31.6 -0.6
baz=33
CBKS Cedar Bluff 82.87 317 P P 09 13 31.7 -0.6
baz=41
TUL3 Leonard 82.91 312 P P 09 13 32.1 -0.3
baz=43,SNR=13
CHIR Chirikof Islan 82.99 357 P P 09 13 32.5 0.0
baz=3.6
BOZ Bozeman (W) 83.00 328 P P 09 13 32.4 -0.5
baz=35,SNR=14
S12K Black Hills 83.19 1 P P 09 13 33.2 -0.3
baz=359
K22A Casper 83.20 323 IAmb IAmb 09 13 36.2
comp=Z,18nm,0.9s
K22A Casper 83.20 323 P P 09 13 33.1 -0.9
baz=38,SNR=11
KAN14 Manchester OK 83.32 314 IAmb IAmb 09 13 36.9
comp=Z,14nm,0.8s
H17A Grant Village 83.55 327 P P 09 13 35.5 -0.4
baz=35,SNR=9.6
C09A Chrisman Ranch 83.60 333 IAmb IAmb 09 13 50.5
comp=Z,13nm,1.0s
SHEM Shemya Is, Ala 83.61 15 LR LR 09 55 49.4
comp=Z,315nm,18.8s,baz=322,slow=39
X37A Clayton 83.63 311 IAmb IAmb 09 13 39.3
comp=Z,14nm,0.8s
CBB Campbell River 83.84 338 IAmb IAmb 09 14 10.7
comp=Z,16nm,1.3s
FLWY Flagg Ranch 83.86 326 IAmb IAmb 09 14 09.4
comp=Z,18nm,1.1s
FALS False Pass 84.01 2 P P 09 13 37.2 -0.5
baz=358
CHNA Chernabura Isl 84.07 360 P P 09 13 38.2 +0.2
baz=0.6
IMW Indian Meadow 84.11 326 IAmb IAmb 09 13 42.9
comp=Z,11nm,0.9s
MOOW Moose Ponds 84.15 326 IAmb IAmb 09 13 42.4
comp=Z,7.4nm,0.8s
MJB9 Matsu-Tunnel 84.17 45 IAmb IAmb 09 13 40.8
comp=Z,20nm,1.2s
MAJO Matsushiro 84.17 45 P P 09 13 40.0 +1.1
MAJO Matsushiro 84.17 45 P P 09 13 38.6 -0.4
MAJO Matsushiro 84.17 45 *ce*P **P 09 13 38.8 -0.1**
MAJO pmax pmax
comp=Z,16nm,1.2s
MJAR Matsushiro Arr 84.18 45 P P 09 13 38.6 -0.3
comp=Z,10nm,0.9s,baz=317,slow=4.7,SNR=17
comp=Z,10nm,0.9s
KSCO Kaye Shedlock' 84.19 319 P P 09 13 38.9 -0.3
baz=40,SNR=15
RWWY Rawlins 84.27 323 IAmb IAmb 09 13 41.1
comp=Z,9.7nm,0.8s
N23A Red Feather La 84.32 322 IAmb IAmb 09 13 43.1
comp=Z,12nm,1.0s
N23A Red Feather La 84.32 322 P P 09 13 39.6 -0.3
baz=38,SNR=9.2
BDFB Brasilia 84.33 244 IAmb IAmb 09 13 50.7
comp=Z,8.8nm,0.8s
BDFB Brasilia 84.33 244 P P 09 13 41.1 +1.1
comp=Z,6.2nm,0.6s,baz=44,slow=5.3,SNR=11
comp=Z,6.2nm,0.6s
SNOW Snow King Moun 84.39 326 IAmb IAmb 09 13 43.6
comp=Z,7.4nm,0.8s
BW06 Boulder Array 84.45 325 P P 09 13 40.5 -0.1
baz=36,SNR=11
PDAR Pinedale Array 84.45 325 P P 09 13 40.7 +0.2
comp=Z,3.6nm,0.7s,baz=57,slow=5.1,SNR=28
comp=Z,3.6nm,0.7s
TPAW Teton Pass 84.45 326 IAmb IAmb 09 13 44.0
comp=Z,9.6nm,0.8s
PGC Sidney 84.52 336 IAmb IAmb 09 13 42.9
comp=Z,10nm,0.9s
E09A Wood Farm, Sta 84.67 332 IAmb IAmb 09 13 43.7
comp=Z,16nm,1.0s
F10A Beach Ranch, E 84.81 331 IAmb IAmb 09 13 44.2
comp=Z,8.9nm,0.9s
UNV Unalaska Valle 84.91 4 P P 09 13 42.5 +0.2
baz=355
X34A Smith Ranch, M 85.00 313 IAmb IAmb 09 13 46.2
comp=Z,11nm,0.8s
E08A Dider Farm, El 85.01 333 IAmb IAmb 09 13 45.8
comp=Z,8.2nm,0.9s
NATX Nacogdoches 85.27 309 P P 09 13 45.1 +0.5
baz=43
GNW Green Mountain 85.30 336 IAmb IAmb 09 13 47.5
comp=Z,15nm,0.9s
WMOK Wichita Mounta 85.42 313 IAmb IAmb 09 13 48.4
comp=Z,14nm,1.0s
WMOK Wichita Mounta 85.42 313 P P 09 13 45.0 -0.2
baz=42,SNR=19
Q24A Divide 85.46 320 P P 09 13 44.4 -1.4
baz=38
NIKH Nikolski High 85.65 5 P P 09 13 46.2 +0.2
baz=354
HLID Hailey 85.79 328 P P 09 13 46.9 -0.2
baz=33
F07A Phinny Hill Vi 85.82 333 IAmb IAmb 09 13 50.0
comp=Z,15nm,1.1s
WTFS Witchita Falls 85.97 313 IAmb IAmb 09 13 51.1
comp=Z,13nm,1.0s
O20A White River Ci 85.98 323 P P 09 13 47.9 -0.3
baz=36
RDMU Red Mountain 86.23 324 IAmb IAmb 09 13 51.5
comp=Z,6.9nm,0.7s
HWUT Hardware Ranch 86.25 326 IAmb IAmb 09 14 03.7
comp=Z,28nm,1.9s
MFID Camas Ranch 86.47 329 IAmb IAmb 09 13 53.3
comp=Z,15nm,1.0s
T25A Trinidad 86.53 318 P P 09 13 50.8 -0.2
baz=38
SDCO Great Sand Dun 86.59 319 P P 09 13 51.4 +0.1
baz=38
WHTX Lake Whitney, 86.72 311 P P 09 13 52.2 +0.5
baz=42,SNR=8.0
BSUT Blindstream Ca 86.78 324 IAmb IAmb 09 13 54.3
comp=Z,20nm,1.7s
AMTX Amarillo 86.87 315 P P 09 13 51.7 -0.8
baz=40
JLU Jordanelle 87.03 325 IAmb IAmb 09 13 55.7
comp=Z,22nm,1.9s
APMT Aspermont 87.21 313 IAmb IAmb 09 13 57.2
comp=Z,26nm,1.7s
S22A 4UR Ranch, Cre 87.23 320 P P 09 13 54.1 -0.4
baz=37
I07A Izee 87.25 332 IAmb IAmb 09 13 57.4
comp=Z,14nm,1.4s
HKT Hockley 87.28 308 P P 09 13 53.9 -0.5
HKT IAmb IAmb 09 13 58.1
comp=Z,9.8nm,1.1s
HKT Hockley 87.28 308 P P 09 13 53.9 -0.5
HKT pmax pmax
comp=Z,10.0nm,1.2s
ABTX Abilene, Hawle 87.48 313 IAmb IAmb 09 13 58.6
comp=Z,11nm,1.1s
ABTX Abilene, Hawle 87.48 313 P P 09 13 55.2 -0.2
baz=41
435B Jarrell 87.69 310 P P 09 13 56.4 0.0
baz=42
NLU North Lily Min 87.83 325 IAmb IAmb 09 14 04.8
comp=Z,21nm,2.0s
SRU San Rafael Swe 87.85 323 IAmb IAmb 09 13 58.8
comp=Z,6.5nm,0.9s
DUG Dugway, Tooele 87.95 326 IAmb IAmb 09 14 00.6
comp=Z,7.8nm,0.8s
DUG Dugway, Tooele 87.95 326 P P 09 13 57.6 -0.1
baz=34,SNR=7.7
MSTX Muleshoe 88.14 315 P P 09 13 58.2 -0.5
baz=39
MVCO Mesa Verde 88.46 321 P P 09 13 59.4 -0.8
baz=36
J05D Fort Rock, OR 88.56 333 IAmb IAmb 09 14 03.5
comp=Z,5.5nm,0.8s
TCRU Three Creeks R 89.11 324 IAmb IAmb 09 14 06.2
comp=Z,13nm,1.0s
JCT Junction City 89.18 311 P P 09 14 03.1 -0.4
baz=41
ANMO Albuquerque 89.27 318 P P 09 14 03.5 -0.6
ANMO Albuquerque 89.27 318 P P 09 14 04.1 0.0
baz=37
ANMO Albuquerque 89.27 318 P P 09 14 03.5 -0.6
ANMO pmax pmax
comp=Z,3.0nm,1.1s
MTPU Mount Pierson 89.46 324 IAmb IAmb 09 14 08.0
comp=Z,8.6nm,0.9s
OZNA Ozona 89.59 312 IAmb IAmb 09 14 08.6
comp=Z,12nm,0.8s
SPR3 Spring Creek 3 89.59 326 IAmb IAmb 09 14 09.2
comp=Z,7.8nm,0.8s
PSUT Pine Spring 89.78 325 IAmb IAmb 09 14 09.4
comp=Z,9.4nm,0.9s
CCUT Cedar City 90.39 324 IAmb IAmb 09 15 04.4
comp=Z,19nm,1.7s
833A Chaparral WMA, 90.57 310 P P 09 14 10.4 +0.4
baz=41
R11B Troy Canyon, C 90.67 326 IAmb IAmb 09 14 13.2
comp=Z,12nm,1.6s
R11B Troy Canyon, C 90.67 326 P P 09 14 10.3 -0.3
baz=32,SNR=6.1
PECS Pecos 90.74 314 IAmb IAmb 09 14 13.8
comp=Z,13nm,1.1s
SAND Sanderson 90.88 312 IAmb IAmb 09 14 14.5
comp=Z,7.4nm,0.8s
PAHR Pah Rah Range 91.02 330 IAmb IAmb 09 14 21.1
comp=Z,12nm,1.5s
WUAZ Wupatki 91.18 322 IAmb IAmb 09 15 07.7
comp=Z,7.6nm,1.1s
WUAZ Wupatki 91.18 322 P P 09 14 12.8 -0.1
baz=34
MNTX Cornudas Mount 91.28 316 P P 09 14 12.4 -0.9
baz=38
ALPN Alpine 91.39 314 IAmb IAmb 09 14 16.8
comp=Z,9.9nm,0.9s
NVAR Mina Array Bea 91.70 328 P P 09 14 16.0 +0.6
comp=Z,0.7nm,0.7s,baz=39,slow=5.3,SNR=7.5
NVAR PKKPbc **PKKPbc 09 31 33.3 +0.3**
comp=Z,0.9nm,0.7s,baz=197,slow=4.2,SNR=8.3
comp=Z,0.7nm,0.7s
121A Cookes Peak, D 91.86 318 P P 09 14 15.8 -0.3
baz=37
PTLB Pontes e Lacer 91.91 251 P P 09 14 16.3 +0.1
TPNV Topopah Spring 92.13 326 P P 09 14 17.2 -0.1
baz=32
TX31 Lajitas Ar. Si 92.21 313 IAmb IAmb 09 14 20.8
comp=Z,9.4nm,0.9s
TXAR Lajitas Array 92.21 313 P P 09 14 18.0 +0.3
TXAR Lajitas Array 92.21 313 P P 09 14 18.5 +0.8
comp=Z,7.7nm,0.9s,baz=66,slow=3.5,SNR=48
TXAR PKKPbc **PKKPbc 09 31 30.8 -0.6**
comp=Z,0.5nm,0.7s,baz=195,slow=6.6,SNR=6.2
comp=Z,7.7nm,0.9s
TXAR Lajitas Array 92.21 313 P P 09 14 18.0 +0.3
DSP Deep Springs 92.48 327 IAmb IAmb 09 14 37.2
comp=Z,8.2nm,1.5s
GRAC Grapevine Rang 92.56 327 P P 09 14 19.0 -0.1
baz=31
NEE2 Needles Airpor 93.27 324 P P 09 14 22.7 +0.3
baz=33
CWC Cottonwood Cre 93.33 327 P P 09 14 22.8 -0.1
baz=30
MPMC Manual Prospec 93.41 326 P P 09 14 23.5 +0.2
baz=31
PDMCI Parker Dam,Lak 93.45 323 P P 09 14 23.8 +0.6
baz=33
TUC Tucson 93.53 320 P P 09 14 24.4 +0.6
baz=35
GMRC Granite Mounta 93.72 325 P P 09 14 25.1 +0.4
baz=32
GSC Goldstone, Bar 93.77 326 P P 09 14 25.4 +0.6
baz=31
HEC Hector,Ludlow 93.97 325 P P 09 14 26.4 +0.7
baz=32
IRM Iron Mountain 94.02 324 P P 09 14 26.7 +0.8
baz=32
ISA Isabella, Lake 94.16 327 IAmb IAmb 09 14 29.4
comp=Z,5.6nm,0.8s
ISA Isabella, Lake 94.16 327 P P 09 14 26.6 0.0
baz=30
BELC Belle Mtn. Jos 94.53 324 P P 09 14 28.3 0.0
baz=32
BC3 Big Chuckawall 94.58 324 P P 09 14 29.4 +0.8
baz=32
EDW2 Edwards Air Fo 94.63 326 P P 09 14 29.2 +0.5
baz=30
BBRC Big Bear Solar 94.70 325 P P 09 14 29.1 -0.2
baz=31
214A Organ Pipe Nat 94.79 321 P P 09 14 29.3 -0.1
baz=34
GLA Glamis 94.81 323 P P 09 14 29.8 +0.3
baz=32
BFSC Mount Baldy Ra 95.04 326 P P 09 14 30.1 -0.6
baz=31
PFO Pinyon Flats O 95.06 324 P P 09 14 31.1 +0.3
PFO IAmb IAmb 09 14 32.6
comp=Z,6.2nm,1.1s
PFO Pinyon Flats O 95.06 324 P P 09 14 30.3 -0.5
baz=32
PFO Pinyon Flats O 95.06 324 P P 09 14 31.1 +0.3
PFO pmax pmax
comp=Z,6.0nm,1.2s
TPFO Pinon Flats 95.06 324 P P 09 14 30.4 -0.4
baz=32
SWSC Sam W. Stewart 95.33 324 P P 09 14 32.0 +0.1
baz=32
PKM Mcpherson Peak 95.37 328 P P 09 14 32.5 +0.2
baz=29
MURC Murrieta 95.39 325 P P 09 14 32.7 +0.5
baz=31
MONP2 Monument Peak 95.65 324 P P 09 14 33.7 +0.1
baz=32
SNAA Sanae 113.96 188 PKP **PKiKP 09 19 45.4 +0.1**
comp=Z,0.6nm,0.8s,baz=10,slow=6.0,SNR=2.0
WRA Warramunga Arr 121.29 90 PKP **PKPdf 09 19 59.5 -1.4**
comp=Z,2.4nm,0.7s,baz=320,slow=2.0,SNR=22
ASAR Alice Springs 123.14 94 PKPdf **PKPdf 09 20 03.1 -1.3**
ASAR Alice Springs 123.14 94 PKP **PKPdf 09 20 03.4 -1.1**
comp=Z,6.8nm,0.7s,baz=316,slow=1.6,SNR=61
ASAR PP **PP 09 21 44.5 -0.1**
comp=Z,0.9nm,0.8s,baz=306,slow=6.3,SNR=4.6
BELA Belgrano 2 123.50 192 PKPdf **PKPdf 09 20 03.5 0.0**
QSPA South Pole Qui 131.32 180 PKP **PKPdf 09 20 18.1 -0.6**
comp=Z,2.3nm,0.5s,baz=304,slow=0.9,SNR=27
STKA Stephens Creek 133.26 98 PKP **PKPdf 09 20 23.0 -0.5**
comp=Z,4.7nm,0.7s,baz=318,slow=2.4,SNR=13
STKA Stephens Creek 133.26 98 PKIKP **PKPdf 09 20 23.0 -0.5**
VNDA Vanda 140.64 168 PKP **PKiKP 09 20 37.2 -1.1**
comp=Z,0.8nm,0.8s,baz=321,slow=3.2,SNR=9.9
DZM Mont Dzumac 146.09 65 *e*LR LR 10 08 50.0
comp=Z,416nm,23.9s
DZM Mont Dzumac 146.09 65 PKPbc **PKPbc 09 20 48.2 +0.2**
comp=Z,11nm,0.6s,baz=247,slow=8.7,SNR=13
PPT2 Papeete2 154.45 335 *e*LR LR 10 12 45.7

comp=Z,215nm,21.0s
TBI Tubuai 159.75 330 eLR LR 10 15 08.9
comp=Z,1μm,24.8s

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*BGR **04** 09:01:30.2±1.4, 42°.52N×18°.54E, h22km±14km, ML5.2, Error ellipse: s-maj=20.0km s-min=8.9km az=147.0, Hypocentre not reviewed by the ISC*
*PDG **04** 09:01:38.9±0.1, 41°.46N×19°.60E, h19km, MD5.1/13, ML5.0/13, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
*IDC **04** 09:01:42.6±2.2, 41°.52N×19°.54E, h50km±18km, mb4.5/27, mbtmp4.8/33, ML4.8/7, MS4.9/1, Error ellipse: s-maj=14.4km s-min=10.8km az=164.0*
ISC 04 09:01:38.3±1.2,**41°.43N**±0°.04×**19°.58E**±0°.04,**h18**km±5km, **n56**,σ0.99/78,**mb4.8**/24,**6C-4D, Albania**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.59**	**335**	⇓i	Pg		**Pb**	**09 01 49.9**	**-0.2**
ULC				i	Sg		**Sg**	**09 01 59.3**	**+1.2**
DRME	**Dracevica, Mon**	**0.81**	**339**	⇑i	Pg		**Pb**	**09 01 53.9**	**0.0**
DRME				i	Sg		**Sn**	**09 02 06.6**	**+0.1**
BUM	**Brajici-Budva**	**1.01**	**330**	⇑i	Pg		**Pn**	**09 01 57.8**	**+0.1**
BUM				i	Sg		**Sn**	**09 02 13.3**	**+1.9**
PDG	**Podgorica**	**1.03**	**347**	⇓i	Pg		**Pb**	**09 01 57.8**	**+0.2**
PDG				i	Sg		**Sg**	**09 02 13.5**	**+1.6**
PVY	**Plav**	**1.20**	**14**	⇑i	Pg		**Pb**	**09 02 00.8**	**+0.2**
PVY				i	Sg		**Sg**	**09 02 18.9**	**+1.5**
CEME	**Cevo**	**1.22**	**337**	⇓i	Pg		**Pb**	**09 02 01.2**	**+0.3**
CEME				i	Sg		**Sg**	**09 02 19.7**	**+1.7**
HCY	**Herceg Novi**	**1.30**	**322**	ePg			**Pb**	**09 02 02.7**	**+0.5**
HCY				i	Sg		**Sg**	**09 02 21.8**	**+1.4**
NKME	**Niksic**	**1.42**	**341**	⇑i	Pg		**Pg**	**09 02 05.2**	**-0.5**
NKME				i	Sg		**Sg**	**09 02 24.3**	**+0.1**
KOME	**Kolasin**	**1.42**	**358**	ePg			**Pb**	**09 02 04.5**	**+0.1**
KOME				i	Sg		**Sg**	**09 02 24.7**	**+0.3**
IVA	**Berane**	**1.46**	**9**	⇓i	Pg		**Pb**	**09 02 04.8**	**-0.3**
IVA				i	Sg		**Sg**	**09 02 25.2**	**-0.5**
BRY	**Bratogost**	**1.66**	**333**	ePn			**Pb**	**09 02 08.0**	**-0.5**
BRY				i	Sn		**Sg**	**09 02 30.6**	**-1.4**
UPM	**Unac-Piva**	**1.84**	**345**	⇑i	Pn		**Pn**	**09 02 08.8**	**-0.4**
UPM				eSn			**Sb**	**09 02 34.8**	**+0.4**
PLE	**Pljevlja**	**1.91**	**356**	⇑i	Pn		**Pn**	**09 02 11.1**	**+1.1**
PLE				i	Sn		**Sb**	**09 02 36.3**	**+0.1**
MLR	**Muntele Rosu**	**6.16**	**47**	P			**Pn**	**09 03 10.9**	**+2.4**
	45nm,0.3s,baz=323,slow=11,SNR=6.4								
MLR				S			**Sn**	**09 04 20.8**	**+2.3**
	274nm,0.8s,baz=116,slow=23,SNR=3.0								
OBKA	**Obir**	**6.24**	**326**	ePn				09 02 41.5	
ARSA	**Arzberg**	**6.51**	**335**	ePn				09 02 44.1	
KBA	**Koelnbreinsper**	**7.21**	**324**	ePn				09 02 53.7	
JAVC	**Velka Javorina**	**7.55**	**350**	ePn				09 03 00.7	
RJOB	**Jochberg**	**7.95**	**325**	ePn				09 03 04.5	
VRAC	**Vranov**	**8.16**	**346**	S			**Sn**	**09 05 08.0**	**+0.6**
	39nm,0.7s,baz=114,slow=9.2,SNR=3.6								
CKRC	**Cesky Krumlov**	**8.28**	**335**	ePn				09 03 09.1	
MORC	**Moravsky Berou**	**8.47**	**351**	ePn				09 03 12.1	
GEC2	**GERESS Array S**	**8.50**	**333**	ePn				09 03 11.6	
GERES	**GERESS Array B**	**8.50**	**333**	P			**Pn**	**09 03 41.1**	**+0.6**
	6.9nm,0.3s,baz=152,slow=15,SNR=7.2								
GERES				S			**Sn**	**09 05 16.2**	**+0.3**
	46nm,0.4s,baz=148,slow=28,SNR=5.2								
	20nm,0.5s								
PART	**Garmisch-Parte**	**8.57**	**318**	ePn				09 03 13.6	
KHC	**Kasperske Hory**	**8.79**	**333**	ePn				09 03 15.3	
DAVOX	**Davos/Dischmat**	**8.79**	**311**	S			**Sn**	**09 05 24.9**	**+1.7**
	116nm,0.4s,baz=311,slow=22,SNR=6.9								
OBER	**Oberstdorf**	**8.93**	**315**	ePn				09 03 17.6	
WET	**Wettzell**	**9.04**	**331**	ePn				09 03 18.0	
DAVA	**Damuels**	**9.08**	**313**	ePn				09 03 20.0	
UBR	**Ueberruh**	**9.20**	**316**	ePn				09 03 20.3	
DPC	**Dobruska-Polom**	**9.21**	**347**	ePn				09 03 22.1	
PLONS	**Plons/SG**	**9.22**	**311**	ePn				09 03 22.4	
PRU	**Pruhonice**	**9.26**	**339**	ePn				09 03 23.0	
NORI	**Noerdlinger Ri**	**9.65**	**322**	ePn				09 03 24.9	
WILA	**Wila**	**9.70**	**312**	ePn				09 03 28.0	
WALHA	**Wallhausen, DE**	**9.77**	**314**	ePn				09 03 28.4	
I48TN	**KESRA INFRASON**	**9.79**	**238**	I			I	09 55 30.0	
	baz=52,slow=313,SNR=3.8								
ROTZ	**Rotzenmuhle**	**9.80**	**331**	ePn				09 03 28.0	
MANZ	**Manzenberg**	**10.02**	**331**	ePn				09 03 30.7	
SLE	**Schleitheim**	**10.12**	**312**	ePn				09 03 33.2	
SULZ	**Cheisacher**	**10.21**	**311**	ePn				09 03 35.3	
BRG	**Berggiesshubel**	**10.22**	**339**	ePn				09 03 35.4	
BERGE	**Lenzkirch (DE)**	**10.36**	**312**	ePn				09 03 36.1	
BFO	**Black Forest**	**10.54**	**315**	ePn				09 03 37.5	
MOX	**Moxa**	**10.74**	**332**	ePn				09 03 41.2	
CLL	**Collm**	**10.87**	**338**	ePn				09 03 44.5	
MILB	**Miltenberg**	**11.05**	**323**	ePn				09 03 45.8	
AKASG	**Malin Array Be**	**11.43**	**33**	P			**Pn**	**09 04 23.3**	**+2.8**
	2.6nm,0.3s,baz=227,slow=12,SNR=4.7								
	6.5nm,0.6s								
TNS	**Taunus Mts**	**11.72**	**322**	ePn				09 03 54.2	
ABH	**Alteburg**	**11.92**	**319**	ePn				09 03 57.7	
RIVT	**Riveris**	**12.20**	**317**	ePn				09 04 01.5	
DEL	**Delary**	**15.51**	**348**	iP			**P**	**09 05 20.0**	**-0.1**
OBN	**Obninsk**	**17.69**	**34**	P			**Pn**	**09 05 43.5**	**0.0**
	15nm,0.3s,baz=190,slow=4.2,SNR=7.0								
	77nm,0.5s								
ESDC	**Sonseca Array**	**17.96**	**272**	P			**Pn**	**09 05 47.7**	**+0.6**
	0.2nm,0.3s,baz=81,slow=12,SNR=6.9								
	6.2nm,0.8s								
HFS	**Hagfors**	**19.08**	**351**	P			**P**	**09 05 58.6**	**-1.0**
	5.9nm,0.3s,baz=163,slow=11,SNR=8.9								
	68nm,0.7s								
GNI	**Garni**	**19.09**	**85**	P			**Pn**	**09 06 00.9**	**+0.1**
	4.4nm,0.3s,baz=79,slow=3.6,SNR=3.6								
	35nm,0.6s								
NOA	**NORSAR Array B**	**20.29**	**348**	P			**P**	**09 06 12.4**	**-0.4**
	9.0nm,0.7s,baz=158,slow=9.1,SNR=3.3								
	9.0nm,0.7s								
EKA	**Eskdalemuir Ar**	**20.40**	**321**	P			**P**	**09 06 13.6**	**-0.4**
	10nm,0.5s,baz=113,slow=9.0,SNR=11								
EKA				PcP			**PcP**	**09 10 25.5**	**-0.4**
	2.2nm,0.7s,baz=126,slow=2.6,SNR=4.8								
	10nm,0.5s								
FINES	**FINESS Array B**	**20.43**	**9**	P			**P**	**09 06 13.4**	**-0.9**
	84nm,0.4s,baz=189,slow=10.0,SNR=21								
FINES				PcP			**PcP**	**09 10 25.2**	**-0.6**
	2.9nm,0.4s,baz=180,slow=2.6,SNR=3.6								
	84nm,0.4s								
MDT	**Midelt**	**21.06**	**254**	P			**P**	**09 06 23.3**	**+1.8**
	23nm,0.9s,baz=87,slow=12,SNR=5.7								
	23nm,0.9s								
ARCES	**ARCESS Array B**	**28.34**	**4**	P			**P**	**09 07 30.1**	**-0.7**
	3.5nm,0.4s,baz=192,slow=10,SNR=3.2								
	3.5nm,0.4s								
GEYT	**Alibeck**	**29.70**	**84**	P			**P**	**09 07 44.0**	**+0.7**
	21nm,0.6s,baz=268,slow=8.9,SNR=7.0								
	21nm,0.6s								
TORD	**Torodi Ar. Bea**	**32.20**	**214**	P			**P**	**09 08 06.1**	**+0.7**
	8.9nm,0.8s,baz=26,slow=11,SNR=4.6								
TORD				LR			LR	09 23 21.6	
	comp=Z,2μm,18.9s,baz=36,slow=40								
	8.9nm,0.8s								
BVAR	**Borovoye Array**	**35.68**	**53**	P			**P**	**09 08 35.9**	**+0.6**
	24nm,0.6s,baz=286,slow=14,SNR=8.7								
BVAR				PcP			**PcP**	**09 11 02.9**	**-0.3**
	2.2nm,0.6s,baz=291,slow=2.4,SNR=1.6								
	24nm,0.6s								
SPITS	**Spitsbergen Ar**	**36.89**	**359**	P			**P**	**09 08 44.4**	**-0.9**
	2.1nm,0.5s,baz=155,slow=12,SNR=2.3								
SPITS				PP			**PP**	**09 10 07.6**	**-1.6**
	7.8nm,0.6s,baz=158,slow=14,SNR=4.3								
SPITS				PcP			**PcP**	**09 11 06.0**	**-0.4**
	5.4nm,0.7s,baz=160,slow=5.8,SNR=1.8								
	2.1nm,0.5s								
DBIC	**Dimbokro**	**40.87**	**219**	P			**P**	**09 09 21.1**	**+1.8**
	4.5nm,0.5s,baz=7.3,slow=9.6,SNR=4.5								
	4.5nm,0.5s								
KURBB	**Kurchatov Arra**	**40.96**	**56**	P			**P**	**09 09 19.5**	**-0.2**
	4.7nm,0.5s,baz=286,slow=9.6,SNR=12								
KURBB				PP			**PP**	**09 10 51.2**	**-2.8**
	2.2nm,0.7s,baz=282,slow=11,SNR=4.0								
KURBB				PcP			**PcP**	**09 11 18.9**	**-0.7**
	1.6nm,0.5s,baz=287,slow=3.5,SNR=1.5								
	4.7nm,0.5s								
ZALV	**Zalesovo Beam**	**44.13**	**50**	P			**P**	**09 09 45.2**	**-0.1**
	80nm,0.6s,baz=281,slow=8.5,SNR=19								
	80nm,0.6s								
NRIK	**Noril'sk**	**44.25**	**28**	P			**P**	**09 09 46.4**	**+0.2**
	17nm,0.7s,baz=238,slow=3.0,SNR=5.9								
	17nm,0.7s								
MKAR	**Makanchi Array**	**44.29**	**61**	P			**P**	**09 09 46.8**	**0.0**
	60nm,0.6s,baz=283,slow=7.5,SNR=24								
MKAR				PcP			**PP**	**09 11 29.9**	**-0.1**
	2.8nm,0.5s,baz=273,slow=5.2,SNR=1.9								
	60nm,0.6s								
SCHQ	**Schefferville**	**55.61**	**316**	P			**P**	**09 11 12.3**	**-0.3**
	9.9nm,0.6s,baz=78,slow=4.9,SNR=5.6								
	9.9nm,0.6s								
SONM	**Songino Array**	**58.99**	**52**	P			**P**	**09 11 36.8**	**+0.1**
	16nm,0.6s,baz=288,slow=6.8,SNR=12								
	16nm,0.6s								
BOSA	**Boshof**	**69.89**	**175**	P			**P**	**09 12 48.5**	**+0.5**
	4.8nm,0.6s,baz=359,slow=6.4,SNR=4.6								
	4.8nm,0.6s								
YKA	**Yellowknife Ar**	**70.09**	**339**	P			**P**	**09 12 47.9**	**-1.0**
	6.1nm,0.8s,baz=28,slow=14,SNR=4.2								
	6.1nm,0.8s								
ULM	**Lac du Bonnet**	**72.67**	**323**	P			**P**	**09 13 04.7**	**0.0**
	17nm,0.6s,baz=34,slow=6.5,SNR=13								
	17nm,0.6s								
ILAR	**Eielson Array**	**73.61**	**354**	P			**P**	**09 13 10.2**	**+0.3**
	2.1nm,0.6s,baz=0.0,slow=6.2,SNR=5.7								
	2.1nm,0.6s								
USRK	**Ussuriysk Ar.**	**75.42**	**43**	P			**P**	**09 13 20.5**	**-0.4**
	4.4nm,0.8s,baz=42,slow=4.7,SNR=2.6								
	4.4nm,0.8s								
KSRS	**Korea Array**	**77.83**	**51**	P			**P**	**09 13 34.5**	**-0.1**
	5.1nm,0.7s,baz=311,slow=5.0,SNR=6.3								
	5.1nm,0.7s								
PETK	**Petropavlovsk-**	**79.15**	**24**	P			**P**	**09 13 41.2**	**-0.4**
	3.4nm,0.9s,baz=358,slow=4.5,SNR=2.9								
	3.4nm,0.9s								
MJAR	**Matsushiro Arr**	**84.23**	**45**	P			**P**	**09 14 08.5**	**-0.2**
	4.0nm,0.7s,baz=314,slow=4.9,SNR=4.7								
	4.0nm,0.7s								
PDAR	**Pinedale Array**	**84.47**	**325**	P			**P**	**09 14 10.3**	**+0.2**
	2.8nm,0.6s,baz=39,slow=3.9,SNR=6.6								
	2.8nm,0.6s								
NVAR	**Mina Array Bea**	**91.72**	**328**	P			**P**	**09 14 44.8**	**-0.2**
	0.7nm,0.7s,baz=37,slow=2.1,SNR=4.8								
	0.7nm,0.7s								
TXAR	**Lajitas Array**	**92.22**	**313**	P			**P**	**09 14 46.9**	**-0.4**
	4.1nm,0.8s,baz=64,slow=4.4,SNR=8.0								
	4.1nm,0.8s								
WRA	**Warramunga Arr**	**121.32**	**90**	PKP			**PKPdf**	**09 20 29.3**	**-1.2**
	1.6nm,0.7s,baz=317,slow=2.0,SNR=9.8								
ASAR	**Alice Springs**	**123.17**	**94**	PKP			**PKPdf**	**09 20 33.0**	**-1.0**
	5.2nm,0.5s,baz=308,slow=1.7,SNR=20								
QSPA	**South Pole Qui**	**131.28**	**180**	PKP			**PKPdf**	**09 20 47.2**	**-1.0**
	1.3nm,0.5s,baz=100,slow=2.9,SNR=1.9								
STKA	**Stephens Creek**	**133.29**	**98**	PKP			**PKPdf**	**09 20 52.0**	**-1.0**
	2.7nm,0.5s,baz=300,slow=1.2,SNR=8.7								
DZM	**Mont Dzumac**	**146.14**	**65**	PKPbc			**PKPbc**	**09 21 17.6**	**0.0**
	11nm,0.6s,baz=272,slow=9.4,SNR=8.2								

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*TIR **04** 09:08:56.1, 41°.48N×19°.48E, h22km±2km, Ml4.3*
*RHSSO **04** 09:08:57.6±0.6, 41°.39N×19°.54E, h6km±2km, ML3.8/14*
*PDG **04** 09:08:57.5±0.3, 41°.43N×19°.60E, h16km, MD3.7/8, ML3.6/11, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*THE **04** 09:08:57.3, 41°.58N×19°.55E, h1km±2km, ML4.1/10, Error ellipse: s-maj=4.2km s-min=1.7km az=314.0*
*NEIC **04** 09:08:58.0±1.8, 41°.47N±0°.06×19°.49E±0°.05, h10km±1km, mb4.3/10, Error ellipse: s-maj=10.2km s-min=5.9km az=198.0*
*MED_RC **04** 09:08:58.0±1.4, 41°.35N×19°.37E, h27km±5km, MW4.5/9, Moment Tensor Solution.Mantle waves: s9,c10; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.20±1.93; $M_{\theta\theta}$2.22±1.04; $M_{\phi\phi}$-3.42±1.12; $M_{r\theta}$2.76±1.18; $M_{\theta\phi}$4.82±.92; $M_{\phi r}$-0.34±.95; Best double couple: $M_0$6.31000×10^{15} NP1:ϕ_s108.00000°,δ81.00000°,λ28.00000°. NP2: ϕ_s13.00000°,δ62.00000°,λ170.00000°. Principal axes: T 6.0600, Plg26.0000°, Azm334.0000°; N 0.5100, Plg61.0000°, Azm124.0000°; P -6.5600, Plg13.0000°, Azm238.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*BEO **04** 09:08:59.6±0.4, 41°.47N×19°.72E, h12km±2km, ML3.6/10*
ISC 04 09:08:58.2±0.9,**41°.50N**±0°.01×**19°.56E**±0°.02,**h10**km±6km, **n179**,σ1.12/241,**mb5.3**/5,**25C-12D, Albania**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.28**	**124**	⇓P			**Pg**	**09 09 03.5**	**-0.2**
TIR	**Tirane**	**0.28**	**124**	P			**Pg**	**09 09 03.5**	**-0.2**
	baz=115								
TIR				S			**Sg**	**09 09 08.1**	**+0.6**
	baz=115								
TIR				AMP					
	comp=N,192nm,0.5s,baz=115								
TIR	**Tirane**	**0.28**	**124**	Pg			**Pg**	**09 09 03.3**	**-0.5**
TIR				Sg			**Sg**	**09 09 08.0**	**+0.5**
TIR	**Tirane**	**0.28**	**124**	P			**Pg**	**09 09 03.5**	**-0.2**
TIR				S			**Sg**	**09 09 08.3**	**+0.8**
	comp=N,108μm,0.4s								
TIR	**Tirane**	**0.28**	**124**	ePg			**Pg**	**09 09 03.5**	**-0.2**
TIR				eSg			**Sg**	**09 09 08.4**	**+0.9**
ULC	**Ulcinj**	**0.52**	**333**	⇓iPg			**Pg**	**09 09 08.7**	**+0.4**
ULC				i Sg			**Sb**	**09 09 18.5**	**+1.5**
PUK	**Puka**	**0.59**	**25**	P			**Pg**	**09 09 09.2**	**-0.5**
	baz=28								
PUK				S			**Sb**	**09 09 18.5**	**-0.7**
	baz=28								
PUK				AMP					
	comp=E,9.9nm,0.3s,baz=28								
PUK	**Puka**	**0.59**	**25**	Pg			**Pg**	**09 09 09.5**	**-0.2**
DRME	**Dracevica, Mon**	**0.74**	**338**	ePg			**Pb**	**09 09 12.9**	**-0.2**
DRME				eSg			**Sn**	**09 09 27.4**	**+1.4**
DRME	**Dracevica, Mon**	**0.74**	**338**	⇑iPg			**Pg**	**09 09 12.6**	**+0.1**
DRME				eSg			**Sn**	**09 09 24.6**	**-1.4**
DRME	**Dracevica, Mon**	**0.74**	**338**	⇑iPg			**Pg**	**09 09 12.6**	**+0.1**
DRME				i Sg			**Sn**	**09 09 25.7**	**-0.3**
BUM	**Brajici-Budva**	**0.94**	**328**	⇑iPg			**Pb**	**09 09 16.5**	**-0.1**
BUM				i Sg			**Sn**	**09 09 32.5**	**+1.5**
BCI	**Bajram Curri**	**0.94**	**23**	P			**Pg**	**09 09 15.2**	**-1.2**
	baz=26								
BCI				S			**Sn**	**09 09 30.0**	**-1.0**
	baz=26								
BCI				AMP					
	comp=E,11nm,0.8s,baz=26								
PDG	**Podgorica**	**0.95**	**346**	⇓P			**Pn**	**09 09 17.4**	**-0.2**
PDG	**Podgorica**	**0.95**	**346**	Pg			**Pg**	**09 09 16.3**	**-0.3**
PDG	**Podgorica**	**0.95**	**346**	ePg			**Pn**	**09 09 17.5**	**-0.1**
PDG				eSg			**Sn**	**09 09 33.5**	**+2.2**
PDG	**Podgorica**	**0.95**	**346**	⇑iPg			**Pg**	**09 09 16.3**	**-0.3**
PDG				eSg			**Sn**	**09 09 31.6**	**+0.3**
PDG	**Podgorica**	**0.95**	**346**	⇓iPg			**Pn**	**09 09 17.5**	**-0.1**
PDG				i Sg			**Sn**	**09 09 32.7**	**+1.4**
OHR	**Ohrid**	**1.01**	**112**	iPg			**Pg**	**09 09 16.5**	**-1.1**
OHR				i Sg			**Sb**	**09 09 31.6**	**+0.5**
VLO	**Vlora**	**1.03**	**183**	P			**Pg**	**09 09 18.4**	**+0.4**
	baz=179								
VLO				S			**Sg**	**09 09 30.0**	**-1.4**
	baz=179								
VLO				AMP					
	comp=N,79nm,0.7s,baz=179								
VLO	**Vlora**	**1.03**	**183**	Pg			**Pg**	**09 09 18.4**	**+0.4**
VLO	**Vlora**	**1.03**	**183**	P			**Pg**	**09 09 18.5**	**+0.4**
VLO				S			**Sn**	**09 09 34.5**	**+1.3**
	comp=N,19μm,0.9s								
PVY	**Plav**	**1.13**	**15**	ePg			**Pg**	**09 09 18.9**	**-1.0**
PVY	**Plav**	**1.13**	**15**	⇑iPg			**Pb**	**09 09 19.6**	**-0.3**
PVY				i Sg			**Sn**	**09 09 38.6**	**+2.8**
CEME	**Cevo**	**1.15**	**336**	⇑iPg			**Pn**	**09 09 20.5**	**+0.1**
CEME				i Sg			**Sn**	**09 09 39.2**	**+3.0**
HCY	**Herceg Novi**	**1.23**	**320**	ePg			**Pn**	**09 09 21.5**	**+0.1**
HCY				eSg			**Sn**	**09 09 39.4**	**+1.2**
HCY	**Herceg Novi**	**1.23**	**320**	⇑iPg			**Pn**	**09 09 21.6**	**+0.1**
HCY				i Sg			**Sn**	**09 09 41.1**	**+2.9**
KBN	**Korca**	**1.28**	**133**	P			**Pg**	**09 09 22.9**	**+0.3**
	baz=130								
KBN				S			**Sn**	**09 09 41.0**	**+1.6**
	baz=130								
KBN				AMP					
	comp=N,17nm,0.5s,baz=130								
KBN	**Korca**	**1.28**	**133**	Pn			**Pg**	**09 09 22.6**	**-0.1**
KBN	**Korca**	**1.28**	**133**	P			**Pn**	**09 09 22.0**	**-0.1**
KBN				S			**Sn**	**09 09 41.5**	**+2.2**
	comp=N,4μm,0.7s								
NKME	**Niksic**	**1.34**	**341**	⇑iPg			**Pb**	**09 09 23.6**	**+0.2**
NKME				i Sg			**Sg**	**09 09 44.6**	**+3.2**
KOME	**Kolasin**	**1.35**	**359**	ePg			**Pg**	**09 09 24.0**	**0.0**
KOME				eSg			**Sg**	**09 09 45.0**	**+3.4**
KOME	**Kolasin**	**1.35**	**359**	⇓iPg			**Pg**	**09 09 24.8**	**+0.8**
KOME				i Sg			**Sg**	**09 09 44.4**	**+2.8**
BEY	**Berane**	**1.39**	**10**	ePg			**Pn**	**09 09 23.4**	**-0.3**
SKO	**Skopje**	**1.48**	**71**	iPn			**Pb**	**09 09 25.5**	**-0.3**
TREB	**Trebinje**	**1.51**	**324**	⇑iPn			**Pn**	**09 09 25.7**	**+0.4**
TREB				eSn			**Sg**	**09 09 47.7**	**+0.9**
FNA	**Florina**	**1.55**	**117**	P			**Pn**	**09 09 25.8**	**0.0**
	baz=115								
FNA				S			**Sg**	**09 09 47.9**	**0.0**
	baz=115								
FNA				AMP					
	comp=N,9.4nm,0.6s,baz=115								
FNA	**Florina**	**1.55**	**117**	Pn			**Pn**	**09 09 26.2**	**+0.4**
FNA	**Florina**	**1.55**	**117**	P			**Pn**	**09 09 25.6**	**-0.2**
FNA				S			**Sg**	**09 09 47.1**	**-0.8**
	comp=N,5μm,0.7s								
LSK	**Leskovik**	**1.56**	**149**	P			**Pn**	**09 09 26.3**	**+0.3**
	baz=147								
LSK				S			**Sb**	**09 09 48.0**	**+0.9**
	baz=147								
LSK				AMP					
	comp=E,13nm,0.8s,baz=147								
LSK	**Leskovik**	**1.56**	**149**	P			**Pn**	**09 09 26.4**	**+0.3**
LSK				S			**Sg**	**09 09 49.7**	**+1.2**
	comp=E,5μm,0.7s								
NEST	**Nestorio**	**1.56**	**133**	P			**Pb**	**09 09 27.0**	**-0.3**
NEST				S			**Sg**	**09 09 49.5**	**+1.0**
	comp=E,2μm,1.2s								
DBRK	**Dubrovnik**	**1.57**	**318**	ePn			**Pb**	**09 09 27.9**	**+0.6**
BRY	**Bratogost**	**1.59**	**332**	ePn			**Pb**	**09 09 27.8**	**+0.1**
BRY				eSn			**Sg**	**09 09 49.4**	**0.0**
SCTE	**Santa Cesarea**	**1.65**	**211**	P			**Pn**	**09 09 25.8**	**-1.3**
	baz=210								
SCTE				S			**Sn**	**09 09 49.4**	**+0.9**
	baz=210								
SCTE				AMP					
	comp=E,5.3nm,0.6s,baz=210								
SCTE	**Santa Cesarea**	**1.65**	**211**	Pn			**Pn**	**09 09 25.6**	**-1.6**
SRN	**Sarande**	**1.66**	**168**	P			**Pn**	**09 09 27.0**	**-0.2**
	baz=166								
SRN				S			**Sb**	**09 09 49.7**	**+0.1**
	baz=166								
SRN				AMP					
	comp=E,10.0nm,0.6s,baz=166								
SRN	**Sarande**	**1.66**	**168**	P			**Pn**	**09 09 26.9**	**-0.3**
SRN				S			**Sg**	**09 09 51.4**	**+0.1**
	comp=E,2μm,0.6s								
UPM	**Unac-Piva**	**1.77**	**344**	ePn			**Pb**	**09 09 30.5**	**-0.3**
UPM				eSn			**Sg**	**09 09 53.8**	**-1.2**
UPM	**Unac-Piva**	**1.77**	**344**	ePn			**Pn**	**09 09 29.8**	**+0.8**
UPM				i Sn			**Sg**	**09 09 54.9**	**-0.1**
PENT	**Pentalofos**	**1.77**	**137**	P			**Pb**	**09 09 30.3**	**-0.5**
SJES	**Sjenica**	**1.78**	**10**	ePn			**Pb**	**09 09 31.2**	**+0.2**
SJES				eSg			**Sg**	**09 09 56.1**	**+0.6**
SJES	**Sjenica**	**1.78**	**10**	⇑iPn			**Pb**	**09 09 31.0**	**0.0**
SJES				eSn			**Sg**	**09 09 54.3**	**-1.2**
KLINJ	**Klinje**	**1.82**	**337**	ePn			**Pb**	**09 09 31.3**	**-0.2**
KLINJ				eSn			**Sb**	**09 09 55.0**	**+0.6**
PLE	**Pljevlja**	**1.83**	**356**	ePn			**Pg**	**09 09 32.4**	**-0.9**
PLE	**Pljevlja**	**1.83**	**356**	⇓iPn			**Pb**	**09 09 31.4**	**-0.4**
PLE				i Sn			**Sg**	**09 09 55.9**	**-1.1**
STON	**Ston**	**1.95**	**315**	ePn			**Pn**	**09 09 31.9**	**+0.7**
STON	**Ston**	**1.95**	**315**	⇑iPn			**Pn**	**09 09 31.6**	**+0.4**
STON				eSn			**Sb**	**09 09 57.2**	**-0.8**
STIP	**Stip**	**1.98**	**84**	iPn			**Pb**	**09 09 34.3**	**+0.1**
NOCI	**Noci**	**2.02**	**250**	P			**Pn**	**09 09 31.1**	**-1.1**
	baz=250								
IGT	**Igoumenitsa**	**2.05**	**163**	P			**Pn**	**09 09 33.0**	**+0.3**
	baz=161								
IGT			

PTJ	Puntijarka	5.12	331	*e*Pn	Pn	09 10 14.2	-0.6
LOBO	Lobor	5.29	333	*e*Pn	Pn	09 10 17.5	+0.3
SMRN	Sveta Marina	5.30	314	Sn	Sn	09 11 15.6	-2.7
CESX	Cesi	5.31	284		Pn	09 10 17.1	-0.5
ARR	Arges	5.34	42	⇓P	Pn	09 10 18.6	+0.6
BRJN	Brijuni	5.44	311	*e*Pn	Pn	09 10 19.3	+0.1
VOIR		5.60	44	⇓P	Pn	09 10 22.8	+1.2
CEY	Cerknica	5.64	320	*e*Pn	Pn	09 10 22.0	0.0
CEY				*e*Sn	Sn	09 11 26.5	-0.4
RAFF	Raffo Rosso	5.87	225	Pn	Pn	09 10 23.0	-2.3
SOKA	Soboth	6.12	329	*e*Pn	Pn	09 10 28.5	-0.1
	comp=N,0.9nm,0.2s						
MLR	Muntele Rosu	6.12	47	⇓P	Pn	09 10 29.9	+1.3
MLR	Muntele Rosu	6.12	47		Pn	09 10 29.1	+0.4
DOPR	Dopca	6.14	41	⇑P	Pn	09 10 33.5	+4.6
OBKA	Obir	6.17	326	*e*Pn	Pn	09 10 29.6	+0.2
	comp=N,0.9nm,0.2s						
OBKA	Obir	6.17	326	*e*Pn	Pn	09 10 30.3	+0.9
SABO	M.te Sabotino	6.22	318	Pn	Pn	09 10 29.9	0.0
CLTB	Caltabellotta	6.28	233		Pn	09 10 31.1	+0.2
ARSA	Arzberg	6.43	335	*e*Pn	Pn	09 10 33.9	+1.0
	comp=N,0.8nm,0.3s						
MYKA	Terra Mystica	6.67	322	*e*Pn	Pn	09 10 33.2	-3.0
	comp=N,0.8nm,0.2s						
PLOR	Plostina	6.73	47	⇑P	Pn	09 10 37.5	+0.5
VRI	Vrincioaia	6.78	48	⇑P	Pn	09 10 37.5	-0.2
STAL	STALIGIAL	6.86	316	Pn	Pn	09 10 37.8	-1.0
HARR	Harsova	6.90	60	⇑P	Pn	09 10 40.7	+1.3
KBA	Koelnbreinsper	7.14	323	*e*Pn	Pn	09 10 42.2	-0.5
	comp=N,0.4nm,0.2s						
CTI	Castel Tesino	7.31	311	Pn	Pn	09 10 44.4	-0.6
MOA	Molln	7.38	331	*e*Pn	Pn	09 10 49.2	+3.3
	comp=N,0.9nm,0.2s						
LESA	Schwarzleotal	7.70	323	*e*Pn	Pn	09 10 48.8	-1.5
	comp=N,2.3nm,0.3s						
MSSA	Maissana	7.89	294	Pn	Pn	09 10 52.6	-0.4
VSL	Villasalto	8.01	259	Pn	Pn	09 10 52.1	-2.5
WTTA	Wattenberg	8.08	318	*e*Pn	Pn	09 10 55.0	-0.7
	comp=N,2.1nm,0.2s						
WATA	Walderalm	8.16	318	*e*Pn	Pn	09 10 57.7	+1.0
	comp=N,5.2nm,0.4s						
FUORN	Ofenpass-Fuorn	8.42	311	Pn	Pn	09 11 01.0	+0.6
KHC	Kasperske Hory	8.71	333	*e*PN	Pn	09 11 12.0	+7.8
KHC				*e*SN	Sn	09 12 41.7	-0.7
SENIN	Lac Senin/Sane	10.09	303	Pn	Pn	09 11 23.6	+0.4
NC602	NORSAR Array S	19.88	348	P	P	09 13 28.7	-0.6
NAO01	NORSAR Array S	20.08	348	P	P	09 13 29.8	-1.7
NAO01				IAmb	IAmb	09 13 30.8	
	comp=Z,10nm,0.9s						
NB201	NORSAR Array S	20.21	348	P	P	09 13 32.9	-0.1
NB201				IAmb	IAmb	09 13 51.8	
	comp=Z,23nm,1.4s						
FINES	FINESS Array B	20.36	9	P	P	09 13 33.5	-1.0
NC303	NORSAR Array S	20.37	349	P	P	09 13 35.0	+0.4
NC303				IAmb	IAmb	09 14 00.7	
	comp=Z,30nm,1.4s						
ABKAR	Akbulak array	29.12	61	P	P	09 14 57.8	-1.1
BRVK	Borovoye	35.57	53	P	P	09 15 55.7	+0.3
BRVK				IAmb	IAmb	09 15 55.8	
	comp=Z,4.4nm,0.5s						
DBIC	Dimbokro	40.93	219	P	P	09 16 41.1	+0.3
MK31	Makanchi Array	44.26	61	P	P	09 17 06.6	-1.1
MK31				IAmb	IAmb	09 17 06.8	
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	44.26	61	P	P	09 17 06.7	-1.1
WMQ	Urumqi	48.85	63	*e*P	P	09 17 46.6	+2.8
WMQ				sP	sP	09 17 55.1	+6.8
WMQ				pmax	pmax		
	comp=Z,41nm,0.7s						
WMQ				LR	LR		
	comp=N,970nm,23.1s						
WMQ				LR	LR		
	comp=E,2μm,13.5s						
WMQ				LR	LR		
	comp=Z,1μm,17.1s						
PKME	Peaks-Kenny Pk	61.45	306	P	P	09 19 13.9	-0.6
LZH	Lanzhou	63.40	64	*e*P	P	09 19 28.5	+0.5
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
HHC	Hu-ho-hao-te	65.78	56	*e*P	P	09 19 43.4	0.0
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,4.4s						

*BEO **04** 09:11:29.8±0.6, 41°.34N×19°.55E, h14km±2km, ML3.0/7*
*TIR **04** 09:11:30.6, 41°.55N×19°.64E, h32km±1km, Ml3.0*
*RHSSO **04** 09:11:32.0±0.7, 41°.46N×19°.35E, h8km±2km, ML3.2/10*
ISC 04 09:11:30.5±1.1, 41°.49N±0°.02×19°.56E±0°.03, h9km±9km, n45, σ0°91/71, 2C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.27	121	*e*Pg	Pg	09 11 35.8	-0.2
TIR				*e*Sg	Sg	09 11 40.2	+0.6
PUK	Puka	0.61	24	P	Pg	09 11 41.7	-0.6
	baz=21						
PUK				S	Sg	09 11 50.5	+0.1
	baz=21						
PUK				AMP			
	comp=E,6.6nm,0.4s,baz=21						
DRME	Dracevica, Mon	0.75	338	*e*Pg	Pn	09 11 46.5	-0.9
DRME				*e*Sg	Sn	09 11 58.9	0.0
DRME	Dracevica, Mon	0.75	338	*e*Pg	Pg	09 11 45.3	+0.3
DRME				*e*Sg	Sb	09 11 56.7	+0.5
BCI	Bajram Curri	0.96	23	P	Pb	09 11 47.7	-1.7
	baz=21						
BCI				S	Sb	09 12 00.9	-1.2
	baz=21						
PDG	Podgorica	0.97	347	*e*Pg	Pn	09 11 50.3	0.0
PDG				*e*Sg	Sn	09 12 05.6	+1.4
PDG	Podgorica	0.97	347	⇑*i*Pg	Pb	09 11 49.2	-0.3
PDG				*e*Sg	Sb	09 12 02.5	+0.1
VLO	Vlora	1.02	183	P	Pn	09 11 51.4	+0.4
	baz=186						
VLO				S	Sn	09 12 08.0	+2.6
	baz=186						
PVY	Plav	1.15	15	*e*Pg	Pn	09 11 52.7	-0.2
HCY	Herceg Novi	1.24	321	*e*Pg	Pn	09 11 52.9	-1.2
HCY				*e*Sg	Sb	09 12 09.8	-0.6
KOME	Kolasin	1.36	359	*e*Pg	Pg	09 11 57.7	+1.0
KOME				*e*Sg	Sg	09 12 17.2	+2.8
BEY	Berane	1.41	10	*e*Pg	Pb	09 11 57.1	+0.1
TREB	Trebinje	1.52	324	*e*Pg	Pn	09 11 58.2	+0.2
TREB	Trebinje	1.52	324	⇓*i*Pg	Pn	09 11 58.2	+0.2
TREB				*e*Sg	Sn	09 12 17.6	-0.3
FNA	Florina	1.54	116	P	Pb	09 11 58.9	-0.5
	baz=119						
FNA				S	Sg	09 12 19.6	-0.6
	baz=119						
FNA				AMP			
	comp=E,0.7nm,0.3s,baz=119						
BRY	Bratogost	1.60	332	*e*Pn	Pb	09 12 00.4	0.0
BRY				*e*Sn	Sb	09 12 20.7	-0.1
SRN	Sarande	1.64	168	P	Pg	09 12 01.7	-0.3
	baz=170						
SRN				S	Sg	09 12 24.1	+0.8
	baz=170						
SRN				AMP			
	comp=E,0.4nm,0.3s,baz=170						
UPM	Unac-Piva	1.78	345	*e*Pn	Pb	09 12 03.6	+0.1
UPM				*e*Sn	Sb	09 12 26.3	+0.3
SJES	Sjenica	1.80	10	*e*Pn	Pb	09 12 03.6	-0.1
SJES				*e*Sn	Sb	09 12 27.2	+0.7
SJES	Sjenica	1.80	10	⇑*i*Pn	Pb	09 12 03.4	-0.3
SJES				*e*Sn	Sb	09 12 27.4	+0.9
KLINJ	Klinje	1.83	337	*e*Pn	Pb	09 12 03.6	-0.6
KLINJ				*e*Sn	Sb	09 12 26.5	-0.8
PLE	Pljevlja	1.84	356	*e*Pn	Pn	09 12 02.0	-0.5
STON	Ston	1.95	316	*e*Pn	Pn	09 12 04.2	+0.3
STON				*e*Sn	Sn	09 12 27.7	-0.8
NOCI	Noci	2.01	250	P	Pn	09 12 04.4	-0.2
	baz=250						
NOCI				S	Sg	09 12 34.3	-0.7
	baz=250						
RUDO	Rudo	2.13	356	*e*Pn	Pb	09 12 07.9	-1.5
RUDO				*e*Sn	Sb	09 12 35.7	-0.3
RUDO	Rudo	2.13	356	*e*Pn	Pb	09 12 08.7	-0.7
RUDO				*e*Sn	Sb	09 12 35.5	-0.5
IVAS	Ivanjica	2.13	12	*e*Pn	Pn	09 12 07.0	+0.6
IVAS				*e*Sn	Sb	09 12 34.8	-1.2
PRVS	Prvonek	2.14	61	*e*Pn	Pn	09 12 06.5	0.0
BARS	Barje	2.14	51	*e*Pn	Pn	09 12 07.1	+0.6
BBLS	Lazi&#263i	2.38	357	*e*Pn	Pb	09 12 12.0	-1.6
BBLS	Lazi&#263i	2.38	357	*e*Pn	Pn	09 12 11.3	+1.5
BBLS				*e*Sn	Sb	09 12 41.2	-1.9
BOSS	Bosilegrad	2.40	64	*e*Pn	Pn	09 12 10.2	+0.1
GRUS	Gruza	2.55	19	*e*Pn	Pn	09 12 12.8	+0.7
DIVS	Divibare	2.63	7	*e*Pn	Pn	09 12 12.9	-0.4
HAPS	Han Pijesak,BI	2.63	350	*e*Pn	Pn	09 12 14.4	+1.0
HAPS	Han Pijesak,BI	2.63	350	*e*Pn	Pn	09 12 14.3	+0.9
HAPS				*e*Sn	Sn	09 12 46.7	+1.2
BOVS	Bovan	2.67	36	*e*Pn	Pn	09 12 14.2	+0.5
TRUS	Trudelj	2.81	13	*e*Pn	Pn	09 12 16.6	+1.0
ZAGS	Zajecar	3.05	39	*e*Pn	Pn	09 12 19.3	+0.4
TEKS	Tekeris	3.06	360	*e*Pn	Pn	09 12 19.7	+0.6
AVAS	Avala Beograd	3.28	12	*e*Pn	Pn	09 12 21.9	-0.3
KUBS	Kucevo	3.31	27	*e*Pn	Pn	09 12 21.3	-1.3
MGRS	Mrkonjic Grad	3.44	329	*e*Pn	Pn	09 12 25.2	+0.8
FRGS	Fruska Gora	3.67	3	*e*Pn	Pn	09 12 27.5	-0.1
A050A	Klekovaca	3.73	324	*e*Pn	Pn	09 12 28.6	+0.3
A050A				*e*Sn	Sn	09 13 10.9	-1.5

*TIR **04** 09:16:21.2, 41°.43N×19°.50E, h12km±1km, Ml2.6*
*PDG **04** 09:16:23.8±0.2, 41°.50N×19°.59E, h11km, ML2.7/11, Error ellipse: s-maj=0.4km s-min=0.8km az=0.0*
*BEO **04** 09:16:25.3±0.5, 41°.47N×19°.75E, h11km±3km, ML2.4/6*
*RHSSO **04** 09:16:25.0±0.8, 41°.44N×19°.45E, h8km±2km, ML2.7/8*
ISC 04 09:16:24.0±1.1, 41°.46N±0°.03×19°.58E±0°.04, h9km±8km, n39, σ0°92/72, 10C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.24	117	*e*Pg	Pg	09 16 28.8	0.0
TIR				*e*Sg	Sg	09 16 33.4	+1.3
ULC	Ulcinj	0.57	333	⇑*i*Pg	Pg	09 16 33.7	-1.3
ULC				*i* Sg	Sg	09 16 42.6	+0.2
PUK	Puka	0.63	21	P	Pg	09 16 34.8	-1.3
	baz=25						
PUK				S	Sg	09 16 45.0	+0.6
	baz=25						
PUK				AMP			
	comp=N,1.4nm,0.4s,baz=25						
DRME	Dracevica, Mon	0.79	338	*e*Pg	Pg	09 16 39.4	+0.2
DRME				*e*Sg	Sn	09 16 52.5	-0.6
DRME	Dracevica, Mon	0.79	338	⇑*i*Pg	Pg	09 16 38.6	-0.6
DRME				*e*Sg	Sg	09 16 50.4	+1.0
DRME	Dracevica, Mon	0.79	338	⇓*i*Pg	Pg	09 16 38.0	-1.2
DRME				*i* Sg	Sg	09 16 50.1	+0.7
BCI	Bajram Curri	0.98	22	P	Pg	09 16 41.7	-1.1
	baz=24						
BCI				S	Sb	09 16 56.6	+0.6
	baz=24						
BUM	Brajici-Budva	0.99	329	⇑*i*Pg	Pg	09 16 42.0	-1.0
BUM				*i* Sg	Sg	09 16 56.5	+0.7
PDG	Podgorica	1.00	346	*e*Pg	Pg	09 16 43.1	-0.1
PDG				*e*Sg	Sn	09 16 58.6	+0.2
PDG	Podgorica	1.00	346	*e*Pg	Pg	09 16 42.6	-0.6
PDG				*e*Sg	Sg	09 16 56.9	+0.6
PDG	Podgorica	1.00	346	⇑*i*Pg	Pg	09 16 41.9	-1.3
PDG				*i* Sg	Sg	09 16 56.8	+0.5
PVY	Plav	1.17	14	*e*Pg	Pb	09 16 45.4	-1.0
PVY	Plav	1.17	14	⇑*i*Pg	Pb	09 16 44.8	-1.6
PVY				*i* Sg	Sb	09 17 01.9	+0.2
CEME	Cevo	1.20	336	⇑*i*Pg	Pb	09 16 46.4	-0.4
CEME				*i* Sg	Sn	09 17 04.0	+0.7
KBN	Korca	1.23	132	S	Sb	09 17 04.0	+0.5
	baz=129						
HCY	Herceg Novi	1.28	321	⇑*i*Pg	Pn	09 16 47.3	-0.7
HCY				*e*Sg	Sb	09 17 04.0	-0.8
HCY	Herceg Novi	1.28	321	⇑*i*Pg	Pn	09 16 47.0	-1.0
HCY				*i* Sg	Sn	09 17 05.8	+0.5
NKME	Niksic	1.39	340	⇓*i*Pg	Pn	09 16 49.0	-0.5
NKME				*i* Sg	Sn	09 17 08.9	+0.9
KOME	Kolasin	1.39	358	*e*Pg	Pn	09 16 50.4	+0.8
KOME				*e*Sg	Sg	09 17 11.0	+2.2
KOME	Kolasin	1.39	358	⇓*i*Pg	Pn	09 16 49.5	-0.1
KOME				*i* Sg	Sg	09 17 09.7	+0.9
BEY	Berane	1.43	9	*e*Pg	Pn	09 16 49.1	-1.1
IVA	Berane	1.43	9	⇑*i*Pg	Pn	09 16 48.8	-1.4
IVA				*i* Sg	Sg	09 17 11.4	+1.4
FNA	Florina	1.51	116	P	Pn	09 16 50.2	-1.0
	baz=113						
FNA				S	Sg	09 17 13.3	+0.7
	baz=113						
LSK	Leskovik	1.52	149	P	Pn	09 16 50.2	-1.0
	baz=146						
LSK				S	Sb	09 17 12.9	+1.3
	baz=146						
TREB	Trebinje	1.56	324	*e*Pg	Pn	09 16 51.7	-0.1
TREB				*e*Sg	Sn	09 17 12.5	+0.4
BRY	Bratogost	1.64	332	*e*Pn	Pn	09 16 53.1	+0.1
BRY				*e*Sn	Sn	09 17 14.2	-0.1
BRY	Bratogost	1.64	332	⇑*i*Pn	Pn	09 16 53.1	+0.1
BRY				*i* Sn	Sb	09 17 16.2	+1.0
UPM	Unac-Piva	1.82	344	*e*Pn	Pn	09 16 56.8	+1.3
UPM				*e*Sn	Sn	09 17 19.1	+0.4
UPM	Unac-Piva	1.82	344	⇓*i*Pn	Pn	09 16 55.8	+0.3
UPM				*i* Sn	Sb	09 17 20.3	0.0
SJES	Sjenica	1.83	9	*e*Pn	Pb	09 16 57.5	-0.1
SJES				*e*Sg	Sb	09 17 21.3	+0.7
SJES	Sjenica	1.83	9	*e*Pn	Pn	09 16 57.0	+1.4
SJES				*e*Sn	Sb	09 17 20.7	+0.1
STON	Ston	1.99	316	*e*Pn	Pn	09 16 58.5	+0.8
STON				*e*Sn	Sn	09 17 22.8	+0.1
IGT	Igoumenitsa	2.01	163	P	Pn	09 16 58.3	+0.4
	baz=161						
IGT				S	Sb	09 17 25.7	+0.1
	baz=161						
PRVS	Prvonek	2.13	60	*e*Pn	Pn	09 16 57.5	-2.2
BARS	Barje	2.14	50	*e*Pn	Pn	09 17 00.8	+0.9
IVAS	Ivanjica	2.16	11	*e*Pn	Pn	09 17 00.0	-0.1
RUDO	Rudo	2.17	356	*e*Pn	Pn	09 17 01.7	+1.5
RUDO				*e*Sn	Sn	09 17 28.8	+1.7
HAPS	Han Pijesak,BI	2.67	350	*e*Pn	Pn	09 17 08.0	+0.8
HAPS				*e*Sn	Sn	09 17 40.4	+0.8
A050A	Klekovaca	3.76	324	*e*Pn	Pn	09 17 22.3	+0.1
A050A				*e*Sn	Sn	09 18 06.1	-0.5

*IDC **04** 09:23:02.2±1.3, 17°.37S×177°.24W, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=49.8km s-min=25.0km az=140.0*
ISC 04 09:23:39.6±1.1, 18°.2S±0°.3×177°.3W±0°.2, h350km, n6, σ0°82/6, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.56	193	P	P	09 27 52.0	-0.6
	6.3nm,0.9s,baz=5.3,slow=15,SNR=1.5						
	6.3nm,0.9s						
STKA	Stephens Creek	39.42	242	P	P	09 30 37.9	+0.9
	1.1nm,0.3s,baz=87,slow=8.5,SNR=6.7						
	1.1nm,0.3s						
WRA	Warramunga Arr	45.63	260	P	P	09 31 26.3	-0.4
	1.9nm,0.3s,baz=98,slow=6.8,SNR=120						
	1.9nm,0.3s						
ASAR	Alice Springs	45.74	254	P	P	09 31 27.1	-0.4
	3.4nm,0.7s,baz=88,slow=8.0,SNR=42						
	3.4nm,0.7s						
TXAR	Lajitas Array	85.26	57	P	P	09 35 38.6	+0.6
	0.4nm,0.9s,baz=221,slow=6.7,SNR=3.6						
	0.4nm,0.9s						
ILAR	Eielson Array	85.95	13	P	P	09 35 39.9	-0.6
	0.2nm,0.4s,baz=226,slow=5.0,SNR=7.5						
	0.2nm,0.4s						

*TIR **04** 09:25:34.8, 41°.50N×19°.60E, h19km, Ml2.6*
*PDG **04** 09:25:35.7±0.2, 41°.48N×19°.57E, h9km, ML2.5/11, Error ellipse: s-maj=0.8km s-min=1.3km az=0.0*
*RHSSO **04** 09:25:36.8±0.9, 41°.47N×19°.47E, h7km±2km, ML2.5/7*
*BEO **04** 09:25:37.5±0.3, 41°.52N×19°.88E, h7km±4km, ML2.2/7*
ISC 04 09:25:36.3±0.9, 41°.54N±0°.02×19°.67E±0°.03, h12km±7km, n39, σ1°13/74, 1C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.24	142	P	Pg	09 25 40.8	-0.7
	baz=127						
TIR				S	Sg	09 25 45.4	+0.5
	baz=127						
TIR				AMP			
	comp=E,9.4nm,0.4s,baz=127						
TIR	Tirane	0.24	142	*e*Pg	Pg	09 25 41.0	-0.4
TIR				*e*Sg	Sg	09 25 45.8	+0.9
ULC	Ulcinj	0.53	324	⇓*i*Pg	Pg	09 25 45.2	-1.5
ULC				*i* Sg	Sg	09 25 54.4	+0.6
PUK	Puka	0.53	19	P	Pg	09 25 46.5	-0.3
	baz=21						
PUK				S	Sb	09 25 55.8	+0.4
	baz=21						
PUK				AMP			
	comp=E,1.4nm,0.4s,baz=21						
DRME	Dracevica, Mon	0.74	331	*e*Pg	Pb	09 25 51.1	-0.1
DRME				*e*Sg	Sn	09 26 05.3	+1.5
DRME	Dracevica, Mon	0.74	331	*e*Pg	Pg	09 25 50.3	-0.4
DRME				*e*Sg	Sb	09 26 01.3	0.0
DRME	Dracevica, Mon	0.74	331	⇓*i*Pg	Pg	09 25 49.1	-1.6
DRME				*i* Sg	Sn	09 26 02.9	-0.9
BCI	Bajram Curri	0.88	20	P	Pg	09 25 52.0	-1.3
	baz=21						
BCI				S	Sn	09 26 07.6	+0.3
	baz=21						
BCI				AMP			
	comp=E,0.8nm,0.4s,baz=21						
PDG	Podgorica	0.94	341	*e*Pg	Pb	09 25 54.2	-0.4
PDG				*e*Sg	Sn	09 26 10.5	+1.7
PDG	Podgorica	0.94	341	*e*Pg	Pb	09 25 53.6	-1.0
PDG				*e*Sg	Sn	09 26 08.0	-0.8
PDG	Podgorica	0.94	341	⇓*i*Pg	Pb	09 25 53.7	-0.9
PDG				*i* Sg	Sn	09 26 09.6	+0.8
BUM	Brajici-Budva	0.95	323	⇑*i*Pg	Pb	09 25 54.1	-0.8
BUM				*i* Sg	Sn	09 26 09.0	-0.2
PVY	Plav	1.08	12	*e*Pg	Pb	09 25 55.5	-1.5
CEME	Cevo	1.15	331	⇓*i*Pg	Pb	09 25 57.2	-1.0
CEME				*i* Sg	Sn	09 26 15.8	+1.7
HCY	Herceg Novi	1.26	317	*e*Pg	Pn	09 25 58.8	-1.0
HCY				*e*Sg	Sb	09 26 15.1	-1.1
HCY	Herceg Novi	1.26	317	⇓*i*Pg	Pn	09 25 58.7	-1.0
HCY				*i* Sg	Sg	09 26 17.3	+0.3
KOME	Kolasin	1.32	355	*e*Pg	Pg	09 26 02.1	+0.4
KOME				*e*Sg	Sg	09 26 22.5	+3.7
KOME	Kolasin	1.32	355	⇓*i*Pg	Pg	09 26 01.6	-0.1
KOME				*i* Sg	Sg	09 26 22.5	+3.7
BEY	Berane	1.34	7	*e*Pg	Pn	09 26 00.5	-0.5
IVA	Berane	1.34	7	⇓*i*Pg	Pb	09 26 01.5	0.0
IVA				*i* Sg	Sg	09 26 24.1	+4.4
FNA	Florina	1.50	120	P	Pb	09 26 03.9	-0.2
	baz=117						
FNA				S	Sg	09 26 24.9	+0.4
	baz=117						
FNA				AMP			
	comp=E,0.1nm,0.3s,baz=117						
TREB	Trebinje	1.53	321	*e*Pg	Pn	09 26 04.0	+0.5
TREB				*e*Sg	Sb	09 26 24.4	+0.4
LSK	Leskovik	1.56	153	P	Pn	09 26 04.2	+0.3
	baz=150						
LSK				S	Sb	09 26 25.6	+0.8
	baz=150						
BRY	Bratogost	1.60	329	*e*Pn	Pn	09 26 04.9	+0.3
BRY				*e*Sn	Sb	09 26 26.8	+0.7
BRY	Bratogost	1.60	329	⇓*i*Pn	Pn	09 26 04.8	+0.2
BRY				*i* Sn	Sg	09 26 28.8	+1.0
SRN	Sarande	1.68	171	P	Pn	09 26 06.4	+1.0
	baz=169						
SRN				S	Sb	09 26 28.6	+0.5
	baz=169						
SJES	Sjenica	1.74	7	*e*Pn	Pg	09 26 09.4	-0.3
SJES				*e*Sg	Sg	09 26 32.5	+0.3
SJES	Sjenica	1.74	7	*e*Pn	Pb	09 26 08.2	0.0
SJES				*e*Sn	Sg	09 26 32.2	0.0
UPM	Unac-Piva	1.76	342	*e*Pn	Pb	09 26 07.9	-0.7
UPM				*e*Sn	Sb	09 26 30.9	+0.2
UPM	Unac-Piva	1.76	342	⇓*i*Pn	Pb	09 26 07.8	-0.8
UPM				*i* Sn	Sg	09 26 33.2	+0.3
PLE	Pljevlja	1.80	354	⇓*i*Pn	Pb	09 26 08.8	-0.6
PLE				*i* Sn	Sg	09 26 34.1	-0.2
STON	Ston	1.98	313	*e*Pn	Pn	09 26 10.4	+0.8
STON				*e*Sn	Sn	09 26 33.7	-0.6
PRVS	Prvonek	2.04	61	*e*Pn	Pn	09 26 09.2	-1.3
PRVS				*e*Sn	Sn	09 26 35.3	-0.7
BARS	Barje	2.05	51	*e*Pn	Pb	09 26 12.2	-1.2
IGT	Igoumenitsa	2.07	166	P	Pn	09 26 10.9	+0.1
	baz=163						
IGT				S	Sb	09 26 39.6	+0.2
	baz=163						
IVAS	Ivanjica	2.07	10	*e*Pn	Pn	09 26 11.6	+0.6
IVAS				*e*Sn	Sb	09 26 39.5	0.0
RUDO	Rudo	2.09	354	*e*Pn	Pb	09 26 13.4	-0.8
RUDO				*e*Sn	Sb	09 26 39.7	-0.4
KUBS	Kucevo	3.23	27	*e*Pn	Pn	09 26 26.0	-0.8
A050A	Klekovaca	3.73	323	*e*Pn	Pn	09 26 34.0	+0.2
A050A				*e*Sn	Sn	09 27 17.4	-0.3

PDG 04 09:27:28.4±0.4, 41°.57N×19°.51E, h6km±1km, ML2.5/13, 4C-7D, Error ellipse: s-maj=1.6km s-min=1.4km az=90.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	Ulcinj	0.45	334	⇓*i*Pg	Pg	09 27 36.6	-0.5
ULC				*i* Sg	Sb	09 27 44.7	-0.9
DRME	Dracevica, Mon	0.67	339	⇓*i*Pg	Pg	09 27 41.1	-0.2
DRME				*i* Sg	Sb	09 27 52.4	+0.4
BUM	Brajici-Budva	0.87	328	*e*Pg	Pg	09 27 44.7	-0.4
BUM				*i* Sg	Sb	09 27 58.4	+0.6
PDG	Podgorica	0.89	348	⇑*i*Pg	Pg	09 27 45.3	-0.1
PDG				*i* Sg	Sn	09 28 00.2	-0.3
CE

az=77.0
*NEIC **04** 09:29:12.8±1.2,3°.64N±0°.06×127°.9E±0°.1,h170km±4km, mb4.1/27,Error ellipse: s-maj=17.5km s-min=9.8km az=79.0*
*DJA **04** 09:29:13.4±0.7,4°.N±8°×.12°.8E±°,h148km±11km,M4.2/7, mb4.3/3,MLv4.2/7*

ISC 04 09:29:10.6±0.5,3°.69N±0°.06×128°.04E±0°.08,h150km,n53, σ1°40/57,mb4.0/22,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.50**	**270**	P	**Pn**	**09 29 54.5**	**+2.8**
SGSI				S	**Sn**	**09 30 26.5**	**+3.1**
TNTI	**Ternate**	**2.97**	**193**	Pn	**Pn**	**09 29 60.0**	**+2.4**
TNTI	**Ternate**	**2.97**	**193**	P	**Pn**	**09 30 01.0**	**+3.4**
SWI	**Sorong**	**5.55**	**144**	P	**Pn**	**09 30 34.5**	**+3.2**
	77nm,0.5s,0.3nm						
GTOI	**Gorontalo**	**5.87**	**239**	P	**Pn**	**09 30 39.4**	**+3.9**
	8.5nm,0.5s,0.0nm						
SANI	**Sanana**	**6.06**	**200**	P	**Pn**	**09 30 38.4**	**+0.3**
LUWI	**Luwuk**	**7.05**	**228**	Pn	**Pn**	**09 30 51.1**	**-0.3**
TOLI2	**Tolitoli**	**7.69**	**251**	Pn	**Pn**	**09 30 59.2**	**-0.6**
FAKI	**Fak Fak**	**7.80**	**147**	Pn	**Pn**	**09 31 04.3**	**+2.9**
FAKI	**Fak Fak**	**7.80**	**147**	P	**Pn**	**09 31 04.7**	**+3.4**
MYLDM	**Lahad Datu**	**9.62**	**279**	Pn	**Pn**	**09 31 25.1**	**-0.6**
MTN	**Manton Dam**	**16.71**	**169**	P	**P**	**09 32 55.9**	**+0.2**
MTN				IAmb	IAmb	09 33 21.4	
	comp=Z,9.9nm,1.1s						
KNRA	**Kununurra**	**19.25**	**178**	P	**P**	**09 33 23.4**	**-0.1**
KNRA				IAmb	IAmb	09 33 30.1	
	comp=Z,7.1nm,0.8s						
TPUB	**Ta-pu**	**20.77**	**340**	P	**P**	**09 33 39.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**21.78**	**186**	P	**P**	**09 33 49.8**	**-0.8**
WB0	**Warramunga Arr**	**24.13**	**165**	P	**P**	**09 34 12.5**	**-0.3**
WB0				IAmb	IAmb	09 34 15.6	
	comp=Z,4.8nm,0.5s						
WRAB	**Tennant Creek**	**24.28**	**165**	P	**P**	**09 34 13.6**	**-0.6**
WRA	**Warramunga Arr**	**24.29**	**165**	P	**P**	**09 34 13.0**	**-1.1**
WRA	**Warramunga Arr**	**24.29**	**165**	P	**P**	**09 34 13.4**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=334,slow=11,SNR=22						
	comp=Z,0.9nm,0.4s						
WB2	**Warramunga Arr**	**24.29**	**165**	P	**P**	**09 34 13.6**	**-0.6**
WB2				IAmb	IAmb	09 34 16.4	
	comp=Z,4.0nm,0.9s						
WR0	**Warramunga Arr**	**24.35**	**165**	P	**P**	**09 34 14.4**	**-0.4**
WR0				IAmb	IAmb	09 34 21.3	
	comp=Z,4.0nm,0.9s						
UBPT	**Khong Chiam**	**25.03**	**299**	P	**P**	**09 34 20.7**	**-0.3**
UBPT				IAmb	IAmb	09 34 24.2	
	comp=Z,6.3nm,1.0s						
MBWA	**Marble Bar**	**26.00**	**198**	P	**P**	**09 34 29.1**	**-0.6**
MBWA				IAmb	IAmb	09 34 45.0	
	comp=Z,3.4nm,1.0s						
PSA00	**Pilbara Seismi**	**26.36**	**197**	P	**P**	**09 34 32.1**	**-0.7**
PSA00				IAmb	IAmb	09 35 01.4	
	comp=Z,5.9nm,1.1s						
XMIS	**Christmas Isla**	**26.36**	**238**	P	**P**	**09 34 30.3**	**-2.7**
AS31	**Alice Springs**	**27.78**	**168**	P	**P**	**09 34 45.6**	**-0.1**
AS31				IAmb	IAmb	09 34 45.8	
	comp=Z,1.1nm,0.4s						
ASAR	**Alice Springs**	**27.78**	**168**	P	**P**	**09 34 45.6**	**-0.1**
ASAR	**Alice Springs**	**27.78**	**168**	P	**P**	**09 34 45.2**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=356,slow=8.1,SNR=39						
ASAR				PcP	**PcP**	**09 37 57.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=348,slow=2.5,SNR=4.9						
	comp=Z,1.3nm,0.4s						
KSRS	**Korea Array**	**33.60**	**360**	P	**P**	**09 35 35.2**	**-1.3**
	comp=Z,1.7nm,0.6s,baz=173,slow=9.7,SNR=6.9						
	comp=Z,1.7nm,0.6s						
MJAR	**Matsushiro Arr**	**34.01**	**15**	P	**P**	**09 35 38.5**	**-1.6**
	comp=Z,2.6nm,0.9s,baz=188,slow=11,SNR=2.9						
	comp=Z,2.6nm,0.9s						
FORT	**Forrest**	**34.27**	**180**	P	**P**	**09 35 41.3**	**-1.2**
MORW	**Morawa**	**34.55**	**199**	P	**P**	**09 35 44.2**	**-0.7**
JMM	**Marumori**	**35.96**	**17**	P	**P**	**09 35 56.6**	**-0.2**
BBOO	**Buckleboo**	**37.09**	**169**	P	**P**	**09 36 05.8**	**-0.6**
STKA	**Stephens Creek**	**37.65**	**161**	P	**P**	**09 36 10.6**	**-0.6**
STKA	**Stephens Creek**	**37.65**	**161**	P	**P**	**09 36 10.0**	**-1.2**
	comp=Z,2.1nm,0.4s,baz=344,slow=9.2,SNR=11						
	comp=Z,2.1nm,0.4s						
JTM	**Tenmabayashi**	**38.76**	**16**	P	**P**	**09 36 21.0**	**+0.7**
SONM	**Songino Array**	**47.76**	**340**	P	**P**	**09 37 32.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=166,slow=7.4,SNR=2.1						
	comp=Z,0.4nm,0.4s						
MK31	**Makanchi Array**	**58.34**	**325**	P	**P**	**09 38 50.4**	**+0.4**
MKAR	**Makanchi Array**	**58.34**	**325**	P	**P**	**09 38 50.5**	**+0.5**
MKAR	**Makanchi Array**	**58.34**	**325**	P	**P**	**09 38 50.2**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=113,slow=8.5,SNR=15						
MKAR				pP	**pP**	**09 39 26.2**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=121,slow=8.2,SNR=3.0						
	comp=Z,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**61.22**	**332**	P	**P**	**09 39 09.1**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=113,slow=11,SNR=1.7						
	comp=Z,0.4nm,0.4s						
BKZ	**Black Stump Fm**	**61.69**	**139**	P	**P**	**09 39 12.9**	**0.0**
BKZ				IAmb	IAmb	09 39 40.1	
	comp=Z,5.2nm,1.0s						
KURBB	**Kurchatov Arra**	**62.48**	**327**	P	**P**	**09 39 17.7**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=128,slow=6.1,SNR=14						
KURBB				pP	**pP**	**09 39 53.8**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=124,slow=6.5,SNR=6.3						
	comp=Z,1.3nm,0.4s						
KURK	**Kurchatov**	**62.48**	**327**	P	**P**	**09 39 18.1**	**+0.1**
KURK				IAmb	IAmb	09 39 18.4	
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**68.07**	**327**	P	**P**	**09 39 53.9**	**0.0**
	comp=Z,0.7nm,0.4s,baz=57,slow=4.1,SNR=2.7						
	comp=Z,0.7nm,0.4s						
CASY	**Casey**	**70.94**	**187**	P	**P**	**09 40 10.3**	**-0.9**
CASY				IAmb	IAmb	09 40 31.6	
	comp=Z,3.8nm,1.1s						
D19K	**Kuna River**	**80.69**	**21**	P	**P**	**09 41 06.6**	**0.0**
D19K				IAmb	IAmb	09 41 31.0	
	comp=Z,5.8nm,1.1s						
IMAR	**Indian Mountai**	**81.85**	**24**	P	**P**	**09 41 13.0**	**+0.3**
MLY	**Manley**	**82.97**	**25**	P	**P**	**09 41 18.9**	**+0.3**
VNDA	**Vanda**	**83.22**	**173**	P	**P**	**09 41 19.8**	**+0.2**
BMAR	**Burnt Mountain**	**85.61**	**23**	P	**P**	**09 41 32.7**	**+0.8**
EGAK	**Eagle**	**87.03**	**25**	P	**P**	**09 41 39.2**	**+0.4**
EGAK				IAmb	IAmb	09 41 41.9	
	comp=Z,4.0nm,0.8s						

ISK 04 09:39:21.0,37°.23N×27°.84E,h0km,ML1.6/10,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.08**	**321**	Pg	Pg	09 39 24.6	+2.0
MLSB				Sg	Sg	09 39 27.0	+3.3
BODT	**Bodrum**	**0.46**	**249**	Pg	Pg	09 39 30.3	+0.6
BODT				Sg	Sb	09 39 37.8	-1.5
DAT	**Datca**	**0.54**	**203**	Pg	Pg	09 39 32.1	+0.7
TURN	**Turunc**	**0.56**	**145**	Pg	Pg	09 39 32.2	+0.5
GCAM	**G?zelcaml?**	**0.67**	**314**	Pg	Pg	09 39 34.7	+0.8
GCAM				Sg	Sb	09 39 44.6	-0.9
AYDB	**Zeytinkoy-Aydi**	**0.72**	**3**	Pg	Pg	09 39 35.4	+0.7
DALY	**Dalyan (Mula)**	**0.77**	**122**	Pg	Pg	09 39 36.4	+0.6
DALY				Sg	Sb	09 39 47.9	-0.4
ARG	**Arkhangelos**	**1.04**	**167**	Pg	Pb	09 39 41.5	-0.3
ODEM	**Odemis-Izmir**	**1.06**	**10**	Pg	Pg	09 39 41.5	+0.2
ODEM				Sg	Sb	09 39 56.9	+0.2
APMY	**Acipayam-Deniz**	**1.19**	**78**	Pn	Pg	09 39 43.3	-0.5

ATH 04 09:40:11.1,39°.24N×21°.04E,h12km±3km,ML2.1/8, Manual Solution by A.Fokaefs This location: 2020/06/26 07:38:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.51**	**216**	P	Pg	09 40 21.0	-0.1
TSLK				S	Sg	09 40 28.0	+0.1
LKD2	**Lefkada island**	**0.54**	**214**	P	Pg	09 40 21.3	-0.4
LKD2				S	Sb	09 40 29.6	-0.7
NYDR	**Nydri-Lefkada**	**0.59**	**207**	P	Pg	09 40 21.8	-0.8
NYDR				S	Sg	09 40 30.5	+0.2
IGT	**Igoumenitsa**	**0.62**	**298**	P	Pg	09 40 23.4	+0.1
EVR	**Evrytania**	**0.68**	**118**	P	Pg	09 40 24.4	+0.1
EVGI	**Lefkada island**	**0.69**	**206**	P	Pg	09 40 23.6	-0.8
EVGI				S	Sg	09 40 33.7	+0.2
PVO	**Paravola**	**0.72**	**149**	P	Pg	09 40 25.4	+0.2
KPRO	**Kipourio**	**0.76**	**19**	P	Pb	09 40 26.1	-0.1
MAKR	**Makrakomi, Fth**	**0.88**	**105**	P	Pb	09 40 28.2	0.0
ANX	**Ano Chora**	**0.94**	**133**	P	Pg	09 40 29.1	-0.1
AGG	**Agios Georgios**	**1.02**	**102**	P	Pn	09 40 31.3	0.0
TYRN	**Tyrnavos**	**1.03**	**62**	P	Pb	09 40 30.7	-0.2
EFP	**Efpalio**	**1.05**	**140**	P	Pg	09 40 31.4	0.0
NEST	**Nestorio**	**1.18**	**0**	P	Pg	09 40 33.7	-0.1

*IDC **04** 09:40:15.5±3.6,53°.70N×88°.43E,h0km,mbtmp2.9/2, ML2.6/2,Error ellipse: s-maj=34.5km s-min=20.5km az=46.0*

ISC 04 09:40:16.8±4.0,53°.9N±0°.2×88°.3E±0°.2,h10km,n6,σ0°69/6, 1C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.09**	**274**	I	I	09 52 49.2	
	0.5nm,1.2s,baz=92,slow=318,SNR=13						
ZAA0	**Zalesovo Array**	**2.09**	**274**	⇓Pn	**Pg**	**09 40 56.4**	**-0.5**
	0.2nm,0.3s,baz=101,slow=16						
ZAA0				⇑Sn	**Sg**	**09 41 23.7**	**-0.2**
	6.0nm,0.8s,baz=98,slow=25						
ZALV	**Zalesovo Beam**	**2.09**	**274**	Pg	**Pb**	**09 40 55.6**	**+0.9**
	1.6nm,0.3s,baz=99,slow=13,SNR=34						
ZALV				Lg	Lg	09 41 24.0	
	4.4nm,0.3s,baz=97,slow=25,SNR=20						
KURBB	**Kurchatov Arra**	**6.84**	**246**	Pn	**Pn**	**09 41 56.8**	**-0.4**
	0.2nm,0.3s,baz=62,slow=13,SNR=9.3						
KURBB				Lg	Lg	09 43 51.8	
	0.1nm,0.3s,baz=60,slow=30,SNR=1.8						
	0.9nm,0.4s						
MK31	**Makanchi Array**	**8.07**	**211**	Pn	Pn	09 42 17.4	+3.4
	0.5nm,0.6s,baz=32,slow=14,SNR=3.2						
MK31				⇓Sn	**Sn**	**09 43 45.6**	**+0.4**
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.07**	**211**	Pn	**Pn**	**09 42 13.7**	**-0.3**
	baz=32,slow=14,SNR=2.0						
	0.2nm,0.6s						

*TIR **04** 09:40:43.1,41°.43N×19°.46E,h25km±1km,Ml2.8*
*PDG **04** 09:40:45.5±0.2,41°.47N×19°.57E,h11km,ML2.7/13,Error ellipse: s-maj=0.6km s-min=1.1km az=0.0*
*RHSSO **04** 09:40:46.9±0.8,41°.48N×19°.43E,h7km±2km,ML2.8/9*
*BEO **04** 09:40:47.0±0.4,41°.49N×19°.78E,h13km±3km,ML2.5/5*

ISC 04 09:40:44.9±1.0,41°.42N±0°.02×19°.53E±0°.03,h14km±8km, n59,σ0°98/96,5C-9D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.26**	**106**	P	**Pg**	**09 40 50.5**	**0.0**
	baz=104						
TIR				S	**Sb**	**09 40 55.2**	**-0.5**
	baz=104						
TIR				AMP			
	comp=E,33nm,0.1s,baz=104						
TIR	**Tirane**	**0.26**	**106**	*e*Pg	**Pg**	**09 40 50.6**	**+0.1**
TIR				*e*Sg	**Sb**	**09 40 55.2**	**-0.5**
ULC	**Ulcinj**	**0.58**	**339**	⇓*i*Pg	**Pg**	**09 40 55.7**	**-0.6**
ULC				*i* Sg	**Sg**	**09 41 04.1**	**+0.1**
PUK	**Puka**	**0.68**	**24**	P	**Pg**	**09 40 57.0**	**-1.1**
	baz=27						
PUK				S	**Sb**	**09 41 07.4**	**-0.3**
	baz=27						
PUK				AMP			
	comp=E,1.6nm,0.4s,baz=27						
DRME	**Dracevica, Mon**	**0.81**	**341**	*e*Pg	**Pb**	**09 41 00.9**	**+0.3**
DRME				*e*Sg	**Sn**	**09 41 14.4**	**+0.9**
DRME	**Dracevica, Mon**	**0.81**	**341**	*e*Pg	**Pg**	**09 41 00.1**	**-0.4**
DRME				*e*Sg	**Sg**	**09 41 10.2**	**-0.9**
DRME	**Dracevica, Mon**	**0.81**	**341**	⇓*i*Pg	**Pg**	**09 41 00.3**	**-0.2**
DRME				*i* Sg	**Sb**	**09 41 12.2**	**+0.9**
VLO	**Vlora**	**0.95**	**182**	P	**Pb**	**09 41 00.6**	**-2.5**
	baz=178						
VLO				S	**Sn**	**09 41 17.0**	**-0.1**
	baz=178						
BUM	**Brajici-Budva**	**1.00**	**332**	⇑*i*Pg	**Pn**	**09 41 04.6**	**+0.1**
BUM				*i* Sg	**Sn**	**09 41 18.7**	**+0.4**
OHR	**Ohrid**	**1.01**	**108**	*i* Pg	**Pb**	**09 41 03.4**	**-0.6**
BCI	**Bajram Curri**	**1.02**	**23**	P	**Pb**	**09 41 03.0**	**-1.4**
	baz=25						
BCI				S	**Sn**	**09 41 18.5**	**-0.5**
	baz=25						
BCI				AMP			
	comp=E,0.8nm,0.5s,baz=25						
PDG	**Podgorica**	**1.03**	**349**	*e*Pg	**Pn**	**09 41 04.8**	**0.0**
PDG				*e*Sg	**Sn**	**09 41 20.0**	**+1.1**
PDG	**Podgorica**	**1.03**	**349**	*e*Pg	**Pb**	**09 41 04.3**	**-0.1**
PDG				*e*Sg	**Sb**	**09 41 17.4**	**-0.3**
PDG	**Podgorica**	**1.03**	**349**	⇓*i*Pg	**Pb**	**09 41 00.9**	**-3.5**
PDG				*i* Sg	**Sn**	**09 41 19.4**	**+0.5**
CEME	**Cevo**	**1.21**	**338**	⇑*i*Pg	**Pb**	**09 41 07.8**	**+0.2**
CEME				*i* Sg	**Sg**	**09 41 25.5**	**+1.5**
PVY	**Plav**	**1.21**	**15**	*e*Pg	**Pn**	**09 41 07.3**	**-0.2**
PVY	**Plav**	**1.21**	**15**	⇑*i*Pg	**Pn**	**09 41 07.2**	**-0.2**
PVY				*i* Sg	**Sg**	**09 41 24.4**	**+0.3**
HCY	**Herceg Novi**	**1.28**	**323**	*e*Pg	**Pb**	**09 41 08.9**	**+0.2**
HCY				*e*Sg	**Sn**	**09 41 25.3**	**0.0**
HCY	**Herceg Novi**	**1.28**	**323**	⇓*i*Pg	**Pb**	**09 41 08.8**	**+0.1**
HCY				*i* Sg	**Sg**	**09 41 27.7**	**+1.4**
NKME	**Niksic**	**1.41**	**342**	⇓*i*Pg	**Pb**	**09 41 10.8**	**-0.1**
NKME				*i* Sg	**Sg**	**09 41 31.4**	**+1.1**
KOME	**Kolasin**	**1.43**	**360**	*e*Pg	**Pb**	**09 41 11.5**	**+0.2**
KOME				*e*Sg	**Sg**	**09 41 32.2**	**+1.3**
KOME	**Kolasin**	**1.43**	**360**	⇑*i*Pg	**Pb**	**09 41 11.4**	**+0.2**
KOME				*i* Sg	**Sg**	**09 41 32.2**	**+1.3**
BEY	**Berane**	**1.47**	**10**	*e*Pg	**Pb**	**09 41 11.6**	**-0.4**
IVA	**Berane**	**1.47**	**10**	⇓*i*Pg	**Pb**	**09 41 11.6**	**-0.4**
IVA				*i* Sg	**Sg**	**09 41 33.2**	**+0.8**
FNA	**Florina**	**1.54**	**114**	P	**Pb**	**09 41 13.4**	**+0.3**
	baz=113						
FNA				S	**Sg**	**09 41 34.6**	**+0.3**
	baz=113						
TREB	**Trebinje**	**1.56**	**326**	*e*Pg	**Pb**	**09 41 13.0**	**-0.5**
TREB				*e*Sg	**Sb**	**09 41 33.8**	**+0.7**
DBRK	**Dubrovnik**	**1.62**	**321**	Sn	**Sb**	**09 41 34.6**	**0.0**
DBRK	**Dubrovnik**	**1.62**	**321**	*e*Pn	**Pb**	**09 41 14.6**	**+0.2**
BRY	**Bratogost**	**1.65**	**334**	⇓*i*Pn	**Pb**	**09 41 15.0**	**-0.1**
BRY				*e*Sn	**Sb**	**09 41 36.3**	**+0.5**
BRY	**Bratogost**	**1.65**	**334**	⇑*i*Pn	**Pb**	**09 41 15.0**	**-0.1**
BRY				*i* Sn	**Sg**	**09 41 38.7**	**+0.6**
UPM	**Unac-Piva**	**1.84**	**346**	*e*Pn	**Pb**	**09 41 18.0**	**-0.3**
UPM				*e*Sn	**Sb**	**09 41 41.1**	**-0.1**
UPM	**Unac-Piva**	**1.84**	**346**	⇓*i*Pn	**Pb**	**09 41 18.0**	**-0.3**
UPM				*i* Sn	**Sg**	**09 41 42.6**	**-1.4**
SJES	**Sjenica**	**1.87**	**10**	*e*Pn	**Pb**	**09 41 18.8**	**0.0**
SJES				*e*Sg	**Sb**	**09 41 42.1**	**+0.1**
SJES	**Sjenica**	**1.87**	**10**	*e*Pn	**Pb**	**09 41 18.5**	**-0.3**
SJES				*e*Sn	**Sb**	**09 41 42.2**	**+0.2**
PLE	**Pljevlja**	**1.91**	**357**	⇓*i*Pn	**Pb**	**09 41 18.8**	**-0.7**
PLE				*i* Sn	**Sg**	**09 41 44.6**	**-1.7**
NOCI	**Noci**	**1.97**	**252**	P	**Pn**	**09 41 17.9**	**+0.1**
	baz=252						
NOCI				S	**Sn**	**09 41 43.4**	**+1.2**
	baz=252						
IGT	**Igoumenitsa**	**1.98**	**162**	P	**Pn**	**09 41 19.3**	**+1.3**
	baz=160						
IGT				S	**Sb**	**09 41 45.7**	**+0.4**
	baz=160						
STON	**Ston**	**1.99**	**317**	*e*Pn	**Pn**	**09 41 19.4**	**+1.4**
STON	**Ston**	**1.99**	**317**	*e*Pn	**Pb**	**09 41 19.5**	**-1.2**
STON				*e*Sn	**Sn**	**09 41 43.2**	**+0.6**
STIP	**Stip**	**2.01**	**81**	*i* Pn	**Pb**	**09 41 22.0**	**+0.8**
PRVS	**Prvonek**	**2.19**	**59**	*e*Pn	**Pn**	**09 41 21.2**	**+0.4**
RUDO	**Rudo**	**2.20**	**357**	*e*Pn	**Pb**	**09 41 23.7**	**-0.6**
RUDO				*e*Sn	**Sb**	**09 41 49.5**	**-1.9**
BARS	**Barje**	**2.20**	**50**	*e*Pn	**Pn**	**09 41 21.8**	**+0.9**
IVAS	**Ivanjica**	**2.20**	**12**	*e*Pn	**Pn**	**09 41 21.6**	**+0.6**
IVAS				*e*Sn	**Sn**	**09 41 46.3**	**-1.7**
BBLS	**Lazi&#263i**	**2.44**	**358**	*e*Pn	**Pb**	**09 41 26.8**	**-1.8**
BBLS	**Lazi&#263i**	**2.44**	**358**	*e*Pn	**Pn**	**09 41 26.2**	**+1.9**
BBLS				*e*Sn	**Sn**	**09 41 55.8**	**+1.8**
GRUS	**Gruza**	**2.62**	**19**	*e*Pn	**Pn**	**09 41 27.4**	**+0.8**
MAKA	**Makarska**	**2.63**	**316**	*e*Pn	**Pn**	**09 41 27.1**	**+0.2**
HAPS	**Han Pijesak,BI**	**2.70**	**351**	*e*Sn	**Sn**	**09 42 02.2**	**+1.9**
RICI	**Ricice**	**2.73**	**320**	*e*Pn	**Pn**	**09 41 28.4**	**+0.3**
ZAGS	**Zajecar**	**3.11**	**39**	*e*Pn	**Pn**	**09 41 33.8**	**+0.4**
KUBS	**Kucevo**	**3.38**	**27**	*e*Pn	**Pn**	**09 41 36.1**	**-1.0**
KIJV	**Kijevo**	**3.46**	**319**	*e*Pn	**Pn**	**09 41 38.8**	**+0.6**
MORI	**Morici**	**3.73**	**312**	Sn	**Sn**	**09 42 22.3**	**-3.3**
MORI	**Morici**	**3.73**	**312**	*e*Pn	**Pn**	**09 41 42.6**	**+0.7**
A050A	**Klekovaca**	**3.77**	**325**	*e*Pn	**Pn**	**09 41 43.4**	**+0.9**
A050A				*e*Sn	**Sn**	**09 42 26.8**	**+0.1**
DUGI	**Dugi Otok**	**4.18**	**309**	*e*Pn	**Pn**	**09 41 48.2**	**+0.2**
VIRC	**Vir**	**4.36**	**313**	*e*Pn	**Pn**	**09 41 51.1**	**+0.5**
NVLJ	**Novalja**	**4.64**	**314**	*e*Pn	**Pn**	**09 41 54.5**	**+0.1**

*TIR **04** 09:46:11.4,41°.49N×19°.50E,h12km±1km,Ml2.6*
*PDG **04** 09:46:13.5±0.2,41°.49N×19°.60E,h11km,ML2.6/12,Error ellipse: s-maj=0.7km s-min=1.3km az=0.0*
*BEO **04** 09:46:14.4±0.6,41°.44N×19°.66E,h12km±2km,ML2.3/6*

ISC 04 09:46:13.6±1.0,41°.49N±0°.02×19°.60E±0°.03,h11km±8km, n32,σ0°96/58,8C-5D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.24**	**124**	P	**Pg**	**09 46 18.1**	**-0.6**
	baz=116						
TIR				S	**Sg**	**09 46 22.9**	**+0.8**
	baz=116						
TIR				AMP			
	comp=E,10.0nm,0.1s,baz=116						
TIR	**Tirane**	**0.24**	**124**	*e*Pg	**Pg**	**09 46 18.6**	**-0.1**
TIR				*e*Sg	**Sg**	**09 46 23.1**	**+1.0**
ULC	**Ulcinj**	**0.55**	**331**	⇓*i*Pg	**Pg**	**09 46 23.5**	**-0.8**
ULC				*i* Sg	**Sb**	**09 46 33.2**	**+0.1**
PUK	**Puka**	**0.60**	**22**	P	**Pg**	**09 46 24.4**	**-0.9**
	baz=27						
PUK				S	**Sb**	**09 46 33.9**	**-0.9**
	baz=27						
PUK				AMP			
	comp=E,1.4nm,0.4s,baz=27						
DRME	**Dracevica, Mon**	**0.77**	**336**	*e*Pg	**Pb**	**09 46 29.1**	**+0.1**
DRME				*e*Sg	**Sn**	**09 46 41.5**	**-0.4**
DRME	**Dracevica, Mon**	**0.77**	**336**	⇑*i*Pg	**Pg**	**09 46 27.6**	**-0.8**
DRME				*i* Sg	**Sb**	**09 46 40.0**	**+0.6**
BCI	**Bajram Curri**	**0.95**	**22**	P	**Pg**	**09 46 30.1**	**-1.8**
	baz=25						
BCI				S	**Sb**	**09 46 45.0**	**+0.3**
	baz=25						
BCI				AMP			
	comp=E,0.6nm,0.3s,baz=25						
BUM	**Brajici-Budva**	**0.97**	**327**	⇑*i*Pg	**Pg**	**09 46 31.7**	**-0.6**
BUM				*i* Sg	**Sn**	**09 46 47.3**	**+0.2**
PDG	**Podgorica**	**0.98**	**345**	*e*Pg	**Pb**	**09 46 32.6**	**0.0**
PDG				*e*Sg	**Sn**	**09 46 48.3**	**+1.2**
PDG	**Podgorica**	**0.98**	**345**	⇑*i*Pg	**Pg**	**09 46 31.4**	**-1.1**
PDG				*i* Sg	**Sn**	**09 46 47.4**	**+0.3**
PVY	**Plav**	**1.14**	**14**	*e*Pg	**Pg**	**09 46 36.1**	**+0.5**
PVY	**Plav**	**1.14**	**14**	⇓*i*Pg	**Pb**	**09 46 34.3**	**-1.2**
PVY				*i* Sg	**Sn**	**09 46 52.9**	**+1.5**
CEME	**Cevo**	**1.18**	**335**	⇓*i*Pg	**Pb**	**09 46 35.6**	**-0.4**
CEME				*i* Sg	**Sn**	**09 46 53.5**	**+1.4**
HCY	**Herceg Novi**	**1.27**	**320**	⇑*i*Pg	**Pn**	**09 46 36.9**	**-0.4**
HCY				*i* Sg	**Sg**	**09 46 55.1**	**+0.7**
KOME	**Kolasin**	**1.37**	**358**	*e*Pg	**Pg**	**09 46 39.7**	**-0.2**
KOME				*e*Sg	**Sg**	**09 46 59.9**	**+2.3**
KOME	**Kolasin**	**1.37**	**358**	⇑*i*Pg	**Pb**	**09 46 38.8**	**-0.5**
KOME				*i* Sg	**Sg**	**09 47 00.1**	**+2.5**
NKME	**Niksic**	**1.37**	**340**	⇑*i*Pg	**Pn**	**09 46 38.7**	**0.0**
NKME				*i* Sg	**Sg**	**09 46 59.1**	**+1.4**
BEY	**Berane**	**1.40**	**9**	*e*Pg	**Pn**	**09 46 38.9**	**-0.4**
IVA	**Berane**	**1.40**	**9**	⇓*i*Pg	**Pb**	**09 46 39.4**	**-0.5**
IVA				*i* Sg	**Sg**	**09 47 01.5**	**+2.7**
FNA	**Florina**	**1.52**	**117**	P	**Pb**	**09 46 41.7**	**-0.1**
	baz=115						
FNA				S	**Sg**	**09 47 03.2**	**+0.8**
	baz=115						
BRY	**Bratogost**	**1.62**	**331**	⇓*i*Pn	**Pn**	**09 46 42.6**	**+0.3**
BRY				*i* Sn	**Sg**	**09 47 05.7**	**0.0**
SRN	**Sarande**	**1.63**	**169**	P	**Pb**	**09 46 43.3**	**-0.4**
	baz=166						
SRN				S	**Sg**	**09 47 06.3**	**+0.2**
	baz=166						
UPM	**Unac-Piva**	**1.79**	**344**	⇑*i*Pn	**Pb**	**09 46 45.6**	**-1.0**
UPM				*i* Sn	**Sg**	**09 47 10.6**	**-0.7**
SJES

*TIR **04** 09:50:01.7, 41.°45N×19.°47E, h25km±1km, Md2.9, Ml2.8*
*PDG **04** 09:50:03.4±0.4, 41.°42N×19.°59E, h15km, ML2.8/13, Error ellipse: s-maj=0.8km s-min=1.3km az=0.0*
*RHSSO **04** 09:50:04.5±0.8, 41.°40N×19.°45E, h8km±2km, ML2.8/9*
*BEO **04** 09:50:06.4±0.3, 41.°52N×19.°96E, h6km±4km, ML2.4/7*
ISC 04 09:50:04.1±1.0, 41.°43N±0.°02×19.°56E±0.°03, h13km±8km, n60, σ0.°97/101, 11C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.24**	**110**	P	**Pg**	**09 50 09.4**	**+0.2**
	baz=109						
TIR				S	**Sb**	**09 50 14.0**	**-0.5**
	baz=109						
TIR				AMP			
	comp=E,22nm,0.3s,baz=109						
TIR	**Tirane**	**0.24**	**110**	*e*Pg	**Pg**	**09 50 09.5**	**+0.2**
TIR				*e*Sg	**Sb**	**09 50 14.1**	**-0.5**
ULC	**Ulcinj**	**0.58**	**336**	⇑*i*Pg	**Pg**	**09 50 14.5**	**-0.9**
ULC				*i* Sg	**Sb**	**09 50 24.2**	**-0.1**
PUK	**Puka**	**0.66**	**22**	P	**Pg**	**09 50 15.5**	**-1.4**
	baz=28						
PUK				S	**Sg**	**09 50 24.4**	**-1.2**
	baz=28						
PUK				AMP			
	comp=E,2.2nm,0.4s,baz=28						
DRME	**Dracevica, Mon**	**0.80**	**340**	*e*Pg	**Pn**	**09 50 21.1**	**0.0**
DRME				*e*Sg	**Sn**	**09 50 35.8**	**+2.9**
DRME	**Dracevica, Mon**	**0.80**	**340**	*e*Pg	**Pg**	**09 50 18.9**	**-0.7**
DRME				*e*Sg	**Sb**	**09 50 30.9**	**+0.2**
DRME	**Dracevica, Mon**	**0.80**	**340**	⇓*i*Pg	**Pg**	**09 50 19.0**	**-0.7**
DRME				*i* Sg	**Sn**	**09 50 32.1**	**-0.8**
VLO	**Vlora**	**0.96**	**183**	P	**Pb**	**09 50 21.8**	**-0.8**
	baz=178						
VLO				S	**Sb**	**09 50 34.9**	**-0.3**
	baz=178						
OHR	**Ohrid**	**0.99**	**109**	*i* Pg	**Pb**	**09 50 22.2**	**-0.9**
OHR				*i* Sg	**Sn**	**09 50 37.4**	**-0.1**
BUM	**Brajici-Budva**	**1.00**	**330**	⇑*i*Pg	**Pb**	**09 50 22.8**	**-0.5**
BUM				*i* Sg	**Sn**	**09 50 38.6**	**+0.7**
BCI	**Bajram Curri**	**1.01**	**22**	P	**Pb**	**09 50 21.1**	**-2.2**
	baz=25						
BCI				S	**Sb**	**09 50 36.2**	**-0.3**
	baz=25						
BCI				AMP			
	comp=N,1.1nm,0.5s,baz=25						
PDG	**Podgorica**	**1.02**	**347**	*e*Pg	**Pn**	**09 50 24.6**	**+0.5**
PDG				*e*Sg	**Sn**	**09 50 40.3**	**+2.0**
PDG	**Podgorica**	**1.02**	**347**	*e*Pg	**Pb**	**09 50 23.4**	**-0.2**
PDG				*e*Sg	**Sg**	**09 50 37.4**	**+0.3**
PDG	**Podgorica**	**1.02**	**347**	⇑*i*Pg	**Pb**	**09 50 23.0**	**-0.6**
PDG				*i* Sg	**Sn**	**09 50 38.9**	**+0.6**
PVY	**Plav**	**1.20**	**14**	*e*Pg	**Pn**	**09 50 25.8**	**-0.8**
PVY	**Plav**	**1.20**	**14**	⇑*i*Pg	**Pn**	**09 50 24.9**	**-1.7**
PVY				*i* Sg	**Sn**	**09 50 44.5**	**+1.7**
CEME	**Cevo**	**1.21**	**337**	⇓*i*Pg	**Pn**	**09 50 26.6**	**-0.2**
CEME				*i* Sg	**Sg**	**09 50 45.4**	**+2.2**
KBN	**Korca**	**1.23**	**131**	S	**Sg**	**09 50 44.2**	**+0.5**
	baz=129						
KBN				AMP			
	comp=N,0.6nm,0.6s,baz=129						
HCY	**Herceg Novi**	**1.29**	**322**	*e*Pg	**Pn**	**09 50 27.3**	**-0.5**
HCY				*e*Sg	**Sn**	**09 50 45.1**	**+0.2**
HCY	**Herceg Novi**	**1.29**	**322**	⇓*i*Pg	**Pb**	**09 50 28.4**	**+0.2**
HCY				*i* Sg	**Sg**	**09 50 46.9**	**+1.3**
NKME	**Niksic**	**1.41**	**341**	⇓*i*Pg	**Pn**	**09 50 29.4**	**0.0**
NKME				*i* Sg	**Sg**	**09 50 50.2**	**+0.8**
KOME	**Kolasin**	**1.42**	**359**	*e*Pg	**Pg**	**09 50 31.0**	**-0.3**
KOME				*e*Sg	**Sg**	**09 50 50.0**	**+0.3**
KOME	**Kolasin**	**1.42**	**359**	⇑*i*Pg	**Pb**	**09 50 30.4**	**0.0**
KOME				*i* Sg	**Sg**	**09 50 50.7**	**+1.0**
BEY	**Berane**	**1.46**	**10**	*e*Pg	**Pb**	**09 50 30.9**	**-0.2**
IVA	**Berane**	**1.46**	**10**	⇑*i*Pg	**Pn**	**09 50 30.4**	**+0.2**
IVA				*i* Sg	**Sg**	**09 50 52.6**	**+1.5**
LSK	**Leskovik**	**1.50**	**148**	P	**Pb**	**09 50 31.6**	**-0.2**
	baz=146						
LSK				S	**Sg**	**09 50 53.0**	**+0.5**
	baz=146						
LSK				AMP			
	comp=N,0.6nm,1.1s,baz=146						
FNA	**Florina**	**1.52**	**115**	P	**Pb**	**09 50 32.2**	**+0.1**
	baz=114						
FNA				S	**Sg**	**09 50 53.3**	**+0.3**
	baz=114						
FNA				AMP			
	comp=E,0.3nm,0.5s,baz=114						
TREB	**Trebinje**	**1.57**	**325**	⇑*i*Pn	**Pn**	**09 50 32.2**	**+0.6**
TREB				*e*Sn	**Sb**	**09 50 52.9**	**+0.2**
SRN	**Sarande**	**1.59**	**168**	P	**Pn**	**09 50 32.7**	**+0.9**
	baz=165						
SRN				S	**Sg**	**09 50 54.5**	**-0.6**
	baz=165						
SRN				AMP			
	comp=N,0.2nm,0.4s,baz=165						
DBRK	**Dubrovnik**	**1.62**	**320**	*e*Pn	**Pn**	**09 50 32.8**	**+0.5**
BRY	**Bratogost**	**1.65**	**333**	*e*Pn	**Pb**	**09 50 33.9**	**-0.5**
BRY				*e*Sn	**Sb**	**09 50 55.2**	**0.0**
BRY	**Bratogost**	**1.65**	**333**	⇑*i*Pn	**Pn**	**09 50 33.6**	**+0.7**
BRY				*i* Sn	**Sg**	**09 50 56.7**	**-0.6**
UPM	**Unac-Piva**	**1.83**	**345**	*e*Pn	**Pb**	**09 50 36.8**	**-0.8**
UPM				*e*Sn	**Sb**	**09 50 59.7**	**-0.8**
UPM	**Unac-Piva**	**1.83**	**345**	⇓*i*Pn	**Pn**	**09 50 36.0**	**+0.6**
UPM				*i* Sn	**Sb**	**09 51 01.0**	**+0.5**
SJES	**Sjenica**	**1.85**	**9**	*e*Pn	**Pb**	**09 50 37.8**	**0.0**
SJES				*e*Sg	**Sb**	**09 51 01.5**	**+0.5**
SJES	**Sjenica**	**1.85**	**9**	⇑*i*Pn	**Pb**	**09 50 36.9**	**-0.9**
SJES				*e*Sn	**Sb**	**09 51 01.7**	**+0.7**
PLE	**Pljevlja**	**1.90**	**356**	⇑*i*Pn	**Pb**	**09 50 37.5**	**-1.1**
PLE				*i* Sn	**Sb**	**09 51 02.2**	**-0.1**
IGT	**Igoumenitsa**	**1.99**	**163**	P	**Pn**	**09 50 38.1**	**+0.7**
	baz=160						
IGT				S	**Sb**	**09 51 04.6**	**-0.1**
	baz=160						
IGT				AMP			
	comp=E,0.3nm,0.6s,baz=160						
STIP	**Stip**	**1.99**	**82**	*i* Pn	**Pb**	**09 50 39.9**	**-0.1**
NOCI	**Noci**	**1.99**	**252**	P	**Pn**	**09 50 36.1**	**-1.3**
	baz=251						
STON	**Ston**	**2.00**	**317**	*e*Pn	**Pn**	**09 50 37.8**	**+0.4**
STON	**Ston**	**2.00**	**317**	*e*Pn	**Pn**	**09 50 37.9**	**+0.4**
STON				*e*Sn	**Sn**	**09 51 02.6**	**+0.4**
PRVS	**Prvonek**	**2.16**	**59**	*e*Pn	**Pn**	**09 50 40.1**	**+0.3**
BARS	**Barje**	**2.17**	**50**	*e*Pn	**Pn**	**09 50 40.5**	**+0.6**
IVAS	**Ivanjica**	**2.19**	**11**	*e*Pn	**Pn**	**09 50 40.5**	**+0.3**
IVAS				*e*Sn	**Sn**	**09 51 08.4**	**+1.3**
RUDO	**Rudo**	**2.19**	**356**	⇑*i*Pn	**Pn**	**09 50 41.4**	**+1.3**
RUDO				*e*Sn	**Sb**	**09 51 08.9**	**-1.6**
GRUS	**Gruza**	**2.60**	**19**	*e*Pn	**Pn**	**09 50 47.5**	**+1.8**
MAKA	**Makarska**	**2.64**	**315**	*e*Pn	**Pn**	**09 50 46.3**	**0.0**
HAPS	**Han Pijesak,BI**	**2.69**	**351**	*e*Pn	**Pn**	**09 50 47.7**	**+0.6**
HAPS				*e*Sn	**Sn**	**09 51 21.1**	**+1.5**
RICI	**Ricice**	**2.73**	**320**	*e*Pn	**Pn**	**09 50 47.9**	**+0.2**
LKD2	**Lefkada island**	**2.77**	**162**	P	**Pn**	**09 50 48.9**	**+0.7**
	baz=160						
ZAGS	**Zajecar**	**3.09**	**39**	*e*Pn	**Pn**	**09 50 53.0**	**+0.5**
TEKS	**Tekeris**	**3.12**	**360**	*e*Pn	**Pn**	**09 50 54.9**	**+2.0**
TEKS				*e*Sn	**Sn**	**09 51 31.9**	**+2.0**
KUBS	**Kucevo**	**3.36**	**27**	*e*Pn	**Pn**	**09 50 55.0**	**-1.2**
KUBS				*e*Sn	**Sn**	**09 51 32.8**	**-3.1**
KIJV	**Kijevo**	**3.47**	**319**	*e*Pn	**Pn**	**09 50 58.2**	**+0.5**
ZIRJ	**Zirje**	**3.65**	**309**	*e*Pn	**Pn**	**09 51 00.3**	**+0.2**
A050A	**Klekovaca**	**3.77**	**325**	*e*Pn	**Pn**	**09 51 02.5**	**+0.5**
A050A				*e*Sn	**Sn**	**09 51 46.2**	**0.0**
DUGI	**Dugi Otok**	**4.19**	**309**	Sn	**Sn**	**09 51 55.1**	**-1.3**
DUGI	**Dugi Otok**	**4.19**	**309**	*e*Pn	**Pn**	**09 51 07.9**	**+0.3**
VIRC	**Vir**	**4.38**	**312**	*e*Pn	**Pn**	**09 51 10.2**	**+0.1**

*IDC **04** 09:52:17.0±0.5, 20.°37S×173.°77W, h0km, mb4.6/19, mbtmp4.6/21, ML4.5/2, MS4.7/50, Error ellipse: s-maj=20.1km s-min=14.3km az=117.0*
*MOS **04** 09:52:17.2±0.9, 20.°43S×173.°71W, h12km, mb5.2/24, Error ellipse: s-maj=10.6km s-min=9.5km az=49.5*
*NEIC **04** 09:52:18.0±1.8, 20.°40S±0.°08×173.°47W±0.°08, h10km±1km, mb5.0/247, Error ellipse: s-maj=13.3km s-min=12.1km az=173.0*
*GCMT **04** 09:52:22.0±0.1, 20.°52S±0.°01×173.°14W±0.°01, h13km, MW5.1/129, Moment Tensor Solution. s69,c95; s129,c208; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}5.29±.16; $M_{\theta\theta}$-1.14±.11; $M_{\phi\phi}$-4.15±.11; $M_{r\theta}$0.68±.27;*

$M_{\theta\phi}$-2.55±.07; $M_{\phi r}$1.64±.24; Best double couple: $M_0$5.73100×10^16^ NP1:φ=27.00000°, δ54.00000°, λ87.00000°. NP2:φ=212.00000°, δ36.00000°, λ94.00000°. Principal axes: T 5.5770, Plg81.0000°, Azm285.0000°; N 0.3070, Plg2.0000°, Azm29.0000°; P -5.8840, Plg9.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*BJI **04** 09:52:29.2±0.0, 20.°39S×173.°61W, h101km, mb5.0/30, mB5.6/12*
ISC 04 09:52:18.4±0.3, 20.°44S±0.°06×173.°70W±0.°06, h10km, n738, σ1.°50/611, mb5.0/162, MS4.8/53, 27C-21D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.80**	**70**	Pn	Pn	09 53 08.3	-8.9
MSVF	**Nonsavu**	**8.25**	**288**	Pn	**Pn**	**09 54 19.6**	**+1.3**
MSVF	**Nonsavu**	**8.25**	**288**	P	**Pn**	**09 54 19.6**	**+1.3**
RAO	**Raoul Island**	**9.57**	**203**	Sn	**Sn**	**09 56 20.0**	**-4.0**
	30nm,0.3s,baz=77,slow=23,SNR=8.5						
RAR	**Rarotonga**	**13.05**	**96**		Pn	09 55 16.2	-7.7
RAR	**Rarotonga**	**13.05**	**96**	Pn	Pn	09 55 14.9	-9.0
	4.2nm,0.3s,baz=251,slow=8.3,SNR=17						
RAR				Sn	Sn	09 57 26.0	-23
	1.5nm,0.3s,baz=149,slow=20,SNR=1.7						
RAR				LR	LR	10 00 09.2	
	comp=Z,2μm,18.8s,baz=252,slow=36						
PINNC	**Pines Island,**	**17.67**	**260**		**Pn**	**09 56 27.1**	**+2.3**
PINNC				IAmb	IAmb	09 56 33.5	
	comp=Z,244nm,1.7s						
OUENC	**Ouen Island, N**	**18.22**	**260**		**P**	**09 56 32.9**	**+1.1**
OUENC				IAmb	IAmb	09 56 36.5	
	comp=Z,193nm,1.4s						
MXZ	**Matakaoa Point**	**18.43**	**200**	P	**P**	**09 56 33.3**	**-0.7**
DZM	**Mont Dzumac**	**18.58**	**261**	*e*P	**P**	**09 56 36.7**	**+0.9**
	comp=Z,227nm,1.6s						
DZM				*e*S	**Sn**	**09 59 59.3**	**-4.7**
	comp=Z,864nm,22.9s						
DZM				*e*LR	LR	10 00 55.7	
	comp=Z,3μm,22.8s						
DZM	**Mont Dzumac**	**18.58**	**261**	P	**P**	**09 56 37.6**	**+1.8**
DZM				IAmb	IAmb	09 56 42.6	
	comp=Z,123nm,1.3s						
DZM	**Mont Dzumac**	**18.58**	**261**	P	**P**	**09 56 36.7**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=95,slow=13,SNR=8.8						
DZM				LR	LR	10 02 57.6	
	comp=Z,3μm,18.7s,baz=98,slow=35						
	comp=Z,29nm,0.9s						
MKAZ	**Moumakai**	**19.24**	**208**	P	**Pn**	**09 56 45.6**	**+1.8**
MWZ	**Matawai**	**19.38**	**201**	P	**Pn**	**09 56 48.6**	**+3.0**
URZ	**Urewera**	**19.46**	**202**	P	**P**	**09 56 46.2**	**+0.9**
	comp=Z,2.3nm,0.3s,baz=82,slow=3.1,SNR=15						
URZ				S	S	10 00 12.0	-13
	comp=Z,12nm,0.8s,baz=84,slow=16,SNR=3.7						
	comp=Z,43nm,0.9s						
URZ	**Urewera**	**19.46**	**202**	P	**Pn**	**09 56 47.7**	**+1.2**
RAGZ	**Rawiri**	**19.57**	**201**	P	**Pn**	**09 56 50.4**	**+2.5**
SNGZ	**Shannon Statio**	**19.85**	**201**	P	**Pn**	**09 56 56.6**	**+5.4**
RAHZ	**Arahi**	**20.06**	**201**	P	Pn	09 56 54.3	+0.7
MTHZ	**Maungataniwha**	**20.09**	**202**	P	Pn	09 56 54.5	+0.5
BKZ	**Black Stump Fm**	**20.49**	**202**	P	**P**	**09 56 57.6**	**+1.1**
HIZ	**Hauiti**	**20.55**	**206**	P	Pn	09 57 01.5	+2.1
KWHZ	**Kaweka Forest**	**20.74**	**202**	P	Pn	09 57 03.3	+1.6
OTVZ	**Oturere**	**20.79**	**204**	P	**P**	**09 57 00.8**	**+0.9**
SNVZ	**South Ngauruho**	**20.82**	**204**	P	**P**	**09 57 01.4**	**+1.1**
BHHZ	**Black Hill Sta**	**20.93**	**203**	P	P	09 57 09.7	+8.3
KRHZ	**Kereru**	**20.95**	**202**	P	**P**	**09 57 02.8**	**+1.2**
WNVZ	**Wahianoa**	**20.96**	**204**	P	**P**	**09 57 03.8**	**+2.0**
PKVZ	**Pokaka**	**21.02**	**204**	P	**P**	**09 57 03.2**	**+0.8**
VRZ	**Vera Road**	**21.11**	**206**	P	**P**	**09 57 05.7**	**+2.5**
WPHZ	**Waipukurau**	**21.31**	**201**	P	**P**	**09 57 09.6**	**+4.3**
TSZ	**Takapari Road**	**21.47**	**202**	P	**P**	**09 57 12.1**	**+5.0**
ANWZ	**Angora Road**	**21.65**	**201**	P	**P**	**09 57 14.3**	**+5.3**
BFZ	**Birch Farm**	**21.93**	**201**	P	**P**	**09 57 13.8**	**+1.8**
MRZ	**Mangatainoka R**	**22.14**	**202**	P	**P**	**09 57 14.6**	**+0.4**
HOWZ	**Holdsworth Sta**	**22.37**	**202**	P	**P**	**09 57 17.5**	**+0.7**
OGWZ	**Otaki Gorge**	**22.42**	**203**	P	**P**	**09 57 18.2**	**+1.0**
MTW	**Mount Morrison**	**22.60**	**202**	P	**P**	**09 57 20.5**	**+1.3**
TBI	**Tubuai**	**22.67**	**102**	*e*P	**P**	**09 57 22.8**	**+2.7**
	comp=Z,812nm,26.2s						
TBI				*e*S	**S**	**10 01 23.5**	**-5.0**
	comp=Z,6μm,30.5s						
TBI				*e*LR	LR	10 02 35.5	
	comp=Z,7μm,22.0s						
TBI				*e*LR	LR	10 02 52.5	
	comp=Z,2μm,23.0s						
MSWZ	**Moikau Station**	**22.92**	**202**	P	**P**	**09 57 23.4**	**+0.8**
PPT2	**Papeete2**	**22.98**	**87**	*e*P	**P**	**09 57 21.9**	**-1.6**
	comp=Z,243nm,25.2s						
PPT2				*e*S	**S**	**10 01 32.5**	**-1.6**
	comp=Z,3μm,27.0s						
PPT2				*e*LR	LR	10 02 53.7	
	comp=Z,2μm,23.0s						
PPT2				*e*LR	LR	10 02 58.7	
	comp=Z,2μm,21.8s						
PPT	**Papeete**	**22.98**	**87**	LR	LR	10 04 34.5	
	comp=Z,2μm,18.9s,baz=257,slow=32						
PLWZ	**Palliser**	**23.05**	**202**	P	**P**	**09 57 24.8**	**+0.8**
TUWZ	**Tuamarina**	**23.41**	**204**	P	**P**	**09 57 26.7**	**-0.8**
NNZ	**Nelson**	**23.44**	**205**	P	**P**	**09 57 27.6**	**-0.3**
TKNZ	**Takaka Hill**	**23.46**	**206**	P	**P**	**09 57 34.4**	**+6.3**
QRZ	**Quartz Range**	**23.47**	**207**	P	**P**	**09 57 32.5**	**+4.3**
MRNZ	**Matariki Terra**	**23.85**	**206**	P	**P**	**09 57 38.0**	**+6.1**
THZ	**Tophouse**	**24.09**	**205**	P	**P**	**09 57 32.9**	**-1.4**
THZ	**Tophouse**	**24.09**	**205**	P	**P**	**09 57 37.2**	**+2.9**
KHZ	**Kahutara**	**24.41**	**203**	P	**P**	**09 57 38.8**	**+1.7**
DSZ	**Denniston Nort**	**24.53**	**207**	P	**P**	**09 57 44.1**	**+5.8**
GVZ	**Greta Valley S**	**25.07**	**203**	P	**P**	**09 57 45.9**	**+2.8**
INZ	**Inchbonnie**	**25.49**	**206**	P	**P**	**09 57 52.6**	**+5.7**
MQZ	**McQueen's Vall**	**25.85**	**203**	P	P	09 57 58.2	+8.1
WACZ	**Wakanui South**	**26.36**	**204**	P	P	09 58 03.0	+8.3
HNR	**Honiara**	**27.67**	**289**	LR	LR	10 08 25.0	
	comp=Z,19μm,19.6s,baz=132,slow=35						
ARMA	**Armidale**	**32.74**	**245**	P	**P**	**09 58 51.0**	**-0.7**
EIDS	**Eidsvold**	**32.75**	**255**	P	**P**	**09 58 51.1**	**-0.6**
EIDS				IAmb	IAmb	09 59 10.7	
	comp=Z,28nm,1.5s						
CAN	**Canberra**	**35.92**	**238**	P	**P**	**09 59 19.7**	**+0.6**
CAN				IAmb	IAmb	09 59 20.1	
	comp=Z,20nm,0.8s						
CAN	**Canberra**	**35.92**	**238**	P	**P**	**09 59 19.7**	**+0.6**
CAN				pmax	pmax		
	comp=Z,20nm,0.8s						
CTAO	**Charters Tower**	**37.50**	**263**	P	**P**	**09 59 32.8**	**0.0**
CTAO	**Charters Tower**	**37.50**	**263**	P	**P**	**09 59 32.8**	**0.0**
CTAO				pmax	pmax		
	comp=Z,98nm,2.0s						
TOO	**Toolangi**	**39.21**	**235**	P	**P**	**09 59 47.5**	**+0.5**
TOO				IAmb	IAmb	10 00 15.9	
	comp=Z,69nm,1.6s						
TOO	**Toolangi**	**39.21**	**235**	P	**P**	**09 59 47.5**	**+0.5**
TOO				pmax	pmax		
	comp=Z,69nm,1.7s						
PMG	**Port Moresby**	**39.28**	**280**	P	**P**	**09 59 47.3**	**-0.4**
PMG				IAmb	IAmb	09 59 48.8	
	comp=Z,43nm,1.0s						
PMG	**Port Moresby**	**39.28**	**280**	LR	LR	10 14 03.9	
	comp=Z,895nm,19.3s,baz=148,slow=33						
PMG	**Port Moresby**	**39.28**	**280**	P	**P**	**09 59 47.3**	**-0.4**
PMG				pmax	pmax		
	comp=Z,43nm,1.0s						
TAU	**Tasmania Unive**	**39.55**	**227**	P	**P**	**09 59 50.8**	**+1.2**
TAU	**Tasmania Unive**	**39.55**	**227**	P	**P**	**09 59 50.8**	**+1.2**
TAU				pmax	pmax		
	comp=Z,146nm,1.5s						
STKA	**Stephens Creek**	**41.45**	**245**	P	**P**	**10 00 05.3**	**-0.3**
STKA	**Stephens Creek**	**41.45**	**245**	P	**P**	**10 00 04.8**	**-0.7**
	comp=Z,10nm,0.9s,baz=90,slow=10,SNR=14						
STKA				LR	LR	10 15 43.3	
	comp=Z,1μm,18.9s,baz=66,slow=34						
	comp=Z,10nm,0.9s						
STKA	**Stephens Creek**	**41.45**	**245**	⇓*e*P	**P**	**10 00 05.2**	**-0.3**
COEN	**Coen**	**41.60**	**272**	P	**P**	**10 00 07.1**	**+0.1**
COEN				IAmb	IAmb	10 00 53.6	
	comp=Z,32nm,1.3s						
BBOO	**Buckleboo**	**46.19**	**244**	P	**P**	**10 00 42.8**	**-0.9**
BBOO				IAmb	IAmb	10 00 44.0	
	comp=Z,23nm,1.1s						
WR0	**Warramunga Arr**	**48.41**	**261**	P	**P**	**10 01 00.2**	**-1.0**
AS31	**Alice Springs**	**48.45**	**256**	P	**P**	**10 01 00.9**	**-0.6**
ASAR	**Alice Springs**	**48.45**	**256**	P	**P**	**10 01 00.8**	**-0.7**
ASAR	**Alice Springs**	**48.45**	**256**	P	**P**	**10 01 00.1**	**-1.4**
	comp=Z,15nm,0.9s,baz=87,slow=8.4,SNR=68						
ASAR				PcP	**PcP**	**10 02 28.4**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=103,slow=4.4,SNR=7.5						
ASAR				LR	LR	10 20 48.9	
	comp=Z,1μm,18.8s,baz=106,slow=35						
	comp=Z,15nm,0.9s						
ASAR	**Alice Springs**	**48.45**	**256**	P	**P**	**10 01 00.8**	**-0.7**
WB0	**Warramunga Arr**	**48.58**	**261**	P	**P**	**10 01 01.4**	**-1.1**
WB0				IAmb	IAmb	10 01 16.5	
	comp=Z,16nm,1.1s						
WB2	**Warramunga Arr**	**48.58**	**261**	P	**P**	**10 01 01.8**	**-0.7**
WB2				IAmb	IAmb	10 01 05.3	
	comp=Z,27nm,1.1s						
WRAB	**Tennant Creek**	**48.59**	**261**	⇓*e*P	**P**	**10 01 00.8**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,16nm,1.0s						
WRA	**Warramunga Arr**	**48.59**	**261**	P	**P**	**10 01 01.5**	**-1.1**
WRA	**Warramunga Arr**	**48.59**	**261**	P	**P**	**10 01 01.0**	**-1.6**
	comp=Z,12nm,1.0s,baz=95,slow=7.1,SNR=38						
WRA				PcP	**PcP**	**10 02 28.4**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=96,slow=3.6,SNR=5.6						
WRA				LR	LR	10 20 57.8	
	comp=Z,492nm,19.6s,baz=103,slow=36						
	comp=Z,12nm,1.0s						
WRA	**Warramunga Arr**	**48.59**	**261**	P	**P**	**10 01 01.5**	**-1.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
FORT	**Forrest**	**53.01**	**246**	P	**P**	**10 01 35.2**	**-0.5**
MTN	**Manton Dam**	**53.19**	**269**	P	**P**	**10 01 36.8**	**-0.4**
KNRA	**Kununurra**	**54.68**	**265**	P	**P**	**10 01 47.6**	**-0.5**
FAKI	**Fak Fak**	**55.43**	**281**	P	**P**	**10 01 53.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**57.02**	**261**	P	**P**	**10 02 04.3**	**-0.6**
SBA	**Scott Base**	**58.23**	**185**	P	**P**	**10 02 11.6**	**-0.9**
SBA				IAmb	IAmb	10 02 19.3	
	comp=Z,34nm,1.5s						
SBA	**Scott Base**	**58.23**	**185**	P	**P**	**10 02 11.6**	**-0.9**
SBA				pmax	pmax		
	comp=Z,34nm,1.5s						
VNDA	**Vanda**	**58.36**	**186**	P	**P**	**10 02 13.1**	**-0.4**
VNDA	**Vanda**	**58.36**	**186**	P	**P**	**10 02 15.0**	**+1.6**
	comp=Z,2.0nm,0.8s,baz=9.9,slow=6.2,SNR=10						
VNDA				LR	LR	10 22 40.4	
	comp=Z,364nm,21.2s,baz=352,slow=31						
	comp=Z,2.0nm,0.8s						
RPN	**Rapa Nui**	**58.73**	**110**	LR	LR	10 21 53.8	
	comp=Z,1μm,18.5s,baz=264,slow=30						
SOEI	**Soe**	**60.53**	**270**	P	**P**	**10 02 29.3**	**-0.2**
TNTI	**Ternate**	**61.36**	**283**	P	**P**	**10 02 33.6**	**-1.4**
PSA00	**Pilbara Seismi**	**61.60**	**256**	P	**P**	**10 02 36.1**	**-0.5**
PSA00				IAmb	IAmb	10 02 37.0	
	comp=Z,14nm,1.2s						
MBWA	**Marble Bar**	**61.79**	**256**	P	**P**	**10 02 37.0**	**-0.9**
NWAO	**Narrogin (SRO)**	**61.99**	**243**	P	**P**	**10 02 38.1**	**-0.9**
NWAO	**Narrogin (SRO)**	**61.99**	**243**	LR	LR	10 28 31.9	
	comp=Z,547nm,19.8s,baz=84,slow=35						
NWAO	**Narrogin (SRO)**	**61.99**	**243**	P	**P**	**10 02 38.2**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,213nm,1.8s						
MORW	**Morawa**	**63.57**	**247**	P	**P**	**10 02 49.4**	**-0.3**
JCJ	**Chichijima**	**63.71**	**316**	LR	LR	10 26 23.6	
	comp=Z,485nm,21.2s,baz=112,slow=32						
DAV	**Davao City (W)**	**65.62**	**288**	LR	LR	10 28 26.1	
	comp=Z,303nm,21.6s,baz=78,slow=33						
CASY	**Casey**	**65.75**	**205**	P	**P**	**10 03 03.3**	**+0.1**
KAPI	**Kappang**	**66.30**	**274**	LR	LR	10 31 11.3	
	comp=Z,137nm,21.5s,baz=97,slow=35						
TOLI2	**Tolitoli**	**67.55**	**280**	P	**P**	**10 03 13.6**	**-2.0**
QSPA	**South Pole Qui**	**69.63**	**180**	P	**P**	**10 03 28.5**	**+0.6**
QSPA	**South Pole Qui**	**69.63**	**180**	P	**P**	**10 03 29.1**	**+1.2**
	comp=Z,4.4nm,0.8s,baz=52,slow=2.0,SNR=18						
QSPA				LR	LR	10 32 06.3	
	comp=Z,396nm,18.5s,baz=18,slow=34						
	comp=Z,4.4nm,0.8s						
MYLDM	**Lahad Datu**	**71.23**	**283**	P	**P**	**10 03 39.1**	**+0.8**
MJAR	**Matsushiro Arr**	**72.62**	**321**	P	**P**	**10 03 46.3**	**+0.1**
	comp=Z,9.2nm,0.9s,baz=154,slow=5.6,SNR=12						
MJAR				LR	LR	10 31 41.2	
	comp=Z,240nm,20.6s,baz=126,slow=33						
	comp=Z,9.2nm,0.9s						
MAJO

PETK LR LR 10 34 29.1
comp=Z,148nm,20.4s,baz=176,slow=33
comp=Z,6.4nm,0.7s
GSC Goldstone, Bar 77.34 45 IAmb IAmb 10 04 19.7
comp=Z,16nm,1.4s
GSC Goldstone, Bar 77.34 45 P **P 10 04 14.6 +1.0**
baz=234
PMMC Manual Prospec 77.34 44 P **P 10 04 14.1 +0.3**
baz=233,SNR=16
S14K Fog Glacier 77.35 8 P **P 10 04 14.3 +1.1**
baz=194
TPUB Ta-pu 77.37 301 P **P 10 04 13.8 -0.1**
GLA Glamis 77.37 47 P **P 10 04 14.6 +0.8**
baz=235
HEC Hector,Ludlow 77.37 45 P **P 10 04 15.2 +1.4**
baz=234,SNR=9.3
MLAC Mammoth, Mammo 77.44 42 P **P 10 04 15.1 +0.8**
baz=232
TIN Tinemaha, Big 77.47 42 P **P 10 04 15.1 +0.8**
baz=232
CHIR Chirikof Islan 77.49 10 P **P 10 04 15.9 +2.1**
baz=197
CHGN Chignik 77.52 9 P **P 10 04 15.6 +1.6**
baz=195
YSS Yuzh-Sakhalins 77.71 331 *e*P **P 10 04 17.1 +1.8**
YSS *e*S **S 10 14 10.2 +2.8**
YSS pmax pmax
comp=Z,20nm,0.8s
MPK Martis Peak 77.75 40 IAmb IAmb 10 04 19.9
comp=Z,35nm,1.6s
IRM Iron Mountain 77.78 46 P **P 10 04 17.6 +1.5**
baz=235
YBH Yreka Blue Hor 77.78 37 LR LR 10 31 48.1
comp=Z,681nm,20.6s,baz=232,slow=30
GMRC Granite Mounta 77.79 46 P **P 10 04 17.7 +1.4**
baz=234
DSP Deep Springs 77.83 42 IAmb IAmb 10 04 29.7
comp=Z,17nm,1.3s
PNTR Pine Nut 77.88 40 IAmb IAmb 10 04 29.9
comp=Z,22nm,1.2s
GWY Greenwater Val 77.95 44 IAmb IAmb 10 04 37.5
comp=Z,27nm,1.7s
BLYC Blythe 77.97 47 IAmb IAmb 10 04 30.3
comp=Z,17nm,1.2s
GRAC Grapevine Rang 77.98 43 P **P 10 04 15.9 -1.3**
GRAC Grapevine Rang 77.98 43 P **P 10 04 19.2 +2.1**
baz=233,SNR=6.1
FURC Furnace Creek, 77.99 44 P **P 10 04 18.6 +1.5**
baz=233
TUQ Turquoise Moun 78.00 45 P **P 10 04 17.4 +0.1**
baz=234
YERR Yerington 78.03 40 IAmb IAmb 10 04 30.5
comp=Z,41nm,1.8s
SHOC Shoshone, Teco 78.04 44 P **P 10 04 18.8 +1.4**
baz=234
214A Organ Pipe Nat 78.17 49 P **P 10 04 19.6 +1.3**
baz=237
GMN Gold Mountain 78.23 43 IAmb IAmb 10 04 31.8
comp=Z,12nm,1.1s
RYN Ryan 78.25 41 IAmb IAmb 10 04 31.8
comp=Z,13nm,1.2s
NVAR Mina Array Bea 78.26 41 P **P 10 04 17.8 -1.1**
NVAR Mina Array Bea 78.26 41 P **P 10 04 18.9 +0.1**
comp=Z,6.7nm,0.8s,baz=224,slow=8.4,SNR=42
NVAR LR LR 10 34 16.2
comp=Z,676nm,18.5s,baz=239,slow=32
comp=Z,6.7nm,0.8s
WCT Wildcat Mounta 78.34 43 IAmb IAmb 10 04 21.5
comp=Z,32nm,2.0s
NV11 Mina Array Sit 78.36 41 IAmb IAmb 10 04 32.5
comp=Z,18nm,1.0s
PAHR Pah Rah Range 78.40 40 IAmb IAmb 10 04 32.6
comp=Z,18nm,1.3s
NEE2 Needles Airpor 78.48 46 P **P 10 04 21.3 +1.3**
baz=235
PDMCI Parker Dam,Lak 78.55 47 P **P 10 04 21.7 +1.5**
baz=236
TPNV Topopah Spring 78.67 44 P **P 10 04 22.3 +1.2**
baz=234,SNR=8.6
R17L Mt. Peulik Vol 79.11 9 P **P 10 04 24.4 +1.5**
baz=197
OHAK Old Harbor 79.23 11 P **P 10 04 25.4 +1.9**
baz=200
R18K Karluk 79.36 10 P **P 10 04 25.7 +1.6**
baz=198
KSRS Korea Array 79.56 316 P **P 10 04 27.1 +1.3**
comp=Z,6.8nm,1.0s,baz=135,slow=5.5,SNR=16
KSRS LR LR 10 34 53.9
comp=Z,184nm,21.3s,baz=135,slow=32
comp=Z,6.8nm,1.0s
KSAR Wonju Array Be 79.58 316 P **P 10 04 25.8 0.0**
KSAR Wonju Array Be 79.58 316 P **P 10 04 25.8 0.0**
J05D Fort Rock, OR 79.63 36 P **P 10 04 24.0 -2.2**
PMSA Palmer Station 79.72 156 LR LR 10 32 32.8
comp=Z,335nm,19.3s,baz=234,slow=30
Q17K Contact Creek 79.79 9 P **P 10 04 27.5 +0.8**
baz=197
TUC Tucson 79.81 50 P **P 10 04 25.3 -2.1**
TUC Tucson 79.81 50 P **P 10 04 27.6 +0.3**
baz=238
TUC Tucson 79.81 50 P **P 10 04 25.3 -2.1**
TUC pmax pmax
comp=Z,15nm,1.3s
KDAK Kodiak Island 79.89 11 P **P 10 04 28.5 +1.4**
baz=200
KDAK Kodiak Island 79.89 11 LR LR 10 33 53.2
comp=Z,750nm,22.0s,baz=228,slow=31
R11B Troy Canyon, C 79.92 43 P **P 10 04 28.7 +0.7**
baz=234,SNR=7.9
O14K Tigyukauivet M 80.05 6 P **P 10 04 29.3 +1.5**
baz=192
O15K Ungalikthiuk R 80.14 7 P **P 10 04 29.4 +1.1**
baz=193
P16K Nushagak River 80.23 8 P **P 10 04 30.3 +1.5**
baz=195
I05D Terrebonne, OR 80.26 35 IAmb IAmb 10 05 51.2
comp=Z,40nm,1.8s
Q18K Katmai Hardscr 80.30 10 P **P 10 04 30.4 +1.0**
baz=198
WVOR Wild Horse Val 80.55 38 P **P 10 04 31.2 +0.1**
P17K Kvichak River 80.60 9 P **P 10 04 31.7 +0.9**
baz=196
N14K Kuskokwak Cree 80.67 6 P **P 10 04 32.5 +1.4**
baz=191
LCMT Little Creek M 80.67 45 P **P 10 04 30.6 -1.4**
Q20K Shuyak Island 80.70 11 P **P 10 04 32.7 +1.3**
baz=200
O16K Kokwok River B 80.76 8 P **P 10 04 32.5 +0.9**
baz=195
M11K Mekoryuk 80.76 4 P **P 10 04 33.0 +1.4**
baz=187
Q19K Cape Douglas, 80.79 10 P **P 10 04 32.9 +1.0**
baz=199
CCUT Cedar City 80.90 44 P **P 10 04 32.0 -1.2**
KNB Kanab 80.96 45 IAmb IAmb 10 04 47.3
comp=Z,18nm,1.2s
P18K Big Mountain, 80.97 9 P **P 10 04 32.7 -0.2**
P18K IAmb IAmb 10 04 44.9
comp=Z,18nm,1.0s
P18K Big Mountain, 80.97 9 P **P 10 04 34.1 +1.2**
baz=198
HPIG 80.98 57 P **P 10 04 31.0 -2.9**
HPIG IAmb IAmb 10 04 38.4
comp=Z,30nm,2.0s
U15A North Rim 80.98 46 IAmb IAmb 10 04 47.7
comp=Z,20nm,1.1s
M13K Dall Lake 81.00 5 P **P 10 04 34.6 +1.7**
baz=190
O17K Koliganek Bris 81.07 8 P **P 10 04 34.8 +1.5**
baz=196
N15K Kwethluk River 81.08 7 P **P 10 04 34.9 +1.5**
baz=193
SZCU Shurtz Canyon 81.10 44 IAmb IAmb 10 04 48.0
comp=Z,13nm,1.1s
WUAZ Wupatki 81.11 47 IAmb IAmb 10 04 48.0
comp=Z,15nm,1.2s
WUAZ Wupatki 81.11 47 P **P 10 04 34.6 +0.3**
baz=237
USA0B Ussuriysk Arra 81.24 324⇓ *e*P **P 10 04 35.8 +1.2**
USRK Ussuriysk Ar. 81.24 324 P **P 10 04 35.1 +0.5**
comp=Z,3.6nm,0.9s,baz=308,slow=4.1,SNR=1.4
USRK LR LR 10 37 07.7
comp=Z,855nm,19.4s,baz=135,slow=33
comp=Z,3.6nm,0.9s
O18K Koktuh Hills 81.42 9 P **P 10 04 36.7 +1.5**
baz=198
M14K Bethel 81.46 6 P **P 10 04 36.9 +1.6**
baz=191
M15K Kasigluk River 81.53 6 P **P 10 04 36.9 +1.2**
baz=192
N16K Nishlik Lake 81.53 7 P **P 10 04 37.2 +1.4**
baz=194
P19K Oil Pt 81.54 10 P **P 10 04 37.2 +1.3**
baz=199
ELK Elko 81.55 41 P **P 10 04 35.9 -0.8**
LON Longmire 81.61 33 IAmb IAmb 10 05 12.5
comp=Z,21nm,1.9s
N17K Nushagak Hills 81.78 8 P **P 10 04 38.5 +1.4**
baz=196
O19K Port Alsworth 81.88 10 P **P 10 04 39.0 +1.4**
baz=198
MTPU Mount Pierson 81.95 44 IAmb IAmb 10 04 53.3
comp=Z,23nm,1.3s
L14K Kuka Creek 81.97 5 P **P 10 04 40.2 +2.1**
baz=190
W18A Petrified Fore 82.03 48 P **P 10 04 39.4 +0.2**
baz=238
M16K Timber Creek 82.04 7 IAmb IAmb 10 05 08.7
comp=Z,30nm,1.3s
M16K Timber Creek 82.04 7 P **P 10 04 40.3 +1.8**
baz=194
O20K Slope Mountain 82.05 10 P **P 10 04 39.9 +1.3**
baz=200
BRSE Bradley Lake S 82.07 12 P **P 10 04 40.0 +1.3**
baz=202
TCRU Three Creeks R 82.09 44 IAmb IAmb 10 04 53.5
comp=Z,10nm,0.9s
121A Cookes Peak, D 82.10 51 P **P 10 04 40.3 +0.6**
baz=240
N18K Kilae Creek 82.11 9 P **P 10 04 40.0 +1.1**
baz=197
K13K Kusilvak Mount 82.40 4 P **P 10 04 41.9 +1.6**
baz=189
L15K Ungalak Mounta 82.42 6 P **P 10 04 42.0 +1.6**
baz=192
N19K Bonanza Creek 82.44 9 P **P 10 04 42.3 +1.6**
baz=198
BBB Bella Bella 82.50 26 LR LR 10 36 31.6
comp=Z,324nm,18.5s,baz=228,slow=32
E07A Sunnyside 82.50 34 IAmb IAmb 10 04 43.5
comp=Z,10nm,0.9s
HAWA Hanford 82.56 34 IAmb IAmb 10 05 01.9
comp=Z,12nm,1.3s
M17K Holitna River 82.60 8 P **P 10 04 43.2 +1.8**
baz=195
SEW Seward 82.65 12 P **P 10 04 43.4 +1.8**
baz=203
L16K Owhat River 82.65 7 P **P 10 04 43.5 +1.8**
baz=194
H03S2 Juan Fernandez 82.68 123 T T 11 37 25.0
baz=248,slow=75,SNR=5.5
H03S1 Juan Fernandez 82.69 123 T T 11 37 27.6
baz=248,slow=75,SNR=3.8
H03S3 Juan Fernandez 82.70 123 T T 11 37 30.5
baz=248,slow=75,SNR=3.3
DUG Dugway, Tooele 82.74 42 P **P 10 04 43.8 +1.0**
baz=236
MDJ Mudanjiang 82.84 323 P **P 10 04 45.2 +2.2**
MDJ pmax pmax
comp=Z,15nm,1.3s
HMU Henry Mountain 82.84 45 IAmb IAmb 10 04 56.9
comp=Z,18nm,1.2s
M18K Stony River 82.90 9 P **P 10 04 44.5 +1.6**
baz=197
MAW Mawson 82.95 199 P **P 10 04 44.4 +1.1**
comp=Z,3.7nm,0.8s,baz=79,slow=6.0,SNR=5.4
MAW LR LR 10 41 19.4
comp=Z,776nm,18.7s,baz=112,slow=35
comp=Z,3.7nm,0.8s
P23K Montague Islan 82.97 13 P **P 10 04 44.3 +1.0**
baz=205
NJ2 Nanjing 82.98 308 *e*P **P 10 04 45.1 +1.1**
NJ2 pmax pmax
comp=Z,57nm,0.5s
NJ2 pmax pmax
comp=Z,1μm,4.7s
K15K Wolf Creek Mou 83.02 6 P **P 10 04 44.9 +1.4**
baz=192,SNR=6.7
Q16A Castle Valley 83.09 44 IAmb IAmb 10 04 58.1
comp=Z,7.6nm,0.9s
CRAG Craig 83.09 22 P **P 10 04 45.2 +1.2**
baz=218
L17K Donlin 83.20 7 P **P 10 04 46.0 +1.6**
baz=195
J14K Nanvaranak Lak 83.29 5 P **P 10 04 47.3 +2.4**
baz=190
D08A Wollman Farm, 83.31 34 IAmb IAmb 10 04 58.4
comp=Z,11nm,1.0s
VHRN Van Horn 83.33 54 IAmb IAmb 10 04 59.3
comp=Z,11nm,1.1s
MNTX Coudas Mount 83.47 53 P **P 10 04 47.1 +0.5**
baz=241
L18K Granite Mounta 83.48 8 IAmb IAmb 10 05 36.2
comp=Z,18nm,1.6s
L18K Granite Mounta 83.48 8 P **P 10 04 47.9 +2.0**
baz=196
Y22D IRIS PASSCAL I 83.49 50 P **P 10 04 47.4 +0.6**
baz=240
M19K Big River Lodg 83.50 9 P **P 10 04 47.1 +1.1**
baz=198
RC01 Rabbit Creek A 83.51 11 P **P 10 04 47.4 +1.3**
baz=203
V35K Ketchikan 83.52 23 P **P 10 04 47.6 +1.4**
baz=219
KAIM Kayak Island 83.57 14 P **P 10 04 47.7 +1.3**
baz=208
U33K Whale Pass 83.61 22 P **P 10 04 48.0 +1.3**
baz=218
SIT Sitka 83.63 20 P **P 10 04 47.6 +0.9**
baz=216
TX31 Lajitas Ar. Si 83.66 56 IAmb IAmb 10 05 01.1
comp=Z,14nm,1.3s
TXAR Lajitas Array 83.66 56 P **P 10 04 48.6 +0.8**
comp=Z,2.1nm,0.9s,baz=208,slow=6.5,SNR=20
TXAR LR LR 10 35 17.0
comp=Z,352nm,19.6s,baz=234,slow=31
comp=Z,2.1nm,0.9s
M20K Styx River 83.67 10 P **P 10 04 47.6 +0.6**
baz=199
SUA Susitna One 83.67 11 P **P 10 04 48.0 +0.9**
baz=202
L19K White Mountain 83.70 9 P **P 10 04 48.0 +0.9**
baz=198
HLID Hailey 83.70 39 P **P 10 04 46.8 -0.9**
HLID IAmb IAmb 10 04 50.3
comp=Z,10nm,0.9s
HLID Hailey 83.70 39 P **P 10 04 48.1 +0.4**
baz=234,SNR=21
K17K Iditarod 83.77 7 P **P 10 04 48.8 +1.4**
baz=194
EYAK Cordova Ski Ar 83.82 13 P **P 10 04 48.9 +1.2**
baz=206
GLI Glacier Island 83.83 13 P **P 10 04 48.8 +1.0**
baz=205
MVCO Mesa Verde 83.97 47 IAmb IAmb 10 05 02.8
comp=Z,20nm,1.4s
MVCO Mesa Verde 83.97 47 P **P 10 04 49.5 +0.1**
baz=239
SKT Skwentna 84.02 10 P **P 10 04 49.4 +0.7**
baz=201
KNK Knik Glacier 84.05 12 P **P 10 04 49.5 +0.6**
baz=204
J16K Anvik River 84.08 6 IAmb IAmb 10 04 55.9
comp=Z,12nm,1.1s
J16K Anvik River 84.08 6 P **P 10 04 50.2 +1.2**
baz=192
S31K Pelican 84.08 19 P **P 10 04 50.4 +1.4**
baz=215
WRAK Wrangell Islan 84.11 22 P **P 10 04 50.0 +0.7**
baz=218
L20K Farewell, AK 84.12 9 P **P 10 04 50.0 +0.8**
baz=199
ALPN Alpine 84.16 55 IAmb IAmb 10 05 06.0
comp=Z,19nm,1.4s
ANMO Albuquerque 84.26 50 P **P 10 04 49.4 -1.4**
ANMO Albuquerque 84.26 50 P **P 10 04 51.1 +0.3**
baz=240
ANMO Albuquerque 84.26 50 LR LR 10 35 46.7
comp=Z,418nm,19.2s,baz=350,slow=31
ANMO Albuquerque 84.26 50 *d*P **P 10 04 50.7 -0.1**
ANMO pmax pmax
comp=Z,9.0nm,1.3s
GHO Glory Hole Cre 84.29 12 IAmb IAmb 10 04 53.2
comp=Z,7.5nm,0.8s
HWUT Hardware Ranch 84.31 42 IAmb IAmb 10 05 03.6
comp=Z,7.0nm,0.9s
J17K VABM Dome 84.34 7 IAmb IAmb 10 05 04.0
comp=Z,16nm,1.4s
J17K VABM Dome 84.34 7 P **P 10 04 51.5 +1.2**
baz=194
MESA MESA 84.38 15 P **P 10 04 51.8 +1.0**
baz=210
SML Sawmill 84.44 12 P **P 10 04 51.9 +1.0**
baz=204
BMRM Bremner River 84.45 14 P **P 10 04 52.0 +1.1**
baz=207
KLR Kul'dur 84.58 328 P **P 10 04 52.0 +0.2**
comp=Z,2.1nm,1.1s,baz=105,slow=9.8,SNR=3.8
comp=Z,2.1nm,1.1s
KLR Kul'dur 84.58 328⇑ *e*P **P 10 04 51.2 -0.6**
KLR pmax pmax
comp=Z,2.0nm,1.0s
PNL Peninsula 84.60 17 P **P 10 04 53.0 +1.3**
baz=212
CRQE Cirque 84.61 15 P **P 10 04 52.4 +0.5**
baz=209
KLU Klutina 84.64 13 P **P 10 04 53.2 +1.3**
baz=206
SCM Sheep Creek Mo 84.66 12 IAmb IAmb 10 05 05.0
comp=Z,9.9nm,0.9s
SCM Sheep Creek Mo 84.66 12 P **P 10 04 53.1 +1.0**
baz=205
I17K Unalakleet 84.66 6 P **P 10 04 53.8 +1.9**
baz=192
J18K Innoko River 84.68 8 IAmb IAmb 10 05 05.4
comp=Z,8.9nm,1.1s
J18K Innoko River 84.68 8 P **P 10 04 53.1 +1.0**
baz=196
PINM Pinnacle 84.74 16 P **P 10 04 53.7 +1.2**
baz=211
BNX BinXian 84.75 323 ⇓P **P 10 04 53.5 +0.7**
BNX pmax pmax
comp=Z,20nm,1.1s
PPLA Purkeypile 84.78 10 P **P 10 04 53.1 +0.4**
baz=200
MA2 Magadan 84.86 343 P **P 10 04 52.5 -0.4**
comp=Z,3.9nm,0.7s,baz=341,slow=20,SNR=1.9
MA2 LR LR 10 42 59.6
comp=Z,234nm,18.5s,baz=150,slow=36
comp=Z,3.9nm,0.7s
MA2 Magadan 84.86 343⇓ *e*P **P 10 04 52.6 -0.4**
MA2 pmax pmax
comp=Z,5.0nm,1.0s
R32K Eaglecrest 84.87 20 P **P 10 04 53.5 +0.5**
baz=216
K20K Telida 84.93 9 P **P 10 04 54.8 +1.5**
baz=198
VRDI Verde Repeater 84.94 14 IAmb IAmb 10 05 06.9
comp=Z,8.8nm,1.0s
ANM Nome 84.97 4 P **P 10 04 53.9 +0.5**
baz=188
NEW Newport 85.02 34 P **P 10 04 54.9 +0.7**
baz=232
NEW Newport 85.02 34 LR LR 10 38 33.0
comp=Z,1μm,18.5s,baz=226,slow=33
NEW Newport 85.02 34 P **P 10 04 53.0 -1.1**
RDMU Red Mountain 85.02 43 IAmb IAmb 10 05 07.5
comp=Z,15nm,1.2s
N25K Chitina, Valde 85.02 13 IAmb IAmb 10 05 06.6
comp=Z,8.6nm,0.9s
N25K Chitina, Valde 85.02 13 P **P 10 04 54.9 +1.0**
baz=207
P29M Windy Craggy 85.03 17 P **P 10 04 55.0 +1.1**
baz=214
M24K Tolsona, Glenn 85.14 13 P **P 10 04 55.3 +0.9**
baz=206
MCARA McCarthy VSAT 85.18 14 P **P 10 04 55.1 +0.5**
baz=209
CTG Chitna Glacier 85.22 15 P **P 10 04 56.0 +1.0**
baz=210
CTGM Chitina Glacie 85.22 15 IAmb IAmb 10 05 07.7
comp=Z,9.1nm,0.9s
WAT6 Susitna Watana 85.26 12 P **P 10 04 55.7 +0.6**
baz=204
H16K Elim 85.26 5 P **P 10 04 56.1 +1.2**
baz=191
MNHN Monahans 85.28 54 IAmb IAmb 10 05 08.5
comp=Z,9.4nm,1.2s
PLBC Pleasant Camp 85.28 18 P **P 10 04 56.0 +0.9**
baz=215
T35M Bob Quinn 85.28 22 P **P 10 04 56.1 +0.9**
baz=220
CAST Castle Rocks 85.28 10 IAmb IAmb 10 05 22.7
comp=Z,28nm,2.0s
CAST Castle Rocks 85.28 10 P **P 10 04 55.4 +0.3**
baz=200
J19K Poorman 85.33 8 P **P 10 04 54.0 -1.2**
J19K IAmb IAmb 10 05 12.0
comp=Z,18nm,1.5s
J19K Poorman 85.33 8 P **P 10 04 56.0 +0.7**
baz=197
O28M Mount Upton 85.34 16 P **P 10 04 56.7 +0.9**
baz=211
WAT1 Susitna Watana 85.34 11 P **P 10 04 56.8 +1.4**
baz=204
O29M Mount Kennedy 85.36 17 P **P 10 04 54.3 -1.4**
O29M IAmb IAmb 10 05 24.2
comp=Z,14nm,1.3s
O29M Mount Kennedy 85.36 17 P **P 10 04 56.9 +1.2**
baz=213
S22A 4UR Ranch, Cre 85.39 47 P **P 10 04 54.4 -2.2**
S22A IAmb IAmb 10 05 10.3
comp=Z,20nm,1.1s
S22A 4UR Ranch, Cre 85.39 47 P **P 10 04 57.1 +0.6**
baz=240
G15K Niukluk 85.48 4 P **P 10 04 57.6 +1.6**
baz=189
SKAG Skagway 85.58 19 P **P 10 04 54.7 -1.9**
SKAG IAmb IAmb 10 05 12.6
comp=Z,11nm,1.1s
SKAG Skagway 85.58 19 P **P 10 04 58.1 +1.5**
baz=216
HARP HAARP 85.61 13 P **P 10 04 58.5 +1.8**
baz=207
P30M Million Dollar 85.66 17 P **P 10 04 57.7 +0.6**
baz=214
O20A White River Ci 85.66 44 P **P 10 04 55.5 -2.2**
O20A IAmb IAmb 10 05 10.7
comp=Z,17nm,1.4s
O20A White River Ci 85.66 44 P **P 10 04 58.5 +0.8**
baz=239
CHUM Lake Minchumin 85.69 9 P **P 10 04 58.5 +1.5**
baz=200
S34M Telegraph Cree 85.69 21 P **P 10 04 56.6 -0.5**
S34M IAmb IAmb 10 05 10.5
comp=Z,11nm,1.2s
S34M Telegraph Cree 85.69 21 P **P 10 04 58.5 +1.3**
baz=220
J20K Nowinta River 85.70 8 IAmb IAmb 10 05 12.1
comp=Z,11nm,1.0s
J20K Nowinta River 85.70 8 P **P 10 04 58.2 +1.2**
baz=198,SNR=9.2
H17K Granite Mounta 85.76 6 P **P 10 04 57.8 +0.4**
H17K Granite Mounta 85.76 6 P **P 10 04 59.0 +1.6**
baz=193
FXWY Fox Creek 85.77 40 IAmb IAmb 10 05 11.4
comp=Z,17nm,1.5s
DHY Denali Highway 85.78 12 P **P 10 04 59.2 +1.5**
baz=205
RND Reindeer 85.81 11 P **P 10 04 56.9 -0.9**
RND IAmb IAmb 10 05 03.5
comp=Z,14nm,1.0s
RND Reindeer 85.81 11 P **P 10 04 56.9 -0.9**
RND pmax pmax
comp=Z,14nm,1.0s
F14K Arctic Creek 85.83 3 P **P 10 04 59.0 +1.3**
baz=187
SNOW Snow King Moun 85.83 41 IAmb IAmb 10 05 11.7
comp=Z,9.0nm,1.0s
CMIG Matias Romero 85.84 70 LR LR 10 37 17.4
comp=Z,657nm,18.3s,baz=230,slow=31
TNA Tin City 85.84 2 P **P 10 04 59.4 +1.7**
baz=186
MSO Missoula 85.88 36 P **P 10 04 59.4 +0.9**
baz=234
GCSA Galena City Sc 85.90 7 P **P 10 05 00.1 +2.1**
baz=196
YUK6 Outpost Mounta 85.96 16 P **P 10 05 00.2 +1.4**
baz=213
IMW Indian Meadow 85.96 40 IAmb IAmb 10 05 12.4
comp=Z,9.9nm,1.1s
G16K Koyuk River 86.00 5 P **P 10 05 00.2 +1.6**
baz=191
PAX Paxson 86.06 13 P **P 10 05 00.2 +1.2**

baz=206
DRIO Del Rio 86.08 57 IAmb IAmb 10 05 12.4
comp=Z,20nm,1.1s
M26K Nabesna, AK 86.08 14 IAmb IAmb 10 05 30.2
comp=Z,14nm,1.1s
M26K Nabesna, AK 86.08 14 P **P** **10 05 00.5 +1.3**
baz=209
HYT Haines Junctio 86.09 17 P **P** **10 05 00.6 +1.3**
baz=214
BPAW Bear Paw Mtn. 86.10 10 P **P** **10 04 59.4 +0.3**
baz=201
MCK McKinley 86.10 11 P **P** **10 05 00.3 +1.2**
baz=203
MCK McKinley 86.10 11 P **P** **10 04 58.2 -0.9**
H18K Honhosa River 86.13 6 P **P** **10 05 00.5 +1.2**
baz=194
YUK3 Moose Creek 86.13 15 P **P** **10 05 01.1 +1.6**
baz=211
Q32M Nakina River 86.13 20 P **P** **10 05 00.8 +1.2**
baz=218
F15K North Star Dit 86.15 4 P **P** **10 05 01.4 +2.1**
baz=189
P32M Atlin 86.18 19 P **P** **10 05 00.8 +1.2**
baz=217
BW06 Boulder Array 86.20 42 P **P** **10 05 01.0 +0.6**
baz=238
PDAR Pinedale Array 86.20 42 P **P** **10 04 58.6 -1.8**
PDAR Pinedale Array 86.20 42 P **P** **10 05 00.2 -0.1**
comp=Z,1.7nm,0.9s,baz=186,slow=2.8,SNR=13
PDAR LR LR 10 39 37.4
comp=Z,274nm,18.6s,baz=249,slow=33
comp=Z,1.7nm,0.9s
FLWY Flagg Ranch 86.21 40 IAmb IAmb 10 05 13.8
comp=Z,16nm,1.3s
YUK4 Talbot Arm 86.22 16 P **P** **10 05 02.2 +2.2**
baz=213
I20K Naaghedeneel 86.25 8 P **P** **10 05 01.8 +2.1**
baz=198
TIA Tai'an 86.25 311 P **P** **10 05 02.0 +1.5**
TIA pmax pmax
comp=Z,12nm,1.1s
G17K Kiwalik Mounta 86.25 5 P **P** **10 05 01.9 +2.2**
baz=192
M27K Edge Creek, AK 86.30 14 P **P** **10 05 02.2 +1.9**
baz=210
SDCO Great Sand Dun 86.30 48 P **P** **10 05 02.5 +1.4**
baz=241
PLCA Paso Flores 86.36 132 LR LR 10 37 43.2
comp=Z,580nm,18.4s,baz=236,slow=32
O30N Mendenhall 86.44 17 P **P** **10 05 02.7 +1.9**
baz=215
H17A Grant Village 86.45 40 P **P** **10 05 02.4 +0.8**
baz=237
MSTX Muleshoe 86.47 52 P **P** **10 05 02.8 +1.1**
baz=243
DLBC Dease Lake 86.47 21 P **P** **10 05 02.9 +1.8**
baz=220
DLBC Dease Lake 86.47 21 LR LR 10 37 22.4
comp=Z,348nm,20.8s,baz=246,slow=31
BOZ Bozeman (W) 86.49 38 IAmb IAmb 10 05 14.8
comp=Z,12nm,1.1s
BOZ Bozeman (W) 86.49 38 P **P** **10 05 02.5 +0.9**
baz=236,SNR=11
L26K Log Cabin Wild 86.56 13 P **P** **10 05 03.1 +1.7**
baz=208
833A Chaparral WMA, 86.57 58 P **P** **10 05 02.8 +0.5**
baz=245
BVCY Beaver Creek 86.58 15 P **P** **10 05 03.2 +1.7**
baz=211
WHY Whitehorse 86.69 18 P **P** **10 05 03.6 +1.4**
baz=216
H19K Roundabout Mou 86.70 7 P **P** **10 05 03.7 +1.7**
baz=196
N30M Aishikik Lake 86.73 17 P **P** **10 05 03.9 +1.6**
baz=214
K24K Donnelly Dome 86.75 12 P **P** **10 05 03.6 +1.3**
baz=206
T25A Trinidad 86.77 48 P **P** **10 05 04.0 +0.7**
baz=241
SGCY Sterling City 86.78 54 IAmb IAmb 10 05 05.9
comp=Z,8.7nm,0.8s
G18K Tagagawik 86.82 6 IAmb IAmb 10 05 15.5
comp=Z,11nm,1.1s
G18K Tagagawik 86.82 6 P **P** **10 05 03.9 +1.3**
baz=194
H20K Anotleneega Mo 86.86 8 P **P** **10 05 04.2 +1.4**
baz=198
NEA2 Nenana 86.87 10 P **P** **10 05 04.1 +1.2**
baz=203
R33M Jennings River 86.89 20 P **P** **10 05 05.1 +1.8**
baz=220
L27K Beaver Creek, 86.92 14 P **P** **10 05 05.2 +2.0**
baz=210
BCAR Beaver Creek A 86.94 14 P **P** **10 05 02.8 -0.4**
P33M Teslin, Yukon 86.95 19 P **P** **10 05 04.3 +0.9**
baz=218
MLY Manley 87.01 10 P **P** **10 05 05.1 +1.5**
baz=202
POST Post 87.01 53 IAmb IAmb 10 05 06.0
comp=Z,14nm,0.9s
HDA Harding Lake 87.08 11 P **P** **10 05 03.0 -0.8**
HDA IAmb IAmb 10 05 06.9
comp=Z,9.2nm,0.8s
HDA Harding Lake 87.08 11 P **P** **10 05 05.2 +1.3**
baz=205,SNR=9.5
N31M Braeburn, Yuko 87.11 17 P **P** **10 05 05.7 +1.5**
baz=215
ELIB Princess Elisa 87.12 185 *d*P **P** **10 05 04.0 -0.4**
comp=Z,4.7nm,1.3s
F17K Baldwin Pennin 87.12 5 P **P** **10 05 05.8 +1.8**
baz=192
RWWY Rawlins 87.12 43 IAmb IAmb 10 05 16.8
comp=Z,8.1nm,0.9s
Q24A Divide 87.14 47 P **P** **10 05 05.5 +0.3**
baz=241
CCB Clear Creek Bu 87.14 11 IAmb IAmb 10 05 07.0
comp=Z,10nm,0.8s
JCT Junction City 87.17 56 IAmb IAmb 10 05 18.1
comp=Z,15nm,1.4s
JCT Junction City 87.17 56 P **P** **10 05 05.7 +0.5**
baz=244
M29M Somme Creek 87.20 16 P **P** **10 05 03.9 -0.8**
M29M Somme Creek 87.20 16 P **P** **10 05 05.6 +1.0**
baz=213
G19K Purcell Mounta 87.23 7 IAmb IAmb 10 05 17.9
comp=Z,14nm,1.1s
G19K Purcell Mounta 87.23 7 P **P** **10 05 05.8 +1.2**
baz=196,SNR=7.6
SCRK Sand Creek 87.26 13 P **P** **10 05 04.3 -0.7**
SCRK Sand Creek 87.26 13 P **P** **10 05 05.9 +1.0**
baz=208,SNR=6.7
SEY Seymchan 87.29 345 P **P** **10 05 05.0 +0.1**
comp=Z,10nm,1.0s,baz=159,slow=6.9,SNR=14
comp=Z,10nm,1.0s
SEY Seymchan 87.29 345 *e*P **P** **10 05 04.1 -0.8**
SEY pmax pmax
comp=Z,18nm,1.3s
H21K Melozitna Rive 87.29 9 IAmb IAmb 10 05 11.3
comp=Z,14nm,1.4s
H21K Melozitna Rive 87.29 9 P **P** **10 05 06.3 +1.4**
baz=200
I23K Minto, Yukon-K 87.34 10 IAmb IAmb 10 05 17.6
comp=Z,7.1nm,1.1s
I23K Minto, Yukon-K 87.34 10 P **P** **10 05 05.7 +0.7**
baz=203
COLA College 87.34 11 P **P** **10 05 04.5 -0.5**
COLA College 87.34 11 P **P** **10 05 06.1 +1.0**
baz=204
COLA College 87.34 11 *de*P **P** **10 05 04.6 -0.5**
COLA pmax pmax
comp=Z,11nm,0.9s
F18K Selawik 87.41 6 P **P** **10 05 06.9 +1.5**
baz=193
ILAR Eielson Array 87.42 11 P **P** **10 05 05.0 -0.5**
ILAR Eielson Array 87.42 11 P **P** **10 05 04.5 -1.0**
comp=Z,2.3nm,0.7s,baz=212,slow=5.8,SNR=22
comp=Z,2.3nm,0.7s
ILAR Eielson Array 87.42 11 P **P** **10 05 05.0 -0.5**
HEH HeiHe 87.42 327 *e*P **P** **10 05 07.6 +1.7**
HEH pmax pmax
comp=Z,9.0nm,1.4s
HEH LR LR
comp=Z,490nm,18.4s
HEH LR LR
comp=Z,430nm,18.0s
HEH LR LR
comp=Z,1μm,19.6s
IMAR Indian Mountai 87.47 8 P **P** **10 05 05.1 -0.6**

N23A Red Feather La 87.55 45 P **P** **10 05 07.0 -0.1**
baz=240
J25K Salcha River, 87.56 12 P **P** **10 05 06.1 -0.2**
J25K IAmb IAmb 10 05 09.6
comp=Z,7.1nm,0.9s
J25K Salcha River, 87.56 12 P **P** **10 05 07.0 +0.7**
baz=206,SNR=10
N32M Quiet Lake 87.61 18 P **P** **10 05 08.3 +1.7**
baz=218
RLMT Red Lodge 87.63 40 P **P** **10 05 07.5 +0.3**
baz=238
POKR Poker Flat Res 87.63 11 P **P** **10 05 07.6 +1.0**
baz=205
AMTX Amarillo 87.69 52 IAmb IAmb 10 05 09.6
comp=Z,14nm,1.2s
AMTX Amarillo 87.69 52 P **P** **10 05 07.6 -0.1**
baz=243
E17K Hotham Inlet 87.71 5 P **P** **10 05 07.8 +1.0**
baz=191
K27K Chicken 87.71 13 P **P** **10 05 08.8 +1.8**
baz=210
H22K Ishtalitna Cre 87.72 9 P **P** **10 05 08.7 +1.7**
baz=201
M30M Minto, Yukon 87.73 16 IAmb IAmb 10 05 13.1
comp=Z,9.7nm,1.4s
M30M Minto, Yukon 87.73 16 P **P** **10 05 08.7 +1.6**
baz=214
TROLL Troll, Antarti 87.76 179 ⇑P **P** **10 05 07.2 -0.3**
comp=Z,179nm,1.0s
J26L Joseph Creek 87.81 13 IAmb IAmb 10 05 11.7
comp=Z,12nm,1.0s
J26L Joseph Creek 87.81 13 P **P** **10 05 08.8 +1.2**
baz=208,SNR=15
F19K Shaleruckik Mo 87.82 6 IAmb IAmb 10 05 20.5
comp=Z,11nm,1.1s
F19K Shaleruckik Mo 87.82 6 P **P** **10 05 09.0 +1.7**
baz=195
L29M L29M 87.84 15 IAmb IAmb 10 05 21.1
comp=Z,12nm,1.1s
L29M L29M 87.84 15 P **P** **10 05 09.1 +1.5**
baz=213,SNR=5.9
VNA3 Neumayer Olymp 87.89 175 ⇑P **P** **10 05 07.3 -0.7**
comp=Z,3.9nm,0.8s
SNAA Sanae 87.92 177 P **P** **10 05 07.6 -0.6**
SNAA IAmb IAmb 10 05 21.2
comp=Z,9.4nm,1.2s
SNAA Sanae 87.92 177 ⇑P **P** **10 05 07.1 -1.0**
comp=Z,105nm,1.2s
SNAA Sanae 87.92 177 P **P** **10 05 07.8 -0.3**
comp=Z,1.5nm,0.8s,baz=56,slow=1.7,SNR=6.0
SNAA LR LR 10 41 04.1
comp=Z,620nm,20.3s,baz=215,slow=33
comp=Z,1.5nm,0.8s
H23K Yukon River 87.93 10 P **P** **10 05 10.0 +2.0**
baz=203
K22A Casper 88.05 43 IAmb IAmb 10 05 21.7
comp=Z,6.3nm,0.9s
K22A Casper 88.05 43 P **P** **10 05 09.6 +0.3**
baz=240
M31M Drury Creek, Y 88.08 17 P **P** **10 05 10.0 +1.3**
baz=216
E18K Tukpahlearik C 88.14 5 P **P** **10 05 10.5 +1.6**
baz=192
BRDY Brady 88.14 56 IAmb IAmb 10 05 22.1
comp=Z,9.3nm,1.1s
APMT Aspermont 88.16 53 IAmb IAmb 10 05 22.4
comp=Z,16nm,1.2s
H24K Noodor Dome 88.22 10 P **P** **10 05 10.0 +0.6**
baz=204
ABTX Abilene, Hawle 88.22 54 P **P** **10 05 10.7 +0.6**
baz=244
D17K Noatak River 88.23 4 P **P** **10 05 10.5 +1.2**
baz=190
F20K Avaraart Lake 88.25 7 P **P** **10 05 11.1 +1.7**
baz=197
PRP Porcupine Dome 88.34 11 P **P** **10 05 10.7 +0.6**
PRP IAmb IAmb 10 05 26.1
comp=Z,11nm,1.2s
PRP Porcupine Dome 88.34 11 P **P** **10 05 11.6 +1.5**
baz=206
DAWY Dawson 88.35 14 P **P** **10 05 10.4 +0.3**
DAWY IAmb IAmb 10 05 41.3
comp=Z,11nm,1.2s
DAWY Dawson 88.35 14 P **P** **10 05 12.0 +1.9**
baz=212
VNA2 Neumayer--Watz 88.38 176 ⇑P **P** **10 05 09.6 -0.7**
comp=Z,1.8nm,0.8s,baz=223,slow=2.6
TOAD Toad River Com 88.47 23 P **P** **10 05 12.3 +1.6**
baz=225
E19K Redstone River 88.48 6 IAmb IAmb 10 05 23.9
comp=Z,10nm,1.1s
E19K Redstone River 88.48 6 P **P** **10 05 12.3 +1.7**
baz=196
HNS HongShan 88.52 311 ⇑P **P** **10 05 13.8 +2.4**
HNS pmax pmax
comp=Z,13nm,1.2s
EGAK Eagle 88.56 13 IAmb IAmb 10 05 42.1
comp=Z,8.9nm,1.2s
EGAK Eagle 88.56 13 P **P** **10 05 12.4 +1.5**
baz=210
VNA1 Neumayer--Stat 88.58 175 ⇓P **P** **10 05 11.6 +0.4**
comp=Z,4.9nm,1.0s
RDOG Red Dog Mine 88.59 4 P **P** **10 05 13.6 +2.5**
baz=190
K29M Barlow Dome 88.61 15 IAmb IAmb 10 05 15.3
comp=Z,7.9nm,1.1s
K29M Barlow Dome 88.61 15 P **P** **10 05 13.3 +1.9**
baz=214
I26K Coal Creek Min 88.61 12 P **P** **10 05 12.6 +1.5**
baz=208
G22K Bettles 88.67 9 P **P** **10 05 13.3 +2.0**
baz=201
C16K Lisburne Hills 88.67 3 P **P** **10 05 13.7 +2.3**
baz=188
G23K Bananza Creek 88.68 9 P **P** **10 05 13.2 +1.6**
baz=202
F21K Alatna River 88.69 8 P **P** **10 05 13.7 +2.1**
baz=199
BJI Beijing 88.72 314 P **P** **10 05 14.4 +2.1**
BJI pmax pmax
comp=Z,6.0nm,1.8s
LYN LuoYang 88.88 308 *e*P **P** **10 05 15.3 +2.1**
LYN pmax pmax
comp=Z,23nm,1.2s
LYN pmax pmax
comp=Z,560nm,4.2s
KSCO Kaye Shedlock' 88.89 47 P **P** **10 05 14.4 +1.1**
baz=242
EGMT Eagleton 88.90 37 P **P** **10 05 14.6 +1.5**
baz=237
J29N Klutlike Camp 88.95 15 P **P** **10 05 14.3 +1.4**
baz=213
H25L Birch Creek 88.96 11 P **P** **10 05 14.5 +1.7**
baz=206
C17K DeLong Mountai 88.99 4 P **P** **10 05 14.3 +1.4**
baz=190
435B Jarrell 89.03 57 P **P** **10 05 15.0 +1.0**
baz=246
G24K Hadweenzic Riv 89.07 10 P **P** **10 05 15.0 +1.7**
baz=204
F22K John River 89.12 8 P **P** **10 05 15.1 +1.6**
baz=200
COLD Coldfoot 89.14 9 P **P** **10 05 15.1 +1.5**
baz=202
I27K Kandik River 89.18 13 P **P** **10 05 15.3 +1.4**
baz=210
C18K Utukok River 89.30 5 P **P** **10 05 15.6 +1.2**
baz=192
E20K Nigu River 89.36 6 P **P** **10 05 16.0 +1.3**
baz=196
G25K Bearman Lake 89.36 11 P **P** **10 05 15.6 +0.9**
baz=206
D19K Kuna River 89.40 6 P **P** **10 05 16.0 +1.1**
baz=195
I28M Miner Creek 89.41 13 IAmb IAmb 10 05 31.1
comp=Z,23nm,1.9s
I28M Miner Creek 89.41 13 P **P** **10 05 16.3 +1.3**
baz=211
BILL Bilibino 89.44 353 ⇓*i*P **P** **10 05 15.0 0.0**
BILL *e* 10 08 46.1
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL MLR MLR
comp=Z,414nm,19.0s
J30M Hart River 89.51 15 IAmb IAmb 10 06 23.5
comp=Z,23nm,1.9s
J30M Hart River 89.51 15 P **P** **10 05 16.6 +1.0**
baz=215

ZEA Zeya 89.58 329 *e*P **P** **10 05 17.3 +1.3**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
WTFS Witchita Falls 89.60 54 IAmb IAmb 10 05 30.1
comp=Z,8.6nm,0.8s
WHTX Lake Whitney, 89.63 56 P **P** **10 05 17.4 +0.7**
baz=246
I29M Ogilvie Camp, 89.69 14 IAmb IAmb 10 05 33.5
comp=Z,10nm,1.4s
I29M Ogilvie Camp, 89.69 14 P **P** **10 05 17.8 +1.5**
baz=213
H27K Steamboat Moun 89.75 12 P **P** **10 05 18.5 +1.9**
baz=210
F24K Squaw Lake 89.76 10 P **P** **10 05 18.1 +1.5**
baz=204
D20K Etivluk River 89.76 6 P **P** **10 05 18.2 +1.7**
baz=196
E22K Anaktuvuk Pass 89.76 8 P **P** **10 05 17.8 +1.2**
baz=200
WMOK Wichita Mounta 89.77 53 P **P** **10 05 17.6 +0.2**
baz=245
E21K Killik River 89.79 7 P **P** **10 05 18.2 +1.5**
baz=198
C19K Lookout Ridge 89.87 5 P **P** **10 05 18.1 +1.1**
baz=193
G26K Porcupine Rive 89.94 11 P **P** **10 05 19.1 +1.7**
baz=208
B18K Kokolik River 89.96 4 P **P** **10 05 19.0 +1.6**
baz=191
E23K Chandalar 90.00 9 P **P** **10 05 19.0 +1.2**
baz=202
I30M Mount Dempster 90.03 15 IAmb IAmb 10 06 04.1
comp=Z,14nm,1.3s
I30M Mount Dempster 90.03 15 P **P** **10 05 19.4 +1.3**
baz=215
HKT Hockley 90.08 58 P **P** **10 05 16.2 -2.6**
HKT Hockley 90.08 58⇑ *e*P **P** **10 05 18.9 +0.1**
HKT pmax pmax
comp=Z,7.0nm,1.5s
E24K Your Creek 90.18 9 P **P** **10 05 19.7 +1.1**
baz=204
OGNE Ogallala 90.18 46 P **P** **10 05 19.1 -0.2**
baz=243
F25K Christian Rive 90.19 10 P **P** **10 05 19.4 +0.8**
baz=206
G27K Doyon Strip 90.22 12 P **P** **10 05 20.3 +1.5**
baz=210
BMAR Burnt Mountain 90.23 11 P **P** **10 05 18.6 -0.2**
RSSD Black Hills 90.35 42 P **P** **10 05 18.6 -1.6**
RSSD IAmb IAmb 10 05 32.4
comp=Z,9.2nm,1.1s
RSSD Black Hills 90.35 42 P **P** **10 05 20.9 +0.8**
baz=242
RSSD Black Hills 90.35 42 P **P** **10 05 18.6 -1.6**
RSSD pmax pmax
comp=Z,9.0nm,1.2s
D22K Ayikyak River 90.36 7 P **P** **10 05 21.3 +2.0**
baz=200
C21K Knifeblade Rid 90.38 7 P **P** **10 05 21.4 +2.0**
baz=198
H29M Whitestone 90.41 14 P **P** **10 05 17.9 -1.7**
H29M Whitestone 90.41 14 P **P** **10 05 21.1 +1.5**
baz=213
F26K Sheenjek River 90.54 11 P **P** **10 05 22.1 +1.8**
baz=208
TOLK Toolik Lake Re 90.54 9 P **P** **10 05 21.8 +1.6**
baz=203
XLT XiLinHaoTe 90.60 317 *e*P **P** **10 05 22.4 +1.3**
XLT pmax pmax
comp=Z,13nm,0.7s
XLT pmax pmax
comp=Z,130nm,4.1s
E25K Arctic Village 90.68 10 IAmb IAmb 10 05 27.6
comp=Z,21nm,2.0s
E25K Arctic Village 90.68 10 P **P** **10 05 22.7 +1.8**
baz=206
D23K Nanushuk River 90.69 8 P **P** **10 05 22.8 +1.9**
baz=202
CBKS Cedar Bluff 90.82 49 P **P** **10 05 23.2 +0.9**
baz=244
A19K Wainwright 90.84 4 P **P** **10 05 23.8 +2.3**
baz=192
B21K Ikpikpuk River 90.84 7 P **P** **10 05 23.3 +1.8**
baz=198
EPYK Eagle Plains 90.90 14 P **P** **10 05 23.1 +1.2**
baz=214
B20K Meade River 90.96 6 P **P** **10 05 24.2 +2.2**
baz=196
G29M Pine Creek 91.06 13 IAmb IAmb 10 05 39.0
comp=Z,18nm,1.6s
G29M Pine Creek 91.06 13 P **P** **10 05 24.7 +2.0**
baz=213
D24K Happy Valley 91.12 9 P **P** **10 05 25.0 +2.1**
baz=203
F28M Old Crow 91.28 12 IAmb IAmb 10 06 00.5
comp=Z,7.7nm,1.4s
F28M Old Crow 91.28 12 P **P** **10 05 25.7 +2.1**
baz=212
XAN Xi'an 91.33 306 P **P** **10 05 26.5 +1.8**
XAN pmax pmax
comp=Z,15nm,1.0s
E27K Coleen River 91.44 11 P **P** **10 05 26.3 +1.9**
baz=210
C23K Itkillik River 91.52 8 P **P** **10 05 26.0 +1.3**
baz=202
G30M tAoh Zraii Nji 91.52 14 IAmb IAmb 10 05 54.2
comp=Z,14nm,1.2s
G30M tAoh Zraii Nji 91.52 14 P **P** **10 05 26.2 +1.4**
baz=215,SNR=5.1
D25K Kavik River 91.64 9 P **P** **10 05 26.3 +1.0**
baz=206
B22K Teshekpuk Lake 91.66 7 P **P** **10 05 27.4 +2.2**
baz=199
C24K Franklin Bluff 91.66 8 P **P** **10 05 27.1 +1.8**
baz=203
NATX Nacogdoches 91.72 57 P **P** **10 05 26.6 +0.2**
baz=247
G31M Satah River 91.92 15 P **P** **10 05 25.0 -1.6**
G31M Satah River 91.92 15 P **P** **10 05 28.3 +1.8**
baz=217
DEOK Depew 91.93 52 P **P** **10 05 25.8 -1.6**
DEOK IAmb IAmb 10 05 39.8
comp=Z,12nm,1.0s
A22K Sinclair Lake 92.13 6 P **P** **10 05 29.7 +2.3**
baz=198
F30M Barrier River 92.13 14 P **P** **10 05 29.4 +1.8**
baz=215
NNA Nana 92.18 104 LR LR 10 39 25.5
comp=Z,384nm,18.6s,baz=244,slow=31
E28M Babbage River 92.19 12 IAmb IAmb 10 06 04.6
comp=Z,8.7nm,1.4s
E28M Babbage River 92.19 12 P **P** **10 05 30.1 +2.3**
baz=212
HHC Hu-ho-hao-te 92.23 313⇑ *i*P **P** **10 05 30.5 +1.7**
HHC S **S** **10 16 28.8 -3.1**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,150nm,5.6s
HHC LR LR
comp=Z,160nm,19.6s
HHC LR LR
comp=Z,220nm,22.0s
HHC LR LR
comp=Z,250nm,21.0s
E29M Blow River 92.33 13 P **P** **10 05 30.3 +1.8**
baz=213
C27K Jago River 92.33 10 P **P** **10 05 30.7 +2.3**
baz=208
JTS Las Juntas de 92.38 80 LR LR 10 37 30.3
comp=Z,442nm,20.3s,baz=262,slow=29
C26K Camden Bay 92.40 10 P **P** **10 05 30.5 +1.8**
baz=207
F31M Tsiigehtchic 92.46 14 P **P** **10 05 30.3 +1.3**
baz=217
D27M Malcolm River 92.47 11 P **P** **10 05 30.5 +1.3**
baz=210
ATAH Atahualpa 92.48 98 LR LR 10 38 02.6
comp=Z,429nm,20.6s,baz=258,slow=30
TUL3 Leonard 92.48 53 P **P** **10 05 31.0 +1.1**
baz=247
TEIG Tepich 92.81 70 LR LR 10 41 12.9
comp=Z,438nm,19.2s,baz=226,slow=32
D28M Stokes Point 92.96 12 P **P** **10 05 32.9 +1.6**
baz=213
KSU1 Kansas State U 93.16 49 IAmb IAmb 10 05 35.0
comp=Z,7.7nm,0.8s
KSU1 Kansas State U 93.16 49 P **P** **10 05 33.8 +0.8**

baz=246
INK Inuvik 93.20 14 P **P 10 05 31.4 -1.0**
INK Inuvik 93.20 14 P **P 10 05 33.7 +1.3**
baz=217
INK Inuvik 93.20 14 LR LR 10 43 34.6
comp=Z,367nm,19.3s,baz=179,slow=33
INK Inuvik 93.20 14 P **P 10 05 31.4 -1.0**
INK pmax pmax
comp=Z,23nm,1.8s
YAK Yakutsk 93.60 337 LR LR 10 44 18.7
comp=Z,102nm,19.8s,baz=139,slow=33
YAK Yakutsk 93.60 337⇑ *e*P **P 10 05 33.4 -1.0**
YAK pmax pmax
comp=Z,6.0nm,0.8s
MIAR Mount Ida 93.62 55 P **P 10 05 35.4 +0.2**
baz=248
U38A Gravette 93.73 53 IAmb IAmb 10 05 48.0
comp=Z,9.9nm,1.4s
CMAR Chiang Mai Arr 93.91 288 P **P 10 05 36.9 0.0**
CMAR Chiang Mai Arr 93.91 288 P **P 10 05 36.9 0.0**
CD2 Chengdu 94.17 301 P **P 10 05 36.5 -1.4**
CD2 pmax pmax
comp=Z,30nm,0.6s
PZH PanZhiHua 94.26 297 P **P 10 05 38.8 +0.3**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.5s
YKA Yellowknife Ar 94.81 24 P **P 10 05 39.4 -0.6**
comp=Z,0.9nm,0.8s,baz=247,slow=4.6,SNR=4.2
YKA LR LR 10 42 59.3
comp=Z,161nm,19.5s,baz=230,slow=32
comp=Z,0.9nm,0.8s
ECSD EROS Data Cent 95.00 45 P **P 10 05 42.6 +1.2**
baz=247
R40A Maddies Statio 95.99 51 IAmb IAmb 10 05 58.1
comp=Z,8.8nm,1.1s
F33A 5 Mile Ranch, 96.05 43 P **P 10 05 43.7 -2.3**
ULM Lac du Bonnet 98.00 39 LR LR 10 47 26.0
comp=Z,481nm,18.6s,baz=246,slow=34
LPAZ La Paz 98.34 111 LR LR 10 41 39.0
comp=Z,434nm,20.1s,baz=248,slow=30
SONM Songino Array 98.38 318 PP **PP 10 09 54.7 -2.4**
comp=Z,0.9nm,0.9s,baz=120,slow=8.7,SNR=5.0
SONM LR LR 10 48 26.9
comp=Z,154nm,19.2s,baz=106,slow=34
TIXI Tiksi 99.75 344 LR LR 10 52 22.9
comp=Z,138nm,18.2s,baz=146,slow=36
MKAR Makanchi Array 114.09 313 PKiKP PKPdf 10 10 57.0 -0.9
comp=Z,0.7nm,0.7s,baz=64,slow=2.8,SNR=5.3
MKAR PP **PP 10 11 49.7 -3.1**
comp=Z,1.2nm,0.9s,baz=98,slow=8.8,SNR=4.8
KURK Kurchatov 116.68 317 PKIKP **PKPdf 10 11 01.7 -1.1**
KURBB Kurchatov Arra 116.74 317 PKP **PKPdf 10 11 01.6 -1.2**
comp=Z,1.0nm,0.9s,baz=98,slow=2.1,SNR=6.9
KURBB PP **PP 10 12 07.8 -3.4**
comp=Z,1.0nm,0.8s,baz=92,slow=7.9,SNR=6.3
BVAR Borovoye Array 121.61 320 PKP **PKPdf 10 11 11.4 -0.8**
comp=Z,1.9nm,0.6s,baz=116,slow=3.4,SNR=6.3
BRVK Borovoye 121.67 320⇓ *i*PKIKP **PKiKP 10 11 13.9 +1.4**
ARCES ARCESS Array B 129.53 351 PKP **PKPdf 10 11 26.3 -0.6**
comp=Z,3.1nm,1.1s,baz=8.1,slow=1.7,SNR=5.1
BELG Belogornoye 134.90 325⇓ *i*PKIKP **PKPdf 10 11 37.9 +0.4**
FINES FINESS Array B 136.76 346 PKP **PKPdf 10 11 40.7 0.0**
comp=Z,1.8nm,0.8s,baz=106,slow=8.8,SNR=3.3
NOA NORSAR Array B 139.29 356 PKP **PKPdf 10 11 45.4 -0.1**
comp=Z,0.6nm,0.9s,baz=89,slow=2.0,SNR=1.7
HFS Hagfors 140.00 354 PKP **PKPdf 10 11 46.9 +0.3**
comp=Z,1.2nm,0.7s,baz=129,slow=3.9,SNR=2.7
KIV Kislovodsk 141.75 316 *i*PKIKP **PKiKP 10 11 52.0 -1.4**
KIV pmax pmax
comp=Z,5.0nm,0.8s
LABN Labinsk 142.69 318 *i*PKHKP PKPpre 10 11 46.8
LABN pmax pmax
comp=Z,34nm,0.4s
EKA Eskdalemuir Ar 144.44 9 PKP PKPbc 10 11 53.0 -0.2
comp=Z,4.3nm,0.8s,baz=334,slow=3.4,SNR=12
ANN Anapa 144.61 321 *e*PKIKP **PKPdf 10 11 54.6 -0.7**
ANN pmax pmax
comp=Z,29nm,1.0s
AK03 Malin Array Si 144.78 335 PKP **PKPab 10 11 53.7 -0.6**
AK23 Malin Array Si 144.79 335 PKP **PKPab 10 11 53.4 -1.0**
AKASG Malin Array Be 144.80 335 PKP **PKPab 10 11 54.0 -0.4**
comp=Z,13nm,0.7s,baz=41,slow=4.3,SNR=15
AKASG Malin Array Be 144.80 335 PKIKP **PKPab 10 11 54.0 -0.4**
AKBB Malin Array Si 144.80 335 PKPdf **PKPab 10 11 53.9 -0.6**
AKBB Malin Array Si 144.80 335 *ce*PKIKP **PKPab 10 11 54.1 -0.3**
AKBB Malin Array Si 144.80 335 PKP **PKPab 10 11 53.4 -1.0**
KIEV Kiev 144.81 335 ⇓P PKPbc 10 11 54.4 -0.1
KIEV Kiev 144.81 335 PKPdf **PKPab 10 11 53.8 -0.6**
KIEV Kiev 144.81 335 ⇓PKIKP PKPbc 10 11 54.4 -0.1
KIEV Kiev 144.81 335 PKP **PKPab 10 11 53.4 -1.0**
AK01 Malin Array Si 144.81 335 PKP **PKPab 10 11 53.8 -0.7**
RNPP9 Sopachiv 145.48 338 PKP **PKPbc 10 11 56.4 -0.3**
RNPP8 Varash 145.56 338 PKP **PKPbc 10 11 56.7 -0.2**
SIM Simferopol' 146.45 323 *e*PKP2 **PKPab 10 12 01.4 +0.6**
SIM *e* 10 15 29.9
SIM pmax pmax
comp=Z,64nm,0.7s
SORM Soroca 147.14 332 ⇑P **PKPbc 10 12 02.1 +0.4**
SORM Soroca 147.14 332 ⇑PKP2 **PKPbc 10 12 02.1 +0.4**
LVV L'vov 147.47 338 *e*PKP2 **PKPbc 10 12 03.2 +0.6**
GAZ Gaziantep 148.38 308 PKPdf **PKPdf 10 11 59.7 -2.4**
STHS Stebnicka Huta 148.72 341 *e*PKP2 **PKPbc 10 12 04.1 -1.9**
STHS Stebnicka Huta 148.72 341 *e*PKP **PKPbc 10 12 04.1 -1.9**
CLL Collm 148.75 352 PKPdf **PKPdf 10 12 00.4 -1.7**
CLL Collm 148.75 352 PKiKP **PKPdf 10 12 00.4 -1.7**
BUR08 Bucovina Ar. S 148.84 335 PKPdf **PKPdf 10 12 01.3 -1.2**
BURAR Bucovina Array 148.85 335 ⇑P **PKPab 10 12 09.0 -1.3**
BURAR Bucovina Array 148.85 335 **PKPdf 10 12 01.3 -1.3**
BRG Berggiesshubel 149.03 351 *e*PKP **PKiKP 10 12 07.7 -0.3**
BRG Amp 10 12 11.5
comp=Z,26nm,1.4s
BRG Berggiesshubel 149.03 351 P PKPab 10 12 19.9 +9.1
BRG Amp 10 12 20.4
comp=Z,16nm,1.2s
BRG Berggiesshubel 149.03 351 *e*PKP2 **PKiKP 10 12 07.7 -0.3**
BRG pmax pmax
comp=Z,26nm,1.4s
BRG MLR MLR
comp=Z,286nm,25.4s
BRG MLR MLR
comp=N,185nm,19.9s
BRG MLR MLR
comp=E,85nm,24.9s
CRVS Cervenica-Dubn 149.10 340 *e*PKP2 **PKiKP 10 12 09.3 +1.1**
CRVS Cervenica-Dubn 149.10 340 *e*PKP **PKiKP 10 12 09.3 +1.1**
KRLC Kraliky 149.28 347 *e*PKP2 **PKiKP 10 12 08.1 -0.5**
HSKC Hora Svate Kat 149.37 351 ⇑*e*PKP **PKiKP 10 12 08.1 -0.6**
MORC Moravsky Berou 149.38 346 *e*PKP **PKiKP 10 12 08.7 -0.1**
CFR Carcaliu 149.44 329 ⇑P **PKiKP 10 12 08.8 -0.2**
CFR Carcaliu 149.44 329 ⇑PKP2 **PKiKP 10 12 08.8 -0.2**
TPGR Topolog 149.53 328 ⇓P **PKiKP 10 12 09.2 -0.1**
VRI Vrincioaia 149.59 331 ⇑P **PKiKP 10 12 08.9 -0.4**
VRI Vrincioaia 149.59 331 ⇑PKP2 **PKiKP 10 12 08.9 -0.4**
PLOR Plostina 149.63 331 ⇑P **PKiKP 10 12 09.1 -0.3**
PLOR Plostina 149.63 331 ⇑PKP2 **PKiKP 10 12 09.1 -0.3**
BRTR Keskin Array B 149.71 315 PKPdf **PKPdf 10 12 01.5 -2.8**
BRTR Keskin Array B 149.71 315 PKPbc **PKPbc 10 12 08.7 -0.3**
comp=E,1.9nm,0.7s,baz=126,slow=1.7,SNR=9.0
HARR Harsova 149.90 328 ⇑P **PKiKP 10 12 10.7 +0.7**
VRAC Vranov 150.04 346 *e*PKP **PKiKP 10 12 09.7 -0.4**
JAVC Velka Javorina 150.21 345 *e*PKP **PKiKP 10 12 10.1 -0.5**
MLR Muntele Rosu 150.23 332 ⇓P **PKiKP 10 12 10.7 -0.1**
MLR Muntele Rosu 150.23 332 PKPdf **PKPdf 10 12 02.7 -2.2**
MLR Muntele Rosu 150.23 332 PKiKP **PKPdf 10 12 02.7 -2.2**
VYHS Vyhne 150.24 343 *e*PKiKP **PKiKP 10 12 11.0 +0.4**
VYHS Vyhne 150.24 343 *e*PKP **PKiKP 10 12 11.0 +0.4**
KRUC Moravsky 150.32 347 *e*PKP **PKiKP 10 12 09.9 -0.8**
VOIR 150.66 332 ⇓P **PKiKP 10 12 12.0 +0.4**
VOIR 150.66 332 ⇓PKIKP **PKiKP 10 12 12.0 +0.4**
MODS Modra-Piesok 150.76 345 *e*PKiKP **PKPdf 10 12 05.6 +0.1**
MODS Modra-Piesok 150.76 345 *e*PKP **PKPdf 10 12 05.6 +0.1**
KHC Kasperske Hory 150.78 350 ⇑*e*PKP **PKiKP 10 12 12.2 +0.5**
KHC *ex* x 10 12 23.5
KHC Kasperske Hory 150.78 350 *e*PKiKP **PKiKP 10 12 12.2 +0.5**
ARR Arges 150.90 333 ⇑P **PKiKP 10 12 12.5 +0.4**
GEC2 GERESS Array S 151.04 350 PKPdf **PKPdf 10 12 04.8 -1.2**
GERES GERESS Array B 151.04 350 PKPbc **PKiKP 10 12 12.0 -0.3**
comp=E,1.1nm,0.6s,baz=46,slow=2.8,SNR=5.2
MMAI Mount Meron Ar 151.25 302 PKPbc **PKiKP 10 12 12.9 -0.3**
comp=E,6.9nm,0.9s,baz=57,slow=9.1,SNR=5.1
SIRR Siria 151.32 337 ⇓P PKPdf 10 11 52.6 -14
CONA Conrad Observa 151.50 346 *e*PKP **PKiKP 10 12 12.9 -0.5**
comp=E,5.6nm,0.9s
RONA Rosalia, Austr 151.62 346 *e*PKP **PKPbc 10 12 12.8 -0.3**
comp=E,5.6nm,0.8s
BZS Buzias 151.90 337 ⇑P **PKiKP 10 12 14.4 +0.3**
BZS Buzias 151.90 337 ⇑PKIKP **PKiKP 10 12 14.4 +0.3**
MOA Molln 151.90 349 *ep*PKiKP **PKiKP 10 12 17.6 +3.5**
comp=E,4.1nm,1.0s
LESA Schwarzleotal 152.59 351 *e*PKP **PKPbc 10 12 14.8 -0.5**
comp=E,2.5nm,0.7s
RETA Reute 152.77 353 *ep*PKP **PKiKP 10 12 18.9 +3.0**
comp=E,3.1nm,1.1s
KBA Koelnbreinsper 152.81 349 pPKP **PKiKP 10 12 19.0 +2.8**
comp=E,4.2nm,1.4s
SOKA Soboth 152.87 347 *e*PKP **PKPbc 10 12 15.1 -0.8**
comp=E,5.2nm,1.1s
WTTA Wattenberg 152.89 352 *e*PKiKP **PKiKP 10 12 16.3 0.0**
comp=E,6.1nm,1.1s
DAVA Damuels 153.06 355 *e*PKiKP **PKiKP 10 12 17.3 +0.6**
comp=E,1.7nm,0.6s
FETA Feichten 153.24 353 *ep*PKP **PKiKP 10 12 19.9 +2.9**
comp=E,3.6nm,1.1s
ABTA Abfaltersbach 153.27 350 *e*PKP **PKPbc 10 12 16.3 -0.6**
comp=E,8.1nm,1.2s
ESDC Sonseca Array 158.90 22 PKP **PKPdf 10 12 17.3 +0.3**
comp=E,0.4nm,0.4s,baz=293,slow=5.0,SNR=1.7
TORD Torodi Ar. Bea 171.52 148 PKP **PKPdf 10 12 26.9 -1.3**
comp=E,1.0nm,0.9s,baz=290,slow=1.0,SNR=4.1

*TIR **04** 10:34:05.6, 41.°52N×19.°59E, h24km±1km, Md2.9, Ml2.8*
*PDG **04** 10:34:06.6±0.1, 41.°53N×19.°64E, h12km, ML2.6/13, Error ellipse: s-maj=0.3km s-min=0.8km az=0.0*
*BEO **04** 10:34:07.1±0.6, 41.°43N×19.°64E, h13km±2km, ML2.5/10*
*RHSSO **04** 10:34:07.4±0.9, 41.°48N×19.°46E, h4km±2km, ML2.8/7*
ISC 04 10:34:06.5±1.0, 41.°51N±0.°02×19.°60E±0.°03, h8km±9km, n42, σ1°05/79, 10C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.26**	**129**	P	**Pg**	**10 34 11.8**	**+0.1**
baz=129							
TIR				S	**Sg**	**10 34 16.5**	**+1.4**
baz=129							
TIR				AMP			
comp=E,25nm,0.2s,baz=129							
TIR	**Tirane**	**0.26**	**129**	*e*Pg	**Pg**	**10 34 11.7**	**+0.1**
TIR				*e*Sg	**Sg**	**10 34 16.4**	**+1.3**
ULC	**Ulcinj**	**0.53**	**330**	⇓*i*Pg	**Pg**	**10 34 16.5**	**-0.2**
ULC				*i* Sg	**Sb**	**10 34 25.1**	**-0.6**
PUK	**Puka**	**0.57**	**22**	P	**Pg**	**10 34 17.5**	**-0.2**
baz=22							
PUK				S	**Sb**	**10 34 25.9**	**-1.3**
baz=22							
PUK				AMP			
comp=E,2.1nm,0.3s,baz=22							
DRME	**Dracevica, Mon**	**0.74**	**335**	*e*Pg	**Pb**	**10 34 21.4**	**-0.3**
DRME				*e*Sg	**Sn**	**10 34 34.5**	**-0.2**
DRME	**Dracevica, Mon**	**0.74**	**335**	⇑*i*Pg	**Pg**	**10 34 20.1**	**-0.7**
DRME				*e*Sg	**Sg**	**10 34 31.1**	**+0.6**
DRME	**Dracevica, Mon**	**0.74**	**335**	⇑*i*Pg	**Pg**	**10 34 20.5**	**-0.3**
DRME				*i* Sg	**Sb**	**10 34 32.2**	**+0.2**
BCI	**Bajram Curri**	**0.92**	**22**	P	**Pg**	**10 34 23.3**	**-1.0**
baz=22							
BCI				S	**Sn**	**10 34 38.1**	**-1.1**
baz=22							
BCI				AMP			
comp=E,1.0nm,0.5s,baz=22							
BUM	**Brajici-Budva**	**0.95**	**327**	⇑*i*Pg	**Pb**	**10 34 25.2**	**0.0**
BUM				*i* Sg	**Sb**	**10 34 39.1**	**+1.1**
PDG	**Podgorica**	**0.95**	**344**	*e*Pg	**Pn**	**10 34 27.0**	**+0.8**
PDG				*e*Sg	**Sn**	**10 34 40.8**	**+0.9**
PDG	**Podgorica**	**0.95**	**344**	*e*Pg	**Pg**	**10 34 24.2**	**-0.7**
PDG				*e*Sg	**Sb**	**10 34 38.4**	**+0.4**
PDG	**Podgorica**	**0.95**	**344**	⇑*i*Pg	**Pg**	**10 34 24.2**	**-0.7**
PDG				*i* Sg	**Sn**	**10 34 39.3**	**-0.6**
PVY	**Plav**	**1.12**	**14**	*e*Pg	**Pg**	**10 34 26.8**	**-1.1**
PVY	**Plav**	**1.12**	**14**	⇑*i*Pg	**Pg**	**10 34 26.5**	**-1.4**
PVY				*i* Sg	**Sn**	**10 34 43.6**	**-0.5**
CEME	**Cevo**	**1.15**	**334**	⇓*i*Pg	**Pb**	**10 34 28.6**	**-0.1**
CEME				*i* Sg	**Sn**	**10 34 46.1**	**+1.1**
HCY	**Herceg Novi**	**1.25**	**319**	*e*Pg	**Pg**	**10 34 29.7**	**-0.8**
HCY				*e*Sg	**Sg**	**10 34 46.0**	**-0.7**
HCY	**Herceg Novi**	**1.25**	**319**	⇓*i*Pg	**Pg**	**10 34 30.2**	**-0.3**
HCY				*i* Sg	**Sn**	**10 34 48.9**	**+1.7**
KOME	**Kolasin**	**1.34**	**357**	*e*Pg	**Pb**	**10 34 33.4**	**+1.5**
KOME				*e*Sg	**Sn**	**10 34 53.6**	**+4.0**
KOME	**Kolasin**	**1.34**	**357**	⇑*i*Pg	**Pb**	**10 34 32.1**	**+0.2**
KOME				*i* Sg	**Sn**	**10 34 52.3**	**+2.7**
NKME	**Niksic**	**1.34**	**339**	⇓*i*Pg	**Pn**	**10 34 31.5**	**-0.1**
NKME				*i* Sg	**Sn**	**10 34 52.1**	**+2.5**
BEY	**Berane**	**1.38**	**9**	*e*Pg	**Pn**	**10 34 31.6**	**-0.5**
IVA	**Berane**	**1.38**	**9**	⇓*i*Pg	**Pn**	**10 34 31.5**	**-0.5**
IVA				*i* Sg	**Sn**	**10 34 52.9**	**+2.4**
TREB	**Trebinje**	**1.52**	**323**	⇑*i*Pg	**Pn**	**10 34 34.2**	**+0.2**
TREB				*e*Sg	**Sn**	**10 34 54.3**	**+0.3**
FNA	**Florina**	**1.52**	**118**	P	**Pg**	**10 34 35.0**	**-0.8**
baz=117							
FNA				S	**Sg**	**10 34 55.9**	**+0.4**
baz=117							
FNA				AMP			
comp=E,0.3nm,0.6s,baz=117							
BRY	**Bratogost**	**1.60**	**331**	*e*Pn	**Pn**	**10 34 35.5**	**+0.3**
BRY				*e*Sn	**Sg**	**10 34 57.4**	**-0.5**
BRY	**Bratogost**	**1.60**	**331**	⇑*i*Pn	**Pb**	**10 34 35.9**	**-0.4**
BRY				*i* Sn	**Sg**	**10 34 59.1**	**+1.2**
SRN	**Sarande**	**1.66**	**169**	P	**Pb**	**10 34 36.4**	**-0.8**
baz=169							
SRN				S	**Sg**	**10 34 59.4**	**-0.3**
baz=169							
SRN				AMP			
comp=N,0.2nm,0.6s,baz=169							
UPM	**Unac-Piva**	**1.77**	**343**	*e*Pn	**Pb**	**10 34 39.3**	**0.0**
UPM				*e*Sn	**Sb**	**10 35 01.4**	**-0.3**
UPM	**Unac-Piva**	**1.77**	**343**	⇓*i*Pn	**Pb**	**10 34 39.1**	**-0.2**
UPM				*i* Sn	**Sg**	**10 35 02.7**	**-0.7**
SJES	**Sjenica**	**1.77**	**9**	*e*Pn	**Pg**	**10 34 39.8**	**-0.7**
SJES				*e*Sg	**Sg**	**10 35 04.1**	**+0.6**
SJES	**Sjenica**	**1.77**	**9**	⇑*i*Pn	**Pb**	**10 34 39.2**	**-0.1**
SJES				*e*Sn	**Sg**	**10 35 02.9**	**-0.6**
PLE	**Pljevlja**	**1.82**	**355**	*e*Pn	**Pn**	**10 34 37.9**	**-0.4**
PLE	**Pljevlja**	**1.82**	**355**	⇓*i*Pn	**Pb**	**10 34 39.5**	**-0.7**
PLE				*i* Sn	**Sg**	**10 35 04.1**	**-1.1**
STON	**Ston**	**1.96**	**315**	⇑*i*Pn	**Pn**	**10 34 40.5**	**+0.5**
STON				*e*Sn	**Sn**	**10 35 04.7**	**0.0**
IGT	**Igoumenitsa**	**2.05**	**164**	P	**Pn**	**10 34 40.6**	**-0.6**
baz=163							
IGT				S	**Sb**	**10 35 08.5**	**-1.1**
baz=163							
IGT				AMP			
comp=N,0.3nm,0.4s,baz=163							
PRVS	**Prvonek**	**2.10**	**61**	*e*Pn	**Pn**	**10 34 42.6**	**+0.7**
PRVS				*e*Sn	**Sn**	**10 35 08.7**	**+0.5**
BARS	**Barje**	**2.10**	**51**	*e*Pn	**Pn**	**10 34 42.7**	**+0.8**
IVAS	**Ivanjica**	**2.10**	**11**	*e*Pn	**Pn**	**10 34 42.5**	**+0.5**
IVAS				*e*Sn	**Sb**	**10 35 10.1**	**-1.1**
RUDO	**Rudo**	**2.11**	**355**	*e*Pn	**Pb**	**10 34 44.3**	**-0.7**
RUDO				*e*Sn	**Sb**	**10 35 11.2**	**-0.2**
BBLS	**Lazi&#263i**	**2.36**	**357**	*e*Pn	**Pn**	**10 34 47.2**	**+1.7**
BBLS				*e*Sn	**Sb**	**10 35 17.1**	**-1.4**
GRUS	**Gruza**	**2.52**	**19**	*e*Pn	**Pn**	**10 34 48.4**	**+0.8**
GRUS				*e*Sn	**Sn**	**10 35 20.4**	**+2.0**
KUBS	**Kucevo**	**3.28**	**27**	*e*Pn	**Pn**	**10 34 57.1**	**-1.0**

*RHSSO **04** 10:35:29.2±0.2, 43.°02N×18.°03E, h4km±2km, ML2.6/13*
*BEO **04** 10:35:29.0±0.3, 43.°02N×17.°96E, h9km±3km, ML2.5/11*
ISC 04 10:35:29.0±1.0, 43.°03N±0.°02×18.°03E±0.°02, h5km±9km, n50, σ0°87/86, 6C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.29**	**236**	*e*Pg	**Pg**	**10 35 34.3**	**-0.4**
STON				*e*Sg	**Sg**	**10 35 39.1**	**+0.7**
STON	**Ston**	**0.29**	**236**	*i* Pg	**Pg**	**10 35 34.4**	**-0.4**
STON				Sg	**Sg**	**10 35 39.2**	**+0.7**
STON	**Ston**	**0.29**	**236**	⇓*i*Pg	**Pg**	**10 35 34.2**	**-0.4**
STON				*e*Sg	**Sg**	**10 35 39.1**	**+0.7**
DBRK	**Dubrovnik**	**0.37**	**167**	*i* Pg	**Pg**	**10 35 36.0**	**-0.2**
DBRK				Sg	**Sg**	**10 35 42.2**	**+1.1**
TREB	**Trebinje**	**0.39**	**143**	*e*Pg	**Pg**	**10 35 36.0**	**-0.7**
TREB				*e*Sg	**Sg**	**10 35 42.4**	**+0.6**
TREB	**Trebinje**	**0.39**	**143**	⇑*i*Pg	**Pg**	**10 35 35.9**	**-0.7**
TREB				*e*Sg	**Sg**	**10 35 42.2**	**+0.4**
BRY	**Bratogost**	**0.40**	**109**	⇑*i*Pg	**Pg**	**10 35 35.9**	**-0.8**
BRY				*e*Sg	**Sg**	**10 35 42.5**	**+0.6**
KLINJ	**Klinje**	**0.43**	**71**	*e*Pg	**Pg**	**10 35 36.3**	**-1.0**
KLINJ				*e*Sg	**Sg**	**10 35 42.9**	**0.0**
UPM	**Unac-Piva**	**0.66**	**75**	*e*Pg	**Pg**	**10 35 41.0**	**-0.8**
UPM				*e*Sg	**Sg**	**10 35 50.9**	**+0.5**
HCY	**Herceg Novi**	**0.68**	**150**	⇑*i*Pg	**Pg**	**10 35 40.8**	**-1.2**
HCY				*e*Sg	**Sg**	**10 35 51.5**	**+0.7**
MAKA	**Makarska**	**0.78**	**289**	*e*Pg	**Pg**	**10 35 42.8**	**-1.2**
MAKA				Sg	**Sb**	**10 35 55.4**	**-0.6**
RICI	**Ricice**	**0.80**	**305**	*e*Pg	**Pg**	**10 35 42.9**	**-1.5**
RICI				Sg	**Sb**	**10 35 55.8**	**-0.8**
PLE	**Pljevlja**	**1.04**	**73**	*e*Pg	**Pg**	**10 35 48.2**	**-0.7**
PLE				*e*Sg	**Sg**	**10 36 03.7**	**+1.3**
PDG	**Podgorica**	**1.09**	**123**	*e*Pg	**Pg**	**10 35 48.7**	**-1.1**
PDG				*e*Sg	**Sn**	**10 36 06.2**	**-0.1**
PDG	**Podgorica**	**1.09**	**123**	*e*Pg	**Pg**	**10 35 48.6**	**-1.2**
PDG				*e*Sg	**Sg**	**10 36 03.8**	**-0.1**
KOME	**Kolasin**	**1.11**	**99**	*e*Pg	**Pg**	**10 35 50.2**	**0.0**
KOME				*e*Sg	**Sb**	**10 36 06.6**	**+1.1**
RUDO	**Rudo**	**1.14**	**59**	*e*Pg	**Pg**	**10 35 49.2**	**-1.7**
RUDO				*e*Sg	**Sg**	**10 36 05.8**	**+0.2**
RUDO	**Rudo**	**1.14**	**59**	⇑*i*Pg	**Pg**	**10 35 49.1**	**-1.8**
RUDO				*e*Sg	**Sg**	**10 36 05.8**	**+0.2**
HVAR	**Hvar**	**1.17**	**278**	*e*Pg	**Pg**	**10 35 49.9**	**-1.5**
HVAR				Sg	**Sn**	**10 36 07.6**	**-0.7**
DRME	**Dracevica, Mon**	**1.20**	**134**	*e*Pg	**Pg**	**10 35 51.3**	**-0.7**
DRME				*e*Sg	**Sn**	**10 36 09.2**	**0.0**
DRME	**Dracevica, Mon**	**1.20**	**134**	⇑*i*Pg	**Pg**	**10 35 50.6**	**-1.4**
DRME				*e*Sg	**Sg**	**10 36 07.1**	**-0.5**
HAPS	**Han Pijesak,Bl**	**1.25**	**32**	*e*Pg	**Pn**	**10 35 52.1**	**-1.2**
HAPS				*e*Sg	**Sg**	**10 36 09.6**	**+0.5**
HAPS	**Han Pijesak,Bl**	**1.25**	**32**	⇑*i*Pg	**Pn**	**10 35 52.1**	**-1.2**
HAPS				*e*Sg	**Sg**	**10 36 09.1**	**0.0**
BBLS	**Lazi&#263i**	**1.30**	**50**	*e*Pg	**Pn**	**10 35 53.3**	**-0.7**
BBLS				*e*Sg	**Sn**	**10 36 12.1**	**+0.3**
BBLS	**Lazi&#263i**	**1.30**	**50**	*e*Pg	**Pn**	**10 35 53.1**	**-0.9**
BBLS				*e*Sg	**Sb**	**10 36 11.3**	**+0.2**
BEY	**Berane**	**1.38**	**96**	*e*Pg	**Pn**	**10 35 54.5**	**-0.5**
SJES	**Sjenica**	**1.44**	**80**	*e*Pg	**Pn**	**10 35 55.6**	**-0.3**
SJES				*e*Sg	**Sg**	**10 36 16.6**	**+1.3**
SJES	**Sjenica**	**1.44**	**80**	*e*Pg	**Pn**	**10 35 55.3**	**-0.6**
SJES				*e*Sg	**Sn**	**10 36 14.7**	**-0.6**
PVY	**Plav**	**1.49**	**107**	*e*Pg	**Pb**	**10 35 57.3**	**+0.1**
KIJV	**Kijevo**	**1.53**	**310**	*e*Pn	**Pn**	**10 35 57.2**	**+0.1**
MGRS	**Mrkonjic Grad**	**1.54**	**334**	*e*Pn	**Pn**	**10 35 57.2**	**-0.1**
MGRS				*e*Sn	**Sg**	**10 36 18.3**	**-0.3**
IVAS	**Ivanjica**	**1.64**	**70**	*e*Pg	**Pn**	**10 35 59.1**	**+0.5**
IVAS				*e*Sg	**Sb**	**10 36 21.6**	**+0.7**
DIVS	**Divibare**	**1.78**	**53**	*e*Pg	**Pn**	**10 36 00.5**	**0.0**
DIVS				*e*Sg	**Sg**	**10 36 27.4**	**+1.2**
A050A	**Klekovaca**	**1.81**	**324**	*e*Pn	**Pn**	**10 36 01.4**	**+0.5**
A050A				*e*Sn	**Sn**	**10 36 24.6**	**+0.3**
BLY	**Banja Luka**	**1.82**	**341**	*e*Pn	**Pn**	**10 36 01.5**	**+0.5**
BLY				*e*Sn	**Sn**	**10 36 24.7**	**+0.2**
TEKS	**Tekeris**	**1.86**	**35**	*e*Pg	**Pg**	**10 36 04.8**	**+0.1**
TEKS				*e*Sg	**Sg**	**10 36 30.7**	**+1.8**
TEKS	**Tekeris**	**1.86**	**35**	*e*Pn	**Pn**	**10 36 02.2**	**+0.6**
TEKS				*e*Sn	**Sn**	**10 36 25.7**	**+0.1**
TRUS	**Trudelj**	**2.10**	**55**	*e*Pn	**Pn**	**10 36 04.0**	**-0.8**
TRUS				*e*Sg	**Sg**	**10 36 38.1**	**+1.8**
GRUS	**Gruza**	**2.13**	**65**	*e*Pn	**Pn**	**10 36 04.4**	**-0.9**
GRUS				*e*Sg	**Sg**	**10 36 38.9**	**+1.3**
CRES	**Cresnjev**	**3.34**	**327**	*i* Pn	**Pn**	**10 36 23.2**	**+1.2**
GROS	**Grobnik**	**3.87**	**333**	*i* Pn	**Pn**	**10 36 29.7**	**+0.4**
VNDS	**Vrh nad Dolski**	**3.88**	**323**	*e*Pn	**Pn**	**10 36 30.1**	**+0.7**
SOKA	**Soboth**	**4.22**	**331**	*i* Pn	**Pn**	**10 36 34.8**	**+0.7**
2.7nm,0.4s							
OBKA	**Obir**	**4.27**	**326**	*e*Pn	**Pn**	**10 36 36.8**	**+2.0**
1.3nm,0.4s							
OBKA	**Obir**	**4.27**	**326**	*e*Pn	**Pn**	**10 36 35.3**	**+0.6**
ARSA	**Arzberg**	**4.58**	**338**	*i* Pn	**Pn**	**10 36 39.7**	**+0.8**
3.0nm,0.3s							
KBA	**Koelnbreinsper**	**5.23**	**322**	*e*Pn	**Pn**	**10 36 47.8**	**-0.2**
0.4nm,0.2s							
ABTA	**Abfaltersbach**	**5.40**	**315**	*i* Pn	**Pn**	**10 36 50.4**	**+0.1**
0.8nm,0.2s							
MOA	**Molln**	**5.50**	**333**	*i* Pn	**Pn**	**10 36 53.3**	**+1.7**
1.9nm,0.4s							
WTTA	**Wattenberg**	**6.19**	**315**	*i* Pn	**Pn**	**10 37 01.7**	**+0.5**
1.1nm,0.3s							

*MOS **04** 11:04:08.6±0.9, 33.°00N×136.°07E, h427km, mb4.4/27, Error ellipse: s-maj=8.2km s-min=4.6km az=98.8*
*BJI **04** 11:04:08.8±0.0, 33.°10N×136.°08E, h431km, mb5.1/49, mB5.1/14*
*NIED **04** 11:04:10.0, 33.°08N×136.°16E, h439km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.13; $M_{\theta\theta}$6.00; $M_{\phi\phi}$-7.13; $M_{r\theta}$3.86; $M_{r\phi}$-0.43; $M_{\theta\phi}$-2.48;

JHU Hanno 3.84 43 *i* P **P 11 05 22.8 0.0**
JHU S **S 11 06 19.4 -2.4**
MAJO Matsushiro 3.89 26 P **P 11 05 23.3 0.0**
MAJO Matsushiro 3.89 26 **P 11 05 23.3 0.0**
MAJO Matsushiro 3.89 26*d i*P **P 11 05 22.8 -0.5**
MJAR Matsushiro Arr 3.89 26 P **P 11 05 23.0 -0.3**
80nm,0.4s,baz=284,slow=10,SNR=246
MJAR S **S 11 06 23.2 +0.6**
51nm,0.6s,baz=196,slow=14,SNR=9.8
MJB9 Matsu-Tunnel 3.89 26 **P 11 05 24.3 +1.0**
BSO4 Boso 4 4.02 60 P **P 11 05 23.4 -1.0**
BSO4 S **S 11 06 24.7 +0.1**
BSO3 Boso 3 4.07 64 P **P 11 05 23.1 -1.5**
BSO3 S **S 11 06 23.8 -1.3**
JAG Ashikaga 4.35 39 *i* P **P 11 05 26.3 -1.2**
BSO1 Boso 1 4.37 67 P **P 11 05 25.1 -1.9**
BSO1 *e*S **S 11 06 26.4 -3.3**
JNU Nakatsue 4.37 272 P **P 11 05 28.4 +0.6**
JNU Nakatsue 4.37 272 P **P 11 05 28.7 +0.9**
209nm,0.8s,baz=95,slow=2.7,SNR=86
JNU S **S 11 06 31.0 +0.2**
52nm,1.1s,baz=166,slow=23,SNR=1.8
JYT Yasato 4.63 46 *e*S **S 11 06 29.5 -5.6**
JHO Hitachi 5.11 45 *i* P **P 11 05 33.2 -1.6**
JHO S **S 11 06 38.0 -5.8**
JSD Sado 5.27 19 P **P 11 05 36.5 +0.1**
JSD Sado 5.27 19 P **P 11 05 36.2 -0.2**
JTU Tsushima 5.75 287 P **P 11 05 41.9 +0.5**
JFK Kawauchi 5.81 41 P **P 11 05 40.4 -1.7**
JFK S **S 11 06 50.5 -6.5**
JMM Marumori 6.14 37 P **P 11 05 44.0 -1.4**
JMM Marumori 6.14 37 P **P 11 05 44.3 -1.1**
TJN Taejon 7.91 297 P **P 11 06 06.0 +1.3**
TJN Taejon 7.91 297 P **P 11 06 06.3 +1.6**
TJN Taejon 7.91 297*de*P **P 11 06 04.2 -0.5**
JCJ Chichijima 7.95 137 P **P 11 06 03.0 -2.4**
JCJ Chichijima 7.95 137 P **P 11 06 03.3 -2.1**
JCJ Chichijima 7.95 137 P P 11 05 58.6 -6.7
122nm,0.3s,baz=281,slow=18,SNR=15
JCJ S S 11 07 26.6 -13
659nm,0.6s,baz=311,slow=22,SNR=22
KSRS Korea Array 7.99 306 P **P 11 06 06.5 +1.0**
32nm,0.6s,baz=121,slow=9.9,SNR=131
KSRS S **S 11 07 40.6 +0.9**
9.1nm,1.0s,baz=108,slow=21,SNR=8.0
KSAR Wonju Array Be 8.01 305 P **P 11 06 06.7 +1.1**
KSAR Wonju Array Be 8.01 305 P **P 11 06 06.7 +1.1**
KS19 Wonju Array Si 8.05 306 P **P 11 06 06.7 +0.6**
JTM Tenmabayashi 8.68 26 P **P 11 06 13.3 +0.3**
JTM Tenmabayashi 8.68 26 P **P 11 06 12.1 -0.8**
INCN Inchon 8.90 302 P **P 11 06 16.5 +1.0**
INCN Inchon 8.90 302 **P 11 06 16.3 +0.9**
INCN Inchon 8.90 302 P **P 11 06 16.3 +0.9**
JOW Kunigami 9.19 230 P **P 11 06 19.1 +0.3**
JOW Kunigami 9.19 230 P **P 11 06 19.4 +0.6**
JOW Kunigami 9.19 230 P **P 11 06 19.7 +0.9**
119nm,0.7s,baz=99,slow=18,SNR=18
MSHR Mys Shultsa 10.27 339*de*P **P 11 06 31.0 +0.6**
PSTR Posyet 10.44 338*c i*P **P 11 06 32.3 0.0**
ERM Erimo 10.55 30 P **P 11 06 33.5 0.0**
ERM Erimo 10.55 30 P **P 11 06 33.4 -0.1**
ERM Erimo 10.55 30*ce*P **P 11 06 33.0 -0.5**
ERM pmax pmax
comp=Z,50nm,0.7s
JEM Erimo 10.55 30 P **P 11 06 33.4 -0.1**
VLA Vladivostok 10.57 343 *i* P **P 11 06 34.4 +0.7**
VLA pmax pmax
comp=Z,128nm,1.0s
USA0B Ussuriysk Arra 11.57 345 P **P 11 06 44.6 -0.1**
USA0B Ussuriysk Arra 11.57 345 P **P 11 06 44.6 -0.1**
USRK Ussuriysk Ar. 11.57 345 P **P 11 06 44.8 +0.1**
comp=Z,66nm,0.8s,baz=160,slow=11,SNR=82
TEY Ternei 11.96 2⇑*e*P **P 11 06 48.7 -0.2**
TEY pmax pmax
comp=N,30nm,0.7s
TEY pmax pmax
comp=E,20nm,0.7s
TEY pmax pmax
comp=Z,50nm,0.7s
ASAJ Asahikawa 12.15 23 P **P 11 06 50.9 -0.1**
comp=Z,30nm,0.7s,baz=213,slow=8.0,SNR=24
ASAJ S **S 11 09 01.9 -1.6**
comp=Z,57nm,0.9s,baz=74,slow=28,SNR=11
JKA Kamikawa-asahi 12.15 23 P **P 11 06 50.7 -0.3**
MDJ Mudanjiang 12.59 338 P **P 11 06 55.8 0.0**
DL2 Dalian 13.07 301 P **P 11 07 02.0 +0.9**
DL2 sP 11 08 38.8
DL2 S **S 11 09 23.1 +0.9**
DL2 pmax pmax
comp=Z,89nm,0.7s
DL2 pmax pmax
comp=Z,370nm,4.3s
YOJ Yonaguni jima 14.30 237 P **P 11 07 13.5 -1.1**
YOJ Yonaguni jima 14.30 237 P **P 11 07 13.1 -1.6**
YOJ Yonaguni jima 14.30 237 P **P 11 07 13.1 -1.6**
BNX BinXian 14.32 335 ⇑P **P 11 07 14.6 +0.1**
BNX pmax pmax
comp=Z,220nm,0.6s
YSS Yuzh-Sakhalins 14.78 18 P **P 11 07 20.2 +0.8**
YSS Yuzh-Sakhalins 14.78 18*oe*P **P 11 07 20.4 +1.0**
YSS *e*S **S 11 09 55.7 0.0**
YSS pmax pmax
comp=Z,130nm,0.9s
YSS pmax pmax
comp=Z,200nm,3.6s
YSS smax smax
comp=N,200nm,5.8s
YSS smax smax
comp=N,50nm,0.9s
YSS smax smax
comp=E,20nm,0.8s
YHNB Yeheng 15.35 241 P **P 11 07 24.7 -1.3**
YHNB Yeheng 15.35 241 P **P 11 07 24.9 -1.1**
NACB Ninganchiao 15.49 239 P **P 11 07 25.2 -2.2**
NACB Ninganchiao 15.49 239 P **P 11 07 24.7 -2.6**
TIA Tai'an 15.92 287 P **P 11 07 31.4 -0.4**
TIA pmax pmax
comp=E,19nm,0.9s
SSLB Suanglung 16.19 239 P **P 11 07 33.5 -1.4**
SSLB Suanglung 16.19 239 P **P 11 07 32.9 -2.0**
YULB Yu-li 16.19 237 P **P 11 07 33.8 -1.1**
YULB Yu-li 16.19 237 P **P 11 07 32.6 -2.3**
KLR Kul'dur 16.48 350 P **P 11 07 36.5 -1.0**
comp=E,26nm,0.7s,baz=166,slow=7.6,SNR=75
KLR ScP **ScP 11 14 55.8 +0.1**
comp=E,3.2nm,1.0s,baz=322,slow=3.6,SNR=4.8
KLR Kul'dur 16.48 350 *e*P **P 11 07 34.8 -2.7**
KLR pmax pmax
comp=Z,47nm,1.2s
UGL Uglegorsk 16.62 14⇑*i*P **P 11 07 40.3 +1.3**
UGL S **S 11 10 29.1 -2.3**
UGL pmax pmax
comp=Z,189nm,0.7s
TWGBT Beinan 16.71 236 P **P 11 07 41.8 +1.4**
TWG Pinlang 16.71 236 P **P 11 07 38.0 -2.4**
TPUB Ta-pu 16.72 238 P **P 11 07 39.7 -0.8**
TPUB Ta-pu 16.72 238 P **P 11 07 38.7 -1.8**
BJT Baijiatuau 17.43 299 P **P 11 07 46.6 -1.2**
BJT Baijiatuau 17.43 299 P **P 11 07 46.6 -1.2**
BJT pmax pmax
comp=Z,28nm,1.0s
GRNR Gornyy 17.70 1⇑*i*P **P 11 07 50.9 +0.4**
GRNR pmax pmax
comp=N,60nm,1.0s
GRNR pmax pmax
comp=Z,80nm,1.1s
KNMB Chin-men Tao 17.70 246 P **P 11 07 49.6 -1.3**
HNS HongShan 17.99 290 ⇑P **P 11 07 52.0 -1.7**
HNS pmax pmax
comp=Z,23nm,1.1s
HEH HeiHe 18.34 342 *e*P **P 11 07 54.8 -2.3**
HEH pmax pmax
comp=Z,74nm,0.9s
TYV Tymovskoe 18.43 13 *e*P **P 11 07 58.4 +0.4**
TYV pmax pmax
comp=Z,21nm,0.7s
TYV pmax pmax
comp=Z,100nm,4.2s
WHN Wuhan 18.64 268 ⇓P **P 11 07 59.7 -0.6**
LYN LuoYang 19.68 281⇑*i*P **P 11 08 09.4 -0.6**
LYN pmax pmax
comp=Z,71nm,0.6s
HIA Hailar 20.26 328 P **P 11 08 15.3 +0.1**

HIA Hailar 20.26 328*c i*P **P 11 08 15.1 -0.1**
HIA pmax pmax
comp=Z,40nm,1.0s
HHC Hu-ho-hao-te 21.04 299 *e*P **P 11 08 22.4 -0.1**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,120nm,5.5s
ZEA Zeya 21.61 346 *e*P **P 11 08 28.2 +0.9**
ZEA pmax pmax
comp=E,20nm,0.5s
ZEA pmax pmax
comp=N,60nm,0.8s
ZEA pmax pmax
comp=Z,120nm,0.7s
XAN Xi'an 22.64 280 ⇓P **P 11 08 36.4 -0.6**
XAN pmax pmax
comp=Z,77nm,1.1s
ENH Enshi 22.79 270 P **P 11 08 38.2 -0.2**
ENH Enshi 22.79 270 P **P 11 08 37.7 -0.7**
PEA0B Petropavlovsk- 25.33 31 P **P 11 09 01.5 +0.8**
PEA0B Petropavlovsk- 25.33 31*ce*P **P 11 09 02.3 +1.6**
PETK Petropavlovsk- 25.33 31 P **P 11 09 01.1 +0.4**
PETK Petropavlovsk- 25.33 31 P **P 11 09 01.6 +0.9**
comp=Z,16nm,0.8s,baz=216,slow=7.3,SNR=24
comp=Z,16nm,0.8s
PET Petropavlovsk 25.69 32 P **P 11 09 04.4 +0.5**
PET Petropavlovsk 25.69 32 P **P 11 09 04.5 +0.5**
PET Petropavlovsk 25.69 32 *e*P **P 11 09 04.6 +0.7**
PET pmax pmax
comp=Z,29nm,0.6s
ULN Ulaanbaatar 26.39 313 P **P 11 09 11.6 +1.3**
ULN Ulaanbaatar 26.39 313*ce*P **P 11 09 11.1 +0.7**
ULN pmax pmax
comp=Z,13nm,1.7s
LZH Lanzhou 26.65 286 *e*P **P 11 09 12.5 -0.4**
LZH pmax pmax
comp=Z,14nm,1.1s
SONM Songino Array 26.78 312 P **P 11 09 14.7 +0.9**
comp=Z,2.5nm,0.6s,baz=111,slow=8.3,SNR=13
SONM ScP **ScP 11 15 21.9 -0.1**
comp=Z,2.2nm,0.8s,baz=142,slow=3.3,SNR=6.5
comp=Z,2.5nm,0.6s
CD2 Chengdu 27.45 274 P **P 11 09 18.8 -1.1**
CD2 pmax pmax
comp=Z,70nm,0.5s
MA2 Magadan 28.26 16 P **P 11 09 27.0 +0.4**
MA2 Magadan 28.26 16*c i*P **P 11 09 26.8 +0.3**
MA2 pmax pmax
comp=Z,64nm,0.7s
MA2 Magadan 28.26 16 P **P 11 09 26.5 0.0**
comp=Z,97nm,0.9s,comp=Z,699nm
YAK Yakutsk 29.28 354 P **P 11 09 35.5 +0.1**
YAK Yakutsk 29.28 354 *e*P **P 11 09 34.6 -0.8**
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=E,4.0nm,0.9s
ZAK Zakamensk 29.66 315 *e*P **P 11 09 38.1 -1.0**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
GTA Gaotai 29.79 293 *e*P **P 11 09 40.3 -0.1**
GTA pmax pmax
comp=Z,8.0nm,0.9s
KMI Kunming 30.10 264 ⇑P **P 11 09 42.9 -0.4**
KMI pmax pmax
comp=Z,17nm,0.8s
PZH PanZhiHua 30.42 267 P **P 11 09 47.1 +1.1**
PZH pmax pmax
comp=Z,9.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.1s
SEY Seymchan 31.62 14 *e*P **P 11 09 55.2 -0.5**
SEY pmax pmax
comp=Z,12nm,0.8s
MYLDM Lahad Datu 32.22 214 P **P 11 10 02.7 +1.2**
DLV T Lat 32.87 237 P **P 11 10 07.4 +0.1**
UBPT Khong Chiam 32.89 245 P **P 11 10 07.8 +0.6**
GOMU GeErMu 33.92 287 P **P 11 10 16.9 +0.6**
GOMU pmax pmax
comp=Z,55nm,0.8s
TOLI2 Tolitoli 34.88 207 P **P 11 10 23.9 -0.2**
FAKI Fak Fak 35.97 187 P **P 11 10 32.1 -1.1**
FAKI Fak Fak 35.97 187 P **P 11 10 33.0 -0.2**
CHTO Chiang Mai 36.09 256 P **P 11 10 32.7 -1.5**
CHTO Chiang Mai 36.09 256 P **P 11 10 32.7 -1.5**
CHTO pmax pmax
comp=Z,71nm,0.6s
SBUM Sibu 37.78 221 P **P 11 10 48.4 +0.1**
TIXI Tiksi 38.84 356 P **P 11 10 55.9 -0.3**
TIXI Tiksi 38.84 356*ce*P **P 11 10 55.8 -0.4**
TIXI pmax pmax
comp=Z,27nm,0.8s
BILL Bilibino 39.09 17 P **P 11 10 59.4 +1.1**
BILL Bilibino 39.09 17*ce*P **P 11 10 59.1 +0.8**
BILL pmax pmax
comp=Z,77nm,1.0s
ATKA Atka Island 40.35 46 P **P 11 11 09.2 +0.5**
KAPI Kappang 40.91 205 P **P 11 11 13.2 -0.5**
KAPI Kappang 40.91 205 P **P 11 11 13.3 -0.5**
comp=Z,9.0nm,0.4s,baz=316,slow=8.2,SNR=4.7
comp=Z,9.0nm,0.4s
ZAA0 Zalesovo Array 41.54 316 P **P 11 11 17.7 -0.5**
ZALV Zalesovo Beam 41.54 316 P **P 11 11 17.6 -0.6**
ZALV Zalesovo Beam 41.54 316 P **P 11 11 17.8 -0.4**
comp=Z,2.5nm,0.4s,baz=96,slow=8.6,SNR=9.8
ZALV PcP **PP 11 13 05.2 -0.3**
comp=Z,1.7nm,0.5s,baz=111,slow=4.6,SNR=7.3
ZALV ScP **ScP 11 16 13.5 -0.8**
comp=Z,1.0nm,0.3s,baz=108,slow=4.7,SNR=4.0
comp=Z,2.5nm,0.4s
MK31 Makanchi Array 42.67 305 P **P 11 11 27.5 +0.2**
MK31 Makanchi Array 42.67 305⇑*e*P **P 11 11 27.3 -0.1**
MKAR Makanchi Array 42.67 305 P **P 11 11 27.6 +0.2**
comp=Z,3.1nm,0.7s,baz=90,slow=9.8,SNR=21
MKAR PcP **PcP 11 13 09.8 -0.2**
comp=Z,0.6nm,0.6s,baz=110,slow=3.4,SNR=2.6
MKAR ScP **ScP 11 16 17.9 -1.1**
comp=Z,2.2nm,0.6s,baz=80,slow=5.5,SNR=17
comp=Z,3.1nm,0.7s
MAKZ Makanchi 42.88 305 P **P 11 11 29.4 +0.3**
MAKZ Makanchi 42.88 305 P **P 11 11 29.4 +0.3**
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
IPM Ipoh 43.33 237 **P 11 11 32.4 -0.5**
SPIA Saint Paul Isl 43.42 40 P **P 11 11 33.1 0.0**
baz=260
NIKH Nikolski High 43.67 46 P **P 11 11 35.7 +0.6**
NIKH Nikolski High 43.67 46 P **P 11 11 35.6 +0.4**
baz=265
P08K Saint George I 43.70 41 P **P 11 11 35.6 +0.4**
baz=261
KURK Kurchatov 45.07 311 P **P 11 11 45.5 -0.5**
KURK IAmb IAmb 11 11 46.4
comp=Z,8.8nm,0.8s
KURK Kurchatov 45.07 311 P **P 11 11 46.1 +0.1**
KURK 11 13 17.5
KURBB Kurchatov Arra 45.13 311 P **P 11 11 46.1 -0.4**
comp=Z,4.5nm,0.2s,baz=96,slow=6.6,SNR=16
KURBB PcP **PcP 11 13 17.5 -0.7**
comp=Z,0.4nm,0.3s,baz=97,slow=3.7,SNR=2.7
comp=Z,4.5nm,0.2s
UNV Unalaska Valle 45.14 45 P **P 11 11 47.6 +1.1**
baz=266
NRIK Noril'sk 45.17 338 P **P 11 11 47.0 +0.5**
NRIK IAmb IAmb 11 11 47.6
comp=Z,13nm,1.1s
NRIK Noril'sk 45.17 338 P **P 11 11 46.7 +0.1**
comp=Z,4.9nm,0.3s,baz=121,slow=8.9,SNR=7.2
NRIK PcP **PcP 11 13 18.4 +0.3**
comp=Z,1.6nm,0.4s,baz=54,slow=4.6,SNR=1.6
NRIK ScP **ScP 11 16 28.6 -0.2**
comp=Z,7.3nm,0.8s,baz=116,slow=4.1,SNR=5.5
comp=Z,4.9nm,0.3s
NRIK Noril'sk 45.17 338*c i*P **P 11 11 46.6 +0.1**
NRIK pmax pmax
comp=Z,10.0nm,1.0s
MTN Manton Dam 45.89 187 P **P 11 11 52.1 -0.6**
M11K Mekoryuk 46.05 36 P **P 11 11 54.3 +0.9**
baz=260
TNA Tin City 46.44 28 P **P 11 11 57.7 +1.4**
baz=254
K13K Kusilvak Mount 47.05 34 P **P 11 12 02.3 +1.3**
baz=260

F14K Arctic Creek 47.06 29 P **P 11 12 02.8 +1.8**
baz=256
ANM Nome 47.24 30 P **P 11 12 03.9 +1.5**
baz=257
M13K Dall Lake 47.45 36 P **P 11 12 05.5 +1.4**
baz=263
J14K Nanvaranak Lak 47.69 33 P **P 11 12 07.1 +1.3**
baz=261
F15K North Star Dit 47.79 29 P **P 11 12 08.4 +1.8**
F15K North Star Dit 47.79 29 P **P 11 12 08.3 +1.7**
baz=257,SNR=13
G15K Niukluk 47.89 30 P **P 11 12 08.7 +1.4**
baz=258
L14K Kuka Creek 47.89 35 P **P 11 12 09.1 +1.7**
baz=263
GSI Gunungsitoli 47.99 237 P **P 11 12 08.8 -0.1**
GSI Gunungsitoli 47.99 237 P **P 11 12 08.1 -0.8**
KSH Kashi 48.10 296 P **P 11 12 13.5 +3.9**
KSH pmax pmax
comp=Z,9.0nm,0.6s
C16K Lisburne Hills 48.17 25 P **P 11 12 10.4 +1.1**
baz=254
M14K Bethel 48.17 36 P **P 11 12 10.2 +0.7**
M14K IAmb IAmb 11 12 11.9
comp=Z,13nm,0.8s
M14K Bethel 48.17 36 P **P 11 12 11.1 +1.6**
baz=264
N14K Kuskokwak Cree 48.23 37 P **P 11 12 11.0 +1.1**
baz=265
O14K Tigyukauivet M 48.39 38 P **P 11 12 12.2 +1.0**
baz=266
L15K Ungalak Mounta 48.50 34 P **P 11 12 13.6 +1.6**
baz=264
K15K Wolf Creek Mou 48.55 34 P **P 11 12 13.3 +0.9**
baz=263
H16K Elim 48.58 30 P **P 11 12 13.6 +1.1**
baz=260
AAK Ala-Archa 48.60 300*ce*P **P 11 12 13.5 +0.2**
AAK pmax pmax
comp=Z,3.0nm,0.9s
M15K Kasigluk River 48.79 36 P **P 11 12 15.3 +1.1**
baz=265
D17K Noatak River 48.85 26 P **P 11 12 15.8 +1.3**
baz=257
RDOG Red Dog Mine 48.99 26 P **P 11 12 16.8 +1.2**
baz=257
C17K DeLong Mountai 49.00 25 P **P 11 12 17.2 +1.5**
baz=256
N15K Kwethluk River 49.05 36 IAmb IAmb 11 12 18.3
comp=Z,18nm,0.7s
N15K Kwethluk River 49.05 36 P **P 11 12 17.5 +1.3**
baz=266,SNR=5.2
J16K Anvik River 49.10 32 P **P 11 12 17.6 +1.2**
baz=263
O15K Ungalikthiuk R 49.13 38 P **P 11 12 17.8 +1.1**
baz=267,SNR=7.5
I17K Unalakleet 49.13 31 P **P 11 12 17.7 +1.1**
baz=262
E17K Hotham Inlet 49.19 27 P **P 11 12 18.4 +1.4**
baz=259,SNR=5.8
CHNA Chernabura Isl 49.20 44 P **P 11 12 17.2 -0.1**
baz=271
S14K Fog Glacier 49.21 42 P **P 11 12 18.4 +0.9**
baz=270
F17K Baldwin Pennin 49.30 28 P **P 11 12 19.5 +1.6**
baz=260,SNR=12
G17K Kiwalik Mounta 49.38 29 P **P 11 12 19.8 +1.3**
baz=261,SNR=5.9
L16K Owhat River 49.46 34 P **P 11 12 20.2 +1.1**
baz=266
H17K Granite Mounta 49.61 30 P **P 11 12 21.8 +1.5**
baz=262,SNR=6.2
M16K Timber Creek 49.66 35 P **P 11 12 21.7 +1.1**
baz=266
B18K Kokolik River 49.69 24 P **P 11 12 22.3 +1.6**
baz=257
N16K Nishlik Lake 49.72 36 P **P 11 12 22.7 +1.6**
baz=267
E18K Tukpahlearik C 49.72 27 IAmb IAmb 11 12 23.6
comp=Z,19nm,0.8s
E18K Tukpahlearik C 49.72 27 P **P 11 12 22.6 +1.6**
baz=260,SNR=7.8
C18K Utukok River 49.74 25 P **P 11 12 22.3 +1.1**
baz=258,SNR=5.9
J17K VABM Dome 49.79 32 P **P 11 12 23.1 +1.5**
baz=264,SNR=8.7
F18K Selawik 49.95 28 P **P 11 12 24.1 +1.4**
baz=261,SNR=14
O16K Kokwok River B 50.03 37 IAmb IAmb 11 12 25.5
comp=Z,16nm,1.1s
O16K Kokwok River B 50.03 37 P **P 11 12 24.4 +1.0**
baz=268,SNR=5.6
L17K Donlin 50.05 34 P **P 11 12 25.0 +1.5**
baz=266
P16K Nushagak River 50.07 38 P **P 11 12 24.7 +1.0**
baz=269
K17K Iditarod 50.09 33 IAmb IAmb 11 12 25.9
comp=Z,9.9nm,0.6s
K17K Iditarod 50.09 33 P **P 11 12 25.3 +1.5**
baz=266,SNR=6.2
BVAR Borovoye Array 50.10 314 P **P 11 12 23.9 -0.1**
comp=Z,3.2nm,0.4s,baz=95,slow=8.8,SNR=21
BVAR PcP **PcP 11 13 36.1 -0.1**
comp=Z,1.4nm,0.4s,baz=90,slow=4.7,SNR=5.7
BVAR ScP **ScP 11 16 49.6 -0.4**
comp=Z,1.2nm,0.7s,baz=99,slow=4.7,SNR=4.3
BVAR S **S 11 19 00.2 -1.8**
comp=Z,6.4nm,0.8s,baz=89,slow=14,SNR=16
comp=Z,3.2nm,0.4s
BRVK Borovoye 50.16 314 P **P 11 12 24.5 0.0**
BRVK Borovoye 50.16 314*ce*P **P 11 12 23.9 -0.6**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
G18K Tagagawik 50.26 29 P **P 11 12 26.0 +1.0**
G18K IAmb IAmb 11 12 27.1
comp=Z,16nm,0.9s
G18K Tagagawik 50.26 29 P **P 11 12 26.1 +1.0**
baz=263,SNR=17
H18K Honhosa River 50.29 30 P **P 11 12 26.4 +1.2**
H18K IAmb IAmb 11 12 27.3
comp=Z,10nm,0.8s
H18K Honhosa River 50.29 30 P **P 11 12 26.3 +1.1**
baz=264,SNR=7.2
C19K Lookout Ridge 50.41 25 P **P 11 12 27.7 +1.6**
C19K IAmb IAmb 11 12 29.1
comp=Z,22nm,0.8s
C19K Lookout Ridge 50.41 25 P **P 11 12 27.9 +1.8**
baz=259,SNR=6.9
M17K Holitna River 50.41 35 IAmb IAmb 11 12 28.4
comp=Z,8.9nm,0.8s
M17K Holitna River 50.41 35 P **P 11 12 27.8 +1.6**
baz=268
N17K Nushagak Hills 50.51 36 IAmb IAmb 11 12 29.6
comp=Z,18nm,1.2s
N17K Nushagak Hills 50.51 36 P **P 11 12 28.6 +1.7**
baz=268
O17K Koliganek Bris 50.54 37 P **P 11 12 28.3 +1.2**
baz=269
F19K Shaleruckik Mo 50.73 28 P **P 11 12 29.3 +0.9**
baz=263,SNR=5.9
Q16K King Salmon 50.76 38 P **P 11 12 29.7 +1.0**
baz=270
L18K Granite Mounta 50.80 34 P **P 11 12 30.8 +1.7**
baz=268,SNR=6.5
D19K Kuna River 50.83 26 IAmb IAmb 11 12 31.4
comp=Z,26nm,1.1s
D19K Kuna River 50.83 26 P **P 11 12 30.5 +1.3**
baz=261
J18K Innoko River 50.86 32 P **P 11 12 30.3 +0.8**
baz=266
P17K Kvichak River 50.87 38 P **P 11 12 30.7 +1.1**
baz=270
GCSA Galena City Sc 50.88 31 P **P 11 12 30.4 +0.9**
baz=265
G19K Purcell Mounta 50.92 29 IAmb IAmb 11 12 31.8
comp=Z,16nm,1.2s
G19K Purcell Mounta 50.92 29 P **P 11 12 30.7 +0.9**
baz=264,SNR=7.4
R17L Mt. Peulik Vol 50.94 40 P **P 11 12 31.0 +0.8**
baz=272
E19K Redstone River 51.01 27 P **P 11 12 31.9 +1.4**
baz=263
H19K Roundabout Mou 51.12 30 IAmb IAmb 11 12 33.2
comp=Z,10nm,0.7s
H19K Roundabout Mou 51.12 30 P **P 11 12 32.8 +1.4**
baz=265,SNR=16
N18K Kilae Creek 51.15 36 P **P 11 12 32.9 +1.3**
baz=270

Q17K	Contact Creek	51.17	39	P	P	11 12 32.7	+0.7
	baz=272						
M18K	Stony River	51.19	35	P	P	11 12 33.3	+1.4
	baz=269						
J19K	Poorman	51.37	32	P	P	11 12 34.2	+1.0
J19K	Poorman	51.37	32	P	P	11 12 34.3	+1.1
	baz=267,SNR=11						
KK31	Karatay Array	51.39	301	P	P	11 12 34.1	+0.4
KK31	Karatay Array	51.39	301	P	P	11 12 34.1	+0.4
KK31				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KKAR	Karatay Array	51.39	301	P	P	11 12 34.3	+0.6
KKAR	Karatay Array	51.39	301	P	P	11 12 34.3	+0.6
B20K	Meade River	51.41	24	P	P	11 12 34.5	+1.2
	baz=261						
D20K	Etivluk River	51.41	26	P	P	11 12 34.6	+1.1
	baz=262,SNR=8.1						
CHIR	Chirikof Islan	51.43	42	P	P	11 12 34.0	+0.3
	baz=274						
P18K	Big Mountain,	51.49	38	IAmb	IAmb	11 12 36.0	
	comp=Z,20nm,0.8s						
P18K	Big Mountain,	51.49	38	P	P	11 12 34.8	+0.7
	baz=271,SNR=10.0						
O18K	Koktuh Hills	51.49	37	IAmb	IAmb	11 12 37.2	
	comp=Z,20nm,0.9s						
O18K	Koktuh Hills	51.49	37	P	P	11 12 35.4	+1.3
	baz=271,SNR=7.1						
E20K	Nigu River	51.51	26	P	P	11 12 35.5	+1.3
	baz=263,SNR=5.7						
F20K	Avaraart Lake	51.55	28	P	P	11 12 35.6	+1.2
	baz=265						
Q18K	Katmai Hardscr	51.62	38	P	P	11 12 35.3	+0.1
	baz=272						
L19K	White Mountain	51.66	34	IAmb	IAmb	11 12 37.9	
	comp=Z,20nm,1.4s						
L19K	White Mountain	51.66	34	P	P	11 12 36.8	+1.4
	baz=269,SNR=6.5						
NIL	Nilore	51.74	289	P	P	11 12 37.1	+0.7
NIL				IAmb	IAmb	11 12 37.6	
	comp=Z,18nm,0.8s						
NIL	Nilore	51.74	289	P	P	11 12 37.1	+0.7
NIL				pmax	pmax		
	comp=Z,17nm,0.8s						
H20K	Anotleneega Mo	51.77	30	P	P	11 12 37.5	+1.3
	baz=267,SNR=12						
A21K	Barrow	51.80	22	P	P	11 12 37.4	+1.2
	baz=260						
N19K	Bonanza Creek	51.84	36	IAmb	IAmb	11 12 39.0	
	comp=Z,9.0nm,0.7s						
N19K	Bonanza Creek	51.84	36	P	P	11 12 38.1	+1.3
	baz=271,SNR=6.1						
FITZ	Fitzroy Crossi	51.84	193		P	11 12 37.2	+0.1
M19K	Big River Lodg	51.88	34	P	P	11 12 38.2	+1.3
	baz=270						
I20K	Naaghedeneel	51.91	31	P	P	11 12 38.9	+1.8
I20K	Naaghedeneel	51.91	31	P	P	11 12 38.7	+1.7
	baz=268,SNR=8.5						
O19K	Port Alsworth	51.93	36	P	P	11 12 38.7	+1.4
	baz=271						
R18K	Karluk	51.97	40	P	P	11 12 38.0	+0.4
	baz=273						
J20K	Nowinta River	52.03	31	IAmb	IAmb	11 12 40.5	
	comp=Z,12nm,0.7s						
J20K	Nowinta River	52.03	31	P	P	11 12 39.6	+1.6
	baz=268,SNR=15						
K20K	Telida	52.04	32	IAmb	IAmb	11 12 40.3	
	comp=Z,9.7nm,0.7s						
K20K	Telida	52.04	32	P	P	11 12 39.6	+1.5
	baz=269,SNR=11						
C21K	Knifeblade Rid	52.12	25	P	P	11 12 39.8	+1.2
	baz=264						
L20K	Farewell, AK	52.12	34	P	P	11 12 40.1	+1.4
	baz=270,SNR=7.4						
XMIS	Christmas Isla	52.12	219	P	P	11 12 38.4	-0.9
SII	Sitkinak Islan	52.18	41	P	P	11 12 39.9	+0.7
	baz=274						
B21K	Ikpikpuk River	52.23	24	P	P	11 12 40.7	+1.4
	baz=264,SNR=5.8						
IMAR	Indian Mountai	52.27	29	P	P	11 12 40.4	+0.7
IMAR				PcP	PcP	11 13 45.1	+1.0
A22K	Sinclair Lake	52.28	23	P	P	11 12 41.0	+1.3
	baz=262						
Q19K	Cape Douglas,	52.32	38	P	P	11 12 40.6	+0.3
Q19K	Cape Douglas,	52.32	38	P	P	11 12 41.3	+1.1
	baz=273						
E21K	Killik River	52.34	26	IAmb	IAmb	11 12 42.1	
	comp=Z,16nm,0.9s						
E21K	Killik River	52.34	26	P	P	11 12 41.0	+0.7
	baz=265						
G21K	Allakaket	52.39	28	P	P	11 12 41.8	+1.2
G21K	Allakaket	52.39	28	P	P	11 12 41.7	+1.2
	baz=267,SNR=11						
F21K	Alatna River	52.44	28	P	P	11 12 41.8	+0.9
	baz=267,SNR=6.9						
M20K	Styx River	52.48	34	P	P	11 12 42.4	+1.0
	baz=271						
P19K	Oil Pt	52.50	37	P	P	11 12 42.3	+0.8
	baz=273						
WB0	Warramunga Arr	52.55	182	P	P	11 12 41.9	-0.4
OHAK	Old Harbor	52.62	40	P	P	11 12 42.2	-0.1
OHAK	Old Harbor	52.62	40	P	P	11 12 42.4	0.0
OHAK	Old Harbor	52.62	40	P	P	11 12 42.6	+0.3
	baz=274						
H21K	Melozitna Rive	52.64	30	P	P	11 12 43.9	+1.5
H21K				IAmb	IAmb	11 12 44.9	
	comp=Z,13nm,0.9s						
H21K	Melozitna Rive	52.64	30	P	P	11 12 44.0	+1.5
	baz=268,SNR=16						
RSO	Redoubt South	52.70	36	P	P	11 12 44.1	+0.9
B22K	Teshekpuk Lake	52.71	24	P	P	11 12 44.0	+1.1
B22K	Teshekpuk Lake	52.71	24	P	P	11 12 43.9	+1.1
	baz=264						
WRAB	Tennant Creek	52.72	182	P	P	11 12 43.2	-0.3
WRAB				IAmb	IAmb	11 12 44.4	
	comp=Z,17nm,1.2s						
WRAB	Tennant Creek	52.72	182*d*	*i*P	P	11 12 42.9	-0.6
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WB2	Warramunga Arr	52.73	182		P	11 12 43.2	-0.3
WB2				IAmb	IAmb	11 12 43.5	
	comp=Z,8.5nm,0.7s						
WRA	Warramunga Arr	52.73	182	P	P	11 12 42.6	-1.0
WRA	Warramunga Arr	52.73	182	P	P	11 12 43.1	-0.5
	comp=Z,5.3nm,0.3s,baz=0.5,slow=7.6,SNR=215						
WRA				PcP	PcP	11 13 46.7	+0.2
	comp=Z,0.7nm,0.6s,baz=2.1,slow=5.6,SNR=1.0						
WRA				ScP	ScP	11 17 01.4	-0.4
	comp=Z,0.6nm,0.6s,baz=359,slow=5.1,SNR=2.7						
	comp=Z,5.3nm,0.3s						
WR0	Warramunga Arr	52.74	182	P	P	11 12 43.4	-0.3
WR0				IAmb	IAmb	11 12 44.0	
	comp=Z,34nm,1.3s						
O20K	Slope Mountain	52.78	37	P	P	11 12 44.3	+0.7
	baz=273						
CHUM	Lake Minchumin	52.83	32	P	P	11 12 45.6	+1.8
	baz=270,SNR=9.0						
D22K	Ayikyak River	52.85	26	P	P	11 12 45.3	+1.5
	baz=266,SNR=10						
PPLA	Pukeypile	52.90	33	P	P	11 12 45.9	+1.5
	baz=271,SNR=7.1						
CAST	Castle Rocks	52.94	32	IAmb	IAmb	11 12 47.0	
	comp=Z,19nm,1.3s						
CAST	Castle Rocks	52.94	32	P	P	11 12 46.0	+1.4
	baz=271,SNR=14						
N20K	Mount Spurr	52.94	35	P	P	11 12 45.8	+1.1
	baz=272						
KDAK	Kodiak Island	52.95	39	P	P	11 12 44.9	+0.2
KDAK				IAmb	IAmb	11 12 45.8	
	comp=Z,25nm,0.9s						
KDAK	Kodiak Island	52.95	39	P	P	11 12 44.9	+0.2
	baz=275						
KDAK	Kodiak Island	52.95	39*c*	*i*P	P	11 12 44.7	0.0
KDAK				pmax	pmax		
	comp=Z,23nm,0.9s						
F22K	John River	52.96	27	P	P	11 12 46.1	+1.4
	baz=268						
Q20K	Shuyak Island	52.99	38	P	P	11 12 45.1	+0.1
	baz=274						
E22K	Anaktuvuk Pass	53.12	26	IAmb	IAmb	11 12 47.7	
	comp=Z,15nm,0.6s						
E22K	Anaktuvuk Pass	53.12	26	P	P	11 12 47.2	+1.3
	baz=267						
G22K	Bettles	53.20	28	P	P	11 12 47.5	+1.1
	baz=269						
SKT	Skwentna	53.23	34	P	P	11 12 47.5	+0.7
SKT				IAmb	IAmb	11 12 48.2	
	comp=Z,8.5nm,0.7s						
SKT	Skwentna	53.23	34	P	P	11 12 47.4	+0.7
	baz=272,SNR=8.7						
H22K	Ishtalitna Cre	53.23	29	P	P	11 12 48.5	+1.8
	baz=270,SNR=28						
BPAW	Bear Paw Mtn.	53.41	32	P	P	11 12 49.3	+1.3
	baz=271,SNR=9.5						
QIS	Mount Isa	53.42	176	P	P	11 12 48.1	-0.5
KTH	Kantishna Hill	53.45	32	IAmb	IAmb	11 12 50.5	
	comp=Z,17nm,1.3s						
CHGR	Chuyangaron	53.46	296	IAmb	IAmb	11 12 49.9	
	comp=Z,20nm,0.8s						
MLY	Manley	53.50	30	P	P	11 12 50.2	+1.6
MLY				IAmb	IAmb	11 12 51.1	
	comp=Z,16nm,1.0s						
MLY	Manley	53.50	30	P	P	11 12 50.3	+1.6
	baz=271,SNR=22						
D23K	Nanushuk River	53.57	25	P	P	11 12 50.7	+1.6
	baz=268						
SUA	Susitna One	53.63	35	P	P	11 12 50.1	+0.5
SUA				IAmb	IAmb	11 12 52.0	
	comp=Z,18nm,0.8s						
SUA	Susitna One	53.63	35	P	P	11 12 50.0	+0.3
	baz=273,SNR=9.5						
C23K	Itkillik River	53.63	24	P	P	11 12 50.7	+1.3
C23K				IAmb	IAmb	11 12 51.7	
	comp=Z,17nm,0.9s						
C23K	Itkillik River	53.63	24	P	P	11 12 50.3	+0.9
	baz=267,SNR=6.5						
BRLK	Bradley Lake	53.68	37	IAmb	IAmb	11 12 52.5	
	comp=Z,21nm,1.1s						
COLD	Coldfoot	53.72	28	P	P	11 12 51.1	+1.0
	baz=270						
CTAO	Charters Tower	53.73	168	P	P	11 12 48.8	-2.0
BRSE	Bradley Lake S	53.75	37	P	P	11 12 51.8	+1.3
	baz=275,SNR=5.0						
G23K	Bananza Creek	53.78	28	P	P	11 12 51.8	+1.2
	baz=270,SNR=15						
CUT	Chulitna	53.80	34	P	P	11 12 51.2	+0.5
	baz=273						
M22K	Willow	53.91	34	P	P	11 12 51.8	+0.3
	baz=274,SNR=7.7						
E23K	Chandalar	53.95	27	P	P	11 12 53.5	+1.6
	baz=270,SNR=21						
TOLK	Toolik Lake Re	53.97	26	P	P	11 12 53.1	+1.2
TOLK	Toolik Lake Re	53.97	26	P	P	11 12 53.1	+1.2
	baz=269,SNR=6.7						
H23K	Yukon River	53.99	29	P	P	11 12 54.0	+1.9
H23K				IAmb	IAmb	11 12 54.9	
	comp=Z,16nm,0.8s						
H23K	Yukon River	53.99	29	P	P	11 12 54.0	+1.9
	baz=271,SNR=26						
I23K	Minto, Yukon-K	54.08	30	P	P	11 12 54.0	+1.2
I23K	Minto, Yukon-K	54.08	30	P	P	11 12 53.9	+1.2
	baz=272,SNR=12						
RC01	Rabbit Creek A	54.14	35	P	P	11 12 53.9	+0.7
RC01				IAmb	IAmb	11 12 54.3	
	comp=Z,19nm,1.2s						
RC01	Rabbit Creek A	54.14	35	P	P	11 12 53.7	+0.6
	baz=274,SNR=5.1						
NEA2	Nenana	54.23	31	P	P	11 12 55.0	+1.2
	baz=273,SNR=25						
D24K	Happy Valley	54.25	25	P	P	11 12 55.3	+1.5
	baz=270,SNR=19						
C24K	Franklin Bluff	54.30	25	P	P	11 12 55.3	+1.1
	baz=269						
MCK	McKinley	54.33	32	P	P	11 12 55.0	+0.4
	baz=273,SNR=13						
MCK	McKinley	54.33	32	P	P	11 12 55.3	+0.8
SEW	Seward	54.37	36	P	P	11 12 54.8	+0.1
	baz=276,SNR=7.5						
E24K	Your Creek	54.37	27	P	P	11 12 56.2	+1.4
	baz=271,SNR=9.4						
PMR	Palmer	54.39	35	P	P	11 12 55.5	+0.6
PMR	Palmer	54.39	35	P	P	11 12 55.1	+0.2
PMR				IAmb	IAmb	11 12 56.1	
	comp=Z,18nm,1.0s						
PMR	Palmer	54.39	35	P	P	11 12 54.9	0.0
	baz=275,SNR=12						
PMR	Palmer	54.39	35	P	P	11 12 55.1	+0.2
PMR				pmax	pmax		
	comp=Z,18nm,1.0s						
GHO	Glory Hole Cre	54.48	34	IAmb	IAmb	11 12 57.2	
	comp=Z,25nm,1.1s						
WAT1	Susitna Watana	54.57	33	P	P	11 12 56.2	0.0
	baz=274						
MDM	Murphy Dome	54.57	30	P	P	11 12 57.2	+0.9
F24K	Squaw Lake	54.61	27	P	P	11 12 57.9	+1.4
F24K				IAmb	IAmb	11 12 58.3	
	comp=Z,9.3nm,0.5s						
F24K	Squaw Lake	54.61	27	P	P	11 12 57.9	+1.4
	baz=272,SNR=13						
H24K	Noodor Dome	54.67	29	P	P	11 12 58.8	+1.8
	baz=273,SNR=16						
KNK	Knik Glacier	54.73	35	IAmb	IAmb	11 12 58.8	
	comp=Z,22nm,0.8s						
KNK	Knik Glacier	54.73	35	P	P	11 12 58.0	+0.6
	baz=275						
COLA	College	54.74	30	P	P	11 12 58.7	+1.4
COLA	College	54.74	30	P	P	11 12 57.8	+0.4
COLA				IAmb	IAmb	11 12 59.8	
	comp=Z,13nm,0.8s						
COLA	College	54.74	30	P	P	11 12 58.6	+1.4
	baz=273						
COLA	College	54.74	30*de*	P	P	11 12 58.2	+0.9
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SML	Sawmill	54.75	34	P	P	11 12 58.1	+0.5
SML				IAmb	IAmb	11 12 59.1	
	comp=Z,18nm,1.0s						
SML	Sawmill	54.75	34	P	P	11 12 58.3	+0.7
	baz=275,SNR=7.8						
SML	Sawmill	54.75	34	P	P	11 12 58.1	+0.5
SML				pmax	pmax		
	comp=Z,18nm,1.0s						
CCB	Clear Creek Bu	54.77	31	P	P	11 12 58.1	+0.5
G24K	Hadweenzic Riv	54.80	28	P	P	11 12 59.3	+1.6
	baz=272						
POKR	Poker Plat Res	54.90	30	P	P	11 12 59.4	+0.9
POKR	Poker Plat Res	54.90	30	P	P	11 12 59.5	+0.9
	baz=274,SNR=20						
WAT6	Susitna Watana	54.96	33	P	P	11 12 59.4	+0.3
	baz=275,SNR=9.7						
M23K	Glacier View	55.04	34	P	P	11 12 59.8	+0.3
	baz=276						
DHY	Denali Highway	55.08	33	IAmb	IAmb	11 13 02.3	
	comp=Z,8.3nm,0.6s						
DHY	Denali Highway	55.08	33	P	P	11 13 00.6	+0.6
	baz=275,SNR=16						
D25K	Kavik River	55.12	25	IAmb	IAmb	11 13 02.0	
	comp=Z,11nm,0.7s						
D25K	Kavik River	55.12	25	P	P	11 13 01.1	+1.1
	baz=272,SNR=10						
IL31		55.16	31	P	P	11 13 00.1	-0.2
ILAR	Eielson Array	55.16	31	P	P	11 13 00.1	-0.2
	comp=Z,3.9nm,0.6s,baz=254,slow=5.5,SNR=143						
ILAR				PcP	PcP	11 13 54.2	-1.1
	comp=Z,0.5nm,0.6s,baz=275,slow=3.3,SNR=1.5						
ILAR				ScP	ScP	11 17 11.4	-0.5
	comp=Z,0.2nm,0.6s,baz=263,slow=4.8,SNR=2.2						
	comp=Z,3.9nm,0.6s						
HDA	Harding Lake	55.16	31	IAmb	IAmb	11 13 01.2	
	comp=Z,20nm,0.8s						
HDA	Harding Lake	55.16	31	P	P	11 13 00.5	+0.1
	baz=275,SNR=22						
SCM	Sheep Creek Mo	55.22	34	IAmb	IAmb	11 13 02.7	
	comp=Z,21nm,0.8s						
SCM	Sheep Creek Mo	55.22	34	P	P	11 13 01.9	+0.9
	baz=276,SNR=11						
G25K	Bearman Lake	55.34	28	P	P	11 13 03.1	+1.6
	baz=274,SNR=6.4						
P23K	Montague Islan	55.40	36	P	P	11 13 02.9	+0.8
	baz=277						
GLI	Glacier Island	55.44	35	P	P	11 13 03.1	+0.8
GLI				IAmb	IAmb	11 13 03.7	
	comp=Z,17nm,0.6s						
GLI	Glacier Island	55.44	35	P	P	11 13 02.7	+0.3
	baz=277						
E25K	Arctic Village	55.46	26	P	P	11 13 04.2	+1.7
	baz=273,SNR=9.1						
F25K	Christian Rive	55.47	27	P	P	11 13 04.6	+2.1
	baz=274,SNR=13						
H25L	Birch Creek	55.49	29	P	P	11 13 04.4	+1.9
	baz=274						
C26K	Camden Bay	55.61	24	P	P	11 13 05.2	+1.9
	baz=273,SNR=9.2						
PRP	Porcupine Dome	55.67	30	P	P	11 13 04.8	+0.7
	baz=275,SNR=5.2						
FYU	Fort Yukon	55.70	28	IAmb	IAmb	11 13 07.1	
	comp=Z,23nm,1.3s						
K24K	Donnelly Dome	55.73	32	P	P	11 13 04.7	+0.3
	baz=276,SNR=7.6						
M24K	Tolsona, Glenn	55.73	34	IAmb	IAmb	11 13 06.6	
	comp=Z,13nm,0.7s						
M24K	Tolsona, Glenn	55.73	34	P	P	11 13 05.0	+0.5
	baz=277						
FID	Port Fidalgo	55.76	35	IAmb	IAmb	11 13 05.6	
	comp=Z,11nm,0.6s						
J25K	Salcha River,	55.82	31	P	P	11 13 05.3	+0.2
	baz=276,SNR=8.8						
BMAR	Burnt Mountain	55.88	27	P	P	11 13 06.9	+1.5
KLU	Klutina	55.93	35	P	P	11 13 07.1	+1.2
KLU	Klutina	55.93	35	P	P	11 13 06.6	+0.8
	baz=277						
PAX	Paxson	55.96	33	P	P	11 13 06.8	+0.7
	baz=277,SNR=9.6						
F26K	Sheenjek River	56.03	27	P	P	11 13 08.6	+2.1
	baz=275,SNR=28						
C27K	Jago River	56.04	25	P	P	11 13 07.9	+1.5
	baz=274,SNR=14						
MBWA	Marble Bar	56.13	198	P	P	11 13 07.4	-0.3
MBWA	Marble Bar	56.13	198	P	P	11 13 07.3	-0.4
MBWA				IAmb	IAmb	11 13 07.9	
	comp=Z,14nm,0.7s						
EYAK	Cordova Ski Ar	56.14	36	P	P	11 13 08.3	+1.0
	baz=278						
HARP	HAARP	56.17	33	P	P	11 13 08.7	+1.2
	baz=278,SNR=7.2						
G26K	Porcupine Rive	56.24	28	P	P	11 13 09.6	+1.8
	baz=276,SNR=10.0						
AS01	Alice Springs	56.45	182	P	P	11 13 09.6	-0.3
ASAR	Alice Springs	56.45	182	P	P	11 13 09.6	-0.3
	comp=Z,2.0nm,0.3s,baz=12,slow=13,SNR=76						
	comp=Z,2.0nm,0.3s						
SCRK	Sand Creek	56.49	31	P	P	11 13 10.1	+0.3
	baz=277,SNR=46						
N25K	Chitina, Valde	56.54	34	P	P	11 13 11.0	+0.9
	baz=278						
J26L	Joseph Creek	56.61	31	IAmb	IAmb	11 13 11.5	
	comp=Z,13nm,0.8s						
J26L	Joseph Creek	56.61	31	P	P	11 13 10.4	-0.1
	baz=277,SNR=25						
BMRM	Bremner River	56.64	35	P	P	11 13 11.8	+1.1
	baz=279,SNR=10						
I26K	Coal Creek Min	56.68	30	P	P	11 13 11.5	+0.6
	baz=277						
MENT	Mentasta	56.75	33	P	P	11 13 13.0	+1.4
KAIM	Kayak Island	56.90	36	P	P	11 13 14.1	+1.6
KAIM	Kayak Island	56.90	36	P	P	11 13 13.7	+1.2
	baz=280						
HMT	Hamilton	56.91	36	P	P	11 13 13.9	+1.3
HMT				IAmb	IAmb	11 13 14.7	
	comp=Z,18nm,1.2s						
L26K	Log Cabin Wild	56.91	32	P	P	11 13 14.0	+1.4
	baz=279,SNR=22						
E27K	Coleen River	56.94	26	IAmb	IAmb	11 13 14.7	
	comp=Z,8.1nm,0.6s						
E27K	Coleen River	56.94	26	P	P	11 13 14.2	+1.4
	baz=277,SNR=14						
GLB	Gilahina Butte	56.94	34	IAmb	IAmb	11 13 14.9	
	comp=Z,14nm,1.1s						
D27M	Malcolm River	57.04	25	IAmb	IAmb	11 13 15.3	
	comp=Z,9.7nm,0.5s						
D27M	Malcolm River	57.04	25	P	P	11 13 15.0	+1.5
	baz=277,SNR=17						
G27K	Doyon Strip	57.09	28	P	P	11 13 15.1	+1.3
	baz=278						
VRDI	Verde Repeater	57.15	35	P	P	11 13 15.5	+1.0
VRDI				IAmb	IAmb	11 13 16.3	
	comp=Z,8.9nm,0.9s						
M26K	Nabesna, AK	57.17	33	IAmb	IAmb	11 13 16.6	
	comp=Z,18nm,0.8s						
M26K	Nabesna, AK	57.17	33	P	P	11 13 15.7	+1.3
	baz=279,SNR=18						
ABKAR	Akbulak array	57.18	311	P	P	11 13 14.2	-0.5
PALK	Pallekele	57.21	256	P	P	11 13 15.5	+0.1
	comp=Z,16nm,0.8s,baz=176,slow=4.7,SNR=5.3						
	comp=Z,16nm,0.8s						
H27K	Steamboat Moun	57.22	29	P	P	11 13 16.2	+1.5
	baz=278,SNR=7.8						
I27K	Kandik River	57.27	29	P	P	11 13 16.1	+1.0
	baz=278,SNR=13						
K27K	Chicken	57.32	31	IAmb	IAmb	11 13 17.5	
	comp=Z,16nm,0.9s						
K27K	Chicken	57.32	31	P	P	11 13 16.6	+1.2
	baz=279						
MCARA	McCarthy VSAT	57.32	34	IAmb	IAmb	11 13 27.6	
	comp=Z,12nm,0.8s						
MCARA	McCarthy VSAT	57.32	34	P	P	11 13 16.7	+1.3
	baz=280						
CRQE	Cirque	57.40	35	P	P	11 13 17.0	+0.9
	baz=280						
WAX	Waxell Ridge	57.57	35	IAmb	IAmb	11 13 46.7	
	comp=Z,8.9nm,0.8s						
L27K	Beaver Creek,	57.59	32	IAmb	IAmb	11 13 19.5	
	comp=Z,8.9nm,0.7s						
L27K	Beaver Creek,	57.59	32	P	P	11 13 18.7	+1.5
	baz=280,SNR=17						
EGAK	Eagle	57.59	30	P	P	11 13 17.6	+0.4
	baz=279,SNR=7.9						
BCAR	Beaver Creek A	57.60	32	P	P	11 13 18.8	+1.4
E28M	Babbage River	57.64	26	P	P	11 13 19.0	+1.5
E28M	Babbage River	57.64	26	P	P	11 13 19.0	+1.5
	baz=278,SNR=10						
F28M	Old Crow	57.66	27	P	P	11 13 19.3	+1.6
F28M	Old Crow	57.66	27	P	P	11 13 19.2	+1.6
	baz=279,SNR=8.8						
M27K	Edge Creek, AK	57.69	33	P	P	11 13 19.2	+1.1
M27K				IAmb	IAmb	11 13 20.1	
	comp=Z,19nm,0.8s						
M27K	Edge Creek, AK	57.69	33	P	P	11 13 19.3	+1.2
	baz=280,SNR=21						
D28M	Stokes Point	57.82	25	P	P	11 13 20.1	+1.4
	baz=279						
I28M	Miner Creek	57.99	29	IAmb	IAmb	11 13 22.4	
	comp=Z,18nm,0.9s						
I28M	Miner Creek	57.99	29	P	P	11 13 21.6	+1.5
	baz=280,SNR=21						
MESA	MESA	58.07	36	P	P	11 13 21.5	+0.7
	baz=282						
CTG	Chitna Glacier	58.20	35	P	P	11 13 22.4	+0.8
	baz=282						
WRKA	Warakurna	58.25	188	P	P	11 13 22.2	0.0
E29M	Blow River	58.27	26	P	P	11 13 23.0	+1.2
	baz=280,SNR=8.3						
YUK3	Moose Creek	58.45	34	P	P	11 13 24.3	+0.9
	baz=282						
DAWY	Dawson	58.47	31	P	P	11 13 24.1	+0.8
	baz=281,SNR=10.0						
H29M	Whitestone	58.48	28	IAmb	IAmb	11 13 25.8	
	comp=Z,14nm,1.2s						
H29M	Whitestone	58.48	28	P	P	11 13 24.8	+1.5
	baz=281,SNR=7.3						
G29M	Pine Creek	58.49	27	IAmb	IAmb	11 13 26.1	
	comp=Z,34nm,1.4s						
G29M	Pine Creek	58.49	27	P	P	11 13 24.9	+1.5
	baz=281,SNR=12						
I29M	Ogilvie Camp,	58.67	29	P	P	11 13 25.8	+1.2
	baz=281,SNR=16						
O28M	Mount Upton	58.79	35	P	P	11 13 26.3	+0.5
	baz=283						
YUK8	Steele Glacier	58.88	34	P	P	11 13 27.0	+0.6
	baz=283						
EPY

baz=284
I30M Mount Dempster 59.50 29 IAmb IAmb 11 13 33.2
comp=Z,19nm,1.1s
I30M Mount Dempster 59.50 29 P **P 11 13 31.6 +1.2**
baz=283,SNR=35
YUK6 Outpost Mounta 59.63 34 P **P 11 13 32.2 +0.9**
baz=284
J30M Hart River 59.67 30 P **P 11 13 32.6 +1.1**
baz=284,SNR=9.2
INK Inuvik 59.87 25 IAmb IAmb 11 13 33.6
comp=Z,8.1nm,0.6s
INK Inuvik 59.87 25 P **P 11 13 33.1 +0.5**
baz=284,SNR=16
INK Inuvik 59.87 25 P **P 11 13 32.4 -0.2**
G31M Satah River 59.93 27 IAmb IAmb 11 13 34.2
comp=Z,12nm,0.8s
G31M Satah River 59.93 27 P **P 11 13 33.5 +0.5**
baz=284,SNR=10
M30M Minto, Yukon 59.95 32 IAmb IAmb 11 13 35.7
comp=Z,9.3nm,0.8s
M30M Minto, Yukon 59.95 32 P **P 11 13 34.9 +1.6**
baz=284,SNR=10
F31M Tsiigehtchic 60.01 26 P **P 11 13 33.6 +0.1**
baz=284
HYT Haines Junctio 60.06 34 P **P 11 13 34.9 +0.7**
baz=285
N30M Aishikik Lake 60.09 34 P **P 11 13 35.5 +1.2**
baz=285
P29M Windy Craggy 60.26 36 IAmb IAmb 11 13 37.8
comp=Z,14nm,0.8s
P29M Windy Craggy 60.26 36 P **P 11 13 36.7 +1.3**
baz=285
P30M Million Dollar 60.51 35 P **P 11 13 38.3 +1.3**
baz=286
OOD Oodnadatta 60.52 180 P **P 11 13 37.7 +0.3**
N31M Braeburn, Yuko 60.69 33 P **P 11 13 39.9 +1.6**
baz=286,SNR=9.7
O30N Mendenhall 60.74 34 P **P 11 13 39.8 +1.1**
baz=286
KIRV Kirov 60.79 323⇓ *e*P **P 11 13 38.9 +0.1**
PLBC Pleasant Camp 60.98 36 P **P 11 13 41.6 +1.4**
baz=286,SNR=8.5
M31M Drury Creek, Y 61.13 32 IAmb IAmb 11 13 43.2
comp=Z,11nm,0.9s
M31M Drury Creek, Y 61.13 32 P **P 11 13 42.4 +1.3**
baz=286,SNR=13
WHY Whitehorse 61.35 34 P **P 11 13 44.3 +1.6**
WHY IAmb IAmb 11 13 45.1
comp=Z,14nm,0.8s
WHY Whitehorse 61.35 34 P **P 11 13 44.1 +1.4**
baz=287,SNR=11
S31K Pelican 61.48 37 P **P 11 13 44.6 +1.2**
baz=287
SKAG Skagway 61.48 36 P **P 11 13 45.0 +1.5**
SKAG IAmb IAmb 11 13 46.0
comp=Z,14nm,1.0s
SKAG Skagway 61.48 36 P **P 11 13 44.7 +1.2**
baz=287,SNR=5.4
A36M Sachs Harbour 61.53 20 P **P 11 13 44.8 +1.2**
baz=289,SNR=24
R31K City Hall, Gus 61.59 37 P **P 11 13 45.2 +1.1**
baz=287
MEEK Meekatharra 61.65 198 P **P 11 13 46.0 +1.0**
N32M Quiet Lake 62.04 33 IAmb IAmb 11 13 49.1
comp=Z,12nm,0.8s
N32M Quiet Lake 62.04 33 P **P 11 13 48.1 +0.9**
baz=288,SNR=9.5
SIT Sitka 62.22 38 P **P 11 13 49.3 +1.0**
baz=288
P32M Atlin 62.23 35 IAmb IAmb 11 13 50.7
comp=Z,8.2nm,0.8s
P32M Atlin 62.23 35 P **P 11 13 49.5 +1.1**
baz=288
R32K Eaglecrest 62.25 37 IAmb IAmb 11 13 51.0
comp=Z,7.4nm,0.7s
R32K Eaglecrest 62.25 37 P **P 11 13 49.9 +1.4**
baz=288
JIS Juneau Island 62.32 37 P **P 11 13 49.9 +1.0**
JIS Juneau Island 62.32 37 P **P 11 13 50.2 +1.3**
JIS IAmb IAmb 11 13 51.4
comp=Z,12nm,0.8s
P33M Teslin, Yukon 62.46 34 P **P 11 13 51.1 +1.1**
P33M IAmb IAmb 11 13 52.3
comp=Z,10nm,0.9s
P33M Teslin, Yukon 62.46 34 P **P 11 13 51.5 +1.6**
baz=289,SNR=14
S32K Killisnoo 62.48 38 P **P 11 13 51.9 +1.9**
S32K IAmb IAmb 11 13 52.2
comp=Z,9.0nm,0.8s
S32K Killisnoo 62.48 38 P **P 11 13 51.0 +1.0**
baz=289
C36M Paulatuk 62.83 23 P **P 11 13 52.6 +0.5**
baz=292,SNR=22
MULG Mulgathing 63.03 182 P **P 11 13 54.3 +0.4**
Q32M Nakina River 63.14 35 P **P 11 13 56.0 +1.5**
baz=290
LCRK Leigh Creek 63.20 178 P **P 11 13 56.7 +1.8**
SPB2 Spitsbergen Ar 63.55 348 IAmb IAmb 11 13 57.7
comp=Z,7.9nm,0.8s
SPA0 Spitsbergen Ar 63.55 348 *e*P **P 11 13 56.9 +0.2**
SPA0 IAmb IAmb 11 13 57.4
comp=Z,12nm,0.9s
SPITS Spitsbergen Ar 63.55 348 P **P 11 13 57.0 +0.4**
comp=Z,3.5nm,0.5s,baz=94,slow=9.2,SNR=16
comp=Z,3.5nm,0.5s
R33M Jennings River 63.62 35 IAmb IAmb 11 14 00.1
comp=Z,6.9nm,0.8s
R33M Jennings River 63.62 35 P **P 11 13 58.8 +1.3**
baz=291,SNR=7.8
U33K Whale Pass 63.69 39 P **P 11 13 59.2 +1.4**
baz=290
BELG Belogornoye 63.71 317 *de*P **P 11 13 57.8 -0.2**
BELG pmax pmax
comp=Z,3.0nm,0.9s
KBS Kingsbay 63.80 350 *e*P **P 11 13 59.0 +0.8**
KBS IAmb IAmb 11 13 59.0
comp=Z,12nm,0.7s
KBS Kingsbay 63.80 350 *i*P **P 11 13 58.4 +0.2**
CRAG Craig 63.91 39 P **P 11 13 59.8 +0.5**
CRAG Craig 63.91 39 P **P 11 14 00.4 +1.1**
baz=291
FORT Forrest 63.95 188 P **P 11 13 59.9 +0.1**
WRAK Wrangell Islan 63.98 38 P **P 11 14 01.1 +1.4**
baz=291
S34M Telegraph Cree 64.06 36 IAmb IAmb 11 14 02.8
comp=Z,5.3nm,0.8s
S34M Telegraph Cree 64.06 36 P **P 11 14 01.8 +1.6**
baz=291
HSPB Hornsund (broa 64.39 348 *e*P **P 11 14 02.4 +0.4**
DLBC Dease Lake 64.42 36 IAmb IAmb 11 14 05.2
comp=Z,7.3nm,0.8s
DLBC Dease Lake 64.42 36 P **P 11 14 04.1 +1.5**
baz=292,SNR=7.8
NOR Nord 64.71 356 *i*P **P 11 14 03.6 -0.4**
NOR IAmb IAmb 11 14 04.9
comp=Z,3.9nm,0.6s
V35K Ketchikan 64.77 39 P **P 11 14 06.4 +1.6**
baz=292
STKA Stephens Creek 64.80 175 P **P 11 14 05.0 -0.1**
comp=Z,1.4nm,0.6s,baz=328,slow=9.5,SNR=4.2
comp=Z,1.4nm,0.6s
T35M Bob Quinn 64.85 37 IAmb IAmb 11 14 08.2
comp=Z,9.5nm,0.8s
T35M Bob Quinn 64.85 37 P **P 11 14 07.3 +2.0**
baz=292
CMSA Cobar Meteorol 64.89 171 P **P 11 14 06.9 +1.1**
BBOO Buckleboo 65.52 180 P **P 11 14 09.9 +0.2**
KEV Kevo 65.58 339 P **P 11 14 09.8 +0.1**
KEV Kevo 65.58 339 P **P 11 14 09.8 +0.1**
KEV pmax pmax
comp=Z,15nm,0.7s
HAMF Hammerfest 66.10 340 *e*P **P 11 14 12.8 -0.1**
HAMF IAmb IAmb 11 14 13.7
comp=Z,13nm,0.9s
ARCES ARCESS Array B 66.14 339 P **P 11 14 13.2 0.0**
ARCES ARCESS Array B 66.14 339 P **P 11 14 13.3 0.0**
comp=Z,11nm,0.5s,baz=60,slow=8.6,SNR=84
comp=Z,11nm,0.5s
GRNB Grenville Isla 66.23 40 P **P 11 14 14.9 +0.8**
GRNB IAmb IAmb 11 14 15.9
comp=Z,11nm,1.0s
TOAD Toad River Com 66.55 34 P **P 11 14 17.1 +1.0**
baz=295,SNR=5.7
KTK1 Kautokeino 67.11 339 *e*P **P 11 14 19.4 +0.2**
KTK1 IAmb IAmb 11 14 19.9
comp=Z,18nm,1.1s
JOF Joensuu 67.37 331 *e*P **P 11 14 20.8 -0.1**

TRO Tromso 68.01 340 *e*P **P 11 14 25.0 +0.2**
TRO IAmb IAmb 11 14 25.3
comp=Z,13nm,0.8s
VALR Valaam 68.30 330 *c i*P **P 11 14 25.8 -0.9**
VALR pmax pmax
comp=Z,15nm,0.9s
OBN Obninsk 68.61 323 *ce*P **P 11 14 28.3 -0.4**
OBN pmax pmax
comp=Z,7.0nm,0.5s
DAG Danmarks Havn 69.30 354 P **P 11 14 32.0 -0.5**
DAG Danmarks Havn 69.30 354 *i*P **P 11 14 32.0 -0.5**
YKA Yellowknife Ar 69.39 28 P **P 11 14 33.3 0.0**
comp=Z,3.8nm,0.8s,baz=302,slow=6.4,SNR=23
comp=Z,3.8nm,0.8s
YKA Yellowknife Ar 69.39 28 *ce*P **P 11 14 32.5 -0.8**
YKA pmax pmax
comp=Z,1.0nm,0.3s
TULEG Thule 69.55 6 IAmb IAmb 11 14 35.0
comp=Z,24nm,0.8s
TULEG Thule 69.55 6 *i*P **P 11 14 33.5 -0.5**
TULEG IAmb IAmb 11 14 35.0
comp=Z,17nm,0.7s
NEEM North Greenlan 69.67 2 *i*P **P 11 14 35.5 +0.3**
NEEM IAmb IAmb 11 14 36.6
comp=Z,30nm,0.6s
KBZ Khabaz 70.11 310 P **P 11 14 38.5 +0.5**
comp=Z,8.1nm,0.8s,baz=47,slow=2.7,SNR=15
comp=Z,8.1nm,0.8s
KBZ Khabaz 70.11 310 *ce*P **P 11 14 38.1 +0.1**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
STEI Steigen 70.12 340 *e*P **P 11 14 37.5 0.0**
STEI IAmb IAmb 11 14 38.5
comp=Z,24nm,0.7s
KIV Kislovodsk 70.15 310 *e*P **P 11 14 40.0 +1.7**
KIV pmax pmax
comp=Z,9.0nm,1.0s
FINES FINESS Array B 70.24 331 P **P 11 14 37.8 -0.6**
FINES FINESS Array B 70.24 331 P **P 11 14 38.0 -0.4**
comp=Z,6.2nm,0.4s,baz=66,slow=5.8,SNR=77
comp=Z,6.2nm,0.4s
FINES FINESS Array B 70.24 331 P **P 11 14 38.0 -0.4**
KEF Keuruu 70.32 332 *e*P **P 11 14 37.8 -1.0**
FAUS Fauske 70.47 339 *e*P **P 11 14 39.6 0.0**
FAUS IAmb IAmb 11 14 40.2
comp=Z,19nm,0.7s
VAF Ylistaro 70.66 334 *e*P **P 11 14 40.8 -0.1**
ARBE Arbavere 71.38 330 *e*P **P 11 14 45.0 -0.2**
MOR8 Moi Rana 71.51 339 *e*P **P 11 14 44.6 -1.3**
MOR8 IAmb IAmb 11 14 45.2
comp=Z,28nm,0.6s
VSU Vasula 71.60 328⇑ *e*P **P 11 14 46.3 -0.2**
VSU pmax pmax
comp=Z,8.0nm,0.7s
MEF Metsahovi 71.61 331 *e*P **P 11 14 46.5 0.0**
KONS Konsvik 71.69 339 *e*P **P 11 14 47.0 +0.1**
KONS IAmb IAmb 11 14 47.7
comp=Z,10nm,0.8s
DBG Daneborg 71.75 353 *i*P **P 11 14 46.6 -0.5**
DBG IAmb IAmb 11 14 47.9
comp=Z,3.5nm,0.6s
CLRS Cowichan Lake 71.75 43 IAmb IAmb 11 14 49.7
comp=Z,8.5nm,0.9s
RAF Rauma 72.19 332 *e*P **P 11 14 49.0 -0.9**
PGC Sidney 72.23 43 P **P 11 14 51.6 +1.2**
PGC IAmb IAmb 11 14 52.4
comp=Z,9.2nm,0.8s
KULLO Kullorsuaq 72.27 4 *i*P **P 11 14 49.7 -0.5**
KULLO IAmb IAmb 11 14 51.2
comp=Z,9.3nm,0.6s
MTSE Matsula 72.72 330 *e*P **P 11 14 53.0 -0.1**
NSS Namsos 73.39 338 *e*P **P 11 14 56.6 -0.2**
NSS IAmb IAmb 11 14 57.4
comp=Z,7.9nm,0.9s
PABE Paberze 74.53 327 *e*P **P 11 15 03.4 -0.1**
SUMG Summit 74.58 358 P **P 11 15 04.2 +0.2**
SUMG Summit 74.58 358 *i*P **P 11 15 03.9 -0.1**
SUMG IAmb IAmb 11 15 06.0
comp=Z,20nm,0.6s
AKASG Malin Array Be 74.68 321 P **P 11 15 03.9 -0.5**
comp=Z,4.1nm,0.5s,baz=57,slow=6.8,SNR=4.9
comp=Z,4.1nm,0.5s
AKASG Malin Array Be 74.68 321 *ce*P **P 11 15 04.5 0.0**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
B08A Colville Reser 74.72 42 IAmb IAmb 11 15 06.5
comp=Z,8.2nm,0.8s
MXC Moxie City 75.13 44 IAmb IAmb 11 15 09.2
comp=Z,8.6nm,0.8s
I04A Tendick Farm, 75.33 47 IAmb IAmb 11 15 09.9
comp=Z,7.7nm,0.8s
SCO Scoresbysund 75.54 353 *i*P **P 11 15 09.8 +0.8**
G06A Carlson Farm, 75.65 45 IAmb IAmb 11 15 12.6
comp=Z,6.1nm,0.9s
D08A Wollman Farm, 75.66 43 IAmb IAmb 11 15 11.8
comp=Z,9.8nm,0.7s
HAWA Hanford 75.67 44 IAmb IAmb 11 15 12.1
comp=Z,10nm,0.9s
HFS Hagfors 75.82 334 P **P 11 15 10.1 -0.6**
comp=Z,5.9nm,0.4s,baz=50,slow=2.3,SNR=33
comp=Z,5.9nm,0.4s
NC405 NORSAR Array S 75.85 336 P **P 11 15 10.3 -0.6**
E08A Dider Farm, El 75.89 44 P **P 11 15 12.1 +0.7**
LUBAR Lubar, Ukraine 75.90 321 P **P 11 15 10.4 -0.9**
NEW Newport 76.00 41 IAmb IAmb 11 15 13.7
comp=Z,8.3nm,1.0s
NEW Newport 76.00 41 P **P 11 15 12.7 +0.7**
baz=304
NEW Newport 76.00 41 P **P 11 15 11.9 -0.1**
RNPP9 Sopachiv 76.01 323 P **P 11 15 11.6 -0.3**
NB2 NORSAR Subarra 76.08 336 P **P 11 15 11.3 -0.8**
comp=Z,8.2nm,0.6s,baz=44,slow=5.6
NB2 NORSAR Subarra 76.08 336 P **P 11 15 11.3 -0.8**
baz=44,slow=5.6
NOA NORSAR Array B 76.08 336 P **P 11 15 11.6 -0.5**
comp=Z,7.8nm,0.6s,baz=45,slow=5.6,SNR=39
comp=Z,7.8nm,0.6s
DOMB Dombas 76.08 337 *e*P **P 11 15 12.0 -0.2**
DOMB IAmb IAmb 11 15 12.5
comp=Z,11nm,0.8s
NC602 NORSAR Array S 76.18 335 *e*P **P 11 15 11.9 -0.8**
NORES NORESS Array B 76.18 335 P **P 11 15 11.8 -0.8**
YBH Yreka Blue Hor 76.24 49 P **P 11 15 14.3 +0.8**
comp=Z,4.1nm,0.8s,baz=305,slow=3.9,SNR=8.5
comp=Z,4.1nm,0.8s
J05D Fort Rock, OR 76.33 47 IAmb IAmb 11 15 16.5
comp=Z,9.1nm,0.7s
UMMG Uummannaq 76.39 3 *i*P **P 11 15 13.9 +0.3**
UMMG IAmb IAmb 11 15 14.8
comp=Z,6.6nm,0.7s
E09A Wood Farm, Sta 76.40 43 IAmb IAmb 11 15 16.2
comp=Z,7.9nm,0.8s
O02D Mt. Diablo Mer 77.01 50 IAmb IAmb 11 15 20.1
comp=Z,9.5nm,0.8s
F10A Beach Ranch, E 77.23 43 IAmb IAmb 11 15 32.0
comp=Z,6.0nm,0.8s
SKAR Skarslia 77.33 337 *e*P **P 11 15 19.2 +0.2**
SKAR IAmb IAmb 11 15 19.9
comp=Z,9.0nm,0.9s
KMPD K-Podol'skiy 77.38 320 P **P 11 15 18.7 -0.8**
BMO Blue Mountains 77.83 44 IAmb IAmb 11 15 24.0
comp=Z,5.9nm,0.7s
RAYN Ar Rayn 78.02 290 P **P 11 15 23.2 -0.3**
ICESG Greenland Ices 78.11 358 *i*P **P 11 15 23.6 +0.1**
ICESG IAmb IAmb 11 15 25.0
comp=Z,12nm,0.7s
BR131 Keskin Array S 78.11 310 P **P 11 15 24.2 +0.3**
BR131 Keskin Array S 78.11 310 *de*P **P 11 15 24.1 +0.2**
BRTR Keskin Array B 78.11 310 P **P 11 15 24.0 +0.2**
comp=Z,2.0nm,0.7s,baz=102,slow=4.2,SNR=10
comp=Z,2.0nm,0.7s
BR104 Keskin Array S 78.12 310 P **P 11 15 23.2 -0.7**
comp=Z,4.0nm,0.9s,comp=Z,38nm
BR106 Keskin Array S 78.12 310 P **P 11 15 23.2 -0.7**
comp=Z,3.8nm,0.9s
BR105 Keskin Array S 78.13 310 P **P 11 15 23.3 -0.7**
comp=Z,4.4nm,0.8s
ORV Oroville 78.18 50 P **P 11 15 24.8 +0.7**
ORV Oroville 78.18 50 P **P 11 15 24.8 +0.7**
ORV pmax pmax
comp=Z,4.0nm,0.9s
WVOR Wild Horse Val 78.39 47 P **P 11 15 26.3 +1.0**
WVOR Wild Horse Val 78.39 47 P **P 11 15 26.3 +1.0**
WVOR pmax pmax
comp=Z,5.0nm,1.1s
PLID Pearl Lake 78.45 43 P **P 11 15 26.1 +0.4**

TESR Tescani 78.48 318 P **P 11 15 25.3 -0.3**
comp=Z,12nm,0.9s
MSO Missoula 78.59 41 P **P 11 15 26.7 +0.4**
baz=306
SOEG Soedalen 78.61 355 *i*P **P 11 15 25.9 +0.1**
SOEG IAmb IAmb 11 15 27.0
comp=Z,7.4nm,0.6s
BSD Bornholm Skovb 78.77 330 *i*P **P 11 15 26.1 -0.9**
BSD IAmb IAmb 11 15 27.7
comp=Z,10nm,0.7s
VRI Vrincioaia 78.82 318 P **P 11 15 27.3 -0.1**
comp=Z,5.5nm,0.6s,comp=Z,496nm
FFC Flin Flon 79.36 30 P **P 11 15 30.1 0.0**
FFC IAmb IAmb 11 15 30.6
comp=Z,5.2nm,0.5s
FFC Flin Flon 79.36 30 P **P 11 15 30.1 0.0**
FFC pmax pmax
comp=Z,5.0nm,0.5s
EMB Emerald Bay 79.41 50 P **P 11 15 31.8 +0.8**
EMB IAmb IAmb 11 15 32.6
comp=Z,6.6nm,0.7s
LYMT Lyon Mountain 79.41 40 P **P 11 15 31.7 +0.8**
PAHR Pah Rah Range 79.46 49 IAmb IAmb 11 15 32.9
comp=Z,5.0nm,0.9s
MFID Camas Ranch 79.52 45 IAmb IAmb 11 15 33.4
comp=Z,7.8nm,1.2s
PNTR Pine Nut 79.67 50 IAmb IAmb 11 15 35.5
comp=Z,5.6nm,0.7s
YERR Yerington 79.96 50 IAmb IAmb 11 15 35.5
comp=Z,5.1nm,0.9s
NIE Niedzica 80.06 323 P **P 11 15 34.5 +0.6**
NIE Niedzica 80.06 323 P **P 11 15 34.5 +0.6**
comp=Z,3.1nm,1.2s
EGMT Eagleton 80.11 38 IAmb IAmb 11 15 35.8
comp=Z,8.4nm,0.8s
EGMT Eagleton 80.11 38 P **P 11 15 34.9 +0.5**
baz=309
SFJD Kangerlussuaq 80.13 3 *i*P **P 11 15 34.0 +0.2**
SFJD IAmb IAmb 11 15 34.7
comp=Z,12nm,0.5s
HLID Hailey 80.27 44 IAmb IAmb 11 15 37.6
comp=Z,4.9nm,0.8s
HLID Hailey 80.27 44 P **P 11 15 36.6 +1.3**
baz=307,SNR=9.8
BOZ Bozeman (W) 80.62 41 IAmb IAmb 11 15 38.8
comp=Z,5.5nm,0.7s
BOZ Bozeman (W) 80.62 41 P **P 11 15 38.0 +0.9**
baz=308,SNR=14
KVN Kaiserville 80.65 49 IAmb IAmb 11 15 39.3
comp=Z,5.4nm,0.7s
DY2G Dye2 80.77 1 *i*P **P 11 15 37.7 +0.1**
DY2G IAmb IAmb 11 15 38.8
comp=Z,19nm,0.5s
NVAR Mina Array Bea 80.88 50 P **P 11 15 39.7 +1.0**
comp=Z,3.0nm,0.7s,baz=301,slow=5.2,SNR=30
comp=Z,3.0nm,0.7s
MORC Moravsky Berou 81.18 325 *e*P **P 11 15 39.8 0.0**
DPC Dobruska-Polom 81.38 326 *e*P **P 11 15 41.3 +0.5**
DPC Dobruska-Polom 81.38 326 *e*P **P 11 15 41.3 +0.5**
DPC Dobruska-Polom 81.38 326 P **P 11 15 41.4 +0.6**
comp=Z,7.8nm,1.2s
VES Vestal, Richgr 81.84 53 P **P 11 15 43.6 +0.1**
baz=305
PKM Mcpherson Peak 81.90 54 P **P 11 15 45.2 +1.3**
baz=305
H17A Grant Village 81.95 42 P **P 11 15 47.0 +2.8**
baz=309,SNR=10.0
IMW Indian Meadow 82.06 42 IAmb IAmb 11 15 47.4
comp=Z,9.1nm,0.9s
PVCC Panska Ves 82.08 327 *e*P **P 11 15 45.0 +0.6**
PVCC Panska Ves 82.08 327 *e*P **P 11 15 45.0 +0.6**
CWC Cottonwood Cre 82.17 52 P **P 11 15 46.0 +0.7**
baz=306
RLMT Red Lodge 82.21 41 IAmb IAmb 11 15 46.9
comp=Z,4.0nm,0.7s
RLMT Red Lodge 82.21 41 P **P 11 15 46.5 +1.1**
baz=310
CLL Collm 82.25 328 IAmb IAmb 11 15 45.7
comp=Z,10nm,0.8s
CLL Collm 82.25 328⇑ *i*P **P 11 15 44.8 -0.4**
comp=Z,10.0nm,0.7s
CLL Collm 82.25 328 P **P 11 15 44.9 -0.3**
CLL Collm 82.25 328 P **P 11 15 44.9 -0.3**
comp=Z,14nm,1.0s
TPAW Teton Pass 82.31 43 IAmb IAmb 11 15 48.4
comp=Z,7.6nm,0.8s
HVU Hansel Valley 82.31 45 IAmb IAmb 11 15 48.1
comp=Z,7.6nm,0.7s
ISA Isabella, Lake 82.35 52 P **P 11 15 46.3 +0.1**
baz=305
SNOW Snow King Moun 82.43 42 IAmb IAmb 11 15 49.0
comp=Z,6.5nm,0.7s
R11B Troy Canyon, C 82.66 49 P **P 11 15 48.6 +0.8**
R11B Troy Canyon, C 82.66 49 P **P 11 15 48.6 +0.8**
baz=307
AHID Auburn Hatcher 82.67 43 IAmb IAmb 11 15 49.2
comp=Z,3.8nm,0.6s
MPMC Manual Prospec 82.78 52 P **P 11 15 49.2 +0.7**
baz=306,SNR=5.3
OSI Osito Audit: C 82.79 53 P **P 11 15 49.6 +1.2**
baz=305
FURC Furnace Creek, 82.95 51 P **P 11 15 50.0 +1.0**
baz=306
S11A Rachel 82.97 49 IAmb IAmb 11 15 51.3
comp=Z,6.2nm,1.0s
MORH Mrgy, Hungar 82.99 322 P **P 11 15 48.9 -0.2**
comp=Z,4.0nm,0.8s
TPNV Topopah Spring 83.06 50 P **P 11 15 50.3 +0.5**
baz=306,SNR=11
EDW2 Edwards Air Fo 83.12 53 P **P 11 15 50.9 +0.8**
baz=306
HWUT Hardware Ranch 83.12 44 IAmb IAmb 11 15 52.5
comp=Z,12nm,1.1s
GWY Greenwater Val 83.24 51 IAmb IAmb 11 15 52.2
comp=Z,7.0nm,0.8s
DUG Dugway, Tooele 83.25 46 IAmb IAmb 11 15 53.0
comp=Z,13nm,1.2s
DUG Dugway, Tooele 83.25 46 P **P 11 15 51.7 +0.9**
baz=308,SNR=5.7
DUG Dugway, Tooele 83.25 46 P **P 11 15 51.4 +0.7**
CKRC Cesky Krumlov 83.39 326 *e*P **P 11 15 51.0 -0.1**
CKRC Cesky Krumlov 83.39 326 *e*P **P 11 15 51.0 -0.1**
KHC Kasperske Hory 83.51 326 IAmb IAmb 11 15 52.0
comp=Z,3.3nm,0.6s
KHC Kasperske Hory 83.51 326 *e*P **P 11 15 51.5 -0.2**
KHC Kasperske Hory 83.51 326 *de*P **P 11 15 51.6 -0.2**
KHC pmax pmax
comp=Z,10.0nm,1.7s
KHC Kasperske Hory 83.51 326 P **P 11 15 51.4 -0.2**
comp=Z,5.0nm,0.9s
TCUT Toone Canyon 83.52 45 IAmb IAmb 11 15 53.8
comp=Z,5.4nm,0.7s
BW06 Boulder Array 83.55 42 P **P 11 15 52.7 +0.4**
baz=310,SNR=8.5
PDAR Pinedale Array 83.55 42 P **P 11 15 53.0 +0.7**
PDAR Pinedale Array 83.55 42 P **P 11 15 52.6 +0.3**
comp=Z,3.9nm,0.7s,baz=304,slow=2.3,SNR=44
comp=Z,3.9nm,0.7s
PRN Pahroc Range 83.56 49 IAmb IAmb 11 15 54.6
comp=Z,7.8nm,1.3s
PSUT Pine Spring 83.63 48 IAmb IAmb 11 15 54.1
comp=Z,3.9nm,0.6s
GERES GERESS Array B 83.66 326 P **P 11 15 52.0 -0.5**
comp=Z,0.9nm,0.5s,baz=28,slow=6.0,SNR=3.5
comp=Z,0.9nm,0.5s
GSC Goldstone, Bar 83.67 52 IAmb IAmb 11 15 54.4
comp=Z,7.0nm,0.9s
GSC Goldstone, Bar 83.67 52 P **P 11 15 53.9 +1.0**
baz=306,SNR=5.6
BFSC Mount Baldy Ra 83.72 53 P **P 11 15 53.8 +0.6**
baz=306
NLU North Lily Min 83.85 46 IAmb IAmb 11 15 55.9
comp=Z,4.6nm,0.8s
MPU Maple Canyon 84.08 46 IAmb IAmb 11 15 56.9
comp=Z,4.9nm,0.7s
TUQ Turquoise Moun 84.17 51 P **P 11 15 56.2 +0.8**
baz=307
BBRC Big Bear Solar 84.20 53 P **P 11 15 56.2 +0.5**
baz=306
HEC Hector,Ludlow 84.26 52 P **P 11 15 56.6 +0.8**
baz=307,SNR=5.4
MURC Murrieta 84.41 53 P **P 11 15 57.1 +0.6**
baz=306
GMRC Granite Mounta 84.73 52 P **P 11 15 59.2 +1.1**
baz=307,SNR=5.2
LIT Litokhoron 84.81 315 IAmb IAmb 11 15 58.5
comp=Z,6.6nm,0.8s

109C	**Camp Elliot, M**	84.89	54	P	P	11 15 59.8 +1.0
	baz=306					
PFO	**Pinyon Flats O**	84.90	53	P	P	11 15 59.6 +0.6
PFO				IAmb	IAmb	11 16 00.3
	comp=Z,5.8nm,0.8s					
PFO	**Pinyon Flats O**	84.90	53	P	P	11 15 59.6 +0.6
	baz=307,SNR=6.6					
PFO	**Pinyon Flats O**	84.90	53	P	P	11 15 59.6 +0.6
	comp=Z,5.2nm,0.7s,baz=318,slow=4.2,SNR=16					
	comp=Z,5.2nm,0.7s					
PFO	**Pinyon Flats O**	84.90	53	⇑iP	P	11 15 59.3 +0.3
PFO				pmax	pmax	
	comp=Z,9.0nm,0.8s					
TPFO	**Pinon Flats**	84.90	53	P	P	11 15 59.8 +0.7
	baz=307,SNR=6.4					
PMD	**Palm Desert**	84.93	53	IAmb	IAmb	11 16 00.2
	comp=Z,6.1nm,0.7s					
RDMU	**Red Mountain**	84.95	44	IAmb	IAmb	11 16 01.2
	comp=Z,8.8nm,0.9s					
MTPU	**Mount Pierson**	84.97	47	IAmb	IAmb	11 16 02.0
	comp=Z,7.4nm,1.4s					
BELC	**Belle Mtn. Jos**	84.97	53	P	P	11 15 59.9 +0.5
	baz=307,SNR=5.2					
KNB	**Kanab**	85.20	49	IAmb	IAmb	11 16 02.9
	comp=Z,13nm,1.3s					
MDND	**Maddock**	85.27	34	P	P	11 16 01.3 +0.9
	baz=316					
EKA	**Eskdalemuir Ar**	85.29	338	P	P	11 15 59.9 -0.4
	comp=Z,3.1nm,0.7s,baz=30,slow=5.6,SNR=8.0					
	comp=Z,3.1nm,0.7s					
SRU	**San Rafael Swe**	85.31	46	IAmb	IAmb	11 16 02.8
	comp=Z,7.5nm,0.8s					
K22A	**Casper**	85.33	41	IAmb	IAmb	11 16 02.2
	comp=Z,4.2nm,0.9s					
K22A	**Casper**	85.33	41	P	P	11 16 01.7 +0.7
	baz=312					
MONP2	**Monument Peak**	85.35	54	P	P	11 16 02.0 +0.6
	baz=307					
IRM	**Iron Mountain**	85.45	52	P	P	11 16 02.6 +1.1
	baz=307					
BC3	**Big Chuckawall**	85.54	53	P	P	11 16 03.1 +1.0
	baz=307					
RWWY	**Rawlins**	85.58	42	IAmb	IAmb	11 16 02.8
	comp=Z,8.9nm,0.9s					
RSSD	**Black Hills**	85.68	39	P	P	11 16 03.1 +0.4
RSSD				IAmb	IAmb	11 16 04.9
	comp=Z,4.0nm,0.8s					
RSSD	**Black Hills**	85.68	39	P	P	11 16 03.4 +0.7
	baz=313					
RSSD	**Black Hills**	85.68	39	P	P	11 16 03.1 +0.4
RSSD				pmax	pmax	
	comp=Z,4.0nm,0.8s					
O20A	**White River Ci**	86.00	44	P	P	11 16 05.1 +0.7
	baz=311					
GLA	**Glamis**	86.33	53	P	P	11 16 06.7 +0.8
	baz=307					
N23A	**Red Feather La**	86.82	42	IAmb	IAmb	11 16 10.7
	comp=Z,6.3nm,0.9s					
N23A	**Red Feather La**	86.82	42	P	P	11 16 09.5 +1.2
	baz=312					
MVCO	**Mesa Verde**	87.75	46	P	P	11 16 13.8 +1.0
	baz=311					
S22A	**4UR Ranch, Cre**	88.40	45	P	P	11 16 16.7 +0.9
	baz=312					
EYMN	**Ely**	88.79	30	IAmb	IAmb	11 16 18.5
	comp=Z,8.0nm,0.9s					
EYMN	**Ely**	88.79	30	P	P	11 16 18.0 +0.9
	baz=322					
OGNE	**Ogallala**	88.94	40	P	P	11 16 18.9 +0.9
	baz=315					
SDCO	**Great Sand Dun**	89.19	44	P	P	11 16 20.4 +0.9
	baz=312					
TUC	**Tucson**	89.46	51	P	P	11 16 21.7 +1.1
	baz=310					
ECSD	**EROS Data Cent**	89.71	35	P	P	11 16 22.3 +0.9
	baz=318					
T25A	**Trinidad**	90.23	44	P	P	11 16 25.3 +1.1
	baz=313					
SCHQ	**Schefferville**	90.27	13	P	P	11 16 23.5 -0.3
	comp=Z,3.8nm,0.8s,baz=116,slow=14,SNR=3.5					
	comp=Z,3.8nm,0.8s					
SPMN	**Marine on St.**	90.35	32	P	P	11 16 25.3 +1.0
	baz=321					
ANMO	**Albuquerque**	90.49	47	P	P	11 16 26.7 +1.2
ANMO				IAmb	IAmb	11 16 28.3
	comp=Z,2.9nm,0.8s					
ANMO	**Albuquerque**	90.49	47	P	P	11 16 26.1 +0.7
	baz=312					
ANMO	**Albuquerque**	90.49	47	⇓eP	P	11 16 27.2 +1.7
ANMO				pmax	pmax	
	comp=Z,8.0nm,2.0s					
Y22D	**IRIS PASSCAL I**	90.78	48	P	P	11 16 28.1 +1.3
	baz=312					
121A	**Cookes Peak, D**	91.25	49	P	P	11 16 30.1 +1.1
	baz=311					
CBKS	**Cedar Bluff**	91.70	40	P	P	11 16 30.8 0.0
	baz=316					
KSU1	**Kansas State U**	93.15	38	P	P	11 16 37.9 +0.5
	baz=318					
MNTX	**Cornudas Mount**	93.33	49	P	P	11 16 38.8 +0.5
	baz=312					
MSTX	**Muleshoe**	93.38	45	P	P	11 16 39.3 +0.6
	baz=314					
WMOK	**Wichita Mounta**	95.17	43	P	P	11 16 47.3 +0.6
	baz=316					
TX31	**Lajitas Ar. Si**	96.01	49	IAmb	IAmb	11 16 52.6
	comp=Z,1.9nm,0.8s					
TXAR	**Lajitas Array**	96.01	49	P	P	11 16 51.3 +0.6
	comp=Z,1.2nm,0.6s,baz=294,slow=3.1,SNR=20					
	comp=Z,1.2nm,0.6s					
CCM	**Cathedral Cave**	96.66	36	P	P	11 16 53.4 +0.1
	baz=322					
ROSB	**Rosrio**	149.99	0		PKPbc	11 23 11.7 -0.2
SAML	**Samuel**	150.12	41		PKPbc	11 23 11.8 -0.4
SAML	**Samuel**	150.12	41	PKIKP	PKPbc	11 23 11.8 -0.4

*IDC **04** 11:08:10.8±0.5, 15°.42N×94°.31E, h0km, mb4.1/22, mbtmp4.1/23, MLA.9/1, MS3.4/5, Error ellipse: s-maj=21.8km s-min=12.8km az=57.0*
*NEIC **04** 11:08:16±0.9, 15°.55N±0°.06×94°.34E±0°.08, h30km, mb4.5/25, Error ellipse: s-maj=11.6km s-min=9.3km az=83.0*
*NDI **04** 11:08:17.8±3.0, 15°.88N×94°.28E, h10km, ML4.1, MW3.7, mb4.5(NEIC)*
ISC 04 11:08:16.3±0.4, 15°.57N±0°.06×94°.37E±0°.06, h35km, n73, σ0=94/71, mb4.3/33, MS3.5/3, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	4.20	202	Pn	Pn	11 09 17.8	0.0
CM31	**Chiang Mai Arr**	5.24	56		Pn	11 09 32.9	+0.7
CMAR	**Chiang Mai Arr**	5.24	56	Pn	Pn	11 09 32.4	+0.2
	10nm,0.3s,baz=242,slow=15,SNR=181						
CMAR				Sn	Sn	11 10 31.9	+0.6
	9.2nm,0.3s,baz=258,slow=17,SNR=5.4						
CMAR				LR	LR	11 12 02.2	
	comp=Z,193nm,18.4s,baz=210,slow=43						
	70nm,0.8s						
CHTO	**Chiang Mai**	5.44	53		Pn	11 09 35.0	+0.1
PHRA	**Phrae**	6.32	62		Pn	11 09 47.6	+0.5
CRAI	**Chiangrai**	7.36	50		Pn	11 10 02.2	+0.8
SRIT	**Nakonsritamara**	8.61	143	Pn	Pn	11 10 18.4	-0.2
KOHI	**KOHIMA**	10.11	359	eP	Pn	11 10 38.2	-1.0
KOHI				eS	Sn	11 12 27.0	-4.4
SHL	**Shillong**	10.22	347		Pn	11 10 39.7	-1.0
SHL	**Shillong**	10.22	347	eP	Pn	11 10 39.1	-1.6
SHL				eS	Sn	11 12 24.5	-10
SHL				IAML		11 12 33.6	
	comp=N,156nm,0.1s						
SHL				IAML		11 12 34.5	
	comp=E,80nm,0.1s						
TEZP	**TEZPUR**	11.09	353	eP	Pn	11 10 48.7	-3.8
TEZP				eS	Sn	11 12 43.7	-12
BOK	**Bokaro**	11.43	317	eP	Pn	11 10 57.6	+0.4
BOK				eS	Sn	11 12 51.9	-12
BOK				IAML		11 13 00.6	
	comp=E,18nm,0.6s						
BOK				IAML		11 13 00.6	
	comp=N,37nm,0.4s						
ZIRO	**ZIRO**	11.91	358	eP	Pn	11 11 02.2	-1.6
ZIRO				eS	Sn	11 13 03.4	-12
GTK	**Tadong**	12.87	336	eP	Pn	11 11 17.3	+0.4
GTK				eS	Sn	11 13 22.9	-16
PALK	**Pallekele**	15.72	240	Sn	Sn	11 14 34.3	-14

	comp=N,0.5nm,0.3s,baz=49,slow=9.9,SNR=0.9					
PALK				LR	LR	11 17 10.4
	comp=N,139nm,18.5s,baz=167,slow=35					
H08S3	**Diego Garcia H**	31.64	225	T	T	11 47 42.5
	baz=42					
H08S2	**Diego Garcia H**	31.65	225	T	T	11 47 45.2
	baz=42					
H08S1	**Diego Carcia H**	31.66	225	T	T	11 47 31.8
	baz=42					
MKAR	**Makanchi Array**	32.72	345	P	P	11 14 46.3 +0.7
	comp=N,1.4nm,0.7s,baz=157,slow=11,SNR=6.2					
	comp=N,1.4nm,0.7s					
MAKZ	**Makanchi**	32.82	344	P	P	11 14 44.5 -1.9
SONM	**Songino Array**	33.68	15	P	P	11 14 55.8 +1.7
	comp=N,0.8nm,0.4s,baz=193,slow=10,SNR=1.7					
SONM				LR	LR	11 29 58.8
	comp=N,77nm,18.2s,baz=246,slow=39					
	comp=N,0.8nm,0.4s					
KSRS	**Korea Array**	36.81	47	P	P	11 15 21.7 +0.7
	comp=N,0.5nm,0.6s,baz=249,slow=7.6,SNR=1.5					
KSRS				LR	LR	11 31 39.0
	comp=N,49nm,19.2s,baz=230,slow=38					
	comp=N,0.5nm,0.6s					
KURBB	**Kurchatov Arra**	37.23	343	P	P	11 15 25.2 +0.8
	comp=N,1.3nm,0.4s,baz=157,slow=8.0,SNR=9.5					
	comp=N,1.3nm,0.4s					
KURK	**Kurchatov**	37.29	343	P	P	11 15 25.6 +0.8
GEYT	**Alibeck**	38.94	312	P	P	11 15 39.8 +0.8
GEYT				IAmb	IAmb	11 15 41.7
	comp=Z,6.2nm,0.7s					
GEYT	**Alibeck**	38.94	312	P	P	11 15 40.7 +1.7
	comp=Z,5.0nm,0.6s,baz=148,slow=8.7,SNR=7.2					
	comp=Z,5.0nm,0.6s					
GYA0B	**ALIBECK ARRAY**	38.94	312	P	P	11 15 39.7 +0.7
GYA0B				IAmb	IAmb	11 15 41.6
	comp=Z,5.7nm,0.8s					
ZAA0	**Zalesovo Array**	39.02	351	P	P	11 15 38.2 -1.1
ZALV	**Zalesovo Beam**	39.02	351	P	P	11 15 37.8 -1.6
ZALV	**Zalesovo Beam**	39.02	351	P	P	11 15 39.9 +0.5
	comp=Z,1.6nm,0.5s,baz=176,slow=8.7,SNR=5.3					
	comp=Z,1.6nm,0.5s					
BVAR	**Borovoye Array**	41.89	338	P	P	11 16 03.2 +0.1
	comp=Z,0.5nm,0.4s,baz=149,slow=6.7,SNR=2.2					
	comp=Z,0.5nm,0.4s					
ABKAR	**Akbulak array**	43.75	328	P	P	11 16 19.0 +0.8
MBWA	**Marble Bar**	44.18	145	P	P	11 16 21.1 -0.9
MBWA				IAmb	IAmb	11 16 44.4
	comp=Z,4.4nm,0.9s					
KLR	**Kul'dur**	45.30	34	LR	LR	11 38 32.4
	comp=Z,74nm,18.1s,baz=208,slow=40					
FITZ	**Fitzroy Crossi**	45.48	136	P	P	11 16 31.9 -0.5
KNRA	**Kununurra**	46.02	131		P	11 16 36.1 -0.6
KNRA				IAmb	IAmb	11 17 03.9
	comp=Z,6.6nm,1.1s					
KIV	**Kislovodsk**	51.97	314	P	P	11 17 22.8 +0.6
KIV				IAmb	IAmb	11 17 23.9
	comp=Z,8.5nm,0.7s					
WB0	**Warramunga Arr**	52.74	130	P	P	11 17 27.3 -0.7
WB0				IAmb	IAmb	11 17 28.2
	comp=Z,3.8nm,0.5s					
WRA	**Warramunga Arr**	52.81	131	P	P	11 17 27.6 -1.0
	comp=Z,2.2nm,0.3s,baz=311,slow=7.7,SNR=67					
WRA				PcP	PcP	11 18 37.0 -0.7
	comp=Z,0.5nm,0.6s,baz=322,slow=3.4,SNR=6.1					
	comp=Z,2.2nm,0.3s					
WRAB	**Tennant Creek**	52.81	131	P	P	11 17 28.1 -0.5
WRAB				IAmb	IAmb	11 17 30.6
	comp=Z,4.1nm,0.8s					
WB2	**Warramunga Arr**	52.82	131	P	P	11 17 28.2 -0.5
WB2				IAmb	IAmb	11 17 28.4
	comp=Z,5.2nm,0.9s					
WR0	**Warramunga Arr**	52.97	131	P	P	11 17 29.0 -0.7
WR0				IAmb	IAmb	11 17 29.7
	comp=Z,5.3nm,0.5s					
AS31	**Alice Springs**	54.90	134	P	P	11 17 43.5 -0.3
ASAR	**Alice Springs**	54.90	134	P	P	11 17 43.7 -0.1
ASAR	**Alice Springs**	54.90	134	P	P	11 17 43.1 -0.6
	comp=Z,2.3nm,0.5s,baz=315,slow=6.9,SNR=49					
	comp=Z,2.3nm,0.5s					
FORT	**Forrest**	56.33	145	P	P	11 17 54.6 +0.7
BRTR	**Keskin Array B**	57.78	307	P	P	11 18 04.1 -0.2
	comp=Z,1.6nm,0.8s,baz=86,slow=6.1,SNR=4.0					
	comp=Z,1.6nm,0.8s					
TIXI	**Tiksi**	59.70	12	P	P	11 18 17.3 +0.4
TIXI				IAmb	IAmb	11 18 24.3
	comp=Z,2.7nm,0.8s					
BBOO	**Buckleboo**	62.47	141	P	P	11 18 36.0 -0.3
BBOO				IAmb	IAmb	11 18 55.8
	comp=Z,5.3nm,1.1s					
IDI	**Anoyia**	64.55	302	P	P	11 18 50.6 +0.4
STKA	**Stephens Creek**	65.38	137	P	P	11 18 55.1 -0.4
STKA	**Stephens Creek**	65.38	137	P	P	11 18 55.1 -0.4
	comp=Z,2.1nm,0.5s,baz=327,slow=7.0,SNR=11					
	comp=Z,2.1nm,0.5s					
FIA1	**FINESS Array S**	66.10	331	P	P	11 18 59.8 +0.2
FINES	**FINESS Array B**	66.10	331	P	P	11 18 60.0 +0.3
FINES	**FINESS Array B**	66.10	331	P	P	11 18 59.6 -0.1
	comp=Z,3.3nm,0.6s,baz=108,slow=6.4,SNR=12					
	comp=Z,3.3nm,0.6s					
ARCES	**ARCESS Array B**	68.17	339	P	P	11 19 12.7 0.0
ARCES	**ARCESS Array B**	68.17	339	P	P	11 19 13.2 +0.5
	comp=Z,0.7nm,0.6s,baz=82,slow=6.5,SNR=6.3					
	comp=Z,0.7nm,0.6s					
HFS	**Hagfors**	72.00	329	P	P	11 19 36.3 0.0
	comp=Z,2.1nm,0.4s,baz=98,slow=9.1,SNR=11					
	comp=Z,2.1nm,0.4s					
GERES	**GERESS Array B**	72.33	317	P	P	11 19 38.9 +0.2
	comp=Z,0.9nm,0.6s,baz=84,slow=6.8,SNR=2.3					
	comp=Z,0.9nm,0.6s					
NB2	**NORSAR Subarra**	73.21	330	P	P	11 19 43.0 -0.6
	comp=Z,0.9nm,0.6s,baz=88,slow=5.9					
NOA	**NORSAR Array B**	73.21	330	P	P	11 19 43.5 0.0
	comp=Z,1.2nm,0.6s,baz=86,slow=6.0,SNR=4.8					
	comp=Z,1.2nm,0.6s					
BOSA	**Boshof**	79.92	237	P	P	11 20 22.4 +0.2
BOSA				IAmb	IAmb	11 20 35.6
	comp=Z,4.3nm,1.1s					
BOSA	**Boshof**	79.92	237	P	P	11 20 21.7 -0.4
	comp=Z,1.8nm,0.7s,baz=33,slow=2.3,SNR=5.1					
BOSA				PP	PP	11 23 22.5 -1.8
	comp=Z,11nm,1.1s,baz=84,slow=6.1,SNR=6.3					
	comp=Z,1.8nm,0.7s					
LIFNC	**LIFOU**	80.12	115	P	P	11 20 23.0 -0.2
EKA	**Eskdalemuir Ar**	81.56	325	P	P	11 20 30.8 +0.5
	comp=Z,2.2nm,0.6s,baz=84,slow=6.0,SNR=5.7					
	comp=Z,2.2nm,0.6s					
CASY	**Casey**	82.50	173	P	P	11 20 34.4 -0.4
CASY				IAmb	IAmb	11 20 49.8
	comp=Z,4.9nm,1.1s					
MAW	**Mawson**	86.07	192	P	P	11 20 52.4 -0.5
	comp=Z,1.2nm,0.8s,baz=350,slow=11,SNR=1.6					
	comp=Z,1.2nm,0.8s					
ESDC	**Sonseca Array**	86.46	310	P	P	11 20 56.3 +0.5
	comp=Z,0.8nm,0.8s,baz=68,slow=5.2,SNR=5.1					
	comp=Z,0.8nm,0.8s					
D27M	**Malcolm River**	86.92	17	P	P	11 20 58.1 +0.7
ILAR	**Eielson Array**	87.58	22	P	P	11 21 00.7 +0.1
	comp=Z,0.2nm,0.7s,baz=297,slow=4.0,SNR=2.5					
	comp=Z,0.2nm,0.7s					
TORD	**Torodi Ar. Bea**	89.06	283	P	P	11 21 08.3 -0.2
	comp=Z,0.9nm,0.8s,baz=68,slow=4.2,SNR=3.7					
	comp=Z,0.9nm,0.8s					
TXAR	**Lajitas Array**	132.09	21	PKP	PKPdf	11 27 27.6 +0.5
	comp=Z,0.2nm,0.4s,baz=0.0,slow=0.1,SNR=4.0					
PLCA	**Paso Flores**	151.71	205	PKPab	PKPab	11 28 15.1 -1.2
	comp=Z,1.0nm,0.6s,baz=36,slow=3.9,SNR=4.1					

*HVO **04** 11:10:31.9±1.0, 19°.42N±0°.01×155°.262W±0°.007, h-0km±2km, ML3.5/33, ML2.9/33(NEIC), Error ellipse: s-maj=1.6km s-min=0.8km az=195.0*
NEIC 04 11:10:32.1±0.9, 19°.413N±0°.010×155°.268W±0°.008, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.4km az=185.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	0.01	96		Pg	11 10 32.4	-0.8
HATHI	**Halema'uma'u T**	0.01	31		Pg	11 10 32.3	-0.9
SBLHI	**Steaming Bluff**	0.01	358		Pg	11 10 32.4	-0.8
KKO	**Keanakako`i**	0.01	175		Pg	11 10 32.6	-0.6
UWB	**Uwekahuna B**	0.01	320		Pg	11 10 32.4	-0.8
OBL	**Observatory Le**	0.02	287		Pg	11 10 32.8	-0.5
RIM	**Rim**	0.02	199		Pg	11 10 33.0	-0.2
UWE	**Uwekahuna**	0.03	289		Pg	11 10 32.9	-0.4
WRMHI	**West Rim**	0.03	258		Pg	11 10 33.3	0.0
SDHHI	**Sand Hill**	0.03	227		Pg	11 10 33.6	+0.3
RSD	**Rainshed**	0.05	349		Pg	11 10 33.4	-0.2
PUH	**Pauahi**	0.06	128		Pg	11 10 33.8	+0.1
PUH				IAML		11 10 34.9	
	comp=E,9μm,0.6s						
KNHH	**Kane Nui o Ham**	0.10	110		Pg	11 10 34.1	-0.2
HLP	**Hilina Pali**	0.12	198		Pg	11 10 34.7	0.0
HLP				IAML		11 10 38.3	
	comp=N,5μm,0.7s						
HLP				IAML		11 10 38.5	
	comp=E,5μm,0.5s						
STCH	**Steam Cracks**	0.14	101		Pg	11 10 34.8	-0.2
STCH				IAML		11 10 38.1	
	comp=N,6μm,0.9s						
NPOC	**North of Pu'u**	0.15	98		Pg	11 10 35.3	+0.2
JCUZ	**Jacuzzi**	0.16	100		Pg	11 10 35.5	+0.2
JOKA	**Jonika Flow**	0.25	85		Pg	11 10 37.1	+0.2
JOKA				IAML		11 10 43.8	
	comp=E,2μm,0.9s						
HMH	**Humu'ula Sheep**	0.28	313		Pg	11 10 37.6	-0.1
HMH				IAML		11 10 44.3	
	comp=E,1μm,0.7s						
HMH				IAML		11 10 46.0	
	comp=N,2μm,0.7s						
PAH	**Pahoa**	0.31	75	Pg	Pg	11 10 38.7	+0.5
MLOA	**Mauna Loa Obse**	0.32	293		Pg	11 10 38.6	+0.3
MLOA				IAML		11 10 49.0	
	comp=E,1μm,1.0s						
MLOA				IAML		11 10 49.1	
	comp=N,2μm,1.0s						
MWH	**Moku'aweowe**	0.32	283		Pg	11 10 38.5	0.0
MWH				IAML		11 10 48.2	
	comp=N,2μm,0.6s						
KHU	**Kahuku**	0.37	243	Pg	Pg	11 10 39.1	-0.2
ALEP	**Alea Permanent**	0.38	290		Pg	11 10 40.1	+0.5
ALEP					Sb	11 10 46.4	-1.4
POHA	**Pohakuloa**	0.42	324	Pg	Pg	11 10 39.8	-0.6
POHA				IAML		11 10 49.1	
	comp=N,2μm,0.5s						
HUH	**Hualalai**	0.60	297		Pg	11 10 43.8	+0.1
CPH	**Captain Cook**	0.62	277		Pg	11 10 44.2	+0.2
HPAH	**Hawaii Prepara**	0.74	327	Pg	Pg	11 10 45.0	-1.2

KRSC 04 11:12:00.9±0.9, 55°.00N×162°.43E, h40km±16km, Ml3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	0.60	223	eP	Pn	11 12 14.1	+1.1
MKZ				eS	Sn	11 12 22.4	+0.8
TUMD	**Tumrok D**	1.19	281	eP	Pn	11 12 21.7	+0.7
TUMD				eS	Sn	11 12 35.7	-0.2
KBTR	**Krutoberegovo**	1.23	10	eP	Pn	11 12 23.1	+1.5
KBTR				eS	Sn	11 12 38.8	+1.7
KBG	**Krutoberegovo**	1.27	7	eP	Pn	11 12 24.6	+2.5
KBG				eS	Sn	11 12 40.5	+2.6
TUMR	**Tumrok**	1.34	283	eP	Pn	11 12 24.4	+1.2
BZGR	**Bezymyannyi-Gr**	1.37	314	eP	Pn	11 12 25.0	+1.4
BZGR				eS	Sn	11 12 41.8	+1.3
ZLN	**Zelenaya**	1.38	318	eP	Pn	11 12 25.3	+1.6
ZLN				eS	Sn	11 12 42.5	+1.7
BZP	**Bezymyannyi-Pe**	1.42	311	eP	Pn	11 12 25.2	+0.9
BZP				eS	Sn	11 12 42.4	+0.6
BZMR	**Bezymyannaya**	1.45	311	eP	Pn	11 12 25.7	+0.9
KMNR	**Kamenistaya**	1.47	302	eP	Pn	11 12 26.2	+1.3
KMNR				eS	Sn	11 12 45.8	+2.9
BZWR	**Bezymyannyi-We**	1.47	312	eP	Pn	11 12 26.3	+1.3
LGNR	**Loginova**	1.47	318	eP	Pn	11 12 27.0	+1.9
LGNR				eS	Sn	11 12 46.0	+2.7
CIRR	**Tsirk**	1.47	320	eP	Pn	11 12 26.9	+1.9
CIRR				eS	Sn	11 12 45.4	+2.2
KIRR	**Kirishev**	1.53	310	eP	Pn	11 12 27.1	+1.3
KIRR				eS	Sn	11 12 48.0	+3.4
KPT	**Kopyto**	1.59	309	eP	Pn	11 12 28.1	+1.4
KRSR	**Krestovskiy**	1.62	320	eP	Pn	11 12 28.1	+1.1
KRSR				eS	Sn	11 12 48.0	+1.4
KLY	**Klyuchi**	1.66	323	eP	Pn	11 12 27.7	+0.2
KLY				eS	Sn	11 12 47.7	+0.2
KOZ	**Kozyrevsk**	1.80	307	eP	Pn	11 12 31.2	+1.7
KOZ				eS	Sn	11 12 54.2	+3.1
KII	**Karymskiy**	1.99	242	eP	Pn	11 12 34.5	+2.4
KII				eS	Sn	11 13 00.1	+4.4
SRDR	**Sredinnyy**	2.03	312	eP	Pn	11 12 34.0	+1.3
BKI	**Bering**	2.04	83	eS	Sn	11 13 00.3	+3.4
SPN	**Mys Shipunski**	2.38	218	eP	Pn	11 12 38.8	+1.4
SPN				eS	Sn	11 13 05.5	+0.3
NLC	**Nalytchevo**	2.58	226	eP	Pn	11 12 42.6	+2.5
NLC				eS	Sn	11 13 13.3	+3.1
KRER	**Koryakskii**	2.75	233	eP	Pn	11 12 46.5	+3.8
KRER				eS	Sn	11 13 20.1	+5.4
SMAR	**Somma**	2.75	232	eP	Pn	11 12 46.3	+3.5
SMAR				eS	Sn	11 13 18.7	+3.9
KRX	**Arik**	2.77	235	eP	Pn	11 12 46.3	+3.5
KRX				eS	Sn	11 13 18.8	+3.9
UGLR	**Uglovaya**	2.78	231	eP	Pn	11 12 46.2	+3.2
UGLR				eS	Sn	11 13 18.5	+3.1
AVH	**Avacha**	2.78	233	eP	Pn	11 12 46.7	+3.7
AVH				eS	Sn	11 13 20.0	+4.6
KOK	**Koryaka**	2.81	234	eP	Pn	11 12 46.8	+3.3
KOK				eS	Sn	11 13 21.1	+5.0
DALK	**Dalny**	2.93	229	eP	Pn	11 12 48.0	+3.1
DALK				eS	Sn	11 13 21.8	+3.0
GNL	**Ganaly**	2.94	245	eP	Pn	11 12 48.2	+3.1
PET	**Petropavlovsk**	2.98	230	eP	Pn	11 12 49.0	+3.4
PET				eS	Sn	11 13 23.2	+3.2
KRMR	**Karymshinskiy**	3.35	231	eP	Pn	11 12 54.1	+3.5
KRMR				eS	Sn	11 13 34.5	+5.4
GRL	**Gorelyy**	3.56	228	eP	Pn	11 12 57.7	+4.0
GRL				eS	Sn	11 13 38.8	+4.2
MTVR	**Mutnovka**	3.57	227	eP	Pn	11 12 58.0	+4.2
MTVR				eS	Sn	11 13 40.0	+5.2
ASAK	**Asacha**	3.76	228	eP	Pn	11 13 00.6	+4.2
ASAK				eS	Sn	11 13 44.1	+4.7

*NEIC

ALEP	**Alea Permanent**	**0.36 288**		Sb	11 12 17.8 -1.6
KHU	**Kahuku**	**0.36 240**		Pg	11 12 10.6 +0.1
POHA	**Pohakuloa**	**0.40 324**	Pg	Pg	11 12 10.9 -0.3
POHA			IAML		11 12 12.7
	comp=E,5μm,1.0s				
POHA			IAML		11 12 19.6
	comp=E,7μm,0.8s				
HPO	**Honuapo**	**0.43 217**	Pg	Pg	11 12 11.8 +0.1
HUH	**Hualalai**	**0.58 296**		Pg	11 12 14.5 -0.2
CPH	**Captain Cook**	**0.60 276**		Pg	11 12 14.5 -0.6
HPAH	**Hawaii Prepara**	**0.71 327**	Pg	Pg	11 12 16.2 -1.1
MHA	**Mahukona**	**0.95 322**	Pg	Pg	11 12 20.0 -1.8

DJA 04 11:23:28.8±1.2,2°N±5°×9°6E±°,h13km±6km,M3.7/5, mb3.8/1,ML3.7/5,MLv3.5/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.61**	**84**	P	Pb	11 23 41.4	+0.1
MLSI	**Meulaboh, Aceh**	**2.02**	**20**	P	Pn	11 24 02.9	+0.3
MLSI				S	Sn	11 24 28.7	+0.9
KCSI	**Kotacane, Aceh**	**2.36**	**60**	P	Pn	11 24 07.3	+0.1
KCSI				S	Sn	11 24 37.1	+1.0

*NAO **04** 11:24:17.9,41°.40N×19°.53E,h10km,mb4.0*
*TIR **04** 11:24:18.2,41°.46N×19°.47E,h14km±1km,Md3.8,Ml4.2*
*RHSSO **04** 11:24:18.9±0.6,41°.32N×19°.58E,h6km±2km,ML4.8/19*
*MCSM **04** 11:24:18.0±0.8,41°.N±5°×1°.9E±°,h6km±4km,mb4.3,mB4.8, MLv4.8,Mw(mB)4.0*
*THE **04** 11:24:19.7,41°.59N×19°.59E,h0km±2km,ML3.8/9,Error ellipse: s-maj=4.1km s-min=1.6km az=314.0*
*MOS **04** 11:24:19.9±0.9,41°.49N×19°.48E,h23km,mb4.5/13,Error ellipse: s-maj=4.7km s-min=2.9km az=90.9*
*BEO **04** 11:24:20.3±0.6,41°.37N×19°.56E,h13km±2km,ML4.3/22*
*NEIC **04** 11:24:20.0±2.0,41°.43N±0°.04×19°.52E±0°.05,h10km±1km, mb4.4/15,ML4.5/1(BUC),Error ellipse: s-maj=8.4km s-min=4.3km az=312.0*
*MED_RC **04** 11:24:20.0±0.6,41°.43N×19°.50E,h21km±2km,MW4.5/21, Moment Tensor Solution.Mantle waves: s21,c28; Duration: 1ꝝ0 Moment tensor: Scale 10^{15}Nm; M_{rr}2.65±1.10; $M_{\theta\theta}$0.97±.66; $M_{\phi\phi}$-3.63±.68; $M_{r\theta}$3.84±.82; $M_{\theta\phi}$6.13±.61; $M_{\phi r}$-1.66±.74; Best double couple: $M_0$7.86000×10^{15} NP1:ϕs107.00000°,δ79.00000°, λ38.00000°. NP2:ϕs9.00000°,δ53.00000°,λ167.00000°. Principal axes: T 6.7400, Plg34.0000°, Azm335.0000°; N 2.2500, Plg51.0000°, Azm120.0000°; P -8.9900, Plg17.0000°, Azm232.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*LDG **04** 11:24:20.4±0.1,41°.49N×19°.50E,h10km,Ml4.3/18 Error ellipse: s-maj=5.5km s-min=2.3km az=34.0*
*SKO **04** 11:24:20.5,41°.41N×19°.48E,h11km,ML3.8*
*PDG **04** 11:24:20.6±0.3,41°.49N×19°.61E,h11km±1km,MD4.5/13, ML4.4/13,Error ellipse: s-maj=0.6km s-min=1.2km az=0.0*
*PRU **04** 11:24:20.9,41°.20N×19°.14E,h10km,M4.3*
*IDC **04** 11:24:24.7±1.9,41°.51N×19°.50E,h57km±18km,mb3.8/15, mbtmp4.1/26,ML4.1/11,MS3.9/32,Error ellipse: s-maj=15.7km s-min=11.5km az=166.0*

ISC 04 11:24:20.4±0.8,41°.43N±0°.02×19°.51E±0°.02,h17km±5km, n476,σ1ꝝ61/562,mb4.3/30,MS3.9/24,67C-17D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.28 107**		⇑P	**Pg**	**11 24 25.8**	**-0.7**
TIR	**Tirane**	**0.28 107**		P	**Pg**	**11 24 25.5**	**-1.0**
	baz=110						
TIR				S	**Sg**	**11 24 30.0**	**-0.8**
	baz=110						
TIR				AMP			
	comp=E,186nm,0.2s,baz=110						
TIR	**Tirane**	**0.28 107**			**Pg**	**11 24 25.3**	**-1.2**
TIR	**Tirane**	**0.28 107**		P	**Pg**	**11 24 25.4**	**-1.2**
TIR				S	**Sg**	**11 24 30.4**	**-0.4**
	comp=E,41μm,0.2s						
TIR	**Tirane**	**0.28 107**		*e*Pg	**Pg**	**11 24 25.5**	**-1.0**
TIR				*e*Sg	**Sg**	**11 24 30.6**	**-0.2**
TIR	**Tirane**	**0.28 107**		P	**Pg**	**11 24 25.8**	**-0.7**
TIR	**Tirane**	**0.28 107**		P	**Pg**	**11 24 25.7**	**-0.8**
ULC	**Ulcinj**	**0.57 340**		*i* Pg	**Pg**	**11 24 31.2**	**-0.4**
ULC	**Ulcinj**	**0.57 340**		⇑*i*Pg	**Pg**	**11 24 31.0**	**-0.7**
ULC				*i* Sg	**Sb**	**11 24 39.6**	**-0.1**
ULC	**Ulcinj**	**0.57 340**		P	**Pg**	**11 24 31.0**	**-0.7**
ULC				S	**Sg**	**11 24 39.0**	**-0.3**
PUK	**Puka**	**0.68**	**25**	P	**Pg**	**11 24 32.0**	**-1.7**
	baz=28						
PUK				S	**Sg**	**11 24 41.2**	**-1.6**
	baz=28						
PUK				AMP			
	comp=N,63nm,0.3s,baz=28						
PUK	**Puka**	**0.68**	**25**		**Pg**	**11 24 31.6**	**-2.1**
DRME	**Dracevica, Mon**	**0.79 342**		*e*Pg	**Pb**	**11 24 36.3**	**+0.6**
DRME				*e*Sg	**Sn**	**11 24 48.3**	**+0.1**
DRME	**Dracevica, Mon**	**0.79 342**		⇑*i*Pg	**Pg**	**11 24 35.2**	**-0.7**
DRME				*e*Sg	**Sn**	**11 24 47.9**	**-0.3**
DRME	**Dracevica, Mon**	**0.79 342**		⇓*i*Pg	**Pg**	**11 24 35.1**	**-0.8**
DRME				*i* Sg	**Sb**	**11 24 47.2**	**+1.1**
VLO	**Vlora**	**0.96 181**		P	**Pn**	**11 24 40.5**	**+1.5**
	baz=178						
VLO				AMP			
	comp=N,32nm,0.5s,baz=178						
VLO	**Vlora**	**0.96 181**		Pg	**Pn**	**11 24 40.9**	**+1.9**
VLO	**Vlora**	**0.96 181**		P	**Pn**	**11 24 41.0**	**+2.0**
VLO				S	**Sn**	**11 24 57.9**	**+5.6**
	comp=N,8μm,0.5s						
VLO	**Vlora**	**0.96 181**		P	**Pn**	**11 24 40.9**	**+1.9**
BUM	**Brajici-Budva**	**0.98 332**		⇓*i*Pg	**Pn**	**11 24 39.7**	**+0.3**
BUM				*i* Sg	**Sn**	**11 24 54.2**	**+1.3**
PDG	**Podgorica**	**1.02 349**			**Pg**	**11 24 38.5**	**-1.5**
PDG	**Podgorica**	**1.02 349**		*e*Pg	**Pn**	**11 24 40.3**	**+0.5**
PDG				*e*Sg	**Sn**	**11 24 55.2**	**+1.6**
PDG	**Podgorica**	**1.02 349**		⇑*i*Pg	**Pg**	**11 24 39.3**	**-0.8**
PDG				*e*Sg	**Sn**	**11 24 55.1**	**+1.5**
PDG	**Podgorica**	**1.02 349**		⇑*i*Pg	**Pg**	**11 24 38.8**	**-1.3**
PDG				*i* Sg	**Sn**	**11 24 54.2**	**+0.6**
TTG	**Podgorica**	**1.02 349**		P	**Pg**	**11 24 38.8**	**-1.3**
BCI	**Bajram Curri**	**1.02**	**24**	P	**Pg**	**11 24 37.8**	**-2.5**
	baz=26						
BCI				S	**Sg**	**11 24 53.0**	**-0.7**
	baz=26						
BCI				AMP			
	comp=N,68nm,0.9s,baz=26						
OHR	**Ohrid**	**1.02 108**		*i* Pg	**Pg**	**11 24 38.7**	**-1.5**
OHR				*i* Sg	**Sb**	**11 24 54.0**	**+1.2**
OHR				*e*Lg	Lg	11 24 54.5	
	comp=N,820nm,0.4s						
OHR				*e*Lg	Lg	11 24 55.7	
	comp=E,1μm,0.5s						
CEME	**Cevo**	**1.20 339**		⇑*i*Pg	**Pb**	**11 24 42.4**	**-0.2**
CEME				*i* Sg	**Sn**	**11 25 00.4**	**+2.1**
PVY	**Plav**	**1.21**	**16**	*e*Pg	**Pn**	**11 24 42.3**	**-0.3**
PVY	**Plav**	**1.21**	**16**	⇓*i*Pg	**Pn**	**11 24 41.6**	**-1.0**
PVY				*i* Sg	**Sn**	**11 24 59.8**	**+1.1**
KBN	**Korca**	**1.26 129**		P	**Pg**	**11 24 44.3**	**-0.4**
	baz=129						
KBN				S	**Sn**	**11 25 02.3**	**+2.5**
	baz=129						
KBN				AMP			
	comp=N,14nm,0.6s,baz=129						
KBN	**Korca**	**1.26 129**			**Pg**	**11 24 44.8**	**+0.1**
KBN	**Korca**	**1.26 129**		P	**Pn**	**11 24 43.7**	**+0.5**
KBN				S	**Sn**	**11 25 04.3**	**+4.5**
	comp=N,3μm,0.7s						
KBN	**Korca**	**1.26 129**		P	**Pg**	**11 24 44.8**	**+0.1**
HCY	**Herceg Novi**	**1.27 324**		⇑*i*Pg	**Pg**	**11 24 44.3**	**-0.5**
HCY				*e*Sg	**Sg**	**11 25 02.8**	**+1.5**
HCY	**Herceg Novi**	**1.27 324**		⇑*i*Pg	**Pn**	**11 24 43.7**	**+0.5**
HCY				*i* Sg	**Sg**	**11 25 03.7**	**+2.4**
HCY	**Herceg Novi**	**1.27 324**		P	**Pn**	**11 24 43.7**	**+0.5**
HCY				S	**Sg**	**11 25 03.0**	**+1.7**
NKME	**Niksic**	**1.40 343**		⇑*i*Pg	**Pb**	**11 24 46.4**	**+0.4**
NKME				*i* Sg	**Sg**	**11 25 06.5**	**+1.0**
KOME	**Kolasin**	**1.42**	**0**	*e*Pg	**Pb**	**11 24 46.8**	**+0.4**
KOME				*e*Sg	**Sg**	**11 25 07.2**	**+1.0**
KOME	**Kolasin**	**1.42**	**0**	⇓*i*Pg	**Pn**	**11 24 45.3**	**-0.1**
KOME				*i* Sg	**Sg**	**11 25 06.9**	**+0.7**
BEY	**Berane**	**1.47**	**11**	*e*Pg	**Pn**	**11 24 46.7**	**+0.6**
IVA	**Berane**	**1.47**	**11**	⇑*i*Pg	**Pn**	**11 24 46.2**	**+0.1**
IVA				*i* Sg	**Sg**	**11 25 08.8**	**+1.0**
LSK	**Leskovik**	**1.53 147**		P	**Pg**	**11 24 49.0**	**-0.7**
	baz=146						
LSK				S	**Sg**	**11 25 09.9**	**+0.3**
	baz=146						
LSK				AMP			
	comp=E,10.0nm,0.9s,baz=146						
LSK	**Leskovik**	**1.53 147**		P	**Pb**	**11 24 48.6**	**+0.4**
LSK				S	**Sg**	**11 25 12.1**	**+2.5**
	comp=E,3μm,1.1s						
SKO	**Skopje**	**1.54**	**69**	*i* Pn	**Pb**	**11 24 48.2**	**-0.2**
SKO				*i* Sg	**Sg**	**11 25 10.0**	**-0.2**
TREB	**Trebinje**	**1.55 327**		⇑*i*Pn	**Pn**	**11 24 48.1**	**+1.0**
TREB				*e*Sn	**Sg**	**11 25 10.3**	**0.0**
NEST	**Nestorio**	**1.55 130**		P	**Pb**	**11 24 49.2**	**+0.6**
NEST				S	**Sg**	**11 25 11.2**	**+0.9**
	comp=E,1μm,0.8s						
FNA	**Florina**	**1.55 114**		P	**Pb**	**11 24 48.6**	**-0.1**
	baz=114						
FNA				S	**Sg**	**11 25 10.1**	**-0.4**
	baz=114						
FNA				AMP			
	comp=E,4.8nm,0.4s,baz=114						
FNA	**Florina**	**1.55 114**		Pn	**Pn**	**11 24 47.4**	**+0.1**
FNA	**Florina**	**1.55 114**		P	**Pn**	**11 24 48.1**	**+0.9**
FNA				S	**Sg**	**11 25 09.6**	**-0.9**
	comp=E,3μm,0.5s						
FNA	**Florina**	**1.55 114**		*i* Pg	**Pb**	**11 24 48.6**	**-0.1**
FNA				*i* Sg	**Sg**	**11 25 10.4**	**-0.1**
FNA	**Florina**	**1.55 114**		P	**Pn**	**11 24 47.4**	**+0.1**
SCTE	**Santa Cesarea**	**1.57 211**		P	**Pn**	**11 24 48.4**	**+1.0**
	baz=210						
SCTE	**Santa Cesarea**	**1.57 211**			**Pn**	**11 24 47.8**	**+0.4**
SRN	**Sarande**	**1.59 166**		P	**Pb**	**11 24 48.9**	**-0.4**
	baz=165						
SRN				S	**Sg**	**11 25 11.7**	**-0.1**
	baz=165						
SRN				AMP			
	comp=E,3.1nm,0.4s,baz=165						
SRN	**Sarande**	**1.59 166**		P	**Pb**	**11 24 49.3**	**0.0**
SRN				S	**Sg**	**11 25 13.7**	**+1.9**
	comp=E,898nm,0.8s						
DBRK	**Dubrovnik**	**1.60 321**		*i* Pn	**Pn**	**11 24 48.6**	**+0.8**
BRY	**Bratogost**	**1.64 334**		⇑*i*Pn	**Pb**	**11 24 50.2**	**+0.1**
BRY				*e*Sn	**Sg**	**11 25 13.4**	**+0.2**
BRY	**Bratogost**	**1.64 334**		⇑*i*Pn	**Pb**	**11 24 50.2**	**+0.1**
BRY				*i* Sn	**Sg**	**11 25 14.1**	**+0.9**
PENT	**Pentalofos**	**1.75 134**		P	**Pb**	**11 24 52.6**	**+0.6**
UPM	**Unac-Piva**	**1.83 346**		*e*Pn	**Pb**	**11 24 53.1**	**-0.3**
UPM				*e*Sn	**Sb**	**11 25 17.3**	**+1.3**
UPM	**Unac-Piva**	**1.83 346**		⇓*i*Pn	**Pb**	**11 24 53.4**	**0.0**
UPM				*i* Sn	**Sg**	**11 25 18.2**	**-1.0**
SJES	**Sjenica**	**1.86**	**11**	*e*Pn	**Pb**	**11 24 54.1**	**+0.1**
SJES				*e*Sg	**Sg**	**11 25 21.3**	**+1.0**
SJES	**Sjenica**	**1.86**	**11**	*e*Pn	**Pn**	**11 24 52.5**	**+1.0**
SJES				*e*Sn	**Sb**	**11 25 17.8**	**+0.8**
KLINJ	**Klinje**	**1.87 339**		⇑*i*Pn	**Pb**	**11 24 53.4**	**-0.6**
KLINJ				*e*Sn	**Sb**	**11 25 18.1**	**+1.0**
PLE	**Pljevlja**	**1.90 357**		*e*Pn	**Pb**	**11 24 54.7**	**+0.1**
PLE	**Pljevlja**	**1.90 357**		⇑*i*Pn	**Pb**	**11 24 54.3**	**-0.3**
PLE				*i* Sn	**Sb**	**11 25 19.0**	**+0.9**
PLE	**Pljevlja**	**1.90 357**		P	**Pb**	**11 24 54.3**	**-0.3**
PLE				S	**Sg**	**11 25 20.0**	**-1.6**
NOCI	**Noci**	**1.95 252**		P	**Pn**	**11 24 53.6**	**+0.9**
	baz=251						
STON	**Ston**	**1.97 318**		*e*Pn	**Pn**	**11 24 53.3**	**+0.4**
STON	**Ston**	**1.97 318**		⇑*i*Pn	**Pn**	**11 24 53.7**	**+0.8**
STON				*e*Sn	**Sb**	**11 25 20.7**	**+0.8**
IGT	**Igoumenitsa**	**2.00 161**		P	**Pb**	**11 24 55.3**	**-0.9**
	baz=160						
IGT				S	**Sg**	**11 25 24.3**	**-0.4**
	baz=160						
IGT				AMP			
	comp=E,3.1nm,0.6s,baz=160						
IGT	**Igoumenitsa**	**2.00 161**		P	**Pb**	**11 24 55.6**	**-0.6**
IGT				S	**Sg**	**11 25 23.4**	**-1.3**
	comp=E,1μm,0.7s						
IGT	**Igoumenitsa**	**2.00 161**		P	**Pb**	**11 24 55.3**	**-0.9**
IGT				S	**Sg**	**11 25 23.4**	**-1.3**
STIP	**Stip**	**2.03**	**82**	*i* Pn	**Pb**	**11 24 57.1**	**+0.4**
KPRO	**Kipourio**	**2.04 136**		P	**Pb**	**11 24 56.4**	**-0.6**
KPRO				S	**Sb**	**11 25 24.0**	**+1.9**
	comp=E,1μm,1.1s						
JAN	**Janina**	**2.05 150**		P	**Pg**	**11 24 58.7**	**-1.0**
JAN				S	**Sg**	**11 25 25.1**	**-1.2**
JAN	**Janina**	**2.05 150**		P	**Pg**	**11 24 58.7**	**-1.0**
RUDO	**Rudo**	**2.19 357**		⇑*i*Pn	**Pn**	**11 24 57.2**	**+1.3**
RUDO				*e*Sn	**Sb**	**11 25 26.4**	**+0.1**
IVAS	**Ivanjica**	**2.20**	**12**	*e*Pn	**Pn**	**11 24 56.1**	**0.0**
IVAS				*e*Sn	**Sn**	**11 25 25.4**	**+2.5**
PRVS	**Prvonek**	**2.20**	**60**	*e*Pn	**Pn**	**11 24 57.0**	**+0.9**
BARS	**Barje**	**2.21**	**50**	*e*Pn	**Pn**	**11 24 57.5**	**+1.3**
KTI	**Kastanea**	**2.23 117**		P	**Pn**	**11 24 58.0**	**+1.3**
MATE	**Matera**	**2.26 251**		⇓P	**Pn**	**11 24 57.0**	**+0.1**
MATE	**Matera**	**2.26 251**			**Pn**	**11 24 57.0**	**+0.1**
VAY	**Valandovo**	**2.31**	**92**	*i* Pn	**Pn**	**11 24 58.8**	**+1.3**
VAY				*i* Sg	**Sg**	**11 25 35.0**	**+0.4**
VAY				*e*Lg	Lg	11 25 36.5	
	comp=N,858nm,1.2s						
VAY				*e*Lg	Lg	11 25 37.2	
	comp=E,289nm,0.7s						
BBLS	**Lazi&#263i**	**2.43 358**		*e*Pn	**Pn**	**11 25 01.2**	**+1.8**
BBLS	**Lazi&#263i**	**2.43 358**		⇑*i*Pn	**Pn**	**11 25 00.7**	**+1.3**
BBLS				*e*Sn	**Sb**	**11 25 32.7**	**-0.7**
BOSS	**Bosilegrad**	**2.46**	**63**	*e*Pn	**Pn**	**11 25 00.6**	**+0.9**
KNT	**Kendrikon**	**2.57**	**95**	P	**Pn**	**11 25 02.2**	**+1.0**
KNT	**Kendrikon**	**2.57**	**95**	*i* Pn	**Pn**	**11 25 02.1**	**+0.9**
GRUS	**Gruza**	**2.61**	**20**	*e*Pn	**Pn**	**11 25 03.5**	**+1.7**
GRUS				*e*Sn	**Sn**	**11 25 34.9**	**+1.8**
MAKA	**Makarska**	**2.62 316**		*e*Pn	**Pn**	**11 25 02.3**	**+0.5**
LIT	**Litokhoron**	**2.63 119**			**Pn**	**11 25 02.8**	**+0.8**
LIT	**Litokhoron**	**2.63 119**		P	**Pn**	**11 25 03.1**	**+1.1**
LIT	**Litokhoron**	**2.63 119**		P	**Pn**	**11 25 02.8**	**+0.8**
HAPS	**Han Pijesak,BI**	**2.69 351**		⇑*i*Pn	**Pn**	**11 25 04.2**	**+1.3**
HAPS				*e*Sn	**Sn**	**11 25 38.4**	**+3.4**
DIVS	**Divibare**	**2.69**	**7**	*e*Pn	**Pn**	**11 25 03.5**	**+0.6**
RICI	**Ricice**	**2.71 320**		*e*Pn	**Pn**	**11 25 03.8**	**+0.7**
THE	**Thessaloniki**	**2.73 106**		*i* Pn	**Pn**	**11 25 04.3**	**+0.9**
THE	**Thessaloniki**	**2.73 106**		P	**Pn**	**11 25 04.3**	**+0.9**
BOVS	**Bovan**	**2.74**	**36**	⇑P	**Pn**	**11 25 04.2**	**+0.8**
BOVS	**Bovan**	**2.74**	**36**		**Pn**	**11 25 04.2**	**+0.8**
BOVS	**Bovan**	**2.74**	**36**	*e*Pn	**Pn**	**11 25 04.4**	**+0.9**
KKB	**Krupnik**	**2.75**	**80**	*i* Pn	**Pn**	**11 25 04.8**	**+1.2**
TSLK	**Tsoukalades, L**	**2.75 161**		P	**Pn**	**11 25 04.7**	**+1.1**
LKD2	**Lefkada island**	**2.78 161**		P	**Pn**	**11 25 04.8**	**+0.7**
SGRT	**San Giovanni R**	**2.84 278**		P	**Pn**	**11 25 05.3**	**+0.3**
	baz=278						
SGRT	**San Giovanni R**	**2.84 278**		Pn	**Pn**	**11 25 05.1**	**+0.1**
HVAR	**Hvar**	**2.86 309**		*e*Pn	**Pn**	**11 25 05.4**	**+0.2**
NYDR	**Nydri-Lefkada**	**2.86 161**		P	**Pn**	**11 25 05.7**	**+0.5**
TRUS	**Trudelj**	**2.87**	**13**	*e*Pn	**Pn**	**11 25 06.7**	**+1.4**
SOH	**Sokhos**	**2.97 101**		*i* Pn	**Pn**	**11 25 08.2**	**+1.5**
SOH	**Sokhos**	**2.97 101**		P	**Pn**	**11 25 09.1**	**+2.4**
TIP	**Timpagrande**	**3.08 224**		⇑P	**Pn**	**11 25 07.8**	**-0.4**
TIP	**Timpagrande**	**3.08 224**			**Pn**	**11 25 08.5**	**+0.2**
SRS	**Serrai**	**3.10**	**94**	*i* Pn	**Pn**	**11 25 09.3**	**+0.9**
SRS	**Serrai**	**3.10**	**94**	P	**Pn**	**11 25 09.3**	**+0.9**
SVIS	**Svilajnac**	**3.10**	**23**	*e*Pn	**Pn**	**11 25 10.6**	**+2.2**
TEKS	**Tekeris**	**3.12**	**0**	*e*Pn	**Pn**	**11 25 09.8**	**+1.1**
TEKS	**Tekeris**	**3.12**	**0**	*e*Pn	**Pn**	**11 25 10.5**	**+1.8**
TEKS				*e*Sn	**Sn**	**11 25 48.3**	**+2.8**
ZAGS	**Zajecar**	**3.12**	**39**	*e*Pn	**Pn**	**11 25 09.3**	**+0.6**
CUC	**Castrocucco**	**3.15 244**			**Pn**	**11 25 10.1**	**+0.9**
PLG	**Polygyros**	**3.17 108**		P	**Pn**	**11 25 10.5**	**+1.1**
MMB	**Musomishta**	**3.19**	**87**	*i* Pn	**Pn**	**11 25 11.2**	**+1.4**
AGG	**Agios Georgios**	**3.23 137**		Pn	**Pn**	**11 25 12.2**	**+1.9**
AGG	**Agios Georgios**	**3.23 137**		P	**Pn**	**11 25 12.2**	**+1.9**
AVAS	**Avala Beograd**	**3.34**	**12**	*e*Pn	**Pn**	**11 25 12.4**	**+0.6**
KUBS	**Kucevo**	**3.38**	**27**	*e*Pn	**Pn**	**11 25 11.4**	**-0.9**
KIJV	**Kijevo**	**3.44 319**		*e*Pn	**Pn**	**11 25 13.7**	**+0.5**
BEO	**Beograd**	**3.45**	**11**	P	**Pn**	**11 25 12.9**	**-0.3**
DOB	**Doboj**	**3.46 343**		*e*Pn	**Pn**	**11 25 14.7**	**+1.4**
DOB				*e*Sn	**Sn**	**11 25 56.1**	**+2.2**
MGRS	**Mrkonjic Grad**	**3.47 330**		⇑*i*Pn	**Pn**	**11 25 15.6**	**+2.0**
MGRS				*e*Sn	**Sn**	**11 25 57.5**	**+3.2**
OUR	**Ouranopolis**	**3.56 106**		P	**Pn**	**11 25 15.7**	**+0.9**
ZIRJ	**Zirje**	**3.62 309**		*e*Pn	**Pn**	**11 25 15.9**	**+0.3**
MORI	**Morici**	**3.71 312**		*e*Pn	**Pn**	**11 25 17.7**	**+0.8**
MDVR	**Moldovita**	**3.72**	**25**	⇑P	**Pn**	**11 25 17.4**	**+0.4**
BLY	**Banja Luka**	**3.73 334**		⇑*i*Pn	**Pn**	**11 25 18.4**	**+1.3**
BLY				*e*Sn	**Sn**	**11 26 03.5**	**+3.0**
FRGS	**Fruska Gora**	**3.73**	**3**	⇑P	**Pn**	**11 25 17.6**	**+0.4**
FRGS	**Fruska Gora**	**3.73**	**3**	P	**Pn**	**11 25 17.7**	**+0.5**
FRGS	**Fruska Gora**	**3.73**	**3**	⇑*i*Pn	**Pn**	**11 25 17.4**	**+0.2**
FRGS				*e*Sn	**Sn**	**11 26 02.6**	**+1.9**
FRGS	**Fruska Gora**	**3.73**	**3**	P	**Pn**	**11 25 17.6**	**+0.4**
PAOL	**Paolisi**	**3.75 266**		Pn	**Pn**	**11 25 18.9**	**+1.5**
A050A	**Klekovaca**	**3.75 325**		⇑*i*Pn	**Pn**	**11 25 19.6**	**+2.1**
A050A				*e*Sn	**Sn**	**11 26 03.8**	**+2.6**
PUNG	**Punghina**	**3.80**	**40**	⇑P	**Pn**	**11 25 19.5**	**+1.5**
DJES	**Djerdap**	**3.92**	**33**	*e*Pn	**Pn**	**11 25 20.4**	**+0.7**
PLD	**Plovdiv**	**3.98**	**78**	*i* Pn	**Pn**	**11 25 22.0**	**+1.5**
PLD	**Plovdiv**	**3.98**	**78**	P	**Pn**	**11 25 22.5**	**+1.9**
HERR	**Herculane**	**4.05**	**31**	⇑P	**Pn**	**11 25 22.4**	**+0.9**
PRIJ	**Prijedor**	**4.09 331**		*e*Sn	**Sn**	**11 26 11.0**	**+1.6**
UDBI	**Udbina**	**4.14 320**		*e*Pn	**Pn**	**11 25 24.6**	**+1.9**
DUTI	**Dugi Otok**	**4.16 309**		*e*Pn	**Pn**	**11 25 23.4**	**+0.4**
SRE	**Strehaia**	**4.22**	**39**	⇓P	**Pn**	**11 25 25.2**	**+1.4**
SRE	**Strehaia**	**4.22**	**39**	P	**Pn**	**11 25 25.2**	**+1.4**
INTR	**Introdacqua**	**4.23 280**		Pn	**Pn**	**11 25 25.1**	**+1.0**
VIRC	**Vir**	**4.35 313**		*e*Pn	**Pn**	**11 25 26.2**	**+0.7**
BZS	**Buzias**	**4.46**	**19**	⇑P	**Pn**	**11 25 27.2**	**+0.2**
BZS	**Buzias**	**4.46**	**19**	P	**Pn**	**11 25 28.0**	**+0.9**
PLIT	**Plitvice**	**4.46 322**		*e*Pn	**Pn**	**11 25 28.5**	**+1.3**
RDO	**Rodhopi**	**4.55**	**92**		**Pn**	**11 25 29.7**	**+1.3**
GZR	**Gura Zlata**	**4.62**	**30**	⇑P	**Pn**	**11 25 30.3**	**+0.9**
GZR	**Gura Zlata**	**4.62**	**30**	P	**Pn**	**11 25 30.3**	**+0.9**
NVLJ	**Novalja**	**4.62 314**		*e*Pn	**Pn**	**11 25 29.9**	**+0.6**
MOSL	**Moslavina**	**4.63 335**		*e*Pn	**Pn**	**11 25 30.0**	**+0.4**
ITM	**Ithomi**	**4.64 155**		Pn	**Pn**	**11 25 31.4**	**+1.7**
CAMP	**Campotosto**	**4.68 286**			**Pn**	**11 25 31.2**	**+1.0**
SURR	**Surduc**	**4.72**	**23**	⇑P	**Pn**	**11 25 31.1**	**+0.4**
SURR	**Surduc**	**4.72**	**23**		**Pn**	**11 25 31.1**	**+0.4**
MORH	**Mrgy, Hungar**	**4.82 353**		⇓P	**Pn**	**11 25 31.6**	**-0.5**
MORH	**Mrgy, Hungar**	**4.82 353**		*e*Pn	**Pn**	**11 25 33.5**	**+1.4**
MORH				*e*Sn	**Sn**	**11 26 28.7**	**+1.2**
MORH	**Mrgy, Hungar**	**4.82 353**		P	**Pn**	**11 25 32.4**	**+0.3**
	comp=E,86nm,0.6s,comp=E,884nmcomp=E,0.7nm						
GUMA	**Gualdo di Mace**	**4.86 292**			**Pn**	**11 25 33.2**	**+0.5**
NRCA	**Norcia**	**4.96 289**			**Pn**	**11 25 35.0**	**+1.0**
ELND	**Elena**	**4.96**	**70**	⇑P	**Pn**	**11 25 35.4**	**+1.3**
ELND	**Elena**	**4.96**	**70**		**Pn**	**11 25 35.4**	**+1.3**
ALN	**Alexandroupoli**	**4.96**	**94**		**Pn**	**11 25 34.5**	**+0.5**
ALN	**Alexandroupoli**	**4.96**	**94**	P	**Pn**	**11 25 34.5**	**+0.5**
HUMR	**Humele**	**5.07**	**51**	⇑P	**Pn**	**11 25 36.7**	**+1.2**
SIRR	**Siria**	**5.08**	**17**	⇓P	**Pn**	**11 25 36.4**	**+0.7**
DEV	**Deva**	**5.09**	**28**	⇑P	**Pn**	**11 25 37.3**	**+1.5**
DEV	**Deva**	**5.09**	**28**	P	**Pn**	**11 25 37.2**	**+1.5**
BOJS	**Bojanci**	**5.11 324**		*e*Pn	**Pn**	**11 25 37.1**	**+1.0**
PTJ	**Puntijarka**	**5.16 331**		*e*Pn	**Pn**	**11 25 37.1**	**+0.3**
PTJ	**Puntijarka**	**5.16 331**		P	**Pn**	**11 25 38.1**	**+1.3**
KALN	**Kalnik**	**5.19 336**		*e*Pn	**Pn**	**11 25 37.5**	**+0.3**
CESX	**Cesi**	**5.29 285**			**Pn**	**11

comp=E,2.8nm,0.3s
ABTA eSn Sn 11 27 28.4 -0.7
comp=E,104nm,0.8s
CFR Carcaliu 7.32 56 ⇑P Pn 11 26 07.6 +1.1
CFR Carcaliu 7.32 56 P Pn 11 26 07.5 +1.1
CTI Castel Tesino 7.32 312 Pn 11 26 06.2 -0.3
CTI Castel Tesino 7.32 312 P Pn 11 26 06.2 -0.3
BUR01 Bucovina Ar. S 7.41 31 Pn 11 26 09.0 +1.3
BURAR Bucovina Array 7.41 31 ⇑P Pn 11 26 09.0 +1.3
BURAR Bucovina Array 7.41 31 Pn 11 26 08.9 +1.3
BURAR Bucovina Array 7.41 31 P Pn 11 26 10.2 +2.5
BUR08 Bucovina Ar. S 7.42 31 Pn 11 26 09.8 +1.9
MOA Molln 7.42 332 ePn **Pn 11 26 09.3 +1.4**
comp=E,2.7nm,0.3s,SNR=4.4
MOA eSn Sn 11 27 31.5 -0.1
comp=E,26nm,0.6s
IDI Anoyia 7.45 144 Pn **Pn 11 26 07.5 -0.8**
IDI Anoyia 7.45 144 P **Pn 11 26 08.1 -0.2**
comp=E,3.5nm,0.3s,baz=334,slow=6.8,SNR=8.6
IDI S Sn 11 27 28.8 -3.6
comp=E,8.4nm,0.4s,baz=92,slow=22,SNR=5.8
BIOA Bad Ischl, Aus 7.53 328 ePn **Pn 11 26 11.0 +1.7**
comp=E,4.3nm,0.3s
JAVC Velka Javorina 7.54 351 ePN **Pn 11 26 12.3 +2.8**
CRVS Cervenica-Dubn 7.60 10 eP **Pn 11 26 11.9 +1.7**
CRVS e 11 27 35.8
CRVS Cervenica-Dubn 7.60 10 ePN **Pn 11 26 11.9 +1.7**
CRVS eSN Sn 11 27 35.8 -0.1
LESA Schwarzleotal 7.73 323 ePn **Pn 11 26 12.7 +0.6**
comp=E,7.0nm,0.4s
LESA eSn Sn 11 27 38.6 -0.7
comp=E,17nm,0.3s
KOLS Kolonicke sedl 7.75 14 eP **Pn 11 26 15.3 +3.0**
KOLS e 11 27 41.8
KOLS Kolonicke sedl 7.75 14 ePN **Pn 11 26 15.3 +3.0**
KOLS eSN Sn 11 27 41.8 +2.2
TLCR 7.75 58 ⇑P Pn 11 26 14.4 +2.0
TLCR 7.75 58 Pn 11 26 14.4 +2.0
TLCR 7.75 58 P Pn 11 26 14.4 +2.0
MSSA Maissana 7.88 295 Pn 11 26 14.5 +0.3
PGF Pioggiola 7.91 282 eP **Pn 11 26 17.1 +2.5**
PGF Pioggiola 7.91 282 P Pn 11 26 16.2 +1.6
PGF pmax pmax
comp=Z,42nm,1.1s
KRUC Moravsky 7.94 345 ePN **Pn 11 26 15.8 +0.9**
KRUC Moravsky 7.94 345 P Pn 11 26 17.0 +2.1
KRUC pmax pmax
comp=Z,10.0nm,1.0s
NIE Niedzica 8.01 4 P Pn 11 26 18.8 +3.0
NIE Niedzica 8.01 4 P Pn 11 26 18.8 +3.0
comp=Z,18nm,1.1s,comp=Z,265nm
STHS Stebnicka Huta 8.08 8 eP **Pn 11 26 19.6 +2.8**
STHS e 11 27 49.9
STHS Stebnicka Huta 8.08 8 ePN **Pn 11 26 19.6 +2.8**
STHS eSN Sn 11 27 49.9 +2.2
WTTA Wattenberg 8.11 319 ePn **Pn 11 26 18.5 +1.1**
comp=Z,11nm,0.3s,SNR=6.4
WTTA eSn Sn 11 27 46.2 -2.5
comp=Z,76nm,0.7s
WTTA Wattenberg 8.11 319 P Pn 11 26 20.3 +2.9
WTTA pmax pmax
comp=Z,38nm,0.7s
VRAC Vranov 8.14 346 ePN **Pn 11 26 19.3 +1.7**
VRAC Vranov 8.14 346 P Pn 11 26 19.6 +2.0
comp=Z,0.8nm,0.3s,baz=155,slow=13,SNR=5.5
VRAC S Sn 11 27 50.6 +1.4
comp=Z,13nm,0.8s,baz=272,slow=15,SNR=3.7
VRAC LR LR 11 30 23.9
comp=Z,913nm,18.5s,baz=168,slow=45
comp=Z,2.0nm,0.3s
WATA Walderalm 8.19 319 ePn **Pn 11 26 18.7 +0.2**
comp=Z,9.9nm,0.3s
WATA eSn Sn 11 27 47.4 -3.2
comp=Z,88nm,0.8s
CKRC Cesky Krumlov 8.25 335 ePN **Pn 11 26 20.7 +1.5**
CKRC Cesky Krumlov 8.25 335 eP **Pn 11 26 20.7 +1.5**
SQTA Sankt Quirin 8.30 317 ePn **Pn 11 26 21.1 +1.2**
comp=Z,5.1nm,0.3s
SQTA eSn Sn 11 27 51.5 -1.7
comp=Z,47nm,0.6s
KARP Karpathos 8.40 132 Pn **Pn 11 26 22.2 +1.0**
FETA Feichten 8.42 315 ePn **Pn 11 26 22.3 +0.6**
comp=Z,3.1nm,0.4s
FETA eSn Sn 11 27 55.4 -0.9
comp=Z,18nm,0.6s
FUORN Ofenpass-Fuorn 8.44 311 Pn 11 26 23.3 +1.3
MORC Moravsky Berou 8.46 351 Pn **Pn 11 26 24.2 +2.2**
MORC Moravsky Berou 8.46 351 ePN **Pn 11 26 23.5 +1.4**
MORC Moravsky Berou 8.46 351 P **Pn 11 26 24.2 +2.2**
GEC2 GERESS Array S 8.47 333 Pn 11 26 22.1 -0.1
GEC2 GERESS Array S 8.47 333 P Pn 11 26 23.2 +0.9
GEC2 pmax pmax
comp=Z,13nm,0.9s
GERES GERESS Array B 8.47 333 Pn 11 26 23.2 +0.9
GERES GERESS Array B 8.47 333 P Pn 11 26 23.6 +1.3
comp=Z,0.7nm,0.3s,baz=130,slow=12,SNR=4.7
GERES S Sn 11 27 56.7 -0.8
comp=Z,6.3nm,0.5s,baz=155,slow=19,SNR=4.0
GERES LR LR 11 30 26.8
comp=Z,488nm,20.7s,baz=124,slow=43
comp=Z,1.8nm,0.5s
KMPD K-Podol'skiy 8.66 32 P Pn 11 26 26.5 +1.7
DAVOX Davos/Dischmat 8.75 311 P Pn 11 26 27.9 +1.8
comp=Z,1.6nm,0.3s,baz=137,slow=19,SNR=8.9
DAVOX S Sn 11 28 01.8 -2.6
comp=Z,16nm,0.7s,baz=115,slow=20,SNR=1.7
comp=Z,4.4nm,0.4s
DAVOX Davos/Dischmat 8.75 311 P Pn 11 26 28.0 +1.8
KHC Kasperske Hory 8.76 334 Pn 11 26 26.2 +0.1
KHC Kasperske Hory 8.76 334 ePN **Pn 11 26 27.4 +1.3**
KHC eSN Sn 11 28 03.2 -1.2
KHC AMS AMS 11 30 00.0
comp=Z,900nm,13.7s
KHC Kasperske Hory 8.76 334 eP **Pn 11 26 27.4 +1.3**
KHC e 11 28 03.2
KHC MLR MLR
comp=Z,900nm,13.7s
KHC Kasperske Hory 8.76 334 P Pn 11 26 26.4 +0.3
comp=Z,21nm,0.8s
OJC Ojcow 8.79 1 Pn Pn 11 26 27.6 +1.0
OJC Ojcow 8.79 1 P Pn 11 26 27.6 +1.0
KRLC Kraliky 8.85 349 ePN **Pn 11 26 29.3 +1.9**
KRLC AMS AMS 11 30 40.0
comp=Z,2µm,14.7s
KRLC Kraliky 8.85 349 eP **Pn 11 26 29.3 +1.9**
KRLC MLR MLR
comp=Z,2µm,14.7s
TUE Stuetta 8.89 308 Pn 11 26 29.1 +0.9
WET Wettzell 9.01 331 P Pn 11 26 29.6 0.0
WET pmax pmax
comp=Z,16nm,0.9s
DAVA Damuels 9.04 314 ePn **Pn 11 26 30.8 +0.7**
comp=Z,6.5nm,0.5s
DAVA eSn Sn 11 28 10.5 -1.1
comp=Z,14nm,0.4s
SORM Soroca 9.19 40 P Pn 11 26 34.7 +2.7
comp=Z,6.8nm,0.4s
SBF Sospel 9.22 289 ePn **Pn 11 26 33.3 +0.7**
SBF eSn Sn 11 28 07.8 -8.1
comp=Z,23nm,0.5s
KEST Kesra 9.78 238 P Pn 11 26 43.7 +3.5
comp=Z,0.2nm,0.3s,baz=48,slow=6.1,SNR=2.3
KEST LR LR 11 31 39.7
comp=Z,860nm,18.7s,baz=94,slow=44
comp=Z,1.9nm,0.6s
LMR La Mourre 9.80 285 ePn **Pn 11 26 37.7 -2.8**
LMR eSn Sn 11 28 21.6 -8.5
comp=Z,2.7nm,0.4s
MBDF Montbardon 9.88 294 ePn **Pn 11 26 40.2 -1.5**
MBDF eSn Sn 11 28 24.0 -8.2
comp=Z,21nm,0.7s
BNI Bardonecchia 10.04 295 Pn 11 26 43.5 -0.2
BNI Bardonecchia 10.04 295 P Pn 11 26 43.6 -0.2
SLE Schleitheim 10.08 313 P Pn 11 26 45.7 +1.4
SLE pmax pmax
comp=Z,10.0nm,0.9s
SENIN Lac Senin/Sane 10.09 303 Pn Pn 11 26 44.7 +0.1
LPG La Plagne 10.12 298 ePn **Pn 11 26 42.7 -2.4**
LPG eSn Sn 11 28 29.8 -8.5
comp=Z,54nm,0.7s
LPL La Plagne 10.14 298 ePn **Pn 11 26 42.5 -2.8**
LPL eSn Sn 11 28 30.0 -8.7
comp=Z,26nm,0.4s
BRG Berggiesshubel 10.20 340 eP **Pn 11 26 47.4 +1.5**
BRG Amp 11 26 49.2
comp=Z,3.5nm,0.9s
BRG r 11 28 59.2
BRG Amp 11 29 36.2
comp=Z,10nm,0.8s
BRG Amp 11 31 10.0
comp=N,0.5nm,13.6s
BRG Amp 11 31 12.0
comp=E,0.3nm,11.4s
BRG Amp 11 31 14.0
comp=Z,0.8nm,15.3s
BRG Berggiesshubel 10.20 340 eP **Pn 11 26 47.3 +1.5**
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG MLR MLR
comp=N,456nm,13.6s
BRG MLR MLR
comp=E,252nm,11.4s
BRG MLR MLR
comp=Z,820nm,15.3s
LUBAR Lubar, Ukraine 10.26 31 P Pn 11 26 47.7 +1.0
BFO Black Forest 10.50 315 Pn 11 26 51.0 +1.0
BFO Black Forest 10.50 315 P Pn 11 26 51.0 +1.0
ORIF Oris-en-Rattie 10.54 294 ePn **Pn 11 26 49.9 -0.8**
ORIF eSn Sn 11 28 39.5 -8.9
comp=Z,20nm,0.6s
SMRF Simiane la Rot 10.57 289 ePn **Pn 11 26 48.9 -2.0**
MOX Moxa 10.72 332 P Pn 11 26 54.0 +1.1
MOX pmax pmax
comp=Z,9.0nm,0.9s
RNPP5 Staryi Chortor 10.74 22 P Pn 11 26 55.6 +2.4
RNPP8 Varash 10.83 22 P Pn 11 26 56.4 +2.0
CLL Collm 10.85 338 ePn **Pn 11 26 56.0 +1.3**
CLL eSn **Sn 11 28 48.0 -7.6**
CLL ex x 11 29 19.0
CLL ex x 11 29 40.0
CLL eSg 11 30 01.0
CLL ex x 11 30 10.0
CLL ex x 11 30 22.0
comp=Z,32nm,1.2s
CLL eAMS AMS 11 30 43.0
BR131 Keskin Array S 10.89 94⇑ eP **Pn 11 26 54.8 -0.6**
BRTR Keskin Array B 10.89 94 LR LR 11 31 59.1
comp=Z,578nm,19.2s,baz=295,slow=42
RNPP9 Sopachiv 10.91 22 P Pn 11 26 57.6 +2.1
CABF La Chapelle 10.96 303 ePn **Pn 11 26 55.2 -1.1**
CABF eSn Sn 11 28 49.3 -9.2
comp=Z,12nm,0.5s
HINF Hinteralfeld 11.04 310 ePn **Pn 11 26 56.2 -1.2**
HINF eSn Sn 11 28 51.0 -9.5
comp=Z,14nm,0.4s
MI28 Mi28,Pidlybu 11.05 28 P Pn 11 27 00.5 +3.0
ECH Echery 11.08 312 Pn 11 26 57.8 -0.1
ECH Echery 11.08 312 P Pn 11 26 57.8 -0.1
CDF Champ du Feu 11.12 313 ePn **Pn 11 26 57.6 -1.0**
CDF eSn Sn 11 28 53.2 -9.3
comp=Z,2.4nm,0.3s
AK07 Malin Array Si 11.33 33 P Pn 11 27 03.3 +2.0
AK14 Malin Array Si 11.36 33 P Pn 11 27 03.6 +2.0
AK10 Malin Array Si 11.39 33 P Pn 11 27 04.1 +2.0
AK09 Malin Array Si 11.42 33 P Pn 11 27 04.4 +1.9
HAU Haudompre 11.43 310 ePn **Pn 11 27 01.5 -1.2**
HAU eSn Sn 11 29 00.2 -10
comp=Z,31nm,0.6s
AK01 Malin Array Si 11.45 33 P Pn 11 27 04.8 +1.9
KIEV Kiev 11.45 33 Pn 11 27 05.1 +2.2
KIEV Kiev 11.45 33 P Pn 11 27 05.1 +2.2
KIEV Kiev 11.45 33 P Pn 11 27 05.0 +2.2
comp=Z,40nm,1.3s
AKASG Malin Array Be 11.46 33 P Pn 11 27 04.7 +1.6
comp=Z,1.9nm,0.5s,baz=219,slow=14,SNR=2.7
AKASG LR LR 11 32 13.7
comp=Z,297nm,20.6s,baz=222,slow=41
AKBB Malin Array Si 11.46 33 Pn 11 27 05.1 +2.0
AKBB Malin Array Si 11.46 33 *de*P **Pn 11 27 04.5 +1.5**
AKBB Malin Array Si 11.46 33 P Pn 11 27 04.5 +1.5
SSB Saint Sauveur 11.55 294 Pn Pn 11 27 02.8 -1.6
SSB Saint Sauveur 11.55 294 P Pn 11 27 02.8 -1.6
SMF Signal de Mont 12.41 300 ePn **Pn 11 27 13.8 -2.4**
SMF eSn Sn 11 29 24.2 -10
comp=Z,28nm,0.6s
LOR Lormes 12.62 303 ePn **Pn 11 27 16.5 -2.5**
LOR eSn Sn 11 29 29.2 -10
comp=Z,11nm,0.3s
SSF Saint Saulge 12.77 302 ePn **Pn 11 27 17.7 -3.3**
SSF eSn Sn 11 29 32.6 -10
comp=Z,14nm,0.7s
AVF Avril sur Loir 12.78 300 ePn **Pn 11 27 18.8 -2.3**
AVF eSn Sn 11 29 32.7 -10
comp=Z,10nm,0.7s
BGF Bois d'Agland 13.04 299 ePn **Pn 11 27 21.9 -2.8**
BGF eSn Sn 11 29 38.7 -11
comp=Z,11nm,0.5s
TCF Toulx Ste Croi 13.39 297 eSn Sn 11 29 47.3 -10
comp=Z,2.0nm,0.2s
MNK Minsk 14.22 20 *i* P **Pn 11 27 41.8 +1.1**
comp=E,7.0nm,0.8s
MNK *i* P **Pn 11 27 41.8 +1.1**
comp=N,57nm,1.1s
MNK *i* P **Pn 11 27 41.8 +1.1**
comp=Z,35nm,0.9s,baz=207
MNK *i* PP **PnPn 11 27 50.0 +1.4**
MNK *i* S **Sn 11 30 25.0 +7.1**
MNK *i* SS **SnSn 11 30 28.6 -1.7**
MNK *i* LR LR 11 31 47.6
MNK *i* LRM MLR 11 33 23.1
comp=Z,790nm,15.1s
MNK *i* LRM MLR 11 33 26.0
comp=N,512nm,14.1s
MNK *i* LRM MLR 11 33 27.6
comp=E,121nm,13.8s
MNK Minsk 14.22 20 *i* P **Pn 11 27 41.7 +1.1**
MNK *i* S **Sn 11 30 24.9 +7.1**
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=Z,35nm,0.9s
MNK pmax pmax
comp=N,57nm,1.0s
MNK MLR MLR
comp=Z,790nm,15.0s
MNK MLR MLR
comp=N,512nm,14.0s
MNK MLR MLR
comp=E,121nm,14.0s
NACGM Naroch 14.32 17 eP **P 11 27 48.5 -0.6**
comp=N,2µm,1.0s
PABE Paberze 14.39 10 Pn **Pn 11 27 44.3 +1.3**
PABE Paberze 14.39 10 eP **Pn 11 27 44.3 +1.3**
MMAI Mount Meron Ar 15.18 118 P Pn 11 27 55.8 +1.8
comp=N,2.2nm,0.3s,baz=316,slow=12,SNR=2.3
SHA1 Shidzhatmaz 17.20 75⇑ eP **P 11 28 22.7 +1.3**
KIV Kislovodsk 17.22 74 eP **Pn 11 28 20.2 +0.2**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 17.37 75 P P 11 28 23.6 +0.5
comp=Z,0.2nm,0.3s,baz=267,slow=8.4,SNR=3.6
KBZ LR LR 11 38 19.7
comp=Z,186nm,18.6s,baz=304,slow=48
comp=Z,1.7nm,0.7s
KBZ Khabaz 17.37 75⇑ eP **Pn 11 28 21.0 -0.8**
KBZ pmax pmax
comp=Z,16nm,2.1s
MTSE Matsula 17.52 7 eP **P 11 28 24.6 +0.1**
VSU Vasula 17.65 13 *de*P **Pn 11 28 25.9 +0.7**
VSU pmax pmax
comp=Z,109nm,1.7s
OBN Obninsk 17.72 34 Pn 11 28 26.1 +0.1
OBN IAmb IAmb 11 28 35.5
comp=Z,47nm,1.2s
OBN Obninsk 17.72 34 P Pn 11 28 25.4 -0.6
comp=Z,7.2nm,0.3s,baz=228,slow=8.1,SNR=7.3
OBN LR LR 11 35 41.6
comp=Z,322nm,18.7s,baz=172,slow=38
comp=Z,22nm,0.4s
OBN Obninsk 17.72 34 *ce*P **Pn 11 28 26.1 +0.1**
OBN eS **Sn 11 31 47.3 +4.5**
OBN pmax pmax
comp=Z,83nm,1.7s
OBN MLR MLR
comp=Z,245nm,17.0s
NCK Nalchik 17.88 75⇑ eP **Pn 11 28 28.6 +0.4**
NCK pmax pmax
comp=Z,5.0nm,0.5s
ESDC Sonseca Array 17.91 272 P P 11 28 29.7 +0.6
comp=Z,0.1nm,0.3s,baz=84,slow=12,SNR=5.5
ESDC LR LR 11 34 43.0
comp=Z,180nm,21.0s,baz=59,slow=34
comp=Z,1.0nm,0.9s
ARBE Arbavere 18.48 10 eP **P 11 28 33.8 -1.3**
MOS Moscow 18.59 33 eP **P 11 28 35.2 -1.1**
MOS eS **Sn 11 32 02.2 -1.6**
MOS pmax pmax
comp=Z,34nm,0.7s
MEF Metsahovi 19.05 7 eP **P 11 28 39.7 -1.7**
HFS Hagfors 19.07 351 P **P 11 28 41.0 -0.6**
comp=Z,0.4nm,0.3s,baz=186,slow=8.4,SNR=13
comp=Z,6.9nm,0.7s
HFS Hagfors 19.07 351 P **P 11 28 41.0 -0.6**
GNI Garni 19.14 85 P **P 11 28 42.1 -0.6**
comp=Z,1.6nm,0.3s,baz=223,slow=2.6,SNR=4.0
comp=Z,6.6nm,0.5s
GNI Garni 19.14 85⇑ eP **P 11 28 43.8 +1.1**
GNI pmax pmax
comp=Z,9.0nm,1.1s
RAF Rauma 19.67 3 eP **P 11 28 45.7 -2.4**
NC602 NORSAR Array S 19.94 348 P **P 11 28 50.5 -0.6**
NORES NORESS Array B 19.94 348 P **Pn 11 28 55.8 +3.0**
NC405 NORSAR Array S 20.27 349 P **P 11 28 54.1 -0.6**
NC405 IAmb IAmb 11 28 54.5
comp=Z,20nm,1.1s
NB2 NORSAR Subarra 20.28 348 P **P 11 28 53.6 -1.3**
comp=Z,14nm,1.4s,baz=162,slow=11
NOA NORSAR Array B 20.28 348 P **P 11 28 54.2 -0.7**
comp=Z,1.4nm,0.8s,baz=151,slow=9.8,SNR=8.2
NOA LR LR 11 37 59.1
comp=Z,269nm,18.3s,baz=160,slow=40
comp=Z,1.4nm,0.8s
NBO00 NORSAR Array S 20.34 348 P **P 11 28 55.0 -0.5**
NBO00 IAmb IAmb 11 29 05.9
comp=Z,17nm,1.2s
EKA Eskdalemuir Ar 20.37 321 P **P 11 28 56.2 +0.4**
comp=Z,2.3nm,0.7s,baz=112,slow=10,SNR=4.4
comp=Z,2.3nm,0.7s
NC303 NORSAR Array S 20.43 349 P **P 11 28 56.3 -0.2**
NC303 IAmb IAmb 11 29 06.9
comp=Z,19nm,1.1s
FINES FINESS Array B 20.43 9 P **P 11 28 55.2 -1.2**
FINES FINESS Array B 20.43 9 P **P 11 28 55.1 -1.4**
comp=Z,6.3nm,0.4s,baz=186,slow=10,SNR=47
FINES LR LR 11 37 19.4
comp=Z,289nm,18.0s,baz=194,slow=38
comp=Z,6.3nm,0.4s
FINES FINESS Array B 20.43 9 P **P 11 28 55.3 -1.2**
MAK Makhachkala 20.77 76 eP **P 11 28 55.2 -5.0**
MAK eS **S 11 32 45.5 -5.8**
MAK pmax pmax
comp=Z,193nm,1.1s
MAK MLR MLR
comp=Z,292nm,13.0s
MDT Midelt 21.01 254 P **P 11 29 03.0 -0.1**
comp=Z,3.9nm,1.0s,baz=86,slow=9.2,SNR=3.1
MDT LR LR 11 37 58.3
comp=Z,204nm,18.5s,baz=144,slow=39
comp=Z,3.9nm,1.0s
KEF Keuruu 21.02 7 eP **P 11 29 00.8 -2.0**
VALR Valaam 21.12 15 *i* P **P 11 29 01.5 -2.4**
VAF Ylistaro 21.73 4 eP **P 11 29 09.5 -0.9**
BELG Belogornoye 21.97 51 P **P 11 29 12.6 -0.5**
comp=Z,18nm,0.7s,baz=82,slow=2.5,SNR=10
BELG LR LR 11 38 39.1
comp=Z,312nm,21.3s,baz=253,slow=39
comp=Z,18nm,0.7s
BELG Belogornoye 21.97 51⇑ eP **P 11 29 12.7 -0.4**
BELG pmax pmax
comp=Z,5.0nm,1.0s
TAM Tamanrasset 21.98 217 P **P 11 29 15.9 +2.2**
TAM pmax pmax
comp=Z,5.0nm,2.0s
JOF Joensuu 22.63 14 eP **P 11 29 19.2 -0.9**
KLMR Klimovskoe 22.97 25 eP **P 11 29 20.7 -2.9**
KLMR pmax pmax
comp=Z,64nm,1.4s
OUL Oulu 23.98 7 P **P 11 29 31.8 -1.7**
OUL pmax pmax
comp=Z,13nm,0.9s
MSF Maaselka 25.11 9 P **P 11 29 42.2 -1.7**
MSF pmax pmax
comp=Z,12nm,1.1s
KIRV Kirov 25.45 37 *i* P **P 11 29 45.8 -1.2**
AKTO Aktyubinsk 27.98 58 LR LR 11 45 22.0
comp=Z,224nm,18.1s,baz=210,slow=45
ARCES ARCESS Array B 28.34 4 P **P 11 30 11.2 -1.8**
comp=Z,1.5nm,0.9s,baz=184,slow=10,SNR=5.1
ARCES LR LR 11 41 05.6
comp=Z,60nm,21.1s,baz=194,slow=35
comp=Z,1.5nm,0.9s
ABKAR Akbulak array 29.19 61 P **P 11 30 19.8 -0.9**
GEYT Alibeck 29.75 84 P **P 11 30 26.6 +0.7**
GEYT IAmb IAmb 11 30 29.1
comp=Z,2.9nm,0.7s
GEYT Alibeck 29.75 84 P **P 11 30 25.2 -0.7**
comp=Z,1.4nm,0.4s,baz=293,slow=7.7,SNR=2.0
comp=Z,1.4nm,0.4s
GEYT Alibeck 29.75 84 P **P 11 30 26.6 +0.7**
GEYT pmax pmax
comp=Z,3.0nm,0.7s
GYA0 ALIBECK ARRAY 29.75 84 P **P 11 30 26.8 +0.9**
GYA0 pmax pmax
comp=Z,4.0nm,0.5s
GYA0B ALIBECK ARRAY 29.75 84 P **P 11 30 26.8 +1.0**
GYA0B IAmb IAmb 11 30 29.1
comp=Z,3.9nm,0.6s
TORD Torodi Ar. Bea 32.18 214 P **P 11 30 47.9 +0.6**
comp=Z,1.0nm,0.9s,baz=11,slow=11,SNR=4.0
comp=Z,1.0nm,0.9s
BORG Borgarnes 32.91 329 LR LR 11 46 01.1
comp=Z,96nm,18.2s,baz=140,slow=40
BRVK Borovoye 35.65 53 P **P 11 31 18.0 +0.9**
BRVK Borovoye 35.65 53 *de*P **P 11 31 17.0 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 35.71 53 P **P 11 31 17.6 -0.1**
comp=Z,2.1nm,0.7s,baz=282,slow=7.1,SNR=11
BVAR LR LR 11 47 42.7
comp=Z,178nm,18.1s,baz=262,slow=39
comp=Z,2.1nm,0.7s
SPITS Spitsbergen Ar 36.88 359 LR LR 11 48 42.0
comp=Z,241nm,18.0s,baz=140,slow=40
WSAR Wadi Sarin 37.33 107 LR LR 11 51 38.0
comp=Z,124nm,18.0s,baz=306,slow=44
AAK Ala-Archa 40.25 69 LR LR 11 53 15.4
comp=Z,106nm,18.7s,baz=288,slow=43
DBIC Dimbokro 40.84 219 LR LR 11 51 37.4
comp=Z,185nm,18.5s,baz=11,slow=40
KURBB Kurchatov Arra 41.00 56 P **P 11 32 01.6 -0.5**
comp=Z,0.8nm,0.2s,baz=282,slow=9.1,SNR=8.1
KURBB LR LR 11 52 22.1
comp=Z,173nm,19.3s,baz=168,slow=41
comp=Z,0.8nm,0.2s
BBTS Babate 41.04 240 LR LR 11 50 41.6
comp=Z,247nm,18.1s,baz=308,slow=38
KURK Kurchatov 41.04 56⇓ eP **P 11 32 01.7 -0.8**
KURK pmax pmax
comp=Z,6.0nm,1.5s
KSH Kashi 42.34 73 P **P 11 32 13.4 -0.1**
KSH sP sP 11 32 22.9 +1.8
KSH pmax pmax
comp=Z,3.0nm,0.6s
ZAA0 Zalesovo Array 44.16 50 P **P 11 32 27.1 -0.7**
ZALV Zalesovo Beam 44.16 50 P **P 11 32 27.3 -0.5**
ZALV Zalesovo Beam 44.16 50 P **P 11 32 27.1 -0.7**
comp=Z,6.1nm,0.5s,baz=284,slow=8.6,SNR=24
ZALV LR LR 11 53 03.9
comp=Z,364nm,18.2s,baz=302,slow=39
comp=Z,6.1nm,0.5s
NRIK Noril'sk 44.27 28⇑ eP **P 11 32 28.8 +0.3**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 44.34 61 P **P 11 32 29.0 -0.4**
MK31 IAmb IAmb 11 32 29.4
comp=Z,4.5nm,0.7s
MK31 Makanchi Array 44.34 61 *d i* P **P 11 32 28.8 -0.6**
MKAR Makanchi Array 44.34 61 P **P 11 32 29.2 -0.2**
MKAR Makanchi Array 44.34 61 P **P 11 32 28.9 -0.5**
comp=Z,4.7nm,0.5s,baz=282,slow=7.4,SNR=44
MKAR LR LR 11 53 58.9
comp=Z,156nm,19.6s,baz=276,slow=40
comp=Z,4.7nm,0.5s
MKAR Makanchi Array 44.34 61 *i* P **P 11 32 28.8 -0.6**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
WMQ Urumqi 48.92 63 eP **P 11 33 04.8 -0.6**

WMQ pmax pmax
comp=Z,23nm,0.7s
SCHQ Schefferville 55.57 316 LR LR 11 56 34.9
comp=Z,123nm,18.2s,baz=108,slow=35
RES Resolute Bay 56.43 343 LR LR 12 00 19.1
comp=Z,58nm,19.8s,baz=50,slow=38
TIXI Tiksi 56.88 21 LR LR 12 01 37.1
comp=Z,215nm,18.5s,baz=322,slow=39
SONM Songino Array 59.03 52 P **P 11 34 19.0 -0.2**
comp=Z,1.7nm,0.6s,baz=296,slow=7.9,SNR=9.6
comp=Z,1.7nm,0.6s
ULN Ulaanbaatar 59.40 51⇑ *e*P **P 11 34 21.2 -0.6**
ULN pmax pmax
comp=Z,2.0nm,1.0s
HHC Hu-ho-hao-te 65.86 56 *e*P **P 11 35 05.2 +0.2**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,98nm,4.0s
PZH PanZhiHua 67.44 74 P **P 11 35 17.3 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,4.7s
SADO Sadowa 67.53 310 LR LR 12 04 44.3
comp=Z,71nm,19.3s,baz=48,slow=36
E29M Blow River 69.20 351 P **P 11 35 25.5 +0.1**
E29M IAmb IAmb 11 35 26.3
comp=Z,4.5nm,1.1s
SEY Seymchan 69.38 21⇑ *e*P **P 11 35 27.7 +1.0**
SEY pmax pmax
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 70.07 339 P **P 11 35 29.8 -1.1**
comp=Z,0.7nm,0.9s,baz=37,slow=6.2,SNR=2.2
comp=Z,0.7nm,0.9s
I30M Mount Dempster 72.03 350 P **P 11 35 42.7 -0.2**
I30M IAmb IAmb 11 35 53.8
comp=Z,7.2nm,1.4s
ULM Lac du Bonnet 72.63 323 LR LR 12 08 55.8
comp=Z,90nm,18.1s,baz=54,slow=37
J30M Hart River 72.63 349 **P 11 35 46.9 +0.4**
SUR Sutherland 73.46 179 LR LR 12 12 42.4
comp=Z,131nm,18.4s,baz=341,slow=39
USA0B Ussuriysk Arra 75.45 43⇑ *e*P **P 11 36 01.5 -1.7**
TKL Tuckaleechee C 76.00 305 LR LR 12 09 33.1
comp=Z,82nm,20.6s,baz=96,slow=36
TXAR Lajitas Array 92.18 313 P **P 11 37 28.7 -0.6**
comp=Z,0.4nm,0.8s,baz=69,slow=3.5,SNR=4.8
comp=Z,0.4nm,0.8s
WRA Warramunga Arr 121.37 90 PKP **PKPdf 11 43 11.0 -1.8**
comp=Z,0.3nm,0.8s,baz=314,slow=1.8,SNR=1.4
ASAR Alice Springs 123.22 93 PKP **PKPdf 11 43 14.6 -1.8**
comp=Z,0.4nm,0.5s,baz=308,slow=1.7,SNR=13

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*TEH **04** 11:28:10.4, 28°.91N×57°.12E, h10km±596km, ML2.7*
*OMAN **04** 11:28:12.2±0.1, 28°.86N×56°.69E, h10km, mb4.6/1, ml2.9/8, Error ellipse: s-maj=1.7km s-min=1.3km az=238.0*
ISC 04 11:28:09.1±1.0, 29°.01N±0°.04×56°.89E±0°.06, h10km, n21, σ1§35/34, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGRK	**Negar Kerman**	**0.65**	**347**	Pg	**Pn**	**11 28 26.6**	**+1.9**
NGRK				Sg	**Sn**	**11 28 37.1**	**+1.8**
CHMN	**Cheshme madani**	**1.02**	**33**	Pg	**Pg**	**11 28 27.5**	**-1.3**
KBAM	**BAM**	**1.37**	**84**	Pg	**Pn**	**11 28 32.7**	**-1.7**
GENO	**Geno**	**1.73**	**202**	Pg	**Pb**	**11 28 42.4**	**+1.3**
SHME	**Shamm** SNR=16	**3.02**	**193**	P	**Pn**	**11 28 58.7**	**+1.6**
SHME				S	**Sn**	**11 29 34.3**	**+1.0**
BANOM	**Banah**	**3.12**	**190**	P	**Pn**	**11 28 59.0**	**+0.5**
BANOM				S	**Sn**	**11 29 38.4**	**+2.6**
JASK	**Jask - Hormozg** SNR=7.3	**3.25**	**164**	P	**Pn**	**11 29 01.5**	**+1.3**
MASF	**Masafi**	**3.68**	**190**	P	**Pn**	**11 29 07.3**	**+1.1**
MASF				S	**Sn**	**11 29 49.2**	**-0.5**
MDH	**Madha**	**3.73**	**188**	P	**Pn**	**11 29 07.7**	**+0.8**
MDH				S	**Sn**	**11 29 50.7**	**-0.3**
UOSS	**Minazif**	**4.09**	**189**	P	**Pn**	**11 29 12.4**	**+0.6**
UOSS				S	**Sn**	**11 29 59.7**	**-0.1**
HATD	**Hatta, Dubai**	**4.22**	**189**	P	**Pn**	**11 29 14.1**	**+0.5**
HATD				S	**Sn**	**11 30 03.0**	**0.0**
ASHO	**Ashiyiah**	**4.37**	**190**	P	**Pn**	**11 29 15.6**	**-0.1**
ASHO				S	**Sn**	**11 30 07.0**	**+0.3**
FAQ	**Al Faqa, Dubai**	**4.40**	**196**	P	**Pn**	**11 29 17.1**	**+1.0**
FAQ				S	**Sn**	**11 30 07.6**	**+0.2**
ASUD	**Al Ashush, Dub**	**4.58**	**198**	P	**Pn**	**11 29 19.2**	**+0.7**
ASUD				S	**Sn**	**11 30 10.7**	**-1.2**
HOQ	**Hoqain**	**5.42**	**176**	P	**Pn**	**11 29 28.9**	**-1.1**
WSAR	**Wadi Sarin** SNR=46	**5.96**	**164**	P	**Pn**	**11 29 37.4**	**0.0**
SHMA	**Al-Shehemyia** SNR=17	**6.13**	**241**	P	**Pn**	**11 29 40.0**	**+0.1**
SHMA				S	**Sn**	**11 30 48.0**	**-2.1**
BSY	**Bisya**	**6.25**	**177**	P	**Pn**	**11 29 43.2**	**+1.8**
TRNA	**Turayna**	**6.62**	**231**	P	**Pn**	**11 29 46.2**	**-0.3**
TRNA				S	**Sn**	**11 30 58.9**	**-3.2**
JMDO	**Jabal Madar** SNR=5.4	**6.70**	**170**	P	**Pn**	**11 29 48.1**	**+0.4**
SMRA	**Abu-Samra**	**6.89**	**233**	P	**Pn**	**11 29 49.2**	**-1.0**
SMRA				S	**Sn**	**11 31 06.3**	**-2.2**

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*IDC **04** 11:30:42.2±1.3, 41°.50N×19°.57E, h0km, mb3.5/6, mbtmp3.6/9, ML3.1/2, Error ellipse: s-maj=29.3km s-min=17.5km az=127.0*
*BEO **04** 11:30:44.7±0.6, 41°.36N×19°.57E, h13km±2km, ML3.2/10*
*TIR **04** 11:30:45.1, 41°.50N×19°.69E, h25km±3km, Ml3.3*
*PDG **04** 11:30:45.4±0.2, 41°.47N×19°.59E, h11km±1km, MD3.5/5, ML3.5/12, Error ellipse: s-maj=0.8km s-min=1.2km az=0.0*
*THE **04** 11:30:45.4, 41°.54N×19°.58E, h5km±1km, ML3.2/8, Error ellipse: s-maj=2.2km s-min=1.3km az=140.0*
*RHSSO **04** 11:30:46.7±0.7, 41°.47N×19°.46E, h11km±2km, ML3.4/13*
ISC 04 11:30:45.3±0.9, 41°.47N±0°.02×19°.57E±0°.02, h15km±6km, n115, σ1§31/174, mb3.8/4, 27C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.25**	**119**	⇓P	**Pg**	**11 30 49.9**	**-0.9**
TIR	**Tirane** baz=138	**0.25**	**119**	P	**Pg**	**11 30 50.5**	**-0.3**
TIR				S	**Sg**	**11 30 54.5**	**-0.1**
TIR	baz=138			AMP			
	comp=E,76nm,0.3s,baz=138						
TIR	**Tirane**	**0.25**	**119**	P	**Pg**	**11 30 50.5**	**-0.3**
TIR				S	**Sg**	**11 30 55.3**	**+0.8**
	comp=E,18μm,0.5s						
TIR	**Tirane**	**0.25**	**119**	*e*Pg	**Pg**	**11 30 50.4**	**-0.3**
TIR				*e*Sg	**Sg**	**11 30 54.8**	**+0.3**
ULC	**Ulcinj**	**0.55**	**334⇑**	*i*Pg	**Pg**	**11 30 55.9**	**-0.2**
ULC				*i* Sg	**Sb**	**11 31 04.6**	**+0.3**
PUK	**Puka** baz=15	**0.62**	**23**	P	**Pg**	**11 30 56.7**	**-0.8**
PUK				S	**Sg**	**11 31 05.2**	**-0.5**
PUK	baz=15			AMP			
	comp=N,8.1nm,0.3s,baz=15						
DRME	**Dracevica, Mon**	**0.77**	**338**	*e*Pg	**Pg**	**11 30 59.8**	**-0.5**
DRME				*e*Sg	**Sn**	**11 31 13.9**	**+0.9**
DRME	**Dracevica, Mon**	**0.77**	**338⇑**	*i*Pg	**Pg**	**11 30 59.9**	**-0.3**
DRME				*e*Sg	**Sb**	**11 31 11.6**	**+0.9**
DRME	**Dracevica, Mon**	**0.77**	**338⇑**	*i*Pg	**Pg**	**11 31 00.0**	**-0.3**
DRME				*i* Sg	**Sn**	**11 31 12.2**	**-0.8**
BCI	**Bajram Curri** baz=18	**0.97**	**22**	P	**Pg**	**11 31 02.6**	**-1.4**
BCI				S	**Sb**	**11 31 17.1**	**+0.7**
BCI	baz=18			AMP			
	comp=N,3.8nm,0.5s,baz=18						
BUM	**Brajici-Budva**	**0.97**	**329⇑**	*i*Pg	**Pg**	**11 31 03.8**	**-0.3**
BUM				*i* Sg	**Sn**	**11 31 19.5**	**+1.5**
PDG	**Podgorica**	**0.99**	**346**	⇑P	**Pb**	**11 31 04.3**	**+0.3**
PDG	**Podgorica**	**0.99**	**346**	*e*Pg	**Pb**	**11 31 04.2**	**+0.2**
PDG				*e*Sg	**Sn**	**11 31 20.9**	**+2.7**
PDG	**Podgorica**	**0.99**	**346⇑**	*i*Pg	**Pg**	**11 31 03.9**	**-0.5**
PDG				*e*Sg	**Sn**	**11 31 17.9**	**-0.3**
PDG	**Podgorica**	**0.99**	**346⇑**	*i*Pg	**Pb**	**11 31 04.1**	**+0.1**
PDG				*i* Sg	**Sn**	**11 31 19.3**	**+1.1**
OHR	**Ohrid**	**0.99**	**111**	*i* Pg	**Pg**	**11 31 03.3**	**-1.2**
OHR				*i* Sg	**Sg**	**11 31 17.7**	**+0.3**
VLO	**Vlora**	**1.00**	**183**	P	**Pn**	**11 31 05.7**	**+0.9**
	baz=188						
VLO				S	**Sn**	**11 31 21.2**	**+2.5**
	baz=188						
VLO				AMP			
	comp=N,8.7nm,0.4s,baz=188						
VLO	**Vlora**	**1.00**	**183**	P	**Pn**	**11 31 05.8**	**+1.0**
VLO				S	**Sn**	**11 31 21.0**	**+2.4**
	comp=N,3μm,0.5s						
PVY	**Plav**	**1.16**	**14**	*e*Pg	**Pb**	**11 31 06.9**	**-0.2**
PVY	**Plav**	**1.16**	**14⇑**	*i*Pg	**Pb**	**11 31 06.7**	**-0.4**
PVY				*i* Sg	**Sn**	**11 31 25.1**	**+2.4**
CEME	**Cevo**	**1.18**	**336⇓**	*i*Pg	**Pg**	**11 31 08.0**	**0.0**
CEME				*i* Sg	**Sn**	**11 31 26.1**	**+3.0**
KBN	**Korca** baz=136	**1.25**	**132**	P	**Pn**	**11 31 07.1**	**-1.1**
KBN				S	**Sg**	**11 31 26.6**	**+0.9**
KBN	baz=136			AMP			
	comp=N,1.9nm,0.5s,baz=136						
KBN	**Korca**	**1.25**	**132**	P	**Pg**	**11 31 09.5**	**+0.1**
KBN				S	**Sg**	**11 31 27.7**	**+2.0**
	comp=N,630nm,0.5s						
HCY	**Herceg Novi**	**1.26**	**321⇑**	*i*Pg	**Pg**	**11 31 09.2**	**-0.4**
HCY				*e*Sg	**Sb**	**11 31 25.2**	**+0.3**
HCY	**Herceg Novi**	**1.26**	**321⇓**	*i*Pg	**Pg**	**11 31 09.2**	**-0.4**
HCY				*i* Sg	**Sn**	**11 31 28.6**	**+3.5**
NKME	**Niksic**	**1.37**	**341⇓**	*i*Pg	**Pb**	**11 31 11.0**	**+0.3**
NKME				*i* Sg	**Sg**	**11 31 31.7**	**+2.1**
KOME	**Kolasin**	**1.38**	**358**	*e*Pg	**Pg**	**11 31 11.6**	**-0.2**
KOME				*e*Sg	**Sg**	**11 31 32.1**	**+2.3**
KOME	**Kolasin**	**1.38**	**358⇑**	*i*Pg	**Pg**	**11 31 11.3**	**-0.5**
KOME				*i* Sg	**Sg**	**11 31 32.6**	**+2.8**
BEY	**Berane**	**1.42**	**10**	*e*Pg	**Pn**	**11 31 10.9**	**+0.3**
IVA	**Berane**	**1.42**	**10⇑**	*i*Pg	**Pn**	**11 31 10.5**	**-0.1**
IVA				*i* Sg	**Sg**	**11 31 33.7**	**+2.6**
SKO	**Skopje**	**1.48**	**70**	*i* Pn	**Pb**	**11 31 12.4**	**-0.1**
SKO				*i* Sg	**Sg**	**11 31 34.0**	**+0.8**
FNA	**Florina** baz=118	**1.53**	**116**	P	**Pn**	**11 31 12.6**	**+0.5**
FNA				S	**Sb**	**11 31 33.8**	**+1.4**
FNA	baz=118			AMP			
	comp=E,1.5nm,0.5s,baz=118						
FNA	**Florina**	**1.53**	**116**	P	**Pn**	**11 31 12.4**	**+0.3**
FNA				S	**Sg**	**11 31 34.6**	**+0.1**
	comp=E,842nm,0.5s						
LSK	**Leskovik** baz=152	**1.53**	**149**	P	**Pn**	**11 31 13.5**	**+1.4**
LSK				S	**Sg**	**11 31 35.2**	**+0.5**
LSK	baz=152			AMP			
	comp=N,3.2nm,1.1s,baz=152						
LSK	**Leskovik**	**1.53**	**149**	P	**Pn**	**11 31 13.4**	**+1.2**
LSK				S	**Sg**	**11 31 35.9**	**+1.2**
	comp=N,752nm,0.9s						
NEST	**Nestorio**	**1.54**	**133**	P	**Pb**	**11 31 14.1**	**+0.6**
NEST				S	**Sg**	**11 31 36.2**	**+1.3**
	comp=N,282nm,0.7s						
TREB	**Trebinje**	**1.54**	**324**	*e*Pg	**Pb**	**11 31 13.7**	**+0.2**
TREB				*e*Sg	**Sb**	**11 31 33.7**	**+0.9**
BRY	**Bratogost**	**1.62**	**332⇑**	*i*Pn	**Pb**	**11 31 15.3**	**+0.3**
BRY				*e*Sn	**Sb**	**11 31 35.5**	**+0.2**
SRN	**Sarande** baz=171	**1.62**	**168**	P	**Pn**	**11 31 14.1**	**+0.8**
SRN				S	**Sg**	**11 31 38.2**	**+0.6**
SRN	baz=171			AMP			
	comp=N,1.2nm,0.5s,baz=171						
SRN	**Sarande**	**1.62**	**168**	P	**Pn**	**11 31 14.1**	**+0.8**
SRN				S	**Sg**	**11 31 37.5**	**-0.1**
	comp=N,288nm,0.5s						
SCTE	**Santa Cesarea** baz=214	**1.63**	**211**	P	**Pn**	**11 31 13.2**	**-0.2**
PENT	**Pentalofos**	**1.74**	**137**	P	**Pb**	**11 31 16.9**	**-0.1**
PENT				S	**Sb**	**11 31 40.2**	**+1.5**
UPM	**Unac-Piva**	**1.80**	**344**	*e*Pn	**Pb**	**11 31 17.9**	**-0.1**
UPM				*e*Sn	**Sb**	**11 31 40.4**	**-0.1**
UPM	**Unac-Piva**	**1.80**	**344⇑**	*i*Pn	**Pb**	**11 31 18.3**	**+0.3**
UPM				*i* Sn	**Sg**	**11 31 43.2**	**0.0**
SJES	**Sjenica**	**1.81**	**9**	*e*Pn	**Pb**	**11 31 18.3**	**+0.1**
SJES				*e*Sn	**Sg**	**11 31 42.5**	**-1.1**
SJES	**Sjenica**	**1.81**	**9**	*e*Pn	**Pb**	**11 31 18.3**	**+0.1**
SJES				*e*Sn	**Sb**	**11 31 41.3**	**+0.5**
PLE	**Pljevlja**	**1.86**	**356**	*e*Pn	**Pb**	**11 31 19.2**	**+0.1**
PLE	**Pljevlja**	**1.86**	**356⇑**	*i*Pn	**Pb**	**11 31 19.0**	**-0.1**
PLE				*i* Sn	**Sg**	**11 31 44.6**	**-0.6**
STIP	**Stip**	**1.97**	**83**	*i* Pn	**Pb**	**11 31 20.9**	**0.0**
STON	**Ston**	**1.97**	**316**	*e*Pn	**Pn**	**11 31 18.9**	**+0.8**
STON				*e*Sn	**Sn**	**11 31 43.4**	**+0.8**
IGT	**Igoumenitsa** baz=165	**2.02**	**163**	P	**Pn**	**11 31 19.5**	**+0.6**
IGT	**Igoumenitsa**	**2.02**	**163**	P	**Pn**	**11 31 19.9**	**+1.1**
IGT				S	**Sn**	**11 31 46.5**	**+2.7**
	comp=N,330nm,0.6s						
PRVS	**Prvonek**	**2.13**	**60**	*e*Pn	**Pn**	**11 31 21.1**	**+0.7**
PRVS				*e*Sn	**Sb**	**11 31 48.7**	**-1.2**
BARS	**Barje**	**2.14**	**50**	*e*Pn	**Pn**	**11 31 21.5**	**+1.0**
IVAS	**Ivanjica**	**2.15**	**11**	*e*Pn	**Pn**	**11 31 21.6**	**+1.0**
IVAS				*e*Sn	**Sn**	**11 31 47.8**	**+0.8**
RUDO	**Rudo**	**2.15**	**356**	*e*Pn	**Pn**	**11 31 22.1**	**+1.5**
RUDO				*e*Sn	**Sb**	**11 31 49.3**	**-1.1**
MATE	**Matera**	**2.32**	**250**	⇓P	**Pn**	**11 31 22.5**	**-0.3**
BBLS	**Lazi&#263i**	**2.40**	**357**	*e*Pn	**Pn**	**11 31 26.0**	**+2.0**
BBLS	**Lazi&#263i**	**2.40**	**357**	*e*Pn	**Pn**	**11 31 26.1**	**+2.0**
BBLS				*e*Sn	**Sb**	**11 31 55.8**	**-1.7**
BOSS	**Bosilegrad**	**2.40**	**64**	*e*Pn	**Pn**	**11 31 24.7**	**+0.7**
KNT	**Kendrikon**	**2.52**	**96**	P	**Pn**	**11 31 26.8**	**+1.1**
KNT				S	**Sn**	**11 31 58.0**	**+1.8**
GRUS	**Gruza**	**2.56**	**19**	*e*Pn	**Pn**	**11 31 26.9**	**+0.7**
MAKA	**Makarska**	**2.62**	**315**	*e*Pn	**Pn**	**11 31 27.3**	**+0.3**
DIVS	**Divibare**	**2.64**	**7**	*e*Pn	**Pn**	**11 31 28.8**	**+1.4**
DIVS				*e*Sn	**Sb**	**11 32 02.2**	**-2.4**
HAPS	**Han Pijesak,BI**	**2.65**	**350⇑**	*i*Pn	**Pn**	**11 31 29.2**	**+1.6**
HAPS				*e*Sn	**Sn**	**11 32 01.9**	**+2.4**
BOVS	**Bovan**	**2.67**	**35**	⇓P	**Pn**	**11 31 29.6**	**+1.8**
BOVS	**Bovan**	**2.67**	**35**	*e*Pn	**Pn**	**11 31 29.1**	**+1.3**
RICI	**Ricice**	**2.71**	**319**	*e*Pn	**Pn**	**11 31 28.6**	**+0.4**
TRUS	**Trudelj**	**2.82**	**12**	*e*Pn	**Pn**	**11 31 31.1**	**+1.3**
SGRT	**San Giovanni R** baz=277	**2.88**	**277**	P	**Pn**	**11 31 30.3**	**-0.4**
ZAGS	**Zajecar**	**3.05**	**39**	*e*Pn	**Pn**	**11 31 34.1**	**+1.1**
TEKS	**Tekeris**	**3.08**	**359**	*e*Pn	**Pn**	**11 31 34.5**	**+1.2**
TEKS	**Tekeris**	**3.08**	**359**	*e*Pn	**Pn**	**11 31 35.4**	**+2.1**
TEKS				*e*Sn	**Sn**	**11 32 11.7**	**+1.9**
TIP	**Timpagrande**	**3.14**	**224**	⇓P	**Pn**	**11 31 33.7**	**-0.6**
AVAS	**Avala Beograd**	**3.29**	**12**	*e*Pn	**Pn**	**11 31 36.4**	**+0.1**
KUBS	**Kucevo**	**3.32**	**27**	*e*Pn	**Pn**	**11 31 36.0**	**-0.7**
KJJV	**Kijevo**	**3.44**	**318**	*e*Pn	**Pn**	**11 31 39.1**	**+0.7**
MGRS	**Mrkonjic Grad**	**3.46**	**329**	*e*Pn	**Pn**	**11 31 40.4**	**+1.7**
MGRS				*e*Sn	**Sn**	**11 32 19.6**	**+0.2**
ZIRJ	**Zirje**	**3.63**	**308**	*e*Pn	**Pn**	**11 31 41.1**	**+0.3**
MDVR	**Moldovita**	**3.66**	**25**	⇑P	**Pn**	**11 31 42.6**	**+1.2**
FRGS	**Fruska Gora**	**3.69**	**3**	⇓P	**Pn**	**11 31 43.6**	**+1.9**
FRGS	**Fruska Gora**	**3.69**	**3**	*e*Pn	**Pn**	**11 31 42.3**	**+0.6**
FRGS	**Fruska Gora**	**3.69**	**3**	*e*Pn	**Pn**	**11 31 43.6**	**+1.9**
FRGS				*e*Sn	**Sn**	**11 32 26.4**	**+1.5**
BLY	**Banja Luka**	**3.71**	**333**	*e*Pn	**Pn**	**11 31 43.2**	**+1.2**
BLY				*e*Sn	**Sn**	**11 32 26.9**	**+1.4**
MORI	**Morici**	**3.72**	**311**	*e*Pn	**Pn**	**11 31 42.8**	**+0.6**
A050A	**Klekovaca**	**3.75**	**324**	*e*Pn	**Pn**	**11 31 44.0**	**+1.4**
A050A				*e*Sn	**Sn**	**11 32 26.1**	**-0.3**
HERR	**Herculane**	**3.99**	**30**	⇑P	**Pn**	**11 31 47.9**	**+2.1**
UDBI	**Udbina**	**4.14**	**319**	*e*Pn	**Pn**	**11 31 49.5**	**+1.5**
DUGI	**Dugi Otok**	**4.17**	**309**	*e*Pn	**Pn**	**11 31 48.6**	**+0.3**
VIRC	**Vir**	**4.36**	**312**	*e*Pn	**Pn**	**11 31 51.3**	**+0.4**
BZS	**Buzias**	**4.40**	**19**	⇓P	**Pn**	**11 31 52.7**	**+1.2**
GZR	**Gura Zlata**	**4.56**	**30**	⇑P	**Pn**	**11 31 56.2**	**+2.4**
NVLJ	**Novalja**	**4.63**	**313**	*e*Pn	**Pn**	**11 31 54.8**	**+0.2**
SURR	**Surduc**	**4.66**	**23**	⇑P	**Pn**	**11 31 57.4**	**+2.3**
MORH	**Mrgy, Hungar**	**4.79**	**352**	⇑P	**Pn**	**11 31 57.7**	**+0.9**
ELND	**Elena**	**4.90**	**71**	⇑P	**Pn**	**11 31 59.3**	**+0.9**
LOT	**Lotru**	**5.01**	**36**	⇑P	**Pn**	**11 32 02.3**	**+2.3**
SIRR	**Siria**	**5.03**	**17**	⇑P	**Pn**	**11 32 02.6**	**+2.5**
VOIR		**5.62**	**43**	⇑P	**Pn**	**11 32 10.5**	**+2.1**
MLR	**Muntele Rosu**	**6.13**	**47**	⇑P	**Pn**	**11 32 17.0**	**+1.6**
MLR	**Muntele Rosu**	**6.13**	**47**	Pn	**Pn**	**11 32 17.3**	**+1.9**
	comp=N,0.4nm,0.3s,baz=146,slow=10.0,SNR=3.7						
MLR				Sn	**Sn**	**11 33 24.7**	**-0.6**
	comp=N,0.4nm,0.3s,baz=286,slow=9.0,SNR=1.7						
	comp=N,3.3nm,0.5s						
SOKA	**Soboth**	**6.14**	**329**	*e*Pn	**Pn**	**11 32 16.4**	**+0.8**
	comp=N,0.8nm,0.2s						
PLOR	**Plostina**	**6.74**	**47**	⇑P	**Pn**	**11 32 25.2**	**+1.5**
VRI	**Vrincioaia**	**6.80**	**47**	⇑P	**Pn**	**11 32 25.6**	**+1.2**
KBA	**Koelnbreinsper**	**7.17**	**324**	*e*Pn	**Pn**	**11 32 30.6**	**+0.9**
	comp=N,0.6nm,0.2s						
IDI	**Anoyia**	**7.45**	**144**	Pn	**Pn**	**11 32 31.5**	**-2.0**
	comp=N,2.1nm,0.4s,baz=215,slow=21,SNR=1.3						
IDI				Sn	**Sn**	**11 33 52.9**	**-4.9**
	comp=N,1.1nm,0.3s,baz=231,slow=10,SNR=1.7						
WTTA	**Wattenberg**	**8.11**	**318**	*e*Pn	**Pn**	**11 32 42.3**	**-0.3**
	comp=N,1.4nm,0.2s						
KHC	**Kasperske Hory**	**8.74**	**333**	*e*PN	**Pn**	**11 32 52.5**	**+1.4**
KHC				*e*SN	**Sn**	**11 34 31.0**	**+1.6**
HFS	**Hagfors**	**19.04**	**351**	P	**P**	**11 35 04.8**	**-1.7**
	comp=N,0.1nm,0.3s,baz=161,slow=9.2,SNR=2.1						
	comp=N,2.0nm,0.9s						
NOA	**NORSAR Array B**	**20.25**	**348**	P	**P**	**11 35 18.5**	**-1.3**
	comp=N,0.2nm,0.6s,baz=149,slow=9.7,SNR=2.4						
	comp=N,0.2nm,0.6s						
FINES	**FINESS Array B**	**20.39**	**9**	P	**P**	**11 35 19.6**	**-1.6**
	comp=N,1.3nm,0.3s,baz=188,slow=10,SNR=16						
	comp=N,1.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**32.24**	**214**	P	**P**	**11 37 12.7**	**-0.4**
	comp=N,0.3nm,0.9s,baz=15,slow=9.9,SNR=1.5						
	comp=N,0.3nm,0.9s						
BVAR	**Borovoye Array**	**35.65**	**53**	P	**P**	**11 37 41.6**	**-0.8**
	comp=N,0.6nm,0.4s,baz=268,slow=6.9,SNR=3.1						
	comp=N,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**44.10**	**50**	P	**P**	**11 38 51.1**	**-1.4**
	comp=N,1.3nm,0.6s,baz=280,slow=8.6,SNR=5.7						
	comp=N,1.3nm,0.6s						
MKAR	**Makanchi Array**	**44.27**	**61**	P	**P**	**11 38 53.1**	**-1.0**
	comp=N,1.0nm,0.7s,baz=278,slow=6.4,SNR=8.5						
	comp=N,1.0nm,0.7s						

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*IDC **04** 11:32:12.4±2.5, 41°.33N×19°.25E, h0km, mb3.9/4, mbtmp3.9/6, ML3.6/2, Error ellipse: s-maj=45.5km s-min=29.3km az=148.0*
*TIR **04** 11:32:16.0, 41°.53N×19°.43E, h24km±2km, Md3.1, Ml3.4*
*BEO **04** 11:32:16.5±0.6, 41°.36N×19°.50E, h13km±2km, ML3.2/9*
*RHSSO **04** 11:32:18.7±0.7, 41°.46N×19°.53E, h7km±2km, ML3.5/12*
*PDG **04** 11:32:18.0±0.2, 41°.50N×19°.57E, h11km±1km, MD3.6/8, ML3.5/13, Error ellipse: s-maj=0.7km s-min=1.2km az=0.0*
ISC 04 11:32:17.0±1.0, 41°.44N±0°.02×19°.53E±0°.02, h10km±8km, n79, σ1§29/128, mb3.9/3, 15C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane** baz=118	**0.27**	**110**	P	**Pb**	**11 32 23.4**	**-0.5**
TIR				S	**Sb**	**11 32 28.2**	**-0.3**
TIR	baz=118			AMP			
	comp=E,102nm,0.5s,baz=118						
TIR	**Tirane**	**0.27**	**110**	*e*Pg	**Pb**	**11 32 23.4**	**-0.5**
TIR				*e*Sg	**Sb**	**11 32 28.0**	**-0.5**
ULC	**Ulcinj**	**0.56**	**338⇑**	*i*Pg	**Pg**	**11 32 28.0**	**0.0**
ULC				*i* Sg	**Sg**	**11 32 36.0**	**+0.5**
PUK	**Puka** baz=33	**0.66**	**24**	P	**Pg**	**11 32 29.1**	**-0.8**
PUK				S	**Sg**	**11 32 37.8**	**-0.8**
PUK	baz=33			AMP			
	comp=E,9.7nm,0.3s,baz=33						
DRME	**Dracevica, Mon**	**0.79**	**341**	*e*Pg	**Pg**	**11 32 32.2**	**0.0**
DRME				*e*Sg	**Sb**	**11 32 44.4**	**+0.8**
DRME	**Dracevica, Mon**	**0.79**	**341⇑**	*i*Pg	**Pg**	**11 32 32.1**	**-0.1**
DRME				*e*Sg	**Sb**	**11 32 44.0**	**+0.4**
DRME	**Dracevica, Mon**	**0.79**	**341⇓**	*i*Pg	**Pg**	**11 32 32.2**	**0.0**
DRME				*i* Sg	**Sb**	**11 32 43.8**	**+0.2**
VLO	**Vlora** baz=177	**0.97**	**181**	P	**Pn**	**11 32 36.2**	**-0.4**
VLO				S	**Sn**	**11 32 51.9**	**+1.5**
VLO	baz=177			AMP			
	comp=N,7.0nm,0.4s,baz=177						
BUM	**Brajici-Budva**	**0.98**	**331⇑**	*i*Pg	**Pb**	**11 32 36.7**	**+0.6**
BUM				*i* Sg	**Sn**	**11 32 50.9**	**0.0**
BCI	**Bajram Curri** baz=29	**1.01**	**23**	P	**Pg**	**11 32 34.9**	**-1.6**
BCI				S	**Sg**	**11 32 48.8**	**-0.8**
BCI	baz=29			AMP			
	comp=N,4.3nm,0.4s,baz=29						
PDG	**Podgorica**	**1.01**	**348**	*e*Pg	**Pg**	**11 32 36.1**	**-0.4**
PDG				*e*Sg	**Sn**	**11 32 52.3**	**+0.9**
PDG	**Podgorica**	**1.01**	**348⇑**	*i*Pg	**Pg**	**11 32 35.7**	**-0.7**
PDG				*e*Sg	**Sb**	**11 32 50.4**	**+0.5**
PDG	**Podgorica**	**1.01**	**348⇓**	*i*Pg	**Pg**	**11 32 36.0**	**-0.4**
PDG				*i* Sg	**Sb**	**11 32 51.2**	**+1.3**
OHR	**Ohrid**	**1.01**	**108**	*i* Pg	**Pb**	**11 32 36.2**	**-0.4**
OHR				*i* Sg	**Sn**	**11 32 52.2**	**+0.6**
CEME	**Cevo**	**1.20**	**338⇑**	*i*Pg	**Pg**	**11 32 39.8**	**-0.2**
CEME				*i* Sg	**Sn**	**11 32 57.8**

IGT	**Igoumenitsa**	2.00	162	P		**Pb**	11 32 52.5	-0.9
	baz=160							
IGT				AMP				
	comp=E,0.7nm,0.5s,baz=160							
STIP	**Stip**	2.01	82	*i* Pn		**Pg**	11 32 54.8	-0.8
PRVS	**Prvonek**	2.18	60	*e*Pn		**Pn**	11 32 53.8	+0.5
PRVS				*e*Sn		**Sn**	11 33 20.7	+0.4
RUDO	**Rudo**	2.18	357	⇑*i*Pn		**Pb**	11 32 55.7	-0.8
RUDO				*e*Sn		**Sn**	11 33 22.6	+2.3
IVAS	**Ivanjica**	2.19	12	*e*Pn		**Pn**	11 32 54.0	+0.6
IVAS				*e*Sn		**Sn**	11 33 23.0	+2.5
BARS	**Barje**	2.19	50	*e*Pn		**Pn**	11 32 53.6	+0.2
BBLS	**Lazi&#263i**	2.43	358	*e*Pn		**Pn**	11 32 58.1	+1.4
BBLS	**Lazi&#263i**	2.43	358	*e*Pn		**Pn**	11 32 58.9	+2.2
BBLS				*e*Sn		**Sn**	11 33 28.4	+1.9
BOSS	**Bosilegrad**	2.44	63	*e*Pn		**Pn**	11 32 57.6	+0.7
GRUS	**Gruza**	2.60	19	*e*Pn		**Pn**	11 32 59.7	+0.7
MAKA	**Makarska**	2.62	316	*e*Pn		**Pn**	11 32 60.0	+0.7
DIVS	**Divibare**	2.68	7	*e*Pn		**Pn**	11 33 00.2	0.0
DIVS				*e*Sn		**Sn**	11 33 34.7	+1.9
HAPS	**Han Pijesak,BI**	2.68	351	⇑*i*Pn		**Pn**	11 33 01.5	+1.3
HAPS				*e*Sn		**Sn**	11 33 34.2	+1.4
RICI	**Ricice**	2.71	320	*e*Pn		**Pn**	11 33 01.2	+0.6
BOVS	**Bovan**	2.72	36	*e*Pn		**Pn**	11 33 01.6	+0.9
SGRT	**San Giovanni R**	2.86	278	P		**Pn**	11 33 03.4	+0.7
	baz=276							
SGRT				S		**Sn**	11 33 34.6	-2.5
	baz=276							
TRUS	**Trudelj**	2.86	13	*e*Pn		**Pn**	11 33 03.3	+0.7
HVAR	**Hvar**	2.87	308	*e*Pn		**Pn**	11 33 03.0	+0.2
ZAGS	**Zajecar**	3.10	39	*e*Pn		**Pn**	11 33 05.9	0.0
TEKS	**Tekeris**	3.11	0	*e*Pn		**Pn**	11 33 06.9	+0.8
AVAS	**Avala Beograd**	3.33	12	*e*Pn		**Pn**	11 33 08.9	-0.2
AVAS				*e*Sn		**Sn**	11 33 48.5	-0.3
KUBS	**Kucevo**	3.36	27	*e*Pn		**Pn**	11 33 08.6	-0.9
KIJV	**Kijevo**	3.44	319	*e*Pn		**Pn**	11 33 11.4	+0.8
MGRS	**Mrkonjic Grad**	3.48	330	*e*Sn		**Sn**	11 33 53.6	+1.3
FRGS	**Fruska Gora**	3.72	3	*e*Pn		**Pn**	11 33 13.6	-0.9
FRGS	**Fruska Gora**	3.72	3	*e*Pn		**Pn**	11 33 15.6	+1.1
FRGS				*e*Sn		**Sn**	11 33 58.9	+0.5
BLY	**Banja Luka**	3.73	333	*e*Pn		**Pn**	11 33 16.3	+1.8
BLY				*e*Sn		**Sn**	11 33 59.6	+1.2
A050A	**Klekovaca**	3.75	325	⇑*i*Pn		**Pn**	11 33 16.8	+1.8
A050A				*e*Sn		**Sn**	11 34 00.7	+1.5
MLR	**Muntele Rosu**	6.18	47	Pn		**Pn**	11 33 49.9	+1.6
	comp=E,1.4nm,0.3s,baz=229,slow=20,SNR=5.0							
MLR				Sn		**Sn**	11 35 02.9	+3.9
	comp=E,0.1nm,0.3s,baz=114,slow=22,SNR=1.2							
	comp=E,4.2nm,0.4s							
OBKA	**Obir**	6.21	326	*e*Sn		**Sn**	11 34 58.9	-0.9
IDI	**Anoyia**	7.45	144	Sn		**Sn**	11 35 26.3	-3.9
	comp=E,0.5nm,0.3s,baz=200,slow=12,SNR=2.3							
HFS	**Hagfors**	19.06	351	P		**P**	11 36 36.9	-2.2
	comp=E,0.1nm,0.3s,baz=162,slow=9.8,SNR=3.8							
	comp=E,1.6nm,0.7s							
FINES	**FINESS Array B**	20.42	9	P		**P**	11 36 52.4	-1.6
	comp=E,1.7nm,0.3s,baz=189,slow=9.8,SNR=15							
	comp=E,1.7nm,0.3s							
BVAR	**Borovoye Array**	35.70	53	P		**P**	11 39 14.4	-0.9
	comp=E,0.3nm,0.3s,baz=262,slow=7.1,SNR=3.6							
	comp=E,0.3nm,0.3s							
ZALV	**Zalesovo Beam**	44.14	50	P		**P**	11 40 23.8	-1.6
	comp=E,1.0nm,0.4s,baz=285,slow=8.7,SNR=5.6							
	comp=E,1.0nm,0.4s							
MKAR	**Makanchi Array**	44.32	61	P		**P**	11 40 25.9	-1.0
	comp=E,1.2nm,0.7s,baz=281,slow=7.1,SNR=12							
	comp=E,1.2nm,0.7s							

*NAO **04** 11:35:14.5, 39°.56N×17°.59E, h33km, mb3.6*
*TIR **04** 11:35:29.6, 41°.51N×19°.52E, h30km±1km, Ml3.9*
*PRU **04** 11:35:29.8, 40°.72N×18°.29E, h10km*
*RHSSO **04** 11:35:30.0±0.7, 41°.32N×19°.58E, h5km±2km, ML4.0/14*
*PDG **04** 11:35:31.6±0.2, 41°.48N×19°.61E, h9km, MD3.9/13, ML3.8/13, Error ellipse: s-maj=0.5km s-min=1.0km az=0.0*
*THE **04** 11:35:31.7, 41°.54N×19°.60E, h8km±1km, ML3.5/9, Error ellipse: s-maj=2.9km s-min=1.7km az=313.0*
*BEO **04** 11:35:31.6±0.5, 41°.42N×19°.67E, h13km±2km, ML3.6/9*
*LDG **04** 11:35:32.0±0.1, 41°.44N×19°.48E, h10km, Ml3.9/7, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*IDC **04** 11:35:36.4±3.1, 41°.64N×19°.56E, h57km±26km, mb3.6/14, mbtmp4.0/19, ML4.0/5, Error ellipse: s-maj=23.4km s-min=14.6km az=179.0*
*MCSM **04** 11:35:36.5±0.5, 42°.N±3°.×2°.0E±°, h7km±3km, mb4.2, MLv4.0*

ISC 04 11:35:31.2±0.8, 41°.48N±0°.02×19°.58E±0°.02, h16km±5km, n187, σ1°53/252, mb4.0/11, 34C-15D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	0.25	120	⇓P	**Pg**	11 35 36.4	-0.4
TIR	**Tirane**	0.25	120	P	**Pg**	11 35 36.6	-0.2
	baz=121						
TIR				S	**Sg**	11 35 40.5	-0.2
	baz=121						
TIR				AMP			
	comp=E,321nm,0.3s,baz=121						
TIR	**Tirane**	0.25	120	P	**Pg**	11 35 36.5	-0.3
TIR				S	**Sg**	11 35 41.0	+0.4
	comp=E,55μm,0.3s						
TIR	**Tirane**	0.25	120	*e*Pg	**Pg**	11 35 36.4	-0.4
TIR				*e*Sg	**Sg**	11 35 40.6	0.0
ULC	**Ulcinj**	0.55	333	⇓*i*Pg	**Pg**	11 35 41.9	-0.2
ULC				*i* Sg	**Sb**	11 35 50.2	+0.1
PUK	**Puka**	0.61	23	P	**Pg**	11 35 42.7	-0.7
	baz=27						
PUK				S	**Sg**	11 35 51.4	-0.2
	baz=27						
PUK				AMP			
	comp=N,24nm,0.4s,baz=27						
DRME	**Dracevica, Mon**	0.77	338	*e*Pg	**Pg**	11 35 46.0	-0.3
DRME				*e*Sg	**Sn**	11 35 59.9	+1.3
DRME	**Dracevica, Mon**	0.77	338	⇑*i*Pg	**Pg**	11 35 46.0	-0.3
DRME				*e*Sg	**Sn**	11 35 59.1	+0.5
DRME	**Dracevica, Mon**	0.77	338	⇓*i*Pg	**Pg**	11 35 45.9	-0.3
DRME				*i* Sg	**Sb**	11 35 57.4	+1.0
BCI	**Bajram Curri**	0.96	22	P	**Pg**	11 35 48.7	-1.3
	baz=25						
BCI				S	**Sg**	11 36 01.6	-1.0
	baz=25						
BCI				AMP			
	comp=E,14nm,0.5s,baz=25						
BUM	**Brajici-Budva**	0.97	329	⇑*i*Pg	**Pg**	11 35 50.2	+0.1
BUM				*i* Sg	**Sn**	11 36 05.1	+1.4
PDG	**Podgorica**	0.98	346	⇑P	**Pg**	11 35 48.8	-1.5
PDG	**Podgorica**	0.98	346	*e*Pg	**Pg**	11 35 49.6	-0.7
PDG				*e*Sg	**Sn**	11 36 06.6	+2.7
PDG	**Podgorica**	0.98	346	⇑*i*Pg	**Pg**	11 35 50.1	-0.2
PDG				*e*Sg	**Sn**	11 36 06.0	+2.1
PDG	**Podgorica**	0.98	346	⇓*i*Pg	**Pg**	11 35 49.9	-0.4
PDG				*i* Sg	**Sn**	11 36 05.4	+1.5
OHR	**Ohrid**	0.99	111	*i* Pg	**Pg**	11 35 49.4	-1.0
OHR				*i* Sg	**Sb**	11 36 04.4	+1.6
VLO	**Vlora**	1.01	184	P	**Pn**	11 35 52.1	+1.5
	baz=181						
VLO				S	**Sg**	11 36 03.8	-0.1
	baz=181						
VLO				AMP			
	comp=N,21nm,0.3s,baz=181						
VLO	**Vlora**	1.01	184	P	**Pn**	11 35 52.1	+1.5
VLO				S	**Sn**	11 36 08.5	+4.1
	comp=N,5μm,0.3s						
PVY	**Plav**	1.16	14	*e*Pg	**Pb**	11 35 52.7	-0.2
PVY	**Plav**	1.16	14	⇓*i*Pg	**Pb**	11 35 52.9	0.0
PVY				*i* Sg	**Sn**	11 36 10.5	+2.2
CEME	**Cevo**	1.18	336	⇓*i*Pg	**Pb**	11 35 53.6	+0.4
CEME				*i* Sg	**Sn**	11 36 12.1	+3.3
KBN	**Korca**	1.25	132	P	**Pb**	11 35 55.4	+1.0
	baz=132						
KBN				S	**Sn**	11 36 12.4	+1.9
	baz=132						
KBN				AMP			
	comp=N,5.8nm,0.5s,baz=132						
KBN	**Korca**	1.25	132	P	**Pn**	11 35 55.0	+0.9
KBN				S	**Sn**	11 36 13.8	+3.2
	comp=N,2μm,0.7s						
HCY	**Herceg Novi**	1.26	321	*e*Pg	**Pn**	11 35 55.0	+0.8
HCY				*e*Sg	**Sn**	11 36 13.8	+3.0
HCY	**Herceg Novi**	1.26	321	⇑*i*Pg	**Pn**	11 35 55.2	+1.0
HCY				*i* Sg	**Sn**	11 36 14.2	+3.4
NKME	**Niksic**	1.37	340	⇑*i*Pg	**Pb**	11 35 57.3	+0.8
NKME				*i* Sg	**Sg**	11 36 17.7	+2.1
KOME	**Kolasin**	1.38	358	*e*Pg	**Pb**	11 35 57.5	+0.9
KOME				*e*Sg	**Sg**	11 36 17.8	+2.1
KOME	**Kolasin**	1.38	358	⇓*i*Pg	**Pb**	11 35 57.5	+0.9
KOME				*i* Sg	**Sg**	11 36 17.9	+2.2
BEY	**Berane**	1.42	9	*e*Pg	**Pn**	11 35 56.9	+0.5
IVA	**Berane**	1.42	9	⇑*i*Pg	**Pn**	11 35 56.9	+0.5
IVA				*i* Sg	**Sg**	11 36 20.1	+3.1
SKO	**Skopje**	1.48	70	*i* Pn	**Pn**	11 35 58.6	+1.5
SKO				*i* Sg	**Sg**	11 36 19.9	+0.9
FNA	**Florina**	1.52	116	P	**Pn**	11 35 58.5	+0.7
	baz=116						
FNA				S	**Sg**	11 36 20.7	+0.3
	baz=116						
FNA				AMP			
	comp=N,3.9nm,0.5s,baz=116						
FNA	**Florina**	1.52	116	P	**Pn**	11 35 58.4	+0.6
FNA				S	**Sg**	11 36 20.7	+0.3
	comp=N,2μm,0.5s						
LSK	**Leskovik**	1.54	149	P	**Pn**	11 35 59.3	+1.4
	baz=148						
LSK				S	**Sb**	11 36 19.9	+1.3
	baz=148						
LSK				AMP			
	comp=E,5.5nm,0.8s,baz=148						
LSK	**Leskovik**	1.54	149	P	**Pn**	11 35 59.0	+1.0
LSK				S	**Sg**	11 36 20.6	-0.1
	comp=E,1μm,1.0s						
NEST	**Nestorio**	1.54	133	P	**Pb**	11 36 00.0	+0.6
NEST				S	**Sg**	11 36 20.8	-0.1
	comp=E,600nm,0.6s						
TREB	**Trebinje**	1.54	324	⇓*i*Pn	**Pn**	11 35 59.1	+1.1
TREB				*e*Sn	**Sg**	11 36 22.0	+1.1
DBRK	**Dubrovnik**	1.60	319	*e*Sn	**Pn**	11 36 00.3	+1.5
DBRK				*e*Sn	**Sg**	11 36 22.5	-0.3
BRY	**Bratogost**	1.62	332	*e*Pn	**Pn**	11 36 00.7	+1.5
BRY				*e*Sn	**Sg**	11 36 23.7	+0.2
BRY	**Bratogost**	1.62	332	⇓*i*Pn	**Pb**	11 36 01.3	+0.5
BRY				*i* Sn	**Sg**	11 36 25.4	+1.9
SRN	**Sarande**	1.62	168	P	**Pn**	11 36 00.4	+1.3
	baz=167						
SRN				S	**Sg**	11 36 23.2	-0.4
	baz=167						
SRN				AMP			
	comp=E,1.6nm,0.3s,baz=167						
SRN	**Sarande**	1.62	168	P	**Pn**	11 36 00.2	+1.1
SRN				S	**Sb**	11 36 22.9	+1.9
	comp=E,762nm,0.8s						
SCTE	**Santa Cesarea**	1.64	211	P	**Pn**	11 35 59.2	0.0
	baz=210						
SCTE				S	**Sb**	11 36 22.6	+1.3
	baz=210						
SCTE				AMP			
	comp=N,2.3nm,0.5s,baz=210						
PENT	**Pentalofos**	1.74	137	P	**Pn**	11 36 02.9	+2.0
UPM	**Unac-Piva**	1.80	344	*e*Pn	**Pn**	11 36 03.5	+1.8
UPM				*e*Sn	**Sg**	11 36 28.3	-0.9
UPM	**Unac-Piva**	1.80	344	⇓*i*Pn	**Pb**	11 36 03.8	-0.1
UPM				*i* Sn	**Sg**	11 36 29.7	+0.5
SJES	**Sjenica**	1.81	9	*e*Pn	**Pb**	11 36 04.6	+0.6
SJES				*e*Sg	**Sg**	11 36 29.6	+0.1
SJES	**Sjenica**	1.81	9	*e*Pn	**Pb**	11 36 04.0	0.0
SJES				*e*Sn	**Sg**	11 36 28.8	-0.7
KLINJ	**Klinje**	1.85	337	*e*Pn	**Pb**	11 36 04.5	-0.1
KLINJ				*e*Sn	**Sb**	11 36 29.4	+1.9
PLE	**Pljevlja**	1.86	356	*e*Pn	**Pb**	11 36 05.0	+0.1
PLE	**Pljevlja**	1.86	356	⇓*i*Pn	**Pb**	11 36 05.5	+0.6
PLE				*i* Sn	**Sg**	11 36 30.9	-0.2
STIP	**Stip**	1.97	83	*i* Pn	**Pb**	11 36 07.2	+0.6
STON	**Ston**	1.97	316	*e*Pn	**Pn**	11 36 04.8	+0.9
STON	**Ston**	1.97	316	*e*Pn	**Pn**	11 36 05.4	+1.5
STON				*e*Sn	**Sb**	11 36 31.0	0.0
NOCI	**Noci**	2.02	251	P	**Pn**	11 36 04.5	-0.1
	baz=250						
IGT	**Igoumenitsa**	2.02	163	P	**Pn**	11 36 06.1	+1.4
	baz=162						
IGT	**Igoumenitsa**	2.02	163	P	**Pn**	11 36 05.8	+1.2
IGT				S	**Sn**	11 36 32.4	+2.8
	comp=N,605nm,0.7s						
KPRO	**Kipourio**	2.04	138	P	**Pn**	11 36 07.4	+2.5
PRVS	**Prvonek**	2.13	60	*e*Pn	**Pn**	11 36 07.0	+0.9
BARS	**Barje**	2.14	50	*e*Pn	**Pn**	11 36 07.5	+1.3
IVAS	**Ivanjica**	2.14	11	*e*Pn	**Pn**	11 36 07.5	+1.2
IVAS				*e*Sn	**Sn**	11 36 34.8	+2.2
RUDO	**Rudo**	2.15	356	⇑*i*Pn	**Pn**	11 36 08.5	+2.2
RUDO				*e*Sn	**Sb**	11 36 36.9	+0.8
MATE	**Matera**	2.32	250	⇑P	**Pn**	11 36 08.2	-0.5
BBLS	**Lazi&#263i**	2.39	357	*e*Pn	**Pn**	11 36 12.7	+2.9
BBLS				*e*Sn	**Sb**	11 36 42.9	-0.3
BBLS	**Lazi&#263i**	2.39	357	*e*Pn	**Pn**	11 36 12.2	+2.4
BBLS				*e*Sn	**Sb**	11 36 43.5	+0.3
BOSS	**Bosilegrad**	2.39	64	*e*Pn	**Pn**	11 36 10.9	+1.2
KNT	**Kendrikon**	2.52	96	P	**Pn**	11 36 12.6	+1.1
KNT				S	**Sn**	11 36 43.3	+1.5
	comp=N,165nm,1.4s						
GRUS	**Gruza**	2.55	19	*e*Pn	**Pn**	11 36 13.1	+1.2
GRUS				*e*Sn	**Sn**	11 36 43.5	+0.9
MAKA	**Makarska**	2.62	315	*e*Pn	**Pn**	11 36 13.6	+0.8
DIVS	**Divibare**	2.64	7	*e*Pn	**Pn**	11 36 14.4	+1.2
DIVS				*e*Sn	**Sn**	11 36 47.7	+2.8
HAPS	**Han Pijesak,BI**	2.65	350	⇑*i*Pn	**Pn**	11 36 15.0	+1.6
HAPS				*e*Sn	**Sb**	11 36 49.4	-1.3
BOVS	**Bovan**	2.67	35	⇑P	**Pn**	11 36 14.7	+1.2
BOVS	**Bovan**	2.67	35	*e*Pn	**Pn**	11 36 14.8	+1.2
RICI	**Ricice**	2.71	319	*i* Pn	**Pn**	11 36 15.0	+0.9
LKD2	**Lefkada island**	2.81	162	P	**Pn**	11 36 16.1	+0.7
TRUS	**Trudelj**	2.81	12	*e*Pn	**Pn**	11 36 16.9	+1.4
HVAR	**Hvar**	2.88	307	*e*Pn	**Pn**	11 36 16.5	+0.2
SGRT	**San Giovanni R**	2.89	277	P	**Pn**	11 36 16.6	0.0
	baz=277						
SVIS	**Svilajnac**	3.04	23	*e*Pn	**Pn**	11 36 19.7	+1.1
ZAGS	**Zajecar**	3.05	39	*e*Pn	**Pn**	11 36 19.6	+0.9
TEKS	**Tekeris**	3.07	359	*e*Pn	**Pn**	11 36 19.8	+0.7
TIP	**Timpagrande**	3.15	224	⇑P	**Pn**	11 36 20.0	-0.1
AVAS	**Avala Beograd**	3.29	12	*e*Pn	**Pn**	11 36 22.7	+0.6
AVAS				*e*Sn	**Sn**	11 37 02.1	+1.2
KUBS	**Kucevo**	3.32	27	*e*Pn	**Pn**	11 36 22.1	-0.3
KIJV	**Kijevo**	3.44	318	*e*Pn	**Pn**	11 36 25.4	+1.3
MGRS	**Mrkonjic Grad**	3.46	329	⇑*i*Pn	**Pn**	11 36 26.5	+2.1
MGRS				*e*Sn	**Sn**	11 37 08.1	+3.0
ZIRJ	**Zirje**	3.63	308	*e*Pn	**Pn**	11 36 27.5	+0.8
MDVR	**Moldovita**	3.66	25	⇑P	**Pn**	11 36 28.1	+0.9
FRGS	**Fruska Gora**	3.69	3	⇑P	**Pn**	11 36 28.2	+0.8
FRGS	**Fruska Gora**	3.69	3	*e*Pn	**Pn**	11 36 27.9	+0.4
FRGS	**Fruska Gora**	3.69	3	*e*Pn	**Pn**	11 36 28.9	+1.4
FRGS				*e*Sn	**Sn**	11 37 13.9	+3.3
BLY	**Banja Luka**	3.71	333	*e*Pn	**Pn**	11 36 29.7	+1.9
BLY				*e*Sn	**Sn**	11 37 14.5	+3.3
MORI	**Morici**	3.72	311	*i* Pn	**Pn**	11 36 29.2	+1.3
A050A	**Klekovaca**	3.75	324	⇑*i*Pn	**Pn**	11 36 30.6	+2.2
A050A				*e*Sn	**Sn**	11 37 15.1	+3.0
DJES	**Djerdap**	3.85	33	⇑P	**Pn**	11 36 30.8	+1.1
HERR	**Herculane**	3.99	30	⇑P	**Pn**	11 36 32.5	+0.8
UDBI	**Udbina**	4.14	319	*e*Pn	**Pn**	11 36 35.7	+2.0
DUGI	**Dugi Otok**	4.17	309	*e*Pn	**Pn**	11 36 35.0	+0.9
VIRC	**Vir**	4.36	312	*e*Pn	**Pn**	11 36 37.4	+0.7
BZS	**Buzias**	4.40	19	⇑P	**Pn**	11 36 37.5	+0.3
GZR	**Gura Zlata**	4.56	30	⇓P	**Pn**	11 36 40.6	+1.1
NVLJ	**Novalja**	4.63	313	*e*Pn	**Pn**	11 36 41.0	+0.6
SURR	**Surduc**	4.66	23	⇑P	**Pn**	11 36 41.8	+1.0
MORH	**Mrgy, Hungar**	4.79	352	⇑P	**Pn**	11 36 42.9	+0.4
RABC	**Rab**	4.80	315	*e*Pn	**Pn**	11 36 43.4	+0.7
ELND	**Elena**	4.90	71	⇑P	**Pn**	11 36 45.5	+1.4
HUMR	**Humele**	5.00	51	⇑P	**Pn**	11 36 46.8	+1.3
LOT	**Lotru**	5.01	36	⇑P	**Pn**	11 36 46.8	+1.0
SIRR	**Siria**	5.02	17	⇓P	**Pn**	11 36 47.3	+1.5
BOJS	**Bojanci**	5.11	323	*e*Pn	**Pn**	11 36 48.0	+1.0
CRES	**Cresnjev**	5.28	327	*e*Pn	**Pn**	11 36 49.8	+0.5
ARR	**Arges**	5.36	42	⇓P	**Pn**	11 36 52.8	+2.3
VISS	**Visnje**	5.53	323	*e*Pn	**Pn**	11 36 53.9	+1.2
VOIR		5.62	43	⇑P	**Pn**	11 36 55.4	+1.3
VOIR		5.62	43	P	**Pn**	11 36 56.2	+2.1
	comp=N,13nm,0.9s,comp=N,0.1nm						
MLR	**Muntele Rosu**	6.13	47	⇑P	**Pn**	11 37 03.1	+2.0
MLR	**Muntele Rosu**	6.13	47	P	**Pn**	11 37 03.8	+2.7
	comp=N,1.5nm,0.3s,baz=168,slow=8.0,SNR=13						
MLR				S	**Sn**	11 38 11.6	+0.7
	comp=N,7.2nm,0.7s,baz=255,slow=12,SNR=1.7						
	comp=N,16nm,0.8s						
MLR	**Muntele Rosu**	6.13	47	P	**Pn**	11 37 04.3	+3.1
	comp=N,21nm,0.8s,comp=N,0.1nm						
SOKA	**Soboth**	6.14	329	*e*Pn	**Pn**	11 37 02.2	+0.9
	comp=N,1.9nm,0.3s						
DOPR	**Dopca**	6.16	41	⇑P	**Pn**	11 37 02.3	+0.9
OBKA	**Obir**	6.20	326	*e*Pn	**Pn**	11 37 02.8	+0.7
	comp=N,1.0nm,0.2s						
OBKA	**Obir**	6.20	326	*e*Pn	**Pn**	11 37 02.6	+0.5
OBKA				*e*Sn	**Sn**	11 38 13.0	+0.3
ISR	**Istrita**	6.25	52	P	**Pn**	11 37 05.9	+3.1
	comp=N,29nm,0.8s,comp=N,0.1nm						
PSZ	**Piszkesteto**	6.45	2	⇑P	**Pn**	11 37 05.8	+0.3
ARSA	**Arzberg**	6.46	335	*e*Pn	**Pn**	11 37 06.8	+1.2
	comp=N,5.3nm,0.5s						
COVR	**Voineasa-Covas**	6.49	46	⇑P	**Pn**	11 37 07.0	+0.9
RONA	**Rosalia, Austr**	6.65	341	*e*Pn	**Pn**	11 37 09.5	+1.3
	comp=N,1.4nm,0.3s						
MYKA	**Terra Mystica**	6.70	322	*e*Pn	**Pn**	11 37 09.0	+0.1
	comp=N,0.7nm,0.2s						
PLOR3	**Plostina Array**	6.74	47	P	**Pn**	11 37 11.9	+2.4
	comp=N,28nm,0.9s,comp=N,0.1nm						
PLOR	**Plostina**	6.74	47	⇓P	**Pn**	11 37 10.7	+1.3
PLOR5	**Plostina Array**	6.74	47	P	**Pn**	11 37 11.6	+2.1
	comp=N,19nm,0.8s,comp=N,0.1nm						
VRI	**Vrincioaia**	6.79	47	⇑P	**Pn**	11 37 11.7	+1.6
VRI	**Vrincioaia**	6.79	47	P	**Pn**	11 37 12.8	+2.7
	comp=N,11nm,0.8s,comp=N,0.1nm						
CONA	**Conrad Observa**	6.97	339	*e*Pn	**Pn**	11 37 15.1	+2.4
	comp=N,0.8nm,0.2s						
KECS	**Kecovo**	7.04	5	*e*PN	**Pn**	11 37 17.6	+4.1
KECS				*e*SN	**Sn**	11 38 35.9	+2.8
KBA	**Koelnbreinsper**	7.17	324	*e*Pn	**Pn**	11 37 16.0	+0.5
	comp=N,0.4nm,0.1s						
CFR	**Carcaliu**	7.25	56	⇑P	**Pn**	11 37 18.0	+1.5
TPGR	**Topolog**	7.29	59	⇑P	**Pn**	11 37 18.5	+1.4
ABTA	**Abfaltersbach**	7.32	318	*i* Pn	**Pn**	11 37 18.0	+0.6
	comp=N,1.7nm,0.2s						
BURAR	**Bucovina Array**	7.34	31	⇑P	**Pn**	11 37 18.6	+0.8
MOA	**Molln**	7.41	331	*e*Pn	**Pn**	11 37 20.1	+1.5
	comp=N,1.4nm,0.2s						
IDI	**Anoyia**	7.45	144	P	**Pn**	11 37 19.1	-0.2
	comp=N,6.0nm,0.9s,baz=287,slow=5.4,SNR=1.8						
IDI				S	**Sn**	11 38 38.6	-4.9
	comp=N,2.1nm,0.4s,baz=222,slow=17,SNR=1.4						
TLCR		7.69	58	⇑P	**Pn**	11 37 23.6	+1.2
KOLS	**Kolonicke sedl**	7.70	13	*e*PN	**Pn**	11 37 26.2	+3.7
KOLS				*e*SN	**Sn**	11 38 49.3	0.0
PGF	**Pioggiola**	7.95	281	*e*Pn	**Pn**	11 37 26.7	+0.6
STHS	**Stebnicka Huta**	8.03	8	*e*PN	**Pn**	11 37 31.3	+4.2
WTTA	**Wattenberg**	8.11	318	*e*Pn	**Pn**	11 37 29.1	+0.7
	comp=N,3.5nm,0.2s				

*TIR **04** 11:42:22.0, 41.59N×19.53E, h46km±2km, Ml3.6*
*BEO **04** 11:42:23.6±0.5, 41.46N×19.65E, h13km±2km, ML3.2/9*
*THE **04** 11:42:24.0, 41.52N×19.59E, h8km±1km, ML3.3/7, Error ellipse: s-maj=3.5km s-min=2.2km az=314.0*

ISC 04 11:42:22.7±0.9, 41.47N±0.02×19.54E±0.02, h15km±6km, n103, σ1§30/149, mb4.1/3, 22C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.27**	**117**	⇑P	**Pg**	**11 42 28.3**	**-0.2**
TIR	**Tirane**	**0.27**	**117**	P	**Pg**	**11 42 28.4**	**-0.2**
	baz=133						
TIR				S	**Sg**	**11 42 32.6**	**+0.1**
	baz=133						
TIR				AMP			
	comp=N,50nm,0.1s,baz=133						
TIR	**Tirane**	**0.27**	**117**	P	**Pg**	**11 42 28.4**	**-0.2**
TIR				S	**Sb**	**11 42 33.1**	**-0.6**
	comp=N,28μm,0.2s						
TIR	**Tirane**	**0.27**	**117**	*e*Pg	**Pg**	**11 42 28.4**	**-0.2**
TIR				*e*Sg	**Sg**	**11 42 32.9**	**+0.4**
PUK	**Puka**	**0.63**	**24**	P	**Pg**	**11 42 33.9**	**-1.2**
	baz=30						
PUK				S	**Sg**	**11 42 43.2**	**-0.3**
	baz=30						
PUK				AMP			
	comp=E,11nm,0.3s,baz=30						
DRME	**Dracevica, Mon**	**0.76**	**340**	*e*Pg	**Pg**	**11 42 37.4**	**-0.2**
DRME				*e*Sg	**Sn**	**11 42 50.5**	**+0.3**
DRME	**Dracevica, Mon**	**0.76**	**340**	*e*Pg	**Pg**	**11 42 37.8**	**+0.2**
DRME				*e*Sg	**Sn**	**11 42 49.8**	**-0.4**
BCI	**Bajram Curri**	**0.98**	**23**	P	**Pb**	**11 42 40.1**	**-1.3**
	baz=26						
BCI				S	**Sb**	**11 42 52.6**	**-1.5**
	baz=26						
BCI				AMP			
	comp=N,6.8nm,0.8s,baz=26						
PDG	**Podgorica**	**0.98**	**347**	⇑P	**Pb**	**11 42 40.0**	**-1.4**
PDG	**Podgorica**	**0.98**	**347**	*e*Pg	**Pg**	**11 42 41.9**	**+0.2**
PDG				*e*Sg	**Sn**	**11 42 57.0**	**+1.4**
PDG	**Podgorica**	**0.98**	**347**	⇑*i*Pg	**Pb**	**11 42 41.1**	**-0.3**
PDG				*e*Sg	**Sn**	**11 42 56.6**	**+1.0**
VLO	**Vlora**	**1.00**	**182**	P	**Pn**	**11 42 43.7**	**+1.5**
	baz=182						
VLO				AMP			
	comp=N,6.9nm,0.5s,baz=182						
VLO	**Vlora**	**1.00**	**182**	P	**Pn**	**11 42 44.2**	**+2.0**
VLO				S	**Sn**	**11 42 59.9**	**+3.9**
	comp=N,2μm,0.5s						
OHR	**Ohrid**	**1.01**	**110**	*i* Pg	**Pb**	**11 42 41.3**	**-0.6**
OHR				*i* Sg	**Sn**	**11 42 56.8**	**+0.4**
PVY	**Plav**	**1.16**	**15**	*e*Pg	**Pn**	**11 42 44.4**	**-0.2**
HCY	**Herceg Novi**	**1.25**	**322**	*e*Pg	**Pb**	**11 42 46.3**	**+0.3**
HCY				*e*Sg	**Sg**	**11 43 04.3**	**+1.1**
KBN	**Korca**	**1.27**	**132**	P	**Pg**	**11 42 47.3**	**+0.2**
	baz=135						
KBN				S	**Sg**	**11 43 05.4**	**+1.8**
	baz=135						
KBN				AMP			
	comp=E,3.1nm,0.6s,baz=135						
KBN	**Korca**	**1.27**	**132**	P	**Pg**	**11 42 47.7**	**+0.6**
KBN				S	**Sg**	**11 43 06.1**	**+2.5**
	comp=E,805nm,0.6s						
KOME	**Kolasin**	**1.38**	**359**	*e*Pg	**Pb**	**11 42 48.7**	**+0.5**
KOME				*e*Sg	**Sg**	**11 43 07.9**	**+0.6**
BEY	**Berane**	**1.42**	**10**	*e*Pg	**Pn**	**11 42 48.7**	**+0.6**
SKO	**Skopje**	**1.50**	**70**	*i* Pn	**Pb**	**11 42 50.6**	**+0.2**
SKO				*i* Sg	**Sg**	**11 43 11.7**	**+0.5**
TREB	**Trebinje**	**1.53**	**325**	⇑*i*Pn	**Pb**	**11 42 50.4**	**-0.4**
TREB				*e*Sn	**Sg**	**11 43 12.6**	**+0.6**
LSK	**Leskovik**	**1.54**	**148**	P	**Pb**	**11 42 51.3**	**+0.3**
	baz=150						
LSK				AMP			
	comp=E,2.2nm,0.9s,baz=150						
LSK	**Leskovik**	**1.54**	**148**	P	**Pn**	**11 42 51.2**	**+0.2**
LSK				S	**Sg**	**11 43 13.7**	**+1.2**
	comp=E,665nm,0.7s						
FNA	**Florina**	**1.54**	**116**	P	**Pb**	**11 42 50.5**	**-0.6**
	baz=119						
FNA				S	**Sg**	**11 43 11.7**	**-0.9**
	baz=119						
FNA				AMP			
	comp=N,1.6nm,0.6s,baz=119						
FNA	**Florina**	**1.54**	**116**	P	**Pn**	**11 42 50.3**	**+0.6**
FNA				S	**Sg**	**11 43 12.5**	**0.0**
	comp=N,1μm,0.6s						
NEST	**Nestorio**	**1.55**	**132**	P	**Pg**	**11 42 52.1**	**-0.5**
NEST				S	**Sb**	**11 43 11.5**	**+0.8**
	comp=N,360nm,0.4s						
DBRK	**Dubrovnik**	**1.59**	**319**	*e*Pn	**Pb**	**11 42 52.4**	**+0.6**
DBRK				Sn	**Sg**	**11 43 13.2**	**-0.6**
BRY	**Bratogost**	**1.61**	**333**	⇑*i*Pn	**Pb**	**11 42 52.8**	**+0.5**
BRY				*e*Sn	**Sg**	**11 43 15.2**	**+0.5**
SCTE	**Santa Cesarea**	**1.62**	**211**	P	**Pg**	**11 42 53.1**	**-0.7**
	baz=209						
SCTE				AMP			
	comp=N,0.9nm,0.5s,baz=209						
SRN	**Sarande**	**1.63**	**168**	P	**Pb**	**11 42 51.9**	**-0.5**
	baz=168						
SRN	**Sarande**	**1.63**	**168**	P	**Pb**	**11 42 51.8**	**-0.6**
SRN				S	**Sg**	**11 43 14.7**	**-0.4**
	comp=N,250nm,0.8s						
PENT	**Pentalofos**	**1.76**	**136**	P	**Pb**	**11 42 55.1**	**+0.4**
UPM	**Unac-Piva**	**1.79**	**345**	⇑*i*Pn	**Pb**	**11 42 55.6**	**+0.2**
UPM				*e*Sn	**Sg**	**11 43 19.7**	**-0.8**
SJES	**Sjenica**	**1.82**	**10**	*e*Pg	**Pb**	**11 42 55.9**	**+0.2**
SJES				*e*Sg	**Sg**	**11 43 20.8**	**-0.4**
SJES	**Sjenica**	**1.82**	**10**	⇑*i*Pn	**Pb**	**11 42 55.9**	**+0.2**
SJES				*e*Sn	**Sg**	**11 43 20.4**	**-0.8**
KLINJ	**Klinje**	**1.84**	**338**	⇑*i*Pn	**Pb**	**11 42 56.1**	**0.0**
KLINJ				*e*Sn	**Sb**	**11 43 20.1**	**+1.1**
PLE	**Pljevlja**	**1.86**	**357**	*e*Pn	**Pb**	**11 42 56.8**	**+0.3**
STON	**Ston**	**1.96**	**316**	*e*Pn	**Pn**	**11 42 56.1**	**+0.8**
STON	**Ston**	**1.96**	**316**	*e*Pn	**Pn**	**11 42 56.1**	**+0.8**
STON				*e*Sn	**Sb**	**11 43 21.7**	**-0.6**
STIP	**Stip**	**2.00**	**83**	*i* Pn	**Pb**	**11 42 59.0**	**+0.3**
IGT	**Igoumenitsa**	**2.03**	**162**	P	**Pn**	**11 42 57.6**	**+1.3**
	baz=163						
IGT	**Igoumenitsa**	**2.03**	**162**	P	**Pn**	**11 42 57.5**	**+1.2**
IGT				S	**Sb**	**11 43 23.9**	**-0.4**
RUDO	**Rudo**	**2.15**	**357**	*e*Pn	**Pb**	**11 43 00.0**	**-1.3**
RUDO				*e*Sn	**Sb**	**11 43 28.3**	**+0.5**
IVAS	**Ivanjica**	**2.15**	**12**	*e*Pn	**Pn**	**11 42 59.3**	**+1.2**
IVAS				*e*Sn	**Sb**	**11 43 27.1**	**-0.8**
PRVS	**Prvonek**	**2.15**	**60**	*e*Pn	**Pn**	**11 42 58.8**	**+0.7**
BARS	**Barje**	**2.16**	**51**	*e*Pn	**Pn**	**11 42 59.2**	**+1.1**
MATE	**Matera**	**2.30**	**250**	⇑P	**Pn**	**11 42 58.6**	**-1.4**
BBLS	**Lazi&#263i**	**2.40**	**358**	*e*Pn	**Pn**	**11 43 03.2**	**+1.7**
BBLS	**Lazi&#263i**	**2.40**	**358**	⇑*i*Pn	**Pn**	**11 43 03.8**	**+2.3**
BBLS				*e*Sn	**Sb**	**11 43 34.9**	**0.0**
BOSS	**Bosilegrad**	**2.42**	**64**	*e*Pn	**Pn**	**11 43 02.4**	**+0.7**
KNT	**Kendrikon**	**2.54**	**96**	P	**Pn**	**11 43 05.2**	**+1.8**
GRUS	**Gruza**	**2.57**	**19**	*e*Pn	**Pn**	**11 43 04.9**	**+1.2**
GRUS				*e*Sn	**Sn**	**11 43 37.0**	**+2.4**
MAKA	**Makarska**	**2.61**	**315**	*e*Pn	**Pn**	**11 43 04.9**	**+0.6**
DIVS	**Divibare**	**2.65**	**7**	*e*Pn	**Pn**	**11 43 05.8**	**+0.9**
DIVS				*e*Sn	**Sn**	**11 43 37.8**	**+1.0**
HAPS	**Han Pijesak,BI**	**2.65**	**351**	⇑*i*Pn	**Pn**	**11 43 06.5**	**+1.5**
HAPS				*e*Sn	**Sb**	**11 43 40.4**	**-1.9**
BOVS	**Bovan**	**2.69**	**36**	⇓P	**Pn**	**11 43 05.7**	**+0.4**
BOVS	**Bovan**	**2.69**	**36**	*e*Pn	**Pn**	**11 43 06.5**	**+1.1**
RICI	**Ricice**	**2.70**	**319**	*e*Pn	**Pn**	**11 43 06.4**	**+0.9**
LKD2	**Lefkada island**	**2.81**	**162**	P	**Pn**	**11 43 07.9**	**+0.7**
	baz=162						
TRUS	**Trudelj**	**2.82**	**13**	*e*Pn	**Pn**	**11 43 08.4**	**+1.1**
HVAR	**Hvar**	**2.86**	**308**	*e*Pn	**Pn**	**11 43 07.8**	**0.0**
SGRT	**San Giovanni R**	**2.86**	**277**	P	**Pn**	**11 43 07.9**	**0.0**
	baz=275						
ZAGS	**Zajecar**	**3.07**	**39**	*e*Pn	**Pn**	**11 43 11.4**	**+0.8**
TEKS	**Tekeris**	**3.08**	**360**	*e*Pn	**Pn**	**11 43 12.1**	**+1.3**
TEKS	**Tekeris**	**3.08**	**360**	*e*Pn	**Pn**	**11 43 13.0**	**+2.2**
TEKS				*e*Sn	**Sn**	**11 43 51.3**	**+4.0**
TIP	**Timpagrande**	**3.13**	**224**	⇓P	**Pn**	**11 43 10.6**	**-0.9**
AVAS	**Avala Beograd**	**3.30**	**12**	*e*Pn	**Pn**	**11 43 14.1**	**+0.3**
AVAS				*e*Sn	**Sn**	**11 43 52.8**	**0.0**
KUBS	**Kucevo**	**3.33**	**27**	*e*Pn	**Pn**	**11 43 13.9**	**-0.3**
KUBS				*e*Sn	**Sn**	**11 43 52.3**	**-1.2**
KIJV	**Kijevo**	**3.43**	**319**	*e*Pn	**Pn**	**11 43 16.7**	**+1.1**
MGRS	**Mrkonjic Grad**	**3.45**	**329**	*e*Pn	**Pn**	**11 43 17.1**	**+1.1**
MGRS				*e*Sn	**Sn**	**11 43 59.0**	**+2.4**
ZIRJ	**Zirje**	**3.61**	**308**	*e*Pn	**Pn**	**11 43 18.5**	**+0.4**
MDVR	**Moldovita**	**3.67**	**25**	⇑P	**Pn**	**11 43 19.5**	**+0.5**
FRGS	**Fruska Gora**	**3.69**	**3**	⇑P	**Pn**	**11 43 19.5**	**+0.3**
FRGS	**Fruska Gora**	**3.69**	**3**	*e*Pn	**Pn**	**11 43 19.9**	**+0.7**
FRGS	**Fruska Gora**	**3.69**	**3**	*e*Pn	**Pn**	**11 43 20.8**	**+1.6**
FRGS				*e*Sn	**Sn**	**11 44 05.8**	**+3.4**
BLY	**Banja Luka**	**3.70**	**333**	⇑*i*Pn	**Pn**	**11 43 20.4**	**+1.1**
BLY				*e*Sn	**Sn**	**11 44 05.1**	**+2.4**
MORI	**Morici**	**3.71**	**312**	*e*Pn	**Pn**	**11 43 20.8**	**+1.5**
A050A	**Klekovaca**	**3.73**	**325**	⇑*i*Pn	**Pn**	**11 43 21.0**	**+1.2**
A050A				*e*Sn	**Sn**	**11 44 05.7**	**+2.1**
HERR	**Herculane**	**4.00**	**31**	⇓P	**Pn**	**11 43 24.1**	**+0.6**
UDBI	**Udbina**	**4.12**	**319**	*e*Pn	**Pn**	**11 43 26.8**	**+1.6**
DUGI	**Dugi Otok**	**4.16**	**309**	*e*Pn	**Pn**	**11 43 26.3**	**+0.7**
SRE	**Strehaia**	**4.17**	**39**	⇓P	**Pn**	**11 43 26.3**	**+0.6**
VIRC	**Vir**	**4.34**	**312**	*e*Pn	**Pn**	**11 43 28.7**	**+0.7**
BZS	**Buzias**	**4.41**	**19**	⇓P	**Pn**	**11 43 30.0**	**+1.0**
GZR	**Gura Zlata**	**4.57**	**30**	⇑P	**Pn**	**11 43 31.9**	**+0.6**
NVLJ	**Novalja**	**4.61**	**314**	*e*Pn	**Pn**	**11 43 32.2**	**+0.4**
SURR	**Surduc**	**4.67**	**23**	⇑P	**Pn**	**11 43 32.5**	**-0.1**
MORH	**Mrgy, Hungar**	**4.79**	**352**	⇑P	**Pn**	**11 43 34.2**	**0.0**
ELND	**Elena**	**4.92**	**71**	⇑P	**Pn**	**11 43 37.6**	**+1.5**
VOIR		**5.64**	**43**	⇑P	**Pn**	**11 43 47.7**	**+1.7**
MLR	**Muntele Rosu**	**6.15**	**47**	⇑P	**Pn**	**11 43 55.0**	**+1.9**
MLR	**Muntele Rosu**	**6.15**	**47**	Pn	**Pn**	**11 43 55.4**	**+2.4**
	comp=N,1.1nm,0.3s,baz=195,slow=16,SNR=6.6						
MLR				Sn	**Sn**	**11 45 06.4**	**+3.2**
	comp=N,0.2nm,0.3s,baz=299,slow=23,SNR=1.1						
	comp=N,4.0nm,0.5s						
OBKA	**Obir**	**6.19**	**326**	*e*Pn	**Pn**	**11 43 54.7**	**+1.1**
OBKA				*e*Sn	**Sn**	**11 45 04.1**	**0.0**
PLOR	**Plostina**	**6.76**	**47**	⇑P	**Pn**	**11 44 03.1**	**+1.7**
VRI	**Vrincioaia**	**6.81**	**47**	⇓P	**Pn**	**11 44 03.5**	**+1.4**
IDI	**Anoyia**	**7.46**	**144**	Pn	Pn	11 44 06.1	-5.0
	comp=N,2.9nm,0.2s,baz=329,slow=15,SNR=8.4						
IDI				Sn	**Sn**	**11 45 29.2**	**-6.2**
	comp=N,0.5nm,0.3s,baz=108,slow=22,SNR=1.3						
KHC	**Kasperske Hory**	**8.73**	**333**	*e*PN	**Pn**	**11 44 29.0**	**+0.6**
KHC				*ex*	x	11 44 43.0	
KHC				*e*SN	**Sn**	**11 46 08.0**	**+1.4**
HFS	**Hagfors**	**19.03**	**351**	P	**P**	**11 46 43.4**	**-0.5**
	comp=N,0.2nm,0.3s,baz=161,slow=9.4,SNR=5.0						
	comp=N,1.1nm,0.5s						
FINES	**FINESS Array B**	**20.39**	**9**	P	**P**	**11 46 57.2**	**-1.4**
	comp=N,2.1nm,0.4s,baz=183,slow=10,SNR=16						
	comp=N,2.1nm,0.4s						
BVAR	**Borovoye Array**	**35.67**	**53**	P	**P**	**11 49 20.0**	**0.0**
	comp=N,0.5nm,0.5s,baz=291,slow=7.4,SNR=3.7						
	comp=N,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**44.12**	**50**	P	**P**	**11 50 29.4**	**-0.7**
	comp=N,2.1nm,0.5s,baz=275,slow=8.9,SNR=8.5						
	comp=N,2.1nm,0.5s						
MKAR	**Makanchi Array**	**44.29**	**61**	P	**P**	**11 50 31.1**	**-0.5**
	comp=N,1.6nm,0.5s,baz=283,slow=7.4,SNR=18						
	comp=N,1.6nm,0.5s						

ISK 04 11:42:28.9, 41.15N×28.80E, h0km, ML1.6/5, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGKT	**Bogazkoy**	**0.04**	**329**	Pg	Pg	11 42 31.3	+1.6
BGKT				Sg	Sg	11 42 33.1	+2.9
ISK	**Istanbul-Kandi**	**0.21**	**112**	Pg	Pg	11 42 33.8	+0.9
KLYT	**Kilyos**	**0.21**	**59**	Pg	Pg	11 42 33.8	+0.9
KAVV	**Kandilli-Istan**	**0.21**	**113**	Pg	Pg	11 42 33.8	+0.9
CTKS	**Kestanelik-??a**	**0.24**	**292**	Pg	Pg	11 42 34.5	+1.0
CTYL	**Yalikoy Yolu**	**0.51**	**311**	Pg	Pg	11 42 39.1	+0.5

*BJI **04** 11:43:11.3±0.0, 3.69S×152.31E, h10km, mb4.9/62, mB5.5/20, Ms4.9/38, Ms7 4.7/39*
*IDC **04** 11:43:13.2±0.4, 3.83S×151.50E, h0km, mb4.7/22, mbtmp4.8/24, ML2.1/1, MS4.4/49, Error ellipse: s-maj=14.3km s-min=9.8km az=78.0*
*DJA **04** 11:43:15.1±0.8, 4.4S±4.4×15.2E±.4, h28km±5km, M5.1/30, mb5.2/30, mB5.5/13, MLv5.1/2, Mw(mB)5.0/13, MwMwp5.0/4, Mwp5.3/4*
*MOS **04** 11:43:15.0±0.9, 3.76S×151.53E, h22km, mb5.2/34, Error ellipse: s-maj=10.5km s-min=5.8km az=102.7*
*NEIC **04** 11:43:15.3, 3.85S×151.62E, h18km*
*NEIC **04** 11:43:15.2±1.8, 3.85S±0.08×151.63E±0.06, h10km±1km, mb5.4/232, Ms_20 4.7/236, Mww5.3/22, Error ellipse: s-maj=15.7km s-min=7.1km az=34.0*
*NEIC **04** 11:43:15.3, 3.55S×151.72E, h18km, Moment Tensor Solution. Duration: 2§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.45; $M_{\theta\theta}$1.00; $M_{\phi\phi}$-0.55; $M_{r\theta}$0.19; $M_{\theta\phi}$-0.00; $M_{\phi r}$-0.64; Fault plane solution: $M_0$1.09000×10^{17} NP1: ϕ_s307.19000°, δ68.06000°, λ-39.48000°. NP2:ϕ_s54.30000°, δ53.86000°, λ-152.44000°. Principal axes: T 1.0284, Plg9.0000°, Azm4.0000°; N 0.1242, Plg46.0000°, Azm103.0000°; P -1.1526, Plg43.0000°, Azm265.0000°;*
*GCMT **04** 11:43:18.2±0.1, 3.68S±0.01×151.58E±0.01, h12km, MW5.2/131, Moment Tensor Solution. s75,c99; s131,c239; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.25±.01; $M_{\theta\theta}$0.95±.01; $M_{\phi\phi}$-0.70±.01; $M_{r\theta}$0.21±.03; $M_{\theta\phi}$0.07±.01; $M_{\phi r}$-0.10±.03; Best double couple: $M_0$0.85800×10^{17} NP1:ϕ_s312.00000°, δ87.00000°, λ-16.00000°. NP2:ϕ_s43.00000°, δ74.00000°, λ-177.00000°. Principal axes: T 0.9850, Plg9.0000°, Azm358.0000°; N -0.2550, Plg73.0000°, Azm121.0000°; P -0.7300, Plg14.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 11:43:15.1±0.2, 3.85S±0.04×151.67E±0.04, h10km, n795, σ1§48/626, mb5.3/183, MS4.7/195, 9C-16D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat**	**0.56**	**143**	Pg	**Pb**	**11 43 27.2**	**+0.1**
	baz=311,slow=51						
RABL	**Rabaul**	**0.60**	**125**	P	**Pb**	**11 43 28.6**	**+0.9**
RABL	**Rabaul**	**0.60**	**125**	Pg	**Pg**	**11 43 27.5**	**+0.8**
KAVG	**Kavieng**	**1.52**	**325**	P	**Pn**	**11 43 42.6**	**+0.2**
BULU	**Kimbe**	**2.15**	**219**	P	**Pb**	**11 43 53.3**	**-0.9**
MANU	**Manus Island**	**4.66**	**292**	P	**Pn**	**11 44 24.7**	**-0.8**
MANU	**Manus Island**	**4.66**	**292**	Pn	**Pn**	**11 44 25.1**	**-0.4**
PMG	**Port Moresby**	**7.11**	**219**	Pn	**Pn**	**11 44 59.5**	**+0.2**
	2.1nm,0.3s,baz=28,slow=10.0,SNR=14						
PMG				Sn	**Sn**	**11 46 19.7**	**-0.5**
	baz=289,slow=10						
PMG				LR	LR	11 47 14.7	
	comp=Z,3μm,21.1s,baz=24,slow=34						
	97nm,0.9s						
HNR	**Honiara**	**9.92**	**124**	Pn	**Pn**	**11 45 37.5**	**-0.3**
HNR	**Honiara**	**9.92**	**124**	LR	LR	11 49 38.1	
	comp=Z,63μm,20.2s,baz=290,slow=38						
HNR	**Honiara**	**9.92**	**124**	P	**Pn**	**11 45 37.5**	**-0.3**
TABU	**Tabubil**	**10.51**	**262**	P	**Pn**	**11 45 48.7**	**+2.7**
JAY	**Jayapura**	**11.03**	**277**	P	**Pn**	**11 45 55.5**	**+2.4**
	56nm,1.1s,1μm						
GENI	**Genyem**	**11.55**	**276**	P	**Pn**	**11 46 02.9**	**+2.7**
GENI	**Genyem**	**11.55**	**276**	P	**Pn**	**11 46 03.5**	**+3.3**
	113nm,1.4s,3μm4μm						
COEN	**Coen**	**13.09**	**219**	P	**Pn**	**11 46 23.4**	**+2.2**
COEN	**Coen**	**13.09**	**219**	Pn	**Pn**	**11 46 18.8**	**-2.3**
MTSU	**Mount Surprise**	**15.92**	**206**	P	**P**	**11 47 02.8**	**-0.3**
AUAYR	**Ayr State High**	**16.18**	**195**	P	**P**	**11 47 05.6**	**-0.3**
CTAO	**Charters Tower**	**16.99**	**198**	P	**P**	**11 47 16.0**	**+1.1**
CTAO	**Charters Tower**	**16.99**	**198**	P	**P**	**11 47 14.1**	**-0.8**
CTAO	**Charters Tower**	**16.99**	**198**	P	**P**	**11 47 14.1**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,106nm,1.4s						
GUMO	**Guam**	**18.59**	**339**	P	**P**	**11 47 29.6**	**-3.0**
GUMO	**Guam**	**18.59**	**339**	P	**P**	**11 47 29.6**	**-3.0**
	comp=Z,351nm,1.1s,baz=158,slow=9.2,SNR=4.0						
GUMO				LR	LR	11 54 50.0	
	comp=Z,625nm,19.5s,baz=154,slow=38						
GUMO	**Guam**	**18.59**	**339**	P	**P**	**11 47 29.6**	**-3.0**
GUMO				pmax	pmax		
	comp=Z,604nm,1.2s						
FAKI	**Fak Fak**	**19.41**	**272**	P	**P**	**11 47 41.2**	**-0.4**
FAKI	**Fak Fak**	**19.41**	**272**	P	**P**	**11 47 41.2**	**-0.4**
FAKI	**Fak Fak**	**19.41**	**272**	P	**P**	**11 47 40.8**	**-0.8**
	comp=Z,109nm,1.2s,comp=Z,2μmcomp=Z,2μm						
RK1H	**Rockhampton Ha**	**19.46**	**183**	P	**Pn**	**11 47 43.6**	**+0.3**
QIS	**Mount Isa**	**20.35**	**214**	P	**P**	**11 47 51.7**	**-0.1**
SWI	**Sorong**	**20.61**	**278**	P	Pn	11 47 55.8	-1.1
	comp=Z,150nm,1.1s,comp=Z,2μmcomp=Z,2μm						
KDU	**Kakadu**	**20.91**	**244**	P	Pn	11 48 00.8	+0.3
EIDS	**Eidsvold**	**21.41**	**181**	P	**P**	**11 48 04.4**	**+1.2**
EIDS	**Eidsvold**	**21.41**	**181**	P	**P**	**11 48 04.3**	**+1.2**
DRS	**Darwin Rock St**	**22.24**	**246**	P	**P**	**11 48 15.5**	**+3.2**
NOUC	**Port Laguerre**	**23.04**	**143**	P	**P**	**11 48 21.7**	**+1.1**
DZM	**Mont Dzumac**	**23.10**	**143**	P	**P**	**11 48 23.0**	**+1.6**
DZM	**Mont Dzumac**	**23.10**	**143**	*e*P	**P**	**11 48 21.4**	**0.0**
	comp=Z,441nm,1.0s						
DZM				*e*S	**S**	**11 52 30.5**	**-2.3**
	comp=Z,420nm,25.6s						
DZM				*e*LR	LR	11 54 01.4	
	comp=Z,4μm,24.6s						
DZM	**Mont Dzumac**	**23.10**	**143**	P	**P**	**11 48 23.1**	**+1.7**
DZM	**Mont Dzumac**	**23.10**	**143**	P	**P**	**11 48 22.1**	**+0.7**
	comp=Z,107nm,0.6s,baz=334,slow=8.6,SNR=84						
DZM				LR	LR	11 56 20.9	
	comp=Z,1μm,20.8s,baz=324,slow=34						
	comp=Z,107nm,0.6s						
WB0	**Warramunga Arr**	**23.12**	**225**	P	**P**	**11 48 20.7**	**-0.8**
WR0	**Warramunga Arr**	**23.14**	**225**	P	**P**	**11 48 20.6**	**-1.1**
WRAB	**Tennant Creek**	**23.26**	**225**	P	**P**	**11 48 21.6**	**-1.4**
WRAB	**Tennant Creek**	**23.26**	**225**	⇓*e*P	**P**	**11 48 20.9**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,45nm,1.8s						
WB2	**Warramunga Arr**	**23.26**	**225**	P	**P**	**11 48 22.0**	**-1.0**
WRA	**Warramunga Arr**	**23.27**	**225**	P	**P**	**11 48 20.6**	**-2.5**
WRA	**Warramunga Arr**	**23.27**	**225**	P	**P**	**11 48 21.1**	**-2.0**
	comp=Z,12nm,0.8s,baz=51,slow=9.3,SNR=72						
WRA				PcP	**PcP**	**11 52 09.8**	**-1.1**
	comp=Z,2.3nm,1.1s,baz=48,slow=2.2,SNR=2.4						
WRA				S	**S**	**11 52 34.0**	**-1.7**
	comp=Z,2.3nm,1.2s,baz=48,slow=18,SNR=2.5						
WRA				LR	LR	11 58 11.7	
	comp=Z,859nm,18.1s,baz=44,slow=39						
	comp=Z,12nm,0.8s						
ONTNC	**Ouen Toro**	**23.29**	**143**	P	**P**	**11 48 23.9**	**+0.8**
ONTNC	**Ouen Toro**	**23.29**	**143**	P	**P**	**11 48 23.5**	**+0.4**
YATNC	**Mamie plateau,**	**23.36**	**142**	P	**P**	**11 48 26.1**	**+2.2**
AUWSH	**Wavell State H**	**23.46**	**177**	P	**P**	**11 48 25.3**	**+0.5**
OUENC	**Ouen Island, N**	**23.60**	**143**	P	**P**	**11 48 27.7**	**+1.4**
OUENC	**Ouen Island, N**	**23.60**	**143**	P	**P**	**11 48 27.9**	**+1.6**
OUENC				IAmb	IAmb	11 48 34.1	
	comp=Z,164nm,0.9s						
QLP	**Quilpie**	**23.70**	**197**	P	**P**	**11 48 27.5**	**+0.2**
PINNC	**Pines Island,**	**24.12**	**142**	P	**P**	**11 48 32.9**	**+1.7**
PINNC	**Pines Island,**	**24.12**	**142**	P	**P**	**11 48 32.5**	**+1.2**
SANI	**Sanana**	**25.71**	**273**	P	**P**	**11 48 46.4**	**+0.6**
SANI	**Sanana**	**25.71**	**273**	P	**P**	**11 48 45.4**	**-0.4**
	comp=Z,82nm,1.0s,comp=Z,1μm						
INKA	**Innaminka**	**25.95**	**203**	P	**P**	**11 48 47.1**	**-0.7**
AS01	**Alice Springs**	**26.10**	**219**	P	**P**	**11 48 48.1**	**-1.2**
AS31	**Alice Springs**	**26.13**	**219**	P	**P**	**11 48 48.4**	**-1.1**
ASAR	**Alice Springs**	**26.13**	**219**	P	**P**	**11 48 48.2**	**-1.3**
ASAR	**Alice Springs**	**26.13**	**219**	P	**P**	**11 48 48.4**	**-1.2**
	comp=Z,14nm,0.7s,baz=54,slow=7.5,SNR=72						
ASAR				PcP	**PcP**	**11 52 17.7**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=48,slow=2.3,SNR=6.5						
ASAR				LR	LR	11 59 10.3	
	comp=Z,1μm,19.0s,baz=46,slow=37						
	comp=Z,14nm,0.7s						
ARMA	**Armidale**	**26.43**	**180**	P	**P**	**11 48 53.0**	**+0.7**
ARMA	**Armidale**	**26.43**	**180**	P	**P**	**11 48 53.4**	**+1.1**
AUPHS	**Peel High Scho**	**27.12**	**181**	P	**P**	**11 48 59.4**	**+1.0**
SOEI	**Soe**	**27.82**	**256**	P	**P**	**11 49 07.9**	**+2.9**
**S

comp=Z,83nm,1.6s
MAJO Matsushiro 42.10 344 IAMs_20 IAMs_20 12 05 25.5
comp=Z,1µm,22.0s
MAJO Matsushiro 42.10 344 *de*P **P 11 51 04.3 -3.2**
MAJO pmax pmax
comp=Z,28nm,1.3s
TSZ Takapari Road 42.21 152 P **P 11 51 09.2 +0.9**
TCW Tory Channel 42.38 155 P **P 11 51 09.9 +0.2**
TUWZ Tuamarina 42.42 155 P **P 11 51 10.9 +1.0**
MRZ Mangatainoka R 42.51 153 P **P 11 51 10.8 +0.1**
MRZ IAmb IAmb 11 51 22.5
comp=Z,55nm,0.9s
BSWZ Blackbirch Sta 42.63 155 P **P 11 51 12.4 +0.7**
KPJI Karang Pucung 42.66 263 P **P 11 51 11.3 -1.1**
HOWZ Holdsworth Sta 42.67 153 P P 11 51 18.0 +6.0
BHW Baring Head 42.80 154 IAmb IAmb 11 51 25.1
comp=Z,48nm,0.9s
BFZ Birch Farm 42.83 152 P **P 11 51 13.1 -0.3**
BFZ Birch Farm 42.83 152 IAmb IAmb 11 51 25.1
comp=Z,162nm,1.6s
BFZ Birch Farm 42.83 152 P **P 11 51 13.5 +0.2**
LTZ Lake Taylor 42.89 158 IAmb IAmb 11 51 29.9
comp=Z,94nm,1.5s
KHZ Kahutara 43.07 156 P **P 11 51 16.9 +1.7**
RPZ Rata Peaks 43.25 159 IAmb IAmb 11 51 25.1
comp=Z,55nm,0.9s
RPZ Rata Peaks 43.25 159 LR LR 12 07 52.5
comp=Z,2µm,19.8s,baz=324,slow=34
NWAO Narrogin (SRO) 43.27 224 LR LR 12 12 20.3
comp=Z,673nm,18.2s,baz=30,slow=40
GVZ Greta Valley S 43.34 157 IAmb IAmb 11 51 27.5
comp=Z,55nm,0.8s
BBJI Bungbulang 43.94 263 P **P 11 51 20.9 -1.9**
DLV T Lat 45.71 291 P **P 11 51 37.3 +0.3**
DLV T Lat 45.71 291 IAmb IAmb 11 51 43.2
comp=Z,79nm,1.1s
TJN Taejon 46.01 333 P **P 11 51 38.2 -0.6**
TJN Taejon 46.01 333⇓ *e*P **P 11 51 37.0 -1.8**
KSRS Korea Array 46.65 334 P **P 11 51 43.0 -0.8**
comp=Z,5.7nm,0.8s,baz=146,slow=7.6,SNR=15
KSRS LR LR 12 09 37.2
comp=Z,376nm,21.6s,baz=150,slow=34
comp=Z,5.7nm,0.8s
KSRS Korea Array 46.65 334 P **P 11 51 43.0 -0.8**
KSAR Wonju Array Be 46.66 334 P **P 11 51 43.4 -0.5**
KSAR Wonju Array Be 46.66 334 P **P 11 51 43.4 -0.5**
KS19 Wonju Array Si 46.71 334 P **P 11 51 43.5 -0.9**
KS19 IAmb IAmb 11 52 08.3
comp=Z,80nm,1.8s
QIZ Qiongzhong 47.02 300 P **P 11 51 44.7 -2.3**
QIZ S **S 11 58 38.8 -0.2**
QIZ SS **SS 12 02 09.1 +2.9**
QIZ pmax pmax
comp=Z,30nm,2.6s
QIZ LR LR
comp=Z,380nm,16.1s
QIZ LR LR
comp=Z,410nm,17.5s
QIZ LR LR
comp=Z,430nm,18.8s
QIZ Qiongzhong 47.02 300 P **P 11 51 44.8 -2.3**
INCN Inchon 47.25 333 P **P 11 51 48.3 -0.3**
INCN Inchon 47.25 333 P **P 11 51 47.0 -1.6**
INCN Inchon 47.25 333 P **P 11 51 47.0 -1.6**
INCN pmax pmax
comp=Z,111nm,1.2s
NJ2 Nanjing 47.40 321 *e*P **P 11 51 49.9 +0.1**
NJ2 pmax pmax
comp=Z,12nm,0.7s
NJ2 pmax pmax
comp=Z,380nm,3.8s
JKA Kamikawa-asahi 48.44 351 P **P 11 51 57.2 -0.4**
JKA IAmb IAmb 11 51 60.0
comp=Z,59nm,1.2s
ASAJ Asahikawa 48.44 351 LR LR 12 10 16.7
comp=Z,370nm,21.4s,baz=186,slow=34
ASAJ Asahikawa 48.44 351 P **P 11 51 57.2 -0.4**
ASAJ pmax pmax
comp=Z,59nm,1.2s
WHN Wuhan 49.39 316 P **P 11 52 06.5 +1.3**
GULI GuiLin 49.44 308 *e*P P 11 52 10.5 +4.8
GULI pmax pmax
comp=Z,20nm,0.9s
PSTR Posyet 49.99 340⇑ *e*P **P 11 52 09.8 +0.3**
VLA Vladivostok 50.05 341⇑ *e*P **P 11 52 09.2 -0.8**
VLA pmax pmax
comp=Z,21nm,1.0s
RAR Rarotonga 50.20 114 LR LR 12 10 51.5
comp=Z,193nm,20.6s,baz=279,slow=33
DL2 Dalian 50.78 330 P **P 11 52 16.9 +1.3**
DL2 S **S 11 59 35.2 +3.8**
DL2 pmax pmax
comp=Z,55nm,1.1s
DL2 pmax pmax
comp=Z,450nm,4.6s
DL2 LR LR
comp=Z,520nm,22.1s
DL2 LR LR
comp=Z,480nm,24.5s
DL2 LR LR
comp=Z,1µm,23.1s
USA0B Ussuriysk Arra 50.99 342 P **P 11 52 16.3 -0.8**
USA0B Ussuriysk Arra 50.99 342⇓ *e*P **P 11 52 16.2 -0.8**
USRK Ussuriysk Ar. 50.99 342 P **P 11 52 16.4 -0.7**
comp=Z,9.9nm,0.8s,baz=144,slow=8.1,SNR=10
USRK LR LR 12 13 36.5
comp=Z,420nm,18.1s,baz=164,slow=36
comp=Z,9.9nm,0.8s
YSS Yuzh-Sakhalins 51.19 352 P **P 11 52 19.9 +1.4**
YSS Yuzh-Sakhalins 51.19 352 *e*P **P 11 52 19.6 +1.1**
YSS *e*S **S 11 59 34.5 -2.3**
YSS *e*SS **SS 12 03 10.1 -2.3**
YSS pmax pmax
comp=Z,200nm,3.0s
YSS pmax pmax
comp=Z,30nm,1.0s
KULM Kulim 51.76 280 P **P 11 52 22.8 -0.7**
MDJ Mudanjiang 52.14 340 P **P 11 52 25.7 0.0**
MDJ Mudanjiang 52.14 340 P **P 11 52 25.0 -0.7**
MDJ S **S 11 59 54.3 +4.3**
MDJ pmax pmax
comp=Z,25nm,0.8s
MDJ LR LR
comp=Z,1µm,5.0s
ENH Enshi 52.68 313 P **P 11 52 31.3 +1.3**
CN2 Changchun 52.98 336 *e*P **P 11 52 34.0 +2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
LYN LuoYang 53.09 319 *e*P P 11 52 38.1 +5.2
LYN pP pwP 11 52 41.7 +3.4
LYN S **S 12 00 07.5 +4.2**
LYN pmax pmax
comp=Z,23nm,0.8s
LYN pmax pmax
comp=Z,290nm,5.1s
LYN LR LR
comp=Z,440nm,15.3s
LYN LR LR
comp=Z,640nm,14.7s
LYN LR LR
comp=Z,1µm,19.4s
HNS HongShan 53.51 323 ⇑P **P 11 52 34.9 -1.0**
HNS S **S 12 00 07.0 -2.0**
HNS pmax pmax
comp=Z,19nm,1.5s
HNS LR LR
comp=Z,510nm,21.2s
HNS LR LR
comp=Z,470nm,17.5s
HNS LR LR
comp=Z,700nm,20.7s
BNX BinXian 53.88 339 ⇓P **P 11 52 37.4 -1.1**
BNX pmax pmax
comp=Z,41nm,1.5s
GSI Gunungsitoli 54.30 274 P **P 11 52 43.0 +0.8**
GSI Gunungsitoli 54.30 274 P **P 11 52 40.4 -1.8**
GSI IAmb IAmb 11 52 50.1
comp=Z,50nm,1.0s
SKR Severo-Kuril's 54.45 3⇑ *e*P **P 11 52 43.7 +1.2**
BJI Beijing 54.48 327 P **P 11 52 46.8 +3.8**
BJI S **S 12 00 24.0 +2.0**
BJI pmax pmax
comp=Z,9.0nm,1.0s
BJI LR LR
comp=Z,190nm,19.5s
BJI LR LR
comp=Z,180nm,21.5s
BJI LR LR
comp=Z,340nm,21.9s
TYV Tymovskoe 55.04 353 *e*P **P 11 52 46.6 -0.2**
TYV *e*S **S 12 00 23.9 -5.2**
TYV pmax pmax
comp=Z,16nm,1.2s
TYV pmax pmax
comp=Z,100nm,6.3s
TYV smax smax
comp=N,200nm,7.7s
TYV smax smax
comp=E,100nm,7.7s
XAN Xi'an 55.16 317 P **P 11 52 49.4 +1.3**
XAN pP pwP 11 52 52.6 -0.9
XAN S **S 12 00 31.1 -0.3**
XAN pmax pmax
comp=E,13nm,0.7s
XAN LR LR
comp=E,590nm,18.1s
XAN LR LR
comp=E,480nm,15.9s
XAN LR LR
comp=E,930nm,16.8s
PHRA Phrae 55.31 296 P **P 11 52 49.2 -0.2**
KMI Kunming 55.52 304 ⇑P P 11 52 59.1 +8.0
KMI S **S 12 00 41.2 +4.3**
KMI pmax pmax
comp=Z,20nm,1.2s
KMI LR LR
comp=Z,350nm,18.2s
KLR Kul'dur 55.62 344 LR LR 12 13 51.5
comp=Z,451nm,21.8s,baz=152,slow=33
KLR Kul'dur 55.62 344⇓ *e*P **P 11 52 50.4 -0.7**
KLR pmax pmax
comp=Z,46nm,1.6s
CMAR Chiang Mai Arr 56.45 295 P **P 11 52 56.5 -1.1**
CMAR Chiang Mai Arr 56.45 295 P **P 11 52 57.9 +0.2**
comp=Z,4.2nm,0.8s,baz=120,slow=5.6,SNR=18
CMAR LR LR 12 15 43.1
comp=Z,155nm,21.6s,baz=125,slow=35
comp=Z,4.2nm,0.8s
CHTO Chiang Mai 56.56 295 P **P 11 52 57.9 -0.5**
CHTO Chiang Mai 56.56 295 P **P 11 52 57.9 -0.5**
CHTO pmax pmax
comp=Z,20nm,1.2s
PZH PanZhiHua 56.91 305 P **P 11 53 01.7 +0.9**
PZH S **S 12 00 55.8 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,200nm,5.4s
PZH LR LR
comp=Z,340nm,17.3s
PZH LR LR
comp=Z,280nm,22.3s
PZH LR LR
comp=Z,380nm,18.8s
PET Petropavlovsk 56.96 5 P **P 11 52 59.9 -0.6**
PET Petropavlovsk 56.96 5 P **P 11 52 59.2 -1.3**
PET IAmb IAmb 11 53 02.7
comp=Z,51nm,1.1s
PET IAMs_20 IAMs_20 12 13 05.0
comp=Z,588nm,21.0s
PET Petropavlovsk 56.96 5 *e*P **P 11 52 59.6 -0.9**
PET *e*S **S 12 00 47.7 -6.9**
PET *e*SS **SS 12 04 44.8 +1.5**
PET pmax pmax
comp=Z,100nm,9.1s
PET pmax pmax
comp=Z,50nm,1.1s
PEA0B Petropavlovsk- 56.97 4 P **P 11 53 00.2 -0.4**
PEA0B Petropavlovsk- 56.97 4 *ce*P **P 11 53 00.3 -0.4**
PETK Petropavlovsk- 56.97 4 P **P 11 53 00.2 -0.3**
PETK Petropavlovsk- 56.97 4 P **P 11 53 00.1 -0.6**
comp=Z,40nm,0.9s,baz=177,slow=7.4,SNR=35
PETK LR LR 12 13 33.6
comp=Z,698nm,21.9s,baz=197,slow=32
comp=Z,40nm,0.9s
PETK Petropavlovsk- 56.97 4 P **P 11 53 00.3 -0.3**
XLT XiLinHaoTe 57.28 330 *e*P **P 11 53 02.3 -0.8**
XLT sP pwP 11 53 09.2 +0.7
XLT pmax pmax
comp=Z,20nm,1.0s
HHC Hu-ho-hao-te 57.62 325 *e*P **P 11 53 07.5 +1.9**
HHC sP pwP 11 53 14.4 +3.4
HHC S **S 12 01 04.3 +0.3**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.5s
HHC LR LR
comp=Z,380nm,21.0s
HHC LR LR
comp=Z,690nm,21.7s
HEH HeiHe 57.80 342 *e*P **P 11 53 04.4 -2.1**
HEH pmax pmax
comp=Z,24nm,0.8s
BTO Baotou 58.37 324 *e*P **P 11 53 13.5 +2.6**
BTO pP **pwP 11 53 18.3 +2.1**
BTO sP **sP 11 53 20.4 +6.1**
BTO S **S 12 01 18.1 +4.3**
BTO sS **sS 12 01 25.1 +7.1**
BTO SS **SS 12 05 09.8 +3.6**
BTO pmax pmax
comp=Z,30nm,1.0s
BTO pmax pmax
comp=Z,180nm,4.9s
BTO LR LR
comp=Z,1µm,23.0s
BTO LR LR
comp=Z,700nm,19.6s
BTO LR LR
comp=Z,1µm,22.8s
TNCH TengChong 59.02 302 *e*P **P 11 53 16.7 +0.9**
TNCH pmax pmax
comp=Z,19nm,0.8s
PPT Papeete 59.09 108 LR LR 12 16 49.5
comp=Z,139nm,18.1s,baz=275,slow=34
PPT2 Papeete2 59.09 108 *e*P **P 11 53 18.0 +1.8**
comp=Z,35nm,23.8s
PPT2 *e*S **S 12 01 21.2 -2.7**
comp=Z,210nm,38.5s
PPT2 *e*SS **SS 12 05 21.6 +3.5**
comp=Z,147nm,29.0s
PPT2 *e*LQ LQ 12 08 04.6
comp=Z,514nm,24.8s
PPT2 *e*LR LR 12 10 35.7
comp=Z,370nm,23.5s
PPT2 *e*LR LR 12 10 36.1
comp=Z,307nm,24.8s
HIA Hailar 59.71 336 P **P 11 53 19.3 -0.6**
HIA Hailar 59.71 336⇓ *e*P **P 11 53 19.2 -0.6**
HIA pmax pmax
comp=Z,55nm,2.5s
LZH Lanzhou 59.77 316 *e*P P 11 53 26.4 +5.7
LZH sP pwP 11 53 34.5 +8.4
LZH S **S 12 01 30.7 -1.5**
LZH pmax pmax
comp=Z,42nm,1.0s
LZH LR LR
comp=Z,360nm,15.8s
LZH LR LR
comp=Z,350nm,18.6s
LZH LR LR
comp=Z,500nm,19.2s
TBI Tubuai 59.98 115 *e*S **S 12 01 32.4 -2.6**
comp=Z,1µm,28.2s
TBI *e*LQ LQ 12 08 29.4
comp=Z,9µm,28.8s
TBI *e*LR LR 12 11 01.1
comp=Z,3µm,34.0s
ZEA Zeya 60.91 344 *e*P **P 11 53 27.3 -0.7**
ZEA pmax pmax
comp=Z,20nm,1.2s
ADK Adak 61.69 22 IAMs_20 IAMs_20 12 14 27.6
comp=Z,627nm,21.0s
MA2 Magadan 63.23 359 P **P 11 53 42.9 -0.5**
MA2 Magadan 63.23 359 P **P 11 53 42.4 -1.1**
MA2 IAMs_20 IAMs_20 12 16 10.6
comp=Z,641nm,22.0s
MA2 Magadan 63.23 359 LR LR 12 21 03.5
comp=Z,336nm,19.4s,baz=188,slow=36
MA2 Magadan 63.23 359 *de*P **P 11 53 42.1 -1.3**
MA2 pmax pmax
comp=Z,37nm,0.9s
GTA Gaotai 64.20 317 *e*P **P 11 53 50.6 +0.2**
GTA pP pwP 11 53 56.3 +0.5
GTA S **S 12 02 28.2 +0.1**
GTA sS sS 12 02 35.8 +3.5
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=Z,220nm,17.8s
GTA LR LR
comp=Z,210nm,17.5s
GTA LR LR
comp=Z,330nm,20.0s
ULN Ulaanbaatar 64.60 328 P **P 11 53 53.4 +0.4**
ULN Ulaanbaatar 64.60 328 IAMs_20 IAMs_20 12 19 38.6
comp=Z,540nm,20.0s
ULN Ulaanbaatar 64.60 328⇓ *e*P **P 11 53 53.3 +0.4**
ULN pmax pmax
comp=Z,21nm,1.7s
SHL Shillong 64.86 300 P **P 11 53 53.6 -1.4**
SHL IAmb IAmb 11 54 02.3
comp=Z,19nm,0.8s
SHL Shillong 64.86 300 P **P 11 53 53.7 -1.4**
SHL pmax pmax
comp=Z,19nm,0.8s
SONM Songino Array 64.92 328 P **P 11 53 54.8 -0.2**
SONM Songino Array 64.92 328 P **P 11 53 54.7 -0.2**
comp=Z,8.9nm,1.1s,baz=145,slow=6.4,SNR=16
comp=Z,8.9nm,1.1s
SONM Songino Array 64.92 328 P **P 11 53 54.8 -0.2**
SONM pmax pmax
comp=Z,13nm,1.0s
NIKH Nikolski High 65.62 25 P **P 11 54 00.9 +1.7**
NIKH Nikolski High 65.62 25 P **P 11 54 00.4 +1.2**
baz=224
SEY Seymchan 66.60 0 LR LR 12 18 20.8
comp=Z,491nm,20.7s,baz=152,slow=32
SEY Seymchan 66.60 0 *e*P **P 11 54 03.5 -1.8**
SEY pmax pmax
comp=Z,20nm,1.1s
UNV Unalaska Valle 67.24 25 P **P 11 54 10.7 +1.2**
baz=226
YAK Yakutsk 67.83 349 *e*P **P 11 54 13.0 -0.1**
YAK *e**PP **pP 11 54 15.5 -0.1**
YAK *e* 11 56 37.5
YAK *e*S **S 12 03 07.6 -3.5**
YAK *e*SS **SS 12 07 28.8 -4.0**
YAK pmax pmax
comp=Z,30nm,1.1s
YAK pmax pmax
comp=N,15nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,23nm,0.4s
YAK smax smax
comp=N,69nm,14.1s
YAK smax smax
comp=E,42nm,9.3s
P08K Saint George I 68.00 22 P **P 11 54 15.3 +1.1**
baz=222
ZAK Zakamensk 68.10 329 *e*P **P 11 54 14.8 -0.4**
ZAK pmax pmax
comp=Z,17nm,1.1s
SPIA Saint Paul Isl 68.17 21 P **P 11 54 15.9 +0.5**
baz=222
CASY Casey 68.60 197 P **P 11 54 16.8 -1.1**
IRK Irkutsk 68.73 331 *e*P **P 11 54 18.3 -0.7**
IRK *e* 11 54 50.1
IRK pmax pmax
comp=Z,41nm,2.3s
FALS False Pass 69.25 26 P **P 11 54 22.2 0.0**
baz=229
MOY Mondy 70.02 329 *e*P **P 11 54 27.0 -0.2**
MOY pmax pmax
comp=Z,41nm,1.7s
S12K Black Hills 70.39 26 IAMs_20 IAMs_20 12 21 25.9
comp=Z,408nm,20.0s
S12K Black Hills 70.39 26 P **P 11 54 29.7 +0.5**
baz=230
CHNA Chernabura Isl 70.95 27 P **P 11 54 33.1 +0.6**
S14K Fog Glacier 71.86 26 P **P 11 54 38.6 +0.4**
baz=232
M11K Mekoryuk 71.96 21 P **P 11 54 39.9 +1.4**
baz=225
CHGN Chignik 72.37 27 IAmb IAmb 11 54 48.3
comp=Z,51nm,1.0s
CHGN Chignik 72.37 27 P **P 11 54 42.4 +1.3**
baz=233
BILL Bilibino 72.45 6 P **P 11 54 41.0 -0.3**
BILL IAmb IAmb 11 54 47.7
comp=Z,26nm,1.0s
BILL Bilibino 72.45 6 *de*P **P 11 54 41.1 -0.3**
BILL *i* 11 54 50.2
BILL *e* 11 57 19.5
BILL *e*S **S 12 04 09.3 +4.1**
BILL pmax pmax
comp=Z,35nm,1.3s
M13K Dall Lake 73.00 22 P **P 11 54 45.4 +0.7**
M13K IAMs_20 IAMs_20 12 21 45.5
comp=Z,522nm,21.0s
M13K Dall Lake 73.00 22 P **P 11 54 46.0 +1.3**
baz=228,SNR=5.7
O14K Tigyukauivet M 73.02 23 P **P 11 54 45.0 +0.1**
O14K IAmb IAmb 11 54 51.5
comp=Z,34nm,0.8s
O14K Tigyukauivet M 73.02 23 P **P 11 54 46.0 +1.1**
baz=230
N14K Kuskokwak Cree 73.29 22 P **P 11 54 47.4 +1.0**
baz=229
CHIR Chirikof Islan 73.37 28 P **P 11 54 47.7 +0.6**
baz=236
O15K Ungalikthiuk R 73.54 24 P **P 11 54 48.9 +0.9**
baz=231,SNR=14
K13K Kusilvak Mount 73.58 20 IAMs_20 IAMs_20 12 20 00.9
comp=Z,505nm,22.0s
K13K Kusilvak Mount 73.58 20 P **P 11 54 49.1 +0.9**
baz=226
M14K Bethel 73.73 22 IAmb IAmb 11 54 56.3
comp=Z,48nm,0.9s
M14K IAMs_20 IAMs_20 12 22 29.1
comp=Z,378nm,21.0s
M14K Bethel 73.73 22 P **P 11 54 49.6 +0.6**
baz=229,SNR=5.4
VNDA Vanda 73.82 178 P **P 11 54 49.5 +0.1**
VNDA Vanda 73.82 178 P **P 11 54 49.1 -0.3**
comp=Z,2.3nm,0.7s,baz=330,slow=6.0,SNR=19
VNDA LR LR 12 25 56.4
comp=Z,280nm,18.8s,baz=351,slow=35
comp=Z,2.3nm,0.7s
VNDA Vanda 73.82 178 P **P 11 54 49.5 +0.1**
VNDA pmax pmax
comp=Z,10.0nm,1.3s
L14K Kuka Creek 73.86 21 P **P 11 54 50.6 +0.8**
baz=228,SNR=34
N15K Kwethluk River 74.06 23 IAmb IAmb 11 54 58.4
comp=Z,49nm,0.9s
N15K IAMs_20 IAMs_20 12 22 39.8
comp=Z,427nm,22.0s
N15K Kwethluk River 74.06 23 P **P 11 54 51.7 +0.6**
baz=231,SNR=7.0
R17L Mt. Peulik Vol 74.07 26 P **P 11 54 51.5 +0.4**
baz=235,SNR=19
M15K Kasigluk River 74.17 22 P **P 11 54 52.4 +0.7**
baz=230
P16K Nushagak River 74.20 24 P **P 11 54 52.3 +0.5**
baz=233
WMQ Urumqi 74.28 317 *e*P **P 11 54 53.8 +1.0**
WMQ LR LR
comp=Z,240nm,13.5s
WMQ LR LR
comp=Z,190nm,16.5s
WMQ LR LR
comp=Z,260nm,21.1s
SII Sitkinak Islan 74.45 28 P **P 11 54 53.9 +0.5**
SII Sitkinak Islan 74.45 28 P **P 11 54 53.9 +0.5**
SII Sitkinak Islan 74.45 28 P **P 11 54 53.9 +0.5**
baz=237,SNR=6.8
O16K Kokwok River B 74.50 24 IAMs_20 IAMs_20 12 23 52.3
comp=Z,431nm,20.0s
O16K Kokwok River B 74.50 24 P **P 11 54 54.3 +0.7**
baz=233
L15K Ungalak Mounta 74.52 21 P **P 11 54 54.8 +1.1**
baz=229
J14K Nanvaranak Lak 74.52 20 IAmb IAmb 11 55 01.4
comp=Z,43nm,1.0s

J14K IAMs_20 IAMs_20 12 24 36.7
comp=Z,413nm,20.0s
J14K Nanvaranak Lak 74.52 20 P **P 11 54 54.7 +1.0**
baz=227,SNR=12
Q16K King Salmon 74.55 25 P **P 11 54 55.1 +1.3**
baz=234
Q17K Contact Creek 74.64 26 P **P 11 54 55.2 +0.6**
baz=235
N16K Nishlik Lake 74.77 23 P **P 11 54 56.1 +0.9**
baz=232,SNR=13
R18K Karluk 74.88 27 P **P 11 54 56.3 +0.5**
baz=237
K15K Wolf Creek Mou 74.91 21 IAMs_20 IAMs_20 12 22 47.0
comp=Z,544nm,22.0s
K15K Wolf Creek Mou 74.91 21 P **P 11 54 56.8 +0.8**
baz=229,SNR=38
P17K Kvichak River 74.94 25 P **P 11 54 56.4 +0.2**
baz=234
O17K Koliganek Bris 75.01 24 P **P 11 54 57.1 +0.6**
baz=234,SNR=5.6
M16K Timber Creek 75.04 22 P **P 11 54 57.4 +0.7**
baz=232,SNR=13
TNA Tin City 75.19 16 P **P 11 54 58.2 +0.7**
baz=222
ANM Nome 75.21 18 IAmb IAmb 11 55 04.8
comp=Z,34nm,0.9s
ANM IAMs_20 IAMs_20 12 23 07.9
comp=Z,513nm,21.0s
ANM Nome 75.21 18 P **P 11 54 58.6 +1.0**
baz=225
OHAK Old Harbor 75.22 27 P **P 11 55 00.6 +2.8**
OHAK Old Harbor 75.22 27 IAmb IAmb 11 55 04.7
comp=Z,33nm,0.9s
OHAK Old Harbor 75.22 27 P **P 11 54 58.2 +0.4**
baz=238
Q18K Katmai Hardscr 75.24 26 P **P 11 54 58.2 +0.1**
baz=236,SNR=22
L16K Owhat River 75.27 22 IAmb IAmb 11 55 14.6
comp=Z,30nm,1.2s
L16K IAMs_20 IAMs_20 12 23 25.8
comp=Z,365nm,21.0s
L16K Owhat River 75.27 22 P **P 11 54 58.3 +0.3**
baz=231,SNR=8.3
N17K Nushagak Hills 75.42 23 IAmb IAmb 11 55 07.9
comp=Z,44nm,1.1s
N17K IAMs_20 IAMs_20 12 21 17.8
comp=Z,519nm,22.0s
N17K Nushagak Hills 75.42 23 P **P 11 55 00.2 +1.2**
baz=233,SNR=9.3
P18K Big Mountain, 75.56 25 IAmb IAmb 11 55 06.8
comp=Z,30nm,1.0s
P18K IAMs_20 IAMs_20 12 32 08.6
comp=Z,344nm,19.0s
P18K Big Mountain, 75.56 25 P **P 11 55 00.8 +1.0**
baz=236
F14K Arctic Creek 75.58 17 P **P 11 55 01.0 +1.3**
baz=224
O18K Koktuh Hills 75.83 25 IAmb IAmb 11 55 07.5
comp=Z,23nm,0.9s
O18K IAMs_20 IAMs_20 12 24 33.7
comp=Z,384nm,21.0s
O18K Koktuh Hills 75.83 25 P **P 11 55 02.3 +1.0**
baz=235,SNR=7.8
KDAK Kodiak Island 75.84 27 P **P 11 55 01.1 -0.3**
KDAK IAmb IAmb 11 55 08.3
comp=Z,48nm,1.0s
KDAK Kodiak Island 75.84 27 P **P 11 55 02.3 +0.9**
baz=238
KDAK Kodiak Island 75.84 27 LR LR 12 24 48.3
comp=Z,278nm,20.4s,baz=257,slow=33
KDAK Kodiak Island 75.84 27 P **P 11 55 01.1 -0.3**
KDAK pmax pmax
comp=Z,48nm,1.0s
M17K Holitna River 75.85 23 IAMs_20 IAMs_20 12 21 56.1
comp=Z,516nm,22.0s
M17K Holitna River 75.85 23 P **P 11 55 02.6 +1.2**
baz=233,SNR=10
J16K Anvik River 75.88 20 IAmb IAmb 11 55 08.7
comp=Z,36nm,1.1s
J16K IAMs_20 IAMs_20 12 23 16.7
comp=Z,430nm,22.0s
J16K Anvik River 75.88 20 P **P 11 55 02.8 +1.3**
baz=230
G15K Niukluk 75.92 18 P **P 11 55 02.9 +1.2**
baz=226
L17K Donlin 75.97 22 P **P 11 55 03.3 +1.2**
baz=232,SNR=11
Q19K Cape Douglas, 75.98 26 P **P 11 55 03.2 +1.0**
baz=237
N18K Kilae Creek 76.03 24 IAMs_20 IAMs_20 12 26 57.9
comp=Z,448nm,20.0s
N18K Kilae Creek 76.03 24 P **P 11 55 03.7 +1.2**
baz=235,SNR=22
H16K Elim 76.24 19 P **P 11 55 04.7 +1.2**
baz=228
F15K North Star Dit 76.24 17 IAMs_20 IAMs_20 12 22 54.0
comp=Z,508nm,22.0s
F15K North Star Dit 76.24 17 P **P 11 55 04.7 +1.2**
baz=225
I17K Unalakleet 76.24 20 IAmb IAmb 11 55 11.3
comp=Z,25nm,0.8s
I17K IAMs_20 IAMs_20 12 22 45.2
comp=Z,507nm,22.0s
I17K Unalakleet 76.24 20 P **P 11 55 04.8 +1.2**
baz=229,SNR=11
K17K Iditarod 76.33 21 IAmb IAmb 11 55 11.8
comp=Z,49nm,1.1s
K17K Iditarod 76.33 21 P **P 11 55 05.2 +1.1**
baz=232,SNR=12
Q20K Shuyak Island 76.36 26 P **P 11 55 04.9 +0.6**
baz=238
SYI Shuyak Island 76.36 26 IAmb IAmb 11 55 11.2
comp=Z,50nm,0.9s
SYI IAMs_20 IAMs_20 12 23 30.8
comp=Z,383nm,21.0s
O19K Port Alsworth 76.40 25 IAMs_20 IAMs_20 12 24 59.5
comp=Z,437nm,21.0s
O19K Port Alsworth 76.40 25 P **P 11 55 05.2 +0.8**
baz=236
SVW2 Sparrevohn 76.40 23 P **P 11 55 05.7 +1.2**
J17K VABM Dome 76.48 21 IAmb IAmb 11 55 12.7
comp=Z,51nm,0.9s
J17K IAMs_20 IAMs_20 12 23 33.6
comp=Z,441nm,22.0s
J17K VABM Dome 76.48 21 P **P 11 55 06.1 +1.2**
baz=231,SNR=34
M18K Stony River 76.53 23 P **P 11 55 06.4 +1.2**
baz=234,SNR=16
P19K Oil Pt 76.56 25 P **P 11 55 06.5 +1.0**
baz=237
L18K Granite Mounta 76.63 22 IAmb IAmb 11 55 13.7
comp=Z,56nm,1.1s
L18K Granite Mounta 76.63 22 P **P 11 55 07.1 +1.3**
baz=234,SNR=42
N19K Bonanza Creek 76.67 24 IAMs_20 IAMs_20 12 26 27.9
comp=Z,483nm,19.0s
N19K Bonanza Creek 76.67 24 P **P 11 55 07.4 +1.2**
baz=236
G16K Koyuk River 76.71 18 IAMs_20 IAMs_20 12 25 47.6
comp=Z,479nm,20.0s
G16K Koyuk River 76.71 18 P **P 11 55 07.4 +1.2**
baz=228
TIXI Tiksi 76.81 353 P **P 11 55 05.0 -1.6**
TIXI Tiksi 76.81 353 LR LR 12 30 10.8
comp=Z,174nm,18.9s,baz=174,slow=37
TIXI Tiksi 76.81 353 *eP* **P 11 55 04.9 -1.7**
TIXI pmax pmax
comp=Z,28nm,2.5s
O20K Slope Mountain 77.05 25 P **P 11 55 09.2 +1.0**
baz=238
H17K Granite Mounta 77.18 19 P **P 11 55 09.7 +0.9**
H17K IAmb IAmb 11 55 16.3
comp=Z,44nm,0.8s
H17K IAMs_20 IAMs_20 12 27 13.1
comp=Z,437nm,21.0s
H17K Granite Mounta 77.18 19 P **P 11 55 09.8 +0.9**
baz=230,SNR=28
RSO Redoubt South 77.19 25 P **P 11 55 09.4 +0.1**
HOM Homer 77.24 26 P **P 11 55 09.9 +0.7**
baz=239,SNR=5.5
L19K White Mountain 77.31 23 P **P 11 55 10.3 +0.6**
L19K White Mountain 77.31 23 P **P 11 55 10.6 +1.0**
baz=235,SNR=40
G17K Kiwalik Mounta 77.31 18 P **P 11 55 10.3 +0.7**
baz=229,SNR=11
M19K Big River Lodg 77.33 23 P **P 11 55 10.4 +0.7**
M19K IAmb IAmb 11 55 17.6
comp=Z,32nm,0.9s
M19K IAMs_20 IAMs_20 12 23 38.1
comp=Z,474nm,22.0s
M19K Big River Lodg 77.33 23 P **P 11 55 10.7 +0.9**
baz=236,SNR=17
CNPM China Poot 77.35 26 P **P 11 55 09.9 0.0**
CNPM IAMs_20 IAMs_20 12 26 25.9
comp=Z,350nm,19.0s
J18K Innoko River 77.36 21 IAmb IAmb 11 55 25.8
comp=Z,48nm,1.1s
J18K Innoko River 77.36 21 P **P 11 55 10.4 +0.5**
baz=233,SNR=34
ZSN Zaisan 77.42 320 *eP* **P 11 55 09.3 -1.3**
baz=320
ZSN Zaisan 77.42 320 *eP* **P 11 55 09.3 -1.3**
BRLK Bradley Lake 77.63 26 P **P 11 55 11.9 +0.4**
BRLK IAMs_20 IAMs_20 12 25 32.7
comp=Z,355nm,19.0s
BRSE Bradley Lake S 77.68 26 P **P 11 55 12.5 +0.8**
baz=240,SNR=5.4
F17K Baldwin Pennin 77.75 18 IAmb IAmb 11 55 19.3
comp=Z,44nm,0.8s
F17K Baldwin Pennin 77.75 18 P **P 11 55 13.0 +1.0**
baz=228,SNR=5.4
M20K Styx River 77.81 23 P **P 11 55 13.4 +0.9**
baz=237,SNR=41
N20K Mount Spurr 77.82 24 P **P 11 55 12.5 -0.1**
baz=238
SPCR Spurr Chakacha 77.82 24 P **P 11 55 12.6 +0.1**
baz=239
H18K Honhosa River 77.83 19 IAMs_20 IAMs_20 12 24 07.2
comp=Z,469nm,22.0s
H18K Honhosa River 77.83 19 P **P 11 55 13.5 +1.0**
baz=231
L20K Farewell, AK 77.85 23 P **P 11 55 13.5 +0.8**
baz=236,SNR=26
C16K Lisburne Hills 77.88 15 P **P 11 55 13.7 +1.0**
baz=224
E17K Hotham Inlet 78.01 17 P **P 11 55 14.4 +0.9**
baz=228,SNR=9.0
CAPN Captain Cook N 78.03 25 P **P 11 55 14.4 +0.8**
baz=239
J19K Poorman 78.07 21 IAmb IAmb 11 55 21.5
comp=Z,50nm,1.1s
J19K Poorman 78.07 21 P **P 11 55 14.7 +0.9**
baz=234,SNR=36
GCSA Galena City Sc 78.08 20 P **P 11 55 14.6 +0.8**
baz=233,SNR=6.0
D17K Noatak River 78.08 16 P **P 11 55 14.6 +0.9**
baz=226
G18K Tagagawik 78.20 19 IAMs_20 IAMs_20 12 24 05.0
comp=Z,421nm,20.0s
G18K Tagagawik 78.20 19 P **P 11 55 15.4 +0.9**
baz=231
K20K Telida 78.27 22 IAMs_20 IAMs_20 12 28 56.0
comp=Z,311nm,19.0s
K20K Telida 78.27 22 P **P 11 55 15.6 +0.7**
baz=236,SNR=48
F18K Selawik 78.34 18 P **P 11 55 15.9 +0.6**
baz=230
RDOG Red Dog Mine 78.37 16 IAmb IAmb 11 55 22.6
comp=Z,35nm,0.8s
RDOG Red Dog Mine 78.37 16 P **P 11 55 16.1 +0.7**
baz=226
SEW Seward 78.42 26 P **P 11 55 16.3 +0.5**
baz=241,SNR=16
O22K Cooper Landing 78.49 26 IAMs_20 IAMs_20 12 22 54.0
comp=Z,360nm,22.0s
O22K Cooper Landing 78.49 26 P **P 11 55 17.0 +0.8**
baz=240,SNR=8.7
SKT Skwentna 78.50 24 P **P 11 55 17.0 +0.7**
baz=238
SUA Susitna One 78.56 24 P **P 11 55 17.2 +0.5**
baz=239,SNR=20
C17K DeLong Mountai 78.59 15 P **P 11 55 16.8 +0.1**
baz=226
E18K Tukpahlearik C 78.60 17 IAmb IAmb 11 55 29.7
comp=Z,28nm,0.9s
E18K IAMs_20 IAMs_20 12 26 18.3
comp=Z,386nm,21.0s
E18K Tukpahlearik C 78.60 17 P **P 11 55 16.7 0.0**
baz=229
H19K Roundabout Mou 78.70 20 IAMs_20 IAMs_20 12 25 18.1
comp=Z,375nm,21.0s
H19K Roundabout Mou 78.70 20 P **P 11 55 17.8 +0.6**
baz=233,SNR=26
J20K Nowinta River 78.71 21 IAMs_20 IAMs_20 12 30 13.4
comp=Z,353nm,19.0s
J20K Nowinta River 78.71 21 P **P 11 55 18.0 +0.7**
baz=236,SNR=77
PPLA Purkeypile 78.73 23 P **P 11 55 18.1 +0.4**
baz=238,SNR=11
RC01 Rabbit Creek A 78.79 25 P **P 11 55 18.2 +0.3**
baz=240,SNR=18
G19K Purcell Mounta 78.86 19 IAMs_20 IAMs_20 12 28 24.4
comp=Z,439nm,20.0s
G19K Purcell Mounta 78.86 19 P **P 11 55 18.9 +0.7**
baz=232,SNR=27
MK31 Makanchi Array 78.87 319 *de*P **P 11 55 18.3 -0.4**
MKAR Makanchi Array 78.87 319 P **P 11 55 17.6 -1.1**
MKAR Makanchi Array 78.87 319 P **P 11 55 18.1 -0.5**
comp=Z,2.3nm,0.8s,baz=106,slow=6.4,SNR=12
MKAR LR LR 12 29 16.5
comp=Z,258nm,20.6s,baz=64,slow=35
comp=Z,2.3nm,0.8s
I20K Naaghedeneel 78.94 21 IAMs_20 IAMs_20 12 25 09.6
comp=Z,430nm,22.0s
I20K Naaghedeneel 78.94 21 P **P 11 55 19.2 +0.6**
baz=235,SNR=12
M22K Willow 78.96 24 P **P 11 55 19.2 +0.4**
baz=240,SNR=7.4
CAST Castle Rocks 79.05 22 P **P 11 55 18.9 -0.4**
CAST IAmb IAmb 11 55 25.7
comp=Z,58nm,0.9s
CAST IAMs_20 IAMs_20 12 23 30.6
comp=Z,334nm,21.0s
CAST Castle Rocks 79.05 22 P **P 11 55 19.0 -0.2**
baz=238,SNR=49
F19K Shaleruckik Mo 79.07 18 P **P 11 55 19.1 -0.1**
F19K IAmb IAmb 11 55 31.3
comp=Z,43nm,0.9s
F19K Shaleruckik Mo 79.07 18 P **P 11 55 19.2 0.0**
baz=232,SNR=28
MAKZ Makanchi 79.08 319 P **P 11 55 19.8 0.0**
MAKZ IAmb IAmb 11 55 30.8
comp=Z,46nm,1.7s
MAKZ Makanchi 79.08 319 P **P 11 55 19.8 0.0**
MAKZ pmax pmax
comp=Z,46nm,1.7s
MAKZ MLR MLR
comp=Z,300nm,20.0s
H20K Anotleneega Mo 79.20 20 P **P 11 55 20.4 +0.4**
baz=235,SNR=24
CHUM Lake Minchumin 79.22 22 P **P 11 55 20.4 +0.3**
baz=237,SNR=59
CUT Chulitna 79.23 24 IAMs_20 IAMs_20 12 27 11.5
comp=Z,378nm,20.0s
C18K Utukok River 79.25 16 P **P 11 55 20.6 +0.3**
baz=228
P23K Montague Islan 79.28 27 P **P 11 55 20.9 +0.4**
baz=243
PMR Palmer 79.29 25 P **P 11 55 20.3 -0.2**
PMR Palmer 79.29 25 IAmb IAmb 11 55 27.0
comp=Z,47nm,1.0s
PMR Palmer 79.29 25 P **P 11 55 20.6 0.0**
baz=241,SNR=18
GHO Glory Hole Cre 79.46 25 IAmb IAmb 11 55 28.2
comp=Z,50nm,1.0s
KNK Knik Glacier 79.48 25 IAmb IAmb 11 55 28.6
comp=Z,64nm,1.0s
KNK IAMs_20 IAMs_20 12 26 51.3
comp=Z,431nm,21.0s
KNK Knik Glacier 79.48 25 P **P 11 55 21.8 +0.1**
baz=241,SNR=9.0
Q23K Middleton Isla 79.49 27 P **P 11 55 21.8 +0.1**
baz=244
KTH Kantishna Hill 79.57 23 IAmb IAmb 11 55 28.1
comp=Z,50nm,0.9s
KTH IAMs_20 IAMs_20 12 25 14.2
comp=Z,326nm,20.0s
B18K Kokolik River 79.57 15 P **P 11 55 21.8 -0.1**
baz=227
E19K Redstone River 79.62 18 P **P 11 55 23.0 +0.7**
baz=232
SML Sawmill 79.73 25 P **P 11 55 23.5 +0.4**
baz=241,SNR=48
ZAA0 Zalesovo Array 79.74 326 P **P 11 55 21.8 -1.4**
ZALV Zalesovo Beam 79.74 326 P **P 11 55 22.0 -1.2**
comp=Z,4.6nm,0.6s,baz=105,slow=6.2,SNR=13
ZALV LR LR 12 30 44.9
comp=Z,266nm,20.9s,baz=103,slow=36
comp=Z,4.6nm,0.6s
ZALV Zalesovo Beam 79.74 326 *i* P **P 11 55 22.0 -1.2**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
SHLS Shalkode 79.77 315 *eP* **P 11 55 21.2 -2.6**
baz=315
SHLS Shalkode 79.77 315 *eP* **P 11 55 21.2 -2.6**
GLI Glacier Island 79.82 26 P **P 11 55 23.9 +0.4**
baz=243,SNR=10
BPAW Bear Paw Mtn. 79.83 22 IAmb IAmb 11 55 42.3
comp=Z,29nm,1.0s
BPAW IAMs_20 IAMs_20 12 24 40.1
comp=Z,380nm,22.0s
BPAW Bear Paw Mtn. 79.83 22 P **P 11 55 23.3 -0.2**
baz=239,SNR=30
F20K Avaraart Lake 79.84 18 IAmb IAmb 11 55 28.5
comp=Z,44nm,1.1s
F20K Avaraart Lake 79.84 18 P **P 11 55 23.8 +0.3**
baz=234,SNR=28
IMAR Indian Mountai 79.87 20 P **P 11 55 23.4 -0.2**
M23K Glacier View 79.97 25 P **P 11 55 24.6 +0.2**
baz=242
C19K Lookout Ridge 79.99 16 P **P 11 55 24.7 +0.4**
baz=230
D19K Kuna River 80.01 17 P **P 11 55 25.1 +0.7**
baz=231
H21K Melozitna Rive 80.01 20 IAMs_20 IAMs_20 12 26 36.8
comp=Z,407nm,21.0s
H21K Melozitna Rive 80.01 20 P **P 11 55 25.5 +1.0**
baz=237,SNR=12
UZB Uzynbulak 80.07 315 *eP* **P 11 55 24.5 -1.0**
baz=315
UZB Uzynbulak 80.07 315 *eP* **P 11 55 24.5 -1.0**
WAT1 Susitna Watana 80.13 24 P **P 11 55 25.7 +0.5**
baz=241
SCM Sheep Creek Mo 80.16 25 IAMs_20 IAMs_20 12 28 41.1
comp=Z,356nm,19.0s
SCM Sheep Creek Mo 80.16 25 P **P 11 55 26.0 +0.6**
baz=242,SNR=20
G21K Allakaket 80.25 19 IAMs_20 IAMs_20 12 29 09.2
comp=Z,439nm,20.0s
G21K Allakaket 80.25 19 P **P 11 55 26.3 +0.6**
baz=236
EYAK Cordova Ski Ar 80.26 26 P **P 11 55 27.0 +1.2**
EYAK Cordova Ski Ar 80.26 26 P **P 11 55 26.3 +0.5**
baz=244,SNR=8.3
A19K Wainwright 80.32 15 P **P 11 55 27.0 +1.1**
baz=228
WAT6 Susitna Watana 80.34 24 P **P 11 55 26.4 -0.1**
baz=242,SNR=50
KPKS Kokpek 80.39 315 *eP* **P 11 55 26.0 -1.1**
baz=315
KPKS Kokpek 80.39 315 *eP* **P 11 55 26.0 -1.1**
MLY Manley 80.41 21 IAmb IAmb 11 55 33.5
comp=Z,48nm,0.8s
MLY Manley 80.41 21 P **P 11 55 26.6 -0.1**
baz=239,SNR=77
MCK McKinley 80.42 23 P **P 11 55 26.7 -0.1**
baz=241,SNR=61
E20K Nigu River 80.42 17 P **P 11 55 27.1 +0.4**
baz=233
SATY Saty 80.49 315 *eP* **P 11 55 26.4 -1.3**
baz=315
SATY Saty 80.49 315 *eP* **P 11 55 26.4 -1.3**
D20K Etivluk River 80.58 17 P **P 11 55 28.2 +0.7**
baz=233
KAIM Kayak Island 80.59 27 IAmb IAmb 11 55 35.2
comp=Z,62nm,1.0s
KAIM Kayak Island 80.59 27 P **P 11 55 28.1 +0.4**
baz=245
KLU Klutina 80.60 26 P **P 11 55 28.2 +0.4**
baz=244,SNR=39
H22K Ishtalitna Cre 80.63 20 P **P 11 55 28.4 +0.6**
baz=238,SNR=25
F21K Alatna River 80.66 19 P **P 11 55 28.3 +0.4**
baz=236,SNR=14
DHY Denali Highway 80.72 24 IAmb IAmb 11 55 40.9
comp=Z,67nm,1.1s
DHY IAMs_20 IAMs_20 12 29 43.9
comp=Z,362nm,20.0s
DHY Denali Highway 80.72 24 P **P 11 55 28.5 0.0**
baz=242,SNR=34
M24K Tolsona, Glenn 80.77 25 IAMs_20 IAMs_20 12 23 55.2
comp=Z,356nm,19.0s
M24K Tolsona, Glenn 80.77 25 P **P 11 55 28.9 +0.3**
baz=243,SNR=16
NEA2 Nenana 80.80 22 IAmb IAmb 11 55 34.7
comp=Z,56nm,1.0s
NEA2 Nenana 80.80 22 P **P 11 55 28.8 +0.1**
baz=240,SNR=34
HMT Hamilton 80.84 27 IAmb IAmb 11 55 36.2
comp=Z,67nm,1.0s
HMT IAMs_20 IAMs_20 12 35 37.1
comp=Z,359nm,19.0s
BMRM Bremner River 80.95 26 P **P 11 55 29.8 +0.1**
baz=245,SNR=9.5
I23K Minto, Yukon-K 80.97 22 IAMs_20 IAMs_20 12 25 51.2
comp=Z,416nm,22.0s
I23K Minto, Yukon-K 80.97 22 P **P 11 55 30.0 +0.5**
baz=240,SNR=10.0
TDK Taldyqorghan 80.97 317 *eP* **P 11 55 29.0 -1.1**
comp=Z,9.8nm,0.5s,baz=317
TDK Taldyqorghan 80.97 317 *eP* **P 11 55 29.0 -1.1**
TDK pmax pmax
comp=Z,10.0nm,0.5s
WRH Wood River Hil 81.11 22 IAMs_20 IAMs_20 12 25 21.0
comp=Z,394nm,22.0s
G22K Bettles 81.14 20 P **P 11 55 30.9 +0.4**
baz=238
BGLC Bering Glacier 81.19 27 P **P 11 55 31.1 +0.3**
baz=246
E21K Killik River 81.20 18 P **P 11 55 31.2 +0.4**
baz=235
B20K Meade River 81.22 16 P **P 11 55 31.2 +0.4**
baz=232
N25K Chitina, Valde 81.22 26 IAmb IAmb 11 55 38.5
comp=Z,48nm,1.2s
N25K Chitina, Valde 81.22 26 P **P 11 55 31.2 +0.1**
baz=245,SNR=12
F22K John River 81.24 19 P **P 11 55 31.4 +0.4**
baz=237
H23K Yukon River 81.24 21 IAmb IAmb 11 55 35.6
comp=Z,42nm,1.2s
H23K IAMs_20 IAMs_20 12 26 53.5
comp=Z,322nm,21.0s
H23K Yukon River 81.24 21 P **P 11 55 31.5 +0.4**
baz=240,SNR=26
MDM Murphy Dome 81.29 22 IAmb IAmb 11 55 43.0
comp=Z,40nm,1.2s
CCB Clear Creek Bu 81.30 22 IAmb IAmb 11 55 37.0
comp=Z,39nm,1.0s
HARP HAARP 81.33 25 P **P 11 55 31.7 +0.1**
baz=244
C21K Knifeblade Rid 81.37 17 P **P 11 55 32.4 +0.7**
baz=234
COLA College 81.39 22 P **P 11 55 31.2 -0.6**
COLA College 81.39 22 P **P 11 55 30.7 -1.1**
COLA IAmb IAmb 11 55 34.8
comp=Z,53nm,0.9s
COLA College 81.39 22 P **P 11 55 32.2 +0.4**
baz=241
COLA College 81.39 22 *de*P **P 11 55 30.8 -1.0**
COLA pmax pmax
comp=Z,41nm,0.9s
SNH Sunshine Point 81.42 27 P **P 11 55 32.1 -0.1**
PAX Paxson 81.45 24 P **P 11 55 32.4 +0.1**
baz=244,SNR=15
KSH Kashi 81.46 311 P **P 11 55 36.6 +3.6**
KSH sP PcP 11 55 42.4 +3.4
KSH S **S 12 05 41.2 -3.6**
KSH SS **SS 12 11 09.8 +8.3**
KSH pmax pmax
comp=Z,6.0nm,0.9s
KSH LR LR
comp=Z,1μm,20.3s
KSH LR LR
comp=Z,680nm,20.3s
MDOK Medeo 81.48 314 *eP* **P 11 55 32.0 -1.0**
baz=314
MDOK Medeo 81.48 314 *eP* **P 11 55 32.0 -1.0**
GLB Gilahina Butte 81.50 26 IAmb IAmb 11 55 39.6
comp=Z,65nm,1.1s
HDA Harding Lake 81.51 23 IAmb IAmb 11 55 37.9
comp=Z,26nm,1.1s
HDA IAMs_20 IAMs_20 12 35 49.8
comp=Z,411nm,19.0s

HDA	Harding Lake	81.51	23	P	P	11 55 33.1	+0.6	
	baz=242,SNR=13							
WAX	Waxell Ridge	81.52	27	IAmb	IAmb	11 55 40.1		
	comp=Z,52nm,1.1s							
G23K	Bananza Creek	81.53	20	IAmb	IAmb	11 55 37.2		
	comp=Z,37nm,1.1s							
G23K				IAms_20	IAms_20	12 27 14.0		
	comp=Z,462nm,22.0s							
G23K	Bananza Creek	81.53	20	P	P	11 55 33.0	+0.4	
	baz=239,SNR=38							
CRQE	Cirque	81.53	27	P	P	11 55 33.3	+0.5	
	baz=246,SNR=21							
POKR	Poker Plat Res	81.66	22	IAmb	IAmb	11 55 44.6		
	comp=Z,27nm,1.1s							
POKR	Poker Plat Res	81.66	22	P	P	11 55 33.9	+0.6	
	baz=242,SNR=5.6							
B21K	Ikpikpuk River	81.69	17	P	P	11 55 34.3	+1.0	
	baz=234							
E22K	Anaktuvuk Pass	81.69	18	IAms_20	IAms_20	12 26 08.3		
	comp=Z,500nm,22.0s							
E22K	Anaktuvuk Pass	81.69	18	P	P	11 55 34.2	+0.7	
	baz=237							
K24K	Donnelly Dome	81.69	23	P	P	11 55 34.2	+0.6	
	baz=244,SNR=12							
IL31		81.71	22	IAmb	IAmb	11 55 36.3		
	comp=Z,36nm,0.9s							
ILAR	Eielson Array	81.71	22	P	P	11 55 31.7	-1.9	
ILAR	Eielson Array	81.71	22	P	P	11 55 32.4	-1.1	
	comp=Z,23nm,0.9s,baz=251,slow=5.2,SNR=50							
	comp=Z,23nm,0.9s							
COLD	Coldfoot	81.74	20	P	P	11 55 34.5	+0.8	
	baz=239,SNR=11							
MCARA	McCarthy VSAT	81.82	26	IAmb	IAmb	11 55 41.4		
	comp=Z,50nm,1.0s							
MCARA	McCarthy VSAT	81.82	26	P	P	11 55 34.9	+0.7	
	baz=246,SNR=13							
MESA	MESA	81.83	28	P	P	11 55 35.2	+0.7	
	baz=248							
D22K	Ayikyak River	81.84	18	IAmb	IAmb	11 55 39.2		
	comp=Z,52nm,1.1s							
D22K	Ayikyak River	81.84	18	P	P	11 55 35.3	+1.1	
	baz=236,SNR=5.4							
H24K	Noodor Dome	81.85	21	IAms_20	IAms_20	12 26 29.4		
	comp=Z,374nm,22.0s							
H24K	Noodor Dome	81.85	21	P	P	11 55 35.1	+0.8	
	baz=241,SNR=11							
GRNC	Granite Creek	82.13	27	IAmb	IAmb	11 55 48.4		
	comp=Z,26nm,1.1s							
MENT	Mentasta	82.16	25	P	P	11 55 36.6	+0.6	
A21K	Barrow	82.18	15	P	P	11 55 36.9	+1.1	
	baz=232							
J25K	Salcha River,	82.22	23	P	P	11 55 36.2	-0.1	
	baz=244,SNR=82							
M26K	Nabesna, AK	82.24	25	P	P	11 55 36.8	+0.4	
	baz=246,SNR=10							
KURK	Kurchatov	82.33	322	P	P	11 55 36.1	-0.9	
KURK	Kurchatov	82.33	322	eP	P	11 55 35.5	-1.6	
KURK				pmax	pmax			
	comp=Z,10.0nm,1.7s							
L26K	Log Cabin Wild	82.35	25	IAmb	IAmb	11 55 44.0		
	comp=Z,33nm,1.0s							
L26K				IAms_20	IAms_20	12 29 20.9		
	comp=Z,369nm,20.0s							
L26K	Log Cabin Wild	82.35	25	P	P	11 55 37.5	+0.5	
	baz=246,SNR=35							
E23K	Chandalar	82.36	19	P	P	11 55 37.6	+0.6	
	baz=239,SNR=23							
KURBB	Kurchatov Arra	82.36	322	P	P	11 55 36.8	-0.4	
	comp=Z,1.9nm,0.7s,baz=112,slow=4.4,SNR=12							
KURBB				LR	LR	12 32 05.2		
	comp=Z,213nm,20.5s,baz=162,slow=36							
	comp=Z,1.9nm,0.7s							
G24K	Hadweenzic Riv	82.40	21	IAms_20	IAms_20	12 27 41.1		
	comp=Z,332nm,22.0s							
G24K	Hadweenzic Riv	82.40	21	P	P	11 55 37.8	+0.6	
	baz=242,SNR=9.0							
CTG	Chitna Glacier	82.41	27	P	P	11 55 37.7	+0.3	
	baz=248,SNR=15							
A22K	Sinclair Lake	82.41	15	P	P	11 55 37.7	+0.6	
	baz=234							
CTGM	Chitina Glacie	82.41	27	P	P	11 55 37.7	+0.2	
B22K	Teshekpuk Lake	82.45	16	P	P	11 55 38.1	+0.8	
	baz=236							
SCRK	Sand Creek	82.48	24	P	P	11 55 38.1	+0.3	
SCRK				IAmb	IAmb	11 55 41.8		
	comp=Z,33nm,1.1s							
SCRK				IAms_20	IAms_20	12 25 55.4		
	comp=Z,423nm,22.0s							
SCRK	Sand Creek	82.48	24	P	P	11 55 38.3	+0.5	
	baz=245,SNR=37							
D23K	Nanushuk River	82.49	18	P	P	11 55 38.1	+0.6	
	baz=238							
PRP	Porcupine Dome	82.56	22	P	P	11 55 39.0	+0.8	
	baz=244							
PINM	Pinnacle	82.59	28	P	P	11 55 38.3	0.0	
	baz=249							
F24K	Squaw Lake	82.66	20	IAmb	IAmb	11 55 43.5		
	comp=Z,41nm,1.0s							
F24K	Squaw Lake	82.66	20	P	P	11 55 39.2	+0.7	
	baz=241,SNR=34							
TOLK	Toolik Lake Re	82.67	18	IAmb	IAmb	11 55 43.2		
	comp=Z,26nm,1.0s							
TOLK	Toolik Lake Re	82.67	18	P	P	11 55 39.4	+0.8	
	baz=239,SNR=7.9							
M27K	Edge Creek, AK	82.70	26	IAms_20	IAms_20	12 28 02.4		
	comp=Z,324nm,20.0s							
M27K	Edge Creek, AK	82.70	26	P	P	11 55 39.5	+0.5	
	baz=247,SNR=64							
E24K	Your Creek	82.73	19	IAms_20	IAms_20	12 32 24.7		
	comp=Z,407nm,20.0s							
E24K	Your Creek	82.73	19	P	P	11 55 39.7	+0.8	
	baz=240,SNR=5.9							
H25L	Birch Creek	82.79	21	P	P	11 55 40.0	+0.9	
	baz=243							
PNL	Peninsula	82.84	29	P	P	11 55 40.7	+1.1	
PNL	Peninsula	82.84	29	P	P	11 55 39.6	+0.1	
	baz=250							
O28M	Mount Upton	82.86	27	P	P	11 55 40.1	+0.1	
	baz=249,SNR=13							
J26L	Joseph Creek	82.87	23	P	P	11 55 39.8	0.0	
	baz=246,SNR=28							
G25K	Bearman Lake	82.92	21	P	P	11 55 40.3	+0.5	
	baz=243,SNR=11							
C23K	Itkillik River	82.97	17	IAmb	IAmb	11 55 52.5		
	comp=Z,41nm,1.1s							
C23K	Itkillik River	82.97	17	P	P	11 55 40.5	+0.4	
	baz=238,SNR=10.0							
L27K	Beaver Creek,	83.00	25	IAmb	IAmb	11 55 47.7		
	comp=Z,43nm,1.1s							
L27K	Beaver Creek,	83.00	25	P	P	11 55 40.9	+0.6	
	baz=247,SNR=49							
BCAR	Beaver Creek A	83.02	25	P	P	11 55 40.4	-0.1	
YUK3	Moose Creek	83.10	26	P	P	11 55 41.4	+0.2	
	baz=249,SNR=25							
FYU	Fort Yukon	83.14	21	IAmb	IAmb	11 55 45.4		
	comp=Z,45nm,1.1s							
D24K	Happy Valley	83.16	18	P	P	11 55 41.8	+0.8	
	baz=240,SNR=7.5							
BVCY	Beaver Creek	83.16	26	P	P	11 55 41.8	+0.5	
	baz=248							
AAK	Ala-Archa	83.20	314	LR	LR	12 33 40.8		
	comp=Z,167nm,19.5s,baz=100,slow=36							
SGDS	Sogindy	83.26	314	eP	P	11 55 41.1	-1.1	
	baz=314							
SGDS	Sogindy	83.26	314	eP	P	11 55 41.1	-1.1	
K27K	Chicken	83.28	24	IAms_20	IAms_20	12 28 33.4		
	comp=Z,353nm,19.0s							
K27K	Chicken	83.28	24	P	P	11 55 42.4	+0.6	
	baz=247							
I26K	Coal Creek Min	83.37	23	P	P	11 55 42.8	+0.7	
	baz=246							
O29M	Mount Kennedy	83.44	28	P	P	11 55 43.0	+0.2	
	baz=250							
F25K	Christian Rive	83.45	20	P	P	11 55 43.4	+0.7	
	baz=243,SNR=16							
C24K	Franklin Bluff	83.48	18	P	P	11 55 43.5	+0.9	
	baz=240							
P29M	Windy Craggy	83.62	29	P	P	11 55 44.2	+0.6	
	baz=251							
E25K	Arctic Village	83.72	20	IAms_20	IAms_20	12 28 32.8		
	comp=Z,402nm,21.0s							
E25K	Arctic Village	83.72	20	P	P	11 55 44.7	+0.8	
	baz=243,SNR=10.0							
BMAR	Burnt Mountain	83.75	20	P	P	11 55 44.6	+0.5	
YUK6	Outpost Mounta	83.76	27	P	P	11 55 45.1	+0.5	
	baz=251,SNR=5.8							
YUK4	Talbot Arm	83.76	27	P	P	11 55 45.4	+0.9	
	baz=250,SNR=24							
G26K	Porcupine Rive	83.82	21	P	P	11 55 45.1	+0.7	
	baz=245,SNR=48							
S31K	Pelican	83.85	31	IAmb	IAmb	11 55 57.5		
S31K	comp=Z,33nm,1.1s			IAms_20	IAms_20	12 29 23.0		
	comp=Z,342nm,19.0s							
S31K	Pelican	83.85	31	P	P	11 55 45.5	+0.8	
	baz=253							
EGAK	Eagle	83.93	23	IAmb	IAmb	11 55 51.5		
	comp=Z,42nm,1.1s							
EGAK				IAms_20	IAms_20	12 28 37.7		
	comp=Z,468nm,22.0s							
EGAK	Eagle	83.93	23	P	P	11 55 45.4	+0.3	
	baz=248,SNR=33							
BTLS	Baital	84.00	316	eP	P	11 55 45.0	-0.8	
	baz=316							
BTLS	Baital	84.00	316	eP	P	11 55 45.0	-0.8	
D25K	Kavik River	84.01	18	IAmb	IAmb	11 56 05.4		
	comp=Z,24nm,1.1s							
D25K				IAms_20	IAms_20	12 29 22.5		
	comp=Z,363nm,20.0s							
D25K	Kavik River	84.01	18	P	P	11 55 45.4	-0.1	
	baz=242,SNR=11							
F26K	Sheenjek River	84.01	20	P	P	11 55 46.0	+0.5	
	baz=245,SNR=32							
SIT	Sitka	84.06	32	P	P	11 55 46.5	+0.7	
	baz=254							
I27K	Kandik River	84.07	23	P	P	11 55 46.4	+0.5	
	baz=247,SNR=41							
HYT	Haines Junctio	84.12	28	P	P	11 55 46.7	+0.5	
	baz=251,SNR=39							
P30M	Million Dollar	84.15	28	P	P	11 55 47.0	+0.6	
	baz=252							
M29M	Somme Creek	84.22	26	IAmb	IAmb	11 55 54.2		
	comp=Z,49nm,1.6s							
M29M	Somme Creek	84.22	26	P	P	11 55 47.4	+0.6	
	baz=250,SNR=14							
PLBC	Pleasant Camp	84.23	29	P	P	11 55 47.5	+0.8	
	baz=252							
R31K	City Hall, Gus	84.23	30	P	P	11 55 47.2	+0.5	
	baz=253							
H27K	Steamboat Moun	84.35	22	P	P	11 55 47.9	+0.6	
	baz=247,SNR=31							
DAWY	Dawson	84.39	24	IAmb	IAmb	11 55 55.0		
	comp=Z,52nm,1.5s							
DAWY	Dawson	84.39	24	P	P	11 55 48.0	+0.6	
	baz=249,SNR=27							
N30M	Aishikik Lake	84.51	27	P	P	11 55 48.5	+0.3	
	baz=252							
G27K	Doyon Strip	84.53	21	P	P	11 55 48.8	+0.6	
	baz=247,SNR=9.3							
S32K	Killisnoo	84.56	31	P	P	11 55 49.0	+0.6	
	baz=254,SNR=5.2							
L29M	L29M	84.59	25	IAms_20	IAms_20	12 40 15.1		
	comp=Z,277nm,18.0s							
L29M	L29M	84.59	25	P	P	11 55 49.3	+0.8	
	baz=251,SNR=22							
I28M	Miner Creek	84.66	23	IAmb	IAmb	11 55 55.2		
	comp=Z,23nm,1.1s							
I28M	Miner Creek	84.66	23	P	P	11 55 49.0	+0.1	
	baz=249,SNR=16							
NRIK	Noril'sk	84.70	341	P	P	11 55 48.2	-0.7	
NRIK				IAmb	IAmb	11 55 55.1		
	comp=Z,39nm,1.0s							
NRIK	Noril'sk	84.70	341	P	P	11 55 48.1	-0.7	
	comp=Z,17nm,0.6s,baz=123,slow=5.2,SNR=15							
NRIK				LR	LR	12 33 24.2		
	comp=Z,234nm,21.5s,baz=128,slow=36							
	comp=Z,17nm,0.6s							
NRIK	Noril'sk	84.70	341	ceP	P	11 55 47.5	-1.4	
NRIK				pmax	pmax			
	comp=Z,47nm,1.1s							
C26K	Camden Bay	84.74	18	P	P	11 55 49.5	+0.5	
	baz=244,SNR=39							
SKAG	Skagway	84.74	29	P	P	11 55 51.5	+2.3	
SKAG	Skagway	84.74	29	IAmb	IAmb	11 55 57.9		
	comp=Z,64nm,1.7s							
O30N	Mendenhall	84.76	28	IAmb	IAmb	11 55 56.9		
	comp=Z,34nm,1.3s							
O30N	Mendenhall	84.76	28	P	P	11 55 49.7	+0.3	
	baz=253,SNR=11							
R32K	Eaglecrest	84.81	31	IAms_20	IAms_20	12 30 04.4		
	comp=Z,327nm,20.0s							
R32K	Eaglecrest	84.81	31	P	P	11 55 50.1	+0.4	
	baz=254							
CRAG	Craig	84.82	34	P	P	11 55 49.9	+0.1	
	baz=256							
JIS	Juneau Island	84.88	31	P	P	11 55 51.2	+1.2	
JIS	Juneau Island	84.88	31	IAms_20	IAms_20	12 28 21.2		
	comp=Z,305nm,20.0s							
U33K	Whale Pass	84.98	33	IAms_20	IAms_20	12 24 25.0		
	comp=Z,371nm,22.0s							
U33K	Whale Pass	84.98	33	P	P	11 55 51.1	+0.5	
	baz=256							
C27K	Jago River	84.99	19	P	P	11 55 51.3	+1.0	
	baz=245,SNR=16							
M30M	Minto, Yukon	84.99	26	IAmb	IAmb	11 55 58.0		
	comp=Z,27nm,1.2s							
M30M	Minto, Yukon	84.99	26	P	P	11 55 51.3	+0.7	
	baz=252,SNR=21							
J29N	Klondike Camp	85.00	24	IAms_20	IAms_20	12 27 59.0		
	comp=Z,432nm,22.0s							
J29N	Klondike Camp	85.00	24	P	P	11 55 50.5	-0.1	
	baz=250							
K29M	Barlow Dome	85.09	25	IAmb	IAmb	11 55 58.7		
	comp=Z,51nm,1.2s							
K29M				IAms_20	IAms_20	12 32 53.3		
	comp=Z,286nm,20.0s							
K29M	Barlow Dome	85.09	25	P	P	11 55 51.4	+0.3	
	baz=251,SNR=44							
E27K	Coleen River	85.09	20	IAmb	IAmb	11 55 55.8		
	comp=Z,37nm,1.2s							
E27K				IAms_20	IAms_20	12 27 35.2		
	comp=Z,364nm,22.0s							
E27K	Coleen River	85.09	20	P	P	11 55 51.6	+0.7	
	baz=247,SNR=24							
N31M	Braeburn, Yuko	85.12	27	IAmb	IAmb	11 55 58.3		
	comp=Z,28nm,1.0s							
N31M	Braeburn, Yuko	85.12	27	P	P	11 55 51.4	+0.2	
	baz=253							
T33K	Petersburg	85.25	32	P	P	11 55 51.9	0.0	
	baz=256							
I29M	Ogilvie Camp,	85.27	23	IAmb	IAmb	11 55 56.0		
	comp=Z,29nm,1.1s							
I29M				IAms_20	IAms_20	12 30 35.1		
	comp=Z,345nm,20.0s							
I29M	Ogilvie Camp,	85.27	23	P	P	11 55 52.2	+0.3	
	baz=250,SNR=26							
WHY	Whitehorse	85.30	28	IAmb	IAmb	11 55 59.8		
	comp=Z,20nm,1.1s							
WHY	Whitehorse	85.30	28	P	P	11 55 52.1	-0.1	
	baz=254							
WRAK	Wrangell Islan	85.47	33	IAms_20	IAms_20	12 24 43.1		
	comp=Z,422nm,21.0s							
WRAK	Wrangell Islan	85.47	33	P	P	11 55 52.8	-0.2	
	baz=256,SNR=8.2							
F28M	Old Crow	85.48	21	IAmb	IAmb	11 55 57.5		
	comp=Z,23nm,1.1s							
F28M				IAms_20	IAms_20	12 31 27.5		
	comp=Z,277nm,19.0s							
F28M	Old Crow	85.48	21	P	P	11 55 53.3	+0.4	
	baz=249,SNR=32							
H29M	Whitestone	85.54	22	P	P	11 55 53.8	+0.7	
	baz=250							
P32M	Atlin	85.56	29	P	P	11 55 53.6	+0.1	
	baz=255							
V35K	Ketchikan	85.62	34	P	P	11 55 53.9	+0.2	
	baz=257							
D27M	Malcolm River	85.72	19	IAmb	IAmb	11 56 02.1		
	comp=Z,21nm,0.8s							
D27M				IAms_20	IAms_20	12 31 36.7		
	comp=Z,423nm,20.0s							
D27M	Malcolm River	85.72	19	P	P	11 55 54.8	+0.8	
	baz=248,SNR=32							
J30M	Hart River	85.81	24	IAmb	IAmb	11 56 07.9		
	comp=Z,40nm,1.1s							
J30M				IAms_20	IAms_20	12 29 30.5		
	comp=Z,396nm,22.0s							
J30M	Hart River	85.81	24	P	P	11 55 55.3	+0.6	
	baz=252,SNR=48							
G29M	Pine Creek	85.91	22	IAmb	IAmb	11 56 01.6		
	comp=Z,36nm,0.9s							
G29M				IAms_20	IAms_20	12 32 35.8		
	comp=Z,332nm,20.0s							
G29M	Pine Creek	85.91	22	P	P	11 55 55.5	+0.5	
	baz=250,SNR=38							
M31M	Drury Creek, Y	85.95	27	IAmb	IAmb	11 56 02.2		
	comp=Z,44nm,1.5s							
M31M	Drury Creek, Y	85.95	27	P	P	11 55 56.2	+0.9	
	baz=254,SNR=6.1							
E28M	Babbage River	85.96	20	IAmb	IAmb	11 56 13.3		
	comp=Z,21nm,0.9s							
E28M				IAms_20	IAms_20	12 29 51.1		
	comp=Z,416nm,22.0s							
E28M	Babbage River	85.96	20	P	P	11 55 55.9	+0.6	
	baz=249,SNR=33							
I30M	Mount Dempster	85.99	24	IAmb	IAmb	11 56 01.9		
	comp=Z,17nm,0.9s							
I30M	Mount Dempster	85.99	24	P	P	11 55 55.8	+0.2	
	baz=252,SNR=28							
MAW	Mawson	86.01	203	P	P	11 55 54.7	-0.8	
	comp=Z,2.1nm,0.7s,baz=165,slow=5.7,SNR=1.9							
MAW				LR	LR	12 31 50.1		
	comp=Z,398nm,20.9s,baz=93,slow=34							
	comp=Z,2.1nm,0.7s							
QSPA	South Pole Qui	86.11	180	P	P	11 55 55.2	-1.0	
	comp=Z,9.0nm,0.8s,baz=335,slow=1.3,SNR=47							
QSPA				LR	LR	12 32 56.8		
	comp=Z,166nm,18.2s,baz=14,slow=35							
	comp=Z,9.0nm,0.8s							
Q32M	Nakina River	86.12	30	IAms_20	IAms_20	12 30 44.1		
	comp=Z,360nm,22.0s							
Q32M	Nakina River	86.12	30	P	P	11 55 56.1	-0.3	
	baz=256,SNR=6.4							
KK31	Karatay Array	86.16	314	P	P	11 55 56.4	-0.4	
KK31				IAmb	IAmb	11 56 06.4		
	comp=Z,23nm,1.2s							
KK31	Karatay Array	86.16	314	P	P	11 55 56.4	-0.4	
KK31				pmax	pmax			
	comp=Z,23nm,1.3s							
KKAR	Karatay Array	86.16	314	P	P	11 55 56.6	-0.2	
KKAR	Karatay Array	86.16	314	P	P	11 55 56.6	-0.2	
P33M	Teslin, Yukon	86.16	29	P	P	11 55 57.0	+0.6	
P33M				IAmb	IAmb	11 56 03.6		
	comp=Z,26nm,1.3s							
P33M	Teslin, Yukon	86.16	29	P	P	11 55 56.9	+0.4	
	baz=256,SNR=14							
EPYK	Eagle Plains	86.22	23	IAms_20	IAms_20	12 39 04.1		
	comp=Z,375nm,18.0s							
EPYK	Eagle Plains	86.22	23	P	P	11 55 56.8	+0.2	
	baz=252,SNR=37							
N32M	Quiet Lake	86.28	28	P	P	11 55 57.2	+0.2	
	baz=255							
IUG	Iuzhnay	86.37	313	eP	P	11 55 57.1	-0.9	
	comp=Z,8.1nm,0.9s,baz=312							
IUG	Iuzhnay	86.37	313	eP	P	11 55 57.0	-0.9	
IUG				pmax	pmax			
	comp=Z,8.0nm,0.9s							
E29M	Blow River	86.45	20	IAmb	IAmb	11 56 05.7		
	comp=Z,74nm,1.9s							
E29M				IAms_20	IAms_20	12 29 47.1		
	comp=Z,329nm,22.0s							
E29M	Blow River	86.45	20	P	P	11 55 58.1	+0.5	
	baz=250,SNR=10							
S34M	Telegraph Cree	86.46	31	IAmb	IAmb	11 56 02.8		
	comp=Z,16nm,0.9s							
S34M				IAms_20	IAms_20	12 27 48.2		
	comp=Z,383nm,20.0s							
S34M	Telegraph Cree	86.46	31	P	P	11 55 58.0	+0.1	
	baz=257,SNR=9.3							
D28M	Stokes Point	86.49	19	P	P	11 55 57.8	+0.1	
	baz=250,SNR=6.8							
CHGR	Chuyangaron	86.54	309	P	P	11 55 58.3	-0.5	
CHGR	Chuyangaron	86.54	309	P	P	11 55 58.3	-0.5	
CHGR				pmax	pmax			
	comp=Z,61nm,1.0s							
G30M	tAoh Zraii Nji	86.60	22	IAmb	IAmb	11 56 12.4		
	comp=Z,27nm,1.1s							
G30M	tAoh Zraii Nji	86.60	22	P	P	11 55 58.2	-0.2	
	baz=252,SNR=26							
U35K	Hyder	86.63	34	IAms_20	IAms_20	12 31 27.6		
	comp=Z,326nm,18.0s							
BRLS	Borolday	86.64	313	eP	P	11 55 58.8	-0.3	
	baz=313							
BRLS	Borolday	86.64	313	eP	P	11 55 58.8	-0.3	
CHM	Chimkent	86.71	313	eP	P	11 55 58.7	-0.8	
	baz=313							
CHM	Chimkent	86.71	313	eP	P	11 55 58.7	-0.8	
T35M	Bob Quinn	86.73	32	IAmb	IAmb	11 56 07.0		
	comp=Z,39nm,1.4s							
T35M				IAms_20	IAms_20	12 27 35.2		
	comp=Z,413nm,20.0s							
T35M	Bob Quinn	86.73	32	P	P	11 55 58.9	-0.4	
	baz=258,SNR=9.8							
R33M	Jennings River	86.88	30	IAmb	IAmb	11 56 07.8		
	comp=Z,55nm,1.5s							
R33M				IAms_20	IAms_20	12 31 46.0		
	comp=Z,281nm,19.0s							
R33M	Jennings River	86.88	30	P	P	11 56 00.4	+0.3	
	baz=257,SNR=26							
F30M	Barrier River	86.95	21	P	P	11 56 00.1	0.0	
	baz=252,SNR=25							
BBB	Bella Bella	87.03	37	LR	LR	12 26 06.4		
	comp=Z,228nm,21.3s,baz=260,slow=30							
DLBC	Dease Lake	87.15	31	IAmb	IAmb	11 56 08.4		
	comp=Z,21nm,1.1s							
DLBC	Dease Lake	87.15	31	P	P	11 56 01.2	-0.1	
	baz=258,SNR=18							
G31M	Satah River	87.32	22	IAmb	IAmb	11 56 07.9		
	comp=Z,32nm,0.9s							
G31M				IAms_20	IAms_20	12 32 26.1		
	comp=Z,312nm,20.0s							
G31M	Satah River	87.32	22	P	P	11 56 01.8	0.0	
	baz=254,SNR=29							
F31M	Tsiigehtchic	87.66	22	IAmb	IAmb	11 56 10.8		
	comp=Z,41nm,1.4s							
F31M				IAms_20	IAms_20	12 32 06.1		
	comp=Z,380nm,20.0s							
F31M	Tsiigehtchic	87.66	22	P	P	11 56 03.2	-0.3	
	baz=254,SNR=11							
BVAR	Borovoye Array	87.81	323	P	P	11 56 03.1	-1.5	
	comp=Z,7.2nm,0.6s,baz=103,slow=5.2,SNR=38							
BVAR				LR	LR	12 37 37.2		
	comp=Z,239nm,18.2s,baz=89,slow=37							
	comp=Z,7.2nm,0.6s							
BRVK	Borovoye	87.88	323	P	P	11 56 03.6	-1.3	
BRVK	Borovoye	87.88	323	deP	P	11 56 03.7	-1.2	
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.8s							
INK	Inuvik	87.97	21	IAmb	IAmb	11 56 10.6		
	comp=Z,21nm,1.0s							
INK	Inuvik	87.97	21	P	P	11 56 05.0	+0.1	
	baz=254,SNR=22							
INK	Inuvik	87.97	21	LR	LR	12 33 47.9		
	comp=Z,200nm,19.2s,baz=204,slow=34							
INK	Inuvik	87.97	21	P	P	11 56 04.9	0.0	
YBH	Yreka Blue Hor	89.26	48	LR	LR	12 32 11.1		
	comp=Z,145nm,18.2s,baz=264,slow=33							
TOAD	Toad River Com	89.69	31	P	P	11 56 13.3	0.0	
	baz=262							
PKM	Mcpherson Peak	90.96	55	P	P	11 56 19.0	-1.0

YKA	**Yellowknife Ar**	**95.11**	**28**	*i* P	**P**	**11 56 40.9**	**+2.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKTO	**Aktyubinsk**	**95.27**	**320**	LR	LR	12 39 27.1	
	comp=Z,270nm,21.1s,baz=86,slow=36						
SPR3	**Spring Creek 3**	**95.51**	**51**	P	P	11 56 48.3	+7.3
RPN	**Rapa Nui**	**96.25**	**118**	LR	LR	12 32 17.8	
	comp=Z,200nm,21.3s,baz=252,slow=30						
U15A	**North Rim**	**97.12**	**54**	P	Pdif	11 56 56.5	+8.0
U15A				IAmb	IAmb	11 57 10.3	
	comp=Z,18nm,1.9s						
ELIB	**Princess Elisa**	**97.45**	**194**	*d*P	**P**	**11 56 48.1**	**-0.8**
WUAZ	**Wupatki**	**97.88**	**55**	IAMs_20	IAMs_20	12 32 41.1	
	comp=Z,273nm,22.0s						
FXWY	**Fox Creek**	**97.92**	**47**	IAMs_20	IAMs_20	12 33 48.6	
	comp=Z,304nm,20.0s						
MOOW	**Moose Ponds**	**98.12**	**47**	IAMs_20	IAMs_20	12 33 13.9	
	comp=Z,336nm,22.0s						
FLWY	**Flagg Ranch**	**98.14**	**46**	IAMs_20	IAMs_20	12 34 05.3	
	comp=Z,361nm,22.0s						
LPIG	**La Paz**	**98.88**	**66**	LR	LR	12 36 34.5	
	comp=Z,254nm,18.4s,baz=278,slow=32						
PDAR	**Pinedale Array**	**99.04**	**47**	P	**Pdif**	**11 56 56.6**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=321,slow=1.9,SNR=3.7						
PDAR				LR	LR	12 36 52.7	
	comp=Z,84nm,19.4s,baz=266,slow=32						
	comp=Z,0.5nm,0.7s						
KIRV	**Kirov**	**99.65**	**329**	LR	LR	12 42 55.8	
	comp=Z,166nm,21.5s,baz=84,slow=36						
RES	**Resolute Bay**	**99.77**	**14**	LR	LR	12 39 30.1	
	comp=Z,129nm,21.9s,baz=357,slow=34						
TROLL	**Troll, Antarti**	**101.70**	**189**	⇑Pdiff	**Pdif**	**11 57 04.8**	**-3.1**
	comp=Z,117nm,0.8s						
PHWY	**Pilot Hill**	**102.20**	**49**	IAMs_20	IAMs_20	12 39 56.8	
	comp=Z,256nm,18.0s						
MAK	**Makhachkala**	**102.97**	**313**	*e*P	**Pdif**	**11 57 05.7**	**-8.3**
MAK				*i*		12 01 29.1	
MAK				*e*		12 07 46.5	
MAK				*e*PS	**PS**	**12 10 27.4**	**-9.4**
MAK				*e*SS	SS	12 16 07.2	-2.7
MAK				*e*SSS	SSS	12 19 53.8	
MAK				pmax	pmax		
	comp=Z,126nm,0.9s						
TULEG	**Thule**	**104.04**	**9**	IAMs_20	IAMs_20	12 38 49.1	
	comp=Z,285nm,22.0s						
OK031	**S. Brethren Rd**	**109.60**	**53**	IAMs_20	IAMs_20	12 40 27.3	
	comp=Z,292nm,21.0s						
MNK	**Minsk**	**112.19**	**328**	*i* P	**Pdif**	**11 57 51.7**	**-3.0**
MNK				*i*		12 02 31.7	
MNK				*i* PPP	PPP	12 04 54.8	
MNK				*i* PS	**PS**	**12 12 08.0**	**-1.1**
MNK				*i* SS	SS	12 18 15.9	+2.1
MNK				*i* SSS	SSS	12 22 28.5	
MNK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MNK				pmax	pmax		
	comp=N,12nm,0.9s						
MNK				pmax	pmax		
	comp=E,6.0nm,0.8s						
MNK				MLR	MLR		
	comp=E,131nm,19.0s						
MNK				MLR	MLR		
	comp=N,113nm,17.0s						
MNK				MLR	MLR		
	comp=Z,254nm,21.0s						
KIEV	**Kiev**	**113.08**	**324**	IAMs_20	IAMs_20	12 50 00.7	
	comp=Z,264nm,20.0s						
PABE	**Paberze**	**113.70**	**331**	IAMs_20	IAMs_20	12 56 48.9	
	comp=Z,254nm,20.0s						
NOA	**NORSAR Array B**	**115.64**	**340**	PKP	**PKPdf**	**12 01 58.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=62,slow=1.9,SNR=1.4						
OKC	**Ostrava-Krasne**	**119.71**	**327**	AMS	AMS	12 53 40.0	
	comp=Z,300nm,24.0s						
OSTC	**Ostas**	**120.33**	**329**	AMS	AMS	12 55 20.0	
	comp=Z,300nm,20.5s						
CHVC	**Chvalec**	**120.39**	**329**	AMS	AMS	12 55 10.0	
	comp=Z,300nm,17.1s						
DPC	**Dobruska-Polom**	**120.39**	**329**	AMS	AMS	12 55 00.0	
	comp=Z,300nm,20.3s						
UPC	**Upice**	**120.46**	**329**	AMS	AMS	12 55 20.0	
	comp=Z,300nm,20.9s						
PVCC	**Panska Ves**	**121.19**	**329**	AMS	AMS	12 56 30.0	
	comp=Z,200nm,19.3s						
PLCA	**Paso Flores**	**121.21**	**143**	PKP	**PKPdf**	**12 02 08.6**	**-0.3**
	comp=Z,3.1nm,1.1s,baz=207,slow=4.5,SNR=2.3						
BRG	**Berggiesshubel**	**121.29**	**330**	*e*P	**PKiKP**	**12 02 14.8**	**+6.0**
BRG				Amp		12 02 19.3	
	comp=Z,2.5nm,0.9s						
BRG	**Berggiesshubel**	**121.29**	**330**	*e*PKIKP	**PKiKP**	**12 02 14.7**	**+6.0**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRG				MLR	MLR		
	comp=N,138nm,18.3s						
BRG				MLR	MLR		
	comp=Z,218nm,20.8s						
BRG				MLR	MLR		
	comp=E,118nm,23.9s						
GOPC	**GO Pecny, Ondr**	**121.44**	**329**	AMS	AMS	12 56 10.0	
	comp=E,300nm,23.5s						
TREC	**Trest**	**121.45**	**328**	AMS	AMS	12 55 10.0	
	comp=E,200nm,15.2s						
CLL	**Collm**	**121.48**	**331**	IAMs_20	IAMs_20	12 58 49.6	
	comp=Z,223nm,20.0s						
PRU	**Pruhonice**	**121.53**	**329**	AMS	AMS	12 56 40.0	
	comp=Z,300nm,21.6s						
PRA	**Prague**	**121.53**	**329**	AMS	AMS	12 56 50.0	
	comp=Z,200nm,18.1s						
HSKC	**Hora Svate Kat**	**121.71**	**330**	AMS	AMS	12 59 40.0	
	comp=Z,200nm,16.3s						
ZVC	**Zvikov**	**122.04**	**329**	AMS	AMS	12 56 20.0	
	comp=Z,300nm,19.6s						
CKRC	**Cesky Krumlov**	**122.35**	**328**	AMS	AMS	12 55 10.0	
	comp=Z,400nm,22.7s						
KHC	**Kasperske Hory**	**122.55**	**329**	AMS	AMS	12 57 20.0	
	comp=Z,200nm,19.1s						
PDG	**Podgorica**	**122.89**	**319**	IAMs_20	IAMs_20	12 55 06.9	
	comp=Z,185nm,21.0s						
TIR	**Tirane**	**123.00**	**318**	IAMs_20	IAMs_20	13 01 31.0	
	comp=Z,216nm,20.0s						
GRA1	**Grafenberg Arr**	**123.39**	**330**	IAMs_20	IAMs_20	12 56 52.1	
	comp=Z,214nm,20.0s						
GRFO	**Grafenberg**	**123.39**	**330**	IAMs_20	IAMs_20	12 56 53.2	
	comp=Z,224nm,21.0s						
PAL	**Palisades**	**124.90**	**41**	P	**PKPdf**	**12 02 15.1**	**-0.7**
	baz=300						
L61B	**Northampton**	**124.95**	**39**	P	**PKPdf**	**12 02 15.5**	**-0.4**
	baz=302						
PKME	**Peaks-Kenny Pk**	**125.40**	**35**	P	**PKPdf**	**12 02 16.1**	**-0.5**
	baz=307						
HRV	**Adam Dziewonsk**	**125.62**	**39**	P	**PKPdf**	**12 02 16.4**	**-0.7**
	baz=303						
TIP	**Timpagrande**	**126.12**	**317**	IAMs_20	IAMs_20	12 57 36.6	
	comp=Z,210nm,22.0s						
CUC	**Castrocucco**	**126.35**	**318**	IAMs_20	IAMs_20	12 57 56.6	
	comp=Z,207nm,22.0s						
ECH	**Echery**	**126.36**	**331**	IAMs_20	IAMs_20	13 04 09.8	
	comp=Z,205nm,21.0s						
LPAZ	**La Paz**	**135.86**	**118**	PKP	**PKiKP**	**12 02 39.1**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=314,slow=6.0,SNR=3.3						
ESDC	**Sonseca Array**	**138.06**	**332**	PKP	**PKPdf**	**12 02 41.8**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=32,slow=3.2,SNR=2.8						
CART	**Cartagena**	**138.13**	**327**	IAMs_20	IAMs_20	13 02 49.5	
	comp=Z,209nm,22.0s						
CPUP	**Villa Florida**	**138.92**	**139**	PKP	**PKPdf**	**12 02 42.8**	**+0.1**
	comp=Z,4.0nm,1.0s,baz=263,slow=12,SNR=1.6						
TOA0	**Torodi Ar. Sit**	**148.94**	**289**	PKPdf	**PKPdf**	**12 02 59.4**	**-1.0**
TORD	**Torodi Ar. Bea**	**148.94**	**289**	PKPbc	**PKPbc**	**12 03 03.2**	**-1.1**
	comp=Z,7.0nm,0.9s,baz=50,slow=4.0,SNR=12						
BDFB	**Brasilia**	**152.53**	**135**	PKPdf	**PKPdf**	**12 03 04.8**	**-1.3**
BDFB	**Brasilia**	**152.53**	**135**	PKPbc	**PKPbc**	**12 03 12.5**	**-0.5**
	comp=Z,22nm,0.8s,baz=182,slow=1.8,SNR=13						
BDFB	**Brasilia**	**152.53**	**135**	PKIKP	**PKPdf**	**12 03 04.8**	**-1.3**

JMA 04 11:48:46.0±0.1, 32°.9N±0°.3×130°.4E±0°.3, h11km±1km, MV0.3/12, NORTHERN ARIAKEKAI REG, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.14**	**80**	P	Pg	11 48 49.3	0.0
JTA				S	Sg	11 48 51.6	-0.2

*TIR **04** 11:52:58.2, 41°.48N×19°.70E, h24km±3km, Md2.3, Ml2.4*
*PDG **04** 11:52:58.1±0.3, 41°.47N×19°.60E, h13km, ML2.5/11, Error ellipse: s-maj=0.8km s-min=1.4km az=0.0*

ISC 04 11:52:58.2±1.0, 41°.47N±0°.03×19°.62E±0°.04, h13km±9km, n20, σ0°92/35, 6C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.22**	**124**	P	**Pg**	**11 53 03.2**	**+0.1**
	baz=136						
TIR				S	**Sg**	**11 53 06.6**	**+0.2**
	baz=136						
TIR				AMP			
	comp=E,14nm,0.1s,baz=136						
ULC	**Ulcinj**	**0.56**	**331**	⇓*i*Pg	**Pg**	**11 53 08.2**	**-1.1**
ULC				*i* Sg	**Sb**	**11 53 17.7**	**-0.3**
PUK	**Puka**	**0.61**	**20**	P	**Pg**	**11 53 10.2**	**+0.1**
	baz=14						
PUK				S	**Sb**	**11 53 19.1**	**-0.1**
	baz=14						
PUK				AMP			
	comp=N,0.9nm,0.4s,baz=14						
DRME	**Dracevica, Mon**	**0.78**	**336**	⇑*i*Pg	**Pb**	**11 53 12.3**	**-1.4**
DRME				*i* Sg	**Sg**	**11 53 24.9**	**+1.2**
BCI	**Bajram Curri**	**0.95**	**20**	P	**Pb**	**11 53 16.1**	**-0.5**
	baz=17						
BCI				S	**Sg**	**11 53 28.8**	**-0.4**
	baz=17						
BCI				AMP			
	comp=N,0.5nm,0.4s,baz=17						
BUM	**Brajici-Budva**	**0.99**	**327**	⇓*i*Pg	**Pg**	**11 53 17.6**	**+0.3**
BUM				*i* Sg	**Sn**	**11 53 32.8**	**+1.1**
PDG	**Podgorica**	**0.99**	**344**	⇑*i*Pg	**Pb**	**11 53 16.5**	**-0.8**
PDG				*i* Sg	**Sn**	**11 53 33.0**	**+1.3**
PVY	**Plav**	**1.15**	**13**	⇑*i*Pg	Pn	11 53 14.5	-5.6
CEME	**Cevo**	**1.19**	**334**	⇑*i*Pg	**Pb**	**11 53 20.5**	**-0.2**
CEME				*i* Sg	**Sg**	**11 53 38.7**	**+1.9**
HCY	**Herceg Novi**	**1.28**	**320**	⇓*i*Pg	**Pn**	**11 53 21.4**	**-0.4**
HCY				*i* Sg	**Sg**	**11 53 40.5**	**+0.8**
KOME	**Kolasin**	**1.38**	**357**	⇑*i*Pg	**Pb**	**11 53 23.7**	**-0.2**
KOME				*i* Sg	**Sg**	**11 53 44.7**	**+2.0**
NKME	**Niksic**	**1.39**	**339**	⇓*i*Pg	**Pb**	**11 53 23.7**	**-0.3**
NKME				*i* Sg	**Sg**	**11 53 43.9**	**+1.0**
IVA	**Berane**	**1.41**	**8**	⇓*i*Pg	**Pb**	**11 53 23.7**	**-0.8**
IVA				*i* Sg	**Sg**	**11 53 44.7**	**+0.9**
FNA	**Florina**	**1.50**	**117**	P	**Pb**	**11 53 25.2**	**-0.6**
	baz=118						
FNA				S	**Sg**	**11 53 46.5**	**+0.1**
	baz=118						
FNA				AMP			
	comp=E,0.1nm,0.7s,baz=118						
LSK	**Leskovik**	**1.52**	**150**	P	**Pg**	**11 53 28.1**	**+0.7**
	baz=152						
SRN	**Sarande**	**1.62**	**169**	P	**Pg**	**11 53 29.2**	**-0.1**
	baz=171						
SRN				S	**Sg**	**11 53 51.1**	**+0.9**
	baz=171						
SRN				AMP			
	comp=N,0.1nm,0.2s,baz=171						
BRY	**Bratogost**	**1.64**	**331**	⇑*i*Pn	**Pb**	**11 53 27.8**	**-0.5**
BRY				*i* Sn	**Sg**	**11 53 50.8**	**-0.2**
SCTE	**Santa Cesarea**	**1.65**	**212**	P	**Pg**	**11 53 29.6**	**-0.2**
	baz=214						
SCTE				AMP			
	comp=E,0.1nm,0.4s,baz=214						
PLE	**Pljevlja**	**1.86**	**355**	⇓*i*Pn	**Pb**	**11 53 30.8**	**-1.4**
PLE				*i* Sn	**Sg**	**11 53 57.0**	**-1.2**
IGT	**Igoumenitsa**	**2.01**	**164**	P	**Pb**	**11 53 33.7**	**-0.9**
	baz=165						

IDC 04 11:55:46.1±2.2, 3°.80S×151°.41E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=91.4km s-min=28.1km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.12**	**225**	P	P	12 00 53.5	-0.5
	0.7nm,1.0s,baz=50,slow=9.6,SNR=4.6						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**26.00**	**219**	P	P	12 01 21.4	+0.5
	0.4nm,0.8s,baz=52,slow=8.5,SNR=5.4						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**78.67**	**319**	P	P	12 07 50.9	+0.6
	0.4nm,0.8s,baz=100,slow=4.7,SNR=2.6						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**81.77**	**22**	P	P	12 08 06.8	+0.2
	0.2nm,0.7s,baz=248,slow=4.8,SNR=2.8						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**87.62**	**323**	P	P	12 08 35.4	-1.0
	0.4nm,0.4s,baz=101,slow=4.7,SNR=2.3						
	0.4nm,0.4s						

*NEIC **04** 12:02:04.1±0.5, 36°.209N±0°.007×98°.47W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.2km az=111.0*

TUL 04 12:02:04.1±0.4, 36°.22N±0°.01×98°.47W±0°.01, h5km±4km, ML2.9, mb_Lg2.5/40(NEIC), ML2.8/33(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=213.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.34**	**320**	Pg	Pg	12 02 11.2	+0.5
OK038				Sg	Sg	12 02 16.5	+1.3
U32A	**Winter Ranch,**	**0.46**	**291**	Pg	Pg	12 02 13.3	+0.4
U32A				Sg	Sg	12 02 20.1	+1.1
CROK	**Carrier**	**0.49**	**54**	Pg	Pg	12 02 13.9	+0.4
CROK				Sg	Sg	12 02 21.0	+1.1
OK035	**E0210 Rd and N**	**0.53**	**339**	Pg	Pg	12 02 14.7	+0.5
OK035				Sg	Sg	12 02 22.2	+1.1
OK035				IAML		12 02 22.3	
	887nm,0.3s						
OK035				IAML		12 02 22.4	
	756nm,0.2s						
NOKA	**Waynoka**	**0.56**	**318**	Pg	Pg	12 02 15.2	+0.3
NOKA				Sg	Sg	12 02 23.1	+1.0
NOKA				IAML		12 02 23.3	
	comp=E,727nm,0.4s						
NOKA				IAML		12 02 25.8	
	comp=N,700nm,0.2s						
CSTR	**Hydro, Custer**	**0.60**	**197**	Pg	Pg	12 02 16.1	+0.5
CSTR				Sg	Sg	12 02 23.2	-0.2
OK032	**Salt Plains WL**	**0.62**	**20**		Pg	12 02 16.3	+0.2
OK032				IAML		12 02 34.7	
	comp=N,456nm,0.2s						
OK032				IAML		12 02 37.7	
	comp=N,407nm,0.1s						
GC02	**Grant County #**	**0.80**	**38**		Pg	12 02 19.5	0.0
GC02				Sg	Sg	12 02 30.5	+0.6
KAN14	**Manchester OK**	**0.84**	**29**	Pg	Pg	12 02 20.2	-0.1
KAN14				Sg	Sg	12 02 32.1	+0.8
OK029	**Liberty Lake**	**0.93**	**117**	Pg	Pg	12 02 21.8	0.0
OK029				IAML		12 02 34.8	
	comp=N,191nm,0.4s						
KAN17	**Caldwell West**	**1.00**	**34**		Pg	12 02 23.0	-0.3
KAN05	**Bluff City Nor**	**1.01**	**28**		Pg	12 02 23.3	-0.2
KAN08	**Anthony NE Sta**	**1.08**	**22**		Pg	12 02 24.6	-0.3
KAN01	**Argonia South**	**1.10**	**31**		Pg	12 02 24.7	-0.5
KAN13	**South Haven SW**	**1.13**	**45**		Pg	12 02 25.4	-0.3
KAN06	**Argonia West S**	**1.14**	**25**		Pg	12 02 25.6	-0.4
KAN12	**Harper NE Stat**	**1.14**	**19**	Pg	Pg	12 02 25.8	-0.3
KAN09	**Caldwell North**	**1.15**	**37**		Pg	12 02 25.5	-0.6
BLOK	**Blackwell**	**1.15**	**61**	Pg	Pg	12 02 25.8	-0.3
OKCSW	**OKLAHOMA CITY**	**1.17**	**134**	Pg	Pg	12 02 26.0	-0.5
OKCSW				IAML		12 02 42.4	
	comp=E,211nm,0.1s						
OK048	**Pawnee Station**	**1.25**	**80**		Pg	12 02 27.4	-0.7
FNO	**Franklin**	**1.29**	**137**		Pn	12 02 28.2	-0.7
OK031	**S. Brethren Rd**	**1.35**	**101**		Pn	12 02 29.2	-0.4
OK051	**E0350 and S346**	**1.35**	**77**		Pn	12 02 29.2	-0.4
OK052	**Battle Ridge R**	**1.37**	**99**		Pn	12 02 29.4	-0.5
WMOK	**Wichita Mounta**	**1.50**	**190**		Pn	12 02 31.1	-0.6
DEOK	**Depew**	**1.64**	**103**		Pn	12 02 33.6	0.0
W35A	**Tecumseh**	**1.68**	**129**		Pn	12 02 34.2	+0.1
X34A	**Smith Ranch, M**	**1.69**	**162**		Pb	12 02 35.3	-0.5
T35A	**Sooner Cattle**	**1.73**	**66**		Pn	12 02 35.4	+0.6
SMWD	**Samnorwood**	**1.82**	**233**	Pn	Pb	12 02 37.2	-0.7
TUL3	**Leonard**	**2.19**	**97**	Pn	Pn	12 02 41.7	+0.5
R32A	**Long Quarter,**	**2.21**	**355**	Pn	Pn	12 02 42.9	+1.4
LOOK	**Love County**	**2.46**	**154**	IAmb_Lg		12 03 28.5	
	comp=Z,22nm,0.8s						
RLO	**Rose Lookout**	**2.79**	**90**	Pn	Pn	12 02 49.0	-0.4
AMTX	**Amarillo**	**2.94**	**244**	IAmb_Lg		12 03 42.5	
	comp=Z,15nm,0.7s						
X37A	**Clayton**	**3.01**	**122**	Pn	Pn	12 02 53.0	+0.6
X37A				IAmb_Lg		12 03 45.0	
	comp=Z,14nm,1.0s						
FW03	**Perrin-Whitt E**	**3.19**	**174**	IAmb_Lg		12 03 49.7	
	comp=Z,12nm,1.1s						
DKNS	**Dickens**	**3.25**	**219**	IAmb_Lg		12 03 52.1	
	comp=Z,9.3nm,0.8s						
SN07	**Snyder 07**	**3.70**	**213**	IAmb_Lg		12 04 11.6	
	comp=Z,8.5nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.32**	**311**	IAmb_Lg		12 04 22.1	
	comp=Z,8.8nm,0.7s						
MIAR	**Mount Ida**	**4.33**	**111**	Pn	Pn	12 03 11.5	+0.9
S39A	**Bolivar**	**4.38**	**69**	Pn	Pn	12 03 11.5	+0.2
SGCY	**Sterling City**	**4.82**	**208**	IAmb_Lg		12 04 41.3	
	comp=Z,7.8nm,0.9s						
T25A	**Trinidad**	**4.86**	**283**	IAmb_Lg		12 04 39.7	
	comp=Z,8.7nm,0.7s						
BRDY	**Brady**	**4.94**	**185**	Pn	Pn	12 03 17.7	-1.3
BRDY				IAmb_Lg		12 04 41.1	
	comp=Z,5.8nm,1.1s						
MGMO	**Mountain Grove**	**5.07**	**78**	IAmb_Lg		12 04 48.5	
	comp=Z,8.6nm,0.8s						
WHAR	**Wooly Hollow**	**5.11**	**99**	IAmb_Lg		12 04 54.9	
	comp=Z,7.4nm,1.2s						
P38A	**Dawn**	**5.18**	**47**	IAmb_Lg		12 04 54.6	
	comp=Z,5.8nm,0.8s						
R40A	**Maddies Statio**	**5.36**	**65**	IAmb_Lg		12 04 57.0	
	comp=Z,9.3nm,1.1s						
T42A	**Van Buren**	**5.99**	**80**	IAmb_Lg		12 05 16.9	
	comp=Z,9.0nm,0.9s						
CCM	**Cathedral Cave**	**6.06**	**70**	IAmb_Lg		12 05 16.0	
	comp=Z,7.1nm,0.9s						
PBMO	**Poplar Bluff**	**6.50**	**83**	IAmb_Lg		12 05 38.7	
	comp=Z,7.8nm,0.7s						
FVM	**French Village**	**6.67**	**72**	IAmb_Lg		12 05 37.1	
	comp=Z,8.1nm,0.9s						
CGM3	**Cape Girardeau**	**7.16**	**79**	IAmb_Lg		12 05 50.7	
	comp=Z,6.9nm,0.7s						
L40A	**Anamosa**	**8.11**	**42**	IAmb_Lg		12 06 20.9	
	comp=Z,5.6nm,0.8s						

*TIR **04** 12:06:16.9, 41°.51N×19°.65E, h26km±1km, Md3.4, Ml3.1*
*RHSSO **04** 12:06:17.0±0.7, 41°.38N×19°.51E, h8km±2km, ML3.1/13*
*PDG **04** 12:06:17.0±0.6, 41°.44N×19°.53E, h14km±1km, MD3.2/1, ML3.1/11, Error ellipse: s-maj=0.8km s-min=1.8km az=0.0*
*THE **04** 12:06:17.1, 41°.58N×19°.60E, h0km±2km, ML2.9/3, Error ellipse: s-maj=4.8km s-min=1.9km az=239.0*
*BEO **04** 12:06:19.3±0.4, 41°.51N×19°.81E, h12km±2km, ML2.7/8*

ISC 04 12:06:17.5±1.0, 41°.48N±0°.02×19°.56E±0°.02, h11km±8km, n80, σ1°26/128, 21C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.27**	**119**	P	**Pg**	**12 06 23.0**	**0.0**
	baz=133						
TIR				S	**Sb**	**12 06 27.4**	**-1.5**
	baz=133						
TIR				AMP			
	comp=E,61nm,0.4s,baz=133						
TIR	**Tirane**	**0.27**	**119**	P	**Pg**	**12 06 22.9**	**0.0**
TIR				S	**Sb**	**12 06 27.4**	**-1.5**
	comp=E,10μm,0.3s						
TIR	**Tirane**	**0.27**	**119**	*e*Pg	**Pg**	**12 06 22.8**	**-0.1**
TIR				*e*Sg	**Sb**	**12 06 27.3**	**-1.5**
ULC	**Ulcinj**	**0.54**	**334**	⇑*i*Pg	**Pg**	**12 06 27.9**	**-0.2**
ULC				*i* Sg	**Sb**	**12 06 36.6**	**-0.3**
PUK	**Puka**	**0.62**	**24**	P	**Pg**	**12 06 28.8**	**-0.8**
	baz=18						
PUK				S	**Sg**	**12 06 37.5**	**-0.2**
	baz=18						
PUK				AMP			
	comp=E,4.3nm,0.3s,baz=18						
DRME	**Dracevica, Mon**	**0.76**	**339**	*e*Pg	**Pb**	**12 06 32.8**	**0.0**
DRME				*e*Sg	**Sn**	**12 06 46.3**	**+0.5**
DRME	**Dracevica, Mon**	**0.76**	**339**	*e*Pg	**Pg**	**12 06 31.6**	**-0.7**
DRME				*e*Sg	**Sb**	**12 06 44.1**	**+0.9**
DRME	**Dracevica, Mon**	**0.76**	**339**	⇑*i*Pg	**Pg**	**12 06 32.4**	**+0.1**
DRME				*i* Sg	**Sn**	**12 06 44.9**	**-0.9**
BUM	**Brajici-Budva**	**0.96**	**329**	⇓*i*Pg	**Pg**	**12 06 35.7**	**-0.4**
BUM				*i* Sg	**Sn**	**12 06 51.4**	**+0.6**
BCI	**Bajram Curri**	**0.97**	**23**	P	**Pg**	**12 06 34.7**	**-1.4**
	baz=19						
BCI				S	**Sg**	**12 06 48.4**	**-0.4**
	baz=19						
BCI				AMP			
	comp=E,2.3nm,0.6s,baz=19						
PDG	**Podgorica**	**0.98**	**347**	*e*Pg	**Pg**	**12 06 36.4**	**0.0**
PDG				*e*Sg	**Sn**	**12 06 52.0**	**+0.9**
PDG	**Podgorica**	**0.98**	**347**	⇑*i*Pg	**Pg**	**12 06 35.9**	**-0.5**
PDG				*e*Sg	**Sn**	**12 06 51.1**	**0.0**
PDG	**Podgorica**	**0.98**	**347**	⇑*i*Pg	**Pg**	**12 06 35.5**	**-0.9**
PDG				*i* Sg	**Sn**	**12 06 51.3**	**+0.2**
OHR	**Ohrid**	**1.00**	**111**	*i* Pg	**Pg**	**12 06 36.0**	**-0.9**
OHR				*i* Sg	**Sn**	**12 06 50.7**	**-1.1**
VLO	**Vlora**	**1.01**	**183**	P	**Pg**	**12 06 36.4**	**-0.5**
	baz=187						
VLO				S	**Sn**	**12 06 53.4**	**+1.6**
	baz=187						
VLO				AMP			
	comp=N,3.7nm,0.3s,baz=187						
PVY	**Plav**	**1.16**	**15**	*e*Pg	**Pb**	**12 06 39.6**	**0.0**
CEME	**Cevo**	**1.17**	**336**	⇑*i*Pg	**Pn**	**12 06 40.0**	**+0.1**
CEME				*i* Sg	**Sn**	**12 06 57.7**	**+1.8**
HCY	**Herceg Novi**	**1.25**	**321**	⇑*i*Pg	**Pn**	**12 06 40.8**	**-0.2**
HCY				*e*Sg	**Sg**	**12 06 58.6**	**+0.7**
HCY	**Herceg Novi**	**1.25**	**321**	⇓*i*Pg	**Pb**	**12 06 41.3**	**+0.1**
HCY				*i* Sg	**Sg**	**12 06 59.4**	**+1.5**
KBN	**Korca**	**1.26**	**132**	P	**Pg**	**12 06 42.5**	**+0.7**
	baz=135			

STIP	**Stip**	**1.98**	**83**	*i* Pn		**Pb**	**12 06 54.4**	**+0.8**
IGT	**Igoumenitsa**	**2.03**	**163**	P		**Pn**	**12 06 51.7**	**+0.1**
	baz=164							
PRVS	**Prvonek**	**2.14**	**60**	*e*Pn		**Pn**	**12 06 53.2**	**0.0**
IVAS	**Ivanjica**	**2.14**	**12**	*e*Pn		**Pn**	**12 06 53.8**	**+0.5**
IVAS				*e*Sn		**Sn**	**12 07 21.0**	**+1.1**
RUDO	**Rudo**	**2.15**	**356**	*e*Pn		**Pn**	**12 06 54.4**	**+1.1**
RUDO				*e*Sn		**Sb**	**12 07 21.7**	**-1.3**
BARS	**Barje**	**2.15**	**51**	*e*Pn		**Pb**	**12 06 53.7**	**+0.4**
VAY	**Valandovo**	**2.27**	**93**	*i* Pn		**Pb**	**12 06 58.9**	**+0.3**
BBLS	**Lazi&#263i**	**2.39**	**357**	*e*Pn		**Pb**	**12 06 58.9**	**-1.7**
BBLS	**Lazi&#263i**	**2.39**	**357**	*e*Pn		**Pn**	**12 06 58.4**	**+1.7**
BBLS				*e*Sn		**Sn**	**12 07 28.2**	**+2.2**
GRUS	**Gruza**	**2.56**	**19**	*e*Pn		**Pn**	**12 07 00.0**	**+1.1**
GRUS				*e*Sn		**Sn**	**12 07 27.9**	**-2.1**
DIVS	**Divibare**	**2.64**	**7**	*e*Pn		**Pn**	**12 07 00.4**	**+0.3**
DIVS				*e*Sn		**Sn**	**12 07 31.3**	**-0.9**
HAPS	**Han Pijesak,BI**	**2.65**	**350**	*e*Pn		**Pn**	**12 07 01.4**	**+1.1**
HAPS				*e*Sn		**Sn**	**12 07 34.8**	**+2.4**
BOVS	**Bovan**	**2.68**	**36**	⇓P		**Pn**	**12 07 00.5**	**-0.1**
BOVS	**Bovan**	**2.68**	**36**	*e*Pn		**Pn**	**12 07 01.7**	**+1.1**
LKD2	**Lefkada island**	**2.81**	**162**	P		**Pn**	**12 07 02.5**	**0.0**
	baz=163							
TRUS	**Trudelj**	**2.82**	**13**	*e*Pn		**Pn**	**12 07 03.2**	**+0.7**
ZAGS	**Zajecar**	**3.06**	**39**	*e*Pn		**Pn**	**12 07 05.9**	**+0.1**
TEKS	**Tekeris**	**3.07**	**360**	*e*Pn		**Pn**	**12 07 08.6**	**+2.6**
TEKS	**Tekeris**	**3.07**	**360**	*e*Sn		**Sn**	**12 07 44.5**	**+1.8**
TIP	**Timpagrande**	**3.14**	**224**	⇑P		**Pn**	**12 07 05.9**	**-1.0**
KUBS	**Kucevo**	**3.32**	**27**	*e*Pn		**Pn**	**12 07 08.4**	**-1.0**
KUBS				*e*Sn		**Sn**	**12 07 46.5**	**-2.4**
MDVR	**Moldovita**	**3.66**	**25**	⇓P		**Pn**	**12 07 14.6**	**+0.4**
FRGS	**Fruska Gora**	**3.68**	**3**	⇓P		**Pn**	**12 07 17.2**	**+2.8**
FRGS	**Fruska Gora**	**3.68**	**3**	⇑*i*Pn		**Pn**	**12 07 15.0**	**+0.6**
FRGS				*e*Sn		**Sn**	**12 07 59.1**	**+1.2**
BLY	**Banja Luka**	**3.70**	**333**	*e*Pn		**Pn**	**12 07 14.9**	**+0.2**
BLY				*e*Sn		**Sn**	**12 07 59.6**	**+1.3**
A050A	**Klekovaca**	**3.73**	**325**	*e*Pn		**Pn**	**12 07 15.9**	**+0.7**
A050A				*e*Sn		**Sn**	**12 07 59.3**	**+0.1**
HERR	**Herculane**	**3.99**	**31**	⇑P		**Pn**	**12 07 19.8**	**+1.2**
SRE	**Strehaia**	**4.16**	**39**	⇑P		**Pn**	**12 07 22.6**	**+1.7**
BZS	**Buzias**	**4.40**	**19**	⇑P		**Pn**	**12 07 25.0**	**+0.8**
GZR	**Gura Zlata**	**4.56**	**30**	⇑P		**Pn**	**12 07 29.2**	**+2.6**
MORH	**Mrgy, Hungar**	**4.78**	**352**	⇑P		**Pg**	**12 07 48.5**	**-0.6**
ELND	**Elena**	**4.91**	**71**	⇑P		**Pn**	**12 07 33.3**	**+2.0**
BOJS	**Bojanci**	**5.10**	**324**	⇑*i*Pn		**Pn**	**12 07 34.2**	**+0.3**
BOJS				*e*Sn		**Sn**	**12 08 32.1**	**-0.6**
VOIR		**5.62**	**43**	⇑P		**Pn**	**12 07 44.0**	**+2.8**
DRGR		**5.78**	**22**	⇑P		Pb	12 07 53.4	-4.9
MORC	**Moravsky Berou**	**8.42**	**351**	*e*PG		**Pg**	**12 08 55.1**	**-3.5**
KHC	**Kasperske Hory**	**8.73**	**333**	*e*PN		**Pn**	**12 08 22.0**	**-1.8**
KHC				*e*SN		**Sn**	**12 09 55.0**	**-7.2**

*BEO **04** 12:55:51.2±0.9, 41°.32N×19°.43E, h14km±2km, ML2.2/6*
*TIR **04** 12:55:52.7, 41°.47N×19°.56E, h25km±3km, Md2.9, Ml2.6*
ISC 04 12:55:54.4±1.5, 41°.50N±0°.02×19°.63E±0°.04, h14km±12km, n21, σ1°.20/36, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.23**	**131**	P	**Pb**	**12 55 58.8**	**-1.5**
	baz=117						
TIR				S	**Sb**	**12 56 03.8**	**-0.5**
	baz=117						
TIR				AMP			
	comp=N,10.0nm,0.4s,baz=117						
TIR	**Tirane**	**0.23**	**131**	*e*Pg	**Pb**	**12 55 58.8**	**-1.5**
TIR				*e*Sg	**Sb**	**12 56 03.6**	**-0.7**
PUK	**Puka**	**0.58**	**19**	P	**Pb**	**12 56 04.0**	**-2.4**
	baz=23						
PUK				S	**Sb**	**12 56 14.8**	**+0.3**
	baz=23						
PUK				AMP			
	comp=N,0.7nm,0.3s,baz=23						
DRME	**Dracevica, Mon**	**0.77**	**334**	*e*Pg	**Pb**	**12 56 07.6**	**-1.9**
DRME				*e*Sg	**Sg**	**12 56 20.3**	**+0.9**
BCI	**Bajram Curri**	**0.93**	**20**	P	**Pb**	**12 56 12.0**	**-0.3**
	baz=22						
BCI				S	**Sb**	**12 56 25.2**	**+0.7**
	baz=22						
BCI				AMP			
	comp=N,0.5nm,0.5s,baz=22						
PDG	**Podgorica**	**0.97**	**343**	*e*Pg	**Pb**	**12 56 10.6**	**-2.5**
PDG				*e*Sg	**Sn**	**12 56 27.2**	**0.0**
KBN	**Korca**	**1.23**	**135**	P	**Pn**	**12 56 15.6**	**-1.7**
	baz=131						
KBN				S	**Sg**	**12 56 35.0**	**+0.7**
	baz=131						
KBN				AMP			
	comp=N,0.6nm,0.5s,baz=131						
KOME	**Kolasin**	**1.36**	**356**	*e*Pg	**Pb**	**12 56 19.9**	**+0.3**
KOME				*e*Sg	**Sg**	**12 56 39.5**	**+1.3**
BEY	**Berane**	**1.39**	**8**	*e*Pg	**Pn**	**12 56 19.6**	**+0.2**
FNA	**Florina**	**1.50**	**118**	P	**Pn**	**12 56 21.6**	**+0.8**
	baz=115						
FNA				S	**Sg**	**12 56 43.3**	**+0.6**
	baz=115						
LSK	**Leskovik**	**1.53**	**151**	P	**Pn**	**12 56 22.3**	**+0.9**
	baz=148						
LSK				S	**Sb**	**12 56 43.3**	**+1.4**
	baz=148						
SRN	**Sarande**	**1.64**	**170**	P	**Pn**	**12 56 22.6**	**-0.2**
	baz=167						
SRN				S	**Sb**	**12 56 44.4**	**-0.5**
	baz=167						
SRN				AMP			
	comp=N,0.2nm,0.6s,baz=167						
SCTE	**Santa Cesarea**	**1.68**	**212**	P	**Pn**	**12 56 23.4**	**+0.1**
	baz=212						
SCTE				S	**Sb**	**12 56 45.1**	**-0.8**
	baz=212						
SJES	**Sjenica**	**1.78**	**8**	*e*Pn	**Pn**	**12 56 23.3**	**-1.6**
SJES				*e*Sn	**Sb**	**12 56 50.0**	**+0.9**
IGT	**Igoumenitsa**	**2.03**	**165**	P	**Pn**	**12 56 28.7**	**+0.5**
	baz=162						
IGT				S	**Sn**	**12 56 54.2**	**+0.9**
	baz=162						
IGT				AMP			
	comp=N,0.2nm,0.5s,baz=162						
NOCI	**Noci**	**2.07**	**251**	P	**Pb**	**12 56 31.5**	**-0.2**
	baz=251						
PRVS	**Prvonek**	**2.08**	**60**	*e*Pn	**Pn**	**12 56 29.6**	**+0.7**
BARS	**Barje**	**2.09**	**50**	*e*Pn	**Pn**	**12 56 29.4**	**+0.4**
BARS				*e*Sn	**Sb**	**12 56 57.5**	**-0.4**
BBLS	**Lazi&#263i**	**2.37**	**356**	*e*Sn	**Sn**	**12 57 03.1**	**+1.2**
DIVS	**Divibare**	**2.61**	**6**	*e*Sn	**Sn**	**12 57 09.8**	**+2.0**
KUBS	**Kucevo**	**3.28**	**27**	*e*Pn	**Pn**	**12 56 43.5**	**-1.8**

*HEL **04** 13:10:46.4±0.2, 68°.11N×33°.06E, h0km, ML1.5, Explosion*
*KOLA **04** 13:10:47.6, 68°.05N×33°.16E, h0km, ML1.7, Error ellipse: s-maj=4.6km s-min=3.2km az=90.0, Olenegorsk City, Mines*
*IDC **04** 13:10:51.2±2.5, 67°.99N×31°.92E, h0km, mbtmp2.6/2, ML1.7/2, Error ellipse: s-maj=27.0km s-min=9.6km az=71.0*
ISC 04 13:10:45.9±0.8, 68°.09N±0°.03×33°.05E±0°.03, h0km, n28, σ1°.69/48, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.49**	**183**	P	**Pg**	**13 10 55.3**	**+0.1**
APA0				S	**Sg**	**13 11 01.9**	**+0.4**
APA	**Apatity**	**0.54**	**165**	P	**Pg**	**13 10 56.4**	**+0.2**
APA				S	**Sg**	**13 11 02.9**	**-0.3**
LVZ	**Lovozero**	**0.63**	**107**	P	**Pg**	**13 10 58.5**	**+0.5**
LVZ				S	**Sg**	**13 11 05.5**	**-0.8**
LVZ	**Lovozero**	**0.63**	**107**	SG	**Sg**	**13 11 06.0**	**-0.2**
VRF	**Varrio**	**1.34**	**257**	PG	**Pg**	**13 11 10.8**	**-0.8**
	baz=71						
VRF				MSG		13 11 27.1	
	comp=Z,8.1nm,0.2s						
VRF				SB	**Sg**	**13 11 28.7**	**-0.3**
TERR	**Teriberka**	**1.35**	**33**	P	**Pg**	**13 11 11.2**	**-0.4**
TERR				S	**Sg**	**13 11 28.8**	**-0.4**
RAJF	**Raja-Jooseppi**	**1.81**	**285**	PG	**Pn**	**13 11 18.7**	**+0.5**
RAJF				SG	**Sn**	**13 11 41.4**	**-0.4**
OLKF	**Oulanka, Finla**	**2.27**	**220**	PG	**Pb**	**13 11 28.0**	**+0.2**
OLKF				MSG		13 11 54.3	
	comp=Z,1.1nm,0.2s						
OLKF				SG	**Sb**	**13 11 56.2**	**-0.3**
KU6	**Riekki**	**2.42**	**212**	PB	**Pn**	**13 11 28.5**	**+1.9**
KU6				SB	**Sn**	**13 11 58.1**	**+1.3**
KU6				MSG		13 11 58.2	
	comp=Z,1.1nm,0.2s						
VADS	**Vadso**	**2.43**	**329**	P	**Pb**	**13 11 30.0**	**-0.4**
VADS				S	**Sb**	**13 12 00.4**	**-0.5**
SGF	**Sodankyl**	**2.56**	**258**	PN	**Pn**	**13 11 29.3**	**+0.6**
SGF				SB	**Sb**	**13 12 03.0**	**-1.7**
MSF	**Maaselka**	**2.70**	**218**	PB	**Pb**	**13 11 33.3**	**-1.6**
MSF				SG	**Sb**	**13 12 08.9**	**+0.4**
KEV	**Kevo**	**2.75**	**310**	PB	**Pn**	**13 11 32.9**	**+1.7**
KEV				SB	**Sn**	**13 12 06.5**	**+1.4**
KEV				MSG		13 12 07.2	
	comp=Z,1.8nm,0.2s						
ARA0	**ARCESS Array S**	**3.10**	**301**	PN	**Pn**	**13 11 36.8**	**+0.8**
	baz=116						
ARA0				SN	**Sn**	**13 12 14.0**	**+0.3**
ARCES	**ARCESS Array B**	**3.10**	**301**	Pn	**Pn**	**13 11 36.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=119,slow=15,SNR=14						
ARCES				Sn	**Sn**	**13 12 12.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=123,slow=30,SNR=5.5						
ARCES				Lg	Lg	13 12 19.3	
	comp=Z,0.6nm,0.3s,baz=120,slow=29,SNR=9.1						
ARCES				Rg	Rg	13 12 34.7	
	comp=Z,2.0nm,0.6s,baz=126,slow=26,SNR=5.0						
	comp=Z,1.2nm,0.5s						
RNF	**Rovaniemi**	**3.10**	**245**	PN	**Pn**	**13 11 36.9**	**+0.9**
RNF				SN	**Sn**	**13 12 14.2**	**+0.4**
RANF	**Ranua**	**3.22**	**233**	SB	**Sb**	**13 12 22.8**	**-0.7**
HEF	**Hetta**	**3.51**	**280**	PN	**Pn**	**13 11 41.7**	**0.0**
HEF				SN	**Sn**	**13 12 23.1**	**-0.7**
KLF	**Kolari**	**3.57**	**260**	PN	**Pn**	**13 11 44.2**	**+1.7**
	baz=71						
KLF				SN	**Sn**	**13 12 26.6**	**+1.2**
KTK1	**Kautokeino**	**3.72**	**289**	PG	**Pb**	**13 11 53.5**	**+1.1**
TOF	**Tornio**	**3.96**	**243**	PG	**Pb**	**13 11 58.4**	**+1.9**
TOF				SN	**Sn**	**13 12 33.4**	**-1.5**
RMF	**Romuvaara**	**4.09**	**199**	PN	**Pn**	**13 11 49.9**	**+0.3**
LANU	**Lannavaara**	**4.15**	**275**	PN	**Pn**	**13 11 49.3**	**-1.1**
LANU				SN	**Sn**	**13 12 39.0**	**-0.5**
KALU	**Kalix**	**4.42**	**244**	SG	**Sb**	**13 13 03.0**	**+5.1**
ERTU	**Ertsjaerv**	**4.48**	**255**	PN	**Pn**	**13 11 55.0**	**+0.1**
ERTU				SN	**Sn**	**13 12 46.1**	**-1.6**
I37NO		**5.38**	**287**	I	I	13 41 10.0	
	baz=94,slow=311,SNR=2.5						
FAUS	**Fauske**	**6.78**	**272**	S	**Sn**	**13 13 40.1**	**-4.2**
FINES	**FINESS Array B**	**7.30**	**207**	Pn	**Pn**	**13 12 35.1**	**+1.5**
	baz=24,slow=14,SNR=1.3						
FINES				Sn	**Sn**	**13 13 50.5**	**-6.6**
	comp=Z,0.1nm,0.3s,baz=24,slow=21,SNR=1.4						
FINES				Lg	Lg	13 14 29.6	
	comp=Z,0.2nm,0.3s,baz=25,slow=26,SNR=4.4						
	comp=Z,0.3nm,0.3s						

*IDC **04** 13:12:04.3±0.8, 21°.19S×67°.44W, h176km±9km, mb3.4/4, mbtmp3.9/8, MS3.6/1, Error ellipse: s-maj=19.7km s-min=10.1km az=109.0*
*NEIC **04** 13:12:04.2±1.8, 21°.38S±0°.07×67°.3W±0°.1, h170km±10km, mb4.1/5, Error ellipse: s-maj=18.0km s-min=9.8km az=96.0*
*SCB **04** 13:12:05.1±1.4, 21°.40S×67°.38W, h186km±23km, ML4.1/1, MW3.0, Error ellipse: s-maj=10.4km s-min=6.4km az=0.0*
*VAO **04** 13:12:05.0±0.6, 21°.72S×66°.80W, h143km±12km, mb4.5*
*GUC **04** 13:12:06.2±0.7, 21°.36S×67°.63W, h206km±4km, ML4.1*
ISC 04 13:12:04.3±0.7, 21°.30S±0°.04×67°.44W±0°.05, h184km±7km, n68, σ1°.53/82, mb3.9/5, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.68**	**89**	Pg	**Pn**	**13 12 40.3**	**+1.5**
MOCB				Sg	**Sn**	**13 13 05.8**	**+0.3**
MOCB				IAML		13 13 07.0	
	1μm,0.5s						
PB09	**IPOC Station P**	**1.75**	**253**		**Pn**	**13 12 35.6**	**-3.5**
PB09	**IPOC Station P**	**1.75**	**253**	*e*P	Pn	13 12 35.0	-4.1
PB09				*e*S	**Sn**	**13 13 07.9**	**+1.8**
AF01	**San Pedro de A**	**1.78**	**202**	Pn	**Pn**	**13 12 40.4**	**+0.8**
LVC	**Limon Verde**	**1.88**	**226**	P	**Pn**	**13 12 41.2**	**+0.4**
	105nm,0.2s,baz=51,slow=8.5,SNR=223						
LVC				S	**Sn**	**13 13 09.6**	**+0.5**
	48nm,0.2s,baz=130,slow=17,SNR=28						
LVC	**Limon Verde**	**1.88**	**226**	⇑*e*P	**Pn**	**13 12 42.0**	**+1.2**
LVC				*e*S	**Sn**	**13 13 10.2**	**+1.1**
LVC				IAML		13 13 12.0	
	comp=Z,654nm,0.6s						
LVC	**Limon Verde**	**1.88**	**226**	*e*P	**Pn**	**13 12 42.0**	**+1.2**
LVC				*e*S	**Sn**	**13 13 09.4**	**+0.3**
GO01	**Chusmiza**	**2.31**	**314**		**Pn**	**13 12 46.4**	**+0.9**
GO01	**Chusmiza**	**2.31**	**314**	*e*P	**Pn**	**13 12 47.5**	**+1.9**
GO01				*e*S	**Sn**	**13 13 19.3**	**+1.7**
GO01				IAML		13 13 24.0	
	comp=N,469nm,0.2s						
GO01	**Chusmiza**	**2.31**	**314**	Pg	**Pn**	**13 12 47.6**	**+2.0**
PB06	**IPOC Station P**	**2.42**	**234**		**Pn**	**13 12 46.8**	**+0.4**
PB06	**IPOC Station P**	**2.42**	**234**	*e*P	**Pn**	**13 12 47.2**	**+0.8**
PB06				*e*S	**Sn**	**13 13 18.9**	**-0.3**
PB06				IAML		13 13 20.5	
	comp=E,656nm,0.4s						
HMBC	**Humberstone**	**2.50**	**294**		**Pn**	**13 12 46.0**	**-1.4**
PATCX	**Punta Patache**	**2.58**	**280**		**Pn**	**13 12 49.0**	**+0.9**
PATCX	**Punta Patache**	**2.58**	**280**	*e*P	**Pn**	**13 12 49.2**	**+1.1**
PATCX				*e*S	**Sn**	**13 13 21.3**	**-1.0**
PATCX				IAML		13 13 24.1	
	comp=N,789nm,0.2s						
TA01	**Diego Aracena**	**2.66**	**285**		**Pn**	**13 12 49.7**	**+0.6**
TA01	**Diego Aracena**	**2.66**	**285**	*e*P	**Pn**	**13 12 49.7**	**+0.6**
TA01				*i* S	**Sn**	**13 13 22.7**	**-1.3**
TA01				IAML		13 13 24.7	
	comp=E,334nm,0.2s						
PB15	**IPOC Station P**	**2.67**	**224**		**Pn**	**13 12 49.8**	**+0.5**
PB15	**IPOC Station P**	**2.67**	**224**	*e*P	**Pn**	**13 12 50.4**	**+1.0**
PB15				*e*S	**Sn**	**13 13 24.4**	**-0.2**
PB15	**IPOC Station P**	**2.67**	**224**	Pg	**Pn**	**13 12 50.5**	**+1.1**
PB15				Sg	**Sn**	**13 13 24.8**	**+0.2**
PB04	**IPOC Station P**	**2.72**	**247**		**Pn**	**13 12 49.6**	**-0.3**
PB04	**IPOC Station P**	**2.72**	**247**	*e*P	**Pn**	**13 12 50.2**	**+0.4**
PB04				*e*S	**Sn**	**13 13 23.8**	**-1.6**
PB04				IAML		13 13 26.3	
	comp=N,576nm,0.3s						
TA02	**Huaiquique**	**2.72**	**292**	*i* S	**Sn**	**13 13 24.1**	**-1.0**
SOEO	**Opoqueri**	**2.76**	**351**	Pg	**Pn**	**13 12 53.8**	**+3.1**
PB05	**IPOC Station P**	**2.99**	**238**		**Pn**	**13 12 53.3**	**+0.2**
PB05	**IPOC Station P**	**2.99**	**238**	*e*P	**Pn**	**13 12 53.9**	**+0.8**
PB05				*e*S	**Sn**	**13 13 29.4**	**-1.8**
PB05				IAML		13 13 31.5	
	comp=E,189nm,0.6s						
SOET	**ToroToro**	**3.52**	**26**	Pg	**Pn**	**13 13 01.4**	**+1.5**
PB10	**IPOC Station P**	**3.62**	**232**		**Pn**	**13 13 00.3**	**-0.4**
PB10	**IPOC Station P**	**3.62**	**232**	*e*P	**Pn**	**13 13 01.0**	**+0.2**
PB10				*i* S	**Sn**	**13 13 41.3**	**-3.7**
AOEA	**Aiquile**	**3.74**	**34**	Pg	**Pn**	**13 13 04.0**	**+1.4**
PB18	**Visviri**	**4.16**	**332**		**Pn**	**13 13 09.8**	**+1.7**
PB14	**IPOC Station P**	**4.29**	**219**		**Pn**	**13 13 08.4**	**-1.1**
GO02	**Mina Guanaco**	**4.32**	**207**		**Pn**	**13 13 09.4**	**-0.5**
GO02	**Mina Guanaco**	**4.32**	**207**	⇑*e*P	**Pn**	**13 13 10.4**	**+0.6**
GO02				*i* S	**Sn**	**13 13 60.0**	**-1.4**
SOEJ	**Jacaque**	**4.36**	**351**	Pg	**Pn**	**13 13 14.0**	**+3.3**
BBOE	**La Paz, Chanca**	**4.50**	**353**	Pg	**Pn**	**13 13 15.6**	**+3.2**
BBOD	**La Paz, Gloria**	**4.77**	**347**	Pg	**Pn**	**13 13 18.8**	**+2.9**
LPAZ	**La Paz**	**5.03**	**352**		**Pn**	**13 13 20.8**	**+1.5**
LPAZ	**La Paz**	**5.03**	**352**	P	**Pn**	**13 13 19.8**	**+0.4**
	comp=E,15nm,0.4s,baz=162,slow=7.1,SNR=71						
LPAZ				S	**Sn**	**13 14 15.9**	**-2.3**
	comp=E,3.4nm,0.6s,baz=45,slow=21,SNR=1.7						
LPAZ	**La Paz**	**5.03**	**352**	Pg	**Pn**	**13 13 21.6**	**+2.2**
AC01	**Pan de Azucar**	**5.62**	**210**		**Pn**	**13 13 25.0**	**-1.4**
AC06	**Mina Casimiro**	**6.59**	**203**		**Pn**	**13 13 36.4**	**-2.6**
GO03	**Copiap**	**6.76**	**202**		**Pn**	**13 13 39.1**	**-2.2**
BBSD	**Serra de San D**	**7.64**	**59**	*e*P	**Pn**	**13 13 50.8**	**-2.2**
AC05	**El Transito**	**7.93**	**198**		**Pn**	**13 13 54.1**	**-2.6**
SIV	**San Ignacio**	**8.02**	**50**	P	**Pn**	**13 13 56.2**	**-1.8**
	comp=E,19nm,0.4s,baz=218,slow=12,SNR=66						
SIV				S	Sn	13 15 18.0	-10
	comp=E,2.3nm,0.5s,baz=234,slow=13,SNR=1.1						
CO01	**Juntas del Tor**	**8.96**	**195**	Pn	**Pn**	**13 14 09.8**	**-0.6**
PTLB	**Pontes e Lacer**	**9.80**	**55**		**Pn**	**13 14 19.9**	**-1.3**
PTLB	**Pontes e Lacer**	**9.80**	**55**	*e*P	**Pn**	**13 14 19.7**	**-1.5**
CPUP	**Villa Florida**	**10.52**	**120**	P	**Pn**	**13 14 30.3**	**-0.2**
	comp=E,0.7nm,0.4s,baz=34,slow=9.9,SNR=1.9						
VILB	**Vilhena**	**10.81**	**41**		**Pn**	**13 14 34.1**	**-0.3**
VILB	**Vilhena**	**10.81**	**41**	*e*P	**Pn**	**13 14 35.0**	**+0.6**
PDRB	**Porto dos Gac**	**14.08**	**48**	*e*P	**Pn**	**13 15 15.2**	**-0.7**
SNDB	**Serra Nova Dou**	**18.02**	**62**	*e*P	**P**	**13 16 01.8**	**+0.2**
BDFB	**Brasilia**	**19.26**	**76**	P	**Pn**	**13 16 16.9**	**-1.3**
	comp=E,1.9nm,0.5s,baz=240,slow=4.4,SNR=3.0						
BOAV	**Boa Vista**	**24.51**	**17**	P	**P**	**13 17 08.2**	**+1.4**
PCRV	**Puerto La Cruz**	**31.40**	**5**	LR	LR	13 31 35.2	
	comp=E,116nm,20.0s,slow=37						
TXAR	**Lajitas Array**	**61.26**	**324**	P	**P**	**13 21 59.2**	**-1.1**
	comp=E,0.1nm,0.5s,baz=169,slow=6.4,SNR=2.0						
	comp=E,0.1nm,0.5s						
SNAA	**Sanae**	**62.02**	**161**	P	**P**	**13 22 05.4**	**+0.7**
SNAA				IAmb	IAmb	13 22 23.1	
	comp=Z,3.0nm,1.3s						
SNAA	**Sanae**	**62.02**	**161**	P	**P**	**13 22 05.9**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=276,slow=5.2,SNR=5.9						
	comp=Z,0.9nm,0.7s						
QSPA	**South Pole Qui**	**68.89**	**180**	P	**P**	**13 22 51.1**	**+2.1**
QSPA				IAmb	IAmb	13 22 52.1	
	comp=Z,2.1nm,0.8s						
QSPA	**South Pole Qui**	**68.89**	**180**	P	**P**	**13 22 51.4**	**+2.5**
	comp=Z,1.0nm,0.5s,baz=120,slow=2.1,SNR=16						
	comp=Z,1.0nm,0.5s						
TOA0	**Torodi Ar. Sit**	**76.00**	**70**	P	**P**	**13 23 31.2**	**-0.4**
TOA0				IAmb	IAmb	13 23 32.5	
	comp=Z,5.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**76.00**	**70**	P	**P**	**13 23 31.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**76.00**	**70**	P	**P**	**13 23 31.9**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=257,slow=5.6,SNR=16						
	comp=Z,1.3nm,0.4s						
ASAR	**Alice Springs**	**130.71**	**206**	PKP	**PKPdf**	**13 30 54.7**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=149,slow=1.9,SNR=5.2						
WRA	**Warramunga Arr**	**133.80**	**209**	PKP	**PKiKP**	**13 31 02.1**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=153,slow=1.9,SNR=2.3						
MKAR	**Makanchi Array**	**144.66**	**37**	PKP	**PKPdf**	**13 31 19.6**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=305,slow=3.1,SNR=9.1						

*RHSSO **04** 13:28:00.6±0.3, 43°.89N×18°.90E, h4km±3km, ML1.4/4*
BEO 04 13:27:34.0±0.4, 43°.12N×20°.76E, h0km±4km, ML1.5/6, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJES	**Sjenica**	**0.59**	**284**	*e*Pg	Pg	13 27 43.4	-2.0
SJES				*e*Sg	Sg	13 27 53.4	+0.3
IVAS	**Ivanjica**	**0.64**	**316**	*e*Pg	Pg	13 27 44.8	-1.5
IVAS				*e*Sg	Sg	13 27 53.5	-1.0
GRUS	**Gruza**	**0.77**	**357**	*e*Pg	Pg	13 27 48.0	-0.8
GRUS				*e*Sg	Sg	13 27 59.8	+1.0
BARS	**Barje**	**0.83**	**111**	*e*Pg	Pg	13 27 48.9	-1.0
BARS				*e*Sg	Sg	13 28 00.2	-0.4
BOVS	**Bovan**	**0.86**	**53**	*e*Pg	Pg	13 27 50.2	-0.3
BOVS				*e*Sg	Sg	13 28 01.0	-0.6
DIVS	**Divibare**	**1.13**	**331**	*e*Pg	Pg	13 27 55.3	-0.3
DIVS				*e*Sg	Sg	13 28 10.9	+0.6
RUDO	**Rudo**	**1.13**	**297**	*e*Pg	Pn	13 28 08.3	+11
RUDO				*e*Sg	Sn	13 28 14.5	+1.1
TRUS	**Trudelj**	**1.14**	**347**	*e*Pg	Pg	13 27 55.3	-0.5
BBLS	**Lazi&#263i**	**1.24**	**308**	*e*Sg	Sg	13 28 13.8	0.0
BBLS	**Lazi&#263i**	**1.24**	**308**	*e*Pg	Pn	13 28 07.3	+8.6
BBLS				*e*Sg	Sg	13 28 13.3	-0.5
ZAGS	**Zajecar**	**1.28**	**57**	*e*Sg	Sg	13 28 15.0	0.0
KUBS	**Kucevo**	**1.45**	**27**	*e*Pg	Pn	13 27 59.7	-1.8
KUBS				*e*Sg	Sg	13 28 18.3	-2.4
HAPS	**Han Pijesak,BI**	**1.63**	**307**	*i*Pg	Pn	13 28 04.0	-0.1
HAPS				*e*Sg	Sn	13 28 07.5	-18
TEKS	**Tekeris**	**1.69**	**328**	*e*Pg	Pn	13 28 03.4	-1.4
TEKS				*e*Sg	Sn	13 28 26.5	-0.6
TEKS	**Tekeris**	**1.69**	**328**	*e*Pg	Pg	13 28 15.2

PUK Puka 0.66 23 Pg **Pb 13 33 40.6 -0.8**
PUK IAML 13 33 53.7
comp=E,652nm,1.0s
DRME Dracevica, Mon 0.80 340 *e*Pg **Pb 13 33 44.1 +0.4**
DRME *e*Sg **Sn 13 33 57.3 +1.2**
DRME Dracevica, Mon 0.80 340 *e*Pg **Pn 13 33 45.1 +0.4**
DRME *e*Sg **Sn 13 33 57.7 +1.6**
VLO Vlora 0.97 182 P **Pg 13 33 49.6 +2.3**
baz=185
VLO S **Sn 13 34 02.9 +2.6**
baz=185
VLO AMP
comp=N,21nm,0.4s,baz=185
VLO Vlora 0.97 182 Pg 13 33 49.1 +1.8
VLO IAML 13 34 10.3
comp=E,2μm,0.6s
VLO Vlora 0.97 182 P **Pg 13 33 49.7 +2.4**
OHR Ohrid 1.00 109 *i* Pg **Pb 13 33 47.4 +0.1**
OHR *i* Sg **Sn 13 34 02.2 +0.9**
BCI Bajram Curri 1.01 23 P **Pb 13 33 47.0 -0.4**
baz=20
BCI S **Sn 13 34 01.5 +0.1**
baz=20
BCI AMP
comp=E,4.4nm,0.5s,baz=20
PDG Podgorica 1.01 348 Pg **Pb 13 33 47.7 +0.3**
PDG Podgorica 1.01 348 *e*Pg **Pg 13 33 48.8 +0.6**
PDG *e*Sg **Sn 13 34 04.2 +2.7**
PDG Podgorica 1.01 348 *e*Pg **Pg 13 33 48.4 +0.2**
PDG *e*Sg **Sn 13 34 04.4 +2.9**
PVY Plav 1.20 15 *e*Pg **Pb 13 33 51.1 +0.4**
KBN Korca 1.24 130 P **Pg 13 33 53.4 +0.9**
baz=132
KBN S **Sg 13 34 09.6 +0.8**
baz=132
KBN AMP
comp=N,11nm,0.5s,baz=132
KBN Korca 1.24 130 Pb 13 33 52.2 +0.8
KBN IAML 13 34 14.2
comp=E,638nm,1.1s
KBN IAML 13 34 15.5
comp=N,1μm,0.6s
KBN Korca 1.24 130 P **Pg 13 33 53.2 +0.7**
HCY Herceg Novi 1.28 323 ⇓*i* Pg **Pg 13 33 53.4 +0.3**
HCY *e*Sg **Sg 13 34 11.9 +2.1**
KOME Kolasin 1.41 359 *e*Pg **Pg 13 33 56.3 +0.6**
KOME *e*Sg **Sg 13 34 16.5 +2.3**
BEY Berane 1.46 10 *e*Pg **Pb 13 33 55.6 +0.5**
LSK Leskovik 1.52 148 P **Pg 13 33 57.5 -0.2**
baz=149
LSK S **Sg 13 34 18.3 +0.9**
baz=149
LSK AMP
comp=E,7.8nm,0.6s,baz=149
LSK Leskovik 1.52 148 P **Pg 13 33 57.5 -0.2**
SKO Skopje 1.52 69 *i* Pn **Pb 13 33 56.8 +0.7**
FNA Florina 1.53 115 P **Pb 13 33 57.4 +1.1**
baz=116
FNA S **Sg 13 34 18.4 +0.4**
baz=116
FNA Florina 1.53 115 Pb 13 33 57.1 +0.8
FNA Sn **Sg 13 34 17.4 -0.5**
FNA Florina 1.53 115 P **Pb 13 33 56.8 +0.5**
FNA S **Sg 13 34 17.7 -0.2**
comp=E,3μm,0.5s
FNA Florina 1.53 115 *e*Pg **Pb 13 33 57.4 +1.1**
FNA *e*Sg **Sg 13 34 18.5 +0.6**
NEST Nestorio 1.53 131 P **Pb 13 33 57.5 +1.2**
NEST S **Sg 13 34 18.7 +0.7**
comp=E,1μm,0.8s
TREB Trebinje 1.56 326 *e*Pn **Pb 13 33 57.9 +1.2**
TREB *e*Sn **Sg 13 34 18.5 -0.2**
SCTE Santa Cesarea 1.59 211 P **Pg 13 33 59.1 0.0**
baz=213
SCTE AMP
comp=N,0.9nm,0.4s,baz=213
SCTE Santa Cesarea 1.59 211 Pn 13 33 56.8 +1.1
SRN Sarande 1.59 167 P **Pb 13 33 57.9 +0.6**
baz=169
SRN S **Sg 13 34 21.4 +1.4**
baz=169
SRN AMP
comp=E,2.4nm,0.4s,baz=169
SRN Sarande 1.59 167 P **Pb 13 33 58.2 +0.9**
DBRK Dubrovnik 1.61 320 *e*Pn **Pb 13 33 57.7 0.0**
DBRK Sn **Sb 13 34 18.5 +0.9**
BRY Bratogost 1.64 333 ⇓*i* Pn **Pb 13 33 59.6 +1.3**
BRY *e*Sn **Sg 13 34 21.6 +0.1**
UPM Unac-Piva 1.83 345 ⇓*i* Pn **Pb 13 34 01.8 +0.4**
UPM *e*Sn **Sg 13 34 27.0 -0.4**
SJES Sjenica 1.85 10 *e*Pg **Pb 13 34 02.9 +1.1**
SJES *e*Sg **Sg 13 34 27.6 -0.5**
SJES Sjenica 1.85 10 ⇓*i* Pn **Pb 13 34 02.4 +0.6**
SJES *e*Sn **Sg 13 34 27.9 -0.2**
KLINJ Klinje 1.87 338 *e*Pn **Pb 13 34 02.5 +0.4**
KLINJ *e*Sn **Sg 13 34 27.6 -1.2**
PLE Pljevlja 1.89 357 *e*Pn **Pb 13 34 03.0 +0.5**
STON Ston 1.98 317 *e*Pn **Pn 13 34 02.4 +1.4**
STON Ston 1.98 317 *e*Pn **Pb 13 34 03.8 -0.1**
STON *e*Sn **Sb 13 34 29.5 +1.2**
IGT Igoumenitsa 2.00 162 P **Pb 13 34 04.1 -0.1**
baz=163
IGT S **Sg 13 34 32.2 -0.6**
baz=163
IGT AMP
comp=E,2.5nm,0.7s,baz=163
IGT Igoumenitsa 2.00 162 P **Pb 13 34 03.9 -0.3**
STIP Stip 2.00 82 *i* Pn **Pb 13 34 05.3 +1.0**
KPRO Kipourio 2.03 136 P **Pb 13 34 04.4 -0.4**
PRVS Prvonek 2.17 60 *e*Pn **Pn 13 34 05.3 +1.6**
PRVS *e*Sn **Sb 13 34 33.0 -0.7**
BARS Barje 2.18 50 *e*Pn **Pn 13 34 05.6 +1.8**
BARS *e*Sn **Sb 13 34 33.1 -0.9**
RUDO Rudo 2.18 357 *e*Pn **Pb 13 34 07.6 +0.2**
RUDO *e*Sn **Sb 13 34 36.2 +2.1**
IVAS Ivanjica 2.18 12 *e*Pn **Pn 13 34 05.6 +1.7**
IVAS *e*Sn **Sb 13 34 32.6 -1.6**
VAY Valandovo 2.28 92 *i* Pn **Pb 13 34 07.7 -1.4**
MATE Matera 2.29 251 ⇑P **Pg 13 34 12.1 -0.2**
BBLS Lazi&#263i 2.43 358 *e*Pn **Pb 13 34 09.8 -1.8**
BBLS Lazi&#263i 2.43 358 *e*Pn **Pb 13 34 10.9 -0.7**
BBLS *e*Sn **Sb 13 34 42.6 +1.4**
BOSS Bosilegrad 2.43 63 *e*Pn **Pn 13 34 08.3 +1.0**
GRUS Gruza 2.60 19 *e*Pn **Pn 13 34 11.3 +1.8**
LIT Litokhoron 2.61 120 Pn **Pn 13 34 11.3 +1.7**
MAKA Makarska 2.63 316 *e*Pn **Pn 13 34 11.4 +1.4**
MAKA Sn **Sn 13 34 42.7 +1.3**
DIVS Divibare 2.68 7 *e*Pn **Pn 13 34 12.4 +1.7**
HAPS Han Pijesak,BI 2.68 351 *e*Pn **Pb 13 34 14.5 -1.5**
HAPS *e*Sn **Sb 13 34 48.3 -0.3**
BOVS Bovan 2.72 35 ⇓P **Pn 13 34 12.6 +1.5**
BOVS Bovan 2.72 35 *e*Pn **Pn 13 34 12.4 +1.3**
RICI Ricice 2.72 320 *e*Pn **Pn 13 34 12.5 +1.3**
TRUS Trudelj 2.86 13 *e*Pn **Pn 13 34 14.8 +1.7**
SGRT San Giovanni R 2.87 278 Pn **Pn 13 34 12.8 -0.5**
SGRT IAML 13 35 41.0
comp=E,62nm,1.0s
SGRT IAML 13 35 41.0
comp=N,64nm,1.2s
HVAR Hvar 2.88 308 *e*Pn **Pn 13 34 14.1 +0.8**
ZAGS Zajecar 3.09 39 *e*Pn **Pn 13 34 17.6 +1.3**
TIP Timpagrande 3.10 224 ⇓P **Pn 13 34 17.3 +0.8**
TIP Timpagrande 3.10 224 Pn **Pn 13 34 16.6 +0.1**
TEKS Tekeris 3.11 360 *e*Pn **Pn 13 34 18.2 +1.6**
TEKS Tekeris 3.11 360 *e*Pn **Pb 13 34 20.4 -2.8**
TEKS *e*Sn **Sb 13 34 58.0 -2.8**
CUC Castrocucco 3.18 244 Pn **Pn 13 34 17.4 -0.1**
CUC IAML 13 35 31.0
comp=N,48nm,0.7s
CUC IAML 13 35 43.6
comp=E,66nm,0.8s
AGG Agios Georgios 3.22 138 Pn **Pn 13 34 20.0 +1.9**
KIJV Kijevo 3.45 319 *e*Pn **Pn 13 34 22.0 +0.7**
MGRS Mrkonjic Grad 3.48 330 *e*Pn **Pn 13 34 23.9 +2.2**
MGRS *e*Sn **Sn 13 35 06.3 +3.9**
ZIRJ Zirje 3.63 309 *e*Pn **Pn 13 34 25.1 +1.3**
MDVR Moldovita 3.70 25 ⇑P **Pn 13 34 26.3 +1.6**
FRGS Fruska Gora 3.72 3 ⇓P **Pg 13 34 38.8 -1.0**
FRGS Fruska Gora 3.72 3 Pn **Pn 13 34 28.4 +3.4**
FRGS *e*Sn **Sn 13 35 13.3 +4.9**
MORI Morici 3.73 312 *e*Pn **Pn 13 34 26.7 +1.6**
BLY Banja Luka 3.73 333 *e*Pn **Pn 13 34 28.0 +2.9**
BLY *e*Sn **Sn 13 35 12.4 +3.8**

A050A Klekovaca 3.76 325 ⇑*i* Pn **Pn 13 34 28.4 +2.8**
A050A *e*Sn **Sn 13 35 12.4 +3.0**
PAOL Paolisi 3.77 265 **Pn 13 34 26.0 +0.3**
DJES Djerdap 3.90 33 ⇑P **Pn 13 34 28.9 +1.5**
HERR Herculane 4.03 30 ⇑P **Pn 13 34 31.0 +1.8**
UDBI Udbina 4.15 319 *e*Pn **Pn 13 34 33.4 +2.5**
DUGI Dugi Otok 4.17 309 *e*Pn **Pn 13 34 32.7 +1.5**
INTR Introdacqua 4.26 280 Pn **Pn 13 34 32.9 +0.5**
VIRC Vir 4.36 312 *e*Pn **Pn 13 34 35.0 +1.3**
BZS Buzias 4.44 19 ⇑P **Pn 13 34 35.9 +1.1**
TIM Timisoara 4.47 15 ⇑P **Pn 13 34 34.9 -0.3**
RDO Rodhopi 4.53 92 **Pn 13 34 37.4 +1.4**
GZR Gura Zlata 4.60 30 ⇓P **Pn 13 34 39.2 +2.1**
NVLJ Novalja 4.64 314 *e*Pn **Pn 13 34 38.7 +1.2**
ITM Ithomi 4.64 156 Pn **Pn 13 34 38.2 +0.7**
CAMP Campotosto 4.70 286 **Pn 13 34 38.0 -0.5**
MORH Mrgy. Hungar 4.82 353 ⇓P **Pb** 13 34 47.2 -5.1
GUMA Gualdo di Mace 4.88 291 Pn **Pn 13 34 41.6 +0.6**
GUMA IAML 13 36 21.0
comp=N,49nm,0.6s
GUMA IAML 13 36 54.1
comp=E,44nm,0.9s
ELND Elena 4.94 70 ⇑P **Pn 13 34 43.1 +1.4**
ALN Alexandroupoli 4.94 94 Pn **Pn 13 34 43.3 +1.7**
NRCA Norcia 4.98 288 Pn **Pn 13 34 43.0 +0.6**
NRCA IAML 13 35 43.6
comp=N,21nm,0.7s
NRCA IAML 13 35 45.0
comp=E,22nm,0.2s
SIRR Siria 5.07 17 ⇑P **Pn 13 34 48.0 +4.6**
BOJS Bojanci 5.12 324 *e*Pn **Pn 13 34 45.8 +1.6**
BOJS *e*Sn **Sn 13 35 44.3 +1.4**
CRES Cresnjev 5.29 327 Pn **Pn 13 34 48.2 +1.6**
CRES *e*Sn **Sn 13 35 48.3 +1.2**
VOIR 5.66 43 ⇑P **Pn 13 34 54.8 +3.1**
CEY Cerknica 5.68 321 ⇑*i* Pn **Pn 13 34 53.4 +1.5**
CEY *e*Sn **Sn 13 35 57.1 +0.5**
RAFF Raffo Rosso 5.82 225 Pn **Pn 13 34 51.5 -2.3**
SOKA Soboth 6.16 330 *e*Pn Pb 13 35 09.8 -5.5
comp=E,0.6nm,0.3s
MLR Muntele Rosu 6.17 47 ⇑P **Pn 13 35 02.8 +4.1**
MLR Muntele Rosu 6.17 47 **Pn 13 35 02.6 +3.8**
MLR Muntele Rosu 6.17 47 Pn **Pn 13 35 01.6 +2.8**
comp=E,0.8nm,0.3s,baz=173,slow=11,SNR=12
comp=E,5.6nm,0.7s
OBKA Obir 6.22 326 *e*Pn **Pb 13 35 12.9 -3.3**
comp=E,1.5nm,0.3s
OBKA Obir 6.22 326 *e*Pn **Pn 13 35 01.8 +2.5**
OBKA *e*Sn **Sn 13 36 11.5 +1.6**
CLTB Caltabellotta 6.23 234 Pn **Pn 13 34 60.0 +0.5**
SABO M.te Sabotino 6.26 319 Pn **Pn 13 34 58.9 -0.9**
RONA Rosalia, Austr 6.68 341 *e*Pn **Pb 13 35 27.6 +3.7**
comp=E,0.9nm,0.3s
MYKA Terra Mystica 6.71 323 *e*Pn **Pb 13 35 20.5 -4.0**
comp=E,1.7nm,0.4s
PLOR Plostina 6.78 47 ⇓P **Pn 13 35 10.4 +3.4**
VRI Vrincioaia 6.83 47 ⇑P **Pn 13 35 11.4 +3.6**
CONA Conrad Observa 7.00 339 *i* Pn Pb 13 35 21.9 -7.6
comp=E,0.6nm,0.3s
KBA Koelnbreinsper 7.18 324 *i* Pn **Pn 13 35 13.5 +0.9**
comp=E,1.2nm,0.4s
CTI Castel Tesino 7.34 312 Pn **Pn 13 35 12.5 -2.3**
BURAR Bucovina Array 7.39 31 ⇑P **Pn 13 35 14.1 -1.2**
BURAR Bucovina Array 7.39 31 Pn **Pn 13 35 17.4 +2.0**
MOA Molln 7.43 331 *i* Pn **Pn 13 35 19.4 +3.5**
comp=E,0.8nm,0.2s
IDI Anoyia 7.44 144 Pn **Pn 13 35 15.7 -0.3**
IDI Anoyia 7.44 144 Pn **Pn 13 35 15.2 -0.9**
comp=E,4.7nm,0.8s,baz=50,slow=9.1,SNR=1.5
IDI Sn **Sn 13 36 33.8 -6.2**
comp=E,1.2nm,0.3s,baz=106,slow=14,SNR=7.9
MSSA Maissana 7.91 295 Pn **Pn 13 35 22.8 +0.4**
FETA Feichten 8.44 314 *e*Pn **Pn 13 35 34.2 +4.4**
comp=E,1.3nm,0.6s
KHC Kasperske Hory 8.76 333 *e*PN **Pn 13 35 37.0 +2.8**
KHC *e*SN **Sn 13 37 14.0 +1.5**
CLL Collm 10.85 338 *e*Pn **Pn 13 36 04.0 +1.3**
CLL *i* x x 13 36 15.9
comp=Z,4.0nm,0.6s
CLL *e*Sn **Sn 13 37 56.0 -7.6**
MMAI Mount Meron Ar 15.16 119 LR LR 13 45 09.1
comp=Z,39nm,21.3s,baz=152,slow=46
HFS Hagfors 19.07 351 P **P 13 37 49.1 -0.5**
comp=Z,0.1nm,0.3s,baz=181,slow=13,SNR=1.5
comp=Z,0.7nm,0.6s
EKA Eskdalemuir Ar 20.38 321 P **P 13 38 03.7 -0.2**
comp=Z,1.2nm,1.0s,baz=120,slow=10.0,SNR=2.0
comp=Z,1.2nm,1.0s
FINES FINESS Array B 20.42 9 P **P 13 38 03.4 -1.0**
comp=Z,1.0nm,0.3s,baz=185,slow=9.5,SNR=13
comp=Z,1.0nm,0.3s
TORD Torodi Ar. Bea 32.20 214 P **P 13 39 56.0 +0.5**
comp=Z,0.3nm,0.7s,baz=18,slow=9.8,SNR=1.9
comp=Z,0.3nm,0.7s
BVAR Borovoye Array 35.69 53 P **P 13 40 25.7 +0.3**
comp=Z,0.7nm,0.7s,baz=274,slow=5.8,SNR=4.1
comp=Z,0.7nm,0.7s
ZALV Zalesovo Beam 44.14 50 P **P 13 41 35.2 -0.3**
comp=Z,2.0nm,0.5s,baz=282,slow=10.0,SNR=8.0
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 44.31 61 P **P 13 41 37.0 0.0**
comp=Z,1.4nm,0.6s,baz=286,slow=7.3,SNR=17
comp=Z,1.4nm,0.6s
SONM Songino Array 59.00 52 P **P 13 43 26.9 0.0**
comp=Z,0.5nm,0.7s,baz=275,slow=6.8,SNR=1.9
comp=Z,0.5nm,0.7s
MA2 Magadan 71.62 24 LR LR 14 21 33.6
comp=Z,18nm,18.6s,baz=7.5,slow=40
ASAR Alice Springs 123.20 93 PKP **PKPdf 13 52 22.3 -1.9**
comp=Z,0.2nm,0.6s,baz=326,slow=2.7,SNR=1.8

*TIR **04** 13:53:07.3, 41°.56N×19°.51E, h50km±1km, Ml2.7*
*RHSSO **04** 13:53:09.8±0.8, 41°.42N×19°.44E, h10km±2km, ML2.7/9*
*BEO **04** 13:53:10.2±0.7, 41°.49N×19°.69E, h7km±4km, ML2.3/7*
ISC 04 13:53:08.9±1.2, **41°.48N**±0°.02×**19°.57E**±0°.03, **h6**km±10km,
n33, σ0°**86**/60, **3C-3D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.61**	**24**	P	**Pg**	**13 53 20.2**	**-0.4**
PUK	baz=30			S	**Sg**	**13 53 29.9**	**+1.3**
PUK	baz=30			AMP			
	comp=E,1.1nm,0.3s,baz=30						
DRME	**Dracevica, Mon**	**0.76**	**338**	*e*Pg	**Pg**	**13 53 23.3**	**-0.2**
DRME				*e*Sg	**Sb**	**13 53 35.4**	**+0.3**
DRME	**Dracevica, Mon**	**0.76**	**338**	⇑*i* Pg	**Pg**	**13 53 23.4**	**-0.1**
DRME				*e*Sg	**Sb**	**13 53 35.8**	**+0.7**
BCI	**Bajram Curri**	**0.96**	**23**	P	**Pg**	**13 53 26.0**	**-1.3**
BCI	baz=27			S	**Sg**	**13 53 38.7**	**-1.0**
BCI	baz=27			AMP			
	comp=N,0.5nm,0.3s,baz=27						
PDG	**Podgorica**	**0.97**	**346**	*e*Pg	**Pb**	**13 53 28.7**	**+0.5**
PDG				*e*Sg	**Sn**	**13 53 42.2**	**-1.0**
PDG	**Podgorica**	**0.97**	**346**	⇑*i* Pg	**Pb**	**13 53 28.4**	**+0.2**
PDG				*e*Sg	**Sn**	**13 53 42.1**	**-1.1**
VLO	**Vlora**	**1.02**	**183**	P	**Pg**	**13 53 29.1**	**+0.7**
VLO	baz=181			S	**Sb**	**13 53 43.6**	**+1.2**
VLO	baz=181			AMP			
	comp=E,1.6nm,0.2s,baz=181						
HCY	**Herceg Novi**	**1.25**	**321**	*e*Pg	**Pn**	**13 53 32.7**	**-0.2**
HCY				*e*Sg	**Sn**	**13 53 49.4**	**-0.7**
KOME	**Kolasin**	**1.37**	**358**	*e*Pg	**Pg**	**13 53 35.9**	**+0.8**
KOME				*e*Sg	**Sb**	**13 53 52.9**	**+0.2**
BEY	**Berane**	**1.41**	**10**	*e*Pg	**Pn**	**13 53 35.0**	**-0.2**
TREB	**Trebinje**	**1.53**	**324**	*e*Pn	**Pn**	**13 53 36.4**	**-0.3**
TREB				*e*Sn	**Sb**	**13 53 56.6**	**-0.7**
FNA	**Florina**	**1.54**	**117**	P	**Pn**	**13 53 36.1**	**-0.7**
FNA	baz=118			S	**Sn**	**13 53 56.8**	**-0.4**
FNA	baz=118			AMP			
	comp=N,0.2nm,0.4s,baz=118						
LSK	**Leskovik**	**1.55**	**149**	P	**Pn**	**13 53 37.2**	**+0.2**
LSK	baz=149			S	**Sn**	**13 53 57.6**	**+0.2**
LSK	baz=149			AMP			
	comp=E,0.3nm,0.5s,baz=149						
BRY	**Bratogost**	**1.61**	**332**	⇓*i* Pn	**Pb**	**13 53 38.7**	**-0.4**
BRY				*e*Sn	**Sg**	**13 54 00.1**	**-0.6**
SRN	**Sarande**	**1.64**	**168**	P	**Pn**	**13 53 38.6**	**+0.5**
SRN	baz=167			S	**Sn**	**13 53 59.9**	**+0.4**
SRN	baz=167			AMP			
	comp=E,0.2nm,0.3s,baz=167						
SCTE	**Santa Cesarea**	**1.64**	**211**	P	**Pn**	**13 53 36.4**	**-1.9**
SCTE	baz=209			S	**Sn**	**13 53 58.6**	**-1.0**
SCTE	baz=209			AMP			
	comp=E,0.1nm,0.2s,baz=209						
UPM	**Unac-Piva**	**1.79**	**344**	*e*Sn	**Sb**	**13 54 04.9**	**0.0**
SJES	**Sjenica**	**1.80**	**9**	*e*Pg	**Pb**	**13 53 42.3**	**-0.1**
SJES				*e*Sg	**Sg**	**13 54 06.8**	**0.0**
SJES	**Sjenica**	**1.80**	**9**	⇓*i* Pn	**Pb**	**13 53 42.3**	**-0.1**
SJES				*e*Sn	**Sb**	**13 54 05.5**	**+0.3**
PLE	**Pljevlja**	**1.85**	**356**	*e*Pn	**Pb**	**13 53 43.3**	**+0.1**
STON	**Ston**	**1.96**	**316**	⇓*i* Pn	**Pn**	**13 53 42.7**	**+0.1**
STON				*e*Sn	**Sn**	**13 54 07.4**	**-0.1**
IGT	**Igoumenitsa**	**2.04**	**163**	P	**Pn**	**13 53 43.4**	**-0.2**
IGT	baz=162			S	**Sn**	**13 54 09.7**	**+0.3**
IGT	baz=162			AMP			
	comp=N,0.2nm,0.4s,baz=162						
PRVS	**Prvonek**	**2.13**	**60**	*e*Pn	**Pn**	**13 53 45.2**	**+0.1**
PRVS				*e*Sn	**Sn**	**13 54 11.6**	**-0.2**
IVAS	**Ivanjica**	**2.14**	**12**	*e*Pn	**Pn**	**13 53 44.9**	**-0.2**
IVAS				*e*Sn	**Sn**	**13 54 12.1**	**+0.1**
RUDO	**Rudo**	**2.14**	**356**	*e*Pn	**Pn**	**13 53 46.8**	**+1.7**
RUDO				*e*Sn	**Sn**	**13 54 13.4**	**+1.4**
BBLS	**Lazi&#263i**	**2.38**	**357**	⇑*i* Pn	**Pn**	**13 53 50.1**	**+1.5**
BBLS				*e*Sn	**Sb**	**13 54 20.3**	**-1.6**
GRUS	**Gruza**	**2.55**	**19**	*e*Pn	**Pn**	**13 53 51.8**	**+1.1**
GRUS				*e*Sn	**Sn**	**13 54 22.5**	**+0.5**
DIVS	**Divibare**	**2.63**	**7**	*e*Pn	**Pn**	**13 53 52.9**	**+0.9**
HAPS	**Han Pijesak,BI**	**2.64**	**350**	*e*Pn	**Pn**	**13 53 52.8**	**+0.7**
HAPS				*e*Sn	**Sn**	**13 54 26.2**	**+1.7**
TRUS	**Trudelj**	**2.81**	**12**	*e*Pn	**Pn**	**13 53 55.4**	**+1.1**
ZAGS	**Zajecar**	**3.05**	**39**	*e*Pn	**Pn**	**13 53 56.5**	**-1.1**
ZAGS				*e*Sn	**Sn**	**13 54 32.8**	**-1.5**
TEKS	**Tekeris**	**3.06**	**359**	*e*Pn	**Pn**	**13 53 59.5**	**+1.6**
A050A	**Klekovaca**	**3.73**	**324**	*e*Pn	**Pn**	**13 54 07.8**	**+0.7**
A050A				*e*Sn	**Sn**	**13 54 50.8**	**-0.6**

*NOU **04** 14:21:39.3, 37°.10S×179°.71E, h0km, mb3.9/7, Off E. Coast of N. Island, N.Z.*
*WEL **04** 14:21:46.8±0.9, 37°.5S±4°.×17°.9E±°, h12km, M3.1/15, ML3.3/20, MLv3.1/15, Error ellipse: s-maj=0.0km s-min=0.0km az=95.8, confirmed*
ISC 04 14:21:43.5±2.7, **37°.16S**±0°.07×**179°.3E**±0°.1, **h5**km±12km,
n55, σ0°**95**/60, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**243**	P	**Pg**	**14 22 01.3**	**+0.6**
MXZ	**Matakaoa Point**	**0.90**	**243**	P	**Pg**	**14 22 01.3**	**+0.6**
MXZ				S	**Sg**	**14 22 11.2**	**-1.2**
WMGZ	**Waiomatatini S**	**0.97**	**227**	P	**Pn**	**14 22 05.0**	**+1.2**
WMGZ				S	**Sn**	**14 22 17.9**	**0.0**
PKGZ	**Pakihiroa**	**1.22**	**233**	P	**Pg**	**14 22 07.7**	**+0.8**
PKGZ				S	**Sb**	**14 22 23.1**	**-0.1**
PUZ	**Puketiti**	**1.24**	**222**	P	**Pg**	**14 22 08.6**	**+1.4**
HAZ	**Te Kaha**	**1.36**	**243**	P	**Pn**	**14 22 08.2**	**-0.8**
HAZ				S	**Sn**	**14 22 26.8**	**-0.5**
TWGZ	**Tauwhareparae**	**1.47**	**226**	P	**Pg**	**14 22 12.1**	**+0.5**
TWGZ				S	**Sn**	**14 22 31.0**	**+0.8**
RUGZ	**Raukumara Rang**	**1.53**	**238**	P	**Pb**	**14 22 12.5**	**+0.2**
CNGZ	**Carnagh Statio**	**1.59**	**213**	P	**Pg**	**14 22 14.5**	**+0.6**
TKGZ	**Te Karaka**	**1.73**	**222**	P	**Pb**	**14 22 15.4**	**-0.2**
WIZ	**White Island**	**1.73**	**257**	P	**Pb**	**14 22 15.0**	**-0.8**
MWZ	**Matawai**	**1.84**	**230**	P	**Pb**	**14 22 16.7**	**-0.8**
RIGZ	**Rimuhau**	**1.97**	**218**	P	**Pn**	**14 22 18.4**	**+0.8**
RAGZ	**Rawiri**	**2.01**	**228**	P	**Pb**	**14 22 19.5**	**-1.0**
URZ	**Urewera**	**2.06**	**237**	P	**Pb**	**14 22 20.1**	**-1.3**
URZ	**Urewera**	**2.06**	**237**	P	**Pn**	**14 22 19.8**	**+1.1**
PRGZ	**Paritu Road**	**2.09**	**212**	P	**Pb**	**14 22 20.3**	**-1.6**
SNGZ	**Shannon Statio**	**2.25**	**223**	P	**Pn**	**14 22 22.2**	**+0.9**
MHGZ	**Mahia Peninsul**	**2.28**	**209**	P	**Pn**	**14 22 22.9**	**+1.2**
MUGZ	**Murupara**	**2.41**	**236**	P	**Pn**	**14 22 24.1**	**+0.6**
TARZ	**Mount Tarawera**	**2.47**	**243**	P	**Pn**	**14 22 26.1**	**+1.7**
RAHZ	**Arahi**	**2.48**	**224**	P	**Pn**	**14 22 25.7**	**+1.1**
MTHZ	**Maungataniwha**	**2.58**	**228**	P	**Pn**	**14 22 27.1**	**+1.2**
NMHZ	**Naumai**	**2.77**	**225**	P	**Pn**	**14 22 29.2**	**+0.7**
ARHZ	**Aropaoanui**	**2.78**	**220**	P	**Pn**	**14 22 29.5**	**+0.8**
KUZ	**Kuaotunu**	**2.91**	**277**	P	**Pn**	**14 22 29.2**	**-1.1**
KUZ	**Kuaotunu**	**2.91**	**277**	P	**Pn**	**14 22 29.0**	**-1.3**
BKZ	**Black Stump Fm**	**2.99**	**227**	P	**Pn**	**14 22 32.1**	**+0.5**
BKZ	**Black Stump Fm**	**2.99**	**227**	P	**Pn**	**14 22 32.1**	**+0.5**
MCHZ	**McNeill Hill**	**3.07**	**221**	P	**Pn**	**14 22 32.8**	**+0.2**
TOZ	**Tahuroa Road**	**3.09**	**258**	P	**Pn**	**14 22 32.2**	**-0.6**
KWHZ	**Kaweka Forest**	**3.21**	**224**	P	**Pn**	**14 22 34.5**	**-0.1**
GRZ	**Great Barrier**	**3.23**	**285**	P	**Pn**	**14 22 35.5**	**+0.8**
KAHZ	**Kahuranaki**	**3.25**	**215**	P	**Pn**	**14 22 34.8**	**-0.3**
MKAZ	**Moumakai**	**3.32**	**270**	P	**Pn**	**14 22 35.5**	**-0.5**
WIAZ	**Waiheke Island**	**3.37**	**275**	P	**Pn**	**14 22 37.3**	**+0.6**
KRHZ	**Kereru**	**3.39**	**222**	P	**Pn**	**14 22 37.0**	**0.0**
TMVZ	**Te Maari**	**3.45**	**234**	P	**Pn**	**14 22 37.9**	**-0.1**
NTVZ	**North Tongarir**	**3.46**	**235**	P	**Pn**	**14 22 38.6**	**+0.5**
OTVZ	**Oturere**	**3.50**	**234**	P	**Pn**	**14 22 39.2**	**+0.5**
ETAZ	**East Tamaki Re**	**3.51**	**272**	P	**Pn**	**14 22 39.8**	**+1.1**
NNVZ	**North Ngauruho**	**3.52**	**235**	P	**Pn**	**14 22 40.4**	**+1.5**
SNVZ	**South Ngauruho**	**3.53**	**234**	P	**Pn**	**14 22 39.5**	**+0.4**
MBAZ	**Motutapu North**	**3.56**	**275**	P	**Pn**	**14 22 40.4**	**+1.1**
WNVZ	**Wahianoa**	**3.64**	**232**	P	**Pn**	**14 22 40.8**	**+0.2**
AWAZ	**Awhitu Peninsu**	**3.73**	**270**	P	**Pn**	**14 22 43.0**	**+1.3**
MTVZ	**Mangateitei**	**3.75**	**233**	P	**Pn**	**14 22 42.5**	**+0.4**
HIZ	**Hauiti**	**3.78**	**248**	P	**Pn**	**14 22 44.2**	**+1.9**
HIZ	**Hauiti**	**3.78**	**248**	P	**Pn**	**14 22 44.2**	**+1.9**
RVAZ	**Riverhead Bore**	**3.81**	**274**	P	**Pn**	**14 22 43.2**	**+0.4**
TSZ	**Takapari Road**	**3.91**	**221**	P	**Pn**	**14 22 43.1**	**-1.1**
WCZ	**Waipu Caves**	**4.18**	**285**	P	**Pn**	**14 22 48.1**	**+0.2**
BFZ	**Birch Farm**	**4.25**	**213**	P	**Pn**	**14 22 47.4**	**-1.5**
OUZ	**Omahuta**	**5.01**	**291**	P	**Pn**	**14 23 00.2**	**+0.9**
OUZ	**Omahuta**	**5.01**	**291**	P	**Pn**	**14 22 59.8**	**+0.6**

*IDC **04** 14:54:01.4±5.7, 22°.31S×68°.39W, h0km, mb3.7/1, mbtmp3.7/2, ML3.8/1, Error ellipse: s-maj=176.8km s-min=56.7km az=71.0*
*GUC **04** 14:54:20.1±0.7, 21°.06S×68°.60W, h119km±5km, ML3.5*
ISC 04 14:54:19.6±1.1, **21°.07S**±0°.04×**68°.7W**±0°.1, **h130**km±11km,
n14, σ0°**63**/23, **1C-4D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.87**	**214**	*i* P	**Pn**	**14 54 41.7**	**+0.2**
PB09				*e*S	**Sn**	**14 54 57.8**	**-0.5**
HMBC	**Humberstone**	**1.34**	**306**	⇓*i* P	**Pn**	**14 54 45.9**	**-0.2**
HMBC				*e*S	**Sn**	**14 55 06.5**	**+0.1**
HMBC				IAML		14 55 07.5	
	comp=N,892nm,0.2s						
PATCX	**Punta Patache**	**1.36**	**280**	⇓*i* P	**Pn**	**14 54 46.6**	**+0.4**
PATCX				*e*S	**Sn**	**14 55 07.4**	**+0.9

comp=E,507nm,0.3s
PB05 IPOC Station P 2.24 217 *e*P **Pn 14 54 57.4 +0.7**
PB10 IPOC Station P 2.96 215 *e*P **Pn 14 55 05.8 0.0**
LPAZ La Paz 4.79 7 Pn **Pn 14 55 32.0 +1.5**
comp=E,1.4nm,0.3s,baz=189,slow=5.8,SNR=25
comp=E,3.4nm,0.3s
TORD Torodi Ar. Bea 77.05 70 P **P 15 05 57.6 -1.2**
comp=E,0.4nm,0.6s,baz=241,slow=4.8,SNR=1.8
comp=E,0.4nm,0.6s
MKAR Makanchi Array 145.19 36 PKPbc **PKPbc 15 13 42.3 +0.7**
comp=E,0.3nm,0.5s,baz=327,slow=2.4,SNR=2.4

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*IDC **04** 15:00:44.4±0.7,3°.26S×130°.92E, h0km, mb4.2/13, mbtmp4.2/13, MS3.4/10, Error ellipse: s-maj=42.8km s-min=14.2km az=73.0*
*DJA **04** 15:00:47.8±1.0,3°.S±2°×13°.1E±°, h13km±7km, M4.5/9, mb4.7/7, MLv4.3/9*
*NEIC **04** 15:00:50.1±1.6,3°.27S±0°.06×130°.94E±0°.05, h34km±6km, mb4.5/27, Error ellipse: s-maj=10.3km s-min=3.9km az=215.0*
ISC 04 15:00:48.6±0.4,3°.30S±0°.04×130°.90E±0°.04, h30km, n102, σ1°.93/97, mb4.3/23, MS3.3/7, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.40**	**74**	P	**Pb**	**15 01 13.4**	**-0.7**
FAKI	**Fak Fak**	**1.40**	**74**		**Pb**	**15 01 12.9**	**-1.2**
FAKI	**Fak Fak**	**1.40**	**74**	P	**Pb**	**15 01 13.4**	**-0.7**
FAKI				S	**Sb**	**15 01 33.2**	**+1.7**
BNDI	**Bandanaira**	**1.57**	**219**	P	**Pb**	**15 01 17.3**	**+0.2**
BNDI				S	**Sb**	**15 01 39.1**	**+2.5**
SWI	**Sorong**	**2.44**	**8**	P	**Pn**	**15 01 26.0**	**-0.5**
SWI				S	**Sn**	**15 01 55.2**	**-0.2**
KMPI	**Kaimana, Papua**	**2.82**	**97**	P	**Pn**	**15 01 33.2**	**+1.6**
KMPI				S	**Sn**	**15 02 07.8**	**+3.2**
NLAI	**Namlea**	**3.80**	**271**	P	**Pn**	**15 01 44.9**	**-0.2**
LBMI	**Labuha**	**4.31**	**308**	P	**Pn**	**15 01 51.9**	**-0.2**
SAUI	**Saumlaki**	**4.67**	**175**	Pn	**Pn**	**15 01 58.6**	**+1.4**
SAUI	**Saumlaki**	**4.67**	**175**	P	**Pn**	**15 01 58.5**	**+1.4**
SANI	**Sanana**	**5.06**	**284**	P	**Pn**	**15 02 01.8**	**-0.7**
SANI	**Sanana**	**5.06**	**284**	P	**Pn**	**15 02 01.3**	**-1.2**
	46nm,0.9s,0.2nm						
DRS	**Darwin Rock St**	**9.07**	**180**	P	**Pn**	**15 02 56.8**	**-0.8**
SOEI	**Soe**	**9.20**	**225**	Pn	**Pn**	**15 03 02.1**	**+2.7**
KDU	**Kakadu**	**9.46**	**171**	P	**Pn**	**15 03 01.0**	**-1.9**
MTN	**Manton Dam**	**9.49**	**179**	P	**Pn**	**15 03 02.5**	**-0.8**
MTN	**Manton Dam**	**9.49**	**179**	Pn	**Pn**	**15 03 02.1**	**-1.2**
BATI	**Baumata**	**9.94**	**226**	P	**Pn**	**15 03 13.0**	**+3.5**
TOLI2	**Tolitoli**	**11.03**	**293**	P	**Pn**	**15 03 25.3**	**+0.9**
TOLI2	**Tolitoli**	**11.03**	**293**	Pn	**Pn**	**15 03 25.4**	**+1.0**
KAPI	**Kappang**	**11.25**	**261**	LR	LR	15 09 06.0	
	comp=Z,295nm,19.7s,baz=70,slow=44						
DAV	**Davao City (W)**	**11.59**	**333**	LR	LR	15 08 43.0	
	comp=Z,154nm,20.8s,baz=122,slow=41						
PLAI	**Plampang**	**14.16**	**247**	P	**Pn**	**15 04 05.9**	**-1.3**
MYLDM	**Lahad Datu**	**14.98**	**304**	Pn	**Pn**	**15 04 18.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**15.59**	**199**	P	**Pn**	**15 04 23.1**	**-3.2**
FITZ	**Fitzroy Crossi**	**15.59**	**199**	Pn	**Pn**	**15 04 22.7**	**-3.6**
COEN	**Coen**	**16.09**	**132**	P	**Pn**	**15 04 32.6**	**-0.3**
COEN	**Coen**	**16.09**	**132**	Pn	**Pn**	**15 04 31.9**	**-0.9**
COEN				IAmb	IAmb	15 04 52.7	
	comp=Z,44nm,1.5s						
WB0	**Warramunga Arr**	**16.72**	**169**	Pn	Pn	15 04 33.9	-6.9
WRAB	**Tennant Creek**	**16.87**	**169**	Pn	**Pn**	**15 04 38.1**	**-4.6**
WRAB				IAmb	IAmb	15 04 53.2	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**16.88**	**169**	Pn	**Pn**	**15 04 37.6**	**-5.2**
WRA	**Warramunga Arr**	**16.88**	**169**	Pn	**Pn**	**15 04 37.0**	**-5.8**
	comp=Z,0.5nm,0.3s,baz=347,slow=14,SNR=32						
WRA				Sn	Sn	15 07 36.7	-13
	comp=Z,0.9nm,0.3s,baz=344,slow=21,SNR=5.7						
WB2	**Warramunga Arr**	**16.88**	**169**	Pn	**Pn**	**15 04 38.3**	**-4.5**
WB2				IAmb	IAmb	15 04 53.2	
	comp=Z,22nm,0.8s						
WR0	**Warramunga Arr**	**16.94**	**168**	Pn	**Pn**	**15 04 39.6**	**-3.9**
WR0				IAmb	IAmb	15 05 01.2	
	comp=Z,16nm,0.7s						
PMG	**Port Moresby**	**17.25**	**111**	LR	LR	15 13 11.6	
	comp=Z,86nm,21.7s,baz=278,slow=43						
JAGI	**Jajag, Banyuwa**	**17.43**	**252**	P	**Pn**	**15 04 49.3**	**-0.5**
JAGI	**Jajag, Banyuwa**	**17.43**	**252**	Pn	**Pn**	**15 04 48.6**	**-1.1**
JAGI				IAmb	IAmb	15 05 01.7	
	comp=Z,50nm,1.1s						
QIS	**Mount Isa**	**19.14**	**154**	P	**Pn**	**15 05 10.9**	**+0.4**
SBUM	**Sibu**	**19.53**	**287**	P	**Pn**	**15 05 15.0**	**-0.3**
AS31	**Alice Springs**	**20.45**	**172**	P	**P**	**15 05 24.2**	**+0.3**
ASAR	**Alice Springs**	**20.46**	**172**	P	**P**	**15 05 24.1**	**+0.2**
ASAR	**Alice Springs**	**20.46**	**172**	P	**P**	**15 05 24.4**	**+0.5**
	comp=Z,43nm,0.5s,baz=352,slow=11,SNR=1024						
ASAR				S	**S**	**15 09 03.0**	**-8.5**
	comp=Z,1.6nm,0.7s,baz=354,slow=27,SNR=5.7						
AS01	**Alice Springs**	**20.46**	**172**	P	**P**	**15 05 24.5**	**+0.5**
MBWA	**Marble Bar**	**20.82**	**211**	P	**P**	**15 05 26.0**	**-1.8**
MBWA	**Marble Bar**	**20.82**	**211**	P	**P**	**15 05 24.9**	**-2.9**
MBWA				IAmb	IAmb	15 06 02.6	
	comp=Z,39nm,1.5s						
PSA00	**Pilbara Seismi**	**21.11**	**210**	P	**P**	**15 05 29.6**	**-1.3**
PSA00	**Pilbara Seismi**	**21.11**	**210**	P	**P**	**15 05 28.2**	**-2.8**
WRKA	**Warakurna**	**21.76**	**186**	P	**P**	**15 05 37.4**	**-0.5**
CTAO	**Charters Tower**	**22.42**	**139**	P	**P**	**15 05 45.3**	**+0.2**
CTAO				IAmb	IAmb	15 06 13.8	
	comp=Z,18nm,1.1s						
OOD	**Oodnadatta**	**24.79**	**170**	P	**P**	**15 06 09.1**	**+1.1**
MEEK	**Meekatharra**	**26.02**	**206**	P	**P**	**15 06 18.3**	**-1.0**
INKA	**Innaminka**	**26.06**	**160**	P	**P**	**15 06 21.2**	**+1.7**
MULG	**Mulgathing**	**27.00**	**174**	P	**P**	**15 06 28.8**	**+0.8**
FORT	**Forrest**	**27.47**	**185**	P	**P**	**15 06 33.7**	**+1.5**
FORT	**Forrest**	**27.47**	**185**	P	**P**	**15 06 31.8**	**-0.4**
LCRK	**Leigh Creek**	**27.88**	**166**	P	**P**	**15 06 37.5**	**+1.7**
KMBL	**Kambalda**	**29.19**	**196**	P	**P**	**15 06 47.5**	**0.0**
MORW	**Morawa**	**29.27**	**207**	P	**P**	**15 06 47.3**	**-1.0**
BBOO	**Buckleboo**	**29.75**	**171**	P	**P**	**15 06 52.2**	**-0.3**
BBOO				IAmb	IAmb	15 06 59.2	
	comp=Z,21nm,1.1s						
JOW	**Kunigami**	**30.06**	**355**	LR	LR	15 18 29.7	
	comp=Z,74nm,21.1s,baz=106,slow=36						
STKA	**Stephens Creek**	**30.16**	**162**	P	**P**	**15 06 56.6**	**+0.5**
STKA	**Stephens Creek**	**30.16**	**162**	P	**P**	**15 06 56.4**	**+0.3**
STKA	**Stephens Creek**	**30.16**	**162**	P	**P**	**15 06 56.8**	**+0.7**
	comp=Z,7.5nm,0.9s,baz=333,slow=9.1,SNR=8.9						
	comp=Z,7.5nm,0.9s						
BLDU	**Ballidu**	**30.30**	**205**	P	**P**	**15 06 58.0**	**+0.6**
CMSA	**Cobar Meteorol**	**31.35**	**155**	P	**P**	**15 07 08.4**	**+1.7**
NWAO	**Narrogin (SRO)**	**32.14**	**202**	P	**P**	**15 07 14.1**	**+0.6**
NWAO	**Narrogin (SRO)**	**32.14**	**202**	P	**P**	**15 07 12.8**	**-0.8**
ARPS	**Mount Arapiles**	**34.80**	**165**	P	**P**	**15 07 37.1**	**+0.4**
CAN	**Canberra**	**36.01**	**154**	P	**P**	**15 07 49.2**	**+2.0**
CAN	**Canberra**	**36.01**	**154**	P	**P**	**15 07 48.9**	**+1.7**
JNU	**Nakatsue**	**36.22**	**360**	LR	LR	15 22 52.8	
	comp=Z,41nm,18.8s,baz=188,slow=37						
TOO	**Toolangi**	**36.64**	**160**	P	**P**	**15 07 54.7**	**+2.2**
TOO				IAmb	IAmb	15 08 10.4	
	comp=Z,10.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**38.19**	**306**	P	**P**	**15 08 05.8**	**-0.1**
	comp=Z,2.0nm,1.0s,baz=138,slow=8.2,SNR=10.0						
	comp=Z,2.0nm,1.0s						
MJAR	**Matsushiro Arr**	**40.22**	**9**	LR	LR	15 22 08.3	
	comp=Z,34nm,21.1s,baz=173,slow=32						
KSAR	**Wonju Array Be**	**40.63**	**356**	P	**P**	**15 08 26.9**	**+1.0**
KSRS	**Korea Array**	**40.64**	**356**	LR	LR	15 24 39.8	
	comp=Z,57nm,20.6s,baz=185,slow=35						
KS19	**Wonju Array Si**	**40.69**	**356**	P	**P**	**15 08 28.4**	**+1.9**
KS19				IAmb	IAmb	15 08 29.3	
	comp=Z,8.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**47.29**	**1**	P	**P**	**15 09 20.1**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=160,slow=5.8,SNR=2.8						
	comp=Z,2.6nm,0.7s						
GTA	**Gaotai**	**51.23**	**329**	*e*P	**P**	**15 09 50.4**	**+0.7**
GTA				pP	pP	15 09 55.8	-2.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
RPZ	**Rata Peaks**	**53.65**	**145**	LR	LR	15 32 32.6	
	comp=Z,84nm,18.8s,baz=92,slow=36						
TUWZ	**Tuamarina**	**54.10**	**141**	P	**P**	**15 10 10.4**	**-0.3**
SONM	**Songino Array**	**55.26**	**340**	P	**P**	**15 10 19.9**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=157,slow=7.6,SNR=4.9						
	comp=Z,1.5nm,0.9s						
MK31	**Makanchi Array**	**65.67**	**326**	P	**P**	**15 11 31.0**	**+0.7**
MK31				IAmb	IAmb	15 11 31.7	
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**65.67**	**326**	P	**P**	**15 11 30.1**	**-0.1**
MKAR	**Makanchi Array**	**65.67**	**326**	P	**P**	**15 11 30.6**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=122,slow=7.9,SNR=25						
	comp=Z,2.8nm,0.7s						
SHEM	**Shemya Is, Ala**	**66.59**	**27**	LR	LR	15 37 54.6	
	comp=Z,18nm,20.4s,baz=126,slow=34						
ZALV	**Zalesovo Beam**	**68.70**	**333**	P	**P**	**15 11 49.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=98,slow=4.5,SNR=5.6						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**69.87**	**327**	P	**P**	**15 11 56.9**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=129,slow=5.6,SNR=18						
	comp=Z,2.5nm,0.8s						
BVAR	**Borovoye Array**	**75.45**	**327**	P	**P**	**15 12 30.4**	**+0.7**
	comp=Z,3.1nm,0.9s,baz=116,slow=6.8,SNR=13						
	comp=Z,3.1nm,0.9s						
BRVK	**Borovoye**	**75.52**	**327**	P	**P**	**15 12 30.4**	**+0.4**
BRVK				IAmb	IAmb	15 12 31.6	
	comp=Z,3.5nm,0.9s						
VNDA	**Vanda**	**75.99**	**173**	P	**P**	**15 12 33.1**	**+0.7**
VNDA	**Vanda**	**75.99**	**173**	P	**P**	**15 12 33.0**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=318,slow=7.1,SNR=8.0						
VNDA				LR	LR	15 47 22.3	
	comp=Z,22nm,18.6s,baz=326,slow=37						
	comp=Z,0.8nm,0.6s						
NRIK	**Noril'sk**	**78.22**	**346**	P	**P**	**15 12 44.1**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=135,slow=10.0,SNR=2.5						
	comp=Z,2.1nm,0.7s						
MAW	**Mawson**	**78.70**	**201**	P	**P**	**15 12 48.5**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=98,slow=7.8,SNR=7.2						
	comp=Z,2.4nm,0.7s						
ABKAR	**Akbulak array**	**80.20**	**321**	P	**P**	**15 12 54.5**	**-1.7**
K15K	**Wolf Creek Mou**	**82.67**	**26**	P	**P**	**15 13 10.0**	**+1.0**
K15K				IAmb	IAmb	15 13 20.1	
	comp=Z,8.2nm,1.3s						
J16K	**Anvik River**	**83.43**	**25**	P	**P**	**15 13 14.4**	**+1.5**
J16K				IAmb	IAmb	15 13 38.6	
	comp=Z,8.3nm,1.4s						
L18K	**Granite Mounta**	**84.78**	**27**	P	**P**	**15 13 21.8**	**+1.9**
L18K				IAmb	IAmb	15 13 29.6	
	comp=Z,6.2nm,1.4s						
QSPA	**South Pole Qui**	**86.65**	**180**	P	**P**	**15 13 29.5**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=314,slow=1.4,SNR=11						
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**89.64**	**25**	P	**P**	**15 13 42.9**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=256,slow=4.6,SNR=9.0						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**128.88**	**284**	PKP	**PKPdf**	**15 19 54.9**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=51,slow=2.8,SNR=3.1						
LPAZ	**La Paz**	**152.93**	**137**	PKPbc	**PKiKP**	**15 20 46.5**	**+1.6**
	comp=Z,1.3nm,0.5s,baz=59,slow=2.1,SNR=5.6						

DJA 04 15:10:58.3±1.0,1°N±3°×12°6E±°, h22km±8km, M3.7/10, mb3.8/1, MLv3.7/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.30**	**110**	P	Pb	15 11 22.4	+0.3
TNTI				S	Sb	15 11 38.8	+0.4
KMSI	**Cibinong**	**2.25**	**254**	P	Pn	15 11 33.2	-1.0
KMSI				S	Sb	15 12 03.5	-2.2
LBMI	**Labuha**	**2.29**	**143**	P	Pn	15 11 33.7	-1.0
LBMI				S	Sn	15 12 03.0	+0.8
GTOI	**Gorontalo**	**3.18**	**260**	P	Pn	15 11 49.5	+2.5
GTOI				S	Sn	15 12 27.6	+3.3
SANI	**Sanana**	**3.24**	**183**	P	Pn	15 11 47.5	-0.4
LUWI	**Luwuk**	**4.04**	**236**	P	Pn	15 11 58.4	-0.5
NLAI	**Namlea**	**4.52**	**168**	P	Pn	15 12 05.7	+0.2
BBSI	**Bau Bau**	**7.55**	**208**	P	Pn	15 12 41.4	-5.7

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*NEIC **04** 15:12:11.7±1.6, 18°.7N±0°.1×68°.85W±0°.08, h128km±24km, ML3.5/32, Md3.2/16(RSPR), Error ellipse: s-maj=18.1km s-min=10.5km az=196.0*
*RSPR **04** 15:12:12.5, 18°.58N×68°.91W, h127km±1km, MD3.2/16*
*OSPL **04** 15:12:13.1±1.9, 18°.51N×68°.91W, h137km±11km, ML3.3*
*SDD **04** 15:12:14.3±2.4, 18°.57N×68°.84W, h128km±8km, MD3.3, ML3.5, MW3.6*
ISC 04 15:12:11.6±1.2, 18°.63N±0°.06×68°.85W±0°.03, h133km±7km, n66, σ0°.92/101, 26C-19D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.13**	**105**	⇑*e*Pg	**Pn**	**15 12 30.0**	**+0.4**
HIDR				⇓*e*Sg	**Sn**	**15 12 43.0**	**-0.2**
HIDR				IAML		15 12 44.1	
	comp=E,9μm,0.2s						
HIDR				IAML		15 12 44.2	
	comp=N,8μm,0.2s						
MIDR	**Miches**	**0.40**	**332**	⇑*e*Pg	**Pn**	**15 12 30.8**	**+0.3**
MIDR				⇑*e*Sg	**Sn**	**15 12 45.0**	**+0.2**
MIDR				IAML		15 12 46.8	
	comp=N,1μm,0.2s						
SADR	**Isla Saona**	**0.44**	**171**	⇑*e*Pg	**Pn**	**15 12 30.4**	**-0.3**
SADR				⇓*e*Pg		15 12 30.4	
SADR				*e*Sg	**Sn**	**15 12 44.4**	**-0.7**
SADR				⇓*e*Sg		15 12 44.5	
SADR				IAML		15 12 45.0	
	comp=N,2μm,0.3s						
SADR				IAML		15 12 45.0	
	comp=N,2μm,0.3s						
SADR				IAML		15 12 46.7	
	comp=E,1μm,0.2s						
PCDR	**Punta Cana, DR**	**0.46**	**104**	⇑*e*P	**Pn**	**15 12 30.9**	**+0.1**
PCDR	**Punta Cana, DR**	**0.46**	**104**		**Pn**	**15 12 30.6**	**-0.1**
PCDR					**Sn**	**15 12 44.3**	**-0.9**
PCDR				IAML		15 12 47.7	
	comp=N,1μm,0.8s						
PCDR	**Punta Cana, DR**	**0.46**	**104**	⇓*e*Pg	**Pn**	**15 12 30.7**	**-0.1**
PCDR				*e*Pg		15 12 31.7	
PCDR				⇓*e*Sg	**Sn**	**15 12 45.1**	**-0.1**
PCDR				IAML		15 12 47.6	
	comp=N,1μm,0.5s						
PCDR				IAML		15 12 48.5	
	comp=E,436nm,0.3s						
PCDR	**Punta Cana, DR**	**0.46**	**104**	*i* P	**Pn**	**15 12 30.8**	**+0.1**
PCDR				*e*S	**Sn**	**15 12 45.3**	**+0.1**
PCDR				IAML		15 12 49.0	
	comp=Z,652nm,0.3s						
HATOM	**Hato Mayor del**	**0.53**	**288**	⇑*e*Pg	**Pn**	**15 12 30.9**	**-0.3**
HATOM				⇑*e*Sg	**Sn**	**15 12 45.3**	**-0.7**
HATOM				IAML		15 12 46.0	
	comp=N,3μm,0.2s						
HATOM				IAML		15 12 46.0	
	comp=E,3μm,0.2s						
SDD	**Santo Domingo**	**1.02**	**261**	*i* P	**Pn**	**15 12 34.4**	**-0.5**
SDD				*e*S	**Sn**	**15 12 51.9**	**-0.7**
LONA1	**Toro Cenizo, N**	**1.22**	**308**	*i* P	**Pn**	**15 12 37.2**	**+0.3**
LONA1				*e*S	**Sn**	**15 12 56.5**	**+0.4**
LONA1				IAML		15 13 06.0	
	comp=Z,1μm,3.2s						
BANI	**BANI**	**1.45**	**261**	*e*Pg	**Pn**	**15 12 40.7**	**+1.3**
BANI				⇓*e*Pg		15 12 40.9	
BANI				*e*Sg	**Sn**	**15 13 01.0**	**+0.3**
BANI				⇓*e*Sg		15 13 01.5	
BANI				IAML		15 13 03.8	
	comp=E,52nm,0.1s						
BANI				IAML		15 13 03.8	
	comp=E,483nm,0.1s						
BANI				IAML		15 13 07.2	
	comp=N,66nm,0.2s						
BANI				IAML		15 13 07.4	
	comp=N,614nm,0.6s						
BANI				IAML		15 13 08.3	
	comp=N,90nm,0.2s						
CADR	**Cabrera**	**1.46**	**315**	⇓*e*Pg	**Pn**	**15 12 41.0**	**+1.6**
CADR				⇓*e*Sg	**Sn**	**15 13 00.9**	**+0.3**
CADR				IAML		15 13 13.2	
	comp=E,811nm,0.6s						
CADR				IAML		15 13 15.7	
	comp=N,794nm,0.3s						
AGPR	**Aguadilla, PR**	**1.66**	**95**	⇑*e*P	**Pn**	**15 12 42.5**	**+0.9**
AGPR	**Aguadilla, PR**	**1.66**	**95**	Pn	**Pn**	**15 12 42.2**	**+0.5**
AGPR				Sn	**Sn**	**15 13 04.7**	**0.0**
AGPR				IAML		15 13 11.6	
	comp=N,310nm,0.4s						
AGPR				IAML		15 13 13.9	
	comp=E,304nm,0.4s						
AGPR	**Aguadilla, PR**	**1.66**	**95**	⇓*e*Pg	**Pn**	**15 12 42.6**	**+0.9**
AGPR				⇓*e*Sg	**Sn**	**15 13 04.5**	**-0.2**
AGPR				IAML		15 13 11.6	
	comp=N,295nm,0.2s						
AGPR				IAML		15 13 12.1	
	comp=E,288nm,0.2s						
AGPR	**Aguadilla, PR**	**1.66**	**95**	*i* P	**Pn**	**15 12 42.5**	**+0.9**
AGPR				*e*S	**Sn**	**15 13 05.6**	**+0.9**
AGPR				IAML		15 13 13.2	
	comp=Z,178nm,0.4s						
PRSN	**Puerto Rico Se**	**1.67**	**104**	⇑*e*P	**Pn**	**15 12 43.0**	**+1.1**
PRSN	**Puerto Rico Se**	**1.67**	**104**	*e*S	**Sn**	**15 13 06.3**	**+1.4**
PRSN	**Puerto Rico Se**	**1.67**	**104**	Pn	**Pn**	**15 12 42.4**	**+0.6**
PRSN				Sn	**Sn**	**15 13 04.6**	**-0.3**
PRSN				IAML		15 13 13.3	
	comp=N,430nm,0.3s						
PRSN				IAML		15 13 15.9	
	comp=E,449nm,0.3s						
ABDR	**Alto Bandera**	**1.69**	**277**	⇓*e*Pg	**Pn**	**15 12 43.9**	**+1.4**
ABDR				⇓*e*Sg	**Sn**	**15 13 06.4**	**+0.5**
ABDR				IAML		15 13 30.2	
	comp=E,310nm,0.3s						
ABDR				IAML		15 13 30.6	
	comp=N,374nm,0.3s						
LSP	**Las Mesas**	**1.74**	**105**	⇑*e*P	**Pn**	**15 12 43.6**	**+1.0**
LSP	**Las Mesas**	**1.74**	**105**		**Pn**	**15 12 43.6**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.77**	**110**	⇑*e*P	**Pn**	**15 12 43.0**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.77**	**110**	Pn	**Pn**	**15 12 42.5**	**-0.4**
CRPR				Sn	**Sn**	**15 13 04.9**	**-1.9**
CRPR	**Cabo Rojo, PR**	**1.77**	**110**	⇑*e*Pg	**Pn**	**15 12 44.0**	**+1.0**
CRPR				⇓*e*Sg	**Sn**	**15 13 05.9**	**-0.9**
CRPR				IAML		15 13 08.5	
	comp=N,124nm,0.5s						
CRPR				IAML		15 13 15.9	
	comp=E,99nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.77**	**110**	*i* P	**Pn**	**15 12 43.2**	**+0.3**
CRPR				*e*S	**Sn**	**15 13 06.5**	**-0.4**
CRPR				IAML		15 13 11.5	
	comp=Z,102nm,0.4s						
MLPR	**Magueyes Islan**	**1.84**	**111**	⇓*e*P	**Pn**	**15 12 42.7**	**-1.0**
MLPR	**Magueyes Islan**	**1.84**	**111**	*e*S	**Sn**	**15 13 07.0**	**-1.4**
MLPR	**Magueyes Islan**	**1.84**	**111**	Pn	**Pn**	**15 12 42.4**	**-1.4**
MLPR				Sn	**Sn**	**15 13 06.6**	**-1.7**
MLPR	**Magueyes Islan**	**1.84**	**111**	⇑*e*Pg	**Pn**	**15 12 42.8**	**-1.0**
MLPR				⇑*e*Sg	**Sn**	**15 13 07.0**	**-1.4**
MLPR				IAML		15 13 12.8	
	comp=E,129nm,0.4s						
MLPR				IAML		15 13 15.7	
	comp=N,106nm,0.3s						
GBPR	**Guanica, Bosqu**	**1.98**	**109**	⇑*e*P	**Pn**	**15 12 46.9**	**+1.4**
GBPR	**Guanica, Bosqu**	**1.98**	**109**	*e*S	**Sn**	**15 13 11.9**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.98**	**109**		**Pn**	**15 12 46.9**	**+1.4**
GBPR					**Sn**	**15 13 11.9**	**+0.5**
AOPR	**Arecibo Observ**	**2.01**	**98**	⇓*e*P	**Pn**	**15 12 46.0**	**+0.1**
AOPR	**Arecibo Observ**	**2.01**	**98**	*e*S	**Sn**	**15 13 12.3**	**+0.2**
AOPR	**Arecibo Observ**	**2.01**	**98**	Pn	**Pn**	**15 12 45.6**	**-0.3**
AOPR				Sn	**Sn**	**15 13 10.8**	**-1.3**
AOPR	**Arecibo Observ**	**2.01**	**98**	⇑*e*Pg	**Pn**	**15 12 46.0**	**+0.1**
AOPR				⇑*e*Sg	**Sn**	**15 13 11.0**	**-1.2**
AOPR				IAML		15 13 18.5	
	comp=E,1μm,0.3s						
AOPR				IAML		15 13 21.0	
	comp=N,675nm,0.2s						
UUPR	**Utuado, UPR, P**	**2.06**	**100**	⇑*e*P	**Pn**	**15 12 47.0**	**+0.6**
UUPR	**Utuado, UPR, P**	**2.06**	**100**	*e*S	**Sn**	**15 13 12.8**	**-0.3**
UUPR	**Utuado, UPR, P**	**2.06**	**100**	Pn	**Pn**	**15 12 46.6**	**+0.1**
UUPR				Sn	**Sn**	**15 13 13.4**	**+0.3**
LOBA2	**Hotel Casa Bon**	**2.20**	**256**	⇓*e*Pg	**Pn**	**15 12 47.7**	**-0.5**
LOBA2				⇓*e*Sg	**Sn**	**15 13 13.5**	**-2.7**
LOBA2				IAML		15 13 14.3	
	comp=E,41nm,0.3s						
LOBA2				IAML		15 13 18.1	
	comp=N,30nm,0.2s						
EMPR	**Esperanza - Ma**	**2.21**	**93**	⇑*e*P	**Pn**	**15 12 48.1**	**-0.1**
EMPR	**Esperanza - Ma**	**2.21**	**93**	*e*S	**Sn**	**15 13 16.1**	**-0.3**
EMPR	**Esperanza - Ma**	**2.21**	**93**	Pn	**Pn**	**15 12 47.7**	**-0.6**
EMPR				Sn	**Sn**	**15 13 15.4**	**-1.0**
EMPR				IAML		15 13 25.2	
	comp=N,279nm,1.1s						
EMPR				IAML		15 13 28.5	
	comp=E,335nm,0.6s						
OBIP	**Obispado Ponce**	**2.21**	**105**	⇑*e*P	**Pn**	**15 12 48.8**	**+0.5**
OBIP	**Obispado Ponce**	**2.21**	**105**	*e*S	**Sn**	**15 13 17.6**	**+1.1**
OBIP	**Obispado Ponce**	**2.21**	**105**	Pn	**Pn**	**15 12 48.3**	**0.0**
OBIP				Sn	**Sn**	**15 13 15.6**	**-0.9**
CELP	**Cerrillos**	**2.23**	**104**	⇑*e*P	**Pn**	**15 12 49.3**	**+0.7**
CELP	**Cerrillos**	**2.23**	**104

	baz=71							
OHH	**Osh**	**2.30**	**54**	⇑*i*P		**Pn**	**15 18 18.7**	**+0.6**
	baz=52							
OHH				⇑*i*S		**Sn**	**15 18 47.3**	**+0.2**
	baz=52							
TRKS	**Terek-Say**	**2.42**	**14**	⇑*e*P		**Pn**	**15 18 19.7**	**0.0**
	baz=14							
TRKS				⇑*e*S		**Sn**	**15 18 50.9**	**+0.8**
	baz=14							
SFK	**Sufi-Kurgan**	**2.58**	**70**	⇓*i*P		**Pn**	**15 18 22.0**	**0.0**
	baz=68							
SFK				⇓*i*S		**Sn**	**15 18 53.0**	**-1.0**
	baz=68							
ARK	**Arkit**	**2.88**	**25**	⇑*i*P		**Pn**	**15 18 27.6**	**+1.5**
	baz=23							
ARK				⇑*i*S		**Sn**	**15 19 02.9**	**+1.4**
	baz=23							
ARSB	**Arslanbob**	**2.94**	**43**	⇓*e*P		**Pn**	**15 18 27.8**	**+0.9**
	baz=41							
ARSB				⇓*e*S		**Sn**	**15 19 02.9**	**0.0**
	baz=41							
IUG	**Iuzhnay**	**2.97**	**355**	*e*P		**Pb**	**15 18 32.0**	**-0.6**
	70nm,0.4s							
IUG				*e*S		**Sb**	**15 19 12.4**	**+2.9**
	584nm,0.7s							
IUG	**Iuzhnay**	**2.97**	**355**	Pg		**Pb**	**15 18 32.0**	**-0.6**
	70nm,0.4s							
IUG				Lg		Lg	15 19 12.4	
	584nm,0.7s							
CHM	**Chimkent**	**3.18**	**350**	*e*P		**Pb**	**15 18 37.2**	**+1.0**
	73nm,0.2s							
CHM				*e*S		**Sg**	**15 19 20.5**	**-0.6**
	304nm,0.5s							
MNAS	**Manas**	**3.68**	**26**	⇓*i*P		**Pn**	**15 18 38.8**	**+1.7**
	baz=25							
MNAS				⇓*i*S		**Sn**	**15 19 21.9**	**+0.7**
	baz=25							
BRLS	**Borolday**	**3.86**	**354**	*e*P		**Pb**	**15 18 45.0**	**-2.7**
	7.5nm,0.2s							
BRLS				*e*S		**Sb**	**15 19 34.6**	**-0.4**
	38nm,0.3s							
BRLS	**Borolday**	**3.86**	**354**	Pg		**Pb**	**15 18 45.0**	**-2.7**
	7.5nm,0.2s							
BRLS				Lg		Lg	15 19 34.6	
	38nm,0.3s							
KK31	**Karatay Array**	**3.92**	**2**	Pn		**Pn**	**15 18 43.1**	**+2.9**
	1.8nm,0.3s,baz=186,slow=14,SNR=132							
KK31				⇓Pg		**Pb**	**15 18 51.7**	**+3.0**
	6.3nm,0.3s,baz=173,slow=11,SNR=24							
KK31				⇓Sn		**Sn**	**15 19 28.9**	**+2.1**
	4.9nm,0.3s,baz=177,slow=21							
KK31				⇑Lg		Lg	15 19 42.5	
	16nm,0.3s,baz=187,slow=32							
KKAR	**Karatay Array**	**3.92**	**2**	⇑*i*P		**Pn**	**15 18 42.3**	**+2.1**
	baz=1.0							
KKAR				⇑*i*S		**Sn**	**15 19 28.4**	**+1.6**
	baz=1.0							
ARLS	**Aral**	**4.04**	**47**	⇑*i*P		**Pn**	**15 18 43.0**	**+1.0**
	baz=46							
ARLS				⇑*i*S		**Sn**	**15 19 29.3**	**-0.8**
	baz=46							
MRKS	**Merke**	**4.17**	**31**	*e*P		Pn	15 18 48.5	+4.7
	12nm,0.4s							
MRKS				*e*S		**Sb**	**15 19 40.6**	**-3.4**
	30nm,0.5s							
EKS2	**Erkin-Say**	**4.34**	**36**	P		Pn	15 18 51.5	+5.5
	SNR=6.8							
EKS2	**Erkin-Say**	**4.34**	**36**	⇑*i*P		**Pn**	**15 18 47.4**	**+1.3**
	baz=35							
EKS2				⇑*i*S		**Sn**	**15 19 37.2**	**-0.1**
	baz=35							
UCH	**Uchtor**	**4.39**	**45**	P		Pn	15 18 52.5	+5.4
	SNR=21							
UCH	**Uchtor**	**4.39**	**45**	⇑*i*P		**Pn**	**15 18 48.0**	**+0.9**
	baz=44							
UCH				⇑*i*S		**Sn**	**15 19 38.5**	**-0.6**
	baz=44							
AAK	**Ala-Archa**	**4.67**	**41**	Pn		**Pn**	**15 18 54.0**	**+3.4**
	3.5nm,0.3s,baz=227,slow=7.4,SNR=16							
AAK				Sn		**Sn**	**15 19 51.8**	**+6.3**
	2.6nm,0.3s,baz=349,slow=2.3,SNR=5.5							
	9.1nm,0.3s							
NRN	**Naryn**	**4.87**	**61**	⇑*e*P		**Pn**	**15 18 54.0**	**+0.4**
	baz=60							
NRN				⇑*e*S		**Sn**	**15 19 48.3**	**-2.5**
	baz=60							
KBK	**Karagaybulak**	**4.92**	**44**	P		Pn	15 19 00.2	+6.1
	SNR=13							
KBK	**Karagaybulak**	**4.92**	**44**	⇓*i*P		**Pn**	**15 18 55.2**	**+1.1**
	baz=43							
KBK				⇓*i*S		**Sn**	**15 19 50.8**	**-0.9**
	baz=43							
CHMS	**Chumysh**	**5.06**	**40**	P		Pn	15 19 00.9	+5.1
	SNR=7.3							
CHMS	**Chumysh**	**5.06**	**40**	⇓Pn		Pn	15 19 01.5	+5.6
	7.1nm,0.5s							
CHMS				⇓Sn		**Sn**	**15 19 59.4**	**+4.4**
	36nm,1.1s							
CHMS	**Chumysh**	**5.06**	**40**	⇓*i*P		**Pn**	**15 18 57.2**	**+1.3**
	baz=39							
CHMS				⇓*i*S		**Sn**	**15 19 54.0**	**-1.0**
	baz=39							
USP	**Ospenovka**	**5.14**	**36**	P		**Pn**	**15 18 59.8**	**+2.7**
	SNR=7.2							
TKM2	**Tokmak 2**	**5.45**	**45**	P		Pn	15 19 06.5	+5.1
	SNR=7.2							
TKM2	**Tokmak 2**	**5.45**	**45**	⇑Pn		**Pn**	**15 19 05.6**	**+4.2**
	5.6nm,0.5s							
TKM2				⇓Sn		**Sn**	**15 20 10.6**	**+5.8**
	14nm,0.6s							
TKM2	**Tokmak 2**	**5.45**	**45**	⇓*i*P		**Pn**	**15 19 02.4**	**+1.0**
	baz=44							
TKM2				⇓*i*S		**Sn**	**15 20 03.4**	**-1.4**
	baz=44							
KST	**Kastek**	**5.73**	**46**	*e*P		Pb	15 19 15.2	-4.6
	2.9nm,1.3s							
KST				*e*S		**Sb**	**15 20 26.5**	**-2.4**
	11nm,0.3s							
KST	**Kastek**	**5.73**	**46**	Lg		Lg	15 20 26.5	
	12nm,1.1s							
KRBS	**Karabastau**	**6.03**	**40**	Pg		**Pb**	**15 19 23.6**	**-1.1**
	2.6nm,0.4s							
BTLS	**Baital**	**6.46**	**24**	Lg		Lg	15 20 54.7	
	8.3nm,0.6s							
KTBS	**Karatobe**	**6.56**	**44**	Pg		**Pb**	**15 19 32.3**	**-1.6**
	1.9nm,0.7s							
GEYT	**Alibeck**	**9.66**	**266**	Pn		**Pn**	**15 19 59.9**	**+0.8**
	0.3nm,0.3s,baz=80,slow=18,SNR=2.6							
GEYT				Sn		**Sn**	**15 21 45.4**	**-2.9**
	1.0nm,0.3s,baz=54,slow=34,SNR=3.3							
	2.9nm,0.7s							
MKAR	**Makanchi Array**	**11.58**	**45**	Pn		**Pn**	**15 20 27.6**	**+2.3**
	0.1nm,0.3s,baz=228,slow=13,SNR=2.7							
	0.2nm,0.5s							
AB31	**Akbulak array**	**12.52**	**327**	P		**Pn**	**15 20 38.6**	**+0.5**
	1.2nm,0.4s,baz=140,slow=12,SNR=78							
AB31				⇑S		**Sn**	**15 22 54.1**	**-3.9**
	4.8nm,0.7s,baz=146,slow=22							
KURBB	**Kurchatov Arra**	**12.81**	**24**	Pn		**Pn**	**15 20 41.9**	**-0.2**
	baz=220,slow=13,SNR=3.7							
	0.2nm,0.4s							
BVAR	**Borovoye Array**	**13.84**	**0**	Pn		**Pn**	**15 20 55.5**	**-0.6**
	baz=165,slow=12,SNR=5.1							
	0.9nm,0.6s							
AKTO	**Aktyubinsk**	**14.23**	**326**	Pn		**Pn**	**15 20 59.9**	**-1.5**
	0.3nm,0.3s,baz=139,slow=7.0,SNR=6.2							
AKTO				Sn		**Sn**	**15 23 34.6**	**-5.2**
	0.1nm,0.3s,baz=163,slow=14,SNR=2.5							
	0.8nm,0.3s							
ZALV	**Zalesovo Beam**	**17.75**	**29**	P		**Pn**	**15 21 47.5**	**+0.4**
	0.4nm,0.3s,baz=227,slow=11,SNR=6.7							
	1.1nm,0.5s							
FINES	**FINESS Array B**	**34.99**	**324**	P		**P**	**15 24 33.6**	**+1.3**
	1.0nm,0.6s,baz=118,slow=11,SNR=5.0							
	1.0nm,0.6s							
ARCES	**ARCESS Array B**	**38.47**	**337**	P		**P**	**15 25 04.5**	**+2.5**
	1.6nm,0.8s,baz=104,slow=7.6,SNR=4.4							
	1.6nm,0.8s							
HFS	**Hagfors**	**40.66**	**320**	P		**P**	**15 25 20.6**	**+0.3**
	0.9nm,0.5s,baz=90,slow=8.9,SNR=4.5							
	0.9nm,0.5s							
NOA	**NORSAR Array B**	**41.94**	**321**	P		**P**	**15 25 32.9**	**+2.0**
	0.3nm,0.5s,baz=94,slow=8.0,SNR=2.3							
	0.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**65.30**	**267**	P		**P**	**15 28 20.9**	**-1.9**
	0.4nm,0.5s,baz=58,slow=6.7,SNR=4.1							
	0.4nm,0.5s							

IDC 04 15:18:41.7±1.9, 20°48S×179°62E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=147.6km s-min=32.1km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.79**	**244**	P	P	15 25 42.2	-0.6
	1.3nm,0.8s,baz=70,slow=12,SNR=3.0						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**42.35**	**257**	P	P	15 26 38.5	+0.5
	0.8nm,0.6s,baz=98,slow=7.0,SNR=16						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**42.39**	**263**	P	P	15 26 37.9	-0.4
	0.4nm,0.3s,baz=97,slow=7.6,SNR=23						
	0.4nm,0.3s						
TXAR	**Lajitas Array**	**88.94**	**58**	P	P	15 31 38.6	0.0
	0.4nm,0.8s,baz=243,slow=6.0,SNR=4.5						
	0.4nm,0.8s						

*LDG **04** 15:21:36.7±0.1, 45°.41N×6°.34E, h2km, Md1.3/2, Ml1.9/6, Error ellipse: s-maj=1.7km s-min=1.3km az=89.0*
*STR **04** 15:21:36.8±0.2, 45°.N±1°×±°, h10km, MLv1.6/20, Error ellipse: s-maj=0.0km s-min=0.0km az=75.1, preliminary*
*ROM **04** 15:21:36.2±0.1, 45°.403N±0°.005×6°.341E±0°.009, h10km, ML1.2/10, Error ellipse: s-maj=0.7km s-min=0.6km az=299.0*

ISC 04 15:21:36.4±1.0, 45°.42N±0°.02×6°.34E±0°.02, h8km±9km, n56, σ0°93/82, 1C-2D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.30**	**70**	*e*Pg	**Pg**	**15 21 42.4**	**0.0**
LPL				*e*Sg	**Sg**	**15 21 45.8**	**-0.6**
	27nm,0.2s						
LPG	**La Plagne**	**0.30**	**74**	*e*Pg	**Pg**	**15 21 42.6**	**0.0**
LPG				*e*Sg	**Sg**	**15 21 45.9**	**-0.7**
	27nm,0.3s						
OGMO	**Fort Saint-Gob**	**0.32**	**130**	Pg	**Pg**	**15 21 42.4**	**-0.4**
OGMO				Sg	**Sg**	**15 21 48.1**	**+1.0**
BNI	**Bardonecchia**	**0.44**	**146**	P	**Pg**	**15 21 45.1**	**+0.2**
BNI				S	**Sg**	**15 21 51.5**	**+0.9**
GRN	**Grenoble**	**0.45**	**248**	P	**Pg**	**15 21 46.0**	**+0.8**
OGSM	**Saint Maurice**	**0.49**	**294**	Pg	**Pg**	**15 21 46.5**	**+0.5**
LSD	**Lago del Serru**	**0.56**	**85**	⇓P	**Pg**	**15 21 47.7**	**+0.3**
LSD				S	**Sg**	**15 21 55.0**	**+0.2**
LSD				AML	AML		
	comp=E,29μm,0.9s						
LSD				AML	AML		
	comp=N,39μm,0.6s						
LSD				AML	AML		
	comp=E,27μm,0.2s						
LSD				AML	AML		
	comp=N,23μm,0.1s						
LSD	**Lago del Serru**	**0.56**	**85**	Sg	**Sg**	**15 21 54.6**	**-0.2**
LSD	**Lago del Serru**	**0.56**	**85**	Pg	**Pg**	**15 21 47.7**	**+0.3**
RRL	**Rocca Remolon**	**0.59**	**147**	P	**Pg**	**15 21 47.8**	**-0.1**
RRL				S	**Sg**	**15 21 56.5**	**+1.0**
RRL	**Rocca Remolon**	**0.59**	**147**	Pg	**Pg**	**15 21 48.6**	**+0.8**
RRL	**Rocca Remolon**	**0.59**	**147**	Sg	**Sg**	**15 21 56.6**	**+1.1**
ORIF	**Oris-en-Rattie**	**0.59**	**213**	*e*Pg	**Pg**	**15 21 47.5**	**-0.4**
ORIF				*e*Sg	**Sg**	**15 21 55.1**	**-0.5**
	comp=N,16nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.59**	**213**	⇑P	**Pg**	**15 21 47.7**	**-0.1**
ORIF				S	**Sg**	**15 21 55.9**	**+0.3**
ORIF				AML	AML		
	comp=E,23μm,0.3s						
ORIF				AML	AML		
	comp=N,20μm,1.4s						
ORIF				AML	AML		
	comp=N,17μm,0.1s						
ORIF				AML	AML		
	comp=E,23μm,0.3s						
ORIF	**Oris-en-Rattie**	**0.59**	**213**	Pg	**Pg**	**15 21 47.8**	**-0.1**
MRGE	**Morge**	**0.62**	**55**	⇓P	**Pg**	**15 21 48.2**	**-0.2**
MRGE				AML	AML		
	comp=E,17μm,0.1s						
MRGE				AML	AML		
	comp=N,17μm,0.1s						
RSP	**Reno Superiore**	**0.71**	**112**	P	**Pg**	**15 21 49.8**	**-0.2**
RSP				S	**Sg**	**15 21 59.5**	**+0.2**
RSP				AML	AML		
	comp=E,30μm,0.2s						
RSP				AML	AML		
	comp=N,22μm,0.2s						
RSP				AML	AML		
	comp=N,38μm,1.2s						
RSP				AML	AML		
	comp=E,30μm,0.2s						
RSP				AML	AML		
	comp=E,43μm,1.1s						
RSP				AML	AML		
	comp=N,22μm,0.2s						
RSP	**Reno Superiore**	**0.71**	**112**	Pg	**Pg**	**15 21 50.7**	**+0.6**
RSP	**Reno Superiore**	**0.71**	**112**	Sg	**Sg**	**15 21 59.5**	**+0.2**
OGSI	**Sixt**	**0.71**	**24**	Pg	**Pg**	**15 21 50.2**	**0.0**
OGSI				Sg	**Sn**	**15 22 05.7**	**+1.6**
MBDF	**Montbardon**	**0.75**	**156**	*e*Pg	**Pg**	**15 21 50.5**	**-0.4**
MBDF				*e*Sg	**Sg**	**15 21 59.8**	**-0.9**
	comp=N,4.4nm,0.3s						
OG35	**Corcelles**	**0.83**	**320**	Pg	**Pg**	**15 21 52.3**	**-0.1**
OG35				Sg	**Sg**	**15 22 03.0**	**-0.1**
BHB	**Bricherasio**	**0.87**	**131**	P	**Pg**	**15 21 52.7**	**-0.4**
BHB	**Bricherasio**	**0.87**	**131**	Pg	**Pg**	**15 21 53.8**	**+0.6**
BHB	**Bricherasio**	**0.87**	**131**	Sg	**Sb**	**15 22 06.2**	**+0.6**
CREF	**Crivoux**	**0.89**	**167**	Pg	**Pg**	**15 21 53.8**	**+0.3**
CREF				Sg	**Sg**	**15 22 04.8**	**-0.3**
OGAG	**Argentiere**	**0.97**	**171**	Pg	Pg	15 21 49.3	-5.7
OGAG				Sg	Sg	15 21 58.0	-10
TRAV	**Traversella**	**1.00**	**84**	Sg	**Sg**	**15 22 07.7**	**-0.8**
TRAV	**Traversella**	**1.00**	**84**	Pg	**Pg**	**15 21 55.4**	**-0.2**
DIX	**Grande Dixence**	**1.00**	**48**	P	**Pg**	**15 21 55.3**	**-0.4**
DIX	**Grande Dixence**	**1.00**	**48**	Pg	**Pg**	**15 21 55.1**	**-0.6**
DIX	**Grande Dixence**	**1.00**	**48**	Sg	**Sg**	**15 22 09.6**	**+0.8**
AIGLE	**Aigle**	**1.02**	**25**	Pg	**Pg**	**15 21 55.5**	**-0.6**
AIGLE	**Aigle**	**1.02**	**25**	Sn	**Sn**	**15 22 12.8**	**+1.1**
JAUF	**Jausiers**	**1.03**	**163**	Pg	**Pg**	**15 21 56.5**	**+0.3**
JAUF				Sn	**Sn**	**15 22 16.3**	**+4.4**
PZZ	**Stroppo**	**1.06**	**148**	P	**Pg**	**15 21 55.6**	**-1.2**
GIMEL	**St. Georges /**	**1.12**	**358**	P	**Pb**	**15 21 57.5**	**-0.6**
GIMEL	**St. Georges /**	**1.12**	**358**	Pg	**Pb**	**15 21 58.1**	**0.0**
GIMEL	**St. Georges /**	**1.12**	**358**	Sg	**Sb**	**15 22 13.1**	**+0.2**
CABF	**La Chapelle**	**1.21**	**352**	*e*Pg	**Pb**	**15 21 59.1**	**-0.5**
CABF	**La Chapelle**	**1.21**	**352**	*e*P	**Pg**	**15 22 00.3**	**+0.7**
CABF				*e*Sg	**Sb**	**15 22 15.3**	**-0.1**
	comp=N,0.7nm,0.1s						
SSB	**Saint Sauveur**	**1.27**	**265**	Pg	**Pg**	**15 22 01.2**	**+0.4**
SSB				Sn	**Sb**	**15 22 16.5**	**-0.6**
VIVF	**Saint-Julien-l**	**1.30**	**245**	*e*Pg	**Pn**	**15 22 00.9**	**0.0**
VIVF				*e*Sg	**Sb**	**15 22 17.7**	**-0.3**
	comp=N,7.8nm,0.2s						
RIVEL	**MONT RIVEL**	**1.38**	**348**	Pg	**Pg**	**15 22 03.0**	**+0.2**
RIVEL				Sg	**Sg**	**15 22 21.4**	**+0.8**
BRANT	**Les Verrieres**	**1.53**	**4**	Pg	**Pb**	**15 22 05.2**	**+0.2**
BRANT	**Les Verrieres**	**1.53**	**4**	Sg	**Sg**	**15 22 26.5**	**+1.0**
SMRF	**Simiane la Rot**	**1.54**	**201**	*e*Pn	**Pn**	**15 22 02.1**	**-2.0**
SMRF	**Simiane la Rot**	**1.54**	**201**	*e*Pg	**Pb**	**15 22 04.8**	**-0.3**
SMRF				*e*Sn	**Sn**	**15 22 21.6**	**-2.7**
	comp=N,0.6nm,0.3s						
SMRF				*e*Sg	**Sb**	**15 22 24.3**	**-0.5**
	comp=N,0.7nm,0.3s						
TRIGF	**Trigance**	**1.67**	**178**	Pg	**Pg**	**15 22 08.3**	**-0.1**
TRIGF				Sg	**Sg**	**15 22 31.1**	**+1.1**
CALF	**Calern**	**1.71**	**166**	Pg	**Pg**	**15 22 09.3**	**0.0**
CALF				Sg	**Sg**	**15 22 33.6**	**+2.2**
CHMF	**Charmoille**	**1.85**	**7**	Pg	**Pg**	**15 22 11.5**	**-0.3**
CHMF				Sn	**Sn**	**15 22 30.9**	**-1.1**
CHMF				Sg	**Sg**	**15 22 35.8**	**+0.1**
COLF	**Collangettes**	**1.86**	**274**	Pg	**Pg**	**15 22 11.5**	**-0.6**
COLF				Sg	**Sb**	**15 22 35.0**	**+0.8**
SMF	**Signal de Mont**	**2.13**	**306**	*e*Pn	**Pn**	**15 22 10.9**	**-1.4**
SMF	**Signal de Mont**	**2.13**	**306**	*e*Pg	**Pb**	**15 22 15.3**	**+0.1**
SMF				*e*Sg	**Sb**	**15 22 43.2**	**+1.4**
	comp=N,1.6nm,0.3s						
HINF	**Hinteralfeld**	**2.43**	**8**	*e*Pn	**Pn**	**15 22 15.5**	**-0.9**
HINF	**Hinteralfeld**	**2.43**	**8**	*e*Pg	**Pb**	**15 22 21.5**	**+1.1**
HINF				*e*Sg	**Sb**	**15 22 51.1**	**+0.6**
	comp=N,1.5nm,0.3s						

*IDC **04** 15:23:32.5±0.7, 24°.04S×176°.96W, h0km, mb4.2/9, mbtmp4.2/10, ML3.1/1, MS3.1/2, Error ellipse: s-maj=28.1km s-min=20.3km az=82.0*

*NEIC **04** 15:23:47.1±1.4, 24°.55S±0°.10×177°.2W±0°.2, h93km±2km, mb4.5/23, Error ellipse: s-maj=21.8km s-min=12.5km az=110.0*

ISC 04 15:23:46.8±0.5, 24°.57S±0°.08×177°.3W±0°.1, h100km, n66, σ1°60/60, mb4.4/23, 4C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.70**	**187**	Pn	**Pn**	**15 24 55.7**	**+0.4**
MSVF	**Nonsavu**	**8.08**	**327**	Pn	Pn	15 25 49.1	+7.7
NIUE	**Niue**	**8.75**	**53**	Pn	**Pn**	**15 25 50.0**	**-0.5**
URZ	**Urewera**	**14.46**	**198**	Pn	**Pn**	**15 27 05.0**	**-1.5**
	0.1nm,0.3s,baz=238,slow=19,SNR=1.3						
URZ				Sn	**Sn**	**15 29 37.9**	**-7.9**
	0.7nm,0.3s,baz=353,slow=17,SNR=2.9						
	5.3nm,0.9s						
RAR	**Rarotonga**	**16.48**	**82**	LR	LR	15 32 38.1	
	comp=Z,36nm,20.9s,baz=326,slow=34						
LTZ	**Lake Taylor**	**20.11**	**203**	P	Pn	15 28 14.8	-0.4
LBZ	**Lake Benmore**	**22.25**	**204**	P	**P**	**15 28 35.9**	**+0.5**
LBZ				IAmb	IAmb	15 29 18.8	
	comp=Z,31nm,1.4s						
ARMA	**Armidale**	**28.13**	**251**	P	**P**	**15 29 31.3**	**+1.7**
ARMA				IAmb	IAmb	15 29 34.2	
	comp=Z,7.7nm,0.8s						
CTAO	**Charters Tower**	**33.96**	**270**	P	**P**	**15 30 22.9**	**+2.0**
CTAO				IAmb	IAmb	15 30 24.4	
	comp=Z,17nm,1.2s						
STKA	**Stephens Creek**	**36.79**	**249**	P	**P**	**15 30 47.2**	**+2.2**
STKA	**Stephens Creek**	**36.79**	**249**	P	**P**	**15 30 46.8**	**+1.9**
	comp=Z,2.2nm,0.7s,baz=105,slow=12,SNR=5.7						
	comp=Z,2.2nm,0.7s						
BBOO	**Buckleboo**	**41.47**	**248**	P	**P**	**15 31 24.3**	**+0.3**
BBOO				IAmb	IAmb	15 31 26.7	
	comp=Z,16nm,1.1s						
AS31	**Alice Springs**	**44.37**	**261**	P	**P**	**15 31 47.6**	**+0.1**
ASAR	**Alice Springs**	**44.37**	**261**	P	**P**	**15 31 48.5**	**+1.0**
ASAR	**Alice Springs**	**44.37**	**261**	P	**P**	**15 31 47.9**	**+0.3**
	comp=Z,1.9nm,0.4s,baz=92,slow=7.6,SNR=129						
ASAR				PcP	**PcP**	**15 33 29.9**	**0.0**
	comp=Z,1.6nm,1.0s,baz=126,slow=4.2,SNR=5.5						
	comp=Z,1.9nm,0.4s						
WR0	**Warramunga Arr**	**44.65**	**266**	P	**P**	**15 31 49.4**	**-0.3**
WR0				IAmb	IAmb	15 31 52.3	
	comp=Z,12nm,1.2s						
WB2	**Warramunga Arr**	**44.82**	**266**	P	**P**	**15 31 50.8**	**-0.3**
WB2				IAmb	IAmb	15 31 53.7	
	comp=Z,8.9nm,1.1s						
WRAB	**Tennant Creek**	**44.83**	**266**	P	**P**	**15 31 50.8**	**-0.4**
WRAB				IAmb	IAmb	15 31 53.0	
	comp=Z,10.0nm,1.2s						
WB0	**Warramunga Arr**	**44.83**	**266**	P	**P**	**15 31 50.6**	**-0.6**
WB0				IAmb	IAmb	15 31 54.6	
	comp=Z,4.9nm,0.7s						
WRA	**Warramunga Arr**	**44.83**	**266**	P	**P**	**15 31 50.1**	**-1.1**
WRA	**Warramunga Arr**	**44.83**	**266**	P	**P**	**15 31 51.0**	**-0.2**
	comp=Z,3.1nm,0.5s,baz=105,slow=8.0,SNR=44						
WRA				PcP	**PcP**	**15 33 31.4**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=98,slow=3.9,SNR=5.2						
	comp=Z,3.1nm,0.5s						
FORT	**Forrest**	**48.41**	**250**	P	**P**	**15 32 18.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**53.25**	**265**	P	**P**	**15 32 55.1**	**-0.3**
SBA	**Scott Base**	**53.87**	**184**	P	**P**	**15 33 00.9**	**+1.8**
SBA				IAmb	IAmb	15 33 04.7	
	comp=Z,3.0nm,0.9s						
VNDA	**Vanda**	**53.94**	**186**	P	**P**	**15 33 01.1**	**+1.5**
VNDA	**Vanda**	**53.94**	**186**	P	**P**	**15 33 02.9**	**+3.4**
	comp=Z,1.1nm,0.8s,baz=335,slow=7.6,SNR=7.3						
	comp=Z,1.1nm,0.8s						
MBWA	**Marble Bar**	**57.70**	**260**	P	**P**	**15 33 28.0**	**+0.7**
MORW	**Morawa**	**58.97**	**250**	P	**P**	**15 33 36.5**	**+0.4**
CASY	**Casey**	**60.50**	**206**	P	**P**	**15 33 47.8**	**+1.3**
QSPA	**South Pole Qui**	**65.52**	**180**	P	**P**	**15 34 20.9**	**+1.6**
QSPA				IAmb	IAmb	15 34 22.2	
	comp=Z,3.6nm,0.8s						
QSPA	**South Pole Qui**	**65.52**	**180**	P	**P**	**15 34 21.3**	**+2.0**
	comp=Z,2.4nm,0.6s,baz=336,slow=0.9,SNR=21						
	comp=Z,2.4nm,0.6s						
SMAI	**San Martin Ant**	**74.59**	**159**	P	**P**	**15 35 15.8**	**+1.3**
SMAI				IAmb	IAmb	15 35 17.1	
	comp=Z,4.2nm,0.9s						
BELA	**Belgrano 2**	**75.45**	**172**	P	**P**	**15 35 19.4**	**+0.1**
BELA				IAmb	IAmb	15 35 21.2	
	comp=Z,5.4nm,0.8s						
MAW	**Mawson**	**77.98**	**200**	P	**P**	**15 35 35.6**	**+2.0**
	comp=Z,2.6nm,0.6s,baz=149,slow=8.1,SNR=9.5						
	comp=Z,2.6nm,0.6s						
PETK	**Petropavlovsk-**	**80.36**	**345**	P	**P**	**15 35 43.5**	**-3.1**
	comp=Z,0.7nm,0.6s,baz=105,slow=5.9,SNR=4.5						
	comp=Z,0.7nm,0.6s						
H03S2	**Juan Fernandez**	**83.16**	**124**	T	T	17 08 29.1	
	baz=245,slow=74,SNR=14						
H03S1	**Juan Fernandez**	**83.18**	**124**	T	T	17 08 26.9	
	baz=245,slow=74,SNR=15						
H03S3	**Juan Fernandez**	**83.18**	**124**	T	T	17 08 27.2	
	baz=245,slow=74,SNR=19						
TROLL	**Troll, Antarti**	**83.68**	**180**	⇑P	**P**	**15 36 04.8**	**+0.6**
	comp=Z,340nm,0.8s						
SNAA	**Sanae**	**83.94**	**178**	P	**P**	**15 36 05.4**	**0.0**
SNAA				IAmb	IAm

DRME				eSg	Sb	15 24 27.1	0.0
DRME	**Dracevica, Mon**	**0.78**	**339**	⇑iPg	Pg	15 24 15.8	-0.6
DRME				i Sg	Sb	15 24 28.1	+1.0
BUM	**Brajici-Budva**	**0.98**	**329**	⇑iPg	Pb	15 24 19.8	-0.2
BUM				i Sg	Sn	15 24 35.0	+0.6
PDG	**Podgorica**	**1.00**	**347**	ePg	Pb	15 24 20.0	-0.3
PDG				eSg	Sn	15 24 35.6	+0.9
PDG	**Podgorica**	**1.00**	**347**	⇑iPg	Pb	15 24 19.8	-0.5
PDG				eSg	Sg	15 24 33.5	-0.1
PDG	**Podgorica**	**1.00**	**347**	⇓iPg	Pb	15 24 19.6	-0.7
PDG				i Sg	Sn	15 24 35.1	+0.4
PVY	**Plav**	**1.17**	**14**	ePg	Pb	15 24 22.8	-0.6
PVY	**Plav**	**1.17**	**14**	⇑iPg	Pb	15 24 22.7	-0.6
PVY				i Sg	Sn	15 24 39.6	+0.4
CEME	**Cevo**	**1.19**	**336**	⇑iPg	Pb	15 24 23.7	+0.1
CEME				i Sg	Sg	15 24 42.0	+2.3
HCY	**Herceg Novi**	**1.27**	**321**	ePg	Pn	15 24 24.1	-0.5
HCY				eSg	Sb	15 24 40.7	-0.5
HCY	**Herceg Novi**	**1.27**	**321**	⇓iPg	Pb	15 24 25.0	+0.1
HCY				i Sg	Sg	15 24 44.5	+2.2
NKME	**Niksic**	**1.39**	**341**	⇓iPg	Pb	15 24 27.3	+0.4
NKME				i Sg	Sg	15 24 48.2	+2.3
KOME	**Kolasin**	**1.39**	**358**	ePg	Pg	15 24 27.7	-0.3
KOME				eSg	Sg	15 24 46.9	+0.8
KOME	**Kolasin**	**1.39**	**358**	⇓iPg	Pb	15 24 26.9	-0.2
KOME				i Sg	Sg	15 24 47.9	+1.8
BEY	**Berane**	**1.44**	**10**	ePg	Pn	15 24 26.7	-0.2
IVA	**Berane**	**1.44**	**10**	⇑iPg	Pn	15 24 26.6	-0.3
IVA				i Sg	Sg	15 24 47.9	+0.4
FNA	**Florina**	**1.52**	**116**	ePg	Pb	15 24 29.0	-0.3
FNA				eSg	Sg	15 24 50.1	-0.2
FNA	**Florina**	**1.52**	**116**	P	Pn	15 24 28.1	0.0
FNA				S	Sb	15 24 49.2	+0.7
FNA				AML	AML	15 24 52.4	
	comp=N,241µm,0.6s						
FNA				AML	AML	15 24 53.1	
	comp=E,236µm,0.3s						
NEST	**Nestorio**	**1.53**	**132**	P	Pb	15 24 29.0	-0.4
NEST				AML	AML	15 24 55.0	
	comp=N,98µm,0.3s						
NEST				AML	AML	15 24 57.8	
	comp=E,107µm,0.3s						
TREB	**Trebinje**	**1.55**	**325**	⇓iPg	Pb	15 24 29.1	-0.6
TREB				eSg	Sb	15 24 49.9	+0.7
DBRK	**Dubrovnik**	**1.61**	**319**	Sn	Sn	15 24 49.9	+0.2
DBRK	**Dubrovnik**	**1.61**	**319**	ePn	Pn	15 24 28.4	-0.7
BRY	**Bratogost**	**1.63**	**332**	ePn	Pb	15 24 30.5	-0.7
BRY				eSn	Sb	15 24 51.5	-0.2
BRY	**Bratogost**	**1.63**	**332**	⇑iPn	Pb	15 24 30.8	-0.4
BRY				i Sn	Sg	15 24 54.3	+0.5
UPM	**Unac-Piva**	**1.81**	**345**	eSn	Sb	15 24 56.2	-0.7
UPM	**Unac-Piva**	**1.81**	**345**	⇑iPn	Pb	15 24 33.2	-1.1
UPM				i Sn	Sg	15 24 58.8	-0.7
SJES	**Sjenica**	**1.83**	**9**	ePn	Pb	15 24 34.0	-0.5
SJES				eSn	Sb	15 24 56.8	-0.5
SJES	**Sjenica**	**1.83**	**9**	⇑iPn	Pb	15 24 34.0	-0.5
SJES				eSn	Sb	15 24 57.7	+0.4
PLE	**Pljevlja**	**1.88**	**356**	ePn	Pb	15 24 34.5	-0.8
PLE	**Pljevlja**	**1.88**	**356**	⇓iPn	Pb	15 24 34.6	-0.8
PLE				i Sn	Sb	15 24 59.3	+0.6
STON	**Ston**	**1.98**	**316**	ePn	Pn	15 24 35.2	+0.9
STON				Sn	Sn	15 24 58.7	-0.2
STON	**Ston**	**1.98**	**316**	ePn	Pn	15 24 34.6	+0.3
STON				eSn	Sn	15 24 59.4	+0.5
IGT	**Igoumenitsa**	**2.01**	**163**	P	Pn	15 24 35.7	+1.0
IGT				AML	AML	15 25 09.0	
	comp=E,106µm,0.6s						
IGT				AML	AML	15 25 11.0	
	comp=N,99µm,0.4s						
KPRO	**Kipourio**	**2.03**	**137**	P	Pn	15 24 36.1	+1.1
PRVS	**Prvonek**	**2.15**	**60**	ePn	Pn	15 24 36.6	0.0
PRVS				eSn	Sn	15 25 03.1	0.0
BARS	**Barje**	**2.15**	**50**	ePn	Pn	15 24 36.4	-0.3
BARS				eSn	Sn	15 25 03.8	+0.5
IVAS	**Ivanjica**	**2.16**	**11**	ePn	Pn	15 24 37.0	+0.1
IVAS				eSn	Sn	15 25 04.4	+0.9
RUDO	**Rudo**	**2.17**	**356**	ePn	Pn	15 24 37.8	+0.9
RUDO				eSn	Sb	15 25 05.5	-1.4
BBLS	**Lazi&#263i**	**2.41**	**357**	ePn	Pb	15 24 42.3	-2.1
BBLS	**Lazi&#263i**	**2.41**	**357**	⇑iPn	Pn	15 24 42.1	+1.8
BBLS				eSn	Sn	15 25 11.5	+1.9
MAKA	**Makarska**	**2.63**	**315**	ePn	Pn	15 24 43.4	+0.2
DIVS	**Divibare**	**2.66**	**7**	ePn	Pn	15 24 44.3	+0.6
HAPS	**Han Pijesak,BI**	**2.67**	**350**	ePn	Pn	15 24 45.1	+1.3
HAPS				eSn	Sn	15 25 17.7	+1.7
RICI	**Ricice**	**2.72**	**319**	ePn	Pn	15 24 44.6	+0.2
LKD2	**Lefkada island**	**2.79**	**162**	P	Pn	15 24 45.6	+0.1
TEKS	**Tekeris**	**3.09**	**360**	ePn	Pn	15 24 51.4	+1.8
KUBS	**Kucevo**	**3.33**	**27**	ePn	Pn	15 24 51.6	-1.3
PSDA	**Pessada-Kefalo**	**3.43**	**166**	P	Pn	15 24 53.5	-0.7
KLJV	**Kijevo**	**3.45**	**319**	ePn	Pn	15 24 55.0	+0.5
ZIRJ	**Zirje**	**3.63**	**308**	ePn	Pn	15 24 56.7	-0.3
MORI	**Morici**	**3.73**	**312**	ePn	Pn	15 24 59.4	+1.1
A050A	**Klekovaca**	**3.75**	**325**	ePn	Pn	15 24 59.2	+0.4
A050A				eSn	Sn	15 25 42.9	+0.1
DUGI	**Dugi Otok**	**4.18**	**309**	ePn	Pn	15 25 04.6	+0.1
NVLJ	**Novalja**	**4.63**	**314**	ePn	Pn	15 25 10.9	+0.2
BOJS	**Bojanci**	**5.12**	**324**	ePn	Pn	15 25 17.9	+0.5
BOJS				eSn	Sn	15 26 14.6	-1.7
CEY	**Cerknica**	**5.68**	**321**	eSn	Sn	15 26 28.3	-1.8

*NEIC **04** 15:24:17.3±1.8, 19°.45N±0°.01×155°.301W±0°.009, h5km, Error ellipse: s-maj=2.1km s-min=1.2km az=192.0*
HVO 04 15:24:16.9±1.0, **19°.42N**±0°.01×**155°.278W**±0°.008, **h0**km±3km, **ML3.6**/17, **ML3.6**/31(NEIC), **Error ellipse: s-maj=1.6km s-min=1.0km az=173.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**268**		Pg	15 24 17.9	+0.7
UWB	**Uwekahuna B**	**0.01**	**358**		Pg	15 24 17.9	+0.7
SBLHI	**Steaming Bluff**	**0.01**	**45**		Pg	15 24 18.2	+0.8
UWE	**Uwekahuna**	**0.01**	**283**	Pg	Pg	15 24 17.7	+0.4
UWE					Sg	15 24 18.5	+0.9
HATHI	**Halema'uma'u T**	**0.02**	**72**	Pg	Pg	15 24 17.5	+0.2
BYL	**Byron's Ledge**	**0.02**	**109**	Pg	Pg	15 24 17.5	+0.1
BYL				Sg	Sg	15 24 18.6	+0.9
KKO	**Keanakako`i**	**0.02**	**151**		Pg	15 24 19.1	+1.7
RIM	**Rim**	**0.02**	**171**		Pg	15 24 18.6	+1.2
WRMHI	**West Rim**	**0.02**	**242**		Pg	15 24 18.7	+1.3
SDHHI	**Sand Hill**	**0.03**	**209**		Pg	15 24 19.4	+1.8
RSD	**Rainshed**	**0.04**	**360**	Pg	Pg	15 24 18.4	+0.5
RSD				IAML		15 24 19.0	
	comp=N,53µm,0.4s						
PUH	**Pauahi**	**0.07**	**127**	Pg	Pg	15 24 19.3	+0.9
PUH				IAML		15 24 20.1	
	comp=N,39µm,1.4s						
PUH				Sg	Sg	15 24 20.6	+1.2
PUH				IAML		15 24 20.7	
	comp=E,23µm,0.6s						
KNHH	**Kane Nui o Ham**	**0.11**	**110**	Pg	Pg	15 24 19.8	+0.7
HLP	**Hilina Pali**	**0.12**	**193**	Pg	Pg	15 24 19.8	+0.5
HLP				IAML		15 24 21.9	
	comp=E,34µm,0.9s						
STCH	**Steam Cracks**	**0.15**	**103**	Pg	Pg	15 24 20.2	+0.4
STCH				IAML		15 24 24.0	
	comp=N,20µm,0.7s						
STCH				IAML		15 24 24.3	
	comp=E,21µm,1.2s						
NPOC	**North of Pu'u**	**0.16**	**99**		Pg	15 24 23.2	+3.2
JCUZ	**Jacuzzi**	**0.17**	**101**		Pg	15 24 23.3	+3.1
JOKA	**Jonika Flow**	**0.26**	**86**	Pg	Pg	15 24 21.8	-0.1
JOKA				IAML		15 24 29.4	
	comp=E,8µm,1.5s						
HMH	**Humu'ula Sheep**	**0.27**	**314**	Pg	Pg	15 24 22.9	+0.9
HMH				Sg	Sg	15 24 25.7	+0.1
HMH				IAML		15 24 27.1	
	comp=N,12µm,1.1s						
HMH				IAML		15 24 30.2	
	comp=E,10µm,0.7s						
MLOA	**Mauna Loa Obse**	**0.30**	**293**	Pg	Pg	15 24 23.4	+0.6
MLOA				Sg	Sg	15 24 27.3	+0.5
MLOA				IAML		15 24 31.5	
	comp=N,12µm,0.5s						
MLOA				IAML		15 24 32.5	
	comp=E,11µm,0.8s						
MWH	**Moku'aweowe**	**0.31**	**283**	Pg	Pg	15 24 22.2	-0.7
MWH				Sg	Sg	15 24 27.4	+0.5
PAH	**Pahoa**	**0.32**	**76**	Pg	Pg	15 24 23.6	+0.5
KHU	**Kahuku**	**0.36**	**242**	Pg	Pg	15 24 24.7	+0.9
KHU				IAML		15 24 31.9	
	comp=E,7µm,0.7s						
KHU				IAML		15 24 32.7	
	comp=N,5µm,0.8s						
ALEP	**Alea Permanent**	**0.37**	**290**		Pg	15 24 24.7	+0.7
ALEP					Sb	15 24 31.4	-1.6
POHA	**Pohakuloa**	**0.41**	**325**	Pg	Pg	15 24 25.7	+0.7
HPO	**Honuapo**	**0.42**	**219**	Pg	Pg	15 24 25.5	+0.5
HPO				Sg	Sb	15 24 32.4	-1.6
HUH	**Hualalai**	**0.59**	**297**	Pg	Pg	15 24 28.7	+0.5
CPH	**Captain Cook**	**0.61**	**277**		Pg	15 24 28.6	0.0
HPAH	**Hawaii Prepara**	**0.73**	**327**	Pg	Pg	15 24 29.9	-1.0
MHA	**Mahukona**	**0.97**	**323**	Pg	Pg	15 24 33.3	-2.2
KHLH	**Kahului Airpor**	**1.82**	**324**		Pn	15 24 46.0	-3.6
HON	**Honolulu**	**3.18**	**307**	Pn	Pn	15 25 04.4	-3.8
KIP	**Kipapa**	**3.25**	**308**	Pn	Pn	15 25 05.5	-3.7
KEKH	**Kekaha**	**4.87**	**302**	Pn	Pn	15 25 29.1	-2.4

IDC 04 15:27:42.3±7.2, **14°.23N**×**145°.54E, h0**km, **mb3.9**/5, **mbtmp3.9**/5, **Error ellipse: s-maj=286.2km s-min=25.0km az=82.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.70**	**198**	P	P	15 34 41.7	-1.0
	0.6nm,1.0s,baz=19,slow=9.3,SNR=2.0						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**39.34**	**197**	P	P	15 35 14.4	+0.7
	0.2nm,0.8s,baz=14,slow=12,SNR=2.1						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**61.49**	**316**	P	P	15 38 01.9	+0.9
	1.4nm,0.5s,baz=90,slow=8.7,SNR=25						
	1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.56**	**320**	P	P	15 38 21.0	-0.3
	4.2nm,0.6s,baz=98,slow=6.9,SNR=39						
	4.2nm,0.6s						
BVAR	**Borovoye Array**	**69.83**	**322**	P	P	15 38 54.2	-0.6
	1.8nm,0.7s,baz=95,slow=7.2,SNR=9.9						
	1.8nm,0.7s						

*CATAC **04** 15:38:01.7±0.5, 12°.82N×90°.27W, h13km±4km, ML3.8*
*SNET **04** 15:38:03.3±1.4, 12°.89N×90°.23W, h17km, ML3.7*
*IDC **04** 15:38:04.5±12.0, 13°.75N×89°.61W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=240.4km s-min=54.4km az=178.0*
*GCG **04** 15:38:08.1±0.5, 13°.45N×90°.64W, h118km±21km, MD3.8*
ISC 04 15:37:60.0±1.9, **12°.84N**±0°.06×**90°.35W**±0°.04, **h10**km±9km, **n60**, σ**1°.03**/89, **mb4.1**/3, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.19**	**57**	ePg	Pg	15 38 22.9	0.0
LALI	**Alcalda de L**	**1.19**	**57**	iPg	Pg	15 38 22.5	-0.4
LALI				IAML		15 38 43.7	
	comp=Z,400nm,1.0s						
JAYA	**Jayaque - finc**	**1.19**	**47**	ePg	Pg	15 38 23.0	+0.1
JAYA				eSg	Sg	15 38 37.9	-0.6
JAYA	**Jayaque - finc**	**1.19**	**47**	iPg	Pg	15 38 23.0	+0.1
JAYA				IAML		15 38 23.5	
	comp=Z,4µm,1.0s						
JAYA				iS	Sb	15 38 38.6	+0.3
NUBE	**Las Nubes**	**1.19**	**28**	ePg	Pg	15 38 22.7	-0.2
NUBE				eSg	Sg	15 38 38.1	-0.4
NUBE	**Las Nubes**	**1.19**	**28**	iPg	Pg	15 38 22.6	-0.4
NUBE				IAML		15 38 24.1	
	comp=Z,1µm,1.0s						
NUBE				iS	Sg	15 38 38.1	-0.4
CEVE	**Cerro Verde**	**1.21**	**36**	ePg	Pg	15 38 23.3	-0.1
CEVE				eSg	Sn	15 38 40.5	+0.8
CEVE	**Cerro Verde**	**1.21**	**36**	iPg	Pg	15 38 23.2	-0.1
CEVE				iS	Sn	15 38 40.5	+0.8
CEVE				IAML		15 38 43.4	
	comp=Z,2µm,1.0s						
SBLS	**San Blas**	**1.22**	**35**	ePg	Pg	15 38 23.4	-0.1
SNJE	**San Jose**	**1.25**	**35**	ePg	Pg	15 38 23.9	-0.2
RTR	**El Retiro**	**1.25**	**33**	ePg	Pg	15 38 24.2	0.0
SLOZ	**Alcaldia de Sa**	**1.30**	**25**	ePg	Pn	15 38 24.5	+0.3
SLOZ				eSg	Sb	15 38 41.5	+0.2
PMON	**Piamonte**	**1.33**	**49**	ePg	Pn	15 38 25.1	+0.4
PMON	**Piamonte**	**1.33**	**49**	iPg	Pn	15 38 24.9	+0.2
PMON				iS	Sg	15 38 42.6	-0.2
PMON				IAML		15 38 44.6	
	comp=Z,2µm,1.0s						
ITCA	**Escuela Especi**	**1.33**	**51**	iPg	Pg	15 38 25.6	0.0
ITCA				iS	Sb	15 38 41.6	-0.7
ITCA				IAML		15 38 48.6	
	comp=Z,5µm,1.0s						
CEDA	**San Andres**	**1.33**	**44**	iPg	Pn	15 38 24.7	0.0
CEDA				iS	Sn	15 38 43.6	+1.1
CEDA				IAML		15 38 47.4	
	comp=Z,3µm,1.0s						
BOQS	**Boqueron**	**1.37**	**49**	ePg	Pn	15 38 26.0	+0.7
PANCS	**Alcalda de**	**1.37**	**56**	iPg	Pn	15 38 25.1	-0.1
PANCS				iS	Sb	15 38 42.3	-1.1
PANCS				IAML		15 38 44.3	
	comp=Z,2µm,1.0s						
SNET	**Serv Nac Est T**	**1.38**	**52**	ePg	Pb	15 38 26.1	+0.3
SNET	**Serv Nac Est T**	**1.38**	**52**	iPg	Pn	15 38 26.0	+0.7
SNET				iS	Sg	15 38 43.9	-0.4
SNET				IAML		15 38 45.6	
	comp=Z,2µm,1.0s						
UNIC	**Universidad Ca**	**1.38**	**34**	iPg	Pn	15 38 25.7	+0.4
UNIC				IAML		15 38 25.9	
	comp=Z,720nm,1.0s						
UNIC				iS	Sb	15 38 43.4	-0.1
UEES	**Universidad Ev**	**1.39**	**51**	iPg	Pn	15 38 26.0	+0.5
UEES				iS	Sb	15 38 43.7	-0.2
UEES				IAML		15 38 50.3	
	comp=Z,690nm,1.0s						
PIC2	**El Picacho**	**1.39**	**50**	ePg	Pn	15 38 26.5	+0.8
LOMA	**Loma Larga**	**1.40**	**55**	ePg	Pn	15 38 25.8	+0.1
LOMA				eSg	Sn	15 38 45.2	+1.0
LOMA	**Loma Larga**	**1.40**	**55**	iPg	Pn	15 38 25.6	-0.1
LOMA				iS	Sg	15 38 44.6	-0.5
LOMA				IAML		15 38 46.0	
	comp=Z,1µm,1.0s						
IGN	**Direccin Gen**	**1.44**	**53**	iPg	Pn	15 38 26.7	+0.5
IGN				IAML		15 38 27.5	
	comp=Z,4µm,1.0s						
IGN				iS	Sb	15 38 44.6	-0.7
QUEZ	**Alcaldia de Qu**	**1.44**	**47**	iPg	Pn	15 38 26.9	+0.7
QUEZ				iS	Sg	15 38 46.0	-0.4
QUEZ				IAML		15 38 55.6	
	comp=Z,4µm,1.0s						
UDBS	**Universidad Do**	**1.45**	**53**	iPg	Pn	15 38 26.4	+0.1
UDBS				IAML		15 38 51.2	
	comp=Z,960nm,1.0s						
LFRS	**El Faro**	**1.48**	**58**	ePg	Pn	15 38 27.1	+0.4
LFU	**La Fuente**	**1.50**	**53**	ePg	Pn	15 38 26.5	-0.5
PAVA	**Las Pavas**	**1.62**	**58**	ePg	Pn	15 38 29.7	+0.9
PAVA	**Las Pavas**	**1.62**	**58**	iPg	Pn	15 38 29.7	+0.9
PAVA				iS	Sn	15 38 50.3	+0.5
PAVA				IAML		15 38 59.1	
	comp=Z,1µm,1.0s						
COEG	**Centro de Oper**	**1.63**	**61**	ePg	Pn	15 38 29.1	+0.4
COEG				eSg	Sb	15 38 50.8	+0.1
COEG	**Centro de Oper**	**1.63**	**61**	iPg	Pn	15 38 29.0	+0.3
COEG				IAML		15 38 35.5	
	comp=Z,600nm,1.0s						
COEG				iS	Sn	15 38 49.3	-0.5
FUG	**Fuego 3**	**1.67**	**343**	ePg	Pn	15 38 30.5	+1.1
FUG				eSg	Sn	15 38 48.5	-2.4
TECO	**Alcaldia de Te**	**1.68**	**65**	iPg	Pn	15 38 29.2	-0.2
TECO				iS	Sn	15 38 49.3	-1.6
TECO				IAML		15 38 57.8	
	comp=Z,280nm,1.0s						
UESV	**Universidad de**	**1.71**	**62**	iPg	Pn	15 38 30.2	+0.3
UESV				IAML		15 38 36.5	
	comp=Z,610nm,1.0s						
UESV				iS	Sn	15 38 52.3	+0.4
NBG	**Las Nubes**	**1.74**	**0**	ePg	Pb	15 38 33.0	+0.8
NBG				eSg	Sn	15 38 51.9	-0.9
SCLA	**Alcaldia de Sa**	**1.79**	**61**	ePg	Pn	15 38 31.6	+0.6
SCLA				eSg	Sn	15 38 54.9	+1.0
SCLA	**Alcaldia de Sa**	**1.79**	**61**	iPg	Pn	15 38 31.8	+0.8
SCLA				iS	Sb	15 38 55.1	-0.5
SCLA				IAML		15 38 59.9	
	comp=Z,370nm,1.0s						
MTO3	**Montecristo**	**1.82**	**32**	ePg	Pn	15 38 32.7	+1.1
MTO3				eSg	Sb	15 38 56.6	0.0
MTO3	**Montecristo**	**1.82**	**32**	iPg	Pn	15 38 32.1	+0.5
MTO3				IAML		15 38 33.3	
	comp=Z,1µm,1.0s						
MTO3				iS	Sb	15 38 56.6	0.0
SULM	**Suchitepequez,**	**1.88**	**321**	eS	Sn	15 38 47.1	-8.7
LLGN	**La Laguna**	**1.90**	**46**	iS	Sn	15 38 56.7	+0.2
PQSS	**Presa 15 de Se**	**1.91**	**66**	iS	Sn	15 38 57.0	+0.4
ESQI	**Esquipulas**	**1.97**	**30**	iP	Pn	15 38 34.7	+1.2
ESQI				IAML		15 38 36.4	
	comp=Z,810nm,1.0s						
PACA	**Pacayal**	**2.07**	**72**	eP	Pn	15 38 35.1	+0.3
PACA	**Pacayal**	**2.07**	**72**	iP	Pn	15 38 35.8	+0.9
PACA				IAML		15 39 07.1	
	comp=Z,3µm,1.0s						
JUCU	**Jucuarın**	**2.09**	**78**	iS	Sn	15 39 00.6	-0.6
RANC	**El Ranchito**	**2.09**	**73**	iP	Pn	15 38 35.4	+0.2
RANC				IAML		15 39 09.0	
	comp=Z,350nm,1.0s						
STG3	**Santiaguito 3,**	**2.21**	**328**	eP	Pn	15 38 38.7	+1.9
STG3				eS	Sn	15 38 59.1	-5.1
SOKI	**Kika Raxquin**	**2.22**	**333**	iP	Pn	15 38 39.0	+1.8
SOKI				IAML		15 39 33.5	
	comp=Z,290nm,1.0s						
LCND	**La Caada**	**2.44**	**79**	iP	Pn	15 38 40.6	+0.7
LCND				IAML		15 39 21.3	
	comp=Z,230nm,1.0s						
CNCH	**Conchagua**	**2.49**	**80**	iP	Pn	15 38 41.1	+0.4
CNCH				IAML		15 39 21.0	
	comp=Z,440nm,1.0s						
PKGN	**Cerro Pekin**	**3.29**	**93**	iP	Pn	15 38 52.4	+0.8
PKGN				iS	Sn	15 39 30.2	-0.6
PKGN				IAML		15 39 36.3	
	comp=Z,400nm,1.0s						
LIMN	**Finca el Limon**	**3.89**	**86**	iP	Pn	15 38 59.4	-0.5
LIMN				IAML		15 40 06.0	
	comp=Z,50nm,1.0s						
TXAR	**Lajitas Array**	**20.55**	**325**	P	Pn	15 42 42.2	+1.0
	comp=Z,0.5nm,0.5s,baz=145,slow=11,SNR=11						
	comp=Z,0.5nm,0.5s						
NVAR	**Mina Array Bea**	**35.58**	**321**	P	P	15 45 01.8	+3.9
	comp=Z,0.9nm,0.8s,baz=140,slow=8.8,SNR=5.3						
	comp=Z,0.9nm,0.8s						
ULM	**Lac du Bonnet**	**37.58**	**354**	P	P	15 45 12.8	-1.7
	comp=Z,2.3nm,0.7s,baz=172,slow=14,SNR=3.1						
	comp=Z,2.3nm,0.7s						
SCHQ	**Schefferville**	**45.77**	**19**	P	P	15 46 19.3	-2.3
	comp=Z,1.8nm,0.5s,baz=220,slow=8.3,SNR=3.9						
	comp=Z,1.8nm,0.5s						

*TIR **04** 15:52:36.1, 41°.48N×19°.60E, h29km±1km, MI3.0*
*RHSSO **04** 15:52:36.9±0.6, 41°.38N×19°.37E, h6km±2km, ML3.0/10*
*PDG **04** 15:52:37.0±0.3, 41°.47N×19°.56E, h17km, ML2.8/13, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
*THE **04** 15:52:37.1, 41°.50N×19°.52E, h2km±1km, ML2.8/2, Error ellipse: s-maj=4.2km s-min=1.6km az=8.0*
*BEO **04** 15:52:38.7±0.5, 41°.49N×19°.71E, h11km±3km, ML2.5/11*
ISC 04 15:52:37.3±1.0, **41°.47N**±0°.02×**19°.56E**±0°.02, **h14**km±8km, **n75**, σ**0°.91**/128, **14C-7D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.26**	**118**	P	Pg	15 52 42.8	-0.2
	baz=122						
TIR				S	Sb	15 52 47.4	-0.8
	baz=122						
TIR				AMP			
	comp=E,22nm,0.5s,baz=122						
TIR	**Tirane**	**0.26**	**118**	P	Pg	15 52 42.7	-0.2
TIR				S	Sb	15 52 47.4	-0.8
	comp=E,4µm,0.3s						
TIR	**Tirane**	**0.26**	**118**	ePg	Pg	15 52 42.6	-0.3
TIR				eSg	Sb	15 52 47.5	-0.6
ULC	**Ulcinj**	**0.54**	**335**	⇓iPg	Pg	15 52 47.4	-0.6
ULC				i Sg	Sb	15 52 56.4	+0.2
PUK	**Puka**	**0.62**	**24**	P	Pg	15 52 48.2	-1.3
	baz=21						
PUK				S	Sb	15 52 58.0	-0.6
	baz=21						
PUK				AMP			
	comp=E,3.0nm,0.3s,baz=21						
DRME	**Dracevica, Mon**	**0.77**	**339**	ePg	Pb	15 52 52.9	+0.6
DRME				eSg	Sn	15 53 05.4	+0.5
DRME	**Dracevica, Mon**	**0.77**	**339**	⇓iPg	Pg	15 52 51.5	-0.7
DRME				eSg	Sb	15 53 03.0	+0.4
DRME	**Dracevica, Mon**	**0.77**	**339**	⇓iPg	Pg	15 52 51.7	-0.5
DRME				i Sg	Sb	15 53 03.4	+0.8
BUM	**Brajici-Budva**	**0.96**	**329**	⇑iPg	Pg	15 52 55.4	-0.5
BUM				i Sg	Sn	15 53 10.3	+0.4
BCI	**Bajram Curri**	**0.97**	**23**	P	Pg	15 52 54.2	-1.9
	baz=21						
BCI				S	Sn	15 53 09.5	-0.6
	baz=21						
BCI				AMP			
	comp=E,1.7nm,0.4s,baz=21						
PDG	**Podgorica**	**0.98**	**347**	ePg	Pb	15 52 56.1	+0.1
PDG				eSg	Sn	15 53 11.2	+1.0
PDG	**Podgorica**	**0.98**	**347**	⇑iPg	Pg	15 52 55.8	-0.5
PDG				eSg	Sn	15 53 10.3	+0.1
PDG	**Podgorica**	**0.98**	**347**	⇑iPg	Pg	15 52 55.4	-0.9
PDG				i Sg	Sn	15 53 11.1	+0.9
OHR	**Ohrid**	**1.00**	**111**	iPg	Pn	15 52 57.1	+0

SJES	**Sjenica**	**1.81**	**10**	⇑*i* Pn	**Pb**	**15 53 10.0**	**-0.3**
SJES				*e*Sn	**Sg**	**15 53 34.6**	**-1.1**
PLE	**Pljevlja**	**1.86**	**356**	*e*Pn	**Pb**	**15 53 10.3**	**-0.8**
PLE	**Pljevlja**	**1.86**	**356**	⇑*i* Pn	**Pn**	**15 53 09.8**	**+1.0**
PLE				*i* Sn	**Sb**	**15 53 34.5**	**+0.3**
STON	**Ston**	**1.96**	**316**	*e*Pn	**Pn**	**15 53 10.1**	**0.0**
STON	**Ston**	**1.96**	**316**	*e*Pn	**Pn**	**15 53 10.3**	**+0.2**
STON				*e*Sn	**Sn**	**15 53 35.2**	**+0.8**
STIP	**Stip**	**1.98**	**83**	*i* Pn	**Pb**	**15 53 13.7**	**+0.5**
IGT	**Igoumenitsa**	**2.03**	**163**	P	**Pn**	**15 53 11.7**	**+0.7**
	baz=163						
IGT				S	**Sb**	**15 53 38.2**	**-0.6**
	baz=163						
IGT	**Igoumenitsa**	**2.03**	**163**	P	**Pn**	**15 53 11.9**	**+0.9**
PRVS	**Prvonek**	**2.14**	**60**	*e*Pn	**Pn**	**15 53 13.2**	**+0.6**
PRVS				*e*Sn	**Sn**	**15 53 38.5**	**-0.5**
IVAS	**Ivanjica**	**2.15**	**12**	*e*Pn	**Pn**	**15 53 13.2**	**+0.5**
RUDO	**Rudo**	**2.15**	**356**	*e*Pn	**Pn**	**15 53 13.8**	**+1.2**
RUDO				*e*Sn	**Sb**	**15 53 42.0**	**-0.4**
BARS	**Barje**	**2.15**	**51**	*e*Pn	**Pn**	**15 53 13.3**	**+0.6**
BARS				*e*Sn	**Sn**	**15 53 38.8**	**-0.3**
BBLS	**Lazi&#263i**	**2.39**	**357**	*e*Pn	**Pn**	**15 53 18.0**	**+1.9**
BBLS	**Lazi&#263i**	**2.39**	**357**	⇑*i* Pn	**Pn**	**15 53 17.6**	**+1.5**
BBLS				*e*Sn	**Sb**	**15 53 48.5**	**-1.0**
GRUS	**Gruza**	**2.56**	**19**	*e*Pn	**Pn**	**15 53 18.9**	**+0.6**
MAKA	**Makarska**	**2.61**	**315**	*e*Pn	**Pn**	**15 53 19.1**	**+0.1**
DIVS	**Divibare**	**2.64**	**7**	*e*Pn	**Pn**	**15 53 21.3**	**+1.8**
HAPS	**Han Pijesak,BI**	**2.65**	**351**	*e*Pn	**Pn**	**15 53 21.0**	**+1.4**
HAPS				*e*Sn	**Sn**	**15 53 54.4**	**+2.8**
RICI	**Ricice**	**2.70**	**319**	*e*Pn	**Pn**	**15 53 20.3**	**+0.1**
LKD2	**Lefkada island**	**2.81**	**162**	P	**Pn**	**15 53 22.4**	**+0.6**
	baz=162						
LKD2				S	**Sn**	**15 53 55.6**	**+0.2**
	baz=162						
SGRT	**San Giovanni R**	**2.87**	**277**	P	**Pn**	**15 53 22.2**	**-0.4**
	baz=277						
TEKS	**Tekeris**	**3.07**	**360**	*e*Pn	**Pn**	**15 53 26.9**	**+1.5**
TEKS	**Tekeris**	**3.07**	**360**	*e*Pn	**Pn**	**15 53 27.9**	**+2.5**
ZIRJ	**Zirje**	**3.62**	**308**	*e*Pn	**Pn**	**15 53 32.5**	**-0.3**
BLY	**Banja Luka**	**3.71**	**333**	⇑*i* Pn	**Pn**	**15 53 34.8**	**+0.8**
BLY				*e*Sn	**Sn**	**15 54 18.4**	**+1.0**
MORI	**Morici**	**3.71**	**311**	*e*Pn	**Pn**	**15 53 34.0**	**0.0**
A050A	**Klekovaca**	**3.74**	**325**	*e*Pn	**Pn**	**15 53 34.3**	**-0.2**
A050A				*e*Sn	**Sn**	**15 54 18.5**	**+0.2**
DUGI	**Dugi Otok**	**4.16**	**309**	*e*Pn	**Pn**	**15 53 40.3**	**+0.1**
VIRC	**Vir**	**4.34**	**312**	*e*Pn	**Pn**	**15 53 42.7**	**-0.1**
NVLJ	**Novalja**	**4.62**	**314**	*e*Pn	**Pn**	**15 53 46.4**	**-0.1**
BOJS	**Bojanci**	**5.10**	**324**	*e*Pn	**Pn**	**15 53 52.8**	**-0.4**
BOJS				*e*Sn	**Sn**	**15 54 50.7**	**-1.2**
CRES	**Cresnjev**	**5.27**	**327**	*e*Pn	**Pn**	**15 53 55.2**	**-0.3**
CRES				*e*Sn	**Sn**	**15 54 54.7**	**-1.3**
CEY	**Cerknica**	**5.66**	**321**	*e*Pn	**Pn**	**15 54 00.6**	**-0.3**
CEY				*e*Sn	**Sn**	**15 55 03.4**	**-2.3**
SKDS	**Skadanscina**	**5.73**	**317**	*e*Pn	**Pn**	**15 54 00.8**	**-1.0**
SKDS				*e*Sn	**Sn**	**15 55 04.9**	**-2.4**

TEH 04 15:55:25.1,29°.06N×60°.79E, h5km, ML3.6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHDN	**Zahedan**	**0.34**	**2**	Pg	Pb	15 55 32.7	-1.0
ZHDN				Sg	Sg	15 55 36.8	+0.6
ZHSF	**Zahedan**	**0.55**	**358**	Pg	Pb	15 55 36.6	-0.7
KBAM	**BAM**	**2.05**	**273**	Pn	Pb	15 56 02.4	-0.5
SRVN	**Saravan**	**2.17**	**139**	Pn	Pb	15 56 04.3	-0.7
KHNJ	**Kahnooj**	**2.94**	**249**	Pn	Pn	15 56 14.4	+1.9
CHMN	**Cheshme madani**	**2.95**	**286**	Pn	Pb	15 56 15.7	-2.7
IKOO	**Kooshah**	**3.69**	**336**	Pn	Pn	15 56 25.7	+2.7
SHRT	**Shahrakht**	**4.59**	**355**	Pn	Pn	15 56 37.7	+2.5
AFRZ	**Afriz**	**4.61**	**341**	Pn	Pn	15 56 38.6	+3.0
TPRV	**Parvadeh(Tabas**	**5.30**	**319**	Pn	Pn	15 56 47.4	+2.4
TKDS	**Koohdasht(Taba**	**5.52**	**326**	Pn	Pn	15 56 50.9	+2.8
TNSJ	**Nastanj**	**6.05**	**325**	Pn	Pn	15 56 58.2	+2.8

DJA 04 16:11:33.7±1.2, 3°.N±3°.×12°.8E±°, h19km±12km, M4.1/9, mb4.3/4, mB4.8/1, MLv4.0/9, Mw(mB)4.0/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.32**	**194**	P	Pn	16 12 11.2	+0.3
TNTI				S	Sn	16 12 40.0	+1.0
LBMI	**Labuha**	**3.68**	**187**	P	Pn	16 12 30.4	+0.8
KMSI	**Cibinong**	**4.64**	**238**	P	Pn	16 12 43.3	+0.4
SWI	**Sorong**	**5.11**	**139**	P	Pn	16 12 49.6	+0.3
	19nm,0.9s,0.1nm						
MRSI	**Marisa**	**6.50**	**247**	P	Pn	16 13 09.9	+1.4
	68nm,0.8s,652nm0.2nm						
FAKI	**Fak Fak**	**7.33**	**144**	P	Pn	16 13 20.0	+0.2

IDC 04 16:28:45.2±50.0, 16°.72S×178°.29W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=923.7km s-min=162.6km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.31**	**240**	P	P	16 36 16.6	+0.3
	2.7nm,1.1s,baz=90,slow=10,SNR=2.2						
	2.7nm,1.1s						
WRA	**Warramunga Arr**	**44.97**	**258**	P	P	16 37 02.5	-0.2
	0.3nm,0.5s,baz=94,slow=7.5,SNR=14						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**45.24**	**253**	P	P	16 37 04.3	-0.4
	0.9nm,0.5s,baz=89,slow=8.6,SNR=42						
	0.9nm,0.5s						

PRU ***04*** *16:35:58.6, 41°.80N×21°.66E, h10km*
IDC ***04*** *16:36:05.0±2.1, 41°.45N×19°.55E, h0km, mb3.4/6, mbtmp3.5/10, ML3.5/4, MS2.8/2, Error ellipse: s-maj=28.1km s-min=14.4km az=18.0*
TIR ***04*** *16:36:05.8, 41°.45N×19°.54E, h29km±1km, Ml3.9*
RHSSO ***04*** *16:36:06.9±0.6, 41°.30N×19°.45E, h6km±2km, ML3.6/12*
THE ***04*** *16:36:07.2, 41°.53N×19°.50E, h0km±6km, ML3.4/2, Error ellipse: s-maj=12.1km s-min=3.6km az=5.0*
BEO ***04*** *16:36:07.0±0.6, 41°.37N×19°.51E, h14km±2km, ML3.2/17*
PDG ***04*** *16:36:07.3±0.1, 41°.45N×19°.58E, h20km, MD3.4/5, ML3.3/12, Error ellipse: s-maj=0.1km s-min=0.3km az=0.0*

ISC 04 16:36:07.5±0.9, 41°.41N±0°.02×19°.53E±0°.02, h13km±6km, n150, σ1°.25/219, mb3.7/3, 34C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.26**	**103**	P	**Pg**	**16 36 13.3**	**+0.3**
	baz=112						
TIR				S	**Sg**	**16 36 17.9**	**+1.2**
	baz=112						
TIR				AMP			
	comp=E,143nm,0.4s,baz=112						
TIR	**Tirane**	**0.26**	**103**	P	**Pg**	**16 36 13.3**	**+0.3**
TIR				S	**Sg**	**16 36 17.7**	**+1.1**
	comp=E,29μm,0.5s						
TIR	**Tirane**	**0.26**	**103**	*e*Pg	**Pg**	**16 36 13.1**	**+0.1**
TIR				*e*Sg	**Sg**	**16 36 17.7**	**+1.1**
ULC	**Ulcinj**	**0.60**	**339**	⇑*i* Pg	**Pg**	**16 36 18.3**	**-0.9**
ULC				*i* Sg	**Sg**	**16 36 27.9**	**+0.7**
PUK	**Puka**	**0.69**	**23**	P	**Pg**	**16 36 19.2**	**-1.8**
	baz=23						
PUK				S	**Sg**	**16 36 28.8**	**-1.3**
	baz=23						
PUK				AMP			
	comp=E,22nm,0.4s,baz=23						
DRME	**Dracevica, Mon**	**0.82**	**342**	*e*Pg	**Pg**	**16 36 22.4**	**-1.0**
DRME				*e*Sg	**Sb**	**16 36 36.1**	**+1.5**
DRME	**Dracevica, Mon**	**0.82**	**342**	*e*Pg	**Pg**	**16 36 23.5**	**+0.1**
DRME				*e*Sg	**Sb**	**16 36 35.5**	**+0.9**
DRME	**Dracevica, Mon**	**0.82**	**342**	⇓*i* Pg	**Pg**	**16 36 22.3**	**-1.1**
DRME				*i* Sg	**Sb**	**16 36 35.5**	**+0.9**
VLO	**Vlora**	**0.94**	**182**	P	**Pg**	**16 36 24.7**	**-0.9**
	baz=183						
VLO				S	**Sn**	**16 36 39.6**	**+0.1**
	baz=183						
OHR	**Ohrid**	**1.00**	**107**	*i* Pg	**Pb**	**16 36 26.1**	**-0.6**
OHR				*i* Sg	**Sn**	**16 36 40.5**	**-0.7**
BUM	**Brajici-Budva**	**1.01**	**332**	⇑*i* Pg	**Pg**	**16 36 26.2**	**-0.9**
BUM				*i* Sg	**Sn**	**16 36 42.1**	**+0.5**
BCI	**Bajram Curri**	**1.04**	**22**	P	**Pg**	**16 36 25.0**	**-2.6**
	baz=22						
BCI				S	**Sg**	**16 36 39.9**	**-1.2**
	baz=22						
BCI				AMP			
	comp=E,6.5nm,0.4s,baz=22						
PDG	**Podgorica**	**1.04**	**349**	⇓P	**Pg**	**16 36 26.9**	**-0.7**
PDG				⇑S	**Sb**	**16 36 42.0**	**+1.0**
PDG	**Podgorica**	**1.04**	**349**	*e*Pg	**Pg**	**16 36 25.9**	**-1.7**
PDG				*e*Sg	**Sb**	**16 36 41.7**	**+0.7**
PDG	**Podgorica**	**1.04**	**349**	⇓*i* Pg	**Pg**	**16 36 26.4**	**-1.2**
PDG				*e*Sg	**Sn**	**16 36 42.8**	**+0.6**
PDG	**Podgorica**	**1.04**	**349**	⇑*i* Pg	**Pg**	**16 36 26.5**	**-1.2**
PDG				*i* Sg	**Sn**	**16 36 42.4**	**+0.2**
CEME	**Cevo**	**1.23**	**338**	⇑*i* Pg	**Pn**	**16 36 30.7**	**+0.3**
CEME				*i* Sg	**Sn**	**16 36 48.9**	**+2.0**
KBN	**Korca**	**1.23**	**129**	P	**Pg**	**16 36 30.4**	**-0.8**
	baz=130						
KBN				S	**Sn**	**16 36 47.4**	**+0.5**
	baz=130						
KBN	**Korca**	**1.23**	**129**	P	**Pg**	**16 36 32.0**	**+0.8**
KBN				S	**Sn**	**16 36 52.1**	**+5.2**
	comp=E,495nm,0.7s						
PVY	**Plav**	**1.23**	**15**	*e*Pg	**Pn**	**16 36 29.7**	**-0.8**
PVY	**Plav**	**1.23**	**15**	⇓*i* Pg	**Pn**	**16 36 29.5**	**-1.0**
PVY				*i* Sg	**Sn**	**16 36 47.7**	**+0.7**
HCY	**Herceg Novi**	**1.30**	**324**	*e*Pg	**Pn**	**16 36 31.2**	**-0.1**
HCY				*e*Sg	**Sg**	**16 36 50.1**	**+0.8**
HCY	**Herceg Novi**	**1.30**	**324**	⇑*i* Pg	**Pb**	**16 36 32.2**	**+0.5**
HCY				*i* Sg	**Sg**	**16 36 50.7**	**+1.4**
NKME	**Niksic**	**1.43**	**343**	⇑*i* Pg	**Pn**	**16 36 33.4**	**+0.3**
NKME				*i* Sg	**Sg**	**16 36 53.9**	**+0.4**
KOME	**Kolasin**	**1.44**	**360**	*e*Pg	**Pn**	**16 36 33.3**	**-0.1**
KOME				*e*Sg	**Sg**	**16 36 54.9**	**+0.9**
KOME	**Kolasin**	**1.44**	**360**	⇑*i* Pg	**Pn**	**16 36 33.4**	**0.0**
KOME				*i* Sg	**Sg**	**16 36 53.8**	**-0.2**
BEY	**Berane**	**1.49**	**10**	*e*Pg	**Pn**	**16 36 33.4**	**-0.6**
IVA	**Berane**	**1.49**	**10**	⇑*i* Pg	**Pn**	**16 36 33.4**	**-0.6**
IVA				*i* Sg	**Sg**	**16 36 54.9**	**-0.6**
LSK	**Leskovik**	**1.49**	**147**	S	**Sb**	**16 36 53.6**	**-0.4**
	baz=148						
NEST	**Nestorio**	**1.52**	**130**	P	**Pg**	**16 36 37.1**	**+0.5**
FNA	**Florina**	**1.53**	**113**	P	**Pb**	**16 36 35.1**	**-0.5**
	baz=115						
FNA				S	**Sg**	**16 36 55.5**	**-1.2**
	baz=115						
FNA	**Florina**	**1.53**	**113**	P	**Pb**	**16 36 35.1**	**-0.5**
FNA	**Florina**	**1.53**	**113**	*e*Pg	**Pb**	**16 36 35.1**	**-0.5**
FNA				*e*Sg	**Sg**	**16 36 57.0**	**+0.4**
SKO	**Skopje**	**1.54**	**68**	*i* Pn	**Pn**	**16 36 34.7**	**+0.2**
SRN	**Sarande**	**1.56**	**167**	P	**Pb**	**16 36 36.1**	**-0.1**
	baz=167						
SRN				S	**Sg**	**16 36 57.4**	**-0.5**
	baz=167						
SRN	**Sarande**	**1.56**	**167**	P	**Pg**	**16 36 36.9**	**-0.6**
TREB	**Trebinje**	**1.58**	**327**	⇓*i* Pn	**Pn**	**16 36 35.7**	**+0.6**
TREB				*e*Sn	**Sb**	**16 36 56.9**	**+0.6**
DBRK	**Dubrovnik**	**1.63**	**321**	*e*Pn	**Pn**	**16 36 37.0**	**+1.2**
BRY	**Bratogost**	**1.67**	**334**	*e*Pn	**Pb**	**16 36 37.9**	**-0.2**
BRY				*e*Sn	**Sg**	**16 37 01.1**	**-0.1**
BRY	**Bratogost**	**1.67**	**334**	⇑*i* Pn	**Pn**	**16 36 37.4**	**+0.9**
BRY				*i* Sn	**Sb**	**16 37 00.1**	**+1.1**
PENT	**Pentalofos**	**1.72**	**134**	P	**Pg**	**16 36 40.4**	**-0.1**
UPM	**Unac-Piva**	**1.86**	**346**	*e*Pn	**Pb**	**16 36 41.1**	**-0.2**
UPM				*e*Sn	**Sb**	**16 37 05.7**	**+1.2**
UPM	**Unac-Piva**	**1.86**	**346**	⇑*i* Pn	**Pn**	**16 36 39.9**	**+0.8**
UPM				*i* Sn	**Sn**	**16 37 04.3**	**+1.8**
SJES	**Sjenica**	**1.88**	**10**	*e*Pn	**Pn**	**16 36 40.7**	**+1.3**
SJES				*e*Sn	**Sn**	**16 37 03.5**	**+0.4**
SJES	**Sjenica**	**1.88**	**10**	⇑*i* Pn	**Pn**	**16 36 40.8**	**+1.3**
SJES				*e*Sn	**Sb**	**16 37 06.0**	**+0.8**
KLINJ	**Klinje**	**1.90**	**339**	⇑*i* Pn	**Pn**	**16 36 40.5**	**+0.9**
PLE	**Pljevlja**	**1.93**	**357**	*e*Pg	**Pb**	**16 36 42.1**	**-0.4**
PLE	**Pljevlja**	**1.93**	**357**	⇑*i* Pn	**Pn**	**16 36 40.2**	**+0.2**
PLE				*i* Sn	**Sn**	**16 37 05.8**	**+1.7**
NOCI	**Noci**	**1.96**	**253**	P	**Pn**	**16 36 41.2**	**+0.7**
	baz=252						
IGT	**Igoumenitsa**	**1.97**	**162**	P	**Pb**	**16 36 41.9**	**-1.3**
	baz=162						
IGT				S	**Sb**	**16 37 07.2**	**-0.3**
	baz=162						
IGT	**Igoumenitsa**	**1.97**	**162**	P	**Pb**	**16 36 42.4**	**-0.7**
STON	**Ston**	**2.00**	**318**	*e*Pn	**Pn**	**16 36 41.6**	**+0.7**
STON	**Ston**	**2.00**	**318**	⇑*i* Pn	**Pn**	**16 36 41.6**	**+0.7**
STON				*e*Sn	**Sn**	**16 37 07.0**	**+1.3**
KPRO	**Kipourio**	**2.01**	**136**	P	**Pb**	**16 36 42.5**	**-1.4**
STIP	**Stip**	**2.01**	**81**	*i* Pn	**Pb**	**16 36 43.9**	**0.0**
PRVS	**Prvonek**	**2.19**	**59**	*e*Pn	**Pn**	**16 36 43.6**	**0.0**
PRVS				*e*Sn	**Sn**	**16 37 10.8**	**+0.2**
BARS	**Barje**	**2.21**	**50**	*e*Pn	**Pn**	**16 36 44.3**	**+0.5**
BARS				*e*Sn	**Sn**	**16 37 11.2**	**+0.3**
RUDO	**Rudo**	**2.21**	**357**	*e*Pn	**Pn**	**16 36 45.3**	**+1.4**
RUDO				*e*Sn	**Sb**	**16 37 14.6**	**-0.1**
IVAS	**Ivanjica**	**2.22**	**12**	*e*Pn	**Pn**	**16 36 44.0**	**0.0**
IVAS				*e*Sn	**Sn**	**16 37 12.4**	**+1.2**
MATE	**Matera**	**2.27**	**251**	⇑P	**Pn**	**16 36 45.4**	**+0.8**
MATE				⇑S	**Sn**	**16 37 13.6**	**+1.3**
VAY	**Valandovo**	**2.29**	**91**	*i* Pn	**Pn**	**16 36 46.1**	**+1.2**
BOSS	**Bosilegrad**	**2.45**	**63**	*e*Pn	**Pn**	**16 36 47.2**	**0.0**
BBLS	**Lazi&#263i**	**2.46**	**358**	*e*Pn	**Pn**	**16 36 48.6**	**+1.3**
BBLS				*e*Sn	**Sn**	**16 37 17.2**	**-0.1**
BBLS	**Lazi&#263i**	**2.46**	**358**	*e*Pn	**Pn**	**16 36 49.3**	**+2.0**
BBLS				*e*Sn	**Sb**	**16 37 21.1**	**-0.7**
GRUS	**Gruza**	**2.63**	**19**	*e*Pn	**Pn**	**16 36 49.8**	**+0.2**
MAKA	**Makarska**	**2.65**	**316**	*e*Pn	**Pn**	**16 36 50.4**	**+0.6**
DIVS	**Divibare**	**2.71**	**7**	*e*Pn	**Pn**	**16 36 50.9**	**+0.1**
HAPS	**Han Pijesak,BI**	**2.71**	**351**	⇑*i* Pn	**Pn**	**16 36 51.8**	**+1.0**
HAPS				*e*Sn	**Sn**	**16 37 25.9**	**+2.4**
TSLK	**Tsoukalades, L**	**2.72**	**161**	P	**Pn**	**16 36 52.6**	**+1.8**
RICI	**Ricice**	**2.74**	**320**	*e*Pn	**Pn**	**16 36 51.6**	**+0.5**
BOVS	**Bovan**	**2.75**	**35**	⇑S	**Sn**	**16 37 24.3**	**+0.1**
BOVS	**Bovan**	**2.75**	**35**	*e*Pn	**Pn**	**16 36 51.6**	**+0.4**
LKD2	**Lefkada island**	**2.75**	**161**	P	**Pn**	**16 36 52.8**	**+1.5**
	baz=161						
LKD2	**Lefkada island**	**2.75**	**161**	P	**Pn**	**16 36 52.8**	**+1.5**
SGRT	**San Giovanni R**	**2.86**	**278**	P	**Pn**	**16 36 53.3**	**+0.4**
	baz=278						
TRUS	**Trudelj**	**2.89**	**13**	*e*Pn	**Pn**	**16 36 53.2**	**+0.1**
HVAR	**Hvar**	**2.89**	**309**	*e*Pn	**Pn**	**16 36 53.2**	**0.0**
TIP	**Timpagrande**	**3.07**	**225**	⇑P	**Pn**	**16 36 56.7**	**+1.0**
ZAGS	**Zajecar**	**3.12**	**39**	*e*Pn	**Pn**	**16 36 56.0**	**-0.4**
TEKS	**Tekeris**	**3.14**	**360**	*e*Pn	**Pn**	**16 36 56.7**	**+0.1**
TEKS	**Tekeris**	**3.14**	**360**	*e*Pn	**Pn**	**16 36 57.9**	**+1.3**
BLKB	**Belogradchik**	**3.21**	**45**	⇑S	**Sn**	**16 37 36.2**	**+0.5**
AVAS	**Avala Beograd**	**3.37**	**12**	*e*Pn	**Pn**	**16 36 59.3**	**-0.4**
KUBS	**Kucevo**	**3.39**	**27**	*e*Pn	**Pn**	**16 36 58.6**	**-1.5**
KIJV	**Kijevo**	**3.47**	**319**	*e*Pn	**Pn**	**16 37 02.0**	**+0.8**
MGRS	**Mrkonjic Grad**	**3.51**	**330**	*e*Pn	**Pn**	**16 37 03.3**	**+1.7**
MGRS				*e*Sn	**Sn**	**16 37 44.6**	**+1.6**
MDVR	**Moldovita**	**3.73**	**25**	⇑P	**Pn**	**16 37 04.8**	**0.0**
MDVR				⇓S	**Sn**	**16 37 47.0**	**-1.6**
MORI	**Morici**	**3.74**	**312**	*e*Pn	**Pn**	**16 37 05.7**	**+0.9**
FRGS	**Fruska Gora**	**3.76**	**3**	⇑P	**Pn**	**16 37 05.6**	**+0.5**
FRGS				⇑S	**Sn**	**16 37 50.0**	**+0.9**
FRGS	**Fruska Gora**	**3.76**	**3**	*e*Pn	**Pn**	**16 37 04.5**	**-0.6**
FRGS	**Fruska Gora**	**3.76**	**3**	*e*Sn	**Sn**	**16 37 51.8**	**+2.7**
BLY	**Banja Luka**	**3.76**	**334**	*e*Pn	**Pn**	**16 37 06.5**	**+1.4**
BLY				*e*Sn	**Sn**	**16 37 50.9**	**+1.8**
A050A	**Klekovaca**	**3.78**	**325**	⇑*i* Pn	**Pn**	**16 37 06.9**	**+1.4**
A050A				*e*Sn	**Sn**	**16 37 51.2**	**+1.4**
HERR	**Herculane**	**4.06**	**30**	⇓P	**Pn**	**16 37 09.5**	**+0.2**
HERR				⇑S	**Sn**	**16 37 56.8**	**+0.1**
UDBI	**Udbina**	**4.17**	**320**	*e*Pn	**Pn**	**16 37 12.6**	**+1.8**
UDBI				Sn	**Sn**	**16 37 59.7**	**+0.3**
DUGI	**Dugi Otok**	**4.19**	**310**	*e*Pn	**Pn**	**16 37 11.6**	**+0.6**
VIRC	**Vir**	**4.38**	**313**	*e*Pn	**Pn**	**16 37 14.4**	**+0.9**
BZS	**Buzias**	**4.47**	**19**	⇑P	**Pn**	**16 37 14.8**	**-0.1**
PLIT	**Plitvice**	**4.50**	**322**	*e*Pn	**Pn**	**16 37 16.3**	**+1.0**
GZR	**Gura Zlata**	**4.63**	**30**	⇑P	**Pn**	**16 37 18.5**	**+1.3**
GZR				⇓S	**Sn**	**16 38 10.6**	**-0.3**
NVLJ	**Novalja**	**4.65**	**314**	*e*Pn	**Pn**	**16 37 17.6**	**+0.3**
MOSL	**Moslavina**	**4.67**	**335**	*e*Pn	**Pn**	**16 37 17.6**	**+0.1**
SURR	**Surduc**	**4.74**	**23**	⇑P	**Pn**	**16 37 18.0**	**-0.5**
LOT	**Lotru**	**5.08**	**36**	⇓P	**Pn**	**16 37 24.4**	**+1.0**
LOT				⇑S	**Sn**	**16 38 21.2**	**-0.8**
SIRR	**Siria**	**5.10**	**17**	⇓P	**Pn**	**16 37 23.9**	**+0.4**
OZLJ	**Ozalj**	**5.14**	**326**	*e*Pn	**Pn**	**16 37 24.1**	**+0.1**
BOJS	**Bojanci**	**5.15**	**324**	*e*Pn	**Pn**	**16 37 24.8**	**+0.6**
BOJS	**Bojanci**	**5.15**	**324**	⇑*i* Pn	**Pn**	**16 37 24.5**	**+0.4**
BOJS				*e*Sn	**Sn**	**16 38 22.2**	**-1.1**
PTJ	**Puntijarka**	**5.19**	**331**	*e*Pn	**Pn**	**16 37 23.7**	**-1.1**
CRES	**Cresnjev**	**5.32**	**328**	*e*Pn	**Pn**	**16 37 27.1**	**+0.6**
SMRN	**Sveta Marina**	**5.35**	**315**	*e*Pn	**Pn**	**16 37 26.9**	**0.0**
GBRS	**Gornja Briga**	**5.37**	**322**	*i* Pn	**Pn**	**16 37 28.2**	**+1.0**
BRJN	**Brijuni**	**5.49**	**312**	*e*Pn	**Pn**	**16 37 29.1**	**+0.3**
VISS	**Visnje**	**5.56**	**324**	*e*Pn	**Pn**	**16 37 30.8**	**+0.9**
VOIR		**5.69**	**43**	⇑P	**Pn**	**16 37 32.0**	**+0.3**
PDKS	**Podkum**	**5.70**	**326**	*i* Pn	**Pn**	**16 37 32.1**	**+0.3**
CEY	**Cerknica**	**5.70**	**321**	*e*Pn	**Pn**	**16 37 32.3**	**+0.5**
CEY				*e*Sn	**Sn**	**16 38 35.5**	**-1.6**
SKDS	**Skadanscina**	**5.76**	**318**	⇑*i* Pn	**Pn**	**16 37 32.2**	**-0.5**
SKDS				*e*Sn	**Sn**	**16 38 36.5**	**-2.1**
GBAS	**Gorenja Brezov**	**5.84**	**323**	*e*Pn	**Pn**	**16 37 34.5**	**+0.8**
GBAS				*i* Sn	**Sn**	**16 38 38.6**	**-1.8**
GBAS				IAML		16 38 41.0	
	comp=Z,15nm,0.6s						
DRGR		**5.85**	**22**	⇓P	**Pn**	**16 37 34.4**	**+0.6**
SOKA	**Soboth**	**6.19**	**330**	*e*Pn	**Pn**	**16 37 39.2**	**+0.7**
	comp=Z,0.9nm,0.2s						
SOKA				*i* Sn	**Sn**	**16 38 45.5**	**-3.6**
	comp=Z,0.6nm,0.2s						
MLR	**Muntele Rosu**	**6.20**	**47**	⇓S	**Sn**	**16 38 49.2**	**-0.3**
MLR	**Muntele Rosu**	**6.20**	**47**	Pn	**Pn**	**16 37 40.3**	**+1.5**
	comp=Z,1.7nm,0.3s,baz=168,slow=7.0,SNR=8.1						
MLR				Sn	**Sn**	**16 38 48.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=167,slow=18,SNR=2.4						
	comp=Z,3.7nm,0.4s						
OBKA	**Obir**	**6.24**	**327**	*i* Pn	**Pn**	**16 37 40.8**	**+1.5**
	comp=Z,1.2nm,0.3s						
OBKA				*i* Sn	**Sn**	**16 38 49.9**	**-0.5**
	comp=Z,9.4nm,0.7s						
OBKA	**Obir**	**6.24**	**327**	*e*Pn	**Pn**	**16 37 39.9**	**+0.6**
OBKA				*e*Sn	**Sn**	**16 38 49.8**	**-0.6**
ARSA	**Arzberg**	**6.51**	**335**	*e*Pn	Pn	16 37 47.2	+4.3
	comp=Z,2.8nm,0.4s						
PSZ	**Piszkesteto**	**6.52**	**2**	⇓P	**Pn**	**16 37 43.4**	**+0.3**
MYKA	**Terra Mystica**	**6.73**	**323**	*e*Pn	Pn	16 37 54.7	+8.7
MYKA				*i* Sn	**Sn**	**16 39 00.3**	**-2.1**
	comp=Z,5.1nm,0.6s						
VRI	**Vrincioaia**	**6.86**	**47**	⇑P	**Pn**	**16 37 48.1**	**+0.4**
VYHS	**Vyhne**	**7.11**	**356**	*e*PN	Pn	16 37 55.3	+4.2
VYHS				*e*SN	**Sn**	**16 39 16.0**	**+4.4**
KECS	**Kecovo**	**7.11**	**5**	*e*SN	**Sn**	**16 39 12.2**	**+0.5**
KBA	**Koelnbreinsper**	**7.20**	**324**	*i* Pn	**Pn**	**16 37 54.4**	**+1.9**
	comp=Z,1.4nm,0.4s						
KBA				*i* Sn	**Sn**	**16 39 13.7**	**-0.5**
	comp=Z,3.2nm,0.4s						
MOA	**Molln**	**7.46**	**332**	*e*Pn	**Pn**	**16 37 56.5**	**+0.7**
	comp=Z

DZM	**Mont Dzumac**	7.17 187	Pn	**Pn**	**16 38 46.7**	**+0.5**
DZM	**Mont Dzumac**	7.17 187	P	**Pn**	**16 38 46.9**	**+0.7**
	2µm,0.9s,baz=31,slow=16,SNR=443					
DZM			S	**Sn**	**16 40 07.2**	**+0.9**
	416nm,0.7s,baz=323,slow=20,SNR=1.7					
DZM			LR	LR	16 40 45.5	
	comp=Z,2µm,19.2s,baz=5.0,slow=31					
NOUC	**Port Laguerre**	7.22 188	P	**Pn**	**16 38 48.1**	**+1.3**
ONTNC	**Ouen Toro**	7.40 186	P	**Pn**	**16 38 50.9**	**+1.6**
ONTNC	**Ouen Toro**	7.40 186	Pn	**Pn**	**16 38 49.4**	**+0.1**
PINNC	**Pines Island,**	7.66 179	P	**Pn**	**16 38 53.6**	**+0.9**
PINNC	**Pines Island,**	7.66 179	Pn	**Pn**	**16 38 53.0**	**+0.2**
HNR	**Honiara**	9.06 306	P	**Pn**	**16 39 11.6**	**-0.1**
HNR	**Honiara**	9.06 306	Pn	**Pn**	**16 39 12.2**	**+0.5**
HNR	**Honiara**	9.06 306	P	**Pn**	**16 39 12.2**	**+0.5**
MSVF	**Nonsavu**	10.65 107	P	**Pn**	**16 39 36.4**	**+3.3**
MSVF	**Nonsavu**	10.65 107	Pn	**Pn**	**16 39 34.7**	**+1.6**
MSVF	**Nonsavu**	10.65 107	P	**Pn**	**16 39 34.7**	**+1.6**
NFK	**Norfolk Island**	14.07 178	P	**Pn**	**16 40 18.9**	**+1.2**
FUTU	**Fugatoga**	14.07 89	P	**Pn**	**16 40 17.9**	**+0.1**
TARA	**Tarawa**	17.08 19	P	**Pn**	**16 40 56.5**	**+1.3**
TARA	**Tarawa**	17.08 19	P	**Pn**	**16 40 55.8**	**+0.6**
RK1H	**Rockhampton Ha**	18.00 240	P	**Pn**	**16 41 07.4**	**+1.2**
AUWSH	**Wavell State H**	18.21 225	P	**Pn**	**16 41 10.4**	**+1.8**
RABL	**Rabaul**	18.36 304	P	**Pn**	**16 41 10.0**	**-0.6**
RABL	**Rabaul**	18.36 304	P	**Pn**	**16 41 10.1**	**-0.4**
GC1S	**Gold Coast 1 S**	18.40 222	P	**Pn**	**16 41 12.9**	**+2.0**
EIDS	**Eidsvold**	18.46 233	P	**Pn**	**16 41 12.9**	**+1.3**
EIDS	**Eidsvold**	18.46 233		**Pn**	**16 41 11.8**	**+0.2**
BULU	**Kimbe**	19.16 297	P	**Pn**	**16 41 19.7**	**-0.3**
AUAYR	**Ayr State High**	19.60 253	P	**Pn**	**16 41 24.9**	**-0.1**
RAO	**Raoul Island**	19.72 139	P	**Pn**	**16 41 26.0**	**-0.3**
RAO	**Raoul Island**	19.72 139	P	**P**	**16 41 22.6**	**-1.0**
RAO	**Raoul Island**	19.72 139	P	**Pn**	**16 41 25.9**	**-0.3**
	940nm,0.9s,baz=287,slow=8.9,SNR=8.5					
KAVG	**Kavieng**	20.41 305	P	**P**	**16 41 30.0**	**-1.2**
PMG	**Port Moresby**	20.48 283	P	**P**	**16 41 33.1**	**+1.2**
	232nm,0.9s,baz=85,slow=5.9,SNR=31					
	232nm,0.9s					
CTAO	**Charters Tower**	20.76 253	P	**P**	**16 41 36.7**	**+1.7**
CTAO	**Charters Tower**	20.76 253	P	**P**	**16 41 35.4**	**+0.4**
CTAO	**Charters Tower**	20.76 253	P	**P**	**16 41 35.4**	**+0.4**
RMQ	**Roma**	20.83 233	P	Pn	16 41 38.5	-0.9
OUZ	**Omahuta**	20.98 166	P	**P**	**16 41 39.1**	**+1.9**
ARMA	**Armidale**	21.14 220	P	**P**	**16 41 40.6**	**+1.6**
ARMA	**Armidale**	21.14 220	P	**P**	**16 41 40.1**	**+1.1**
WCZ	**Waipu Caves**	21.86 165	P	**P**	**16 41 48.8**	**+2.3**
AUPHS	**Peel High Scho**	22.07 220	P	**P**	**16 41 50.0**	**+1.2**
NIUE	**Niue**	22.11 104	P	**P**	**16 41 49.5**	**+0.2**
NIUE	**Niue**	22.11 104	P	**P**	**16 41 49.1**	**-0.2**
MTSU	**Mount Surprise**	22.31 259	P	**P**	**16 41 51.9**	**+0.5**
GRZ	**Great Barrier**	22.45 163	P	**P**	**16 41 53.6**	**+1.1**
RVAZ	**Riverhead Bore**	22.70 165	P	**P**	**16 41 57.2**	**+2.3**
MBAZ	**Motutapu North**	22.78 164	P	**P**	**16 41 57.3**	**+1.6**
WTAZ	**Waiatarua**	22.85 165	P	**P**	**16 41 57.9**	**+1.4**
NTLH	**Newcastle Hard**	22.86 216	P	**P**	**16 41 58.5**	**+1.9**
WIAZ	**Waiheke Island**	22.87 164	P	**P**	**16 41 57.5**	**+1.0**
ETAZ	**East Tamaki Re**	22.96 164	P	**P**	**16 41 59.1**	**+1.6**
KUZ	**Kuaotunu**	22.99 163	P	**P**	**16 41 58.3**	**+0.6**
KUZ	**Kuaotunu**	22.99 163	P	**P**	**16 41 58.9**	**+1.2**
AWAZ	**Awhitu Peninsu**	23.00 165	P	**P**	**16 41 59.9**	**+2.2**
MKAZ	**Moumakai**	23.17 164	P	**P**	**16 42 00.7**	**+1.3**
COEN	**Coen**	23.43 269	P	**P**	**16 42 02.7**	**+0.7**
COEN	**Coen**	23.43 269	P	**P**	**16 42 01.9**	**-0.2**
MANU	**Manus Island**	23.51 301	P	**P**	**16 42 02.4**	**-0.3**
MANU	**Manus Island**	23.51 301	P	**P**	**16 42 03.0**	**+0.3**
TOZ	**Tahuroa Road**	23.85 164	P	**P**	**16 42 05.7**	**+0.2**
TOZ	**Tahuroa Road**	23.85 164	P	**P**	**16 42 06.5**	**+1.0**
RIV	**Riverview**	23.86 215	P	**P**	**16 42 07.1**	**+1.4**
RIV	**Riverview**	23.86 215	P	**P**	**16 42 07.6**	**+1.9**
RIV			pmax	pmax		
	comp=Z,1µm,1.0s					
SYDH	**Sydney Hard Ro**	24.04 216	P	**P**	**16 42 08.7**	**+1.3**
TGRZ	**Tauranga**	24.06 162	P	**P**	**16 42 08.6**	**+1.1**
HIZ	**Hauiti**	24.42 166	P	**P**	**16 42 10.0**	**-0.8**
QLP	**Quilpie**	24.49 238	P	**P**	**16 42 12.6**	**+1.1**
MXZ	**Matakaoa Point**	24.57 159	P	**P**	**16 42 12.0**	**0.0**
MXZ	**Matakaoa Point**	24.57 159	P	**P**	**16 42 11.2**	**-0.8**
URZ	**Urewera**	24.80 161	P	**P**	**16 42 14.9**	**+0.7**
URZ	**Urewera**	24.80 161	P	**P**	**16 42 14.3**	**+0.1**
	comp=Z,405nm,0.9s,baz=77,slow=5.8,SNR=31					
URZ			LR	LR	16 50 56.5	
	comp=Z,802nm,19.9s,baz=82,slow=34					
	comp=Z,405nm,0.9s					
KHEZ	**Kahui Hut**	24.98 168	P	**P**	**16 42 18.9**	**+3.0**
RTZ	**Ruatahuna**	25.09 162	P	**P**	**16 42 16.6**	**-0.4**
BKZ	**Black Stump Fm**	25.46 163	P	**P**	**16 42 20.3**	**0.0**
BKZ	**Black Stump Fm**	25.46 163	P	**P**	**16 42 19.4**	**-0.8**
BKZ			IAmb	IAmb	16 42 25.5	
	comp=Z,147nm,0.8s					
YNG	**Young**	25.79 218	P	**P**	**16 42 24.6**	**+1.4**
CMSA	**Cobar Meteorol**	25.80 226	P	**P**	**16 42 24.4**	**+1.0**
CNB	**Canberra Magne**	25.95 215	P	**P**	**16 42 25.8**	**+1.0**
CAN	**Canberra**	26.16 216	P	**P**	**16 42 27.6**	**+1.0**
CAN	**Canberra**	26.16 216	P	**P**	**16 42 26.7**	**+0.1**
CAN			IAmb	IAmb	16 42 29.2	
	comp=Z,203nm,1.5s					
CAN	**Canberra**	26.16 216	P	**P**	**16 42 26.7**	**+0.1**
CAN			pmax	pmax		
	comp=Z,203nm,1.5s					
MRZ	**Mangatainoka R**	26.64 166	IAmb	IAmb	16 42 36.3	
	comp=Z,99nm,0.9s					
NNZ	**Nelson**	26.73 170	IAmb	IAmb	16 42 34.5	
	comp=Z,229nm,1.4s					
BFZ	**Birch Farm**	26.82 165	P	**P**	**16 42 31.5**	**-0.9**
BFZ	**Birch Farm**	26.82 165	P	**P**	**16 42 30.4**	**-2.0**
QIS	**Mount Isa**	27.00 254	P	**P**	**16 42 34.1**	**-0.2**
MMPI	**Merauke**	27.16 281	P	**P**	**16 42 35.7**	**0.0**
	comp=Z,229nm,0.9s					
THZ	**Tophouse**	27.18 171	IAmb	IAmb	16 42 37.2	
	comp=Z,100nm,0.8s					
MSWZ	**Moikau Station**	27.28 167	P	**P**	**16 42 35.0**	**-1.6**
MILA	**Mila**	27.36 213	P	**P**	**16 42 38.5**	**+1.2**
TABU	**Tabubil**	27.42 288	P	**P**	**16 42 38.8**	**+0.7**
INKA	**Innaminka**	27.80 238	P	**P**	**16 42 42.4**	**+1.1**
KHZ	**Kahutara**	27.92 170	P	**P**	**16 42 41.3**	**-0.8**
KHZ	**Kahutara**	27.92 170	IAmb	IAmb	16 42 43.5	
	comp=Z,121nm,0.9s					
LTZ	**Lake Taylor**	28.09 172	P	**P**	**16 42 43.5**	**-0.3**
OXZ	**Oxford**	28.60 173	P	**P**	**16 42 47.4**	**-0.8**
RPZ	**Rata Peaks**	28.88 174	LR	LR	16 53 31.2	
	comp=Z,1µm,19.4s,baz=342,slow=34					
STKA	**Stephens Creek**	28.93 230	P	**P**	**16 42 52.3**	**+1.0**
STKA	**Stephens Creek**	28.93 230	IAmb	IAmb	16 42 54.1	
	comp=Z,43nm,0.9s					
STKA	**Stephens Creek**	28.93 230	P	**P**	**16 42 52.9**	**+1.5**
	comp=Z,163nm,0.9s,baz=48,slow=8.0,SNR=184					
STKA			PcP	**PcP**	**16 45 56.0**	**-1.4**
	comp=Z,23nm,0.9s,baz=18,slow=5.5,SNR=3.7					
STKA			ScP	**ScP**	**16 49 28.2**	**+0.8**
	comp=Z,18nm,1.1s,baz=45,slow=3.4,SNR=6.7					
STKA			LR	LR	16 52 53.4	
	comp=Z,830nm,21.5s,baz=56,slow=33					
	comp=Z,163nm,0.9s					
STKA	**Stephens Creek**	28.93 230	*c iP*	**P**	**16 42 52.7**	**+1.4**
JAY	**Jayapura**	29.03 293	P	**P**	**16 42 51.9**	**-0.5**
JCZ	**Jackson Bay**	29.09 178	P	**P**	**16 42 53.8**	**+1.2**
GENI	**Genyem**	29.47 292	P	**P**	**16 42 56.9**	**+0.6**
GENI	**Genyem**	29.47 292	P	**P**	**16 42 58.0**	**+1.7**
	comp=Z,90nm,0.7s,comp=Z,3µm					
TOO	**Toolangi**	29.75 217	P	**P**	**16 42 59.9**	**+1.4**
TOO	**Toolangi**	29.75 217	P	**P**	**16 42 59.4**	**+0.8**
TOO	**Toolangi**	29.75 217	P	**P**	**16 42 59.4**	**+0.8**
TOO			pmax	pmax		
	comp=Z,187nm,1.2s					
ODZ	**Otahua Downs**	30.16 175	P	**P**	**16 43 02.3**	**+0.3**
BRAT	**Ballarat**	30.65 218	P	**P**	**16 43 08.4**	**+2.0**
LCRK	**Leigh Creek**	30.89 235	P	**P**	**16 43 09.5**	**+0.9**
GLAD	**Gladstone**	30.94 209	P	**P**	**16 43 10.0**	**+1.1**
ARPS	**Mount Arapiles**	31.46 222	P	**P**	**16 43 15.0**	**+1.4**
SYZ	**Scrubby Hill**	31.56 178	P	**P**	**16 43 15.2**	**+0.9**
HTT	**Hallett**	31.66 229	P	**P**	**16 43 16.8**	**+1.4**
HTT	**Hallett**	31.66 229	P	**P**	**16 43 14.4**	**-1.0**
WR0	**Warramunga Arr**	31.67 256	P	**P**	**16 43 14.6**	**-1.0**
WR0			IAmb	IAmb	16 44 08.6	
	comp=Z,49nm,0.9s					
CORO	**Coronation Par**	31.72 210	P	**P**	**16 43 16.9**	**+1.2**
WB0	**Warramunga Arr**	31.80 257	P	**P**	**16 43 15.2**	**-1.6**
WB0			IAmb	IAmb	16 44 28.2	
	comp=Z,64nm,1.0s					
RAR	**Rarotonga**	31.84 106	P	**P**	**16 43 17.9**	**+0.9**
	comp=Z,136nm,1.1s,baz=259,slow=6.6,SNR=12					
	comp=Z,136nm,1.1s					
RAR	**Rarotonga**	31.84 106	P	**P**	**16 43 17.8**	**+0.7**
RAR			pP	**pP**	**16 43 43.2**	**-0.8**
RAR			sP	**sP**	**16 43 56.9**	**-1.4**
WB2	**Warramunga Arr**	31.85 256	P	**P**	**16 43 15.9**	**-1.3**
WB2			IAmb	IAmb	16 44 27.8	
	comp=Z,49nm,0.9s					
WRAB	**Tennant Creek**	31.85 256	P	**P**	**16 43 15.0**	**-2.2**
WRAB			IAmb	IAmb	16 44 27.7	
	comp=Z,45nm,0.9s					
WRAB	**Tennant Creek**	31.85 256	P	**P**	**16 43 15.0**	**-2.2**
WRAB			pmax	pmax		
	comp=Z,45nm,1.0s					
WRA	**Warramunga Arr**	31.86 256	P	**P**	**16 43 15.0**	**-2.3**
WRA	**Warramunga Arr**	31.86 256	P	**P**	**16 43 16.0**	**-1.3**
	comp=Z,28nm,0.9s,baz=86,slow=9.3,SNR=180					
WRA			pP	**pP**	**16 43 43.9**	**+0.1**
	comp=Z,29nm,0.9s,baz=86,slow=9.1,SNR=7.2					
WRA			S	**S**	**16 48 15.1**	**-3.9**
	comp=Z,3.4nm,0.9s,baz=82,slow=15,SNR=4.6					
WRA			ScP	**ScP**	**16 49 38.6**	**+1.4**
	comp=Z,5.4nm,1.0s,baz=81,slow=3.7,SNR=4.8					
WRA			LR	LR	16 55 39.0	
	comp=Z,1µm,20.8s,baz=115,slow=35					
	comp=Z,28nm,0.9s					
AUHPC	**Hawkesdale P12**	31.99 219	P	**P**	**16 43 20.9**	**+2.8**
OOD	**Oodnadatta**	32.05 241	P	**P**	**16 43 20.1**	**+1.3**
MOO	**Moorlands**	32.47 208	P	**P**	**16 43 24.0**	**+1.7**
WHYH	**Whyalla**	32.48 231	P	**P**	**16 43 24.1**	**+1.6**
GHSS	**Government Hou**	32.62 227	P	**P**	**16 43 25.5**	**+1.8**
AS01	**Alice Springs**	32.64 249	P	**P**	**16 43 23.4**	**-0.7**
AS31	**Alice Springs**	32.68 249	P	**P**	**16 43 23.8**	**-0.7**
AS31			IAmb	IAmb	16 43 25.6	
	comp=Z,24nm,0.9s					
ASAR	**Alice Springs**	32.68 249	P	**P**	**16 43 23.9**	**-0.5**
ASAR	**Alice Springs**	32.68 249	P	**P**	**16 43 23.8**	**-0.7**
	comp=Z,56nm,0.7s,baz=79,slow=8.9,SNR=984					
ASAR			pP	**pP**	**16 43 51.1**	**-0.4**
	comp=Z,54nm,0.9s,baz=80,slow=9.2,SNR=7.0					
ASAR			PcP	**PcP**	**16 46 05.3**	**-2.2**
	comp=Z,10.0nm,0.8s,baz=100,slow=3.7,SNR=4.3					
ASAR			S	**S**	**16 48 27.7**	**-4.0**
	comp=Z,5.7nm,1.0s,baz=80,slow=19,SNR=4.1					
ASAR			ScP	**ScP**	**16 49 40.2**	**+0.1**
	comp=Z,11nm,1.1s,baz=91,slow=3.9,SNR=9.0					
ASAR			LR	LR	16 56 18.6	
	comp=Z,1µm,19.3s,baz=85,slow=35					
	comp=Z,56nm,0.7s					
TAU	**Tasmania Unive**	32.77 208	P	**P**	**16 43 26.7**	**+1.8**
TAU	**Tasmania Unive**	32.77 208	P	**P**	**16 43 25.4**	**+0.5**
TAU	**Tasmania Unive**	32.77 208	P	**P**	**16 43 25.4**	**+0.5**
TAU			pmax	pmax		
	comp=Z,250nm,1.3s					
TAU	**Tasmania Unive**	32.77 208	P	**P**	**16 43 25.9**	**+1.0**
BBOO	**Buckleboo**	33.53 232	P	**P**	**16 43 32.8**	**+1.1**
BBOO	**Buckleboo**	33.53 232	P	**P**	**16 43 32.3**	**+0.6**
KDU	**Kakadu**	33.92 269	P	**P**	**16 43 35.4**	**+0.1**
MULG	**Mulgathing**	34.17 238	P	**P**	**16 43 38.0**	**+0.7**
MTN	**Manton Dam**	35.20 269	P	**P**	**16 43 46.3**	**0.0**
MTN	**Manton Dam**	35.20 269	P	**P**	**16 43 46.0**	**-0.3**
MTN			IAmb	IAmb	16 44 27.6	
	comp=Z,51nm,0.9s					
DRS	**Darwin Rock St**	35.48 269	P	**P**	**16 43 48.8**	**+0.1**
SAUI	**Saumlaki**	35.96 277	P	**P**	**16 43 53.6**	**+0.8**
GUMO	**Guam**	36.01 321	LR	LR	16 56 43.3	
	comp=Z,209nm,20.1s,baz=104,slow=33					
FAKI	**Fak Fak**	36.60 286	P	**P**	**16 43 58.7**	**+0.5**
WRKA	**Warakurna**	37.94 248	P	**P**	**16 44 09.6**	**+0.1**
SWI	**Sorong**	38.28 288	P	**P**	**16 44 13.0**	**+0.6**
	comp=Z,184nm,1.2s,comp=Z,1µm					
FORT	**Forrest**	39.27 239	P	**P**	**16 44 21.2**	**+0.7**
FORT	**Forrest**	39.27 239	P	**P**	**16 44 20.1**	**-0.4**
FITZ	**Fitzroy Crossi**	40.06 260	P	**P**	**16 44 26.4**	**-0.8**
PAE	**Paea**	41.37 100	*e*PKIKP	**P**	**16 44 38.5**	**+0.6**
	comp=Z,76nm,1.2s					
PPT2	**Papeete2**	41.38 100	*e*PKIKP	**P**	**16 44 40.3**	**+2.2**
	comp=Z,142nm,27.0s					
PPT2			*e*S	**S**	**16 50 44.5**	**+0.7**
	comp=Z,274nm,23.8s					
PPT2			*e*SS	**SS**	**16 53 56.5**	**+3.8**
	comp=Z,743nm,24.5s					
PPT2			*e*LQ	LQ	16 54 27.0	
	comp=Z,3µm,25.8s					
PPT2			*e*LR	LR	16 56 11.0	
	comp=Z,896nm,31.2s					
PPT2			*e*LR	LR	16 56 16.9	
	comp=Z,1µm,29.0s					
PPT	**Papeete**	41.38 100	P	**P**	**16 44 39.8**	**+1.8**
	comp=Z,160nm,0.9s,baz=59,slow=4.5,SNR=8.9					
	comp=Z,160nm,0.9s					
PPTF	**Pamatai, Papee**	41.39 100	P	**P**	**16 44 39.8**	**+1.6**
PPTF	**Pamatai, Papee**	41.39 100	P	**P**	**16 44 38.9**	**+0.7**
PPTF	**Pamatai, Papee**	41.39 100	P	**P**	**16 44 39.8**	**+1.6**
PPTF			sP	**sP**	**16 45 19.4**	**-1.2**
TBI	**Tubuai**	41.53 108	*e*P	**P**	**16 44 40.6**	**+1.4**
	comp=Z,408nm,26.0s					
TBI			*e*S	**S**	**16 50 46.1**	**+0.3**
	comp=Z,1µm,38.8s					
TBI			*e*SS	**SS**	**16 53 54.2**	**-1.2**
	comp=Z,1µm,26.0s					
TBI			*e*LQ	LQ	16 54 35.6	
	comp=Z,13µm,27.2s					
TBI			*e*LR	LR	16 56 23.0	
	comp=Z,1µm,33.0s					
TVO	**Taravao**	41.67 100	*e*PKIKP	**P**	**16 44 41.8**	**+1.3**
	comp=Z,51nm,1.0s					
SOEI	**Soe**	42.35 272	P	**P**	**16 44 47.4**	**+1.3**
SOEI	**Soe**	42.35 272	P	**P**	**16 44 47.2**	**+1.1**
SOEI	**Soe**	42.35 272	P	**P**	**16 44 46.4**	**+0.3**
	comp=Z,109nm,1.1s					
TNTI	**Ternate**	42.50 288	P	**P**	**16 44 48.1**	**+0.9**
TNTI	**Ternate**	42.50 288	IAmb	IAmb	16 44 56.6	
	comp=Z,78nm,1.3s					
SANI	**Sanana**	42.76 283	P	**P**	**16 44 49.8**	**+0.5**
SANI	**Sanana**	42.76 283	P	**P**	**16 44 50.0**	**+0.7**
	comp=Z,150nm,0.9s,comp=Z,1µm					
BATI	**Baumata**	42.85 271	P	**P**	**16 44 51.6**	**+1.6**
	comp=Z,224nm,0.9s,comp=Z,2µm					
PMOR	**Pomariorio Ree**	43.18 96	*e*P	**P**	**16 44 54.1**	**+1.5**
	comp=Z,549nm,1.2s					
VAH	**Vaihoa**	43.41 97	*e*P	**P**	**16 44 55.7**	**+1.2**
	comp=Z,322nm,1.1s					
MMRI	**Maumere**	44.54 273	P	**P**	**16 45 03.4**	**-0.1**
MMRI	**Maumere**	44.54 273	P	**P**	**16 45 02.1**	**-1.4**
MMRI	**Maumere**	44.54 273	P	**P**	**16 45 03.2**	**-0.3**
	comp=Z,189nm,1.0s,comp=Z,2µm					
KMBL	**Kambalda**	44.57 240	P	**P**	**16 45 03.8**	**+0.2**
BBSI	**Bau Bau**	44.98 277	P	**P**	**16 45 08.2**	**+1.2**
	comp=Z,107nm,1.4s					
EDFI	**Ende, Flores**	45.05 272	P	**P**	**16 45 07.5**	**-0.2**
	comp=Z,152nm,1.3s,comp=Z,1µm					
PSA00	**Pilbara Seismi**	45.46 254	P	**P**	**16 45 11.5**	**+0.7**
PSA00	**Pilbara Seismi**	45.46 254	P	**P**	**16 45 10.4**	**-0.4**
PSA00			IAmb	IAmb	16 45 12.4	
	comp=Z,52nm,0.9s					
KMSI	**Cibinong**	45.56 286	P	**P**	**16 45 12.7**	**+1.1**
MBWA	**Marble Bar**	45.57 255	P	**P**	**16 45 12.0**	**+0.4**
MBWA	**Marble Bar**	45.57 255	P	**P**	**16 45 11.4**	**-0.2**
MBWA			IAmb	IAmb	16 45 12.8	
	comp=Z,60nm,0.8s					
MBWA	**Marble Bar**	45.57 255	P	**P**	**16 45 12.1**	**+0.4**
LUWI	**Luwuk**	46.12 283	P	**P**	**16 45 17.0**	**+1.0**
LUWI	**Luwuk**	46.12 283	P	**P**	**16 45 16.8**	**+0.8**
	comp=Z,125nm,1.2s,comp=Z,1µm					
MEEK	**Meekatharra**	46.79 247	P	**P**	**16 45 21.4**	**+0.3**
DAV	**Davao City (W)**	46.82 295	LR	LR	17 04 35.3	
	comp=Z,274nm,18.2s,baz=98,slow=35					
BKSI	**Bulukumba**	47.37 277	P	**P**	**16 45 25.3**	**-0.4**
	comp=Z,49nm,0.8s					
KAPI	**Kappang**	47.81 277	P	**P**	**16 45 30.1**	**+1.0**
KAPI	**Kappang**	47.81 277	*d iP*	**P**	**16 45 29.4**	**+0.3**
KAPI			pmax	pmax		
	comp=Z,87nm,0.9s					
NWAO	**Narrogin (SRO)**	48.72 239	P	**P**	**16 45 35.8**	**-0.2**
NWAO	**Narrogin (SRO)**	48.72 239	P	**P**	**16 45 35.7**	**-0.2**
NWAO	**Narrogin (SRO)**	48.72 239	LR	LR	17 07 05.8	
	comp=Z,1µm,18.0s,baz=91,slow=37					
NWAO	**Narrogin (SRO)**	48.72 239	P	**P**	**16 45 35.7**	**-0.2**
NWAO			pmax	pmax		
	comp=Z,171nm,1.2s					
NWAO	**Narrogin (SRO)**	48.72 239	P	**P**	**16 45 36.1**	**+0.2**
NWAO			pP	**pP**	**16 46 03.8**	**-1.3**
TOLI2	**Tolitoli**	48.73 285	P	**P**	**16 45 35.7**	**-0.5**
TOLI2	**Tolitoli**	48.73 285	P	**P**	**16 45 35.1**	**-1.2**
TOLI2			IAmb	IAmb	16 45 36.8	
	comp=Z,48nm,1.0s					
PLAI	**Plampang**	48.81 271	P	**P**	**16 45 37.3**	**+0.5**
PLAI	**Plampang**	48.81 271	P	**P**	**16 45 37.0**	**+0.2**
	comp=Z,131nm,0.8s,comp=Z,1µm					
MORW	**Morawa**	49.26 244	P	**P**	**16 45 40.4**	**+0.3**
MORW	**Morawa**	49.26 244	P	**P**	**16 45 39.6**	**-0.5**
MPSI	**Mapaga**	49.29 284	P	**P**	**16 45 40.4**	**-0.1**
	comp=Z,122nm,0.9s					
TWSI	**Taliwang, Sumb**	49.69 271	P	**P**	**16 45 44.0**	**+0.5**
GIRL	**Giralia**	50.66 253	P	**P**	**16 45 52.1**	**+1.4**
MYLDM	**Lahad Datu**	52.36 289	P	**P**	**16 46 05.2**	**+1.7**
JAGI	**Jajag, Banyuwa**	52.39 271	P	**P**	**16 46 02.0**	**-1.7**
JAGI	**Jajag, Banyuwa**	52.39 271	P	**P**	**16 46 03.4**	**-0.3**
	comp=Z,63nm,0.8s					
PWJI	**Pagerwojo**	54.75 271	P	**P**	**16 46 20.8**	**-0.1**
DRV	**Dumont d'Urvil**	54.78 193	P	**P**	**16 46 20.4**	**+0.1**
DRV			pP	**pP**	**16 46 49.1**	**-0.9**
DRV			pwP	**pwP**	**16 46 55.1**	**+5.2**
DRV			sP	**sP**	**16 47 02.5**	**-1.3**
UGM	**Wanagama**	56.02 270	P	**P**	**16 46 29.2**	**-0.8**
UGM	**Wanagama**	56.02 270	P	**P**	**16 46 30.4**	**+0.4**
	comp=Z,162nm,1.9s					
JOW	**Kunigami**	56.24 317	P	**P**	**16 46 31.9**	**+0.6**
STKI	**Sintang**	57.17 280	P	**P**	**16 46 39.5**	**+1.3**
	comp=Z,74nm,1.1s,comp=Z,3µm					
SBUM	**Sibu**	57.23 283	P	**P**	**16 46 39.2**	**+0.6**
SBUM			IAmb	IAmb	16 47 17.3	
	comp=Z,25nm,1.2s					
MJAR	**Matsushiro Arr**	58.10 332	P	**P**	**16 46 43.4**	**-0.8**
	comp=Z,15nm,0.9s,baz=166,slow=7.6,SNR=21					
MJAR			pP	**pP**	**16 47 11.5**	**-2.3**
	comp=Z,13nm,0.8s,baz=166,slow=8.8,SNR=2.9					
MJAR			LR	LR	17 09 55.3	
	comp=Z,65nm,21.9s,baz=136,slow=34					
	comp=Z,15nm,0.9s					
MAJO	**Matsushiro**	58.11 332	P	**P**	**16 46 44.3**	**0.0**
MAJO	**Matsushiro**	58.11 332	P	**P**	**16 46 43.3**	**-0.9**
MAJO			IAmb	IAmb	16 47 18.2	
	comp=Z,36nm,0.9s					
MAJO	**Matsushiro**	58.11 332	*de*P	**P**	**16 46 43.5**	**-0.8**
MAJO			pmax	pmax		
	comp=Z,23nm,0.9s					
MAJO	**Matsushiro**	58.11 332	P	**P**	**16 46 44.0**	**-0.3**
MAJO			pP	**pP**	**16 47 11.6**	**-2.2**
MAJO			pwP	**pwP**	**16 47 16.6**	**+2.8**
MAJO			sP	**sP**	**16 47 25.8**	**-1.7**
MJB9	**Matsu-Tunnel**	58.11 332	P	**P**	**16 46 44.1**	**-0.2**
MJB9			IAmb	IAmb	16 47 19.2	
	comp=Z,34nm,0.9s					
BBJI	**Bungbulang**	58.89 270	P	**P**	**16 46 49.9**	**-0.4**
YULB	**Yu-li**	58.97 309	P	**P**	**16 46 52.3**	**+1.8**
YULB	**Yu-li**	58.97 309	P	**P**	**16 46 49.9**	**-0.6**
YULB			IAmb	IAmb	16 46 53.9	
	comp=Z,27nm,0.9s					
LEM	**Lembang**	59.07 271	P	**P**	**16 46 51.1**	**-0.5**
	comp=Z,97nm,0.7s,comp=Z,2µm					
JNU	**Nakatsue**	59.12 324	P	**P**	**16 46 51.4**	**0.0**
JNU	**Nakatsue**	59.12 324	P	**P**	**16 46 51.2**	**-0.2**
	comp=Z,17nm,0.7s,baz=71,slow=5.7,SNR=8.2					
JNU			pP	**pP**	**16 47 20.9**	**-0.2**
	comp=Z,25nm,0.9s,baz=84,slow=4.9,SNR=4.2					
JNU			LR	LR	17 08 17.9	
	comp=Z,76nm,19.9s,baz=140,slow=32					
	comp=Z,17nm,0.7s					
NACB	**Ninganchiao**	59.21 310	P	**P**	**16 46 52.2**	**+0.1**
TPUB	**Ta-pu**	59.42 309	P	**P**	**16 46 52.9**	**-0.7**
TPUB	**Ta-pu**	59.42 309	P	**P**	**16 46 52.6**	**-1.0**
SSLB	**Suanglung**	59.46 310	P	**P**	**16 46 53.4**	**-0.5**
SSLB	**Suanglung**	59.46 310	P	**P**	**16 46 53.2**	**-0.7**
SSLB			IAmb	IAmb	16 46 53.9	
	comp=Z,25nm,0.8s					
YHNB	**Yeheng**	59.66 311	P	**P**	**16 46 55.4**	**+0.1**
JTM	**Tenmabayashi**	60.55 337	P	**P**	**16 47 00.8**	**-0.1**
KASI	**Kota Agung**	62.39 272	P	**P**	**16 47 14.6**	**+0.7**

comp=Z,53nm,0.9s
MDJ Mudanjiang 68.48 332 P P 16 47 53.7 +1.2
MDJ Mudanjiang 68.48 332 IAmb IAmb 16 48 40.6
comp=Z,41nm,1.1s
MDJ Mudanjiang 68.48 332 P P 16 47 53.2 +0.8
MDJ pP **pP 16 48 21.9 -0.9**
DL2 Dalian 68.49 323 P **P 16 47 52.4 -0.3**
DL2 pP **pP 16 48 22.6 -0.4**
DL2 S **S 16 56 47.1 +2.4**
DL2 pmax pmax
comp=Z,23nm,0.7s
DL2 pmax pmax
comp=Z,460nm,4.4s
TYV Tymovskoe 68.97 344 *e*P **P 16 47 55.8 +0.4**
TYV pmax pmax
comp=Z,7.0nm,0.9s
TYV pmax pmax
comp=Z,100nm,4.7s
KULM Kulim 69.06 282 P **P 16 47 57.2 +0.4**
KULM IAmb IAmb 16 48 29.7
comp=Z,53nm,1.1s
CN2 Changchun 69.84 329 *e*P P 16 48 09.2 +8.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BNX BinXian 70.34 331 ⇓P **P 16 48 04.2 +0.3**
BNX pmax pmax
comp=Z,38nm,0.7s
NIKH Nikolski High 70.65 15 P **P 16 48 04.4 -1.2**
baz=204
GRNR Gornyy 70.79 340⇑ *i*P **P 16 48 08.4 +1.9**
GRNR pmax pmax
comp=N,7.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,0.8s
GSI Gunungsitoli 70.83 277 P **P 16 48 08.1 +0.5**
GSI Gunungsitoli 70.83 277 P **P 16 48 08.0 +0.4**
GSI Gunungsitoli 70.83 277 P **P 16 48 07.8 +0.2**
comp=Z,107nm,1.0s
SRIT Nakonsritamara 71.09 285 P **P 16 48 10.9 +1.8**
KLR Kul'dur 71.21 336 P **P 16 48 08.8 -0.2**
comp=Z,8.6nm,0.7s,baz=126,slow=5.8,SNR=21
KLR pP **pP 16 48 40.1 +0.5**
comp=Z,6.1nm,0.8s,baz=145,slow=3.3,SNR=3.4
KLR LR LR 17 17 42.4
comp=Z,76nm,20.2s,baz=160,slow=34
comp=Z,8.6nm,0.7s
KLR Kul'dur 71.21 336 *e*P **P 16 48 09.7 +0.6**
KLR pmax pmax
comp=Z,28nm,1.7s
ENH Enshi 71.54 309 P **P 16 48 11.4 -0.2**
ENH Enshi 71.54 309 IAmb IAmb 16 48 47.7
comp=Z,56nm,1.0s
ENH Enshi 71.54 309 P **P 16 48 11.4 -0.2**
ENH pP **pP 16 48 41.5 -0.8**
ENH pwP **pwP 16 48 45.0 +2.8**
ENH sP **sP 16 48 54.4 -1.2**
LYN LuoYang 71.66 315⇑ *i*P **P 16 48 12.8 +0.7**
LYN pP pP 16 48 42.5 -0.4
LYN sP sP 16 48 55.8 -0.4
LYN S **S 16 57 21.9 +0.1**
LYN SKS **SKSac 16 58 01.7 -2.5**
LYN sS sS 16 58 13.4 +1.4
LYN pmax pmax
comp=Z,66nm,0.8s
LYN pmax pmax
comp=Z,200nm,4.8s
HNS HongShan 71.79 318 ⇑P **P 16 48 13.8 +1.0**
HNS pP **pP 16 48 43.2 -0.4**
HNS pmax pmax
comp=Z,22nm,0.9s
HNS LR LR
comp=Z,370nm,21.6s
HNS LR LR
comp=Z,280nm,18.3s
GYA Guiyang 71.88 305 ⇓P **P 16 48 14.8 +1.0**
GYA pP pP 16 48 47.0 +2.6
GYA pmax pmax
comp=Z,32nm,0.8s
UNV Unalaska Valle 72.05 16 P **P 16 48 13.3 -0.6**
baz=206
BJI Beijing 72.46 321 P **P 16 48 17.4 +0.7**
BJI pP **pP 16 48 47.4 -0.1**
BJI sP **sP 16 49 00.5 -0.3**
BJI pmax pmax
comp=Z,12nm,1.1s
BJI pmax pmax
comp=Z,140nm,5.8s
HEH HeiHe 73.76 335 *e*P **P 16 48 24.4 +0.3**
HEH pmax pmax
comp=Z,12nm,0.8s
P08K Saint George I 73.82 13 P **P 16 48 23.8 -0.5**
baz=203
XAN Xi'an 73.87 313⇑P **P 16 48 25.8 +0.5**
XAN pP pP 16 48 56.7 +0.6
XAN sP sP 16 49 10.2 +0.7
XAN pmax pmax
comp=Z,49nm,0.8s
KMI Kunming 74.47 302⇑P **P 16 48 30.7 +1.5**
KMI PcP **PcP 16 48 44.6 +1.5**
KMI pP pP 16 49 01.4 +1.4
KMI sP sP 16 49 15.9 +2.6
KMI S **S 16 57 55.5 +1.1**
KMI pmax pmax
comp=Z,36nm,0.9s
KMI pmax pmax
comp=Z,170nm,4.4s
KMI LR LR
comp=Z,270nm,24.8s
CRAI Chiangrai 74.51 296 P **P 16 48 30.4 +1.2**
CRAI IAmb IAmb 16 48 31.6
comp=Z,46nm,0.8s
XLT XiLinHaoTe 74.90 324 *e*P **P 16 48 31.7 +0.6**
XLT pP pP 16 49 02.2 +0.1
XLT pmax pmax
comp=Z,16nm,0.7s
XLT pmax pmax
comp=Z,150nm,4.8s
S12K Black Hills 74.92 17 P **P 16 48 30.2 -0.6**
baz=210
CMAR Chiang Mai Arr 75.10 294 P **P 16 48 33.7 +1.1**
CMAR Chiang Mai Arr 75.10 294 P **P 16 48 33.7 +1.1**
QSPA South Pole Qui 75.11 180 P **P 16 48 31.3 -0.8**
QSPA South Pole Qui 75.11 180 P **P 16 48 32.1 0.0**
comp=Z,175nm,1.0s,baz=6.3,slow=1.2,SNR=327
QSPA pP **pP 16 49 04.5 +1.6**
comp=Z,45nm,1.1s,baz=205,slow=2.3,SNR=1.8
comp=Z,175nm,1.0s
CHTO Chiang Mai 75.23 294 P **P 16 48 34.1 +0.7**
CHTO IAmb IAmb 16 49 08.6
comp=Z,36nm,1.1s
CHTO Chiang Mai 75.23 294 P **P 16 48 34.1 +0.7**
CHTO pmax pmax
comp=Z,36nm,1.1s
MA2 Magadan 75.44 351 P **P 16 48 33.5 -0.2**
MA2 Magadan 75.44 351 P **P 16 48 32.9 -0.8**
comp=Z,4.6nm,0.6s,baz=163,slow=10,SNR=5.5
MA2 LR LR 17 16 31.0
comp=Z,219nm,21.8s,baz=166,slow=31
comp=Z,4.6nm,0.6s
MA2 Magadan 75.44 351⇑ *e*P **P 16 48 32.9 -0.8**
MA2 pmax pmax
comp=Z,26nm,1.7s
MA2 Magadan 75.44 351 P **P 16 48 33.1 -0.6**
comp=Z,15nm,1.6s,comp=Z,397nm
HHC Hu-ho-hao-te 75.78 320 *e*P **P 16 48 38.0 +1.8**
HHC PcP **PcP 16 48 52.9 +4.7**
HHC pP pP 16 49 06.7 -0.5
HHC sP sP 16 49 26.1 +5.7
HHC sS sS 16 59 06.4 +6.4
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,120nm,5.4s
HHC LR LR
comp=Z,280nm,20.2s
HHC LR LR
comp=Z,240nm,20.4s
HHC LR LR
comp=Z,250nm,20.6s
PZH PanZhiHua 75.86 303 P **P 16 48 37.6 +0.6**
PZH pP **pP 16 49 08.0 -0.1**
PZH S **S 16 58 11.3 +1.7**
PZH sS **sS 16 59 04.1 +2.6**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,320nm,5.6s
PZH LR LR
comp=Z,240nm,15.3s
PZH LR LR
comp=Z,170nm,18.2s
PZH LR LR
comp=Z,210nm,15.8s
S14K Fog Glacier 76.15 18 P **P 16 48 36.9 -1.0**
baz=213
ZEA Zeya 76.49 337 *e*P **P 16 48 40.8 +1.0**
ZEA pmax pmax
comp=N,20nm,0.6s
ZEA pmax pmax
comp=Z,20nm,1.0s
CHGN Chignik 76.52 19 P **P 16 48 39.3 -0.5**
baz=214
BTO Baotou 76.61 319 *e*P **P 16 48 44.0 +3.1**
BTO pP **pP 16 49 15.6 +3.7**
BTO sP **sP 16 49 29.7 +4.5**
BTO pmax pmax
comp=Z,18nm,0.7s
BTO pmax pmax
comp=Z,190nm,3.9s
TNCH TengChong 77.93 300⇑P **P 16 48 49.8 +1.1**
TNCH pP pP 16 49 21.8 +1.8
TNCH sP sP 16 49 31.7 -1.6
TNCH pmax pmax
comp=Z,21nm,0.8s
TNCH pmax pmax
comp=Z,96nm,4.8s
M11K Mekoryuk 78.00 13 P **P 16 48 47.1 -0.9**
baz=206
O14K Tigyukauivet M 78.19 16 P **P 16 48 48.3 -0.8**
baz=211
R17L Mt. Peulik Vol 78.25 19 P **P 16 48 48.9 -0.6**
baz=216
SEY Seymchan 78.47 353 P **P 16 48 50.6 0.0**
comp=Z,13nm,0.9s,baz=151,slow=6.2,SNR=21
SEY pP **pP 16 49 20.0 -1.5**
comp=Z,18nm,1.1s,baz=165,slow=4.8,SNR=5.0
comp=Z,13nm,0.9s
SEY Seymchan 78.47 353 *ce*P **P 16 48 50.9 +0.3**
SEY pmax pmax
comp=Z,46nm,1.7s
LZH Lanzhou 78.50 312 *e*P **P 16 48 53.3 +1.7**
LZH pP pP 16 49 23.7 +0.8
LZH sP sP 16 49 35.9 -0.3
LZH pmax pmax
comp=Z,34nm,1.0s
LZH LR LR
comp=Z,340nm,19.9s
LZH LR LR
comp=Z,260nm,18.9s
LZH LR LR
comp=Z,360nm,18.9s
O15K Ungalikthiuk R 78.52 17 P **P 16 48 50.3 -0.6**
baz=212
M13K Bethel Lake 78.68 14 P **P 16 48 51.3 -0.4**
baz=209
R18K Karluk 78.81 20 P **P 16 48 52.0 -0.6**
baz=217
Q17K Contact Creek 78.92 19 P **P 16 48 52.1 -1.2**
baz=216
OHAK Old Harbor 78.93 21 P **P 16 48 52.5 -0.7**
baz=219
ANCK Angle Creek 78.99 19 IAmb IAmb 16 49 36.3
comp=Z,34nm,0.9s
N15K Kwethluk River 79.29 16 P **P 16 48 54.8 -0.3**
baz=212
M14K Bethel 79.31 15 P **P 16 48 54.5 -0.7**
baz=210,SNR=6.2
O16K Kokwok River B 79.35 17 P **P 16 48 54.9 -0.5**
baz=214
Q18K Katmai Hardscr 79.50 19 P **P 16 48 56.2 -0.2**
baz=217
P17K Kvichak River 79.50 18 P **P 16 48 55.7 -0.5**
baz=215
M15K Kasigluk River 79.58 15 P **P 16 48 56.4 -0.3**
baz=211
KDAK Kodiak Island 79.61 21 P **P 16 48 56.3 -0.5**
baz=219
L14K Kuka Creek 79.65 14 IAmb IAmb 16 49 34.8
comp=Z,46nm,1.1s
L14K Kuka Creek 79.65 14 P **P 16 48 57.1 +0.1**
baz=209
K13K Kusilvak Mount 79.72 13 P **P 16 48 57.3 -0.1**
baz=207
O17K Koliganek Bris 79.79 17 P **P 16 48 57.0 -0.8**
baz=215
N16K Nishlik Lake 79.90 16 P **P 16 48 57.9 -0.6**
baz=213
P18K Big Mountain, 80.03 18 P **P 16 48 57.8 -1.3**
baz=216
Q19K Cape Douglas, 80.16 19 P **P 16 48 58.8 -1.0**
baz=218
L15K Ungalak Mounta 80.23 15 P **P 16 48 59.3 -0.8**
baz=210
M16K Timber Creek 80.31 16 P **P 16 49 01.1 +0.5**
M16K IAmb IAmb 16 49 38.8
comp=Z,51nm,0.9s
M16K Timber Creek 80.31 16 P **P 16 48 59.8 -0.8**
baz=213,SNR=7.7
N17K Nushagak Hills 80.38 17 P **P 16 49 00.0 -1.0**
baz=215
J14K Nanvaranak Lak 80.69 13 IAmb IAmb 16 49 40.0
comp=Z,37nm,1.0s
J14K Nanvaranak Lak 80.69 13 P **P 16 49 02.4 -0.1**
baz=208,SNR=6.7
K15K Wolf Creek Mou 80.75 14 P **P 16 49 03.4 +0.5**
K15K IAmb IAmb 16 49 41.1
comp=Z,57nm,0.9s
K15K Wolf Creek Mou 80.75 14 P **P 16 49 03.0 +0.1**
baz=210,SNR=5.7
L16K Owhat River 80.76 15 P **P 16 49 03.3 +0.4**
baz=212,SNR=5.6
P19K Oil Pt 80.86 19 P **P 16 49 03.7 +0.1**
baz=218
M17K Holitna River 81.03 16 P **P 16 49 04.8 +0.3**
baz=214
N19K Bonanza Creek 81.39 18 P **P 16 49 06.3 -0.2**
baz=217
CNPM China Poot 81.40 20 P **P 16 49 05.9 -0.5**
CNPM IAmb IAmb 16 49 42.4
comp=Z,55nm,1.4s
L17K Donlin 81.42 16 P **P 16 49 06.3 -0.1**
baz=213
M18K Stony River 81.55 17 P **P 16 49 07.1 -0.1**
baz=216
BRSE Bradley Lake S 81.73 20 P **P 16 49 07.5 -0.7**
baz=221
MAW Mawson 81.74 202 P **P 16 49 08.7 +0.5**
comp=Z,56nm,1.0s,baz=96,slow=6.4,SNR=53
MAW pP **pP 16 49 39.6 -0.3**
comp=Z,35nm,1.1s,baz=114,slow=7.7,SNR=4.1
MAW LR LR 17 20 42.4
comp=Z,290nm,20.6s,baz=98,slow=32
comp=Z,56nm,1.0s
J16K Anvik River 81.82 14 IAmb IAmb 16 49 46.4
comp=Z,30nm,1.1s
J16K Anvik River 81.82 14 P **P 16 49 09.0 +0.5**
baz=211
K17K Iditarod 81.90 15 P **P 16 49 09.0 0.0**
baz=213
L18K Granite Mounta 81.91 16 IAmb IAmb 16 49 47.5
comp=Z,31nm,1.2s
L18K Granite Mounta 81.91 16 P **P 16 49 09.2 +0.2**
baz=215
ANM Nome 81.93 12 P **P 16 49 08.7 -0.4**
baz=206
YAK Yakutsk 82.23 343 P **P 16 49 11.1 +0.4**
YAK IAmb IAmb 16 50 01.1
comp=Z,59nm,1.1s
YAK Yakutsk 82.23 343 P **P 16 49 11.0 +0.4**
comp=Z,27nm,0.6s,baz=132,slow=1.8,SNR=20
YAK pP **pP 16 49 41.4 -0.6**
comp=Z,33nm,0.7s,baz=163,slow=3.6,SNR=2.1
comp=Z,27nm,0.6s
YAK Yakutsk 82.23 343 *e*P **P 16 49 11.0 +0.4**
YAK *e* 16 52 19.0
YAK *e*S **SKSac 16 59 15.1 -4.2**
YAK *e**SS **sS 17 00 06.5 -2.7**
YAK pmax pmax
comp=Z,67nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=Z,5.0nm,0.4s
YAK smax smax
comp=E,56nm,1.8s
YAK smax smax
comp=N,77nm,1.9s
J17K VABM Dome 82.28 15 P **P 16 49 11.0 0.0**
baz=213
M19K Big River Lodg 82.29 17 P **P 16 49 10.3 -0.8**
baz=217
I17K Unalakleet 82.32 14 P **P 16 49 10.9 -0.2**
baz=211
ULN Ulaanbaatar 82.33 324 P **P 16 49 12.9 +1.1**
ULN IAmb IAmb 16 49 13.5
comp=Z,20nm,0.8s
ULN Ulaanbaatar 82.33 324 *c i*P **P 16 49 12.4 +0.6**
ULN pmax pmax
comp=Z,36nm,1.3s
TNA Tin City 82.37 10 P **P 16 49 09.6 -1.7**
baz=204
CAPN Captain Cook N 82.38 19 P **P 16 49 09.5 -1.9**
baz=220
L19K White Mountain 82.39 17 P **P 16 49 10.8 -0.8**
baz=217
N20K Mount Spurr 82.39 18 P **P 16 49 10.2 -1.4**
baz=219
SEW Seward 82.43 20 P **P 16 49 11.4 -0.3**
baz=222
F14K Arctic Creek 82.57 11 P **P 16 49 12.7 +0.3**
baz=206
G15K Niukluk 82.58 12 P **P 16 49 12.4 0.0**
baz=208
H16K Elim 82.63 13 P **P 16 49 11.6 -1.1**
baz=210
M20K Styx River 82.64 18 P **P 16 49 11.6 -1.4**
baz=218
SONM Songino Array 82.69 324 P **P 16 49 13.9 +0.3**
SONM IAmb IAmb 16 50 03.0
comp=Z,76nm,2.0s
SONM Songino Array 82.69 324 P **P 16 49 13.9 +0.3**
comp=Z,9.5nm,0.8s,baz=144,slow=6.4,SNR=42
SONM pP **pP 16 49 45.9 +0.8**
comp=Z,7.0nm,0.9s,baz=137,slow=6.2,SNR=4.2
SONM LR LR 17 23 33.5
comp=Z,61nm,21.9s,baz=122,slow=34
comp=Z,9.5nm,0.8s
SONM Songino Array 82.69 324 P **P 16 49 13.9 +0.3**
SONM pmax pmax
comp=Z,76nm,2.0s
BILL Bilibino 82.73 360 P **P 16 49 13.9 +0.8**
BILL IAmb IAmb 16 50 21.2
comp=Z,71nm,1.3s
BILL Bilibino 82.73 360 *ce*P **P 16 49 13.3 +0.1**
BILL *e*S **S 16 59 25.7 +5.5**
BILL pmax pmax
comp=Z,19nm,1.3s
BILL MLR MLR
comp=Z,93nm,18.0s
GTA Gaotai 82.85 314⇑P **P 16 49 15.7 +1.1**
GTA pP pP 16 49 46.5 +0.3
GTA sP sP 16 50 01.8 +2.4
GTA S **SKSac 16 59 24.0 -0.8**
GTA sS sS 17 00 20.9 +5.7
GTA pmax pmax
comp=Z,18nm,1.2s
GTA LR LR
comp=Z,250nm,23.3s
GTA LR LR
comp=Z,180nm,21.8s
GTA LR LR
comp=Z,130nm,21.4s
L20K Farewell, AK 82.90 17 P **P 16 49 13.8 -0.4**
baz=218
J18K Innoko River 82.93 15 P **P 16 49 14.8 +0.5**
J18K IAmb IAmb 16 49 53.1
comp=Z,18nm,0.9s
J18K Innoko River 82.93 15 P **P 16 49 13.8 -0.5**
baz=215,SNR=6.9
SUA Susitna One 83.04 19 IAmb IAmb 16 50 05.9
comp=Z,34nm,1.0s
SUA Susitna One 83.04 19 P **P 16 49 14.1 -1.0**
baz=220,SNR=8.5
P23K Montague Islan 83.05 21 P **P 16 49 14.6 -0.4**
baz=224
RC01 Rabbit Creek A 83.08 19 IAmb IAmb 16 49 52.8
comp=Z,85nm,1.3s
RC01 Rabbit Creek A 83.08 19 P **P 16 49 14.6 -0.5**
baz=221
F15K North Star Dit 83.09 11 P **P 16 49 15.1 0.0**
baz=207
SKT Skwentna 83.19 18 P **P 16 49 14.5 -1.3**
baz=220
G16K Koyuk River 83.27 12 P **P 16 49 15.3 -0.7**
baz=209
H17K Granite Mounta 83.40 13 P **P 16 49 16.5 -0.2**
H17K Granite Mounta 83.40 13 P **P 16 49 17.0 +0.3**
baz=212
K20K Telida 83.54 16 IAmb IAmb 16 49 56.0
comp=Z,51nm,1.5s
K20K Telida 83.54 16 P **P 16 49 17.8 +0.3**
baz=217
J19K Poorman 83.64 15 P **P 16 49 17.7 -0.3**
baz=216
PMR Palmer 83.65 19 P **P 16 49 18.3 +0.3**
PMR Palmer 83.65 19 P **P 16 49 17.6 -0.4**
baz=222
PPLA Purkeypile 83.71 17 P **P 16 49 18.4 -0.1**
baz=219
G17K Kiwalik Mounta 83.72 13 P **P 16 49 17.1 -1.2**
baz=211
KNK Knik Glacier 83.73 20 P **P 16 49 18.1 -0.5**
baz=223
GLI Glacier Island 83.80 21 P **P 16 49 18.3 -0.5**
GLI IAmb IAmb 16 49 56.4
comp=Z,32nm,1.0s
GLI Glacier Island 83.80 21 P **P 16 49 17.1 -1.7**
baz=224
GHO Glory Hole Cre 83.85 19 IAmb IAmb 16 49 56.9
comp=Z,52nm,1.1s
FID Port Fidalgo 83.91 21 IAmb IAmb 16 49 56.9
comp=Z,31nm,1.0s
H18K Honhosa River 83.93 14 P **P 16 49 18.8 -0.6**
EYAK Cordova Ski Ar 84.03 21 P **P 16 49 18.9 -1.1**
baz=225
SML Sawmill 84.06 19 P **P 16 49 18.3 -1.9**
baz=223
KAIM Kayak Island 84.07 22 P **P 16 49 19.2 -1.0**
baz=226
CAST Castle Rocks 84.15 17 IAmb IAmb 16 49 57.4
comp=Z,48nm,0.9s
CAST Castle Rocks 84.15 17 P **P 16 49 19.2 -1.3**
baz=219,SNR=24
J20K Nowinta River 84.18 16 IAmb IAmb 16 49 59.0
comp=Z,55nm,1.4s
J20K Nowinta River 84.18 16 P **P 16 49 19.2 -1.5**
baz=217,SNR=7.1
M23K Glacier View 84.25 20 P **P 16 49 20.2 -0.9**
baz=223
F17K Baldwin Pennin 84.41 12 P **P 16 49 21.8 +0.1**
baz=210
SCM Sheep Creek Mo 84.41 20 IAmb IAmb 16 50 13.3
comp=Z,40nm,1.0s
SCM Sheep Creek Mo 84.41 20 P **P 16 49 21.8 -0.2**
baz=224
CHUM Lake Minchumin 84.44 17 P **P 16 49 22.2 +0.2**
baz=219,SNR=5.7
G18K Tagagawik 84.49 13 P **P 16 49 21.7 -0.5**
baz=213
KTH Kantishna Hill 84.58 17 IAmb IAmb 16 49 59.4
comp=Z,43nm,1.0s
I20K Naaghedeneel 84.59 15 P **P 16 49 23.0 +0.3**
baz=217,SNR=5.1
KLU Klutina 84.63 21 P **P 16 49 22.7 -0.4**
baz=225
H19K Roundabout Mou 84.69 14 IAmb IAmb 16 50 01.6
comp=Z,57nm,1.2s
H19K Roundabout Mou 84.69 14 P **P 16 49 23.1 -0.1**
baz=215,SNR=8.4
SCZ2 Santa Cruz Isl 84.70 53 P **P 16 49 23.2 -0.9**
baz=248
BMRM Bremner River 84.72 21 P **P 16 49 23.4 -0.1**
baz=226
WAT1 Susitna Watana 84.75 19 P **P 16 49 23.0 -0.6**
baz=222
WAT6 Susitna Watana 84.82 19 P **P 16 49 23.9 -0.3**
baz=223
E17K Hotham Inlet 84.85 12 P **P 16 49 24.1 +0.1**
baz=210,SNR=5.3

F18K	Selawik	84.87	13	P	P	16 49 23.3	-0.7
	baz=212						
PKM	Mcpherson Peak	84.90	52	P	P	16 49 24.0	-1.3
	baz=248						
BPAW	Bear Paw Mtn.	84.98	17	P	P	16 49 23.3	-1.5
BPAW				IAmb	IAmb	16 50 01.4	
	comp=Z,20nm,1.0s						
BPAW	Bear Paw Mtn.	84.98	17	P	P	16 49 23.8	-0.9
	baz=220						
WAX	Waxell Ridge	85.00	22	IAmb	IAmb	16 50 03.1	
	comp=Z,27nm,1.0s						
H20K	Anotleneega Mo	85.05	15	P	P	16 49 24.7	-0.3
	baz=216,SNR=10.0						
G19K	Purcell Mounta	85.05	14	IAmb	IAmb	16 50 03.4	
	comp=Z,56nm,1.2s						
G19K	Purcell Mounta	85.05	14	P	P	16 49 25.2	+0.1
	baz=214						
RND	Reindeer	85.08	18	IAmb	IAmb	16 50 02.7	
	comp=Z,55nm,1.1s						
RND	Reindeer	85.08	18	P	P	16 49 24.7	-0.6
D17K	Noatak River	85.15	11	P	P	16 49 25.7	+0.3
	baz=209						
GOMU	GeErMu	85.17	309	P	P	16 49 29.4	+2.6
GOMU				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GOMU				LR	LR		
	comp=Z,170nm,18.8s						
GOMU				LR	LR		
	comp=Z,390nm,21.4s						
GOMU				LR	LR		
	comp=Z,630nm,21.6s						
N25K	Chitina, Valde	85.17	21	IAmb	IAmb	16 50 13.6	
	comp=Z,23nm,1.1s						
N25K	Chitina, Valde	85.17	21	P	P	16 49 25.8	0.0
	baz=226						
DHY	Denali Highway	85.30	19	IAmb	IAmb	16 50 57.6	
	comp=Z,20nm,1.1s						
DHY	Denali Highway	85.30	19	P	P	16 49 26.2	-0.3
	baz=224						
MCK	McKinley	85.30	18	P	P	16 49 26.3	0.0
	baz=222						
MCK	McKinley	85.30	18	P	P	16 49 25.9	-0.5
VRDI	Verde Repeater	85.31	22	P	P	16 49 26.2	-0.4
E18K	Tukpahlearik C	85.38	12	P	P	16 49 26.8	+0.2
	baz=211						
F19K	Shaleruckik Mo	85.47	13	IAmb	IAmb	16 50 05.1	
	comp=Z,73nm,1.4s						
F19K	Shaleruckik Mo	85.47	13	P	P	16 49 27.5	+0.4
	baz=214						
YBH	Yreka Blue Hor	85.49	45	P	P	16 49 27.4	-0.5
	comp=Z,3.4nm,0.8s,baz=137,slow=1.8,SNR=6.7						
YBH				pP	pP	16 49 59.4	+0.5
	comp=Z,6.2nm,1.0s,baz=287,slow=6.0,SNR=3.5						
	comp=Z,3.4nm,0.8s						
HARP	HAARP	85.53	20	P	P	16 49 27.2	-0.3
	baz=226						
FMP	Fort Macarthur	85.64	54	P	P	16 49 27.8	-0.9
	baz=249						
H21K	Melozitna Rive	85.70	15	IAmb	IAmb	16 50 06.6	
	comp=Z,28nm,0.9s						
H21K	Melozitna Rive	85.70	15	P	P	16 49 28.2	-0.1
	baz=218,SNR=7.5						
IMAR	Indian Mountai	85.72	15	P	P	16 49 27.6	-0.7
LSA	Lhasa	85.72	302	IAmb	IAmb	16 49 31.8	
	comp=Z,21nm,1.0s						
PINM	Pinnacle	85.74	23	P	P	16 49 27.8	-0.8
	baz=230						
ZAK	Zakamensk	85.75	325	eP	P	16 49 28.7	-0.3
ZAK				pmax	pmax		
	comp=Z,16nm,0.9s						
MLY	Manley	85.77	17	P	P	16 49 28.8	+0.1
	baz=220,SNR=5.6						
VES	Vestal, Richgr	85.81	51	P	P	16 49 28.5	-1.0
	baz=248						
C17K	DeLong Mountai	85.82	10	P	P	16 49 29.0	+0.2
	baz=208						
PAX	Paxson	85.83	20	P	P	16 49 28.9	-0.2
	baz=225						
CTG	Chitna Glacier	85.90	22	P	P	16 49 29.4	-0.1
	baz=229						
CTGM	Chitina Glacie	85.90	22	IAmb	IAmb	16 50 07.5	
	comp=Z,17nm,0.9s						
NEA2	Nenana	85.91	17	IAmb	IAmb	16 50 06.3	
	comp=Z,51nm,1.4s						
NEA2	Nenana	85.91	17	P	P	16 49 29.1	-0.2
	baz=222						
CRAG	Craig	86.05	29	P	P	16 49 30.3	+0.2
	baz=236						
S31K	Pelican	86.06	26	P	P	16 49 30.1	-0.1
	baz=234						
WRH	Wood River Hil	86.10	18	IAmb	IAmb	16 50 07.4	
	comp=Z,21nm,0.8s						
F20K	Avaraart Lake	86.11	14	IAmb	IAmb	16 50 08.6	
	comp=Z,44nm,1.2s						
F20K	Avaraart Lake	86.11	14	P	P	16 49 30.2	0.0
	baz=216,SNR=5.6						
E19K	Redstone River	86.11	13	IAmb	IAmb	16 50 08.1	
	comp=Z,32nm,1.1s						
E19K	Redstone River	86.11	13	P	P	16 49 30.6	+0.3
	baz=214						
IRK	Irkutsk	86.13	327	eP	P	16 49 28.4	-2.3
IRK				pmax	pmax		
	comp=Z,28nm,2.2s						
ISA	Isabella, Lake	86.20	52	P	P	16 49 30.7	-0.8
	baz=249						
G21K	Allakaket	86.21	15	IAmb	IAmb	16 50 08.2	
	comp=Z,32nm,1.1s						
G21K	Allakaket	86.21	15	P	P	16 49 30.9	+0.2
	baz=218						
I23K	Minto, Yukon-K	86.24	17	P	P	16 49 30.1	-0.7
I23K	Minto, Yukon-K	86.24	17	P	P	16 49 31.1	+0.2
	baz=222						
H22K	Ishtalitna Cre	86.26	16	P	P	16 49 31.3	+0.2
	baz=220,SNR=7.7						
M26K	Nabesna, AK	86.26	21	P	P	16 49 31.2	0.0
	baz=228						
109C	Camp Elliot, M	86.28	55	P	P	16 49 32.0	+0.2
	baz=250						
EDW2	Edwards Air Fo	86.29	53	P	P	16 49 32.0	+0.1
	baz=249						
CCB	Clear Creek Bu	86.31	18	IAmb	IAmb	16 50 08.3	
	comp=Z,15nm,0.7s						
BFSC	Mount Baldy Ra	86.32	53	P	P	16 49 32.0	-0.2
	baz=249						
K24K	Donnelly Dome	86.32	19	P	P	16 49 31.7	+0.3
	baz=225,SNR=5.2						
C18K	Utukok River	86.33	11	P	P	16 49 32.1	+0.7
	baz=210						
HDA	Harding Lake	86.40	18	IAmb	IAmb	16 50 09.3	
	comp=Z,38nm,0.8s						
HDA	Harding Lake	86.40	18	P	P	16 49 31.2	-0.5
	baz=224,SNR=13						
U33K	Whale Pass	86.40	29	P	P	16 49 31.8	-0.1
	baz=236						
MDM	Murphy Dome	86.42	17	IAmb	IAmb	16 50 08.9	
	comp=Z,24nm,1.0s						
COLA	College	86.47	18	P	P	16 49 31.5	-0.5
COLA	College	86.47	18	P	P	16 49 30.7	-1.3
COLA				IAmb	IAmb	16 50 09.1	
	comp=Z,37nm,1.1s						
COLA	College	86.47	18	P	P	16 49 30.7	-1.3
COLA				pmax	pmax		
	comp=Z,37nm,1.1s						
S32K	Killisnoo	86.50	27	P	P	16 49 32.4	+0.1
	baz=235						
O29M	Mount Kennedy	86.52	24	P	P	16 49 33.0	+0.4
	baz=232						
WAKR	Walker	86.53	49	IAmb	IAmb	16 50 30.9	
	comp=Z,62nm,2.0s						
BELA	Belgrano 2	86.53	175	IAmb	IAmb	16 49 32.4	
	comp=Z,75nm,1.2s						
L26K	Log Cabin Wild	86.57	20	P	P	16 49 33.2	+0.5
	baz=227						
M27K	Edge Creek, AK	86.62	21	P	P	16 49 32.9	-0.1
	baz=228						
MLAC	Mammoth, Mammo	86.65	50	P	P	16 49 32.8	-1.1
	baz=248						
IL31		86.68	18	IAmb	IAmb	16 50 10.2	
	comp=Z,19nm,0.8s						
ILAR	Eielson Array	86.68	18	P	P	16 49 31.1	-2.0
	comp=Z,5.6nm,0.8s,baz=236,slow=5.8,SNR=58						
ILAR				pP	pP	16 50 05.2	+0.9
	comp=Z,14nm,0.7s,baz=234,slow=4.9,SNR=8.3						
ILAR				PKKP	PKKPdf	17 07 26.6	+2.4
	comp=Z,0.8nm,1.0s,baz=293,slow=1.9,SNR=6.7						
ILAR				LR	LR	17 23 02.9	
	comp=Z,332nm,20.1s,baz=215,slow=32						
	comp=Z,5.6nm,0.8s						
YUK8	Steele Glacier	86.69	23	P	P	16 49 34.2	+0.7
	baz=230						
V35K	Ketchikan	86.69	30	P	P	16 49 33.8	+0.5
	baz=238						
H23K	Yukon River	86.70	16	P	P	16 49 33.8	+0.6
	baz=221						
YUK3	Moose Creek	86.75	22	P	P	16 49 32.8	-0.9
	baz=230						
F21K	Alatna River	86.77	14	P	P	16 49 34.0	+0.5
	baz=218						
CWC	Cottonwood Cre	86.78	51	P	P	16 49 33.7	-0.7
	baz=249						
D19K	Kuna River	86.80	12	IAmb	IAmb	16 50 11.7	
	comp=Z,39nm,1.2s						
D19K	Kuna River	86.80	12	P	P	16 49 33.7	+0.1
	baz=213						
MONP2	Monument Peak	86.82	55	P	P	16 49 34.0	-0.8
	baz=250,SNR=5.7						
BBB	Bella Bella	86.88	34	LR	LR	17 20 25.7	
	comp=Z,169nm,21.7s,baz=240,slow=30						
WRAK	Wrangell Islan	86.93	29	P	P	16 49 35.3	+0.8
	baz=237						
E03A	Lebam	86.95	40	IAmb	IAmb	16 50 11.0	
	comp=Z,27nm,1.0s						
IKP	In-Ko-Pah, Jac	86.99	55	P	P	16 49 34.5	-1.0
	baz=250						
E20K	Nigu River	87.00	13	P	P	16 49 35.0	+0.4
	baz=215						
SCRK	Sand Creek	87.01	19	IAmb	IAmb	16 50 12.9	
	comp=Z,18nm,0.9s						
SCRK	Sand Creek	87.01	19	P	P	16 49 34.8	-0.1
	baz=227						
G22K	Bettles	87.02	15	P	P	16 49 35.6	+0.9
	baz=220						
J25K	Salcha River,	87.02	18	IAmb	IAmb	16 50 12.6	
	comp=Z,20nm,0.8s						
J25K	Salcha River,	87.02	18	P	P	16 49 34.7	-0.1
	baz=225,SNR=9.6						
C19K	Lookout Ridge	87.02	11	P	P	16 49 35.3	+0.6
	baz=212						
PFO	Pinyon Flats O	87.04	54	P	P	16 49 35.2	-0.5
PFO	Pinyon Flats O	87.04	54	P	P	16 49 34.4	-1.3
	baz=250						
PFO	Pinyon Flats O	87.04	54	P	P	16 49 35.6	-0.1
	comp=Z,4.7nm,1.0s,baz=239,slow=5.6,SNR=5.1						
PFO				pP	pP	16 50 07.3	+0.5
	comp=Z,3.9nm,0.8s,baz=256,slow=6.8,SNR=3.6						
	comp=Z,4.7nm,1.0s						
PFO	Pinyon Flats O	87.04	54⇑	eP	P	16 49 35.8	+0.1
PFO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TPFO	Pinon Flats	87.04	54	P	P	16 49 34.5	-1.2
	baz=250						
P30M	Million Dollar	87.05	24	P	P	16 49 34.6	-0.4
	baz=233						
MPMC	Manual Prospec	87.09	52	P	P	16 49 35.3	-0.7
	baz=249						
L27K	Beaver Creek,	87.11	21	P	P	16 49 35.6	+0.4
	baz=228						
PMD	Palm Desert	87.11	54	IAmb	IAmb	16 50 15.0	
	comp=Z,40nm,1.9s						
J05D	Fort Rock, OR	87.12	44	IAmb	IAmb	16 50 11.8	
	comp=Z,17nm,1.1s						
BCAR	Beaver Creek A	87.12	21	P	P	16 49 34.9	-0.4
H24K	Noodor Dome	87.17	17	P	P	16 49 36.0	+0.5
	baz=223						
G23K	Bananza Creek	87.24	16	IAmb	IAmb	16 50 14.2	
	comp=Z,22nm,0.9s						
G23K	Bananza Creek	87.24	16	P	P	16 49 36.1	+0.3
	baz=221,SNR=5.6						
HYT	Haines Junctio	87.26	24	P	P	16 49 36.9	+0.8
	baz=232						
D20K	Etivluk River	87.28	12	P	P	16 49 37.2	+1.3
	baz=215						
F22K	John River	87.31	14	P	P	16 49 37.5	+1.3
	baz=219						
NVAR	Mina Array Bea	87.33	49	P	P	16 49 37.3	+0.2
	comp=Z,2.4nm,0.9s,baz=228,slow=7.1,SNR=8.9						
NVAR				pP	pP	16 50 07.3	-1.0
	comp=Z,3.7nm,0.9s,baz=229,slow=8.4,SNR=5.2						
NVAR				PKPPKP	P'P'df	17 15 34.9	+0.5
	comp=Z,2.5nm,1.1s,baz=101,slow=0.9,SNR=8.7						
	comp=Z,2.4nm,0.9s						
SWSC	Sam W. Stewart	87.33	55	P	P	16 49 35.8	-1.1
	baz=250						
GSC	Goldstone, Bar	87.35	53	P	P	16 49 37.3	+0.2
	baz=250						
NV11	Mina Array Sit	87.44	49	P	P	16 49 38.1	+0.6
J26L	Joseph Creek	87.51	19	P	P	16 49 37.9	+0.7
	baz=227						
PINE	Pine Mountain	87.52	43	IAmb	IAmb	16 50 21.3	
	comp=Z,26nm,1.6s						
BELC	Belle Mtn. Jos	87.53	54	P	P	16 49 37.2	-0.9
	baz=250,SNR=9.1						
HEC	Hector,Ludlow	87.55	53	P	P	16 49 37.8	-0.3
	baz=250						
COLD	Coldfoot	87.59	15	P	P	16 49 38.7	+1.3
	baz=221						
PRP	Porcupine Dome	87.61	18	P	P	16 49 38.4	+0.6
	baz=225						
MOY	Mondy	87.63	325	eP	P	16 49 34.2	-3.9
MOY				pmax	pmax		
	comp=Z,8.0nm,1.6s						
E21K	Killik River	87.63	13	IAmb	IAmb	16 50 15.8	
	comp=Z,42nm,1.1s						
E21K	Killik River	87.63	13	P	P	16 49 38.8	+1.1
	baz=217						
K27K	Chicken	87.67	20	P	P	16 49 37.9	0.0
	baz=228,SNR=5.4						
FURC	Furnace Creek,	87.71	51	P	P	16 49 38.6	0.0
	baz=250						
O30N	Mendenhall	87.78	24	P	P	16 49 39.1	+0.5
	baz=234						
N30M	Aishikik Lake	87.81	23	P	P	16 49 38.9	+0.3
	baz=233						
BC3	Big Chuckawall	87.84	54	P	P	16 49 38.8	-0.7
	baz=250						
M29M	Somme Creek	87.90	22	P	P	16 49 39.8	+0.7
	baz=232						
G24K	Hadwenzic Riv	87.91	16	P	P	16 49 39.6	+0.7
	baz=223,SNR=5.3						
C21K	Knifeblade Rid	88.03	13	P	P	16 49 39.4	-0.1
	baz=216,SNR=6.0						
GMRC	Granite Mounta	88.06	53	P	P	16 49 39.9	-0.7
	baz=250						
TUQ	Turquoise Moun	88.07	53	P	P	16 49 39.5	-1.1
	baz=250						
GLA	Glamis	88.14	55	P	P	16 49 40.0	-0.9
	baz=251						
I26K	Coal Creek Min	88.18	19	IAmb	IAmb	16 50 18.8	
	comp=Z,20nm,1.1s						
I26K	Coal Creek Min	88.18	19	P	P	16 49 39.9	-0.3
	baz=227						
IRM	Iron Mountain	88.25	54	P	P	16 49 40.3	-1.1
	baz=251,SNR=9.2						
D22K	Ayikyak River	88.27	13	P	P	16 49 41.8	+1.1
	baz=218						
S34M	Telegraph Cree	88.29	28	P	P	16 49 41.5	+0.6
	baz=238						
TPNV	Topopah Spring	88.34	51	P	P	16 49 40.7	-1.2
	baz=250						
G25K	Bearman Lake	88.34	17	P	P	16 49 42.0	+1.0
	baz=224						
Q32M	Nakina River	88.35	27	P	P	16 49 42.1	+0.7
	baz=237						
E23K	Chandalar	88.36	15	P	P	16 49 42.1	+0.9
	baz=221						
F24K	Squaw Lake	88.40	16	P	P	16 49 41.7	+0.4
	baz=223						
L29M	L29M	88.43	22	P	P	16 49 42.1	+0.6
	baz=232						
B21K	Ikpikpuk River	88.44	12	P	P	16 49 42.1	+0.7
	baz=216						
EGAK	Eagle	88.46	20	IAmb	IAmb	16 50 58.1	
	comp=Z,16nm,1.1s						
EGAK	Eagle	88.46	20	P	P	16 49 42.7	+1.1
	baz=229						
SMAI	San Martin Ant	88.48	162	IAmb	IAmb	16 50 16.0	
	comp=Z,32nm,1.2s						
WVOR	Wild Horse Val	88.56	45	P	P	16 49 43.4	+0.7
M30M	Minto, Yukon	88.59	23	P	P	16 49 42.9	+0.6
	baz=233						
BLYC	Blythe	88.61	55	P	P	16 49 43.5	+0.5
PALK	Pallekele	88.63	278	LR	LR	17 31 41.1	
	comp=Z,111nm,18.1s,baz=205,slow=37						
PALK	Pallekele	88.63	278⇓	eP	P	16 49 44.2	+0.6
PALK				pmax	pmax		
	comp=Z,26nm,1.0s						
E24K	Your Creek	88.66	15	P	P	16 49 42.9	+0.4
	baz=222						
D23K	Nanushuk River	88.80	14	P	P	16 49 44.2	+1.2
	baz=220,SNR=7.2						
P33M	Teslin, Yukon	88.80	26	P	P	16 49 43.9	+0.5
	baz=237						
TOLK	Toolik Lake Re	88.81	14	P	P	16 49 43.5	+0.3
	baz=221						
BMN	Battle Mountai	88.83	48	IAmb	IAmb	16 50 54.1	
	comp=Z,19nm,1.3s						
NEE2	Needles Airpor	88.86	54	P	P	16 49 43.9	-0.3
	baz=251						
I27K	Kandik River	88.86	19	P	P	16 49 44.2	+0.7
	baz=229						
V12A	Nelson	88.99	53	P	P	16 49 44.1	-0.8
F25K	Christian Rive	89.05	16	P	P	16 49 44.2	-0.2
	baz=225						
DLBC	Dease Lake	89.06	28	P	P	16 49 45.4	+0.7
	baz=239						
PDMCI	Parker Dam,Lak	89.08	54	P	P	16 49 44.4	-0.8
	baz=251						
K29M	Barlow Dome	89.10	21	P	P	16 49 45.1	+0.3
	baz=232						
G26K	Porcupine Rive	89.12	17	P	P	16 49 45.7	+1.1
	baz=227,SNR=6.1						
R33M	Jennings River	89.15	27	P	P	16 49 45.3	+0.2
	baz=236						
N32M	Quiet Lake	89.21	25	P	P	16 49 46.8	+1.6
	baz=236						
BMAR	Burnt Mountain	89.23	17	P	P	16 49 44.6	-0.6
M31M	Drury Creek, Y	89.28	23	P	P	16 49 46.8	+1.3
	baz=235						
I28M	Miner Creek	89.29	19	P	P	16 49 46.2	+0.6
	baz=230						
R11B	Troy Canyon, C	89.31	50	P	P	16 49 46.2	-0.2
	baz=250						
214A	Organ Pipe Nat	89.41	57	P	P	16 49 46.9	+0.1
	baz=252						
E25K	Arctic Village	89.45	16	P	P	16 49 47.2	+1.0
	baz=225						
C23K	Itkillik River	89.48	13	P	P	16 49 47.5	+1.3
	baz=220						
F26K	Sheenjek River	89.53	17	P	P	16 49 47.5	+0.9
	baz=226						
G27K	Doyon Strip	89.65	18	P	P	16 49 48.8	+1.7
	baz=229						
I29M	Ogilvie Camp,	89.77	20	P	P	16 49 48.6	+0.9
	baz=232						
E08A	Dider Farm, El	89.78	42	IAmb	IAmb	16 50 30.6	
	comp=Z,20nm,1.2s						
C24K	Franklin Bluff	89.83	14	P	P	16 49 49.6	+1.8
	baz=222						
J30M	Hart River	89.96	21	P	P	16 49 50.0	+1.2
	baz=234						
ELIB	Princess Elisa	90.05	191	dP	P	16 49 48.9	-0.4
	comp=Z,53nm,1.1s						
ELIB				dpP	pP	16 50 22.1	+0.7
ELIB				dsP	sP	16 50 36.5	+2.0
D25K	Kavik River	90.10	15	P	P	16 49 50.4	+1.1
	baz=224						
TIXI	Tiksi	90.17	349	P	P	16 49 49.0	-0.3
TIXI	Tiksi	90.17	349⇑	eP	P	16 49 49.2	-0.2
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
B08A	Colville Reser	90.31	40	IAmb	IAmb	16 50 32.4	
	comp=Z,12nm,1.1s						
I30M	Mount Dempster	90.33	21	P	P	16 49 51.6	+1.1
	baz=233						
ELK	Elko	90.35	48	P	P	16 49 51.0	-0.3
	comp=Z,1.5nm,0.8s,baz=249,slow=6.2,SNR=7.4						
ELK				pP	pP	16 50 21.2	-1.4
	comp=Z,4.0nm,1.1s,baz=274,slow=5.3,SNR=3.5						
ELK				LR	LR	17 26 19.5	
	comp=Z,354nm,18.1s,baz=246,slow=33						
	comp=Z,1.5nm,0.8s						
ELK	Elko	90.35	48	P	P	16 49 51.0	-0.3
E27K	Coleen River	90.58	17	P	P	16 49 52.2	+0.7
	baz=229						
LCMT	Little Creek M	90.63	52	IAmb	IAmb	16 50 33.4	
	comp=Z,12nm,1.1s						
F28M	Old Crow	90.70	18	P	P	16 49 52.9	+0.9
	baz=230						
G29M	Pine Creek	90.82	19	P	P	16 49 53.6	+1.1
	baz=232						
EPYK	Eagle Plains	90.90	20	P	P	16 49 54.1	+1.1
	baz=233						
KNB	Kanab	90.95	52	IAmb	IAmb	16 50 33.7	
	comp=Z,19nm,1.3s						
C27K	Jago River	90.98	15	P	P	16 49 54.4	+1.2
	baz=227						
TUC	Tucson	91.16	57	P	P	16 49 54.6	-0.5
TUC	Tucson	91.16	57	P	P	16 49 54.6	-0.5
	baz=253						
TUC	Tucson	91.16	57	P	P	16 49 54.6	-0.5
TUC				pmax	pmax		
	comp=Z,9.0nm,1.3s						
U15A	North Rim	91.18	53	IAmb	IAmb	16 50 36.5	
	comp=Z,16nm,1.1s						
PLID	Pearl Lake	91.28	44	IAmb	IAmb	16 50 38.4	
	comp=Z,10nm,1.1s						
H31M	Peel River	91.36	21	P	P	16 49 56.0	+0.9
	baz=235						
G30M	tAoh Zraii Nji	91.43	19	P	P	16 49 55.8	+0.4
	baz=234						
E28M	Babbage River	91.43	17	P	P	16 49 55.7	+0.3
	baz=231						
D27M	Malcolm River	91.45	16	P	P	16 49 56.4	+0.8
	baz=229						
TOAD	Toad River Com	91.46	29	P	P	16 49 55.7	0.0
	baz=243						
PKCU	Pink Cliffs	91.47	52	IAmb	IAmb	16 50 41.0	
	comp=Z,33nm,1.5s						
WUAZ	Wupatki	91.62	54	IAmb	IAmb	16 50 38.2	
	comp=Z,11nm,1.1s						
WUAZ	Wupatki	91.62	54	P	P	16 49 57.2	0.0
	baz=253						
NEW	Newport	91.65	40	P	P	16 49 56.7	-0.2
	baz=249						
NEW	Newport	91.65	40	P	P	16 49 56.9	0.0
	comp=Z,2.7nm,0.9s,baz=233,slow=5.1,SNR=2.8						
NEW				pP	pP	16 50 26.4	-1.9
	comp=Z,4.1nm,1.0s,baz=324,slow=6.8,SNR=2.9						
	comp=Z,2.7nm,0.9s						
MTPU	Mount Pierson	91.75	51	P	P	16 49 58.1	+0.1
E29M	Blow River	91.77	18	P	P	16 49 57.6	+0.7
	baz=232						
HLID	Hailey	91.85	45	P	P	16 49 58.6	+0.5
	baz=251						
DUG	Dugway, Tooele	91.93	49	P	P	16 49 58.3	-0.2
	baz=252						
DUG	Dugway, Tooele	91.93	49	P	P	16 49 57.7	-0.8
D28M	Stokes Point	92.11	17	P	P	16 49 59.7	+1.2
	baz=231						
319A	Douglas	92.12	58	IAmb	IAmb	16 50 34.8	
	comp=Z,10nm,0.8s						
F31M	Tsiigehtchic	92.48	19	P	P	16 50 01.1	+0.9
	baz=236						
TROLL	Troll, Antarti	92.69	185	⇑P	P	16 50 01.0	-0.5
	comp=Z,2μm,0.7s						
W18A	Petrified Fore	92.79	55	P	P	16 50 02.7	0.0
	baz=254						
NVL	N'lazarevskaya	92.88	188⇓	iP	P	16 50 01.1	-1.1
NVL				e*PP	pP	16 50 35.2	+0.9
NVL				eS	SKSac	17 00 22.1	-2.0
NVL				pmax	pmax		
	comp=Z,85nm,1.0s						
WMQ	Urumqi	92.91	315	⇓P	P	16 50 03.8	+0.9
WMQ				pP	pP	16 50 35.9	+1.0
WMQ				pmax	pmax		
	comp=Z,22nm,1.1s						
WMQ				LR	LR		
	comp=Z,91nm,17.9s						
INK	Inuvik	93.04	19	P	P	16 50 04.2	+1.5
	baz=236						
MSO	Missoula	93.21	42	P	P	16 50 04.4	+0.2
	baz=252						
SNAA	Sanae	93.37	183	P	P	16 50 02.9	-1.7
SNAA	Sanae	93.37	183	⇑P	P	16 50 03.4	-1.1
	comp=Z,374nm,0.8s						
SNAA	Sanae	93.37	183	P	P	16 50 03.4	-1.1
	comp=Z,45nm,1.1s,baz=199,slow=4.4,SNR=68						
	comp=Z,45nm,1.1s						
121A	Cookes Peak, D	93.66	57

VNA2 ⇓pP **pP** **16 50 40.7 +0.1**
comp=Z,12nm,0.7s,baz=197,slow=3.5
MVCO Mesa Verde 94.32 53 P **P** **16 50 09.4 -0.3**
baz=255
BOZ Bozeman (W) 94.37 44 P **P** **16 50 09.6 -0.1**
baz=253
VNA1 Neumayer--Stat 94.60 181 ⇑P **P** **16 50 09.1 -0.9**
comp=Z,34nm,1.0s
BW06 Boulder Array 95.01 47 P **P** **16 50 13.2 +0.4**
baz=254
PDAR Pinedale Array 95.01 47 PKPPKP **P'P'df** **17 15 19.8 -0.1**
comp=Z,0.7nm,1.0s,baz=123,slow=1.5,SNR=3.9
O20A White River Ci 95.28 50 P **P** **16 50 13.9 -0.1**
baz=255
ANMO Albuquerque 95.34 55 P **P** **16 50 13.0 -1.4**
ANMO Albuquerque 95.34 55 P **P** **16 50 14.8 +0.4**
baz=256
ANMO Albuquerque 95.34 55 P **P** **16 50 14.2 -0.2**
comp=Z,0.6nm,0.3s,baz=254,slow=7.4,SNR=4.6
comp=Z,0.6nm,0.3s
MNTX Cornudas Mount 95.42 59 P **P** **16 50 15.2 +0.6**
baz=256
RLMT Red Lodge 95.84 45 P **P** **16 50 17.2 +0.8**
baz=255
ZSN Zaisan 95.86 317 *e*P **P** **16 50 16.4 +0.2**
comp=Z,11nm,0.8s,baz=317
ZSN Zaisan 95.86 317 *e*P **P** **16 50 16.4 +0.2**
ZSN pmax pmax
comp=Z,11nm,0.8s
EGMT Eagleton 96.27 42 P **P** **16 50 18.9 +0.7**
baz=255
TXAR Lajitas Array 96.30 61 P **P** **16 50 18.5 -0.2**
TXAR Lajitas Array 96.30 61 P **P** **16 50 18.7 0.0**
comp=Z,0.6nm,0.7s,baz=225,slow=5.6,SNR=10
TXAR pP **pP** **16 50 49.7 -0.4**
comp=Z,0.7nm,0.8s,baz=214,slow=4.9,SNR=3.8
TXAR PP **PP** **16 54 12.3 -1.7**
comp=Z,1.5nm,1.1s,baz=230,slow=7.8,SNR=6.0
comp=Z,0.6nm,0.7s
C36M Paulatuk 96.54 19 P **P** **16 50 20.2 +1.5**
baz=245
SDCO Great Sand Dun 96.76 53 P **P** **16 50 21.3 +0.4**
baz=256
K22A Casper 97.15 48 P Pdif 16 50 23.0 +0.5
baz=256
N23A Red Feather La 97.16 50 P **P** **16 50 22.4 -0.2**
baz=256
Q24A Divide 97.31 52 P **P** **16 50 23.1 -0.3**
baz=257
A36M Sachs Harbour 97.33 17 P Pdif 16 50 23.4 +1.2
baz=244
MK31 Makanchi Array 97.39 316 IAmb IAmb 16 50 24.9
comp=Z,8.5nm,0.8s
MK31 Makanchi Array 97.39 316 *de*P Pdif 16 50 23.6 +0.4
MKAR Makanchi Array 97.39 316 P **P** **16 50 23.0 -0.2**
MKAR Makanchi Array 97.39 316 P **P** **16 50 23.0 -0.2**
comp=Z,10nm,0.7s,baz=98,slow=6.1,SNR=87
MKAR pP **pP** **16 50 53.6 -1.5**
comp=Z,5.9nm,0.7s,baz=82,slow=6.9,SNR=6.6
comp=Z,10nm,0.7s
T25A Trinidad 97.47 54 P Pdif 16 50 24.1 +0.1
baz=257
ZAA0 Zalesovo Array 97.59 324 IAmb IAmb 16 50 23.9
comp=Z,9.5nm,0.8s
ZALV Zalesovo Beam 97.59 324 P **P** **16 50 22.7 -1.1**
comp=Z,9.5nm,0.7s,baz=114,slow=4.7,SNR=40
ZALV pP **pP** **16 50 54.0 -1.9**
comp=Z,6.4nm,0.9s,baz=114,slow=5.4,SNR=5.3
ZALV LR LR 17 33 13.9
comp=Z,77nm,21.2s,baz=82,slow=35
comp=Z,9.5nm,0.7s
MAKZ Makanchi 97.60 316 P **P** **16 50 24.1 -0.1**
MAKZ IAmb IAmb 16 50 25.9
comp=Z,10nm,1.1s
MAKZ Makanchi 97.60 316 P **P** **16 50 24.1 -0.1**
MAKZ pmax pmax
comp=Z,10.0nm,1.1s
YKA Yellowknife Ar 97.67 27 P **P** **16 50 22.9 -1.1**
comp=Z,0.7nm,0.8s,baz=264,slow=4.5,SNR=6.2
YKA pP **pP** **16 50 54.8 -0.7**
comp=Z,1.4nm,0.7s,baz=257,slow=4.5,SNR=3.8
YKA PKKP **PKKPbc** **17 06 58.6 -3.6**
comp=Z,1.1nm,0.9s,baz=55,slow=3.0,SNR=6.9
comp=Z,0.7nm,0.8s
MSTX Muleshoe 98.08 57 P Pdif 16 50 26.9 +0.2
baz=257
SHLS Shalkode 98.53 312 *e*P **P** **16 50 27.1 -1.5**
baz=312
SHLS Shalkode 98.53 312 *e*P **P** **16 50 27.0 -1.5**
UZB Uzynbulak 98.84 312 *e*P Pdif 16 50 30.3 +0.3
baz=312
UZB Uzynbulak 98.84 312 *e*P Pdif 16 50 30.2 +0.3
KPKS Kokpek 99.14 313 *e*P **Pdif** **16 50 31.5 +0.3**
baz=312
KPKS Kokpek 99.14 313 *e*P **Pdif** **16 50 31.5 +0.3**
AMTX Amarillo 99.15 56 P **Pdif** **16 50 31.7 +0.2**
baz=258
RSSD Black Hills 99.24 47 P **Pdif** **16 50 32.4 +0.6**
baz=258
SATY Saty 99.26 312 *e*P **Pdif** **16 50 31.9 +0.1**
baz=312
SATY Saty 99.26 312 *e*P **Pdif** **16 50 31.8 +0.1**
TDK Taldyqorghan 99.65 314 *e*P **Pdif** **16 50 33.3 0.0**
comp=Z,3.2nm,0.7s,baz=314
TDK Taldyqorghan 99.65 314 *e*P **Pdif** **16 50 33.3 0.0**
TDK pmax pmax
comp=Z,3.0nm,0.7s
833A Chaparral WMA, 99.74 63 P **Pdif** **16 50 34.0 -0.1**
baz=258
JCT Junction City 99.82 61 P **Pdif** **16 50 34.2 -0.3**
baz=258
OGNE Ogallala 100.07 50 P **Pdif** **16 50 35.9 +0.5**
baz=259
MDOK Medeo 100.26 312 *e*P **Pdif** **16 50 36.5 +0.2**
baz=312
MDOK Medeo 100.26 312 *e*P **Pdif** **16 50 36.4 +0.2**
NRIK Noril'sk 100.27 339 P **Pdif** **16 50 35.5 0.0**
comp=Z,3.5nm,0.7s,baz=138,slow=4.6,SNR=5.0
NRIK Noril'sk 100.27 339⇓*e*P **Pdif** **16 50 35.2 -0.3**
NRIK pmax pmax
comp=Z,8.0nm,1.2s
ABTX Abilene, Hawle 100.37 59 P **Pdif** **16 50 37.3 +0.5**
baz=259
KURK Kurchatov 100.59 320⇑*e*P **Pdif** **16 50 37.3 0.0**
KURK pmax pmax
comp=Z,2.0nm,1.1s
KURBB Kurchatov Arra 100.63 320 P **Pdif** **16 50 37.0 -0.5**
comp=Z,0.5nm,0.6s,baz=96,slow=4.6,SNR=7.0
KURBB PP **PP** **16 54 41.5 -4.8**
comp=Z,1.2nm,0.8s,baz=104,slow=7.2,SNR=5.0
WMOK Wichita Mounta 101.47 57 P **Pdif** **16 50 42.1 +0.4**
baz=260
435B Jarrell 101.75 61 P **Pdif** **16 50 43.3 +0.3**
baz=260
SGDS Sogindy 102.05 312 *e*P **Pdif** **16 50 43.9 -0.2**
baz=312
SGDS Sogindy 102.05 312 *e*P **Pdif** **16 50 43.9 -0.2**
WHTX Lake Whitney, 102.08 60 P **Pdif** **16 50 44.5 +0.1**
baz=260
BTLS Baital 102.70 313 *e*Pdif **Pdif** **16 50 46.2 -0.7**
baz=314
BTLS Baital 102.70 313 *i* P **Pdif** **16 50 46.2 -0.7**
SUSD Miller 102.89 47 P **Pdif** **16 50 48.0 +0.2**
baz=262
MDND Maddock 102.92 44 P **Pdif** **16 50 47.8 0.0**
baz=262
BGNE Belgrade 103.04 50 P **Pdif** **16 50 48.6 +0.1**
baz=262
KSU1 Kansas State U 103.88 53 P **Pdif** **16 50 51.4 -0.8**
baz=262
TUL3 Leonard 104.07 56 P **Pdif** **16 50 52.3 -0.9**
baz=262
NATX Nacogdoches 104.38 61 P **Pdif** **16 50 54.0 -0.6**
baz=261
ECSD EROS Data Cent 104.47 48 P **Pdif** **16 50 54.5 -0.3**
baz=263
IUG luzhnay 105.22 310 *e*Pdif **Pdif** **16 50 57.9 -0.4**
baz=310
IUG luzhnay 105.22 310 *i* P **Pdif** **16 50 57.9 -0.4**
BRLS Borolday 105.46 311 *e*Pdif **Pdif** **16 50 58.8 -0.4**
baz=311
BRLS Borolday 105.46 311 *i* P **Pdif** **16 50 58.8 -0.4**
AGMN Agassiz Nation 105.47 43 P **PKiKP** **16 55 12.0 -0.1**
baz=265
MIAR Mount Ida 105.68 58 P **PKiKP** **16 55 12.3 -0.5**
baz=262
BVAR Borovoye Array 105.94 321 Pdiff **Pdif** **16 50 59.3 -1.8**
comp=Z,1.2nm,0.8s,baz=84,slow=4.5,SNR=6.3
BVAR PKiKP **PKiKP** **16 55 12.9 +0.1**
comp=Z,1.2nm,0.8s,baz=186,slow=1.4,SNR=4.2
BVAR PP **PP** **16 55 21.6 -4.2**
comp=Z,1.0nm,0.7s,baz=109,slow=6.7,SNR=3.4
SCIA State Center 106.77 50 P **PKiKP** **16 55 14.7 0.0**
baz=265
CCM Cathedral Cave 107.93 54 P **PKiKP** **16 55 16.6 -0.3**
baz=265
VBMS Vicksburg 107.93 61 P **PKiKP** **16 55 16.8 -0.3**
baz=263
EYMN Ely 108.36 44 P **PKiKP** **16 55 17.8 +0.4**
baz=268
JFWS Jewell Farm 109.03 49 P **PKiKP** **16 55 18.6 -0.3**
baz=267
OXF Oxford 109.09 58 P **PKiKP** **16 55 18.6 -0.6**
baz=265
HDIL Hopedale 109.62 52 P **PKiKP** **16 55 19.7 -0.4**
baz=267
LRAL Lakeview Retre 110.97 60 P **PKiKP** **16 55 21.5 -1.3**
baz=265
SFIN Lafayette 111.29 52 P **PKiKP** **16 55 22.3 -0.8**
baz=268
ARU Arti 112.68 325 *i* PKIKP **PKiKP** **16 55 25.5 +0.2**
ARU 16 56 14.8
ARU 17 02 26.2
ARU SS SS 17 11 40.9 -5.6
P49A Miami Univ. Ec 113.10 53 P **PKiKP** **16 55 25.5 -1.2**
baz=269
NEEM North Greenlan 114.54 9 *i* P PKPdf 16 55 27.4 -1.4
P52A Corning 115.10 53 P **PKiKP** **16 55 29.8 -0.7**
baz=271
SPITS Spitsbergen Ar 115.12 354 PKP **PKiKP** **16 55 28.6 -0.9**
comp=Z,5.6nm,0.9s,baz=270,slow=1.2,SNR=4.6
KMSC Kings Mountain 115.76 58 P **PKPdf** **16 55 31.3 -0.6**
baz=269
O53A New Philadelph 115.79 52 P **PKPdf** **16 55 31.4 -0.4**
baz=272
MCWV Mont Chateau 116.86 53 P **PKPdf** **16 55 33.8 -0.1**
baz=273
UPNV Upernavik 116.94 13 *i* P **PKPdf** **16 55 32.6 -0.5**
DAG Danmarks Havn 118.05 2 *i* P **PKPdf** **16 55 33.0 -2.1**
SSPA Standing Stone 118.30 52 P **PKPdf** **16 55 35.7 -0.9**
baz=274
BINY Binghamton 119.57 50 P **PKPdf** **16 55 38.5 -0.6**
baz=277
APA Apatity 119.58 341⇓*i*PKIKP **PKPdf** **16 55 34.2 -4.1**
APA *i* 16 56 10.1
BELG Belogornoye 119.73 322 *c i*PKIKP **PKPdf** **16 55 37.9 -1.1**
LONY Lake Ozonia 120.25 47 P **PKPdf** **16 55 39.3 -1.0**
baz=279
SUMG Summit 120.40 9 PKPdf **PKPdf** **16 55 39.5 -0.8**
SUMG Summit 120.40 9 PKIKP **PKPdf** **16 55 39.5 -0.8**
SUMG Summit 120.40 9 *i* P **PKPdf** **16 55 40.0 -0.3**
ARCES ARCESS Array B 120.45 345 PKPdf **PKPdf** **16 55 39.0 -1.0**
ARCES ARCESS Array B 120.45 345 PKP **PKPdf** **16 55 39.0 -1.0**
comp=Z,8.1nm,0.8s,baz=74,slow=2.0,SNR=26
DBG Daneborg 120.46 2 *i* P **PKPdf** **16 55 38.5 -1.4**
KLMR Klimovskoe 120.88 333 *e*PKIKP **PKPdf** **16 55 37.8 -3.1**
KLMR *e* 16 56 11.1
KLMR pmax pmax
comp=Z,22nm,1.2s
PAL Palisades 121.26 51 P **PKPdf** **16 55 42.2 -0.1**
baz=277
LBNH Lisbon 122.20 47 P **PKPdf** **16 55 43.4 -0.6**
baz=281
HRV Adam Dziewonsk 122.77 49 P **PKPdf** **16 55 44.3 -0.9**
baz=280
JOF Joensuu 123.08 338 *e*P **PKPdf** **16 55 44.5 -0.6**
SUR Sutherland 123.10 214 PKP **PKPdf** **16 55 46.3 -0.2**
comp=Z,12nm,0.9s,baz=315,slow=4.3,SNR=4.6
ICESG Greenland Ices 123.22 11 *i* P **PKPdf** **16 55 43.4 -2.3**
BOSA Boshof 123.28 220 PKP **PKPdf** **16 55 46.7 -0.1**
comp=Z,16nm,0.9s,baz=40,slow=1.9,SNR=15
VRH Novokhopyorsk 123.58 322 *e*PKIKP **PKPdf** **16 55 45.0 -1.4**
VRH pmax pmax
comp=Z,11nm,1.2s
PKME Peaks-Kenny Pk 123.81 45 P **PKPdf** **16 55 47.0 -0.1**
baz=284
DY2G Dye2 123.88 16⇓*i*P **PKPdf** **16 55 45.5 -1.4**
MOS Moscow 124.08 328 *e*PKIKP **PKPdf** **16 55 46.0 -1.2**
VALR Valaam 124.18 336 *d i*PKIKP **PKPdf** **16 55 46.6 -0.6**
GNI Garni 124.30 309 *d i*PKIKP **PKiKP** **16 55 49.0 +0.3**
GNI pmax pmax
comp=Z,8.0nm,0.8s
LPSR Galich'ya Gora 124.69 324 *e*PKIKP **PKPdf** **16 55 47.2 -1.3**
LPSR *e**PP **pPKPdf** **16 56 21.6 0.0**
LPSR pmax pmax
comp=Z,30nm,1.0s
RAYN Ar Rayn 124.73 288 PKPdf **PKPdf** **16 55 47.3 -2.3**
RAYN Ar Rayn 124.73 288 PKIKP **PKPdf** **16 55 47.3 -2.3**
ONI Oni 124.79 312 PKPdf **PKPdf** **16 55 49.3 +0.1**
ONI Oni 124.79 312 PKIKP **PKPdf** **16 55 49.3 +0.1**
VORR Voronezh 124.89 323 *e*PKIKP **PKPdf** **16 55 47.4 -1.5**
VORR *e**PP **pPKPdf** **16 56 21.0 -1.0**
VORR pmax pmax
comp=Z,30nm,1.0s
OBN Obninsk 124.90 328⇓*i*PKIKP **PKPdf** **16 55 48.7 -0.1**
OBN pmax pmax
comp=Z,31nm,1.2s
KBZ Khabaz 124.94 313 PKP **PKPdf** **16 55 48.7 -0.6**
comp=Z,2.8nm,0.8s,baz=231,slow=1.1,SNR=4.2
KBZ Khabaz 124.94 313⇑*i*PKIKP **PKPdf** **16 55 48.9 -0.3**
KIV Kislovodsk 125.03 313 *i* PKIKP **PKPdf** **16 55 49.5 -0.1**
KIV *e* 16 57 39.2
KIV *e*PS **PS** **17 07 41.0 -1.2**
KIV *e*SS SS 17 14 27.2 +0.7
KIV pmax pmax
comp=Z,9.0nm,1.0s
PTLB Pontes e Lacer 125.04 121 PKPdf **PKPdf** **16 55 49.5 -0.8**
VSR Storozhevoye 125.08 323 *e*PKIKP **PKPdf** **16 55 47.0 -2.3**
VSR *e**PP **pPKPdf** **16 56 21.2 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 125.10 323 *e*PKIKP **PKPdf** **16 55 48.0 -1.3**
VORD *e**PP **pPKPdf** **16 56 21.3 -1.1**
VORD pmax pmax
comp=Z,10.0nm,1.1s
SHA1 Shidzhatmaz 125.10 313 *d i*PKIKP **PKPdf** **16 55 50.0 +0.1**
KEF Keuruu 125.85 339 *e*P **PKPdf** **16 55 49.6 -0.8**
FINES FINESS Array B 125.92 338 PKPdf **PKPdf** **16 55 49.3 -1.3**
FINES FINESS Array B 125.92 338 PKP **PKPdf** **16 55 50.4 -0.3**
comp=Z,17nm,1.1s,baz=108,slow=6.2,SNR=25
FINES pPKP **pPKPdf** **16 56 21.6 -2.2**
comp=Z,7.0nm,1.0s,baz=94,slow=2.5,SNR=3.8
VAF Ylistaro 125.95 341 *e*P **PKPdf** **16 55 50.5 -0.2**
ERBR Yeremizino-Bor 126.08 316 *i* PKIKP **PKPdf** **16 55 50.5 -0.9**
ERBR pmax pmax
comp=Z,25nm,0.5s
MATP Matopo 126.44 230 PKP **PKiKP** **16 55 54.0 +0.5**
comp=Z,12nm,1.0s,baz=155,slow=2.8,SNR=24
KIBK Kibwezi 126.98 255 PKPdf **PKPdf** **16 55 52.4 -1.8**
ARBE Arbavere 127.28 336 *e*P **PKiKP** **16 55 53.6 -0.2**
MEF Metsahovi 127.36 338 *e*P **PKPdf** **16 55 53.0 -0.3**
VSU Vasula 127.61 335 *d i*PKIKP **PKPdf** **16 55 53.7 -0.2**
RAF Rauma 127.72 340 *e*P **PKPdf** **16 55 53.5 -0.6**
KMBO Kilima Mbogo 128.14 257 PKPdf **PKPdf** **16 55 56.4 -0.2**
KMBO Kilima Mbogo 128.14 257 PKIKP **PKPdf** **16 55 56.4 -0.2**
ANN Anapa 128.41 316 *i* PKIKP PKPdf 16 55 47.6 -8.2
ANN pmax pmax
comp=Z,24nm,0.8s
MTSE Matsula 128.60 337 *e*P **PKiKP** **16 55 56.9 +0.4**
MNK Minsk 129.52 331 *i* PKIKP **PKPdf** **16 55 54.8 -2.9**
MNK *i* 16 56 27.2
MNK *i* 16 58 05.6
MNK *i* PPP PPP 17 00 53.6
MNK *i* 17 02 44.3
MNK *i* SS SS 17 15 20.1 -0.7
MNK *i* SSS SSS 17 20 11.4
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=Z,6.0nm,0.6s
MNK MLR MLR
comp=N,114nm,18.0s
MNK MLR MLR
comp=E,41nm,16.0s
MNK MLR MLR
comp=Z,124nm,16.0s
LSZ Lusaka 129.71 235 PKPdf **PKPdf** **16 55 58.4 -1.0**
LSZ Lusaka 129.71 235 PKP **PKiKP** **16 56 00.3 +0.1**
comp=Z,13nm,0.8s,baz=178,slow=2.9,SNR=13
LSZ pPKP **pPKPdf** **16 56 30.1 -2.9**
comp=Z,4.5nm,0.9s,baz=114,slow=7.6,SNR=1.8
LSZ SKPab SKPbc 16 59 11.3 +0.9
comp=Z,19nm,1.1s,baz=112,slow=3.7,SNR=7.7
PABE Paberze 130.68 333 *e*P **PKiKP** **16 56 01.2 +0.5**
NB2 NORSAR Subarra 130.82 345 PKPdf **PKPdf** **16 56 00.4 +0.4**
comp=Z,3.1nm,1.0s,baz=31,slow=1.9
NB2 pPKP **SKPab** **16 59 14.3 +1.3**
comp=Z,48nm,1.2s,baz=39,slow=4.4
NOA NORSAR Array B 130.82 345 PKP **PKPdf** **16 55 59.7 -0.4**
comp=Z,4.3nm,0.9s,baz=35,slow=2.0,SNR=11
NOA pPKP **pPKPdf** **16 56 31.0 -2.3**
comp=Z,2.1nm,0.9s,baz=34,slow=2.0,SNR=3.6
NOA SKPbc **SKPbc** **16 59 12.7 0.0**
comp=Z,14nm,1.0s,baz=32,slow=2.9,SNR=22
AK03 Malin Array Si 130.92 326 PKP **PKPdf** **16 56 00.3 -0.1**
HFS Hagfors 130.92 343 PKP **PKPdf** **16 55 59.7 -0.4**
comp=Z,2.8nm,0.8s,baz=48,slow=2.2,SNR=6.3
HFS SKPbc **SKPab** **16 59 15.1 +1.8**
comp=Z,9.2nm,0.9s,baz=64,slow=6.6,SNR=10
AKASG Malin Array Be 130.93 326 PKPdf **PKPdf** **16 55 59.4 -1.0**
AKASG Malin Array Be 130.93 326 PKP **PKPdf** **16 55 59.5 -0.9**
comp=Z,1.9nm,0.8s,baz=55,slow=1.7,SNR=11
AKASG SKPbc **SKPbc** **16 59 13.2 -0.1**
comp=Z,5.9nm,0.8s,baz=47,slow=4.2,SNR=7.9
AKBB Malin Array Si 130.93 326 PKP **PKPdf** **16 56 00.3 -0.2**
AK01 Malin Array Si 130.94 326 PKP **PKPdf** **16 56 00.3 -0.2**
KIEV Kiev 130.94 326 PKPdf **PKPdf** **16 55 59.7 -0.8**
KIEV Kiev 130.94 326 PKIKP **PKPdf** **16 55 59.7 -0.8**
LUBAR Lubar, Ukraine 132.14 326 PKP **PKPdf** **16 56 02.1 -0.7**
BR131 Keskin Array S 132.69 311 *d i*PKIKP **PKPdf** **16 56 04.6 +0.2**
BRTR Keskin Array B 132.69 311 PKPdf **PKPdf** **16 56 03.8 -0.6**
BRTR Keskin Array B 132.69 311 PKP **PKPdf** **16 56 04.3 -0.1**
comp=Z,2.5nm,0.9s,baz=114,slow=3.0,SNR=11
BRTR pPKP **pPKPdf** **16 56 37.5 -0.2**
comp=Z,2.6nm,0.9s,baz=149,slow=2.9,SNR=3.9
BRTR SKPbc **SKPbc** **16 59 15.3 -5.0**
comp=Z,0.7nm,0.8s,baz=116,slow=4.6,SNR=4.1
BDFB Brasilia 133.71 130 SKPbc **SKPbc** **16 59 23.2 -1.2**
comp=Z,4.2nm,0.7s,baz=45,slow=1.4,SNR=5.4
LVV L'vov 134.19 327 *e*PKIKP **PKPdf** **16 56 05.9 -0.8**
MBAR Mbarara 134.41 254 PKPdf **PKPdf** **16 56 08.0 -0.4**
MBAR Mbarara 134.41 254 PKIKP **PKPdf** **16 56 08.0 -0.4**
BURAR Bucovina Array 134.80 324 PKPdf **PKiKP** **16 56 09.3 -0.2**
TSUM Tsumeb 134.89 222 PKPdf **PKPdf** **16 56 07.0 -2.1**
TSUM Tsumeb 134.89 222 PKP **PKPdf** **16 56 08.5 -0.6**
comp=Z,8.9nm,1.0s,baz=126,slow=5.7,SNR=6.6
TSUM SKPbc **SKPbc** **16 59 29.9 +1.7**
comp=Z,2.9nm,0.4s,baz=191,slow=6.2,SNR=3.7
KOLS Kolonicke sedl 135.64 327 *e*PKIKP **PKiKP** **16 56 11.5 +0.5**
KOLS Kolonicke sedl 135.64 327 *e*PKP **PKiKP** **16 56 11.5 +0.5**
STHS Stebnicka Huta 135.87 328 *e*PKIKP **PKiKP** **16 56 10.9 -0.6**
STHS Stebnicka Huta 135.87 328 *e*PKP **PKiKP** **16 56 10.9 -0.6**
CRVS Cervenica-Dubn 136.08 328 *e*PKIKP **PKiKP** **16 56 11.8 -0.1**
CRVS Cervenica-Dubn 136.08 328 *e*PKP **PKiKP** **16 56 11.8 -0.1**
MORC Moravsky Berou 137.43 331 *e*PKP **PKPdf** **16 56 05.9 -6.9**
MAUC Maruska 137.58 331 *e*PKPpre PKPpre 16 56 13.8
VYHS Vyhne 137.68 329 *e*PKIKP **PKPdf** **16 56 13.8 +0.6**
VYHS Vyhne 137.68 329 *e*PKP **PKPdf** **16 56 13.8 +0.6**
JAVC Velka Javorina 138.00 330 *e*PKP **PKPdf** **16 56 08.3 -5.6**
BRG Berggiesshubel 138.21 335 *e*PKP **PKPdf** **16 56 08.0 -6.2**
BRG Amp 16 56 09.6
comp=Z,2.1nm,0.8s
BRG Berggiesshubel 138.21 335 P **PKPdf** **16 56 15.0 +0.9**
BRG Amp 16 56 17.6
comp=Z,8.1nm,1.1s
BRG Berggiesshubel 138.21 335 P **PKiKP** **16 56 23.4 +7.2**
BRG Amp 16 56 24.2
comp=Z,6.2nm,1.1s
BRG pPKP **pPKPdf** **16 56 50.3 +3.0**
BRG Amp 16 56 51.8
comp=Z,8.3nm,1.2s
BRG sPKP 16 57 05.0
BRG Amp 16 57 08.6
comp=Z,11nm,1.3s
BRG SKP **SKPdf** **16 59 38.0 +0.4**
BRG Amp 16 59 40.0
comp=Z,3.6nm,1.0s
BRG Berggiesshubel 138.21 335 *e*PKIKP **PKPdf** **16 56 07.9 -6.2**
BRG pmax pmax
comp=Z,2.0nm,0.8s
KRUC Moravsky 138.47 331 *e*PKP **PKPdf** **16 56 07.2 -7.4**
MODS Modra-Piesok 138.53 330 *e*PKIKP **PKiKP** **16 56 17.8 +0.9**
MODS Modra-Piesok 138.53 330 *e*PKP **PKiKP** **16 56 17.8 +0.9**
EKA Eskdalemuir Ar 139.00 352 PKhKP PKPpre 16 56 05.5
comp=Z,0.7nm,0.6s,baz=12,slow=2.0,SNR=3.7
EKA PKP **PKPdf** **16 56 15.6 +0.2**
comp=Z,1.9nm,0.7s,baz=343,slow=2.6,SNR=6.9
RONA Rosalia, Austr 139.47 330 *i* PKP **PKPdf** **16 56 17.0 +0.5**
comp=Z,6.2nm,0.9s
CONA Conrad Observa 139.52 330 *i* PKP **PKPdf** **16 56 17.3 +0.6**
comp=Z,13nm,1.2s,SNR=7.0
CKRC Cesky Krumlov 139.59 332 *e*PKPpre PKPpre 16 56 10.3
CKRC Cesky Krumlov 139.59 332 *e*PKHKP PKPpre 16 56 10.3
KHC Kasperske Hory 139.68 333 *e*PKPpre PKPpre 16 56 10.7
KHC *e*PKPDF **PKPdf** **16 56 17.0 +0.1**
KHC *e*pPKP pPKPdf 16 56 51.0 +0.9
KHC *e*SKP **SKiKP** **16 59 44.0 0.0**
KHC Kasperske Hory 139.68 333 *e*PKHKP PKPpre 16 56 10.7
KHC *e* 16 56 17.0
KHC *e* 16 56 51.0
GERES GERESS Array B 139.84 333 PKPpre 16 56 10.6
GERES GERESS Array B 139.84 333 PKhKP PKPpre 16 56 10.9
comp=Z,1.7nm,0.8s,baz=152,slow=6.0,SNR=7.1
GERES pPKP pPKPdf 16 56 49.1 -1.4
comp=Z,2.8nm,0.9s,baz=140,slow=6.9,SNR=3.3
GERES GERESS Array B 139.84 333 PKHKP PKPpre 16 56 10.6
ARSA Arzberg 140.16 330 *e*PKiKP **PKiKP** **16 56 19.6 -0.7**
comp=Z,3.4nm,0.6s
MOA Molln 140.32 331 *e*PKiKP **PKiKP** **16 56 20.9 +0.2**
comp=Z,4.7nm,1.2s
BIOA Bad Ischl, Aus 140.73 332 *i* PKP **PKPdf** **16 56 18.4 -0.4**
comp=Z,8.4nm,1.1s
SOKA Soboth 140.80 330 *i* PKP **PKPdf** **16 56 18.9 -0.1**
comp=Z,6.7nm,1.1s
OBKA Obir 141.15 330 *i* PKP **PKPdf** **16 56 20.8 +1.1**
comp=Z,7.0nm,1.1s
BTNL Ternell 141.31 341 *d*PKPdf **PKPdf** **16 56 19.5 -0.3**
KBA Koelnbreinsper 141.31 331 *i* PKP **PKPdf** **16 56 19.7 -0.4**
comp=Z,7.2nm,0.8s
LESA Schwarzleotal 141.36 332 *e*PKP **PKPdf** **16 56 15.1 -5.0**
comp=Z,6.9nm,0.9s
MYKA Terra Mystica 141.50 331 *i* PKP **PKPdf** **16 56 17.4 -2.9**
comp=Z,2.2nm,0.9s
WATA Walderalm 141.92 333 *e*PKP **PKPdf** **16 56 17.5 -3.6**
comp=Z,8.4nm,0.9s
ABTA Abfaltersbach 141.94 332 *e*PKP **PKPdf** **16 56 16.2 -4.9**
comp=Z,12nm,1.1s,SNR=9.7
WTTA Wattenberg 141.95 333 *e*PKP **PKPdf** **16 56 17.5 -3.8**
comp=Z,20nm,1.5s
BMRD Maredsous 141.98 342 *d*PKPdf **PKPdf** **16 56 21.0 +0.1**
WLF Walferdange 142.10 340 *d*PKP **PKPdf** **16 56 17.6 -3.6**
RETA Reutte 142.15 334 *e*PKP **PKPdf** **16 56 17.6 -3.8**
comp=Z,13nm,1.1s
SQTA Sankt Quirin 142.17 333 *e*PKP **PKPdf** **16 56 17.3 -4.2**
comp=Z,22nm,1.1s,SNR=8.4
BFO Black Forest 142.45 337 PKPpre PKPpre 16 56 16.2
BFO Black Forest 142.45 337 PKHKP PKPpre 16 56 16.2
FETA Feichten 142.53 333 *i* PKP **PKPdf** **16 56 18.9 -3.3**
comp=Z,38nm,1.0s,SNR=20
DAVA Damuels 142.68 335 *e*PKP **PKPdf** **16 56 19.2 -3.4**
comp=Z,30nm,1.1s,SNR=8.1
PRMA PARMA 144.45 331 PKPdf PKPbc 16 56 24.4 +0.1
TIP Timpagrande 144.64 319 PKPdf **PKPab** **16 56 24.8 -0.2**
SSB Saint Sauveur 146.43 338 PKPdf **PKPdf** **16 56 28.4 -0.5**
SSB Saint Sauveur 146.43 338 PKIKP **PKPdf** **16 56 28.4 -0.5**
CEST Esterri de Car 149.93 339 **PKiKP** **16 56 40.3 -0.4**
KEST Kesra 151.40 320 PKPbc **PKiKP** **16 56 43.9 -0.1**
comp=Z,33nm,1.0s,baz=275,slow=2.5,SNR=26
KEST pPKPbc **pPKPbc** **16 57 17.4 +0.7**
comp=Z,44nm,0.9s,baz=310,slow=6.3,SNR=6.5
PBRG Braganca 152.72 350 *e*PKPbc **PKPbc** **16 56 46.2 0.0**
PBRG Braganca 152.72 350 *e*PKPab **PKPab** **16 56 56.2 -1.1**
PGAV Gavieira, Arco 152.78 353 *e*PKPbc **PKPbc** **16 56 46.4 0.0**
POLO Lamas de Olo 153.30 352 *e*PKPdf **PKPdf** **16 56 39.8 -0.1**
POLO Lamas de Olo 153.30 352 *e*PKPbc **PKiKP** **16 56 48.1 +0.4**
POLO Lamas de Olo 153.30 352 *e*PKPab **PKPab** **16 57 01.2 +1.4**
ESDC Sonseca Array 154.18 344 PKPdf **PKPdf** **16 56 40.7 -0.5**
ESDC **PKPbc** **16 56 49.3 -0.2**
ESDC Sonseca Array 154.18 344 PKP **PKPdf** **16 56 41.5 +0.3**
comp=Z,1.2nm,0.9s,baz=348,slow=2.0,SNR=7.0
ESDC PKPbc **PKPbc** **16 56 49.1 -0.3**
comp=Z,3.2nm,1.0s,baz=8.4,slow=1.8,SNR=13
MTE Manteigas 154.22 351 *e*PKPdf **PKPdf** **16 56 41.6 +0.4**
MTE Manteigas 154.22 351 *e*PKPbc **PKiKP** **16 56 50.5 +0.9**
MTE Manteigas 154.22 351 *e*PKPab **PKPab** **16 57 04.8 +1.1**

PCBR	**Castelo Branco**	**154.76**	**351**	*e*PKPdf	**PKPdf**	**16 56 42.1**	**+0.2**
PCBR	**Castelo Branco**	**154.76**	**351**	*e*PKPbc	**PKiKP**	**16 56 51.3**	**+0.7**
PCBR	**Castelo Branco**	**154.76**	**351**	*e*PKPab	**PKPab**	**16 57 07.2**	**+1.3**
PMRV	**Marv??o**	**155.15**	**350**	*e*PKPbc	PKPdf	16 56 52.3	+10
PMTG	**Montargil**	**155.62**	**352**	*e*PKPbc	PKPdf	16 56 51.9	+8.8
PBEJ	**Beja**	**156.59**	**350**	*e*PKPab	**PKPab**	**16 57 14.3**	**+0.5**
PNCL	**Nicolau / Gran**	**156.61**	**352**	*e*PKPab	**PKPab**	**16 57 15.2**	**+1.4**
MESJ	**Messejana**	**156.83**	**351**	*e*PKPab	**PKPab**	**16 57 16.8**	**+2.0**
TORD	**Torodi Ar. Bea**	**165.97**	**265**		**PKPdf**	**16 56 53.6**	**-1.3**
TORD				PKPab	**PKPab**	**16 57 55.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**165.97**	**265**	PKP	**PKPdf**	**16 56 54.4**	**-0.5**
	comp=Z,8.3nm,1.0s,baz=28,slow=2.4,SNR=21						
TORD				PKPab	**PKPab**	**16 57 55.7**	**0.0**
	comp=Z,12nm,1.0s,baz=70,slow=4.1,SNR=11						
DBIC	**Dimbokro**	**168.79**	**224**	PKP	**PKPdf**	**16 56 55.8**	**-1.2**
	comp=Z,7.4nm,0.9s,baz=122,slow=6.2,SNR=3.6						

*IDC **04** 16:46:17.6±1.9, 48°.54N×153°.98E, h0km, mb3.4/2, mbtmp3.3/3, ML2.2/1, Error ellipse: s-maj=227.3km s-min=34.2km az=114.0*
*KRSC **04** 16:46:25.9±2.0, 48°.78N×156°.16E, h17km±36km, Ml4.0*
ISC 04 16:46:23.7±1.4,**48°.5N**±0°.1×**155°.4E**±0°.3,**h50**km,**n23,**
σ2°.22/20,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.22**	**12**	*e*P	**Pn**	**16 46 58.1**	**+0.1**
SKR				*e*S	**Sn**	**16 47 23.3**	**-1.0**
KDTR	**Khodutka, Kamc**	**3.72**	**27**	*e*P	**Pn**	**16 47 19.7**	**+1.1**
KDTR				*e*S	**Sn**	**16 47 58.5**	**-2.6**
ASAK	**Asacha**	**4.19**	**21**	*e*P	**Pn**	**16 47 27.1**	**+2.0**
MTVR	**Mutnovka**	**4.35**	**23**	*e*P	**Pn**	**16 47 29.2**	**+1.9**
GRL	**Gorelyy**	**4.39**	**22**	*e*P	**Pn**	**16 47 29.8**	**+1.9**
PETK	**Petropavlovsk-**	**4.83**	**17**	Pn	**Pn**	**16 47 35.9**	**+2.2**
	0.5nm,0.3s,baz=175,slow=12,SNR=13						
PETK				Sn	Sn	16 48 43.1	+15
	0.4nm,0.3s,baz=140,slow=7.2,SNR=5.1 1.6nm,0.5s						
PET	**Petropavlovsk**	**4.97**	**23**	*e*P	**Pn**	**16 47 37.3**	**+1.7**
DALK	**Dalny**	**5.00**	**24**	*e*P	**Pn**	**16 47 38.0**	**+2.0**
DALK				*e*S	**Sn**	**16 48 32.1**	**-0.4**
UGLR	**Uglovaya**	**5.18**	**23**	*e*P	**Pn**	**16 47 41.0**	**+2.4**
KOK	**Koryaka**	**5.21**	**22**	*e*P	**Pn**	**16 47 42.4**	**+3.4**
SMAR	**Somma**	**5.22**	**23**	*e*P	**Pn**	**16 47 41.2**	**+1.9**
KRX	**Arik**	**5.27**	**22**	*e*P	**Pn**	**16 47 43.1**	**+3.2**
NLC	**Nalytchevo**	**5.29**	**27**	*e*S	**Sn**	**16 48 35.9**	**-3.8**
GNL	**Ganaly**	**5.43**	**16**	*e*P	**Pn**	**16 47 44.1**	**+2.0**
SPN	**Mys Shipunski**	**5.45**	**31**	*e*S	**Sn**	**16 48 43.2**	**-0.3**
H11N2	**WAKE ISLAND Hy 30.18**		**158**	T	T	17 24 19.7	
	baz=342,slow=76,SNR=5.2						
H11N1	**WAKE ISLAND Hy 30.19**		**158**	T	T	17 24 20.9	
	baz=342,slow=76,SNR=6.2						
H11N3	**WAKE ISLAND Hy 30.20**		**158**	T	T	17 24 18.6	
	baz=342,slow=76,SNR=4.3						
H11S1	**WAKE ISLAND Hy 31.31**		**159**	T	T	17 25 44.3	
	baz=343,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy 31.32**		**159**	T	T	17 25 47.2	
	baz=343,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy 31.32**		**159**	T	T	17 25 44.3	
	baz=343,slow=76,SNR=18						
WRA	**Warramunga Arr**	**70.70**	**201**	P	**P**	**16 57 33.0**	**-1.2**
	0.5nm,0.9s,baz=16,slow=6.2,SNR=2.4 0.5nm,0.9s						
ASAR	**Alice Springs**	**74.39**	**200**	P	**P**	**16 57 55.7**	**-0.4**
	0.3nm,0.8s,baz=12,slow=4.9,SNR=5.8 0.3nm,0.8s						

*SNET **04** 16:52:31.3±0.8, 13°.88N×91°.32W, h12km±9km, ML3.7*
*GCG **04** 16:52:34.0±0.7, 14°.17N×91°.50W, h52km±6km, MD3.8*
ISC 04 16:52:30.6±3.0,**13°.9N**±0°.1×**91°.5W**±0°.1,**h30**km±15km,**n17,**
σ1°.14/30,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.45**	**353**	*e*P	**Pn**	**16 52 42.4**	**+1.3**
SULM				*e*S	**Sn**	**16 52 48.7**	**+0.5**
STG3	**Santiaguito 3,**	**0.85**	**356**	*e*P	**Pn**	**16 52 46.3**	**-0.5**
STG3				*e*S	**Sn**	**16 52 56.2**	**-2.2**
FUG	**Fuego 3**	**0.87**	**47**	*e*P	**Pb**	**16 52 47.8**	**+0.4**
FUG				*e*S	**Sn**	**16 53 01.3**	**+2.4**
PCG	**Pacaya**	**1.02**	**58**	*e*P	**Pb**	**16 52 50.2**	**+0.3**
PCG				*e*S	**Sb**	**16 53 04.6**	**+1.5**
NBG	**Las Nubes**	**1.34**	**57**	*e*P	**Pb**	**16 52 55.5**	**+0.2**
NBG				*e*S	**Sb**	**16 53 11.8**	**-0.3**
NUBE	**Las Nubes**	**1.68**	**88**	*e*P	**Pn**	**16 52 57.5**	**-0.5**
NUBE				*e*S	**Sn**	**16 53 17.4**	**-1.2**
SLOZ	**Alcaldia de Sa**	**1.68**	**84**	*e*P	**Pn**	**16 52 58.1**	**+0.1**
SLOZ				*e*S	**Sn**	**16 53 18.3**	**-0.2**
RTR	**El Retiro**	**1.81**	**88**	*e*P	**Pn**	**16 53 00.3**	**+0.5**
CEVE	**Cerro Verde**	**1.83**	**91**	*e*P	**Pn**	**16 53 00.2**	**0.0**
CEVE				*e*S	**Sn**	**16 53 23.0**	**+0.6**
CEVE				IAML		16 53 29.8	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**1.83**	**90**	*e*P	**Pn**	**16 52 59.9**	**-0.3**
SNJE	**San Jose**	**1.84**	**89**	*e*P	**Pn**	**16 53 00.2**	**-0.2**
JAYA	**Jayaque - finc**	**2.01**	**95**	*e*P	**Pn**	**16 53 02.2**	**-0.4**
JAYA				*e*S	**Sn**	**16 53 26.3**	**-0.5**
JAYA				IAML		16 53 29.6	
	comp=Z,851nm,0.2s						
PMON	**Piamonte**	**2.13**	**94**	*e*P	**Pn**	**16 53 04.7**	**+0.4**
PMON				*e*S	**Sn**	**16 53 30.4**	**+0.6**
MRL	**Marmol**	**2.15**	**55**	*e*P	**Pb**	**16 53 09.2**	**+0.3**
MRL				*e*S	**Sb**	**16 53 31.5**	**-3.7**
MTO3	**Montecristo**	**2.15**	**75**	*e*P	**Pn**	**16 53 05.1**	**+0.5**
LOMA	**Loma Larga**	**2.28**	**95**	*e*P	**Pn**	**16 53 06.5**	**+0.2**
LOMA				*e*S	**Sn**	**16 53 33.8**	**+0.4**
COEG	**Centro de Oper**	**2.56**	**95**	*e*P	**Pn**	**16 53 10.3**	**+0.2**
COEG				*e*S	**Sn**	**16 53 41.0**	**+0.6**
COEG				IAML		16 53 52.4	
	comp=Z,246nm,0.6s						

*TEH **04** 16:52:39.6, 28°.34N×51°.62E, h9km±26km, ML3.4*
*DSN **04** 16:52:45.0±0.0, 28°.36N×52°.16E, h15km, ML2.8/6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*OMAN **04** 16:52:47.2±0.0, 27°.97N×52°.03E, h10km, mb4.4/4, ml2.9/10, Error ellipse: s-maj=1.4km s-min=0.7km az=21.0*
ISC 04 16:52:40.1±0.8,**28°.33N**±0°.03×**51°.67E**±0°.03,**h10**km,**n53,**
σ1°.37/71,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.36**	**276**	Pg	**Pg**	**16 52 46.3**	**-1.1**
DSBU				Sg	**Sg**	**16 52 51.4**	**-0.9**
AHBU	**AHRAM**	**0.63**	**328**	Pg	**Pg**	**16 52 51.1**	**-1.3**
GHIR	**Ghir-Karzin**	**1.16**	**92**	Pg	**Pg**	**16 53 02.8**	**+0.3**
QIR1	**Qir**	**1.22**	**83**	Pg	**Pg**	**16 53 04.8**	**+1.3**
KAZ2	**Kazeron-Fars-I**	**1.28**	**360**	Pg	**Pg**	**16 53 03.9**	**-0.9**
KAZ2				Sg	**Sn**	**16 53 22.8**	**+1.2**
SHI	**Shiraz**	**1.50**	**29**	Pg	**Pg**	**16 53 08.5**	**-0.6**
LMD1	**Lamerd**	**1.65**	**126**	Pg	**Pb**	**16 53 11.3**	**+0.6**
JHRM	**Jahrom**	**1.69**	**83**	Pg	**Pb**	**16 53 11.0**	**-0.4**
SHMA	**Al-Shehemyia**	**2.54**	**195**	P	**Pg**	**16 53 30.1**	**+1.3**
SHMA				S	**Sn**	**16 53 52.1**	**-0.3**
KLNJ	**Kolanjah**	**2.67**	**359**	Pn	**Pn**	**16 53 24.2**	**+0.6**
IRAM	**Ramesheh**	**3.52**	**10**	Pn	**Pn**	**16 53 35.5**	**+0.3**
JRN	**Qarnain Island**	**3.53**	**162**	P	**Pn**	**16 53 36.9**	**+1.8**
KBD	**Kabd**	**3.59**	**285**	P	**Pg**	**16 53 49.6**	**+0.5**
KBD				S	**Sg**	**16 54 36.0**	**+0.4**
ISAD	**Sadrabad**	**3.98**	**26**	Pn	**Pn**	**16 53 43.1**	**+1.6**
IMEH	**Mehriz**	**3.98**	**39**	Pn	**Pn**	**16 53 43.5**	**+2.0**
SLWR	**Sila**	**4.24**	**180**	P	**Pn**	**16 53 46.2**	**+1.4**
IPIR	**Pirpir**	**4.40**	**351**	Pn	**Pn**	**16 53 47.7**	**+0.4**
ICHK	**Chekchek**	**4.57**	**31**	Pn	**Pn**	**16 53 50.9**	**+1.3**
SHME	**Shamm**	**4.58**	**119**	P	**Pn**	**16 53 49.8**	**+0.3**
SHME	**Shamm**	**4.58**	**119**	P	**Pn**	**16 53 50.1**	**+0.6**
SHME				S	**Sn**	**16 54 41.2**	**-1.6**
IZEF	**Zefreh**	**4.59**	**7**	Pn	**Pn**	**16 53 50.9**	**+1.0**
IBAF	**Bafgh**	**4.69**	**45**	Pn	**Pn**	**16 53 53.2**	**+2.0**
BANOM	**Banah**	**4.77**	**119**	P	**Pn**	**16 53 52.9**	**+0.8**
NAZ	**Nazwa, Dubai**	**4.88**	**132**	P	**Pn**	**16 53 54.1**	**+0.5**
ASUD	**Al Ashush, Dub**	**4.93**	**138**	P	**Pn**	**16 53 55.2**	**+0.8**
ASUD	**Al Ashush, Dub**	**4.93**	**138**	P	**Pn**	**16 53 55.6**	**+1.3**
MZWR	**Madinat Zayed**	**4.96**	**156**	P	**Pn**	**16 53 56.0**	**+1.3**
MASF	**Masafi**	**4.97**	**125**	P	**Pn**	**16 53 55.9**	**+1.0**
MASF				S	**Sn**	**16 54 50.1**	**-2.5**
IKLH	**Kolahrood**	**4.98**	**359**	Pn	**Pn**	**16 53 56.4**	**+1.2**
MSFE	**Esma-Masafi**	**4.98**	**125**	P	**Pn**	**16 53 54.9**	**-0.1**
MDH	**Madha**	**5.12**	**125**	P	**Pn**	**16 53 57.3**	**+0.4**
MDH	**Madha**	**5.12**	**125**	P	**Pn**	**16 53 57.6**	**+0.7**
MDH				S	**Sn**	**16 54 54.6**	**-1.4**
ANAR	**Anarak**	**5.16**	**20**	Pn	**Pn**	**16 53 58.7**	**+1.1**
UOSS	**Minazif**	**5.27**	**129**	P	**Pn**	**16 53 59.0**	**0.0**
UOSS	**Minazif**	**5.27**	**129**	P	**Pn**	**16 53 59.7**	**+0.6**
UOSS				S	**Sn**	**16 54 55.5**	**-4.4**
HATD	**Hatta, Dubai**	**5.30**	**130**	P	**Pn**	**16 53 59.9**	**+0.5**
HATD				S	**Sn**	**16 54 57.4**	**-3.2**
HATD	**Hatta, Dubai**	**5.30**	**130**	P	**Pn**	**16 54 00.3**	**+0.9**
HATD				S	**Sn**	**16 54 59.1**	**-1.5**
ASHO	**Ashiyiah**	**5.35**	**132**	P	**Pn**	**16 54 00.2**	**+0.1**
ASHO				S	**Sn**	**16 54 59.4**	**-2.4**
ASHO	**Ashiyiah**	**5.35**	**132**	P	**Pn**	**16 54 00.7**	**+0.5**
	SNR=18						
ASHO				S	**Sn**	**16 55 00.7**	**-1.1**
MZR	**Muzera**	**5.55**	**162**	P	**Pn**	**16 54 04.3**	**+1.5**
ALNE	**Al Ain**	**5.61**	**138**	P	**Pn**	**16 54 04.0**	**+0.2**
ALNE	**Al Ain**	**5.61**	**138**	P	**Pn**	**16 54 04.1**	**+0.3**
KRSH	**Karshahi**	**5.64**	**4**	Pn	**Pn**	**16 54 04.6**	**+0.4**
KBAM	**BAM**	**6.01**	**81**	Pn	**Pn**	**16 54 11.4**	**+2.2**
SOHO	**SOHO**	**6.04**	**133**	P	**Pn**	**16 54 09.8**	**+0.2**
SOHO	**SOHO**	**6.04**	**133**	P	**Pn**	**16 54 09.8**	**+0.2**
SOHO				S	**Sn**	**16 55 19.4**	**+0.6**
JASK	**Jask - Hormozg**	**6.04**	**112**	P	**Pn**	**16 54 09.5**	**-0.1**
JASK				S	**Sn**	**16 55 19.3**	**+0.5**
UMZA	**Um Al Zommool**	**6.42**	**150**	P	**Pn**	**16 54 15.1**	**+0.3**
UMZA				S	**Sn**	**16 55 25.1**	**-3.0**
ARQ	**Araqi**	**6.62**	**138**	P	**Pn**	**16 54 17.4**	**-0.1**
	SNR=12						
HOQ	**Hoqain**	**6.93**	**132**	P	**Pn**	**16 54 22.3**	**+0.4**
HOQ				P	**Pn**	**16 54 22.4**	**+0.5**
HOQ				S	**Sn**	**16 55 36.8**	**-4.1**
BSY	**Bisya**	**7.47**	**137**	P	**Pn**	**16 54 29.1**	**-0.2**
SMDO	**Samad**	**7.78**	**131**	P	**Pn**	**16 54 34.9**	**+1.3**
SMDO				S	**Sn**	**16 56 00.5**	**-1.4**
MHTO	**MHTO**	**9.28**	**141**	P	**Pn**	**16 54 53.9**	**-0.2**

*IDC **04** 16:56:02.0±0.5, 19°.43S×126°.97W, h0km, mb4.7/21, mbtmp4.7/21, MS4.6/46, Error ellipse: s-maj=17.1km s-min=14.3km az=93.0*
*MOS **04** 16:56:02.9±1.3, 19°.38S×126°.72W, h10km, mb5.3/28, Error ellipse: s-maj=11.8km s-min=8.0km az=64.6*
*NEIC **04** 16:56:04.2±1.6, 19°.5S±0°.1×126°.8W±0°.1, h10km±1km, mb5.3/528, Error ellipse: s-maj=21.4km s-min=15.9km az=295.0*
*GCMT **04** 16:56:10.2±0.1, 19°.61S±0°.01×126°.94W±0°.01, h19km, MW5.4/120, Moment Tensor Solution. s109,c185; s120,c220; Duration: 1s2 Moment tensor: Scale 10^17 Nm; M_{rr}-1.38±.03; $M_{\theta\theta}$1.14±.02; $M_{\phi\phi}$0.23±.02; $M_{r\theta}$0.25±.04; $M_{\theta\phi}$0.57±.01; $M_{\phi r}$0.08±.04; Best double couple: Mo1.42200×10^17 NP1:φs246.00000°, δ50.00000°, λ-88.00000°. NP2:φs63.00000°, δ40.00000°, λ-92.00000°. Principal axes: T 1.4390, Plg5.0000°, Azm334.0000°; N -0.0400, Plg1.0000°, Azm65.0000°; P -1.4050, Plg85.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 16:56:03.3±0.3,**19°.48S**±0°.07×**126°.84W**±0°.08,**h10**km,
n860,σ1°.03/605,mb5.2/286,MS4.7/49,41C-26D,South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCN	**Pitcairn Islan**	**6.33**	**208**	Pn	**Pn**	**16 57 36.8**	**+0.1**
RPN	**Rapa Nui**	**17.77**	**119**	LR	LR	17 04 53.8	
	comp=Z,603nm,21.9s,baz=301,slow=30						
PMOR	**Pomariorio Ree**	**20.59**	**279**	*e*Pn	Pn	17 00 53.6	+8.6
	7.7nm,0.2s						
TVO	**Taravao**	**21.31**	**271**	*e*Pn	P	17 01 02.2	+12
	1.4nm,0.2s						
TBI	**Tubuai**	**21.41**	**256**	*e*LR	LR	17 05 33.2	
	6μm,24.2s						
PPT2	**Papeete2**	**21.64**	**271**	*e*LR	LR	17 05 42.9	
	1μm,22.8s						
PPT	**Papeete**	**21.64**	**271**	LR	LR	17 06 52.6	
	comp=Z,1μm,19.7s,baz=88,slow=30						
RAR	**Rarotonga**	**30.90**	**261**	P	**P**	**17 02 21.7**	**+1.4**
RAR	**Rarotonga**	**30.90**	**261**	LR	LR	17 11 24.1	
	comp=Z,634nm,18.2s,baz=80,slow=30						
RAR	**Rarotonga**	**30.90**	**261**	P	**P**	**17 02 21.7**	**+1.4**
RAR				pmax	pmax		
	comp=Z,132nm,1.7s						
TLIG	**Tlapa**	**46.11**	**39**	P	**P**	**17 04 29.8**	**+1.6**
LPIG	**La Paz**	**46.22**	**21**	LR	LR	17 18 58.8	
	comp=Z,985nm,18.8s,baz=214,slow=30						
MOIG	**Morelia**	**46.33**	**34**	P	**P**	**17 04 32.2**	**+2.2**
RAO	**Raoul Island**	**47.23**	**248**	LR	LR	17 22 15.6	
	comp=Z,316nm,18.1s,baz=150,slow=33						
JRQG	**Juriquilla Cam**	**47.57**	**34**	P	**P**	**17 04 41.5**	**+1.9**
JRQG				IAmb	IAmb	17 06 12.1	
	comp=Z,13nm,0.4s						
CMIG	**Matias Romero**	**48.03**	**43**	LR	LR	17 19 53.8	
	comp=Z,525nm,20.4s,baz=192,slow=30						
ZAIG	**Zacatecas**	**48.22**	**31**	P	**P**	**17 04 45.4**	**+0.7**
ZAIG				IAmb	IAmb	17 04 48.5	
	comp=Z,31nm,1.1s						
ARNL	**Arenillas**	**48.29**	**77**	P	**P**	**17 04 45.8**	**+0.6**
NNA	**Nana**	**48.56**	**89**	P	**P**	**17 04 46.6**	**-0.7**
NNA	**Nana**	**48.56**	**89**	LR	LR	17 20 10.7	
	comp=Z,237nm,18.9s,baz=244,slow=30						
NNA	**Nana**	**48.56**	**89**	*e*P	**P**	**17 04 47.3**	**0.0**
NNA				pmax	pmax		
	comp=Z,41nm,1.0s						
CCIG	**Comitan**	**49.26**	**46**	P	**P**	**17 04 52.4**	**-0.4**
MTO3	**Montecristo**	**49.94**	**50**	P	**P**	**17 04 57.7**	**-0.3**
MTO3				IAmb	IAmb	17 05 01.4	
	comp=Z,22nm,0.9s						
ESQI	**Esquipulas**	**50.06**	**50**	P	**P**	**17 05 00.0**	**+1.3**
HPIG		**50.50**	**25**	P	**P**	**17 05 02.6**	**+0.6**
HSIG		**50.60**	**18**	P	**P**	**17 05 03.0**	**+0.5**
JTS	**Las Juntas de**	**50.77**	**58**	P	**P**	**17 05 05.5**	**+1.4**
JTS	**Las Juntas de**	**50.77**	**58**	LR	LR	17 21 12.9	
	comp=Z,632nm,20.5s,baz=245,slow=30						
JTS	**Las Juntas de**	**50.77**	**58**	P	**P**	**17 05 05.5**	**+1.4**
JTS				pmax	pmax		
	comp=Z,128nm,1.8s						
SLOR	**San Lorenzo -**	**50.86**	**74**	P	**P**	**17 05 06.0**	**+0.7**
LL01	**San Ignacio de**	**51.00**	**129**	P	**P**	**17 05 06.6**	**+1.1**
LL01				IAmb	IAmb	17 05 13.4	
	comp=Z,62nm,1.4s						
PULU	**Pululahua**	**51.17**	**74**	P	**P**	**17 05 09.6**	**+2.0**
TGUH	**Tegucigalpa,Un**	**51.26**	**52**	P	**P**	**17 05 08.1**	**+0.2**
HDC	**Heredia**	**51.28**	**59**	P	**P**	**17 05 10.3**	**+2.2**
OTAV	**Otavalo**	**51.30**	**73**	P	**P**	**17 05 09.4**	**+0.7**
OTAV				IAmb	IAmb	17 05 12.4	
	comp=Z,48nm,1.4s						
OTAV	**Otavalo**	**51.30**	**73**	P	**P**	**17 05 09.4**	**+0.7**
OTAV				pmax	pmax		
	comp=Z,48nm,1.5s						
BOAB	**BOACO BROADBAN**	**51.49**	**55**	P	**P**	**17 05 10.4**	**+1.0**
LL02	**Futaleuf**	**51.54**	**130**	P	**P**	**17 05 10.6**	**+1.0**
ACON	**Acoyapa**	**51.58**	**56**	P	**P**	**17 05 11.0**	**+0.8**
ACON				IAmb	IAmb	17 05 13.0	
	comp=Z,48nm,1.1s						
MT16	**CCHEN**	**51.73**	**118**	P	**P**	**17 05 11.2**	**0.0**
MT16				IAmb	IAmb	17 05 19.4	
	comp=Z,59nm,1.2s						
URZ	**Urewera**	**51.74**	**236**	LR	LR	17 23 43.6	
	comp=Z,558nm,18.2s,baz=202,slow=32						
BRU2	**Volcan**	**51.77**	**61**	P	**P**	**17 05 11.9**	**+0.1**
BRU2				IAmb	IAmb	17 05 15.3	
	comp=Z,42nm,0.8s						
COYC	**Coyhaique**	**51.80**	**133**	P	**P**	**17 05 11.3**	**-0.2**
AY03	**Cochrane**	**51.81**	**135**	P	**P**	**17 05 10.5**	**-1.0**
AY03				IAmb	IAmb	17 05 19.4	
	comp=Z,26nm,0.9s						
MT13	**San Alfonso**	**51.93**	**118**	P	**P**	**17 05 13.2**	**+0.5**
AC05	**El Transito**	**52.03**	**112**	P	**P**	**17 05 13.8**	**+0.1**
AC05				IAmb	IAmb	17 05 16.1	
	comp=Z,111nm,1.9s						
AC06	**Mina Casimiro**	**52.06**	**110**	P	**P**	**17 05 14.4**	**+0.7**
AC06				IAmb	IAmb	17 05 20.8	
	comp=Z,40nm,1.3s						
PLCA	**Paso Flores**	**52.16**	**127**	P	**P**	**17 05 14.4**	**+0.1**
PLCA				IAmb	IAmb	17 05 22.4	
	comp=Z,61nm,1.2s						
PLCA	**Paso Flores**	**52.16**	**127**	P	**P**	**17 05 16.0**	**+1.7**
	comp=Z,7.2nm,0.8s,baz=280,slow=8.5,SNR=13						
PLCA				LR	LR	17 22 08.9	
	comp=Z,406nm,18.4s,baz=250,slow=30 comp=Z,7.2nm,0.8s						
PLCA	**Paso Flores**	**52.16**	**127**	*e*P	**P**	**17 05 15.6**	**+1.2**
PB10	**IPOC Station P**	**52.25**	**105**	P	**P**	**17 05 14.0**	**-1.1**
PB10				IAmb	IAmb	17 05 15.6	
	comp=Z,63nm,1.9s						
CBX	**Cerro Bola**	**52.41**	**11**	P	**P**	**17 05 15.6**	**-0.5**
PB05	**IPOC Station P**	**52.65**	**104**	P	**P**	**17 05 17.9**	**-0.4**
BAR	**Barrett**	**52.77**	**11**	P	**P**	**17 05 19.8**	**+1.1**
IKP	**In-Ko-Pah, Jac**	**52.84**	**11**	P	**P**	**17 05 20.5**	**+1.2**
	baz=193						
YUH	**Yuha Desert**	**52.87**	**12**	P	**P**	**17 05 21.1**	**+1.7**
214A	**Organ Pipe Nat**	**52.88**	**15**	P	**P**	**17 05 20.3**	**+0.7**
214A	**Organ Pipe Nat**	**52.88**	**15**	P	**P**	**17 05 20.6**	**+1.0**
	baz=197						
109C	**Camp Elliot, M**	**52.90**	**10**	P	**P**	**17 05 19.5**	**-0.1**
109C				IAmb	IAmb	17 05 27.1	
	comp=Z,58nm,1.8s						
GO02	**Mina Guanaco**	**52.93**	**107**	P	**P**	**17 05 20.8**	**+0.2**
PATCX	**Punta Patache**	**52.99**	**102**	P	**P**	**17 05 20.8**	**0.0**
PATCX				IAmb	IAmb	17 05 27.6	
	comp=Z,35nm,1.2s						
TA01	**Diego Aracena**	**53.01**	**101**	P	**P**	**17 05 20.8**	**0.0**
TA01				IAmb	IAmb	17 05 23.4	
	comp=Z,38nm,1.1s						
MONP2	**Monument Peak**	**53.02**	**11**	P	**P**	**17 05 22.0**	**+1.3**
	baz=192						
PB06	**IPOC Station P**	**53.25**	**104**	P	**P**	**17 05 22.0**	**-0.7**
PB06				IAmb	IAmb	17 05 29.4	
	comp=Z,26nm,1.0s						
PB15	**IPOC Station P**	**53.27**	**105**	P	**P**	**17 05 22.4**	**-0.5**
PB15				IAmb	IAmb	17 05 30.1	
	comp=Z,35nm,1.3s						
319A	**Douglas**	**53.30**	**19**	P	**P**	**17 05 23.3**	**+0.5**
ZON	**Zonda**	**53.30**	**115**	P	**P**	**17 05 23.0**	**+0.1**
ZON	**Zonda**	**53.30**	**115**	P	**P**	**17 05 23.0**	**+0.1**
ZON				pmax	pmax		
	comp=Z,173nm,1.8s						
HMBC	**Humberstone**	**53.33**	**101**	P	**P**	**17 05 22.0**	**-1.3**
HMBC				IAmb	IAmb	17 05 29.8	
	comp=Z,77nm,1.6s						
TX31	**Lajitas Ar. Si**	**53.43**	**25**	P	**P**	**17 05 24.9**	**+1.1**
TXAR	**Lajitas Array**	**53.43**	**25**	P	**P**	**17 05 24.3**	**+0.6**
TXAR	**Lajitas Array**	**53.43**	**25**	P	**P**	**17 05 25.1**	**+1.4**
	comp=Z,6.9nm,0.8s,baz=198,slow=9.2,SNR=65						
	comp=Z,6.9nm,0.8s						
113A	**Mohawk Valley,**	**53.44**	**14**	P	**P**	**17 05 24.3**	**+0.8**
GLA	**Glamis**	**53.48**	**13**	P	**P**	**17 05 24.6**	**+0.7**
GLA	**Glamis**	**53.48**	**13**	P	**P**	**17 05 24.6**	**+0.7**
GLA				pmax	pmax		
	comp=Z,18nm,1.1s						
PB01	**IPOC Station P**	**53.57**	**102**	P	**P**	**17 05 24.8**	**-0.3**
MURC	**Murrieta**	**53.58**	**10**	P	**P**	**17 05 26.3**	**+1.7**
	baz=191						
ELS	**Elsinore Mount**	**53.59**	**10**	P	**P**	**17 05 26.6**	**+1.9**
PB11	**IPOC Station P**	**53.63**	**101**	P	**P**	**17 05 25.5**	**-0.1**
PB09	**IPOC Station P**	**53.68**	**103**	IAmb	IAmb	17 05 28.9	
	comp=Z,31nm,0.8s						
CZSB	**Cruzeiro do Su**	**53.69**	**85**	P	**P**	**17 05 25.5**	**-0.4**
PFO	**Pinyon Flats O**	**53.72**	**11**	P	**P**	**17 05 26.5**	**+0.7**
PFO	**Pinyon Flats O**	**53.72**	**11**	LR	LR	17 22 49.3	
	comp=Z,819nm,19.5s,baz=212,slow=30						
PFO	**Pinyon Flats O**	**53.72**	**11**	P	**P**	**17 05 26.5**	**+0.7**
PFO				pmax	pmax		
	comp=Z,36nm,2.0s						
HBVL	**Hebbronville**	**53.73**	**31**	P	**P**	**17 05 27.6**	**+1.9**
TUC	**Tucson**	**53.74**	**17**	P	**P**	**17 05 26.1**	**+0.2**
TUC	**Tucson**	**53.74**	**17**	P	**P**	**17 05 27.1**	**+1.1**
	baz=199						
TUC	**Tucson**	**53.74**	**17**	P	**P**	**17 05 26.1**	**+0.2**
TUC				pmax	pmax		
	comp=Z,20nm,1.6s						
PMD	**Palm Desert**	**53.76**	**11**	P	**P**	**17 05 27.4**	**+1.4**
LVC	**Limon Verde**	**53.

JCT pmax pmax
comp=Z,107nm,1.6s
SAO San Andreas Ge 56.17 5 IAmb IAmb 17 05 52.3
comp=Z,29nm,1.1s
CWC Cottonwood Cre 56.23 8 P **P 17 05 45.4 +1.5**
baz=190
ODSA Odessa 56.34 25 P **P 17 05 44.7 0.0**
WUAZ Wupatki 56.63 15 P **P 17 05 48.7 +1.9**
baz=197
W18A Petrified Fore 56.67 17 P **P 17 05 47.7 +0.5**
W18A IAmb IAmb 17 05 56.4
comp=Z,39nm,1.6s
W18A Petrified Fore 56.67 17 P **P 17 05 49.8 +2.6**
baz=199
SGCY Sterling City 56.73 26 IAmb IAmb 17 05 52.2
comp=Z,17nm,0.8s
RPZ Rata Peaks 56.75 230 LR LR 17 26 58.9
comp=Z,801nm,18.1s,baz=112,slow=33
WCT Wildcat Mounta 56.79 10 P **P 17 05 48.2 +0.4**
TPNV Topopah Spring 57.01 10 P **P 17 05 51.6 +2.2**
baz=192
ROSC El Rosal 57.02 70 P **P 17 05 52.8 +2.5**
comp=Z,12nm,0.6s,baz=154,slow=3.2,SNR=8.9
comp=Z,12nm,0.6s
BRDY Brady 57.12 28 IAmb IAmb 17 05 52.9
comp=Z,31nm,1.0s
DSP Deep Springs 57.16 8 IAmb IAmb 17 06 00.2
comp=Z,34nm,1.4s
435B Jarrell 57.34 30 P **P 17 05 52.5 +0.8**
435B Jarrell 57.34 30 P **P 17 05 53.2 +1.4**
baz=213
TBTG Tabatinga, AM 57.48 82 P **P 17 05 52.2 -1.0**
ANMO Albuquerque 57.49 20 P **P 17 05 53.5 +0.5**
ANMO Albuquerque 57.49 20 P **P 17 05 54.3 +1.3**
baz=203
ANMO Albuquerque 57.49 20⇓*e*P **P 17 05 53.8 +0.9**
ANMO pmax pmax
comp=Z,16nm,1.6s
HKT Hockley 57.51 32 P **P 17 05 53.6 +0.8**
HKT Hockley 57.51 32*de*P **P 17 05 53.7 +0.8**
HKT pmax pmax
comp=Z,17nm,1.4s
LCMT Little Creek M 57.63 13 P **P 17 05 53.2 -0.7**
PRN Pahroc Range 57.66 11 P **P 17 05 55.5 +1.4**
KNB Kanab 57.73 13 IAmb IAmb 17 06 17.9
comp=Z,50nm,1.9s
S11A Rachel 57.77 10 P **P 17 05 56.1 +1.3**
S11A IAmb IAmb 17 06 04.9
comp=Z,56nm,1.4s
MSTX Muleshoe 57.89 24 IAmb IAmb 17 05 58.5
comp=Z,25nm,0.9s
MSTX Muleshoe 57.89 24 P **P 17 05 55.6 -0.1**
baz=207
LHV Little Huntoon 57.95 8 IAmb IAmb 17 06 06.2
comp=Z,34nm,1.2s
TPH Tonopah 57.96 9 IAmb IAmb 17 06 19.5
comp=Z,55nm,1.4s
ABTX Abilene, Hawle 57.98 27 P **P 17 05 56.1 -0.1**
baz=210
NVAR Mina Array Bea 58.16 8 P **P 17 05 59.0 +1.4**
comp=Z,6.3nm,0.8s,baz=195,slow=10,SNR=38
NVAR LR LR 17 25 18.9
comp=Z,814nm,18.6s,baz=197,slow=30
comp=Z,6.3nm,0.8s
NV11 Mina Array Sit 58.18 8 IAmb IAmb 17 06 05.3
comp=Z,37nm,1.4s
SZCU Shurtz Canyon 58.23 13 P **P 17 05 58.8 +0.6**
SZCU IAmb IAmb 17 06 07.9
comp=Z,60nm,1.9s
PKCU Pink Cliffs 58.25 14 IAmb IAmb 17 06 38.8
comp=Z,27nm,1.4s
RYN Ryan 58.32 8 P **P 17 05 59.4 +0.7**
RYN IAmb IAmb 17 06 08.5
comp=Z,34nm,1.5s
DKNS Dickens 58.34 25 IAmb IAmb 17 06 01.5
comp=Z,22nm,1.2s
WHTX Lake Whitney, 58.41 29 P **P 17 05 59.5 +0.2**
R11B Troy Canyon, C 58.48 10 P **P 17 06 01.4 +1.6**
baz=192
YERR Yerington 58.59 7 IAmb IAmb 17 06 08.2
comp=Z,32nm,1.4s
PNTR Pine Nut 58.65 7 IAmb IAmb 17 06 13.6
comp=Z,21nm,1.1s
TRQA Tornquist 58.67 123 P **P 17 06 00.6 -0.6**
TRQA Tornquist 58.67 123 P **P 17 06 00.6 -0.6**
TRQA pmax pmax
comp=Z,147nm,2.0s
PLPT Palo Pinto 58.72 28 P **P 17 06 01.7 +0.3**
FW13 Cleburne 58.73 29 IAmb IAmb 17 06 03.6
comp=Z,33nm,1.1s
KVN Kaiserville 58.80 8 IAmb IAmb 17 06 09.4
comp=Z,24nm,1.4s
MTPU Mount Pierson 58.85 13 P **P 17 06 04.3 +1.7**
FW07 Weatherford 58.86 29 P **P 17 06 02.3 -0.1**
ORV Oroville 58.94 5 P **P 17 06 02.7 -0.1**
ORV Oroville 58.94 5 P **P 17 06 02.7 -0.1**
ORV pmax pmax
comp=Z,14nm,1.3s
MVCO Mesa Verde 58.98 17 IAmb IAmb 17 06 06.6
comp=Z,72nm,1.9s
MVCO Mesa Verde 58.98 17 P **P 17 06 04.5 +1.1**
baz=200
PSUT Pine Spring 58.98 12 IAmb IAmb 17 06 11.0
comp=Z,25nm,1.3s
FW03 Perrin-Whitt E 59.02 28 IAmb IAmb 17 06 05.9
comp=Z,37nm,1.1s
HMU Henry Mountain 59.08 15 P **P 17 06 04.2 0.0**
AMTX Amarillo 59.11 24 IAmb IAmb 17 06 06.4
comp=Z,25nm,1.1s
ETMB Extrema 59.18 90 IAmb IAmb 17 06 10.7
comp=Z,28nm,1.1s
ETMB Extrema 59.18 90 *e*P **P 17 06 03.7 -1.3**
PAHR Pah Rah Range 59.29 7 P **P 17 06 06.0 +0.6**
WTFS Witchita Falls 59.46 27 P **P 17 06 06.3 -0.2**
NATX Nacogdoches 59.56 32 P **P 17 06 08.5 +1.2**
baz=216
Q16A Castle Valley 59.92 14 IAmb IAmb 17 06 19.4
comp=Z,68nm,2.0s
S22A 4UR Ranch, Cre 59.95 18 IAmb IAmb 17 06 44.3
comp=Z,30nm,1.8s
S22A 4UR Ranch, Cre 59.95 18 P **P 17 06 10.7 +0.5**
baz=202
SOR Soroa 59.97 48 P **P 17 06 10.8 +0.5**
SOR Soroa 59.97 48 P **P 17 06 10.8 +0.5**
SOR pmax pmax
comp=Z,70nm,1.4s
RTBA Rita Blanca 60.10 22 IAmb IAmb 17 06 21.3
comp=Z,35nm,1.7s
WMOK Wichita Mounta 60.16 27 **P 17 06 12.3 +1.0**
WMOK Wichita Mounta 60.16 27 P **P 17 06 12.3 +1.0**
WMOK pmax pmax
comp=Z,8.0nm,1.2s
T25A Trinidad 60.16 21 IAmb IAmb 17 06 15.3
comp=Z,70nm,1.8s
T25A Trinidad 60.16 21 P **P 17 06 12.4 +0.9**
baz=204
BMN Battle Mountai 60.27 8 P **P 17 06 11.9 -0.2**
BMN Battle Mountai 60.27 8 P **P 17 06 11.9 -0.2**
BMN pmax pmax
comp=Z,14nm,1.3s
SDCO Great Sand Dun 60.36 19 IAmb IAmb 17 06 16.0
comp=Z,63nm,1.9s
SDCO Great Sand Dun 60.36 19 P **P 17 06 13.8 +0.9**
baz=203
X34A Smith Ranch, M 60.44 27 P **P 17 06 13.2 -0.1**
P17A Butcher Ranch, 60.55 14 IAmb IAmb 17 06 25.5
comp=Z,20nm,1.2s
NLU North Lily Min 60.71 13 IAmb IAmb 17 06 25.2
comp=Z,26nm,1.4s
DUG Dugway, Tooele 60.79 12 IAmb IAmb 17 06 25.4
comp=Z,29nm,1.4s
DUG Dugway, Tooele 60.79 12 P **P 17 06 19.0 +3.3**
baz=195
P18A Preston Nutter 60.81 15 IAmb IAmb 17 06 39.0
comp=Z,24nm,1.5s
ELK Elko 60.88 10 IAmb IAmb 17 06 25.9
comp=Z,24nm,1.3s
ELK Elko 60.88 10 P **P 17 06 17.7 +1.3**
SMAI San Martin Ant 60.95 158 P **P 17 06 18.0 +1.7**
SMAI IAmb IAmb 17 06 42.8
comp=Z,41nm,1.7s
CSTR Hydro, Custer 60.97 26 P **P 17 06 17.4 +0.5**
YBH Yreka Blue Hor 61.02 4 LR LR 17 26 58.2
comp=Z,869nm,18.3s,baz=183,slow=30
PMSA Palmer Station 61.03 154 LR LR 17 26 16.2
comp=Z,513nm,18.9s,baz=262,slow=30

SMCO Snowmass 61.24 18 IAmb IAmb 17 06 28.3
comp=Z,47nm,1.6s
OKCSW OKLAHOMA CITY 61.30 27 P **P 17 06 19.7 +0.6**
W35A Tecumseh 61.33 28 P **P 17 06 18.4 -0.9**
W35A IAmb IAmb 17 06 21.3
comp=Z,32nm,1.0s
BGU Big Grassy Mou 61.45 12 IAmb IAmb 17 06 29.6
comp=Z,41nm,1.7s
U32A Winter Ranch, 61.48 25 P **P 17 06 19.9 -0.3**
U32A IAmb IAmb 17 06 22.5
comp=Z,46nm,1.2s
CTU Camp Tracy 61.49 13 IAmb IAmb 17 06 32.3
comp=Z,26nm,1.1s
OK038 West end E0370 61.67 26 P **P 17 06 22.2 +0.6**
RDMU Red Mountain 61.87 15 IAmb IAmb 17 06 27.2
comp=Z,40nm,1.5s
HUMO Hull Mountain 61.88 3 IAmb IAmb 17 06 26.2
comp=Z,28nm,1.4s
TCUT Toone Canyon 61.97 13 IAmb IAmb 17 06 27.1
comp=Z,21nm,1.2s
DZM Mont Dumac 61.98 255 LR LR 17 28 04.5
comp=Z,175nm,18.3s,baz=180,slow=31
CROK Carrier 62.00 26 P **P 17 06 23.5 -0.3**
VBMS Vicksburg 62.06 35 P **P 17 06 25.4 +1.1**
baz=219
WVOR Wild Horse Val 62.07 7 IAmb IAmb 17 06 33.0
comp=Z,25nm,1.2s
WVOR Wild Horse Val 62.07 7 P **P 17 06 26.0 +1.8**
WVOR pmax pmax
comp=Z,19nm,1.7s
SAML Samuel 62.30 90 P **P 17 06 24.6 -1.7**
SAML Samuel 62.30 90 P **P 17 06 24.6 -1.7**
SAML pmax pmax
comp=Z,91nm,1.9s
SAML Samuel 62.30 90 *e*P **P 17 06 25.0 -1.2**
HVU Hansel Valley 62.33 12 IAmb IAmb 17 06 29.1
comp=Z,23nm,1.4s
MIAR Mount Ida 62.35 31 P **P 17 06 26.3 +0.1**
baz=216
MIAR Mount Ida 62.35 31 P **P 17 06 26.0 -0.1**
MIAR pmax pmax
comp=Z,13nm,1.1s
OK048 Pawnee Station 62.37 27 P **P 17 06 25.8 -0.4**
KAN14 Manchester OK 62.40 26 P **P 17 06 25.9 -0.6**
SIV San Ignacio 62.40 98 P **P 17 06 27.3 +0.3**
comp=Z,7.9nm,0.7s,baz=249,slow=5.9,SNR=25
comp=Z,7.9nm,0.7s
TUL3 Leonard 62.44 28 IAmb IAmb 17 06 28.6
comp=Z,27nm,1.1s
TUL3 Leonard 62.44 28 P **P 17 06 26.8 0.0**
baz=213
OK051 E0350 and S346 62.49 27 P **P 17 06 26.3 -0.7**
BBSD Serra de San D 62.55 100 *e*P **P 17 06 27.6 -0.4**
KAN08 Anthony NE Sta 62.62 26 P **P 17 06 27.4 -0.6**
TEFE Tefe 62.66 84 *e*P **P 17 06 28.4 -0.2**
X40A Basin Creek Fa 62.66 31 IAmb IAmb 17 06 29.8
comp=Z,34nm,1.8s
J05D Fort Rock, OR 62.66 5 IAmb IAmb 17 06 31.6
comp=Z,16nm,0.9s
KAN06 Argonia West S 62.69 26 P **P 17 06 28.2 -0.1**
PSAL Palomas, Salto 62.78 116 *e*P **P 17 06 29.4 +0.2**
J08A Circle Bar Ran 63.00 7 IAmb IAmb 17 06 34.0
comp=Z,19nm,1.1s
RLO Rose Lookout 63.00 29 IAmb IAmb 17 06 32.3
comp=Z,36nm,1.3s
N23A Red Feather La 63.13 18 IAmb IAmb 17 06 54.3
comp=Z,18nm,1.1s
N23A Red Feather La 63.13 18 P **P 17 06 32.1 +0.6**
baz=202
UALR University of 63.13 32 P **P 17 06 31.1 -0.3**
UALR IAmb IAmb 17 06 34.2
comp=Z,32nm,1.4s
MFID Camas Ranch 63.40 9 P **P 17 06 33.7 +0.6**
MFID IAmb IAmb 17 06 42.3
comp=Z,20nm,1.3s
U38A Gravette 63.52 29 IAmb IAmb 17 06 36.7
comp=Z,39nm,1.4s
I07A Izee 63.60 6 P **P 17 06 34.7 +0.2**
PHWY Pilot Hill 63.64 18 IAmb IAmb 17 06 38.3
comp=Z,35nm,1.8s
I05D Terrebonne, OR 63.70 4 IAmb IAmb 17 06 38.1
comp=Z,52nm,1.5s
CPUP Villa Florida 63.73 110 IAmb IAmb 17 06 38.6
comp=Z,30nm,1.4s
CPUP Villa Florida 63.73 110 P **P 17 06 36.3 +0.6**
comp=Z,7.7nm,1.0s,baz=256,slow=8.8,SNR=7.9
comp=Z,7.7nm,1.0s
CPUP Villa Florida 63.73 110 *e*P **P 17 06 35.6 0.0**
HLID Hailey 63.76 10 P **P 17 06 36.6 +1.0**
baz=193
ITQB Itaqui 63.82 114 P **P 17 06 36.3 +0.2**
ITQB Itaqui 63.82 114 *e*P **P 17 06 36.5 +0.3**
BW06 Boulder Array 63.95 14 P **P 17 06 37.8 +0.9**
baz=198
PD31 Pinedale Array 63.95 14 IAmb IAmb 17 06 39.2
comp=Z,49nm,1.9s
PDAR Pinedale Array 63.95 14 P **P 17 06 36.0 -0.9**
PDAR Pinedale Array 63.95 14 P **P 17 06 37.2 +0.3**
comp=Z,0.7nm,0.5s,baz=185,slow=5.8,SNR=12
PDAR LR LR 17 29 29.5
comp=Z,496nm,18.4s,baz=202,slow=31
comp=Z,0.7nm,0.5s
VILB Vilhena 63.99 95 *e*P **P 17 06 38.0 +0.5**
TBOT Tacuaremb 64.12 116 *e*P **P 17 06 39.6 +1.5**
FCAR Ozark Folk Cen 64.13 31 P **P 17 06 37.0 -1.0**
REDW Red Top Meadow 64.23 13 P **P 17 06 38.9 +0.1**
PTLB Pontes e Lacer 64.34 98 *e*P **P 17 06 39.8 0.0**
MURT Porto Murtinho 64.35 105 *e*P **P 17 06 39.7 -0.1**
SNOW Snow King Moun 64.35 13 IAmb IAmb 17 06 45.8
comp=Z,35nm,1.4s
BAUV El Baul 64.42 70 P **P 17 06 38.2 -2.1**
OXF Oxford 64.42 34 P **P 17 06 40.1 +0.2**
baz=219
FXWY Fox Creek 64.46 13 IAmb IAmb 17 06 43.2
comp=Z,23nm,1.2s
LOHW Long Hollow 64.53 13 IAmb IAmb 17 06 52.2
comp=Z,37nm,1.6s
K22A Casper 64.60 16 P **P 17 06 42.4 +1.3**
baz=201
BMO Blue Mountains 64.61 7 IAmb IAmb 17 06 49.3
comp=Z,20nm,1.4s
LRAL Lakeview Retre 64.62 37 P **P 17 06 41.8 +0.6**
LRAL IAmb IAmb 17 06 43.9
comp=Z,32nm,1.1s
LRAL Lakeview Retre 64.62 37 P **P 17 06 42.1 +0.9**
baz=222
MOOW Moose Ponds 64.63 13 IAmb IAmb 17 07 08.7
comp=Z,22nm,1.4s
G06A Carlson Farm, 64.65 5 IAmb IAmb 17 06 50.2
comp=Z,34nm,1.5s
IMW Indian Meadow 64.73 13 IAmb IAmb 17 06 45.0
comp=Z,21nm,1.3s
LCAR Lake Charles 64.75 31 IAmb IAmb 17 06 44.2
comp=Z,43nm,1.3s
KSU1 Kansas State U 64.78 26 IAmb IAmb 17 06 44.1
comp=Z,26nm,1.1s
KSU1 Kansas State U 64.78 26 P **P 17 06 42.6 +0.5**
baz=212
G08A Pilot Rock 64.86 6 IAmb IAmb 17 06 45.9
comp=Z,19nm,1.1s
RODS Rosario do Sul 64.94 115 *e*P **P 17 06 43.5 -0.1**
PLID Pearl Lake 65.01 8 IAmb IAmb 17 06 51.9
comp=Z,39nm,1.9s
S39A Bolivar 65.03 29 P **P 17 06 42.3 -1.5**
S39A IAmb IAmb 17 06 45.5
comp=Z,26nm,0.8s
SJPY San Joaquin 65.05 109 *e*P **P 17 06 44.5 +0.1**
MGMO Mountain Grove 65.08 30 IAmb IAmb 17 06 46.1
comp=Z,25nm,0.8s
TIGA Tifton 65.46 40 P **P 17 06 47.8 +1.1**
baz=225
T42A Van Buren 65.54 31 IAmb IAmb 17 06 48.8
comp=Z,13nm,0.9s
X48A Hartselle 65.64 35 IAmb IAmb 17 06 49.7
comp=Z,27nm,1.4s
152A Waverly Hall 65.66 38 IAmb IAmb 17 06 50.6
comp=Z,30nm,0.9s
GLAT Glass 65.84 33 P **P 17 06 49.8 +0.7**
E07A Sunnyside 66.03 5 IAmb IAmb 17 06 59.3
comp=Z,48nm,1.8s
E08A Dider Farm, El 66.03 6 IAmb IAmb 17 06 57.0
comp=Z,14nm,1.0s
E09A Wood Farm, Sta 66.15 7 IAmb IAmb 17 06 53.5
comp=Z,18nm,1.2s
BGNE Belgrade 66.16 23 P **P 17 06 52.8 +1.7**
baz=210

BOZ Bozeman (W) 66.22 12 P **P 17 06 51.6 +0.1**
baz=196
RLMT Red Lodge 66.25 14 IAmb IAmb 17 07 00.6
comp=Z,25nm,1.6s
RLMT Red Lodge 66.25 14 P **P 17 06 53.3 +1.5**
baz=198
CCM Cathedral Cave 66.29 30 P **P 17 06 51.1 -0.8**
CCM Cathedral Cave 66.29 30 P **P 17 06 51.7 -0.2**
baz=217
CCM Cathedral Cave 66.29 30 P **P 17 06 51.1 -0.8**
CCM pmax pmax
comp=Z,10.0nm,0.9s
AQDB Aquidauana 66.34 104 *e*P **P 17 06 53.1 +0.3**
CRSM Crissiumal (Br 66.41 112 *e*P **P 17 06 53.8 +0.7**
CPSB Cacapava Do Su 66.43 115 *e*P **P 17 06 53.5 +0.3**
CGM3 Cape Girardeau 66.46 32 IAmb IAmb 17 06 54.7
comp=Z,25nm,1.5s
MACA Manacapuru-AM 66.48 85 *e*P **P 17 06 53.3 -0.4**
WVT Waverly 66.49 34 P **P 17 06 53.0 -0.2**
WVT IAmb IAmb 17 06 55.2
comp=Z,26nm,1.1s
WVT Waverly 66.49 34 P **P 17 06 53.5 +0.2**
baz=220
WVT Waverly 66.49 34 P **P 17 06 53.0 -0.2**
WVT pmax pmax
comp=Z,26nm,1.1s
FPAL Fort Paine 66.50 36 IAmb IAmb 17 06 55.6
comp=Z,37nm,1.2s
RSSD Black Hills 66.65 18 P **P 17 06 54.8 +0.5**
RSSD IAmb IAmb 17 06 55.9
comp=Z,31nm,1.9s
RSSD Black Hills 66.65 18 P **P 17 06 54.4 +0.1**
baz=203
RSSD Black Hills 66.65 18 P **P 17 06 54.8 +0.5**
RSSD pmax pmax
comp=Z,31nm,1.9s
V48A Smith Brothers 66.73 35 IAmb IAmb 17 06 56.6
comp=Z,24nm,0.9s
Y52A Lilburn 66.90 38 IAmb IAmb 17 06 58.3
comp=Z,44nm,1.5s
GOGA Godfrey 66.92 39 IAmb IAmb 17 06 58.4
comp=Z,24nm,1.1s
GOGA Godfrey 66.92 39 P **P 17 06 55.9 -0.2**
baz=225
GOGA Godfrey 66.92 39 P **P 17 06 56.6 +0.5**
GOGA pmax pmax
comp=Z,28nm,1.9s
X51A Calhoun 66.95 37 IAmb IAmb 17 06 58.4
comp=Z,42nm,1.4s
S44A Carbondale 66.97 32 IAmb IAmb 17 06 58.5
comp=Z,26nm,0.9s
MSO Missoula 67.02 10 P **P 17 06 57.3 +0.7**
baz=193
ALGR Alto Alegre (B 67.06 114 *e*P **P 17 06 58.1 +0.8**
VNDA Vanda 67.09 193 P **P 17 06 56.4 -0.1**
VNDA IAmb IAmb 17 06 59.7
comp=Z,32nm,2.0s
VNDA Vanda 67.09 193 P **P 17 06 58.1 +1.5**
comp=Z,1.1nm,0.8s,baz=40,slow=4.6,SNR=7.8
VNDA LR LR 17 29 07.3
comp=Z,518nm,21.4s,baz=82,slow=30
comp=Z,1.1nm,0.8s
P40A Paris 67.10 29 IAmb IAmb 17 06 58.7
comp=Z,31nm,0.9s
W50A Signal Mountai 67.16 36 IAmb IAmb 17 06 59.8
comp=Z,27nm,1.0s
CLTN Cedars of Leba 67.26 35 IAmb IAmb 17 07 01.0
comp=Z,44nm,1.6s
RVDE Rio Verde (Bra 67.37 103 *e*P **P 17 06 59.8 +0.4**
SALV Santo Antonio 67.44 100 *e*P **P 17 07 00.0 +0.2**
PDRB Porto dos Gac 67.61 95 *e*P **P 17 07 00.1 -0.8**
CPCT Cooper Cave 67.78 36 P **P 17 07 00.1 -1.4**
CPCT IAmb IAmb 17 07 09.9
comp=Z,33nm,1.6s
B08A Colville Reser 67.86 5 IAmb IAmb 17 07 10.4
comp=Z,25nm,1.4s
U49A Red Boiling Sp 67.87 35 IAmb IAmb 17 07 07.5
comp=Z,24nm,1.1s
NEW Newport 67.99 7 IAmb IAmb 17 07 05.3
comp=Z,19nm,0.9s
NEW Newport 67.99 7 P **P 17 07 03.4 +0.8**
baz=190
NEW Newport 67.99 7 LR LR 17 32 05.4
comp=Z,626nm,18.5s,baz=186,slow=32
NEW Newport 67.99 7 P **P 17 07 03.4 +0.8**
NEW pmax pmax
comp=Z,21nm,1.1s
HODGE Hodges 68.21 39 P **P 17 07 04.0 -0.2**
HODGE IAmb IAmb 17 07 06.6
comp=Z,22nm,1.1s
TKL Tuckaleechee C 68.35 37 IAmb IAmb 17 07 07.2
comp=Z,28nm,1.1s
TKL Tuckaleechee C 68.35 37 LR LR 17 36 05.4
comp=Z,208nm,18.4s,baz=232,slow=35
BG3 Lake Jocassee 68.36 38 IAmb IAmb 17 07 07.7
comp=Z,22nm,1.0s
SCIA State Center 68.54 26 P **P 17 07 06.0 -0.1**
baz=214
V52A Sevierville 68.58 37 IAmb IAmb 17 07 08.7
comp=Z,24nm,1.0s
N41A Harden Midland 68.59 29 IAmb IAmb 17 07 08.0
comp=Z,30nm,1.1s
BOAV Boa Vista 68.60 79 P **P 17 07 06.7 -0.4**
BOAV IAmb IAmb 17 07 08.1
comp=Z,62nm,1.9s
BOAV Boa Vista 68.60 79 *e*P **P 17 07 06.2 -0.9**
TRCB Terra Rica 68.61 108 P **P 17 07 06.7 -0.5**
TRCB Terra Rica 68.61 108 *e*P **P 17 07 07.5 +0.4**
CLDB Colider 68.70 94 *e*P **P 17 07 07.4 -0.4**
ECSD EROS Data Cent 68.74 23 IAmb IAmb 17 07 08.9
comp=Z,28nm,1.1s
ECSD EROS Data Cent 68.74 23 P **P 17 07 07.5 +0.2**
baz=210
T50A Nancy 68.75 35 IAmb IAmb 17 07 09.5
comp=Z,56nm,1.6s
JSC Jenkinsville 68.84 39 IAmb IAmb 17 07 10.8
comp=Z,35nm,1.2s
WCI Wyandotte Cave 68.88 33 P **P 17 07 08.1 -0.2**
WCI Wyandotte Cave 68.88 33 P **P 17 07 07.9 -0.4**
baz=221
WCI Wyandotte Cave 68.88 33 P **P 17 07 08.1 -0.2**
WCI pmax pmax
comp=Z,30nm,0.8s
PAULI Pauline 68.89 39 IAmb IAmb 17 07 11.0
comp=Z,34nm,1.2s
V53A Saluda 68.90 37 IAmb IAmb 17 07 11.2
comp=Z,33nm,1.1s
TZTN Tazewell 69.11 36 IAmb IAmb 17 07 12.3
comp=Z,37nm,1.3s
TZTN Tazewell 69.11 36 P **P 17 07 09.7 -0.1**
baz=224
HDIL Hopedale 69.19 30 P **P 17 07 09.9 -0.2**
baz=218
KMSC Kings Mountain 69.39 39 IAmb IAmb 17 07 14.0
comp=Z,24nm,1.1s
KMSC Kings Mountain 69.39 39 P **P 17 07 12.3 +0.8**
baz=226
R49A Shelbyville 69.51 34 IAmb IAmb 17 07 14.0
comp=Z,26nm,1.1s
L40A Anamosa 69.52 28 IAmb IAmb 17 07 14.1
comp=Z,34nm,1.1s
BIRD Birdtown, Kers 69.57 40 P **P 17 07 13.3 +0.6**
BIRD IAmb IAmb 17 07 15.2
comp=Z,40nm,1.3s
S51A Beattyville 69.88 35 IAmb IAmb 17 07 16.3
comp=Z,17nm,0.8s
R50A Paris 69.95 34 IAmb IAmb 17 07 16.5
comp=Z,28nm,0.8s
V55A Taylorsville 69.95 38 IAmb IAmb 17 07 17.5
comp=Z,21nm,0.9s
U54A Nelsons Funny 70.07 37 IAmb IAmb 17 07 18.3
comp=Z,22nm,0.9s
SFIN Lafayette 70.11 31 P **P 17 07 16.7 +0.9**
baz=220
W57A Gilead 70.20 39 IAmb IAmb 17 07 18.7
comp=Z,39nm,1.4s
NPGB Novo Progresso 70.25 91 *e*P **P 17 07 16.6 -0.8**
M44A Midewin, Midew 70.43 30 IAmb IAmb 17 07 23.4
comp=Z,32nm,1.2s
JFWS Jewell Farm 70.63 28 P **P 17 07 19.4 +0.4**
baz=216
QSPA South Pole Qui 70.64 180 P **P 17 07 18.4 -0.5**
QSPA IAmb IAmb 17 07 21.7
comp=Z,32nm,1.2s
QSPA South Pole Qui 70.64 180 P **P 17 07 20.0 +1.0**
comp=Z,9.1nm,0.9s,baz=87,slow=2.1,SNR=30
QSPA LR LR 17 33 32.3

comp=Z,723nm,18.4s,baz=86,slow=32
comp=Z,9.1nm,0.9s
P49A **Miami Univ. Ec** 70.67 33 IAmb IAmb 17 07 20.9
comp=Z,34nm,1.1s
P49A **Miami Univ. Ec** 70.67 33 P P 17 07 19.5 +0.2
baz=222
F33A **5 Mile Ranch,** 70.67 22 IAmb IAmb 17 07 20.7
comp=Z,26nm,0.9s
ITTB **Itaituba** 70.75 88 eP P 17 07 19.6 -0.7
U56A **King** 70.78 38 IAmb IAmb 17 07 22.6
comp=Z,24nm,1.1s
O48B **Farmland** 70.98 33 P P 17 07 21.0 -0.2
baz=221
ARAG **Araguaiana, MT** 71.10 100 eP P 17 07 22.3 -0.2
L44A **Lake County Fo** 71.11 30 P P 17 07 23.0 +1.1
baz=219
V58A **Windy Hill, Pi** 71.16 39 IAmb IAmb 17 07 24.4
comp=Z,20nm,0.9s
HNR **Honiara** 71.17 266 LR LR 17 32 21.1
comp=Z,2µm,18.2s,baz=120,slow=31
N47A **Urbana** 71.18 32 IAmb IAmb 17 07 23.9
comp=Z,28nm,1.0s
I40A **Norwalk** 71.26 27 IAmb IAmb 17 07 24.5
comp=Z,26nm,1.1s
S54A **Dingess, Beckl** 71.26 37 IAmb IAmb 17 07 25.5
comp=Z,22nm,1.0s
O49A **Covington** 71.35 33 IAmb IAmb 17 07 25.2
comp=Z,29nm,0.9s
BLA **Blacksburg** 71.36 38 P P 17 07 23.6 0.0
BLA IAmb IAmb 17 07 26.1
comp=Z,24nm,0.9s
BLA **Blacksburg** 71.36 38 P P 17 07 23.9 +0.4
baz=226
BLA **Blacksburg** 71.36 38 P P 17 07 23.6 0.0
BLA pmax pmax
comp=Z,25nm,1.0s
BBB **Bella Bella** 71.37 359 LR LR 17 32 03.8
comp=Z,255nm,18.4s,baz=186,slow=30
ITRB **Iturama** 71.40 105 eP P 17 07 24.5 +0.2
SPMN **Marine on St.** 71.46 25 IAmb IAmb 17 07 25.4
comp=Z,24nm,1.1s
SPMN **Marine on St.** 71.46 25 P P 17 07 23.7 -0.3
baz=214
Q52A **Bidwell** 71.56 35 IAmb IAmb 17 07 26.5
comp=Z,18nm,0.9s
T57A **Hurt** 71.89 38 IAmb IAmb 17 07 29.3
comp=Z,31nm,1.3s
I42A **Draeger Farm,** 72.00 28 IAmb IAmb 17 07 29.3
comp=Z,26nm,1.1s
ACSO **Alum Creek Sta** 72.09 34 IAmb IAmb 17 07 33.1
comp=Z,64nm,1.7s
ACSO **Alum Creek Sta** 72.09 34 P P 17 07 26.9 -1.0
baz=223
P52A **Corning** 72.11 35 P P 17 07 27.4 -0.6
baz=224
Q54A **Coxs Mills** 72.36 36 IAmb IAmb 17 07 32.3
comp=Z,26nm,0.8s
L48A **N Adams** 72.60 32 IAmb IAmb 17 07 33.0
comp=Z,24nm,0.8s
SNDB **Serra Nova Dou** 72.61 97 eP P 17 07 31.1 -0.5
T59A **Double "B" Far** 72.88 39 IAmb IAmb 17 07 35.0
comp=Z,62nm,1.8s
M50A **Fremont** 72.91 33 P P 17 07 31.5 -1.2
AGMN **Agassiz Nation** 72.94 21 P P 17 07 33.0 +0.2
baz=210
H43A **Windswept, Lux** 72.96 28 IAmb IAmb 17 07 34.9
comp=Z,30nm,0.8s
O53A **New Philadelph** 73.04 35 P P 17 07 34.3 +0.7
baz=225
E38A **The Farm, Brul** 73.09 25 IAmb IAmb 17 07 35.3
comp=Z,17nm,0.9s
AAM **Ann Arbor** 73.26 32 IAmb IAmb 17 07 37.3
comp=Z,28nm,0.9s
MCWV **Mont Chateau** 73.38 36 IAmb IAmb 17 07 38.4
comp=Z,38nm,1.1s
MCWV **Mont Chateau** 73.38 36 P P 17 07 36.4 +0.8
baz=226
J47A **Sunmer** 73.38 31 IAmb IAmb 17 07 37.9
comp=Z,37nm,0.8s
F42A **Maple Grove Fa** 73.81 27 IAmb IAmb 17 07 39.9
comp=Z,43nm,1.1s
M52A **Chesterland** 73.88 34 P P 17 07 37.5 -1.0
M52A IAmb IAmb 17 07 41.0
comp=Z,48nm,1.2s
M53A **WI Miller and** 74.17 34 IAmb IAmb 17 07 42.7
comp=Z,31nm,1.1s
M53A **WI Miller and** 74.17 34 P P 17 07 40.5 +0.3
baz=225
EYMN **Ely** 74.22 24 IAmb IAmb 17 07 42.0
comp=Z,32nm,1.2s
EYMN **Ely** 74.22 24 P P 17 07 40.8 +0.5
baz=214
P57A **Homestead Farm** 74.29 37 IAmb IAmb 17 07 47.5
comp=Z,20nm,0.9s
ULM **Lac du Bonnet** 74.62 20 IAmb IAmb 17 07 44.4
comp=Z,33nm,1.1s
ULM **Lac du Bonnet** 74.62 20 P P 17 07 41.6 -0.9
comp=Z,20nm,1.0s,baz=208,slow=5.9,SNR=14
ULM LR LR 17 36 33.2
comp=Z,766nm,18.1s,baz=246,slow=33
comp=Z,20nm,1.0s
ULM **Lac du Bonnet** 74.62 20 deP P 17 07 42.0 -0.6
BDFB **Brasilia** 74.63 101 IAmb IAmb 17 07 45.9
comp=Z,25nm,1.1s
BDFB **Brasilia** 74.63 101 P P 17 07 44.3 +0.7
comp=Z,12nm,0.7s,baz=253,slow=7.1,SNR=15
BDFB LR LR 17 37 53.1
comp=Z,244nm,18.1s,baz=299,slow=34
comp=Z,12nm,0.7s
D41A **Chassel** 74.66 26 IAmb IAmb 17 07 48.8
comp=Z,42nm,1.3s
E43A **Lone Tree Farm** 74.79 27 IAmb IAmb 17 07 45.6
comp=Z,32nm,0.8s
SSPA **Standing Stone** 75.14 36 P P 17 07 45.5 -0.3
SSPA IAmb IAmb 17 07 48.5
comp=Z,28nm,1.3s
SSPA **Standing Stone** 75.14 36 P P 17 07 47.6 +1.8
baz=227
M55A **Ridgway** 75.22 35 IAmb IAmb 17 07 48.6
comp=Z,25nm,1.1s
H11S2 **WAKE ISLAND Hy** 75.34 296 T T 18 30 33.1
baz=117,slow=75,SNR=100
H11S1 **WAKE ISLAND Hy** 75.35 296 T T 18 30 32.5
baz=117,slow=75,SNR=28
H11S3 **WAKE ISLAND Hy** 75.36 296 T T 18 30 34.4
baz=117,slow=75,SNR=26
MVL **Millersville** 75.59 38 IAmb IAmb 17 07 51.3
comp=Z,29nm,1.3s
H11N3 **WAKE ISLAND Hy** 75.72 297 T T 18 31 05.7
baz=4.0,slow=77,SNR=5.8
H11N1 **WAKE ISLAND Hy** 75.73 297 T T 18 31 09.7
baz=4.0,slow=77,SNR=4.4
H11N2 **WAKE ISLAND Hy** 75.73 297 T T 18 31 07.4
baz=4.0,slow=77,SNR=11
PRPB **Paraua pebas** 75.75 92 eP P 17 07 50.7 +0.7
N58A **Sunbury** 75.94 37 IAmb IAmb 17 07 52.9
comp=Z,25nm,0.9s
WVNY **West Valley, N** 75.95 35 IAmb IAmb 17 07 53.7
comp=Z,71nm,1.9s
E46A **Sault Ste Mari** 75.98 29 IAmb IAmb 17 07 53.0
comp=Z,28nm,1.1s
L56A **Greenwood** 76.34 35 IAmb IAmb 17 07 58.6
comp=Z,34nm,1.3s
LUPA **Lehigh Univers** 76.55 38 IAmb IAmb 17 07 56.7
comp=Z,21nm,1.0s
SMTB **Santa Maria do** 77.02 95 eP P 17 07 57.6 +0.5
S34M **Telegraph Cree** 77.18 358 P P 17 07 58.6 +1.6
baz=176
BINY **Binghamton** 77.25 36 P P 17 07 59.5 +1.7
baz=228
SADO **Sadowa** 77.31 33 IAmb IAmb 17 08 00.3
comp=Z,33nm,1.2s
SADO **Sadowa** 77.31 33 LR LR 17 38 33.4
comp=Z,312nm,18.1s,baz=304,slow=33
S31K **Pelican** 77.54 355 P P 17 07 59.8 +0.9
baz=171
TRNY **Table Rock, Ra** 77.56 38 P P 17 07 59.1 -0.4
TRNY IAmb IAmb 17 08 02.1
comp=Z,34nm,1.2s
PAL **Palisades** 77.66 38 P P 17 08 00.4 +0.4
baz=230
DLBC **Dease Lake** 77.67 358 IAmb IAmb 17 08 02.7
comp=Z,25nm,1.2s
DLBC **Dease Lake** 77.67 358 P P 17 08 00.4 +0.5
baz=177
DLBC **Dease Lake** 77.67 358 LR LR 17 35 41.6
comp=Z,650nm,18.4s,baz=166,slow=31
DELO **Deloro Mine** 77.92 34 IAmb IAmb 17 08 03.6
comp=Z,19nm,1.1s
TOAD **Toad River Com** 78.05 1 P P 17 08 02.3 +0.4
baz=182
JANB **Januaria** 78.22 102 eP P 17 08 04.0 +0.1
Q32M **Nakina River** 78.28 357 P P 17 08 03.9 +0.5
baz=175
J58A **Remsen** 78.40 36 IAmb IAmb 17 08 06.6
comp=Z,30nm,1.4s
SDBA **SAO DESIDERIO** 78.46 99 eP P 17 08 05.9 +0.7
R33M **Jennings River** 78.66 358 P P 17 08 05.8 +0.4
baz=176
SKAG **Skagway** 78.96 356 P P 17 08 07.4 +0.6
baz=172
OHAK **Old Harbor** 79.55 346 P P 17 08 10.6 +0.5
baz=155
P33M **Teslin, Yukon** 79.55 357 P P 17 08 10.1 -0.1
baz=174
LONY **Lake Ozonia** 79.61 35 IAmb IAmb 17 08 13.8
comp=Z,49nm,1.9s
LONY **Lake Ozonia** 79.61 35 P P 17 08 11.0 +0.2
baz=229
P30M **Million Dollar** 79.74 355 P P 17 08 10.7 -0.5
baz=170
KDAK **Kodiak Island** 79.90 346 LR LR 17 37 28.7
comp=Z,448nm,18.2s,baz=185,slow=31
VNA3 **Neumayer Olymp** 79.96 163 ⇑P P 17 08 11.9 -0.5
comp=Z,12nm,0.6s
BCX **Boston College** 80.09 38 P P 17 08 13.4 0.0
BCX IAmb IAmb 17 08 20.0
comp=Z,36nm,1.5s
WHY **Whitehorse** 80.12 356 P P 17 08 13.5 +0.2
baz=172
HNH **Hanover** 80.29 37 IAmb IAmb 17 08 17.4
comp=Z,45nm,1.4s
O30N **Mendenhall** 80.32 355 P P 17 08 14.5 +0.3
baz=171
KAIM **Kayak Island** 80.41 351 P P 17 08 15.2 +0.5
baz=163
N32M **Quiet Lake** 80.50 357 IAmb IAmb 17 08 17.6
comp=Z,24nm,1.1s
N32M **Quiet Lake** 80.50 357 P P 17 08 15.9 +0.7
baz=174
R17L **Mt. Peulik Vol** 80.67 344 P P 17 08 15.4 -0.8
baz=152
TRQ **Mont Tremblant** 80.67 34 IAmb IAmb 17 08 19.0
comp=Z,37nm,1.2s
VNA1 **Neumayer--Stat** 80.67 163 ⇑P P 17 08 16.4 +0.2
comp=Z,3.4nm,0.7s
O28M **Mount Upton** 80.69 353 P P 17 08 18.5 +1.9
baz=167
WAX **Waxell Ridge** 80.70 352 IAmb IAmb 17 08 18.8
comp=Z,29nm,1.3s
VNA2 **Neumayer--Watz** 80.76 163 ⇑P P 17 08 16.5 -0.2
comp=Z,12nm,0.6s,baz=252,slow=4.1
ANCK **Angle Creek** 80.96 345 IAmb IAmb 17 08 19.2
comp=Z,23nm,1.1s
N31M **Braeburn, Yuko** 81.00 356 P P 17 08 18.7 +0.8
baz=172
CRQE **Cirque** 81.02 352 P P 17 08 18.3 +0.1
baz=164
N30M **Aishikik Lake** 81.08 355 P P 17 08 18.8 +0.4
baz=170
Q17K **Contact Creek** 81.11 345 P P 17 08 17.7 -0.9
baz=152
YUK8 **Steele Glacier** 81.15 354 P P 17 08 19.2 +0.1
baz=168
Q18K **Katmai Hardscr** 81.24 346 P P 17 08 19.0 -0.3
baz=153
STKA **Stephens Creek** 81.24 239 P P 17 08 21.3 +1.3
comp=Z,4.1nm,1.1s,baz=126,slow=6.6,SNR=3.2
STKA LR LR 17 40 04.6
comp=Z,223nm,18.8s,baz=60,slow=33
comp=Z,4.1nm,1.1s
BRSE **Bradley Lake S** 81.32 348 P P 17 08 19.0 -0.6
baz=157
BMRM **Bremner River** 81.44 351 P P 17 08 20.1 -0.2
baz=163
H62A **Milan** 81.47 37 IAmb IAmb 17 08 23.4
comp=Z,54nm,1.6s
SNAA **Sanae** 81.52 165 P P 17 08 20.2 -0.6
SNAA **Sanae** 81.52 165 ⇑P P 17 08 20.3 -0.5
comp=Z,187nm,0.7s
SNAA **Sanae** 81.52 165 P P 17 08 20.9 +0.1
comp=Z,9.3nm,0.8s,baz=245,slow=6.3,SNR=56
SNAA LR LR 17 42 17.1
comp=Z,224nm,18.6s,baz=287,slow=34
comp=Z,9.3nm,0.8s
SNAA **Sanae** 81.52 165 ⇑eP P 17 08 21.4 +0.6
SNAA pmax pmax
comp=Z,11nm,0.9s
FARO **Faro, Yukon** 81.59 357 P P 17 08 21.1 +0.1
baz=174
YUK3 **Moose Creek** 81.71 354 P P 17 08 21.9 0.0
baz=167
GLI **Glacier Island** 81.73 350 P P 17 08 21.2 -0.5
baz=161
N25K **Chitina, Valde** 82.05 352 P P 17 08 23.9 +0.3
baz=163
M30M **Minto, Yukon** 82.16 355 P P 17 08 24.4 +0.4
baz=170
M29M **Somme Creek** 82.17 355 P P 17 08 24.1 -0.1
baz=169
ROSB **Rosrio** 82.17 90 IAmb IAmb 17 08 27.6
comp=Z,19nm,0.8s
YKA **Yellowknife Ar** 82.27 6 P P 17 08 24.5 0.0
comp=Z,3.3nm,0.8s,baz=185,slow=4.5,SNR=18
YKA LR LR 17 41 30.2
comp=Z,403nm,18.2s,baz=204,slow=33
comp=Z,3.3nm,0.8s
WVL **Waterville** 82.32 37 P P 17 08 25.4 +0.3
WVL IAmb IAmb 17 08 27.6
comp=Z,26nm,1.3s
O18K **Koktuh Hills** 82.37 346 P P 17 08 25.1 -0.1
baz=153
RC01 **Rabbit Creek A** 82.38 349 IAmb IAmb 17 08 30.6
comp=Z,23nm,1.3s
RC01 **Rabbit Creek A** 82.38 349 P P 17 08 24.8 -0.4
baz=158
FCC **Fort Churchill** 82.50 17 IAmb IAmb 17 08 27.5
comp=Z,20nm,1.1s
TROLL **Troll, Antarti** 82.58 166 ⇑P P 17 08 26.3 -0.1
comp=Z,267nm,0.6s
M26K **Nabesna, AK** 82.61 352 P P 17 08 26.4 0.0
baz=165
SCM **Sheep Creek Mo** 82.67 350 IAmb IAmb 17 08 31.5
comp=Z,18nm,1.2s
SCM **Sheep Creek Mo** 82.67 350 P P 17 08 27.3 +0.5
baz=161
M23K **Glacier View** 82.70 350 P P 17 08 27.2 +0.4
baz=160
O17K **Koliganek Bris** 82.74 345 P P 17 08 27.4 +0.4
baz=151
M24K **Tolsona, Glenn** 82.75 351 P P 17 08 27.1 -0.1
baz=162
L29M **L29M** 82.79 355 IAmb IAmb 17 08 29.6
comp=Z,21nm,1.2s
L29M **L29M** 82.79 355 P P 17 08 27.5 +0.2
baz=169
O16K **Kokwok River B** 82.83 345 P P 17 08 26.9 -0.6
baz=150
SUA **Susitna One** 82.91 349 P P 17 08 28.1 0.0
baz=157
GDU01 **Guandu, BA** 83.00 102 eP P 17 08 29.2 -0.3
N19K **Bonanza Creek** 83.07 347 P P 17 08 28.5 -0.4
baz=154
BCAR **Beaver Creek A** 83.11 353 P P 17 08 28.2 -0.7
L27K **Beaver Creek,** 83.11 353 P P 17 08 29.0 0.0
baz=166
PMG **Port Moresby** 83.18 262 LR LR 17 39 14.6
comp=Z,253nm,18.8s,baz=102,slow=31
MENT **Mentasta** 83.22 352 IAmb IAmb 17 08 31.4
comp=Z,29nm,1.4s
N18K **Kilae Creek** 83.26 346 P P 17 08 29.1 -0.7
baz=153
N17K **Nushagak Hills** 83.42 345 P P 17 08 30.9 +0.3
baz=151
WAT6 **Susitna Watana** 83.44 350 P P 17 08 30.3 -0.6
baz=160
K29M **Barlow Dome** 83.47 355 IAmb IAmb 17 08 33.2
comp=Z,29nm,1.2s
K29M **Barlow Dome** 83.47 355 P P 17 08 30.8 -0.1
baz=170
PAX **Paxson** 83.48 352 P P 17 08 29.7 -1.3
baz=162
LDAQ **Lac Daran** 83.52 34 IAmb IAmb 17 08 36.5
comp=Z,32nm,1.4s
SKT **Skwentna** 83.53 349 IAmb IAmb 17 08 32.5
comp=Z,14nm,1.0s
SKT **Skwentna** 83.53 349 P P 17 08 29.9 -1.2
baz=157
LMQ **La Malbaie** 83.75 35 IAmb IAmb 17 08 35.0
comp=Z,28nm,1.4s
M20K **Styx River** 83.75 348 P P 17 08 32.0 -0.4
baz=155
F64A **Sherman** 83.83 37 IAmb IAmb 17 08 35.1
comp=Z,27nm,1.3s
DAWY **Dawson** 83.84 354 P P 17 08 32.9 +0.1
M19K **Big River Lodg** 84.03 347 P P 17 08 33.2 -0.5
baz=154
K27K **Chicken** 84.08 353 P P 17 08 34.1 +0.2
baz=166
J30M **Hart River** 84.11 356 IAmb IAmb 17 08 37.1
comp=Z,49nm,1.8s
J30M **Hart River** 84.11 356 P P 17 08 34.0 -0.2
baz=171
SCRK **Sand Creek** 84.25 352 IAmb IAmb 17 08 36.7
comp=Z,23nm,1.2s
SCRK **Sand Creek** 84.25 352 P P 17 08 34.9 0.0
baz=164
L19K **White Mountain** 84.38 347 P P 17 08 34.2 -1.3
baz=154
RND **Reindeer** 84.40 350 IAmb IAmb 17 08 40.4
comp=Z,27nm,1.4s
M15K **Kasigluk River** 84.44 344 P P 17 08 34.9 -0.9
baz=148
L20K **Farewell, AK** 84.45 348 P P 17 08 35.1 -0.7
baz=154
PPLA **Purkeypile** 84.50 349 P P 17 08 36.0 -0.3
baz=156
J26L **Joseph Creek** 84.71 353 P P 17 08 36.6 -0.5
baz=164
EGAK **Eagle** 84.71 354 P P 17 08 35.6 -1.4
EGAK IAmb IAmb 17 08 38.8
comp=Z,23nm,1.2s
EGAK **Eagle** 84.71 354 P P 17 08 36.9 -0.2
baz=166
I30M **Mount Dempster** 84.75 356 IAmb IAmb 17 08 39.2
comp=Z,19nm,0.9s
I30M **Mount Dempster** 84.75 356 P P 17 08 37.1 -0.4
baz=171
L18K **Granite Mounta** 84.81 346 P P 17 08 37.5 -0.1
baz=152
M14K **Bethel** 84.83 344 P P 17 08 36.2 -1.5
baz=147
KTH **Kantishna Hill** 84.88 349 IAmb IAmb 17 08 42.7
comp=Z,23nm,1.0s
M13K **Dall Lake** 84.92 343 P P 17 08 39.0 +0.8
baz=146
CAST **Castle Rocks** 84.96 349 P P 17 08 37.5 -0.9
baz=156
L16K **Owhat River** 85.01 345 IAmb IAmb 17 08 41.4
comp=Z,22nm,1.2s
L16K **Owhat River** 85.01 345 P P 17 08 38.9 +0.3
baz=149
I29M **Ogilvie Camp,** 85.03 355 P P 17 08 38.0 -0.6
baz=169
J25K **Salcha River,** 85.04 352 IAmb IAmb 17 08 40.7
comp=Z,16nm,1.2s
J25K **Salcha River,** 85.04 352 P P 17 08 38.7 -0.1
baz=162
HDA **Harding Lake** 85.06 351 IAmb IAmb 17 08 40.3
comp=Z,14nm,1.0s
HDA **Harding Lake** 85.06 351 P P 17 08 38.8 -0.1
baz=161
L17K **Donlin** 85.09 346 P P 17 08 39.1 +0.1
baz=150
H31M **Peel River** 85.21 357 IAmb IAmb 17 08 41.8
comp=Z,26nm,1.3s
H31M **Peel River** 85.21 357 P P 17 08 38.8 -0.8
baz=173
I28M **Miner Creek** 85.25 355 IAmb IAmb 17 08 44.8
comp=Z,41nm,1.9s
I28M **Miner Creek** 85.25 355 P P 17 08 39.2 -0.7
baz=168
WRH **Wood River Hil** 85.28 351 P P 17 08 39.3 -0.7
ILAR **Eielson Array** 85.39 352 P P 17 08 39.2 -1.3
ILAR **Eielson Array** 85.39 352 P P 17 08 40.0 -0.5
comp=Z,4.0nm,1.0s,baz=178,slow=5.5,SNR=25
ILAR LR LR 17 39 59.0
comp=Z,335nm,18.2s,baz=176,slow=31
comp=Z,4.0nm,1.0s
BPAW **Bear Paw Mtn.** 85.40 350 IAmb IAmb 17 08 41.5
comp=Z,23nm,1.5s
BPAW **Bear Paw Mtn.** 85.40 350 P P 17 08 40.4 -0.1
baz=157
CCB **Clear Creek Bu** 85.41 351 IAmb IAmb 17 08 41.9
comp=Z,21nm,1.5s
CHUM **Lake Minchumin** 85.43 349 P P 17 08 40.0 -0.6
baz=156
I26K **Coal Creek Min** 85.44 353 P P 17 08 40.3 -0.4
baz=165
L14K **Kuka Creek** 85.51 344 P P 17 08 40.6 -0.5
baz=146
NVL **N'lazarevskaya** 85.53 167 eP P 17 08 42.1 +0.8
NVL pmax pmax
comp=Z,8.0nm,1.0s
NVL MLR MLR
comp=Z,541nm,17.0s
NEA2 **Nenana** 85.54 351 P P 17 08 40.4 -0.9
baz=159
I27K **Kandik River** 85.56 354 P P 17 08 41.1 -0.3
baz=166
K17K **Iditarod** 85.60 346 IAmb IAmb 17 08 46.3
comp=Z,42nm,1.6s
K17K **Iditarod** 85.60 346 P P 17 08 41.6 +0.1
baz=150
COLA **College** 85.63 351 ⇑eP P 17 08 42.3 +0.7
COLA pmax pmax
comp=Z,7.0nm,1.0s
M11K **Mekoryuk** 85.72 342 P P 17 08 42.8 +0.6
baz=143
MDM **Murphy Dome** 85.76 351 IAmb IAmb 17 08 47.2
comp=Z,19nm,1.1s
POKR **Poker Plat Res** 85.80 351 P P 17 08 41.9 -0.6
POKR IAmb IAmb 17 08 47.6
comp=Z,19nm,1.1s
POKR **Poker Plat Res** 85.80 351 P P 17 08 42.2 -0.3
baz=161
H29M **Whitestone** 85.88 355 P P 17 08 42.3 -0.6
baz=169
EPYK **Eagle Plains** 85.91 356 IAmb IAmb 17 08 44.6
comp=Z,27nm,1.1s
EPYK **Eagle Plains** 85.91 356 P P 17 08 42.6 -0.5
baz=171
J18K **Innoko River** 85.91 347 IAmb IAmb 17 08 45.8
comp=Z,27nm,1.4s
J18K **Innoko River** 85.91 347 P P 17 08 42.8 -0.4
baz=152
K15K **Wolf Creek Mou** 86.02 345 P P 17 08 43.4 -0.2
baz=148
J20K **Nowinta River** 86.03 348 P P 17 08 42.6 -1.1
baz=154
I23K **Minto, Yukon-K** 86.11 351 P P 17 08 43.7 -0.2
baz=159
H27K **Steamboat Moun** 86.17 354 P P 17 08 44.2 -0.1
baz=166
MLY **Manley** 86.22 350 IAmb IAmb 17 08 45.9
comp=Z,38nm,1.6s
MLY **Manley** 86.22 350 P P 17 08 44.1 -0.6
baz=158
G31M **Satah River** 86.32 357 IAmb IAmb 17 08 46.5
comp=Z,26nm,1.0s
G31M **Satah River** 86.32 357 P P 17 08 45.2 +0.2
baz=173
J17K **VABM Dome** 86.37 346 P P 17 08 46.2 +0.8
baz=150
G30M **tAoh Zraii Nji** 86.49 356 P P 17 08 44.5 -1.4
G30M **tAoh Zraii Nji** 86.49 356 P P 17 08 45.8 -0.1
baz=171
K13K **Kusilvak Mount** 86.54 343 P P 17 08 47.1 +1.0
baz=145
G29M **Pine Creek** 86.54 356 P P 17 08 45.7 -0.5
baz=169
H24K **Noodor Dome** 86.54 351 IAmb IAmb 17 08 47.8
comp=Z,31nm,1.5s
H24K **Noodor Dome** 86.54 351 P P 17 08 46.6 +0.4
baz=160
G27K **Doyon Strip** 86.74 354 P P 17 08 47.0 -0.1
baz=166
H23K **Yukon River** 86.77 351 P P 17 08 46.8 -0.5
baz=159
F31M **Tsiigehtchic** 86.81 357 P P 17 08 47.2 -0.2
baz=174
GCSA **Galena City Sc** 87.08 348 P P 17 08 49.2 +0.5
baz=152
F30M **Barrier River** 87.09 357 P P 17 08 48.7 -0.1

baz=172
G26K Porcupine Rive 87.10 353 P P 17 08 49.5 +0.7
baz=164
H22K Ishtalitna Cre 87.12 350 P P 17 08 48.2 -0.8
baz=157
H21K Melozitna Rive 87.14 350 IAmb IAmb 17 08 50.3
comp=Z,25nm,1.9s
H21K Melozitna Rive 87.14 350 P P 17 08 48.9 -0.2
baz=156
H20K Anotleneega Mo 87.36 349 P P 17 08 50.3 +0.2
baz=154
F28M Old Crow 87.37 355 P P 17 08 50.4 +0.2
baz=168
BMAR Burnt Mountain 87.65 353 P P 17 08 51.7 +0.2
G23K Bananza Creek 87.67 351 IAmb IAmb 17 08 53.5
comp=Z,21nm,1.6s
G23K Bananza Creek 87.67 351 P P 17 08 51.6 0.0
baz=158
INK Inuvik 87.67 358 IAmb IAmb 17 08 53.4
comp=Z,15nm,1.1s
INK Inuvik 87.67 358 P P 17 08 51.5 -0.1
baz=174
INK Inuvik 87.67 358 LR LR 17 42 05.9
comp=Z,282nm,18.9s,baz=184,slow=32
INK Inuvik 87.67 358 P P 17 08 51.2 -0.3
H19K Roundabout Mou 87.69 348 IAmb IAmb 17 08 54.0
comp=Z,15nm,1.3s
H19K Roundabout Mou 87.69 348 P P 17 08 51.9 +0.2
baz=152
F26K Sheenjek River 87.85 353 P P 17 08 53.7 +1.1
baz=164
F25K Christian Rive 87.92 353 P P 17 08 53.6 +0.7
baz=162
E29M Blow River 87.99 356 IAmb IAmb 17 08 55.2
comp=Z,21nm,1.4s
E29M Blow River 87.99 356 P P 17 08 53.0 -0.1
baz=170
G21K Allakaket 88.04 350 P P 17 08 53.2 -0.2
baz=155
E27K Coleen River 88.08 355 IAmb IAmb 17 08 56.1
comp=Z,21nm,1.1s
E27K Coleen River 88.08 355 P P 17 08 53.8 +0.2
baz=166
G22K Bettles 88.09 351 P P 17 08 53.6 0.0
baz=157
F24K Squaw Lake 88.13 352 IAmb IAmb 17 08 56.5
comp=Z,16nm,1.3s
F24K Squaw Lake 88.13 352 P P 17 08 54.0 +0.1
baz=160
COLD Coldfoot 88.18 351 P P 17 08 54.8 +0.8
baz=158
SHEM Shemya Is, Ala 88.18 329 LR LR 17 41 50.4
comp=Z,299nm,19.6s,baz=122,slow=31
E28M Babbage River 88.32 355 IAmb IAmb 17 08 56.3
comp=Z,14nm,1.0s
E28M Babbage River 88.32 355 P P 17 08 55.1 +0.4
baz=168
G19K Purcell Mounta 88.36 348 P P 17 08 55.2 +0.3
baz=152
E25K Arctic Village 88.42 353 IAmb IAmb 17 08 58.0
comp=Z,19nm,1.1s
E25K Arctic Village 88.42 353 P P 17 08 55.9 +0.7
baz=162
G18K Tagagawik 88.45 347 P P 17 08 55.5 +0.1
baz=150
G17K Kiwalik Mounta 88.53 347 P P 17 08 55.5 -0.3
baz=148
F21K Alatna River 88.68 350 IAmb IAmb 17 08 59.1
comp=Z,16nm,1.3s
F21K Alatna River 88.68 350 P P 17 08 57.7 +1.3
baz=155
E24K Your Creek 88.73 352 IAmb IAmb 17 08 59.7
comp=Z,18nm,1.4s
E24K Your Creek 88.73 352 P P 17 08 57.4 +0.7
baz=160
F22K John River 88.73 351 P P 17 08 57.4 +0.7
baz=156
E23K Chandalar 88.87 352 P P 17 08 57.8 +0.4
baz=159
G15K Niukluk 88.89 345 P P 17 08 58.5 +1.1
baz=145
F20K Avaraart Lake 88.91 349 IAmb IAmb 17 09 02.8
comp=Z,19nm,1.5s
F20K Avaraart Lake 88.91 349 P P 17 08 57.8 +0.4
baz=153
D28M Stokes Point 88.97 356 P P 17 08 58.5 +0.8
baz=169
D27M Malcolm River 89.06 355 P P 17 08 58.3 +0.1
D27M IAmb IAmb 17 09 01.9
comp=Z,47nm,1.7s
D27M Malcolm River 89.06 355 P P 17 08 58.9 +0.7
baz=167
D25K Kavik River 89.66 353 P P 17 09 01.9 +0.9
baz=162
C27K Jago River 89.67 354 P P 17 09 02.0 +1.0
baz=164
SCHQ Schefferville 89.86 30 IAmb IAmb 17 09 03.6
comp=Z,30nm,1.2s
SCHQ Schefferville 89.86 30 P P 17 09 01.6 -0.6
comp=Z,16nm,0.9s,baz=262,slow=3.4,SNR=9.2
comp=Z,16nm,0.9s
E21K Killik River 89.87 350 IAmb IAmb 17 09 05.0
comp=Z,21nm,1.4s
E21K Killik River 89.87 350 P P 17 09 02.5 +0.5
baz=154
E20K Nigu River 90.07 349 P P 17 09 03.6 +0.6
baz=152
E18K Tukpahlearik C 90.17 348 P P 17 09 04.4 +1.1
baz=148
ASAR Alice Springs 90.39 245 P P 17 09 05.4 -0.2
comp=Z,0.9nm,0.6s,baz=108,slow=4.3,SNR=18
ASAR PKiKP PKiKP 17 13 59.8 -1.1
comp=Z,0.4nm,1.0s,baz=139,slow=1.0,SNR=4.3
ASAR LR LR 17 43 17.9
comp=Z,327nm,20.3s,baz=128,slow=31
comp=Z,0.9nm,0.6s
D19K Kuna River 90.62 349 P P 17 09 05.8 +0.3
baz=151
C21K Knifeblade Rid 90.64 350 P P 17 09 06.8 +1.3
baz=154
WRA Warramunga Arr 91.36 248 P P 17 09 09.6 -0.6
comp=Z,1.1nm,0.7s,baz=104,slow=4.7,SNR=14
WRA LR LR 17 44 57.6
comp=Z,147nm,19.3s,baz=54,slow=32
comp=Z,1.1nm,0.7s
MAW Mawson 92.88 184 P P 17 09 15.8 -0.4
comp=Z,4.8nm,0.9s,baz=37,slow=2.7,SNR=6.5
MAW LR LR 17 46 31.5
comp=Z,216nm,20.4s,baz=161,slow=33
comp=Z,4.8nm,0.9s
FRB Frobisher Bay 94.38 22 LR LR 17 47 28.6
comp=Z,586nm,20.6s,baz=230,slow=33
RES Resolute Bay 96.13 8 LR LR 17 48 03.5
comp=Z,187nm,20.6s,baz=208,slow=32
PETK Petropavlovsk- 96.99 324 LR LR 17 46 51.9
comp=Z,224nm,19.7s,baz=118,slow=32
JCJ Chichijima 99.47 295 LR LR 17 49 60.0
comp=Z,168nm,18.5s,baz=102,slow=33
NWAO Narrogin (SRO) 99.65 230 LR LR 17 49 01.9
comp=Z,232nm,18.1s,baz=202,slow=32
EKA Eskdalemuir Ar 124.82 35 PP PP 17 16 50.4 -0.7
comp=Z,1.6nm,1.0s,baz=296,slow=6.9,SNR=3.5
BOSA Boshof 125.11 150 PKP PKiKP 17 15 05.2 0.0
comp=Z,4.8nm,0.9s,baz=238,slow=3.1,SNR=5.5
LYN LuoYang 125.78 299 *e*PKP PKiKP 17 15 07.5 +1.4
LYN LR LR
comp=Z,350nm,12.4s
LYN LR LR
comp=Z,410nm,14.7s
NRIK Noril'sk 125.89 346 PKP PKiKP 17 15 05.5 +0.2
comp=Z,3.6nm,0.8s,baz=74,slow=0.6,SNR=3.7
NRIK Noril'sk 125.89 346 ⇑*i*PKIKP PKPdf 17 15 04.0 -0.9
ESDC Sonseca Array 127.30 55 PKhKP PKPpre 17 15 06.0
comp=Z,0.5nm,0.4s,baz=299,slow=1.3,SNR=4.5
ULN Ulaanbaatar 128.28 316 ⇓*i*PKIKP PKiKP 17 15 11.4 +0.5
SONM Songino Array 128.72 316 PKP PKiKP 17 15 11.4 -0.4
comp=Z,3.4nm,0.9s,baz=140,slow=1.8,SNR=13
NOA NORSAR Array B 129.13 25 PKP PKPdf 17 15 11.4 0.0
comp=Z,0.5nm,0.6s,baz=312,slow=2.1,SNR=3.5
ZAK Zakamensk 129.94 320 *e*PKIKP PKPdf 17 15 12.7 -0.6
ZAK pmax pmax
comp=Z,7.0nm,1.6s
TORD Torodi Ar. Bea 130.35 89 PKP PKPdf 17 15 15.1 +0.1
comp=Z,1.8nm,0.9s,baz=328,slow=4.2,SNR=5.3
TORD PP PP 17 17 27.9 -1.0
comp=Z,0.9nm,0.8s,baz=276,slow=3.5,SNR=4.9
LZH Lanzhou 132.74 301 *e*PKP PKiKP 17 15 20.5 +0.2
FINES FINESS Array B 133.97 18 PKP PKPdf 17 15 19.9 -0.6
comp=Z,1.2nm,0.7s,baz=48,slow=2.8,SNR=5.3
CLL Collm 135.29 35 *e*PKPdf PKPdf 17 15 23.0 -0.2
CLL *e*PP PP 17 17 57.0 -2.1
CLL *e*PS PS 17 28 24.0 +2.0
CLL *e*PPS PPS 17 30 00.0
CLL *e*SS SS 17 35 54.0 -0.4
GTA Gaotai 135.34 307 *e*PKP PKiKP 17 15 25.4 0.0
KHC Kasperske Hory 136.68 38 *e*PKP PKPdf 17 15 22.0 -3.9
KHC Kasperske Hory 136.68 38 *e*PKIKP PKPdf 17 15 22.0 -3.9
KLMR Klimovskoe 137.55 10 *e*PKIKP PKPdf 17 15 23.7 -3.4
KLMR pmax pmax
comp=Z,16nm,1.8s
TNCH TengChong 137.81 286 PKP PKPdf 17 15 29.4 +0.5
TNCH sPKP 17 15 33.9
ZALV Zalesovo Beam 137.91 332 PKhKP PKPpre 17 15 24.6
comp=Z,3.1nm,0.6s,baz=11,slow=3,1,SNR=11
VRAC Vranov 138.29 36 ⇑P PKPdf 17 15 25.0 -3.9
VRAC Vranov 138.29 36 ⇑PKIKP PKPdf 17 15 25.0 -3.9
GOMU GeErMu 139.92 303 PKP PKPdf 17 15 33.5 +0.8
KIRV Kirov 140.85 3 *de*PKIKP PKPdf 17 15 31.8 -1.4
MOS Moscow 141.95 14 *i* PKIKP PKPdf 17 15 35.5 +0.3
OBN Obninsk 142.26 16 ⇓*e*PKIKP PKPdf 17 15 36.8 +1.0
OBN *i* 17 18 41.0
OBN pmax pmax
comp=Z,36nm,1.2s
OBN MLR MLR
comp=Z,213nm,17.0s
SVE Sverdlovsk 142.29 353 *e*PKIKP PKiKP 17 15 37.3 -1.6
SVE pmax pmax
comp=Z,15nm,1.5s
MATE Matera 142.42 48 ⇓P PKPdf 17 15 32.5 -4.1
SIRR Siria 142.82 37 ⇑P PKPdf 17 15 32.1 -5.1
KURK Kurchatov 142.88 333 *de*PKIKP PKPdf 17 15 35.5 -1.6
ARU Arti 142.89 355 *i* PKHKP PKPpre 17 15 32.4
ARU MLR MLR
comp=Z,234nm,20.0s
KURBB Kurchatov Arra 142.99 333 PKhKP PKPpre 17 15 33.3
comp=Z,2.0nm,0.5s,baz=47,slow=2.0,SNR=12
MESR Meseneni 143.01 35 ⇓P PKPdf 17 15 37.4 -0.1
DRGR 143.10 35 ⇓P PKPab 17 15 33.8 +0.7
DRGR 143.10 35 ⇓PKIKP PKPab 17 15 33.8 +0.7
SURR Surduc 143.38 37 ⇓P PKPab 17 15 34.3 +0.1
MARR Marisel-Cluj 143.39 35 ⇓P PKPbc 17 15 35.5 +0.1
AK18 Malin Array Si 143.45 26 PKP PKPdf 17 15 37.0 -1.1
LUBAR Lubar, Ukraine 143.49 28 PKP PKPab 17 15 34.9 +0.4
KIEV Kiev 143.53 26 ⇑P PKPab 17 15 34.5 -0.1
KIEV Kiev 143.53 26 ⇑PKIKP PKPab 17 15 34.5 -0.1
AKASG Malin Array Be 143.53 26 PKhKP PKPpre 17 15 35.0
comp=Z,1.7nm,0.6s,baz=301,slow=3.0,SNR=8.3
AK14 Malin Array Si 143.54 26 PKP PKPab 17 15 34.9 +0.3
MDVR Moldovita 143.70 39 ⇑P PKPab 17 15 35.6 +0.1
ARCR ARCALIA 143.80 34 ⇑P PKPbc 17 15 36.3 -0.2
MK31 Makanchi Array 143.81 325 *de*PKIKP PKPbc 17 15 36.7 +0.2
MKAR Makanchi Array 143.81 325 PKP PKPab 17 15 36.0 +0.2
comp=Z,2.1nm,0.8s,baz=14,slow=2.6,SNR=12
BURAR Bucovina Array 143.90 33 ⇑P PKPbc 17 15 37.7 +0.8
BURAR Bucovina Array 143.90 33 ⇑PKIKP PKPbc 17 15 37.7 +0.8
BVAR Borovoye Array 143.95 342 PKP PKPbc 17 15 36.5 -0.2
comp=Z,7.4nm,0.7s,baz=39,slow=2.3,SNR=26
BRVK Borovoye 143.95 342 *ce*PKIKP PKPbc 17 15 36.6 -0.1
GZR Gura Zlata 143.97 37 ⇓P PKPbc 17 15 37.1 0.0
GZR Gura Zlata 143.97 37 ⇓PKIKP PKPbc 17 15 37.1 0.0
MAKZ Makanchi 143.97 326 ⇓PKIKP PKPbc 17 15 37.9 +0.9
HERR Herculane 144.06 38 ⇓P PKPdf 17 15 38.5 -0.8
LSA Lhasa 144.13 294 PKP PKPdf 17 15 39.4 -1.2
ARR Arges 145.03 36 ⇓P PKPdf 17 15 42.2 +1.1
DOPR Dopca 145.06 35 ⇑P PKPbc 17 15 40.4 -0.1
SORM Soroca 145.06 29 ⇑P PKPbc 17 15 39.4 -0.9
SORM Soroca 145.06 29 ⇑PKIKP PKPbc 17 15 39.4 -0.9
LPSR Galich'ya Gora 145.13 15 *e*PKP2 PKPbc 17 15 39.2 -1.2
LPSR pmax pmax
comp=Z,80nm,1.3s
BOSR Bodos 145.14 34 ⇑P PKPdf 17 15 41.5 +0.2
OZUR 145.19 34 ⇓P PKPbc 17 15 40.9 0.0
VOIR 145.22 36 ⇑P PKPbc 17 15 41.1 0.0
VOIR 145.22 36 ⇑PKIKP PKPbc 17 15 41.1 0.0
KBN Korca 145.23 46 P PKPdf 17 15 41.7 +0.1
VALD Valchedram 145.34 39 P PKPab 17 15 41.9 +0.4
TURR Turia 145.34 34 ⇑P PKPab 17 15 41.9 +0.4
IGT Igoumenitsa 145.41 48 P PKPdf 17 15 41.5 -0.4
FNA Florina 145.55 45 P PKPdf 17 15 41.4 -0.8
COVR Voineasa-Covas 145.57 34 ⇓P PKiKP 17 15 45.1 -0.9
MLR Muntele Rosu 145.67 35 ⇑P PKPab 17 15 44.2 +1.3
MLR Muntele Rosu 145.67 35 ⇑PKIKP PKPab 17 15 44.2 +1.3
MPEP Malo Peshtene 145.71 39 P PKPbc 17 15 42.7 +0.1
JAN Janina 145.72 47 P PKPab 17 15 44.7 +1.6
VLAD Vladila 145.73 38 ⇓P PKiKP 17 15 44.6 -1.7
PLOR Plostina 145.81 34 ⇑P PKPab 17 15 44.0 +0.7
PLOR Plostina 145.81 34 ⇑PKIKP PKPab 17 15 44.0 +0.7
VTS Vitosha 145.81 41 P PKPdf 17 15 42.7 0.0
VRI Vrincioaia 145.84 34 ⇑P PKPab 17 15 44.0 +0.6
VRI Vrincioaia 145.84 34 ⇑PKP2 PKPab 17 15 44.0 +0.6
KPRO Kipourio 145.93 46 P PKPdf 17 15 43.1 +0.3
LKD2 Lefkada island 145.96 49 P PKPdf 17 15 43.1 +0.2
BIR Birlad 146.03 32 ⇑P PKPdf 17 15 36.0 -6.7
BIR Birlad 146.03 32 ⇑PKHKP PKPpre 17 15 36.0
VORR Voronezh 146.05 16 *e*PKP2 PKPbc 17 15 43.5 +0.1
VORR pmax pmax
comp=Z,157nm,1.6s
MILM Milestii Mici 146.16 30 ⇑P PKPbc 17 15 43.8 0.0
MILM Milestii Mici 146.16 30 ⇑PKP2 PKPbc 17 15 43.8 0.0
KKB Krupnik 146.16 42 P PKPbc 17 15 44.2 +0.1
KNT Kendrikon 146.37 43 P PKPbc 17 15 44.2 -0.5
PGB Panagyurishte 146.44 40 P PKPab 17 15 45.5 -0.3
VSR Storozhevoye 146.46 16 *e*PKIKP PKPdf 17 15 42.7 -0.6
VSR pmax pmax
comp=Z,50nm,1.3s
LIT Litokhoron 146.63 45 P PKPbc 17 15 44.7 -0.8
PVO Paravola 146.65 48 P PKPab 17 15 46.3 -0.4
SCHLR Schela 146.68 33 ⇓P PKPab 17 15 46.5 0.0
PVL Pavlikeni 146.69 39 P PKPbc 17 15 44.9 -0.7
EVR Evrytania 146.71 48 P PKPab 17 15 46.9 -0.2
MMB Musomishta 146.71 42 P PKPbc 17 15 46.0 +0.3
VORD Divnogorie 146.72 16 *e*PKP2 PKPdf 17 15 44.2 +0.5
VORD pmax pmax
comp=Z,20nm,1.0s
HORT Hortiatis 146.79 44 P PKPbc 17 15 45.2 -0.8
SRS Serrai 146.84 43 P PKPdf 17 15 44.7 +0.4
BELG Belogornoye 146.87 6 *i* PKP2 PKPdf 17 15 44.7 +0.8
ANX Ano Chora 146.93 48 P PKPab 17 15 47.4 -0.5
EFP Efpalio 147.00 48 P PKPbc 17 15 46.9 +0.3
PLD Plovdiv 147.00 41 P PKPbc 17 15 45.5 -1.0
AGG Agios Georgios 147.03 47 P PKPbc 17 15 45.8 -0.9
CFR Carcaliu 147.03 33 ⇑P PKPbc 17 15 46.1 -0.3
CFR Carcaliu 147.03 33 ⇑PKP2 PKPbc 17 15 46.1 -0.3
VRH Novokhopyorsk 147.08 13 *e*PKP2 PKPbc 17 15 45.7 -0.7
VRH pmax pmax
comp=Z,60nm,1.5s
KALE Kalithea 147.18 48 P PKPbc 17 15 47.1 -0.1
ELND Elena 147.22 38 ⇑P PKPbc 17 15 47.6 +0.5
RZN Rozhen 147.25 41 P PKPbc 17 15 47.8 +0.3
HARR Harsova 147.25 34 ⇓P PKPdf 17 15 32.7 -12
KOKK Kokkinochori, 147.26 43 P PKPbc 17 15 46.1 -1.2
KLV Kalavryta, Ach 147.34 49 P PKPbc 17 15 47.4 -0.2
AXAR Agios Charalam 147.37 47 P PKPbc 17 15 46.6 -1.1
TPGR Topolog 147.40 34 ⇓P PKPab 17 15 49.2 -0.3
TLBR Topalu 147.41 34 ⇑P PKPbc 17 15 48.3 +0.8
OUR Ouranopolis 147.50 44 P PKPbc 17 15 46.9 -1.0
PAIG Paliouri 147.51 45 P PKPbc 17 15 47.1 -0.8
PYL PYLOS 147.52 51 P PKPbc 17 15 47.1 -1.0
ITM Ithomi 147.54 51 P PKPbc 17 15 47.4 -0.8
SHLS Shalkode 147.66 323 *e*PKIKP PKPdf 17 15 46.2 +0.5
NEF NEVSHA 147.82 37 P PKPbc 17 15 48.1 -0.6
THAS Thassos island 147.83 43 P PKPbc 17 15 47.4 -1.4
UZB Uzynbulak 147.91 323 *e*PKIKP PKPdf 17 15 46.8 +0.6
UZB pmax pmax
comp=Z,65nm,2.1s
LOUT Loutraki 147.94 48 P PKPbc 17 15 48.0 -1.2
PRD Provadia 147.97 37 P PKPbc 17 15 48.6 -0.5
EFOR EFORIE 148.04 34 ⇓P PKPdf 17 15 47.5 +1.4
RDO Rodhopi 148.06 41 P PKPbc 17 15 48.4 -1.0
ZHN Zhinishke 148.23 324 *e*PKIKP PKPdf 17 15 47.3 +0.6
ZHN pmax pmax
comp=Z,66nm,2.4s
KRND KRANIDI 148.34 49 P PKPbc 17 15 49.9 -0.4
EDRB Edirne 148.39 39 P PKPdf 17 15 48.2 +1.4
KYMI Kymi, Euboea I 148.43 47 P PKPdf 17 15 45.2 -1.8
LIA Limnos Island 148.51 44 P PKPbc 17 15 49.0 -1.6
ALN Alexandroupoli 148.51 41 P PKPbc 17 15 49.0 -1.6
ENEZ Enez 148.67 42 P PKPbc 17 15 49.6 -1.4
BTLS Baital 149.17 330 *e*PKIKP PKPdf 17 15 48.0 0.0
TKM2 Tokmak 2 149.94 326 P PKPbc 17 15 54.3 -0.1
SNR=27
ULHL Ulahol 150.06 324 P PKPbc 17 15 54.5 -0.3
SNR=13
SGDS Sogindy 150.06 328 *e*PKIKP PKPdf 17 15 50.5 +1.0
SIM Simferopol' 150.07 28 *e*PKP2 PKiKP 17 15 55.5 +0.2
SIM pmax pmax
comp=Z,26nm,1.1s
USP Ospenovka 150.26 328 P PKPbc 17 15 54.4 -0.5
SNR=14
CHMS Chumysh 150.33 327 P PKPbc 17 15 54.5 -0.6
SNR=9.9
KBK Karagaybulak 150.47 326 P PKPbc 17 15 55.1 -0.5
SNR=16
IDI Anoyia 150.50 52 P PKPbc 17 15 55.6 -0.2
AAK Ala-Archa 150.72 327 ⇑*e*PKIKP PKPdf 17 15 52.1 +1.4
UCH Uchtor 151.00 326 P PKPdf 17 15 50.9 -0.6
SNR=5.7
EKS2 Erkin-Say 151.07 328 P PKiKP 17 15 57.4 -0.2
SNR=22
KULA Kula-Manisa 151.53 43 P PKPdf 17 15 52.3 +0.3
ANN Anapa 151.56 24 *e*PKIKP PKPdf 17 15 52.6 +0.9
ANN pmax pmax
comp=Z,45nm,1.0s
ERBR Yeremizino-Bor 151.81 19 *e*PKIKP PKPdf 17 15 53.5 +1.4
ERBR pmax pmax
comp=Z,65nm,1.5s
KSH Kashi 151.98 320 PKPbc PKPdf 17 15 53.6 +0.9
LABN Labinsk 152.85 20 *e*PKIKP PKPbc 17 15 58.9 -1.9
LABN pmax pmax
comp=Z,72nm,1.5s
IUG Iuzhnay 153.26 331 *e*PKIKP PKPdf 17 15 54.5 0.0
SOC Sochi 153.45 22 *e*PKP2 PKPab 17 16 14.6 +0.4
SOC pmax pmax
comp=Z,25nm,0.8s
BRTR Keskin Array B 153.74 36 PKP PKPdf 17 15 55.3 0.0
comp=Z,1.1nm,0.9s,baz=183,slow=2.5,SNR=7.4
BRTR PKPbc PKPbc 17 16 02.4 -0.7
comp=Z,2.8nm,0.8s,baz=153,slow=0.5,SNR=12
KIV Kislovodsk 154.07 17 *e*PKIKP PKPdf 17 15 53.8 -1.7
KIV *e* 17 19 49.7
KIV *e*SS SS 17 39 29.1 +0.5
KIV pmax pmax
comp=Z,6.0nm,1.0s
MAK Makhachkala 156.11 10 *e*PKIKP PKPdf 17 15 51.7 -6.5
MAK *e* 17 22 55.6
MAK *e*PPP PPP 17 23 34.4
MAK *e*SSS SSS 17 45 41.9
MAK pmax pmax
comp=Z,72nm,0.9s

TIR ***04*** *17:11:01.9, 41°.47N×19°.33E, h25km±3km, Ml2.7*
BEO ***04*** *17:11:04.7±0.7, 41°.35N×19°.55E, h11km±2km, ML2.3/6*
PDG ***04*** *17:11:05.2±0.1, 41°.50N×19°.61E, h15km, ML2.5/13, Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*
RHSSO ***04*** *17:11:07.0±0.8, 41°.46N×19°.38E, h8km±2km, ML2.6/8*
ISC 04 17:11:03.5±1.2, 41°.41N±0°.02×19°.49E±0°.02, h3km±10km, n62, σ1.9 08/103, 4C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**103**	P	**Pb**	**17 11 10.4**	**-0.8**
	baz=106						
TIR				S	**Sb**	**17 11 15.4**	**-1.1**
	baz=106						
TIR				AMP			
	comp=E,12nm,0.3s,baz=106						
TIR	**Tirane**	**0.29**	**103**	*e*Pg	**Pb**	**17 11 10.6**	**-0.7**
TIR				*e*Sg	**Sb**	**17 11 15.1**	**-1.4**
ULC	**Ulcinj**	**0.58**	**342**	⇑*i*Pg	**Pg**	**17 11 15.1**	**+0.4**
ULC				*i* Sg	**Sb**	**17 11 24.3**	**-0.7**
PUK	**Puka**	**0.70**	**25**	P	**Pg**	**17 11 16.1**	**-0.8**
	baz=35						
PUK				S	**Sg**	**17 11 26.4**	**+0.4**
	baz=35						
PUK				AMP			
	comp=E,0.8nm,0.4s,baz=35						
DRME	**Dracevica, Mon**	**0.81**	**344**	*e*Pg	**Pg**	**17 11 19.3**	**+0.3**
DRME				*e*Sg	**Sn**	**17 11 34.9**	**+0.7**
DRME	**Dracevica, Mon**	**0.81**	**344**	⇓*i*Pg	**Pg**	**17 11 19.3**	**+0.3**
DRME				*i* Sg	**Sb**	**17 11 31.9**	**+0.5**
VLO	**Vlora**	**0.94**	**180**	P	**Pg**	**17 11 20.6**	**-0.9**
	baz=172						
BUM	**Brajici-Budva**	**0.99**	**334**	⇓*i*Pg	**Pb**	**17 11 23.7**	**+0.3**
BUM				*i* Sg	**Sn**	**17 11 38.5**	**-0.4**
PDG	**Podgorica**	**1.03**	**350**	*e*Pg	**Pn**	**17 11 24.4**	**-0.4**
PDG				*e*Sg	**Sn**	**17 11 39.8**	**0.0**
PDG	**Podgorica**	**1.03**	**350**	⇑*i*Pg	**Pb**	**17 11 24.3**	**+0.3**
PDG				*e*Sg	**Sg**	**17 11 37.2**	**+0.5**
PDG	**Podgorica**	**1.03**	**350**	⇓*i*Pg	**Pb**	**17 11 24.0**	**0.0**
PDG				*i* Sg	**Sb**	**17 11 38.6**	**+0.7**
BCI	**Bajram Curri**	**1.05**	**24**	P	**Pg**	**17 11 22.3**	**-1.3**
	baz=31						
BCI				S	**Sb**	**17 11 37.7**	**-0.6**
	baz=31						
BCI				AMP			
	comp=E,0.7nm,0.4s,baz=31						
CEME	**Cevo**	**1.21**	**340**	⇓*i*Pg	**Pb**	**17 11 26.9**	**-0.2**
CEME				*i* Sg	**Sn**	**17 11 46.0**	**+1.7**
PVY	**Plav**	**1.23**	**16**	*e*Pg	**Pb**	**17 11 27.2**	**-0.3**
PVY	**Plav**	**1.23**	**16**	⇓*i*Pg	**Pg**	**17 11 26.2**	**-0.9**
PVY				*i* Sg	**Sn**	**17 11 44.5**	**-0.4**
KBN	**Korca**	**1.26**	**128**	P	**Pn**	**17 11 28.5**	**+0.5**
	baz=126						
KBN				S	**Sn**	**17 11 48.0**	**+2.6**
	baz=126						
HCY	**Herceg Novi**	**1.27**	**325**	*e*Pg	**Pn**	**17 11 29.0**	**+0.9**
HCY				*e*Sg	**Sg**	**17 11 44.9**	**+0.5**
HCY	**Herceg Novi**	**1.27**	**325**	⇑*i*Pg	**Pn**	**17 11 29.0**	**+0.9**
HCY				*i* Sg	**Sn**	**17 11 48.6**	**+2.9**
NKME	**Niksic**	**1.41**	**344**	⇓*i*Pg	**Pg**	**17 11 30.3**	**-0.3**
NKME				*i* Sg	**Sn**	**17 11 50.6**	**+1.4**
KOME	**Kolasin**	**1.44**	**1**	*e*Pg	**Pb**	**17 11 31.5**	**+0.6**
KOME				*e*Sg	**Sn**	**17 11 52.5**	**+2.6**
KOME	**Kolasin**	**1.44**	**1**	⇓*i*Pg	**Pb**	**17 11 31.0**	**+0.1**
KOME				*i* Sg	**Sn**	**17 11 51.0**	**+1.1**
BEY	**Berane**	**1.49**	**11**	*e*Pg	**Pn**	**17 11 30.7**	**-0.5**
IVA	**Berane**	**1.49**	**11**	⇓*i*Pg	**Pn**	**17 11 30.3**	**-0.9**
IVA				*i* Sg	**Sn**	**17 11 53.0**	**+1.8**
FNA	**Florina**	**1.56**	**113**	P	**Pg**	**17 11 33.3**	**0.0**
	baz=113						
FNA				S	**Sg**	**17 11 55.1**	**+1.6**
	baz=113						
TREB	**Trebinje**	**1.56**	**327**	*e*Pg	**Pg**	**17 11 33.2**	**-0.1**
TREB				*e*Sg	**Sb**	**17 11 53.4**	**+0.4**
SRN	**Sarande**	**1.58**	**166**	P	**Pg**	**17 11 33.2**	**-0.5**
	baz=161						
SRN				S	**Sg**	**17 11 56.2**	**+2.0**
	baz=161						
DBRK	**Dubrovnik**	**1.61**	**322**	*e*Pn	**Pn**	**17 11 33.3**	**+0.6**
BRY	**Bratogost**	**1.65**	**335**	⇓*i*Pn	**Pb**	**17 11 34.6**	**0.0**
BRY				*e*Sn	**Sn**	**17 11 55.9**	**+0.7**
BRY	**Bratogost**	**1.65**	**335**	⇓*i*Pn	**Pb**	**17 11 34.7**	**+0.1**
BRY				*i* Sn	**Sg**	**17 11 57.9**	**+1.4**
UPM	**Unac-Piva**	**1.84**	**347**	*e*Pn	**Pb**	**17 11 37.9**	**0.0**
UPM				*e*Sn	**Sb**	**17 12 01.0**	**-0.4**
UPM	**Unac-Piva**	**1.84**	**347**	⇓*i*Pn	**Pb**	**17 11 37.8**	**-0.1**
UPM				*i* Sn	**Sg**	**17 12 02.5**	**-0.2**
SJES	**Sjenica**	**1.88**	**11**	*e*Pn	**Pb**	**17 11 38.3**	**-0.2**
SJES				*e*Sn	**Sg**	**17 12 03.2**	**-0.8**
SJES	**Sjenica**	**1.88**	**11**	*e*Pn	**Pb**	**17 11 38.3**	**-0.2**
SJES				*e*Sn	**Sb**	**17 12 02.9**	**+0.4**
PLE	**Pljevlja**	**1.92**	**358**	*e*Pn	**Pb**	**17 11 38.9**	**-0.3**
PLE	**Pljevlja**	**1.92**	**358**	⇓*i*Pn	**Pn**	**17 11 37.9**	**+0.8**
PLE				*i* Sn	**Sb**	**17 12 03.4**	**-0.1**
NOCI	**Noci**	**1.94**	**252**	P	**Pn**	**17 11 37.5**	**+0.2**
	baz=250						
NOCI				S	**Sn**	**17 12 01.0**	**-1.0**
	baz=250						
STON	**Ston**	**1.98**	**318**	*e*Pn	**Pn**	**17 11 38.2**	**+0.4**
STON	**Ston**	**1.98**	**318**	*e*Pn	**Pb**	**17 11 39.5**	**-0.5**
STON				*e*Sn	**Sn**	**17 12 03.2**	**+0.2**
IGT	**Igoumenitsa**	**1.98**	**161**	P	**Pb**	**17 11 38.9**	**-1.2**
	baz=158						
IGT				S	**Sb**	**17 12 05.6**	**+0.3**
	baz=158						
RUDO	**Rudo**	**2.21**	**358**	*e*Pn	**Pb**	**17 11 43.1**	**-0.9**
RUDO				*e*Sn	**Sn**	**17 12 09.8**	**+1.0**
PRVS	**Prvonek**	**2.22**	**60**	*e*Pn	**Pn**	**17 11 41.4**	**+0.2**
PRVS				*e*Sn	**Sn**	**17 12 08.9**	**-0.2**
IVAS	**Ivanjica**	**2.22**	**13**	*e*Pn	**Pn**	**17 11 42.3**	**+1.1**
BARS	**Barje**	**2.23**	**50**	*e*Pn	**Pn**	**17 11 41.5**	**+0.2**

BBLS	**Lazi&#263i**	**2.45**	**359**	*e*Pn	**Pb**	**17 11 47.4**	**-0.8**
BBLS	**Lazi&#263i**	**2.45**	**359**	⇑*i*Pn	**Pb**	**17 11 47.3**	**-0.9**
BBLS				*e*Sn	**Sn**	**17 12 16.2**	**+1.3**
MAKA	**Makarska**	**2.62**	**317**	*e*Pn	**Pn**	**17 11 47.0**	**+0.4**
GRUS	**Gruza**	**2.64**	**20**	*e*Pn	**Pn**	**17 11 46.4**	**-0.5**
HAPS	**Han Pijesak,BI**	**2.70**	**352**	*e*Pn	**Pn**	**17 11 49.1**	**+1.2**
HAPS				*e*Sn	**Sn**	**17 12 22.3**	**+1.2**
DIVS	**Divibare**	**2.71**	**8**	*e*Pn	**Pb**	**17 11 50.6**	**-2.0**
RICI	**Ricice**	**2.72**	**321**	*e*Pn	**Pn**	**17 11 48.3**	**+0.4**
RICI				Sn	**Sn**	**17 12 21.2**	**-0.1**
LKD2	**Lefkada island**	**2.77**	**161**	P	**Pn**	**17 11 49.9**	**+1.2**
	baz=158						
LKD2				S	**Sn**	**17 12 24.1**	**+1.5**
	baz=158						
SGRT	**San Giovanni R**	**2.83**	**278**	P	**Pn**	**17 11 47.4**	**-2.2**
	baz=278						
HVAR	**Hvar**	**2.87**	**309**	*e*Pn	**Pn**	**17 11 49.7**	**-0.3**
KUBS	**Kucevo**	**3.40**	**27**	*e*Pn	**Pn**	**17 11 56.6**	**-0.8**
ZIRJ	**Zirje**	**3.62**	**310**	*e*Pn	**Pn**	**17 11 59.8**	**-0.6**
A050A	**Klekovaca**	**3.76**	**326**	*e*Pn	**Pn**	**17 12 03.9**	**+1.5**
A050A				*e*Sn	**Sn**	**17 12 46.5**	**-0.6**
DUGI	**Dugi Otok**	**4.16**	**310**	*e*Pn	**Pn**	**17 12 08.4**	**+0.6**
VIRC	**Vir**	**4.35**	**313**	*e*Pn	**Pn**	**17 12 11.4**	**+1.0**
BOJS	**Bojanci**	**5.12**	**324**	*e*Sn	**Sn**	**17 13 18.9**	**-1.7**
CRES	**Cresnjev**	**5.29**	**328**	*e*Pn	**Pn**	**17 12 24.8**	**+1.4**
CRES				*e*Sn	**Sn**	**17 13 23.0**	**-1.9**
CEY	**Cerknica**	**5.68**	**321**	*e*Sn	**Sn**	**17 13 32.0**	**-2.3**
SKDS	**Skadanscina**	**5.74**	**318**	*e*Sn	**Sn**	**17 13 32.4**	**-3.5**

*IDC **04** 17:54:45.1±1.5, 11°.06N×93°.01E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=79.9km s-min=18.5km az=60.0*
*NEIC **04** 17:54:56.2±1.7, 11°.3N±0°.1×93°.1E±0°.1, h98km±4km, mb4.0/5, Error ellipse: s-maj=20.7km s-min=12.6km az=56.0*
*NDI **04** 17:54:57.6±2.6, 11°.39N×93°.18E, h91km±19km, ML4.0, mb4.0(NEIC)*

ISC 04 17:54:56.0±0.8, **11°.3N**±0°.1×**92°.96E**±0°.09, **h100**km, **n33**, σ**2**§**40**/35, **mb4.0**/10, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.44**	**330**		**Pn**	**17 55 11.2**	**-0.2**
PBA				Sn	**Sn**	**17 55 21.7**	**-1.1**
PBA	**Port Blair**	**0.44**	**330**	*e*P	**Pn**	**17 55 11.4**	**0.0**
PBA				*e*S	**Sn**	**17 55 24.1**	**+1.2**
PBA				IAML		17 55 27.4	
	comp=N,5μm,0.3s						
PBA				IAML		17 55 27.9	
	comp=E,4μm,0.3s						
SRIT	**Nakonsritamara**	**7.06**	**112**	Pn	**Pn**	**17 56 34.8**	**-2.0**
CM31	**Chiang Mai Arr**	**9.19**	**38**	Pn	**Pn**	**17 57 03.0**	**-2.7**
CMAR	**Chiang Mai Arr**	**9.19**	**38**	Pn	**Pn**	**17 57 05.5**	**-0.1**
CHTO	**Chiang Mai**	**9.46**	**37**	Pn	**Pn**	**17 57 08.4**	**-1.0**
KULM	**Kulim**	**9.65**	**127**	Pn	**Pn**	**17 57 11.8**	**-0.2**
PHRA	**Phrae**	**10.04**	**43**	Pn	**Pn**	**17 57 15.4**	**-1.9**
VIS	**Vishakhapatnam**	**11.32**	**306**	*e*P	**Pn**	**17 57 37.6**	**+3.0**
VIS				*e*S	**Sn**	**17 59 31.8**	**-7.3**
VIS				IAML		17 59 39.3	
	comp=N,26nm,0.0s						
VIS				IAML		17 59 39.4	
	comp=E,34nm,0.1s						
KOHI	**KOHIMA**	**14.41**	**4**	*e*P	**Pn**	**17 58 16.1**	**+0.8**
ZIRO	**ZIRO**	**16.19**	**3**	*e*P	**Pn**	**17 58 37.1**	**-0.7**
LSA	**Lhasa**	**18.41**	**355**		**P**	**17 59 03.3**	**-0.6**
LSA				IAmb	IAmb	17 59 08.1	
	comp=Z,5.5nm,0.8s						
GOMU	**GeErMu**	**24.87**	**4**	P	**P**	**18 00 13.8**	**+4.0**
GOMU				pmax	pmax		
	comp=Z,11nm,0.7s						
H08S3	**Diego Garcia H**	**27.71**	**228**	T	T	18 28 39.6	
	baz=47,slow=76,SNR=13						
H08S2	**Diego Garcia H**	**27.71**	**228**	T	T	18 28 43.9	
	baz=47,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**27.73**	**228**	T	T	18 28 30.4	
	baz=47,slow=76,SNR=7.5						
GTA	**Gaotai**	**28.68**	**11**	*e*P	**P**	**18 00 46.3**	**+2.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	**Makanchi Array**	**36.54**	**348**	P	**P**	**18 01 51.6**	**-0.3**
MKAR	**Makanchi Array**	**36.54**	**348**	P	**P**	**18 01 54.0**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=171,slow=9.0,SNR=6.6						
	comp=Z,0.5nm,0.5s						
KK31	**Karatay Array**	**37.23**	**332**	P	**P**	**18 01 58.1**	**+0.3**
KK31				IAmb	IAmb	18 01 58.1	
	comp=Z,3.0nm,1.4s						
KKAR	**Karatay Array**	**37.23**	**332**	P	**P**	**18 01 57.9**	**+0.1**
SONM	**Songino Array**	**38.15**	**15**	P	**P**	**18 02 01.5**	**-4.1**
SONM	**Songino Array**	**38.15**	**15**	P	**P**	**18 02 07.6**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=197,slow=7.5,SNR=2.9						
	comp=Z,0.5nm,0.3s						
ULN	**Ulaanbaatar**	**38.35**	**15**	P	**P**	**18 02 05.0**	**-2.3**
ZALV	**Zalesovo Beam**	**43.06**	**353**	P	**P**	**18 02 48.4**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=165,slow=9.2,SNR=3.4						
	comp=Z,0.6nm,0.3s						
WRA	**Warramunga Arr**	**51.20**	**127**	P	**P**	**18 03 49.5**	**0.0**
	comp=Z,1.3nm,0.4s,baz=301,slow=10,SNR=41						
WRA				PcP	**PcP**	**18 05 04.3**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=306,slow=3.0,SNR=4.8						
	comp=Z,1.3nm,0.4s						
ASAR	**Alice Springs**	**52.99**	**131**	P	**P**	**18 04 02.8**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=304,slow=7.4,SNR=32						
ASAR				PcP	**PcP**	**18 05 12.1**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=318,slow=4.2,SNR=4.5						
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**69.18**	**332**	P	**P**	**18 05 54.6**	**+3.0**
	comp=Z,0.5nm,0.5s,baz=90,slow=5.7,SNR=5.1						
	comp=Z,0.5nm,0.5s						
ARCES	**ARCESS Array B**	**71.69**	**340**	P	**P**	**18 06 10.3**	**+3.5**
	comp=Z,2.6nm,1.1s,baz=103,slow=7.5,SNR=2.2						
	comp=Z,2.6nm,1.1s						
GCPR	**Guaynabo City**	**144.06**	**325**	PKPdf	**PKPab**	**18 14 16.9**	**-1.6**
LL02	**Futaleuf**	**145.57**	**200**	PKPdf	**PKPdf**	**18 14 20.6**	**-2.2**
SOR	**Soroa**	**145.91**	**353**	PKPdf	**PKPdf**	**18 14 21.4**	**-2.6**
LL07	**Hotel Espejo d**	**146.42**	**198**	PKPdf	**PKPdf**	**18 14 22.8**	**-1.4**

*TUN **04** 18:32:54.9, 34°.20N×7°.43E, h0km, MD4.2*
*IDC **04** 18:32:56.6±1.2, 34°.47N×7°.36E, h0km, mb3.9/9, mbtmp3.9/10, ML3.8/1, Error ellipse: s-maj=30.9km s-min=16.2km az=136.0*
*CRAAG **04** 18:32:57.6, 34°.25N×7°.83E, Ml4.0, Tunisie*

ISC 04 18:32:57.2±0.8, **34°.18N**±0°.05×**7°.54E**±0°.04, **h10**km, **n33**, σ**1**§**38**/34, **mb4.0**/9, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGR	**Negrine**	**0.29**	**355**	P	**Pn**	**18 33 06.0**	**-1.6**
CBBAR	**Babar**	**1.00**	**343**	P	**Pn**	**18 33 18.2**	**+0.7**
BERT	**Berda**	**1.22**	**87**	*i* P	**Pg**	**18 33 20.3**	**-0.2**
CTGD	**Timgad**	**1.58**	**329**	P	**Pg**	**18 33 28.5**	**+0.9**
CRHA	**Rehia**	**1.58**	**3**	P	**Pb**	**18 33 26.4**	**-0.2**
MEDT	**Meda**	**1.97**	**91**	*i* P	**Pn**	**18 33 31.2**	**+0.6**
SGNT	**Sidi Gnaou**	**2.00**	**104**	*i* P	**Pb**	**18 33 32.2**	**-1.5**
CDCN	**Doucen**	**2.05**	**282**	P	**Pg**	**18 33 36.0**	**-0.4**
ABSA	**Djebel Ababsia**	**2.09**	**359**	P	**Pb**	**18 33 34.2**	**-1.0**
CTEI	**Djebel Teioual**	**2.10**	**334**	P	**Pb**	**18 33 35.5**	**+0.1**
CJSR	**Ain Djasser**	**2.13**	**322**	P	**Pb**	**18 33 35.0**	**-0.9**
KEST	**Kesra**	**2.14**	**43**	Pn	**Pn**	**18 33 32.3**	**-0.8**
	31nm,0.3s,baz=167,slow=5.6,SNR=86						
KEST				Pg	**Pb**	**18 33 35.3**	**-0.8**
	35nm,0.3s,baz=333,slow=14,SNR=158						
KEST				Lg	Lg	18 34 02.6	
	20nm,0.3s,baz=281,slow=23,SNR=5.1						
	297nm,0.7s						
TROT	**Trozza**	**2.18**	**50**	*i* P	**Pn**	**18 33 32.7**	**-0.9**
CASM	**Ain Smara**	**2.25**	**338**	P	**Pb**	**18 33 37.0**	**-0.9**
CBST	**Bordj Sabath**	**2.25**	**351**	P	**Pn**	**18 33 35.5**	**+0.9**
COAT	**Oued Athmania**	**2.29**	**334**	P	**Pb**	**18 33 38.0**	**-0.7**
CKFL	**Kef-Lekhel**	**2.31**	**343**	P	**Pb**	**18 33 37.5**	**-1.6**
GHAT	**Ghardimaou**	**2.39**	**15**	*i* P	**Pn**	**18 33 35.4**	**-1.1**
KRIT	**Krib**	**2.49**	**30**	*i* P	**Pn**	**18 33 36.5**	**-1.3**
CAEH	**'Ain El Ouahch**	**2.66**	**348**	P	**Pg**	**18 33 50.0**	**+1.9**
SET	**Setif**	**2.67**	**320**	P	**Pg**	**18 33 47.0**	**-1.4**
BLIT	**Baltah**	**2.78**	**24**	*i* P	**Pb**	**18 33 46.2**	**-0.7**
HANT	**Hania**	**2.84**	**54**	*i* P	**Pb**	**18 33 49.1**	**+1.1**
TATN	**Tataouine**	**2.96**	**122**	*i* P	**Pn**	**18 33 42.9**	**-1.4**
BRTR	**Keskin Array B**	**21.54**	**68**	P	**P**	**18 37 48.1**	**+1.5**
	0.8nm,0.7s,baz=254,slow=7.6,SNR=5.1						
	0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**21.60**	**196**	P	**P**	**18 37 51.4**	**+4.0**
	4.7nm,0.8s,baz=17,slow=12,SNR=19						
	4.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**22.42**	**344**	P	**P**	**18 37 55.1**	**-0.7**
	1.7nm,0.9s,baz=156,slow=11,SNR=6.9						
	1.7nm,0.9s						
FINES	**FINESS Array B**	**29.76**	**18**	P	**P**	**18 39 01.5**	**-2.1**
	1.7nm,0.6s,baz=191,slow=8.9,SNR=8.1						
	1.7nm,0.6s						
ARCES	**ARCESS Array B**	**36.79**	**10**	P	**P**	**18 40 02.2**	**-2.5**
	2.0nm,0.9s,baz=192,slow=8.3,SNR=3.1						
	2.0nm,0.9s						
KURBB	**Kurchatov Arra**	**52.91**	**49**	P	**P**	**18 42 13.0**	**-0.2**
	1.6nm,0.6s,baz=284,slow=8.6,SNR=8.0						
	1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**56.01**	**44**	P	**P**	**18 42 36.6**	**+0.8**
	1.0nm,0.6s,baz=275,slow=8.9,SNR=5.9						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**56.21**	**53**	P	**P**	**18 42 37.3**	**-0.1**
	2.0nm,0.6s,baz=284,slow=6.2,SNR=25						
	2.0nm,0.6s						
SONM	**Songino Array**	**70.89**	**45**	P	**P**	**18 44 15.8**	**+1.3**
	0.6nm,0.7s,baz=284,slow=5.8,SNR=2.8						
	0.6nm,0.7s						

IDC 04 18:35:06.6±50.0, **16°.68S**×**179°.60E**, **h0**km, **mb4.4**/3, **mbtmp4.4**/3, **Error ellipse: s-maj=898.5km s-min=147.3km az=76.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.59**	**239**	P	P	18 42 22.5	-0.6
	1.6nm,0.5s,baz=97,slow=11,SNR=4.0						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**43.00**	**258**	P	P	18 43 08.4	+0.3
	1.1nm,0.4s,baz=90,slow=7.8,SNR=76						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**43.31**	**253**	P	P	18 43 10.4	-0.3
	9.9nm,0.6s,baz=88,slow=8.6,SNR=170						
	9.9nm,0.6s						

*IDC **04** 18:39:17.8±1.1, 24°.89N×125°.20E, h0km, mb3.6/5, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=41.4km s-min=21.5km az=63.0*
*JMA **04** 18:39:23.8±0.1, 24°.9N±0°.8×125°.4E±0°.7, h54km, MV3.5/12, NEAR MIYAKOJIMA ISLAND*
JMA Felt I J1 at NEAR MIYAKOJIMA ISLAND .

ISC 04 18:39:24.1±0.9, **24°.87N**±0°.09×**125°.47E**±0°.06, **h52**km±5km, **n27**, σ0§**92**/36, **mb3.6**/5, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.13**	**206**	P	**Pn**	**18 39 32.5**	**+0.2**
JOGS				S	**Sn**	**18 39 38.9**	**+0.8**
JMJ	**Miyako jima 2**	**0.17**	**250**	P	**Pn**	**18 39 32.5**	**0.0**
JMJ2	**Miyako jima3**	**0.18**	**224**	P	**Pn**	**18 39 32.7**	**+0.1**
JMJ2				S	**Sn**	**18 39 39.2**	**+0.6**
JIKM	**Ikemajima**	**0.21**	**284**	P	**Pn**	**18 39 32.4**	**-0.3**
JIKM				*e*S	**Sn**	**18 39 38.7**	**-0.1**
JIRB	**Irabujima**	**0.27**	**261**	P	**Pn**	**18 39 32.8**	**-0.4**
JIRB				*e*S	**Sn**	**18 39 39.1**	**-0.6**
JTJ	**Tarama**	**0.73**	**252**	P	**Pn**	**18 39 38.3**	**-0.1**
JTJ				*e*S	**Sn**	**18 39 48.5**	**-0.2**
JISG	**Ishigakijimahi**	**1.09**	**255**	P	**Pn**	**18 39 42.5**	**-0.5**
JISG				S	**Sn**	**18 39 56.9**	**-0.3**
JIJ	**Ishigaki jima**	**1.31**	**247**	P	**Pn**	**18 39 45.8**	**-0.2**
JIJ				S	**Sn**	**18 40 02.2**	**-0.3**
JKRS	**Kuro-shima**	**1.47**	**245**	P	**Pn**	**18 39 48.6**	**+0.4**
JKRS				*e*S	**Sn**	**18 40 07.3**	**+0.9**
IRIF	**Iriomote-Funau**	**1.67**	**252**	P	**Pn**	**18 39 50.7**	**-0.3**
IRIF				*e*S	**Sn**	**18 40 12.0**	**+0.7**
HATJ	**Hateruma jima**	**1.72**	**242**	P	**Pn**	**18 39 52.2**	**+0.5**
JKE	**Kume jima 2**	**1.87**	**39**	*e*P	**Pn**	**18 39 53.4**	**-0.3**
YOJ	**Yonaguni jima**	**2.27**	**260**	P	**Pn**	**18 39 58.8**	**-0.4**
JOW	**Kunigami**	**3.19**	**52**	P	Pn	18 40 18.3	+6.5
JOW	**Kunigami**	**3.19**	**52**	Pn	**Pn**	**18 40 11.9**	**+0.1**
	2.5nm,0.3s,baz=65,slow=17,SNR=1.8						
JOW				Sn	**Sn**	**18 40 48.9**	**+0.2**
	6.4nm,0.3s,baz=282,slow=19,SNR=2.0						
	9.1nm,0.4s						
NACB	**Ninganchiao**	**3.60**	**260**	P	**Pn**	**18 40 17.2**	**-0.1**
TATO	**Taipei**	**3.62**	**272**	P	**Pn**	**18 40 20.1**	**+2.5**
YHNB	**Yeheng**	**3.73**	**268**	P	**Pn**	**18 40 21.3**	**+2.1**
YULB	**Yu-li**	**4.08**	**250**	P	**Pn**	**18 40 22.2**	**-1.9**
SSLB	**Suanglung**	**4.26**	**256**	P	**Pn**	**18 40 26.8**	**+0.3**
TWGBT	**Beinan**	**4.51**	**244**	P	**Pn**	**18 40 27.9**	**-2.0**
TPUB	**Ta-pu**	**4.69**	**251**	P	**Pn**	**18 40 33.0**	**+0.6**
MKAR	**Makanchi Array**	**40.62**	**314**	P	**P**	**18 46 58.0**	**-0.9**
	0.5nm,0.4s,baz=104,slow=8.7,SNR=14						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**41.86**	**325**	P	**P**	**18 47 07.8**	**-1.1**
	0.5nm,0.4s,baz=115,slow=8.9,SNR=2.7						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**45.38**	**168**	P	**P**	**18 47 38.2**	**+0.7**
	0.4nm,0.6s,baz=349,slow=8.2,SNR=5.2						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**48.94**	**170**	P	**P**	**18 48 06.5**	**+1.3**
	0.2nm,0.5s,baz=355,slow=7.5,SNR=5.7						
	0.2nm,0.5s						
BRTR	**Keskin Array B**	**75.88**	**307**	P	**P**	**18 51 05.2**	**-0.2**
	0.9nm,0.8s,baz=95,slow=4.6,SNR=4.5						
	0.9nm,0.8s						

DJA 04 18:45:23.3±0.2, **7°S**±2°×**10°8E**±°, **h10**km, **M3.9**/15, **MLv3.9**/15, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**0.46**	**348**	P	Pg	18 45 31.1	-1.3
LEM				S	Sg	18 45 38.8	+0.3
CNJI	**Cibinong**	**0.58**	**267**	P	Pg	18 45 34.4	-0.1
CNJI				S	Sg	18 45 42.3	+0.2
CMJI	**Cimerak**	**0.89**	**124**	P	Pg	18 45 39.5	-0.9
CMJI				S	Sg	18 45 51.4	-0.6
JCJI	**Jatiwangi**	**0.96**	**35**	P	Pg	18 45 38.4	-3.4
JCJI				S	Sg	18 45 48.6	-5.8
SKJI	**Sukabumi**	**1.18**	**283**	P	Pb	18 45 45.8	0.0
SKJI				S	Sn	18 46 02.2	+0.2
DBJI	**Dramaga**	**1.20**	**307**	P	Pb	18 45 44.8	-1.3
DBJI				S	Sn	18 46 02.4	0.0
TNG	**Tangerang**	**1.53**	**316**	P	Pb	18 45 50.6	-1.1
TNG				P	Pn	18 45 50.5	-0.1
SBJI	**Serang**	**1.95**	**306**	P	Pn	18 45 57.6	+1.2
YOGI	**Yogyakarta**	**2.62**	**102**	P	Pn	18 46 05.0	-0.7
SMRI	**Semarang**	**2.72**	**85**	P	Pn	18 46 08.0	+0.9
UGM	**Wanagama**	**2.86**	**103**	P	Pn	18 46 09.8	+0.8
KASI	**Kota Agung**	**3.64**	**298**	P	Pn	18 46 19.9	+0.2
PWJI	**Pagerwojo**	**4.12**	**101**	P	Pn	18 46 28.1	+1.7
LWLI	**Liwa**	**4.27**	**302**	P	Pn	18 46 30.3	+1.8

*IDC **04** 18:45:31.1±1.8, 6°.13S×131°.73E, h48km±9km, mb3.5/3, mbtmp4.0/4, ML4.8/2, Error ellipse: s-maj=175.8km s-min=18.4km az=69.0*
*NEIC **04** 18:45:33.9±2.0, 6°.09S±0°.06×131°.7E±0°.1, h99km±11km, mb4.5/10, Error ellipse: s-maj=19.3km s-min=6.2km az=107.0*
*DJA **04** 18:45:34.3±0.2, 6°S±2°×13°2E±°, h109km±6km, M4.8/25, mB5.4/8, mb4.6/25, MLv5.0/12, Mw(mB)4.8/8*

ISC 04 18:45:33.9±0.5, **6°.08S**±0°.04×**131°.58E**±0°.06, **h100**km, **n86**, σ2§**03**/92, **mb3.8**/5, **Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.91**	**188**	Pn	**Pn**	**18 46 06.3**	**+0.9**
SAUI				Sn	**Sn**	**18 46 28.1**	**-1.3**
SAUI	**Saumlaki**	**1.91**	**188**	P	**Pn**	**18 46 06.5**	**+1.2**
BNDI	**Bandanaira**	**2.27**	**313**	P	**Pn**	**18 46 11.3**	**+1.3**
BNDI	**Bandanaira**	**2.27**	**313**	P	**Pn**	**18 46 11.1**	**+1.1**
BNDI				S	**Sn**	**18 46 37.4**	**-0.3**
KMPI	**Kaimana, Papua**	**3.20**	**42**	P	**Pn**	**18 46 24.3**	**+2.0**
KMPI				S	**Sn**	**18 46 59.9**	**+0.1**
FAKI	**Fak Fak**	**3.21**	**12**	P	**Pn**	**18 46 23.9**	**+1.4**
FAKI	**Fak Fak**	**3.21**	**12**		**Pn**	**18 46 23.2**	**+0.7**
FAKI				Sn	**Sn**	**18 46 54.4**	**-5.5**
FAKI	**Fak Fak**	**3.21**	**12**	P	**Pn**	**18 46 23.7**	**+1.2**
SWI	**Sorong**	**5.19**	**356**	P	**Pn**	**18 46 49.2**	**0.0**
NLAI	**Namlea**	**5.28**	**302**	P	**Pn**	**18 46 50.9**	**+0.5**
	153nm,1.0s,6μm0.8nm						
DRS	**Darwin Rock St**	**6.35**	**186**	P	**Pn**	**18 47 04.8**	**-0.1**
KDU	**Kakadu**	**6.63**	**172**	P	**Pn**	**18 47 08.1**	**-0.6**
KDU	**Kakadu**	**6.63**	**172**	P	**Pn**	**18 47 08.1**	**-0.6**
	comp=Z,143nm,0.7s						
MTN	**Manton Dam**	**6.74**	**184**	P	**Pn**	**18 47 10.1**	**-0.1**
MTN	**Manton Dam**	**6.74**	**184**		**Pn**	**18 47 09.9**	**-0.3**
MTN				Sn	**Sn**	**18 48 21.9**	**-3.6**
MTN	**Manton Dam**	**6.74**	**184**	P	**Pn**	**18 47 10.2**	**-0.1**
	comp=Z,484nm,0.6s						
LBMI	**Labuha**	**6.76**	**323**	P	**Pn**	**18 47 11.4**	**+0.8**
	comp=Z,110nm,0.5s,comp=Z,0.6nm						
SANI	**Sanana**	**6.86**	**305**	P	**Pn**	**18 47 14.0**	**+2.1**
SANI	**Sanana**	**6.86**	**305**	P	**Pn**	**18 47 12.1**	**+0.2**
	comp=Z,77nm,0.5s,comp=Z,2μmcomp=Z,0.4nm						
TNTI	**Ternate**	**8.00**	**328**	P	**Pn**	**18 47 29.1**	**+1.7**
TNTI	**Ternate**	**8.00**	**328**	Pn	**Pn**	**18 47 27.5**	**+0.1**
TNTI	**Ternate**	**8.00**	**328**	P	**Pn**	**18 47 27.8**	**+0.4**
	comp=Z,21nm,0.4s						
SOEI	**Soe**	**8.11**	**243**	P	**Pn**	**18 47 29.5**	**+0.5**
SOEI	**Soe**	**8.11**	**243**	Pn	**Pn**	**18 47 28.9**	**-0.1**
SOEI	**Soe**	**8.11**	**243**	P	**Pn**	**18 47 28.9**	**-0.1**
	comp=Z,66nm,0.7s						
BATI	**Baumata**	**8.84**	**242**	P	**Pn**	**18 47 38.8**	**-0.1**
	comp=Z,38nm,0.9s						
BBSI	**Bau Bau**	**8.98**	**273**	P	**Pn**	**18 47 41.5**	**+0.7**
	comp=Z,50nm,1.0s						
MMPI	**Merauke**	**9.05**	**106**	P	**Pn**	**18 47 43.2**	**+1.5**
MMRI	**Maumere**	**9.61**	**254**	Pn	**Pn**	**18 47 50.0**	**+0.8**
TABU	**Tabubil**	**9.63**	**86**	P	**Pn**	**18 47 51.7**	**+2.0**
JAY	**Jayapura**	**9.77**	**69**	P	**Pn**	**18 47 53.0**	**+1.5**
	comp=Z,15nm,0.6s						
KNRA	**Kununurra**	**9.93**	**196**	Pn	**Pn**	**18 47 52.4**	**-1.3**
KNRA	**Kununurra**	**9.93**	**196**	P	**Pn**	**18 47 52.3**	**-1.3**
	comp=Z,154nm,0.5s						
EDFI	**Ende, Flores**	**10.16**	**254**	P	**Pn**	**18 47 56.9**	**0.0**
	comp=Z,13nm,0.8s						
GTOI	**Gorontalo**	**10.85**	**308**	P	**Pn**	**18 48 10.2**	**+4.1**
BKSI	**Bulukumba**	**11.42**	**273**	P	**Pn**	**18 48 12.5**	**-1.4**
	comp=Z,27nm,1.0s						
MRSI	**Marisa**	**11.62**	**304**	P	**Pn**	**18 48 16.5**	**0.0**
BASI	**Baing, Sumba**	**11.64**	**249**	P	**Pn**	**18 48 15.9**	**-0.9**
TOLI2	**Tolitoli**	**12.93**	**303**	P	**Pn**	**18 48 36.6**	**+2.7**
TOLI2	**Tolitoli**	**12.93**	**303**	Pn	**Pn**	**18 48 35.7**	**+1.7**
FITZ	**Fitzroy Crossi**	**13.28**	**205**	P	**Pn**	**18 48 37.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**13.28**	**205**		**Pn**	**18 48 34.0**	**-4.5**
COEN	**Coen**	**13.84**	**125**	P	**Pn**	**18 48 46.5**	**+0.7**
COEN	**Coen**	**13.84**	**125**		**Pn**	**18 48 44.5**	**-1.4**
COEN	**Coen**	**13.84**	**125**	P	**Pn**	**18 48 46.6**	**+0.7**
WB0	**Warramunga Arr**	**13.88**	**169**		**Pn**	**18 48 42.0**	**-4.3**
PLAI	**Plampang**	**13.95**	**258**	P	**Pn**	**18 48 48.8**	**+1.5**
PLAI	**Plampang**	**13.95**	**258**	P	**Pn**	**18 48 46.2**	**-1.1**
	comp=Z,48nm,1.0s						
WRAB	**Tennant Creek**	**14.03**	**169**		**Pn**	**18 48 44.2**	**-4.2**
WRA	**Warramunga Arr**	**14.04**	**169**		Pn	18 48 43.3	-5.2
WRA	**Warramunga Arr**	**14.04**	**169**	P	**Pn**	**18 48 44.8**	**-3.6**
	comp=Z,5.4nm,0.3s,baz=351,slow=13,SNR=82						
WRA				S	Sn	18 51 11.4	-12
	comp=Z,15nm,0.6s,baz=346,slow=24,SNR=8.9						
WB2	**Warramunga Arr**	**14.04**	**169**		**Pn**	**18 48 44.0**	**-4.4**
WR0	**Warramunga Arr**	**14.10**	**168**		**Pn**	**18 48 45.0**	**-4.1**
TWSI	**Taliwang, Sumb**	**14.81**	**259**	P	**Pn**	**18 48 56.9**	**-1.4**
	comp=Z,22nm,1.3s						
PMG	**Port Moresby**	**15.79**	**103**	Pn	**Pn**	**18 49 07.9**	**-2.7**
PMG				IAmb	IAmb	18 49 40.8	
	comp=Z,43nm,1.3s						
QIS	**Mount Isa**	**16.37**	**152**	P	**Pn**	**18 49 17.9**	**+0.1**
QIS	**Mount Isa**	**16.37**	**152**	P	**Pn**	**18 49 17.5**	**-0.3**
	comp=Z,20nm,0.9s						
MTSU	**Mount Surprise**	**17.27**	**135**	P	**Pn**	**18 49 30.8**	**+1.9**

MT01	Popeta	4.73	30			Pn	18 51 48.2 -0.8
MT01	Popeta	4.73	30	eP		Pn	18 51 48.3 -0.8
BO04	La Punta	4.90	36			Pn	18 51 50.7 -0.7
MT09	Talagante	4.91	32			Pn	18 51 51.0 -0.7
LMEL	Las Melosas	5.21	38			Pn	18 51 55.8 0.0
MT13	San Alfonso	5.25	37			Pn	18 51 56.1 -0.2
MT02	Curacav	5.31	28			Pn	18 51 56.0 -1.0
MT02	Curacav	5.31	28	eP		Pn	18 51 55.9 -1.1
MT05	Renca	5.35	32	Pn		Pn	18 51 58.4 +0.9
MT03	Universidad Ad	5.36	34	Pn		Pn	18 51 56.0 -1.8
MT16	CCHEN	5.41	33	Pn		Pn	18 51 58.1 -0.3
VA06	Catapilco	5.89	24			Pn	18 52 04.0 -1.0
VA03	San Esteban	5.98	30			Pn	18 52 05.3 -0.9
CO02	Combarbal	7.25	21			Pn	18 52 22.4 -1.4
CO06	Fray Jorge	7.59	16	Pn		Pn	18 52 26.2 -2.1
CO03	El Pedregal	7.68	22			Pn	18 52 29.1 -0.6
ZON	Zonda	7.83	36			Pn	18 52 30.8 -0.8
GO04	Tololo Observa	8.28	20	Pn		Pn	18 52 36.1 -1.8
CO01	Juntas del Tor	8.67	24			Pn	18 52 43.1 -0.2
TRQA	Tornquist	9.55	94	Pn		Pn	18 52 54.9 -0.2
AC05	El Transito	9.69	20			Pn	18 52 55.8 -1.3
AC04	Llanos de Chal	10.10	15	Pn		Pn	18 53 01.0 -1.7
GO08	Villa O'Higgin	10.51	174	Pn		Pn	18 53 09.9 +1.7
SNAA	Sanae	48.54	156	P		P	18 59 20.2 +0.1
SNAA				IAmb		IAmb	18 59 53.1
	comp=Z,5.5nm,1.4s						
QSPA	South Pole Qui	52.23	180	P		P	18 59 49.2 +0.9
QSPA				IAmb		IAmb	19 00 10.9
	comp=Z,5.5nm,1.4s						
R55A	Marlinton	76.12	355	P		P	19 02 26.6 +1.6
R55A				IAmb		IAmb	19 02 44.4
	comp=Z,7.0nm,1.0s						

IDC 04 18:52:44.4±448.0, 47°91N×46°85E, h0km, Error ellipse: s-maj=201.8km s-min=138.4km az=4.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	7.75	67	I	I	19 38 27.4	
	baz=255,slow=281,SNR=4.5						
I43RU	DUBNA INFRASONI	0.60	330	I	I	19 57 10.0	
	baz=144,slow=323,SNR=2.4						
I26DE	FREYUNG INFRAS	21.93	285	I	I	21 03 20.0	
	baz=71,slow=327,SNR=0.6						

*IDC **04** 18:52:59.7±1.4, 17°58S×69°02W, h139km±11km, mb4.0/14, mbtmp4.5/18, MS3.1/2, Error ellipse: s-maj=14.6km s-min=12.0km az=74.0*
*SCB **04** 18:52:59.7±1.0, 17°67S×69°40W, h136km±11km, ML4.8/2, MW4.5, Error ellipse: s-maj=10.8km s-min=2.5km az=1.0*
*NEIC **04** 18:52:59.3±2.0, 17°69S±0°06×69°20W±0°08, h146km±7km, mb4.8/98, Mwr4.7(GUC), Error ellipse: s-maj=11.4km s-min=8.3km az=105.0*
*VAO **04** 18:53:00.3±0.4, 17°64S×68°95W, h138km±4km, mb4.9*
*GUC **04** 18:53:00.7±0.9, 17°70S×69°32W, h157km±5km, ML4.7*
ISC 04 18:52:59.2±0.6, 17°70S±0°04×69°18W±0°05, h144km±5km, n235, σ1§45/243, mb4.8/52, 1C-10D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	Visviri	0.31	291			Pn	18 53 21.7 +1.9
PB18	Visviri	0.31	291	⇑iP		Pn	18 53 22.0 +2.2
PB18				i S		Sn	18 53 38.9 +3.6
SOEJ	Jacaque	1.19	53	Pg		Pn	18 53 28.0 +2.3
SOEJ				Sg		Sn	18 53 48.7 +2.8
BBOD	La Paz, Gloria	1.19	28	Pg		Pn	18 53 27.5 +1.7
AP01	Chacalluta	1.29	239			Pn	18 53 26.5 +0.3
AP01	Chacalluta	1.29	239	⇓iP		Pn	18 53 26.6 +0.5
AP01				i S		Sn	18 53 46.9 +0.2
AP01				IAML			18 53 47.9
	comp=N,17μm,0.3s						
BBOE	La Paz, Chanca	1.44	52	Pg		Pn	18 53 30.6 +2.3
SOEO	Opoqueri	1.50	125	Pg		Pn	18 53 31.9 +3.1
BS00	La Paz	1.56	40	Pg		Pn	18 53 31.7 +2.2
PX02	IPOC Station P	1.59	217	eP		Pn	18 53 28.6 -0.8
LPAZ	La Paz	1.73	36			Pn	18 53 33.2 +1.8
LPAZ	La Paz	1.73	36	P		Pn	18 53 33.4 +1.9
	comp=N,4μm,0.3s,baz=220,slow=3.2						
LPAZ				S		Sn	18 53 57.6 +1.5
	comp=N,321nm,0.5s,baz=350,slow=23,SNR=1.5						
LPAZ	La Paz	1.73	36	eP		Pn	18 53 33.4 +1.9
LPAZ	La Paz	1.73	36	Pg		Pn	18 53 33.4 +1.9
GO01	Chusmiza	1.96	180			Pn	18 53 36.0 +2.1
GO01	Chusmiza	1.96	180	⇓iP		Pn	18 53 36.2 +2.2
GO01				i S		Sn	18 54 04.0 +3.3
GO01				IAML			18 54 04.7
	comp=N,3μm,0.2s						
GO01				IAML			18 54 06.5
	comp=N,3μm,0.3s						
GO01	Chusmiza	1.96	180	Pg		Pn	18 53 35.9 +1.9
PB11	IPOC Station P	2.10	192			Pn	18 53 36.0 +0.7
PB11	IPOC Station P	2.10	192	⇓iP		Pn	18 53 36.2 +0.9
PB11				i S		Sn	18 54 04.1 +0.9
PB11				IAML			18 54 08.2
	comp=N,3μm,0.4s						
PB11	IPOC Station P	2.10	192	Pg		Pn	18 53 36.2 +0.9
PB11				Sg		Sn	18 54 04.1 +0.9
PB11				IAML			18 54 07.4
	comp=N,3μm,0.2s						
HMBC	Humberstone	2.65	195			Pn	18 53 42.2 +0.1
HMBC	Humberstone	2.65	195	⇓iP		Pn	18 53 42.1 +0.1
HMBC				i S		Sn	18 54 14.6 -0.6
HMBC				IAML			18 54 21.5
	comp=N,4μm,0.6s						
TA01	Diego Aracena	3.00	198			Pn	18 53 46.2 -0.1
TA01	Diego Aracena	3.00	198	IAML			18 54 31.6
	comp=E,1μm,0.4s						
PATCX	Punta Patache	3.24	196	Pn		Pn	18 53 49.0 -0.4
PATCX	Punta Patache	3.24	196	iP		Pn	18 53 49.0 -0.4
PATCX				i S		Sn	18 54 26.7 -1.7
PATCX				IAML			18 54 36.2
	comp=E,1μm,0.8s						
PB01	IPOC Station P	3.34	185			Pn	18 53 50.9 +0.1
PB01	IPOC Station P	3.34	185	Pg		Pn	18 53 51.7 +0.9
PB01				Sg		Sn	18 54 30.4 -0.4
PB01				IAML			18 54 37.5
	comp=E,3μm,0.3s						
PB09	IPOC Station P	4.08	181			Pn	18 54 01.1 +0.7
PB09	IPOC Station P	4.08	181	⇓iP		Pn	18 54 01.4 +0.9
PB09	IPOC Station P	4.08	181	Pg		Pn	18 54 02.1 +1.6
PB04	IPOC Station P	4.70	191			Pn	18 54 07.7 -1.0
MOCB	Mochara	4.86	137	Pg		Pn	18 54 14.4 +3.3
LVC	Limon Verde	4.89	177	Pn		Pn	18 54 12.6 +1.1
LVC	Limon Verde	4.89	177	P		Pn	18 54 13.0 +1.6
	comp=E,89nm,0.4s,baz=24,slow=9.2,SNR=154						
LVC				S		Sn	18 55 05.4 -2.2
	comp=E,161nm,0.3s,baz=91,slow=21,SNR=19						
LVC	Limon Verde	4.89	177	eP		Pn	18 54 12.5 +1.1
PB06	IPOC Station P	4.99	184			Pn	18 54 12.3 -0.2
PB06	IPOC Station P	4.99	184	⇓iP		Pn	18 54 12.5 -0.1
PB05	IPOC Station P	5.22	190			Pn	18 54 14.7 -0.8
AF01	San Pedro de A	5.31	170			Pn	18 54 16.5 -0.4
AF01	San Pedro de A	5.31	170	Pg		Pn	18 54 18.2 +1.3
PB15	IPOC Station P	5.49	183			Pn	18 54 19.1 -0.1
PB15	IPOC Station P	5.49	183	Pg		Pn	18 54 19.6 +0.4
PB10	IPOC Station P	5.93	192	Pn		Pn	18 54 23.2 -1.6
PB14	IPOC Station P	6.99	189	Pn		Pn	18 54 37.1 -2.2
GO02	Mina Guanaco	7.44	183	Pn		Pn	18 54 43.6 -1.8
SIV	San Ignacio	7.95	79	P		Pn	18 54 50.7 -1.2
	comp=E,92nm,0.3s,baz=264,slow=10.0,SNR=107						
SIV				S		Sn	18 56 16.6 -3.9
	comp=E,64nm,0.6s,baz=339,slow=19,SNR=9.3						
BBSD	Serra de San D	8.19	88	eP		Pn	18 54 54.1 -1.2
ETMB	Extrema	8.35	21	Pn		Pn	18 54 55.9 -1.4
ETMB	Extrema	8.35	21	eP		Pn	18 54 55.9 -1.4
AC01	Pan de Azucar	8.51	189	Pn		Pn	18 54 56.2 -3.2
NNA	Nana	9.34	306	Pn		Pn	18 55 08.5 -2.0
NNA	Nana	9.34	306	P		Pn	18 55 08.9 -1.6
	comp=E,88nm,0.3s,baz=130,slow=11,SNR=41						
AC06	Mina Casimiro	9.67	186			Pn	18 55 11.2 -3.8
VILB	Vilhena	9.86	63	Pn		Pn	18 55 16.0 -1.5
VILB	Vilhena	9.86	63	eP		Pn	18 55 16.3 -1.3
PTLB	Pontes e Lacer	9.88	78	Pn		Pn	18 55 15.7 -2.1
PTLB	Pontes e Lacer	9.88	78	eP		Pn	18 55 16.2 -1.6
GO03	Copiap	9.89	185	Pn		Pn	18 55 14.1 -3.8
CZSB	Cruzeiro do Su	10.49	340			Pn	18 55 22.4 -3.4
CZSB	Cruzeiro do Su	10.49	340	eP		Pn	18 55 26.2 +0.4
AC04	Llanos de Chal	10.60	189	Pn		Pn	18 55 22.1 -5.1
AC05	El Transito	11.13	185			Pn	18 55 30.7 -3.7
MURT	Porto Murtinho	11.59	112	eP		Pn	18 55 38.7 -1.5
PAPY	Pozo Azul	12.04	124	eP		Pn	18 55 46.6 +0.4
CO01	Juntas del Tor	12.25	184			Pn	18 55 47.7 -1.5
SALV	Santo Antonio	13.04	84	eP		Pn	18 55 56.7 -2.4
AQDB	Aquidauana	13.04	104	Pn		Pn	18 55 57.2 -1.8
AQDB	Aquidauana	13.04	104	eP		Pn	18 55 58.3 -0.8
CO03	El Pedregal	13.15	186	Pn		Pn	18 56 00.6 0.0
TBTG	Tabatinga, AM	13.45	357			Pn	18 56 03.2 -1.2
TBTG	Tabatinga, AM	13.45	357	eP		Pn	18 56 05.5 +1.1
CO02	Combarbal	13.55	187	P		Pn	18 56 05.6 -0.1
RVDE	Rio Verde (Bra	13.58	98	eP		Pn	18 56 04.4 -1.8
ATAH	Atahualpa	13.82	318	P		Pn	18 56 08.6 -1.0
	comp=E,11nm,0.8s,baz=30,slow=9.9,SNR=7.5						
CPUP	Villa Florida	13.94	130	Pn		Pn	18 56 06.8 -3.8
CPUP	Villa Florida	13.94	130	P		Pn	18 56 09.6 -0.9
	comp=E,10nm,0.7s,baz=318,slow=12,SNR=12						
CPUP	Villa Florida	13.94	130	eP		Pn	18 56 08.7 -1.8
SJPY	San Joaquin	14.17	123	eP		Pn	18 56 13.8 +0.3
CLDB	Colider	14.63	64	eP		Pn	18 56 18.3 -1.1
VA03	San Esteban	15.05	184			Pn	18 56 22.6 -1.9
MT02	Curacav	15.59	186			Pn	18 56 27.7 -3.5
MT02				IAmb		IAmb	18 56 35.9
	comp=Z,43nm,0.8s						
MT09	Talagante	16.09	185	P		Pn	18 56 36.1 -1.3
LMEL	Las Melosas	16.11	183	P		Pn	18 56 37.0 -0.6
MT01	Popeta	16.20	186	P		Pn	18 56 38.8 -1.9
BO04	La Punta	16.27	184	P		Pn	18 56 38.9 -0.7
BO04				IAmb		IAmb	18 56 44.4
	comp=Z,60nm,0.9s						
TRCB	Terra Rica	16.33	111	P		Pn	18 56 39.3 -1.1
TRCB	Terra Rica	16.33	111	eP		Pn	18 56 40.2 -0.1
ITQB	Itaqui	16.54	138	P		Pn	18 56 43.4 +0.6
ITQB				IAmb		IAmb	18 56 46.3
	comp=Z,71nm,1.4s						
ITQB	Itaqui	16.54	138	eP		Pn	18 56 43.5 +0.7
MACA	Manacapuru-AM	16.68	31			P	18 56 42.3 -2.1
MACA	Manacapuru-AM	16.68	31	eP		P	18 56 44.5 +0.1
BO01	Tunca	16.71	185	P		P	18 56 42.3 -2.3
ARAG	Araguaiana, MT	16.75	86	eP		P	18 56 45.2 0.0
CRSM	Crissiumal (Br	17.02	128	eP		P	18 56 48.2 +0.1
BO02	Sierra Bellavi	17.08	184	IAmb		IAmb	18 56 54.2
	comp=Z,62nm,0.9s						
NPGB	Novo Progresso	17.14	54	eP		P	18 56 49.9 +0.3
PCMB	Pacaembu	17.32	106	eP		Pn	18 56 52.3 0.0
LDASE	Londrina, Braz	17.83	112	eP		P	18 56 57.5 +0.4
RODS	Rosario do Sul	17.91	137	eP		Pn	18 56 58.8 -0.4
ITRB	Iturama	17.94	99	eP		P	18 56 58.7 +0.4
ML02	Panimavida	18.10	186	IAmb		IAmb	18 57 03.7
	comp=Z,50nm,0.7s						
SNDB	Serra Nova Dou	18.19	74	eP		P	18 57 01.4 +0.3
ITAB	Concordia	18.37	124	P		P	18 57 03.0 +0.1
ITAB				IAmb		IAmb	18 57 06.7
	comp=Z,80nm,1.0s						
ITAB	Concordia	18.37	124	eP		P	18 57 03.2 +0.3
TBOT	Tacuaremb	18.37	142	eP		P	18 57 03.5 +0.6
ALGR	Alto Alegre (B	18.48	130	eP		P	18 57 04.2 +0.1
ITTB	Itaituba	18.68	46	eP		P	18 57 05.7 -0.6
CPSB	Cacapava Do Su	19.12	134	eP		P	18 57 11.5 +0.5
FRTB	Fartura	19.20	110	eP		P	18 57 12.1 0.0
ANTS	Antisana-Sarah	19.25	332	P		P	18 57 12.5 -0.7
ANTS				IAmb		IAmb	18 57 29.5
	comp=Z,41nm,0.7s						
PLTB	Pedras Altas	19.87	138	P		P	18 57 18.4 -0.7
PLTB				IAmb		IAmb	18 57 19.9
	comp=Z,73nm,1.1s						
PLTB	Pedras Altas	19.87	138	eP		P	18 57 19.0 -0.2
IPMB	Ipameri, GO	19.96	94	eP		P	18 57 19.9 -0.4
OTAV	Otavalo	20.03	332	eP		Pn	18 57 24.3 -0.3
TULM	Tulcn-Chalpat	20.17	334	P		P	18 57 23.0 0.0
CNLB	Canela	20.36	128	eP		P	18 57 23.0 -1.6
BDFB	Brasilia	20.38	87	P		P	18 57 23.5 -1.4
BDFB	Brasilia	20.38	87	P		P	18 57 24.5 -0.4
	comp=Z,36nm,0.4s,baz=264,slow=12,SNR=31						
	comp=Z,36nm,0.4s						
RCLB	Rio Claro- Sao	20.86	107	eP		P	18 57 29.5 -0.4
SPB	Sao Paulo	21.17	110	P		P	18 57 31.7 -1.4
SPB				IAmb		IAmb	18 57 33.0
	comp=Z,46nm,0.8s						
SPB	Sao Paulo	21.17	110	eP		P	18 57 32.3 -0.8
TRQA	Tornquist	21.24	164	P		P	18 57 34.6 +0.8
PET01	Itanhaem-SP	21.46	112	eP		P	18 57 35.3 -0.9
VAO	Valinhos	21.47	108	P		P	18 57 35.0 -1.5
VAO				IAmb		IAmb	18 57 36.4
	comp=Z,31nm,0.6s						
VAO	Valinhos	21.47	108	eP		P	18 57 35.2 -1.4
PMNB	Patos De Minas	21.63	96	eP		P	18 57 37.2 -1.0
BOAV	Boa Vista	21.71	24	P		P	18 57 37.5 -1.5
BOAV	Boa Vista	21.71	24	eP		P	18 57 37.4 -1.6
GO06	Curarrehue	21.90	185	P		P	18 57 41.4 +0.6
GO06				IAmb		IAmb	18 57 43.4
	comp=Z,25nm,0.8s						
PRPB	Parauapebas	22.11	61	eP		P	18 57 42.0 -1.1
PARB	Paraibuna	22.75	108	eP		P	18 57 47.0 -2.3
SMTB	Santa Maria do	22.75	70	eP		P	18 57 48.4 -0.9
PLCA	Paso Flores	22.98	183	P		P	18 57 52.2 +0.9
PLCA	Paso Flores	22.98	183	P		P	18 57 53.2 +1.9
	comp=Z,12nm,0.7s,baz=0.9,slow=10,SNR=20						
	comp=Z,12nm,0.7s						
PLCA	Paso Flores	22.98	183	eP		P	18 57 52.6 +1.3
ESAR	Angra dos Reis	23.77	107	eP		P	18 57 59.8 +1.2
JANB	Januaria	24.00	87	eP		P	18 58 00.1 -0.7
SDBA	SAO DESIDERIO	24.01	81	eP		P	18 58 00.2 -0.7
MCPB	Macapa, AP	24.09	46	eP		P	18 58 00.9 -0.7
DIAM	Diamantina, MG	24.26	95	eP		P	18 58 03.2 -0.1
LL01	San Ignacio de	24.75	186	P		P	18 58 06.8 -0.4
LL01				IAmb		IAmb	18 58 11.8
	comp=Z,33nm,1.0s						
BAUV	El Baul	26.50	3	P		P	18 58 20.9 -2.3
NAN01	Guarapari, ES	27.66	95	eP		P	18 58 32.5 -1.2
MDP	Montagnes des	27.93	37	LR		LR	19 10 32.5
	comp=Z,28nm,21.2s,baz=37,slow=38						
GUA01	Guaratinga, BA	28.08	92	eP		P	18 58 36.7 -0.7
ROSB	Rosrio	28.64	62	eP		P	18 58 40.8 -1.6
HDC	Heredia	31.23	331	eP		P	18 59 09.1 +3.8
CELP	Cerrillos	35.64	4	P		P	18 59 41.5 -1.9
RPN	Rapa Nui	38.15	248	LR		LR	19 11 17.8
	comp=Z,43nm,19.2s,baz=179,slow=29						
V55A	Taylorsville	54.47	348	P		P	19 02 10.9 -0.8
NATX	Nacogdoches	54.92	333	IAmb		IAmb	19 02 17.1
	comp=Z,19nm,0.8s						
T59A	Double "B" Far	54.95	352	P		P	19 02 12.4 -2.7
HNDO	Hondo	55.21	328	P		P	19 02 18.3 +1.1
HNDO				IAmb		IAmb	19 02 20.7
	comp=Z,7.2nm,0.7s						
V48A	Smith Brothers	55.72	343	P		P	19 02 18.0 -2.7
DRIO	Del Rio	55.82	327	P		P	19 02 22.0 +0.4
CLTN	Cedars of Leba	55.91	343	P		P	19 02 20.4 -1.6
S54A	Dingess, Beckl	56.37	348	P		P	19 02 23.3 -2.0
S54A				IAmb		IAmb	19 02 24.9
	comp=Z,7.2nm,0.7s						
WVT	Waverly	56.37	342	P		P	19 02 23.4 -2.0
T50A	Nancy	56.40	345	P		P	19 02 23.7 -1.7
MIAR	Mount Ida	56.91	336	P		P	19 02 28.7 -0.4
T47A	Sharon Grove	56.96	343	P		P	19 02 27.9 -1.6
SAND	Sanderson	57.03	326	P		P	19 02 31.0 +0.8
WHAR	Wooly Hollow	57.08	338	P		P	19 02 29.6 -0.7
OZNA	Ozona	57.28	327	P		P	19 02 33.2 +1.3
TXAR	Lajitas Array	57.40	324	P		P	19 02 33.6 +0.7
	comp=Z,0.2nm,0.3s,baz=142,slow=7.1,SNR=6.8						
	comp=Z,0.2nm,0.3s						
T45A	Paducah	57.44	342	P		P	19 02 31.5 -1.3
FCAR	Ozark Folk Cen	57.56	338	P		P	19 02 32.5 -1.2
X37A	Clayton	57.66	334	P		P	19 02 35.2 +0.7
PBMO	Poplar Bluff	57.78	340	P		P	19 02 34.0 -1.2
PBMO				IAmb		IAmb	19 02 34.6
	comp=Z,14nm,1.1s						
CGM3	Cape Girardeau	58.01	341	P		P	19 02 35.8 -1.0
CGM3				IAmb		IAmb	19 02 36.2
	comp=Z,6.9nm,0.8s						
P53A	Whipple	58.02	349	P		P	19 02 35.9 -0.9
P53A				IAmb		IAmb	19 02 36.9
	comp=Z,12nm,0.8s						
T42A	Van Buren	58.23	339	P		P	19 02 37.1 -1.2
S44A	Carbondale	58.25	341	P		P	19 02 37.6 -0.9
S44A				IAmb		IAmb	19 02 37.9
	comp=Z,8.8nm,0.6s						
X34A	Smith Ranch, M	58.72	332	P		P	19 02 42.6 +0.8
X34A				IAmb		IAmb	19 02 44.6
	comp=Z,18nm,1.2s						
SN05	Snyder 5	58.72	329	P		P	19 02 42.0 0.0
SN05				IAmb		IAmb	19 02 45.4
	comp=Z,5.8nm,0.4s						
MGMO	Mountain Grove	58.74	338	P		P	19 02 40.8 -1.1
MGMO				IAmb		IAmb	19 02 41.8
	comp=Z,9.5nm,1.1s						
W35A	Tecumseh	58.77	334	P		P	19 02 42.3 +0.1
W35A				IAmb		IAmb	19 02 43.5
	comp=Z,13nm,1.0s						
FVM	French Village	58.88	340	P		P	19 02 41.2 -1.7
FVM				IAmb		IAmb	19 02 43.3
	comp=Z,24nm,1.4s						
RLO	Rose Lookout	58.89	336	P		P	19 02 42.7 -0.3
RLO				IAmb		IAmb	19 02 43.7
	comp=Z,10nm,0.9s						
SN07	Snyder 07	58.90	329	P		P	19 02 42.6 -0.5
SN07				IAmb		IAmb	19 02 46.1
	comp=Z,5.7nm,0.4s						
TUL3	Leonard	58.98	335	P		P	19 02 43.4 -0.2
TUL3				IAmb		IAmb	19 02 44.4
	comp=Z,9.7nm,0.6s						
N53A	Lisbon	59.21	350	P		P	19 02 44.2 -0.8
N53A				IAmb		IAmb	19 02 44.7
	comp=Z,7.1nm,0.8s						
DEOK	Depew	59.21	334	P		P	19 02 45.0 -0.2
VHRN	Van Horn	59.24	324	P		P	19 02 45.2 -0.5
OK031	S. Brethren Rd	59.44	334	P		P	19 02 46.5 -0.2
OK031				IAmb		IAmb	19 02 47.8
	comp=Z,17nm,0.9s						
OK052	Battle Ridge R	59.46	334	P		P	19 02 47.1 +0.2
OK029	Liberty Lake	59.57	333	P		P	19 02 47.6 0.0
OK029				IAmb		IAmb	19 02 48.6
	comp=Z,13nm,0.8s						
S39A	Bolivar	59.60	338	P		P	19 02 46.6 -1.2
S39A				IAmb		IAmb	19 02 47.7
	comp=Z,10nm,0.6s						
R40A	Maddies Statio	59.77	339	P		P	19 02 47.6 -1.3
R40A				IAmb		IAmb	19 02 48.5
	comp=Z,6.6nm,0.6s						
M53A	WI Miller and	59.80	350	P		P	19 02 47.8 -1.3
M53A				IAmb		IAmb	19 02 49.0
	comp=Z,11nm,0.8s						
L59A	Walton	59.83	355	P		P	19 02 48.4 -0.9
OK048	Pawnee Station	59.88	334	P		P	19 02 49.7 0.0
OK048				IAmb		IAmb	19 02 51.1
	comp=Z,9.7nm,0.9s						
BINY	Binghamton	59.93	354	P		P	19 02 49.1 -0.9
BINY				IAmb		IAmb	19 02 49.8
	comp=Z,6.8nm,0.8s						
T35A	Sooner Cattle	60.14	335	P		P	19 02 51.6 +0.2
T35A				IAmb		IAmb	19 02 52.6
	comp=Z,7.6nm,0.8s						
SMWD	Samnorwood	60.23	331	P		P	19 02 50.8 -1.5
SMWD				IAmb		IAmb	19 03 31.3
	comp=Z,7.7nm,0.9s						
BLOK	Blackwell	60.29	334	P		P	19 02 52.7 +0.2
CROK	Carrier	60.40	333	P		P	19 02 53.0 -0.2
MSTX	Muleshoe	60.54	328	P		P	19 02 55.0 +0.5
P40A	Paris	60.81	340	P		P	19 02 54.7 -1.3
P40A				IAmb		IAmb	19 02 55.6
	comp=Z,6.3nm,0.8s						
KAN12	Harper NE Stat	61.07	334	P		P	19 02 58.6 +0.7
KSU1	Kansas State U	62.06	336	P		P	19 03 04.2 -0.2
KSU1				IAmb		IAmb	19 03 05.0
	comp=Z,14nm,0.8s						
G62A	West of Eustis	62.63	359	P		P	19 03 07.8 -0.3
G62A				IAmb		IAmb	19 03 08.5
	comp=Z,8.4nm,0.9s						
VNA3	Neumayer Olymp	63.74	162	⇓P		P	19 03 16.6 +1.4
	comp=Z,1.3nm,0.7s						
VNA2	Neumayer--Watz	64.31	161	⇓P		P	19 03 20.3 +1.5
	comp=Z,1.3nm,0.4s,baz=294,slow=6.6						
L34A	Svendsen Farm,	64.47	338	P		P	19 03 19.7 -0.6
BGNE	Belgrade	64.65	336	P		P	19 03 21.8 +0.4
SNAA	Sanae	65.94	161	P		P	19 03 30.4 +1.0
SNAA	Sanae	65.94	161	⇓P		P	19 03 30.4 +1.0
	comp=Z,22nm,0.4s						
SNAA	Sanae	65.94	161	P		P	19 03 30.7 +1.3
	comp=Z,1.3nm,0.5s,baz=275,slow=8.0,SNR=18						
	comp=Z,1.3nm,0.5s						
ECSD	EROS Data Cent	66.10	339	P		P	19 03 29.8 -0.9
ECSD				IAmb		IAmb	19 03 32.2
	comp=Z,8.7nm,0.8s						
SPMN	Marine on St.	66.21	342	P		P	19 03 30.4 -0.9
SPMN				IAmb		IAmb	19 03 31.3
	comp=Z,11nm,0.8s						
E38A	The Farm, Brul	67.12	343			PcP	19 04 04.6 +0.5
TROLL	Troll, Antarti	67.65	161	⇓P		P	19 03 41.6 +1.3
	comp=Z,185nm,0.6s						
F33A	5 Mile Ranch,	67.85	340	P		P	19 03 41.4 -0.3
F33A				IAmb		IAmb	19

21nm,0.3s,baz=42,slow=7.0,SNR=32
PMG Sn **Sn** **19 00 04.1 +1.9**
45nm,0.3s,baz=275,slow=17,SNR=11
PMG LR LR 19 00 53.4
comp=Z,410nm,20.5s,baz=2.0,slow=38
72nm,0.4s
MANU Manus Island 5.00 325 Pn **Pn** **18 59 21.8 +2.5**
HNR Honiara 10.14 109 LR LR 19 04 24.8
comp=Z,842nm,19.3s,baz=303,slow=38
COEN Coen 10.41 221 P **Pn** **19 00 34.4 +0.7**
COEN Coen 10.41 221 Pn **Pn** **19 00 33.8 +0.1**
MTSU Mount Surprise 13.23 205 P **Pn** **19 01 13.2 +0.9**
QIS Mount Isa 17.65 215 P **P** **19 02 12.4 +1.7**
KDU Kakadu 18.69 248 P **P** **19 02 23.0 +0.9**
EIDS Eidsvold 19.11 178 P **P** **19 02 24.9 -1.8**
EIDS IAmb IAmb 19 02 29.8
comp=Z,13nm,0.8s
MTN Manton Dam 19.98 249 P **P** **19 02 37.8 +1.5**
MTN Manton Dam 19.98 249 P **P** **19 02 36.3 0.0**
MTN IAmb IAmb 19 03 07.8
comp=Z,44nm,1.4s
WB0 Warramunga Arr 20.50 227 P **P** **19 02 41.9 -0.1**
WB0 IAmb IAmb 19 02 51.7
comp=Z,12nm,0.7s
WR0 Warramunga Arr 20.52 227 P **P** **19 02 41.8 -0.4**
WR0 IAmb IAmb 19 02 52.3
comp=Z,12nm,0.9s
WRAB Tennant Creek 20.64 227 P **P** **19 02 43.3 -0.1**
WRAB IAmb IAmb 19 02 53.1
comp=Z,12nm,0.8s
WB2 Warramunga Arr 20.65 227 P **P** **19 02 43.5 -0.1**
WB2 IAmb IAmb 19 02 53.2
comp=Z,11nm,0.8s
WRA Warramunga Arr 20.66 227 P **P** **19 02 42.8 -0.9**
WRA Warramunga Arr 20.66 227 P **P** **19 02 43.6 0.0**
comp=Z,5.3nm,0.4s,baz=52,slow=11,SNR=70
WRA PcP **PcP** **19 06 53.4 +0.1**
comp=Z,1.2nm,0.7s,baz=45,slow=2.1,SNR=6.3
WRA LR LR 19 11 43.5
comp=Z,102nm,18.1s,baz=33,slow=40
comp=Z,5.3nm,0.4s
DZM Mont Dzumac 22.25 137 LR LR 19 08 45.1
comp=Z,30nm,21.3s,baz=197,slow=29
AS31 Alice Springs 23.45 220 P **P** **19 03 13.1 -0.1**
ASAR Alice Springs 23.45 220 P **P** **19 03 13.2 0.0**
ASAR Alice Springs 23.45 220 P **P** **19 03 13.7 +0.4**
comp=Z,1.1nm,0.4s,baz=54,slow=8.7,SNR=30
ASAR LR LR 19 12 20.0
comp=Z,112nm,18.3s,baz=32,slow=36
comp=Z,1.1nm,0.4s
ARMA Armidale 24.16 177 P **P** **19 03 19.5 -0.4**
SOEI Soe 25.97 260 P **P** **19 03 35.7 -0.9**
SOEI IAmb IAmb 19 03 56.0
comp=Z,30nm,1.0s
FITZ Fitzroy Crossi 26.78 242 P **P** **19 03 43.3 -0.3**
STKA Stephens Creek 26.83 196 P **P** **19 03 43.7 -0.2**
STKA Stephens Creek 26.83 196 P **P** **19 03 43.6 -0.2**
comp=Z,1.0nm,0.4s,baz=38,slow=14,SNR=5.7
STKA LR LR 19 14 10.7
comp=Z,142nm,19.9s,baz=24,slow=36
comp=Z,1.0nm,0.4s
MMRI Maumere 27.88 263 **P** **19 03 53.0 -0.6**
FORT Forrest 32.15 218 P **P** **19 04 31.0 -0.1**
MBWA Marble Bar 33.09 240 P **P** **19 04 38.1 -1.5**
MBWA IAmb IAmb 19 05 06.3
comp=Z,30nm,1.4s
JCJ Chichijima 33.97 347 LR LR 19 17 09.1
comp=Z,53nm,19.1s,baz=140,slow=34
JAGI Jajag, Banyuwa 35.87 264 P **P** **19 05 01.7 -2.0**
MORW Morawa 39.52 231 P **P** **19 05 34.0 -0.4**
URZ Urewera 40.18 147 LR LR 19 20 00.9
comp=Z,125nm,19.0s,baz=15,slow=33
NWAO Narrogin (SRO) 40.63 225 LR LR 19 24 14.2
comp=Z,59nm,19.9s,baz=172,slow=39
MJAR Matsushiro Arr 43.95 346 LR LR 19 24 46.7
comp=Z,46nm,18.7s,baz=180,slow=37
ASAJ Asahikawa 50.52 353 LR LR 19 27 31.7
comp=Z,19nm,20.9s,baz=282,slow=35
USRK Ussuriysk Ar. 52.77 344 LR LR 19 28 15.1
comp=Z,44nm,19.2s,baz=181,slow=34
KLR Kul'dur 57.48 346 LR LR 19 33 16.3
comp=Z,30nm,18.2s,baz=210,slow=37
PETK Petropavlovsk- 59.38 5 LR LR 19 29 09.3
comp=Z,41nm,20.6s,baz=184,slow=32
SHEM Shemya Is, Ala 62.07 16 LR LR 19 31 46.5
comp=Z,36nm,19.3s,baz=294,slow=33
MA2 Magadan 65.53 0 LR LR 19 37 24.4
comp=Z,28nm,19.0s,baz=169,slow=36
SONM Songino Array 66.16 329 P **P** **19 08 50.0 -0.8**
comp=Z,0.6nm,0.5s,baz=145,slow=5.3,SNR=3.9
comp=Z,0.6nm,0.5s
VNDA Vanda 71.58 177 P **P** **19 09 23.4 -0.5**
VNDA IAmb IAmb 19 09 33.9
comp=Z,3.2nm,1.2s
KDAK Kodiak Island 78.54 27 LR LR 19 37 31.3
comp=Z,25nm,21.4s,baz=290,slow=30
MKAR Makanchi Array 79.70 320 P **P** **19 10 11.4 +0.5**
comp=Z,0.3nm,0.5s,baz=98,slow=8.3,SNR=8.2
comp=Z,0.3nm,0.5s
L19K White Mountain 79.98 23 P **P** **19 10 12.3 +0.2**
L19K IAmb IAmb 19 10 44.0
comp=Z,3.8nm,1.1s
ZALV Zalesovo Beam 80.89 327 P **P** **19 10 14.9 -2.2**
comp=Z,0.4nm,0.3s,baz=110,slow=5.5,SNR=2.3
comp=Z,0.4nm,0.3s
IMAR Indian Mountai 82.52 20 P **P** **19 10 26.1 +0.6**
BOOM Boomskoye usch 82.70 314 P **P** **19 10 27.3 +0.1**
KURBB Kurchatov Arra 83.31 322 P **P** **19 10 28.1 -1.8**
comp=Z,0.2nm,0.5s,baz=108,slow=3.3,SNR=2.9
comp=Z,0.2nm,0.5s
MAW Mawson 83.34 203 LR LR 19 45 49.4
comp=Z,24nm,20.0s,baz=122,slow=34
QSPA South Pole Qui 83.81 180 P **P** **19 10 32.3 -0.1**
QSPA IAmb IAmb 19 10 43.4
comp=Z,6.1nm,1.2s
QSPA South Pole Qui 83.81 180 P **P** **19 10 32.5 +0.1**
comp=Z,1.2nm,0.7s,baz=1.6,slow=0.8,SNR=9.9
comp=Z,1.2nm,0.7s
ILAR Eielson Array 84.38 23 P **P** **19 10 33.5 -1.6**
comp=Z,0.6nm,0.8s,baz=256,slow=5.5,SNR=6.1
comp=Z,0.6nm,0.8s
DLBC Dease Lake 89.85 31 LR LR 19 44 04.7
comp=Z,39nm,21.9s,baz=328,slow=31
YBH Yreka Blue Hor 91.85 48 LR LR 19 47 37.4
comp=Z,53nm,19.0s,baz=309,slow=32
NVAR Mina Array Bea 94.92 52 LR LR 19 46 57.0
comp=Z,39nm,20.8s,baz=269,slow=31
GERES GERESS Array B 123.84 327 PKP **PKPdf** **19 17 01.2 -0.1**
comp=Z,0.5nm,0.5s,baz=35,slow=3.6,SNR=3.2
EKA Eskdalemuir Ar 126.55 341 PKP **PKPdf** **19 17 06.0 -0.1**
comp=Z,0.2nm,0.4s,baz=30,slow=1.9,SNR=2.5
TORD Torodi Ar. Bea 148.26 285 PKPbc **PKPdf** **19 17 49.1 +2.2**
comp=Z,3.3nm,0.5s,baz=86,slow=3.1,SNR=47

IDC 04 19:07:22.4±2.5, 4°.43N×126°.16E, h0km, mb3.4/3, mbtmp3.4/3, MS3.4/1, Error ellipse: s-maj=203.5km s-min=29.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.52**	**162**	P	P	19 12 53.0	+0.2
	0.6nm,0.6s,baz=341,slow=10,SNR=6.2						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**28.93**	**165**	P	P	19 13 23.3	-0.2
	0.3nm,0.6s,baz=338,slow=6.8,SNR=8.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**56.66**	**325**	P	P	19 17 07.6	0.0
	0.4nm,0.8s,baz=118,slow=8.5,SNR=2.3						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**59.71**	**333**	LR	LR	19 45 05.2	
	comp=Z,34nm,19.3s,baz=90,slow=38						

NEIC ***04*** *19:39:36.4±0.9, 37°.96S×0°.05×74°.4W±0°.2, h10km±2km, mb4.4/3, ML4.2(GUC), Error ellipse: s-maj=21.4km s-min=8.9km az=268.0*
IDC ***04*** *19:39:38.1±1.8, 38°.15S×74°.29W, h0km, mb3.5/3, mbtmp3.5/4, ML3.8/1, MS2.7/3, Error ellipse: s-maj=61.6km s-min=23.9km az=66.0*
GUC ***04*** *19:39:38.4±0.8, 37°.87S×74°.04W, h24km±5km, ML4.3*
ISC 04 19:39:37.6±0.8, 37°.91S±0°.04×74°.09W±0°.06, h10km, n55, σ1§36/58, mb3.9/4, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI04	**Isla Mocha**	**0.52**	**162**	*i* P	**Pb**	**19 39 48.6**	**-0.2**
BI04				*e*S	**Sg**	**19 39 55.7**	**+1.0**
BI04				IAML		19 39 56.8	
	comp=E,74μm,0.4s						
LC02	**Puerto Saavedr**	**1.04**	**148**		**Pb**	**19 39 56.9**	**-0.7**
LC02	**Puerto Saavedr**	**1.04**	**148** ⇑	*i* P	**Pb**	**19 39 56.4**	**-1.3**
LC02				*e*S	**Sb**	**19 40 10.0**	**-1.3**
LC02				IAML		19 40 15.3	
	comp=N,34μm,0.6s						
LR04	**Corral**	**2.03**	**165**		**Pn**	**19 40 10.6**	**-1.2**
LR04	**Corral**	**2.03**	**165**	*e*P	**Pn**	**19 40 10.5**	**-1.4**
LR04				IAML		19 40 47.8	
	comp=E,2μm,0.5s						
LR03	**Panguipulli**	**2.19**	**142**		**Pn**	**19 40 14.3**	**+0.2**
LR03	**Panguipulli**	**2.19**	**142**	*e*P	**Pn**	**19 40 14.4**	**+0.3**
LR03				IAML		19 41 00.5	
	comp=N,3μm,0.5s						
GO06	**Curarrehue**	**2.64**	**130**		**Pn**	**19 40 20.6**	**+0.2**
GO06	**Curarrehue**	**2.64**	**130** ⇑	*e*P	**Pn**	**19 40 20.4**	**+0.1**
GO06				*e*S	**Sn**	**19 40 52.2**	**-0.3**
LR05	**Currie**	**2.83**	**146**		**Pn**	**19 40 23.1**	**+0.3**
ML02	**Panimavida**	**3.03**	**46**		**Pn**	**19 40 26.2**	**+0.6**
ML02	**Panimavida**	**3.03**	**46**	*e*P	**Pn**	**19 40 24.2**	**-1.4**
ML02				*e*S	**Sn**	**19 40 59.4**	**-2.6**
ML02				IAML		19 41 24.1	
	comp=N,770nm,0.6s						
LL04	**Puerto Octay**	**3.26**	**157**		**Pn**	**19 40 28.2**	**-0.5**
GO05	**Huala**	**3.38**	**32**		**Pn**	**19 40 31.3**	**+0.9**
LL05	**Los Muermos**	**3.52**	**172**		**Pn**	**19 40 30.7**	**-1.6**
LL05	**Los Muermos**	**3.52**	**172**	*e*P	**Pn**	**19 40 31.7**	**-0.6**
LL05				IAML		19 41 50.2	
	comp=N,388nm,0.8s						
PLCA	**Paso Flores**	**3.93**	**137**		**Pn**	**19 40 38.8**	**+0.7**
PLCA	**Paso Flores**	**3.93**	**137**	Pn	**Pn**	**19 40 39.1**	**+1.0**
	comp=N,1.7nm,0.3s,baz=317,slow=10,SNR=27						
PLCA				Sn	**Sn**	**19 41 28.5**	**+4.2**
	comp=N,5.1nm,0.3s,baz=250,slow=17,SNR=3.4						
PLCA				LR	LR	19 41 46.5	
	comp=N,34nm,19.0s,baz=200,slow=33						
	comp=N,3.6nm,0.3s						
PLCA	**Paso Flores**	**3.93**	**137**	*e*P	**Pn**	**19 40 38.3**	**+0.2**
BO02	**Sierra Bellavi**	**4.10**	**42**		**Pn**	**19 40 41.4**	**+1.0**
BO02	**Sierra Bellavi**	**4.10**	**42**	*e*P	**Pn**	**19 40 41.5**	**+1.0**
BO01	**Tunca**	**4.27**	**36**		**Pn**	**19 40 43.6**	**+0.9**
LL01	**San Ignacio de**	**4.64**	**164**		**Pn**	**19 40 46.8**	**-1.0**
MT01	**Popeta**	**4.65**	**31**		**Pn**	**19 40 48.2**	**+0.3**
BO04	**La Punta**	**4.83**	**37**		**Pn**	**19 40 50.9**	**+0.5**
MT09	**Talagante**	**4.83**	**32**		**Pn**	**19 40 51.3**	**+0.8**
LMEL	**Las Melosas**	**5.14**	**39**		**Pn**	**19 40 56.2**	**+1.5**
MT13	**San Alfonso**	**5.18**	**38**		**Pn**	**19 40 56.1**	**+0.9**
MT02	**Curacav**	**5.23**	**28**		**Pn**	**19 40 56.1**	**+0.3**
MT05	**Renca**	**5.27**	**32**	Pn	**Pn**	**19 40 57.8**	**+1.3**
MT03	**Universidad Ad**	**5.28**	**35**		**Pn**	**19 40 57.2**	**+0.6**
MT16	**CCHEN**	**5.33**	**34**	Pn	**Pn**	**19 40 57.9**	**+0.6**
H03S1	**Juan Fernandez**	**5.64**	**315**	Pn	**Pn**	**19 41 03.1**	**+2.0**
H03S1				T	T	19 46 55.1	
	baz=135,slow=74,SNR=1219						
H03S3	**Juan Fernandez**	**5.65**	**315**	Pn	**Pn**	**19 41 03.4**	**+2.1**
H03S3				Sn	**Sn**	**19 42 04.0**	**-2.2**
H03S3				T	T	19 46 56.0	
	baz=135,slow=74,SNR=900						
H03S2	**Juan Fernandez**	**5.65**	**315**	Pn	**Pn**	**19 41 03.0**	**+1.6**
H03S2				T	T	19 46 54.7	
	baz=135,slow=74,SNR=1234						
VA06	**Catapilco**	**5.81**	**24**		**Pn**	**19 41 04.2**	**+0.5**
VA03	**San Esteban**	**5.89**	**30**		**Pn**	**19 41 05.5**	**+0.4**
H03N3	**Juan Fernandez**	**5.94**	**317**	Pn	Pn	19 41 08.1	+2.8
H03N3				Sn	**Sn**	**19 42 12.2**	**-1.1**
H03N1	**Juan Fernandez**	**5.94**	**317**	Pn	Pn	19 41 07.8	+2.4
H03N1				Sn	**Sn**	**19 42 12.5**	**-0.8**
H03N2	**Juan Fernandez**	**5.95**	**317**	Pn	Pn	19 41 08.2	+2.7
H03N2				Sn	**Sn**	**19 42 12.6**	**-1.0**
CO02	**Combarbal**	**7.16**	**22**		**Pn**	**19 41 23.0**	**+0.6**
CO06	**Fray Jorge**	**7.50**	**16**	Pn	**Pn**	**19 41 26.2**	**-0.8**
ZON	**Zonda**	**7.76**	**37**	Pn	**Pn**	**19 41 30.7**	**+0.1**
GO04	**Tololo Observa**	**8.19**	**20**	Pn	**Pn**	**19 41 37.7**	**+1.1**
TRQA	**Tornquist**	**9.56**	**95**	Pn	**Pn**	**19 41 57.0**	**+1.7**
AC05	**El Transito**	**9.60**	**21**		**Pn**	**19 41 55.6**	**-0.3**
AC04	**Llanos de Chal**	**10.01**	**16**	Pn	**Pn**	**19 42 01.7**	**+0.4**
LVC	**Limon Verde**	**15.89**	**18**	LR	LR	19 49 30.9	
	comp=N,45nm,18.4s,baz=198,slow=37						
CPUP	**Villa Florida**	**18.27**	**56**	LR	LR	19 51 22.4	
	comp=N,47nm,18.9s,baz=214,slow=38						
PB11	**IPOC Station P**	**18.49**	**13**	P	**P**	**19 43 52.4**	**-1.7**
PB11				IAmb	IAmb	19 44 06.9	
	comp=Z,14nm,1.1s						
LPAZ	**La Paz**	**22.17**	**15**	P	**P**	**19 44 39.2**	**+4.7**
	comp=Z,1.4nm,0.7s,baz=163,slow=6.5,SNR=6.7						
	comp=Z,1.4nm,0.7s						
SNAA	**Sanae**	**48.63**	**156**	P	**P**	**19 48 20.1**	**-1.0**
SNAA				IAmb	IAmb	19 48 54.9	
	comp=Z,5.7nm,1.4s						
SNAA	**Sanae**	**48.63**	**156**	P	**P**	**19 48 21.6**	**+0.4**
	comp=Z,1.5nm,1.1s,baz=292,slow=9.0,SNR=2.6						
	comp=Z,1.5nm,1.1s						
QSPA	**South Pole Qui**	**52.33**	**180**	P	**P**	**19 48 48.2**	**-1.1**
QSPA				IAmb	IAmb	19 49 09.8	
	comp=Z,7.1nm,1.4s						
TXAR	**Lajitas Array**	**72.40**	**333**	P	P	19 51 07.3	+3.4
	comp=Z,0.2nm,0.7s,baz=165,slow=7.1,SNR=2.1						
	comp=Z,0.2nm,0.7s						

SKHL ***04*** *19:40:37.0±0.2, 43°.50N×146°.50E, h39km±3km, mb4.2/2*
JMA ***04*** *19:40:37.1±0.2, 43°.5N±0°.8×14°6E±°, h58km±1km, MV2.7/24, NEAR KUNASHIRI ISLAND*
ISC 04 19:40:36.8±2.4, 43°.54N±0°.09×146°.51E±0°.07, h26km±17km, n9, σ0§42/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.40**	**35**	*i* P	**Pn**	**19 40 46.7**	**-0.1**
SHO				AMB	AMB	19 40 47.1	
	50nm,0.2s						
SHO				*e*S	**Sn**	**19 40 54.1**	**+0.6**
SHO				A	A	19 40 54.7	
	140nm,0.2s						
SHO				A	A	19 40 54.7	
	610nm,0.2s						
NEM2	**Nemuro 2**	**0.59**	**253**	P	**Pn**	**19 40 49.8**	**+0.4**
NEM2				S	**Sn**	**19 40 58.9**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**0.68**	**316**	*i* P	**Pb**	**19 40 49.9**	**-0.2**
YUK				AMB	AMB	19 40 50.3	
	220nm,0.2s						
YUK				*e*S	**Sb**	**19 40 59.4**	**+0.3**
YUK				A	A	19 41 02.9	
	530nm,0.2s						
YUK				A	A	19 41 02.9	
	350nm,0.2s						
JRA	**Rausu**	**1.08**	**292**	*e*P	**Pn**	**19 40 56.1**	**-0.1**
JRA				*e*S	**Sn**	**19 41 10.2**	**-0.1**
JKHN	**Kushirohamanak**	**1.09**	**245**	P	**Pn**	**19 40 56.5**	**+0.2**
JKHN				*e*S	**Sn**	**19 41 10.5**	**0.0**
JNSB	**Nemuroshibetsu**	**1.12**	**282**	*e*P	**Pn**	**19 40 56.9**	**+0.1**
JNSB				*e*S	**Sn**	**19 41 11.5**	**+0.2**
JNK	**Nakash**	**1.30**	**272**	*e*P	**Pn**	**19 40 58.9**	**-0.4**
JAK	**Akkeshi**	**1.44**	**248**	P	**Pn**	**19 41 00.8**	**-0.3**
JAK				*e*S	**Sn**	**19 41 18.2**	**-0.9**
KUR	**Kuril'sk**	**1.95**	**29**	*e*P	**Pn**	**19 41 08.1**	**0.0**
KUR				*e*S	**Sn**	**19 41 31.5**	**-0.2**
KUR				A	A	19 41 32.8	
	100nm,0.6s						
KUR				A	A	19 41 32.8	
	110nm,0.6s						

ISK ***04*** *19:45:35.9, 32°.45N×35°.54E, h76km, ML4.8/12*
HLW ***04*** *19:45:38.4, 33°.08N×35°.64E, h10km±21km, ML4.7*
JSO ***04*** *19:45:39, 32°.85N×35°.59E, h2km, ML4.7/32*
IDC ***04*** *19:45:39.3±0.7, 32°.87N×35°.68E, h0km, mb4.1/23, mbtmp4.2/28, ML3.8/4, MS3.8/35, Error ellipse: s-maj=15.2km s-min=7.4km az=20.0*
MED_RC ***04*** *19:45:40.0±0.2, 32°.84N×35°.44E, h10km, MW4.7/26, Moment Tensor Solution. Body waves: s2,c2;Mantle waves: s26,c36; Duration: 1s0 Moment tensor: Scale 1016Nm; Mrr=1.33±.03; Mθθ0.17±.03; Mφφ1.16±.03; Mrθ0.45±.13; Mθφ-0.46±.03; Mφr-0.73±.10; Best double couple: M0 1.59000×1016 NP1:φs333.00000°, δ61.00000°, λ-95.00000°. NP2:φs164.00000°, δ29.00000°, λ-80.00000°. Principal axes: T 1.5900, Plg16.0000°, Azm67.0000°; N 0.0000, Plg5.0000°, Azm336.0000°; P -1.5900, Plg73.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***04*** *19:45:40.0±1.7, 32°.80N±0°.05×35°.44E±0°.06, h10km±1km, mb4.7/101 Error ellipse: s-maj=8.8km s-min=8.1km az=267.0*
MOS ***04*** *19:45:40.8±1.0, 32°.91N×35°.58E, h21km, mb4.6/37, Error ellipse: s-maj=6.9km s-min=3.3km az=106.3*
GRAL ***04*** *19:45:41.5±0.3, 32°.90N×35°.57E, h0km±2km, MD4.1*
DSN ***04*** *19:45:41.1±0.0, 32°.84N×35°.58E, h15km, mb4.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
GCMT ***04*** *19:45:42.0±0.4, 32°.92N±0°.04×35°.37E±0°.03, h14km±1km, MW4.8/77, Moment Tensor Solution. s5,c6; s77,c109; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-1.52±.16; Mθθ0.22±.08; Mφφ1.29±.10; Mrθ1.16±.28; Mθφ-0.41±.05; Mφr-0.45±.17; Best double couple: M0 1.89200×1016 NP1:φs315.00000°, δ64.00000°, λ-112.00000°. NP2: φs178.00000°, δ33.00000°, λ-52.00000°. Principal axes: T 1.6700, Plg17.0000°, Azm61.0000°; N 0.4380, Plg19.0000°, Azm325.0000°; P -2.1130, Plg64.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***04*** *19:45:49.9, 33°.21N×34°.71E, h33km, mb4.5, Ms3.2, Hypocentre not reviewed by the ISC*
ISC 04 19:45:39.7±0.7, 32°.84N±0°.02×35°.55E±0°.03, h7km±4km, n710, σ1§41/674, mb4.6/129, MS3.6/37, 49C-18D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	**Mount Meron ar**	**0.21**	**326**	P	**Pg**	**19 45 44.2**	**+0.2**
MMAI	**Mount Meron Ar**	**0.21**	**325**	Pg	**Pg**	**19 45 45.1**	**+1.1**
	5μm,0.3s,baz=136,slow=19,SNR=8842						
SHMJ	**Saham**	**0.21**	**122**	P	**Pg**	**19 45 43.7**	**-0.3**
BLGI	**Bet Lehem HaGe**	**0.32**	**250**	P	**Pg**	**19 45 46.5**	**+0.5**
GEM	**Giv'at Ha'Em**	**0.38**	**15**	P	**Pg**	**19 45 46.9**	**-0.3**
HNTI	**Hanita**	**0.40**	**308**	P	**Pg**	**19 45 47.9**	**+0.4**
MMLI	**Mount Malkishu**	**0.42**	**195**	Pg	**Pg**	**19 45 47.3**	**-0.5**
MMLI				Sg	**Sb**	**19 45 55.6**	**-0.3**
NATI	**Neve Ativ**	**0.45**	**21**	P	**Pg**	**19 45 48.0**	**-0.5**
QRNJ	**Al-Qirein**	**0.51**	**177**	P	**Pg**	**19 45 49.7**	**+0.2**
OFRI	**`Ofer**	**0.52**	**245**	P	**Pg**	**19 45 50.2**	**+0.3**
SHBL	**Chebaa**	**0.53**	**18**	*e*P	**Pg**	**19 45 50.0**	**-0.1**
HMDT	**Nahal Hemdat**	**0.59**	**182**	P	**Pg**	**19 45 51.0**	**-0.1**
RCY	**Rachaya**	**0.70**	**20**	*e*P	**Pg**	**19 45 52.8**	**-0.4**
RCY				*e*S	**Sg**	**19 46 01.4**	**-1.0**
QRWL	**Qaraoun**	**0.71**	**9**	*e*P	**Pg**	**19 45 53.2**	**-0.3**
SLTI	**Sal'it**	**0.74**	**216**	P	**Pg**	**19 45 53.9**	**0.0**
DQRL	**Deir Qamar**	**0.86**	**1**	*e*P	**Pg**	**19 45 55.9**	**-0.4**
DQRL				*e*S	**Sg**	**19 46 06.6**	**-1.0**
HSUJ	**Al Zarqa**	**0.91**	**143**	P	**Pg**	**19 45 57.0**	**-0.3**
ZAHL	**Zahle**	**1.05**	**15**	*e*P	**Pg**	**19 45 59.3**	**-0.7**
BHL	**Bhannes**	**1.06**	**5**	*e*P	**Pg**	**19 45 59.4**	**-0.8**
DSI	**Dead Sea**	**1.27**	**186**	P	**Pn**	**19 46 02.7**	**-1.2**
ASF	**Jabal al Asfar**	**1.32**	**120**	Pn	**Pn**	**19 46 04.0**	**-0.6**
	421nm,0.3s,baz=215,slow=0.0,SNR=426						
ASF				Sn	**Sn**	**19 46 22.8**	**+0.2**
	3μm,0.3s,baz=234,slow=0.0,SNR=21						
ASF	**Jabal al Asfar**	**1.32**	**120**	P	**Pn**	**19 46 03.9**	**-0.7**
HWQ	**Hawqa**	**1.47**	**13**	*e*P	**Pn**	**19 46 06.5**	**-0.3**
YTIR	**Yattir**	**1.52**	**194**	P	**Pn**	**19 46 07.4**	**0.0**
MDBI	**Mazsada**	**1.53**	**186**	P	**Pn**	**19 46 07.3**	**-0.1**
GHAJ	**Ghor Haditha**	**1.53**	**179**		**Pn**	**19 46 06.5**	**-0.9**
GHAJ					**Sn**	**19 46 26.9**	**-0.7**
GHAJ	**Ghor Haditha**	**1.53**	**179**	P	**Pn**	**19 46 07.7**	**+0.2**
FKH	**Fakeheh**	**1.57**	**27**	*e*P	**Pn**	**19 46 08.1**	**0.0**
SWQJ	**Swaqa**	**1.65**	**165**	P	**Pn**	**19 46 07.7**	**-1.5**
BEIL	**Beino**	**1.78**	**17**	*e*P	**Pn**	**19 46 11.4**	**+0.5**
ZFRI	**Zfri**	**2.30**	**188**	P	**Pn**	**19 46 18.5**	**+0.5**
PRNI	**Paran**	**2.52**	**191**	P	**Pn**	**19 46 21.6**	**+0.5**
HSNJ	**Maan**	**2.58**	**177**	P	**Pn**	**19 46 22.3**	**+0.3**
AKIN	**Akıncılar- Kıb**	**2.77**	**322**	Pn	**Pn**	**19 46 24.7**	**+0.1**
KRMI	**Paran Flat**	**2.81**	**195**	P	**Pn**	**19 46 25.6**	**+0.6**
CSS	**Mathiatis**	**2.81**	**320**	Pn	**Pn**	**19 46 24.2**	**-0.8**
CSS	**Mathiatis**	**2.81**	**320**	Pn	**Pn**	**19 46 24.8**	**-0.2**
HRFI	**Mount Harif**	**2.83**	**189**	P	**Pn**	**19 46 25.8**	**+0.4**
EREN	**Erenkoy**	**2.92**	**337**	Pn	**Pn**	**19 46 26.4**	**-0.1**
MBRI	**Mt Berech**	**3.08**	**190**	P	**Pn**	**19 46 29.4**	**+0.5**
AOBJ	**Aqaba**	**3.13**	**188**	P	**Pn**	**19 46 30.2**	**+0.7**
LEF	**Lefka**	**3.17**	**317**	Pn	**Pn**	**19 46 29.7**	**-0.3**
EIL	**Elat**	**3.20**	**189**	Pn	**Pn**	**19 46 30.4**	**0.0**
	11nm,0.3s,baz=36,slow=2.3,SNR=63						
EIL				Sn	**Sb**	**19 47 16.1**	**0.0**
	40nm,0.3s,baz=345,slow=21,SNR=5.9						
	51nm,0.4s						
AKDN	**Akdeniz- Kıbrı**	**3.25**	**320**	Pn	**Pn**	**19 46 31.0**	**-0.1**
TAHT	**Tahtakopru-Hat**	**3.56**	**8**	Pn	**Pn**	**19 46 36.3**	**+0.9**
TISA	**Tisan-Mersin**	**3.66**	**336**	Pn	**Pn**	**19 46 36.9**	**+0.2**
HBST	**Basata**	**3.68**	**191**	P	**Pn**	**19 46 38.9**	**+1.8**
	baz=192						
KARG	**Kargicak-Mersi**	**3.68**	**336**	Pn	**Pn**	**19 46 37.3**	**+0.3**
AKK1	**Akkuyu-Mersin**	**3.69**	**334**	Pn	**Pn**	**19 46 37.4**	**+0.3**
AKKU	**Akkuyu-Mersin**	**3.70**	**334**	Pn	**Pn**	**19 46 35.9**	**-1.3**
YESI	**Yesilovacik-Me**	**3.70**	**335**	Pn	**Pn**	**19 46 37.5**	**+0.3**
IKL	**Isikli**	**3.72**	**336**	Pn	**Pn**	**19 46 36.7**	**-0.9**
YORU	**Yoruktepe-Mers**	**3.75**	**332**	Pn	**Pn**	**19 46 38.1**	**+0.1**
SILI	**Silifke-Mersin**	**3.76**	**340**	Pn	**Pn**	**19 46 38.5**	**+0.3**
OREN	**Orenkoy-Mersin**	**3.78**	**333**	Pn	**Pn**	**19 46 38.5**	**+0.2**
SLFK	**Silifke-Mersin**	**3.78**	**340**	Pn	**Pn**	**19 46 38.7**	**+0.3**
SUZ	**Suez**	**3.79**	**219**	P	**Pn**	**19 46 39.4**	**+0.9**
	baz=218						
KIZK	**Mersin**	**3.81**	**343**	Pn	**Pn**	**19 46 38.6**	**-0.2**
TEKE	**Tekeli-Mersin**	**3.86**	**329**	Pn	**Pn**	**19 46 39.2**	**-0.3**
NUB	**Nuweibaa**	**3.88**	**192**	P	**Pn**	**19 46 41.1**	**+1.4**
	baz=193						
BOZY	**Bozyazi-Mersin**	**3.89**	**328**	Pn	**Pn**	**19 46 39.8**	**-0.1**
KEBE	**Keben-Mersin**	**3.90**	**338**	Pn	**Pn**	**19 46 39.5**	**-0.6**
**T

BR104 Keskin Array S 7.02 348 P **Pn 19 47 25.0 +1.9**
28nm,0.8s,225nm0.1nm
BR105 Keskin Array S 7.04 348 P **Pn 19 47 25.0 +1.7**
29nm,0.9s,215nm0.1nm
BR131 Keskin Array S 7.04 348 Pn **Pn 19 47 25.0 +1.7**
BR131 Keskin Array S 7.04 348*c i*P **Pn 19 47 25.1 +1.8**
BRTR Keskin Array B 7.04 348 Pn **Pn 19 47 24.5 +1.2**
BRTR Keskin Array B 7.04 348 Pn **Pn 19 47 24.6 +1.3**
1.5nm,0.3s,baz=159,slow=17,SNR=52
BRTR LR LR 19 50 32.7
comp=Z,387nm,19.8s,baz=166,slow=42
19nm,0.9s
BR106 Keskin Array S 7.05 348 P **Pn 19 47 24.9 +1.4**
32nm,0.8s,240nm0.1nm
ANTO Ankara 7.36 343 ⇓P **Pn 19 47 31.1 +3.5**
ANTO Ankara 7.36 343 Pn **Pn 19 47 26.2 -1.4**
ANTO Ankara 7.36 343 ⇓P **Pn 19 47 31.1 +3.5**
ANTO Ankara 7.36 343 P **Pn 19 47 30.2 +2.6**
11nm,0.8s,176nm0.0nm
KARP Karpathos 7.45 294 Pn **Pn 19 47 29.0 +0.1**
GURO Guroymak-BITLI 7.76 41 Pn **Pn 19 47 33.5 +0.2**
IDI Anoyia 9.17 288 Pn **Pn 19 47 52.5 0.0**
IDI Anoyia 9.17 288 Pn **Pn 19 47 54.1 +1.6**
28nm,0.7s,baz=92,slow=13,SNR=21
IMMV Iera Moni Meta 9.94 288 P **Pn 19 48 05.2 +2.3**
GNI Garni 10.38 43⇑*eP* **Pn 19 48 08.6 -0.6**
GNI pmax pmax
comp=Z,6.0nm,1.0s
ALN Alexandroupoli 11.06 319 Pn **Pn 19 48 17.5 -0.8**
ALN Alexandroupoli 11.06 319 P **Pn 19 48 17.5 -0.8**
SOC Sochi 11.21 16 *eP* **Pn 19 48 20.0 -0.3**
SOC *e* 19 50 27.7
SOC pmax pmax
comp=Z,9.0nm,0.9s
SOC smax smax
comp=N,25nm,1.6s
SOC smax smax
comp=E,15nm,1.3s
SOC MLR MLR
comp=Z,280nm,10.0s
RDO Rodhopi 11.52 319 Pn **Pn 19 48 24.1 -0.4**
KDZ Kurdzhali 11.96 320 *eP* **Pn 19 48 31.2 +0.7**
ITM Ithomi 11.98 295 Pn **Pn 19 48 29.2 -1.7**
JMB Yambol 11.98 326 *eP* **Pn 19 48 34.6 +3.7**
ANN Anapa 12.03 6 *eP* **Pn 19 48 32.2 +0.7**
ANN *eS* **Sn 19 50 49.7 +3.8**
ANN pmax pmax
comp=Z,25nm,0.8s
ANN MLR MLR
comp=Z,253nm,11.0s
DIM Dimitrovgrad 12.12 322 *eP* **Pn 19 48 33.9 +1.1**
NEF NEVSHA 12.27 330 *eP* **Pn 19 48 38.3 +3.5**
KBZ Khabaz 12.30 26 LR LR 19 53 59.3
comp=Z,620nm,19.2s,baz=210,slow=41
RZN Rozhen 12.33 319 *eP* **Pn 19 48 36.3 +0.5**
AGG Agios Georgios 12.36 304 Pn **Pn 19 48 34.6 -1.4**
AGG Agios Georgios 12.36 304 P **Pn 19 48 34.7 -1.4**
KIV Kislovodsk 12.42 25 *eP* **Pn 19 48 37.2 +0.2**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,232nm,13.0s
KVAR Kislovodsk Arr 12.43 25 LR LR 19 53 35.9
comp=Z,512nm,19.6s,baz=86,slow=39
LABN Labinsk 12.45 17 *eP* **Pn 19 48 41.1 +3.8**
LABN *eS* **Sn 19 51 01.7 +5.5**
LABN pmax pmax
comp=Z,13nm,0.2s
LABN MLR MLR
comp=Z,278nm,9.0s
MFTR Murfatlar 12.61 336 ⇑P **Pn 19 48 41.9 +2.4**
ELND Elena 12.63 326 ⇑P **Pn 19 48 41.7 +2.0**
PLD Plovdiv 12.63 320 *eP* **Pn 19 48 40.0 +0.2**
PLD Plovdiv 12.63 320 P **Pn 19 48 41.2 +1.4**
PLD pmax pmax
comp=Z,56nm,0.9s
LIT Litokhoron 12.76 308 Pn **Pn 19 48 40.3 -1.2**
LIT Litokhoron 12.76 308 P **Pn 19 48 40.3 -1.2**
ICOR Ion Corvin 12.78 334 ⇓P **Pn 19 48 43.4 +1.6**
SZH Strazhitsa 12.84 327 *eP* **Pn 19 48 45.2 +2.6**
PVL Pavlikeni 13.12 324 *eP* **Pn 19 48 48.8 +2.5**
PGB Panagyurishte 13.19 320 *eP* **Pn 19 48 48.8 +1.3**
KKB Krupnik 13.34 316 *eP* **Pn 19 48 50.9 +1.4**
ERBR Yeremizino-Bor 13.41 15 *eP* **P 19 48 55.8 -4.1**
ERBR pmax pmax
comp=Z,9.0nm,0.5s
ERBR MLR MLR
comp=Z,215nm,12.0s
CFR Carcaliu 13.59 337 ⇑P **Pn 19 48 54.9 +2.1**
CFR Carcaliu 13.59 337 ⇑P **Pn 19 48 54.9 +2.1**
VTS Vitosha 13.78 319 *eP* **Pn 19 48 55.7 +0.2**
MAK Makhachkala 13.81 40*c i*P **Pn 19 48 52.8 -3.0**
MAK *eS* **Sn 19 51 26.0 -3.4**
MAK pmax pmax
comp=Z,22nm,0.4s
MAK MLR MLR
comp=Z,400nm,15.0s
FNA Florina 13.84 309 **Pn 19 48 57.1 +0.8**
FNA Florina 13.84 309 P **Pn 19 48 57.1 +0.8**
MPEP Malo Peshtene 14.01 322 *eP* **Pn 19 48 59.4 +0.9**
ISR Istrita 14.11 333 ⇑P **P 19 49 04.4 -3.4**
ISR Istrita 14.11 333 ⇑P **P 19 49 04.4 -3.4**
KBN Korca 14.15 307 Pn **Pn 19 48 57.6 -2.9**
KBN Korca 14.15 307 P **Pn 19 48 57.6 -2.9**
VALD Valchedram 14.40 322 *eP* **Pn 19 49 02.6 -1.3**
MLR Muntele Rosu 14.65 332 ⇑P **P 19 49 11.8 -2.1**
MLR Muntele Rosu 14.65 332 Pn **Pn 19 49 04.7 -2.7**
MLR Muntele Rosu 14.65 332 Pn **Pn 19 49 09.8 +2.4**
comp=Z,0.1nm,0.3s,baz=106,slow=18,SNR=5.9
MLR LR LR 19 55 57.5
comp=Z,436nm,19.2s,baz=159,slow=42
comp=Z,4.5nm,1.0s
VRI Vrincioaia 14.67 335 ⇑P **P 19 49 10.9 -3.1**
VRI Vrincioaia 14.67 335 ⇑P **P 19 49 10.9 -3.1**
PLOR Plostina 14.69 335 ⇑P **P 19 49 12.3 -1.9**
PLOR Plostina 14.69 335 ⇑P **P 19 49 12.3 -1.9**
COVR Voineasa-Covas 14.85 334 ⇓P **P 19 49 13.0 -3.0**
VOIR 14.97 330 ⇓P **P 19 49 15.4 -2.0**
VOIR 14.97 330 ⇓P **P 19 49 15.4 -2.0**
VOIR 14.97 330 P **Pn 19 49 13.9 +2.2**
comp=Z,11nm,1.7s
MILM Milestii Mici 14.97 342 *eP* **Pn 19 49 12.0 +0.4**
comp=Z,100nm,3.4s
MILM *eL* L 19 56 23.0
MILM LRM MLR 19 59 08.0
comp=Z,200nm,11.0s
MILM Milestii Mici 14.97 342 *eP* **Pn 19 49 12.0 +0.4**
MILM pmax pmax
comp=Z,100nm,3.4s
TURR Turia 15.10 334 ⇑P **P 19 49 17.0 -1.7**
TIR Tirane 15.11 309 P **Pn 19 49 13.3 -0.2**
comp=Z,37nm,0.8s
OZUR 15.21 333 ⇑P **Pn 19 49 17.4 +2.5**
DOPR Dopca 15.26 332 ⇑P **P 19 49 19.1 -1.4**
BOVS Bovan 15.29 319 ⇑P **Pn 19 49 16.9 +1.0**
PUK Puka 15.44 311 **Pn 19 49 18.1 +0.1**
HERR Herculane 15.76 324 ⇑P **Pn 19 49 23.7 +1.6**
GZR Gura Zlata 15.95 325 ⇑P **P 19 49 27.7 -0.6**
PDG Podgorica 16.05 311 ⇑P **Pn 19 49 26.1 +0.4**
PDG Podgorica 16.05 311 **Pn 19 49 22.7 -3.1**
MDVR Moldovita 16.05 322 ⇓P **Pn 19 49 27.3 +1.4**
SORM Soroca 16.22 343 ⇑P **P 19 49 31.2 +0.1**
SORM Soroca 16.22 343 ⇑P **P 19 49 31.2 +0.1**
SORM Soroca 16.22 343 P **Pn 19 49 28.3 +0.4**
comp=Z,65nm,1.2s,comp=Z,826nm
DEV Deva 16.26 327 P **P 19 49 30.6 -1.0**
DEV pmax pmax
comp=Z,27nm,1.4s
TIP Timpagrande 16.45 298 ⇓P **Pn 19 49 29.7 -1.4**
TIP Timpagrande 16.45 298 Pn **Pn 19 49 27.1 -4.0**
TIP IAmb IAmb 19 49 37.5
comp=Z,79nm,1.3s
SURR Surduc 16.53 325 ⇑P **P 19 49 34.1 -0.5**
BZS Buzias 16.68 324 ⇑P **Pn 19 49 34.6 +0.8**
BZS Buzias 16.68 324 ⇑P **Pn 19 49 34.6 +0.8**
BURAR Bucovina Array 16.71 335 ⇑P **P 19 49 38.4 +1.7**
MARR Marisel-Cluj 16.77 329 ⇑P **P 19 49 37.6 +0.3**
MATE Matera 16.98 303 ⇓P **Pn 19 49 35.6 -2.0**
SIRR Siria 17.12 326 ⇑P **P 19 49 41.3 +0.1**
KMPD K-Podol'skiy 17.13 339 P **Pn 19 49 40.0 +0.5**
FRGS Fruska Gora 17.31 320 ⇑P **P 19 49 43.1 -0.1**
FRGS Fruska Gora 17.31 320 P **Pn 19 49 41.8 0.0**
comp=Z,11nm,2.0s,comp=Z,366nm

CUC Castrocucco 17.39 300 Pn **Pn 19 49 40.4 -2.5**
BMR Baia Mare 17.41 332 P **P 19 49 46.0 +1.7**
BMR pmax pmax
comp=Z,45nm,1.3s
LUBAR Lubar, Ukraine 18.02 344 P **Pn 19 49 50.2 -0.3**
SGRT San Giovanni R 18.06 305 Pn **Pn 19 49 46.5 -4.7**
AK07 Malin Array Si 18.31 347 P **Pn 19 49 53.3 -0.7**
VORD Divnogorie 18.32 8 *eP* **P 19 49 57.0 +2.7**
VORD pmax pmax
comp=Z,4.0nm,0.9s
AK10 Malin Array Si 18.34 347 P **Pn 19 49 53.9 -0.6**
AK09 Malin Array Si 18.35 347 P **Pn 19 49 54.0 -0.6**
AK05 Malin Array Si 18.37 347 P **Pn 19 49 54.2 -0.6**
AK08 Malin Array Si 18.38 347 P **Pn 19 49 54.2 -0.7**
AK11 Malin Array Si 18.43 347 P **P 19 49 55.3 -0.3**
KIEV Kiev 18.44 347 ⇑P **Pn 19 49 55.7 +0.1**
KIEV Kiev 18.44 347 P **P 19 49 53.5 -2.1**
KIEV Kiev 18.44 347 P **P 19 49 55.1 -0.5**
KIEV Kiev 18.44 347 ⇑P **Pn 19 49 55.7 +0.1**
AKASG Malin Array Be 18.45 347 P **P 19 49 55.4 -0.3**
comp=Z,0.7nm,0.3s,baz=167,slow=11,SNR=8.8
comp=Z,10nm,0.9s
AKBB Malin Array Si 18.45 347 P **P 19 49 51.9 -3.8**
AKBB Malin Array Si 18.45 347*ceP* **P 19 49 55.6 -0.1**
AKBB Malin Array Si 18.45 347 P **P 19 49 55.3 -0.4**
AK03 Malin Array Si 18.47 347 P **P 19 49 55.8 -0.1**
AK04 Malin Array Si 18.48 347 P **P 19 49 56.0 0.0**
AK19 Malin Array Si 18.51 347 pP pP 19 49 58.5 +0.1
VSR Storozhevoye 18.55 7 *eP* **Pn 19 49 58.4 +1.4**
VSR pmax pmax
comp=Z,5.0nm,1.0s
MZR Muzera 18.61 117 P **P 19 49 57.0 -0.7**
MORH Mrgy, Hungar 18.61 321 ⇑P **Pn 19 49 58.0 +0.2**
MORH Mrgy, Hungar 18.61 321 P **P 19 49 56.7 -0.9**
comp=Z,11nm,1.3s
PAOL Paolisi 18.63 302 P **P 19 49 56.4 -1.5**
CLTB Caltabellotta 18.84 291 P P 19 49 52.6 -7.6
CLTB IAmb IAmb 19 50 08.8
comp=Z,79nm,1.3s
VRH Novokhopyorsk 18.90 12 *eP* Pn 19 50 12.1 +11
VRH pmax pmax
comp=Z,12nm,1.7s
KOLS Kolonicke sedl 18.91 332 *eP* **Pn 19 50 02.9 +1.5**
KOLS pmax pmax
comp=Z,11nm,0.8s
KOLS Kolonicke sedl 18.91 332 *eP* **Pn 19 50 02.9 +1.5**
MI28 Mi28,Pidlybu 18.98 345 P **P 19 50 01.0 -0.6**
LVV L'vov 19.00 337 *eP* **Pn 19 50 02.3 -0.2**
LVV *eS* **Sn 19 53 28.4 -6.9**
VORR Voronezh 19.01 7 *eP* **Pn 19 50 09.6 +7.1**
VORR pmax pmax
comp=Z,27nm,1.6s
GEYT Alibeck 19.07 68 **Pn 19 50 03.8 +0.3**
GEYT Alibeck 19.07 68 P **Pn 19 50 06.3 +2.8**
comp=Z,1.7nm,0.4s,baz=297,slow=13,SNR=5.2
GEYT LR LR 19 59 07.0
comp=Z,174nm,19.0s,baz=304,slow=43
GEYT Alibeck 19.07 68 P **Pn 19 50 03.8 +0.3**
GEYT pmax pmax
comp=Z,10.0nm,1.1s
GYA0 ALIBECK ARRAY 19.07 68 P **Pn 19 50 04.6 +1.1**
GYA0 pmax pmax
comp=Z,9.0nm,1.0s
GYA0B ALIBECK ARRAY 19.07 68 P **Pn 19 50 04.5 +1.0**
PSZ Piszkesteto 19.15 326 ⇑P **Pn 19 50 04.3 -0.1**
PSZ Piszkesteto 19.15 326 P **P 19 50 01.2 -2.4**
PSZ Piszkesteto 19.15 326 ⇑P **Pn 19 50 04.3 -0.1**
CRVS Cervenica-Dubn 19.21 331 *eP* **Pn 19 50 06.0 +1.0**
CRVS pmax pmax
comp=Z,66nm,1.6s
CRVS Cervenica-Dubn 19.21 331 *eP* **Pn 19 50 06.0 +1.0**
NAZ Nazwa, Dubai 19.25 109 P **P 19 50 04.5 -0.2**
KWP Kalwaria Pacla 19.31 334 P **P 19 50 05.5 +0.3**
KWP Kalwaria Pacla 19.31 334 P **P 19 50 05.5 +0.3**
KWP pmax pmax
comp=Z,31nm,1.1s
FAQ Al Faqa, Dubai 19.31 110 P **Pn 19 50 06.0 -0.4**
INTR Introdacqua 19.43 304 P **P 19 50 06.0 -0.7**
MDH Madha 19.61 107 P **P 19 50 08.9 +0.2**
RNPP5 Staryi Chortor 19.70 342 P **P 19 50 09.4 0.0**
HATD Hatta, Dubai 19.70 109 P **P 19 50 08.2 -1.5**
UOSS Minazif 19.70 108 P **Pn 19 50 10.5 -0.6**
UOSS Minazif 19.70 108 P **Pn 19 50 10.4 -0.6**
ASHO Ashiyiah 19.71 109 P **P 19 50 09.7 -0.1**
RNPP8 Varash 19.80 342 P **P 19 50 10.5 0.0**
MPLH Magyarpolny 19.81 322 P **Pn 19 50 12.3 +0.1**
comp=Z,55nm,1.3s,comp=Z,912nm
RNPP9 Sopachiv 19.86 342 P **P 19 50 11.2 0.0**
LPSR Galich'ya Gora 19.90 6 *eP* **P 19 50 11.2 -0.4**
LPSR pmax pmax
comp=Z,7.0nm,0.9s
PTJ Puntijarka 19.92 317 P **Pn 19 50 13.5 -0.1**
CAMP Campotosto 19.97 305 **P 19 50 11.1 -1.5**
VYHS Vyhne 20.06 326 *eP* Pn 19 50 14.8 -0.4
VYHS pmax pmax
comp=Z,26nm,1.3s
VYHS Vyhne 20.06 326 *eP* Pn 19 50 14.8 -0.4
NIE Niedzica 20.09 330 *eP* Pn 19 50 16.4 +0.9
NIE Niedzica 20.09 330 P Pn 19 50 16.4 +0.9
NIE pmax pmax
comp=Z,8.0nm,1.6s
GCIS Gornji Crnik 20.09 316 *eP* **P 19 50 14.6 +0.8**
CRES Cresnjev 20.17 316 *eP* **P 19 50 15.5 +0.9**
GUMA Gualdo di Mace 20.22 307 P **P 19 50 12.6 -2.6**
GUMA IAmb IAmb 19 50 38.5
comp=Z,70nm,1.3s
LANS Liptovska Anna 20.25 328 *eP* Pn 19 50 17.7 +0.3
LANS pmax pmax
comp=Z,16nm,1.2s
LANS Liptovska Anna 20.25 328 *eP* Pn 19 50 17.7 +0.3
NRCA Norcia 20.28 306 P **P 19 50 15.4 -0.5**
GROS Grobnik 20.50 317 *eP* **P 19 50 19.1 +0.8**
CESX Cesi 20.56 305 P **P 19 50 17.8 -1.1**
CESX IAmb IAmb 19 50 22.3
comp=Z,69nm,1.5s
SOP Sopron 20.65 321 P Pn 19 50 21.1 -1.0
SOP pmax pmax
comp=Z,22nm,0.5s
MODS Modra-Piesok 20.73 324 *eP* Pn 19 50 21.9 -1.2
MODS pmax pmax
comp=Z,61nm,1.3s
MODS Modra-Piesok 20.73 324 *eP* Pn 19 50 21.9 -1.2
RONA Rosalia, Austr 20.80 321 *i* Pn **P 19 50 22.5 +1.1**
comp=Z,14nm,1.3s,SNR=25
JAVC Velka Javorina 20.87 325 *eP* Pn 19 50 23.5 -1.2
SOKA Soboth 20.89 317 *i* Pn **P 19 50 23.4 +0.9**
comp=Z,16nm,1.3s,SNR=14
OJC Ojcow 20.91 331 *eP* **P 19 50 23.1 +0.5**
OJC Ojcow 20.91 331 P **P 19 50 22.9 +0.3**
OJC IAmb IAmb 19 50 25.1
comp=Z,48nm,1.2s
OJC Ojcow 20.91 331 P **P 19 50 22.9 +0.3**
OJC pmax pmax
comp=Z,48nm,1.2s
OJC Ojcow 20.91 331 P **P 19 50 23.2 +0.5**
comp=Z,38nm,1.3s,comp=Z,414nm
ARSA Arzberg 20.94 319 *ePn* Pn 19 50 24.8 -0.7
comp=Z,25nm,1.2s,SNR=10
OBKA Obir 21.07 316 *i* pP pP 19 50 26.8 +0.2
comp=Z,29nm,1.5s,SNR=15
MAUC Maruska 21.15 327 *eP* **P 19 50 26.4 +1.2**
CONA Conrad Observa 21.17 321 *eP* **P 19 50 26.3 +0.8**
comp=Z,14nm,1.3s,SNR=8.7
SABO M.te Sabotino 21.36 314 P **P 19 50 26.2 -1.3**
SABO IAmb IAmb 19 50 33.9
comp=Z,36nm,1.2s
BELG Belogornoye 21.41 21 P **P 19 50 28.6 +0.6**
comp=Z,13nm,0.8s,baz=5.1,slow=5.3,SNR=6.7
BELG LR LR 20 00 13.3
comp=Z,122nm,19.4s,baz=227,slow=41
comp=Z,13nm,0.8s
BELG Belogornoye 21.41 21*deP* **P 19 50 28.2 +0.3**
BELG pmax pmax
comp=Z,2.0nm,0.9s
MORC Moravsky Berou 21.57 327 ⇑P **P 19 50 29.8 0.0**
MORC Moravsky Berou 21.57 327 P **P 19 50 28.5 -1.3**
MORC Moravsky Berou 21.57 327 *eP* **P 19 50 30.1 +0.3**
MORC Moravsky Berou 21.57 327 ⇑P **P 19 50 29.8 0.0**
KRUC Moravsky 21.62 324 *eP* **P 19 50 30.5 +0.2**
KRUC Moravsky 21.62 324 P **P 19 50 31.0 +0.7**
KRUC pmax pmax
comp=Z,7.0nm,1.5s
MYKA Terra Mystica 21.66 316 *i* P **P 19 50 31.8 +0.9**
comp=Z,53nm,1.5s,SNR=30

VRAC Vranov 21.69 325 *eP* **P 19 50 31.7 +0.7**
VRAC Vranov 21.69 325 P **P 19 50 31.9 +0.8**
comp=Z,4.2nm,0.8s,baz=140,slow=12,SNR=11
comp=Z,4.2nm,0.8s
OSSC Osservatorio P 21.80 306 P **P 19 50 30.1 -2.2**
OSSC IAmb IAmb 19 50 52.1
comp=Z,41nm,1.3s
KEST Kesra 21.82 285 P **P 19 50 29.6 -3.1**
KEST IAmb IAmb 19 50 38.7
comp=Z,41nm,1.3s
KEST Kesra 21.82 285 P **P 19 50 35.1 +2.5**
comp=Z,7.4nm,0.7s,baz=9.6,slow=5.3,SNR=12
KEST LR LR 20 01 49.1
comp=Z,59nm,20.2s,baz=341,slow=44
comp=Z,7.4nm,0.7s
MOA Molln 21.98 319 *eP* **P 19 50 35.1 +0.9**
comp=Z,15nm,1.1s,SNR=7.2
STAL STALIGIAL 22.03 314 P **P 19 50 32.9 -1.9**
KBA Koelnbreinsper 22.07 317 *i* pP pP 19 50 37.6 +0.1
comp=Z,16nm,1.0s,SNR=9.0
KBA Koelnbreinsper 22.07 317 P **P 19 50 38.7 +3.3**
KBA pmax pmax
comp=Z,22nm,1.4s
KRLC Kraliky 22.13 327 *eP* **P 19 50 37.5 +1.7**
KRLC Kraliky 22.13 327 *eP* **P 19 50 37.5 +1.7**
BIOA Bad Ischl, Aus 22.24 318 *i* P **P 19 50 37.2 +0.2**
comp=Z,6.4nm,1.2s
OBN Obninsk 22.28 2 LR LR 20 01 22.0
comp=Z,125nm,19.3s,baz=192,slow=42
OBN Obninsk 22.28 2*deP* **P 19 50 37.7 +0.5**
OBN *e* 19 51 00.6
OBN *eS* **S 19 54 38.5 -3.9**
OBN pmax pmax
comp=Z,28nm,1.3s
OBN MLR MLR
comp=Z,144nm,18.0s
MNK Minsk 22.32 348 *i* P **P 19 50 38.2 +0.4**
comp=E,9.0nm,1.2s
MNK *i* P **P 19 50 38.2 +0.4**
comp=N,52nm,1.3s
MNK *i* P **P 19 50 38.2 +0.4**
comp=Z,38nm,1.1s,baz=162
MNK *i* PP **PnPn 19 51 01.0 +0.6**
MNK *i* PPP PPP 19 51 08.8
MNK *i* S **S 19 54 45.0 +1.7**
MNK *i* SS **SnSn 19 55 14.2 +3.4**
MNK *i* LR LR 19 59 43.9
MNK *i* LRM MLR 20 01 35.6
comp=Z,87nm,13.4s
MNK *i* LRM MLR 20 02 14.3
comp=E,40nm,13.3s
MNK *i* LRM MLR 20 02 16.9
comp=N,125nm,14.4s
MNK Minsk 22.32 348 *i* P **P 19 50 38.1 +0.4**
MNK *i* PPP PPP 19 51 08.8
MNK *i* S **S 19 54 45.0 +1.7**
MNK *i* SS **SnSn 19 55 14.2 +3.4**
MNK pmax pmax
comp=Z,38nm,1.1s
MNK pmax pmax
comp=E,9.0nm,1.2s
MNK pmax pmax
comp=N,52nm,1.3s
MNK MLR MLR
comp=Z,87nm,13.0s
MNK MLR MLR
comp=E,40nm,13.0s
MNK MLR MLR
comp=N,125nm,14.0s
ABTA Abfaltersbach 22.39 315 *i* pP pP 19 50 41.0 +0.3
comp=N,8.3nm,1.3s
WSAR Wadi Sarin 22.47 109 LR LR 20 01 33.6
comp=N,440nm,18.3s,baz=324,slow=43
DPC Dobruska-Polom 22.53 327 *eP* **P 19 50 40.8 +0.7**
DPC AMS AMS 20 02 20.0
comp=N,100nm,13.4s
DPC Dobruska-Polom 22.53 327 *eP* **P 19 50 40.8 +0.7**
DPC MLR MLR
comp=Z,100nm,13.4s
DPC Dobruska-Polom 22.53 327 P **P 19 50 40.6 +0.5**
comp=Z,13nm,1.4s
CKRC Cesky Krumlov 22.54 321 *eP* **P 19 50 40.6 +0.5**
CKRC *eS* **S 19 54 44.8 -2.6**
CKRC Cesky Krumlov 22.54 321 *eP* **P 19 50 40.6 +0.5**
CKRC *eS* **S 19 54 44.8 -2.6**
CTI Castel Tesino 22.58 313 P **P 19 50 37.7 -3.0**
CTI IAmb IAmb 19 50 58.1
comp=Z,44nm,1.3s
CTI Castel Tesino 22.58 313 P **P 19 50 37.7 -3.0**
CTI pmax pmax
comp=Z,44nm,1.3s
LESA Schwarzleotal 22.64 317 *i* P **P 19 50 42.4 +1.0**
comp=Z,14nm,1.6s
OSTC Ostas 22.72 327 AMS AMS 20 02 30.0
comp=Z,100nm,10.5s
RJOB Jochberg 22.74 318 *eP* 19 50 42.0
comp=Z,2.6nm,0.9s,baz=125,slow=9.4
CHVC Chvalec 22.82 327 *eP* **P 19 50 42.9 -0.2**
CHVC Chvalec 22.82 327 *eP* **P 19 50 42.9 -0.2**
GEC2 GERESS Array S 22.87 321 IAmb IAmb 19 50 49.6
comp=Z,34nm,1.2s
GEC2 GERESS Array S 22.87 321 *eP* 19 50 44.1
comp=Z,27nm,1.2s,baz=125,slow=9.4
GERES GERESS Array B 22.87 321 P **P 19 50 42.0 -1.7**
GERES GERESS Array B 22.87 321 P **P 19 50 43.9 +0.1**
comp=Z,4.7nm,0.9s,baz=96,slow=11,SNR=28
GERES LR LR 20 02 07.8
comp=Z,50nm,18.7s,baz=135,slow=43
comp=Z,4.7nm,0.9s
KSP Ksiaz 22.89 327 *eP* **P 19 50 44.0 +0.3**
KSP Ksiaz 22.89 327 P **P 19 50 44.3 +0.5**
KSP pmax pmax
comp=Z,11nm,1.5s
NACGM Naroch 22.91 347 *eP* **P 19 50 44.7 +0.8**
comp=E,1µm,1.1s
SUW Suwalki 22.92 341 IAmb IAmb 19 50 56.1
comp=Z,37nm,1.1s
SUW Suwalki 22.92 341 *eP* **P 19 50 45.0 +0.9**
SUW Suwalki 22.92 341 P **P 19 50 44.8 +0.7**
SUW pmax pmax
comp=Z,27nm,0.9s
MOS Moscow 22.94 3 *eP* **P 19 50 43.8 -0.4**
MOS *e* 19 51 10.6
MOS *eS* **S 19 54 54.2 -0.2**
MOS pmax pmax
comp=Z,48nm,1.3s
ZVC Zvikov 22.98 322 *eP* **P 19 50 44.8 +0.1**
KHC Kasperske Hory 23.11 321 *eP* **P 19 50 46.4 +0.3**
KHC *eS* **S 19 54 56.0 -1.6**
KHC AMS AMS 20 05 10.0
comp=Z,100nm,17.2s
KHC Kasperske Hory 23.11 321 *eP* **P 19 50 46.4 +0.3**
KHC *eS* **S 19 54 56.0 -1.6**
KHC MLR MLR
comp=Z,100nm,17.2s
KHC Kasperske Hory 23.11 321 P **P 19 50 46.0 -0.1**
comp=Z,13nm,1.8s
PRU Pruhonice 23.14 324 *eP* **P 19 50 47.1 +0.7**
PRU *eS* **S 19 54 50.3 -7.8**
PRU Pruhonice 23.14 324 *eP* **P 19 50 47.1 +0.7**
PRU *eS* **S 19 54 50.3 -7.8**
WTTA Wattenberg 23.17 315 *i* P **P 19 50 47.2 +0.2**
comp=Z,34nm,1.3s,SNR=15
WTTA Wattenberg 23.17 315 P **P 19 50 47.1 +0.2**
WATA Walderalm 23.24 316 *i* P **P 19 50 48.1 +0.5**
comp=Z,35nm,1.5s,SNR=19
SQTA Sankt Quirin 23.40 315 *i* P **P 19 50 49.4 +0.2**
comp=Z,21nm,1.4s,SNR=10
IIGN Ignalina 23.44 347 *eP* **P 19 50 50.3 +1.0**
PVCC Panska Ves 23.48 325 P **P 19 50 49.8 0.0**
PVCC pmax pmax
comp=Z,9.0nm,1.1s
WET Wettzell 23.49 321 *eP* 19 50 49.7
comp=Z,10nm,1.1s,baz=125,slow=9.4
FETA Feichten 23.59 314 *i* P **P 19 50 51.7 +0.6**
comp=Z,11nm,1.0s,SNR=8.3
ISAL Salakas 23.66 347 *eP* **P 19 50 52.3 +0.7**
RETA Reutte 23.80 315 *eP* **P 19 50 53.4 +0.3**
comp=Z,18nm,1.4s,SNR=9.9
DAVOX Davos/Dischmat 24.00 313 P **P 19 50 55.8 +0.7**
comp=Z,3.9nm,0.7s,baz=126,slow=8.7,SNR=5.1
DAVOX LR LR 20 02 35.6
comp=Z,125nm,21.0s,baz=118,slow=42
comp=Z,3.9nm,0.7s
FURI Furi 24.00 172 LR LR 19 59 34.1
comp=Z,105nm,19.9s,baz=341,slow=35

BRG Berggiesshubel 24.01 325 *i* P **P** **19 50 55.3 +0.3**
BRG Amp 19 50 58.0
comp=Z,12nm,1.2s
BRG Berggiesshubel 24.01 325 S **S** **19 55 18.0 +6.0**
BRG Amp 20 00 40.0
comp=N,0.1nm,16.9s
BRG Amp 20 00 42.0
comp=E,0.1nm,19.0s
BRG Amp 20 02 23.0
comp=Z,0.1nm,14.9s
BRG Berggiesshubel 24.01 325 *i* P **P** **19 50 55.2 +0.3**
BRG pmax pmax
comp=Z,12nm,1.2s
BRG MLR MLR
comp=N,135nm,16.9s
BRG MLR MLR
comp=E,108nm,19.0s
BRG MLR MLR
comp=Z,112nm,14.9s
BRG Berggiesshubel 24.01 325 *e*P 19 50 55.1
comp=Z,12nm,1.2s,baz=125,slow=9.4
PABE Paberze 24.07 344 *e*P **P** **19 50 55.1 -0.3**
AKTO Aktyubinsk 24.16 37 LR LR 20 02 31.1
comp=Z,331nm,19.3s,baz=190,slow=42
ROTZ Rotzenmuhle 24.20 321 *e*P 19 50 57.0
comp=Z,13nm,1.5s,baz=125,slow=9.4
DAVA Damuels 24.23 314 *i* pP pP 19 50 58.6 -0.9
comp=Z,30nm,1.6s,SNR=8.3
UBR Ueberruh 24.28 315 *e*P 19 50 57.7
comp=Z,27nm,1.4s,baz=125,slow=9.4
MANZ Manzenberg 24.39 322 *e*P 19 50 58.6
comp=Z,11nm,1.4s,baz=125,slow=9.4
TANN Tannenbergstha 24.46 323 *e*P 19 50 59.6
comp=Z,27nm,1.4s,baz=125,slow=9.4
ABKAR Akbulak array 24.48 41 P **P** **19 50 58.5 -0.9**
PLN Plauen 24.66 323 *e*P 19 51 01.4
comp=Z,18nm,1.2s,baz=125,slow=9.4
GRA1 Grafenberg Arr 24.69 320 IAmb IAmb 19 51 24.5
comp=Z,14nm,1.1s
GRF Grafenberg Arr 24.69 320 *e*P 19 51 01.6
comp=Z,15nm,1.1s,baz=125,slow=9.4
GRF *e*L 20 11 27.7
comp=Z,86nm,20.2s
GRFO Grafenberg 24.69 320 P **P** **19 51 00.7 -0.5**
GRFO Grafenberg 24.69 320 P **P** **19 51 00.7 -0.5**
GRFO pmax pmax
comp=Z,13nm,1.1s
CLL Collm 24.74 325 IAmb IAmb 19 51 03.3
comp=Z,14nm,1.0s
CLL Collm 24.74 325 *i* P **P** **19 51 01.9 +0.3**
comp=Z,21nm,1.2s
CLL *i* pP **sP** **19 51 04.9 0.0**
comp=Z,22nm,1.2s
CLL *i* x x 19 51 14.9
CLL *e*PPP PPP 19 51 43.0
CLL *e*S **S** **19 55 29.0 +5.2**
CLL *e*SS **SnSn** **19 56 04.0 -6.0**
CLL Collm 24.74 325 P **P** **19 51 01.9 +0.3**
comp=Z,15nm,1.4s
CLL Collm 24.74 325 *e*P 19 51 02.2
comp=Z,15nm,1.0s,baz=125,slow=9.4
ISO Isola 24.89 305 P **P** **19 51 05.3 +2.2**
ISO pmax pmax
comp=Z,16nm,2.1s
MOX Moxa 25.03 322 P **P** **19 51 05.7 +1.5**
MOX pmax pmax
comp=Z,22nm,1.7s
MOX Moxa 25.03 322 *e*P 19 51 06.8
comp=Z,67nm,1.8s,baz=125,slow=9.4
MOX *e*L 20 06 36.0
comp=Z,101nm,21.7s
SLE Schleitheim 25.29 314 P **P** **19 51 07.4 +0.8**
SLE pmax pmax
comp=Z,12nm,1.6s
BNI Bardonecchia 25.41 307 IAmb IAmb 19 51 16.3
comp=Z,24nm,1.3s
BNI Bardonecchia 25.41 307 P **P** **19 51 09.5 +1.6**
BNI pmax pmax
comp=Z,18nm,1.5s
BFO Black Forest 25.64 315 P **P** **19 51 10.8 +1.0**
BFO Black Forest 25.64 315 P **P** **19 51 10.8 +1.0**
BFO pmax pmax
comp=Z,41nm,0.9s
BFO Black Forest 25.64 315 *e*P 19 51 10.8
comp=Z,48nm,1.0s,baz=125,slow=9.4
UBBA Unterbreizbach 25.97 321 *e*P 19 51 14.4
comp=Z,20nm,1.4s,baz=125,slow=9.4
ECH Echery 26.29 314 IAmb IAmb 19 51 34.5
comp=Z,23nm,1.4s
ECH Echery 26.29 314 P **P** **19 51 15.8 +0.1**
VSU Vasula 26.31 350⇑ *e*P **P** **19 51 15.5 -0.2**
VSU pmax pmax
comp=Z,5.0nm,0.9s
CLZ Clausthal 26.37 324 *e*P 19 51 16.7
comp=Z,16nm,1.4s,baz=125,slow=9.4
TNS Taunus Mts 26.49 319 *e*P 19 51 17.9
comp=Z,8.8nm,1.1s,baz=125,slow=9.4
GORT1 Trebel 26.62 326 *e*P 19 51 19.4
comp=Z,19nm,1.1s,baz=125,slow=9.4
KIRV Kirov 27.39 16⇓ *e*P **P** **19 51 25.7 +0.2**
AHRW Bad Neuenahr-A 27.41 319 *e*P 19 51 26.1
comp=Z,15nm,1.2s,baz=125,slow=9.4
WLF Walferdange 27.52 316 IAmb IAmb 19 51 30.8
comp=Z,17nm,1.2s
WLF Walferdange 27.52 316 *d*P **P** **19 51 27.6 +0.8**
comp=Z,7.2nm,1.1s
WLF Walferdange 27.52 316 *e*P 19 51 27.5
comp=Z,26nm,1.5s,baz=125,slow=9.4
BSEG Bad Segeberg 27.68 327 *e*P 19 51 28.6
comp=Z,13nm,1.4s,baz=125,slow=9.4
KLMR Klimovskoe 28.14 4 *e*P **P** **19 51 29.3 -2.9**
KLMR pmax pmax
comp=Z,31nm,1.5s
TAM Tamanrasset 28.30 257 P **P** **19 51 32.4 -1.7**
TAM Tamanrasset 28.30 257 P **P** **19 51 32.4 -1.7**
TAM pmax pmax
comp=Z,8.0nm,1.2s
ARU Arti 28.45 27 LR LR 20 05 12.8
comp=Z,130nm,18.3s,baz=246,slow=41
ARU Arti 28.45 27 *d i*P **P** **19 51 35.4 +0.4**
ARU 19 52 23.2
ARU S **S** **19 56 24.9 +2.6**
ARU SS **SnSn** **19 57 43.1 +2.8**
ARU pmax pmax
comp=Z,8.0nm,1.5s
ARU MLR MLR
comp=Z,123nm,14.0s
BGES Gesves 28.46 317 *d*P **P** **19 51 36.3 +1.2**
comp=Z,5.6nm,1.1s
BMRD Maredsous 28.60 317 *d*P **P** **19 51 37.1 +0.7**
VALR Valaam 28.69 355⇑ *e*P **P** **19 51 37.1 +0.1**
VALR pmax pmax
comp=Z,5.0nm,1.1s
KKAR Karatay Array 29.22 59 P **P** **19 51 41.8 -0.2**
KKAR Karatay Array 29.22 59 IAmb IAmb 19 51 46.9
comp=Z,9.1nm,1.5s
KKAR Karatay Array 29.22 59 P **P** **19 51 41.8 -0.2**
FINES FINESS Array B 29.27 351 P **P** **19 51 42.1 -0.1**
comp=Z,2.9nm,0.7s,baz=131,slow=10,SNR=10
FINES LR LR 20 05 12.4
comp=Z,99nm,20.4s,baz=185,slow=40
comp=Z,2.9nm,0.7s
HFS Hagfors 30.87 339 P **P** **19 51 56.5 +0.1**
comp=Z,1.9nm,0.8s,baz=53,slow=7.6,SNR=3.8
comp=Z,1.9nm,0.8s
BRVK Borovoye 32.02 40 P **P** **19 52 06.9 +0.3**
BRVK Borovoye 32.02 40 *ce*P **P** **19 52 07.4 +0.9**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BVAR Borovoye Array 32.06 41 P **P** **19 52 07.7 +0.8**
comp=Z,1.1nm,0.8s,baz=238,slow=8.3,SNR=6.2
BVAR PcP **PcP** **19 54 56.9 +0.5**
comp=Z,1.4nm,0.9s,baz=290,slow=4.2,SNR=4.4
BVAR LR LR 20 07 28.9
comp=Z,251nm,18.6s,baz=248,slow=41
comp=Z,1.1nm,0.8s
AAK Ala-Archa 32.07 61 LR LR 20 07 45.9
comp=Z,125nm,18.6s,baz=282,slow=42
AAK Ala-Archa 32.07 61⇓ *e*P **P** **19 52 09.3 +1.9**
AAK pmax pmax
comp=Z,3.0nm,1.2s
NOA NORSAR Array B 32.35 338 P **P** **19 52 09.0 -0.4**
comp=Z,2.4nm,1.2s,baz=129,slow=8.5,SNR=4.5
NOA LR LR 20 07 29.0
comp=Z,99nm,20.3s,baz=135,slow=40
comp=Z,2.4nm,1.2s
ESBB Sonseca Array 32.38 294 IAmb IAmb 19 52 12.7
comp=Z,12nm,1.1s
ESDC Sonseca Array 32.38 294 P **P** **19 52 08.8 -1.3**
ESDC IAmb IAmb 19 52 14.8
comp=Z,14nm,1.5s
ESDC Sonseca Array 32.38 294 P **P** **19 52 11.6 +1.6**
comp=Z,6.0nm,1.0s,baz=80,slow=8.6,SNR=29
comp=Z,6.0nm,1.0s
PAB San Pablo 32.68 293 P **P** **19 52 12.8 +0.1**
PAB IAmb IAmb 19 52 15.3
comp=Z,8.3nm,1.1s
PAB San Pablo 32.68 293 P **P** **19 52 12.8 +0.1**
PAB pmax pmax
comp=Z,8.0nm,1.1s
KSH Kashi 33.09 67 P **P** **19 52 18.1 +1.8**
KSH pP sP 19 52 22.8 +3.2
KSH PP **PP** **19 53 31.8 +0.8**
KSH PcP **PcP** **19 55 00.2 +0.6**
KSH pmax pmax
comp=Z,4.0nm,1.3s
KSH LR LR
comp=N,170nm,12.7s
KSH LR LR
comp=E,230nm,12.0s
KSH LR LR
comp=Z,210nm,15.8s
MDT Midelt 33.60 281 P **P** **19 52 23.4 +2.6**
comp=Z,2.5nm,0.8s,baz=60,slow=8.4,SNR=4.0
MDT LR LR 20 08 55.1
comp=Z,51nm,21.8s,baz=156,slow=41
comp=Z,2.5nm,0.8s
PBRG Braganca 34.51 297 *e*P **P** **19 52 28.3 -0.2**
comp=Z,15nm,1.4s
PBAR Barrancos 34.85 291 *e*P **P** **19 52 32.5 +1.1**
comp=Z,32nm,1.6s
PMRV Marv??o 35.04 293 *e*P **P** **19 52 33.8 +0.7**
comp=Z,20nm,1.4s
EKA Eskdalemuir Ar 35.08 322 P **P** **19 52 33.0 -0.2**
comp=Z,4.4nm,0.9s,baz=101,slow=8.6,SNR=12
comp=Z,4.4nm,0.9s
PESTR Estremoz 35.23 292 IAmb IAmb 19 52 37.2
comp=Z,11nm,1.0s
PESTR Estremoz 35.23 292 *e*P **P** **19 52 34.2 -0.5**
comp=Z,17nm,1.3s
POLO Lamas de Olo 35.30 297 *e*P **P** **19 52 37.1 +1.7**
comp=Z,12nm,1.7s
PVIS Viseu 35.38 295 *e*P **P** **19 52 37.9 +1.8**
comp=Z,28nm,1.8s
PVAQ Vaqueiros 35.45 290 *e*P **P** **19 52 38.1 +1.5**
comp=Z,45nm,1.7s
PBEJ Beja 35.51 291 *e*P **P** **19 52 39.0 +1.9**
comp=Z,18nm,1.9s
EVO Evora 35.58 292 *e*P **P** **19 52 38.7 +1.0**
comp=Z,18nm,1.4s
PBDV Barranco-do-Ve 35.64 290 *e*P **P** **19 52 40.0 +1.7**
comp=Z,54nm,1.8s
MESJ Messejana 35.80 291 *e*P **P** **19 52 41.4 +1.7**
comp=Z,22nm,1.5s
KURBB Kurchatov Arra 36.06 48 P **P** **19 52 43.1 +1.4**
comp=Z,2.6nm,0.9s,baz=258,slow=7.9,SNR=4.0
KURBB PP **PP** **19 54 06.5 +3.0**
comp=Z,1.3nm,1.0s,baz=264,slow=11,SNR=7.8
KURBB PcP **PcP** **19 55 08.4 +0.7**
comp=Z,1.9nm,0.8s,baz=256,slow=4.0,SNR=9.6
KURBB LR LR 20 09 38.5
comp=Z,231nm,18.5s,baz=174,slow=40
comp=Z,2.6nm,0.9s
KURK Kurchatov 36.14 47 P **P** **19 52 43.6 +1.3**
KURK Kurchatov 36.14 47⇓ *e*P **P** **19 52 44.3 +1.9**
KURK pmax pmax
comp=Z,15nm,1.7s
TORD Torodi Ar. Bea 36.58 246 P **P** **19 52 47.7 +1.2**
comp=Z,1.9nm,0.9s,baz=52,slow=7.2,SNR=8.9
TORD LR LR 20 08 43.0
comp=Z,195nm,21.1s,baz=50,slow=38
comp=Z,1.9nm,0.9s
ARCES ARCESS Array B 37.17 354 P **P** **19 52 50.0 -0.9**
comp=Z,1.1nm,0.6s,baz=163,slow=5.1,SNR=6.1
ARCES LR LR 20 10 34.8
comp=Z,105nm,18.5s,baz=154,slow=40
comp=Z,1.1nm,0.6s
MAKZ Makanchi 37.74 54 P **P** **19 52 55.7 -0.4**
MAKZ Makanchi 37.74 54 P **P** **19 52 55.7 -0.4**
MAKZ pmax pmax
comp=Z,7.0nm,1.2s
MK31 Makanchi Array 37.95 54 *c i*P **P** **19 52 58.9 +1.0**
MKAR Makanchi Array 37.95 54 P **P** **19 52 58.9 +1.0**
MKAR Makanchi Array 37.95 54 P **P** **19 52 59.0 +1.2**
comp=Z,1.6nm,0.5s,baz=260,slow=7.7,SNR=14
MKAR PcP **PcP** **19 55 12.5 -1.2**
comp=Z,0.7nm,0.7s,baz=270,slow=0.6,SNR=3.1
MKAR LR LR 20 11 17.7
comp=Z,282nm,18.3s,baz=65,slow=41
comp=Z,1.6nm,0.5s
MKAR Makanchi Array 37.95 54 P **P** **19 52 58.9 +1.0**
ZALV Zalesovo Beam 40.53 44 P **P** **19 53 18.6 -0.7**
ZALV Zalesovo Beam 40.53 44 P **P** **19 53 19.4 +0.1**
comp=Z,0.9nm,0.5s,baz=262,slow=10,SNR=4.9
ZALV LR LR 20 12 42.2
comp=Z,170nm,19.8s,baz=250,slow=40
comp=Z,0.9nm,0.5s
WMQ Urumqi 41.73 59 *e*P **P** **19 53 31.2 +1.8**
WMQ pmax pmax
comp=Z,10.0nm,1.3s
JMIC Jan Mayen 44.91 341 LR LR 20 14 25.6
comp=Z,77nm,21.1s,baz=172,slow=38
DBIC Dimbokro 45.65 244 LR LR 20 15 56.5
comp=Z,150nm,18.4s,baz=32,slow=40
SPB3 Spitsbergen Ar 46.20 355 P **P** **19 54 04.5 -0.2**
SPITS Spitsbergen Ar 46.20 355 P **P** **19 54 04.9 +0.1**
comp=Z,13nm,0.9s,baz=140,slow=16,SNR=8.3
comp=Z,13nm,0.9s
SPITS Spitsbergen Ar 46.20 355 P **P** **19 54 04.9 +0.1**
SPITS pmax pmax
comp=Z,21nm,1.1s
NRIK Noril'sk 46.49 23 P **P** **19 54 06.4 -0.7**
NRIK Noril'sk 46.49 23 P **P** **19 54 05.8 -1.3**
comp=Z,2.6nm,0.5s,baz=238,slow=7.0,SNR=5.1
NRIK LR LR 20 17 42.0
comp=Z,59nm,18.8s,baz=288,slow=41
comp=Z,2.6nm,0.5s
NRIK Noril'sk 46.49 23 *ce*P **P** **19 54 08.6 +1.5**
NRIK pmax pmax
comp=Z,15nm,1.5s
LSA Lhasa 47.17 78 P **P** **19 54 14.0 +0.5**
LSA IAmb IAmb 19 54 17.4
comp=Z,6.3nm,1.2s
LSA Lhasa 47.17 78 P **P** **19 54 14.0 +0.5**
LSA pmax pmax
comp=Z,6.0nm,1.2s
KBS Kingsbay 47.26 354⇑ *e*P **P** **19 54 14.0 +1.0**
KBS pmax pmax
comp=Z,34nm,2.5s
GOMU GeErMu 48.29 69 P **P** **19 54 24.9 +2.8**
GOMU pmax pmax
comp=Z,10.0nm,1.2s
LSZ Lusaka 48.36 190 LR LR 20 15 28.8
comp=Z,130nm,18.6s,baz=5.0,slow=37
PALK Pallekele 48.94 111 LR LR 20 14 50.0
comp=Z,149nm,20.9s,baz=48,slow=36
DAG Danmarks Havn 50.31 346 P **P** **19 54 36.2 -0.2**
BBTS Babate 50.47 262 LR LR 20 18 36.2
comp=Z,57nm,18.4s,baz=321,slow=39
GTA Gaotai 51.36 63 ⇑P **P** **19 54 46.7 +1.6**
GTA sP sP 19 54 52.6 +4.2
GTA pmax pmax
comp=Z,6.0nm,1.2s
SONM Songino Array 54.20 52 P **P** **19 55 07.7 +1.8**
comp=Z,0.7nm,0.6s,baz=296,slow=6.9,SNR=5.8
SONM LR LR 20 21 03.8
comp=Z,318nm,18.7s,baz=262,slow=39
comp=Z,0.7nm,0.6s
TSUM Tsumeb 54.53 201 LR LR 20 19 09.5
comp=Z,250nm,18.1s,baz=3.5,slow=37
ULN Ulaanbaatar 54.63 52⇑ *e*P **P** **19 55 09.2 +0.1**
ULN pmax pmax
comp=Z,4.0nm,1.3s
LZH Lanzhou 55.34 66 *e*P **P** **19 55 16.3 +1.8**
LZH pP sP 19 55 24.5 +6.7
LZH pmax pmax
comp=Z,18nm,1.0s
PZH PanZhiHua 57.04 78 P **P** **19 55 28.7 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.3s
HHC Hu-ho-hao-te 59.60 59 *e*P **P** **19 55 44.7 +0.3**
HHC pmax pmax
comp=Z,17nm,0.5s
HHC pmax pmax
comp=Z,170nm,5.7s
TIXI Tiksi 60.23 21⇑ *i*P **P** **19 55 48.3 +0.3**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
XLT XiLinHaoTe 61.77 54 *e*P **P** **19 55 55.0 -4.1**
XLT pmax pmax
comp=Z,14nm,0.9s
XLT pmax pmax
comp=Z,200nm,4.9s
SUR Sutherland 66.35 194 LR LR 20 25 45.6
comp=Z,162nm,19.2s,baz=14,slow=36
NJ2 Nanjing 68.38 65 *e*P **P** **19 56 41.5 -0.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,210nm,3.6s
SEY Seymchan 72.17 25 *e*P **P** **19 57 04.9 +0.1**
SEY pmax pmax
comp=Z,7.0nm,1.5s
KSRS Korea Array 72.60 56 P **P** **19 57 07.3 -0.4**
comp=Z,1.7nm,0.9s,baz=295,slow=5.5,SNR=4.6
comp=Z,1.7nm,0.9s
BILL Bilibino 72.93 17⇑ *e*P **P** **19 57 10.2 +1.0**
BILL *e*S SKiKP 20 07 00.9 +18
BILL pmax pmax
comp=Z,4.0nm,1.1s
BILL MLR MLR
comp=Z,92nm,15.0s
MA2 Magadan 73.62 29⇑ *e*P **P** **19 57 13.4 0.0**
MA2 pmax pmax
comp=Z,12nm,1.7s
A36M Sachs Harbour 74.60 354 P **P** **19 57 18.3 -0.6**
baz=17
A21K Barrow 75.77 4 P **P** **19 57 25.3 -0.3**
baz=350
A22K Sinclair Lake 76.18 4 P **P** **19 57 27.5 -0.5**
baz=351
B22K Teshekpuk Lake 76.91 3 P **P** **19 57 31.9 -0.3**
baz=352
C36M Paulatuk 77.02 353 P **P** **19 57 32.5 -0.2**
baz=18
B20K Meade River 77.03 4 P **P** **19 57 32.5 -0.4**
baz=349
B18K Kokolik River 77.30 6 P **P** **19 57 34.2 -0.2**
baz=345
C23K Itkillik River 77.52 2 P **P** **19 57 36.4 +0.7**
baz=355,SNR=5.7
B21K Ikpikpuk River 77.57 4 P **P** **19 57 35.8 0.0**
baz=351
C24K Franklin Bluff 77.69 2 P **P** **19 57 36.7 +0.2**
baz=356
C19K Lookout Ridge 77.74 6 P **P** **19 57 36.3 -0.7**
baz=347
RCBR Riachuelo 77.76 255 LR LR 20 33 17.6
comp=Z,57nm,18.5s,baz=150,slow=37
C27K Jago River 77.83 360 P **P** **19 57 37.3 -0.1**
baz=0.7,SNR=6.3
C21K Knifeblade Rid 78.02 4 P **P** **19 57 38.6 +0.1**
baz=351
C17K DeLong Mountai 78.03 7 P **P** **19 57 39.0 +0.5**
baz=344
C18K Utukok River 78.05 6 P **P** **19 57 39.5 +0.7**
baz=346
D25K Kavik River 78.13 1 P **P** **19 57 38.8 -0.3**
baz=358
D27M Malcolm River 78.19 359 P **P** **19 57 38.6 -0.8**
baz=3.1
D24K Happy Valley 78.26 2 P **P** **19 57 38.7 -1.0**
baz=356
D20K Etivluk River 78.35 5 P **P** **19 57 39.9 -0.4**
baz=350
D23K Nanushuk River 78.39 2 P **P** **19 57 39.7 -0.8**
baz=355
D22K Ayikyak River 78.40 3 P **P** **19 57 39.6 -0.9**
baz=353
D19K Kuna River 78.46 5 P **P** **19 57 40.8 -0.2**
baz=348
RDOG Red Dog Mine 78.46 7 P **P** **19 57 40.8 -0.1**
baz=344
TOLK Toolik Lake Re 78.75 2 IAmb IAmb 19 57 45.1
comp=Z,8.9nm,0.9s
TOLK Toolik Lake Re 78.75 2 P **P** **19 57 42.8 +0.3**
baz=356,SNR=5.7
E21K Killik River 78.77 4 P **P** **19 57 41.6 -1.1**
baz=352
D17K Noatak River 78.79 7 P **P** **19 57 42.7 0.0**
baz=344
E28M Babbage River 78.80 358 P **P** **19 57 42.0 -0.8**
baz=4.3
E20K Nigu River 78.83 4 P **P** **19 57 42.9 -0.1**
baz=350
INK Inuvik 78.83 356 P **P** **19 57 42.5 -0.4**
baz=9.4
LBNH Lisbon 78.84 316 P **P** **19 57 42.4 -1.0**
baz=55
E29M Blow River 78.96 358 P **P** **19 57 43.6 -0.1**
baz=5.7,SNR=8.7
E27K Coleen River 79.26 359 P **P** **19 57 46.4 +1.1**
E27K IAmb IAmb 19 57 47.6
comp=Z,7.5nm,1.1s
E27K Coleen River 79.26 359 P **P** **19 57 45.4 +0.1**
baz=2.5,SNR=6.1
E18K Tukpahlearik C 79.30 6 P **P** **19 57 44.8 -0.7**
baz=346
E23K Chandalar 79.33 2 P **P** **19 57 45.5 -0.3**
baz=356,SNR=7.0
E25K Arctic Village 79.34 0 IAmb IAmb 19 57 48.2
comp=Z,12nm,1.1s
E25K Arctic Village 79.34 0 P **P** **19 57 45.9 +0.1**
baz=359,SNR=9.4
E24K Your Creek 79.35 2 P **P** **19 57 46.4 +0.6**
baz=357
E17K Hotham Inlet 79.52 7 P **P** **19 57 46.9 +0.2**
baz=345
E19K Redstone River 79.55 5 P **P** **19 57 47.3 +0.4**
baz=349
HRV Adam Dziewonsk 79.62 314 P **P** **19 57 46.9 -0.8**
baz=55
F30M Barrier River 79.64 357 P **P** **19 57 45.7 -1.7**
baz=7.5,SNR=5.9
F31M Tsiigehtchic 79.70 356 IAmb IAmb 19 57 49.1
comp=Z,6.6nm,0.9s
F31M Tsiigehtchic 79.70 356 P **P** **19 57 46.9 -0.7**
baz=9.2
F26K Sheenjek River 79.78 360 P **P** **19 57 46.8 -1.4**
baz=0.3
F22K John River 79.79 3 P **P** **19 57 48.4 +0.2**
baz=354,SNR=9.5
F28M Old Crow 79.80 358 P **P** **19 57 47.8 -0.5**
baz=4.0
F25K Christian Rive 79.87 0 P **P** **19 57 48.4 -0.3**
baz=359
F24K Squaw Lake 79.92 1 IAmb IAmb 19 57 51.6
comp=Z,9.3nm,1.1s
F24K Squaw Lake 79.92 1 P **P** **19 57 48.7 -0.2**
baz=357
F21K Alatna River 80.01 4 IAmb IAmb 19 57 51.8
comp=Z,7.0nm,1.1s
F21K Alatna River 80.01 4 P **P** **19 57 49.2 -0.2**
baz=352
BMAR Burnt Mountain 80.04 0 P **P** **19 57 50.4 +0.8**
F20K Avaraart Lake 80.05 4 IAmb IAmb 19 57 51.6
comp=Z,8.0nm,1.1s
F20K Avaraart Lake 80.05 4 P **P** **19 57 49.5 -0.1**
baz=350
F19K Shaleruckik Mo 80.12 5 IAmb IAmb 19 57 51.4
comp=Z,8.6nm,1.1s
F19K Shaleruckik Mo 80.12 5 P **P** **19 57 49.8 -0.1**
baz=349,SNR=5.2
COLD Coldfoot 80.15 2 P **P** **19 57 49.4 -0.7**
baz=355
LONY Lake Ozonia 80.16 317 P **P** **19 57 49.8 -0.8**
baz=53
F18K Selawik 80.19 6 P **P** **19 57 48.7 -1.6**
baz=347
TNA Tin City 80.24 10 P **P** **19 57 49.9 -0.6**
baz=340
G31M Satah River 80.25 356 P **P** **19 57 49.5 -1.1**
baz=8.8
L61B Northampton 80.33 315 P **P** **19 57 50.9 -0.7**
baz=54
G22K Bettles 80.41 3 P **P** **19 57 51.5 0.0**
baz=354
G29M Pine Creek 80.44 357 IAmb IAmb 19 57 53.4
comp=Z,9.3nm,1.1s
G29M Pine Creek 80.44 357 P **P** **19 57 51.4 -0.4**

	baz=5.6						
G26K	Porcupine Rive	80.52	360	P	P	19 57 51.9	-0.2
	baz=0.7						
F15K	North Star Dit	80.53	8	P	P	19 57 52.3	+0.1
	baz=343						
G27K	Doyon Strip	80.64	359	IAmb	IAmb	19 57 55.5	
	comp=Z,9.4nm,1.1s						
G27K	Doyon Strip	80.64	359	P	P	19 57 52.5	-0.4
	baz=2.5,SNR=7.2						
G23K	Bananza Creek	80.67	2	P	P	19 57 54.3	+1.3
G23K				IAmb	IAmb	19 57 55.4	
	comp=Z,7.2nm,1.2s						
G23K	Bananza Creek	80.67	2	P	P	19 57 51.5	-1.5
	baz=355						
G25K	Bearman Lake	80.70	1	P	P	19 57 53.2	+0.2
	baz=359						
G21K	Allakaket	80.72	4	IAmb	IAmb	19 57 55.9	
	comp=Z,17nm,1.5s						
G21K	Allakaket	80.72	4	P	P	19 57 52.6	-0.6
	baz=352						
G19K	Purcell Mounta	80.85	5	P	P	19 57 52.7	-1.2
	baz=349						
EPYK	Eagle Plains	80.93	357	IAmb	IAmb	19 57 55.8	
	comp=Z,6.8nm,1.1s						
EPYK	Eagle Plains	80.93	357	P	P	19 57 53.5	-0.9
	baz=6.7						
G18K	Tagagawik	80.97	6	IAmb	IAmb	19 57 56.2	
	comp=Z,10.0nm,1.2s						
G18K	Tagagawik	80.97	6	P	P	19 57 53.8	-0.8
	baz=348,SNR=5.1						
G16K	Koyuk River	81.10	7	P	P	19 57 54.5	-0.7
	baz=345						
H29M	Whitestone	81.15	358	IAmb	IAmb	19 57 57.2	
	comp=Z,7.4nm,1.0s						
H29M	Whitestone	81.15	358	P	P	19 57 54.2	-1.3
	baz=5.3,SNR=6.9						
G17K	Kiwalik Mounta	81.17	7	P	P	19 57 54.6	-1.1
	baz=346						
H27K	Steamboat Moun	81.22	359	P	P	19 57 55.1	-0.9
	baz=2.6						
IMAR	Indian Mountai	81.23	4	P	P	19 57 55.9	-0.1
G15K	Niukluk	81.29	8	P	P	19 57 55.2	-1.0
	baz=344						
H31M	Peel River	81.36	356	P	P	19 57 55.9	-0.8
	baz=8.7						
H22K	Ishtalitna Cre	81.44	3	P	P	19 57 57.1	0.0
	baz=354						
H19K	Roundabout Mou	81.51	5	IAmb	IAmb	19 57 59.5	
	comp=Z,6.4nm,1.1s						
H19K	Roundabout Mou	81.51	5	P	P	19 57 55.9	-1.5
	baz=350						
ANM	Nome	81.53	9	P	P	19 57 56.6	-0.9
	baz=342						
H23K	Yukon River	81.57	2	IAmb	IAmb	19 58 00.6	
	comp=Z,7.7nm,1.1s						
H23K	Yukon River	81.57	2	P	P	19 57 57.0	-0.8
	baz=356						
H24K	Noodor Dome	81.61	1	P	P	19 57 56.8	-1.2
	baz=357						
H21K	Melozitna Rive	81.61	3	P	P	19 57 56.6	-1.4
	baz=353,SNR=11						
H20K	Anotleneega Mo	81.65	4	P	P	19 57 57.2	-1.0
	baz=351						
H18K	Honhosa River	81.72	6	P	P	19 57 57.6	-1.0
	baz=348						
H17K	Granite Mounta	81.80	7	P	P	19 57 57.8	-1.1
	baz=347						
H16K	Elim	81.84	8	P	P	19 57 59.1	0.0
	baz=345						
I27K	Kandik River	81.85	359	P	P	19 57 58.9	-0.4
	baz=2.5						
PAL	Palisades	81.92	314	P	P	19 57 59.2	-0.8
	baz=53						
I28M	Miner Creek	81.97	358	IAmb	IAmb	19 58 01.6	
	comp=Z,13nm,1.4s						
I28M	Miner Creek	81.97	358	P	P	19 57 58.7	-1.3
	baz=3.9,SNR=6.5						
I29M	Ogilvie Camp,	82.00	357	P	P	19 57 59.1	-1.0
	baz=5.3						
YKA	Yellowknife Ar	82.01	347	P	P	19 58 00.4	+0.3
	comp=Z,2.0nm,1.0s,baz=31,slow=5.3,SNR=8.5						
	comp=Z,2.0nm,1.0s						
I30M	Mount Dempster	82.06	357	P	P	19 58 00.8	+0.4
I30M				IAmb	IAmb	19 58 02.1	
	comp=Z,6.5nm,1.1s						
I30M	Mount Dempster	82.06	357	P	P	19 57 59.4	-1.1
	baz=6.9,SNR=6.5						
I26K	Coal Creek Min	82.17	359	P	P	19 58 00.1	-0.8
	baz=1.2						
GCSA	Galena City Sc	82.25	5	P	P	19 58 00.7	-0.6
	baz=350						
I23K	Minto, Yukon-K	82.26	2	P	P	19 58 00.5	-0.9
	baz=356						
MLY	Manley	82.33	3	P	P	19 58 00.3	-1.5
	baz=355						
POKR	Poker Plat Res	82.34	1	P	P	19 58 01.2	-0.6
	baz=358						
I20K	Naaghedeneel	82.37	4	P	P	19 58 01.5	-0.4
	baz=352						
BINY	Binghamton	82.44	316	P	P	19 58 01.7	-1.1
	baz=52						
COLA	College	82.57	1	P	P	19 58 02.0	-1.0
	baz=357						
EGAK	Eagle	82.67	359	P	P	19 58 02.5	-1.1
	baz=2.9,SNR=7.2						
ILAR	Eielson Array	82.69	1	P	P	19 58 03.8	+0.1
	comp=Z,1.0nm,1.0s,baz=329,slow=3.8,SNR=8.6						
	comp=Z,1.0nm,1.0s						
J30M	Hart River	82.70	356	P	P	19 58 03.2	-0.7
	baz=7.0,SNR=12						
I17K	Unalakleet	82.74	7	P	P	19 58 03.4	-0.5
	baz=346						
CCB	Clear Creek Bu	82.80	1	IAmb	IAmb	19 58 05.5	
	comp=Z,5.2nm,1.1s						
NEA2	Nenana	82.82	2	P	P	19 58 03.3	-1.1
	baz=356						
J25K	Salcha River,	82.87	0	P	P	19 58 04.5	-0.1
	baz=359						
J26L	Joseph Creek	82.98	360	P	P	19 58 04.1	-1.2
	baz=0.8						
J20K	Nowinta River	83.00	4	IAmb	IAmb	19 58 10.8	
	comp=Z,6.8nm,1.1s						
J20K	Nowinta River	83.00	4	P	P	19 58 04.4	-0.9
	baz=352						
HDA	Harding Lake	83.06	1	P	P	19 58 05.3	-0.3
	baz=358						
J19K	Poorman	83.09	5	IAmb	IAmb	19 58 08.1	
	comp=Z,8.4nm,1.2s						
J19K	Poorman	83.09	5	P	P	19 58 05.6	-0.1
	baz=351,SNR=5.2						
BPAW	Bear Paw Mtn.	83.25	3	IAmb	IAmb	19 58 07.8	
	comp=Z,6.8nm,1.2s						
BPAW	Bear Paw Mtn.	83.25	3	P	P	19 58 05.4	-1.2
	baz=355						
DAWY	Dawson	83.34	358	P	P	19 58 06.4	-0.7
	baz=4.4						
J16K	Anvik River	83.34	7	P	P	19 58 06.7	-0.3
	baz=346						
J17K	VABM Dome	83.38	7	P	P	19 58 07.2	0.0
J17K	VABM Dome	83.38	7	P	P	19 58 05.8	-1.5
	baz=348						
CHUM	Lake Minchumin	83.40	3	P	P	19 58 06.1	-1.2
	baz=353						
K27K	Chicken	83.44	359	P	P	19 58 06.7	-0.9
	baz=2.1						
K29M	Barlow Dome	83.49	357	IAmb	IAmb	19 58 12.3	
	comp=Z,4.1nm,1.1s						
K29M	Barlow Dome	83.49	357	P	P	19 58 07.5	-0.5
	baz=6.0						
SCRK	Sand Creek	83.51	360	P	P	19 58 07.4	-0.7
	baz=0.5,SNR=13						
J14K	Nanvaranak Lak	83.51	9	P	P	19 58 07.8	0.0
	baz=344						
J18K	Innoko River	83.53	6	P	P	19 58 06.5	-1.5
	baz=350						
K24K	Donnelly Dome	83.68	1	P	P	19 58 07.2	-1.6
	baz=359						
MCK	McKinley	83.69	2	P	P	19 58 08.2	-0.6
	baz=356						
MCK	McKinley	83.69	2	P	P	19 58 09.0	+0.1
KTH	Kantishna Hill	83.80	3	IAmb	IAmb	19 58 11.5	
	comp=Z,7.5nm,1.1s						
K20K	Telida	83.82	4	P	P	19 58 08.6	-1.0
	baz=352						
CAST	Castle Rocks	83.88	3	IAmb	IAmb	19 58 12.1	
	comp=Z,3.8nm,1.0s						
CAST	Castle Rocks	83.88	3	P	P	19 58 08.9	-0.9
	baz=354						
K17K	Iditarod	84.13	6	P	P	19 58 10.5	-0.6
	baz=348						
K15K	Wolf Creek Mou	84.20	8	P	P	19 58 10.6	-0.8
	baz=346						
L29M	L29M	84.25	357	P	P	19 58 11.1	-0.6
	baz=5.4						
DHY	Denali Highway	84.39	1	P	P	19 58 12.1	-0.5
	baz=358						
PPLA	Purkeypile	84.39	4	P	P	19 58 10.9	-1.7
	baz=354						
BCAR	Beaver Creek A	84.40	359	P	P	19 58 12.2	-0.3
L27K	Beaver Creek,	84.41	359	IAmb	IAmb	19 58 14.8	
	comp=Z,4.7nm,0.9s						
L27K	Beaver Creek,	84.41	359	P	P	19 58 12.0	-0.5
	baz=2.3,SNR=7.9						
L26K	Log Cabin Wild	84.46	359	IAmb	IAmb	19 58 15.7	
	comp=Z,3.7nm,1.0s						
L26K	Log Cabin Wild	84.46	359	P	P	19 58 12.1	-0.7
	baz=1.0						
PAX	Paxson	84.52	0	P	P	19 58 13.4	+0.3
	baz=359						
SSPA	Standing Stone	84.53	315	P	P	19 58 13.2	-0.4
	baz=51						
WAT1	Susitna Watana	84.60	2	P	P	19 58 13.1	-0.5
	baz=357						
L17K	Donlin	84.70	6	P	P	19 58 14.1	+0.1
	baz=348						
L20K	Farewell, AK	84.71	4	P	P	19 58 14.1	0.0
	baz=352						
M30M	Minto, Yukon	84.72	356	P	P	19 58 13.9	-0.2
	baz=6.5						
L18K	Granite Mounta	84.76	6	P	P	19 58 14.0	-0.3
	baz=350						
ERPA	Erie	84.80	318	P	P	19 58 14.8	-0.1
	baz=50						
L15K	Ungalak Mounta	84.81	8	P	P	19 58 14.0	-0.5
	baz=346						
WAT6	Susitna Watana	84.87	2	P	P	19 58 14.5	-0.5
	baz=357						
M29M	Somme Creek	84.93	357	IAmb	IAmb	19 58 17.4	
	comp=Z,6.1nm,1.1s						
M29M	Somme Creek	84.93	357	P	P	19 58 13.9	-1.4
	baz=5.1,SNR=8.0						
L19K	White Mountain	84.94	5	P	P	19 58 15.4	+0.1
	baz=351						
M31M	Drury Creek, Y	84.94	355	P	P	19 58 14.7	-0.5
	baz=8.6						
L14K	Kuka Creek	84.98	9	P	P	19 58 15.7	+0.4
	baz=345						
M26K	Nabesna, AK	85.08	359	P	P	19 58 16.5	+0.5
	baz=1.3						
HARP	HAARP	85.09	0	P	P	19 58 15.6	-0.4
	baz=360						
M27K	Edge Creek, AK	85.11	359	IAmb	IAmb	19 58 19.3	
	comp=Z,6.6nm,1.1s						
M27K	Edge Creek, AK	85.11	359	P	P	19 58 16.1	-0.2
	baz=2.3,SNR=6.2						
M19K	Big River Lodg	85.25	5	P	P	19 58 16.7	-0.1
	baz=352						
SKT	Skwentna	85.34	3	P	P	19 58 16.6	-0.7
	baz=354						
M20K	Styx River	85.35	4	P	P	19 58 16.6	-0.8
	baz=353						
M11K	Mekoryuk	85.41	11	P	P	19 58 17.6	+0.2
	baz=342						
M17K	Holitna River	85.50	6	P	P	19 58 17.5	-0.5
	baz=349						
M18K	Stony River	85.55	5	P	P	19 58 18.1	-0.2
	baz=350						
M53A	WI Miller and	85.63	317	P	P	19 58 19.3	+0.2
	baz=49						
SCM	Sheep Creek Mo	85.63	1	P	P	19 58 19.1	+0.4
	baz=358						
SML	Sawmill	85.64	2	P	P	19 58 17.9	-0.9
	baz=357						
M14K	Bethel	85.65	9	P	P	19 58 18.6	-0.1
	baz=345						
YUK3	Moose Creek	85.66	358	P	P	19 58 18.1	-1.0
	baz=3.5						
M16K	Timber Creek	85.72	7	P	P	19 58 19.0	-0.2
	baz=348						
M13K	Dall Lake	85.79	9	P	P	19 58 19.4	0.0
	baz=344						
N30M	Aishikik Lake	85.84	356	P	P	19 58 19.1	-0.7
	baz=6.3						
M15K	Kasigluk River	85.86	8	P	P	19 58 19.3	-0.5
	baz=346						
N32M	Quiet Lake	85.89	354	P	P	19 58 19.4	-0.6
	baz=9.7						
SUA	Susitna One	85.89	3	P	P	19 58 20.0	-0.1
	baz=355						
KLU	Klutina	86.00	1	P	P	19 58 20.7	+0.1
	baz=359						
YUK4	Talbot Arm	86.03	357	P	P	19 58 19.4	-1.6
	baz=5.1						
N20K	Mount Spurr	86.08	4	P	P	19 58 20.9	-0.1
	baz=354						
N16K	Nishlik Lake	86.28	7	P	P	19 58 21.7	-0.2
	baz=348						
RC01	Rabbit Creek A	86.31	3	P	P	19 58 21.6	-0.4
	baz=356						
N19K	Bonanza Creek	86.32	5	P	P	19 58 21.9	-0.3
	baz=352						
N18K	Kilae Creek	86.35	6	P	P	19 58 21.8	-0.5
	baz=350						
N17K	Nushagak Hills	86.39	6	P	P	19 58 22.3	-0.1
	baz=349						
O30N	Mendenhall	86.48	356	P	P	19 58 23.0	+0.1
	baz=7.1						
CTG	Chitna Glacier	86.50	358	P	P	19 58 23.7	+0.6
	baz=2.7						
HYT	Haines Junctio	86.50	357	P	P	19 58 23.1	0.0
	baz=5.9						
WHY	Whitehorse	86.51	355	P	P	19 58 22.2	-1.0
	baz=8.1						
GLI	Glacier Island	86.59	1	P	P	19 58 22.7	-0.7
	baz=358						
EYMN	Ely	86.64	327	P	P	19 58 23.1	-0.8
	baz=42						
O28M	Mount Upton	86.66	358	P	P	19 58 22.9	-1.2
	baz=3.7						
O53A	New Philadelph	86.72	317	P	P	19 58 24.2	-0.3
	baz=49						
AAM	Ann Arbor	86.72	320	P	P	19 58 23.7	-0.7
	baz=47						
CRQE	Cirque	86.74	359	P	P	19 58 24.1	-0.2
	baz=1.2						
P33M	Teslin, Yukon	86.79	354	P	P	19 58 23.1	-1.4
	baz=9.9						
EYAK	Cordova Ski Ar	86.94	1	P	P	19 58 23.6	-1.5
	baz=359						
O17K	Koliganek Bris	87.14	6	P	P	19 58 25.0	-1.1
	baz=350						
P30M	Million Dollar	87.17	356	P	P	19 58 26.2	-0.1
	baz=6.4						
O20K	Slope Mountain	87.17	4	P	P	19 58 26.6	+0.3
	baz=353						
O14K	Tigyukauivet M	87.19	9	P	P	19 58 26.4	+0.1
	baz=346						
O16K	Kokwok River B	87.22	7	P	P	19 58 26.8	+0.4
	baz=349						
O18K	Koktuh Hills	87.22	5	P	P	19 58 26.7	+0.2
	baz=351						
MESA	MESA	87.30	359	P	P	19 58 26.9	-0.2
	baz=2.2						
PINM	Pinnacle	87.34	358	P	P	19 58 27.0	-0.1
	baz=3.6						
R33M	Jennings River	87.43	353	P	P	19 58 27.8	+0.1
	baz=11,SNR=5.9						
O15K	Ungalikthiuk R	87.44	8	P	P	19 58 28.4	+0.8
	baz=347						
P23K	Montague Islan	87.47	1	P	P	19 58 27.5	-0.2
	baz=358						
P32M	Atlin	87.48	355	P	P	19 58 27.7	-0.1
	baz=9.1						
P19K	Oil Pt	87.56	4	P	P	19 58 27.8	-0.4
	baz=353						
KAIM	Kayak Island	87.58	360	P	P	19 58 28.3	+0.1
	baz=0.1						
BRSE	Bradley Lake S	87.61	3	P	P	19 58 28.4	0.0
	baz=355						
P52A	Corning	87.66	317	P	P	19 58 28.4	-0.6
	baz=48						
P18K	Big Mountain,	87.67	5	P	P	19 58 28.6	-0.2
	baz=351						
P29M	Windy Craggy	87.70	357	P	P	19 58 29.3	+0.5
	baz=5.7						
PNL	Peninsula	87.74	357	P	P	19 58 28.7	-0.3
	baz=4.3						
P17K	Kvichak River	87.77	6	P	P	19 58 29.5	+0.4
	baz=350						
PLBC	Pleasant Camp	87.80	356	P	P	19 58 29.0	-0.3
	baz=6.9						
Q32M	Nakina River	87.98	354	P	P	19 58 29.6	-0.8
	baz=10						
BLA	Blacksburg	88.24	314	P	P	19 58 31.4	-0.5
	baz=49						
Q18K	Katmai Hardscr	88.43	5	P	P	19 58 31.6	-0.8
	baz=351						
Q17K	Contact Creek	88.74	6	P	P	19 58 33.6	-0.3
	baz=350						
S34M	Telegraph Cree	88.90	353	P	P	19 58 35.0	+0.5
	baz=11						
BDFB	Brasilia	93.08	253	LR	LR	20 41 24.6	
	comp=Z,83nm,20.3s,baz=351,slow=36						

*ATH **04** 19:47:48.0±1.0, 34°.55N×23°.15E, h14km±8km, ML3.4/7, Manual Solution by I.Dede This location: 2020/07/03 23:04:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 5 km*
*IDC **04** 19:47:58.8±3.4, 35°.53N×23°.66E, h59km±40km, mb3.5/7, mbtmp3.8/7, Error ellipse: s-maj=112.5km s-min=27.3km az=22.0*
ISC 04 19:47:46.1±2.2, 34°.47N±0°.10×23°.15E±0°.07, h17km±11km, n18, σ1°22/26, mb3.8/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.85	64	P	Pn	19 48 04.3	+1.0
GVD				S	Sb	19 48 12.4	-1.2
GVD	Gavdhos	0.85	64	P	Pn	19 48 03.8	+0.4
GVD				S	Sn	19 48 15.9	+0.5
KNDR	Palaiochora Ch	0.88	30	P	Pn	19 48 03.8	+0.1
KNDR				S	Sb	19 48 14.9	+0.6
RODP	Rodopos	1.19	25	P	Pb	19 48 08.8	+0.5
RODP				S	Sn	19 48 24.2	+0.4
IMMV	Iera Moni Meta	1.20	35	P	Pg	19 48 09.5	+0.2
IMMV				S	Sn	19 48 24.5	+0.6
CH01	Chania	1.26	34	P	Pb	19 48 09.7	+0.3
CH01				S	Sn	19 48 26.5	+1.1
CHAN	Chania	1.27	35	P	Pg	19 48 10.8	+0.1
ANKY	Antikythira Is	1.40	5	P	Pb	19 48 12.7	+1.0
ANKY				S	Sn	19 48 24.8	-4.0
ANKY	Antikythira Is	1.40	5	P	Pn	19 48 11.6	+0.8
IDI	Anoyia	1.65	60	P	Pg	19 48 16.6	-1.2
IDI	Anoyia	1.65	60	P	Pg	19 48 17.2	-0.6
	55nm,0.6s,baz=246,slow=16,SNR=11						
IDI				S	Sb	19 48 36.9	+0.4
	130nm,0.7s,baz=267,slow=20,SNR=7.0						
HFS	Hagfors	26.41	349	P	P	19 53 21.1	-0.4
	1.1nm,0.5s,baz=153,slow=9.0,SNR=9.5						
	1.1nm,0.5s						
FINES	FINESS Array B	27.05	3	P	P	19 53 25.8	-1.4
	2.0nm,1.0s,baz=170,slow=8.5,SNR=1.5						
	2.0nm,1.0s						
NOA	NORSAR Array B	27.67	347	P	P	19 53 33.8	+0.9
	0.3nm,0.7s,baz=150,slow=10,SNR=1.7						
	0.3nm,0.7s						
EKA	Eskdalemuir Ar	27.68	327	P	P	19 53 34.4	+1.4
	0.5nm,0.4s,baz=121,slow=8.4,SNR=8.1						
	0.5nm,0.4s						
ARCES	ARCESS Array B	35.14	1	P	P	19 54 36.8	-1.5
	1.1nm,0.8s,baz=173,slow=9.1,SNR=1.8						
	1.1nm,0.8s						
MKAR	Makanchi Array	45.53	56	P	P	19 56 05.2	+0.5
	0.6nm,0.4s,baz=263,slow=8.0,SNR=11						
	0.6nm,0.4s						
ZALV	Zalesovo Beam	46.67	46	P	P	19 56 12.6	-0.9
	0.8nm,0.4s,baz=280,slow=8.6,SNR=3.7						
	0.8nm,0.4s						

*GRAL **04** 20:08:30.9±0.2, 32°.83N×35°.54E, h0km±2km, MD3.3*
*JSO **04** 20:08:31, 32°.86N×35°.62E, h1km, ML2.6/15*
ISC 04 20:08:30.8±0.9, 32°.87N±0°.02×35°.59E±0°.05, h13km, n19, σ0°70/21, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLGI	Bet Lehem HaGe	0.36	247	P	Pg	20 08 37.8	-0.3
HNTI	Hanita	0.41	301	P	Pg	20 08 39.0	+0.1
SHBL	Chebaa	0.49	16	eP	Pg	20 08 40.5	0.0
QRNJ	Al-Qirein	0.54	181	P	Pg	20 08 41.7	+0.3
RCY	Rachaya	0.66	19	eP	Pg	20 08 43.6	-0.1
RCY				eS	Sb	20 08 53.0	-0.4
QRWL	Qaraoun	0.68	7	eP	Pg	20 08 43.8	-0.2
SLTI	Sal'it	0.78	216	P	Pg	20 08 45.8	-0.2
DQRL	Deir Qamar	0.83	359	eP	Pg	20 08 46.5	-0.4
DQRL				eS	Sg	20 08 58.1	+0.2
HSUJ	Al Zarqa	0.92	146	P	Pg	20 08 48.3	-0.4
ZAHL	Zahle	1.01	14	eP	Pb	20 08 50.0	-0.3
BHL	Bhannes	1.03	3	eP	Pb	20 08 50.1	-0.4
ASF	Jabal al Asfar	1.31	122	P	Pn	20 08 55.3	+0.4
DSI	Dead Sea	1.31	188	P	Pn	20 08 54.0	-0.8
HWQ	Hawqa	1.43	12	eP	Pn	20 08 57.1	+0.4
YTIR	Yattir	1.56	195	P	Pb	20 08 59.8	+0.2
SWQJ	Swaqa	1.68	166	P	Pg	20 09 03.0	0.0
BEIL	Beino	1.74	17	eP	Pn	20 09 01.7	+0.9
PRNI	Paran	2.56	191	P	Pn	20 09 14.1	+2.0
KRMI	Paran Flat	2.84	195	P	Pb	20 09 20.2	-1.3

*JSO **04** 20:14:57, 32°.85N×35°.58E, h4km, ML3.0/26*
*GRAL **04** 20:14:59.5±0.2, 32°.91N×35°.51E, h0km±2km, MD3.8*
ISC 04 20:14:58.0±0.9, 32°.86N±0°.02×35°.58E±0°.04, h13km, n28, σ0°98/30, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	Mount Meron ar	0.21	318	P	Pg	20 15 02.1	-0.5
BLGI	Bet Lehem HaGe	0.35	249	P	Pg	20 15 04.8	-0.3
GEM	Giv'at Ha'Em	0.36	12	P	Pg	20 15 04.9	-0.3
HNTI	Hanita	0.41	303	P	Pg	20 15 06.0	-0.1
NATI	Neve Ativ	0.42	18	P	Pg	20 15 06.0	-0.4
SHBL	Chebaa	0.51	16	eP	Pg	20 15 08.1	+0.1
QRNJ	Al-Qirein	0.52	180	P	Pg	20 15 08.2	-0.1
OFRI	Ofer	0.55	245	P	Pg	20 15 08.5	-0.4
HMDT	Nahal Hemdat	0.61	184	P	Pg	20 15 09.3	-0.6
RCY	Rachaya	0.67	19	eP	Pg	20 15 11.0	-0.1
RCY				eS	Sg	20 15 19.7	-0.3
QRWL	Qaraoun	0.69	7	eP	Pg	20 15 11.2	-0.3
SLTI	Sal'it	0.77	216	P	Pg	20 15 12.3	-0.6
DQRL	Deir Qamar	0.84	360	eP	Pg	20 15 13.8	-0.6
DQRL				eS	Sg	20 15 24.4	-1.1
HSUJ	Al Zarqa	0.92	145	P	Pg	20 15 15.1	-0.6
ZAHL	Zahle	1.03	14	eP	Pb	20 15 17.4	-0.4
BHL	Bhannes	1.04	3	eP	Pb	20 15 17.4	-0.6
DSI	Dead Sea	1.30	187	P	Pn	20 15 20.8	-1.0
ASF	Jabal al Asfar	1.31	121	P	Pb	20 15 22.1	-0.4
HWQ	Hawqa	1.45	12	eP	Pb	20 15 24.6	-0.3
YTIR	Yattir	1.54	195	P	Pb	20 15 25.8	-0.7
FKH	Fakeheh	1.54	26	eP	Pb	20 15 26.4	-0.1
SWQJ	Swaqa	1.66	166	P	Pb	20 15 27.6	-0.9
BEIL	Beino	1.75	17	eP	Pb	20 15 29.4	-0.6
ZFRI	Zfri	2.33	189	P	Pn	20 15 37.5	+1.6
PRNI	Paran	2.55	191	P	Pn	20 15 40.7	+1.6
KRMI	Paran Flat	2.83	195	P	Pn	20 15 44.8	+1.9
HRFI	Mount Harif	2.85	189	P	Pn	20 15 45.5	+2.2
MBRI	Mt Berech	3.11	191	P	Pn	20 15 49.1	+2.3

*BJI **04** 20:19:10.0±0.0, 19°.40N×155°.30W, h5km, mb4.9/13, mB5.7/14, Ms5.4/10, Ms7 5.2/10*
*NEIC **04** 20:19:10.5, 19°.40N×155°.27W, h12km*
*HVO **04** 20:19:10.5±1.2, 19°.4N±0°.2×155°.27W±0°.04, h0km±5km, ML3.9/47, mb4.8/22(NEIC), ML3.6/38(NEIC), Mww5.3/7(NEIC), Error ellipse: s-maj=24.7km s-min=2.3km az=167.0*
*NEIC **04** 20:19:10.5, 19°.40N×155°.59W, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-8.98; $M_{

NEIC **04** 20:19:11.2±1.3, 19°.4N±0°.2×155°.28W±0°.04, h3km±5km
Error ellipse: s-maj=27.8km s-min=3.2km az=170.0
IDC **04** 20:19:12.1±1.0, 19°.38N×155°.10W, h0km, mb3.7/8, mbtmp3.7/8, MS4.3/46, Error ellipse: s-maj=19.2km s-min=14.2km az=141.0
GCMT **04** 20:19:20.5±0.1, 19°.37N±0°.01×155°.15W±0°.01, h12km, MW5.2/155, Moment Tensor Solution. s82,c114; s155,c268; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.97±.01; M_{tt}0.55±.01; M_{pp}0.42±.01; M_{rt}0.28±.03; M_{rp}0.35±.01; M_{tp}-0.10±.03; Best double couple: $M_0$0.94800×10^{17} NP1:ϕ_s243.00000°, δ51.00000°, λ-75.00000°. NP2:ϕ_s39.00000°, δ41.00000°, λ-108.00000°. Principal axes: T 0.8540, Plg5.0000°, Azm322.0000°; N 0.1880, Plg12.0000°, Azm53.0000°; P -1.0420, Plg77.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 04 20:19:12.9±0.4, 19°.41N±0°.04×155°.27W±0°.03, h10km, n479, σ1s98/374, mb4.7/26, MS4.4/49, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**68**		**Pg**	**20 19 11.3**	**-3.5**
KKO	**Keanakako`i**	**0.01**	**158**		**Pg**	**20 19 11.2**	**-3.7**
RIM	**Rim**	**0.01**	**195**		**Pg**	**20 19 11.3**	**-3.6**
OBL	**Observatory Le**	**0.02**	**306**		**Pg**	**20 19 12.2**	**-2.6**
HATHI	**Halema`uma`u T**	**0.02**	**31**		**Pg**	**20 19 11.4**	**-3.4**
UWB	**Uwekahuna B**	**0.02**	**336**		**Pg**	**20 19 12.6**	**-2.3**
SBLHI	**Steaming Bluff**	**0.02**	**7**		**Pg**	**20 19 12.6**	**-2.3**
UWE	**Uwekahuna**	**0.03**	**301**	Pg	**Pg**	**20 19 11.7**	**-3.2**
WRMHI	**West Rim**	**0.03**	**267**		**Pg**	**20 19 12.7**	**-2.2**
SDHHI	**Sand Hill**	**0.03**	**230**		**Pg**	**20 19 12.2**	**-2.6**
RSD	**Rainshed**	**0.06**	**352**		**Pg**	**20 19 12.5**	**-2.6**
RSD	comp=E,5μm,0.7s			IAML		20 19 13.4	
RSD	comp=N,17μm,0.6s			IAML		20 19 13.8	
PUH	**Pauahi**	**0.06**	**123**		**Pg**	**20 19 12.4**	**-2.7**
PUH	comp=E,6μm,0.6s			IAML		20 19 13.1	
KNHH	**Kane Nui o Ham**	**0.10**	**107**		**Pg**	**20 19 13.4**	**-2.2**
HLP	**Hilina Pali**	**0.12**	**198**		**Pg**	**20 19 13.6**	**-2.2**
HLP	comp=N,9μm,0.9s			IAML		20 19 15.2	
HLP	comp=E,9μm,0.9s			IAML		20 19 15.5	
STCH	**Steam Cracks**	**0.14**	**99**		**Pg**	**20 19 13.9**	**-2.2**
STCH	comp=E,28μm,1.0s			IAML		20 19 16.9	
STCH	comp=N,15μm,0.7s			IAML		20 19 17.6	
NPOC	**North of Pu'u**	**0.15**	**96**		**Pg**	**20 19 14.3**	**-2.0**
NPOC					**Sg**	**20 19 16.8**	**-1.9**
JCUZ	**Jacuzzi**	**0.16**	**98**		**Pg**	**20 19 14.5**	**-2.0**
JCUZ					**Sg**	**20 19 17.1**	**-1.9**
HTC	**Hot Caves**	**0.21**	**215**		**Pg**	**20 19 15.3**	**-1.9**
JOKA	**Jonika Flow**	**0.25**	**84**		**Pg**	**20 19 16.1**	**-1.9**
JOKA	comp=N,13μm,0.6s			IAML		20 19 23.5	
JOKA	comp=E,11μm,0.9s			IAML		20 19 24.0	
HMH	**Humu`ula Sheep**	**0.28**	**314**		**Pg**	**20 19 17.2**	**-1.5**
HMH	comp=N,16μm,1.4s			IAML		20 19 24.4	
HMH	comp=E,18μm,0.8s			IAML		20 19 26.0	
MLOA	**Mauna Loa Obse**	**0.32**	**294**		**Pg**	**20 19 17.6**	**-1.7**
MLOA	comp=N,22μm,0.8s			IAML		20 19 27.2	
MLOA	comp=E,27μm,1.4s			IAML		20 19 27.8	
PAH	**Pahoa**	**0.32**	**74**	Pg	**Pg**	**20 19 18.2**	**-1.1**
MWH	**Moku`aweowe**	**0.32**	**284**		**Pg**	**20 19 17.7**	**-1.8**
KHU	**Kahuku**	**0.36**	**244**	Pg	**Pg**	**20 19 18.0**	**-2.2**
KHU	comp=E,13μm,2.1s			IAML		20 19 26.5	
KHU	comp=N,9μm,0.7s			IAML		20 19 27.7	
POHA	**Pohakuloa**	**0.43**	**325**	Pg	**Pg**	**20 19 19.1**	**-2.2**
HUH	**Hualalai**	**0.60**	**297**		**Pg**	**20 19 22.9**	**-1.7**
I59US	**HAWAII INFRASO**	**0.62**	**287**	Pg	**Pn**	**20 19 27.8**	**0.0**
I59US	baz=115,slow=17 comp=N,0.2nm,1.0s,baz=106,slow=320,SNR=8.7			I	I	20 22 26.7	
HPAH	**Hawaii Prepara**	**0.74**	**327**	Pg	**Pg**	**20 19 24.7**	**-2.4**
MHA	**Mahukona**	**0.98**	**323**	Pg	**Pg**	**20 19 28.3**	**-3.4**
KPA	**Kalaupapa**	**2.39**	**318**		**Pn**	**20 19 50.5**	**-1.7**
HON	**Honolulu**	**3.19**	**307**	Pn	**Pn**	**20 20 01.6**	**-1.6**
KIP	**Kipapa**	**3.26**	**308**	Pn	**Pn**	**20 20 03.2**	**-0.9**
UNV	**Unalaska Valle**	**35.45**	**349**	P	**P**	**20 26 09.4**	**+0.2**
YBH	**Yreka Blue Hor**	**35.46**	**44**	LR	LR	20 36 31.8	
CHNA	**Chernabura Isl**	**35.52**	**356**	P	**P**	**20 26 08.6**	**-1.1**
FALS	**False Pass**	**35.93**	**352**	P	P	20 26 20.8	+7.5
S12K	**Black Hills**	**36.60**	**354**	P	**P**	**20 26 17.5**	**-1.5**
CWC	**Cottonwood Cre**	**36.71**	**55**	P	**P**	**20 26 17.8**	**-2.6**
TIN	**Tinemaha, Big**	**36.78**	**54**	P	**P**	**20 26 21.8**	**+0.8**
S14K	**Fog Glacier**	**36.96**	**356**	P	P	20 26 25.9	+3.7
SII	**Sitkinak Islan**	**37.10**	**1**	P	**P**	**20 26 23.5**	**+0.2**
PPT	**Papeete**	**37.17**	**171**	LR	LR	20 38 17.9	
NVAR	**Mina Array Bea**	**37.18**	**51**	P	**P**	**20 26 23.4**	**-1.1**
NVAR	comp=N,0.6nm,0.9s,baz=250,slow=4.6,SNR=2.2 comp=N,258nm,19.5s,baz=266,slow=32 comp=N,0.6nm,0.9s			LR	LR	20 39 12.8	
PPT2	**Papeete2**	**37.19**	**171**	*e*PKIKP	P	20 26 27.8	+3.3
PPT2	comp=N,97nm,24.2s comp=N,278nm,23.8s			*e*S	S	20 32 19.2	+7.8
PPT2	comp=N,470nm,21.5s			*e*LQ	LQ	20 34 40.9	
PPT2	comp=N,4μm,25.5s			*e*LR	LR	20 36 37.6	
PPT2	comp=N,2μm,23.2s			*e*LR	LR	20 36 38.0	
PFO	**Pinyon Flats O**	**37.27**	**60**	LR	LR	20 37 29.4	
OHAK	**Old Harbor**	**37.79**	**2**	P	**P**	**20 26 30.0**	**+1.0**
BC3	**Big Chuckawall**	**38.10**	**60**	P	**P**	**20 26 32.0**	**-0.3**
R18K	**Karluk**	**38.11**	**1**	P	**P**	**20 26 31.7**	**-0.1**
TUQ	**Turquoise Moun**	**38.12**	**57**	P	**P**	**20 26 31.5**	**-1.0**
R17L	**Mt. Peulik Vol**	**38.18**	**359**	P	**P**	**20 26 33.0**	**+0.5**
TPNV	**Topopah Spring**	**38.27**	**55**	P	**P**	**20 26 33.4**	**-0.2**
KDAK	**Kodiak Island**	**38.37**	**2**	P	**P**	**20 26 34.4**	**+0.4**
KDAK	**Kodiak Island**	**38.37**	**2**	LR	LR	20 38 41.5	
IRM	**Iron Mountain**	**38.46**	**59**	P	**P**	**20 26 33.9**	**-1.2**
Q17K	**Contact Creek**	**38.81**	**359**	P	**P**	**20 26 37.5**	**-0.3**
BBB	**Bella Bella**	**38.98**	**27**	LR	LR	20 38 47.4	
Q18K	**Katmai Hardscr**	**39.19**	**0**	P	**P**	**20 26 41.4**	**+0.4**
Q20K	**Shuyak Island**	**39.21**	**2**	P	**P**	**20 26 36.8**	**-4.2**
Q19K	**Cape Douglas,**	**39.49**	**1**	P	**P**	**20 26 43.6**	**+0.1**
P16K	**Nushagak River**	**39.62**	**358**	P	**P**	**20 26 43.6**	**-0.8**
CRAG	**Craig**	**39.70**	**20**	P	**P**	**20 26 44.5**	**-0.6**
P17K	**Kvichak River**	**39.75**	**359**	P	**P**	**20 26 46.1**	**+0.6**
O15K	**Ungalikthiuk R**	**39.86**	**356**	P	**P**	**20 26 46.6**	**+0.2**
P18K	**Big Mountain,**	**39.94**	**0**	P	**P**	**20 26 46.9**	**-0.2**
O14K	**Tigyukauivet M**	**40.03**	**355**	P	**P**	**20 26 46.6**	**-1.2**
V35K	**Ketchikan**	**40.08**	**21**	P	**P**	**20 26 45.9**	**-2.4**
O16K	**Kokwok River B**	**40.19**	**358**	P	**P**	**20 26 47.9**	**-1.2**
ELK	**Elko**	**40.19**	**49**	LR	LR	20 42 40.4	
P19K	**Oil Pt**	**40.22**	**2**	P	**P**	**20 26 48.6**	**-0.9**
U33K	**Whale Pass**	**40.24**	**19**	P	**P**	**20 26 50.1**	**+0.4**
O17K	**Koliganek Bris**	**40.34**	**359**	P	**P**	**20 26 51.1**	**+0.7**
O18K	**Koktuh Hills**	**40.40**	**0**	P	**P**	**20 26 51.6**	**+0.7**
SIT	**Sitka**	**40.41**	**17**	P	**P**	**20 26 52.2**	**+1.2**
BRSE	**Bradley Lake S**	**40.42**	**4**	P	**P**	**20 26 51.8**	**+0.7**
Q23K	**Middleton Isla**	**40.49**	**7**	P	P	20 26 55.4	+3.7
RAR	**Rarotonga**	**40.61**	**186**	LR	LR	20 39 47.5	
O20K	**Slope Mountain**	**40.67**	**2**	P	P	20 26 56.9	+3.6
N14K	**Kuskokwak Cree**	**40.73**	**355**	P	**P**	**20 26 56.3**	**+2.7**
WRAK	**Wrangell Islan**	**40.74**	**19**	P	**P**	**20 26 56.3**	**+2.5**
N15K	**Kwethluk River**	**40.86**	**356**	P	**P**	**20 26 57.4**	**+2.6**
SEW	**Seward**	**40.86**	**4**	P	**P**	**20 26 56.2**	**+1.5**
SHEM	**Shemya Is, Ala**	**40.88**	**332**	LR	LR	20 41 20.9	
P23K	**Montague Islan**	**40.94**	**6**	P	**P**	**20 26 56.6**	**+1.2**
S31K	**Pelican**	**40.97**	**15**	P	**P**	**20 26 57.1**	**+1.5**
S32K	**Killisnoo**	**40.97**	**17**	P	**P**	**20 26 57.1**	**+1.5**
N16K	**Nishlik Lake**	**41.10**	**357**	P	**P**	**20 26 59.3**	**+2.6**
N17K	**Nushagak Hills**	**41.10**	**359**	P	**P**	**20 26 59.0**	**+2.3**
KAIM	**Kayak Island**	**41.22**	**8**	P	**P**	**20 26 59.9**	**+2.3**
O22K	**Cooper Landing**	**41.22**	**4**	P	**P**	**20 27 00.7**	**+3.1**
N18K	**Kilae Creek**	**41.23**	**360**	P	**P**	**20 27 00.8**	**+3.0**
M13K	**Dall Lake**	**41.37**	**354**	P	**P**	**20 27 01.8**	**+3.0**
N19K	**Bonanza Creek**	**41.37**	**1**	P	**P**	**20 27 01.5**	**+2.5**
CAPN	**Captain Cook N**	**41.42**	**3**	P	P	20 27 03.5	+4.2
M15K	**Kasigluk River**	**41.42**	**356**	P	**P**	**20 27 02.0**	**+2.6**
BGLC	**Bering Glacier**	**41.56**	**9**	P	**P**	**20 27 02.8**	**+2.3**
M14K	**Bethel**	**41.57**	**355**	P	**P**	**20 27 03.6**	**+3.1**
EYAK	**Cordova Ski Ar**	**41.65**	**7**	P	**P**	**20 27 03.0**	**+1.8**
M16K	**Timber Creek**	**41.65**	**357**	P	**P**	**20 27 02.5**	**+1.2**
M11K	**Mekoryuk**	**41.67**	**352**	P	P	20 27 04.7	+3.4
R32K	**Eaglecrest**	**41.68**	**16**	P	**P**	**20 27 03.3**	**+1.8**
WUAZ	**Wupatki**	**41.76**	**58**	P	**P**	**20 27 04.1**	**+1.4**
HLID	**Hailey**	**41.77**	**46**	P	**P**	**20 27 03.0**	**+0.2**
DUG	**Dugway, Tooele**	**41.78**	**51**	P	**P**	**20 27 05.0**	**+2.3**
N20K	**Mount Spurr**	**41.81**	**2**	P	**P**	**20 27 03.7**	**+1.1**
SPCR	**Spurr Chakacha**	**41.81**	**2**	P	**P**	**20 26 58.1**	**-4.5**
PNL	**Peninsula**	**41.81**	**12**	P	**P**	**20 27 05.5**	**+2.9**
RC01	**Rabbit Creek A**	**41.82**	**4**	P	**P**	**20 26 59.9**	**-2.7**
MESA	**MESA**	**41.83**	**10**	P	**P**	**20 27 04.1**	**+1.2**
GLI	**Glacier Island**	**41.83**	**6**	P	**P**	**20 27 03.2**	**+0.5**
T35M	**Bob Quinn**	**41.87**	**20**	P	**P**	**20 27 05.1**	**+2.0**
LPIG	**La Paz**	**41.89**	**75**	LR	LR	20 39 34.9	
M17K	**Holitna River**	**41.98**	**358**	P	**P**	**20 27 06.5**	**+2.6**
M18K	**Stony River**	**42.04**	**360**	P	**P**	**20 27 06.3**	**+1.9**
PINM	**Pinnacle**	**42.04**	**11**	P	**P**	**20 27 07.2**	**+2.7**
P29M	**Windy Craggy**	**42.12**	**13**	P	**P**	**20 27 07.6**	**+2.5**
NEW	**Newport**	**42.12**	**38**	P	**P**	**20 27 04.8**	**-0.5**
SUA	**Susitna One**	**42.13**	**3**	P	**P**	**20 27 07.4**	**+2.1**
CRQE	**Cirque**	**42.20**	**9**	P	**P**	**20 27 08.9**	**+3.1**
BMRM	**Bremner River**	**42.20**	**8**	P	**P**	**20 27 07.4**	**+1.6**
L14K	**Kuka Creek**	**42.22**	**355**	P	**P**	**20 27 07.7**	**+1.9**
KNK	**Knik Glacier**	**42.24**	**5**	P	**P**	**20 27 07.7**	**+1.7**
PLBC	**Pleasant Camp**	**42.27**	**14**	P	P	20 27 10.0	+3.8
PMR	**Palmer**	**42.36**	**4**	P	**P**	**20 27 07.5**	**+0.5**
L16K	**Owhat River**	**42.37**	**357**	P	**P**	**20 27 08.9**	**+1.9**
L15K	**Ungalak Mounta**	**42.45**	**356**	P	**P**	**20 27 09.7**	**+1.9**
M22K	**Willow**	**42.46**	**4**	P	**P**	**20 27 09.3**	**+1.6**
M19K	**Big River Lodg**	**42.46**	**1**	P	**P**	**20 27 10.4**	**+2.6**
M20K	**Styx River**	**42.46**	**2**	P	P	20 27 11.3	+3.3
SKAG	**Skagway**	**42.52**	**15**	P	**P**	**20 27 11.2**	**+2.9**
KLU	**Klutina**	**42.55**	**7**	P	**P**	**20 27 11.5**	**+2.8**
O29M	**Mount Kennedy**	**42.55**	**12**	P	**P**	**20 27 11.1**	**+2.4**
SKT	**Skwentna**	**42.61**	**3**	P	**P**	**20 27 11.3**	**+2.2**
SML	**Sawmill**	**42.64**	**5**	P	**P**	**20 27 11.5**	**+2.2**
CTG	**Chitna Glacier**	**42.67**	**10**	P	**P**	**20 27 11.7**	**+2.0**
M23K	**Glacier View**	**42.67**	**5**	P	**P**	**20 27 12.1**	**+2.6**
O28M	**Mount Upton**	**42.69**	**11**	P	**P**	**20 27 11.5**	**+1.5**
P30M	**Million Dollar**	**42.73**	**13**	P	**P**	**20 27 11.2**	**+1.1**
L19K	**White Mountain**	**42.74**	**0**	P	**P**	**20 27 10.2**	**+0.1**
L17K	**Donlin**	**42.74**	**358**	P	**P**	**20 27 09.8**	**-0.2**
SCM	**Sheep Creek Mo**	**42.75**	**6**	P	**P**	**20 27 10.2**	**0.0**
L18K	**Granite Mounta**	**42.78**	**359**	P	**P**	**20 27 13.3**	**+2.8**
MCARA	**McCarthy VSAT**	**42.81**	**9**	P	**P**	**20 27 12.8**	**+2.1**
N25K	**Chitina, Valde**	**42.82**	**7**	P	**P**	**20 27 13.8**	**+3.0**
TBI	**Tubuai**	**42.87**	**172**	*e*P	**P**	**20 27 08.5**	**-3.0**
TBI	comp=N,374nm,25.8s comp=N,1μm,26.0s			*e*S	S	20 33 45.5	+9.3
TBI	comp=N,2μm,25.0s			*e*LQ	LQ	20 37 11.2	
TBI	comp=N,8μm,24.8s			*e*LR	LR	20 39 14.4	
TBI	comp=N,2μm,23.8s			*e*LR	LR	20 39 17.6	
Q32M	**Nakina River**	**42.88**	**17**	P	**P**	**20 27 13.4**	**+1.9**
K13K	**Kusilvak Mount**	**42.99**	**354**	P	**P**	**20 27 14.7**	**+2.6**
W18A	**Petrified Fore**	**43.02**	**59**	P	**P**	**20 27 13.6**	**+0.6**
P32M	**Atlin**	**43.03**	**16**	P	**P**	**20 27 14.6**	**+2.1**
L20K	**Farewell, AK**	**43.04**	**1**	P	**P**	**20 27 14.8**	**+2.2**
K15K	**Wolf Creek Mou**	**43.07**	**356**	P	**P**	**20 27 15.0**	**+2.2**
CUT	**Chulitna**	**43.10**	**3**	P	**P**	**20 27 15.8**	**+2.8**
DLBC	**Dease Lake**	**43.12**	**19**	P	**P**	**20 27 15.2**	**+1.9**
DLBC	**Dease Lake**	**43.12**	**19**	LR	LR	20 41 12.9	
M24K	**Tolsona, Glenn**	**43.13**	**6**	P	**P**	**20 27 12.2**	**-1.1**
YUK6	**Outpost Mounta**	**43.19**	**12**	P	**P**	**20 27 13.2**	**-0.8**
YUK8	**Steele Glacier**	**43.24**	**11**	P	P	20 27 18.6	+4.1
HYT	**Haines Junctio**	**43.25**	**13**	P	P	20 27 17.7	+3.3
K17K	**Iditarod**	**43.32**	**358**	P	P	20 27 18.3	+3.5
MSO	**Missoula**	**43.38**	**41**	P	**P**	**20 27 18.5**	**+2.9**
WAT6	**Susitna Watana**	**43.45**	**5**	P	P	20 27 20.1	+4.1
YUK4	**Talbot Arm**	**43.50**	**12**	P	P	20 27 20.0	+3.4
O30N	**Mendenhall**	**43.50**	**14**	P	P	20 27 20.0	+3.7
PPLA	**Purkeypile**	**43.50**	**2**	P	**P**	**20 27 18.5**	**+2.1**
HARP	**HAARP**	**43.52**	**7**	P	**P**	**20 27 17.6**	**+1.2**
YUK3	**Moose Creek**	**43.58**	**10**	P	**P**	**20 27 19.9**	**+2.7**
R33M	**Jennings River**	**43.62**	**18**	P	P	20 27 20.7	+3.3
WAT1	**Susitna Watana**	**43.63**	**4**	P	P	20 27 20.6	+3.2
WHY	**Whitehorse**	**43.68**	**14**	P	**P**	**20 27 20.9**	**+3.1**
J14K	**Nanvaranak Lak**	**43.68**	**354**	P	**P**	**20 27 18.4**	**+0.7**
M26K	**Nabesna, AK**	**43.79**	**8**	P	**P**	**20 27 18.1**	**-0.6**
P33M	**Teslin, Yukon**	**43.80**	**16**	P	**P**	**20 27 21.6**	**+2.8**
M27K	**Edge Creek, AK**	**43.91**	**9**	P	P	20 27 23.1	+3.4
N30M	**Aishikik Lake**	**43.91**	**12**	P	**P**	**20 27 20.1**	**+0.5**
K20K	**Telida**	**43.92**	**1**	P	**P**	**20 27 19.1**	**-0.5**
DHY	**Denali Highway**	**43.97**	**5**	P	P	20 27 24.2	+4.0
J16K	**Anvik River**	**43.99**	**357**	P	**P**	**20 27 20.2**	**+0.1**
CAST	**Castle Rocks**	**44.03**	**2**	P	**P**	**20 27 23.0**	**+2.5**
J17K	**VABM Dome**	**44.03**	**358**	P	P	20 27 24.7	+4.2
J18K	**Innoko River**	**44.03**	**359**	P	P	20 27 23.8	+3.3
PAX	**Paxson**	**44.05**	**6**	P	**P**	**20 27 23.9**	**+3.1**
KTH	**Kantishna Hill**	**44.21**	**3**	IAmb	IAmb	20 27 28.3	
N31M	**Braeburn, Yuko**	**44.21**	**13**	P	P	20 27 28.0	+6.0
121A	**Cookes Peak, D**	**44.31**	**63**	P	**P**	**20 27 26.1**	**+2.7**
L26K	**Log Cabin Wild**	**44.35**	**8**	P	P	20 27 26.3	+3.2
MVCO	**Mesa Verde**	**44.35**	**56**	P	**P**	**20 27 23.7**	**-0.1**
BOZ	**Bozeman (W)**	**44.37**	**44**	P	**P**	**20 27 26.5**	**+2.7**
CHUM	**Lake Minchumin**	**44.49**	**2**	P	**P**	**20 27 23.3**	**-0.8**
MCK	**McKinley**	**44.50**	**4**	P	**P**	**20 27 25.4**	**+1.1**
N32M	**Quiet Lake**	**44.54**	**15**	P	**P**	**20 27 26.3**	**+1.6**
M29M	**Somme Creek**	**44.55**	**11**	P	**P**	**20 27 25.4**	**+0.6**
J19K	**Poorman**	**44.55**	**360**	P	**P**	**20 27 23.6**	**-1.1**
L27K	**Beaver Creek,**	**44.59**	**9**	P	**P**	**20 27 25.5**	**+0.5**
I17K	**Unalakleet**	**44.60**	**357**	P	P	20 27 28.7	+3.7
J20K	**Nowinta River**	**44.74**	**1**	P	**P**	**20 27 25.3**	**-0.9**
BPAW	**Bear Paw Mtn.**	**44.76**	**3**	P	**P**	**20 27 28.8**	**+2.5**
K24K	**Donnelly Dome**	**44.83**	**6**	P	**P**	**20 27 26.4**	**-0.6**
BW06	**Boulder Array**	**44.86**	**48**	P	**P**	**20 27 27.1**	**-0.7**
PDAR	**Pinedale Array**	**44.86**	**48**	P	**P**	**20 27 28.6**	**+0.9**
PDAR	comp=Z,0.3nm,0.3s,baz=263,slow=8.5,SNR=4.4			LR	LR	20 42 33.4	
M30M	comp=Z,90nm,19.5s,baz=264,slow=31 comp=Z,0.3nm,0.3s **Minto, Yukon**	**44.99**	**12**	P	**P**	**20 27 30.6**	**+2.4**
M31M	**Drury Creek, Y**	**45.15**	**14**	P	**P**	**20 27 30.0**	**+0.5**
Y22D	**IRIS PASSCAL I**	**45.18**	**61**	P	**P**	**20 27 30.2**	**-0.1**
SCRK	**Sand Creek**	**45.19**	**7**	P	**P**	**20 27 30.3**	**+0.4**
L29M	**L29M**	**45.23**	**11**	P	**P**	**20 27 31.7**	**+1.6**
HDA	**Harding Lake**	**45.32**	**5**	P	**P**	**20 27 33.6**	**+2.8**
GCSA	**Galena City Sc**	**45.32**	**359**	P	**P**	**20 27 32.5**	**+1.8**
NEA2	**Nenana**	**45.35**	**4**	P	**P**	**20 27 32.7**	**+1.7**
I20K	**Naaghedeneel**	**45.36**	**0**	P	**P**	**20 27 31.7**	**+0.6**
H16K	**Elim**	**45.44**	**356**	P	P	20 27 35.2	+3.5
K27K	**Chicken**	**45.48**	**8**	P	**P**	**20 27 32.6**	**+0.6**
H17K	**Granite Mounta**	**45.61**	**357**	P	**P**	**20 27 34.7**	**+1.7**
ANM	**Nome**	**45.64**	**354**	P	P	20 27 37.0	+3.7
ANMO	**Albuquerque**	**45.66**	**60**	P	**P**	**20 27 37.2**	**+3.0**
ANMO	**Albuquerque**	**45.66**	**60**	LR	LR	20 42 02.1	
J25K	comp=Z,216nm,21.1s,baz=355,slow=30 **Salcha River,**	**45.66**	**6**	P	**P**	**20 27 33.4**	**-0.2**
J25K	comp=Z,13nm,1.2s			IAmb	IAmb	20 27 40.2	
J25K	**Salcha River,**	**45.66**	**6**	P	**P**	**20 27 35.7**	**+2.2**
ILAR	baz=193,SNR=6.5 **Eielson Array**	**45.68**	**5**	P	**P**	**20 27 33.5**	**-0.2**
ILAR	comp=Z,0.7nm,0.9s,baz=195,slow=6.7,SNR=9.1 comp=Z,428nm,19.7s,baz=182,slow=32 comp=Z,0.7nm,0.9s			LR	LR	20 43 37.3	
MLY	**Manley**	**45.70**	**3**	P	**P**	**20 27 36.5**	**+2.7**
COLA	**College**	**45.71**	**4**	P	**P**	**20 27 34.6**	**+0.8**
J26L	**Joseph Creek**	**45.75**	**7**	P	**P**	**20 27 36.4**	**+2.1**
H18K	**Honhosa River**	**45.76**	**358**	P	**P**	**20 27 37.1**	**+2.8**
RLMT	**Red Lodge**	**45.78**	**45**	P	**P**	**20 27 37.4**	**+2.4**
I23K	**Minto, Yukon-K**	**45.88**	**3**	P	P	20 27 38.5	+3.4
DAWY	**Dawson**	**45.90**	**10**	P	P	20 27 39.3	+3.8
G15K	**Niukluk**	**45.93**	**355**	P	P	20 27 38.8	+3.2
POKR	**Poker Plat Res**	**45.98**	**5**	P	**P**	**20 27 38.1**	**+2.1**

K29M	**Barlow Dome**	46.01	11	P		**P**	**20 27 38.6 +2.2**
	baz=204						
H20K	**Anotleneega Mo**	46.06	0	P		P	20 27 40.1 +3.5
	baz=180						
H19K	**Roundabout Mou**	46.10	359	P		**P**	**20 27 39.8 +2.9**
	baz=178						
G16K	**Koyuk River**	46.20	356	P		**P**	**20 27 40.2 +2.6**
	baz=171						
G17K	**Kiwalik Mounta**	46.21	357	P		**P**	**20 27 40.9 +3.2**
	baz=173						
H21K	**Melozitna Rive**	46.25	1	P		**P**	**20 27 40.3 +2.2**
	baz=183						
MNTX	**Cornudas Mount**	46.28	64	P		**P**	**20 27 40.3 +1.4**
	baz=267						
EGAK	**Eagle**	46.32	8	P		**P**	**20 27 40.8 +2.2**
	baz=198,SNR=5.7						
EGMT	**Eagleton**	46.46	41	P		**P**	**20 27 42.7 +2.5**
	baz=248						
G18K	**Tagagawik**	46.52	358	P		**P**	**20 27 40.4 +0.2**
	baz=176						
H22K	**Ishtalitna Cre**	46.53	2	P		**P**	**20 27 40.8 +0.4**
	baz=185						
PRP	**Porcupine Dome**	46.53	6	P		**P**	**20 27 40.9 +0.4**
	baz=193						
H23K	**Yukon River**	46.55	3	P		**P**	**20 27 41.5 +1.0**
	baz=187						
I26K	**Coal Creek Min**	46.57	7	P		**P**	**20 27 40.1 -0.6**
	baz=196						
F14K	**Arctic Creek**	46.62	354	P		**P**	**20 27 42.7 +1.7**
	baz=166						
H24K	**Noodor Dome**	46.66	4	P		**P**	**20 27 42.8 +1.4**
	baz=190						
F15K	**North Star Dit**	46.69	355	P		**P**	**20 27 41.0 -0.6**
	baz=168						
G19K	**Purcell Mounta**	46.73	359	P		**P**	**20 27 43.2 +1.3**
	baz=178						
SDCO	**Great Sand Dun**	46.80	56	P		**P**	**20 27 44.7 +1.6**
	baz=261						
TNA	**Tin City**	46.88	353	P		**P**	**20 27 43.6 +0.6**
	baz=164						
J30M	**Hart River**	46.90	11	P		**P**	**20 27 45.9 +2.6**
	baz=205						
K22A	**Casper**	46.99	49	P		**P**	**20 27 44.9 +0.4**
	baz=256						
N23A	**Red Feather La**	47.02	52	P		**P**	**20 27 42.0 -2.9**
	baz=258						
I27K	**Kandik River**	47.04	8	P		**P**	**20 27 45.9 +1.5**
	baz=198						
G21K	**Allakaket**	47.10	1	P		**P**	**20 27 43.6 -1.1**
	baz=182						
I28M	**Miner Creek**	47.12	9	P		**P**	**20 27 44.1 -1.0**
	baz=200						
F17K	**Baldwin Pennin**	47.17	357	P		**P**	**20 27 46.1 +0.8**
	baz=172						
H25L	**Birch Creek**	47.24	5	P		**P**	**20 27 48.0 +2.2**
	baz=192						
F18K	**Selawik**	47.26	358	P		**P**	**20 27 48.8 +2.9**
	baz=174						
I29M	**Ogilvie Camp,**	47.28	10	P		**P**	**20 27 49.4 +3.1**
	baz=202						
G23K	**Bananza Creek**	47.41	3	P		**P**	**20 27 47.7 +0.5**
	baz=187						
F19K	**Shaleruckik Mo**	47.43	359	P		**P**	**20 27 50.2 +2.8**
	baz=177						
I30M	**Mount Dempster**	47.48	11	P		**P**	**20 27 46.6 -1.3**
I30M	**Mount Dempster**	47.48	11	P		**P**	**20 27 50.2 +2.3**
	baz=204,SNR=5.0						
G24K	**Hadweenzic Riv**	47.54	4	P		**P**	**20 27 49.6 +1.4**
	baz=190						
G22K	**Bettles**	47.56	2	P		**P**	**20 27 47.7 -0.5**
	baz=185						
T25A	**Trinidad**	47.57	57	P		**P**	**20 27 46.9 -2.3**
	baz=263						
F20K	**Avaraart Lake**	47.62	360	P		**P**	**20 27 51.1 +2.4**
	baz=179						
H27K	**Steamboat Moun**	47.66	7	P		**P**	**20 27 48.5 -0.7**
	baz=198,SNR=5.1						
G25K	**Bearman Lake**	47.71	5	P		**P**	**20 27 49.4 -0.1**
	baz=192						
TXAR	**Lajitas Array**	47.71	68	P		**P**	**20 27 51.0 +0.8**
	comp=Z,2.4nm,1.0s,baz=258,slow=6.1,SNR=15						
TXAR				LR		LR	20 43 52.5
	comp=Z,66nm,20.1s,baz=245,slow=31						
	comp=Z,2.4nm,1.0s						
F21K	**Alatna River**	47.81	1	P		**P**	**20 27 52.1 +1.8**
	baz=182						
E17K	**Hotham Inlet**	47.84	357	P		**P**	**20 27 50.5 0.0**
	baz=172						
COLD	**Coldfoot**	47.91	3	P		**P**	**20 27 51.6 +0.5**
	baz=186						
E19K	**Redstone River**	48.05	359	P		**P**	**20 27 52.1 0.0**
	baz=178						
H29M	**Whitestone**	48.08	9	P		**P**	**20 27 51.7 -0.7**
H29M	**Whitestone**	48.08	9	P		**P**	**20 27 51.7 -0.7**
	baz=202,SNR=7.0						
G26K	**Porcupine Rive**	48.10	6	P		**P**	**20 27 53.0 +0.6**
	baz=195						
E18K	**Tukpahlearik C**	48.12	357	P		**P**	**20 27 52.1 -0.6**
	baz=173						
F22K	**John River**	48.12	2	P		**P**	**20 27 52.7 -0.1**
	baz=184						
G27K	**Doyon Strip**	48.19	7	P		**P**	**20 27 50.1 -3.2**
G27K	**Doyon Strip**	48.19	7	P		**P**	**20 27 52.6 -0.7**
	baz=197						
F24K	**Squaw Lake**	48.33	4	P		**P**	**20 27 53.1 -1.2**
	baz=189						
H31M	**Peel River**	48.37	11	P		**P**	**20 27 54.5 -0.1**
	baz=207						
EPYK	**Eagle Plains**	48.47	10	P		**P**	**20 27 54.8 -0.7**
EPYK				IAmb		IAmb	20 28 02.1
	comp=Z,19nm,1.6s						
EPYK	**Eagle Plains**	48.47	10	P		**P**	**20 27 56.1 +0.6**
	baz=204						
MNHN	**Monahans**	48.51	65	P		**P**	**20 27 54.7 -1.6**
MNHN				IAmb		IAmb	20 28 02.7
	comp=Z,19nm,1.8s						
D17K	**Noatak River**	48.53	356	P		**P**	**20 27 55.8 0.0**
	baz=170						
F25K	**Christian Rive**	48.56	5	P		**P**	**20 27 57.7 +1.6**
	baz=192						
MSTX	**Muleshoe**	48.60	62	P		**P**	**20 27 54.3 -2.8**
MSTX				IAmb		IAmb	20 28 09.2
	comp=Z,12nm,1.1s						
MSTX	**Muleshoe**	48.60	62	P		**P**	**20 27 58.0 +0.9**
	baz=266						
ODSA	**Odessa**	48.71	64	P		**P**	**20 27 54.5 -3.4**
E23K	**Chandalar**	48.77	3	P		**P**	**20 27 59.8 +2.0**
	baz=187						
G29M	**Pine Creek**	48.77	9	P		**P**	**20 27 58.8 +1.1**
G29M	**Pine Creek**	48.77	9	P		**P**	**20 27 59.7 +2.0**
	baz=202						
F26K	**Sheenjek River**	48.79	6	P		**P**	**20 28 00.4 +2.5**
	baz=194						
E20K	**Nigu River**	48.84	360	P		P	20 28 02.1 +3.8
	baz=179						
E24K	**Your Creek**	48.84	3	P		**P**	**20 27 59.6 +1.3**
	baz=188						
E21K	**Killik River**	49.03	1	P		**P**	**20 28 00.2 +0.5**
	baz=182						
SAND	**Sanderson**	49.05	67	P		**P**	**20 27 59.6 -0.8**
E25K	**Arctic Village**	49.08	5	P		**P**	**20 27 59.5 -0.7**
	baz=192						
RSSD	**Black Hills**	49.10	48	P		**P**	**20 27 58.2 -2.6**
RSSD				IAmb		IAmb	20 28 12.4
	comp=Z,12nm,1.4s						
RSSD	**Black Hills**	49.10	48	P		**P**	**20 28 01.2 +0.4**
	baz=257						
D19K	**Kuna River**	49.11	359	P		**P**	**20 28 02.7 +2.4**
	baz=176						
G30M	**tAoh Zraii Nji**	49.11	10	P		**P**	**20 27 59.3 -1.1**
G30M				IAmb		IAmb	20 28 15.2
	comp=Z,18nm,1.5s						
G30M	**tAoh Zraii Nji**	49.11	10	P		**P**	**20 27 59.5 -0.9**
	baz=204						
F28M	**Old Crow**	49.18	8	P		**P**	**20 28 02.9 +2.0**
	baz=199						
KSCO	**Kaye Shedlock'**	49.21	55	P		**P**	**20 28 02.7 +1.0**
	baz=262						
C16K	**Lisburne Hills**	49.27	355	P		P	20 28 05.0 +3.6
	baz=167						
D20K	**Etivluk River**	49.30	359	P		**P**	**20 28 04.6 +2.8**
	baz=178						
TOLK	**Toolik Lake Re**	49.35	3	P		**P**	**20 28 05.1 +2.9**
	baz=187						
PETK	**Petropavlovsk-**	49.35	324	P		P	20 28 07.8 +5.4
	comp=Z,3.4nm,1.0s,baz=138,slow=12,SNR=3.9						
C18K	**Utukok River**	49.37	357	P		**P**	**20 28 04.7 +2.4**
	baz=173						
G31M	**Satah River**	49.39	11	P		**P**	**20 27 59.7 -2.7**
G31M	**Satah River**	49.39	11	P		P	20 28 05.7 +3.3
	baz=206						
D22K	**Ayikyak River**	49.49	1	P		P	20 28 06.7 +3.5
	baz=183						
E27K	**Coleen River**	49.52	7	P		**P**	**20 28 06.3 +2.8**
	baz=197						
AMTX	**Amarillo**	49.56	60	P		**P**	**20 28 05.3 +1.0**
	baz=266						
POST	**Post**	49.62	63	P		**P**	**20 28 02.6 -2.2**
D23K	**Nanushuk River**	49.63	2	P		**P**	**20 28 06.8 +2.5**
	baz=186						
C21K	**Knifeblade Rid**	49.74	0	P		P	20 28 08.6 +3.5
	baz=181						
F30M	**Barrier River**	49.76	10	P		P	20 28 09.7 +4.5
	baz=204						
C19K	**Lookout Ridge**	49.76	358	P		**P**	**20 28 07.0 +1.7**
	baz=175						
D24K	**Happy Valley**	49.90	3	P		**P**	**20 28 08.4 +2.1**
	baz=188						
OGNE	**Ogallala**	49.94	52	P		**P**	**20 28 07.9 +0.8**
	baz=261						
F31M	**Tsiigehtchic**	49.95	11	P		**P**	**20 28 07.1 +0.5**
F31M				IAmb		IAmb	20 28 13.0
	comp=Z,18nm,1.2s						
F31M	**Tsiigehtchic**	49.95	11	P		**P**	**20 28 08.7 +2.1**
	baz=207						
DKNS	**Dickens**	50.13	62	P		**P**	**20 28 07.6 -1.1**
DKNS				IAmb		IAmb	20 28 16.1
	comp=Z,31nm,1.8s						
E28M	**Babbage River**	50.16	7	P		**P**	**20 28 09.8 +1.5**
	baz=200						
E29M	**Blow River**	50.17	8	P		**P**	**20 28 10.2 +1.8**
	baz=202						
D25K	**Kavik River**	50.21	4	P		**P**	**20 28 11.1 +2.4**
	baz=191						
B21K	**Ikpikpuk River**	50.21	0	P		**P**	**20 28 10.7 +2.1**
	baz=181						
DRIO	**Del Rio**	50.37	68	P		**P**	**20 28 08.4 -2.0**
DRIO				IAmb		IAmb	20 28 18.2
	comp=Z,24nm,1.8s						
C24K	**Franklin Bluff**	50.47	3	P		**P**	**20 28 13.1 +2.6**
	baz=188						
C23K	**Itkillik River**	50.50	2	P		**P**	**20 28 13.3 +2.5**
	baz=186						
D27M	**Malcolm River**	50.60	7	P		**P**	**20 28 13.3 +1.6**
	baz=198						
C27K	**Jago River**	50.71	5	P		**P**	**20 28 13.4 +1.0**
	baz=194						
INK	**Inuvik**	50.76	10	P		**P**	**20 28 13.8 +1.0**
	baz=207						
INK	**Inuvik**	50.76	10	LR		LR	20 47 49.1
	comp=Z,483nm,18.8s,baz=184,slow=34						
C26K	**Camden Bay**	50.90	5	P		**P**	**20 28 15.2 +1.4**
	baz=193						
B22K	**Teshekpuk Lake**	50.94	1	P		**P**	**20 28 16.9 +2.8**
	baz=182						
D28M	**Stokes Point**	50.94	7	P		**P**	**20 28 17.1 +2.9**
	baz=200						
JCT	**Junction City**	51.05	66	P		**P**	**20 28 15.9 +0.2**
	baz=271						
ABTX	**Abilene, Hawle**	51.18	63	P		**P**	**20 28 17.9 +1.4**
	baz=270						
YKA	**Yellowknife Ar**	51.32	23	P		**P**	**20 28 17.2 +0.2**
	comp=Z,0.3nm,0.5s,baz=236,slow=6.6,SNR=2.5						
YKA				LR		LR	20 46 52.9
	comp=Z,181nm,20.6s,baz=218,slow=32						
	comp=Z,0.3nm,0.5s						
CBKS	**Cedar Bluff**	51.43	55	P		**P**	**20 28 19.1 +0.7**
	baz=264						
833A	**Chaparral WMA,**	51.49	69	P		**P**	**20 28 21.3 +2.4**
	baz=273						
HNDO	**Hondo**	51.53	67	P		**P**	**20 28 18.2 -1.1**
HNDO				IAmb		IAmb	20 28 30.4
	comp=Z,19nm,1.8s						
A22K	**Sinclair Lake**	51.60	0	P		**P**	**20 28 21.6 +2.6**
	baz=180						
BRDY	**Brady**	51.73	65	P		**P**	**20 28 21.4 +0.7**
A21K	**Barrow**	51.92	359	P		P	20 28 24.8 +3.3
	baz=178						
WMOK	**Wichita Mounta**	51.94	61	P		**P**	**20 28 24.3 +2.1**
	baz=268						
SUSD	**Miller**	52.74	48	P		**P**	**20 28 29.2 +1.3**
	baz=261						
BGNE	**Belgrade**	52.91	52	P		**P**	**20 28 31.2 +1.9**
	baz=264						
MDND	**Maddock**	52.94	44	P		P	20 28 23.5 -5.9
	baz=258						
435B	**Jarrell**	52.95	66	P		**P**	**20 28 27.5 -2.3**
	baz=272						
WHTX	**Lake Whitney,**	53.03	64	P		**P**	**20 28 31.0 +0.7**
	baz=271						
C36M	**Paulatuk**	53.47	13	P		**P**	**20 28 28.8 -4.1**
	baz=218						
KSU1	**Kansas State U**	53.88	55	P		**P**	**20 28 36.6 +0.1**
	baz=266						
ECSD	**EROS Data Cent**	54.31	50	P		**P**	**20 28 39.0 -0.6**
	baz=263						
TUL3	**Leonard**	54.41	59	P		**P**	**20 28 38.6 -1.8**
	baz=269						
A36M	**Sachs Harbour**	55.38	11	P		**P**	**20 28 46.7 -0.1**
	baz=215						
NATX	**Nacogdoches**	55.42	64	P		**P**	**20 28 46.6 -1.1**
	baz=273						
AGMN	**Agassiz Nation**	55.48	44	P		**P**	**20 28 48.6 +0.6**
	baz=260						
DZM	**Mont Dzumac**	55.68	224	*e*P		P	20 28 54.1 +4.4
	comp=Z,85nm,24.6s						
DZM				*e*S		**S**	**20 36 39.1 +2.7**
	comp=Z,228nm,24.2s						
DZM				*e*SS		**SS**	**20 40 27.9 +5.9**
	comp=Z,156nm,26.5s						
DZM				*e*LR		LR	20 45 10.3
	comp=Z,481nm,32.2s						
DZM	**Mont Dzumac**	55.68	224	LR		LR	20 46 52.3
	comp=Z,146nm,21.8s,baz=38,slow=30						
ULM	**Lac du Bonnet**	55.82	42	LR		LR	20 48 51.8
	comp=Z,136nm,21.3s,baz=192,slow=32						
MIAR	**Mount Ida**	56.23	61	P		**P**	**20 28 54.2 +0.7**
	baz=271						
SCIA	**State Center**	56.63	52	P		**P**	**20 28 55.0 -1.3**
	baz=267						
CMIG	**Matias Romero**	57.14	82	LR		LR	20 47 39.8
	comp=Z,257nm,21.7s,baz=315,slow=30						
SPMN	**Marine on St.**	57.18	48	P		**P**	**20 28 58.8 -1.2**
	baz=265						
JCJ	**Chichijima**	57.48	290	LR		LR	20 48 52.5
	comp=Z,269nm,20.6s,baz=93,slow=31						
CCM	**Cathedral Cave**	58.05	57	P		**P**	**20 29 06.1 -0.3**
	baz=270						
EYMN	**Ely**	58.34	45	P		**P**	**20 29 06.6 -1.6**
	baz=264						
JFWS	**Jewell Farm**	58.88	51	P		**P**	**20 29 12.1 +0.1**
	baz=268						
VBMS	**Vicksburg**	58.90	64	P		**P**	**20 29 12.3 0.0**
	baz=274						
JHJ	**Hachijo jima 2**	59.00	298	LR		LR	20 48 50.1
	comp=Z,426nm,22.0s,baz=70,slow=30						
G40A	**Rib Lake**	59.01	48	IAmb		IAmb	20 29 17.9
	comp=Z,5.0nm,0.8s						
HDIL	**Hopedale**	59.55	54	P		**P**	**20 29 17.9 +1.1**
	baz=270						
OXF	**Oxford**	59.67	61	P		**P**	**20 29 19.0 +1.4**
	baz=274						
L44A	**Lake County Fo**	60.59	52	P		**P**	**20 29 23.2 -0.6**
	baz=270						
WVT	**Waverly**	60.85	59	P		**P**	**20 29 26.1 +0.3**
	baz=274						
SFIN	**Lafayette**	61.23	54	P		**P**	**20 29 29.4 +1.1**
	baz=272						
LRAL	**Lakeview Retre**	61.79	62	P		**P**	**20 29 32.4 +0.3**
	baz=276						
BRAL	**Brewton**	61.95	64	P		**P**	**20 29 33.5 +0.3**
	baz=277						
WCI	**Wyandotte Cave**	61.95	56	P		**P**	**20 29 33.9 +0.7**
	baz=273						
TEIG	**Tepich**	62.62	77	LR		LR	20 53 10.2
	comp=Z,142nm,20.2s,baz=230,slow=33						
O48B	**Farmland**	62.72	54	P		**P**	**20 29 38.3 0.0**
	baz=273						
URZ	**Urewera**	62.95	204	LR		LR	20 52 27.1
	comp=Z,278nm,20.0s,baz=140,slow=32						
P49A	**Miami Univ. Ec**	63.10	55	P		**P**	**20 29 40.8 0.0**
	baz=274						
PMG	**Port Moresby**	63.52	249	LR		LR	20 52 45.1
	comp=Z,200nm,20.2s,baz=332,slow=32						
RES	**Resolute Bay**	63.74	15	LR		LR	20 53 30.3
	comp=Z,428nm,21.7s,baz=220,slow=32						
AAM	**Ann Arbor**	63.75	52	P		**P**	**20 29 45.1 +0.1**
	baz=273						
TKL	**Tuckaleechee C**	64.17	59	LR		LR	20 53 13.5
	comp=Z,73nm,21.1s,baz=268,slow=32						
RPN	**Rapa Nui**	64.20	135	LR		LR	20 50 56.1
	comp=Z,463nm,18.0s,baz=306,slow=30						
TZTN	**Tazewell**	64.26	58	P		**P**	**20 29 49.2 +0.7**
	baz=276						
ACSO	**Alum Creek Sta**	64.38	54	P		**P**	**20 29 48.2 -1.0**
	baz=274						
USRK	**Ussuriysk Ar.**	64.47	310	LR		LR	20 53 19.0
	comp=Z,580nm,20.7s,baz=87,slow=32						
KLR	**Kul'dur**	64.50	316	LR		LR	20 53 10.5
	comp=Z,408nm,20.8s,baz=134,slow=32						
GOGA	**Godfrey**	64.69	62	P		**P**	**20 29 51.3 0.0**
	baz=277						
TIGA	**Tifton**	64.85	64	P		**P**	**20 29 52.0 -0.4**
	baz=278						
P52A	**Corning**	65.08	55	P		**P**	**20 29 53.2 -0.7**
	baz=275						
O53A	**New Philadelph**	65.73	54	P		**P**	**20 29 57.3 -0.7**
	baz=275						
M53A	**WI Miller and**	66.03	52	P		**P**	**20 29 59.2 -0.7**
	baz=275						
KMSC	**Kings Mountain**	66.22	59	P		**P**	**20 30 00.5 -0.8**
	baz=278						
JNU	**Nakatsue**	66.42	298	LR		LR	20 53 08.8
	comp=Z,293nm,21.3s,baz=87,slow=31						
ERPA	**Erie**	66.48	52	P		**P**	**20 29 60.0 -2.8**
	baz=275						
BLA	**Blacksburg**	66.68	57	P		**P**	**20 30 00.6 -3.6**
	baz=277						
MCWV	**Mont Chateau**	66.84	54	P		**P**	**20 30 03.7 -1.4**
	baz=276						
SADO	**Sadowa**	66.86	49	LR		LR	20 59 53.3
	comp=Z,53nm,18.3s,baz=288,slow=37						
TIXI	**Tiksi**	67.27	341	LR		LR	20 58 52.8
	comp=Z,338nm,19.7s,baz=87,slow=35						
NHSC	**New Hope**	67.46	61	P		**P**	**20 30 10.2 +1.0**
	baz=279						
JTS	**Las Juntas de**	68.19	86	LR		LR	20 52 39.6
	comp=Z,332nm,21.0s,baz=286,slow=30						
KSRS	**Korea Array**	68.19	303	LR		LR	20 58 18.1
	comp=Z,263nm,19.0s,baz=80,slow=34						
SSPA	**Standing Stone**	68.21	53	P		**P**	**20 30 15.2 +1.4**
	baz=277						
CBN	**Corbin Frederi**	68.94	56	P		**P**	**20 30 19.4 +1.1**
	baz=279						
BINY	**Binghamton**	69.42	51	P		**P**	**20 30 22.4 +1.0**
	baz=278						
LONY	**Lake Ozonia**	70.11	49	P		**P**	**20 30 25.9 +0.4**
	baz=278						
PAL	**Palisades**	71.14	52	P		**P**	**20 30 32.2 +0.4**
	baz=280						
FRB	**Frobisher Bay**	71.35	28	LR		LR	20 58 27.5
	comp=Z,116nm,21.6s,baz=246,slow=33						
L61B	**Northampton**	71.81	51	P		**P**	**20 30 36.2 +0.4**
	baz=280						
LBNH	**Lisbon**	72.04	49	P		**P**	**20 30 38.3 +1.1**
	baz=280						
HRV	**Adam Dziewonsk**	72.61	50	P		**P**	**20 30 41.8 +1.1**
	baz=281						
DL2	**Dalian**	72.84	306	P		**P**	**20 30 43.0 +0.9**
DL2				S		**SKiKP**	**20 40 13.4 -2.6**
DL2				pmax		pmax	
	comp=Z,9.0nm,1.1s						
DL2				pmax		pmax	
	comp=Z,570nm,6.8s						
DL2				LR		LR	
	comp=Z,530nm,10.2s						
DL2				LR		LR	
	comp=Z,710nm,11.5s						
DL2				LR		LR	
	comp=Z,960nm,11.9s						
M65A	**Busby, Falmout**	73.46	51	P		**P**	**20 30 45.2 -0.5**
	baz=281						
PKME	**Peaks-Kenny Pk**	73.70	47	P		**P**	**20 30 48.5 +1.5**
	baz=281						
XLT	**XiLinHaoTe**	75.86	312	*e*P		P	20 31 05.1 +5.4
XLT				pmax		pmax	
	comp=Z,280nm,7.4s						
NJ2	**Nanjing**	76.58	299	*e*P		**P**	**20 31 01.9 -2.0**
NJ2				pmax		pmax	
	comp=Z,9.0nm,0.5s						
NJ2				pmax		pmax	
	comp=Z,630nm,4.3s						
SFJD	**Kangerlussuaq**	77.88	23	LR		LR	21 01 31.7
	comp=Z,293nm,21.6s,baz=326,slow=33						
HHC	**Hu-ho-hao-te**	79.88	310	*e*P		**P**	**20 31 20.4 -1.8**
HHC				SS		SS	20 46 34.0 -0.8
HHC				pmax		pmax	
	comp=Z,7.0nm,0.6s						
HHC				pmax		pmax	
	comp=Z,350nm,7.6s						
ROSC	**El Rosal**	79.89	88	LR		LR	20 58 25.5
	comp=Z,192nm,20.7s,baz=253,slow=30						
ATAH	**Atahualpa**	80.10	101	LR		LR	21 00 26.7
	comp=Z,276nm,18.0s,baz=302,slow=31						
NRIK	**Noril'sk**	81.04	341	LR		LR	21 05 44.2
	comp=Z,308nm,22.0s,baz=115,slow=34						
LYN	**LuoYang**	81.04	303	P		P	20 31 32.5 +4.1
LYN				pmax		pmax	
	comp=Z,680nm,5.2s						
ASAR	**Alice Springs**	81.23	241	P		**P**	**20 31 30.8 +1.2**
	comp=Z,1.2nm,0.9s,baz=60,slow=6.5,SNR=6.5						
	comp=Z,1.2nm,0.9s						
SONM	**Songino Array**	81.26	318	P		P	20 31 34.0 +4.4
	comp=Z,1.7nm,1.1s,baz=103,slow=4.6,SNR=5.6						
SDV	**Santo Domingo**	82.08	83	LR		LR	21 01 14.0
	comp=Z,128nm,21.4s,baz=262,slow=31						
NNA	**Nana**	83.28	105	LR		LR	20 59 37.4
	comp=Z,338nm,21.5s,baz=288,slow=29						
LZH	**Lanzhou**	87.17	307	*e*P		P	20 32 05.0 +5.1
LZH				pmax		pmax	
	comp=Z,400nm,8.5s						
QIZ	**Qiongzhong**	88.22	289	P		**P**	**20 32 03.1 -1.9**
QIZ				pmax		pmax	
	comp=Z,470nm,8.6s						
GTA	**Gaotai**	88.82	312	*e*P		P	20 32 13.5 +5.9
GTA				sP		sP	20 32 21.4 +8.6
GTA	**Gaotai**	88.82	312	S		S	20 43 07.5 +12
GTA				pmax		pmax	
	comp=Z,280nm,8.1s						
GTA				LR		LR	
	comp=N,280nm,19.3s						
GTA				LR		LR	
	comp=E,260nm,19.6s						
GTA				LR		LR	
	comp=Z,540nm,21.4s						
ZALV	**Zalesovo Beam**	90.67	329	P		**P**	**20 32 17.8 +2.0**
	comp=Z,0.6nm,0.8s,baz=64,slow=3.4,SNR=1.7						
	comp=Z,0.6nm,0.8s						
PZH	**PanZhiHua**	92.49	299	P		**P**	**20 32 23.7 -1.2**
PZH				pmax		pmax	
	comp=Z,8.0nm,0.6s						
PZH				pmax		pmax	
	comp=Z,110nm,5.5s						
LPAZ	**La Paz**	92.68	106	LR		LR	21 06 20.4
	comp=Z,182nm,22.0s,baz=286,slow=31						
WMQ	**Urumqi**	94.74	320	*e*P		**P**	**20 32 34.3 -0.6**
WMQ				LR		LR	
	comp=Z,460nm,18.9s						
WMQ				LR		LR	
	comp=Z,210nm,14.9s						
WMQ				LR		LR	
	comp=Z,350nm,21.3s						
MKAR	**Makanchi Array**	96.19	324	P		**P**	**20 32 41.4 0.0**
	comp=Z,0.2nm,0.6s,baz=66,slow=3.6,SNR=1.6						
	comp=Z,0.2nm,0.6s						
BVAR	**Borovoye Array**	97.77	334	LR		LR	21 17 26.9
	comp=Z,188nm,20.2s,baz=65,slow=36						
KIRV	**Kirov**	99.66	347	LR		LR	21 20 58.1
	comp=Z,349nm,19.6s,baz=79,slow=37			

MTE	**Manteigas**	**113.34**	**26**	*e*SS	SS	20 54 28.3	+2.2
MTE	**Manteigas**	**113.34**	**26**	*e*LR	LR	21 20 44.3	
	comp=Z,115nm,20.0s						
PSBE	**So Bento**	**113.54**	**28**	*e*PP	PP	20 38 49.6	+7.3
PSBE	**So Bento**	**113.54**	**28**	*e*SS	SS	20 54 35.7	+7.0
PMTG	**Montargil**	**114.15**	**28**	*e*PP	**PP**	**20 38 49.2**	**+2.6**
PMTG	**Montargil**	**114.15**	**28**	*e*SS	SS	20 54 41.3	+4.5
PMRV	**Marv??o**	**114.22**	**27**	*e*PP	**PP**	**20 38 52.7**	**+5.7**
PMRV	**Marv??o**	**114.22**	**27**	*e*LR	LR	21 21 08.9	
	comp=Z,114nm,20.0s						
PESTR	**Estremoz**	**114.60**	**27**	*e*SS	SS	20 54 54.0	+11
PMAR	**Madeira**	**114.64**	**38**	*e*PP	**PP**	**20 38 55.6**	**+5.0**
PNCL	**Nicolau / Gran**	**114.81**	**28**	*e*PP	**PP**	**20 38 57.0**	**+5.8**
PNCL	**Nicolau / Gran**	**114.81**	**28**	*e*SS	SS	20 54 56.9	+11
MORF	**Marmelete**	**115.41**	**29**	*e*PP	PP	20 39 05.7	+10
PBAR	**Barrancos**	**115.41**	**27**	*e*PP	**PP**	**20 38 54.5**	**-1.0**
PBAR	**Barrancos**	**115.41**	**27**	*e*SS	SS	20 54 56.0	+2.7
PCVE	**Castro Verde**	**115.42**	**28**	*e*PP	**PP**	**20 39 00.5**	**+4.9**
PFVI	**Vila Bisbo**	**115.47**	**29**	*e*PP	**PP**	**20 38 57.6**	**+1.7**
PFVI	**Vila Bisbo**	**115.47**	**29**	*e*SS	SS	20 55 11.4	+17
PVAQ	**Vaqueiros**	**115.75**	**28**	*e*PP	**PP**	**20 38 52.6**	**-5.3**
PVAQ	**Vaqueiros**	**115.75**	**28**	*e*SS	SS	20 55 06.7	+8.8
PVAQ	**Vaqueiros**	**115.75**	**28**	*e*LR	LR	21 21 42.9	
	comp=Z,99nm,20.0s						
PBDV	**Barranco-do-Ve**	**115.79**	**29**	*e*PP	**PP**	**20 39 00.9**	**+2.7**
PBDV	**Barranco-do-Ve**	**115.79**	**29**	*e*SS	SS	20 55 10.1	+12

BJI ***04*** *20:34:47.6±0.0, 14°.21N×96°.25E, h10km, mb4.6/69, mB5.1/43, Ms5.0/68, Ms7 4.8/64*
IDC ***04*** *20:34:49.9±0.4, 14°.49N×96°.40E, h0km, mb4.8/31, mbtmp4.8/31, MS4.4/42, Error ellipse: s-maj=16.3km s-min=11.6km az=56.0*
NEIC ***04*** *20:34:51.8±2.0, 14°.54N±0°.06×96°.47E±0°.06, h8km±3km, mb5.2/247, Mww5.1/27, Error ellipse: s-maj=8.9km s-min=8.2km az=190.0*
MOS ***04*** *20:34:51.2±0.9, 14°.58N×96°.38E, h17km, mb5.2/73, MS4.5/16, Error ellipse: s-maj=7.3km s-min=3.4km az=120.0*
NEIC ***04*** *20:34:52, 14°.54N×96°.46E, h12km*
DJA ***04*** *20:34:52.5±0.3, 15°.N±3°.×9°.6E±°, h10km, M5.2/25, mb4.8/25, mB5.5/7, MLv5.8/3, Mw(mB)4.9/7, MwMwp5.1/2, Mwp5.3/2*
NEIC ***04*** *20:34:52, 14°.54N×96°.26E, h12km, Moment Tensor Solution. Duration: 1ŝ9 Moment tensor: Scale 1016Nm; Mrr-3.63; Mθθ2.88; Mφφ0.75; Mrθ-0.74; Mθφ2.56; Mφr-2.48; Fault plane solution: M0=4.92000×1016 NP1:φs34.93000°, δ61.88000°, λ-114.51000°. NP2:φs258.98000°, δ36.63000°, λ-52.18000°. Principal axes: T 5.0679, Plg14.0000°, Azm142.0000°; N -0.2966, Plg21.0000°, Azm47.0000°; P -4.7713, Plg64.0000°, Azm262.0000°;*
BGR ***04*** *20:34:52.8, 13°.94N×96°.19E, h33km, mb5.1, Ms4.6, Hypocentre not reviewed by the ISC*
GCMT ***04*** *20:34:53.8±0.2, 14°.47N±0°.01×96°.40E±0°.02, h12km, MW5.1/113, Moment Tensor Solution. s41,c53; s113,c201; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.70±.11; Mθθ3.09±.08; Mφφ0.61±.10; Mrθ2.39±.31; Mθφ2.48±.08; Mφr0.33±.36; Best double couple: M0=4.84000×1016 NP1:φs252.00000°, δ61.00000°, λ-74.00000°. NP2:φs42.00000°, δ33.00000°, λ-116.00000°. Principal axes: T 5.1800, Plg14.0000°, Azm331.0000°; N -0.6770, Plg14.0000°, Azm64.0000°; P -4.5010, Plg70.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NDI ***04*** *20:34:53.9±3.9, 14°.70N×96°.39E, h17km±69km, ML4.6, MW5.0, mb5.2(NEIC)*

ISC 04 20:34:52.4±0.6, 14°.52N±0°.03×96°.35E±0°.04, h15km±3km, h15km:pP-P, n1077, σ1ŝ39/983, mb5.2/290, MS4.6/79, 66C-61D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDT	**SRDT**	**2.69**	**93**	P	**Pn**	**20 35 34.0**	**-1.2**
PBA	**Port Blair**	**4.52**	**231**	Pn	**Pn**	**20 36 01.7**	**+1.3**
CM31	**Chiang Mai Arr**	**4.64**	**32**		**Pn**	**20 36 01.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**4.64**	**32**	Pn	**Pn**	**20 36 00.5**	**-1.5**
CMAR	**Chiang Mai Arr**	**4.64**	**32**	P	**Pn**	**20 36 00.5**	**-1.5**
CHTO	**Chiang Mai**	**4.94**	**30**	Pn	**Pn**	**20 36 04.8**	**-1.4**
CHTO	**Chiang Mai**	**4.94**	**30**	P	**Pn**	**20 36 04.8**	**-1.4**
PHRA	**Phrae**	**5.43**	**43**	Pn	**Pn**	**20 36 12.0**	**-0.9**
SRIT	**Nakonsritamara**	**6.69**	**151**	Pn	**Pn**	**20 36 29.0**	**-1.2**
CRAI	**Chiangrai**	**6.85**	**33**	Pn	**Pn**	**20 36 31.9**	**-0.6**
UBPT	**Khong Chiam**	**8.85**	**84**	P	**Pn**	**20 37 00.0**	**+0.2**
UBPT	**Khong Chiam**	**8.85**	**84**	Pn	**Pn**	**20 36 58.8**	**-1.0**
LHMI	**Lhok Sumawe**	**9.25**	**176**	P	Pn	20 37 11.1	+5.7
	101nm,1.1s						
KULM	**Kulim**	**10.10**	**155**	Pn	**Pn**	**20 37 16.0**	**-1.0**
MLSI	**Meulaboh, Aceh**	**10.19**	**180**	P	**Pn**	**20 37 22.5**	**+4.3**
	33nm,0.9s						
TNCH	**TengChong**	**10.65**	**11**	⇓P	**Pn**	**20 37 28.1**	**+3.3**
TNCH				sP		20 37 32.4	
TNCH				PP	**PnPn**	**20 37 37.7**	**+4.9**
TNCH				S	**Sn**	**20 39 23.9**	**-0.1**
TNCH				sS		20 39 35.2	
TNCH				pmax	pmax		
	comp=Z,13nm,1.5s						
TNCH				pmax	pmax		
	comp=Z,260nm,4.2s						
TNCH				LR	LR		
	comp=N,5μm,8.0s						
TNCH				LR	LR		
	comp=E,6μm,4.7s						
TNCH				LR	LR		
	comp=Z,5μm,13.1s						
KCSI	**Kotacane, Aceh**	**11.02**	**173**	P	Pn	20 37 36.0	+6.4
	37nm,0.7s						
KOHI	**KOHIMA**	**11.34**	**350**	*e*P	**Pn**	**20 37 33.4**	**-0.7**
KOHI				*ex*	**Sn**	**20 39 42.7**	**+1.9**
KOHI				IAML		20 40 03.9	
	74nm,2.2s						
SHL	**Shillong**	**11.77**	**340**	Pn	**Pn**	**20 37 36.0**	**-4.0**
SHL	**Shillong**	**11.77**	**340**	P	**Pn**	**20 37 36.0**	**-4.0**
KMI	**Kunming**	**12.14**	**29**	⇑P	P	20 37 51.6	-6.2
KMI				pmax	pmax		
	comp=Z,490nm,5.3s						
KMI				LR	LR		
	comp=N,3μm,16.1s						
KMI				LR	LR		
	comp=E,3μm,17.0s						
KMI				LR	LR		
	comp=Z,2μm,13.3s						
PZH	**PanZhiHua**	**12.95**	**22**	P	**Pn**	**20 38 00.6**	**+4.5**
PZH				S	**Sn**	**20 40 23.0**	**+3.0**
PZH				pmax	pmax		
	comp=Z,40nm,1.4s						
PZH				pmax	pmax		
	comp=Z,300nm,6.5s						
PZH				LR	LR		
	comp=N,4μm,11.6s						
PZH				LR	LR		
	comp=E,4μm,11.7s						
PZH				LR	LR		
	comp=Z,6μm,10.6s						
ZIRO	**ZIRO**	**13.15**	**350**	*e*P	**Pn**	**20 37 56.8**	**-2.1**
ZIRO				*e*S	Sn	20 40 11.6	-14
ZIRO				IAML		20 40 27.9	
	comp=E,134nm,0.6s						
ZIRO				IAML		20 40 28.0	
	comp=N,134nm,0.6s						
GSI	**Gunungsitoli**	**13.19**	**175**	P	**Pn**	**20 38 03.6**	**+4.3**
	comp=N,26nm,1.7s						
QIZ	**Qiongzhong**	**13.67**	**69**	P	**Pn**	**20 38 02.2**	**-3.7**
QIZ				S	**Sn**	**20 40 38.8**	**+1.1**
QIZ				pmax	pmax		
	comp=N,26nm,2.2s						
QIZ				LR	LR		
	comp=N,3μm,10.1s						
QIZ				LR	LR		
	comp=N,1μm,10.9s						
QIZ				LR	LR		
	comp=N,4μm,12.6s						
PBSI	**Pulau Batu**	**14.60**	**172**	P	**Pn**	**20 38 22.0**	**+3.3**
	comp=N,87nm,1.2s						
GTK	**Tadong**	**14.64**	**332**	*e*P	**Pn**	**20 38 17.7**	**-1.6**
GTK				IAML		20 41 21.5	
	comp=E,52nm,0.3s						
GYA	**Guiyang**	**15.30**	**37**	⇑P	**P**	**20 38 30.5**	**-2.4**
GYA				S	**Sn**	**20 41 13.4**	**-4.1**
GYA				pmax	pmax		
	comp=E,17nm,1.0s						
GYA				LR	LR		
	comp=E,4μm,8.5s						
GYA				LR	LR		
	comp=E,4μm,9.1s						
GYA				LR	LR		
	comp=E,6μm,9.4s						
TPRI	**Tanjung Pinang**	**15.74**	**148**	P	**P**	**20 38 36.9**	**-0.8**
	comp=E,35nm,1.2s						
LSA	**Lhasa**	**15.86**	**343**	P	**Pn**	**20 38 31.8**	**-3.8**
LSA				LR	LR		
	comp=E,2μm,15.5s						
LSA				LR	LR		
	comp=E,2μm,14.7s						
LSA				LR	LR		
	comp=E,2μm,19.0s						
SISI	**Saibi**	**15.97**	**170**	P	**P**	**20 38 41.7**	**+1.4**
	comp=E,51nm,1.0s						
PALK	**Pallekele**	**16.96**	**247**	P	**P**	**20 38 53.6**	**+2.2**
PALK	**Pallekele**	**16.96**	**247**	Pn	**P**	**20 38 53.9**	**+2.6**
	comp=E,2.0nm,0.3s,baz=162,slow=12,SNR=18						
PALK				LR	LR	20 45 39.0	
	comp=E,762nm,18.8s,baz=156,slow=38						
PALK	**Pallekele**	**16.96**	**247**	*d*P	**P**	**20 38 53.5**	**+2.2**
PALK				pmax	pmax		
	comp=Z,114nm,1.0s						
GULI	**GuiLin**	**16.97**	**49**	*e*P	**P**	**20 38 53.8**	**+2.5**
GULI				pmax	pmax		
	comp=Z,60nm,1.3s						
HYB	**Hyderabad**	**17.36**	**282**	*e*P	**P**	**20 38 55.7**	**+0.1**
PPSI	**Pulau Pagai**	**17.55**	**168**	P	**P**	**20 38 59.6**	**+1.9**
	comp=Z,131nm,1.3s						
CD2	**Chengdu**	**17.68**	**21**	P	**P**	**20 38 59.0**	**-0.1**
CD2				S	**Sn**	**20 42 16.8**	**+1.8**
CD2				pmax	pmax		
	comp=Z,40nm,1.1s						
CD2				pmax	pmax		
	comp=Z,600nm,4.3s						
CD2				LR	LR		
	comp=Z,2μm,8.0s						
CD2				LR	LR		
	comp=Z,2μm,12.0s						
CD2				LR	LR		
	comp=Z,2μm,12.7s						
PPBI	**Pangkal Pinang**	**19.20**	**149**	P	**Pn**	**20 39 21.7**	**+4.8**
	comp=Z,35nm,1.0s,comp=Z,5μm						
SBUM	**Sibu**	**19.73**	**126**		**P**	**20 39 21.6**	**-0.1**
BHPL	**Bhopal**	**19.88**	**299**	*e*P	**Pn**	**20 39 25.7**	**+0.6**
CNSH	**ChangSha**	**20.54**	**46**	P	Pn	20 39 31.7	-1.0
CNSH				S	**S**	**20 43 21.7**	**+1.8**
CNSH				pmax	pmax		
	comp=E,110nm,1.4s						
CNSH				LR	LR		
	comp=Z,1μm,10.5s						
CNSH				LR	LR		
	comp=Z,2μm,12.7s						
CNSH				LR	LR		
	comp=Z,3μm,12.0s						
STKI	**Sintang**	**20.74**	**133**	P	Pn	20 39 35.2	+0.1
	comp=Z,66nm,1.3s						
GOMU	**GeErMu**	**21.63**	**357**	P	**P**	**20 39 43.7**	**+1.1**
GOMU				pP	sP	20 39 48.1	-0.5
GOMU				sP	pP	20 39 51.4	+4.6
GOMU				S	Sn	20 43 46.9	-4.0
GOMU				pmax	pmax		
	comp=Z,25nm,1.0s						
GOMU				LR	LR		
	comp=Z,2μm,12.9s						
GOMU				LR	LR		
	comp=Z,1μm,14.1s						
GOMU				LR	LR		
	comp=Z,3μm,12.9s						
POO	**Poona**	**21.93**	**284**	*e*P	**P**	**20 39 47.2**	**+1.6**
LZH	**Lanzhou**	**22.50**	**16**	*e*P	**P**	**20 39 52.6**	**+0.9**
LZH				sP	sP	20 40 02.9	+5.2
LZH				PP	**PnPn**	**20 40 24.7**	**+10**
LZH				SS	**SnSn**	**20 44 39.0**	**+12**
LZH				pmax	pmax		
	comp=Z,57nm,1.2s						
LZH				pmax	pmax		
	comp=Z,430nm,6.3s						
LZH				LR	LR		
	comp=Z,2μm,16.1s						
LZH				LR	LR		
	comp=Z,4μm,17.2s						
LZH				LR	LR		
	comp=Z,3μm,14.8s						
XAN	**Xi'an**	**22.52**	**28**	⇑P	**P**	**20 39 50.8**	**-1.0**
XAN				S	**S**	**20 44 02.3**	**+3.8**
XAN				pmax	pmax		
	comp=Z,76nm,1.0s						
XAN				pmax	pmax		
	comp=Z,540nm,5.6s						
XAN				LR	LR		
	comp=Z,6μm,15.9s						
XAN				LR	LR		
	comp=Z,7μm,15.5s						
XAN				LR	LR		
	comp=Z,4μm,12.1s						
SBJI	**Serang**	**22.68**	**154**	P	**P**	**20 39 57.7**	**+4.1**
WHN	**Wuhan**	**22.98**	**43**	⇑P	**P**	**20 39 57.0**	**+0.4**
WHN				pP	**pP**	**20 40 00.7**	**-0.1**
WHN				LR	LR		
	comp=Z,5μm,9.7s						
WHN				LR	LR		
	comp=Z,6μm,8.7s						
WHN				LR	LR		
	comp=Z,9μm,12.1s						
MYLDM	**Lahad Datu**	**23.69**	**111**	P	**P**	**20 40 02.4**	**-1.4**
MYLDM				IAmb	IAmb	20 40 16.4	
	comp=Z,78nm,1.2s						
LEM	**Lembang**	**23.97**	**151**	P	**P**	**20 40 09.8**	**+3.1**
	comp=Z,31nm,1.5s						
SMLA	**Simla**	**24.14**	**316**	*e*P	**P**	**20 40 07.3**	**-0.7**
CNJI	**Cibinong**	**24.18**	**153**	P	**P**	**20 40 12.5**	**+4.1**
	comp=Z,31nm,1.4s						
LYN	**LuoYang**	**24.69**	**33**	P	**P**	**20 40 12.8**	**-0.1**
LYN				pP	pP	20 40 17.2	-0.2
LYN				S	**S**	**20 44 41.7**	**+7.5**
LYN				pmax	pmax		
	comp=Z,69nm,1.5s						
LYN				pmax	pmax		
	comp=Z,480nm,3.8s						
LYN				LR	LR		
	comp=Z,3μm,14.1s						
LYN				LR	LR		
	comp=Z,3μm,11.5s						
LYN				LR	LR		
	comp=Z,3μm,12.8s						
TWG	**Pinlang**	**24.80**	**67**	P	**P**	**20 40 14.3**	**+0.2**
TWG				IAmb	IAmb	20 40 19.5	
	comp=Z,88nm,1.3s						
SSLB	**Suanglung**	**24.97**	**65**	P	**P**	**20 40 12.7**	**-2.9**
SSLB				IAmb	IAmb	20 40 23.7	
	comp=Z,43nm,1.1s						
GTA	**Gaotai**	**24.98**	**6**	P	**P**	**20 40 16.0**	**+0.3**
GTA				sP	sP	20 40 21.5	-0.4
GTA				PcP	**PcP**	**20 43 51.6**	**+0.8**
GTA				sS	sS	20 44 50.0	+3.5
GTA				SS	**SnSn**	**20 45 42.0**	**+14**
GTA				pmax	pmax		
	comp=Z,20nm,1.5s						
GTA				pmax	pmax		
	comp=Z,370nm,6.3s						
GTA				LR	LR		
	comp=Z,1μm,12.4s						
GTA				LR	LR		
	comp=Z,1μm,10.9s						
GTA				LR	LR		
	comp=Z,1μm,12.4s						
YULB	**Yu-li**	**25.16**	**66**	P	**P**	**20 40 15.2**	**-2.1**
YULB				IAmb	IAmb	20 40 24.8	
	comp=Z,62nm,1.1s						
CMJI	**Cimerak**	**25.20**	**151**	P	**P**	**20 40 19.9**	**+2.2**
DHRM	**DHARAMSHALA**	**25.42**	**317**	*e*P	**P**	**20 40 19.2**	**-0.7**
NACB	**Ninganchiao**	**25.64**	**64**	P	**P**	**20 40 20.9**	**-0.7**
NACB				IAmb	IAmb	20 40 29.9	
	comp=Z,74nm,1.2s						
NJ2	**Nanjing**	**26.96**	**46**	*e*P	**P**	**20 40 33.2**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,19nm,1.3s						
NJ2				pmax	pmax		
	comp=Z,590nm,3.6s						
NJ2				LR	LR		
	comp=Z,3μm,12.3s						
NJ2				LR	LR		
	comp=Z,2μm,12.8s						
NJ2				LR	LR		
	comp=Z,2μm,9.0s						
HNS	**HongShan**	**28.03**	**32**	⇑P	**P**	**20 40 44.0**	**+1.0**
HNS				S	**S**	**20 45 26.2**	**-0.9**
HNS				pmax	pmax		
	comp=Z,49nm,1.1s						
HNS				LR	LR		
	comp=Z,2μm,13.5s						
HNS				LR	LR		
	comp=Z,2μm,12.7s						
SSE	**Sheshan**	**28.12**	**50**	P	**P**	**20 40 43.9**	**0.0**
SSE				S	**S**	**20 45 30.2**	**+1.6**
SSE				pmax	pmax		
	comp=Z,15nm,1.3s						
SSE				pmax	pmax		
	comp=Z,310nm,3.9s						
SSE				LR	LR		
	comp=Z,970nm,8.1s						
SSE				LR	LR		
	comp=Z,1μm,8.1s						
NIL	**Nilore**	**28.30**	**316**	P	**P**	**20 40 43.7**	**-1.9**
NIL				IAmb	IAmb	20 41 12.6	
	comp=Z,49nm,1.4s						
NIL	**Nilore**	**28.30**	**316**	P	**P**	**20 40 43.7**	**-1.9**
NIL				pmax	pmax		
	comp=Z,49nm,1.4s						
BTO	**Baotou**	**28.60**	**22**	*e*P	**P**	**20 40 48.7**	**+0.5**
BTO				pP	**sP**	**20 40 53.1**	**-1.4**
BTO				sP	**pP**	**20 40 55.5**	**+2.8**
BTO				PP	**PnPn**	**20 41 40.6**	**+2.3**
BTO				S	**S**	**20 45 37.7**	**+1.5**
BTO				SS	**SnSn**	**20 47 03.6**	**+7.4**
BTO				pmax	pmax		
	comp=Z,12nm,1.4s						
BTO				pmax	pmax		
	comp=Z,420nm,9.0s						
BTO				LR	LR		
	comp=Z,3μm,12.0s						
BTO				LR	LR		
	comp=Z,2μm,13.4s						
BTO				LR	LR		
	comp=Z,3μm,11.6s						
HHC	**Hu-ho-hao-te**	**29.39**	**24**	*e*P	**P**	**20 40 56.8**	**+1.5**
HHC				*e*S	**S**	**20 45 49.9**	**+1.1**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,4.3s						
HHC				LR	LR		
	comp=Z,1μm,10.2s						
HHC				LR	LR		
	comp=Z,540nm,12.6s						
HHC				LR	LR		
	comp=Z,1μm,9.2s						
DAV	**Davao City (W)**	**29.62**	**101**	LR	LR	20 53 15.7	
	comp=Z,511nm,18.6s,baz=57,slow=37						
WMQ	**Urumqi**	**30.13**	**347**	*e*P	**P**	**20 41 03.6**	**+1.9**
WMQ				PP	**PnPn**	**20 41 56.9**	**-2.1**
WMQ				S	**S**	**20 45 52.2**	**-7.9**
WMQ				pmax	pmax		
	comp=Z,17nm,2.3s						
WMQ				LR	LR		
	comp=Z,500nm,19.1s						
WMQ				LR	LR		
	comp=Z,720nm,20.9s						
WMQ				LR	LR		
	comp=Z,640nm,22.5s						
KAPI	**Kappang**	**30.25**	**128**	LR	LR	20 56 12.1	
	comp=Z,620nm,19.1s,baz=315,slow=42						
KAPI	**Kappang**	**30.25**	**128**	⇑*e*P	**P**	**20 41 05.0**	**+2.0**
KAPI				pmax	pmax		
	comp=Z,24nm,1.2s						
LUWI	**Luwuk**	**30.38**	**118**	P	**P**	**20 41 03.4**	**-0.7**
KSH	**Kashi**	**30.67**	**328**	P	**P**	**20 41 06.5**	**-0.1**
KSH				pP	pP	20 41 10.1	-1.0
KSH				ScS	ScS	20 51 44.1	+0.7
KSH				pmax	pmax		
	comp=Z,15nm,1.2s						
KSH				LR	LR		
	comp=Z,900nm,17.5s						
KSH				LR	LR		
	comp=Z,870nm,17.5s						
KSH				LR	LR		
	comp=Z,1μm,20.3s						
BJI	**Beijing**	**30.79**	**31**	P	**P**	**20 41 08.9**	**+1.4**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BJI				pmax	pmax		
	comp=Z,140nm,12.0s						
BJI				LR	LR		
	comp=Z,380nm,19.8s						
BJI				LR	LR		
	comp=Z,650nm,20.6s						
BJI				LR	LR		
	comp=Z,450nm,12.8s						
KBL	**Kabul**	**31.68**	**314**	P	**P**	**20 41 16.1**	**+0.4**
KBL				IAmb	IAmb	20 41 17.8	
	comp=Z,60nm,1.9s						
KBL	**Kabul**	**31.68**	**314**	P	**P**	**20 41 16.1**	**+0.4**
KBL				pmax	pmax		
	comp=Z,60nm,1.9s						
PRZ	**Przheval'sk**	**31.88**	**334**	P	**P**	**20 41 18.8**	**+1.5**
PRZ				IAmb	IAmb	20 41 20.8	
	comp=Z,25nm,0.9s						
PRZ	**Przheval'sk**	**31.88**	**334**	P	**P**	**20 41 18.8**	**+1.5**
PRZ				pmax	pmax		
	comp=Z,25nm,0.9s						
SHLS	**Shalkode**	**32.02**	**336**	*e*P	**P**	**20 41 17.1**	**-1.4**
	baz=337						
SHLS	**Shalkode**	**32.02**	**336**	*e*P	**P**	**20 41 17.0**	**-1.4**
UZB	**Uzynbulak**	**32.18**	**336**	*e*P	**P**	**20 41 19.9**	**0.0**
	baz=336						
UZB	**Uzynbulak**	**32.18**	**336**	*e*P	**P**	**20 41 19.9**	**0.0**
SATY	**Saty**	**32.35**	**335**	*e*P	**P**	**20 41 21.4**	**-0.1**
	baz=335						
SATY	**Saty**	**32.35**	**335**	*e*P	**P**	**20 41 21.3**	**-0.1**
ZHN	**Zhinishke**	**32.43**	**335**	*e*P	**P**	**20 41 22.3**	**+0.1**
	baz=335						
ZHN	**Zhinishke**	**32.43**	**335**	*e*P	**P**	**20 41 22.2**	**+0.1**
KPKS	**Kokpek**	**32.58**	**336**	*e*P	**P**	**20 41 23.3**	**-0.1**
	baz=336						
KPKS	**Kokpek**	**32.58**	**336**	*e*P	**P**	**20 41 23.2**	**-0.1**
DL2	**Dalian**	**32.95**	**38**	P	**P**	**20 41 27.6**	**+1.1**
DL2				S	**S**	**20 46 46.3**	**+2.1**
DL2				pmax	pmax		
	comp=Z,25nm,1.0s						
DL2				LR	LR		
	comp=Z,1μm,12.8s						
DL2				LR	LR		
	comp=Z,1μm,15.0s						
DL2				LR	LR		
	comp=Z,2μm,13.8s						
BOOM	**Boomskoye usch**	**32.97**	**332**	P	**P**	**20 41 27.9**	**+1.0**
BOOM	**Boomskoye usch**	**32.97**	**332**	P	**P**	**20 41 27.9**	**+1.0**
BOOM				pmax	pmax		
	comp=Z,12nm,1.1s						
MDOK	**Medeo**	**33.01**	**334**	*e*P	**P**	**20 41 27.4**	**+0.2**
	baz=334						
MDOK	**Medeo**	**33.01**	**334**	*e*P	**P**	**20 41 27.3**	**+0.2**
AAA	**Alma-Ata**	**33.10**	**334**	*e*P	**P**	**20 41 28.2**	**+0.3**
	comp=Z,21nm,1.1s,baz=334						
AAA	**Alma-Ata**	**33.10**	**334**	*e*P	**P**	**20 41 28.1**	**+0.2**
AAA				pmax	pmax		
	comp=Z,21nm,1.1s						
ARLS	**Aral**	**33.26**	**329**	P	**P**	**20 41 30.8**	**+1.4**
ARLS				pmax	pmax		
	comp=Z,14nm,1.0s						
UCH	**Uchtor**	**33.44**	**330**	P	**P**	**20 41 32.6**	**+1.3**
	SNR=6.5						
TKM2	**Tokmak 2**	**33.46**	**332**	P	**P**	**20 41 31.6**	**+0.4**
	SNR=12						
GAR	**Garm**	**33.47**	**322**	IAmb	IAmb	20 41 33.0	
	comp=Z,35nm,1.0s						
KBK	**Karagaybulak**	**33.56**	**331**	P	**P**	**20 41 34.0**	**+2.0**
	SNR=10						
CHKK	**Chushkaly**	**33.59**	**334**	*e*P	**P**	**20 41 32.5**	**+0.3**
	baz=334						
CHKK	**Chushkaly**	**33.59**	**334**	*e*P	**P**	**20 41 32.4**	**+0.3**
AAK	**Ala-Archa**	**33.76**	**330**	P	**P**	**20 41 34.0**	**+0.2**
AAK				IAmb	IAmb	20 41 41.3	
	comp=Z,30nm,1.1s						
AAK	**Ala-Archa**	**33.76**	**330**	LR	LR	20 59 29.0	
	comp=Z,1μm,18.1s,baz=127,slow=44						
AAK	**Ala-Archa**	**33.76**	**330**	*de*P	**P**	**20 41 35.1**	**+1.4**

AAK pmax pmax
comp=Z,25nm,1.1s
XLT XiLinHaoTe 33.78 26 *e*P **P 20 41 38.0 +4.1**
XLT pmax pmax
comp=Z,16nm,0.9s
XLT pmax pmax
comp=Z,160nm,4.4s
XLT LR LR
comp=Z,1μm,16.7s
XLT LR LR
comp=Z,1μm,17.7s
BTK Batken 33.86 324 IAmb IAmb 20 41 37.6
comp=Z,33nm,0.8s
BTK Batken 33.86 324 P **P 20 41 36.5 +1.9**
BTK pmax pmax
comp=Z,42nm,1.3s
CHMS Chumysh 33.91 331 P **P 20 41 36.5 +1.5**
SNR=9.1
CHGR Chuyangaron 33.96 320 P **P 20 41 35.6 +0.1**
CHGR Chuyangaron 33.96 320 P **P 20 41 35.6 +0.1**
CHGR pmax pmax
comp=Z,40nm,0.8s
TDK Taldyqorghan 33.98 337 *e*P **P 20 41 35.6 +0.1**
baz=337
TDK Taldyqorghan 33.98 337 *e*P **P 20 41 35.6 +0.1**
EKS2 Erkin-Say 34.12 330 P **P 20 41 38.5 +1.7**
SNR=14
ZSN Zaisan 34.20 346 *e*P **P 20 41 37.4 +0.1**
baz=346
ZSN Zaisan 34.20 346 *e*P **P 20 41 37.4 +0.1**
USP Ospenovka 34.24 331 P **P 20 41 39.3 +1.6**
SNR=22
SONM Songino Array 34.25 12 P **P 20 41 37.6 -0.3**
SONM Songino Array 34.25 12 P **P 20 41 38.7 +0.8**
comp=Z,12nm,1.2s,baz=196,slow=8.8,SNR=18
SONM PcP **PcP 20 44 12.4 -1.9**
comp=Z,1.4nm,0.9s,baz=212,slow=5.1,SNR=3.1
comp=Z,12nm,1.2s
MK31 Makanchi Array 34.26 343*d i*P **P 20 41 38.3 +0.4**
MKAR Makanchi Array 34.26 343 P **P 20 41 38.0 +0.1**
MKAR Makanchi Array 34.26 343 P **P 20 41 38.5 +0.6**
comp=Z,5.1nm,0.8s,baz=152,slow=9.8,SNR=31
MKAR LR LR 20 59 17.9
comp=Z,416nm,19.2s,baz=155,slow=43
comp=Z,5.1nm,0.8s
SGDS Sogindy 34.32 331 *e*P **P 20 41 38.6 +0.1**
baz=331
SGDS Sogindy 34.32 331 *e*P **P 20 41 38.6 +0.1**
MAKZ Makanchi 34.37 342 P **P 20 41 38.9 +0.1**
MAKZ Makanchi 34.37 342 P **P 20 41 38.9 +0.1**
MAKZ pmax pmax
comp=Z,11nm,1.2s
ULN Ulaanbaatar 34.42 13 P **P 20 41 39.0 -0.3**
ULN Ulaanbaatar 34.42 13*c i*P **P 20 41 40.0 +0.6**
ULN pmax pmax
comp=Z,29nm,2.5s
TJN Taejon 35.22 46⇓*e*P **P 20 41 46.5 +0.3**
IUG Iuzhnay 35.70 326 *e*P **P 20 41 50.4 -0.1**
comp=Z,29nm,0.9s,baz=326
IUG Iuzhnay 35.70 326 *e*P **P 20 41 50.3 -0.1**
IUG pmax pmax
comp=Z,29nm,0.9s
BTLS Baital 35.81 333 *e*P **P 20 41 51.6 +0.4**
baz=333
BTLS Baital 35.81 333 *e*P **P 20 41 51.6 +0.4**
KKAR Karatay Array 36.10 327 P **P 20 41 54.0 +0.2**
KKAR Karatay Array 36.10 327 P **P 20 41 54.0 +0.2**
KSRS Korea Array 36.15 45 P **P 20 41 53.8 -0.4**
comp=Z,2.6nm,0.9s,baz=245,slow=8.6,SNR=8.5
comp=Z,2.6nm,0.9s
ZAK Zakamensk 36.21 8 *e*P **P 20 41 54.6 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.6s
JNU Nakatsue 36.38 53 P **P 20 41 54.7 -1.6**
JNU IAmb IAmb 20 41 58.5
comp=Z,50nm,1.2s
BRLS Borolday 36.41 327 *e*P **P 20 41 55.6 -0.9**
baz=326
BRLS Borolday 36.41 327 *e*P **P 20 41 55.5 -0.9**
HRA Herat 36.56 309 P **P 20 41 58.3 +0.2**
WSAR Wadi Sarin 36.64 289 LR LR 20 57 56.8
comp=Z,338nm,20.9s,baz=116,slow=38
MOY Mondy 37.24 5 *e*P **P 20 42 03.9 +0.4**
SEM Semipalatinsk 38.11 343 *e*P **P 20 42 10.6 -0.4**
baz=343
SEM Semipalatinsk 38.11 343 *e*P **P 20 42 10.6 -0.4**
CN2 Changchun 38.32 35 *e*P **P 20 42 13.4 +0.8**
CN2 *e*pP sP 20 42 20.0 +1.1
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,800nm,5.0s
KURBB Kurchatov Arra 38.80 342 P **P 20 42 16.7 +0.2**
comp=Z,12nm,0.9s,baz=153,slow=8.3,SNR=47
KURBB PcP **PcP 20 44 28.1 +0.4**
comp=Z,1.6nm,0.7s,baz=160,slow=2.7,SNR=5.0
comp=Z,12nm,0.9s
KURK Kurchatov 38.86 342 P **P 20 42 17.2 +0.2**
KURK Kurchatov 38.86 342 P **P 20 42 17.2 +0.2**
KURK pmax pmax
comp=Z,27nm,1.2s
HIA Hailar 39.60 24 P **P 20 42 24.5 +1.2**
HIA Hailar 39.60 24 P **P 20 42 24.5 +1.2**
HIA pmax pmax
comp=Z,28nm,1.0s
CIT Chita 39.87 17 *e*P **P 20 42 26.0 +0.5**
CIT *e* 20 44 22.0
CIT pmax pmax
comp=Z,45nm,2.9s
ZAA0 Zalesovo Array 40.37 349 IAmb IAmb 20 42 35.0
comp=Z,32nm,0.8s
ZALV Zalesovo Beam 40.37 349 P **P 20 42 29.5 -0.1**
ZALV Zalesovo Beam 40.37 349 P **P 20 42 29.9 +0.4**
comp=Z,34nm,0.8s,baz=171,slow=8.2,SNR=74
comp=Z,34nm,0.8s
ZALV Zalesovo Beam 40.37 349 *i* P **P 20 42 30.1 +0.5**
ZALV pmax pmax
comp=Z,35nm,0.8s
BNX BinXian 40.63 34 ⇑P **P 20 42 31.4 -0.5**
BNX pmax pmax
comp=Z,18nm,1.2s
GEYT Alibeck 41.06 312 P **P 20 42 37.6 +2.0**
comp=Z,40nm,0.8s,baz=140,slow=7.8,SNR=35
GEYT LR LR 21 02 00.5
comp=Z,904nm,21.0s,baz=133,slow=40
comp=Z,40nm,0.8s
GYA0B ALIBECK ARRAY 41.06 312 IAmb IAmb 20 42 38.5
comp=Z,55nm,0.9s
MBWA Marble Bar 42.24 147 P **P 20 42 45.6 +0.4**
comp=Z,28nm,1.5s
PSAC1 Pilbara Seismi 42.59 147 P **P 20 42 48.2 +0.1**
comp=Z,40nm,2.2s
PSA00 Pilbara Seismi 42.64 147 P **P 20 42 48.2 -0.3**
comp=Z,25nm,1.5s
MJB9 Matsu-Tunnel 43.23 52 P **P 20 42 51.8 -1.5**
MJB9 IAmb IAmb 20 42 59.1
comp=Z,44nm,1.2s
MAJO Matsushiro 43.23 52⇓*e*P **P 20 42 52.8 -0.5**
MAJO pmax pmax
comp=Z,9.0nm,0.9s
MJAR Matsushiro Arr 43.23 52 P **P 20 42 54.2 +0.9**
comp=Z,7.0nm,1.0s,baz=264,slow=13,SNR=6.7
MJAR PcP **PcP 20 44 42.5 0.0**
comp=Z,2.4nm,0.6s,baz=208,slow=1.8,SNR=4.8
comp=Z,7.0nm,1.0s
FITZ Fitzroy Crossi 43.41 137 P **P 20 42 53.6 -1.2**
BVAR Borovoye Array 43.57 337 P **P 20 42 55.7 -0.1**
comp=Z,2.0nm,0.4s,baz=138,slow=9.1,SNR=26
BVAR PcP **PcP 20 44 43.5 +0.2**
comp=Z,2.9nm,0.8s,baz=132,slow=4.2,SNR=6.1
comp=Z,2.0nm,0.4s
BRVK Borovoye 43.64 337 P **P 20 42 56.0 -0.3**
BRVK Borovoye 43.64 337*d i*P **P 20 42 56.2 -0.1**
BRVK pmax pmax
comp=Z,14nm,1.3s
HEH HeiHe 43.65 29 *e*P **P 20 42 56.8 +0.4**
HEH pmax pmax
comp=Z,22nm,1.1s
HEH LR LR
comp=Z,2μm,16.6s
HEH LR LR
comp=Z,2μm,16.3s
HEH LR LR
comp=Z,1μm,17.3s
KLR Kul'dur 45.12 32 *e*P **P 20 43 07.8 -0.4**
KLR pmax pmax
comp=Z,10.0nm,1.1s
ABKAR Akbulak array 45.66 327 P **P 20 43 12.3 -0.2**
ABKAR Akbulak array 45.66 327 IAmb IAmb 20 43 14.6
comp=Z,25nm,1.0s
ZEA Zeya 46.05 25 *e*P **P 20 43 16.3 +0.9**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
LKRN Lenkeran, Azer 48.22 309 P **P 20 43 32.7 +0.1**
RAYN Ar Rayn 48.69 289 P **P 20 43 35.9 -0.7**
RAYN Ar Rayn 48.69 289 P **P 20 43 35.9 -0.7**
RAYN pmax pmax
comp=Z,12nm,1.2s
MNGR Mingechevir, A 50.06 311 P **P 20 43 46.8 +0.1**
SEKA Sheki 50.10 312 P **P 20 43 46.6 -0.6**
WRKA Warakurna 50.16 141 P **P 20 43 47.3 -0.4**
comp=Z,39nm,1.9s
SVE Sverdlovsk 50.18 335 *e*P **P 20 43 48.2 +0.8**
SVE pmax pmax
comp=Z,68nm,1.3s
YSS Yuzh-Sakhalins 50.28 40 *e*P **P 20 43 48.1 -0.2**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=Z,700nm,14.0s
MAK Makhachkala 50.43 314 *e*P P 20 43 44.3 -5.2
MAK *e*PPP PPP 20 46 40.1
MAK *e*S **S 20 50 56.0 -6.6**
MAK *e*SSS SSS 20 55 59.8
MAK pmax pmax
comp=Z,36nm,0.3s
MAK MLR MLR
comp=Z,438nm,19.0s
GANJ Ganja 50.58 311 P **P 20 43 50.7 0.0**
WB0 Warramunga Arr 50.61 131 P **P 20 43 50.0 -1.2**
WB0 IAmb IAmb 20 43 55.6
comp=Z,42nm,0.9s
WRA Warramunga Arr 50.68 132 P **P 20 43 51.4 -0.3**
WRA Warramunga Arr 50.68 132 P **P 20 43 51.0 -0.7**
comp=Z,27nm,0.9s,baz=310,slow=8.2,SNR=69
WRA LR LR 21 06 11.8
comp=Z,516nm,21.9s,baz=338,slow=37
comp=Z,27nm,0.9s
WRA Warramunga Arr 50.68 132 P **P 20 43 51.4 -0.3**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WB2 Warramunga Arr 50.69 132 P **P 20 43 51.4 -0.4**
ARU Arti 50.78 334 P **P 20 43 51.7 -0.2**
ARU IAmb IAmb 20 43 53.3
comp=Z,37nm,1.2s
ARU Arti 50.78 334 LR LR 21 10 12.2
comp=Z,661nm,18.9s,baz=94,slow=42
ARU Arti 50.78 334*c i*P **P 20 43 52.0 +0.1**
ARU 20 45 46.4
ARU S **S 20 51 08.6 +1.6**
ARU SS **SS 20 54 37.2 -4.3**
ARU pmax pmax
comp=Z,43nm,1.3s
ARU MLR MLR
comp=Z,833nm,17.0s
NAX Nakhchivan 50.81 309 P **P 20 43 52.4 -0.1**
WR0 Warramunga Arr 50.84 131 IAmb IAmb 20 43 57.4
comp=Z,31nm,0.9s
NWAO Narrogin (SRO) 51.23 157 LR LR 21 04 54.8
comp=Z,569nm,21.0s,baz=319,slow=35
GNI Garni 51.61 310 P **P 20 44 00.1 +1.4**
GNI Garni 51.61 310 LR LR 21 09 10.7
comp=Z,320nm,20.5s,baz=101,slow=40
GNI Garni 51.61 310 P **P 20 44 00.1 +1.4**
GNI pmax pmax
comp=Z,157nm,1.8s
ATD Arta Tunnel 52.12 273 LR LR 21 04 45.6
comp=Z,5.9nm,20.5s,baz=64,slow=34
AS31 Alice Springs 52.80 135 P **P 20 44 06.9 -0.6**
comp=Z,5.8nm,1.0s
ASAR Alice Springs 52.80 135 P **P 20 44 05.8 -1.7**
ASAR Alice Springs 52.80 135 P **P 20 44 07.0 -0.5**
comp=Z,9.0nm,0.6s,baz=314,slow=7.1,SNR=66
ASAR LR LR 21 07 40.1
comp=Z,415nm,21.5s,baz=342,slow=37
comp=Z,9.0nm,0.6s
ASAR Alice Springs 52.80 135 P **P 20 44 07.0 -0.5**
YAK Yakutsk 53.05 19 P **P 20 44 07.6 -1.0**
YAK Yakutsk 53.05 19 *e*P **P 20 44 08.4 -0.3**
YAK *e*'PP **pP 20 44 11.6 -1.7**
YAK *e*S **S 20 51 35.4 -2.5**
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK smax smax
comp=E,130nm,5.9s
YAK smax smax
comp=N,66nm,3.8s
YAK MLR MLR
comp=Z,1μm,14.0s
YAK MLR MLR
comp=N,613nm,14.0s
YAK MLR MLR
comp=E,492nm,14.0s
ONI Oni 53.17 313 P **P 20 44 10.0 -0.1**
ONI Oni 53.17 313 P **P 20 44 10.0 -0.1**
ONI pmax pmax
comp=Z,15nm,1.1s
NCK Nalchik 53.32 314⇑*i*P **P 20 44 12.4 +1.3**
NCK pmax pmax
comp=Z,15nm,1.2s
KBZ Khabaz 53.87 314 P **P 20 44 16.4 +1.3**
comp=Z,8.7nm,0.8s,baz=92,slow=8.3,SNR=13
comp=Z,8.7nm,0.8s
KBZ Khabaz 53.87 314*ce*P **P 20 44 16.5 +1.5**
KBZ pmax pmax
comp=Z,14nm,1.0s
BELG Belogornoye 53.96 325*d i*P **P 20 44 15.4 -0.1**
BELG pmax pmax
comp=Z,8.0nm,1.0s
SHA1 Shidzhatmaz 54.04 314*d i*P **P 20 44 17.7 +1.1**
KIV Kislovodsk 54.08 314⇑P **P 20 44 17.3 +0.7**
KIV Kislovodsk 54.08 314 P **P 20 44 17.0 +0.3**
KIV Kislovodsk 54.08 314 *e*P **P 20 44 17.7 +1.0**
KIV *e* 20 46 19.7
KIV *e*S **S 20 51 55.1 +2.3**
KIV pmax pmax
comp=Z,69nm,1.0s
KIV pmax pmax
comp=Z,31nm,4.0s
KIV Kislovodsk 54.08 314 P **P 20 44 17.4 +0.7**
comp=Z,80nm,1.1s,comp=Z,815nm
GOF Gofitskoye 54.14 315*ce*P **P 20 44 18.0 +1.0**
BATM Batumi 54.20 311 P **P 20 44 17.3 -0.3**
COEN Coen 54.29 119 P **P 20 44 14.0 -4.6**
QIS Mount Isa 54.97 128 P **P 20 44 23.4 0.0**
comp=Z,21nm,1.7s
NRIK Noril'sk 55.07 356 P **P 20 44 23.6 +0.3**
comp=Z,9.4nm,0.8s,baz=167,slow=7.8,SNR=8.5
comp=Z,9.4nm,0.8s
NRIK Noril'sk 55.07 356*d i*P **P 20 44 23.3 -0.1**
NRIK pmax pmax
comp=Z,11nm,1.1s
LABN Labinsk 55.62 314 *e*P **P 20 44 28.4 +0.7**
LABN pmax pmax
comp=Z,33nm,0.5s
PMG Port Moresby 55.70 112 LR LR 21 13 17.2
comp=Z,176nm,19.4s,baz=272,slow=42
KIRV Kirov 56.04 333 LR LR 21 11 59.0
comp=Z,1μm,21.3s,baz=79,slow=40
KIRV Kirov 56.04 333*d i*P **P 20 44 30.7 +0.2**
ERBR Yeremizino-Bor 56.05 316 *e*P **P 20 44 31.5 +0.7**
ERBR pmax pmax
comp=Z,26nm,0.8s
SOC Sochi 56.07 313 *e*P **P 20 44 30.7 -0.3**
SOC *e* 20 46 40.6
SOC *e*PPP PPP 20 47 55.3
SOC *e*S **S 20 52 19.4 +0.1**
SOC *e*SSS SSS 20 58 07.0
SOC pmax pmax
comp=Z,50nm,1.4s
FURI Furi 56.63 271 LR LR 21 08 39.0
comp=Z,310nm,19.4s,baz=88,slow=36
ASF Jabal al Asfar 56.67 299 LR LR 21 13 01.4
comp=Z,358nm,18.9s,baz=155,slow=40
GAZ Gaziantep 56.86 305 IAmb IAmb 20 44 39.0
comp=Z,36nm,1.0s
VRH Novokhopyorsk 56.89 322 *e*P **P 20 44 35.9 -0.7**
VRH pmax pmax
comp=Z,65nm,1.6s
ANN Anapa 57.94 314 *e*P **P 20 44 45.4 +1.2**
ANN pmax pmax
comp=Z,25nm,0.8s
MMAI Mount Meron Ar 57.98 300 P **P 20 44 46.3 +1.4**
comp=Z,5.7nm,0.9s,baz=92,slow=10,SNR=5.4
MMAI LR LR 21 13 13.3
comp=Z,240nm,20.5s,baz=36,slow=40
comp=Z,5.7nm,0.9s
VORD Divnogorie 58.27 321 *e*P **P 20 44 45.3 -1.1**
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 58.42 322 *e*P **P 20 44 45.6 -1.8**
VSR pmax pmax
comp=Z,30nm,1.2s
VORR Voronezh 58.53 322 *e*P **P 20 44 48.0 -0.2**
VORR pmax pmax
comp=Z,58nm,1.5s
LPSR Galich'ya Gora 58.97 323 *e*P **P 20 44 49.6 -1.7**
LPSR pmax pmax
comp=Z,30nm,0.8s
CSS Mathiatis 59.80 302 P **P 20 44 57.2 -0.2**
comp=Z,24nm,1.9s
CTAO Charters Tower 59.92 124 P **P 20 44 57.8 -0.5**
CTAO IAmb IAmb 20 45 03.5
comp=Z,31nm,1.1s
CTAO Charters Tower 59.92 124 P **P 20 44 57.8 -0.5**
CTAO pmax pmax
comp=Z,31nm,1.1s
MA2 Magadan 59.92 29 P **P 20 44 57.9 +0.2**
MA2 Magadan 59.92 29*ce*P **P 20 44 58.2 +0.5**
MA2 pmax pmax
comp=Z,19nm,1.0s
MA2 Magadan 59.92 29 P **P 20 44 58.4 +0.7**
comp=Z,40nm,1.1s,comp=Z,472nm
BZK Bozkurt 59.92 310⇓P **P 20 44 59.8 +1.8**
BR104 Keskin Array S 59.93 308 P **P 20 44 58.1 -0.2**
comp=Z,27nm,1.0s,comp=Z,213nm
BR131 Keskin Array S 59.94 308*d i*P **P 20 44 58.1 -0.3**
BRTR Keskin Array B 59.94 308 P **P 20 44 57.0 -1.4**
BRTR Keskin Array B 59.94 308 P **P 20 44 58.0 -0.3**
comp=Z,19nm,0.9s,baz=118,slow=7.1,SNR=92
comp=Z,19nm,0.9s
BRTR Keskin Array B 59.94 308 *i* P **P 20 44 58.2 -0.2**
BRTR pmax pmax
comp=Z,20nm,0.9s
BR105 Keskin Array S 59.95 308 P **P 20 44 57.8 -0.7**
comp=Z,30nm,1.0s,comp=Z,232nm
BR106 Keskin Array S 59.95 308 P **P 20 44 58.0 -0.5**
comp=Z,29nm,0.9s,comp=Z,216nm
SIM Simferopol' 60.28 314 *e*P **P 20 44 59.3 -1.2**
SIM *e*S **S 20 53 15.2 +0.9**
SIM pmax pmax
comp=Z,15nm,1.1s
TIXI Tiksi 60.33 11 P **P 20 44 58.5 -1.8**
TIXI IAmb IAmb 20 45 03.9
comp=Z,41nm,1.6s
TIXI Tiksi 60.33 11⇓*e*P **P 20 44 59.0 -1.3**
TIXI pmax pmax
comp=Z,28nm,1.5s
BBOO Buckleboo 60.45 142 P **P 20 45 00.6 -1.2**
BBOO Buckleboo 60.45 142 P **P 20 45 01.0 -0.8**
comp=Z,58nm,1.2s
ANTO Ankara 60.60 308⇓P **P 20 45 02.2 -0.6**
ANTO Ankara 60.60 308 P **P 20 45 02.3 -0.6**
ANTO Ankara 60.60 308 P **P 20 45 02.3 -0.5**
ANTO pmax pmax
comp=Z,44nm,1.1s
ANTO Ankara 60.60 308 P **P 20 45 02.7 -0.1**
comp=Z,20nm,1.2s,comp=Z,220nm
MOS Moscow 60.67 326 *e*P **P 20 45 02.0 -0.9**
MOS pmax pmax
comp=Z,39nm,1.1s
OBN Obninsk 61.06 325 P **P 20 45 04.8 -0.7**
OBN Obninsk 61.06 325*c i*P **P 20 45 05.9 +0.4**
OBN *i* 20 45 09.7
OBN *e* 20 47 20.4
OBN pmax pmax
comp=Z,81nm,2.5s
OBN MLR MLR
comp=Z,538nm,20.0s
OBN Obninsk 61.06 325 P **P 20 45 05.4 -0.1**
comp=Z,33nm,2.0s,comp=Z,580nm
LODK Lodwar 61.08 266 P **P 20 45 06.6 +0.1**
PETK Petropavlovsk- 61.40 37 P **P 20 45 08.2 +0.3**
comp=Z,4.7nm,0.8s,baz=241,slow=5.3,SNR=8.1
PETK LR LR 21 15 19.9
comp=Z,175nm,18.5s,baz=240,slow=40
comp=Z,4.7nm,0.8s
KLMR Klimovskoe 61.54 332 *e*P **P 20 45 05.9 -2.8**
KLMR pmax pmax
comp=Z,32nm,1.3s
KLMR MLR MLR
comp=Z,503nm,19.0s
KDZE Karadeniz Ereo 61.76 309⇑P **P 20 45 08.8 -1.8**
SEY Seymchan 62.03 25 *e*P **P 20 45 10.7 -1.2**
SEY pmax pmax
comp=Z,13nm,1.5s
NE56 Odesa 62.76 315 P **P 20 45 16.5 -0.7**
STKA Stephens Creek 63.31 137 P **P 20 45 20.1 -0.9**
STKA Stephens Creek 63.31 137 P **P 20 45 21.3 +0.3**
comp=Z,20nm,0.8s,baz=323,slow=7.1,SNR=20
STKA LR LR 21 17 00.6
comp=Z,466nm,18.5s,baz=300,slow=40
comp=Z,20nm,0.8s
STKA Stephens Creek 63.31 137*ce*P **P 20 45 21.7 +0.7**
PURM Purcari 63.45 315 P **P 20 45 22.3 +0.6**
comp=Z,175nm,0.6s,comp=Z,6μm
ISK Istanbul-Kandi 63.53 309 P **P 20 45 23.0 +0.6**
ISK pmax pmax
comp=Z,46nm,1.0s
KLYT Kilyos 63.56 309 P **P 20 45 22.2 -0.3**
comp=Z,64nm,1.0s
KULA Kula-Manisa 63.71 306 P **P 20 45 23.1 -0.7**
BAL3X Bal3x, Balta 63.80 316 P **P 20 45 23.8 -0.3**
TLCR 64.04 313⇑P **P 20 45 25.6 0.0**
TLCR 64.04 313⇑P **P 20 45 25.6 0.0**
MILM Milestii Mici 64.22 315⇑P **P 20 45 27.1 +0.4**
MILM Milestii Mici 64.22 315⇓*i*P **P 20 45 26.2 -0.6**
comp=Z,100nm,1.6s
MILM *e*L L 21 16 34.0
MILM LRM MLR 21 26 02.0
comp=Z,200nm,21.0s
MILM Milestii Mici 64.22 315*d i*P **P 20 45 26.0 -0.8**
MILM *e* 20 45 30.0
MILM pmax pmax
comp=Z,100nm,1.6s
KIS Kishinev 64.22 315 *e*P **P 20 45 26.0 -0.8**
comp=Z,50nm,1.0s
KIS Kishinev 64.22 315 *e*P **P 20 45 26.0 -0.8**
KIS pmax pmax
comp=Z,50nm,1.0s
TPGR Topolog 64.28 313⇑P **P 20 45 27.4 0.0**
AK09 Malin Array Si 64.38 319 P **P 20 45 27.6 -0.2**
PSN Preselentsi 64.39 312 P **P 20 45 29.0 +1.0**
AK10 Malin Array Si 64.40 319 P **P 20 45 27.6 -0.3**
AK08 Malin Array Si 64.40 319 P **P 20 45 27.6 -0.3**
AK07 Malin Array Si 64.42 319 P **P 20 45 27.8 -0.3**
AKASG Malin Array Be 64.43 319 P **P 20 45 27.3 -0.8**
AKASG IAmb IAmb 20 45 28.9
comp=Z,26nm,1.4s
AKASG Malin Array Be 64.43 319 P **P 20 45 27.8 -0.3**
comp=Z,5.8nm,0.7s,baz=85,slow=5.2,SNR=30
AKASG LR LR 21 19 50.4
comp=Z,349nm,19.7s,baz=62,slow=42
comp=Z,5.8nm,0.7s
AKBB Malin Array Si 64.43 319 IAmb IAmb 20 45 32.3
comp=Z,22nm,0.9s
AKBB Malin Array Si 64.43 319*de*P **P 20 45 27.1 -1.0**
AKBB Malin Array Si 64.43 319 P **P 20 45 27.7 -0.4**
AK05 Malin Array Si 64.43 319 P **P 20 45 27.7 -0.4**
AK02 Malin Array Si 64.44 319 P **P 20 45 27.7 -0.5**
KIEV Kiev 64.44 319⇑P **P 20 45 27.9 -0.3**
KIEV Kiev 64.44 319 P **P 20 45 27.3 -0.8**
KIEV IAmb IAmb 20 45 32.3
comp=Z,21nm,1.0s
KIEV Kiev 64.44 319⇑P **P 20 45 27.9 -0.3**
KIEV Kiev 64.44 319 P **P 20 45 27.8 -0.3**
comp=Z,89nm,1.4s
AK04 Malin Array Si 64.47 320 P **P 20 45 27.7 -0.7**
AK14 Malin Array Si 64.49 319 P **P 20 45 28.1 -0.4**
CFR Carcaliu 64.51 313⇑P **P 20 45 28.7 -0.1**
CFR Carcaliu 64.51 313⇑P **P 20 45 28.7 -0.1**
TLBR Topalu 64.52 313⇓P **P 20 45 29.6 +0.7**

AK21 Malin Array Si 64.56 320 P **P** **20 45 28.5 -0.4**
LEOM Leova 64.56 315 ⇓P **P** **20 45 27.6 -1.4**
LEOM Leova 64.56 315 ⇓P **P** **20 45 27.6 -1.4**
AK19 Malin Array Si 64.57 319 pP pP 20 45 31.9 -1.8
HARR Harsova 64.62 313 ⇑P **P** **20 45 29.7 +0.2**
HARR Harsova 64.62 313 ⇑P **P** **20 45 29.7 +0.2**
SCTR Scanteiesti 64.66 314 ⇓P **P** **20 45 27.2 -2.5**
SORM Soroca 64.66 317 ⇓P **P** **20 45 29.1 -0.6**
SORM Soroca 64.66 317 ⇓P **P** **20 45 29.1 -0.6**
SORM Soroca 64.66 317 P **P** **20 45 29.6 -0.1**
comp=Z,58nm,1.1s,comp=Z,785nm
ICOR Ion Corvin 64.67 312 ⇑P **P** **20 45 30.7 +0.9**
NEGRR **Negrea 64.73 314** ⇓P P 20 45 25.3 -4.9
VARL Varlezi 64.78 314 ⇑P **P** **20 45 31.6 +1.1**
KARP Karpathos 64.87 303 P **P** **20 45 31.5 +0.2**
comp=Z,195nm,1.1s,comp=Z,2µm
PRD Provadia 64.89 311 P **P** **20 45 31.5 +0.3**
NEF NEVSHA 64.99 311 P **P** **20 45 32.2 +0.2**
GHRR 65.10 314 ⇑P **P** **20 45 34.6 +2.0**
GHRR 65.10 314 P **P** **20 45 33.3 +0.7**
LUBAR **Lubar, Ukraine 65.26 318** P **P** **20 45 33.0 -0.5**
MI29 MI29, Kamyanyy 65.26 319 P **P** **20 45 33.0 -0.5**
MI28 Mi28,Pidlybu 65.44 320 P **P** **20 45 34.3 -0.4**
JMB Yambol 65.50 310 P **P** **20 45 35.3 +0.1**
VRI Vrincioaia 65.56 314 ⇑P **P** **20 45 36.5 +0.9**
VRI Vrincioaia 65.56 314 ⇑P **P** **20 45 36.5 +0.9**
VRI Vrincioaia 65.56 314 P **P** **20 45 36.9 +1.3**
comp=Z,83nm,1.2s,comp=Z,965nm
EZN Ezine 65.56 307 P **P** **20 45 36.1 +0.4**
EZN Ezine 65.56 307 P **P** **20 45 36.1 +0.4**
comp=Z,13nm,0.9s
PLOR5 **Plostina Array 65.60 314** P **P** **20 45 36.9 +1.0**
comp=Z,101nm,1.1s,comp=Z,1µm
PLOR Plostina 65.61 314 ⇑P **P** **20 45 36.7 +0.7**
PLOR Plostina 65.61 314 ⇑P **P** **20 45 36.7 +0.7**
PLOR3 **Plostina Array 65.61 314** P **P** **20 45 37.0 +1.0**
comp=Z,97nm,1.2s,comp=Z,1µm
ISR Istrita 65.63 313 ⇓P **P** **20 45 38.2 +2.1**
ISR Istrita 65.63 313 ⇓P **P** **20 45 38.2 +2.1**
ISR Istrita 65.63 313 P **P** **20 45 37.4 +1.2**
comp=Z,57nm,1.0s
TESR Tescani 65.66 315 ⇓P **P** **20 45 36.8 +0.6**
TESR Tescani 65.66 315 P **P** **20 45 36.4 +0.2**
comp=Z,53nm,1.6s,comp=Z,631nm
VALR Valaam 65.67 331*c i*P **P** **20 45 35.7 -0.2**
VALR pmax pmax
comp=Z,23nm,0.9s
ALN Alexandroupoli 65.80 309 P **P** **20 45 35.4 -1.8**
MNK Minsk 65.82 324 *i* P **P** **20 45 37.3 +0.2**
MNK *i* 20 46 08.7
MNK *i* 20 48 03.4
MNK *i* PPP PPP 20 49 35.2
MNK *i* S **S** **20 54 24.2 +1.0**
MNK *i* SS **SS** **20 58 43.8 +6.1**
MNK pmax pmax
comp=E,12nm,1.0s
MNK pmax pmax
comp=Z,30nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK MLR MLR
comp=Z,194nm,19.0s
MNK MLR MLR
comp=N,178nm,15.0s
MNK MLR MLR
comp=E,77nm,14.0s
JOF Joensuu 65.89 333 *e*P **P** **20 45 38.0 +0.6**
COVR Voineasa-Covas 65.92 314 ⇑P **P** **20 45 37.8 -0.1**
KMPD K-Podol'skiy 65.96 317 P **P** **20 45 37.0 -1.1**
SGRR Singureni 65.99 312 ⇑P **P** **20 45 39.2 +0.8**
ELND Elena 66.00 311 ⇓P **P** **20 45 38.8 +0.3**
PRAR RASCA 66.01 316 ⇑P **P** **20 45 39.0 +0.5**
TURR Turia 66.06 314 ⇑P **P** **20 45 38.9 0.0**
MLR Muntele Rosu 66.08 314 ⇑P **P** **20 45 39.8 +0.7**
MLR Muntele Rosu 66.08 314 ⇑P **P** **20 45 39.8 +0.7**
MLR Muntele Rosu 66.08 314 P **P** **20 45 40.0 +0.9**
comp=E,76nm,1.2s,comp=E,763nm
LVZ Lovozero 66.15 339 P **P** **20 45 38.5 -0.5**
comp=E,21nm,1.1s
SMTH Samothraki Isl 66.19 308 P **P** **20 45 38.3 -1.4**
DIM Dimitrovgrad 66.19 310 P **P** **20 45 40.5 +0.8**
OZUR 66.23 314 ⇑P **P** **20 45 40.2 +0.3**
SANT Santorini 66.24 304 ⇓P **P** **20 45 36.9 -3.3**
BOSR Bodos 66.31 314 ⇑P **P** **20 45 41.7 +1.2**
KDZ Kurdzhali 66.35 309 P **P** **20 45 40.9 +0.1**
EIDS Eidsvold 66.44 126 P **P** **20 45 39.2 -2.3**
LIA Limnos Island 66.44 307 P **P** **20 45 40.0 -1.4**
DOPR Dopca 66.50 314 ⇓P **P** **20 45 42.1 +0.5**
NACGM **Naroch 66.51 324**⇓*iP* **P** **20 45 41.5 0.0**
comp=Z,58nm,1.0s,baz=98
PVL Pavlikeni 66.52 311 P **P** **20 45 42.3 +0.5**
RNPP5 **Staryi Chortor 66.59 320** P **P** **20 45 42.2 +0.1**
MBAR Mbarara 66.59 263 P **P** **20 45 42.1 -0.9**
MBAR IAmb IAmb 20 45 45.0
comp=Z,20nm,1.1s
MBAR Mbarara 66.59 263*c i*P **P** **20 45 43.7 +0.7**
MBAR pmax pmax
comp=Z,15nm,1.0s
MBAR pmax pmax
comp=Z,19nm,1.0s
RNPP9 **Sopachiv 66.61 320** P **P** **20 45 42.1 -0.1**
RNPP8 **Varash 66.62 320** P **P** **20 45 42.2 -0.1**
VOIR 66.70 313 ⇑P **P** **20 45 44.8 +1.7**
VOIR 66.70 313 ⇑P **P** **20 45 44.8 +1.7**
HUMR Humele 66.71 312 ⇓P **P** **20 45 43.2 +0.2**
BURAR **Bucovina Array 66.72 316** ⇑P **P** **20 45 43.4 +0.3**
BURAR **Bucovina Array 66.72 316** P **P** **20 45 42.5 -0.6**
BURAR IAmb IAmb 20 45 45.3
comp=Z,24nm,1.1s
BURAR **Bucovina Array 66.72 316** ⇑P **P** **20 45 43.4 +0.3**
RZN Rozhen 66.81 309 P **P** **20 45 43.9 0.0**
PLD Plovdiv 66.81 310 P **P** **20 45 44.1 +0.4**
IIGN Ignalina 66.89 324 *eP* **P** **20 45 44.5 +0.5**
ARR Arges 66.99 313 ⇓P **P** **20 45 45.3 +0.4**
VSU Vasula 67.09 328*deP* **P** **20 45 44.7 -0.4**
VSU pmax pmax
comp=Z,33nm,1.7s
PGB Panagyurishte 67.24 310 P **P** **20 45 47.0 +0.5**
ARCR ARCALIA 67.27 315 ⇓P **P** **20 45 47.9 +1.4**
KYMI Kymi, Euboea I 67.29 306 P **P** **20 45 45.7 -1.1**
KOKK Kokkinochori, 67.36 308 P **P** **20 45 46.7 -0.5**
HNR Honiara 67.39 107 LR LR 21 16 35.6
comp=Z,2µm,19.4s,baz=348,slow=37
NVR Nevrokopi 67.46 309 P **P** **20 45 47.9 0.0**
IMMV Iera Moni Meta 67.46 303 P **P** **20 45 47.5 -0.5**
PTL Penteli 67.48 305 P **P** **20 45 46.5 -1.6**
VLY Voula,Athens 67.54 305 P **P** **20 45 47.1 -1.3**
MMB Musomishta 67.55 309 P **P** **20 45 47.9 -0.5**
ATHU Athens Univers 67.55 305 P **P** **20 45 46.8 -1.7**
MPEP Malo Peshtene 67.57 311 P **P** **20 45 49.2 +0.7**
PAIG Paliouri 67.60 307 P **P** **20 45 47.9 -0.8**
LOT Lotru 67.61 313 ⇓P **P** **20 45 48.3 -0.5**
MSF Maaselka 67.64 336 P **P** **20 45 48.8 +0.3**
MSF pmax pmax
comp=Z,24nm,1.0s
ARBE Arbavere 67.64 329 *eP* **P** **20 45 49.5 +0.9**
LVV L'vov 67.65 318 *eP* **P** **20 45 49.2 +0.3**
LVV *e* 20 48 26.6
LVV *e*S **S** **20 54 43.0 -2.6**
SRS Serrai 67.66 309 P **P** **20 45 47.9 -1.2**
CJR Cluj-Napoca 67.77 315 ⇑P **P** **20 45 50.7 +0.9**
CJR Cluj-Napoca 67.77 315 ⇑P **P** **20 45 50.7 +0.9**
PLG Polygyros 67.78 308 P **P** **20 45 49.0 -0.9**
VALD Valchedram 67.80 312 P **P** **20 45 50.8 +0.9**
VTS Vitosha 67.94 310 P **P** **20 45 50.7 -0.3**
FIA1 FINESS Array S 67.94 331 IAmb IAmb 20 45 55.1
comp=Z,10nm,0.8s
FINES FINESS Array B 67.94 331 P **P** **20 45 49.1 -1.4**
FINES FINESS Array B 67.94 331 P **P** **20 45 50.0 -0.5**
comp=Z,8.1nm,0.7s,baz=94,slow=5.4,SNR=40
FINES LR LR 21 19 31.6
comp=Z,480nm,19.8s,baz=88,slow=39
comp=Z,8.1nm,0.7s
FINES FINESS Array B 67.94 331 *i* P **P** **20 45 50.2 -0.3**
FINES pmax pmax
comp=Z,8.0nm,0.7s
KKB Krupnik 68.01 310 P **P** **20 45 51.3 0.0**
MARR Marisel-Cluj 68.10 315 ⇓P **P** **20 45 53.4 +1.5**
PUNG Punghina 68.17 312 ⇓P **P** **20 45 53.5 +1.3**
PABE Paberze 68.19 324 *eP* **P** **20 45 52.8 +0.7**
KNT Kendrikon 68.19 309 P **P** **20 45 51.1 -1.3**
DEV Deva 68.22 314 ⇑P **P** **20 45 54.2 +1.7**
DEV Deva 68.22 314 ⇑P **P** **20 45 54.2 +1.7**
MESR Meseseni 68.23 315 ⇑P **P** **20 45 54.3 +1.7**
VLI Veliai 68.26 304 P **P** **20 45 50.4 -2.6**
GZR Gura Zlata 68.30 313 ⇓P **P** **20 45 53.0 -0.1**
DRGR 68.38 315 ⇑P **P** **20 45 54.9 +1.3**
DRGR 68.38 315 ⇑P **P** **20 45 54.9 +1.3**
DJES Djerdap 68.47 313 ⇑P **P** **20 45 55.8 +1.6**
KWP Kalwaria Pacla 68.50 318 *eP* **P** **20 45 55.8 +1.6**
KWP Kalwaria Pacla 68.50 318 P **P** **20 45 55.5 +1.3**
comp=Z,56nm,1.0s,comp=Z,567nm
SUW Suwalki 68.50 323 *eP* **P** **20 45 54.4 +0.4**
LIT Litokhoron 68.51 308 P **P** **20 45 53.0 -1.5**
HERR Herculane 68.55 313 ⇑P **P** **20 45 55.0 +0.4**
KEF Keuruu 68.63 331 *eP* **P** **20 45 54.6 -0.2**
AGG Agios Georgios 68.66 306 IAmb IAmb 20 45 54.9
comp=Z,17nm,1.0s
AGG Agios Georgios 68.66 306 P **P** **20 45 53.1 -2.4**
GUR Goura 68.69 305 P **P** **20 45 54.0 -1.8**
TYRN Tyrnavos 68.72 307 P **P** **20 45 54.2 -1.6**
KOLS Kolonicke sedl 68.75 317 *eP* **P** **20 45 57.0 +1.2**
KOLS pmax pmax
comp=Z,11nm,1.3s
KOLS Kolonicke sedl 68.75 317 *eP* **P** **20 45 57.0 +1.2**
SURR Surduc 68.77 314 ⇑P **P** **20 45 56.4 +0.5**
THL Klokotos Trika 68.89 307 P **P** **20 45 54.5 -2.3**
MDVR Moldovita 69.05 313 ⇑P **P** **20 45 58.6 +0.8**
BOVS Bovan 69.06 311 ⇑P **P** **20 45 56.9 -0.9**
SIRR Siria 69.10 314 ⇓P **P** **20 45 58.6 +0.6**
BZS Buzias 69.12 314 ⇓P **P** **20 45 57.9 -0.2**
BZS Buzias 69.12 314 ⇓P **P** **20 45 57.9 -0.2**
BILL Bilibino 69.15 22*ceP* **P** **20 45 57.2 -0.7**
BILL *i* 20 46 01.5
BILL pmax pmax
comp=Z,32nm,1.7s
BILL MLR MLR
comp=Z,246nm,18.0s
CRVS Cervenica-Dubn 69.28 317 *eP* **P** **20 46 00.1 +1.0**
CRVS pmax pmax
comp=Z,107nm,1.2s
CRVS Cervenica-Dubn 69.28 317 *eP* **P** **20 46 00.1 +1.0**
FNA Florina 69.35 308 IAmb IAmb 20 45 59.8
comp=Z,24nm,1.0s
FNA Florina 69.35 308 P **P** **20 45 58.2 -1.5**
KEV Kevo 69.36 340 P **P** **20 45 59.2 0.0**
KEV Kevo 69.36 340 P **P** **20 45 59.2 0.0**
KEV pmax pmax
comp=Z,39nm,1.3s
PBUR Paburge 69.38 325 *eP* **P** **20 46 00.3 +0.8**
STHS Stebnicka Huta 69.44 318 *eP* **P** **20 46 00.3 +0.2**
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 69.44 318 *eP* **P** **20 46 00.3 +0.2**
VAF Ylistaro 69.77 332 *eP* **P** **20 46 01.6 -0.2**
ARCES **ARCESS Array B 69.82 339** P **P** **20 46 01.7 -0.4**
ARCES IAmb IAmb 20 46 03.3
comp=Z,13nm,1.0s
ARCES **ARCESS Array B 69.82 339** P **P** **20 46 02.1 +0.1**
comp=Z,8.2nm,0.8s,baz=90,slow=5.5,SNR=18
ARCES LR LR 21 21 10.9
comp=Z,437nm,19.6s,baz=82,slow=40
comp=Z,8.2nm,0.8s
RAF Rauma 69.95 330 *eP* **P** **20 46 02.9 -0.1**
NIE Niedzica 70.06 318 *eP* **P** **20 46 05.6 +1.7**
NIE Niedzica 70.06 318 P **P** **20 46 05.9 +2.0**
NIE Niedzica 70.06 318 P **P** **20 46 05.2 +1.3**
PSZ Piszkesteto 70.31 316 ⇓P **P** **20 46 06.2 +0.6**
PSZ Piszkesteto 70.31 316 IAmb IAmb 20 46 07.2
comp=Z,32nm,1.2s
PSZ Piszkesteto 70.31 316 ⇓P **P** **20 46 06.2 +0.6**
OJC Ojcow 70.39 318 *eP* **P** **20 46 06.2 +0.3**
OJC Ojcow 70.39 318 IAmb IAmb 20 46 11.0
comp=Z,25nm,1.0s
OJC Ojcow 70.39 318 P **P** **20 46 06.5 +0.6**
FRGS Fruska Gora 70.40 313 ⇓P **P** **20 46 07.1 +1.0**
FRGS Fruska Gora 70.40 313⇓*iP* **P** **20 46 05.4 -0.7**
LANS Liptovska Anna 70.60 317 *eP* **P** **20 46 08.2 +0.9**
LANS pmax pmax
comp=Z,11nm,1.6s
LANS Liptovska Anna 70.60 317 *eP* **P** **20 46 08.2 +0.9**
TEKS Tekeris 70.61 312 *eP* **P** **20 46 07.3 -0.1**
BBLS Lazi&#263i 70.72 312⇓*iP* **P** **20 46 08.4 +0.3**
RUDO Rudo 70.75 311 *eP* **P** **20 46 06.7 -1.6**
PDG Podgorica 70.88 310⇓*iP* **P** **20 46 08.5 -0.5**
DRME Dracevica, Mon 70.94 310 *eP* **P** **20 46 08.5 -0.9**
VYHS Vyhne 71.02 317 *eP* **P** **20 46 10.2 +0.4**
VYHS pmax pmax
comp=Z,20nm,1.4s
VYHS Vyhne 71.02 317 *eP* **P** **20 46 10.2 +0.4**
HAPS Han Pijesak,Bl 71.04 312⇓*iP* **P** **20 46 10.3 +0.2**
MORH Mrgy, Hungar 71.19 314 ⇑P **P** **20 46 11.0 +0.1**
MORH Mrgy, Hungar 71.19 314 P **P** **20 46 10.9 +0.1**
comp=Z,32nm,1.5s,comp=Z,435nm
SRO Srobarova 71.38 316 *eP* **P** **20 46 12.8 +0.9**
SRO pmax pmax
comp=Z,26nm,0.9s
SRO Srobarova 71.38 316 *eP* **P** **20 46 12.8 +0.9**
BRY Bratogost 71.39 311 *eP* **P** **20 46 10.6 -1.7**
TREB Trebinje 71.53 311 *eP* P 20 46 06.8 -6.2
MAUC Maruska 71.67 318 *eP* **P** **20 46 14.3 +0.6**
JAVC Velka Javorina 71.78 317 *eP* **P** **20 46 15.1 +0.6**
MORC Moravsky Berou 71.85 318 ⇑P **P** **20 46 15.4 +0.5**
MORC Moravsky Berou 71.85 318 IAmb IAmb 20 46 16.7
comp=Z,27nm,1.3s
MORC Moravsky Berou 71.85 318 *eP* **P** **20 46 15.3 +0.5**
MORC Moravsky Berou 71.85 318 ⇑P **P** **20 46 15.4 +0.5**
SMOL Smolenice 71.95 317 *eP* **P** **20 46 16.2 +0.8**
STON Ston 72.00 311⇓*iP* **P** **20 46 14.6 -1.2**
MODS Modra-Piesok 72.06 317 *eP* **P** **20 46 16.9 +0.8**
MODS pmax pmax
comp=Z,31nm,1.2s
MODS Modra-Piesok 72.06 317 *eP* **P** **20 46 16.9 +0.8**
ZST Bratislava 72.18 316 *eP* **P** **20 46 17.7 +0.9**
ZST Bratislava 72.18 316 *eP* **P** **20 46 17.7 +0.9**
BLY Banja Luka 72.28 313⇓*iP* **P** **20 46 17.5 +0.1**
KRLC Kraliky 72.33 318 *eP* **P** **20 46 18.3 +0.6**
KRLC *ep*P **pP** **20 46 22.0 -0.5**
KRLC AMS AMS 21 26 40.0
comp=Z,300nm,17.7s
KRLC Kraliky 72.33 318 *eP* **P** **20 46 18.3 +0.6**
KRLC *e* 20 46 22.0
KRLC MLR MLR
comp=Z,300nm,17.7s
MGRS Mrkonjic Grad 72.36 312 *eP* **P** **20 46 18.4 +0.4**
VRAC Vranov 72.48 318 ⇑P **P** **20 46 18.4 -0.2**
VRAC Vranov 72.48 318 *eP* **P** **20 46 19.0 +0.4**
VRAC Vranov 72.48 318 LR LR 21 22 29.7
comp=Z,202nm,21.9s,baz=48,slow=39
VRAC Vranov 72.48 318 ⇑P **P** **20 46 18.4 -0.2**
SOP Sopron 72.57 316 P **P** **20 46 18.7 -0.4**
KRUC Morasky 72.62 317 *eP* **P** **20 46 19.7 +0.3**
DPC Dobruska-Polom 72.62 319 AMS AMS 21 27 40.0
comp=Z,200nm,20.4s
KSP Ksiaz 72.62 319 *eP* **P** **20 46 20.0 +0.6**
KSP Ksiaz 72.62 319 P **P** **20 46 20.1 +0.7**
OSTC Ostas 72.68 319 *eP* **P** **20 46 20.8 +1.0**
OSTC AMS AMS 21 23 00.0
comp=Z,300nm,17.9s
OSTC Ostas 72.68 319 *eP* **P** **20 46 20.8 +1.0**
OSTC MLR MLR
comp=Z,300nm,17.9s
RONA Rosalia, Austr 72.74 316 *i* P **P** **20 46 20.7 +0.5**
comp=Z,9.1nm,1.2s,SNR=6.3
A050A Klekovaca 72.75 312⇓*iP* **P** **20 46 19.8 -0.6**
CHVC Chvalec 72.78 319 *eP* **P** **20 46 21.1 +0.7**
CHVC AMS AMS 21 26 40.0
comp=Z,300nm,18.9s
CHVC Chvalec 72.78 319 *eP* **P** **20 46 21.1 +0.7**
CHVC MLR MLR
comp=Z,300nm,18.9s
UPC Upice 72.81 319 *eP* **P** **20 46 21.8 +1.3**
UPC AMS AMS 21 24 30.0
comp=Z,300nm,17.5s
UPC Upice 72.81 319 *eP* **P** **20 46 21.8 +1.3**
UPC MLR MLR
comp=Z,300nm,17.5s
TIP Timpagrande 72.98 307 ⇓P **P** **20 46 20.4 -1.4**
TIP Timpagrande 72.98 307 IAmb IAmb 20 46 23.0
comp=Z,31nm,1.2s
CONA Conrad Observa 73.03 316 *eP* **P** **20 46 22.1 +0.1**
comp=Z,18nm,1.5s,SNR=11
ARSA Arzberg 73.29 315 *i* P **P** **20 46 23.7 +0.3**
comp=Z,7.8nm,1.0s,SNR=6.6
GROS Grobnik 73.35 315 *eP* **P** **20 46 24.1 +0.2**
CRES Cresnjev 73.43 314⇓*iP* **P** **20 46 24.2 0.0**
LEGS Legarje 73.52 314 *eP* **P** **20 46 25.3 +0.5**
BOJS Bojanci 73.59 314 *eP* **P** **20 46 25.7 +0.5**
BOJS Bojanci 73.59 314⇓*iP* **P** **20 46 25.6 +0.4**
LSZ Lusaka 73.59 249 P **P** **20 46 26.0 +0.2**
LSZ IAmb IAmb 20 46 27.7
comp=Z,23nm,0.8s
LSZ Lusaka 73.59 249 LR LR 21 15 25.4
comp=Z,350nm,20.3s,baz=106,slow=33
LSZ Lusaka 73.59 249 P **P** **20 46 26.0 +0.2**
LSZ pmax pmax
comp=Z,23nm,0.8s
GOPC GO Pecny, Ondr 73.63 318 AMS AMS 21 20 40.0
comp=Z,300nm,17.7s
SOKA Soboth 73.66 315 *eP* **P** **20 46 26.0 +0.3**
comp=Z,12nm,1.0s,SNR=19
PVCC Panska Ves 73.73 319 P **P** **20 46 26.6 +0.7**
PRU Pruhonice 73.78 318 *eP* **P** **20 46 26.7 +0.5**
PRU AMS AMS 21 26 50.0
comp=Z,200nm,18.0s
PRU Pruhonice 73.78 318 *eP* **P** **20 46 26.7 +0.5**
PRU MLR MLR
comp=Z,200nm,18.0s
SPITS Spitsbergen Ar 73.83 348 P **P** **20 46 26.0 0.0**
comp=Z,28nm,0.9s,baz=117,slow=10,SNR=13
SPITS LR LR 21 27 02.6
comp=Z,298nm,18.2s,baz=46,slow=42
comp=Z,28nm,0.9s
SPITS Spitsbergen Ar 73.83 348 P **P** **20 46 26.2 +0.2**
SPITS pmax pmax
comp=Z,40nm,1.0s
PRA Prague 73.85 318 AMS AMS 21 23 30.0
comp=Z,300nm,18.2s
HSPB Hornsund (broa 73.88 347 *eP* **P** **20 46 26.1 -0.2**
HFS Hagfors 73.88 329 P **P** **20 46 26.3 -0.3**
comp=Z,9.4nm,0.7s,baz=112,slow=6.6,SNR=40
HFS LR LR 21 23 40.8
comp=Z,395nm,19.2s,baz=70,slow=40
comp=Z,9.4nm,0.7s
CKRC Cesky Krumlov 74.00 317 *eP* **P** **20 46 27.7 +0.1**
CKRC AMS AMS 21 28 10.0
comp=Z,200nm,20.4s
CKRC Cesky Krumlov 74.00 317 *eP* **P** **20 46 27.7 +0.1**
CKRC MLR MLR
comp=Z,200nm,20.4s
OBKA Obir 74.01 315 *i* P **P** **20 46 28.1 +0.4**
comp=Z,20nm,1.1s,SNR=12
OBKA Obir 74.01 315⇓*iP* **P** **20 46 26.5 -1.2**
ZVC Zvikov 74.04 318 *eP* **P** **20 46 27.9 +0.1**
ZVC AMS AMS 21 21 20.0
comp=Z,300nm,24.0s
MOA Molln 74.10 316 *i* P **P** **20 46 28.4 +0.3**
comp=Z,18nm,1.0s,SNR=13
BRG Berggiesshubel 74.11 319 *i* P **P** **20 46 28.6 +0.5**
BRG Amp 20 46 29.9
comp=Z,17nm,0.9s
BRG Berggiesshubel 74.11 319 P **P** **20 46 32.8 +4.6**
BRG Amp 20 46 33.2
comp=Z,20nm,0.9s
BRG Berggiesshubel 74.11 319 *i* P **P** **20 46 28.6 +0.5**
BRG 20 46 32.7
BRG pmax pmax
comp=Z,17nm,0.9s
BRG pmax pmax
comp=Z,20nm,0.9s
BRG MLR MLR
comp=E,248nm,25.2s
BRG MLR MLR
comp=N,123nm,17.0s
BRG MLR MLR
comp=Z,199nm,16.7s
BRG Berggiesshubel 74.11 319 *eP* 20 46 28.6
comp=Z,17nm,0.9s,baz=85,slow=5.7
RUE Ruedersdorf 74.12 321 *eP* 20 46 28.5
comp=Z,32nm,0.6s,baz=85,slow=5.7
CEY Cerknica 74.15 314⇓*iP* **P** **20 46 28.6 +0.1**
GEC2 **GERESS Array S 74.40 317** IAmb IAmb 20 46 35.2
comp=Z,24nm,0.9s
GERES **GERESS Array B 74.40 317** P **P** **20 46 30.3 +0.3**
GERES **GERESS Array B 74.40 317** P **P** **20 46 30.0 0.0**
comp=Z,11nm,0.9s,baz=103,slow=5.9,SNR=50
GERES LR LR 21 25 50.7
comp=Z,121nm,20.1s,baz=52,slow=41
comp=Z,11nm,0.9s
GERES **GERESS Array B 74.40 317** P **P** **20 46 30.3 +0.3**
GEC2 **GERESS Array S 74.41 317** *eP* 20 46 30.4
comp=Z,23nm,0.9s,baz=85,slow=5.7
HSKC Hora Svate Kat 74.45 319 AMS AMS 21 21 30.0
comp=Z,300nm,22.3s
SKDS Skadanscina 74.46 314⇓*iP* **P** **20 46 29.2 -1.1**
KHC Kasperske Hory 74.46 317 *eP* **P** **20 46 30.9 +0.6**
KHC *ep*P **pP** **20 46 34.5 -0.6**
KHC AMS AMS 21 21 40.0
comp=Z,300nm,18.9s
KHC Kasperske Hory 74.46 317*deP* **P** **20 46 30.5 +0.2**
KHC pmax pmax
comp=Z,22nm,1.0s
VOJS Vojsko 74.51 314 *eP* **P** **20 46 30.7 0.0**
VOJS *eS* **S** **20 56 06.7 +1.1**
BIOA Bad Ischl, Aus 74.54 316 *i* P **P** **20 46 31.0 +0.3**
comp=Z,11nm,1.0s,SNR=6.8
MYKA Terra Mystica 74.62 315 *eP* **P** **20 46 31.5 +0.2**
comp=Z,6.2nm,0.8s
CLL Collm 74.67 320 *eP* 20 46 31.6
comp=Z,13nm,1.1s,baz=85,slow=5.7
PRED Cave del Predi 74.69 315 IAmb IAmb 20 46 36.4
comp=Z,20nm,0.8s
SABO M.te Sabotino 74.71 314 IAmb IAmb 20 46 36.6
comp=Z,52nm,1.3s
KBS Kingsbay 74.77 348 P **P** **20 46 31.1 -0.3**
KBS Kingsbay 74.77 348⇓*eP* **P** **20 46 32.0 +0.5**
KBS pmax pmax
comp=Z,24nm,1.7s
KBA Koelnbreinsper 74.79 315 *i* P **P** **20 46 32.3 0.0**
comp=Z,10nm,1.1s,SNR=14
KBA Koelnbreinsper 74.79 315 P **P** **20 46 32.2 -0.2**
NC405 **NORSAR Array S 74.83 330** IAmb IAmb 20 46 33.0
comp=Z,18nm,1.1s
INTR Introdacqua 74.87 310 IAmb IAmb 20 46 41.0
comp=Z,26nm,1.2s
WET Wettzell 74.92 317 *eP* 20 46 33.4
comp=Z,19nm,1.1s,baz=85,slow=5.7
NORES **NORESS Array B 74.93 330** P **P** **20 46 36.0 +3.3**
NORES pmax pmax
comp=Z,10.0nm,1.3s
NC303 **NORSAR Array S 74.99 330** IAmb IAmb 20 46 37.0
comp=Z,20nm,1.1s
NB2 NORSAR Subarra 75.07 330 P **P** **20 46 32.6 -1.0**
comp=Z,20nm,1.2s,baz=88,slow=5.9
NB2 NORSAR Subarra 75.07 330 P **P** **20 46 32.6 -1.0**
baz=88,slow=5.9
NB2 NORSAR Subarra 75.07 330 P **P** **20 46 31.5 -2.1**
NOA NORSAR Array B 75.07 330 P **P** **20 46 32.9 -0.7**
comp=Z,11nm,1.0s,baz=89,slow=5.8,SNR=19
NOA LR LR 21 24 17.4
comp=Z,466nm,18.7s,baz=90,slow=40
comp=Z,11nm,1.0s
TANN Tannenbergstha 75.08 319 *eP* 20 46 34.2
comp=Z,12nm,1.1s,baz=85,slow=5.7
RJOB Jochberg 75.10 316 *eP* 20 46 33.9
comp=Z,9.3nm,0.8s,baz=85,slow=5.7
GUMA Gualdo di Mace 75.18 311 IAmb IAmb 20 46 39.7
comp=Z,69nm,0.9s
LESA Schwarzleotal 75.21 316 *i* P **P** **20 46 33.7 -1.0**
comp=Z,16nm,1.2s
PLN Plauen 75.27 319 *eP* 20 46 35.4
comp=Z,9.9nm,1.0s,baz=85,slow=5.7
NC204 **NORSAR Array S 75.28 330** IAmb IAmb 20 46 39.2
comp=Z,21nm,1.0s
STAL STALIGIAL 75.30 315 IAmb IAmb 20 46 36.0
comp=Z,24nm,1.0s
ROTZ Rotzenmuhle 75.30 318 *eP* 20 46 35.9
comp=Z,7.9nm,1.2s,baz=85,slow=5.7
MANZ Manzenberg 75.35 318 *eP* 20 46 36.2
comp=Z,7.0nm,1.3s,baz=85,slow=5.7
ABTA Abfaltersbach 75.39 315 *i* P **P** **20 46 35.2 -0.5**
comp=Z,9.7nm,1.1s,SNR=7.4
NEUB Neuenburg 75.45 320 *eP* 20 46 36.2
comp=Z,20nm,1.1s,baz=85,slow=5.7
GORT1 **Trebel 75.58 322** *eP* 20 46 37.4
comp=Z,35nm,1.2s,baz=85,slow=5.7
MOX Moxa 75.60 319 *eP* 20 46 37.1
comp=Z,15nm,1.1s,baz=85,slow=5.7
MOX *e*L 21 26 41.8
comp=Z,276nm,20.1s
FLTG Flechtingen 75.68 321 *eP* 20 46 37.0
comp=Z,7.0nm,0.8s,baz=85,slow=5.7

CESX **Cesi** 75.78 311 IAmb IAmb 20 46 38.4
comp=Z,15nm,0.9s
WTTA **Wattenberg** 75.93 316 *i* P P **20 46 38.8 -0.1**
comp=Z,18nm,1.0s,SNR=10
GRA1 **Grafenberg Arr** 75.95 318 IAmb IAmb 20 46 44.5
comp=Z,26nm,1.1s
GRF **Grafenberg Arr** 75.95 318 *e*P 20 46 39.3
comp=Z,12nm,1.2s,baz=85,slow=5.7
GRF *e*L 21 25 02.1
comp=Z,291nm,19.1s
GRFO **Grafenberg** 75.95 318 P P **20 46 38.4 -0.4**
GRFO IAmb IAmb 20 46 44.5
comp=Z,27nm,1.1s
GRFO **Grafenberg** 75.95 318 P P **20 46 38.4 -0.4**
GRFO pmax pmax
comp=Z,27nm,1.1s
WATA **Walderalm** 75.96 316 *i* P P **20 46 38.1 -0.9**
comp=Z,13nm,1.1s,SNR=8.3
FUR **Furstenfeldbru** 76.07 317 *e*P 20 46 39.6
comp=Z,22nm,0.8s,baz=85,slow=5.7
BSEG **Bad Segeberg** 76.08 323 *e*P 20 46 40.0
comp=Z,21nm,1.0s,baz=85,slow=5.7
SQTA **Sankt Quirin** 76.22 316 *e*P P **20 46 40.4 -0.1**
comp=Z,16nm,1.1s,SNR=7.2
CLZ **Clausthal** 76.26 320 *e*P 20 46 41.0
comp=Z,15nm,0.8s,baz=85,slow=5.7
NRDL **Niedersach Rie** 76.36 321 *e*P 20 46 41.6
comp=Z,35nm,1.3s,baz=85,slow=5.7
MUD **Monsted U'grnd** 76.49 325 *i* P P **20 46 41.0 -0.6**
MUD IAmb IAmb 20 46 47.5
comp=Z,14nm,0.9s
RETA **Reutte** 76.49 316 *i* P P **20 46 41.4 -0.6**
comp=Z,26nm,1.2s,SNR=11
GTTG **Gottingen** 76.55 320 *e*P 20 46 42.7
comp=Z,18nm,0.9s,baz=85,slow=5.7
FETA **Feichten** 76.57 315 *i* P P **20 46 42.6 0.0**
comp=Z,14nm,1.0s,SNR=8.5
UBBA **Unterbreizbach** 76.61 319 *e*P 20 46 42.5
comp=Z,18nm,1.6s,baz=85,slow=5.7
OSSC **Osservatorio P** 76.64 312 IAmb IAmb 20 46 48.5
comp=Z,22nm,0.9s
RETH **Rethem/Aller,** 76.78 321 *e*P 20 46 43.8
comp=Z,16nm,1.2s,baz=85,slow=5.7
UBR **Ueberruh** 76.91 316 *e*P 20 46 43.8
comp=Z,16nm,1.1s,baz=85,slow=5.7
CASP **Castiglione de** 77.02 311 IAmb IAmb 20 46 48.9
comp=Z,24nm,0.9s
DAVA **Damuels** 77.11 316 *i* P P **20 46 45.3 -0.3**
comp=Z,23nm,1.2s,SNR=8.8
DAVOX **Davos/Dischmat** 77.18 315 LR LR 21 29 44.2
comp=Z,153nm,18.8s,baz=52,slow=43
KASTN **Kahler Asten** 77.55 320 *e*P 20 46 48.1
comp=Z,9.7nm,1.0s,baz=85,slow=5.7
TUE **Stuetta** 77.58 315 P P **20 46 48.3 0.0**
comp=Z,48nm,0.9s
TNS **Taunus Mts** 77.66 319 *e*P 20 46 48.9
comp=Z,12nm,1.0s,baz=85,slow=5.7
DZM **Mont Dzumac** 77.71 117 *e*LR LR 21 10 46.7
comp=Z,272nm,23.2s
DZM **Mont Dzumac** 77.71 117 LR LR 21 23 58.4
comp=Z,139nm,19.4s,baz=264,slow=38
MSSA **Maissana** 77.77 313 IAmb IAmb 20 46 53.6
comp=Z,31nm,1.1s
IBBN **Ibbenburen** 77.81 321 *e*P 20 46 49.6
comp=Z,24nm,1.1s,baz=85,slow=5.7
BFO **Black Forest** 78.00 317 P P **20 46 49.8 -0.6**
BFO **Black Forest** 78.00 317 P P **20 46 49.8 -0.6**
BFO pmax pmax
comp=Z,22nm,1.5s
BFO **Black Forest** 78.01 317 *e*P 20 46 50.0
comp=Z,21nm,1.5s,baz=85,slow=5.7
BUG **Bochum--Univer** 78.23 320 *e*P 20 46 51.9
comp=Z,18nm,1.0s,baz=85,slow=5.7
AHRW **Bad Neuenahr-A** 78.49 319 *e*P 20 46 53.7
comp=Z,28nm,1.2s,baz=85,slow=5.7
TATN **Tatacuine** 78.87 301 IAmb IAmb 20 46 57.3
comp=Z,24nm,0.9s
SENIN **Lac Senin/Sane** 79.00 315 IAmb IAmb 20 47 02.0
comp=Z,29nm,0.8s
NOR **Nord** 79.01 352 *i* P P **20 46 54.3 -1.0**
NOR IAmb IAmb 20 46 60.0
comp=Z,5.9nm,1.0s
WLF **Walferdange** 79.21 319 IAmb IAmb 20 46 59.0
comp=Z,29nm,1.3s
WLF **Walferdange** 79.21 319 *e*P 20 46 57.9
comp=Z,32nm,1.3s,baz=85,slow=5.7
TNA **Tin City** 79.26 25 P P **20 46 56.2 -0.7**
baz=281
KEST **Kesra** 79.28 304 P P **20 46 58.6 +0.8**
comp=Z,40nm,1.0s,baz=316,slow=2.6,SNR=33
KEST LR LR 21 28 04.6
comp=Z,201nm,20.8s,baz=344,slow=40
comp=Z,40nm,1.0s
LBTB **Lobatse** 79.35 241 IAmb IAmb 20 47 00.1
comp=Z,33nm,1.2s
C16K **Lisburne Hills** 79.68 22 P P **20 46 58.7 -0.4**
baz=283
SPIA **Saint Paul Isl** 79.77 34 P P **20 46 59.4 -0.4**
baz=281
F14K **Arctic Creek** 79.93 25 P P **20 47 00.1 -0.5**
baz=283
P08K **Saint George I** 80.25 34 P P **20 47 01.3 -1.1**
baz=281
C17K **DeLong Mountai** 80.41 22 P P **20 47 02.7 -0.4**
baz=285
ANM **Nome** 80.53 26 P P **20 47 03.0 -0.9**
baz=284
F15K **North Star Dit** 80.55 24 P P **20 47 03.7 -0.2**
baz=284
RDOG **Red Dog Mine** 80.62 22 P P **20 47 03.8 -0.5**
baz=285
D17K **Noatak River** 80.65 22 P P **20 47 04.6 +0.2**
baz=285
B18K **Kokolik River** 80.65 21 P P **20 47 03.8 -0.6**
baz=286
A19K **Wainwright** 80.66 20 P P **20 47 04.0 -0.3**
baz=287
BOSA **Boshof** 80.96 237 P P **20 47 07.0 0.0**
BOSA IAmb IAmb 20 47 08.3
comp=Z,24nm,1.0s
BOSA **Boshof** 80.96 237 P P **20 47 07.5 +0.6**
comp=Z,15nm,0.8s,baz=88,slow=5.4,SNR=19
comp=Z,15nm,0.8s
G15K **Niukluk** 80.98 25 P P **20 47 05.6 -0.7**
baz=285
C18K **Utukok River** 81.06 21 P P **20 47 05.7 -1.0**
baz=287
M11K **Mekoryuk** 81.15 30 P P **20 47 06.4 -0.8**
baz=284
CASY **Casey** 81.25 174 P P **20 47 07.4 0.0**
E17K **Hotham Inlet** 81.28 23 P P **20 47 07.2 -0.6**
baz=286
NIKH **Nikolski High** 81.40 38 P P **20 47 07.9 -0.8**
baz=282
DAG **Danmarks Havn** 81.48 348 *i* P P **20 47 07.0 -1.7**
DAG IAmb IAmb 20 47 13.4
comp=Z,3.3nm,0.9s
C19K **Lookout Ridge** 81.48 21 P P **20 47 08.4 -0.5**
baz=288
K13K **Kusilvak Mount** 81.50 28 P P **20 47 08.1 -1.0**
baz=285
G16K **Koyuk River** 81.56 25 IAmb IAmb 20 47 14.3
G16K **Koyuk River** 81.56 25 P P **20 47 08.4 -0.9**
baz=286
E18K **Tukpahlearik C** 81.64 22 IAmb IAmb 20 47 14.9
E18K **Tukpahlearik C** 81.64 22 P P **20 47 09.2 -0.5**
baz=287
F17K **Baldwin Pennin** 81.69 23 P P **20 47 09.3 -0.6**
baz=287
A21K **Barrow** 81.69 18 P P **20 47 09.5 -0.4**
baz=291
J14K **Nanvaranak Lak** 81.78 27 IAmb IAmb 20 47 15.4
comp=Z,24nm,1.1s
J14K **Nanvaranak Lak** 81.78 27 P P **20 47 09.9 -0.6**
baz=286
H16K **Elim** 81.82 25 P P **20 47 10.4 -0.3**
baz=286
B20K **Meade River** 81.99 19 P P **20 47 11.1 -0.3**
baz=290
CLF **Chambon-Foret** 82.05 317 IAmb IAmb 20 47 17.3
comp=Z,31nm,1.1s
D19K **Kuna River** 82.19 21 IAmb IAmb 20 47 17.7
comp=Z,27nm,0.9s
D19K **Kuna River** 82.19 21 P P **20 47 12.7 +0.1**
baz=290
G17K **Kiwalik Mounta** 82.21 24 P P **20 47 12.7 0.0**
baz=288
F18K **Selawik** 82.25 23 P P **20 47 12.7 -0.2**
baz=288
A22K **Sinclair Lake** 82.31 18 P P **20 47 13.2 +0.1**
baz=292
M13K **Dall Lake** 82.51 30 P P **20 47 13.8 -0.6**
baz=286
L14K **Kuka Creek** 82.56 29 P P **20 47 14.3 -0.3**
baz=286
UNV **Unalaska Valle** 82.57 36 P P **20 47 13.3 -1.5**
baz=284
D20K **Etivluk River** 82.63 21 P P **20 47 14.2 -0.7**
baz=291,SNR=16
H17K **Granite Mounta** 82.68 25 IAmb IAmb 20 47 20.3
comp=Z,18nm,0.9s
H17K **Granite Mounta** 82.68 25 P P **20 47 14.7 -0.5**
baz=288,SNR=8.7
I17K **Unalakleet** 82.69 26 P P **20 47 14.2 -1.0**
baz=288
K15K **Wolf Creek Mou** 82.81 27 P P **20 47 15.5 -0.4**
baz=287
E19K **Redstone River** 82.86 22 P P **20 47 15.4 -0.7**
baz=290
G18K **Tagagawik** 82.86 24 IAmb IAmb 20 47 20.6
comp=Z,19nm,1.5s
G18K **Tagagawik** 82.86 24 P P **20 47 15.1 -1.1**
baz=289
F19K **Shaleruckik Mo** 82.88 23 IAmb IAmb 20 47 20.8
comp=Z,16nm,1.2s
F19K **Shaleruckik Mo** 82.88 23 P P **20 47 15.8 -0.4**
baz=290,SNR=9.9
J16K **Anvik River** 82.91 26 IAmb IAmb 20 47 21.7
comp=Z,24nm,0.9s
J16K **Anvik River** 82.91 26 P P **20 47 16.2 -0.2**
baz=288,SNR=11
E20K **Nigu River** 82.94 21 P P **20 47 16.5 0.0**
baz=291,SNR=14
B21K **Ikpikpuk River** 82.95 19 P P **20 47 15.7 -0.8**
baz=293
L15K **Ungalak Mounta** 83.01 28 P P **20 47 16.3 -0.7**
baz=287
B22K **Teshekpuk Lake** 83.05 19 P P **20 47 16.5 -0.4**
baz=294
M14K **Bethel** 83.07 29 P P **20 47 16.4 -0.9**
baz=287
C21K **Knifeblade Rid** 83.08 20 P P **20 47 16.9 -0.3**
baz=292,SNR=7.6
H18K **Honhosa River** 83.23 24 IAmb IAmb 20 47 22.8
comp=Z,13nm,0.9s
H18K **Honhosa River** 83.23 24 P P **20 47 17.3 -0.7**
baz=290
G19K **Purcell Mounta** 83.38 23 IAmb IAmb 20 47 23.6
comp=Z,18nm,1.0s
G19K **Purcell Mounta** 83.38 23 P P **20 47 18.1 -0.7**
baz=291,SNR=11
N14K **Kuskokwak Cree** 83.45 30 P P **20 47 18.5 -0.7**
baz=287
EKA **Eskdalemuir Ar** 83.51 325 P P **20 47 19.5 -0.2**
comp=Z,9.4nm,0.9s,baz=82,slow=5.8,SNR=22
EKA PP PP **20 50 33.9 +2.2**
comp=Z,1.1nm,1.0s,baz=83,slow=8.5,SNR=3.9
comp=Z,9.4nm,0.9s
J17K **VABM Dome** 83.53 26 IAmb IAmb 20 47 24.8
comp=Z,21nm,1.1s
J17K **VABM Dome** 83.53 26 P P **20 47 19.4 -0.2**
baz=289,SNR=8.2
ESK **Eskdalemuir** 83.54 325 P P **20 47 20.5 +0.6**
ESK IAmb IAmb 20 47 25.0
comp=Z,14nm,0.9s
ESK **Eskdalemuir** 83.54 325 P P **20 47 20.5 +0.6**
ESK pmax pmax
comp=Z,14nm,0.9s
F20K **Avaraart Lake** 83.55 22 IAmb IAmb 20 47 24.6
comp=Z,16nm,1.0s
F20K **Avaraart Lake** 83.55 22 P P **20 47 19.0 -0.6**
baz=292,SNR=13
E21K **Killik River** 83.63 20 P P **20 47 19.9 -0.2**
baz=293,SNR=13
M15K **Kasigluk River** 83.68 29 P P **20 47 19.6 -0.8**
baz=288
H19K **Roundabout Mou** 83.85 24 IAmb IAmb 20 47 26.5
comp=Z,16nm,1.1s
H19K **Roundabout Mou** 83.85 24 P P **20 47 20.7 -0.5**
baz=291,SNR=10
D22K **Ayikyak River** 83.88 20 P P **20 47 20.9 -0.5**
baz=294
L16K **Owhat River** 83.91 28 IAmb IAmb 20 47 26.5
comp=Z,21nm,1.6s
L16K **Owhat River** 83.91 28 P P **20 47 21.5 -0.1**
baz=289
GCSA **Galena City Sc** 83.96 24 P P **20 47 21.3 -0.5**
baz=291
FALS **False Pass** 84.04 35 P P **20 47 21.8 -0.6**
baz=287
K17K **Iditarod** 84.09 27 IAmb IAmb 20 47 27.7
comp=Z,18nm,0.9s
K17K **Iditarod** 84.09 27 P P **20 47 22.4 -0.1**
baz=290,SNR=8.9
C23K **Itkillik River** 84.13 19 P P **20 47 22.6 +0.1**
baz=296,SNR=12
N15K **Kwethluk River** 84.13 29 IAmb IAmb 20 47 27.7
comp=Z,17nm,1.0s
N15K **Kwethluk River** 84.13 29 P P **20 47 22.9 +0.2**
baz=289
F21K **Alatna River** 84.29 22 IAmb IAmb 20 47 28.3
comp=Z,17nm,1.1s
F21K **Alatna River** 84.29 22 P P **20 47 24.0 +0.5**
baz=294,SNR=14
L17K **Donlin** 84.29 27 P P **20 47 23.0 -0.6**
baz=290
M16K **Timber Creek** 84.38 28 P P **20 47 23.4 -0.6**
baz=290
H20K **Anotleneega Mo** 84.47 23 P P **20 47 24.1 -0.3**
baz=293,SNR=6.7
D23K **Nanushuk River** 84.50 20 P P **20 47 24.1 -0.3**
baz=296
J18K **Innoko River** 84.50 26 IAmb IAmb 20 47 29.4
comp=Z,13nm,1.1s
J18K **Innoko River** 84.50 26 P P **20 47 24.1 -0.5**
baz=291,SNR=9.8
S12K **Black Hills** 84.53 34 P P **20 47 24.3 -0.6**
baz=288
G21K **Allakaket** 84.57 22 IAmb IAmb 20 47 29.8
comp=Z,22nm,1.0s
G21K **Allakaket** 84.57 22 P P **20 47 24.6 -0.3**
baz=294,SNR=16
O15K **Ungalikthiuk R** 84.58 30 P P **20 47 24.4 -0.7**
baz=289
F22K **John River** 84.63 21 P P **20 47 24.6 -0.6**
baz=295,SNR=19
N16K **Nishlik Lake** 84.65 29 P P **20 47 25.0 -0.4**
baz=290,SNR=10
IMAR **Indian Mountai** 84.70 23 P P **20 47 24.7 -0.9**
J19K **Poorman** 84.75 25 IAmb IAmb 20 47 31.0
comp=Z,13nm,0.9s
J19K **Poorman** 84.75 25 P P **20 47 25.2 -0.7**
baz=292,SNR=13
C24K **Franklin Bluff** 84.78 19 P P **20 47 25.2 -0.6**
baz=298
I20K **Naaghedeneel** 84.90 24 P P **20 47 26.9 +0.4**
baz=293
M17K **Holitna River** 84.93 28 P P **20 47 26.4 -0.4**
baz=291
L18K **Granite Mounta** 84.97 27 IAmb IAmb 20 47 32.1
comp=Z,20nm,1.5s
L18K **Granite Mounta** 84.97 27 P P **20 47 26.3 -0.7**
baz=292
TOLK **Toolik Lake Re** 85.00 20 P P **20 47 26.6 -0.5**
baz=297,SNR=13
D24K **Happy Valley** 85.01 19 IAmb IAmb 20 47 32.2
comp=Z,18nm,0.9s
D24K **Happy Valley** 85.01 19 P P **20 47 26.6 -0.4**
baz=298,SNR=6.4
H21K **Melozitna Rive** 85.19 23 P P **20 47 28.0 0.0**
baz=295,SNR=23
TAM **Tamanrasset** 85.24 292 IAmb IAmb 20 47 31.7
comp=Z,25nm,1.4s
E23K **Chandalar** 85.26 20 P P **20 47 28.1 -0.4**
baz=297,SNR=12
O16K **Kokwok River B** 85.27 29 P P **20 47 27.8 -0.7**
baz=290
J20K **Nowinta River** 85.28 24 IAmb IAmb 20 47 33.8
comp=Z,28nm,1.6s
J20K **Nowinta River** 85.28 24 P P **20 47 27.1 -1.3**
baz=294,SNR=8.8
N17K **Nushagak Hills** 85.36 28 IAmb IAmb 20 47 34.2
comp=Z,16nm,1.1s
N17K **Nushagak Hills** 85.36 28 P P **20 47 28.1 -0.9**
baz=291
COLD **Coldfoot** 85.44 21 P P **20 47 28.6 -0.6**
baz=297
MAW **Mawson** 85.44 192 P P **20 47 28.6 -0.3**
comp=Z,6.5nm,1.1s,baz=29,slow=9.6,SNR=6.0
comp=Z,6.5nm,1.1s
H22K **Ishtalitna Cre** 85.62 22 P P **20 47 29.7 -0.4**
baz=296,SNR=40
M18K **Stony River** 85.62 27 P P **20 47 29.4 -0.8**
baz=292
E24K **Your Creek** 85.63 20 IAmb IAmb 20 47 35.5
comp=Z,20nm,0.9s
E24K **Your Creek** 85.63 20 P P **20 47 30.2 0.0**
baz=298,SNR=24
K20K **Telida** 85.64 25 IAmb IAmb 20 47 35.7
comp=Z,16nm,1.1s
K20K **Telida** 85.64 25 P P **20 47 30.0 -0.3**
baz=294,SNR=11
O17K **Koliganek Bris** 85.68 29 P P **20 47 29.9 -0.6**
baz=291
S14K **Fog Glacier** 85.68 33 P P **20 47 29.9 -0.9**
baz=290
D25K **Kavik River** 85.69 18 P P **20 47 30.2 -0.3**
baz=300,SNR=15
G23K **Bananza Creek** 85.74 21 IAmb IAmb 20 47 36.2
comp=Z,18nm,0.9s
G23K **Bananza Creek** 85.74 21 P P **20 47 31.4 +0.7**
baz=297,SNR=20
L19K **White Mountain** 85.78 26 P P **20 47 31.0 0.0**
baz=293
C26K **Camden Bay** 85.82 18 P P **20 47 31.7 +0.7**
baz=302
WIN **Windhoek** 85.88 246 IAmb IAmb 20 47 34.8
comp=Z,18nm,1.0s
N18K **Kilae Creek** 85.90 28 P P **20 47 31.7 0.0**
baz=292
L20K **Farewell, AK** 86.08 26 P P **20 47 32.7 +0.2**
baz=294
M19K **Big River Lodg** 86.09 27 P P **20 47 32.1 -0.4**
baz=294
F24K **Squaw Lake** 86.10 20 P P **20 47 32.5 0.0**
baz=299,SNR=13
CHUM **Lake Minchumin** 86.13 24 P P **20 47 33.3 +0.6**
baz=295
CHNA **Chernabura Isl** 86.15 34 P P **20 47 33.1 +0.2**
baz=290
P17K **Kvichak River** 86.21 30 P P **20 47 32.8 -0.3**
baz=292
MLY **Manley** 86.24 23 IAmb IAmb 20 47 38.4
comp=Z,13nm,0.9s
MLY **Manley** 86.24 23 P P **20 47 33.1 -0.2**
baz=297,SNR=16
CHGN **Chignik** 86.27 33 IAmb IAmb 20 47 42.8
comp=Z,12nm,0.5s
NEEM **North Greenlan** 86.30 353 *i* P P **20 47 32.6 -1.1**
NEEM IAmb IAmb 20 47 39.2
comp=Z,4.5nm,0.8s
H23K **Yukon River** 86.32 22 IAmb IAmb 20 47 39.2
comp=Z,21nm,0.9s
H23K **Yukon River** 86.32 22 P P **20 47 33.3 -0.4**
baz=298,SNR=16
C27K **Jago River** 86.33 18 P P **20 47 33.5 -0.1**
baz=303
CAST **Castle Rocks** 86.42 25 IAmb IAmb 20 47 39.2
comp=Z,16nm,0.9s
CAST **Castle Rocks** 86.42 25 P P **20 47 34.5 +0.3**
baz=296,SNR=18
N19K **Bonanza Creek** 86.48 28 P P **20 47 34.5 -0.1**
baz=294
O18K **Koktuh Hills** 86.53 29 IAmb IAmb 20 47 39.8
comp=Z,15nm,1.0s
O18K **Koktuh Hills** 86.53 29 P P **20 47 34.8 -0.1**
baz=293
E25K **Arctic Village** 86.56 19 IAmb IAmb 20 47 40.0
comp=Z,27nm,1.9s
E25K **Arctic Village** 86.56 19 P P **20 47 35.1 +0.3**
baz=301
BPAW **Bear Paw Mtn.** 86.56 24 P P **20 47 34.5 -0.4**
baz=296,SNR=21
PPLA **Purkeypile** 86.61 25 P P **20 47 34.7 -0.6**
baz=295
G24K **Hadweenzic Riv** 86.64 21 P P **20 47 34.5 -0.7**
baz=299,SNR=8.6
M20K **Styx River** 86.64 26 IAmb IAmb 20 47 40.6
comp=Z,38nm,1.8s
M20K **Styx River** 86.64 26 P P **20 47 35.0 -0.3**
baz=295
P18K **Big Mountain,** 86.71 29 P P **20 47 34.0 -1.7**
baz=293
I23K **Minto, Yukon-K** 86.71 23 IAmb IAmb 20 47 41.8
comp=Z,10nm,0.8s
I23K **Minto, Yukon-K** 86.71 23 P P **20 47 34.5 -1.0**
baz=298,SNR=11
F25K **Christian Rive** 86.80 20 P P **20 47 36.4 +0.3**
baz=301,SNR=12
Q17K **Contact Creek** 86.83 30 P P **20 47 34.4 -2.0**
baz=292
R17L **Mt. Peulik Vol** 86.84 31 P P **20 47 35.3 -1.0**
baz=294
H24K **Noodor Dome** 86.92 22 P P **20 47 35.8 -0.9**
baz=299,SNR=9.8
G25K **Bearman Lake** 87.08 21 P P **20 47 36.5 -0.7**
baz=301
NEA2 **Nenana** 87.08 23 IAmb IAmb 20 47 41.8
comp=Z,12nm,0.9s
NEA2 **Nenana** 87.08 23 P P **20 47 36.4 -0.9**
baz=298,SNR=11
Q18K **Katmai Hardscr** 87.10 30 P P **20 47 36.2 -1.5**
baz=293
F26K **Sheenjek River** 87.24 19 P P **20 47 37.4 -0.7**
baz=302,SNR=6.7
BMAR **Burnt Mountain** 87.24 20 P P **20 47 38.4 +0.3**
SKT **Skwentna** 87.28 26 IAmb IAmb 20 47 42.5
comp=Z,20nm,1.2s
SKT **Skwentna** 87.28 26 P P **20 47 37.7 -0.7**
baz=296,SNR=7.7
N20K **Mount Spurr** 87.33 27 P P **20 47 37.2 -1.5**
baz=296
SPCR **Spurr Chakacha** 87.33 27 P P **20 47 37.9 -0.9**
baz=296
D27M **Malcolm River** 87.34 17 P P **20 47 37.5 -1.1**
baz=305
COLA **College** 87.40 23 P P **20 47 38.2 -0.7**
baz=299
POKR **Poker Plat Res** 87.44 22 P P **20 47 38.0 -1.1**
baz=300
P19K **Oil Pt** 87.53 28 P P **20 47 39.3 -0.3**
baz=295
MCK **McKinley** 87.54 24 P P **20 47 38.8 -0.9**
baz=298,SNR=10
MCK **McKinley** 87.54 24 P P **20 47 39.7 +0.1**
RND **Reindeer** 87.73 24 P P **20 47 40.2 -0.4**
G26K **Porcupine Rive** 87.76 20 P P **20 47 40.3 -0.3**
baz=303
E27K **Coleen River** 87.77 18 P P **20 47 40.3 -0.3**
baz=305
IL31 **Ipnavik** 87.81 23 IAmb IAmb 20 47 45.5
comp=Z,10nm,0.9s
ILAR **Eielson Array** 87.81 23 P P **20 47 38.9 -2.0**
ILAR **Eielson Array** 87.81 23 P P **20 47 39.8 -1.1**
comp=Z,4.6nm,0.8s,baz=299,slow=4.2,SNR=38
ILAR LR LR 21 29 37.7
comp=Z,118nm,20.2s,baz=284,slow=37
comp=Z,4.6nm,0.8s
SUA **Susitna One** 87.85 26 P P **20 47 40.9 -0.4**
baz=297
PRP **Porcupine Dome** 87.92 22 P P **20 47 41.0 -0.5**
baz=301
D28M **Stokes Point** 87.93 17 P P **20 47 41.5 +0.2**
baz=307
HDA **Harding Lake** 87.97 23 IAmb IAmb 20 47 45.0
comp=Z,9.4nm,0.8s
HDA **Harding Lake** 87.97 23 P P **20 47 41.2 -0.4**
baz=300
WAT1 **Susitna Watana** 88.12 25 P P **20 47 41.1 -1.4**
baz=299
E28M **Babbage River** 88.14 18 IAmb IAmb 20 47 47.5
comp=Z,12nm,1.1s
E28M **Babbage River** 88.14 18 P P **20 47 41.7 -0.7**
baz=307,SNR=9.4
BORG **Borgarnes** 88.16 338 LR LR 21 30 42.5
comp=Z,262nm,19.1s,baz=43,slow=38
SUMG **Summit** 88.17 348 *i* P P **20 47 42.5 -0.5**
SUMG IAmb IAmb 20 47 48.9
comp=Z,6.5nm,1.0s
Q20K **Shuyak Island** 88.37 29 P P **20 47 43.5 -0.1**
baz=295
J25K **Salcha River,** 88.45 22 IAmb IAmb 20 47 47.8

comp=Z,10nm,1.0s
J25K Salcha River, 88.45 22 P P 20 47 43.7 -0.3
baz=301
RC01 Rabbit Creek A 88.45 26 IAmb IAmb 20 47 44.7
comp=Z,9.0nm,1.0s
RC01 Rabbit Creek A 88.45 26 P P 20 47 43.0 -1.0
baz=298
DHY Denali Highway 88.47 24 P P 20 47 44.5 +0.3
baz=300
OHAK Old Harbor 88.52 31 P P 20 47 43.9 -0.5
baz=295
G27K Doyon Strip 88.54 20 P P 20 47 43.7 -0.6
baz=305
BRLK Bradley Lake 88.55 28 IAmb IAmb 20 47 44.6
comp=Z,11nm,0.8s
WAT6 Susitna Watana 88.57 25 P P 20 47 43.9 -0.9
baz=299,SNR=15
ESDC Sonseca Array 88.59 311 P P 20 47 44.1 -1.1
ESDC IAmb IAmb 20 47 46.7
comp=Z,17nm,1.4s
ESDC Sonseca Array 88.59 311 P P 20 47 45.6 +0.5
comp=Z,4.1nm,1.0s,baz=59,slow=4.3,SNR=19
comp=Z,4.1nm,1.0s
BRSE Bradley Lake S 88.63 28 P P 20 47 44.1 -0.8
baz=297
KDAK Kodiak Island 88.63 30 P P 20 47 43.5 -1.4
baz=295
F28M Old Crow 88.63 19 P P 20 47 44.0 -0.7
baz=306
SML Sawmill 88.71 25 P P 20 47 44.6 -0.6
baz=299,SNR=11
K24K Donnelly Dome 88.72 23 P P 20 47 44.2 -1.0
baz=301
E29M Blow River 88.75 18 IAmb IAmb 20 47 50.2
comp=Z,13nm,1.0s
E29M Blow River 88.75 18 P P 20 47 44.6 -0.6
baz=308,SNR=12
KNK Knik Glacier 88.84 26 IAmb IAmb 20 47 50.8
comp=Z,17nm,0.9s
KNK Knik Glacier 88.84 26 P P 20 47 45.4 -0.5
baz=299
I26K Coal Creek Min 88.88 21 P P 20 47 45.8 -0.1
baz=303
H27K Steamboat Moun 88.91 20 P P 20 47 45.7 -0.4
baz=305
PAB San Pablo 88.92 311 P P 20 47 45.2 -1.6
PAB IAmb IAmb 20 47 52.0
comp=Z,15nm,1.3s
PAB San Pablo 88.92 311 P P 20 47 45.2 -1.6
PAB pmax pmax
comp=Z,15nm,1.3s
M23K Glacier View 88.97 25 P P 20 47 45.6 -0.8
baz=299
SEW Seward 89.04 27 P P 20 47 46.7 0.0
baz=298
SCM Sheep Creek Mo 89.11 25 P P 20 47 47.0 -0.2
baz=300,SNR=7.4
J26L Joseph Creek 89.17 22 IAmb IAmb 20 47 52.3
comp=Z,20nm,1.1s
J26L Joseph Creek 89.17 22 P P 20 47 46.9 -0.5
baz=303
RPZ Rata Peaks 89.21 136 LR LR 21 31 21.1
comp=Z,325nm,18.2s,baz=298,slow=38
I27K Kandik River 89.24 21 P P 20 47 47.7 0.0
baz=305
PAX Paxson 89.28 24 P P 20 47 47.5 -0.5
baz=301
SCRK Sand Creek 89.30 23 IAmb IAmb 20 47 52.9
comp=Z,14nm,0.9s
SCRK Sand Creek 89.30 23 P P 20 47 47.3 -0.8
baz=303
A36M Sachs Harbour 89.34 12 P P 20 47 47.2 -0.8
baz=320
M24K Tolsona, Glenn 89.44 25 P P 20 47 44.8 -3.9
M24K Tolsona, Glenn 89.44 25 P P 20 47 48.3 -0.4
baz=301
G29M Pine Creek 89.63 19 IAmb IAmb 20 47 54.2
comp=Z,12nm,1.2s
G29M Pine Creek 89.63 19 P P 20 47 49.1 -0.4
baz=308
GLI Glacier Island 89.68 26 P P 20 47 48.9 -0.8
baz=300
HARP HAARP 89.70 24 P P 20 47 48.6 -1.3
baz=302
KLU Klutina 89.86 25 IAmb IAmb 20 47 56.0
comp=Z,21nm,1.0s
KLU Klutina 89.86 25 P P 20 47 49.3 -1.4
baz=301
F30M Barrier River 89.86 18 P P 20 47 49.2 -1.3
baz=310
EGAK Eagle 89.88 21 P P 20 47 49.9 -0.7
baz=305
I28M Miner Creek 89.90 20 P P 20 47 49.9 -1.0
baz=306
PBRG Braganca 89.92 313 eP P 20 47 52.8 +1.4
comp=Z,20nm,1.8s
H29M Whitestone 89.95 19 P P 20 47 50.8 -0.2
baz=308,SNR=8.1
MENT Mentasta 89.97 23 IAmb IAmb 20 47 56.9
comp=Z,18nm,0.9s
K27K Chicken 89.98 22 P P 20 47 50.8 -0.3
baz=304
P23K Montague Islan 89.99 27 P P 20 47 50.8 -0.4
baz=300
INK Inuvik 90.05 17 P P 20 47 51.1 -0.2
baz=312
INK Inuvik 90.05 17 P P 20 47 51.2 -0.1
L26K Log Cabin Wild 90.06 23 IAmb IAmb 20 47 57.4
comp=Z,25nm,1.2s
L26K Log Cabin Wild 90.06 23 P P 20 47 51.3 -0.3
baz=303,SNR=11
G30M tAoh Zraii Nji 90.14 18 IAmb IAmb 20 47 56.1
comp=Z,13nm,1.0s
G30M tAoh Zraii Nji 90.14 18 P P 20 47 51.6 -0.2
baz=310
N25K Chitina, Valde 90.34 25 IAmb IAmb 20 47 58.6
comp=Z,21nm,0.9s
N25K Chitina, Valde 90.34 25 P P 20 47 52.9 0.0
baz=302,SNR=10
EPYK Eagle Plains 90.38 19 IAmb IAmb 20 47 57.2
comp=Z,8.8nm,0.8s
EPYK Eagle Plains 90.38 19 P P 20 47 52.7 -0.3
baz=309
EYAK Cordova Ski Ar 90.42 26 P P 20 47 53.2 0.0
baz=301
M26K Nabesna, AK 90.54 24 IAmb IAmb 20 48 00.1
comp=Z,19nm,1.2s
M26K Nabesna, AK 90.54 24 P P 20 47 53.6 -0.2
baz=304,SNR=9.1
F31M Tsiigehtchic 90.57 17 IAmb IAmb 20 47 58.2
comp=Z,14nm,1.0s
F31M Tsiigehtchic 90.57 17 P P 20 47 53.6 -0.1
baz=312
L27K Beaver Creek, 90.62 23 P P 20 47 54.1 -0.1
baz=305
BCAR Beaver Creek A 90.63 23 P P 20 47 53.2 -1.0
BMRM Bremner River 90.68 25 P P 20 47 53.8 -0.7
baz=302,SNR=15
RES Resolute Bay 90.70 3 LR LR 21 32 54.3
comp=Z,148nm,18.7s,baz=22,slow=38
GLB Gilahina Butte 90.75 25 IAmb IAmb 20 48 00.3
comp=Z,16nm,1.2s
G31M Satah River 90.76 18 IAmb IAmb 20 47 59.0
comp=Z,11nm,0.9s
G31M Satah River 90.76 18 P P 20 47 54.0 -0.7
baz=311
PVRL Vila Real 90.79 313 eP P 20 47 56.5 +1.1
POLO Lamas de Olo 90.81 313 eP P 20 47 56.6 +1.0
comp=Z,9.1nm,1.5s
DAWY Dawson 90.92 21 P P 20 47 55.0 -0.5
baz=307
RAGM Ragged Mountai 90.96 26 IAmb IAmb 20 47 57.9
comp=Z,25nm,1.4s
MTE Manteigas 90.96 312 eP P 20 47 57.9 +1.6
comp=Z,31nm,1.4s
M27K Edge Creek, AK 91.00 23 P P 20 47 55.4 -0.7
baz=304
VRDI Verde Repeater 91.01 25 IAmb IAmb 20 48 01.6
comp=Z,11nm,1.1s
MCARA McCarthy VSAT 91.10 24 P P 20 47 56.7 +0.4
baz=304
PCBR Castelo Branco 91.11 312 eP P 20 47 56.5 -0.3
comp=Z,29nm,1.4s
TORD Torodi Ar. Bea 91.16 284 P P 20 47 58.0 +0.4
TORD Torodi Ar. Bea 91.16 284 P P 20 47 57.9 +0.4
comp=Z,6.2nm,1.1s,baz=68,slow=5.7,SNR=19
TORD PP PP 20 51 31.8 -2.7
comp=Z,0.7nm,0.9s,baz=59,slow=7.1,SNR=3.5
comp=Z,6.2nm,1.1s
PMRV Marv??o 91.18 311 eP P 20 47 58.5 +1.2
comp=Z,18nm,1.2s
MDT Midelt 91.19 304 LR LR 21 37 38.6
comp=Z,97nm,18.3s,baz=60,slow=41
I30M Mount Dempster 91.22 20 P P 20 47 56.2 -0.8
baz=310,SNR=9.4
KAIM Kayak Island 91.31 26 P P 20 47 56.6 -0.8
baz=302
PBAR Barrancos 91.34 310 eP P 20 47 59.4 +1.4
comp=Z,38nm,1.5s
CRQE Cirque 91.42 25 P P 20 47 57.0 -1.0
baz=303
H31M Peel River 91.48 19 P P 20 47 58.2 +0.1
baz=311
PESTR Estremoz 91.52 311 eP P 20 48 00.0 +1.2
comp=Z,20nm,1.8s
C36M Paulatuk 91.64 13 P P 20 47 58.5 -0.2
baz=321
J30M Hart River 91.65 20 P P 20 47 58.4 -0.6
baz=310
K29M Barlow Dome 91.71 21 P P 20 47 59.1 -0.2
baz=308
URZ Urewera 91.79 129 LR LR 21 33 12.7
comp=Z,228nm,19.3s,baz=23,slow=38
YUK3 Moose Creek 91.88 23 P P 20 48 00.0 -0.2
baz=306
PMTG Montargil 91.91 311 eP P 20 48 01.9 +1.3
EVO Evora 91.94 311 eP P 20 48 02.1 +1.3
comp=Z,18nm,1.7s
L29M L29M 91.95 22 IAmb IAmb 20 48 06.0
comp=Z,13nm,1.1s
L29M L29M 91.95 22 P P 20 47 60.0 -0.3
baz=308,SNR=12
CTG Chitna Glacier 92.01 24 P P 20 48 00.0 -0.7
baz=305
PBEJ Beja 92.01 310 eP P 20 48 02.5 +1.4
comp=Z,27nm,1.9s
PVAQ Vaqueiros 92.11 309 eP P 20 48 03.1 +1.5
MESA MESA 92.21 25 P P 20 48 00.9 -0.9
baz=304
M29M Somme Creek 92.23 22 P P 20 48 01.0 -0.8
baz=308
MESJ Messejana 92.33 310 eP P 20 48 03.7 +1.1
MESJ Messejana 92.33 310 eP P 20 48 02.5 0.0
MESJ IAmb IAmb 20 48 08.7
comp=Z,15nm,1.1s
MESJ Messejana 92.33 310 eP P 20 48 02.6 0.0
YUK8 Steele Glacier 92.44 24 P P 20 48 02.2 -0.7
baz=306
PNCL Nicolau / Gran 92.47 310 eP P 20 48 05.0 +1.8
comp=Z,25nm,1.3s
O28M Mount Upton 92.58 24 P P 20 48 02.7 -0.9
baz=306
M30M Minto, Yukon 92.76 22 P P 20 48 03.4 -0.7
baz=309
YUK4 Talbot Arm 92.84 23 P P 20 48 03.3 -1.4
baz=307
MORF Marmelete 92.84 310 eP P 20 48 04.9 -0.1
MORF IAmb IAmb 20 48 07.5
comp=Z,18nm,1.2s
MORF Marmelete 92.84 310 eP P 20 48 04.9 -0.1
PINM Pinnacle 92.95 25 P P 20 48 04.3 -0.8
baz=306
YUK6 Outpost Mounta 93.19 24 P P 20 48 05.2 -1.1
baz=308
N30M Aishikik Lake 93.36 23 P P 20 48 05.2 -1.7
baz=309
O29M Mount Kennedy 93.50 24 P P 20 48 07.1 -0.6
baz=307
PNL Peninsula 93.55 25 P P 20 48 06.8 -1.0
baz=307
HYT Haines Junctio 93.60 23 P P 20 48 07.3 -0.8
baz=308
N31M Braeburn, Yuko 93.83 22 IAmb IAmb 20 48 14.9
comp=Z,14nm,1.1s
M31M Drury Creek, Y 93.86 21 P P 20 48 08.2 -0.9
baz=311
O30N Mendenhall 94.17 23 IAmb IAmb 20 48 16.1
comp=Z,9.9nm,0.9s
O30N Mendenhall 94.17 23 P P 20 48 09.5 -1.2
baz=310
P29M Windy Craggy 94.25 24 P P 20 48 09.4 -1.6
baz=308
P30M Million Dollar 94.25 24 P P 20 48 08.7 -2.3
baz=309
WHY Whitehorse 94.69 23 P P 20 48 11.1 -2.1
baz=311
PLBC Pleasant Camp 94.90 24 P P 20 48 12.2 -1.7
baz=309
N32M Quiet Lake 95.03 22 P P 20 48 13.5 -1.0
baz=312
SFJD Kangerlussuaq 95.17 348 LR LR 21 38 07.0
comp=Z,173nm,19.4s,baz=32,slow=40
SKAG Skagway 95.31 24 P P 20 48 14.5 -1.2
baz=310
P33M Teslin, Yukon 95.76 22 P P 20 48 16.6 -1.3
baz=312
P32M Atlin 95.84 23 P P 20 48 17.2 -1.1
baz=312
S31K Pelican 95.91 25 P P 20 48 17.5 -1.0
baz=309
R32K Eaglecrest 96.40 24 P P 20 48 20.2 -0.6
baz=311
Q32M Nakina River 96.81 23 P P 20 48 22.3 -0.6
baz=313
SIT Sitka 96.86 26 P P 20 48 22.5 -0.3
baz=310
S32K Killisnoo 96.90 25 P P 20 48 22.7 -0.3
baz=311
R33M Jennings River 97.00 22 P P 20 48 23.4 -0.3
baz=314
S34M Telegraph Cree 97.97 23 P P 20 48 27.7 -0.2
baz=314
DLBC Dease Lake 98.02 23 P P 20 48 27.9 -0.3
baz=315
DLBC Dease Lake 98.02 23 LR LR 21 37 06.9
comp=Z,231nm,18.1s,baz=330,slow=38
U33K Whale Pass 98.40 25 P P 20 48 28.2 -1.6
baz=312
WRAK Wrangell Islan 98.52 25 P P 20 48 29.4 -0.9
baz=313
CRAG Craig 98.83 26 P P 20 48 30.3 -1.4
baz=312
VNDA Vanda 98.96 168 LR LR 21 27 19.6
comp=Z,155nm,21.5s,baz=328,slow=32
T35M Bob Quinn 98.97 24 P P 20 48 31.0 -1.4
baz=314
YKA Yellowknife Ar 99.50 14 P Pdif 20 48 33.1 -1.4
comp=Z,1.0nm,1.0s,baz=338,slow=5.3,SNR=5.0
YKA LR LR 21 37 51.5
comp=Z,122nm,21.2s,baz=288,slow=38
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 99.50 14 i P Pdif 20 48 34.9 +0.3
YKA pmax pmax
comp=Z,1.0nm,1.0s
V35K Ketchikan 99.56 25 P Pdif 20 48 33.3 -1.7
baz=313
NEW Newport 110.76 23 P PKiKP 20 53 24.5 -0.5
baz=325
MSO Missoula 113.14 22 P PKiKP 20 53 29.1 -0.6
baz=328
EGMT Eagleton 113.53 19 P PKiKP 20 53 29.4 -1.0
baz=332
BOZ Bozeman (W) 115.03 21 P PKiKP 20 53 32.1 -1.3
baz=330
HLID Hailey 115.71 24 P PKiKP 20 53 33.4 -1.4
baz=327
AGMN Agassiz Nation 116.53 9 P PKiKP 20 53 34.8 -1.2
baz=347
PPT2 Papeete2 116.85 103 eLR LR 21 28 52.4
comp=Z,134nm,24.8s
PPT2 eLR LR 21 29 01.1
comp=Z,167nm,26.0s
EYMN Ely 117.43 6 P PKPdf 20 53 36.6 -1.1
baz=351
TBI Tubuai 117.57 109 eLR LR 21 29 16.9
comp=Z,729nm,30.2s
NVAR Mina Array Bea 118.13 30 PKP PKiKP 20 53 39.8 +0.1
comp=Z,1.3nm,0.8s,baz=339,slow=2.3,SNR=4.7
BW06 Boulder Array 118.23 21 P PKPdf 20 53 38.4 -1.3
baz=331
PDAR Pinedale Array 118.23 21 PKP PKPdf 20 53 38.2 -1.5
comp=Z,1.2nm,0.9s,baz=90,slow=3.0,SNR=5.0
RSSD Black Hills 118.75 17 P PKPdf 20 53 39.6 -1.0
baz=337
PKME Peaks-Kenny Pk 119.09 348 P PKPdf 20 53 39.9 -1.1
baz=16
DUG Dugway, Tooele 119.19 25 P PKPdf 20 53 40.0 -1.5
baz=327
R11B Troy Canyon, C 119.49 29 PKPdf PKiKP 20 53 42.6 +0.4
R11B Troy Canyon, C 119.49 29 P PKPdf 20 53 40.8 -1.4
baz=324
CWC Cottonwood Cre 119.79 32 P PKPdf 20 53 41.4 -1.4
baz=321
SPMN Marine on St. 119.96 7 P PKPdf 20 53 41.7 -0.9
baz=350
PKM Mcpherson Peak 120.06 34 P PKPdf 20 53 41.7 -1.7
baz=319
ISA Isabella, Lake 120.19 33 P PKPdf 20 53 41.7 -1.8
baz=320
TPNV Topopah Spring 120.30 30 P PKPdf 20 53 42.9 -0.9
baz=323
MPMC Manual Prospec 120.39 32 P PKPdf 20 53 42.4 -1.6
baz=321
SBC Santa Barbara 120.45 34 P PKPdf 20 53 42.2 -1.7
baz=319
LBNH Lisbon 120.56 350 P PKPdf 20 53 42.7 -1.2
baz=13
LONY Lake Ozonia 120.57 352 P PKPdf 20 53 42.7 -1.2
baz=10.0
LRMC Laurel Mtn Rad 120.74 32 P PKPdf 20 53 43.5 -1.1
baz=321
ECSD EROS Data Cent 120.83 11 PKPdf PKPdf 20 53 44.0 -0.4
ECSD EROS Data Cent 120.83 11 P PKPdf 20 53 42.7 -1.7
baz=345
OSI Osito Audit: C 120.85 34 P PKPdf 20 53 42.5 -2.3
baz=320
O20A White River Ci 121.01 22 P PKPdf 20 53 43.5 -1.6
baz=332
EDW2 Edwards Air Fo 121.04 33 P PKPdf 20 53 43.9 -1.2
baz=320
N23A Red Feather La 121.12 20 P PKPdf 20 53 44.2 -1.2
baz=335
HRV Adam Dziewonsk 122.18 349 P PKPdf 20 53 46.4 -0.6
baz=14
GMRC Granite Mounta 122.31 31 P PKPdf 20 53 46.7 -1.0
baz=323
L61B Northampton 122.42 350 P PKPdf 20 53 47.0 -0.5
baz=12
BELC Belle Mtn. Jos 122.75 32 P PKPdf 20 53 47.5 -1.1
baz=322
PFO Pinyon Flats O 122.82 33 P PKPdf 20 53 48.4 -0.2
baz=321
Q24A Divide 123.12 20 P PKPdf 20 53 49.0 -0.4
baz=335
AAM Ann Arbor 123.47 0 P PKPdf 20 53 49.3 -0.2
baz=360
MVCO Mesa Verde 123.48 24 P PKPdf 20 53 49.0 -1.0
baz=331
ERPA Erie 123.55 357 P PKPdf 20 53 49.3 -0.3
baz=4.1
WUAZ Wupatki 123.73 27 P PKPdf 20 53 49.2 -1.2
baz=327
IKP In-Ko-Pah, Jac 123.75 33 P PKPdf 20 53 48.8 -1.7
baz=321
KSCO Kaye Shedlock' 123.87 18 P PKPdf 20 53 47.8 -2.8
baz=338
PAL Palisades 124.03 351 P PKPdf 20 53 49.4 -1.2
baz=11
GLA Glamis 124.10 32 P PKPdf 20 53 49.2 -1.8
baz=323
M53A Wi Miller and 124.26 357 P PKPdf 20 53 50.7 -0.4
baz=3.3
W18A Petrified Fore 124.78 26 P PKPdf 20 53 51.2 -1.3
baz=329
CBKS Cedar Bluff 124.85 15 P PKPdf 20 53 52.0 -0.3
baz=341
SSPA Standing Stone 124.87 355 P PKPdf 20 53 52.3 +0.1
baz=6.6
HDIL Hopedale 124.96 5 P PKiKP 20 53 52.7 0.0
baz=353
T25A Trinidad 125.02 20 P PKPdf 20 53 52.6 -0.4
baz=335
SFIN Lafayette 125.29 3 P PKPdf 20 53 52.6 -0.4
baz=356
KSU1 Kansas State U 125.30 12 P PKPdf 20 53 52.6 -0.5
baz=344
O53A New Philadelph 125.47 358 P PKPdf 20 53 52.7 -0.7
baz=2.8
O48B Farmland 125.49 1 P PKPdf 20 53 53.2 -0.2
baz=358
ACSO Alum Creek Sta 125.53 359 P PKPdf 20 53 53.5 -0.1
baz=0.7
MCWV Mont Chateau 125.99 356 P PKiKP 20 53 54.7 -0.1
baz=4.4
214A Organ Pipe Nat 125.99 31 P PKPdf 20 53 54.2 -0.5
baz=324
P52A Corning 126.11 359 P PKPdf 20 53 54.4 -0.2
baz=1.7
P49A Miami Univ. Ec 126.22 1 P PKPdf 20 53 54.4 -0.5
baz=359
ANMO Albuquerque 126.25 23 PKPdf PKiKP 20 53 56.0 +0.2
ANMO Albuquerque 126.25 23 P PKPdf 20 53 54.3 -1.1
baz=332
ANMO Albuquerque 126.25 23 PKIKP PKiKP 20 53 56.0 +0.2
TUC Tucson 126.68 29 P PKPdf 20 53 55.3 -0.7
baz=327
Y22D IRIS PASSCAL I 126.84 24 P PKPdf 20 53 55.3 -1.1
baz=331
CCM Cathedral Cave 127.22 8 P PKPdf 20 53 55.6 -1.2
baz=351
CBN Corbin Frederi 127.23 354 P PKPdf 20 53 56.1 -0.7
baz=7.5
WCI Wyandotte Cave 127.47 3 P PKPdf 20 53 57.0 -0.2
baz=357
AMTX Amarillo 127.97 19 P PKPdf 20 53 58.0 -0.5
baz=338
MSTX Muleshoe 128.46 20 P PKPdf 20 53 58.4 -1.0
baz=336
BLA Blacksburg 128.46 357 P PKPdf 20 53 58.9 -0.4
baz=3.8
TUL3 Leonard 128.55 13 P PKPdf 20 53 59.2 -0.2
baz=345
WMOK Wichita Mounta 128.95 16 P PKiKP 20 54 00.8 -0.2
baz=341
TZTN Tazewell 129.22 360 P PKPdf 20 54 00.2 -0.5
baz=360
WVT Waverly 129.47 4 P PKPdf 20 54 00.6 -0.6
baz=355
MNTX Cornudas Mount 129.54 24 P PKPdf 20 54 01.0 -0.5
baz=332
MIAR Mount Ida 130.30 11 P PKPdf 20 54 02.6 -0.2
baz=347
KMSC Kings Mountain 130.56 358 P PKPdf 20 54 02.9 -0.4
baz=2.8
ABTX Abilene, Hawle 130.69 18 P PKiKP 20 54 04.3 -0.2
baz=339
OXF Oxford 130.94 6 P PKiKP 20 54 04.8 -0.1
baz=352
WHTX Lake Whitney, 131.90 16 P PKPdf 20 54 06.3 +0.4
baz=342
TXAR Lajitas Array 132.31 24 PKP PKPdf 20 54 06.0 -0.8
comp=Z,0.4nm,0.6s,baz=96,slow=2.7,SNR=4.8
TXAR PP PP 20 56 25.8 -2.3
comp=Z,0.8nm,1.1s,baz=264,slow=1.3,SNR=4.3
GOGA Godfrey 132.34 360 P PKPdf 20 54 06.7 0.0
baz=0.1
NHSC New Hope 132.53 356 P PKPdf 20 54 07.1 +0.1
baz=4.4
LRAL Lakeview Retre 132.61 4 P PKPdf 20 54 07.2 0.0
baz=356
JCT Junction City 132.64 19 P PKiKP 20 54 08.2 -0.3
baz=338
435B Jarrell 133.01 16 P PKiKP 20 54 08.9 -0.3
baz=341
TIGA Tifton 134.31 360 P PKiKP 20 54 11.3 -0.4
baz=360
833A Chaparral WMA, 134.76 20 P PKiKP 20 54 13.6 +0.8
baz=338
SMTB Santa Maria do 144.28 275 eP PKPbc 20 54 27.9 +0.6
SDDR Presa de Saban 144.56 340 PKPdf PKPbc 20 54 28.4 +0.4
BDFB Brasilia 145.60 263 PKPab 20 54 32.2 +0.4
BDFB Brasilia 145.60 263 PKPbc PKPdf 20 54 31.2 -0.1
comp=Z,7.8nm,0.9s,baz=141,slow=6.2,SNR=5.6
BDFB Brasilia 145.60 263 PKIKP PKPab 20 54 32.2 +0.4
PRPB Parauapebas 145.74 280 eP PKPdf 20 54 31.0 -0.6
MCPB Macapa, AP 145.74 291 eP PKPbc 20 54 31.9 0.0
IPMB Ipameri, GO 145.84 259 eP PKPdf 20 54 31.9 +0.3
PLTB Pedras Altas 147.63 233 eP PKPbc 20 54 36.3 -0.7
SNDB Serra Nova Dou 148.42 271 eP PKPdf 20 54 37.3 +1.4
ARAG Araguaiana, MT 149.26 264 eP PKPdf 20 54 38.7 +1.4
LL02 Futaleuf 149.68 197 PKPbc 20 54 42.0 +0.1
TRQA Tornquist 149.70 215 PKPbc 20 54 42.3 +0.2
TRQA Tornquist 149.70 215 PKP2 PKPbc 20 54 42.3 +0.2

ITTB	Itaituba	150.72 287	eP	PKPdf	20 54 40.5 +0.8
ITQB	Itaqui	150.87 234		PKPbc	20 54 45.4 +0.3
ITQB	Itaqui	150.87 234	eP	PKPdf	20 54 41.3 +1.8
NPGB	Novo Progresso	151.26 282	eP	PKPdf	20 54 40.7 +0.1
TGUH	Tegucigalpa,Un	151.38 7		PKiKP	20 54 48.3 +1.0
PLCA	Paso Flores	151.49 201		PKiKP	20 54 47.0 +0.2
PLCA	Paso Flores	151.49 201	PKPbc	PKPbc	20 54 46.0 -0.3
	comp=Z,15nm,1.0s,baz=198,slow=5.1,SNR=15				
PLCA	Paso Flores	151.49 201	eP	PKPdf	20 54 42.3 +2.1
CPUP	Villa Florida	152.74 240	PKP	PKPdf	20 54 41.8 -0.5
	comp=Z,0.8nm,0.4s,baz=107,slow=5,6,SNR=2.9				
CPUP			PKPbc	PKPbc	20 54 49.0 -0.4
	comp=Z,4.6nm,0.9s,baz=336,slow=0.8,SNR=5.8				
PDRB	Porto dos Gac	153.63 273	eP	PKPdf	20 54 45.3 +1.3
PTLB	Pontes e Lacer	156.31 265	PKPab	PKPab	20 55 17.0 +1.3
BBSD	Serra de San D	157.68 260	eP	PKPdf	20 54 49.2 -0.1

PRU 04 20:43:24.1, 50.25N×18.96E, 0^{km}, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	Moravsky Berou	1.03	243	ePG	Pg	20 43 44.3	+0.5
MORC				eSG	Sg	20 43 57.3	+0.2
KRLC	Kraliky	1.41	264	eSG	Sg	20 44 08.3	-1.1
DPC	Dobruska-Polom	1.69	274	eSG	Sb	20 44 17.9	-0.1

*RHSSO **04** 20:44:32.1±0.8, 41.57N×19.54E, 9^{km}±2^{km}, ML2.0/7*
*BEO **04** 20:44:32.4±0.5, 41.57N×19.71E, 112^{km}±3^{km}, ML1.8/4*
ISC 04 20:44:31.4±1.2, 41.58N±0.04×19.57E±0.05, 6^{km}±10^{km}, n21, σ0.57/36, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.32	137	ePg	Pg	20 44 37.3	-0.4
TIR				eSg	Sg	20 44 43.1	+1.2
DRME	Dracevica, Mon	0.67	335	ePg	Pb	20 44 45.4	-0.1
DRME				eSg	Sn	20 44 57.0	-1.3
DRME	Dracevica, Mon	0.67	335	ePg	Pg	20 44 44.6	+0.3
DRME				eSg	Sb	20 44 54.8	-0.3
PDG	Podgorica	0.88	345	ePg	Pg	20 44 48.2	-0.1
PDG				eSg	Sb	20 45 01.7	+0.6
PDG	Podgorica	0.88	345	ePg	Pg	20 44 48.1	-0.2
PDG				eSg	Sg	20 45 00.1	+0.4
PVY	Plav	1.05	16	ePg	Pg	20 44 51.7	+0.1
HCY	Herceg Novi	1.18	317	ePg	Pg	20 44 53.5	-0.5
HCY				eSg	Sg	20 45 09.0	-0.3
KOME	Kolasin	1.27	358	ePg	Pg	20 44 55.5	-0.2
KOME				eSg	Sn	20 45 14.0	+0.8
BEY	Berane	1.31	10	ePg	Pn	20 44 54.9	-1.5
TREB	Trebinje	1.45	322	ePg	Pn	20 44 57.9	-0.3
TREB				eSg	Sb	20 45 17.7	+0.1
BRY	Bratogost	1.52	330	ePn	Pn	20 44 59.7	+0.4
BRY				eSn	Sb	20 45 19.9	+0.1
UPM	Unac-Piva	1.69	343	ePn	Pn	20 45 02.2	+0.5
UPM				eSn	Sn	20 45 23.9	+0.1
SJES	Sjenica	1.70	10	ePn	Pn	20 45 02.2	+0.4
SJES				eSg	Sg	20 45 25.7	-0.5
SJES	Sjenica	1.70	10	ePn	Pn	20 45 01.7	-0.1
SJES				eSn	Sn	20 45 24.5	+0.5
STON	Ston	1.90	313	ePn	Pn	20 45 04.0	-0.3
STON				eSn	Sn	20 45 28.3	-0.1
RUDO	Rudo	2.04	356	ePn	Pn	20 45 06.0	-0.3
RUDO				eSn	Sn	20 45 32.7	+0.6
BARS	Barje	2.07	53	ePn	Pn	20 45 06.1	-0.7
PRVS	Prvonek	2.08	63	ePn	Pn	20 45 06.4	-0.5
BBLS	Lazi&#263i	2.29	357	ePn	Pn	20 45 10.2	+0.5
BBLS	Lazi&#263i	2.29	357	ePn	Pn	20 45 10.0	+0.3
BBLS				eSn	Sn	20 45 38.8	+0.5
A050A	Klekovaca	3.66	323	ePn	Pn	20 45 29.1	+0.5

*DJA **04** 21:15:22.2±0.5, 6.5S×12.9E±.*, h291^{km}±11^{km}, M4.3/9, mb4.1/6, MLv4.4/9*
*IDC **04** 21:15:25.2±4.2, 6.46S×128.85E, h407^{km}±52^{km}, mb3.0/4, mbtmp3.9/6, Error ellipse: s-maj=83.8km s-min=15.1km az=70.0*
ISC 04 21:15:19.8±0.7, 6.52S±0.07×128.48E±0.07, h334^{km}, n22, σ1.61/26, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	5.09	331	P	Pn	21 16 40.1	+0.3
	52nm,0.9s						
FAKI	Fak Fak	5.19	47	P	Pn	21 16 42.8	+1.9
FAKI	Fak Fak	5.19	47	P	Pn	21 16 41.5	+0.6
	54nm,1.4s,0.2nm						
FAKI				S	S	21 17 45.0	-1.4
	54nm,1.4s,0.2nm						
SOEI	Soe	5.26	232	P	Pn	21 16 43.7	+1.8
SOEI	Soe	5.26	232	P	Pn	21 16 43.6	+1.7
	50nm,1.1s,0.4nm						
SOEI				S	S	21 17 46.9	-1.2
	50nm,1.1s,0.4nm						
KMPI	Kaimana, Papua	5.93	62	P	Pn	21 16 50.2	+0.8
BBSI	Bau Bau	5.96	280	P	Pn	21 16 52.0	+2.2
	22nm,1.1s,0.1nm						
BATI	Baumata	6.01	232	P	Pn	21 16 52.4	+2.1
	35nm,0.6s,0.4nm						
DRS	Darwin Rock St	6.34	158	P	Pn	21 16 56.5	+2.4
MMRI	Maumere	6.53	251	P	Pn	21 16 58.1	+1.7
	44nm,1.3s,0.2nm						
MTN	Manton Dam	6.81	158	P	Pn	21 17 01.9	+2.3
EDFI	Ende, Flores	7.08	251	P	Pn	21 17 03.3	+0.3
KDU	Kakadu	7.28	148	P	Pn	21 17 07.7	+2.5
KAPI	Kappang	8.81	279	P	P	21 17 26.0	-0.8
WRA	Warramunga Arr	14.51	157	P	P	21 18 30.4	+0.6
	3.1nm,0.4s,baz=339,slow=11,SNR=84						
WRA				S	S	21 21 05.5	-2.1
	1.5nm,0.8s,baz=336,slow=20,SNR=4.7						
COEN	Coen	16.23	118	P	Pn	21 18 50.2	-1.4
QIS	Mount Isa	17.64	143	P	P	21 19 05.5	+1.6
ASAR	Alice Springs	17.83	164	P	P	21 19 06.8	+1.0
	3.9nm,0.6s,baz=345,slow=10.0,SNR=61						
ASAR				S	S	21 22 12.1	-1.3
	2.2nm,1.0s,baz=339,slow=18,SNR=8.7						
STKA	Stephens Creek	28.05	156	P	P	21 20 40.8	-0.6
	2.0nm,1.1s,baz=330,slow=10.0,SNR=4.2						
	2.0nm,1.1s						
SONM	Songino Array	57.52	343	P	P	21 24 35.5	+0.3
	0.3nm,0.6s,baz=160,slow=4.6,SNR=2.0						
	0.3nm,0.6s						
MKAR	Makanchi Array	67.00	327	P	P	21 25 36.8	-0.8
	0.8nm,0.6s,baz=119,slow=7.5,SNR=11						
	0.8nm,0.6s						
KURBB	Kurchatov Arra	71.32	329	P	P	21 26 02.4	-1.3
	0.3nm,0.3s,baz=127,slow=4.1,SNR=5.0						
	0.3nm,0.3s						

IDC 04 21:43:37.6±5.4, 8.31S×159.08E, 0^{km}, mb4.1/5, mbtmp4.0/5, Error ellipse: s-maj=162.8km s-min=32.2km az=116.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.59	242	P	P	21 49 18.3	+0.5
	0.9nm,0.5s,baz=66,slow=9.1,SNR=10						
	0.9nm,0.5s						
H11S3	WAKE ISLAND Hy	27.67	16	T	T	22 18 15.5	
	baz=194,slow=76,SNR=73						
H11S2	WAKE ISLAND Hy	27.67	16	T	T	22 18 21.1	
	baz=194,slow=76,SNR=90						
H11S1	WAKE ISLAND Hy	27.69	16	T	T	22 18 21.7	
	baz=194,slow=76,SNR=70						
ASAR	Alice Springs	28.54	235	P	P	21 49 34.6	-0.7
	0.3nm,0.4s,baz=64,slow=10,SNR=5.8						
	0.3nm,0.4s						
H11N1	WAKE ISLAND Hy	28.89	15	T	T	22 19 45.7	
	baz=194,slow=76,SNR=57						
H11N3	WAKE ISLAND Hy	28.90	15	T	T	22 19 52.9	
	baz=194,slow=76,SNR=61						
H11N2	WAKE ISLAND Hy	28.91	15	T	T	22 19 45.5	
	baz=194,slow=76,SNR=80						
SONM	Songino Array	72.65	326	P	P	21 55 08.5	+1.2
	0.9nm,0.6s,baz=142,slow=5.6,SNR=4.7						
	0.9nm,0.6s						
MKAR	Makanchi Array	87.07	318	P	P	21 56 25.2	0.0
	1.3nm,0.6s,baz=101,slow=5.9,SNR=13						
	1.3nm,0.6s						
BVAR	Borovoye Array	95.78	323	P	P	21 57 04.0	-1.7
	0.6nm,0.6s,baz=106,slow=5.3,SNR=5.4						
	0.6nm,0.6s						

*IDC **04** 21:53:33.0±1.5, 3.00S×136.53E, h0^{km}, mb3.8/4, mbtmp3.8/5, ML3.8/1, MS3.0/1, Error ellipse: s-maj=65.8km s-min=26.5km az=85.0*
*DJA **04** 21:53:38.6±1.8, 3.5S±6.13.7E±.*, h21^{km}±16^{km}, M4.3/6, mb4.4/2, mB5.0/1, MLv4.2/6, Mw(mB)4.3/1*
ISC 04 21:53:38.8±0.8, 3.0S±0.1×136.72E±0.07, h34^{km}, n19, σ1.60/18, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	3.09	257	P	Pn	21 54 27.1	+1.9
GENI	Genyem	3.46	84	P	Pn	21 54 31.1	+0.8
JAY	Jayapura	4.00	84	P	Pn	21 54 38.6	+0.8
JAY				S	Sn	21 55 24.6	+1.0
FAKI	Fak Fak	4.46	270	P	Pn	21 54 44.9	+0.8
TABU	Tabubil	5.05	117	P	Pn	21 54 58.2	+6.0
SWI	Sorong	5.84	291	P	Pn	21 55 03.7	+0.7
	38nm,0.6s,1μm						
KDU	Kakadu	10.55	203	P	Pn	21 56 06.9	-0.7
DRS	Darwin Rock St	11.04	211	P	Pn	21 56 15.1	+0.7
MTN	Manton Dam	11.28	209	P	Pn	21 56 17.9	+0.3
PMG	Port Moresby	12.20	122	LR	LR	22 01 55.7	
	comp=Z,68nm,18.7s,baz=179,slow=41						
WRA	Warramunga Arr	17.05	188	Pn	Pn	21 57 30.1	-4.6
	0.3nm,0.3s,baz=7.8,slow=13,SNR=16						
	0.5nm,0.3s						
QIS	Mount Isa	17.72	171	P	P	21 57 44.9	+1.2
	6.6nm,1.4s						
AS01	Alice Springs	20.77	187	P	P	21 58 17.1	+0.1
	11nm,0.8s						
ASAR	Alice Springs	20.77	187	P	P	21 58 15.8	-1.3
	4.2nm,0.6s,baz=13,slow=11,SNR=60						
	4.2nm,0.6s						
WRKA	Warakurna	23.41	200	P	P	21 58 43.2	-1.7
STKA	Stephens Creek	29.14	171	P	P	21 59 38.1	+1.4
	2.4nm,0.9s,baz=346,slow=12,SNR=3.2						
MKAR	Makanchi Array	68.78	323	P	P	22 04 38.8	-0.7
	0.5nm,0.5s,baz=114,slow=7.8,SNR=10						
	0.5nm,0.5s						
BVAR	Borovoye Array	78.38	326	P	P	22 05 35.1	-0.8
	1.1nm,0.7s,baz=122,slow=10,SNR=5.7						
	1.1nm,0.7s						
ILAR	Eielson Array	86.88	25	P	P	22 06 19.3	-0.5
	0.1nm,0.5s,baz=270,slow=4.5,SNR=1.9						
	0.1nm,0.5s						

TAP 04 22:07:07.2, 23.16N×120.92E, h10^{km}±1^{km}, ML2.0, 1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	Lidau	0.09	72	P	Pg	22 07 10.7	+0.9
	baz=73						
ELDTW				S	Sg	22 07 12.4	+0.8
	baz=73						
STYH	Taoyuan	0.14	274	P	Pg	22 07 10.5	+0.2
	baz=278						
STYH				eS	Sg	22 07 12.3	-0.2
	baz=278						
ECS	Chishang	0.28	103	eP	Pb	22 07 14.6	+0.2
	baz=103						
WTP	Ta-pu	0.30	287	P	Pb	22 07 14.2	-0.5
	baz=286						
SLGT	Liugui	0.30	237	eP	Pg	22 07 14.0	+0.7
	baz=236						
SLGT				eS	Sg	22 07 18.1	+0.7
	baz=236						
TPUB	Ta-pu	0.30	297	P	Pb	22 07 14.4	-0.4
	baz=297						
TPUB				S	Sb	22 07 19.0	-0.9
	baz=297						
LONT	Longtian	0.32	143	eP	Pb	22 07 14.9	-0.1
	baz=142						
LONT				eS	Sb	22 07 19.5	-0.7
	baz=142						
SGST	Jiashian	0.32	256	eS	Sg	22 07 18.5	+0.5
	baz=255						
YUS	Yu-Shan	0.33	5	eP	Pg	22 07 14.7	+0.7
	baz=5.0						
FULB	Fuli	0.34	84	eP	Pb	22 07 16.0	+0.5
	baz=83						
FULB				eS	Sb	22 07 21.7	+0.7
	baz=83						
CHN4	Tsaushan	0.36	302	↓iP	Pb	22 07 15.7	-0.1
	baz=302						
CHN4				eS	Sb	22 07 21.3	-0.1
	baz=302						
CHN1	Nanshi	0.36	274	eP	Pb	22 07 15.8	0.0
	baz=273						
CHN1				eS	Sb	22 07 21.4	-0.2
	baz=273						
TWG	Pinlang	0.36	158	iP	Pb	22 07 15.8	-0.1
	baz=156						
TWG				eS	Sb	22 07 20.6	-1.0
	baz=156						
TWGBT	Beinan	0.37	157	P	Pb	22 07 15.7	-0.2
	baz=156						
TWGBT				eS	Sb	22 07 20.7	-1.1
	baz=156						
TWF1	Yuli	0.39	61	iP	Pb	22 07 16.3	0.0
	baz=61						
SNST	Tainan City	0.40	279	eP	Pb	22 07 16.7	+0.4
	baz=278						
WCKO	Fanlu	0.40	314	eP	Pb	22 07 16.7	+0.2
	baz=313						
WCKO				eS	Sb	22 07 22.7	0.0
	baz=313						
EYUL	Yuli	0.41	63	eP	Pb	22 07 16.6	0.0
	baz=62						
EYUL				eS	Sb	22 07 21.8	-1.1
	baz=62						
TWK	Hsinying	0.41	285	eP	Pb	22 07 16.7	0.0
	baz=285						
YULB	Yu-li	0.41	56	P	Pb	22 07 16.4	-0.3
	baz=56						
YULB				eS	Sg	22 07 21.6	+0.7
	baz=56						
EHY	Hungye	0.50	47	eP	Pb	22 07 18.1	-0.1
	baz=47						
EHY				eS	Sg	22 07 24.5	+0.8
	baz=47						
WHYT	Xinyi Township	0.54	353	iP	Pb	22 07 18.8	-0.1
	baz=353						
WHYT				eS	Sb	22 07 26.1	-0.6
	baz=353						
ECL	Taimali	0.56	177	eP	Pb	22 07 19.0	-0.1
	baz=176						
HGSD	Ruisui	0.57	54	eP	Pn	22 07 20.4	-1.0
	baz=54						
MASBT	Mashibuluo	0.61	206	eP	Pg	22 07 19.3	+0.3
	baz=206						
VWDT	VWDT	0.62	19	eP	Pb	22 07 19.9	-0.3
	baz=18						
SSLB	Suanglung	0.62	3	eP	Pb	22 07 20.0	-0.3
	baz=2.0						
WARBT	Fenglin Townsh	0.70	37	eP	Pb	22 07 21.3	-0.3
	baz=37						
WARBT				eS	Sg	22 07 30.4	+0.5
	baz=37						
SMLT	Sun Moon Lake	0.72	358	eP	Pb	22 07 22.1	+0.1
	baz=358						
TYC	Yuchr	0.74	355	eP	Pb	22 07 22.7	+0.5
	baz=356						
EAST	Anshuo	0.78	185	eP	Pb	22 07 22.6	-0.2
	baz=184						
WUSB	Renai	0.85	12	eP	Pg	22 07 23.7	+0.1
	baz=12						

JMA 04 22:07:44.6±0.3, 23.N±2.×123.1E±1.0, h56^{km}, MV2.4/11, FAR S OFF ISHIGAKIJIMA, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.27	31	eP	Pn	22 08 06.7	+0.6
HATJ				eS	Sn	22 08 22.4	+0.2
JYNG	Yonagunijimaku	1.48	355	eS	Sn	22 08 27.9	+0.6
IRIF	Iriomote-Funau	1.49	23	P	Pn	22 08 09.7	+0.7
IRIF				eS	Sn	22 08 27.2	-0.2
JKRS	Kuro-shima	1.53	34	eP	Pn	22 08 10.2	+0.7
JKRS				eS	Sn	22 08 28.1	-0.2
JIJ	Ishigaki jima	1.70	35	eP	Pn	22 08 12.6	+0.8
JIJ				S	Sn	22 08 32.1	-0.4
JISG	Ishigakijimahi	1.97	35	P	Pn	22 08 16.0	+0.5
JISG				eS	Sn	22 08 38.3	-0.7

JTJ	Tarama	2.23	41	P	Pn	22 08 20.0	+0.8

*IDC **04** 22:20:44.5±0.7, 28.51S×74.30E, h0^{km}, mb4.1/14, mbtmp4.1/14, MS3.9/43, Error ellipse: s-maj=28.3km s-min=18.4km az=72.0*
*NEIC **04** 22:20:45.3±2.1, 28.55S±0.09×74.2E±0.1, h10^{km}±1^{km}, mb4.6/23, Error ellipse: s-maj=24.9km s-min=7.4km az=122.0*
*GCMT **04** 22:20:46.3±0.4, 28.43S±0.03×74.20E±0.04, h12^{km}, MW4.8/84, Moment Tensor Solution. s16,c18; s84,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.69±.07; $M_{\theta\theta}$0.79±.07; $M_{\phi\phi}$0.90±.06; $M_{r\theta}$0.05±.30; $M_{\theta\phi}$-0.79±.05; $M_{r\phi}$0.78±.32; Best double couple: $M_0$1.83200×10^{16} NP1:ϕ_s153.00000°, δ56.00000°, λ-72.00000°. NP2: ϕ_s303.00000°, δ38.00000°, λ-115.00000°. Principal axes: T 1.7290, Plg9.0000°, Azm230.0000°; N 0.2040, Plg15.0000°, Azm323.0000°; P -1.9350, Plg72.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 22:20:45.4±0.6, 28.54S±0.10×74.4E±0.2, h10^{km}, n87, σ0.94/42, mb4.4/24, MS3.9/44, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	20.86	355	T	T	22 47 01.5	
	baz=176,slow=75,SNR=126						
H08S1	Diego Carcia H	20.86	355	T	T	22 47 04.0	
	baz=176,slow=75,SNR=80						
H08S3	Diego Garcia H	20.88	355	T	T	22 46 55.7	
	baz=176,slow=75,SNR=111						
H04N2	CROZET ISLANDS	24.99	219	T	T	22 52 04.5	
	baz=54,slow=74,SNR=46						
H04N1	CROZET ISLANDS	25.00	219	T	T	22 52 03.7	
	baz=54,slow=74,SNR=344						
H04N3	CROZET ISLANDS	25.01	219	T	T	22 52 07.0	
	baz=54,slow=74,SNR=1370						
H04S1	CROZET ISLANDS	25.34	218	T	T	22 52 34.8	
	baz=52,slow=76,SNR=134						
H04S3	CROZET ISLANDS	25.35	218	T	T	22 52 33.8	
	baz=52,slow=76,SNR=144						
H04S2	CROZET ISLANDS	25.36	218	T	T	22 52 36.9	
	baz=52,slow=76,SNR=93						
H01W2	Cape Leeuwin H	34.24	111	T	T	23 03 53.1	
	baz=268,slow=75,SNR=28						
H01W3	Cape Leeuwin H	34.24	111	T	T	23 03 51.4	
	baz=268,slow=75,SNR=28						
H01W1	Cape Leeuwin H	34.26	111	T	T	23 03 52.4	
	baz=268,slow=75,SNR=26						
PALK	Pallekele	36.12	11	LR	LR	22 39 30.1	
	comp=Z,157nm,18.7s,baz=293,slow=31						
NWAO	Narrogin (SRO)	36.91	108	LR	LR	22 41 08.4	
	comp=Z,165nm,18.0s,baz=211,slow=33						
MAW	Mawson	39.70	187	LR	LR	22 40 32.8	
	comp=Z,204nm,21.0s,baz=3.0,slow=30						
BOSA	Boshof	42.89	258	LR	LR	22 42 37.3	
	comp=Z,305nm,20.5s,baz=95,slow=31						
CASY	Casey	43.77	160	P	P	22 28 49.1	-1.7
LSZ	Lusaka	44.58	277	LR	LR	22 45 07.0	
	comp=Z,230nm,18.3s,baz=138,slow=33						
SUR	Sutherland	45.94	251	LR	LR	22 44 10.9	
	comp=Z,370nm,20.9s,baz=104,slow=31						
FORT	Forrest	46.33	107	P	P	22 29 09.1	-2.6
KAPI	Kappang	48.93	70	LR	LR	22 48 41.3	
	comp=Z,73nm,19.7s,baz=194,slow=34						
FURI	Furi	50.73	312	LR	LR	22 49 02.4	
	comp=Z,51nm,19.0s,baz=172,slow=34						
TSUM	Tsumeb	52.36	267	LR	LR	22 49 19.2	
	comp=Z,229nm,19.9s,baz=148,slow=33						
CMAR	Chiang Mai Arr	52.41	30	P	P	22 29 58.6	+0.4
ASAR	Alice Springs	53.21	99	P	P	22 30 05.5	+1.2
	1.4nm,0.5s,baz=251,slow=6.3,SNR=21						
ASAR				LR	LR	22 49 53.5	
	comp=Z,162nm,20.1s,baz=277,slow=33						
	1.4nm,0.5s						
WRA	Warramunga Arr	54.87	95	P	P	22 30 16.8	+0.5
WRA	Warramunga Arr	54.87	95	P	P	22 30 17.7	+1.4
	3.2nm,0.7s,baz=253,slow=7.5,SNR=19						
WRA				LR	LR	22 52 15.6	
	comp=Z,242nm,18.4s,baz=334,slow=34						
	3.2nm,0.7s						
WB2	Warramunga Arr	54.88	95	P	P	22 30 17.2	+0.8
WB2				IAmb	IAmb	22 30 25.6	
	comp=Z,14nm,1.3s						
STKA	Stephens Creek	57.34	111	LR	LR	22 52 13.1	
	comp=Z,103nm,19.6s,baz=220,slow=33						
SNAA	Sanae	59.17	201	P	P	22 30 45.7	-0.4
SNAA				IAmb	IAmb	22 31 05.2	
	comp=Z,8.1nm,1.5s						
SNAA	Sanae	59.17	201	P	P	22 30 46.4	+0.2
	comp=Z,2.5nm,1.1s,baz=64,slow=5.0,SNR=3.9						
SNAA				LR	LR	22 53 03.4	
	comp=Z,84nm,18.1s,baz=112,slow=33						
	comp=Z,2.5nm,1.1s						
DAV	Davao City (W)	60.72	62	LR	LR	22 54 28.7	
	comp=Z,64nm,21.4s,baz=170,slow=33						
QSPA	South Pole Qui	61.59	180	P	P	22 31 03.5	+0.7
QSPA				IAmb	IAmb	22 31 10.7	
	comp=Z,6.6nm,1.2s						
QSPA	South Pole Qui	61.59	180	P	P	22 31 04.0	+1.1
	comp=Z,1.2nm,0.8s,baz=62,slow=1.7,SNR=3.1						
QSPA				LR	LR	22 55 29.7	
	comp=Z,71nm,18.9s,baz=311,slow=34						
	comp=Z,1.2nm,0.8s						
VNDA	Vanda	61.81	166	P	P	22 31 05.2	+1.2
VNDA	Vanda	61.81	166	P	P	22 31 05.0	+1.0
	comp=Z,1.0nm,0.9s,baz=271,slow=4.0,SNR=4.4						
	comp=Z,1.0nm,0.9s						
KBL	Kabul	62.95	355	P	P	22 31 11.2	-1.0
KBL				IAmb	IAmb	22 31 23.4	
	comp=Z,2.8nm,0.5s						
GEYT	Alibeck	67.86	346	LR	LR	22 57 42.0	
	comp=Z,64nm,18.3s,baz=176,slow=33						
BTK	Batken	68.33	357	P	P	22 31 46.4	-0.5
BTK				IAmb	IAmb	22 31 51.2	
	comp=Z,8.6nm,1.4s						
EIL	Elat	69.06	324	LR	LR	22 58 49.7	
	comp=Z,50nm,18.1s,baz=260,slow=33						
ARSB	Arslanbob	69.53	359	P	P	22 31 53.9	-0.4
ARSB				IAmb	IAmb	22 32 03.9	
	comp=Z,4.8nm,1.4s						
PMG	Port Moresby	70.48	90	LR	LR	23 00 58.0	
	comp=Z,85nm,19.6s,baz=208,slow=34						
BOOM	Boomskoye usch	70.69	1	P	P	22 32 01.6	+0.1
BOOM				IAmb	IAmb	22 32 24.6	
	comp=Z,7.5nm,1.4s						
PRZ	Przheval'sk	70.77	3	P	P	22 32 02.4	+0.4
AAK	Ala-Archa	70.83	0	P	P	22 32 02.0	-0.2
AAK				IAmb	IAmb	22 32 16.9	
	comp=Z,8.1nm,1.3s						
AAK	Ala-Archa	70.83	0	LR	LR	23 00 19.8	
	comp=Z,106nm,20.3s,baz=182,slow=34						
KK31	Karatay Array	71.38	357		P	22 32 06.0	+0.5
KKAR	Karatay Array	71.38	357		P	22 32 05.9	+0.5
MMAI	Mount Meron Ar	71.52	326	P	P	22 32 07.6	+1.0
	comp=Z,1.1nm,0.6s,baz=145,slow=10,SNR=4.0						
	comp=Z,1.1nm,0.6s						
GNI	Garni	73.69	337	LR	LR	23 03 30.0	
	comp=Z,29nm,19.4s,baz=122,slow=35						
MK31

comp=Z,36nm,18.5s,baz=60,slow=35
SONM Songino Array 81.30 21 P P 22 33 01.4 -0.4
SONM Songino Array 81.30 21 P P 22 33 02.8 +1.0
comp=Z,0.8nm,0.7s,baz=201,slow=5.7,SNR=4.7
SONM LR LR 23 09 47.2
comp=Z,62nm,18.6s,baz=226,slow=36
comp=Z,0.8nm,0.7s
BVAR Borovoye Array 81.30 358 P P 22 33 02.4 +0.9
comp=Z,1.8nm,0.7s,baz=168,slow=7.6,SNR=8.3
BVAR LR LR 23 07 28.4
comp=Z,65nm,19.7s,baz=176,slow=34
comp=Z,1.8nm,0.7s
BRVK Borovoye 81.33 358 P P 22 33 01.8 +0.2
BRVK IAmb IAmb 22 33 03.9
comp=Z,5.0nm,1.0s
JNU Nakatsue 81.43 45 LR LR 23 05 39.9
comp=Z,59nm,21.7s,baz=227,slow=33
TORD Torodi Ar. Bea 81.51 290 LR LR 23 07 04.4
comp=Z,60nm,20.3s,baz=142,slow=34
PMSA Palmer Station 81.52 197 LR LR 23 07 24.5
comp=Z,37nm,18.7s,baz=174,slow=34
HNR Honiara 81.69 96 LR LR 23 08 24.7
comp=Z,594nm,18.1s,baz=67,slow=35
KSAR Wonju Array Be 82.61 40 P P 22 33 09.4 +0.7
KSRS Korea Array 82.64 40 P P 22 33 09.3 +0.4
comp=Z,0.6nm,0.5s,baz=232,slow=2.9,SNR=2.2
KSRS LR LR 23 07 43.5
comp=Z,82nm,20.6s,baz=215,slow=34
comp=Z,0.6nm,0.5s
ZAA0 Zalesovo Array 82.64 6 P P 22 33 07.8 -0.7
ZAA0 IAmb IAmb 22 33 09.7
comp=Z,4.0nm,1.1s
ZALV Zalesovo Beam 82.64 6 P P 22 33 08.2 -0.4
ZALV Zalesovo Beam 82.64 6 P P 22 33 08.5 0.0
comp=Z,1.2nm,0.7s,baz=204,slow=3.3,SNR=6.2
ZALV LR LR 23 07 48.1
comp=Z,36nm,20.5s,baz=220,slow=34
comp=Z,1.2nm,0.7s
DBIC Dimbokro 83.78 281 LR LR 23 08 57.2
comp=Z,55nm,18.4s,baz=104,slow=35
BELG Belogornoye 83.93 344 LR LR 23 08 27.2
comp=Z,33nm,18.5s,baz=195,slow=34
JCJ Chichijima 85.36 56 LR LR 23 10 52.4
comp=Z,49nm,19.4s,baz=121,slow=35
ARU Arti 85.70 351 P P 22 33 23.4 -0.6
ARU IAmb IAmb 22 33 26.3
comp=Z,9.3nm,1.3s
ARU Arti 85.70 351 P P 22 33 24.3 +0.3
comp=Z,0.6nm,0.4s,baz=157,slow=4.6,SNR=6.1
ARU LR LR 23 10 53.3
comp=Z,38nm,19.3s,baz=134,slow=35
comp=Z,0.6nm,0.4s
MJAR Matsushiro Arr 88.24 46 LR LR 23 09 30.1
comp=Z,44nm,21.8s,baz=229,slow=33
KIRV Kirov 89.26 347 LR LR 23 12 37.2
comp=Z,31nm,18.3s,baz=164,slow=35
USRK Ussuriysk Ar. 89.50 37 LR LR 23 13 12.0
comp=Z,94nm,19.4s,baz=279,slow=35
KLR Kul'dur 92.75 34 LR LR 23 16 08.9
comp=Z,74nm,19.2s,baz=215,slow=36
DAVOX Davos/Dischmat 94.88 321 LR LR 23 14 35.4
comp=Z,25nm,21.6s,baz=273,slow=34
ASAJ Asahikawa 95.43 42 LR LR 23 15 24.1
comp=Z,43nm,20.0s,baz=247,slow=34
MDT Midelt 96.59 304 LR LR 23 18 05.9
comp=Z,30nm,18.4s,baz=162,slow=36
BBTS Babate 97.65 282 LR LR 23 16 08.1
comp=Z,95nm,19.7s,baz=324,slow=34
YKA Yellowknife Ar 145.53 7 PKPbc **PKPdf 22 40 22.6 -0.6**
comp=Z,1.5nm,0.9s,baz=355,slow=4.2,SNR=4.4

*RHSSO **04** 22:33:12.7±0.6, 41°.37N×19°.42E, h6km±2km, ML2.7/12*
*PDG **04** 22:33:13.9±0.3, 41°.53N×19°.60E, h11km, ML2.7/13, Error ellipse: s-maj=1.1km s-min=1.0km az=90.0*
*BEO **04** 22:33:14.8±0.3, 41°.49N×19°.84E, h10km±3km, ML2.3/9*
ISC 04 22:33:12.5±1.1, 41°.41N±0°.04×19°.52E±0°.03, h13km±8km, n67, σ1°.06/109, 12C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.27**	**104**	*e*Pg	**Pg**	**22 33 18.5**	**+0.3**
TIR				*e*Sg	**Sg**	22 33 22.5	+0.5
ULC	**Ulcinj**	**0.59**	**340**	⇑*i*Pg	**Pg**	22 33 23.5	-0.6
ULC				*i* Sg	**Sg**	22 33 31.3	-0.6
DRME	**Dracevica, Mon**	**0.81**	**342**	*e*Pg	**Pb**	22 33 28.7	+0.2
DRME				*e*Sg	**Sn**	22 33 43.0	+1.4
DRME	**Dracevica, Mon**	**0.81**	**342**	⇑*i*Pg	**Pg**	22 33 27.4	-0.9
DRME				*e*Sg	**Sg**	22 33 39.2	+0.2
DRME	**Dracevica, Mon**	**0.81**	**342**	⇑*i*Pg	**Pg**	22 33 27.5	-0.9
DRME				*i* Sg	**Sg**	22 33 39.1	+0.1
BUM	**Brajici-Budva**	**1.00**	**333**	⇑*i*Pg	**Pb**	22 33 31.6	-0.2
BUM				*i* Sg	**Sn**	22 33 46.2	-0.2
OHR	**Ohrid**	**1.01**	**107**	*i* Pg	**Pb**	22 33 31.1	-0.8
OHR				*i* Sg	**Sn**	22 33 46.6	+0.1
PDG	**Podgorica**	**1.04**	**349**	*e*Pg	**Pn**	22 33 32.8	+0.1
PDG				*e*Sg	**Sn**	22 33 47.9	+0.8
PDG	**Podgorica**	**1.04**	**349**	*e*Pg	**Pb**	22 33 31.4	-0.9
PDG				*e*Sg	**Sn**	22 33 47.1	0.0
PDG	**Podgorica**	**1.04**	**349**	⇑*i*Pg	**Pb**	22 33 31.4	-0.9
PDG				*i* Sg	**Sb**	22 33 46.3	+0.5
CEME	**Cevo**	**1.22**	**339**	⇑*i*Pg	**Pn**	22 33 35.0	-0.3
CEME				*i* Sg	**Sg**	22 33 52.8	+0.9
PVY	**Plav**	**1.23**	**15**	*e*Pg	**Pn**	22 33 33.6	-1.9
PVY	**Plav**	**1.23**	**15**	⇑*i*Pg	**Pn**	22 33 34.1	-1.4
PVY				*i* Sg	**Sb**	22 33 51.6	+0.2
HCY	**Herceg Novi**	**1.29**	**324**	*e*Pg	**Pb**	22 33 36.2	-0.4
HCY				*e*Sg	**Sg**	22 33 53.8	-0.2
HCY	**Herceg Novi**	**1.29**	**324**	⇑*i*Pg	**Pb**	22 33 36.6	0.0
HCY				*i* Sg	**Sg**	22 33 55.3	+1.3
NKME	**Niksic**	**1.42**	**343**	⇓*i*Pg	**Pn**	22 33 38.3	+0.3
NKME				*i* Sg	**Sg**	22 33 59.0	+0.8
KOME	**Kolasin**	**1.44**	**360**	*e*Pg	**Pb**	22 33 39.1	-0.1
KOME				*e*Sg	**Sg**	22 33 59.3	+0.4
KOME	**Kolasin**	**1.44**	**360**	⇑*i*Pg	**Pb**	22 33 39.1	-0.1
KOME				*i* Sg	**Sg**	22 33 58.9	0.0
BEY	**Berane**	**1.48**	**11**	*e*Pg	**Pn**	22 33 38.7	-0.3
IVA	**Berane**	**1.48**	**11**	⇓*i*Pg	**Pn**	22 33 38.8	-0.3
IVA				*i* Sg	**Sb**	22 34 00.5	+1.7
TREB	**Trebinje**	**1.57**	**327**	*e*Pg	**Pb**	22 33 40.7	-0.7
TREB				*e*Sg	**Sg**	22 34 02.2	-0.8
DBRK	**Dubrovnik**	**1.62**	**321**	*e*Pn	**Pn**	22 33 41.0	+0.3
DBRK				Sn	**Sb**	22 34 02.4	-0.2
BRY	**Bratogost**	**1.66**	**334**	*e*Pn	**Pb**	22 33 42.3	-0.7
BRY				*e*Sn	**Sb**	22 34 04.3	+0.5
BRY	**Bratogost**	**1.66**	**334**	⇓*i*Pn	**Pb**	22 33 42.8	-0.2
BRY				*i* Sn	**Sg**	22 34 06.6	+0.7
UPM	**Unac-Piva**	**1.85**	**346**	*e*Pn	**Pb**	22 33 45.6	-0.6
UPM				*e*Sn	**Sb**	22 34 09.8	+0.5
UPM	**Unac-Piva**	**1.85**	**346**	⇓*i*Pn	**Pb**	22 33 46.5	+0.3
UPM				*i* Sn	**Sb**	22 34 10.5	+1.2
SJES	**Sjenica**	**1.88**	**10**	*e*Pn	**Pb**	22 33 45.9	-0.8
SJES				*e*Sg	**Sb**	22 34 12.1	+1.9
SJES	**Sjenica**	**1.88**	**10**	*e*Pn	**Pb**	22 33 46.0	-0.8
SJES				*e*Sn	**Sb**	22 34 10.0	-0.2
KLINJ	**Klinje**	**1.89**	**339**	*e*Pn	**Pb**	22 33 46.1	-0.8
KLINJ				*e*Sn	**Sb**	22 34 10.6	+0.2
PLE	**Pljevlja**	**1.92**	**357**	*e*Pn	**Pb**	22 33 46.9	-0.5
PLE	**Pljevlja**	**1.92**	**357**	⇓*i*Pn	**Pb**	22 33 46.9	-0.5
PLE				*i* Sn	**Sb**	22 34 12.2	+0.9
STON	**Ston**	**1.99**	**318**	*e*Pn	**Pn**	22 33 46.2	+0.4
STON	**Ston**	**1.99**	**318**	⇑*i*Pn	**Pn**	22 33 46.1	+0.3
STON				*e*Sn	**Sn**	22 34 11.4	+0.9
STIP	**Stip**	**2.02**	**81**	*i* Pn	**Pb**	22 33 49.3	+0.1
RUDO	**Rudo**	**2.21**	**357**	⇑*i*Pn	**Pn**	22 33 50.2	+1.3
RUDO				*e*Sn	**Sb**	22 34 18.4	-1.1
BARS	**Barje**	**2.21**	**50**	*e*Pn	**Pn**	22 33 49.3	+0.4
IVAS	**Ivanjica**	**2.21**	**12**	*e*Pn	**Pn**	22 33 48.3	-0.7
IVAS				*e*Sn	**Sn**	22 34 16.9	+0.7
BBLS	**Lazi&#263i**	**2.45**	**358**	*e*Pn	**Pb**	22 33 54.6	-2.0
BBLS	**Lazi&#263i**	**2.45**	**358**	⇑*i*Pn	**Pb**	22 33 54.5	-2.0
BBLS				*e*Sn	**Sn**	22 34 24.7	+2.5
GRUS	**Gruza**	**2.63**	**19**	*e*Pn	**Pn**	22 33 55.2	+0.6
MAKA	**Makarska**	**2.63**	**316**	*e*Pn	**Pn**	22 33 55.1	+0.5
HAPS	**Han Pijesak,BI**	**2.71**	**351**	*e*Pn	**Pn**	22 33 56.5	+0.7
HAPS				*e*Sn	**Sn**	22 34 30.6	+2.2
DIVS	**Divibare**	**2.71**	**7**	*e*Pn	**Pn**	22 33 57.4	+1.6
RICI	**Ricice**	**2.73**	**321**	*e*Pn	**Pn**	22 33 56.4	+0.4
HVAR	**Hvar**	**2.88**	**309**	*e*Pn	**Pn**	22 33 57.8	-0.3
TRUS	**Trudelj**	**2.88**	**13**	*e*Pn	**Pn**	22 34 00.2	+2.0
ZAGS	**Zajecar**	**3.13**	**39**	*e*Pn	**Pn**	22 34 01.2	-0.3
TEKS	**Tekeris**	**3.14**	**0**	*e*Pn	**Pn**	22 34 04.2	+2.6
TEKS	**Tekeris**	**3.14**	**0**	*e*Pn	**Pn**	22 34 04.0	+2.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUBS	**Kucevo**	**3.39**	**27**	*e*Pn	**Pn**	**22 34 03.6**	**-1.5**
KUBS				*e*Sn	**Sn**	22 34 42.4	-2.8
MGRS	**Mrkonjic Grad**	**3.50**	**330**	*e*Pn	**Pn**	22 34 07.6	+1.0
MGRS				*e*Sn	**Sn**	22 34 49.1	+1.3
ZIRJ	**Zirje**	**3.63**	**309**	*e*Pn	**Pn**	22 34 08.7	+0.3
MORI	**Morici**	**3.73**	**312**	*e*Pn	**Pn**	22 34 10.6	+0.8
BLY	**Banja Luka**	**3.75**	**334**	*e*Pn	**Pn**	22 34 11.4	+1.4
BLY				*e*Sn	**Sn**	22 34 54.9	+1.0
A050A	**Klekovaca**	**3.77**	**325**	*e*Pn	**Pn**	22 34 11.6	+1.2
A050A				*e*Sn	**Sn**	22 34 54.5	-0.1
UDBI	**Udbina**	**4.16**	**320**	*e*Pn	**Pn**	22 34 17.5	+1.8
DUGI	**Dugi Otok**	**4.18**	**310**	*e*Pn	**Pn**	22 34 16.5	+0.6
VIRC	**Vir**	**4.36**	**313**	*e*Pn	**Pn**	22 34 18.8	+0.4
PLIT	**Plitvice**	**4.49**	**322**	*e*Pn	**Pn**	22 34 21.2	+1.0
NVLJ	**Novalja**	**4.64**	**314**	*e*Pn	**Pn**	22 34 22.7	+0.4
BOJS	**Bojanci**	**5.13**	**324**	*e*Pn	**Pn**	22 34 29.1	+0.1
BOJS				*e*Sn	**Sn**	22 35 26.7	-1.4
CRES	**Cresnjev**	**5.30**	**328**	*e*Pn	**Pn**	22 34 31.8	+0.4
CRES				*e*Sn	**Sn**	22 35 30.9	-1.5
BRJN	**Brijuni**	**5.47**	**312**	*e*Pn	**Pn**	22 34 34.1	+0.4
CEY	**Cerknica**	**5.69**	**321**	*e*Pn	**Pn**	22 34 36.7	0.0
CEY				*e*Sn	**Sn**	22 35 40.7	-1.2
SKDS	**Skadanscina**	**5.75**	**318**	*e*Pn	**Pn**	22 34 37.1	-0.5
SKDS				*e*Sn	**Sn**	22 35 41.5	-1.9
OBKA	**Obir**	**6.23**	**327**	*e*Pn	**Pn**	22 34 46.8	+2.6
0.5nm,0.4s							
OBKA	**Obir**	**6.23**	**327**	*e*Pn	**Pn**	22 34 44.7	+0.5
OBKA				*e*Sn	**Sn**	22 35 53.5	-1.7

*IDC **04** 22:54:24.8±2.2, 52°.30N×169°.18W, h0km, mb3.7/7, mbtmp3.7/8, ML3.5/1, Error ellipse: s-maj=73.6km s-min=23.0km az=14.0*
*AEIC **04** 22:54:26.9±2.7, 51°.94N±0°.05×169°.19W±0°.09, h26km±8km, Error ellipse: s-maj=8.4km s-min=6.8km az=135.0*
*NEIC **04** 22:54:27.4±1.8, 52°.0N±0°.1×169°.24W±0°.09, h17km±15km, ML3.5/8, ML3.1(AEIC), Error ellipse: s-maj=16.8km s-min=6.9km az=163.0*
ISC 04 22:54:28.3±1.0, 51°.97N±0°.09×169°.33W±0°.07, h30km, n33, σ0°.99/31, mb3.8/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.85**	**344**		**Pn**	**22 54 43.2**	**-1.0**
CLCO					**Sn**	22 54 57.1	+1.5
CLES	**Cleveland East**	**0.92**	**338**		**Pn**	**22 54 44.5**	**-0.6**
CLES	**Cleveland East**	**0.92**	**338**		**Sb**	**22 54 57.7**	**+0.2**
CLES	**Cleveland East**	**0.92**	**338**	IAML		22 55 02.3	
comp=E,3μm,0.3s							
CLES				IAML		22 55 04.6	
comp=N,3μm,0.2s							
NIKH	**Nikolski High**	**1.04**	**16**		**Pn**	**22 54 45.9**	**-1.0**
NIKH				Sn	**Sn**	22 54 59.5	-0.9
OKCE	**Okmok Cone E**	**1.62**	**26**		**Pn**	22 54 54.5	-0.3
MSW	**Makushin Switc**	**2.48**	**37**		**Pn**	**22 55 06.8**	**+0.1**
MNAT	**Makushin Natee**	**2.50**	**39**		**Pn**	**22 55 06.1**	**-0.7**
UNV	**Unalaska Valle**	**2.54**	**41**	Pn	**Pn**	**22 55 07.8**	**+0.4**
MTBL	**Makushin Table**	**2.56**	**38**		**Pn**	**22 55 06.8**	**-1.0**
KOSE	**Korovin Southe**	**2.93**	**279**		**Pn**	**22 55 14.0**	**+1.2**
KOFP	**Korovin Flat P**	**2.95**	**278**		**Pn**	**22 55 14.5**	**+1.4**
LVA	**Lava Point**	**2.96**	**41**	Pn	**Pn**	**22 55 14.3**	**+1.1**
LVA				IAML		22 55 59.7	
comp=N,217nm,0.8s							
ATKA	**Atka Island**	**3.01**	**276**	Pn	**Pn**	**22 55 13.1**	**-0.7**
GSTR	**Great Sitkin T**	**4.16**	**274**	Pn	**Pn**	**22 55 30.6**	**+1.0**
ADK	**Adak**	**4.55**	**272**	Pn	**Pn**	**22 55 35.5**	**+0.5**
ADK				IAML		22 56 30.6	
comp=N,32nm,1.3s							
ADK				IAML		22 56 53.8	
comp=N,38nm,1.2s							
KIWB	**Kanaga Island**	**4.84**	**272**	Pn	**Pn**	**22 55 40.6**	**+1.6**
CNBA	**Chernabura Isl**	**6.49**	**60**	Pn	**Pn**	**22 56 02.4**	**+0.8**
AMKA	**Amchitka**	**7.09**	**270**	Pn	**Pn**	**22 56 10.7**	**+0.7**
CHGN	**Chignik**	**7.74**	**52**	Pn	**Pn**	**22 56 20.7**	**+1.9**
O14K	**Tigyukauivet M**	**8.60**	**29**	Pn	**Pn**	**22 56 31.6**	**+1.1**
O16K	**Kokwok River B**	**9.91**	**35**	Pn	**Pn**	**22 56 49.9**	**+1.4**
PETK	**Petropavlovsk-**	**19.99**	**286**	P	**P**	**22 58 58.5**	**+0.5**
comp=N,0.6nm,0.3s,baz=84,slow=14,SNR=9.8							
comp=N,2.4nm,0.6s							
H11S1	**WAKE ISLAND Hy**	**38.34**	**218**	T	T	23 43 24.4	
baz=23,slow=76,SNR=14							
H11S2	**WAKE ISLAND Hy**	**38.34**	**218**	T	T	23 43 19.9	
baz=23,slow=76,SNR=9.2							
H11S3	**WAKE ISLAND Hy**	**38.36**	**218**	T	T	23 43 20.2	
baz=23,slow=76,SNR=6.2							
PDAR	**Pinedale Array**	**40.46**	**79**	P	**P**	**23 02 04.1**	**0.0**
comp=N,0.2nm,0.5s,baz=320,slow=3.5,SNR=3.9							
comp=N,0.2nm,0.5s							
TXAR	**Lajitas Array**	**52.73**	**89**	P	**P**	**23 03 40.2**	**-0.1**
comp=N,0.4nm,0.7s,baz=294,slow=6.3,SNR=3.5							
comp=N,0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**62.79**	**318**	P	**P**	**23 04 50.9**	**+0.5**
comp=N,0.6nm,0.7s,baz=45,slow=7.4,SNR=6.1							
comp=N,0.6nm,0.7s							
BVAR	**Borovoye Array**	**64.04**	**325**	P	**P**	**23 04 59.1**	**+0.4**
comp=N,1.0nm,0.6s,baz=52,slow=6.3,SNR=6.5							
comp=N,1.0nm,0.6s							
MKAR	**Makanchi Array**	**64.09**	**314**	P	**P**	**23 04 58.7**	**-0.5**
comp=N,0.2nm,0.5s,baz=54,slow=7.5,SNR=4.7							
comp=N,0.2nm,0.5s							
FINES	**FINESS Array B**	**66.27**	**352**	P	**P**	**23 05 12.1**	**-0.9**
comp=N,0.9nm,0.7s,baz=15,slow=7.9,SNR=6.1							
comp=N,0.9nm,0.7s							
HFS	**Hagfors**	**68.22**	**358**	P	**P**	**23 05 24.2**	**-1.2**
comp=N,1.0nm,0.7s,baz=22,slow=4.8,SNR=6.1							
comp=N,1.0nm,0.7s							

*NOU **04** 23:04:50.8, 39°.87S×177°.22E, h23km, MLv3.8/10, Off E. Coast of N. Island, N.Z.*
*WEL **04** 23:04:52.7±0.6, 40°S±4°.×17°.7E±°, h36km±6km, M3.7/13, ML4.1/13, MLv3.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=113.8, confirmed*
*IDC **04** 23:04:54.8±6.0, 39°.66S×176°.91E, h57km±44km, mb3.4/2, mbtmp3.7/2, Error ellipse: s-maj=58.8km s-min=33.5km az=136.0*
ISC 04 23:04:52.0±0.9, 39°.87S±0°.03×177°.18E±0°.04, h51km±6km, n144, σ0°.85/156, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.22**	**339**	P	**Pn**	**23 05 00.4**	**-0.2**
CKHZ				S	**Sn**	23 05 05.8	-0.9
KAHZ	**Kahuranaki**	**0.24**	**287**	P	**Pn**	23 05 00.7	-0.1
KAHZ				S	**Sn**	23 05 06.7	-0.4
PXZ	**Pawanui**	**0.29**	**236**	P	**Pn**	23 05 01.6	+0.4
PXZ				S	**Sn**	23 05 08.4	+0.7
MCHZ	**McNeill Hill**	**0.56**	**318**	P	**Pn**	23 05 03.7	-0.4
MCHZ				S	**Sn**	23 05 12.0	-0.7
PRHZ	**Porangahau**	**0.58**	**226**	P	**Pn**	23 05 04.9	+0.7
WPHZ	**Waipukurau**	**0.60**	**251**	P	**Pn**	23 05 04.8	+0.3
WPHZ				S	**Sn**	23 05 13.7	+0.1
ARHZ	**Aropaoanui**	**0.62**	**347**	P	**Pn**	23 05 04.6	-0.1
ARHZ				S	**Sn**	23 05 13.7	-0.2
KRHZ	**Kereru**	**0.66**	**289**	P	**Pn**	23 05 04.6	-0.8
KRHZ				S	**Sn**	23 05 13.3	-1.7
KWHZ	**Kaweka Forest**	**0.73**	**307**	P	**Pn**	23 05 05.4	-0.8
PNHZ	**Pukenui**	**0.76**	**266**	P	**Pn**	23 05 06.2	-0.3
PNHZ				S	**Sn**	23 05 16.2	-0.9
WHHZ	**Waihua**	**0.79**	**3**	P	**Pn**	23 05 07.2	+0.3
WHHZ				S	**Sn**	23 05 18.6	+0.7
ANWZ	**Angora Road**	**0.80**	**222**	P	**Pn**	23 05 07.7	+0.6
NMHZ	**Naumai**	**0.82**	**339**	P	**Pn**	23 05 07.3	-0.2
NMHZ				S	**Sn**	23 05 17.8	-0.9
BKZ	**Black Stump Fm**	**0.88**	**323**	P	**Pn**	23 05 07.6	-0.6
BKZ	**Black Stump Fm**	**0.88**	**323**	P	**Pn**	23 05 07.5	-0.6
BKZ				S	**Sn**	23 05 18.2	-1.8
DVHZ	**Dannevirke**	**0.89**	**241**	P	**Pn**	23 05 08.5	+0.3
MHGZ	**Mahia Peninsul**	**0.91**	**38**	P	**Pn**	23 05 09.4	+0.9
KNZ	**Kokohu**	**0.93**	**24**	P	**Pn**	23 05 09.1	+0.3
RAHZ	**Arahi**	**0.95**	**356**	P	**Pn**	23 05 09.1	0.0
TSZ	**Takapari Road**	**0.96**	**258**	P	**Pn**	23 05 09.0	-0.2
MTHZ	**Maungataniwha**	**1.05**	**345**	P	**Pn**	23 05 10.0	-0.4
BFZ	**Birch Farm**	**1.08**	**221**	P	**Pn**	23 05 11.3	+0.5
BFZ	**Birch Farm**	**1.08**	**221**	P	**Pn**	23 05 11.2	+0.4
PRGZ	**Paritu Road**	**1.09**	**30**	P	**Pn**	23 05 11.4	+0.5
SNGZ	**Shannon Statio**	**1.09**	**7**	P	**Pn**	23 05 11.1	+0.1
PRWZ	**Pori Road**	**1.15**	**233**	P	**Pn**	23 05 12.4	+0.7
MRHZ	**Matea Rd**	**1.19**	**330**	P	**Pn**	23 05 12.2	-0.1
MOVZ	**Moawhango**	**1.20**	**292**	P	**Pn**	23 05 12.3	-0.1
POWZ	**Post Office Ro**	**1.20**	**244**	P	**Pn**	23 05 12.9	+0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIGZ	**Rimuhau**	**1.25**	**21**	P	**Pn**	**23 05 13.4**	**+0.3**
CPWZ	**Castlepoint**	**1.28**	**215**	P	**Pn**	**23 05 14.2**	**+0.7**
HATZ	**Hinemaiaia**	**1.29**	**319**	P	**Pn**	**23 05 13.7**	**0.0**
TUVZ	**Tukino**	**1.32**	**296**	P	**Pn**	**23 05 14.6**	**+0.4**
WNVZ	**Wahianoa**	**1.34**	**293**	P	**Pn**	**23 05 14.7**	**+0.3**
TIWZ	**Tintock**	**1.34**	**227**	P	**Pn**	**23 05 14.7**	**+0.3**
ETVZ	**East Tongariro**	**1.35**	**302**	P	**Pn**	**23 05 14.8**	**+0.2**
RITZ	**Rihia Road**	**1.36**	**311**	P	**Pn**	**23 05 14.9**	**+0.3**
WHVZ	**Whangaehu Hut**	**1.36**	**295**	P	**Pn**	**23 05 15.0**	**+0.2**
OTVZ	**Oturere**	**1.37**	**300**	P	**Pn**	**23 05 15.0**	**+0.2**
TMVZ	**Te Maari**	**1.37**	**303**	P	**Pn**	**23 05 14.9**	**+0.1**
SNVZ	**South Ngauruho**	**1.37**	**299**	P	**Pn**	**23 05 15.1**	**+0.1**
RAGZ	**Rawiri**	**1.38**	**8**	P	**Pn**	**23 05 14.9**	**-0.1**
TRVZ	**Turoa**	**1.38**	**294**	P	**Pn**	**23 05 15.4**	**+0.3**
MAVZ	**Matarangi**	**1.39**	**295**	P	**Pn**	**23 05 15.4**	**+0.2**
NTVZ	**North Tongarir**	**1.40**	**303**	P	**Pn**	**23 05 15.2**	**+0.1**
FWVZ	**Far West T-bar**	**1.40**	**295**	P	**Pn**	**23 05 15.4**	**0.0**
MTVZ	**Mangateitei**	**1.41**	**290**	P	**Pn**	**23 05 15.8**	**+0.5**
NNVZ	**North Ngauruho**	**1.42**	**301**	P	**Pn**	**23 05 15.7**	**+0.2**
KRVZ	**Karewarewa**	**1.42**	**302**	P	**Pn**	**23 05 15.6**	**+0.1**
MUGZ	**Murupara**	**1.43**	**347**	P	**Pn**	**23 05 15.2**	**-0.2**
COVZ	**Chateau Observ**	**1.43**	**297**	P	**Pn**	**23 05 15.7**	**+0.1**
WTVZ	**West Tongariro**	**1.44**	**301**	P	**Pn**	**23 05 16.0**	**+0.2**
KATZ	**Kakaramea**	**1.46**	**307**	P	**Pn**	**23 05 16.2**	**+0.2**
ALRZ	**Allen Road**	**1.46**	**333**	P	**Pn**	**23 05 15.9**	**0.0**
MRZ	**Mangatainoka R**	**1.46**	**237**	P	**Pn**	**23 05 16.0**	**0.0**
RATZ	**Rangitukua**	**1.48**	**312**	P	**Pn**	**23 05 16.2**	**-0.1**
PRRZ	**Plateau Road**	**1.50**	**336**	P	**Pn**	**23 05 16.3**	**-0.1**
TKGZ	**Te Karaka**	**1.52**	**20**	P	**Pn**	**23 05 16.8**	**+0.1**
WHTZ	**Whakaora**	**1.53**	**321**	P	**Pn**	**23 05 17.1**	**+0.1**
PKVZ	**Pokaka**	**1.53**	**292**	P	**Pn**	**23 05 17.4**	**+0.4**
MWZ	**Matawai**	**1.56**	**10**	P	**Pn**	**23 05 16.9**	**-0.4**
WPRZ	**Whakapapatarin**	**1.56**	**329**	P	**Pn**	**23 05 17.0**	**-0.4**
TWVZ	**Taurewa**	**1.57**	**300**	P	**Pn**	**23 05 17.1**	**-0.4**
TMWZ	**Te Maipa**	**1.58**	**218**	P	**Pn**	**23 05 17.5**	**-0.1**
CNGZ	**Carnagh Statio**	**1.60**	**30**	P	**Pn**	**23 05 15.1**	**-2.7**
URZ	**Urewera**	**1.61**	**358**	P	**Pn**	**23 05 17.5**	**-0.5**
URZ	**Urewera**	**1.61**	**358**	P	**Pn**	**23 05 17.5**	**-0.5**
91nm,0.3s,baz=325,slow=2.4,SNR=311							
URZ				S	**Sn**	**23 05 35.6**	**-1.9**
154nm,0.3s,baz=340,slow=14,SNR=23							
URZ	**Urewera**	**1.61**	**358**	P	**Pn**	**23 05 17.5**	**-0.5**
RRRZ	**Republican Roa**	**1.61**	**341**	P	**Pn**	**23 05 17.9**	**-0.1**
WATZ	**Wairara**	**1.61**	**315**	P	**Pn**	**23 05 17.7**	**-0.4**
HRRZ	**Handcock Road**	**1.63**	**334**	P	**Pn**	**23 05 18.6**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.64**	**231**	P	**Pn**	**23 05 18.0**	**-0.4**
WAZ	**Wanganui**	**1.69**	**273**	P	**Pn**	**23 05 20.5**	**+1.4**
TARZ	**Mount Tarawera**	**1.71**	**342**	P	**Pn**	**23 05 19.5**	**0.0**
HSRZ	**Hossack Road**	**1.72**	**335**	P	**Pn**	**23 05 19.4**	**0.0**
GRRZ	**Galatos Road**	**1.73**	**331**	P	**Pn**	**23 05 19.9**	**+0.2**
KUTZ	**Kaahu Road**	**1.73**	**322**	P	**Pn**	**23 05 19.4**	**-0.3**
HLRZ	**Highlands Stat**	**1.74**	**338**	P	**Pn**	**23 05 20.1**	**+0.3**
TWGZ	**Tauwhareparae**	**1.80**	**21**	P	**Pn**	**23 05 20.7**	**0.0**
**

PD31	**Pinedale Array**	**3.01 220**		**Pb**	**23 23 56.5**	**-1.4**
PDAR	**Pinedale Array**	**3.01 220**	Pn	**Pb**	**23 23 55.7**	**-2.2**
PDAR	**Pinedale Array**	**3.01 220**	Pn	**Pb**	**23 23 57.0**	**-1.0**
	comp=N,1.4nm,0.3s,baz=49,slow=18,SNR=37					
PDAR			Lg	Lg	23 24 36.7	
	comp=N,1.3nm,0.3s,baz=43,slow=31,SNR=4.2					
	comp=N,1.7nm,0.4s					
LOHW	**Long Hollow**	**3.03 242**		**Pb**	**23 23 56.4**	**-1.8**
LOHW			IAML		23 24 49.9	
	comp=N,19nm,0.9s					
TPAW	**Teton Pass**	**3.31 242**	Pn	**Pn**	**23 23 58.3**	**+1.7**
BOZ	**Bozeman (W)**	**3.35 280**	Pn	**Pn**	**23 23 58.8**	**+1.6**
BOZ			IAML		23 24 54.2	
	comp=N,16nm,0.8s					
EGMT	**Eagleton**	**3.52 327**		**Pn**	**23 23 59.7**	**+0.4**
EGMT			IAML		23 25 13.5	
	comp=N,35nm,0.8s					
N23A	**Red Feather La**	**4.26 170**		**Pn**	**23 24 12.0**	**+2.3**
N23A			IAML		23 25 23.1	
	comp=E,16nm,1.1s					
N23A			IAML		23 25 27.6	
	comp=N,20nm,0.7s					
I56US	**NEWPORT INFRAS**	**7.70 298**	I	I	00 07 40.0	
	baz=112,slow=314,SNR=1.8					
ULM	**Lac du Bonnet**	**9.06 51**	Pn	**Pn**	**23 25 15.9**	**+0.6**
	comp=N,0.2nm,0.3s,baz=245,slow=15,SNR=2.4					
ULM			Lg	Lg	23 27 46.1	
	comp=N,0.1nm,0.3s,baz=334,slow=14,SNR=1.7					
	comp=N,3.1nm,0.6s					

*RHSSO **04** 23:32:27.9±0.6, 41°.36N×19°.38E, h5km±2km, ML2.6/10*
*TIR **04** 23:32:27.4, 41°.52N×19°.56E, h31km±1km, Ml2.7*
*BEO **04** 23:32:29.9±0.5, 41°.45N×19°.66E, h7km±2km, ML2.3/8*
ISC 04 23:32:28.1±1.1, 41°.47N±0°.02×19°.56E±0°.03, h10km±9km, n45, σ1§05/75, 5C, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.26**	**117**	P		**Pg**	**23 32 33.5**	**+0.2**
	baz=127							
TIR				S		**Sb**	**23 32 38.4**	**-1.0**
	baz=127							
TIR				AMP				
	comp=N,11nm,0.2s,baz=127							
TIR	**Tirane**	**0.26**	**117**	*e*Pg		**Pg**	**23 32 33.6**	**+0.2**
TIR				*e*Sg		**Sb**	**23 32 38.0**	**-1.4**
PUK	**Puka**	**0.63**	**23**	P		**Pg**	**23 32 39.6**	**-0.7**
	baz=25							
PUK				S		**Sg**	**23 32 48.4**	**-0.2**
	baz=25							
PUK				AMP				
	comp=E,1.7nm,0.4s,baz=25							
DRME	**Dracevica, Mon**	**0.77**	**339**	*e*Pg		**Pg**	**23 32 43.0**	**0.0**
DRME				*e*Sg		**Sn**	**23 32 58.1**	**+1.3**
DRME	**Dracevica, Mon**	**0.77**	**339**	⇑*i*Pg		**Pg**	**23 32 42.8**	**-0.2**
DRME				*e*Sg		**Sb**	**23 32 55.1**	**+0.9**
BCI	**Bajram Curri**	**0.98**	**23**	P		**Pg**	**23 32 45.8**	**-1.2**
	baz=24							
BCI				S		**Sg**	**23 32 58.7**	**-0.9**
	baz=24							
BCI				AMP				
	comp=N,0.6nm,0.4s,baz=24							
PDG	**Podgorica**	**0.99**	**347**	*e*Pg		**Pg**	**23 32 47.3**	**+0.1**
PDG				*e*Sg		**Sn**	**23 33 03.7**	**+1.6**
PDG	**Podgorica**	**0.99**	**347**	⇑*i*Pg		**Pg**	**23 32 46.7**	**-0.5**
PDG				*e*Sg		**Sn**	**23 33 02.1**	**0.0**
VLO	**Vlora**	**1.00**	**183**	P		**Pn**	**23 32 48.9**	**+0.8**
	baz=183							
VLO				S		**Sn**	**23 33 02.8**	**+0.6**
	baz=183							
VLO				AMP				
	comp=E,0.7nm,0.2s,baz=183							
PVY	**Plav**	**1.17**	**15**	*e*Pg		**Pn**	**23 32 51.3**	**+0.7**
KBN	**Korca**	**1.25**	**132**	P		**Pn**	**23 32 51.8**	**+0.1**
	baz=133							
KBN				S		**Sn**	**23 33 09.7**	**+1.0**
	baz=133							
KBN				AMP				
	comp=N,0.6nm,0.4s,baz=133							
HCY	**Herceg Novi**	**1.26**	**321**	*e*Pg		**Pn**	**23 32 51.5**	**-0.3**
HCY				*e*Sg		**Sb**	**23 33 08.4**	**+0.1**
KOME	**Kolasin**	**1.39**	**359**	*e*Pg		**Pg**	**23 32 55.1**	**+0.4**
KOME				*e*Sg		**Sg**	**23 33 13.9**	**+1.2**
BEY	**Berane**	**1.43**	**10**	*e*Pg		**Pn**	**23 32 54.5**	**+0.3**
FNA	**Florina**	**1.53**	**116**	P		**Pb**	**23 32 56.2**	**-0.4**
	baz=117							
FNA				S		**Sg**	**23 33 18.0**	**+0.6**
	baz=117							
FNA				AMP				
	comp=N,0.3nm,0.3s,baz=117							
TREB	**Trebinje**	**1.54**	**325**	*e*Pn		**Pn**	**23 32 56.0**	**+0.4**
TREB				*e*Sn		**Sb**	**23 33 17.2**	**+0.9**
SCTE	**Santa Cesarea**	**1.62**	**211**	P		**Pn**	**23 32 56.5**	**-0.2**
	baz=211							
SRN	**Sarande**	**1.62**	**168**	P		**Pb**	**23 32 57.7**	**-0.4**
	baz=168							
SRN				S		**Sg**	**23 33 20.7**	**+0.6**
	baz=168							
SRN				AMP				
	comp=N,0.2nm,0.4s,baz=168							
BRY	**Bratogost**	**1.62**	**333**	*e*Pn		**Pb**	**23 32 57.9**	**-0.3**
BRY				*e*Sn		**Sb**	**23 33 19.2**	**+0.4**
UPM	**Unac-Piva**	**1.80**	**345**	*e*Pn		**Pb**	**23 33 00.8**	**-0.5**
UPM				*e*Sn		**Sb**	**23 33 24.6**	**+0.6**
SJES	**Sjenica**	**1.82**	**10**	*e*Pn		**Pb**	**23 33 02.0**	**+0.4**
SJES				*e*Sg		**Sg**	**23 33 26.8**	**+0.1**
SJES	**Sjenica**	**1.82**	**10**	⇑*i*Pn		**Pb**	**23 33 01.5**	**-0.1**
SJES				*e*Sn		**Sg**	**23 33 26.8**	**+0.1**
KLINJ	**Klinje**	**1.85**	**337**	*e*Pn		**Pn**	**23 33 01.2**	**+1.2**
KLINJ				*e*Sn		**Sb**	**23 33 25.9**	**+0.6**
PLE	**Pljevlja**	**1.87**	**356**	*e*Pn		**Pb**	**23 33 02.5**	**+0.1**
STON	**Ston**	**1.97**	**316**	*e*Pn		**Pn**	**23 33 01.7**	**+0.2**
STON				*e*Sn		**Sn**	**23 33 26.8**	**+0.6**
IGT	**Igoumenitsa**	**2.02**	**163**	P		**Pn**	**23 33 03.4**	**+1.2**
	baz=163							
IGT				AMP				
	comp=E,0.2nm,0.5s,baz=163							
PRVS	**Prvonek**	**2.15**	**60**	*e*Pn		**Pb**	**23 33 06.0**	**-1.1**
BARS	**Barje**	**2.15**	**50**	*e*Pn		**Pn**	**23 33 05.2**	**+1.1**
BARS				*e*Sn		**Sb**	**23 33 33.7**	**-0.3**
IVAS	**Ivanjica**	**2.16**	**12**	*e*Pn		**Pn**	**23 33 05.1**	**+1.0**
IVAS				*e*Sn		**Sb**	**23 33 33.2**	**-0.9**
RUDO	**Rudo**	**2.16**	**356**	*e*Pn		**Pn**	**23 33 05.4**	**+1.3**
RUDO				*e*Sn		**Sb**	**23 33 34.2**	**+0.2**
BBLS	**Lazi&#263i**	**2.40**	**357**	*e*Pn		**Pb**	**23 33 10.6**	**-0.9**
BBLS	**Lazi&#263i**	**2.40**	**357**	⇑*i*Pn		**Pn**	**23 33 09.4**	**+1.9**
BBLS				*e*Sn		**Sb**	**23 33 40.9**	**-0.3**
GRUS	**Gruza**	**2.57**	**19**	*e*Pn		**Pn**	**23 33 11.1**	**+1.4**
DIVS	**Divibare**	**2.65**	**7**	*e*Pn		**Pb**	**23 33 14.5**	**-1.2**
HAPS	**Han Pijesak,BI**	**2.66**	**351**	⇑*i*Pn		**Pn**	**23 33 12.3**	**+1.2**
HAPS				*e*Sn		**Sb**	**23 33 46.6**	**-1.9**
TRUS	**Trudelj**	**2.83**	**12**	*e*Pn		**Pn**	**23 33 15.7**	**+2.4**
ZAGS	**Zajecar**	**3.07**	**39**	*e*Pn		**Pn**	**23 33 18.4**	**+1.8**
TEKS	**Tekeris**	**3.08**	**360**	*e*Pn		**Pn**	**23 33 20.1**	**+3.3**
KUBS	**Kucevo**	**3.33**	**27**	*e*Pn		**Pn**	**23 33 18.8**	**-1.4**
BLY	**Banja Luka**	**3.71**	**333**	*e*Pn		**Pn**	**23 33 27.0**	**+1.5**
A050A	**Klekovaca**	**3.74**	**325**	*e*Pn		**Pn**	**23 33 27.0**	**+1.0**
A050A				*e*Sn		**Sn**	**23 34 10.2**	**0.0**
BOJS	**Bojanci**	**5.11**	**324**	*e*Pn		**Pn**	**23 33 44.6**	**-0.1**
BOJS				*e*Sn		**Sn**	**23 34 42.6**	**-1.1**
CRES	**Cresnjev**	**5.28**	**327**	*e*Pn		**Pn**	**23 33 47.3**	**+0.3**
CRES				*e*Sn		**Sn**	**23 34 47.0**	**-0.8**
CEY	**Cerknica**	**5.67**	**321**	*e*Pn		**Pn**	**23 33 52.4**	**+0.1**
SKDS	**Skadanscina**	**5.73**	**317**	*e*Pn		**Pn**	**23 33 52.4**	**-0.9**
SKDS				*e*Sn		**Sn**	**23 34 56.0**	**-3.1**

*IDC **04** 23:54:16.6±1.4, 35°.57N×140°.14E, h86km±11km, mb3.8/13, mbtmp4.2/18, MS4.4/2, Error ellipse: s-maj=21.6km s-min=6.9km az=71.0*
*NEIC **04** 23:54:16.8±1.7, 35°.56N±0°.05×140°.07E±0°.08, h81km±8km, mb4.4/16, Error ellipse: s-maj=9.8km s-min=7.0km az=94.0*
*NIED **04** 23:54:17.2, 35°.62N×139°.93E, h85km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}3.15; $M_{\theta\theta}$0.52; $M_{\phi\phi}$-3.67; $M_{r\theta}$-6.12; $M_{\theta\phi}$-5.38; $M_{\phi r}$-0.87; Fault plane solution: $M_0$8.88000×10^14^ NP1: ϕ_s251.00000°, δ76.00000°, λ129.00000°. NP2: ϕ_s357.00000°, δ41.00000°, λ21.00000°.*
*JMA **04** 23:54:17.2±0.2, 35°.6N±0°.7×139°.9E±0°.9, h85km±1km, MV3.7/40, CENTRAL CHIBA PREF*

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JMA Felt I J1 at CENTRAL CHIBA PREF .
ISC 04 23:54:17.2±0.7, 35°.56N±0°.04×139°.98E±0°.04, h88km±5km, n76, σ1§04/86, mb4.3/21, 4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.22**	**305**	P		**Pn**	**23 54 30.2**	**+0.3**
TOK				*e*S		**Sn**	**23 54 40.3**	**+0.8**
JCN	**Nagara**	**0.23**	**128**	P		**Pn**	**23 54 30.8**	**+0.7**
JCN				*e*S		**Sn**	**23 54 41.0**	**+1.3**
JSMT	**Sammumatsuo**	**0.39**	**78**	P		**Pn**	**23 54 31.5**	**+0.6**
JSMT				*e*S		**Sn**	**23 54 42.7**	**+1.5**
JOD2	**Odawara 2**	**0.79**	**248**	*i* P		**Pn**	**23 54 33.7**	**-0.7**
JOD2				S		**Sn**	**23 54 46.0**	**-1.3**
BSO3	**Boso 3**	**0.88**	**150**	⇓*i*P		**Pn**	**23 54 35.4**	**+0.3**
BSO3				⇓S		**Sn**	**23 54 49.6**	**+1.1**
JIM2	**Oshima 3**	**0.95**	**208**	P		**Pn**	**23 54 35.8**	**-0.5**
JIM2				S		**Sn**	**23 54 49.6**	**-1.0**
JAG	**Ashikaga**	**0.96**	**334**	*i* P		**Pn**	**23 54 35.7**	**-0.7**
JRY	**Ryogami san**	**0.98**	**298**	⇓*i*P		**Pn**	**23 54 36.5**	**-0.2**
JRY				⇓*e*S		**Sn**	**23 54 50.8**	**-0.3**
JFNN	**Fujinakano**	**1.12**	**251**	P		**Pn**	**23 54 38.2**	**0.0**
JFNN				S		**Sn**	**23 54 53.3**	**-0.6**
JYN	**Shimob**	**1.17**	**267**	*i* P		**Pn**	**23 54 38.5**	**-0.3**
JYN				S		**Sn**	**23 54 54.6**	**-0.5**
BSO1	**Boso 1**	**1.22**	**138**	*i* P		**Pn**	**23 54 39.1**	**+0.3**
JIZS	**Izushimoda**	**1.23**	**227**	*i* P		**Pn**	**23 54 39.5**	**-0.1**
JIZS				S		**Sn**	**23 54 56.0**	**-0.3**
JKT	**Katashina**	**1.34**	**334**	*i* P		**Pn**	**23 54 40.5**	**-0.4**
JKT				S		**Sn**	**23 54 57.4**	**-1.4**
JSG	**Sagara**	**1.71**	**239**	Pn		**Pn**	**23 54 45.1**	**-0.5**
JSG				Sn		**Sn**	**23 55 09.3**	**+2.1**
MJAR	**Matsushiro Arr**	**1.73**	**305**	P		**Pn**	**23 54 44.5**	**-1.3**
	104nm,0.6s,baz=128,slow=9.6,SNR=184							
MJAR				S		**Sn**	**23 55 09.2**	**+1.5**
	81nm,0.5s,baz=28,slow=18,SNR=3.8							
MAJO	**Matsushiro**	**1.73**	**305**			**Pn**	**23 54 45.8**	**-0.1**
MAJO					Sn	**Sn**	**23 55 08.8**	**+1.0**
MAT	**Matsushiro**	**1.73**	**305**	*i* P		**Pn**	**23 54 45.9**	**0.0**
MJB9	**Matsu-Tunnel**	**1.74**	**305**			**Pn**	**23 54 46.9**	**+0.9**
MJB9					Sn	**Sn**	**23 55 09.8**	**+2.0**
JGF	**Kuroka**	**2.14**	**272**			**Pn**	**23 54 52.3**	**+1.1**
JGF					Sn	**Sn**	**23 55 17.4**	**+0.3**
JMM	**Marumori**	**2.39**	**16**	Pn		**Pn**	**23 54 54.6**	**+0.1**
JMM					Sn	**Sn**	**23 55 22.6**	**-0.4**
INU	**Inuyama**	**2.43**	**266**			**Pn**	**23 54 55.6**	**+0.6**
INU					Sn	**Sn**	**23 55 25.3**	**+1.3**
JHJ	**Hachijo jima 2**	**2.44**	**184**	P		**Pn**	**23 54 55.9**	**+0.6**
	389nm,0.4s,baz=77,slow=11,SNR=30							
JHJ				S		**Sn**	**23 55 24.7**	**+0.3**
	1μm,0.3s,baz=316,slow=21,SNR=23							
JHJ2	**Mitsune**	**2.45**	**183**			**Pn**	**23 54 55.6**	**+0.3**
JHJ2					Sn	**Sn**	**23 55 23.8**	**-0.7**
JSD	**Sado**	**2.83**	**331**	Pn		**Pn**	**23 55 00.1**	**-0.2**
JTM	**Tenmabayashi**	**5.29**	**9**	Pn		**Pn**	**23 55 33.0**	**-0.7**
ERM	**Erimo**	**6.90**	**20**	Pn		**Pn**	**23 55 54.8**	**-0.8**
JCJ	**Chichijima**	**8.65**	**167**	Pn		**Pn**	**23 56 16.1**	**-3.5**
JCJ	**Chichijima**	**8.65**	**167**	P		Pn	23 56 11.1	-8.5
	40nm,0.3s,baz=280,slow=17,SNR=5.2							
JCJ				S		Sn	23 57 41.2	-14
	59nm,0.5s,baz=232,slow=19,SNR=2.8							
ASAJ	**Asahikawa**	**8.78**	**12**	P		**Pn**	**23 56 18.5**	**-2.6**
	6.9nm,0.3s,baz=237,slow=9.4,SNR=8.7							
JKA	**Kamikawa-asahi**	**8.78**	**12**	Pn		**Pn**	**23 56 18.1**	**-3.1**
KSRS	**Korea Array**	**9.89**	**285**	P		**Pn**	**23 56 39.0**	**+2.6**
	4.0nm,0.5s,baz=100,slow=14,SNR=17							
KSRS				LR		LR	00 00 37.3	
	comp=Z,20nm,21.0s,baz=65,slow=38							
USRK	**Ussuriysk Ar.**	**10.58**	**327**	P		**Pn**	**23 56 47.5**	**+1.7**
	5.8nm,0.9s,baz=142,slow=14,SNR=3.1							
KLR	**Kul'dur**	**14.93**	**339**	P		**Pn**	**23 57 42.2**	**-1.2**
	1.7nm,0.6s,baz=149,slow=13,SNR=4.7							
YAK	**Yakutsk**	**27.27**	**349**	LR		LR	00 09 38.7	
	comp=Z,26nm,20.5s,baz=106,slow=34							
SONM	**Songino Array**	**27.69**	**307**	P		**P**	**23 59 58.7**	**+1.8**
SONM	**Songino Array**	**27.69**	**307**	P		**P**	**23 59 56.1**	**-0.9**
	1.1nm,0.6s,baz=108,slow=10,SNR=5.8							
	1.1nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**28.46**	**117**	T		T	00 29 56.8	
	baz=308,slow=75,SNR=25							
H11N1	**WAKE ISLAND Hy**	**28.47**	**117**	T		T	00 29 59.6	
	baz=308,slow=75,SNR=24							
H11N3	**WAKE ISLAND Hy**	**28.48**	**117**	T		T	00 29 49.7	
	baz=308,slow=75,SNR=22							
H11S3	**WAKE ISLAND Hy**	**29.11**	**119**	T		T	00 30 22.5	
	baz=311,slow=76,SNR=5.5							
H11S1	**WAKE ISLAND Hy**	**29.11**	**119**	T		T	00 30 20.8	
	baz=311,slow=76,SNR=4.6							
H11S2	**WAKE ISLAND Hy**	**29.12**	**119**	T		T	00 30 23.1	
	baz=311,slow=76,SNR=3.6							
TIXI	**Tiksi**	**36.62**	**354**	P		**P**	**00 01 14.3**	**-0.1**
	2.1nm,0.3s,baz=135,slow=4.3,SNR=4.0							
	2.1nm,0.3s							
ZAA0	**Zalesovo Array**	**42.07**	**314**	P		**P**	**00 01 59.8**	**-0.2**
ZAA0					IAmb	IAmb	00 02 01.2	
	comp=Z,4.9nm,0.8s							
ZALV	**Zalesovo Beam**	**42.07**	**314**	P		**P**	**00 02 00.1**	**+0.2**
	comp=Z,7.1nm,0.9s,baz=87,slow=7.0,SNR=15							
	comp=Z,7.1nm,0.9s							
MK31	**Makanchi Array**	**43.93**	**303**	P		**P**	**00 02 15.6**	**+0.4**
MK31					IAmb	IAmb	00 02 16.2	
	comp=Z,3.5nm,0.7s							
MKAR	**Makanchi Array**	**43.93**	**303**	P		**P**	**00 02 15.5**	**+0.3**
MKAR	**Makanchi Array**	**43.93**	**303**	P		**P**	**00 02 15.8**	**+0.6**
	comp=Z,4.2nm,0.5s,baz=84,slow=9.4,SNR=48							
	comp=Z,4.2nm,0.5s							
MAKZ	**Makanchi**	**44.15**	**303**	P		**P**	**00 02 17.2**	**+0.3**
MAKZ					IAmb	IAmb	00 02 17.9	
	comp=Z,4.9nm,0.9s							
KURK	**Kurchatov**	**45.94**	**309**	P		**P**	**00 02 30.8**	**-0.2**
KURBB	**Kurchatov Arra**	**46.01**	**309**	P		**P**	**00 02 31.8**	**+0.3**
	comp=Z,5.1nm,0.6s,baz=83,slow=7.6,SNR=53							
	comp=Z,5.1nm,0.6s							
COEN	**Coen**	**49.34**	**176**	P		**P**	**00 02 57.7**	**+0.1**
BVAR	**Borovoye Array**	**50.71**	**313**	P		**P**	**00 03 07.8**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=75,slow=7.4,SNR=7.3							
	comp=Z,1.1nm,0.5s							
BRVK	**Borovoye**	**50.77**	**313**	P		**P**	**00 03 09.0**	**+0.9**
BRVK					IAmb	IAmb	00 03 17.4	
	comp=Z,2.7nm,1.1s							
MDM	**Murphy Dome**	**50.77**	**31**	P		**P**	**00 03 09.4**	**+1.4**
ILAR	**Eielson Array**	**51.35**	**32**	P		**P**	**00 03 11.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=274,slow=6.0,SNR=5.0							
	comp=Z,0.3nm,0.6s							
ARSB	**Arslanbob**	**51.62**	**298**	P		**P**	**00 03 15.7**	**+0.9**
KKAR	**Karatay Array**	**52.87**	**301**	P		**P**	**00 03 24.1**	**+0.2**
GAR	**Garm**	**54.29**	**296**	P		**P**	**00 03 34.5**	**+0.1**
GAR					IAmb	IAmb	00 03 36.2	
	comp=Z,4.1nm,0.6s							
WB0	**Warramunga Arr**	**55.28**	**186**	P		**P**	**00 03 40.8**	**-0.7**
WR0	**Warramunga Arr**	**55.46**	**186**	P		**P**	**00 03 42.2**	**-0.6**
WRA	**Warramunga Arr**	**55.46**	**186**	P		**P**	**00 03 41.7**	**-1.1**
WRA	**Warramunga Arr**	**55.46**	**186**	P		**P**	**00 03 42.4**	**-0.4**
	comp=Z,4.3nm,0.5s,baz=0.7,slow=7.7,SNR=106							
	comp=Z,4.3nm,0.5s							
J30M	**Hart River**	**55.88**	**31**	P		**P**	**00 03 45.9**	**+0.4**
G31M	**Satah River**	**56.23**	**28**	P		**P**	**00 03 48.3**	**+0.6**
G31M					IAmb	IAmb	00 03 53.3	
	comp=Z,3.5nm,1.2s							
ARU	**Arti**	**56.70**	**319**	P		**P**	**00 03 51.1**	**-0.1**
ARU					IAmb	IAmb	00 03 52.0	
	comp=Z,2.4nm,0.8s							
ABKAR	**Akbulak array**	**58.00**	**310**	P		**P**	**00 04 01.2**	**+0.6**
ABKAR					IAmb	IAmb	00 04 01.7	
	comp=Z,2.0nm,0.5s							
ABKAR	**Akbulak array**	**58.00**	**310**	P		**P**	**00 04 00.8**	**+0.3**
ASAR	**Alice Springs**	**59.19**	**186**	P		**P**	**00 04 08.2**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=13,slow=11,SNR=12							
	comp=Z,0.9nm,0.5s							
ARCES	**ARCESS Array B**	**64.96**	**339**	P		**P**	**00 04 46.6**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=41,slow=8.2,SNR=4.3							
	comp=Z,0.7nm,0.6s							
FINES	**FINESS Array B**	**69.57**	**332**	P		**P**	**00 05 15.8**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=79,slow=6.5,SNR=13							
	comp=Z,2.7nm,0.9s							
HFS	**Hagfors**	**74.94**	**335**	P		**P**	**00 05 49.0**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=358,slow=4.3,SNR=1.6							
	comp=Z,0.9nm,0.8s							
NB2	**NORSAR Subarra**	**75.08**	**337**	P		**P**	**00 05 49.4**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=40,slow=6.2							
NOA	**NORSAR Array B**	**75.08**	**337**	P		**P**	**00 05 49.5**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=39,slow=5.7,SNR=3.9							
	comp=Z,0.8nm,0.8s							
RAO	**Raoul Island**	**75.69**	**143**	LR		LR	00 32 38.6	
	comp=Z,262nm,20.1s,baz=152,slow=30							
TKL	**Tuckaleechee C**	**98.25**	**35**	LR		LR	00 56 32.7	
	comp=Z,152nm,18.3s,baz=180,slow=38							

*NAO **04** 23:55:30.9±1.9, 74°.45N×8°.89E, ML2.9*
*BER **04** 23:55:34.5±1.3, 74°.39N×9°.43E, h10km, mb(Pn)3.5, Confirmed Earthquake*
ISC 04 23:55:30.4±1.5, 74°.37N±0°.06×9°.22E±0°.09, h10km, n17, σ2§15/23, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.64**	**82**	*e*P		**Pn**	**23 56 15.0**	**+2.0**
BJO1				*e*S		**Sn**	**23 56 43.1**	**-1.9**
BJO1				IAML			23 56 46.6	
	comp=Z,6.8nm,0.4s							
BJO1	**Bjornoya**	**2.64**	**82**	Pn		**Pn**	**23 56 14.5**	**+1.5**
BJO1				Sn		**Sn**	**23 56 43.5**	**-1.6**
HSPB	**Hornsund (broa**	**3.08**	**28**	*e*P		**Pn**	**23 56 20.0**	**+1.0**
HSPB				IAML			23 56 22.8	
	comp=Z,1.1nm,0.2s							
HSPB	**Hornsund (broa**	**3.08**	**28**	Pn		**Pn**	**23 56 19.8**	**+0.8**
HSPB				Sn		**Sn**	**23 56 53.8**	**-1.9**
BRBA	**Barentsburg A**	**3.90**	**15**	*e*P		**Pn**	**23 56 31.7**	**+1.5**
BRBA				*e*			23 56 37.2	
BRBA	**Barentsburg A**	**3.90**	**15**	Pn		**Pn**	**23 56 31.7**	**+1.5**
SPA0	**Spitsbergen Ar**	**4.19**	**21**	*e*P		**Pn**	**23 56 36.3**	**+2.1**
SPA0				*e*			23 56 42.2	
SPA0				IAmb		IAmb	23 56 43.6	
	comp=Z,16nm,0.4s							
SPA0	**Spitsbergen Ar**	**4.19**	**21**	Pn		**Pn**	**23 56 36.3**	**+2.1**
	baz=194,slow=14							
HOPEN	**Hopen**	**4.52**	**54**	*e*P		**Pn**	**23 56 40.9**	**+2.1**
HOPEN				IAML			23 56 44.6	
	comp=Z,8.7nm,0.6s							
HOPEN				*e*S		**Sn**	**23 57 29.2**	**-2.0**
HOPEN	**Hopen**	**4.52**	**54**	Pn		**Pn**	**23 56 40.9**	**+2.1**
HOPEN				Sn		**Sn**	**23 57 28.6**	**-2.7**
KBS	**Kingsbay**	**4.63**	**7**	*e*P		**Pn**	**23 56 41.6**	**+1.4**
KBS				IAML			23 56 47.5	
	comp=Z,2.8nm,0.2s							
KBS	**Kingsbay**	**4.63**	**7**	Pn		**Pn**	**23 56 40.8**	**+0.5**
TRO	**Tromso**	**5.62**	**143**	Pn		**Pn**	**23 56 55.8**	**+1.9**
TRO				Sn		**Sn**	**23 57 57.1**	**-1.3**
JMIC	**Jan Mayen**	**6.27**	**246**	*e*P		**Pn**	**23 57 03.0**	**+0.3**
JMIC				IAML			23 57 06.3	
	comp=Z,6.7nm,0.5s							
JMIC	**Jan Mayen**	**6.27**	**246**	Pn		**Pn**	**23 57 03.3**	**+0.6**
KIF	**Kilpisjarvi**	**6.50**	**140**	Pn		**Pn**	**23 57 09.5**	**+3.7**
KIF				Sn		**Sn**	**23 58 15.3**	**-4.5**
ARA0	**ARCESS Array S**	**6.99**	**126**	Pn		Pn	23 57 17.8	+5.1
	baz=326,slow=10							
ARA0				Sn		Sn	23 58 25.0	-7.0
	baz=344,slow=14							

*NEIC **04** 23:59:17.3±1.4, 15°.7N±0°.3×96°.60W±0°.10, h26km±26km, mb4.1/13, Error ellipse: s-maj=46.4km s-min=7.9km az=194.0*
*MEX **04** 23:59:19.3±0.5, 15°.76N×96°.77W, h19km±35km, MD4.4*
ISC 04 23:59:13.5±1.4, 15°.42N±0°.07×96°.79W±0°.03, h28km±10km, n73, σ2§76/117, mb4.2/5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.39**	**51**	*e*P		**Pn**	**23 59 24.3**	**+0.9**
PANG				*e*S		**Sb**	**23 59 28.9**	**+0.8**
PEIG	**Puerto Escondi**	**0.67**	**329**	*e*P		**Pb**	**23 59 26.5**	**-0.2**
PEIG				*e*S		**Sb**	**23 59 32.6**	**-3.1**
HUIG	**Huatulco**	**0.74**	**62**	*e*P		**Pb**	**23 59 29.6**	**+1.6**
HUIG				*e*S		**

DEIG				*eS*		**Sn**	**00 01 33.5 +2.1**
ACIG	**Acambay**	**5.41**	**327**	*eP*		**Pn**	**00 00 33.7 +1.2**
ACIG				*eS*		**Sn**	**00 01 36.4 +2.5**
MOIG	**Morelia**	**5.96**	**316**	Pn		**Pn**	**00 00 43.6 +3.4**
CTUV	**Llano Grande**	**6.20**	**346**	*e*		Pb	00 00 54.0 -6.9
CTUV				*e*			00 02 05.1
COIG	**Colima**	**7.58**	**301**	*eP*		Pn	00 01 10.7 +8.5
COIG				*eS*		**Sn**	**00 02 30.8 +3.5**
JUBC	**Volcan de Coli**	**7.64**	**303**	*eP*		**Pn**	**00 01 02.3 -1.0**
JUBC				*eS*		**Sn**	**00 02 36.2 +7.0**
MNGA	**Volcan de Coli**	**7.66**	**303**	*eP*		**Pn**	**00 01 04.7 +1.1**
MNGA				*eS*		**Sn**	**00 02 29.2 -0.4**
INCO	**Volcan de Coli**	**7.68**	**303**	*eP*		**Pn**	**00 01 04.2 +0.3**
INCO				*eS*		**Sn**	**00 02 24.5 -5.7**
SOMAC	**Volcano de Col**	**7.70**	**303**	*eP*		**Pn**	**00 01 05.6 +1.5**
SOMAC				*eS*		**Sn**	**00 02 34.1 +3.5**
CEGR	**Campo Tres**	**7.81**	**301**	*eP*		Pn	00 01 11.6 +6.0
CEGR				*eS*		**Sn**	**00 02 40.7 +7.4**
GTIG	**Gomez Farias**	**7.93**	**344**	*eP*		**Pn**	**00 01 09.9 +2.8**
TEIG	**Tepich**	**9.41**	**58**	Pn		**Pn**	**00 01 26.9 -0.4**
MIAR	**Mount Ida**	**19.26**	**8**			**P**	**00 03 35.9 -0.1**
MIAR				IAmb		IAmb	00 03 47.6
	comp=Z,8.7nm,0.8s						
FCAR	**Ozark Folk Cen**	**20.81**	**11**	P		**P**	**00 03 52.7 0.0**
FCAR				IAmb		IAmb	00 04 03.5
	comp=Z,5.6nm,0.7s						
T35A	**Sooner Cattle**	**21.41**	**1**	P		**P**	**00 04 00.5 +1.2**
T35A				IAmb		IAmb	00 04 11.5
	comp=Z,6.4nm,0.7s						
KAN08	**Anthony NE Sta**	**21.75**	**357**	P		**P**	**00 04 04.7 +1.9**
PBMO	**Poplar Bluff**	**22.01**	**14**	P		**P**	**00 04 06.0 +0.4**
PBMO				IAmb		IAmb	00 04 09.4
	comp=Z,4.9nm,0.8s						
T42A	**Van Buren**	**22.11**	**12**	P		**P**	**00 04 07.3 +0.6**
V48A	**Smith Brothers**	**22.11**	**22**	P		**P**	**00 04 06.5 -0.3**
WVT	**Waverly**	**22.12**	**20**	P		**P**	**00 04 06.2 -0.7**
CCM	**Cathedral Cave**	**23.07**	**11**	P		**P**	**00 04 17.9 +1.0**
CCM				IAmb		IAmb	00 04 19.1
	comp=Z,6.3nm,1.1s						
R40A	**Maddies Statio**	**23.13**	**9**	P		**P**	**00 04 18.1 +0.7**
R40A				IAmb		IAmb	00 04 20.5
	comp=Z,6.7nm,0.9s						
T47A	**Sharon Grove**	**23.14**	**20**	P		**P**	**00 04 17.2 -0.3**
T47A				IAmb		IAmb	00 04 28.6
	comp=Z,11nm,0.9s						
O48B	**Farmland**	**26.75**	**20**	P		**P**	**00 04 52.1 +1.3**
O49A	**Covington**	**26.96**	**21**	P		**P**	**00 04 52.9 +0.1**

*IDC **05** 00:09:35.4±1.3, 74°.41N×9°.26E, h0km, mb3.4/2, mbtmp3.4/7, ML2.3/4, MS2.7/5, Error ellipse: s-maj=26.1km s-min=10.9km az=87.0*
*NAO **05** 00:09:35.8±553.0, 74°.44N×9°.04E, h19km±603km, ML3.4*
*FCIAR **05** 00:09:37.0, 74°.27N×10°.33E, h10km, station SPA0 has station magnitude of 3.37*
*BER **05** 00:09:38.3±3.2, 74°.47N×9°.66E, h10km, mb(Pn)3.7, ML3.4(NAO), Confirmed Earthquake*

ISC 05 00:09:35.7±0.9, 74°.46N±0°.05×9°.90E±0°.07, h10km, n55, σ1$78/60, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.45**	**85**	*eP*	**Pn**	**00 10 16.9**	**+1.3**
BJO1				*eS*	**Sn**	**00 10 45.2**	**-0.3**
BJO1				IAML		00 10 49.4	
	comp=Z,22nm,0.4s						
BJO1	**Bjornoya**	**2.45**	**85**	Pn	**Pn**	**00 10 16.8**	**+1.2**
BJO1				Sn	**Sn**	**00 10 45.2**	**-0.3**
BJO1	**Bjornoya**	**2.45**	**85**	*eP*	**Pn**	**00 10 16.7**	**+1.2**
BJO1				*eS*	**Sn**	**00 10 45.0**	**-0.5**
HSPB	**Hornsund (broa**	**2.91**	**26**	*eP*	**Pn**	**00 10 22.6**	**+0.7**
HSPB				IAML		00 10 24.2	
	comp=Z,2.5nm,0.4s						
HSPB	**Hornsund (broa**	**2.91**	**26**	Pn	**Pn**	**00 10 22.8**	**+0.9**
BRBA	**Barentsburg A**	**3.76**	**14**	*eP*	**Pn**	**00 10 34.3**	**+0.7**
BRBA	**Barentsburg A**	**3.76**	**14**	Pn	**Pn**	**00 10 34.4**	**+0.8**
BRBA				Sn	**Sn**	**00 11 16.9**	**-1.0**
SPA0	**Spitsbergen Ar**	**4.04**	**19**	Pn	**Pn**	**00 10 38.7**	**+1.2**
	baz=190,slow=16						
SPA0				Sn	**Sn**	**00 11 24.4**	**-0.3**
	baz=214,slow=28						
SPA0	**Spitsbergen Ar**	**4.04**	**19**	Pn	**Pn**	**00 10 38.7**	**+1.2**
	baz=190,slow=16						
SPA0				Sn	**Sn**	**00 11 24.4**	**-0.3**
	baz=214,slow=28						
SPA0	**Spitsbergen Ar**	**4.04**	**19**	*eP*	**Pn**	**00 10 38.7**	**+1.2**
SPA0				*eS*	**Sn**	**00 11 24.4**	**-0.3**
SPITS	**Spitsbergen Ar**	**4.04**	**19**	Pn	**Pn**	**00 10 38.9**	**+1.4**
	comp=Z,11nm,0.3s,baz=194,slow=14,SNR=171						
SPITS				Sn	**Sn**	**00 11 23.9**	**-0.8**
	baz=211,slow=25						
HOPEN	**Hopen**	**4.32**	**54**	*eP*	**Pn**	**00 10 43.5**	**+2.3**
HOPEN				IAML		00 10 45.8	
	comp=Z,15nm,0.5s						
HOPEN				*eS*	**Sn**	**00 11 31.1**	**-0.4**
HOPEN	**Hopen**	**4.32**	**54**	Pn	**Pn**	**00 10 43.7**	**+2.5**
HOPEN				Sn	**Sn**	**00 11 31.1**	**-0.4**
HOPEN	**Hopen**	**4.32**	**54**	*eP*	**Pn**	**00 10 42.8**	**+1.6**
HOPEN				*eS*	**Sn**	**00 11 30.1**	**-1.4**
KBS	**Kingsbay**	**4.52**	**5**	*eP*	**Pn**	**00 10 43.6**	**-0.4**
KBS	**Kingsbay**	**4.52**	**5**	Pn	**Pn**	**00 10 43.5**	**-0.4**
KBS	**Kingsbay**	**4.52**	**5**	*eP*	**Pn**	**00 10 43.1**	**-0.9**
KBS				*eS*	**Sn**	**00 11 33.9**	**-2.6**
TRO	**Tromso**	**5.59**	**146**	*eP*	**Pn**	**00 11 00.2**	**+1.6**
TRO				*e*		00 11 53.3	
TRO	**Tromso**	**5.59**	**146**	Pn	**Pn**	**00 11 00.1**	**+1.4**
HAMF	**Hammerfest**	**5.64**	**126**	Pn	**Pn**	**00 10 59.9**	**+0.6**
HAMF				Sn	Sn	00 11 58.8	-5.2
JETT	**Jettan, Norway**	**5.90**	**141**	Pn	**Pn**	**00 11 05.0**	**+2.1**
JETT	**Jettan, Norway**	**5.90**	**141**	Pn	**Pn**	**00 11 05.0**	**+2.1**
KIF	**Kilpisjarvi**	**6.45**	**143**	*eP*	**Pn**	**00 11 12.2**	**+1.7**
KIF				*eS*	Sn	00 12 18.1	-5.9
KIF	**Kilpisjarvi**	**6.45**	**143**	Pn	**Pn**	**00 11 12.0**	**+1.5**
LOF	**Lofoten**	**6.47**	**168**	Pn	**Pn**	**00 11 10.5**	**-0.2**
JMIC	**Jan Mayen**	**6.47**	**247**	*eP*	Pn	00 11 05.8	-5.0
JMIC	**Jan Mayen**	**6.47**	**247**	Pn	Pn	00 11 06.0	-4.8
JMIC	**Jan Mayen**	**6.47**	**247**	LR	LR	00 12 21.2	
	comp=Z,11nm,19.6s,baz=62,slow=26						
JMI	**Jan Mayen**	**6.57**	**247**	*eP*	Pn	00 11 07.2	-4.9
JMI	**Jan Mayen**	**6.57**	**247**	Pn	Pn	00 11 07.4	-4.7
STEI	**Steigen**	**6.78**	**163**	*eP*	**Pn**	**00 11 16.5**	**+1.5**
ARA0	**ARCESS Array S**	**6.89**	**128**	Pn	**Pn**	**00 11 17.2**	**+0.6**
	baz=327,slow=12						
ARA0				Sn	Sn	00 12 29.1	-5.8
	baz=330,slow=22						
ARA0	**ARCESS Array S**	**6.89**	**128**	Pn	**Pn**	**00 11 17.2**	**+0.6**
	baz=327,slow=12						
ARA0				Sn	Sn	00 12 29.1	-5.8
	baz=330,slow=22						
ARCES	**ARCESS Array B**	**6.89**	**128**	Pn	**Pn**	**00 11 17.9**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=328,slow=12,SNR=17						
ARCES				Sn	**Sn**	**00 12 30.3**	**-4.6**
	comp=Z,0.5nm,0.3s,baz=329,slow=20,SNR=10						
ARCES				LR	LR	00 14 25.7	
	comp=Z,46nm,18.8s,baz=276,slow=42						
	comp=Z,0.8nm,0.4s						
KEV	**Kevo**	**7.05**	**123**	*eP*	**Pn**	**00 11 20.1**	**+1.4**
KEV				*eS*	**Sn**	**00 12 33.9**	**-4.8**
KEV	**Kevo**	**7.05**	**123**	Pn	**Pn**	**00 11 19.8**	**+1.1**
KEV				Sn	**Sn**	**00 12 33.9**	**-4.8**
VADS	**Vadso**	**7.33**	**117**	*eP*	**Pn**	**00 11 23.2**	**+0.7**
HEF	**Hetta**	**7.47**	**137**	Pn	**Pn**	**00 11 26.5**	**+2.0**
HEF	**Hetta**	**7.47**	**137**	Pn	**Pn**	**00 11 26.5**	**+2.0**
SALU	**Saltoluokta**	**7.64**	**154**	*eP*	**Pn**	**00 11 28.9**	**+2.0**
KONS	**Konsvik**	**8.07**	**171**	*eP*	**Pn**	**00 11 32.8**	**+0.1**
STOK	**Stokkvaagen**	**8.23**	**171**	*eP*	**Pn**	**00 11 34.8**	**-0.2**
ZFI2	**Zemlya Franca-**	**10.03**	**34**	*eP*	**Pn**	**00 12 01.2**	**+1.7**
ZFI2				S	**Sn**	**00 13 47.2**	**-4.7**
OMEGA	**Omega**	**10.04**	**35**	*eP*	**Pn**	**00 12 01.4**	**+1.8**
APA0	**Apatity Array**	**10.10**	**121**	Sn	Sn	00 13 45.9	-7.8
	baz=316,slow=22						
APA0	**Apatity Array**	**10.10**	**121**	Sn	Sn	00 13 45.9	-7.8
	baz=316,slow=22						
NOA	**NORSAR Array B**	**13.49**	**177**	Pn	**Pn**	**00 12 45.9**	**-1.0**
	baz=356,slow=12,SNR=2.2						
	comp=Z,0.5nm,0.8s						
FINES	**FINESS Array B**	**14.32**	**147**	Pn	**Pn**	**00 12 58.8**	**+0.6**
	baz=337,slow=14,SNR=1.7						
	comp=Z,1.3nm,0.9s						
BORG	**Borgarnes**	**14.36**	**244**	LR	LR	00 16 47.2	
	comp=Z,39nm,18.1s,baz=15,slow=30						
HFS	**Hagfors**	**14.46**	**172**	Pn	**Pn**	**00 13 00.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=316,slow=14,SNR=1.5						
	comp=Z,0.9nm,0.8s						
LSH	**Leshukonskoye**	**15.39**	**110**	P	Pn	00 13 07.9	-4.6
	comp=Z,40nm,1.8s						
LSH				S	Sn	00 15 46.7	-16
SFJD	**Kangerlussuaq**	**20.34**	**280**	LR	LR	00 20 34.0	
	comp=Z,41nm,20.5s,baz=336,slow=33						
ILAR	**Eielson Array**	**40.19**	**345**	P	**P**	**00 17 13.1**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=8.9,slow=6.4,SNR=3.4						
	comp=Z,0.2nm,0.7s						
MKAR	**Makanchi Array**	**40.91**	**90**	LR	LR	00 40 09.9	
	comp=Z,20nm,18.4s,baz=206,slow=45						
TORD	**Torodi Ar. Bea**	**61.47**	**189**	P	**P**	**00 19 52.5**	**+0.4**
	comp=Z,1.1nm,1.1s,baz=3.4,slow=7.6,SNR=3.7						
	comp=Z,1.1nm,1.1s						

*SJA **05** 00:15:49.2±1.0, 22°.50S×66°.02W, h270km±6km, ML4.1, MW3.7*
*NEIC **05** 00:15:50.3±1.6, 22°.57S±0°.06×66°.05W±0°.09, h257km±12km, mb4.2/8, Error ellipse: s-maj=12.8km s-min=8.9km az=75.0*
*IDC **05** 00:15:50.4±1.2, 22°.47S×66°.16W, h262km±20km, mb3.4/3, mbtmp4.0/8, Error ellipse: s-maj=32.6km s-min=12.8km az=116.0*

ISC 05 00:15:49.5±0.6, 22°.53S±0°.05×66°.09W±0°.05, h251km, n60, σ1$27/71, mb3.9/4, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.63**	**57**	*eP*	**Pn**	**00 16 26.4**	**+2.8**
YJA				*eS*	**S**	**00 16 52.2**	**+2.0**
AZAP	**Zapla**	**1.93**	**151**	*eP*	**Pn**	**00 16 33.6**	**+1.9**
AZAP				*eS*	**S**	**00 17 06.0**	**+1.0**
LVC	**Limon Verde**	**2.61**	**268**	*eP*	**Pn**	**00 16 40.2**	**+1.8**
LVC	**Limon Verde**	**2.61**	**268**	P	**Pn**	**00 16 40.5**	**+2.1**
	60nm,0.3s,baz=102,slow=4.3,SNR=332						
LVC				S	**S**	**00 17 17.8**	**+0.8**
	38nm,0.3s,baz=287,slow=22,SNR=15						
PB09	**IPOC Station P**	**3.02**	**283**		**Pn**	**00 16 44.7**	**+2.3**
PB09				Sn	**S**	**00 17 25.6**	**+1.3**
PB09	**IPOC Station P**	**3.02**	**283**	*eP*	**Pn**	**00 16 45.0**	**+2.5**
PB09				*eS*	**S**	**00 17 25.3**	**+1.0**
PB09				IAML		00 17 30.5	
	comp=Z,121nm,0.5s						
PB15	**IPOC Station P**	**3.20**	**257**		**Pn**	**00 16 46.5**	**+2.0**
PB15	**IPOC Station P**	**3.20**	**257**	*eP*	**Pn**	**00 16 46.7**	**+2.3**
PB15				*eS*	**S**	**00 17 28.8**	**+0.9**
PB06	**IPOC Station P**	**3.23**	**266**		**Pn**	**00 16 46.4**	**+1.7**
PB06	**IPOC Station P**	**3.23**	**266**	*eP*	**Pn**	**00 16 46.2**	**+1.5**
PB06				*eS*	**S**	**00 17 29.1**	**+0.6**
PB06				IAML		00 17 32.4	
	comp=Z,321nm,0.1s						
FSA	**Cafayete**	**3.57**	**178**	*eP*	**Pn**	**00 16 50.1**	**+1.5**
PB04	**IPOC Station P**	**3.77**	**272**		**Pn**	**00 16 52.3**	**+1.5**
PB04	**IPOC Station P**	**3.77**	**272**	*eP*	**Pn**	**00 16 52.4**	**+1.5**
PB04				*eS*	**S**	**00 17 39.0**	**-0.5**
PB05	**IPOC Station P**	**3.82**	**264**		**Pn**	**00 16 52.5**	**+1.1**
PB05	**IPOC Station P**	**3.82**	**264**	*eP*	**Pn**	**00 16 52.6**	**+1.2**
PB05				IAML		00 17 42.9	
	comp=Z,156nm,0.2s						
GO01	**Chusmiza**	**4.06**	**314**		**Pn**	**00 16 56.7**	**+2.0**
GO01	**Chusmiza**	**4.06**	**314**	*eP*	**Pn**	**00 16 55.9**	**+1.2**
GO02	**Mina Guanaco**	**4.14**	**230**		**Pn**	**00 16 56.8**	**+1.4**
GO02	**Mina Guanaco**	**4.14**	**230**	*eP*	**Pn**	**00 16 56.8**	**+1.4**
GO02				*eS*	**S**	**00 17 47.5**	**-0.2**
PATCX	**Punta Patache**	**4.15**	**293**		**Pn**	**00 16 56.4**	**+1.2**
PATCX	**Punta Patache**	**4.15**	**293**	*eP*	**Pn**	**00 16 56.7**	**+1.5**
PATCX				*eS*	**S**	**00 17 46.4**	**-1.0**
PATCX				IAML		00 17 49.9	
	comp=Z,279nm,0.3s						
HMBC	**Humberstone**	**4.19**	**302**		**Pn**	**00 16 56.6**	**+0.9**
HMBC	**Humberstone**	**4.19**	**302**	*eP*	**Pn**	**00 16 56.7**	**+0.9**
PB10	**IPOC Station P**	**4.23**	**256**		**Pn**	**00 16 56.8**	**+0.6**
TA01	**Diego Aracena**	**4.28**	**296**		**Pn**	**00 16 57.1**	**+0.4**
PB11	**IPOC Station P**	**4.32**	**309**		**Pn**	**00 16 58.7**	**+1.3**
PB14	**IPOC Station P**	**4.48**	**241**		**Pn**	**00 17 00.2**	**+0.8**
AC01	**Pan de Azucar**	**5.47**	**228**	Pn	**Pn**	**00 17 11.0**	**-0.2**
AP01	**Chacalluta**	**5.75**	**315**	Pn	**Pn**	**00 17 15.2**	**+0.6**
PB18	**Visviri**	**5.86**	**326**		**Pn**	**00 17 18.9**	**+2.3**
AC06	**Mina Casimiro**	**6.17**	**218**	Pn	**Pn**	**00 17 19.2**	**-0.7**
GO03	**Copiap**	**6.29**	**216**	Pn	**Pn**	**00 17 20.3**	**-1.1**
LPAZ	**La Paz**	**6.50**	**342**	P	**Pn**	**00 17 26.6**	**+2.0**
	comp=Z,3.3nm,0.3s,baz=142,slow=6.5,SNR=36						
LPAZ				S	**S**	**00 18 40.6**	**0.0**
	comp=Z,15nm,0.9s,baz=0.5,slow=15,SNR=14						
AC05	**El Transito**	**7.33**	**210**	Pn	**Pn**	**00 17 33.8**	**-0.6**
SIV	**San Ignacio**	**8.04**	**37**	P	**Pn**	**00 17 44.1**	**+0.6**
	comp=Z,6.8nm,0.4s,baz=237,slow=7.9,SNR=42						
CO01	**Juntas del Tor**	**8.24**	**205**	Pn	**Pn**	**00 17 47.3**	**+1.1**
CO03	**El Pedregal**	**9.24**	**205**	Pn	**Pn**	**00 17 57.9**	**-0.7**
PTLB	**Pontes e Lacer**	**9.63**	**44**	Pn	**Pn**	**00 18 03.5**	**-0.1**
CO02	**Combarbal**	**9.69**	**206**	Pn	**Pn**	**00 18 04.0**	**-0.3**
AQDB	**Aquiblauana**	**9.88**	**80**	Pn	**Pn**	**00 18 06.7**	**0.0**
VILB	**Vilhena**	**11.05**	**31**	Pn	**Pn**	**00 18 22.1**	**+0.7**
MT02	**Curacav**	**11.58**	**202**	Pn	**Pn**	**00 18 27.1**	**-0.8**
MT13	**San Alfonso**	**11.77**	**197**		**Pn**	**00 18 30.7**	**+0.4**
LMEL	**Las Melosas**	**11.85**	**197**	Pn	**Pn**	**00 18 31.7**	**+0.4**
ITAB	**Concordia**	**13.50**	**113**	P	**P**	**00 18 52.8**	**0.0**
SAML	**Samuel**	**13.79**	**12**		**Pn**	**00 18 54.9**	**-0.3**
PLTB	**Pedras Altas**	**14.41**	**132**	P	**Pn**	**00 19 01.7**	**-1.0**
TRQA	**Tornquist**	**15.88**	**168**	P	**P**	**00 19 18.5**	**-0.4**
TRQA				IAmb	IAmb	00 19 37.4	
	comp=Z,15nm,1.5s						
VAO	**Valinhos**	**17.64**	**95**	P	**P**	**00 19 37.4**	**-1.0**
LR05	**Currie**	**18.35**	**195**	P	**P**	**00 19 45.5**	**-0.2**
BDFB	**Brasilia**	**18.39**	**71**	P	**Pn**	**00 19 48.0**	**-1.9**
	comp=Z,2.7nm,0.6s,baz=258,slow=11,SNR=4.9						
PLCA	**Paso Flores**	**18.54**	**191**	P	**P**	**00 19 47.7**	**-0.2**
PLCA				IAmb	IAmb	00 20 09.3	
	comp=Z,18nm,1.5s						
PLCA	**Paso Flores**	**18.54**	**191**	P	**P**	**00 19 47.9**	**0.0**
	comp=Z,2.9nm,0.8s,baz=7.8,slow=11,SNR=6.2						
SNAA	**Sanae**	**60.46**	**161**	P	**P**	**00 25 32.1**	**-0.5**
SNAA				IAmb	IAmb	00 25 33.7	
	comp=Z,6.6nm,1.5s						
SNAA	**Sanae**	**60.46**	**161**	P	**P**	**00 25 33.2**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=282,slow=3.8,SNR=5.8						
	comp=Z,1.2nm,0.9s						
QSPA	**South Pole Qui**	**67.67**	**180**	P	**P**	**00 26 20.3**	**+0.7**
QSPA	**South Pole Qui**	**67.67**	**180**	P	**P**	**00 26 20.6**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=268,slow=0.7,SNR=6.6						
	comp=Z,1.2nm,0.5s						
TOA0	**Torodi Ar. Sit**	**75.25**	**69**	P	**P**	**00 27 04.4**	**-1.0**
TOA0				IAmb	IAmb	00 27 23.0	
	comp=Z,5.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**75.25**	**69**	P	**P**	**00 27 04.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**75.25**	**69**	P	**P**	**00 27 04.6**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=254,slow=4.3,SNR=30						
	comp=Z,0.9nm,0.4s						

*IDC **05** 00:26:31.9±1.5, 8°.32S×112°.43E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=65.5km s-min=29.0km az=51.0*
*DJA **05** 00:26:48.9±0.4, 9°.5S±6°.×11°.3E±°., h118km±6km, M4.1/14, mb4.2/3, mB4.9/2, MLv4.1/14, Mw(mB)4.2/2*

ISC 05 00:26:48.3±0.9, 8°.6S±0°.1×112°.54E±0°.04, h133km±10km, n17, σ0$89/25, mb3.4/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**0.94**	**309**	P	**Pn**	**00 27 10.8**	**-0.2**
PWJI				S	**Sn**	**00 27 27.3**	**-0.9**
JAGI	**Jajag, Banyuwa**	**1.60**	**85**	P	**Pn**	**00 27 17.5**	**-0.2**
JAGI				S	**Sn**	**00 27 40.0**	**-0.2**
GRJI	**Gresik**	**1.69**	**358**	P	**Pn**	**00 27 19.8**	**+1.0**
GRJI				S	**Sn**	**00 27 42.2**	**+0.1**
ABJI	**Asem Bagus**	**1.86**	**64**	P	**Pn**	**00 27 21.6**	**+0.8**
ABJI				S	**Sn**	**00 27 46.1**	**+0.5**
UGM	**Wanagama**	**2.12**	**289**	P	**Pn**	**00 27 24.4**	**+0.5**
UGM				S	**Sn**	**00 27 50.2**	**-1.1**
YOGI	**Yogyakarta**	**2.36**	**289**	P	**Pn**	**00 27 28.1**	**+1.1**
YOGI				S	**Sn**	**00 27 56.8**	**+0.2**
SMRI	**Semarang**	**2.60**	**307**	P	**Pn**	**00 27 30.4**	**+0.5**
SMRI				S	**Sn**	**00 28 02.1**	**+0.1**
SRBI	**Singaraja**	**2.69**	**79**	P	**Pn**	**00 27 30.7**	**-0.4**
CMJI	**Cimerak**	**4.14**	**281**	P	**Pn**	**00 27 49.4**	**-0.6**
TWSI	**Taliwang, Sumb**	**4.29**	**92**	P	**Pn**	**00 27 51.6**	**-0.4**
PLAI	**Plampang**	**5.18**	**93**	P	**Pn**	**00 28 04.3**	**+0.4**
	45nm,0.8s,2μm						
PLAI				S	**Sn**	**00 29 02.9**	**+0.2**
	45nm,0.8s,2μm						
LEM	**Lembang**	**5.20**	**290**	P	**Pn**	**00 28 05.6**	**+1.4**
	21nm,0.9s,0.2nm						
CNJI	**Cibinong**	**5.52**	**283**	P	**Pn**	**00 28 09.6**	**+1.2**
WRA	**Warramunga Arr**	**23.90**	**120**	P	**P**	**00 31 50.4**	**+0.4**
	0.3nm,0.3s,baz=299,slow=12,SNR=12						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**25.34**	**129**	P	**P**	**00 32 03.8**	**+0.7**
	0.5nm,0.3s,baz=308,slow=8.5,SNR=8.2						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**61.39**	**337**	P	**P**	**00 36 48.0**	**-2.2**
	0.3nm,0.5s,baz=152,slow=6.9,SNR=2.5						
	0.3nm,0.5s						
VNDA	**Vanda**	**73.41**	**170**	P	**P**	**00 38 06.5**	**+1.1**
	0.2nm,0.4s,baz=310,slow=7.5,SNR=7.0						
	0.2nm,0.4s						

*IGQ **05** 00:30:23.7±0.0, 0°.8S±0°.2×91°.1W±0°.2, h1km, M5.4/13*
*IDC **05** 00:30:24.0±0.8, 1°.16S×91°.37W, h0km, mb4.3/13, mbtmp4.3/17, ML3.3/3, MS4.4/52, Error ellipse: s-maj=31.2km s-min=13.9km az=58.0*
*NEIC **05** 00:30:27.1±1.4, 0°.84S±0°.09×91°.0W±0°.1, h10km±1km, mb4.9/124, Error ellipse: s-maj=20.9km s-min=13.8km az=242.0*
*GCMT **05** 00:30:28.1±0.2, 0°.88S±0°.01×90°.98W±0°.02, h12km, MW5.0/112, Moment Tensor Solution. s66,c98; s112,c164; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.88±.07; $M_{\theta\theta}$2.49±.07; $M_{\phi\phi}$1.40±.09; $M_{r\theta}$0.31±.21; $M_{\theta\phi}$1.42±.06; $M_{\phi r}$-3.30±.25; Best double couple: $M_0$4.75600×10^{16} NP1:ϕ_s24.00000°, δ64.00000°, λ-114.00000°. NP2:ϕ_s250.00000°, δ35.00000°, λ-50.00000°. Principal axes: T 3.9430, Plg16.0000°, Azm132.0000°; N 1.6350, Plg21.0000°, Azm35.0000°; P -5.5680, Plg63.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 00:30:26.4±0.3, 0°.86S±0°.05×91°.07W±0°.04, h10km, n627, σ1$06/558, mb4.9/70, MS4.4/47, 1C-1D, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCH1	**Volcn Chico**	**0.08**	**340**	P	**Pg**	**00 30 25.3**	**-3.7**
PVIL	**Puerto Villami**	**0.14**	**127**	P	**Pg**	**00 30 26.8**	**-2.9**
CEAZ	**Cerra Azul, Ca**	**0.34**	**279**	P	**Pg**	**00 30 30.4**	**-2.9**
FER2	**Fernandina2, P**	**0.52**	**319**	P	**Pg**	**00 30 34.2**	**-2.4**
FER1	**Fernandina1, P**	**0.53**	**314**	P	**Pb**	**00 30 36.9**	**-1.0**
I20EC	**Galapagos**	**0.74**	**70**	Pg	**Pn**	**00 30 43.0**	**0.0**
	baz=268,slow=31						
I20EC				I	I	00 34 20.0	
	baz=254,slow=320,SNR=5.0						
PAYG	**Puerto Ayora**	**0.80**	**77**	Pg	**Pg**	**00 30 39.1**	**-2.8**
PAYG	**Puerto Ayora**	**0.80**	**77**	P	**Pg**	**00 30 39.8**	**-2.2**
ALCE	**Alcedo, Punta**	**0.99**	**295**	P	Pg	00 30 33.2	-12
SLOR	**San Lorenzo -**	**12.57**	**90**		**Pn**	**00 33 24.7**	**-1.3**
PULU	**Pululahua**	**12.60**	**86**	Pn	**Pn**	**00 33 26.9**	**+0.6**
JTS	**Las Juntas de**	**12.64**	**29**	Pn	Pn	00 33 32.7	+6.3
	5.2nm,0.6s,baz=162,slow=20,SNR=3.7						
JTS				LR	LR	00 37 30.4	
	comp=Z,2μm,18.3s,baz=190,slow=33						
LCR2	**La Lucha 2**	**12.66**	**34**		**Pn**	**00 33 25.6**	**-1.4**
OTAV	**Otavalo**	**12.66**	**85**	Pn	**Pn**	**00 33 25.2**	**-2.0**
BRU2	**Volcan**	**12.71**	**41**	Pn	**Pn**	**00 33 27.8**	**+0.2**
HDC	**Heredia**	**12.82**	**33**	Pn	**Pn**	**00 33 29.1**	**+0.1**
SOCE	**Pocosol**	**12.88**	**30**	Pn	**Pn**	**00 33 29.4**	**-0.4**
ANTS	**Antisana-Sarah**	**12.90**	**88**	Pn	**Pn**	**00 33 29.1**	**-1.5**
IMBA	**Imbabura, San**	**12.92**	**85**	P

RPN Rapa Nui 31.46 212 LR LR 00 46 25.5
comp=Z,2µm,18.3s,baz=46,slow=31
435B Jarrell 32.07 349 P **P 00 36 55.0 +1.3**
baz=168
JCT Junction City 32.26 346 P **P 00 36 56.8 +1.5**
baz=163
TXAR Lajitas Array 32.35 339 P **P 00 36 58.1 +1.9**
comp=Z,1.9nm,0.9s,baz=153,slow=8.4,SNR=12
TXAR LR LR 00 48 42.7
comp=Z,797nm,20.6s,baz=146,slow=34
comp=Z,1.9nm,0.9s
NATX Nacogdoches 32.62 354 P **P 00 36 59.9 +1.4**
baz=173
VILB Vilhena 32.86 113 *eP* **P 00 37 02.2 +1.3**
TIGA Tifton 32.90 12 P **P 00 37 02.0 +1.2**
baz=194
AC06 Mina Casimiro 33.00 145 P **P 00 37 02.4 +0.4**
SIV San Ignacio 33.18 119 LR LR 00 50 00.8
comp=Z,2µm,20.4s,baz=310,slow=35
WHTX Lake Whitney, 33.23 350 P **P 00 37 05.3 +1.5**
baz=168
VBST Vila Bela da S 33.57 115 *eP* **P 00 37 07.8 +0.8**
FW13 Cleburne 33.58 350 P **P 00 37 07.3 +0.5**
LRAL Lakeview Retre 33.93 6 P **P 00 37 10.9 +1.0**
baz=187
VHRN Van Horn 34.14 338 P **P 00 37 12.2 +0.2**
VHRN IAmb IAmb 00 37 17.7
comp=Z,21nm,1.5s
ABTX Abilene, Hawle 34.27 347 P **P 00 37 13.2 +0.2**
ABTX IAmb IAmb 00 37 16.2
comp=Z,38nm,1.7s
ABTX Abilene, Hawle 34.27 347 P **P 00 37 14.0 +1.0**
baz=165
H03N2 Juan Fernandez 34.36 162 T T 01 13 16.8
baz=338,slow=77,SNR=48
H03N1 Juan Fernandez 34.36 162 T T 01 13 18.4
baz=338,slow=77,SNR=160
H03N3 Juan Fernandez 34.37 162 T T 01 13 17.0
baz=338,slow=77,SNR=75
WLAR White Oak Lake 34.42 357 P **P 00 37 14.4 +0.3**
WLAR IAmb IAmb 00 37 18.8
comp=Z,31nm,1.2s
PTLB Pontes e Lacer 34.69 116 P **P 00 37 15.4 -1.3**
PTLB Pontes e Lacer 34.69 116 *eP* **P 00 37 18.5 +1.8**
GOGA Godfrey 34.83 11 P **P 00 37 17.8 0.0**
baz=193
MNTX Cornudas Mount 35.11 339 P **P 00 37 21.2 +1.1**
baz=154,SNR=6.7
X40A Basin Creek Fa 35.20 357 P **P 00 37 20.7 -0.2**
OXF Oxford 35.22 2 P **P 00 37 21.6 +0.5**
baz=183
MIAR Mount Ida 35.30 356 P **P 00 37 22.2 +0.5**
MIAR IAmb IAmb 00 37 39.4
comp=Z,44nm,1.9s
MIAR Mount Ida 35.30 356 P **P 00 37 22.6 +0.9**
baz=176
NHSC New Hope 35.31 16 P **P 00 37 21.9 0.0**
baz=199
ITTB Itaituba 35.46 96 *eP* **P 00 37 24.4 +0.9**
X37A Clayton 35.49 354 **P 00 37 23.6 +0.2**
X37A IAmb IAmb 00 37 30.4
comp=Z,54nm,2.0s
EPT El Paso 35.60 337 P **P 00 37 24.5 0.0**
EPT IAmb IAmb 00 37 31.5
comp=Z,32nm,1.4s
PDRB Porto dos Gac 35.72 109 *eP* **P 00 37 25.9 +0.2**
NPGB Novo Progresso 36.13 101 *eP* **P 00 37 28.7 -0.5**
WMOK Wichita Mounta 36.14 349 **P 00 37 28.3 -0.7**
WMOK IAmb IAmb 00 37 33.1
comp=Z,27nm,1.2s
WMOK Wichita Mounta 36.14 349 P **P 00 37 30.0 +1.0**
baz=167,SNR=22
BBLB La Banda, Boli 36.27 121 *eP* **P 00 37 31.8 +1.5**
MSTX Muleshoe 36.35 343 P **P 00 37 30.7 -0.2**
MSTX IAmb IAmb 00 37 34.9
comp=Z,27nm,1.1s
MSTX Muleshoe 36.35 343 P **P 00 37 31.6 +0.7**
baz=160,SNR=7.3
CLDB Colider 36.42 107 *eP* **P 00 37 32.0 +0.3**
PTET Porto Estrela 36.44 115 *eP* **P 00 37 32.7 +0.9**
PAULI Pauline 36.54 13 P **P 00 37 32.4 0.0**
121A Cookes Peak, D 36.78 336 P **P 00 37 34.5 -0.1**
121A Cookes Peak, D 36.78 336 P **P 00 37 35.7 +1.0**
baz=151
TUL3 Leonard 36.84 354 **P 00 37 34.9 -0.1**
TUL3 Leonard 36.84 354 P **P 00 37 35.9 +0.9**
baz=172
WVT Waverly 36.92 4 P **P 00 37 35.1 -0.5**
WVT Waverly 36.92 4 P **P 00 37 36.3 +0.7**
baz=185
KMSC Kings Mountain 36.95 13 P **P 00 37 36.5 +0.6**
baz=196
DUN6 Lazy B Ranch 37.34 334 P **P 00 37 39.7 +0.3**
NBRS Nobres 37.37 113 *eP* **P 00 37 40.8 +1.1**
PBMO Poplar Bluff 37.45 1 P **P 00 37 39.7 -0.4**
OK048 Pawnee Station 37.49 352 **P 00 37 40.9 +0.5**
OK048 IAmb IAmb 00 37 42.9
comp=Z,28nm,1.2s
T42A Van Buren 37.70 360 P **P 00 37 42.1 -0.1**
T42A IAmb IAmb 00 37 58.6
comp=Z,26nm,1.6s
T47A Sharon Grove 37.84 5 P **P 00 37 43.5 +0.1**
TUC Tucson 37.90 332 P **P 00 37 45.1 +1.1**
baz=147
SALV Santo Antonio 37.95 115 *eP* **P 00 37 45.3 +0.7**
MT13 San Alfonso 38.08 151 P **P 00 37 46.0 +0.4**
PANT Pantanal (Braz 38.28 120 *eP* **P 00 37 48.4 +1.1**
ANMO Albuquerque 38.42 339 P **P 00 37 49.2 +0.6**
ANMO Albuquerque 38.42 339 P **P 00 37 50.0 +1.4**
baz=155
ANMO Albuquerque 38.42 339 LR LR 00 52 29.2
comp=Z,1µm,20.0s,baz=251,slow=34
214A Organ Pipe Nat 38.59 330 P **P 00 37 50.3 +0.4**
214A Organ Pipe Nat 38.59 330 P **P 00 37 51.1 +1.2**
baz=144
MURT Porto Murtinho 38.60 125 *eP* **P 00 37 50.4 +0.3**
PIX Pinacate 38.61 329 P **P 00 37 50.5 +0.6**
CCM Cathedral Cave 38.72 360 P **P 00 37 50.3 -0.5**
CCM IAmb IAmb 00 38 07.4
comp=Z,36nm,1.4s
CCM Cathedral Cave 38.72 360 P **P 00 37 51.9 +1.1**
baz=180
USIN University of 38.76 4 P **P 00 37 50.2 -0.9**
USIN IAmb IAmb 00 37 54.7
comp=Z,21nm,1.1s
MDP Montagnes des 38.84 81 LR LR 00 53 16.2
comp=Z,3µm,19.2s,baz=262,slow=35
MCPB Macapa, AP 39.01 90 *eP* **P 00 37 53.9 +0.3**
BLA Blacksburg 39.14 14 P **P 00 37 53.9 -0.5**
BLA IAmb IAmb 00 38 08.5
comp=Z,35nm,1.6s
BLA Blacksburg 39.14 14 P **P 00 37 54.5 +0.1**
baz=197
WCI Wyandotte Cave 39.14 6 P **P 00 37 53.9 -0.4**
WCI IAmb IAmb 00 38 24.7
comp=Z,61nm,1.9s
WCI Wyandotte Cave 39.14 6 P **P 00 37 55.0 +0.7**
baz=187
PP1B Ponte de Pedra 39.27 117 *eP* **P 00 37 56.4 +0.6**
PAPY Pozo Azul 39.30 129 *eP* **P 00 37 58.1 +2.2**
AQDB Aquidauana 39.68 122 P **P 00 37 58.6 -0.5**
AQDB Aquidauana 39.68 122 *eP* **P 00 38 00.0 +1.0**
RVDE Rio Verde (Bra 39.75 119 *eP* **P 00 38 00.2 +0.5**
T25A Trinidad 39.78 343 P **P 00 38 00.2 +0.3**
T25A IAmb IAmb 00 38 04.6
comp=Z,23nm,1.1s
T25A Trinidad 39.78 343 P **P 00 38 01.6 +1.6**
baz=159,SNR=13
W18A Petrified Fore 39.82 336 P **P 00 38 02.1 +1.8**
baz=150
KSU1 Kansas State U 40.09 353 P **P 00 38 02.3 +0.1**
KSU1 IAmb IAmb 00 38 05.9
comp=Z,17nm,0.9s
KSU1 Kansas State U 40.09 353 P **P 00 38 03.2 +0.9**
baz=171
P40A Paris 40.20 359 P **P 00 38 03.0 -0.1**
CBKS Cedar Bluff 40.28 350 P **P 00 38 05.3 +1.5**
baz=166
GLA Glamis 40.49 329 P **P 00 38 06.3 +0.6**
GLA IAmb IAmb 00 38 10.3
comp=Z,28nm,1.4s
GLA Glamis 40.49 329 P **P 00 38 07.5 +1.8**
baz=142
SDCO Great Sand Dun 40.66 342 P **P 00 38 08.0 +0.6**
SDCO IAmb IAmb 00 38 14.4
comp=Z,31nm,1.8s
SDCO Great Sand Dun 40.66 342 P **P 00 38 08.8 +1.4**
baz=158,SNR=13
WUAZ Wupatki 40.85 334 P **P 00 38 09.9 +1.1**
WUAZ IAmb IAmb 00 38 25.3
comp=Z,24nm,1.2s
WUAZ Wupatki 40.85 334 P **P 00 38 10.9 +2.1**
baz=148,SNR=9.7
IKP In-Ko-Pah, Jac 40.87 327 P **P 00 38 11.1 +2.3**
baz=140
CBN Corbin Frederi 40.87 17 P **P 00 38 10.1 +1.4**
baz=201
SWSC Sam W. Stewart 40.92 328 P **P 00 38 11.2 +1.9**
baz=140
SNDB Serra Nova Dou 40.97 107 *eP* **P 00 38 10.5 +0.6**
S22A 4UR Ranch, Cre 41.08 341 P **P 00 38 12.4 +1.5**
baz=156,SNR=12
P52A Corning 41.12 11 P **P 00 38 12.0 +1.2**
baz=194
CPUP Villa Florida 41.17 131 P **P 00 38 10.7 -0.7**
CPUP Villa Florida 41.17 131 P **P 00 38 10.2 -1.2**
comp=Z,8.5nm,1.2s,baz=298,slow=8.6,SNR=6.7
comp=Z,8.5nm,1.2s
CPUP Villa Florida 41.17 131 *eP* **P 00 38 12.4 +1.0**
MVCO Mesa Verde 41.18 339 P **P 00 38 11.5 0.0**
MVCO IAmb IAmb 00 38 18.6
comp=Z,50nm,1.9s
MVCO Mesa Verde 41.18 339 P **P 00 38 13.0 +1.4**
baz=153,SNR=6.9
MONP2 Monument Peak 41.22 327 P **P 00 38 13.1 +1.2**
baz=140
O48B Farmland 41.28 7 P **P 00 38 14.0 +2.0**
baz=189
BC3 Big Chuckawall 41.29 329 P **P 00 38 14.8 +2.5**
baz=141,SNR=6.2
AMBA Amambai (Brazi 41.34 125 *eP* **P 00 38 13.3 +0.5**
RPRD Ribas do Rio P 41.39 121 *eP* **P 00 38 13.9 +0.7**
DVLD Doverlandia 41.39 114 *eP* **P 00 38 13.9 +0.5**
SJPY San Joaquin 41.43 128 *eP* **P 00 38 13.5 0.0**
ARAG Araguaiana, MT 41.44 113 *eP* **P 00 38 14.6 +0.9**
PRPB Parauapebas 41.49 98 *eP* **P 00 38 14.7 +0.5**
IRM Iron Mountain 41.52 329 P **P 00 38 16.8 +2.6**
baz=142
ACSO Alum Creek Sta 41.56 9 P **P 00 38 14.6 +0.3**
ACSO Alum Creek Sta 41.56 9 P **P 00 38 16.5 +2.2**
baz=192
TPFO Pinon Flats 41.78 328 P **P 00 38 18.9 +2.5**
baz=140
PFO Pinyon Flats O 41.79 328 P **P 00 38 18.9 +2.5**
baz=140
PFO Pinyon Flats O 41.79 328 LR LR 00 52 09.9
comp=Z,688nm,20.3s,baz=145,slow=31
BELC Belle Mtn. Jos 41.84 328 P **P 00 38 18.8 +1.9**
baz=141
O53A New Philadelph 41.89 11 P **P 00 38 18.5 +1.4**
baz=195
U15A North Rim 42.02 334 P **P 00 38 19.2 +0.7**
GMRC Granite Mounta 42.28 329 P **P 00 38 22.5 +2.0**
baz=142
SMCO Snowmass 42.43 342 P **P 00 38 22.1 +0.1**
SCIA State Center 42.61 358 P **P 00 38 22.9 0.0**
SCIA IAmb IAmb 00 38 47.2
comp=Z,17nm,0.4s
SCIA State Center 42.61 358 P **P 00 38 24.2 +1.3**
baz=177
HEC Hector,Ludlow 42.66 329 P **P 00 38 25.5 +2.0**
baz=141,SNR=5.2
HMU Henry Mountain 42.67 337 P **P 00 38 24.7 +0.9**
HMU IAmb IAmb 00 38 28.5
comp=Z,34nm,1.3s
OGNE Ogallala 42.79 348 P **P 00 38 25.6 +1.1**
baz=164
MVL Millersville 42.83 17 P **P 00 38 24.2 -0.4**
MVL IAmb IAmb 00 38 47.3
comp=Z,24nm,1.5s
BFSC Mount Baldy Ra 42.91 327 P **P 00 38 26.7 +1.1**
baz=139
TMAB Tom-Au,PA,Br 42.98 93 *eP* **P 00 38 25.7 -0.6**
SSPA Standing Stone 43.01 15 P **P 00 38 27.4 +1.2**
baz=199
AZCA Azaras, Argent 43.12 132 *eP* **P 00 38 27.9 +0.7**
M53A WI Miller and 43.15 11 P **P 00 38 26.9 -0.4**
M53A WI Miller and 43.15 11 P **P 00 38 28.7 +1.5**
baz=195
TRCB Terra Rica 43.24 123 P **P 00 38 28.2 -0.2**
TRCB IAmb IAmb 00 38 29.8
comp=Z,47nm,1.3s
TRCB Terra Rica 43.24 123 *eP* **P 00 38 29.0 +0.6**
GSC Goldstone, Bar 43.27 329 P **P 00 38 30.6 +2.2**
baz=141
SHPR Sheep Range 43.40 331 P **P 00 38 30.0 +0.5**
SHOC Shoshone, Teco 43.46 330 P **P 00 38 32.1 +2.1**
baz=142
ITQB Itaqui 43.53 134 P **P 00 38 30.2 -0.3**
ITQB Itaqui 43.53 134 *eP* **P 00 38 31.5 +0.9**
EDW2 Edwards Air Fo 43.58 327 P **P 00 38 32.4 +1.5**
baz=139
PSAL Palomas, Salto 43.67 137 *eP* **P 00 38 32.6 +1.0**
N23A Red Feather La 43.71 344 P **P 00 38 33.7 +1.6**
baz=158
O20A White River Ci 43.71 341 P **P 00 38 34.1 +2.0**
baz=155,SNR=7.0
PLCA Paso Flores 43.84 157 P **P 00 38 33.0 0.0**
PLCA IAmb IAmb 00 38 36.3
comp=Z,44nm,1.8s
PLCA Paso Flores 43.84 157 LR LR 00 53 20.4
comp=Z,2µm,18.4s,baz=342,slow=32
PLCA Paso Flores 43.84 157 *eP* **P 00 38 33.8 +0.9**
PCMB Pacaembu 43.92 121 *eP* **P 00 38 34.2 +0.4**
SMTB Santa Maria do 44.01 102 *eP* **P 00 38 35.5 +0.9**
FURC Furnace Creek, 44.20 330 P **P 00 38 37.9 +2.1**
baz=141
MPMC Manual Prospec 44.20 329 P **P 00 38 37.6 +1.5**
baz=140,SNR=6.3
SBC Santa Barbara 44.20 325 P **P 00 38 37.9 +2.0**
baz=137
ARVC Arvin 44.22 327 P **P 00 38 37.8 +1.8**
baz=138
TPNV Topopah Spring 44.28 331 P **P 00 38 38.3 +1.6**
baz=142
UNIS Unistalda (Bra 44.33 133 *eP* **P 00 38 38.2 +1.2**
ISA Isabella, Lake 44.42 328 P **P 00 38 40.2 +2.5**
baz=139
PAL Palisades 44.49 19 P **P 00 38 39.4 +1.4**
baz=205
PTGB Pitanga 44.53 125 *eP* **P 00 38 39.1 +0.3**
PKM Mcpherson Peak 44.59 326 P **P 00 38 41.5 +2.3**
baz=137
ECSD EROS Data Cent 44.67 354 P **P 00 38 38.6 -0.9**
ECSD EROS Data Cent 44.67 354 P **P 00 38 40.5 +1.0**
baz=172,SNR=12
LDASE Londrina, Braz 44.76 123 *eP* **P 00 38 40.9 +0.4**
CHAP Chapeco 44.88 129 *eP* **P 00 38 42.4 +0.9**
VES Vestal, Richgr 44.88 327 P **P 00 38 42.9 +1.6**
baz=138
RODS Rosario do Sul 44.94 134 *eP* **P 00 38 41.6 -0.3**
BDFB Brasilia 44.94 111 P **P 00 38 41.2 -0.9**
BDFB Brasilia 44.94 111 P **P 00 38 42.2 0.0**
comp=Z,5.0nm,0.8s,baz=276,slow=13,SNR=5.6
BDFB LR LR 00 57 41.7
comp=Z,2µm,18.1s,baz=315,slow=36
comp=Z,5.0nm,0.8s
BDFB Brasilia 44.94 111 *eP* **P 00 38 42.3 +0.2**
BINY Binghamton 44.98 16 P **P 00 38 43.4 +1.4**
baz=201
SMMC Simmler 45.00 326 P **P 00 38 44.2 +2.0**
baz=137
GMN Gold Mountain 45.05 330 P **P 00 38 43.4 +0.5**
R11B Troy Canyon, C 45.08 333 P **P 00 38 44.8 +1.7**
baz=144
TBOT Tacuaremb 45.17 136 *eP* **P 00 38 44.7 +1.0**
IPMB Ipameri, GO 45.40 115 *eP* **P 00 38 45.4 -0.3**
DUG Dugway, Tooele 45.43 337 P **P 00 38 45.8 +0.1**
DUG IAmb IAmb 00 38 55.7
comp=Z,25nm,1.9s
DUG Dugway, Tooele 45.43 337 P **P 00 38 47.2 +1.5**
baz=149
K22A Casper 45.50 344 P **P 00 38 48.0 +1.7**
baz=158
ALGR Alto Alegre (B 45.71 131 *eP* **P 00 38 48.4 +0.3**
FRTB Fartura 46.04 122 *eP* **P 00 38 50.2 -0.6**
BB19B Bebedouro 46.10 119 *eP* **P 00 38 51.8 +0.5**
HWUT Hardware Ranch 46.17 339 P **P 00 38 52.1 +0.5**
HWUT IAmb IAmb 00 38 59.2
comp=Z,40nm,1.9s
L61B Northampton 46.19 19 P **P 00 38 52.4 +0.9**
baz=206
MDPB Devils Postpil 46.23 329 P **P 00 38 52.2 0.0**
MDPB IAmb IAmb 00 38 55.9
comp=Z,23nm,1.6s
CPSB Cacapava Do Su 46.24 133 *eP* **P 00 38 52.4 +0.3**
RSSD Black Hills 46.26 347 P **P 00 38 52.2 -0.2**
RSSD Black Hills 46.26 347 P **P 00 38 53.3 +0.9**
baz=162
NV11 Mina Array Sit 46.38 330 P **P 00 38 53.1 -0.2**
NV11 IAmb IAmb 00 39 03.4
comp=Z,15nm,1.4s
NVAR Mina Array Bea 46.45 330 P **P 00 38 53.9 -0.1**
NVAR Mina Array Bea 46.45 330 P **P 00 38 54.9 +1.0**
comp=Z,2.0nm,0.7s,baz=154,slow=8.4,SNR=13
NVAR LR LR 00 55 41.9
comp=Z,354nm,21.1s,baz=112,slow=33
comp=Z,2.0nm,0.7s
BW06 Boulder Array 46.51 341 P **P 00 38 55.3 +0.9**
baz=154
PD31 Pinedale Array 46.51 341 P **P 00 38 53.7 -0.7**
PDAR Pinedale Array 46.51 341 P **P 00 38 54.3 -0.1**
PDAR Pinedale Array 46.51 341 P **P 00 38 54.7 +0.4**
comp=Z,1.3nm,0.9s,baz=141,slow=7.5,SNR=8.8
comp=Z,1.3nm,0.9s
HRV Adam Dziewonsk 46.62 20 P **P 00 38 55.5 +0.6**
baz=207
SADO Sadowa 46.65 12 P **P 00 38 54.8 -0.3**
SADO Sadowa 46.65 12 LR LR 00 58 33.6
comp=Z,166nm,19.7s,baz=228,slow=36
DELO Deloro Mine 46.74 13 P **P 00 38 55.6 -0.2**
PLTB Pedras Altas 46.86 135 P **P 00 38 55.8 -1.2**
PLTB Pedras Altas 46.86 135 *eP* **P 00 38 56.3 -0.7**
ELK Elko 46.89 335 P **P 00 38 58.2 +0.8**
ELK IAmb IAmb 00 39 08.8
comp=Z,22nm,1.6s
ELK Elko 46.89 335 LR LR 00 57 23.5
comp=Z,186nm,19.1s,baz=134,slow=34
ROSB Rosrio 46.96 93 *eP* **P 00 38 58.5 +0.4**
SDBA SAO DESIDERIO 47.18 106 *eP* **P 00 39 00.8 +0.9**
CMB Columbia Colle 47.21 328 P **P 00 39 00.4 +0.7**
CMB IAmb IAmb 00 39 06.4
comp=Z,14nm,1.6s
RCLB Rio Claro- Sao 47.44 120 *eP* **P 00 39 01.9 +0.1**
REDW Red Top Meadow 47.47 340 P **P 00 39 02.0 +0.2**
BMN Battle Mountai 47.51 333 P **P 00 39 01.7 -0.4**
BMN IAmb IAmb 00 39 08.8
comp=Z,13nm,1.4s
LONY Lake Ozonia 47.60 16 P **P 00 39 02.4 -0.2**
LONY IAmb IAmb 00 39 06.0
comp=Z,10nm,0.9s
LONY Lake Ozonia 47.60 16 P **P 00 39 03.1 +0.5**
baz=202
LOHW Long Hollow 47.61 341 P **P 00 39 02.6 -0.3**
LOHW IAmb IAmb 00 39 09.9
comp=Z,10nm,1.4s
TPAW Teton Pass 47.61 340 P **P 00 39 03.2 +0.2**
LBNH Lisbon 48.04 18 P **P 00 39 06.8 +0.8**
baz=206
HLID Hailey 48.92 338 P **P 00 39 14.5 +1.5**
baz=148,SNR=12
MDND Maddock 49.08 352 P **P 00 39 13.9 0.0**
MDND Maddock 49.08 352 P **P 00 39 14.6 +0.7**
baz=169
AGMN Agassiz Nation 49.14 356 P **P 00 39 15.0 +0.6**
baz=174,SNR=6.0
BOZ Bozeman (W) 49.71 341 P **P 00 39 18.7 -0.3**
BOZ IAmb IAmb 00 39 34.6
comp=Z,22nm,2.0s
BOZ Bozeman (W) 49.71 341 P **P 00 39 19.8 +0.9**
baz=153
PKME Peaks-Kenny Pk 49.82 20 P **P 00 39 20.0 +0.4**
baz=209
ULM Lac du Bonnet 51.08 356 P **P 00 39 29.1 0.0**
comp=Z,10nm,1.0s,baz=160,slow=7.9,SNR=5.8
ULM LR LR 01 02 21.4
comp=Z,209nm,19.7s,baz=140,slow=37
comp=Z,10nm,1.0s
YBH Yreka Blue Hor 51.15 330 LR LR 01 00 23.2
comp=Z,199nm,19.7s,baz=145,slow=35
L04D Klamath Falls 51.31 330 P **P 00 39 30.0 -1.1**
L04D IAmb IAmb 00 39 32.7
comp=Z,24nm,1.3s
EGMT Eagleton 51.33 344 P **P 00 39 31.2 +0.1**
baz=156
MSO Missoula 51.56 340 P **P 00 39 32.8 0.0**
MSO Missoula 51.56 340 P **P 00 39 33.0 +0.2**
baz=150
F10A Beach Ranch, E 52.03 337 P **P 00 39 35.8 -0.6**
NAN01 Guarapari, ES 52.80 112 *eP* **P 00 39 42.4 -0.1**
GUA01 Guaratinga, BA 52.83 110 *eP* **P 00 39 43.4 +0.7**
CMC01 Camacan, BA 52.86 109 *eP* **P 00 39 43.4 +0.5**
RIB01 Linhares ES 52.89 114 *eP* **P 00 39 43.2 +0.1**
NBLA Lagarto - SE 53.85 103 *eP* **P 00 39 52.1 +1.8**
NEW Newport 53.90 339 LR LR 01 02 18.8
comp=Z,393nm,19.4s,baz=153,slow=35
NBLV Livramento - P 54.35 98 *eP* **P 00 39 54.8 +0.7**
NBAN Anadia - AL 55.19 101 *eP* **P 00 39 59.5 -0.6**
RCBR Riachuelo 55.27 96 LR LR 01 03 06.3
comp=Z,977nm,20.1s,baz=328,slow=35
SCHQ Schefferville 58.98 16 LR LR 01 06 42.6
comp=Z,217nm,18.1s,baz=222,slow=37
PPT Papeete 59.82 250 LR LR 01 00 10.2
comp=Z,141nm,18.6s,baz=7.5,slow=30
PPT2 Papeete2 59.82 250 *e*S **S 00 48 48.1 +3.4**
comp=Z,80nm,23.8s
PPT2 *e*SS **SS 00 52 43.0 +2.0**
comp=Z,241nm,26.0s
PPT2 *e*LQ LQ 00 55 44.5
comp=Z,570nm,24.5s
PPT2 *e*LR LR 00 58 15.4
comp=Z,142nm,25.8s
PPT2 *e*LR LR 00 58 15.7
comp=Z,174nm,22.2s
TBI Tubuai 60.82 244 *e*S **S 00 48 57.6 +0.4**
comp=Z,423nm,25.5s
TBI *e*LQ LQ 00 56 05.1
comp=Z,1µm,26.0s
TBI *e*LR LR 00 58 38.4
comp=Z,853nm,23.5s
TBI *e*LR LR 00 58 38.9
comp=Z,860nm,30.8s
BBB Bella Bella 61.34 335 LR LR 01 05 16.4
comp=Z,107nm,18.8s,baz=166,slow=34
V35K Ketchikan 65.04 336 P **P 00 41 08.0 +1.2**
baz=134
TOAD Toad River Com 65.33 341 P **P 00 41 09.8 +1.1**
baz=142
YKA Yellowknife Ar 65.64 348 P **P 00 41 09.9 -0.6**
YKA Yellowknife Ar 65.64 348 P **P 00 41 11.1 +0.5**
comp=Z,2.6nm,0.9s,baz=148,slow=6.1,SNR=8.9
YKA LR LR 01 11 46.2
comp=Z,96nm,18.4s,baz=192,slow=38
comp=Z,2.6nm,0.9s
T35M Bob Quinn 65.68 338 P **P 00 41 11.9 +0.9**
baz=136
CRAG Craig 65.76 335 P **P 00 41 12.2 +0.8**
baz=133
WRAK Wrangell Islan 66.10 336 P **P 00 41 14.8 +1.2**
baz=134
U33K Whale Pass 66.20 336 P **P 00 41 15.5 +1.2**
baz=133
FRB Frobisher Bay 66.58 11 LR LR 01 09 29.0
comp=Z,186nm,21.8s,baz=197,slow=35
DLBC Dease Lake 66.65 339 P **P 00 41 17.5 +0.2**
DLBC IAmb IAmb 00 41 24.6
comp=Z,22nm,1.5s
DLBC Dease Lake 66.65 339 P **P 00 41 18.5 +1.2**
baz=137,SNR=7.7
DLBC Dease Lake 66.65 339 LR LR 01 10 09.8
comp=Z,225nm,21.3s,baz=122,slow=36
PMSA Palmer Station 66.72 168 LR LR 01 03 39.1
comp=Z,571nm,18.8s,baz=330,slow=30
R33M Jennings River 67.69 339 P **P 00 41 24.9 +1.0**
baz=136,SNR=8.0
S32K Killisnoo 67.71 336 P **P 00 41 24.7 +0.9**
baz=132
SIT Sitka 67.74 336 P **P 00 41 24.8 +0.7**
baz=131
Q32M Nakina River 67.85 338 P **P 00 41 25.4 +0.4**
Q32M Nakina River 67.85 338 P **P 00 41 25.1 +0.1**
baz=135,SNR=5.4
R32K Eaglecrest 68.23 337 P **P 00 41 27.6 +0.5**
baz=132
S31K Pelican 68.70 336 P **P 00 41 30.4 +0.4**
baz=130
P32M Atlin 68.82 338 P **P 00 41 31.8 +1.0**
baz=133,SNR=6.5

P33M	Teslin, Yukon	68.93 339	P	P	00 41 32.4 +0.8
	baz=134,SNR=7.9				
SMAI	San Martin Ant	69.14 171	P	P	00 41 32.9 +0.3
SKAG	Skagway	69.34 338	P	P	00 41 35.1 +1.2
	baz=132				
N32M	Quiet Lake	69.68 340	P	P	00 41 37.1 +0.9
	baz=134				
PLBC	Pleasant Camp	69.73 337	P	P	00 41 37.3 +0.9
	baz=131				
WHY	Whitehorse	69.98 339	P	P	00 41 39.3 +1.2
	baz=132				
P29M	Windy Craggy	70.38 337	P	P	00 41 41.4 +0.9
	baz=129				
P30M	Million Dollar	70.39 338	P	P	00 41 42.0 +1.4
	baz=130				
O30N	Mendenhall	70.49 338	P	P	00 41 42.3 +1.1
	baz=131				
N31M	Braeburn, Yuko	70.86 339	P	P	00 41 43.1 -0.3
N31M	Braeburn, Yuko	70.86 339	P	P	00 41 45.2 +1.8
	baz=132				
M31M	Drury Creek, Y	70.86 340	P	P	00 41 45.0 +1.6
	baz=133				
HYT	Haines Junctio	71.06 338	P	P	00 41 45.9 +1.1
	baz=130				
PNL	Peninsula	71.06 336	P	P	00 41 45.8 +1.2
	baz=128				
N30M	Aishikik Lake	71.31 339	P	P	00 41 47.5 +1.3
	baz=130,SNR=8.8				
YUK6	Outpost Mounta	71.45 338	P	P	00 41 48.1 +0.9
	baz=129				
PINM	Pinnacle	71.66 336	P	P	00 41 48.6 +0.3
	baz=127				
YUK4	Talbot Arm	71.81 338	P	P	00 41 50.3 +0.9
	baz=129				
M30M	Minto, Yukon	71.94 340	P	P	00 41 51.3 +1.4
	baz=131				
YUK8	Steele Glacier	72.20 338	P	P	00 41 52.6 +0.8
	baz=128				
MESA	MESA	72.40 336	P	P	00 41 54.0 +1.1
	baz=126				
M29M	Somme Creek	72.45 339	P	P	00 41 54.5 +1.5
	baz=129,SNR=11				
CTG	Chitna Glacier	72.62 337	P	P	00 41 55.2 +1.1
	baz=126				
GRNC	Granite Creek	72.64 337	P	P	00 41 54.5 +0.1
GRNC			IAmb	IAmb	00 42 01.4
	comp=Z,18nm,1.4s				
L29M	L29M	72.75 340	P	P	00 41 55.9 +1.1
	baz=130,SNR=11				
YUK3	Moose Creek	72.77 338	P	P	00 41 55.7 +0.7
	baz=127				
K29M	Barlow Dome	73.02 340	P	P	00 41 56.7 +0.2
	baz=131				
J30M	Hart River	73.12 341	P	P	00 41 57.8 +0.8
	baz=132				
CRQE	Cirque	73.19 336	P	P	00 41 58.4 +0.9
	baz=124				
H31M	Peel River	73.35 343	P	P	00 41 58.9 +0.7
	baz=134				
SFJD	Kangerlussuaq	73.42 15	LR	LR	01 14 58.7
	comp=Z,140nm,18.0s,baz=220,slow=36				
MCARA	McCarthy VSAT	73.53 337	P	P	00 41 59.6 +0.3
MCARA			IAmb	IAmb	00 42 03.5
	comp=Z,17nm,1.0s				
MCARA	McCarthy VSAT	73.53 337	P	P	00 42 00.3 +1.0
	baz=125				
C36M	Paulatuk	73.53 348	P	P	00 42 00.2 +1.1
	baz=145				
I30M	Mount Dempster	73.57 342	P	P	00 42 00.3 +0.7
	baz=132,SNR=6.5				
M27K	Edge Creek, AK	73.65 338	P	P	00 42 01.0 +0.8
	baz=126,SNR=16				
DAWY	Dawson	73.80 340	P	P	00 42 01.1 +0.2
DAWY			IAmb	IAmb	00 42 03.5
	comp=Z,9.6nm,1.2s				
DAWY	Dawson	73.80 340	P	P	00 42 01.9 +1.0
	baz=129				
BMRM	Bremner River	73.93 336	P	P	00 42 02.8 +1.0
	baz=123,SNR=8.7				
BCAR	Beaver Creek A	74.04 338	P	P	00 42 01.9 -0.4
L27K	Beaver Creek,	74.05 338	P	P	00 42 03.0 +0.6
	baz=126,SNR=8.7				
M26K	Nabesna, AK	74.10 338	P	P	00 42 03.3 +0.6
	baz=125				
G31M	Satah River	74.12 344	P	P	00 42 03.3 +0.6
	baz=135,SNR=12				
EYAK	Cordova Ski Ar	74.17 335	P	P	00 42 03.8 +0.7
	baz=122				
I29M	Ogilvie Camp,	74.27 341	P	P	00 42 04.4 +0.8
	baz=130				
N25K	Chitina, Valde	74.28 336	P	P	00 42 04.2 +0.4
	baz=123,SNR=7.4				
F31M	Tsiigehtchic	74.34 344	P	P	00 42 04.8 +0.9
	baz=135				
EPYK	Eagle Plains	74.45 343	P	P	00 42 05.8 +1.1
	baz=132,SNR=6.3				
L26K	Log Cabin Wild	74.59 338	P	P	00 42 06.2 +0.6
	baz=125				
P23K	Montague Islan	74.59 334	P	P	00 42 06.2 +0.6
	baz=120				
K27K	Chicken	74.71 339	P	P	00 42 06.0 -0.2
	baz=126,SNR=19				
G30M	tAoh Zrail Nji	74.72 343	P	P	00 42 07.3 +1.1
	baz=133				
KLU	Klutina	74.75 336	P	P	00 42 06.6 +0.1
	baz=122				
EGAK	Eagle	74.85 340	P	P	00 42 06.5 -0.4
EGAK			IAmb	IAmb	00 42 13.2
	comp=Z,38nm,1.9s				
EGAK	Eagle	74.85 340	P	P	00 42 07.8 +0.9
	baz=127,SNR=7.4				
H29M	Whitestone	74.85 342	P	P	00 42 06.8 -0.1
	baz=130,SNR=8.1				
I28M	Miner Creek	74.85 341	P	P	00 42 07.5 +0.4
	baz=129				
INK	Inuvik	74.90 345	P	P	00 42 07.4 +0.3
	baz=136				
INK	Inuvik	74.90 345	LR	LR	01 15 44.8
	comp=Z,205nm,19.2s,baz=180,slow=36				
GLI	Glacier Island	74.91 335	P	P	00 42 06.9 -0.5
	baz=121				
HARP	HAARP	74.93 337	P	P	00 42 07.2 -0.3
	baz=123				
F30M	Barrier River	75.02 344	P	P	00 42 08.3 +0.3
	baz=133,SNR=10				
M24K	Tolsona, Glenn	75.18 336	P	P	00 42 09.4 +0.4
	baz=122				
G29M	Pine Creek	75.20 343	P	P	00 42 09.3 +0.3
	baz=131,SNR=19				
BBTS	Babate	75.27 75	LR	LR	01 12 45.7
	comp=Z,202nm,20.3s,baz=138,slow=34				
PAX	Paxson	75.36 337	P	P	00 42 09.8 -0.3
	baz=123				
SCRK	Sand Creek	75.37 339	P	P	00 42 10.1 -0.1
SCRK			IAmb	IAmb	00 42 16.4
	comp=Z,24nm,1.8s				
SCRK	Sand Creek	75.37 339	P	P	00 42 10.1 -0.1
	baz=124				
RES	Resolute Bay	75.48 359	LR	LR	01 18 58.1
	comp=Z,72nm,19.9s,baz=194,slow=38				
SCM	Sheep Creek Mo	75.50 336	P	P	00 42 10.7 -0.1
SCM	Sheep Creek Mo	75.50 336	P	P	00 42 10.9 +0.1
	baz=121				
I27K	Kandik River	75.50 341	P	P	00 42 11.5 +0.7
	baz=127,SNR=14				
J26L	Joseph Creek	75.52 339	P	P	00 42 11.6 +0.6
	baz=125,SNR=16				
SEW	Seward	75.54 334	P	P	00 42 10.8 -0.1
	baz=118				
M23K	Glacier View	75.64 336	P	P	00 42 12.2 +0.6
	baz=120				
KNK	Knik Glacier	75.75 335	P	P	00 42 12.3 0.0
	baz=120				
I26K	Coal Creek Min	75.84 340	P	P	00 42 12.7 +0.1
	baz=126,SNR=7.7				
H27K	Steamboat Moun	75.85 341	P	P	00 42 12.9 +0.1
	baz=127				
SML	Sawmill	75.90 336	P	P	00 42 13.7 +0.6
	baz=120,SNR=8.8				
A36M	Sachs Harbour	75.92 350	P	P	00 42 12.8 -0.2
	baz=144				
K24K	Donnelly Dome	75.93 338	P	P	00 42 13.2 -0.1
	baz=123				
KDAK	Kodiak Island	75.94 331	P	P	00 42 13.7 +0.4
	baz=115				
KDAK	Kodiak Island	75.94 331	LR	LR	01 12 50.1
	comp=Z,119nm,21.3s,baz=107,slow=34				
BRSE	Bradley Lake S	75.95 333	P	P	00 42 13.8 +0.5
	baz=117				
BRLK	Bradley Lake	76.02 333	P	P	00 42 14.5 +0.7
WAT6	Susitna Watana	76.05 337	P	P	00 42 14.2 +0.1
	baz=120,SNR=14				
OHAK	Old Harbor	76.05 330	P	P	00 42 14.2 +0.3
	baz=114				
RC01	Rabbit Creek A	76.14 335	P	P	00 42 15.0 +0.6
	baz=118				
E29M	Blow River	76.14 344	P	P	00 42 15.0 +0.7
	baz=131				
DHY	Denali Highway	76.16 337	P	P	00 42 14.9 +0.3
DHY			IAmb	IAmb	00 42 20.5
	comp=Z,14nm,1.5s				
DHY	Denali Highway	76.16 337	P	P	00 42 15.0 +0.3
	baz=121				
F28M	Old Crow	76.20 343	P	P	00 42 15.4 +0.7
	baz=129,SNR=10				
Q20K	Shuyak Island	76.21 332	P	P	00 42 15.5 +0.7
	baz=115				
J25K	Salcha River,	76.23 339	P	P	00 42 15.2 +0.2
	baz=123,SNR=7.8				
G27K	Doyon Strip	76.25 342	P	P	00 42 15.5 +0.5
	baz=127				
WAT1	Susitna Watana	76.50 337	P	P	00 42 16.8 +0.3
	baz=120				
M22K	Willow	76.61 335	P	P	00 42 17.7 +0.6
	baz=118				
HDA	Harding Lake	76.69 338	P	P	00 42 18.0 +0.5
	baz=122				
CHIR	Chirikof Islan	76.69 328	P	P	00 42 18.1 +0.4
	baz=112				
E28M	Babbage River	76.74 344	P	P	00 42 17.9 +0.2
	baz=130				
SUA	Susitna One	76.74 335	P	P	00 42 18.5 +0.5
	baz=118				
R18K	Karluk	76.77 330	P	P	00 42 18.9 +0.8
	baz=113				
PRP	Porcupine Dome	76.78 340	P	P	00 42 18.7 +0.6
	baz=123				
ILAR	Eielson Array	76.86 339	P	P	00 42 17.6 -0.9
ILAR	Eielson Array	76.86 339	P	P	00 42 17.9 -0.6
	comp=Z,3.9nm,0.8s,baz=138,slow=3.8,SNR=29				
ILAR			LR	LR	01 16 34.1
	comp=Z,157nm,19.6s,baz=113,slow=36				
	comp=Z,3.9nm,0.8s				
RND	Reindeer	76.90 337	P	P	00 42 19.2 +0.4
RND			IAmb	IAmb	00 42 22.2
	comp=Z,19nm,1.1s				
Q19K	Cape Douglas,	76.93 332	P	P	00 42 19.5 +0.5
	baz=114				
O20K	Slope Mountain	76.95 333	P	P	00 42 19.3 +0.1
	baz=116				
CUT	Chulitna	76.98 336	P	P	00 42 19.8 +0.6
	baz=118				
G26K	Porcupine Rive	77.01 341	P	P	00 42 19.9 +0.7
	baz=125				
P19K	Oil Pt	77.04 333	P	P	00 42 19.6 -0.1
	baz=115				
E27K	Coleen River	77.07 343	P	P	00 42 19.7 +0.1
	baz=128,SNR=10.0				
MCK	McKinley	77.10 337	P	P	00 42 20.4 +0.6
	baz=120				
POKR	Poker Plat Res	77.24 339	P	P	00 42 21.0 +0.4
	baz=121				
N20K	Mount Spurr	77.25 334	P	P	00 42 21.3 +0.5
	baz=116				
SPCR	Spurr Chakacha	77.25 334	P	P	00 42 21.3 +0.5
	baz=116				
SKT	Skwentna	77.31 335	P	P	00 42 21.0 0.0
SKT			IAmb	IAmb	00 42 24.4
	comp=Z,19nm,1.2s				
SKT	Skwentna	77.31 335	P	P	00 42 21.3 +0.2
	baz=117,SNR=7.5				
Q18K	Katmai Hardscr	77.47 331	P	P	00 42 21.8 -0.3
	baz=113				
BMAR	Burnt Mountain	77.54 341	P	P	00 42 22.7 +0.4
D27M	Malcolm River	77.54 344	P	P	00 42 21.7 -0.6
	baz=128				
F26K	Sheenjek River	77.55 342	P	P	00 42 22.3 0.0
	baz=125,SNR=9.0				
NEA2	Nenana	77.58 338	P	P	00 42 22.1 -0.4
NEA2			IAmb	IAmb	00 42 25.4
	comp=Z,12nm,1.1s				
NEA2	Nenana	77.58 338	P	P	00 42 22.5 0.0
	baz=120,SNR=7.2				
G25K	Bearman Lake	77.66 341	P	P	00 42 22.9 +0.1
	baz=123				
R17L	Mt. Peulik Vol	77.74 330	P	P	00 42 23.5 -0.1
	baz=112				
Q17K	Contact Creek	77.75 331	P	P	00 42 23.0 -0.6
	baz=112				
H24K	Noodor Dome	77.78 339	P	P	00 42 23.1 -0.5
	baz=121,SNR=16				
KTH	Kantishna Hill	77.79 337	P	P	00 42 23.3 -0.5
KTH			IAmb	IAmb	00 42 26.5
	comp=Z,11nm,1.0s				
P18K	Big Mountain,	77.87 332	P	P	00 42 24.1 -0.1
	baz=113				
M20K	Styx River	77.95 335	P	P	00 42 24.9 +0.2
	baz=115,SNR=5.2				
I23K	Minto, Yukon-K	77.96 338	P	P	00 42 24.8 +0.3
	baz=120,SNR=8.3				
F25K	Christian Rive	77.97 341	P	P	00 42 24.3 -0.4
	baz=124,SNR=9.2				
PPLA	Purkeypile	78.00 336	P	P	00 42 24.2 -0.9
	baz=116				
O18K	Koktuh Hills	78.04 332	P	P	00 42 25.5 +0.4
	baz=113				
BPAW	Bear Paw Mtn.	78.07 337	P	P	00 42 25.0 -0.2
BPAW			IAmb	IAmb	00 42 30.9
	comp=Z,28nm,1.7s				
BPAW	Bear Paw Mtn.	78.07 337	P	P	00 42 25.1 -0.2
	baz=118,SNR=10.0				
G24K	Hadweenzic Riv	78.09 340	P	P	00 42 25.3 0.0
	baz=122				
N19K	Bonanza Creek	78.09 333	P	P	00 42 25.7 +0.2
	baz=114				
CAST	Castle Rocks	78.19 336	P	P	00 42 25.1 -0.9
CAST			IAmb	IAmb	00 42 28.6
	comp=Z,23nm,1.2s				
CAST	Castle Rocks	78.19 336	P	P	00 42 26.1 +0.2
	baz=117				
E25K	Arctic Village	78.24 342	P	P	00 42 26.6 +0.4
	baz=124,SNR=11				
H23K	Yukon River	78.36 339	P	P	00 42 27.5 +0.6
	baz=120				
P17K	Kvichak River	78.36 331	P	P	00 42 27.0 +0.1
	baz=112				
MLY	Manley	78.41 338	P	P	00 42 26.7 -0.5
MLY	Manley	78.41 338	P	P	00 42 27.1 -0.1
	baz=118,SNR=10				
CHNA	Chernabura Isl	78.48 327	P	P	00 42 27.2 -0.4
	baz=108				
CHUM	Lake Minchumin	78.49 337	P	P	00 42 27.1 -0.4
	baz=116				
M19K	Big River Lodg	78.50 334	P	P	00 42 28.4 +0.7
	baz=114				
L20K	Farewell, AK	78.52 335	P	P	00 42 27.7 -0.1
	baz=115				
C27K	Jago River	78.55 344	P	P	00 42 28.6 +0.8
	baz=126,SNR=7.5				
F24K	Squaw Lake	78.66 341	P	P	00 42 28.9 +0.4
	baz=121				
N18K	Kilae Creek	78.67 333	P	P	00 42 29.0 +0.4
	baz=113,SNR=7.3				
L19K	White Mountain	78.81 335	P	P	00 42 29.8 +0.4
	baz=114				
O17K	Koliganek Bris	78.89 332	P	P	00 42 29.2 -0.6
	baz=111				
S14K	Fog Glacier	78.92 328	P	P	00 42 30.5 +0.3
	baz=108				
M18K	Stony River	78.96 334	P	P	00 42 30.2 +0.1
	baz=113,SNR=6.4				
G23K	Bananza Creek	78.97 340	P	P	00 42 30.5 +0.3
	baz=119,SNR=10				
K20K	Telida	78.97 336	P	P	00 42 30.6 +0.4
	baz=115,SNR=8.9				
H22K	Ishtalitna Cre	79.06 339	P	P	00 42 31.1 +0.5
	baz=118,SNR=8.4				
C26K	Camden Bay	79.06 343	P	P	00 42 30.8 +0.3
	baz=125				
E24K	Your Creek	79.14 341	P	P	00 42 31.8 +0.7
	baz=121				
D25K	Kavik River	79.15 343	P	P	00 42 32.1 +1.0
	baz=123,SNR=8.1				
N17K	Nushagak Hills	79.21 333	P	P	00 42 32.9 +1.3
	baz=111				
COLD	Coldfoot	79.28 340	P	P	00 42 32.9 +1.0
	baz=119				
O16K	Kokwok River B	79.30 332	P	P	00 42 32.8 +0.7
	baz=110				
J20K	Nowinta River	79.34 337	P	P	00 42 32.4 +0.2
	baz=115,SNR=8.7				
H21K	Melozitna Rive	79.47 338	P	P	00 42 32.8 -0.2
	baz=116,SNR=8.9				
E23K	Chandalar	79.50 341	P	P	00 42 33.3 +0.1
	baz=120,SNR=11				
G22K	Bettles	79.58 340	P	P	00 42 33.9 +0.5
	baz=118				
L18K	Granite Mounta	79.62 334	P	P	00 42 34.6 +0.8
	baz=112				
M17K	Holitna River	79.64 333	P	P	00 42 35.1 +1.2
	baz=111				
TOLK	Toolik Lake Re	79.78 341	P	P	00 42 35.6 +1.0
	baz=120				
D24K	Happy Valley	79.80 342	P	P	00 42 36.1 +1.5
	baz=121				
J19K	Poorman	79.86 336	P	P	00 42 35.0 -0.1
	baz=113,SNR=6.8				
IMAR	Indian Mountai	79.97 338	P	P	00 42 35.3 -0.3
O15K	Ungalikthiuk R	79.99 331	P	P	00 42 36.4 +0.6
	baz=109				
C24K	Franklin Bluff	80.06 343	P	P	00 42 36.6 +0.6
	baz=121				
F22K	John River	80.09 340	P	P	00 42 37.0 +0.7
	baz=117				
S12K	Black Hills	80.09 327	P	P	00 42 37.0 +0.5
	baz=106				
J18K	Innoko River	80.10 335	P	P	00 42 37.0 +0.6
	baz=112				
G21K	Allakaket	80.11 339	P	P	00 42 37.0 +0.6
	baz=116,SNR=9.1				
H20K	Anotleneega Mo	80.18 338	P	P	00 42 37.3 +0.5
	baz=114,SNR=8.1				
M16K	Timber Creek	80.20 333	P	P	00 42 37.4 +0.5
	baz=110				
E22K	Anaktuvuk Pass	80.26 341	P	P	00 42 37.8 +0.6
	baz=118				
D23K	Nanushuk River	80.29 342	P	P	00 42 38.3 +1.0
	baz=119,SNR=6.9				
L17K	Donlin	80.29 334	P	P	00 42 38.0 +0.6
	baz=111				
F21K	Alatna River	80.41 340	P	P	00 42 38.9 +0.9
	baz=116,SNR=7.3				
K17K	Iditarod	80.50 334	P	P	00 42 39.4 +0.9
	baz=111,SNR=7.0				
L16K	Owhat River	80.67 333	P	P	00 42 40.7 +1.3
	baz=110,SNR=7.7				
C23K	Itkillik River	80.69 342	P	P	00 42 39.9 +0.5
	baz=119,SNR=7.0				
O14K	Tigyukauivet M	80.72 331	P	P	00 42 39.6 -0.1
	baz=108				
H19K	Roundabout Mou	80.80 337	P	P	00 42 39.5 -0.5
	baz=113				
D22K	Ayikyak River	80.89 341	P	P	00 42 40.6 +0.1
	baz=117				
M15K	Kasigluk River	80.89 332	P	P	00 42 40.6 0.0
	baz=108				
J17K	VABM Dome	81.07 335	P	P	00 42 42.1 +0.6
	baz=110				
E21K	Killik River	81.11 341	P	P	00 42 41.7 0.0
	baz=116				
F20K	Avaraart Lake	81.13 339	P	P	00 42 42.2 +0.4
	baz=114,SNR=8.3				
G19K	Purcell Mounta	81.28 338	P	P	00 42 43.5 +0.9
	baz=112,SNR=9.1				
H18K	Honhosa River	81.40 337	P	P	00 42 44.1 +0.8
	baz=111,SNR=6.1				
M14K	Bethel	81.50 332	P	P	00 42 44.7 +0.8
	baz=107				
L15K	Ungalak Mounta	81.56 333	P	P	00 42 45.1 +0.9
	baz=108,SNR=5.4				
J16K	Anvik River	81.68 335	P	P	00 42 45.6 +0.8
	baz=109				
C21K	Knifeblade Rid	81.69 341	P	P	00 42 45.6 +0.8
	baz=115				
K15K	Wolf Creek Mou	81.77 334	P	P	00 42 46.5 +1.2
	baz=108				
B22K	Teshekpuk Lake	81.78 342	P	P	00 42 45.8 +0.6
	baz=116				
G18K	Tagagawik	81.78 337	P	P	00 42 46.2 +0.9
	baz=111				
E20K	Nigu River	81.78 340	P	P	00 42 46.2 +0.8
	baz=114,SNR=5.6				
F19K	Shaleruckik Mo	81.79 338	P	P	00 42 46.1 +0.8
	baz=112,SNR=6.1				
B21K	Ikpikpuk River	81.83 342	P	P	00 42 46.3 +0.9
	baz=115				
E19K	Redstone River	81.83 339	P	P	00 42 45.8 +0.2
	baz=112				
I17K	Unalakleet	81.91 335	P	P	00 42 46.6 +0.6
	baz=109				
H17K	Granite Mounta	81.94 336	P	P	00 42 47.3 +1.1
	baz=110				
L14K	Kuka Creek	82.01 332	P	P	00 42 47.7 +1.1
	baz=107				
M13K	Dall Lake	82.06 331	P	P	00 42 48.0 +1.1
	baz=106				
D20K	Etivluk River	82.11 340	P	P	00 42 48.2 +1.2
	baz=113				
UNV	Unalaska Valle	82.13 325	P	P	00 42 48.6 +1.3
	baz=102				
BORG	Borgarnes	82.24 24	LR	LR	01 16 09.5
	comp=Z,146nm,19.9s,baz=236,slow=33				
F18K	Selawik	82.41 338	P	P	00 42 49.4 +0.9
	baz=110				
G17K	Kiwalik Mounta	82.42 337	P	P	00 42 49.9 +1.2
	baz=109				
BELA	Belgrano 2	82.45 170	P	P	00 42 48.6 -0.1
BELA			IAmb	IAmb	00 42 51.8
	comp=Z,13nm,1.4s				
A22K	Sinclair Lake	82.53 343	P	P	00 42 50.4 +1.3
	baz=115				
D19K	Kuna River	82.53 340	P	P	00 42 50.0 +0.7
	baz=112				
H16K	Elim	82.79 336	P	P	00 42 51.0 +0.4
	baz=107				
B20K	Meade River	82.80 342	P	P	00 42 51.7 +1.2
	baz=113				
J14K	Nanvaranak Lak	82.80 334	P	P	00 42 51.2 +0.5
	baz=106				
F17K	Baldwin Pennin	82.96 338	P	P	00 42 52.1 +0.7
	baz=108				
E18K	Tukpahlearik C	83.03 339	P	P	00 42 52.6 +0.8
	baz=109				
G16K	Koyuk River	83.06 336	P	P	00 42 52.5 +0.5
	baz=107				
K13K	Kusilvak Mount	83.08 333	P	P	00 42 53.3 +1.2
	baz=105				
C19K	Lookout Ridge	83.25 340	P	P	00 42 53.7 +0.7
	baz=110				
NIKH	Nikolski High	83.33 323	P	P	00 42 54.2 +0.6
	baz=100				
E17K	Hotham Inlet	83.38 338	P	P	00 42 54.3 +0.8
	baz=108				
M11K	Mekoryuk	83.42 331	P	P	00 42 54.8 +0.8
	baz=103				
G15K	Niukluk	83.63 336	P	P	00 42 56.3 +1.4
	baz=106				
C18K	Utukok River	83.65 340	P	P	00 42 55.7 +0.7
	baz=109				
D17K	Noatak River	84.03 339	P	P	00 42 57.9 +1.0
	baz=107				
F15K	North Star Dit	84.07 336	P	P	00 42 57.6 +0.5
	baz=105				
PFVI	Vila Bisbo	84.32 53	eP	P	00 43 04.9 +5.8
PSBE	So Bento	84.57 50	eP	P	00 43 05.5 +5.2
PNCL	Nicolau / Gran	84.65 52	eP	P	00 43 04.3 +3.6
PNCL	Nicolau / Gran	84.65 52	eS	S	00 53 31.3 +2.9
PCAS	Casmilo, Conde	84.85 50	eP	P	00 43 06.3 +4.6
PCAS	Casmilo, Conde	84.85 50	eS	S	00 53 38.6 +8.2
MESJ	Messejana	84.87 52	eP	P	00 43 07.0 +5.2
COI	Coimbra	84.93 50	eP	P	00 43 07.5 +5.4
COI	Coimbra	84.93 50	eS	S	00 53 31.5 +0.4
PMTG	Montargil	84.97 51	eP	P	00 43 02.9 +0.6
	comp=Z,21nm,1.6s				
PMTG	Montargil	84.97 51	eS	S	00 53 39.8 +8.2
PCVE	Castro Verde	84.99 52	eP	P	00 43 08.2 +5.7
PBDV	Barranco-do-Ve	85.05 53	eP	P	00 43 08.1 +5.3
EVO	Evora	85.09 51	eP	P	00 43 08.2 +5.3
PGAV	Gavieira, Arco	85.21 48	eP	P	00 43 07.3 +3.7
PGAV	Gavieira, Arco	85.21 48	eLR	LR	01 09 44.3
	comp=Z,150nm,18.0s				
PVAQ	Vaqueiros	85.23 53	eP	P	00 43 08.2 +4.6
PVAQ	Vaqueiros	85.23 53	eLR	LR	01 08 52.0
	comp=Z,109nm,18.0s				

PVIS	Viseu	85.37	49	eP	P	00 43 09.6	+5.2
PESTR	Estremoz	85.45	51	eS	SKSac	00 53 31.0	+0.7
POLO	Lamas de Olo	85.51	49	eP	P	00 43 08.8	+3.7
POLO	Lamas de Olo	85.51	49	eS	S	00 53 48.5	+11
MTE	Manteigas	85.61	50	eP	P	00 43 08.5	+2.9
MTE	Manteigas	85.61	50	eLR	LR	01 10 19.3	
	comp=Z,199nm,18.0s						
PMRV	Marv??o	85.65	51	eP	P	00 43 10.2	+4.5
PMRV	Marv??o	85.65	51	eLR	LR	01 11 31.6	
	comp=Z,140nm,18.0s						
PBAR	Barrancos	85.83	52	eP	P	00 43 11.6	+5.0
PBAR	Barrancos	85.83	52	eS	S	00 53 50.7	+11
PBRG	Braganca	86.33	48	eP	P	00 43 13.8	+4.7
DBIC	Dimbokro	86.34	83	LR	LR	01 18 54.1	
	comp=Z,265nm,18.6s,baz=236,slow=34						
MDT	Midelt	87.48	57	LR	LR	01 21 12.3	
	comp=Z,126nm,18.3s,baz=274,slow=35						
ESDC	Sonseca Array	88.31	50	P	P	00 43 16.9	-1.8
ESDC				IAmb	IAmb	00 43 25.0	
	comp=Z,6.9nm,1.5s						
ESDC	Sonseca Array	88.31	50	P	P	00 43 18.7	0.0
	comp=Z,0.8nm,0.9s,baz=270,slow=4.4,SNR=5.2						
ESDC				LR	LR	01 20 14.7	
	comp=Z,38nm,18.6s,baz=195,slow=34						
	comp=Z,0.8nm,0.9s						
JMIC	Jan Mayen	88.38	19	LR	LR	01 20 13.8	
	comp=Z,50nm,21.6s,baz=236,slow=34						
SNAA	Sanae	88.63	162	P	P	00 43 18.4	-1.1
SNAA				IAmb	IAmb	00 43 20.4	
	comp=Z,7.6nm,1.2s						
SNAA	Sanae	88.63	162	⇑P	P	00 43 18.9	-0.6
	comp=Z,50nm,1.0s						
SNAA	Sanae	88.63	162	P	P	00 43 18.2	-1.3
	comp=Z,2.6nm,1.0s,baz=287,slow=5.5,SNR=6.7						
SNAA				LR	LR	01 17 04.5	
	comp=Z,327nm,19.8s,baz=270,slow=32						
	comp=Z,2.6nm,1.0s						
QSPA	South Pole Qui	89.19	180	P	P	00 43 20.8	-1.5
QSPA	South Pole Qui	89.19	180	P	P	00 43 19.7	-2.6
	comp=Z,2.8nm,1.1s,baz=265,slow=2.4,SNR=5.6						
QSPA				LR	LR	01 16 40.7	
	comp=Z,1μm,19.6s,baz=142,slow=31						
	comp=Z,2.8nm,1.1s						
TROLL	Troll, Antarti	90.31	162	⇓P	P	00 43 26.4	-1.1
	comp=Z,59nm,0.8s						
VNDA	Vanda	92.83	192	LR	LR	01 16 25.0	
	comp=Z,345nm,21.7s,baz=130,slow=30						
TORD	Torodi Ar. Bea	92.88	77	LR	LR	01 25 47.7	
	comp=Z,247nm,18.1s,baz=284,slow=36						
SHEM	Shemya Is, Ala	93.61	323	LR	LR	01 16 07.1	
	comp=Z,75nm,21.5s,baz=128,slow=29						
SPITS	Spitsbergen Ar	94.38	11	LR	LR	01 27 22.1	
	comp=Z,131nm,20.7s,baz=264,slow=36						
NOA	NORSAR Array B	96.69	29	LR	LR	01 23 54.3	
	comp=Z,45nm,20.2s,baz=260,slow=33						
HFS	Hagfors	98.07	29	LR	LR	01 26 12.9	
	comp=Z,88nm,19.4s,baz=277,slow=34						
KURBB	Kurchatov Arra	129.64	9	PKP	PKPdf	00 49 34.6	-1.3
	comp=Z,0.7nm,0.6s,baz=32,slow=1.4,SNR=5.0						
SONM	Songino Array	130.82	345	PKP	PKiKP	00 49 40.1	+0.8
	comp=Z,0.9nm,0.9s,baz=352,slow=6.0,SNR=3.9						
HHC	Hu-ho-hao-te	135.22	336	eP	PKPdf	00 49 42.8	-4.2
H01W1	Cape Leeuwin H	137.31	211	T	T	03 22 11.0	
	baz=137,slow=75,SNR=12						
H01W2	Cape Leeuwin H	137.32	211	T	T	03 22 11.5	
	baz=137,slow=75,SNR=14						
H01W3	Cape Leeuwin H	137.33	211	T	T	03 22 12.3	
	baz=137,slow=75,SNR=9.9						
NJ2	Nanjing	138.05	321	eP	PKiKP	00 49 52.0	-2.3
NJ2				pmax	pmax		
	comp=Z,13nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,370nm,4.3s						
PZH	PanZhiHua	151.68	335	PKPbc	PKPdf	00 50 15.3	-0.7

PRU **05** *00:48:54.6, 41.°35N×19.°83E, h0km, M4.2*
IDC **05** *00:48:54.3±1.9, 41.°46N×19.°37E, h0km, mb3.9/3, mbtmp3.7/7, ML3.4/3, Error ellipse: s-maj=24.2km s-min=15.5km az=31.0*
TIR **05** *00:48:55.6, 41.°51N×19.°47E, h15km±3km, Md3.8, Ml3.4*
RHSSO **05** *00:48:56.3±0.5, 41.°37N×19.°51E, h6km±2km, ML3.4/18*
LDG **05** *00:48:57.5±0.1, 41.°57N×19.°54E, h10km, Ml3.6/8, Error ellipse: s-maj=6.6km s-min=2.9km az=33.0*
BEO **05** *00:48:57.2±0.5, 41.°39N×19.°51E, h14km±2km, ML3.1/20*
NEIC **05** *00:48:57.2±1.4, 41.°48N±0.°04×19.°51E±0.°06, h12km±7km, mb4.2/5, Error ellipse: s-maj=6.5km s-min=6.1km az=193.0*
PDG **05** *00:48:57.7±0.1, 41.°52N×19.°60E, h15km, MD3.5/6, ML3.4/13, Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*
THE **05** *00:48:57.2, 41.°53N×19.°55E, h0km±1km, ML3.0/5, Error ellipse: s-maj=2.5km s-min=1.2km az=323.0*

ISC 05 00:48:57.3±0.8, 41.°47N±0.°02×19.°53E±0.°02, h17km±6km, n247, σ1.5°50/342, mb4.1/4, 43C-18D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TIR	Tirane	0.28	116	⇓P		Pg	00 49 03.3	-0.1
TIR				⇑S		Sb	00 49 08.4	+0.2
TIR	Tirane	0.28	116	P		Pg	00 49 03.3	-0.1
	baz=118							
TIR				S		Sg	00 49 07.7	+0.3
	baz=118							
TIR				AMP				
	comp=N,26nm,0.3s,baz=118							
TIR	Tirane	0.28	116			Pg	00 49 03.2	-0.1
TIR				Sg		Sg	00 49 07.8	+0.3
TIR	Tirane	0.28	116	P		Pg	00 49 03.3	-0.1
TIR				S		Sg	00 49 07.6	+0.1
TIR	Tirane	0.28	116	ePg		Pg	00 49 03.2	-0.1
TIR				eSg		Sb	00 49 07.9	-0.3
ULC	Ulcinj	0.54	336	⇓iPg		Pg	00 49 07.7	-0.4
ULC				i Sg		Sb	00 49 16.1	+0.2
PUK	Puka	0.63	25	P		Pg	00 49 08.6	-1.2
	baz=30							
PUK				S		Sg	00 49 17.2	-1.1
	baz=30							
PUK				AMP				
	comp=E,9.0nm,0.4s,baz=30							
PUK	Puka	0.63	25			Pg	00 49 08.5	-1.2
PUK				Sg		Sg	00 49 17.8	-0.5
DRME	Dracevica, Mon	0.76	340	ePg		Pb	00 49 12.3	+0.2
DRME				eSg		Sn	00 49 25.1	+0.6
DRME	Dracevica, Mon	0.76	340	⇓iPg		Pg	00 49 11.5	-0.7
DRME				eSg		Sb	00 49 23.7	+1.4
DRME	Dracevica, Mon	0.76	340	⇓iPg		Pg	00 49 11.7	-0.5
DRME				i Sg		Sb	00 49 23.2	+0.9
BUM	Brajici-Budva	0.96	330	⇑iPg		Pg	00 49 15.5	-0.4
BUM				i Sg		Sn	00 49 30.3	+0.9
BCI	Bajram Curri	0.98	24	P		Pg	00 49 14.7	-1.6
	baz=27							
BCI				S		Sg	00 49 28.9	-0.3
	baz=27							
BCI				AMP				
	comp=E,3.8nm,0.5s,baz=27							
PDG	Podgorica	0.98	348	⇑P		Pn	00 49 17.1	+0.8
PDG				⇑S		Sn	00 49 30.7	+0.9
PDG	Podgorica	0.98	348			Pg	00 49 14.9	-1.5
PDG	Podgorica	0.98	348	ePg		Pg	00 49 15.9	-0.5
PDG				eSg		Sn	00 49 31.8	+2.0
PDG	Podgorica	0.98	348	ePg		Pg	00 49 15.1	-1.3
PDG				eSg		Sn	00 49 30.7	+0.9
PDG	Podgorica	0.98	348	⇑iPg		Pg	00 49 15.4	-1.0
PDG				i Sg		Sn	00 49 30.7	+0.9
VLO	Vlora	1.00	182	P		Pn	00 49 17.5	+1.0
	baz=178							
VLO				S		Sn	00 49 32.0	+1.9
	baz=178							
VLO				AMP				
	comp=N,5.6nm,0.6s,baz=178							
VLO	Vlora	1.00	182			Pb	00 49 16.5	+0.4
VLO	Vlora	1.00	182	P		Pb	00 49 16.5	+0.4
VLO				S		Sn	00 49 33.1	+2.9
	comp=N,1μm,0.5s							
OHR	Ohrid	1.02	110	i Pg		Pg	00 49 16.0	-1.0
OHR				i Sg		Sn	00 49 31.8	+1.0
PVY	Plav	1.17	16	ePg		Pb	00 49 18.5	-0.6
PVY	Plav	1.17	16	⇓iPg		Pb	00 49 18.2	-0.9
PVY				i Sg		Sn	00 49 36.1	+1.5
CEME	Cevo	1.17	337	⇑iPg		Pb	00 49 18.6	-0.5
CEME				i Sg		Sn	00 49 37.4	+2.8
HCY	Herceg Novi	1.25	322	ePg		Pn	00 49 20.5	+0.5
HCY				eSg		Sn	00 49 38.5	+2.1
HCY	Herceg Novi	1.25	322	⇓iPg		Pb	00 49 20.9	+0.5
HCY				i Sg		Sn	00 49 40.0	+3.6
KBN	Korca	1.27	131	P		Pg	00 49 21.7	-0.1
	baz=131							
KBN				S		Sn	00 49 40.9	+3.9
	baz=131							
KBN				AMP				
	comp=E,1.8nm,0.8s,baz=131							
KBN	Korca	1.27	131	Pn		Pg	00 49 22.0	+0.2
KBN	Korca	1.27	131	P		Pg	00 49 21.9	+0.2
KBN				S		Sn	00 49 40.1	+3.1
	comp=E,525nm,0.8s							
NKME	Niksic	1.37	342	⇑iPg		Pb	00 49 23.0	+0.5
NKME				i Sg		Sg	00 49 43.4	+1.9
KOME	Kolasin	1.38	359	ePg		Pb	00 49 23.2	+0.5
KOME				eSg		Sg	00 49 44.2	+2.3
KOME	Kolasin	1.38	359	⇓iPg		Pn	00 49 22.7	+0.8
KOME				i Sg		Sg	00 49 43.8	+1.9
BEY	Berane	1.43	11	ePg		Pn	00 49 23.0	+0.4
IVA	Berane	1.43	11	⇓iPg		Pn	00 49 22.9	+0.4
IVA				i Sg		Sg	00 49 44.4	+1.0
SKO	Skopje	1.51	70	i Pn		Pb	00 49 25.2	+0.3
TREB	Trebinje	1.53	325	⇑iPn		Pn	00 49 25.0	+1.2
TREB				eSn		Sg	00 49 46.1	-0.5
FNA	Florina	1.55	116	P		Pn	00 49 25.2	+1.0
	baz=116							
FNA				S		Sg	00 49 47.3	0.0
	baz=116							
FNA				AMP				
	comp=E,0.8nm,0.7s,baz=116							
FNA	Florina	1.55	116			Pn	00 49 25.2	+1.0
FNA	Florina	1.55	116	P		Pn	00 49 25.3	+1.0
FNA				S		Sg	00 49 47.3	0.0
	comp=E,648nm,0.6s							
FNA	Florina	1.55	116	ePg		Pn	00 49 25.1	+0.9
FNA				eSg		Sg	00 49 47.4	+0.1
NEST	Nestorio	1.56	132	P		Pg	00 49 26.8	-0.5
NEST				S		Sg	00 49 48.9	+1.4
	comp=E,252nm,0.6s							
DBRK	Dubrovnik	1.58	320	i Pn		Pb	00 49 26.6	+0.5
BRY	Bratogost	1.61	333	⇑iPn		Pb	00 49 26.5	-0.2
BRY				eSn		Sg	00 49 48.6	-0.7
BRY	Bratogost	1.61	333	⇓iPn		Pb	00 49 26.9	+0.2
BRY				i Sn		Sg	00 49 50.4	+1.1
SCTE	Santa Cesarea	1.61	211	P		Pn	00 49 25.5	+0.5
	baz=209							
SRN	Sarande	1.63	167	P		Pb	00 49 26.9	0.0
	baz=165							
SRN				S		Sg	00 49 50.2	+0.5
	baz=165							
SRN				AMP				
	comp=N,0.9nm,0.5s,baz=165							
SRN	Sarande	1.63	167	P		Pb	00 49 26.8	0.0
SRN				S		Sg	00 49 50.5	+0.8
	comp=N,200nm,0.5s							
UPM	Unac-Piva	1.79	345	ePn		Pb	00 49 29.5	-0.3
UPM				eSn		Sb	00 49 53.0	+0.9
UPM	Unac-Piva	1.79	345	⇑iPn		Pb	00 49 29.5	-0.3
UPM				i Sn		Sg	00 49 54.4	-0.8
SJES	Sjenica	1.82	10	ePn		Pb	00 49 30.3	+0.1
SJES				eSn		Sb	00 49 54.1	+1.3
SJES	Sjenica	1.82	10	⇑iPn		Pb	00 49 29.9	-0.3
SJES				eSn		Sb	00 49 54.0	+1.3
KLINJ	Klinje	1.84	338	ePn		Pn	00 49 29.9	+1.7
KLINJ				eSn		Sb	00 49 54.4	+1.1
PLE	Pljevlja	1.86	357	ePn		Pb	00 49 31.1	+0.1
PLE	Pljevlja	1.86	357	⇑iPn		Pn	00 49 30.0	+1.5
PLE				i Sn		Sb	00 49 55.6	+1.6
STON	Ston	1.96	316	ePn		Pn	00 49 30.9	+1.2
STON	Ston	1.96	316	⇑iPn		Pn	00 49 30.7	+1.0
STON				eSn		Sb	00 49 56.5	0.0
NOCI	Noci	1.99	251	P		Pn	00 49 30.5	+0.4
	baz=250							
STIP	Stip	2.00	83	i Pn		Pb	00 49 33.9	+0.7
KPRO	Kipourio	2.05	137	P		Pb	00 49 34.0	-0.2
JAN	Janina	2.07	151	P		Pb	00 49 33.5	-0.9
RUDO	Rudo	2.15	357	ePn		Pn	00 49 33.8	+1.4
RUDO				eSn		Sb	00 50 02.5	+0.3
IVAS	Ivanjica	2.15	12	ePn		Pn	00 49 33.7	+1.2
IVAS				eSn		Sb	00 50 02.1	-0.3
PRVS	Prvonek	2.16	60	ePn		Pn	00 49 33.8	+1.2
PRVS				eSn		Sb	00 50 01.9	-0.6
BARS	Barje	2.17	51	ePn		Pn	00 49 33.9	+1.3
BARS				eSn		Sn	00 50 01.1	+2.0
VAY	Valandovo	2.29	93	i Pn		Pn	00 49 35.7	+1.5
MATE	Matera	2.29	250	⇓P		Pn	00 49 35.2	+0.9
BBLS	Lazi&#263i	2.40	358	ePn		Pn	00 49 37.9	+2.1
BBLS	Lazi&#263i	2.40	358	⇑iPn		Pn	00 49 37.5	+1.7
BBLS				eSn		Sb	00 50 09.0	-0.4
BOSS	Bosilegrad	2.42	64	ePn		Pn	00 49 37.3	+1.1
KNT	Kendrikon	2.55	96	P		Pn	00 49 39.2	+1.3
GRUS	Gruza	2.57	19	ePn		Pn	00 49 39.6	+1.5
GRUS				eSn		Sn	00 50 12.1	+3.1
MAKA	Makarska	2.60	315	i Pn		Pn	00 49 39.7	+1.1
LIT	Litokhoron	2.63	120	Pn		Pn	00 49 39.7	+0.8
LIT	Litokhoron	2.63	120	P		Pn	00 49 40.1	+1.1
DIVS	Divibare	2.65	7	ePn		Pn	00 49 40.4	+1.1
DIVS				eSn		Sn	00 50 14.4	+3.3
HAPS	Han Pijesak,Bl	2.65	351	⇑iPn		Pn	00 49 41.1	+1.7
HAPS				eSn		Sn	00 50 14.4	+3.2
THL	Klokotos Trika	2.68	134	P		Pn	00 49 40.8	+1.1
RICI	Ricice	2.69	320	i Pn		Pn	00 49 40.9	+1.1
RICI				Sn		Sn	00 50 13.8	+1.7
BOVS	Bovan	2.69	36	⇓P		Pn	00 49 41.2	+1.4
BOVS				⇑S		Sn	00 50 14.2	+2.1
BOVS	Bovan	2.69	36	ePn		Pn	00 49 41.1	+1.3
BOVS				eSn		Sn	00 50 13.7	+1.6
TYRN	Tyrnavos	2.70	130	P		Pn	00 49 42.3	+2.4
TSLK	Tsoukalades, L	2.78	162	P		Pn	00 49 42.5	+1.5
TSLK				S		Sn	00 50 14.5	+0.4
LKD2	Lefkada island	2.81	162	P		Pn	00 49 42.7	+1.2
LKD2				S		Sn	00 50 15.0	0.0
TRUS	Trudelj	2.83	13	ePn		Pn	00 49 43.1	+1.4
HVAR	Hvar	2.85	308	ePn		Pn	00 49 42.5	+0.4
SGRT	San Giovanni R	2.86	277	Pn		Pn	00 49 41.9	-0.2
NYDR	Nydri-Lefkada	2.89	162	P		Pn	00 49 43.5	+0.9
NYDR				S		Sn	00 50 17.1	+0.2
SOH	Sokhos	2.96	101	P		Pn	00 49 44.4	+0.9
ZAGS	Zajecar	3.07	39	ePn		Pn	00 49 45.3	+0.2
SRS	Serrai	3.08	95	P		Pn	00 49 46.8	+1.7
TEKS	Tekeris	3.08	360	ePn		Pn	00 49 46.9	+1.7
TEKS				eSn		Sn	00 50 22.3	+0.7
TEKS	Tekeris	3.08	360	ePn		Pn	00 49 46.9	+1.7
TEKS				eSn		Sn	00 50 24.7	+3.1
EVR	Evrytania	3.09	145	P		Pn	00 49 48.1	+2.8
TIP	Timpagrande	3.12	224	⇑P		Pn	00 49 46.5	+0.7
TIP				⇑S		Sn	00 50 24.6	+1.9
TIP	Timpagrande	3.12	224	Pn		Pn	00 49 46.1	+0.4
MAKR	Makrakomi, Fth	3.16	140	P		Pn	00 49 48.4	+2.2
PLG	Polygyros	3.16	109	P		Pn	00 49 47.1	+0.8
CUC	Castrocucco	3.19	244	Pn		Pn	00 49 47.4	+0.7
PVO	Paravola	3.23	151	P		Pn	00 49 48.9	+1.7
AGG	Agios Georgios	3.25	138	Pn		Pn	00 49 49.0	+1.5
AGG	Agios Georgios	3.25	138	P		Pn	00 49 49.4	+1.9
NVR	Nevrokopi	3.26	91	P		Pn	00 49 49.8	+2.2
AVAS	Avala Beograd	3.30	12	ePn		Pn	00 49 48.9	+0.6
AVAS				eSn		Sn	00 50 27.8	+0.7
KUBS	Kucevo	3.33	27	ePn		Pn	00 49 48.4	-0.3
ANX	Ano Chora	3.41	147	P		Pn	00 49 51.5	+1.8
DOB	Doboj	3.43	343	ePn		Pn	00 49 50.9	+1.0
PSDA	Pessada-Kefalo	3.45	166	P		Pn	00 49 50.4	+0.2
MGRS	Mrkonjic Grad	3.45	329	⇑iPn		Pn	00 49 52.1	+1.8
MGRS				eSn		Sn	00 50 33.1	+2.3
KALE	Kalithea	3.67	146	P		Pn	00 49 55.6	+2.3
MDVR	Moldovita	3.67	25	⇑P		Pn	00 49 54.6	+1.2
FRGS	Fruska Gora	3.69	3	⇓P		Pn	00 49 55.5	+1.9
FRGS	Fruska Gora	3.69	3	ePn		Pn	00 49 54.2	+0.6
FRGS	Fruska Gora	3.69	3	⇑iPn		Pn	00 49 55.3	+1.7
FRGS				eSn		Sn	00 50 38.9	+2.2
MORI	Morici	3.70	312	ePn		Pn	00 49 55.1	+1.4
BLY	Banja Luka	3.70	333	⇑iPn		Pn	00 49 55.0	+1.3
BLY				eSn		Sn	00 50 39.5	+2.6
A050A	Klekovaca	3.73	325	ePn		Pn	00 49 55.9	+1.7
A050A				eSn		Sn	00 50 39.8	+2.0
PAOL	Paolisi	3.77	265			Pn	00 49 56.0	+1.4
LTHK	Lithakia	3.89	165	P		Pn	00 49 56.4	+0.2
HERR	Herculane	4.01	31	⇑P		Pn	00 49 59.3	+1.4
HERR				⇑S		Sn	00 50 47.1	+2.6
PRIJ	Prijedor	4.07	331	ePn		Pn	00 49 59.1	+0.4
PRIJ				eSn		Sn	00 50 47.3	+1.4
UDBI	Udbina	4.12	319	ePn		Pn	00 50 01.8	+2.3
DUGI	Dugi Otok	4.15	309	ePn		Pn	00 50 00.9	+1.0
SRE	Strehaia	4.17	39	⇑P		Pn	00 50 02.1	+1.9
INTR	Introdacqua	4.25	279	Pn		Pn	00 50 01.9	+0.6
VIRC	Vir	4.34	312	ePn		Pn	00 50 03.4	+1.0
BZS	Buzias	4.41	19	⇑P		Pn	00 50 04.5	+1.1
PLIT	Plitvice	4.45	321	ePn		Pn	00 50 05.4	+1.4
PLIT				Sn		Sn	00 50 56.2	+0.8
RDO	Rodhopi	4.53	92			Pn	00 50 06.0	+0.9
GZR	Gura Zlata	4.58	30	⇑P		Pn	00 50 07.9	+2.1
MOSL	Moslavina	4.61	335	ePn		Pn	00 50 07.1	+0.9
NVLJ	Novalja	4.61	314	ePn		Pn	00 50 06.9	+0.8
NVLJ				Sn		Sn	00 50 59.2	-0.1
ITM	Ithomi	4.67	156	Pn		Pn	00 50 07.7	+0.7
SURR	Surduc	4.68	23	⇑P		Pn	00 50 07.9	+0.8
CAMP	Campotosto	4.69	285			Pn	00 50 08.4	+1.0
RABC	Rab	4.78	315	ePn		Pn	00 50 09.3	+0.8
MORH	Mrgy, Hungar	4.79	353	⇑P		Pn	00 50 10.0	+1.4
MORH	Mrgy, Hungar	4.79	353	ePn		Pn	00 50 10.0	+1.4
MORH				eSn		Sn	00 51 05.6	+1.9
GUMA	Gualdo di Mace	4.87	291			Pn	00 50 09.8	+0.1
ELND	Elena	4.93	71	⇑P		Pn	00 50 12.4	+1.8
ALN	Alexandroupoli	4.95	94	Pn		Pn	00 50 12.5	+1.7
NRCA	Norcia	4.96	288			Pn	00 50 12.2	+1.1
HUMR	Humele	5.03	51	⇑P		Pn	00 50 14.1	+2.2
LOT	Lotru	5.03	36	⇑P		Pn	00 50 14.1	+2.0
SIRR	Siria	5.04	17	⇑P		Pn	00 50 13.8	+1.7
OZLJ	Ozalj	5.09	326	ePn		Pn	00 50 14.0	+1.3
BOJS	Bojanci	5.10	324	i Pn		Pn	00 50 14.0	+1.2
BOJS	Bojanci	5.10	324	⇓iPn		Pn	00 50 13.9	+1.1
PTJ	Puntijarka	5.13	331	ePn		Pn	00 50 14.0	+0.5
KALN	Kalnik	5.17	335	ePn		Pn	00 50 14.7	+0.9
CRES	Cresnjev	5.26	327	ePn		Pn	00 50 15.8	+0.6
CESX	Cesi	5.30	285	Pn		Pn	00 50 16.5	+0.8
SMRN	Sveta Marina	5.30	314	ePn		Pn	00 50 16.6	+0.9
RIY	Rijeka	5.33	318	ePn		Pn	00 50 17.1	+1.0
RIY				Sn		Sn	00 51 16.3	-0.7
BEHE	Becsehely	5.38	339	ePn		Pn	00 50 18.0	+1.2
BEHE				eSn		Sn	00 51 18.7	+0.4
ARR	Arges	5.38	42	⇓P		Pn	00 50 18.8	+2.0
BRJN	Brijuni	5.45	311	ePn		Pn	00 50 18.5	+0.8
SGRR	Singureni	5.48	58	⇓P		Pn	00 50 20.2	+2.1
KNDS	Knezji Dol	5.52	319	i Pn		Pn	00 50 19.4	+0.6
VOIR		5.64	43	⇑P		Pn	00 50 22.9	+2.4
PDKS	Podkum	5.64	326	ePn		Pn	00 50 21.4	+1.0
CEY	Cerknica	5.65	321	⇓iPn		Pn	00 50 21.6	+1.1
CEY				eSn		Sn	00 51 25.1	0.0
SKDS	Skadanscina	5.72	317	⇓iPn		Pn	00 50 21.3	-0.1
SKDS				eSn		Sn	00 51 25.9	-0.8
DRGR		5.79	22	⇑P		Pn	00 50 24.2	+1.7
MARR	Marisel-Cluj	5.81	25	⇓P		Pn	00 50 24.9	+2.1
LJU	Ljubljana	5.83	323	ePn		Pn	00 50 24.4	+1.4
SOKA	Soboth	6.13	330	i Pn		Pn	00 50 28.1	+0.9
	comp=N,2.4nm,0.7s							
SOKA				eSn		Sn	00 51 38.0	+1.0
	comp=N,1.5nm,0.5s							
MLR	Muntele Rosu	6.16	47	Pn		Pn	00 50 29.1	+1.5
MLR	Muntele Rosu	6.16	47	Pn		Pn	00 50 30.6	+3.1
	comp=N,1.0nm,0.3s,baz=164,slow=11,SNR=13							
MLR				Sn		Sn	00 51 40.2	+2.7
	comp=N,0.1nm,0.3s,baz=258,slow=19,SNR=1.5							
	comp=N,5.5nm,0.7s							
OBKA	Obir	6.19	326	ePn		Pn	00 50 29.8	+1.9
	comp=N,2.7nm,0.7s							
OBKA				eSn		Sn	00 51 40.6	+2.2
	comp=N,5.8nm,0.4s							
OBKA	Obir	6.19	326	ePn		Pn	00 50 28.6	+0.7
OBKA				eSn		Sn	00 51 38.2	-0.1
SABO	M.te Sabotino	6.23	318	Pn		Pn	00 50 28.5	+0.1
CLTB	Caltabellotta	6.24	234	Pn		Pn	00 50 29.1	+0.4
PSZ	Piszkesteto	6.45	2	⇑P		Pn	00 50 32.8	+1.3
ARSA	Arzberg	6.46	335	ePn		Pn	00 50 33.0	+1.5
	comp=N,1.3nm,0.4s							
ARSA	Arzberg	6.46	335	ePn		Pn	00 50 32.3	+0.8
OSSC	Osservatorio P	6.46	291			Pn	00 50 31.7	0.0
OZUR		6.47	42	⇑P		Pn	00 50 33.9	+2.2
PRED	Cave del Predi	6.58	321			Pn	00 50 33.4	+0.2
CASP	Castiglione de	6.58	284	Pn		Pn	00 50 32.9	-

SENIN	**Lac Senin/Sane**	**10.09**	**303**	Pn	**Pn**	**00 51 20.9**	**-0.7**
LPG	**La Plagne**	**10.12**	**298**	*e*Pn	**Pn**	**00 51 20.0**	**-2.1**
LPG				*e*Sn	Sn	00 53 06.7	-8.6
comp=N,1.0nm,0.3s							
LPL	**La Plagne**	**10.14**	**298**	*e*Pn	**Pn**	**00 51 19.9**	**-2.4**
LPL				*e*Sn	Sn	00 53 07.1	-8.6
comp=N,2.3nm,0.3s							
ORIF	**Oris-en-Rattie**	**10.55**	**294**	*e*Pn	**Pn**	**00 51 26.6**	**-1.1**
CABF	**La Chapelle**	**10.96**	**302**	*e*Pn	**Pn**	**00 51 30.2**	**-3.1**
HINF	**Hinteralfeld**	**11.03**	**309**	*e*Pn	**Pn**	**00 51 31.7**	**-2.6**
HINF				*e*Sn	Sn	00 53 26.4	-11
comp=N,0.9nm,0.3s							
ECH	**Echery**	**11.07**	**312**	Pn	**Pn**	**00 51 34.8**	**0.0**
CDF	**Champ du Feu**	**11.11**	**313**	*e*Pn	**Pn**	**00 51 32.1**	**-3.3**
HAU	**Haudompre**	**11.42**	**309**	*e*Pn	**Pn**	**00 51 39.5**	**-0.1**
SFTF	**Sexfontaines**	**12.29**	**308**	*e*Pn	**Pn**	**00 51 49.2**	**-2.2**
SFTF				*e*Sn	Sn	00 53 58.5	-9.4
comp=N,3.9nm,0.4s							
SMF	**Signal de Mont**	**12.41**	**300**	*e*Pn	**Pn**	**00 51 50.5**	**-2.6**
LOR	**Lormes**	**12.62**	**303**	*e*Pn	**Pn**	**00 51 53.5**	**-2.4**
LOR				*e*Sn	Sn	00 54 05.8	-10
comp=N,2.2nm,0.3s							
SSF	**Saint Saulge**	**12.77**	**301**	*e*Pn	**Pn**	**00 51 54.9**	**-3.1**
SSF				*e*Sn	Sn	00 54 09.4	-10
comp=N,0.9nm,0.4s							
AVF	**Avril sur Loir**	**12.78**	**300**	*e*Pn	**Pn**	**00 51 56.3**	**-1.8**
BGF	**Bois d'Agland**	**13.04**	**299**	*e*Pn	**Pn**	**00 52 00.0**	**-1.7**
HFS	**Hagfors**	**19.04**	**351**	P	**P**	**00 53 17.9**	**-0.3**
comp=N,0.1nm,0.3s,baz=150,slow=12,SNR=1.5							
comp=N,0.7nm,0.6s							
FINES	**FINESS Array B**	**20.39**	**9**	P	**P**	**00 53 31.6**	**-1.4**
FINES	**FINESS Array B**	**20.39**	**9**	P	**P**	**00 53 31.8**	**-1.2**
comp=N,1.1nm,0.3s,baz=184,slow=10,SNR=23							
comp=N,1.1nm,0.3s							
FIA1	**FINESS Array S**	**20.39**	**9**	P	**P**	**00 53 31.5**	**-1.6**
FIA1				IAmb	IAmb	00 53 33.0	
comp=Z,11nm,0.9s							
BRVK	**Borovoye**	**35.61**	**53**	P	**P**	**00 55 53.8**	**0.0**
BRVK				IAmb	IAmb	00 55 55.6	
comp=Z,2.3nm,0.6s							
SPB2	**Spitsbergen Ar**	**36.84**	**359**	P	**P**	**00 56 04.5**	**+0.5**
ZAA0	**Zalesovo Array**	**44.12**	**50**	P	**P**	**00 57 04.2**	**-0.3**
ZAA0				IAmb	IAmb	00 57 05.0	
comp=Z,1.9nm,0.6s							
ZALV	**Zalesovo Beam**	**44.12**	**50**	P	**P**	**00 57 04.0**	**-0.5**
ZALV	**Zalesovo Beam**	**44.12**	**50**	P	**P**	**00 57 04.2**	**-0.2**
comp=Z,1.6nm,0.6s,baz=269,slow=8.0,SNR=8.1							
comp=Z,1.6nm,0.6s							
MK31	**Makanchi Array**	**44.30**	**61**	P	**P**	**00 57 05.7**	**-0.4**
MKAR	**Makanchi Array**	**44.30**	**61**	P	**P**	**00 57 05.6**	**-0.4**
MKAR	**Makanchi Array**	**44.30**	**61**	P	**P**	**00 57 06.1**	**0.0**
comp=Z,1.5nm,0.6s,baz=283,slow=6.8,SNR=18							
comp=Z,1.5nm,0.6s							

IDC 05 01:14:21.8±3.5, 54°.87S×23°.68W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=153.3km s-min=34.9km az=65.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.83**	**182**	P	P	01 23 00.3	-0.1
0.7nm,0.6s,baz=174,slow=6.1,SNR=12							
0.7nm,0.6s							
LPAZ	**La Paz**	**51.41**	**301**	P	P	01 23 29.0	-0.1
0.9nm,0.5s,baz=166,slow=8.6,SNR=5.6							
0.9nm,0.5s							
ILAR	**Eielson Array**	**150.80**	**313**	PKPbc	PKPbc	01 34 14.2	-0.3
0.2nm,0.7s,baz=90,slow=1.8,SNR=1.9							

*IDC **05** 01:39:44.5±2.4, 42°.15N×18°.66E, h0km, mbtmp3.4/6, ML3.3/5, Error ellipse: s-maj=35.8km s-min=13.6km az=39.0*
*TIR **05** 01:39:45.0, 42°.40N×18°.86E, h27km±1km, Md4.1, Ml3.8*
*ROM **05** 01:39:46.2±0.4, 42°.43N±0°.02×18°.887E±0°.009, h10km±2km, ML3.6/159, Error ellipse: s-maj=1.9km s-min=1.1km az=353.0*
*LDG **05** 01:39:46.1±0.8, 42°.34N×18°.94E, h18km, Ml3.1/6, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*THE **05** 01:39:46.5, 42°.39N×18°.60E, h21km±28km, ML3.4/6, Error ellipse: s-maj=34.2km s-min=2.5km az=317.0*
*PDG **05** 01:39:47.3±0.1, 42°.34N×18°.96E, h18km, MD3.5/11, ML3.5/13, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*
*BEO **05** 01:39:47.8±0.4, 42°.35N×18°.91E, h8km±1km, ML3.4/17*
*RHSSO **05** 01:39:48.1±0.3, 42°.34N×18°.97E, h4km±1km, ML3.7/20*
*PRU **05** 01:39:49.5, 42°.27N×18°.98E, h10km*

ISC 05 01:39:47.4±0.8, 42°.34N±0°.01×18°.92E±0°.01, h18km±3km, n258, σ2°00/365, 45C-36D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUM	**Brajici-Budva**	**0.04**	**206**	⇑*i*Pg	**Pg**	**01 39 50.7**	**0.0**
BUM				*i* Sg	**Sg**	**01 39 53.3**	**+0.4**
CEME	**Cevo**	**0.21**	**0**	⇑*i*Pg	**Pg**	**01 39 52.1**	**-0.5**
CEME				*i* Sg	**Sg**	**01 39 56.1**	**0.0**
DRME	**Dracevica, Mon**	**0.25**	**127**	*e*Pg	**Pb**	**01 39 52.7**	**-0.6**
DRME				*e*Sg	**Sb**	**01 39 56.7**	**-0.5**
DRME	**Dracevica, Mon**	**0.25**	**127**	⇑*i*Pg	**Pb**	**01 39 52.6**	**-0.7**
DRME				*e*Sg	**Sg**	**01 39 56.3**	**-0.7**
DRME	**Dracevica, Mon**	**0.25**	**127**	⇑*i*Pg	**Pb**	**01 39 52.6**	**-0.7**
DRME				*i* Sg	**Sb**	**01 39 56.9**	**-0.3**
PDG	**Podgorica**	**0.27**	**69**	⇑P	**Pg**	**01 39 52.7**	**-0.8**
PDG				⇓S	**Sg**	**01 39 56.7**	**-0.8**
PDG	**Podgorica**	**0.27**	**69**	*e*Pg	**Pg**	**01 39 52.6**	**-0.8**
PDG				*e*Sg	**Sg**	**01 39 56.7**	**-0.8**
PDG	**Podgorica**	**0.27**	**69**	P	**Pg**	**01 39 52.6**	**-0.8**
PDG				S	**Sg**	**01 39 56.8**	**-0.8**
PDG	**Podgorica**	**0.27**	**69**	⇑*i*Pg	**Pg**	**01 39 52.6**	**-0.8**
PDG				*e*Sg	**Sg**	**01 39 56.5**	**-1.0**
PDG	**Podgorica**	**0.27**	**69**	⇑*i*Pg	**Pg**	**01 39 52.6**	**-0.8**
PDG				*i* Sg	**Sb**	**01 39 56.9**	**-1.0**
HCY	**Herceg Novi**	**0.33**	**290**	⇑*i*Pg	**Pb**	**01 39 54.6**	**-0.3**
HCY				*e*Sg	**Sb**	**01 40 00.8**	**+0.9**
HCY	**Herceg Novi**	**0.33**	**290**	⇑*i*Pg	**Pb**	**01 39 54.6**	**-0.3**
HCY				*i* Sg	**Sb**	**01 40 00.8**	**+0.9**
NKME	**Niksic**	**0.43**	**4**	⇓*i*Pg	**Pb**	**01 39 55.6**	**-1.0**
NKME				*i* Sg	**Sb**	**01 40 02.5**	**-0.3**
ULC	**Ulcinj**	**0.44**	**147**	⇓*i*Pg	**Pg**	**01 39 55.8**	**-0.7**
ULC				*i* Sg	**Sb**	**01 40 02.9**	**-0.2**
TREB	**Trebinje**	**0.57**	**313**	⇑*i*Pg	**Pb**	**01 39 58.2**	**-0.6**
TREB				*e*Sg	**Sb**	**01 40 07.8**	**+1.2**
BRY	**Bratogost**	**0.63**	**334**	⇓*i*Pg	**Pb**	**01 39 59.4**	**-0.6**
BRY				*e*Sg	**Sb**	**01 40 09.2**	**+0.6**
BRY	**Bratogost**	**0.63**	**334**	⇓*i*Pg	**Pb**	**01 39 59.5**	**-0.6**
BRY				*i* Sg	**Sb**	**01 40 09.8**	**+1.2**
DBRK	**Dubrovnik**	**0.66**	**301**	*i* Pg	**Pb**	**01 39 60.0**	**-0.4**
DBRK				Sg	**Sn**	**01 40 11.7**	**-0.2**
KOME	**Kolasin**	**0.68**	**40**	*e*Pg	**Pb**	**01 40 00.1**	**-0.7**
KOME				*e*Sg	**Sb**	**01 40 10.4**	**+0.5**
KOME	**Kolasin**	**0.68**	**40**	⇓*i*Pg	**Pg**	**01 39 59.5**	**-1.3**
KOME				*i* Sg	**Sb**	**01 40 10.6**	**+0.7**
PUK	**Puka**	**0.78**	**112**	P	**Pg**	**01 40 01.6**	**-1.1**
baz=114							
PUK				S	**Sb**	**01 40 14.3**	**+1.4**
baz=114							
PUK				AMP			
comp=E,8.4nm,0.4s,baz=114							
PUK	**Puka**	**0.78**	**112**	P	**Pg**	**01 40 01.9**	**-0.9**
PUK				S	**Sb**	**01 40 14.3**	**+1.4**
PVY	**Plav**	**0.81**	**71**	*e*Pg	**Pb**	**01 40 02.7**	**-0.4**
PVY				*e*Sg	**Sb**	**01 40 14.8**	**+1.0**
PVY	**Plav**	**0.81**	**71**	⇓*i*Pg	**Pg**	**01 40 02.1**	**-1.3**
PVY				*i* Sg	**Sb**	**01 40 14.4**	**+0.6**
BCI	**Bajram Curri**	**0.85**	**87**	P	**Pg**	**01 40 02.6**	**-1.5**
baz=91							
BCI				S	**Sb**	**01 40 15.1**	**+0.2**
baz=91							
BCI				AMP			
comp=N,15nm,0.4s,baz=91							
UPM	**Unac-Piva**	**0.87**	**359**	⇓*i*Pg	**Pg**	**01 40 03.1**	**-1.3**
UPM				*e*Sg	**Sb**	**01 40 15.7**	**+0.2**
UPM	**Unac-Piva**	**0.87**	**359**	⇓*i*Pg	**Pg**	**01 40 03.1**	**-1.3**
UPM				*i* Sg	**Sn**	**01 40 16.9**	**-0.4**
KLINJ	**Klinje**	**0.87**	**344**	⇑*i*Pg	**Pg**	**01 40 03.1**	**-1.3**
KLINJ				*e*Sg	**Sn**	**01 40 16.5**	**-0.7**
BEY	**Berane**	**0.90**	**53**	*e*Pg	**Pb**	**01 40 04.0**	**-0.6**
BEY				*e*Sg	**Sb**	**01 40 16.4**	**+0.1**
IVA	**Berane**	**0.90**	**53**	⇑*i*Pg	**Pg**	**01 40 03.7**	**-1.3**
IVA				*i* Sg	**Sb**	**01 40 17.2**	**+0.9**
STON	**Ston**	**1.05**	**301**	Sg	**Sn**	**01 40 23.7**	**+2.4**
STON	**Ston**	**1.05**	**301**	*e*Pg	**Pg**	**01 40 06.5**	**-1.2**
STON				*e*Sg	**Sn**	**01 40 22.4**	**+1.1**
PLE	**Pljevlja**	**1.05**	**19**	*e*Pg	**Pg**	**01 40 06.6**	**-1.3**
PLE				*e*Sg	**Sn**	**01 40 21.5**	**-0.2**
PLE	**Pljevlja**	**1.05**	**19**	⇓*i*Pg	**Pg**	**01 40 06.3**	**-1.6**
PLE				*i* Sg	**Sn**	**01 40 23.3**	**+1.6**
SJES	**Sjenica**	**1.21**	**40**	*e*Pg	**Pg**	**01 40 09.7**	**-1.1**
SJES				*e*Sg	**Sn**	**01 40 26.8**	**+1.2**
SJES	**Sjenica**	**1.21**	**40**	⇑*i*Pg	**Pg**	**01 40 09.6**	**-1.2**
SJES				*e*Sg	**Sn**	**01 40 26.1**	**+0.5**
TIR	**Tirane**	**1.22**	**144**	⇑S	**Sn**	**01 40 29.8**	**+4.3**
TIR	**Tirane**	**1.22**	**144**	P	**Pb**	**01 40 09.8**	**-0.1**
baz=144							
TIR				S	**Sn**	**01 40 27.9**	**+2.4**
baz=144							
TIR				AMP			
comp=N,5.6nm,0.4s,baz=144							
TIR	**Tirane**	**1.22**	**144**	P	**Pn**	**01 40 09.0**	**-0.5**
TIR				S	**Sn**	**01 40 27.6**	**+2.1**
comp=N,2μm,0.3s							
TIR	**Tirane**	**1.22**	**144**	*e*Pg	**Pb**	**01 40 09.8**	**-0.1**
TIR				*e*Sg	**Sn**	**01 40 27.8**	**+2.3**
TIR	**Tirane**	**1.22**	**144**	P	**Pg**	**01 40 09.9**	**-1.0**
TIR				AML	AML		
comp=E,5775μm,1.5s							
TIR				AML	AML		
comp=N,4365μm,0.4s							
TIR				AML	AML		
comp=E,5775μm,0.5s							
TIR				AML	AML		
comp=N,4364μm,0.4s							
TIR				AML	AML		
comp=E,5302μm,0.3s							
RUDO	**Rudo**	**1.32**	**14**	*e*Pg	**Pn**	**01 40 10.8**	**-0.3**
RUDO				*e*Sg	**Sg**	**01 40 29.6**	**-0.7**
IVAS	**Ivanjica**	**1.54**	**36**	*e*Pg	**Pb**	**01 40 15.0**	**-0.4**
IVAS				*e*Sg	**Sg**	**01 40 36.8**	**-0.3**
BBLS	**Lazi&#263i**	**1.57**	**13**	*e*Pg	**Pg**	**01 40 16.9**	**-0.8**
BBLS				*e*Sg	**Sg**	**01 40 38.6**	**+0.4**
BBLS	**Lazi&#263i**	**1.57**	**13**	⇓*i*Pn	**Pg**	**01 40 17.0**	**-0.8**
BBLS				*e*Sn	**Sg**	**01 40 37.9**	**-0.3**
MAKA	**Makarska**	**1.69**	**305**	*i* Pn	**Pb**	**01 40 17.8**	**-0.1**
RICI	**Ricice**	**1.75**	**312**	*i* Pn	**Pb**	**01 40 19.1**	**+0.1**
HAPS	**Han Pijesak,Bl**	**1.75**	**1**	⇓*i*Pn	**Pg**	**01 40 19.3**	**-1.8**
HAPS				*e*Sn	**Sg**	**01 40 41.9**	**-2.0**
OHR	**Ohrid**	**1.87**	**130**	*i* Sg	**Sg**	**01 40 47.3**	**-0.3**
SKO	**Skopje**	**1.91**	**100**	*i* Pg	**Pb**	**01 40 21.7**	**-0.1**
SKO				*i* Pn	**Pb**	**01 40 21.7**	**-0.1**
VLO	**Vlora**	**1.92**	**167**	P	**Pn**	**01 40 20.2**	**+1.1**
baz=165							
VLO				S	**Sg**	**01 40 47.6**	**-1.4**
baz=165							
VLO				AMP			
comp=E,4.4nm,0.4s,baz=165							
VLO	**Vlora**	**1.92**	**167**	P	**Pn**	**01 40 20.1**	**+1.0**
VLO				S	**Sn**	**01 40 44.0**	**+1.2**
comp=E,955nm,0.3s							
VLO	**Vlora**	**1.92**	**167**	P	**Pn**	**01 40 20.2**	**+1.1**
MESG	**Mesagne**	**1.92**	**205**	P	**Pb**	**01 40 20.9**	**-1.0**
DIVS	**Divibare**	**1.93**	**24**	*e*Pn	**Pb**	**01 40 21.2**	**-0.9**
DIVS				*e*Sn	**Sn**	**01 40 44.3**	**+1.0**
HVAR	**Hvar**	**2.00**	**296**	*e*Pn	**Pb**	**01 40 21.9**	**-1.4**
GRUS	**Gruza**	**2.04**	**40**	*e*Pn	**Pb**	**01 40 22.6**	**-1.3**
GRUS				*e*Sn	**Sb**	**01 40 48.5**	**-0.4**
NOCI	**Noci**	**2.08**	**223**	P	**Pn**	**01 40 21.7**	**+0.2**
baz=221							
NOCI	**Noci**	**2.08**	**223**	⇓P	**Pn**	**01 40 21.6**	**+0.2**
NOCI				AML	AML		
comp=E,1029μm,1.1s							
NOCI				AML	AML		
comp=E,1029μm,0.9s							
NOCI				AML	AML		
comp=N,1072μm,0.4s							
NOCI				AML	AML		
comp=E,922μm,0.4s							
NOCI				AML	AML		
comp=N,1072μm,0.4s							
TRUS	**Trudelj**	**2.18**	**29**	*e*Pn	**Pb**	**01 40 24.4**	**-1.9**
TRUS				*e*Sn	**Sn**	**01 40 50.9**	**+1.6**
BARS	**Barje**	**2.19**	**76**	*e*Pn	**Pb**	**01 40 24.9**	**-1.7**
BARS				*e*Sn	**Sb**	**01 40 52.8**	**-0.7**
KBN	**Korca**	**2.21**	**140**	P	**Pb**	**01 40 26.1**	**-0.9**
baz=140							
KBN				S	**Sb**	**01 40 54.9**	**+0.8**
baz=140							
KBN				AMP			
comp=N,2.0nm,0.6s,baz=140							
KBN	**Korca**	**2.21**	**140**	P	**Pn**	**01 40 24.8**	**+1.5**
KBN				S	**Sb**	**01 40 54.5**	**+0.4**
comp=N,410nm,0.6s							
KBN	**Korca**	**2.21**	**140**	P	**Pb**	**01 40 25.4**	**-1.6**
KBN				S	**Sb**	**01 40 53.4**	**-0.7**
AMUR	**Altamura**	**2.25**	**231**	⇓P	**Pn**	**01 40 24.1**	**+0.4**
AMUR				S	**Sn**	**01 40 51.9**	**+1.0**
AMUR				AML	AML		
comp=E,679μm,1.6s							
AMUR				AML	AML		
comp=E,679μm,0.4s							
AMUR				AML	AML		
comp=N,518μm,0.3s							
AMUR				AML	AML		
comp=E,656μm,0.3s							
AMUR				AML	AML		
comp=N,517μm,0.3s							
TEKS	**Tekeris**	**2.26**	**11**	*e*Pn	**Pn**	**01 40 25.4**	**+1.5**
TEKS				*e*Sn	**Sb**	**01 40 53.7**	**-1.6**
TEKS	**Tekeris**	**2.26**	**11**	⇓*i*Pn	**Pn**	**01 40 25.1**	**+1.2**
TEKS				*e*Sn	**Sb**	**01 40 54.1**	**-1.2**
PRVS	**Prvonek**	**2.35**	**85**	*e*Pn	**Pb**	**01 40 27.1**	**-2.1**
PRVS				*e*Sn	**Sb**	**01 40 56.8**	**-1.0**
FNA	**Florina**	**2.41**	**129**	P	**Pb**	**01 40 28.4**	**-1.9**
baz=129							
FNA				S	**Sb**	**01 41 00.1**	**+0.4**
baz=129							
FNA				AMP			
comp=E,1.1nm,0.4s,baz=129							
FNA	**Florina**	**2.41**	**129**	P	**Pb**	**01 40 28.2**	**-2.1**
FNA				S	**Sb**	**01 40 58.8**	**-0.9**
comp=E,620nm,0.4s							
FNA	**Florina**	**2.41**	**129**	*e*Pn	**Pb**	**01 40 28.4**	**-1.9**
BOVS	**Bovan**	**2.42**	**57**	⇑S	**Sb**	**01 40 58.1**	**-1.9**
BOVS	**Bovan**	**2.42**	**57**	*e*Pn	**Pn**	**01 40 27.9**	**+1.7**
BOVS				*e*Sn	**Sn**	**01 40 57.2**	**+1.8**
SGRT	**San Giovanni R**	**2.43**	**257**	P	**Pn**	**01 40 26.8**	**+0.5**
baz=256							
SGRT	**San Giovanni R**	**2.43**	**257**	P	**Pn**	**01 40 27.0**	**+0.7**
SGRT				AML	AML		
comp=N,632μm,0.4s							
SGRT				AML	AML		
comp=N,632μm,1.6s							
SGRT				AML	AML		
comp=E,585μm,0.6s							
SGRT				AML	AML		
comp=N,632μm,0.4s							
SGRT				AML	AML		
comp=E,585μm,0.6s							
DOB	**Doboj**	**2.47**	**346**	⇓*i*Pn	**Pb**	**01 40 28.8**	**-2.5**
DOB				*e*Sn	**Sb**	**01 41 00.2**	**-1.1**
MGRS	**Mrkonjic Grad**	**2.47**	**328**	*e*Pn	**Pb**	**01 40 29.7**	**-1.7**
MGRS				*e*Sn	**Sb**	**01 41 00.3**	**-1.2**
NEST	**Nestorio**	**2.50**	**139**	P	**Pn**	**01 40 28.7**	**+1.4**
NEST				S	**Sb**	**01 41 00.6**	**-1.8**
comp=E,182nm,0.4s							
STIP	**Stip**	**2.52**	**104**	*i* Pn	**Pb**	**01 40 31.5**	**-0.6**
MIGL	**Miglionico**	**2.54**	**228**	P	**Pn**	**01 40 29.1**	**+1.3**
MIGL				AML	AML		
comp=N,1455μm,0.5s							
MIGL				AML	AML		
comp=E,1595μm,0.5s							
MIGL				AML	AML		
comp=N,1454μm,0.5s							
MIGL				AML	AML		
comp=E,1619μm,0.7s							
SVIS	**Svilajnac**	**2.56**	**40**	*e*Sn	**Sn**	**01 41 00.2**	**+1.6**
APRC	**Apricena**	**2.58**	**258**	P	**Pn**	**01 40 29.1**	**+0.8**
APRC				AML	AML		
comp=E,175μm,0.4s							
APRC				AML	AML		
comp=N,430μm,0.3s							
APRC				AML	AML		
comp=E,520μm,0.7s							
APRC				AML	AML		
comp=N,973μm,0.6s							
APRC				AML	AML		
comp=N,971μm,0.6s							
APRC				AML	AML		
comp=E,519μm,0.7s							
APRC				AML	AML		
comp=E,566μm,0.7s							
APRC				AML	AML		
comp=N,1669μm,1.4s							
SRN	**Sarande**	**2.59**	**161**	P	**Pn**	**01 40 29.0**	**+0.6**
baz=160							
SRN	**Sarande**	**2.59**	**161**	P	**Pn**	**01 40 28.5**	**+0.1**
SRN				S	**Sn**	**01 41 01.0**	**+1.7**
PALZ	**Palazzo San Ge**	**2.62**	**239**	P	**Pn**	**01 40 30.3**	**+1.5**
PALZ				AML	AML		
comp=N,1270μm,1.2s							
PALZ				AML	AML		
comp=N,1270μm,0.8s							
PALZ				AML	AML		
comp=E,806μm,0.9s							
PALZ				AML	AML		
comp=N,1269μm,1.2s							
PALZ				AML	AML		
comp=E,1166μm,0.9s							
AVAS	**Avala Beograd**	**2.63**	**26**	*e*Pn	**Pn**	**01 40 30.1**	**+1.1**
BOSS	**Bosilegrad**	**2.64**	**85**	*e*Pn	**Pn**	**01 40 31.1**	**+1.9**
BOSS				*e*Sn	**Sn**	**01 41 02.6**	**+1.8**
ACER	**Acerenza**	**2.71**	**236**	P	**Pn**	**01 40 31.0**	**+0.8**
ACER				S	**Sn**	**01 41 03.6**	**+1.0**
ACER				AML	AML		
comp=N,590μm,0.4s							
ACER				AML	AML		
comp=N,616μm,0.4s							
ACER				AML	AML		
comp=E,840μm,0.5s							
ACER				AML	AML		
comp=E,616μm,1.6s							
ACER				AML	AML		
comp=N,590μm,1.6s							
ACER				AML	AML		
comp=E,884μm,0.8s							
ACER				AML	AML		
comp=E,874μm,0.5s							
ACER				AML	AML		
comp=E,840μm,0.5s							
ACER				AML	AML		
comp=N,918μm,0.9s							
ACER				AML	AML		
comp=N,772μm,0.6s							
BEO	**Beograd**	**2.72**	**24**	*e*Pn	**Pn**	**01 40 30.1**	**-0.1**
BLY	**Banja Luka**	**2.72**	**333**	⇑*i*Pn	**Pb**	**01 40 33.1**	**-2.5**
BLY				*e*Sn	**Sb**	**01 41 06.4**	**-2.2**
ZIRJ	**Zirje**	**2.74**	**300**	*e*Pn	**Pn**	**01 40 32.3**	**+1.9**
A050A	**Klekovaca**	**2.76**	**322**	⇑*i*Pn	**Pb**	**01 40 34.3**	**-2.0**
A050A				*e*Sn	**Sb**	**01 41 07.2**	**-2.6**
MORI	**Morici**	**2.80**	**304**	*e*Pn	**Pn**	**01 40 33.9**	**+2.5**
PTRP	**Pietrapertosa**	**2.81**	**231**	P	**Pn**	**01 40 32.9**	**+1.3**
PTRP				AML	AML		
comp=N,576μm,0.5s							
PTRP				AML	AML		
comp=E,486μm,0.5s							
PTRP				AML	AML		
comp=N,576μm,0.5s							
PTRP				AML	AML		
comp=E,604μm,0.6s							
PTRP				AML	AML		
comp=N,758μm,0.8s							
ZAGS	**Zajecar**	**2.84**	**58**	*e*Pn	**Pn**	**01 40 33.5**	**+1.6**
ZAGS				*e*Sn	**Sn**	**01 41 06.9**	**+1.2**
KUBS	**Kucevo**	**2.89**	**43**	*e*Pn	**Pn**	**01 40 32.7**	**+0.1**
FRGS	**Fruska Gora**	**2.90**	**13**	⇑P	**Pn**	**01 40 34.3**	**+1.6**
FRGS	**Fruska Gora**	**2.90**	**13**	*e*Pn	**Pn**	**01 40 34.0**	**+1.4**
FRGS	**Fruska Gora**	**2.90**	**13**	⇑*i*Pn	**Pn**	**01 40 34.1**	**+1.4**
FRGS				*e*Sn	**Sn**	**01 41 09.3**	**+2.3**
VAY	**Valandovo**	**2.91**	**109**	*i* Pn	**Pn**	**01 40 34.8**	**+2.0**
KPRO	**Kipourio**	**3.01**	**141**	P	**Pn**	**01 40 36.1**	**+1.8**
BLKB	**Belogradchik**	**3.04**	**64**	⇓S	**Sn**	**01 41 14.3**	**+3.6**
JAN	**Janina**	**3.05**	**151**	P	**Pn**	**01 40 37.4**	**+2.6**
JAN				S	**Sn**	**01 41 14.3**	**+3.4**
comp=N,145nm,0.3s							
PRIJ	**Prijedor**	**3.09**	**330**	*e*Pn	**Pn**	**01 40 37.8**	**+2.6**
PRIJ				*e*Sn	**Sn**	**01 41 14.7**	**+3.0**
MCEL	**Monticello**	**3.09**	**230**	AML	AML		
comp=E,288μm,1.0s							
MCEL				AML	AML		
comp=N,296μm,0.6s							
MCEL				AML	AML		
comp=E,296μm,1.0s							
MCEL				AML	AML		
comp=N,282μm,0.6s							
MCEL				AML	AML		
comp=N,296μm,1.4s							
SLCN	**Sala Consilina**	**3.14**	**233**	P	**Pn**	**01 40 37.3**	**+1.2**
SLCN				AML	AML		
comp=E,438μm,0.3s							
SLCN				AML	AML		
comp=N,414μm,1.0s							
SLCN				AML	AML		
comp=E,468μm,1.1s							
SLCN				AML	AML		
comp=N,350μm,0.6s							
SLCN				AML	AML		
comp=E,438μm,1.7s							
SLCN				AML	AML		
comp=N,414μm,1.0s							
SLCN				AML	AML		
comp=E,468μm,0.9s							
SLCN				AML	AML		
comp=E,437μm,0.3s							
SLCN				AML	AML		
comp=E,467μm,0.3s							
SLCN				AML	AML		
comp=N,350μm,0.6s							
SLCN				AML	AML		
comp=N,364μm,0.8s							
MTSN	**Montesano sull**	**3.15**	**230**	P	**Pn**	**01 40 36.9**	**+0.6**
MTSN				S	**Sn**	**01 41 14.7**	**+1.2**
MTSN				AML	AML		
comp=E,174μm,0.8s							
MTSN				AML	AML		
comp=N,210μm,0.3s							
MTSN				AML	AML		
comp=E,174μm,1.2s							
MTSN				AML	AML		
comp=N,210μm,0.3s							
MTSN				AML	AML		
comp=E,172μm,0.3s							
UDBI	**Udbina**	**3.17**	**315**	*e*Pn	**Pb**	**01 40 39.9**	**-3.4**
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SOH	Sokhos	3.66 113	P		Pn	01 40 44.6	+1.5
NVLJ	Novalja	3.69 308	*e*Pn		Pn	01 40 45.5	+2.0
SRS	Serrai	3.71 108	P		Pn	01 40 45.6	+1.8
SRS	Serrai	3.71 108	*e*Pn		Pn	01 40 45.7	+1.9
TSLK	Tsoukalades, L	3.75 159	P		Pn	01 40 44.1	-0.3
LKD2	Lefkada island	3.78 159	P		Pn	01 40 44.5	-0.4
BZS	Buzias	3.82 30	⇑P		Pn	01 40 46.7	+1.4
NVR	Nevrokopi	3.82 103	P		Pn	01 40 47.6	+2.2
RABC	Rab	3.85 310	*e*Pn		Pn	01 40 47.7	+1.9
NYDR	Nydri-Lefkada	3.86 159	P		Pn	01 40 45.9	0.0
NYDR			S		Sn	01 41 27.9	-2.9
MORH	Mrgy, Hungar	3.88 357	⇑P		Pn	01 40 48.0	+1.8
MORH	Mrgy, Hungar	3.88 357	⇓*i*Pn		Pn	01 40 47.5	+1.3
MORH			*e*Sn		Sn	01 41 33.8	+2.5
SRE	Strehaia	3.89 52	⇓P		Pn	01 40 48.6	+2.3
PLG	Polygyros	3.93 118	P		Pn	01 40 48.3	+1.4
EVGI	Lefkada island	3.94 160	P		Pn	01 40 47.0	0.0
EVR	Evrytania	4.06 146	P		Pn	01 40 51.4	+2.6
OZLJ	Ozalj	4.12 324	*e*Pn		Pn	01 40 52.2	+2.8
MAKR	Makrakomi, Fth	4.12 143	P		Pn	01 40 51.7	+2.2
SURR	Surduc	4.13 33	⇓P		Pn	01 40 50.9	+1.3
BOJS	Bojanci	4.13 321	*i* Pn		Pn	01 40 52.1	+2.6
BOJS			*i* Sn		Sn	01 41 38.3	+0.9
BOJS	Bojanci	4.13 321	⇓*i*Pn		Pn	01 40 52.0	+2.4
BOJS			*e*Sn		Sn	01 41 39.4	+2.0
GZR	Gura Zlata	4.14 41	⇑P		Pn	01 40 51.5	+1.7
GZR			⇓S		Sn	01 41 39.3	+1.6
PTJ	Puntijarka	4.15 330	*e*Pn		Pn	01 40 52.0	+1.9
KALN	Kalnik	4.19 336	*e*Pn		Pn	01 40 52.5	+2.1
AGG	Agios Georgios	4.21 141	P		Pn	01 40 52.6	+1.9
PVO	Paravola	4.21 151	P		Pn	01 40 51.5	+0.7
DMLN	Damoulianata-K	4.24 164	P		Pn	01 40 50.2	-1.0
CRES	Cresnjev	4.29 326	*i* Pn		Pn	01 40 54.4	+2.7
CRES			*i* Sn		Sn	01 41 43.9	+2.5
CRES	Cresnjev	4.29 326	⇑*i*Pn		Pn	01 40 54.3	+2.5
CRES			*e*Sn		Sn	01 41 43.8	+2.5
PAIG	Paliouri	4.33 122	P		Pn	01 40 53.7	+1.4
LOBO	Lobor	4.33 333	*e*Pn		Pn	01 40 54.9	+2.6
VLAD	Vladila	4.34 66	⇑P		Pn	01 40 55.0	+2.5
VLS	Valsamata	4.35 162	P		Pn	01 40 51.7	-0.9
GBRS	Gornja Briga	4.36 319	*i* Pn		Pn	01 40 55.7	+3.0
GBRS			*i* Sn		Sn	01 41 47.3	+4.2
SMRN	Sveta Marina	4.38 310	*e*Pn		Pn	01 40 54.5	+1.5
ANX	Ano Chora	4.38 147	P		Pn	01 40 54.7	+1.5
RIY	Rijeka	4.38 314	*e*Pn		Pn	01 40 54.7	+1.7
SIRR	Siria	4.40 26	⇑P		Pn	01 40 54.6	+1.3
PSDA	Pessada-Kefalo	4.41 163	P		Pn	01 40 52.5	-0.9
BEHE	Becsehely	4.41 340	⇓*i*Pn		Pn	01 40 56.0	+2.6
BEHE			*e*Sn		Sn	01 41 46.2	+1.9
EFP	Efpalio	4.52 149	P		Pn	01 40 56.8	+1.8
BRJN	Brijuni	4.55 306	*e*Pn		Pn	01 40 56.8	+1.5
AXAR	Agios Charalam	4.56 140	P		Pn	01 40 56.8	+1.2
LOT	Lotru	4.69 47	⇑P		Pn	01 40 59.9	+2.5
LOT			⇑S		Sn	01 41 52.9	+1.5
CEY	Cerknica	4.70 318	*e*Pn		Pn	01 41 00.1	+2.7
CEY			*e*Sn		Sn	01 41 53.3	+1.9
SKDS	Skadanscina	4.78 314	⇑*i*Pn		Pn	01 40 59.8	+1.3
SKDS			*e*Sn		Sn	01 41 54.9	+1.5
ZIMR		4.91 72	⇓P		Pn	01 41 03.1	+2.8
ZIMR			⇑S		Sn	01 41 58.6	+2.0
HUMR	Humele	4.93 62	⇑P		Pn	01 41 03.1	+2.5
HUMR			⇓S		Sn	01 41 59.1	+2.0
KLV	Kalavryta, Ach	4.95 149	P		Pn	01 41 02.5	+1.6
RDO	Rodhopi	5.09 101	P		Pn	01 41 04.8	+2.0
ARR	Arges	5.13 52	⇑P		Pn	01 41 05.8	+2.4
SOKA	Soboth	5.15 329	*e*Pn		Pn	01 41 07.3	+3.5
	comp=E,5.2nm,0.4s,SNR=14						
ELND	Elena	5.17 81	⇑P		Pn	01 41 06.9	+3.0
ELND			⇑S		Sn	01 42 05.6	+2.5
VOJS	Vojsko	5.17 317	*i* Pn		Pn	01 41 05.9	+1.9
OBKA	Obir	5.21 325	*e*Pn		Pn	01 41 07.4	+2.8
	comp=E,2.3nm,0.4s,SNR=10.0						
OBKA	Obir	5.21 325	*e*Pn		Pn	01 41 07.0	+2.4
OBKA			*e*Sn		Sn	01 42 05.6	+1.3
DRGR		5.21 30	⇓P		Pn	01 41 06.5	+1.9
MARR	Marisel-Cluj	5.28 33	⇓P		Pn	01 41 07.6	+2.1
VOIR		5.41 53	⇓P		Pn	01 41 10.0	+2.7
VOIR			⇓S		Sn	01 42 11.3	+2.2
ARSA	Arzberg	5.47 335	*e*Pn		Pn	01 41 11.4	+3.3
	comp=E,5.5nm,0.4s,SNR=8.3						
ARSA	Arzberg	5.47 335	⇑*i*Pn		Pn	01 41 10.5	+2.4
ARSA			*e*Sn		Sn	01 42 11.4	+0.8
SGRR	Singureni	5.49 68	⇑P		Pn	01 41 10.9	+2.7
SRO	Srobarova	5.50 356	*e*PN		Pn	01 41 11.2	+2.9
ROBS	Robic	5.51 317	*i* Pn		Pn	01 41 10.1	+1.6
PSZ	Piszkesteto	5.63 7	⇓P		Pn	01 41 11.7	+1.5
RONA	Rosalia, Austr	5.68 342	*e*Pn		Pn	01 41 13.9	+3.0
	comp=E,6.5nm,0.4s,SNR=19						
MYKA	Terra Mystica	5.71 320	*e*Pn		Pn	01 41 14.7	+3.3
	comp=E,1.6nm,0.4s						
DOPR	Dopca	5.90 50	⇓P		Pn	01 41 16.7	+2.7
MLR	Muntele Rosu	5.98 56	⇓P		Pn	01 41 18.4	+3.3
MLR	Muntele Rosu	5.98 56	Pn		Pn	01 41 19.0	+3.9
	comp=E,0.8nm,0.3s,baz=226,slow=11,SNR=9.3						
MLR			Sn		Sn	01 42 25.8	+2.7
	comp=E,2.2nm,0.3s,baz=229,slow=12,SNR=6.5						
	comp=E,2.1nm,0.4s						
CONA	Conrad Observa	6.00 340	*e*Pn		Pn	01 41 18.1	+2.9
	comp=E,1.4nm,0.4s,SNR=9.8						
ZST	Bratislava	6.00 348	*e*SN		Sn	01 42 23.0	-0.4
MODS	Modra-Piesok	6.15 350	*e*PN		Pn	01 41 20.0	+2.7
MODS			*e*SN		Sn	01 42 27.0	-0.2
VYHS	Vyhne	6.16 360	*e*PN		Pn	01 41 19.6	+2.1
VYHS			*e*SN		Sn	01 42 31.1	+3.7
KBA	Koelnbreinsper	6.18 322	*e*Pn		Pn	01 41 20.3	+2.3
	comp=E,1.8nm,0.7s						
KECS	Kecovo	6.25 10	*e*PN		Pn	01 41 21.0	+2.3
KECS			*e*SN		Sn	01 42 29.6	0.0
ABTA	Abfaltersbach	6.36 316	*i* Pn		Pn	01 41 22.3	+2.0
	comp=E,1.6nm,0.4s,SNR=9.7						
MOA	Molin	6.42 331	*e*Pn		Pn	01 41 24.0	+2.9
	comp=E,2.2nm,0.4s,SNR=7.1						
BIOA	Bad Ischl, Aus	6.53 327	*e*Pn		Pn	01 41 25.3	+2.7
	comp=E,1.6nm,0.3s						
JAVC	Velka Javorina	6.58 353	*e*PN		Pn	01 41 26.1	+2.8
JAVC			*e*SN		Sn	01 42 40.5	+2.6
SPBR	Spulber	6.60 56	⇓P		Pn	01 41 25.9	+2.4
ICOR	Ion Corvin	6.73 72	⇑P		Pn	01 41 27.4	+2.1
LESA	Schwarzleotal	6.75 321	*e*Pn		Pn	01 41 28.3	+2.7
	comp=E,1.7nm,0.4s						
CRVS	Cervenica-Dubn	6.81 14	*e*PN		Pn	01 41 28.5	+2.2
LANS	Liptovska Anna	6.83 3	*e*PN		Pn	01 41 30.7	+4.0
BURAR	Bucovina Array	6.91 38	⇑P		Pn	01 41 30.8	+2.8
KRUC	Moravsky	6.96 346	*e*PN		Pn	01 41 31.0	+2.6
KRUC			*e*SN		Sn	01 42 47.6	+0.6
HARR	Harsova	6.96 67	⇑P		Pn	01 41 31.5	+3.0
TLBR	Topalu	7.00 69	⇑P		Pn	01 41 31.4	+2.4
KOLS	Kolonicke sedl	7.00 18	*e*PN		Pn	01 41 31.7	+2.6
KOLS			*e*SN		Sn	01 42 49.5	+1.3
MAUC	Maruska	7.07 354	*e*PN		Pn	01 41 32.5	+2.5
MAUC			*e*SN		Sn	01 42 51.6	+1.7
WTTA	Wattenberg	7.15 316	*e*Pn		Pn	01 41 35.0	+3.8
	comp=E,2.8nm,0.5s,SNR=8.4						
WATA	Walderalm	7.22 316	*e*Pn		Pn	01 41 36.4	+4.2
	comp=E,3.4nm,0.4s,SNR=5.2						
CKRC	Cesky Krumlov	7.24 335	*e*PN		Pn	01 41 35.7	+3.3
CKRC			*e*SN		Sn	01 42 54.5	+0.4
CFR	Carcaliu	7.25 64	⇓P		Pn	01 41 34.6	+2.1
STHS	Stebnicka Huta	7.27 12	*e*PN		Pn	01 41 34.4	+1.7
PGF	Pioggiola	7.34 275	*e*P		Pn	01 41 35.3	+1.5
SQTA	Sankt Quirin	7.34 314	*e*Pn		Pn	01 41 36.7	+2.9
	comp=E,4.9nm,0.4s,SNR=8.2						
TPGR	Topolog	7.34 67	⇑P		Pn	01 41 36.8	+3.0
GERES	GERESS Array B	7.46 332	Pn		Pn	01 41 36.6	+1.2
	comp=E,0.5nm,0.3s,baz=163,slow=17,SNR=6.2						
GERES			Sn		Sn	01 43 02.7	+3.1
	comp=E,0.8nm,0.3s,baz=151,slow=27,SNR=2.9						
	comp=E,0.7nm,0.4s						
FETA	Feichten	7.48 312	*e*Pn		Pn	01 41 38.1	+2.3
	comp=E,0.5nm,0.4s						
MORC	Moravsky Berou	7.50 353	*e*PN		Pn	01 41 39.1	+3.1
MORC			*e*SN		Sn	01 43 00.7	+0.1
TLCR		7.71 65	⇑P		Pn	01 41 41.3	+2.5
RETA	Reutte	7.75 314	Pn		Pn	01 41 38.3	-1.0
	comp=E,0.2nm,0.1s						
KHC	Kasperske Hory	7.75 333	*e*PN		Pn	01 41 42.5	+3.1
KHC			*e*SN		Sn	01 43 08.3	+1.6
DAVOX	Davos/Dischmat	7.83 308	Pn		Pn	01 41 43.0	+2.3
	comp=E,0.7nm,0.3s,baz=135,slow=22,SNR=6.4						
DAVOX			Sn		Sn	01 43 12.7	+3.8
	comp=E,1.1nm,0.3s,baz=129,slow=10,SNR=4.0						
KRLC	Kraliky	7.88 350	*e*PN		Pn	01 41 44.9	+3.8
DAVA	Damuels	8.11 311	*e*Pn		Pn	01 41 43.6	-0.7
IDI	Anoyia	8.44 145	Pn		Pn	01 41 47.0	-1.9
	comp=E,2.9nm,0.7s,baz=321,slow=5.3,SNR=11						
IDI			Sn		Sn	01 43 16.3	-7.3
	comp=E,1.3nm,0.3s,baz=253,slow=20,SNR=6.5						
SBF	Sospel	8.54 284	*e*P		Pn	01 41 51.5	+1.3
MBDF	Montbardon	9.14 289	*e*Pn		Pn	01 41 55.2	-3.3
MBDF	Montbardon	9.14 289	*e*P		Pn	01 42 00.6	+2.1
LMR	La Mourre	9.17 280	*e*P		Pn	01 42 00.1	+1.3
LPG	La Plagne	9.33 294	*e*P		Pn	01 42 03.5	+2.3
LPG			*e*Sn		Sn	01 43 34.1	-12
	comp=E,0.5nm,0.2s						
LPL	La Plagne	9.35 294	*e*P		Pn	01 42 03.6	+2.2
LPL			*e*Sn		Sn	01 43 34.0	-12
	comp=E,0.6nm,0.2s						
ORIF	Oris-en-Rattie	9.80 290	*e*Pn		Pn	01 42 03.8	-3.7
ORIF	Oris-en-Rattie	9.80 290	*e*P		Pn	01 42 09.3	+1.8
ORIF			*e*Sn		Sn	01 43 43.7	-13
	comp=E,0.4nm,0.3s						
SMRF	Simiane la Rot	9.89 284	*e*Pn		Pn	01 42 05.7	-3.0
SMRF	Simiane la Rot	9.89 284	*e*P		Pn	01 42 11.4	+2.7
CABF	La Chapelle	10.12 299	*e*Pn		Pn	01 42 09.0	-2.8
CABF	La Chapelle	10.12 299	*e*P		Pn	01 42 15.2	+3.4
CABF			*e*Sn		Sn	01 43 51.9	-13
	comp=E,0.7nm,0.3s						
HINF	Hinteralfeld	10.14 307	*e*Pn		Pn	01 42 12.2	+0.2
HINF	Hinteralfeld	10.14 307	*e*P		Pn	01 42 18.0	+6.0
HINF			*e*Sn		Sn	01 43 56.8	-8.4
	comp=E,0.5nm,0.2s						
CDF	Champ du Feu	10.19 311	*e*Pn		Pn	01 42 13.1	+0.3
CDF	Champ du Feu	10.19 311	*e*P		Pn	01 42 17.9	+5.1
HAU	Haudompre	10.53 307	*e*Pn		Pn	01 42 15.8	-1.5
HAU	Haudompre	10.53 307	*e*P		Pn	01 42 21.7	+4.4
BRTR	Keskin Array B	11.42 98	Pn		Pn	01 42 33.4	+3.6
	comp=E,0.1nm,0.3s,baz=274,slow=15,SNR=2.9						
	comp=E,0.2nm,0.3s						
SMF	Signal de Mont	11.60 297	*e*Pn		Pn	01 42 29.2	-2.8
SMF	Signal de Mont	11.60 297	*e*P		Pn	01 42 35.4	+3.4
SMF			*e*Sn		Sn	01 44 32.7	-8.2
	comp=E,1.2nm,0.3s						
LOR	Lormes	11.77 300	*e*Pn		Pn	01 42 31.2	-3.2
LOR	Lormes	11.77 300	*e*P		Pn	01 42 37.7	+3.3
SSF	Saint Saulge	11.94 299	*e*Pn		Pn	01 42 34.0	-2.6
AVF	Avril sur Loir	11.96 297	*e*Pn		Pn	01 42 33.9	-3.0
AVF	Avril sur Loir	11.96 297	*e*P		Pn	01 42 40.3	+3.4
BGF	Bois d'Agland	12.23 296	*e*Pn		Pn	01 42 38.4	-2.3
BGF	Bois d'Agland	12.23 296	*e*P		Pn	01 42 44.1	+3.4
HFS	Hagfors	18.11 352	P		Pn	01 43 57.9	+0.1
	comp=E,0.1nm,0.3s,baz=164,slow=13,SNR=3.6						
	comp=E,1.0nm,0.6s						
FINES	FINESS Array B	19.62 10	P		P	01 44 14.6	0.0
	comp=E,0.1nm,0.3s,baz=167,slow=13,SNR=5.2						
	comp=E,1.1nm,0.7s						

NEIC ***05*** *01:39:55.1±1.2,56°.12N±0°.10×149°.4W±0°.1,h22km±10km, ML3.5/50,ML3.2(AEIC),Error ellipse: s-maj=14.7km s-min=8.7km az=161.0*

AEIC ***05*** *01:39:57.0±1.4,56°.05N±0°.10×149°.3W±0°.1,h6km±7km, Error ellipse: s-maj=14.5km s-min=9.9km az=162.0*

ISC 05 01:39:53.1±1.6,56°.13N±0°.08×149°.41W±0°.06,h10km, n112,σ0°96/111,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.40 315			Pn	01 40 33.4	+1.0
KDAK	Kodiak Island	2.40 315		S	Sn	01 41 00.5	-1.4
	baz=132						
OHAK	Old Harbor	2.41 299			Pn	01 40 33.2	+0.7
OHAK	Old Harbor	2.41 299		P	Pn	01 40 33.2	+0.7
	baz=116						
OHAK				S	Sn	01 41 00.2	-1.7
	baz=116						
SII	Sitkinak Islan	2.69 281			Pn	01 40 37.3	+0.8
SII	Sitkinak Islan	2.69 281		IAML		01 41 09.7	
	comp=E,143nm,0.6s						
SII				IAML		01 41 15.2	
	comp=N,113nm,0.8s						
SII	Sitkinak Islan	2.69 281		P	Pn	01 40 37.3	+0.8
	baz=98						
SII				S	Sn	01 41 07.6	-1.5
	baz=98						
SYI	Shuyak Island	2.97 328			Pn	01 40 41.1	+0.9
SYI					Sn	01 41 15.7	0.0
Q20K	Shuyak Island	2.97 328		P	Pn	01 40 41.1	+0.9
	baz=145						
Q20K				S	Sn	01 41 15.7	-0.1
	baz=145						
R18K	Karluk	3.12 300			Pn	01 40 43.4	+1.1
R18K					Sn	01 41 18.0	-1.6
R18K	Karluk	3.12 300		IAML		01 41 19.1	
	comp=E,81nm,0.5s						
R18K				IAML		01 41 19.3	
	comp=N,145nm,0.5s						
R18K	Karluk	3.12 300		P	Pn	01 40 43.4	+1.1
	baz=116						
R18K				S	Sn	01 41 18.0	-1.6
	baz=116						
CNPM	China Poot	3.54 345			Pn	01 40 48.6	+0.5
CNPM					Sn	01 41 28.8	-1.3
Q19K	Cape Douglas,	3.62 323			Pn	01 40 50.6	+1.5
Q19K	Cape Douglas,	3.62 323		IAML		01 41 39.1	
	comp=E,125nm,1.1s						
Q19K				IAML		01 41 42.7	
	comp=N,94nm,1.1s						
Q19K	Cape Douglas,	3.62 323		P	Pn	01 40 50.6	+1.5
	baz=139						
KAHG	Katmai Hook Gl	3.66 313			Pn	01 40 50.9	+1.1
BRSE	Bradley Lake S	3.69 349			Pn	01 40 50.5	+0.3
BRSE					Sn	01 41 32.5	-1.2
BRSE	Bradley Lake S	3.69 349		P	Pn	01 40 50.5	+0.3
	baz=167						
BRSE				S	Sn	01 41 32.5	-1.2
	baz=167						
Q23K	Middleton Isla	3.69 25			Pn	01 40 50.1	0.0
Q23K	Middleton Isla	3.69 25		IAML		01 41 33.4	
	comp=E,77nm,0.7s						
Q23K				IAML		01 41 35.3	
	comp=N,69nm,1.0s						
Q23K	Middleton Isla	3.69 25		P	Pn	01 40 50.2	0.0
	baz=206						
MID	Middleton Isla	3.69 25			Pn	01 40 49.9	-0.3
MID	Middleton Isla	3.69 25		IAML		01 41 35.2	
	comp=N,67nm,0.7s						
MID				IAML		01 41 39.4	
	comp=E,78nm,1.1s						
BRLK	Bradley Lake	3.73 348			Pn	01 40 50.9	+0.1
BRLK	Bradley Lake	3.73 348		IAML		01 41 36.1	
	comp=E,44nm,0.1s						
BRLK				IAML		01 41 36.8	
	comp=N,54nm,0.1s						
HOM	Homer	3.73 342			Sn	01 41 35.2	+0.5
HOM	Homer	3.73 342		S	Sn	01 41 35.2	+0.5
	baz=160						
KAHC	Katmai Hardscr	3.94 312			Pn	01 40 55.3	+1.6
Q18K	Katmai Hardscr	3.94 312		P	Pn	01 40 55.3	+1.6
	baz=128						
P23K	Montague Islan	4.02 15			Pn	01 40 55.1	+0.4
P23K	Montague Islan	4.02 15		P	Pn	01 40 55.1	+0.4
	baz=195						
P19K	Oil Pt	4.08 332			Pn	01 40 56.7	+1.2
P19K	Oil Pt	4.08 332		IAML		01 41 46.0	
	comp=N,52nm,0.5s						
P19K				IAML		01 41 49.0	
	comp=E,48nm,0.4s						
P19K	Oil Pt	4.08 332		P	Pn	01 40 56.7	+1.2
	baz=148						
CNTC	Contact Creek	4.12 304			Pn	01 40 57.7	+1.6
Q17K	Contact Creek	4.12 304		P	Pn	01 40 57.7	+1.6
	baz=119						
O20K	Slope Mountain	4.32 338			Pn	01 40 59.3	+0.6
O20K	Slope Mountain	4.32 338		P	Pn	01 40 59.3	+0.6
	baz=155						
ILSW	Iliamna Southw	4.34 334		Pn	Pn	01 41 00.0	+0.8
O22K	Cooper Landing	4.37 358		Pn	Pn	01 41 01.0	+1.6
SLKM	Skilak Lake	4.41 355			Pn	01 41 00.2	+0.1
HIN	Hinchinbrook I	4.55 19			Pn	01 41 02.5	+0.6
KAIM	Kayak Island	4.64 33			Pn	01 41 03.3	+0.1
KAIM	Kayak Island	4.64 33		P	Pn	01 41 03.3	+0.1
	baz=216						
RSO	Redoubt South	4.69 339		Pn	Pn	01 41 02.9	-1.2
O18K	Koktuh Hills	4.84 323			Pn	01 41 06.7	+0.7
O18K	Koktuh Hills	4.84 323		P	Pn	01 41 06.7	+0.7
	baz=138						
FID	Port Fidalgo	4.88 17			Pn	01 41 06.6	+0.1
FID	Port Fidalgo	4.88 17		IAML		01 42 00.7	
	comp=N,63nm,0.2s						
FID				IAML		01 42 01.6	
	comp=E,49nm,0.3s						
GLI	Glacier Island	4.92 13			Pn	01 41 07.1	+0.1
GLI	Glacier Island	4.92 13		IAML		01 42 04.5	
	comp=N,31nm,0.3s						
GLI				IAML		01 42 05.2	
	comp=E,42nm,0.4s						
GLI	Glacier Island	4.92 13		P	Pn	01 41 07.1	+0.1
	baz=194						
RAGM	Ragged Mountai	4.95 28			Pn	01 41 08.7	+1.3
SUCK	Suckling Hills	4.95 35			Pn	01 41 08.1	+0.6
SUCK	Suckling Hills	4.95 35		IAML		01 42 04.1	
	comp=E,44nm,0.7s						
SUCK				IAML		01 42 05.0	
	comp=N,68nm,0.4s						
RC01	Rabbit Creek A	4.98 358		Pn	Pn	01 41 08.0	+0.2
RC01				IAML		01 42 03.9	
	comp=N,30nm,0.5s						
RC01				IAML		01 42 07.1	
	comp=E,34nm,0.4s						
HMT	Hamilton	5.02 31			Pn	01 41 09.4	+1.0
NICHA	Nichawak Mount	5.02 33			Pn	01 41 09.2	+0.8
CHGN	Chignik	5.03 276		Pn	Pn	01 41 08.9	+0.4
SPU	Mount Spurr	5.25 346		Pn	Pn	01 41 11.3	-0.3
SPU				IAML		01 42 15.4	
	comp=E,18nm,0.6s						
SPU				IAML		01 42 15.5	
	comp=N,17nm,0.5s						
SNH	Sunshine Point	5.35 38		Pn	Pn	01 41 13.5	+0.6
SNH				IAML		01 42 12.2	
	comp=E,36nm,0.5s						
SNH				IAML		01 42 12.9	
	comp=N,35nm,0.3s						
N19K	Bonanza Creek	5.40 333			Pn	01 41 13.8	+0.2
N19K	Bonanza Creek	5.40 333		P	Pn	01 41 13.8	+0.2
	baz=148						
KHIT	Khitrov Hills	5.41 34			Pn	01 41 13.8	+0.1
STLK	Strandline Lak	5.53 348			Pn	01 41 15.9	+0.4
GHO	Glory Hole Cre	5.67 2		Pn	Pn	01 41 18.4	+1.1
KLU	Klutina	5.67 17			Pn	01 41 18.2	+0.7
KLU	Klutina	5.67 17		P	Pn	01 41 18.2	+0.7
	baz=199						
CRQM	Cirque	5.69 33		Pn	Pn	01 41 19.3	+1.6
N18K	Kilae Creek	5.69 326			Pn	01 41 18.0	+0.4
N18K	Kilae Creek	5.69 326		P	Pn	01 41 18.0	+0.4
	baz=140						
SML	Sawmill	5.72 5		Pn	Pn	01 41 17.9	-0.2
SCM	Sheep Creek Mo	5.82 10		Pn	Pn	01 41 21.1	+1.6
CHNA	Chernabura Isl	5.94 262		P	Pn	01 41 21.3	+0.4
	baz=74						
CNBA	Chernabura Isl	5.94 261			Pn	01 41 21.4	+0.4
SKT	Skwentna	5.97 350		Pn	Pn	01 41 22.1	+0.6
VRDI	Verde Repeater	5.98 29		Pn	Pn	01 41 21.4	-0.3
N25K	Chitina, Valde	6.03 22			Pn	01 41 23.6	+1.2
N25K	Chitina, Valde	6.03 22		P	Pn	01 41 23.5	+1.2
	baz=206						
KIAG	Kiagna River	6.06 35			Pn	01 41 23.1	+0.3
GLB	Gilahina Butte	6.07 26		Pn	Pn	01 41 23.8	+1.0
M20K	Styx River	6.08 343		Pn	Pn	01 41 22.9	-0.1
GRNC	Granite Creek	6.12 38		Pn	Pn	01 41 24.7	+1.0
M24K	Tolsona, Glenn	6.22 14		Pn	Pn	01 41 25.9	+1.0
MCARA	McCarthy VSAT	6.23 30			Pn	01 41 26.5	+1.6
MCARA	McCarthy VSAT	6.23 30		P	Pn	01 41 26.5	+1.6
	baz=214						
PTPK	Patty Peak	6.23 33			Pn	01 41 26.5	+1.4
PCA	Pinnacle	6.27 47			Pn	01 41 26.4	+0.8
PINM	Pinnacle	6.27 47		P	Pn	01 41 26.4	+0.8
	baz=234						
O15K	Ungalikthiuk R	6.37 303			Pn	01 41 28.2	+1.3
O15K	Ungalikthiuk R	6.37 303		P	Pn	01 41 28.2	+1.3
	baz=114						
PNL	Peninsula	6.41 52			Pn	01 41 28.4	+1.0
PNL	Peninsula	6.41 52		P	Pn	01 41 28.4	+1.0
	baz=240						
CTGM	Chitina Glacie	6.43 38		Pn	Pn	01 41 29.7	+1.9
L19K	White Mountain	6.68 338			Pn	01 41 31.4	+0.2
L19K	White Mountain	6.68 338		P	Pn	01 41 31.4	+0.2
	baz=152						
PS1A	Pavlof South-1	7.00 269			Pn	01 41 36.2	+0.8
PVV	Pavlof Volcano	7.03 269			Pn	01 41 36.6	+0.6
DHY	Denali Highway	7.04 8		Pn	Pn	01 41 36.9	+0.7
S12K	Black Hills	7.13 272			Pn	01 41 38.0	+0.7
S12K	Black Hills	7.13 272		P	Pn	01 41 38.0	+0.7
	baz=82						
PN7A	Pavl

TIR Tirane 0.30 115 *e*Pg **Pg 02 09 34.6 -0.3**
TIR *e*Sg **Sg 02 09 39.0 -0.2**
TIR Tirane 0.30 115 P **Pg 02 09 34.6 -0.3**
PUK Puka 0.64 27 P **Pg 02 09 40.9 -0.3**
baz=32
PUK S **Sb 02 09 50.4 +0.1**
baz=32
PUK AMP
comp=E,29nm,0.4s,baz=32
PUK Puka 0.64 27 Pg 02 09 40.4 -0.7
PUK Sg **Sb 02 09 50.3 +0.1**
PUK IAML 02 09 54.2
comp=E,3µm,0.4s
PUK IAML 02 09 54.4
comp=N,3µm,0.4s
DRME Dracevica, Mon 0.75 342 *e*Pg **Pn 02 09 45.2 +0.6**
DRME *e*Sg **Sn 02 09 57.8 +2.1**
DRME Dracevica, Mon 0.75 342 *e*Pg **Pb 02 09 43.2 -0.1**
DRME *e*Sg **Sn 02 09 55.1 -0.6**
DRME Dracevica, Mon 0.75 342⇑*i*Pg **Pg 02 09 41.7 -1.6**
DRME *i* Sg **Sb 02 09 54.2 +0.8**
BUM Brajici-Budva 0.94 331⇓*i*Pg **Pg 02 09 45.3 -1.6**
BUM *i* Sg **Sn 02 10 00.9 +0.4**
PDG Podgorica 0.97 349 ⇑P **Pn 02 09 49.0 +1.3**
PDG ⇑S **Sn 02 10 02.8 +1.7**
PDG Podgorica 0.97 349 Pg **Pn 02 09 48.4 +0.7**
PDG IAML 02 10 08.7
comp=N,801nm,0.6s
PDG Podgorica 0.97 349 *e*Pg **Pn 02 09 48.3 +0.7**
PDG *e*Sg **Sn 02 10 03.5 +2.4**
PDG Podgorica 0.97 349 *e*Pg **Pb 02 09 47.2 +0.1**
PDG *e*Sg **Sn 02 10 02.0 +0.9**
PDG Podgorica 0.97 349⇑*i*Pg **Pg 02 09 46.2 -1.2**
PDG *i* Sg **Sn 02 10 01.5 +0.4**
TTG Podgorica 0.97 349 P **Pg 02 09 46.2 -1.2**
BCI Bajram Curri 0.99 25 P **Pg 02 09 46.6 -1.1**
baz=28
BCI S **Sg 02 09 59.2 -1.5**
baz=28
BCI AMP
comp=N,14nm,0.5s,baz=28
VLO Vlora 1.00 180 P **Pn 02 09 49.5 +1.5**
baz=179
VLO S **Sn 02 10 04.8 +3.1**
baz=179
VLO AMP
comp=E,13nm,0.5s,baz=179
VLO Vlora 1.00 180 Pn **Pn 02 09 50.2 +2.2**
VLO IAML 02 10 09.0
comp=E,2µm,0.6s
VLO IAML 02 10 09.4
comp=N,2µm,0.8s
VLO Vlora 1.00 180 P **Pn 02 09 50.1 +2.2**
VLO S **Sn 02 10 06.7 +4.9**
comp=N,4µm,0.5s
VLO Vlora 1.00 180 P **Pn 02 09 50.2 +2.2**
OHR Ohrid 1.04 110 *i* Pg **Pg 02 09 47.6 -1.0**
OHR *i* Sg **Sb 02 10 02.6 +1.0**
CEME Cevo 1.16 338⇓*i*Pg **Pb 02 09 49.7 -0.6**
CEME *i* Sg **Sn 02 10 08.1 +2.3**
PVY Plav 1.17 17 *e*Pg **Pn 02 09 51.1 +0.6**
PVY Plav 1.17 17⇑*i*Pg **Pb 02 09 48.9 -1.6**
PVY *i* Sg **Sn 02 10 08.1 +1.9**
HCY Herceg Novi 1.23 323 *e*Pg **Pn 02 09 51.5 +0.3**
HCY *e*Sg **Sn 02 10 10.1 +2.5**
HCY Herceg Novi 1.23 323⇑*i*Pg **Pn 02 09 51.0 -0.2**
HCY *i* Sg **Sn 02 10 10.6 +3.1**
HCY Herceg Novi 1.23 323 P **Pn 02 09 51.0 -0.2**
HCY S **Sn 02 10 10.0 +2.5**
KBN Korca 1.29 131 P **Pg 02 09 53.6 +0.3**
baz=133
KBN S **Sn 02 10 11.8 +2.8**
baz=133
KBN AMP
comp=E,3.3nm,0.5s,baz=133
KBN Korca 1.29 131 Pn **Pg 02 09 53.7 +0.3**
KBN Korca 1.29 131 P **Pn 02 09 51.3 -0.7**
KBN S **Sg 02 10 09.6 -0.6**
comp=E,745nm,0.6s
KBN Korca 1.29 131 P **Pg 02 09 53.7 +0.3**
NKME Niksic 1.36 343⇓*i*Pg **Pn 02 09 53.0 +0.1**
NKME *i* Sg **Sg 02 10 14.8 +2.4**
KOME Kolasin 1.38 0 *e*Pg **Pg 02 09 55.0 -0.1**
KOME *e*Sg **Sg 02 10 16.6 +3.5**
KOME Kolasin 1.38 0⇑*i*Pg **Pn 02 09 53.7 +0.4**
KOME *i* Sg **Sg 02 10 15.4 +2.3**
BEY Berane 1.43 12 *e*Pg **Pg 02 09 56.1 0.0**
IVA Berane 1.43 12⇓*i*Pg **Pn 02 09 53.5 -0.5**
IVA *i* Sg **Sg 02 10 16.7 +2.0**
TREB Trebinje 1.51 326 *e*Pg **Pg 02 09 57.1 -0.5**
TREB *e*Sn **Sg 02 10 17.5 +0.2**
SKO Skopje 1.53 70 *i* Pn **Pb 02 09 56.1 -0.5**
DBRK Dubrovnik 1.57 320 *e*Pn **Pg 02 09 58.5 -0.1**
DBRK Sn **Sg 02 10 18.6 -0.4**
FNA Florina 1.57 115 P **Pg 02 09 58.1 -0.7**
baz=118
FNA AMP
comp=E,1.9nm,0.4s,baz=118
FNA Florina 1.57 115 Pn **Pb 02 09 57.8 +0.5**
FNA IAML 02 10 20.4
comp=N,668nm,0.7s
FNA IAML 02 10 21.3
comp=E,558nm,0.8s
FNA Florina 1.57 115 P **Pn 02 09 55.7 -0.2**
FNA S **Sn 02 10 16.5 +0.5**
comp=E,1µm,0.6s
FNA Florina 1.57 115 *e*Pg **Pn 02 09 54.2 -1.7**
FNA *e*Sg **Sb 02 10 17.3 +0.3**
FNA Florina 1.57 115 P **Pb 02 09 57.8 +0.5**
NEST Nestorio 1.58 132 P **Pn 02 09 56.0 0.0**
NEST S **Sn 02 10 16.8 +0.7**
comp=E,518nm,0.4s
BRY Bratogost 1.60 334 *e*Pn **Pb 02 09 58.2 +0.4**
BRY *e*Sn **Sg 02 10 19.9 -0.2**
BRY Bratogost 1.60 334⇑*i*Pn **Pn 02 09 57.1 +0.8**
BRY *i* Sn **Sg 02 10 21.7 +1.6**
BRY Bratogost 1.60 334 P **Pn 02 09 57.1 +0.8**
BRY S **Sg 02 10 21.0 +0.9**
SRN Sarande 1.64 166 P **Pb 02 09 58.3 0.0**
baz=166
SRN AMP
comp=E,2.3nm,0.5s,baz=166
SRN Sarande 1.64 166 P **Pb 02 09 57.9 -0.4**
SRN S **Sg 02 10 21.8 +0.6**
comp=E,512nm,0.5s
PENT Pentalofos 1.78 135 P **Pn 02 09 59.4 +0.6**
UPM Unac-Piva 1.79 346 *e*Pn **Pb 02 10 00.4 -0.7**
UPM *e*Sn **Sg 02 10 25.2 -0.9**
UPM Unac-Piva 1.79 346⇓*i*Pn **Pb 02 10 00.7 -0.4**
UPM *i* Sn **Sg 02 10 25.8 -0.3**
SJES Sjenica 1.82 11 *e*Pn **Pn 02 09 59.6 +0.2**
SJES *e*Sn **Sb 02 10 25.2 +1.0**
SJES Sjenica 1.82 11 *e*Pn **Pb 02 10 01.6 0.0**
SJES *e*Sn **Sg 02 10 25.9 -1.3**
KLINJ Klinje 1.83 338 *e*Pn **Pn 02 10 00.3 +0.8**
KLINJ *e*Sn **Sb 02 10 25.7 +1.3**
PLE Pljevlja 1.86 357 *e*Pn **Pn 02 10 00.1 +0.2**
PLE Pljevlja 1.86 357⇑*i*Pn **Pn 02 10 00.9 +1.0**
PLE *i* Sn **Sg 02 10 27.7 -0.7**
PLE Pljevlja 1.86 357 P **Pn 02 10 15.4 +1.0**
PLE S **Sg 02 10 27.0 -1.4**
STON Ston 1.94 317 *e*Pn **Pb 02 10 02.9 -0.6**
STON Sn **Sb 02 10 27.6 +0.1**
STON Ston 1.94 317 *e*Pn **Pn 02 10 02.4 +1.6**
STON *e*Sn **Sb 02 10 28.0 +0.6**
STIP Stip 2.02 83 *i* Pn **Pn 02 10 02.2 +0.1**
KPRO Kipourio 2.07 136 P **Pn 02 10 03.6 +0.8**
JAN Janina 2.08 150 P **Pn 02 10 04.5 +1.6**
JAN Janina 2.08 150 P **Pn 02 10 04.5 +1.6**
RUDO Rudo 2.15 357 *e*Pn **Pn 02 10 05.3 +1.5**
RUDO *e*Sn **Sb 02 10 34.2 +0.7**
IVAS Ivanjica 2.16 13 *e*Pn **Pn 02 10 04.7 +0.8**
PRVS Prvonek 2.18 61 *e*Pn **Pn 02 10 05.2 +1.0**
PRVS *e*Sn **Sn 02 10 32.7 +1.8**
BARS Barje 2.18 51 *e*Pn **Pn 02 10 05.6 +1.4**
BARS *e*Sn **Sn 02 10 33.0 +2.1**
MATE Matera 2.27 250 ⇑P **Pn 02 10 07.0 +1.6**
VAY Valandovo 2.31 93 *i* Pn **Pn 02 10 06.8 +0.8**
BBLS Lazi&#263i 2.39 358 *e*Pn **Pn 02 10 09.3 +2.1**
BBLS Lazi&#263i 2.39 358⇑*i*Pn **Pn 02 10 09.3 +2.1**
BBLS *e*Sn **Sb 02 10 40.6 -0.1**
BOSS Bosilegrad 2.44 64 *e*Pn **Pn 02 10 07.4 -0.4**

GRUS Gruza 2.58 20 *e*Pn **Pn 02 10 11.2 +1.6**
KNT Kendrikon 2.58 96 P **Pn 02 10 08.7 -0.9**
KNT Kendrikon 2.58 96 P **Pn 02 10 08.7 -0.9**
MAKA Makarska 2.58 315 *e*Pn **Pn 02 10 11.7 +2.0**
HAPS Han Pijesak,BI 2.64 351⇑*i*Pn **Pn 02 10 13.0 +2.3**
HAPS *e*Sn **Sb 02 10 46.2 -1.7**
LIT Litokhoron 2.65 120 Pn **Pn 02 10 12.3 +1.7**
LIT Litokhoron 2.65 120 P **Pn 02 10 10.9 +0.2**
LIT Litokhoron 2.65 120 P **Pn 02 10 12.3 +1.7**
DIVS Divibare 2.65 8 *e*Pn **Pn 02 10 12.4 +1.7**
RICI Ricice 2.68 320 *e*Pn **Pn 02 10 12.8 +1.8**
THL Klokotos Trika 2.70 134 P **Pn 02 10 12.2 +0.9**
BOVS Bovan 2.71 36 ⇑S **Sn 02 10 46.2 +2.4**
BOVS Bovan 2.71 36 *e*Pn **Pn 02 10 12.5 +1.1**
KKB Krupnik 2.74 81 P **Pn 02 10 13.0 +1.1**
TSLK Tsoukalades, L 2.79 161 P **Pn 02 10 13.9 +1.4**
LKD2 Lefkada island 2.82 161 P **Pn 02 10 14.0 +0.9**
TRUS Trudelj 2.83 13 *e*Pn **Pn 02 10 14.9 +1.8**
SGRT San Giovanni R 2.83 277 Pn **Pn 02 10 14.4 +1.2**
SGRT IAML 02 11 21.7
comp=N,89nm,0.8s
HVAR Hvar 2.83 308 *e*Pn **Pn 02 10 14.4 +1.2**
NYDR Nydri-Lefkada 2.90 161 P **Pn 02 10 14.9 +0.8**
EVGI Lefkada island 2.98 162 P **Pn 02 10 15.8 +0.6**
VTS Vitosha 3.00 66 P **Pn 02 10 16.6 +0.9**
VTS S **Sn 02 10 51.5 0.0**
TEKS Tekeris 3.08 0 *e*Pn **Pn 02 10 17.5 +1.0**
TEKS Tekeris 3.08 0 *e*Pn **Pn 02 10 18.0 +1.5**
ZAGS Zajecar 3.09 40 *e*Pn **Pn 02 10 17.5 +0.9**
SRS Serrai 3.10 95 P **Pn 02 10 16.6 -0.3**
SRS Serrai 3.10 95 P **Pn 02 10 16.6 -0.3**
EVR Evrytania 3.10 145 P **Pn 02 10 18.2 +1.2**
TIP Timpagrande 3.11 223 ⇑P **Pn 02 10 18.3 +1.3**
TIP Timpagrande 3.11 223 Pn **Pn 02 10 18.0 +1.0**
CUC Castrocucco 3.17 243 Pn **Pn 02 10 19.5 +1.7**
CUC IAML 02 11 02.3
comp=E,104nm,0.8s
CUC IAML 02 11 02.8
comp=N,88nm,0.6s
MAKR Makrakomi, Fth 3.17 140 P **Pn 02 10 19.6 +1.7**
BLKB Belogradchik 3.18 46 ⇑S **Sn 02 10 57.3 +1.7**
PLG Polygyros 3.18 109 P **Pn 02 10 17.5 -0.5**
MMB Musomishta 3.19 87 P **Pn 02 10 19.9 +1.8**
MMB S **Sn 02 10 55.4 -0.4**
AGG Agios Georgios 3.27 138 Pn **Pn 02 10 20.9 +1.8**
AGG Agios Georgios 3.27 138 P **Pn 02 10 20.2 +1.0**
AGG Agios Georgios 3.27 138 P **Pn 02 10 20.9 +1.8**
DMLN Damoulianata-K 3.30 168 P **Pn 02 10 19.7 +0.1**
AVAS Avala Beograd 3.31 13 *e*Pn **Pn 02 10 20.3 +0.6**
KUBS Kucevo 3.34 28 *e*Pn **Pn 02 10 20.1 -0.1**
VLS Valsamata 3.40 165 P **Pn 02 10 20.9 0.0**
VLS Valsamata 3.40 165 P **Pn 02 10 20.9 0.0**
BEO Beograd 3.41 12 P **Pn 02 10 23.2 +2.1**
DOB Doboj 3.42 343 *e*Pn **Pn 02 10 22.7 +1.5**
DOB *e*Sn **Sn 02 11 03.6 +2.2**
ANX Ano Chora 3.42 146 P **Pn 02 10 22.9 +1.5**
MGRS Mrkonjic Grad 3.44 330 *e*Pn **Pn 02 10 23.5 +2.0**
MGRS *e*Sn **Sn 02 11 04.3 +2.3**
ZIRJ Zirje 3.59 309 *e*Pn **Pn 02 10 24.9 +1.4**
MDVR Moldovita 3.68 25 ⇓P **Pn 02 10 26.3 +1.4**
MDVR ⇑S **Sn 02 11 10.3 +2.4**
MORI Morici 3.68 312 *e*Pn **Pn 02 10 27.1 +2.2**
BLY Banja Luka 3.69 333 *e*Pn **Pn 02 10 26.8 +1.9**
BLY *e*Sn **Sn 02 11 10.4 +2.3**
FRGS Fruska Gora 3.69 3 ⇑P **Pn 02 10 26.1 +1.1**
FRGS Fruska Gora 3.69 3 *e*Pn **Pn 02 10 25.9 +0.9**
FRGS Fruska Gora 3.69 3⇑*i*Pn **Pn 02 10 26.1 +1.1**
FRGS *e*Sn **Sn 02 11 10.8 +2.6**
A050A Klekovaca 3.72 325 *e*Pn **Pn 02 10 26.8 +1.4**
A050A *e*Sn **Sn 02 11 10.8 +1.9**
PAOL Paolisi 3.75 265 Pn **Pn 02 10 28.2 +2.4**
PUNG Punghina 3.77 41 ⇑P **Pn 02 10 28.1 +2.1**
DJES Djerdap 3.88 34 ⇑P **Pn 02 10 30.0 +2.4**
RZN Rozhen 3.93 85 P **Pn 02 10 30.2 +1.7**
RZN S **Sn 02 11 15.5 +1.1**
RMGR Halanga-Turnu 3.95 35 ⇓P **Pn 02 10 30.8 +2.3**
PLD Plovdiv 3.98 79 P **Pn 02 10 30.4 +1.5**
HERR Herculane 4.02 31 ⇓P **Pn 02 10 31.1 +1.7**
PRIJ Prijedor 4.05 331 *e*Pn **Pn 02 10 31.4 +1.5**
PRIJ *e*Sn **Sn 02 11 18.8 +1.8**
BANR Banloc 4.08 16 ⇓P **Pn 02 10 32.4 +2.1**
UDBI Udbina 4.11 319 *e*Pn **Pn 02 10 33.6 +2.8**
DUGI Dugi Otok 4.13 309 *e*Pn **Pn 02 10 33.0 +2.0**
SRE Strehaia 4.18 39 ⇑P **Pn 02 10 33.7 +1.9**
SRE Strehaia 4.18 39 P **Pn 02 10 33.6 +1.9**
INTR Introdacqua 4.22 279 Pn **Pn 02 10 34.8 +2.4**
VIRC Vir 4.32 312 *e*Pn **Pn 02 10 35.4 +1.8**
BZS Buzias 4.42 20 ⇑P **Pn 02 10 36.0 +1.1**
BZS Buzias 4.42 20 P **Pn 02 10 36.0 +1.1**
PLIT Plitvice 4.43 321 *e*Pn **Pn 02 10 37.4 +2.3**
RDO Rodhopi 4.56 92 Pn **Pn 02 10 37.9 +1.1**
GZR Gura Zlata 4.59 30 ⇓P **Pn 02 10 39.4 +2.1**
GZR ⇑S **Sn 02 11 32.9 +2.6**
GZR Gura Zlata 4.59 30 P **Pn 02 10 39.4 +2.1**
NVLJ Novalja 4.59 314 *e*Pn **Pn 02 10 39.0 +1.6**
MOSL Moslavina 4.60 335 *e*Pn **Pn 02 10 38.9 +1.4**
CAMP Campotosto 4.67 285 Pn **Pn 02 10 40.8 +2.3**
ITM Ithomi 4.68 156 Pn **Pn 02 10 40.0 +1.4**
RABC Rab 4.76 315 *e*Pn **Pn 02 10 41.0 +1.4**
MORH Mrgy, Hungar 4.78 353 ⇓P **Pn 02 10 41.4 +1.4**
MORH Mrgy, Hungar 4.78 353 *e*Pn **Pn 02 10 41.3 +1.4**
MORH *e*Sn **Sn 02 11 36.3 +1.3**
GUMA Gualdo di Mace 4.85 291 Pn **Pn 02 10 42.5 +1.7**
GUMA IAML 02 11 45.1
comp=N,119nm,0.5s
GUMA IAML 02 11 45.9
comp=E,166nm,0.4s
NRCA Norcia 4.94 288 Pn **Pn 02 10 44.6 +2.4**
NRCA IAML 02 11 44.0
comp=E,76nm,0.3s
ELND Elena 4.95 71 ⇑P **Pn 02 10 44.0 +1.7**
ALN Alexandroupoli 4.97 94 Pn **Pn 02 10 43.8 +1.3**
ALN Alexandroupoli 4.97 94 P **Pn 02 10 43.8 +1.3**
SIRR Siria 5.04 17 ⇓P **Pn 02 10 45.1 +1.6**
SIRR ⇑S **Sn 02 11 43.7 +2.2**
LOT Lotru 5.04 37 ⇑P **Pn 02 10 45.7 +2.1**
HUMR Humele 5.04 51 ⇓P **Pn 02 10 45.9 +2.3**
DEV Deva 5.05 28 ⇓P **Pn 02 10 45.4 +1.8**
DEV Deva 5.05 28 P **Pn 02 10 45.4 +1.8**
OZLJ Ozalj 5.08 326 *e*Pn **Pn 02 10 46.1 +2.2**
BOJS Bojanci 5.08 324 *i* Pn **Pn 02 10 46.3 +2.3**
BOJS Bojanci 5.08 324 *e*Pn **Pn 02 10 45.5 +1.5**
BOJS *e*Sn **Sn 02 11 43.4 +1.0**
PTJ Puntijarka 5.12 331 P **Pn 02 10 46.1 +1.4**
KALN Kalnik 5.15 336 *e*Pn **Pn 02 10 46.2 +1.1**
CRES Cresnjev 5.25 327⇑*i*Pn **Pn 02 10 48.0 +1.6**
CRES *e*Sn **Sn 02 11 47.3 +0.7**
CESX Cesi 5.28 285 Pn **Pn 02 10 48.7 +1.9**
CESX IAML 02 11 51.3
comp=E,28nm,0.6s
CESX IAML 02 11 52.1
comp=N,38nm,0.3s
SMRN Sveta Marina 5.29 314 *e*Pn **Pn 02 10 47.9 +1.1**
BEHE Becsehely 5.37 339 *e*Pn **Pn 02 10 50.0 +2.0**
ARR Arges 5.39 42 ⇑P **Pn 02 10 50.9 +2.4**
BRJN Brijuni 5.43 311 *e*Pn **Pn 02 10 50.4 +1.6**
SGRR Singureni 5.49 58 ⇑P **Pn 02 10 51.6 +1.9**
KOGS Kog 5.50 336 *e*Pn **Pn 02 10 51.5 +1.7**
CEY Cerknica 5.64 321 *i* Pn **Pn 02 10 53.7 +1.9**
CEY Cerknica 5.64 321⇑*i*Pn **Pn 02 10 53.6 +1.9**
CEY *e*Sn **Sn 02 11 56.1 0.0**
VOIR 5.66 44 ⇑P **Pn 02 10 54.2 +2.1**
VOIR 5.66 44 P **Pn 02 10 54.1 +2.1**
SKDS Skadanscina 5.70 317⇑*i*Pn **Pn 02 10 53.6 +1.0**
SKDS *e*Sn **Sn 02 11 57.7 -0.1**
DRGR 5.80 22 ⇑P **Pn 02 10 55.4 +1.5**
DRGR 5.80 22 P **Pn 02 10 55.4 +1.5**
MARR Marisel-Cluj 5.82 25 ⇓P **Pn 02 10 56.6 +2.3**
MARR ⇑S **Sn 02 12 02.5 +1.8**
LJU Ljubljana 5.82 323 P **Pn 02 10 56.8 +2.6**
LJU pmax pmax
comp=Z,48nm,0.6s
RAFF Raffo Rosso 5.82 225 Pn **Pn 02 10 54.2 0.0**
CJR Cluj-Napoca 6.01 28 ⇑P **Pn 02 10 59.5 +2.6**
CJR Cluj-Napoca 6.01 28 P **Pn 02 10 59.5 +2.6**
BUD Budapest 6.02 357 P **Pn 02 10 59.4 +2.5**
BUD pmax pmax
comp=Z,22nm,0.6s
SOKA Soboth 6.12 330 *i* Pn **Pn 02 11 00.2 +1.8**
comp=Z,4.8nm,0.6s,SNR=7.3

SOKA *i* Sn **Sn 02 12 11.3 +3.2**
comp=Z,2.9nm,0.5s
MLR Muntele Rosu 6.17 47 ⇑P **Pn 02 11 01.4 +2.3**
MLR ⇓S **Sn 02 12 11.9 +2.5**
MLR Muntele Rosu 6.17 47 Pn **Pn 02 11 01.2 +2.1**
MLR Muntele Rosu 6.17 47 Pn **Pn 02 11 01.4 +2.3**
comp=Z,2.2nm,0.3s,baz=156,slow=10,SNR=24
MLR Sn **Sn 02 12 11.0 +1.6**
comp=Z,0.2nm,0.3s,baz=319,slow=18,SNR=1.8
comp=Z,8.6nm,0.6s
OBKA Obir 6.17 326 *i* Pn **Pn 02 11 01.8 +2.7**
comp=Z,3.6nm,0.3s,SNR=12
OBKA *e*Sn **Sn 02 12 11.1 +1.6**
comp=Z,7.3nm,0.3s
OBKA Obir 6.17 326 *e*Pn **Pn 02 11 00.2 +1.0**
OBKA *e*Sn **Sn 02 12 09.2 -0.3**
SABO M.te Sabotino 6.21 318 Pn **Pn 02 11 00.9 +1.2**
CLTB Caltabellotta 6.22 233 Pn **Pn 02 11 01.8 +2.0**
OSSC Osservatorio P 6.44 291 Pn **Pn 02 11 04.2 +1.5**
ARSA Arzberg 6.44 335 *e*Pn **Pn 02 11 05.1 +2.3**
comp=Z,2.2nm,0.5s
ARSA *e*Sn **Sn 02 12 18.7 +2.7**
comp=Z,2.2nm,0.4s
ARSA Arzberg 6.44 335 *e*Pn **Pn 02 11 04.7 +1.9**
PSZ Piszkesteto 6.45 2 ⇑P **Pn 02 11 04.4 +1.5**
PSZ ⇑S **Sn 02 12 19.4 +3.1**
PSZ Piszkesteto 6.45 2 Pn **Pn 02 11 05.1 +2.1**
PSZ Piszkesteto 6.45 2 P **Pn 02 11 05.1 +2.1**
OZUR 6.48 42 ⇑P **Pn 02 11 04.8 +1.5**
COVR Voineasa-Covas 6.54 46 ⇓P **Pn 02 11 04.7 +0.7**
PRED Cave del Predi 6.56 321 Pn **Pn 02 11 06.3 +1.9**
TURR Turia 6.57 44 ⇑P **Pn 02 11 06.7 +2.1**
RONA Rosalia, Austr 6.63 341 *e*Pn **Pn 02 11 09.2 +3.8**
comp=Z,2.3nm,0.4s
ICOR Ion Corvin 6.65 64 ⇓P **Pn 02 11 07.3 +1.7**
MYKA Terra Mystica 6.66 323 *i* Pn **Pn 02 11 07.6 +1.8**
comp=Z,2.1nm,0.4s
MYKA *i* Sn **Sn 02 12 24.4 +2.9**
comp=Z,4.9nm,0.4s
SPBR Spulber 6.78 48 ⇑P **Pn 02 11 10.1 +2.7**
VRI Vrincioaia 6.83 48 ⇑P **Pn 02 11 10.0 +1.9**
VRI Vrincioaia 6.83 48 P **Pn 02 11 10.0 +1.9**
STAL STALIGIAL 6.86 317 Pn **Pn 02 11 09.9 +1.5**
ZCCA Zocca 6.89 298 Pn **Pn 02 11 11.6 +2.6**
TEOL Teolo 6.90 307 Pn **Pn 02 11 10.5 +1.5**
CONA Conrad Observa 6.96 339 *i* Pn **Pn 02 11 14.2 +4.4**
comp=Z,1.2nm,0.8s
HARR Harsova 6.96 60 ⇑P **Pn 02 11 11.5 +1.6**
HARR Harsova 6.96 60 P **Pn 02 11 11.4 +1.6**
KECS Kecovo 7.04 5 *e*P **Pn 02 11 15.1 +4.1**
KECS *e* 02 12 32.4
KECS Kecovo 7.04 5 *e*PN **Pn 02 11 15.1 +4.1**
KECS *e*SN **Sn 02 12 32.4 +1.6**
MODS Modra-Piesok 7.08 348 *e*P Pn 02 11 17.1 +5.6
MODS *e* 02 12 34.8
MODS Modra-Piesok 7.08 348 *e*PN Pn 02 11 17.1 +5.6
MODS *e*SN **Sn 02 12 34.8 +3.2**
KBA Koelnbreinsper 7.14 324 *e*Pn **Pn 02 11 13.7 +1.3**
comp=Z,1.2nm,0.3s,SNR=8.3
KBA *e*Sn **Sn 02 12 35.2 +1.9**
comp=Z,5.4nm,0.4s
KBA Koelnbreinsper 7.14 324 P **Pn 02 11 13.3 +0.9**
ABTA Abfaltersbach 7.29 319 *e*Pn **Pn 02 11 15.9 +1.5**
comp=Z,1.8nm,0.4s,SNR=7.3
ABTA *i* Sn **Sn 02 12 38.2 +1.4**
comp=Z,12nm,0.5s
CTI Castel Tesino 7.30 311 Pn **Pn 02 11 15.4 +0.8**
CTI Castel Tesino 7.30 311 P **Pn 02 11 15.4 +0.8**
CFR Carcaliu 7.30 57 ⇑P **Pn 02 11 15.8 +1.3**
CFR Carcaliu 7.30 57 P **Pn 02 11 15.8 +1.3**
TPGR Topolog 7.34 60 ⇑P **Pn 02 11 16.9 +1.8**
BURAR Bucovina Array 7.37 32 Pn **Pn 02 11 18.4 +2.9**
MOA Molln 7.39 331 *i* Pn **Pn 02 11 19.1 +3.4**
comp=Z,0.6nm,0.2s,SNR=4.6
MOA *e*Sn **Sn 02 12 41.2 +2.0**
comp=Z,2.7nm,0.4s
IDI Anoyia 7.48 144 Sn **Sn 02 12 35.0 -6.7**
baz=300,slow=16
PRMA PARMA 7.49 299 Pn **Pn 02 11 17.6 +0.5**
BIOA Bad Ischl, Aus 7.49 328 *i* Pn **Pn 02 11 18.9 +1.6**
comp=Z,6.6nm,0.3s,SNR=5.3
BIOA *i* Sn **Sn 02 12 43.7 +1.9**
comp=Z,3.0nm,0.4s
LESA Schwarzleotal 7.70 323 *e*Pn **Pn 02 11 21.8 +1.8**
comp=Z,2.6nm,0.3s
LESA *e*Sn **Sn 02 12 50.9 +4.0**
comp=Z,8.8nm,0.5s
KOLS Kolonicke sedl 7.71 14 *e*P **Pn 02 11 24.2 +4.0**
KOLS *e* 02 12 48.1
KOLS Kolonicke sedl 7.71 14 *e*PN **Pn 02 11 24.2 +4.0**
KOLS *e*SN **Sn 02 12 48.1 +0.9**
TLCR 7.74 58 ⇑P **Pn 02 11 22.8 +2.3**
TLCR 7.74 58 P **Pn 02 11 22.7 +2.3**
MSSA Maissana 7.86 295 Pn **Pn 02 11 23.2 +0.8**
PGF Pioggiola 7.90 281 *e*Pn **Pn 02 11 24.8 +2.0**
NIE Niedzica 7.97 4 P **Pn 02 11 27.5 +3.8**
NIE pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 8.04 8 *e*P Pn 02 11 30.4 +5.7
STHS *e* 02 12 54.0
STHS Stebnicka Huta 8.04 8 *e*PN Pn 02 11 30.4 +5.7
STHS *e*SN **Sn 02 12 54.0 -1.2**
WTTA Wattenberg 8.08 318 *e*Pn **Pn 02 11 28.1 +2.7**
comp=Z,2.0nm,0.2s
WTTA *i* Sn **Sn 02 12 59.2 +2.7**
comp=Z,9.9nm,0.7s
WTTA Wattenberg 8.08 318 P **Pn 02 11 29.4 +4.0**
WTTA pmax pmax
comp=Z,10.0nm,0.5s
VRAC Vranov 8.10 346 Pn **Pn 02 11 28.1 +2.7**
comp=Z,0.1nm,0.3s,baz=207,slow=9.0,SNR=3.7
VRAC LR LR 02 15 02.2
comp=Z,47nm,19.7s,baz=160,slow=41
comp=Z,2.4nm,0.8s
WATA Walderalm 8.16 319 *i* Pn **Pn 02 11 28.9 +2.4**
comp=Z,3.6nm,0.3s,SNR=5.0
WATA *e*Sn **Sn 02 13 00.1 +1.8**
comp=Z,15nm,0.6s
CKRC Cesky Krumlov 8.21 335 *e*PN **Pn 02 11 29.0 +2.0**
CKRC *e*SN **Sn 02 13 02.9 +3.4**
CKRC Cesky Krumlov 8.21 335 *e*P **Pn 02 11 29.0 +2.0**
CKRC *e* 02 13 02.9
SQTA Sankt Quirin 8.27 317 *e*Pn **Pn 02 11 30.5 +2.6**
comp=Z,5.0nm,0.6s,SNR=4.9
SQTA *i* Sn **Sn 02 13 01.2 +0.3**
comp=Z,8.9nm,0.5s
FETA Feichten 8.39 314 *e*Pn **Pn 02 11 33.1 +3.5**
comp=Z,0.8nm,0.4s
FETA *i* Sn **Sn 02 13 04.5 +0.4**
comp=Z,1.5nm,0.5s
FUORN Ofenpass-Fuorn 8.41 311 Pn **Pn 02 11 32.5 +2.5**
GEC2 GERESS Array S 8.43 333 Pn **Pn 02 11 32.6 +2.5**
GERES GERESS Array B 8.43 333 Pn **Pn 02 11 31.4 +1.2**
comp=Z,0.3nm,0.3s,baz=143,slow=9.9,SNR=5.2
GERES Sn **Sn 02 13 03.9 -1.2**
comp=Z,0.4nm,0.3s,baz=124,slow=14,SNR=2.1
comp=Z,1.0nm,0.7s
KWP Kalwaria Pacla 8.46 14 P **Pn 02 11 35.1 +4.6**
KWP pmax pmax
comp=Z,9.0nm,0.7s
RETA Reutte 8.67 317 *i* Pn **Pn 02 11 33.7 +0.3**
comp=Z,0.9nm,0.3s
RETA *i* Sn **Sn 02 13 13.0 +2.2**
comp=Z,4.4nm,0.5s
DAVOX Davos/Dischmat 8.72 311 Pn **Pn 02 11 35.3 +1.1**
comp=Z,0.8nm,0.3s,baz=134,slow=15,SNR=7.9
DAVOX Sn **Sn 02 13 09.6 -2.6**
comp=Z,0.6nm,0.3s,baz=145,slow=19,SNR=2.0
DAVOX LR LR 02 15 42.5
comp=Z,30nm,20.3s,baz=108,slow=43
comp=Z,2.6nm,0.5s
KHC Kasperske Hory 8.72 333 Pn **Pn 02 11 35.9 +1.9**
KHC Kasperske Hory 8.72 333 *e*PN **Pn 02 11 35.5 +1.5**
KHC *e*SN **Sn 02 13 13.4 +1.4**
KHC Kasperske Hory 8.72 333 P **Pn 02 11 35.9 +1.9**
TUE Stuetta 8.86 308 Pn **Pn 02 11 37.9 +1.7**
DAVA Damuels 9.01 313 *i* Pn **Pn 02 11 41.8 +3.7**
comp=Z,1.5nm,0.3s
DAVA *i* Sn **Sn 02 13 21.6 +2.2**
comp=Z,6.5nm,0.5s
SBF Sospel 9.21 289 *e*Pn **Pn 02 11 41.1 +0.3**
SBF *e*Sn **Sn 02 13 22.5 -1.5**
comp=Z,14nm,0.6s
MBDF Montbardon 9.87 293 *e*Pn **Pn 02 11 47.4 -2.4**
MBDF *e*Sn **Sn 02 13 32.3 -8.0**

comp=Z,4.8nm,0.5s
BNI Bardonecchia 10.02 295 Pn **Pn 02 11 51.5 -0.4**
BNI Bardonecchia 10.02 295 P **Pn 02 11 51.5 -0.4**
SENIN Lac Senin/Sane 10.07 303 Pn **Pn 02 11 52.6 -0.1**
LPG La Plagne 10.10 298 *e*Pn **Pn 02 11 54.4 +1.2**
LPG *e*Sn Sn 02 13 34.7 -12
comp=Z,7.6nm,0.4s
LPL La Plagne 10.12 298 *e*Pn **Pn 02 11 53.8 +0.4**
LPL *e*Sn Sn 02 13 37.1 -10
comp=Z,9.0nm,0.4s
ORIF Oris-en-Rattie 10.53 294 *e*Pn **Pn 02 11 57.5 -1.3**
ORIF *e*Sn **Sn 02 13 48.7 -7.8**
comp=Z,4.7nm,0.5s
CLL Collm 10.81 338 *e*Pn **Pn 02 12 05.0 +2.4**
CLL *e*Sb Sn 02 14 42.0 +39
CLL *e*Sg 02 15 09.0
comp=Z,6.0nm,1.2s
CLL Collm 10.81 338 *e*P **Pn 02 12 05.0 +2.4**
CABF La Chapelle 10.94 303 *e*Pn **Pn 02 12 04.0 -0.4**
CABF *e*Sn **Sn 02 14 01.5 -4.9**
comp=Z,1.8nm,0.3s
HINF Hinteralfeld 11.01 309 *e*Pn **Pn 02 12 05.5 0.0**
CDF Champ du Feu 11.09 313 *e*Pn **Pn 02 12 07.0 +0.4**
HAU Haudompre 11.40 309 *e*Pn **Pn 02 12 11.0 +0.2**
AKASG Malin Array Be 11.42 33 LR LR 02 16 53.4
comp=Z,50nm,18.2s,baz=164,slow=39
SMF Signal de Mont 12.39 300 *e*Pn **Pn 02 12 21.4 -2.9**
SMF *e*Sn Sn 02 14 32.2 -10
comp=Z,10nm,0.5s
LOR Lormes 12.60 303 *e*Pn **Pn 02 12 26.4 -0.7**
LOR *e*Sn Sn 02 14 37.9 -9.1
comp=Z,5.5nm,0.3s
SSF Saint Saulge 12.75 301 *e*Sn Sn 02 14 39.8 -11
comp=Z,4.0nm,0.5s
AVF Avril sur Loir 12.76 300 *e*Pn **Pn 02 12 27.3 -1.9**
BGF Bois d'Agland 13.02 299 *e*Pn **Pn 02 12 32.3 -0.5**
BGF *e*Sn **Sn 02 14 49.4 -7.8**
comp=Z,3.8nm,0.4s
HNTI Hanita 15.01 119 P **P 02 13 11.1 +5.7**
MMA0 Mount Meron ar 15.20 119 P **Pn 02 13 04.7 +2.1**
BLGI Bet Lehem HaGe 15.24 120 P **P 02 13 08.1 +0.2**
GEM Giv'at Ha'Em 15.25 118 P **P 02 13 10.9 +2.8**
NATI Neve Ativ 15.27 117 P **P 02 13 10.0 +1.7**
SHMJ Saham 15.62 119 P Pn 02 13 00.0 -8.0
QRNJ Al-Qirein 15.74 120 P **Pn 02 13 06.6 -3.0**
HMDT Nahal Hemdat 15.76 121 P P 02 13 21.4 +7.7
VSU Vasula 17.61 13*d i*P **P 02 13 34.2 +0.2**
VSU pmax pmax
comp=Z,8.0nm,0.8s
OBN Obninsk 17.68 34⇑ *i*P **Pn 02 13 34.3 +0.3**
OBN pmax pmax
comp=Z,7.0nm,0.9s
HFS Hagfors 19.03 351 P **P 02 13 48.8 -0.8**
comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=8.3
HFS LR LR 02 21 30.2
comp=Z,38nm,18.3s,baz=158,slow=38
comp=Z,4.5nm,0.8s
NORES NORESS Array B 19.90 348 P **P 02 13 59.1 0.0**
NB2 NORSAR Subarra 20.24 348 P **P 02 14 02.3 -0.6**
comp=Z,0.6nm,0.7s,baz=162,slow=11
NB2 NORSAR Subarra 20.24 348 P **P 02 14 03.3 +0.4**
NOA NORSAR Array B 20.24 348 P **P 02 14 01.7 -1.1**
comp=Z,0.5nm,0.8s,baz=152,slow=10.0,SNR=8.4
comp=Z,0.5nm,0.8s
EKA Eskdalemuir Ar 20.34 321 P **P 02 14 04.4 +0.5**
comp=Z,0.8nm,0.6s,baz=110,slow=9.6,SNR=6.0
comp=Z,0.8nm,0.6s
FINES FINESS Array B 20.39 9 P **P 02 14 03.4 -1.1**
comp=Z,2.8nm,0.4s,baz=171,slow=10,SNR=38
FINES LR LR 02 23 00.6
comp=Z,58nm,18.2s,baz=185,slow=40
comp=Z,2.8nm,0.4s
VALR Valaam 21.08 15 *i*P **P 02 14 10.0 -1.9**
VALR pmax pmax
comp=Z,10.0nm,1.1s
BELG Belogornoye 21.95 51⇑ *e*P **P 02 14 20.4 -0.9**
BELG pmax pmax
comp=Z,2.0nm,1.0s
KLMR Klimovskoe 22.93 25 *e*P **P 02 14 27.2 -4.5**
KLMR pmax pmax
comp=Z,12nm,1.4s
ARCES ARCESS Array B 28.30 4 P **P 02 15 19.5 -1.5**
comp=Z,0.6nm,0.7s,baz=193,slow=10,SNR=5.5
comp=Z,0.6nm,0.7s
BRVK Borovoye 35.63 53⇑ *e*P **P 02 16 26.1 +0.7**
BRVK pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 35.69 53 P **P 02 16 26.1 +0.1**
comp=Z,0.6nm,0.5s,baz=292,slow=4.0,SNR=3.9
comp=Z,0.6nm,0.5s
ZALV Zalesovo Beam 44.14 50 P **P 02 17 35.8 -0.3**
comp=Z,1.2nm,0.5s,baz=281,slow=9.7,SNR=8.2
comp=Z,1.2nm,0.5s
ZALV Zalesovo Beam 44.14 50 *i*P **P 02 17 35.7 -0.3**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 44.32 61*ce*P **P 02 17 37.4 -0.3**
MKAR Makanchi Array 44.32 61 P **P 02 17 37.6 -0.1**
comp=Z,1.6nm,0.7s,baz=283,slow=6.8,SNR=12
comp=Z,1.6nm,0.7s
MKAR Makanchi Array 44.32 61*ce*P **P 02 17 37.4 -0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 59.00 52 P **P 02 19 27.4 -0.1**
comp=Z,0.3nm,0.3s,baz=304,slow=6.2,SNR=3.0
comp=Z,0.3nm,0.3s
FFC Flin Flon 71.96 329 *i*P **P 02 20 53.9 +2.9**

RSPR ***05*** *02:11:27.6, 18°.43N×64°.53W, h98km±2km, MD3.5/22*
NEIC ***05*** *02:11:27.8±0.5, 18°.5N±0°.3×64°.52W±0°.06, h87km±16km, ML3.4/34, Md3.5/22(RSPR), Error ellipse: s-maj=38.2km s-min=5.3km az=189.0*

ISC 05 02:11:26.9±1.4, 18°.5N±0°.1×64°.51W±0°.04, h100km, n74, σ0965/80, 7C-12D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.32 255**⇑		*e*P	**Pn**	**02 11 51.1**	**+0.2**
HUMP	**Col San Antoni**	**1.32 255**		*e*S	**Sn**	**02 12 09.4**	**+0.3**
HUMP	**Col San Antoni**	**1.32 255**			**Pn**	**02 11 51.1**	**+0.2**
HUMP					**Sn**	**02 12 09.4**	**+0.3**
HUMP	**Col San Antoni**	**1.32 255**		IAML		02 12 13.4	
	comp=E,395nm,0.2s						
HUMP				IAML		02 12 15.5	
	comp=N,392nm,0.2s						
SMRT	**St. Maarten**	**1.44 108**⇑		*e*P	**Pn**	**02 11 52.8**	**+0.4**
SMRT	**St. Maarten**	**1.44 108**		*e*S	**Sn**	**02 12 11.6**	**-0.1**
SMRT	**St. Maarten**	**1.44 108**			**Pn**	**02 11 52.8**	**+0.4**
SMRT					**Sn**	**02 12 11.6**	**-0.1**
SABA	**Saba**	**1.49 125**‖		*e*P	**Pn**	**02 11 53.5**	**+0.5**
SABA	**Saba**	**1.49 125**		*e*S	**Sn**	**02 12 12.7**	**-0.1**
SABA	**Saba**	**1.49 125**			**Sn**	**02 12 12.7**	**-0.1**
SABA	**Saba**	**1.49 125**			**Pn**	**02 11 53.5**	**+0.5**
SABA				IAML		02 12 16.8	
	comp=N,450nm,0.3s						
SABA	**Saba**	**1.49 125**		IAML		02 12 10.6	
	comp=E,4μm,0.5s						
GCPR	**Guaynabo City**	**1.50 263**‖		*e*P	**Pn**	**02 11 53.0**	**-0.2**
GCPR	**Guaynabo City**	**1.50 263**		*e*S	**Sn**	**02 12 12.4**	**-0.7**
GCPR	**Guaynabo City**	**1.50 263**			**Pn**	**02 11 53.0**	**-0.2**
GCPR					**Sn**	**02 12 12.4**	**-0.7**
GCPR	**Guaynabo City**	**1.50 263**		IAML		02 12 15.1	
	comp=N,195nm,0.2s						
GCPR				IAML		02 12 16.9	
	comp=E,212nm,0.3s						
SJG	**San Juan**	**1.60 257**‖		*e*P	**Pn**	**02 11 54.5**	**+0.1**
SJG	**San Juan**	**1.60 257**		*e*S	**Sn**	**02 12 15.3**	**+0.1**
SJG	**San Juan**	**1.60 257**			**Pn**	**02 11 54.5**	**+0.1**
SJG	**San Juan**	**1.60 257**		IAML		02 12 16.3	
	comp=E,212nm,0.5s						
SJG				IAML		02 12 19.8	
	comp=E,216nm,0.2s						
SJG	**San Juan**	**1.60 257**		*e*P	**Pn**	**02 11 54.4**	**0.0**
IGPR	**InterUniversit**	**1.60 251**‖		*e*P	**Pn**	**02 11 54.6**	**+0.2**
IGPR	**InterUniversit**	**1.60 251**		*e*S	**Sn**	**02 12 14.6**	**-0.7**
IGPR	**InterUniversit**	**1.60 251**			**Pn**	**02 11 54.6**	**+0.2**
IGPR					**Sn**	**02 12 14.6**	**-0.7**
IGPR	**InterUniversit**	**1.60 251**		IAML		02 12 19.7	
	comp=N,369nm,0.3s						
IGPR				IAML		02 12 20.5	
	comp=E,486nm,0.3s						
EMPR	**Esperanza - Ma**	**1.91 270**‖		*e*P	**Pn**	**02 11 58.7**	**+0.3**
EMPR	**Esperanza - Ma**	**1.91 270**		*e*S	**Sn**	**02 12 22.9**	**+0.6**
EMPR	**Esperanza - Ma**	**1.91 270**			**Pn**	**02 11 58.7**	**+0.3**
EMPR					**Sn**	**02 12 22.9**	**+0.6**
EMPR	**Esperanza - Ma**	**1.91 270**		IAML		02 12 28.5	
	comp=E,242nm,0.3s						
EMPR				IAML		02 12 33.5	
	comp=N,204nm,0.5s						
CELP	**Cerrillos**	**2.01 258**⇑		*e*P	**Pn**	**02 11 59.7**	**+0.2**
CELP	**Cerrillos**	**2.01 258**		*e*S	**Sn**	**02 12 24.3**	**-0.2**
CELP	**Cerrillos**	**2.01 258**			**Pn**	**02 11 59.7**	**+0.2**
CELP					**Sn**	**02 12 24.3**	**-0.2**
OBIP	**Obispado Ponce**	**2.04 258**‖		*e*P	**Pn**	**02 12 00.2**	**+0.2**
OBIP	**Obispado Ponce**	**2.04 258**		*e*S	**Sn**	**02 12 25.0**	**-0.2**
OBIP	**Obispado Ponce**	**2.04 258**			**Pn**	**02 12 00.2**	**+0.2**
OBIP					**Sn**	**02 12 25.0**	**-0.2**
UUPR	**Utuado, UPR, P**	**2.11 264**⇑		*e*P	**Pn**	**02 12 01.0**	**+0.1**
UUPR	**Utuado, UPR, P**	**2.11 264**		*e*S	**Sn**	**02 12 27.4**	**+0.5**
UUPR	**Utuado, UPR, P**	**2.11 264**			**Pn**	**02 12 01.0**	**+0.1**
UUPR					**Sn**	**02 12 27.4**	**+0.5**
AOPR	**Arecibo Observ**	**2.13 266**⇑		*e*P	**Pn**	**02 12 01.5**	**+0.3**
AOPR	**Arecibo Observ**	**2.13 266**		*e*S	**Sn**	**02 12 27.1**	**-0.4**
AOPR	**Arecibo Observ**	**2.13 266**			**Pn**	**02 12 01.5**	**+0.3**
AOPR					**Sn**	**02 12 27.1**	**-0.4**
AOPR	**Arecibo Observ**	**2.13 266**		IAML		02 12 36.2	
	comp=N,312nm,0.3s						
AOPR	**Arecibo Observ**	**2.13 266**		*e*P	**Pn**	**02 12 02.3**	**+1.1**
AOPR				*e*S	**Sn**	**02 12 28.3**	**+0.9**
GBPR	**Guanica, Bosqu**	**2.31 257**⇑		*e*P	**Pn**	**02 12 03.8**	**+0.3**
GBPR	**Guanica, Bosqu**	**2.31 257**		*e*S	**Sn**	**02 12 31.0**	**-0.4**
GBPR	**Guanica, Bosqu**	**2.31 257**			**Pn**	**02 12 03.8**	**+0.3**
GBPR					**Sn**	**02 12 31.0**	**-0.4**
MLPR	**Magueyes Islan**	**2.46 258**‖		*e*P	**Pn**	**02 12 05.2**	**-0.2**
MLPR	**Magueyes Islan**	**2.46 258**		*e*S	**Sn**	**02 12 34.4**	**-0.7**
MLPR	**Magueyes Islan**	**2.46 258**			**Pn**	**02 12 05.2**	**-0.2**
LSP	**Las Mesas**	**2.46 263**‖		*e*P	**Pn**	**02 12 05.8**	**+0.3**
LSP	**Las Mesas**	**2.46 263**		*e*S	**Sn**	**02 12 35.8**	**+0.6**
LSP	**Las Mesas**	**2.46 263**			**Pn**	**02 12 05.8**	**+0.3**
LSP					**Sn**	**02 12 35.8**	**+0.6**
AGPR	**Aguadilla, PR**	**2.47 270**‖		*e*P	**Pn**	**02 12 05.4**	**-0.1**
AGPR	**Aguadilla, PR**	**2.47 270**		*e*S	**Sn**	**02 12 35.0**	**-0.2**
AGPR	**Aguadilla, PR**	**2.47 270**			**Pn**	**02 12 05.4**	**-0.1**
AGPR					**Sn**	**02 12 35.0**	**-0.2**
AGPR	**Aguadilla, PR**	**2.47 270**		IAML		02 12 39.0	
	comp=E,149nm,0.5s						
AGPR				IAML		02 12 44.3	
	comp=N,142nm,1.3s						
CRPR	**Cabo Rojo, PR**	**2.51 259**‖		*e*P	**Pn**	**02 12 06.1**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.51 259**		*e*S	**Sn**	**02 12 35.9**	**-0.4**
CRPR	**Cabo Rojo, PR**	**2.51 259**			**Pn**	**02 12 06.1**	**-0.1**
CRPR					**Sn**	**02 12 35.9**	**-0.4**
PRSN	**Puerto Rico Se**	**2.51 264**‖		*e*P	**Pn**	**02 12 06.5**	**+0.3**
PRSN	**Puerto Rico Se**	**2.51 264**		*e*S	**Sn**	**02 12 36.0**	**-0.4**
PRSN	**Puerto Rico Se**	**2.51 264**			**Pn**	**02 12 06.5**	**+0.3**
PRSN					**Sn**	**02 12 36.0**	**-0.4**
PRSN	**Puerto Rico Se**	**2.51 264**		IAML		02 12 40.2	
	comp=E,250nm,0.3s						
PRSN				IAML		02 12 40.8	
	comp=N,304nm,0.3s						
MBFL	**Flemmings, Mon**	**2.80 128**		*e*P	**Pn**	**02 12 09.7**	**-0.2**
ANBD	**Bethesda, Anti**	**2.99 118**		*e*P	**Pn**	**02 12 11.6**	**-0.9**
ANBD				*e*S	**Sn**	**02 12 44.9**	**-2.7**
PCDR	**Punta Cana, DR**	**3.67 271**‖		*e*P	**Pn**	**02 12 22.6**	**+1.0**
PCDR	**Punta Cana, DR**	**3.67 271**			**Pn**	**02 12 22.6**	**+1.0**
PCDR	**Punta Cana, DR**	**3.67 271**		IAML		02 14 53.4	
	comp=E,94nm,2.7s						
CBE	**Ff, Capester**	**3.68 131**			**Pn**	**02 12 22.3**	**+0.5**
CBE					**Sn**	**02 13 05.2**	**+1.0**
CBE	**Ff, Capester**	**3.68 131**		IAML		02 14 32.4	
	comp=N,161nm,2.0s						
SDDR	**Presa de Saban**	**6.44 275**‖		*e*P	**Pn**	**02 12 59.2**	**0.0**
SDDR	**Presa de Saban**	**6.44 275**		*e*S	**Sn**	**02 14 08.1**	**-3.2**
SDDR	**Presa de Saban**	**6.44 275**			**Pn**	**02 12 59.2**	**0.0**
SDDR	**Presa de Saban**	**6.44 275**		*e*P	**Pn**	**02 12 59.0**	**-0.2**

IDC ***05*** *02:24:22.4±1.3, 39°.71N×20°.84E, h0km, mb3.4/5, mbtmp3.5/8, ML3.2/2, MS2.9/3, Error ellipse: s-maj=27.2km s-min=19.1km az=91.0*
ATH ***05*** *02:24:23.4, 39°.80N×20°.71E, h11km±3km, ML3.3/12, Manual Solution by M.Papanikolaou This location: 2020/06/28 20:54:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
THE ***05*** *02:24:24.6, 39°.78N×20°.76E, h0km±1km, ML3.2/19, Error ellipse: s-maj=1.8km s-min=0.6km az=298.0*
NAO ***05*** *02:24:30.2, 40°.61N×24°.08E, h33km, mb3.3*

ISC 05 02:24:24.3±0.8, 39°.78N±0°.02×20.76E±0°.02, h11km±6km, n122, σ1°37/149, mb3.4/4, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.14 149**		P	**Pg**	**02 24 27.8**	**+0.2**
JAN				S	**Sg**	**02 24 29.8**	**-0.2**
	164μm,0.3s						
JAN	**Janina**	**0.14 149**		P	**Pg**	**02 24 27.9**	**+0.3**
JAN				S	**Sg**	**02 24 30.4**	**+0.5**
KPRO	**Kipourio**	**0.50 69**		P	**Pg**	**02 24 33.2**	**-0.8**
KPRO				S	**Sb**	**02 24 41.7**	**-0.7**
	5μm,0.6s						
KPRO	**Kipourio**	**0.50 69**		P	**Pg**	**02 24 33.3**	**-0.7**
KPRO				S	**Sb**	**02 24 41.3**	**-1.1**
PENT	**Pentalofos**	**0.51 35**		P	**Pg**	**02 24 33.5**	**-0.7**
PENT				S	**Sb**	**02 24 42.1**	**-0.7**
PENT	**Pentalofos**	**0.51 35**		P	**Pg**	**02 24 33.6**	**-0.7**
PENT				S	**Sg**	**02 24 41.0**	**-0.1**
SRN	**Sarande**	**0.59 280**		P	**Pg**	**02 24 34.3**	**-1.5**
SRN				S	**Sb**	**02 24 44.4**	**-0.6**
	1μm,0.7s						
KASA	**Kassiopi**	**0.64 267**		P	**Pg**	**02 24 35.2**	**-1.4**
NEST	**Nestorio**	**0.67 19**		P	**Pg**	**02 24 36.7**	**-0.7**
NEST				S	**Sb**	**02 24 47.8**	**+0.3**
	575nm,0.5s						
NEST	**Nestorio**	**0.67 19**		P	**Pg**	**02 24 36.6**	**-0.7**
NEST				S	**Sg**	**02 24 45.5**	**-0.7**
KBN	**Korca**	**0.85 1**		P	**Pg**	**02 24 40.0**	**-0.6**
KBN				S	**Sb**	**02 24 53.0**	**+0.6**
	668nm,0.8s						
TSLK	**Tsoukalades, L**	**0.95 185**		P	**Pg**	**02 24 41.9**	**-0.7**
TSLK				S	**Sb**	**02 24 56.6**	**+1.2**
	1μm,0.6s						
TSLK	**Tsoukalades, L**	**0.95 185**		P	**Pb**	**02 24 42.3**	**-0.5**
LKD2	**Lefkada island**	**0.99 185**		P	**Pg**	**02 24 42.4**	**-0.9**
LKD2				S	**Sn**	**02 24 58.5**	**+0.4**
	1μm,0.7s						
LKD2	**Lefkada island**	**0.99 185**		P	**Pg**	**02 24 42.2**	**-1.1**
THL	**Klokotos Trika**	**0.99 102**		P	**Pg**	**02 24 42.8**	**-0.6**
THL				S	**Sn**	**02 24 58.1**	**0.0**
	512nm,0.7s						
THL	**Klokotos Trika**	**0.99 102**		P	**Pg**	**02 24 42.5**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.06 183**		P	**Pg**	**02 24 43.7**	**-1.0**
NYDR	**Nydri-Lefkada**	**1.06 183**		P	**Pg**	**02 24 43.3**	**-1.4**
FNA	**Florina**	**1.11 25**		P	**Pg**	**02 24 44.5**	**-1.1**
FNA				S	**Sn**	**02 25 01.5**	**+0.4**
	722nm,0.7s						
FNA	**Florina**	**1.11 25**		P	**Pg**	**02 24 44.0**	**-1.6**
TYRN	**Tyrnavos**	**1.14 93**		P	**Pg**	**02 24 44.7**	**-1.4**
TYRN				S	**Sn**	**02 25 02.1**	**+0.4**
	988nm,0.5s						
TYRN	**Tyrnavos**	**1.14 93**		P	**Pg**	**02 24 45.5**	**-0.7**
EVGI	**Lefkada island**	**1.16 184**		P	**Pg**	**02 24 44.8**	**-1.7**
EVGI				S	**Sn**	**02 25 03.1**	**+0.9**
	1μm,0.6s						
EVGI	**Lefkada island**	**1.16 184**		P	**Pg**	**02 24 45.0**	**-1.5**
EVGI				S	**Sb**	**02 25 01.8**	**+0.5**
EVR	**Evrytania**	**1.18 136**		P	**Pb**	**02 24 46.6**	**-0.2**
EVR				S	**Sn**	**02 25 03.5**	**+0.5**
	1μm,0.6s						
EVR	**Evrytania**	**1.18 136**		P	**Pb**	**02 24 46.8**	**0.0**
VLO	**Vlora**	**1.19 306**		P	**Pn**	**02 24 47.8**	**+1.0**
VLO				S	**Sn**	**02 25 05.7**	**+2.8**
	2μm,0.7s						
LRSO	**Larissa Observ**	**1.26 94**		P	**Pn**	**02 24 48.2**	**+0.4**
LRSO	**Larissa Observ**	**1.26 94**		P	**Pg**	**02 24 47.8**	**-0.8**
PVO	**Paravola**	**1.30 153**		P	**Pb**	**02 24 48.7**	**0.0**
PVO				S	**Sn**	**02 25 07.3**	**+1.6**
PVO	**Paravola**	**1.30 153**		P	**Pg**	**02 24 48.2**	**-1.1**
MAKR	**Makrakomi, Fth**	**1.31 125**		P	**Pg**	**02 24 48.5**	**-0.9**
MAKR				S	**Sn**	**02 25 08.1**	**+2.1**
	3μm,0.8s						
MAKR	**Makrakomi, Fth**	**1.31 125**		P	**Pg**	**02 24 48.4**	**-0.9**
OHR	**Ohrid**	**1.33 1**	*i* Pg		**Pn**	**02 24 51.4**	**+2.6**
OHR			*i* Sg		**Sn**	**02 25 11.1**	**+4.5**
LIT	**Litokhoron**	**1.37 76**		P	**Pb**	**02 24 50.1**	**+0.2**
LIT				S	**Sn**	**02 25 09.3**	**+1.9**
	572nm,0.5s						
AGG	**Agios Georgios**	**1.43 121**		P	**Pn**	**02 24 50.2**	**0.0**
AGG				S	**Sn**	**02 25 11.6**	**+2.6**
	818nm,0.6s						
AGG	**Agios Georgios**	**1.43 121**		P	**Pn**	**02 24 50.1**	**-0.1**
ANX	**Ano Chora**	**1.49 142**		P	**Pn**	**02 24 51.6**	**+0.6**
ANX	**Ano Chora**	**1.49 142**		P	**Pn**	**02 24 50.9**	**-0.1**
DMLN	**Damoulianata-K**	**1.57 191**		P	**Pn**	**02 24 52.6**	**+0.6**
VLS	**Valsamata**	**1.60 185**		P	**Pn**	**02 24 52.7**	**+0.2**
VLS	**Valsamata**	**1.60 185**		P	**Pn**	**02 24 52.9**	**+0.4**
EFP	**Efpalio**	**1.62 146**		P	**Pg**	**02 24 54.2**	**-1.1**
EFP				S	**Sg**	**02 25 16.1**	**-0.2**
	1μm,0.6s						
EFP	**Efpalio**	**1.62 146**		P	**Pn**	**02 24 53.5**	**+0.8**
PSDA	**Pessada-Kefalo**	**1.67 185**		P	**Pn**	**02 24 54.0**	**+0.7**
PSDA				S	**Sg**	**02 25 16.9**	**-0.9**
	738nm,0.6s						
RTZL	**Ratzakli, Kefa**	**1.70 180**		P	**Pn**	**02 24 54.2**	**+0.4**
RTZL				S	**Sg**	**02 25 18.3**	**-0.6**
TIR	**Tirane**	**1.71 337**		P	**Pg**	**02 24 56.8**	**-0.3**
KALE	**Kalithea**	**1.75 142**		P	**Pb**	**02 24 56.4**	**0.0**
KALE				S	**Sg**	**02 25 19.4**	**-1.2**
	685nm,0.8s						
AXAR	**Agios Charalam**	**1.79 124**		P	**Pg**	**02 24 57.3**	**-1.2**
RLS	**Riolos of Patr**	**1.80 162**		P	**Pb**	**02 24 57.4**	**+0.1**
ALIK	**Aliki, Aigiali**	**1.84 145**		P	**Pg**	**02 24 58.7**	**-0.9**
NEO	**Neokhori**	**1.96 103**		P	**Pb**	**02 24 59.2**	**-0.8**
HORT	**Hortiatis**	**1.97 65**		P	**Pn**	**02 24 58.0**	**+0.4**
KLV	**Kalavryta, Ach**	**2.04 147**		P	**Pb**	**02 25 00.7**	**-0.7**
LTHK	**Lithakía**	**2.07 178**		P	**Pn**	**02 25 00.2**	**+1.4**
KNT	**Kendrikon**	**2.14 49**		P	**Pn**	**02 25 01.3**	**+1.4**
PLG	**Polygyros**	**2.15 73**		P	**Pn**	**02 25 01.6**	**+1.6**
STIP	**Stip**	**2.20 29**	*i* Pn		**Pg**	**02 25 06.2**	**-0.2**
GUR	**Goura**	**2.21 146**		P	**Pb**	**02 25 03.5**	**-0.9**
OUR	**Ouranopolis**	**2.54 76**		P	**Pn**	**02 25 05.3**	**0.0**
VILL	**Villia**	**2.56 128**		P	**Pb**	**02 25 08.2**	**-2.0**
DRME	**Dracevica, Mon**	**2.69 334**	*e*Pn		**Pn**	**02 25 09.3**	**+1.9**
KOKK	**Kokkinochori,**	**2.69 66**	P		**Pn**	**02 25 09.0**	**+1.6**
PDG	**Podgorica**	**2.88 337**	*e*Pn		**Pn**	**02 25 11.8**	**+1.7**
KRND	**KRANIDI**	**3.04 141**	P		**Pn**	**02 25 14.9**	**+2.7**
VLY	**Voula,Athens**	**3.05 128**	P		**Pn**	**02 25 13.8**	**+1.4**
HCY	**Herceg Novi**	**3.17 328**	*e*Pn		**Pn**	**02 25 14.8**	**+0.8**
TREB	**Trebinje**	**3.45 329**	*e*Pn		**Pn**	**02 25 19.0**	**+1.1**
DBRK	**Dubrovnik**	**3.50 327**	*e*Pn		**Pn**	**02 25 19.6**	**+1.1**
VLI	**Veliai**	**3.50 150**	P		**Pn**	**02 25 20.4**	**+1.8**
SJES	**Sjenica**	**3.53 351**	*e*Pn		**Pn**	**02 25 22.0**	**+2.9**
BRY	**Bratogost**	**3.54 333**	*e*Pn		**Pn**	**02 25 18.8**	**-0.5**
STON	**Ston**	**3.85 324**	*e*Pn		**Pn**	**02 25 23.2**	**-0.2**
RUDO	**Rudo**	**3.98 345**	*e*Pn		**Pn**	**02 25 25.5**	**+0.4**
BBLS	**Lazi&#263i**	**4.21 347**	*e*Pn		**Pb**	**02 25 34.8**	**-3.5**
MAKA	**Makarska**	**4.49 323**	*e*Pn		**Pn**	**02 25 33.2**	**+1.0**
MAKA					**Sn**	**02 26 24.9**	**+0.6**
HAPS	**Han Pijesak,Bl**	**4.51 343**	*e*Pn		**Pn**	**02 25 34.4**	**+1.8**
RICI	**Ricice**	**4.60 325**	*e*Pn		**Pn**	**02 25 34.5**	**+0.7**
HVAR	**Hvar**	**4.69 318**	*e*Pn		**Pn**	**02 25 35.4**	**+0.4**
TEKS	**Tekeris**	**4.86 350**	*e*Pn		**Pn**	**02 25 37.9**	**+0.7**
FRGS	**Fruska Gora**	**5.42 353**	*e*Pn		**Pn**	**02 25 43.6**	**-1.4**
ZIRJ	**Zirje**	**5.45 317**	*i* Pn		**Pn**	**02 25 45.6**	**+0.3**
IDI	**Anoyia**	**5.55 142**	Pn		**Pn**	**02 25 47.0**	**+0.1**
	3.7nm,0.7s,baz=27,slow=18,SNR=4.4						
IDI					**Sn**	**02 26 49.5**	**-1.2**
	1.6nm,0.3s,baz=90,slow=21,SNR=7.9						
BLY	**Banja Luka**	**5.63 333**	*e*Pn		**Pn**	**02 25 47.2**	**-0.6**
A050A	**Klekovaca**	**5.65 328**	*e*Pn		**Pn**	**02 25 49.7**	**+1.5**
DUGI	**Dugi Otok**	**5.99 317**	*e*Pn		**Pn**	**02 25 53.5**	**+0.8**
UDBI	**Udbina**	**6.03 324**	*e*Pn		**Pn**	**02 25 55.2**	**+1.9**
VIRC	**Vir**	**6.20 319**	*e*Pn		**Pn**	**02 25 56.3**	**+0.7**
PLIT	**Plitvice**	**6.36 325**	*e*Pn		**Pn**	**02 25 59.4**	**+1.5**
NVLJ	**Novalja**	**6.48 319**	*e*Pn		**Pn**	**02 25 59.6**	**+0.2**
RABC	**Rab**	**6.66 320**	*e*Pn		**Pn**	**02 26 02.0**	**+0.1**
MLR	**Muntele Rosu**	**6.87 32**	Pn		**Pn**	**02 26 07.2**	**+2.2**
	0.2nm,0.3s,baz=128,slow=12,SNR=2.4						
	1.2nm,0.4s						
BOJS	**Bojanci**	**7.01 326**	*e*Pn		**Pn**	**02 26 07.5**	**+0.7**
CRES	**Cresnjev**	**7.19 329**	*e*Pn		**Pn**	**02 26 09.0**	**-0.3**
BRJN	**Brijuni**	**7.29 317**	*e*Pn		**Pn**	**02 26 11.6**	**+1.0**
CEY	**Cerknica**	**7.56 324**	*e*Pn		**Pn**	**02 26 14.8**	**+0.4**
SKDS	**Skadanscina**	**7.61 321**	*e*Pn		**Pn**	**02 26 13.4**	**-1.6**
SOKA	**Soboth**	**8.06 331**	*i* Pn		**Pn**	**02 26 22.1**	**+0.8**
	1.2nm,0.4s						
OBKA	**Obir**	**8.11 328**	*i* Pn

az=89.0
*IDC **05** 02:45:47.8±1.5, 30°.21S×177°.89W, h46km±13km, mb4.2/12, mbtmp4.4/12, MS3.4/9, Error ellipse: s-maj=20.6km s-min=13.6km az=102.0*
ISC 05 02:45:46.5±0.4, 30°.36S±0°.05×177°.94W±0°.09, h35km, n128, σ2§07/138, mb4.9/33, MS3.6/8, 5C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.09**	**1**	**P**	**Pn**	**02 46 05.4**	**+0.1**
GLKZ				S	**Sn**	**02 46 18.0**	**-1.2**
RAO	**Raoul Island**	**1.10**	**1**		**Pn**	**02 46 05.0**	**-0.4**
RAO				Sn	**Sn**	**02 46 16.9**	**-2.5**
RAO	**Raoul Island**	**1.10**	**1**	P	**Pn**	**02 46 05.1**	**-0.4**
	707nm,0.2s,baz=97,slow=12,SNR=16						
RAO				S	**Sn**	**02 46 17.8**	**-1.6**
	5μm,0.2s,baz=176,slow=19,SNR=19						
MXZ	**Matakaoa Point**	**7.83**	**202**	P	**Pn**	**02 47 34.0**	**-3.9**
MXZ				S	**Sn**	**02 49 03.2**	**-2.2**
WMGZ	**Waiomatatini S**	**8.03**	**201**	P	Pn	02 47 35.7	-5.0
PKGZ	**Pakihiroa**	**8.18**	**203**	P	**Pn**	**02 47 39.0**	**-3.7**
PKGZ				S	**Sn**	**02 49 09.0**	**-5.0**
HAZ	**Te Kaha**	**8.19**	**205**	P	**Pn**	**02 47 40.3**	**-2.5**
HAZ				S	**Sn**	**02 49 14.7**	**+0.6**
RUGZ	**Raukumara Rang**	**8.41**	**204**	P	**Pn**	**02 47 43.4**	**-2.6**
RUGZ				S	**Sn**	**02 49 17.7**	**-2.1**
TWGZ	**Tauwhareparae**	**8.50**	**202**	P	**Pn**	**02 47 44.1**	**-3.0**
TWGZ				S	**Sn**	**02 49 18.2**	**-3.6**
WCZ	**Waipu Caves**	**8.53**	**227**	P	Pn	02 47 55.7	+8.2
WHRZ	**Whale Island**	**8.58**	**208**	S	**Sn**	**02 49 23.6**	**-0.2**
OUZ	**Omahuta**	**8.62**	**234**	P	Pn	02 47 55.9	+7.2
CNGZ	**Carnagh Statio**	**8.71**	**200**	P	**Pn**	**02 47 47.2**	**-2.7**
CNGZ				S	**Sn**	**02 49 21.9**	**-5.0**
TKGZ	**Te Karaka**	**8.78**	**202**	P	**Pn**	**02 47 50.1**	**-0.8**
TKGZ				S	**Sn**	**02 49 25.6**	**-3.0**
MWZ	**Matawai**	**8.79**	**204**	P	**Pn**	**02 47 47.7**	**-3.5**
MWZ				S	**Sn**	**02 49 26.1**	**-3.0**
URZ	**Urewera**	**8.88**	**206**	P	**Pn**	**02 47 48.6**	**-3.6**
	2.7nm,0.3s,baz=122,slow=9.5,SNR=16						
URZ				S	**Sn**	**02 49 24.6**	**-6.5**
	33nm,0.4s,baz=296,slow=21,SNR=17						
RAGZ	**Rawiri**	**8.98**	**204**	P	**Pn**	**02 47 51.3**	**-2.4**
RAGZ				S	**Sn**	**02 49 31.1**	**-2.5**
RIGZ	**Rimuhau**	**9.05**	**202**	P	**Pn**	**02 47 52.3**	**-2.4**
RIGZ				S	**Sn**	**02 49 30.7**	**-4.6**
MUGZ	**Murupara**	**9.20**	**207**	P	**Pn**	**02 47 53.1**	**-3.7**
PRGZ	**Paritu Road**	**9.21**	**201**	P	Pn	02 47 50.4	-6.5
PRGZ				S	**Sn**	**02 49 33.9**	**-5.3**
RTZ	**Ruatahuna**	**9.24**	**206**	P	Pn	02 47 49.3	-8.1
MHGZ	**Mahia Peninsul**	**9.41**	**200**	P	**Pn**	**02 47 55.6**	**-4.0**
NNZ	**Nelson**	**12.91**	**211**	Pn	**Pn**	**02 48 51.0**	**+3.5**
THZ	**Tophouse**	**13.57**	**210**	Pn	**Pn**	**02 48 54.9**	**-1.6**
KHZ	**Kahutara**	**13.84**	**207**	Pn	**Pn**	**02 48 57.9**	**-2.2**
INZ	**Inchbonnie**	**14.99**	**212**	Pn	**Pn**	**02 49 17.4**	**+1.8**
RPZ	**Rata Peaks**	**15.95**	**210**	P	**Pn**	**02 49 24.9**	**-3.3**
	2.8nm,0.3s,baz=49,slow=9.3,SNR=1.4						
RPZ				S	Sn	02 52 08.3	-15
	4.9nm,0.4s,baz=101,slow=16,SNR=2.5						
RPZ				LR	LR	02 54 24.3	
	comp=Z,159nm,20.7s,baz=174,slow=32						
DZM	**Mont Dzumac**	**16.25**	**297**	LR	LR	02 54 29.3	
	comp=Z,200nm,20.9s,baz=148,slow=32						
WKZ	**Wanaka**	**17.73**	**212**	P	**P**	**02 49 52.5**	**+1.4**
WKZ				IAmb	IAmb	02 49 58.0	
	comp=Z,175nm,1.8s						
EIDS	**Eidsvold**	**27.78**	**273**	P	**P**	**02 51 34.8**	**+2.5**
EIDS				IAmb	IAmb	02 51 35.4	
	comp=Z,45nm,1.8s						
CAN	**Canberra**	**28.14**	**251**	P	**P**	**02 51 37.9**	**+2.5**
PPT	**Papeete**	**28.79**	**70**	LR	LR	03 01 30.0	
	comp=Z,200nm,19.4s,baz=234,slow=33						
HNR	**Honiara**	**29.31**	**311**	LR	LR	03 01 34.8	
	comp=Z,1μm,18.8s,baz=44,slow=32						
CTA	**Charters Tower**	**33.84**	**279**	P	**P**	**02 52 26.7**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=103,slow=10,SNR=23						
CTA				LR	LR	03 04 03.3	
	comp=Z,8.5nm,20.3s,baz=107,slow=32						
	comp=Z,1.4nm,0.7s						
CTAO	**Charters Tower**	**33.84**	**279**	P	**P**	**02 52 26.0**	**+0.2**
CTAO				IAmb	IAmb	02 52 29.0	
	comp=Z,18nm,0.6s						
CTAO	**Charters Tower**	**33.84**	**279**	P	**P**	**02 52 28.4**	**+2.6**
CTAO				pP	**sP**	**02 52 38.9**	**-0.4**
CTAO				sP	**pwP**	**02 52 43.7**	**+5.9**
STKA	**Stephens Creek**	**34.54**	**257**	P	**P**	**02 52 33.8**	**+2.0**
STKA	**Stephens Creek**	**34.54**	**257**	P	**P**	**02 52 33.7**	**+2.0**
	comp=Z,21nm,0.8s,baz=88,slow=9.0,SNR=25						
STKA				LR	LR	03 04 35.5	
	comp=Z,73nm,20.5s,baz=22,slow=33						
	comp=Z,21nm,0.8s						
BBOO	**Buckleboo**	**39.03**	**254**	P	**P**	**02 53 10.9**	**+1.0**
BBOO				IAmb	IAmb	02 53 18.0	
	comp=Z,76nm,1.9s						
COEN	**Coen**	**39.31**	**286**	P	**P**	**02 53 13.7**	**+1.2**
COEN				IAmb	IAmb	02 53 15.0	
	comp=Z,30nm,1.6s						
AS31	**Alice Springs**	**43.16**	**267**	P	**P**	**02 53 43.8**	**-0.3**
ASAR	**Alice Springs**	**43.16**	**267**	P	**P**	**02 53 43.8**	**-0.3**
ASAR	**Alice Springs**	**43.16**	**267**	P	**P**	**02 53 44.2**	**+0.1**
	comp=Z,4.5nm,0.6s,baz=104,slow=7.4,SNR=49						
ASAR				LR	LR	03 11 00.2	
	comp=Z,80nm,18.4s,baz=126,slow=35						
	comp=Z,4.5nm,0.6s						
WR0	**Warramunga Arr**	**43.97**	**272**	P	**P**	**02 53 50.2**	**-0.3**
WR0				IAmb	IAmb	02 53 53.0	
	comp=Z,21nm,1.1s						
WB2	**Warramunga Arr**	**44.13**	**272**	P	**P**	**02 53 51.6**	**-0.3**
WB2				IAmb	IAmb	02 53 54.5	
	comp=Z,16nm,0.6s						
WRAB	**Tennant Creek**	**44.14**	**272**	P	**P**	**02 53 50.5**	**-1.5**
WRA	**Warramunga Arr**	**44.15**	**272**	P	**P**	**02 53 51.8**	**-0.2**
	comp=Z,9.7nm,0.5s,baz=112,slow=7.6,SNR=176						
WRA				S	**S**	**03 00 19.9**	**-2.9**
	comp=Z,1.2nm,0.9s,baz=110,slow=14,SNR=4.7						
WRA				LR	LR	03 10 40.7	
	comp=Z,67nm,21.9s,baz=5.0,slow=34						
	comp=Z,9.7nm,0.5s						
WB0	**Warramunga Arr**	**44.17**	**272**	P	**P**	**02 53 52.0**	**-0.2**
WB0				IAmb	IAmb	02 53 54.7	
	comp=Z,19nm,0.7s						
DRV	**Dumont d'Urvil**	**44.20**	**203**	P	**P**	**02 53 51.6**	**-0.1**
DRV				PcP	**PP**	**02 55 34.3**	**-0.6**
FORT	**Forrest**	**46.11**	**255**	P	**P**	**02 54 07.1**	**-0.3**
SBA	**Scott Base**	**48.08**	**184**	P	**P**	**02 54 24.2**	**+2.0**
SBA				IAmb	IAmb	02 54 26.8	
	comp=Z,14nm,1.4s						
SBA	**Scott Base**	**48.08**	**184**	P	**P**	**02 54 25.7**	**+3.5**
SBA				sP	**pwP**	**02 54 40.8**	**+5.1**
SBA				PcP	**PcP**	**02 55 51.2**	**+1.8**
VNDA	**Vanda**	**48.14**	**186**	P	**P**	**02 54 24.0**	**+1.3**
VNDA	**Vanda**	**48.14**	**186**	P	**P**	**02 54 24.6**	**+1.9**
	comp=Z,0.9nm,0.6s,baz=11,slow=6.8,SNR=11						
	comp=Z,0.9nm,0.6s						
VNDA	**Vanda**	**48.14**	**186**	P	**P**	**02 54 24.9**	**+2.3**
VNDA				PcP	**PcP**	**02 55 50.6**	**+0.9**
MTN	**Manton Dam**	**50.02**	**279**	P	**P**	**02 54 38.4**	**+0.5**
MTN				IAmb	IAmb	02 54 53.9	
	comp=Z,30nm,1.4s						
KNRA	**Kununurra**	**50.75**	**274**	P	**P**	**02 54 43.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**52.41**	**270**	P	**P**	**02 54 56.1**	**+0.4**
CCD	**Concordia, Ant**	**53.01**	**196**	P	**P**	**02 55 00.2**	**+0.4**
CCD				pP	**pP**	**02 55 10.4**	**+1.1**
CASY	**Casey**	**55.20**	**208**	P	**P**	**02 55 15.1**	**-0.3**
CASY				IAmb	IAmb	02 55 15.7	
	comp=Z,17nm,0.6s						
CASY	**Casey**	**55.20**	**208**	P	**P**	**02 55 14.9**	**-0.5**
CASY				sP	**sP**	**02 55 30.0**	**+1.0**
PSA00	**Pilbara Seismi**	**56.02**	**263**	P	**P**	**02 55 21.0**	**-1.0**
PSA00	**Pilbara Seismi**	**56.02**	**263**	P	**P**	**02 55 21.1**	**-0.9**
PSA00				IAmb	IAmb	02 55 28.2	
	comp=Z,26nm,1.9s						
MBWA	**Marble Bar**	**56.28**	**264**	P	**P**	**02 55 22.7**	**-1.2**
MORW	**Morawa**	**56.59**	**253**	P	**P**	**02 55 24.8**	**-1.2**
QSPA	**South Pole Qui**	**59.75**	**180**	P	**P**	**02 55 48.9**	**+1.2**
QSPA				IAmb	IAmb	02 55 55.9	
	comp=Z,17nm,0.8s						
QSPA	**South Pole Qui**	**59.75**	**180**	P	**P**	**02 55 48.9**	**+1.2**
	comp=Z,4.4nm,0.7s,baz=14,slow=0.7,SNR=21						
	comp=Z,4.4nm,0.7s						
QSPA	**South Pole Qui**	**59.75**	**180**	P	**P**	**02 55 49.4**	**+1.6**
QSPA				sP	**pwP**	**02 56 05.4**	**+4.0**
SMAI	**San Martin Ant**	**69.45**	**158**	P	**P**	**02 56 51.2**	**+0.5**
BELA	**Belgrano 2**	**69.82**	**172**	P	**P**	**02 56 53.0**	**+0.1**
MAW	**Mawson**	**72.36**	**201**	P	**P**	**02 57 08.9**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=147,slow=7.5,SNR=8.0						
	comp=Z,3.3nm,0.7s						
JOW	**Kunigami**	**76.67**	**312**	LR	LR	03 25 25.7	
	comp=Z,113nm,21.6s,baz=184,slow=31						
TROLL	**Troll, Antarti**	**77.92**	**180**	⇑P	**P**	**02 57 41.2**	**+0.6**
	comp=Z,332nm,0.8s						
SNAA	**Sanae**	**78.20**	**178**	P	**P**	**02 57 42.2**	**+0.2**
SNAA	**Sanae**	**78.20**	**178**	⇑P	**P**	**02 57 42.2**	**+0.2**
	comp=Z,22nm,0.4s						
SNAA	**Sanae**	**78.20**	**178**	P	**P**	**02 57 42.2**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=203,slow=9.2,SNR=26						
	comp=Z,0.7nm,0.3s						
VNA3	**Neumayer Olymp**	**78.34**	**176**	⇑P	**P**	**02 57 42.8**	**0.0**
	comp=Z,4.3nm,0.6s						
VNA2	**Neumayer--Watz**	**78.78**	**177**	⇑P	**P**	**02 57 45.5**	**+0.4**
	comp=Z,3.4nm,0.5s,baz=176,slow=5.3						
VNA1	**Neumayer--Stat**	**79.01**	**177**	⇑P	**P**	**02 57 47.3**	**+0.9**
	comp=Z,1.6nm,0.5s						
H03S2	**Juan Fernandez**	**80.45**	**124**	T	T	04 27 01.6	
	baz=238,slow=74,SNR=157						
H03S1	**Juan Fernandez**	**80.46**	**124**	T	T	04 27 02.8	
	baz=238,slow=74,SNR=166						
H03S3	**Juan Fernandez**	**80.46**	**124**	T	T	04 27 01.6	
	baz=238,slow=74,SNR=160						
H03N3	**Juan Fernandez**	**80.64**	**123**	T	T	04 27 19.0	
	baz=241,slow=72,SNR=32						
H03N2	**Juan Fernandez**	**80.64**	**123**	T	T	04 27 14.9	
	baz=241,slow=72,SNR=25						
H03N1	**Juan Fernandez**	**80.65**	**123**	T	T	04 27 16.7	
	baz=241,slow=72,SNR=37						
NIKH	**Nikolski High**	**83.36**	**6**	P	**P**	**02 58 09.3**	**-0.2**
UNV	**Unalaska Valle**	**84.44**	**7**	P	**P**	**02 58 14.7**	**-0.3**
UNV				IAmb	IAmb	02 58 33.0	
	comp=Z,41nm,1.5s						
LVA	**Lava Point**	**84.80**	**7**	P	**P**	**02 58 16.2**	**-0.6**
PETK	**Petropavlovsk-**	**85.78**	**346**	P	**P**	**02 58 22.0**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=116,slow=6.9,SNR=6.0						
	comp=Z,4.1nm,0.7s						
S12K	**Black Hills**	**86.79**	**9**	P	**P**	**02 58 26.6**	**0.0**
S12K				IAmb	IAmb	02 58 27.8	
	comp=Z,14nm,0.7s						
USA0B	**Ussuriysk Arra**	**87.15**	**326**	P	**P**	**02 58 28.1**	**-0.5**
NVAR	**Mina Array Bea**	**88.17**	**43**	P	**P**	**02 58 35.1**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=218,slow=9.0,SNR=7.0						
	comp=Z,0.7nm,0.7s						
KLR	**Kul'dur**	**91.02**	**330**	P	**P**	**02 58 47.1**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=190,slow=2.2,SNR=5.4						
	comp=Z,1.9nm,0.8s						
Q19K	**Cape Douglas,**	**91.22**	**12**	P	**P**	**02 58 47.3**	**-0.2**
N15K	**Kwethluk River**	**91.38**	**9**	P	**P**	**02 58 47.5**	**-0.7**
N15K				IAmb	IAmb	02 59 05.8	
	comp=Z,8.2nm,1.0s						
ELK	**Elko**	**91.48**	**42**	LR	LR	03 35 54.8	
	comp=Z,28nm,19.2s,baz=321,slow=33						
O18K	**Koktuh Hills**	**91.82**	**11**	P	**P**	**02 58 49.7**	**-0.6**
O18K				IAmb	IAmb	02 59 02.3	
	comp=Z,21nm,1.6s						
M16K	**Timber Creek**	**92.36**	**9**	P	**P**	**02 58 52.2**	**-0.5**
M16K				IAmb	IAmb	02 58 59.0	
	comp=Z,11nm,1.6s						
BJT	**Baijiatuau**	**92.92**	**315**	P	**P**	**02 58 54.9**	**-0.9**
BJT				IAmb	IAmb	02 58 55.9	
	comp=Z,3.8nm,0.6s						
K15K	**Wolf Creek Mou**	**93.27**	**8**	P	**P**	**02 58 56.8**	**-0.1**
K15K				IAmb	IAmb	02 59 03.7	
	comp=Z,7.1nm,1.2s						
PLID	**Pearl Lake**	**93.84**	**39**	P	**P**	**02 58 57.6**	**-2.6**
J17K	**VABM Dome**	**94.63**	**8**	P	**P**	**02 59 03.4**	**+0.3**
J17K				IAmb	IAmb	02 59 23.1	
	comp=Z,5.7nm,1.1s						
ILAR	**Eielson Array**	**97.87**	**13**	P	**P**	**02 59 15.8**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=228,slow=3.5,SNR=4.0						
	comp=Z,0.2nm,0.6s						
MK31	**Makanchi Array**	**117.78**	**310**		**PKPdf**	**03 04 27.0**	**-1.9**
MKAR	**Makanchi Array**	**117.78**	**310**	PKP	**PKPdf**	**03 04 27.9**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=227,slow=1.7,SNR=9.1						
KURK	**Kurchatov**	**121.06**	**314**		**PKPdf**	**03 04 33.8**	**-1.2**
KURBB	**Kurchatov Arra**	**121.09**	**314**		**PKPdf**	**03 04 34.1**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=110,slow=1.9,SNR=17						
KKAR	**Karatay Array**	**125.09**	**304**		**PKPdf**	**03 04 41.9**	**-1.2**
BVAR	**Borovoye Array**	**126.41**	**316**	PKP	**PKPdf**	**03 04 44.6**	**-0.6**
	comp=Z,4.0nm,0.6s,baz=64,slow=1.8,SNR=16						
ARCES	**ARCESS Array B**	**138.56**	**348**	PKhKP	PKPpre	03 05 01.5	
	comp=Z,2.0nm,1.0s,baz=22,slow=1.3,SNR=7.8						
ARCES				PKP	**PKPdf**	**03 05 07.7**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=40,slow=1.5,SNR=3.7						
FIA1	**FINESS Array S**	**145.12**	**340**		**PKPbc**	**03 05 17.8**	**-1.3**
FINES	**FINESS Array B**	**145.12**	**340**	PKPbc	**PKPbc**	**03 05 18.2**	**-0.9**
	comp=Z,16nm,0.6s,baz=59,slow=3.2,SNR=91						
NC303	**NORSAR Array S**	**148.52**	**351**		**PKPbc**	**03 05 28.1**	**-0.8**
NB2	**NORSAR Subarra**	**148.72**	**351**	PKP	**PKPbc**	**03 05 28.9**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=13,slow=2.7						
NOA	**NORSAR Array B**	**148.72**	**351**	PKPbc	**PKPbc**	**03 05 28.4**	**-1.1**
	comp=Z,2.9nm,0.6s,baz=14,slow=4.2,SNR=18						
HFS	**Hagfors**	**149.21**	**349**	PKPbc	**PKPbc**	**03 05 29.7**	**-1.0**
	comp=Z,5.1nm,0.6s,baz=46,slow=4.3,SNR=19						
PABE	**Paberze**	**150.43**	**335**		**PKPbc**	**03 05 33.2**	**-0.6**
AKASG	**Malin Array Be**	**151.30**	**323**		**PKPbc**	**03 05 35.1**	**-0.8**
AKASG	**Malin Array Be**	**151.30**	**323**	PKP	**PKPdf**	**03 05 26.7**	**-3.2**
	comp=Z,0.7nm,0.5s,baz=64,slow=2.2,SNR=4.5						
AKASG				PKPbc	**PKPbc**	**03 05 35.0**	**-1.0**
	comp=Z,4.3nm,0.5s,baz=49,slow=2.6,SNR=18						
AKBB	**Malin Array Si**	**151.30**	**323**		**PKPbc**	**03 05 34.9**	**-1.0**
KIEV	**Kiev**	**151.31**	**323**		**PKPbc**	**03 05 35.0**	**-1.0**
MMAI	**Mount Meron Ar**	**151.57**	**284**	PKPbc	**PKiKP**	**03 05 37.6**	**-0.1**
	comp=Z,11nm,0.8s,baz=90,slow=4.2,SNR=14						
BR131	**Keskin Array S**	**152.62**	**299**		**PKPbc**	**03 05 38.3**	**-1.3**
BRTR	**Keskin Array B**	**152.62**	**299**		**PKPbc**	**03 05 37.7**	**-1.9**
BRTR	**Keskin Array B**	**152.62**	**299**	PKPbc	**PKPbc**	**03 05 38.9**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=150,slow=5.7,SNR=9.8						
FUORN	**Ofenpass-Fuorn**	**162.56**	**341**		**PKPab**	**03 06 31.3**	**-1.6**
TORD	**Torodi Ar. Bea**	**162.87**	**179**		**PKPab**	**03 06 34.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**162.87**	**179**	PKPab	**PKPab**	**03 06 35.0**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=171,slow=2.4,SNR=12						

*IDC **05** 02:55:59.4±0.9, 13°.18S×45°.67E, h0km, mb3.7/7, mbtmp3.9/10, ML4.4/3, MS3.7/29, Error ellipse: s-maj=24.4km s-min=21.7km az=85.0*
*NEIC **05** 02:56:02.4±1.2, 13°.21S±0°.09×45°.5E±0°.2, h10km±1km, mb4.5/15, Error ellipse: s-maj=28.0km s-min=14.9km az=78.0*
ISC 05 02:56:01.1±0.6, 13°.23S±0°.07×45°.48E±0°.09, h10km, n52, σ1§39/34, mb4.2/12, MS3.8/27, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.56**	**163**	Pn	**Pn**	**02 57 25.6**	**+1.6**
	1.3nm,0.3s,baz=339,slow=12,SNR=65						
OPO				Sn	**Sn**	**02 58 27.3**	**-0.9**
	7.7nm,0.3s,baz=241,slow=20,SNR=16						
	28nm,0.3s						
ABPO	**Ambohimpanom**	**6.00**	**164**		**Pn**	**02 57 31.6**	**+1.5**
VOI	**Vohitsoka**	**8.72**	**172**	Pn	**Pn**	**02 58 08.5**	**+1.0**
KMBO	**Kilima Mbogo**	**14.53**	**325**	Pn	**Pn**	**02 59 27.6**	**+0.4**
LSZ	**Lusaka**	**16.89**	**261**	P	**Pn**	**02 59 57.3**	**-0.6**
LSZ				IAmb	IAmb	03 00 04.6	
	comp=Z,17nm,0.8s						
LSZ	**Lusaka**	**16.89**	**261**	P	**Pn**	**02 59 58.7**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=95,slow=8.6,SNR=22						
LSZ				S	Sn	03 02 54.7	-11
	comp=Z,2.2nm,0.5s,baz=0.5,slow=14,SNR=3.0						
LSZ				LR	LR	03 06 12.1	
	comp=Z,233nm,18.7s,baz=88,slow=36						
	comp=Z,10nm,0.7s						
MATP	**Matopo**	**17.75**	**244**	P	**Pn**	**03 00 10.8**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=70,slow=11,SNR=14						
MATP				S	**Sn**	**03 03 22.6**	**-4.2**
	comp=Z,0.6nm,0.5s,baz=132,slow=19,SNR=1.1						
MATP				LR	LR	03 06 56.1	
	comp=Z,90nm,20.1s,baz=64,slow=37						
	comp=Z,3.5nm,0.8s						
POGA	**Pongola**	**19.06**	**220**	P	**P**	**03 00 25.0**	**+1.3**
POGA				IAmb	IAmb	03 00 29.6	
	comp=Z,26nm,0.9s						
LBTB	**Lobatse**	**22.11**	**235**	P	**P**	**03 00 56.5**	**-0.5**
LBTB				IAmb	IAmb	03 01 05.1	
	comp=Z,14nm,0.8s						
FURI	**Furi**	**23.00**	**343**	LR	LR	03 10 02.7	
	comp=Z,99nm,18.9s,baz=186,slow=37						
BOSA	**Boshof**	**24.26**	**228**	P	**P**	**03 01 19.2**	**+0.5**
BOSA				IAmb	IAmb	03 01 27.1	
	comp=Z,22nm,1.4s						
BOSA	**Boshof**	**24.26**	**228**	P	**P**	**03 01 19.8**	**+1.1**
	comp=Z,5.9nm,0.7s,baz=62,slow=8.6,SNR=17						
BOSA				LR	LR	03 11 48.5	
	comp=Z,240nm,18.1s,baz=51,slow=39						
	comp=Z,5.9nm,0.7s						
TSUM	**Tsumeb**	**27.42**	**254**	LR	LR	03 10 54.3	
	comp=Z,102nm,21.5s,baz=154,slow=32						
SUR	**Sutherland**	**29.55**	**226**	P	**P**	**03 02 07.2**	**+0.9**
SUR				IAmb	IAmb	03 02 07.8	
	comp=Z,25nm,1.2s						
SUR	**Sutherland**	**29.55**	**226**	LR	LR	03 15 18.7	
	comp=Z,198nm,18.1s,baz=51,slow=39						
WSAR	**Wadi Sarin**	**38.46**	**20**	LR	LR	03 16 13.4	
	comp=Z,166nm,19.1s,baz=196,slow=32						
PALK	**Pallekele**	**40.48**	**62**	LR	LR	03 15 52.4	
	comp=Z,70nm,19.2s,baz=255,slow=30						
TOA0	**Torodi Ar. Sit**	**50.70**	**299**	P	**P**	**03 05 01.9**	**+0.5**
TOA0				IAmb	IAmb	03 05 15.3	
	comp=Z,8.2nm,1.5s						
TORD	**Torodi Ar. Bea**	**50.70**	**299**	P	**P**	**03 05 00.4**	**-0.9**
TORD	**Torodi Ar. Bea**	**50.70**	**299**	P	**P**	**03 05 01.8**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=120,slow=8.7,SNR=3.1						
TORD				LR	LR	03 27 23.4	
	comp=Z,142nm,18.4s,baz=133,slow=37						
	comp=Z,0.5nm,0.8s						
GEYT	**Alibeck**	**52.25**	**13**	LR	LR	03 28 02.3	
	comp=Z,50nm,19.4s,baz=176,slow=37						
TAM	**Tamanrasset**	**53.04**	**312**	P	**P**	**03 05 20.6**	**+1.7**
GNI	**Garni**	**53.11**	**359**	LR	LR	03 28 48.5	
	comp=Z,82nm,20.0s,baz=168,slow=37						
KARS	**Kars**	**53.63**	**358**	P	**P**	**03 05 20.4**	**-2.5**
DBIC	**Dimbokro**	**53.76**	**289**	LR	LR	03 28 24.9	
	comp=Z,62nm,19.5s,baz=102,slow=36						
BR131	**Keskin Array S**	**53.82**	**349**	P	**P**	**03 05 24.8**	**+0.5**
BR131				IAmb	IAmb	03 05 43.1	
	comp=Z,3.9nm,0.9s						
BRTR	**Keskin Array B**	**53.82**	**349**	P	**P**	**03 05 25.4**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=174,slow=7.2,SNR=4.0						
BRTR				LR	LR	03 27 00.3	
	comp=Z,51nm,20.3s,baz=68,slow=35						
	comp=Z,0.5nm,0.8s						
KIV	**Kislovodsk**	**56.96**	**358**	P	**P**	**03 05 47.4**	**+0.6**
KIV				IAmb	IAmb	03 05 53.3	
	comp=Z,8.2nm,1.0s						
KEST	**Kesra**	**59.49**	**326**	LR	LR	03 35 15.0	
	comp=Z,30nm,18.4s,baz=230,slow=40						
KKAR	**Karatay Array**	**60.56**	**21**	P	**P**	**03 06 12.2**	**+0.4**
KKAR	**Karatay Array**	**60.56**	**21**	P	**P**	**03 06 12.7**	**+0.9**
AAK	**Ala-Archa**	**61.64**	**24**	LR	LR	03 32 05.5	
	comp=Z,34nm,19.2s,baz=204,slow=35						
ABKAR	**Akbulak array**	**63.51**	**11**		**P**	**03 06 31.4**	**+0.1**
ABKAR				IAmb	IAmb	03 06 33.3	
	comp=Z,3.5nm,0.9s						
ABKAR	**Akbulak array**	**63.51**	**11**	P	**P**	**03 06 32.3**	**+0.9**
AKTO	**Aktyubinsk**	**64.34**	**9**	LR	LR	03 34 34.1	
	comp=Z,43nm,21.1s,baz=127,slow=36						
MDT	**Midelt**	**66.20**	**315**	LR	LR	03 37 04.0	
	comp=Z,88nm,18.1s,baz=136,slow=37						
BBTS	**Babate**	**67.35**	**292**	LR	LR	03 36 21.3	
	comp=Z,73nm,18.9s,baz=325,slow=36						
NWAO	**Narrogin (SRO)**	**67.70**	**120**	LR	LR	03 32 33.3	
	comp=Z,75nm,19.1s,baz=221,slow=32						
MKAR	**Makanchi Array**	**68.25**	**26**	P	**P**	**03 06 59.9**	**-2.2**
	comp=Z,0.3nm,0.7s,baz=218,slow=6.8,SNR=2.4						
MKAR				LR	LR	03 35 08.0	
	comp=Z,30nm,19.9s,baz=232,slow=34						
	comp=Z,0.3nm,0.7s						
BVAR	**Borovoye Array

KRBS	Karabastau	5.50	4	P		Pn	03 08 47.7 +1.0
	1.1nm,0.4s						
IUG	luzhnay	5.54	317	Pg		Pn	03 08 49.4 +2.1
	21nm,0.3s						
IUG				Lg		Lg	03 09 48.9
	112nm,0.7s						
KUU	Kurty	5.75	9	P		Pn	03 08 51.9 +1.8
	2.9nm,0.1s						
KK31	Karatay Array	6.02	326	P		Pn	03 08 55.0 +1.4
	1.1nm,0.3s,baz=131,slow=12,SNR=21						
KK31				⇑S		Sn	03 10 00.3 -0.8
	8.4nm,0.3s,baz=124,slow=18,SNR=3.8						
PDGK	Podgornoye	6.10	32	P		Pn	03 08 57.2 +2.4
	1.1nm,0.3s						
ARXS	Arharly	6.34	18	P		Pn	03 09 00.5 +2.4
	1.9nm,0.7s						
BLB	Baldybastay	6.41	22	P		Pn	03 09 00.9 +1.9
	5.4nm,0.5s						
BVAR	Borovoye Array	15.18	349	P		P	03 10 58.5 -0.1
	2.5nm,0.5s,baz=154,slow=9.7,SNR=11						
AB31	Akbulak array	15.53	320	P		Pn	03 10 58.7 -1.7
	0.4nm,0.4s,baz=130,slow=12,SNR=10						
AKTO	Aktyubinsk	17.25	321	P		P	03 11 23.1 +1.6
	2.0nm,0.4s,baz=110,slow=9.5,SNR=8.7						
ARU	Arti	21.31	334	P		P	03 12 08.1 +2.5
	3.5nm,0.5s,baz=113,slow=13,SNR=2.7						
	3.5nm,0.5s						
BRTR	Keskin Array B	32.09	286	P		P	03 13 45.8 +1.0
	0.7nm,0.7s,baz=81,slow=7.6,SNR=5.8						
	0.7nm,0.7s						
FINES	FINESS Array B	37.97	324	P		P	03 14 34.6 -0.2
	0.6nm,0.4s,baz=111,slow=8.9,SNR=11						
	0.6nm,0.4s						
ARCES	ARCESS Array B	40.88	336	P		P	03 14 58.8 -0.1
	1.5nm,0.5s,baz=104,slow=10,SNR=15						
	1.5nm,0.5s						
HFS	Hagfors	43.80	321	P		P	03 15 22.5 -0.1
	1.5nm,0.6s,baz=98,slow=11,SNR=5.0						
	1.5nm,0.6s						
NOA	NORSAR Array B	45.03	322	P		P	03 15 31.8 -0.7
	0.4nm,0.6s,baz=90,slow=7.7,SNR=3.9						
	0.4nm,0.6s						
EKA	Eskdalemuir Ar	53.35	316	P		P	03 16 34.8 -1.0
	0.6nm,0.6s,baz=94,slow=7.4,SNR=3.7						
	0.6nm,0.6s						
ESDC	Sonseca Array	59.55	298	P		P	03 17 19.1 -1.0
	0.3nm,0.6s,baz=57,slow=6.3,SNR=5.0						
	0.3nm,0.6s						
TORD	Torodi Ar. Bea	69.02	270	P		P	03 18 21.6 -0.6
	0.7nm,0.4s,baz=47,slow=6.3,SNR=20						
	0.7nm,0.4s						

*DJA **05** 03:07:39.1±1.6,8°S±9°×12°8E±°,h10km±13km,M4.4/6, mb4.5/1,MLv4.4/6*

ISC 05 03:07:41.0±1.8,8°.6S±0°.1×127°.70E±0°.06,h10km,n6, σ2°27/7,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	3.57	252	P	Pn	03 08 35.1	-1.5
SOEI				S	Sn	03 09 21.8	+2.9
SAUI	Saumlaki	3.62	80	P	Pn	03 08 37.2	0.0
BATI	Baumata	4.28	248	P	Pn	03 08 45.0	-1.3
DRS	Darwin Rock St	4.91	140	P	Pn	03 08 54.6	-0.3
MTN	Manton Dam	5.37	141	P	Pn	03 09 02.1	+0.9
KDU	Kakadu	6.18	131	P	Pn	03 09 09.6	-2.8

RSNC 05 03:11:15.9±0.6,1°N±3°×8°0W±°,h0km,M3.6,mb4.5, mB4.7,ML3.1,Mw(mB)3.9,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	Pacto, Paraso	1.39	106	P	Pg	03 11 39.2	-3.3
PAC1				S	Sg	03 11 58.7	-1.8
OTAV	Otavalo	1.72	104	P	Pn	03 11 44.9	-2.6
OTAV				S	Sn	03 12 07.3	-3.2
CUSE	Cuicocha Este	1.76	102	P	Pn	03 11 45.7	-2.3
CUSE				S	Sn	03 12 09.4	-1.9
CMBC	Cumbal	2.31	83	P	Pn	03 11 54.9	-0.8
TULM	Tulcn-Chalpat	2.33	89	P	Pn	03 11 55.5	-0.5
TULM				S	Sb	03 12 27.7	-1.0
PIAT	Ana Tenorio	2.48	132	P	Pn	03 11 57.0	-1.0
PIAT				S	Sn	03 12 27.7	-1.5
BONI	La Bonita	2.60	95	P	Pn	03 11 59.7	+0.2
BONI				S	Sn	03 12 32.1	+0.2
GCUF	Volcan Galeras	2.83	79	P	Pn	03 12 02.5	-0.4
GCUF				S	Sb	03 12 44.8	+1.7
GR1C	Gorgona, Isla	3.04	40	P	Pn	03 12 01.7	-3.6
GR1C				S	Sn	03 12 38.2	-4.2
BBAC	Balboa, Cauca	3.17	65	P	Pn	03 12 05.3	-2.0
BBAC				S	Sn	03 12 44.5	-1.6
CRUC	La Cruz	3.29	74	P	Pn	03 12 09.7	+0.6
POPC	Popayan, Colom	3.92	61	P	Pn	03 12 16.6	-1.0
POPC				S	Sn	03 13 04.0	-0.4
JAMC	Jamundi, Valle	4.28	54	P	Pn	03 12 23.6	+1.1
JAMC				P	Pn	03 12 23.7	+1.2
JAMC				P	Pn	03 12 24.4	+1.9
YOTC	Yotoco, Valle	5.01	49	P	Pn	03 12 29.6	-3.0
	18nm,0.6s						
YOTC				P	Pn	03 12 29.7	-2.9
	18nm,0.6s						
PTLC	Puerto Leguiza	5.34	95	P	Pn	03 12 37.7	+0.7
	81nm,0.7s						
PTLC				P	Pn	03 12 38.2	+1.2
	81nm,0.7s						
PTLC				P	Pn	03 12 38.4	+1.4
	81nm,0.7s						
PLMC	San Jos del P	5.70	42	P	Pn	03 12 44.6	+2.7
	22nm,0.5s,599nm						
PRAC	Prado	6.05	60	P	Pn	03 12 47.0	+0.3

*DNK **05** 03:15:29.7±3.0,81°.62N×4°.13W,h29km±30km,ML1.4*
*BER **05** 03:15:30.7±3.3,81°.59N×4°.10W,h22km±28km,mb(Pn)3.0, ML1.4(DNK),Confirmed Earthquake*
*KOLA **05** 03:15:31.2,81°.89N×1°.15W,h0km,ML2.0,Error ellipse: s-maj=94.3km s-min=29.3km az=50.0,Arctic Ocean,Knipovich ridge, north*
*FCIAR **05** 03:15:32.0,81°.57N×3°.16W,h10km,station ZFI2 has station magnitude of 3.70 station OMEGA has station magnitude of 3.60*

ISC 05 03:15:24.1±1.0,81°.64N±0°.07×3°.34W±0°.04,h10km,n22, σ2°70/38,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	Nord	1.95	275	e	Pn	03 15 56.8	-0.4
	baz=98,slow=18						
NOR				i P	Pb	03 15 58.6	-1.1
NOR				eS	Sn	03 16 21.0	-0.7
NOR				IAML		03 16 29.5	
	comp=Z,4.2nm,0.4s						
NOR	Nord	1.95	275	e	Pn	03 15 56.8	-0.4
	baz=98,slow=18						
NOR				i P	Pb	03 15 58.6	-1.1
NOR				eS	Sn	03 16 21.0	-0.7
NOR				IAML		03 16 29.5	
	comp=Z,4.2nm,0.4s						
KBS	Kingsbay	3.75	129	P	Pn	03 16 25.5	+3.7
KBS				S	Sn	03 17 05.6	-0.3
KBS	Kingsbay	3.75	129	eP	Pn	03 16 25.6	+3.7
KBS				eS	Sn	03 17 05.8	-0.2
KBS				IAML		03 17 10.8	
	comp=Z,2.6nm,0.2s						
KBS	Kingsbay	3.75	129	eP	Pn	03 16 25.3	+3.4
KBS				eS	Sn	03 17 05.0	-1.0
KBS	Kingsbay	3.75	129	i P	Pb	03 16 26.2	-4.1
KBS				eS	Sn	03 17 07.4	+1.4
BRBA	Barentsburg A	4.73	130	eP	Pn	03 16 40.7	+5.4
BRBA				IAML		03 17 37.2	
	comp=Z,1.9nm,0.2s						
SPA0	Spitsbergen Ar	4.88	125	eP	Pn	03 16 41.4	+4.0
SPA0				eS	Sn	03 17 33.6	-0.2
SPA0				IAML		03 17 52.6	
	comp=Z,1.2nm,0.7s						
SPA0	Spitsbergen Ar	4.88	125	eP	Pn	03 16 41.2	+3.8
SPA0				eS	Sn	03 17 33.6	-0.2
SPITS	Spitsbergen Ar	4.88	125	P	Pn	03 16 41.4	+4.0
SPITS				S	Sn	03 17 34.7	+0.9
DAG	Danmarks Havn	5.65	218	i P	Pn	03 16 49.6	+1.7
DAG				i S	Sn	03 17 48.8	-3.9
DAG				IAML		03 17 57.9	
	comp=Z,1.9nm,0.3s						
DAG	Danmarks Havn	5.65	218	i P	Pn	03 16 49.6	+1.7
DAG				i S	Sn	03 17 48.8	-3.9
DAG				IAML		03 17 57.9	
	comp=Z,1.9nm,0.3s						
HSPB	Hornsund (broa	5.79	133	P	Pn	03 16 54.2	+4.3
HSPB				S	Sn	03 17 58.9	+2.7
HSPB	Hornsund (broa	5.79	133	eP	Pn	03 16 54.2	+4.3
HSPB				eS	Sn	03 17 56.0	-0.2
HSPB				IAML		03 18 08.4	
	comp=Z,1.7nm,0.6s						
HOPEN	Hopen	7.33	119	eP	Pn	03 17 14.9	+3.9
HOPEN				eS	Sn	03 18 32.0	-2.1
HOPEN				IAML		03 18 40.9	
	comp=Z,5.2nm,0.6s						
HOPEN	Hopen	7.33	119	eP	Pn	03 17 14.7	+3.6
HOPEN				eS	Sn	03 18 32.0	-2.1
ZFI2	Zemlya Franca-	7.62	70	P	Pn	03 17 19.5	+4.6
ZFI2				eS	Sn	03 18 38.8	-2.3
	comp=Z,19nm,1.3s						
OMEGA	Omega	7.64	71	P	Pn	03 17 19.6	+4.4
OMEGA				eS	Sn	03 18 38.6	-3.0
	comp=Z,16nm,1.5s						
DBG	Daneborg	8.11	214	i P	Pn	03 17 23.3	+1.6
DBG				i		03 18 47.0	
DBG				IAML		03 18 56.9	
	comp=Z,0.9nm,0.4s						
DBG	Daneborg	8.11	214	i P	Pn	03 17 23.3	+1.6
DBG				i		03 18 47.0	
DBG				IAML		03 18 56.9	
	comp=Z,0.9nm,0.4s						
NEEM	North Greenlan	9.32	269	i P	Pn	03 17 36.6	-1.8
NEEM				IAML		03 19 03.9	
	comp=Z,0.8nm,0.4s						
NEEM	North Greenlan	9.32	269	i P	Pn	03 17 36.6	-1.8
NEEM				IAML		03 19 03.9	
	comp=Z,0.8nm,0.4s						

*PDG **05** 03:17:47.4±0.2,41°.48N×19°.57E,h11km,MD3.0/2, ML2.9/12,Error ellipse: s-maj=0.6km s-min=1.0km az=0.0*
*TIR **05** 03:17:47.7,41°.48N×19°.62E,h18km±1km,Md3.0,Ml3.0*
*BEO **05** 03:17:48.4±0.5,41°.40N×19°.60E,h14km±2km,ML2.7/12*
*RHSSO **05** 03:17:48.0±0.6,41°.40N×19°.41E,h7km±2km,ML3.0/12*
*THE **05** 03:17:48.4,41°.54N×19°.56E,h10km±35km,ML2.8/3,Error ellipse: s-maj=45.9km s-min=3.7km az=314.0*

ISC 05 03:17:48.1±0.9,41°.48N±0°.02×19°.57E±0°.02,h13km±7km, n106,σ1°03/174,29C-27D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.25	120	⇓P	Pg	03 17 53.1	-0.5
TIR				⇑S	Sg	03 17 57.2	+0.1
TIR	Tirane	0.25	120	P	Pg	03 17 53.0	-0.5
	baz=126						
TIR				S	Sg	03 17 57.7	+0.5
	baz=126						
TIR				AMP			
	comp=E,49nm,0.2s,baz=126						
TIR	Tirane	0.25	120	ePg	Pg	03 17 53.0	-0.5
TIR				eSg	Sg	03 17 57.6	+0.5
ULC	Ulcinj	0.55	333	⇑iPg	Pg	03 17 58.3	-0.6
ULC				i Sg	Sb	03 18 06.9	-0.4
PUK	Puka	0.61	23	P	Pg	03 17 59.5	-0.7
	baz=19						
PUK				S	Sb	03 18 09.3	-0.1
	baz=19						
PUK				AMP			
	comp=E,3.5nm,0.5s,baz=19						
DRME	Dracevica, Mon	0.77	338	ePg	Pg	03 18 02.3	-0.8
DRME				eSg	Sn	03 18 15.9	-0.2
DRME	Dracevica, Mon	0.77	338	⇓iPg	Pg	03 18 02.1	-1.0
DRME				eSg	Sb	03 18 13.9	+0.2
DRME	Dracevica, Mon	0.77	338	⇓iPg	Pg	03 18 02.3	-0.8
DRME				i Sg	Sb	03 18 14.5	+0.8
BCI	Bajram Curri	0.96	22	P	Pg	03 18 05.6	-1.2
	baz=20						
BCI				S	Sn	03 18 20.6	-0.4
	baz=20						
BCI				AMP			
	comp=E,2.1nm,0.6s,baz=20						
BUM	Brajici-Budva	0.97	329	⇑iPg	Pg	03 18 05.7	-1.2
BUM				i Sg	Sn	03 18 21.6	+0.5
PDG	Podgorica	0.98	346	⇓P	Pg	03 18 06.7	-0.4
PDG				⇓S	Sg	03 18 19.7	-0.3
PDG	Podgorica	0.98	346	ePg	Pg	03 18 06.4	-0.7
PDG				eSg	Sn	03 18 23.5	+2.2
PDG	Podgorica	0.98	346	⇑iPg	Pg	03 18 05.9	-1.2
PDG				eSg	Sn	03 18 21.2	-0.1
PDG	Podgorica	0.98	346	⇑iPg	Pg	03 18 05.9	-1.2
PDG				i Sg	Sn	03 18 21.9	+0.6
OHR	Ohrid	0.99	111	i Pg	Pg	03 18 06.0	-1.3
OHR				i Sg	Sb	03 18 21.0	+0.8
VLO	Vlora	1.01	183	P	Pn	03 18 09.2	+1.3
	baz=186						
VLO				S	Sn	03 18 21.9	-0.1
	baz=186						
VLO				AMP			
	comp=N,1.3nm,0.2s,baz=186						
PVY	Plav	1.15	14	ePg	Pb	03 18 09.6	-0.4
PVY	Plav	1.15	14	⇓iPg	Pb	03 18 09.1	-0.9
PVY				i Sg	Sn	03 18 26.4	+0.6
CEME	Cevo	1.18	336	⇑iPg	Pb	03 18 09.3	-1.1
CEME				i Sg	Sn	03 18 27.5	+1.3
KBN	Korca	1.25	132	P	Pb	03 18 11.8	+0.1
	baz=133						
KBN				S	Sn	03 18 28.9	+0.9
	baz=133						
KBN				AMP			
	comp=N,1.3nm,0.6s,baz=133						
KBN	Korca	1.25	132	P	Pn	03 18 11.4	0.0
KBN				S	Sn	03 18 29.7	+1.6
	comp=N,280nm,0.6s						
HCY	Herceg Novi	1.26	321	⇑iPg	Pn	03 18 11.0	-0.4
HCY				eSg	Sb	03 18 28.0	+0.1
HCY	Herceg Novi	1.26	321	⇓iPg	Pg	03 18 12.1	-0.3
HCY				i Sg	Sg	03 18 30.9	+2.0
NKME	Niksic	1.37	341	⇓iPg	Pb	03 18 13.4	-0.2
NKME				i Sg	Sg	03 18 34.0	+1.7
KOME	Kolasin	1.37	358	ePg	Pg	03 18 14.3	-0.3
KOME				eSg	Sg	03 18 34.9	+2.4
KOME	Kolasin	1.37	358	⇓iPg	Pb	03 18 13.9	+0.2
KOME				i Sg	Sg	03 18 35.5	+3.0
BEY	Berane	1.42	10	ePg	Pn	03 18 13.6	0.0
IVA	Berane	1.42	10	⇓iPg	Pn	03 18 13.8	+0.2
IVA				i Sg	Sg	03 18 35.7	+1.9
SKO	Skopje	1.48	70	i Pn	Pb	03 18 15.4	-0.1
FNA	Florina	1.53	116	P	Pn	03 18 15.3	+0.1
	baz=117						
FNA				S	Sg	03 18 37.2	-0.1
	baz=117						
FNA				AMP			
	comp=E,0.5nm,0.5s,baz=117						
FNA	Florina	1.53	116	P	Pn	03 18 15.1	0.0
FNA				S	Sb	03 18 36.4	+0.8
	comp=E,458nm,0.6s						
FNA	Florina	1.53	116	ePg	Pn	03 18 15.2	+0.1
FNA				eSg	Sg	03 18 37.0	-0.3
TREB	Trebinje	1.54	324	⇓iPn	Pn	03 18 15.7	+0.5
TREB				eSn	Sb	03 18 36.2	+0.3
NEST	Nestorio	1.54	133	P	Pb	03 18 16.7	+0.1
NEST				S	Sg	03 18 37.8	+0.1
	comp=E,135nm,0.5s						
DBRK	Dubrovnik	1.60	319	ePn	Pn	03 18 16.1	+0.1
DBRK				Sn	Sb	03 18 38.1	+0.6
BRY	Bratogost	1.62	332	⇓iPn	Pn	03 18 17.2	+0.8
BRY				eSn	Sb	03 18 38.4	+0.1
BRY	Bratogost	1.62	332	⇑iPn	Pn	03 18 17.3	+0.8
BRY				i Sn	Sg	03 18 41.5	+1.2
SRN	Sarande	1.63	168	P	Pb	03 18 17.6	-0.3
	baz=169						
SRN				S	Sg	03 18 41.5	+1.0
	baz=169						
SRN				AMP			
	comp=E,0.5nm,0.5s,baz=169						
UPM	Unac-Piva	1.80	344	⇓iPn	Pb	03 18 20.2	-0.8
UPM				eSn	Sb	03 18 43.5	0.0
UPM	Unac-Piva	1.80	344	⇓iPn	Pb	03 18 20.1	-0.9
UPM				i Sn	Sg	03 18 45.4	-0.6
SJES	Sjenica	1.81	9	ePn	Pb	03 18 21.2	0.0
SJES				eSn	Sb	03 18 44.1	+0.4
SJES	Sjenica	1.81	9	⇑iPn	Pb	03 18 21.1	-0.1
SJES				eSn	Sb	03 18 45.0	+1.3
KLINJ	Klinje	1.84	337	ePn	Pn	03 18 20.6	+1.1
KLINJ				eSn	Sb	03 18 44.6	-0.2
PLE	Pljevlja	1.86	356	ePn	Pb	03 18 21.7	-0.3
PLE	Pljevlja	1.86	356	⇓iPn	Pb	03 18 21.1	-0.9
PLE				i Sn	Sg	03 18 47.5	-0.4
STON	Ston	1.97	316	ePn	Pn	03 18 21.0	-0.1
STON	Ston	1.97	316	⇑iPn	Pn	03 18 20.9	-0.3
STON				eSn	Sn	03 18 46.2	+0.5
STIP	Stip	1.97	83	i Pn	Pb	03 18 24.1	+0.2
KPRO	Kipourio	2.04	138	P	Pb	03 18 23.8	-1.2
PRVS	Prvonek	2.13	60	ePn	Pn	03 18 24.3	+0.9
BARS	Barje	2.14	50	ePn	Pn	03 18 24.6	+1.1
BARS				eSn	Sn	03 18 51.7	+1.8
IVAS	Ivanjica	2.14	11	ePn	Pn	03 18 24.4	+0.8
IVAS				eSn	Sn	03 18 50.6	+0.5
RUDO	Rudo	2.15	356	ePn	Pn	03 18 24.7	+1.1
RUDO				eSn	Sb	03 18 52.8	-0.6
MATE	Matera	2.32	250	⇑P	Pb	03 18 30.6	+0.8
MATE				⇓S	Sg	03 19 04.8	+2.1
BBLS	Lazi&#263i	2.39	357	ePn	Pn	03 18 29.0	+2.0
BBLS				eSn	Sn	03 18 58.1	+1.9
BBLS	Lazi&#263i	2.39	357	⇑iPn	Pn	03 18 28.0	+1.0
BBLS				eSn	Sb	03 18 59.4	-1.1
BOSS	Bosilegrad	2.39	64	ePn	Pn	03 18 28.1	+1.1
GRUS	Gruza	2.55	19	ePn	Pn	03 18 30.7	+1.5
GRUS				eSn	Sn	03 19 02.1	+2.0
MAKA	Makarska	2.62	315	ePn	Pn	03 18 29.9	-0.2
DIVS	Divibare	2.64	7	ePn	Pn	03 18 31.0	+0.5
HAPS	Han Pijesak,Bl	2.65	350	⇑iPn	Pn	03 18 31.5	+0.9
HAPS				eSn	Sn	03 19 05.0	+2.4
BOVS	Bovan	2.67	35	⇓P	Pn	03 18 31.0	+0.2
BOVS				⇓S	Sn	03 19 01.9	-1.1
BOVS	Bovan	2.67	35	eSn	Sn	03 19 03.5	+0.5
RICI	Ricice	2.71	319	ePn	Pn	03 18 31.3	0.0
LKD2	Lefkada island	2.81	162	P	Pn	03 18 32.7	0.0
TRUS	Trudelj	2.81	12	ePn	Pn	03 18 34.3	+1.5
SGRT	San Giovanni R	2.88	277	P	Pn	03 18 33.0	-0.9
	baz=277						
ZAGS	Zajecar	3.05	39	eSn	Sn	03 19 11.7	-0.6
TEKS	Tekeris	3.07	359	ePn	Pn	03 18 37.0	+0.7
BLKB	Belogradchik	3.14	46	⇑S	Sn	03 19 12.9	-1.7
AVAS	Avala Beograd	3.29	12	ePn	Pn	03 18 39.3	0.0
KUBS	Kucevo	3.31	27	ePn	Pn	03 18 38.7	-1.0
MGRS	Mrkonjic Grad	3.46	329	ePn	Pn	03 18 42.6	+0.9
MGRS				eSn	Sn	03 19 22.9	+0.4
ZIRJ	Zirje	3.63	308	ePn	Pn	03 18 43.6	-0.3
MDVR	Moldovita	3.66	25	⇓P	Pn	03 18 43.9	-0.5
MDVR				⇓S	Sn	03 19 27.0	-0.4
FRGS	Fruska Gora	3.68	3	⇑P	Pn	03 18 46.0	+1.3
FRGS	Fruska Gora	3.68	3	⇑iPn	Pn	03 18 46.1	+1.3
FRGS				eSn	Sn	03 19 30.3	+2.3
BLY	Banja Luka	3.71	333	ePn	Pn	03 18 45.7	+0.6
BLY				eSn	Sn	03 19 29.1	+0.5
MORI	Morici	3.72	311	ePn	Pn	03 18 45.3	+0.1
A050A	Klekovaca	3.74	324	ePn	Pn	03 18 46.6	+1.0
A050A				eSn	Sn	03 19 28.8	-0.7
HERR	Herculane	3.99	30	⇑P	Pn	03 18 48.9	0.0
DUGI	Dugi Otok	4.17	309	ePn	Pn	03 18 51.2	-0.1
VIRC	Vir	4.35	312	ePn	Pn	03 18 53.8	-0.1
BZS	Buzias	4.40	19	⇓P	Pn	03 18 55.1	+0.6
BZS				⇑S	Sn	03 19 44.8	-0.8
GZR	Gura Zlata	4.56	30	⇓P	Pn	03 18 57.1	+0.3
GZR				⇑S	Sn	03 19 49.5	-0.1
SURR	Surduc	4.66	23	⇓P	Pn	03 18 57.9	-0.2
SURR				⇑S	Sn	03 19 50.4	-1.6
MORH	Mrgy, Hungar	4.79	352	⇑P	Pn	03 19 01.4	+1.8
RABC	Rab	4.80	315	ePn	Pn	03 18 59.5	-0.5
LOT	Lotru	5.01	36	⇓P	Pn	03 19 02.0	-1.0
LOT				⇓S	Sn	03 20 00.2	-0.5
SIRR	Siria	5.02	17	⇑P	Pn	03 19 03.3	+0.2
SIRR				⇓S	Sn	03 19 59.4	-1.5
BOJS	Bojanci	5.11	323	ePn	Pn	03 19 04.0	-0.3
BOJS				eSn	Sn	03 20 01.3	-1.8
CRES	Cresnjev	5.28	327	ePn	Pn	03 19 06.3	-0.3
CRES				eSn	Sn	03 20 05.5	-1.7
VOIR		5.62	43	⇓P	Pn	03 19 11.5	+0.2
VOIR				⇑S	Sn	03 20 15.3	-0.5
CEY	Cerknica	5.67	320	⇑iPn	Pn	03 19 12.2	+0.2
CEY				eSn	Sn	03 20 14.8	-2.1
SKDS	Skadanscina	5.74	317	⇑iPn	Pn	03 19 12.0	-0.9
SKDS				eSn	Sn	03 20 15.2	-3.4
DRGR		5.77	22	⇑P	Pn	03 19 13.9	+0.4
DRGR				⇑S	Sn	03 20 18.4	-1.2
MLR	Muntele Rosu	6.13	47	⇑P	Pn	03 19 17.8	-0.7
MLR				⇑S	Sn	03 20 27.2	-1.2
SOKA	Soboth	6.14	329	i Pn	Pn	03 19 19.3	+0.7
	comp=E,0.4nm,0.2s						
OBKA	Obir	6.20	326	i Pn	Pn	03 19 20.5	+1.1
	comp=E,0.9nm,0.3s						
OBKA	Obir	6.20	326	ePn	Pn	03 19 19.8	+0.4
OBKA				eSn	Sn	03 20 27.9	-2.2
ARSA	Arzberg	6.46	335	i Pn	Pn	03 19 31.5	+8.6
	comp=E,1.4nm,0.5s						
KBA	Koelnbreinsper	7.16	324	i Pn	Pn	03 19 32.4	-0.2
	comp=E,0.8nm,0.4s						
ABTA	Abfaltersbach	7.32	318	i Pn	Pn	03 19 34.8	+0.1
	comp=E,0.5nm,0.3s						
MOA	Molln	7.41	331	i Pn	Pn	03 19 38.6	+2.7
	comp=E,0.6nm,0.3s						
LESA	Schwarzleotal	7.72	323	i Pn	Pn	03 19 41.0	+0.7
	comp=E,1.0nm,0.4s						
WTTA	Wattenberg	8.11	318	i Pn	Pn	03 19 47.5	+1.9
	comp=E,0.8nm,0.2s						

*NEIC **05** 03:49:18.0±1.2,62°.21N±0°.03×150°.04W±0°.05,h53km±8km, Error ellipse: s-maj=4.0km s-min=3.6km az=152.0*
*AEIC **05** 03:49:18.5±1.1,62°.21N±0°.03×150°.05W±0°.06,h46km±7km, ML3.5,ML3.6/214(NEIC),Error ellipse: s-maj=3.9km s-min=3.6km az=136.0*

ISC 05 03:49:18.1±1.2,62°.21N±0°.03×150°.06W±0°.03,h50km±9km, n366,σ0°62/360,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	Chulitna	0.22	334		Pn	03 49 26.6	-0.1
CUT					Sn	03 49 33.7	+1.0
CUT	Chulitna	0.22	334	IAML		03 49 34.2	
	comp=E,36μm,0.2s						
CUT				IAML		03 49 34.4	
	comp=N,19μm,0.4s						
CUT	Chulitna	0.22	334	P	Pn	03 49 26.6	-0.1
	baz=153						
M22K	Willow	0.46	183		Pn	03 49 28

WAT7 Susitna Watana 0.84 41 Pn 03 49 33.1 -0.7
WAT7 Sn 03 49 45.3 -0.1
SML Sawmill 0.91 115 Pn 03 49 33.8 -0.9
SML Sn 03 49 47.5 +0.6
SML Sawmill 0.91 115 IAML 03 49 50.2
comp=N,3µm,0.6s
SML IAML 03 49 50.4
comp=E,2µm,0.7s
SML Sawmill 0.91 115 P **Pn 03 49 33.9 -0.8**
baz=297
SML S **Sn 03 49 47.5 +0.6**
baz=297
WAT1 Susitna Watana 0.94 48 Pn 03 49 34.2 -0.8
WAT1 Susitna Watana 0.94 48 P **Pn 03 49 34.2 -0.8**
baz=229
FIS Fire Island 1.07 184 Pn 03 49 37.0 +0.2
FIS Fire Island 1.07 184 IAML 03 49 56.0
comp=N,2µm,0.3s
STLK Strandline Lak 1.10 230 Pn 03 49 36.5 -0.7
STLK **Sn 03 49 51.1 -0.3**
KNK Knik Glacier 1.10 136 Pn 03 49 37.0 -0.3
KNK IAML 03 49 53.5
comp=N,2µm,0.6s
KNK Knik Glacier 1.10 136 Sn 03 49 52.4 +1.0
KNK Knik Glacier 1.10 136 P **Pn 03 49 36.6 -0.7**
baz=317
KNK S **Sn 03 49 52.4 +1.0**
baz=317
RC01 Rabbit Creek A 1.13 172 Pn 03 49 37.1 -0.5
RC01 IAML 03 49 54.6
comp=E,870nm,0.2s
RC01 IAML 03 49 55.4
comp=N,1µm,0.3s
RC01 Rabbit Creek A 1.13 172 P **Pn 03 49 36.7 -0.9**
baz=353
WAT6 Susitna Watana 1.15 70 Pn 03 49 37.0 -0.9
WAT6 **Sn 03 49 52.0 -0.6**
WAT6 Susitna Watana 1.15 70 P **Pn 03 49 37.0 -0.9**
baz=252
WAT6 S **Sn 03 49 52.0 -0.6**
baz=252
M23K Glacier View 1.18 110 Pn 03 49 37.8 -0.5
M23K **Sn 03 49 53.8 +0.5**
M23K Glacier View 1.18 110 P **Pn 03 49 37.8 -0.5**
baz=292
M23K S **Sn 03 49 53.8 +0.5**
baz=292
PPLA Purkeypile 1.20 306 Pn 03 49 38.5 -0.2
PPLA Purkeypile 1.20 306 P **Pn 03 49 38.5 -0.2**
baz=124
SPCG Spurr Capps Gl 1.31 226 Pn 03 49 39.4 -0.7
RND Reindeer 1.32 24 Pn 03 49 40.1 -0.2
RND Reindeer 1.32 24 Sn 03 49 56.3 -0.6
SCM Sheep Creek Mo 1.34 105 Pn 03 49 40.5 -0.1
SCM IAML 03 50 00.8
comp=N,1µm,0.7s
SCM IAML 03 50 01.7
comp=E,2µm,0.8s
SCM Sheep Creek Mo 1.34 105 P **Pn 03 49 40.5 -0.1**
baz=288
SPCP Crater Peak Br 1.37 227 Pn 03 49 40.5 -0.5
SPU Mount Spurr 1.40 224 Pn 03 49 41.5 +0.2
SPU IAML 03 50 01.9
comp=N,837nm,1.0s
KTH Kantishna Hill 1.41 344 Pn 03 49 41.5 +0.1
SPCN Chakachatna No 1.41 227 Pn 03 49 41.5 0.0
N20K Mount Spurr 1.44 226 P **Pn 03 49 42.1 +0.2**
baz=44
SPCR Spurr Chakacha 1.44 226 Pn 03 49 42.0 +0.1
SPBG Spurr Blockage 1.45 230 Pn 03 49 42.1 0.0
M20K Styx River 1.48 259 Pn 03 49 42.4 -0.1
M20K Styx River 1.48 259 IAML 03 50 01.8
comp=E,663nm,0.5s
M20K IAML 03 50 02.2
comp=N,776nm,0.3s
M20K Styx River 1.48 259 P **Pn 03 49 42.4 -0.1**
baz=76
SPNN North Nagishla 1.51 237 Pn 03 49 42.6 -0.3
DHY Denali Highway 1.52 54 Pn 03 49 42.3 -0.7
DHY Denali Highway 1.52 54 P **Pn 03 49 42.3 -0.7**
baz=236
CAST Castle Rocks 1.53 324 Pn **Pn 03 49 42.9 -0.2**
CAST Castle Rocks 1.53 324 P **Pn 03 49 42.7 -0.3**
baz=142
CAPN Captain Cook N 1.54 200 Pn 03 49 44.6 +1.5
MCK McKinley 1.61 18 Pn 03 49 44.2 0.0
MCK McKinley 1.61 18 P **Pn 03 49 44.2 0.0**
baz=199
SLKM Skilak Lake 1.71 183 Pn 03 49 44.8 -0.7
O22K Cooper Landing 1.74 174 Pn 03 49 46.4 +0.5
O22K Cooper Landing 1.74 174 P **Pn 03 49 46.2 +0.4**
baz=355
L20K Farewell, AK 1.80 280 Pn 03 49 46.2 -0.6
L20K Farewell, AK 1.80 280 P **Pn 03 49 46.2 -0.6**
baz=97
M24K Tolsona, Glenn 1.83 91 Pn 03 49 47.9 +0.7
M24K Tolsona, Glenn 1.83 91 P **Pn 03 49 47.9 +0.7**
baz=275
BPAW Bear Paw Mtn. 1.94 348 Pn **Pn 03 49 48.0 -0.7**
BPAW Bear Paw Mtn. 1.94 348 P **Pn 03 49 48.1 -0.5**
baz=167
GLI Glacier Island 1.95 132 Pn 03 49 48.3 -0.4
GLI Glacier Island 1.95 132 P **Pn 03 49 48.1 -0.6**
baz=315
CHUM Lake Minchumin 1.97 330 Pn 03 49 48.8 -0.1
BWN Browne 1.99 8 Pn 03 49 49.0 -0.3
BWN IAML 03 50 28.2
comp=E,709nm,1.0s
BWN IAML 03 50 31.6
comp=N,566nm,1.1s
RDT Redoubt 1.99 216 Pn 03 49 49.5 +0.2
M19K Big River Lodg 2.06 263 Pn 03 49 49.9 -0.4
M19K Big River Lodg 2.06 263 P **Pn 03 49 49.8 -0.5**
baz=80
KLU Klutina 2.09 108 Pn 03 49 50.5 -0.2
KLU IAML 03 50 18.9
comp=N,589nm,0.2s
KLU IAML 03 50 22.4
comp=E,469nm,0.3s
KLU Klutina 2.09 108 P **Pn 03 49 50.3 -0.5**
baz=292
SEW Seward 2.13 172 Pn 03 49 51.5 +0.3
SEW Seward 2.13 172 P **Pn 03 49 51.5 +0.3**
baz=352
NCT North Crescent 2.15 221 Pn 03 49 52.2 +0.6
K20K Telida 2.17 304 Pn **Pn 03 49 51.6 -0.2**
K20K Telida 2.17 304 P **Pn 03 49 51.4 -0.5**
baz=120
RSO Redoubt South 2.18 218 Pn 03 49 52.4 +0.4
RDWB Redoubt West 2.18 219 Pn 03 49 52.5 +0.4
RED Redoubt Volcan 2.22 217 Pn 03 49 53.2 +0.7
L19K White Mountain 2.25 271 Pn **Pn 03 49 52.5 -0.3**
L19K White Mountain 2.25 271 P **Pn 03 49 52.4 -0.4**
baz=87
FID Port Fidalgo 2.26 129 Pn 03 49 52.4 -0.6
FID IAML 03 50 27.2
comp=N,470nm,0.5s
FID IAML 03 50 28.0
comp=E,676nm,0.5s
PAX Paxson 2.26 68 Pn 03 49 53.6 +0.6
PAX Paxson 2.26 68 P **Pn 03 49 53.6 +0.6**
baz=252
HARP HAARP 2.30 83 Pn 03 49 54.2 +0.7
HARP HAARP 2.30 83 P **Pn 03 49 54.2 +0.7**
baz=267
DIV Divide 2.32 116 Pn 03 49 53.1 -0.7
NEA2 Nenana 2.44 10 Pn 03 49 54.7 -0.7
NEA2 IAML 03 50 25.7
comp=E,170nm,0.5s
NEA2 Nenana 2.44 10 P **Pn 03 49 54.6 -0.8**
baz=191
WRH Wood River Hil 2.44 21 Pn 03 49 55.1 -0.3
WRH Wood River Hil 2.44 21 IAML 03 50 24.1
comp=N,163nm,1.0s
O20K Slope Mountain 2.47 211 Pn 03 49 56.8 +0.9
O20K Slope Mountain 2.47 211 P **Pn 03 49 57.0 +1.1**
baz=29
BRLK Bradley Lake 2.49 190 Pn 03 49 56.5 +0.4
BRLK Bradley Lake 2.49 190 IAML 03 50 32.4
comp=E,480nm,0.9s
BRLK IAML 03 50 33.7
comp=N,420nm,0.7s
BRSE Bradley Lake S 2.50 188 Pn 03 49 55.6 -0.6
BRSE Bradley Lake S 2.50 188 P **Pn 03 49 55.6 -0.6**
baz=7.5

HIN Hinchinbrook I 2.50 135 Pn **Pn 03 49 56.1 -0.2**
K24K Donnelly Dome 2.53 49 Pn 03 49 58.2 +1.6
K24K Donnelly Dome 2.53 49 P **Pn 03 49 58.2 +1.6**
baz=232
N19K Bonanza Creek 2.54 238 Pn **Pn 03 49 57.2 +0.3**
N19K IAML 03 50 46.0
comp=N,157nm,1.1s
N19K Bonanza Creek 2.54 238 P **Pn 03 49 57.0 +0.1**
baz=55
P23K Montague Islan 2.57 149 Pn 03 49 55.6 -1.6
HDA Harding Lake 2.62 31 Pn 03 49 57.6 -0.3
HDA Harding Lake 2.62 31 P **Pn 03 49 58.2 +0.3**
baz=214
IVE Iliamna Volcan 2.62 214 Pn 03 49 58.5 +0.4
CCB Clear Creek Bu 2.65 22 Pn 03 49 57.9 -0.4
CCB IAML 03 50 33.5
comp=E,153nm,0.3s
N25K Chitina, Valde 2.66 101 Pn **Pn 03 49 58.3 -0.2**
N25K IAML 03 50 37.8
comp=E,304nm,0.7s
N25K IAML 03 50 37.9
comp=N,401nm,0.8s
N25K Chitina, Valde 2.66 101 P **Pn 03 49 58.1 -0.4**
baz=286
EYAK Cordova Ski Ar 2.66 127 Pn 03 49 58.0 -0.5
EYAK Cordova Ski Ar 2.66 127 P **Pn 03 49 58.5 +0.1**
baz=311
ILSW Iliamna Southw 2.69 215 Pn 03 49 59.5 +0.6
ILSW Iliamna Southw 2.69 215 IAML 03 50 37.3
comp=E,178nm,0.8s
ILSW IAML 03 50 39.4
comp=N,190nm,0.8s
J20K Nowinta River 2.71 319 Pn **Pn 03 49 58.9 -0.2**
J20K IAML 03 50 31.8
comp=N,151nm,0.5s
J20K IAML 03 50 51.3
comp=E,157nm,0.7s
J20K Nowinta River 2.71 319 P **Pn 03 49 58.8 -0.2**
baz=135
CNPM China Poot 2.75 193 Pn 03 50 00.5 +0.8
CNPM China Poot 2.75 193 IAML 03 50 39.9
comp=N,291nm,0.6s
M18K Stony River 2.82 258 Pn 03 50 00.4 -0.3
M18K Stony River 2.82 258 P **Pn 03 50 00.4 -0.3**
baz=73
MLY Manley 2.85 354 Pn **Pn 03 50 00.7 -0.5**
MLY IAML 03 50 36.7
comp=N,126nm,0.6s
MLY Manley 2.85 354 P **Pn 03 50 00.6 -0.5**
baz=173
COLA College 2.85 19 Pn 03 50 01.0 0.0
SVW2 Sparrevohn 2.86 249 Pn 03 50 00.8 -0.3
MDM Murphy Dome 2.88 16 Pn 03 50 01.3 -0.2
MDM IAML 03 50 34.7
comp=N,173nm,0.8s
MDM IAML 03 50 36.7
comp=E,150nm,0.7s
O19K Port Alsworth 2.88 227 Pn 03 50 02.1 +0.6
O19K IAML 03 50 48.4
comp=N,245nm,0.5s
O19K IAML 03 50 49.6
comp=E,180nm,0.6s
BMRM Bremner River 2.89 113 Pn 03 50 00.8 -0.9
BMRM Bremner River 2.89 113 P **Pn 03 50 00.8 -0.9**
baz=298
IL31 2.94 28 Pn 03 50 02.3 +0.1
ILAR Eielson Array 2.94 28 Pn **Pn 03 50 02.1 -0.2**
I23K Minto, Yukon-K 2.97 6 Pn 03 50 02.5 -0.1
I23K IAML 03 50 38.5
comp=N,139nm,0.7s
I23K IAML 03 50 39.5
comp=E,131nm,0.6s
I23K Minto, Yukon-K 2.97 6 P **Pn 03 50 02.4 -0.3**
baz=186
P19K Oil Pt 3.00 212 Pn 03 50 04.3 +1.2
P19K Oil Pt 3.00 212 IAML 03 50 48.5
comp=N,311nm,0.8s
P19K IAML 03 51 03.6
comp=E,346nm,1.2s
MENT Mentasta 3.03 73 Pn 03 50 03.6 +0.1
MENT IAML 03 50 48.6
comp=N,303nm,0.7s
GOAT Goat Mountain 3.04 120 Pn 03 50 03.2 -0.5
GLB Gilahina Butte 3.06 102 Pn **Pn 03 50 03.7 -0.4**
GLB IAML 03 50 49.3
comp=N,308nm,1.3s
GLB IAML 03 50 50.2
comp=E,155nm,0.8s
J19K Poorman 3.10 308 Pn **Pn 03 50 04.3 -0.1**
J19K IAML 03 51 00.1
comp=E,93nm,0.8s
J19K Poorman 3.10 308 P **Pn 03 50 04.1 -0.4**
baz=123
DOT Dot Lake 3.10 60 Pn 03 50 05.1 +0.5
L18K Granite Mounta 3.10 273 Pn 03 50 03.8 -0.7
L18K Granite Mounta 3.10 273 P **Pn 03 50 03.8 -0.7**
baz=87
POKR Poker Plat Res 3.15 21 Pn 03 50 05.2 +0.1
POKR IAML 03 50 42.2
comp=N,105nm,0.9s
POKR Poker Plat Res 3.15 21 P **Pn 03 50 05.0 -0.1**
baz=203
RAGM Ragged Mountai 3.18 123 Pn 03 50 05.2 -0.4
N18K Kilae Creek 3.19 244 Pn **Pn 03 50 05.2 -0.6**
N18K Kilae Creek 3.19 244 P **Pn 03 50 05.3 -0.5**
baz=59
J25K Salcha River, 3.21 39 Pn **Pn 03 50 05.6 -0.4**
J25K Salcha River, 3.21 39 P **Pn 03 50 05.6 -0.4**
baz=223
L26K Log Cabin Wild 3.21 72 Pn 03 50 06.5 +0.5
L26K IAML 03 50 58.7
comp=E,232nm,0.6s
L26K IAML 03 51 06.0
comp=N,183nm,0.7s
I20K Naaghedeneel 3.27 325 Pn 03 50 06.8 +0.1
I20K IAML 03 50 49.2
comp=N,241nm,1.1s
I20K Naaghedeneel 3.27 325 P **Pn 03 50 06.7 0.0**
baz=141
SCRK Sand Creek 3.28 55 Pn **Pn 03 50 07.2 +0.1**
SCRK IAML 03 50 50.4
comp=E,213nm,0.8s
SCRK Sand Creek 3.28 55 P **Pn 03 50 07.0 -0.1**
baz=240
VRDI Verde Repeater 3.30 104 Pn **Pn 03 50 06.8 -0.6**
VRDI IAML 03 50 56.6
comp=N,248nm,0.9s
VRDI IAML 03 50 58.7
comp=E,143nm,0.8s
J18K Innoko River 3.30 295 Pn **Pn 03 50 06.8 -0.4**
J18K Innoko River 3.30 295 P **Pn 03 50 06.9 -0.4**
baz=109
M26K Nabesna, AK 3.31 84 Pn **Pn 03 50 07.6 +0.2**
M26K IAML 03 51 01.9
comp=N,154nm,0.7s
M26K IAML 03 51 05.1
comp=E,145nm,0.7s
HMT Hamilton 3.37 121 Pn 03 50 07.0 -1.2
O18K Koktuh Hills 3.44 229 Pn **Pn 03 50 09.4 +0.3**
O18K IAML 03 51 29.4
comp=E,70nm,0.9s
O18K IAML 03 51 37.8
comp=N,76nm,0.8s
O18K Koktuh Hills 3.44 229 P **Pn 03 50 09.6 +0.4**
baz=44
MCARA McCarthy VSAT 3.44 101 Pn 03 50 08.4 -0.8
MCARA McCarthy VSAT 3.44 101 P **Pn 03 50 09.0 -0.2**
baz=287
NICHA Nichawak Mount 3.55 121 Pn 03 50 09.5 -1.2
M17K Holitna River 3.59 260 Pn **Pn 03 50 10.5 -0.8**
M17K IAML 03 50 51.8
comp=E,176nm,0.8s
M17K IAML 03 51 24.6
comp=N,157nm,1.5s
M17K Holitna River 3.59 260 P **Pn 03 50 10.5 -0.8**
baz=74
CRQM Cirque 3.63 111 Pn 03 50 11.1 -0.8
H23K Yukon River 3.64 3 Pn 03 50 11.9 +0.1
H23K IAML 03 50 55.5
comp=E,59nm,0.9s
H23K Yukon River 3.64 3 P **Pn 03 50 11.6 -0.3**
baz=184
H21K Melozitna Rive 3.67 342 Pn **Pn 03 50 11.9 -0.3**
H21K Melozitna Rive 3.67 342 P **Pn 03 50 11.8 -0.5**
baz=159
J26L Joseph Creek 3.72 49 Pn **Pn 03 50 13.6 +0.5**

J26L Joseph Creek 3.72 49 P **Pn 03 50 13.6 +0.5**
baz=235
Q19K Cape Douglas, 3.73 210 Pn 03 50 13.8 +0.6
Q19K Cape Douglas, 3.73 210 P **Pn 03 50 13.8 +0.6**
baz=27
H22K Ishtalitna Cre 3.75 352 Pn 03 50 13.1 -0.3
H22K Ishtalitna Cre 3.75 352 P **Pn 03 50 13.1 -0.3**
baz=170
PTPK Patty Peak 3.76 102 Pn 03 50 13.2 -0.5
TGL Tana Glacier 3.76 110 Pn 03 50 13.9 +0.2
H24K Noodor Dome 3.77 14 Pn 03 50 13.3 -0.3
H24K Noodor Dome 3.77 14 IAML 03 50 56.4
comp=N,58nm,0.9s
H24K IAML 03 51 05.5
comp=E,68nm,0.9s
H24K Noodor Dome 3.77 14 P **Pn 03 50 13.5 -0.1**
baz=196
GRIN Grindle Hills 3.79 118 Pn 03 50 13.3 -0.7
Q20K Shuyak Island 3.79 199 P **Pn 03 50 13.9 0.0**
baz=17
SYI Shuyak Island 3.79 199 Pn **Pn 03 50 14.0 0.0**
SYI IAML 03 51 08.2
comp=N,129nm,0.7s
SYI IAML 03 51 10.3
comp=E,145nm,1.0s
P18K Big Mountain, 3.79 224 Pn 03 50 14.6 +0.6
P18K IAML 03 51 15.1
comp=N,56nm,1.1s
N17K Nushagak Hills 3.82 247 Pn 03 50 13.9 -0.5
N17K IAML 03 51 32.8
comp=N,54nm,0.8s
N17K IAML 03 51 39.0
comp=E,55nm,1.0s
N17K Nushagak Hills 3.82 247 P **Pn 03 50 13.9 -0.5**
baz=61
M27K Edge Creek, AK 3.83 84 Pn 03 50 15.4 +0.8
M27K IAML 03 51 21.1
comp=N,79nm,1.1s
M27K IAML 03 51 22.6
comp=E,74nm,1.6s
M27K Edge Creek, AK 3.83 84 P **Pn 03 50 15.1 +0.5**
baz=271
K17K Iditarod 3.86 281 Pn **Pn 03 50 14.4 -0.5**
K17K IAML 03 51 16.7
comp=N,95nm,1.2s
K17K IAML 03 51 40.0
comp=E,82nm,0.9s
K17K Iditarod 3.86 281 P **Pn 03 50 14.6 -0.3**
baz=94
L17K Donlin 3.86 273 Pn 03 50 14.0 -0.9
L17K Donlin 3.86 273 P **Pn 03 50 14.0 -0.9**
baz=85
PRP Porcupine Dome 3.88 29 Pn **Pn 03 50 14.9 -0.4**
PRP IAML 03 51 04.4
comp=N,136nm,0.8s
PRP Porcupine Dome 3.88 29 P **Pn 03 50 15.2 -0.1**
baz=213
WAX Waxell Ridge 3.90 114 Pn 03 50 15.5 0.0
L27K Beaver Creek, 3.90 74 Pn **Pn 03 50 15.2 -0.3**
L27K IAML 03 51 16.6
comp=N,81nm,1.9s
L27K Beaver Creek, 3.90 74 P **Pn 03 50 15.2 -0.3**
baz=261
KIAG Kiagna River 3.90 106 Pn 03 50 14.6 -1.1
BCAR Beaver Creek A 3.92 74 Pn **Pn 03 50 14.9 -0.8**
H20K Anotleneega Mo 3.92 329 Pn 03 50 15.5 -0.3
H20K Anotleneega Mo 3.92 329 P **Pn 03 50 15.5 -0.3**
baz=145
K27K Chicken 4.06 60 Pn 03 50 17.2 -0.4
K27K IAML 03 51 13.5
comp=N,76nm,0.6s
K27K IAML 03 51 13.9
comp=E,55nm,0.6s
BARK Barkley Ridge 4.08 113 Pn 03 50 17.8 -0.2
IMAR Indian Mountai 4.12 339 Pn 03 50 18.4 0.0
GRNC Granite Creek 4.25 107 Pn 03 50 20.3 -0.2
GRNC IAML 03 51 27.6
comp=E,113nm,1.1s
J17K VABM Dome 4.31 290 Pn **Pn 03 50 20.6 -0.3**
J17K VABM Dome 4.31 290 P **Pn 03 50 20.6 -0.4**
baz=102
KAHC Katmai Hardscr 4.33 217 Pn 03 50 22.5 +1.1
KAHC Katmai Hardscr 4.33 217 Pn 03 50 22.4 +0.9
KAHC Katmai Hardscr 4.33 217 P **Pn 03 50 22.5 +1.1**
baz=32
Q18K Katmai Hardscr 4.33 217 P **Pn 03 50 22.4 +0.9**
baz=32
KAHG Katmai Hook Gl 4.34 213 Pn 03 50 22.2 +0.7
CTG Chitna Glacier 4.35 103 P **Pn 03 50 21.5 -0.2**
baz=290
P17K Kvichak River 4.35 229 Pn 03 50 22.5 +0.9
P17K Kvichak River 4.35 229 P **Pn 03 50 22.5 +0.9**
baz=43
CTGM Chitina Glacie 4.36 103 Pn 03 50 21.5 -0.3
CTGM Chitina Glacie 4.36 103 IAML 03 51 27.7
comp=E,98nm,0.9s
H19K Roundabout Mou 4.37 323 Pn **Pn 03 50 21.4 -0.4**
H19K IAML 03 51 12.5
comp=E,38nm,0.4s
H19K Roundabout Mou 4.37 323 P **Pn 03 50 21.6 -0.2**
baz=137
I26K Coal Creek Min 4.37 42 Pn 03 50 21.6 -0.2
M16K Timber Creek 4.41 258 Pn **Pn 03 50 21.9 -0.6**
M16K IAML 03 51 14.2
comp=E,32nm,0.7s
M16K IAML 03 51 57.9
comp=N,36nm,1.4s
M16K Timber Creek 4.41 258 P **Pn 03 50 21.8 -0.6**
baz=70
MESA MESA 4.42 114 Pn 03 50 21.8 -1.0
MESA MESA 4.42 114 P **Pn 03 50 22.9 +0.1**
baz=301
L16K Owhat River 4.47 268 Pn 03 50 22.5 -0.8
L16K Owhat River 4.47 268 IAML 03 51 53.0
comp=E,37nm,1.0s
L16K Owhat River 4.47 268 P **Pn 03 50 22.7 -0.5**
baz=79
G23K Bananza Creek 4.52 0 Pn **Pn 03 50 24.1 0.0**
G23K Bananza Creek 4.52 0 P **Pn 03 50 24.0 0.0**
baz=180
N16K Nishlik Lake 4.54 251 Pn 03 50 24.3 +0.1
N16K Nishlik Lake 4.54 251 P **Pn 03 50 25.0 +0.8**
baz=64
YUK3 Moose Creek 4.55 91 Pn 03 50 24.4 -0.2
YUK3 Moose Creek 4.55 91 P **Pn 03 50 24.4 -0.2**
baz=280
LOGN Logan Glacier 4.56 104 Pn 03 50 24.0 -0.6
G21K Allakaket 4.58 342 Pn **Pn 03 50 24.7 0.0**
G21K IAML 03 51 17.5
comp=E,33nm,0.5s
G21K IAML 03 51 33.8
comp=N,34nm,0.7s
G21K Allakaket 4.58 342 P **Pn 03 50 24.6 0.0**
baz=159
KDAK Kodiak Island 4.62 197 Pn 03 50 24.0 -1.3
KDAK Kodiak Island 4.62 197 IAML 03 51 35.6
comp=N,71nm,0.9s
KDAK IAML 03 51 36.1
comp=N,102nm,1.1s
KVTA Katmai Vly 10 4.64 216 Pn 03 50 26.7 +1.1
O16K Kokwok River B 4.72 240 Pn 03 50 26.4 -0.2
O16K Kokwok River B 4.72 240 IAML 03 51 59.6
comp=N,34nm,1.2s
O16K IAML 03 52 04.7
comp=E,29nm,1.1s
O16K Kokwok River B 4.72 240 P **Pn 03 50 26.6 0.0**
baz=53
H18K Honhosa River 4.73 312 Pn **Pn 03 50 26.9 +0.1**
H18K IAML 03 51 20.9
comp=N,32nm,0.8s
H18K IAML 03 51 21.2
comp=E,34nm,0.7s
H18K Honhosa River 4.73 312 P **Pn 03 50 26.9 +0.1**
baz=125
KABU Katmai Buttres 4.73 216 Pn 03 50 27.8 +0.9
KABU Katmai Buttres 4.73 216 IAML 03 52 09.8
comp=N,29nm,0.9s
KABU IAML 03 52 09.8
comp=E,78nm,0.8s
EGAK Eagle 4.75 53 Pn 03 50 26.9 -0.2
ANCK Angle Creek 4.85 216 Pn 03 50 29.3 +0.8
ANCK Angle Creek 4.85 216 IAML 03 51 55.3
comp=N,63nm,1.2s
ANCK IAML 03 52 27.6
comp=E,41nm,1.5s
G25K Bearman Lake 4.88 19 Pn 03 50 28.9 +0.1

G25K	Bearman Lake	4.88	19	P	Pn	03 50 28.1	-0.8
	baz=202						
CNTC	Contact Creek	4.91	219		Pn	03 50 29.9	+0.6
Q17K	Contact Creek	4.91	219	P	Pn	03 50 29.5	+0.2
	baz=34						
O28M	Mount Upton	4.95	103		Pn	03 50 29.3	-0.7
O28M	Mount Upton	4.95	103	P	Pn	03 50 29.3	-0.7
	baz=291						
J16K	Anvik River	4.96	287	Pn	Pn	03 50 29.7	-0.3
J16K				IAML		03 51 53.1	
	comp=N,26nm,0.8s						
J16K	Anvik River	4.96	287	P	Pn	03 50 29.6	-0.3
	baz=98						
G19K	Purcell Mounta	5.00	325	Pn	Pn	03 50 30.0	-0.5
G19K	Purcell Mounta	5.00	325	P	Pn	03 50 30.1	-0.5
	baz=139						
COLD	Coldfoot	5.04	359		Pn	03 50 31.3	+0.2
COLD	Coldfoot	5.04	359	P	Pn	03 50 31.3	+0.2
	baz=179						
I27K	Kandik River	5.05	44		Pn	03 50 31.5	+0.3
I27K	Kandik River	5.05	44	P	Pn	03 50 31.5	+0.3
	baz=231						
I17K	Unalakleet	5.12	294		Pn	03 50 32.3	+0.2
I17K	Unalakleet	5.12	294	IAML		03 51 31.5	
	comp=E,34nm,0.8s						
I17K	Unalakleet	5.12	294	P	Pn	03 50 32.6	+0.4
	baz=104						
H17K	Granite Mounta	5.18	306	Pn	Pn	03 50 33.6	+0.6
H17K				IAML		03 51 32.0	
	comp=N,36nm,1.0s						
H17K				IAML		03 51 32.0	
	comp=E,36nm,1.2s						
H17K	Granite Mounta	5.18	306	P	Pn	03 50 33.5	+0.5
	baz=117						
DAWY	Dawson	5.19	64		Pn	03 50 33.4	+0.3
DAWY				IAML		03 51 57.4	
	comp=N,40nm,0.7s						
DAWY				IAML		03 52 02.4	
	comp=E,52nm,1.1s						
F21K	Alatna River	5.24	345	Pn	Pn	03 50 33.9	+0.1
F21K				IAML		03 51 32.4	
	comp=N,19nm,0.7s						
F21K				IAML		03 52 03.6	
	comp=E,18nm,0.8s						
F21K	Alatna River	5.24	345	P	Pn	03 50 33.9	+0.1
	baz=162						
OHAK	Old Harbor	5.26	199		Pn	03 50 31.7	-2.4
OHAK	Old Harbor	5.26	199	IAML		03 51 56.3	
	comp=E,35nm,1.2s						
OHAK				IAML		03 52 12.2	
	comp=N,33nm,1.6s						
OHAK	Old Harbor	5.26	199	P	Pn	03 50 31.7	-2.4
	baz=17						
N15K	Kwethluk River	5.26	252		Pn	03 50 34.0	-0.1
N15K	Kwethluk River	5.26	252	IAML		03 52 17.0	
	comp=E,43nm,0.9s						
N15K				IAML		03 52 17.9	
	comp=N,43nm,1.4s						
N15K	Kwethluk River	5.26	252	P	Pn	03 50 34.5	+0.4
	baz=63						
G18K	Tagagawik	5.28	318		Pn	03 50 34.4	+0.1
G18K	Tagagawik	5.28	318	P	Pn	03 50 34.2	-0.1
	baz=130						
K15K	Wolf Creek Mou	5.36	276		Pn	03 50 34.9	-0.6
K15K	Wolf Creek Mou	5.36	276	P	Pn	03 50 35.0	-0.4
	baz=86						
F24K	Squaw Lake	5.41	9		Pn	03 50 35.5	-0.7
F24K	Squaw Lake	5.41	9	P	Pn	03 50 35.5	-0.7
	baz=191						
M29M	Somme Creek	5.41	82	Pn	Pn	03 50 36.6	+0.3
M29M	Somme Creek	5.41	82	P	Pn	03 50 36.3	0.0
	baz=273						
L15K	Ungalak Mounta	5.42	269		Pn	03 50 35.2	-1.0
L15K	Ungalak Mounta	5.42	269	P	Pn	03 50 35.5	-0.7
	baz=79						
F20K	Avaraart Lake	5.43	336		Pn	03 50 37.1	+0.7
G26K	Porcupine Rive	5.47	27		Pn	03 50 36.1	-0.8
G26K	Porcupine Rive	5.47	27	P	Pn	03 50 36.1	-0.8
	baz=212						
H27K	Steamboat Moun	5.49	39		Pn	03 50 36.5	-0.7
H27K	Steamboat Moun	5.49	39	P	Pn	03 50 36.5	-0.7
	baz=227						
I28M	Miner Creek	5.54	50	Pn	Pn	03 50 38.1	+0.2
I28M	Miner Creek	5.54	50	P	Pn	03 50 38.1	+0.2
	baz=239						
L29M	L29M	5.58	75	Pn	Pn	03 50 38.4	0.0
L29M	L29M	5.58	75	P	Pn	03 50 38.4	0.0
	baz=266						
F19K	Shaleruckik Mo	5.71	328	Pn	Pn	03 50 40.1	-0.1
F19K	Shaleruckik Mo	5.71	328	P	Pn	03 50 39.9	-0.3
	baz=141						
F25K	Christian Rive	5.72	17		Pn	03 50 40.2	-0.2
F25K	Christian Rive	5.72	17	P	Pn	03 50 40.2	-0.2
	baz=201						
G17K	Kiwalik Mounta	5.73	310		Pn	03 50 40.6	+0.2
G17K	Kiwalik Mounta	5.73	310	P	Pn	03 50 40.6	+0.2
	baz=120						
YUK6	Outpost Mounta	5.73	98		Pn	03 50 40.8	0.0
YUK6	Outpost Mounta	5.73	98	P	Pn	03 50 40.8	0.0
	baz=288						
BMAR	Burnt Mountain	5.74	22	Pn	Pn	03 50 40.6	0.0
G27K	Doyon Strip	5.87	34		Pn	03 50 42.1	-0.3
G27K	Doyon Strip	5.87	34	P	Pn	03 50 42.2	-0.3
	baz=222						
E23K	Chandalar	5.88	2		Pn	03 50 42.9	+0.3
E23K	Chandalar	5.88	2	P	Pn	03 50 42.9	+0.3
	baz=182						
E24K	Your Creek	5.93	6		Pn	03 50 43.0	-0.3
K29M	Barlow Dome	5.94	68		Pn	03 50 43.4	-0.1
K29M	Barlow Dome	5.94	68	P	Pn	03 50 43.5	0.0
	baz=260						
E22K	Anaktuvuk Pass	6.00	354		Pn	03 50 44.9	+0.7
F26K	Sheenjek River	6.05	22		Pn	03 50 44.8	-0.2
F26K	Sheenjek River	6.05	22	P	Pn	03 50 45.0	+0.1
	baz=207						
E19K	Redstone River	6.09	333		Pn	03 50 45.2	-0.2
E19K	Redstone River	6.09	333	P	Pn	03 50 45.2	-0.2
	baz=146						
N30M	Aishikik Lake	6.19	91		Pn	03 50 45.9	-1.0
N30M	Aishikik Lake	6.19	91	P	Pn	03 50 45.7	-1.2
	baz=283						
E25K	Arctic Village	6.23	16		Pn	03 50 47.5	+0.1
E25K	Arctic Village	6.23	16	P	Pn	03 50 47.5	+0.1
	baz=200						
G16K	Koyuk River	6.31	306		Pn	03 50 48.6	+0.2
G16K	Koyuk River	6.31	306	P	Pn	03 50 49.1	+0.7
	baz=115						
F17K	Baldwin Pennin	6.45	316		Pn	03 50 50.5	+0.2
F17K	Baldwin Pennin	6.45	316	P	Pn	03 50 50.5	+0.2
	baz=126						
TOLK	Toolik Lake Re	6.46	2	Pn	Pn	03 50 51.8	+1.2
H29M	Whitestone	6.49	47		Pn	03 50 50.3	-0.7
H29M	Whitestone	6.49	47	P	Pn	03 50 50.3	-0.7
	baz=237						
E20K	Nigu River	6.59	340		Pn	03 50 53.4	+1.1
E20K	Nigu River	6.59	340	P	Pn	03 50 53.4	+1.1
	baz=154						
J30M	Hart River	6.61	63	Pn	Pn	03 50 52.9	+0.2
J30M	Hart River	6.61	63	P	Pn	03 50 53.2	+0.5
	baz=255						
I30M	Mount Dempster	6.79	58	Pn	Pn	03 50 56.1	+1.0
D22K	Ayikyak River	6.79	352		Pn	03 50 55.8	+0.8
N31M	Braeburn, Yuko	6.80	90		Pn	03 50 55.1	-0.1
E18K	Tukpahlearik C	6.89	324	Pn	Pn	03 50 57.0	+0.6
E18K	Tukpahlearik C	6.89	324	P	Pn	03 50 57.6	+1.2
	baz=134						
F28M	Old Crow	6.94	34	Pn	Pn	03 50 56.9	-0.2
F28M	Old Crow	6.94	34	P	Pn	03 50 57.2	+0.2
	baz=223						
E27K	Coleen River	6.97	27		Pn	03 50 56.1	-1.5
E27K	Coleen River	6.97	27	P	Pn	03 50 56.1	-1.5
	baz=215						
E17K	Hotham Inlet	7.02	319		Pn	03 50 58.4	+0.2
E17K	Hotham Inlet	7.02	319	P	Pn	03 50 58.4	+0.2
	baz=129						
EPYK	Eagle Plains	7.14	48		Pn	03 51 00.9	+1.0
D19K	Kuna River	7.15	335		Pn	03 50 58.8	-1.1
D19K	Kuna River	7.15	335	P	Pn	03 50 58.8	-1.1
	baz=148						
C21K	Knifeblade Rid	7.24	346		Pn	03 51 02.0	+0.8
C21K	Knifeblade Rid	7.24	346	P	Pn	03 51 02.0	+0.8
	baz=162						
M31M	Drury Creek, Y	7.33	83		Pn	03 51 02.4	0.0
G30M	tAoh Zraii Nji	7.63	45		Pn	03 51 05.2	-1.4
G30M	tAoh Zraii Nji	7.63	45	P	Pn	03 51 05.2	-1.4
	baz=238						
C23K	Itkillik River	7.67	359	Pn	Pn	03 51 07.1	+0.2
B21K	Ikpikpuk River	7.67	348		Pn	03 51 06.8	-0.2
B21K	Ikpikpuk River	7.67	348	P	Pn	03 51 06.8	-0.2
	baz=164						
E29M	Blow River	8.01	34		Pn	03 51 10.2	-1.5
E29M	Blow River	8.01	34	P	Pn	03 51 10.2	-1.5
	baz=225						
G31M	Satah River	8.27	48		Pn	03 51 14.1	-1.0
G31M	Satah River	8.27	48	P	Pn	03 51 14.1	-1.0
	baz=242						
F31M	Tsiigehtchic	8.69	46	Pn	Pn	03 51 21.9	+0.9

*IDC **05** 03:54:00.5±1.4, 0.°21N×123.°57E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=147.6km s-min=22.8km az=66.0*
*DJA **05** 03:54:15.2±0.5, 0.°S±3.°×12.°3E±.°, h142km±6km, M3.7/7, MLv3.7/7*

ISC 05 03:54:16.0±0.9, 0.°20S±0.°07×123.°45E±0.°06, h157km, n9, σ2°09/14, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.93	35	P	Pn	03 54 40.3	-0.6
KMSI				S	Sn	03 54 58.3	-1.7
GTOI	Gorontalo	0.94	332	P	Pn	03 54 40.7	-0.2
GTOI				S	Sn	03 54 58.6	-1.5
LUWI	Luwuk	1.08	219	P	Pn	03 54 41.7	-0.4
LUWI				S	Sn	03 55 00.3	-1.8
SANI	Sanana	3.13	126	P	Pn	03 55 04.8	-0.5
SANI				S	Sn	03 55 39.9	-3.7
MPSI	Mapaga	3.59	279	P	Pn	03 55 10.6	-0.5
MPSI				S	Sn	03 55 51.3	-2.7
WRA	Warramunga Arr	22.33	152	P	P	03 59 03.6	+2.5
	2.7nm,0.6s,baz=332,slow=10,SNR=49						
	2.7nm,0.6s						
ASAR	Alice Springs	25.44	157	P	P	03 59 32.8	+3.3
	0.3nm,0.3s,baz=348,slow=13,SNR=5.0						
	0.3nm,0.3s						
SONM	Songino Array	50.09	345	P	P	04 02 55.8	+0.7
	0.7nm,0.7s,baz=164,slow=7.5,SNR=2.4						
	0.7nm,0.7s						
MKAR	Makanchi Array	59.02	328	P	P	04 03 59.3	0.0
	0.2nm,0.4s,baz=130,slow=8.9,SNR=2.8						
	0.2nm,0.4s						

*TIR **05** 04:20:05.1, 41.°46N×19.°48E, h6km±5km, Md2.8, Ml3.1*
*BEO **05** 04:20:06.7±0.6, 41.°37N×19.°55E, h14km±2km, ML2.9/20*
*RHSSO **05** 04:20:06.9±0.6, 41.°40N×19.°53E, h7km±2km, ML3.2/13*
*THE **05** 04:20:06.4, 41.°51N×19.°52E, h1km±2km, ML2.9/5, Error ellipse: s-maj=4.5km s-min=1.9km az=354.0*
*PDG **05** 04:20:07.1±0.3, 41.°52N×19.°66E, h11km, MD3.2/2, ML3.1/12, Error ellipse: s-maj=0.6km s-min=1.0km az=0.0*

ISC 05 04:20:07.2±0.9, 41.°47N±0.°02×19.°56E±0.°02, h11km±7km, n112, σ1°01/179, 33C-22D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.26	118	⇑P	Pg	04 20 12.2	-0.3
TIR				⇑S	Sg	04 20 16.3	+0.3
TIR	Tirane	0.26	118	P	Pg	04 20 12.3	-0.2
	baz=111						
TIR				S	Sg	04 20 15.7	-0.4
	baz=111						
TIR				AMP			
	comp=N,38nm,0.3s,baz=111						
TIR	Tirane	0.26	118	P	Pg	04 20 12.3	-0.2
TIR				S	Sg	04 20 16.5	+0.4
	comp=N,11μm,0.3s						
TIR	Tirane	0.26	118	*e*Pg	Pg	04 20 12.3	-0.2
TIR				*e*Sg	Sg	04 20 16.5	+0.4
ULC	Ulcinj	0.55	334	⇓*i*Pg	Pg	04 20 17.8	0.0
ULC				*i* Sg	Sb	04 20 26.6	-0.1
PUK	Puka	0.62	23	P	Pg	04 20 18.5	-0.8
	baz=27						
PUK				S	Sg	04 20 28.5	+1.0
	baz=27						
PUK				AMP			
	comp=E,6.4nm,0.3s,baz=27						
DRME	Dracevica, Mon	0.77	339	*e*Pg	Pg	04 20 21.6	-0.4
DRME				*e*Sg	Sn	04 20 35.1	-0.5
DRME	Dracevica, Mon	0.77	339	⇑*i*Pg	Pg	04 20 21.7	-0.3
DRME				*e*Sg	Sb	04 20 33.2	+0.1
DRME	Dracevica, Mon	0.77	339	⇑*i*Pg	Pg	04 20 21.7	-0.3
DRME				*i* Sg	Sb	04 20 34.0	+0.9
BUM	Brajici-Budva	0.97	329	⇑*i*Pg	Pb	04 20 25.9	-0.1
BUM				*i* Sg	Sn	04 20 41.2	+0.6
BCI	Bajram Curri	0.97	23	P	Pg	04 20 24.2	-1.7
	baz=25						
BCI				S	Sg	04 20 39.0	+0.5
	baz=25						
BCI				AMP			
	comp=E,2.2nm,0.4s,baz=25						
PDG	Podgorica	0.98	347	⇓P	Pg	04 20 25.2	-1.0
PDG				⇓S	Sg	04 20 37.7	-1.3
PDG	Podgorica	0.98	347	*e*Pg	Pb	04 20 26.0	-0.3
PDG				*e*Sg	Sn	04 20 42.3	+1.4
PDG	Podgorica	0.98	347	*e*Pg	Pg	04 20 24.9	-1.2
PDG				*e*Sg	Sb	04 20 40.0	+0.7
PDG	Podgorica	0.98	347	⇓*i*Pg	Pg	04 20 25.1	-1.0
PDG				*i* Sg	Sn	04 20 41.0	+0.1
OHR	Ohrid	1.00	111	*i* Pg	Pg	04 20 25.6	-0.9
OHR				*i* Sg	Sg	04 20 39.6	+0.2
PVY	Plav	1.16	15	*e*Pg	Pg	04 20 28.2	-1.3
PVY	Plav	1.16	15	⇑*i*Pg	Pg	04 20 27.4	-2.1
PVY				*i* Sg	Sb	04 20 45.1	+0.6
CEME	Cevo	1.18	336	⇑*i*Pg	Pg	04 20 29.0	-0.8
CEME				*i* Sg	Sn	04 20 47.9	+2.1
KBN	Korca	1.26	132	P	Pg	04 20 31.5	+0.2
	baz=129						
KBN				S	Sn	04 20 49.4	+1.7
	baz=129						
KBN				AMP			
	comp=N,1.0nm,0.6s,baz=129						
KBN	Korca	1.26	132	P	Pg	04 20 31.2	-0.1
KBN				S	Sn	04 20 49.2	+1.5
	comp=N,268nm,0.6s						
HCY	Herceg Novi	1.26	321	⇑*i*Pg	Pn	04 20 30.2	-0.6
HCY				*e*Sg	Sn	04 20 48.7	+1.0
HCY	Herceg Novi	1.26	321	⇑*i*Pg	Pg	04 20 30.9	-0.5
HCY				*i* Sg	Sn	04 20 50.7	+3.0
NKME	Niksic	1.37	341	⇓*i*Pg	Pg	04 20 33.2	-0.3
NKME				*i* Sg	Sg	04 20 53.8	+2.5
KOME	Kolasin	1.38	359	*e*Pg	Pb	04 20 33.1	0.0
KOME				*e*Sg	Sg	04 20 54.3	+2.7
KOME	Kolasin	1.38	359	⇑*i*Pg	Pn	04 20 32.1	-0.4
KOME				*i* Sg	Sg	04 20 53.7	+2.1
BEY	Berane	1.42	10	*e*Pg	Pn	04 20 32.8	-0.3
IVA	Berane	1.42	10	⇑*i*Pg	Pn	04 20 32.7	-0.3
IVA				*i* Sg	Sg	04 20 54.9	+2.0
FNA	Florina	1.53	116	P	Pn	04 20 35.3	+0.7
	baz=114						
FNA				AMP			
	comp=E,0.6nm,0.7s,baz=114						
FNA	Florina	1.53	116	P	Pn	04 20 35.2	+0.7
FNA				S	Sb	04 20 56.0	+0.9
	comp=E,428nm,0.6s						
FNA	Florina	1.53	116	*e*Pg	Pn	04 20 34.8	+0.2
FNA				*e*Sg	Sn	04 20 55.4	+0.9
TREB	Trebinje	1.54	325	⇓*i*Pn	Pn	04 20 34.8	+0.2
TREB				*e*Sn	Sg	04 20 56.1	-0.5
NEST	Nestorio	1.54	133	P	Pn	04 20 35.2	+0.4
NEST				S	Sg	04 20 57.5	+0.7
	comp=E,135nm,0.4s						
DBRK	Dubrovnik	1.59	319	*e*Pn	Pn	04 20 35.2	-0.1
BRY	Bratogost	1.62	332	*e*Pn	Pn	04 20 36.1	+0.3
BRY				*e*Sn	Sb	04 20 58.1	+0.4
BRY	Bratogost	1.62	332	⇓*i*Pn	Pb	04 20 37.0	-0.2
BRY				*i* Sn	Sg	04 21 01.4	+2.1
SRN	Sarande	1.62	168	P	Pn	04 20 36.0	+0.3
	baz=165						
SRN				AMP			
	comp=E,0.7nm,0.5s,baz=165						
SRN	Sarande	1.62	168	P	Pn	04 20 35.7	0.0
SRN				S	Sg	04 20 59.5	+0.1
	comp=E,178nm,0.5s						
UPM	Unac-Piva	1.80	345	*e*Pn	Pb	04 20 39.7	-0.6
UPM				*e*Sn	Sb	04 21 02.3	-0.6
UPM	Unac-Piva	1.80	345	⇑*i*Pn	Pb	04 20 40.0	-0.3
UPM				*i* Sn	Sg	04 21 04.8	-0.2
SJES	Sjenica	1.81	10	*e*Pn	Pb	04 20 40.0	-0.6
SJES				*e*Sn	Sn	04 21 02.9	+1.3
SJES	Sjenica	1.81	10	⇑*i*Pn	Pb	04 20 39.9	-0.6
SJES				*e*Sn	Sb	04 21 04.0	+0.7
KLINJ	Klinje	1.84	337	⇑*i*Pn	Pn	04 20 39.8	+0.9
KLINJ				*e*Sn	Sb	04 21 04.4	+0.3
PLE	Pljevlja	1.86	356	*e*Pn	Pb	04 20 41.1	-0.2
PLE	Pljevlja	1.86	356	⇑*i*Pn	Pn	04 20 40.2	+1.0
PLE				*i* Sn	Sb	04 21 05.5	+0.8
STON	Ston	1.97	316	*e*Pn	Pn	04 20 39.9	-0.6
STON	Ston	1.97	316	*e*Pn	Pn	04 20 40.7	+0.2
STON				*e*Sn	Sn	04 21 06.0	+0.9
STIP	Stip	1.98	83	*i* Pn	Pb	04 20 43.0	-0.2
PRVS	Prvonek	2.14	60	*e*Pn	Pn	04 20 42.9	0.0
PRVS				*e*Sn	Sn	04 21 09.9	+0.4
BARS	Barje	2.15	51	*e*Pn	Pn	04 20 43.4	+0.4
IVAS	Ivanjica	2.15	12	*e*Pn	Pn	04 20 43.2	+0.1
IVAS				*e*Sn	Sn	04 21 11.6	+1.8
RUDO	Rudo	2.15	356	*e*Pn	Pn	04 20 43.5	+0.5
RUDO				*e*Sn	Sn	04 21 11.1	+1.4
MATE	Matera	2.31	250	⇓P	Pn	04 20 44.8	-0.4
BBLS	Lazi&#263i	2.40	357	*e*Pn	Pn	04 20 48.2	+1.7
BBLS	Lazi&#263i	2.40	357	⇑*i*Pn	Pn	04 20 48.1	+1.6
BBLS				*e*Sn	Sn	04 21 18.2	+2.3
GRUS	Gruza	2.56	19	*e*Pn	Pn	04 20 48.9	+0.2
MAKA	Makarska	2.62	315	*e*Pn	Pn	04 20 48.7	-0.7
DIVS	Divibare	2.65	7	*e*Pn	Pn	04 20 50.0	+0.1
HAPS	Han Pijesak,Bl	2.65	350	⇑*i*Pn	Pn	04 20 50.6	+0.6
HAPS				*e*Sn	Sn	04 21 23.9	+1.7
BOVS	Bovan	2.68	36	⇑P	Pn	04 20 49.9	-0.4
BOVS				⇓S	Sn	04 21 21.6	-1.2
BOVS	Bovan	2.68	36	*e*Pn	Pn	04 20 50.7	+0.4
TSLK	Tsoukalades, L	2.77	162	P	Pn	04 20 51.4	-0.2
LKD2	Lefkada island	2.81	162	P	Pn	04 20 51.5	-0.6
TRUS	Trudelj	2.82	12	*e*Pn	Pn	04 20 52.4	+0.2
HVAR	Hvar	2.87	308	*e*Pn	Pn	04 20 52.4	-0.5
NYDR	Nydri-Lefkada	2.89	162	P	Pn	04 20 52.4	-0.7
EVGI	Lefkada island	2.97	163	P	Pn	04 20 53.6	-0.6
ZAGS	Zajecar	3.06	39	*e*Pn	Pn	04 20 55.3	-0.2
TEKS	Tekeris	3.08	360	*e*Pn	Pn	04 20 56.0	+0.2
TEKS	Tekeris	3.08	360	*e*Pn	Pn	04 20 56.6	+0.8
TIP	Timpagrande	3.14	224	⇑P	Pn	04 20 55.9	-0.7
BLKB	Belogradchik	3.15	46	⇑S	Sn	04 21 33.2	-1.2
AVAS	Avala Beograd	3.30	12	*e*Pn	Pn	04 20 58.0	-0.8
KUBS	Kucevo	3.32	27	*e*Pn	Pn	04 20 57.9	-1.2
ANX	Ano Chora	3.40	147	P	Pn	04 21 01.6	+1.4
PSDA	Pessada-Kefalo	3.44	166	P	Pn	04 20 59.7	-1.1
MGRS	Mrkonjic Grad	3.46	329	*e*Pn	Pn	04 21 02.0	+1.0
MGRS				*e*Sn	Sn	04 21 42.3	+0.3
ZIRJ	Zirje	3.62	308	*e*Pn	Pn	04 21 03.1	-0.1
MDVR	Moldovita	3.67	25	⇓P	Pn	04 21 03.2	-0.7
MDVR				⇓S	Sn	04 21 45.7	-1.4
FRGS	Fruska Gora	3.69	3	⇓P	Pn	04 21 02.5	-1.6
FRGS				⇑S	Sn	04 21 48.1	+0.4
FRGS	Fruska Gora	3.69	3	*e*Pn	Pn	04 21 03.2	-1.0
FRGS	Fruska Gora	3.69	3	*e*Pn	Pn	04 21 04.4	+0.2
FRGS				*e*Sn	Sn	04 21 48.8	+1.1
BLY	Banja Luka	3.71	333	⇑*i*Pn	Pn	04 21 05.7	+1.3
BLY				*e*Sn	Sn	04 21 49.3	+1.2
MORI	Morici	3.71	311	*e*Pn	Pn	04 21 05.0	+0.5
MORI				Sn	Sn	04 21 47.6	-0.6
A050A	Klekovaca	3.74	325	*e*Pn	Pn	04 21 05.9	+1.0
A050A				*e*Sn	Sn	04 21 49.6	+0.6
HERR	Herculane	4.00	31	⇓P	Pn	04 21 08.3	-0.1
HERR				⇓S	Sn	04 21 55.3	+0.1
UDBI	Udbina	4.13	319	*e*Pn	Pn	04 21 10.3	0.0
DUGI	Dugi Otok	4.17	309	*e*Pn	Pn	04 21 10.6	-0.1
VIRC	Vir	4.35	312	*i* Pn	Pn	04 21 12.4	-0.8
BZS	Buzias	4.41	19	⇓P	Pn	04 21 13.5	-0.5
BZS				⇑S	Sn	04 22 03.9	-1.4
GZR	Gura Zlata	4.57	30	⇑P	Pn	04 21 17.1	+0.8
GZR				⇑S	Sn	04 22 08.1	-1.3
NVLJ	Novalja	4.62	314	*e*Pn	Pn	04 21 16.4	-0.6
SURR	Surduc	4.67	23	⇓P	Pn	04 21 16.7	-0.9
MORH	Mrgy, Hungar	4.79	352	⇑P	Pn	04 21 18.9	-0.3
RABC	Rab	4.79	315	*e*Pn	Pn	04 21 19.3	0.0
RABC				Sn	Sn	04 22 13.4	-1.4
SIRR	Siria	5.03	17	⇑P	Pn	04 21 21.8	-0.8
SIRR				⇓S	Sn	04 22 19.9	-0.8
BOJS	Bojanci	5.11	324	*e*Pn	Pn	04 21 23.8	+0.2
BOJS				*e*Sn	Sn	04 22 21.3	-1.2
CRES	Cresnjev	5.27	327	*e*Pn	Pn	04 21 26.4	+0.5
CRES				*e*Sn	Sn	04 22 25.3	-1.4
VOIR		5.63	43	⇓P	Pn	04 21 30.2	-0.7
VOIR				⇓S	Sn	04 22 34.3	-1.3
CEY	Cerknica	5.66	321	⇑*i*Pn	Pn	04 21 31.1	-0.2
CEY				*e*Sn	Sn	04 22 35.0	-1.4
SKDS	Skadanscina	5.73	317	*e*Pn	Pn	04 21 31.5	-0.7
SKDS				*e*Sn	Sn	04 22 35.8	-2.2
DRGR		5.78	22	⇓P	Pn	04 21 32.4	-0.5
DRGR				⇑S	Sn	04 22 38.3	-1.0
MARR	Marisel-Cluj	5.80	25	⇓P	Pn	04 21 32.8	-0.4
MARR				⇓S	Sn	04 22 39.0	-0.8
MLR	Muntele Rosu	6.14	47	⇑P	Pn	04 21 37.6	-0.3
MLR				⇑S	Sn	04 22 48.3	+0.1
SOKA	Soboth	6.14	329	*i* Pn	Pn	04 21 38.0	0.0
	comp=E,0.7nm,0.3s						
OBKA	Obir	6.20	326	*i* Pn	Pn	04 21 39.6	+0.9
	comp=E,1.1nm,0.3s						
OBKA	Obir	6.20	326	*e*

NVR				AML	AML	04 25 02.0
	comp=E,603μm,0.1s					
KNT	**Kendrikon**	**0.42 274**	⇓*i*Pg		**Pg**	**04 24 56.9 +0.5**
KNT			*i* Sg		**Sg**	**04 25 02.7 +0.5**
MMB	**Musomishta**	**0.47 28**	⇑*i*Pg		**Pg**	**04 24 57.4 0.0**
MMB			Sg		**Sg**	**04 25 03.8 0.0**
MMB	**Musomishta**	**0.47 28**	*i* Pg		**Pg**	**04 24 57.4 0.0**
MMB			*i* Sg		**Sg**	**04 25 03.9 +0.2**
KOKK	**Kokkinochori,**	**0.52 127**	P		**Pg**	**04 24 58.5 +0.2**
KOKK			S		**Sg**	**04 25 04.7 -0.5**
KOKK			AML		AML	04 25 05.9
	comp=E,583μm,0.2s					
KOKK			AML		AML	04 25 08.0
	comp=N,782μm,0.2s					
HORT	**Hortiatis**	**0.60 207**	P		**Pg**	**04 25 00.4 +0.6**
HORT			S		**Sg**	**04 25 07.6 -0.1**
HORT			AML		AML	04 25 09.8
	comp=N,292μm,0.2s					
HORT			AML		AML	04 25 10.1
	comp=E,467μm,0.1s					
THE	**Thessaloniki**	**0.62 217**	*i* Pg		**Pg**	**04 25 00.8 +0.6**
THE			*i* Sg		**Sg**	**04 25 09.5 +1.0**
THE	**Thessaloniki**	**0.62 217**	P		**Pg**	**04 25 00.8 +0.6**
THE			S		**Sg**	**04 25 08.5 0.0**
THE			AML		AML	04 25 10.1
	comp=N,524μm,0.4s					
THE			AML		AML	04 25 10.3
	comp=E,330μm,0.1s					
VAY	**Valandovo**	**0.69 286**	*e*Pg		**Pg**	**04 25 01.3 -0.2**
VAY			*i* Sg		**Sg**	**04 25 11.7 +1.0**
VAY			*e*Lg		Lg	04 25 11.8
	comp=E,25nm,0.3s					
VAY			*e*Lg		Lg	04 25 11.8
	comp=N,45nm,0.3s					
KVLA	**Kavala**	**0.73 105**	P		**Pg**	**04 25 02.3 0.0**
KVLA			S		**Sg**	**04 25 11.4 -0.5**
KKB	**Krupnik**	**0.75 341**	⇑*i*Pg		**Pg**	**04 25 02.5 -0.1**
KKB			Sg		**Sg**	**04 25 12.3 -0.2**
KKB	**Krupnik**	**0.75 341**	⇑*i*Pg		**Pg**	**04 25 02.6 -0.1**
KKB			*i* Sg		**Sg**	**04 25 12.2 -0.3**
PLG	**Polygyros**	**0.76 180**	P		**Pg**	**04 25 02.7 0.0**
PLG			S		**Sg**	**04 25 13.8 +1.0**
PLG			AML		AML	04 25 17.4
	comp=E,113μm,0.3s					
PLG			AML		AML	04 25 17.4
	comp=N,225μm,0.3s					
KAVA	**Kavala**	**0.81 99**	P		**Pg**	**04 25 03.3 -0.6**
KAVA			S		**Sg**	**04 25 13.6 -0.9**
OUR	**Ouranopolis**	**0.89 153**	P		**Pg**	**04 25 04.4 -0.9**
THAS	**Thassos island**	**1.09 118**	P		**Pb**	**04 25 08.5 -0.2**
THAS			S		**Sb**	**04 25 21.8 -0.9**
THAS			AML		AML	04 25 25.0
	comp=N,317μm,0.3s					
THAS			AML		AML	04 25 25.0
	comp=E,378μm,0.3s					
STIP	**Stip**	**1.11 301**	*i* Pg		**Pb**	**04 25 06.6 -2.3**
STIP			*i* Sg		**Sb**	**04 25 20.1 -3.1**
RZN	**Rozhen**	**1.12 59**	P		**Pb**	**04 25 09.3 +0.1**
PLD	**Plovdiv**	**1.40 43**	P		**Pb**	**04 25 14.7 +0.8**
PGB	**Panagyurishte**	**1.48 21**	P		**Pb**	**04 25 16.3 +1.0**
PGB			S		**Sg**	**04 25 36.6 +0.8**
VTS	**Vitosha**	**1.49 354**	P		**Pn**	**04 25 15.5 +1.0**
KDZ	**Kurdzhali**	**1.50 70**	P		**Pn**	**04 25 15.9 +1.4**
RDO	**Rodhopi**	**1.57 89**	P		**Pn**	**04 25 15.5 +0.1**
DIM	**Dimitrovgrad**	**1.84 60**	P		**Pb**	**04 25 22.3 +1.0**
ALN	**Alexandroupoli**	**1.98 96**	P		**Pn**	**04 25 21.2 +0.2**
MPEP	**Malo Peshtene**	**2.23 5**	*e*P		**Pb**	**04 25 29.6 +1.5**

*TIR **05** 04:33:27.2±41".51N×19°.60E, h24km±5km, Md3.2, Ml2.5*
*PDG **05** 04:33:28.8±0.1, 41°.53N×19°.64E, h11km, ML2.4/13, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
*RHSSO **05** 04:33:29.2±0.7, 41°.41N×19°.46E, h8km±2km, ML2.5/9*
*BEO **05** 04:33:29.1±0.6, 41°.39N×19°.63E, h13km±2km, ML2.2/6*
*THE **05** 04:33:30.8, 41°.55N×19°.78E, h6km±3km, ML2.1/4, Error ellipse: s-maj=7.1km s-min=2.0km az=236.0*

ISC 05 04:33:29.1±0.9, 41°.50N±0°.02×19°.61E±0°.03, h12km±7km, n60, σ1§01/104, 13C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.24**	**127**	P	**Pg**	**04 33 33.4**	**-0.8**
	baz=128						
TIR				S	**Sg**	**04 33 37.8**	**+0.2**
	baz=128						
TIR				AMP			
	comp=E,13nm,0.2s,baz=128						
TIR	**Tirane**	**0.24**	**127**	P	**Pg**	**04 33 34.0**	**-0.2**
TIR				S	**Sg**	**04 33 38.1**	**+0.5**
	comp=E,2μm,0.2s						
TIR	**Tirane**	**0.24**	**127**	*e*Pg	**Pg**	**04 33 34.0**	**-0.2**
TIR				*e*Sg	**Sg**	**04 33 38.6**	**+1.0**
ULC	**Ulcinj**	**0.54**	**330**	⇓*i*Pg	**Pg**	**04 33 39.0**	**-0.7**
ULC				*i* Sg	**Sb**	**04 33 47.6**	**-0.7**
PUK	**Puka**	**0.59**	**21**	P	**Pg**	**04 33 39.3**	**-1.3**
	baz=22						
PUK				S	**Sb**	**04 33 49.5**	**-0.2**
	baz=22						
PUK				AMP			
	comp=E,1.3nm,0.4s,baz=22						
DRME	**Dracevica, Mon**	**0.76**	**336**	*e*Pg	**Pg**	**04 33 43.3**	**-0.5**
DRME				*e*Sg	**Sn**	**04 33 58.8**	**+1.7**
DRME	**Dracevica, Mon**	**0.76**	**336**	⇑*i*Pg	**Pg**	**04 33 43.3**	**-0.5**
DRME				*e*Sg	**Sb**	**04 33 54.7**	**+0.1**
DRME	**Dracevica, Mon**	**0.76**	**336**	⇑*i*Pg	**Pg**	**04 33 43.2**	**-0.5**
DRME				*i* Sg	**Sb**	**04 33 54.7**	**+0.1**
BCI	**Bajram Curri**	**0.94**	**21**	P	**Pg**	**04 33 44.9**	**-2.3**
	baz=22						
BCI				S	**Sg**	**04 33 58.8**	**-0.6**
	baz=22						
BCI				AMP			
	comp=E,0.6nm,0.5s,baz=22						
BUM	**Brajici-Budva**	**0.97**	**327**	⇑*i*Pg	**Pg**	**04 33 46.8**	**-0.9**
BUM				*i* Sg	**Sn**	**04 34 02.1**	**-0.1**
PDG	**Podgorica**	**0.97**	**344**	*e*Pg	**Pb**	**04 33 47.7**	**-0.1**
PDG				*e*Sg	**Sn**	**04 34 03.9**	**+1.7**
PDG	**Podgorica**	**0.97**	**344**	⇑*i*Pg	**Pb**	**04 33 47.8**	**-0.1**
PDG				*e*Sg	**Sn**	**04 34 02.3**	**+0.1**
PDG	**Podgorica**	**0.97**	**344**	⇓*i*Pg	**Pg**	**04 33 46.7**	**-1.1**
PDG				*i* Sg	**Sn**	**04 34 01.9**	**-0.3**
OHR	**Ohrid**	**0.98**	**113**	*i* Pg	**Pg**	**04 33 47.3**	**-0.6**
OHR				*i* Sg	**Sn**	**04 34 02.0**	**-0.4**
PVY	**Plav**	**1.13**	**13**	*e*Pg	**Pb**	**04 33 50.0**	**-0.6**
PVY	**Plav**	**1.13**	**13**	⇓*i*Pg	**Pb**	**04 33 49.4**	**-1.2**
PVY				*i* Sg	**Sn**	**04 34 06.7**	**+0.3**
CEME	**Cevo**	**1.17**	**334**	⇓*i*Pg	**Pb**	**04 33 51.0**	**-0.3**
CEME				*i* Sg	**Sn**	**04 34 08.8**	**+1.5**
KBN	**Korca**	**1.25**	**134**	P	**Pn**	**04 33 51.1**	**-1.3**
	baz=134						
KBN				S	**Sb**	**04 34 07.6**	**-1.0**
	baz=134						
KBN				AMP			
	comp=N,0.2nm,0.5s,baz=134						
KBN	**Korca**	**1.25**	**134**	P	**Pg**	**04 33 53.6**	**+0.6**
KBN				S	**Sn**	**04 34 10.9**	**+1.8**
	comp=N,45nm,0.4s						
HCY	**Herceg Novi**	**1.26**	**319**	*e*Pg	**Pn**	**04 33 52.3**	**-0.3**
HCY				*e*Sg	**Sn**	**04 34 09.6**	**+0.1**
HCY	**Herceg Novi**	**1.26**	**319**	⇑*i*Pg	**Pn**	**04 33 52.3**	**-0.3**
HCY				*i* Sg	**Sg**	**04 34 12.4**	**+2.6**
KOME	**Kolasin**	**1.36**	**357**	*e*Pg	**Pg**	**04 33 55.5**	**+0.3**
KOME				*e*Sg	**Sg**	**04 34 16.1**	**+3.3**
KOME	**Kolasin**	**1.36**	**357**	⇑*i*Pg	**Pn**	**04 33 53.6**	**-0.3**
KOME				*i* Sg	**Sg**	**04 34 14.7**	**+1.9**
NKME	**Niksic**	**1.36**	**339**	⇓*i*Pg	**Pn**	**04 33 53.9**	**-0.1**
NKME				*i* Sg	**Sg**	**04 34 14.9**	**+2.0**
BEY	**Berane**	**1.39**	**9**	*e*Pg	**Pn**	**04 33 54.5**	**+0.1**
IVA	**Berane**	**1.39**	**9**	⇓*i*Pg	**Pn**	**04 33 53.9**	**-0.5**
IVA				*i* Sg	**Sg**	**04 34 15.6**	**+1.7**
FNA	**Florina**	**1.51**	**117**	P	**Pn**	**04 33 56.5**	**+0.5**
	baz=117						
FNA				S	**Sg**	**04 34 17.6**	**-0.1**
	baz=117						
FNA				AMP			
	comp=E,0.1nm,0.3s,baz=117						
FNA	**Florina**	**1.51**	**117**	P	**Pn**	**04 33 56.6**	**+0.5**
FNA				S	**Sn**	**04 34 15.6**	**-0.1**
	comp=E,70nm,0.3s						
NEST	**Nestorio**	**1.54**	**134**	P	**Pb**	**04 33 57.9**	**+0.4**
NEST				S	**Sg**	**04 34 18.1**	**-0.4**
	comp=E,42nm,0.5s						
TREB	**Trebinje**	**1.54**	**323**	⇑*i*Pn	**Pn**	**04 33 56.6**	**+0.3**
TREB				*e*Sn	**Sb**	**04 34 17.2**	**+0.2**
DBRK	**Dubrovnik**	**1.60**	**318**	*e*Pn	**Pb**	**04 33 58.3**	**-0.2**
DBRK				Sn	**Sb**	**04 34 19.6**	**+0.9**
BRY	**Bratogost**	**1.61**	**331**	*e*Pn	**Pb**	**04 33 58.5**	**-0.4**
BRY				*e*Sn	**Sb**	**04 34 19.9**	**+0.6**
BRY	**Bratogost**	**1.61**	**331**	⇓*i*Pn	**Pb**	**04 33 58.6**	**-0.4**
BRY				*i* Sn	**Sg**	**04 34 22.0**	**+0.9**
SRN	**Sarande**	**1.64**	**169**	P	**Pn**	**04 33 57.8**	**+0.1**
	baz=169						
SRN				S	**Sn**	**04 34 19.1**	**+0.3**
	baz=169						
SRN				AMP			
	comp=E,0.1nm,0.6s,baz=169						
UPM	**Unac-Piva**	**1.79**	**343**	⇑*i*Pn	**Pb**	**04 34 01.5**	**-0.3**
UPM				*e*Sn	**Sb**	**04 34 24.2**	**0.0**
UPM	**Unac-Piva**	**1.79**	**343**	⇓*i*Pn	**Pb**	**04 34 01.2**	**-0.6**
UPM				*i* Sn	**Sg**	**04 34 26.5**	**0.0**
SJES	**Sjenica**	**1.79**	**9**	*e*Pn	**Pb**	**04 34 01.9**	**+0.1**
SJES				*e*Sg	**Sg**	**04 34 28.3**	**+1.8**
SJES	**Sjenica**	**1.79**	**9**	⇑*i*Pn	**Pb**	**04 34 01.8**	**0.0**
SJES				*e*Sn	**Sg**	**04 34 25.5**	**-1.0**
KLINJ	**Klinje**	**1.84**	**336**	*e*Pn	**Pb**	**04 34 01.7**	**-1.0**
KLINJ				*e*Sn	**Sb**	**04 34 25.5**	**-0.2**
PLE	**Pljevlja**	**1.84**	**355**	*e*Pn	**Pb**	**04 34 02.8**	**0.0**
PLE	**Pljevlja**	**1.84**	**355**	⇑*i*Pn	**Pb**	**04 34 02.0**	**-0.8**
PLE				*i* Sn	**Sg**	**04 34 27.6**	**-0.7**
STIP	**Stip**	**1.94**	**83**	*i* Pn	**Pb**	**04 34 04.7**	**+0.3**
STON	**Ston**	**1.98**	**315**	⇑*i*Pn	**Pn**	**04 34 02.3**	**0.0**
STON				*e*Sn	**Sn**	**04 34 27.5**	**+0.5**
PRVS	**Prvonek**	**2.10**	**60**	*e*Pn	**Pn**	**04 34 05.0**	**+0.9**
BARS	**Barje**	**2.11**	**50**	*e*Pn	**Pn**	**04 34 05.2**	**+1.0**
IVAS	**Ivanjica**	**2.12**	**11**	*e*Pn	**Pn**	**04 34 05.2**	**+0.8**
RUDO	**Rudo**	**2.13**	**355**	⇑*i*Pn	**Pb**	**04 34 06.1**	**-1.5**
RUDO				*e*Sn	**Sb**	**04 34 33.9**	**-0.1**
BBLS	**Lazi&#263i**	**2.37**	**356**	*e*Pn	**Pb**	**04 34 10.0**	**-1.8**
BBLS	**Lazi&#263i**	**2.37**	**356**	*e*Pn	**Pn**	**04 34 09.8**	**+1.9**
BBLS				*e*Sn	**Sb**	**04 34 40.3**	**-0.8**
GRUS	**Gruza**	**2.53**	**18**	*e*Pn	**Pn**	**04 34 11.9**	**+2.0**
DIVS	**Divibare**	**2.62**	**6**	*e*Pn	**Pn**	**04 34 12.5**	**+1.2**
MAKA	**Makarska**	**2.62**	**314**	*e*Pn	**Pn**	**04 34 10.9**	**-0.3**
HAPS	**Han Pijesak,BI**	**2.63**	**350**	*e*Pn	**Pn**	**04 34 12.6**	**+1.1**
HAPS				*e*Sn	**Sn**	**04 34 45.2**	**+1.7**
RICI	**Ricice**	**2.71**	**318**	*e*Pn	**Pn**	**04 34 12.1**	**-0.3**
KUBS	**Kucevo**	**3.29**	**27**	*e*Pn	**Pn**	**04 34 19.6**	**-0.8**
MORI	**Morici**	**3.73**	**311**	*e*Pn	**Pn**	**04 34 27.2**	**+0.8**
MORI				Sn	**Sn**	**04 35 09.7**	**-0.5**
A050A	**Klekovaca**	**3.74**	**324**	⇑*i*Pn	**Pn**	**04 34 26.8**	**+0.1**
A050A				*e*Sn	**Sn**	**04 35 10.8**	**+0.1**
DUGI	**Dugi Otok**	**4.18**	**308**	*e*Pn	**Pn**	**04 34 32.1**	**-0.5**
BOJS	**Bojanci**	**5.11**	**323**	*e*Sn	**Sn**	**04 35 42.9**	**-1.4**
SKDS	**Skadanscina**	**5.74**	**317**	*e*Sn	**Sn**	**04 35 57.0**	**-2.8**

IDC 05 04:36:28.3±2.0, 2°.09N×124°.37E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=199.9km s-min=27.8km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.98**	**156**	P	P	04 41 45.1	+0.4
	1.1nm,0.3s,baz=335,slow=10,SNR=52						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**27.23**	**161**	P	P	04 42 14.2	-0.1
	0.3nm,0.4s,baz=343,slow=7.6,SNR=4.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**57.59**	**327**	P	P	04 46 19.6	-0.4
	0.1nm,0.3s,baz=119,slow=7.6,SNR=2.0						
	0.1nm,0.3s						

RSNC 05 04:47:24.0±0.0, 10°.N±2°×7°.5W±°, h19km±3km, M2.6, mb4.1, ML2.6, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARGC	**Ariguani, Magd**	**0.36**	**127**	P	Pg	04 47 30.9	-0.8
ARGC				S	Sb	04 47 37.8	+0.4
SJCC	**San Jacinto, C**	**0.66**	**254**	P	Pb	04 47 35.3	-1.5
SJCC				S	Sg	04 47 46.1	+0.3
CRJC	**Cerrejon, Guaj**	**1.88**	**60**	P	Pn	04 47 52.3	-2.9
CRJC				S	Sn	04 48 15.2	-3.3
OCAC	**Ocana**	**2.19**	**147**	P	Pn	04 47 56.7	-2.9
OCAC				S	Sn	04 48 23.7	-2.6
UREC	**San Jos de Ur**	**2.51**	**203**	P	Pn	04 48 01.3	-2.6
ZARC	**Zaragoza, Cauc**	**2.59**	**187**	P	Pn	04 48 02.1	-2.8
ZARC				S	Sb	04 48 40.5	-0.9
APAC	**Apartado, Choc**	**2.96**	**223**	P	Pn	04 48 08.8	-1.2
APAC				S	Sn	04 48 41.6	-3.4
URIC	**Uribia, Colomb**	**2.98**	**57**	P	Pn	04 48 08.0	-2.2
URIC				S	Sn	04 48 44.0	-1.4
CAPC	**Capurgana**	**3.12**	**243**	P	Pn	04 48 07.5	-4.8
CAPC				S	Sn	04 48 43.5	-5.6
PTBC	**PUERTO BERRIO,**	**3.52**	**179**	P	Pn	04 48 15.1	-2.6
PTBC				S	Sn	04 48 54.7	-4.2
SDV	**Santo Domingo**	**4.03**	**107**	P	Pn	04 48 24.0	-1.0
SDV				S	Sn	04 49 09.4	-2.4
CBOC	**Ciudad Bolivar**	**4.43**	**199**	P	Pn	04 48 28.1	-2.4
CBOC				S	Sn	04 49 20.1	-1.6
NORC	**Norcasia**	**4.50**	**184**	P	Pn	04 48 29.3	-2.0
NORC				S	Sn	04 49 22.0	-1.1
TAMC	**Tame, Arauca**	**4.53**	**143**	P	Pn	04 48 30.4	-1.3
TAMC				S	Sn	04 49 22.8	-1.1
GUY2C	**Guyana, Caldas**	**4.89**	**190**	P	Pn	04 48 35.1	-1.9

*NNC **05** 04:52:52.9±0.6, 49°.87N×77°.32E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=7.1km s-min=2.6km az=114.0, Suspected Mining explosion.*
*SOME **05** 04:52:53.1, 49°.77N×77°.35E, h10km*

ISC 05 04:52:50.9±1.3, 49°.76N±0°.04×77°.25E±0°.07, h0km, n11, σ1§39/21, 4C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**1.19**	**43**	⇓P	**Pg**	**04 53 13.3**	**-0.4**
	6.4nm,0.2s						
KURBB				⇓S	**Sg**	**04 53 28.5**	**-0.7**
	28nm,0.3s						
KURK	**Kurchatov**	**1.30**	**42**	⇓P	**Pb**	**04 53 15.3**	**-0.9**
	3.4nm,0.2s						
KURK				⇓S	**Sg**	**04 53 31.5**	**-1.2**
	30nm,0.4s						
SEM	**Semipalatinsk**	**2.04**	**70**	*e*P	**Pg**	**04 53 29.8**	**-0.2**
	30nm,0.3s						
SEM				*e*S	**Sg**	**04 53 56.4**	**0.0**
	7.1nm,0.2s						
MAKZ	**Makanchi**	**4.32**	**131**	⇑Pg	**Pg**	**04 54 12.0**	**-1.8**
	1.0nm,0.5s						
MAKZ				⇑Lg	Lg	04 55 12.2	
	3.6nm,0.5s						
MK31	**Makanchi Array**	**4.49**	**129**	⇑Pn	**Pn**	**04 54 03.4**	**+3.2**
	0.4nm,0.5s,baz=312,slow=14,SNR=7.3						
MK31				⇑Pg	**Pg**	**04 54 14.5**	**-2.4**
	0.2nm,0.2s,baz=318,slow=14,SNR=15						
MK31				⇓Lg	Lg	04 55 16.8	
	2.1nm,0.4s,baz=312,slow=24,SNR=6.0						
BTLS	**Baital**	**5.20**	**206**	*e*P	**Pg**	**04 54 29.2**	**-1.3**
	2.2nm,0.5s						
BTLS				*e*S	**Sg**	**04 55 38.1**	**+0.3**
	3.6nm,0.4s						
ARXS	**Arharly**	**5.56**	**176**	*e*P	**Pg**	**04 54 35.8**	**-1.7**
	1.2nm,0.5s						
ARXS				*e*S	**Sg**	**04 55 49.4**	**-0.1**
	4.6nm,0.4s						
DJR	**Jarkent**	**5.70**	**161**	*e*P	**Pg**	**04 54 38.8**	**-1.3**
	0.7nm,0.2s						
DJR				*e*S	**Sg**	**04 55 54.2**	**+0.3**
	2.7nm,0.3s						
KTBS	**Karatobe**	**6.06**	**184**	*e*P	**Pg**	**04 54 45.6**	**-1.4**
	0.8nm,0.2s						
KTBS				*e*S	**Sg**	**04 56 06.1**	**+0.5**
	3.6nm,0.3s						
KPKS	**Kokpek**	**6.37**	**171**	*e*P	**Pg**	**04 54 51.8**	**-1.2**
KPKS				*e*S	**Sg**	**04 56 16.0**	**+0.5**
DGS	**Degeres**	**6.60**	**189**	*e*P	**Pg**	**04 54 55.7**	**-1.6**
	1.2nm,0.4s						
DGS				*e*S	**Sg**	**04 56 23.1**	**+0.3**
	5.4nm,0.5s						

*MOS **05** 05:00:04.5±1.4, 43°.87N×147°.46E, h52km, mb3.9/2, Error ellipse: s-maj=15.3km s-min=9.7km az=61.5*
*JMA **05** 05:00:05.6±0.3, 43°.7N±1°.0×14°.7E±°, h23km, MV4.1/32, E*

OFF HOKKAIDO
*SKHL **05** 05:00:05.5±0.1, 43°.80N×147°.50E, h65km±4km, mb4.8/3*
*IDC **05** 05:00:09.5±4.7, 44°.12N×147°.30E, h74km±35km, mb3.2/5, mbtmp3.6/7, ML3.4/2, Error ellipse: s-maj=82.3km s-min=25.4km az=162.0*

ISC 05 05:00:05.1±1.2, 43.75N±0°.08×147°.51E±0°.07, h43km±11km, n49, σ1§69/56, mb3.5/7, 9C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.51**	**284**	*i* P	**Pn**	**05 00 15.9**	**-0.1**
SHO				AMB	AMB	05 00 16.9	
	800nm,0.2s						
SHO				*e*S	**Sn**	**05 00 23.0**	**-0.9**
SHO				A	A	05 00 25.0	
	6μm,0.3s						
SHO				A	A	05 00 25.0	
	4μm,0.3s						
SHO	**Shikotan**	**0.51**	**284**	⇑*i*PN	**Pn**	**05 00 15.9**	**-0.1**
SHO				*e*S	**Sn**	**05 00 22.9**	**-0.9**
SHO				pmax	pmax		
	comp=N,236nm,0.2s						
SHO				pmax	pmax		
	comp=Z,973nm,0.2s						
SHO				pmax	pmax		
	comp=E,504nm,0.1s						
SHO				smax	smax		
	comp=N,8μm,0.2s						
SHO				smax	smax		
	comp=E,4μm,0.1s						
YUK	**Yuzh-Kuril'sk**	**1.23**	**284**	*i* P	**Pn**	**05 00 25.2**	**-0.5**
YUK				AMB	AMB	05 00 26.0	
	comp=E,400nm,0.2s						
YUK				*e*S	**Sn**	**05 00 38.8**	**-2.3**
YUK				A	A	05 00 40.9	
	comp=E,4μm,0.3s						
YUK				A	A	05 00 40.9	
	comp=E,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.23**	**284**	*d* iPN	**Pn**	**05 00 25.1**	**-0.6**
YUK				*e*S	**Sn**	**05 00 38.6**	**-2.5**
YUK				pmax	pmax		
	comp=Z,829nm,0.2s						
YUK				pmax	pmax		
	comp=N,174nm,0.1s						
YUK				smax	smax		
	comp=E,5μm,0.3s						
YUK				smax	smax		
	comp=N,4μm,0.2s						
NEM2	**Nemuro 2**	**1.34**	**254**	P	**Pn**	**05 00 26.9**	**-0.4**
NEM2				S	**Sn**	**05 00 42.2**	**-1.7**
KUR	**Kuril'sk**	**1.51**	**10**	*e*P	**Pn**	**05 00 30.5**	**+0.9**
KUR				AMB	AMB	05 00 32.0	
	comp=N,60nm,0.2s						
KUR				*i* S	**Sn**	**05 00 48.6**	**+0.6**
KUR				A	A	05 00 49.9	
	comp=N,670nm,0.2s						
KUR				A	A	05 00 49.9	
	comp=N,590nm,0.2s						
KUR	**Kuril'sk**	**1.51**	**10**	*e*PN	**Pn**	**05 00 30.8**	**+1.2**
KUR				*i* S	**Sn**	**05 00 48.2**	**+0.2**
KUR				pmax	pmax		
	comp=E,51nm,0.3s						
KUR				pmax	pmax		
	comp=Z,85nm,0.3s						
KUR				smax	smax		
	comp=N,834nm,0.2s						
KUR				smax	smax		
	comp=E,508nm,0.3s						
JRA	**Rausu**	**1.74**	**277**	P	**Pn**	**05 00 33.0**	**+0.3**
JNSB	**Nemuroshibetsu**	**1.82**	**272**	P	**Pn**	**05 00 34.3**	**+0.5**
JNSB				S	**Sn**	**05 00 54.7**	**-1.0**
JKHN	**Kushirohamanak**	**1.84**	**250**	P	**Pn**	**05 00 34.2**	**+0.1**
JKHN				S	**Sn**	**05 00 54.6**	**-1.5**
JNK	**Nakash**	**2.04**	**266**	P	**Pn**	**05 00 36.9**	**0.0**
JAK	**Akkeshi**	**2.19**	**251**	P	**Pn**	**05 00 38.9**	**0.0**
JAK				S	**Sn**	**05 01 02.8**	**-1.9**
JTKR	**Abashiri--Toko**	**2.62**	**276**	P	**Pn**	**05 00 45.7**	**+0.9**
JTKR				S	**Sn**	**05 01 17.4**	**+2.1**
JAR	**Ashorobuto**	**2.76**	**262**	P	**Pn**	**05 00 48.0**	**+1.3**
JOB	**Onbets**	**2.81**	**254**	P	**Pn**	**05 00 48.2**	**+0.7**
JMP	**Maruseppu**	**3.02**	**276**	P	**Pn**	**05 00 51.4**	**+1.1**
JCH	**Churui**	**3.24**	**251**	P	**Pn**	**05 00 54.6**	**+1.2**
JKA	**Kamikawa-asahi**	**3.57**	**278**	*e*P	**Pn**	**05 01 00.0**	**+2.1**
ASAJ	**Asahikawa**	**3.57**	**278**	P	**Pn**	**05 01 00.0**	**+2.1**
	comp=E,3.9nm,0.3s,baz=84,slow=14,SNR=9.9						
ASAJ				S	**Sn**	**05 01 46.3**	**+7.5**
	comp=E,34nm,0.5s,baz=192,slow=24,SNR=4.6						
	comp=E,15nm,0.5s						
JFR	**Furan**	**3.63**	**262**	P	**Pn**	**05 01 00.5**	**+1.7**
ERM	**Erimo**	**3.64**	**243**	*e*PN	**Pn**	**05 01 01.0**	**+2.2**
JEM	**Erimo**	**3.64**	**243**	P	**Pn**	**05 01 01.4**	**+2.5**
JNBK	**Urakawa-nobuka**	**3.79**	**249**	P	**Pn**	**05 01 01.9**	**+1.0**
TYV	**Tymovskoe**	**7.84**	**337**	*e*P	**Pn**	**05 01 58.4**	**+1.9**
SKR	**Severo-Kuril's**	**9.07**	**37**	*e*P	**Pn**	**05 02 15.4**	**+2.1**
SKR				*e*S	**Sn**	**05 03 52.6**	**-1.4**
SKR	**Severo-Kuril's**	**9.07**	**37**	⇑*e*PN	**Pn**	**05 02 13.6**	**+0.3**
PEA0B	**Petropavlovsk-**	**11.54**	**32**	⇑*e*PN	**Pn**	**05 02 46.8**	**-0.3**
PETK	**Petropavlovsk-**	**11.54**	**32**	P	**Pn**	**05 02 47.9**	**+0.8**
	comp=E,0.7nm,0.3s,baz=197,slow=9.7,SNR=12						
	comp=E,3.0nm,0.6s						
PET	**Petropavlovsk**	**11.86**	**35**	*e*P	**Pn**	**05 02 53.0**	**+1.6**
PET	**Petropavlovsk**	**11.86**	**35**	⇑*e*PN	**Pn**	**05 02 53.2**	**+1.8**
MSHR	**Mys Shultsa**	**12.01**	**270**	⇑*e*PN	**Pn**	**05 02 55.1**	**+1.6**
ZEA	**Ze

LOMA	**Loma Larga**	**0.71**	**351**	*i* P	**Pn**	**05 26 48.4**	**-0.4**
LOMA				*i* S	**Sn**	**05 26 59.2**	**+0.2**
LOMA				IAML		05 27 00.0	
	comp=Z,3μm,1.0s						
UESV	**Universidad de**	**0.74**	**20**	*i* P	**Pn**	**05 26 48.8**	**-0.3**
UESV				IAML		05 26 49.1	
	comp=Z,1μm,1.0s						
UESV				*i* S	**Sn**	**05 26 59.2**	**-0.4**
ITCA	**Escuela Especi**	**0.76**	**343**	*i* P	**Pn**	**05 26 49.3**	**-0.2**
ITCA				IAML		05 27 01.2	
	comp=Z,9μm,1.0s						
SNET	**Serv Nac Est T**	**0.76**	**347**	*i* P	**Pb**	**05 26 49.1**	**+0.1**
SNET				*i* S	**Sn**	**05 26 59.8**	**-0.5**
SNET				IAML		05 27 02.9	
	comp=Z,3μm,1.0s						
IGN	**Direccin Gen**	**0.78**	**352**	*i* P	**Pb**	**05 26 49.3**	**+0.1**
IGN				*i* S	**Sn**	**05 27 00.3**	**-0.3**
IGN				IAML		05 27 03.7	
	comp=Z,8μm,1.0s						
PAVA	**Las Pavas**	**0.78**	**8**	*i* P	**Pn**	**05 26 49.4**	**-0.3**
PAVA				*i* S	**Sn**	**05 27 00.9**	**+0.2**
PAVA				IAML		05 27 01.5	
	comp=Z,2μm,1.0s						
UEES	**Universidad Ev**	**0.80**	**347**	*i* P	**Pb**	**05 26 49.6**	**+0.1**
UEES				IAML		05 27 05.9	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	**0.81**	**332**	*i* P	**Pb**	**05 26 50.0**	**+0.1**
JAYA				*e*S	**Sn**	**05 27 01.5**	**0.0**
JAYA	**Jayaque - finc**	**0.81**	**332**	*i* P	**Pb**	**05 26 49.7**	**-0.1**
JAYA				*i* S	**Sn**	**05 27 00.8**	**-0.7**
JAYA				IAML		05 27 01.8	
	comp=Z,16μm,1.0s						
PMON	**Piamonte**	**0.81**	**342**	*i* P	**Pb**	**05 26 49.9**	**+0.1**
PMON				*i* S	**Sn**	**05 27 01.7**	**+0.3**
PMON				IAML		05 27 03.8	
	comp=Z,4μm,1.0s						
BOQS	**Boqueron**	**0.82**	**344**	*i* P	**Pn**	**05 26 50.4**	**0.0**
BOQS				*e*S	**Sn**	**05 27 01.9**	**0.0**
SCLA	**Alcaldia de Sa**	**0.82**	**23**	*i* P	**Pn**	**05 26 50.2**	**-0.1**
SCLA				*i* S	**Sn**	**05 27 02.0**	**+0.4**
SCLA				IAML		05 27 02.7	
	comp=Z,1μm,1.0s						
PQSS	**Presa 15 de Se**	**0.83**	**35**	*i* P	**Pn**	**05 26 50.4**	**0.0**
PQSS				*i* S	**Sn**	**05 27 02.3**	**+0.5**
PQSS				IAML		05 27 03.6	
	comp=Z,5μm,1.0s						
PACA	**Pacayal**	**0.89**	**53**	*i* P	**Pn**	**05 26 51.4**	**+0.2**
PACA				*i* S	**Sn**	**05 27 03.7**	**+0.4**
PACA				IAML		05 27 04.8	
	comp=Z,35μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.92**	**347**	*i* P	**Pb**	**05 26 51.6**	**0.0**
QUEZ				*i* S	**Sn**	**05 27 04.9**	**+0.9**
QUEZ				IAML		05 27 05.8	
	comp=Z,4μm,1.0s						
BLLM	**Bellamira**	**0.94**	**58**	*e*P	**Pb**	**05 26 51.8**	**-0.1**
INTP	**Intipuca**	**1.01**	**75**	*e*P	**Pn**	**05 26 52.4**	**-0.4**
INTP				*e*S	**Sb**	**05 27 05.3**	**-0.6**
CNRM	**Centro Naciona**	**1.01**	**58**	*i* P	**Pn**	**05 26 52.8**	**0.0**
CNRM				*i* S	**Sn**	**05 27 06.9**	**+0.7**
CNRM				IAML		05 27 25.0	
	comp=Z,3μm,1.0s						
CEVE	**Cerro Verde**	**1.04**	**328**	*e*P	**Pb**	**05 26 53.8**	**0.0**
CEVE				*e*S	**Sb**	**05 27 07.9**	**+0.6**
CEVE	**Cerro Verde**	**1.04**	**328**	*i* P	**Pb**	**05 26 53.7**	**-0.1**
CEVE				IAML		05 27 10.2	
	comp=Z,2μm,1.0s						
UNIC	**Universidad Ca**	**1.14**	**335**	*i* P	**Pn**	**05 26 54.9**	**+0.2**
UNIC				IAML		05 26 55.2	
	comp=Z,1μm,1.0s						
UNIC				*i* S	**Sb**	**05 27 10.4**	**+0.5**
LCND	**La Caada**	**1.19**	**72**	*e*P	**Pn**	**05 26 55.1**	**-0.2**
LCND	**La Caada**	**1.19**	**72**	*i* P	**Pn**	**05 26 55.0**	**-0.3**
LCND				IAML		05 26 55.6	
	comp=Z,1μm,1.0s						
NUBE	**Las Nubes**	**1.19**	**324**	*i* P	**Pn**	**05 26 55.3**	**-0.1**
NUBE				IAML		05 27 11.4	
	comp=Z,2μm,1.0s						
CNCH	**Conchagua**	**1.23**	**74**	*e*P	**Pn**	**05 26 55.6**	**-0.3**
CNCH				*e*S	**Sn**	**05 27 11.3**	**-0.6**
CNCH	**Conchagua**	**1.23**	**74**	*i* P	**Pn**	**05 26 55.4**	**-0.6**
CNCH				IAML		05 27 13.1	
	comp=Z,2μm,1.0s						
MTO3	**Montecristo**	**1.48**	**348**	*i* P	**Pn**	**05 26 59.4**	**-0.1**
MTO3				IAML		05 27 00.2	
	comp=Z,130nm,1.0s						
CRIN	**San Cristobal**	**1.97**	**97**	*i* S	**Sn**	**05 27 30.8**	**+0.8**
PKGN	**Cerro Pekin**	**2.04**	**97**	*i* P	**Pn**	**05 27 06.5**	**-0.5**
PKGN				IAML		05 27 35.6	
	comp=Z,790nm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.06**	**57**	*i* P	**Pn**	**05 27 07.3**	**0.0**
TGUH				IAML		05 27 22.2	
	comp=Z,120nm,1.0s						
PLRN	**Geotermica Pol**	**2.26**	**99**	*i* P	**Pn**	**05 27 09.2**	**-0.8**
PLRN				IAML		05 27 39.9	
	comp=Z,250nm,1.0s						
CNGA	**Al SSO del Vol**	**2.34**	**101**	*i* P	**Pn**	**05 27 11.0**	**-0.1**
CNGA				IAML		05 27 44.7	
	comp=Z,250nm,1.0s						
YUSH	**Yuscaran**	**2.38**	**65**	*i* P	**Pn**	**05 27 11.4**	**-0.3**
MOM2	**El Cardon**	**2.56**	**101**	*i* P	**Pn**	**05 27 14.2**	**+0.1**
MOM2				IAML		05 27 16.3	
	comp=Z,150nm,1.0s						
MOM2				*i* S	**Sn**	**05 27 44.9**	**+0.5**
LIMN	**Finca el Limon**	**2.62**	**87**	*i* P	**Pn**	**05 27 14.6**	**-0.5**
LIMN				IAML		05 28 08.6	
	comp=Z,46nm,1.0s						
BOAB	**BOACO BROADBAN**	**3.34**	**98**	*i* P	**Pn**	**05 27 23.9**	**-1.0**
BOAB				IAML		05 27 41.4	
	comp=Z,33nm,1.0s						
BOAB				*i* S	**Sn**	**05 28 05.2**	**+1.4**

*IDC **05** 05:40:28.8±0.8, 37°.33N×141°.34E, h0km, mb4.0/15, mbtmp4.0/16, ML3.7/1, MS2.7/4, Error ellipse: s-maj=23.3km s-min=19.1km az=8.0*
*JMA **05** 05:40:30.7±0.2, 37°.4N±0°.3×141°.5E±0°.8, h23km±1km, MD4.2/39, MV4.0/39, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **05** 05:40:30.7, 37°.35N×141°.51E, h23km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.07; $M_{\theta\theta}$=2.80; $M_{\phi\phi}$=2.27; $M_{r\theta}$=-0.39; $M_{\theta\phi}$=3.30; $M_{r\phi}$=0.61; Fault plane solution: M_0=5.52000×10^{14} NP1: ϕ_s=218.00000°, δ=46.00000°, λ=-103.00000°. NP2: ϕ_s=56.00000°, δ=45.00000°, λ=-77.00000°.*
*MOS **05** 05:40:34.7±0.8, 37°.67N×141°.28E, h41km, mb4.5/7 Error ellipse: s-maj=13.3km s-min=8.7km az=84.3*
*NEIC **05** 05:40:35.4±1.4, 37°.52N±0°.06×141°.35E±0°.08, h35km±9km, mb4.4/26, Error ellipse: s-maj=8.9km s-min=8.7km az=222.0*

ISC 05 05:40:32.1±0.7, **37°.38N**±0°.04×**141°.44E**±0°.06, **h20**km±5km, **n100**, σ1$24/95, **mb4.2**/32, **4C, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.45**	**269**	P	**Pb**	**05 40 40.5**	**-0.7**
JFK				S	**Sb**	**05 40 47.7**	**+0.2**
JFK	**Kawauchi**	**0.45**	**269**	A	A	05 40 40.5	
	comp=E,6.0nm,0.2s,comp=N,10.0nm,0.6s						
JMST	**Minamisoumatoc**	**0.56**	**309**	*i* P	**Pb**	**05 40 42.5**	**-0.7**
JMST				S	**Sb**	**05 40 51.0**	**+0.2**
JMST	**Minamisoumatoc**	**0.56**	**309**	A	A	05 40 42.5	
	comp=E,9.0nm,2.0s,comp=N,11nm,0.3s						
ONAJ	**Iwakimizuishiy**	**0.58**	**242**	P	**Pb**	**05 40 42.5**	**-1.1**
ONAJ				*e*S	**Sb**	**05 40 51.3**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.58**	**242**	A	A	05 40 42.5	
	comp=E,7.0nm,0.3s,comp=N,5.0nm,1.1s						
JMM	**Marumori**	**0.71**	**314**		**Pb**	**05 40 45.2**	**-0.6**
JMM				Sn	**Sb**	**05 40 55.0**	**0.0**
JMM	**Marumori**	**0.71**	**314**	*i* P	**Pb**	**05 40 45.1**	**-0.6**
JMM				S	**Sb**	**05 40 55.1**	**+0.1**
JMM	**Marumori**	**0.71**	**314**	A	A	05 40 45.1	
	comp=E,17nm,0.2s,comp=N,12nm,0.3s						
JFFD	**Fukushimafurud**	**0.76**	**248**	*i* P	**Pb**	**05 40 45.5**	**-1.1**
JFFD				S	**Sb**	**05 40 56.0**	**-0.4**
JOTO	**OTAMA OYAMA**	**0.90**	**282**	*i* P	**Pb**	**05 40 48.7**	**-0.3**
JOTO				S	**Sn**	**05 41 01.3**	**-0.6**
JOTO	**OTAMA OYAMA**	**0.90**	**282**	A	A	05 40 48.7	
	comp=E,36nm,0.4s,comp=N,16nm,0.5s						
JHO	**Hitachi**	**1.03**	**223**	P	**Pn**	**05 40 49.0**	**-2.4**
JHO				*e*S	**Sb**	**05 41 03.0**	**-1.4**
JIO	**Ouri**	**1.08**	**356**	*i* P	**Pn**	**05 40 50.6**	**-1.3**
JIO				S	**Sb**	**05 41 04.3**	**-1.3**
JYAR	**Yonezawaarcadi**	**1.16**	**298**	A	A	05 40 52.4	
	comp=E,28nm,0.5s,comp=N,12nm,0.4s						
JOU	**Okura**	**1.16**	**328**	*i* P	**Pn**	**05 40 53.0**	**-0.1**
JOU				S	**Sb**	**05 41 08.7**	**+0.6**
JOU	**Okura**	**1.16**	**328**	A	A	05 40 53.0	
	comp=E,13nm,0.5s,comp=N,19nm,1.1s						
JYS	**Shiratake**	**1.38**	**308**	A	A	05 40 55.8	
	comp=E,21nm,0.4s,comp=N,17nm,0.8s						
JYA	**Atsumi**	**1.82**	**312**	A	A	05 41 02.4	
	comp=E,5.0nm,0.4s,comp=N,4.0nm,0.5s						
JSD	**Sado**	**2.60**	**286**	Pn	**Pn**	**05 41 13.1**	**+0.1**
MJA0	**Matsu Arr-Jizo**	**2.69**	**253**	*e*P	**Pn**	**05 41 16.4**	**+2.2**
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MJAR	**Matsushiro Arr**	**2.72**	**253**	Pn	**Pn**	**05 41 15.6**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=82,slow=16,SNR=9.2						
MJAR				Sn	**Sb**	**05 41 58.2**	**+5.3**
	comp=Z,0.7nm,0.3s,baz=82,slow=28,SNR=9.4						
MAJO	**Matsushiro**	**2.72**	**253**		**Pn**	**05 41 16.2**	**+1.7**
MAJO	**Matsushiro**	**2.72**	**253**	*i* P	**Pn**	**05 41 16.4**	**+1.8**
MJB9	**Matsu-Tunnel**	**2.72**	**253**		**Pn**	**05 41 16.8**	**+2.2**
JTM	**Tenmabayashi**	**3.42**	**355**	Pn	**Pn**	**05 41 24.8**	**+0.7**
JGF	**Kuroka**	**3.74**	**243**	Pn	**Pn**	**05 41 30.5**	**+1.9**
ERM	**Erimo**	**4.82**	**15**	Pn	**Pn**	**05 41 42.9**	**-0.5**
ERM	**Erimo**	**4.82**	**15**	*i* P	**Pn**	**05 41 44.7**	**+1.3**
ASAJ	**Asahikawa**	**6.79**	**7**	Pn	**Pn**	**05 42 09.6**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=212,slow=9.9,SNR=5.1						
	comp=Z,8.9nm,0.7s						
ASAJ	**Asahikawa**	**6.79**	**7**	P	**Pn**	**05 42 10.0**	**-0.5**
JKA	**Kamikawa-asahi**	**6.79**	**7**	Pn	**Pn**	**05 42 09.9**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**7.45**	**25**	*i* P	**Pn**	**05 42 19.5**	**0.0**
USRK	**Ussuriysk Ar.**	**9.88**	**317**	Pn	Pn	05 42 57.9	+4.9
	comp=Z,0.1nm,0.3s,baz=124,slow=15,SNR=3.0						
USRK				LR	LR	05 46 15.2	
	comp=Z,62nm,18.5s,baz=190,slow=35						
KSRS	**Korea Array**	**10.75**	**275**	LR	LR	05 47 22.0	
	comp=Z,19nm,18.2s,baz=330,slow=39						
JOW	**Kunigami**	**15.31**	**230**	Pn	**Pn**	**05 44 06.9**	**-0.1**
JOW				IAmb	IAmb	05 44 26.9	
	comp=Z,36nm,1.1s						
YULB	**Yu-li**	**22.21**	**237**	P	**P**	**05 45 27.5**	**+0.2**
YULB				IAmb	IAmb	05 45 56.6	
	comp=Z,15nm,1.1s						
YAK	**Yakutsk**	**25.74**	**347**	P	**P**	**05 46 00.4**	**-0.4**
YAK	**Yakutsk**	**25.74**	**347**	LR	LR	05 55 25.3	
	comp=Z,13nm,21.8s,baz=220,slow=35						
YAK	**Yakutsk**	**25.74**	**347**	*i* P	**P**	**05 46 00.6**	**-0.3**
YAK				pmax	pmax		
	comp=Z,13nm,0.6s						
SEY	**Seymchan**	**26.45**	**11**	*ce*P	**P**	**05 46 08.6**	**+1.3**
SEY				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**27.61**	**303**	P	**P**	**05 46 16.8**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=95,slow=8.8,SNR=4.6						
	comp=Z,0.9nm,0.6s						
SONM	**Songino Array**	**27.61**	**303**	*e*P	**P**	**05 46 17.6**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.31**	**121**	T	T	06 16 42.3	
	baz=315,slow=75,SNR=108						
H11N1	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	06 16 43.0	
	baz=315,slow=75,SNR=146						
H11N3	**WAKE ISLAND Hy**	**28.33**	**121**	T	T	06 16 41.6	
	baz=315,slow=75,SNR=137						
H11S1	**WAKE ISLAND Hy**	**29.03**	**123**	T	T	06 17 29.5	
	baz=316,slow=75,SNR=81						
H11S3	**WAKE ISLAND Hy**	**29.03**	**123**	T	T	06 17 29.3	
	baz=316,slow=75,SNR=75						
H11S2	**WAKE ISLAND Hy**	**29.05**	**123**	T	T	06 17 29.8	
	baz=316,slow=75,SNR=55						
ADK	**Adak**	**32.65**	**50**	P	**P**	**05 47 02.2**	**-0.2**
ADK	**Adak**	**32.65**	**50**	P	**P**	**05 47 02.2**	**-0.2**
ADK				pmax	pmax		
	comp=Z,28nm,1.2s						
TIXI	**Tiksi**	**34.95**	**353**	P	**P**	**05 47 21.6**	**-0.6**
TIXI				IAmb	IAmb	05 47 47.6	
	comp=Z,3.2nm,1.1s						
TIXI	**Tiksi**	**34.95**	**353**	P	**P**	**05 47 21.6**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MIDW	**Midway**	**35.58**	**93**	P	**P**	**05 47 28.9**	**+0.9**
ZAA0	**Zalesovo Array**	**41.70**	**312**	P	**P**	**05 48 18.3**	**-0.8**
ZALV	**Zalesovo Beam**	**41.70**	**312**	P	**P**	**05 48 18.8**	**-0.4**
ZALV	**Zalesovo Beam**	**41.70**	**312**	P	**P**	**05 48 19.2**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=89,slow=7.9,SNR=7.0						
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**41.70**	**312**	*e*P	**P**	**05 48 18.9**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NRIK	**Noril'sk**	**42.96**	**335**	*e*P	**P**	**05 48 27.7**	**-1.6**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
F17K	**Baldwin Pennin**	**43.41**	**29**	P	**P**	**05 48 33.0**	**+0.1**
MK31	**Makanchi Array**	**43.95**	**302**	P	**P**	**05 48 37.5**	**-0.2**
MK31	**Makanchi Array**	**43.95**	**302**	*ce*P	**P**	**05 48 38.0**	**+0.4**
MKAR	**Makanchi Array**	**43.95**	**302**	P	**P**	**05 48 37.6**	**0.0**
MKAR	**Makanchi Array**	**43.95**	**302**	P	**P**	**05 48 37.8**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=90,slow=9.4,SNR=10						
	comp=Z,1.1nm,0.7s						
MAKZ	**Makanchi**	**44.16**	**302**	P	**P**	**05 48 38.8**	**-0.5**
MAKZ	**Makanchi**	**44.16**	**302**	P	**P**	**05 48 38.8**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
H18K	**Honhosa River**	**44.34**	**32**	P	**P**	**05 48 41.0**	**+0.6**
M17K	**Holitna River**	**44.36**	**37**	P	**P**	**05 48 41.3**	**+0.8**
C19K	**Lookout Ridge**	**44.64**	**26**	P	**P**	**05 48 42.9**	**+0.1**
C19K				IAmb	IAmb	05 48 45.4	
	comp=Z,6.5nm,0.9s						
D19K	**Kuna River**	**45.03**	**27**	P	**P**	**05 48 47.4**	**+1.5**
D19K				IAmb	IAmb	05 48 48.2	
	comp=Z,6.1nm,0.8s						
E19K	**Redstone River**	**45.16**	**28**	P	**P**	**05 48 48.5**	**+1.5**
E19K				IAmb	IAmb	05 48 54.1	
	comp=Z,5.3nm,1.1s						
J19K	**Poorman**	**45.38**	**33**	P	**P**	**05 48 50.3**	**+1.6**
B20K	**Meade River**	**45.67**	**25**	P	**P**	**05 48 52.5**	**+1.6**
B20K				IAmb	IAmb	05 48 54.8	
	comp=Z,3.4nm,1.0s						
KURK	**Kurchatov**	**45.74**	**308**	P	**P**	**05 48 51.8**	**+0.1**
KURK				IAmb	IAmb	05 48 52.9	
	comp=Z,5.2nm,0.8s						
KURK	**Kurchatov**	**45.74**	**308**	*ce*P	**P**	**05 48 51.7**	**+0.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURBB	**Kurchatov Arra**	**45.81**	**308**	P	**P**	**05 48 52.1**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=83,slow=8.4,SNR=16						
	comp=Z,2.6nm,0.8s						
KDAK	**Kodiak Island**	**46.83**	**42**	P	**P**	**05 49 00.5**	**+0.3**
KDAK				IAmb	IAmb	05 49 01.3	
	comp=Z,5.8nm,0.8s						
KDAK	**Kodiak Island**	**46.83**	**42**	P	**P**	**05 49 00.6**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=214,slow=19,SNR=4.6						
	comp=Z,3.4nm,0.6s						
D22K	**Ayikyak River**	**47.05**	**27**	P	**P**	**05 49 03.6**	**+1.8**
D22K				IAmb	IAmb	05 49 04.4	
	comp=Z,4.4nm,0.8s						
E22K	**Anaktuvuk Pass**	**47.29**	**28**	P	**P**	**05 49 05.6**	**+1.9**
E22K				IAmb	IAmb	05 49 06.1	
	comp=Z,2.7nm,0.8s						
ILAR	**Eielson Array**	**49.19**	**33**	P	**P**	**05 49 18.9**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=268,slow=6.4,SNR=16						
	comp=Z,1.2nm,0.7s						
ILAR	**Eielson Array**	**49.19**	**33**	P	**P**	**05 49 19.0**	**+0.6**
L29M	**L29M**	**53.23**	**34**	P	**P**	**05 49 50.5**	**+1.7**
L29M				IAmb	IAmb	05 49 52.0	
	comp=Z,3.3nm,0.9s						
I30M	**Mount Dempster**	**53.57**	**31**	P	**P**	**05 49 52.9**	**+1.6**
KNRA	**Kununurra**	**54.10**	**195**	P	**P**	**05 49 56.2**	**+0.7**
H31M	**Peel River**	**54.28**	**30**	P	**P**	**05 49 57.9**	**+1.5**
H31M				IAmb	IAmb	05 49 59.2	
	comp=Z,5.6nm,0.9s						
ARU	**Arti**	**56.12**	**318**	P	**P**	**05 50 09.4**	**-0.3**
ARU				IAmb	IAmb	05 50 11.0	
	comp=Z,4.6nm,1.0s						
ARU	**Arti**	**56.12**	**318**	*c i*P	**P**	**05 50 09.8**	**+0.1**
ARU				S	**S**	**05 57 58.1**	**+0.7**
ARU				SS	**SS**	**06 01 37.7**	**-5.5**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**57.40**	**188**	P	**P**	**05 50 18.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=5.2,slow=7.3,SNR=13						
	comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**57.40**	**188**	*e*P	**P**	**05 50 18.8**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**68.52**	**332**	P	**P**	**05 51 32.2**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=32,slow=9.6,SNR=7.7						
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**68.52**	**332**	*e*P	**P**	**05 51 31.7**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KBZ	**Khabaz**	**70.69**	**311**	P	**P**	**05 51 46.8**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=56,slow=11,SNR=2.4						
	comp=Z,1.4nm,0.7s						
HFS	**Hagfors**	**73.78**	**336**	P	**P**	**05 52 04.3**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=0.0,slow=3.0,SNR=4.2						
	comp=Z,1.5nm,0.8s						
NOA	**NORSAR Array B**	**73.88**	**337**	P	**P**	**05 52 05.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=350,slow=7.8,SNR=1.6						
NOA				LR	LR	06 28 15.3	
	comp=Z,7.9nm,18.6s,baz=90,slow=39						
	comp=Z,0.3nm,0.3s						
AKASG	**Malin Array Be**	**74.04**	**322**	P	**P**	**05 52 06.0**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=45,slow=5.9,SNR=5.8						
	comp=Z,1.3nm,0.5s						
NVAR	**Mina Array Bea**	**74.77**	**53**	P	**P**	**05 52 12.5**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=302,slow=6.7,SNR=4.5						
	comp=Z,0.7nm,0.8s						
PDAR	**Pinedale Array**	**77.41**	**46**	P	**P**	**05 52 25.9**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=322,slow=6.2,SNR=4.7						
	comp=Z,0.5nm,0.7s						
TXAR	**Lajitas Array**	**89.90**	**52**	P	**P**	**05 53 30.9**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=306,slow=2.7,SNR=7.6						
	comp=Z,0.4nm,0.6s						
LPAZ	**La Paz**	**146.50**	**59**	PKPbc	**PKPbc**	**06 00 12.9**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=86,slow=1.8,SNR=6.7						

IDC 05 06:00:26.8±2.7, **54°.17N**×**86°.37E**, **h0**km, **mbtmp2.9**/2, **ML2.6**/2, **Error ellipse: s-maj=21.1km s-min=12.4km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**257**	I	I	06 06 40.0	
	baz=74,slow=324,SNR=1.5						
ZALV	**Zalesovo Beam**	**0.94**	**257**	Pg	Pg	06 00 43.4	-1.4
	2.3nm,0.3s,baz=74,slow=17,SNR=12						
ZALV				Lg	Lg	06 00 58.1	
	2.4nm,0.3s,baz=78,slow=29,SNR=17						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	06 01 57.7	+1.4
	0.1nm,0.3s,baz=55,slow=14,SNR=7.4						
	1.4nm,0.7s						
MKAR	**Makanchi Array**	**7.83**	**201**	Pn	Pn	06 02 22.6	+0.7
	0.1nm,0.3s,baz=24,slow=15,SNR=4.5						
MKAR				Lg	Lg	06 04 37.2	
	baz=24,slow=33,SNR=2.1						
	0.2nm,0.3s						

*NAO **05** 06:44:29.5±1.8, 74°.44N×8°.83E, ML3.4*
*BER **05** 06:44:32.9±3.0, 74°.42N×9°.48E, h10km, mb(Pn)4.0, ML3.4(NAO), Confirmed Earthquake*

ISC 05 06:44:30.6±1.4, **74°.42N**±0°.06×**9°.71E**±0°.09, **h10**km, **n23**, σ2$42/35, **Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.50**	**84**	*e*P	**Pn**	**06 45 12.9**	**+1.7**
BJO1				*e*S	**Sn**	**06 45 41.2**	**-0.6**
BJO1				IAML		06 45 45.3	
	comp=Z,23nm,0.4s						
BJO1	**Bjornoya**	**2.50**	**84**	Pn	**Pn**	**06 45 12.8**	**+1.7**
BJO1				Sn	**Sn**	**06 45 41.6**	**-0.2**
HSPB	**Hornsund (broa**	**2.97**	**26**	*e*P	**Pn**	**06 45 18.5**	**+0.8**
HSPB				*e*S	**Sn**	**06 45 50.7**	**-2.6**
HSPB	**Hornsund (broa**	**2.97**	**26**	Pn	**Pn**	**06 45 20.0**	**+2.3**
BRBA	**Barentsburg A**	**3.82**	**14**	*e*P	**Pn**	**06 45 30.3**	**+1.1**
BRBA				*e*S	**Sn**	**06 46 12.5**	**-1.6**
BRBA				IAML		06 46 20.4	
	comp=Z,4.4nm,0.4s						
BRBA	**Barentsburg A**	**3.82**	**14**	Pn	**Pn**	**06 45 30.4**	**+1.1**
BRBA				Sn	**Sn**	**06 46 12.7**	**-1.3**
SPA0	**Spitsbergen Ar**	**4.10**	**20**	Pn	**Pn**	**06 45 34.8**	**+1.7**
	baz=198,slow=14						
SPA0				Sn	**Sn**	**06 46 20.1**	**-1.0**
	baz=193,slow=22						
SPA0				IAML		06 46 32.9	
	comp=Z,5.9nm,0.6s						
SPA0	**Spitsbergen Ar**	**4.10**	**20**	Pn	**Pn**	**06 45 34.8**	**+1.7**
	baz=198,slow=14						
SPA0				Sn	**Sn**	**06 46 20.1**	**-1.0**
	baz=193,slow=22						
HOPEN	**Hopen**	**4.38**	**54**	*e*P	**Pn**	**06 45 38.9**	**+1.9**
HOPEN				*e*S	**Sn**

BURU	Burvik	1.96	344	P	Pb	06 55 36.7	+0.2
FIA0	FINESS Array S	2.05	127	eP	Pb	06 55 38.2	+0.1
FIA0				eS	Sb	06 56 03.9	-0.2
HEMU	Hemsoen	2.13	271	P	Pb	06 55 39.0	-0.4
HEMU	Hemsoen	2.13	271	P	Pb	06 55 39.0	-0.4
BREU	Bredtraesk	2.19	305	P	Pb	06 55 40.0	-0.4
BREU	Bredtraesk	2.19	305	P	Pb	06 55 40.0	-0.4

*IDC **05** 07:01:46.5±1.5, 35°.28N×141°.21E, h0km, mb3.4/3, mbtmp3.3/4, ML2.1/1, MS2.7/2, Error ellipse: s-maj=38.9km s-min=30.3km az=73.0*
*JMA **05** 07:01:48.9±0.3, 35°.5N±0°.7×14°.1E±°, h24km±2km, MV3.2/35, NEAR CHOSHI CITY*
ISC 05 07:01:50.7±1.1, 35°.43N±0°.06×141°.06E±0°.09, h33km, n23, σ1§46/14, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	Sammumatsuo	0.55	293	P	Pb	07 02 00.4	-1.6
JIHU	Itakohorinouch	0.69	321	P	Pn	07 02 02.2	-2.0
JIHU				S	Sn	07 02 12.9	-0.8
JCN	Nagara	0.70	269	P	Pb	07 02 04.1	-0.5
JCN				eS	Sb	07 02 14.9	+0.8
BSO4	Boso 4	0.74	234	P	Pb	07 02 04.2	-0.9
BSO3	Boso 3	0.78	216	i P	Pb	07 02 04.5	-1.1
BSO3				X		07 02 16.9	
BSO1	Boso 1	0.78	185	P	Pn	07 02 04.0	-0.8
JYT	Yasato	1.06	319	P	Pn	07 02 07.6	-1.7
JIM2	Oshima 3	1.52	242	eP	Pn	07 02 14.3	-1.3
MJAR	Matsushiro Arr	2.57	296	Pn	Pn	07 02 31.8	+1.8
	0.4nm,0.3s,baz=93,slow=14,SNR=8.5						
	1.9nm,0.4s						
USRK	Ussuriysk Ar.	11.19	324	LR	LR	07 08 53.2	
	comp=Z,44nm,20.1s,baz=191,slow=38						
H11N2	WAKE ISLAND Hy	27.61	118	T	T	07 36 29.8	
	baz=310,slow=75,SNR=98						
H11N1	WAKE ISLAND Hy	27.62	118	T	T	07 36 31.9	
	baz=310,slow=75,SNR=78						
H11N3	WAKE ISLAND Hy	27.63	118	T	T	07 36 31.3	
	baz=310,slow=75,SNR=83						
H11S1	WAKE ISLAND Hy	28.27	120	T	T	07 37 19.4	
	baz=312,slow=76,SNR=458						
H11S3	WAKE ISLAND Hy	28.27	120	T	T	07 37 18.9	
	baz=312,slow=76,SNR=462						
H11S2	WAKE ISLAND Hy	28.28	120	T	T	07 37 21.3	
	baz=312,slow=76,SNR=371						
DAV	Davao City (W)	31.61	210	LR	LR	07 23 01.9	
	comp=Z,13nm,18.3s,baz=176,slow=40						
KURBB	Kurchatov Arra	46.78	309	P	P	07 10 18.7	+1.9
	0.2nm,0.4s,baz=82,slow=7.7,SNR=2.2						
	0.2nm,0.4s						
ILAR	Eielson Array	51.00	32	P	P	07 10 50.0	+1.0
	0.3nm,0.9s,baz=268,slow=6.3,SNR=4.2						
	0.3nm,0.9s						
WRA	Warramunga Arr	55.44	188	P	P	07 11 21.8	-0.2
	0.3nm,0.5s,baz=2.6,slow=7.7,SNR=7.9						
	0.3nm,0.5s						
H03N2	Juan Fernandez	147.11	98	T	T	10 05 54.8	
	baz=289,slow=76,SNR=11						
H03N3	Juan Fernandez	147.12	98	T	T	10 05 58.6	
	baz=289,slow=76,SNR=9.7						
H03N1	Juan Fernandez	147.12	98	T	T	10 05 53.8	
	baz=289,slow=76,SNR=16						

*SOME **05** 07:06:34.6, 41°.57N×79°.50E, h15km*
*KRNET **05** 07:06:35.8±0.1, 41°.49N×79°.42E, h16km, mb2.3*
*NNC **05** 07:06:36.8±0.8, 41°.62N×79°.47E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=5.3km s-min=3.8km az=155.0*
ISC 05 07:06:36.5±1.8, 41°.56N±0°.07×79°.49E±0°.05, h10km, n50, σ1§38/82, 11C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	1.23	319	⇑eP	Pb	07 06 59.3	-0.7
	baz=23						
PRZ				⇑eS	Sn	07 07 16.8	0.0
	baz=23						
TARG	Taragay, Kyrgy	1.27	278	⇑iP	Pn	07 06 59.2	-1.6
	baz=82						
TARG				⇑iS	Sb	07 07 16.2	-1.3
	baz=82						
SHLS	Shalkode	1.60	359	eP	Pb	07 07 05.2	-1.0
	14nm,0.1s						
SHLS				eS	Sg	07 07 27.0	-1.0
	46nm,0.4s						
SHLS	Shalkode	1.60	359	P	Pb	07 07 05.2	-1.0
	14nm,0.1s						
SHLS				S	Sg	07 07 27.0	-1.0
	46nm,0.4s						
UZB	Uzynbulak	1.63	348	eP	Pn	07 07 05.2	-0.2
	5.5nm,0.3s						
UZB				eS	Sb	07 07 27.0	-0.4
	29nm,0.2s						
UZB	Uzynbulak	1.63	348	P	Pn	07 07 05.2	-0.2
	5.5nm,0.3s						
UZB				S	Sb	07 07 27.0	-0.4
	29nm,0.2s						
SATY	Saty	1.70	332	eP	Pn	07 07 06.5	+0.1
	4.6nm,0.2s						
SATY				eS	Sb	07 07 29.4	-0.1
	28nm,0.1s						
SATY	Saty	1.70	332	P	Pn	07 07 06.5	+0.1
	4.6nm,0.2s						
SATY				S	Sb	07 07 29.4	-0.1
	28nm,0.1s						
PDGK	Podgornoye	1.77	0	P	Pb	07 07 07.7	-1.5
	6.3nm,0.3s						
PDGK				S	Sg	07 07 31.4	-2.0
	40nm,0.5s						
PDGK	Podgornoye	1.77	0	⇓Pn	Pn	07 07 07.3	-0.1
	5.1nm,0.3s						
PDGK				⇑Lg	Lg	07 07 32.4	
	96nm,0.9s						
ZHN	Zhinishke	1.79	334	eP	Pb	07 07 08.7	-0.8
	7.1nm,0.2s						
ZHN				eS	Sg	07 07 33.0	-1.1
	123nm,0.3s						
ZHN	Zhinishke	1.79	334	P	Pb	07 07 08.7	-0.8
	7.1nm,0.2s						
ZHN				S	Sg	07 07 33.0	-1.1
	123nm,0.3s						
KDJ	Kajisay	1.82	289	⇑iP	Pb	07 07 08.8	-1.2
	baz=92						
KDJ				⇑iS	Sb	07 07 32.6	-0.3
	baz=92						
ANVS	Anan'yevo	1.83	313	⇑iP	Pb	07 07 09.9	-0.3
	baz=15						
ANVS				⇑iS	Sg	07 07 35.0	-0.3
	baz=15						
KTMS	Ketmen	1.99	18	eP	Pb	07 07 11.9	-1.1
	3.3nm,0.5s						
KTMS				eS	Sg	07 07 38.5	-2.1
	7.1nm,0.1s						
KTMS	Ketmen	1.99	18	Pg	Pb	07 07 11.9	-1.1
	3.3nm,0.5s						
KTMS				Lg	Lg	07 07 38.5	
	7.1nm,0.1s						
KPKS	Kokpek	2.00	343	eP	Pb	07 07 11.7	-1.3
	16nm,0.2s						
KPKS				eS	Sb	07 07 38.3	+0.2
	94nm,0.3s						
KPKS	Kokpek	2.00	343	Pg	Pb	07 07 11.7	-1.3
	16nm,0.2s						
KPKS				Lg	Lg	07 07 38.3	
	94nm,0.3s						
KURS	Kuram	2.16	334	eP	Pb	07 07 15.2	-0.6
	5.2nm,0.5s						
KURS				eS	Sg	07 07 44.5	-1.6
	16nm,0.3s						
KURS	Kuram	2.16	334	Pg	Pb	07 07 15.2	-0.6
	5.2nm,0.5s						
KURS				Lg	Lg	07 07 44.5	
	16nm,0.3s						
TNSS	Tian-Shan	2.40	309	eP	Pb	07 07 19.3	-0.7
	7.4nm,0.2s						
TNSS				eS	Sg	07 07 51.4	-2.2
	15nm,0.3s						
TNSS	Tian-Shan	2.40	309	Pg	Pb	07 07 19.3	-0.7
	7.4nm,0.2s						
TNSS				Lg	Lg	07 07 51.4	
	15nm,0.3s						
MDOK	Medeo	2.42	312	eP	Pb	07 07 19.6	-0.7
	9.5nm,0.1s						
MDOK				eS	Sg	07 07 51.8	-2.4
	28nm,0.5s						
MDOK	Medeo	2.42	312	⇓Pn	Pb	07 07 18.9	-1.3
	5.0nm,0.5s						
MDOK				Pg	Pb	07 07 19.6	-0.7
	9.5nm,0.1s						
MDOK				Lg	Lg	07 07 51.8	
	28nm,0.5s						
MDOK				Lg	Lg	07 07 52.1	
	20nm,0.5s						
KOTS	Kotyrbulak	2.43	314	eP	Pb	07 07 20.1	-0.4
	21nm,0.3s						
KOTS				eS	Sg	07 07 52.7	-2.0
	39nm,0.3s						
KOTS	Kotyrbulak	2.43	314	Pg	Pb	07 07 20.0	-0.4
	21nm,0.3s						
KOTS				Lg	Lg	07 07 52.7	
	39nm,0.3s						
IZV	Izvestkoviy	2.59	306	eP	Pb	07 07 22.7	-0.5
	52nm,0.1s						
IZV				eS	Sg	07 07 57.2	-2.7
	29nm,0.5s						
IZV	Izvestkoviy	2.59	306	Pg	Pb	07 07 22.7	-0.5
	52nm,0.1s						
IZV				Lg	Lg	07 07 57.2	
	29nm,0.5s						
BLB	Baldybastay	2.65	344	Pg	Pb	07 07 23.5	-0.6
	40nm,0.4s						
BLB				Lg	Lg	07 07 58.4	
	38nm,0.3s						
MTBS	Maitube	2.76	306	eP	Pb	07 07 25.4	-0.6
	5.8nm,0.2s						
MTBS				eS	Sb	07 08 01.4	+1.5
	18nm,0.2s						
MTBS	Maitube	2.76	306	Pg	Pb	07 07 25.4	-0.6
	5.8nm,0.2s						
MTBS				Lg	Lg	07 08 01.4	
	18nm,0.2s						
DJR	Jarkent	2.78	4	eP	Pb	07 07 25.6	-0.8
	2.0nm,0.2s						
DJR				eS	Sb	07 08 02.0	+1.4
	15nm,0.2s						
DJR	Jarkent	2.78	4	Pg	Pb	07 07 25.6	-0.8
	2.0nm,0.2s						
DJR				Lg	Lg	07 08 02.0	
	15nm,0.2s						
BOOM	Boomskoye usch	2.80	291	⇓eP	Pn	07 07 23.0	+1.4
	baz=92						
BOOM				⇓iS	Sn	07 07 57.6	+2.0
	baz=92						
KNOS	Konyrlen	2.81	355	Pg	Pb	07 07 26.4	-0.5
	1.9nm,0.3s						
KNOS				Lg	Lg	07 08 03.5	
	8.0nm,0.2s						
ARXS	Arharly	2.92	336	eP	Pb	07 07 29.3	+0.5
	3.4nm,0.3s						
ARXS				eS	Sg	07 08 08.4	-2.0
	7.5nm,0.4s						
ARXS	Arharly	2.92	336	Pg	Pb	07 07 29.3	+0.5
	3.4nm,0.3s						
ARXS				Lg	Lg	07 08 08.4	
	7.5nm,0.5s						
CHKK	Chushkaly	2.94	322	eP	Pb	07 07 29.1	0.0
	6.9nm,0.3s						
CHKK				eS	Sg	07 08 08.0	-3.0
	23nm,0.3s						
CHKK	Chushkaly	2.94	322	Pg	Pb	07 07 29.1	0.0
	6.9nm,0.3s						
CHKK				Lg	Lg	07 08 08.0	
	23nm,0.3s						
KTBS	Karatobe	2.99	317	eP	Pb	07 07 30.0	+0.1
	6.3nm,0.4s						
KTBS				eS	Sg	07 08 09.3	-3.2
	17nm,0.5s						
KTBS	Karatobe	2.99	317	Pg	Pb	07 07 30.0	+0.1
	6.3nm,0.4s						
KTBS				Lg	Lg	07 08 09.3	
	17nm,0.5s						
KST	Kastek	3.01	301	eP	Pb	07 07 30.1	-0.2
	6.3nm,0.6s						
KST				eS	Sb	07 08 09.5	+2.4
	14nm,0.6s						
KST	Kastek	3.01	301	Pg	Pb	07 07 30.0	-0.2
	6.3nm,0.6s						
KST				Lg	Lg	07 08 09.5	
	14nm,0.6s						
TKM2	Tokmak 2	3.19	297	⇓Pn	Pb	07 07 30.3	-3.2
	1.7nm,0.6s						
TKM2				⇓Lg	Lg	07 08 16.9	
	9.6nm,0.7s						
TKM2	Tokmak 2	3.19	297	⇑eP	Pn	07 07 29.1	+2.1
	baz=98						
TKM2				⇑iS	Sn	07 08 07.6	+2.3
	baz=98						
DGS	Degeres	3.23	303	eP	Pb	07 07 34.0	0.0
	4.0nm,0.5s						
DGS				eS	Sb	07 08 16.2	+2.8
	9.2nm,0.8s						
DGS	Degeres	3.23	303	Pg	Pb	07 07 34.0	0.0
	4.0nm,0.5s						
DGS				Lg	Lg	07 08 16.2	
	9.2nm,0.8s						
KRBS	Karabastau	3.53	308	eP	Pb	07 07 39.2	+0.1
	1.7nm,0.4s						
KRBS				eS	Sb	07 08 25.3	+3.1
	5.3nm,0.4s						
KRBS	Karabastau	3.53	308	Pg	Pb	07 07 39.2	+0.1
	1.7nm,0.4s						
KRBS				Lg	Lg	07 08 25.3	
	5.3nm,0.4s						
MK31	Makanchi Array	5.61	20	Pn	Pn	07 08 01.7	+1.7
	0.3nm,0.6s,baz=201,slow=15,SNR=5.4						
MK31				⇓Sn	Sn	07 09 07.0	+2.5
	0.6nm,0.5s,baz=230,slow=30,SNR=4.4						
MK31				⇓Lg	Lg	07 09 33.2	
	1.4nm,0.5s,baz=167,slow=28,SNR=4.3						

*IDC **05** 07:30:43.9±4.1, 28°.45S×67°.73W, h88km±33km, mb3.4/2, mbtmp3.6/4, Error ellipse: s-maj=52.9km s-min=25.0km az=62.0*
*SJA **05** 07:30:44.8±0.7, 28°.38S×67°.72W, h123km±3km, ML3.3, MW3.5*
ISC 05 07:30:46.2±0.9, 28°.38S±0°.03×67°.74W±0°.04, h117km±8km, n34, σ1§07/56, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	Vinchina	0.55	229	eP	Pn	07 31 03.8	-0.5
VCA				eS	Sn	07 31 18.7	+0.8
VCA				IAML		07 31 22.2	
	comp=Z,3μm,0.3s						
ACLC	CERRO LA CRUZ	1.25	147	eS	Sn	07 31 28.9	-0.5
ACLC				IAML		07 31 30.3	
	comp=Z,330nm,0.3s						
AGUA	GUANDACOL	1.29	211	eP	Pn	07 31 11.0	-0.1
AGUA				eS	Sn	07 31 30.7	+0.7
AGUA				IAML		07 31 32.7	
	comp=Z,644nm,0.4s						
CYA	Choya	1.71	93	eP	Pn	07 31 16.5	+0.7
CYA				eS	Sn	07 31 38.5	0.0
CYA				IAML		07 31 39.3	
	comp=Z,205nm,1.0s						
ACDV	Cuesta del Vie	2.16	214	eP	Pn	07 31 22.0	+0.4
ACDV				eS	Sn	07 31 49.5	+0.8
ACDV				IAML		07 31 50.6	
	comp=Z,62nm,0.5s						
AC05	El Transito	2.28	258	eP	Pn	07 31 23.1	-0.1
AC05				eS	Sn	07 31 51.9	+0.5
AC05				IAML		07 31 53.4	
	comp=Z,81nm,0.4s						
AVFE	Valle Fertil	2.29	174	eP	Pn	07 31 23.2	0.0
AVFE				eS	Sn	07 31 51.0	-0.6
AVFE				IAML		07 31 51.9	
	comp=Z,106nm,0.3s						
AROD	Rodeo	2.34	220	eP	Pn	07 31 24.6	+0.5
AROD				eS	Sn	07 31 54.3	+1.2
GO03	Copiap	2.34	289	eP	Pn	07 31 23.9	+0.1
GO03				eS	Sn	07 31 52.5	-0.3
ACCO	Cerro Coronel	2.49	207	eP	Pn	07 31 26.2	+0.2
ACCO				eS	Sn	07 31 56.7	+0.2
CO01	Juntas del Tor	2.61	232	eP	Pn	07 31 28.2	+0.8
CO01				eS	Sn	07 32 01.1	+1.9
LCO	Las Campanas	2.68	256	eP	Pn	07 31 28.4	0.0
LCO				eS	Sn	07 32 00.7	-0.2
FSA	Cafayete	2.75	35	eP	Pn	07 31 31.4	+2.2
FSA				eS	Sn	07 32 00.0	-2.4
DOCA	Reserva Natura	2.82	204	eP	Pn	07 31 30.1	-0.3
DOCA				eS	Sn	07 32 03.6	-0.7
DOCA				IAML		07 32 04.0	
	comp=Z,144nm,0.3s						
ACHE	Chepes	2.92	162	eP	Pn	07 31 31.9	+0.3
ACHE				eS	Sn	07 32 06.1	-0.3
AC04	Llanos de Chal	2.95	273	eP	Pn	07 31 30.1	-1.6
AC04				eS	Sn	07 32 04.2	-2.6
AC04				IAML		07 32 19.0	
	comp=Z,39nm,1.5s						
GO04	Tololo Observa	3.22	236	eP	Pn	07 31 34.2	-1.2
SJA	San Juan	3.22	193	eP	Pn	07 31 35.5	+0.2
ZON	Zonda	3.26	194	eP	Pn	07 31 35.9	0.0
ZON				eS	Sn	07 32 13.2	-1.0
ZON				IAML		07 32 14.6	
	comp=Z,48nm,0.4s						
AC01	Pan de Azucar	3.38	310	eP	Pn	07 31 37.6	+0.1
AC01				IAML		07 32 19.3	
	comp=Z,39nm,2.2s						
RTCV	Cerro Valdivia	3.54	191	eP	Pn	07 31 39.6	+0.1
RTCV				eS	Sn	07 32 20.0	-0.8
CO03	El Pedregal	3.55	226	eP	Pn	07 31 38.7	-1.1
CO03				eS	Sn	07 32 21.4	+0.1
CO03				IAML		07 32 23.4	
	comp=Z,42nm,0.5s						
GO02	Mina Guanaco	3.61	332	eP	Pn	07 31 42.0	+1.3
RTLS	Leoncito	3.67	201	eP	Pn	07 31 41.4	-0.1
RTLS				eS	Sn	07 32 07.6	-17
RTLS				IAML		07 32 24.1	
	comp=Z,84nm,0.4s						
CO02	Combarbal	4.00	224	eP	Pn	07 31 43.8	-1.9
CO02				eS	Sn	07 32 30.6	-1.3
CO02				IAML		07 32 31.5	
	comp=Z,41nm,1.7s						
ASAL	Salagasta	4.30	192	eP	Pn	07 31 49.7	-0.1
ASAL				eS	Sn	07 32 38.7	-0.4
MRA	San Martin	4.39	157	eP	Pn	07 31 50.7	-0.2
MRA				eS	Sn	07 32 25.4	-16
ARCO	CERRO ARCO	4.57	193	eP	Pn	07 31 53.2	-0.1
ARCO				eS	Sn	07 32 44.6	-1.0
ARCO				IAML		07 32 46.2	
	comp=Z,36nm,2.5s						
VA03	San Esteban	5.00	208	eP	Pn	07 31 57.4	-1.7
VA03				IAML		07 33 28.5	
	comp=Z,24nm,2.5s						
LVC	Limon Verde	5.84	349	P	Pn	07 32 10.7	-0.1
	comp=Z,2.8nm,0.4s,baz=177,slow=9.3,SNR=9.4						
LVC				S	Sn	07 33 15.4	-1.4
	comp=Z,3.0nm,0.3s,baz=224,slow=22,SNR=8.3						
CPUP	Villa Florida	9.47	80	P	Pn	07 32 56.7	-2.9
	comp=Z,0.7nm,0.4s,baz=250,slow=13,SNR=3.2						
SNAA	Sanae	55.47	160	P	P	07 40 08.5	+0.1
	comp=Z,0.7nm,0.9s,baz=255,slow=12,SNR=1.5						
	comp=Z,0.7nm,0.9s						
TORD	Torodi Ar. Bea	78.77	68	P	P	07 42 38.2	+1.8
	comp=Z,0.6nm,0.5s,baz=237,slow=4.3,SNR=6.8						
	comp=Z,0.6nm,0.5s						
MKAR	Makanchi Array	150.23	44	PKPbc	PKiKP	07 50 23.8	-0.3
	comp=Z,0.5nm,0.8s,baz=270,slow=4.3,SNR=3.3						

*IDC **05** 07:47:32.7±1.5, 30°.59S×71°.61W, h0km, mb3.9/5, mbtmp3.7/10, ML3.5/5, MS2.8/2, Error ellipse: s-maj=41.9km s-min=23.0km az=99.0*
*SJA **05** 07:47:32.6±0.8, 30°.58S×71°.93W, h8km±3km, ML3.9, MW3.5*
*GUC **05** 07:47:37.5±0.7, 30°.63S×71°.67W, h41km±2km, ML4.0*
*NEIC **05** 07:47:38.6±2.1, 30°.58S±0°.04×71°.7W±0°.1, h33km±7km, mb4.2/2, ML4.0(GUC), Error ellipse: s-maj=14.7km s-min=6.3km az=86.0*
ISC 05 07:47:36.8±1.0, 30°.61S±0°.02×71°.74W±0°.04, h26km±7km, n97, σ2§18/130, mb3.9/5, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.11	127		Pn	07 47 43.5	+0.7
CO06	Fray Jorge	0.11	127	⇑iP	Pn	07 47 43.6	+0.7
CO06				eS	Sb	07 47 47.2	+2.1
CO05	La Serena	0.81	32		Pn	07 47 52.1	-0.4
CO05	La Serena	0.81	32	eP	Pn	07 47 52.6	+0.2
CO05				eS	Sn	07 48 03.5	-0.2
CO05				IAML		07 48 07.6	
	comp=N,5μm,0.4s						
CO02	Combarbal	0.87	133		Pb	07 47 52.6	-0.7
CO02	Combarbal	0.87	133	eP	Pb	07 47 52.1	-1.2
CO02				eS	Sb	07 48 04.6	0.0
CO02				IAML		07 48 07.1	
	comp=Z,3μm,0.6s						
CO02	Combarbal	0.87	133	eP	Pb	07 47 52.8	-0.5
CO02				iS	Sb	07 48 03.9	-0.7
CO02				IAML		07 48 05.8	
	comp=N,15μm,0.2s						
GO04	Tololo Observa	0.92	62		Pn	07 47 54.2	0.0
GO04	Tololo Observa	0.92	62	eP	Pn	07 47 53.5	-0.7
GO04				IAML		07 48 12.4	
	comp=Z,10μm,0.6s						
GO04	Tololo Observa	0.92	62	⇓iP	Pn	07 47 54.1	0.0
GO04				eS	Sn	07 48 06.3	-0.3
CO03	El Pedregal	0.93	105		Pb	07 47 53.6	-0.7
CO03	El Pedregal	0.93	105	eP	Pb	07 47 53.5	-0.7
CO03				eS	Sn	07 48 06.0	-0.8
CO03				IAML		07 48 07.2	
	comp=Z,3μm,0.2s						
CO03	El Pedregal	0.93	105	⇓iP	Pb	07 47 53.7	-0.7
CO03				iS	Sb	07 48 05.2	-1.2
CO03				IAML		07 48 08.4	
	comp=E,5μm,0.6s						
CO01	Juntas del Tor	1.55	67		Pb	07 48 04.3	-0.7
CO01	Juntas del Tor	1.55	67	eP	Pb	07 48 04.0	-1.0
CO01				eS	Sb	07 48 24.7	+0.4
CO01				IAML		07 48 25.4	
	comp=Z,1μm,0.2s						
CO01	Juntas del Tor	1.55	67	eP	Pb	07 48 03.9	-1.1
CO01				eS	Sb	07 48 23.3	-1.1
LCO	Las Campanas	1.83	30		Pb	07 48 08.4	-1.3
LCO	Las Campanas	1.83	30	eP	Pb	07 48 07.5	-2.2
LCO				eP	Pn	07 48 08.1	+1.4
LCO				eS	Sb	07 48 32.7	+0.4
LCO				IAML		07 48 34.4	
	comp=Z,938nm,0.5s						
LCO	Las Campanas	1.83	30	eP	Pb	07 48 07.9	-1.8
LCO				eS	Sb	07 48 30.0	-2.3
LCO				IAML		07 48 34.0	
	comp=Z,5μm,0.3s						
VA06	Catapilco	1.98	169		Pn	07 48 09.3	+0.7
VA06	Catapilco	1.98	169	eP	Pn	07 48 09.4	+0.8
VA06				IAML		07 48 43.2	
	comp=N,2μm,0.5s						
AROD	Rodeo	2.00	78	eP	Pb	07 48 12.2	-0.5
AROD				eS	Sn	07 48 30.2	-3.4
AC05	El Transito	2.18	36		Pb	07 48 13.2	-2.3
AC05	El Transito	2.18	36	eP	Pb	07 48 12.9	-2.6
AC05				eS	Sb	07 48 41.7	-0.4
AC05				eS	Sn	07 48 42.7	+5.1
AC05				IAML		07 48 46.5	
	comp=Z,370nm,0.5s						
AC05	El Transito	2.18	36	⇑iP	Pb	07 48 13.5	-2.0
AC05				iS	Sb	07 48 39.1	-3.0
AC05				IAML		07 48 51.0	
	comp=E,756nm,0.3s						
ACDV	Cuesta del Vie	2.30	80	eP	Pb	07 48 17.4	-0.3
ACDV				eS	Sb	07 48 47.5	+1.7
ACDV				IAML		07 48 50.2	
	comp=Z,542nm,0.6s						
ACCO	Cerro Coronel	2.30	90	eP	Pb	07 48 17.0	-0.8
ACCO				eS	Sb	07 48 43.2	-2.8
ACCO				eS	Sn	07 48 48.6	+7.6
DOCA	Reserva Natura	2.31	99	eP	Pb	07 48 16.4	-1.6
DOCA				eS	Sb	07 48 51.1	+4.9
DOCA				IAML		07 48 55.0	
	comp=Z,272nm,0.8s						
VA03	San Esteban	2.38	155		Pn	07 48 15.8	+1.6
VA03	San Esteban	2.38	155	eP	Pn	07 48 15.2	+1.1
VA03				eS	Sb	07 48 47.7	-0.1
VA03				eS	Sn	07 48 50.2	+7.8
VA03				IAML		07 48 55.4	
	comp=Z,846nm,0.7s						
VA03	San Esteban	2.38	155	⇑eP	Pn	07 48 15.8	+1.6
VA03				iS	Sn	07 48 44.0	+1.6
VA03		

RTLS	**Leoncito**	**2.40**	**120**	*eP*	**Pb**	**07 48 18.0**	**-1.5**
RTLS				*eS*	**Sb**	**07 48 45.7**	**-3.2**
RTLS				IAML		07 48 55.0	
	comp=Z,1μm,0.6s						
AC04	**Llanos de Chal**	**2.46**	**14**		**Pn**	**07 48 15.4**	**+0.2**
AC04	**Llanos de Chal**	**2.46**	**14**	*eP*	**Pn**	**07 48 15.9**	**+0.7**
AC04				*eS*	**Sb**	**07 48 50.2**	**-0.1**
AC04				IAML		07 48 56.2	
	comp=Z,290nm,0.6s						
AC04	**Llanos de Chal**	**2.46**	**14**	*eP*	**Pn**	**07 48 16.1**	**+0.9**
MT02	**Curacav**	**2.69**	**169**		**Pn**	**07 48 19.6**	**+1.2**
MT02	**Curacav**	**2.69**	**169**	*eP*	**Pn**	**07 48 19.1**	**+0.7**
MT02				*eS*	**Sb**	**07 48 59.8**	**+2.9**
MT02				IAML		07 49 04.7	
	comp=Z,221nm,0.3s						
MT02	**Curacav**	**2.69**	**169**	*eP*	**Pn**	**07 48 19.0**	**+0.7**
MT02				*i* S	**Sn**	**07 48 51.3**	**+1.2**
MT02				IAML		07 49 05.9	
ZON	**Zonda**	**2.79**	**110**		**Pb**	**07 48 22.3**	**-3.6**
ZON	**Zonda**	**2.79**	**110**	*eP*	**Pb**	**07 48 22.4**	**-3.5**
ZON				*eS*	**Sb**	**07 48 57.2**	**-2.4**
MT10	**Hacienda Santa**	**2.85**	**159**	*eP*	**Pn**	**07 48 22.2**	**+1.6**
MT10				*i* S	**Sn**	**07 48 54.0**	**-0.1**
MT05	**Renca**	**2.90**	**163**		**Pn**	**07 48 23.2**	**+1.9**
MT05	**Renca**	**2.90**	**163**	*eP*	**Pn**	**07 48 24.1**	**+2.8**
MT05				*eP*	**Pb**	**07 48 24.7**	**-3.2**
MT05				*eS*	**Sb**	**07 49 03.7**	**+0.7**
MT05				IAML		07 49 09.2	
	comp=Z,294nm,0.3s						
MT14	**Cerro Calı̨n**	**2.96**	**160**	*eP*	**Pn**	**07 48 23.9**	**+1.8**
FCH	**Farellones**	**2.98**	**156**	*eP*	**Pn**	**07 48 24.7**	**+2.1**
FCH				*i* S	**Sn**	**07 49 01.2**	**+3.6**
FCH				IAML		07 49 14.9	
	comp=E,347nm,0.1s						
MT16	**CCHEN**	**3.00**	**160**		**Pn**	**07 48 25.2**	**+2.6**
RTCV	**Cerro Valdivia**	**3.01**	**115**	*eP*	**Pb**	**07 48 27.0**	**-2.7**
RTCV				*eS*	Sb	07 49 14.9	+8.9
AGUA	**GUANDACOL**	**3.03**	**69**	*eP*	**Pb**	**07 48 28.2**	**-1.8**
AGUA				*eS*	**Sb**	**07 49 08.1**	**+1.5**
AGUA				IAML		07 49 14.4	
	comp=Z,372nm,0.5s						
MT03	**Universidad Ad**	**3.06**	**160**		**Pn**	**07 48 25.8**	**+2.3**
MT03	**Universidad Ad**	**3.06**	**160**	*eP*	**Pn**	**07 48 25.2**	**+1.7**
MT03				*eS*	**Sb**	**07 49 04.7**	**-2.8**
MT03				IAML		07 49 16.3	
	comp=Z,318nm,0.3s						
MT03	**Universidad Ad**	**3.06**	**160**	*eP*	**Pn**	**07 48 24.9**	**+1.4**
MT03				*i* S	**Sn**	**07 48 59.8**	**+0.5**
ASAL	**Salagasta**	**3.17**	**129**	*eP*	**Pn**	**07 48 23.7**	**-1.3**
ASAL				*eP*	**Pb**	**07 48 29.1**	**-3.4**
ASAL				*eS*	**Sb**	**07 49 07.7**	**-2.9**
ASAL				IAML		07 49 24.2	
	comp=Z,144nm,0.6s						
MT09	**Talagante**	**3.22**	**169**		**Pn**	**07 48 27.2**	**+1.4**
MT09	**Talagante**	**3.22**	**169**	*eP*	**Pn**	**07 48 27.1**	**+1.3**
MT01	**Popeta**	**3.27**	**173**		**Pn**	**07 48 28.1**	**+1.7**
MT01	**Popeta**	**3.27**	**173**	*eP*	**Pn**	**07 48 27.5**	**+1.1**
MT01				*eS*	**Sb**	**07 49 11.2**	**-2.4**
MT01				*eS*	Sn	07 49 17.0	+13
MT01				IAML		07 49 19.9	
	comp=Z,140nm,0.4s						
MT01	**Popeta**	**3.27**	**173**	*eP*	**Pn**	**07 48 27.2**	**+0.8**
MT12	**Pirque**	**3.27**	**162**	*eP*	**Pn**	**07 48 27.8**	**+1.3**
GO03	**Copiap**	**3.28**	**24**		**Pn**	**07 48 27.4**	**+0.9**
GO03	**Copiap**	**3.28**	**24**	*eP*	**Pn**	**07 48 28.0**	**+1.5**
GO03				*eS*	**Sb**	**07 49 19.1**	**+5.3**
GO03	**Copiap**	**3.28**	**24**	*eP*	**Pn**	**07 48 27.7**	**+1.2**
MT13	**San Alfonso**	**3.36**	**159**		**Pn**	**07 48 30.0**	**+2.4**
MT13	**San Alfonso**	**3.36**	**159**	*eP*	**Pn**	**07 48 29.8**	**+2.1**
MT13				*i* S	**Sn**	**07 49 08.5**	**+1.7**
MT13				IAML		07 49 28.0	
	comp=E,355nm,0.4s						
AC06	**Mina Casimiro**	**3.46**	**21**	*eP*	**Pn**	**07 48 29.7**	**+0.7**
LMEL	**Las Melosas**	**3.48**	**158**		**Pn**	**07 48 31.3**	**+1.9**
LMEL	**Las Melosas**	**3.48**	**158**	*eP*	**Pn**	**07 48 31.6**	**+2.2**
LMEL				*i* S	**Sn**	**07 49 11.6**	**+1.8**
LMEL				IAML		07 49 24.6	
	comp=N,301nm,0.2s						
BO04	**La Punta**	**3.50**	**164**		**Pn**	**07 48 30.7**	**+1.1**
BO04	**La Punta**	**3.50**	**164**	*eP*	**Pn**	**07 48 31.0**	**+1.4**
BO04				*i* S	**Sn**	**07 49 09.8**	**-0.4**
BO04				IAML		07 49 23.3	
	comp=N,258nm,0.5s						
VCA	**Vinchina**	**3.59**	**60**	*eS*	**Sb**	**07 49 18.7**	**-4.3**
VCA				IAML		07 49 34.1	
	comp=Z,415nm,0.7s						
BO02	**Sierra Bellavi**	**4.25**	**169**		**Pn**	**07 48 41.7**	**+1.9**
ACLC	**CERRO LA CRUZ**	**4.31**	**75**	IAML		07 49 57.5	
	comp=Z,117nm,1.3s						
GO05	**Huala**	**4.39**	**182**	*eP*	**Pn**	**07 48 41.8**	**+0.1**
GO05				IAML		07 50 02.2	
	comp=Z,62nm,1.1s						
H03N1	**Juan Fernandez**	**6.72**	**243**	T	T	07 56 07.9	
	baz=71,slow=72,SNR=2383						
H03N2	**Juan Fernandez**	**6.73**	**243**	T	T	07 56 09.7	
	baz=71,slow=72,SNR=2230						
H03N3	**Juan Fernandez**	**6.73**	**243**	T	T	07 56 08.1	
	baz=71,slow=72,SNR=2134						
LVC	**Limon Verde**	**8.36**	**18**	Pn	**Pn**	**07 49 36.3**	**-0.3**
LVC	**Limon Verde**	**8.36**	**18**	Pn	**Pn**	**07 49 34.4**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=125,slow=12,SNR=2.0						
LVC				Sn	Sb	07 51 26.3	-14
	comp=Z,0.9nm,0.3s,baz=342,slow=20,SNR=1.9						
	comp=Z,1.6nm,0.5s						
PLCA	**Paso Flores**	**10.15**	**175**	Pn	**Pn**	**07 50 01.6**	**+0.8**
PLCA	**Paso Flores**	**10.15**	**175**	Pn	**Pn**	**07 50 01.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=354,slow=18,SNR=2.0						
	comp=Z,1.4nm,0.7s						
TRQA	**Tornquist**	**10.96**	**135**		**Pn**	**07 50 12.1**	**+0.2**
CPUP	**Villa Florida**	**13.37**	**75**	Pn	**Pn**	**07 50 44.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=232,slow=14,SNR=3.5						
CPUP				Sn	**Sn**	**07 53 20.3**	**+7.7**
	comp=Z,0.1nm,0.3s,baz=307,slow=20,SNR=1.0						
CPUP				Lg	Lg	07 54 29.6	
	baz=338,slow=19,SNR=2.1						
	comp=Z,0.6nm,0.4s						
LPAZ	**La Paz**	**14.63**	**14**	Pn	**Pn**	**07 51 04.2**	**+1.5**
LPAZ	**La Paz**	**14.63**	**14**	Pn	**Pn**	**07 51 03.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=210,slow=4.7,SNR=1.9						
LPAZ				LR	LR	07 56 51.3	
	comp=Z,36nm,19.6s,baz=204,slow=38						
	comp=Z,0.3nm,0.4s						
SIV	**San Ignacio**	**17.52**	**36**	P	**Pn**	**07 51 39.2**	**-0.1**
	baz=203,slow=14,SNR=5.8						
SIV				LR	LR	07 59 29.7	
	comp=Z,38nm,21.1s,baz=120,slow=41						
	comp=Z,1.0nm,0.8s						
BDFB	**Brasilia**	**26.34**	**61**	P	**P**	**07 53 09.7**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=214,slow=14,SNR=3.1						
	comp=Z,2.3nm,0.8s						
SNAA	**Sanae**	**54.63**	**159**	P	**P**	**07 57 02.4**	**-0.4**
SNAA				IAmb	IAmb	07 57 45.7	
	comp=Z,5.5nm,1.5s						
SNAA	**Sanae**	**54.63**	**159**	P	**P**	**07 57 02.8**	**0.0**
	comp=Z,1.0nm,0.9s,baz=262,slow=6.6,SNR=7.7						
	comp=Z,1.0nm,0.9s						
DBIC	**Dimbokro**	**73.87**	**72**	P	**P**	**07 59 07.8**	**-1.8**
	comp=Z,3.8nm,1.0s,baz=243,slow=2.3,SNR=1.6						
	comp=Z,3.8nm,1.0s						
PDAR	**Pinedale Array**	**80.86**	**333**	P	**P**	**07 59 49.0**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=180,slow=7.8,SNR=1.6						
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**82.82**	**70**	P	**P**	**07 59 58.8**	**-0.3**
TORD				IAmb	IAmb	08 00 02.7	
	comp=Z,2.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**82.82**	**70**	P	**P**	**07 59 58.4**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=236,slow=6.6,SNR=4.1						
	comp=Z,0.4nm,0.6s						
H11S2	**WAKE ISLAND Hyl**	**26.01**	**271**	T	T	10 25 18.0	
	baz=116,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hyl**	**26.02**	**271**	T	T	10 25 19.3	
	baz=116,slow=75,SNR=54						
H11S3	**WAKE ISLAND Hyl**	**26.03**	**271**	T	T	10 25 20.6	
	baz=116,slow=75,SNR=49						
H11N3	**WAKE ISLAND Hyl**	**26.34**	**273**	T	T	10 25 43.9	
	baz=116,slow=74,SNR=10						
H11N1	**WAKE ISLAND Hyl**	**26.35**	**273**	T	T	10 25 46.9	
	baz=116						
H11N2	**WAKE ISLAND Hyl**	**26.35**	**273**	T	T	10 25 45.2	
	baz=116,slow=74,SNR=14						

TIR ***05*** *07:54:48.5,41.°46N×19.°51E,h25km±4km,Ml2.4*
PDG ***05*** *07:54:51.2±0.2,41.°47N×19.°58E,h11km,ML2.4/13, Error ellipse: s-maj=0.8km s-min=1.3km az=0.0*
BEO ***05*** *07:54:52.2±0.6,41.°42N×19.°66E,h12km±2km,ML2.1/6*

ISC 05 07:54:51.4±0.9,41.°46N±0.°02×19.°61E±0.°03,h14km±7km, n39,σ0°89/67,4C-9D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.22**	**119**	P	**Pg**	**07 54 56.2**	**0.0**
	baz=111						
TIR				S	**Sg**	**07 54 59.7**	**+0.1**
	baz=111						
TIR				AMP			
	comp=E,7.1nm,0.3s,baz=111						
TIR	**Tirane**	**0.22**	**119**	P	**Pg**	**07 54 56.3**	**0.0**
	baz=183						
TIR				S	**Sg**	**07 55 00.2**	**+0.6**
	baz=183						
TIR				AMP			
	comp=N,2.5nm,0.3s,baz=183						
TIR	**Tirane**	**0.22**	**119**	*e*Pg	**Pg**	**07 54 56.3**	**0.0**
TIR				*e*Sg	**Sb**	**07 55 00.9**	**-0.1**
ULC	**Ulcinj**	**0.58**	**332**	⇓*i*Pg	**Pg**	**07 55 01.8**	**-1.0**
ULC				*i* Sg	**Sg**	**07 55 10.4**	**-0.1**
PUK	**Puka**	**0.62**	**20**	P	**Pg**	**07 55 02.3**	**-1.4**
	baz=26						
PUK				S	**Sg**	**07 55 11.1**	**-0.9**
	baz=26						
PUK				AMP			
	comp=N,0.7nm,0.1s,baz=26						
PUK	**Puka**	**0.62**	**20**	P	**Pg**	**07 55 02.4**	**-1.2**
	baz=1.0						
PUK				S	**Sg**	**07 55 10.3**	**-1.6**
	baz=1.0						
PUK				AMP			
	comp=E,0.3nm,0.5s,baz=1.0						
DRME	**Dracevica, Mon**	**0.80**	**337**	*e*Pg	**Pg**	**07 55 07.0**	**+0.1**
DRME				*e*Sg	**Sn**	**07 55 21.0**	**+1.1**
DRME	**Dracevica, Mon**	**0.80**	**337**	⇑*i*Pg	**Pg**	**07 55 06.1**	**-0.8**
DRME				*i* Sg	**Sb**	**07 55 17.8**	**+0.1**
BUM	**Brajici-Budva**	**1.00**	**328**	⇓*i*Pg	**Pb**	**07 55 10.2**	**-0.3**
BUM				*i* Sg	**Sg**	**07 55 24.3**	**+0.4**
PDG	**Podgorica**	**1.01**	**345**	*e*Pg	**Pb**	**07 55 10.9**	**+0.3**
PDG				*e*Sg	**Sn**	**07 55 26.4**	**+1.3**
PDG	**Podgorica**	**1.01**	**345**	⇑*i*Pg	**Pb**	**07 55 09.8**	**-0.8**
PDG				*i* Sg	**Sn**	**07 55 25.1**	**0.0**
PVY	**Plav**	**1.17**	**13**	*e*Pg	**Pb**	**07 55 12.7**	**-0.7**
PVY	**Plav**	**1.17**	**13**	⇑*i*Pg	**Pb**	**07 55 12.3**	**-1.1**
PVY				*i* Sg	**Sn**	**07 55 30.3**	**+1.1**
CEME	**Cevo**	**1.21**	**335**	⇓*i*Pg	**Pn**	**07 55 13.2**	**-0.7**
CEME				*i* Sg	**Sg**	**07 55 31.9**	**+1.5**
HCY	**Herceg Novi**	**1.29**	**320**	⇓*i*Pg	**Pn**	**07 55 15.4**	**+0.3**
HCY				*i* Sg	**Sg**	**07 55 34.8**	**+1.6**
KOME	**Kolasin**	**1.40**	**357**	*e*Pg	**Pg**	**07 55 18.0**	**-0.3**
KOME				*e*Sg	**Sg**	**07 55 38.5**	**+2.0**
KOME	**Kolasin**	**1.40**	**357**	⇓*i*Pg	**Pb**	**07 55 17.4**	**+0.1**
KOME				*i* Sg	**Sg**	**07 55 38.0**	**+1.5**
NKME	**Niksic**	**1.40**	**340**	⇑*i*Pg	**Pn**	**07 55 16.8**	**+0.3**
NKME				*i* Sg	**Sg**	**07 55 38.1**	**+1.5**
BEY	**Berane**	**1.43**	**8**	*e*Pg	**Pb**	**07 55 17.8**	**-0.1**
IVA	**Berane**	**1.43**	**8**	⇓*i*Pg	**Pn**	**07 55 17.3**	**+0.3**
IVA				*i* Sg	**Sg**	**07 55 39.3**	**+1.7**
FNA	**Florina**	**1.49**	**116**	P	**Pn**	**07 55 17.1**	**-0.7**
	baz=114						
FNA				S	**Sg**	**07 55 40.2**	**+0.7**
	baz=114						
FNA				AMP			
	comp=E,0.1nm,0.2s,baz=114						
FNA	**Florina**	**1.49**	**116**	P	**Pb**	**07 55 19.5**	**+0.5**
	baz=123						
FNA				S	**Sg**	**07 55 39.7**	**+0.1**
	baz=123						
FNA				AMP			
	comp=N,0.1nm,0.4s,baz=123						
SRN	**Sarande**	**1.60**	**169**	P	**Pn**	**07 55 18.4**	**-0.8**
	baz=166						
SRN				S	**Sb**	**07 55 41.2**	**+0.5**
	baz=166						
DBRK	**Dubrovnik**	**1.63**	**319**	*e*Pn	**Pn**	**07 55 20.7**	**+1.0**
BRY	**Bratogost**	**1.65**	**332**	⇓*i*Pn	**Pn**	**07 55 21.1**	**+1.0**
BRY				*i* Sn	**Sg**	**07 55 44.6**	**0.0**
UPM	**Unac-Piva**	**1.82**	**344**	⇓*i*Pn	**Pn**	**07 55 23.3**	**+0.8**
UPM				*i* Sn	**Sb**	**07 55 48.7**	**+1.3**
SJES	**Sjenica**	**1.82**	**8**	*e*Pn	**Pb**	**07 55 24.1**	**-0.5**
SJES				*e*Sg	**Sg**	**07 55 49.4**	**-0.8**
PLE	**Pljevlja**	**1.88**	**355**	⇓*i*Pn	**Pb**	**07 55 24.7**	**-0.9**
PLE				*i* Sn	**Sg**	**07 55 51.0**	**-1.0**
STON	**Ston**	**2.00**	**316**	*e*Pn	**Pn**	**07 55 25.2**	**+0.4**
NOCI	**Noci**	**2.04**	**252**	P	**Pb**	**07 55 28.0**	**-0.2**
	baz=251						
NOCI				S	**Sn**	**07 55 49.2**	**-1.3**
	baz=251						
PRVS	**Prvonek**	**2.12**	**59**	*e*Pn	**Pn**	**07 55 27.4**	**+1.0**
BARS	**Barje**	**2.13**	**50**	*e*Pn	**Pn**	**07 55 27.7**	**+1.1**
BARS				*e*Sn	**Sb**	**07 55 54.8**	**-1.3**
IVAS	**Ivanjica**	**2.16**	**11**	*e*Pn	**Pn**	**07 55 27.7**	**+0.7**
MAKA	**Makarska**	**2.65**	**315**	*e*Pn	**Pn**	**07 55 33.5**	**-0.2**
MAKA				Sn	**Sn**	**07 56 05.0**	**-0.6**
LKD2	**Lefkada island**	**2.78**	**163**	P	**Pn**	**07 55 36.1**	**+0.5**
	baz=161						
SGRT	**San Giovanni R**	**2.91**	**277**	P	**Pn**	**07 55 36.7**	**-0.7**
	baz=278						
KUBS	**Kucevo**	**3.32**	**26**	*e*Pn	**Pn**	**07 55 42.7**	**-0.2**
ZIRJ	**Zirje**	**3.66**	**308**	*e*Pn	**Pn**	**07 55 47.5**	**-0.1**
DUGI	**Dugi Otok**	**4.20**	**309**	*e*Pn	**Pn**	**07 55 55.0**	**-0.1**

ISU ***05*** *08:01:41.9,39.°29N×67.°60E,h4km*

ISC 05 08:01:42.8±1.0,39.°46N±0.°09×67.°48E±0.°09,h10km,n5, σ1°20/9,1D,Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BXML	**Bakhmal**	**0.48**	**62**	P	**Pg**	**08 01 51.6**	**-0.7**
BXML				S	**Sg**	**08 01 58.7**	**0.0**
PKMR	**Pachkamar**	**1.25**	**223**	P	**Pg**	**08 02 05.6**	**-1.2**
PKMR				S	**Sn**	**08 02 23.3**	**0.0**
ZRB	**Zarabog**	**1.65**	**215**	P	**Pg**	**08 02 13.5**	**-1.0**
ZRB				S	**Sg**	**08 02 36.6**	**+0.7**
KK31	**Karatay Array**	**4.30**	**31**	⇓P	**Pb**	**08 02 59.7**	**+1.3**
	0.4nm,0.3s,baz=214,slow=15,SNR=4.3						
KK31				S	**Sg**	**08 03 58.9**	**-1.8**
	2.4nm,0.6s,baz=210,slow=26,SNR=4.7						
AB31	**Akbulak array**	**11.17**	**334**	P	**Pn**	**08 04 23.0**	**+0.5**
	0.3nm,0.6s,baz=159,slow=13,SNR=4.6						

PGC 05 08:02:59.2±0.9,54.°31N×117.°68W,h0km,ML3.5/6, 160km Nne of Jasper, Alberta Alberta, Canada, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMTB	**Bullhead Mount**	**3.09**	**306**	Pn	Pn	08 03 49.5	+0.2
BMTB				Pg	Pb	08 03 55.7	+0.5
BMTB				Sn	Sn	08 04 25.9	-1.2
FSJB	**Fort St James**	**3.87**	**275**	Pn	Pn	08 03 58.8	-1.2
FSJB				Pg	Pb	08 04 08.6	+0.3
FSJB				Sn	Sn	08 04 43.6	-2.6
UBRB	**Upper Baezaeko**	**4.07**	**252**	Pn	Pn	08 04 02.4	-0.4
LLLB	**Lílooet**	**4.51**	**216**	Pn	Pn	08 04 07.2	-1.5
LLLB				Sg	Sg	08 05 20.0	-3.9
WSLR	**Whistler**	**5.28**	**220**	Sg	Sg	08 05 43.0	-5.8
FNSB	**Fort Nelson**	**5.31**	**330**	Pn	Pn	08 04 18.3	-1.3
FNSB				Sn	Sn	08 05 17.3	-4.2
HOPB	**Hope**	**5.45**	**207**	Sg	Sg	08 05 48.8	-5.3
HNBB	**Haney**	**5.87**	**213**	Sg	Sg	08 06 01.3	-6.4
B08A	**Colville Reser**	**6.05**	**191**	Pn	Pn	08 04 29.9	0.0
B08A				Sg	Sg	08 06 06.7	-6.6
TOAD	**Toad River Com**	**6.18**	**321**	Pn	Pn	08 04 30.4	-1.3
TOAD				Sn	Sn	08 05 37.2	-5.7
MKRVA	**Milk River, Al**	**6.34**	**142**	Sn	Sn	08 05 41.7	-5.3
BSMT	**Bassoo Peak**	**6.71**	**163**	Pn	Pn	08 04 38.5	-0.7
YBMT	**Yellow Bay**	**6.85**	**159**	Pn	Pn	08 04 40.8	-0.2
YBMT				Pg	Pb	08 05 01.3	+2.2
JTMT	**Jette**	**6.91**	**161**	Pn	Pn	08 04 40.8	-1.0
JTMT				Pg	Pb	08 05 02.8	+2.6

IDC 05 08:12:05.5±2.4,5.°57S×130.°89E,h0km,mb3.5/1, mbtmp3.2/3,ML3.1/2,MS2.7/1,Error ellipse: s-maj=113.1km s-min=33.5km az=71.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**13.63**	**337**	LR	LR	08 22 09.5	
	comp=Z,29nm,19.0s,baz=321,slow=44						
WRA	**Warramunga Arr**	**14.67**	**167**	Pn	Pn	08 15 35.1	+0.6
	0.1nm,0.3s,baz=347,slow=11,SNR=9.4						
WRA				Sn	Sn	08 18 02.2	-16
	0.2nm,0.3s,baz=360,slow=9.6,SNR=6.7						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**18.22**	**171**	P	Pn	08 16 19.4	-0.6
	0.1nm,0.3s,baz=345,slow=10,SNR=4.3						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**67.53**	**326**	P	P	08 23 03.8	+0.1
	0.2nm,0.4s,baz=126,slow=6.3,SNR=2.4						
	0.2nm,0.4s						

TEH ***05*** *08:15:51.5,37.°10N×45.°19E,h6km±85km,ML2.5*
ISN ***05*** *08:15:52.7±2.5,37.°04N×45.°09E,h25km,ML2.1*

ISC 05 08:15:50.1±1.3,37.°07N±0.°04×45.°06E±0.°08,h12km,n9, σ0°56/10,Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	**Mahabad**	**0.60**	**120**	Pg	**Pg**	**08 16 01.3**	**-0.6**
IAZR	**Azarshahr**	**0.95**	**50**	Pg	**Pb**	**08 16 08.7**	**-0.1**
ISHB	**Shabestar**	**1.29**	**20**	Pg	**Pg**	**08 16 14.6**	**-0.3**
ITBZ	**Tabriz**	**1.45**	**36**	Pg	**Pb**	**08 16 17.1**	**-0.1**
IMRD	**Marand**	**1.72**	**17**	Pg	**Pg**	**08 16 22.9**	**-0.3**
IKRK	**Kirkuk**	**1.76**	**199**	*e*Pg	**Pb**	**08 16 22.0**	**-0.4**
	baz=20						
IKRK				*e*Sg	**Sg**	**08 16 48.0**	**+1.2**
IKRK				AML	AML	08 16 53.4	
	comp=N,24nm,0.7s						
IKRK				AML	AML	08 16 53.6	
	comp=E,29nm,0.8s						
IHSH	**Hashtrud**	**1.78**	**82**	Pg	**Pb**	**08 16 23.1**	**+0.3**
IHRS	**Heris**	**2.01**	**51**	Pn	**Pb**	**08 16 27.0**	**+0.2**
IDHR	**Dehrash**	**2.60**	**155**	Pn	**Pb**	**08 16 36.7**	**-0.1**

HEL 05 08:19:31.0±0.3,66.°66N×26.°74E,h0km,ML1.1, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNF	**Rovaniemi**	**0.29**	**260**	PG	Pg	08 19 36.8	+0.2
RNF				SG	Sg	08 19 41.0	+0.6
RANF	**Ranua**	**0.65**	**178**	PG	Pg	08 19 42.7	-0.8
	baz=357						
RANF				SG	Sg	08 19 51.2	-0.7
OLKF	**Oulanka, Finla**	**1.12**	**107**	PN	Pn	08 19 53.7	-0.3
OLKF				MSG		08 20 05.2	
	comp=Z,0.8nm,0.2s						
OLKF				SN	Sg	08 20 07.6	+0.6
TOF	**Tornio**	**1.14**	**240**	PN	Pb	08 19 53.6	+0.2
TOF				MSG		08 20 05.5	
	comp=Z,1.0nm,0.2s						
KLF	**Kolari**	**1.23**	**299**	MSG		08 20 08.3	
	comp=Z,2.5nm,0.2s						
KU6	**Riekki**	**1.42**	**115**	MSG		08 20 13.8	
	comp=Z,0.7nm,0.2s						
KU6				SN	Sg	08 20 16.7	0.0
HEF	**Hetta**	**2.11**	**327**	MSG		08 20 33.7	
	comp=Z,0.7nm,0.2s						
ARA0	**ARCESS Array S**	**2.92**	**351**	PN	Pn	08 20 19.1	+0.4
KEV	**Kevo**	**3.11**	**2**	PB	Pn	08 20 22.4	+1.3
KEV				SN	Sn	08 20 59.6	+0.7
KEV				MSG		08 21 02.2	
	comp=Z,1.3nm,0.2s						

IDC 05 08:24:49.0±3.2,53.°56N×87.°89E,h0km,mbtmp3.1/2, ML3.0/2,Error ellipse: s-maj=31.1km s-min=17.7km az=48.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**283**	I	I	08 36 25.1	
	0.3nm,0.7s,baz=98,slow=318,SNR=9.5						
ZALV	**Zalesovo Beam**	**1.86**	**283**	Pn	Pn	08 25 21.4	-0.6
	1.1nm,0.3s,baz=101,slow=13,SNR=6.9						
ZALV				Lg	Lg	08 25 48.1	
	4.5nm,0.3s,baz=105,slow=27,SNR=18						
KURBB	**Kurchatov Arra**	**6.47**	**247**	Pn	Pn	08 26 26.5	+1.0
	0.3nm,0.3s,baz=60,slow=14,SNR=4.2						
KURBB				Lg	Lg	08 28 13.2	
	baz=64,slow=32						
	1.1nm,0.3s						
MKAR	**Makanchi Array**	**7.67**	**210**	Pn	Pn	08 26 42.9	+1.0
	0.2nm,0.3s,baz=27,slow=13,SNR=8.4						
	0.2nm,0.3s						

NNC ***05*** *08:37:50.0±3.5,42.°26N×72.°78E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=51.7km s-min=7.9km az=3.0*

SOME 05 08:37:52.9,41.°63N×73.°65E,h10km,3C-1D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**1.16**	**344**	*e*P	Pn	08 38 16.0	+0.8
	2.3nm,0.3s						
MRKS				*e*S	Sn	08 38 32.8	+1.7
	6.4nm,0.2s						
MRKS	**Merke**	**1.16**	**344**	P	Pn	08 38 16.0	+0.8
	2.3nm,0.3s						
MRKS				S

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.09**	**341**	Pg	**Pg**	**08 38 47.6**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.39**	**142**	Pg	**Pg**	**08 38 53.0**	**-0.2**
IDHR	**Dehrash**	**0.69**	**66**	Pg	**Pg**	**08 38 57.9**	**-1.0**
IDHR				Sg	**Sg**	**08 39 08.6**	**+0.8**
IGHG	**Ghaleghazi**	**0.79**	**96**	Pg	**Pg**	**08 39 00.4**	**-0.4**
IGHG				Sg	**Sb**	**08 39 13.2**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.18**	**97**	Pg	**Pg**	**08 39 07.4**	**-0.9**
IBDR	**Badra**	**1.33**	**169**	*e*Pg	**Pn**	**08 39 11.0**	**+0.2**
IBDR				*e*Sg	**Sn**	**08 39 29.0**	**+0.2**
IKRK	**Kirkuk**	**1.44**	**313**	*e*Pn	**Pn**	**08 39 12.0**	**-0.2**
IKRK				*e*Sn	**Sg**	**08 39 32.0**	**+0.2**
IKRK				AML	AML	08 39 35.0	
	comp=N,404nm,0.3s						
IKRK				AML	AML	08 39 36.2	
	comp=E,493nm,0.9s						
BHD	**Baghdad**	**1.54**	**222**	*e*Pn	**Pn**	**08 39 14.0**	**+0.3**
BHD				*e*Sn	**Sg**	**08 39 36.0**	**+0.7**
BHD				AML	AML	08 39 39.2	
	comp=E,1μm,0.6s						
SNQR	**Sonqor, Kerman**	**1.71**	**75**	Pg	**Pb**	**08 39 17.0**	**-0.6**
SDS1	**Sardasht. Az.**	**1.73**	**356**	Pg	**Pb**	**08 39 17.1**	**-0.8**
IBZA	**Bozab**	**1.85**	**88**	Pn	**Pn**	**08 39 18.5**	**+0.3**
IKFM	**Kafar-mosalman**	**2.05**	**115**	Pn	**Pn**	**08 39 21.0**	**+0.3**
IDOB	**Doab**	**2.21**	**106**	Pn	**Pn**	**08 39 23.6**	**+0.6**
HSAM	**Samen**	**2.47**	**94**	Pn	**Pn**	**08 39 27.0**	**+0.2**
IAZR	**Azarshahr**	**3.26**	**5**	Pn	**Pb**	**08 39 38.6**	**+1.0**
QABG	**Abgarm-Qazvin**	**3.49**	**67**	Pn	**Pn**	**08 39 41.8**	**+1.1**
JHBN	**Jahan bin**	**4.75**	**116**	Pn	**Pn**	**08 39 57.8**	**-0.3**
IVRN	**Varamin**	**5.06**	**82**	Pn	**Pn**	**08 40 03.3**	**+1.1**

*ISK **05** 08:39:19.7, 39°.35N×44°.18E, h16km, ML2.8/14*
*AZER **05** 08:39:19.8, 39°.36N×44°.23E, h14km, ml3.0*
*AFAD **05** 08:39:20.7±0.0, 39°.35N×44°.12E, h7km±3km, ML2.7*

ISC 05 08:39:20.5±1.0, 39°.35N±0°.02×44°.14E±0°.02, h10km±8km, n42, σ1°.05/73, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.27**	**220**	Pg	**Pg**	**08 39 26.0**	**-0.1**
CLDR				Sg	**Sb**	**08 39 31.1**	**-1.3**
CLDR	**Caldiran**	**0.27**	**220**	P	**Pg**	**08 39 26.0**	**-0.1**
CLDR				S	**Sg**	**08 39 30.2**	**+0.3**
CLDR				*i* AML	AML	08 39 36.0	
	comp=N,4μm,0.8s						
CLDR				*i* AML	AML	08 39 38.0	
	comp=E,5μm,0.6s						
DYDN	**Diyadin**	**0.40**	**299**	P	**Pg**	**08 39 28.7**	**+0.3**
DYDN				S	**Sb**	**08 39 36.5**	**+0.3**
DYDN				*i* AML	AML	08 39 39.0	
	comp=N,690nm,0.4s						
DYDN				*i* AML	AML	08 39 40.0	
	comp=E,905nm,0.7s						
IGDI	**IGDIR**	**0.52**	**355**	P	**Pg**	**08 39 30.8**	**+0.2**
IGDI				*i* AML	AML	08 39 39.0	
	comp=E,925nm,0.3s						
IGDI				S	**Sb**	**08 39 39.2**	**-0.2**
IGDI				*i* AML	AML	08 39 42.0	
	comp=N,650nm,0.3s						
VMUR	**Van-Muradiye**	**0.57**	**231**	P	**Pg**	**08 39 31.4**	**-0.2**
VMUR				S	**Sb**	**08 39 40.4**	**-0.6**
VMUR				*i* AML	AML	08 39 41.0	
	comp=N,473nm,0.2s						
VMUR				*i* AML	AML	08 39 44.0	
	comp=E,557nm,0.3s						
TASB	**TASBURUN-IGDIR**	**0.64**	**7**	Pg	**Pg**	**08 39 32.7**	**-0.2**
TASB				Sg	**Sb**	**08 39 42.1**	**-0.7**
HYR	**Heyderabad**	**0.66**	**56**	P	**Pb**	**08 39 34.0**	**-0.2**
HYR				S	**Sn**	**08 39 45.8**	**-0.8**
OZAP	**Van, Ozalp-Mer**	**0.70**	**190**	P	**Pb**	**08 39 34.3**	**-0.7**
OZAP				S	**Sb**	**08 39 45.2**	**+0.4**
OZAP				*i* AML	AML	08 39 51.0	
	comp=N,256nm,0.7s						
OZAP				*i* AML	AML	08 39 52.0	
	comp=E,186nm,0.5s						
ERCV	**ERCIS-VAN**	**0.71**	**242**	Pg	**Pb**	**08 39 34.7**	**-0.4**
KOTA	**Agri, Merkez-K**	**0.85**	**302**	P	**Pg**	**08 39 36.3**	**-0.7**
KOTA				S	**Sb**	**08 39 49.2**	**0.0**
AGRB	**Hanur-Agry**	**0.92**	**284**	Pg	**Pg**	**08 39 37.7**	**-0.5**
AGRB				Sg	**Sn**	**08 39 52.4**	**-0.7**
VANB	**Van**	**0.96**	**218**	Pg	**Pn**	**08 39 40.5**	**+0.3**
VANB				Sg	**Sn**	**08 39 54.8**	**+0.9**
TVAN	**Van**	**1.00**	**215**	P	**Pn**	**08 39 40.5**	**-0.4**
TVAN				S	**Sn**	**08 39 56.9**	**+1.7**
TVAN				*i* AML	AML	08 39 57.0	
	comp=N,342nm,0.4s						
TVAN				*i* AML	AML	08 40 03.0	
	comp=E,308nm,0.7s						
DORK	**Agr/Tutak/Do**	**1.06**	**272**	P	**Pb**	**08 39 39.8**	**-1.2**
DORK				S	**Sn**	**08 39 58.0**	**+1.5**
DORK				*i* AML	AML	08 40 01.0	
	comp=E,167nm,0.5s						
DORK				*i* AML	AML	08 40 12.0	
	comp=N,221nm,0.6s						
NAX	**Nakhchivan**	**1.06**	**99**	P	**Pn**	**08 39 41.0**	**-0.6**
NAX				S	**Sn**	**08 39 57.3**	**+0.7**
SBZ	**Shahbuz**	**1.09**	**87**	P	**Pn**	**08 39 41.8**	**-0.3**
SBZ				S	**Sn**	**08 39 58.4**	**+1.1**
ADCV	**BITLIS_Adilcev**	**1.23**	**244**	P	**Pb**	**08 39 43.9**	**0.0**
ADCV				S	**Sn**	**08 40 01.7**	**+1.0**
ADCV				*i* AML	AML	08 40 04.0	
	comp=N,115nm,0.3s						
ADCV				*i* AML	AML	08 40 07.0	
	comp=E,69nm,0.8s						
GEVA	**Gevas**	**1.34**	**220**	P	**Pb**	**08 39 45.5**	**-0.4**
GEVA				S	**Sg**	**08 40 06.5**	**+2.8**
GEVA				*i* AML	AML	08 40 15.0	
	comp=E,63nm,0.6s						
GEVA				*i* AML	AML	08 40 17.0	
	comp=N,76nm,0.5s						
AKDM	**Akdamar-Van**	**1.37**	**222**	Pn	**Pn**	**08 39 45.3**	**-0.6**
EATA	**Eleskirt**	**1.37**	**292**	P	**Pn**	**08 39 45.8**	**-0.3**
EATA				S	**Sb**	**08 40 04.0**	**-0.3**
EATA				*i* AML	AML	08 40 16.0	
	comp=N,85nm,1.0s						
EATA				*i* AML	AML	08 40 20.0	
	comp=E,128nm,0.6s						
EAK	**Akyaka**	**1.40**	**343**	P	**Pg**	**08 39 47.5**	**+0.2**
EAK				S	**Sg**	**08 40 09.3**	**+3.8**
EAK				*i* AML	AML	08 40 14.0	
	comp=E,245nm,0.6s						
EAK				*i* AML	AML	08 40 15.0	
	comp=N,256nm,0.6s						
ORD	**Ordubad**	**1.50**	**106**	P	**Pb**	**08 39 47.6**	**-1.0**
ORD				S	**Sg**	**08 40 11.9**	**+3.2**
KARS	**Kars**	**1.51**	**328**	Pn	**Pn**	**08 39 47.2**	**-0.7**
GURO	**Guroymak-BITLI**	**1.83**	**245**	Pn	**Pn**	**08 39 51.6**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.83**	**312**	Pn	**Pn**	**08 39 51.5**	**-0.8**
GDB	**GEDABAY**	**1.84**	**42**	P	**Pn**	**08 39 52.7**	**+0.3**
GDB				S	**Sg**	**08 40 20.4**	**+0.6**
HOMI	**Horasan**	**1.86**	**293**	P	**Pb**	**08 39 55.4**	**+0.7**
HOMI				*i* AML	AML	08 40 34.0	
	comp=N,97nm,0.6s						
HOMI				*i* AML	AML	08 40 37.0	
	comp=E,151nm,1.0s						
KOPR	**Koprukoy-ERZUR**	**1.88**	**291**	Pn	**Pn**	**08 39 52.3**	**-0.6**
PERV	**Siirt/Pervari-**	**1.88**	**222**	P	**Pn**	**08 39 53.1**	**+0.2**
PERV				S	**Sg**	**08 40 19.7**	**-1.3**
PERV				*i* AML	AML	08 40 24.0	
	comp=E,124nm,0.6s						
PERV				*i* AML	AML	08 40 33.0	
	comp=N,101nm,0.8s						
QZX	**Qazax, Azerbai**	**1.95**	**29**	P	**Pb**	**08 39 55.2**	**-0.9**
QZX				S	**Sg**	**08 40 22.7**	**-0.4**
VRTB	**Varto-Mus**	**2.10**	**266**	Pn	**Pn**	**08 39 55.5**	**-0.3**
GANJ	**Ganja**	**2.12**	**52**	P	**Pb**	**08 39 57.7**	**-1.3**
GANJ				S	**Sg**	**08 40 26.8**	**-1.7**
MUSM	**Mu-Merkez**	**2.14**	**254**	P	**Pb**	**08 39 59.6**	**+0.1**
MUSM				S	**Sg**	**08 40 28.4**	**-0.9**
SRTM	**Siirt_Merkez**	**2.21**	**233**	P	**Pn**	**08 39 55.6**	**-1.7**
SRTM				S	**Sg**	**08 40 31.3**	**-0.1**
SRTM				*i* AML	AML	08 40 35.0	
	comp=N,60nm,0.9s						
SRTM				*i* AML	AML	08 40 40.0	
	comp=E,40nm,0.9s						
AGDM	**Agdam**	**2.41**	**71**	P	**Pn**	**08 40 01.3**	**+1.2**
AGDM				S	**Sg**	**08 40 36.3**	**-1.6**
QRD	**Qoradiz**	**2.46**	**86**	P	**Pn**	**08 40 01.7**	**+0.9**
QRD				S	**Sg**	**08 40 38.3**	**-1.4**
SVAN	**Silvan-Diyarba**	**2.59**	**243**	Pn	**Pn**	**08 40 02.6**	**0.0**
BNGB	**Bingl**	**2.72**	**263**	Pn	**Pn**	**08 40 04.0**	**-0.4**
YRD	**Yardimli**	**3.22**	**96**	P	**Pn**	**08 40 11.5**	**+0.2**
YRD				S	**Sb**	**08 40 57.9**	**+0.7**
GLBA	**Cilalabad**	**3.30**	**91**	P	**Pn**	**08 40 12.8**	**+0.5**
GLBA				S	**Sb**	**08 40 58.7**	**-0.7**
XNQ	**Khinaliq**	**3.56**	**58**	P	**Pn**	**08 40 17.5**	**+1.5**
XNQ				S	**Sb**	**08 41 06.9**	**-0.1**
PTK	**Pertek**	**3.72**	**264**	Pn	**Pn**	**08 40 18.4**	**+0.1**

JMA 05 08:43:28.1±0.2, 42°.2N±0°.7×142°.6E±0°.8, h19km±1km, S OFF URAKAWA, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.12**	**46**	P	Pg	08 43 32.1	-0.1
JSHD	**Hidakashinhida**	**0.25**	**330**	P	Pg	08 43 34.1	+0.2
JSHD				*e*S	Sg	08 43 37.8	-0.1
JEM	**Erimo**	**0.43**	**114**	*e*P	Pg	08 43 36.3	-0.6
JTHR	**Tokachihiroo**	**0.50**	**79**	P	Pg	08 43 38.1	-0.1
JCH	**Churui**	**0.68**	**52**	P	Pb	08 43 41.1	-0.3

*IDC **05** 08:43:24.2±0.8, 42°.10N×142°.47E, h0km, mb3.8/12, mbtmp3.8/16, ML3.3/2, MS3.1/14, Error ellipse: s-maj=23.6km s-min=15.5km az=103.0*
*NEIC **05** 08:43:28.8±1.1, 42°.06N±0°.06×142°.6E±0°.1, h28km±7km, mb4.1/19, Error ellipse: s-maj=15.3km s-min=7.5km az=109.0*
*NIED **05** 08:43:29.1, 42°.18N×142°.62E, h21km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.17; $M_{\theta\theta}$-4.97; $M_{\phi\phi}$2.81; $M_{r\theta}$5.86; $M_{\theta\phi}$4.64; $M_{\phi r}$2.72; Fault plane solution: $M_0$9.05000×10^{14} NP1:ϕ_s75.00000°, δ81.00000°, λ48.00000°. NP2:ϕ_s335.00000°, δ43.00000°, λ166.00000°.*
*JMA **05** 08:43:29.1±0.2, 42°.2N±0°.9×142°.6E±0°.8, h21km±1km, MV3.5/35, S OFF URAKAWA*
JMA Felt I J1 at S OFF URAKAWA .

ISC 05 08:43:28.3±0.9, 42°.12N±0°.04×142°.58E±0°.04, h24km±7km, n74, σ0°.80/66, mb4.0/23, MS3.4/8, 6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.21**	**38**	⇓P	**Pb**	**08 43 33.3**	**-0.6**
JNBK				⇓*e*S	**Sb**	**08 43 37.5**	**-0.3**
JSHD	**Hidakashinhida**	**0.31**	**344**	⇓P	**Pb**	**08 43 35.3**	**+0.1**
ERM	**Erimo**	**0.44**	**103**		**Pb**	**08 43 37.6**	**+0.2**
JEM	**Erimo**	**0.44**	**103**	P	**Pb**	**08 43 37.5**	**0.0**
JTHR	**Tokachihiroo**	**0.56**	**72**	P	**Pb**	**08 43 39.3**	**-0.2**
JTHR				*e*S	**Sb**	**08 43 48.0**	**+0.8**
JBT2	**Biratori 2**	**0.68**	**347**	⇓P	**Pb**	**08 43 40.7**	**-0.8**
JIAM	**Iburiatsuma**	**0.70**	**316**	P	**Pn**	**08 43 42.9**	**+0.2**
JCH	**Churui**	**0.77**	**49**	⇓P	**Pb**	**08 43 42.3**	**-0.6**
JCH				⇓*e*S	**Sn**	**08 43 53.6**	**-0.7**
JFR	**Furan**	**1.05**	**1**	P	**Pn**	**08 43 46.6**	**-0.9**
JEW	**Eniwo**	**1.11**	**311**	*e*P	**Pn**	**08 43 48.0**	**-0.3**
JEW				*e*S	**Sn**	**08 44 03.1**	**+0.4**
JOB	**Onbets**	**1.22**	**49**	*e*P	**Pn**	**08 43 49.6**	**-0.1**
JTM	**Tenmabayashi**	**1.75**	**221**		**Pn**	**08 43 56.1**	**-0.9**
JKA	**Kamikawa-asahi**	**2.00**	**0**		**Pn**	**08 44 01.3**	**+0.8**
ASAJ	**Asahikawa**	**2.00**	**0**	Pn	**Pn**	**08 44 00.9**	**+0.4**
	15nm,0.3s,baz=211,slow=15,SNR=73						
ASAJ				Sn	**Sn**	**08 44 25.8**	**+1.0**
	13nm,0.3s,baz=204,slow=22,SNR=3.1						
ASAJ				LR	LR	08 45 01.6	
	comp=Z,265nm,20.0s,baz=190,slow=48 49nm,0.4s						
JMM	**Marumori**	**4.46**	**198**		**Pn**	**08 44 34.1**	**-0.2**
MJB9	**Matsu-Tunnel**	**6.51**	**213**	Pn	**Pn**	**08 45 02.9**	**+0.3**
MAJO	**Matsushiro**	**6.51**	**213**	Pn	**Pn**	**08 45 01.9**	**-0.7**
MJAR	**Matsushiro Arr**	**6.51**	**213**	Pn	**Pn**	**08 45 02.6**	**0.0**
	0.1nm,0.3s,baz=21,slow=13,SNR=7.4						
MJAR				LR	LR	08 48 01.4	
	comp=Z,81nm,20.0s,baz=353,slow=43 2.4nm,0.6s						
USRK	**Ussuriysk Ar.**	**8.02**	**289**	Pn	**Pn**	**08 45 24.5**	**+1.3**
	0.1nm,0.3s,baz=83,slow=12,SNR=3.0						
USRK				LR	LR	08 48 42.5	
	comp=Z,66nm,19.7s,baz=192,slow=40						
KLR	**Kul'dur**	**10.39**	**317**		**Pn**	**08 45 56.8**	**+1.2**
KLR	**Kul'dur**	**10.39**	**317**	Pn	**Pn**	**08 45 56.8**	**+1.2**
	0.1nm,0.3s,baz=138,slow=11,SNR=4.5						
KLR				LR	LR	08 50 33.0	
	comp=Z,64nm,21.1s,baz=87,slow=41						
KSRS	**Korea Array**	**12.19**	**252**		**Pn**	**08 46 22.0**	**+1.7**
KSRS	**Korea Array**	**12.19**	**252**	Pn	**Pn**	**08 46 22.0**	**+1.7**
	0.3nm,0.3s,baz=62,slow=16,SNR=2.7						
JNU	**Nakatsue**	**12.90**	**230**	LR	LR	08 50 58.9	
	comp=Z,34nm,18.8s,baz=222,slow=35						
PETK	**Petropavlovsk-**	**14.96**	**38**	Pn	**Pn**	**08 46 57.6**	**-0.4**
	0.9nm,0.4s,baz=229,slow=7.6,SNR=1.4						
MA2	**Magadan**	**18.20**	**13**	P	**P**	**08 47 40.0**	**+0.8**
	6.2nm,0.7s,baz=194,slow=14,SNR=4.5						
MA2				LR	LR	08 54 13.6	
	comp=Z,36nm,19.9s,baz=200,slow=36						
YAK	**Yakutsk**	**21.39**	**343**	LR	LR	08 57 14.2	
	comp=Z,59nm,18.5s,baz=177,slow=39						
SEY	**Seymchan**	**21.64**	**12**	P	**P**	**08 48 15.0**	**-1.5**
SEY	**Seymchan**	**21.64**	**12**	P	**P**	**08 48 15.0**	**-1.5**
	3.0nm,0.8s,baz=192,slow=9.2,SNR=6.9 3.0nm,0.8s						
GUMO	**Guam**	**28.49**	**175**	LR	LR	08 59 05.3	
	comp=Z,29nm,21.2s,baz=168,slow=33						
H11N2	**WAKE ISLAND Hy**	**30.35**	**130**	T	T	09 21 08.0	
	baz=323,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**30.36**	**130**	T	T	09 21 08.9	
	baz=323,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**30.37**	**130**	T	T	09 21 08.0	
	baz=323,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**31.22**	**132**	T	T	09 22 16.6	
	baz=324,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**31.22**	**132**	T	T	09 22 05.4	
	baz=324,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**31.24**	**132**	T	T	09 22 05.2	
	baz=324,slow=76,SNR=18						
E18K	**Tukpahlearik C**	**39.33**	**31**	P	**P**	**08 50 55.8**	**+0.7**
E18K				IAmb	IAmb	08 51 30.3	
	comp=Z,7.7nm,1.1s						
G18K	**Tagagawik**	**39.86**	**33**	P	**P**	**08 50 59.9**	**+0.4**
G18K				IAmb	IAmb	08 51 01.7	
	comp=Z,4.3nm,1.2s						
M17K	**Holitna River**	**40.11**	**40**	P	**P**	**08 51 02.5**	**+0.9**
M17K				IAmb	IAmb	08 51 23.7	
	comp=Z,10nm,1.5s						
D19K	**Kuna River**	**40.44**	**29**	P	**P**	**08 51 04.1**	**-0.2**
E19K	**Redstone River**	**40.62**	**31**	P	**P**	**08 51 05.8**	**0.0**
E19K				IAmb	IAmb	08 51 06.8	
	comp=Z,2.9nm,0.9s						
H19K	**Roundabout Mou**	**40.73**	**34**		**P**	**08 51 06.6**	**-0.1**
H19K				IAmb	IAmb	08 51 09.6	
	comp=Z,2.6nm,0.9s						
O18K	**Koktuh Hills**	**41.25**	**43**	P	**P**	**08 51 13.2**	**+2.2**
IMAR	**Indian Mountai**	**41.87**	**33**	P	**P**	**08 51 16.4**	**+0.4**
MKAR	**Makanchi Array**	**42.37**	**298**	P	**P**	**08 51 19.6**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=79,slow=8.8,SNR=2.4 comp=Z,0.4nm,0.6s						
RSO	**Redoubt South**	**42.43**	**42**	P	**P**	**08 51 20.4**	**-0.5**
CAST	**Castle Rocks**	**42.58**	**37**	P	**P**	**08 51 22.6**	**+0.7**
E22K	**Anaktuvuk Pass**	**42.73**	**30**	P	**P**	**08 51 22.9**	**-0.1**
E22K				IAmb	IAmb	08 51 25.0	
	comp=Z,3.4nm,0.7s						
KDAK	**Kodiak Island**	**42.81**	**46**	P	**P**	**08 51 23.6**	**-0.1**
C23K	**Itkillik River**	**43.26**	**28**	P	**P**	**08 51 27.6**	**+0.4**
C23K				IAmb	IAmb	08 51 57.8	
	comp=Z,5.9nm,1.4s						
G23K	**Bananza Creek**	**43.38**	**32**	P	**P**	**08 51 28.5**	**+0.1**
H23K	**Yukon River**	**43.59**	**34**	P	**P**	**08 51 30.2**	**+0.1**
KURBB	**Kurchatov Arra**	**43.74**	**304**	P	**P**	**08 51 30.4**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=76,slow=8.9,SNR=7.8 comp=Z,1.1nm,0.5s						
F24K	**Squaw Lake**	**44.21**	**31**	P	**P**	**08 51 35.5**	**+0.6**
F24K				IAmb	IAmb	08 51 37.7	
	comp=Z,1.9nm,0.7s						
ILAR	**Eielson Array**	**44.77**	**35**	P	**P**	**08 51 39.1**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=270,slow=7.0,SNR=18 comp=Z,1.4nm,0.9s						
K27K	**Chicken**	**46.94**	**36**	P	**P**	**08 51 57.0**	**+0.4**
K27K				IAmb	IAmb	08 51 57.8	
	comp=Z,2.3nm,0.9s						
L27K	**Beaver Creek,**	**47.23**	**37**	P	**P**	**08 51 59.3**	**+0.5**
L27K				IAmb	IAmb	08 52 00.6	
	comp=Z,2.3nm,0.8s						
BVAR	**Borovoye Array**	**47.94**	**309**	P	**P**	**08 52 04.0**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=70,slow=7.4,SNR=8.1 comp=Z,1.7nm,0.4s						
ARU	**Arti**	**53.23**	**316**	LR	LR	09 18 14.5	
	comp=Z,34nm,20.1s,baz=198,slow=39						
ABKAR	**Akbulak array**	**55.44**	**308**	P	**P**	**08 52 59.9**	**-0.7**
ABKAR				IAmb	IAmb	08 53 00.9	
	comp=Z,1.4nm,0.8s						
KIRV	**Kirov**	**56.79**	**321**	LR	LR	09 20 07.6	
	comp=Z,36nm,19.1s,baz=32,slow=39						
WR0	**Warramunga Arr**	**62.21**	**189**	P	**P**	**08 53 46.7**	**-1.0**
WRA	**Warramunga Arr**	**62.21**	**189**	P	**P**	**08 53 47.3**	**-0.5**
WRA	**Warramunga Arr**	**62.21**	**189**	P	**P**	**08 53 46.6**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=6.4,slow=6.8,SNR=8.5 comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**64.76**	**332**	P	**P**	**08 54 03.0**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=57,slow=7.0,SNR=5.3						
FINES				LR	LR	09 24 32.5	
	comp=Z,36nm,19.2s,baz=90,slow=38 comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**65.94**	**189**	P	**P**	**08 54 12.2**	**0.0**
	comp=Z,0.3nm,0.7s,baz=1.6,slow=6.5,SNR=2.0 comp=Z,0.3nm,0.7s						
HFS	**Hagfors**	**69.84**	**335**	P	**P**	**08 54 35.8**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=50,slow=10.0,SNR=6.6 comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**69.86**	**337**	P	**P**	**08 54 36.6**	**0.0**
	comp=Z,1.7nm,0.8s,baz=37,slow=6.5						
NOA	**NORSAR Array B**	**69.86**	**337**	P	**P**	**08 54 36.3**	**-0.3**
NOA	**NORSAR Array B**	**69.86**	**337**	P	**P**	**08 54 36.3**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=36,slow=6.1,SNR=5.9						
NOA				LR	LR	09 29 40.2	
	comp=Z,12nm,18.2s,baz=115,slow=40 comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**71.28**	**55**	P	**P**	**08 54 46.9**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=305,slow=6.5,SNR=3.5 comp=Z,0.5nm,0.7s						
FRB	**Frobisher Bay**	**71.63**	**14**	LR	LR	09 29 58.8	
	comp=Z,39nm,18.3s,baz=220,slow=39						
DAVOX	**Davos/Dischmat**	**82.03**	**329**	LR	LR	09 36 19.1	
	comp=Z,29nm,18.6s,baz=264,slow=39						
TXAR	**Lajitas Array**	**86.33**	**53**	P	**P**	**08 56 09.3**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=317,slow=5.2,SNR=4.1 comp=Z,0.7nm,0.9s						

IDC 05 08:48:23.1±4.2, 53°.53N×90°.67E, h0km, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=39.5km s-min=28.1km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.50**	**279**	I	I	09 10 00.0	
	baz=90,slow=314,SNR=0.5						
ZALV	**Zalesovo Beam**	**3.50**	**279**	Pn	Pn	08 49 20.7	+2.0
	0.7nm,0.3s,baz=96,slow=16,SNR=4.9						
ZALV				Lg	Lg	08 50 13.7	
	1.1nm,0.3s,baz=87,slow=26,SNR=7.1 1.2nm,0.3s						
KURBB	**Kurchatov Arra**	**8.03**	**254**	Pn	Pn	08 50 20.8	-0.1
	0.1nm,0.3s,baz=68,slow=15,SNR=4.2						
KURBB				Lg	Lg	08 52 37.9	
	baz=62,slow=30,SNR=2.8 0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.62**	**222**	Pn	Pn	08 50 29.3	+0.2
	0.1nm,0.3s,baz=43,slow=16,SNR=1.7						
MKAR				Lg	Lg	08 52 57.7	
	0.1nm,0.3s,baz=32,slow=22,SNR=2.5 0.3nm,0.4s						

*IDC **05** 09:24:18.6±3.8, 27°.59N×67°.36E, h0km, mb3.7/7, mbtmp3.7/8, ML4.1/1, MS3.4/3, Error ellipse: s-maj=92.5km s-min=24.0km az=136.0*

ISC 05 09:24:24.2±3.3, 27°.6N±0°.4×67°.1E±0°.4, h35km, n12, σ1°.71/10, mb3.8/7, MS3.4/3, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**8.79**	**242**	Pn	**Pn**	**09 26 29.9**	**+1.1**
	1.8nm,0.3s,baz=113,slow=10.0,SNR=38						
WSAR				Sn	**Sn**	**09 28 03.6**	**-3.0**
	0.5nm,0.3s,baz=351,slow=11,SNR=1.8 3.2nm,0.3s						
MKAR	**Makanchi Array**	**22.59**	**28**	P	**P**	**09 29 19.0**	**-2.6**
	0.5nm,0.7s,baz=219,slow=8.7,SNR=4.6 0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**24.58**	**18**	P	**P**	**09 29 40.0**	**-0.8**
	0.5nm,0.6s,baz=210,slow=8.5,SNR=3.5 0.5nm,0.6s						
BVAR	**Borovoye Array**	**25.50**	**5**	P	**P**	**09 29 49.3**	**+0.1**
	1.0nm,0.4s,baz=175,slow=8.9,SNR=6.0 1.0nm,0.4s						
EIL	**Elat**	**28.22**	**282**	LR	LR	09 44 16.9	
	comp=Z,32nm,18.6s,baz=241,slow=42						
ARCES	**ARCESS Array B**	**48.31**	**342**	P	**P**	**09 33 01.9**	**+0.1**
	2.6nm,1.1s,baz=116,slow=8.2,SNR=6.4 2.6nm,1.1s						
HFS	**Hagfors**	**48.39**	**328**	P	**P**	**09 33 03.0**	**+0.5**
	0.6nm,0.5s,baz=99,slow=9.5,SNR=5.1 0.6nm

*MEX **05** 09:47:35.9±1.1, 15°.87N×98°.74W, h16km±60km, MD4.4*
*IDC **05** 09:47:36.7±3.1, 16°.33N×98°.36W, h0km, mb4.1/4,*
mbtmp4.0/9, ML3.5/5, MS2.9/3, Error ellipse: s-maj=62.1km
s-min=20.4km az=14.0
*NEIC **05** 09:47:40.4±1.6, 16°.50N±0°.10×98°.26W±0°.09, h10km±1km,*
mb4.3/209, Error ellipse: s-maj=20.1km s-min=9.7km
az=218.0

ISC 05 09:47:34.6±0.6, 15°.95N±0°.04×98°.62W±0°.03, h10km, n446,
σ2°.46/423, mb4.4/73, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.65**	**47**	*eP*	**Pn**	**09 47 48.0**	**-2.0**
CRIG	**Cruz Grande**	**0.93**	**328**	*eP*	**Pg**	**09 47 49.5**	**-3.0**
CRIG				*eS*	**Sg**	**09 48 00.3**	**-4.3**
MGIG	**Malinaltepec**	**1.28**	**359**	*eP*	**Pb**	**09 47 56.5**	**-2.5**
MGIG				*i S*	**Sb**	**09 48 12.3**	**-3.3**
YOIG	**Yosondua**	**1.37**	**48**	*eP*	**Pg**	**09 47 59.2**	**-1.8**
YOIG				*eS*	**Sn**	**09 48 17.3**	**-1.2**
PEIG	**Puerto Escondi**	**1.41**	**88**	*eP*	**Pg**	**09 47 59.4**	**-2.5**
PEIG				*eS*	**Sb**	**09 48 16.1**	**-3.2**
DAIG	**Los Arroyos**	**1.46**	**317**	*eP*	**Pn**	**09 47 57.2**	**-3.9**
DAIG				*i S*	**Sn**	**09 48 16.0**	**-4.3**
TXIG	**Tlaxiaco**	**1.53**	**32**	*eP*	**Pb**	**09 48 01.2**	**-2.1**
TXIG				*eS*	**Sg**	**09 48 27.2**	**+3.1**
TLIG	**Tlapa**	**1.61**	**2**	Pn	**Pn**	**09 48 01.8**	**-1.5**
TLIG	**Tlapa**	**1.61**	**2**	*eP*	**Pn**	**09 48 01.7**	**-1.5**
TLIG				*i S*	**Sb**	**09 48 22.7**	**-2.3**
CAIG	**El Cayaco**	**1.93**	**305**	*eP*	**Pn**	**09 48 03.1**	**-4.4**
CAIG				*eS*	**Sn**	**09 48 27.0**	**-4.8**
FTIG	**Fresnillo de T**	**2.01**	**13**	*eP*	**Pn**	**09 48 08.2**	**-0.5**
FTIG				*i S*	**Sg**	**09 48 35.1**	**-4.1**
HLIG	**Huajuapan de L**	**2.03**	**22**	*eP*	**Pn**	**09 48 08.5**	**-0.6**
HLIG				*i S*	**Sg**	**09 48 44.2**	**+4.2**
VHO	**Vista Hermosa**	**2.13**	**58**	*eP*	**Pb**	**09 48 10.4**	**-3.0**
VHO				*eS*	**Sg**	**09 48 39.6**	**-3.5**
MEIG	**Mezcala**	**2.19**	**334**	*eP*	**Pn**	**09 48 09.4**	**-1.8**
MEIG				*eS*	**Sn**	**09 48 34.5**	**-3.9**
HUIG	**Huatulco**	**2.42**	**94**	*eP*	**Pn**	**09 48 13.9**	**-0.4**
HUIG				*i S*	**Sn**	**09 48 37.0**	**-7.0**
PLIG	**Platanillo**	**2.58**	**341**	*eP*	**Pn**	**09 48 15.5**	**-1.0**
PLIG				*eS*	**Sn**	**09 48 46.5**	**-1.5**
TOIG	**Toxpalan**	**2.60**	**35**	*eP*	**Pn**	**09 48 16.7**	**-0.2**
TOIG				*eS*	**Sg**	**09 49 00.1**	**+1.8**
TPIG	**Tehuac#an**	**2.74**	**26**	*eP*	**Pn**	**09 48 18.7**	**-0.1**
TPIG				*eS*	**Sg**	**09 49 02.5**	**-0.1**
ARIG	**Puente Sto Nin**	**2.85**	**325**	*eP*	**Pn**	**09 48 19.3**	**-0.9**
ARIG				*eS*	**Sn**	**09 48 52.2**	**-2.5**
YAIG	**Yautepec**	**2.93**	**352**	*eP*	**Pb**	**09 48 23.7**	**-3.5**
YAIG				*eS*	**Sg**	**09 49 04.8**	**-4.1**
PPM	**Popocatepetl**	**3.10**	**360**	*eP*	**Pb**	**09 48 28.5**	**-1.8**
PPM				*i S*	**Sn**	**09 49 00.7**	**-0.9**
MAVM	**Malinalco, Edo**	**3.11**	**345**	*eP*	**Pn**	**09 48 26.1**	**+2.1**
MAVM				*i S*	**Sb**	**09 49 05.4**	**-2.9**
ZIIG	**Zihuatanejo**	**3.19**	**302**	*eP*	**Pn**	**09 48 22.4**	**-2.5**
ZIIG				*eP*	**Pn**	**09 48 22.4**	**-2.5**
ZIIG				*eS*	**Sn**	**09 48 58.4**	**-4.6**
NEUV	**Arroyo Zacate**	**3.22**	**57**	*eP*	**Pn**	**09 48 25.3**	**+0.1**
NEUV				*eS*	**Sb**	**09 49 05.1**	**-6.1**
MPVM	**San Francisco**	**3.26**	**353**	*eP*	**Pb**	**09 48 31.8**	**-1.0**
MPVM				*eS*	**Sg**	**09 49 18.2**	**-1.3**
TLVM	**San Miguel Top**	**3.29**	**351**	*eP*	**Pb**	**09 48 34.0**	**+0.7**
TLVM				*eS*	**Sg**	**09 49 16.2**	**-4.2**
XCVM	**Xochimilco**	**3.32**	**352**	*eP*	**Pb**	**09 48 33.5**	**-0.3**
XCVM				*eS*	**Sg**	**09 49 17.5**	**-4.0**
THVM	**De Xico**	**3.36**	**354**	*eP*	**Pg**	**09 48 36.1**	**-3.0**
THVM				*eS*	**Sg**	**09 49 21.1**	**-1.7**
AOVM	**Tlapan**	**3.37**	**349**	*eP*	**Pb**	**09 48 33.7**	**-1.1**
AOVM				*eS*	**Sg**	**09 49 18.3**	**-4.7**
INVM	**La Marquesa**	**3.41**	**348**	*eP*	**Pb**	**09 48 34.2**	**-1.2**
INVM				*i S*	**Sg**	**09 49 20.2**	**-3.9**
UNM	**Universidad Na**	**3.41**	**351**	Pn	**Pn**	**09 48 26.5**	**-1.7**
UNM	**Universidad Na**	**3.41**	**351**	*eP*	**Pb**	**09 48 35.4**	**+0.1**
UNM				*eS*	**Sn**	**09 49 07.4**	**-1.4**
COVM	**Coyoacan**	**3.42**	**351**	*eP*	**Pb**	**09 48 35.4**	**-0.2**
COVM				*i S*	**Sg**	**09 49 25.4**	**+0.6**
BJVM	**Benito Juarez**	**3.45**	**351**	*eP*	**Pb**	**09 48 36.5**	**+0.4**
BJVM				*i S*	**Sg**	**09 49 27.9**	**+2.3**
CJVM	**Cuajimalpa**	**3.46**	**349**	*eP*	**Pb**	**09 48 36.7**	**+0.5**
CJVM				*eS*	**Sg**	**09 49 21.8**	**-4.0**
TOVM	**TOLUCA**	**3.47**	**343**	*eP*	**Pb**	**09 48 34.8**	**-1.6**
TOVM				*eS*	**Sg**	**09 49 22.6**	**-3.6**
TXVM	**Universitario**	**3.48**	**355**	*eP*	**Pg**	**09 48 40.0**	**-1.4**
TXVM				*i S*	**Sg**	**09 49 23.1**	**-3.5**
VRVM	**Mexico City**	**3.49**	**352**	*eP*	**Pb**	**09 48 32.2**	**-4.4**
VRVM				*eS*	**Sg**	**09 49 21.8**	**-4.9**
PBVM	**Pinon**	**3.50**	**353**	*eP*	**Pb**	**09 48 36.6**	**-0.2**
PBVM				*eS*	**Sg**	**09 49 23.9**	**-3.3**
APVM	**Azcapotzalco**	**3.57**	**351**	*eP*	**Pb**	**09 48 35.9**	**-2.2**
APVM				*eS*	**Sg**	**09 49 27.0**	**-2.3**
CMIG	**Matias Romero**	**3.76**	**72**	Pn	**Pn**	**09 48 31.9**	**-0.8**
3.7nm,0.3s,baz=270,slow=9.7,SNR=43							
CMIG				Sn	**Sn**	**09 49 11.6**	**-5.4**
5.5nm,0.3s,baz=291,slow=6.7,SNR=5.5							
CMIG				LR	LR	09 50 03.2	
comp=Z,142nm,20.5s,baz=321,slow=43							
44nm,0.7s							
CMIG	**Matias Romero**	**3.76**	**72**	*eP*	**Pn**	**09 48 33.0**	**+0.2**
CMIG				*i S*	**Sn**	**09 49 18.3**	**+1.3**
VTVM	**Tizayuca**	**3.81**	**358**	*eP*	**Pb**	**09 48 42.8**	**+0.7**
VTVM				*eS*	**Sb**	**09 49 28.7**	**+0.2**
JAUV	**Jalcomulco**	**3.82**	**27**	*eP*	**Pn**	**09 48 32.5**	**-1.1**
JAUV				*eS*	**Sn**	**09 49 19.8**	**+1.3**
JAUV				*eS*	**Sg**	**09 49 38.2**	**+0.9**
ACIG	**Acambay**	**4.19**	**344**	*eP*	**Pb**	**09 48 46.3**	**-2.3**
ACIG				*eS*	**Sg**	**09 49 50.1**	**+0.8**
PMUV	**Sontecomapan**	**4.22**	**52**	*eP*	**Pn**	**09 48 41.3**	**+2.1**
PMUV				*i S*	**Sb**	**09 49 40.9**	**+0.7**
LVIG	**Laguna Verde**	**4.30**	**29**	*eP*	**Pg**	**09 48 54.5**	**-2.6**
LVIG				*eS*	**Sg**	**09 49 45.1**	**-7.7**
CXUV	**Coxquihui**	**4.32**	**13**	*eP*	**Pn**	**09 48 40.9**	**+0.5**
CXUV				*eS*	**Sn**	**09 49 31.4**	**+0.6**
CXUV				*eS*	**Sg**	**09 49 49.9**	**-3.4**
DEIG	**Demacu**	**4.35**	**355**	*eP*	**Pg**	**09 48 55.4**	**-2.7**
DEIG				*eS*	**Sn**	**09 49 32.5**	**+0.5**
DEIG				*eS*	**Sg**	**09 49 55.4**	**+0.9**
MOIG	**Morelia**	**4.45**	**327**		**Pn**	**09 48 45.2**	**+2.8**
MOIG	**Morelia**	**4.45**	**327**	*eP*	**Pb**	**09 48 51.5**	**-1.6**
MOIG				*eS*	**Sn**	**09 49 34.9**	**+0.5**
JRQG	**Juriquilla Cam**	**5.04**	**340**	*eP*	**Pn**	**09 48 52.6**	**+2.1**
JRQG				*eS*	**Sn**	**09 49 50.1**	**+1.1**
PCIG		**5.20**	**92**	*eP*	**Pn**	**09 48 52.7**	**+0.2**
PCIG				*i S*	**Sn**	**09 49 51.9**	**-0.8**
TGIG		**5.34**	**80**	*eP*	**Pn**	**09 48 53.5**	**-1.0**
TGIG				*eS*	**Sn**	**09 49 57.8**	**+1.6**
CTUV	**Llano Grande**	**5.50**	**3**	*eP*	**Pb**	**09 49 13.3**	**+2.4**
CTUV				*eS*	**Sg**	**09 50 30.8**	**-0.6**
CCIG	**Comitan**	**6.24**	**86**		**Pn**	**09 49 07.0**	**0.0**
RTAL	**Retalhuleu**	**6.83**	**101**	Pn	**Pn**	**09 49 17.4**	**+2.4**
HUEH	**Huehuetenango**	**6.88**	**94**		**Pn**	**09 49 17.0**	**+1.1**
ZAIG	**Zacatecas**	**7.74**	**332**	Pn	**Pn**	**09 49 28.0**	**+0.2**
PETF	**Flores**	**8.45**	**82**	Pn	**Pn**	**09 49 35.9**	**-1.3**
ESQI	**Esquipulas**	**9.06**	**98**	Pn	**Pn**	**09 49 47.6**	**+1.9**
MTO3	**Montecristo**	**9.07**	**99**	Pn	**Pn**	**09 49 47.5**	**+1.6**
SNET	**Serv Nac Est T**	**9.35**	**103**	Pn	**Pn**	**09 49 52.0**	**+2.4**
TEIG	**Tepich**	**10.71**	**65**	Pn	**Pn**	**09 50 06.1**	**-2.1**
0.9nm,0.3s,baz=267,slow=1.4,SNR=6.8							
TEIG				Sn	**Sn**	**09 52 02.0**	**-6.3**
1.0nm,0.3s,baz=336,slow=22,SNR=12							
3.2nm,0.4s							
TGUH	**Tegucigalpa,Un**	**11.12**	**98**	Pn	**Pn**	**09 50 15.3**	**+1.4**
833A	**Chaparral WMA,**	**12.34**	**357**	Pn	**Pn**	**09 50 27.0**	**-3.5**
HPIG		**12.75**	**330**	Pn	**Pn**	**09 50 39.1**	**+2.9**
BOAB	**BOACO BROADBAN**	**13.03**	**104**	Pn	**Pn**	**09 50 42.4**	**+2.5**
HNDO	**Hondo**	**13.53**	**358**		**Pn**	**09 50 46.2**	**-0.5**
DRIO	**Del Rio**	**13.54**	**353**	Pn	**Pn**	**09 50 46.4**	**-0.5**
TXAR	**Lajitas Array**	**14.11**	**342**	Pn	**Pn**	**09 50 56.1**	**+1.3**
baz=166,slow=16,SNR=7.2							
1.0nm,0.9s							
HKT	**Hockley**	**14.17**	**10**	Pn	**Pn**	**09 50 53.6**	**-1.8**
JTS	**Las Juntas de**	**14.44**	**111**	Pn	**Pn**	**09 51 01.2**	**+1.8**
JTS	**Las Juntas de**	**14.44**	**111**	Pn	**P**	**09 51 02.5**	**-3.7**
0.4nm,0.3s,baz=260,slow=17,SNR=1.6							
3.1nm,0.7s							
JCT	**Junction City**	**14.51**	**356**		**Pn**	**09 50 59.9**	**-0.3**
JCT	**Junction City**	**14.51**	**356**	P	**Pn**	**09 50 59.7**	**-0.4**
baz=174							
SOCE	**Pocosol**	**14.71**	**110**	Pn	**P**	**09 51 07.2**	**-2.0**
HNVL	**Huntsville, TX**	**15.02**	**11**	Pn	**Pn**	**09 51 04.5**	**-2.6**
ALPN	**Alpine**	**15.08**	**343**	Pn	**Pn**	**09 51 08.4**	**+0.4**
BRDY	**Brady**	**15.28**	**359**	Pn	**Pn**	**09 51 08.8**	**-1.7**
LCR2	**La Lucha 2**	**15.52**	**112**		**P**	**09 51 19.2**	**+0.8**
LCR2				IAmb	IAmb	09 51 31.9	
comp=Z,29nm,1.0s							
VHRN	**Van Horn**	**15.88**	**340**	Pn	**Pn**	**09 51 19.3**	**+0.8**
WHTX	**Lake Whitney,**	**16.01**	**4**	P	**P**	**09 51 23.0**	**-0.4**
baz=183,SNR=6.2							
SGCY	**Sterling City**	**16.06**	**352**	Pn	**Pn**	**09 51 19.7**	**-1.0**
PECS	**Pecos**	**16.09**	**344**		**Pn**	**09 51 21.1**	**+0.1**
NATX	**Nacogdoches**	**16.15**	**12**	P	**P**	**09 51 24.2**	**-0.9**
baz=193							
237A	**Washetta, Mont**	**16.19**	**9**		**Pn**	**09 51 20.1**	**-2.2**
237A				IAmb	IAmb	09 51 29.0	
comp=Z,25nm,1.0s							
FW13	**Cleburne**	**16.37**	**4**	Pn	**Pn**	**09 51 22.5**	**-2.1**
FW13				IAmb	IAmb	09 51 36.0	
comp=Z,17nm,1.0s							
ABTX	**Abilene, Hawle**	**16.63**	**357**		**Pn**	**09 51 26.6**	**-1.3**
ABTX				IAmb	IAmb	09 51 32.8	
comp=Z,13nm,0.8s							
ABTX	**Abilene, Hawle**	**16.63**	**357**	P	**P**	**09 51 31.1**	**+0.7**
baz=175,SNR=6.8							
FW07	**Weatherford**	**16.70**	**2**		**Pn**	**09 51 27.7**	**-1.1**
FW07				IAmb	IAmb	09 51 35.0	
comp=Z,28nm,1.2s							
PLPT	**Palo Pinto**	**16.80**	**1**	IAmb	IAmb	09 51 36.1	
comp=Z,42nm,1.1s							
MNTX	**Cornudas Mount**	**16.85**	**340**	P	**P**	**09 51 32.0**	**-0.8**
baz=155							
FW06	**Azle**	**16.98**	**3**	IAmb	IAmb	09 51 36.9	
comp=Z,12nm,0.7s							
FW03	**Perrin-Whitt E**	**17.03**	**2**	IAmb	IAmb	09 51 37.5	
comp=Z,14nm,0.8s							
SN07	**Snyder 07**	**17.20**	**354**	P	**P**	**09 51 35.1**	**-1.5**
POST	**Post**	**17.25**	**352**	Pn	**Pn**	**09 51 34.9**	**-0.8**
HSIG		**17.28**	**321**	P	**P**	**09 51 37.8**	**+0.2**
EPT	**El Paso**	**17.32**	**337**	Pn	**P**	**09 51 37.0**	**-1.1**
Z35A	**Perchaven, San**	**17.35**	**4**		**Pn**	**09 51 35.8**	**-1.3**
Z35A				IAmb	IAmb	09 51 41.0	
comp=Z,16nm,1.0s							
Z38A	**Mt. Pleasant**	**17.55**	**10**	IAmb	IAmb	09 51 42.1	
comp=Z,18nm,0.9s							
DKNS	**Dickens**	**17.77**	**354**	IAmb	IAmb	09 51 45.0	
comp=Z,13nm,0.8s							
143A	**Socs Landing,**	**17.92**	**20**	P	**Pn**	**09 51 40.8**	**-3.3**
143A				IAmb	IAmb	09 51 52.6	
comp=Z,21nm,1.1s							
319A	**Douglas**	**18.18**	**330**	P	**P**	**09 51 48.8**	**+1.1**
MSTX	**Muleshoe**	**18.33**	**349**	P	**Pn**	**09 51 48.2**	**-1.0**
MSTX	**Muleshoe**	**18.33**	**349**	P	**P**	**09 51 49.0**	**-0.3**
baz=166,SNR=8.2							
121A	**Cookes Peak, D**	**18.49**	**335**	P	**Pn**	**09 51 53.4**	**+2.1**
baz=149							
WMOK	**Wichita Mounta**	**18.71**	**360**	P	**Pn**	**09 51 53.8**	**0.0**
baz=178							
146A	**Union**	**18.74**	**26**	P	**P**	**09 51 51.5**	**-2.2**
146A				IAmb	IAmb	09 52 02.2	
comp=Z,38nm,1.1s							
AMTX	**Amarillo**	**19.06**	**352**	P	**P**	**09 51 55.6**	**-1.7**
AMTX	**Amarillo**	**19.06**	**352**	P	**Pn**	**09 51 58.5**	**+0.4**
baz=170							
MIAR	**Mount Ida**	**19.07**	**13**	P	**Pn**	**09 51 58.3**	**+0.3**
baz=194,SNR=5.2							
CRNM	**Carthage**	**19.37**	**339**	P	**Pn**	**09 52 02.1**	**+0.3**
BNM	**Barren Site**	**19.51**	**340**	P	**Pn**	**09 52 03.5**	**-0.1**
SBM	**South Baldy**	**19.54**	**338**	P	**Pn**	**09 52 05.3**	**+1.2**
CSTR	**Hydro, Custer**	**19.62**	**360**	P	**P**	**09 52 02.5**	**-0.8**
Z47A	**Carrollton**	**19.65**	**27**	IAmb	IAmb	09 52 12.7	
comp=Z,12nm,0.8s							
TUC	**Tucson**	**19.69**	**328**	P	**Pn**	**09 52 07.1**	**+1.5**
baz=141							
OK031	**S. Brethren Rd**	**19.99**	**4**	P	**P**	**09 52 06.4**	**-0.9**
OK031				IAmb	IAmb	09 52 07.9	
comp=Z,15nm,0.9s							
LRAL	**Lakeview Retre**	**20.00**	**30**	P	**P**	**09 52 06.5**	**-1.0**
baz=214							
OK052	**Battle Ridge R**	**20.03**	**4**	IAmb	IAmb	09 52 08.4	
comp=Z,12nm,0.8s							
TUL3	**Leonard**	**20.04**	**7**	P	**P**	**09 52 06.8**	**-1.2**
TUL3				IAmb	IAmb	09 52 11.3	
comp=Z,10.0nm,0.8s							
TUL3	**Leonard**	**20.04**	**7**	P	**Pn**	**09 52 07.7**	**-1.9**
baz=187,SNR=6.5							
WHAR	**Wooly Hollow**	**20.08**	**15**	IAmb	IAmb	09 52 22.2	
comp=Z,16nm,1.0s							
ANMO	**Albuquerque**	**20.19**	**341**	P	Pn	09 52 11.0	-0.6
ANMO	**Albuquerque**	**20.19**	**341**	P	Pn	09 52 11.8	+0.2
baz=156							
ANMO	**Albuquerque**	**20.19**	**341**	P	Pn	09 52 11.2	-0.4
comp=Z,0.2nm,0.3s,baz=246,slow=11,SNR=33							
ANMO				LR	LR	09 59 22.0	
comp=Z,55nm,18.2s,baz=244,slow=35							
comp=Z,6.6nm,0.8s							
OXF	**Oxford**	**20.26**	**22**	P	**P**	**09 52 09.6**	**-0.6**
baz=206							
U32A	**Winter Ranch,**	**20.35**	**359**	IAmb	IAmb	09 52 12.7	
comp=Z,16nm,0.8s							
OK048	**Pawnee Station**	**20.44**	**4**	IAmb	IAmb	09 52 18.4	
comp=Z,15nm,0.8s							
OK038	**West end E0370**	**20.45**	**360**	IAmb	IAmb	09 52 18.5	
comp=Z,13nm,0.7s							
214A	**Organ Pipe Nat**	**20.51**	**324**	P	Pn	09 52 16.9	+1.6
baz=136							
OK051	**E0350 and S346**	**20.54**	**4**	IAmb	IAmb	09 52 26.2	
comp=Z,20nm,1.1s							
RTBA	**Rita Blanca**	**20.74**	**351**	P	**P**	**09 52 15.8**	**+0.2**
RTBA				IAmb	IAmb	09 52 24.1	
comp=Z,12nm,0.9s							
U38A	**Gravette**	**20.76**	**10**	P	**P**	**09 52 14.8**	**-0.8**
U38A				IAmb	IAmb	09 52 27.4	
comp=Z,15nm,0.9s							
BLOK	**Blackwell**	**20.77**	**3**	IAmb	IAmb	09 52 18.6	
comp=Z,16nm,1.0s							
KAN14	**Manchester OK**	**20.94**	**1**	IAmb	IAmb	09 52 22.6	
comp=Z,11nm,0.9s							
Y49A	**Blount Mountai**	**20.96**	**29**	IAmb	IAmb	09 52 25.2	
comp=Z,14nm,0.8s							
T35A	**Sooner Cattle**	**20.97**	**5**	P	**P**	**09 52 16.4**	**-1.6**
T35A				IAmb	IAmb	09 52 18.6	
comp=Z,15nm,0.8s							
KAN13	**South Haven SW**	**21.01**	**3**	IAmb	IAmb	09 52 24.1	
comp=Z,20nm,0.9s							
KAN17	**Caldwell West**	**21.03**	**2**	IAmb	IAmb	09 52 24.1	
comp=Z,14nm,0.8s							
LCAR	**Lake Charles**	**21.12**	**17**	IAmb	IAmb	09 52 31.1	
comp=Z,13nm,1.0s							
X18A	**Snowflake**	**21.12**	**333**	P	**P**	**09 52 21.9**	**+2.0**
KAN09	**Caldwell North**	**21.12**	**2**	IAmb	IAmb	09 52 24.6	
comp=Z,12nm,0.8s							
KAN01	**Argonia South**	**21.14**	**2**	IAmb	IAmb	09 52 24.3	
comp=Z,11nm,0.7s							
X48A	**Hartselle**	**21.16**	**27**	P	**P**	**09 52 17.1**	**-2.9**
X48A				IAmb	IAmb	09 52 31.4	
comp=Z,17nm,1.1s							
PLAL	**Pickwick Lake**	**21.18**	**25**	P	**P**	**09 52 18.1**	**-2.2**
PLAL				IAmb	IAmb	09 52 27.7	
comp=Z,17nm,0.9s							
KAN06	**Argonia West S**	**21.23**	**2**	IAmb	IAmb	09 52 32.7	
comp=Z,10.0nm,0.8s							
T25A	**Trinidad**	**21.73**	**347**	IAmb	IAmb	09 52 31.6	
comp=Z,9.6nm,0.8s							
T25A	**Trinidad**	**21.73**	**347**	P	**P**	**09 52 28.1**	**+1.7**
baz=164,SNR=13							
MGMO	**Mountain Grove**	**21.86**	**14**	IAmb	IAmb	09 52 37.9	
comp=Z,13nm,0.9s							
GLAT	**Glass**	**21.88**	**21**	P	**P**	**09 52 24.6**	**-3.2**
FPAL	**Fort Paine**	**21.90**	**30**	P	**P**	**09 52 25.8**	**-2.2**
FPAL				IAmb	IAmb	09 52 35.4	
comp=Z,13nm,1.0s							
T42A	**Van Buren**	**22.04**	**16**	IAmb	IAmb	09 52 40.7	
comp=Z,18nm,1.1s							
GOGA	**Godfrey**	**22.13**	**35**	IAmb	IAmb	09 52 39.1	
comp=Z,8.1nm,0.9s							
GOGA	**Godfrey**	**22.13**	**35**	P	**P**	**09 52 30.1**	**-0.4**
baz=222							
Y52A	**Lilburn**	**22.15**	**34**	IAmb	IAmb	09 52 38.8	
comp=Z,15nm,1.1s							
S39A	**Bolivar**	**22.16**	**11**	IAmb	IAmb	09 52 33.9	
comp=Z,16nm,0.9s							
WVT	**Waverly**	**22.28**	**24**	P	**P**	**09 52 29.1**	**-3.0**
WVT	**Waverly**	**22.28**	**24**	P	**P**	**09 52 33.2**	**+1.1**
baz=208							
SWET	**Sewanee**	**22.30**	**28**	IAmb	IAmb	09 52 39.0	
comp=Z,14nm,0.9s							
R32A	**Long Quarter,**	**22.39**	**360**	IAmb	IAmb	09 52 38.0	
comp=Z,15nm,0.9s							
GLA	**Glamis**	**22.48**	**322**	P	**P**	**09 52 37.9**	**+3.7**
baz=134							
SDCO	**Great Sand Dun**	**22.55**	**346**	P	**P**	**09 52 36.9**	**+1.7**
baz=161							
WUAZ	**Wupatki**	**22.58**	**332**	IAmb	IAmb	09 52 40.2	
comp=Z,11nm,0.8s							
WUAZ	**Wupatki**	**22.58**	**332**	P	**P**	**09 52 38.5**	**+3.0**
baz=145,SNR=12							
CGM3	**Cape Girardeau**	**22.70**	**19**	IAmb	IAmb	09 52 45.2	
comp=Z,20nm,0.9s							
CLTN	**Cedars of Leba**	**22.86**	**26**	IAmb	IAmb	09 52 48.2	
comp=Z,15nm,1.0s							
S22A	**4UR Ranch, Cre**	**22.90**	**343**	P	**P**	**09 52 40.1**	**+1.2**
baz=158,SNR=8.2							
MVCO	**Mesa Verde**	**22.92**	**339**	IAmb	IAmb	09 52 41.4	
comp=Z,12nm,0.9s							
MVCO	**Mesa Verde**	**22.92**	**339**	P	**P**	**09 52 40.7**	**+1.6**
baz=154,SNR=12							
CCM	**Cathedral Cave**	**22.96**	**15**	P	**P**	**09 52 37.9**	**-1.4**
CCM				IAmb	IAmb	09 52 48.2	
comp=Z,11nm,1.1s							
CCM	**Cathedral Cave**	**22.96**	**15**	P	**P**	**09 52 39.7**	**+0.4**
baz=198							
PDMCI	**Parker Dam,Lak**	**23.00**	**325**	P	**P**	**09 52 43.7**	**+3.9**
baz=137							
CBX	**Cerro Bola**	**23.11**	**318**	P	**P**	**09 52 46.2**	**+5.2**
FVM	**French Village**	**23.11**	**17**	IAmb	IAmb	09 52 49.5	
comp=Z,16nm,1.0s							
CPCT	**Cooper Cave**	**23.16**	**30**	IAmb	IAmb	09 52 50.6	
comp=Z,13nm,1.0s							
KSCO	**Kaye Shedlock'**	**23.25**	**352**	P	**P**	**09 52 43.5**	**+1.2**
baz=169							
BC3	**Big Chuckawall**	**23.27**	**322**	P	**P**	**09 52 45.6**	**+2.9**
baz=134							
MONP2	**Monument Peak**	**23.34**	**320**	P	**P**	**09 52 47.4**	**+4.0**
baz=131							
IRM	**Iron Mountain**	**23.46**	**324**	P	**P**	**09 52 48.4**	**+4.0**
baz=135							
BG3	**Lake Jocassee**	**23.61**	**34**	IAmb	IAmb	09 52 53.8	
comp=Z,8.6nm,0.9s							
SLM	**Saint Louis**	**23.77**	**16**	P	**P**	**09 52 45.6**	**-1.8**
BELC	**Belle Mtn. Jos**	**23.84**	**322**	P	**P**	**09 52 51.5**	**+3.2**
baz=133							
TPFO	**Pinon Flats**	**23.84**	**321**	P	**P**	**09 52 50.7**	**+2.4**
baz=132							
PFO	**Pinyon Flats O**	**23.85**	**321**	P	**P**	**09 52 51.2**	**+2.9**
baz=132							
NHSC	**New Hope**	**23.88**	**41**	P	**P**	**09 52 48.1**	**-0.3**
baz=229							
PV13	**Radium Mtn., P**	**23.89**	**340**	P	**P**	**09 52 49.7**	**+1.0**
PV13				IAmb	IAmb	09 52 57.4	
comp=Z,7.0nm,1.0s							
PV02	**Paradox Valley**	**23.90**	**340**	P	**P**	**09 52 49.9**	**+0.9**
PV02				IAmb	IAmb	09 52 57.9	
comp=Z,9.8nm,1.0s							
PV15	**Paradox Valley**	**23.94**	**341**	P	**P**	**09 52 50.9**	**+1.6**
PV15				IAmb	IAmb	09 52 58.8	
comp=Z,11nm,1.1s							
USIN	**University of**	**23.97**	**22**	P	**P**	**09 52 48.0**	**-1.2**
PV18	**Skein Mesa, Pa**	**24.00**	**340**	P	**P**	**09 52 50.7**	**+1.0**
PV18				IAmb	IAmb	09 52 58.5	
comp=Z,11nm,1.1s							
P38A	**Dawn**	**24.01**	**10**	P	**P**	**09 52 48.4**	**-1.2**
P38A				IAmb	IAmb	09 52 51.3	
comp=Z,10nm,0.8s							
V53A	**Saluda**	**24.19**	**33**	IAmb	IAmb	09 53 00.2	
comp=Z,11nm,1.1s							
GMRC	**Granite Mounta**	**24.20**	**324**	P	**P**	**09 52 54.9**	**+3.2**
baz=135							
SMCO	**Snowmass**	**24.28**	**344**

O49A	Covington	27.17	24	IAmb	IAmb	09 53 28.6	
	comp=Z,11nm,1.0s						
K22A	Casper	27.46	347	P	P	09 53 23.8	+2.6
	baz=162						
TPH	Tonopah	27.47	327	IAmb	IAmb	09 53 30.6	
	comp=Z,8.7nm,1.0s						
P52A	Corning	27.65	28	P	P	09 53 23.8	+1.2
	baz=216						
L44A	Lake County Fo	27.72	17	P	P	09 53 24.5	+1.4
	baz=202						
Q54A	Coxs Mills	27.75	31	IAmb	IAmb	09 53 33.8	
	comp=Z,5.9nm,0.8s						
ECSD	EROS Data Cent	27.75	3	IAmb	IAmb	09 53 25.3	
	comp=Z,4.8nm,1.0s						
ECSD	EROS Data Cent	27.75	3	P	P	09 53 25.4	+1.9
	baz=183						
ACSO	Alum Creek Sta	27.76	26	P	P	09 53 24.7	+1.0
	baz=214						
JFWS	Jewell Farm	27.82	13	P	P	09 53 25.4	+1.3
	baz=197						
MLAC	Mammoth, Mammo	28.03	324	P	P	09 53 30.3	+3.9
	baz=134						
NV11	Mina Array Sit	28.23	326	IAmb	IAmb	09 53 37.9	
	comp=Z,5.4nm,1.1s						
NVAR	Mina Array Bea	28.31	326	P	P	09 53 30.8	+2.0
	comp=Z,1.8nm,1.0s,baz=151,slow=9.9,SNR=7.7						
	comp=Z,1.8nm,1.0s						
BW06	Boulder Array	28.33	343	P	P	09 53 31.8	+2.9
	baz=156						
PD31	Pinedale Array	28.33	343	P	P	09 53 29.9	+1.0
PDAR	Pinedale Array	28.33	343	P	P	09 53 30.3	+1.4
	comp=Z,1.9nm,0.9s,baz=146,slow=8.8,SNR=10						
PDAR				LR	LR	10 04 02.4	
	comp=Z,21nm,19.9s,baz=156,slow=35						
	comp=Z,1.9nm,0.9s						
HVU	Hansel Valley	28.49	337	IAmb	IAmb	09 53 39.6	
	comp=Z,3.5nm,1.0s						
O53A	New Philadelph	28.56	29	P	P	09 53 31.8	+1.0
	baz=217						
SNOW	Snow King Moun	29.31	342	IAmb	IAmb	09 53 42.5	
	comp=Z,3.6nm,0.8s						
SPMN	Marine on St.	29.60	8	P	P	09 53 40.9	+1.0
	baz=191						
M53A	Wt Miller and	29.76	28	P	P	09 53 41.5	+0.1
	baz=216						
RLMT	Red Lodge	30.44	345	IAmb	IAmb	09 53 53.7	
	comp=Z,4.7nm,1.1s						
RLMT	Red Lodge	30.44	345	P	P	09 53 49.7	+2.1
	baz=159						
SSPA	Standing Stone	30.48	32	P	P	09 53 48.0	+0.3
	baz=222						
HLID	Hailey	30.64	337	P	P	09 53 51.7	+2.3
	baz=148						
BOZ	Bozeman (W)	31.52	342	P	P	09 53 59.0	+2.0
	baz=155						
MDND	Maddock	31.82	359	P	P	09 54 00.8	+1.3
	baz=178						
J08A	Circle Bar Ran	32.14	332	IAmb	IAmb	09 54 11.7	
	comp=Z,4.9nm,1.1s						
AGMN	Agassiz Nation	32.34	3	P	P	09 54 04.8	+0.8
	baz=184,SNR=5.4						
BINY	Binghamton	32.59	32	P	P	09 54 05.9	-0.5
	baz=223						
F10A	Beach Ranch, E	33.75	336	IAmb	IAmb	09 54 25.6	
	comp=Z,4.8nm,0.9s						
NEW	Newport	35.64	339	P	P	09 54 35.1	+2.4
	baz=148						
ETMB	Extrema	41.04	126	P	P	09 55 24.7	+6.1
ETMB				IAmb	IAmb	09 55 26.9	
	comp=Z,4.1nm,1.0s						
SCHQ	Schefferville	45.91	25	P	P	09 55 57.6	+0.3
SCHQ	Schefferville	45.91	25	P	P	09 55 57.5	+0.1
	comp=Z,3.4nm,0.7s,baz=237,slow=7.1,SNR=7.0						
	comp=Z,3.4nm,0.7s						
DLBC	Dease Lake	48.39	338	P	P	09 56 20.2	+3.5
DLBC				IAmb	IAmb	09 56 21.6	
	comp=Z,4.2nm,1.1s						
DLBC	Dease Lake	48.39	338	P	P	09 56 19.5	+2.8
	baz=137						
S34M	Telegraph Cree	48.40	337	P	P	09 56 19.6	+2.8
	baz=136						
S32K	Killisnoo	49.42	335	P	P	09 56 28.0	+3.5
	baz=131						
R33M	Jennings River	49.43	339	IAmb	IAmb	09 56 34.8	
	comp=Z,3.6nm,0.9s						
R33M	Jennings River	49.43	339	P	P	09 56 27.6	+2.8
	baz=137						
P32M	Atlin	50.55	338	P	P	09 56 36.4	+3.2
	baz=134						
P33M	Teslin, Yukon	50.67	339	P	P	09 56 37.2	+3.1
	baz=135						
SKAG	Skagway	51.06	337	P	P	09 56 40.5	+3.6
	baz=132						
N32M	Quiet Lake	51.43	339	P	P	09 56 42.6	+2.8
	baz=135						
WHY	Whitehorse	51.71	338	P	P	09 56 45.4	+3.5
	baz=133						
P29M	Windy Craggy	52.09	336	P	P	09 56 48.3	+3.6
	baz=129						
P30M	Million Dollar	52.11	337	P	P	09 56 48.2	+3.3
	baz=130						
O30N	Mendenhall	52.22	338	P	P	09 56 48.4	+2.7
	baz=132						
H03N2	Juan Fernandez	52.58	159	T	T	10 53 46.1	
	baz=338,slow=77,SNR=9.9						
H03N1	Juan Fernandez	52.59	159	T	T	10 53 46.4	
	baz=338,slow=77,SNR=7.6						
N31M	Braeburn, Yuko	52.60	339	IAmb	IAmb	09 56 58.8	
	comp=Z,4.9nm,1.1s						
N31M	Braeburn, Yuko	52.60	339	P	P	09 56 51.7	+3.2
	baz=132						
H03N3	Juan Fernandez	52.60	159	T	T	10 53 48.4	
	baz=338,slow=77,SNR=9.5						
M31M	Drury Creek, Y	52.62	340	P	P	09 56 51.7	+3.0
	baz=134						
HYT	Haines Junctio	52.78	337	P	P	09 56 52.8	+2.9
	baz=130						
O29M	Mount Kennedy	52.85	336	P	P	09 56 53.5	+3.1
	baz=128						
N30M	Aishikik Lake	53.04	338	P	P	09 56 55.0	+3.2
	baz=131						
YUK6	Outpost Mounta	53.17	337	P	P	09 56 55.8	+2.8
	baz=129						
M30M	Minto, Yukon	53.69	339	P	P	09 56 59.7	+3.2
	baz=132						
YUK8	Steele Glacier	53.92	337	P	P	09 57 01.7	+3.3
	baz=128						
M29M	Somme Creek	54.18	338	P	P	09 57 02.7	+2.6
	baz=130						
YUK3	Moose Creek	54.49	337	P	P	09 57 04.9	+2.4
	baz=127						
L29M	L29M	54.50	339	P	P	09 57 04.9	+2.5
	baz=131,SNR=6.4						
K29M	Barlow Dome	54.79	340	P	P	09 57 07.1	+2.5
	baz=132						
CRQE	Cirque	54.91	335	P	P	09 57 08.7	+3.2
	baz=124						
J30M	Hart River	54.91	341	P	P	09 57 08.1	+2.6
	baz=133						
H31M	Peel River	55.21	343	P	P	09 57 10.2	+2.8
	baz=136						
M27K	Edge Creek, AK	55.37	337	P	P	09 57 11.4	+2.6
	baz=126						
I30M	Mount Dempster	55.38	342	IAmb	IAmb	09 57 17.6	
	comp=Z,4.1nm,1.1s						
I30M	Mount Dempster	55.38	342	P	P	09 57 11.1	+2.3
	baz=134						
DAWY	Dawson	55.56	340	P	P	09 57 12.8	+2.7
	baz=130						
L27K	Beaver Creek,	55.78	338	P	P	09 57 14.1	+2.4
L27K	Beaver Creek,	55.78	338	P	P	09 57 15.1	+3.5
	baz=127						
M26K	Nabesna, AK	55.82	337	IAmb	IAmb	09 57 22.2	
	comp=Z,5.1nm,1.1s						
M26K	Nabesna, AK	55.82	337	P	P	09 57 15.5	+3.5
	baz=125						
EYAK	Cordova Ski Ar	55.89	334	P	P	09 57 16.3	+3.9
	baz=121						
N25K	Chitina, Valde	55.99	336	P	P	09 57 15.6	+2.4
	baz=123						
I29M	Ogilvie Camp,	56.07	341	P	P	09 57 15.4	+1.8
	baz=132						
F31M	Tsiigehtchic	56.26	345	P	P	09 57 17.4	+2.5
	baz=138						
K27K	Chicken	56.45	339	P	P	09 57 19.1	+2.7
	baz=127						
EGAK	Eagle	56.61	340	P	P	09 57 18.6	+1.2
	baz=128						
GLI	Glacier Island	56.63	334	P	P	09 57 20.4	+2.7
	baz=120						
I28M	Miner Creek	56.64	341	P	P	09 57 19.6	+1.8
	baz=130						
H29M	Whitestone	56.67	342	P	P	09 57 19.4	+1.5
	baz=132						
INK	Inuvik	56.85	345	P	P	09 57 22.0	+2.9
	baz=138						
M24K	Tolsona, Glenn	56.89	336	P	P	09 57 22.1	+2.4
	baz=121						
F30M	Barrier River	56.92	344	P	P	09 57 22.1	+2.5
	baz=136						
PAX	Paxson	57.08	337	P	P	09 57 22.8	+1.8
	baz=123						
SCRK	Sand Creek	57.10	338	IAmb	IAmb	09 57 27.4	
	comp=Z,4.0nm,1.1s						
SCRK	Sand Creek	57.10	338	P	P	09 57 23.8	+2.6
	baz=125						
SCM	Sheep Creek Mo	57.21	335	P	P	09 57 24.5	+2.6
	baz=120						
J26L	Joseph Creek	57.26	339	P	P	09 57 24.6	+2.4
	baz=126,SNR=9.1						
I27K	Kandik River	57.28	340	P	P	09 57 25.0	+2.7
	baz=128						
M23K	Glacier View	57.35	335	P	P	09 57 26.2	+3.3
	baz=120						
I26K	Coal Creek Min	57.60	340	P	P	09 57 26.9	+2.5
	baz=126						
H27K	Steamboat Moun	57.64	341	P	P	09 57 26.7	+1.9
	baz=129						
BRSE	Bradley Lake S	57.69	332	P	P	09 57 27.1	+1.9
	baz=115						
WAT6	Susitna Watana	57.76	336	P	P	09 57 27.7	+1.9
	baz=120						
PMR	Palmer	57.84	334	P	P	09 57 28.9	+2.8
	baz=118						
RC01	Rabbit Creek A	57.86	333	P	P	09 57 28.9	+2.5
	baz=117						
DHY	Denali Highway	57.87	336	P	P	09 57 29.7	+3.1
	baz=121						
J25K	Salcha River,	57.96	338	IAmb	IAmb	09 57 38.3	
	comp=Z,2.8nm,1.1s						
J25K	Salcha River,	57.96	338	P	P	09 57 29.3	+2.2
	baz=124						
F28M	Old Crow	58.05	343	P	P	09 57 29.9	+2.3
	baz=131						
G27K	Doyon Strip	58.05	341	P	P	09 57 29.7	+2.0
	baz=129						
HDA	Harding Lake	58.42	338	P	P	09 57 33.2	+3.0
	baz=122						
SUA	Susitna One	58.46	334	P	P	09 57 33.3	+2.6
	baz=116						
PRP	Porcupine Dome	58.53	339	IAmb	IAmb	09 57 41.6	
	comp=Z,4.3nm,1.0s						
PRP	Porcupine Dome	58.53	339	P	P	09 57 33.3	+2.1
	baz=124						
ILAR	Eielson Array	58.59	338	P	P	09 57 31.9	+0.4
ILAR	Eielson Array	58.59	338	P	P	09 57 32.4	+0.9
	comp=Z,2.6nm,1.1s,baz=135,slow=4.1,SNR=16						
	comp=Z,2.6nm,1.1s						
O20K	Slope Mountain	58.69	332	P	P	09 57 35.3	+3.0
	baz=114						
G26K	Porcupine Rive	58.80	341	P	P	09 57 35.4	+2.5
	baz=126						
E27K	Coleen River	58.92	343	P	P	09 57 36.1	+2.4
	baz=130						
N20K	Mount Spurr	58.98	333	P	P	09 57 37.4	+3.1
	baz=115						
COLA	College	59.00	338	P	P	09 57 36.6	+2.4
	baz=121						
SKT	Skwentna	59.03	334	P	P	09 57 36.5	+1.9
	baz=116						
H25L	Birch Creek	59.06	340	P	P	09 57 36.9	+2.3
	baz=124						
NEA2	Nenana	59.30	337	P	P	09 57 38.9	+2.6
	baz=120						
H24K	Noodor Dome	59.52	339	P	P	09 57 39.5	+1.5
	baz=122						
Q17K	Contact Creek	59.56	329	P	P	09 57 41.8	+3.4
	baz=110						
R17L	Mt. Peulik Vol	59.58	328	P	P	09 57 41.7	+3.2
	baz=105						
M20K	Styx River	59.67	333	P	P	09 57 40.8	+1.7
	baz=114						
I23K	Minto, Yukon-K	59.69	338	P	P	09 57 40.8	+1.8
	baz=120						
F25K	Christian Rive	59.76	341	P	P	09 57 41.1	+1.5
	baz=125						
BPAW	Bear Paw Mtn.	59.78	336	P	P	09 57 41.9	+2.1
	baz=118						
O18K	Koktuli Hills	59.80	331	P	P	09 57 42.8	+2.9
	baz=111						
N19K	Bonanza Creek	59.83	332	P	P	09 57 42.2	+2.0
	baz=112						
G24K	Hadweenzic Riv	59.85	340	P	P	09 57 42.4	+2.2
	baz=122						
CAST	Castle Rocks	59.90	335	P	P	09 57 41.8	+1.2
	baz=116						
E25K	Arctic Village	60.05	342	P	P	09 57 43.6	+2.1
	baz=125						
H23K	Yukon River	60.10	338	P	P	09 57 44.2	+2.3
	baz=120						
MLY	Manley	60.14	337	P	P	09 57 44.6	+2.4
	baz=118						
M19K	Big River Lodg	60.22	333	P	P	09 57 45.3	+2.5
	baz=113						
L20K	Farewell, AK	60.24	334	P	P	09 57 45.6	+2.7
	baz=114						
N18K	Kilae Creek	60.42	332	P	P	09 57 46.8	+2.6
	baz=111						
C27K	Jago River	60.42	343	P	P	09 57 45.8	+1.7
	baz=128						
CHNA	Chernabura Isl	60.48	324	P	P	09 57 48.0	+3.4
	baz=104						
L19K	White Mountain	60.53	333	P	P	09 57 47.9	+3.0
	baz=113						
O17K	Koliganek Bris	60.66	330	P	P	09 57 47.8	+2.1
	baz=109						
K20K	Telida	60.68	335	P	P	09 57 47.0	+1.1
	baz=114						
M18K	Stony River	60.69	332	P	P	09 57 47.9	+1.9
	baz=111						
G23K	Bananza Creek	60.72	339	P	P	09 57 48.6	+2.4
	baz=120						
H22K	Ishtalitna Cre	60.79	338	P	P	09 57 48.1	+1.5
	baz=118						
E24K	Your Creek	60.93	341	P	P	09 57 50.0	+2.5
	baz=122						
C26K	Camden Bay	60.93	343	P	P	09 57 49.8	+2.3
	baz=127						
N17K	Nushagak Hills	60.96	331	P	P	09 57 50.9	+3.1
	baz=110						
D25K	Kavik River	60.99	343	P	P	09 57 50.7	+2.7
	baz=125						
COLD	Coldfoot	61.04	340	P	P	09 57 51.0	+2.7
	baz=120						
J20K	Nowitna River	61.06	336	P	P	09 57 51.5	+3.1
	baz=114						
O16K	Kokwok River B	61.08	330	P	P	09 57 52.3	+3.6
	baz=108						
H21K	Melozitna Rive	61.20	337	P	P	09 57 52.4	+3.0
	baz=116						
E23K	Chandalar	61.28	341	P	P	09 57 51.9	+1.9
	baz=121						
G22K	Bettles	61.33	339	P	P	09 57 51.6	+1.4
	baz=118						
L18K	Granite Mounta	61.34	333	P	P	09 57 51.6	+1.2
	baz=111						
M17K	Holitna River	61.38	332	P	P	09 57 51.5	+0.8
	baz=110						
TOLK	Toolik Lake Re	61.57	341	P	P	09 57 52.3	+0.4
	baz=121						
J19K	Poorman	61.58	335	P	P	09 57 54.4	+2.5
	baz=113						
N16K	Nishlik Lake	61.68	331	P	P	09 57 55.2	+2.4
	baz=108						
O15K	Ungalikthiuk R	61.80	329	P	P	09 57 56.4	+2.9
	baz=106						
J18K	Innoko River	61.82	334	P	P	09 57 56.1	+2.5
	baz=112						
G21K	Allakaket	61.84	338	P	P	09 57 56.1	+2.4
	baz=116						
F22K	John River	61.84	339	P	P	09 57 55.5	+1.8
	baz=118						
C24K	Franklin Bluff	61.89	342	P	P	09 57 56.6	+2.6
	baz=123						
H20K	Anotleneega Mo	61.90	337	P	P	09 57 57.0	+2.8
	baz=114						
M16K	Timber Creek	61.95	331	P	P	09 57 56.7	+2.2
	baz=108						
L17K	Donlin	62.02	333	P	P	09 57 58.0	+3.0
	baz=109						
E22K	Anaktuvuk Pass	62.03	340	P	P	09 57 56.9	+2.0
	baz=119						
S12K	Black Hills	62.06	325	P	P	09 57 58.1	+2.7
	baz=102						
D23K	Nanushuk River	62.09	341	P	P	09 57 57.6	+2.3
	baz=120						
F21K	Alatna River	62.16	339	P	P	09 57 58.8	+3.0
	baz=117						
N15K	Kwethluk River	62.22	330	P	P	09 57 58.9	+2.6
	baz=106						
K17K	Iditarod	62.22	333	P	P	09 57 58.6	+2.3
	baz=110						
L16K	Owhat River	62.40	332	P	P	09 57 59.7	+2.2
	baz=108						
H19K	Roundabout Mou	62.51	337	P	P	09 58 00.4	+2.2
	baz=113						
C23K	Itkillik River	62.52	342	P	P	09 58 00.1	+2.0
	baz=121						
D22K	Ayikyak River	62.67	341	P	P	09 58 00.9	+1.6
	baz=118						
J17K	VABM Dome	62.79	334	P	P	09 58 02.1	+2.1
	baz=109						
E21K	Killik River	62.88	340	P	P	09 58 02.4	+1.8
	baz=117						
N14K	Kuskokwak Cree	62.91	330	P	P	09 58 03.0	+2.1
	baz=105						
G19K	Purcell Mounta	63.00	337	P	P	09 58 04.0	+2.6
	baz=112						
L15K	Ungalak Mounta	63.31	332	P	P	09 58 05.5	+2.0
	baz=106						
J16K	Anvik River	63.40	333	P	P	09 58 05.8	+1.7
	baz=108						
C21K	Knifeblade Rid	63.47	341	P	P	09 58 05.7	+1.2
	baz=116						
K15K	Wolf Creek Mou	63.51	332	P	P	09 58 07.1	+2.3
	baz=106						
F19K	Shaleruckik Mo	63.52	338	P	P	09 58 06.8	+2.0
	baz=112						
E20K	Nigu River	63.54	339	P	P	09 58 06.9	+1.9
	baz=114						
E19K	Redstone River	63.57	338	P	P	09 58 06.9	+1.6
	baz=113						
B22K	Teshekpuk Lake	63.60	342	P	P	09 58 07.1	+1.8
	baz=118						
B21K	Ikpikpuk River	63.63	341	P	P	09 58 07.8	+2.3
	baz=116						
I17K	Unalakleet	63.63	334	P	P	09 58 07.9	+2.4
	baz=108						
H17K	Granite Mounta	63.65	335	P	P	09 58 07.6	+1.8
	baz=109						
L14K	Kuka Creek	63.77	331	P	P	09 58 07.9	+1.4
	baz=105						
D20K	Etivluk River	63.87	340	P	P	09 58 08.3	+1.1
	baz=114						
F18K	Selawik	64.13	337	P	P	09 58 10.6	+1.8
	baz=110						
G17K	Kiwalik Mounta	64.13	336	P	P	09 58 10.6	+1.7
	baz=109						
UNV	Unalaska Valle	64.25	322	P	P	09 58 11.7	+1.9
	baz=98						
D19K	Kuna River	64.29	339	P	P	09 58 11.8	+1.8
	baz=112						
H16K	Elim	64.50	335	P	P	09 58 12.2	+0.8
	baz=107						
J14K	Nanvaranak Lak	64.53	332	P	P	09 58 13.3	+1.8
	baz=104						
B20K	Meade River	64.59	341	P	P	09 58 13.0	+1.1
	baz=114						
E18K	Tukpahlearik C	64.77	338	P	P	09 58 14.3	+1.3
	baz=110						

IDC 05 09:50:23.5±2.8, 53°69′N×86°87′E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=27.3km s-min=15.1km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.25	283	I	I	09 58 28.8	
	baz=101,slow=319,SNR=4.3						
ZALV	Zalesovo Beam	1.25	283	Pg	Pg	09 50 47.5	+0.1
	1.1nm,0.3s,baz=103,slow=12,SNR=13						
ZALV				Lg	Lg	09 51 04.2	
	1.2nm,0.3s,baz=103,slow=33,SNR=5.3						
KURBB	Kurchatov Arra	5.98	243	Pn	Pn	09 51 52.7	-0.4
	0.1nm,0.3s,baz=57,slow=16,SNR=4.9						
	0.4nm,0.3s						
MKAR	Makanchi Array	7.50	205	Pn	Pn	09 52 15.7	+1.7
	0.2nm,0.3s,baz=25,slow=14,SNR=8.8						
	0.2nm,0.2s						

STR 05 09:58:17.2±0.4, 48°N±2°×°±°, h0km, MLv1.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=96.7, preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XAFF	Xaffevillers	0.18	273	Pg	Pg	09 58 20.5	-0.2
XAFF				Sg	Sg	09 58 23.4	+0.3
ECH	Echery	0.25	136	Pg	Pg	09 58 22.1	0.0
ECH				Sg	Sg	09 58 25.6	+0.3
ECH	Echery	0.25	136	Pg	Pg	09 58 22.1	0.0
ECH				Sg	Sg	09 58 25.6	+0.3
WLS	Welschbruch	0.31	87	Pg	Pg	09 58 22.9	-0.2
WLS				Sg	Sg	09 58 27.6	+0.6
HOHE	HOHENGOEFT	0.47	56	Pg	Pg	09 58 26.0	-0.2
WALT	Westhalten	0.50	149	Pg	Pg	09 58 27.3	+0.5
VOEL	Voellerdingen	0.59	15	Pg	Pg	09 58 27.9	-0.5
VOEL				Sg	Sg	09 58 37.0	+0.9
VOGT	Vogtsburg - To	0.61	121	Pg	Pg	09 58 29.3	+0.5
VOGT	Vogtsburg - To	0.61	121	Sg	Sg	09 58 37.2	+0.5
KIZ	Kirchzarten	0.82	123	Pg	Pg	09 58 32.8	0.0
KIZ	Kirchzarten	0.82	123	Sg	Sb	09 58 44.9	-0.8
LEMB	Lembach	0.85	42	Pg	Pg	09 58 33.6	0.0
LEMB				Sg	Sg	09 58 44.7	0.0
BABA	Baden-Baden-Ne	0.92	69	Pg	Pg	09 58 35.0	+0.3
BABA	Baden-Baden-Ne	0.92	69	Sg	Sg	09 58 46.7	0.0
BOURR	Bourrignon	1.03	167	Pg	Pg	09 58 36.5	-0.5
BOURR	Bourrignon	1.03	167	Sg	Sb	09 58 51.2	-0.8
SLE	Schleitheim	1.25	120	Pg	Pg	09 58 39.9	-1.2
SLE	Schleitheim	1.25	120	Sg	Sg	09 58 57.0	-0.2
BRANT	Les Verrieres	1.49	191	Sg	Sn	09 59 06.0	+0.5

IDC 05 10:02:57.5±8.2, 5°55S×145°97E, h145km±85km, mb3.0/2, mbtmp3.6/4, Error ellipse: s-maj=89.0km s-min=31.5km az=138.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.01	163	P	Pn	10 03 57.8	0.0
	82nm,0.3s,baz=349,slow=7.2,SNR=42						
PMG				S	Sn	10 04 45.1	+0.5
	37nm,0.4s,baz=281,slow=23,SNR=7.6						
WRA	Warramunga Arr	18.24	217	P	P	10 07 00.1	+0.2
	0.6nm,0.8s,baz=38,slow=9.8,SNR=11						
ASAR	Alice Springs	21.44	212	P	P	10 07 34.1	-0.3
	0.4nm,0.5s,baz=43,slow=7.9,SNR=3.0						
	0.4nm,0.5s						
ILAR	Eielson Array	85.47	23	P	P	10 15 18.7	0.0
	0.4nm,0.7s,baz=249,slow=5.4,SNR=8.3						
	0.4nm,0.7s						

VAO ***05*** *10:03:15.4±1.1, 16°50S×69°93W, h195km±5km, mb3.9*
IDC ***05*** *10:03:17.3±0.9, 16°42S×69°76W, h191km±6km, mb3.7/6, mbtmp4.2/9, Error ellipse: s-maj=15.0km s-min=13.0km az=142.0*

ISC 05 10:03:16.5±0.7, 16°46S±0°07×69°81W±0°06, h183km, n21, σ1§80/28, mb3.9/5, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	1.62	84	P	Pn	10 03 53.1	+2.5
	170nm,0.3s,baz=319,slow=6.6,SNR=3414						
LPAZ				S	Sn	10 04 18.4	+1.5
	120nm,0.6s,baz=337,slow=24,SNR=16						
LPAZ	La Paz	1.62	84	*e*P	Pn	10 03 51.6	+1.0
LPAZ				*e*S	Sn	10 04 19.2	+2.3
LVC	Limon Verde	6.17	172	P	Pn	10 04 47.9	+1.7
	5.5nm,0.3s,baz=333,slow=9.0,SNR=19						
LVC				S	Sn	10 05 53.9	-3.0

6.2nm,0.3s,baz=155,slow=18,SNR=14
ETMB Extrema 7.48 28 *e*P **Pn 10 05 02.6 -0.3**
ETMB *e*S **Sn 10 06 28.9 +1.7**
NNA Nana 8.14 302 P **Pn 10 05 13.1 +1.4**
9.9nm,0.4s,baz=118,slow=15,SNR=5.4
NNA S **Sn 10 06 39.9 -3.2**
6.0nm,0.4s,baz=212,slow=16,SNR=2.0
SIV San Ignacio 8.41 88 P **Pn 10 05 14.2 -1.0**
2.2nm,0.4s,baz=266,slow=8.7,SNR=12
SIV S **Sn 10 06 46.1 -3.4**
3.3nm,0.9s,baz=212,slow=13,SNR=4.3
BBSD Serra de San D 8.84 96 *e*P **Pn 10 05 20.0 -0.9**
BBSD *e*S **Sn 10 07 02.2 +2.5**
PTLB Pontes e Lacer 10.32 86 *e*P **Pn 10 05 39.1 -1.0**
SALV Santo Antonio 13.57 90 *e*P **Pn 10 06 22.1 +0.3**
PDRB Porto dos Gac 13.57 71 *e*P **Pn 10 06 21.8 -0.1**
NPGB Novo Progresso 16.95 58 *e*P **P 10 07 01.9 -0.3**
ITTB Itaituba 18.31 51 *e*P **P 10 07 16.7 -0.3**
SNDB Serra Nova Dou 18.49 78 *e*P **Pn 10 07 19.6 -1.8**
IPMB Ipameri, GO 20.69 97 *e*P **P 10 07 41.2 -1.4**
BDFB Brasilia 20.96 91 P **P 10 07 44.2 -1.4**
3.1nm,0.5s,baz=252,slow=11,SNR=5.2
3.1nm,0.5s
PLCA Paso Flores 24.19 181 P **P 10 08 17.4 +1.2**
2.4nm,0.8s,baz=360,slow=12,SNR=5.7
2.4nm,0.8s
SNAA Sanae 67.30 162 P **P 10 13 52.3 +1.1**
1.4nm,0.6s,baz=262,slow=9.7,SNR=5.7
1.4nm,0.6s
DBIC Dimbokro 68.22 76 P **P 10 13 58.2 +0.4**
2.0nm,0.4s,baz=237,slow=6.4,SNR=4.6
2.0nm,0.4s
QSPA South Pole Qui 73.70 180 P **P 10 14 31.8 +1.7**
1.0nm,0.5s,baz=309,slow=1.9,SNR=6.6
1.0nm,0.5s
TORD Torodi Ar. Bea 76.53 72 P **P 10 14 45.4 -1.6**
1.3nm,0.5s,baz=272,slow=4.5,SNR=18
1.3nm,0.5s
WRA Warramunga Arr 136.74 214 PKP **PKiKP 10 22 18.0 -1.7**
0.1nm,0.3s,baz=134,slow=2.0,SNR=7.0

NEIC 05 10:04:00.2±0.7,41°.36N±0°.02×100°.14W±0°.04,h5km±2km, mb_Lg2.4/9,Error ellipse: s-maj=4.8km s-min=3.0km az=285.0,Nebraska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K30B	**Basset**	**1.37**	**17**		Pn	10 04 24.7	-1.4
OGNE	**Ogallala**	**1.48**	**255**		Pn	10 04 26.6	-1.0
OGNE				IAmb_Lg		10 04 47.4	
comp=Z,15nm,0.8s							
BGNE	**Belgrade**	**1.50**	**87**		Pn	10 04 26.7	-1.1
CBKS	**Cedar Bluff**	**2.56**	**173**	Pn	Pn	10 04 43.6	+1.3
L34A	**Svendsen Farm,**	**2.89**	**77**	Pn	Pn	10 04 46.5	-0.3
L34A				IAmb_Lg		10 05 32.5	
comp=Z,30nm,0.9s							
KSCO	**Kaye Shedlock'**	**3.02**	**220**	Pn	Pn	10 04 47.9	-0.8
KSCO				IAmb_Lg		10 05 41.1	
comp=Z,6.1nm,0.7s							
R32A	**Long Quarter,**	**3.13**	**159**	Pn	Pn	10 04 49.6	-0.6
SUSD	**Miller**	**3.21**	**15**	Pn	Pn	10 04 52.6	+1.4
N35A	**Tabor**	**3.44**	**97**	Pn	Pn	10 04 56.4	+2.0
KSU1	**Kansas State U**	**3.52**	**129**	Pn	Pn	10 04 55.3	-0.3
ECSD	**EROS Data Cent**	**3.53**	**46**		Pn	10 04 56.5	+0.9
RSSD	**Black Hills**	**3.98**	**315**	Pn	Pn	10 05 00.2	-1.9
PHWY	**Pilot Hill**	**4.00**	**271**	IAmb_Lg		10 06 07.6	
comp=Z,24nm,1.0s							
N23A	**Red Feather La**	**4.41**	**266**	Pn	Pn	10 05 05.6	-2.4
N23A				IAmb_Lg		10 06 24.0	
comp=Z,5.6nm,0.8s							
Q24A	**Divide**	**4.52**	**240**	Pn	Pn	10 05 07.8	-1.8
K22A	**Casper**	**4.93**	**287**	Pn	Pn	10 05 13.9	-1.1
RTBA	**Rita Blanca**	**5.31**	**203**	Pn	Pn	10 05 20.1	-0.2
T25A	**Trinidad**	**5.36**	**220**	Pn	Pn	10 05 19.9	-1.1
SDCO	**Great Sand Dun**	**5.49**	**231**	Pn	Pn	10 05 22.9	+0.1

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*JSO **05** 10:04:30,32°.86N×35°.57E,h2km,ML3.2/14*
*GRAL **05** 10:04:31.1±0.3,32°.79N×35°.77E,h0km±2km,MD3.2*
ISC 05 10:04:31.3±0.9,32°.85N±0°.03×35°.60E±0°.05,h13km,n17, σ0°62/19,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEM	**Giv'at Ha'Em**	**0.36**	**8**	P	**Pg**	**10 04 38.6**	**0.0**
HNTI	**Hanita**	**0.43**	**303**	P	**Pg**	**10 04 39.3**	**-0.5**
QRNJ	**Al-Qirein**	**0.51**	**182**	P	**Pg**	**10 04 41.3**	**0.0**
OFRI	**`Ofer**	**0.57**	**246**	P	**Pg**	**10 04 41.7**	**-0.7**
HMDT	**Nahal Hemdat**	**0.60**	**186**	P	**Pg**	**10 04 42.5**	**-0.5**
RCY	**Rachaya**	**0.67**	**17**	*e*P	**Pg**	**10 04 43.8**	**-0.7**
RCY				*e*S	**Sg**	**10 04 53.3**	**-0.1**
SLTI	**Sal'it**	**0.77**	**218**	P	**Pg**	**10 04 45.4**	**-0.8**
DQRL	**Deir Qamar**	**0.85**	**358**	*e*P	**Pg**	**10 04 47.8**	**0.0**
HSUJ	**Al Zarqa**	**0.90**	**146**	P	**Pb**	**10 04 48.4**	**-0.3**
ZAHL	**Zahle**	**1.03**	**13**	*e*P	**Pb**	**10 04 50.3**	**-0.8**
BHL	**Bhannes**	**1.05**	**2**	*e*P	**Pb**	**10 04 51.2**	**-0.2**
ASF	**Jabal al Asfar**	**1.29**	**121**	P	**Pg**	**10 04 55.3**	**-0.7**
HWQ	**Hawqa**	**1.45**	**11**	*e*P	**Pn**	**10 04 57.4**	**+0.1**
BEIL	**Beino**	**1.76**	**16**	*e*P	**Pn**	**10 05 01.9**	**+0.4**
BEIL				*e*S	**Sn**	**10 05 24.7**	**+1.0**
PRNI	**Paran**	**2.54**	**192**	P	**Pn**	**10 05 12.9**	**+0.7**
KRMI	**Paran Flat**	**2.83**	**196**	P	**Pn**	**10 05 17.1**	**+1.0**
MBRI	**Mt Berech**	**3.10**	**191**	P	**Pn**	**10 05 20.7**	**+0.7**

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*IDC **05** 10:08:02.9±4.8, 19°.59S×175°.33W,h89km±41km,mb4.0/16, mbtmp4.4/18,MS3.4/4, Error ellipse: s-maj=16.9km s-min=15.0km az=119.0*
*NEIC **05** 10:08:05.8±2.0,19°.7S±0°.1×174°.95W±0°.08,h123km±6km, mb4.5/78,Error ellipse: s-maj=17.3km s-min=11.1km az=173.0*
*NOU **05** 10:08:08.5,20°.12S×174°.98W,h91km,mb4.8/9,Tonga Islands*
ISC 05 10:08:05.3±0.3,19°.85S±0°.07×174°.96W±0°.05,h115km, n347,σ1°33/324,mb4.5/64,10C-2D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.81**	**82**	P	**Pn**	**10 09 19.5**	**+3.9**
NIUE	**Niue**	**4.81**	**82**	Pn	**Pn**	**10 09 16.6**	**+1.1**
NIUE				Sn	**Sn**	**10 10 07.0**	**-3.3**
MSVF	**Nonsavu**	**6.95**	**287**	P	**Pn**	**10 09 48.4**	**+3.8**
MSVF	**Nonsavu**	**6.95**	**287**		**Pn**	**10 09 45.6**	**+0.9**
RAR	**Rarotonga**	**14.29**	**98**	P	**P**	**10 11 25.4**	**-0.7**
8.0nm,0.3s,baz=272,slow=9.6,SNR=11							
RAR				S	**Sn**	**10 13 55.7**	**-4.3**
10nm,0.5s,baz=100,slow=13,SNR=2.2							
RAR				LR	LR	10 17 44.6	
comp=Z,22nm,18.2s,baz=229,slow=40							
PINNC	**Pines Island,**	**16.63**	**257**		**P**	**10 11 52.0**	**0.0**
YATNC	**Mamie plateau,**	**17.10**	**259**	P	**Pn**	**10 12 01.3**	**+4.0**
DZM	**Mont Dzumac**	**17.51**	**259**	P	**Pn**	**10 12 06.0**	**+3.6**
DZM	**Mont Dzumac**	**17.51**	**259**		**Pn**	**10 12 02.6**	**+0.2**
DZM	**Mont Dzumac**	**17.51**	**259**	P	**Pn**	**10 12 05.2**	**+2.8**
101nm,0.8s,baz=81,slow=17,SNR=34							
NOUC	**Port Laguerre**	**17.64**	**259**	P	**Pn**	**10 12 07.5**	**+3.6**
KOUNC	**Koumac, New Ca**	**19.50**	**264**	P	**P**	**10 12 24.5**	**+1.1**
URZ	**Urewera**	**19.59**	**199**	P	**Pn**	**10 12 26.3**	**-0.5**
URZ	**Urewera**	**19.59**	**199**	P	**P**	**10 12 24.8**	**+0.5**
14nm,0.4s,baz=322,slow=4.5,SNR=40							
URZ				S	**S**	**10 15 51.1**	**-8.1**
5.5nm,1.0s,baz=16,slow=16,SNR=1.7							
KMRZ	**Kaimai**	**19.60**	**202**	P	Pn	10 12 41.3	+14
TOZ	**Tahuroa Road**	**19.66**	**203**	P	**Pn**	**10 12 27.1**	**-0.4**
TOZ				IAmb	IAmb	10 12 29.9	
comp=Z,41nm,1.1s							
RTZ	**Ruatahuna**	**19.96**	**199**	P	**Pn**	**10 12 29.8**	**-1.3**
HIZ	**Hauiti**	**20.59**	**203**	P	Pn	10 12 38.5	+0.2
BKZ	**Black Stump Fm**	**20.61**	**199**	P	**P**	**10 12 36.0**	**+0.6**
MCHZ	**McNeill Hill**	**20.81**	**198**	P	**P**	**10 12 39.2**	**+1.8**
NNVZ	**North Ngauruho**	**20.87**	**201**	P	Pn	10 12 57.6	+16
TWVZ	**Taurewa**	**20.87**	**201**	P	Pn	10 12 40.9	-0.9
KWHZ	**Kaweka Forest**	**20.87**	**199**	P	**P**	**10 12 39.8**	**+1.6**
OTVZ	**Oturere**	**20.88**	**201**	P	**P**	**10 12 38.4**	**0.0**
KAHZ	**Kahuranaki**	**21.08**	**198**	P	**P**	**10 12 42.9**	**+2.5**
PNHZ	**Pukenui**	**21.39**	**199**	P	**P**	**10 12 44.7**	**+1.0**
LREZ	**Lake Rotokare**	**21.59**	**203**	P	P	10 12 53.4	+7.7
PRHZ	**Porangahau**	**21.59**	**198**	P	**P**	**10 12 47.6**	**+1.8**
TSZ	**Takapari Road**	**21.60**	**199**	P	**P**	**10 12 47.9**	**+2.0**
BFZ	**Birch Farm**	**22.08**	**198**	P	**P**	**10 12 51.9**	**+0.9**
MRZ	**Mangatainoka R**	**22.26**	**199**	P	**P**	**10 12 52.8**	**0.0**
DUWZ	**D'Urville Isla**	**22.94**	**202**	P	**P**	**10 12 59.0**	**-0.6**
QRZ	**Quartz Range**	**23.48**	**204**	P	**P**	**10 13 06.9**	**+2.4**
QRZ	**Quartz Range**	**23.48**	**204**	P	**P**	**10 13 05.6**	**+1.1**
TUWZ	**Tuamarina**	**23.49**	**201**	P	**P**	**10 13 04.8**	**+0.2**
TKNZ	**Takaka Hill**	**23.50**	**203**	P	**P**	**10 13 04.5**	**-0.3**
NNZ	**Nelson**	**23.50**	**202**	P	**P**	**10 13 04.5**	**-0.2**
MRNZ	**Matariki Terra**	**23.89**	**203**	P	**P**	**10 13 09.7**	**+1.5**
THZ	**Tophouse**	**24.15**	**203**	P	**P**	**10 13 11.9**	**+1.2**
KHZ	**Kahutara**	**24.51**	**201**	P	**P**	**10 13 17.6**	**+3.8**
KHZ	**Kahutara**	**24.51**	**201**	P	**P**	**10 13 14.4**	**+0.6**
KHZ				IAmb	IAmb	10 13 15.4	
comp=Z,22nm,1.2s							
KHZ	**Kahutara**	**24.51**	**201**	P	**P**	**10 13 14.8**	**+1.1**
DSZ	**Denniston Nort**	**24.55**	**204**	P	**P**	**10 13 15.9**	**+1.7**
GVZ	**Greta Valley S**	**25.17**	**201**	P	**P**	**10 13 21.3**	**+1.5**
LTZ	**Lake Taylor**	**25.27**	**202**	P	**P**	**10 13 21.1**	**+0.4**
INZ	**Inchbonnie**	**25.52**	**204**	P	**P**	**10 13 24.5**	**+1.5**
OXZ	**Oxford**	**25.83**	**202**	P	**P**	**10 13 25.6**	**-0.2**
OXZ				IAmb	IAmb	10 13 32.1	
comp=Z,20nm,0.9s							
OXZ	**Oxford**	**25.83**	**202**	P	**P**	**10 13 29.5**	**+3.7**
WVZ	**Waitaha Valley**	**26.09**	**204**	P	**P**	**10 13 28.9**	**+0.8**
RACZ	**Rakaia**	**26.14**	**202**	P	**P**	**10 13 33.1**	**+4.5**
MHCZ	**Mount Hutt**	**26.18**	**203**	P	**P**	**10 13 32.2**	**+3.2**
HNR	**Honiara**	**26.36**	**290**	LR	LR	10 21 23.0	
comp=Z,519nm,20.9s,baz=242,slow=31							
ARCZ	**Arundel**	**26.68**	**203**	P	**P**	**10 13 38.4**	**+5.0**
EIDS	**Eidsvold**	**31.77**	**254**	P	**P**	**10 14 17.5**	**-1.3**
EIDS				IAmb	IAmb	10 14 18.9	
comp=Z,21nm,1.1s							
ARMA	**Armidale**	**31.92**	**244**	P	**P**	**10 14 20.3**	**+0.1**
CAN	**Canberra**	**35.24**	**236**		**P**	**10 14 49.5**	**+0.7**
CAN				IAmb	IAmb	10 15 12.6	
comp=Z,9.3nm,1.1s							
CTA	**Charters Tower**	**36.40**	**263**	P	**P**	**10 14 57.0**	**-1.9**
comp=Z,2.8nm,0.7s,baz=93,slow=9.7,SNR=38							
comp=Z,2.8nm,0.7s							
CTAO	**Charters Tower**	**36.40**	**263**	P	**P**	**10 14 58.0**	**-0.9**
PMG	**Port Moresby**	**38.01**	**280**	LR	LR	10 28 37.1	
comp=Z,73nm,18.7s,baz=334,slow=33							
TOO	**Toolangi**	**38.59**	**234**	P	**P**	**10 15 16.8**	**-0.4**
TOO				IAmb	IAmb	10 15 19.1	
comp=Z,6.6nm,0.9s							
COEN	**Coen**	**40.41**	**272**	P	**P**	**10 15 31.4**	**-1.1**
STKA	**Stephens Creek**	**40.64**	**244**	P	**P**	**10 15 34.1**	**-0.1**
STKA	**Stephens Creek**	**40.64**	**244**	P	**P**	**10 15 32.0**	**-2.2**
comp=Z,1.1nm,0.5s,baz=71,slow=11,SNR=1.5							
comp=Z,1.1nm,0.5s							
BBOO	**Buckleboo**	**45.39**	**243**	P	**P**	**10 16 10.8**	**-1.7**
BBOO				IAmb	IAmb	10 16 23.4	
comp=Z,11nm,0.9s							
WR0	**Warramunga Arr**	**47.33**	**261**	P	**P**	**10 16 25.2**	**-2.6**
WR0				IAmb	IAmb	10 16 28.8	
comp=Z,6.3nm,0.9s							
AS31	**Alice Springs**	**47.45**	**256**	P	**P**	**10 16 27.2**	**-1.5**
ASAR	**Alice Springs**	**47.45**	**256**	P	**P**	**10 16 27.0**	**-1.7**
ASAR				PcP	**PcP**	**10 17 57.4**	**-0.1**
ASAR	**Alice Springs**	**47.45**	**256**	P	**P**	**10 16 26.7**	**-2.0**
comp=Z,15nm,0.8s,baz=86,slow=8.2,SNR=90							
ASAR				PcP	**PcP**	**10 17 57.0**	**-0.5**
comp=Z,5.1nm,0.7s,baz=105,slow=3.7,SNR=15							
comp=Z,15nm,0.8s							
WB0	**Warramunga Arr**	**47.50**	**261**	P	**P**	**10 16 26.8**	**-2.3**
WB2	**Warramunga Arr**	**47.51**	**261**	P	**P**	**10 16 27.0**	**-2.2**
WB2				IAmb	IAmb	10 16 29.1	
comp=Z,12nm,1.1s							
WRAB	**Tennant Creek**	**47.52**	**261**	P	**P**	**10 16 26.8**	**-2.4**
WRAB				IAmb	IAmb	10 16 29.0	
comp=Z,7.1nm,0.8s							
WRA	**Warramunga Arr**	**47.52**	**261**	P	**P**	**10 16 27.0**	**-2.3**
WRA	**Warramunga Arr**	**47.52**	**261**	P	**P**	**10 16 26.5**	**-2.8**
comp=Z,4.9nm,0.4s,baz=96,slow=7.5,SNR=162							
WRA				PcP	**PcP**	**10 17 57.5**	**-0.2**
comp=Z,3.1nm,0.7s,baz=94,slow=3.6,SNR=8.9							
comp=Z,4.9nm,0.4s							
MTN	**Manton Dam**	**52.02**	**269**	P	**P**	**10 17 01.6**	**-1.8**
FORT	**Forrest**	**52.17**	**246**	P	**P**	**10 17 02.8**	**-1.5**
FAKI	**Fak Fak**	**54.16**	**281**	P	**P**	**10 17 17.2**	**-1.9**
FITZ	**Fitzroy Crossi**	**55.95**	**261**	P	**P**	**10 17 30.8**	**-1.1**
SBA	**Scott Base**	**58.72**	**184**	P	**P**	**10 17 50.9**	**+0.4**
SBA				IAmb	IAmb	10 17 56.2	
comp=Z,6.5nm,0.8s							
VNDA	**Vanda**	**58.82**	**186**	P	**P**	**10 17 52.4**	**+1.2**
VNDA				IAmb	IAmb	10 17 56.0	
comp=Z,3.5nm,0.8s							
VNDA	**Vanda**	**58.82**	**186**	P	**P**	**10 17 54.3**	**+3.2**
comp=Z,2.6nm,0.8s,baz=2.5,slow=6.8,SNR=22							
comp=Z,2.6nm,0.8s							
SOEI	**Soe**	**59.35**	**270**	P	**P**	**10 17 54.8**	**-1.2**
PSA00	**Pilbara Seismi**	**60.60**	**256**	P	**P**	**10 18 02.6**	**-1.6**
MBWA	**Marble Bar**	**60.78**	**256**	P	**P**	**10 18 03.7**	**-1.8**
GIRL	**Giralia**	**65.48**	**254**	P	**P**	**10 18 35.4**	**-1.1**
CASY	**Casey**	**65.77**	**205**	P	**P**	**10 18 39.1**	**+1.5**
CASY				IAmb	IAmb	10 18 40.2	
comp=Z,7.2nm,1.0s							
TOLI2	**Tolitoli**	**66.28**	**280**	P	**P**	**10 18 40.3**	**-1.5**
TOLI2				IAmb	IAmb	10 18 49.1	
comp=Z,11nm,1.1s							
QSPA	**South Pole Qui**	**70.21**	**180**	P	**P**	**10 19 07.0**	**+1.4**
QSPA				IAmb	IAmb	10 19 09.6	
comp=Z,9.9nm,0.9s							
QSPA	**South Pole Qui**	**70.21**	**180**	P	**P**	**10 19 07.8**	**+2.2**
comp=Z,9.4nm,0.9s,baz=39,slow=0.8,SNR=21							
comp=Z,9.4nm,0.9s							
MJAR	**Matsushiro Arr**	**71.43**	**322**	P	**P**	**10 19 11.3**	**-1.8**
comp=Z,7.1nm,0.7s,baz=156,slow=5.8,SNR=18							
comp=Z,7.1nm,0.7s							
MAJO	**Matsushiro**	**71.43**	**322**	P	**P**	**10 19 12.1**	**-1.1**
MAJO				IAmb	IAmb	10 19 13.3	
comp=Z,12nm,0.8s							
MJB9	**Matsu-Tunnel**	**71.44**	**322**	P	**P**	**10 19 13.3**	**+0.1**
MJB9				IAmb	IAmb	10 19 14.3	
comp=Z,12nm,0.8s							
ADK	**Adak**	**71.44**	**359**	P	**P**	**10 19 12.0**	**-0.9**
SBUM	**Sibu**	**74.73**	**278**	P	**P**	**10 19 32.0**	**-1.1**
TWG	**Pinlang**	**75.47**	**301**	P	**P**	**10 19 34.8**	**-2.4**
CIS	**Catalina Islan**	**75.57**	**46**	P	**P**	**10 19 38.4**	**+0.8**
baz=234							
SSLB	**Suanglung**	**76.03**	**302**	P	**P**	**10 19 38.2**	**-2.2**
SSLB				IAmb	IAmb	10 19 55.0	
comp=Z,12nm,1.0s							
S12K	**Black Hills**	**76.05**	**7**	P	**P**	**10 19 38.6**	**-1.1**
S12K				IAmb	IAmb	10 19 38.6	
comp=Z,3.8nm,0.7s							
PETK	**Petropavlovsk-**	**76.42**	**343**	P	**P**	**10 19 40.4**	**-1.5**
comp=Z,5.2nm,0.8s,baz=132,slow=8.2,SNR=5.2							
comp=Z,5.2nm,0.8s							
VES	**Vestal, Richgr**	**76.57**	**44**	P	**P**	**10 19 44.6**	**+1.5**
baz=233							
EDW2	**Edwards Air Fo**	**76.72**	**45**	P	**P**	**10 19 45.0**	**+0.9**
baz=234							
IKP	**In-Ko-Pah, Jac**	**76.73**	**48**	P	**P**	**10 19 45.2**	**+1.0**
baz=236							
ISA	**Isabella, Lake**	**76.86**	**44**	P	**P**	**10 19 46.4**	**+1.5**
baz=234							
CHGN	**Chignik**	**77.13**	**9**	P	**P**	**10 19 46.2**	**+0.5**
baz=196							
RRX	**Edison Barstow**	**77.38**	**46**	P	**P**	**10 19 48.9**	**+1.2**
baz=235							
BELC	**Belle Mtn. Jos**	**77.56**	**47**	P	**P**	**10 19 49.6**	**+0.6**
baz=236							
CWC	**Cottonwood Cre**	**77.58**	**44**	P	**P**	**10 19 49.6**	**+0.6**
baz=234							
MPMC	**Manual Prospec**	**77.74**	**44**	P	**P**	**10 19 51.5**	**+1.6**
baz=234							
GSC	**Goldstone, Bar**	**77.76**	**45**	P	**P**	**10 19 51.4**	**+1.6**
baz=235							
KSRS	**Korea Array**	**78.33**	**317**	P	**P**	**10 19 51.5**	**-1.3**
comp=Z,1.3nm,0.6s,baz=148,slow=5.5,SNR=6.7							
comp=Z,1.3nm,0.6s							
GRAC	**Grapevine Rang**	**78.37**	**44**	P	**P**	**10 19 54.7**	**+1.5**
baz=234							
FURC	**Furnace Creek,**	**78.39**	**44**	P	**P**	**10 19 54.8**	**+1.6**
baz=235							
TUQ	**Turquoise Moun**	**78.42**	**46**	P	**P**	**10 19 54.9**	**+1.3**
baz=235							
NVAR	**Mina Array Bea**	**78.61**	**42**	P	**P**	**10 19 56.0**	**+1.2**
comp=Z,1.9nm,0.8s,baz=225,slow=9.4,SNR=13							
comp=Z,1.9nm,0.8s							
R17L	**Mt. Peulik Vol**	**78.74**	**10**	P	**P**	**10 19 55.1**	**+0.4**
baz=198							
TPNV	**Topopah Spring**	**79.07**	**44**	P	**P**	**10 19 58.6**	**+1.5**
baz=235							
Q17K	**Contact Creek**	**79.42**	**10**	P	**P**	**10 19 58.4**	**-0.1**
baz=198							
KDAK	**Kodiak Island**	**79.56**	**12**	LR	LR	10 46 15.0	
comp=Z,22nm,21.7s,baz=240,slow=29							
BELA	**Belgrano 2**	**79.82**	**172**	P	**P**	**10 20 01.2**	**+0.8**
J05D	**Fort Rock, OR**	**79.86**	**37**	P	**P**	**10 20 00.7**	**-0.6**
J05D				IAmb	IAmb	10 20 03.6	
comp=Z,6.3nm,0.9s							
Q18K	**Katmai Hardscr**	**79.93**	**10**	P	**P**	**10 20 00.8**	**-0.5**
baz=199							
USRK	**Ussuriysk Ar.**	**80.07**	**324**	P	**P**	**10 20 02.3**	**+0.1**
comp=Z,1.2nm,0.6s,baz=106,slow=6.8,SNR=4.1							
comp=Z,1.2nm,0.6s							
P17K	**Kvichak River**	**80.22**	**10**	P	**P**	**10 20 02.4**	**-0.1**
baz=198							
R11B	**Troy Canyon, C**	**80.30**	**43**	P	**P**	**10 20 03.7**	**-0.2**
baz=235							
PINE	**Pine Mountain**	**80.35**	**36**	IAmb	IAmb	10 20 06.4	
comp=Z,6.6nm,0.9s							
O16K	**Kokwok River B**	**80.36**	**9**	P	**P**	**10 20 02.1**	**-1.3**
baz=196							
P18K	**Big Mountain,**	**80.60**	**10**	P	**P**	**10 20 04.4**	**-0.3**
baz=199							
N15K	**Kwethluk River**	**80.65**	**7**	P	**P**	**10 20 04.1**	**-0.8**
baz=194							
O17K	**Koliganek Bris**	**80.67**	**9**	P	**P**	**10 20 03.9**	**-1.1**
baz=197							
M14K	**Bethel**	**81.00**	**6**	P	**P**	**10 20 06.6**	**-0.1**
baz=192							
O18K	**Koktuh Hills**	**81.04**	**10**	P	**P**	**10 20 06.2**	**-0.9**
baz=199							
M15K	**Kasigluk River**	**81.09**	**7**	P	**P**	**10 20 07.6**	**+0.4**
baz=194							
L14K	**Kuka Creek**	**81.51**	**6**	P	**P**	**10 20 10.2**	**+0.8**
baz=192							
O19K	**Port Alsworth**	**81.51**	**10**	P	**P**	**10 20 09.4**	**0.0**
baz=200							
M16K	**Timber Creek**	**81.62**	**8**	P	**P**	**10 20 09.9**	**-0.1**
M16K				IAmb	IAmb	10 20 11.7	
comp=Z,13nm,0.9s							
M16K	**Timber Creek**	**81.62**	**8**	P	**P**	**10 20 10.8**	**+0.8**
baz=195,SNR=6.8							
MDJ	**Mudanjiang**	**81.67**	**324**	P	**P**	**10 20 12.2**	**+1.5**
MDJ				pmax	pmax		
comp=Z,20nm,1.1s							
NJ2	**Nanjing**	**81.70**	**308**	*e*P	**P**	**10 20 12.2**	**+1.1**
NJ2				pmax	pmax		
comp=Z,4.0nm,0.6s							
NJ2				pmax	pmax		
comp=Z,160nm,4.2s							
K13K	**Kusilvak Mount**	**81.92**	**5**	P	**P**	**10 20 11.8**	**+0.2**
baz=190							
L15K	**Ungalak Mounta**	**81.96**	**6**	P	**P**	**10 20 12.1**	**+0.3**
baz=193,SNR=5.2							
M17K	**Holitna River**	**82.19**	**8**	P	**P**	**10 20 13.5**	**+0.5**
baz=197							
L16K	**Owhat River**	**82.22**	**7**	P	**P**	**10 20 12.8**	**-0.3**
L16K				IAmb	IAmb	10 20 14.5	
comp=Z,7.9nm,1.1s							
L16K	**Owhat River**	**82.22**	**7**	P	**P**	**10 20 13.6**	**+0.5**
baz=195							
G08A	**Pilot Rock**	**82.39**	**36**	IAmb	IAmb	10 20 16.7	
comp=Z,5.7nm,1.1s							
Q23K	**Middleton Isla**	**82.40**	**14**	P	**P**	**10 20 15.3**	**+1.2**
baz=207							
K15K	**Wolf Creek Mou**	**82.56**	**6**	P	**P**	**10 20 15.3**	**+0.4**
K15K	**Wolf Creek Mou**	**82.56**	**6**	P	**P**	**10 20 15.8**	**+0.8**
baz=193,SNR=11							
L17K	**Donlin**	**82.78**	**8**	P	**P**	**10 20 16.9**	**+0.9**
baz=196							
L18K	**Granite Mounta**	**83.08**	**9**	P	**P**	**10 20 16.0**	**-1.5**
baz=197							
DUG	**Dugway, Tooele**	**83.11**	**43**	P	**P**	**10 20 19.7**	**+1.2**
baz=237							
MAW	**Mawson**	**83.12**	**199**	P	**P**	**10 20 18.9**	**+1.0**
comp=Z,1.6nm,0.6s,baz=140,slow=13,SNR=4.6							
comp=Z,1.6nm,0.6s							
K17K	**Iditarod**	**83.34**	**8**	P	**P**	**10 20 19.8**	**+0.9**
baz=196							
BNX	**BinXian**	**83.58**	**323**	⇑P	**P**	**10 20 19.9**	**-0.6**
BNX				pmax	pmax		
comp=Z,12nm,1.7s							
F10A	**Beach Ranch, E**	**83.77**	**36**	IAmb	IAmb	10 20 23.2	
comp=Z,6.8nm,1.0s							
J17K	**VABM Dome**	**83.91**	**7**	P	**P**	**10 20 21.9**	**+0.1**
baz=195							
HLID	**Hailey**	**83.99**	**40**	IAmb	IAmb	10 20 25.5	
comp=Z,4.7nm,1.0s							
HLID	**Hailey**	**83.99**	**40**	P	**P**	**10 20 24.7**	**+1.8**
baz=236							
HVU	**Hansel Valley**	**84.00**	**42**	P	**P**	**10 20 21.4**	**-1.6**
HVU				IAmb	IAmb	10 20 25.2	
comp=Z,4.8nm,1.1s							
WRAK	**Wrangell Islan**

	baz=210							
HYT	Haines Junctio	85.88	17	P	P	10 20 32.6	+0.7	
	baz=215							
YUK3	Moose Creek	85.88	16	P	P	10 20 32.5	+0.5	
	baz=212,SNR=5.5							
Q32M	Nakina River	86.00	21	P	P	10 20 32.9	+0.3	
	baz=220							
P32M	Atlin	86.02	20	P	P	10 20 32.7	+0.2	
	baz=218							
M27K	Edge Creek, AK	86.03	15	IAmb	IAmb	10 20 33.6		
	comp=Z,5.3nm,0.9s							
M27K	Edge Creek, AK	86.03	15	P	P	10 20 33.0	+0.4	
	baz=211,SNR=5.5							
O20A	White River Ci	86.07	45	P	P	10 20 34.2	+0.7	
	baz=240							
O30N	Mendenhall	86.24	18	P	P	10 20 33.4	-0.2	
	baz=216							
L26K	Log Cabin Wild	86.27	14	P	P	10 20 33.6	-0.1	
	baz=210							
H19K	Roundabout Mou	86.28	8	P	P	10 20 33.7	+0.1	
	baz=197							
DLBC	Dease Lake	86.36	22	P	P	10 20 34.8	+0.5	
	baz=222							
G18K	Tagagawik	86.37	7	P	P	10 20 33.5	-0.6	
	baz=195							
K24K	Donnelly Dome	86.43	13	P	P	10 20 34.7	+0.2	
	baz=207							
H20K	Anotleneega Mo	86.45	8	P	P	10 20 34.9	+0.4	
	baz=199							
WHY	Whitehorse	86.51	19	P	P	10 20 35.5	+0.5	
	baz=217							
N30M	Aishikik Lake	86.52	17	P	P	10 20 35.9	+0.9	
	baz=215							
NEA2	Nenana	86.52	11	P	P	10 20 34.3	-0.5	
	baz=204							
PDAR	Pinedale Array	86.55	42	P	P	10 20 36.3	+0.6	
	comp=Z,0.1nm,0.5s,baz=152,slow=2.7,SNR=2.3							
	comp=Z,0.1nm,0.5s							
MLY	Manley	86.63	10	P	P	10 20 34.6	-0.8	
	baz=203							
L27K	Beaver Creek,	86.65	14	P	P	10 20 35.6	+0.1	
	baz=211							
F17K	Baldwin Pennin	86.65	5	P	P	10 20 36.0	+0.6	
	baz=193							
HDA	Harding Lake	86.74	12	IAmb	IAmb	10 20 36.1		
	comp=Z,4.9nm,0.8s							
HDA	Harding Lake	86.74	12	P	P	10 20 35.5	-0.4	
	baz=206							
R33M	Jennings River	86.76	21	P	P	10 20 36.9	+0.7	
	baz=221							
BOZ	Bozeman (W)	86.77	39	P	P	10 20 37.7	+1.0	
	baz=237							
SDCO	Great Sand Dun	86.79	48	P	P	10 20 38.0	+0.8	
	baz=242							
P33M	Teslin, Yukon	86.79	20	P	P	10 20 36.8	+0.5	
	baz=219							
G19K	Purcell Mounta	86.79	7	P	P	10 20 36.1	+0.1	
	baz=197							
CCB	Clear Creek Bu	86.80	11	IAmb	IAmb	10 20 36.2		
	comp=Z,6.8nm,1.0s							
H21K	Melozitna Rive	86.90	9	P	P	10 20 36.7	+0.1	
	baz=201							
N31M	Braeburn, Yuko	86.91	18	P	P	10 20 37.5	+0.7	
	baz=216							
F18K	Selawik	86.95	6	P	P	10 20 36.2	-0.6	
	baz=194							
M29M	Somme Creek	86.96	16	P	P	10 20 37.6	+0.5	
	baz=214,SNR=5.2							
SCRK	Sand Creek	86.96	13	P	P	10 20 37.1	0.0	
	baz=209							
MDM	Murphy Dome	87.00	11	IAmb	IAmb	10 20 37.3		
	comp=Z,3.5nm,1.0s							
MSTX	Muleshoe	87.04	52	P	P	10 20 39.7	+1.5	
	baz=244							
ILAR	Eielson Array	87.08	12	P	P	10 20 36.0	-1.5	
ILAR	Eielson Array	87.08	12	P	P	10 20 36.5	-1.0	
	comp=Z,2.2nm,1.0s,baz=217,slow=5.4,SNR=15							
	comp=Z,2.2nm,1.0s							
J25K	Salcha River,	87.23	12	P	P	10 20 38.1	-0.2	
	baz=208							
H22K	Ishtalitna Cre	87.33	9	P	P	10 20 38.9	+0.2	
	baz=202							
F19K	Shaleruckik Mo	87.38	7	P	P	10 20 38.8	0.0	
	baz=196							
K27K	Chicken	87.42	14	P	P	10 20 39.9	+0.7	
	baz=211							
N32M	Quiet Lake	87.44	19	P	P	10 20 39.9	+0.5	
	baz=219							
J26L	Joseph Creek	87.51	13	IAmb	IAmb	10 20 41.1		
	comp=Z,5.5nm,0.8s							
J26L	Joseph Creek	87.51	13	P	P	10 20 40.5	+0.8	
	baz=209,SNR=9.0							
M30M	Minto, Yukon	87.51	17	IAmb	IAmb	10 20 40.6		
	comp=Z,3.8nm,1.1s							
M30M	Minto, Yukon	87.51	17	P	P	10 20 40.2	+0.5	
	baz=216							
ELIB	Princess Elisa	87.58	186	dP	P	10 20 41.7	+1.4	
	comp=Z,5.6nm,0.8s							
LYN	LuoYang	87.59	308	P	P	10 20 40.5	-0.2	
LYN				pmax	pmax			
	comp=Z,23nm,0.8s							
LYN				pmax	pmax			
	comp=Z,240nm,4.5s							
L29M	L29M	87.60	16	P	P	10 20 40.2	+0.1	
	baz=214,SNR=8.8							
G21K	Allakaket	87.60	8	P	P	10 20 39.8	-0.2	
	baz=200							
D17K	Noatak River	87.73	5	P	P	10 20 41.8	+1.2	
	baz=191							
F20K	Avaraart Lake	87.82	7	P	P	10 20 40.5	-0.4	
	baz=198							
E19K	Redstone River	88.04	7	P	P	10 20 42.2	+0.2	
	baz=197							
DAWY	Dawson	88.08	15	P	P	10 20 43.0	+0.6	
	baz=213,SNR=6.1							
G22K	Bettles	88.27	9	P	P	10 20 43.2	+0.1	
	baz=202							
EGAK	Eagle	88.27	14	P	P	10 20 43.3	+0.1	
	baz=212							
F21K	Alatna River	88.27	8	P	P	10 20 43.2	0.0	
	baz=200							
I26K	Coal Creek Min	88.30	13	P	P	10 20 43.3	0.0	
	baz=210							
G23K	Bananza Creek	88.30	10	P	P	10 20 44.0	+0.7	
	baz=203							
K29M	Barlow Dome	88.36	16	IAmb	IAmb	10 20 45.3		
	comp=Z,7.4nm,1.1s							
K29M	Barlow Dome	88.36	16	P	P	10 20 44.7	+0.9	
	baz=215,SNR=5.8							
TROLL	Troll, Antarti	88.36	179	⇑P	P	10 20 45.5	+1.6	
	comp=Z,99nm,0.7s							
TOAD	Toad River Com	88.40	23	P	P	10 20 45.1	+1.1	
	baz=226							
SNAA	Sanae	88.55	178	⇑P	P	10 20 45.8	+1.1	
	comp=Z,45nm,0.8s							
SNAA	Sanae	88.55	178	P	P	10 20 46.0	+1.3	
	comp=Z,1.7nm,0.8s,baz=206,slow=6.6,SNR=10							
	comp=Z,1.7nm,0.8s							
VNA3	Neumayer Olymp	88.57	175	⇑P	P	10 20 45.9	+1.2	
	comp=Z,3.0nm,0.8s							
F22K	John River	88.72	9	P	P	10 20 45.2	0.0	
	baz=201							
COLD	Coldfoot	88.75	9	P	P	10 20 46.2	+0.8	
	baz=203							
E20K	Nigu River	88.92	7	P	P	10 20 46.5	+0.2	
	baz=198							
VNA2	Neumayer--Watz	89.05	176	⇑P	P	10 20 48.7	+1.7	
	comp=Z,6.0nm,0.7s,baz=190,slow=4.0							
VNA2				pP	pP	10 21 18.7	+2.3	
	comp=Z,2.3nm,0.6s							
I28M	Miner Creek	89.12	14	P	P	10 20 47.1	-0.2	
	baz=213							
VNA1	Neumayer--Stat	89.26	176	⇑P	P	10 20 49.5	+1.5	
	comp=Z,4.8nm,0.8s							
J30M	Hart River	89.26	16	P	P	10 20 48.1	+0.1	
	baz=216							
D20K	Etivluk River	89.31	7	P	P	10 20 48.4	+0.4	
	baz=197							
E22K	Anaktuvuk Pass	89.36	8	P	P	10 20 48.6	+0.3	
	baz=202							
E21K	Killik River	89.36	8	P	P	10 20 48.5	+0.2	
	baz=200							
F24K	Squaw Lake	89.39	10	P	P	10 20 48.0	-0.4	
	baz=205							
C19K	Lookout Ridge	89.40	5	P	P	10 20 48.7	+0.2	
	baz=194							
I29M	Ogilvie Camp,	89.42	14	P	P	10 20 48.5	-0.1	
	baz=214							
H27K	Steamboat Moun	89.44	13	P	P	10 20 49.6	+0.9	
	baz=211							
E23K	Chandalar	89.61	9	P	P	10 20 49.7	+0.2	
	baz=204							
G26K	Porcupine Rive	89.61	12	P	P	10 20 49.5	+0.1	
	baz=209							
I30M	Mount Dempster	89.77	15	P	P	10 20 50.4	0.0	
	baz=216							
E24K	Your Creek	89.80	10	P	P	10 20 51.0	+0.6	
	baz=205							
G27K	Doyon Strip	89.91	13	P	P	10 20 51.4	+0.5	
	baz=211							
D22K	Ayikyak River	89.94	8	P	P	10 20 51.2	+0.2	
	baz=201							
C21K	Knifeblade Rid	89.94	7	P	P	10 20 51.0	0.0	
	baz=199							
XAN	Xi'an	90.04	306	P	P	10 20 52.5	+0.2	
XAN				pmax	pmax			
	comp=Z,9.0nm,0.9s							
H29M	Whitestone	90.12	14	P	P	10 20 51.9	+0.1	
	baz=214							
TOLK	Toolik Lake Re	90.15	9	P	P	10 20 51.9	-0.1	
	baz=204							
F26K	Sheenjek River	90.20	11	P	P	10 20 52.7	+0.5	
	baz=209							
D23K	Nanushuk River	90.29	9	P	P	10 20 53.0	+0.5	
	baz=203							
B21K	Ikpikpuk River	90.40	7	P	P	10 20 52.6	-0.5	
	baz=199							
B20K	Meade River	90.50	6	P	P	10 20 53.3	-0.1	
	baz=197							
H31M	Peel River	90.75	16	P	P	10 20 55.7	+0.9	
	baz=218							
G29M	Pine Creek	90.77	14	P	P	10 20 55.1	+0.2	
	baz=214							
HHC	Hu-ho-hao-te	90.97	313	eP	P	10 20 56.3	-0.2	
HHC				pmax	pmax			
	comp=Z,11nm,0.7s							
HHC				pmax	pmax			
	comp=Z,110nm,6.5s							
C23K	Itkillik River	91.10	8	P	P	10 20 55.7	-0.6	
	baz=203							
B22K	Teshekpuk Lake	91.22	7	P	P	10 20 57.2	+0.4	
	baz=200							
G30M	tAoh Zraii Nji	91.24	14	P	P	10 20 58.2	+1.1	
	baz=216							
G31M	Satah River	91.66	15	P	P	10 20 59.2	+0.3	
	baz=218							
INK	Inuvik	92.92	14	P	P	10 21 05.0	+0.3	
	baz=219							
PZH	PanZhiHua	92.95	297	P	P	10 21 06.4	+0.4	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,100nm,4.8s							
ECSD	EROS Data Cent	95.43	45	P	P	10 21 17.3	+0.4	
	baz=248							
BVAR	Borovoye Array	120.41	320	PKP	PKPdf	10 26 41.7	-1.2	
	comp=Z,1.0nm,0.5s,baz=108,slow=0.5,SNR=4.8							
SPITS	Spitsbergen Ar	121.38	357	PKP	PKPdf	10 26 43.0	-1.1	
	comp=Z,11nm,1.1s,baz=112,slow=11,SNR=3.6							
ARCES	ARCESS Array B	128.77	351	PKP	PKPdf	10 26 58.2	-0.2	
	comp=Z,1.7nm,0.7s,baz=42,slow=2.0,SNR=6.9							
AKASG	Malin Array Be	143.76	334	PKhKP	PKPpre	10 27 22.8		
	comp=Z,1.9nm,0.5s,baz=40,slow=3.8,SNR=4.0							
AK22	Malin Array Si	143.78	334	PKP	PKPab	10 27 23.3	-0.5	
EKA	Eskdalemuir Ar	144.04	8	PKhKP	PKPpre	10 27 23.7		
	comp=Z,0.7nm,0.6s,baz=343,slow=2.2,SNR=2.4							
LUBAR	Lubar, Ukraine	144.97	344	PKP	PKPbc	10 27 27.2	-1.1	
KWP	Kalwaria Pacla	147.11	339	PKP	PKPbc	10 27 34.8	+0.1	
CLL	Collm	147.99	351	⇓iPKPbc	PKPbc	10 27 36.8	-0.2	
	comp=Z,12nm,1.0s							
CLL				i PKPab	PKiKP	10 27 39.1	+0.3	
	comp=Z,5.0nm,0.6s							
BRG	Berggiesshubel	148.25	349	ePKP	PKPbc	10 27 38.0	+0.2	
BRG				Amp		10 27 38.9		
	comp=Z,4.1nm,0.7s							
DPC	Dobruska-Polom	148.28	346⇑	ePKP	PKPbc	10 27 38.6	+0.7	
KRLC	Kraliky	148.43	346⇑	ePKP	PKPbc	10 27 38.8	+0.5	
BRTR	Keskin Array B	148.46	315	PKPbc	PKPbc	10 27 38.2	-0.7	
	comp=Z,2.9nm,0.8s,baz=116,slow=2.9,SNR=13							
BR106	Keskin Array S	148.47	315	PKP	PKPdf	10 27 34.9	-0.3	
MORC	Moravsky Berou	148.52	344	ePKP	PKPbc	10 27 38.2	-0.3	
MLR	Muntele Rosu	149.15	331	PKPbc	PKPdf	10 27 37.8	+1.7	
	comp=Z,2.0nm,0.5s,baz=56,slow=3.6,SNR=4.0							
VRAC	Vranov	149.19	345	ePKP	PKPbc	10 27 40.0	-0.2	
JAVC	Velka Javorina	149.33	344	ePKP	PKiKP	10 27 41.5	-0.2	
VYHS	Vyhne	149.33	342	ePKP	PKPbc	10 27 40.9	+0.3	
KRUC	Moravsky	149.46	345	ePKP	PKPbc	10 27 40.8	-0.1	
MODS	Modra-Piesok	149.88	344	ePKP	PKiKP	10 27 42.8	0.0	
MMAI	Mount Meron Ar	149.94	302	PKPbc	PKPbc	10 27 42.5	-0.1	
	comp=Z,1.2nm,0.3s,baz=48,slow=2.1,SNR=4.6							
KHC	Kasperske Hory	150.00	349⇑	ePKP	PKPbc	10 27 42.3	+0.1	
CKRC	Cesky Krumlov	150.15	348⇑	ePKP	PKPbc	10 27 42.8	+0.2	
GERES	GERESS Array B	150.25	348	PKPbc	PKPbc	10 27 42.8	-0.2	
	comp=Z,3.1nm,0.9s,baz=149,slow=3.1,SNR=8.8							
CONA	Conrad Observa	150.65	345	ePKiKP	PKPbc	10 27 43.6	-0.3	
	comp=Z,7.9nm,1.0s							
RONA	Rosalia, Austr	150.75	344	i PKiKP	PKPbc	10 27 44.2	+0.1	
	comp=Z,7.2nm,0.6s							
MOA	Molln	151.09	347	i PKiKP	PKPbc	10 27 44.7	-0.1	
	comp=Z,2.4nm,0.5s							
LESA	Schwarzleotal	151.80	349	i PKiKP	PKPbc	10 27 46.2	-0.4	
	comp=Z,4.4nm,1.2s							
KBA	Koelnbreinsper	152.01	348	i PKiKP	PKPbc	10 27 46.7	-0.4	
	comp=Z,3.7nm,0.6s							
SOKA	Soboth	152.02	345	i PKiKP	PKPbc	10 27 46.3	-0.7	
	comp=Z,5.9nm,1.0s							
RETA	Reutte	152.04	352	ePKiKP	PKiKP	10 27 47.4	0.0	
	comp=Z,1.2nm,0.4s							
WATA	Walderalm	152.07	350	ePKiKP	PKPbc	10 27 47.0	-0.3	
	comp=Z,3.4nm,0.6s							
WTTA	Wattenberg	152.13	350	i PKiKP	PKPbc	10 27 47.2	-0.3	
	comp=Z,8.1nm,0.6s							
SQTA	Sankt Quirin	152.24	351	i PKiKP	PKPbc	10 27 47.5	-0.1	
	comp=Z,4.8nm,0.8s							
DAVA	Damuels	152.35	353	ePKiKP	PKiKP	10 27 48.5	+0.3	
	comp=Z,6.7nm,1.0s							
MYKA	Terra Mystica	152.38	347	i PKP	PKPbc	10 27 46.8	-1.1	
	comp=Z,3.3nm,0.5s							
ABTA	Abfaltersbach	152.49	349	i PKiKP	PKPbc	10 27 47.4	-0.7	
	comp=Z,6.3nm,0.5s							
FETA	Feichten	152.51	352	i PKiKP	PKPbc	10 27 48.3	0.0	
	comp=Z,5.9nm,1.0s							
VNDS	Vrh nad Dolski	152.64	345	i P	PKPbc	10 27 47.8	-0.6	
CRNS	Crni Vrh	152.76	346	i P	PKPbc	10 27 47.8	-0.9	
DAVOX	Davos/Dischmat	152.85	353	PKPbc	PKPbc	10 27 48.5	-0.6	
	comp=Z,4.4nm,0.7s,baz=309,slow=1.9,SNR=6.5							
GBAS	Gorenja Brezov	152.86	346	i P	PKPbc	10 27 48.2	-0.6	
ESDC	Sonseca Array	158.78	19	PKPab	PKPab	10 28 25.9	+0.1	
	comp=Z,0.5nm,0.9s,baz=337,slow=5.6,SNR=4.4							
TORD	Torodi Ar. Bea	172.60	154	PKP	PKPdf	10 28 00.4	-1.1	
	comp=Z,0.6nm,0.9s,baz=347,slow=1.9,SNR=2.5							

TIR ***05*** *10:26:40.4,41.°46N×19.°51E,h27km±2km,Ml2.9*
RHSSO ***05*** *10:26:40.6±0.8,41.°29N×19.°42E,h6km±2km,ML2.8/8*
PDG ***05*** *10:26:41.9±0.1,41.°45N×19.°60E,h11km,ML2.7/10,Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
BEO ***05*** *10:26:43.8±0.5,41.°46N×19.°73E,h11km±2km,ML2.4/6*
ISC 05 10:26:42.1±1.1,41.°48N±0.°02×19.°56E±0.°03,h5km±9km, n52,σ1°10/87,8C-8D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.27	119	P	Pg	10 26 47.2	-0.1
	baz=113						
TIR				S	Sg	10 26 51.7	+1.0
	baz=113						
TIR				AMP			
	comp=E,10.0nm,0.1s,baz=113						
TIR	Tirane	0.27	119	ePg	Pg	10 26 47.2	-0.1
TIR				eSg	Sg	10 26 51.8	+1.0
ULC	Ulcinj	0.54	335	⇑iPg	Pg	10 26 52.5	0.0
ULC				i Sg	Sb	10 27 01.8	-0.3
PUK	Puka	0.62	24	P	Pg	10 26 53.2	-0.8
	baz=26						
PUK				S	Sb	10 27 03.4	-1.1
	baz=26						
PUK				AMP			
	comp=N,2.2nm,0.4s,baz=26						
DRME	Dracevica, Mon	0.76	339	ePg	Pb	10 26 58.2	+0.4
DRME				eSg	Sn	10 27 12.4	+1.1
DRME	Dracevica, Mon	0.76	339	⇓iPg	Pg	10 26 56.1	-0.6
DRME				eSg	Sb	10 27 09.4	+0.9
DRME	Dracevica, Mon	0.76	339	⇓iPg	Pg	10 26 56.5	-0.2
DRME				i Sg	Sb	10 27 09.1	+0.6
BUM	Brajici-Budva	0.96	329	⇓iPg	Pg	10 27 01.0	+0.5
BUM				i Sg	Sn	10 27 16.2	-0.1
BCI	Bajram Curri	0.97	23	P	Pg	10 26 59.4	-1.3
	baz=24						
BCI				S	Sn	10 27 15.3	-1.2
	baz=24						
BCI				AMP			
	comp=E,0.8nm,0.3s,baz=24						
PDG	Podgorica	0.98	347	ePg	Pb	10 27 02.1	+0.6
PDG				eSg	Sn	10 27 18.0	+1.4
PDG	Podgorica	0.98	347	⇑iPg	Pg	10 27 00.9	0.0
PDG				eSg	Sn	10 27 17.0	+0.4
PDG	Podgorica	0.98	347	⇑iPg	Pg	10 27 00.7	-0.2
PDG				i Sg	Sn	10 27 16.8	+0.2
VLO	Vlora	1.01	183	P	Pb	10 27 02.9	+0.9
	baz=181						
VLO				S	Sg	10 27 14.9	+0.4
	baz=181						
PVY	Plav	1.16	15	ePg	Pb	10 27 04.3	-0.3
PVY	Plav	1.16	15	⇓iPg	Pg	10 27 03.7	-0.6
PVY				i Sg	Sn	10 27 22.4	+1.1
CEME	Cevo	1.17	336	⇓iPg	Pg	10 27 04.2	-0.3
CEME				i Sg	Sn	10 27 23.3	+1.8
HCY	Herceg Novi	1.25	321	⇑iPg	Pg	10 27 05.5	-0.6
HCY				eSg	Sb	10 27 23.6	+1.0
HCY	Herceg Novi	1.25	321	⇓iPg	Pg	10 27 05.8	-0.3
HCY				i Sg	Sn	10 27 25.1	+1.7
KBN	Korca	1.26	132	S	Sn	10 27 25.0	+1.2
	baz=130						
KOME	Kolasin	1.37	359	ePg	Pb	10 27 08.2	-0.1
KOME				eSg	Sn	10 27 29.3	+2.7
KOME	Kolasin	1.37	359	⇑iPg	Pn	10 27 08.0	0.0
KOME				i Sg	Sn	10 27 29.2	+2.7
BEY	Berane	1.42	10	ePg	Pb	10 27 08.7	-0.3
IVA	Berane	1.42	10	⇓iPg	Pn	10 27 08.4	-0.2
IVA				i Sg	Sn	10 27 30.5	+2.9
FNA	Florina	1.54	116	P	Pn	10 27 10.1	-0.1
	baz=115						
FNA				S	Sg	10 27 31.1	-0.5
	baz=115						
DBRK	Dubrovnik	1.59	319	i Pn	Pn	10 27 11.5	+0.7
DBRK				Sn	Sn	10 27 32.5	+0.8
BRY	Bratogost	1.61	332	⇓iPn	Pn	10 27 11.8	+0.5
BRY				eSn	Sg	10 27 34.2	+0.3
BRY	Bratogost	1.61	332	⇑iPn	Pn	10 27 12.0	+0.7
BRY				i Sn	Sg	10 27 35.8	+1.9
SRN	Sarande	1.63	168	P	Pn	10 27 10.3	-1.0
	baz=166						
SRN				S	Sn	10 27 33.0	+0.3
	baz=166						
UPM	Unac-Piva	1.79	345	ePn	Pn	10 27 14.6	+0.8
UPM				eSn	Sg	10 27 38.9	-0.8
SJES	Sjenica	1.81	10	ePn	Pb	10 27 15.7	-0.1
SJES				eSg	Sg	10 27 39.5	-0.8
SJES	Sjenica	1.81	10	⇑iPn	Pb	10 27 15.0	-0.8
SJES				eSn	Sg	10 27 39.8	-0.5
KLINJ	Klinje	1.84	337	ePn	Pn	10 27 14.6	+0.2
KLINJ				eSn	Sb	10 27 39.9	+0.4
STON	Ston	1.96	316	ePn	Pn	10 27 15.5	-0.4
STON	Ston	1.96	316	⇑iPn	Pn	10 27 15.5	-0.4
STON				eSn	Sn	10 27 40.7	-0.1
PRVS	Prvonek	2.14	60	ePn	Pn	10 27 18.7	+0.2
IVAS	Ivanjica	2.15	12	ePn	Pn	10 27 18.6	+0.1
RUDO	Rudo	2.15	356	ePn	Pn	10 27 19.1	+0.6
RUDO				eSn	Sb	10 27 48.2	-0.1
BARS	Barje	2.15	51	ePn	Pn	10 27 18.4	-0.1
BARS				eSn	Sn	10 27 45.7	+0.1
GRUS	Gruza	2.56	19	ePn	Pn	10 27 24.1	0.0
HAPS	Han Pijesak,Bl	2.65	351	ePn	Pn	10 27 25.5	0.0
HAPS				eSn	Sb	10 28 00.6	-2.2
RICI	Ricice	2.70	319	ePn	Pn	10 27 25.5	-0.6
LKD2	Lefkada island	2.81	162	P	Pn	10 27 26.6	-1.1
	baz=161						
SGRT	San Giovanni R	2.87	277	P	Pn	10 27 28.0	-0.5
	baz=278						
TEKS	Tekeris	3.07	360	ePn	Pn	10 27 33.7	+2.5
TEKS	Tekeris	3.07	360	eSn	Sn	10 28 11.3	+3.0
KUBS	Kucevo	3.32	27	ePn	Pn	10 27 34.2	-0.5
ZIRJ	Zirje	3.62	308	ePn	Pn	10 27 37.9	-0.8
A050A	Klekovaca	3.73	325	ePn	Pn	10 27 40.4	0.0
A050A				eSn	Sn	10 28 24.5	-0.2
UDBI	Udbina	4.13	319	ePn	Pn	10 27 46.1	+0.4
DUGI	Dugi Otok	4.16	309	ePn	Pn	10 27 45.8	-0.3
BOJS	Bojanci	5.10	324	ePn	Pn	10 27 57.5	-1.6
BOJS				eSn	Sn	10 28 56.1	-2.2
SKDS	Skadanscina	5.72	317	eSn	Sn	10 29 10.2	-3.5

HEL ***05*** *10:30:24.4±0.1,67.°72N×26.°99E,h0km,ML1.8,Explosion*
BER ***05*** *10:30:24.3±1.8,67.°46N×26.°85E,h0km,ML1.7,Suspected explosion*
UPP ***05*** *10:30:24.1±1.6,67.°79N×27.°03E,h0km,ML1.9*
IDC ***05*** *10:30:25.6±1.4,67.°72N×26.°64E,h0km,mbtmp2.9/1,Error ellipse: s-maj=33.1km s-min=7.5km az=84.0*
KOLA ***05*** *10:30:26.8,67.°72N×26.°87E,h0km,ML2.3,Error ellipse: s-maj=16.7km s-min=6.8km az=60.0,Finland, Lapland*
ISC 05 10:30:23.7±0.7,67.°78N±0.°02×27.°04E±0.°02,h0km,n40, σ0°96/62,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGF	Sodankyl	0.39	210	PG	Pg	10 30 29.6	-1.4
RAJF	Raja-Jooseppi	0.85	34	PB	Pb	10 30 41.2	-0.1
RAJF				SB	Sb	10 30 53.5	+0.3
VRF	Varrio	0.98	90	PB	Pg	10 30 42.4	0.0
VRF				MSG		10 30 55.0	
	comp=Z,12nm,0.2s						
VRF				SN	Sb	10 30 57.8	+0.9
RNF	Rovaniemi	1.24	199	PG	Pg	10 30 45.6	-1.8
KLF	Kolari	1.30	247	PG	Pg	10 30 46.8	-1.7
	baz=66						
KLF				MSG		10 31 02.5	
	comp=Z,7.1nm,0.2s						
KLF				SN	Sg	10 31 05.6	+0.2
HEF	Hetta	1.42	298	eP	Pn	10 30 50.3	-0.3
HEF				eS	Sn	10 31 10.1

APA0	**Apatity Array**	**2.28 92**	P	**Pb**	**10 31 05.4**	**-0.2**
APA0			S	**Sb**	**10 31 34.7**	**+0.4**
KALU	**Kalix**	**2.41 219**	P	**Pn**	**10 31 05.5**	**+1.2**
KALU			S	**Sn**	**10 31 35.9**	**+1.4**
KALU	**Kalix**	**2.41 219**	PG	**Pn**	**10 31 05.8**	**+1.5**
	baz=34					
KALU			SG	**Sn**	**10 31 36.5**	**+2.0**
APA	**Apatity**	**2.44 92**	P	**Pg**	**10 31 09.6**	**-0.8**
APA			S	**Sb**	**10 31 38.6**	**-0.3**
VADS	**Vadso**	**2.50 19**	P	**Pb**	**10 31 08.8**	**-0.5**
VADS			S	**Sb**	**10 31 41.1**	**+0.5**
VADS	**Vadso**	**2.50 19**	*eP*	**Pb**	**10 31 09.1**	**-0.3**
VADS			*eS*	**Sg**	**10 31 42.4**	**-1.4**
VADS			IAML		10 31 45.5	
	comp=Z,7.8nm,0.3s					
KUA	**Kurravaara**	**2.54 277**	P	**Pn**	**10 31 07.1**	**+1.0**
KIF	**Kilpisjarvi**	**2.62 301**	*eP*	**Pb**	**10 31 10.5**	**-0.8**
KOVU	**Salmi**	**2.63 283**	P	**Pn**	**10 31 07.9**	**+0.6**
OUL	**Oulu**	**2.74 190**	SG	**Sb**	**10 31 47.0**	**-0.6**
RATU	**Laukkuluspa**	**2.83 274**	P	**Pn**	**10 31 10.3**	**+0.3**
HARU	**Harads**	**2.88 239**	P	**Pn**	**10 31 10.7**	**0.0**
LVZ	**Lovozero**	**2.89 84**	PG	**Pg**	**10 31 17.4**	**-1.5**
OBF4	**Vikkela, Lumij**	**3.08 196**	PB	**Pn**	**10 31 14.1**	**+0.7**
OBF4			MSG		10 31 53.0	
	comp=Z,1.6nm,0.2s					
I37NO	**I37NO**	**3.38 297**	I	I	10 50 25.0	
	baz=112,slow=323,SNR=4.5					
OBF0	**Syolatti, Pyha**	**3.48 200**	PB	**Pn**	**10 31 20.9**	**+2.0**
TRO	**Tromso**	**3.50 306**	PN	**Pn**	**10 31 20.6**	**+1.4**
BURU	**Burvik**	**3.94 218**	PG	**Pb**	**10 31 35.2**	**+1.3**
	baz=37					
FINES	**FINESS Array B**	**6.37 184**	Pn	**Pn**	**10 32 00.4**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=16,slow=11,SNR=1.9					
FINES			Sn	**Sn**	**10 33 09.5**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=12,slow=23,SNR=1.2					
FINES			Lg	Lg	10 33 35.4	
	comp=Z,0.3nm,0.3s,baz=9.3,slow=27,SNR=5.0					

HEL 05 10:36:12.3±0.1, 63°.13N×27°.75E, h0km, ML1.7, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.26**	**6**	PG	Pg	10 36 17.0	-0.4
NIF				SG	Sg	10 36 20.6	-0.1
SUF	**Sumiainen**	**0.84**	**241**	PG	Pg	10 36 27.4	-1.0
	baz=62						
SUF				MSG		10 36 38.2	
	comp=Z,3.2nm,0.2s						
SUF				SB	Sg	10 36 39.6	+0.4
KAF	**Kangasniemi**	**1.22**	**214**	PG	Pg	10 36 34.3	-1.3
KAF				MSG		10 36 49.1	
	comp=Z,5.2nm,0.2s						
RMF	**Romuvaara**	**1.46**	**41**	PG	Pn	10 36 38.9	-1.1
RMF				MSG		10 36 56.4	
	comp=Z,3.7nm,0.2s						
JOF	**Joensuu**	**1.64**	**96**	PG	Pn	10 36 41.7	-0.6
	baz=277						
JOF				SN	Sn	10 37 03.6	-0.4
KEF	**Keuruu**	**1.64**	**235**	PG	Pn	10 36 41.9	-0.5
KEF				MSG		10 37 01.6	
	comp=Z,3.9nm,0.2s						
KEF				SN	Sb	10 37 04.6	-0.1
RUF	**Ruokolahti**	**1.80**	**161**	PG	Pn	10 36 44.5	0.0
RUF				MSG		10 37 06.0	
	comp=Z,5.7nm,0.2s						
RUF				SN	Sg	10 37 09.7	-0.3
OUF	**Merijarvi**	**1.83**	**314**	PG	Pn	10 36 45.3	+0.3
OUF				MSG		10 37 06.7	
	comp=Z,6.0nm,0.2s						
OUF				SG	Sb	10 37 10.0	0.0
FIA0	**FINESS Array S**	**1.86**	**206**	PG	Pn	10 36 45.8	+0.4
FIA0				MSG		10 37 07.8	
	comp=Z,3.4nm,0.2s						
FIA0				SG	Sn	10 37 09.9	+0.3
OBF4	**Vikkela, Lumij**	**2.06**	**327**	PG	Pn	10 36 49.2	+1.1
OBF4				MSG		10 37 13.2	
	comp=Z,2.9nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.08**	**313**	PG	Pn	10 36 49.5	+1.1
OBF0				MSG		10 37 14.0	
	comp=Z,5.3nm,0.2s						
OBF0				SG	Sb	10 37 17.8	+0.7
OUL	**Oulu**	**2.13**	**338**	PB	Pn	10 36 49.3	+0.3
OUL				SG	Sb	10 37 18.1	-0.4
OBF8	**Ulkokalla**	**2.26**	**304**	PG	Pb	10 36 52.9	-1.1
OBF8				MSG		10 37 19.4	
	comp=Z,2.7nm,0.2s						
OBF8				SG	Sb	10 37 23.0	+0.6
VAF	**Ylistaro**	**2.31**	**270**	PG	Pb	10 36 53.2	-1.6
VAF				MSG		10 37 20.7	
	comp=Z,5.8nm,0.2s						
VAF				SG	Sb	10 37 23.3	-0.6
VJF	**Virojoki**	**2.60**	**182**	MSG		10 37 29.0	
	comp=Z,3.9nm,0.2s						
VJF				SG	Sb	10 37 31.8	-0.4
MSF	**Maaselka**	**2.85**	**11**	PB	Pn	10 37 00.1	+1.1
MSF				SB	Sb	10 37 37.9	-1.4
RANF	**Ranua**	**2.93**	**352**	PB	Pn	10 37 02.0	+2.0
RANF				SG	Sb	10 37 39.9	-1.7
KPF	**Kankaanpaa**	**2.94**	**246**	PB	Pn	10 37 02.8	+2.6
KPF				SG	Sb	10 37 41.5	-0.4
NUR	**Nurmijrvi**	**3.01**	**211**	PB	Pn	10 37 02.5	+1.3
NUR				MSG		10 37 40.9	
	comp=Z,1.5nm,0.2s						
KU6	**Riekki**	**3.05**	**17**	PB	Pn	10 37 03.7	+2.0
KU6				MSG		10 37 42.0	
	comp=Z,0.9nm,0.2s						
KU6				SG	Sb	10 37 43.9	-1.3
UMAU	**Umeaa**	**3.26**	**287**	PN	Pn	10 37 05.0	+0.4
UMAU				SB	Sn	10 37 46.7	+2.7
OLKF	**Oulanka, Finla**	**3.28**	**12**	PG	Pb	10 37 09.6	-1.8
OLKF				SG	Sb	10 37 50.9	-0.9
RNF	**Rovaniemi**	**3.57**	**349**	PN	Pn	10 37 10.6	+1.7
	baz=166						
KLF	**Kolari**	**4.42**	**341**	PN	Pn	10 37 21.8	+1.3
VSU	**Vasula**	**4.71**	**187**	SB	Sb	10 38 28.0	-4.8

*NEIC **05** 10:53:24.2±0.8, 51°.1N±0°.1×0°.4W±0°.2, h10km±2km, mb_Lg2.8/7, Error ellipse: s-maj=29.9km s-min=5.8km az=226.0*

*LDG **05** 10:53:25.8±0.2, 51°.08N×0°.36W, h2km, Ml3.6/23, Error ellipse: s-maj=3.0km s-min=2.3km az=166.0*

*BGS **05** 10:53:25.1±1.7, 51°.16N×0°.25W, h1km, ML3.0*

*UCC **05** 10:53:25.5, 51°.14N×0°.34W, h5km, ML3.6*

ISC 05 10:53:25.0±1.1, 51°.01N±0°.02×0°.28W±0°.02, h13km±9km, n92, σ1°.73/153, 17D, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMNX	**Herstmonceux**	**0.42**	**110**	*eP*	**Pb**	**10 53 34.8**	**+0.6**
HMNX				*eS*	**Sb**	**10 53 42.3**	**+1.9**
HMNX				IAML		10 53 50.3	
	comp=N,1μm,0.6s						
HMNX				IAML		10 53 53.8	
	comp=E,2μm,0.5s						
WOL	**Wolverton**	**0.66**	**297**	*eP*	**Pg**	**10 53 37.2**	**-0.7**
WOL				*eS*	**Sn**	**10 53 49.9**	**-0.5**
WOL				IAML		10 53 52.0	
	comp=E,646nm,0.5s						
WOL				IAML		10 53 53.5	
	comp=N,642nm,0.7s						
BUW	**Bucklebury Wes**	**0.71**	**304**	*eP*	**Pg**	**10 53 37.8**	**-1.1**
ELSH	**Elham, Standar**	**0.91**	**81**	*eP*	**Pg**	**10 53 42.1**	**-0.3**
ELSH				*eS*	**Sn**	**10 53 57.2**	**+0.9**
SWN1	**Swindon**	**1.08**	**298**	*eP*	**Pg**	**10 53 45.1**	**-0.6**
SWN1				*eS*	**Sb**	**10 54 00.2**	**+0.8**
SWN1				IAML		10 54 07.6	
	comp=N,366nm,0.4s						
SWN1				IAML		10 54 11.7	
	comp=E,327nm,0.5s						
ELMS	**Elmsett, Ipswi**	**1.34**	**36**	*eP*	**Pn**	**10 53 48.4**	**-1.1**
STRD	**Stroud**	**1.41**	**304**	*eP*	**Pn**	**10 53 50.5**	**+0.2**
OLDB	**Oldbury-Upon-S**	**1.56**	**295**	*eP*	**Pb**	**10 53 53.6**	**-0.2**
MONM	**Monmouth**	**1.78**	**299**	*eP*	**Pn**	**10 53 56.0**	**+0.6**
MONM				*eS*	**Sn**	**10 54 19.0**	**+1.0**
MONM				IAML		10 54 25.8	
	comp=N,246nm,0.5s						
MONM				IAML		10 54 26.8	
	comp=E,234nm,0.6s						
WACR	**West Acre**	**1.81**	**18**	*eP*	**Pn**	**10 53 55.2**	**-0.5**
WACR				*eS*	**Sn**	**10 54 17.8**	**-0.7**
WACR				IAML		10 54 20.0	
	comp=N,194nm,0.2s						
WACR				IAML		10 54 22.1	
	comp=E,289nm,0.3s						
CWF	**Charnwood Fore**	**1.84**	**340**	*eP*	**Pn**	**10 53 55.5**	**-0.8**
CWF				*eS*	**Sn**	**10 54 17.5**	**-2.0**
CWF				IAML		10 54 23.9	
	comp=N,74nm,0.3s						
CWF				IAML		10 54 24.1	
	comp=E,93nm,0.4s						
MCH1	**Michaelchurch**	**1.96**	**301**	*eP*	**Pn**	**10 53 57.8**	**-0.1**
MCH1				*eS*	**Sn**	**10 54 22.7**	**+0.3**
MCH1				IAML		10 54 28.3	
	comp=N,180nm,0.3s						
MCH1				IAML		10 54 28.9	
	comp=E,128nm,0.6s						
BOST	**Ostende**	**2.04**	**82**	*dP*	**Pn**	**10 54 00.6**	**+1.6**
BOST				*dS*	**Sn**	**10 54 25.7**	**+1.3**
JSA	**Saint Aubin**	**2.19**	**214**	*eP*	**Pn**	**10 54 03.0**	**+2.0**
HLM1	**Long Mynd**	**2.21**	**314**	*eP*	**Pn**	**10 54 00.7**	**-0.7**
FLN	**La Foliniere**	**2.25**	**183**	*ePn*	**Pn**	**10 54 03.8**	**+1.9**
	baz=359,SNR=1.0						
FLN	**La Foliniere**	**2.25**	**183**	*ePg*	**Pg**	**10 54 08.3**	**+0.2**
FLN				*eSg*	**Sg**	**10 54 39.4**	**+2.1**
	comp=E,109nm,0.3s,SNR=1.0						
DYA	**Yadsworthy**	**2.39**	**257**	*eP*	**Pn**	**10 54 04.8**	**+1.1**
LDF	**La Druitiere**	**2.42**	**177**	*ePn*	**Pn**	**10 54 06.3**	**+2.1**
	SNR=1.0						
LDF	**La Druitiere**	**2.42**	**177**	*ePg*	**Pg**	**10 54 11.1**	**-0.3**
LDF				*eSn*	**Sn**	**10 54 34.4**	**+0.7**
	SNR=1.0						
LDF				*eSg*	**Sg**	**10 54 43.9**	**+1.2**
	comp=E,132nm,0.4s,SNR=1.0						
LBWR	**Ladybower, Pea**	**2.55**	**340**	*eP*	**Pn**	**10 54 04.9**	**-1.2**
FOEL	**Foel Wylfa**	**2.61**	**317**	*eP*	**Pn**	**10 54 06.3**	**-0.5**
GRR	**Gorron**	**2.65**	**188**	*ePn*	**Pn**	**10 54 09.0**	**+1.6**
GRR	**Gorron**	**2.65**	**188**	*ePg*	**Pg**	**10 54 16.8**	**+1.1**
	SNR=1.0						
GRR				*eSn*	**Sn**	**10 54 37.9**	**-1.5**
	comp=E,50nm,0.2s,SNR=1.0						
HTL	**Hartland**	**2.65**	**271**	*eP*	**Pn**	**10 54 08.1**	**+0.7**
BBOU	**Bougnies**	**2.76**	**101**	*dP*	**Pn**	**10 54 11.1**	**+2.2**
BSKQ	**Steenkerk**	**2.79**	**96**	*dP*	**Pg**	**10 54 18.0**	**-0.4**
BRQR	**Ronquire**	**2.89**	**96**	*dP*	**Pn**	**10 54 13.2**	**+2.5**
UCC	**Uccle**	**2.95**	**92**	*dP*	**Pn**	**10 54 13.2**	**+1.8**
BAIF	**Baives**	**3.02**	**107**	*ePn*	**Pn**	**10 54 13.8**	**+1.4**
	SNR=1.0						
BAIF	**Baives**	**3.02**	**107**	*ePg*	**Pb**	**10 54 20.7**	**+2.2**
BAIF				*eSg*	**Sg**	**10 55 01.4**	**-0.5**
	comp=E,38nm,0.4s,SNR=1.0						
SGMF	**Saint Gilles**	**3.13**	**209**	*ePn*	**Pn**	**10 54 13.8**	**-0.2**
	SNR=1.0						
SGMF	**Saint Gilles**	**3.13**	**209**	*ePg*	**Pg**	**10 54 23.9**	**-1.0**
SGMF				*eSn*	**Sn**	**10 54 50.9**	**-0.3**
	SNR=1.0						
SGMF				*eSg*	**Sg**	**10 55 06.4**	**+1.0**
	comp=E,47nm,0.4s,SNR=1.0						
DOU	**Dourbes**	**3.24**	**105**	*dP*	**Pn**	**10 54 19.0**	**+3.5**
DOU				*dS*	**Sn**	**10 54 56.9**	**+3.0**
CCA1	**Carnmenellis**	**3.26**	**257**	*eP*	**Pn**	**10 54 16.1**	**+0.4**
BMRD	**Maredsous**	**3.29**	**100**	*dP*	**Pn**	**10 54 18.1**	**+1.9**
ROSF	**Rostrenen**	**3.31**	**217**	*ePn*	**Pn**	**10 54 17.3**	**+0.9**
	SNR=1.0						
ROSF	**Rostrenen**	**3.31**	**217**	*ePg*	**Pb**	**10 54 26.5**	**+3.1**
ROSF				*eSg*	**Sg**	**10 55 11.5**	**+0.4**
	comp=E,24nm,0.3s,SNR=1.0						
GIVF	**Givet**	**3.38**	**104**	*ePn*	**Pn**	**10 54 19.0**	**+1.6**
GIVF				*eSn*	**Sn**	**10 54 55.4**	**-2.0**
	SNR=1.0						
GIVF				*eSg*	**Sg**	**10 55 11.5**	**-2.0**
	comp=E,34nm,0.3s,SNR=1.0						
CLF	**Chambon-Foret**	**3.42**	**150**		**Pn**	**10 54 19.6**	**+1.7**
CLF				IAmb_Lg		10 55 23.2	
	comp=Z,32nm,0.9s						
BCLA	**Clavier**	**3.60**	**97**	*dP*	**Pn**	**10 54 22.5**	**+2.1**
QUIF	**Quistinic**	**3.62**	**212**	*ePn*	**Pn**	**10 54 21.3**	**+0.6**
	SNR=1.0						
QUIF	**Quistinic**	**3.62**	**212**	*ePg*	**Pg**	**10 54 33.9**	**-0.4**
	SNR=1.0						
QUIF				*eSg*	**Sg**	**10 55 19.0**	**-2.2**
	comp=Z,34nm,0.4s,SNR=1.0						
BOPT	**Opiter**	**3.73**	**86**	*dP*	**Pn**	**10 54 23.9**	**+1.6**
BOPT				*dS*	**Sn**	**10 55 08.9**	**+2.8**
BEBN	**Eben Emael**	**3.78**	**91**	*dP*	**Pn**	**10 54 24.8**	**+1.9**
EDMD	**Edmundbyers**	**3.96**	**346**	*eP*	**Pn**	**10 54 23.7**	**-1.7**
MEM	**Membach**	**4.01**	**93**	*dP*	**Pn**	**10 54 25.7**	**-0.4**
MEM				*dS*	**Sn**	**10 55 13.0**	**+0.2**
BTNL	**Ternell**	**4.09**	**93**	*dP*	**Pn**	**10 54 28.2**	**+1.0**
IOMK	**Kirk Michael**	**4.17**	**323**	*eP*	**Pn**	**10 54 27.0**	**-1.2**
LKLB	**Kalborn**	**4.18**	**100**	*dP*	**Pn**	**10 54 30.2**	**+1.9**
HYF	**Humbligny**	**4.21**	**152**	*ePg*	**Pg**	**10 54 45.6**	**+0.1**
HYF				*eSg*	**Sg**	**10 55 41.0**	**+1.0**
MEZF	**Maizieres J'vi**	**4.27**	**124**	*ePn*	**Pn**	**10 54 30.5**	**+0.8**
MEZF	**Maizieres J'vi**	**4.27**	**124**	*ePg*	**Pg**	**10 54 44.2**	**-2.6**
MEZF				*eSn*	**Sn**	**10 55 19.2**	**-0.2**
MEZF				*eSg*	**Sg**	**10 55 42.5**	**+0.4**
	comp=Z,48nm,0.6s,SNR=1.0						
WLF	**Walferdange**	**4.34**	**106**	Pn	**Pn**	**10 54 33.0**	**+2.4**
WLF				IAmb_Lg		10 55 50.6	
	comp=Z,25nm,0.9s						
MFF	**Saint Martin d**	**4.41**	**179**	*ePn*	**Pn**	**10 54 32.9**	**+1.3**
	SNR=1.0						
MFF	**Saint Martin d**	**4.41**	**179**	*ePg*	**Pg**	**10 54 49.0**	**-0.4**
MFF				*eSg*	**Sg**	**10 55 48.1**	**+1.5**
	comp=Z,28nm,0.5s,SNR=1.0						
SFTF	**Sexfontaines**	**4.46**	**127**	*ePn*	**Pn**	**10 54 32.0**	**-0.2**
SFTF	**Sexfontaines**	**4.46**	**127**	*ePg*	**Pg**	**10 54 49.0**	**-1.3**
SFTF				*eSn*	**Sn**	**10 55 24.6**	**+0.7**
SFTF				*eSg*	**Sg**	**10 55 47.2**	**-0.7**
PAGF	**Fort de Pagny**	**4.60**	**120**	*ePn*	**Pn**	**10 54 35.7**	**+1.5**
PAGF				*eSn*	**Sn**	**10 55 27.9**	**+0.4**
PAGF				*eSg*	**Sg**	**10 55 48.5**	**-4.2**
	comp=Z,12nm,0.3s						
LOR	**Lormes**	**4.63**	**142**	*ePn*	**Pn**	**10 54 36.2**	**+1.6**
	baz=326						
LOR	**Lormes**	**4.63**	**142**	*ePg*	**Pg**	**10 54 53.3**	**-0.2**
LOR				*eSn*	**Sn**	**10 55 28.0**	**-0.2**
	comp=Z,20nm,0.4s,SNR=1.0						
LOR				*eSg*	**Sg**	**10 55 52.6**	**-0.8**
ESK	**Eskdalemuir**	**4.66**	**339**	Pn	**Pn**	**10 54 32.9**	**-2.0**
ESK				IAmb_Lg		10 55 53.3	
	comp=Z,11nm,1.0s						
EKB	**Eskdalemuir**	**4.67**	**339**	Pn	**Pn**	**10 54 32.1**	**-3.0**
SSF	**Saint Saulge**	**4.67**	**146**	*ePn*	**Pn**	**10 54 37.9**	**+2.7**
	SNR=1.0						
SSF				*eSn*	**Sn**	**10 55 28.6**	**-0.6**
SSF				*eSg*	**Sg**	**10 55 54.2**	**-0.7**
AVF	**Avril sur Loir**	**4.86**	**149**	*ePn*	**Pn**	**10 54 38.7**	**+1.0**
AVF	**Avril sur Loir**	**4.86**	**149**	*ePg*	**Pg**	**10 54 55.4**	**-2.5**
AVF				*eSn*	**Sn**	**10 55 32.1**	**-1.6**
AVF				*eSg*	**Sg**	**10 56 00.3**	**-0.5**
	comp=Z,40nm,0.6s						
BGF	**Bois d'Agland**	**4.91**	**154**	*ePn*	**Pn**	**10 54 40.9**	**+2.4**
	SNR=1.0						
BGF				*eSn*	**Sn**	**10 55 34.5**	**-0.7**
	comp=Z,54nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**5.01**	**160**	*ePn*	**Pn**	**10 54 41.4**	**+1.6**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**5.01**	**160**	*ePg*	**Pg**	**10 55 00.3**	**-0.5**
TCF				*eSn*	**Sn**	**10 55 37.0**	**-0.5**
	SNR=1.0						
TCF				*eSg*	**Sg**	**10 56 04.6**	**-1.0**
	comp=Z,67nm,0.6s,SNR=1.0						
SMF	**Signal de Mont**	**5.15**	**146**	*ePn*	**Pn**	**10 54 41.0**	**-0.7**
SMF				*eSn*	**Sn**	**10 55 39.7**	**-1.3**
SMF				*eSg*	**Sg**	**10 56 10.6**	**+0.5**
	comp=Z,42nm,0.6s,SNR=1.0						
HAU	**Haudompre**	**5.26**	**122**	*ePn*	**Pn**	**10 54 44.4**	**+1.1**
	SNR=1.0						
HAU				*eSn*	**Sn**	**10 55 41.1**	**-2.7**
HAU				*eSg*	**Sg**	**10 56 12.8**	**-1.0**
	comp=Z,21nm,0.5s						
CDF	**Champ du Feu**	**5.55**	**115**	*ePn*	**Pn**	**10 54 48.9**	**+1.6**
	SNR=1.0						
CDF				*eSn*	**Sn**	**10 55 50.0**	**-1.0**
CDF				*eSg*	**Sg**	**10 56 22.5**	**-0.5**
ECH	**Echery**	**5.59**	**117**		**Pn**	**10 54 49.6**	**+1.9**
ECH				IAmb_Lg		10 56 34.7	
	comp=Z,16nm,1.1s						
HINF	**Hinteralfeld**	**5.65**	**122**	*ePn*	**Pn**	**10 54 50.8**	**+2.2**
	SNR=1.0						
HINF	**Hinteralfeld**	**5.65**	**122**	*ePg*	**Pg**	**10 55 10.0**	**-3.1**
HINF				*eSn*	**Sn**	**10 55 51.4**	**-1.9**
HINF				*eSg*	**Sg**	**10 56 23.5**	**-2.6**
RJF	**Les Rejaudoux**	**5.83**	**167**	*ePn*	**Pn**	**10 54 51.9**	**+0.7**
	SNR=1.0						
RJF				*eSn*	**Sn**	**10 55 56.6**	**-1.3**
	comp=Z,34nm,0.6s,SNR=1.0						
RJF				*eSg*	**Sg**	**10 56 29.4**	**-2.8**
CABF	**La Chapelle**	**6.09**	**134**	*eSn*	**Sn**	**10 56 00.6**	**-3.6**
	comp=Z,10nm,0.6s,SNR=1.0						
CABF				*eSg*	**Sg**	**10 56 40.0**	**-0.3**
LFF	**La Frestale**	**6.11**	**173**	*ePn*	**Pn**	**10 54 55.9**	**+1.0**
	SNR=1.0						
LFF				*eSn*	**Sn**	**10 56 02.1**	**-2.6**
	comp=Z,15nm,0.4s,SNR=1.0						
LFF				*eSg*	**Sg**	**10 56 41.1**	**0.0**
BFO	**Black Forest**	**6.20**	**112**	Pn	**Pn**	**10 54 57.6**	**+1.4**
BFO				IAmb_Lg		10 57 01.8	
	comp=Z,11nm,0.9s						
CAF	**Calviac**	**6.29**	**165**	*ePn*	**Pn**	**10 54 58.9**	**+1.5**
	SNR=1.0						
CAF	**Calviac**	**6.29**	**165**	*ePg*	**Pg**	**10 55 23.9**	**-1.4**
CAF				*eSn*	**Sn**	**10 56 06.9**	**-2.2**
CAF				*eSg*	**Sg**	**10 56 47.6**	**+0.9**
STU	**Stuttgart**	**6.52**	**106**	Pn	**Pn**	**10 55 01.7**	**+1.2**
SSB	**Saint Sauveur**	**6.58**	**149**	Pn	**Pn**	**10 55 04.3**	**+2.9**
VIVF	**Saint-Julien-l**	**7.00**	**150**	*ePn*	**Pn**	**10 55 10.0**	**+2.9**
	SNR=1.0						
VIVF				*eSn*	**Sn**	**10 56 24.1**	**-2.5**
	comp=Z,8.6nm,0.5s,SNR=1.0						
VIVF				*eSg*	**Sg**	**10 57 07.1**	**-2.3**
ORIF	**Oris-en-Rattie**	**7.36**	**143**	*ePn*	**Pn**	**10 55 13.5**	**+1.3**
ORIF				*eSn*	**Sn**	**10 56 34.2**	**-1.5**
	comp=Z,10nm,0.6s,SNR=1.0						
LASF	**Ste Croix**	**7.48**	**156**	*eSg*	**Sg**	**10 57 23.0**	**-1.9**
TUE	**Stuetta**	**7.82**	**122**	Pn	**Pn**	**10 55 20.1**	**+1.5**
MTLF	**Montolieu**	**7.86**	**167**	*ePn*	**Pn**	**10 55 19.0**	**+0.1**
	SNR=1.0						
MTLF				*eSn*	**Sn**	**10 56 43.9**	**-3.8**
SJPF	**Ste Jean**	**7.93**	**185**	*ePn*	**Pn**	**10 55 19.0**	**-0.9**
	SNR=1.0						
SJPF				*eSn*	**Sn**	**10 56 45.2**	**-4.2**
	comp=Z,7.3nm,0.8s,SNR=1.0						
EPF	**Esparros**	**7.99**	**177**	*ePn*	**Pn**	**10 55 19.0**	**-1.8**
	SNR=1.0						
EPF				*eSn*	**Sn**	**10 56 46.9**	**-4.2**
ETSF	**Etsaut**	**8.12**	**181**	*ePn*	**Pn**	**10 55 22.5**	**0.0**
	SNR=1.0						
ETSF				*eSn*	**Sn**	**10 56 49.0**	**-5.1**
CLL	**Collm**	**8.36**	**83**	*eSg*	Sg	10 58 06.0	+13

ATH 05 11:02:09.4, 40°.42N×23°.74E, h6km±2km, ML1.7/7, Error ellipse: s-maj=2.1km s-min=0.7km az=319.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.20**	**115**	P	Pg	11 02 13.6	+0.1
OUR				S	Sg	11 02 16.3	+0.1
OUR				AML	AML	11 02 17.0	
	comp=N,1314μm,0.2s						
OUR				AML	AML	11 02 17.0	
	comp=E,1255μm,0.2s						
PLG	**Polygyros**	**0.23**	**258**	P	Pg	11 02 14.3	+0.3
PLG				S	Sg	11 02 17.4	+0.3
PLG				AML	AML	11 02 18.2	
	comp=E,509μm,0.1s						
PLG				AML	AML	11 02 18.4	
	comp=N,363μm,0.3s						
KOKK	**Kokkinochori,**	**0.44**	**26**	P	Pg	11 02 18.0	-0.1
KOKK				S	Sg	11 02 24.0	+0.2
SOH	**Sokhos**	**0.50**	**324**	P	Pg	11 02 18.4	-0.6
SOH				S	Sg	11 02 26.0	+0.4
SOH				AML	AML	11 02 26.4	
	comp=E,279μm,0.3s						
SOH				AML	AML	11 02 27.2	
	comp=N,303μm,0.2s						
HORT	**Hortiatis**	**0.52**	**290**	P	Pg	11 02 19.3	-0.2
HORT				S	Sg	11 02 26.2	0.0
HORT				AML	AML	11 02 28.8	
	comp=E,121μm,0.2s						
HORT				AML	AML	11 02 29.4	
	comp=N,101μm,0.1s						
THE	**Thessaloniki**	**0.63**	**290**	P	Pg	11 02 21.1	-0.4
THE				S	Sg	11 02 29.5	-0.2
SRS	**Serrai**	**0.70**	**351**	P	Pg	11 02 22.9	-0.1
SRS				S	Sg	11 02 32.0	-0.2
SRS				AML	AML	11 02 36.4	
	comp=N,92μm,0.1s						
SRS				AML	AML	11 02 36.7	
	comp=E,113μm,0.1s						
KVLA	**Kavala**	**0.71**	**43**	P	Pg	11 02 23.0	-0.1
KVLA				S	Sg	11 02 32.5	+0.1
THAS	**Thassos island**	**0.77**	**76**	P	Pg	11 02 23.6	-0.6
THAS				S	Sg	11 02 34.4	+0.2
THAS				AML	AML	11 02 35.7	
	comp=N,212μm,0.3s						
THAS				AML	AML	11 02 35.8	
	comp=E,126μm,0.2s						
KAVA	**Kavala**	**0.82**	**45**	P	Pg	11 02 25.0	-0.3
KAVA				S	Sg	11 02 35.6	-0.4
NVR	**Nevrokopi**	**0.93**	**6**	P	Pg	11 02 26.9	-0.4
NVR				S	Sg	11 02 39.4	-0.1
NVR				AML	AML	11 02 42.6	
	comp=

OHR	Ohrid	1.02	110	⇑iPg		Pg	11 03 22.2	-1.5
OHR				i Sg		Sg	11 03 37.0	+0.1
CEME	Cevo	1.17	338	⇑iPg		Pb	11 03 26.1	-0.3
CEME				i Sg		Sn	11 03 44.0	+1.2
PVY	Plav	1.18	16	ePg		Pn	11 03 27.7	+1.0
PVY	Plav	1.18	16	⇑iPg		Pb	11 03 25.4	-1.1
PVY				i Sg		Sg	11 03 41.6	-0.2
HCY	Herceg Novi	1.25	322	⇑iPg		Pn	11 03 27.6	0.0
HCY				eSg		Sn	11 03 45.4	+0.9
HCY	Herceg Novi	1.25	322	⇑iPg		Pg	11 03 27.8	-0.1
HCY				i Sg		Sn	11 03 47.0	+2.5
KBN	Korca baz=130	1.27	131	P		Pn	11 03 28.1	0.0
KBN				S		Sn	11 03 46.3	+1.1
KBN	Korca baz=130	1.27	131	P		Pg	11 03 28.4	0.0
KBN				S		Sn	11 03 47.2	+1.9
NKME	Niksic comp=E,442nm,0.6s	1.37	342	⇑iPg		Pn	11 03 29.4	+0.1
NKME				i Sg		Sg	11 03 50.1	+2.1
KOME	Kolasin	1.39	360	ePg		Pb	11 03 30.2	+0.1
KOME				eSg		Sg	11 03 51.4	+2.9
KOME	Kolasin	1.39	360	⇓iPg		Pn	11 03 28.8	-0.8
KOME				i Sg		Sg	11 03 50.2	+1.7
BEY	Berane	1.43	11	ePg		Pn	11 03 29.7	-0.5
IVA	Berane	1.43	11	⇓iPg		Pn	11 03 29.4	-0.8
IVA				i Sg		Sg	11 03 51.1	+1.0
SKO	Skopje	1.52	70	iPn		Pn	11 03 31.5	+0.2
FNA	Florina baz=115	1.56	115	P		Pn	11 03 31.4	-0.6
FNA				S		Sn	11 03 52.5	+0.3
FNA	Florina baz=115	1.56	115	P		Pn	11 03 31.3	-0.6
FNA				S		Sb	11 03 53.2	+0.4
NEST	Nestorio comp=E,222nm,0.4s	1.56	132	P		Pb	11 03 32.8	-0.3
NEST				S		Sg	11 03 55.6	+1.5
DBRK	Dubrovnik	1.58	320	Sn		Sb	11 03 53.6	+0.2
DBRK	Dubrovnik	1.58	320	ePn		Pb	11 03 33.6	+0.2
BRY	Bratogost	1.61	333	⇑iPn		Pb	11 03 33.5	-0.5
BRY				eSn		Sg	11 03 55.2	-0.6
BRY	Bratogost	1.61	333	⇓iPn		Pb	11 03 33.8	-0.2
BRY				i Sn		Sg	11 03 57.0	+1.2
SRN	Sarande baz=165	1.62	167	P		Pn	11 03 33.2	+0.5
SRN				S		Sg	11 03 56.4	+0.3
SRN	Sarande baz=165	1.62	167	P		Pn	11 03 33.0	+0.3
SRN				S		Sb	11 03 55.5	+0.8
PENT	Pentalofos comp=E,158nm,0.5s	1.76	135	P		Pb	11 03 35.8	-0.7
PENT				S		Sg	11 03 59.9	-0.7
UPM	Unac-Piva	1.80	345	ePn		Pn	11 03 36.1	+0.8
UPM				eSn		Sb	11 03 59.9	0.0
UPM	Unac-Piva	1.80	345	⇓iPn		Pb	11 03 36.8	-0.4
UPM				i Sn		Sg	11 04 01.2	-0.5
SJES	Sjenica	1.83	10	ePn		Pb	11 03 37.3	-0.3
SJES				eSg		Sg	11 04 03.4	+0.7
SJES	Sjenica	1.83	10	⇑iPn		Pn	11 03 36.5	+0.8
SJES				eSn		Sb	11 04 00.3	-0.3
KLINJ	Klinje	1.84	338	ePn		Pn	11 03 36.7	+0.9
KLINJ				eSn		Sb	11 04 00.7	-0.3
PLE	Pljevlja	1.87	357	ePn		Pb	11 03 37.9	-0.4
PLE	Pljevlja	1.87	357	⇑iPn		Pb	11 03 37.7	-0.6
PLE				i Sn		Sb	11 04 02.2	+0.4
STON	Ston	1.95	317	ePn		Pn	11 03 37.2	-0.1
STON	Ston	1.95	317	ePn		Pb	11 03 38.6	-1.1
STON				eSn		Sb	11 04 03.9	-0.2
NOCI	Noci baz=250	1.98	251	P		Pn	11 03 37.1	-0.5
STIP	Stip	2.01	83	i Pn		Pb	11 03 40.1	-0.6
RUDO	Rudo	2.15	357	⇓iPn		Pn	11 03 40.9	+0.8
RUDO				eSn		Sb	11 04 08.3	-1.7
IVAS	Ivanjica	2.16	12	ePn		Pn	11 03 40.2	0.0
PRVS	Prvonek	2.17	60	ePn		Pn	11 03 40.0	-0.3
BARS	Barje	2.18	51	ePn		Pn	11 03 40.4	0.0
BARS				eSg		Sb	11 04 10.4	-0.2
MATE	Matera	2.28	250	⇓P		Pn	11 03 41.9	+0.2
BOSS	Bosilegrad	2.43	64	ePn		Pn	11 03 43.6	-0.3
GRUS	Gruza	2.58	20	ePn		Pn	11 03 46.3	+0.4
MAKA	Makarska	2.60	315	ePn		Pn	11 03 46.1	0.0
HAPS	Han Pijesak,BI	2.65	351	ePn		Pn	11 03 47.9	+0.9
HAPS				eSn		Sn	11 04 20.7	+1.3
DIVS	Divibare	2.66	7	ePn		Pn	11 03 47.1	+0.1
RICI	Ricice	2.69	320	ePn		Pn	11 03 47.3	-0.1
BOVS	Bovan	2.70	36	⇑P		Pn	11 03 48.2	+0.6
BOVS	Bovan	2.70	36	ePn		Pn	11 03 48.6	+1.0
LKD2	Lefkada island baz=160	2.81	162	P		Pn	11 03 49.2	+0.1
SGRT	San Giovanni R baz=277	2.85	277	P		Pn	11 03 49.3	-0.4
HVAR	Hvar	2.85	308	ePn		Pn	11 03 49.0	-0.6
TEKS	Tekeris	3.08	0	ePn		Pn	11 03 52.9	+0.1
ZAGS	Zajecar	3.08	40	ePn		Pn	11 03 52.5	-0.3
TIP	Timpagrande	3.11	224	⇑P		Pn	11 03 53.5	+0.3
AVAS	Avala Beograd	3.31	12	ePn		Pn	11 03 55.6	-0.4
KUBS	Kucevo	3.34	27	ePn		Pn	11 03 54.8	-1.6
MGRS	Mrkonjic Grad	3.45	330	ePn		Pn	11 03 59.1	+1.2
MGRS				eSn		Sn	11 04 39.9	+1.0
ZIRJ	Zirje	3.60	309	ePn		Pn	11 03 59.8	-0.2
FRGS	Fruska Gora	3.70	3	ePn		Pn	11 04 03.1	+1.8
FRGS	Fruska Gora	3.70	3	ePn		Pn	11 04 02.0	+0.7
FRGS				eSn		Sn	11 04 45.7	+0.7
MORI	Morici	3.70	312	ePn		Pn	11 04 02.3	+1.0
BLY	Banja Luka	3.70	333	ePn		Pn	11 04 02.6	+1.3
BLY				eSn		Sn	11 04 46.0	+0.9
A050A	Klekovaca	3.73	325	⇑iPn		Pn	11 04 03.2	+1.4
A050A				eSn		Sn	11 04 46.6	+0.7
HERR	Herculane	4.02	31	⇑P		Pn	11 04 05.8	+0.1
UDBI	Udbina	4.12	319	ePn		Pn	11 04 08.5	+1.4
DUGI	Dugi Otok	4.15	309	ePn		Pn	11 04 07.3	-0.2
VIRC	Vir	4.33	312	ePn		Pn	11 04 10.0	0.0
BZS	Buzias	4.42	19	⇑P		Pn	11 04 11.5	+0.3
GZR	Gura Zlata	4.59	30	⇑P		Pn	11 04 14.6	+1.1
NVLJ	Novalja	4.61	314	ePn		Pn	11 04 13.3	-0.4
SURR	Surduc	4.69	23	⇑P		Pn	11 04 15.1	+0.2
SIRR	Siria	5.04	17	⇑P		Pn	11 04 20.3	+0.5
BOJS	Bojanci	5.09	324	ePn		Pn	11 04 20.8	+0.4
CRES	Cresnjev	5.26	327	ePn		Pn	11 04 23.4	+0.6
CRES				eSn		Sn	11 05 22.6	-1.0
BRJN	Brijuni	5.44	311	ePn		Pn	11 04 24.8	-0.4
CEY	Cerknica	5.65	321	ePn		Pn	11 04 28.2	+0.1
CEY				eSn		Sn	11 05 32.2	-0.9
VOIR		5.65	44	⇑P		Pn	11 04 29.2	+1.0
SKDS	Skadanscina	5.72	317	⇑iPn		Pn	11 04 28.6	-0.4
SKDS				eSn		Sn	11 05 32.5	-2.3
MARR	Marisel-Cluj	5.82	25	⇑P		Pn	11 04 31.4	+0.9
MLR	Muntele Rosu	6.17	47	⇓P		Pn	11 04 38.0	+2.7
OBKA	Obir	6.19	326	eSn		Sn	11 05 44.5	-2.0
ARSA	Arzberg comp=E,1.3nm,0.2s	6.46	335	ePn		Pn	11 04 44.6	+5.5
KBA	Koelnbreinsper comp=E,0.5nm,0.2s	7.15	324	ePn		Pn	11 04 48.7	-0.2
KOLS	Kolonicke sedl	7.72	14	ePN		Pn	11 04 59.3	+2.8

IDC 05 11:12:40.2±4.2, 14°.57N×95°.83E, h0km, mb3.5/5, mbtmp3.5/5, MS3.3/8, Error ellipse: s-maj=228.3km s-min=23.6km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele comp=Z,66nm,19.5s,baz=174,slow=33	16.52	246	LR	LR	11 21 43.0	
KSRS	Korea Array comp=Z,26nm,18.6s,baz=225,slow=38	36.47	45	LR	LR	11 35 51.3	
KURBB	Kurchatov Arra 0.3nm,0.6s,baz=139,slow=9.0,SNR=2.1 0.3nm,0.6s	38.60	342	P	P	11 20 03.5	-1.3
ZALV	Zalesovo Beam 0.8nm,0.5s,baz=169,slow=8.2,SNR=2.3 0.8nm,0.5s	40.23	350	P	P	11 20 20.3	+1.8
BVAR	Borovoye Array comp=Z,24nm,18.8s,baz=169,slow=39	43.33	338	LR	LR	11 40 53.2	
WRA	Warramunga Arr 0.4nm,0.6s,baz=309,slow=8.2,SNR=8.6 0.4nm,0.6s	51.10	131	P	P	11 21 44.4	-0.6
ASAR	Alice Springs 0.4nm,0.6s,baz=310,slow=6.9,SNR=7.5 0.4nm,0.6s	53.20	135	P	P	11 22 01.1	+0.6
KIRV	Kirov comp=Z,32nm,19.0s,baz=85,slow=40	55.76	333	LR	LR	11 50 04.7	
MA2	Magadan comp=Z,14nm,18.4s,baz=239,slow=37	60.12	29	LR	LR	11 49 49.3	
STKA	Stephens Creek comp=Z,65nm,18.9s,baz=193,slow=38	63.69	137	LR	LR	11 53 09.3	
MLR	Muntele Rosu comp=Z,25nm,20.1s,baz=89,slow=41	65.67	314	LR	LR	11 57 20.0	
NOA	NORSAR Array B comp=Z,17nm,18.4s,baz=150,slow=40	74.78	330	LR	LR	12 02 53.2	
ILAR	Eielson Array 0.3nm,0.8s,baz=294,slow=5.0,SNR=4.6 0.3nm,0.8s	87.96	22	P	P	11 25 31.1	-0.8

AZER ***05*** *11:25:48.2, 39°.54N×51°.86E, h53km, ml3.0*
TEH ***05*** *11:26:01.5, 38°.49N×52°.37E, h10km±990km, ML2.8*
ISC 05 11:25:51.4±1.6, 39°.58N±0°.06×51°.77E±0°.08, h35km, n17, σ1°.21/26, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATGJ	Altiaghaj ATGJ	2.52	301	P S	Pn Sn	11 26 30.4 11 27 01.5	+0.5 +2.0
ASTR	Astara ASTR	2.53	247	P S	Pn Sn	11 26 29.1 11 27 00.3	-0.9 +0.7
SIZA	Siyzn SIZA	2.66	305	Pn Sn	Pn Sn	11 26 31.9 11 27 05.9	+0.1 +3.0
YRD	Yardimli YRD	2.82	258	Pn Sn	Pn Sn	11 26 33.0 11 27 07.5	-1.2 +0.5
LRK	Lerik LRK	2.83	252	Pn Sn	Pn Sn	11 26 34.2 11 27 06.4	-0.1 -0.8
QUBA	Quba, Azerbaij QUBA	3.07	306	Pn Sn	Pn Sn	11 26 36.3 11 27 14.0	-1.2 +1.1
KLST	Kelardasht - M	3.11	191	Pn	Pn	11 26 40.6	+2.4
MZPU	Pul - Mazandar	3.14	183	Pn	Pn	11 26 38.8	+0.2
XNQ	Khinaliq XNQ	3.20	301	Pn Sn	Pn Sn	11 26 39.4 11 27 15.6	0.0 -0.8
QSAR	Qusar QSAR	3.30	307	Pn Sn	Pn Sn	11 26 40.5 11 27 18.8	-0.1 +0.1
QBL	Gabala	3.31	296	S	Sn	11 27 19.1	+0.3
IGLO	Ghaloghah	3.47	151	Pn	Pn	11 26 41.6	-1.6
SEKA	Sheki SEKA	3.85	296	Pn Sn	Pn Sn	11 26 47.7 11 27 32.3	-0.6 0.0
IDMV	Damavand	4.00	177	Pn	Pn	11 26 51.0	+0.5
IFIR	Firoozkooh	4.01	168	Pn	Pn	11 26 49.8	-0.8
GDB	GEDABAY GDB	4.75	286	Pn Sn	Pn Sn	11 26 55.8 11 27 52.9	-4.8 -1.7
QZX	Qazax, Azerbai	5.11	289	Pn	Pn	11 27 04.5	-1.0

NEIC ***05*** *11:30:46.3±1.2, 56°.3S±0°.1×27°.0W±0°.2, h47km±7km, mb4.6/23, Error ellipse: s-maj=17.1km s-min=15.4km az=47.0*
IDC ***05*** *11:30:49.6±6.9, 56°.18S×26°.94W, h82km±61km, mb4.0/6, mbtmp4.2/7, ML3.8/1, MS3.2/8, Error ellipse: s-maj=33.8km s-min=17.6km az=66.0*
ISC 05 11:30:46.4±0.5, 56°.22S±0°.09×27°.0W±0°.1, h50km, n65, σ1°.08/52, mb4.5/17, MS3.1/6, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.79	286	Pn	Pn	11 32 09.9	+0.4
VNA1	Neumayer--Stat comp=Z,2.0nm,0.4s	16.59	158	⇑P	P	11 34 40.1	+3.2
VNA3	Neumayer Olymp comp=Z,1.8nm,0.6s	16.79	161	⇑P	Pn	11 34 38.1	+0.4
VNA2	Neumayer--Watz comp=Z,2.0nm,0.8s,baz=322,slow=13	16.99	158	⇑P	P	11 34 42.4	+1.0
SNAA	Sanae	18.54	156	P	P	11 34 57.6	-0.8
SNAA	Sanae comp=Z,33nm,0.6s	18.54	156	⇑P	P	11 34 58.6	+0.1
SNAA	Sanae comp=Z,0.3nm,0.3s,baz=309,slow=9.3,SNR=16	18.54	156	P	P	11 34 58.8	+0.3
SNAA				LR	LR	11 41 23.0	
	comp=Z,21nm,19.0s,baz=222,slow=34 comp=Z,0.9nm,0.4s						
PMSA	Palmer Station comp=Z,116nm,18.4s,baz=62,slow=33	19.89	229	LR	LR	11 41 42.5	
TROLL	Troll, Antarti comp=Z,85nm,0.6s	20.04	153	⇑P	P	11 35 16.3	+1.4
BELA	Belgrano 2	21.92	184	P	P	11 35 33.9	-1.0
GO09	Cerro Castillo GO09	26.90	261	P IAmb	P IAmb	11 36 21.8 11 36 40.8	-0.6
	comp=Z,22nm,1.3s						
TRQA	Tornquist TRQA	29.51	293	P IAmb	P IAmb	11 36 45.2 11 36 56.3	-0.6
	comp=Z,14nm,1.5s						
PLTB	Pedras Altas PLTB	30.71	312	P IAmb	P IAmb	11 36 57.0 11 36 57.7	+0.6
	comp=Z,7.6nm,0.9s						
PLCA	Paso Flores comp=Z,53nm,19.8s,baz=144,slow=35	32.16	280	LR	LR	11 49 35.4	
QSPA	South Pole Qui comp=Z,3.3nm,0.6s,baz=193,slow=3.2,SNR=29 comp=Z,3.3nm,0.6s	34.03	180	P	P	11 37 25.9	+0.6
ITAB	Concordia	34.14	318	P	P	11 37 26.6	+0.2
CPUP	Villa Florida comp=Z,1.6nm,0.5s,baz=126,slow=6.3,SNR=4.7	37.02	311	P	P	11 37 50.5	-0.6
CPUP				LR	LR	11 53 31.7	
	comp=Z,24nm,18.6s,baz=134,slow=37 comp=Z,1.6nm,0.5s						
BO04	La Punta	37.12	288	P	P	11 37 55.4	+3.4
MT13	San Alfonso MT13	37.14	289	P IAmb	P IAmb	11 37 53.8 11 37 58.2	+1.6
	comp=Z,15nm,1.2s						
MT02	Curacav	37.97	288	P	P	11 37 57.7	-1.4
CO02	Combarbal	39.50	291	P	P	11 38 11.8	-0.3
SUR	Sutherland comp=Z,114nm,19.2s,baz=213,slow=29	40.55	74	LR	LR	11 50 36.6	
AC05	El Transito AC05	41.01	293	P IAmb	P IAmb	11 38 25.0 11 38 39.7	+0.4
	comp=Z,9.8nm,1.0s						
SHEL	Horse Pasture	43.31	30	P	P	11 38 44.6	+1.3
AC01	Pan de Azucar AC01	43.38	295	P IAmb	P IAmb	11 38 43.5 11 38 48.1	-0.2
	comp=Z,21nm,1.2s						
BDFB	Brasilia BDFB	43.57	330	P IAmb	P IAmb	11 38 46.1 11 39 17.0	+0.7
	comp=Z,14nm,1.5s						
BDFB	Brasilia comp=Z,39nm,19.3s,baz=197,slow=32	43.57	330	LR	LR	11 54 03.6	
GO02	Mina Guanaco GO02	43.69	297	P IAmb	P IAmb	11 38 46.4 11 38 47.6	-0.1
	comp=Z,8.3nm,0.5s						
LVC	Limon Verde comp=Z,9.2nm,22.0s,baz=162,slow=34	45.50	300	LR	LR	11 56 47.1	
VNDA	Vanda	46.41	183	P	P	11 39 07.5	+0.3
VNDA	Vanda comp=Z,2.3nm,0.7s,baz=180,slow=6.2,SNR=22 comp=Z,2.3nm,0.7s	46.41	183	P	P	11 39 08.0	+0.8
H04S2	CROZET ISLANDS baz=230,slow=75,SNR=5.1	47.36	114	T	T	12 31 14.7	
H04S3	CROZET ISLANDS baz=230,slow=75,SNR=4.3	47.37	114	T	T	12 31 13.8	
H04S1	CROZET ISLANDS baz=230,slow=75,SNR=5.1	47.38	114	T	T	12 31 09.0	
PTLB	Pontes e Lacer PTLB	47.51	316	P IAmb	P IAmb	11 39 16.0 11 39 16.9	-0.4
	comp=Z,5.4nm,0.8s						
H10S2	ASCENSION HYDR baz=189,slow=74,SNR=61	48.12	16	T	T	12 31 24.5	
H10S3	ASCENSION HYDR baz=31,slow=74,SNR=88	48.13	16	T	T	12 31 25.9	
GO01	Chusmiza GO01	48.15	302	P IAmb	P IAmb	11 39 22.2 11 39 23.4	+0.3
	comp=Z,8.2nm,1.1s						
H10N1	ASCENSION HYDR baz=192,slow=74	49.24	16	T	T	12 32 49.4	
H10N3	ASCENSION HYDR baz=192,slow=74	49.24	16	T	T	12 32 49.8	
H10N2	ASCENSION HYDR baz=192	49.26	16	T	T	12 32 49.7	
LPAZ	La Paz LPAZ	50.58	305	P IAmb	P IAmb	11 39 40.8 11 39 42.0	+0.1
	comp=Z,5.9nm,0.8s						
LPAZ	La Paz comp=Z,5.5nm,0.5s,baz=154,slow=5.6,SNR=20	50.58	305	P	P	11 39 40.6	0.0
LPAZ				LR	LR	12 02 08.1	
	comp=Z,13nm,20.3s,baz=108,slow=37 comp=Z,5.5nm,0.5s						
SAML	Samuel SAML	55.01	315	P IAmb	P IAmb	11 40 12.4 11 40 13.8	-0.3
	comp=Z,7.0nm,1.4s						
TOA0	Torodi Ar. Sit	73.14	29	P	P	11 42 11.1	-0.3
TORD	Torodi Ar. Bea	73.14	29	P	P	11 42 11.4	0.0
TORD	Torodi Ar. Bea comp=Z,2.6nm,0.6s,baz=203,slow=6.0,SNR=21 comp=Z,2.6nm,0.6s	73.14	29	P	P	11 42 11.2	-0.2
ASAR	Alice Springs comp=Z,0.2nm,0.6s,baz=189,slow=4.7,SNR=5.5 comp=Z,0.2nm,0.6s	98.79	162	P	P	11 44 18.9	-1.8
WRA	Warramunga Arr comp=Z,0.4nm,0.8s,baz=197,slow=5.0,SNR=0.9	102.51	162	P	Pdif	11 44 36.1	-1.1
PDAR	Pinedale Array comp=Z,0.2nm,0.5s,baz=123,slow=2.5,SNR=1.8	120.54	302	PKP	PKPdf	11 49 30.0	-1.7
FINES	FINESS Array B comp=Z,0.7nm,0.5s,baz=205,slow=3.6,SNR=7.9	124.47	28	PKP	PKPdf	11 49 36.5	-1.8
ARCES	ARCESS Array B comp=Z,1.3nm,0.9s,baz=190,slow=0.7,SNR=4.2	131.05	22	PKP	PKPdf	11 49 50.0	-0.8
BVAR	Borovoye Array comp=Z,0.5nm,0.5s,baz=197,slow=3.0,SNR=1.4	134.76	58	PKP	PKPdf	11 49 58.1	-0.1
H31M	Peel River	145.54	316		PKPdf	11 50 16.7	-0.6
J30M	Hart River	145.91	313		PKPdf	11 50 18.5	+0.4
I30M	Mount Dempster	146.15	314		PKPdf	11 50 18.9	+0.4
L29M	L29M	146.15	310	PKPdf	PKPdf	11 50 19.4	+1.0
DAWY	Dawson	147.00	312	PKPdf	PKPdf	11 50 21.3	+1.5
I28M	Miner Creek	147.64	314		PKPdf	11 50 22.9	+2.0
J26L	Joseph Creek	148.87	312		PKPbc	11 50 26.7	-0.3
ILAR	Eielson Array comp=Z,2.4nm,0.8s,baz=134,slow=1.8,SNR=27	150.33	311	PKPbc	PKPbc	11 50 29.7	-0.7
SONM	Songino Array comp=Z,1.8nm,0.6s,baz=219,slow=2.5,SNR=8.4	150.60	87	PKPbc	PKPbc	11 50 31.1	-0.8
TOLK	Toolik Lake Re	151.89	319		PKPbc	11 50 34.0	-0.1
G23K	Bananza Creek	151.91	315		PKPbc	11 50 33.7	-0.4
BPAW	Bear Paw Mtn.	151.94	309	PKPbc	PKPbc	11 50 33.6	-0.7

IDC ***05*** *11:38:48.8±1.6, 53°.93N×169°.18E, h0km, mb3.4/3, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=52.1km s-min=20.3km az=8.0*
KRSC ***05*** *11:38:54.3±1.7, 53°.81N×168°.72E, h47km±40km, Ml3.8*
ISC 05 11:38:53.3±1.1, 53°.8N±0°.1×169°.14E±0°.06, h35km, n38, σ1°.74/49, mb3.5/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering BKI	2.35	309	eP eS	Pn Sn	11 39 29.3 11 39 55.5	0.0 -1.3
SHEM	Shemya Is, Ala 10nm,0.3s,baz=274,slow=4.2,SNR=24 SHEM	3.15	107	Pn Sn	Pn Sn	11 39 40.5 11 40 17.9	+0.2 +1.2
	25nm,0.3s,baz=223,slow=21,SNR=10 38nm,0.3s						
BZGR	Bezymyannyi-Gr	5.34	297	eP	Pn	11 40 10.5	-0.1
BZMR	Bezymyannaya BZMR	5.45	297	eP eS	Pn Sn	11 40 15.0 11 41 14.4	+2.9 +0.8
TUMR	Tumrok TUMR	5.46	290	eP eS	Pn Sn	11 40 13.6 11 41 12.4	+1.4 -1.3
BZWR	Bezymyannyi-We BZWR	5.46	297	eP eS	Pn Sn	11 40 14.8 11 41 13.4	+2.6 -0.4
SPN	Mys Shipunski	5.49	267	eP	Pn	11 40 13.5	+1.0
KMNR	Kamenistaya KMNR	5.53	295	eP eS	Pn Sn	11 40 14.2 11 41 13.9	+1.0 -1.6
KIRR	Kirishev KIRR	5.54	297	eP eS	Pn Sn	11 40 14.7 11 41 14.8	+1.4 -0.9
KPT	Kopyto KPT	5.61	297	eP eS	Pn Sn	11 40 15.7 11 41 15.9	+1.5 -1.4
KII	Karymskiy KII	5.74	277	eP eS	Pn Sn	11 40 17.1 11 41 17.6	+1.1 -3.0
NLC	Nalytchevo	5.88	268	eP	Pn	11 40 18.3	+0.4
SRDR	Sredinnyy	5.99	299	eP	Pn	11 40 20.3	+0.9
SDLR	Sedlovina	6.14	270	eP	Pn	11 40 24.6	+3.1
UGLR	Uglovaya	6.19	269	eP	Pn	11 40 24.2	+2.0
SMAR	Somma	6.19	270	eP	Pn	11 40 24.1	+1.7
KRER	Koryakskii KRER	6.22	270	eP eS	Pn Sn	11 40 23.2 11 41 29.3	+0.5 -3.2
AVH	Avacha AVH	6.23	270	eP eS	Pn Sn	11 40 24.9 11 41 31.8	+2.2 -0.8
DALK	Dalny DALK	6.26	267	eP eS	Pn Sn	11 40 25.1 11 41 32.6	+2.0 -0.6
KRX	Arik KRX	6.27	271	eP eS	Pn Sn	11 40 25.1 11 41 32.2	+1.7 -1.4
KOK	Koryaka	6.28	270	eP	Pn	11 40 25.5	+2.0
PET	Petropavlovsk	6.32	268	eP	Pn	11 40 25.6	+1.7
ESO	Esso	6.41	294	eP	Pn	11 40 27.1	+1.9
GNL	Ganaly	6.65	274	eP	Pn	11 40 31.0	+2.5
MTVR	Mutnovka MTVR	6.72	263	eP eS	Pn Sn	11 40 31.3 11 41 43.0	+1.8 -1.8
GRL	Gorelyy	6.77	264	eP	Pn	11 40 33.3	+3.2
PETK	Petropavlovsk- 1.2nm,0.3s,baz=84,slow=14,SNR=26 PETK	6.87	269	Pn Sn	Pn Sn	11 40 32.9 11 41 48.8	+1.4 +0.4
	0.2nm,0.3s,baz=105,slow=23,SNR=2.0 3.1nm,0.5s						
ASAK	Asacha ASAK	6.92	263	eP eS	Pn Sn	11 40 34.7 11 41 49.6	+2.5 0.0
KDTR	Khodutka, Kamc KDTR	6.99	258	eP eS	Pn Sn	11 40 35.0 11 41 49.1	+1.9 -2.1
ILAR	Eielson Array 0.3nm,0.8s,baz=262,slow=6.3,SNR=2.2 0.3nm,0.8s	24.47	46	P	P	11 44 08.0	-0.6
H11N2	WAKE ISLAND Hy baz=2.8,slow=76,SNR=188	34.01	184	T	T	12 21 55.2	
H11N3	WAKE ISLAND Hy baz=2.8,slow=76,SNR=124	34.03	184	T	T	12 21 56.2	
H11N1	WAKE ISLAND Hy baz=2.8,slow=76,SNR=150	34.03	184	T	T	12 21 58.2	
H11S1	WAKE ISLAND Hy baz

BTK					⇑eS		Sb	11 49 23.8	-0.2
	baz=56								
IUG	**luzhnay**	**1.11**	**353**		eP		**Pn**	**11 49 11.7**	**+1.3**
	86nm,0.1s								
IUG					eS		Sn	11 49 30.3	+4.4
	100nm,0.6s								
IUG	**luzhnay**	**1.11**	**353**		P		**Pn**	**11 49 11.7**	**+1.3**
	86nm,0.1s								
IUG					S		Sn	11 49 30.3	+4.4
	100nm,0.6s								
CHM	**Chimkent**	**1.35**	**341**		eP		**Pg**	**11 49 15.5**	**+1.0**
	142nm,0.1s								
CHM					eS		Sg	11 49 36.5	+4.5
	268nm,0.3s								
FRG	**Fergana**	**1.37**	**119**		P		**Pg**	**11 49 17.3**	**+2.4**
FRG					S		Sg	11 49 39.1	+6.4
TSTA	**Tashata**	**1.78**	**104**		P		**Pg**	**11 49 25.1**	**+2.4**
TSTA					S		Sg	11 49 52.7	+6.8
DRK	**Karamyk**	**1.98**	**142**	⇑	iP		**Pb**	**11 49 25.0**	**0.0**
	baz=42								
DRK				⇑	iS		Sg	11 49 51.6	-0.6
	baz=42								
BRLS	**Borolday**	**2.00**	**352**		eP		**Pn**	**11 49 22.5**	**-0.1**
	25nm,0.4s								
BRLS					eS		Sb	11 49 48.7	-1.6
	23nm,0.4s								
BRLS	**Borolday**	**2.00**	**352**		Pg		**Pn**	**11 49 22.5**	**-0.1**
	25nm,0.4s								
BRLS					Lg		Lg	11 49 48.7	
	23nm,0.4s								
GAR	**Garm**	**2.04**	**178**	⇑	iP		**Pg**	**11 49 26.4**	**-1.3**
	baz=78								
GAR				⇑	iS		Sg	11 49 53.8	-0.4
	baz=78								
KK31	**Karatay Array**	**2.07**	**6**		Pn		**Pb**	**11 49 26.6**	**+0.3**
	3.1nm,0.3s,baz=191,slow=16,SNR=44								
KK31					Sn		Sg	11 49 55.7	+0.6
	19nm,0.7s,baz=190,slow=23,SNR=9.5								
KKAR	**Karatay Array**	**2.07**	**6**	⇑	eP		**Pb**	**11 49 26.6**	**+0.3**
	baz=5.0								
KKAR				⇑	iS		Sg	11 49 54.2	-0.8
	baz=5.0								
ARSB	**Arslanbob**	**2.11**	**82**	⇑	eP		**Pb**	**11 49 26.5**	**-0.6**
	baz=81								
ARSB				⇑	iS		Sb	11 49 54.5	+1.0
	baz=81								
BXML	**Bakhmal**	**2.15**	**232**		P		**Pn**	**11 49 23.6**	**-1.1**
BXML					S		Sn	11 49 50.2	-1.4
MNAS	**Manas**	**2.24**	**49**	⇑	iP		**Pb**	**11 49 28.4**	**-0.9**
	baz=49								
MNAS				⇑	iS		Sb	11 49 57.8	+0.6
	baz=49								
SFK	**Sufi-Kurgan**	**2.71**	**111**	⇑	eP		**Pb**	**11 49 34.8**	**-2.6**
	baz=11								
SFK				⇑	eS		Sb	11 50 09.4	-1.5
	baz=11								
MRKS	**Merke**	**2.82**	**52**		eP		**Pb**	**11 49 40.1**	**+0.9**
	9.2nm,0.7s								
MRKS					eS		Sg	11 50 19.1	0.0
	20nm,0.6s								
MRKS	**Merke**	**2.82**	**52**		Pg		**Pb**	**11 49 40.1**	**+0.9**
	9.2nm,0.7s								
MRKS					Lg		Lg	11 50 19.1	
	20nm,0.6s								
DGS	**Degeres**	**4.68**	**60**		eP		**Pg**	**11 50 14.2**	**-4.0**
	2.2nm,0.4s								
DGS					eS		Sg	11 51 17.6	-1.2
	6.6nm,0.6s								
DGS	**Degeres**	**4.68**	**60**		Pg		**Pg**	**11 50 14.2**	**-4.0**
	2.2nm,0.4s								
DGS					Lg		Lg	11 51 17.6	
	6.6nm,0.6s								
KST	**Kastek**	**4.73**	**63**		eP		**Pb**	**11 50 14.0**	**+2.3**
	4.7nm,0.2s								
KST					eS		Sg	11 51 17.3	-3.0
	13nm,0.6s								
KST	**Kastek**	**4.73**	**63**		Pg		**Pb**	**11 50 14.0**	**+2.3**
	4.7nm,0.2s								
KST					Lg		Lg	11 51 17.3	
	13nm,0.6s								
KRBS	**Karabastau**	**4.84**	**55**		eP		**Pg**	**11 50 17.1**	**-4.1**
	0.3nm,0.3s								
KRBS					eS		Sg	11 51 22.1	-1.8
	2.8nm,0.6s								
BTLS	**Baital**	**4.88**	**34**		eP		**Pg**	**11 50 19.7**	**-2.3**
	1.4nm,0.3s								
BTLS					eS		Sg	11 51 27.1	+1.8
	3.8nm,0.4s								
BTLS	**Baital**	**4.88**	**34**		Pg		**Pg**	**11 50 19.7**	**-2.3**
	1.4nm,0.3s								
BTLS					Lg		Lg	11 51 27.1	
	3.8nm,0.4s								
KTBS	**Karatobe**	**5.48**	**59**		eP		**Pg**	**11 50 30.0**	**-3.6**
	0.5nm,0.3s								
KTBS					eS		Sg	11 51 44.6	0.0
	3.7nm,0.1s								
KTBS	**Karatobe**	**5.48**	**59**		Pg		**Pg**	**11 50 30.0**	**-3.6**
	0.5nm,0.3s								

*NEIC **05** 11:49:18.6±2.4, 18°.06N±0°.10×146°.7E±0°.2, h76km±7km, mb4.6/11, Error ellipse: s-maj=22.3km s-min=14.2km az=96.0*
*IDC **05** 11:49:20.0±2.4, 18°.19N×146°.41E, h84km±21km, mb3.7/13, mbtmp4.0/15, Error ellipse: s-maj=29.7km s-min=12.2km az=88.0*

ISC 05 11:49:17.6±0.8, 18°.20N±0°.07×146°.6E±0°.2, h66km, n29, σ1§25/31, mb4.2/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.88**	**200**	Pn			**Pn**	**11 50 27.9**	**-0.6**
GUMO	**Guam**	**4.88**	**200**	P			**Pn**	**11 50 28.8**	**+0.3**
	42nm,0.3s,baz=356,slow=3.9,SNR=10								
GUMO				S			**Sn**	**11 51 27.2**	**+3.5**
	81nm,0.3s,baz=12,slow=23,SNR=5.7								
JMN	**Monobe**	**19.22**	**326**	P			**Pn**	**11 53 38.8**	**+0.8**
JMN				IAmb			IAmb	11 54 18.7	
	comp=Z,155nm,1.5s								
MJAR	**Matsushiro Art**	**19.72**	**340**	P			**P**	**11 53 41.1**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=159,slow=11,SNR=5.6								
KSRS	**Korea Array**	**25.24**	**323**	P			**P**	**11 54 37.5**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=152,slow=9.1,SNR=9.9								
	comp=Z,2.3nm,0.7s								
USRK	**Ussuriysk Ar.**	**28.69**	**338**	P			**P**	**11 55 08.2**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=126,slow=7.3,SNR=1.9								
	comp=Z,1.6nm,0.8s								
WB0	**Warramunga Arr**	**39.59**	**198**	P			**P**	**11 56 43.7**	**+1.0**
WB0				IAmb			IAmb	11 57 11.3	
	comp=Z,11nm,1.3s								
WR0	**Warramunga Arr**	**39.73**	**198**	P			**P**	**11 56 43.8**	**-0.1**
WR0				IAmb			IAmb	11 56 44.1	
	comp=Z,9.6nm,1.3s								
WRAB	**Tennant Creek**	**39.76**	**198**	P			**P**	**11 56 44.1**	**0.0**
WRAB				IAmb			IAmb	11 56 45.8	
	comp=Z,15nm,1.4s								
WB2	**Warramunga Arr**	**39.77**	**198**	P			**P**	**11 56 43.8**	**-0.4**
WB2				IAmb			IAmb	11 56 44.6	
	comp=Z,5.5nm,1.1s								
WRA	**Warramunga Arr**	**39.77**	**198**	P			**P**	**11 56 42.5**	**-1.8**
WRA	**Warramunga Arr**	**39.77**	**198**	P			**P**	**11 56 42.4**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=31,slow=8.9,SNR=12								
WRA				PcP			**PcP**	**11 58 49.0**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=17,slow=3.2,SNR=2.2								
WRA				ScP			**ScP**	**12 02 31.7**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=26,slow=4.9,SNR=2.0								
	comp=Z,0.8nm,0.7s								
ASAR	**Alice Springs**	**43.42**	**197**	P			**P**	**11 57 11.5**	**-2.6**
ASAR	**Alice Springs**	**43.42**	**197**	P			**P**	**11 57 14.2**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=13,slow=8.7,SNR=12								
	comp=Z,0.7nm,0.7s								
SONM	**Songino Array**	**44.08**	**321**	P			**P**	**11 57 19.7**	**+0.5**
SONM	**Songino Array**	**44.08**	**321**	P			**P**	**11 57 18.7**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=131,slow=8.5,SNR=5.1								
	comp=Z,1.2nm,0.6s								
ARMA	**Armidale**	**48.57**	**174**	P			P	11 57 49.2	-5.4
ARMA				IAmb			IAmb	11 58 02.5	
	comp=Z,13nm,1.1s								
BBOO	**Buckleboo**	**51.71**	**191**	P			**P**	**11 58 15.8**	**-2.4**
ZALV	**Zalesovo Beam**	**58.94**	**323**	P			**P**	**11 59 09.0**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=101,slow=8.0,SNR=6.4								
	comp=Z,1.5nm,0.3s								
MKAR	**Makanchi Array**	**59.44**	**314**	P			**P**	**11 59 13.4**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=90,slow=8.6,SNR=4.1								
	comp=Z,0.7nm,0.5s								
BPAW	**Bear Paw Mtn.**	**61.82**	**26**	P			**P**	**11 59 30.7**	**+1.3**
BPAW				IAmb			IAmb	11 59 33.5	
	comp=Z,2.3nm,0.8s								
KURBB	**Kurchatov Arra**	**62.27**	**318**	P			**P**	**11 59 32.2**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=96,slow=7.5,SNR=17								
	comp=Z,1.7nm,0.6s								
ILAR	**Eielson Array**	**63.71**	**26**	P			**P**	**11 59 43.6**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=253,slow=5.4,SNR=10.0								
	comp=Z,0.7nm,0.8s								
BVAR	**Bovoye Array**	**67.41**	**321**	P			**P**	**12 00 06.0**	**-0.1**
	comp=Z,3.8nm,0.5s,baz=91,slow=7.2,SNR=17								
	comp=Z,3.8nm,0.5s								
KKAR	**Karatay Array**	**67.76**	**310**	P			**P**	**12 00 09.2**	**+0.7**
ABKAR	**Akbulak array**	**74.30**	**317**	P			**P**	**12 00 47.4**	**-0.5**
NVAR	**Mina Array Bea**	**82.76**	**52**	P			**P**	**12 01 36.0**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=270,slow=4.5,SNR=2.7								
	comp=Z,0.1nm,0.5s								
ARCES	**ARCESS Array B**	**83.23**	**342**	P			**P**	**12 01 36.4**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=61,slow=9.4,SNR=4.5								
	comp=Z,1.5nm,0.8s								
FINES	**FINESS Array B**	**87.70**	**336**	P			**P**	**12 01 59.1**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=38,slow=7.0,SNR=3.5								
	comp=Z,0.6nm,0.4s								

IDC 05 12:54:32.6±5.0, 5°.03S×148°.92E, h120km±50km, mb3.4/3, mbtmp3.9/4, Error ellipse: s-maj=102.1km s-min=30.7km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.68**	**202**	P			Pn	12 55 42.1	+0.8
	47nm,0.5s,baz=29,slow=10,SNR=19								
PMG				S			Sn	12 56 35.3	+0.6
	73nm,0.5s,baz=36,slow=20,SNR=11								
WRA	**Warramunga Arr**	**20.52**	**223**	P			P	12 59 01.1	-0.4
	1.4nm,0.3s,baz=48,slow=11,SNR=39								
	1.4nm,0.3s								
ASAR	**Alice Springs**	**23.51**	**217**	P			P	12 59 32.1	+0.1
	0.6nm,0.3s,baz=52,slow=8.9,SNR=48								
	0.6nm,0.3s								
ILAR	**Eielson Array**	**83.85**	**23**	P			P	13 06 48.5	0.0
	0.6nm,0.7s,baz=257,slow=5.2,SNR=8.5								
	0.6nm,0.7s								

*IDC **05** 12:57:13.8±0.9, 52°.93N×27°.81E, h0km, mbtmp3.2/4, ML2.5/4, Error ellipse: s-maj=25.5km s-min=8.1km az=70.0*

ISC 05 12:57:11.9±1.0, 52°.94N±0°.05×27°.57E±0°.08, h10km, n7, σ2§19/10, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NACGM	**Naroch**	**2.02**	**347**	eP			**Pg**	**12 57 51.9**	**+1.3**
AKASG	**Malin Array Be**	**2.47**	**155**	Pn			**Pn**	**12 57 53.7**	**+1.6**
	6.9nm,0.3s,baz=337,slow=17,SNR=14								
AKASG				Sn			**Sb**	**12 58 23.9**	**-2.9**
	13nm,0.3s,baz=339,slow=30,SNR=9.6								
	1.2nm,0.4s								
KOLS	**Kolonicke sedl**	**5.22**	**222**	eP	N		**Pg**	**12 58 53.0**	**+1.1**
KOLS				eS	N		**Sg**	**13 00 02.2**	**+2.6**
STHS	**Stebnicka Huta**	**5.32**	**231**	eS	N		**Sg**	**12 59 59.3**	**-3.2**
FINES	**FINESS Array B**	**8.56**	**355**	Pn			**Pn**	**12 59 15.7**	**-0.1**
	0.2nm,0.3s,baz=160,slow=14,SNR=6.8								
FINES				Sn			**Sn**	**13 00 50.7**	**-1.6**
	0.5nm,0.3s,baz=176,slow=21,SNR=5.6								
FINES				Lg			Lg	13 01 41.6	
	0.5nm,0.3s,baz=176,slow=28,SNR=4.0								
	0.8nm,0.4s								
HFS	**Hagfors**	**10.50**	**319**	Pn			**Pn**	**12 59 41.9**	**-0.4**
	0.1nm,0.3s,baz=126,slow=16,SNR=2.0								
HFS				Lg			Lg	13 02 46.2	
	0.4nm,0.3s,baz=130,slow=28,SNR=5.3								
	1.1nm,0.7s								
NOA	**NORSAR Array B**	**12.03**	**319**	Pn			**Pn**	**13 00 02.6**	**-0.6**
	baz=118,slow=18,SNR=1.9								
	0.5nm,0.8s								

*NEIC **05** 13:13:37.8±1.0, 17°.65N±0°.08×68°.84W±0°.03, h35km±2km, ML3.4/32, Md2.9/13(RSPR), Error ellipse: s-maj=14.0km s-min=3.1km az=15.0*
*RSPR **05** 13:13:38.0, 17°.91N×68°.83W, h84km±8km, MD2.9/13*
*OSPL **05** 13:13:41.4±2.4, 17°.98N×68°.72W, h83km±21km, ML3.2*
*SDD **05** 13:13:42.2±2.7, 18°.42N×68°.67W, h87km±17km, MD3.3, ML3.2, MW3.5*

ISC 05 13:13:39.5±1.3, 18°.11N±0°.09×68°.70W±0°.03, h95km±10km, n78, σ1§28/86, 20C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.48**	**358**	⇑	ePg		**Pn**	**13 13 53.9**	**-0.7**
HIDR					IAML			13 14 06.3	
	comp=N,3μm,0.2s								
PCDR	**Punta Cana, DR**	**0.50**	**37**	⇑	eP		**Pn**	**13 13 54.7**	**0.0**
PCDR	**Punta Cana, DR**	**0.50**	**37**				**Pn**	**13 13 54.7**	**0.0**
PCDR							**Sn**	**13 14 07.1**	**+1.0**
PCDR	**Punta Cana, DR**	**0.50**	**37**		IAML			13 14 08.5	
	comp=E,1μm,0.5s								
PCDR	**Punta Cana, DR**	**0.50**	**37**	⇓	ePg		**Pn**	**13 13 54.7**	**0.0**
PCDR					IAML			13 14 11.3	
	comp=N,1μm,0.4s								
PCDR	**Punta Cana, DR**	**0.50**	**37**	i	P		**Pn**	**13 13 54.7**	**0.0**
PCDR					eS		**Sn**	**13 14 07.0**	**+0.9**
PCDR					IAML			13 14 09.1	
	comp=Z,725nm,0.4s								
SPM1	**San Pedro UASD**	**0.67**	**300**	⇓	ePg		**Pn**	**13 13 56.4**	**+0.3**
MIDR	**Miches**	**0.93**	**339**		ePg		**Pn**	**13 13 57.0**	**-1.7**
MIDR				⇑	ePg			13 13 57.1	
MIDR					IAML			13 14 17.4	
	comp=N,152nm,0.2s								
MIDR					IAML			13 14 17.9	
	comp=N,348nm,0.1s								
HATOM	**Hato Mayor del**	**0.93**	**316**	⇓	ePg		**Pn**	**13 13 57.5**	**-1.4**
HATOM					IAML			13 14 14.4	
	comp=N,385nm,0.1s								
SDD	**Santo Domingo**	**1.20**	**287**	⇓	ePg		**Pn**	**13 14 02.8**	**+0.9**
SDD					IAML			13 14 20.1	
	comp=N,74nm,0.3s								
SDD	**Santo Domingo**	**1.20**	**287**	i	P		**Pn**	**13 14 02.0**	**+0.1**
SDD					eS		**Sn**	**13 14 18.6**	**-0.1**
PRSN	**Puerto Rico Se**	**1.48**	**86**				**Pn**	**13 14 04.1**	**-1.1**
PRSN					IAML			13 14 30.6	
	comp=E,360nm,0.3s								
PRSN					IAML			13 14 34.3	
	comp=N,432nm,0.2s								
CRPR	**Cabo Rojo, PR**	**1.52**	**94**	⇑	eP		**Pn**	**13 14 05.7**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.52**	**94**	eS			**Sn**	**13 14 23.1**	**-2.4**
CRPR	**Cabo Rojo, PR**	**1.52**	**94**				**Pn**	**13 14 05.7**	**0.0**
CRPR							**Sn**	**13 14 23.1**	**-2.4**
CRPR	**Cabo Rojo, PR**	**1.52**	**94**	⇑	ePg		**Pn**	**13 14 10.0**	**+4.3**
CRPR					IAML			13 14 32.8	
	comp=N,99nm,0.3s								
CRPR	**Cabo Rojo, PR**	**1.52**	**94**	i	P		**Pn**	**13 14 05.6**	**0.0**
CRPR					IAML			13 14 33.2	
	comp=Z,123nm,0.5s								
LSP	**Las Mesas**	**1.54**	**87**	⇑	eP		**Pn**	**13 14 05.7**	**-0.2**
LSP	**Las Mesas**	**1.54**	**87**	eS			**Sn**	**13 14 27.4**	**+1.4**
LSP	**Las Mesas**	**1.54**	**87**				**Pn**	**13 14 05.7**	**-0.2**
LSP							**Sn**	**13 14 27.4**	**+1.4**
AGPR	**Aguadilla, PR**	**1.55**	**77**	⇑	eP		**Pn**	**13 14 06.4**	**+0.3**
AGPR	**Aguadilla, PR**	**1.55**	**77**				**Pn**	**13 14 06.4**	**+0.3**
AGPR							**Sn**	**13 14 27.5**	**+1.2**
AGPR	**Aguadilla, PR**	**1.55**	**77**		IAML			13 14 31.1	
	comp=N,411nm,0.6s								
AGPR	**Aguadilla, PR**	**1.55**	**77**	⇑	ePg		**Pn**	**13 14 06.3**	**+0.2**
AGPR					IAML			13 14 31.0	
	comp=N,376nm,0.7s								
AGPR	**Aguadilla, PR**	**1.55**	**77**	i	P		**Pn**	**13 14 06.8**	**+0.7**
AGPR					eS		**Sn**	**13 14 27.2**	**+0.9**
AGPR					IAML			13 14 32.7	
	comp=Z,226nm,0.2s								
MLPR	**Magueyes Islan**	**1.58**	**95**	⇓	iP		**Pn**	**13 14 05.0**	**-1.4**
MLPR	**Magueyes Islan**	**1.58**	**95**	eS			**Sn**	**13 14 26.0**	**-1.0**
MLPR	**Magueyes Islan**	**1.58**	**95**				**Pn**	**13 14 05.0**	**-1.4**
MLPR							**Sn**	**13 14 26.0**	**-1.0**
BANI	**BANI**	**1.60**	**280**	⇓	ePg		**Pn**	**13 14 08.7**	**+1.8**
BANI					IAML			13 14 35.2	
	comp=N,1μm,0.2s								
NADR	**Nagua**	**1.65**	**319**		ePg		**Pn**	**13 14 06.9**	**-0.5**
NADR					IAML			13 14 33.5	
	comp=N,2μm,0.4s								
LONA1	**Toro Cenizo, N**	**1.68**	**319**	eS			**Sn**	**13 14 28.8**	**-0.3**
LONA1					IAML			13 14 34.8	
	comp=Z,676nm,2.6s								
GBPR	**Guanica, Bosqu**	**1.74**	**94**	⇑	eP		**Pn**	**13 14 08.3**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.74**	**94**	eS			**Sn**	**13 14 31.5**	**+1.0**
GBPR	**Guanica, Bosqu**	**1.74**	**94**				**Pn**	**13 14 08.3**	**-0.1**
GBPR							**Sn**	**13 14 31.5**	**+1.0**
AOPR	**Arecibo Observ**	**1.86**	**83**	⇑	eP		**Pn**	**13 14 10.4**	**+0.2**
AOPR	**Arecibo Observ**	**1.86**	**83**	eS			**Sn**	**13 14 35.0**	**+1.5**
AOPR	**Arecibo Observ**	**1.86**	**83**				**Pn**	**13 14 10.4**	**+0.2**
AOPR							**Sn**	**13 14 35.0**	**+1.5**
AOPR	**Arecibo Observ**	**1.86**	**83**	⇓	ePg		**Pn**	**13 14 10.4**	**+0.2**
AOPR					IAML			13 14 39.2	
	comp=N,818nm,0.2s								
UUPR	**Utuado, UPR, P**	**1.89**	**85**	⇑	eP		**Pn**	**13 14 10.5**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.89**	**85**	eS			**Sn**	**13 14 34.7**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.89**	**85**				**Pn**	**13 14 10.5**	**+0.1**
UUPR							**Sn**	**13 14 34.7**	**+0.7**
ABDR	**Alto Bandera**	**1.96**	**291**	⇓	ePg		**Pn**	**13 14 12.2**	**+0.5**
ABDR					IAML			13 14 39.1	
	comp=N,429nm,0.2s								
OBIP	**Obispado Ponce**	**1.99**	**92**	⇑	eP		**Pn**	**13 14 11.6**	**-0.2**
OBIP	**Obispado Ponce**	**1.99**	**92**	eS			**Sn**	**13 14 37.7**	**+1.3**
OBIP	**Obispado Ponce**	**1.99**	**92**				**Pn**	**13 14 11.6**	**-0.2**
OBIP							**Sn**	**13 14 37.7**	**+1.3**
CELP	**Cerrillos**	**2.02**	**91**	⇓	eP		**Pn**	**13 14 11.6**	**-0.5**
CELP	**Cerrillos**	**2.02**	**91**	eS			**Sn**	**13 14 37.8**	**+0.8**
CELP	**Cerrillos**	**2.02**	**91**				**Pn**	**13 14 11.6**	**-0.5**
CELP							**Sn**	**13 14 37.8**	**+0.8**
CELP	**Cerrillos**	**2.02**	**91**		IAML			13 14 43.8	
	comp=N,162nm,0.3s								
CELP					IAML			13 14 43.8	
	comp=E,161nm,0.3s								
CELP	**Cerrillos**	**2.02**	**91**	⇓	ePg		**Pn**	**13 14 11.8**	**-0.3**
CELP					IAML			13 14 43.7	
	comp=N,166nm,0.2s								
EMPR	**Esperanza - Ma**	**2.09**	**80**	⇑	eP		**Pn**	**13 14 13.3**	**+0.2**
EMPR	**Esperanza - Ma**	**2.09**	**80**	eS			**Sn**	**13 14 38.2**	**-0.5**
EMPR	**Esperanza - Ma**	**2.09**	**80**				**Pn**	**13 14 13.3**	**+0.2**
EMPR							**Sn**	**13 14 38.2**	**-0.5**
EMPR	**Esperanza - Ma**	**2.09**	**80**		IAML			13 14 45.6	
	comp=E,276nm,0.5s								
LOBA2	**Hotel Casa Bon**	**2.28**	**270**	⇑	ePg		**Pn**	**13 14 15.5**	**0.0**
SC01	**Santiago de lo**	**2.33**	**305**	⇑	ePg		**Pn**	**13 14 17.0**	**+0.8**
SC01					IAML			13 14 56.2	
	comp=N,4.4nm,3.5s								
SC01	**Santiago de lo**	**2.33**	**305**	i	P		**Pn**	**13 14 17.0**	**+0.8**
SJG	**San Juan**	**2.42**	**90**	⇑	eP		**Pn**	**13 14 15.9**	**-1.6**
SJG	**San Juan**	**2.42**	**90**	eS			**Sn**	**13 14 46.8**	**+0.3**
SJG	**San Juan**	**2.42**	**90**				**Pn**	**13 14 15.9**	**-1.6**
SJG	**San Juan**	**2.42**	**90**		IAML			13 14 51.0	
	comp=N,121nm,0.5s								
SJG					IAML			13 14 51.2	
	comp=N,114nm,0.2s								
PODR	**Polo**	**2.46**	**272**	⇑	eP		**Pn**	**13 14 19.3**	**+1.3**
PODR					IAML			13 14 58.6	
	comp=N,85nm,0.5s								
PODR	**Polo**	**2.46**	**272**	i	P		**Pn**	**13 14 18.8**	**+0.7**
PODR					eS		**Sn**	**13 14 44.0**	**-3.7**
IGPR	**InterUniversit**	**2.47**	**93**	⇑	eP		**Pn**	**13 14 17.4**	**-0.7**
IGPR	**InterUniversit**	**2.47**	**93**	eS			**Sn**	**13 14 44.8**	**-2.9**
IGPR	**InterUniversit**	**2.47**	**93**				**Pn**	**13 14 17.4**	**-0.7**
IGPR							**Sn**	**13 14 44.8**	**-2.9**
IGPR	**InterUniversit**	**2.47**	**93**		IAML			13 14 53.4	
	comp=E,154nm,0.2s								
IGPR					IAML			13 14 54.0	
	comp=N,184nm,0.3s								
GCPR	**Guaynabo City**	**2.49**	**85**	Pn			**Pn**	**13 14 19.5**	**+1.2**
GCPR					IAML			13 14 50.0	
	comp=E,104nm,0.5s								
SDDR	**Presa de Saban**	**2.60**	**290**				**Pn**	**13 14 20.2**	**+0.3**
SDDR					IAML			13 15 02.0	
	comp=E,132nm,0.5s								
SDDR	**Presa de Saban**	**2.60**	**290**	⇓	ePg		**Pn**	**13 14 21.8**	**+1.9**
SDDR					IAML			13 15 05.6	
	comp=N,83nm,0.8s								
SDDR	**Presa de Saban**	**2.60**	**290**	i	P		**Pn**	**13 14 21.7**	**+1.8**
SDDR					eS		**Sn**	**13 14 50.4**	**-0.5**
SDDR					IAML			13 14 58.7	
	comp=Z,64nm,0.8s								
HUMP	**Col San Antoni**	**2.71**	**89**	⇑	eP		**Pn**	**13 14 21.2**	**-0.1**
HUMP	**Col San Antoni**	**2.71**	**89**				**Pn**	**13 14 21.2**	**-0.1**
HUMP	**Col San Antoni**	**2.71**	**89**		IAML			13 14 58.3	
	comp=N,138nm,0.2s								
REDR	**Restauracion**	**2.76**	**293**	⇓	ePg		**Pn**	**13 14 25.7**	**+3.8**
RED

UGLR	**Uglovaya**	**3.14**	**18**	*e*P	Pn	14 45 46.9	+2.9
UGLR				*e*S	Sb	14 46 25.0	-3.7
AVH	**Avacha**	**3.18**	**16**	*e*P	Pb	14 45 48.0	-3.3
AVH				*e*S	Sn	14 46 25.6	+3.5
KOK	**Koryaka**	**3.19**	**15**	*e*P	Pb	14 45 48.4	-3.0
KOK				*e*S	Sb	14 46 26.4	-3.6
SMAR	**Somma**	**3.19**	**17**	*e*P	Pb	14 45 48.7	-2.8
SMAR				*e*S	Sb	14 46 26.7	-3.5
KRER	**Koryakskii**	**3.22**	**16**	*e*P	Pn	14 45 48.4	+3.2
KRX	**Arik**	**3.26**	**15**	*e*P	Pn	14 45 49.0	+3.4
KRX				*e*S	Sn	14 46 27.5	+3.5
SPN	**Mys Shipunski**	**3.36**	**30**	*e*P	Pn	14 45 49.3	+2.4
SPN				*e*S	Sn	14 46 29.2	+2.9
GNL	**Ganaly**	**3.50**	**7**	*e*P	Pn	14 45 52.1	+3.2
TUMR	**Tumrok**	**5.36**	**18**	*e*P	Pn	14 46 18.4	+3.9

*JMA **05** 14:45:39.7±0.1, 23°.3N±0°.1×120°.6E±0°.3, h0km, MV3.8/9, TAIWAN REGION*
*ASIES **05** 14:45:39.5, 23°.28N×120°.53E, h11km, ML3.5, Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}8.69; $M_{\theta\theta}$-0.41; $M_{\phi\phi}$-8.28; $M_{r\theta}$-1.69; $M_{\theta\phi}$-1.30; $M_{\phi r}$-4.20; Fault plane solution: $M_0$9.70849×10^{20} NP1: ϕ_s194.89000°, δ58.87000°, λ95.87000°. NP2:ϕ_s3.65000°, δ31.63000°, λ80.39000°. Principal axes: T Plg75.3960°, Azm121.5670°; N Plg5.0230°, Azm11.8540°; P Plg13.6770°, Azm280.6280°;*
*TAP **05** 14:45:39.5, 23°.28N×120°.53E, h11km, ML3.5, B*
ISC 05 14:45:39.9±0.7, 23°.28N±0°.01×120°.53E±0°.01, h14km±4km, n132, σ0°.74/224, 11C-26D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK	**Hsinying**	**0.04**	**253**	⇑*i*P	**Pg**	**14 45 42.1**	**-0.5**
TWK	baz=243			*i* S	**Sg**	**14 45 43.6**	**-0.8**
SNST	**Tainan City**	**0.07**	**209**	⇑*i*P	**Pg**	**14 45 42.3**	**-0.4**
SNST	baz=209			S	**Sg**	**14 45 43.8**	**-0.8**
WTP	**Ta-pu**	**0.08**	**114**	⇓*i*P	**Pg**	**14 45 42.6**	**-0.3**
WTP	baz=113			*i* S	**Sg**	**14 45 44.9**	**0.0**
TPUB	**Ta-pu**	**0.09**	**77**	P	**Pg**	**14 45 42.5**	**-0.4**
TPUB	**Ta-pu**	**0.09**	**77**	⇓*i*P	**Pg**	**14 45 42.6**	**-0.4**
TPUB	baz=76			*i* S	**Sg**	**14 45 44.6**	**-0.5**
WCKO	**Fanlu**	**0.17**	**22**	⇓P	**Pb**	**14 45 44.2**	**-0.8**
WCKO	baz=22			S	**Sg**	**14 45 47.8**	**+0.9**
SGST	**Jiashian**	**0.20**	**167**	⇓*i*P	**Pg**	**14 45 43.8**	**-0.7**
SGST	baz=164			*e*S	**Sg**	**14 45 47.9**	**+0.3**
CHY	**Chiayi**	**0.24**	**335**	*e*P	**Pb**	**14 45 45.8**	**-0.3**
CHY	baz=337			*e*S	**Sg**	**14 45 50.1**	**+1.5**
ICHU	**Yijhu**	**0.25**	**289**	⇓*i*P	**Pb**	**14 45 45.7**	**-0.5**
ICHU	baz=290			S	**Sg**	**14 45 50.8**	**+2.0**
STYH	**Taoyuan**	**0.25**	**116**	⇓*i*P	**Pb**	**14 45 45.4**	**-0.8**
STYH	baz=106			S	**Sg**	**14 45 49.1**	**+0.3**
CHN3	**Shinhua**	**0.26**	**217**	⇑P	**Pb**	**14 45 46.5**	**+0.1**
CHN3	baz=217			S	**Sb**	**14 45 52.0**	**+1.4**
SSHA	**Shanhua**	**0.27**	**238**	⇓*i*P	**Pb**	**14 45 46.5**	**0.0**
SSHA	baz=237			*e*S	**Sb**	**14 45 52.1**	**+1.2**
SLGT	**Liugui**	**0.30**	**160**	*e*P	**Pb**	**14 45 46.7**	**-0.4**
SLGT	baz=147			*e*S	**Sb**	**14 45 52.5**	**+0.5**
CHN8	**Yiju**	**0.30**	**283**	⇓*i*P	**Pb**	**14 45 46.4**	**-0.7**
SHHT	baz=284			*e*S	**Sb**	**14 45 53.1**	**+0.9**
SHHT	**Tainan City**	**0.31**	**214**	⇑P	**Pb**	**14 45 47.6**	**+0.4**
SCLT	baz=213			*e*S	**Sb**	**14 45 54.1**	**+1.4**
SCLT	**Jiali**	**0.33**	**252**	*e*P	**Pb**	**14 45 47.3**	**-0.3**
CHN5	baz=251			*e*S	**Sb**	**14 45 53.2**	**-0.1**
CHN5	**Tsauling**	**0.34**	**23**	⇓*i*P	**Pb**	**14 45 47.2**	**-0.8**
TAI1	baz=23			*e*S	**Sb**	**14 45 54.9**	**+1.0**
TAI1	**Yung-k'ang**	**0.37**	**230**	*e*P	**Pb**	**14 45 48.6**	**+0.4**
WSL	baz=232			*e*S	**Sb**	**14 45 54.8**	**+0.8**
WSL	**Shuilin Townsh**	**0.37**	**311**	⇑P	**Pb**	**14 45 47.9**	**-0.4**
SCST	baz=312			*e*S	**Sb**	**14 45 55.9**	**+1.3**
SCST	**Cishan**	**0.39**	**185**	⇑P	**Pb**	**14 45 48.9**	**+0.2**
WGK	baz=172			*e*S	**Sb**	**14 45 56.0**	**+1.1**
WGK	**Gukeng**	**0.41**	**4**	*e*P	**Pb**	**14 45 48.6**	**-0.4**
WDLH	baz=5.0			*e*S	**Sb**	**14 45 55.9**	**+0.8**
WDLH	**Douliu**	**0.41**	**1**	P	**Pb**	**14 45 49.0**	**+0.1**
TSCK	baz=1.0			*e*S	**Sb**	**14 45 57.3**	**+1.6**
TSCK	**Chigu Township**	**0.43**	**252**	*e*P	**Pb**	**14 45 49.1**	**-0.2**
YUS	baz=253			*e*S	**Sb**	**14 45 56.3**	**-0.1**
YUS	**Yu-Shan**	**0.44**	**61**	*e*P	**Pb**	**14 45 49.2**	**-0.6**
ELDTW	baz=62			*e*S	**Sb**	**14 45 56.0**	**-0.5**
ELDTW	**Lidau**	**0.45**	**101**	⇓*i*P	**Pb**	**14 45 49.2**	**-0.6**
WSF	baz=93			*i* S	**Sb**	**14 45 57.2**	**+0.7**
WSF	**Szhu**	**0.46**	**321**	P	**Pb**	**14 45 49.3**	**-0.5**
TWM1	baz=323			*e*S	**Pn**	**14 45 51.2**	**-1.0**
TWM1	**Shoushan**	**0.47**	**193**	⇑*e*P	**Pn**	**14 45 51.2**	**-1.0**
WHYT	baz=177			S	**Sb**	**14 45 58.1**	**+0.1**
WHYT	**Xinyi Township**	**0.51**	**35**	⇓P	**Pb**	**14 45 50.2**	**-0.5**
SGLT	baz=43			*e*S	**Sn**	**14 46 02.2**	**-0.2**
SGLT	**Jiouru**	**0.55**	**184**	*e*P	**Pn**	**14 45 52.7**	**-0.7**
SNJT	baz=170			*e*S	**Sn**	**14 46 03.0**	**+0.5**
SNJT	**Kaohsiung City**	**0.56**	**199**	*e*P	**Pb**	**14 45 52.2**	**+0.8**
WJS	baz=198			*e*S	**Sn**	**14 46 16.0**	**+0.8**
WJS	**Zhushan**	**0.57**	**18**	*e*P	**Pb**	**14 45 51.9**	**+0.2**
WNT	baz=18			S	**Sb**	**14 46 00.9**	**+1.2**
WNT	**Mingjian**	**0.61**	**13**	*i* P	**Pb**	**14 45 52.6**	**+0.2**
WTCT	baz=14			*e*S	**Sb**	**14 46 02.2**	**+1.3**
WTCT	**Ta-ch'eng**	**0.63**	**338**	*e*P	**Pb**	**14 45 52.6**	**-0.1**
EHD	baz=339			*i* S	**Sb**	**14 46 01.9**	**+0.5**
EHD	**Haiduan**	**0.63**	**102**	⇓*i*P	**Pb**	**14 45 52.4**	**-0.4**
WRL	baz=94			*e*S	**Sb**	**14 46 01.3**	**-0.2**
WRL	**Guolierlin Hig**	**0.64**	**347**	*i* P	**Pb**	**14 45 52.5**	**-0.3**
	baz=336			*e*S	**Sb**	**14 46 02.6**	**+1.0**
SSLB	**Suanglung**	**0.64**	**37**	P	**Pb**	**14 45 52.8**	**-0.1**
SSLB	**Suanglung**	**0.64**	**37**	*i* P	**Pb**	**14 45 52.4**	**-0.5**
SSLB	baz=47			S	**Sb**	**14 46 02.3**	**+0.6**
ECS	**Chishang**	**0.66**	**106**	*e*P	**Pb**	**14 45 53.1**	**-0.1**
ECS	baz=99			S	**Sb**	**14 46 03.4**	**+1.1**
LONT	**Longtian**	**0.66**	**124**	⇓*i*P	**Pb**	**14 45 53.0**	**-0.3**
LONT	baz=124			*i* S	**Sb**	**14 46 02.9**	**+0.5**
MASBT	**Mashibuluo**	**0.67**	**172**	⇓*i*P	**Pb**	**14 45 53.4**	**-0.1**
MASBT	baz=159			*e*S	**Sb**	**14 46 03.6**	**+1.0**
TWGBT	**Beinan**	**0.68**	**132**	P	**Pb**	**14 45 53.7**	**+0.1**
TWGBT	**Beinan**	**0.68**	**132**	⇓*i*P	**Pb**	**14 45 53.4**	**-0.2**
TWGBT	baz=121			*e*S	**Sb**	**14 46 02.8**	**-0.1**
SMLT	**Sun Moon Lake**	**0.69**	**29**	P	**Pb**	**14 45 53.8**	**0.0**
SMLT	baz=30			*i* S	**Sb**	**14 46 04.5**	**+1.3**
TYC	**Yuchr**	**0.69**	**25**	⇑*i*P	**Pb**	**14 45 53.8**	**0.0**
TYC	baz=26			S	**Sb**	**14 46 04.5**	**+1.3**
FULB	**Fuli**	**0.70**	**96**	⇓*i*P	**Pb**	**14 45 54.4**	**+0.3**
FULB	baz=88			*e*S	**Sb**	**14 46 04.3**	**+0.7**
TWF1	**Yuli**	**0.71**	**84**	⇓*i*P	**Pb**	**14 45 53.6**	**-0.4**
TWF1	baz=84			*e*S	**Sb**	**14 46 03.4**	**-0.2**
YULB	**Yu-li**	**0.71**	**81**	P	**Pg**	**14 45 53.6**	**-0.2**
YULB	**Yu-li**	**0.71**	**81**	⇓*i*P	**Pg**	**14 45 53.6**	**-0.2**
YULB	baz=89			S	**Sg**	**14 46 03.0**	**-0.2**
EYUL	**Yuli**	**0.72**	**85**	*i* P	**Pb**	**14 45 54.0**	**-0.4**
EYUL	baz=85			*e*S	**Sb**	**14 46 04.0**	**-0.2**
VWDT	**VWDT**	**0.73**	**50**	⇓*i*P	**Pb**	**14 45 54.2**	**-0.2**
VWDT	baz=54			*e*S	**Sb**	**14 46 04.4**	**0.0**
EHY	**Hungye**	**0.76**	**73**	⇓*e*P	**Pb**	**14 45 54.7**	**-0.2**
EHY	baz=77			S	**Sb**	**14 46 05.1**	**-0.1**
TTN	**Taitung**	**0.77**	**133**	*e*P	**Pn**	**14 45 56.1**	**-0.3**
EHYH	baz=132			*e*P	**Pb**	**14 45 55.1**	**-0.2**
EHYH	**Wanrong**	**0.78**	**74**	*e*P	**Pb**	**14 45 55.1**	**-0.2**
ECL	baz=78			*e*S	**Sb**	**14 46 05.3**	**-0.3**
ECL	**Taimali**	**0.78**	**150**	*e*P	**Pb**	**14 45 55.2**	**-0.1**
CHKT	baz=144			*i* S	**Sb**	**14 46 06.5**	**+0.7**
CHKT	**Chengkung**	**0.79**	**103**	⇓*e*P	**Pb**	**14 45 55.6**	**+0.2**
CHKH	baz=103			*e*S	**Sb**	**14 46 07.1**	**+1.2**
CHKH	**Chenggong**	**0.80**	**96**	⇓*e*P	**Pb**	**14 45 55.9**	**+0.3**
WDGT	baz=90			*e*S	**Sn**	**14 46 07.6**	**-0.9**
WDGT	**Dungji**	**0.80**	**269**	⇓P	**Pg**	**14 45 54.8**	**-0.7**
ECBN	baz=281			*i* S	**Sb**	**14 46 06.3**	**-0.1**
ECBN	**Changbin**	**0.84**	**87**	*e*P	**Pn**	**14 45 57.2**	**-0.2**
HGSD	baz=87			*i* P	**Pn**	**14 45 56.9**	**-0.6**
HGSD	**Ruisui**	**0.84**	**75**	*i* P	**Pn**	**14 45 56.9**	**-0.6**
WCS	baz=83			*e*S	**Sb**	**14 46 08.3**	**+0.7**
WCS	**Beigang Elemen**	**0.85**	**24**	⇑*e*P	**Pb**	**14 45 56.2**	**-0.3**
WUSB	baz=24			*i* S	**Sb**	**14 46 08.7**	**+0.9**
WUSB	**Renai**	**0.89**	**37**	*i* P	**Pg**	**14 45 56.8**	**-0.4**
OWD	baz=37			*e*S	**Sg**	**14 46 08.3**	**-0.5**
OWD	**Renai**	**0.89**	**41**	⇑*e*P	**Pb**	**14 45 57.1**	**-0.2**
WARBT	baz=29						
WARBT	**Fenglin Townsh**	**0.90**	**61**	⇓P	**Pg**	**14 45 56.9**	**-0.4**
SCZT	baz=52			S	**Sb**	**14 46 08.9**	**-0.3**
SCZT	**Fangliau**	**0.91**	**175**	*e*P	**Pb**	**14 45 57.5**	**+0.1**
EGFH	baz=163						
EGFH	**Guangfu**	**0.91**	**65**	*i* P	**Pb**	**14 45 57.6**	**+0.1**
PHUB	baz=56			*i* S	**Sb**	**14 46 09.8**	**+0.3**
PHUB	**P'eng-hu**	**0.91**	**285**	*e*P	**Pg**	**14 45 56.2**	**-1.4**
EAST	baz=286			S	**Sg**	**14 46 08.6**	**-1.0**
EAST	**Anshuo**	**0.94**	**162**	*e*P	**Pn**	**14 45 58.3**	**-0.5**
PNG	baz=161			*e*S	**Sn**	**14 46 11.8**	**-0.2**
PNG	**Penghu**	**0.94**	**288**	⇓*i*P	**Pg**	**14 45 57.1**	**-1.1**
CHGB	baz=289			*e*S	**Sg**	**14 46 09.5**	**-1.0**
CHGB	**Renai**	**0.97**	**37**	⇑*i*P	**Pg**	**14 45 58.2**	**-0.6**
TAW	baz=37			S	**Sb**	**14 46 12.0**	**+0.4**
TAW	**Tawu**	**0.98**	**160**	*e*P	**Pn**	**14 45 59.1**	**-0.1**
ESL	baz=151			*e*P	**Pb**	**14 45 58.8**	**0.0**
ESL	**Shilin**	**0.98**	**57**	*e*P	**Pb**	**14 45 58.8**	**0.0**
TAWH	baz=58			S	**Sb**	**14 46 12.0**	**+0.4**
TAWH	**Dawu Township**	**0.99**	**161**	*e*P	**Pn**	**14 45 59.4**	**0.0**
VCHM	baz=160			*e*S	**Sn**	**14 46 13.2**	**0.0**
VCHM	**Qimei**	**1.02**	**266**	P	**Pg**	**14 45 58.0**	**-1.6**
LDUT	baz=267			*e*S	**Sg**	**14 46 11.9**	**-1.0**
LDUT	**Ludao**	**1.05**	**125**	*e*P	**Pn**	**14 46 00.1**	**-0.2**
WHP	baz=125			*i* S	**Sn**	**14 46 15.3**	**+0.6**
WHP	**Taichung City**	**1.06**	**21**	*e*P	**Pb**	**14 46 00.1**	**-0.1**
WDJ	baz=21			*e*S	**Sn**	**14 46 16.0**	**+0.8**
WDJ	**Dajia District**	**1.07**	**5**	*e*P	**Pn**	**14 46 00.3**	**-0.2**
SHUL	baz=5.0			*e*S	**Sn**	**14 46 15.5**	**+0.3**
SHUL	**Shoufeng**	**1.07**	**62**	*e*P	**Pn**	**14 46 01.0**	**+0.4**
SLIU	baz=56			*e*S	**Sn**	**14 46 16.0**	**+0.8**
SLIU	**Shizi**	**1.09**	**167**	*e*P	**Pn**	**14 46 00.8**	**+0.1**
WHF	baz=155			*e*S	**Sn**	**14 46 16.9**	**+1.3**
WHF	**Hehuan Shan**	**1.09**	**38**	*e*P	**Pb**	**14 46 00.9**	**0.0**
ETM	baz=38			*e*S	**Sn**	**14 46 16.2**	**-0.2**
ETM	**Tongmen**	**1.11**	**52**	*e*P	**Pg**	**14 46 01.0**	**-0.4**
TDCB	baz=63			*e*S	**Sg**	**14 46 15.5**	**-0.5**
TDCB	**Techi**	**1.13**	**30**	*e*P	**Pb**	**14 46 00.8**	**-0.6**
TWT	baz=30			*e*S	**Sg**	**14 46 16.3**	**-0.1**
TWT	**Tachien**	**1.13**	**31**	P	**Pn**	**14 46 01.6**	**+0.1**
TEYL	baz=31						
TEYL	**Yanliau Villag**	**1.14**	**59**	*e*P	**Pg**	**14 46 02.1**	**+0.2**
NSY	baz=58			*e*S	**Sn**	**14 46 18.8**	**+1.9**
NSY	**Sanyi**	**1.15**	**10**	*e*P	**Pg**	**14 46 01.9**	**-0.2**
FUSS	baz=359			S	**Sn**	**14 46 18.3**	**+1.0**
FUSS	**Fushou**	**1.16**	**34**	P	**Pn**	**14 46 02.1**	**0.0**
HWA	baz=34			S	**Sn**	**14 46 17.8**	**-0.1**
HWA	**Hwalien**	**1.20**	**55**	*e*P	**Pg**	**14 46 03.2**	**+0.1**
TWD	baz=55			*e*S	**Sn**	**14 46 19.9**	**+1.4**
TWD	**Chiawan**	**1.26**	**51**	*e*P	**Pg**	**14 46 04.0**	**-0.2**
NMLH	baz=61			*e*S	**Sg**	**14 46 20.6**	**0.0**
NMLH	**Miaoli**	**1.27**	**11**	*i* P	**Pb**	**14 46 03.7**	**-0.1**
HEN	baz=358			*e*S	**Sg**	**14 46 21.6**	**+0.5**
HEN	**Hengchun**	**1.28**	**171**	*e*P	**Pn**	**14 46 03.1**	**-0.4**
NACB	baz=171						
NACB	**Ninganchiao**	**1.32**	**47**	P	**Pg**	**14 46 04.7**	**-0.6**
NACB	**Ninganchiao**	**1.32**	**47**	P	**Pg**	**14 46 04.7**	**-0.6**
ETL	baz=47			S	**Sg**	**14 46 22.6**	**+0.1**
ETL	**Fush Village**	**1.33**	**49**	*e*P	**Pg**	**14 46 05.1**	**-0.4**
TWK1	baz=36						
TWK1	**Hengchun**	**1.35**	**169**	*e*P	**Pn**	**14 46 04.2**	**-0.2**
TWKBT	baz=168						
TWKBT	**Hengchun**	**1.36**	**169**	*e*P	**Pn**	**14 46 04.2**	**-0.3**
NNSB	baz=168						
NNSB	**Datong**	**1.38**	**34**	*e*P	**Pb**	**14 46 05.4**	**-0.3**
NNS	baz=42			*e*S	**Sg**	**14 46 24.8**	**+0.2**
NNS	**Nan Shan**	**1.39**	**33**	*e*P	**Pg**	**14 46 06.2**	**-0.4**
NSTT	baz=42			*e*S	**Sg**	**14 46 24.4**	**-0.3**
NSTT	**Nanjuang**	**1.41**	**18**	*i* P	**Pn**	**14 46 05.3**	**+0.1**
NFF	baz=18			*e*S	**Sg**	**14 46 24.8**	**-0.7**
NFF	**Wufeng Townshi**	**1.45**	**22**	*i* P	**Pn**	**14 46 06.0**	**+0.2**
EAHA	baz=3.0			S	**Sb**	**14 46 25.1**	**0.0**
EAHA	**Aohua**	**1.52**	**46**	*e*P	**Pb**	**14 46 07.3**	**-0.6**
LATG	baz=61			*e*S	**Sg**	**14 46 28.8**	**-0.2**
LATG	**Datong**	**1.55**	**36**	⇓P	**Pb**	**14 46 08.1**	**-0.3**
SBCB	baz=35			*e*S	**Sg**	**14 46 28.9**	**-0.8**
SBCB	**Hsinchu**	**1.56**	**15**	*e*P	**Pn**	**14 46 06.9**	**-0.4**
NSK	baz=16			*e*S	**Sg**	**14 46 30.1**	**-0.8**
NSK	**Sanguang**	**1.58**	**28**	*e*P	**Pn**	**14 46 07.8**	**+0.1**
YHNB	baz=28			*e*S	**Sb**	**14 46 29.1**	**+0.1**
YHNB	**Yeheng**	**1.58**	**29**	*e*P	**Pb**	**14 46 08.4**	**-0.7**
ENA	baz=28			*e*S	**Sg**	**14 46 31.0**	**-0.2**
ENA	**Nanau**	**1.59**	**44**	*e*P	**Pg**	**14 46 09.6**	**-0.9**
NDT	baz=58			*e*S	**Sb**	**14 46 28.9**	**-0.3**
NDT	**Datong Townshi**	**1.59**	**34**	P	**Pb**	**14 46 09.1**	**-0.1**
LYUB	baz=24						
LYUB	**Lan-yu**	**1.60**	**142**	*e*P	**Pn**	**14 46 05.8**	**-2.0**
EWUT	baz=142						
EWUT	**Wuta**	**1.63**	**44**	P	**Pb**	**14 46 09.8**	**+0.1**
ENTT	baz=58			*e*S	**Sg**	**14 46 31.4**	**-1.0**
ENTT	**Nioudou**	**1.65**	**35**	*e*P	**Pb**	**14 46 09.8**	**-0.4**
NDS	baz=36						
NDS	**Dongshan**	**1.73**	**39**	*e*P	**Pb**	**14 46 11.5**	**0.0**
NWLT	baz=23						
NWLT	**Wulai**	**1.73**	**31**	*e*P	**Pb**	**14 46 11.8**	**+0.1**
FUSB	baz=32						
FUSB	**Fushanzhiwuyua**	**1.76**	**33**	*e*P	**Pb**	**14 46 11.0**	**-1.1**
ESAO	baz=34						
ESAO	**Su ao**	**1.76**	**43**	*e*P	**Pb**	**14 46 12.2**	**+0.1**
TWE	baz=60						
TWE	**Neicheng**	**1.77**	**36**	*e*P	**Pb**	**14 46 12.3**	**+0.1**
TWC	baz=37						
TWC	**Suao**	**1.79**	**42**	*e*P	**Pb**	**14 46 12.5**	**0.0**
EOS4	baz=32			S	**Sg**	**14 46 36.9**	**-0.6**
EOS4	**EOS4**	**1.84**	**63**	*e*P	**Pb**	**14 46 12.0**	**-1.1**
EOS3	baz=62						
EOS3	**EOS3**	**1.92**	**58**	*e*P	**Pb**	**14 46 14.0**	**-0.6**
TWA	baz=57						
TWA	**Mucha**	**1.95**	**29**	*e*P	**Pb**	**14 46 15.7**	**+0.4**
VWUC	baz=39						
VWUC	**VWUC**	**1.97**	**330**	*e*P	**Pn**	**14 46 13.5**	**+0.6**
EGS	baz=331						
EGS	**2.02**	**39**	*e*P	**Pb**	**14 46 16.3**	**-0.1**
TIPB	baz=40						
TIPB	**Shuangxi**	**2.06**	**35**	*e*P	**Pn**	**14 46 15.2**	**+1.1**
YM01	baz=19						
YM01	**YM01**	**2.09**	**27**	*e*P	**Pn**	**14 46 13.7**	**-0.9**
ANP	baz=11						
ANP	**Anpu**	**2.10**	**25**	*e*P	**Pn**	**14 46 14.9**	**+0.1**
PTMZ	baz=10.0						
PTMZ	**Houxiangcun**	**2.18**	**324**	*e*P	**Pn**	**14 46 14.1**	**-1.6**
SXI1	baz=325						
SXI1	**Grass Mountain**	**2.18**	**34**	*e*P	**Pb**	**14 46 18.7**	**-0.6**
KNM	baz=17						
KNM	**Kinmen**	**2.23**	**301**	*e*P	**Pn**	**14 46 17.2**	**+0.7**
KNMB	baz=299						
KNMB	**Chin-men Tao**	**2.29**	**301**	*e*P	**Pn**	**14 46 16.3**	**-1.0**
YOJ	baz=302						
YOJ	**Yonaguni jima**	**2.56**	**62**	P	**Pb**	**14 46 23.5**	**-2.1**
YOJ	**Yonaguni jima**	**2.56**	**62**	*e*P	**Pn**	**14 46 21.7**	**+0.7**
YOJ	baz=62						
YOJ	**Yonaguni jima**	**2.56**	**62**	*e*P	**Pb**	**14 46 23.2**	**-2.3**
IRIF	**Iriomote-Funau**	**3.11**	**70**	*e*P	**Pn**	**14 46 31.2**	**+2.6**
JIJ	IRIF			*e*S	**Sn**	**14 47 08.4**	**+2.8**
JIJ	**Ishigaki jima**	**3.48**	**71**	P	**Pn**	**14 46 34.8**	**+1.1**
JISG	**Ishigakijimahi**	**3.69**	**69**	*e*P	**Pn**	**14 46 37.5**	**+0.8**
JISG				*e*S	**Sn**	**14 47 21.0**	**+1.0**

*ISN **05** 14:50:04.2±1.0, 34°.42N×45°.63E, h6km±44km, ML3.1*
*TEH **05** 14:50:06.0, 34°.44N×45°.63E, h9km±18km, ML3.2*
ISC 05 14:50:06.0±1.0, 34°.44N±0°.04×45°.66E±0°.04, h11km±9km, n17, σ1°.22/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.09**	**321**	Pg	**Pg**	**14 50 08.5**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.39**	**147**	Pg	**Pb**	**14 50 14.1**	**-0.9**
IDHR	**Dehrash**	**0.66**	**66**	Pg	**Pg**	**14 50 18.8**	**0.0**
IDHR				Sg	**Sb**	**14 50 29.3**	**+0.4**
IGHG	**Ghaleghazi**	**0.76**	**98**	Pg	**Pb**	**14 50 21.3**	**-0.2**
IGHG				Sg	**Sn**	**14 50 34.1**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.16**	**98**	Pg	**Pn**	**14 50 29.1**	**+0.7**
ILIN	**Lien**	**1.18**	**66**	Pg	**Pn**	**14 50 29.1**	**+0.4**
IBDR	**Badra**	**1.34**	**170**	*e*Pg	**Pg**	**14 50 32.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**14 50 51.0**	**+1.7**
IKRK	**Kirkuk**	**1.45**	**312**	*e*Pn	**Pg**	**14 50 33.0**	**-0.8**
IKRK				*e*Sn	**Sg**	**14 50 53.0**	**+0.4**
IKRK				AML	AML	14 50 56.2	
IKRK	comp=E,239nm,0.6s			AML	AML	14 50 59.7	
BHD	comp=N,249nm,0.7s **Baghdad**	**1.57**	**223**	*e*Pn	**Pb**	**14 50 34.0**	**-1.2**
BHD				*e*Sn	**Sg**	**14 50 56.0**	**-0.7**
BHD				AML	AML	14 50 59.8	
SNQR	comp=E,623nm,0.5s **Sonqor, Kerman**	**1.68**	**75**	Pg	**Pg**	**14 50 38.0**	**-0.3**
SDS1	**Sardasht. Az.**	**1.71**	**355**	Pg	**Pg**	**14 50 37.9**	**-1.1**
IBZA	**Bozab**	**1.82**	**88**	Pn	**Pg**	**14 50 40.1**	**-0.9**

IKFM	Kafar-mosalman	2.04	116	Pn	Pb	14 50 42.6	-0.5
IDOB	Doab	2.19	107	Pn	Pb	14 50 44.4	-1.5
HSAM	Samen	2.45	94	Pn	Pb	14 50 48.1	-2.2
IHSH	Hashtrud	3.15	24	Pn	Pn	14 50 57.9	+2.0
IAZR	Azarshahr	3.25	5	Pn	Pn	14 50 59.6	+2.4

IDC 05 14:53:02.4±2.1, 2°.39S×127°.70E, h0km, mb3.4/3, mbtmp3.3/4, ML3.0/1, MS3.3/2, Error ellipse: s-maj=174.1km s-min=27.4km az=65.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.61**	**160**	P	Pn	14 57 21.6	0.0
	baz=341,slow=12,SNR=4.5 0.3nm,0.6s						
ASAR	**Alice Springs**	**21.99**	**165**	P	P	14 57 59.2	+1.0
	0.1nm,0.3s,baz=346,slow=11,SNR=4.5 0.1nm,0.3s						
GUMO	**Guam**	**23.28**	**47**	LR	LR	15 06 19.4	
	comp=Z,24nm,19.2s,baz=165,slow=34						
STKA	**Stephens Creek**	**32.12**	**157**	P	P	14 59 30.6	-0.9
	2.8nm,0.9s,baz=342,slow=9.6,SNR=1.8 2.8nm,0.9s						
RPZ	**Rata Peaks**	**56.26**	**143**	LR	LR	15 26 57.8	
	comp=Z,76nm,19.2s,baz=231,slow=36						
MKAR	**Makanchi Array**	**63.14**	**327**	P	P	15 03 32.0	-0.1
	0.1nm,0.4s,baz=121,slow=6.9,SNR=2.2 0.1nm,0.4s						

WEL 05 14:54:15.9±1.0, 32°.S±7°.×18°.0E±1°.6, h364km±16km, M3.9/7, mB4.3/6, ML4.4/9, MLv4.2/7, Mw(mB)3.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=109.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.70**	**35**	P	Pn	14 55 20.8	-2.2
GLKZ				S	S	14 56 17.9	+1.0
MXZ	**Matakaoa Point**	**5.33**	**192**	P	Pn	14 55 40.9	+1.3
MXZ				S	S	14 56 49.9	+2.4
WMGZ	**Waiomatatini S**	**5.56**	**190**	P	Pn	14 55 44.3	+2.2
HAZ	**Te Kaha**	**5.62**	**195**	P	Pn	14 55 43.4	+0.6
HAZ				S	S	14 56 53.7	+0.3
WIAZ	**Waiheke Island**	**5.81**	**219**	P	Pn	14 55 46.5	+1.6
OUZ	**Omahuta**	**5.81**	**239**	P	Pn	14 55 44.7	-0.4
PUZ	**Puketiti**	**5.83**	**191**	P	Pn	14 55 46.5	+1.3
PUZ				S	S	14 56 59.7	+1.8
RUGZ	**Raukumara Rang**	**5.84**	**196**	P	Pn	14 55 45.1	-0.4
RUGZ				S	S	14 56 58.7	+0.5
TWGZ	**Tauwhareparae**	**5.98**	**193**	P	Pn	14 55 46.0	-1.0
TWGZ				S	S	14 57 03.2	+2.2
RVAZ	**Riverhead Bore**	**6.09**	**222**	P	Pn	14 55 50.5	+2.4
MWZ	**Matawai**	**6.23**	**196**	P	Pn	14 55 50.1	+0.3
MWZ				S	S	14 57 06.2	+0.2
TKGZ	**Te Karaka**	**6.26**	**193**	P	Pn	14 55 50.7	+0.7
URZ	**Urewera**	**6.26**	**199**	P	Pn	14 55 48.6	-1.4
URZ				P	S	14 57 04.0	-2.6
RAGZ	**Rawiri**	**6.41**	**196**	P	Pn	14 55 51.8	-0.1
RAGZ				S	S	14 57 08.6	-1.2
RIGZ	**Rimuhau**	**6.54**	**193**	P	Pn	14 55 53.5	+0.2
RIGZ				S	S	14 57 12.0	-0.4
MUGZ	**Murupara**	**6.56**	**200**	P	Pn	14 55 52.7	-0.8
MUGZ				S	S	14 57 11.6	-1.4
RTZ	**Ruatahuna**	**6.63**	**199**	P	Pn	14 55 53.3	-1.1

*NIED **05** 14:55:01.0, 32°.46N×130°.55E, h11km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.23; $M_{\theta\theta}$2.51; $M_{\phi\phi}$-2.28; $M_{r\theta}$-0.26; $M_{\theta\phi}$3.43; $M_{\phi r}$0.78; Fault plane solution: $M_0$4.27000×10^{14} NP1: ϕ_s198.00000°, δ83.00000°, λ-171.00000°. NP2: ϕ_s107.00000°, δ81.00000°, λ-7.00000°.*
*JMA **05** 14:55:01.0±0.1, 32°.5N±0°.1×130°.6E±0°.2, h11km±1km, MD3.8/20, MV4.0/20, AMAKUSA REGION*
JMA Felt II J1 at AMAKUSA REGION .
*IDC **05** 14:55:02.4±1.5, 32°.49N×130°.69E, h0km, mb3.2/2, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=41.0km s-min=10.5km az=100.0*

ISC 05 14:55:02.6±0.9, 32°.45N±0°.03×130°.57E±0°.04, h10km, n18, σ1°63/16, 4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.23**	**65**	⇓*i*P	**Pg**	**14 55 05.8**	**-1.5**
JIU3				⇓*e*S	**Sg**	**14 55 09.6**	**-0.9**
JIU3	**Izumi3**	**0.23**	**65**	A	A	14 55 05.8	
	comp=E,14nm,0.6s,comp=N,15nm,0.6s						
JZO	**Okuchi**	**0.31**	**175**	*i* P	**Pg**	**14 55 07.4**	**-1.6**
JZO				*e*S	**Sg**	**14 55 11.8**	**-1.3**
JZO	**Okuchi**	**0.31**	**175**	A	A	14 55 07.4	
	comp=E,55nm,0.2s,comp=N,85nm,0.3s						
JHD	**Hondo**	**0.36**	**272**	⇓*i*P	**Pg**	**14 55 08.0**	**-1.8**
JHD				⇓S	**Sg**	**14 55 13.2**	**-1.5**
JHD	**Hondo**	**0.36**	**272**	A	A	14 55 08.0	
	comp=E,14nm,0.5s,comp=N,20nm,0.9s						
JTA	**Tamana**	**0.51**	**357**	*i* P	**Pg**	**14 55 10.9**	**-1.7**
JTA				S	**Sg**	**14 55 17.8**	**-1.5**
JTA	**Tamana**	**0.51**	**357**	A	A	14 55 10.9	
	comp=E,7.0nm,2.6s,comp=N,5.0nm,0.4s						
JTZ	**Takazaki**	**0.71**	**141**	*i* P	**Pg**	**14 55 15.0**	**-1.3**
JTZ				S	**Sg**	**14 55 24.4**	**-1.2**
JNU	**Nakatsue**	**0.72**	**21**	Pg	**Pg**	**14 55 14.9**	**-1.6**
	comp=N,148nm,0.3s,baz=194,slow=7.5,SNR=2602						
JNU				Lg	Lg	14 55 24.2	
	baz=102,slow=9.3						
JKIT	**Kitakata**	**0.77**	**77**	A	A	14 55 15.9	
	comp=E,6.0nm,0.4s,comp=N,6.0nm,0.3s						
JTSN	**Tsuno**	**0.82**	**104**	A	A	14 55 16.8	
	comp=E,4.0nm,1.5s,comp=N,11nm,0.8s						
JFI	**Itaya**	**0.98**	**351**	A	A	14 55 19.4	
	comp=E,4.0nm,0.5s,comp=N,3.0nm,2.0s						
KSRS	**Korea Array**	**5.44**	**337**	Pg	**Pb**	**14 56 40.0**	**+2.3**
	comp=N,0.5nm,0.3s,baz=156,slow=15,SNR=5.7						
KSRS				Lg	Lg	14 57 52.0	
	comp=N,0.7nm,0.3s,baz=155,slow=29,SNR=4.9						
MJAR	**Matsushiro Arr**	**7.51**	**55**	Pn	**Pn**	**14 56 51.5**	**-0.8**
	comp=N,0.2nm,0.3s,baz=239,slow=15,SNR=6.2 comp=N,1.4nm,0.4s						
KLR	**Kul'dur**	**16.78**	**3**	Pn	**P**	**14 59 00.5**	**+0.6**
	comp=N,0.1nm,0.3s,baz=172,slow=8.5,SNR=6.2 comp=N,1.7nm,0.8s						
WRA	**Warramunga Arr**	**52.22**	**176**	P	**P**	**15 04 15.5**	**+1.6**
	comp=N,0.2nm,0.7s,baz=357,slow=7.8,SNR=1.6 comp=N,0.2nm,0.7s						
ASAR	**Alice Springs**	**55.90**	**176**	P	**P**	**15 04 42.2**	**+1.5**
	comp=N,0.4nm,0.9s,baz=357,slow=5.5,SNR=1.7 comp=N,0.4nm,0.9s						

*IDC **05** 14:58:09.2±7.1, 53°.18N×172°.98W, h169km±64km, mb3.3/5, mbtmp3.8/7, MS3.8/1, Error ellipse: s-maj=33.5km s-min=31.6km az=146.0*
*NEIC **05** 14:58:13.5±1.3, 52°.8N±0°.1×172°.58W±0°.09, h220km±6km, mb4.1/30, ML3.8/14, ML3.6(AEIC), Error ellipse: s-maj=18.9km s-min=8.1km az=175.0*
*AEIC **05** 14:58:15.1±1.4, 52°.9N±0°.2×172°.6W±0°.1, h210km±7km, Error ellipse: s-maj=23.7km s-min=8.3km az=164.0*

ISC 05 14:58:13.4±0.7, 53°.1N±0°.1×172°.71W±0°.06, h200km, n82, σ1°25/80, mb4.0/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.10**	**229**		**Pn**	**14 58 45.6**	**+1.7**
KONE	**Korovin Northe**	**1.10**	**232**		**Pn**	**14 58 45.8**	**+1.9**
KOFP	**Korovin Flat P**	**1.17**	**227**		**Pn**	**14 58 46.1**	**+1.7**
ATKA	**Atka Island**	**1.26**	**227**	P	**Pn**	**14 58 46.8**	**+1.7**
ATKA	**Atka Island**	**1.26**	**227**		**Pn**	**14 58 46.2**	**+1.2**
ATKA				Sn	**Sn**	**14 59 10.9**	**+1.4**
ATKA				IAML		14 59 12.4	
	comp=N,824nm,0.3s						
CLES	**Cleveland East**	**1.72**	**97**		**Pn**	**14 58 49.6**	**+0.5**
CLES				IAML		14 59 28.8	
	comp=E,693nm,0.4s						
CLES				IAML		14 59 28.9	
	comp=N,696nm,0.4s						
CLES	**Cleveland East**	**1.72**	**97**		**Sn**	**14 59 19.4**	**+2.6**
CLCO	**Concord Point,**	**1.83**	**98**		**Pn**	**14 58 50.9**	**+0.7**
CLCO					**Sn**	**14 59 20.6**	**+1.9**
GSTR	**Great Sitkin T**	**2.27**	**246**		**Pn**	**14 58 56.3**	**+1.5**
GSMY	**Great Sitkin M**	**2.29**	**244**		**Pn**	**14 58 56.5**	**+1.5**
NIKH	**Nikolski High**	**2.33**	**91**	P	**Pn**	**14 58 55.7**	**+0.3**
NIKH	**Nikolski High**	**2.33**	**91**		**Pn**	**14 58 55.6**	**+0.3**
GSTD	**Great Sitkin T**	**2.33**	**245**		**Pn**	**14 58 57.0**	**+1.4**
ADAG	**Mount Adagdak**	**2.62**	**247**		**Pn**	**14 59 00.7**	**+2.0**
ADK	**Adak**	**2.71**	**245**	P	**Pn**	**14 59 01.4**	**+1.8**
ADK	**Adak**	**2.71**	**245**	Pn	**Pn**	**14 59 00.8**	**+1.2**
ADK				IAML		14 59 43.9	
	comp=N,275nm,0.2s						
ADK				IAML		14 59 46.3	
	comp=N,233nm,0.3s						
OKWE	**Okmok W'ng Wal**	**2.71**	**80**		**Pn**	**14 59 00.8**	**+1.1**
OKCE	**Okmok Cone E**	**2.75**	**81**		**Pn**	**14 59 01.1**	**+0.9**
OKNC	**Okmok New Cone**	**2.78**	**80**		**Pn**	**14 59 01.4**	**+0.9**
KINC	**Kanaga Island**	**2.94**	**249**		**Pn**	**14 59 03.9**	**+1.6**
KIWB	**Kanaga Island**	**2.98**	**248**		**Pn**	**14 59 03.6**	**+0.8**
KIMD	**Kanaga Island**	**3.07**	**246**		**Pn**	**14 59 05.2**	**+1.3**
TAFP	**Tanaga Falls P**	**3.43**	**252**		**Sn**	**14 59 51.5**	**+0.4**
MTBL	**Makushin Table**	**3.71**	**74**		**Pn**	**14 59 12.9**	**+1.3**
UNV	**Unalaska Valle**	**3.79**	**76**	P	**Pn**	**14 59 12.4**	**-0.1**
UNV	**Unalaska Valle**	**3.79**	**76**		**Sn**	**15 00 00.8**	**+2.0**
AKRB	**Akutan Reef Bi**	**4.09**	**72**		**Pn**	**14 59 17.4**	**+1.1**
LVA	**Lava Point**	**4.12**	**72**	IAML		15 00 21.4	
	comp=N,68nm,0.7s						
LVA				IAML		15 00 25.1	
	comp=E,56nm,1.4s						
ZRO	**Akutan Zero**	**4.14**	**73**		**Pn**	**14 59 17.8**	**+1.0**
AKGG	**Akutan Green G**	**4.15**	**72**	IAML		15 00 26.7	
	comp=N,53nm,1.4s						
WESE	**West Dahl East**	**5.02**	**71**		**Pn**	**14 59 28.8**	**+0.8**
AMKA	**Amchitka**	**5.20**	**254**	Pn	**Pn**	**14 59 30.8**	**+0.5**
FALS	**False Pass**	**5.77**	**68**		**Pn**	**14 59 38.2**	**+0.7**
PN7A	**Pavlof North-7**	**6.71**	**65**		**Pn**	**14 59 50.2**	**+0.5**
S12K	**Black Hills**	**6.75**	**63**		**Pn**	**14 59 50.6**	**+0.3**
PS1A	**Pavlof South-1**	**6.84**	**66**		**Pn**	**14 59 51.8**	**+0.3**
CNBA	**Chernabura Isl**	**7.94**	**72**	Pn	**Pn**	**15 00 03.6**	**-2.1**
O14K	**Tigyukauivet M**	**8.88**	**41**	Pn	**Pn**	**15 00 18.6**	**+0.6**
CHGN	**Chignik**	**8.89**	**63**	Pn	**Pn**	**15 00 16.6**	**-1.4**
ANCK	**Angle Creek**	**10.98**	**55**	Pn	**Pn**	**15 00 45.4**	**+0.2**
OHAK	**Old Harbor**	**11.85**	**62**	P	**Pn**	**15 00 53.5**	**-2.6**
KDAK	**Kodiak Island**	**12.34**	**64**	P	**Pn**	**15 00 59.6**	**-2.8**
	comp=N,2.2nm,0.4s,baz=266,slow=3.9,SNR=21						
D19K	**Kuna River**	**16.95**	**19**	P	**P**	**15 01 58.9**	**+1.5**
D19K				IAmb	IAmb	15 02 02.5	
	comp=Z,7.1nm,1.0s						
CCB	**Clear Creek Bu**	**17.18**	**38**	P	**P**	**15 01 59.7**	**-0.2**
CCB				IAmb	IAmb	15 02 02.9	
	comp=Z,2.4nm,0.5s						
C19K	**Lookout Ridge**	**17.21**	**16**		**P**	**15 02 02.7**	**+2.3**
C19K				IAmb	IAmb	15 02 06.2	
	comp=Z,6.2nm,1.0s						
HDA	**Harding Lake**	**17.38**	**39**	P	**P**	**15 02 00.8**	**-1.3**
IL31		**17.58**	**38**	P	**P**	**15 02 06.1**	**+1.8**
ILAR	**Eielson Array**	**17.58**	**38**	P	**P**	**15 02 02.9**	**-1.4**
ILAR	**Eielson Array**	**17.58**	**38**	P	**P**	**15 02 03.6**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=234,slow=9.9,SNR=13						
PETK	**Petropavlovsk-**	**17.72**	**282**	P	**P**	**15 02 07.1**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=84,slow=14,SNR=7.4						
E21K	**Killik River**	**17.79**	**23**	P	**P**	**15 02 07.5**	**+0.9**
E21K				IAmb	IAmb	15 02 08.6	
	comp=Z,4.2nm,0.5s						
H24K	**Noodor Dome**	**17.79**	**34**	P	**P**	**15 02 06.0**	**-0.6**
H24K				IAmb	IAmb	15 02 09.4	
	comp=Z,4.0nm,0.8s						
BILL	**Bilibino**	**18.05**	**334**	P	**P**	**15 02 10.4**	**+1.0**
J25K	**Salcha River,**	**18.08**	**40**	P	**P**	**15 02 09.8**	**0.0**
J25K				IAmb	IAmb	15 02 11.4	
	comp=Z,6.0nm,0.6s						
SCRK	**Sand Creek**	**18.36**	**42**	P	**P**	**15 02 12.8**	**-0.1**
D22K	**Ayikyak River**	**18.43**	**23**	P	**P**	**15 02 14.4**	**+0.9**
D22K				IAmb	IAmb	15 02 15.8	
	comp=Z,6.3nm,0.7s						
B21K	**Ikpikpuk River**	**18.59**	**20**	P	**P**	**15 02 15.5**	**+0.3**
B21K				IAmb	IAmb	15 02 16.4	
	comp=Z,5.5nm,0.6s						
M27K	**Edge Creek, AK**	**18.73**	**48**	P	**P**	**15 02 17.7**	**+0.8**
J26L	**Joseph Creek**	**18.74**	**41**	P	**P**	**15 02 17.5**	**+0.5**
L27K	**Beaver Creek,**	**18.95**	**46**	P	**P**	**15 02 21.3**	**+2.1**
E24K	**Your Creek**	**18.96**	**28**		**P**	**15 02 20.4**	**+1.1**
E24K				IAmb	IAmb	15 02 21.5	
	comp=Z,5.0nm,0.6s						
TOLK	**Toolik Lake Re**	**19.04**	**26**	P	**P**	**15 02 19.7**	**-0.4**
PNL	**Peninsula**	**19.43**	**57**	P	**P**	**15 02 22.6**	**-1.8**
C23K	**Itkillik River**	**19.63**	**23**	P	**P**	**15 02 27.3**	**+0.9**
O29M	**Mount Kennedy**	**19.90**	**55**	IAmb	IAmb	15 02 33.5	
	comp=Z,4.7nm,0.5s						
I28M	**Miner Creek**	**20.53**	**40**	P	**P**	**15 02 36.7**	**+0.6**
L29M		**20.58**	**47**	P	**P**	**15 02 37.6**	**+0.9**
K29M	**Barlow Dome**	**21.02**	**45**	P	**P**	**15 02 41.7**	**+0.3**
K29M				IAmb	IAmb	15 02 43.1	
	comp=Z,4.0nm,0.7s						
H29M	**Whitestone**	**21.41**	**39**	P	**P**	**15 02 45.0**	**-0.3**
H29M				IAmb	IAmb	15 02 57.4	
	comp=Z,16nm,1.5s						
J30M	**Hart River**	**21.71**	**44**	P	**P**	**15 02 48.2**	**-0.3**
J30M				IAmb	IAmb	15 02 49.8	
	comp=Z,3.7nm,0.5s						
I30M	**Mount Dempster**	**21.87**	**42**	P	**P**	**15 02 49.8**	**-0.3**
I30M				IAmb	IAmb	15 02 50.7	
	comp=Z,3.0nm,0.6s						
JIS	**Juneau Island**	**22.00**	**61**	P	**P**	**15 02 51.5**	**+0.3**
E29M	**Blow River**	**22.44**	**34**	P	**P**	**15 02 56.1**	**+0.8**
H31M	**Peel River**	**22.84**	**41**	P	**P**	**15 02 59.2**	**+0.3**
H31M				IAmb	IAmb	15 03 03.0	
	comp=Z,8.2nm,1.1s						
G31M	**Satah River**	**23.19**	**38**	P	**P**	**15 03 01.9**	**-0.1**
G31M				IAmb	IAmb	15 03 01.9	
	comp=Z,5.4nm,0.9s						
NEW	**Newport**	**34.80**	**75**	P	**P**	**15 04 43.3**	**-1.5**
NVAR	**Mina Array Bea**	**39.70**	**89**	LR	LR	15 19 09.3	
	comp=Z,123nm,18.8s,baz=130,slow=32						
PDAR	**Pinedale Array**	**42.25**	**78**	P	**P**	**15 05 47.0**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=297,slow=4.4,SNR=6.6 comp=Z,0.5nm,0.5s						
TXAR	**Lajitas Array**	**54.75**	**87**	P	**P**	**15 07 21.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=334,slow=10.0,SNR=2.3 comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**67.02**	**357**	P	**P**	**15 08 42.5**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=352,slow=3.1,SNR=9.2 comp=Z,0.7nm,0.3s						
WRA	**Warramunga Arr**	**85.90**	**229**	P	**P**	**15 10 29.5**	**-1.1**
	comp=Z,0.5nm,1.0s,baz=32,slow=5.8,SNR=6.0 comp=Z,0.5nm,1.0s						
ASAR	**Alice Springs**	**89.34**	**227**	P	**P**	**15 10 46.2**	**-0.7**
	comp=Z,0.8nm,1.1s,baz=24,slow=5.1,SNR=4.4 comp=Z,0.8nm,1.1s						

*NEIC **05** 15:01:15.8±1.2, 19°.433N±0°.009×155°.300W±0°.008, h5km±1km, Error ellipse: s-maj=1.4km s-min=1.0km az=190.0*

HVO 05 15:01:15.3±1.1, 19°.415N±0°.009×155°.278W±0°.008, h1km±2km, ML3.7/14, ML3.3/31(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=185.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**294**		Pg	15 01 15.9	+0.3
UWB	**Uwekahuna B**	**0.01**	**357**		Pg	15 01 16.6	+0.9
SBLHI	**Steaming Bluff**	**0.01**	**36**		Pg	15 01 16.7	+1.0
UWE	**Uwekahuna**	**0.02**	**293**		Pg	15 01 16.1	+0.4
BYL	**Byron's Ledge**	**0.02**	**100**		Pg	15 01 16.0	+0.2
HATHI	**Halema'uma'u T**	**0.02**	**62**		Pg	15 01 16.1	+0.3
KKO	**Keanakako' i**	**0.02**	**147**		Pg	15 01 17.4	+1.6
RIM	**Rim**	**0.02**	**170**		Pg	15 01 17.1	+1.3
WRMHI	**West Rim**	**0.02**	**249**		Pg	15 01 17.5	+1.6
SDHHI	**Sand Hill**	**0.03**	**212**		Pg	15 01 17.7	+1.8
RSD	**Rainshed**	**0.05**	**359**		Pg	15 01 16.9	+0.6
RSD				IAML		15 01 17.5	
	comp=E,18μm,0.9s						
RSD				IAML		15 01 17.5	
	comp=N,32μm,0.9s						
PUH	**Pauahi**	**0.07**	**125**		Pg	15 01 17.5	+0.8
PUH				IAML		15 01 18.8	
	comp=E,17μm,1.2s						
PUH				IAML		15 01 19.2	
	comp=N,11μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.11**	**109**		Pg	15 01 18.2	+0.8
HLP	**Hilina Pali**	**0.12**	**194**		Sg	15 01 21.7	+2.5
HLP	**Hilina Pali**	**0.12**	**194**		Pg	15 01 18.6	+1.0
HLP				IAML		15 01 20.4	
	comp=E,5μm,0.7s						
HLP				IAML		15 01 21.7	
	comp=N,10μm,0.5s						
STCH	**Steam Cracks**	**0.15**	**101**		Pg	15 01 18.9	+0.8
STCH				IAML		15 01 22.5	
	comp=N,15μm,0.9s						
STCH				IAML		15 01 22.8	
	comp=E,8μm,0.5s						
NPOC	**North of Pu'u**	**0.16**	**98**		Pg	15 01 19.4	+1.0
JCUZ	**Jacuzzi**	**0.17**	**100**		Pg	15 01 19.3	+0.7
HTC	**Hot Caves**	**0.21**	**213**		Pg	15 01 20.2	+0.8
HTC					Sg	15 01 23.0	+0.9
JOKA	**Jonika Flow**	**0.26**	**86**		Pg	15 01 20.7	+0.4
JOKA				IAML		15 01 25.7	
	comp=E,3μm,0.9s						
JOKA				IAML		15 01 29.2	
	comp=N,8μm,0.9s						
HMH	**Humu'ula Sheep**	**0.27**	**314**		Pg	15 01 21.4	+0.9
HMH					Sg	15 01 26.2	+2.2
HMH	**Humu'ula Sheep**	**0.27**	**314**	IAML		15 01 28.1	
	comp=N,7μm,0.9s						
HMH				IAML		15 01 28.7	
	comp=E,5μm,0.6s						
MLOA	**Mauna Loa Obse**	**0.31**	**293**		Pg	15 01 22.1	+0.9
MLOA	**Mauna Loa Obse**	**0.31**	**293**		Sg	15 01 24.3	-0.9
MWH	**Moku'aweowe**	**0.31**	**283**		Sg	15 01 24.4	-1.0
MWH	**Moku'aweowe**	**0.31**	**283**		Pg	15 01 22.0	+0.7
MWH	**Moku'aweowe**	**0.31**	**283**	IAML		15 01 28.8	
	comp=N,9μm,0.6s						
MWH				IAML		15 01 29.9	
	comp=E,12μm,0.8s						
PAH	**Pahoa**	**0.32**	**76**	Pg	Pg	15 01 22.0	+0.5
KHU	**Kahuku**	**0.36**	**242**	Pg	Pg	15 01 22.7	+0.4
ALEP	**Alea Permanent**	**0.37**	**290**		Pg	15 01 23.0	+0.6
ALEP					Sg	15 01 27.1	-0.1
HPO	**Honuapo**	**0.42**	**219**		Pg	15 01 23.4	+0.1
POHA	**Pohakuloa**	**0.42**	**325**		Sg	15 01 27.9	-0.9
POHA	**Pohakuloa**	**0.42**	**325**		Pg	15 01 23.4	0.0
POHA				IAML		15 01 32.5	
	comp=E,6μm,0.3s						
POHA				IAML		15 01 34.0	
	comp=E,7μm,0.5s						
HUH	**Hualalai**	**0.59**	**297**		Pg	15 01 26.9	+0.2
CPH	**Captain Cook**	**0.61**	**277**		Pg	15 01 26.7	-0.3
HPAH	**Hawaii Prepara**	**0.73**	**327**		Pg	15 01 28.5	-0.8
HPAH					Sg	15 01 38.3	-0.5
KKH	**Kailua Kona**	**0.74**	**289**	Pg	Pg	15 01 27.7	-1.8
MHA	**Mahukona**	**0.97**	**323**	Pg	Pg	15 01 31.5	-2.4
HLK	**Haleakala**	**1.62**	**326**	Pn	Pn	15 01 40.2	-5.1
KHLH	**Kahului Airpor**	**1.83**	**324**	Pn	Pn	15 01 43.5	-4.5
DHH	**Diamond Head**	**3.00**	**308**	Pn	Pn	15 01 59.8	-4.2
HON	**Honolulu**	**3.18**	**307**	Pn	Pn	15 02 01.7	-4.9
KIP	**Kipapa**	**3.25**	**308**	Pn	Pn	15 02 02.5	-5.0
KEKH	**Kekaha**	**4.87**	**302**	Pn	Pn	15 02 25.9	-3.9

*NEIC **05** 15:08:14.2±2.2, 45°.96N±0°.07×106°.72W±0°.08, h0km±1km, ML2.8/34, Error ellipse: s-maj=11.6km s-min=9.3km az=21.0*
*IDC **05** 15:08:16.9±1.4, 45°.48N×106°.30W, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=69.2km s-min=9.7km az=136.0*

ISC 05 15:08:16.0±1.1, 45°.96N±0°.05×106°.75W±0°.05, h0km, n29, σ1°04/29, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**0.82**	**26**		**Pb**	**15 08 33.4**	**+0.3**
RLMT	**Red Lodge**	**1.96**	**246**		**Pb**	**15 08 51.4**	**-1.2**
RLMT				IAML		15 09 19.5	
	68nm,0.4s						
RLMT				IAML		15 09 20.6	
	130nm,0.4s						
RSSD	**Black Hills**	**2.66**	**133**		**Pn**	**15 09 01.0**	**+0.8**
RSSD				IAML		15 09 37.4	
	40nm,0.6s						
RSSD				IAML		15 09 38.7	
	41nm,0.5s						
YMP	**Mirror Lake Pl**	**2.69**	**244**		**Pn**	**15 09 02.2**	**+1.4**
EGMT	**Eagleton**	**2.92**	**316**	Pn	**Pn**	**15 09 03.2**	**-0.5**
YHH	**Holmes Hill**	**3.12**	**249**		**Pn**	**15 09 05.8**	**-0.9**
K22A	**Casper**	**3.31**	**177**		**Pn**	**15 09 08.4**	**-0.8**
K22A				IAML		15 10 08.0	
	comp=E,26nm,0.5s						
K22A				IAML		15 10 14.4	
	comp=N,24nm,0.6s						
FLWY	**Flagg Ranch**	**3.37**	**238**		**Pn**	**15 09 12.5**	**+2.5**
FLWY				IAML		15 10 07.8	
	comp=N,21nm,2.0s						
FLWY				IAML		15 10 19.2	
	comp=N,15nm,1.9s						
BOZ	**Bozeman (W)**	**3.43**	**266**		**Pn**	**15 09 11.6**	**+0.7**
BOZ				IAML		15 10 10.2	
	comp=N,22nm,1.3s						
BOZ				IAML		15 10 10.5	
	comp=N,15nm,0.6s						
MOOW	**Moose Ponds**	**3.60**	**234**	Pn	**Pn**	**15 09 12.5**	**-0.7**
LOHW	**Long Hollow**	**3.61**	**231**		**Pn**	**15 09 11.2**	**-2.2**
IMW	**Indian Meadow**	**3.62**	**237**		**Pn**	**15 09 13.7**	**+0.2**
IMW				IAML		15 10 26.0	
	comp=N,12nm,0.7s						
PD31	**Pinedale Array**	**3.77**	**213**		**Pn**	**15 09 16.1**	**+0.5**
PDAR	**Pinedale Array**	**3.77**	**213**		**Pn**	**15 09 17.4**	**+1.8**
PDAR	**Pinedale Array**	**3.77**	**213**	Pn	**Pn**	**15 09 16.8**	**+1.2**
	comp=N,0.7nm,0.3s,baz=52,slow=13,SNR=16						
PDAR				Pg	**Pb**	**15 09 24.1**	**+0.5**
	comp=N,2.4nm,0.3s,baz=41,slow=16,SNR=21						
PDAR				Lg	Lg	15 10 10.1	
	comp=N,1.9nm,0.3s,baz=49,slow=32,SNR=6.4 comp=N,0.6nm,0.3s						
FXWY	**Fox Creek**	**3.83**	**234**		**Pn**	**15 09 16.2**	**-0.1**
TPAW

Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.12; $M_{\theta\theta}$-0.60; $M_{\phi\phi}$0.72; $M_{r\theta}$-0.26; $M_{\theta\phi}$ 1.67; $M_{r\phi}$0.19; Fault plane solution: $M_0$1.83000×1015 NP1:ϕ_s170.00000°, δ83.00000°, λ-172.00000°. NP2:ϕ_s79.00000°, δ82.00000°, λ-8.00000°. Principal axes: T 1.8558, Plg0.0000°, Azm304.0000°; N -0.0583, Plg79.0000°, Azm213.0000°; P -1.7974, Plg11.0000°, Azm34.0000°;

ISC 05 15:17:37.3±0.9,35.89N±0.02×115.76W±0.02,h11km±7km, n240,σ1$59/243,mb4.2/11,MS3.5/28,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHOC	**Shoshone, Teco**	**0.42**	**272**		**Pg**	**15 17 45.6**	**+0.1**
SHOC					**Sg**	**15 17 51.5**	**+0.5**
SHOC	**Shoshone, Teco**	**0.42**	**272**	P	**Pg**	**15 17 45.4**	**-0.1**
	baz=91,SNR=1000						
SHOC				S	**Sg**	**15 17 51.5**	**+0.5**
	baz=91						
MTPC	**Mountain Pass**	**0.44**	**157**		**Pg**	**15 17 46.0**	**+0.1**
MTPC					**Sg**	**15 17 52.2**	**+0.5**
TUQ	**Turquoise Moun**	**0.47**	**196**		**Pg**	**15 17 46.7**	**+0.2**
TUQ					**Sg**	**15 17 53.4**	**+0.6**
TUQ	**Turquoise Moun**	**0.47**	**196**	P	**Pg**	**15 17 46.6**	**+0.1**
	baz=15,SNR=1000						
TUQ				S	**Sg**	**15 17 53.3**	**+0.6**
	baz=15						
WTNK	**Soaring Height**	**0.68**	**63**		**Pg**	**15 17 50.3**	**-0.2**
V12A	**Nelson**	**0.76**	**102**		**Pg**	**15 17 51.9**	**0.0**
V12A	**Nelson**	**0.76**	**102**		**Sg**	**15 18 02.5**	**+0.7**
V12A	**Nelson**	**0.76**	**102**	IAML		15 18 09.9	
	comp=E,4μm,0.5s						
V12A				IAML		15 18 14.6	
	comp=N,3μm,0.9s						
SHPR	**Sheep Range**	**0.79**	**38**		**Pg**	**15 17 51.8**	**-0.7**
MCY	**Mercury**	**0.79**	**348**		**Pg**	**15 17 52.1**	**-0.4**
MCY					**Sg**	**15 18 03.4**	**+0.4**
GWY	**Greenwater Val**	**0.79**	**292**		**Pg**	**15 17 52.5**	**-0.1**
GWY					**Sg**	**15 18 03.4**	**+0.4**
SDH	**Striped Hills**	**0.89**	**329**		**Pg**	**15 17 53.9**	**-0.6**
NSP	**Numbskull Pass**	**0.92**	**337**		**Pg**	**15 17 54.9**	**0.0**
NSP					**Sb**	**15 18 08.2**	**+0.8**
GSC	**Goldstone, Bar**	**1.03**	**236**		**Pg**	**15 17 56.9**	**-0.3**
GSC	**Goldstone, Bar**	**1.03**	**236**	P	**Pg**	**15 17 57.0**	**-0.1**
	baz=54,SNR=1000						
GSC				S	**Sb**	**15 18 11.0**	**+0.2**
	baz=54						
FURC	**Furnace Creek,**	**1.06**	**303**		**Pb**	**15 17 57.6**	**0.0**
FURC	**Furnace Creek,**	**1.06**	**303**	P	**Pg**	**15 17 57.2**	**-0.5**
	baz=123,SNR=1000						
FURC				S	**Sb**	**15 18 12.1**	**+0.6**
	baz=123						
CPY	**CP-1**	**1.07**	**347**		**Pg**	**15 17 57.3**	**-0.6**
GMRC	**Granite Mounta**	**1.10**	**176**		**Pg**	**15 17 58.4**	**-0.1**
GMRC	**Granite Mounta**	**1.10**	**176**	P	**Pg**	**15 17 58.4**	**-0.1**
	baz=355,SNR=1000						
GMRC				S	**Sb**	**15 18 13.3**	**+0.4**
	baz=355						
TPNV	**Topopah Spring**	**1.13**	**340**	P	**Pg**	**15 17 58.7**	**-0.4**
	baz=160,SNR=1000						
TPNV				S	**Sb**	**15 18 14.2**	**+0.5**
	baz=160						
WCT	**Wildcat Mounta**	**1.14**	**323**		**Pg**	**15 17 58.7**	**-0.6**
WCT				IAML		15 18 25.9	
	comp=E,6μm,0.9s						
WCT				IAML		15 18 30.4	
	comp=N,3μm,0.7s						
WCT	**Wildcat Mounta**	**1.14**	**323**		**Pg**	**15 17 58.5**	**-0.8**
HEC	**Hector,Ludlow**	**1.16**	**204**	P	**Pg**	**15 17 59.2**	**-0.2**
	baz=23,SNR=1000						
HEC				S	**Sb**	**15 18 15.0**	**+0.7**
	baz=23						
MPMC	**Manual Prospec**	**1.41**	**277**	P	**Pn**	**15 18 03.1**	**0.0**
	baz=96,SNR=1000						
MPMC				S	**Sg**	**15 18 22.4**	**-0.4**
	baz=96						
RRX	**Edison Barstow**	**1.43**	**225**	P	**Pn**	**15 18 03.6**	**+0.4**
	baz=44,SNR=124						
RRX				S	**Sg**	**15 18 23.2**	**0.0**
	baz=44						
NEE2	**Needles Airpor**	**1.46**	**140**		**Pn**	**15 18 03.6**	**+0.1**
NEE2	**Needles Airpor**	**1.46**	**140**	P	**Pn**	**15 18 03.6**	**+0.1**
	baz=320,SNR=290						
NEE2				S	**Sg**	**15 18 24.4**	**+0.3**
	baz=320						
SGV	**South Grapevin**	**1.50**	**317**		**Pn**	**15 18 04.9**	**+0.7**
LRMC	**Laurel Mtn Rad**	**1.62**	**256**	P	**Pn**	**15 18 05.7**	**-0.1**
	baz=74,SNR=171						
LRMC				S	**Sg**	**15 18 28.5**	**-0.8**
	baz=74						
PRN	**Pahroc Range**	**1.62**	**20**		**Pb**	**15 18 07.5**	**+0.2**
PRN				IAML		15 18 42.5	
	comp=N,3μm,0.7s						
PRN				IAML		15 18 44.8	
	comp=E,3μm,0.8s						
GRAC	**Grapevine Rang**	**1.70**	**311**		**Pn**	**15 18 07.3**	**+0.4**
GRAC				IAML		15 18 38.4	
	comp=E,4μm,0.7s						
GRAC	**Grapevine Rang**	**1.70**	**311**	P	**Pn**	**15 18 07.6**	**+0.6**
	baz=130,SNR=577						
GRAC				Sg	**Sg**	**15 18 33.1**	**+1.1**
	baz=130						
W13A	**Hualapai Mount**	**1.72**	**117**		**Pn**	**15 18 07.7**	**+0.3**
S11A	**Rachel**	**1.75**	**0**		**Pb**	**15 18 09.2**	**-0.4**
IRM	**Iron Mountain**	**1.80**	**163**	P	**Pn**	**15 18 08.6**	**+0.4**
	baz=344,SNR=1000						
IRM				Sb	**Sg**	**15 18 35.5**	**+0.4**
	baz=344						
GMN	**Gold Mountain**	**1.86**	**320**		**Pn**	**15 18 10.2**	**+0.9**
GMN				IAML		15 18 39.8	
	comp=N,2μm,0.7s						
GMN				IAML		15 18 39.9	
	comp=E,1μm,0.7s						
BBRC	**Big Bear Solar**	**1.88**	**211**	P	**Pn**	**15 18 10.2**	**+0.6**
	baz=30,SNR=123						
BBRC				Sb	**Sg**	**15 18 37.6**	**-0.1**
	baz=30						
BELC	**Belle Mtn. Jos**	**1.89**	**186**	P	**Pn**	**15 18 10.3**	**+0.7**
	baz=5.4,SNR=1000						
BELC				Sb	**Sg**	**15 18 38.3**	**+0.2**
	baz=5.4						
CWC	**Cottonwood Cre**	**1.96**	**287**		**Pn**	**15 18 11.0**	**+0.4**
CWC	**Cottonwood Cre**	**1.96**	**287**	P	**Pn**	**15 18 10.9**	**+0.3**
	baz=106						
CWC				Sb	**Sg**	**15 18 40.3**	**+0.1**
	baz=106						
CCAC	**Calif City Air**	**1.98**	**249**		**Pn**	**15 18 11.3**	**+0.5**
LCH	**Last Change Ra**	**2.03**	**312**		**Pn**	**15 18 12.0**	**+0.5**
PDMCI	**Parker Dam,Lak**	**2.06**	**139**	P	**Pn**	**15 18 12.1**	**+0.3**
	baz=320,SNR=148						
PDMCI				Sb	**Sg**	**15 18 43.3**	**-0.3**
	baz=320						
EDW2	**Edwards Air Fo**	**2.08**	**242**	P	**Pn**	**15 18 12.4**	**+0.2**
	baz=60,SNR=412						
EDW2				Sb	**Sg**	**15 18 43.1**	**-1.1**
	baz=60						
ISA	**Isabella, Lake**	**2.22**	**265**		**Pn**	**15 18 14.1**	**0.0**
ISA				IAML		15 18 50.3	
	comp=E,1μm,0.7s						
ISA				IAML		15 18 54.7	
	comp=N,2μm,1.1s						
ISA	**Isabella, Lake**	**2.22**	**265**	P	**Pn**	**15 18 14.3**	**+0.2**
	baz=83,SNR=230						
ISA				Sb	**Sg**	**15 18 47.1**	**-1.4**
	baz=83						
MZP	**Montezuma Peak**	**2.23**	**325**		**Pn**	**15 18 15.1**	**+0.7**
MZP				IAML		15 18 57.4	
	comp=N,1μm,0.8s						
BC3	**Big Chuckawall**	**2.24**	**173**	P	**Pn**	**15 18 15.2**	**+0.8**
	baz=353,SNR=199						
BC3				Sb	**Sg**	**15 18 48.7**	**-0.6**
	baz=353						
BFSC	**Mount Baldy Ra**	**2.26**	**224**	P	**Pn**	**15 18 15.6**	**+0.9**
	baz=42,SNR=257						
BFSC				Sb	**Sg**	**15 18 49.3**	**-0.7**
	baz=42						
PMD	**Palm Desert**	**2.29**	**193**		**Pn**	**15 18 15.6**	**+0.6**
PMD				IAML		15 18 59.1	
	comp=N,963nm,0.7s						
TIN	**Tinemaha, Big**	**2.31**	**301**		**Pn**	**15 18 17.4**	**+2.1**
TIN	**Tinemaha, Big**	**2.31**	**301**	P	**Pn**	**15 18 16.1**	**+0.8**
	baz=120,SNR=71						
DSP	**Deep Springs**	**2.31**	**310**		**Pn**	**15 18 16.0**	**+0.8**
LCMT	**Little Creek M**	**2.32**	**60**		**Pn**	**15 18 17.0**	**+1.4**
PFO	**Pinyon Flats O**	**2.34**	**194**		**Pn**	**15 18 16.4**	**+0.6**
PFO				IAML		15 18 57.9	
	comp=N,762nm,1.2s						
PFO				IAML		15 18 58.8	
	comp=N,1μm,1.6s						
PFO	**Pinyon Flats O**	**2.34**	**194**	P	**Pn**	**15 18 16.6**	**+0.7**
	baz=14,SNR=144						
PFO				Sb	**Sg**	**15 18 51.7**	**-0.8**
	baz=14						
PFO	**Pinyon Flats O**	**2.34**	**194**	Pn	**Pn**	**15 18 16.5**	**+0.7**
	comp=N,34nm,0.3s,baz=14,slow=14,SNR=479						
PFO				Sn	**Sn**	**15 18 43.9**	**-0.7**
	comp=N,31nm,0.3s,baz=16,slow=15,SNR=7.5						
PFO				Lg	Lg	15 18 51.2	
	comp=N,171nm,0.3s,baz=258,slow=19,SNR=10.0						
PFO				LR	LR	15 19 14.8	
	comp=N,638nm,18.7s,baz=4.5,slow=42						
	comp=N,107nm,0.3s						
BLYC	**Blythe**	**2.36**	**154**	Pn	**Pn**	**15 18 16.5**	**+0.5**
TPH	**Tonopah**	**2.48**	**332**		**Pn**	**15 18 18.7**	**+0.9**
CCUT	**Cedar City**	**2.54**	**49**	Pn	**Pn**	**15 18 20.6**	**+1.9**
MURC	**Murrieta**	**2.57**	**208**	P	**Pn**	**15 18 20.0**	**+1.2**
	baz=27,SNR=85						
MURC				Sb	**Sg**	**15 18 58.7**	**-1.1**
	baz=27						
ARVC	**Arvin**	**2.62**	**254**	P	**Pn**	**15 18 20.1**	**+0.6**
	baz=72,SNR=13						
ELS	**Elsinore Mount**	**2.62**	**212**		**Pn**	**15 18 20.4**	**+0.8**
ELS				IAML		15 19 01.2	
	comp=E,686nm,0.5s						
ELS				IAML		15 19 03.8	
	comp=N,702nm,0.5s						
KNB	**Kanab**	**2.62**	**64**		**Pn**	**15 18 21.4**	**+1.7**
KNB				IAML		15 19 08.3	
	comp=E,789nm,1.4s						
KNB				IAML		15 19 10.5	
	comp=N,833nm,1.4s						
PASC	**Pasadena Art C**	**2.62**	**230**		**Pn**	**15 18 20.8**	**+1.2**
PASC				IAML		15 19 03.9	
	comp=E,1μm,0.6s						
PASC				IAML		15 19 06.6	
	comp=N,1μm,1.1s						
DECC	**Green Verdugo**	**2.67**	**233**	P	**Pn**	**15 18 21.2**	**+1.1**
	baz=51						
DECC				Sb	**Sg**	**15 19 01.5**	**-1.5**
	baz=51						
VES	**Vestal, Richgr**	**2.70**	**270**	P	**Pn**	**15 18 21.3**	**+0.7**
	baz=88,SNR=18						
VES				Sb	**Sg**	**15 19 02.6**	**-1.4**
	baz=88						
OSI	**Osito Audit: C**	**2.74**	**243**	P	**Pn**	**15 18 22.5**	**+1.3**
	baz=61,SNR=25						
SZCU	**Shurtz Canyon**	**2.74**	**51**		**Pn**	**15 18 23.2**	**+1.8**
U15A	**North Rim**	**2.86**	**78**	Pn	**Pn**	**15 18 24.9**	**+1.8**
U15A				IAML		15 19 19.6	
	comp=N,906nm,1.3s						
BENR	**Benton**	**2.90**	**310**		**Pn**	**15 18 25.0**	**+1.4**
GLA	**Glamis**	**2.93**	**164**		**Pn**	**15 18 24.3**	**+0.4**
GLA	**Glamis**	**2.93**	**164**	P	**Pn**	**15 18 24.3**	**+0.4**
	baz=345,SNR=65						
SWSC	**Sam W. Stewart**	**2.94**	**181**	P	**Pn**	**15 18 24.2**	**+0.4**
	baz=0.4,SNR=9.1						
VOG	**Valley Oaks Go**	**2.96**	**279**	Pb	**Pb**	**15 18 31.5**	**+1.4**
	baz=97						
Y14A	**Wickenburg**	**2.98**	**130**		**Pn**	**15 18 25.2**	**+0.6**
Y14A				IAML		15 19 24.3	
	comp=N,911nm,0.8s						
Y14A				IAML		15 19 31.3	
	comp=E,618nm,0.8s						
FMP	**Fort Macarthur**	**3.01**	**225**	P	**Pn**	**15 18 25.9**	**+1.1**
	baz=43						
MLAC	**Mammoth, Mammo**	**3.02**	**306**	Pg	**Pg**	**15 18 34.1**	**-1.1**
	baz=124,SNR=18						
MONP2	**Monument Peak**	**3.04**	**191**	P	**Pn**	**15 18 26.2**	**+0.7**
	baz=9.9,SNR=17						
PSUT	**Pine Spring**	**3.05**	**29**	Pn	**Pn**	**15 18 27.4**	**+1.8**
PSUT				IAML		15 19 26.5	
	comp=N,765nm,1.0s						
PSUT				IAML		15 19 44.3	
	comp=E,796nm,1.3s						
BCW	**Bitter Crk WRg**	**3.13**	**253**		**Pn**	**15 18 26.9**	**+0.3**
Q09A	**Carvers**	**3.15**	**339**		**Pn**	**15 18 27.9**	**+0.9**
NV11	**Mina Array Sit**	**3.18**	**324**		**Pn**	**15 18 28.5**	**+1.2**
NV11				IAML		15 19 29.7	
	comp=N,469nm,1.1s						
NV11				IAML		15 19 34.0	
	comp=E,413nm,1.0s						
PKCU	**Pink Cliffs**	**3.18**	**60**	Pn	**Pn**	**15 18 30.3**	**+2.8**
PKCU				IAML		15 19 25.3	
	comp=E,767nm,0.9s						
PKCU				IAML		15 19 25.4	
	comp=N,620nm,1.4s						
MDPB	**Devils Postpil**	**3.18**	**304**		**Pn**	**15 18 28.5**	**+1.0**
109C	**Camp Elliot, M**	**3.19**	**201**	Pn	**Pn**	**15 18 28.2**	**+0.9**
109C				IAML		15 19 18.7	
	comp=E,834nm,0.5s						
109C				IAML		15 19 20.2	
	comp=N,545nm,0.4s						
109C	**Camp Elliot, M**	**3.19**	**201**	P	**Pn**	**15 18 28.4**	**+1.1**
	baz=20,SNR=9.9						
LHV	**Little Huntoon**	**3.22**	**318**		**Pn**	**15 18 29.2**	**+1.5**
LHV				IAML		15 19 30.1	
	comp=N,1μm,0.8s						
LHV				IAML		15 19 34.4	
	comp=E,915nm,1.1s						
YUH	**Yuha Desert**	**3.23**	**182**	Pn	**Pn**	**15 18 28.6**	**+0.6**
NV08	**Mina Array Sit**	**3.24**	**322**		**Pn**	**15 18 29.5**	**+1.3**
IKP	**In-Ko-Pah, Jac**	**3.24**	**185**	P	**Pn**	**15 18 28.9**	**+0.7**
	baz=4.8,SNR=16						
NVAR	**Mina Array Bea**	**3.25**	**322**	Pn	**Pn**	**15 18 29.5**	**+1.1**
NVAR	**Mina Array Bea**	**3.25**	**322**	Pn	**Pn**	**15 18 30.1**	**+1.7**
	comp=E,25nm,0.3s,baz=148,slow=15,SNR=340						
NVAR				Lg	Lg	15 19 21.1	
	comp=E,132nm,0.3s,baz=143,slow=32,SNR=15						
	comp=E,39nm,0.5s						
UABX	**UABC, Campus M**	**3.26**	**175**	Pn	**Pn**	**15 18 29.7**	**+1.5**
NV09	**Mina Array Sit**	**3.27**	**322**		**Pn**	**15 18 30.1**	**+1.4**
BAR	**Barrett**	**3.29**	**194**		**Pn**	**15 18 29.7**	**+1.0**
BAR				IAML		15 19 23.3	
	comp=E,698nm,0.6s						
BAR				IAML		15 19 23.7	
	comp=N,421nm,0.6s						
RMX	**La Rumorosa**	**3.29**	**185**		**Pn**	**15 18 30.1**	**+1.2**
CIS	**Catalina Islan**	**3.31**	**222**	P	**Pn**	**15 18 30.0**	**+1.0**
	baz=40						
SPR3	**Spring Creek 3**	**3.31**	**20**	Pn	**Pn**	**15 18 29.5**	**+0.2**
SPR3				IAML		15 19 26.1	
	comp=N,467nm,1.4s						
SPR3				IAML		15 19 35.5	
	comp=E,538nm,1.0s						
TKX	**Tecate**	**3.38**	**192**		**Pn**	**15 18 31.2**	**+1.1**
TKX				IAML		15 19 26.7	
	comp=E,504nm,0.7s						
TKX				IAML		15 19 29.6	
	comp=N,318nm,0.9s						
PKM	**Mcpherson Peak**	**3.46**	**254**	P	**Pn**	**15 18 31.7**	**+0.5**
	baz=72,SNR=17						
CPBX	**Cerro Prieto**	**3.48**	**174**		**Pn**	**15 18 31.9**	**+0.5**
SMMC	**Simmler**	**3.50**	**262**	P	**Pn**	**15 18 32.6**	**+1.0**
	baz=79,SNR=6.2						
RYN	**Ryan**	**3.51**	**322**		**Pn**	**15 18 33.2**	**+1.2**
RYN				IAML		15 19 31.6	
	comp=E,639nm,0.8s						
RYN				IAML		15 19 38.4	
	comp=N,563nm,0.7s						
113A	**Mohawk Valley,**	**3.52**	**151**		**Pn**	**15 18 31.2**	**-0.7**
113A				IAML		15 19 33.8	
	comp=N,478nm,0.9s						
113A				IAML		15 19 36.9	
	comp=E,666nm,1.3s						
TJX	**Tijuana**	**3.54**	**198**		**Pn**	**15 18 33.1**	**+1.0**
MTPU	**Mount Pierson**	**3.58**	**52**		**Pn**	**15 18 35.7**	**+2.6**
WUAZ	**Wupatki**	**3.59**	**95**	Pn	**Pn**	**15 18 34.5**	**+1.4**
WUAZ				IAML		15 19 33.0	
	comp=E,594nm,0.9s						
WUAZ				IAML		15 19 42.6	
	comp=E,513nm,1.4s						
WUAZ	**Wupatki**	**3.59**	**95**	P	**Pn**	**15 18 32.4**	**-0.7**
	baz=277						
CBX	**Cerro Bola**	**3.64**	**192**		**Pn**	**15 18 34.8**	**+1.1**
KVN	**Kaiserville**	**3.67**	**330**		**Pn**	**15 18 35.4**	**+1.3**
KVN				IAML		15 19 34.4	
	comp=N,741nm,1.0s						
KVN				IAML		15 19 36.4	
	comp=E,661nm,1.0s						
SCZ2	**Santa Cruz Isl**	**3.70**	**240**	P	**Pn**	**15 18 35.5**	**+1.1**
	baz=58						
SCI2	**San Clemente I**	**3.70**	**219**	P	**Pn**	**15 18 35.4**	**+1.0**
	baz=37						
TCRU	**Three Creeks R**	**3.79**	**43**		**Pn**	**15 18 35.4**	**-0.4**
TCRU				IAML		15 19 45.5	
	comp=E,285nm,0.9s						
TCRU				IAML		15 19 55.8	
	comp=N,273nm,1.1s						
X16A	**Lo Mia Camp, P**	**3.83**	**111**	Pn	**Pn**	**15 18 38.1**	**+1.8**
MVU	**Marysvale**	**3.85**	**46**		**Pn**	**15 18 38.5**	**+1.8**
ESJX	**Sierra Juarez**	**3.88**	**182**		**Pn**	**15 18 38.1**	**+1.2**
MSU	**Marysvale**	**3.88**	**46**	Pn	**Pn**	**15 18 39.5**	**+2.4**
WAKR	**Walker**	**3.93**	**313**	Pn	**Pn**	**15 18 38.9**	**+1.2**
SNCC	**San Nicolas Is**	**4.07**	**231**		**Pn**	**15 18 39.5**	**0.0**
SNCC				IAML		15 19 47.5	
	comp=N,435nm,1.2s						
SNCC				IAML		15 20 06.2	
	comp=E,322nm,1.0s						
SNCC	**San Nicolas Is**	**4.07**	**231**	P	**Pn**	**15 18 40.3**	**+0.9**
	baz=48						
CCX	**Cicese**	**4.08**	**191**		**Pn**	**15 18 40.9**	**+1.4**
CCX				IAML		15 19 51.0	
	comp=N,283nm,0.7s						
CCX				IAML		15 19 54.0	
	comp=E,412nm,1.0s						
PMPB	**Monarch Peak**	**4.10**	**276**		**Pn**	**15 18 40.7**	**+0.8**
YERR	**Yerington**	**4.15**	**319**		**Pn**	**15 18 41.5**	**+0.8**
YERR				IAML		15 19 54.3	
	comp=E,433nm,0.8s						
YERR				IAML		15 19 58.7	
	comp=N,516nm,0.6s						
CMB	**Columbia Colle**	**4.28**	**301**		**Pn**	**15 18 43.1**	**+0.7**
BBGB	**Big Mountain B**	**4.32**	**281**		**Pn**	**15 18 43.6**	**+0.5**
PNTR	**Pine Nut**	**4.42**	**317**		**Pn**	**15 18 44.4**	**0.0**
PNTR				IAML		15 20 08.9	
	comp=N,392nm,1.1s						
VTX	**Valle De La Tr**	**4.48**	**180**		**Pn**	**15 18 46.2**	**+1.0**
HMU	**Henry Mountain**	**4.51**	**62**		**Pn**	**15 18 48.0**	**+2.2**
214A	**Organ Pipe Nat**	**4.62**	**147**	Pn	**Pn**	**15 18 47.8**	**+0.6**
214A				IAML		15 20 17.1	
	comp=E,341nm,1.4s						
214A				IAML		15 20 22.5	
	comp=N,320nm,1.3s						
214A	**Organ Pipe Nat**	**4.62**	**147**	P	**Pn**	**15 18 47.5**	**+0.4**
	baz=329						
EMB	**Emerald Bay**	**4.63**	**313**		**Pn**	**15 18 48.1**	**+0.8**
EMB				IAML		15 20 17.2	
	comp=E,145nm,0.9s						
EMB				IAML		15 20 18.4	
	comp=N,215nm,0.9s						
SAO	**San Andreas Ge**	**4.67**	**282**	Pn	**Pn**	**15 18 48.8**	**+1.0**
BMN	**Battle Mountai**	**4.68**	**346**	Pn	**Pn**	**15 18 49.2**	**+1.2**
PIX	**Pinacate**	**4.72**	**155**	Pn	**Pn**	**15 18 48.6**	**+0.2**
PIX				IAML		15 20 17.3	
	comp=E,150nm,1.5s						
PIX				IAML		15 20 17.5	
	comp=N,162nm,1.6s						
Q16A	**Castle Valley**	**4.74**	**49**		**Pn**	**15 18 50.6**	**+1.7**
Q16A				IAML		15 20 23.2	
	comp=E,108nm,1.4s						
PAHR	**Pah Rah Range**	**4.77**	**324**		**Pn**	**15 18 49.6**	**+0.4**
PAHR				IAML		15 20 13.8	
	comp=N,174nm,1.1s						
PAHR				IAML		15 20 27.0	
	comp=E,203nm,1.9s						
MPK	**Martis Peak**	**4.80**	**316**		**Pn**	**15 18 49.2**	**-0.6**
MPK				IAML		15 20 23.3	
	comp=N,304nm,1.4s						
MPK				IAML		15 20 30.4	
	comp=E,261nm,1.2s						
ELK	**Elko**	**4.87**	**5**	Pn	**Pn**	**15 18 51.1**	**+0.5**
ELK				IAML		15 20 17.7	
	comp=E,118nm,0.7s						
ELK	**Elko**	**4.87**	**5**	Pn	**Pn**	**15 18 52.4**	**+1.8**
	comp=E,4.9nm,0.3s,baz=186,slow=8.5,SNR=68						
ELK				Lg	Lg	15 20 08.7	
	comp=E,11nm,0.3s,baz=269,slow=12,SNR=7.9						
ELK				LR	LR	15 21 15.6	
	comp=E,268nm,19.0s,baz=183,slow=44						
	comp=E,15nm,0.4s						
DUG	**Dugway, Tooele**	**4.89**	**28**	Pn	**Pn**	**15 18 51.9**	**+1.1**
DUG				IAML		15 20 19.2	
	comp=E,260nm,1.0s						
DUG				IAML		15 20 22.7	
	comp=E,230nm,1.5s						
DUG	**Dugway, Tooele**	**4.89**	**28**	P	**Pn**	**15 18 52.5**	**+1.6**
	baz=209						
X18A	**Snowflake**	**4.95**	**104**		**Pn**	**15 18 52.3**	**+0.6**
X18A				IAML		15 20 23.7	
	comp=N,226nm,0.9s						
TMUT	**Trail Mountain**	**4.96**	**45**		**Pn**	**15 18 52.9**	**+0.8**
TMUT				IAML		15 20 23.6	
	comp=N,127nm,0.9s						
TMUT				IAML		15 20 46.9	
	comp=E,160nm,1.1s						
W18A	**Petrified Fore**	**4.97**	**97**		**Pn**	**15 18 53.3**	**+1.2**
NLU	**North Lily Min**	**5.00**	**35**	Pn	**Pn**	**15 18 53.2**	**+0.8**
NLU				IAML		15 20 32.6	
	comp=E,107nm,1.0s						
AFDM	**Forest Hills D**	**5.15**	**308**		**Pn**	**15 18 53.8**	**-0.5**
AFDM				IAML		15 20 42.0	
	comp=E,83nm,1.8s						
MPU	**Maple Canyon**	**5.26**	**37**		**Pn**	**15 18 56.8**	**+0.9**
SRU	**San Rafael Swe**	**5.26**	**51**	Pn	**Pn**	**15 18 55.6**	**-0.5**
SRU				IAML		15 20 47.4	
	comp=E,134nm,0.9s						
SRU				IAML		15 20 55.4	
	comp=N,75nm,1.0s						
TUC	**Tucson**	**5.46**	**129**	Pn	**Pn**	**15 18 58.5**	**-0.1**
TUC	**Tucson**	**5.46**	**129**	P	**Pn**	**15 19 00.4**	**+1.8**
	baz=312						
TUC				S	**Sn**	**15 20 01.5**	**0.0**
	baz=312						
BGU	**Big Grassy Mou**	**5.47**	**22**	Pn	**Pn**	**15 18 59.1**	**+0.3**
CTU	**Camp Tracy**	**5.74**	**32**		**Pn**	**15 19 03.2**	**+0.6**
P18A	**Preston Nutter**	**5.75**	**48**		**Pn**	**15 19 07.1**	**+4.3**
JLU	**Jordanelle**	**5.80**	**34**		**Pn**	**15 19 07.0**	**+3.6**
ORV	**Oroville**	**5.84**	**311**		**Pn**	**15 19 06.4**	**+2.6**
MVCO	**Mesa Verde**	**5.99**	**75**	Pn	**Pn**	**15 19 08.6**	**+2.5**
MVCO	**Mesa Verde**	**5.99**	**75**	P	**Pn**	**15 19 08.8**	**+2.7**
	baz=260						
SPUT	**South Promonto**	**6.00**	**25**		**Pn**	**15 19 08.9**	**+2.8**
BSUT	**Blindstream Ca**	**6.09**	**39**	Pn	**Pn**	**15 19 11.7**	**+4.2**
TCUT	**Toone Canyon**	**6.24**	**32**		**Pn**	**15 19 12.9**	**+3.4**
HVU	**Hansel Valley**	**6.33**	**21**		**Pn**	**15 19 12.3**	**+1.7**
**D

TXAR	**Lajitas Array**	**12.11**	**119**	Pn	**Pn**	**15 20 33.5**	**+3.7**
	comp=N,0.1nm,0.3s,baz=301,slow=12,SNR=5.9						
TXAR				Lg	Lg	15 23 59.4	
	baz=260,slow=20,SNR=1.5						
	comp=N,0.9nm,0.8s						
NEW	**Newport**	**12.41**	**356**	LR	LR	15 24 52.3	
	comp=N,48nm,18.1s,baz=180,slow=35						
LPIG	**La Paz**	**12.66**	**157**	LR	LR	15 25 39.5	
	comp=N,212nm,18.6s,baz=13,slow=38						
BRDY	**Brady**	**14.70**	**103**	Pn	**Pn**	**15 21 05.9**	**+0.7**
WHTX	**Lake Whitney,**	**15.68**	**99**	Pn	**Pn**	**15 21 15.7**	**-2.5**
ECSD	**EROS Data Cent**	**16.64**	**56**	Pn	**Pn**	**15 21 27.0**	**-3.5**
S39A	**Bolivar**	**18.06**	**78**		**Pn**	**15 21 43.1**	**-5.1**
MIAR	**Mount Ida**	**18.18**	**88**		**Pn**	**15 21 44.4**	**-5.2**
MIAR				IAmb	IAmb	15 21 58.9	
	comp=Z,12nm,1.3s						
BBB	**Bella Bella**	**18.51**	**335**	LR	LR	15 30 14.2	
	comp=Z,106nm,18.2s,baz=152,slow=41						
R40A	**Maddies Statio**	**18.89**	**76**		**P**	**15 21 51.6**	**-6.1**
R40A				IAmb	IAmb	15 22 04.6	
	comp=Z,16nm,1.4s						
P40A	**Paris**	**19.10**	**72**	P	**P**	**15 21 55.5**	**-4.4**
P40A				IAmb	IAmb	15 22 05.5	
	comp=Z,9.0nm,1.0s						
AGMN	**Agassiz Nation**	**19.21**	**44**	P	**P**	**15 21 57.7**	**-3.5**
AGMN				IAmb	IAmb	15 22 05.6	
	comp=Z,8.1nm,1.1s						
T42A	**Van Buren**	**19.86**	**79**	P	**P**	**15 22 07.1**	**-1.3**
ULM	**Lac du Bonnet**	**20.33**	**39**	P	**P**	**15 22 10.8**	**-2.6**
ULM				IAmb	IAmb	15 22 16.4	
	comp=Z,8.7nm,1.1s						
ULM	**Lac du Bonnet**	**20.33**	**39**	P	**P**	**15 22 13.8**	**+0.5**
	comp=Z,5.2nm,0.9s,baz=210,slow=9.5,SNR=4.1						
ULM				LR	LR	15 30 34.4	
	comp=Z,186nm,20.3s,baz=218,slow=38						
	comp=Z,5.2nm,0.9s						
FFC	**Flin Flon**	**21.11**	**23**	P	**P**	**15 22 21.3**	**-0.5**
FFC				IAmb	IAmb	15 22 25.5	
	comp=Z,12nm,1.1s						
G40A	**Rib Lake**	**21.48**	**56**	P	**P**	**15 22 25.9**	**+0.1**
DLBC	**Dease Lake**	**24.45**	**342**	P	**P**	**15 22 59.2**	**+3.2**
	comp=Z,2.5nm,1.0s,baz=170,slow=12,SNR=3.6						
	comp=Z,2.5nm,1.0s						
TKL	**Tuckaleechee C**	**25.90**	**81**	LR	LR	15 33 41.7	
	comp=Z,37nm,20.3s,baz=205,slow=37						
CMIG	**Matias Romero**	**26.35**	**130**	LR	LR	15 34 58.7	
	comp=Z,100nm,19.4s,baz=356,slow=40						
YKA	**Yellowknife Ar**	**26.64**	**1**	P	**P**	**15 23 17.2**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=186,slow=11,SNR=2.7						
YKA				LR	LR	15 34 24.9	
	comp=Z,60nm,21.3s,baz=205,slow=38						
	comp=Z,0.7nm,0.8s						
J30M	**Hart River**	**31.28**	**343**	P	**P**	**15 23 57.1**	**0.0**
J30M				IAmb	IAmb	15 24 05.5	
	comp=Z,2.0nm,0.8s						
KDAK	**Kodiak Island**	**32.75**	**324**	LR	LR	15 35 14.3	
	comp=Z,109nm,21.8s,baz=142,slow=32						
I28M	**Miner Creek**	**32.88**	**342**	P	**P**	**15 24 11.8**	**+0.7**
INK	**Inuvik**	**33.98**	**348**	LR	LR	15 38 28.6	
	comp=Z,101nm,19.4s,baz=196,slow=37						
ILAR	**Eielson Array**	**34.39**	**337**	P	**P**	**15 24 22.5**	**-1.6**
ILAR	**Eielson Array**	**34.39**	**337**	P	**P**	**15 24 27.8**	**+3.7**
	comp=Z,2.2nm,1.0s,baz=148,slow=7.1,SNR=17						
ILAR				LR	LR	15 39 55.5	
	comp=Z,48nm,19.0s,baz=68,slow=39						
	comp=Z,2.2nm,1.0s						
JTS	**Las Juntas de**	**37.82**	**125**	LR	LR	15 41 50.4	
	comp=Z,65nm,18.2s,baz=298,slow=38						
SCHQ	**Schefferville**	**38.31**	**45**	LR	LR	15 41 23.5	
	comp=Z,158nm,18.4s,baz=266,slow=37						
FRB	**Frobisher Bay**	**39.82**	**31**	LR	LR	15 41 53.0	
	comp=Z,39nm,18.9s,baz=184,slow=36						
SFJD	**Kangerlussuaq**	**47.87**	**29**	LR	LR	15 47 09.1	
	comp=Z,57nm,18.2s,baz=242,slow=37						
BORG	**Borgarnes**	**59.98**	**30**	LR	LR	15 52 34.1	
	comp=Z,28nm,20.8s,baz=295,slow=35						
NNA	**Nana**	**60.15**	**135**	LR	LR	15 50 13.0	
	comp=Z,31nm,19.2s,baz=350,slow=32						
PETK	**Petropavlovsk-**	**60.32**	**316**	LR	LR	15 51 37.4	
	comp=Z,21nm,18.5s,baz=104,slow=34						
MA2	**Magadan**	**61.49**	**325**	LR	LR	15 53 11.1	
	comp=Z,35nm,19.9s,baz=65,slow=35						
PPT	**Papeete**	**62.06**	**217**	LR	LR	15 48 22.2	
	comp=Z,31nm,18.7s,baz=340,slow=30						
MDP	**Montagnes des**	**65.34**	**102**	LR	LR	16 01 11.0	
	comp=Z,33nm,18.4s,baz=184,slow=40						
LPAZ	**La Paz**	**68.72**	**130**	LR	LR	15 57 12.7	
	comp=Z,23nm,20.9s,baz=58,slow=35						
RAR	**Rarotonga**	**70.43**	**223**	LR	LR	15 53 47.9	
	comp=Z,33nm,21.2s,baz=200,slow=31						
NOA	**NORSAR Array B**	**74.21**	**24**	LR	LR	16 01 38.2	
	comp=Z,21nm,19.8s,baz=235,slow=36						
HFS	**Hagfors**	**75.70**	**24**	P	**P**	**15 29 26.6**	**+4.2**
	comp=Z,3.7nm,0.9s,baz=192,slow=2.7,SNR=4.4						
HFS				LR	LR	16 02 03.9	
	comp=Z,30nm,18.6s,baz=322,slow=35						
	comp=Z,3.7nm,0.9s						
KLR	**Kul'dur**	**76.28**	**321**	LR	LR	16 03 24.3	
	comp=Z,21nm,18.3s,baz=156,slow=36						
ESDC	**Sonseca Array**	**82.05**	**46**	P	**P**	**15 29 59.3**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=303,slow=4.9,SNR=2.0						
	comp=Z,0.4nm,0.4s						
GERES	**GERESS Array B**	**84.42**	**31**	LR	LR	16 07 59.3	
	comp=Z,38nm,19.1s,baz=343,slow=36						
VRAC	**Vranov**	**85.23**	**29**	LR	LR	16 09 09.1	
	comp=Z,18nm,18.2s,baz=302,slow=36						
AKASG	**Malin Array Be**	**88.42**	**21**	LR	LR	16 10 03.1	
	comp=Z,20nm,18.1s,baz=352,slow=36						
BVAR	**Borovoye Array**	**91.29**	**356**	P	**P**	**15 30 46.7**	**+4.0**
	comp=Z,1.5nm,0.8s,baz=336,slow=3.3,SNR=6.5						
BVAR				LR	LR	16 17 21.3	
	comp=Z,22nm,18.5s,baz=21,slow=39						
	comp=Z,1.5nm,0.8s						
HHC	**Hu-ho-hao-te**	**92.14**	**326**	*e*P	**P**	**15 30 44.0**	**-3.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
AKTO	**Aktyubinsk**	**93.87**	**4**	LR	LR	16 18 57.3	
	comp=Z,27nm,18.2s,baz=214,slow=39						
NJ2	**Nanjing**	**95.23**	**316**	*e*P	**P**	**15 31 01.0**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,210nm,4.0s						
LZH	**Lanzhou**	**99.47**	**328**	*e*P	**Pdif**	**15 31 16.3**	**-4.2**
LZH				pP	pP	15 31 20.6	-3.9
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
BRTR	**Keskin Array B**	**99.65**	**23**	LR	LR	16 18 57.0	
	comp=Z,23nm,19.1s,baz=334,slow=37						

*IDC **05** 15:40:03.1±1.1, 34.°72N×138.°00E, h0km, mb3.6/4, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=33.0km s-min=16.2km az=70.0*
*JMA **05** 15:40:04.8±0.2, 35.°6N±0.°6×140.°1E±0.°8, h68km±1km, MV3.2/40, CENTRAL CHIBA PREF*
JMA Felt I J1 at CENTRAL CHIBA PREF .
ISC 05 15:40:04.9±1.0, 35.°53N±0.°04×140.°11E±0.°05, h72km±7km, n19, σ0°64/30, mb3.7/4, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.14**	**145**	⇓*i*P	**Pn**	**15 40 15.5**	**0.0**
JCN				⇓S	**Sn**	**15 40 23.9**	**+0.7**
JSMT	**Sammumatsuo**	**0.30**	**68**	P	**Pn**	**15 40 16.1**	**-0.2**
JSMT				S	**Sn**	**15 40 25.1**	**+0.5**
TOK	**Tokyo**	**0.33**	**299**	P	**Pn**	**15 40 16.6**	**+0.2**
BSO3	**Boso 3**	**0.80**	**155**	P	**Pn**	**15 40 20.8**	**0.0**
BSO3				X		15 40 33.6	
JOD2	**Odawara 2**	**0.87**	**253**	⇓*i*P	**Pn**	**15 40 21.8**	**-0.2**
JOD2				⇓S	**Sn**	**15 40 33.6**	**-1.0**
JIM2	**Oshima 3**	**0.98**	**215**	P	**Pn**	**15 40 22.9**	**-0.4**
JIM2				S	**Sn**	**15 40 36.6**	**-0.4**
JAG	**Ashikaga**	**1.04**	**330**	⇓*i*P	**Pn**	**15 40 23.4**	**-0.7**
JAG				⇓S	**Sn**	**15 40 37.2**	**-1.0**
JRY	**Ryogami san**	**1.09**	**297**	⇓*i*P	**Pn**	**15 40 24.9**	**+0.2**
JRY				⇓S	**Sn**	**15 40 39.3**	**-0.2**
BSO1	**Boso 1**	**1.13**	**140**	P	**Pn**	**15 40 24.3**	**-0.3**
JFNN	**Fujinakano**	**1.21**	**254**	P	**Pn**	**15 40 26.3**	**+0.2**
JFNN				S	**Sn**	**15 40 42.1**	**+0.1**
JYN	**Shimob**	**1.28**	**269**	⇓*i*P	**Pn**	**15 40 27.2**	**+0.1**
JYN				⇓S	**Sn**	**15 40 43.5**	**-0.2**
JIZS	**Izushimoda**	**1.29**	**232**	P	**Pn**	**15 40 27.2**	**0.0**
JIZS				S	**Sn**	**15 40 43.5**	**-0.5**
JKT	**Katashina**	**1.42**	**331**	P	**Pn**	**15 40 28.3**	**-0.7**
MJAR	**Matsushiro Arr**	**1.84**	**304**	Pn	**Pn**	**15 40 34.9**	**+0.4**
	2.9nm,0.3s,baz=138,slow=15,SNR=90						
MJAR				Sn	**Sn**	**15 40 58.7**	**+1.7**
	3.3nm,0.3s,baz=223,slow=51,SNR=6.5						
JHJ	**Hachijo jima 2**	**2.42**	**186**	Pn	**Pn**	**15 40 42.6**	**+0.4**
	44nm,0.3s,baz=293,slow=20,SNR=17						
JHJ				Sn	**Sn**	**15 41 11.3**	**+0.4**
	104nm,0.3s,baz=248,slow=21,SNR=15						
	79nm,0.3s						
MKAR	**Makanchi Array**	**44.04**	**303**	P	**P**	**15 48 06.4**	**+0.9**
	0.9nm,0.8s,baz=85,slow=7.8,SNR=5.4						
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**46.11**	**309**	P	**P**	**15 48 22.2**	**+0.4**
	0.7nm,0.6s,baz=86,slow=7.8,SNR=8.1						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**55.44**	**187**	P	**P**	**15 49 32.0**	**-0.1**
	0.6nm,0.4s,baz=0.3,slow=7.5,SNR=20						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**59.16**	**187**	P	**P**	**15 49 57.1**	**-1.2**
	0.3nm,0.9s,baz=18,slow=7.8,SNR=1.5						
	0.3nm,0.9s						

*IDC **05** 15:51:21.4±3.7, 18.°81S×177.°84W, h323km±36km, mb3.4/11, mbtmp4.1/12, Error ellipse: s-maj=19.0km s-min=12.0km az=100.0*
*NEIC **05** 15:51:28.7±1.9, 18.°9S±0.°1×177.°75W±0.°09, h403km±8km, mb4.3/45, Error ellipse: s-maj=17.9km s-min=11.8km az=178.0*
ISC 05 15:51:28.6±0.5, 18.°81S±0.°08×177.°76W±0.°09, h400km, n80, σ1°54/79, mb4.2/32, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.13**	**284**		**Pn**	**15 52 42.9**	**+0.9**
NIUE	**Niue**	**7.41**	**93**	P	**Pn**	**15 53 13.5**	**-3.4**
KUZ	**Kuaotunu**	**18.77**	**196**	P	**P**	**15 55 24.5**	**+3.4**
MBAZ	**Motutapu North**	**19.02**	**198**	P	**P**	**15 55 27.7**	**+4.1**
HAZ	**Te Kaha**	**19.27**	**191**	P	**P**	**15 55 25.3**	**-0.9**
RUGZ	**Raukumara Rang**	**19.50**	**191**	P	**P**	**15 55 27.7**	**-0.8**
TWGZ	**Tauwhareparae**	**19.65**	**190**	P	**P**	**15 55 31.1**	**+1.3**
TOZ	**Tahuroa Road**	**19.75**	**196**	P	**P**	**15 55 28.2**	**-2.4**
MWZ	**Matawai**	**19.88**	**191**	P	**P**	**15 55 30.2**	**-1.6**
URZ	**Urewera**	**19.89**	**192**	P	**P**	**15 55 28.4**	**-3.5**
	8.2nm,0.4s,baz=331,slow=2.0,SNR=21						
URZ				S	**S**	**15 58 54.0**	**+3.3**
	9.2nm,0.9s,baz=174,slow=18,SNR=2.0						
URZ	**Urewera**	**19.89**	**192**	P	**P**	**15 55 29.8**	**-2.1**
CNGZ	**Carnagh Statio**	**19.91**	**189**	P	**P**	**15 55 32.0**	**-0.1**
RAGZ	**Rawiri**	**20.06**	**191**	P	**P**	**15 55 33.2**	**-0.3**
RIGZ	**Rimuhau**	**20.20**	**190**	P	**P**	**15 55 34.0**	**-0.8**
RTZ	**Ruatahuna**	**20.26**	**192**	P	**P**	**15 55 31.8**	**-3.6**
RTZ				IAmb	IAmb	15 55 56.7	
	comp=Z,22nm,1.4s						
BKZ	**Black Stump Fm**	**20.89**	**193**	P	**P**	**15 55 37.2**	**-3.9**
MRZ	**Mangatainoka R**	**22.52**	**193**	P	**P**	**15 55 52.8**	**-3.0**
MRZ				IAmb	IAmb	15 56 26.2	
	comp=Z,18nm,1.2s						
KHZ	**Kahutara**	**24.66**	**196**	P	**P**	**15 56 12.5**	**-2.6**
CAN	**Canberra**	**33.66**	**234**	P	**P**	**15 57 34.0**	**0.0**
CTAO	**Charters Tower**	**33.92**	**262**	P	**P**	**15 57 35.1**	**-1.3**
CTAO				IAmb	IAmb	15 58 12.7	
	comp=Z,18nm,1.2s						
TOO	**Toolangi**	**37.09**	**232**	P	**P**	**15 58 02.2**	**-0.6**
TOO				IAmb	IAmb	15 58 03.4	
	comp=Z,9.8nm,0.8s						
STKA	**Stephens Creek**	**38.75**	**242**	P	**P**	**15 58 16.6**	**+0.1**
STKA	**Stephens Creek**	**38.75**	**242**	P	**P**	**15 58 15.9**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=93,slow=15,SNR=6.3						
	comp=Z,2.2nm,0.6s						
BBOO	**Buckleboo**	**43.52**	**242**	P	**P**	**15 58 53.9**	**-1.0**
WB2	**Warramunga Arr**	**45.07**	**260**	P	**P**	**15 59 04.9**	**-2.2**
WRAB	**Tennant Creek**	**45.08**	**260**	P	**P**	**15 59 05.1**	**-2.1**
WRA	**Warramunga Arr**	**45.09**	**260**	P	**P**	**15 59 05.3**	**-2.0**
	comp=Z,0.7nm,0.7s,baz=98,slow=6.8,SNR=13						
	comp=Z,0.7nm,0.7s						
AS31	**Alice Springs**	**45.15**	**255**	P	**P**	**15 59 06.6**	**-1.2**
ASAR	**Alice Springs**	**45.15**	**255**	P	**P**	**15 59 05.8**	**-2.0**
ASAR	**Alice Springs**	**45.15**	**255**	P	**P**	**15 59 06.7**	**-1.1**
	comp=Z,5.5nm,0.5s,baz=91,slow=8.6,SNR=251						
	comp=Z,5.5nm,0.5s						
FORT	**Forrest**	**50.19**	**245**	P	**P**	**15 59 44.4**	**-1.4**
KNRA	**Kununurra**	**51.02**	**265**	P	**P**	**15 59 51.6**	**-0.5**
SBA	**Scott Base**	**59.56**	**184**	P	**P**	**16 00 51.3**	**+0.1**
VNDA	**Vanda**	**59.60**	**185**	P	**P**	**16 00 51.2**	**-0.3**
VNDA	**Vanda**	**59.60**	**185**	P	**P**	**16 00 52.7**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=339,slow=7.7,SNR=8.3						
	comp=Z,0.6nm,0.6s						
MJAR	**Matsushiro Arr**	**69.00**	**323**	P	**P**	**16 01 52.9**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=173,slow=5.7,SNR=4.2						
	comp=Z,1.5nm,0.7s						
ADK	**Adak**	**70.40**	**1**	P	**P**	**16 02 01.2**	**+0.9**
ATKA	**Atka Island**	**70.78**	**2**	P	**P**	**16 02 02.3**	**-0.3**
QSPA	**South Pole Qui**	**71.25**	**180**	P	**P**	**16 02 06.0**	**+0.4**
QSPA				IAmb	IAmb	16 02 07.6	
	comp=Z,5.0nm,0.8s						
QSPA	**South Pole Qui**	**71.25**	**180**	P	**P**	**16 02 06.2**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=351,slow=1.1,SNR=15						
	comp=Z,4.2nm,0.8s						
PEA0B	**Petropavlovsk-**	**74.71**	**345**	P	**P**	**16 02 26.2**	**+0.7**
PETK	**Petropavlovsk-**	**74.71**	**345**	P	**P**	**16 02 25.3**	**-0.2**
PETK	**Petropavlovsk-**	**74.71**	**345**	P	**P**	**16 02 25.6**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=116,slow=6.8,SNR=5.8						
	comp=Z,2.7nm,0.7s						
KMRM	**Mail Ridge**	**77.31**	**39**	P	**P**	**16 02 40.8**	**+0.4**
WAKR	**Walker**	**78.95**	**43**	P	**P**	**16 02 49.8**	**+0.3**
NVAR	**Mina Array Bea**	**79.65**	**43**	P	**P**	**16 02 54.7**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=225,slow=7.9,SNR=8.4						
	comp=Z,1.0nm,0.7s						
O16K	**Kokwok River B**	**79.76**	**10**	P	**P**	**16 02 52.0**	**-1.0**
O16K				IAmb	IAmb	16 03 13.8	
	comp=Z,9.7nm,1.3s						
SMAI	**San Martin Ant**	**80.09**	**159**	P	**P**	**16 02 56.7**	**+1.8**
SMAI				IAmb	IAmb	16 02 57.8	
	comp=Z,5.3nm,1.0s						
KVN	**Kaiserville**	**80.12**	**43**	P	**P**	**16 02 56.6**	**+0.9**
O18K	**Koktuh Hills**	**80.51**	**11**	P	**P**	**16 02 57.3**	**+0.2**
N17K	**Nushagak Hills**	**80.79**	**10**	P	**P**	**16 02 58.4**	**-0.1**
N17K				IAmb	IAmb	16 03 06.5	
	comp=Z,7.5nm,1.4s						
M16K	**Timber Creek**	**80.98**	**9**	P	**P**	**16 03 00.0**	**+0.5**
M16K				IAmb	IAmb	16 03 03.3	
	comp=Z,7.8nm,1.1s						
PINE	**Pine Mountain**	**81.12**	**38**	P	**P**	**16 03 01.7**	**+0.9**
PINE				IAmb	IAmb	16 03 03.4	
	comp=Z,4.5nm,0.9s						
BELA	**Belgrano 2**	**81.19**	**173**	P	**P**	**16 03 00.5**	**-0.1**
M17K	**Holitna River**	**81.58**	**10**	P	**P**	**16 03 03.7**	**+1.1**
M17K				IAmb	IAmb	16 03 06.3	
	comp=Z,10.0nm,1.1s						
K15K	**Wolf Creek Mou**	**81.85**	**8**	P	**P**	**16 03 05.0**	**+1.1**
K15K				IAmb	IAmb	16 03 07.1	
	comp=Z,5.6nm,0.8s						
I07A	**Izee**	**82.13**	**38**	P	**P**	**16 03 07.0**	**+1.1**
I07A				IAmb	IAmb	16 03 08.2	
	comp=Z,2.2nm,0.8s						
L18K	**Granite Mounta**	**82.47**	**10**	P	**P**	**16 03 07.8**	**+0.7**
L18K				IAmb	IAmb	16 03 10.1	
	comp=Z,2.9nm,0.7s						
U15A	**North Rim**	**82.66**	**48**	P	**P**	**16 03 10.8**	**+1.7**
K17K	**Iditarod**	**82.70**	**9**	P	**P**	**16 03 08.4**	**+0.2**
K17K				IAmb	IAmb	16 03 21.7	
	comp=Z,13nm,1.4s						
J16K	**Anvik River**	**82.92**	**8**	P	**P**	**16 03 10.2**	**+0.8**
GHO	**Glory Hole Cre**	**83.54**	**13**	P	**P**	**16 03 12.5**	**-0.1**
GHO				IAmb	IAmb	16 03 14.6	
	comp=Z,4.9nm,0.6s						
J18K	**Innoko River**	**83.64**	**9**	P	**P**	**16 03 13.2**	**+0.2**
J18K				IAmb	IAmb	16 03 15.8	
	comp=Z,4.6nm,0.9s						
K20K	**Telida**	**83.97**	**10**	P	**P**	**16 03 14.8**	**+0.1**
K20K				IAmb	IAmb	16 03 16.9	
	comp=Z,3.0nm,0.7s						
CAST	**Castle Rocks**	**84.39**	**11**	P	**P**	**16 03 15.4**	**-1.3**
CAST				IAmb	IAmb	16 03 18.3	
	comp=Z,3.8nm,0.7s						
GLB	**Gilahina Butte**	**84.46**	**16**	P	**P**	**16 03 17.1**	**-0.1**
GLB				IAmb	IAmb	16 03 19.8	
	comp=Z,2.6nm,0.6s						
RND	**Reindeer**	**85.01**	**13**	P	**P**	**16 03 19.6**	**-0.3**
RND				IAmb	IAmb	16 03 21.8	
	comp=Z,7.7nm,1.1s						
M27K	**Edge Creek, AK**	**85.73**	**16**	P	**P**	**16 03 24.2**	**+0.7**
M27K				IAmb	IAmb	16 03 26.8	
	comp=Z,3.8nm,1.0s						
TXAR	**Lajitas Array**	**85.95**	**57**	P	**P**	**16 03 27.7**	**+2.4**
	comp=Z,0.8nm,0.7s,baz=224,slow=6.3,SNR=4.3						
	comp=Z,0.8nm,0.7s						
CCB	**Clear Creek Bu**	**86.33**	**12**	P	**P**	**16 03 25.6**	**-0.5**
CCB				IAmb	IAmb	16 03 28.0	
	comp=Z,5.7nm,1.3s						
IMAR	**Indian Mountai**	**86.46**	**10**	P	**P**	**16 03 26.3**	**-0.5**
ILAR	**Eielson Array**	**86.62**	**13**	P	**P**	**16 03 26.9**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=236,slow=6.2,SNR=6.1						
	comp=Z,0.7nm,0.8s						
IL03	**Eielson Array**	**86.63**	**13**	P	**P**	**16 03 26.8**	**-0.8**
J26L	**Joseph Creek**	**87.12**	**14**	P	**P**	**16 03 30.3**	**+0.2**
PDAR	**Pinedale Array**	**87.58**	**43**	P	**P**	**16 03 32.5**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=146,slow=2.9,SNR=3.8						
	comp=Z,0.4nm,0.8s						
BMAR	**Burnt Mountain**	**89.41**	**12**	P	**P**	**16 03 41.4**	**+0.7**
ARCES	**ARCESS Array B**	**127.31**	**350**	PKhKP	PKPpre	16 09 43.4	
	comp=Z,2.0nm,0.8s,baz=29,slow=2.1,SNR=6.2						
EKA	**Eskdalemuir Ar**	**143.31**	**5**	PKhKP	PKPpre	16 10 13.9	
	comp=Z,0.6nm,0.5s,baz=335,slow=3.1,SNR=3.4						
BRTR	**Keskin Array B**	**145.85**	**314**	PKPbc	**PKPbc**	**16 10 22.0**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=100,slow=5.1,SNR=4.0						
GERES	**GERESS Array B**	**148.64**	**345**	PKPbc	**PKPbc**	**16 10 29.7**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=352,slow=6.0,SNR=3.9						

*NEIC **05** 16:27:00.2±2.5, 20.°89S±0.°03×70.°62W±0.°07, h21km±6km, mb4.1/4, ML4.0(GUC), Error ellipse: s-maj=9.7km s-min=4.3km az=94.0*
*VAO **05** 16:27:01.9±0.8, 20.°96S×70.°68W, h73km±8km, mb4.2*
*GUC **05** 16:27:02.0±0.7, 20.°90S×70.°58W, h14km±4km, ML4.0*
*IDC **05** 16:27:10.2±3.4, 20.°91S×69.°85W, h79km±23km, mb4.1/1, mbtmp4.1/4, MS3.2/5, Error ellipse: s-maj=62.5km s-min=21.8km az=101.0*
ISC 05 16:26:59.3±1.2, 20.°88S±0.°03×70.°68W±0.°05, h20km±4km, n71, σ1°46/85, MS3.4/3, 3C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATCX	**Punta Patache**	**0.50**	**83**		**Pg**	**16 27 08.6**	**-0.9**
PATCX				Sg	**Sg**	**16 27 15.5**	**-0.8**
PATCX	**Punta Patache**	**0.50**	**83**	⇓*i*P	**Pg**	**16 27 09.8**	**+0.2**
PATCX				*i* S	**Sg**	**16 27 15.8**	**-0.5**
PATCX				IAML		16 27 16.3	
	comp=N,13μm,0.2s						
TA01	**Diego Aracena**	**0.56**	**56**		**Pg**	**16 27 11.1**	**+0.4**
TA01				Sg	**Sb**	**16 27 17.1**	**-1.1**
TA01	**Diego Aracena**	**0.56**	**56**	⇓*i*P	**Pg**	**16 27 11.2**	**+0.5**
TA01				*i* S	**Sb**	**16 27 17.4**	**-0.8**
TA01				IAML		16 27 19.0	
	comp=N,23μm,0.3s						
HMBC	**Humberstone**	**0.95**	**51**		**Pb**	**16 27 17.4**	**+0.1**
HMBC				Sg	**Sb**	**16 27 27.2**	**-2.4**
HMBC	**Humberstone**	**0.95**	**51**	*e*P	**Pb**	**16 27 17.4**	**+0.1**
HMBC				*i* S	**Sb**	**16 27 29.3**	**-0.3**
HMBC				IAML		16 27 32.2	
	comp=N,9μm,0.7s						
PX03	**IPOC Station P**	**1.09**	**64**	*e*P	**Pb**	**16 27 18.9**	**-0.8**
PX03				*i* S	**Sb**	**16 27 31.1**	**-2.5**
PX03				IAML		16 27 35.5	
	comp=N,6μm,0.7s						
PB01	**IPOC Station P**	**1.13**	**98**		**Pn**	**16 27 19.0**	**-1.1**
PB01				Sg	**Sb**	**16 27 32.5**	**-2.1**
PB11	**IPOC Station P**	**1.47**	**41**		**Pn**	**16 27 25.8**	**+0.8**
PB11	**IPOC Station P**	**1.47**	**41**	*e*P	**Pn**	**16 27 25.9**	**+1.0**
PB11				*i* S	**Sb**	**16 27 44.8**	**+0.2**
PB11				IAML		16 27 46.3	
	comp=N,8μm,0.2s						
PB04	**IPOC Station P**	**1.53**	**161**		**Pn**	**16 27 25.6**	**-0.2**
PB04					**Sn**	**16 27 44.1**	**-1.1**
PB04	**IPOC Station P**	**1.53**	**161**	*e*P	**Pn**	**16 27 26.1**	**+0.4**
PB04				*i* S	**Sb**	**16 27 46.3**	**+0.1**
PB04				IAML		16 27 48.7	
	comp=N,5μm,0.4s						
PB09	**IPOC Station P**	**1.62**	**124**		**Pb**	**16 27 28.3**	**-0.4**
PB09	**IPOC Station P**	**1.62**	**124**	⇓*i*P	**Pb**	**16 27

MDP	**Montagnes des**	**31.31**	**36**	LR	LR	16 45 49.5	
	comp=Z,58nm,21.9s,baz=161,slow=36						
BBTS	**Babate**	**63.84**	**61**	LR	LR	17 03 03.1	
	comp=Z,35nm,20.3s,baz=324,slow=34						
TORD	**Torodi Ar. Bea**	**78.71**	**71**	P	**P**	**16 39 00.7**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=252,slow=5.2,SNR=11						
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**146.08**	**34**	PKPbc	**PKPbc**	**16 46 38.5**	**+0.4**
	comp=Z,3.8nm,1.1s,baz=319,slow=3.2,SNR=10						

IDC 05 16:32:25.8±8.2, 5°64S×149°99E, h91km±58km, mb3.1/2, mbtmp3.5/3, ML1.8/1, Error ellipse: s-maj=121.2km s-min=55.9km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.67**	**217**	P	Pn	16 33 34.2	+0.1
	2.7nm,0.3s,baz=41,slow=8.9,SNR=6.1						
PMG				S	Sn	16 34 27.8	+0.6
	10nm,0.4s,baz=8.5,slow=19,SNR=3.0						
	7.7nm,0.3s						
WRA	**Warramunga Arr**	**20.82**	**226**	P	P	16 37 00.7	+0.4
	0.9nm,0.5s,baz=51,slow=10,SNR=16						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**23.69**	**219**	P	P	16 37 29.1	-0.4
	0.4nm,0.5s,baz=54,slow=8.6,SNR=6.3						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**147.87**	**286**	PKPbc	PKPbc	16 52 00.8	-0.7
	1.0nm,0.5s,baz=51,slow=2.9,SNR=6.7						

IDC 05 16:50:30.0±1.9, 6°89S×128°94E, h0km, mb3.8/3, mbtmp3.5/5, ML3.1/2, MS3.5/2, Error ellipse: s-maj=190.8km s-min=29.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.99**	**159**	Pn	Pn	16 53 49.1	-0.7
	0.1nm,0.3s,baz=332,slow=14,SNR=9.4						
WRA				Sn	Sn	16 56 11.2	-15
	0.5nm,0.3s,baz=339,slow=22,SNR=10						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**17.35**	**165**	P	Pn	16 54 34.5	+0.7
	baz=332,slow=9.5,SNR=1.1						
ASAR				S	Sn	16 57 35.0	-13
	0.7nm,1.0s,baz=356,slow=25,SNR=2.0						
	0.3nm,0.8s						
RAO	**Raoul Island**	**54.66**	**121**	LR	LR	17 22 43.4	
	comp=Z,80nm,18.6s,baz=159,slow=35						
MKAR	**Makanchi Array**	**67.56**	**327**	P	P	17 01 29.2	+0.8
	0.6nm,0.5s,baz=122,slow=7.8,SNR=12						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**71.02**	**334**	P	P	17 01 49.2	-0.4
	0.5nm,0.5s,baz=115,slow=6.8,SNR=2.2						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**71.87**	**329**	P	P	17 01 54.2	-0.6
	0.5nm,0.5s,baz=128,slow=5.1,SNR=6.2						
	0.5nm,0.5s						
OBN	**Obninsk**	**96.96**	**325**	LR	LR	17 51 47.5	
	comp=Z,11nm,20.0s,baz=354,slow=38						

*IDC **05** 17:07:22.3±1.3, 67°05N×20°89E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=24.1km s-min=10.4km az=104.0*
*HEL **05** 17:07:22.1±0.3, 67°06N×20°85E, h0km, ML1.9, Explosion*
ISC 05 17:07:21.4±1.0, 67°07N±0°03×20°84E±0°05, h0km, n35, σ1§50/43, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.75**	**134**	PG	**Pg**	**17 07 35.3**	**-0.3**
	baz=313						
ERTU				SG	**Sg**	**17 07 44.7**	**-0.7**
SALU	**Saltoluokta**	**0.96**	**290**	*e*P	**Pb**	**17 07 41.0**	**+0.1**
LANU	**Lannavaara**	**1.08**	**24**	PG	**Pg**	**17 07 41.9**	**-0.1**
KLF	**Kolari**	**1.23**	**81**	PG	**Pg**	**17 07 44.4**	**-0.6**
	baz=262						
KLF				MSG		17 07 59.4	
	comp=Z,19nm,0.2s						
KLF				SB	**Sb**	**17 08 01.6**	**-0.3**
KALU	**Kalix**	**1.58**	**139**	PG	**Pn**	**17 07 50.5**	**-0.2**
TOF	**Tornio**	**1.71**	**124**	PG	**Pn**	**17 07 52.7**	**+0.2**
	baz=304						
HEF	**Hetta**	**1.72**	**37**	*e*P	**Pn**	**17 07 53.1**	**+0.6**
HEF	**Hetta**	**1.72**	**37**	PG	**Pn**	**17 07 52.9**	**+0.3**
	baz=222						
HEF				MSG		17 08 13.7	
	comp=Z,14nm,0.2s						
RNF	**Rovaniemi**	**2.10**	**100**	PG	**Pn**	**17 07 59.0**	**+1.2**
KTK1	**Kautokeino**	**2.15**	**24**	PG	**Pb**	**17 08 00.6**	**-0.5**
SGF	**Sodankyl**	**2.24**	**78**	PB	**Pn**	**17 08 01.1**	**+1.4**
SGF				SG	**Sg**	**17 08 32.2**	**-1.1**
BURU	**Burvik**	**2.51**	**175**	PB	**Pn**	**17 08 04.9**	**+1.6**
	baz=351						
RANF	**Ranua**	**2.61**	**111**	PN	**Pn**	**17 08 05.5**	**+0.7**
	baz=301						
RANF				SG	**Sb**	**17 08 42.3**	**+0.8**
OBF4	**Vikkela, Lumij**	**2.86**	**140**	PB	**Pn**	**17 08 09.4**	**+1.2**
	baz=328						
OBF4				MSG		17 08 46.0	
	comp=Z,3.0nm,0.2s						
OUL	**Oulu**	**2.87**	**132**	PB	**Pn**	**17 08 10.6**	**+2.3**
OBF0	**Syolatti, Pyha**	**2.94**	**150**	PB	**Pn**	**17 08 11.1**	**+1.8**
OBF0				MSG		17 08 48.1	
	comp=Z,2.8nm,0.2s						
ARA0	**ARCESS Array S**	**3.02**	**33**	PN	**Pn**	**17 08 11.5**	**+1.1**
ARA0				SN	**Sn**	**17 08 44.4**	**-2.9**
ARCES	**ARCESS Array B**	**3.02**	**33**	Pn	**Pn**	**17 08 11.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=216,slow=12,SNR=32						
ARCES				Sn	**Sn**	**17 08 49.6**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=213,slow=18,SNR=2.6						
	comp=Z,0.7nm,0.3s						
OUF	**Merijarvi**	**3.16**	**148**	PN	**Pn**	**17 08 13.9**	**+1.6**
OUF				MSG		17 08 54.3	
	comp=Z,2.7nm,0.2s						
RAJF	**Raja-Jooseppi**	**3.17**	**60**	PB	**Pn**	**17 08 14.7**	**+2.2**
UMAU	**Umeaa**	**3.20**	**181**	PB	**Pn**	**17 08 14.3**	**+1.4**
	baz=2.0						
UMAU				SN	**Sn**	**17 08 47.6**	**-4.1**
VRF	**Varrio**	**3.45**	**75**	PN	**Pn**	**17 08 18.1**	**+1.7**
OLKF	**Oulanka, Finla**	**3.49**	**99**	PN	**Pn**	**17 08 18.1**	**+1.3**
MSF	**Maaselka**	**3.49**	**106**	PN	**Pn**	**17 08 18.3**	**+1.5**
KEV	**Kevo**	**3.53**	**37**	PN	**Pn**	**17 08 18.2**	**+0.8**
KU6	**Riekki**	**3.77**	**102**	PN	**Pn**	**17 08 22.2**	**+1.5**
VAF	**Ylistaro**	**4.12**	**168**	*e*P	**Pn**	**17 08 27.3**	**+1.8**
VAF	**Ylistaro**	**4.12**	**168**	PN	**Pn**	**17 08 27.5**	**+2.0**
NIF	**Nilsia**	**4.72**	**138**	PN	**Pn**	**17 08 35.4**	**+1.7**
RMF	**Romuvaara**	**4.73**	**123**	PB	Pb	17 08 40.4	-4.7
RMF				SG	**Sb**	**17 09 44.0**	**+1.5**
KEF	**Keuruu**	**5.22**	**159**	*e*P	**Pn**	**17 08 42.3**	**+1.7**
JOF	**Joensuu**	**6.09**	**128**	*e*P	**Pn**	**17 08 53.5**	**+1.0**
RAF	**Rauma**	**6.09**	**176**	*e*P	**Pn**	**17 08 53.5**	**+1.1**
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**17 08 53.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=6.1						
FINES				Sn	**Sn**	**17 10 03.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=340,slow=24,SNR=1.0						
	comp=Z,1.1nm,0.7s						
NOA	**NORSAR Array B**	**7.37**	**219**	Pn	**Pn**	**17 09 09.7**	**-0.5**
	baz=69,slow=11,SNR=2.0						
	comp=Z,0.4nm,0.8s						

IDC 05 17:07:23.9±7.1, 21°09S×179°84W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=297.5km s-min=71.0km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.71**	**258**	P	P	17 15 22.1	-0.9
	0.7nm,0.5s,baz=96,slow=7.7,SNR=32						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**42.81**	**263**	P	P	17 15 24.6	+0.7
	1.2nm,0.4s,baz=96,slow=8.4,SNR=55						
	1.2nm,0.4s						
BRTR	**Keskin Array B**	**145.93**	**311**	PKPbc	PKPdf	17 27 05.0	-0.2
	0.4nm,0.5s,baz=64,slow=3.4,SNR=2.8						

*HEL **05** 17:07:43.0±0.2, 66°97N×20°49E, h0km, ML2.2, Explosion*
*IDC **05** 17:07:44.1±1.1, 67°05N×20°91E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=18.5km s-min=9.3km az=112.0*
ISC 05 17:07:41.6±0.9, 67°01N±0°03×20°44E±0°04, h0km, n24, σ1§67/33, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.83**	**123**	SB	**Sg**	**17 08 08.3**	**+0.1**
LANU	**Lannavaara**	**1.20**	**29**	PN	**Pn**	**17 08 07.1**	**+1.5**
LANU				SN	**Sn**	**17 08 23.9**	**+1.3**
KLF	**Kolari**	**1.40**	**79**	SG	**Sg**	**17 08 24.0**	**-2.3**
KLF				MSG		17 08 24.7	
	comp=Z,25nm,0.2s						
KALU	**Kalix**	**1.65**	**133**	PN	**Pb**	**17 08 12.2**	**-0.6**
KALU	**Kalix**	**1.65**	**133**	SN	**Pb**	**17 08 12.2**	**-0.6**
TOF	**Tornio**	**1.81**	**119**	PG	**Pb**	**17 08 15.1**	**-0.5**
TOF				MSG		17 08 36.1	
	comp=Z,11nm,0.2s						
TOF				SN	**Sb**	**17 08 38.0**	**-0.8**
TOF	**Tornio**	**1.81**	**119**	MSG		17 08 13.2	
	comp=Z,8.8nm,0.2s						
TOF	**Tornio**	**1.81**	**119**	SG	**Pb**	**17 08 15.1**	**-0.5**
HEF	**Hetta**	**1.86**	**40**	PG	**Pg**	**17 08 16.9**	**-0.4**
	baz=221						
HEF				MSG		17 08 39.0	
	comp=Z,39nm,0.2s						
HEF				SG	**Sb**	**17 08 40.6**	**+0.3**
HEF	**Hetta**	**1.86**	**40**	SN	**Pg**	**17 08 16.9**	**-0.4**
I37NO	**I37NO**	**2.18**	**342**	I	I	17 20 59.2	
	baz=157,slow=318,SNR=0.8						
RNF	**Rovaniemi**	**2.24**	**98**	PG	**Pb**	**17 08 22.8**	**-0.1**
RNF				SG	**Sg**	**17 08 52.3**	**-1.2**
RNF	**Rovaniemi**	**2.24**	**98**	SB	**Pb**	**17 08 22.8**	**-0.1**
KTK1	**Kautokeino**	**2.27**	**26**	PG	**Pg**	**17 08 24.4**	**-0.6**
KTK1				SG	**Sg**	**17 08 54.2**	**-0.1**
KTK1	**Kautokeino**	**2.27**	**26**	SN	**Pg**	**17 08 24.4**	**-0.6**
SGF	**Sodankyl**	**2.41**	**77**	PB	**Pb**	**17 08 24.3**	**-1.4**
SGF				SB	**Sb**	**17 08 54.9**	**-1.0**
RANF	**Ranua**	**2.73**	**109**	PB	**Pb**	**17 08 30.1**	**-1.1**
RANF				SB	**Sb**	**17 09 04.4**	**-0.8**
ARA0	**ARCESS Array S**	**3.16**	**34**	PB	**Pb**	**17 08 35.6**	**-2.9**
ARCES	**ARCESS Array B**	**3.16**	**34**	Pn	**Pn**	**17 08 32.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=214,slow=14,SNR=10						
ARCES				Sn	**Sn**	**17 09 12.0**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=216,slow=20,SNR=5.0						
	comp=Z,1.0nm,0.2s						
RAJF	**Raja-Jooseppi**	**3.34**	**60**	SB	**Sb**	**17 09 21.9**	**-0.7**
HUSU	**Husum**	**3.72**	**189**	PB	**Pb**	**17 08 45.5**	**-2.6**
HUSU				SB	**Sb**	**17 09 32.1**	**-1.6**
HEMU	**Hemsoen**	**4.47**	**194**	SB	**Sb**	**17 09 50.5**	**-4.7**
FINES	**FINESS Array B**	**6.11**	**154**	Pn	**Pn**	**17 09 14.8**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=346,slow=12,SNR=7.7						
FINES				Sn	**Sn**	**17 10 24.8**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=342,slow=22,SNR=5.9						
	comp=Z,0.3nm,0.2s						
NOA	**NORSAR Array B**	**7.23**	**218**	Pn	**Pn**	**17 09 32.2**	**+3.9**
	baz=24,slow=9.2,SNR=1.4						
NOA				Sn	**Sn**	**17 10 52.6**	**+1.6**
	baz=51,slow=14,SNR=1.9						
	comp=Z,0.2nm,0.5s						

*ISN **05** 17:11:13.5±1.2, 34°44N×45°51E, h19km±18km, ML2.5*
*TEH **05** 17:11:13.2, 34°46N×45°62E, h11km±54km, ML2.5*
ISC 05 17:11:13.5±1.2, 34°46N±0°05×45°61E±0°05, h14km±10km, n9, σ0§47/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.05**	**341**	Pg	**Pg**	**17 11 15.9**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.43**	**144**	Pg	**Pg**	**17 11 21.5**	**-0.5**
IDHR	**Dehrash**	**0.69**	**69**	Pg	**Pg**	**17 11 26.2**	**-0.6**
IGHG	**Ghaleghazi**	**0.81**	**99**	Pg	**Pg**	**17 11 29.1**	**0.0**
KCHF	**Cheshme Sefid,**	**1.20**	**98**	Pg	**Pb**	**17 11 36.8**	**+0.7**
IBDR	**Badra**	**1.37**	**169**	*e*Pn	**Pb**	**17 11 39.0**	**+0.1**
	baz=345						
IBDR				*e*Sn	**Sg**	**17 11 58.0**	**+0.3**
IBDR				AML	AML	17 12 03.6	
	comp=N,7.3nm,0.9s						
IKRK	**Kirkuk**	**1.40**	**312**	*e*Pn	**Pg**	**17 11 40.0**	**-0.4**
IKRK				*e*Sn	**Sg**	**17 11 59.0**	**+0.4**
SNQR	**Sonqor, Kerman**	**1.71**	**76**	Pg	**Pb**	**17 11 45.2**	**+0.3**
IBZA	**Bozab**	**1.86**	**89**	Pn	**Pb**	**17 11 47.2**	**-0.2**

*ISN **05** 17:16:53.9±0.3, 34°45N×45°61E, h14km±21km, ML3.7*
*TEH **05** 17:16:53.5, 34°42N×45°65E, h11km±16km, ML3.6*
*IDC **05** 17:16:55.5±2.1, 35°02N×45°45E, h0km, mb3.9/6, mbtmp3.9/6, MS3.0/4, Error ellipse: s-maj=49.9km s-min=26.2km az=161.0*
ISC 05 17:16:54.2±1.0, 34°44N±0°03×45°64E±0°03, h9km±7km, n40, σ1§10/40, mb3.7/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.07**	**328**	Pg	**Pg**	**17 16 56.0**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.40**	**145**	Pg	**Pg**	**17 17 01.8**	**-0.3**
IDHR	**Dehrash**	**0.67**	**67**	Pg	**Pg**	**17 17 06.5**	**-0.7**
IDHR				Sg	**Sg**	**17 17 17.0**	**+1.0**
IGHG	**Ghaleghazi**	**0.78**	**98**	Pg	**Pg**	**17 17 09.0**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.17**	**98**	Pg	**Pb**	**17 17 16.1**	**-0.7**
KCHF				Sg	**Sb**	**17 17 32.5**	**+0.3**
ILIN	**Lien**	**1.19**	**66**	Pg	**Pb**	**17 17 16.4**	**-0.7**
IBDR	**Badra**	**1.35**	**169**	*e*Pg	**Pg**	**17 17 20.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**17 17 39.0**	**+1.3**
IBDR				AML	AML	17 17 42.6	
	comp=E,1μm,0.6s						
IBDR				AML	AML	17 17 43.5	
	comp=N,1μm,0.7s						
IKRK	**Kirkuk**	**1.43**	**312**	*e*Pn	**Pg**	**17 17 21.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**17 17 41.0**	**+0.8**
BHD	**Baghdad**	**1.57**	**222**	*e*Pn	**Pb**	**17 17 23.0**	**-0.4**
BHD				*e*Sn	**Sg**	**17 17 44.0**	**-0.7**
BHD				AML	AML	17 17 51.8	
	comp=E,2μm,0.6s						
SNQR	**Sonqor, Kerman**	**1.69**	**75**	Pg	**Pb**	**17 17 25.2**	**-0.5**
SDS1	**Sardasht. Az.**	**1.71**	**356**	Pg	**Pb**	**17 17 25.3**	**-0.6**
IBZA	**Bozab**	**1.84**	**89**	Pn	**Pn**	**17 17 26.8**	**+0.6**
IKFM	**Kafar-mosalman**	**2.05**	**116**	Pn	**Pn**	**17 17 29.5**	**+0.5**
IDOB	**Doab**	**2.21**	**107**	Pn	**Pn**	**17 17 31.7**	**+0.4**
MAHB	**Mahabad**	**2.32**	**1**	Pn	**Pn**	**17 17 33.8**	**+1.1**
HSAM	**Samen**	**2.46**	**95**	Pn	**Pn**	**17 17 35.9**	**+1.0**
IAZR	**Azarshahr**	**3.24**	**5**	Pn	**Pn**	**17 17 46.9**	**+1.3**
IRAZ	**Razeghan**	**3.66**	**74**	Pn	**Pn**	**17 17 51.9**	**+0.7**
ISRB	**Sarab**	**3.75**	**25**	Pn	**Pn**	**17 17 54.4**	**+1.9**
QAMS	**Qamsar**	**4.83**	**97**	Pn	**Pn**	**17 18 08.4**	**+1.0**
KLST	**Kelardasht - M**	**4.88**	**63**	Pn	**Pn**	**17 18 09.5**	**+1.3**
IVRN	**Varamin**	**5.05**	**82**	Pn	**Pn**	**17 18 10.8**	**+0.6**
IDMV	**Damavand**	**5.37**	**76**	Pn	**Pn**	**17 18 15.2**	**+0.4**
KRSH	**Karshahi**	**5.41**	**93**	Pn	**Pn**	**17 18 15.9**	**+0.7**
ISFB	**Sefidab**	**5.46**	**89**	Pn	**Pn**	**17 18 16.1**	**+0.2**
IGAR	**Garneh**	**5.73**	**109**	Pn	**Pn**	**17 18 19.9**	**+0.1**
GNI	**Garni**	**5.74**	**353**	LR	LR	17 20 27.0	
	comp=E,20nm,20.4s,baz=62,slow=41						
IZEF	**Zefreh**	**5.79**	**104**	Pn	**Pn**	**17 18 20.8**	**+0.2**
IFIR	**Firoozkooh**	**5.96**	**76**	Pn	**Pn**	**17 18 24.0**	**+1.1**
IRAM	**Ramesheh**	**6.24**	**113**	Pn	**Pn**	**17 18 26.9**	**+0.2**
KVAR	**Kislovodsk Arr**	**9.77**	**347**	LR	LR	17 22 57.3	
	comp=E,61nm,20.3s,baz=359,slow=39						
BVAR	**Borovoye Array**	**25.57**	**36**	P	**P**	**17 22 23.0**	**-0.4**
	comp=E,1.1nm,0.7s,baz=240,slow=8.1,SNR=7.9						
	comp=E,1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**28.83**	**46**	P	**P**	**17 22 52.9**	**+0.2**
	comp=E,1.4nm,0.2s,baz=253,slow=8.7,SNR=4.7						
	comp=E,1.4nm,0.2s						
FINES	**FINESS Array B**	**29.78**	**341**	P	**P**	**17 22 57.7**	**-3.3**
	comp=E,0.9nm,0.8s,baz=132,slow=9.5,SNR=4.7						
	comp=E,0.9nm,0.8s						
MKAR	**Makanchi Array**	**30.16**	**55**	P	**P**	**17 23 04.9**	**+0.3**
	comp=E,0.4nm,0.9s,baz=254,slow=5.2,SNR=3.0						
	comp=E,0.4nm,0.9s						
HFS	**Hagfors**	**33.03**	**331**	P	**P**	**17 23 27.5**	**-2.1**
	comp=E,2.4nm,0.7s,baz=134,slow=10,SNR=9.1						
	comp=E,2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**33.61**	**42**	P	P	17 23 40.1	+5.4
	comp=E,0.8nm,0.5s,baz=249,slow=5.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**45.01**	**253**	P	**P**	**17 25 13.2**	**+2.8**
	comp=E,0.6nm,0.8s,baz=51,slow=7.8,SNR=2.8						
	comp=E,0.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**64.60**	**53**	LR	LR	17 59 51.1	
	comp=E,36nm,19.6s,baz=195,slow=40						
GUMO	**Guam**	**89.86**	**74**	LR	LR	18 11 24.2	
	comp=E,23nm,21.9s,baz=170,slow=36						

*IDC **05** 17:22:04.8±4.3, 47°51N×92°61W, h0km, mbtmp2.4/1, ML0.9/1, Error ellipse: s-maj=79.3km s-min=29.4km az=53.0*

*OTT **05** 17:22:05.3±0.3, 47°53N×92°64W, h0km, MN2.6/7, Blast, Minnesota, U.S. 132km southeast from Fort Frances, On Mining explosion.*
ISC 05 17:22:05.3±1.9, 47°6N±0°1×92°59W±0°05, h0km, n12, σ0§86/20, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.80**	**67**	PG	**Pg**	**17 22 20.9**	**+0.2**
EYMN				SG	**Sb**	**17 22 32.6**	**-0.8**
ATKO	**Atikokan Iron**	**1.36**	**29**	PG	**Pn**	**17 22 32.0**	**+0.5**
ATKO				SG	**Sn**	**17 22 51.5**	**+1.3**
ATKO				Trac		17 22 56.6	
	comp=Z,5.3nm,0.0s						
EPLO	**Experimental L**	**2.17**	**340**	PN	**Pn**	**17 22 43.6**	**+0.8**
EPLO				SN	**Sb**	**17 23 12.0**	**-0.9**
EPLO				Trac		17 23 15.9	
	comp=Z,1.7nm,0.1s						
TBO	**Thunder Bay**	**2.36**	**63**	PN	**Pn**	**17 22 46.0**	**+0.7**
TBO				SN	**Sn**	**17 23 16.1**	**+1.2**
TBO				Trac		17 23 23.2	
	comp=Z,14nm,0.1s						
SOLO	**Sioux Lookout**	**2.41**	**8**	PN	**Pn**	**17 22 47.5**	**+1.6**
SOLO				SN	**Sb**	**17 23 18.4**	**-1.4**
SOLO				Trac		17 23 31.5	
	comp=Z,5.0nm,0.1s						
ULM	**Lac du Bonnet**	**3.39**	**322**	Pn	**Pn**	**17 22 59.4**	**-0.1**
	0.2nm,0.3s,baz=165,slow=7.6,SNR=1.1						
ULM				Pg	**Pb**	**17 23 06.5**	**+0.2**
	0.5nm,0.3s,baz=151,slow=12,SNR=3.3						
ULM				Lg	Lg	17 23 52.7	
	4.1nm,0.3s,baz=51,slow=22,SNR=15						
	0.8nm,0.5s						
ULM	**Lac du Bonnet**	**3.39**	**322**	PN	**Pn**	**17 22 59.5**	**-0.1**
ULM				SN	**Sn**	**17 23 40.3**	**-0.1**
ULM				Trac		17 23 57.8	
	comp=Z,7.2nm,0.3s						
I10CA	**LAC DU BONNET**	**3.42**	**320**	I	I	17 42 50.0	
	0.2nm,0.8s,baz=138,slow=322,SNR=5.8						
PKLO	**Pickle Lake**	**4.13**	**20**	PN	**Pn**	**17 23 09.8**	**+0.2**
PKLO				SN	**Sn**	**17 23 57.9**	**-0.7**
PKLO				Trac		17 24 16.2	
	comp=Z,4.9nm,0.2s						
GTO	**Geraldton**	**4.28**	**58**	PN	**Pn**	**17 23 11.0**	**-0.7**
GTO				SN	**Sn**	**17 24 02.0**	**-0.3**
GTO				Trac		17 24 26.6	
	comp=Z,5.4nm,0.2s						
PNPO	**Pukaskwa Natio**	**4.33**	**75**	PN	**Pn**	**17 23 12.7**	**+0.3**
PNPO				SN	**Sn**	**17 24 02.6**	**-0.9**
PNPO				Trac		17 24 23.3	
	comp=Z,5.8nm,0.3s						
I56US	**NEWPORT INFRAST**	**6.44**	**281**	I	I	19 01 10.0	
	baz=85,slow=309,SNR=2.1						

*NEIC **05** 17:41:13.0±1.2, 36°40S±0°01×73°72W±0°08, h10km±2km, ML4.0(GUC), Error ellipse: s-maj=11.4km s-min=3.0km az=278.0*
*GUC **05** 17:41:18.1±0.7, 36°47S×73°24W, h11km±3km, ML4.0*
ISC 05 17:41:12.3±1.7, 36°40S±0°05×73°6W±0°1, h10km, n43, σ1§74/42, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ML02	**Panimavida**	**1.90**	**71**	Pn	**Pn**	**17 41 45.4**	**+0.6**
ML02	**Panimavida**	**1.90**	**71**	*i* P	**Pn**	**17 41 45.9**	**+1.1**
ML02				*i* S	**Sn**	**17 42 06.4**	**-2.4**
ML02				IAML		17 42 10.8	
	comp=E,3μm,0.5s						
BI02	**San Fabín de**	**1.91**	**98**	⇑*i*P	**Pn**	**17 41 45.3**	**+0.3**
BI02				*i* S	**Sn**	**17 42 05.2**	**-4.0**
GO05	**Huala**	**1.96**	**45**		**Pn**	**17 41 47.3**	**+1.6**
GO05	**Huala**	**1.96**	**45**	⇑*i*P	**Pn**	**17 41 47.9**	**+2.2**
GO05				*i* S	**Sn**	**17 42 11.1**	**+0.7**
GO05				IAML		17 42 16.3	
	comp=N,1μm,0.4s						
LC02	**Puerto Saavedr**	**2.39**	**175**	Pn	**Pn**	**17 41 51.1**	**-0.4**
BO02	**Sierra Bellavi**	**2.82**	**56**		**Pn**	**17 41 58.8**	**+1.3**
BO02	**Sierra Bellavi**	**2.82**	**56**	IAML		17 42 39.2	
	comp=E,1μm,0.3s						
BO01	**Tunca**	**2.89**	**47**		**Pn**	**17 41 59.7**	**+1.3**
BO01	**Tunca**	**2.89**	**47**	*e*P	**Pn**	**17 42 00.3**	**+1.9**
BO01				IAML		17 42 46.7	
	comp=N,301nm,0.7s						
MT01	**Popeta**	**3.20**	**38**		**Pn**	**17 42 03.8**	**+1.2**
MT01	**Popeta**	**3.20**	**38**	IAML		17 42 57.7	
	comp=E,237nm,0.4s						
VA05	**Santo Domingo**	**3.20**	**32**		**Pn**	**17 42 03.8**	**+1.2**
VA05	**Santo Domingo**	**3.20**	**32**	IAML		17 42 56.7	
	comp=E,507nm,0.3s						
LR03	**Panguipulli**	**3.38**	**163**	Pn	**Pn**	**17 42 06.5**	**+1.3**
LR03	**Panguipulli**	**3.38**	**163**	IAML		17 43 07.9	
	comp=N,561nm,0.8s						
MT09	**Talagante**	**3.40**	**40**		**Pn**	**17 42 06.6**	**+1.0**
MT09	**Talagante**	**3.40**	**40**	IAML		17 43 09.1	
	comp=N,419nm,0.3s						
BO04	**La Punta**	**3.45**	**47**		**Pn**	**17 42 07.4**	**+1.2**
BO04	**La Punta**	**3.45**	**47**

comp=Z,1.3nm,0.8s,baz=96,slow=7.9,SNR=15
comp=Z,1.3nm,0.8s

WR0	**Warramunga Arr**	**44.26**	**263**	P	**P**	**17 56 42.0**	**-0.1**
WB0	**Warramunga Arr**	**44.44**	**264**	P	**P**	**17 56 43.1**	**-0.1**
WB0				IAmb	IAmb	17 56 43.9	
comp=Z,8.3nm,1.3s							
WB2	**Warramunga Arr**	**44.44**	**263**	P	**P**	**17 56 43.2**	**-0.1**
WB2				IAmb	IAmb	17 56 52.9	
comp=Z,13nm,1.4s							
WRAB	**Tennant Creek**	**44.44**	**263**	P	**P**	**17 56 43.0**	**-0.3**
WRAB				IAmb	IAmb	17 57 10.3	
comp=Z,9.1nm,1.4s							
WRA	**Warramunga Arr**	**44.45**	**263**	P	**P**	**17 56 43.7**	**+0.4**
WRA	**Warramunga Arr**	**44.45**	**263**	P	**P**	**17 56 43.1**	**-0.2**
comp=Z,0.5nm,0.6s,baz=96,slow=8.2,SNR=16							
comp=Z,0.5nm,0.6s							
MTN	**Manton Dam**	**49.22**	**272**	P	**P**	**17 57 17.8**	**-2.0**
MTN				IAmb	IAmb	17 58 00.5	
comp=Z,18nm,1.4s							
MBWA	**Marble Bar**	**57.59**	**258**	P	**P**	**17 58 20.8**	**+1.0**
MBWA				IAmb	IAmb	17 58 23.9	
comp=Z,33nm,1.5s							
QSPA	**South Pole Qui**	**68.18**	**180**	P	**P**	**17 59 31.4**	**+3.2**
QSPA				IAmb	IAmb	18 00 05.5	
comp=Z,2.4nm,1.4s							

*IDC **05** 18:11:51.3±1.1,2°.31S×140°.08E, h0km, mb4.1/6, mbtmp4.2/7, ML3.8/1, MS3.0/6, Error ellipse: s-maj=51.9km s-min=22.0km az=87.0*

ISC 05 18:11:54.8±1.2,2°.4S±0°.1×140°.2E±0°.4, h25km, n18, σ0°45/9, mb4.1/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.82**	**136**	LR	LR	18 19 15.7	
comp=Z,207nm,19.7s,baz=304,slow=45							
GUMO	**Guam**	**16.53**	**16**	LR	LR	18 20 32.2	
comp=Z,62nm,20.0s,baz=185,slow=32							
DAV	**Davao City (W)**	**17.36**	**303**	LR	LR	18 22 22.1	
comp=Z,38nm,20.7s,baz=106,slow=37							
WRA	**Warramunga Arr**	**18.37**	**198**	P	**Pn**	**18 16 07.8**	**-0.1**
0.3nm,0.3s,baz=19,slow=12,SNR=30							
7.1nm,0.8s							
CTA	**Charters Tower**	**18.56**	**162**	LR	LR	18 23 47.0	
comp=Z,10nm,20.0s,baz=323,slow=38							
ASAR	**Alice Springs**	**22.02**	**196**	P	**P**	**18 16 47.5**	**0.0**
4.4nm,1.0s,baz=27,slow=12,SNR=29							
4.4nm,1.0s							
JCJ	**Chichijima**	**29.37**	**4**	LR	LR	18 26 45.7	
comp=Z,27nm,21.5s,baz=122,slow=30							
H11N1	**WAKE ISLAND Hy**	**34.19**	**49**	T	T	18 54 44.1	
baz=233,slow=75,SNR=6.3							
H11N2	**WAKE ISLAND Hy**	**34.21**	**49**	T	T	18 54 44.3	
baz=233,slow=75,SNR=10							
H11N3	**WAKE ISLAND Hy**	**34.21**	**49**	T	T	18 54 43.5	
baz=233,slow=75,SNR=5.7							
MKAR	**Makanchi Array**	**70.45**	**322**	P	**P**	**18 23 07.5**	**+0.4**
2.2nm,0.8s,baz=114,slow=7.9,SNR=21							
2.2nm,0.8s							
ZALV	**Zalesovo Beam**	**72.41**	**329**	P	**P**	**18 23 17.9**	**-0.9**
1.0nm,0.6s,baz=93,slow=5.9,SNR=6.1							
1.0nm,0.6s							
KURBB	**Kurchatov Arra**	**74.33**	**324**	P	**P**	**18 23 30.1**	**-0.1**
1.7nm,0.8s,baz=113,slow=6.1,SNR=12							
1.7nm,0.8s							
BVAR	**Borovoye Array**	**79.90**	**325**	P	**P**	**18 24 01.4**	**-0.1**
3.0nm,0.7s,baz=119,slow=8.6,SNR=12							
3.0nm,0.7s							
ILAR	**Eielson Array**	**84.92**	**24**	P	**P**	**18 24 27.5**	**+0.1**
0.9nm,0.8s,baz=261,slow=5.0,SNR=10							
0.9nm,0.8s							
QSPA	**South Pole Qui**	**87.56**	**180**	LR	LR	19 03 47.2	
comp=Z,33nm,18.4s,baz=264,slow=36							
DBIC	**Dimbokro**	**144.92**	**278**	PKP	**PKPab**	**18 31 29.8**	**-0.3**
4.3nm,0.7s,baz=139,slow=4.1,SNR=6.3							
CPUP	**Villa Florida**	**146.80**	**150**	PKPbc	**PKPab**	**18 31 36.9**	**+0.2**
1.7nm,0.7s,baz=254,slow=5.0,SNR=6.1							

*ATH **05** 18:40:48.3, 38°.65N×20°.58E, h8km±1km, ML2.7/7, Error ellipse: s-maj=1.5km s-min=0.7km az=65.0*
*THE **05** 18:40:48.3, 38°.63N×20°.59E, h7km±1km, ML3.0/8, Error ellipse: s-maj=1.1km s-min=0.5km az=107.0*

ISC 05 18:40:47.1±0.8, 38°.63N±0°.03×20°.57E±0°.03, h16km±4km, n52, σ0°74/76, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVGI	**Lefkada island**	**0.07**	**97**	P	**Pg**	**18 40 50.1**	**-0.1**
EVGI				S	**Sg**	**18 40 51.8**	**-0.6**
61μm,0.2s							
EVGI	**Lefkada island**	**0.07**	**97**	P	**Pg**	**18 40 50.1**	**-0.1**
EVGI				S	**Sg**	**18 40 51.8**	**-0.6**
NYDR	**Nydri-Lefkada**	**0.13**	**50**	P	**Pg**	**18 40 50.6**	**-0.3**
NYDR				S	**Sg**	**18 40 52.8**	**-0.6**
6μm,0.2s							
NYDR	**Nydri-Lefkada**	**0.13**	**50**	P	**Pg**	**18 40 50.7**	**-0.3**
NYDR				S	**Sg**	**18 40 52.8**	**-0.6**
LKD2	**Lefkada island**	**0.17**	**23**	P	**Pg**	**18 40 51.4**	**-0.2**
LKD2				S	**Sg**	**18 40 54.3**	**-0.2**
10μm,0.2s							
LKD2	**Lefkada island**	**0.17**	**23**	P	**Pg**	**18 40 51.4**	**-0.2**
LKD2				S	**Sg**	**18 40 53.8**	**-0.7**
LKD2				AML	AML	18 40 54.3	
comp=E,18241μm,0.2s							
LKD2				AML	AML	18 40 54.5	
comp=N,20384μm,0.3s							
TSLK	**Tsoukalades, L**	**0.21**	**18**	P	**Pg**	**18 40 52.1**	**+0.1**
TSLK				S	**Sg**	**18 40 55.5**	**+0.2**
comp=N,6μm,0.4s							
TSLK	**Tsoukalades, L**	**0.21**	**18**	P	**Pg**	**18 40 52.1**	**+0.1**
TSLK				S	**Sg**	**18 40 55.3**	**0.0**
TSLK				AML	AML	18 40 55.6	
comp=N,11225μm,0.4s							
TSLK				AML	AML	18 40 55.8	
comp=E,12714μm,0.3s							
SMHA	**Samh**	**0.38**	**171**	P	**Pb**	**18 40 55.4**	**-0.1**
SMHA				S	**Sb**	**18 41 01.3**	**+0.3**
DMLN	**Damoulianata-K**	**0.42**	**202**	P	**Pb**	**18 40 56.5**	**+0.4**
DMLN				S	**Sb**	**18 41 03.0**	**+0.8**
comp=E,3μm,0.4s							
DMLN	**Damoulianata-K**	**0.42**	**202**	P	**Pb**	**18 40 56.5**	**+0.4**
DMLN				S	**Sb**	**18 41 03.5**	**+1.3**
LXRA	**Lixouri, Kepha**	**0.44**	**194**	P	**Pb**	**18 40 56.8**	**+0.3**
LXRA				S	**Sb**	**18 41 03.9**	**+1.1**
VLS	**Valsamata**	**0.45**	**178**	P	**Pb**	**18 40 56.9**	**+0.3**
VLS				S	**Sb**	**18 41 03.7**	**+0.6**
comp=E,2μm,0.2s							
VLS	**Valsamata**	**0.45**	**178**	P	**Pb**	**18 40 56.9**	**+0.3**
VLS				S	**Sb**	**18 41 04.3**	**+1.2**
VLS				AML	AML	18 41 04.7	
comp=E,3285μm,0.2s							
VLS				AML	AML	18 41 05.5	
comp=N,3744μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.52**	**179**	P	**Pb**	**18 40 58.0**	**+0.3**
PSDA				S	**Sb**	**18 41 05.4**	**+0.5**
comp=N,3μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.52**	**179**	P	**Pb**	**18 40 58.0**	**+0.3**
PSDA				S	**Sb**	**18 41 06.0**	**+1.1**
RTZL	**Ratzakli, Kefa**	**0.57**	**164**	P	**Pb**	**18 40 59.1**	**+0.4**
RTZL				S	**Sb**	**18 41 08.0**	**+1.4**
PVO	**Paravola**	**0.75**	**91**	P	**Pn**	**18 41 02.6**	**-0.3**
PVO				S	**Sb**	**18 41 12.7**	**+1.1**
comp=N,54μm,0.3s							
PVO	**Paravola**	**0.75**	**91**	P	**Pn**	**18 41 02.7**	**-0.3**
PVO				S	**Sn**	**18 41 13.0**	**-0.9**
RLS	**Riolos of Patr**	**0.91**	**129**	P	**Pn**	**18 41 05.4**	**+0.3**
RLS	**Riolos of Patr**	**0.91**	**129**	P	**Pn**	**18 41 05.4**	**+0.3**
RLS				S	**Sn**	**18 41 17.8**	**0.0**
RLS				AML	AML	18 41 24.1	
comp=N,429μm,0.3s							
RLS				AML	AML	18 41 25.6	
comp=E,430μm,0.6s							
LTHK	**Lithakia**	**0.94**	**167**	P	**Pb**	**18 41 05.3**	**+0.3**
LTHK	**Lithakia**	**0.94**	**167**	P	**Pb**	**18 41 05.0**	**0.0**
EVR	**Evrytania**	**1.01**	**73**	P	**Pn**	**18 41 07.7**	**+1.1**
EVR	**Evrytania**	**1.01**	**73**	P	**Pn**	**18 41 07.5**	**+0.9**
ANX	**Ano Chora**	**1.06**	**92**	P	**Pn**	**18 41 07.5**	**+0.2**
ANX	**Ano Chora**	**1.06**	**92**	P	**Pn**	**18 41 07.5**	**+0.2**
ANX				S	**Sn**	**18 41 22.6**	**+0.9**
ANX				AML	AML	18 41 26.0	
comp=N,1467μm,0.4s							
ANX				AML	AML	18 41 32.1	
comp=E,739μm,0.5s							

EFP	**Efpalio**	**1.07**	**101**	P	**Pn**	**18 41 07.1**	**-0.2**
EFP	**Efpalio**	**1.07**	**101**	P	**Pn**	**18 41 07.2**	**-0.1**
EFP				S	**Sn**	**18 41 22.3**	**+0.6**
EFP				AML	AML	18 41 30.7	
comp=E,1145μm,0.5s							
EFP				AML	AML	18 41 30.9	
comp=N,979μm,0.4s							
KASA	**Kassiopi**	**1.22**	**336**	P	**Pg**	**18 41 10.2**	**-0.4**
KALE	**Kalithea**	**1.25**	**100**	P	**Pg**	**18 41 10.6**	**-0.7**
KALE	**Kalithea**	**1.25**	**100**	P	**Pg**	**18 41 10.5**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.28**	**72**	P	**Pg**	**18 41 11.6**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.28**	**72**	P	**Pg**	**18 41 11.6**	**-0.1**
KLV	**Kalavryta, Ach**	**1.37**	**115**	P	**Pg**	**18 41 12.5**	**-1.0**
KLV	**Kalavryta, Ach**	**1.37**	**115**	P	**Pb**	**18 41 12.2**	**-0.1**
AGG	**Agios Georgios**	**1.43**	**74**	P	**Pg**	**18 41 14.1**	**-0.5**
AGG	**Agios Georgios**	**1.43**	**74**	P	**Pg**	**18 41 14.2**	**-0.5**
KPRO	**Kipourio**	**1.46**	**25**	P	**Pg**	**18 41 14.7**	**-0.5**
THL	**Klokotos Trika**	**1.46**	**50**	P	**Pg**	**18 41 14.8**	**-0.4**
THL	**Klokotos Trika**	**1.46**	**50**	P	**Pg**	**18 41 14.6**	**-0.6**
GUR	**Goura**	**1.56**	**116**	P	**Pb**	**18 41 15.7**	**+0.2**
GUR	**Goura**	**1.56**	**116**	P	**Pn**	**18 41 14.7**	**+0.5**
GUR				AML	AML	18 41 29.5	
comp=N,114μm,0.4s							
GUR				AML	AML	18 41 30.7	
comp=E,108μm,0.4s							
TYRN	**Tyrnavos**	**1.68**	**50**	P	**Pb**	**18 41 17.9**	**+0.2**
ITM	**Ithomi**	**1.80**	**143**	P	**Pg**	**18 41 20.4**	**-1.3**
DBRK	**Dubrovnik**	**4.44**	**336**	*e*Pn	**Pn**	**18 41 55.3**	**+1.6**
DBRK				Sn	**Sn**	**18 42 43.7**	**-1.3**
STON	**Ston**	**4.77**	**334**	*e*Pn	**Pn**	**18 41 57.8**	**-0.3**
MAKA	**Makarska**	**5.37**	**331**	*e*Pn	**Pn**	**18 42 08.0**	**+1.5**
RICI	**Ricice**	**5.51**	**333**	*e*Pn	**Pn**	**18 42 08.6**	**+0.2**
ZIRJ	**Zirje**	**6.25**	**325**	*e*Pn	**Pn**	**18 42 18.7**	**+0.2**
ZIRJ				Sn	**Sn**	**18 43 26.4**	**-3.0**
MORI	**Morici**	**6.39**	**327**	*e*Pn	**Pn**	**18 42 20.3**	**-0.1**
DUGI	**Dugi Otok**	**6.78**	**324**	*e*Pn	**Pn**	**18 42 26.2**	**+0.5**

*IDC **05** 18:54:57.9±8.1, 31°.83S×179°.80E, h379km±95km, mb2.6/2, mbtmp3.6/3, Error ellipse: s-maj=105.1km s-min=41.1km az=4.0*
*WEL **05** 18:56:27.6, 38°S±15°×17°7E±1°5, h55km±19km, M2.4/19, ML2.4/9, MLv2.4/19, Error ellipse: s-maj=0.0km s-min=0.0km az=136.8*

ISC 05 18:55:01.8±1.8, 32°.0S±0°.1×179°.5E±0°.2, h400km, n50, σ2°24/49, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**5.94**	**193**	P	**Pn**	**18 56 35.5**	**+1.9**
PKGZ	**Pakihiroa**	**6.00**	**191**	P	**Pn**	**18 56 37.0**	**+2.7**
RUGZ	**Raukumara Rang**	**6.17**	**193**	P	**Pn**	**18 56 37.8**	**+1.6**
TWGZ	**Tauwhareparae**	**6.32**	**191**	P	**P**	**18 56 40.2**	**+2.5**
MARZ	**Manawahe**	**6.43**	**200**	P	**P**	**18 56 42.8**	**+3.8**
MWZ	**Matawai**	**6.55**	**193**	P	**P**	**18 56 40.9**	**0.0**
URZ	**Urewera**	**6.57**	**196**	P	**P**	**18 56 39.6**	**-1.5**
8.9nm,0.3s,baz=346,slow=4.0,SNR=43							
URZ				S	**S**	**18 57 59.2**	**-1.9**
12nm,0.3s,baz=164,slow=17,SNR=16							
URZ	**Urewera**	**6.57**	**196**	P	**P**	**18 56 40.2**	**-0.8**
CNGZ	**Carnagh Statio**	**6.59**	**189**	P	**P**	**18 56 43.2**	**+1.9**
TKGZ	**Te Karaka**	**6.59**	**191**	P	**P**	**18 56 42.6**	**+1.3**
RAGZ	**Rawiri**	**6.73**	**194**	P	**P**	**18 56 44.3**	**+1.3**
MUGZ	**Murupara**	**6.86**	**198**	P	**P**	**18 56 45.4**	**+1.1**
RIGZ	**Rimuhau**	**6.87**	**191**	P	**P**	**18 56 45.6**	**+1.1**
SNGZ	**Shannon Statio**	**7.02**	**194**	P	**P**	**18 56 47.1**	**+0.9**
PRGZ	**Paritu Road**	**7.06**	**190**	P	P	18 56 49.7	+3.1
MTHZ	**Maungataniwha**	**7.20**	**197**	P	**P**	**18 56 49.1**	**+0.9**
RAHZ	**Arahi**	**7.20**	**195**	P	**P**	**18 56 49.3**	**+1.1**
MHGZ	**Mahia Peninsul**	**7.29**	**190**	P	**P**	**18 56 50.8**	**+1.7**
WHHZ	**Waihua**	**7.33**	**194**	P	**P**	**18 56 51.7**	**+2.2**
NMHZ	**Naumai**	**7.44**	**196**	P	**P**	**18 56 52.5**	**+1.6**
HIZ	**Hauiti**	**7.54**	**209**	P	P	18 56 57.0	+5.0
ARHZ	**Aropaoanui**	**7.56**	**195**	P	**P**	**18 56 54.2**	**+2.1**
BKZ	**Black Stump Fm**	**7.58**	**198**	P	**P**	**18 56 52.7**	**+0.3**
ETVZ	**East Tongariro**	**7.78**	**202**	P	**P**	**18 56 56.9**	**+2.2**
MCHZ	**McNeill Hill**	**7.80**	**196**	P	**P**	**18 56 56.9**	**+2.2**
OTVZ	**Oturere**	**7.82**	**202**	P	**P**	**18 56 56.8**	**+1.6**
KWHZ	**Kaweka Forest**	**7.84**	**198**	P	**P**	**18 56 56.8**	**+1.5**
SNVZ	**South Ngauruho**	**7.85**	**202**	P	**P**	**18 56 57.4**	**+1.9**
CKHZ	**Cape Kidnapper**	**7.92**	**193**	P	**P**	**18 56 58.5**	**+2.4**
WNVZ	**Wahianoa**	**7.99**	**202**	P	**P**	**18 56 58.3**	**+1.2**
KRHZ	**Kereru**	**8.06**	**197**	P	**P**	**18 56 58.5**	**+0.7**
KAHZ	**Kahuranaki**	**8.09**	**194**	P	**P**	**18 56 58.8**	**+0.7**
PXZ	**Pawanui**	**8.32**	**194**	P	**P**	**18 57 00.7**	**+0.2**
DVHZ	**Dannevirke**	**8.73**	**197**	P	**S**	**18 58 45.1**	**-1.1**
ANWZ	**Angora Road**	**8.81**	**195**	P	**S**	**18 58 47.8**	**-0.1**
PRWZ	**Pori Road**	**9.02**	**197**	P	**S**	**18 58 50.3**	**-2.1**
BFZ	**Birch Farm**	**9.08**	**196**	P	**S**	**18 58 49.6**	**-3.9**
MRZ	**Mangatainoka R**	**9.23**	**199**	P	**S**	**18 58 48.5**	**-8.1**
HOWZ	**Holdsworth Sta**	**9.46**	**198**	P	**S**	**18 58 57.8**	**-3.8**
OGWZ	**Otaki Gorge**	**9.49**	**200**	P	**S**	**18 59 01.7**	**-0.3**
KIW	**Kapiti Island**	**9.61**	**201**	P	**S**	**18 59 02.3**	**-2.2**
DUWZ	**D'Urville Isla**	**9.88**	**205**	P	**S**	**18 59 10.1**	**0.0**
MSWZ	**Moikau Station**	**10.02**	**199**	P	**S**	**18 59 10.5**	**-2.4**
TCW	**Tory Channel**	**10.12**	**203**	P	**S**	**18 59 13.9**	**-1.1**
TUWZ	**Tuamarina**	**10.43**	**204**	P	**S**	**18 59 19.2**	**-2.1**
MRNZ	**Matariki Terra**	**10.84**	**208**	P	**S**	**18 59 31.7**	**+2.1**
THZ	**Tophouse**	**11.10**	**206**	P	**S**	**18 59 33.4**	**-1.5**
ASAR	**Alice Springs**	**40.89**	**270**	P	**P**	**19 02 07.2**	**0.0**
0.3nm,0.7s,baz=109,slow=7.2,SNR=4.0							
0.3nm,0.7s							
WRA	**Warramunga Arr**	**42.03**	**275**	P	**P**	**19 02 16.4**	**+0.1**
0.3nm,0.4s,baz=112,slow=7.9,SNR=8.8							
0.3nm,0.4s							
FINES	**FINESS Array B**	**145.81**	**337**	PKPbc	**PKPab**	**19 13 51.5**	**-3.9**
0.7nm,0.4s,baz=43,slow=3.7,SNR=12							

*ISN **05** 19:07:33.9±1.1, 33°.72N×45°.68E, h16km±26km, ML3.2*
*TEH **05** 19:07:34.4, 33°.72N×45°.70E, h14km±34km, ML3.2*

ISC 05 19:07:34.6±0.9, 33°.73N±0°.04×45°.71E±0°.04, h13km, n19, σ1°23/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.42**	**24**	Pg	**Pg**	**19 07 42.5**	**-0.5**
ILBA	**Ilam Banvizeh**	**0.43**	**103**	Pg	**Pg**	**19 07 43.1**	**-0.1**
IBDR	**Badra**	**0.64**	**163**	*e*Pg	**Pb**	**19 07 47.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**19 07 55.0**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.78**	**353**	Pg	**Pb**	**19 07 49.8**	**-0.3**
IGHG	**Ghaleghazi**	**0.94**	**50**	Pg	**Pb**	**19 07 52.7**	**-0.2**
IDHR	**Dehrash**	**1.12**	**30**	Pg	**Pb**	**19 07 55.4**	**-0.7**
BHD	**Baghdad**	**1.20**	**248**	*e*Pn	**Pg**	**19 07 57.0**	**-0.6**
BHD				*e*Sn	**Sg**	**19 08 15.0**	**+1.8**
KCHF	**Cheshme Sefid,**	**1.24**	**63**	Pg	**Pg**	**19 07 58.3**	**-0.2**
ILIN	**Lien**	**1.58**	**41**	Pg	**Pg**	**19 08 04.3**	**-0.7**
IKFM	**Kafar-mosalman**	**1.80**	**96**	Pg	**Pb**	**19 08 06.9**	**-0.5**
IBZA	**Bozab**	**1.94**	**67**	Pn	**Pb**	**19 08 09.4**	**-0.5**
SNQR	**Sonqor, Kerman**	**1.95**	**54**	Pn	**Pb**	**19 08 09.9**	**-0.3**
IKRK	**Kirkuk**	**2.02**	**326**	*e*Pn	**Pn**	**19 08 09.0**	**+0.7**
IKRK				*e*Sn	**Sb**	**19 08 35.0**	**-1.1**
IKRK				AML	AML	19 08 41.9	
comp=N,280nm,0.8s							
IKRK				AML	AML	19 08 42.5	
comp=E,179nm,0.5s							
IDOB	**Doab**	**2.06**	**88**	Pn	**Pb**	**19 08 10.5**	**-1.5**
HSAM	**Samen**	**2.46**	**78**	Pn	**Pb**	**19 08 16.3**	**-2.5**
QABG	**Abgarm-Qazvin**	**3.76**	**57**	Pn	**Pn**	**19 08 34.5**	**+2.0**
IRAZ	**Razeghan**	**3.87**	**63**	Pn	**Pn**	**19 08 36.6**	**+2.7**
ISHB	**Shabestar**	**4.55**	**359**	Pn	**Pn**	**19 08 43.6**	**+0.3**
IDMV	**Damavand**	**5.53**	**69**	Pn	**Pn**	**19 08 58.0**	**+1.1**

*ISN **05** 19:12:03.5±0.6, 33°.76N×45°.75E, h10km, ML2.5*
*TEH **05** 19:12:03.6, 33°.78N×45°.64E, h10km±41km, ML2.5*

ISC 05 19:12:02.9±2.9, 33°.75N±0°.05×45°.6E±0°.2, h10km, n8, σ0°53/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.44**	**34**	Pg	**Pg**	**19 12 11.8**	**+0.2**
IBDR	**Badra**	**0.69**	**157**	*e*Pg	**Pg**	**19 12 16.0**	**-0.3**
baz=347							
IBDR				*e*Sg	**Sg**	**19 12 26.0**	**+0.6**
IBDR				AML	AML	19 12 47.7	
comp=N,9.5nm,0.8s							
IGHG	**Ghaleghazi**	**0.98**	**54**	Pg	**Pb**	**19 12 22.0**	**-0.2**
IDHR	**Dehrash**	**1.14**	**34**	Pg	**Pb**	**19 12 25.1**	**+0.2**
ILIN	**Lien**	**1.61**	**43**	Pg	**Pg**	**19 12 33.9**	**0.0**
IKFM	**Kafar-mosalman**	**1.88**	**96**	Pn	**Pb**	**19 12 37.8**	**+0.5**
IBZA	**Bozab**	**2.00**	**68**	Pn	**Pb**	**19 12 38.7**	**-0.9**
SNQR	**Sonqor, Kerman**	**2.00**	**56**	Pn	**Pb**	**19 12 39.2**	**-0.4**

*IDC **05** 19:23:13.1±1.1, 55°.27S×30°.89W, h0km, mb4.0/5, mbtmp4.1/5, Error ellipse: s-maj=43.2km s-min=23.9km az=34.0*
*NEIC **05** 19:23:14.3±2.6, 55°.1S±0°.1×30°.9W±0°.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=19.7km s-min=14.9km az=26.0*

ISC 05 19:23:14.5±0.6, 55°.1S±0°.1×30°.97W±0°.09, h10km, n47, σ0°97/42, mb4.4/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.31**	**283**	Pn	**Pn**	**19 24 06.2**	**-0.1**
HOPE				Sn	**Sn**	**19 24 45.6**	**-0.1**
ORCD	**Orcadas**	**9.22**	**227**	Pn	**Pn**	**19 25 29.1**	**+1.8**
SNAA	**Sanae**	**20.47**	**155**	P	**P**	**19 27 50.9**	**-1.1**
SNAA	**Sanae**	**20.47**	**155**	P	**P**	**19 27 51.4**	**-0.6**
1.1nm,0.7s,baz=268,slow=15,SNR=6.2							
1.1nm,0.7s							
CPUP	**Villa Florida**	**34.62**	**315**	P	**P**	**19 30 04.2**	**+0.6**
CPUP				IAmb	IAmb	19 30 06.2	
comp=Z,4.7nm,0.8s							
CPUP	**Villa Florida**	**34.62**	**315**	P	**P**	**19 30 04.7**	**+1.1**
comp=Z,4.1nm,0.8s,baz=149,slow=8.8,SNR=9.0							
comp=Z,4.1nm,0.8s							
MT13	**San Alfonso**	**34.63**	**292**	P	**P**	**19 30 02.2**	**-1.6**
QSPA	**South Pole Qui**	**35.12**	**180**	P	**P**	**19 30 06.7**	**-1.1**
QSPA				IAmb	IAmb	19 30 20.2	
comp=Z,3.6nm,1.1s							
VA01	**Torpederas**	**35.91**	**291**	P	**P**	**19 30 15.2**	**+0.5**
VNDA	**Vanda**	**47.37**	**184**	P	**P**	**19 31 48.3**	**+0.3**
H10S2	**ASCENSION HYDR**	**47.85**	**22**	T	T	20 23 38.3	
baz=193,slow=74,SNR=4.9							
H10S3	**ASCENSION HYDR**	**47.85**	**22**	T	T	20 23 34.8	
baz=27,slow=74,SNR=4.2							
BOSA	**Boshof**	**47.88**	**80**	P	**P**	**19 31 52.8**	**+0.1**
BOSA				IAmb	IAmb	19 32 19.1	
comp=Z,12nm,1.4s							
BOSA	**Boshof**	**47.88**	**80**	P	**P**	**19 31 52.8**	**+0.1**
comp=Z,1.7nm,0.6s,baz=219,slow=6.0,SNR=5.5							
comp=Z,1.7nm,0.6s							
LPAZ	**La Paz**	**48.11**	**309**	P	**P**	**19 31 54.2**	**-0.9**
LPAZ				IAmb	IAmb	19 31 58.2	
comp=Z,2.1nm,0.6s							
LPAZ	**La Paz**	**48.11**	**309**	P	**P**	**19 31 56.3**	**+1.2**
comp=Z,2.2nm,0.6s,baz=176,slow=5.7,SNR=6.5							
comp=Z,2.2nm,0.6s							
H10N1	**ASCENSION HYDR**	**48.96**	**22**	T	T	20 25 03.3	
baz=191							
H10N3	**ASCENSION HYDR**	**48.96**	**22**	T	T	20 25 01.6	
baz=191,slow=74,SNR=5.0							
H10N2	**ASCENSION HYDR**	**48.98**	**22**	T	T	20 25 02.5	
baz=191,slow=74,SNR=4.2							
LBTB	**Lobatse**	**50.85**	**78**	P	**P**	**19 32 16.5**	**+1.1**
LBTB				IAmb	IAmb	19 32 51.3	
comp=Z,7.3nm,1.4s							
TORD	**Torodi Ar. Bea**	**73.39**	**33**	P	**P**	**19 34 47.9**	**+1.4**
comp=Z,1.1nm,0.5s,baz=198,slow=6.1,SNR=7.0							
comp=Z,1.1nm,0.5s							
FINES	**FINESS Array B**	**124.60**	**29**	PKP	**PKPdf**	**19 42 11.6**	**-1.0**
comp=Z,1.3nm,0.8s,baz=153,slow=5.8,SNR=3.7							
ZALV	**Zalesovo Beam**	**143.90**	**65**	PKhKP	PKPpre	19 42 44.8	
comp=Z,0.5nm,0.6s,baz=242,slow=3.1,SNR=2.7							
DAWY	**Dawson**	**144.60**	**314**	PKPdf	**PKPab**	**19 42 48.9**	**+0.5**
SNH	**Sunshine Point**	**144.69**	**307**	PKPdf	**PKPdf**	**19 42 50.5**	**+0.4**
H29M	**Whitestone**	**144.88**	**318**	PKPdf	**PKPab**	**19 42 49.6**	**+0.2**
TGL	**Tana Glacier**	**144.90**	**308**	PKPdf	**PKPab**	**19 42 49.5**	**-0.3**
G29M	**Pine Creek**	**144.96**	**319**	PKPdf	**PKPdf**	**19 42 50.7**	**+0.4**
M27K	**Edge Creek, AK**	**145.06**	**310**		**PKPbc**	**19 42 49.2**	**-1.0**
SUCK	**Suckling Hills**	**145.08**	**306**		**PKPbc**	**19 42 48.5**	**-1.7**
BCAR	**Beaver Creek A**	**145.27**	**312**		**P

RFA				*e*S	Sn	19 49 55.5	+0.7
RFA				IAML		19 50 02.0	
	comp=Z,328nm,0.5s						
MT13	**San Alfonso**	**2.76**	**15**	*e*P	Pb	19 49 25.3	-1.1
MT13				*i* S	Sb	19 49 59.1	-1.6
VA05	**Santo Domingo**	**2.78**	**352**	*e*P	Pn	19 49 21.8	+0.1
VA05				*i* S	Sn	19 49 57.0	+1.2
VA05				IAML		19 50 08.0	
	comp=E,1μm,0.2s						
MT03	**Universidad Ad**	**2.96**	**10**	*e*P	Pn	19 49 22.5	-1.9
MT03				*e*P	Pb	19 49 27.5	-2.4
MT03				*e*S	Sb	19 50 08.1	+1.6
MT03				IAML		19 50 09.5	
	comp=Z,434nm,0.8s						
MT03	**Universidad Ad**	**2.96**	**10**	*e*P	Pn	19 49 27.3	+2.9
MT03				*i* S	Sb	19 50 05.6	-0.9
MT05	**Renca**	**3.04**	**6**	*e*P	Pb	19 49 29.1	-2.0
MT05				*e*S	Sn	19 50 04.5	+2.3
MT05				IAML		19 50 13.7	
	comp=Z,370nm,0.3s						
MT02	**Curacav**	**3.15**	**0**	*e*P	Pn	19 49 27.7	+0.8
MT02				*i* S	Sn	19 50 06.6	+1.6
MT02				IAML		19 50 11.5	
	comp=N,223nm,0.4s						
MT10	**Hacienda Santa**	**3.18**	**9**	*e*P	Pn	19 49 29.3	+2.0
MT10				*i* S	Sb	19 50 11.7	-1.0
VA03	**San Esteban**	**3.68**	**8**	*e*P	Pn	19 49 36.7	+2.5
VA03				*e*S	Sb	19 50 25.5	-1.6
VA03				IAML		19 50 35.6	
	comp=Z,250nm,0.9s						
VA03	**San Esteban**	**3.68**	**8**	*e*P	Pn	19 49 36.3	+2.1
VA03				*i* S	Sb	19 50 23.9	-3.2
VA03				IAML		19 50 37.5	
	comp=E,336nm,0.1s						
VA06	**Catapilco**	**3.85**	**358**	*e*P	Pn	19 49 37.6	+1.2

IDC 05 20:34:39.8±2.2, 6°.80S×128°.67E, h0km, mb3.6/1, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=152.4km s-min=32.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.18**	**158**	Pn	Pn	20 38 03.0	+0.9
	0.2nm,0.3s,baz=340,slow=13,SNR=4.6						
WRA				Sn	Sn	20 40 22.4	-18
	0.1nm,0.3s,baz=338,slow=22,SNR=1.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.51**	**164**	P	Pn	20 38 44.9	-0.7
	0.1nm,0.3s,baz=341,slow=9.1,SNR=4.6						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**67.34**	**327**	P	P	20 45 36.8	0.0
	0.4nm,0.6s,baz=120,slow=8.1,SNR=4.5						
	0.4nm,0.6s						

*JMA **05** 20:35:52.8±0.2, 22°.7N±0°.6×121°.3E±0°.4, h8km, MV3.2/13, TAIWAN REGION*
*TAP **05** 20:35:55.1, 22°.83N×121°.21E, h8km, ML3.3, C*
ISC 05 20:35:55.1±0.8, 22°.80N±0°.02×121°.25E±0°.02, h14km±5km, n83, σ0°92/107, 1C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.10**	**244**	⇑*i*P		Pg	20 35 58.4	+0.1
TTN	baz=212			*i* S		Sg	20 36 01.7	+1.3
	baz=212							
LONT	**Longtian**	**0.15**	**314**	⇓*i*P		Pg	20 35 57.9	-1.0
LONT	baz=310			*i* S		Sg	20 36 00.4	-1.1
	baz=310							
TWGBT	**Beinan**	**0.16**	**277**	⇓*i*P		Pg	20 35 58.3	-0.7
TWGBT	baz=270			*i* S		Sg	20 36 00.8	-0.8
	baz=270							
TWG	**Pinlang**	**0.16**	**277**	⇓*i*P		Pg	20 35 58.3	-0.8
TWG	baz=270			*i* S		Sg	20 36 01.0	-0.8
	baz=270							
LDUT	**Ludao**	**0.24**	**122**	P		Pg	20 36 01.5	+1.2
LDUT	baz=123			S		Sg	20 36 06.6	+2.9
	baz=123							
ECS	**Chishang**	**0.30**	**355**	P		Pb	20 36 02.1	-0.2
CHKT	baz=6.0			*i* S		Sb	20 36 07.3	-0.3
CHKT	**Chengkung**	**0.32**	**20**	*i* P		Pb	20 36 02.0	-0.6
CHKT	baz=42			*i* S		Sb	20 36 07.3	-0.3
	baz=42							
ECL	**Taimali**	**0.34**	**234**	*i* P		Pb	20 36 02.4	-0.6
ECL	baz=232			*i* S		Sb	20 36 08.4	+0.2
	baz=232							
EHD	**Haiduan**	**0.35**	**354**	*i* P		Pb	20 36 02.4	-0.8
EHD	baz=6.0			S		Sb	20 36 08.5	-0.1
	baz=6.0							
FULB	**Fuli**	**0.40**	**6**	P		Pb	20 36 04.4	+0.4
CHKH	baz=20			S		Sb	20 36 09.8	-0.6
CHKH	**Chenggong**	**0.41**	**19**	P		Pb	20 36 03.3	-1.0
CHKH	baz=33			S		Sb	20 36 09.8	-0.6
	baz=33							
ELDTW	**Lidau**	**0.44**	**331**	*i* P		Pg	20 36 03.7	-0.3
ELDTW	baz=340			*i* S		Sg	20 36 09.8	-0.1
	baz=340							
ECBN	**Changbin**	**0.55**	**20**	P		Pb	20 36 06.3	-0.2
TAW	baz=22			*i* P		Pb	20 36 05.8	-0.6
TAW	**Tawu**	**0.55**	**217**					
EYUL	**Yuli**	**0.55**	**7**	P		Pb	20 36 06.9	+0.3
EYUL	baz=5.0			S		Sb	20 36 15.5	+1.2
	baz=5.0							
TWF1	**Yuli**	**0.55**	**5**	*i* P		Pg	20 36 05.5	-0.5
TWF1	baz=20			S		Sb	20 36 13.8	-0.6
	baz=20							
EAST	**Anshuo**	**0.56**	**222**	*i* P		Pb	20 36 06.4	-0.3
EAST	baz=222			S		Sn	20 36 16.2	-1.6
	baz=222							
TAWH	**Dawu Township**	**0.57**	**216**	P		Pb	20 36 06.4	-0.4
SLGT	baz=221			P		Pb	20 36 06.5	-0.7
SLGT	**Liugui**	**0.59**	**289**					
SLGT	baz=279			S		Sb	20 36 16.2	+0.7
	baz=279							
YULB	**Yu-li**	**0.59**	**4**	P		Pg	20 36 05.9	-0.8
YULB	baz=19			S		Sg	20 36 14.3	-0.3
	baz=19							
MASBT	**Mashibuluo**	**0.60**	**252**	P		Pb	20 36 06.6	-0.8
EHYH	baz=238			*i* P		Pg	20 36 07.5	-0.7
SGST	**Jiashian**	**0.68**	**295**					
EHYH	**Wanrong**	**0.70**	**7**	P		Pb	20 36 09.4	+0.3
EHYH	baz=3.0			*e*S		Sb	20 36 19.5	+0.9
	baz=3.0							
SCST	**Cishan**	**0.70**	**277**	P		Pb	20 36 08.7	-0.4
SGLT	**Jiouru**	**0.70**	**264**	P		Pn	20 36 10.3	-0.3
	baz=260							
EHY	**Hungye**	**0.71**	**5**	P		Pb	20 36 09.0	-0.2
EHY	baz=16			S		Sb	20 36 18.9	+0.1
	baz=16							
HGSD	**Ruisui**	**0.71**	**13**	P		Pb	20 36 08.7	-0.5
	baz=10.0							
SLIU	**Shizi**	**0.71**	**216**	*e*P		Pb	20 36 08.9	-0.4
	baz=208							
SCZT	**Fangliau**	**0.72**	**234**	*e*P		Pn	20 36 09.9	-1.0
	baz=227							
WTP	**Ta-pu**	**0.73**	**307**	*i* P		Pb	20 36 10.0	+0.3
WTP	baz=308			S		Sn	20 36 21.8	-0.4
	baz=308							
YUS	**Yu-Shan**	**0.74**	**338**	*i* P		Pb	20 36 09.5	-0.6
YUS	baz=345			*i* S		Sg	20 36 19.2	-0.2
	baz=345							
TPUB	**Ta-pu**	**0.76**	**311**	*i* P		Pb	20 36 10.3	+0.2
TPUB	baz=313			S		Sb	20 36 21.6	+1.2
	baz=313							
TWM1	**Shoushan**	**0.76**	**272**	*e*P		Pn	20 36 11.2	-0.4
SNST	baz=261							
SNST	**Tainan City**	**0.81**	**301**	*e*P		Pn	20 36 11.5	-0.7
TWK	baz=302							
TWK	**Hsinying**	**0.84**	**304**	P		Pn	20 36 12.1	-0.5
SHHT	baz=305							
SHHT	**Tainan City**	**0.86**	**285**	*e*P		Pn	20 36 14.0	+1.2
CHN3	baz=283							
CHN3	**Shinhua**	**0.86**	**289**	*e*P		Pn	20 36 14.0	+1.2
WCKO	baz=287							
WCKO	**Fanlu**	**0.87**	**317**	P		Pb	20 36 11.9	-0.1
WARBT	baz=321							
WARBT	**Fenglin Townsh**	**0.92**	**8**	*e*P		Pg	20 36 11.6	-1.4
VWDT	baz=20							
VWDT	**VWDT**	**0.95**	**354**	*e*P		Pg	20 36 12.4	-1.1
WHYT	baz=14							
WHYT	**Xinyi Township**	**0.96**	**338**	P		Pb	20 36 13.7	+0.1
CHN2	baz=347							
CHN2	**Minshiung**	**1.02**	**316**	*e*P		Pn	20 36 15.5	+0.5
CHN2	baz=319			*e*S		Sn	20 36 32.0	+2.9
	baz=319							
SSLB	**Suanglung**	**1.02**	**345**	*e*P		Pg	20 36 14.0	-0.8
ESL	baz=8.0							
ESL	**Shilin**	**1.02**	**9**	*e*P		Pn	20 36 15.1	0.0
SHUL	baz=22							
SHUL	**Shoufeng**	**1.02**	**16**	*e*P		Pg	20 36 14.1	-0.8
ICHU	baz=29							
ICHU	**Yijhu**	**1.05**	**302**	*e*P		Pn	20 36 16.6	+1.1
WGK	baz=302							
WGK	**Gukeng**	**1.08**	**325**	P		Pn	20 36 17.8	+1.8
WGK	baz=331			S		Sn	20 36 33.5	+2.7
	baz=331							
CHN8	**Yiju**	**1.10**	**300**	*e*P		Pn	20 36 16.9	+0.8
WDLH	baz=300							
WDLH	**Douliu**	**1.10**	**324**	*e*P		Pn	20 36 16.9	+0.8
TEYL	baz=331							
TEYL	**Yanliau Villag**	**1.11**	**17**	*e*P		Pn	20 36 17.2	+0.9
SMLT	baz=17							
SMLT	**Sun Moon Lake**	**1.12**	**344**	*e*P		Pn	20 36 17.8	+1.2
OWD	baz=5.0							
OWD	**Renai**	**1.15**	**357**	*e*P		Pg	20 36 16.2	-1.2
TYC	baz=22							
TYC	**Yuchr**	**1.16**	**342**	*e*P		Pn	20 36 18.5	+1.6
ETM	baz=356							
ETM	**Tongmen**	**1.18**	**11**	*e*P		Pg	20 36 17.4	-0.5
WSL	baz=23							
WSL	**Shuilin Townsh**	**1.18**	**308**	*e*P		Pg	20 36 18.3	+0.4
WNT	baz=310							
WNT	**Mingjian**	**1.19**	**334**	*e*P		Pg	20 36 17.6	-0.5
WNT	baz=345			S		Sn	20 36 36.1	+2.6
	baz=345							
WUSB	**Renai**	**1.19**	**354**	*e*P		Pb	20 36 16.8	-0.8
CHGB	baz=18							
CHGB	**Renai**	**1.26**	**357**	*e*P		Pn	20 36 18.1	-0.4
WSF	baz=21							
WSF	**Szhu**	**1.26**	**312**	*e*P		Pg	20 36 19.8	+0.4
WCS	baz=316							
WCS	**Beigang Elemen**	**1.29**	**346**	*e*P		Pb	20 36 19.0	-0.1
TWD	baz=359							
TWD	**Chiawan**	**1.31**	**14**	*e*P		Pb	20 36 19.2	-0.3
WHF	baz=28							
WHF	**Hehuan Shan**	**1.34**	**1**	*e*P		Pn	20 36 19.6	-0.3
WRL	baz=26							
WRL	**Guolierlin Hig**	**1.36**	**324**	*e*P		Pg	20 36 21.2	-0.1
NACB	baz=312							
NACB	**Ninganchiao**	**1.40**	**13**	*e*P		Pn	20 36 19.2	-1.1
FUSS	baz=27							
FUSS	**Fushou**	**1.44**	**360**	*e*P		Pn	20 36 20.6	-0.4
TDCB	baz=26							
TDCB	**Techi**	**1.45**	**357**	*e*P		Pn	20 36 21.1	0.0
WHP	baz=25							
WHP	**Taichung City**	**1.50**	**349**	*e*P		Pg	20 36 24.8	+0.9
WDGT	baz=13							
WDGT	**Dungji**	**1.53**	**288**	*e*P		Pg	20 36 23.3	-1.3
TWQ1	baz=286							
TWQ1	**Liyutan**	**1.60**	**344**	*e*P		Pg	20 36 25.8	-0.1
NNSB	baz=1.0							
NNSB	**Datong**	**1.63**	**4**	*e*P		Pn	20 36 24.0	+0.5
NNS	baz=35							
NNS	**Nan Shan**	**1.64**	**4**	*e*P		Pg	20 36 25.6	-0.9
NSY	baz=36							
NSY	**Sanyi**	**1.67**	**345**	*e*P		Pg	20 36 26.4	-0.8
LATG	baz=1.0							
LATG	**Datong**	**1.75**	**8**	*e*P		Pn	20 36 24.9	-0.3
NFF	baz=39							
NFF	**Wufeng Townshi**	**1.83**	**356**	*e*P		Pb	20 36 27.6	-0.8
NSTT	baz=23							
NSTT	**Nanjuang**	**1.84**	**353**	*e*P		Pb	20 36 28.9	+0.4
YHNB	baz=22							
YHNB	**Yeheng**	**1.86**	**4**	*e*P		Pn	20 36 27.6	+0.9
JYNG	baz=34							
JYNG	**Yonagunijimaku**	**2.26**	**43**	*e*S		Sn	20 37 00.2	+0.3
YOJ	**Yonaguni jima**	**2.31**	**44**	*e*S		Sn	20 37 00.7	-0.4
HATJ	**Hateruma jima**	**2.66**	**61**	S		Sn	20 37 09.1	-0.5
IRIF	**Iriomote-Funau**	**2.74**	**56**	*e*S		Sn	20 37 11.1	-0.6
JKRS	**Kuro-shima**	**2.91**	**60**	*e*S		Sn	20 37 15.6	-0.2
JIJ	**Ishigaki jima**	**3.08**	**59**	*e*P		Pn	20 36 43.4	+0.1
JISG	**Ishigakijimahi**	**3.32**	**57**	P		Pn	20 36 45.7	-1.0
JISG				S		Sn	20 37 25.5	-0.5

*JMA **05** 20:50:27.6±0.2, 33°.N±2°.×13°.8E±°, h409km, MV3.6/55, FAR S OFF TOKAI DISTRICT*
*IDC **05** 20:50:35.7±3.8, 33°.31N×137°.47E, h323km±104km, mb2.7/3, mbtmp3.4/4, Error ellipse: s-maj=220.0km s-min=25.4km az=61.0*
ISC 05 20:50:35.8±1.1, 33°.5N±0°.1×137°.93E±0°.10, h350km, n21, σ1°20/27, mb2.8/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	**0.61**	**328**	*e*P		Pn	20 51 20.1	+0.2
TTO1	**TONANKAI O.B.S**	**0.97**	**278**	P		Pn	20 51 20.7	-0.2
JKN2	**Miekihoku**	**1.57**	**299**	P		Pn	20 51 23.6	-0.6
JNY	**Yasuok**	**1.86**	**358**	P		Pn	20 51 27.2	+1.1
JTNC	**Tanabenakahech**	**1.96**	**280**	P		Pn	20 51 25.6	-1.2
JYN	**Shimob**	**2.06**	**14**	P		Pn	20 51 28.8	+1.3
JWY	**Kouya**	**2.08**	**291**	P		Pn	20 51 27.2	-0.4
BSO4	**Boso 4**	**2.49**	**52**	P		Pn	20 51 31.3	+0.8
BSO3	**Boso 3**	**2.50**	**58**	*e*P		Pn	20 51 30.3	-0.2
JHU	**Hanno**	**2.60**	**25**	P		Pn	20 51 32.6	+1.0
JHU				*e*S		S	20 52 14.4	-2.1
JRY	**Ryogami san**	**2.64**	**17**	P		Pn	20 51 33.6	+1.6
JRY				*e*S		S	20 52 18.6	+1.4
BSO1	**Boso 1**	**2.78**	**65**	*e*P		Pn	20 51 32.0	-0.5
MJAR	**Matsushiro Arr**	**3.05**	**4**	P		Pn	20 51 35.7	+0.2
	15nm,0.8s,baz=184,slow=10.0,SNR=26							
MAT	**Matsushiro**	**3.05**	**4**	P		Pn	20 51 36.7	+1.2
JAG	**Ashikaga**	**3.18**	**23**	P		Pn	20 51 36.6	-0.1
JAG				*e*S		S	20 52 23.9	-1.9
JYT	**Yasato**	**3.30**	**34**	P		Pn	20 51 37.5	-0.3
JYT				*e*S		S	20 52 25.6	-2.1
JHO	**Hitachi**	**3.79**	**34**	P		Pn	20 51 42.6	+0.1
JHO				*e*S		S	20 52 34.2	-2.1
JFK	**Kawauchi**	**4.55**	**31**	*e*P		Pn	20 51 51.0	+0.5
JFK				*e*S		S	20 52 49.6	-1.3
MKAR	**Makanchi Array**	**43.69**	**305**	P		P	20 58 07.5	+0.3
	0.1nm,0.3s,baz=82,slow=9.8,SNR=4.2							
	0.1nm,0.3s							
WRA	**Warramunga Arr**	**53.24**	**184**	P		P	20 59 19.9	+0.4
	0.3nm,0.4s,baz=0.5,slow=7.8,SNR=12							
	0.3nm,0.4s							
ASAR	**Alice Springs**	**56.97**	**184**	P		P	20 59 47.4	+1.5
	0.2nm,0.5s,baz=18,slow=12,SNR=5.6							
	0.2nm,0.5s							

*IDC **05** 21:00:29.3±0.9, 14°.10N×122°.05E, h0km, mb3.8/7, mbtmp4.1/9, ML4.9/2, Error ellipse: s-maj=58.0km s-min=15.4km az=68.0*
*NEIC **05** 21:00:32.7±1.6, 14°.4N±0°.1×122°.0E±0°.1, h35km±2km, mb4.4/15, Error ellipse: s-maj=25.7km s-min=17.6km az=55.0*
ISC 05 21:00:33.5±0.8, 14°.2N±0°.1×122°.1E±0°.1, h35km, n28, σ1°89/27, mb4.3/13, Luzon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**7.85**	**153**		Pn	Pn	21 02 23.4	-1.9
DAV	**Davao City (W)**	**7.85**	**153**		Pn	Pn	21 02 22.5	-2.8
	36nm,0.3s,baz=354,slow=9.2,SNR=2.1							
	110nm,0.4s							
MYLDM	**Lahad Datu**	**9.58**	**202**	Pn		Pn	21 02 53.4	+4.4
LUWI	**Luwuk**	**15.12**	**177**	Pn		Pn	21 04 06.8	+2.2
LUWI				IAmb		IAmb	21 04 36.1	
	comp=Z,51nm,0.9s							
SBUM	**Sibu**	**15.15**	**221**	Pn		Pn	21 04 04.4	-0.7
SBUM				IAmb		IAmb	21 04 05.6	
	comp=Z,5.6nm,0.7s							
UBPT	**Khong Chiam**	**16.08**	**276**			Pn	21 04 16.4	-0.6
UBPT				IAmb		IAmb	21 04 49.6	
	comp=Z,12nm,1.1s							
KAPI	**Kappang**	**19.18**	**187**			P	21 04 55.3	+1.0
KAPI				IAmb		IAmb	21 04 56.3	
	comp=Z,19nm,0.8s							
KAPI	**Kappang**	**19.18**	**187**	P		P	21 04 54.8	+0.5
	comp=Z,1.6nm,0.3s,baz=14,slow=6.6,SNR=8.6							
	comp=Z,16nm,0.6s							
FAKI	**Fak Fak**	**19.75**	**148**	Pn		Pn	21 05 04.5	+2.3
PHRA	**Phrae**	**21.37**	**285**	P		P	21 05 14.6	-3.5
CRAI	**Chiangrai**	**21.56**	**289**	P		P	21 05 16.8	-3.3
MBWA	**Marble Bar**	**35.17**	**184**	P		P	21 07 21.2	-3.0
PSA00	**Pilbara Seismi**	**35.57**	**184**	P		P	21 07 25.0	-2.7
PSA00				IAmb		IAmb	21 07 47.9	
	comp=Z,8.2nm,1.3s							
WB0	**Warramunga Arr**	**35.83**	**160**	P		P	21 07 30.3	+0.4
WB0				IAmb		IAmb	21 08 06.9	
	comp=Z,12nm,1.4s							
WRAB	**Tennant Creek**	**35.97**	**160**	P		P	21 07 31.4	+0.3
WRAB				IAmb		IAmb	21 07 51.0	
	comp=Z,8.4nm,1.2s							
WRA	**Warramunga Arr**	**35.98**	**160**	P		P	21 07 31.5	+0.3
WRA	**Warramunga Arr**	**35.98**	**160**	P		P	21 07 31.5	+0.3
	comp=Z,1.6nm,0.6s,baz=333,slow=9.9,SNR=21							
	comp=Z,1.6nm,0.6s							
WB2	**Warramunga Arr**	**35.98**	**160**	P		P	21 07 31.7	+0.4
WB2				IAmb		IAmb	21 07 56.0	
	comp=Z,10nm,1.4s							
WR0	**Warramunga Arr**	**36.06**	**160**	P		P	21 07 32.6	+0.6
WR0				IAmb		IAmb	21 08 10.7	
	comp=Z,14nm,1.4s							
AS31	**Alice Springs**	**39.34**	**163**	P		P	21 08 00.4	+0.7
ASAR	**Alice Springs**	**39.34**	**163**	P		P	21 07 59.8	+0.1
ASAR	**Alice Springs**	**39.34**	**163**	P		P	21 07 59.9	+0.3
	comp=Z,1.3nm,0.7s,baz=338,slow=7.0,SNR=16							
	comp=Z,1.3nm,0.7s							
MKAR	**Makanchi Array**	**46.45**	**323**	P		P	21 08 58.2	+1.2
	comp=Z,0.3nm,0.3s,baz=120,slow=8.4,SNR=8.1							
	comp=Z,0.3nm,0.3s							
ZALV	**Zalesovo Beam**	**49.26**	**332**	P		P	21 09 20.0	+1.3
	comp=Z,0.6nm,0.3s,baz=120,slow=6.4,SNR=4.6							
	comp=Z,0.6nm,0.3s							
STKA	**Stephens Creek**	**49.46**	**158**	P		P	21 09 20.9	+0.6
	comp=Z,4.1nm,1.1s,baz=323,slow=24,SNR=2.9							
	comp=Z,4.1nm,1.1s							
KURBB	**Kurchatov Arra**	**50.55**	**325**	P		P	21 09 29.7	+1.2
	comp=Z,0.9nm,0.3s,baz=127,slow=8.4,SNR=3.0							
BVAR	**Borovoye Array**	**56.14**	**325**	P		P	21 10 10.3	+0.8
	comp=Z,0.5nm,0.5s,baz=90,slow=6.1,SNR=2.8							
	comp=Z,0.5nm,0.5s							
ILAR	**Eielson Array**	**77.77**	**26**	P		P	21 12 28.8	+2.0
	comp=Z,0.2nm,0.5s,baz=287,slow=6.5,SNR=1.7							
	comp=Z,0.2nm,0.5s							

*IDC **05** 21:16:01.5±1.0, 29°.58N×142°.55E, h0km, mb3.9/12, mbtmp3.9/13, ML3.0/1, MS2.9/3, Error ellipse: s-maj=34.9km s-min=17.9km az=76.0*
*JMA **05** 21:16:02.5±0.3, 29°.8N±0°.7×14°3E±°, h52km, MV4.2/23, NEAR TORISHIMA IS*
*NEIC **05** 21:16:11.3±2.8, 29°.35N±0°.09×141°.3E±0°.2, h35km±2km, mb4.5/11, Error ellipse: s-maj=32.3km s-min=9.9km az=249.0*
ISC 05 21:16:06.4±0.7, 29°.75N±0°.05×142°.6E±0°.1, h35km, n45, σ2°56/42, mb4.2/19, MS2.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.67**	**187**	P		Pn	21 16 45.1	-1.7
CBIJ				*e*S		Sn	21 17 15.2	-2.7
JCJ	**Chichijima**	**2.67**	**187**			Pn	21 16 45.6	-1.2
JCJ				Sn		Sn	21 17 15.6	-2.3
JCJ	**Chichijima**	**2.67**	**187**	Pn		Pn	21 16 40.8	-6.1
	27nm,0.3s,baz=280,slow=18,SNR=12							
JCJ				Sn		Sn	21 17 09.8	-18.1
	65nm,0.3s,baz=285,slow=20,SNR=8.9							
JHH2	**Haha-jima-NKT2**	**3.12**	**186**	*e*P		Pn	21 16 51.4	-1.8
JHH2				S		Sn	21 17 28.2	-1.1
JHJ2	**Mitsune**	**4.09**	**326**	Pn		Pn	21 17 05.5	-0.9
JHJ2	**Mitsune**	**4.09**	**326**	P		Pn	21 17 04.2	-2.2
JHJ2				S		Sn	21 17 50.1	-2.9
JHJ	**Hachijo jima 2**	**4.11**	**325**	Pn		Pn	21 17 04.2	-2.5
	4.0nm,0.3s,baz=29,slow=22,SNR=1.6							
JHJ				Sn		Sn	21 17 51.0	-2.5
	22nm,0.3s,baz=71,slow=20,SNR=5.1							
BSO1	**Boso 1**	**5.07**	**345**	*e*P		Pn	21 17 16.4	-2.9
BSO1				*e*S		Sn	21 18 12.2	-4.2
BSO3	**Boso 3**	**5.33**	**342**	P		Pn	21 17 21.0	-2.1
BSO3				S		Sn	21 18 20.5	-2.6
JSG	**Sagara**	**6.15**	**324**	Pn		Pn	21 17 30.8	-3.9
JHU	**Hanno**	**6.68**	**336**	*e*P		Pn	21 17 39.9	-2.1
JHU				*e*S		Sn	21 18 52.3	-4.6
JRY	**Ryogami san**	**6.96**	**335**	P		Pn	21 17 44.6	-1.3
JHO	**Hitachi**	**7.04**	**347**	*e*P		Pn	21 17 43.1	-3.8
JHO				*e*S		Sn	21 18 57.8	-8.0
JAG	**Ashikaga**	**7.15**	**339**	*e*P		Pn	21 17 46.1	-2.3
MJAR	**Matsushiro Arr**	**7.69**	**333**	Pn		Pn	21 17 54.4	-1.4
	0.2nm,0.3s,baz=161,slow=12,SNR=11							
	1.6nm,0.4s							
MAJO	**Matsushiro**	**7.69**	**333**	Pn		Pn	21 17 57.9	+2.0
MJB9	**Matsu-Tunnel**	**7.70**	**333**	Pn		Pn	21 17 57.6	+1.7
JMK	**Ichinoseki**	**9.24**	**353**	*e*S		Sn	21 19 48.2	-12
KLR	**Kul'dur**	**21.12**	**340**	P		P	21 20 50.4	+2.4
	1.3nm,0.6s,baz=150,slow=8.1,SNR=5.3							
	1.3nm,0.6s							
PETK	**Petropavlovsk-**	**25.84**	**21**	LR		LR	21 35 52.2	
	comp=Z,11nm,18.0s,baz=270,slow=46							
DAV	**Davao City (W)**	**27.65**	**219**	LR		LR	21 32 52.1	
	comp=Z,20nm,18.9s,baz=171,slow=37							
SONM	**Songino Array**	**33.09**	**313**	P		P	21 22 40.3	+1.4
	0.3nm,0.3s,baz=102,slow=6.6,SNR=2.4							
	0.3nm,0.3s							
KAPI	**Kappang**	**40.91**	**216**	LR		LR	21 45 02.4	
	comp=Z,28nm,18.1s,baz=71,slow=43							
ZALV	**Zalesovo Beam**	**47.73**	**318**	P		P	21 24 41.0

KVN	**Kaiserville**	**78.47**	**52**	P	P	21 28 16.1 +12
KVN				IAmb	IAmb	21 28 19.9
	comp=Z,3.8nm,1.0s					
PSUT	**Pine Spring**	**81.60**	**50**	P	P	21 28 31.7 +11
PSUT				IAmb	IAmb	21 28 36.8
	comp=Z,4.5nm,0.8s					
BRTR	**Keskin Array B**	**84.44**	**313**	P	**P**	**21 28 36.4 +0.7**
	comp=Z,0.9nm,0.7s,baz=69,slow=4.3,SNR=3.1					
	comp=Z,0.9nm,0.7s					
TXAR	**Lajitas Array**	**93.75**	**53**	P	**P**	**21 29 22.6 +2.5**
	comp=Z,0.6nm,0.8s,baz=290,slow=2.7,SNR=3.6					
	comp=Z,0.6nm,0.8s					
HPIG		**93.76**	**56**	P	P	21 29 29.0 +8.6

JMA 05 21:25:10.6±0.1, 24°.2N±0°.3×123°.9E±0°.3, h15km±1km, MV1.0/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.15**	**313**	P	Pg	21 25 14.4	0.0
IRIF				*e*S	Sg	21 25 17.1	+0.2
JKRS	**Kuro-shima**	**0.15**	**89**	*i* P	Pg	21 25 14.6	+0.1
JKRS				*e*S	Sg	21 25 17.5	+0.5
HATJ	**Hateruma jima**	**0.18**	**192**	P	Pg	21 25 14.8	-0.1
JIJ	**Ishigaki jima**	**0.30**	**65**	*i* P	Pg	21 25 16.7	-0.2
JIJ				*e*S	Sg	21 25 21.1	-0.1
JISG	**Ishigakijimahi**	**0.55**	**50**	P	Pg	21 25 21.4	-0.1
JISG				*e*S	Sg	21 25 29.0	+0.2
JTJ	**Tarama**	**0.88**	**62**	*e*P	Pg	21 25 27.7	0.0
JTJ				*e*S	Sb	21 25 39.1	0.0

TAP 05 21:25:29.7, 24°.39N×121°.74E, h59km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.03**	**6**	*i* P	Pn	21 25 38.7	+0.2
	baz=17						
ENA				S	Sn	21 25 45.6	+0.8
	baz=17						
TWC	**Suao**	**0.24**	**25**	*e*P	Pn	21 25 40.4	+1.2
	baz=22						
TWC				*e*S	Sn	21 25 47.5	+1.3
	baz=22						
LATG	**Datong**	**0.24**	**306**	*i* P	Pn	21 25 39.5	+0.1
	baz=306						
LATG				S	Sn	21 25 46.9	+0.4
	baz=306						
NACB	**Ninganchiao**	**0.26**	**211**	*i* P	Pn	21 25 38.8	-0.5
	baz=211						
NACB				S	Sn	21 25 46.2	-0.2
	baz=211						
ENTT	**Nioudou**	**0.29**	**328**	P	Pn	21 25 40.7	+1.0
	baz=328						
ENTT				*i* S	Sn	21 25 47.8	+0.9
	baz=328						
NDT	**Datong Townshi**	**0.29**	**316**	P	Pn	21 25 40.2	+0.6
	baz=307						
NDT				*i* S	Sn	21 25 47.5	+0.6
	baz=307						
NNSB	**Datong**	**0.33**	**276**	P	Pn	21 25 40.0	-0.1
	baz=276						
NNSB				S	Sn	21 25 48.2	+0.6
	baz=276						
FUSB	**Fushanzhiwuyua**	**0.39**	**340**	*i* P	Pn	21 25 40.9	+0.3
	baz=330						
FUSB				S	Sn	21 25 49.7	+1.3
	baz=330						
YHNB	**Yeheng**	**0.43**	**310**	*i* P	Pn	21 25 41.3	+0.3
	baz=303						
YHNB				*i* S	Sn	21 25 49.6	+0.5
	baz=303						
NWLT	**Wulai**	**0.44**	**331**	P	Pn	21 25 41.5	+0.5
	baz=324						
NWLT				*i* S	Sn	21 25 49.4	+0.3
	baz=324						
TDCB	**Techi**	**0.55**	**255**	*i* P	Pn	21 25 42.6	+0.4
	baz=250						
TDCB				*e*S	Sn	21 25 52.5	+1.2
	baz=250						
TIPB	**Shuangxi**	**0.58**	**8**	*i* P	Pn	21 25 43.5	+1.0
	baz=358						
TIPB				S	Sn	21 25 53.7	+1.8
	baz=358						
EOS4	**EOS4**	**0.60**	**117**	*e*P	Pn	21 25 43.2	+1.0
	baz=117						
EOS4				S	Sn	21 25 51.9	+0.4
	baz=117						
WUSB	**Renai**	**0.69**	**235**	P	Pn	21 25 44.1	+0.2
	baz=241						
WUSB				*e*S	Sn	21 25 55.3	+1.0
	baz=241						

TIR ***05*** *21:38:57.7, 37°.53N×21°.22E, h36km±10km, Ml5.0*
NAO ***05*** *21:38:58.2, 37°.68N×24°.59E, h33km, mb4.5*
IDC ***05*** *21:39:02.3±0.5, 38°.03N×21°.34E, h0km, mb4.5/29, mbtmp4.4/41, ML4.2/11, MS3.7/53, Error ellipse: s-maj=11.7km s-min=10.6km az=143.0*
MOS ***05*** *21:39:03.4±1.1, 37°.95N×21°.26E, h22km, mb4.8/37, Error ellipse: s-maj=4.7km s-min=2.5km az=76.2*
MED_RC ***05*** *21:39:04.0±0.6, 37°.87N×21°.33E, h12km±5km, MW4.5/17, Moment Tensor Solution. Mantle waves: s17,c23; Duration: 1s0 Moment tensor: Scale 10^15 Nm; M_{rr}1.24±.44; $M_{\theta\theta}$-0.82±.26; $M_{\phi\phi}$-0.43±.23; $M_{r\theta}$5.02±2.75; $M_{\theta\phi}$0.95±.17; $M_{\phi r}$-3.95±2.13; Best double couple: $M_0$6.54000×10^15 NP1:ϕ_s128.00000°, δ84.00000°, λ90.00000°. NP2:ϕ_s311.00000°, δ6.00000°, λ93.00000°. Principal axes: T 6.3700, Plg51.0000°, Azm38.0000°; N 0.3400, Plg0.0000°, Azm128.0000°; P -6.7200, Plg39.0000°, Azm218.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
THE ***05*** *21:39:04.5, 37°.98N×21°.30E, h2km±1km, ML4.4/14 Error ellipse: s-maj=1.2km s-min=0.3km az=316.0*
PDG ***05*** *21:39:04.9±0.6, 38°.08N×21°.30E, h0km±11km, ML4.6/12, Error ellipse: s-maj=0.8km s-min=1.1km az=0.0*
NEIC ***05*** *21:39:05.3, 38°.02N×21°.26E, h18km*
ATH ***05*** *21:39:05.4, 38°.00N×21°.26E, h10km, Mw4.3, Moment Tensor Solution. s6 Moment tensor: M_{rr}0.59; $M_{\theta\theta}$0.07; $M_{\phi\phi}$-0.65; $M_{r\theta}$2.09; $M_{\theta\phi}$0.40; $M_{\phi r}$-2.60; Fault plane solution: NP1:ϕ_s359.00000°, δ3.00000°, λ127.00000°. NP2:ϕ_s141.00000°, δ84.00000°, λ86.00000°.*
NEIC ***05*** *21:39:05.4±2.0, 38°.01N±0°.05×21°.26E±0°.07, h18km±4km, mb4.6/71, Mwr4.3/43 Error ellipse: s-maj=7.8km s-min=6.4km az=58.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; M_{rr}-0.97; $M_{\theta\theta}$-0.65; $M_{\phi\phi}$1.62; $M_{r\theta}$-3.01; $M_{\theta\phi}$-0.22; $M_{\phi r}$2.10; Fault plane solution: $M_0$3.94000×10^15 NP1:ϕ_s130.39000°, δ83.94000°, λ-107.61000°. NP2:ϕ_s22.00000°, δ18.60000°, λ-19.34000°. Principal axes: T 3.6505, Plg37.0000°, Azm236.0000°; N 0.5210, Plg18.0000°, Azm132.0000°; P -4.1715, Plg48.0000°, Azm22.0000°;*

ISC 05 21:39:04.7±0.7, 38°.00N±0°.02×21°.29E±0°.01, h17km±4km, n832, σ1s52/914, mb4.7/93, MS3.8/47, 59C-28D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.15**	**67**	P	**Pb**	**21 39 08.7**	**-0.4**
RLS				S	**Sg**	**21 39 10.2**	**-1.3**
RLS	**Riolos of Patr**	**0.15**	**67**	P	**Pg**	**21 39 08.4**	**-0.3**
RLS				S	**Sg**	**21 39 11.6**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.42**	**281**	P	**Pg**	**21 39 13.1**	**-0.1**
RTZL				S	**Sg**	**21 39 19.2**	**+0.2**
	54μm,0.6s						
LTHK	**Lithakia**	**0.46**	**231**	P	**Pg**	**21 39 13.9**	**-0.1**
LTHK				S	**Sg**	**21 39 19.3**	**-1.0**
	97μm,0.5s						
LTHK	**Lithakia**	**0.46**	**231**	P	**Pg**	**21 39 13.9**	**-0.1**
LTHK				S	**Sg**	**21 39 20.2**	**0.0**
UPR	**University Cam**	**0.48**	**54**	P	**Pb**	**21 39 14.8**	**0.0**
UPR				S	**Sg**	**21 39 20.9**	**0.0**
SMHA	**Samh**	**0.57**	**297**	P	**Pg**	**21 39 15.9**	**-0.1**
SMHA				S	**Sb**	**21 39 24.4**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.57**	**282**	P	**Pg**	**21 39 15.3**	**-0.7**
PSDA				S	**Sg**	**21 39 23.9**	**+0.3**
	21μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.57**	**282**	P	**Pg**	**21 39 15.6**	**-0.4**
PSDA				S	**Sb**	**21 39 24.6**	**+0.5**
VLS	**Valsamata**	**0.58**	**288**	P	**Pg**	**21 39 15.5**	**-0.8**
VLS				S	**Sg**	**21 39 24.0**	**0.0**
	13μm,0.7s						
VLS	**Valsamata**	**0.58**	**288**	P	**Pg**	**21 39 15.5**	**-0.8**
VLS				S	**Sg**	**21 39 24.0**	**0.0**
VLS	**Valsamata**	**0.58**	**288**	P	**Pg**	**21 39 16.2**	**0.0**
VLS				S	**Sb**	**21 39 24.7**	**+0.2**
PVO	**Paravola**	**0.64**	**17**	P	**Pb**	**21 39 17.4**	**-0.2**
PVO				S	**Sb**	**21 39 26.9**	**+0.6**
	477μm,0.6s						
PVO	**Paravola**	**0.64**	**17**	P	**Pb**	**21 39 17.7**	**+0.2**
PVO				S	**Sb**	**21 39 27.5**	**+1.2**
EFP	**Efpalio**	**0.65**	**48**	P	**Pg**	**21 39 16.9**	**-0.5**
EFP				S	**Sb**	**21 39 26.6**	**+0.3**
	31μm,0.8s						
EFP	**Efpalio**	**0.65**	**48**	P	**Pb**	**21 39 17.4**	**-0.2**
EFP				S	**Sb**	**21 39 27.8**	**+1.5**
KLV	**Kalavryta, Ach**	**0.68**	**86**	P	**Pg**	**21 39 17.0**	**-1.1**
KLV				S	**Sg**	**21 39 26.6**	**-0.5**
	33μm,0.7s						
KLV	**Kalavryta, Ach**	**0.68**	**86**	P	**Pg**	**21 39 17.4**	**-0.7**
KLV				S	**Sb**	**21 39 28.1**	**+0.7**
ALIK	**Aliki, Aigiali**	**0.70**	**68**	P	**Pg**	**21 39 17.9**	**-0.5**
LXRA	**Lixouri, Kepha**	**0.70**	**287**	P	**Pg**	**21 39 18.1**	**-0.4**
LXRA				S	**Sb**	**21 39 28.1**	**+0.2**
DMLN	**Damoulianata-K**	**0.76**	**289**	P	**Pg**	**21 39 19.1**	**-0.5**
DMLN				S	**Sg**	**21 39 29.5**	**-0.2**
	27μm,0.6s						
DMLN	**Damoulianata-K**	**0.76**	**289**	P	**Pg**	**21 39 19.1**	**-0.5**
DMLN				S	**Sb**	**21 39 30.7**	**+1.0**
ANX	**Ano Chora**	**0.77**	**40**	P	**Pg**	**21 39 19.2**	**-0.6**
ANX				S	**Sb**	**21 39 30.4**	**+0.3**
	50μm,0.5s						
ANX	**Ano Chora**	**0.77**	**40**	P	**Pb**	**21 39 19.7**	**-0.1**
ANX				S	**Sn**	**21 39 31.9**	**-0.4**
KALE	**Kalithea**	**0.78**	**59**	P	**Pg**	**21 39 19.0**	**-0.9**
KALE				S	**Sg**	**21 39 29.9**	**-0.2**
	57μm,0.5s						
KALE	**Kalithea**	**0.78**	**59**	P	**Pb**	**21 39 20.0**	**+0.2**
KALE				S	**Sb**	**21 39 31.4**	**+1.3**
EVGI	**Lefkada island**	**0.80**	**321**	P	**Pg**	**21 39 19.6**	**-0.7**
EVGI	**Lefkada island**	**0.80**	**321**	P	**Pb**	**21 39 20.8**	**+0.6**
EVGI				S	**Sb**	**21 39 31.9**	**+1.2**
GUR	**Goura**	**0.83**	**94**	P	**Pg**	**21 39 19.9**	**-1.1**
GUR				S	**Sb**	**21 39 32.1**	**+0.3**
	109μm,0.4s						
GUR	**Goura**	**0.83**	**94**	P	**Pb**	**21 39 20.8**	**-0.1**
GUR				S	**Sb**	**21 39 32.7**	**+0.9**
NYDR	**Nydri-Lefkada**	**0.85**	**327**	P	**Pg**	**21 39 20.3**	**-1.0**
NYDR				S	**Sb**	**21 39 33.4**	**+1.1**
	13μm,0.9s						
NYDR	**Nydri-Lefkada**	**0.85**	**327**	P	**Pb**	**21 39 21.5**	**+0.4**
NYDR				S	**Sn**	**21 39 34.2**	**+0.1**
LKD2	**Lefkada island**	**0.93**	**328**	P	**Pg**	**21 39 22.3**	**-0.6**
	baz=341						
LKD2				S	**Sn**	**21 39 41.5**	**+5.3**
	baz=341						
LKD2				AMP			
	comp=E,97nm,0.5s,baz=341						
LKD2	**Lefkada island**	**0.93**	**328**	P	**Pg**	**21 39 21.9**	**-0.9**
LKD2				S	**Sn**	**21 39 36.4**	**+0.2**
	comp=E,24μm,0.6s						
LKD2	**Lefkada island**	**0.93**	**328**	P	**Pn**	**21 39 23.8**	**+0.6**
LKD2				S	**Sn**	**21 39 36.9**	**+0.7**
ITM	**Ithomi**	**0.96**	**148**	P	**Pg**	**21 39 22.3**	**-1.1**
ITM	**Ithomi**	**0.96**	**148**	Pn	**Pg**	**21 39 22.6**	**-0.8**
ITM				Sn	**Sn**	**21 39 38.3**	**+1.5**
ITM	**Ithomi**	**0.96**	**148**	P	**Pg**	**21 39 22.5**	**-0.8**
ITM				S	**Sg**	**21 39 35.2**	**-0.8**
	comp=E,18μm,0.7s						
ITM	**Ithomi**	**0.96**	**148**	P	**Pg**	**21 39 22.8**	**-0.5**
ITM				S	**Sg**	**21 39 35.3**	**-0.7**
TSLK	**Tsoukalades, L**	**0.96**	**329**	P	**Pg**	**21 39 22.8**	**-0.6**
TSLK	**Tsoukalades, L**	**0.96**	**329**	P	**Pg**	**21 39 23.1**	**-0.4**
EVR	**Evrytania**	**1.00**	**24**	P	**Pg**	**21 39 23.5**	**-0.7**
EVR	**Evrytania**	**1.00**	**24**	P	**Pn**	**21 39 24.5**	**+0.4**
EVR				S	**Sn**	**21 39 39.0**	**+1.0**
DLFA	**Delphi**	**1.06**	**63**	P	**Pg**	**21 39 24.9**	**-0.4**
DLFA				S	**Sn**	**21 39 40.5**	**+1.1**
PYL	**PYLOS**	**1.16**	**162**	P	**Pb**	**21 39 25.3**	**-1.0**
PYL	**PYLOS**	**1.16**	**162**	P	**Pb**	**21 39 25.9**	**-0.4**
PYL				S	**Sg**	**21 39 41.7**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.21**	**33**	P	**Pb**	**21 39 27.4**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.21**	**33**	P	**Pg**	**21 39 28.2**	**+0.1**
MAKR				S	**Sn**	**21 39 45.1**	**+2.1**
AGG	**Agios Georgios**	**1.31**	**38**	P	**Pb**	**21 39 28.8**	**-0.1**
AGG				S	**Sg**	**21 39 46.9**	**-0.1**
AGG	**Agios Georgios**	**1.31**	**38**		**Pn**	**21 39 28.1**	**-0.2**
AGG	**Agios Georgios**	**1.31**	**38**	P	**Pn**	**21 39 28.2**	**-0.1**
AGG	**Agios Georgios**	**1.31**	**38**	P	**Pn**	**21 39 28.1**	**-0.2**
AGG	**Agios Georgios**	**1.31**	**38**	P	**Pb**	**21 39 29.1**	**+0.3**
AGG				S	**Sg**	**21 39 47.5**	**+0.5**
AXAR	**Agios Charalam**	**1.32**	**54**	P	**Pn**	**21 39 28.2**	**-0.2**
AXAR	**Agios Charalam**	**1.32**	**54**	P	**Pg**	**21 39 29.9**	**-0.2**
AXAR				S	**Sg**	**21 39 47.4**	**+0.1**
LOUT	**Loutraki**	**1.33**	**90**	P	**Pn**	**21 39 28.7**	**+0.1**
LOUT	**Loutraki**	**1.33**	**90**	P	**Pn**	**21 39 29.0**	**+0.5**
LOUT				S	**Sg**	**21 39 47.0**	**-0.6**
EPID	**Epidavros**	**1.50**	**104**	P	**Pb**	**21 39 31.9**	**-0.2**
EPID	**Epidavros**	**1.50**	**104**	P	**Pb**	**21 39 31.7**	**-0.4**
EPID				S	**Sb**	**21 39 51.2**	**+0.3**
VIL2	**Platees**	**1.57**	**82**	P	**Pg**	**21 39 34.2**	**-0.8**
VIL2				S	**Sg**	**21 39 54.7**	**-0.7**
KRND	**KRANIDI**	**1.60**	**112**	P	**Pn**	**21 39 32.5**	**+0.3**
KRND	**KRANIDI**	**1.60**	**112**	P	**Pb**	**21 39 33.8**	**0.0**
KRND				S	**Sb**	**21 39 54.3**	**+0.6**
VILL	**Villia**	**1.60**	**83**	P	**Pn**	**21 39 33.3**	**+0.9**
THL	**Klokotos Trika**	**1.66**	**20**	P	**Pn**	**21 39 34.0**	**+0.9**
THL	**Klokotos Trika**	**1.66**	**20**	P	**Pn**	**21 39 34.1**	**+1.0**
JAN	**Janina**	**1.69**	**348**	P	**Pn**	**21 39 34.6**	**+1.0**
JAN	**Janina**	**1.69**	**348**	P	**Pn**	**21 39 34.6**	**+1.0**
JAN	**Janina**	**1.69**	**348**	P	**Pb**	**21 39 35.6**	**+0.2**
VLI	**Velias**	**1.83**	**134**	P	**Pb**	**21 39 36.8**	**-1.0**
YDRA	**Hydra**	**1.84**	**110**	P	**Pn**	**21 39 36.9**	**+1.4**
YDRA				S	**Sn**	**21 39 60.0**	**+1.4**
TYRN	**Tyrnavos**	**1.86**	**23**	P	**Pb**	**21 39 38.3**	**0.0**
TYRN	**Tyrnavos**	**1.86**	**23**	P	**Pb**	**21 39 38.5**	**+0.2**
LRSO	**Larissa Observ**	**1.88**	**27**	P	**Pb**	**21 39 38.5**	**-0.1**
LRSO	**Larissa Observ**	**1.88**	**27**	P	**Pb**	**21 39 37.6**	**-0.9**
ATH	**Athens Observa**	**1.92**	**90**	P	**Pn**	**21 39 37.2**	**+0.6**
ATH	**Athens Observa**	**1.92**	**90**	P	**Pn**	**21 39 38.0**	**+1.3**
ATH				S	**Sb**	**21 40 02.1**	**-0.8**
KPRO	**Kipourio**	**1.95**	**2**	P	**Pn**	**21 39 38.2**	**+1.0**
KPRO	**Kipourio**	**1.95**	**2**	P	**Pb**	**21 39 39.0**	**-1.0**
ATHU	**Athens Univers**	**1.97**	**90**	P	**Pn**	**21 39 38.4**	**+1.0**
ATHU	**Athens Univers**	**1.97**	**90**	P	**Pn**	**21 39 38.7**	**+1.3**
ATHU				S	**Sb**	**21 40 03.8**	**-0.7**
VLY	**Voula,Athens**	**1.98**	**93**	P	**Pn**	**21 39 38.2**	**+0.6**
VLY	**Voula,Athens**	**1.98**	**93**	P	**Pn**	**21 39 38.6**	**+1.1**
VLY				S	**Sn**	**21 40 03.6**	**+1.5**
NEO	**Neokhori**	**2.00**	**49**	P	**Pn**	**21 39 38.8**	**+1.0**
NEO	**Neokhori**	**2.00**	**49**	P	**Pn**	**21 39 39.1**	**+1.3**
PTL	**Penteli**	**2.03**	**88**	P	**Pn**	**21 39 39.3**	**+1.0**
PTL	**Penteli**	**2.03**	**88**	P	**Pn**	**21 39 39.4**	**+1.2**
PTL				S	**Sn**	**21 40 04.3**	**+1.0**
KASA	**Kassiopi**	**2.04**	**329**	P	**Pb**	**21 39 40.2**	**-1.1**
DION	**Dionisos Attik**	**2.09**	**87**	P	**Pn**	**21 39 40.1**	**+1.1**
DION	**Dionisos Attik**	**2.09**	**87**	P	**Pn**	**21 39 40.6**	**+1.6**
DION				S	**Sn**	**21 40 05.7**	**+1.1**
SRN	**Sarande**	**2.13**	**332**	P	**Pn**	**21 39 40.2**	**+0.6**
	baz=339						
SRN				S	**Sb**	**21 40 10.0**	**+0.9**
	baz=339						
SRN				AMP			
	comp=E,3.9nm,0.8s,baz=339						
SRN	**Sarande**	**2.13**	**332**	P	**Pn**	**21 39 41.2**	**+1.6**
PENT	**Pentalofos**	**2.20**	**357**	P	**Pn**	**21 39 42.0**	**+1.4**
PENT	**Pentalofos**	**2.20**	**357**	P	**Pb**	**21 39 42.6**	**-1.4**
LSK	**Leskovik**	**2.21**	**346**	P	**Pb**	**21 39 43.2**	**-1.1**
	baz=350						
LSK				S	**Sg**	**21 40 14.5**	**-1.5**
	baz=350						
LSK				AMP			
	comp=E,18nm,1.3s,baz=350						
LSK	**Leskovik**	**2.21**	**346**	P	**Pb**	**21 39 43.1**	**-1.3**
LIT	**Litokhoron**	**2.30**	**24**		**Pn**	**21 39 43.5**	**+1.6**
LIT	**Litokhoron**	**2.30**	**24**	P	**Pn**	**21 39 42.8**	**+0.9**
LIT	**Litokhoron**	**2.30**	**24**	P	**Pn**	**21 39 43.5**	**+1.6**
KYMI	**Kymi, Euboea I**	**2.30**	**73**	P	**Pn**	**21 39 42.5**	**+0.6**
KYMI	**Kymi, Euboea I**	**2.30**	**73**	P	**Pn**	**21 39 43.0**	**+1.1**
NEST	**Nestorio**	**2.42**	**356**	P	**Pn**	**21 39 45.4**	**+1.7**
KBN	**Korca**	**2.65**	**352**	P	**Pb**	**21 39 49.7**	**-2.1**
	baz=354						
KBN				S	**Sb**	**21 40 25.6**	**+1.5**
	baz=354						
KBN	**Korca**	**2.65**	**352**		**Pn**	**21 39 48.3**	**+1.5**
KBN	**Korca**	**2.65**	**352**	P	**Pn**	**21 39 48.5**	**+1.7**
KBN	**Korca**	**2.65**	**352**	P	**Pn**	**21 39 48.3**	**+1.5**
ANKY	**Antikythira Is**	**2.67**	**142**	P	**Pn**	**21 39 48.3**	**+1.3**
ANKY	**Antikythira Is**	**2.67**	**142**	P	**Pn**	**21 39 48.6**	**+1.6**
PAIG	**Paliouri**	**2.68**	**43**	P	**Pn**	**21 39 48.0**	**+0.9**
PAIG	**Paliouri**	**2.68**	**43**	P	**Pn**	**21 39 47.4**	**+0.3**
PAIG	**Paliouri**	**2.68**	**43**	P	**Pn**	**21 39 48.0**	**+0.9**
SKY	**Skiros Island**	**2.71**	**70**	P	**Pn**	**21 39 47.5**	**0.0**
SKY	**Skiros Island**	**2.71**	**70**	P	**Pn**	**21 39 49.3**	**+1.8**
FNA	**Florina**	**2.78**	**1**	P	**Pn**	**21 39 50.2**	**+1.6**
FNA	**Florina**	**2.78**	**1**	P	**Pn**	**21 39 50.9**	**+2.3**
	baz=2.0						
FNA				S	**Sg**	**21 40 31.8**	**-2.3**
	baz=2.0						
FNA	**Florina**	**2.78**	**1**		**Pn**	**21 39 50.1**	**+1.6**
FNA	**Florina**	**2.78**	**1**	P	**Pn**	**21 39 50.0**	**+1.5**
FNA	**Florina**	**2.78**	**1**	P	**Pn**	**21 39 50.1**	**+1.5**
FNA	**Florina**	**2.78**	**1**	P	**Pn**	**21 39 50.9**	**+2.3**
MHLO	**Agia Marina, M**	**2.80**	**117**	P	**Pn**	**21 39 51.1**	**+2.3**
MHLO	**Agia Marina, M**	**2.80**	**117**	P	**Pn**	**21 39 50.6**	**+1.9**
VLO	**Vlora**	**2.83**	**331**	P	**Pn**	**21 39 50.5**	**+1.3**
	baz=336						
VLO				S	**Sb**	**21 40 30.8**	**+1.5**
	baz=336						
VLO	**Vlora**	**2.83**	**331**		**Pn**	**21 39 51.0**	**+1.8**
VLO	**Vlora**	**2.83**	**331**	P	**Pn**	**21 39 51.0**	**+1.8**
PLG	**Polygyros**	**2.90**	**35**	P	**Pn**	**21 39 50.4**	**+0.2**
PLG	**Polygyros**	**2.90**	**35**	P	**Pn**	**21 39 50.4**	**+0.2**
PLG	**Polygyros**	**2.90**	**35**	P	**Pn**	**21 39 51.7**	**+1.5**
THE	**Thessaloniki**	**2.93**	**26**	P	**Pn**	**21 39 51.8**	**+1.2**
THE	**Thessaloniki**	**2.93**	**26**	P	**Pn**	**21 39 51.8**	**+1.2**
THE	**Thessaloniki**	**2.93**	**26**	P	**Pn**	**21 39 53.2**	**+2.6**
HORT	**Hortiatis**	**2.95**	**28**	P	**Pn**	**21 39 52.5**	**+1.6**
HORT	**Hortiatis**	**2.95**	**28**	P	**Pn**	**21 39 52.6**	**+1.7**
SCTE	**Santa Cesarea**	**3.02**	**314**		**Pn**	**21 39 52.8**	**+1.0**
TNSA	**Tinos**	**3.10**	**97**	P	**Pn**	**21 39 54.5**	**+1.6**
OHR	**Ohrid**	**3.13**	**353**	*i* Pn	**Pn**	**21 39 56.4**	**+3.0**
OUR	**Ouranopolis**	**3.13**	**41**	P	**Pn**	**21 39 54.8**	**+1.5**
OUR	**Ouranopolis**	**3.13**	**41**	P	**Pn**	**21 39 53.9**	**+0.6**
OUR	**Ouranopolis**	**3.13**	**41**	P	**Pn**	**21 39 53.9**	**+0.6**
RODP	**Rodopos**	**3.14**	**140**	P	**Pn**	**21 39 54.9**	**+1.5**
CHAN	**Chania**	**3.32**	**137**	P	**Pn**	**21 39 57.6**	**+1.7**
IMMV	**Iera Moni Meta**	**3.33**	**139**	P	**Pn**	**21 39 57.3**	**+1.2**
IMMV	**Iera Moni Meta**	**3.33**	**139**	P	**Pn**	**21 39 58.0**	**+1.9**
IMMV	**Iera Moni Meta**	**3.33**	**139**	P	**Pn**	**21 39 57.8**	**+1.7**
KNDR	**Palaiochora Ch**	**3.37**	**144**	P	**Pn**	**21 39 57.8**	**+1.3**
KNDR	**Palaiochora Ch**	**3.37**	**144**	P	**Pn**	**21 39 58.1**	**+1.5**
KNT	**Kendrikon**	**3.39**	**21**	P	**Pn**	**21 39 59.1**	**+2.1**
KNT	**Kendrikon**	**3.39**	**21**	P	**Pn**	**21 39 59.1**	**+2.1**
VAY	**Valandovo**	**3.46**	**16**	*i* Pn	**Pn**	**21 40 00.2**	**+2.3**
APE	**Apeiranthos**	**3.50**	**104**	⇓P	**Pn**	**21 40 00.6**	**+2.2**
APE				⇓S	**Sn**	**21 40 43.6**	**+4.2**
APE	**Apeiranthos**	**3.50**	**104**	P	**Pn**	**21 39 59.7**	**+1.3**
APE	**Apeiranthos**	**3.50**	**104**	P	**Pn**	**21 39 59.5**	**+1.1**
APE	**Apeiranthos**	**3.50**	**104**	*i* P	**Pn**	**21 40 00.4**	**+2.0**
APE	**Apeiranthos**	**3.50**	**104**	P	**Pn**	**21 39 59.5**	**+1.1**
KOKK	**Kokkinochori,**	**3.51**	**36**	P	**Pn**	**21 40 00.7**	**+2.2**
TIR	**Tirane**	**3.52**	**342**	P	**Pn**	**21 40 00.5**	**+1.8**
	baz=346						
TIR				S	**Sb**	**21 40 52.5**	**+3.5**
	baz=346						
TIR	**Tirane**	**3.52**	**342**		**Pn**	**21 39 59.7**	**+1.0**
TIR	**Tirane**	**3.52**	**342**	P	**Pn**	**21 39 59.7**	**+1.0**
LIA	**Limnos Island**	**3.58**	**57**	P	**Pn**	**21 40 00.3**	**+0.9**
SRS	**Serrai**	**3.59**	**29**	P	**Pn**	**21 40 01.6**	**+2.0**
SANT	**Santorini**	**3.70**	**115**		**Pn**	**21 40 02.3**	**+1.1**
THAS	**Thassos island**	**3.72**	**45**	P	**Pn**	**21 40 02.5**	**+1.1**
TIP	**Timpagrande**	**3.74**	**290**	⇓P	**Pn**	**21 40 02.7**	**+0.9**
TIP				⇓S	**Sn**	**21 40 47.5**	**+2.0**
TIP	**Timpagrande**	**3.74**	**290**		**Pn**	**21 40 02.0**	**+0.2**
STIP	**Stip**	**3.75**	**10**	*i* Pn	**Pn**	**21 40 05.1**	**+3.2**
CHOS	**Chios island**	**3.77**	**83**	P	**Pn**	**21 40 02.9**	**+0.7**
SIGR	**SIGRI**	**3.77**	**70**	P	**Pn**	**21 40 03.6**	**+1.4**
SIGR	**SIGRI**	**3.77**	**70**	P	**Pn**	**21 40 03.3**	**+1.1**
GVD	**Gavdhos**	**3.88**	**144**

DBRK Dubrovnik 5.25 334 *e*Pn **Pn 21 40 21.6 -0.8**
KARP Karpathos 5.31 116 **Pn 21 40 21.4 -1.9**
BRY Bratogost 5.33 338 *e*Pn **Pn 21 40 22.7 -0.9**
BRY Bratogost 5.33 338 ⇓*i*Pn **Pn 21 40 23.4 -0.2**
BRY *i* Sn **Sn 21 41 22.6 -2.1**
SJES Sjenica 5.35 350 ⇑*i*Pn **Pn 21 40 24.9 +1.0**
UPM Unac-Piva 5.51 342 ⇑*i*Pn **Pn 21 40 27.1 +1.0**
UPM Unac-Piva 5.51 342 ⇓*i*Pn **Pn 21 40 27.1 +1.0**
UPM *i* Sn **Sn 21 41 29.0 -0.2**
PLE Pljevlja 5.52 345 ⇑*i*Pn **Pn 21 40 27.4 +1.2**
PLE *i* Sn **Sn 21 41 29.0 -0.4**
RAFF Raffo Rosso 5.56 264 **Pn 21 40 25.8 -0.9**
STON Ston 5.58 332 *e*Pn **Pn 21 40 26.1 -0.9**
STON Ston 5.58 332 ⇑*i*Pn **Pn 21 40 26.1 -0.9**
BOVS Bovan 5.64 3 ⇑P **Pn 21 40 29.2 +1.4**
SGRT San Giovanni R 5.68 313 Pn **Pn 21 40 28.6 +0.2**
EDRB Edirne 5.69 46 P **Pn 21 40 31.2 +2.8**
BLKB Belogradchik 5.71 10 ⇓S **Sn 21 41 38.1 +4.0**
ARG Arkhangelos 5.75 106 **Pn 21 40 29.6 +0.3**
ARG Arkhangelos 5.75 106 P **Pn 21 40 29.6 +0.3**
RUDO Rudo 5.80 346 ⇑*i*Pn **Pn 21 40 29.5 -0.5**
WDD Wied Dalam 5.83 250 **Pn 21 40 30.5 0.0**
PVL Pavlikeni 5.91 29 P **Pn 21 40 34.4 +2.9**
JMB Yambol 6.01 40 P **Pn 21 40 36.7 +3.8**
PAOL Paolisi 6.02 302 **Pn 21 40 33.4 +0.3**
BBLS Lazi&#263i 6.03 347 *e*Pn **Pn 21 40 33.0 -0.3**
ELND Elena 6.04 34 ⇑P **Pn 21 40 36.4 +3.1**
MAKA Makarska 6.20 330 *e*Pn **Pn 21 40 34.9 -0.5**
BAIL Bailesti 6.21 14 ⇓P **Pn 21 40 37.7 +2.1**
RICI Ricice 6.33 331 *e*Pn **Pn 21 40 36.7 -0.6**
HAPS Han Pijesak,BI 6.33 345 ⇑*i*Pn **Pn 21 40 37.9 +0.5**
HVAR Hvar 6.35 326 *e*Pn **Pn 21 40 36.7 -0.8**
CLTB Caltabellotta 6.41 269 **Pn 21 40 39.3 +0.9**
TEKS Tekeris 6.68 349 *e*Pn **Pn 21 40 41.2 -0.9**
ISK Istanbul-Kandi 6.74 61 P **Pn 21 40 45.8 +2.9**
MDVR Moldovita 6.78 3 ⇑P **Pn 21 40 44.8 +1.3**
HERR Herculane 6.93 7 ⇓P **Pn 21 40 47.2 +1.8**
INTR Introdacqua 6.94 308 **Pn 21 40 46.6 +0.9**
ELL Elmali 6.97 98 Pn **Pn 21 40 45.5 -0.8**
ELL Elmali 6.97 98 P **Pn 21 40 45.5 -0.8**
ZIRJ Zirje 7.09 325 *e*Pn **Pn 21 40 46.9 -0.8**
MGRS Mrkonjic Grad 7.15 335 ⇑*i*Pn **Pn 21 40 48.7 +0.1**
MORI Morici 7.22 326 *e*Pn **Pn 21 40 49.6 0.0**
FRGS Fruska Gora 7.24 352 ⇓P **Pn 21 40 49.7 -0.1**
FRGS Fruska Gora 7.24 352 ⇑*i*Pn **Pn 21 40 48.8 -1.0**
A050A Klekovaca 7.40 333 ⇑*i*Pn **Pn 21 40 52.4 +0.3**
BLY Banja Luka 7.42 337 *e*Pn **Pn 21 40 49.9 -2.3**
GZR Gura Zlata 7.47 8 ⇑P **Pn 21 40 54.4 +1.3**
GZR Gura Zlata 7.47 8 P **Pn 21 40 54.3 +1.3**
CAMP Campotosto 7.54 309 Pn **Pn 21 40 54.5 +0.5**
BZS Buzias 7.62 2 ⇑P **Pn 21 40 56.0 +1.1**
BZS Buzias 7.62 2 P **Pn 21 40 56.0 +1.1**
DUGI Dugi Otok 7.62 324 *e*Pn **Pn 21 40 55.2 +0.2**
SULR 7.64 28 ⇑P **Pn 21 40 58.0 +2.7**
PSN Preselentsi 7.66 40 P Pn 21 41 01.6 +6.1
LOT Lotru 7.67 13 ⇓P **Pn 21 40 57.6 +1.8**
UDBI Udbina 7.74 329 *e*Pn **Pn 21 40 57.1 +0.5**
SURR Surduc 7.77 4 ⇑P **Pn 21 40 58.6 +1.6**
ARR Arges 7.78 18 ⇑P **Pn 21 40 58.3 +1.1**
ICOR Ion Corvin 7.84 37 ⇑P **Pn 21 41 00.4 +2.4**
NRCA Norcia 7.89 310 **Pn 21 41 00.5 +1.8**
GUMA Gualdo di Mace 7.89 312 **Pn 21 40 59.7 +1.0**
VOIR 7.94 20 ⇑P **Pn 21 41 01.1 +1.6**
VOIR 7.94 20 P **Pn 21 41 01.1 +1.6**
PLIT Plitvice 8.08 330 *e*Pn **Pn 21 41 01.8 +0.5**
PLIT Sn **Sn 21 42 29.3 -3.0**
CESX Cesi 8.09 307 Pn **Pn 21 41 01.0 -0.5**
ISR Istrita 8.13 27 ⇓P **Pn 21 41 03.9 +1.9**
ISR Istrita 8.13 27 P **Pn 21 41 03.9 +1.9**
NVLJ Novalja 8.14 326 *e*Pn **Pn 21 41 02.7 +0.5**
MFTR Murfatlar 8.19 39 ⇑P **Pn 21 41 05.4 +2.7**
MLR Muntele Rosu 8.25 23 ⇓P **Pn 21 41 06.2 +2.4**
MLR Muntele Rosu 8.25 23 **Pn 21 41 04.5 +0.7**
MLR Muntele Rosu 8.25 23 Pn **Pn 21 41 06.2 +2.4**
comp=E,1.9nm,0.3s,baz=221,slow=9.3,SNR=22
MLR LR LR 21 45 01.6
comp=E,1µm,20.1s,baz=172,slow=44
comp=E,14nm,0.8s
SIRR Siria 8.27 2 ⇑P **Pn 21 41 05.4 +1.5**
TLBR Topalu 8.28 36 ⇓P **Pn 21 41 05.7 +1.7**
NEHR Nehoiu 8.31 25 ⇑P **Pn 21 41 07.2 +2.8**
MOSL Moslavina 8.33 337 *e*Pn **Pn 21 41 03.2 -1.5**
RABC Rab 8.33 326 *e*Pn **Pn 21 41 05.3 +0.7**
MORH Mrgy, Hungar 8.44 347 ⇑P **Pn 21 41 05.4 -0.8**
DOPR Dopca 8.53 20 ⇓P **Pn 21 41 08.8 +1.4**
BISRR Bisoca 8.56 26 ⇑P **Pn 21 41 10.0 +2.1**
COVR Voineasa-Covas 8.65 23 ⇑P **Pn 21 41 12.1 +3.0**
TPGR Topolog 8.69 36 ⇓P **Pn 21 41 11.1 +1.4**
SPBR Spulber 8.75 26 ⇑P **Pn 21 41 12.8 +2.3**
BOJS Bojanci 8.75 331 *e*Pn **Pn 21 41 10.4 -0.1**
BOJS Bojanci 8.75 331 *e*Pn **Pn 21 41 10.0 -0.5**
MARR Marisel-Cluj 8.78 8 ⇓P **Pn 21 41 12.7 +1.8**
TURR Turia 8.78 22 ⇑P **Pn 21 41 13.6 +2.6**
PLOR Plostina 8.80 25 ⇓P **Pn 21 41 13.7 +2.4**
PLOR Plostina 8.80 25 P **Pn 21 41 13.6 +2.4**
CFR Carcaliu 8.81 33 ⇑P **Pn 21 41 13.5 +2.2**
CFR Carcaliu 8.81 33 P **Pn 21 41 13.5 +2.2**
SMRN Sveta Marina 8.83 325 *e*Pn **Pn 21 41 11.1 -0.5**
PTJ Puntijarka 8.84 335 *e*Pn **Pn 21 41 11.0 -0.7**
PTJ Puntijarka 8.84 335 P **Pn 21 41 11.8 0.0**
JURR Jurilovca 8.84 38 ⇓P **Pn 21 41 14.0 +2.3**
VRI Vrincioaia 8.84 26 ⇑P **Pn 21 41 14.7 +3.0**
VRI Vrincioaia 8.84 26 P **Pn 21 41 14.7 +3.0**
DRGR 8.85 6 ⇑P **Pn 21 41 13.2 +1.3**
DRGR 8.85 6 P **Pn 21 41 13.2 +1.3**
KALN Kalnik 8.88 338 *e*Pn **Pn 21 41 10.7 -1.7**
RIY Rijeka 8.91 327 *e*Pn **Pn 21 41 12.9 +0.2**
BRJN Brijuni 8.92 323 *e*Pn **Pn 21 41 12.7 -0.1**
BRJN Sn **Sn 21 42 47.2 -5.6**
BR231 Keskin MP Arra 9.14 75 Pn **Pn 21 41 18.7 +2.8**
ANTO Ankara 9.16 75 Pn **Pn 21 41 17.3 +1.2**
ANTO Ankara 9.16 75 P **Pn 21 41 17.3 +1.2**
VISS Visnje 9.16 330 *i* Pn **Pn 21 41 15.9 -0.2**
CEY Cerknica 9.27 329 ⇑*i*Pn **Pn 21 41 17.8 +0.2**
ARCR ARCALIA 9.36 13 ⇑P **Pn 21 41 20.7 +1.9**
TESR Tescani 9.38 23 ⇑P **Pn 21 41 22.2 +3.0**
OSSC Osservatorio P 9.41 309 Pn **Pn 21 41 22.7 +3.2**
VNDS Vrh nad Dolski 9.46 331 *i* Pn **Pn 21 41 19.4 -0.8**
LJU Ljubljana 9.48 330 P **Pn 21 41 23.4 +2.9**
LJU pmax pmax
comp=Z,84nm,0.7s
BR131 Keskin Array S 9.78 76 **Pn 21 41 27.5 +2.7**
BR131 Keskin Array S 9.78 76 *i* P **Pn 21 41 29.0 +4.2**
BRTR Keskin Array B 9.78 76 **Pn 21 41 28.4 +3.6**
BRTR Keskin Array B 9.78 76 Pn **Pn 21 41 27.2 +2.4**
comp=Z,1.4nm,0.3s,baz=258,slow=13,SNR=48
comp=Z,7.9nm,0.6s
BMR Baia Mare 9.80 9 P **Pn 21 41 26.6 +1.7**
BMR pmax pmax
comp=Z,22nm,0.9s
SABO M.te Sabotino 9.81 327 Pn **Pn 21 41 24.3 -0.7**
SOKA Soboth 9.83 334 Pn **Pn 21 41 24.5 -0.8**
comp=Z,8.9nm,0.7s,SNR=7.0
SOKA *i* Sn **Sn 21 43 09.1 -6.2**
comp=Z,12nm,0.7s
KEST Kesra 9.84 260 **Pn 21 41 25.7 +0.2**
KEST Kesra 9.84 260 Pn **Pn 21 41 26.2 +0.7**
comp=Z,0.5nm,0.3s,baz=52,slow=9.9,SNR=8.1
KEST Sn **Sn 21 43 14.2 -1.4**
comp=Z,0.1nm,0.3s,baz=163,slow=17,SNR=1.0
KEST LR LR 21 46 13.4
comp=Z,268nm,19.3s,baz=279,slow=44
comp=Z,4.7nm,0.7s
OBKA Obir 9.86 332 *i* Pn **Pn 21 41 25.9 +0.1**
comp=Z,9.7nm,0.6s
OBKA *e*Sn **Sn 21 43 13.5 -2.6**
comp=Z,24nm,0.6s
OBKA Obir 9.86 332 ⇑*i*Pn **Pn 21 41 24.5 -1.3**
PSZ Piszkesteto 9.97 355 ⇓P **Pn 21 41 28.4 +1.1**
PSZ Piszkesteto 9.97 355 **Pn 21 41 27.1 -0.1**
PSZ Piszkesteto 9.97 355 P **Pn 21 41 28.3 +1.1**
BURAR Bucovina Array 10.03 15 ⇑P **Pn 21 41 30.4 +2.3**
BURAR Bucovina Array 10.03 15 **Pn 21 41 31.0 +2.8**
BURAR Bucovina Array 10.03 15 P **Pn 21 41 30.0 +1.9**
BUR08 Bucovina Ar. S 10.06 15 **Pn 21 41 29.9 +1.5**
CSS Mathiatis 10.16 104 **Pn 21 41 30.6 +0.7**
ARSA Arzberg 10.17 337 *i* Pn **Pn 21 41 29.0 -1.0**
comp=Z,3.4nm,0.4s,SNR=5.0
PRED Cave del Predi 10.19 328 **Pn 21 41 29.5 -0.8**
TEOL Teolo 10.28 319 Pn **Pn 21 41 30.8 -0.7**
TATN Tataouine 10.32 242 **Pn 21 41 30.7 -1.4**

RONA Rosalia, Austr 10.36 341 *i* Pn **Pn 21 41 33.3 +0.7**
comp=Z,1.1nm,0.4s
RONA *i* Sn **Sn 21 43 27.9 -0.4**
comp=Z,4.2nm,0.6s
KECS Kecovo 10.50 357 *e*P **Pn 21 41 36.6 +2.2**
KECS Kecovo 10.50 357 *e*PN **Pn 21 41 36.6 +2.2**
MILM Milestii Mici 10.50 30 *e*P **Pn 21 41 38.0 +3.6**
MILM Milestii Mici 10.50 30 *e*P **Pn 21 41 38.0 +3.6**
MILM *e*S **Sn 21 43 36.0 +4.5**
MILM MLR MLR
comp=Z,1µm,13.6s
MILM MLR MLR
comp=N,800nm,13.7s
KIS Kishinev 10.56 29 *e*P **Pn 21 41 39.0 +3.7**
KIS MLR MLR
comp=Z,400nm,11.0s
VYHS Vyhne 10.64 351 *e*P **Pn 21 41 36.6 +0.2**
VYHS *e* 21 43 34.4
VYHS Vyhne 10.64 351 *e*PN **Pn 21 41 36.6 +0.2**
VYHS *e*SN **Sn 21 43 34.4 -0.7**
CONA Conrad Observa 10.69 340 *i* Pn **Pn 21 41 38.1 +1.0**
comp=Z,3.8nm,0.9s
CTI Castel Tesino 10.77 321 **Pn 21 41 37.6 -0.6**
CTI Castel Tesino 10.77 321 P **Pn 21 41 37.6 -0.6**
KBA Koelnbreinsper 10.80 330 *i* Pn **Pn 21 41 39.3 +0.7**
comp=Z,2.2nm,0.5s
KBA *i* Sn **Sn 21 43 34.2 -4.9**
comp=Z,14nm,1.2s
ABTA Abfaltersbach 10.88 326 *e*Pn **Pn 21 41 41.9 +2.1**
comp=Z,3.4nm,0.4s
ABTA *i* Sn **Sn 21 43 36.2 -5.0**
comp=Z,27nm,0.7s
CRVS Cervenica-Dubn 10.90 1 *e*P **Pn 21 41 41.4 +1.5**
CRVS Cervenica-Dubn 10.90 1 *e*PN **Pn 21 41 41.4 +1.5**
KOLS Kolonicke sedl 10.95 3 *e*P **Pn 21 41 42.3 +1.7**
KOLS Kolonicke sedl 10.95 3 *e*PN **Pn 21 41 42.3 +1.7**
MOA Molln 11.11 335 *i* Pn **Pn 21 41 42.8 +0.1**
comp=Z,2.9nm,0.3s,SNR=6.3
MOA *i* Sn **Sn 21 43 41.7 -4.8**
comp=Z,7.0nm,0.7s
JAVC Velka Javorina 11.17 348 *e*PN **Pn 21 41 43.0 -0.6**
BIOA Bad Ischl, Aus 11.19 332 *e*Pn **Pn 21 41 45.1 +1.1**
comp=Z,4.0nm,0.5s
BIOA *e*Sn **Sn 21 43 43.0 -5.6**
comp=Z,12nm,0.6s
LESA Schwarzleotal 11.34 329 *e*Pn **Pn 21 41 48.6 +2.6**
comp=Z,3.5nm,0.4s
LESA *i* Sn **Sn 21 43 47.7 -4.8**
comp=Z,17nm,0.7s
SORM Soroca 11.36 25 ⇓P **Pn 21 41 48.3 +2.1**
SORM Soroca 11.36 25 P **Pn 21 41 48.3 +2.1**
NIE Niedzica 11.44 357 P **Pn 21 41 48.8 +1.5**
NIE pmax pmax
comp=Z,5.0nm,1.1s
BNN Bunyan 11.45 81 Pn **Pn 21 41 50.5 +2.9**
KRUC Moravsky 11.61 344 *e*PN **Pn 21 41 51.0 +1.4**
WTTA Wattenberg 11.66 326 *i* Pn **Pn 21 41 52.4 +1.8**
comp=Z,2.6nm,0.3s
WTTA *e*Sn **Sn 21 43 54.3 -6.2**
comp=Z,23nm,0.7s
WTTA Wattenberg 11.66 326 P **Pn 21 41 51.8 +1.3**
KWP Kalwaria Pacla 11.67 5 Pn **Pn 21 41 52.0 +1.5**
KWP Kalwaria Pacla 11.67 5 P **Pn 21 41 52.0 +1.5**
WATA Walderalm 11.75 326 *e*Pn **Pn 21 41 53.7 +2.1**
comp=Z,3.9nm,0.5s,SNR=5.5
WATA *i* Sn **Sn 21 43 57.4 -5.0**
comp=Z,21nm,0.9s
VRAC Vranov 11.80 345 *e*PN **Pn 21 41 52.9 +0.6**
VRAC Vranov 11.80 345 LR LR 21 47 48.6
comp=Z,501nm,19.3s,baz=170,slow=45
SQTA Sankt Quirin 11.83 324 *i* Pn **Pn 21 41 55.0 +2.3**
comp=Z,1.2nm,0.3s
SQTA *e*Sn **Sn 21 44 01.0 -3.3**
comp=Z,9.0nm,0.6s
SIM Simferopol' 11.86 50 *e*P Pn 21 41 59.5 +6.5
SIM *e*S **Sn 21 44 09.4 +4.6**
SIM pmax pmax
comp=Z,14nm,0.8s
SIM smax smax
comp=N,10.0nm,14.7s
FETA Feichten 11.91 323 *e*Pn **Pn 21 41 57.9 +4.1**
comp=N,3.4nm,0.7s
FETA *e*Sn **Sn 21 44 05.1 -1.3**
comp=N,5.5nm,0.6s
CKRC Cesky Krumlov 11.94 337 *e*PN **Pn 21 41 53.4 -0.8**
CKRC *e*SN **Sn 21 44 04.1 -2.9**
CKRC Cesky Krumlov 11.94 337 *e*P **Pn 21 41 53.4 -0.8**
CKRC *e* 21 44 04.1
LVV L'vov 11.98 9 *e*P **Pn 21 41 57.0 +2.3**
LVV *e*S **Sn 21 44 11.3 +3.5**
LVV MLR MLR
comp=Z,300nm,11.0s
MORC Moravsky Berou 12.08 348 Pn **Pn 21 41 55.8 -0.3**
MORC Moravsky Berou 12.08 348 *e*PN **Pn 21 41 57.0 +0.9**
MORC Moravsky Berou 12.08 348 P **Pn 21 41 55.8 -0.3**
GEC2 GERESS Array S 12.16 336 Pn **Pn 21 41 56.4 -0.8**
GERES GERESS Array B 12.16 336 Pn **Pn 21 41 55.9 -1.2**
GERES GERESS Array B 12.16 336 Pn **Pn 21 41 57.2 0.0**
comp=Z,0.3nm,0.3s,baz=161,slow=16,SNR=5.6
GERES Sn **Sn 21 44 05.4 -6.9**
comp=Z,0.5nm,0.3s,baz=165,slow=16,SNR=2.8
GERES LR LR 21 47 31.7
comp=Z,430nm,18.1s,baz=121,slow=42
comp=Z,0.8nm,0.4s
DAVOX Davos/Dischmat 12.16 320 Pn **Pn 21 41 59.8 +2.4**
comp=Z,0.3nm,0.3s,baz=145,slow=18,SNR=2.2
DAVOX Sn **Sn 21 44 10.4 -2.2**
comp=Z,0.5nm,0.3s,baz=135,slow=17,SNR=5.2
TUE Stuetta 12.24 318 Pn **Pn 21 41 58.6 +0.2**
OJC Ojcow 12.26 355 Pn **Pn 21 41 59.8 +1.3**
OJC Ojcow 12.26 355 P **Pn 21 41 59.8 +1.3**
KHC Kasperske Hory 12.45 336 *e*PN **Pn 21 42 00.0 -1.1**
KHC *e*SN **Sn 21 44 14.0 -5.3**
KHC Kasperske Hory 12.45 336 *i* P **Pn 21 41 59.4 -1.7**
KRLC Kraliky 12.50 346 P **Pn 21 42 00.3 -1.5**
KRLC pmax pmax
comp=Z,5.0nm,0.8s
DAVA Damuels 12.51 322 *e*Pn P 21 42 09.1 -4.7
comp=Z,2.1nm,0.5s
DAVA *e*Sn Sn 21 44 12.4 -8.6
MMAI Mount Meron Ar 12.52 109 Pn **Pn 21 42 01.2 -1.0**
comp=Z,3.0nm,0.3s,baz=302,slow=12,SNR=15
MMAI Sn **Sn 21 44 14.9 -6.5**
comp=Z,1.8nm,0.3s,baz=310,slow=24,SNR=4.6
MMAI LR LR 21 48 49.3
comp=Z,83nm,18.4s,baz=232,slow=47
comp=Z,1.7nm,0.3s
GEM Giv'at Ha'Em 12.63 108 P **Pn 21 42 02.6 -1.0**
NATI Neve Ativ 12.66 108 P **Pn 21 42 04.8 +0.7**
KZIT Kziot 12.92 119 P **Pn 21 42 07.7 +0.1**
QRNJ Al-Qirein 12.98 112 P **Pn 21 42 08.1 -0.2**
HMDT Nahal Hemdat 12.98 112 P Pn 21 42 03.6 -4.8
DSI Dead Sea 13.23 115 P **Pn 21 42 15.2 +3.4**
MSBI Mazada 13.36 116 P **Pn 21 42 15.0 +1.5**
LISJ El Lisan 13.48 116 P **Pn 21 42 15.8 +0.6**
GHAJ Ghor Haditha 13.51 115 **Pn 21 42 17.6 +2.0**
ZFRI Zfri 13.66 119 P **P 21 42 24.0 -2.5**
PRNI Paran 13.67 120 P **Pn 21 42 20.6 +2.8**
GRA1 Grafenberg Arr 13.75 331 Pn **Pn 21 42 20.3 +1.5**
GRF Grafenberg Arr 13.75 331 P **Pn 21 42 20.3 +1.5**
ANN Anapa 13.88 56 *e*P **Pn 21 42 18.7 -1.9**
ANN pmax pmax
comp=Z,11nm,0.8s
ANN MLR MLR
comp=Z,121nm,12.0s
ANN MLR MLR
comp=N,67nm,10.0s
HRFI Mount Harif 13.88 121 P **Pn 21 42 21.3 +0.5**
KIEV Kiev 13.89 21 Pn **Pn 21 42 20.8 +0.2**
KIEV Kiev 13.89 21 P **Pn 21 42 20.8 +0.2**
BRG Berggiesshubel 13.89 340 *e*P **Pn 21 42 21.1 +0.3**
BRG Amp 21 42 23.2
comp=Z,1.9nm,0.8s
BRG Berggiesshubel 13.89 340 P **P 21 42 32.5 +3.6**
BRG Amp 21 42 33.3
comp=Z,2.9nm,0.9s
BRG Berggiesshubel 13.89 340 *e*P **Pn 21 42 21.0 +0.3**
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG MLR MLR
comp=E,271nm,11.2s
BRG MLR MLR
comp=Z,836nm,13.2s
BRG MLR MLR
comp=N,593nm,12.0s

AKASG Malin Array Be 13.90 21 Pn **Pn 21 42 20.4 -0.4**
comp=N,0.5nm,0.3s,baz=212,slow=11,SNR=3.6
AKASG LR LR 21 49 14.8
comp=N,308nm,19.2s,baz=212,slow=44
comp=N,1.0nm,0.5s
AKBB Malin Array Si 13.90 21 *ce*P **Pn 21 42 20.2 -0.6**
AKBB pmax pmax
comp=Z,10.0nm,0.8s
MBRI Mt Berech 13.95 122 P **Pn 21 42 21.1 -0.7**
BFO Black Forest 13.98 322 **Pn 21 42 24.2 +2.2**
BFO Black Forest 13.98 322 P **Pn 21 42 24.2 +2.2**
ASF Jabal al Asfar 14.03 110 Pn **Pn 21 42 23.4 +0.5**
comp=Z,0.4nm,0.3s,baz=120,slow=0.1,SNR=2.3
comp=Z,1.5nm,0.4s
EIL Elat 14.06 122 Pn **Pn 21 42 22.2 -0.9**
comp=Z,0.6nm,0.3s,baz=307,slow=10,SNR=12
comp=Z,3.2nm,0.6s
AQBJ Aqaba 14.09 122 P **Pn 21 42 24.2 +0.7**
CABF La Chapelle 14.15 312 *e*P **Pn 21 42 28.0 +3.6**
CABF pmax pmax
comp=Z,8.0nm,1.1s
ECH Echery 14.50 319 **Pn 21 42 30.4 +1.3**
ECH Echery 14.50 319 P **Pn 21 42 30.4 +1.3**
CLL Collm 14.54 339 **Pn 21 42 31.1 +1.5**
CLL Collm 14.54 339 *e*P **Pn 21 42 32.0 +2.4**
CLL *e*sP **P 21 42 36.0 -0.1**
CLL *e*PP **PnPn 21 42 39.0 +1.5**
comp=Z,6.0nm,1.0s
CLL *e*x x 21 42 47.0
CLL *e*x x 21 44 43.0
CLL AMS AMS 21 48 00.0
CLL Collm 14.54 339 P **Pn 21 42 31.1 +1.5**
CDF Champ du Feu 14.56 320 *e*P **P 21 42 35.2 -1.3**
CDF pmax pmax
comp=Z,4.0nm,0.8s
HAU Haudompre 14.79 317 *e*P **Pn 21 42 36.4 +3.3**
HAU pmax pmax
comp=Z,7.0nm,0.6s
SOC Sochi 15.02 62 *e*P **Pn 21 42 35.3 -0.9**
SOC *e* 21 45 23.8
SOC MLR MLR
comp=Z,42nm,13.0s
LOR Lormes 15.79 311 *e*P **P 21 42 52.5 +2.4**
LOR pmax pmax
comp=Z,6.0nm,1.1s
SSF Saint Saulge 15.90 310 *e*P **P 21 42 52.1 +0.8**
SSF pmax pmax
comp=Z,11nm,1.1s
WLF Walferdange 15.94 322 **P 21 42 50.8 -0.9**
WLF Walferdange 15.94 322 P **P 21 42 50.8 -0.9**
WLF pmax pmax
comp=Z,14nm,0.9s
SUW Suwalki 16.07 4 **Pn 21 42 49.7 0.0**
SUW Suwalki 16.07 4 *e*P **Pn 21 42 50.6 +0.8**
SUW Suwalki 16.07 4 P **Pn 21 42 49.7 0.0**
SUW pmax pmax
comp=Z,132nm,0.8s
GURO Guroymak-BITLI 16.30 82 P **P 21 42 55.0 -0.9**
GIVF Givet 16.88 321 *e*P **P 21 43 05.3 +3.2**
GIVF pmax pmax
comp=Z,19nm,1.2s
MNK Minsk 17.11 13 *i* P **Pn 21 42 60.0 -3.0**
comp=E,7.0nm,0.9s
MNK *i* P **Pn 21 42 60.0 -3.0**
comp=N,20nm,0.9s
MNK *i* P **Pn 21 42 60.0 -3.0**
comp=Z,27nm,0.8s,baz=198
MNK *i* S **Sn 21 46 10.1 -2.6**
MNK *i* LQ LQ 21 48 04.1
MNK *i* LR LR 21 49 22.2
MNK *i* LRM MLR 21 50 21.8
comp=E,101nm,16.1s
MNK *i* LRM MLR 21 50 25.0
comp=Z,395nm,16.4s
MNK *i* LRM MLR 21 50 30.7
comp=N,205nm,14.1s
MNK Minsk 17.11 13 *e*P **Pn 21 42 59.0 -3.9**
SHA1 Shidzhatmaz 17.13 64 *i* P **Pn 21 43 04.0 +0.5**
KIV Kislovodsk 17.20 63 Pn **Pn 21 43 04.3 0.0**
KIV Kislovodsk 17.20 63 *e*P **Pn 21 43 04.2 0.0**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,43nm,14.0s
KBZ Khabaz 17.30 64 P **Pn 21 43 06.0 +0.7**
comp=Z,0.1nm,0.3s,baz=270,slow=4.0,SNR=5.7
KBZ LR LR 21 51 41.3
comp=Z,124nm,20.3s,baz=226,slow=44
comp=Z,6.2nm,1.0s
KBZ Khabaz 17.30 64 *i* P **P 21 43 06.5 -0.2**
KBZ pmax pmax
comp=Z,13nm,1.3s
NACGM Naroch 17.32 11 ⇑*i*P **Pn 21 43 04.2 -1.3**
comp=Z,50nm,0.9s,baz=195
ONI Oni 17.50 68 **Pn 21 43 07.9 -0.1**
ONI Oni 17.50 68 P **Pn 21 43 07.9 -0.1**
ONI pmax pmax
comp=Z,10.0nm,0.9s
PABE Paberze 17.61 5 **Pn 21 43 07.2 -1.9**
PABE IAmb IAmb 21 43 09.6
comp=Z,64nm,0.8s
PABE Paberze 17.61 5 *e*P **Pn 21 43 08.1 -1.0**
IIGN Ignalina 17.68 9 *e*P **Pn 21 43 10.1 +0.1**
GOF Gofitskoye 17.72 60 *ce*P **P 21 43 17.9 +6.5**
NCK Nalchik 17.75 65 *i* P **P 21 43 12.4 +0.6**
NCK pmax pmax
comp=Z,11nm,0.7s
PBUR Paburge 18.04 1 *e*P **P 21 43 15.0 +0.2**
VSVD Vaisvydziai 18.08 5 *e*P **Pn 21 43 14.1 -0.8**
VORD Divnogorie 18.18 39 *e*P **Pn 21 43 14.2 -2.1**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 18.28 38 *e*P **Pn 21 43 15.0 -2.4**
VSR pmax pmax
comp=Z,10.0nm,0.7s
GNI Garni 18.33 76 P **P 21 43 19.2 +0.9**
GNI Garni 18.33 76 P **P 21 43 20.5 +2.2**
comp=Z,9.2nm,0.8s,baz=335,slow=7.9,SNR=5.2
GNI LR LR 21 52 02.8
comp=Z,130nm,18.0s,baz=268,slow=43
GNI Garni 18.33 76 *i* P **P 21 43 20.5 +2.2**
GNI pmax pmax
comp=Z,10.0nm,0.8s
VORR Voronezh 18.59 37 *e*P **P 21 43 21.0 +0.1**
VORR pmax pmax
comp=Z,31nm,0.4s
LPSR Galich'ya Gora 19.08 34 *e*P **P 21 43 25.2 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
GRR Gorron 19.13 310 *e*P **Pn 21 43 33.1 +5.3**
GRR pmax pmax
comp=Z,13nm,1.0s
VRH Novokhopyorsk 19.56 41 *e*P **P 21 43 31.4 -0.1**
VRH pmax pmax
comp=Z,19nm,0.6s
ESBB Sonseca Array 19.73 283 P **P 21 43 33.7 +0.1**
ESDC Sonseca Array 19.73 283 P **P 21 43 33.5 -0.1**
ESDC Sonseca Array 19.73 283 P **P 21 43 34.7 +1.1**
comp=Z,0.2nm,0.3s,baz=77,slow=11,SNR=28
ESDC LR LR 21 51 37.6
comp=Z,92nm,18.4s,baz=92,slow=38
comp=Z,2.9nm,0.7s
OBN Obninsk 20.01 26 P **P 21 43 35.8 -0.6**
OBN IAmb IAmb 21 43 42.0
comp=Z,32nm,0.6s
OBN Obninsk 20.01 26 P **P 21 43 35.8 -0.6**
comp=Z,4.8nm,0.3s,baz=172,slow=18,SNR=6.7
OBN LR LR 21 51 55.4
comp=Z,211nm,20.8s,baz=176,slow=39
comp=Z,18nm,0.5s
OBN Obninsk 20.01 26 *i* P **P 21 43 35.1 -1.3**
OBN *i* S **S 21 47 16.8 -3.8**
OBN pmax pmax
comp=Z,30nm,0.7s
OBN MLR MLR
comp=Z,301nm,16.0s
PAB San Pablo 20.03 282 P **P 21 43 37.8 +0.9**
PAB San Pablo 20.03 282 P **P 21 43 37.8 +0.9**
PAB pmax pmax
comp=Z,10.0nm,1.0s
TAM Tamanrasset 20.32 226 P **P 21 43 40.8 +0.6**
TAM Tamanrasset 20.32 226 P **P 21 43 40.8 +0.6**
TAM pmax pmax
comp=Z,7.0nm,1.0s
QUIF Quistinic 20.38 307 *e*P Pn 21 43 46.2 +3.6

QUIF pmax pmax
comp=Z,37nm,1.5s
VSU Vasula 20.78 8*ce*P P 21 43 44.7 0.0
VSU pmax pmax
comp=Z,239nm,0.6s
MTSE Matsula 20.80 4 *e*P P 21 43 44.8 -0.1
MOS Moscow 20.87 27 *e*P Pn 21 43 48.3 0.0
MOS *e* 21 44 08.6
MOS pmax pmax
comp=Z,47nm,0.9s
MOS MLR MLR
comp=Z,500nm,12.0s
ARBE Arbavere 21.67 7 *e*P P 21 43 53.9 -0.3
MDT Midelt 21.70 264 P **P 21 43 55.9 +0.8**
comp=Z,9.0nm,0.9s,baz=88,slow=13,SNR=12
MDT LR LR 21 53 43.7
comp=Z,49nm,18.5s,baz=82,slow=40
comp=Z,9.0nm,0.9s
MEF Metsahovi 22.33 4 *e*P P 21 44 00.7 -0.7
HFS Hagfors 22.68 350 P **P 21 44 04.0 -1.1**
comp=Z,16nm,0.7s,baz=155,slow=11,SNR=37
HFS LR LR 21 54 19.4
comp=Z,156nm,18.4s,baz=168,slow=40
comp=Z,16nm,0.7s
PVAQ Vaqueiros 22.92 278 P **P 21 44 08.5 +0.6**
PVAQ IAmb IAmb 21 44 35.9
comp=Z,16nm,1.2s
KONO Kongsberg 22.93 345 P **P 21 44 06.3 -1.4**
KONO IAmb IAmb 21 44 29.4
comp=Z,15nm,1.0s
KONO Kongsberg 22.93 345 *i* P **P 21 44 06.0 -1.7**
KONO pmax pmax
comp=Z,4.0nm,0.8s
OSL Oslo 22.97 346 *e*P P 21 44 07.2 -0.9
OSL IAmb IAmb 21 44 07.9
comp=Z,34nm,0.9s
RAF Rauma 23.05 1 *e*P P 21 44 07.7 -1.2
BELG Belogornoye 23.31 43 P **P 21 44 10.8 -0.8**
comp=Z,26nm,0.8s,baz=244,slow=4.9,SNR=10
BELG LR LR 21 54 25.9
comp=Z,203nm,18.3s,baz=235,slow=40
comp=Z,26nm,0.8s
BELG Belogornoye 23.31 43 *i* P **P 21 44 10.8 -0.8**
BELG pmax pmax
comp=Z,10.0nm,0.9s
NC602 NORSAR Array S 23.57 348 P **P 21 44 13.3 -0.9**
NC602 IAmb IAmb 21 44 22.0
comp=Z,19nm,1.0s
NC602 NORSAR Array S 23.57 348 *e*P P 21 44 13.5 -0.7
NC602 IAmb IAmb 21 44 14.7
comp=Z,13nm,0.8s
NORES NORESS Array B 23.57 348 P **P 21 44 13.5 -0.7**
FINES FINESS Array B 23.66 6 P **P 21 44 13.7 -1.3**
FINES FINESS Array B 23.66 6 P **P 21 44 13.8 -1.2**
comp=Z,11nm,0.4s,baz=173,slow=10,SNR=99
FINES LR LR 21 54 29.3
comp=Z,364nm,18.1s,baz=213,slow=39
comp=Z,11nm,0.4s
FIA1 FINESS Array S 23.66 6 P **P 21 44 13.7 -1.4**
FIA1 IAmb IAmb 21 44 15.4
comp=Z,25nm,0.9s
NB2 NORSAR Subarra 23.92 348 P **P 21 44 16.9 -0.7**
comp=Z,10nm,0.8s,baz=154,slow=10
NB2 NORSAR Subarra 23.92 348 P **P 21 44 16.9 -0.7**
baz=154,slow=10
NOA NORSAR Array B 23.92 348 P **P 21 44 16.9 -0.7**
comp=Z,8.9nm,0.9s,baz=154,slow=9.3,SNR=40
NOA LR LR 21 55 33.1
comp=Z,119nm,20.8s,baz=170,slow=42
comp=Z,8.9nm,0.9s
EKA Eskdalemuir Ar 23.93 324 P **P 21 44 18.5 +0.9**
comp=Z,5.0nm,0.5s,baz=128,slow=9.6,SNR=24
comp=Z,5.0nm,0.5s
ESK Eskdalemuir 23.94 324 P **P 21 44 17.7 -0.1**
ESK IAmb IAmb 21 44 26.1
comp=Z,17nm,0.8s
ESK Eskdalemuir 23.94 324 P **P 21 44 17.7 -0.1**
ESK pmax pmax
comp=Z,17nm,0.8s
KEF Keuruu 24.30 4 *e*P P 21 44 20.9 -0.2
DSB Dublin 24.42 318 P **P 21 44 21.1 -1.2**
VAF Ylistaro 25.09 1 *e*P P 21 44 28.3 +0.2
VAF Ylistaro 25.09 1 P **P 21 44 28.3 +0.2**
VAF pmax pmax
comp=Z,53nm,0.8s
RAYN Ar Rayn 25.22 118 P **P 21 44 30.2 +0.4**
RAYN IAmb IAmb 21 44 40.9
comp=Z,9.8nm,1.1s
RAYN Ar Rayn 25.22 118 P **P 21 44 30.2 +0.4**
RAYN pmax pmax
comp=Z,10.0nm,1.1s
DOMB Dombas 25.23 346 *e*P P 21 44 30.4 +0.9
DOMB IAmb IAmb 21 44 37.0
comp=Z,12nm,0.7s
KLMR Klimovskoe 25.59 21 *e*P P 21 44 31.0 -1.7
KLMR pmax pmax
comp=Z,31nm,0.8s
JOF Joensuu 25.69 11 *e*P P 21 44 32.7 -0.9
NSS Namsos 27.14 351 *e*P P 21 44 46.2 -0.5
NSS IAmb IAmb 21 44 47.2
comp=Z,15nm,0.8s
OUL Oulu 27.26 4 P **P 21 44 52.5 +4.7**
OUL pmax pmax
comp=Z,16nm,0.7s
KIRV Kirov 27.48 32 LR LR 21 56 24.0
comp=Z,193nm,18.7s,baz=229,slow=38
KIRV Kirov 27.48 32*ce*P P 21 44 48.2 -1.6
AKTO Aktyubinsk 28.80 53 LR LR 21 58 50.6
comp=Z,128nm,20.6s,baz=248,slow=41
GEYT Alibeck 28.91 79 P **P 21 45 02.4 -0.5**
GEYT Alibeck 28.91 79 P **P 21 45 03.0 +0.1**
comp=Z,1.1nm,0.4s,baz=283,slow=7.2,SNR=2.8
comp=Z,1.1nm,0.4s
GEYT Alibeck 28.91 79 P **P 21 45 03.0 +0.1**
GYA0 ALIBECK ARRAY 28.91 79 P **P 21 45 02.9 0.0**
GYA0 pmax pmax
comp=Z,4.0nm,0.7s
GYA0B ALIBECK ARRAY 28.91 79 P **P 21 45 02.9 -0.1**
FAUS Fauske 29.63 355 *e*P P 21 45 08.3 -0.5
FAUS IAmb IAmb 21 45 09.3
comp=Z,11nm,1.0s
AB31 Akbulak array 29.84 55 *i* P **P 21 45 10.7 -0.3**
AB31 pmax pmax
comp=Z,4.0nm,0.8s
ABKAR Akbulak array 29.84 55 P **P 21 45 10.6 -0.4**
ABKAR IAmb IAmb 21 45 16.9
comp=Z,10nm,1.3s
ABKAR Akbulak array 29.84 55 P **P 21 45 10.4 -0.5**
STEI Steigen 30.17 355 *e*P P 21 45 13.5 -0.1
STEI IAmb IAmb 21 45 14.5
comp=Z,15nm,0.9s
TOA0 Torodi Ar. Sit 30.28 220 P **P 21 45 15.5 +0.4**
TORD Torodi Ar. Bea 30.28 220 P **P 21 45 15.2 +0.1**
TORD IAmb IAmb 21 45 16.5
comp=Z,9.2nm,0.8s
TORD Torodi Ar. Bea 30.28 220 P **P 21 45 15.8 +0.7**
comp=Z,15nm,0.7s,baz=32,slow=9.7,SNR=108
TORD LR LR 21 58 39.5
comp=Z,121nm,19.8s,baz=47,slow=39
comp=Z,15nm,0.7s
ARU Arti 30.79 41 P **P 21 45 18.0 -1.3**
ARU IAmb IAmb 21 45 39.1
comp=Z,4.6nm,0.6s
ARU Arti 30.79 41 LR LR 21 58 24.2
comp=Z,111nm,19.2s,baz=236,slow=38
ARU Arti 30.79 41*c* *i*P **P 21 45 18.1 -1.2**
ARU 21 46 16.7
ARU S **S 21 50 23.1 +1.4**
ARU SS **ScP 21 51 58.8 +0.7**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU MLR MLR
comp=Z,156nm,13.0s
KTK1 Kautokeino 31.09 1 *e*P P 21 45 22.0 +0.2
KTK1 IAmb IAmb 21 45 27.4
comp=Z,17nm,1.0s
ARCES ARCESS Array B 31.68 3 P **P 21 45 26.2 -0.7**
ARCES ARCESS Array B 31.68 3 P **P 21 45 26.3 -0.7**
comp=Z,8.2nm,0.6s,baz=190,slow=9.3,SNR=53
comp=Z,8.2nm,0.6s
TRO Tromso 31.72 358 *e*P P 21 45 27.1 -0.2
TRO IAmb IAmb 21 45 27.4
comp=Z,15nm,0.7s
KEV Kevo 31.97 4 P **P 21 45 29.1 -0.3**
KEV Kevo 31.97 4 P **P 21 45 29.1 -0.3**
KEV pmax pmax
comp=Z,10.0nm,0.6s
SVE Sverdlovsk 32.01 41 *e*P P 21 45 29.9 0.0
SVE pmax pmax
comp=Z,20nm,0.9s
SVE MLR MLR
comp=Z,197nm,13.0s
UOSS Minazif 32.30 104 P **P 21 45 32.2 -0.7**
VADS Vadso 32.47 5 *e*P P 21 45 34.2 +0.4
VADS IAmb IAmb 21 45 35.0
comp=Z,30nm,0.8s
HAMF Hammerfest 32.73 1 *e*P P 21 45 36.8 +0.7
HAMF IAmb IAmb 21 45 37.2
comp=Z,22nm,0.9s
FURI Furi 32.95 147 LR LR 22 01 03.7
comp=Z,90nm,19.1s,baz=330,slow=40
JMIC Jan Mayen 36.49 344 LR LR 22 01 17.6
comp=Z,41nm,20.5s,baz=66,slow=37
BJO1 Bjornoya 36.61 359 *e*P P 21 46 09.6 +0.1
BJO1 IAmb IAmb 21 46 10.2
comp=Z,21nm,1.0s
BRVK Borovoye 36.71 50 P **P 21 46 10.4 -0.3**
BRVK IAmb IAmb 21 46 16.6
comp=Z,9.3nm,0.8s
BRVK Borovoye 36.71 50*ce*P P 21 46 09.8 -0.9
BRVK pmax pmax
comp=Z,9.0nm,0.8s
LODK Lodwar 36.74 156 P **P 21 46 12.0 +0.6**
BVAR Borovoye Array 36.77 50 P **P 21 46 11.4 +0.1**
comp=Z,6.4nm,0.6s,baz=266,slow=5.3,SNR=50
BVAR LR LR 22 02 39.1
comp=Z,62nm,18.1s,baz=262,slow=39
comp=Z,6.4nm,0.6s
SIMJ Simiganj 37.10 74 P **P 21 46 13.8 -0.6**
SIMJ IAmb IAmb 21 46 15.3
comp=Z,6.2nm,0.8s
CHGR Chuyangaron 37.22 74 P **P 21 46 14.5 -0.8**
CHGR Chuyangaron 37.22 74 P **P 21 46 14.5 -0.8**
CHGR pmax pmax
comp=Z,23nm,0.7s
KK31 Karatay Array 37.31 66 P **P 21 46 15.6 -0.4**
KK31 IAmb IAmb 21 46 17.4
comp=Z,8.8nm,0.7s
KK31 Karatay Array 37.31 66 P **P 21 46 15.6 -0.4**
KK31 pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 37.31 66 P **P 21 46 15.4 -0.6**
KKAR Karatay Array 37.31 66 P **P 21 46 15.4 -0.6**
GAR Garm 38.01 73 P **P 21 46 21.6 -0.5**
BTK Batken 38.13 71 P **P 21 46 22.5 -0.6**
BTK Batken 38.13 71 P **P 21 46 22.5 -0.6**
BTK pmax pmax
comp=Z,6.0nm,0.9s
DRK Karamyk 39.01 72 P **P 21 46 29.9 -0.7**
DRK IAmb IAmb 21 46 45.4
comp=Z,6.1nm,0.6s
DRK Karamyk 39.01 72 P **P 21 46 29.9 -0.7**
DRK pmax pmax
comp=Z,6.0nm,0.6s
DBIC Dimbokro 39.18 224 P **P 21 46 32.0 +0.2**
DBIC IAmb IAmb 21 46 33.1
comp=Z,17nm,0.8s
DBIC Dimbokro 39.18 224 P **P 21 46 32.3 +0.4**
comp=Z,16nm,0.8s,baz=26,slow=7.9,SNR=14
DBIC LR LR 22 03 41.8
comp=Z,67nm,18.1s,baz=32,slow=38
comp=Z,16nm,0.8s
DBIC Dimbokro 39.18 224 P **P 21 46 32.1 +0.2**
DBIC pmax pmax
comp=Z,17nm,0.9s
TIC Toumodi 39.29 224⇓ *i*P **P 21 46 32.9 0.0**
comp=Z,3.7nm,0.3s
KIC Kosan Boka 39.37 223⇓ *i*P **P 21 46 33.9 +0.3**
comp=Z,19nm,0.6s
ARSB Arslanbob 39.45 68 P **P 21 46 33.5 -0.7**
ARSB Arslanbob 39.45 68 P **P 21 46 33.5 -0.7**
ARSB pmax pmax
comp=Z,6.0nm,1.2s
LIC Lamto 39.64 224⇓ *i*P **P 21 46 36.2 +0.4**
comp=Z,29nm,0.5s
AAK Ala-Archa 40.27 66 P **P 21 46 40.7 -0.3**
AAK Ala-Archa 40.27 66 LR LR 22 06 46.7
comp=Z,104nm,19.8s,baz=288,slow=41
AAK Ala-Archa 40.27 66*ce*P P 21 46 41.2 +0.2
AAK pmax pmax
comp=Z,7.0nm,1.0s
FRU1 Bishkek 40.34 66 P **P 21 46 41.6 +0.2**
FRU1 IAmb IAmb 21 46 42.8
comp=Z,11nm,0.7s
FRU1 Bishkek 40.34 66 P **P 21 46 41.7 +0.2**
FRU1 pmax pmax
comp=Z,11nm,0.7s
SPB2 Spitsbergen Ar 40.34 358 P **P 21 46 41.5 +0.6**
SPB2 IAmb IAmb 21 46 43.6
comp=Z,13nm,0.8s
SPA0 Spitsbergen Ar 40.34 358 *e*P P 21 46 41.7 +0.7
SPA0 IAmb IAmb 21 46 43.5
comp=Z,19nm,1.2s
SPITS Spitsbergen Ar 40.34 358 P **P 21 46 41.5 +0.5**
comp=Z,2.4nm,0.4s,baz=155,slow=14,SNR=25
SPITS LR LR 22 05 09.4
comp=Z,208nm,20.5s,baz=135,slow=39
comp=Z,2.4nm,0.4s
SPITS Spitsbergen Ar 40.34 358 P **P 21 46 41.3 +0.4**
SPITS pmax pmax
comp=Z,23nm,1.4s
BBTS Babate 40.70 246 LR LR 22 06 00.5
comp=Z,189nm,18.5s,baz=318,slow=40
BOOM Boomskoye usch 41.35 66 P **P 21 46 50.4 +0.5**
BOOM IAmb IAmb 21 46 51.9
comp=Z,7.2nm,0.7s
BOOM Boomskoye usch 41.35 66 P **P 21 46 50.4 +0.5**
BOOM pmax pmax
comp=Z,7.0nm,0.7s
KURBB Kurchatov Arra 41.85 53 P **P 21 46 53.2 -0.5**
comp=Z,12nm,0.7s,baz=282,slow=8.8,SNR=81
KURBB LR LR 22 08 15.3
comp=Z,80nm,18.1s,baz=170,slow=42
comp=Z,12nm,0.7s
KURK Kurchatov 41.90 53 P **P 21 46 53.2 -0.8**
KURK IAmb IAmb 21 46 54.4
comp=Z,12nm,0.9s
KURK Kurchatov 41.90 53*ce*P P 21 46 53.4 -0.6
KURK pmax pmax
comp=Z,15nm,1.0s
NIL Nilore 41.91 80 P **P 21 46 54.9 +0.5**
NIL IAmb IAmb 21 46 55.4
comp=Z,20nm,1.1s
NIL Nilore 41.91 80 P **P 21 46 54.9 +0.5**
NIL pmax pmax
comp=Z,20nm,1.1s
KSH Kashi 42.11 70 P **P 21 46 54.7 -1.4**
KSH pmax pmax
comp=Z,7.0nm,0.8s
PDGK Podgornoye 43.70 64 *i*P **P 21 47 08.4 -0.5**
MAKZ Makanchi 44.66 58 P **P 21 47 15.9 -0.6**
MAKZ IAmb IAmb 21 47 16.9
comp=Z,6.8nm,0.7s
MAKZ Makanchi 44.66 58 P **P 21 47 15.9 -0.6**
MAKZ pmax pmax
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 44.88 58 P **P 21 47 17.7 -0.5**
MK31 Makanchi Array 44.88 58 P **P 21 47 17.7 -0.5**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MKAR Makanchi Array 44.88 58 P **P 21 47 17.9 -0.3**
MKAR Makanchi Array 44.88 58 P **P 21 47 17.6 -0.6**
comp=Z,10nm,0.5s,baz=272,slow=7.7,SNR=130
MKAR PcP **PcP 21 48 59.6 -0.1**
comp=Z,1.4nm,0.7s,baz=272,slow=5.6,SNR=2.2
MKAR ScP **ScP 21 52 51.5 +0.2**
comp=Z,1.6nm,0.9s,baz=275,slow=3.6,SNR=6.6
MKAR LR LR 22 10 27.5
comp=Z,69nm,18.2s,baz=244,slow=42
comp=Z,10nm,0.5s
ZAA0 Zalesovo Array 45.36 48 P **P 21 47 21.3 -0.6**
ZALV Zalesovo Beam 45.36 48 P **P 21 47 21.2 -0.7**
comp=Z,14nm,0.5s,baz=274,slow=8.4,SNR=66
ZALV LR LR 22 08 10.7
comp=Z,66nm,21.1s,baz=274,slow=39
comp=Z,14nm,0.5s
NRIK Noril'sk 46.68 27 P **P 21 47 32.5 +0.4**
NRIK IAmb IAmb 21 47 33.5
comp=Z,4.5nm,0.8s
NRIK Noril'sk 46.68 27 P **P 21 47 32.6 +0.6**
comp=Z,3.6nm,0.7s,baz=270,slow=1.0,SNR=5.0
NRIK LR LR 22 09 19.0
comp=Z,145nm,21.9s,baz=216,slow=39
comp=Z,3.6nm,0.7s
NRIK Noril'sk 46.68 27*ce*P P 21 47 32.9 +0.8
NRIK pmax pmax
comp=Z,5.0nm,0.8s
SFJD Kangerlussuaq 48.69 330 LR LR 22 09 58.9
comp=Z,74nm,18.4s,baz=82,slow=38
LSZ Lusaka 53.39 172 P **P 21 48 23.4 -0.2**
LSZ IAmb IAmb 21 48 25.9
comp=Z,5.1nm,0.8s
LSZ Lusaka 53.39 172 LR LR 22 11 52.9
comp=Z,92nm,18.6s,baz=338,slow=37
LSZ Lusaka 53.39 172 P **P 21 48 23.4 -0.2**
LSZ pmax pmax
comp=Z,5.0nm,0.8s
FRB Frobisher Bay 56.63 328 LR LR 22 14 55.7
comp=Z,54nm,18.5s,baz=340,slow=38
LSA Lhasa 57.39 76 P **P 21 48 52.6 -0.4**
LSA pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 57.39 76 IAmb IAmb 21 48 53.1
comp=Z,5.9nm,0.8s
SCHQ Schefferville 59.00 318 P **P 21 49 02.6 -0.7**
SCHQ IAmb IAmb 21 49 11.9
comp=Z,8.6nm,1.1s
SCHQ Schefferville 59.00 318 P **P 21 49 03.7 +0.4**
comp=Z,2.7nm,0.5s,baz=71,slow=8.1,SNR=4.1
comp=Z,2.7nm,0.5s
GTA Gaotai 59.37 62 *e*P P 21 49 05.8 -0.5
GTA pP pP 21 49 10.4 -1.2
GTA pmax pmax
comp=Z,7.0nm,1.4s
TIXI Tiksi 59.60 20 LR LR 22 18 04.6
comp=Z,77nm,19.9s,baz=352,slow=39
GBN Guysborough 59.68 306 P **P 21 49 07.9 -0.2**
SHL Shillong 59.98 80 P **P 21 49 08.6 -2.1**
SHL IAmb IAmb 21 49 09.4
comp=Z,5.2nm,1.0s
SHL Shillong 59.98 80 P **P 21 49 08.6 -2.1**
SHL pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 60.10 51 P **P 21 49 10.1 -1.1**
SONM IAmb IAmb 21 49 11.4
comp=Z,4.5nm,1.2s
SONM Songino Array 60.10 51 P **P 21 49 10.4 -0.8**
comp=Z,2.9nm,0.9s,baz=285,slow=8.4,SNR=12
SONM LR LR 22 17 50.6
comp=Z,73nm,18.3s,baz=288,slow=39
comp=Z,2.9nm,0.9s
WIN Windhoek 60.37 184 P **P 21 49 13.8 +0.6**
WIN Windhoek 60.37 184 P **P 21 49 13.8 +0.6**
WIN pmax pmax
comp=Z,20nm,1.2s
ULN Ulaanbaatar 60.49 50*ce*P P 21 49 12.5 -1.3
ULN pmax pmax
comp=Z,5.0nm,1.2s
LMN Caledonia Moun 61.57 308 P **P 21 49 20.1 -0.9**
BATG Bathurst New B 61.72 309 P **P 21 49 22.3 +0.3**
BATG IAmb IAmb 21 49 28.8
comp=Z,5.2nm,0.7s
LBTB Lobatse 62.81 176 P **P 21 49 28.8 -0.7**
LBTB Lobatse 62.81 176 P **P 21 49 28.8 -0.7**
LBTB pmax pmax
comp=Z,9.0nm,0.9s
LZH Lanzhou 63.74 64 *e*P P 21 49 36.0 +0.2
LZH pP sP 21 49 43.1 -0.1
LZH pmax pmax
comp=Z,14nm,1.1s
E62A Clayton Lake 64.12 310 P **P 21 49 38.1 +0.1**
YAK Yakutsk 64.97 30 LR LR 22 20 09.4
comp=Z,63nm,20.9s,baz=295,slow=38
BOSA Boshof 66.37 176 P **P 21 49 52.8 +0.1**
BOSA IAmb IAmb 21 50 10.1
comp=Z,7.7nm,1.2s
BOSA Boshof 66.37 176 P **P 21 49 53.6 +0.9**
comp=Z,3.7nm,0.8s,baz=345,slow=10,SNR=6.2
BOSA LR LR 22 20 11.3
comp=Z,107nm,19.3s,baz=16,slow=37
comp=Z,3.7nm,0.8s
HHC Hu-ho-hao-te 66.63 56 *e*P P 21 49 54.6 +0.1
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,80nm,4.9s
CHTO Chiang Mai 69.11 82 P **P 21 50 09.3 -1.0**
CHTO pmax pmax
comp=Z,9.0nm,1.2s
HEH HeiHe 70.78 41 P **P 21 50 19.7 -0.3**
HEH pmax pmax
comp=Z,8.0nm,1.1s
HEH pmax pmax
comp=Z,110nm,4.3s
GYA Guiyang 70.80 71 P **P 21 50 24.9 +4.2**
GYA pmax pmax
comp=Z,7.0nm,0.7s
SADO Sadowa 70.83 312 LR LR 22 20 56.3
comp=Z,26nm,18.1s,baz=347,slow=36
BILL Bilibino 71.05 13 *i* P **P 21 50 20.8 -0.6**
BILL *i* 21 50 25.7
BILL *i* 21 50 47.4
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,73nm,19.0s
SEY Seymchan 72.08 21 P **P 21 50 28.4 +0.8**
comp=Z,0.8nm,0.3s,baz=348,slow=12,SNR=4.6
comp=Z,0.8nm,0.3s
SEY Seymchan 72.08 21 *e*P P 21 50 27.4 -0.2
SEY pmax pmax
comp=Z,3.0nm,1.0s
C27K Jago River 72.12 355 P **P 21 50 29.0 +1.2**
baz=12
D27M Malcolm River 72.27 353 P **P 21 50 29.9 +1.1**
baz=15
B20K Meade River 72.30 359 P **P 21 50 29.7 +0.9**
baz=1.3
C23K Itkillik River 72.31 357 P **P 21 50 30.2 +1.3**
baz=6.7
INK Inuvik 72.34 350 P **P 21 50 29.9 +0.8**
baz=21
INK Inuvik 72.34 350 LR LR 22 23 55.8
comp=Z,26nm,20.7s,baz=46,slow=37
SSPA Standing Stone 72.43 308 P **P 21 50 31.1 +0.9**
baz=55
D25K Kavik River 72.61 355 P **P 21 50 31.3 +0.6**
baz=10
B21K Ikpikpuk River 72.65 358 P **P 21 50 31.6 +0.7**
baz=3.4
E28M Babbage River 72.75 353 P **P 21 50 32.2 +0.6**
baz=16
E29M Blow River 72.79 352 P **P 21 50 33.0 +1.2**
baz=17
B18K Kokolik River 72.93 1 P **P 21 50 33.2 +0.7**
baz=358
C21K Knifeblade Rid 73.12 359 P **P 21 50 34.6 +0.8**
baz=3.3
D23K Nanushuk River 73.18 357 P **P 21 50 35.4 +1.2**
baz=6.6
F31M Tsiigehtchic 73.19 350 P **P 21 50 35.4 +1.3**
baz=20
C19K Lookout Ridge 73.21 0 P **P 21 50 35.5 +1.1**
baz=359
F30M Barrier River 73.29 351 P **P 21 50 36.2 +1.4**
baz=19
D22K Ayikyak River 73.34 358 P **P 21 50 35.5 +0.4**
baz=5.0
E27K Coleen River 73.35 353 P **P 21 50 35.4 +0.2**
baz=14
TOLK Toolik Lake Re 73.46 357 P **P 21 50 36.3 +0.4**
baz=7.5
BNX BinXian 73.50 45 ⇑P **P 21 50 36.2 -0.2**
BNX pmax pmax
comp=Z,5.0nm,0.9s
D20K Etivluk River 73.59 359 P **P 21 50 36.9 +0.4**
baz=1.8
KLR Kul'dur 73.62 40 P **P 21 50 36.9 -0.1**
comp=Z,2.1nm,0.6s,baz=291,slow=8.7,SNR=8.3
KLR LR LR 22 28 00.9
comp=Z,52nm,18.3s,baz=286,slow=40
comp=Z,2.1nm,0.6s
KLR Kul'dur 73.62 40 *e*P P 21 50 34.8 -2.2
KLR pmax pmax
comp=Z,6.0nm,1.2s
C18K Utukok River 73.65 1 P **P 21 50 37.7 +0.7**
C18K IAmb IAmb 21 50 55.6
comp=Z,8.3nm,1.1s
C18K Utukok River 73.65 1 P **P 21 50 38.0 +1.0**

baz=358
E25K Arctic Village 73.74 355 P **P 21 50 38.2 +0.8**
baz=11
F28M Old Crow 73.75 353 P **P 21 50 38.4 +0.9**
baz=15
G31M Satah River 73.75 350 P **P 21 50 38.7 +1.3**
baz=20
YKA Yellowknife Ar 73.76 340 P **P 21 50 37.9 +0.2**
comp=Z,0.6nm,0.7s,baz=31,slow=5.0,SNR=4.2
YKA LR LR 22 25 14.9
comp=Z,64nm,18.8s,baz=339,slow=38
comp=Z,0.6nm,0.7s
YKA Yellowknife Ar 73.76 340 *i* P **P 21 50 40.7 +3.1**
YKA pmax pmax
comp=Z,1.0nm,0.6s
C17K DeLong Mountai 73.79 2 P **P 21 50 38.7 +1.0**
baz=356
E21K Killik River 73.82 358 P **P 21 50 38.9 +1.0**
baz=3.9
D19K Kuna River 73.82 360 P **P 21 50 39.1 +1.2**
baz=0.5
C16K Lisburne Hills 73.93 3 P **P 21 50 39.8 +1.3**
baz=355
G30M tAoh Zraii Nji 73.94 351 P **P 21 50 40.0 +1.3**
baz=18
E24K Your Creek 73.97 356 P **P 21 50 39.6 +0.8**
baz=8.4
E23K Chandalar 74.04 356 P **P 21 50 40.4 +1.1**
baz=7.5
E20K Nigu River 74.05 359 P **P 21 50 39.9 +0.7**
baz=2.1
F26K Sheenjek River 74.05 354 P **P 21 50 40.3 +1.0**
baz=12
E22K Anaktuvuk Pass 74.06 357 P **P 21 50 40.3 +0.9**
baz=5.7
MA2 Magadan 74.21 24 P **P 21 50 40.3 0.0**
comp=Z,4.4nm,0.4s,baz=350,slow=11,SNR=4.7
MA2 LR LR 22 28 16.7
comp=Z,95nm,18.5s,baz=299,slow=40
comp=Z,4.4nm,0.4s
MDP Montagnes des 74.22 264 LR LR 22 21 50.2
comp=Z,47nm,19.3s,baz=122,slow=35
G29M Pine Creek 74.22 352 P **P 21 50 41.2 +0.9**
baz=17
F25K Christian Rive 74.26 355 P **P 21 50 41.7 +1.1**
baz=11
F24K Squaw Lake 74.48 356 P **P 21 50 42.7 +0.9**
baz=8.9
D17K Noatak River 74.57 2 P **P 21 50 43.1 +0.9**
baz=356,SNR=6.9
EPYK Eagle Plains 74.59 351 P **P 21 50 42.9 +0.4**
baz=18
F22K John River 74.70 357 P **P 21 50 43.5 +0.5**
baz=5.4
G27K Doyon Strip 74.70 353 P **P 21 50 43.4 +0.3**
baz=14
G26K Porcupine Rive 74.75 354 P **P 21 50 44.2 +0.9**
baz=12
H31M Peel River 74.81 350 P **P 21 50 44.4 +0.7**
baz=20
E19K Redstone River 74.86 359 P **P 21 50 44.4 +0.5**
baz=1.2,SNR=12
E18K Tukpahlearik C 74.89 1 P **P 21 50 45.4 +1.2**
baz=358
COLD Coldfoot 74.90 357 P **P 21 50 45.1 +1.0**
baz=7.0
H29M Whitestone 74.93 352 P **P 21 50 44.8 +0.5**
baz=16
F21K Alatna River 75.03 358 P **P 21 50 44.6 -0.3**
baz=4.3,SNR=7.1
G25K Bearman Lake 75.11 355 P **P 21 50 45.5 +0.1**
baz=10
F20K Avaraart Lake 75.25 359 P **P 21 50 46.0 -0.2**
baz=2.5
H27K Steamboat Moun 75.25 353 P **P 21 50 46.4 +0.1**
baz=14
G22K Bettles 75.26 357 P **P 21 50 46.6 +0.4**
baz=5.9
G24K Hadweenzic Riv 75.27 355 P **P 21 50 46.8 +0.5**
baz=9.2
G23K Bananza Creek 75.40 356 P **P 21 50 47.2 +0.1**
baz=7.1
MDJ Mudanjiang 75.41 44 P **P 21 50 50.6 +3.1**
MDJ pmax pmax
comp=Z,17nm,1.4s
MDJ pmax pmax
comp=Z,300nm,7.3s
F19K Shaleruckik Mo 75.49 360 P **P 21 50 47.9 +0.3**
baz=0.8,SNR=6.4
I30M Mount Dempster 75.64 350 P **P 21 50 48.8 +0.2**
baz=18,SNR=9.4
F18K Selawik 75.72 0 P **P 21 50 49.4 +0.6**
baz=359
G21K Allakaket 75.74 358 P **P 21 50 49.6 +0.6**
baz=4.3,SNR=6.4
I29M Ogilvie Camp, 75.75 351 P **P 21 50 50.0 +0.9**
baz=16,SNR=10.0
I28M Miner Creek 75.85 352 P **P 21 50 50.1 +0.3**
baz=15
H24K Noodor Dome 76.15 355 P **P 21 50 51.1 -0.4**
baz=8.8
G19K Purcell Mounta 76.18 359 P **P 21 50 51.8 +0.3**
baz=1.3
ULM Lac du Bonnet 76.20 324 P **P 21 50 51.5 -0.4**
comp=Z,3.5nm,0.9s,baz=48,slow=3.5,SNR=3.8
ULM LR LR 22 25 14.8
comp=Z,48nm,18.9s,baz=336,slow=36
comp=Z,3.5nm,0.9s
J30M Hart River 76.25 350 P **P 21 50 52.3 +0.2**
baz=18,SNR=8.6
H23K Yukon River 76.26 356 P **P 21 50 52.6 +0.6**
baz=7.5
H22K Ishtalitna Cre 76.28 357 P **P 21 50 52.4 +0.2**
baz=6.0
PRP Porcupine Dome 76.30 354 P **P 21 50 52.8 +0.4**
baz=11
I26K Coal Creek Min 76.31 353 P **P 21 50 53.0 +0.7**
baz=13
NJ2 Nanjing 76.38 60 *e*P **P 21 50 53.3 +0.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,120nm,4.3s
G18K Tagagawik 76.44 360 P **P 21 50 53.0 0.0**
baz=0.1
F15K North Star Dit 76.52 3 P **P 21 50 53.7 +0.3**
baz=355
TNA Tin City 76.52 4 P **P 21 50 53.8 +0.3**
baz=353
H21K Melozitna Rive 76.57 357 P **P 21 50 53.8 0.0**
baz=4.8,SNR=8.9
F14K Arctic Creek 76.69 3 P **P 21 50 54.7 +0.3**
baz=354
H19K Roundabout Mou 76.79 359 P **P 21 50 54.8 -0.1**
baz=1.9
H20K Anotleneega Mo 76.80 358 P **P 21 50 54.7 -0.3**
baz=3.1
G17K Kiwalik Mounta 76.82 1 P **P 21 50 54.7 -0.5**
baz=358
G16K Koyuk River 76.90 2 P **P 21 50 55.1 -0.5**
baz=357
I23K Minto, Yukon-K 76.93 356 P **P 21 50 55.7 0.0**
baz=7.6
USRK Ussuriysk Ar. 76.99 44 P **P 21 50 56.0 -0.5**
comp=Z,2.2nm,0.7s,baz=316,slow=4.0,SNR=3.3
comp=Z,2.2nm,0.7s
K29M Barlow Dome 77.11 351 P **P 21 50 56.9 -0.1**
baz=17
MLY Manley 77.11 357 P **P 21 50 58.0 +1.1**
baz=6.5
DAWY Dawson 77.13 351 P **P 21 50 57.6 +0.6**
baz=16
J26L Joseph Creek 77.14 353 P **P 21 50 57.7 +0.6**
baz=12
ILAR Eielson Array 77.14 355 P **P 21 50 57.5 +0.4**
comp=Z,0.9nm,1.0s,baz=359,slow=3.5,SNR=7.8
ILAR LR LR 22 25 28.6
comp=Z,21nm,21.5s,baz=260,slow=36
comp=Z,0.9nm,1.0s
H18K Honhosa River 77.18 360 P **P 21 50 57.5 +0.3**
baz=0.3
MMPY Sheldon Lake, 77.32 347 P **P 21 50 59.9 +1.8**
baz=22
H17K Granite Mounta 77.39 1 P **P 21 50 59.0 +0.6**
baz=359
K27K Chicken 77.46 353 P **P 21 50 59.2 +0.4**
baz=13
HDA Harding Lake 77.51 355 P **P 21 51 00.0 +1.0**
baz=9.5

H16K Elim 77.66 2 P **P 21 51 01.4 +1.5**
baz=357
SCRK Sand Creek 77.69 353 P **P 21 51 00.8 +0.5**
baz=12
KMSC Kings Mountain 77.89 305 P **P 21 51 02.6 +0.9**
baz=52
L29M L29M 77.89 351 P **P 21 51 01.3 0.0**
baz=16
FARO Faro, Yukon 78.04 348 P **P 21 51 02.5 +0.5**
baz=20
BPAW Bear Paw Mtn. 78.06 357 P **P 21 51 02.1 -0.1**
baz=6.2
J20K Nowinta River 78.10 358 P **P 21 51 01.4 -0.9**
baz=3.7
M31M Drury Creek, Y 78.23 349 P **P 21 51 03.0 -0.1**
baz=19
J19K Poorman 78.32 359 P **P 21 51 02.8 -0.8**
baz=2.5
CHUM Lake Minchumin 78.33 357 P **P 21 51 03.3 -0.3**
baz=5.2
L27K Beaver Creek, 78.38 352 P **P 21 51 04.4 +0.5**
baz=14
M29M Somme Creek 78.58 351 P **P 21 51 05.7 +0.5**
baz=16,SNR=13
CAST Castle Rocks 78.78 357 P **P 21 51 05.2 -1.0**
baz=5.3
DHY Denali Highway 78.86 355 P **P 21 51 06.2 -0.6**
baz=9.1
J18K Innoko River 78.86 359 P **P 21 51 07.1 +0.5**
baz=1.6
K20K Telida 78.92 358 P **P 21 51 06.1 -0.8**
baz=3.8
J17K VABM Dome 78.94 0 P **P 21 51 06.5 -0.5**
baz=360
KSRS Korea Array 78.97 51 P **P 21 51 07.0 -0.6**
comp=Z,2.6nm,0.5s,baz=310,slow=4.4,SNR=11
KSRS LR LR 22 31 27.6
comp=Z,46nm,18.6s,baz=35,slow=40
comp=Z,2.6nm,0.5s
KSRS Korea Array 78.97 51 P **P 21 51 07.0 -0.6**
J16K Anvik River 79.05 1 P **P 21 51 06.8 -0.8**
baz=358
TKL Tuckaleechee C 79.13 307 LR LR 22 28 14.2
comp=Z,25nm,18.0s,baz=88,slow=37
PPLA Purkeypile 79.31 357 P **P 21 51 09.3 +0.1**
baz=5.2
N30M Aishikik Lake 79.34 350 P **P 21 51 09.6 +0.3**
baz=17
WAT6 Susitna Watana 79.38 355 P **P 21 51 09.8 +0.2**
baz=8.8
YUK3 Moose Creek 79.47 351 P **P 21 51 10.6 +0.4**
baz=15
J14K Nanvaranak Lak 79.52 2 P **P 21 51 10.7 +0.6**
baz=356
TOAD Toad River Com 79.56 343 P **P 21 51 10.7 +0.1**
baz=26
K17K Iditarod 79.63 360 P **P 21 51 11.0 +0.2**
K17K IAmb IAmb 21 51 22.8
comp=Z,5.3nm,0.9s
K17K Iditarod 79.63 360 P **P 21 51 10.6 -0.2**
baz=0.3
L20K Farewell, AK 79.79 358 P **P 21 51 12.1 +0.4**
baz=3.9
P33M Teslin, Yukon 79.84 347 P **P 21 51 12.2 +0.1**
baz=20
O30N Mendenhall 79.85 349 P **P 21 51 11.9 -0.2**
baz=18
YUK8 Steele Glacier 79.86 351 P **P 21 51 12.0 -0.4**
baz=15
HYT Haines Junctio 80.00 350 P **P 21 51 11.7 -1.3**
baz=17
YUK6 Outpost Mounta 80.01 350 P **P 21 51 11.3 -1.9**
baz=16
K15K Wolf Creek Mou 80.03 1 P **P 21 51 12.4 -0.5**
baz=358
N25K Chitina, Valde 80.08 353 P **P 21 51 11.3 -2.0**
baz=11
SCM Sheep Creek Mo 80.09 355 P **P 21 51 13.3 0.0**
baz=9.1
L18K Granite Mounta 80.11 359 P **P 21 51 12.9 -0.5**
baz=1.6
L19K White Mountain 80.12 358 P **P 21 51 13.5 0.0**
baz=3.1
SKT Skwentna 80.20 357 P **P 21 51 13.6 -0.3**
baz=5.8
L17K Donlin 80.21 360 P **P 21 51 14.3 +0.4**
baz=0.3
R33M Jennings River 80.27 346 P **P 21 51 14.0 -0.4**
baz=22
K13K Kusilvak Mount 80.30 3 P **P 21 51 14.3 0.0**
baz=355
M20K Styx River 80.36 357 P **P 21 51 13.6 -1.2**
baz=4.5
M19K Big River Lodg 80.38 358 P **P 21 51 14.0 -0.8**
baz=3.5
L16K Owhat River 80.64 0 P **P 21 51 16.4 +0.3**
baz=359
L15K Ungalak Mounta 80.64 1 P **P 21 51 15.9 -0.3**
baz=358
O29M Mount Kennedy 80.66 350 P **P 21 51 16.4 -0.1**
baz=16
SUA Susitna One 80.67 356 P **P 21 51 16.9 +0.4**
baz=6.4
M18K Stony River 80.83 359 P **P 21 51 17.3 +0.1**
baz=2.3
Q32M Nakina River 80.92 346 P **P 21 51 18.1 +0.1**
baz=21
M17K Holitna River 80.94 359 P **P 21 51 17.9 +0.1**
baz=1.0
L14K Kuka Creek 80.95 2 P **P 21 51 17.9 0.0**
baz=357
DLBC Dease Lake 80.97 345 P **P 21 51 16.5 -1.7**
baz=23
RC01 Rabbit Creek A 80.99 356 P **P 21 51 17.1 -1.0**
baz=7.2
ECSD EROS Data Cent 81.12 320 P **P 21 51 18.9 -0.3**
baz=45
P29M Windy Craggy 81.19 349 P **P 21 51 18.9 -0.3**
baz=17
EYAK Cordova Ski Ar 81.23 354 P **P 21 51 18.8 -0.5**
baz=10
M16K Timber Creek 81.33 0 P **P 21 51 20.0 +0.1**
M16K IAmb IAmb 21 51 30.3
comp=Z,6.6nm,0.8s
M16K Timber Creek 81.33 0 P **P 21 51 20.0 +0.1**
baz=360
WVT Waverly 81.35 309 P **P 21 51 21.0 +0.5**
baz=49
M14K Bethel 81.56 2 P **P 21 51 19.9 -1.2**
baz=357
M15K Kasigluk River 81.64 1 P **P 21 51 20.2 -1.4**
baz=358
N18K Kilae Creek 81.64 359 P **P 21 51 21.7 0.0**
baz=2.3
PETK Petropavlovsk- 81.71 25 LR LR 22 33 45.9
comp=Z,82nm,18.1s,baz=312,slow=40
N16K Nishlik Lake 81.88 0 P **P 21 51 21.2 -1.6**
baz=360
O17K Koliganek Bris 82.57 359 P **P 21 51 26.4 -0.1**
baz=1.3
BDFB Brasilia 83.99 245 LR LR 22 30 22.8
comp=Z,81nm,18.0s,baz=128,slow=37
MJAR Matsushiro Arr 85.67 46 P **P 21 51 42.7 -0.1**
comp=Z,2.3nm,0.8s,baz=324,slow=4.2,SNR=5.7
comp=Z,2.3nm,0.8s
COCO West Island 86.32 108 *i* P P 21 51 54.8 +8.7
NEW Newport 86.49 334 LR LR 22 34 35.8
comp=Z,37nm,18.7s,baz=46,slow=38
PDAR Pinedale Array 88.04 326 P **P 21 51 55.8 +1.3**
comp=Z,1.0nm,0.9s,baz=36,slow=6.7,SNR=6.7
comp=Z,1.0nm,0.9s
ELK Elko 92.12 328 LR LR 22 35 49.9
comp=Z,38nm,18.4s,baz=10,slow=37
CPUP Villa Florida 97.50 243 LR LR 22 38 56.0
comp=Z,83nm,18.3s,baz=68,slow=37
PFO Pinyon Flats O 98.64 325 LR LR 22 39 59.9
comp=Z,31nm,18.1s,baz=172,slow=37
WRA Warramunga Arr 119.92 93 PKP **PKPdf 21 57 53.4 -1.3**
comp=Z,1.1nm,1.1s,baz=318,slow=1.9,SNR=6.9
ASAR Alice Springs 121.55 97 PKP **PKPdf 21 57 57.2 -0.5**
comp=Z,0.3nm,0.4s,baz=318,slow=1.5,SNR=5.4

*ISK **05** 21:44:51.4, 38°.73N×43°.47E, h5km, ML2.7/13*
*AFAD **05** 21:44:52.7±0.0, 38°.73N×43°.41E, h7km±3km, MW3.0*
ISC 05 21:44:52.8±0.9, 38°.74N±0°.03×43°.43E±0°.03, h15km±7km, n23, σ0s67/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**191**	Pg	**Pg**	**21 44 56.9**	**+0.2**
TVAN	**Van**	**0.21**	**184**	P	**Pg**	**21 44 57.3**	**-0.4**
TVAN				S	**Sg**	**21 45 01.4**	**+0.4**
TVAN				*i* AML	AML	21 45 06.0	
	comp=N,2μm,0.6s						
TVAN				*i* AML	AML	21 45 09.0	
	comp=Z,2μm,0.5s						
TVAN				*i* AML	AML	21 45 09.0	
	comp=E,3μm,0.7s						
VMUR	**Van-Muradiye**	**0.28**	**24**	P	**Pg**	**21 44 58.3**	**-0.5**
VMUR				S	**Sb**	**21 45 03.7**	**-0.5**
VMUR				*i* AML	AML	21 45 04.0	
	comp=N,2μm,0.3s						
VMUR				*i* AML	AML	21 45 04.0	
	comp=E,2μm,0.4s						
ERCV	**ERCIS-VAN**	**0.29**	**346**	Pg	**Pg**	**21 44 58.9**	**-0.1**
ERCV				Sg	**Sb**	**21 45 04.2**	**-0.4**
OZAP	**Van, Ozalp-Mer**	**0.45**	**100**	P	**Pb**	**21 45 02.3**	**-0.3**
OZAP				S	**Sb**	**21 45 10.0**	**+0.7**
OZAP				*i* AML	AML	21 45 14.0	
	comp=E,263nm,0.7s						
OZAP				*i* AML	AML	21 45 18.0	
	comp=N,301nm,0.7s						
GEVA	**Gevas**	**0.51**	**214**	P	**Pg**	**21 45 02.4**	**-0.6**
GEVA				S	**Sb**	**21 45 10.2**	**-0.8**
GEVA				*i* AML	AML	21 45 15.0	
	comp=N,221nm,0.4s						
GEVA				*i* AML	AML	21 45 23.0	
	comp=E,180nm,0.5s						
AKDM	**Akdamar-Van**	**0.54**	**221**	Pg	**Pg**	**21 45 03.1**	**-0.4**
AKDM				Sg	**Sb**	**21 45 12.2**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.55**	**277**	P	**Pb**	**21 45 04.2**	**-0.1**
ADCV				S	**Sb**	**21 45 11.9**	**-0.3**
ADCV				*i* AML	AML	21 45 16.0	
	comp=E,214nm,0.2s						
ADCV				*i* AML	AML	21 45 20.0	
	comp=N,169nm,0.3s						
CLDR	**Caldiran**	**0.56**	**43**	Pg	**Pg**	**21 45 02.8**	**-1.1**
CLDR				Sg	**Sb**	**21 45 11.5**	**-0.8**
CLDR	**Caldiran**	**0.56**	**43**	P	**Pg**	**21 45 03.1**	**-0.8**
CLDR				*i* AML	AML	21 45 12.0	
	comp=N,2μm,0.3s						
CLDR				*i* AML	AML	21 45 12.0	
	comp=E,2μm,0.5s						
CLDR				S	**Sb**	**21 45 12.1**	**-0.3**
CLDR				*i* AML	AML	21 45 14.0	
	comp=Z,496nm,0.6s						
MLAZ	**Malazgirt-MUS**	**0.79**	**301**	Pg	**Pb**	**21 45 08.2**	**-0.2**
MLAZ				Sg	**Sn**	**21 45 21.4**	**+0.1**
DORK	**Agr/Tutak/Do**	**0.82**	**322**	P	**Pb**	**21 45 08.6**	**-0.3**
DORK				S	**Sb**	**21 45 20.9**	**+1.0**
DORK				*i* AML	AML	21 45 21.0	
	comp=N,259nm,0.3s						
DORK				*i* AML	AML	21 45 22.0	
	comp=Z,232nm,0.4s						
DORK				*i* AML	AML	21 45 22.0	
	comp=E,298nm,0.4s						
DYDN	**Diyadin**	**0.83**	**14**	P	**Pb**	**21 45 09.3**	**+0.2**
DYDN				S	**Sb**	**21 45 20.5**	**+0.3**
DYDN				*i* AML	AML	21 45 33.0	
	comp=E,99nm,0.5s						
DYDN				*i* AML	AML	21 45 35.0	
	comp=N,84nm,1.0s						
AGRB	**Hanur-Agry**	**0.90**	**338**	Pg	**Pg**	**21 45 09.7**	**-0.6**
AGRB				Sg	**Sb**	**21 45 23.8**	**+1.6**
KOTA	**Agri, Merkez-K**	**1.08**	**351**	P	**Pb**	**21 45 13.4**	**+0.1**
KOTA				S	**Sg**	**21 45 27.2**	**-0.5**
KOTA				*i* AML	AML	21 45 33.0	
	comp=N,24nm,0.4s						
KOTA				*i* AML	AML	21 45 34.0	
	comp=E,27nm,0.6s						
GURO	**Guroymak-BITLI**	**1.11**	**261**	Pn	**Pg**	**21 45 13.2**	**-1.0**
IGDI	**IGDIR**	**1.24**	**24**	P	**Pn**	**21 45 16.4**	**+0.8**
IGDI				S	**Sn**	**21 45 33.4**	**+1.3**
IGDI				*i* AML	AML	21 45 37.0	
	comp=E,52nm,0.6s						
IGDI				*i* AML	AML	21 45 38.0	
	comp=N,50nm,0.7s						
TASB	**TASBURUN-IGDIR**	**1.39**	**27**	Pn	**Pg**	**21 45 19.1**	**-0.5**
VRTB	**Varto-Mus**	**1.59**	**286**	Pn	**Pb**	**21 45 22.4**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.84**	**252**	Pn	**Pb**	**21 45 25.6**	**-0.7**
KARS	**Kars**	**1.91**	**352**	Pn	**Pb**	**21 45 26.6**	**-0.8**
SENK	**Senkaya-Erzuru**	**2.00**	**336**	Pn	**Pb**	**21 45 28.4**	**-0.6**
BNGB	**Bingl**	**2.16**	**278**	Pn	**Pb**	**21 45 31.1**	**-0.6**

*IPEC **05** 21:55:31.9±0.3, 49°.82N×18°.52E, h1km, ML2.3/4, Error ellipse: s-maj=2.0km s-min=1.6km az=77.0*
*PRU **05** 21:55:32.5, 49°.82N×18°.49E, h0km, Mining Induced Event Darkov, E=3.0e+05*
*VIE **05** 21:55:33.9±1.0, 49°.73N×18°.33E, h0km, mb2.3/7, ml2.5/6, Error ellipse: s-maj=7.6km s-min=4.9km az=75.0, Suspected Mining induced.*
ISC 05 21:55:31.6±0.8, 49°.81N±0°.03×18°.48E±0°.02, h0km, n41, σ0s81/70, 6C-8D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**277**	*e*PG	**Pg**	**21 55 37.3**	**+1.6**
OKC				*e*SG	**Sg**	**21 55 40.3**	**+1.8**
	comp=Z,336nm,0.6s						
MORC	**Moravsky Berou**	**0.61**	**267**	⇑P	**Pb**	**21 55 44.4**	**-0.7**
MORC				⇓S	**Sb**	**21 55 54.5**	**+0.3**
MORC	**Moravsky Berou**	**0.61**	**267**	*e*Pg	**Pg**	**21 55 43.8**	**+0.6**
	baz=86						
MORC				*e*Sg	**Sg**	**21 55 51.6**	**+0.5**
	67nm,0.6s,baz=86						
LANS	**Liptovska Anna**	**0.92**	**135**	*e*PG	**Pg**	**21 55 49.7**	**+0.5**
LANS				*e*SG	**Sb**	**21 56 03.3**	**0.0**
LANS				*e*LG	Lg	21 56 09.7	
OJC	**Ojcow**	**0.94**	**64**	*e*Pg	**Pg**	**21 55 48.9**	**-0.7**
OJC				*e*Sg	**Sg**	**21 56 02.1**	**+0.3**
JAVC	**Velka Javorina**	**1.09**	**209**	*e*Pg	**Pb**	**21 55 53.2**	**-0.1**
	baz=30						
KRLC	**Kraliky**	**1.13**	**284**	*e*PG	**Pg**	**21 55 52.1**	**-1.1**
KRLC				*e*SG	**Sb**	**21 56 09.2**	**0.0**
NIE	**Niedzica**	**1.25**	**108**	*e*Pg	**Pb**	**21 55 56.1**	**+0.1**
NIE				*e*Sg	**Sn**	**21 56 14.8**	**+1.0**
VRAC	**Vranov**	**1.33**	**248**	⇓P	**Pg**	**21 55 56.9**	**-0.1**
VRAC				⇑S	**Sb**	**21 56 14.7**	**-0.2**
VRAC	**Vranov**	**1.33**	**248**	*e*Pg	**Pg**	**21 55 57.1**	**+0.1**
	baz=67						
VRAC				*e*Sg	**Sb**	**21 56 14.6**	**-0.3**
	34nm,0.3s,baz=67						
VYHS	**Vyhne**	**1.34**	**170**	*e*PG	**Pg**	**21 55 56.9**	**-0.3**
VYHS				*e*SG	**Sn**	**21 56 16.0**	**0.0**
DPC	**Dobruska-Polom**	**1.49**	**292**	*e*PG	**Pn**	**21 55 59.2**	**-0.5**
DPC				*e*SG	**Sg**	**21 56 19.3**	**-0.1**
	comp=Z,15nm,0.5s						
KRUC	**Moravsky**	**1.55**	**242**	*e*Pg	**Pn**	**21 56 00.4**	**-0.1**
	baz=61						
KRUC				*e*Sg	**Sn**	**21 56 21.3**	**0.0**
	29nm,0.5s,baz=61						
OSTC	**Ostas**	**1.64**	**298**	*e*PG	**Pn**	**21 56 01.7**	**+0.1**
OSTC				*e*SG	**Sg**	**21 56 24.4**	**+0.3**
	comp=Z,38nm,0.9s						
MODS	**Modra-Piesok**	**1.64**	**209**	*e*PG	**Pn**	**21 56 01.8**	**+0.1**
MODS				*e*SG	**Sb**	**21 56 24.0**	**+0.1**
MODS				*e*LG	Lg	21 56 28.6	
UPC	**Upice**	**1.73**	**295**	*e*PG	**Pn**	**21 56 03.4**	**+0.5**
UPC				*e*SG	**Sg**	**21 56 27.4**	**+0.2**
KSP	**Ksiaz**	**1.74**	**307**	*e*Pg	**Pn**	**21 56 02.7**	**-0.3**
KSP				*e*Sg	**Sg**	**21 56 27.4**	**0.0**
CHVC	**Chvalec**	**1.74**	**297**	*e*PG	**Pn**	**21 56 03.5**	**+0.4**
STHS	**Stebnicka Huta**	**1.84**	**101**	*e*PN	**Pb**	**21 56 05.7**	**-0.4**
STHS				*e*LG	Lg	21 56 34.5	
ZST	**Bratislava**	**1.85**	**210**	*e*PN	**Pn**	**21 56 04.8**	**+0.2**
ZST				*e*SN	**Sn**	**21 56 29.0**	**+0.3**
KECS	**Kecovo**	**1.87**	**135**	*e*PN	**Pn**	**21 56 04.3**	**-0.5**
KECS				*e*SN	**Sn**	**21 56 30.0**	**+0.9**
KECS				*e*LG	Lg	21 56 35.2	
PSZ	**Piszkesteto**	**2.11**	**153**	⇓P	**Pn**	**21 56 09.0**	**+0.8**
PSZ				⇑S	**Sn**	**21 56 35.4**	**+0.2**
CRVS	**Cervenica-Dubn**	**2.15**	**114**	*e*PN	**Pb**	**21 56 11.4**	**0.0**
GOPC	**GO Pecny, Ondr**	**2.39**	**274**	*e*PG	**Pb**	**21 56 14.6**	**-0.9**
PRU	**Pruhonice**	**2.55**	**275**	*e*SG	**Sg**	**21 56 53.1**	**-0.4**
	comp=Z,19nm,1.2s						
CONA	**Conrad Observa**	**2.56**	**224**	*e*Pn	**Pn**	**21 56 13.1**	**-1.2**
	1.8nm,0.3s						
CONA				*e*Sn	**Sn**	**21 56 44.5**	**-1.7**
	6.8nm,0.4s						

RONA	**Rosalia, Austr**	2.56 215	*e*Pn	Pn	21 56 14.5	+0.2
	5.1nm,0.3s					
RONA			*e*Sg	Sn	21 56 47.9	+1.7
	2.9nm,0.3s					
KOLS	**Kolonicke sedl**	2.63 108	*e*PG	Pg	21 56 22.2	+0.3
KOLS			*e*LG	Lg	21 57 07.0	
CKRC	**Cesky Krumlov**	2.90 252	*e*PG	Pg	21 56 25.8	-1.4
CKRC			*e*SG	Sg	21 57 03.6	-1.2
	comp=Z,9.8nm,0.5s					
BRG	**Berggiesshubel**	3.10 292	Pg	Pb	21 56 28.5	+1.1
BRG			Sg	Sg	21 57 10.0	-0.9
BRG			Amp		21 57 16.1	
	comp=Z,5.6nm,0.6s					
KHC	**Kasperske Hory**	3.27 260	*e*PN	Pn	21 56 23.9	-0.2
KHC			*e*PG	Pb	21 56 30.9	+0.5
KHC			*e*SG	Sg	21 57 16.6	+0.1
	comp=Z,10nm,0.7s					
MOA	**Molln**	3.41 236	*i* Pn	Pn	21 56 25.3	-0.6
	comp=Z,0.5nm,0.2s					
MOA			Sg	Sg	21 57 19.6	-1.3
	comp=Z,2.1nm,0.3s					
CLL	**Collm**	3.80 295	*e*Pg	Pg	21 56 44.0	-0.3
CLL			*e*Sg	Sg	21 57 32.0	-1.6
	comp=Z,10.0nm,1.0s					
BIOA	**Bad Ischl, Aus**	3.84 238	*e*Sg	Sg	21 57 34.0	-0.9
	comp=Z,6.7nm,0.4s					
DRGR		4.14 135	⇓P	Pn	21 56 35.8	-0.2
DRGR			⇓S	Sn	21 57 23.4	-1.7
SIRR	**Siria**	4.14 148	⇓P	Pn	21 56 35.9	-0.1
MARR	**Marisel-Cluj**	4.41 134	⇓P	Pn	21 56 39.7	-0.1
MARR			⇑S	Sn	21 57 31.8	-0.1
LESA	**Schwarzleotal**	4.53 240	Pg	Pb	21 56 54.9	+2.9
	comp=Z,1.3nm,0.4s					
BZS	**Buzias**	4.70 152	⇑P	Pn	21 56 43.4	-0.3
SURR	**Surduc**	4.75 147	⇑P	Pn	21 56 44.5	+0.2
BURAR	**Bucovina Array**	4.97 114	⇓P	Pn	21 56 48.3	+0.8

IDC 05 22:08:49.8±1.2, 25°32S×70°20E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=46.2km s-min=32.4km az=38.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	17.71	7	T	T	22 31 20.7	
	baz=188,slow=76,SNR=20						
H08S2	**Diego Garcia H**	17.71	7	T	T	22 31 08.0	
	baz=188,slow=76,SNR=29						
H08S3	**Diego Garcia H**	17.73	7	T	T	22 31 08.7	
	baz=188,slow=76,SNR=22						
ASAR	**Alice Springs**	57.49 103		P	P	22 18 41.2	0.0
	0.5nm,0.7s,baz=252,slow=6.9,SNR=5.0						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	58.96 99		P	P	22 18 51.7	+0.2
	0.5nm,0.9s,baz=259,slow=7.4,SNR=1.6						
	0.5nm,0.9s						
VNDA	**Vanda**	65.83 166		P	P	22 19 36.2	-0.3
	0.6nm,0.7s,baz=248,slow=6.9,SNR=3.8						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	72.60 9		P	P	22 20 18.8	0.0
	0.3nm,0.7s,baz=190,slow=7.3,SNR=2.8						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	76.89 291		P	P	22 20 44.5	+0.2
	0.4nm,0.7s,baz=114,slow=1.7,SNR=2.1						
	0.4nm,0.7s						

*IDC **05** 22:16:23.2±0.6, 29°04S×178°12W, h0km, mb4.3/8, mbtmp4.3/9, ML3.6/1, MS3.4/9, Error ellipse: s-maj=22.0km s-min=8.4km az=46.0*

*NEIC **05** 22:16:26.9±1.2, 29°2S±0°1×178°37W±0°05, h13km±5km, mb4.6/17, Error ellipse: s-maj=18.4km s-min=5.0km az=191.0*

ISC 05 22:16:26.1±0.6, 29°02S±0°08×178°30W±0°07, h10km, n61, σ1$60/45, mb4.6/18, MS3.6/7, 5C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	0.41 124		Pg	Pg	22 16 34.5	+0.4
RAO				Sg	Sb	22 16 40.4	-1.1
RAO	**Raoul Island**	0.41 124		Pn	Pg	22 16 34.3	+0.2
	2μm,0.3s,baz=308,slow=17,SNR=129						
RAO				Sn	Sb	22 16 41.7	+0.1
	5μm,0.3s,baz=306,slow=19,SNR=27						
URZ	**Urewera**	9.97 201		Pn	Pn	22 18 49.6	+0.2
	0.5nm,0.3s,baz=34,slow=13,SNR=5.7						
URZ				Sn	Sn	22 20 43.8	+2.5
	0.4nm,0.3s,baz=117,slow=17,SNR=1.5						
	6.3nm,0.6s						
TOZ	**Tahuroa Road**	10.11 209			Pn	22 18 48.6	-2.6
RTZ	**Ruatahuna**	10.34 201		Pn	Pn	22 18 51.7	-2.8
DZM	**Mont Dzumac**	15.40 293		*e*LR	LR	22 23 48.3	
	352nm,23.2s						
DZM	**Mont Dzumac**	15.40 293		LR	LR	22 24 51.4	
	comp=Z,292nm,18.4s,baz=94,slow=33						
RAR	**Rarotonga**	18.48 69		LR	LR	22 27 26.7	
	comp=Z,29nm,18.8s,baz=218,slow=36						
TBI	**Tubuai**	26.45 84		*e*S	S	22 27 13.6	+36
	2μm,35.2s						
TBI				*e*LR	LR	22 28 48.2	
	304nm,26.5s						
PPT2	**Papeete2**	28.65 73		*e*S	S	22 27 50.1	+38
	180nm,31.8s						
PPT2				*e*LR	LR	22 29 43.4	
	68nm,25.2s						
PPT2				*e*LR	LR	22 29 53.0	
	92nm,30.0s						
TOO	**Toolangi**	31.29 245		P	P	22 22 45.2	-1.1
TOO				IAmb	IAmb	22 22 46.9	
	comp=Z,10nm,1.1s						
CTA	**Charters Tower**	33.34 277		LR	LR	22 34 36.8	
	comp=Z,9.7nm,19.7s,baz=119,slow=33						
STKA	**Stephens Creek**	34.55 255		P	P	22 23 11.6	-3.4
STKA				IAmb	IAmb	22 23 16.4	
	comp=Z,3.4nm,1.1s						
STKA	**Stephens Creek**	34.55 255		P	P	22 23 15.4	+0.5
	comp=Z,6.3nm,0.9s,baz=100,slow=14,SNR=4.0						
	comp=Z,6.3nm,0.9s						
AS31	**Alice Springs**	42.94 266		P	P	22 24 24.3	-1.1
ASAR	**Alice Springs**	42.94 266		P	P	22 24 24.2	-1.2
ASAR	**Alice Springs**	42.94 266		P	P	22 24 24.5	-0.9
	comp=Z,6.8nm,0.8s,baz=105,slow=7.9,SNR=42						
ASAR				LR	LR	22 43 09.4	
	comp=Z,80nm,18.4s,baz=125,slow=37						
	comp=Z,6.8nm,0.8s						
WR0	**Warramunga Arr**	43.62 271		P	P	22 24 29.9	-1.0
WR0				IAmb	IAmb	22 24 31.9	
	comp=Z,8.1nm,0.9s						
WB2	**Warramunga Arr**	43.79 271		P	P	22 24 31.2	-1.1
WRAB	**Tennant Creek**	43.79 271		P	P	22 24 31.0	-1.4
WRAB				IAmb	IAmb	22 24 32.6	
	comp=Z,16nm,1.0s						
WRA	**Warramunga Arr**	43.80 271		P	P	22 24 31.2	-1.1
WRA	**Warramunga Arr**	43.80 271		P	P	22 24 31.0	-1.4
	comp=Z,9.1nm,0.8s,baz=109,slow=7.7,SNR=46						
	comp=Z,9.1nm,0.8s						
WB0	**Warramunga Arr**	43.82 271		P	P	22 24 31.4	-1.1
FORT	**Forrest**	46.16 254		P	P	22 24 49.0	-2.0
SBA	**Scott Base**	49.38 184		P	P	22 25 16.6	+1.3
SBA				IAmb	IAmb	22 25 17.8	
	comp=Z,9.6nm,0.9s						
VNDA	**Vanda**	49.43 186		P	P	22 25 15.6	-0.1
VNDA	**Vanda**	49.43 186		P	P	22 25 15.8	0.0
	comp=Z,0.9nm,0.7s,baz=22,slow=6.1,SNR=4.6						
VNDA				LR	LR	22 41 43.6	
	comp=Z,26nm,21.9s,baz=290,slow=31						
	comp=Z,0.9nm,0.7s						
FITZ	**Fitzroy Crossi**	52.11 269		P	P	22 25 36.1	-0.7
GUMO	**Guam**	55.32 315		LR	LR	22 47 25.7	
	comp=Z,28nm,20.1s,baz=135,slow=34						
QSPA	**South Pole Qui**	61.08 180		P	P	22 26 39.7	-0.4
QSPA				IAmb	IAmb	22 26 53.6	
	comp=Z,4.6nm,1.1s						
QSPA	**South Pole Qui**	61.08 180		P	P	22 26 40.3	+0.2
	comp=Z,8.2nm,1.2s,baz=43,slow=3.3,SNR=10						
	comp=Z,8.2nm,1.2s						
BELA	**Belgrano 2**	71.18 172		P	P	22 27 43.1	-1.4
BELA				IAmb	IAmb	22 27 43.8	
	comp=Z,5.4nm,1.0s						
MAW	**Mawson**	73.50 200		LR	LR	22 58 52.5	
	comp=Z,38nm,18.4s,baz=120,slow=35						
JOW	**Kunigami**	75.55 312		LR	LR	22 58 05.2	
	comp=Z,88nm,19.6s,baz=126,slow=33						
MJAR	**Matsushiro Arr**	76.97 325		P	P	22 28 17.5	-1.4
	comp=Z,0.8nm,0.4s,baz=167,slow=7.2,SNR=4.8						
	comp=Z,0.8nm,0.4s						

TROLL	**Troll, Antarti**	79.24 180	⇑P	P	22 28 29.5	-1.8
	comp=Z,91nm,0.6s					
SNAA	**Sanae**	79.53 179		P	22 28 31.6	-1.1
SNAA	**Sanae**	79.53 179	⇑P	P	22 28 30.5	-2.3
	comp=Z,48nm,0.9s					
SNAA	**Sanae**	79.53 179	P	P	22 28 31.6	-1.1
	comp=Z,2.4nm,0.9s,baz=180,slow=20,SNR=7.4					
	comp=Z,2.4nm,0.9s					
VNA3	**Neumayer Olymp**	79.69 176	⇑P	P	22 28 32.3	-1.2
	comp=Z,14nm,0.8s					
VNA2	**Neumayer--Watz**	80.12 177	⇑P	P	22 28 34.9	-1.0
	comp=Z,6.2nm,0.6s,baz=180,slow=3.9					
VNA1	**Neumayer--Stat**	80.35 177	⇑P	P	22 28 35.8	-1.3
	comp=Z,7.3nm,0.7s					
H03S2	**Juan Fernandez**	81.44 124	T	T	23 58 31.3	
	baz=239,slow=74,SNR=73					
H03S1	**Juan Fernandez**	81.45 124	T	T	23 58 31.0	
	baz=239,slow=74,SNR=70					
H03S3	**Juan Fernandez**	81.46 124	T	T	23 58 29.6	
	baz=239,slow=74,SNR=82					
PLCA	**Paso Flores**	83.64 133	LR	LR	23 01 27.4	
	comp=Z,40nm,18.2s,baz=156,slow=32					
O02D	**Mt. Diablo Mer**	86.00 39	P	P	22 29 08.2	+1.4
O02D			IAmb	IAmb	22 29 09.2	
	comp=Z,6.0nm,1.0s					
NVAR	**Mina Array Bea**	87.41 43	P	P	22 29 13.4	-0.5
	comp=Z,1.1nm,0.8s,baz=225,slow=8.8,SNR=6.3					
	comp=Z,1.1nm,0.8s					
KVN	**Kaiserville**	87.94 43	P	P	22 29 16.6	+0.3
KVN			IAmb	IAmb	22 29 28.3	
	comp=Z,2.0nm,1.1s					
ZALV	**Zalesovo Beam**	116.83 319	PKP	PKPdf	22 35 09.3	-1.0
	comp=Z,0.2nm,0.3s,baz=126,slow=2.5,SNR=1.5					
KURBB	**Kurchatov Arra**	119.95 314	PKP	PKPdf	22 35 15.0	-1.4
	comp=Z,0.4nm,0.4s,baz=108,slow=2.0,SNR=3.3					
H10N3	**ASCENSION HYDR**	140.16 154	T	T	01 12 46.3	
	baz=202,slow=76,SNR=111					
H10N1	**ASCENSION HYDR**	140.16 154	T	T	01 12 46.0	
	baz=202,slow=76,SNR=114					
H10N2	**ASCENSION HYDR**	140.18 154	T	T	01 12 46.7	
	baz=202,slow=76,SNR=93					
NB2	**NORSAR Subarra**	147.36 351	PKP	PKPdf	22 36 08.3	+1.3
	comp=Z,1.2nm,0.8s,baz=12,slow=2.9					
NOA	**NORSAR Array B**	147.36 351	PKPbc	PKPdf	22 36 08.3	+1.3
	comp=Z,2.2nm,0.8s,baz=14,slow=4.4,SNR=6.1					
HFS	**Hagfors**	147.85 349	PKPbc	PKPdf	22 36 09.2	+1.4
	comp=Z,3.0nm,0.8s,baz=0.0,slow=0.6,SNR=6.2					
AKASG	**Malin Array Be**	150.04 324	PKPbc	PKPdf	22 36 15.2	+3.6
	comp=Z,0.4nm,0.4s,baz=46,slow=2.0,SNR=7.5					
MMAI	**Mount Meron Ar**	150.92 286	PKPbc	PKPdf	22 36 17.4	+3.8
	comp=Z,0.3nm,0.3s,baz=56,slow=3.8,SNR=4.6					
BRTR	**Keskin Array B**	151.69 301	PKPbc	PKPdf	22 36 19.5	+4.7
	comp=Z,0.6nm,0.8s,baz=90,slow=1.4,SNR=4.5					
TORD	**Torodi Ar. Bea**	164.20 180	PKP	PKPdf	22 36 29.4	-1.1
	comp=Z,1.4nm,1.1s,baz=180,slow=3.3,SNR=4.0					
TORD			PKPab	PKPab	22 37 21.9	-2.0
	comp=Z,3.4nm,1.0s,baz=164,slow=2.9,SNR=9.7					

*IDC **05** 22:19:22.9±1.2, 28°98S×178°10W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=35.6km s-min=11.2km az=50.0*

ISC 05 22:19:28.0±1.1, 29°0S±0°2×178°1W±0°2, h35km, n13, σ1$09/8, mb3.9/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	0.32 153		Pn	Pn	22 19 35.1	-1.2
	2μm,0.3s,baz=75,slow=12,SNR=18						
RAO				Sn	Sn	22 19 42.0	+0.1
	4μm,0.3s,baz=0.0,slow=20,SNR=20						
ASAR	**Alice Springs**	43.13 265		P	P	22 27 25.0	-0.3
	1.0nm,0.6s,baz=99,slow=7.5,SNR=10						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	43.99 271		P	P	22 27 31.2	-1.1
	1.5nm,0.6s,baz=109,slow=7.7,SNR=13						
	1.5nm,0.6s						
QSPA	**South Pole Qui**	61.14 180		P	P	22 29 40.4	+1.6
	0.9nm,0.8s,baz=32,slow=1.2,SNR=2.0						
	0.9nm,0.8s						
H03S2	**Juan Fernandez**	81.32 124		T	T	00 01 27.7	
	baz=239						
H03S1	**Juan Fernandez**	81.33 124		T	T	00 01 29.0	
	baz=239						
H03S3	**Juan Fernandez**	81.34 124		T	T	00 01 28.4	
	baz=239						
NVAR	**Mina Array Bea**	87.24 43		P	P	22 32 10.9	-0.2
	0.2nm,0.5s,baz=208,slow=3.7,SNR=1.8						
	0.2nm,0.5s						
H10N3	**ASCENSION HYDR**	140.13 154		T	T	01 15 49.8	
	baz=202,slow=76,SNR=6.3						
H10N1	**ASCENSION HYDR**	140.14 154		T	T	01 15 49.9	
	baz=202,slow=76,SNR=6.1						
H10N2	**ASCENSION HYDR**	140.15 154		T	T	01 15 49.9	
	baz=202,slow=76,SNR=6.7						
NOA	**NORSAR Array B**	147.32 352		PKPbc	PKPbc	22 39 07.8	+0.5
	0.9nm,0.8s,baz=15,slow=4.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	164.26 179		PKPab	PKPab	22 40 22.8	+0.5
	0.6nm,0.9s,baz=190,slow=2.8,SNR=3.7						

*IDC **05** 22:19:29.6±1.2, 43°23N×46°34E, h67km±14km, mb3.3/10, mbtmp3.7/18, Error ellipse: s-maj=10.8km s-min=9.3km az=43.0*

*NAO **05** 22:19:29.5, 43°19N×45°49E, h33km, mb3.4*

*NORS **05** 22:19:30.3, 43°05N×46°41E, h89km±1km, MPVA4.4*

*TIF **05** 22:19:31.3, 43°16N×46°27E, h86km±1km*

*DRS **05** 22:19:31.6, 43°02N×46°36E, h75km*

*MOS **05** 22:19:31.9, 43°10N×46°29E, h81km±1km, MPVA4.5*

ISC 05 22:19:30.5±0.6, 43°15N±0°03×46°31E±0°02, h90km±5km, n132, σ2$21/227, mb3.7/15, 6C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	0.23 215		*i* Pg	Pn	22 19 44.7	+1.0
DVE				*e*Sg	Sn	22 19 54.0	+0.6
DVE	**Vedeno**	0.23 215		⇓*i*P	Pn	22 19 44.7	+1.0
DVE				*e*S	Sn	22 19 54.2	+0.8
DLMR	**Dylym**	0.25 108		*e*Pg	Pn	22 19 45.0	+1.4
DLMR				*e*Sg	Sn	22 19 54.5	+1.0
DLMR	**Dylym**	0.25 108		*e*P	Pn	22 19 45.1	+1.4
DLMR				S	Sn	22 19 54.2	+0.8
DLMR				*e*S		22 19 54.6	
DLMR				pmax	pmax		
	comp=Z,2μm,0.1s						
DLMR				smax	smax		
	comp=E,16μm,0.4s						
DBC	**Dubki**	0.40 109		*i* Pg	Pn	22 19 45.9	+1.2
DBC				*e*Sg	Sn	22 19 55.8	+0.7
DBC	**Dubki**	0.40 109		*e*P	Pn	22 19 45.8	+1.2
DBC				*e*S	Sn	22 19 55.6	+0.5
DBC				*e*S		22 19 55.9	
DBC				pmax	pmax		
	comp=Z,1μm,0.4s						
DBC				smax	smax		
	comp=N,3μm,0.3s						
DBC				smax	smax		
	comp=E,4μm,0.4s						
DBC				smax	smax		
	comp=E,4μm,0.3s						
BTLR	**Botlikh**	0.49 187		*i* Pg	Pn	22 19 46.2	+1.0
BTLR				*e*Sg	Sn	22 19 56.5	+0.3
BTLR	**Botlikh**	0.49 187		*e*P	Pn	22 19 46.2	+1.0
BTLR				*e*S	Sn	22 19 56.6	+0.5
BTLR				*e*S		22 19 56.9	
BTLR				pmax	pmax		
	comp=Z,323nm,0.9s						
BTLR				smax	smax		
	comp=N,4μm,0.4s						
BTLR				smax	smax		
	comp=E,3μm,0.4s						
BTLR				smax	smax		
	comp=N,3μm,0.4s						
KRNR	**Karanay**	0.55 126		*i* Pg	Pn	22 19 46.8	+1.0
KRNR				*e*Sg	Sn	22 19 57.5	+0.5
KRNR	**Karanay**	0.55 126		*e*P	Pn	22 19 46.7	+1.0
KRNR				*e*S	Sn	22 19 57.7	+0.7
KRNR				*e*S		22 19 57.9	
KRNR				pmax	pmax		
	comp=Z,486nm,0.5s						
KRNR				smax	smax		
	comp=N,2μm,0.4s						
KRNR				smax	smax		
	comp=E,3μm,0.4s						
KRNR				smax	smax		
	comp=E,2μm,0.3s						

UNCR	**Uncukul**	0.56 140	*e*Pg	Pn	22 19 46.4	+0.6
UNCR			*e*Sg	Sn	22 19 58.2	+1.0
UNCR	**Uncukul**	0.56 140	*e*P	Pn	22 19 46.5	+0.7
UNCR			*e*S	Sn	22 19 57.5	+0.3
UNCR			*e*S		22 19 57.9	
UNCR			pmax	pmax		
	comp=Z,297nm,0.2s					
UNCR			smax	smax		
	comp=E,2μm,0.6s					
UNCR			smax	smax		
	comp=N,3μm,0.5s					
UNCR			smax	smax		
	comp=N,2μm,0.5s					
BUJR	**Buynaksk**	0.67 119	*i* Pg	Pn	22 19 48.6	+1.9
BUJR			*e*Sg	Sn	22 20 01.4	+2.5
BUJR	**Buynaksk**	0.67 119	*e*P	Pn	22 19 48.7	+1.9
BUJR			*e*S	Sn	22 20 01.3	+2.5
BUJR			*e*S		22 20 01.6	
BUJR			pmax	pmax		
	comp=Z,702nm,0.8s					
BUJR			smax	smax		
	comp=E,7μm,0.3s					
BUJR			smax	smax		
	comp=N,5μm,0.5s					
BUJR			smax	smax		
	comp=E,5μm,0.5s					
XNZR	**Khunzakh**	0.67 154	*e*Pg	Pn	22 19 48.4	+1.4
XNZR			*e*Sg	Sn	22 20 00.8	+1.6
ARKR	**Arakani**	0.74 137	*e*Pg	Pn	22 19 48.7	+1.2
ARKR			*e*Sg	Sn	22 20 01.4	+1.2
ARKR	**Arakani**	0.74 137	*e*P	Pn	22 19 48.7	+1.2
ARKR			*e*S	Sn	22 20 01.6	+1.5
ARKR			*e*S		22 20 01.9	
ARKR			pmax	pmax		
	comp=Z,893nm,0.3s					
ARKR			smax	smax		
	comp=N,3μm,0.3s					
ARKR			smax	smax		
	comp=E,3μm,0.3s					
ARKR			smax	smax		
	comp=E,2μm,0.4s					
KANR	**Karaman**	0.87 87	*i* Pg	Pn	22 19 51.2	+2.6
KANR			*e*Sg	Sn	22 20 06.3	+4.1
KANR	**Karaman**	0.87 87	*e*P	Pn	22 19 51.1	+2.5
KANR			*e*S	Sn	22 20 05.5	+3.3
KANR			*e*S		22 20 05.8	
KANR			pmax	pmax		
	comp=Z,381nm,0.6s					
KANR			smax	smax		
	comp=E,2μm,0.2s					
KANR			smax	smax		
	comp=N,3μm,0.3s					
KANR			smax	smax		
	comp=N,2μm,0.4s					
MAK	**Makhachkala**	0.90 102	*e*Pg	Pn	22 19 51.2	+2.2
MAK			*e*Sg	Sn	22 20 05.7	+2.8
MAK	**Makhachkala**	0.90 102	⇑*i*P	Pn	22 19 51.2	+2.2
MAK			*e*		22 20 05.1	
MAK			pmax	pmax		
	comp=Z,272nm,0.3s					
MAK			smax	smax		
	comp=N,3μm,0.4s					
MAK			smax	smax		
	comp=N,4μm,0.4s					
GNBR	**Gunib**	0.90 147	*i* Pg	Pn	22 19 50.8	+1.6
GNBR			*e*Sg	Sn	22 20 04.8	+1.7
GNBR	**Gunib**	0.90 147	*e*P	Pn	22 19 50.9	+1.8
GNBR			*e*S	Sn	22 20 05.4	+2.3
GNBR			*e*S		22 20 05.8	
GNBR			pmax	pmax		
	comp=Z,301nm,0.3s					
GNBR			smax	smax		
	comp=N,2μm,0.3s					
GNBR			smax	smax		
	comp=E,2μm,0.6s					
GNBR			smax	smax		
	comp=E,2μm,0.6s					
SHTL	**Shatili**	0.98 240	P	Pn	22 19 51.1	+1.0
SHTL			S	Sn	22 20 05.8	+1.0
SHTL	**Shatili**	0.98 240	*e*Pg	Pn	22 19 51.1	+1.0
SHTL			*e*Sg	Sn	22 20 05.8	+1.0
SHTL	**Shatili**	0.98 240	*e*P	Pn	22 19 51.1	+1.0
SHTL			*e*S	Sn	22 20 05.7	+1.0
KMGR	**Komgaron**	1.06 265	*e*Pg	Pn	22 19 53.2	+2.3
KMGR			*e*Sg	Sn	22 20 08.8	+2.6
KMGR	**Komgaron**	1.06 265	*e*P	Pn	22 19 53.2	+2.3
KMGR			*e*S	Sn	22 20 08.8	+2.6
KMKR	**Kumukh**	1.17 150	*e*Pg	Pn	22 19 54.5	+2.0
KMKR			*e*Sg	Sn	22 20 10.7	+1.8
KMKR	**Kumukh**	1.17 150	*e*P	Pn	22 19 54.2	+1.8
KMKR			*e*S	Sn	22 20 10.7	+1.8
KMKR			*e*S		22 20 11.0	
KMKR			pmax	pmax		
	comp=Z,173nm,0.1s					
KMKR			smax	smax		
	comp=N,2μm,0.3s					
KMKR			smax	smax		
	comp=E,1μm,0.2s					
KMKR			smax	smax		
	comp=N,2μm,0.2s					
VLKR	**Vladikavkaz**	1.20 266	*e*Pg	Pn	22 19 54.7	+2.1
VLKR			*e*Sg	Sn	22 20 12.7	+3.5
VLKR	**Vladikavkaz**	1.20 266	*e*P	Pn	22 19 54.7	+2.1
VLKR			*e*S	Sn	22 20 12.7	+3.5
SGKR	**Sergokala**	1.21 124	*e*Pg	Pn	22 19 55.5	+2.8
SGKR			*e*Sg	Sn	22 20 10.6	+1.3
SGKR	**Sergokala**	1.21 124	*e*P	Pn	22 19 55.4	+2.8
SGKR			*e*S	Sn	22 20 12.7	+3.4
SGKR			*e*S		22 20 13.1	
SGKR			pmax	pmax		
	comp=Z,133nm,0.1s					
SGKR			smax	smax		
	comp=N,2μm,0.5s					
SGKR			smax	smax		
	comp=E,7.0nm,0.2s					
SGKR			smax	smax		
	comp=N,1μm,0.4s					
TRKR	**Terskaya**	1.28 297	*e*Pg	Pn	22 19 56.1	+2.6
TRKR			*e*Sg	Sn	22 20 14.6	+3.8
TRKR	**Terskaya**	1.28 297	*e*P	Pn	22 19 56.1	+2.6
TRKR			*e*S	Sn	22 20 14.9	+4.1
CHRG	**Chargali**	1.31 232	P	Pn	22 19 55.9	+1.9
CHRG			S	Sn	22 20 15.1	+3.5
BTKR	**Batakoyurt**	1.31 280	*i* Pg	Pn	22 19 56.4	+2.5
BTKR			*e*Sg	Sn	22 20 15.4	+3.9
BTKR	**Batakoyurt**	1.31 280	⇑*i*P	Pn	22 19 56.5	+2.6
BTKR			*e*S	Sn	22 20 15.4	+3.9
LGD	**Lagodekhi**	1.31 182	P	Pn	22 19 55.3	+1.4
LGD			S	Sn	22 20 13.2	+1.6
LGD	**Lagodekhi**	1.31 182	*e*Pg	Pn	22 19 55.3	+1.4
LGD			*e*Sg	Sn	22 20 13.2	+1.6
LGD	**Lagodekhi**	1.31 182	*e*P	Pn	22 19 55.3	+1.4
LGD			*e*S	Sn	22 20 13.2	+1.6
MTEO	**Meteo**	1.39 251	P	Pn	22 19 56.3	+1.0
MTEO			S	Sn	22 20 14.0	+0.2
MTEO	**Meteo**	1.39 251	*e*P	Pn	22 19 56.2	+1.0
MTEO			*e*S	Sn	22 20 14.0	+0.2
URKR	**Urkarakh**	1.39 135	*e*Pg	Pn	22 19 57.2	+2.2
URKR			*e*Sg	Sn	22 20 15.6	+2.2
URKR	**Urkarakh**	1.39 135	*e*P	Pn	22 19 56.9	+1.9
URKR			*e*S	Sn	22 20 15.3	+1.9
URKR			*e*S		22 20 15.6	
URKR			pmax	pmax

PRTR eSg Sn 22 20 21.5 +3.7
PRTR Priterechnaya 1.59 293 ⇑iP Pn 22 20 00.0 +2.6
PRTR eS Sn 22 20 21.5 +3.7
STDR Stavd-Durt 1.65 278 ePg Pn 22 20 00.6 +2.4
STDR eSg Sn 22 20 22.3 +3.1
STDR Stavd-Durt 1.65 278 eP Pn 22 20 00.6 +2.4
STDR eS Sn 22 20 22.3 +3.1
LSNR Lesken 1.82 275 ePg Pn 22 20 02.4 +2.1
LSNR eSg Sn 22 20 25.1 +2.0
LSNR Lesken 1.82 275 eP Pn 22 20 02.5 +2.1
LSNR eS Sn 22 20 25.4 +2.3
DGRG David-gareji 1.83 203 P Pn 22 20 02.2 +1.6
DGRG David-gareji 1.83 203 ePg Pn 22 20 02.2 +1.6
DGRG David-gareji 1.83 203 eP Pn 22 20 02.2 +1.6
DRN Derbent 1.87 126 ePg Pn 22 20 04.0 +3.1
DRN eSg Sn 22 20 28.2 +4.2
DRN Derbent 1.87 126 eP Pn 22 20 03.9 +3.0
DRN eS Sn 22 20 27.6 +3.6
DRN eS 22 20 27.9
DRN pmax pmax
comp=Z,155nm,0.4s
DRN smax smax
comp=E,2μm,0.2s
DRN smax smax
comp=N,2μm,0.3s
DRN smax smax
comp=E,1μm,0.2s
VSHL Vashlovani 1.92 178 P Pn 22 20 03.4 +1.7
VSHL S Sn 22 20 26.2 +0.8
AKT Akhty 1.97 147 eP Pn 22 20 03.9 +1.4
AKT eS Sn 22 20 27.4 +0.6
AKT eS 22 20 27.7
AKT pmax pmax
comp=Z,101nm,0.2s
AKT smax smax
comp=E,1μm,0.3s
AKT smax smax
comp=N,789nm,0.4s
AKT smax smax
comp=E,982nm,0.3s
NCK Nalchik 2.01 281 ePg Pn 22 20 04.8 +2.0
NCK eSg Sn 22 20 29.4 +1.9
NCK Nalchik 2.01 281 iP Pn 22 20 04.6 +1.8
NCK iS Sn 22 20 27.4 -0.1
NCK pmax pmax
comp=Z,67nm,0.3s
DIGR Digorskoe uzhe 2.02 264 ePg Pn 22 20 04.4 +1.3
DIGR eSg Sn 22 20 28.3 +0.4
DIGR Digorskoe uzhe 2.02 264 eP Pn 22 20 04.4 +1.3
DIGR eS Sn 22 20 28.3 +0.4
SEKA Sheki 2.05 161 P Pn 22 20 04.1 +0.7
KSMR Kasumkent 2.05 138 ePg Pn 22 20 06.3 +2.8
KSMR eSg Sn 22 20 31.5 +3.0
KSMR Kasumkent 2.05 138 eP Pn 22 20 06.0 +2.6
KSMR eS Sn 22 20 31.8 +3.3
KSMR eS 22 20 32.1
KSMR pmax pmax
comp=Z,134nm,0.2s
KSMR smax smax
comp=E,4μm,0.4s
KSMR smax smax
comp=N,3μm,0.4s
KSMR smax smax
comp=E,3μm,0.3s
ONI Oni 2.17 256 ePg Pn 22 20 07.7 +2.7
ONI eSg Sn 22 20 32.4 +1.0
ONI Oni 2.17 256 eP Pn 22 20 07.7 +2.7
ONI eS Sn 22 20 33.4 +2.0
KBTC Kuba-Taba 2.21 289 ePg Pn 22 20 07.3 +1.7
KBTC eSg Sn 22 20 34.0 +1.7
KBTC Kuba-Taba 2.21 289 ⇑iP Pn 22 20 07.4 +1.9
KBTC eS Sn 22 20 34.2 +1.9
TRLG Trialeti 2.29 226 P Pn 22 20 07.6 +0.9
TRLG Trialeti 2.29 226 ePn Pn 22 20 07.6 +0.9
TRLG Trialeti 2.29 226 eP Pn 22 20 07.6 +0.9
DMNI Dmanisi 2.40 222 P Pn 22 20 08.6 +0.4
DMNI Dmanisi 2.40 222 ePn Pn 22 20 08.6 +0.4
DMNI Dmanisi 2.40 222 eP Pn 22 20 08.6 +0.4
MNGR Mingechevir, A 2.44 166 P Pn 22 20 09.7 +1.1
GANJ Ganja 2.50 180 P Pn 22 20 09.5 +0.1
PYA1 Pyatigorsk 2.50 292 iPn Pn 22 20 10.9 +1.4
PYA1 eSn Sn 22 20 39.0 -0.2
PYA1 Pyatigorsk 2.50 292 iP Pn 22 20 10.8 +1.4
KBZ Khabaz 2.55 284 ePn Pn 22 20 11.1 +1.2
KBZ eSn Sn 22 20 39.5 -0.8
KBZ Khabaz 2.55 284 P Pn 22 20 10.7 +0.8
comp=E,22nm,0.2s,baz=108,slow=3.2,SNR=203
KBZ S Sn 22 20 39.8 -0.4
comp=E,107nm,0.5s,baz=90,slow=2.0,SNR=25
KBZ Khabaz 2.55 284 iP Pn 22 20 11.1 +1.2
BEYR Belyy Ugol+ 2.68 290 ePn Pn 22 20 13.1 +1.3
BEYR eSn Sn 22 20 42.9 -0.5
SHA1 Shidzhatmaz 2.72 284 ePn Pn 22 20 13.7 +1.2
SHA1 eSn Sn 22 20 43.7 -1.0
SHA1 Shidzhatmaz 2.72 284 eP Pn 22 20 13.7 +1.2
SHA1 pmax pmax
comp=Z,23nm,0.2s
KVAR Kislovodsk Arr 2.75 288 P Pn 22 20 13.3 +0.6
comp=Z,7.3nm,0.3s,baz=107,slow=19,SNR=10
KVAR S Sn 22 20 43.6 -1.6
comp=Z,176nm,0.3s,baz=159,slow=9.7,SNR=58
KIV Kislovodsk 2.75 288 ePn Pn 22 20 13.9 +1.1
KIV eSn Sn 22 20 44.9 -0.4
KIV Kislovodsk 2.75 288 iP Pn 22 20 14.2 +1.4
KIV iS Sn 22 20 46.9 +1.6
KIV pmax pmax
comp=Z,27nm,0.6s
KIV smax smax
comp=N,393nm,0.6s
ALER Alexandrovskoy 2.93 305 ePn Pn 22 20 17.4 +2.2
ALER eSn Sn 22 20 51.0 +1.5
GOF Gofitskoye 3.03 310 ePn Pn 22 20 18.4 +2.0
GOF eSn Sn 22 20 53.6 +1.9
GOF Gofitskoye 3.03 310 cePn Pn 22 20 18.5 +2.1
GOF eS Sn 22 20 52.9 +1.2
GNI Garni 3.22 202 ePn Pn 22 20 20.6 +1.5
GNI eSn Sn 22 20 55.9 -0.8
GNI Garni 3.22 202 P Pn 22 20 19.2 +0.1
comp=N,2.4nm,0.3s,baz=0.0,slow=8.1,SNR=6.9
GNI S Sn 22 20 57.2 +0.6
comp=N,22nm,0.6s,baz=16,slow=21,SNR=6.1
GNI Garni 3.22 202 iP Pn 22 20 19.1 0.0
GNI pmax pmax
comp=Z,12nm,1.2s
NVNR Nevinnomyssk 3.46 296 ePn Pn 22 20 24.1 +1.8
NVNR eSn Sn 22 21 02.5 +0.2
ARXR Arkhyz 3.69 278 ePn Pn 22 20 29.0 +3.5
ARXR eSn Sn 22 21 10.1 +2.0
GRYR Gornoye 3.91 286 ePn Pn 22 20 30.8 +2.5
GRYR eSn Sn 22 21 15.4 +2.3
LABN Labinsk 4.30 292 ePn Pn 22 20 37.3 +3.7
LABN eSn Sn 22 21 25.0 +2.4
LABN Labinsk 4.30 292 eP Pn 22 20 30.8 -2.8
LABN eS Sn 22 21 25.1 +2.5
LABN iS 22 21 25.9
LABN pmax pmax
comp=Z,24nm,0.2s
LABN smax smax
comp=E,117nm,0.5s
LABN smax smax
comp=E,117nm,0.5s
GUZR Guzeripl' 4.58 283 ePn Pn 22 20 40.1 +2.7
GUZR eSn Sn 22 21 31.1 +1.7
ERBR Yeremizino-Bor 4.90 304 eP Pn 22 20 36.2 -5.5
ERBR eS Sn 22 21 32.2 -4.8
ERBR iS 22 21 38.0
ERBR pmax pmax
comp=Z,6.0nm,0.5s
ERBR smax smax
comp=E,59nm,0.9s
ERBR smax smax
comp=E,47nm,0.8s
BELG Belogornoye 9.29 5 P Pn 22 21 40.4 -1.0
comp=E,5.1nm,0.4s,baz=191,slow=4.4,SNR=15
BELG S Sn 22 23 19.9 -4.2
comp=E,10.0nm,0.5s,baz=183,slow=13,SNR=10
GEYT Alibeck 10.39 116 P Pn 22 21 54.5 -2.1
comp=E,1.8nm,0.3s,baz=303,slow=16,SNR=6.1
GEYT S Sn 22 23 44.8 -6.2
comp=E,3.4nm,0.4s,baz=290,slow=17,SNR=9.6
AKTO Aktyubinsk 10.83 44 P Pn 22 22 01.6 -0.9
comp=E,1.0nm,0.3s,baz=231,slow=7.4,SNR=5.1
AKTO S Sn 22 23 55.9 -5.8
comp=E,2.1nm,0.4s,baz=260,slow=18,SNR=7.7
AKASG Malin Array Be 13.88 309 P Pn 22 22 42.4 -0.7
comp=E,0.7nm,0.5s,baz=116,slow=12,SNR=2.3
AKASG S Sn 22 25 10.7 -5.0
comp=E,0.5nm,0.4s,baz=129,slow=23,SNR=1.9
ARU Arti 15.43 26 P Pn 22 23 00.7 -2.3
comp=E,1.1nm,0.3s,baz=236,slow=3.6,SNR=2.8
ARU S Sn 22 25 43.1 -10
comp=E,1.6nm,0.4s,baz=162,slow=20,SNR=2.3
FINES FINESS Array B 21.94 334 P P 22 24 17.5 +1.1
comp=E,1.5nm,0.6s,baz=138,slow=11,SNR=7.7
comp=E,1.5nm,0.6s
KURBB Kurchatov Arra 23.12 60 P P 22 24 30.8 +2.1
comp=E,0.6nm,0.2s,baz=259,slow=7.5,SNR=1.1
comp=E,0.6nm,0.2s
KURK Kurchatov 23.18 60 P P 22 24 30.8 +1.5
GERES GERESS Array B 23.24 296 P P 22 24 32.1 +2.1
comp=E,0.3nm,0.4s,baz=124,slow=18,SNR=2.0
comp=E,0.3nm,0.4s
KBA Koelnbreinsper 23.49 291 eP P 22 24 33.7 +1.4
comp=E,1.5nm,0.4s
CLL Collm 23.88 302 iP P 22 24 37.0 +1.5
CLL Collm 23.88 302 iP P 22 24 37.0 +1.5
LESA Schwarzleotal 23.93 292 eP P 22 24 37.7 +1.6
comp=E,3.7nm,0.4s
WTTA Wattenberg 24.64 292 eP P 22 24 44.1 +1.3
comp=E,2.7nm,0.4s
RETA Reutte 25.23 292 eP P 22 24 52.0 +4.1
comp=E,1.7nm,0.5s
FETA Feichten 25.28 291 eP P 22 24 51.4 +2.9
comp=E,1.6nm,0.5s
MKAR Makanchi Array 25.57 69 P P 22 24 52.3 +1.3
comp=E,0.2nm,0.4s,baz=274,slow=10.0,SNR=4.2
comp=E,0.2nm,0.4s
HFS Hagfors 26.04 322 P P 22 24 56.5 +1.5
comp=E,1.4nm,0.6s,baz=119,slow=8.4,SNR=10
comp=E,1.4nm,0.6s
NB2 NORSAR Subarra 27.53 323 P P 22 25 09.0 +0.5
comp=Z,0.4nm,0.6s,baz=116,slow=9.3
NOA NORSAR Array B 27.53 323 P P 22 25 08.9 +0.4
comp=Z,0.5nm,0.9s,baz=121,slow=8.5,SNR=3.8
comp=Z,0.5nm,0.9s
NRIK Noril'sk 33.66 25 P P 22 26 02.3 +0.1
comp=Z,0.8nm,0.3s,baz=308,slow=15,SNR=1.6
comp=Z,0.8nm,0.3s
EKA Eskdalemuir Ar 33.80 309 P P 22 26 04.1 +0.5
comp=Z,0.2nm,0.4s,baz=100,slow=8.2,SNR=5.2
comp=Z,0.2nm,0.4s
SPITS Spitsbergen Ar 37.10 350 P P 22 26 31.8 +0.2
comp=Z,2.4nm,0.8s,baz=140,slow=9.1,SNR=2.3
comp=Z,2.4nm,0.8s
TORD Torodi Ar. Bea 48.58 246 P P 22 28 05.5 +0.4
comp=Z,0.3nm,0.6s,baz=39,slow=8.2,SNR=1.9
comp=Z,0.3nm,0.6s

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*DJA **05** 22:37:04.3±0.1,6°S±3°×11°0E±°, h529km±2km, M4.6/35, mB5.1/13, mb4.8/35, MLv4.9/20, Mw(mB)4.4/13*
*NEIC **05** 22:37:04.6±2.0,5°68S±0°09×110°4E±0°1, h534km±6km, mb4.5/84, Error ellipse: s-maj=15.3km s-min=13.0km az=78.0*
*IDC **05** 22:37:05.3±1.5,5°57S×110°58E, h548km±16km, mb3.9/32, mbtmp4.7/33, Error ellipse: s-maj=13.3km s-min=6.7km az=55.0*
ISC 05 22:37:04.3±0.5,**5°73S**±0°05×**110°38E**±0°05,**h537**km±5km, **n392**,σ1∞**05/389**,**mb4.4**/80,**2C-1D**,**Java Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMRI	**Semarang**	**1.31**	**177**	P		**P**	**P**	**22 38 11.3**	**+1.1**
SMRI	**Semarang**	**1.31**	**177**	P		**P**	**P**	**22 38 10.7**	**+0.5**
SMRI	**Semarang**	**1.31**	**177**	P		**P**	**P**	**22 38 11.0**	**+0.8**
SMRI				S		**S**	**S**	**22 39 05.2**	**+1.5**
YOGI	**Yogyakarta**	**2.07**	**182**	P		**P**	**P**	**22 38 13.0**	**-0.1**
YOGI				S		**S**	**S**	**22 39 07.8**	**-1.3**
UGM	**Wanagama**	**2.17**	**176**	P		**P**	**P**	**22 38 13.7**	**0.0**
UGM	**Wanagama**	**2.17**	**176**	P		**P**	**P**	**22 38 13.1**	**-0.5**
UGM	**Wanagama**	**2.17**	**176**	P		**P**	**P**	**22 38 13.4**	**-0.3**
UGM				S		**S**	**S**	**22 39 08.4**	**-1.6**
JCJI	**Jatiwangi**	**2.23**	**250**	P		**P**	**P**	**22 38 15.1**	**+1.2**
JCJI				S		**S**	**S**	**22 39 11.6**	**+1.2**
GRJI	**Gresik**	**2.39**	**119**	P		**P**	**P**	**22 38 15.6**	**+0.9**
PWJI	**Pagerwojo**	**2.68**	**148**	P		**P**	**P**	**22 38 15.9**	**-0.4**
PWJI				S		**S**	**S**	**22 39 13.6**	**-1.3**
CMJI	**Cimerak**	**2.80**	**223**	P		**P**	**P**	**22 38 16.0**	**-1.0**
CMJI				S		**S**	**S**	**22 39 11.9**	**-4.3**
LEM	**Lembang**	**2.95**	**248**	P		**P**	**P**	**22 38 19.2**	**+1.0**
BBJI	**Bungbulang**	**3.21**	**238**	P		**P**	**P**	**22 38 19.7**	**0.0**
CNJI	**Cibinong**	**3.59**	**244**	P		**P**	**P**	**22 38 22.1**	**-0.1**
CNJI				S		**S**	**S**	**22 39 21.5**	**-4.1**
DBJI	**Dramaga**	**3.70**	**257**	S		**S**	**S**	**22 39 25.8**	**-1.4**
SKJI	**Sukabumi**	**4.00**	**251**	P		**P**	**P**	**22 38 24.5**	**-0.8**
SKJI				S		**S**	**S**	**22 39 28.1**	**-3.2**
ABJI	**Asem Bagus**	**4.34**	**118**	P		**P**	**P**	**22 38 29.0**	**+1.1**
JAGI	**Jajag, Banyuwa**	**4.63**	**126**	P		**P**	**P**	**22 38 29.8**	**-0.4**
JAGI	**Jajag, Banyuwa**	**4.63**	**126**	P		**P**	**P**	**22 38 29.4**	**-0.8**
JAGI	**Jajag, Banyuwa**	**4.63**	**126**	P		**P**	**P**	**22 38 29.4**	**-0.8**
SRBI	**Singaraja**	**5.34**	**116**	P		**P**	**P**	**22 38 37.1**	**+0.8**
DNP	**Denpasar**	**5.61**	**122**	P		**P**	**P**	**22 38 38.9**	**+0.1**
KASI	**Kota Agung** 103nm,0.6s,1.2nm	**5.86**	**272**	P		**P**	**P**	**22 38 40.9**	**-0.1**
STKI	**Sintang** 360nm,0.9s,1.1nm	**5.86**	**11**	P		**P**	**P**	**22 38 42.0**	**+0.9**
LWLI	**Liwa** 112nm,0.6s,1.6nm	**6.33**	**276**	P		**P**	**P**	**22 38 46.3**	**+0.7**
MTKI	**Muara Teweh, K** 257nm,1.1s,0.8nm	**6.56**	**44**	P		**P**	**P**	**22 38 48.0**	**+0.4**
XMIS	**Christmas Isla**	**6.64**	**224**	P		**P**	**P**	**22 38 49.3**	**+0.9**
XMIS	**Christmas Isla**	**6.64**	**224**	P		**P**	**P**	**22 38 48.6**	**+0.3**
BKB	**Balikpapan**	**7.88**	**56**	P		**P**	**P**	**22 39 02.5**	**+2.0**
BKB	**Balikpapan**	**7.88**	**56**	P		**P**	**P**	**22 39 03.7**	**+3.2**
PLAI	**Plampang**	**7.96**	**113**	P		**P**	**P**	**22 39 00.4**	**-0.8**
PLAI	**Plampang** 145nm,0.7s,2μm0.6nm	**7.96**	**113**	P		**P**	**P**	**22 38 59.1**	**-2.1**
SBUM	**Sibu**	**8.34**	**13**	P		**P**	**P**	**22 39 05.9**	**+0.8**
KAPI	**Kappang**	**9.36**	**86**	P		**P**	**P**	**22 39 14.2**	**-1.3**
KAPI	**Kappang** 36nm,0.8s,baz=265,slow=11,SNR=17	**9.36**	**86**	P		**P**	**P**	**22 39 14.7**	**-0.8**
KAPI	**Kappang**	**9.36**	**86**	P		**P**	**P**	**22 39 15.3**	**-0.2**
BKSI	**Bulukumba**	**9.71**	**88**	P		**P**	**P**	**22 39 19.9**	**+0.8**
PDSI	**Padang** 46nm,0.6s	**11.00**	**295**	P		**P**	**P**	**22 39 31.4**	**-1.1**
BASI	**Baing, Sumba** 247nm,0.7s	**11.04**	**114**	P		**P**	**P**	**22 39 35.0**	**+2.2**
BKNI	**Bangkinang**	**11.10**	**303**	P		**P**	**P**	**22 39 34.0**	**+0.4**
BKNI	**Bangkinang** 183nm,1.1s,2μm	**11.10**	**303**	P		**P**	**P**	**22 39 35.6**	**+2.1**
MPSI	**Mapaga** 89nm,0.9s,1μm	**11.26**	**58**	P		**P**	**P**	**22 39 36.1**	**+1.0**
EDFI	**Ende, Flores**	**11.61**	**106**	P		**P**	**P**	**22 39 35.9**	**-3.1**
BBSI	**Bau Bau** 81nm,1.0s	**12.13**	**89**	P		**P**	**P**	**22 39 43.7**	**-0.6**
TOLI2	**Tolitoli**	**12.41**	**57**	P		**P**	**P**	**22 39 47.6**	**+0.4**
TOLI2	**Tolitoli**	**12.41**	**57**	P		**P**	**P**	**22 39 47.2**	**0.0**
PBSI	**Pulau Batu** 151nm,1.2s	**13.33**	**295**	P		**P**	**P**	**22 39 56.9**	**+0.1**
MYLDM	**Lahad Datu**	**13.54**	**37**	P		**P**	**P**	**22 40 00.1**	**+1.2**
BATI	**Baumata**	**13.88**	**110**	P		**P**	**P**	**22 40 00.8**	**-1.7**
GTOI	**Gorontalo**	**14.11**	**64**	P		**P**	**P**	**22 40 01.3**	**-3.5**
GSI	**Gunungsitoli**	**14.57**	**298**	P		**P**	**P**	**22 40 10.6**	**+0.9**
KULM	**Kulim**	**14.64**	**318**	P		**P**	**P**	**22 40 09.7**	**-0.6**
KCSI	**Kotacane, Aceh** 81nm,0.7s,4μm	**15.59**	**306**	P		**P**	**P**	**22 40 19.7**	**-0.5**
SANI	**Sanana** 37nm,0.7s	**15.99**	**77**	P		**P**	**P**	**22 40 24.0**	**-0.3**
SNSI	**Sinabang, Aceh** 174nm,0.9s	**16.20**	**300**	P		**P**	**P**	**22 40 27.7**	**+1.4**
MLSI	**Meulaboh, Aceh**	**17.13**	**305**	P		**P**	**P**	**22 40 35.6**	**+0.6**
GIRL	**Giralia**	**17.22**	**168**	P		**P**	**P**	**22 40 36.7**	**+1.1**
LHMI	**Lhok Sumawe**	**17.28**	**309**	P		**P**	**P**	**22 40 37.7**	**+1.4**
LHMI	**Lhok Sumawe**	**17.28**	**309**	P		**P**	**P**	**22 40 37.1**	**+0.8**
LHMI	**Lhok Sumawe**	**17.28**	**309**	P		**P**	**P**	**22 40 37.5**	**+1.2**
MBWA	**Marble Bar**	**17.81**	**150**	P		**P**	**P**	**22 40 42.2**	**+1.1**
MBWA	**Marble Bar**	**17.81**	**150**	P		**P**	**P**	**22 40 42.0**	**+0.8**
MBWA	**Marble Bar**	**17.81**	**150**	P		**P**	**P**	**22 40 42.2**	**+1.1**
SRIT	**Nakonsritamara**	**17.84**	**323**	P		**P**	**P**	**22 40 42.4**	**+0.9**
TNTI	**Ternate** 46nm,1.0s	**18.15**	**70**	P		**P**	**P**	**22 40 45.0**	**+0.7**
PSA00	**Pilbara Seismi**	**18.22**	**151**	P		**P**	**P**	**22 40 45.6**	**+0.7**
PSA00	**Pilbara Seismi**	**18.22**	**151**	P		**P**	**P**	**22 40 45.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**19.32**	**131**	P		**P**	**P**	**22 40 55.6**	**+0.7**
MEEK	**Meekatharra**	**22.22**	**160**	P		**P**	**P**	**22 41 22.5**	**+1.4**
MORW	**Morawa**	**23.82**	**168**	P		**P**	**P**	**22 41 37.5**	**+2.2**
MORW	**Morawa**	**23.82**	**168**	P		**P**	**P**	**22 41 36.5**	**+1.2**
BLDU	**Ballidu**	**25.46**	**167**	P		**P**	**P**	**22 41 51.1**	**+1.4**
WRKA	**Warakurna**	**25.76**	**140**	P		**P**	**P**	**22 41 54.6**	**+2.1**
PHRA	**Phrae**	**26.08**	**338**	P		**P**	**P**	**22 41 56.2**	**+0.9**
CM31	**Chiang Mai Arr**	**26.55**	**335**	P		**P**	**P**	**22 42 00.2**	**+0.7**
CM31				IAmb		IAmb	IAmb	22 42 02.3	
CMAR	**Chiang Mai Arr** comp=Z,21nm,1.1s	**26.55**	**335**	P		**P**	**P**	**22 42 00.3**	**+0.8**
KLBR	**Kellerberrin**	**26.64**	**166**	P		**P**	**P**	**22 42 01.5**	**+1.4**
MUN	**Mundaring**	**26.67**	**169**	P		**P**	**P**	**22 42 01.1**	**+0.7**
CHTO	**Chiang Mai**	**26.87**	**335**	P		**P**	**P**	**22 42 02.9**	**+0.6**
CHTO				IAmb		IAmb	IAmb	22 42 03.9	
WB0	**Warramunga Arr** comp=Z,7.1nm,0.8s	**27.20**	**123**	P		**P**	**P**	**22 42 05.1**	**-0.2**
WRA	**Warramunga Arr** comp=Z,2.3nm,0.5s,baz=302,slow=9.2,SNR=36	**27.24**	**123**	P		**P**	**P**	**22 42 05.7**	**+0.1**
WRA				PcP		**PcP**	**PcP**	**22 45 07.2**	**-0.8**
WRA	comp=Z,1.8nm,0.5s,baz=310,slow=2.2,SNR=8.8			S		**S**	**S**	**22 46 03.5**	**-3.7**
WRA	comp=Z,1.5nm,0.9s,baz=303,slow=16,SNR=4.7			ScP		**ScP**	**ScP**	**22 47 58.0**	**+0.1**
CRAI	**Chiangrai** comp=Z,0.8nm,0.4s,baz=320,slow=2.6,SNR=8.6 comp=Z,2.3nm,0.5s	**27.61**	**339**	P		**P**	**P**	**22 42 08.8**	**-0.1**
CRAI				IAmb		IAmb	IAmb	22 42 11.0	
KMBL	**Kambalda** comp=Z,1.1nm,1.1s	**27.69**	**158**	P		**P**	**P**	**22 42 10.4**	**+1.0**
NWAO	**Narrogin (SRO)**	**27.80**	**168**	P		**P**	**P**	**22 42 11.2**	**+0.9**
NWAO	**Narrogin (SRO)**	**27.80**	**168**	P		**P**	**P**	**22 42 11.5**	**+1.2**
NWAO	**Narrogin (SRO)**	**27.80**	**168**	P		**P**	**P**	**22 42 12.0**	**+1.7**
ASAR	**Alice Springs** comp=Z,1.1nm,0.3s,baz=308,slow=8.3,SNR=10.0	**28.82**	**131**	P		**P**	**P**	**22 42 19.6**	**+0.2**
ASAR				PcP		**PcP**	**PcP**	**22 45 12.2**	**+0.2**
ASAR	comp=Z,1.9nm,0.7s,baz=307,slow=2.1,SNR=9.3			S		**S**	**S**	**22 46 29.8**	**-2.1**
ASAR	comp=Z,2.1nm,0.8s,baz=298,slow=16,SNR=7.2			ScP		**ScP**	**ScP**	**22 48 03.5**	**+0.7**
AS01	**Alice Springs** comp=Z,2.3nm,1.0s,baz=319,slow=2.7,SNR=6.6 comp=Z,1.1nm,0.3s	**28.85**	**131**	P		**P**	**P**	**22 42 19.3**	**-0.4**
FORT	**Forrest**	**29.95**	**148**	P		**P**	**P**	**22 42 29.8**	**+0.8**
FORT	**Forrest**	**29.95**	**148**	P		**P**	**P**	**22 42 30.0**	**+1.0**
YULB	**Yu-li**	**30.85**	**20**	P		**P**	**P**	**22 42 36.3**	**-0.6**
YULB				IAmb		IAmb	IAmb	22 42 39.6	
SSLB	**Suanglung** comp=Z,14nm,0.8s	**31.10**	**19**	P		**P**	**P**	**22 42 39.5**	**+0.4**
NACB	**Ninganchiao**	**31.67**	**20**	P		**P**	**P**	**22 42 44.3**	**+0.4**
QIS	**Mount Isa**	**31.96**	**120**	P		**P**	**P**	**22 42 47.1**	**+0.6**
GYA	**Guiyang**	**32.20**	**354**	P		**P**	**P**	**22 42 51.4**	**+2.9**
GYA				pmax		pmax	pmax		
PALK	**Pallekele** comp=Z,13nm,0.8s	**32.31**	**293**	P		**P**	**P**	**22 42 48.1**	**-1.4**
OOD	**Oodnadatta**	**32.55**	**135**	P		**P**	**P**	**22 42 52.0**	**+0.7**
TNCH	**TengChong**	**32.68**	**340**	⇓P		**P**	**P**	**22 42 54.1**	**+1.4**
TNCH				sP		PcP	PcP	22 45 23.9	+1.3
TNCH				S		**S**	**S**	**22 47 31.1**	**-0.2**
TNCH				pmax		pmax	pmax		
TNCH	comp=Z,28nm,0.7s			pmax		pmax	pmax		
TNCH	comp=Z,97nm,4.1s			pmax		pmax	pmax		
MULG	**Mulgathing**	**33.06**	**140**	P		**P**	**P**	**22 42 56.1**	**+0.5**
PZH	**PanZhiHua**	**33.12**	**346**	P		**P**	**P**	**22 42 58.4**	**+2.1**
PZH				pmax		pmax	pmax		
PZH	comp=Z,6.0nm,0.7s			pmax		pmax	pmax		
LCRK	**Leigh Creek** comp=Z,100nm,4.8s	**35.91**	**137**	P		**P**	**P**	**22 43 20.3**	**+0.8**
SHL	**Shillong**	**35.93**	**331**	P		**P**	**P**	**22 43 20.7**	**+0.8**
BBOO	**Buckleboo**	**36.03**	**142**	P		**P**	**P**	**22 43 21.6**	**+1.2**
KAAM	**Kaadhehdhoo**	**37.84**	**278**	P		**P**	**P**	**22 43 36.5**	**+1.0**
HTT	**Hallett**	**38.24**	**140**	P		**P**	**P**	**22 43 39.4**	**+0.8**
NJ2	**Nanjing**	**38.43**	**12**	eP		**P**	**P**	**22 43 41.9**	**+1.8**
NJ2				pmax		pmax	pmax		
NJ2	comp=Z,7.0nm,0.6s			pmax		pmax	pmax		
STKA	**Stephens Creek** comp=Z,140nm,4.1s	**39.09**	**136**	P		**P**	**P**	**22 43 46.2**	**+0.7**
STKA	**Stephens Creek** comp=Z,7.7nm,0.5s,baz=304,slow=9.9,SNR=25 comp=Z,7.7nm,0.5s	**39.09**	**136**	P		**P**	**P**	**22 43 46.4**	**+0.9**
XAN	**Xi'an**	**39.58**	**358**	⇑P		**P**	**P**	**22 43 49.7**	**+0.3**
XAN				pmax		pmax	pmax		
LSA	**Lhasa** comp=Z,21nm,0.6s	**39.78**	**333**	P		**P**	**P**	**22 43 52.9**	**+1.3**
LSA				pmax		pmax	pmax		
LSA	**Lhasa** comp=Z,40nm,0.8s	**39.78**	**333**	P		**P**	**P**	**22 43 52.9**	**+1.3**
LSA	**Lhasa**	**39.78**	**333**	P		**P**	**P**	**22 43 52.7**	**+1.2**
CMSA	**Cobar Meteorol**	**41.84**	**132**	P		**P**	**P**	**22 44 08.1**	**+0.7**
LZH	**Lanzhou**	**42.05**	**352**	eP		**P**	**P**	**22 44 10.4**	**+1.3**
LZH				pP		PcP	PcP	22 45 53.5	+1.9
LZH	comp=Z,29nm,1.1s			pmax		pmax	pmax		
HNS	**HongShan**	**43.10**	**5**	eP		**P**	**P**	**22 44 20.3**	**+3.2**
BJI	**Beijing**	**45.86**	**6**	P		**P**	**P**	**22 44 38.1**	**-0.2**
BJI				pmax		pmax	pmax		
GTA	**Gaotai** comp=Z,4.0nm,0.5s	**45.97**	**349**	eP		**P**	**P**	**22 44 40.8**	**+1.4**
GTA				pmax		pmax	pmax		
HHC	**Hu-ho-hao-te** comp=Z,11nm,0.9s	**46.37**	**1**	eP		**P**	**P**	**22 44 45.8**	**+3.5**
HHC				pmax		pmax	pmax		
HHC	comp=Z,13nm,0.7s			pmax		pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,2.4nm,0.6s,baz=214,slow=8.7,SNR=6.2 comp=Z,2.4nm,0.6s	**49.47**	**30**	P		**P**	**P**	**22 45 03.8**	**-1.7**
NIL	**Nilore**	**52.62**	**321**	P		**P**	**P**	**22 45 27.6**	**-0.9**
NIL	comp=Z,27nm,0.6s			IAmb		IAmb	IAmb	22 45 27.8	
USA0B	**Ussuriysk Arra**	**53.38**	**19**	P		**P**	**P**	**22 45 33.7**	**+0.1**
USRK	**Ussuriysk Ar.**	**53.38**	**19**	P		**P**	**P**	**22 45 33.0**	**-0.6**
USRK	**Ussuriysk Ar.** comp=Z,2.0nm,0.6s,baz=195,slow=3.0,SNR=8.3 comp=Z,2.0nm,0.6s	**53.38**	**19**	P		**P**	**P**	**22 45 32.2**	**-1.4**
WMQ	**Urumqi**	**53.41**	**340**	eP		**P**	**P**	**22 45 33.6**	**-0.3**
WMQ				PcP		**PcP**	**PcP**	**22 46 36.1**	**+3.6**
WMQ	comp=Z,21nm,0.7s			pmax		pmax	pmax		
ULN	**Ulaanbaatar**	**53.45**	**357**	P		**P**	**P**	**22 45 34.5**	**+0.2**
ULN	**Ulaanbaatar**	**53.45**	**357**	P		**P**	**P**	**22 45 34.4**	**+0.2**
SONM	**Songino Array**	**53.45**	**357**	P		**P**	**P**	**22 45 34.4**	**+0.2**
SONM	**Songino Array** comp=Z,6.4nm,0.5s,baz=178,slow=8.3,SNR=40	**53.45**	**357**	P		**P**	**P**	**22 45 34.3**	**0.0**
SONM				PcP		**PcP**	**PcP**	**22 46 32.5**	**-0.1**
RER	**Riviere de l'E** comp=Z,1.9nm,0.4s,baz=164,slow=2.9,SNR=7.7 comp=Z,6.4nm,0.5s	**55.03**	**248**	P		**P**	**P**	**22 45 48.2**	**+2.4**
KSH	**Kashi**	**55.10**	**328**	P		**P**	**P**	**22 45 44.9**	**-1.1**
KSH				pmax		pmax	pmax		
KBL	**Kabul** comp=Z,16nm,0.6s	**55.89**	**319**	P		**P**	**P**	**22 45 50.6**	**-1.1**
KBL				IAmb		IAmb	IAmb	22 45 51.4	
KBL	**Kabul** comp=Z,13nm,0.8s SNR=9.0

AAK IAmb IAmb 22 46 08.1
comp=Z,19nm,1.2s
AAK Ala-Archa 58.13 329 P **P 22 46 06.8 0.0**
FRU1 Bishkek 58.19 330 P **P 22 46 06.3 -0.8**
FRU1 IAmb IAmb 22 46 08.2
comp=Z,17nm,0.8s
JMDO Jabal Madar 58.26 301 P **P 22 46 07.2 -0.7**
BTK Batken 58.32 325 P **P 22 46 07.2 -0.8**
CHGR Chuyangaron 58.38 323 P **P 22 46 06.2 -2.3**
CHGR IAmb IAmb 22 46 07.4
comp=Z,50nm,1.4s
SIMJ Simiganj 58.47 323 P **P 22 46 06.8 -2.3**
EKS2 Erkin-Say 58.52 329 P **P 22 46 09.9 +0.6**
SNR=20
SMDO Samad 58.57 301 P **P 22 46 09.8 -0.3**
USP Ospenovka 58.59 330 P **P 22 46 09.7 -0.1**
SNR=11
BIDO Bidbid 58.68 302 P **P 22 46 11.0 +0.3**
SNR=6.0
BSY Bisya 59.18 301 P **P 22 46 13.7 -0.4**
HOQ Hoqain 59.40 302 P **P 22 46 15.5 0.0**
ARQ Araqi 59.98 301 P **P 22 46 18.2 -1.2**
SOHO SOHO 60.27 302 P **P 22 46 20.3 -0.9**
SOHO P **P 22 46 20.3 -0.9**
HRA Herat 60.44 315 P **P 22 46 20.6 -1.8**
CASY Casey 60.44 180 P **P 22 46 20.7 -0.9**
DOK Doka 60.48 295 P **P 22 46 22.0 -0.8**
KK31 Karatay Array 60.54 327 P **P 22 46 22.1 -0.6**
KKAR Karatay Array 60.54 327 P **P 22 46 21.9 -0.8**
KKAR Karatay Array 60.54 327 IAmb IAmb 22 46 23.9
comp=Z,7.1nm,0.6s
WHFO Wadi Hawf 60.59 294 P **P 22 46 22.7 -0.8**
UOSS Minazif 60.85 303 P **P 22 46 23.9 -1.2**
UOSS IAmb IAmb 22 46 24.8
comp=Z,10nm,0.8s
UOSS Minazif 60.85 303 P **P 22 46 24.5 -0.6**
ABTO Aybut 60.86 293 P **P 22 46 24.5 -0.8**
HATD Hatta, Dubai 60.87 302 P **P 22 46 24.6 -0.6**
ASHO Ashiyiah 60.87 302 P **P 22 46 25.0 -0.3**
ALNE Al Ain 60.90 301 P **P 22 46 24.9 -0.6**
FAQ Al Faqa, Dubai 61.29 302 P **P 22 46 28.0 0.0**
SNR=14
SHME Shamm 61.33 304 P **P 22 46 27.6 -0.6**
ASUD Al Ashush, Dub 61.47 302 P **P 22 46 29.3 +0.2**
SNR=12
AJN Ajban 61.73 302 P **P 22 46 30.4 -0.5**
AJN P **P 22 46 30.4 -0.5**
MZWR Madinat Zayed 62.39 300 P **P 22 46 34.7 -0.5**
MZR Muzera 62.49 299 P **P 22 46 35.6 -0.2**
KURBB Kurchatov Arra 62.49 338 P **P 22 46 34.8 -0.4**
comp=Z,7.2nm,0.7s,baz=154,slow=5.7,SNR=46
KURBB PcP **PcP 22 47 08.1 -0.3**
comp=Z,3.9nm,0.8s,baz=135,slow=3.5,SNR=11
comp=Z,7.2nm,0.7s
KURK Kurchatov 62.53 338 P **P 22 46 34.9 -0.6**
KURK IAmb IAmb 22 46 36.1
comp=Z,14nm,0.8s
KURK Kurchatov 62.53 338 P **P 22 46 35.4 -0.1**
ABPO Ambohimpanom 62.79 252 P **P 22 46 38.4 +0.4**
ABPO IAmb IAmb 22 46 51.3
comp=Z,19nm,1.3s
ZAA0 Zalesovo Array 63.22 343 IAmb IAmb 22 46 40.0
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 63.22 343 P **P 22 46 39.1 -0.7**
comp=Z,11nm,0.3s,baz=154,slow=5.6,SNR=54
ZALV PcP **PcP 22 47 09.4 -2.0**
comp=Z,2.5nm,0.6s,baz=152,slow=4.1,SNR=4.1
comp=Z,11nm,0.3s
GHWR Ruwais 63.32 300 P **P 22 46 40.3 -0.8**
VOI Vohitsoka 63.39 248 P **P 22 46 42.9 +1.1**
JRN Qarnain Island 63.68 301 P **P 22 46 42.7 -0.7**
JRN P **P 22 46 42.7 -0.7**
SLWR Sila 64.38 300 P **P 22 46 47.5 -0.4**
TRNA Turayna 65.01 301 P **P 22 46 51.2 -0.6**
SNR=15
GEYT Alibeck 65.11 316 P **P 22 46 52.4 +0.1**
GEYT IAmb IAmb 22 46 52.8
comp=Z,9.7nm,0.8s
GEYT Alibeck 65.11 316 P **P 22 46 52.1 -0.2**
comp=Z,6.7nm,0.5s,baz=131,slow=4.2,SNR=11
comp=Z,6.7nm,0.5s
GYA0B ALIBECK ARRAY 65.11 316 IAmb IAmb 22 46 52.8
comp=Z,8.9nm,0.7s
SMRA Abu-Samra 65.35 300 P **P 22 46 53.3 -0.7**
SNR=11
SAKB Bahrain 66.00 302 P **P 22 46 57.3 -0.8**
BVAR Borovoye Array 67.58 335 P **P 22 47 06.6 -0.7**
comp=Z,10nm,0.6s,baz=141,slow=8.3,SNR=82
BVAR PcP **PcP 22 47 29.3 -0.3**
comp=Z,3.9nm,0.8s,baz=113,slow=5.0,SNR=8.1
comp=Z,10nm,0.6s
BRVK Borovoye 67.65 335 P **P 22 47 07.4 -0.2**
BRVK Borovoye 67.65 335 P **P 22 47 06.9 -0.7**
KBD Kabd 69.44 304 P **P 22 47 18.2 -0.8**
RAYN Ar Rayn 69.61 298 P **P 22 47 19.6 -0.6**
RAYN IAmb IAmb 22 47 20.5
comp=Z,16nm,1.0s
RAYN Ar Rayn 69.61 298 P **P 22 47 19.7 -0.5**
ABKAR Abkulak array 70.11 328 P **P 22 47 22.2 -0.3**
ABKAR Abkulak array 70.11 328 P **P 22 47 22.2 -0.3**
PEA0B Petropavlovsk- 70.88 28 P **P 22 47 26.4 -0.6**
PETK Petropavlovsk- 70.88 28 P **P 22 47 26.0 -1.0**
PETK Petropavlovsk- 70.88 28 P **P 22 47 26.2 -0.8**
comp=Z,1.7nm,0.6s,baz=208,slow=2.8,SNR=7.6
comp=Z,1.7nm,0.6s
KIBK Kibwezi 72.20 269 P **P 22 47 34.8 -0.9**
KIBK IAmb IAmb 22 47 37.0
comp=Z,7.8nm,0.6s
KIBK Kibwezi 72.20 269 P **P 22 47 36.6 +0.9**
KMBO Kilima Mbogo 73.10 271 P **P 22 47 41.5 +0.4**
ARU Arti 74.98 333 P **P 22 47 49.8 -0.6**
ARU Arti 74.98 333 P **P 22 47 49.9 -0.6**
comp=Z,8.2nm,1.2s
LODK Lodwar 75.47 275 P **P 22 47 54.6 +0.4**
NRIK Noril'sk 76.54 352 P **P 22 47 58.2 -0.7**
comp=Z,1.2nm,0.4s,baz=126,slow=6.9,SNR=5.7
comp=Z,1.2nm,0.4s
VNDA Vanda 76.60 170 P **P 22 48 00.1 +0.9**
VNDA Vanda 76.60 170 P **P 22 48 00.2 +1.0**
comp=Z,1.3nm,0.4s,baz=309,slow=6.2,SNR=11
comp=Z,1.3nm,0.4s
KARS Kars 76.83 314 P **P 22 48 01.2 0.0**
GURO Guroymak-BITLI 76.92 312 P **P 22 48 01.7 -0.1**
GURO IAmb IAmb 22 48 03.1
comp=Z,13nm,0.8s
POGA Pongola 77.34 243 P **P 22 48 04.6 +0.4**
POGA IAmb IAmb 22 48 06.1
comp=Z,23nm,0.6s
KBZ Khabaz 78.00 317 P **P 22 48 07.5 +0.2**
comp=Z,8.1nm,0.8s,baz=130,slow=3.5,SNR=13
comp=Z,8.1nm,0.8s
KVAR Kislovodsk Arr 78.22 317 P **P 22 48 08.4 -0.3**
comp=Z,2.5nm,0.8s,baz=90,slow=20,SNR=2.5
comp=Z,2.5nm,0.8s
KIV Kislovodsk 78.22 317 P **P 22 48 08.6 -0.1**
KIV IAmb IAmb 22 48 10.4
comp=Z,8.5nm,0.6s
KIV Kislovodsk 78.22 317 P **P 22 48 10.1 +1.4**
ASF Jabal al Asfar 79.20 304 P **P 22 48 15.6 +1.4**
comp=Z,16nm,0.8s,baz=98,slow=17,SNR=15
comp=Z,16nm,0.8s
MBAR Mbarara 79.63 270 P **P 22 48 17.2 +0.3**
MBAR IAmb IAmb 22 48 18.8
comp=Z,16nm,0.9s
MBAR Mbarara 79.63 270 P **P 22 48 18.0 +1.1**
GHAJ Ghor Haditha 80.11 303 P **P 22 48 19.1 +0.4**
GHAJ IAmb IAmb 22 48 20.5
comp=Z,26nm,0.8s
GAZ Gaziantep 80.19 309 P **P 22 48 18.8 -0.3**
GAZ IAmb IAmb 22 48 20.8
comp=Z,14nm,0.8s
EIL Elat 80.27 301 P **P 22 48 20.2 +0.5**
comp=Z,13nm,0.8s,baz=119,slow=1.8,SNR=13
comp=Z,13nm,0.8s
MMAI Mount Meron Ar 80.62 305 P **P 22 48 22.5 +0.9**
comp=Z,9.1nm,0.6s,baz=98,slow=7.4,SNR=18
comp=Z,9.1nm,0.6s
LSZ Lusaka 81.00 255 P **P 22 48 23.8 -0.1**
LSZ IAmb IAmb 22 48 25.5
comp=Z,10nm,0.6s
LSZ Lusaka 81.00 255 P **P 22 48 24.7 +0.8**
BNN Bunyan 81.65 310 P **P 22 48 26.8 0.0**
BNN IAmb IAmb 22 48 28.2
comp=Z,46nm,1.0s
CSS Mathiatis 82.73 306 IAmb IAmb 22 48 33.7
comp=Z,26nm,0.8s
LBTB Lobatse 82.89 246 P **P 22 48 33.2 -0.1**
LBTB IAmb IAmb 22 48 34.8
comp=Z,8.6nm,0.8s
BOSA Boshof 83.01 242 P **P 22 48 34.6 +0.6**
comp=Z,4.9nm,0.6s,baz=94,slow=3.8,SNR=23
comp=Z,4.9nm,0.6s
BR131 Keskin Array S 83.52 311 IAmb IAmb 22 48 37.0
comp=Z,10nm,0.8s
BRTR Keskin Array B 83.52 311 P **P 22 48 35.9 -0.3**
comp=Z,7.3nm,0.8s,baz=126,slow=6.2,SNR=11
comp=Z,7.3nm,0.8s
BZK Bozkurt 83.76 313 P **P 22 48 37.0 -0.1**
KIWB Kanaga Island 83.80 37 P **P 22 48 36.9 -0.2**
QSPA South Pole Qui 84.24 180 P **P 22 48 40.2 +1.0**
QSPA South Pole Qui 84.24 180 P **P 22 48 39.5 +0.3**
comp=Z,4.0nm,0.5s,baz=306,slow=4.2,SNR=32
comp=Z,4.0nm,0.5s
OBN Obninsk 85.52 326 P **P 22 48 45.7 +0.3**
OBN Obninsk 85.52 326 P **P 22 48 45.3 0.0**
comp=Z,49nm,0.7s,baz=73,slow=4.2,SNR=12
OBN Obninsk 85.52 326 P **P 22 48 45.4 0.0**
comp=Z,71nm,0.8s
SUR Sutherland 86.60 238 P **P 22 48 53.5 +2.1**
AK09 Malin Array Si 88.76 321 P **P 22 48 59.8 -1.0**
AK10 Malin Array Si 88.78 321 P **P 22 49 00.0 -0.9**
AK08 Malin Array Si 88.78 321 P **P 22 48 59.8 -1.1**
AK07 Malin Array Si 88.80 321 P **P 22 48 59.9 -1.0**
AK05 Malin Array Si 88.81 321 P **P 22 48 59.9 -1.1**
AKASG Malin Array Be 88.81 321 P **P 22 48 59.8 -1.2**
comp=Z,3.5nm,0.5s,baz=88,slow=4.7,SNR=18
comp=Z,3.5nm,0.5s
AKBB Malin Array Si 88.81 321 IAmb IAmb 22 49 00.7
comp=Z,11nm,0.6s
AKBB Malin Array Si 88.81 321 P **P 22 49 00.1 -0.9**
AK02 Malin Array Si 88.82 321 P **P 22 48 59.9 -1.1**
AK01 Malin Array Si 88.82 321 P **P 22 49 00.2 -0.8**
AK03 Malin Array Si 88.82 321 P **P 22 49 00.1 -0.9**
KIEV Kiev 88.82 321 P **P 22 49 00.1 -1.0**
KIEV IAmb IAmb 22 49 00.7
comp=Z,9.9nm,0.6s
KIEV Kiev 88.82 321 P **P 22 48 59.9 -1.1**
comp=Z,65nm,0.8s
AK11 Malin Array Si 88.84 321 P **P 22 49 00.2 -1.0**
AK21 Malin Array Si 88.94 321 P **P 22 49 00.5 -1.1**
AK20 Malin Array Si 88.96 321 P **P 22 49 00.6 -1.1**
SPIA Saint Paul Isl 89.04 32 P **P 22 49 02.1 +0.2**
baz=258
P08K Saint George I 89.30 33 P **P 22 49 03.1 0.0**
baz=259
ODBI Odobesti 89.42 316 P **P 22 49 04.0 0.0**
MI30 MI30,Zelenitsa 89.47 321 P **P 22 49 02.8 -1.3**
IDI Anoyia 89.60 305 P **P 22 49 05.4 +0.2**
comp=Z,1.7nm,0.4s,baz=53,slow=5.1,SNR=6.9
comp=Z,1.7nm,0.4s
LUBAR Lubar, Ukraine 89.61 320 P **P 22 49 03.9 -0.8**
MI29 MI29, Kamyanyy 89.63 321 P **P 22 49 03.7 -1.1**
VRI Vrincioaia 89.66 316 P **P 22 49 04.9 -0.2**
PLOR5 Plostina Array 89.70 316 P **P 22 49 05.4 +0.1**
PLOR3 Plostina Array 89.72 316 P **P 22 49 05.1 -0.3**
TESR Tescani 89.81 317 P **P 22 49 05.7 -0.1**
MI28 Mi28,Pidlybu 89.83 321 P **P 22 49 04.8 -0.9**
LVZ Lovozero 89.94 338 P **P 22 49 05.2 -0.8**
JOF Joensuu 90.11 333 *e*P **P 22 49 06.3 -0.5**
MLR Muntele Rosu 90.15 316 P **P 22 49 07.2 -0.3**
comp=Z,1.5nm,0.5s,baz=89,slow=4.7,SNR=4.3
comp=Z,1.5nm,0.5s
MLR Muntele Rosu 90.15 316 P **P 22 49 07.4 -0.1**
UNV Unalaska Valle 90.53 36 P **P 22 49 09.2 +0.3**
baz=261
BURAR Bucovina Array 90.94 318 P **P 22 49 11.3 +0.2**
BURAR IAmb IAmb 22 49 12.3
comp=Z,2.8nm,0.8s
IIGN Ignalina 91.35 325 *e*P **P 22 49 13.8 +1.2**
M11K Mekoryuk 91.69 30 P **P 22 49 14.3 +0.2**
baz=262
SNAA Sanae 91.72 197 ⇑P **P 22 49 15.5 +1.3**
comp=Z,26nm,0.5s
SNAA Sanae 91.72 197 P **P 22 49 15.3 +1.1**
comp=Z,1.9nm,0.7s,baz=114,slow=19,SNR=14
comp=Z,1.9nm,0.7s
TNA Tin City 91.75 24 P **P 22 49 14.8 +0.6**
baz=260
ARBE Arbavere 92.04 329 *e*P **P 22 49 15.6 -0.2**
FINES FINESS Array B 92.27 331 P **P 22 49 16.3 -0.4**
comp=Z,2.0nm,0.5s,baz=104,slow=4.3,SNR=27
comp=Z,2.0nm,0.5s
F14K Arctic Creek 92.39 25 P **P 22 49 17.6 +0.4**
baz=262
K13K Kusilvak Mount 92.64 28 P **P 22 49 18.2 -0.3**
baz=263
KEF Keuruu 92.93 332 *e*P **P 22 49 18.8 -1.0**
C16K Lisburne Hills 93.16 22 P **P 22 49 20.9 +0.2**
baz=263
L14K Kuka Creek 93.52 29 P **P 22 49 22.7 +0.2**
baz=265
ARCES ARCESS Array B 93.53 339 P **P 22 49 21.2 -1.2**
comp=Z,1.8nm,0.7s,baz=96,slow=7.3,SNR=6.8
comp=Z,1.8nm,0.7s
N14K Kuskokwak Cree 93.88 30 P **P 22 49 24.6 +0.5**
baz=265
D17K Noatak River 93.94 22 P **P 22 49 25.0 +0.8**
baz=265
C17K DeLong Mountai 93.98 22 P **P 22 49 25.3 +0.8**
baz=265
VAF Ylistaro 94.03 333 *e*P **P 22 49 23.9 -0.8**
M15K Kasigluk River 94.43 30 P **P 22 49 27.0 +0.4**
baz=266
J16K Anvik River 94.64 27 P **P 22 49 27.9 +0.4**
baz=267
CHNA Chernabura Isl 94.66 35 P **P 22 49 28.1 +0.3**
baz=267
N15K Kwethluk River 94.69 30 P **P 22 49 28.0 +0.1**
baz=267
C18K Utukok River 94.72 22 P **P 22 49 27.8 -0.1**
baz=266
G17K Kiwalik Mounta 94.75 25 P **P 22 49 28.3 +0.4**
baz=267
O15K Ungalikthiuk R 94.78 31 P **P 22 49 28.2 -0.1**
baz=267
A19K Wainwright 94.86 20 P **P 22 49 28.4 +0.1**
baz=267
E18K Tukpahlearik C 94.87 23 P **P 22 49 28.6 +0.1**
baz=267
H17K Granite Mounta 95.03 25 P **P 22 49 29.5 +0.2**
baz=267
N16K Nishlik Lake 95.37 30 P **P 22 49 31.1 +0.1**
baz=268
G18K Tagagawik 95.59 24 P **P 22 49 31.8 0.0**
baz=269
L17K Donlin 95.65 28 P **P 22 49 32.1 0.0**
baz=268
K17K Iditarod 95.66 28 P **P 22 49 31.9 -0.2**
baz=269
D19K Kuna River 95.85 22 P **P 22 49 33.0 +0.1**
baz=269
E19K Redstone River 96.17 23 P **P 22 49 34.6 +0.2**
baz=270
B20K Meade River 96.19 20 P **P 22 49 34.7 +0.3**
baz=270
G19K Purcell Mounta 96.23 24 P **P 22 49 34.8 +0.1**
baz=270
J18K Innoko River 96.39 27 P **P 22 49 36.0 +0.5**
J18K IAmb IAmb 22 49 36.1
comp=Z,1.7nm,0.9s
J18K Innoko River 96.39 27 P **P 22 49 35.1 -0.4**
baz=270
SPB2 Spitsbergen Ar 96.40 348 P **P 22 49 34.1 -1.1**
D20K Etivluk River 96.40 22 P **P 22 49 35.6 +0.1**
baz=271
SPITS Spitsbergen Ar 96.40 348 P **P 22 49 34.1 -1.1**
comp=Z,3.2nm,0.5s,baz=91,slow=10,SNR=9.7
comp=Z,3.2nm,0.5s
L18K Granite Mounta 96.40 28 P **P 22 49 36.1 +0.5**
L18K IAmb IAmb 22 49 37.7
comp=Z,3.6nm,1.2s
L18K Granite Mounta 96.40 28 P **P 22 49 35.7 +0.2**
baz=270
H19K Roundabout Mou 96.50 25 P **P 22 49 37.3 +1.5**
H19K IAmb IAmb 22 49 38.4
comp=Z,4.3nm,0.8s
H19K Roundabout Mou 96.50 25 P **P 22 49 35.7 -0.1**
baz=270
E20K Nigu River 96.56 22 P **P 22 49 36.1 -0.1**
baz=271
F20K Avaraart Lake 96.77 23 P **P 22 49 37.1 +0.1**
baz=271
HFS Hagfors 98.27 330 P Pdif 22 49 43.3 -0.6
comp=Z,4.4nm,0.7s,baz=86,slow=5.9,SNR=8.8
comp=Z,4.4nm,0.7s
BPAW Bear Paw Mtn. 98.90 26 P **P 22 49 47.1 +0.3**
baz=275
NOA NORSAR Array B 99.43 331 P **Pdif 22 49 48.1 -1.0**
comp=Z,1.2nm,0.8s,baz=89,slow=4.6,SNR=3.4
comp=Z,1.2nm,0.8s
TORD Torodi Ar. Bea 109.45 282 PKiKP **PKiKP 22 54 34.3 -0.4**
comp=Z,1.3nm,0.6s,baz=86,slow=3.5,SNR=13
ESDC Sonseca Array 112.31 311 PKiKP **PKiKP 22 54 39.5 -0.2**
comp=Z,0.4nm,0.4s,baz=45,slow=2.0,SNR=1.9
YKA Yellowknife Ar 114.50 21 PKP PKPdf 22 54 42.7 -0.3
comp=Z,0.5nm,0.6s,baz=340,slow=2.4,SNR=4.1
DBIC Dimbokro 115.65 275 PKP **PKPdf 22 54 46.4 -0.2**
comp=Z,2.9nm,0.6s,baz=104,slow=4.2,SNR=4.3
BPMT Black Pine Rid 124.62 36 PKPpre 22 54 56.9
NVAR Mina Array Bea 125.27 46 PKP **PKPdf 22 55 04.9 +0.2**
comp=Z,1.0nm,0.7s,baz=270,slow=0.9,SNR=7.2
HLID Hailey 125.55 39 P **PKiKP 22 55 05.4 -0.1**
baz=301
ELK Elko 126.39 42 PKPdf **PKiKP 22 55 07.3 0.0**
MPMC Manual Prospec 126.80 49 P **PKPdf 22 55 06.9 -0.8**
baz=293
R11B Troy Canyon, C 127.24 45 PKPdf **PKiKP 22 55 09.5 +0.5**
R11B Troy Canyon, C 127.24 45 P **PKPdf 22 55 08.4 -0.1**
baz=296
HVU Hansel Valley 127.50 40 **PKiKP 22 55 09.3 -0.1**
DUG Dugway, Tooele 128.28 42 P **PKiKP 22 55 10.9 -0.1**
baz=300
GMRC Granite Mounta 128.68 49 P **PKPdf 22 55 11.4 +0.1**
baz=294
BELC Belle Mtn. Jos 128.72 50 P **PKPdf 22 55 11.4 +0.1**
baz=293
V12A Nelson 128.90 48 **PKiKP 22 55 13.1 +0.7**
PDAR Pinedale Array 128.97 37 PKP **PKPdf 22 55 10.9 -0.8**
comp=Z,0.4nm,0.6s,baz=270,slow=3.6,SNR=5.0
SCHQ Scheffervilla 130.99 358 PKP **PKPdf 22 55 15.0 +0.1**
comp=Z,1.8nm,0.6s,baz=0.0,slow=4.0,SNR=4.3
O20A White River Ci 131.28 40 **PKiKP 22 55 16.8 -0.4**
O20A White River Ci 131.28 40 P **PKPdf 22 55 16.5 +0.4**
baz=304,SNR=6.1
RSSD Black Hills 131.30 33 PKPdf **PKiKP 22 55 16.7 -0.5**
RSSD Black Hills 131.30 33 P **PKPdf 22 55 16.3 +0.2**
baz=312
WUAZ Wupatki 131.53 47 P **PKPdf 22 55 16.9 +0.2**
baz=298
TXAR Lajitas Array 140.20 50 PKhKP PKPpre 22 55 26.1
comp=Z,0.4nm,0.5s,baz=224,slow=2.5,SNR=4.6
CCM Cathedral Cave 142.29 28 PKPdf **PKPdf 22 55 32.7 -3.5**
DRIO Del Rio 142.43 47 PKPdf **PKPdf 22 55 34.6 -2.1**
JCT Junction City 142.44 45 P **PKPdf 22 55 34.9 -1.9**
baz=305
BRDY Brady 142.53 44 PKPdf **PKPdf 22 55 34.7 -2.1**
X37A Clayton 142.70 36 **PKPdf 22 55 34.5 -2.5**
O48B Farmland 142.90 20 P **PKPdf 22 55 35.7 -1.5**
baz=334
ZON Zonda 142.92 181 **PKPdf 22 55 36.5 -1.1**
M53A Wi Miller and 143.10 14 P PKPbc 22 55 36.0 +0.4
baz=342,SNR=5.0
WHTX Lake Whitney, 143.13 41 P PKPbc 22 55 36.8 +0.8
baz=309
BINY Binghamton 143.25 8 P PKPbc 22 55 36.3 +0.3
baz=349
L61B Northampton 143.34 4 P PKPab 22 55 35.7 -0.2
baz=355
HRV Adam Dziewonsk 143.34 2 P PKPab 22 55 36.0 0.0
baz=357
HNDO Hondo 143.35 46 PKPbc 22 55 37.2 +0.4
S44A Carbondale 143.50 27 PKPab 22 55 36.4 -0.3
ACSO Alum Creek Sta 143.61 17 P PKPab 22 55 36.9 -0.1
baz=337
CO03 El Pedregal 143.62 178 PKPdf **PKPdf 22 55 38.5 -0.4**
P49A Miami Univ. Ec 143.70 20 P PKPab 22 55 37.0 -0.4
baz=334,SNR=8.1
MIAR Mount Ida 143.77 35 PKPdf PKPbc 22 55 38.1 +0.3
MIAR Mount Ida 143.77 35 P PKPbc 22 55 38.3 +0.4
baz=317
435B Jarrell 143.80 43 P **PKPdf 22 55 38.6 -0.4**
baz=308
833A Chaparral WMA, 143.93 48 P **PKPdf 22 55 39.8 +0.4**
baz=303
O53A New Philadelph 144.09 15 P PKPbc 22 55 38.5 -0.2
baz=340,SNR=6.9
WCI Wyandotte Cave 144.28 23 P PKPbc 22 55 38.9 -0.4
baz=331
P52A Corning 144.41 17 P PKPbc 22 55 39.5 -0.2
baz=338,SNR=5.9
SSPA Standing Stone 144.47 11 PKPbc 22 55 39.7 -0.1
SSPA Standing Stone 144.47 11 P PKPbc 22 55 39.6 -0.2
baz=346
MCWV Mont Chateau 144.99 14 P **PKPab 22 55 42.0 -0.2**
baz=342,SNR=6.2
MVL Millersville 145.35 9 **PKPdf 22 55 42.0 +0.6**
WVT Waverly 145.44 26 **PKPbc 22 55 42.7 -0.2**
WVT Waverly 145.44 26 P **PKPbc 22 55 43.2 +0.3**
baz=327
CPUP Villa Florida 145.97 200 PKPbc **PKPbc 22 55 45.3 +0.6**
comp=Z,5.7nm,0.4s,baz=151,slow=2.9,SNR=21
OXF Oxford 146.01 30 P **PKPbc 22 55 44.5 -0.1**
baz=323
TZTN Tazewell 146.78 21 P **PKPbc 22 55 46.4 -0.3**
baz=334
BLA Blacksburg 147.15 16 P **PKPbc 22 55 48.0 +0.3**
baz=340
LRAL Lakeview Retre 148.38 29 P **PKPbc 22 55 50.4 -0.4**
baz=326
KMSC Kings Mountain 148.80 19 P **PKPbc 22 55 51.4 -0.4**
baz=337
GOGA Godfrey 149.60 23 P **PKPbc 22 55 54.2 +0.3**
baz=332
BDFB Brasilia 149.85 225 PKPbc **PKiKP 22 55 55.6 -0.1**
comp=Z,8.8nm,0.5s,baz=120,slow=2.2,SNR=16
BDFB PKPab **PKPab 22 56 03.6 +0.8**
comp=Z,6.0nm,0.6s,baz=135,slow=5.7,SNR=3.3
BRAL Brewton 149.87 31 P **PKiKP 22 55 55.4 +0.3**
baz=324
AQDB Aquidauana 150.58 207 **PKiKP 22 55 56.8 -0.1**
TIGA Tifton 151.27 25 P **PKiKP 22 55 58.0 -0.1**
baz=330
LVC Limon Verde 151.82 181 PKPbc **PKiKP 22 56 01.2 +1.3**
comp=Z,3.9nm,0.6s,baz=158,slow=2.6,SNR=2.9

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*IDC **05** 22:37:56.8±1.2,36°.91N×30°.73E,h65km±15km,mb3.4/9, mbtmp3.6/13,Error ellipse: s-maj=11.9km s-min=9.4km az=137.0*
*ISK **05** 22:37:57.2,37°.01N×30°.70E,h86km±1km,ML3.6/25*
*NIC **05** 22:37:58.0,36°.85N×30°.67E,h101km±1km,Ml3.2/11*
*AFAD **05** 22:37:59.4±0.0,37°.15N×30°.66E,h7km±6km,MW3.3*
*THE **05** 22:38:00.3,36°.97N×30°.60E,h29km±42km,ML3.3/3,Error ellipse: s-maj=42.4km s-min=1.9km az=100.0*
ISC 05 22:37:58.5±0.8,**36°.99N**±0°.03×**30°.71E**±0°.02,**h82**km±5km, **n85**,σ1**01**/129,**mb3.4**/9,**1C**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.10**	**206**	Pg		**Pn**	**22 38 09.6**	**-0.6**
KORT	**Korkueli**	**0.29**	**272**	Pg		**Pn**	**22 38 09.8**	**-1.3**
KORT				Sg		**Sn**	**22 38 20.7**	**+0.3**
KORT	**Korkueli**	**0.29**	**272**	P		**Pn**	**22 38 10.6**	**-0.4**
KORT				S		**Sn**	**22 38 19.3**	**-1.0**
BUCA	**Burdur, Bucak-**	**0.36**	**341**	P		**Pn**	**22 38 10.9**	**-0.5**
BUCA				S		**Sn**	**22 38 19.2**	**-1.9**
KEMT	**Kemer-ANTALYA**	**0.40**	**198**	Pg		**Pn**	**22 38 10.9**	**-0.7**
KEMT				Sg		**Sn**	**22 38 21.7**	**+0.4**
BCK	**Bucak**	**0.48**	**349**	Pg		**Pn**	**22 38 11.8**	**-0.6**
BCK				Sg		**Sn**	**22 38 22.2**	**-0.4**
MNVG	**Manavgat-Antal**	**0.60**	**109**	Pg		**Pn**	**22 38 13.3**	**0.0**
MNVG				Sg		**Sn**	**22 38 25.1**	**+0.9**
ELL	**Elmali**	**0.69**	**250**	Pg		**Pn**	**22 38 13.8**	**-0.5**
ELL				Sg		**Sn**	**22 38 26.4**	**+0.4**
ELL	**Elmali**	**0.69**	**250**	⇑*i*P		**Pn**	**22 38 14.8**	**+0.5**
ELL				S		**Sn**	**22 38 28.3**	**+2.3**
AKUM	**Antalya-Kumluc**	**0.73**	**204**	P		**Pn**	**22 38 14.9**	**+0.4**
AKUM				S		**Sn**	**22 38 28.5**	**+2.0**
AKUM				*i* AML		AML	22 38 37.0	
	comp=Z,1μm,0.5s							
BRDR	**BURDUR-Merkez**	**0.88**	**324**	P		**Pn**	**22 38 15.7**	**-0.6**
BRDR				S		**Sn**	**22 38 28.5**	**-1.1**
BRDR				*i* AML		AML	22 38 31.0	
	comp=Z,109nm,0.4s							
KNIK	**Mula-Seydike**	**0.92**	**261**	P		**Pn**	**22 38 17.8**	**+1.0**
KNIK				S		**Sn**	**22 38 32.2**	**+1.7**
KNIK				*i* AML		AML	22 38 34.0	

comp=Z,405nm,0.7s
GOLH Golhisar 0.95 285 P **Pn 22 38 17.6 +0.5**
GOLH S **Sn 22 38 30.1 -1.0**
GOLH *i* AML AML 22 38 35.0
comp=Z,428nm,0.5s
SEDI Konya, Seydise 0.95 61 P **Pn 22 38 17.9 +0.6**
SEDI S **Sn 22 38 31.9 +0.6**
SEDI *i* AML AML 22 38 33.0
comp=Z,296nm,0.4s
DEMR Demre-Antalya 0.99 221 Pg **Pn 22 38 17.4 -0.1**
SEYD Seydisehir-KON 0.99 65 Pg **Pn 22 38 17.4 -0.3**
BASM Basmaki-Afyon 1.07 331 Pg **Pn 22 38 18.2 -0.3**
CAEL Denizli, Camel 1.12 277 P **Pn 22 38 20.2 +1.0**
CAEL S **Sn 22 38 36.2 +1.5**
CAEL *i* AML AML 22 38 39.0
comp=Z,668nm,0.5s
CAME Cameli-Denizli 1.13 268 Pn **Pn 22 38 19.2 -0.1**
ALAN Alanya-ANTALYA 1.15 112 Pn **Pn 22 38 18.9 -0.5**
INCE Denizli-Bozkur 1.15 309 P **Pn 22 38 19.5 -0.1**
INCE S **Sn 22 38 35.1 -0.4**
INCE *i* AML AML 22 38 36.0
comp=Z,86nm,0.4s
AKAS Kas 1.17 230 Pn **Pn 22 38 19.8 0.0**
APMY Acipayam-Deniz 1.22 294 Pn **Pn 22 38 20.3 -0.1**
AFYN Afyon-Dinar-K 1.29 353 P **Pn 22 38 21.4 0.0**
AFYN P 22 38 21.4
AFYN S **Sn 22 38 37.5 -1.0**
AFYN S 22 38 37.6
AFYN *i* AML AML 22 38 40.0
comp=Z,145nm,0.5s
AFYN *i* AML AML 22 38 40.0
comp=Z,153nm,0.5s
KZIL AFYON_Kizioren 1.34 341 P **Pn 22 38 21.7 -0.3**
KZIL S **Sn 22 38 38.0 -1.7**
KZIL *i* AML AML 22 38 42.0
comp=Z,56nm,0.4s
YVAC Isparta, Yalva 1.35 18 P **Pn 22 38 22.3 +0.3**
YVAC S **Sn 22 38 39.3 -0.5**
YVAC *i* AML AML 22 38 41.0
comp=Z,265nm,0.8s
DOGA KONYA_Doganhis 1.35 34 P **Pn 22 38 22.5 +0.4**
DOGA S **Sn 22 38 39.7 -0.2**
DOGA *i* AML AML 22 38 44.0
comp=Z,284nm,0.3s
FETY Fethiye 1.35 255 Pn **Pn 22 38 21.9 -0.1**
DNZT Denizli-Tavas- 1.38 283 P **Pn 22 38 23.7 +1.3**
DNZT P 22 38 23.9
DNZT S **Sn 22 38 41.4 +1.1**
DNZT *i* AML AML 22 38 46.0
comp=Z,280nm,0.5s
DNZT *i* AML AML 22 38 46.0
comp=Z,294nm,0.5s
HDMB Hadim 1.42 90 Pn **Pn 22 38 23.3 +0.2**
DNIZ Denizli-Tavas- 1.48 296 P **Pn 22 38 24.2 +0.6**
DNIZ S **Sn 22 38 42.5 -0.2**
DNIZ *i* AML AML 22 38 50.0
comp=Z,140nm,0.7s
GAZI Gazipasa 1.50 120 Pn **Pn 22 38 23.7 -0.1**
TAVA DENİZLI_Tavas 1.51 289 P **Pn 22 38 25.0 +0.9**
TAVA S **Sn 22 38 43.6 +0.1**
TAVA *i* AML AML 22 38 50.0
comp=Z,137nm,0.4s
SHUT Suhut-Afyon 1.57 355 Pn **Pn 22 38 24.2 -0.7**
KONT Konya--Tatoy 1.62 54 Pn **Pn 22 38 25.2 -0.3**
KHL Karahalli 1.63 325 Pn **Pn 22 38 25.5 -0.1**
DALY Dalyan (Mula) 1.66 265 Pn **Pn 22 38 25.6 -0.3**
PASA Karahalli, USA 1.67 325 P **Pn 22 38 25.7 -0.4**
PASA S **Sn 22 38 46.1 -1.0**
PASA *i* AML AML 22 38 47.0
comp=Z,74nm,0.4s
LADK Ladik-KONYA 1.79 47 Pn **Pn 22 38 27.4 -0.3**
YER Yerkesik 1.95 275 Pn **Pn 22 38 29.8 +0.1**
TURN Turunc 1.99 265 Pn **Pn 22 38 29.9 -0.3**
BOZY Bozyazi-Mersin 2.03 115 Pn **Pn 22 38 31.7 +1.0**
MRSB Marmaris-Mugla 2.03 263 Pn **Pn 22 38 30.7 -0.2**
KRMN Karaman 2.05 84 Pn **Pn 22 38 31.6 +0.4**
TEKE Tekeli-Mersin 2.11 113 Pn **Pn 22 38 32.8 +0.9**
BERE Bereket-Mersin 2.12 107 Pn **Pn 22 38 30.9 -1.3**
NAZL Nazilli-Aydin 2.15 298 Pn **Pn 22 38 32.4 -0.1**
ARG Arkhangelos 2.22 250 Pn **Pn 22 38 32.6 -0.7**
ARG Arkhangelos 2.22 250 P **Pn 22 38 32.8 -0.5**
ARG S **Sn 22 38 57.7 -2.2**
322nm,0.3s
ARG Arkhangelos 2.22 250 P **Pn 22 38 32.7 -0.7**
ARG S **Sn 22 39 00.9 +1.0**
ARG AML AML 22 39 12.5
0.5nm,0.2s
ARG AML AML 22 39 13.6
0.7nm,0.3s
KULA Kula-Manisa 2.23 314 P **Pn 22 38 33.3 -0.2**
KULA S **Sn 22 38 59.2 -1.1**
AKMS Akamas 2.37 146 P **Pn 22 38 35.0 -0.3**
AKMS S **Sn 22 39 03.1 -0.5**
AKMS AML AML 22 39 17.5
0.8nm,0.3s
AKMS AML AML 22 39 18.6
0.5nm,0.4s
ALFC Alefka 2.38 139 P **Pn 22 38 34.4 -1.2**
ALFC S **Sn 22 39 03.1 -0.9**
ALFC AML AML 22 39 13.7
0.5nm,0.3s
ALFC AML AML 22 39 15.1
0.7nm,0.4s
DAT Datca 2.52 265 P **Pn 22 38 37.8 +0.3**
DAT S **Sn 22 39 06.2 -1.3**
NATA Nata 2.67 145 P **Pn 22 38 39.3 -0.2**
NATA S **Sn 22 39 10.8 -0.1**
NATA AML AML 22 39 30.4
1.3nm,0.8s
NATA AML AML 22 39 31.6
2.0nm,0.8s
TROD Troodos 2.69 139 P **Pn 22 38 38.9 -1.0**
TROD S **Sn 22 39 11.0 -0.5**
TROD AML AML 22 39 24.0
0.3nm,0.7s
TROD AML AML 22 39 33.9
0.3nm,0.7s
BODT Bodrum 2.72 273 P **Pn 22 38 40.0 -0.1**
BODT S **Sn 22 39 10.1 -2.0**
ATHAL Athalassa 2.85 129 P **Pn 22 38 41.9 0.0**
ATHAL S **Sn 22 39 16.5 +1.2**
ATHAL AML AML 22 39 27.0
0.5nm,0.5s
ATHAL AML AML 22 39 40.5
0.6nm,0.7s
APOL The Sanctuary 2.90 142 P **Pn 22 38 42.3 -0.2**
APOL S **Sn 22 39 15.9 -0.4**
APOL AML AML 22 39 34.9
0.2nm,0.5s
APOL AML AML 22 39 36.2
0.3nm,0.5s
CSS Mathiatis 2.94 133 P **Pn 22 38 41.9 -1.1**
CSS S **Sn 22 39 17.4 +0.2**
CSS AML AML 22 39 33.1
0.1nm,0.7s
CSS AML AML 22 39 35.0
0.1nm,0.4s
ASGA Asgata 3.01 136 P **Pn 22 38 44.0 -0.1**
ASGA S **Sn 22 39 19.7 +0.5**
ASGA AML AML 22 39 33.4
0.2nm,0.5s
ASGA AML AML 22 39 35.1
0.2nm,0.4s
MVOU Mavrovouni 3.08 129 P **Pn 22 38 44.3 -0.7**
MVOU S **Sn 22 39 21.3 +0.6**
MVOU AML AML 22 39 26.2
0.2nm,0.4s
MVOU AML AML 22 39 26.5
0.2nm,0.3s
SMG Samos 3.17 284 P **Pn 22 38 45.8 -0.3**
SMG S **Sn 22 39 21.0 -1.9**
138nm,0.4s
KARP Karpathos 3.21 244 P **Pn 22 38 46.5 -0.2**
KARP S **Sn 22 39 22.4 -1.5**
275nm,0.3s
KARP Karpathos 3.21 244 P **Pn 22 38 46.5 -0.2**
KARP S **Sn 22 39 23.6 -0.3**
KARP AML AML 22 39 24.7
0.6nm,0.3s
KARP AML AML 22 39 29.8
0.6nm,0.4s
BRTR Keskin Array B 3.57 39 P **Pn 22 38 51.9 +0.2**
7.8nm,0.8s,baz=227,slow=15,SNR=56
BRTR S **Sn 22 39 32.5 -0.4**
29nm,0.5s,baz=213,slow=28,SNR=40
THR2 Thira island, 4.27 264 P **Pn 22 39 01.1 0.0**
THR3 Thira Island, 4.30 264 P **Pn 22 39 01.6 +0.1**
THR6 Thira Island, 4.32 263 P **Pn 22 39 01.7 0.0**
THR5 Thira Island, 4.34 264 P **Pn 22 39 01.6 -0.5**
THR9 Santorini-Faro 4.35 263 P **Pn 22 39 02.2 +0.1**
IDI Anoyia 5.00 252 P **Pn 22 39 09.7 -1.5**
IDI Anoyia 5.00 252 P **Pn 22 39 09.6 -1.5**
11nm,0.3s,baz=62,slow=15,SNR=54
IDI S **Sn 22 40 05.1 -2.7**
15nm,0.5s,baz=3.2,slow=18,SNR=5.8
MMAI Mount Meron Ar 5.53 134 P **Pn 22 39 17.4 -0.9**
3.0nm,0.3s,baz=316,slow=12,SNR=39
MMAI S **Sn 22 40 16.7 -3.9**
3.4nm,0.3s,baz=319,slow=25,SNR=12
IMMV Iera Moni Meta 5.65 256 P **Pn 22 39 18.3 -1.6**
EIL Elat 8.12 153 P **Pn 22 39 51.8 -1.7**
1.3nm,0.2s,baz=333,slow=6.8,SNR=9.3
EIL S **Sn 22 41 19.9 -3.8**
4.5nm,0.3s,baz=336,slow=19,SNR=7.7
FINES FINESS Array B 24.65 355 P **P 22 43 10.5 -0.6**
1.3nm,0.9s,baz=163,slow=15,SNR=4.8
1.3nm,0.9s
HFS Hagfors 25.60 340 P **P 22 43 21.0 +1.3**
1.1nm,0.7s,baz=153,slow=13,SNR=1.9
1.1nm,0.7s
NOA NORSAR Array B 27.04 339 P **P 22 43 34.6 +1.8**
0.3nm,0.7s,baz=155,slow=9.1,SNR=2.5
0.3nm,0.7s
ESDC Sonseca Array 27.23 286 P **P 22 43 36.4 +1.6**
0.2nm,0.7s,baz=95,slow=9.1,SNR=1.6
0.2nm,0.7s
ARCES ARCESS Array B 32.73 357 P **P 22 44 22.4 -0.5**
2.3nm,1.0s,baz=174,slow=9.0,SNR=4.0
2.3nm,1.0s
TORD Torodi Ar. Bea 35.17 235 P **P 22 44 44.3 -0.3**
0.2nm,0.7s,baz=36,slow=12,SNR=2.0
0.2nm,0.7s
KURBB Kurchatov Arra 36.46 53 P **P 22 44 55.3 +0.1**
1.0nm,0.4s,baz=269,slow=8.8,SNR=11
1.0nm,0.4s
MKAR Makanchi Array 39.00 59 P **P 22 45 17.0 +0.2**
1.0nm,0.6s,baz=278,slow=7.5,SNR=13
1.0nm,0.6s
ZALV Zalesovo Beam 40.48 48 P **P 22 45 28.5 -0.3**
0.5nm,0.3s,baz=275,slow=8.5,SNR=2.6
0.5nm,0.3s

TEH ***05*** *22:38:12.2, 34°.43N×45°.62E, h10km±32km, ML2.6*
ISN ***05*** *22:38:13.7±1.2, 34°.45N×45°.65E, h31km±34km, ML2.4*
ISC 05 22:38:13.1±1.1**, 34°.44N**±0°.05×**45°.63E**±0°.05**, h7**km±8km**, n7, σ0**s**74/11, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.07**	**332**	Pg	**Pg**	**22 38 14.5**	**-0.5**
KGS1				Sg	**Sg**	**22 38 17.0**	**+0.7**
GLG1	**Gilan-e-Gharb**	**0.40**	**145**	Pg	**Pg**	**22 38 20.6**	**-0.4**
IDHR	**Dehrash**	**0.68**	**68**	Pg	**Pg**	**22 38 25.4**	**-0.8**
IGHG	**Ghaleghazi**	**0.79**	**98**	Pg	**Pg**	**22 38 27.6**	**-0.7**
IGHG				Sg	**Sb**	**22 38 40.2**	**+0.1**
IBDR	**Badra** baz=350	**1.35**	**169**	*e*Pg	**Pn**	**22 38 38.0**	**-0.4**
IBDR				*e*Sg	**Sb**	**22 38 57.0**	**+0.7**
IBDR				AML	AML	22 39 00.6	
IKRK	**Kirkuk** comp=E,58nm,0.4s	**1.43**	**312**	*e*Pn	**Pn**	**22 38 39.0**	**-0.4**
IKRK				*e*Sn	**Sb**	**22 38 59.0**	**+0.6**
IKRK				AML	AML	22 39 01.2	
IKRK	comp=N,45nm,0.3s			AML	AML	22 39 01.8	
IBZA	**Bozab** comp=E,80nm,0.5s	**1.84**	**89**	Pn	**Pn**	**22 38 46.2**	**+0.8**

ISK ***05*** *22:45:13.8, 38°.72N×43°.46E, h6km, ML2.7/19*
AFAD ***05*** *22:45:13.8±0.0, 38°.71N×43°.41E, h7km±2km, ML2.8*
ISC 05 22:45:14.8±0.9**, 38°.74N**±0°.02×**43°.44E**±0°.03**, h13**km±7km**, n28, σ0°95/42, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**197**	Pg	**Pg**	**22 45 18.9**	**+0.4**
TVAN	**Van**	**0.21**	**188**	P	**Pg**	**22 45 18.7**	**-0.8**
TVAN				S	**Sg**	**22 45 23.3**	**+0.5**
TVAN	comp=N,2μm,0.5s			*i* AML	AML	22 45 27.0	
TVAN	comp=E,2μm,0.7s			*i* AML	AML	22 45 30.0	
TVAN	comp=Z,2μm,0.8s			*i* AML	AML	22 45 31.0	
VMUR	**Van-Muradiye**	**0.27**	**21**	P	**Pg**	**22 45 19.9**	**-0.7**
VMUR	comp=N,2μm,0.3s			*i* AML	AML	22 45 25.0	
VMUR				S	**Sg**	**22 45 25.1**	**+0.6**
VMUR	comp=E,2μm,0.3s			*i* AML	AML	22 45 26.0	
ERCV	**ERCIS-VAN**	**0.30**	**344**	Pg	**Pg**	**22 45 20.5**	**-0.5**
ERCV				Sg	**Sg**	**22 45 25.9**	**+0.7**
OZAP	**Van, Ozalp-Mer**	**0.44**	**100**	P	**Pg**	**22 45 23.2**	**-0.3**
OZAP				S	**Sb**	**22 45 31.5**	**+0.5**
GEVA	**Gevas**	**0.52**	**216**	P	**Pg**	**22 45 23.6**	**-1.5**
GEVA				S	**Sg**	**22 45 30.6**	**-1.4**
AKDM	**Akdamar-Van**	**0.55**	**222**	Pg	**Pg**	**22 45 24.5**	**-1.1**
AKDM				Sg	**Sg**	**22 45 32.8**	**0.0**
CLDR	**Caldiran**	**0.55**	**42**	Pg	**Pg**	**22 45 24.5**	**-1.1**
CLDR				Sg	**Sg**	**22 45 33.7**	**+0.7**
CLDR	**Caldiran**	**0.55**	**42**	P	**Pg**	**22 45 24.6**	**-1.1**
CLDR				S	**Sg**	**22 45 33.5**	**+0.5**
CLDR	comp=N,1μm,0.3s			*i* AML	AML	22 45 34.0	
CLDR	comp=E,2μm,0.5s			*i* AML	AML	22 45 34.0	
CLDR	comp=Z,432nm,0.6s			*i* AML	AML	22 45 35.0	
ADCV	**BITLIS_Adilcev**	**0.57**	**278**	P	**Pg**	**22 45 26.1**	**+0.2**
ADCV				S	**Sb**	**22 45 34.7**	**-0.1**
MLAZ	**Malazgirt-MUS**	**0.81**	**300**	Pg	**Pg**	**22 45 29.9**	**-0.6**
MLAZ				Sg	**Sb**	**22 45 42.1**	**+0.4**
DORK	**Agr/Tutak/Do**	**0.83**	**322**	P	**Pg**	**22 45 29.9**	**-1.1**
DORK				S	**Sb**	**22 45 42.1**	**-0.3**
DORK	comp=Z,228nm,0.5s			*i* AML	AML	22 45 43.0	
DORK	comp=N,259nm,0.3s			*i* AML	AML	22 45 43.0	
DORK	comp=E,239nm,0.4s			*i* AML	AML	22 45 43.0	
AGRB	**Hanur-Agry**	**0.91**	**337**	Pg	**Pg**	**22 45 31.8**	**-0.6**
AGRB				Sg	**Sb**	**22 45 45.6**	**+0.9**
KOTA	**Agri, Merkez-K**	**1.08**	**350**	P	**Pg**	**22 45 34.8**	**-0.9**
KOTA				S	**Sg**	**22 45 47.9**	**-1.9**
GURO	**Guroymak-BITLI**	**1.12**	**261**	Pn	**Pb**	**22 45 34.9**	**-1.2**
IGDI	**IGDIR**	**1.23**	**23**	P	**Pn**	**22 45 36.7**	**-1.1**
IGDI				S	**Sn**	**22 45 55.8**	**+1.4**
TASB	**TASBURUN-IGDIR**	**1.39**	**26**	Pn	**Pn**	**22 45 40.3**	**+0.3**
VRTB	**Varto-Mus**	**1.61**	**286**	Pn	**Pb**	**22 45 44.0**	**-0.4**
GNI	**Garni**	**1.73**	**35**	Pn	**Pn**	**22 45 45.5**	**+0.7**
KOPR	**Koprukoy-ERZUR**	**1.76**	**316**	Pn	**Pn**	**22 45 46.1**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.86**	**252**	Pn	**Pn**	**22 45 46.9**	**+0.5**
KARS	**Kars**	**1.91**	**352**	Pn	**Pn**	**22 45 47.9**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.01**	**335**	Pn	**Pn**	**22 45 49.5**	**+0.9**
BNGB	**Bingl**	**2.17**	**278**	Pn	**Pn**	**22 45 51.6**	**+0.8**
YEDI	**Yedisu-Bingol**	**2.36**	**288**	Pn	**Pn**	**22 45 54.4**	**+1.0**
MAZI	**Mazidag**	**2.69**	**243**	Pn	**Pn**	**22 45 58.8**	**+0.9**
DYBB	**Diyarbakir**	**2.71**	**254**	Pn	**Pn**	**22 45 59.8**	**+1.6**
ERZN	**Erzincan**	**3.02**	**288**	Pn	**Pn**	**22 46 03.9**	**+1.5**

NAO ***05*** *22:48:26.7, 39°.02N×25°.74E, h33km, mb4.0*
IDC ***05*** *22:48:57.7±0.8, 41°.43N×19°.48E, h0km, mb3.9/13, mbtmp3.8/27, ML3.7/12, MS3.6/31, Error ellipse: s-maj=11.9km s-min=10.2km az=19.0*
TIR ***05*** *22:48:59.6, 41°.46N×19°.47E, h23km±2km, Ml4.3*
PRU ***05*** *22:48:59.3, 41°.26N×19°.83E, h10km, M4.3*
MOS ***05*** *22:48:59.6±1.4, 41°.47N×19°.45E, h12km, mb4.4/11, Error ellipse: s-maj=4.6km s-min=3.1km az=92.4*
LDG ***05*** *22:49:00.6±0.1, 41°.48N×19°.50E, h2km, Ml4.0/18, Error ellipse: s-maj=4.3km s-min=2.8km az=33.0*
NEIC ***05*** *22:49:00.7±2.2, 41°.46N±0°.04×19°.48E±0°.05, h8km±5km, mb4.1/18, ML4.0/1(BUC), Error ellipse: s-maj=6.9km s-min=4.9km az=151.0*

RHSSO ***05*** *22:49:00.9±0.6, 41°.42N×19°.61E, h7km±2km, ML4.1/16*
BEO ***05*** *22:49:01.8±0.4, 41°.41N×19°.53E, h14km±2km, ML3.8/12*
THE ***05*** *22:49:02.8, 41°.48N×19°.58E, h11km, ML4.0/11, Error ellipse: s-maj=1.2km s-min=0.7km az=331.0*
MED_RC ***05*** *22:49:02.0±0.4, 41°.45N×19°.44E, h23km±1km, MW4.4/15, Moment Tensor Solution.Mantle waves: s15,c29; Duration: 1:0 Moment tensor: Scale 10^{15}Nm; M_{rr}4.88±.58; $M_{\theta\theta}$-0.04±.33; $M_{\phi\phi}$-4.84±.35; $M_{r\theta}$1.22±.32; $M_{\theta\phi}$2.62±.21; $M_{\phi r}$-1.47±.25; Best double couple: $M_0$5.77000×10^{15} NP1:ϕ_s149.00000°, δ55.00000°, λ82.00000°. NP2:ϕ_s344.00000°, δ36.00000°, λ102.00000°. Principal axes: T 5.2500, Plg78.0000°, Azm28.0000°; N 1.0500, Plg7.0000°, Azm154.0000°; P -6.3000, Plg9.0000°, Azm246.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
PDG ***05*** *22:49:02.3±0.3, 41°.53N×19°.64E, h11km, MD4.1/13, ML4.0/13 Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
ISC 05 22:49:01.2±0.7**, 41°.45N**±0°.02×**19°.51E**±0°.02**, h19**km±3km**, n474, σ1**s**77/555, mb4.2**/26**, MS3.6**/22**, 47C-23D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane** baz=110	**0.29**	**112**	P	**Pg**	**22 49 07.1**	**-0.6**
TIR				S	**Sb**	**22 49 12.3**	**+0.3**
TIR	baz=110 comp=E,667nm,0.4s,baz=110			AMP			
TIR	**Tirane**	**0.29**	**112**		**Pg**	**22 49 06.8**	**-0.9**
TIR				Sg	**Sg**	**22 49 11.6**	**-0.5**
TIR	**Tirane**	**0.29**	**112**	P	**Pg**	**22 49 07.1**	**-0.6**
TIR	comp=E,112μm,0.3s			S	**Sb**	**22 49 12.1**	**0.0**
TIR	**Tirane**	**0.29**	**112**	*e*Pg	**Pg**	**22 49 07.2**	**-0.5**
TIR				*e*Sg	**Sb**	**22 49 12.0**	**0.0**
TIR	**Tirane**	**0.29**	**112**	P	**Pg**	**22 49 06.8**	**-0.9**
ULC	**Ulcinj**	**0.55**	**339**	⇓*i*Pg	**Pb**	**22 49 11.9**	**-0.2**
ULC				*i* Sg	**Sb**	**22 49 20.2**	**+0.6**
ULC	**Ulcinj**	**0.55**	**339**	P	**Pb**	**22 49 11.9**	**-0.2**
ULC				S	**Sb**	**22 49 20.0**	**+0.4**
PUK	**Puka** baz=27	**0.65**	**26**	P	**Pg**	**22 49 12.4**	**-1.9**
PUK				S	**Sb**	**22 49 23.6**	**+0.9**
PUK	baz=27 comp=E,27nm,0.4s,baz=27			AMP			
PUK	**Puka**	**0.65**	**26**		**Pg**	**22 49 12.6**	**-1.6**
PUK				Sg	**Sg**	**22 49 22.6**	**-0.5**
DRME	**Dracevica, Mon**	**0.77**	**342**	*e*Pg	**Pb**	**22 49 16.3**	**+0.2**
DRME				*e*Sg	**Sn**	**22 49 29.7**	**+1.6**
DRME	**Dracevica, Mon**	**0.77**	**342**	⇓*i*Pg	**Pb**	**22 49 15.9**	**-0.1**
DRME				*e*Sg	**Sn**	**22 49 28.5**	**+0.4**
DRME	**Dracevica, Mon**	**0.77**	**342**	⇓*i*Pg	**Pb**	**22 49 16.2**	**+0.2**
DRME				*i* Sg	**Sn**	**22 49 28.2**	**+0.1**
BUM	**Brajici-Budva**	**0.96**	**332**	⇑*i*Pg	**Pn**	**22 49 20.3**	**+0.6**
BUM				*i* Sg	**Sn**	**22 49 35.2**	**+2.3**
VLO	**Vlora** baz=179	**0.98**	**181**	P	**Pn**	**22 49 20.3**	**+0.4**
VLO				S	**Sb**	**22 49 32.7**	**+0.5**
VLO	**Vlora**	**0.98**	**181**		**Pn**	**22 49 22.2**	**+2.2**
VLO	**Vlora**	**0.98**	**181**	P	**Pn**	**22 49 22.5**	**+2.6**
VLO	comp=E,20μm,0.6s			S	**Sn**	**22 49 36.9**	**+3.6**
VLO	**Vlora**	**0.98**	**181**	P	**Pn**	**22 49 22.2**	**+2.2**
PDG	**Podgorica**	**0.99**	**349**	⇓P	**Pn**	**22 49 21.6**	**+1.5**
PDG				⇑S	**Sn**	**22 49 34.1**	**+0.5**
PDG	**Podgorica**	**0.99**	**349**	Pg	**Pg**	**22 49 19.3**	**-1.3**
PDG	**Podgorica**	**0.99**	**349**	*e*Pg	**Pb**	**22 49 20.0**	**+0.2**
PDG				*e*Sg	**Sn**	**22 49 35.3**	**+1.7**
PDG	**Podgorica**	**0.99**	**349**	⇓*i*Pg	**Pg**	**22 49 18.9**	**-1.7**
PDG				*e*Sg	**Sn**	**22 49 34.3**	**+0.7**
PDG	**Podgorica**	**0.99**	**349**	⇑*i*Pg	**Pg**	**22 49 19.2**	**-1.3**
PDG				*i* Sg	**Sn**	**22 49 34.6**	**+1.0**
TTG	**Podgorica**	**0.99**	**349**	P	**Pb**	**22 49 19.9**	**+0.2**
TTG				S	**Sn**	**22 49 35.0**	**+1.4**
BCI	**Bajram Curri** baz=25	**1.00**	**24**	P	**Pg**	**22 49 18.8**	**-1.9**
BCI				S	**Sb**	**22 49 33.7**	**+1.0**
BCI	baz=25 comp=N,17nm,0.5s,baz=25			AMP			
OHR	**Ohrid**	**1.03**	**109**	*i* Pg	**Pg**	**22 49 20.0**	**-1.3**
OHR				*i* Sg	**Sn**	**22 49 35.9**	**+1.3**
CEME	**Cevo**	**1.18**	**338**	⇑*i*Pg	**Pg**	**22 49 24.4**	**+0.3**
CEME				*i* Sg	**Sn**	**22 49 41.8**	**+3.6**
PVY	**Plav**	**1.19**	**16**	⇓*i*Pg	**Pb**	**22 49 22.4**	**-0.8**
PVY				*i* Sg	**Sn**	**22 49 39.5**	**+0.9**
HCY	**Herceg Novi**	**1.25**	**323**	*e*Pg	**Pg**	**22 49 24.6**	**-0.8**
HCY				*e*Sg	**Sn**	**22 49 42.4**	**+2.5**
HCY	**Herceg Novi**	**1.25**	**323**	⇑*i*Pg	**Pg**	**22 49 25.6**	**+0.2**
HCY				*i* Sg	**Sn**	**22 49 45.1**	**+5.2**
HCY	**Herceg Novi**	**1.25**	**323**	P	**Pg**	**22 49 25.6**	**+0.2**
HCY				S	**Sn**	**22 49 45.0**	**+5.2**
KBN	**Korca** baz=129	**1.27**	**130**	P	**Pg**	**22 49 25.5**	**-0.4**
KBN				S	**Sg**	**22 49 42.2**	**-0.4**
KBN	baz=129 comp=E,31nm,0.7s,baz=129			AMP			
KBN	**Korca**	**1.27**	**130**		**Pb**	**22 49 25.0**	**+0.4**
KBN	**Korca**	**1.27**	**130**	P	**Pg**	**22 49 25.4**	**-0.4**
KBN	comp=E,8μm,0.6s			S	**Sg**	**22 49 43.1**	**+0.5**
KBN	**Korca**	**1.27**	**130**	P	**Pb**	**22 49 25.0**	**+0.4**
NKME	**Niksic**	**1.38**	**343**	⇓*i*Pg	**Pg**	**22 49 27.4**	**-0.4**
NKME				*i* Sg	**Sg**	**22 49 47.9**	**+2.1**
KOME	**Kolasin**	**1.40**	**0**	*e*Pg	**Pg**	**22 49 27.3**	**-0.9**
KOME				*e*Sg	**Sg**	**22 49 48.0**	**+1.5**
KOME	**Kolasin**	**1.40**	**0**	⇑*i*Pg	**Pg**	**22 49 27.0**	**+0.3**
KOME				*i* Sg	**Sg**	**22 49 48.0**	**+1.5**
IVA	**Berane**	**1.45**	**11**	⇓*i*Pg	**Pb**	**22 49 27.5**	**0.0**
IVA				*i* Sg	**Sg**	**22 49 48.9**	**+0.9**
SKO	**Skopje**	**1.54**	**70**	*i* Pn	**Pb**	**22 49 29.6**	**+0.6**
LSK	**Leskovik** baz=146	**1.54**	**147**	P	**Pb**	**22 49 29.2**	**0.0**
LSK				S	**Sg**	**22 49 50.8**	**-0.4**
LSK	baz=146 comp=E,21nm,0.7s,baz=146			AMP			
LSK	**Leskovik**	**1.54**	**147**	P	**Pb**	**22 49 29.4**	**+0.2**
LSK				S	**Sb**	**22 49 49.6**	**+1.2**
FNA	**Florina** comp=E,7μm,0.7s baz=114	**1.56**	**115**	P	**Pb**	**22 49 29.6**	**+0.1**
FNA				S	**Sg**	**22 49 51.3**	**-0.4**
FNA	baz=114						
FNA	**Florina**	**1.56**	**115**		**Pn**	**22 49 29.2**	**+1.2**
FNA	**Florina**	**1.56**	**115**	P	**Pn**	**22 49 29.0**	**+1.0**
FNA	comp=E,8μm,0.5s			S	**Sg**	**22 49 50.6**	**-1.1**
FNA	**Florina**	**1.56**	**115**	*e*Pg	**Pb**	**22 49 29.9**	**+0.4**
FNA				*e*Sg	**Sg**	**22 49 52.0**	**+0.3**
FNA	**Florina**	**1.56**	**115**	P	**Pn**	**22 49 29.2**	**+1.2**
NEST	**Nestorio**	**1.56**	**131**	P	**Pb**	**22 49 30.1**	**+0.6**
NEST	comp=E,3μm,0.6s			S	**Sb**	**22 49 50.0**	**+1.1**
DBRK	**Dubrovnik**	**1.58**	**321**	*e*Pn	**Pb**	**22 49 30.0**	**+0.2**
BRY	**Bratogost**	**1.62**	**334**	⇑*i*Pn	**Pb**	**22 49 31.0**	**+0.5**
BRY				*e*Sn	**Sg**	**22 49 52.5**	**-1.0**
BRY	**Bratogost**	**1.62**	**334**	⇓*i*Pn	**Pg**	**22 49 31.2**	**-1.2**
BRY				*i* Sn	**Sg**	**22 49 54.4**	**+0.9**
BRY	**Bratogost**	**1.62**	**334**	P	**Pg**	**22 49 31.2**	**-1.2**
BRY				S	**Sg**	**22 49 54.0**	**+0.5**
SRN	**Sarande** baz=165	**1.62**	**166**	P	**Pb**	**22 49 30.9**	**+0.5**
SRN				S	**Sg**	**22 49 52.8**	**-0.6**
SRN	baz=165 comp=E,7.8nm,0.5s,baz=165			AMP			
SRN	**Sarande**	**1.62**	**166**	P	**Pb**	**22 49 30.6**	**+0.2**
SRN				S	**Sb**	**22 49 51.6**	**+1.2**
PENT	**Pentalofos** comp=E,3μm,0.6s	**1.76**	**135**	P	**Pb**	**22 49 32.9**	**-0.1**
PENT				S	**Sb**	**22 49 56.1**	**+1.4**
UPM	**Unac-Piva** comp=E,2μm,0.8s	**1.80**	**346**	⇑*i*Pn	**Pb**	**22 49 33.7**	**0.0**
UPM				*e*Sn	**Sb**	**22 49 57.3**	**+1.3**
UPM	**Unac-Piva**	**1.80**	**346**	⇑*i*Pn	**Pb**	**22 49 34.3**	**+0.6**
UPM				*i* Sn	**Sg**	**22 49 58.3**	**-1.2**
SJES	**Sjenica**	**1.84**	**11**	*e*Pn	**Pb**	**22 49 34.5**	**+0.2**

SJES eSn Sb 22 49 56.7 -0.2
SJES Sjenica 1.84 11⇑iPn Pn 22 49 33.3 +1.5
SJES eSn Sb 22 49 56.7 -0.2
KLINJ Klinje 1.85 339 ePn Pb 22 49 33.8 -0.6
KLINJ eSn Sb 22 49 58.0 +0.9
PLE Pljevlja 1.88 357⇓iPn Pb 22 49 35.1 +0.2
PLE i Sn Sg 22 49 59.8 -2.0
PLE Pljevlja 1.88 357 P Pb 22 49 35.1 +0.2
PLE S Sb 22 49 59.0 +1.0
STON Ston 1.95 317 ePn Pb 22 49 35.4 -0.7
STON eSn Sb 22 50 00.8 +0.7
STON Ston 1.95 317 ePn Pb 22 49 35.1 -1.0
STON Ston 1.95 317 ePn Pn 22 49 34.8 +1.5
STON eSn Sb 22 50 00.8 +0.7
NOCI Noci 1.96 251 P Pb 22 49 35.1 -1.2
baz=251
NOCI S Sn 22 49 58.0 +0.5
baz=251
STIP Stip 2.02 82 iPn Pb 22 49 37.8 +0.4
KPRO Kipourio 2.06 136 P Pn 22 49 36.4 +1.6
KPRO S Sb 22 50 03.1 0.0
JAN Janina 2.07 150 P Pb 22 49 37.6 -0.5
JAN S Sb 22 50 03.0 -0.4
comp=E,3µm,0.8s
JAN Janina 2.07 150 P Pg 22 49 40.5 -0.4
RUDO Rudo 2.17 357⇓iPn Pn 22 49 37.6 +1.4
RUDO eSn Sb 22 50 05.7 -0.5
IVAS Ivanjica 2.17 12 ePn Pn 22 49 38.2 +1.8
IVAS eSn Sn 22 50 05.2 +2.4
PRVS Prvonek 2.18 60 ePn Pn 22 49 37.8 +1.3
PRVS eSn Sn 22 50 05.1 +2.1
BARS Barje 2.19 51 ePn Pn 22 49 38.1 +1.5
KTI Kastanea 2.24 117 P Pn 22 49 39.1 +1.7
MATE Matera 2.27 250 ⇑P Pn 22 49 39.7 +2.1
MATE Matera 2.27 250 Pn 22 49 39.7 +2.1
VAY Valandovo 2.31 92 iPn Pn 22 49 40.0 +1.8
BBLS Lazi&#263i 2.41 358 ePn Pn 22 49 42.0 +2.3
BBLS Lazi&#263i 2.41 358⇑iPn Pn 22 49 41.7 +2.0
BBLS eSn Sn 22 50 11.7 +3.0
BOSS Bosilegrad 2.45 64 ePn Pn 22 49 41.6 +1.5
KNT Kendrikon 2.57 95 P Pn 22 49 43.1 +1.3
KNT S Sn 22 50 13.6 +1.1
comp=E,620nm,1.4s
KNT Kendrikon 2.57 95 P Pn 22 49 43.9 +2.1
GRUS Gruza 2.59 20 ePn Pn 22 49 43.9 +1.9
MAKA Makarska 2.60 316 ePn Pn 22 49 43.4 +1.3
LIT Litokhoron 2.64 120 Pn 22 49 44.0 +1.3
LIT Litokhoron 2.64 120 P Pn 22 49 44.4 +1.7
LIT S Sn 22 50 16.6 +2.5
comp=E,852nm,0.8s
LIT Litokhoron 2.64 120 P Pn 22 49 44.0 +1.3
HAPS Han Pijesak,BI 2.66 351 ePn Pn 22 49 45.6 +2.4
HAPS Han Pijesak,BI 2.66 351⇑iPn Pn 22 49 45.1 +1.9
HAPS eSn Sn 22 50 18.4 +3.5
DIVS Divibare 2.67 7 ePn Pn 22 49 45.0 +1.8
DIVS eSn Sn 22 50 18.0 +3.0
THL Klokotos Trika 2.69 134 P Pn 22 49 45.5 +2.2
RICI Ricice 2.69 320 ePn Pn 22 49 44.8 +1.3
TYRN Tyrnavos 2.71 129 P Pn 22 49 45.6 +1.9
BOVS Bovan 2.72 36 ⇑P Pn 22 49 45.4 +1.6
BOVS Bovan 2.72 36 Pn 22 49 45.4 +1.6
BOVS Bovan 2.72 36 ePn Pn 22 49 45.6 +1.8
BOVS eSn Sn 22 50 17.8 +1.7
THE Thessaloniki 2.74 106 P Pn 22 49 45.1 +1.0
THE Thessaloniki 2.74 106 P Pn 22 49 46.1 +2.0
TSLK Tsoukalades, L 2.77 161 P Pn 22 49 46.1 +1.6
LKD2 Lefkada island 2.80 161 P Pn 22 49 46.5 +1.4
baz=160
LKD2 S Sn 22 50 20.6 +2.3
baz=160
LKD2 Lefkada island 2.80 161 P Pn 22 49 46.4 +1.4
SGRT San Giovanni R 2.84 277 P Pn 22 49 47.2 +1.6
baz=278
SGRT San Giovanni R 2.84 277 Pn 22 49 46.0 +0.4
TRUS Trudelj 2.84 13 ePn Pn 22 49 47.1 +1.5
HORT Hortiatis 2.85 106 P Pn 22 49 46.7 +1.0
HVAR Hvar 2.85 308 ePn Pn 22 49 46.6 +1.0
NYDR Nydri-Lefkada 2.89 161 P Pn 22 49 47.2 +1.1
EVGI Lefkada island 2.96 162 P Pn 22 49 48.2 +1.0
SOH Sokhos 2.97 101 P Pn 22 49 48.9 +1.6
SOH Sokhos 2.97 101 P Pn 22 49 49.5 +2.2
EVR Evrytania 3.09 144 P Pn 22 49 50.8 +1.8
TEKS Tekeris 3.09 0 ePn Pn 22 49 50.5 +1.5
TEKS Tekeris 3.09 0⇑iPn Pn 22 49 50.0 +1.0
TEKS eSn Sn 22 50 28.1 +2.7
SRS Serrai 3.10 95 P Pn 22 49 50.3 +1.3
SRS Serrai 3.10 95 ePn Pn 22 49 50.7 +1.7
SRS Serrai 3.10 95 P Pn 22 49 50.9 +1.9
TIP Timpagrande 3.10 224 ⇓P Pn 22 49 50.7 +1.6
TIP Timpagrande 3.10 224 Pn 22 49 49.4 +0.3
ZAGS Zajecar 3.10 40 ePn Pn 22 49 50.4 +1.4
ZAGS eSn Sn 22 50 28.4 +2.9
MAKR Makrakomi, Fth 3.16 140 P Pn 22 49 52.5 +2.6
CUC Castrocucco 3.16 244 Pn 22 49 51.4 +1.4
PLG Polygyros 3.17 109 P Pn 22 49 51.5 +1.4
PLG Polygyros 3.17 109 P Pn 22 49 52.3 +2.2
MMB Musomishta 3.19 87 P Pn 22 49 52.4 +2.1
BLKB Belogradchik 3.19 46 ⇓S Sn 22 50 30.3 +2.5
BLKB Belogradchik 3.19 46 Sn 22 50 30.3 +2.5
PVO Paravola 3.23 151 P Pn 22 49 53.3 +2.5
AGG Agios Georgios 3.25 137 Pn Pn 22 49 53.1 +2.0
AGG Agios Georgios 3.25 137 P Pn 22 49 53.7 +2.5
AGG Agios Georgios 3.25 137 P Pn 22 49 53.2 +2.0
NVR Nevrokopi 3.28 90 P Pn 22 49 52.7 +1.2
DMLN Damoulianata-K 3.28 168 P Pn 22 49 52.2 +0.7
AVAS Avala Beograd 3.32 12 ePn Pn 22 49 53.4 +1.3
KUBS Kucevo 3.36 28 ePn Pn 22 49 52.6 0.0
VLS Valsamata 3.38 165 P Pn 22 49 53.4 +0.5
VLS Valsamata 3.38 165 P Pn 22 49 53.9 +1.0
ANX Ano Chora 3.41 146 P Pn 22 49 56.4 +3.1
DOB Doboj 3.44 343 ePn Pn 22 49 55.5 +1.8
DOB eSn Sn 22 50 35.9 +2.1
PSDA Pessada-Kefalo 3.44 166 P Pn 22 49 54.4 +0.7
KOKK Kokkinochori, 3.45 99 P Pn 22 49 55.4 +1.5
MGRS Mrkonjic Grad 3.46 330⇑iPn Pn 22 49 56.5 +2.5
MGRS eSn Sn 22 50 37.1 +2.8
RTZL Ratzakli, Kefa 3.51 164 P Pn 22 49 56.0 +1.3
PAIG Paliouri 3.52 114 P Pn 22 49 55.4 +0.6
PAIG Paliouri 3.52 114 P Pn 22 49 56.7 +1.9
EFP Efpalio 3.54 148 P Pn 22 49 58.5 +3.4
NEO Neokhori 3.56 126 P Pn 22 49 56.5 +1.1
OUR Ouranopolis 3.57 107 P Pn 22 49 56.5 +1.0
OUR Ouranopolis 3.57 107 P Pn 22 49 57.6 +2.1
ZIRJ Zirje 3.60 309 ePn Pn 22 49 57.6 +1.6
KALE Kalithea 3.67 146 P Pn 22 49 59.7 +2.8
MDVR Moldovita 3.70 25 ⇑P Pn 22 49 58.6 +1.3
MORI Morici 3.70 312 ePn Pn 22 49 58.9 +1.7
BLY Banja Luka 3.71 333 ePn Pn 22 49 59.6 +2.2
BLY Banja Luka 3.71 333⇑iPn Pn 22 49 59.6 +2.2
BLY eSn Sn 22 50 43.4 +2.9
FRGS Fruska Gora 3.71 3 ⇓P Pn 22 49 58.8 +1.3
FRGS Fruska Gora 3.71 3 ePn Pn 22 49 58.5 +1.1
FRGS eSn Sn 22 50 41.2 +0.6
FRGS Fruska Gora 3.71 3⇑iPn Pn 22 49 58.2 +0.8
FRGS eSn Sn 22 50 42.4 +1.8
A050A Klekovaca 3.73 325⇑iPn Pn 22 50 00.5 +2.7
A050A eSn Sn 22 50 44.4 +3.2
PAOL Paolisi 3.75 265 Pn 22 50 00.0 +2.0
KAVA Kavala 3.80 95 P Pn 22 49 59.8 +1.1
BAIL Bailesti 3.81 46 ⇑P Pn 22 50 00.5 +1.7
LTHK Lithakia 3.88 164 P Pn 22 50 00.2 +0.5
DJES Djerdap 3.90 33 ⇑P Pn 22 50 02.8 +2.8
DJES ⇑S Sn 22 50 48.1 +3.0
KLV Kalavryta, Ach 3.97 148 P Pn 22 50 03.0 +1.9
PLD Plovdiv 3.98 78 P Pn 22 50 03.8 +2.7
HERR Herculane 4.03 31 ⇑P Pn 22 50 03.8 +1.9
HERR ⇑S Sn 22 50 51.7 +3.3
THAS Thassos island 4.03 100 P Pn 22 50 02.6 +0.8
PRIJ Prijedor 4.07 331 eSn Sn 22 50 51.7 +2.3
BANR Banloc 4.10 16 ⇑P Pn 22 50 03.4 +0.6
UDBI Udbina 4.12 319 ePn Pn 22 50 05.8 +2.6
GUR Goura 4.14 147 P Pn 22 50 05.8 +2.4
DUGI Dugi Otok 4.14 309 ePn Pn 22 50 05.1 +1.7
INTR Introdacqua 4.23 279 Pn Pn 22 50 06.0 +1.4
CEL Celeste 4.23 222 Pn 22 50 05.3 +0.6
VIRC Vir 4.33 312 ePn Pn 22 50 07.5 +1.5
BZS Buzias 4.43 20 ⇑P Pn 22 50 08.4 +1.0
BZS Buzias 4.43 20 P Pn 22 50 08.3 +1.0
PLIT Plitvice 4.45 322 iPn Pn 22 50 10.0 +2.4
KYMI Kymi, Euboea I 4.51 127 P Pn 22 50 10.6 +2.1

RDO Rodhopi 4.55 92 Pn 22 50 10.7 +1.7
RDO Rodhopi 4.55 92 P Pn 22 50 09.6 +0.6
LIA Limnos Island 4.59 108 P Pn 22 50 10.5 +1.0
GZR Gura Zlata 4.60 30 ⇑P Pn 22 50 12.1 +2.4
NVLJ Novalja 4.61 314 ePn Pn 22 50 11.2 +1.5
MOSL Moslavina 4.61 335 ePn Pn 22 50 11.7 +1.8
MOSL Sn Sn 22 51 02.9 0.0
ITM Ithomi 4.66 156 Pn Pn 22 50 11.8 +1.3
ITM Ithomi 4.66 156 P Pn 22 50 10.7 +0.1
CAMP Campotosto 4.67 285 Pn 22 50 12.4 +1.6
SURR Surduc 4.70 23 ⇓P Pn 22 50 11.9 +0.9
SURR Surduc 4.70 23 Pn 22 50 11.9 +0.9
ATH Athens Observa 4.76 136 P Pn 22 50 14.9 +3.1
RABC Rab 4.78 315 ePn Pn 22 50 13.4 +1.3
DION Dionisos Attik 4.79 133 P Pn 22 50 15.2 +2.8
MORH Mrgy, Hungar 4.80 353 ⇑P Pn 22 50 13.8 +1.4
GUMA Gualdo di Mace 4.86 291 Pn 22 50 14.5 +1.3
PYL PYLOS 4.87 158 P Pn 22 50 13.7 +0.3
NRCA Norcia 4.95 288 Pn 22 50 15.7 +1.2
ELND Elena 4.95 71 ⇑P Pn 22 50 16.5 +2.0
ELND Elena 4.95 71 Pn 22 50 16.5 +2.0
ALN Alexandroupoli 4.96 94 Pn Pn 22 50 16.3 +1.6
ALN Alexandroupoli 4.96 94 P Pn 22 50 16.8 +2.1
ALN Alexandroupoli 4.96 94 P Pn 22 50 16.3 +1.6
LOT Lotru 5.05 36 ⇑P Pn 22 50 18.2 +2.2
LOT ⇑S Sn 22 51 17.2 +3.3
SIRR Siria 5.06 17 ⇓P Pn 22 50 17.4 +1.5
ZAG Zagreb 5.06 331 ePn Pn 22 50 18.2 +2.2
DEV Deva 5.07 28 ⇓P Pn 22 50 17.9 +1.9
DEV Deva 5.07 28 P Pn 22 50 17.9 +1.9
OZLJ Ozalj 5.09 326 ePn Pn 22 50 18.7 +2.3
BOJS Bojanci 5.10 324 ePn Pn 22 50 18.1 +1.7
BOJS eSn Sn 22 51 13.8 -1.0
BOJS Bojanci 5.10 324 ePn Pn 22 50 18.3 +1.8
PTJ Puntijarka 5.14 331 ePn Pn 22 50 18.5 +1.4
PTJ Puntijarka 5.14 331 P Pn 22 50 20.5 +3.4
KALN Kalnik 5.17 336 ePn Pn 22 50 19.0 +1.5
CESX Cesi 5.29 285 Pn Pn 22 50 20.8 +1.6
SMRN Sveta Marina 5.30 314 ePn Pn 22 50 20.4 +1.2
LOBO Lobor 5.32 333 ePn Pn 22 50 21.1 +1.6
LEGS Legarje 5.42 327 ePn Pn 22 50 23.1 +2.1
VLI Velial 5.43 149 P Pn 22 50 21.8 +0.7
BRJN Brijuni 5.44 311 ePn Pn 22 50 22.6 +1.4
SGRR Singureni 5.50 58 ⇑P Pn 22 50 24.5 +2.5
PRK Paraskevi 5.62 111 P Pn 22 50 28.2 +4.6
CEY Cerknica 5.65 321⇑iPn Pn 22 50 25.8 +1.7
CEY eSn Sn 22 51 29.5 +1.0
VOIR 5.67 44 ⇑P Pn 22 50 27.4 +3.0
VOIR 5.67 44 P Pn 22 50 27.3 +3.0
RAFF Raffo Rosso 5.81 225 Pn Pn 22 50 26.5 +0.2
DRGR 5.81 22 P Pn 22 50 29.1 +2.7
DRGR pmax pmax
comp=Z,12nm,0.7s
MARR Marisel-Cluj 5.83 25 ⇑P Pn 22 50 29.0 +2.3
MARR Marisel-Cluj 5.83 25 Pn 22 50 29.0 +2.3
JAVS Javornik 5.94 320 ePn Pn 22 50 29.1 +0.9
PERS Pernice 6.07 330 ePn Pn 22 50 31.4 +1.5
SOKA Soboth 6.14 330 iPn Pn 22 50 32.8 +2.0
comp=Z,2.5nm,0.2s,SNR=12
SOKA i Sn Sn 22 51 39.1 -1.4
comp=Z,17nm,0.7s
LEHL Lehliu 6.15 58 ⇓P Pn 22 50 32.9 +1.9
MLR Muntele Rosu 6.18 47 ⇑P Pn 22 50 34.5 +3.0
MLR Muntele Rosu 6.18 47 Pn Pn 22 50 33.2 +1.7
MLR Muntele Rosu 6.18 47 Pn Pn 22 50 34.2 +2.7
comp=Z,2.7nm,0.3s,baz=241,slow=12,SNR=29
MLR Sn Sn 22 51 45.6 +3.9
comp=Z,0.9nm,0.3s,baz=195,slow=20,SNR=1.4
comp=Z,13nm,0.6s
MLR Muntele Rosu 6.18 47 P Pn 22 50 34.5 +3.0
OBKA Obir 6.19 326 iPn Pn 22 50 33.9 +2.4
comp=Z,3.2nm,0.2s,SNR=11
OBKA i Sn Sn 22 51 42.0 +0.2
comp=Z,35nm,0.6s
OBKA Obir 6.19 326 ePn Pn 22 50 33.4 +1.8
OBKA eSn Sn 22 51 42.5 +0.7
CLTB Caltabellotta 6.22 234 Pn Pn 22 50 33.7 +1.7
SABO M.te Sabotino 6.23 319 Pn Pn 22 50 32.8 +0.7
ISR Istrita 6.30 52 ⇑P Pn 22 50 36.2 +3.1
ISR Istrita 6.30 52 P Pn 22 50 36.2 +3.1
NEHR Nehoiu 6.34 49 ⇑P Pn 22 50 36.0 +2.5
NEHR Nehoiu 6.34 49 Pn 22 50 36.0 +2.5
APE Apeiranthos 6.40 131 ⇓P Pn 22 50 35.8 +1.3
APE Apeiranthos 6.40 131 Pn 22 50 35.8 +1.3
APE Apeiranthos 6.40 131 iP Pn 22 50 35.4 +0.9
BOSR Bodos 6.42 42 ⇓P Pn 22 50 35.8 +1.2
OSSC Osservatorio P 6.45 291 Pn 22 50 36.0 +1.0
ARSA Arzberg 6.46 335 iPn Pn 22 50 37.3 +2.1
comp=Z,1.4nm,0.4s
PSZ Piszkesteto 6.47 2 ⇑P Pn 22 50 36.7 +1.3
PSZ Piszkesteto 6.47 2 Pn Pn 22 50 36.5 +1.1
PSZ Piszkesteto 6.47 2 Pn 22 50 36.7 +1.3
PSZ Piszkesteto 6.47 2 P Pn 22 50 36.7 +1.3
COVR Voineasa-Covas 6.54 46 ⇑P Pn 22 50 39.2 +2.7
COVR Voineasa-Covas 6.54 46 Pn 22 50 39.1 +2.7
CASP Castiglione de 6.56 285 Pn 22 50 37.0 +0.3
PRED Cave del Predi 6.58 321 Pn 22 50 38.1 +1.2
RONA Rosalia, Austr 6.65 341 ePn Pn 22 50 42.6 +4.8
comp=Z,0.8nm,0.2s
PSN Preselentsi 6.73 68 P Pn 22 50 41.9 +2.9
SPBR Spulber 6.79 48 ⇑P Pn 22 50 42.1 +2.4
PLOR Plostina 6.79 47 ⇑P Pn 22 50 42.7 +2.8
PLOR Plostina 6.79 47 P Pn 22 50 42.6 +2.8
VRI Vrincioaia 6.84 47 ⇓P Pn 22 50 42.3 +1.8
VRI Vrincioaia 6.84 47 P Pn 22 50 42.3 +1.8
ZCCA Zocca 6.90 298 Pn 22 50 42.6 +1.3
TEOL Teolo 6.92 307 Pn 22 50 41.4 0.0
ZST Bratislava 6.96 347 eSN Sn 22 51 58.6 -1.9
CONA Conrad Observa 6.97 339 ePn Pn 22 50 45.0 +2.7
comp=Z,1.2nm,0.3s
TLBR Topalu 6.98 61 ⇑P Pn 22 50 45.2 +2.9
TLBR Topalu 6.98 61 Pn 22 50 45.2 +2.9
VYHS Vyhne 7.06 356 eP Pn 22 50 48.2 +4.8
VYHS e 22 52 04.5
VYHS Vyhne 7.06 356 ePN Pn 22 50 48.2 +4.8
VYHS eSN Sn 22 52 04.5 +1.5
KECS Kecovo 7.06 5 eP Pn 22 50 47.8 +4.3
KECS e 22 52 03.8
KECS Kecovo 7.06 5 ePN Pn 22 50 47.8 +4.3
KECS eSN Sn 22 52 03.8 +0.7
MFTR Murfatlar 7.10 64 ⇓P Pn 22 50 46.0 +2.1
MFTR Murfatlar 7.10 64 Pn 22 50 46.0 +2.1
MODS Modra-Piesok 7.10 348 eP Pn 22 50 49.5 +5.5
MODS Modra-Piesok 7.10 348 ePN Pn 22 50 49.5 +5.5
KBA Koelnbreinsper 7.15 324 ePn Pn 22 50 47.5 +2.6
comp=Z,5.5nm,0.8s
KBA Koelnbreinsper 7.15 324 P Pn 22 50 46.9 +2.0
KBA pmax pmax
comp=Z,16nm,0.9s
ABTA Abfaltersbach 7.30 319 iPn Pn 22 50 46.0 -0.8
comp=Z,0.9nm,0.2s
CFR Carcaliu 7.31 57 ⇑P Pn 22 50 48.7 +1.9
CFR Carcaliu 7.31 57 P Pn 22 50 48.7 +1.9
CTI Castel Tesino 7.31 312 Pn Pn 22 50 47.0 0.0
CTI Castel Tesino 7.31 312 P Pn 22 50 47.0 0.0
TPGR Topolog 7.35 59 ⇑P Pn 22 50 48.8 +1.4
TPGR Topolog 7.35 59 Pn 22 50 48.8 +1.4
BURAR Bucovina Array 7.38 32 Pn Pn 22 50 49.0 +1.0
BURAR Bucovina Array 7.38 32 P Pn 22 50 49.0 +1.0
BUR08 Bucovina Ar. S 7.40 31 Pn Pn 22 50 49.1 +0.9
MOA Molln 7.41 331 ePn Pn 22 50 51.4 +3.2
comp=Z,1.5nm,0.2s
MOA eSn Sn 22 52 13.3 +1.7
comp=Z,8.3nm,0.6s
IDI Anoyia 7.47 144 Pn Pn 22 50 48.7 -0.4
IDI Anoyia 7.47 144 Pn Pn 22 50 48.0 -1.1
comp=Z,2.6nm,0.3s,baz=328,slow=9.5,SNR=12
IDI Sn Sn 22 52 09.8 -3.5
comp=Z,3.8nm,0.3s,baz=300,slow=20,SNR=9.2
PRMA PARMA 7.50 299 Pn Pn 22 50 49.5 +0.1
BIOA Bad Ischl, Aus 7.51 328 ePn Pn 22 50 52.3 +2.7
comp=Z,4.6nm,0.7s
JAVC Velka Javorina 7.52 351 ePN Pn 22 50 52.2 +2.4
CRVS Cervenica-Dubn 7.57 10 eP Pn 22 50 54.3 +3.8
CRVS Cervenica-Dubn 7.57 10 ePN Pn 22 50 54.3 +3.8
JURR Jurilovca 7.61 61 ⇓P Pn 22 50 53.9 +2.9
LANS Liptovska Anna 7.70 360 eP Pn 22 50 58.1 +5.9
LANS Liptovska Anna 7.70 360 ePN Pn 22 50 58.1 +5.9
KOLS Kolonicke sedl 7.73 14 eP Pn 22 50 56.3 +3.7
KOLS e 22 52 19.1
KOLS Kolonicke sedl 7.73 14 ePN Pn 22 50 56.3 +3.7

KOLS eSN Sn 22 52 19.1 -0.4
MSSA Maissana 7.88 295 Pn Pn 22 50 55.3 +0.6
PGF Pioggiola 7.90 281 ePN Pn 22 50 53.7 -1.4
KRUC Moravsky 7.92 345 ePN Pn 22 50 56.0 +0.8
NIE Niedzica 7.98 4 eP Pn 22 51 00.6 +4.4
NIE Niedzica 7.98 4 P Pn 22 51 00.5 +4.4
NIE pmax pmax
comp=Z,3.0nm,1.4s
STHS Stebnicka Huta 8.06 8 eP Pn 22 51 01.4 +4.3
STHS Stebnicka Huta 8.06 8 ePN Pn 22 51 01.4 +4.3
WTTA Wattenberg 8.09 318 iPn Pn 22 51 00.1 +2.3
comp=Z,4.2nm,0.3s
WTTA i Sn Sn 22 52 27.9 -0.9
comp=Z,16nm,0.5s
WTTA Wattenberg 8.09 318 P Pn 22 51 01.5 +3.7
WTTA pmax pmax
comp=Z,14nm,0.7s
VRAC Vranov 8.12 346 ePN Pn 22 51 00.6 +2.7
VRAC Vranov 8.12 346 Pn Pn 22 50 57.5 -0.4
comp=Z,0.1nm,0.3s,baz=168,slow=12,SNR=3.0
VRAC LR LR 22 54 33.1
comp=Z,268nm,18.1s,baz=168,slow=41
comp=Z,0.7nm,0.5s
WATA Walderalm 8.17 319 iPn Pn 22 51 01.7 +2.9
comp=Z,2.9nm,0.2s,SNR=14
CKRC Cesky Krumlov 8.23 335 ePN Pn 22 51 01.4 +1.9
CKRC AMS AMS 22 54 30.0
comp=Z,500nm,16.3s
CKRC Cesky Krumlov 8.23 335 eP Pn 22 51 01.4 +1.9
CKRC MLR MLR
comp=Z,500nm,16.3s
SQTA Sankt Quirin 8.28 317 iPn Pn 22 51 03.7 +3.4
comp=Z,3.2nm,0.2s
SQTA eSn Sn 22 52 34.2 +0.9
comp=Z,7.5nm,0.3s
FETA Feichten 8.40 314 ePn Pn 22 51 05.0 +3.0
comp=Z,1.4nm,0.4s
FETA eSn Sn 22 52 37.8 +1.4
comp=Z,7.0nm,0.7s
KARP Karpathos 8.41 132 Pn Pn 22 51 03.6 +1.6
FUORN Ofenpass-Fuorn 8.43 311 Pn Pn 22 51 03.7 +1.3
GEC2 GERESS Array S 8.45 333 Pn Pn 22 51 02.9 +0.3
GERES GERESS Array B 8.45 333 Pn Pn 22 51 02.7 +0.1
comp=Z,0.2nm,0.3s,baz=146,slow=11,SNR=5.0
GERES Sn Sn 22 52 38.2 +0.8
comp=Z,0.8nm,0.3s,baz=144,slow=25,SNR=5.4
GERES LR LR 22 55 07.7
comp=Z,302nm,20.0s,baz=139,slow=44
comp=Z,1.1nm,0.7s
KWP Kalwaria Pacla 8.48 14 Pn Pn 22 51 03.5 +0.7
KWP Kalwaria Pacla 8.48 14 P Pn 22 51 03.6 +0.7
ARG Arkhangelos 8.52 125 P Pn 22 51 05.2 +1.8
MILM Milestii Mici 8.63 48 eP Pn 22 51 06.0 +1.1
MILM eS Sn 22 52 40.0 -1.6
MILM eLq LQ 22 54 04.0
MILM LQM 22 55 05.0
comp=Z,700nm,12.6s
MILM LRM MLR 22 55 17.0
comp=Z,1µm,15.0s
MILM Milestii Mici 8.63 48 eP Pn 22 51 06.0 +1.1
MILM eS Sn 22 52 40.0 -1.6
MILM MLR MLR
comp=Z,1µm,15.0s
RETA Reutte 8.69 317 iPn Pn 22 51 09.1 +3.3
comp=Z,2.6nm,0.4s
RETA i Sn Sn 22 52 43.7 +0.5
comp=Z,6.2nm,0.4s
DAVOX Davos/Dischmat 8.73 311 Pn Pn 22 51 06.7 +0.2
comp=Z,1.3nm,0.3s,baz=119,slow=13,SNR=12
DAVOX Sn Sn 22 52 44.0 -0.5
comp=Z,0.9nm,0.3s,baz=162,slow=20,SNR=2.2
DAVOX LR LR 22 55 22.1
comp=Z,207nm,19.8s,baz=116,slow=44
comp=Z,2.5nm,0.5s
KHC Kasperske Hory 8.74 333 Pn Pn 22 51 07.8 +1.3
KHC Kasperske Hory 8.74 333 ePN Pn 22 51 08.1 +1.6
KHC eSN Sn 22 52 46.2 +1.8
KHC AMS AMS 22 54 50.0
comp=Z,500nm,13.8s
KHC Kasperske Hory 8.74 333 eP Pn 22 51 08.1 +1.6
KHC e 22 52 46.2
KHC MLR MLR
comp=Z,500nm,13.8s
OJC Ojcow 8.77 1 Pn Pn 22 51 07.6 +0.8
OJC Ojcow 8.77 1 P Pn 22 51 07.6 +0.8
KRLC Kraliky 8.83 348 AMS AMS 22 55 10.0
comp=Z,1µm,13.1s
TUE Stuetta 8.88 308 Pn Pn 22 51 08.5 -0.1
DAVA Damuels 9.03 313 ePn Pn 22 51 14.2 +3.7
comp=Z,1.2nm,0.2s
DAVA eSn Sn 22 52 51.0 -0.7
comp=Z,16nm,0.6s
DPC Dobruska-Polom 9.17 347 AMS AMS 22 55 30.0
comp=Z,900nm,12.6s
PRU Pruhonice 9.21 340 AMS AMS 22 55 00.0
comp=Z,400nm,13.1s
SBF Sospel 9.22 289 ePn Pn 22 51 13.2 +0.1
SBF eSn Sn 22 52 47.6 -8.6
comp=Z,5.7nm,0.3s
PRA Prague 9.32 339 AMS AMS 22 55 00.0
comp=Z,400nm,16.9s
UPC Upice 9.38 346 AMS AMS 22 55 40.0
comp=Z,700nm,14.5s
OSTC Ostas 9.39 347 AMS AMS 22 55 40.0
comp=Z,1µm,12.9s
CHVC Chvalec 9.45 346 AMS AMS 22 55 40.0
comp=Z,700nm,13.5s
KEST Kesra 9.79 238 Pn Pn 22 51 21.5 +0.5
KEST Kesra 9.79 238 Pn Pn 22 51 20.9 -0.1
comp=Z,0.1nm,0.3s,baz=54,slow=8.7,SNR=4.0
KEST LR LR 22 56 21.5
comp=Z,627nm,18.3s,baz=0.5,slow=46
comp=Z,1.4nm,0.7s
LMR La Mourre 9.80 285 ePn Pn 22 51 18.0 -3.0
LMR eSn Sn 22 53 01.9 -8.5
comp=Z,1.3nm,0.3s
MBDF Montbardon 9.88 294 ePn Pn 22 51 19.7 -2.5
MBDF eSn Sn 22 53 03.2 -9.3
comp=Z,5.1nm,0.4s
BNI Bardonecchia 10.03 295 Pn Pn 22 51 23.1 -1.2
BNI Bardonecchia 10.03 295 P Pn 22 51 23.1 -1.2
HSKC Hora Svate Kat 10.08 337 AMS AMS 22 55 40.0
comp=Z,400nm,11.7s
LPG La Plagne 10.11 298 ePn Pn 22 51 24.8 -0.8
LPG eSn Sn 22 53 09.7 -8.8
comp=Z,4.1nm,0.3s
LPL La Plagne 10.13 298 ePn Pn 22 51 25.0 -0.8
LPL eSn Sn 22 53 10.2 -8.7
comp=Z,6.2nm,0.3s
BFO Black Forest 10.49 315 Pn Pn 22 51 31.2 +0.8
BFO Black Forest 10.49 315 P Pn 22 51 31.2 +0.8
ORIF Oris-en-Rattie 10.54 294 ePn Pn 22 51 31.1 -0.1
ORIF eSn Sn 22 53 19.2 -9.5
comp=Z,3.6nm,0.4s
SMRF Simiane la Rot 10.56 288 ePn Pn 22 51 33.1 +1.6
BRTR Keskin Array B 10.89 94 Pn Pn 22 51 34.8 -1.3
comp=Z,0.3nm,0.8s,baz=278,slow=19,SNR=1.2
BRTR LR LR 22 56 39.8
comp=Z,380nm,18.7s,baz=292,slow=42
CABF La Chapelle 10.95 303 ePn Pn 22 51 35.9 -0.9
CABF eSn Sn 22 53 29.8 -8.9
comp=Z,2.9nm,0.4s
HINF Hinteralfeld 11.03 309 ePn Pn 22 51 38.3 +0.4
HINF eSn Sn 22 53 35.1 -5.5
comp=Z,3.4nm,0.3s
ECH Echery 11.06 312 Pn Pn 22 51 39.0 +0.7
ECH Echery 11.06 312 P Pn 22 51 39.0 +0.7
CDF Champ du Feu 11.11 313 ePn Pn 22 51 39.6 +0.6
VIVF Saint-Julien-l 11.36 292 ePn Pn 22 51 40.8 -1.6
HAU Haudompre 11.42 309 ePn Pn 22 51 43.4 +0.3
HAU eSn Sn 22 53 43.1 -7.0
comp=Z,6.6nm,0.4s
AKASG Malin Array Be 11.44 33 Pn Pn 22 51 42.3 -1.0
comp=Z,0.3nm,0.3s,baz=222,slow=14,SNR=4.2
AKASG LR LR 22 56 53.8
comp=Z,148nm,19.6s,baz=216,slow=42
comp=Z,0.2nm,0.3s
AKASG Malin Array Be 11.44 33 iP Pn 22 51 46.0 +2.6
AKBB Malin Array Si 11.44 33 iP Pn 22 51 44.9 +1.5
SSB Saint Sauveur 11.54 294 Pn Pn 22 51 44.2 -0.7
SSB Saint Sauveur 11.54 294 P Pn 22 51 44.2 -0.7
SFTF Sexfontaines 12.28 308 ePn Pn 22 51 52.2 -2.7
SMF Signal de Mont 12.40 300 ePn Pn 22 51 54.6 -2.0
SMF eSn Sn 22 54 05.3 -8.9
comp=Z,3.2nm,0.3s

MEZF Maizieres J'vi 12.41 309 *e*Pn **Pn 22 51 55.5 -1.3**
LOR Lormes 12.61 303 *e*Pn **Pn 22 51 57.7 -1.7**
LOR *e*Sn Sn 22 54 11.0 -8.2
comp=Z,7.0nm,0.4s
SSF Saint Saulge 12.76 301 *e*Pn **Pn 22 51 59.2 -2.3**
SSF *e*Sn Sn 22 54 12.9 -10
comp=Z,5.7nm,0.6s
AVF Avril sur Loir 12.77 300 *e*Pn **Pn 22 52 00.0 -1.6**
AVF *e*Sn Sn 22 54 14.8 -8.3
comp=Z,1.7nm,0.5s
BGF Bois d'Agland 13.03 299 *e*Pn **Pn 22 52 03.4 -1.8**
BGF *e*Sn Sn 22 54 19.7 -10
comp=Z,5.9nm,0.5s
CAF Calviac 13.19 291 *e*Pn **Pn 22 52 08.2 +0.8**
TCF Toulx Ste Croi 13.38 297 *e*Pn **Pn 22 52 06.9 -3.0**
TCF *e*Sn Sn 22 54 29.0 -9.0
comp=Z,2.1nm,0.4s
HYF Humbligny 13.39 301 *e*Pn **Pn 22 52 10.0 0.0**
HYF *e*Sn Sn 22 54 28.3 -10
comp=Z,25nm,0.3s
ANN Anapa 13.51 70 *e*P **Pn 22 52 14.6 +2.9**
ANN pmax pmax
comp=Z,10.0nm,0.7s
ANN MLR MLR
comp=Z,101nm,9.0s
MNK Minsk 14.19 20 *i* P **Pn 22 52 17.8 -3.2**
comp=E,9.0nm,0.9s
MNK *i* P **Pn 22 52 17.8 -3.2**
comp=N,26nm,1.1s
MNK *i* P **Pn 22 52 17.8 -3.2**
comp=Z,11nm,0.8s,baz=207
MNK *i* S **Sn 22 54 57.0 -0.8**
MNK *i* LQ LQ 22 56 28.6
MNK *i* LR LR 22 57 33.7
MNK *i* LRM MLR 22 58 13.3
comp=N,288nm,16.8s
MNK *i* LRM MLR 22 58 17.9
comp=Z,433nm,16.5s
MNK *i* LRM MLR 22 58 22.4
comp=E,74nm,16.2s
MNK Minsk 14.19 20 *i* P **Pn 22 52 17.7 -3.2**
MNK *i* S **Sn 22 54 56.9 -0.8**
MNK pmax pmax
comp=N,26nm,1.1s
MNK pmax pmax
comp=Z,11nm,0.9s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK MLR MLR
comp=N,288nm,17.0s
MNK MLR MLR
comp=Z,433nm,17.0s
MNK MLR MLR
comp=E,74nm,16.0s
NACGM Naroch 14.29 17 *e*P **P 22 52 29.6 +0.2**
comp=Z,18nm,0.8s,baz=204
MMAI Mount Meron Ar 15.19 119 Pn **Pn 22 52 35.2 +0.5**
comp=Z,0.6nm,0.3s,baz=312,slow=12,SNR=4.1
MMAI LR LR 22 59 39.1
comp=Z,147nm,19.3s,baz=260,slow=42
comp=Z,2.5nm,0.6s
GRR Gorron 15.98 303 *e*Pn **Pn 22 52 44.5 -0.3**
VORR Voronezh 16.91 46 *e*P **P 22 52 58.3 -0.2**
VORR pmax pmax
comp=Z,13nm,0.4s
EIL Elat 17.18 128 P **Pn 22 52 58.2 -1.8**
comp=Z,0.1nm,0.3s,baz=332,slow=18,SNR=2.3
EIL S Sn 22 55 59.8 -11
comp=Z,2.3nm,0.5s,baz=300,slow=20,SNR=3.2
comp=Z,1.9nm,0.6s
KIV Kislovodsk 17.21 74 *e*P **Pn 22 53 01.1 +0.6**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KBZ Khabaz 17.36 75 P **Pn 22 53 03.0 +0.7**
comp=Z,0.1nm,0.3s,baz=315,slow=4.3,SNR=2.1
KBZ LR LR 23 01 35.8
comp=Z,86nm,19.5s,baz=282,slow=44
comp=Z,1.7nm,0.8s
KBZ Khabaz 17.36 75 *i* P **Pn 22 53 03.6 +1.4**
KBZ pmax pmax
comp=Z,9.0nm,1.4s
GURO Guroymak-BITLI 17.49 92 Pn **Pn 22 53 04.2 +0.1**
VSU Vasula 17.63 13 *i* P **P 22 53 06.8 +0.5**
OBN Obninsk 17.70 34 Pn **Pn 22 53 06.2 -0.1**
OBN IAmb IAmb 22 53 10.6
comp=Z,26nm,1.3s
OBN Obninsk 17.70 34 P **Pn 22 53 06.9 +0.6**
comp=Z,3.4nm,0.3s,baz=202,slow=11,SNR=5.5
OBN LR LR 23 00 32.4
comp=Z,120nm,20.5s,baz=176,slow=39
comp=Z,11nm,0.4s
OBN Obninsk 17.70 34 *i* P **Pn 22 53 07.1 +0.8**
OBN *i* S **Sn 22 56 20.6 -2.2**
OBN pmax pmax
comp=Z,38nm,1.7s
ESDC Sonseca Array 17.91 272 P **Pn 22 53 08.4 -0.8**
comp=Z,0.1nm,0.3s,baz=69,slow=15,SNR=2.0
ESDC LR LR 23 00 18.1
comp=Z,84nm,18.4s,baz=84,slow=38
comp=Z,0.3nm,0.3s
VRH Novokhopyorsk 18.11 50 *e*P **Pn 22 53 10.4 -1.0**
VRH pmax pmax
comp=Z,9.0nm,0.6s
MOS Moscow 18.57 34 *e*P **P 22 53 16.5 -0.2**
HFS Hagfors 19.05 351 P **P 22 53 21.0 -0.9**
comp=Z,0.1nm,0.3s,baz=163,slow=11,SNR=5.2
HFS LR LR 23 00 51.5
comp=Z,77nm,20.7s,baz=170,slow=37
comp=Z,3.2nm,0.9s
GNI Garni 19.13 86 P **P 22 53 22.2 -1.0**
GNI IAmb IAmb 22 53 26.4
comp=Z,19nm,1.1s
GNI Garni 19.13 86 LR LR 23 02 05.8
comp=Z,55nm,18.1s,baz=286,slow=41
GNI Garni 19.13 86 P **P 22 53 22.2 -1.0**
GNI pmax pmax
comp=Z,19nm,1.2s
NORES NORESS Array B 19.92 348 P **P 22 53 32.1 +0.7**
NB2 NORSAR Subarra 20.26 348 P **P 22 53 35.7 +0.5**
comp=Z,7.8nm,1.4s,baz=151,slow=10
NOA NORSAR Array B 20.26 348 P **P 22 53 35.2 0.0**
comp=Z,0.2nm,0.4s,baz=157,slow=10,SNR=3.6
NOA LR LR 23 02 39.8
comp=Z,144nm,18.7s,baz=170,slow=40
comp=Z,0.2nm,0.4s
EKA Eskdalemuir Ar 20.35 321 P **P 22 53 33.9 -2.3**
comp=Z,0.3nm,0.4s,baz=114,slow=8.8,SNR=2.9
comp=Z,0.3nm,0.4s
NC303 NORSAR Array S 20.41 349 P **P 22 53 37.2 +0.4**
FINES FINESS Array B 20.41 9 P **P 22 53 35.7 -1.1**
FINES FINESS Array B 20.41 9 P **P 22 53 35.0 -1.8**
comp=Z,2.1nm,0.3s,baz=186,slow=11,SNR=41
comp=Z,2.1nm,0.3s
FINES FINESS Array B 20.41 9 P **P 22 53 35.7 -1.1**
FIA1 FINESS Array S 20.41 9 P **P 22 53 36.1 -0.7**
MAK Makhachkala 20.76 76 *e*P **P 22 53 38.7 -2.0**
MAK *e*S **S 22 57 29.2 -2.3**
MAK pmax pmax
comp=Z,226nm,1.1s
MAK MLR MLR
comp=Z,117nm,13.0s
PESTR Estremoz 20.84 272 P **P 22 53 42.2 +0.5**
PESTR IAmb IAmb 22 54 01.1
comp=Z,6.5nm,0.9s
MDT Midelt 21.02 254 P **P 22 53 44.3 +0.5**
comp=Z,2.4nm,0.9s,baz=62,slow=14,SNR=2.3
MDT LR LR 23 01 40.3
comp=Z,101nm,19.8s,baz=65,slow=36
comp=Z,2.4nm,0.9s
BELG Belogornoye 21.96 51 P **P 22 53 52.8 -0.7**
comp=Z,21nm,1.0s,baz=319,slow=19,SNR=7.8
comp=Z,21nm,1.0s
BELG Belogornoye 21.96 51 *i* P **P 22 53 53.7 +0.2**
BELG pmax pmax
comp=Z,5.0nm,1.1s
TAM Tamanrasset 22.00 217 P **P 22 53 54.5 +0.1**
TAM IAmb IAmb 22 53 59.0
comp=Z,5.5nm,1.0s
TAM Tamanrasset 22.00 217 P **P 22 53 54.5 +0.1**
TAM pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 22.95 25 *e*P **P 22 54 02.1 -1.9**
KLMR pmax pmax
comp=Z,27nm,1.3s
KIRV Kirov 25.43 37 LR LR 23 04 54.8
comp=Z,222nm,19.1s,baz=238,slow=38
AKTO Aktyubinsk 27.97 58 LR LR 23 08 20.1
comp=Z,132nm,20.4s,baz=254,slow=42
ARCES ARCESS Array B 28.32 4 P **P 22 54 52.1 -1.2**
comp=Z,0.9nm,0.8s,baz=193,slow=12,SNR=4.2
ARCES LR LR 23 07 11.3
comp=Z,253nm,18.1s,baz=186,slow=39
comp=Z,0.9nm,0.8s
ARU Arti 29.23 46 P **P 22 55 00.3 -1.2**
ARU Arti 29.23 46 LR LR 23 07 43.8
comp=Z,240nm,19.1s,baz=257,slow=38
ARU Arti 29.23 46 *c i* P **P 22 55 00.6 -0.9**
ARU 22 58 06.8
ARU S **S 22 59 55.1 +2.2**
ARU SS **SnSn 23 01 18.4 +0.1**
ARU pmax pmax
comp=Z,7.0nm,1.0s
ARU MLR MLR
comp=Z,261nm,16.0s
SVE Sverdlovsk 30.44 46 *e*P **P 22 55 12.2 0.0**
SVE pmax pmax
comp=Z,9.0nm,1.1s
SVE MLR MLR
comp=Z,289nm,16.0s
TORD Torodi Ar. Bea 32.20 214 P **P 22 55 28.5 +0.5**
comp=Z,1.5nm,0.9s,baz=27,slow=9.6,SNR=5.8
comp=Z,1.5nm,0.9s
BORG Borgarnes 32.89 329 LR LR 23 10 51.0
comp=Z,80nm,19.6s,baz=128,slow=40
BRVK Borovoye 35.63 53 P **P 22 55 57.8 +0.2**
BRVK Borovoye 35.63 53 *i* P **P 22 55 58.0 +0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 35.70 53 P **P 22 55 57.0 -1.1**
comp=Z,3.2nm,1.0s,baz=269,slow=6.9,SNR=9.0
BVAR LR LR 23 12 33.8
comp=Z,79nm,21.0s,baz=253,slow=40
comp=Z,3.2nm,1.0s
FURI Furi 36.59 147 LR LR 23 12 17.3
comp=Z,66nm,18.7s,baz=326,slow=38
KKAR Karatay Array 37.30 70 P **P 22 56 11.7 -0.2**
KKAR Karatay Array 37.30 70 P **P 22 56 11.7 -0.2**
GAR Garm 38.42 76 P **P 22 56 21.3 -0.2**
GAR IAmb IAmb 22 56 37.5
comp=Z,4.2nm,0.8s
AAK Ala-Archa 40.24 69 LR LR 23 16 03.4
comp=Z,69nm,19.1s,baz=304,slow=40
DBIC Dimbokro 40.86 219 LR LR 23 16 28.9
comp=Z,70nm,18.1s,baz=80,slow=40
KURBB Kurchatov Arra 40.99 56 P **P 22 56 41.2 -1.4**
comp=Z,0.5nm,0.6s,baz=283,slow=8.1,SNR=7.6
KURBB LR LR 23 17 12.5
comp=Z,112nm,18.8s,baz=176,slow=41
comp=Z,0.5nm,0.6s
KURK Kurchatov 41.02 56 P **P 22 56 42.7 -0.2**
KURK IAmb IAmb 22 56 43.9
comp=Z,4.8nm,1.3s
KURK Kurchatov 41.02 56 *i* P **P 22 56 43.1 +0.2**
KURK pmax pmax
comp=Z,6.0nm,1.7s
KSH Kashi 42.34 73 P **P 22 56 53.1 -0.9**
KSH pmax pmax
comp=Z,3.0nm,1.7s
NIL Nilore 42.73 82 P **P 22 56 57.2 +0.1**
NIL Nilore 42.73 82 P **P 22 56 57.2 +0.1**
NIL pmax pmax
comp=Z,3.0nm,1.0s
MAKZ Makanchi 44.11 61 P **P 22 57 08.3 +0.3**
MAKZ Makanchi 44.11 61 P **P 22 57 08.4 +0.3**
MAKZ pmax pmax
comp=Z,2.0nm,1.0s
ZAA0 Zalesovo Array 44.15 50 P **P 22 57 08.2 0.0**
ZAA0 IAmb IAmb 22 57 09.1
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 44.15 50 P **P 22 57 07.9 -0.3**
ZALV Zalesovo Beam 44.15 50 P **P 22 57 07.5 -0.7**
comp=Z,2.0nm,0.3s,baz=276,slow=8.5,SNR=15
ZALV LR LR 23 17 44.5
comp=Z,210nm,18.8s,baz=274,slow=39
comp=Z,2.0nm,0.3s
ZALV Zalesovo Beam 44.15 50 *i* P **P 22 57 08.5 +0.3**
ZALV pmax pmax
comp=Z,2.0nm,0.3s
NRIK Noril'sk 44.25 28 P **P 22 57 09.9 +1.1**
comp=Z,1.2nm,0.4s,baz=243,slow=18,SNR=2.3
comp=Z,1.2nm,0.4s
NRIK Noril'sk 44.25 28 *i* P **P 22 57 09.7 +0.9**
NRIK pmax pmax
comp=Z,3.0nm,1.2s
MK31 Makanchi Array 44.32 61 P **P 22 57 09.9 +0.1**
MK31 IAmb IAmb 22 57 10.8
comp=Z,3.1nm,0.8s
MK31 Makanchi Array 44.32 61 *i* P **P 22 57 09.7 -0.1**
MKAR Makanchi Array 44.32 61 P **P 22 57 09.8 +0.1**
MKAR Makanchi Array 44.32 61 P **P 22 57 09.5 -0.3**
comp=Z,3.2nm,0.6s,baz=282,slow=6.6,SNR=32
MKAR LR LR 23 18 29.4
comp=Z,79nm,19.4s,baz=252,slow=40
comp=Z,3.2nm,0.6s
MKAR Makanchi Array 44.32 61 *i* P **P 22 57 09.9 +0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
SFJD Kangerlussuaq 45.02 328 LR LR 23 17 04.1
comp=Z,89nm,19.0s,baz=84,slow=37
WMQ Urumqi 48.91 63 *e*P **P 22 57 46.2 +0.4**
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ LR LR
comp=Z,52nm,18.3s
FRB Frobisher Bay 52.98 326 LR LR 23 23 08.6
comp=Z,71nm,18.5s,baz=28,slow=39
SCHQ Schefferville 55.55 316 LR LR 23 23 21.4
comp=Z,54nm,18.0s,baz=49,slow=37
TIXI Tiksi 56.86 21 LR LR 23 26 17.5
comp=Z,103nm,19.9s,baz=24,slow=39
SONM Songino Array 59.01 52 P **P 22 59 00.1 +0.5**
SONM IAmb IAmb 22 59 00.4
comp=Z,2.8nm,1.2s
SONM Songino Array 59.01 52 P **P 22 58 59.3 -0.3**
comp=Z,2.0nm,0.9s,baz=294,slow=7.7,SNR=9.5
comp=Z,2.0nm,0.9s
SONM Songino Array 59.01 52 P **P 22 59 00.1 +0.5**
SONM pmax pmax
comp=Z,3.0nm,1.2s
TSUM Tsumeb 60.37 182 LR LR 23 25 33.0
comp=Z,51nm,20.1s,baz=144,slow=36
KAAM Kaadhehdhoo 63.07 116 P **P 22 59 28.4 +1.0**
I62A Tamworth 63.42 306 P **P 22 59 29.9 +0.6**
LZH Lanzhou 63.46 64 *e*P **P 22 59 29.8 -0.2**
LZH pP sP 22 59 39.8 +1.2
LZH pmax pmax
comp=Z,14nm,1.2s
HHC Hu-ho-hao-te 65.84 56 *e*P **P 22 59 46.6 +1.2**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.9s
PZH PanZhiHua 67.43 74 P **P 22 59 57.6 +1.8**
PZH pmax pmax
comp=Z,7.0nm,1.0s
PZH pmax pmax
comp=Z,130nm,5.2s
ASAR Alice Springs 123.22 93 PKP **PKPdf 23 07 55.9 -0.9**
comp=Z,0.4nm,0.8s,baz=321,slow=2.4,SNR=2.3

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*IDC **05** 22:51:23.6± 1.2, 41°.46N× 19°.68E, h0km, mb3.6/9, mbtmp3.7/13, ML3.4/3, Error ellipse: s-maj=21.6km s-min=14.7km az=45.0*
*TIR **05** 22:51:25.4, 41°.49N× 19°.55E, h25km± 1km, Ml3.7*
*RHSSO **05** 22:51:26.7± 0.7, 41°.40N× 19°.42E, h8km± 2km, ML3.7/12*
*BEO **05** 22:51:27.6± 0.4, 41°.50N× 19°.64E, h11km± 2km, ML3.4/13*
*THE **05** 22:51:27.9, 41°.49N× 19°.61E, h9km± 1km, ML3.4/5, Error ellipse: s-maj=2.8km s-min=1.4km az=161.0*
*LDG **05** 22:51:28.6± 0.9, 41°.37N× 19°.21E, h2km, Ml3.8/15, Error ellipse: s-maj=30.7km s-min=12.4km az=41.0*
ISC 05 22:51:26.0± 0.9, **41°.51N**± 0°.02× **19°.53E**± 0°.02, **h19**km± 3km, **n91**, σ2 **25**/131, **mb3.9**/6, **5C, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.30**	**122**	P	**Pg**	**22 51 32.0**	**-0.6**
TIR	baz=121			S	**Sg**	**22 51 36.7**	**-0.4**
TIR	baz=121			AMP			
	comp=E,70nm,0.3s,baz=121						
TIR	**Tirane**	**0.30**	**122**	P	**Pg**	**22 51 32.0**	**-0.6**
TIR	comp=E,14μm,0.3s			S	**Sg**	**22 51 36.6**	**-0.5**
TIR	**Tirane**	**0.30**	**122**	*e*Pg	**Pg**	**22 51 32.0**	**-0.6**
TIR				*e*Sg	**Sg**	**22 51 36.7**	**-0.4**
PUK	**Puka**	**0.60**	**27**	P	**Pb**	**22 51 37.8**	**-0.1**
PUK	baz=24			S	**Sg**	**22 51 47.1**	**+0.9**
PUK	baz=24			AMP			
	comp=E,12nm,0.3s,baz=24						
DRME	**Dracevica, Mon**	**0.73**	**339**	*e*Pg	**Pn**	**22 51 41.0**	**-0.3**
DRME				*e*Sg	**Sn**	**22 51 53.5**	**+1.6**
DRME	**Dracevica, Mon**	**0.73**	**339**	⇑*i*Pg	**Pg**	**22 51 40.8**	**+0.4**
DRME				*e*Sg	**Sn**	**22 51 52.4**	**+0.5**
PDG	**Podgorica**	**0.95**	**348**	*e*Pg	**Pg**	**22 51 44.4**	**-0.1**
PDG				*e*Sg	**Sn**	**22 51 59.5**	**+2.3**
PDG	**Podgorica**	**0.95**	**348**	⇑*i*Pg	**Pg**	**22 51 45.5**	**+1.0**
PDG				*e*Sg	**Sn**	**22 51 59.1**	**+1.9**
BCI	**Bajram Curri**	**0.95**	**25**	P	**Pb**	**22 51 43.7**	**-0.1**
BCI	baz=23			S	**Sn**	**22 51 57.5**	**+0.1**
BCI	baz=23			AMP			
	comp=E,7.9nm,0.4s,baz=23						
VLO	**Vlora**	**1.03**	**182**	P	**Pg**	**22 51 47.1**	**+0.9**
VLO	baz=183			S	**Sn**	**22 51 59.6**	**+0.2**
VLO	**Vlora**	**1.03**	**182**	P	**Pg**	**22 51 47.2**	**+1.1**
VLO				S	**Sg**	**22 52 02.4**	**+2.7**
	comp=E,3μm,0.5s						
HCY	**Herceg Novi**	**1.22**	**321**	*e*Pg	**Pg**	**22 51 49.6**	**0.0**
HCY				*e*Sg	**Sg**	**22 52 07.0**	**+1.4**
KBN	**Korca**	**1.29**	**132**	P	**Pg**	**22 51 51.0**	**-0.1**
KBN				S	**Sg**	**22 52 08.5**	**+0.5**
	comp=E,1μm,0.6s						
FNA	**Florina**	**1.57**	**117**	P	**Pb**	**22 51 54.4**	**0.0**
FNA	baz=116			S	**Sg**	**22 52 15.8**	**-0.9**
FNA	baz=116						
FNA	**Florina**	**1.57**	**117**	P	**Pb**	**22 51 55.1**	**+0.7**
FNA				S	**Sb**	**22 52 14.8**	**+0.9**
	comp=E,1μm,0.4s						
FNA	**Florina**	**1.57**	**117**	*e*Pg	**Pb**	**22 51 55.1**	**+0.7**
FNA				*e*Sg	**Sg**	**22 52 15.5**	**-1.2**
LSK	**Leskovik**	**1.58**	**149**	P	**Pb**	**22 51 54.7**	**+0.1**
LSK	baz=149			S	**Sg**	**22 52 17.6**	**+0.6**
LSK	baz=149						
LSK	**Leskovik**	**1.58**	**149**	P	**Pb**	**22 51 54.5**	**-0.1**
BRY	**Bratogost**	**1.58**	**332**	⇑*i*Pn	**Pb**	**22 51 55.5**	**+0.8**
BRY				*e*Sn	**Sg**	**22 52 17.2**	**+0.1**
NEST	**Nestorio**	**1.58**	**133**	P	**Pg**	**22 51 55.8**	**-0.7**
NEST				S	**Sb**	**22 52 15.2**	**+0.9**
	comp=E,360nm,0.6s						
SRN	**Sarande**	**1.66**	**167**	P	**Pb**	**22 51 56.5**	**+0.6**
SRN	baz=167			S	**Sg**	**22 52 18.8**	**-0.9**
SRN	baz=167						
SRN	**Sarande**	**1.66**	**167**	P	**Pb**	**22 51 55.4**	**-0.6**
UPM	**Unac-Piva**	**1.76**	**345**	*e*Pn	**Pg**	**22 51 59.0**	**-0.9**
UPM				*e*Sn	**Sg**	**22 52 21.5**	**-1.3**
SJES	**Sjenica**	**1.79**	**10**	*e*Pn	**Pg**	**22 51 59.5**	**-0.9**
SJES				*e*Sn	**Sb**	**22 52 21.3**	**+1.1**
SJES	**Sjenica**	**1.79**	**10**	⇑*i*Pn	**Pg**	**22 51 59.5**	**-0.9**
SJES				*e*Sn	**Sg**	**22 52 23.2**	**-0.5**
STON	**Ston**	**1.93**	**316**	*e*Pn	**Pg**	**22 52 02.4**	**-0.7**
STON				*e*Sn	**Sb**	**22 52 25.8**	**+1.6**
STON	**Ston**	**1.93**	**316**	⇑*i*Pn	**Pb**	**22 51 59.6**	**-0.9**
STON				*e*Sn	**Sb**	**22 52 24.4**	**+0.2**
NOCI	**Noci**	**2.00**	**250**	P	**Pg**	**22 52 04.7**	**+0.3**
NOCI	baz=251			S	**Sb**	**22 52 28.1**	**+1.9**
NOCI	baz=251						
JAN	**Janina**	**2.10**	**151**	P	**Pb**	**22 52 02.2**	**-1.3**
RUDO	**Rudo**	**2.12**	**357**	*e*Pn	**Pb**	**22 52 03.4**	**-0.3**
RUDO				*e*Sn	**Sb**	**22 52 30.8**	**+1.2**
IVAS	**Ivanjica**	**2.12**	**12**	*e*Pn	**Pb**	**22 52 02.9**	**-0.9**
IVAS				*e*Sn	**Sb**	**22 52 29.0**	**-0.8**
BARS	**Barje**	**2.15**	**52**	*e*Pn	**Pb**	**22 52 03.4**	**-0.8**
PRVS	**Prvonek**	**2.15**	**61**	*e*Pn	**Pn**	**22 52 02.1**	**+1.3**
BBLS	**Lazi&#263i**	**2.36**	**358**	*e*Pn	**Pb**	**22 52 07.7**	**-0.3**
BBLS	**Lazi&#263i**	**2.36**	**358**	*e*Pn	**Pb**	**22 52 07.7**	**-0.3**
BBLS				*e*Sn	**Sb**	**22 52 38.1**	**+1.4**
BOSS	**Bosilegrad**	**2.41**	**65**	*e*Pn	**Pb**	**22 52 06.7**	**-2.1**
GRUS	**Gruza**	**2.54**	**20**	*e*Pn	**Pb**	**22 52 08.8**	**-2.1**
GRUS				*e*Sn	**Sb**	**22 52 39.7**	**-2.0**
DIVS	**Divibare**	**2.61**	**7**	*e*Pn	**Pb**	**22 52 10.0**	**-2.3**
DIVS				*e*Sn	**Sb**	**22 52 42.4**	**-1.6**
HAPS	**Han Pijesak,Bl**	**2.62**	**351**	*e*Pn	**Pb**	**22 52 10.2**	**-2.1**
HAPS				*e*Sn	**Sb**	**22 52 42.2**	**-1.9**
HAPS	**Han Pijesak,Bl**	**2.62**	**351**	*e*Pn	**Pb**	**22 52 10.1**	**-2.2**
HAPS				*e*Sn	**Sb**	**22 52 44.0**	**-0.1**
BOVS	**Bovan**	**2.67**	**36**	*e*Pn	**Pn**	**22 52 09.9**	**+2.0**
BOVS				*e*Sn	**Sn**	**22 52 41.0**	**+1.3**
TRUS	**Trudelj**	**2.79**	**13**	*e*Pn	**Pn**	**22 52 12.3**	**+2.7**
TSLK	**Tsoukalades, L**	**2.81**	**162**	P	**Pn**	**22 52 11.0**	**+1.1**
LKD2	**Lefkada island**	**2.85**	**162**	P	**Pn**	**22 52 11.4**	**+1.0**
	baz=162						
NYDR	**Nydri-Lefkada**	**2.93**	**162**	P	**Pn**	**22 52 12.0**	**+0.5**
SVIS	**Svilajnac**	**3.02**	**24**	*e*Pn	**Pn**	**22 52 14.9**	**+2.1**
TEKS	**Tekeris**	**3.04**	**360**	*e*Pn	**Pn**	**22 52 14.5**	**+1.4**
TEKS	**Tekeris**	**3.04**	**360**	*e*Pn	**Pb**	**22 52 17.1**	**-2.4**
TEKS				*e*Sn	**Sb**	**22 52 54.5**	**-1.8**
ZAGS	**Zajecar**	**3.05**	**40**	*e*Pn	**Pn**	**22 52 14.7**	**+1.6**
PLG	**Polygyros**	**3.17**	**110**	P	**Pn**	**22 52 17.0**	**+2.1**
AVAS	**Avala Beograd**	**3.27**	**12**	*e*Pn	**Pn**	**22 52 18.2**	**+2.0**
AVAS				*e*Sn	**Sn**	**22 52 56.5**	**+1.9**
MGRS	**Mrkonjic Grad**	**3.42**	**329**	*e*Pn	**Pn**	**22 52 20.8**	**+2.5**
MGRS				*e*Sn	**Sn**	**22 53 01.5**	**+3.2**
FRGS	**Fruska Gora**	**3.66**	**3**	*e*Pn	**Pn**	**22 52 23.2**	**+1.7**
FRGS	**Fruska Gora**	**3.66**	**3**	*e*Pn	**Pn**	**22 52 24.6**	**+3.1**
FRGS				*e*Sn	**Sn**	**22 53 08.3**	**+4.2**
BLY	**Banja Luka**	**3.67**	**333**	*e*Pn	**Pn**	**22 52 24.3**	**+2.6**
BLY				*e*Sn	**Sn**	**22 53 08.1**	**+3.7**
A050A	**Klekovaca**	**3.70**	**325**	*e*Pn	**Pn**	**22 52 24.1**	**+1.9**
A050A				*e*Sn	**Sn**	**22 53 07.8**	**+2.5**
BOJS	**Bojanci**	**5.07**	**324**	*e*Pn	**Pn**	**22 52 43.0**	**+2.1**
BOJS				*e*Sn	**Sn**	**22 53 40.1**	**+1.3**
CEY	**Cerknica**	**5.62**	**321**	*e*Pn	**Pn**	**22 52 50.3**	**+1.7**
CEY				*e*Sn	**Sn**	**22 53 53.3**	**+0.7**
MLR	**Muntele Rosu**	**6.13**	**47**	Pn	**Pn**	**22 52 57.4**	**+1.7**
	comp=E,0.7nm,0.3s,baz=211,slow=5.9,SNR=1.7						
	comp=E,16nm,1.0s						
SRO	**Srobarova**	**6.37**	**353**	*e*SN	**Sn**	**22 54 18.7**	**+7.9**
VYHS	**Vyhne**	**7.01**	**356**	*e*SN	**Sn**	**22 54 27.9**	**+1.3**
KECS	**Kecovo**	**7.01**	**5**	*e*PN	Pn	**22 53 14.4**	**+6.8**
KECS				*e*SN	**Sn**	**22 54 28.0**	**+1.3**
IDI	**Anoyia**	**7.50**	**144**	Pn	**Pn**	**22 53 13.9**	**-0.4**
	comp=E,3.8nm,0.5s,baz=330,slow=20,SNR=0.6						
IDI				Sn	**Sn**	**22 54 34.2**	**-4.7**
	comp=E,0.7nm,0.3s,baz=13,slow=18,SNR=1.9						
KOLS	**Kolonicke sedl**	**7.68**	**14**	*e*SN	**Sn**	**22 54 44.2**	**+1.1**
PGF	**Pioggiola**	**7.91**	**281**	*e*Pn	**Pn**	**22 53 19.4**	**-0.6**
GERES	**GERESS Array B**	**8.41**	**333**	Pn	**Pn**	**22 53 30.5**	**+3.6**
	comp=E,0.2nm,0.3s,baz=151,slow=12,SNR=1.5						
GERES				Sn	**Sn**	**22 55 04.7**	**+3.3**
	comp=E,0.5nm,0.3s,baz=141,slow=19,SNR=1.9						
	comp=E,1.0nm,0.5s						
DAVOX	**Davos/Dischmat**	**8.71**	**310**	Sn	**Sn**	**22 55 10.7**	**+1.8**
	comp=E,0.9nm,0.3s,baz=156,slow=20,SNR=1.8						
SBF	**Sospel**	**9.22**	**289**	*e*Pn	**Pn**	**22 53 37.9**	**0.0**
SBF				*e*Sn	**Sn**	**22 55 14.5**	**-6.5**
	comp=E,4.0nm,0.3s						
LMR	**La Mourre**	**9.80**	**285**	*e*Sn	**Sn**	**22 55 28.8**	**-6.5**
	comp=E,0.4nm,0.1s						
MBDF	**Montbardon**	**9.87**	**293**	*e*Sn	Sn	22 55 29.1	-8.1
	comp=E,1.9nm,0.3s						
LPG	**La Plagne**	**10.11**	**298**	*e*Pn	**Pn**	**22 53 49.0**	**-1.3**
LPG				*e*Sn	Sn	22 55 34.6	-8.6
	comp=E,3.6nm,0.3s						
LPL	**La Plagne**	**10.12**	**298**	*e*Pn	**Pn**	**22 53 51.3**	**+0.8**
LPL				*e*Sn	**Sn**	**22 55 36.3**	**-7.2**
	comp=E,6.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**10.53**	**293**	*e*Sn	Sn	22 55 45.2	-8.2
	comp=E,2.4nm,0.3s						
CABF	**La Chapelle**	**10.94**	**302**	*e*Sn	**Sn**	**22 55 55.5**	**-7.7**
	comp=E,2.2nm,0.4s						
HINF	**Hinteralfeld**	**11.01**	**309**	*e*Sn	**Sn**	**22 56 00.8**	**-4.1**
	comp=E,3.0nm,0.4s						
HAU	**Haudompre**	**11.40**	**309**	*e*Sn	**Sn**	**22 56 08.5**	**-5.9**
	comp=E,4.8nm,0.4s						

SMF	Signal de Mont	12.39	300	*e*Sn	Sn	22 56 30.0	-8.8
	comp=E,1.2nm,0.2s						
LOR	Lormes	12.60	302	*e*Sn	Sn	22 56 36.8	-7.0
	comp=E,4.2nm,0.3s						
SSF	Saint Saulge	12.75	301	*e*Sn	Sn	22 56 38.3	-9.1
	comp=E,2.4nm,0.4s						
BGF	Bois d'Agland	13.02	298	*e*Sn	Sn	22 56 45.6	-8.5
	comp=E,3.1nm,0.4s						
TCF	Toulx Ste Croi	13.37	297	*e*Pn	Pn	22 54 30.2	-4.4
TCF				*e*Sn	Sn	22 56 54.4	-8.3
	comp=E,0.6nm,0.2s						
HFS	Hagfors	19.00	351	P	P	22 55 46.4	+0.2
	comp=E,0.2nm,0.3s,baz=163,slow=10,SNR=4.8						
	comp=E,2.3nm,0.7s						
NOA	NORSAR Array B	20.21	348	P	P	22 55 59.8	+0.3
	comp=E,0.3nm,0.6s,baz=164,slow=11,SNR=3.0						
	comp=E,0.3nm,0.6s						
EKA	Eskdalemuir Ar	20.32	321	P	P	22 56 01.6	+0.8
	comp=E,0.6nm,0.5s,baz=114,slow=12,SNR=3.5						
	comp=E,0.6nm,0.5s						
FINES	FINESS Array B	20.36	9	P	P	22 55 60.0	-1.0
	comp=E,2.3nm,0.4s,baz=187,slow=9.5,SNR=16						
	comp=E,2.3nm,0.4s						
TORD	Torodi Ar. Bea	32.25	214	P	P	22 57 54.0	+0.7
	comp=E,0.3nm,0.8s,baz=19,slow=12,SNR=1.7						
	comp=E,0.3nm,0.8s						
BVAR	Borovoye Array	35.66	53	P	P	22 58 22.7	+0.2
	comp=E,1.1nm,0.7s,baz=273,slow=5.6,SNR=5.6						
	comp=E,1.1nm,0.7s						
KURBB	Kurchatov Arra	40.94	56	P	P	22 59 06.8	-0.3
	comp=E,0.3nm,0.6s,baz=282,slow=9.1,SNR=1.9						
	comp=E,0.3nm,0.6s						
ZALV	Zalesovo Beam	44.10	50	P	P	22 59 32.6	0.0
	comp=E,2.8nm,0.6s,baz=282,slow=9.1,SNR=8.6						
	comp=E,2.8nm,0.6s						
MKAR	Makanchi Array	44.28	61	P	P	22 59 34.4	+0.1
	comp=E,2.0nm,0.5s,baz=282,slow=6.7,SNR=16						
	comp=E,2.0nm,0.5s						
SONM	Songino Array	58.97	52	P	P	23 01 24.0	-0.2
	comp=E,0.7nm,0.7s,baz=306,slow=12,SNR=3.4						
	comp=E,0.7nm,0.7s						

IGQ 05 23:01:13.2±0.3, 4°S±2°×8°0W±°, h42km, M4.0/21, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAMO	ALAMOR	0.28	216	S	Sn	23 01 32.5	+4.9
LAMO				P	Pn	23 01 23.7	+2.0
ARNL	Arenillas	0.32	317	S	Sn	23 01 32.4	+4.4
ARNL				P	Pn	23 01 22.9	+1.1
ACH2	Ecuador-Machal	0.52	4	P	Pn	23 01 24.7	+0.4
ACH2				S	Sn	23 01 34.2	+2.0
AMCR	Ecuador-Macara	0.59	190	P	Pn	23 01 25.8	+0.4
AMCR				S	Sn	23 01 36.1	+2.2
MCRA	Macar, Loja	0.59	190	P	Pn	23 01 25.8	+0.4
MCRA				S	Sn	23 01 36.1	+2.2
GONZ	Gonzanam	0.64	135	S	Sn	23 01 37.8	+2.2
GONZ				P	Pn	23 01 26.7	+0.4
PCRA	Pucara 2	0.67	31	P	Pn	23 01 26.2	-0.5
ALJ1	Ecuador-Loja-U	0.68	107	P	Pn	23 01 27.3	+0.6
ISPG	Isla Puna-Puer	0.87	338	P	Pn	23 01 30.2	+1.1
MORR	Playas El Morr	1.24	337	P	Pn	23 01 33.7	-0.3
ZUMB	Zumba	1.28	147	P	Pn	23 01 35.5	+0.6
BOSC	San Juan Bosco	1.49	65	P	Pn	23 01 37.2	-0.5
MILO	Milagro-Astudi	1.52	11	P	Pn	23 01 38.2	+0.2
AGUAY	Guayaquil	1.72	357	P	Pn	23 01 39.0	-1.7
SALI	Salinas	1.95	324	P	Pn	23 01 42.9	-1.0
TAMH	Tambohuasha Ch	2.47	26	P	Pn	23 01 50.4	-1.0
CHSH	Refugio Sur-Vo	2.48	23	P	Pn	23 01 50.4	-1.2
PORT	Chimborazo Vol	2.54	25	P	Pn	23 01 51.6	-1.0
IGUA	Igualata	2.58	28	P	Pn	23 01 52.7	-0.4
BMAS	Trigal station	2.65	31	P	Pn	23 01 53.1	-0.6
ARRY	Arrayan	2.66	32	P	Pn	23 01 53.1	-0.8
TUYU	Q. Yuibug Volc	2.67	31	P	Pn	23 01 53.4	-0.7
BPAT	Tungurahua Vol	2.67	32	P	Pn	23 01 53.6	-0.6
JUI6	Juive	2.72	31	P	Pn	23 01 54.6	-0.1
TAIS	Taisha	2.73	59	P	Pn	23 01 52.7	-1.9
BULB	Ulba Tungurahu	2.74	32	P	Pn	23 01 54.6	-0.5
PUYO	Puyo, Santa Ro	2.92	39	P	Pn	23 01 55.0	-2.2
PIS1	Pisayambo	3.08	28	P	Pn	23 01 57.7	-2.1
ILLI	Illinizas Sur	3.25	20	P	Pn	23 02 01.9	-0.3
BRRN	Barrancas-Volc	3.28	25	P	Pn	23 02 04.4	+1.8
VCES	Cotopaxi	3.30	26	P	Pn	23 02 02.8	-0.1
SLOR	San Lorenzo -	3.32	24	P	Pn	23 02 04.6	+1.5
BMOR	Cotopaxi Volca	3.33	25	P	Pn	23 02 05.2	+1.8
CAMI	Rancho Maria	3.37	24	P	Pn	23 02 05.2	+1.4
BNAS	Cotopaxi Volca	3.38	24	P	Pn	23 02 05.4	+1.5
BREF	Cotopaxi Volca	3.40	25	P	Pn	23 02 08.1	+3.8
FLF1	Flavio Alfaro-	3.40	0	P	Pn	23 02 01.8	-2.1
SUCR	Mariscal Sucre	3.40	23	P	Pn	23 02 05.7	+1.4
TAMB	Tambo	3.41	26	P	Pn	23 02 04.9	+0.5
BTAM	Cotopaxi Volca	3.41	25	P	Pn	23 02 04.6	+0.2
BVC2	Cotopaxi Volca	3.42	25	P	Pn	23 02 04.8	+0.2
VC1	Cotopaxi 1	3.44	25	P	Pn	23 02 04.5	-0.3
ARDO	Archidona, Ten	3.44	37	P	Pn	23 02 01.7	-2.7
PITA	Cotopaxi Volc	3.50	24	P	Pn	23 02 06.3	+0.7
JAMA	Jama	3.52	354	P	Pn	23 02 05.2	-0.2
ANTM	Antisana-La Mi	3.61	27	P	Pn	23 02 07.1	-0.1
ANTG	Antisana-Guama	3.63	26	P	Pn	23 02 07.0	-0.4
ANTS	Antisana-Sarah	3.67	27	P	Pn	23 02 06.6	-1.5
ANTI	Antisana	3.72	27	P	Pn	23 02 07.2	-1.4
GGPT	Toaza - Volcan	3.74	19	P	Pn	23 02 08.5	-0.4
JUA2	San Juan 2	3.76	19	P	Pn	23 02 10.1	+1.0
GGPC	Guagua Pichinc	3.79	19	P	Pn	23 02 10.2	+0.5
TERV	Terraza Guagua	3.79	19	P	Pn	23 02 10.4	+0.7
PINO	Pino	3.81	19	P	Pn	23 02 09.7	-0.3
PAC1	Pacto, Paraso	4.16	15	P	Pn	23 02 13.0	-1.4
OTAV	Otavalo	4.23	19	P	Pn	23 02 14.6	-1.0

HVO ***05*** *23:20:04.7±1.0, 19°.411N±0°.009×155°.283W±0°.007, h1km±5km, ML4.0/41, mb4.7/47(NEIC), ML3.5/29(NEIC), Mww5.2/7(NEIC), Error ellipse: s-maj=1.4km s-min=0.8km az=159.0*

NEIC ***05*** *23:20:04.7, 19°.21N×155°.07W, h12km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 1016Nm; Mrr=7.44; Mθθ3.68; Mφφ3.76; Mrθ=1.08; Mθφ5.16; Mφr=3.88; Fault plane solution: M0 9.15000×1016 NP1:φs30.62000°, δ58.36000°, λ=106.72000°. NP2:φs240.42000°, δ35.37000°, λ=64.96000°. Principal axes: T 9.6181, Plg12.0000°, Azm133.0000°; N -0.9423, Plg14.0000°, Azm40.0000°; P -8.6758, Plg71.0000°, Azm261.0000°;*

NEIC ***05*** *23:20:04.7, 19°.41N×155°.28W, h12km*

NEIC ***05*** *23:20:05.3±1.1, 19°.406N±0°.009×155°.283W±0°.009, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.5km az=140.0*

BJI ***05*** *23:20:05.0±0.0, 19°.40N×155°.30W, h5km, mb5.0/11, mB5.6/14, Ms5.2/15, Ms7 4.8/15*

IDC ***05*** *23:20:05.8±0.8, 19°.43N×155°.27W, h0km, mb3.9/13, mbtmp3.9/13, MS4.3/69, Error ellipse: s-maj=15.4km s-min=11.4km az=144.0*

GCMT ***05*** *23:20:14.7±0.1, 19°.36N±0°.01×155°.17W±0°.01, h12km, MW5.2/151, Moment Tensor Solution. s85,c120; s151,c255; Duration: 1s0 Moment tensor: Scale 1017 Nm; Mrr=0.88±.01; Mθθ0.50±.01; Mφφ0.37±.01; Mrθ0.26±.03; Mθφ0.27±.01; Mφr=0.00±.03; Best double couple: M0 0.83300×1017 NP1:φs241.00000°, δ53.00000°, λ=80.00000°. NP2:φs44.00000°, δ39.00000°, λ=103.00000°. Principal axes: T 0.7430, Plg7.0000°, Azm323.0000°; N 0.1810, Plg8.0000°, Azm55.0000°; P -0.9240, Plg79.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 23:20:06.0±0.8, 19°.43N±0°.03×155°.29W±0°.03, h7km±4km, n168, σ1§79/103, mb4.7/42, MS4.4/76, 1D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	Uwekahuna	0.01	197	Pg	Pg	23 20 05.5	-2.0
UWB	Uwekahuna B	0.01	128		Pg	23 20 06.1	-1.3
OBL	Observatory Le	0.02	163		Pg	23 20 05.9	-1.5
SBLHI	Steaming Bluff	0.02	107		Pg	23 20 06.5	-0.9
HATHI	Halema'uma'u T	0.03	111	Pg	Pg	23 20 05.8	-1.7
WRMHI	West Rim	0.03	201		Pg	23 20 05.6	-1.9
RSD	Rainshed	0.03	19	Pg	Pg	23 20 06.2	-1.3
BYL	Byron's Ledge	0.04	127		Pg	23 20 05.7	-1.8
RIM	Rim	0.04	159		Pg	23 20 06.9	-0.7
KKO	Keanakako`i	0.04	148		Pg	23 20 06.4	-1.2
SDHHI	Sand Hill	0.04	186		Pg	23 20 06.6	-1.0
PUH	Pauahi	0.09	130	Pg	Pg	23 20 07.0	-1.3
PUH				IAML		23 20 07.7	
	comp=N,23μm,1.2s						
PUH				IAML		23 20 08.0	
	comp=E,19μm,1.0s						
KNHH	Kane Nui o Ham	0.12	115	Pg	Pg	23 20 07.7	-1.1
HLP	Hilina Pali	0.14	187	IAML		23 20 07.5	
	comp=E,21μm,1.4s						
HLP				Pg	Pg	23 20 08.0	-1.0
HLP				IAML		23 20 09.6	
	comp=N,20μm,1.4s						
STCH	Steam Cracks	0.16	107	Pg	Pg	23 20 08.1	-1.3
STCH				IAML		23 20 11.1	
	comp=E,12μm,1.0s						
STCH				IAML		23 20 12.8	
	comp=N,21μm,1.2s						
NPOC	North of Pu'u	0.17	103		Pg	23 20 08.7	-0.9
JCUZ	Jacuzzi	0.18	105		Pg	23 20 09.0	-0.7
HTC	Hot Caves	0.22	208		Pg	23 20 09.7	-0.7
HMH	Humu'ula Sheep	0.25	313	Pg	Pg	23 20 10.6	-0.5
HMH				IAML		23 20 18.5	
	comp=E,16μm,1.5s						
HMH	Humu'ula Sheep	0.25	313		Sb	23 20 16.5	+2.0
JOKA	Jonika Flow	0.27	90	Pg	Pg	23 20 10.9	-0.5
JOKA				IAML		23 20 15.7	
	comp=E,10μm,1.2s						
MLOA	Mauna Loa Obse	0.29	291	Pg	Pg	23 20 11.0	-0.8
MLOA				IAML		23 20 16.9	
	comp=N,15μm,1.2s						
MWH	Moku'aweowe	0.29	280	Pg	Pg	23 20 11.4	-0.6
PAH	Pahoa	0.33	79	Pg	Pg	23 20 11.9	-0.5
KHU	Kahuku	0.36	239	Pg	Pg	23 20 12.5	-0.6
KHU				IAML		23 20 23.9	
	comp=N,11μm,0.9s						
HPO	Honuapo	0.42	216	Pg	Pg	23 20 13.2	-1.1
HUH	Hualalai	0.57	296	Pg	Pg	23 20 16.7	-0.4
I59US	HAWAII INFRASO	0.59	286	Pg	Pg	23 20 17.2	-0.2
	baz=113,slow=37						
I59US				I	I	23 24 00.0	
	baz=106,slow=312,SNR=1.7						
MHA	Mahukona	0.95	323	Pg	Pg	23 20 21.3	-3.0
HLK	Haleakala	1.60	326		Pn	23 20 33.2	-1.7
SAO	San Andreas Ge	34.26	53	P	P	23 26 51.1	-1.7
SAO				IAmb	IAmb	23 27 00.4	
	comp=Z,21nm,1.6s						
BBGB	Big Mountain B	34.50	53	P	P	23 26 53.1	-1.9
O02D	Mt. Diablo Mer	34.68	46	P	P	23 26 55.7	-0.8
O02D				IAmb	IAmb	23 27 14.2	
	comp=Z,12nm,1.3s						
ORV	Oroville	35.30	48	P	P	23 27 00.1	-1.7
YBH	Yreka Blue Hor	35.46	44	P	P	23 27 02.8	-0.4
YBH				IAmb	IAmb	23 27 15.8	
	comp=Z,12nm,1.4s						
YBH	Yreka Blue Hor	35.46	44	P	P	23 27 02.8	-0.4
	comp=Z,1.5nm,0.9s,baz=247,slow=7.7,SNR=3.4						
YBH				LR	LR	23 37 37.0	
	comp=Z,189nm,21.1s,baz=254,slow=30						
	comp=Z,1.5nm,0.9s						
H11N3	WAKE ISLAND Hy	35.57	277	T	T	00 04 14.4	
	baz=84,slow=74,SNR=34						
H11N2	WAKE ISLAND Hy	35.58	277	T	T	00 04 16.3	
	baz=84,slow=74,SNR=23						
H11N1	WAKE ISLAND Hy	35.59	277	T	T	00 04 15.8	
	baz=84,slow=74,SNR=15						
H11S2	WAKE ISLAND Hy	35.91	275	T	T	00 04 42.5	
	baz=82,slow=74,SNR=8.9						
H11S1	WAKE ISLAND Hy	35.91	275	T	T	00 04 40.1	
	baz=82,slow=74,SNR=6.4						
H11S3	WAKE ISLAND Hy	35.92	275	T	T	00 04 41.1	
	baz=82,slow=74,SNR=10						
ISA	Isabella, Lake	36.18	56	P	P	23 27 08.9	-0.6
ISA				IAmb	IAmb	23 27 29.7	
	comp=Z,11nm,1.2s						
PAHR	Pah Rah Range	36.86	49	P	P	23 27 14.5	-0.8
RYN	Ryan	37.08	51	P	P	23 27 16.8	-0.4
NVAR	Mina Array Bea	37.18	51	P	P	23 27 17.4	-0.7
NVAR	Mina Array Bea	37.18	51	P	P	23 27 19.3	+1.2
	comp=Z,0.2nm,0.3s,baz=253,slow=4.5,SNR=2.3						
NVAR				LR	LR	23 38 34.6	
	comp=Z,246nm,20.7s,baz=248,slow=30						
	comp=Z,0.2nm,0.3s						
PPT	Papeete	37.20	171	LR	LR	23 39 02.7	
	comp=Z,1μm,18.6s,baz=356,slow=31						
PPT2	Papeete2	37.22	171	*e*P	P	23 27 16.4	-1.9
	comp=Z,76nm,24.0s						
PPT2				*e*S	S	23 33 08.2	+2.4
	comp=Z,370nm,25.2s						
PPT2				*e*LQ	LQ	23 35 37.0	
	comp=Z,556nm,22.5s						
PPT2				*e*LR	LR	23 37 17.0	
	comp=Z,2μm,27.2s						
PPT2				*e*LR	LR	23 37 17.8	
	comp=Z,3μm,25.2s						
PFO	Pinyon Flats O	37.27	60	LR	LR	23 39 07.2	
	comp=Z,157nm,18.5s,baz=256,slow=31						
NV11	Mina Array Sit	37.29	52	P	P	23 27 17.9	-1.1
KDAK	Kodiak Island	38.35	2	LR	LR	23 39 36.2	
	comp=Z,881nm,21.4s,baz=206,slow=30						
BBB	Bella Bella	38.97	27	LR	LR	23 39 41.8	
	comp=Z,244nm,19.5s,baz=186,slow=30						
RAR	Rarotonga	40.63	186	LR	LR	23 40 42.5	
	comp=Z,627nm,19.3s,baz=4.0,slow=30						
SHEM	Shemya Is, Ala	40.84	332	LR	LR	23 41 22.6	
	comp=Z,858nm,21.7s,baz=126,slow=31						
N19K	Bonanza Creek	41.34	1	P	P	23 27 50.8	-1.7
N19K				IAmb	IAmb	23 28 01.9	
	comp=Z,13nm,0.9s						
X16A	Lo Mia Camp, P	41.52	60	P	P	23 27 53.3	-1.1
M14K	Bethel	41.55	355	P	P	23 27 54.0	+0.1
M14K				IAmb	IAmb	23 28 26.6	
	comp=Z,31nm,1.6s						
MTPU	Mount Pierson	41.67	54	P	P	23 27 55.3	-0.6
MTPU				IAmb	IAmb	23 28 20.5	
	comp=Z,30nm,2.0s						
WUAZ	Wupatki	41.77	58	P	P	23 27 56.1	-0.3
TUC	Tucson	41.77	63	P	P	23 27 55.6	-0.8
TUC				IAmb	IAmb	23 28 15.0	
	comp=Z,20nm,1.9s						
HLID	Hailey	41.77	46	P	P	23 27 55.3	-1.0
BGU	Big Grassy Mou	41.84	50	P	P	23 27 55.8	-1.0
BGU				IAmb	IAmb	23 28 35.7	
	comp=Z,20nm,1.9s						
LPIG	La Paz	41.90	75	LR	LR	23 40 29.6	
	comp=Z,387nm,20.7s,baz=258,slow=29						
NEW	Newport	42.11	38	LR	LR	23 41 23.9	
	comp=Z,139nm,20.8s,baz=238,slow=30						
ISLE	Juniper Island	42.15	9	P	P	23 27 59.0	-0.1
ISLE				IAmb	IAmb	23 28 11.1	
	comp=Z,13nm,0.9s						
KNK	Knik Glacier	42.21	5	P	P	23 27 59.5	0.0
HVU	Hansel Valley	42.28	49	P	P	23 28 00.4	-0.1
M19K	Big River Lodg	42.44	1	P	P	23 28 02.2	+0.9
M19K				IAmb	IAmb	23 28 23.3	
	comp=Z,23nm,1.6s						
L19K	White Mountain	42.71	0	P	P	23 28 03.1	-0.5
L19K				IAmb	IAmb	23 28 22.6	
	comp=Z,13nm,1.2s						
TBI	Tubuai	42.90	172	*e*P	P	23 28 03.6	-1.8
	comp=Z,428nm,25.5s						
TBI				*e*S	S	23 34 31.0	+0.4
	comp=Z,2μm,27.5s						
TBI				*e*LQ	LQ	23 38 05.8	
	comp=Z,3μm,27.0s						
TBI				*e*LR	LR	23 39 51.9	
	comp=Z,11μm,28.5s						
TBI				*e*LR	LR	23 39 54.5	
	comp=Z,2μm,27.0s						
DLBC	Dease Lake	43.10	19	LR	LR	23 42 07.8	
	comp=Z,457nm,20.2s,baz=254,slow=31						
M26K	Nabesna, AK	43.77	8	P	P	23 28 11.4	-0.7
M26K				IAmb	IAmb	23 28 23.5	
	comp=Z,19nm,1.1s						
M27K	Edge Creek, AK	43.89	9	P	P	23 28 12.7	-0.4
M27K				IAmb	IAmb	23 28 26.1	
	comp=Z,12nm,1.2s						
DHY	Denali Highway	43.95	5	P	P	23 28 14.2	+0.6
DHY				IAmb	IAmb	23 28 24.3	
	comp=Z,14nm,1.0s						
PAX	Paxson	44.02	6	P	P	23 28 14.7	+0.5
PAX				IAmb	IAmb	23 28 25.2	
	comp=Z,17nm,1.0s						
OVMT	Ovando	44.06	41	P	P	23 28 15.0	+0.2
TPAW	Teton Pass	44.11	47		P	23 28 15.7	+0.3
TPAW				IAmb	IAmb	23 28 28.3	
	comp=Z,16nm,1.1s						
RND	Reindeer	44.16	4	P	P	23 28 15.8	+0.5
RND				IAmb	IAmb	23 28 25.8	
	comp=Z,12nm,1.1s						
KTH	Kantishna Hill	44.19	3	P	P	23 28 15.5	0.0
PDAR	Pinedale Array	44.86	48	P	P	23 28 22.3	+1.0
	comp=Z,3.2nm,1.1s,baz=224,slow=5.0,SNR=10						
PDAR				LR	LR	23 46 50.0	
	comp=Z,58nm,18.1s,baz=270,slow=36						
	comp=Z,3.2nm,1.1s						
CCB	Clear Creek Bu	45.46	5	IAmb	IAmb	23 28 35.6	
	comp=Z,14nm,1.2s						
J25K	Salcha River,	45.64	6	IAmb	IAmb	23 28 37.4	
	comp=Z,12nm,1.1s						
ILAR	Eielson Array	45.66	5	P	P	23 28 26.0	-1.1
ILAR	Eielson Array	45.66	5	P	P	23 28 27.6	+0.5
	comp=Z,3.2nm,1.1s,baz=197,slow=6.6,SNR=15						
ILAR				LR	LR	23 44 31.9	
	comp=Z,391nm,19.6s,baz=180,slow=32						
	comp=Z,3.2nm,1.1s						
ANMO	Albuquerque	45.66	60	LR	LR	23 44 49.9	
	comp=Z,152nm,18.8s,baz=354,slow=32						
MLY	Manley	45.67	3	P	P	23 28 25.5	-1.7
J26L	Joseph Creek	45.73	7	P	P	23 28 27.6	-0.2
J26L				IAmb	IAmb	23 28 36.6	
	comp=Z,5.3nm,0.8s						
EGAK	Eagle	46.29	8	P	P	23 28 32.1	0.0
EGAK				IAmb	IAmb	23 28 41.6	
	comp=Z,9.0nm,0.8s						
I26K	Coal Creek Min	46.55	7	P	P	23 28 34.2	+0.1
J30M	Hart River	46.87	11	P	P	23 28 36.7	-0.1
J30M				IAmb	IAmb	23 28 48.1	
	comp=Z,6.2nm,0.9s						
G23K	Bananza Creek	47.38	3	P	P	23 28 40.4	-0.2
I30M	Mount Dempster	47.46	11	IAmb	IAmb	23 28 51.8	
	comp=Z,8.4nm,0.9s						
TXAR	Lajitas Array	47.72	68	P	P	23 28 45.2	+1.3
	comp=Z,1.6nm,0.9s,baz=268,slow=7.2,SNR=6.6						
TXAR				LR	LR	23 45 09.1	
	comp=Z,48nm,21.0s,baz=242,slow=32						
	comp=Z,1.6nm,0.9s						
F21K	Alatna River	47.79	1	P	P	23 28 44.2	+0.5
F21K				IAmb	IAmb	23 29 03.4	
	comp=Z,12nm,1.3s						
G29M	Pine Creek	48.75	9	P	P	23 28 51.4	+0.2
PETK	Petropavlovsk-	49.32	324	LR	LR	23 47 09.4	
	comp=Z,756nm,20.2s,baz=107,slow=33						
INK	Inuvik	50.74	10	LR	LR	23 48 43.9	
	comp=Z,442nm,18.9s,baz=186,slow=34						
YKA	Yellowknife Ar	51.30	23	P	P	23 29 10.6	0.0
	comp=Z,1.7nm,1.1s,baz=229,slow=8.1,SNR=3.7						
YKA				LR	LR	23 47 47.7	
	comp=Z,166nm,20.5s,baz=224,slow=32						
	comp=Z,1.7nm,1.1s						
HNR	Honiara	52.61	241	LR	LR	23 48 19.2	
	comp=Z,1μm,21.8s,baz=88,slow=32						
MA2	Magadan	55.43	330	LR	LR	23 49 09.9	
	comp=Z,813nm,21.8s,baz=111,slow=32						
DZM	Mont Dzumac	55.69	224	*e*S	S	23 37 29.3	-1.1
	comp=Z,215nm,24.4s						
DZM				*e*LR	LR	23 46 04.4	
	comp=Z,440nm,31.3s						
DZM	Mont Dzumac	55.69	224	LR	LR	23 50 05.8	
	comp=Z,103nm,19.9s,baz=1.5,slow=32						
ULM	Lac du Bonnet	55.82	42	P	P	23 29 43.6	-0.4
	comp=Z,4.1nm,1.1s,baz=276,slow=7.2,SNR=3.4						
ULM				LR	LR	23 49 46.3	
	comp=Z,103nm,21.0s,baz=222,slow=32						
	comp=Z,4.1nm,1.1s						
ASAJ	Asahikawa	56.81	310	LR	LR	23 48 59.5	
	comp=Z,982nm,21.8s,baz=145,slow=30						
CMIG	Matias Romero	57.16	82	LR	LR	23 48 34.9	
	comp=Z,224nm,21.5s,baz=288,slow=30						
GUMO	Guam	57.44	274	LR	LR	23 49 23.9	
	comp=Z,281nm,21.5s,baz=78,slow=31						
JCJ	Chichijima	57.45	290	LR	LR	23 49 46.8	
	comp=Z,230nm,20.4s,baz=96,slow=31						
JHJ	Hachijo jima 2	58.97	297	LR	LR	23 51 36.4	
	comp=Z,344nm,20.6s,baz=92,slow=32						
MJAR	Matsushiro Arr	60.06	302	P	P	23 30 15.9	+1.9
	comp=Z,0.8nm,0.3s,baz=119,slow=7.5,SNR=1.5						
MJAR				LR	LR	23 51 58.7	
	comp=Z,232nm,21.4s,baz=76,slow=32						
	comp=Z,0.8nm,0.3s						
TEIG	Tepich	62.63	77	LR	LR	23 54 05.3	
	comp=Z,126nm,20.2s,baz=230,slow=33						
URZ	Urewera	62.97	204	LR	LR	23 53 32.2	
	comp=Z,234nm,20.4s,baz=128,slow=32						
RES	Resolute Bay	63.72	15	LR	LR	23 54 24.8	
	comp=Z,379nm,21.4s,baz=222,slow=32						
TKL	Tuckaleechee C	64.18	59	LR	LR	23 56 51.9	
	comp=Z,68nm,19.8s,baz=281,slow=34						
RPN	Rapa Nui	64.23	135	LR	LR	23 51 21.5	
	comp=Z,499nm,21.4s,baz=322,slow=29						
USRK	Ussuriysk Ar.	64.44	310	LR	LR	23 54 03.4	
	comp=Z,501nm,20.6s,baz=100,slow=32						
KLR	Kul'dur	64.47	316	LR	LR	23 54 05.3	
	comp=Z,349nm,20.6s,baz=116,slow=32						
YAK	Yakutsk	66.01	330	LR	LR	23 55 47.6	
	comp=Z,810nm,21.9s,baz=96,slow=32						
JNU	Nakatsue	66.40	298	LR	LR	00 00 01.8	
	comp=Z,283nm,18.0s,baz=111,slow=36						
SADO	Sadowa	66.85	49	LR	LR	23 58 50.6	
	comp=Z,53nm,19.7s,baz=330,slow=35						
TIXI	Tiksi	67.25	341	LR	LR	23 59 57.1	
	comp=Z,302nm,19.6s,baz=137,slow=36						
JTS	Las Juntas de	68.21	86	LR	LR	23 53 34.5	
	comp=Z,300nm,21.6s,ba

comp=Z,249nm,20.2s,baz=44,slow=36
comp=Z,0.5nm,0.3s
LYN LuoYang 81.01 303 P **P 23 32 23.4 +1.5**
LYN SS SS 23 47 46.8 +1.1
LYN pmax pmax
comp=Z,420nm,7.2s
LYN LR LR
comp=Z,220nm,8.2s
LYN LR LR
comp=Z,530nm,16.8s
LYN LR LR
comp=Z,770nm,19.6s
BTO Baotou 81.05 310 *e*P **P 23 32 24.2 +2.1**
BTO pmax pmax
comp=Z,15nm,0.9s
BTO pmax pmax
comp=Z,760nm,6.7s
ASAR Alice Springs 81.23 241 P **P 23 32 24.1 +0.8**
comp=Z,0.4nm,0.9s,baz=219,slow=39,SNR=2.0
ASAR LR LR 00 07 14.6
comp=Z,117nm,18.3s,baz=48,slow=35
comp=Z,0.4nm,0.9s
SONM Songino Array 81.23 318 P **P 23 32 23.8 +0.8**
comp=Z,1.1nm,1.0s,baz=90,slow=4.3,SNR=3.1
comp=Z,1.1nm,1.0s
SDV Santo Domingo 82.09 83 LR LR 00 03 47.3
comp=Z,124nm,19.3s,baz=250,slow=32
SPITS Spitsbergen Ar 82.47 2 LR LR 00 05 37.1
comp=Z,171nm,21.4s,baz=320,slow=33
NNA Nana 83.30 105 LR LR 00 00 32.3
comp=Z,298nm,21.5s,baz=286,slow=29
KAPI Kappang 86.91 264 LR LR 00 08 29.8
comp=Z,77nm,18.3s,baz=115,slow=33
JMIC Jan Mayen 86.92 10 LR LR 00 08 35.1
comp=Z,144nm,21.6s,baz=48,slow=34
LZH Lanzhou 87.14 307 P P 23 33 01.4 +8.0
LZH Lanzhou 87.14 307 S **S 23 43 33.4 -0.3**
PCRV Puerto La Cruz 87.28 80 LR LR 00 08 38.3
comp=Z,120nm,20.0s,slow=33
BORG Borgarnes 88.98 18 LR LR 00 09 36.8
comp=Z,104nm,21.9s,baz=326,slow=33
H03N2 Juan Fernandez 89.73 126 T T 01 12 13.6
baz=298,slow=76,SNR=5.6
H03N3 Juan Fernandez 89.74 126 T T 01 12 14.3
baz=298,slow=76,SNR=7.1
H03N1 Juan Fernandez 89.75 126 T T 01 12 14.5
baz=298,slow=76,SNR=6.9
ZALV Zalesovo Beam 90.64 329 P **P 23 33 08.9 -0.4**
comp=Z,0.5nm,0.6s,baz=59,slow=3.9,SNR=2.0
ZALV LR LR 00 11 52.8
comp=Z,450nm,20.5s,baz=64,slow=34
comp=Z,0.5nm,0.6s
ARCES ARCESS Array B 91.28 360 LR LR 00 15 11.5
comp=Z,123nm,18.6s,baz=7.5,slow=36
PZH PanZhiHua 92.46 299 P **P 23 33 15.2 -3.3**
PZH S **S 23 44 16.5 -6.9**
PZH pmax pmax
comp=Z,6.0nm,0.8s
PZH pmax pmax
comp=Z,160nm,7.3s
PZH LR LR
comp=Z,160nm,22.6s
PZH LR LR
comp=Z,200nm,18.8s
PZH LR LR
comp=Z,270nm,18.9s
LPAZ La Paz 92.71 106 LR LR 00 07 25.8
comp=Z,133nm,20.4s,baz=287,slow=31
LVC Limon Verde 94.09 112 LR LR 00 06 42.1
comp=Z,351nm,20.0s,baz=274,slow=30
WMQ Urumqi 94.71 320 *e*P **P 23 33 29.3 +0.9**
WMQ LR LR
comp=Z,440nm,19.7s
WMQ LR LR
comp=Z,140nm,17.7s
WMQ LR LR
comp=Z,320nm,23.9s
KURBB Kurchatov Arra 95.73 329 LR LR 00 14 33.8
comp=Z,440nm,21.9s,baz=156,slow=34
MKAR Makanchi Array 96.16 324 P **P 23 33 36.4 +1.5**
comp=Z,0.1nm,0.5s,baz=55,slow=5.5,SNR=1.4
MKAR LR LR 00 14 18.4
comp=Z,322nm,21.7s,baz=70,slow=34
comp=Z,0.1nm,0.5s
BVAR Borovoye Array 97.74 334 LR LR 00 18 21.8
comp=Z,159nm,20.1s,baz=50,slow=36
NWAO Narrogin (SRO) 98.28 238 LR LR 00 12 47.8
comp=Z,69nm,21.2s,baz=24,slow=32
PLCA Paso Flores 98.58 130 LR LR 00 08 20.8
comp=Z,357nm,21.0s,baz=271,slow=29
NOA NORSAR Array B 99.07 7 LR LR 00 16 08.6
comp=Z,105nm,20.8s,baz=330,slow=34
ARU Arti 99.23 342 LR LR 00 19 13.6
comp=Z,400nm,21.4s,baz=43,slow=36
KIRV Kirov 99.63 347 LR LR 00 21 42.7
comp=Z,288nm,19.7s,baz=26,slow=37
VNDA Vanda 99.92 189 LR LR 00 12 17.1
comp=Z,136nm,18.8s,baz=29,slow=31
TORD Torodi Ar. Bea 140.48 37 PKP **PKiKP 23 39 39.4 -0.3**
comp=Z,0.3nm,0.7s,baz=329,slow=3.8,SNR=1.6

*IDC **05** 23:31:51.2±1.4, 72°.09N×2°.34E, h0km, mb3.6/6, mbtmp3.6/12, ML3.0/6, MS3.0/7, Error ellipse: s-maj=28.6km s-min=18.3km az=83.0*
ISC 05 23:31:52.5±1.0, 72°.17N±0°.09×2°.5E±0°.2, h10km, n14, σ0s89/12, mb3.6/6, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**3.69**	**257**	LR	LR	23 33 20.5	
	comp=Z,64nm,20.8s,baz=232,slow=25						
SPITS	**Spitsbergen Ar**	**6.98**	**24**	Pn	**Pn**	**23 33 33.7**	**-0.8**
	baz=230,slow=8.9						
	1.2nm,0.3s						
ARCES	**ARCESS Array B**	**7.98**	**98**	Pn	**Pn**	**23 33 47.8**	**-0.4**
	0.1nm,0.3s,baz=310,slow=13,SNR=2.2						
ARCES				LR	LR	23 36 42.1	
	comp=Z,83nm,21.6s,baz=324,slow=36						
	2.3nm,0.8s						
NOA	**NORSAR Array B**	**11.68**	**159**	Pn	**Pn**	**23 34 38.2**	**-0.7**
	baz=351,slow=13,SNR=1.6						
NOA				LR	LR	23 39 02.5	
	comp=Z,61nm,20.3s,baz=350,slow=37						
	0.2nm,0.3s						
HFS	**Hagfors**	**12.87**	**154**	Pn	**Pn**	**23 34 55.3**	**+0.3**
	0.3nm,0.3s,baz=354,slow=12,SNR=6.4						
HFS				LR	LR	23 39 40.0	
	comp=Z,74nm,20.1s,baz=318,slow=37						
	2.4nm,0.7s						
FINES	**FINESS Array B**	**14.06**	**128**	Pn	**Pn**	**23 35 11.6**	**+0.3**
	0.1nm,0.3s,baz=332,slow=17,SNR=4.5						
FINES				LR	LR	23 40 19.3	
	comp=Z,110nm,18.8s,baz=303,slow=36						
	1.9nm,0.7s						
EKA	**Eskdalemuir Ar**	**17.07**	**191**	Pn	**Pn**	**23 35 50.6**	**-0.3**
	baz=3.4,slow=13						
	0.6nm,0.6s						
SFJD	**Kangerlussuaq**	**18.66**	**281**	LR	LR	23 43 17.4	
	comp=Z,88nm,18.2s,baz=22,slow=37						
GERES	**GERESS Array B**	**23.95**	**162**	P	**P**	**23 37 07.6**	**+1.1**
	1.0nm,0.8s,baz=353,slow=25,SNR=4.2						
	1.0nm,0.8s						
AKASG	**Malin Array Be**	**24.60**	**137**	P	**P**	**23 37 12.8**	**+0.5**
	2.0nm,0.5s,baz=338,slow=9.8,SNR=5.1						
AKASG				LR	LR	23 46 38.3	
	comp=Z,80nm,20.1s,baz=12,slow=36						
	2.0nm,0.5s						
BRTR	**Keskin Array B**	**36.00**	**137**	P	**P**	**23 38 54.3**	**+1.0**
	1.1nm,0.8s,baz=344,slow=4.7,SNR=6.7						
	1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**38.66**	**82**	P	**P**	**23 39 15.8**	**+0.1**
	0.1nm,0.3s,baz=332,slow=7.4,SNR=1.2						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**41.76**	**341**	P	**P**	**23 39 42.2**	**+1.0**
	0.3nm,0.6s,baz=12,slow=9.2,SNR=2.8						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**58.99**	**181**	P	**P**	**23 41 50.5**	**-1.5**
	0.8nm,0.9s,baz=358,slow=7.6,SNR=3.6						
	0.8nm,0.9s						

*IDC **05** 23:36:30.3±1.2, 5°.30N×125°.10E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=48.4km s-min=19.2km az=81.0*
ISC 05 23:36:32.7±1.4, 6°.3N±0°.2×127°.4E±0°.2, h35km, n6, σ0s75/7, mb3.4/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.95**	**295**	Pn	**Pn**	**23 37 04.1**	**+0.8**
	16nm,0.3s,baz=220,slow=7.9,SNR=1.9						
DAV				Sn	**Sn**	**23 37 25.7**	**-0.8**
	92nm,0.3s,baz=165,slow=20,SNR=9.5						
WRA	**Warramunga Arr**	**26.92**	**165**	P	**P**	**23 42 10.4**	**-0.4**
	0.5nm,0.6s,baz=339,slow=10,SNR=3.4						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**30.42**	**168**	P	**P**	**23 42 42.0**	**0.0**
	0.3nm,0.6s,baz=346,slow=7.2,SNR=5.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**55.87**	**324**	P	**P**	**23 46 06.7**	**-0.2**
	0.2nm,0.6s,baz=125,slow=9.0,SNR=3.0						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**59.98**	**326**	P	**P**	**23 46 34.7**	**-0.9**
	0.3nm,0.6s,baz=120,slow=5.5,SNR=2.4						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**65.57**	**326**	P	**P**	**23 47 12.9**	**+0.1**
	0.3nm,0.4s,baz=104,slow=6.1,SNR=2.5						
	0.3nm,0.4s						

WEL 05 23:41:03.5±0.6, 38°.5S±3°×17°.8E±°, h24km±5km, M3.3/13, ML3.7/13, MLv3.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=111.4, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.05**	**200**	P	Pb	23 41 08.9	+1.2
TKGZ	**Te Karaka**	**0.30**	**269**	P	Pn	23 41 11.4	-1.0
TKGZ				S	Sn	23 41 17.9	-0.1
TWGZ	**Tauwhareparae**	**0.32**	**322**	P	Pn	23 41 11.9	-0.9
TWGZ				S	Sn	23 41 18.7	0.0
PUZ	**Puketiti**	**0.36**	**3**	P	Pb	23 41 12.1	+0.7
PUZ				S	Sn	23 41 18.9	-0.7
RIGZ	**Rimuhau**	**0.46**	**233**	P	Pn	23 41 14.2	-0.4
RIGZ				S	Sn	23 41 23.1	+1.1
PRGZ	**Paritu Road**	**0.56**	**209**	P	Pn	23 41 15.4	-0.6
MWZ	**Matawai**	**0.56**	**280**	P	Pb	23 41 15.2	+0.5
MWZ				S	Sn	23 41 24.2	-0.4
PKGZ	**Pakihiroa**	**0.58**	**348**	P	Pb	23 41 15.4	+0.4
PKGZ				S	Sn	23 41 24.8	-0.1
WMGZ	**Waiomatatini S**	**0.63**	**13**	P	Pn	23 41 16.6	-0.3
WMGZ				S	Sn	23 41 27.5	+1.3
RUGZ	**Raukumara Rang**	**0.64**	**317**	P	Pb	23 41 16.2	+0.2
RUGZ				S	Sn	23 41 26.3	-0.3
RAGZ	**Rawiri**	**0.64**	**264**	P	Pn	23 41 16.8	-0.3
RAGZ				S	Sn	23 41 27.5	+0.9
KNZ	**Kokohu**	**0.73**	**216**	P	Pb	23 41 17.3	-0.3
MHGZ	**Mahia Peninsul**	**0.76**	**199**	P	Pb	23 41 18.0	-0.1
HAZ	**Te Kaha**	**0.76**	**332**	P	Pb	23 41 18.1	0.0
HAZ				S	Sn	23 41 29.5	0.0
SNGZ	**Shannon Statio**	**0.78**	**243**	P	Pb	23 41 18.5	+0.1
MXZ	**Matakaoa Point**	**0.87**	**4**	P	Pb	23 41 20.0	+0.1
MXZ				S	Sn	23 41 33.8	+1.7
URZ	**Urewera**	**0.90**	**281**	P	Pb	23 41 20.3	0.0
URZ				S	Sn	23 41 33.1	+0.4
RTZ	**Ruatahuna**	**1.00**	**259**	P	Pn	23 41 21.8	-0.3
RAHZ	**Arahi**	**1.02**	**241**	P	Pb	23 41 23.1	+0.6
WHRZ	**Whale Island**	**1.15**	**300**	P	Pb	23 41 24.4	-0.2
MUGZ	**Murupara**	**1.15**	**267**	P	Pb	23 41 24.6	0.0
MTHZ	**Maungataniwha**	**1.17**	**249**	P	Pb	23 41 24.8	-0.2
EDRZ	**Edgecumbe**	**1.22**	**285**	P	Pb	23 41 26.7	+0.9
WIZ	**White Island**	**1.22**	**317**	P	Pn	23 41 25.0	-0.1
WSRZ	**White Island S**	**1.24**	**317**	P	Pb	23 41 26.5	+0.4
ARHZ	**Aropaoanui**	**1.27**	**229**	P	Pn	23 41 26.0	+0.3
NMHZ	**Naumai**	**1.30**	**239**	P	Pb	23 41 26.9	-0.3
MARZ	**Manawahe**	**1.30**	**290**	P	Pb	23 41 27.7	+0.4
TARZ	**Mount Tarawera**	**1.37**	**278**	P	Pn	23 41 27.7	+0.6
MKRZ	**Makatiti**	**1.42**	**281**	P	Pn	23 41 27.8	0.0
OPRZ	**Ohinepanea**	**1.45**	**293**	P	Pn	23 41 27.7	-0.4
MRHZ	**Matea Rd**	**1.48**	**254**	P	Pn	23 41 29.4	+0.8
BKZ	**Black Stump Fm**	**1.54**	**241**	P	Pn	23 41 29.3	-0.2
MCHZ	**McNeill Hill**	**1.56**	**229**	P	Pn	23 41 30.1	+0.3
KAHZ	**Kahuranaki**	**1.72**	**217**	P	Pn	23 41 30.4	-1.6
KWHZ	**Kaweka Forest**	**1.72**	**234**	P	Pn	23 41 32.2	+0.3
TMVZ	**Te Maari**	**2.09**	**250**	P	Pb	23 41 40.0	-0.8
ETVZ	**East Tongariro**	**2.09**	**250**	P	Pn	23 41 38.4	+1.3
NTVZ	**North Tongarir**	**2.10**	**251**	P	Pn	23 41 38.5	+1.2
KRVZ	**Karewarewa**	**2.13**	**251**	P	Pb	23 41 41.1	-0.3
OTVZ	**Oturere**	**2.13**	**249**	P	Pn	23 41 39.2	+1.5
SNVZ	**South Ngauruho**	**2.16**	**249**	P	Pn	23 41 39.3	+1.2
NNVZ	**North Ngauruho**	**2.16**	**250**	P	Pb	23 41 42.0	0.0
PNHZ	**Pukenui**	**2.16**	**226**	P	Pn	23 41 36.9	-1.2
MOVZ	**Moawhango**	**2.16**	**243**	P	Pn	23 41 39.5	+1.4
NGZ	**Ngauruhoe**	**2.18**	**249**	P	Pb	23 41 41.2	-1.2
PRHZ	**Porangahau**	**2.21**	**214**	P	Pn	23 41 36.1	-2.5
WNVZ	**Wahianoa**	**2.24**	**246**	P	Pn	23 41 39.7	+0.5
TOZ	**Tahuroa Road**	**2.27**	**287**	P	Pb	23 41 46.0	+2.4
TSZ	**Takapari Road**	**2.40**	**227**	P	Pn	23 41 40.0	-1.2
BFZ	**Birch Farm**	**2.72**	**214**	P	Pn	23 41 42.9	-2.8
PRWZ	**Pori Road**	**2.75**	**219**	P	Pn	23 41 44.6	-1.4
MRZ	**Mangatainoka R**	**3.02**	**222**	P	Pn	23 41 47.5	-2.3
PKE	**Pukeiti**	**3.40**	**256**	P	Pn	23 41 56.9	+1.8

IDC 06 00:04:38.5±15.0, 11°.26N×144°.28E, h0km, mb3.9/5, mbtmp3.8/5, Error ellipse: s-maj=446.3km s-min=60.6km az=175.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**23.33**	**66**	T	T	00 34 27.8	
	baz=255,slow=75						
H11N2	**WAKE ISLAND Hy**	**23.34**	**66**	T	T	00 34 29.5	
	baz=255,slow=75						
H11N3	**WAKE ISLAND Hy**	**23.35**	**66**	T	T	00 34 32.6	
	baz=255,slow=75						
MKAR	**Makanchi Array**	**62.78**	**317**	P	P	00 15 06.2	+0.3
	0.3nm,0.6s,baz=90,slow=7.2,SNR=2.3						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**66.03**	**321**	P	P	00 15 27.0	-0.1
	1.0nm,0.7s,baz=106,slow=6.9,SNR=8.3						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**70.91**	**25**	P	P	00 15 57.4	+0.1
	0.2nm,0.7s,baz=262,slow=5.5,SNR=2.4						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**71.40**	**322**	P	P	00 16 00.6	0.0
	0.9nm,0.5s,baz=108,slow=7.7,SNR=7.9						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**93.02**	**335**	P	P	00 17 53.6	-0.2
	2.1nm,0.9s,baz=57,slow=5.1,SNR=4.4						
	2.1nm,0.9s						

IDC 06 00:07:34.7±55.0, 14°.66S×164°.45E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=929.0km s-min=102.3km az=64.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.00**	**227**	P	P	00 13 18.3	-0.2
	1.7nm,0.4s,baz=49,slow=10,SNR=4.7						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**29.20**	**255**	P	P	00 13 38.3	+0.1
	1.1nm,0.9s,baz=86,slow=9.4,SNR=7.8						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**30.15**	**248**	P	P	00 13 46.9	+0.1
	1.0nm,0.5s,baz=74,slow=9.4,SNR=22						
	1.0nm,0.5s						

*IDC **06** 00:11:22.1±1.1, 13°.15N×51°.05E, h0km, mb3.8/8, mbtmp3.8/9, ML3.2/1, MS3.6/4, Error ellipse: s-maj=30.4km s-min=22.6km az=165.0*
ISC 06 00:11:24.6±1.2, 13°.2N±0°.2×51°.0E±0°.1, h16km, n13, σ0s67/9, mb3.9/8, MS3.7/3, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.15**	**259**	Pn	**Pn**	**00 13 22.3**	**-0.2**
	0.3nm,0.3s,baz=212,slow=20,SNR=24						
ATD				LR	LR	00 15 45.6	
	comp=Z,14nm,18.3s,baz=92,slow=32						
	0.6nm,0.3s						
FURI	**Furi**	**12.84**	**252**	LR	LR	00 18 34.3	
	comp=Z,82nm,20.1s,baz=46,slow=34						
GEYT	**Alibeck**	**25.46**	**13**	P	**P**	**00 16 53.0**	**+1.0**
	1.7nm,0.7s,baz=111,slow=8.3,SNR=4.2						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	**42.57**	**32**	P	**P**	**00 19 20.0**	**+0.2**
	0.4nm,0.6s,baz=216,slow=9.5,SNR=5.1						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**42.66**	**17**	P	**P**	**00 19 19.4**	**-1.0**
	0.2nm,0.4s,baz=192,slow=4.1,SNR=2.5						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**43.55**	**25**	P	**P**	**00 19 27.0**	**-0.6**
	0.3nm,0.3s,baz=224,slow=8.0,SNR=2.7						
	0.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**47.97**	**276**	P	**P**	**00 20 03.5**	**+0.3**
	0.9nm,0.6s,baz=84,slow=6.5,SNR=7.3						
	0.9nm,0.6s						
SUR	**Sutherland**	**53.73**	**212**	LR	LR	00 44 18.6	
	comp=Z,247nm,20.0s,baz=180,slow=37						
ESDC	**Sonseca Array**	**54.89**	**309**	P	**P**	**00 20 54.7**	**0.0**
	1.2nm,0.8s,baz=97,slow=6.6,SNR=13						
	1.2nm,0.8s						
NRIK	**Noril'sk**	**60.70**	**14**	LR	LR	00 51 45.1	
	comp=Z,46nm,18.1s,baz=228,slow=40						
TIXI	**Tiksi**	**73.77**	**19**	LR	LR	00 58 01.9	
	comp=Z,40nm,20.7s,baz=258,slow=38						
WRA	**Warramunga Arr**	**88.28**	**111**	P	**P**	**00 24 16.2**	**+0.2**
	1.6nm,1.0s,baz=301,slow=3.8,SNR=7.3						
	1.6nm,1.0s						
ASAR	**Alice Springs**	**88.83**	**114**	P	**P**	**00 24 18.4**	**-0.1**
	1.7nm,0.9s,baz=299,slow=5.8,SNR=7.2						
	1.7nm,0.9s						

ATH 06 00:13:36.0, 38°.21N×20°.62E, h18km±2km, ML1.0/1, Error ellipse: s-maj=4.5km s-min=2.2km az=205.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.04**	**211**	P	Pg	00 13 38.9	-0.3
VLS				S	Sg	00 13 41.4	-0.1
VLS				AML	AML	00 13 41.6	
	comp=E,189μm,0.1s						
VLS				AML	AML	00 13 41.6	
	comp=N,172μm,0.1s						
VLS	**Valsamata**	**0.04**	**211**	P	Pg	00 13 39.2	0.0
VLS				S	Sg	00 13 41.5	0.0
VLS				AML	AML	00 13 41.6	
	comp=E,189μm,0.1s						
VLS				AML	AML	00 13 41.7	
	comp=N,172μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.10**	**194**	P	Pg	00 13 39.2	-0.4
PSDA				S	Sg	00 13 41.9	-0.2
PSDA	**Pessada-Kefalo**	**0.10**	**194**	P	Pg	00 13 39.5	-0.2
PSDA				S	Sg	00 13 42.2	+0.1
DMLN	**Damoulianata-K**	**0.19**	**279**	P	Pg	00 13 40.8	-0.1
DMLN				S	Sb	00 13 43.9	+0.2
DMLN	**Damoulianata-K**	**0.19**	**279**	P	Pg	00 13 40.8	0.0
DMLN				S	Sg	00 13 44.0	-0.2
EVGI	**Lefkada island**	**0.41**	**4**	P	Pg	00 13 43.9	-0.6
EVGI				S	Sb	00 13 50.6	-0.2
EVGI	**Lefkada island**	**0.41**	**4**	P	Pg	00 13 44.1	-0.4

*KRSC **06** 00:19:17.8±1.3, 51°.60N×158°.17E, h88km±13km, Ml4.3, Felt [III] at lighthouse Krugliy.*
*MOS **06** 00:19:18.9±0.8, 51°.63N×157°.96E, h93km, mb4.0/5, Error ellipse: s-maj=16.7km s-min=3.9km az=79.2*
*NEIC **06** 00:19:19.8±1.4, 51°.7N±0°.1×157°.8E±0°.1, h94km±15km, mb4.0/20, Error ellipse: s-maj=16.3km s-min=9.4km az=177.0*
*IDC **06** 00:19:22.2±1.2, 51°.90N×157°.54E, h117km±10km, mb3.6/10, mbtmp4.0/13, Error ellipse: s-maj=23.8km s-min=12.9km az=140.0*
ISC 06 00:19:19.4±0.7, 51°.65N±0°.04×158°.00E±0°.05, h91km±5km, n126, σ1s33/156, mb4.0/21, 1C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.17**	**17**	*e*P	**Pn**	**00 19 32.4**	**0.0**
KDTR				*e*S	**Sn**	**00 19 41.7**	**-0.3**
KDTR	**Khodutka, Kamc**	**0.17**	**17**	PN	**Pn**	**00 19 32.4**	**0.0**
KDTR				S	**Sn**	**00 19 41.7**	**-0.3**
ASAK	**Asacha**	**0.73**	**355**	*e*P	**Pn**	**00 19 36.3**	**-0.1**
ASAK				*e*S	**Sn**	**00 19 49.1**	**-0.1**
ASAK	**Asacha**	**0.73**	**355**	PN	**Pn**	**00 19 36.3**	**-0.1**
ASAK				S	**Sn**	**00 19 49.1**	**-0.1**
MTVR	**Mutnovka**	**0.84**	**8**	*e*P	**Pn**	**00 19 37.7**	**+0.1**
MTVR				*e*S	**Sn**	**00 19 51.5**	**+0.3**
MTVR	**Mutnovka**	**0.84**	**8**	PN	**Pn**	**00 19 37.7**	**+0.1**
MTVR				S	**Sn**	**00 19 51.5**	**+0.3**
GRL	**Gorelyy**	**0.90**	**3**	*e*P	**Pn**	**00 19 38.5**	**+0.3**
GRL				*e*S	**Sn**	**00 19 52.9**	**+0.6**
GRL	**Gorelyy**	**0.90**	**3**	PN	**Pn**	**00 19 38.5**	**+0.3**
GRL				S	**Sn**	**00 19 52.9**	**+0.6**
KRMR	**Karymshinskiy**	**1.18**	**4**	*e*P	**Pn**	**00 19 41.4**	**+0.1**
KRMR				*e*S	**Sn**	**00 19 58.0**	**+0.3**
KRMR	**Karymshinskiy**	**1.18**	**4**	PN	**Pn**	**00 19 41.4**	**+0.1**
KRMR				S	**Sn**	**00 19 58.0**	**+0.3**
APC	**Apacha**	**1.38**	**338**	*e*P	**Pn**	**00 19 43.4**	**-0.2**
APC				*e*S	**Sn**	**00 20 01.5**	**-0.4**
APC	**Apacha**	**1.38**	**338**	PN	**Pn**	**00 19 43.4**	**-0.2**
APC				S	**Sn**	**00 20 01.5**	**-0.4**
PET	**Petropavlovsk**	**1.43**	**16**		**Pn**	**00 19 44.6**	**+0.4**
PET				Sn	**Sn**	**00 20 03.9**	**+0.7**
PET	**Petropavlovsk**	**1.43**	**16**	*e*P	**Pn**	**00 19 44.6**	**+0.4**
PET				*e*S	**Sn**	**00 20 03.4**	**+0.3**
PET	**Petropavlovsk**	**1.43**	**16**	↑*i*PN	**Pn**	**00 19 44.7**	**+0.4**
PET				*e*S	**Sn**	**00 20 03.4**	**+0.3**
PET				pmax	pmax		
	comp=Z,134nm,0.4s						
PET				smax	smax		
	comp=E,523nm,0.4s						
PET				smax	smax		
	comp=N,1μm,0.7s						
DALK	**Dalny**	**1.46**	**18**	*e*P	**Pn**	**00 19 45.1**	**+0.5**
DALK				*e*S	**Sn**	**00 20 04.0**	**+0.3**
DALK	**Dalny**	**1.46**	**18**	PN	**Pn**	**00 19 45.1**	**+0.5**
DALK				S	**Sn**	**00 20 04.0**	**+0.3**
PEA0B	**Petropavlovsk-**	**1.47**	**353**		**Pn**	**00 19 45.1**	**+0.3**
PEA0B	**Petropavlovsk-**	**1.47**	**353**	*d i*PN	**Pn**	**00 19 44.9**	**+0.1**
PEA0B				*i* S	**Sn**	**00 20 04.4**	**+0.4**
PETK	**Petropavlovsk-**	**1.47**	**353**		**Pn**	**00 19 44.3**	**-0.6**
PETK	**Petropavlovsk-**	**1.47**	**353**	P	**Pn**	**00 19 44.5**	**-0.4**
	comp=N,147nm,0.5s,baz=156,slow=12,SNR=270						
PETK				S	**Sn**	**00 20 04.6**	**+0.6**
	comp=N,241nm,0.8s,baz=169,slow=24,SNR=18						
SKR	**Severo-Kuril's**	**1.53**	**231**	*e*P	**Pn**	**00 19 45.8**	**+0.3**
SKR				*e*S	**Sn**	**00 20 05.6**	**+0.2**
SKR	**Severo-Kuril's**	**1.53**	**231**	||*i*PN	**Pn**	**00 19 46.1**	**+0.6**
SKR				*i* S	**Sn**	**00 20 06.1**	**+0.7**
SKR				pmax	pmax		
	comp=Z,521nm,0.4s						
SKR				smax	smax		
	comp=N,2μm,0.5s						
SKR				smax	smax		
	comp=E,6μm,0.7s						
UGLR	**Uglovaya**	**1.64**	**18**	*e*P	**Pn**	**00 19 48.3**	**+1.2**
UGLR				*e*S	**Sn**	**00 20 09.7**	**+1.7**
UGLR	**Uglovaya**	**1.64**	**18**	PN	**Pn**	**00 19 48.3**	**+1.2**
UGLR				S	**Sn**	**00 20 09.7**	**+1.7**
AVH	**Avacha**	**1.68**	**15**	*e*P	**Pn**	**00 19 48.9**	**+1.4**
AVH				*e*S	**Sn**	**00 20 10.8**	**+2.0**
AVH	**Avacha**	**1.68**	**15**	PN	**Pn**	**00 19 48.9**	**+1.4**
AVH				S	**Sn**	**00 20 10.8**	**+2.0**
SMAR	**Somma**	**1.69**	**17**	*

GNL	**Ganaly**	**2.05**	**359**	*e*P		**Pn**	**00 19 52.8 +0.5**
GNL				*e*S		**Sn**	**00 20 18.1 +0.7**
GNL	**Ganaly**	**2.05**	**359**	PN		**Pn**	**00 19 52.8 +0.5**
GNL				S		**Sn**	**00 20 18.1 +0.7**
KII	**Karymskiy**	**2.54**	**20**	*e*P		**Pn**	**00 20 00.4 +1.6**
KII	**Karymskiy**	**2.54**	**20**	PN		**Pn**	**00 20 00.4 +1.6**
TUMR	**Tumrok**	**3.86**	**19**	*e*P		**Pn**	**00 20 18.5 +2.0**
TUMR	**Tumrok**	**3.86**	**19**	PN		**Pn**	**00 20 18.5 +2.0**
ESO	**Esso**	**4.30**	**5**	*e*P		**Pn**	**00 20 23.4 +1.0**
ESO	**Esso**	**4.30**	**5**	PN		**Pn**	**00 20 23.4 +1.0**
KMNR	**Kamenistaya**	**4.32**	**17**	*e*P		**Pn**	**00 20 25.1 +2.3**
KMNR	**Kamenistaya**	**4.32**	**17**	PN		**Pn**	**00 20 25.1 +2.3**
KPT	**Kopyto**	**4.52**	**16**	*e*P		**Pn**	**00 20 26.3 +0.9**
KPT	**Kopyto**	**4.52**	**16**	PN		**Pn**	**00 20 26.3 +0.9**
BZP	**Bezymyannyi-Pe**	**4.53**	**18**	*e*P		**Pn**	**00 20 27.3 +1.7**
KIRR	**Kirishev**	**4.53**	**17**	*e*P		**Pn**	**00 20 27.1 +1.5**
KIRR	**Kirishev**	**4.53**	**17**	PN		**Pn**	**00 20 27.2 +1.5**
BZMR	**Bezymyannaya**	**4.54**	**18**	*e*P		**Pn**	**00 20 27.8 +2.0**
BZMR	**Bezymyannaya**	**4.54**	**18**	PN		**Pn**	**00 20 27.8 +2.0**
BZGR	**Bezymyannyi-Gr**	**4.58**	**19**	*e*P		**Pn**	**00 20 29.1 +2.7**
BZGR	**Bezymyannyi-Gr**	**4.58**	**19**	PN		**Pn**	**00 20 29.1 +2.7**
ZLN	**Zelenaya**	**4.68**	**20**	*e*P		**Pn**	**00 20 30.5 +2.9**
ZLN	**Zelenaya**	**4.68**	**20**	PN		**Pn**	**00 20 30.5 +2.9**
LGNR	**Loginova**	**4.72**	**19**	*e*P		**Pn**	**00 20 30.8 +2.5**
LGNR	**Loginova**	**4.72**	**19**	PN		**Pn**	**00 20 30.8 +2.5**
CIRR	**Tsirk**	**4.76**	**19**	*e*P		**Pn**	**00 20 31.5 +2.7**
CIRR	**Tsirk**	**4.76**	**19**	PN		**Pn**	**00 20 31.5 +2.7**
SRDR	**Sredinnyy**	**4.78**	**12**	*e*P		**Pn**	**00 20 30.7 +1.7**
SRDR	**Sredinnyy**	**4.78**	**12**	PN		**Pn**	**00 20 30.7 +1.7**
KRSR	**Krestovskiy**	**4.82**	**17**	*e*P		**Pn**	**00 20 31.2 +1.7**
KRSR	**Krestovskiy**	**4.82**	**17**	PN		**Pn**	**00 20 31.2 +1.7**
KBTR	**Krutoberegovo**	**5.38**	**30**	*e*P		**Pn**	**00 20 37.5 +0.5**
KBTR	**Krutoberegovo**	**5.38**	**30**	PN		**Pn**	**00 20 37.5 +0.5**
BKI	**Bering**	**5.95**	**50**	*e*P		**Pn**	**00 20 44.7 0.0**
BKI				*e*S		**Sn**	**00 21 44.8 -6.5**
BKI	**Bering**	**5.95**	**50**	PN		**Pn**	**00 20 44.7 0.0**
MA2	**Magadan**	**8.93**	**336**	P		**Pn**	**00 21 24.9 -0.4**
comp=E,3.3nm,0.3s,baz=149,slow=10,SNR=5.2							
MA2	**Magadan**	**8.93**	**336**	*i* P		**Pn**	**00 21 23.8 -1.5**
SEY	**Seymchan**	**11.71**	**347**	*i* PN		**Pn**	**00 22 02.5 -0.5**
ASAJ	**Asahikawa**	**12.78**	**240**	P		**Pn**	**00 22 18.7 +1.3**
comp=E,12nm,0.6s,baz=80,slow=11,SNR=3.1							
ERM	**Erimo**	**13.98**	**232**	*i* P		**Pn**	**00 22 32.5 -0.7**
KLR	**Kul'dur**	**16.87**	**272**	P		**Pn**	**00 23 08.7 -0.9**
comp=E,2.1nm,0.8s,baz=68,slow=13,SNR=6.2							
KLR	**Kul'dur**	**16.87**	**272**	*e*P		**Pn**	**00 23 09.4 -0.2**
KLR				pmax	pmax		
comp=Z,5.0nm,1.4s							
BILL	**Bilibino**	**16.93**	**11**	*e*P		**Pn**	**00 23 09.9 -0.3**
BILL				pmax	pmax		
comp=Z,3.0nm,1.6s							
CLES	**Cleveland East**	**19.61**	**74**	P		**P**	**00 23 38.7 -1.5**
MJA0	**Matsu Arr-Jizo**	**20.62**	**231**	*e*P		**P**	**00 23 53.1 +1.8**
MJA0				pmax	pmax		
comp=Z,2.0nm,0.4s							
MJAR	**Matsushiro Arr**	**20.64**	**231**	P		**P**	**00 23 52.0 +0.6**
comp=Z,1.5nm,0.3s,baz=24,slow=10,SNR=6.2							
comp=Z,1.5nm,0.3s							
MJAR	**Matsushiro Arr**	**20.64**	**231**	*e*P		**P**	**00 23 53.1 +1.6**
MJAR				pmax	pmax		
comp=Z,2.0nm,0.4s							
LVA	**Lava Point**	**21.69**	**69**	P		**P**	**00 24 04.8 +2.3**
TIXI	**Tiksi**	**23.89**	**338**	*i* P		**P**	**00 24 23.9 -0.2**
TIXI				pmax	pmax		
comp=Z,5.0nm,0.8s							
O14K	**Tigyukauivet M**	**23.99**	**56**	P		**P**	**00 24 25.9 +0.9**
O14K				IAmb	IAmb		00 24 28.1
comp=Z,7.1nm,1.0s							
K15K	**Wolf Creek Mou**	**24.07**	**48**	P		**P**	**00 24 27.0 +1.2**
K15K				IAmb	IAmb		00 25 04.6
comp=Z,12nm,1.5s							
N15K	**Kwethluk River**	**24.60**	**53**	P		**P**	**00 24 31.5 +0.9**
N15K				IAmb	IAmb		00 24 33.7
comp=Z,6.9nm,0.8s							
L16K	**Owhat River**	**24.98**	**50**	P		**P**	**00 24 34.5 +0.5**
L16K				IAmb	IAmb		00 24 50.3
comp=Z,9.2nm,1.4s							
M16K	**Timber Creek**	**25.18**	**51**	P		**P**	**00 24 36.6 +0.7**
M16K				IAmb	IAmb		00 24 41.2
comp=Z,7.6nm,1.3s							
CNBA	**Chernabura Isl**	**25.30**	**66**	P		**P**	**00 24 38.9 +1.9**
J17K	**VABM Dome**	**25.33**	**46**	P		**P**	**00 24 38.7 +1.5**
E18K	**Tukpahlearik C**	**25.58**	**36**	P		**P**	**00 24 37.9 -1.5**
K17K	**Iditarod**	**25.61**	**47**	P		**P**	**00 24 39.7 -0.1**
M17K	**Holitna River**	**25.93**	**51**	P		**P**	**00 24 43.7 +1.0**
M17K				IAmb	IAmb		00 24 47.4
comp=Z,4.6nm,0.9s							
L18K	**Granite Mounta**	**26.32**	**49**	P		**P**	**00 24 47.3 +1.2**
D19K	**Kuna River**	**26.79**	**35**	P		**P**	**00 24 49.8 -0.6**
D19K				IAmb	IAmb		00 24 50.9
comp=Z,8.7nm,1.2s							
E19K	**Redstone River**	**26.84**	**37**	P		**P**	**00 24 50.9 0.0**
IMAR	**Indian Mountai**	**27.93**	**41**	P		**P**	**00 25 00.7 +0.1**
KTH	**Kantishna Hill**	**28.99**	**46**	P		**P**	**00 25 11.0 +1.0**
E24K	**Your Creek**	**30.22**	**37**	P		**P**	**00 25 21.1 +0.2**
E24K				IAmb	IAmb		00 25 23.4
comp=Z,1.8nm,0.8s							
F24K	**Squaw Lake**	**30.40**	**38**	P		**P**	**00 25 22.5 0.0**
ILAR	**Eielson Array**	**30.74**	**43**	P		**P**	**00 25 24.9 -0.6**
comp=Z,0.6nm,0.8s,baz=255,slow=8.7,SNR=8.1							
comp=Z,0.6nm,0.8s							
D25K	**Kavik River**	**31.11**	**35**	P		**P**	**00 25 28.6 -0.1**
D25K				IAmb	IAmb		00 25 29.6
comp=Z,2.6nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**32.61**	**164**	T		T	01 00 57.4
baz=351,slow=76							
H11N3	**WAKE ISLAND Hy**	**32.63**	**164**	T		T	01 00 53.2
baz=351,slow=76							
H11N1	**WAKE ISLAND Hy**	**32.63**	**164**	T		T	01 01 03.6
baz=351,slow=76							
L27K	**Beaver Creek,**	**33.12**	**46**	P		**P**	**00 25 47.2 +0.9**
L27K				IAmb	IAmb		00 26 18.3
comp=Z,1.8nm,0.7s							
H11S1	**WAKE ISLAND Hy**	**33.78**	**165**	T		T	01 02 27.2
baz=351,slow=76							
H11S3	**WAKE ISLAND Hy**	**33.79**	**165**	T		T	01 02 31.4
baz=351,slow=76							
H11S2	**WAKE ISLAND Hy**	**33.80**	**165**	T		T	01 02 26.5
baz=351,slow=76							
MKAR	**Makanchi Array**	**47.62**	**296**	P		**P**	**00 27 42.5 -3.4**
comp=Z,0.5nm,0.5s,baz=52,slow=8.1,SNR=4.2							
comp=Z,0.5nm,0.5s							
NVAR	**Mina Array Bea**	**57.46**	**68**	P		**P**	**00 29 00.5 +1.7**
comp=Z,1.2nm,0.5s,baz=294,slow=7.4,SNR=9.8							
comp=Z,1.2nm,0.5s							
PDAR	**Pinedale Array**	**59.36**	**59**	P		**P**	**00 29 13.3 +1.3**
comp=Z,1.6nm,0.6s,baz=318,slow=3.3,SNR=17							
comp=Z,1.6nm,0.6s							
OBN	**Obninsk**	**63.03**	**327**	*e*P		**P**	**00 29 37.0 +0.8**
OBN				*e*			00 30 15.0
OBN				*e*			00 31 56.2
OBN				pmax	pmax		
comp=Z,5.0nm,0.9s							
EKA	**Eskdalemuir Ar**	**72.24**	**349**	P		**P**	**00 30 32.2 -1.9**
comp=Z,0.6nm,0.4s,baz=10,slow=5.3,SNR=6.1							
comp=Z,0.6nm,0.4s							
TXAR	**Lajitas Array**	**72.40**	**65**	P		**P**	**00 30 36.8 +1.1**
comp=Z,1.8nm,0.5s,baz=297,slow=5.0,SNR=22							
comp=Z,1.8nm,0.5s							
WRA	**Warramunga Arr**	**74.24**	**203**	P		**P**	**00 30 46.5 +0.2**
comp=Z,1.0nm,0.6s,baz=18,slow=6.2,SNR=8.5							
comp=Z,1.0nm,0.6s							
KHC	**Kasperske Hory**	**75.11**	**337**	*e*pP		pP	00 31 11.5 -3.4
ASAR	**Alice Springs**	**77.92**	**203**	P		**P**	**00 31 08.0 +0.9**
comp=Z,0.8nm,0.7s,baz=15,slow=5.0,SNR=11							
comp=Z,0.8nm,0.7s							
ESDC	**Sonseca Array**	**87.70**	**346**	P		**P**	**00 31 55.9 -1.8**
comp=Z,0.6nm,0.7s,baz=29,slow=2.8,SNR=6.5							
comp=Z,0.6nm,0.7s							
H03N2	**Juan Fernandez**	**135.50**	**89**	T		T	03 09 03.2
baz=314,slow=77							
H03N1	**Juan Fernandez**	**135.51**	**89**	T		T	03 09 02.9
baz=314,slow=77							
H03N3	**Juan Fernandez**	**135.52**	**89**	T		T	03 09 03.7
baz=314,slow=77							
PLCA	**Paso Flores**	**145.27**	**91**	PKPbc		**PKPbc**	**00 38 45.8 0.0**
comp=Z,1.4nm,0.7s,baz=343,slow=4.7,SNR=4.4							

*IDC **06** 00:21:36.2±2.4,36°.40N×71°.12E,h198km±21km,mb3.7/20, mbtmp4.3/27,Error ellipse: s-maj=14.3km s-min=11.8km az=178.0*

*MOS **06** 00:21:38.0±0.9,36°.63N×71°.05E,h218km,mb4.1/13,Error ellipse: s-maj=6.9km s-min=3.6km az=80.2*

*NEIC **06** 00:21:39.5±1.8,36°.65N±0°.04×71°.02E±0°.08,h220km±5km, mb4.3/31,Error ellipse: s-maj=10.4km s-min=4.0km az=66.0*

*NNC **06** 00:21:43.6±3.4,37°.08N×71°.05E,h227km±43km,mb3.5, mpv4.7,Error ellipse: s-maj=33.6km s-min=16.1km az=4.0*

ISC 06 00:21:37.4±0.4,36°.56N±0°.04×71°.00E±0°.04,h200km,n209, σ1§45/220,mb4.2/46,12C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.49**	**348**	Pn	**Pn**	**00 22 24.0**	**+2.7**
CHGR	**Chuyangaron**	**2.55**	**326**	Pn	**Pn**	**00 22 24.4**	**+2.6**
CHGR	**Chuyangaron**	**2.55**	**326**	PN	**Pn**	**00 22 24.4**	**+2.6**
KBL	**Kabul**	**2.57**	**219**	Pn	Pn	00 22 26.0	+3.7
KBL	**Kabul**	**2.57**	**219**	PN	Pn	00 22 26.0	+3.7
SIMJ	**Simiganj**	**2.62**	**324**	Pn	**Pn**	**00 22 25.4**	**+2.7**
DRK	**Karamyk**	**2.98**	**12**		**Pn**	**00 22 29.7**	**+2.7**
DRK	**Karamyk**	**2.98**	**12**	PN	**Pn**	**00 22 29.7**	**+2.7**
NIL	**Nilore**	**3.45**	**147**		Pn	00 22 36.7	+4.3
NIL	**Nilore**	**3.45**	**147**	PN	Pn	00 22 36.7	+4.3
BTK	**Batken**	**3.49**	**358**	Pn	**Pn**	**00 22 35.8**	**+2.9**
BTK	**Batken**	**3.49**	**358**	PN	**Pn**	**00 22 35.8**	**+2.9**
OHH	**Osh**	**4.20**	**19**	PN	**Pn**	**00 22 42.5**	**+0.9**
KSH	**Kashi**	**4.91**	**52**	Pn	**Pn**	**00 22 47.4**	**-3.3**
KSH				Sn	Sn	00 23 37.7	-11
KSH				smax	smax		
comp=N,570nm,0.7s							
KSH				smax	smax		
comp=E,630nm,0.7s							
TRKS	**Terek-Say**	**4.96**	**1**	PN	**Pn**	**00 22 52.0**	**+0.7**
ARSB	**Arslanbob**	**5.00**	**17**		**Pn**	**00 22 52.8**	**+1.0**
ARSB	**Arslanbob**	**5.00**	**17**	PN	**Pn**	**00 22 52.8**	**+1.0**
JMU	**Jammu**	**5.01**	**139**	*e*P	Pn	00 22 54.9	+3.0
JMU				*e*S	**Sn**	**00 23 49.8**	**-0.8**
ARK	**Arkit**	**5.28**	**8**	PN	**Pn**	**00 22 56.3**	**+0.9**
ARK				pmax	pmax		
comp=Z,94nm,0.7s							
IUG	**Iuzhnay**	**5.62**	**353**	*e*P	**Pn**	**00 23 00.7**	**+0.9**
baz=352							
IUG	**Iuzhnay**	**5.62**	**353**	*e*PN	**Pn**	**00 23 00.7**	**+0.9**
THN	**Thein Dam**	**5.67**	**135**	*e*P	Pn	00 23 03.5	+3.1
THN				*e*S	**Sn**	**00 24 07.2**	**+1.3**
THN				IAML		00 24 08.3	
comp=E,1μm,0.2s							
THN				IAML		00 24 08.4	
comp=E,760nm,0.2s							
ARLS	**Aral**	**5.89**	**25**	PN	**Pn**	**00 23 03.8**	**+0.6**
ARLS				pmax	pmax		
comp=Z,123nm,1.0s							
DHRM	**DHARAMSHALA**	**6.14**	**133**	*e*P	Pn	00 23 09.2	+2.5
DHRM				*e*S	**Sn**	**00 24 16.8**	**-0.5**
DHRM				IAML		00 24 19.0	
comp=E,2μm,0.8s							
DHRM				IAML		00 24 21.9	
comp=E,1μm,0.5s							
UCH	**Uchtor**	**6.28**	**25**	P	**Pn**	**00 23 09.6**	**+1.1**
SNR=41							
EKS2	**Erkin-Say**	**6.46**	**19**	P	**Pn**	**00 23 11.6**	**+1.1**
SNR=32							
BRLS	**Borolday**	**6.52**	**352**	*e*P	**Pn**	**00 23 08.6**	**-2.6**
baz=351							
BRLS	**Borolday**	**6.52**	**352**	*e*PN	**Pn**	**00 23 08.6**	**-2.6**
KK31	**Karatay Array**	**6.54**	**357**	Pn	**Pn**	**00 23 12.3**	**+0.8**
KK31	**Karatay Array**	**6.54**	**357**	P	**Pn**	**00 23 12.0**	**+0.5**
comp=E,31nm,0.6s,baz=177,slow=12,SNR=347							
KK31				⇓S	**Sn**	**00 24 21.5**	**-4.8**
comp=E,91nm,0.7s,baz=175,slow=24,SNR=9.3							
KK31	**Karatay Array**	**6.54**	**357**	*i* PN	**Pn**	**00 23 12.0**	**+0.5**
KKAR	**Karatay Array**	**6.54**	**357**	Pn	**Pn**	**00 23 12.2**	**+0.7**
KKAR	**Karatay Array**	**6.54**	**357**	Pn	**Pn**	**00 23 12.4**	**+0.8**
KKAR	**Karatay Array**	**6.54**	**357**	PN	**Pn**	**00 23 12.3**	**+0.8**
AAK	**Ala-Archa**	**6.64**	**23**	Pn	**Pn**	**00 23 13.9**	**+0.9**
AAK	**Ala-Archa**	**6.64**	**23**	P	**Pn**	**00 23 13.7**	**+0.8**
comp=E,85nm,0.5s,baz=54,slow=20,SNR=81							
AAK				S	**Sn**	**00 24 23.0**	**-5.8**
comp=E,54nm,0.7s,baz=221,slow=12,SNR=5.6							
AAK	**Ala-Archa**	**6.64**	**23**	*i* PN	**Pn**	**00 23 13.6**	**+0.7**
KBK	**Karagaybulak**	**6.80**	**25**	P	**Pn**	**00 23 16.4**	**+1.3**
SNR=22							
BHK	**Bhakra**	**6.83**	**137**	*e*P	Pn	00 23 17.6	+2.2
BHK				*e*S	**Sn**	**00 24 31.5**	**-1.6**
BHK				IAML		00 24 33.1	
comp=E,356nm,0.5s							
FRU1	**Bishkek**	**6.84**	**23**		**Pn**	**00 23 16.5**	**+1.1**
FRU1	**Bishkek**	**6.84**	**23**	PN	**Pn**	**00 23 16.5**	**+1.1**
ULHL	**Ulahol**	**6.98**	**34**	P	**Pn**	**00 23 18.2**	**+0.8**
SNR=25							
BOOM	**Boomskoye usch**	**7.04**	**31**	Pn	**Pn**	**00 23 18.8**	**+0.6**
BOOM	**Boomskoye usch**	**7.04**	**31**	PN	**Pn**	**00 23 18.8**	**+0.6**
CHMS	**Chumysh**	**7.05**	**23**	P	**Pn**	**00 23 19.4**	**+1.3**
SNR=25							
USP	**Ospenovka**	**7.21**	**21**	P	**Pn**	**00 23 21.3**	**+1.0**
SNR=16							
TKM2	**Tokmak 2**	**7.27**	**28**	P	**Pn**	**00 23 22.0**	**+0.8**
SNR=120							
TKM2	**Tokmak 2**	**7.27**	**28**	⇑P	**Pn**	**00 23 21.9**	**+0.7**
comp=E,78nm,0.7s							
TKM2				⇑S	**Sn**	**00 24 41.4**	**-2.3**
comp=E,61nm,0.8s							
TKM2	**Tokmak 2**	**7.27**	**28**	*i* PN	**Pn**	**00 23 21.9**	**+0.7**
TKM2				pmax	pmax		
comp=Z,78nm,0.7s							
TARG	**Taragay, Kyrgy**	**7.39**	**44**		**Pn**	**00 23 23.2**	**+0.3**
TARG	**Taragay, Kyrgy**	**7.39**	**44**	PN	**Pn**	**00 23 23.2**	**+0.3**
SGDS	**Sogindy**	**7.42**	**21**	*e*P	**Pn**	**00 23 23.6**	**+0.5**
baz=20							
SGDS	**Sogindy**	**7.42**	**21**	*e*PN	**Pn**	**00 23 23.5**	**+0.5**
HRA	**Herat**	**7.46**	**256**	Pn	**Pn**	**00 23 26.2**	**+2.4**
SMLA	**Simla**	**7.46**	**135**	*e*P	Pn	00 23 25.6	+2.0
SMLA				*e*S	**Sn**	**00 24 45.3**	**-2.8**
SMLA				IAML		00 24 49.7	
comp=E,424nm,0.6s							
SMLA				IAML		00 24 52.1	
comp=E,492nm,0.5s							
TNSS	**Tian-Shan**	**7.92**	**33**	*e*P	**Pn**	**00 23 30.0**	**+0.1**
baz=33							
TNSS				*e*S	**Sn**	**00 24 59.6**	**+0.2**
baz=33							
TNSS	**Tian-Shan**	**7.92**	**33**	*e*PN	**Pn**	**00 23 29.9**	**+0.1**
TNSS				*e*S	**Sn**	**00 24 59.6**	**+0.2**
AAA	**Alma-Ata**	**8.04**	**33**	*e*P	**Pn**	**00 23 31.6**	**+0.4**
comp=E,17nm,0.7s,baz=32							
AAA	**Alma-Ata**	**8.04**	**33**	*e*PN	**Pn**	**00 23 31.5**	**+0.4**
AAA				pmax	pmax		
comp=Z,17nm,0.7s							
MDOK	**Medeo**	**8.07**	**33**	*e*P	**Pn**	**00 23 32.1**	**+0.6**
baz=33							
MDOK				*e*S	**Sn**	**00 25 03.4**	**+0.9**
baz=33							
MDOK	**Medeo**	**8.07**	**33**	⇑P	**Pn**	**00 23 32.4**	**+0.9**
comp=Z,31nm,0.6s							
MDOK				⇑S	Sn	00 24 49.2	-13
comp=Z,14nm,0.7s							
MDOK	**Medeo**	**8.07**	**33**	PN	**Pn**	**00 23 32.4**	**+0.9**
PRZ	**Przheval'sk**	**8.22**	**42**	Pn	**Pn**	**00 23 34.2**	**+0.6**
PRZ	**Przheval'sk**	**8.22**	**42**	PN	**Pn**	**00 23 34.2**	**+0.6**
DDI	**Dehra Dun**	**8.57**	**135**	*e*P	Pn	00 23 39.8	+1.6
CHKK	**Chushkaly**	**8.60**	**30**	*e*P	**Pn**	**00 23 38.5**	**+0.1**
baz=30							
CHKK	**Chushkaly**	**8.60**	**30**	*e*PN	**Pn**	**00 23 38.4**	**+0.1**
SATY	**Saty**	**8.63**	**39**	*e*P	**Pn**	**00 23 38.6**	**-0.3**
baz=39							
SATY	**Saty**	**8.63**	**39**	*e*PN	**Pn**	**00 23 38.6**	**-0.3**
ZHN	**Zhinishke**	**8.73**	**39**	*e*P	**Pn**	**00 23 39.9**	**-0.3**
baz=38							
ZHN	**Zhinishke**	**8.73**	**39**	*e*PN	**Pn**	**00 23 39.8**	**-0.3**
BTLS	**Baital**	**8.78**	**14**	*e*P	**Pn**	**00 23 40.7**	**+0.1**
baz=14							
BTLS	**Baital**	**8.78**	**14**	*e*PN	**Pn**	**00 23 40.7**	**+0.1**
UZB	**Uzynbulak**	**9.01**	**41**	*e*P	**Pn**	**00 23 44.0**	**+0.1**
baz=40							
UZB	**Uzynbulak**	**9.01**	**41**	*e*PN	**Pn**	**00 23 43.9**	**+0.1**
KPKS	**Kokpek**	**9.07**	**38**	*e*P	**Pn**	**00 23 44.4**	**-0.1**
comp=Z,5.4nm,0.7s,baz=38							
KPKS	**Kokpek**	**9.07**	**38**	*e*PN	**Pn**	**00 23 44.4**	**-0.1**
KPKS				pmax	pmax		
comp=Z,5.0nm,0.7s							
SHLS	**Shalkode**	**9.26**	**42**	*e*P	**Pn**	**00 23 49.8**	**+2.8**
baz=43							
SHLS	**Shalkode**	**9.26**	**42**	*e*P	**Pn**	**00 23 49.7**	**+2.8**
PDGK	**Podgornoye**	**9.39**	**41**	⇓P	**Pn**	**00 23 47.9**	**-0.8**
comp=Z,15nm,1.2s							
PDGK				⇑S	**Sn**	**00 25 30.1**	**-3.6**
comp=Z,24nm,0.9s							
PDGK	**Podgornoye**	**9.39**	**41**	P	**Pn**	**00 23 47.9**	**-0.8**
SONA	**Sohna**	**9.75**	**146**	*e*P	**Pn**	**00 23 54.5**	**+1.1**
SONA				*e*S	**Sn**	**00 25 37.7**	**-4.8**
TDK	**Taldyqorghan**	**10.12**	**31**	*e*P	**Pn**	**00 23 58.7**	**+0.6**
baz=31							
TDK	**Taldyqorghan**	**10.12**	**31**	*e*P	**Pn**	**00 23 58.7**	**+0.6**
GEYT	**Alibeck**	**10.36**	**281**	Pn	**Pn**	**00 24 01.1**	**-0.1**
GEYT	**Alibeck**	**10.36**	**281**	P	**Pn**	**00 24 01.6**	**+0.4**
comp=Z,2.6nm,0.4s,baz=121,slow=12,SNR=15							
GEYT				S	**Sn**	**00 25 52.9**	**-3.9**
comp=Z,1.8nm,0.4s,baz=263,slow=20,SNR=1.8							
GYA0	**ALIBECK ARRAY**	**10.36**	**281**	P	**Pn**	**00 24 01.0**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**10.36**	**281**	Pn	**Pn**	**00 24 01.0**	**-0.2**
MAKZ	**Makanchi**	**13.10**	**35**		**Pn**	**00 24 35.5**	**-0.5**
MAKZ	**Makanchi**	**13.10**	**35**	P	**Pn**	**00 24 35.5**	**-0.5**
MK31	**Makanchi Array**	**13.24**	**36**	Pn	**Pn**	**00 24 36.9**	**-0.9**
MK31	**Makanchi Array**	**13.24**	**36**	P	**Pn**	**00 24 36.6**	**-1.1**
comp=Z,8.5nm,0.7s,baz=215,slow=12,SNR=49							
MK31	**Makanchi Array**	**13.24**	**36**	*i* P	**Pn**	**00 24 36.6**	**-1.1**
MK31				pmax	pmax		
comp=Z,9.0nm,0.7s							
MKAR	**Makanchi Array**	**13.24**	**36**	P	**Pn**	**00 24 36.8**	**-0.9**
comp=Z,7.7nm,0.8s,baz=222,slow=18,SNR=34							
MKAR	**Makanchi Array**	**13.24**	**36**	*i* P	**Pn**	**00 24 37.0**	**-0.7**
MKAR				pmax	pmax		
comp=Z,6.0nm,0.8s							
WMQ	**Urumqi**	**14.66**	**55**	*e*P	**P**	**00 24 56.1**	**-0.4**
WMQ				pmax	pmax		
comp=Z,11nm,0.9s							
ZSN	**Zaisan**	**14.96**	**39**	*e*P	**P**	**00 24 59.8**	**+0.1**
baz=39							
ZSN	**Zaisan**	**14.96**	**39**	*e*P	**P**	**00 24 59.8**	**+0.1**
AB31	**Akbulak array**	**15.03**	**331**	⇓P	**Pn**	**00 24 59.2**	**-0.5**
comp=Z,3.7nm,0.3s							
AB31	**Akbulak array**	**15.03**	**331**	P	**Pn**	**00 24 59.1**	**-0.5**
AB31				S	**S**	**00 27 41.7**	**-4.7**
ABKAR	**Akbulak array**	**15.03**	**331**		**Pn**	**00 24 59.2**	**-0.5**
ABKAR	**Akbulak array**	**15.03**	**331**		**Pn**	**00 24 59.2**	**-0.5**
KURBB	**Kurchatov Arra**	**15.06**	**19**	P	**Pn**	**00 24 58.9**	**-1.2**
comp=Z,3.6nm,0.5s,baz=206,slow=11,SNR=32							
KURK	**Kurchatov**	**15.17**	**19**		**Pn**	**00 25 00.2**	**-1.2**
KURK				IAmb	IAmb	00 25 03.0	
comp=Z,13nm,1.1s							
KURK	**Kurchatov**	**15.17**	**19**	*ce*P	**Pn**	**00 25 00.7**	**-0.7**
KURK				pmax	pmax		
comp=Z,14nm,1.3s							
SEM	**Semipalatinsk**	**15.36**	**23**	*e*P	**Pn**	**00 25 04.2**	**+0.2**
baz=23							
SEM	**Semipalatinsk**	**15.36**	**23**	*e*P	**Pn**	**00 25 04.2**	**+0.2**
BVA0	**Borovoye Array**	**16.46**	**359**	P	**P**	**00 25 16.8**	**+0.6**
comp=Z,8.3nm,0.6s,baz=162,slow=12,SNR=83							
BVA0	**Borovoye Array**	**16.46**	**359**	*i* P	**P**	**00 25 16.7**	**+0.6**
BVAR	**Borovoye Array**	**16.46**	**359**	P	**P**	**00 25 17.1**	**+0.9**
comp=Z,14nm,0.7s,baz=162,slow=12,SNR=69							
BVAR				S	**S**	**00 28 17.5**	**-0.6**
comp=Z,2.6nm,0.6s,baz=180,slow=19,SNR=5.4							
BRVK	**Borovoye**	**16.50**	**358**	P	**P**	**00 25 17.0**	**+0.4**
BRVK	**Borovoye**	**16.50**	**358**	*ce*P	**P**	**00 25 17.6**	**+1.1**
BRVK				pmax	pmax		
comp=Z,10.0nm,0.6s							
AKTO	**Aktyubinsk**	**16.72**	**330**	P	**Pn**	**00 25 20.6**	**+0.5**
comp=Z,12nm,0.4s,baz=145,slow=7.7,SNR=47							
AKTO				S	**S**	**00 28 19.7**	**-3.6**
comp=Z,1.5nm,0.4s,baz=307,slow=20,SNR=1.

comp=N,529nm,0.8s
BURAR Bucovina Array 35.25 303 P P 00 28 13.4 +0.6
BURAR Bucovina Array 35.25 303 P P 00 28 13.4 +0.6
BURAR pmax pmax
comp=Z,1.0nm,0.8s
BUR08 Bucovina Ar. S 35.26 303 P P 00 28 14.2 +1.3
IIGN Ignalina 35.58 316 *eP* **P 00 28 18.4 +3.0**
JOF Joensuu 35.81 330 *eP* **P 00 28 18.2 +1.0**
ARBE Arbavere 36.80 323 *eP* **P 00 28 26.5 +0.9**
PABE Paberze 36.87 316 P P 00 28 26.9 +0.6
PABE IAmb IAmb 00 28 45.6
comp=Z,9.7nm,1.1s
FIA1 FINESS Array S 37.43 326 P P 00 28 31.4 +0.6
FIA1 IAmb IAmb 00 28 33.1
comp=Z,9.6nm,1.0s
FINES FINESS Array B 37.43 326 P P 00 28 31.3 +0.4
FINES FINESS Array B 37.43 326 P P 00 28 31.4 +0.5
comp=Z,4.6nm,0.5s,baz=117,slow=9.5,SNR=43
comp=Z,4.6nm,0.5s
MTSE Matsula 37.67 321 *eP* **P 00 28 33.7 +0.8**
KEF Keuruu 38.22 327 *eP* **P 00 28 38.2 +0.7**
NIE Niedzica 38.53 306 P P 00 28 42.2 +1.8
NIE pmax pmax
comp=Z,3.0nm,2.3s
RAF Rauma 39.28 324 *eP* **P 00 28 46.0 -0.3**
VAF Ylistaro 39.47 328 *eP* **P 00 28 48.9 +1.0**
VYHS Vyhne 39.52 304 *eP* **P 00 28 51.0 +2.5**
VYHS Vyhne 39.52 304 *eP* **P 00 28 51.0 +2.5**
MORC Moravsky Berou 40.32 306 P P 00 28 55.0 -0.1
MORC Moravsky Berou 40.32 306 P P 00 28 55.1 -0.1
MORC pmax pmax
comp=Z,2.0nm,0.8s
KEV Kevo 40.74 338 P P 00 28 57.9 -0.3
KEV IAmb IAmb 00 29 18.1
comp=Z,23nm,1.4s
KEV Kevo 40.74 338 P P 00 28 57.9 -0.3
KEV pmax pmax
comp=Z,23nm,1.4s
ARCES ARCESS Array B 41.08 338 P P 00 29 01.9 +0.8
ARCES IAmb IAmb 00 29 02.2
comp=Z,4.2nm,0.7s
ARCES ARCESS Array B 41.08 338 P P 00 29 01.9 +0.8
comp=Z,5.2nm,0.6s,baz=111,slow=8.7,SNR=36
comp=Z,5.2nm,0.6s
ARCES ARCESS Array B 41.08 338 P P 00 29 01.9 +0.8
ARCES pmax pmax
comp=Z,4.0nm,0.7s
SGRT San Giovanni R 42.53 295 P P 00 29 13.8 +0.5
SGRT IAmb IAmb 00 29 22.4
comp=Z,21nm,1.2s
CUC Castrocucco 42.87 292 P P 00 29 18.0 +2.0
HFS Hagfors 43.01 322 P P 00 29 17.1 +0.4
comp=Z,10nm,0.6s,baz=98,slow=11,SNR=60
comp=Z,10nm,0.6s
NC405 NORSAR Array S 44.09 323 P P 00 29 25.1 -0.2
NC405 IAmb IAmb 00 29 26.5
comp=Z,12nm,1.0s
NORES NORESS Array B 44.14 323 P P 00 29 24.5 -1.2
NC303 NORSAR Array S 44.27 323 P P 00 29 26.1 -0.7
NC303 IAmb IAmb 00 29 28.2
comp=Z,12nm,0.8s
NB201 NORSAR Array S 44.29 323 P P 00 29 25.8 -1.1
NB201 IAmb IAmb 00 29 38.0
comp=Z,21nm,1.4s
NB2 NORSAR Subarra 44.33 323 P P 00 29 27.1 -0.1
comp=Z,4.1nm,0.6s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.33 323 P P 00 29 24.7 -2.5
NOA NORSAR Array B 44.33 323 P P 00 29 27.2 0.0
comp=Z,5.6nm,0.7s,baz=96,slow=7.7,SNR=37
comp=Z,5.6nm,0.7s
TIXI Tiksi 45.72 22 P P 00 29 37.8 -0.1
TIXI Tiksi 45.72 22 P P 00 29 37.8 -0.1
TIXI pmax pmax
comp=Z,5.0nm,0.8s
SPITS Spitsbergen Ar 47.43 347 P P 00 29 51.7 +0.5
comp=Z,1.9nm,0.5s,baz=122,slow=11,SNR=6.3
comp=Z,1.9nm,0.5s
KBS Kingsbay 48.55 347 *ceP* **P 00 30 02.0 +2.3**
KBS pmax pmax
comp=Z,39nm,2.5s
KEST Kesra 49.01 288 P P 00 30 04.7 +0.7
comp=Z,1.4nm,0.4s,baz=150,slow=2.1,SNR=4.4
comp=Z,1.4nm,0.4s
EKA Eskdalemuir Ar 52.24 316 P P 00 30 27.7 +0.1
comp=Z,0.4nm,0.4s,baz=93,slow=7.4,SNR=14
comp=Z,0.4nm,0.4s
ESDC Sonseca Array 57.42 298 P P 00 31 05.7 +0.6
comp=Z,0.9nm,0.8s,baz=54,slow=7.6,SNR=8.4
comp=Z,0.9nm,0.8s
TAM Tamanrasset 57.53 276 P P 00 31 05.7 -0.5
TAM Tamanrasset 57.53 276 P P 00 31 05.7 -0.5
TAM pmax pmax
comp=Z,1.0nm,0.7s
BILL Bilibino 58.55 26 *eP* **P 00 31 13.7 +1.3**
BILL *e**PP **PcP 00 32 03.0 +2.5**
BILL *e* 00 33 26.2
BILL pmax pmax
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 65.72 269 P P 00 31 59.5 -1.3
comp=Z,7.0nm,0.6s,baz=46,slow=6.2,SNR=64
comp=Z,7.0nm,0.6s
DBIC Dimbokro 74.70 267 P P 00 32 54.5 -0.9
comp=Z,3.8nm,0.9s,baz=56,slow=8.8,SNR=3.6
comp=Z,3.8nm,0.9s
ILAR Eielson Array 74.72 16 P P 00 32 53.9 -0.8
comp=Z,1.3nm,0.9s,baz=320,slow=5.3,SNR=15
comp=Z,1.3nm,0.9s
BOSA Boshof 77.79 220 P P 00 33 11.9 -0.6
comp=Z,3.8nm,0.8s,baz=22,slow=3.5,SNR=7.5
comp=Z,3.8nm,0.8s
YKA Yellowknife Ar 81.18 3 P P 00 33 30.2 -0.1
comp=Z,1.8nm,0.8s,baz=346,slow=5.4,SNR=9.2
comp=Z,1.8nm,0.8s
WRA Warramunga Arr 82.03 122 P P 00 33 33.4 -1.9
comp=Z,2.0nm,0.9s,baz=326,slow=4.8,SNR=11
comp=Z,2.0nm,0.9s
SCHQ Schefferville 82.03 337 P P 00 33 35.5 +0.6
SCHQ IAmb IAmb 00 34 04.6
comp=Z,7.7nm,1.4s
WB2 Warramunga Arr 82.04 122 P P 00 33 33.9 -1.4
WB2 IAmb IAmb 00 33 49.4
comp=Z,5.9nm,1.2s
Q32M Nakina River 82.88 12 P P 00 33 39.0 -0.4
ASAR Alice Springs 84.29 125 P P 00 33 45.6 -1.3
ASAR Alice Springs 84.29 125 P P 00 33 45.2 -1.7
comp=Z,1.9nm,0.7s,baz=308,slow=4.8,SNR=20
comp=Z,1.9nm,0.7s
ASAR Alice Springs 84.29 125 P P 00 33 45.6 -1.3
PKME Peaks-Kenny Pk 91.00 333 P P 00 34 17.6 -1.0
QSPA South Pole Qui 126.36 180 PKP PKiKP 00 40 14.2 -1.5
comp=Z,0.8nm,0.8s,baz=349,slow=1.2,SNR=1.9
PLCA Paso Flores 149.84 250 PKPbc PKPbc 00 41 02.4 -1.2
comp=Z,2.3nm,0.9s,baz=15,slow=1.9,SNR=4.3

*IDC **06** 00:24:28.6±1.6, 0°.33S×124°.91E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=183.9km s-min=23.9km az=64.0*
*DJA **06** 00:24:37.8±0.6, 0°.5S±5°×12°.5E±°, h10km, M3.9/6, MLv3.9/6*
ISC 06 00:24:35.5±1.3, 0°.1N±0°.1×125°.6E±0°.1, h49km, n9, σ2°.09/11, mb3.3/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.65**	**286**	P	**Pn**	**00 25 02.4**	**+0.4**
KMSI				S	**Sn**	**00 25 22.1**	**+0.1**
SANI	**Sanana**	**2.19**	**169**	P	**Pn**	**00 25 12.1**	**+2.7**
GTOI	**Gorontalo**	**2.60**	**282**	P	**Pn**	**00 25 18.4**	**+3.3**
LUWI	**Luwuk**	**3.01**	**248**	P	**Pn**	**00 25 22.1**	**+1.3**
LUWI				S	**Sn**	**00 25 54.6**	**-1.0**
MRSI	**Marisa**	**3.64**	**276**	P	**Pn**	**00 25 30.3**	**+1.0**
WRA	**Warramunga Arr**	**21.70**	**157**	P	**P**	**00 29 19.4**	**-3.2**
	0.3nm,0.4s,baz=333,slow=11,SNR=7.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**24.98**	**162**	P	**P**	**00 29 53.2**	**-1.6**
	0.4nm,0.7s,baz=341,slow=11,SNR=2.4						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**59.89**	**327**	P	**P**	**00 34 36.5**	**+0.1**
	0.3nm,0.5s,baz=127,slow=7.7,SNR=5.1						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.18**	**329**	P	**P**	**00 35 05.1**	**0.0**
	0.2nm,0.4s,baz=143,slow=5.8,SNR=2.4						
	0.2nm,0.4s						

*SDD **06** 00:37:32.4±2.6, 19°.15N×67°.96W, h19km±103km, MD3.4, ML3.4, MW3.5*
*RSPR **06** 00:37:35.0, 19°.06N×68°.09W, h37km±7km, MD3.2/18*
*OSPL **06** 00:37:34.2±4.7, 19°.00N×67°.88W, h5km±22km, ML3.3*
*NEIC **06** 00:37:34.2±0.8, 18°.96N±0°.06×67°.98W±0°.04, h19km±9km, ML3.3/34, Md3.3/18(RSPR), Error ellipse: s-maj=9.3km s-min=4.8km az=167.0*
ISC 06 00:37:32.9±2.2, 19°.02N±0°.05×67°.97W±0°.02, h11km±17km, n86, σ0°.90/107, 33C-12D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.64 217**		↓*eP*	**Pb**	**00 37 45.8**	**-0.2**
PCDR	**Punta Cana, DR**	**0.64 217**			**Pb**	**00 37 45.8**	**-0.2**
PCDR					**Sb**	**00 37 54.1**	**-0.9**
PCDR				IAML		00 38 02.7	
	comp=N,1μm,0.8s						
PCDR	**Punta Cana, DR**	**0.64 217**		↓*ePg*	**Pb**	**00 37 45.8**	**-0.2**
PCDR				↓*eSg*	**Sb**	**00 37 54.7**	**-0.2**
PCDR				IAML		00 37 57.0	
	comp=E,682nm,0.2s						
PCDR				IAML		00 38 02.6	
	comp=N,1μm,0.5s						
PCDR	**Punta Cana, DR**	**0.64 217**		*i* P	**Pb**	**00 37 45.8**	**-0.2**
PCDR				*eS*	**Sb**	**00 37 54.5**	**-0.4**
PCDR				IAML		00 37 55.0	
	comp=Z,787nm,0.4s						
HIDR	**Higuey Centro**	**0.82 239**		↓*ePg*	**Pb**	**00 37 48.3**	**-0.9**
HIDR				↓*eSg*	**Sb**	**00 37 59.0**	**-1.4**
HIDR				IAML		00 37 59.5	
	comp=E,895nm,0.4s						
HIDR				IAML		00 38 00.6	
	comp=N,742nm,0.2s						
AGPR	**Aguadilla, PR**	**0.99 124**		↓*eP*	**Pb**	**00 37 52.1**	**+0.2**
AGPR	**Aguadilla, PR**	**0.99 124**		*eS*	**Sn**	**00 38 06.2**	**-0.5**
AGPR	**Aguadilla, PR**	**0.99 124**			**Pb**	**00 37 51.2**	**-0.8**
AGPR					**Sb**	**00 38 05.7**	**+0.6**
AGPR				IAML		00 38 08.6	
	comp=E,682nm,0.5s						
AGPR				IAML		00 38 08.8	
	comp=N,757nm,0.5s						
AGPR	**Aguadilla, PR**	**0.99 124**		↑*ePg*	**Pb**	**00 37 51.2**	**-0.8**
AGPR				IAML		00 38 07.6	
	comp=E,591nm,0.4s						
AGPR				IAML		00 38 09.4	
	comp=N,696nm,0.2s						
AGPR	**Aguadilla, PR**	**0.99 124**		*i* P	**Pb**	**00 37 52.2**	**+0.2**
AGPR				IAML		00 38 09.4	
	comp=Z,404nm,0.2s						
MIDR	**Miches**	**1.02 268**		↑*ePg*	**Pb**	**00 37 52.6**	**0.0**
MIDR				↑*eSg*	**Sb**	**00 38 06.7**	**+0.8**
PRSN	**Puerto Rico Se**	**1.12 135**		↓*eP*	**Pn**	**00 37 54.7**	**+0.1**
PRSN	**Puerto Rico Se**	**1.12 135**		*eS*	**Sb**	**00 38 09.5**	**+0.5**
PRSN	**Puerto Rico Se**	**1.12 135**			**Pn**	**00 37 53.6**	**-1.0**
PRSN					**Sb**	**00 38 09.0**	**+0.1**
PRSN				IAML		00 38 15.1	
	comp=N,1μm,0.3s						
PRSN	**Puerto Rico Se**	**1.12 135**		↓*ePg*	**Pn**	**00 37 54.4**	**-0.1**
PRSN				↑*eSg*	**Sn**	**00 38 10.5**	**+0.5**
PRSN				IAML		00 38 13.9	
	comp=E,1μm,0.3s						
PRSN				IAML		00 38 15.2	
	comp=N,1μm,0.3s						
LSP	**Las Mesas**	**1.19 135**		↑*eP*	**Pn**	**00 37 55.3**	**-0.2**
LSP	**Las Mesas**	**1.19 135**		*eS*	**Sb**	**00 38 11.2**	**+0.2**
LSP	**Las Mesas**	**1.19 135**			**Pn**	**00 37 55.3**	**-0.2**
LSP					**Sb**	**00 38 11.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.30 141**		↑*eP*	**Pn**	**00 37 57.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.30 141**		*eS*	**Sn**	**00 38 14.2**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.30 141**			**Pn**	**00 37 55.1**	**-1.9**
CRPR	**Cabo Rojo, PR**	**1.30 141**		↑*ePg*	**Pn**	**00 37 57.2**	**+0.2**
CRPR				↑*eSg*	**Sn**	**00 38 14.8**	**+0.3**
CRPR				IAML		00 38 19.0	
	comp=E,265nm,0.3s						
CRPR				IAML		00 38 20.1	
	comp=N,358nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.30 141**		*i* P	**Pn**	**00 37 56.9**	**-0.1**
CRPR				*eS*	**Sn**	**00 38 10.5**	**-4.0**
CRPR				IAML		00 38 17.3	
	comp=Z,545nm,0.5s						
AOPR	**Arecibo Observ**	**1.34 120**		↑*eP*	**Pn**	**00 37 57.3**	**-0.2**
AOPR	**Arecibo Observ**	**1.34 120**		*eS*	**Sb**	**00 38 15.7**	**+0.5**
AOPR	**Arecibo Observ**	**1.34 120**			**Pn**	**00 37 57.2**	**-0.2**
AOPR					**Sb**	**00 38 15.5**	**+0.3**
AOPR				IAML		00 38 23.0	
	comp=N,611nm,0.3s						
AOPR	**Arecibo Observ**	**1.34 120**		↑*ePg*	**Pn**	**00 37 57.4**	**-0.2**
AOPR				↑*eSg*	**Sn**	**00 38 14.4**	**-1.0**
AOPR				IAML		00 38 16.1	
	comp=N,474nm,0.3s						
AOPR				IAML		00 38 19.5	
	comp=E,908nm,0.3s						
HATOM	**Hato Mayor del**	**1.35 260**		↑*ePg*	**Pn**	**00 37 57.8**	**0.0**
HATOM				↑*eSg*	**Sn**	**00 38 14.5**	**-1.3**
HATOM				IAML		00 38 17.4	
	comp=N,286nm,0.5s						
HATOM				IAML		00 38 17.5	
	comp=N,279nm,0.5s						
MLPR	**Magueyes Islan**	**1.37 140**		↑*eP*	**Pn**	**00 37 57.6**	**-0.3**
MLPR	**Magueyes Islan**	**1.37 140**		*eS*	**Sn**	**00 38 15.2**	**-0.9**
MLPR	**Magueyes Islan**	**1.37 140**			**Pn**	**00 37 56.3**	**-1.6**
MLPR	**Magueyes Islan**	**1.37 140**			**Sn**	**00 38 15.2**	**-0.9**
MLPR	**Magueyes Islan**	**1.37 140**		↑*ePg*	**Pn**	**00 37 57.7**	**-0.3**
MLPR				↑*eSg*	**Sn**	**00 38 15.2**	**-0.9**
MLPR				IAML		00 38 18.0	
	comp=E,263nm,0.4s						
MLPR				IAML		00 38 18.8	
	comp=N,217nm,0.3s						
UUPR	**Utuado, UPR, P**	**1.41 123**		↑*eP*	**Pn**	**00 37 58.3**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.41 123**		*eS*	**Sn**	**00 38 17.4**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.41 123**			**Pn**	**00 37 58.3**	**-0.3**
UUPR					**Sn**	**00 38 17.4**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.47 135**		↑*eP*	**Pb**	**00 38 00.8**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.47 135**		*eS*	**Sn**	**00 38 19.2**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.47 135**			**Pb**	**00 38 00.8**	**+0.5**
GBPR					**Sn**	**00 38 19.2**	**+0.6**
EMPR	**Esperanza - Ma**	**1.47 111**		↑*eP*	**Pn**	**00 37 59.7**	**+0.3**
EMPR	**Esperanza - Ma**	**1.47 111**		*eS*	**Sb**	**00 38 19.0**	**-0.1**
EMPR	**Esperanza - Ma**	**1.47 111**			**Pn**	**00 37 59.7**	**+0.3**
EMPR					**Sb**	**00 38 19.0**	**-0.1**
EMPR	**Esperanza - Ma**	**1.47 111**		IAML		00 38 23.0	
	comp=N,463nm,0.4s						
EMPR				IAML		00 38 23.9	
	comp=E,499nm,0.4s						
OBIP	**Obispado Ponce**	**1.62 127**		↑*eP*	**Pn**	**00 38 01.8**	**+0.3**
OBIP	**Obispado Ponce**	**1.62 127**		*eS*	**Sn**	**00 38 22.7**	**+0.3**
OBIP	**Obispado Ponce**	**1.62 127**			**Pn**	**00 38 01.8**	**+0.3**
OBIP					**Sn**	**00 38 22.7**	**+0.3**
OBIP	**Obispado Ponce**	**1.62 127**		IAML		00 38 24.5	
	comp=N,328nm,0.8s						
OBIP				IAML		00 38 25.9	
	comp=E,270nm,0.4s						
CELP	**Cerrillos**	**1.62 125**		↓*eP*	**Pn**	**00 38 01.6**	**+0.1**
CELP	**Cerrillos**	**1.62 125**		*eS*	**Sn**	**00 38 22.9**	**+0.4**
CELP	**Cerrillos**	**1.62 125**			**Pn**	**00 38 01.6**	**+0.1**
CELP					**Sn**	**00 38 22.9**	**+0.4**
CELP	**Cerrillos**	**1.62 125**		IAML		00 38 24.0	
	comp=N,463nm,0.8s						
CELP				IAML		00 38 24.4	
	comp=E,612nm,0.5s						
CELP	**Cerrillos**	**1.62 125**		↑*ePg*	**Pn**	**00 38 01.7**	**+0.1**
CELP				↓*eSg*	**Sb**	**00 38 23.7**	**+0.3**
NADR	**Nagua**	**1.81 281**		IAML		00 38 35.6	
	comp=N,2μm,0.2s						
NADR				IAML		00 38 39.6	
	comp=E,997nm,0.5s						
SDD	**Santo Domingo**	**1.92 253**		↑*eP*	**Pn**	**00 38 05.8**	**+0.3**
SDD	**Santo Domingo**	**1.92 253**			**Pn**	**00 38 05.8**	**+0.3**
SDD					**Sn**	**00 38 30.1**	**+0.3**
SDD	**Santo Domingo**	**1.92 253**		↑*ePg*	**Pn**	**00 38 05.5**	**-0.1**
SDD				↑*eSg*	**Sb**	**00 38 32.7**	**+0.8**
SDD				IAML		00 38 35.9	
	comp=E,52nm,1.4s						
SDD				IAML		00 38 55.5	
	comp=N,34nm,1.7s						
SDD	**Santo Domingo**	**1.92 253**		*i* P	**Pn**	**00 38 06.6**	**+1.0**
SDD				*eS*	**Sn**	**00 38 30.2**	**+0.5**
GCPR	**Guaynabo City**	**1.93 111**		↓*eP*	**Pn**	**00 38 06.2**	**+0.6**
GCPR	**Guaynabo City**	**1.93 111**		*eS*	**Sn**	**00 38 30.3**	**+0.4**
GCPR	**Guaynabo City**	**1.93 111**			**Pn**	**00 38 05.7**	**0.0**
GCPR	**Guaynabo City**	**1.93 111**			**Sn**	**00 38 30.3**	**+0.4**
GCPR	**Guaynabo City**	**1.93 111**		IAML		00 38 35.9	
	comp=E,111nm,0.5s						
GCPR				IAML		00 38 41.0	
	comp=N,126nm,0.7s						
SJG	**San Juan**	**1.95 117**		↑*eP*	**Pn**	**00 38 05.9**	**-0.1**
SJG	**San Juan**	**1.95 117**		*eS*	**Sn**	**00 38 30.5**	**0.0**
SJG	**San Juan**	**1.95 117**			**Pn**	**00 38 05.9**	**-0.1**
SJG	**San Juan**	**1.95 117**		IAML		00 38 35.0	
	comp=N,231nm,0.4s						
SJG				IAML		00 38 35.8	
	comp=N,240nm,0.5s						
IGPR	**InterUniversit**	**2.06 120**		↑*eP*	**Pn**	**00 38 07.7**	**+0.2**
IGPR	**InterUniversit**	**2.06 120**		*eS*	**Sn**	**00 38 33.2**	**+0.1**
IGPR	**InterUniversit**	**2.06 120**			**Pn**	**00 38 07.7**	**+0.2**
IGPR					**Sn**	**00 38 33.2**	**+0.1**
IGPR	**InterUniversit**	**2.06 120**		IAML		00 38 36.7	
	comp=E,300nm,0.3s						
IGPR				IAML		00 38 37.9	
	comp=N,224nm,0.3s						
HUMP	**Col San Antoni**	**2.20 113**		↑*eP*	**Pn**	**00 38 09.3**	**0.0**
HUMP	**Col San Antoni**	**2.20 113**		*eS*	**Sn**	**00 38 36.5**	**-0.1**
HUMP	**Col San Antoni**	**2.20 113**			**Pn**	**00 38 09.3**	**0.0**
HUMP					**Sn**	**00 38 36.5**	**-0.1**
HUMP	**Col San Antoni**	**2.20 113**		IAML		00 38 44.7	
	comp=E,192nm,0.2s						
BANI	**BANI**	**2.34 255**		↑*ePg*	**Pn**	**00 38 12.2**	**+0.7**
BANI				*e*		00 38 12.3	
BANI				↑*eSg*	**Sb**	**00 38 44.5**	**+0.2**
BANI				IAML		00 38 50.2	
	comp=E,228nm,0.5s						
BANI				IAML		00 38 56.1	
	comp=N,375nm,0.5s						
ABDR	**Alto Bandera**	**2.52 266**		↑*ePg*	**Pn**	**00 38 16.6**	**+2.5**
ABDR				↑*eSg*	**Sb**	**00 38 48.4**	**-1.2**
ABDR				IAML		00 38 56.0	
	comp=E,244nm,0.8s						
ABDR				IAML		00 38 58.3	
	comp=N,293nm,0.5s						
LUDR	**Luperon**	**2.94 288**		*ePg*	**Pn**	**00 38 20.9**	**+1.3**
LUDR				↑*eSg*	**Sb**	**00 38 58.6**	**-2.7**
LUDR				IAML		00 39 20.0	
	comp=N,856nm,0.3s						
LUDR				IAML		00 39 21.9	
	comp=E,405nm,0.3s						
LOBA2	**Hotel Casa Bon**	**3.10 253**		IAML		00 39 07.5	
	comp=E,18nm,0.3s						
LOBA2				IAML		00 39 09.9	
	comp=N,18nm,0.5s						
SDDR	**Presa de Saban**	**3.14 270**			**Pn**	**00 38 24.0**	**+1.7**
SDDR	**Presa de Saban**	**3.14 270**		↑*ePg*	**Pn**	**00 38 24.8**	**+2.5**
SDDR				IAML		00 39 12.6	
	comp=E,273nm,0.5s						
SDDR				IAML		00 39 14.6	
	comp=N,195nm,0.6s						
SDDR	**Presa de Saban**	**3.14 270**		*i* P	**Pn**	**00 38 24.6**	**+2.3**
SDDR				IAML		00 39 14.2	
	comp=Z,84nm,0.4s						
REDR	**Restauracion**	**3.24 273**		↑*eSg*	**Sg**	**00 39 16.8**	**-0.1**
REDR				IAML		00 39 22.0	
	comp=E,131nm,0.4s						
REDR				IAML		00 39 24.6	
	comp=N,112nm,1.0s						
PODR	**Polo**	**3.25 255**		*eSg*	**Sb**	**00 39 11.4**	**+0.9**
PODR				IAML		00 39 16.2	
	comp=E,131nm,0.3s						
PODR				IAML		00 39 16.7	
	comp=N,95nm,0.5s						
PODR	**Polo**	**3.25 255**		*i* P	**Pn**	**00 38 26.7**	**+2.6**
PODR				*eS*	**Sb**	**00 39 09.6**	**-0.9**
PODR				IAML		00 39 12.1	
	comp=Z,54nm,0.8s						
GRTK	**Grand Turk**	**3.86 310**		Pn	**Pn**	**00 38 31.2**	**-1.1**
GRTK				IAML		00 39 44.8	
	comp=Z,60nm,2.5s						
GRTK				IAML		00 40 18.4	
	comp=Z,59nm,2.8s						
GRTK	**Grand Turk**	**3.86 310**		*i* P	**Pn**	**00 38 31.8**	**-0.4**
GRTK				IAML		00 39 15.3	
	comp=Z,66nm,1.5s						

*IDC **06** 00:38:08.1±5.5, 32°.59S×179°.66E, h273km±46km, mb3.1/3, mbtmp3.9/4, Error ellipse: s-maj=54.9km s-min=28.3km az=40.0*
*WEL **06** 00:38:15.2±1.3, 33°.5S±6°×18°.0E±1°.2, h9km±9km, M4.5/13, mB5.1/10, ML4.4/14, MLv4.5/13, Mw(mB)4.5/10, Error ellipse: s-maj=0.0km s-min=0.0km az=112.1, confirmed*
*NEIC **06** 00:38:18.3±1.0, 33°.2S±0°.1×178°.9E±0°.3, h331km±16km, mb4.0/5, Error ellipse: s-maj=32.6km s-min=19.0km az=102.0*
ISC 06 00:38:12.5±1.5, 32°.85S±0°.10×179°.4E±0°.2, h300km, n95, σ1°.57/106, mb3.6/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.27**	**34**	S	S	00 40 07.6	-10
MXZ	**Matakaoa Point**	**4.78**	**190**	Pn	**Pn**	**00 39 29.6**	**+2.2**
MXZ	**Matakaoa Point**	**4.78**	**190**	P	**Pn**	**00 39 27.7**	**+0.2**
MXZ				S	**S**	**00 40 27.8**	**+0.2**
WIZ	**White Island**	**5.00**	**200**	P	**Pn**	**00 39 33.1**	**+3.3**
WMGZ	**Waiomatatini S**	**5.02**	**189**	P	**Pn**	**00 39 32.0**	**+1.9**
HAZ	**Te Kaha**	**5.07**	**194**	P	**Pn**	**00 39 33.7**	**+3.1**
HAZ				S	**S**	**00 40 33.2**	**-0.3**
PKGZ	**Pakihiroa**	**5.12**	**191**	P	**Pn**	**00 39 32.7**	**+1.4**
WCZ	**Waipu Caves**	**5.17**	**232**	P	Pn	00 39 37.1	+5.2
RUGZ	**Raukumara Rang**	**5.29**	**195**	P	**Pn**	**00 39 35.4**	**+2.0**
PUZ	**Puketiti**	**5.29**	**189**	P	**Pn**	**00 39 35.6**	**+2.3**
PUZ				S	**S**	**00 40 38.2**	**-0.1**
OUZ	**Omahuta**	**5.34**	**242**	P	Pn	00 39 38.8	+4.9
WHRZ	**Whale Island**	**5.36**	**201**	P	**Pn**	**00 39 38.2**	**+4.0**
TWGZ	**Tauwhareparae**	**5.44**	**192**	P	**Pn**	**00 39 36.8**	**+1.7**
TWGZ				S	**S**	**00 40 43.7**	**+2.2**
MWZ	**Matawai**	**5.67**	**195**	P	**Pn**	**00 39 38.8**	**+0.9**
MWZ				S	**S**	**00 40 46.8**	**+0.1**
CNGZ	**Carnagh Statio**	**5.70**	**189**	P	**Pn**	**00 39 40.3**	**+2.1**
URZ	**Urewera**	**5.70**	**198**	P	**Pn**	**00 39 38.6**	**+0.5**
	14nm,0.3s,baz=349,slow=3.9,SNR=102						
URZ				S	**S**	**00 40 46.8**	**-0.4**
	18nm,0.4s,baz=149,slow=24,SNR=20						
URZ	**Urewera**	**5.70**	**198**	P	**Pn**	**00 39 38.6**	**+0.5**
URZ				S	**S**	**00 40 46.2**	**-1.0**
TKGZ	**Te Karaka**	**5.71**	**192**	P	**Pn**	**00 39 38.8**	**+0.5**
TKGZ				S	**S**	**00 40 46.8**	**-0.6**
RAGZ	**Rawiri**	**5.85**	**195**	P	**Pn**	**00 39 42.9**	**+2.9**
RIGZ	**Rimuhau**	**5.99**	**192**	P	**Pn**	**00 39 44.0**	**+2.4**
RIGZ				S	**S**	**00 40 53.9**	**+0.4**
MUGZ	**Murupara**	**6.00**	**200**	P	**Pn**	**00 39 44.0**	**+2.2**
MUGZ				S	**S**	**00 40 54.3**	**+0.7**
RTZ	**Ruatahuna**	**6.07**	**198**	P	**Pn**	**00 39 42.7**	**+0.1**
SNGZ	**Shannon Statio**	**6.14**	**195**	P	**Pn**	**00 39 44.1**	**+0.6**
SNGZ				S	**S**	**00 40 56.9**	**0.0**
PRGZ	**Paritu Road**	**6.18**	**191**	P	**Pn**	**00 39 46.3**	**+2.4**
PRGZ				S	**S**

FWVZ	Far West T-bar	7.10	205	P		Pn	00 39 57.5 +2.3
MAVZ	Matarangi	7.11	205	P		Pn	00 39 57.6 +2.2
WHVZ	Whangaehu Hut	7.11	204	P		Pn	00 39 57.1 +1.7
WNVZ	Wahianoa	7.15	204	P		Pn	00 39 56.9 +1.2
MOVZ	Moawhango	7.17	203	P		Pn	00 39 57.1 +1.2
KRHZ	Kereru	7.20	199	P		Pn	00 39 56.4 +0.2
PKVZ	Pokaka	7.20	206	P		Pn	00 39 58.4 +2.1
KAHZ	Kahuranaki	7.22	195	P		Pn	00 39 55.8 -0.7
MTVZ	Mangateitei	7.24	205	P		Pn	00 39 58.8 +2.0
VRZ	Vera Road	7.29	209	P		Pn	00 40 01.1 +3.8
PXZ	Pawanui	7.45	195	P		Pn	00 40 00.3 +1.1
PNHZ	Pukenui	7.50	199	P		Pn	00 39 59.4 -0.4
WPHZ	Waipukurau	7.58	197	P		Pn	00 40 01.8 +1.0
PKE	Pukeiti	7.68	213	P		Pn	00 40 07.8 +5.7
NEZ	North Egmont	7.70	212	P		Pn	00 40 07.9 +5.5
WAZ	Wanganui	7.74	206	P		Pn	00 40 04.6 +1.7
DVHZ	Dannevirke	7.87	198	P		Pn	00 40 04.5 +0.1
ANWZ	Angora Road	7.94	196	P		Pn	00 40 06.2 +1.0
POWZ	Post Office Ro	8.06	200	P		Pn	00 40 07.1 +0.3
PRWZ	Pori Road	8.16	198	P		Pn	00 40 08.6 +0.7
BFZ	Birch Farm	8.21	197	Pn		Pn	00 40 08.6 0.0
BFZ	Birch Farm	8.21	197	P		Pn	00 40 08.6 0.0
MRZ	Mangatainoka R	8.37	200			Pn	00 40 10.2 -0.3
MSWZ	Moikau Station	9.16	200			Pn	00 40 19.4 -0.8
BHW	Baring Head	9.26	201	Pn		Pn	00 40 20.3 -1.2
TUWZ	Tuamarina	9.59	205			Pn	00 40 24.7 -0.8
NNZ	Nelson	9.62	208			Pn	00 40 25.2 -0.6
QRZ	Quartz Range	9.66	213			Pn	00 40 25.5 -0.9
BSWZ	Blackbirch Sta	9.87	205			Pn	00 40 28.1 -0.8
MRNZ	Matariki Terra	10.03	210			Pn	00 40 30.2 -0.7
THZ	Tophouse	10.27	208			Pn	00 40 33.1 -0.8
KHZ	Kahutara	10.61	204	P		Pn	00 40 37.4 -0.5
DSZ	Denniston Nort	10.72	212			Pn	00 40 39.1 -0.3
GVZ	Greta Valley S	11.27	204			Pn	00 40 45.6 -0.4
LTZ	Lake Taylor	11.39	207	Pn		Pn	00 40 45.7 -1.8
INZ	Inchbonnie	11.67	210			Pn	00 40 49.6 -1.3
MQZ	McQueen's Vall	12.05	204			Pn	00 40 53.9 -1.6
ASAR	Alice Springs	40.81	271	P		P	00 45 25.7 +0.1
	0.7nm,0.7s,baz=109,slow=7.6,SNR=7.8						
	0.7nm,0.7s						
WR0	Warramunga Arr	41.85	276	P		P	00 45 33.5 -0.5
WR0				IAmb		IAmb	00 46 00.3
	comp=Z,15nm,1.5s						
WB2	Warramunga Arr	42.02	276	P		P	00 45 35.0 -0.4
WB2				IAmb		IAmb	00 46 07.0
	comp=Z,14nm,1.4s						
WRA	Warramunga Arr	42.03	276	P		P	00 45 32.8 -2.6
WRA	Warramunga Arr	42.03	276	P		P	00 45 35.2 -0.3
	comp=Z,0.8nm,0.4s,baz=115,slow=7.8,SNR=19						
	comp=Z,0.8nm,0.4s						
WB0	Warramunga Arr	42.06	277	P		P	00 45 35.2 -0.5
QSPA	South Pole Qui	57.27	180	P		P	00 47 29.4 +0.4
QSPA				IAmb		IAmb	00 47 34.7
	comp=Z,7.0nm,1.5s						
QSPA	South Pole Qui	57.27	180	P		P	00 47 29.5 +0.4
	comp=Z,1.2nm,1.1s,baz=18,slow=3.2,SNR=1.8						
	comp=Z,1.2nm,1.1s						
FINES	FINESS Array B	146.59	337	PKPbc		PKPdf	00 57 14.9 -1.0
	comp=Z,1.1nm,0.8s,baz=45,slow=4.1,SNR=7.1						

*CATAC **06** 00:39:50.9±0.5, 13°.67N×90°.72W, h20km±5km, mb3.6, ML3.5*
*SNET **06** 00:39:51.8±1.1, 13°.78N×90°.65W, h78km±17km, ML3.3*
*GCG **06** 00:39:52.5±0.5, 13°.69N×90°.82W, h35km±38km, MD3.4*
ISC 06 00:39:52.0±1.7,**13°.68N**±0°.08×**90°.73W**±0°.05,**h30**km±13km,
n46,σ0s**71/72**,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.72	9	*i* P	Pb	00 40 06.9	+0.6
FUG	Fuego 3	0.77	352	*i* P	Pb	00 40 07.3	+0.2
GCG4	OSOP	0.92	12	*i* P	Pn	00 40 08.8	-0.4
GCG4				IAML		00 40 24.4	
	comp=Z,1μm,1.0s						
NUBE	Las Nubes	0.95	76	*e*P	Pn	00 40 09.0	-0.4
NUBE				*e*S	Sb	00 40 22.1	-0.1
NUBE	Las Nubes	0.95	76	*i* P	Pn	00 40 08.8	-0.6
NUBE				*i* S	Sb	00 40 22.0	-0.2
NUBE				IAML		00 40 23.6	
	comp=Z,780nm,1.0s						
LOAL	Lomas de Alarc	0.97	71	*e*P	Pb	00 40 09.8	-0.6
LOAL				*e*S	Sb	00 40 23.9	+1.0
LOAL	Lomas de Alarc	0.97	71	*i* P	Pn	00 40 09.4	-0.3
LOAL				*i* S	Sb	00 40 22.9	0.0
LOAL				IAML		00 40 28.4	
	comp=Z,2μm,1.0s						
NBG	Las Nubes	0.98	22	*e*P	Pb	00 40 10.8	+0.3
NBG				*i* S	Sb	00 40 25.5	+2.2
SLOZ	Alcaldia de Sa	0.98	69	*e*P	Pn	00 40 09.5	-0.3
SLOZ				*e*S	Sb	00 40 23.4	+0.3
RTR	El Retiro	1.07	78	*e*P	Pn	00 40 11.0	-0.2
CEVE	Cerro Verde	1.08	82	*e*P	Pn	00 40 11.0	-0.4
CEVE				*e*S	Sb	00 40 26.2	0.0
CEVE				IAML		00 40 27.1	
	comp=Z,767nm,0.2s						
CEVE	Cerro Verde	1.08	82	*i* P	Pn	00 40 11.0	-0.4
CEVE				*i* S	Sb	00 40 25.6	-0.6
CEVE				IAML		00 40 35.3	
	comp=Z,1μm,1.0s						
SNJE	San Jose	1.11	80	*e*P	Pn	00 40 11.3	-0.4
UNIC	Universidad Ca	1.18	75	*i* P	Pn	00 40 12.3	-0.3
UNIC				*i* S	Sb	00 40 28.2	-0.7
UNIC				IAML		00 40 31.1	
	comp=Z,250nm,1.0s						
JAYA	Jayaque - finc	1.24	91	*e*P	Pn	00 40 13.0	-0.5
JAYA				*e*S	Sn	00 40 29.0	-0.4
JAYA				IAML		00 40 33.8	
	comp=Z,394nm,0.3s						
JAYA	Jayaque - finc	1.24	91	*i* P	Pn	00 40 12.9	-0.6
JAYA				*i* S	Sn	00 40 29.0	-0.4
JAYA				IAML		00 40 30.0	
	comp=Z,2μm,1.0s						
RTAL	Retalhuleu	1.26	312	*i* P	Pn	00 40 12.9	-0.7
RTAL				IAML		00 40 42.8	
	comp=Z,340nm,1.0s						
SOKI	Kika Raxquin	1.31	330	*i* P	Pn	00 40 14.2	-0.5
SOKI				IAML		00 40 15.1	
	comp=Z,470nm,1.0s						
SOKI				*i* S	Sb	00 40 31.7	-1.2
STG3	Santiaguito 3,	1.31	322	*e*P	Pn	00 40 14.3	-0.2
STG3				*e*S	Sn	00 40 30.9	-0.2
PMON	Piamonte	1.37	88	*i* P	Pn	00 40 14.7	-0.6
PMON				*i* S	Sn	00 40 32.7	+0.2
PMON				IAML		00 40 38.6	
	comp=Z,720nm,1.0s						
LALI	Alcalda de L	1.38	98	*i* P	Pn	00 40 15.5	+0.3
LALI				IAML		00 40 37.0	
	comp=Z,140nm,1.0s						
ITCA	Escuela Especi	1.41	90	*i* P	Pn	00 40 15.5	-0.2
ITCA				IAML		00 41 11.1	
	comp=Z,2μm,1.0s						
QUEZ	Alcaldia de Qu	1.42	84	*i* P	Pn	00 40 15.6	-0.3
QUEZ				IAML		00 41 35.9	
	comp=Z,3μm,1.0s						
UEES	Universidad Ev	1.45	88	*i* P	Pn	00 40 15.9	-0.4
UEES				IAML		00 40 43.4	
	comp=Z,310nm,1.0s						
SNET	Serv Nac Est T	1.45	89	*i* P	Pn	00 40 16.1	-0.2
SNET				IAML		00 40 37.3	
	comp=Z,1μm,1.0s						
PANCS	Alcalda de	1.51	92	*i* P	Pn	00 40 16.9	-0.1
PANCS				*i* S	Sn	00 40 35.5	-0.2
PANCS				IAML		00 40 38.9	
	comp=Z,2μm,1.0s						
MTO3	Montecristo	1.51	61	*e*P	Pn	00 40 15.9	-1.3
MTO3	Montecristo	1.51	61	*i* P	Pn	00 40 15.7	-1.5
MTO3				IAML		00 40 16.3	
	comp=Z,110nm,1.0s						
MTO3				*i* S	Sb	00 40 36.9	-1.4
LOMA	Loma Larga	1.51	91	*i* P	Pn	00 40 16.9	-0.3
LOMA				*i* S	Sn	00 40 36.2	+0.2
LOMA				IAML		00 40 44.8	
	comp=Z,440nm,1.0s						
IGN	Direccin Gen	1.51	88	*i* P	Pn	00 40 16.9	-0.3
IGN				IAML		00 41 38.1	
	comp=Z,4μm,1.0s						
ESQI	Esquipulas	1.60	57	*i* P	Pn	00 40 17.4	-1.1
ESQI				*i* S	Sn	00 40 38.2	0.0
ESQI				IAML		00 40 48.5	
	comp=Z,390nm,1.0s						
LFRS	El Faro	1.62	92	*e*P	Pn	00 40 18.8	+0.1
PAVA	Las Pavas	1.74	89	*i* P	Pn	00 40 20.2	-0.1
PAVA				IAML		00 40 51.4	
	comp=Z,280nm,1.0s						
COEG	Centro de Oper	1.80	92	*e*P	Pn	00 40 20.6	-0.4
COEG				*e*S	Sn	00 40 42.9	-0.1
COEG	Centro de Oper	1.80	92	*i* P	Pn	00 40 20.8	-0.3
COEG				*i* S	Sn	00 40 43.2	+0.3
COEG				IAML		00 40 52.4	
	comp=Z,250nm,1.0s						
UESV	Universidad de	1.89	91	*i* P	Pn	00 40 22.2	-0.1
UESV				*i* S	Sn	00 40 46.3	+1.2
UESV				IAML		00 40 57.5	
	comp=Z,240nm,1.0s						
TECO	Alcaldia de Te	1.90	94	*i* P	Pn	00 40 22.2	-0.2
TECO				*i* S	Sn	00 40 46.2	+0.8
TECO				IAML		00 40 50.2	
	comp=Z,170nm,1.0s						
SCLA	Alcaldia de Sa	1.94	89	*e*P	Pn	00 40 22.5	-0.5
SCLA	Alcaldia de Sa	1.94	89	*i* P	Pn	00 40 22.5	-0.5
SCLA				IAML		00 41 02.4	
	comp=Z,47nm,1.0s						
CNCH	Conchagua	2.84	98	*i* P	Pn	00 40 35.1	-0.4
CNCH				*i* S	Sn	00 41 10.0	+1.2
CNCH				IAML		00 41 18.1	
	comp=Z,290nm,1.0s						
CCIG	Comitan	2.93	332	*i* P	Pn	00 40 37.1	+0.4
CCIG				IAML		00 40 38.9	
	comp=Z,45nm,1.0s						
AMPH	Amapala	3.01	97	*i* P	Pn	00 40 37.7	0.0
AMPH				*i* S	Sn	00 41 14.3	+1.5
YUSH	Yuscaran	3.78	85	*i* P	Pn	00 40 47.5	-0.9
YUSH				*i* S	Sn	00 41 32.9	+0.9
LIMN	Finca el Limon	4.29	98	*i* P	Pn	00 40 54.7	-0.7
LIMN				IAML		00 41 11.3	
	comp=Z,32nm,1.0s						
COPN	Copaltepe	4.30	110	*i* P	Pn	00 40 54.9	-0.5
COPN				IAML		00 41 04.5	
	comp=Z,44nm,1.0s						
BOAB	BOACO BROADBAN	5.08	103	*i* P	Pn	00 41 05.3	-0.9
BOAB				IAmb	IAmb	00 41 30.0	
	comp=Z,11nm,1.4s						
BOAB				*i* S	Sn	00 42 05.7	+1.8
BOAB				IAML		00 43 14.1	
	comp=Z,35nm,1.0s						

*NEIC **06** 01:00:08.8±1.2, 56°.29N±0°.09×148°.7W±0°.1, h21km±10km, ML3.5/60, ML3.3(AEIC), Error ellipse: s-maj=14.0km s-min=8.3km az=162.0*
*IDC **06** 01:00:09.8±2.5, 56°.36N×149°.03W, h0km, mb3.9/2, mbtmp3.7/5, ML3.5/3, MS2.5/1, Error ellipse: s-maj=39.0km s-min=26.2km az=3.0*
*AEIC **06** 01:00:13.6±1.2, 56°.38N±0°.09×148°.7W±0°.1, h12km±8km, Error ellipse: s-maj=14.0km s-min=8.7km az=166.0*
ISC 06 01:00:09.3±1.5,**56°.43N**±0°.09×**148°.78W**±0°.05,**h10**km,
n219,σ0s**84**/211,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.48	305		Pn	01 00 48.9	-0.8
KDAK					Sn	01 01 17.1	-2.9
KDAK	Kodiak Island	2.48	305	Pn	Pn	01 00 49.4	-0.3
	3.1nm,0.3s,baz=120,slow=5.0,SNR=46						
KDAK				Sn	Sn	01 01 17.6	-2.4
	6.6nm,0.3s,baz=94,slow=23,SNR=8.0						
KDAK				LR	LR	01 01 53.0	
	comp=Z,87nm,18.8s,baz=153,slow=43						
	5.9nm,0.3s						
OHAK	Old Harbor	2.60	290	Pn	Pn	01 00 50.1	-1.3
OHAK	Old Harbor	2.60	290		Sn	01 01 19.1	-3.9
OHAK	Old Harbor	2.60	290	P	Pn	01 00 50.8	-0.6
	baz=107						
OHAK				S	Sn	01 01 19.1	-3.9
	baz=107						
SYI	Shuyak Island	2.93	320		Pn	01 00 55.8	0.0
SYI					Sn	01 01 30.3	-0.8
SYI	Shuyak Island	2.93	320	IAML		01 01 33.2	
	comp=E,91nm,1.2s						
Q20K	Shuyak Island	2.93	320	P	Pn	01 00 55.8	-0.1
	baz=137						
Q20K				S	Sn	01 01 30.3	-0.8
	baz=137						
Q23K	Middleton Isla	3.28	22		Pn	01 00 59.8	-0.8
Q23K	Middleton Isla	3.28	22	IAML		01 01 47.9	
	comp=E,72nm,1.1s						
Q23K	Middleton Isla	3.28	22	P	Pn	01 00 59.8	-0.8
	baz=204						
MID	Middleton Isla	3.28	22		Pn	01 00 60.0	-0.7
MID					Sn	01 01 37.7	-2.0
MID	Middleton Isla	3.28	22	IAML		01 01 43.5	
	comp=E,63nm,0.9s						
R18K	Karluk	3.31	293		Pn	01 01 01.8	+0.7
R18K	Karluk	3.31	293	IAML		01 01 45.4	
	comp=N,131nm,0.5s						
R18K				IAML		01 01 47.1	
	comp=E,115nm,0.4s						
CNPM	China Poot	3.37	338		Pn	01 01 02.0	0.0
CNPM					Sn	01 01 41.5	-0.5
BRSE	Bradley Lake S	3.48	343		Pn	01 01 03.3	-0.3
BRSE					Sn	01 01 43.6	-1.2
BRSE	Bradley Lake S	3.48	343	P	Pn	01 01 03.3	-0.3
	baz=162						
BRSE				S	Sn	01 01 43.6	-1.2
	baz=162						
BRLK	Bradley Lake	3.53	342		Pn	01 01 03.3	-0.9
HOM	Homer	3.58	336		Pn	01 01 05.4	+0.6
HOM	Homer	3.58	336	P	Pn	01 01 05.4	+0.6
	baz=154						
Q19K	Cape Douglas,	3.62	316		Pn	01 01 06.0	+0.6
Q19K	Cape Douglas,	3.62	316	P	Pn	01 01 06.0	+0.6
	baz=132						
P23K	Montague Islan	3.66	11		Pn	01 01 05.3	-0.5
P23K					Sn	01 01 47.4	-1.6
P23K	Montague Islan	3.66	11	P	Pn	01 01 05.3	-0.5
	baz=192						
P23K				S	Sn	01 01 47.4	-1.6
	baz=192						
SEW	Seward	3.71	355		Pn	01 01 05.9	-0.6
SEW	Seward	3.71	355	P	Pn	01 01 05.9	-0.6
	baz=174						
KAHG	Katmai Hook Gl	3.74	306		Pn	01 01 07.7	+0.6
P19K	Oil Pt	4.01	326		Pn	01 01 11.0	+0.3
P19K	Oil Pt	4.01	326	P	Pn	01 01 11.0	+0.3
	baz=142						
KAHC	Katmai Hardscr	4.03	306		Pn	01 01 11.4	+0.3
Q18K	Katmai Hardscr	4.03	306	P	Pn	01 01 11.4	+0.3
	baz=121						
ANCK	Angle Creek	4.05	299		Pn	01 01 12.1	+0.7
HIN	Hinchinbrook I	4.16	16	Pn	Pn	01 01 12.5	-0.3
HIN				IAML		01 02 03.0	
	comp=E,63nm,0.8s						
HIN				IAML		01 02 10.2	
	comp=N,76nm,0.9s						
SLKM	Skilak Lake	4.16	350		Pn	01 01 12.5	-0.3
O20K	Slope Mountain	4.19	333		Pn	01 01 13.2	-0.1
O20K	Slope Mountain	4.19	333	P	Pn	01 01 13.2	-0.1
	baz=149						
KAIM	Kayak Island	4.20	32		Pn	01 01 12.3	-1.1
KAIM	Kayak Island	4.20	32	IAML		01 02 09.3	
	comp=E,74nm,0.6s						
KAIM				IAML		01 02 11.2	
	comp=N,72nm,0.7s						
KAIM	Kayak Island	4.20	32	P	Pn	01 01 12.3	-1.1
	baz=214						
IVE	Iliamna Volcan	4.24	330		Pn	01 01 13.8	-0.2
ILSW	Iliamna Southw	4.25	329		Pn	01 01 14.2	+0.1
ILSW				IAML		01 02 11.9	
	comp=E,39nm,0.6s						
ILSW				IAML		01 02 14.4	
	comp=N,39nm,0.8s						
CNTC	Contact Creek	4.27	299		Pn	01 01 14.9	+0.6
Q17K	Contact Creek	4.27	299	P	Pn	01 01 14.9	+0.5
	baz=113						
PLK4	Peulik 4	4.31	289		Pn	01 01 15.1	+0.1
R17L	Mt. Peulik Vol	4.31	289	P	Pn	01 01 15.1	+0.2
	baz=104						
EYAK	Cordova Ski Ar	4.43	20		Pn	01 01 16.3	-0.1
EYAK	Cordova Ski Ar	4.43	20	P	Pn	01 01 16.3	-0.1
	baz=202						
FID	Port Fidalgo	4.50	15		Pn	01 01 16.8	-0.7
FID				IAML		01 02 16.4	
	comp=E,33nm,0.6s						
FID				IAML		01 02 17.2	
	comp=N,25nm,0.3s						
SUCK	Suckling Hills	4.51	34		Pn	01 01 17.3	-0.3
SUCK	Suckling Hills	4.51	34	IAML		01 02 18.2	
	comp=E,44nm,0.5s						
SUCK				IAML		01 02 19.1	
	comp=N,58nm,0.5s						
RAGM	Ragged Mountai	4.52	27		Pn	01 01 17.3	-0.5
RED	Redoubt Volcan	4.52	334		Pn	01 01 17.2	-0.6
P18K	Big Mountain,	4.55	314		Pn	01 01 17.7	-0.5
P18K	Big Mountain,	4.55	314	P	Pn	01 01 17.7	-0.5
	baz=128						
GLI	Glacier Island	4.55	10		Pn	01 01 17.9	-0.2
GLI	Glacier Island	4.55	10	IAML		01 02 18.1	
	comp=E,41nm,0.7s						
GLI				IAML		01 02 22.1	
	comp=N,24nm,0.7s						
GLI	Glacier Island	4.55	10	P	Pn	01 01 18.0	-0.2
	baz=191						
RSO	Redoubt South	4.55	334		Pn	01 01 18.1	-0.3
RDT	Redoubt	4.57	337		Pn	01 01 17.9	-0.7
HMT	Hamilton	4.58	29		Pn	01 01 18.4	-0.2
NICHA	Nichawak Mount	4.58	32		Pn	01 01 18.4	-0.3
RDWB	Redoubt West	4.60	334		Pn	01 01 18.5	-0.4
GOAT	Goat Mountain	4.68	25		Pn	01 01 19.3	-0.7
RC01	Rabbit Creek A	4.70	354	Pn	Pn	01 01 20.7	+0.4
RC01				IAML		01 02 15.4	
	comp=N,30nm,0.5s						
RC01				IAML		01 02 15.5	
	comp=E,45nm,0.4s						
RC01	Rabbit Creek A	4.70	354	P	Pn	01 01 20.7	+0.4
	baz=173						
GRIN	Grindle Hills	4.82	34		Pn	01 01 21.3	-0.5
O18K	Koktuh Hills	4.84	318	Pn	Pn	01 01 22.0	-0.2
O18K				IAML		01 02 43.5	
	comp=N,18nm,0.8s						
SNH	Sunshine Point	4.90	37		Pn	01 01 22.3	-0.6
SNH	Sunshine Point	4.90	37	IAML		01 02 30.0	
	comp=N,27nm,0.7s						
SNH				IAML		01 02 32.7	
	comp=E,28nm,1.0s						
P17K	Kvichak River	4.95	307		Pn	01 01 24.1	+0.5
P17K	Kvichak River	4.95	307	P	Pn	01 01 24.1	+0.5
	baz=121						
KHIT	Khitrov Hills	4.97	34		Pn	01 01 23.3	-0.6
DIV	Divide	4.97	17		Pn	01 01 24.0	0.0
BMRM	Bremner River	5.05	24		Pn	01 01 24.8	-0.2
BMRM	Bremner River	5.05	24	P	Pn	01 01 24.8	-0.2
	baz=207						
SPU	Mount Spurr	5.06	342		Pn	01 01 25.4	+0.2
SPU	Mount Spurr	5.06	342	IAML		01 02 29.4	
	comp=N,22nm,0.6s						
SPU				IAML		01 02 29.6	
	comp=E,22nm,0.6s						
WAX	Waxell Ridge	5.10	35		Pn	01 01 25.1	-0.6
SUA	Susitna One	5.15	349	Pn	Pn	01 01 26.2	-0.3
SUA				IAML		01 02 43.2	
	comp=E,15nm,1.2s						
SUA	Susitna One	5.15	349	P	Pn	01 01 26.3	-0.3
	baz=168						
BARK	Barkley Ridge	5.18	37		Pn	01 01 26.2	-0.7
PMR	Palmer	5.18	358		Pn	01 01 26.7	-0.2
PMR				IAML		01 02 29.6	
	comp=N,15nm,0.5s						
PMR				IAML		01 02 33.0	
	comp=E,14nm,0.8s						
MESA	MESA	5.21	41		Pn	01 01 26.4	-1.0
MESA				IAML		01 04 49.2	
	comp=E,37nm,0.2s						
CRQM	Cirque	5.25	32		Pn	01 01 27.5	-0.4
CRQM				IAML		01 02 35.6	
	comp=E,30nm,0.8s						
CRQM				IAML		01 02 36.1	
	comp=N,33nm,0.6s						
KLU	Klutina	5.29	15		Pn	01 01 28.6	+0.2
KLU	Klutina	5.29	15	P	Pn	01 01 28.6	+0.2
	baz=197						
N19K	Bonanza Creek	5.31	328		Pn	01 01 28.4	-0.3
N19K	Bonanza Creek	5.31	328	P	Pn	01 01 28.4	-0.3
	baz=143						
STLK	Strandline Lak	5.33	344		Pn	01 01 29.3	+0.4
TGL	Tana Glacier	5.34	33		Pn	01 01 28.5	-0.6
GHO	Glory Hole Cre	5.36	359		Pn	01 01 30.2	+0.8
ISLE	Juniper Island	5.38	36		Pn	01 01 29.2	-0.4
BAGL	Bagley Icefiel	5.38	38		Pn	01 01 29.1	-0.4
SML	Sawmill	5.40	2		Pn	01 01 30.6	+0.7
SML	Sawmill	5.40	2	P	Pn	01 01 30.5	+0.7
	baz=182						
M23K	Glacier View	5.41	5		Pn	01 01 30.6	+0.6
M23K	Glacier View	5.41	5	P	Pn	01 01 30.6	+0.6
	baz=186						
SCM	Sheep Creek Mo	5.47	7		Pn	01 01 31.1	+0.2
SCM	Sheep Creek Mo	5.47	7	P	Pn	01 01 31.1	+0.2
	baz=188						
VRDI	Verde Repeater	5.55	28		Pn	01 01 31.8	-0.3
KIAG	Kiagna River	5.62	34		Pn	01 01 32.5	-0.4
N25K	Chitina, Valde	5.62	21		Pn	01 01 33.3	+0.3
N25K	Chitina, Valde	5.62	21	P	Pn	01 01 33.3	+0.3
	baz=204						
GLB	Gilahina Butte	5.65	25		Pn	01 01 33.1	-0.2
N18K	Kilae Creek	5.66	322		Pn	01 01 33.0	-0.4
N18K	Kilae Creek	5.66	322	P	Pn	01 01 33.0	-0.4
	baz=136						
GRNC	Granite Creek	5.67	37		Pn	01 01 33.1	-0.6
TABL	Table Mountain	5.68	42		Pn	01 01 33.1	-0.8
BALM	Baldy	5.71	33		Pn	01 01 33.8	-0.4
SKT	Skwentna	5.75	347		Pn	01 01 35.0	+0.5
SKT	Skwentna	5.75	347	P	Pn	01 01 35.1	+0.5
	baz=164						
PTPK	Patty Peak	5.79	32		Pn	01 01 35.1	-0.3
MCARA	McCarthy VSAT	5.80	29		Pn	01 01 35.0	-0.3
MCARA	McCarthy VSAT	5.80	29	P	Pn	01 01 35.0	-0.3
	baz=213						
PCA	Pinnacle	5.81	47		Pn	01 01 34.7	-0.8
PINM	Pinnacle	5.81	47	P	Pn	01 01 34.7	-0.8
	baz=234						
M24K	Tolsona, Glenn	5.85	12		Pn	01 01 36.8	+0.7
M24K	Tolsona, Glenn	5.85	12	P	Pn	01 01 37.2	+1.2
	baz=194						
O16K	Kokwok River B	5.88	307		Pn	01 01 36.7	+0.3
O16K	Kokwok River B	5.88	307	P	Pn	01 01 36.7	+0.3
	baz=119						
M20K	Styx River	5.91	340		Pn	01 01 36.6	-0.3
M20K	Styx River	5.91	340	P	Pn	01 01 36.6	-0.3
	baz=156						
PNL	Peninsula	5.95	53		Pn

P29M	Windy Craggy	6.69	57	P	Pn	01 01 46.3 -1.1
	baz=246					
M17K	Holitna River	6.70	322		Pn	01 01 47.9 +0.2
M17K	Holitna River	6.70	322	P	Pn	01 01 47.9 +0.2
	baz=134					
DHY	Denali Highway	6.71	5		Pn	01 01 48.6 +0.7
DHY	Denali Highway	6.71	5	P	Pn	01 01 48.6 +0.7
	baz=186					
YUK2	White River	6.75	34		Pn	01 01 48.6 +0.2
PAX	Paxson	6.77	13		Pn	01 01 49.3 +0.6
PAX	Paxson	6.77	13	P	Pn	01 01 49.3 +0.6
	baz=195					
YUK3	Moose Creek	6.86	35		Pn	01 01 50.3 +0.2
YUK3	Moose Creek	6.86	35	P	Pn	01 01 50.3 +0.2
	baz=222					
M27K	Edge Creek, AK	6.91	28		Pn	01 01 50.8 +0.2
M27K	Edge Creek, AK	6.91	28	P	Pn	01 01 51.0 +0.4
	baz=213					
RND	Reindeer	7.00	360		Pn	01 01 52.9 +1.0
M16K	Timber Creek	7.02	315	Pn	Pn	01 01 51.9 -0.1
N15K	Kwethluk River	7.04	307		Pn	01 01 53.9 +1.6
N15K	Kwethluk River	7.04	307	P	Pn	01 01 53.9 +1.6
	baz=118					
YUK6	Outpost Mounta	7.07	46		Pn	01 01 52.9 0.0
YUK6	Outpost Mounta	7.07	46	P	Pn	01 01 52.9 0.0
	baz=234					
L26K	Log Cabin Wild	7.16	20		Pn	01 01 53.8 -0.2
CAST	Castle Rocks	7.21	348		Pn	01 01 54.9 +0.2
CAST	Castle Rocks	7.21	348	P	Pn	01 01 55.4 +0.8
	baz=165					
KTH	Kantishna Hill	7.23	352		Pn	01 01 55.8 +0.8
P30M	Million Dollar	7.25	54		Pn	01 01 54.7 -0.5
P30M	Million Dollar	7.25	54	P	Pn	01 01 54.7 -0.5
	baz=244					
PLBC	Pleasant Camp	7.27	60		Pn	01 01 55.2 -0.3
PLBC	Pleasant Camp	7.27	60	P	Pn	01 01 55.2 -0.3
	baz=250					
HYT	Haines Junctio	7.35	48		Pn	01 01 56.3 -0.3
HYT	Haines Junctio	7.35	48	P	Pn	01 01 56.3 -0.3
	baz=238					
K20K	Telida	7.44	341	Pn	Pn	01 01 57.8 -0.1
L27K	Beaver Creek,	7.52	25	Pn	Pn	01 01 57.3 -1.7
BCAR	Beaver Creek A	7.53	25		Pn	01 01 57.6 -1.5
L16K	Owhat River	7.64	318	Pn	Pn	01 01 59.8 -0.7
BPAW	Bear Paw Mtn.	7.78	353		Pn	01 02 02.5 +0.1
BPAW	Bear Paw Mtn.	7.78	353	P	Pn	01 02 02.5 +0.1
	baz=171					
N30M	Aishikik Lake	7.87	45		Pn	01 02 03.3 -0.4
N30M	Aishikik Lake	7.87	45	P	Pn	01 02 03.3 -0.4
	baz=235					
O30N	Mendenhall	7.92	51	Pn	Pn	01 02 04.2 -0.3
SCRK	Sand Creek	7.94	15	Pn	Pn	01 02 05.8 +1.1
M29M	Somme Creek	8.00	37		Pn	01 02 05.6 +0.1
M29M	Somme Creek	8.00	37	P	Pn	01 02 05.6 +0.1
	baz=225					
HDA	Harding Lake	8.06	6		Pn	01 02 07.8 +1.6
WRH	Wood River Hil	8.08	2		Pn	01 02 07.3 +0.8
J18K	Innoko River	8.10	334	Pn	Pn	01 02 06.8 0.0
J20K	Nowinta River	8.22	343		Pn	01 02 08.8 +0.4
J20K	Nowinta River	8.22	343	P	Pn	01 02 08.8 +0.4
	baz=159					
CCB	Clear Creek Bu	8.26	3		Pn	01 02 10.3 +1.2
J19K	Poorman	8.31	339	Pn	Pn	01 02 09.3 -0.5
J25K	Salcha River,	8.38	10	Pn	Pn	01 02 11.0 +0.3
IL31		8.43	6		Pn	01 02 11.3 +0.1
ILAR	Eielson Array	8.43	6	Pn	Pn	01 02 11.5 +0.2
	comp=N,0.6nm,0.3s,baz=191,slow=14,SNR=16					
ILAR				Sn	Sn	01 03 43.1 -3.2
	baz=199,slow=22					
	comp=N,1.0nm,0.3s					
J26L	Joseph Creek	8.50	15		Pn	01 02 12.6 +0.2
J26L	Joseph Creek	8.50	15	P	Pn	01 02 12.6 +0.2
	baz=200					
MDM	Murphy Dome	8.57	2	Pn	Pn	01 02 13.6 +0.4
L29M	L29M	8.58	34		Pn	01 02 13.7 +0.3
L29M	L29M	8.58	34	P	Pn	01 02 13.7 +0.3
	baz=223					
J30M	Hart River	10.20	32	Pn	Pn	01 02 36.3 +0.6
J30M	Hart River	10.20	32	P	Pn	01 02 37.4 +1.7
	baz=222					
DLBC	Dease Lake	10.31	71	Pn	Pn	01 02 42.4 +5.3
	comp=N,0.3nm,0.3s,baz=242,slow=15,SNR=2.9					
	comp=N,0.9nm,0.3s					
H11N2	WAKE ISLAND Hy	49.20	240	T	T	02 02 44.0
	baz=30					
H11N3	WAKE ISLAND Hy	49.20	240	T	T	02 02 42.1
	baz=30					
H11N1	WAKE ISLAND Hy	49.22	240	T	T	02 02 41.9
	baz=30					
H11S1	WAKE ISLAND Hy	50.34	240	T	T	02 03 29.2
	baz=31,slow=74					
H11S2	WAKE ISLAND Hy	50.35	240	T	T	02 03 32.2
	baz=31,slow=74					
H11S3	WAKE ISLAND Hy	50.36	240	T	T	02 03 29.7
	baz=31					
SONM	Songino Array	58.76	310	P	P	01 10 09.9 +2.7
	comp=N,0.4nm,0.5s,baz=80,slow=8.9,SNR=2.8					
	comp=N,0.4nm,0.5s					
FINES	FINESS Array B	62.40	3	P	P	01 10 32.3 +0.7
	comp=N,3.1nm,1.0s,baz=350,slow=7.6,SNR=5.5					
	comp=N,3.1nm,1.0s					

IDC 06 01:19:24.2±2.3, 6.79S×129.20E, h0km, mb3.3/1, mbtmp3.4/3, ML3.6/2, MS2.8/1, Error ellipse: s-maj=115.6km s-min=33.3km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	9.56	280	LR	LR	01 25 47.4	
	comp=Z,51nm,19.7s,baz=146,slow=40						
WRA	Warramunga Arr	13.99	160	Pn	Pn	01 22 42.8	-1.1
	0.3nm,0.3s,baz=338,slow=14,SNR=19						
WRA				Sn	Sn	01 25 08.3	-12
	0.4nm,0.3s,baz=109,slow=24,SNR=3.9						
	0.5nm,0.4s						
ASAR	Alice Springs	17.38	165	P	P	01 23 29.2	-0.5
	0.3nm,0.3s,baz=349,slow=10,SNR=7.5						
ASAR				S	Sn	01 26 31.5	-11
	0.3nm,0.6s,baz=352,slow=28,SNR=1.7						
	0.5nm,0.5s						
MKAR	Makanchi Array	67.62	327	P	P	01 30 22.9	0.0
	0.1nm,0.4s,baz=140,slow=7.5,SNR=1.9						
	0.1nm,0.4s						

*IPEC **06** 01:27:11.0±0.2, 51.54N×16.17E, h1km, ML2.0/4, Error ellipse: s-maj=2.0km s-min=1.1km az=36.0*
*VIE **06** 01:27:13.5±1.6, 51.36N×16.11E, h0km, mb2.4/1, ml2.5/3, Error ellipse: s-maj=11.8km s-min=8.6km az=17.0, Suspected Mining induced.*
*PRU **06** 01:27:13.4, 51.46N×16.10E, h0km*
ISC 06 01:27:10.2±0.8, 51.55N±0.03×16.08E±0.02, h0km, n30, σ19.03/58, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.72	169	ePg	Pb	01 27 24.8	-0.9
KSP				eSg	Sg	01 27 34.4	+1.0
CHVC	Chvalec	0.97	181	ePG	Pb	01 27 29.7	-0.2
CHVC				eSG	Sb	01 27 42.0	-1.2
	comp=Z,18nm,0.4s						
OSTC	Ostas	1.00	175	ePG	Pb	01 27 30.3	-0.2
OSTC				eSG	Sg	01 27 42.9	+0.5
	comp=Z,17nm,0.2s						
UPC	Upice	1.05	182	ePG	Pb	01 27 30.9	-0.4
UPC				eSG	Sg	01 27 44.0	+0.1
DPC	Dobruska-Polom	1.22	173	ePG	Pb	01 27 33.8	-0.3
DPC				eSG	Sg	01 27 48.6	-0.6
	comp=Z,12nm,0.4s						
PVCC	Panska Ves	1.40	223	ePG	Pb	01 27 37.6	+0.3
BRG	Berggiesshubel	1.51	244	Pg	Pg	01 27 40.6	+1.5
BRG				Sg	Sn	01 28 00.4	+1.6
BRG				Amp		01 28 01.3	
	comp=Z,15nm,0.3s						
KRLC	Kraliky	1.55	163	ePG	Pg	01 27 39.7	-0.2
KRLC				eSG	Sn	01 27 59.8	-0.1
	comp=Z,18nm,0.5s						
PRU	Pruhonice	1.85	213	ePG	Pb	01 27 44.5	-0.4
PRU				eSG	Sg	01 28 10.7	+1.2
	comp=Z,12nm,0.4s						
HSKC	Hora Svate Kat	1.92	241	ePG	Pg	01 27 46.9	-0.1
HSKC				eSG	Sg	01 28 11.8	-0.1
	comp=Z,10.0nm,0.4s						
CLL	Collm	1.94	264	ePn	Pn	01 27 45.0	+0.5
CLL				ePg	Pg	01 27 48.0	+0.6
CLL				i x	x	01 27 50.7	
CLL				eSg	Sg	01 28 14.0	+1.4
	comp=Z,7.0nm,0.5s						
MORC	Moravsky Berou	2.01	152	ePn	Pn	01 27 45.3	-0.1
MORC				eSg	Sb	01 28 12.7	-0.5
	comp=Z,13nm,0.5s,baz=334						
VRAC	Vranov	2.27	171	ePn	Pn	01 27 49.2	+0.2
VRAC				eSg	Sb	01 28 21.3	+0.5
	comp=Z,8.6nm,0.5s,baz=353						
TREC	Trest	2.29	190	eSG	Sg	01 28 22.4	-1.5
KRUC	Moravsky	2.50	175	ePn	Pn	01 27 52.4	+0.2
KRUC				eSg	Sb	01 28 28.6	+1.2
	comp=Z,7.2nm,0.6s,baz=357						
OJC	Ojcow	2.71	118	ePg	Pg	01 28 02.2	+0.1
OJC				eSg	Sg	01 28 37.5	+0.3
JAVC	Velka Javorina	2.88	159	ePn	Pn	01 27 57.5	0.0
	baz=341						
KHC	Kasperske Hory	2.91	214	ePN	Pn	01 27 57.9	+0.1
KHC				ePG	Pg	01 28 04.4	-1.5
KHC				eSN	Sn	01 28 33.5	+0.1
KHC				eSG	Sg	01 28 43.6	0.0
	comp=Z,5.2nm,0.5s						
CKRC	Cesky Krumlov	2.96	203	ePG	Pg	01 28 05.8	-1.2
CKRC				eSG	Sg	01 28 44.0	-1.4
	comp=Z,5.0nm,0.6s						
LANS	Liptovska Anna	3.24	137	ePG	Pg	01 28 12.3	0.0
LANS				eSG	Sb	01 28 49.2	+0.6
MODS	Modra-Piesok	3.28	166	ePG	Pg	01 28 11.8	-1.2
NIE	Niedzica	3.44	127	ePg	Pg	01 28 16.5	+0.4
NIE				eSg	Sg	01 29 01.5	+0.8
VYHS	Vyhne	3.54	149	e	Pn	01 28 06.9	+0.4
CONA	Conrad Observa	3.63	182	i Pn	Pn	01 28 09.0	+1.2
	comp=Z,0.3nm,0.2s						
CONA				i Sn	Sn	01 28 51.2	-0.2
	comp=Z,0.8nm,0.3s						
BSD	Bornholm Skovb	3.63	349	i S	Sn	01 28 48.3	-2.9
BSD				e	Pn	01 28 06.2	-1.5
	baz=163,slow=12						
BSD				i P	Pn	01 28 08.3	+0.6
BSD				IAML		01 28 55.4	
	comp=Z,0.4nm,0.2s						
MOA	Molln	3.89	198	ePn	Pn	01 28 12.4	+1.1
	comp=Z,0.9nm,0.2s						
MOA				eSn	Sn	01 28 56.7	-0.9
	comp=Z,0.4nm,0.2s						
STHS	Stebnicka Huta	3.93	121	ePG	Pg	01 28 27.5	+2.0
STHS				eSG	Sg	01 29 17.5	+1.0
BIOA	Bad Ischl, Aus	4.18	203	i Pn	Pn	01 28 17.7	+2.5
	comp=Z,2.0nm,0.3s						
BIOA				eSn	Sn	01 29 02.8	-2.0
	comp=Z,2.1nm,0.5s						
LUNU	Lund	4.38	340	i P	Pn	01 28 18.6	+0.7
LUNU				i S	Sn	01 29 08.3	-1.2
KOLS	Kolonicke sedl	4.76	121	ePG	Pg	01 28 42.2	+0.7

TAP 06 01:35:38.9, 23.55N×120.86E, h7km, ML1.8, 4C-6D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUS	Yu-Shan	0.11	125	⇓P	Pg	01 35 42.2	+0.6
	baz=124						
YUS				S	Sg	01 35 44.6	+0.9
	baz=124						
WHYT	Xinyi Township	0.14	359	⇑P	Pg	01 35 42.3	+0.3
	baz=360						
WHYT				eS	Sg	01 35 44.7	+0.6
	baz=360						
CHN5	Tsauling	0.17	285	⇓P	Pg	01 35 43.0	+0.6
	baz=285						
CHN5				S	Sg	01 35 45.9	+1.1
	baz=285						
SSLB	Suanglung	0.25	21	P	Pg	01 35 44.2	+0.3
	baz=32						
SSLB				eS	Sg	01 35 47.9	+0.6
	baz=32						
WCKO	Fanlu	0.26	244	⇓i P	Pb	01 35 45.0	-0.9
	baz=243						
WCKO				S	Sb	01 35 49.1	-1.4
	baz=243						
WJS	Zhushan	0.29	336	P	Pb	01 35 46.1	-0.5
	baz=337						
WJS				S	Sb	01 35 51.0	-0.6
	baz=337						
WGK	Gukeng	0.30	296	eP	Pb	01 35 46.7	0.0
	baz=297						
WGK				eS	Sb	01 35 52.1	+0.3
	baz=297						
WDLH	Douliu	0.32	295	P	Pb	01 35 46.8	-0.2
	baz=295						
WDLH				eS	Sb	01 35 52.9	+0.5
	baz=295						
TPUB	Ta-pu	0.33	220	⇑P	Pg	01 35 45.9	+0.5
	baz=219						
TPUB				S	Sg	01 35 51.0	+1.3
	baz=219						
VWDT	VWDT	0.33	52	P	Pb	01 35 46.4	-0.8
	baz=58						
VWDT				eS	Sg	01 35 50.7	+0.9
	baz=58						
SMLT	Sun Moon Lake	0.33	7	⇓P	Pg	01 35 46.3	+0.8
	baz=18						
SMLT				S	Sb	01 35 52.6	-0.2
	baz=18						
TYC	Yuchr	0.35	0	⇓i P	Pb	01 35 46.8	-0.7
	baz=11						
TYC				eS	Sb	01 35 54.1	+0.9
	baz=11						
WTP	Ta-pu	0.38	216	i P	Pg	01 35 47.1	+0.8
	baz=214						
WTP				i S	Sb	01 35 53.2	-0.8
	baz=214						
ELDTW	Lidau	0.39	158	i P	Pg	01 35 47.1	+0.5
	baz=152						
STYT	Tauyuan	0.40	193	⇑P	Pg	01 35 47.2	+0.5
	baz=191						
STYT				S	Sg	01 35 52.9	+1.0
	baz=191						
EHY	Hungye	0.43	96	i P	Pg	01 35 48.0	+0.7
	baz=96						
EHY				i S	Sb	01 35 54.7	-0.9
	baz=96						
YULB	Yu-li	0.43	111	⇓i P	Pg	01 35 47.9	+0.5
	baz=111						
YULB				eS	Sg	01 35 54.1	+1.0
	baz=111						
TWK	Hsinying	0.44	230	P	Pb	01 35 48.7	-0.4
	baz=222						
TWK				eS	Sb	01 35 56.2	+0.3
	baz=222						
TWF1	Yuli	0.45	116	eP	Pb	01 35 48.7	-0.5
	baz=121						
TWF1				eS	Sg	01 35 54.7	+1.1
	baz=121						
SNST	Tainan City	0.47	225	i P	Pg	01 35 48.7	+0.7
	baz=225						
SNST				S	Sb	01 35 56.3	-0.3
	baz=225						
OWD	Renai	0.50	36	P	Pb	01 35 49.7	-0.4
	baz=38						
OWD				eS	Sg	01 35 55.9	+0.8
	baz=38						
WUSB	Renai	0.50	29	eP	Pg	01 35 48.8	+0.1
	baz=39						
WUSB				eS	Sg	01 35 55.0	-0.2
	baz=39						
WCS	Beigang Elemen	0.51	6	eP	Pb	01 35 50.1	0.0
	baz=16						
WCS				eS	Sb	01 35 58.3	+0.6
	baz=16						
WARBT	Fenglin Townsh	0.51	71	⇑i P	Pg	01 35 49.5	+0.6
	baz=72						
WARBT				eS	Sg	01 35 55.8	+0.2
	baz=72						
HGSD	Ruisui	0.53	96	eP	Pb	01 35 50.2	-0.3
	baz=96						
HGSD				eS	Sb	01 35 59.0	+0.8
	baz=96						
ECS	Chishang	0.56	144	eP	Pb	01 35 52.0	+0.9
	baz=148						
ECS				eS	Sb	01 35 59.0	-0.4
	baz=148						
CHGB	Renai	0.58	30	eP	Pb	01 35 51.2	-0.4
	baz=41						
CHGB				eS	Sb	01 35 59.2	-1.0
	baz=41						
CHKT	Chengkung	0.65	134	eP	Pg	01 35 51.9	+0.5
	baz=138						
CHKT				eS	Sg	01 36 00.8	+0.9
	baz=138						
WHF	Hehuan Shan	0.70	32	i P	Pg	01 35 53.0	+0.5
	baz=34						
WHF				eS	Sb	01 36 02.7	-1.0
	baz=34						
WHP	Taichung City	0.73	6	eP	Pb	01 35 54.7	+0.7
	baz=16						
WHP				eS	Sn	01 36 05.8	-1.3
	baz=16						

TAP 06 01:35:39.5, 22.50N×121.34E, h22km, ML3.0, 1D, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	Ludao	0.21	34	i P	Pb	01 35 44.7	-0.6
	baz=34						
LDUT				S	Sb	01 35 48.8	-0.7
	baz=34						
TTN	Taitung	0.31	324	i P	Pb	01 35 46.3	-0.1
	baz=325						
TTN				eS	Sb	01 35 51.2	+0.1
	baz=325						
ECL	Taimali	0.37	285	P	Pb	01 35 46.8	-0.6
	baz=284						
ECL				i S	Sb	01 35 52.6	-0.1
	baz=284						
TWGBT	Beinan	0.40	322	i P	Pb	01 35 47.2	-0.6
	baz=322						
TWGBT				eS	Sb	01 35 54.5	+1.1
	baz=322						
TWG	Pinlang	0.40	322	P	Pb	01 35 47.5	-0.5
	baz=322						
TWG				S	Sb	01 35 53.6	-0.1
	baz=322						
TAW	Tawu	0.44	251	eP	Pb	01 35 47.2	-1.3
	baz=250						
TAW				S	Sb	01 35 54.6	0.0
	baz=250						
LONT	Longtian	0.45	334	i P	Pb	01 35 48.4	-0.3
	baz=333						
LONT				eS	Sb	01 35 55.9	+0.9
	baz=333						
TAWH	Dawu Township	0.45	249	P	Pb	01 35 48.5	-0.3
	baz=248						
TAWH				i S	Sb	01 35 55.3	+0.3
	baz=248						
EAST	Anshuo	0.47	256	eP	Pb	01 35 49.2	0.0
	baz=255						
EAST				S	Sb	01 35 56.0	+0.3
	baz=255						
LAY	Lan-yu	0.50	157	eP	Pb	01 35 49.7	+0.1
	baz=156						
LAY				eS	Sb	01 35 57.5	+1.0
	baz=156						
LYUB	Lan-yu	0.55	156	i P	Pb	01 35 48.9	-1.6
	baz=155						
LYUB				eS	Sb	01 35 57.9	0.0
	baz=155						
SLIU	Shizi	0.58	241	P	Pb	01 35 50.4	-0.7
	baz=240						
SLIU				eS	Sb	01 35 57.8	-1.1
	baz=240						
CHKT	Chengkung	0.59	2	eP	Pb	01 35 51.3	-0.1
	baz=2.0						
CHKT				eS	Sb	01 35 58.9	-0.5
	baz=2.0						
ECS	Chishang	0.60	349	eP	Pb	01 35 51.5	0.0
	baz=349						
MASBT	Mashibuluo	0.67	280	⇓P	Pb	01 35 51.7	-0.8
	baz=279						
MASBT				eS	Sb	01 36 00.2	-1.2
	baz=279						
SCZT	Fangliau	0.68	259	eP	Pb	01 35 52.6	-0.2
	baz=258						
SCZT				eS	Sb	01 36 02.1	+0.3
	baz=258						
CHKH	Chenggong	0.69	4	eP	Pb	01 35 52.3	-0.6
	baz=125						
CHKH				eS	Sb	01 36 02.4	+0.4
	baz=125						
CHKH	Chenggong	0.69	4	eP	Pb	01 35 52.3	-0.6
	baz=4.0						
CHKH				eS	Sb	01 36 02.2	+0.2
	baz=4.0						
FULB	Fuli	0.69	356	P	Pb	01 35 52.2	-0.8
	baz=356						
FULB				S	Sb	01 36 02.3	0.0
	baz=356						
SSD	Sandimen	0.70	290	eP	Pb	01 35 52.0	-1.1
	baz=290						
SSD				eS	Sb	01 36 00.6	-1.8
	baz=290						
TSEB	Hengchuen, Pin	0.73	215	eP	Pn	01 35 55.1	+0.6
	baz=217						
TSEB				eS	Sn	01 36 04.4	-0.6
	baz=217						
TWKBT	Hengchun	0.74	221	P	Pb	01 35 53.2	-0.6
	baz=221						
TWKBT				S	Sb	01 36 04.0	+0.5
	baz=221						
ELDTW	Lidau	0.75	336	eP	Pb	01 35 52.0	-1.9
	baz=336						
ELDTW				eS	Sb	01 36 03.1	-0.7
	baz=336						
ELDTW	Lidau	0.75	336	eS	Pb	01 35 52.4	-1.5
	baz=152						
HEN	Hengchun	0.75	229	eP	Pb	01 35 54.3	+0.4
	baz=226						
TWK1	Hengchun	0.75	222	eP	Pb	01 35 53.6	-0.2
	baz=221						
TWK1				eS	Sb	01 36 03.7	+0.2
	baz=221						
SLGT	Liugui	0.81	307	eP	Pb	01 35 54.4	-0.5
	baz=307						
SGLT	Jiouru	0.82	286	eP	Pn	01 35 55.7	-0.1
	baz=285						
EYUL	Yuli	0.84	359	eP	Pb	01 35 54.2	-1.3
	baz=358						
TWF1	Yuli	0.85	357	eP	Pb	01 35 55.5	-0.1
	baz=357						
SCST	Cishan	0.87	296	eP	Pb	01 35 55.4	-0.6
	baz=295						
SGST	Jiashian	0.91	310	eP	Pb	01 35 56.0	-0.6
	baz=309						
TWM1	Shoushan	0.91	291	eP	Pn	01 35 58.1	+1.1
	baz=290						
EHYH	Wanrong	0.99	0	eP	Pb	01 35 57.3	-0.6
HGSD	Ruisui	0.99	4	eP	Pn	01 35 58.2	+0.1
	baz=4.0						
EHY	Hungye	1.00	359	eP	Pb	01 35 58.0	-0.2
	baz=359						
WTP	Ta-pu	1.00	318	eP	Pn	01 35 59.5	+1.1
	baz=318						
TPUB	Ta-pu	1.03	321	eP	Pb	01 35 58.2	-0.5
	baz=320						
TPUB				eS	Sn	01 36 13.5	+0.9
	baz=320						
YUS	Yu-Shan	1.05	340	eP	Pb	01 35 58.8	-0.5
	baz=340						
SHHT	Tainan City	1.05	300	eP	Pb	01 36 00.5	+1.4
	baz=299						
CHN4	Tsaushan	1.09	321	eP	Pn	01 35 59.5	0.0
	baz=320						
TWK	Hsinying	1.10	314	eP	Pb	01 36 00.0	+0.2
	baz=314						
WARBT	Fenglin Townsh	1.21	2	eP	Pn	01 35 59.7	-1.5
	baz=1.0						
CHN5	Tsauling	1.25	331	eP	Pb	01 36 02.4	-0.1
	baz=330						
VWDT	VWDT	1.26	352	eP	Pn	01 35 59.8	-2.1
	baz=351						
WHYT	Xinyi Township	1.27	339	eP	Pn	01 36 02.2	+0.1
	baz=339						
WHYT				eS	Sn	01 36 18.6	+0.1
	baz=339						
SHUL	Shoufeng	1.29	9	eP	Pn	01 36 02.6	+0.2
	baz=8.0						
SSLB	Suanglung	1.33	344	eP	Pb	01 36 03.4	-0.4
	baz=344						
SSLB				S	Sn	01 36 19.8	-0.1

baz=344
SMLT Sun Moon Lake 1.43 344 *e*P Pb 01 36 05.3 -0.4
baz=343
SMLT *e*S Sb 01 36 24.1 +0.6
baz=343
TYC Yuchr 1.47 342 *e*P Pb 01 36 05.6 -0.5
baz=342
TYC *e*S Sb 01 36 24.2 -0.1
baz=342
WUSB Renai 1.50 352 *e*P Pn 01 36 04.9 -0.4
baz=352

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*IDC **06** 01:36:35.7±0.9, 43°.76N×85°.73E, h0km, mb3.8/9, mbtmp3.8/15, ML3.4/6, MS2.4/1, Error ellipse: s-maj=33.3km s-min=11.6km az=53.0*
*NNC **06** 01:36:43.2±2.9, 44°.04N×85°.47E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=23.9km s-min=13.8km az=129.0*
*SOME **06** 01:36:50.8, 44°.28N×85°.08E, h10km*
ISC 06 01:36:40.0±1.1, 43°.99N±0°.05×85°.61E±0°.06, h10km, n49, σ2°.15/68, mb3.8/9, 8C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.50 352**		*e*P	**Pg**	**01 37 50.3**	**+3.3**
	60nm,0.5s						
ZSN				*e*S	**Sg**	**01 38 33.0**	**+0.7**
	44nm,0.4s						
ZSN	**Zaisan**	**3.50 352**		Pg	**Pb**	**01 37 43.0**	**+1.0**
	38nm,0.6s						
ZSN				Lg	Lg	01 38 21.5	
	59nm,0.6s						
MK31	**Makanchi Array**	**3.65 321**		Pn	**Pn**	**01 37 38.6**	**+2.1**
	1.8nm,0.4s,baz=141,slow=15,SNR=350						
MK31				⇑Pg	**Pg**	**01 37 50.1**	**+0.2**
	17nm,0.3s,baz=135,slow=16,SNR=44						
MK31				⇓Lg	Lg	01 38 40.4	
	31nm,0.3s,baz=139,slow=30,SNR=8.4						
MKAR	**Makanchi Array**	**3.65 321**		Pn	**Pn**	**01 37 38.5**	**+2.0**
	2.1nm,0.3s,baz=139,slow=14,SNR=46						
MKAR				Pg	**Pb**	**01 37 47.8**	**+3.2**
	18nm,0.3s,baz=135,slow=16,SNR=42						
MKAR				Sn	**Sn**	**01 38 23.1**	**+3.4**
	13nm,0.3s,baz=223,slow=39,SNR=3.6						
MKAR				LR	LR	01 38 35.1	
	comp=Z,53nm,20.3s,baz=199,slow=31						
MKAR				Lg	Lg	01 38 35.6	
	27nm,0.3s,baz=145,slow=30,SNR=10						
	3.9nm,0.4s						
MAKZ	**Makanchi**	**3.80 319**		⇓Pn	**Pn**	**01 37 40.8**	**+2.2**
	5.9nm,0.6s						
MAKZ				⇑Pg	**Pb**	**01 37 50.3**	**+3.1**
	18nm,0.5s						
MAKZ				⇑Lg	Lg	01 38 40.2	
	22nm,0.5s						
DJR	**Jarkent**	**4.20 277**		*e*P	**Pg**	**01 37 60.0**	**-0.5**
	6.1nm,0.1s						
DJR				*e*S	**Sb**	**01 38 49.4**	**+4.6**
	35nm,0.4s						
DJR	**Jarkent**	**4.20 277**		Pg	**Pg**	**01 37 58.6**	**-1.8**
	16nm,0.4s						
DJR				Lg	Lg	01 38 47.1	
	42nm,0.5s						
PDGK	**Podgornoye**	**4.49 264**		⇓Pn	**Pn**	**01 37 49.6**	**+1.4**
	3.5nm,0.4s						
PDGK				⇑Pg	**Pg**	**01 38 06.4**	**+0.4**
	7.9nm,0.5s						
PDGK				⇑Sn	**Sn**	**01 38 42.8**	**+2.3**
	27nm,0.6s						
PDGK				⇓Lg	Lg	01 39 02.0	
	65nm,0.7s						
SHLS	**Shalkode**	**4.54 262**		*e*P	**Pb**	**01 38 03.0**	**+3.2**
	40nm,0.3s						
SHLS				*e*S	**Sb**	**01 38 54.3**	**-0.4**
	170nm,0.5s						
KNOS	**Konyrlen**	**4.64 277**		Pg	**Pg**	**01 38 09.7**	**+0.8**
	10nm,0.3s						
KNOS				Lg	Lg	01 39 06.1	
	50nm,0.4s						
KAPS	**Kapalarasan**	**4.64 288**		*e*P	**Pg**	**01 38 07.7**	**-1.2**
	5.3nm,0.1s						
KAPS				*e*S	**Sb**	**01 39 02.7**	**+5.2**
	38nm,0.1s						
KAPS	**Kapalarasan**	**4.64 288**		Pg	**Pg**	**01 38 10.6**	**+1.7**
	8.8nm,0.2s						
KAPS				Lg	Lg	01 39 07.8	
	94nm,0.4s						
UZB	**Uzynbulak**	**4.86 262**		*e*P	**Pg**	**01 38 14.0**	**+0.9**
	7.4nm,0.3s						
UZB				*e*S	**Sg**	**01 39 14.3**	**-1.7**
	41nm,0.7s						
UZB	**Uzynbulak**	**4.86 262**		Pg	**Pg**	**01 38 14.0**	**+0.9**
	7.4nm,0.3s						
UZB				Lg	Lg	01 39 14.3	
	41nm,0.7s						
KPKS	**Kokpek**	**5.04 266**		*e*P	**Pg**	**01 38 17.0**	**+0.4**
	3.8nm,0.1s						
KPKS				*e*S	**Sg**	**01 39 18.3**	**-3.6**
	55nm,0.4s						
BLB	**Baldybastay**	**5.14 274**		Pg	**Pg**	**01 38 17.4**	**-1.0**
	26nm,0.4s						
BLB				Lg	Lg	01 39 19.5	
	82nm,0.5s						
TDK	**Taldyqorghan**	**5.25 284**		*e*P	**Pg**	**01 38 19.2**	**-1.3**
	37nm,0.2s						
TDK				*e*S	**Sg**	**01 39 22.7**	**-5.7**
	55nm,0.2s						
TDK	**Taldyqorghan**	**5.25 284**		Pg	**Pg**	**01 38 19.2**	**-1.3**
	37nm,0.3s						
TDK				Lg	Lg	01 39 23.8	
	159nm,0.5s						
ZHN	**Zhinishke**	**5.27 264**		*e*P	**Pg**	**01 38 22.0**	**+1.0**
	10nm,0.1s						
ZHN				*e*S	**Sg**	**01 39 27.5**	**-1.8**
	44nm,0.2s						
ZHN	**Zhinishke**	**5.27 264**		Pg	**Pg**	**01 38 22.0**	**+1.0**
	10nm,0.2s						
ZHN				Lg	Lg	01 39 28.1	
	44nm,0.2s						
SATY	**Saty**	**5.32 262**		*e*P	**Pg**	**01 38 22.2**	**+0.4**
	7.1nm,0.1s						
SATY				*e*S	**Sg**	**01 39 27.6**	**-3.1**
	55nm,0.4s						
SATY	**Saty**	**5.32 262**		Pg	**Pg**	**01 38 19.8**	**-2.0**
	12nm,0.4s						
SATY				Lg	Lg	01 39 23.8	
	18nm,0.4s						
ARXS	**Arharly**	**5.61 275**		*e*P	**Pg**	**01 38 26.7**	**-0.7**
	8.6nm,0.5s						
ARXS				*e*S	**Sg**	**01 39 35.5**	**-4.4**
	39nm,0.6s						
ARXS	**Arharly**	**5.61 275**		Pg	**Pg**	**01 38 26.7**	**-0.7**
	8.6nm,0.5s						
ARXS				Lg	Lg	01 39 35.5	
	39nm,0.6s						
MDOK	**Medeo**	**6.27 265**		*e*P	**Pg**	**01 38 40.5**	**+0.5**
	2.2nm,0.2s						
MDOK				*e*S	**Sg**	**01 39 58.9**	**-2.4**
	8.2nm,0.5s						
MDOK	**Medeo**	**6.27 265**		Pn	**Pn**	**01 38 11.9**	**-0.8**
	1.5nm,0.4s						
MDOK				Lg	Lg	01 40 04.5	
	21nm,1.0s						
TNSS	**Tian-Shan**	**6.37 264**		*e*P	**Pg**	**01 38 43.7**	**+1.8**
	2.3nm,0.3s						
TNSS				*e*S	**Sg**	**01 40 03.9**	**-0.5**
	8.1nm,0.5s						
KST	**Kastek**	**7.07 266**		*e*P	**Pg**	**01 38 55.9**	**+0.4**
	1.9nm,0.2s						
KST				*e*S	**Sg**	**01 40 25.3**	**-1.7**
	16nm,0.8s						
TKM2	**Tokmak 2**	**7.36 265**		⇓Pn	**Pn**	**01 38 28.4**	**+0.7**
	0.7nm,0.4s						
TKM2				⇑Lg	Lg	01 40 29.0	
	8.1nm,0.8s						
SEM	**Semipalatinsk**	**7.38 332**		*e*P	**Pg**	**01 39 00.4**	**-0.9**
	3.5nm,0.1s						
SEM				*e*S	**Sg**	**01 40 33.4**	**-3.4**
	18nm,0.2s						
SEM	**Semipalatinsk**	**7.38 332**		Pg	**Pg**	**01 38 58.6**	**-2.7**
	8.1nm,0.2s						
SEM				Lg	Lg	01 40 29.9	
	17nm,0.1s						
KURBB	**Kurchatov Arra**	**8.19 327**		Pn	**Pn**	**01 38 38.3**	**-0.5**
	0.6nm,0.3s,baz=132,slow=13,SNR=42						
KURBB				Sn	**Sn**	**01 40 11.5**	**+0.2**
	0.4nm,0.3s,baz=150,slow=20,SNR=4.3						
KURBB				Lg	Lg	01 41 00.9	
	0.6nm,0.3s,baz=151,slow=28,SNR=9.2						
	1.7nm,0.4s						
KURBB	**Kurchatov Arra**	**8.19 327**		⇓Pn	**Pn**	**01 38 39.6**	**+0.8**
	2.8nm,0.4s						
KURBB				⇑Lg	Lg	01 41 02.2	
	42nm,0.8s						
AAK	**Ala-Archa**	**8.21 264**		Lg	Lg	01 40 57.8	
	0.6nm,0.3s,baz=184,slow=13,SNR=1.4						
KURK	**Kurchatov**	**8.23 327**		⇑Pn	**Pn**	**01 38 39.6**	**+0.2**
	1.2nm,0.3s						
KURK				⇓Lg	Lg	01 41 00.1	
	34nm,0.7s						
ZALV	**Zalesovo Beam**	**9.98 357**		Pn	**Pn**	**01 39 02.9**	**-0.5**
	2.6nm,0.3s,baz=180,slow=13,SNR=67						
ZALV				Sn	**Sn**	**01 40 52.7**	**-2.6**
	2.9nm,0.3s,baz=169,slow=24,SNR=12						
ZALV				Lg	Lg	01 41 59.9	
	baz=204,slow=16						
	12nm,0.4s						
BVAR	**Borovoye Array**	**13.52 317**		Pn	**Pn**	**01 39 49.4**	**-2.4**
	baz=117,slow=15,SNR=4.9						
BVAR				Sn	**Sn**	**01 42 18.0**	**-4.0**
	baz=205,slow=26,SNR=2.1						
BVAR				Lg	Lg	01 43 51.0	
	baz=0.0,slow=39,SNR=2.5						
	0.7nm,0.5s						
SONM	**Songino Array**	**14.96 68**		Pn	**Pn**	**01 40 09.4**	**-2.2**
	0.4nm,0.3s,baz=258,slow=7.2,SNR=2.4						
SONM				Lg	Lg	01 44 27.6	
	0.2nm,0.3s,baz=324,slow=43,SNR=1.8						
	0.5nm,0.4s						
AKTO	**Aktyubinsk**	**19.75 299**		P	**P**	**01 41 10.3**	**+0.5**
	0.2nm,0.3s,baz=124,slow=3.6,SNR=2.0						
	1.0nm,0.5s						
ARU	**Arti**	**21.15 316**		P	**P**	**01 41 26.1**	**+1.1**
	2.0nm,0.4s,baz=99,slow=9.0,SNR=3.9						
	2.0nm,0.4s						
FINES	**FINESS Array B**	**38.48 318**		P	**P**	**01 44 00.8**	**-0.9**
	2.1nm,1.0s,baz=107,slow=12,SNR=1.4						
	2.1nm,1.0s						
ARCES	**ARCESS Array B**	**39.24 331**		P	**P**	**01 44 07.8**	**-0.4**
	0.8nm,0.5s,baz=84,slow=8.3,SNR=15						
	0.8nm,0.5s						
HFS	**Hagfors**	**44.65 317**		P	**P**	**01 44 51.0**	**-1.5**
	0.9nm,0.6s,baz=110,slow=8.1,SNR=6.8						
	0.9nm,0.6s						
NB2	**NORSAR Subarra**	**45.64 319**		P	**P**	**01 44 59.5**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=74,slow=7.9						
NOA	**NORSAR Array B**	**45.64 319**		P	**P**	**01 44 58.6**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=76,slow=7.8,SNR=4.3						
	comp=Z,0.3nm,0.4s						
EKA	**Eskdalemuir Ar**	**54.77 316**		P	**P**	**01 46 08.6**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=59,slow=6.9,SNR=5.4						
	comp=Z,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**76.64 275**		P	P	01 48 28.8	-2.5
	comp=Z,0.6nm,0.5s,baz=41,slow=5.6,SNR=14						
	comp=Z,0.6nm,0.5s						
WRA	**Warramunga Arr**	**77.69 134**		P	P	01 48 32.8	-4.1
	comp=Z,1.3nm,0.7s,baz=334,slow=5.3,SNR=12						
	comp=Z,1.3nm,0.7s						
ASAR	**Alice Springs**	**80.56 136**		P	P	01 48 48.9	-3.7
	comp=Z,0.6nm,0.7s,baz=341,slow=6.3,SNR=4.9						
	comp=Z,0.6nm,0.7s						

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*KRSC **06** 01:40:03.6±1.9, 51°.32N×158°.13E, h75km±18km, Mc6.4, Ml6.7, Felt [VI-VII] at HMS Vodopadnaya, lighthouse Krugliy; [V] at kordon Travyanoi, Paujetka, cape Lopatka, Severo-Kurilsk, Ribachiy; [IV-V] at kordon Ozernoi, MGeoES-1, river Karimshina (stationary KF GS), lighthouse Petropavlovskiy, Termalniy, Viluchinsk, Paratunka, Petropavlovsk, Nikolaevka, Pionersky, the country "Urojay", Sokoch, the country "Mutnovskiy", kordon Avachinskiy; [IV] at Zaporozhye, Molodezhniy, Polovinka, Elizovo, Mutnoy, Razdolniy, Korjaki; [III] at Ozernovskiy, lighthouse Kurbatova, lighthouse Chibuiny, HMS Semyachik; [II] at kordon Tsentralnyi; [I-II] at Ust-Bolsheretsk; felt at kordon Cape Nalichevo.*
*NEIC **06** 01:40:04.6±1.4, 51°.50N±0°.06×157°.8E±0°.1, h45km±1km, mb6.4/1101, Ms_20 5.6/774, Mwb6.2/120, Mww6.1/31, Error ellipse: s-maj=11.0km s-min=10.0km az=289.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr1.68; Mθθ-1.46; Mφφ-0.22; Mrθ-1.24; Mθφ-0.51; Mφr-1.06; Fault plane solution: M0 2.32000×10^18 NP1: φs236.43000°, δ67.51000°, λ79.52000°. NP2: φs82.24000°, δ24.69000°, λ113.72000°. Principal axes: T 2.3887, Plg66.0000°, Azm128.0000°; N -0.1377, Plg10.0000°, Azm240.0000°; P -2.2510, Plg22.0000°, Azm334.0000°;*
*NEIC **06** 01:40:04.9, 51°.55N×157°.89E, h60km*
*NEIC **06** 01:40:04.9, 50°.95N×158°.38E, h60km, Moment Tensor Solution. Duration: 4s8 Moment tensor: Scale 10^18Nm; Mrr1.32; Mθθ-1.17; Mφφ-0.15; Mrθ-0.55; Mθφ-0.43; Mφr-0.57; Fault plane solution: M0 1.54000×10^18 NP1: φs237.48000°, δ60.30000°, λ77.38000°. NP2: φs81.81000°, δ32.05000°, λ110.96000°. Principal axes: T 1.5673, Plg72.0000°, Azm118.0000°; N -0.0575, Plg11.0000°, Azm244.0000°; P -1.5098, Plg14.0000°, Azm337.0000°;*
*NEIC **06** 01:40:05.6, 51°.57N×157°.87E, h53km*
*BJI **06** 01:40:05.5±0.0, 51°.66N×157°.84E, h77km, mb5.6/95, mB5.7/75, Ms6.0/99, Ms7 5.9/98*
*IDC **06** 01:40:06.2±0.4, 51°.57N×157°.75E, h64km±3km, mb5.4/37, mbtmp5.8/40, MS5.6/85, Error ellipse: s-maj=8.6km s-min=8.0km az=50.0*
*GCMT **06** 01:40:07.6±0.1, 51°.40N×158°.16E, h62km, MW6.2/173, Moment Tensor Solution. s173,c428; s160,c539; Duration: 2s9 Moment tensor: Scale 10^18Nm; Mrr1.45±.01; Mθθ-1.54±.01; Mφφ0.09±.01; Mrθ-1.19±.01; Mθφ-0.60±.01; Mφr-0.82±.01; Best double couple: M0 2.15800×10^18 NP1: φs240.00000°, δ67.00000°, λ79.00000°. NP2: φs86.00000°, δ26.00000°, λ114.00000°. Principal axes: T 2.0510, Plg67.0000°, Azm130.0000°; N 0.2190, Plg10.0000°, Azm244.0000°; P -2.2650, Plg21.0000°, Azm338.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*MOS **06** 01:40:07.3±0.9, 51°.53N×157°.83E, h93km, mb6.2/137, MS5.8/70 Error ellipse: s-maj=6.1km s-min=2.9km az=81.5 Broadband fault plane solution: P waves. NP1: φs233.00000°, δ72.00000°, λ71.00000°. NP2: φs100.00000°, δ26.00000°, λ134.00000°. Principal axes: T Plg59.0000°, Azm117.0000°; N Plg18.0000°, Azm239.0000°; P Plg24.0000°, Azm337.0000°;*
MOS Fault plane solution: P-wave C59, D61 . Felt (V) at Severo-Kuril'sk; (IV-V) at Petropavlovsk-Kamchatskiy.
*IPGP **06** 01:40:08.0, 51°.61N×157°.85E, h55km, Mw6.1, Fault plane solution: NP1: φs235.00000°, δ70.00000°, λ80.00000°. NP2: φs82.00000°, δ22.00000°, λ115.00000°.*
*BGR **06** 01:40:09.8, 52°.13N×156°.21E, h33km, mb6.1, Ms6.1, Hypocentre not reviewed by the ISC*
ISC 06 01:40:06.2±0.2, 51°.49N±0°.02×157°.88E±0°.02, h65km±1km, h65km: pP-P, n3331, σ1°.66/3451, mb6.3/889, 342C-212D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.34**	**21**	*e*P	**Pn**	**01 40 17.4**	**+0.3**
KDTR				*e*S	**Sn**	**01 40 25.4**	**+0.3**
KDTR	**Khodutka, Kamc**	**0.34**	**21**	PN	**Pn**	**01 40 17.4**	**+0.3**
ASAK	**Asacha**	**0.90**	**1**	*e*P	**Pn**	**01 40 25.4**	**+2.2**
ASAK	**Asacha**	**0.90**	**1**	PN	**Pn**	**01 40 25.4**	**+2.2**
MTVR	**Mutnovka**	**1.01**	**11**	*e*P	**Pn**	**01 40 26.2**	**+1.5**
MTVR	**Mutnovka**	**1.01**	**11**	PN	**Pn**	**01 40 26.2**	**+1.5**
GRL	**Gorelyy**	**1.07**	**6**	*e*P	**Pn**	**01 40 27.5**	**+2.0**
GRL	**Gorelyy**	**1.07**	**6**	PN	**Pn**	**01 40 27.5**	**+2.0**
KRMR	**Karymshinskiy**	**1.35**	**7**	*e*P	**Pn**	**01 40 31.3**	**+2.3**
KRMR				*e*S	**Sn**	**01 40 46.3**	**+0.2**
KRMR	**Karymshinskiy**	**1.35**	**7**	PN	**Pn**	**01 40 31.3**	**+2.3**
KRMR				S	**Sn**	**01 40 46.3**	**+0.2**
SKR	**Severo-Kuril's**	**1.37**	**235**	*e*P	**Pn**	**01 40 30.3**	**+1.0**
SKR				*e*S	**Sn**	**01 40 48.6**	**+2.1**
SKR	**Severo-Kuril's**	**1.37**	**235**	↑*i*PN	**Pn**	**01 40 30.2**	**+1.0**
SKR				*i* S	**Sn**	**01 40 48.4**	**+1.9**
SKR				pmax	pmax		
	comp=Z,24μm,0.7s						
SKR				smax	smax		
	comp=E,503μm,0.8s						
SKR				smax	smax		
	comp=N,486μm,0.7s						
APC	**Apacha**	**1.50**	**343**	*e*P	**Pn**	**01 40 34.2**	**+3.2**
APC				*e*S	**Sn**	**01 40 55.4**	**+5.7**
APC	**Apacha**	**1.50**	**343**	PN	**Pn**	**01 40 34.2**	**+3.2**
APC				S	**Sn**	**01 40 55.4**	**+5.7**
PET	**Petropavlovsk**	**1.61**	**17**	P	**Pn**	**01 40 33.6**	**+1.2**
PET	**Petropavlovsk**	**1.61**	**17**		**Pn**	**01 40 33.2**	**+0.9**
PET				Sn	**Sn**	**01 40 50.2**	**-2.0**
PET	**Petropavlovsk**	**1.61**	**17**	⇑P	**Pn**	**01 40 33.3**	**+0.9**
PET	**Petropavlovsk**	**1.61**	**17**	*e*P	**Pn**	**01 40 33.8**	**+1.4**
PET				*e*S	**Sn**	**01 40 54.6**	**+2.4**
PET	**Petropavlovsk**	**1.61**	**17**κ	*i*PN	**Pn**	**01 40 33.8**	**+1.4**
PET				*i* S	**Sn**	**01 40 55.2**	**+3.0**
PET				pmax	pmax		
	comp=Z,52μm,0.5s						
PET				MLR	MLR		
	comp=Z,381nm,11.0s						
PET				MLR	MLR		
	comp=Z,629nm,8.0s						
PET	**Petropavlovsk**	**1.61**	**17**	P	**Pn**	**01 40 34.0**	**+1.6**
I44RU	**PETROPAVLOVSK-**	**1.62**	**357**	P	**Pn**	**01 40 35.0**	**+2.4**
	baz=138,slow=20,SNR=2.2						
I44RU				S	**Sn**	**01 40 49.9**	**-2.7**
	baz=127,slow=22						
I44RU				I	I	01 42 50.0	
	comp=Z,0.1nm,0.6s,baz=122,slow=329,SNR=1.1						
PEA0B	**Petropavlovsk-**	**1.62**	**356**		**Pn**	**01 40 33.6**	**+0.9**
PEA0B	**Petropavlovsk-**	**1.62**	**356***ce*	PN	**Pn**	**01 40 35.4**	**+2.8**
PETK	**Petropavlovsk-**	**1.62**	**356**		**Pn**	**01 40 34.5**	**+1.8**
PETK	**Petropavlovsk-**	**1.62**	**356**	P	**Pn**	**01 40 34.7**	**+2.1**
	comp=Z,17μm,0.6s,baz=144,slow=12,SNR=3701						
PETK				S	**Sn**	**01 40 50.8**	**-1.8**
	comp=Z,24μm,0.6s,baz=157,slow=16,SNR=10						
PETK				LR	LR	01 41 00.6	
	comp=Z,164μm,18.7s,baz=269,slow=35						
PETK	**Petropavlovsk-**	**1.62**	**356**	PN	**Pn**	**01 40 34.5**	**+1.8**
DALK	**Dalny**	**1.64**	**19**	*e*P	**Pn**	**01 40 34.1**	**+1.4**
DALK				*e*S	**Sn**	**01 40 54.9**	**+2.0**
DALK	**Dalny**	**1.64**	**19**	PN	**Pn**	**01 40 34.1**	**+1.4**
DALK				S	**Sn**	**01 40 54.9**	**+2.0**
INSR	**Institute**	**1.64**	**16**	*e*P	**Pn**	**01 40 34.7**	**+1.9**
INSR				*e*S	**Sn**	**01 40 56.2**	**+3.2**
UGLR	**Uglovaya**	**1.82**	**18**	*e*P	**Pn**	**01 40 37.2**	**+1.9**
UGLR	**Uglovaya**	**1.82**	**18**	PN	**Pn**	**01 40 37.2**	**+1.9**
AVH	**Avacha**	**1.85**	**16**	*e*P	**Pn**	**01 40 38.1**	**+2.3**
AVH	**Avacha**	**1.85**	**16**	PN	**Pn**	**01 40 38.1**	**+2.3**
KOK	**Koryaka**	**1.86**	**14**	*e*P	**Pn**	**01 40 38.6**	**+2.7**
KOK	**Koryaka**	**1.86**	**14**	PN	**Pn**	**01 40 38.6**	**+2.7**
SMAR	**Somma**	**1.86**	**17**	*e*P	**Pn**	**01 40 37.7**	**+1.7**
SMAR	**Somma**	**1.86**	**17**	PN	**Pn**	**01 40 37.7**	**+1.7**
KRER	**Koryakskii**	**1.89**	**16**	*e*P	**Pn**	**01 40 38.7**	**+2.2**
KRER	**Koryakskii**	**1.89**	**16**	PN	**Pn**	**01 40 38.7**	**+2.2**
NLC	**Nalytchevo**	**1.91**	**28**	*e*P	**Pn**	**01 40 36.0**	**-0.4**
NLC				*e*S	**Sn**	**01 40 58.7**	**-0.8**
NLC	**Nalytchevo**	**1.91**	**28**	PN	**Pn**	**01 40 36.0**	**-0.4**
NLC				S	**Sn**	**01 40 58.7**	**-0.8**
KRX	**Arik**	**1.93**	**14**	*e*P	**Pn**	**01 40 39.2**	**+2.3**
KRX	**Arik**	**1.93**	**14**	PN	**Pn**	**01 40 39.2**	**+2.3**
SPN	**Mys Shipunski**	**2.08**	**38**	*e*P	**Pn**	**01 40 38.9**	**+0.1**
SPN	**Mys Shipunski**	**2.08**	**38**	PN	**Pn**	**01 40 38.9**	**+0.1**
GNL	**Ganaly**	**2.21**	**1**	*e*P	**Pn**	**01 40 43.5**	**+2.9**
GNL	**Ganaly**	**2.21**	**1**	PN	**Pn**	**01 40 43.5**	**+2.9**
KII	**Karymskiy**	**2.72**	**20**	*e*P	**Pn**	**01 40 50.3**	**+2.7**
KII	**Karymskiy**	**2.72**	**20**	PN	**Pn**	**01 40 50.3**	**+2.7**
MKZ	**Mys Kozlova**	**3.85**	**36**	*e*P	**Pn**	**01 41 03.1**	**+0.2**
MKZ	**Mys Kozlova**	**3.85**	**36**	PN	**Pn**	**01 41 03.1**	**+0.2**
TUMD	**Tumrok D**	**4.02**	**21**	*e*P	**Pn**	**01 41 07.8**	**+2.7**
TUMD				*e*S	**Sn**	**01 41 55.1**	**+4.2**
TUMR	**Tumrok**	**4.04**	**19**	*e*P	**Pn**	**01 41 08.7**	**+3.2**
TUMR	**Tumrok**	**4.04**	**19**	PN	**Pn**	**01 41 07.8**	**+2.3**
TUMR				S	**Sn**	**01 41 55.1**	**+3.6**
ESO	**Esso**	**4.47**	**6**	*e*P	**Pn**	**01 41 15.0**	**+3.7**
ESO	**Esso**	**4.47**	**6**	PN	**Pn**	**01 41 15.0**	**+3.7**
KMNR	**Kamenistaya**	**4.50**	**17**	*e*P	**Pn**	**01 41 15.4**	**+3.6**
KMNR	**Kamenistaya**	**4.50**	**17**	PN	**Pn**	**01 41 15.4**	**+3.6**
KPT	**Kopyto**	**4.70**	**16**	*e*P	**Pn**	**01 41 17.3**	**+2.8**
KPT	**Kopyto**	**4.70**	**16**	PN	**Pn**	**01 41 17.3**	**+2.8**
BZP	**Bezymyannyi-Pe**	**4.70**	**19**	*e*P	**Pn**	**01 41 17.8**	**+3.2**
KIRR	**Kirishev**	**4.71**	**17**	*e*P	**Pn**	**01 41 17.9**	**+3.2**
KIRR	**Kirishev**	**4.71**	**17**	PN	**Pn**	**01 41 17.9**	**+3.2**
BZMR	**Bezymyannaya**	**4.72**	**18**	*e*P	**Pn**	**01 41 18.1**	**+3.3**
BZMR	**Bezymyannaya**	**4.72**	**18**	PN	**Pn**	**01 41 18.1**	**+3.3**
KOZ	**Kozyrevsk**	**4.73**	**14**	*e*P	**Pn**	**01 41 18.0**	**+3.1**
KOZ	**Kozyrevsk**	**4.73**	**14**	PN	**Pn**	**01 41 18.0**	**+3.1**
BZWR	**Bezymyannyi-We**	**4.75**	**18**	*e*P	**Pn**	**01 41 18.7**	**+3.4**
BZWR	**Bezymyannyi-We**	**4.75**	**18**	PN	**Pn**	**01 41 18.7**	**+3.4**
BZGR	**Bezymyannyi-Gr**	**4.76**	**19**	*e*P	**Pn**	**01 41 19.2**	**+3.8**
BZGR	**Bezymyannyi-Gr**	**4.76**	**19**	PN	**Pn**	**01 41 19.2**	**+3.8**
ZLN	**Zelenaya**	**4.86**	**20**	*e*P	**Pn**	**01 41 20.3**	**+3.6**
ZLN	**Zelenaya**	**4.86**	**20**	PN	**Pn**	**01 41 20.3**	**+3.6**
LGNR	**Loginova**	**4.89**	**19**	*e*P	**Pn**	**01 41 21.0**	**+3.6**
LGNR	**Loginova**	**4.89**	**19**	PN	**Pn**	**01 41 21.0**	**+3.6**
CIRR	**Tsirk**	**4.94**	**19**	*e*P	**Pn**	**01 41 21.7**	**+3.9**
CIRR	**Tsirk**	**4.94**	**19**	PN	**Pn**	**01 41 21.7**	**+3.9**
SRDR	**Sredinnyy**	**4.96**	**12**	*e*P	**Pn**	**01 41 20.9**	**+2.9**
SRDR	**Sredinnyy**	**4.96**	**12**	PN	**Pn**	**01 41 20.9**	**+2.9**
KRSR	**Krestovskiy**	**5.00**	**18**	*e*P	**Pn**	**01 41 21.4**	**+2.8**
KRSR	**Krestovskiy**	**5.00**	**18**	PN	**Pn**	**01 41 21.4**	**+2.8**
KLY	**Klyuchi**	**5.10**	**18**	*e*P	**Pn**	**01 41 24.5**	**+4.5**
KLY	**Klyuchi**	**5.10**	**18**	PN	**Pn**	**01 41 24.5**	**+4.5**
SRKR	**Sorokina**	**5.53**	**19**	*e*P	**Pn**	**01 41 29.8**	**+4.0**
SRKR	**Sorokina**	**5.53**	**19**	PN	**Pn**	**01 41 29.8**	**+4.0**
KBTR	**Krutoberegovo**	**5.56**	**30**	*e*P	**Pn**	**01 41 27.5**	**+1.3**
KBTR	**Krutoberegovo**	**5.56**	**30**	PN	**Pn**	**01 41 27.5**	**+1.3**
KBG	**Krutoberegovo**	**5.56**	**29**	*e*P	**Pn**	**01 41 28.0**	**+1.8**
KBG			

TYV eS Sn 01 44 13.9 +6.7
TYV pmax pmax
comp=Z,5μm,2.5s
TYV pmax pmax
comp=Z,416nm,1.8s
TYV smax smax
comp=N,75nm,1.3s
TYV smax smax
comp=E,101nm,1.3s
TYV smax smax
comp=N,7μm,9.6s
TYV smax smax
comp=E,7μm,9.6s
SHEM Shemya Is, Ala 10.06 77 P **Pn 01 42 26.0 -1.6**
comp=E,748nm,0.4s,baz=334,slow=2.8,SNR=120
SHEM S Sn 01 44 08.0 -11
comp=E,1μm,0.4s,baz=324,slow=13,SNR=12
SHEM LR LR 01 46 06.9
comp=E,35μm,21.8s,baz=280,slow=36
TILK Tilichiki 10.09 24 eP **Pn 01 42 28.9 +0.8**
TILK Tilichiki 10.09 24 PN **Pn 01 42 28.9 +0.8**
UGL Uglegorsk 10.40 263 d iPN Pn 01 42 38.6 +6.2
UGL eS Sn 01 44 37.1 +10
UGL pmax pmax
comp=Z,10μm,1.7s
UGL pmax pmax
comp=Z,3μm,1.4s
UGL pmax pmax
comp=N,449nm,1.0s
UGL pmax pmax
comp=E,993nm,1.5s
UGL smax smax
comp=N,11μm,6.0s
UGL smax smax
comp=E,6μm,9.1s
UGL MLR MLR
comp=N,16μm,12.0s
UGL MLR MLR
comp=E,40μm,13.0s
SHO Shikotan 10.65 229 eP **Pn 01 42 33.6 -2.2**
SHO Shikotan 10.65 229 ePN **Pn 01 42 34.7 -1.1**
SHO pmax pmax
comp=Z,241nm,0.4s
SHO pmax pmax
comp=E,49nm,0.2s
NKL Nikolayevsk 10.66 286 ePN **Pn 01 42 34.3 -1.5**
NKL pmax pmax
comp=N,1μm,1.6s
NKL pmax pmax
comp=E,949nm,1.6s
NKL pmax pmax
comp=Z,2μm,1.6s
NKL MLR MLR
comp=N,75μm,15.0s
NKL MLR MLR
comp=E,71μm,14.0s
NKL MLR MLR
comp=Z,138μm,14.0s
YSS Yuzh-Sakhalins 10.88 251 P **Pn 01 42 43.3 +4.4**
YSS Yuzh-Sakhalins 10.88 251 **Pn 01 42 41.9 +3.0**
YSS Yuzh-Sakhalins 10.88 251 α iPN Pn 01 42 45.1 +6.2
YSS eS Sn 01 44 51.1 +12
YSS pmax pmax
comp=Z,750nm,1.0s
YSS pmax pmax
comp=Z,2μm,2.3s
YSS pmax pmax
comp=N,2μm,2.0s
YSS smax smax
comp=E,3μm,2.8s
YSS MLR MLR
comp=E,13μm,16.0s
YUK Yuzh-Kuril'sk 10.99 232 eP **Pn 01 42 42.4 +2.0**
YUK Yuzh-Kuril'sk 10.99 232 ePN **Pn 01 42 43.3 +2.9**
YUK pmax pmax
comp=Z,2μm,0.3s
YUK pmax pmax
comp=E,984nm,0.4s
YUK pmax pmax
comp=Z,3μm,1.2s
YUK MLR MLR
comp=Z,29μm,19.0s
YUK MLR MLR
comp=N,19μm,15.0s
RUSJ Misakicho 11.25 234 ePN **Pn 01 42 44.9 +1.0**
RUSJ eS **Sn 01 44 52.2 +4.3**
NMR Nemuro--Hokkai 11.55 230 ePN **Pn 01 42 44.8 -3.3**
SEY Seymchan 11.85 348 P **Pn 01 42 55.8 +3.7**
comp=N,252nm,0.9s,baz=152,slow=11,SNR=141
SEY LR LR 01 48 00.0
comp=N,83μm,19.2s,baz=179,slow=40
SEY Seymchan 11.85 348 ePN **Pn 01 42 53.5 +1.5**
SEY pmax pmax
comp=Z,970nm,1.6s
KMSK Kamenskaya 11.89 19 eP **Pn 01 42 54.3 +1.7**
KMSK Kamenskaya 11.89 19 PN **Pn 01 42 54.3 +1.7**
JWK2 Keihoku 12.27 246 P **P 01 43 04.4 -3.5**
JMP Maruseppu 12.29 238 P **Pn 01 43 02.0 +3.7**
JKA Kamikawa-asahi 12.63 240 Pn **Pn 01 43 04.3 +1.5**
ASAJ Asahikawa 12.63 240 P **Pn 01 43 04.5 +1.7**
comp=Z,407nm,0.8s,baz=73,slow=14,SNR=41
ASAJ LR LR 01 48 36.3
comp=Z,9μm,19.9s,baz=66,slow=40
ASAJ Asahikawa 12.63 240 PN **Pn 01 43 04.3 +1.5**
ASAJ Asahikawa 12.63 240 P **Pn 01 43 05.8 +3.0**
AMKA Amchitka 13.37 82 Pn **Pn 01 43 10.7 -2.0**
GRNR Gornyy 13.49 275 ⇓ i iPN **P 01 43 19.7 -1.7**
GRNR eS S 01 45 52.7 -10
GRNR pmax pmax
comp=E,200nm,1.2s
GRNR pmax pmax
comp=N,50nm,1.0s
GRNR pmax pmax
comp=Z,190nm,1.2s
GRNR smax smax
comp=N,10.0nm,1.2s
GRNR MLR MLR
comp=N,7μm,15.0s
ERM Erimo 13.82 232 P **Pn 01 43 19.7 +0.9**
ERM Erimo 13.82 232 Pn **Pn 01 43 17.1 -1.7**
ERM Erimo 13.82 232 ⇑P **Pn 01 43 16.1 -2.7**
ERM Erimo 13.82 232 P **Pn 01 43 17.1 -1.7**
JEM Erimo 13.82 232 P **Pn 01 43 20.0 +1.2**
KIWB Kanaga Island 15.48 79 P **Pn 01 43 37.4 -2.9**
TEY Ternei 15.54 254 ⇑ eP **P 01 43 44.8 +0.6**
TEY e 01 46 32.4
TEY pmax pmax
comp=N,50nm,1.2s
TEY pmax pmax
comp=E,120nm,1.2s
TEY pmax pmax
comp=Z,130nm,1.2s
ADK Adak 15.76 79 P **Pn 01 43 41.8 -2.1**
ADK Adak 15.76 79 **Pn 01 43 39.9 -4.0**
ADK IAmb IAmb 01 43 46.3
comp=Z,2μm,1.4s
ADK Adak 15.76 79 ⇑P **Pn 01 43 40.4 -3.4**
ADK Adak 15.76 79 P **Pn 01 43 39.9 -4.0**
ADK pmax pmax
comp=Z,2μm,1.4s
JTM Tenmabayashi 15.78 234 ⇑P **Pn 01 43 38.8 -5.4**
GSTR Great Sitkin T 16.11 78 **Pn 01 43 45.5 -2.8**
KLR Kul'dur 16.80 273 P **P 01 44 00.8 +2.7**
comp=Z,370nm,1.1s,baz=73,slow=12,SNR=113
KLR LR LR 01 51 09.0
comp=Z,33μm,19.3s,baz=77,slow=40
KLR Kul'dur 16.80 273 eP **P 01 43 59.3 +1.2**
KLR pmax pmax
comp=Z,963nm,1.4s
BILL Bilibino 17.10 11 Pn **Pn 01 44 00.3 -0.2**
BILL Bilibino 17.10 11 d iP **P 01 44 01.0 -0.3**
BILL eS **Sn 01 47 08.2 -1.4**
BILL pmax pmax
comp=Z,728nm,1.1s
BILL MLR MLR
comp=Z,36μm,16.0s
ATKA Atka Island 17.23 77 P **P 01 44 03.3 +0.5**
ATKA Atka Island 17.23 77 Pn **Pn 01 44 00.5 -1.7**
ATKA Atka Island 17.23 77 ⇑P **Pn 01 43 59.0 -3.2**
JMM Marumori 18.19 228 P **Pn 01 44 14.9 +0.9**
JMM Marumori 18.19 228 P **P 01 44 13.2 -0.3**
JMM Marumori 18.19 228 ⇑P **P 01 44 13.3 -0.1**
YAK Yakutsk 18.55 316 P **P 01 44 17.1 -0.1**
YAK Yakutsk 18.55 316 P **P 01 44 17.6 +0.4**
comp=Z,520nm,0.6s,baz=99,slow=0.8,SNR=123
YAK S **Sn 01 47 42.0 -2.6**
comp=Z,32nm,0.5s,baz=342,slow=19,SNR=1.1
YAK LR LR 01 52 19.2
comp=Z,38μm,18.8s,baz=117,slow=40
YAK Yakutsk 18.55 316 eP **Pn 01 44 17.9 -0.2**
YAK eS **S 01 47 47.3 +2.6**
YAK pmax pmax
comp=Z,800nm,1.2s
YAK pmax pmax
comp=N,111nm,1.1s
YAK pmax pmax
comp=E,380nm,1.1s
YAK smax smax
comp=E,8μm,5.3s
YAK smax smax
comp=N,6μm,2.4s
YAK MLR MLR
comp=Z,48μm,24.0s
YAK MLR MLR
comp=N,26μm,24.0s
YAK MLR MLR
comp=E,27μm,19.0s
ZEA Zeya 18.66 289 de P **Pn 01 44 20.6 +1.0**
ZEA eS S 01 47 36.2 -11
ZEA pmax pmax
comp=N,380nm,1.7s
ZEA pmax pmax
comp=Z,630nm,2.0s
ZEA pmax pmax
comp=E,8μm,4.2s
ZEA pmax pmax
comp=Z,10μm,4.3s
ZEA smax smax
comp=E,9μm,10.2s
ZEA MLR MLR
comp=E,13μm,14.0s
ZEA MLR MLR
comp=Z,15μm,14.0s
USA0B Ussuriysk Arra 18.78 257 P **P 01 44 19.9 +0.1**
USA0B Ussuriysk Arra 18.78 257 i P **Pn 01 44 21.0 0.0**
USRK Ussuriysk Ar. 18.78 257 P **P 01 44 19.0 -0.9**
USRK Ussuriysk Ar. 18.78 257 P **P 01 44 20.2 +0.3**
comp=Z,200nm,0.9s,baz=56,slow=10,SNR=152
USRK LR LR 01 52 04.3
comp=Z,18μm,19.5s,baz=63,slow=38
USRK ScP **ScP 01 52 13.5 -0.8**
comp=Z,19nm,1.2s,baz=172,slow=1.3,SNR=5.9
HEH HeiHe 19.20 278 eP **Pn 01 44 25.8 -0.2**
HEH sS **sS 01 48 18.8 -1.8**
HEH ScP **ScP 01 52 16.6 +1.5**
HEH pmax pmax
comp=Z,460nm,1.2s
HEH pmax pmax
comp=Z,18μm,4.7s
HEH LR LR
comp=Z,12μm,17.3s
HEH LR LR
comp=Z,31μm,13.8s
HEH LR LR
comp=Z,51μm,14.2s
JSD Sado 19.28 233 P **Pn 01 44 27.9 +0.9**
JSD Sado 19.28 233 P **P 01 44 24.2 -1.2**
JSD Sado 19.28 233 P **P 01 44 26.0 +0.5**
SPIA Saint Paul Isl 19.32 60 P **P 01 44 26.2 +0.5**
SPIA Saint Paul Isl 19.32 60 P **P 01 44 26.4 +0.7**
baz=267,SNR=37
SPIA S **S 01 48 01.2 +0.6**
baz=267
VLA Vladivostok 19.43 255 i P **P 01 44 27.9 +0.9**
VLA pmax pmax
comp=Z,580nm,1.2s
P08K Saint George I 19.68 62 P **P 01 44 30.0 +0.5**
baz=269,SNR=51
P08K S **S 01 48 08.1 +0.3**
baz=269
CLES Cleveland East 19.73 73 **P 01 44 28.7 -1.6**
CLES IAmb IAmb 01 44 37.1
comp=Z,2μm,1.4s
JYT Yasato 19.80 226 P **P 01 44 31.7 +0.6**
MDJ Mudanjiang 20.03 261 P Pn 01 44 35.1 -0.8
MDJ Mudanjiang 20.03 261 P **P 01 44 34.0 +0.4**
MDJ pP sP 01 44 52.6 -3.2
MDJ pmax pmax
comp=Z,85nm,1.1s
MDJ LR LR
comp=Z,12μm,17.4s
MDJ LR LR
comp=Z,16μm,18.5s
MDJ LR LR
comp=Z,26μm,17.7s
MDJ Mudanjiang 20.03 261 P **P 01 44 33.4 -0.2**
MSHR Mys Shultsa 20.18 254 ce P **P 01 44 35.0 -0.2**
MSHR pmax pmax
comp=Z,144nm,1.3s
NIKH Nikolski High 20.33 73 P **P 01 44 36.5 -0.2**
NIKH Nikolski High 20.33 73 P **P 01 44 34.1 -2.7**
baz=280,SNR=124
NIKH S **S 01 48 21.9 +1.1**
baz=280
PSTR Posyet 20.35 255 i P **P 01 44 36.3 -0.7**
MJAR Matsushiro Arr 20.48 231 P **P 01 44 39.8 +1.3**
comp=Z,121nm,0.7s,baz=27,slow=9.5,SNR=200
MJAR LR LR 01 54 05.1
comp=Z,11μm,20.0s,baz=36,slow=41
comp=Z,121nm,0.7s
MJB9 Matsu-Tunnel 20.48 231 P Pn 01 44 40.3 -0.9
MAJO Matsushiro 20.48 231 P Pn 01 44 39.9 -1.3
MAJO Matsushiro 20.48 231 P **P 01 44 39.1 +0.6**
MAJO Matsushiro 20.48 231 ⇑P **P 01 44 39.5 +1.0**
MAJO Matsushiro 20.48 231 i P Pn 01 44 39.9 -1.3
MAJO pmax pmax
comp=Z,681nm,1.0s
MAT Matsushiro 20.48 231 P **P 01 44 39.7 +1.2**
JRY Ryogami san 20.57 229 P **P 01 44 40.5 +1.0**
BNX BinXian 20.86 266 ⇑P **P 01 44 43.1 +0.6**
BNX pP **pP 01 44 59.2 +2.8**
BNX S **S 01 48 28.0 -3.2**
BNX sS **sS 01 48 55.7 +1.8**
BNX ScS **ScS 01 56 03.4 +1.0**
BNX pmax pmax
comp=Z,460nm,1.0s
BNX pmax pmax
comp=Z,5μm,5.7s
BNX LR LR
comp=Z,18μm,18.4s
BNX LR LR
comp=Z,11μm,18.4s
BNX LR LR
comp=Z,22μm,19.5s
JGN Niukaw 21.17 232 P **P 01 44 47.0 +1.0**
UNV Unalaska Valle 21.59 70 P **P 01 44 49.2 -1.0**
UNV Unalaska Valle 21.59 70 P **P 01 44 47.4 -2.8**
baz=279,SNR=178
UNV S **S 01 48 44.4 -1.3**
baz=279
JGF Kuroka 21.64 231 P **P 01 44 52.4 +1.4**
JGF Kuroka 21.64 231 P **P 01 44 51.8 +0.9**
JGF Kuroka 21.64 231 ⇑P **P 01 44 51.9 +0.9**
JGF Kuroka 21.64 231 P **P 01 44 52.0 +1.0**
M11K Mekoryuk 21.74 52 P **P 01 44 52.1 +0.4**
baz=262,SNR=42
M11K S **S 01 48 50.9 +2.5**
baz=262
JSG Sagara 22.00 228 P **P 01 44 57.9 +3.1**
JSG Sagara 22.00 228 P **P 01 44 55.4 +0.6**
JSG Sagara 22.00 228 ⇑P **P 01 44 57.0 +2.2**
INU Inuyama 22.01 231 P **P 01 44 55.8 +0.9**
INU Inuyama 22.01 231 P **P 01 44 55.4 +0.5**
INU IAmb IAmb 01 44 59.5
comp=Z,1μm,1.0s
INU Inuyama 22.01 231 ⇑P **P 01 44 55.5 +0.6**
TNA Tin City 22.36 38 P **P 01 44 59.0 +0.6**
baz=248,SNR=85
TNA S **S 01 49 02.0 +2.5**
baz=248
JHJ2 Mitsune 22.60 223 P **P 01 45 04.0 +2.8**
JHJ2 Mitsune 22.60 223 P **P 01 45 01.7 +0.4**
JHJ2 Mitsune 22.60 223 ⇑P **P 01 45 01.9 +0.7**
JHJ Hachijo jima 2 22.61 223 LR LR 01 55 22.5
comp=Z,2μm,19.5s,baz=42,slow=40
K13K Kusilvak Mount 22.73 48 P **P 01 45 02.1 -0.3**
K13K IAmb IAmb 01 45 18.9
comp=Z,1μm,1.4s
K13K Kusilvak Mount 22.73 48 P **P 01 45 01.9 -0.4**
baz=260
K13K S **S 01 49 07.2 +1.4**
baz=260
JIE Ise 22.93 230 P **P 01 45 05.4 +0.7**
F14K Arctic Creek 22.94 39 P **P 01 45 05.5 +1.0**
baz=250,SNR=138
F14K S **S 01 49 11.2 +1.9**
baz=250
CN2 Changchun 23.01 263 eP **P 01 45 03.9 -1.5**
CN2 epP pP 01 45 20.8 +1.2
CN2 eS **S 01 49 03.4 -7.4**
CN2 esS Sn 01 49 31.8 0.0
CN2 pmax pmax
comp=Z,70nm,1.0s
CN2 LR LR
comp=Z,5μm,16.0s
CN2 LR LR
comp=Z,4μm,16.0s
CN2 LR LR
comp=Z,7μm,16.0s
ANM Nome 23.04 41 P **P 01 45 06.3 +0.8**
ANM IAmb IAmb 01 45 12.5
comp=Z,1μm,1.2s
ANM Nome 23.04 41 P **P 01 45 06.1 +0.7**
baz=253,SNR=32
ANM S **S 01 49 12.9 +2.2**
baz=253
ANM Nome 23.04 41 P **P 01 45 06.3 +0.8**
ANM pmax pmax
comp=Z,1μm,1.2s
M13K Dall Lake 23.15 52 P **P 01 45 07.2 +0.6**
M13K IAmb IAmb 01 45 09.7
comp=Z,2μm,0.9s
M13K Dall Lake 23.15 52 P **P 01 45 07.1 +0.6**
baz=265,SNR=261
M13K S **S 01 49 15.9 +3.3**
baz=265
FALS False Pass 23.24 66 P **P 01 45 06.1 -1.4**
FALS False Pass 23.24 66 P **P 01 45 05.4 -2.0**
baz=278,SNR=18
FALS S **S 01 49 14.0 -0.2**
baz=278
J14K Nanvaranak Lak 23.38 46 P **P 01 45 08.9 +0.1**
J14K IAmb IAmb 01 45 26.0
comp=Z,950nm,1.0s
J14K Nanvaranak Lak 23.38 46 P **P 01 45 08.6 -0.2**
baz=259,SNR=323
J14K S **S 01 49 17.1 +0.7**
baz=259
L14K Kuka Creek 23.57 50 P **P 01 45 11.4 +0.9**
L14K Kuka Creek 23.57 50 P **P 01 45 11.1 +0.5**
baz=264,SNR=489
L14K S **S 01 49 22.1 +2.6**
baz=264
F15K North Star Dit 23.68 39 P **P 01 45 13.3 +1.8**
F15K IAmb IAmb 01 45 16.9
comp=Z,2μm,1.6s
F15K North Star Dit 23.68 39 P **P 01 45 12.5 +1.0**
baz=252,SNR=136
F15K S **S 01 49 23.5 +2.3**
baz=252
G15K Niukluk 23.71 41 P **P 01 45 12.5 +0.8**
baz=254,SNR=141
G15K S **S 01 49 23.5 +1.8**
baz=254
JAD Aida 23.76 235 P **P 01 45 13.4 +1.0**
M14K Bethel 23.86 52 P **P 01 45 13.9 +0.7**
M14K Bethel 23.86 52 P **P 01 45 13.7 +0.5**
baz=266,SNR=465
M14K S **S 01 49 26.1 +1.9**
baz=266
S12K Black Hills 23.90 64 P **P 01 45 13.1 -0.5**
S12K Black Hills 23.90 64 P **P 01 45 12.2 -1.4**
baz=277,SNR=251
S12K S **S 01 49 26.2 +1.2**
baz=277
N14K Kuskokwak Cree 23.95 54 P **P 01 45 14.3 +0.4**
baz=268,SNR=477
N14K S **S 01 49 26.7 +1.1**
baz=268
TIXI Tiksi 24.01 338 P **P 01 45 14.2 -0.2**
TIXI Tiksi 24.01 338 ⇑P **P 01 45 13.1 -1.3**
TIXI Tiksi 24.01 338 LR LR 01 56 16.4
comp=Z,50μm,18.0s,baz=128,slow=41
TIXI Tiksi 24.01 338 ce P **P 01 45 14.6 +0.2**
TIXI pmax pmax
comp=Z,644nm,1.3s
O14K Tigyukauivet M 24.14 55 P **P 01 45 16.0 +0.3**
O14K Tigyukauivet M 24.14 55 P **P 01 45 16.1 +0.4**
baz=270,SNR=538
O14K S **S 01 49 29.0 +0.3**
baz=270
L15K Ungalak Mounta 24.18 49 P **P 01 45 16.3 +0.3**
baz=264,SNR=634
L15K S **S 01 49 30.3 +1.0**
baz=264
K15K Wolf Creek Mou 24.24 48 P **P 01 45 17.3 +0.8**
K15K IAmb IAmb 01 45 21.6
comp=Z,2μm,1.3s
K15K Wolf Creek Mou 24.24 48 P **P 01 45 17.3 +0.8**
baz=262,SNR=640
K15K S **S 01 49 31.9 +1.6**
baz=262
HIA Hailar 24.24 280 P **P 01 45 17.7 +1.0**
HIA Hailar 24.24 280 P **P 01 45 16.7 0.0**
HIA IAmb IAmb 01 45 34.6
comp=Z,1μm,1.2s
HIA Hailar 24.24 280 IAMs_20 IAMs_20 01 56 08.2
comp=Z,20μm,18.0s
HIA Hailar 24.24 280 P **P 01 45 16.7 0.0**
HIA pmax pmax
comp=Z,1μm,1.2s
HIA MLR MLR
comp=Z,20μm,18.0s
JHS Saijyo 24.26 237 P **P 01 45 18.1 +1.1**
H16K Elim 24.36 42 P **P 01 45 17.7 +0.1**
baz=257,SNR=121
H16K S **S 01 49 33.4 +1.3**
baz=257
C16K Lisburne Hills 24.39 33 P **P 01 45 17.9 +0.1**
C16K IAmb IAmb 01 45 21.3
comp=Z,728nm,1.1s
C16K Lisburne Hills 24.39 33 P **P 01 45 18.1 +0.3**
baz=245,SNR=218
C16K S **S 01 49 35.2 +2.7**
baz=245
M15K Kasigluk River 24.48 52 P **P 01 45 19.1 +0.3**
baz=267,SNR=1000
M15K S **S 01 49 34.7 +0.5**
baz=267
G16K Koyuk River 24.50 40 P **P 01 45 18.7 -0.2**
G16K Koyuk River 24.50 40 P **P 01 45 19.1 +0.2**
baz=255,SNR=54
G16K S **S 01 49 35.2 +0.9**
baz=255
N15K Kwethluk River 24.76 53 P **P 01 45 21.5 +0.2**
N15K IAMs_20 IAMs_20 01 54 36.6
comp=Z,17μm,21.0s
N15K Kwethluk River 24.76 53 P **P 01 45 21.8 +0.5**
baz=269,SNR=790
N15K S **S 01 49 38.8 +0.2**
baz=269
J16K Anvik River 24.80 46 P **P 01 45 22.3 +0.6**
J16K IAmb IAmb 01 45 39.6
comp=Z,2μm,1.9s
J16K Anvik River 24.80 46 P **P 01 45 22.1 +0.5**
baz=261,SNR=206
J16K S **S 01 49 40.7 +1.4**
baz=261
SDPT Sand Point 24.84 65 P **P 01 45 19.3 -2.7**
baz=279
SDPT S **S 01 49 42.2 +2.2**
baz=279
JMN Monobe 24.86 234 P **P 01 45 24.9 +2.4**
JMN Monobe 24.86 234 P **P 01 45 22.6 +0.1**
I17K Unalakleet 24.86 44 P **P 01 45 23.0 +0.8**
I17K IAmb IAmb 01 45 40.2
comp=Z,2μm,1.6s
I17K Unalakleet 24.86 44 P **P 01 45 22.8 +0.6**
baz=260,SNR=72
I17K S **S 01 49 41.5 +1.3**
baz=260
O15K Ungalikthiuk R 24.89 55 P **P 01 45 22.6 +0.1**
baz=271,SNR=224
O15K S **S 01 49 40.5 -0.1**
baz=271
D17K Noatak River 24.95 35 P **P 01 45 23.8 +0.9**
baz=249,SNR=158

D17K				S	S	01 49 42.4	+1.0
	baz=249						
RDOG	**Red Dog Mine**	**25.14**	**34**	P	**P**	**01 45 25.4**	**+0.7**
RDOG				IAmb	IAmb	01 45 57.1	
	comp=Z,899nm,1.2s						
RDOG	**Red Dog Mine**	**25.14**	**34**	P	**P**	**01 45 25.2**	**+0.5**
	baz=249,SNR=127						
RDOG				S	S	01 49 44.4	-0.1
	baz=249						
L16K	**Owhat River**	**25.14**	**49**	P	**P**	**01 45 24.5**	**-0.2**
L16K				IAMs_20	IAMs_20	01 54 49.6	
	comp=Z,15μm,19.0s						
L16K	**Owhat River**	**25.14**	**49**	P	**P**	**01 45 24.7**	**0.0**
	baz=266,SNR=352						
L16K				S	S	01 49 45.4	+0.8
	baz=266						
E17K	**Hotham Inlet**	**25.20**	**37**	P	**P**	**01 45 26.1**	**+1.0**
	baz=252,SNR=110						
E17K				S	S	01 49 46.0	+0.6
	baz=252						
C17K	**DeLong Mountai**	**25.20**	**33**	P	**P**	**01 45 25.7**	**+0.4**
	baz=248,SNR=74						
C17K				S	S	01 49 46.9	+1.3
	baz=248						
G17K	**Kiwalik Mounta**	**25.22**	**40**	P	**P**	**01 45 25.7**	**+0.3**
	baz=257,SNR=282						
G17K				S	S	01 49 47.3	+1.5
	baz=257						
F17K	**Baldwin Pennin**	**25.22**	**38**	P	**P**	**01 45 26.3**	**+0.9**
F17K	**Baldwin Pennin**	**25.22**	**38**	P	**P**	**01 45 26.5**	**+1.1**
	baz=254,SNR=59						
F17K				S	S	01 49 46.8	+1.0
	baz=254						
S14K	**Fog Glacier**	**25.23**	**62**	P	**P**	**01 45 24.4**	**-1.3**
	baz=277						
S14K				S	S	01 49 46.2	-0.2
	baz=277						
M16K	**Timber Creek**	**25.35**	**51**	P	**P**	**01 45 27.5**	**+0.9**
M16K				IAmb	IAmb	01 45 30.4	
	comp=Z,2μm,1.1s						
M16K	**Timber Creek**	**25.35**	**51**	P	**P**	**01 45 26.9**	**+0.3**
	baz=268,SNR=688						
M16K				S	S	01 49 48.7	+0.7
	baz=268						
KS19	**Wonju Array Si**	**25.35**	**248**	P	**P**	**01 45 28.1**	**+1.2**
KSRS	**Korea Array**	**25.35**	**248**	P	**P**	**01 45 28.6**	**+1.7**
	comp=Z,72nm,0.9s,baz=45,slow=9.2,SNR=85						
KSRS				ScP	**ScP**	**01 52 32.0**	**+1.0**
	comp=Z,20nm,1.3s,baz=49,slow=2.6,SNR=5.3						
KSRS				LR	LR	01 53 49.9	
	comp=Z,9μm,21.4s,baz=45,slow=32						
	comp=Z,72nm,0.9s						
KSAR	**Wonju Array Be**	**25.38**	**248**	P	**P**	**01 45 27.5**	**+0.4**
KSAR	**Wonju Array Be**	**25.38**	**248**	P	**P**	**01 45 27.5**	**+0.4**
H17K	**Granite Mounta**	**25.40**	**42**	P	**P**	**01 45 27.5**	**+0.5**
H17K	**Granite Mounta**	**25.40**	**42**	P	**P**	**01 45 27.6**	**+0.5**
	baz=259,SNR=265						
H17K				S	S	01 49 49.2	+0.6
	baz=259						
N16K	**Nishlik Lake**	**25.42**	**52**	P	**P**	**01 45 27.8**	**+0.4**
	baz=269,SNR=1000						
N16K				S	S	01 49 50.2	+0.9
	baz=269						
CHNA	**Chernabura Isl**	**25.43**	**66**	P	**P**	**01 45 24.7**	**-2.7**
	baz=280,SNR=64						
CHNA				S	S	01 49 43.7	-5.6
	baz=280						
CNBA	**Chernabura Isl**	**25.43**	**66**	P	**P**	**01 45 26.0**	**-1.4**
CNBA				IAmb	IAmb	01 45 30.2	
	comp=Z,1μm,1.4s						
CNBA				IAMs_20	IAMs_20	01 55 36.8	
	comp=Z,21μm,22.0s						
J17K	**VABM Dome**	**25.50**	**46**	P	**P**	**01 45 28.6**	**+0.7**
J17K				IAmb	IAmb	01 45 32.2	
	comp=Z,968nm,0.9s						
J17K	**VABM Dome**	**25.50**	**46**	P	**P**	**01 45 28.6**	**+0.6**
	baz=263,SNR=645						
J17K				S	S	01 49 51.3	+1.0
	baz=263						
PYAG	**Pyongyang**	**25.58**	**254**	P	**P**	**01 45 30.2**	**+1.3**
PYAG				S	S	01 49 56.9	+5.0
PYAG				AmB			
	comp=Z,4μm,3.9s						
PYAG				AMS	AMS		
	comp=Z,5μm,12.2s						
SUJ	**Sinuiju**	**25.68**	**257**	P	**P**	**01 45 30.5**	**+0.6**
SUJ				S	S	01 49 58.9	+5.3
SUJ				AmB			
	comp=Z,3μm,3.5s						
SUJ				AMS	AMS		
	comp=Z,11μm,12.0s						
L17K	**Donlin**	**25.73**	**49**	P	**P**	**01 45 30.5**	**+0.5**
	baz=266,SNR=420						
L17K				S	S	01 49 54.5	+0.5
	baz=266						
E18K	**Tukpahlearik C**	**25.75**	**36**	P	**P**	**01 45 30.8**	**+0.5**
E18K	**Tukpahlearik C**	**25.75**	**36**	P	**P**	**01 45 31.0**	**+0.7**
	baz=253,SNR=55						
E18K				S	S	01 49 54.5	+0.3
	baz=253						
O16K	**Kokwok River B**	**25.76**	**54**	P	**P**	**01 45 30.7**	**+0.3**
O16K				IAmb	IAmb	01 45 33.8	
	comp=Z,1μm,1.3s						
O16K	**Kokwok River B**	**25.76**	**54**	P	**P**	**01 45 30.4**	**0.0**
	baz=272,SNR=341						
O16K				S	S	01 49 54.9	+0.4
	baz=272						
K17K	**Iditarod**	**25.77**	**47**	P	**P**	**01 45 31.1**	**+0.6**
K17K				IAmb	IAmb	01 45 36.6	
	comp=Z,1μm,1.2s						
K17K	**Iditarod**	**25.77**	**47**	P	**P**	**01 45 31.0**	**+0.6**
	baz=265,SNR=397						
K17K				S	S	01 49 55.7	+1.0
	baz=265						
BOD	**Bodaibo**	**25.78**	**301**	*e*P	**P**	**01 45 30.0**	**-0.5**
BOD				*e*		01 56 20.0	
BOD				pmax	pmax		
	comp=Z,824nm,1.6s						
P16K	**Nushagak River**	**25.84**	**56**	P	**P**	**01 45 31.7**	**+0.7**
	baz=273,SNR=88						
P16K				S	S	01 49 56.4	+0.7
	baz=273						
CHGN	**Chignik**	**25.86**	**62**	P	**P**	**01 45 30.3**	**-1.0**
CHGN				IAMs_20	IAMs_20	01 54 57.0	
	comp=Z,15μm,22.0s						
CHGN	**Chignik**	**25.86**	**62**	P	**P**	**01 45 28.5**	**-2.8**
	baz=278,SNR=12						
CHGN				S	S	01 49 51.2	-4.8
	baz=278						
F18K	**Selawik**	**25.88**	**38**	P	**P**	**01 45 32.3**	**+0.9**
	baz=255,SNR=112						
F18K				S	S	01 49 58.4	+2.2
	baz=255						
C18K	**Utukok River**	**25.94**	**33**	P	**P**	**01 45 32.3**	**+0.2**
C18K	**Utukok River**	**25.94**	**33**	P	**P**	**01 45 32.2**	**+0.2**
	baz=250,SNR=164						
C18K				S	S	01 49 56.8	-0.6
	baz=250						
B18K	**Kokolik River**	**26.01**	**32**	P	**P**	**01 45 32.7**	**+0.2**
	baz=248,SNR=147						
B18K				S	S	01 49 58.1	-0.1
	baz=248						
H18K	**Honhosa River**	**26.08**	**42**	P	**P**	**01 45 33.4**	**+0.1**
H18K				IAmb	IAmb	01 46 04.4	
	comp=Z,1μm,1.8s						
H18K	**Honhosa River**	**26.08**	**42**	P	**P**	**01 45 33.2**	**0.0**
	baz=260,SNR=196						
H18K				S	S	01 50 00.2	+0.7
	baz=260						
INCN	**Inchon**	**26.09**	**250**	P	**P**	**01 45 35.2**	**+1.7**
INCN	**Inchon**	**26.09**	**250**	P	**P**	**01 45 34.2**	**+0.6**
INCN	**Inchon**	**26.09**	**250**	⇑P	**P**	**01 45 37.6**	**+4.0**
INCN	**Inchon**	**26.09**	**250**	P	**P**	**01 45 36.2**	**+2.7**
INCN	**Inchon**	**26.09**	**250**	P	**P**	**01 45 34.2**	**+0.6**
INCN				pmax	pmax		
	comp=Z,104nm,0.9s						
INCN				MLR	MLR		
	comp=Z,8μm,18.0s						
M17K	**Holitna River**	**26.10**	**50**	IAMs_20	IAMs_20	01 55 18.9	
	comp=Z,13μm,20.0s						
M17K	**Holitna River**	**26.10**	**50**	P	**P**	**01 45 34.0**	**+0.6**
	baz=268,SNR=791						
M17K				S	S	01 50 00.5	+0.7
	baz=268						
G18K	**Tagagawik**	**26.11**	**40**	P	**P**	**01 45 33.6**	**+0.1**
	baz=258,SNR=293						
G18K				S	S	01 50 00.5	+0.5
	baz=258						
N17K	**Nushagak Hills**	**26.21**	**52**	P	**P**	**01 45 34.8**	**+0.4**
N17K				IAmb	IAmb	01 45 39.1	
	comp=Z,2μm,1.6s						
N17K	**Nushagak Hills**	**26.21**	**52**	P	**P**	**01 45 34.8**	**+0.4**
	baz=270,SNR=400						
N17K				S	S	01 50 01.8	+0.2
	baz=270						
HJU	**Haeju**	**26.25**	**252**	P	**P**	**01 45 36.8**	**+1.8**
HJU				S	S	01 50 07.3	+4.8
HJU				AmB			
	comp=Z,2μm,3.4s						
O17K	**Koliganek Bris**	**26.27**	**54**	P	**P**	**01 45 35.3**	**+0.4**
	baz=272,SNR=406						
O17K				S	S	01 50 03.7	+1.2
	baz=272						
TJN	**Taejon**	**26.42**	**247**	P	**P**	**01 45 39.3**	**+2.8**
TJN	**Taejon**	**26.42**	**247**	P	**P**	**01 45 36.8**	**+0.3**
TJN	**Taejon**	**26.42**	**247**	*ce*P	**P**	**01 45 38.5**	**+2.0**
L18K	**Granite Mounta**	**26.49**	**48**	IAmb	IAmb	01 45 41.8	
	comp=Z,760nm,1.2s						
L18K				IAMs_20	IAMs_20	01 55 42.2	
	comp=Z,14μm,21.0s						
L18K	**Granite Mounta**	**26.49**	**48**	P	**P**	**01 45 37.5**	**+0.6**
	baz=267,SNR=336						
L18K				S	S	01 50 08.0	+2.1
	baz=267						
Q16K	**King Salmon**	**26.55**	**56**	P	**P**	**01 45 38.0**	**+0.5**
	baz=275						
Q16K				S	S	01 50 07.1	+0.2
	baz=275						
J18K	**Innoko River**	**26.56**	**46**	P	**P**	**01 45 37.6**	**0.0**
	baz=265,SNR=354						
J18K				S	S	01 50 07.5	+0.4
	baz=265						
A19K	**Wainwright**	**26.57**	**30**	P	**P**	**01 45 38.7**	**+1.2**
	baz=247,SNR=11						
A19K				S	S	01 50 06.9	-0.1
	baz=247						
JTU	**Tsushima**	**26.61**	**242**	P	**P**	**01 45 40.9**	**+2.6**
JTU	**Tsushima**	**26.61**	**242**	⇑P	**P**	**01 45 40.4**	**+2.1**
P17K	**Kvichak River**	**26.63**	**55**	P	**P**	**01 45 38.9**	**+0.7**
	baz=274,SNR=392						
P17K				S	S	01 50 08.0	-0.1
	baz=274						
GCSA	**Galena City Sc**	**26.64**	**43**	P	**P**	**01 45 37.6**	**-0.6**
	baz=262,SNR=48						
GCSA				S	S	01 50 06.8	-1.4
	baz=262						
C19K	**Lookout Ridge**	**26.65**	**33**	P	**P**	**01 45 39.2**	**+0.8**
	baz=251,SNR=139						
C19K				S	S	01 50 08.4	0.0
	baz=251						
F19K	**Shaleruckik Mo**	**26.66**	**38**	P	**P**	**01 45 38.3**	**-0.1**
	baz=257,SNR=259						
F19K				S	S	01 50 07.3	-1.3
	baz=257						
G19K	**Purcell Mounta**	**26.79**	**40**	P	**P**	**01 45 39.4**	**-0.2**
	baz=259,SNR=178						
G19K				S	S	01 50 09.8	-0.9
	baz=259						
R17L	**Mt. Peulik Vol**	**26.81**	**59**	P	**P**	**01 45 39.2**	**-0.7**
	baz=277,SNR=59						
R17L				S	S	01 50 08.3	-2.7
	baz=277						
N18K	**Kilae Creek**	**26.84**	**52**	IAmb	IAmb	01 45 47.0	
	comp=Z,866nm,0.9s						
N18K	**Kilae Creek**	**26.84**	**52**	P	**P**	**01 45 40.5**	**+0.3**
	baz=271,SNR=434						
N18K				S	S	01 50 12.8	+1.2
	baz=271						
M18K	**Stony River**	**26.87**	**50**	P	**P**	**01 45 40.6**	**+0.2**
	baz=270,SNR=160						
M18K				S	S	01 50 12.5	+0.5
	baz=270						
JNU	**Nakatsue**	**26.88**	**237**	P	**P**	**01 45 42.7**	**+1.9**
JNU	**Nakatsue**	**26.88**	**237**	P	**P**	**01 45 41.5**	**+0.8**
JNU	**Nakatsue**	**26.88**	**237**	⇑P	**P**	**01 45 42.2**	**+1.5**
JNU	**Nakatsue**	**26.88**	**237**	LR	LR	01 57 57.8	
	comp=Z,3μm,19.6s,baz=44,slow=40						
JNU	**Nakatsue**	**26.88**	**237**	P	**P**	**01 45 42.1**	**+1.3**
H19K	**Roundabout Mou**	**26.94**	**41**	IAmb	IAmb	01 45 43.3	
	comp=Z,707nm,1.0s						
H19K	**Roundabout Mou**	**26.94**	**41**	P	**P**	**01 45 41.1**	**+0.2**
	baz=261,SNR=572						
H19K				S	S	01 50 13.3	+0.3
	baz=261						
D19K	**Kuna River**	**26.97**	**34**	P	**P**	**01 45 41.6**	**+0.4**
	baz=254,SNR=222						
D19K				S	S	01 50 12.9	-0.6
	baz=254						
Q17K	**Contact Creek**	**26.99**	**57**	P	**P**	**01 45 41.0**	**-0.6**
	baz=276,SNR=204						
Q17K				S	S	01 50 11.8	-2.3
	baz=276						
SVW2	**Sparrevohn**	**26.99**	**51**	P	**P**	**01 45 41.9**	**+0.4**
E19K	**Redstone River**	**27.02**	**37**	P	**P**	**01 45 42.1**	**+0.5**
	baz=256,SNR=325						
E19K				S	S	01 50 13.9	-0.3
	baz=256						
J19K	**Poorman**	**27.10**	**45**	P	**P**	**01 45 42.1**	**-0.3**
	baz=265,SNR=452						
J19K				S	S	01 50 14.4	-1.1
	baz=265						
CBIJ	**Chichi jima**	**27.10**	**212**	P	**P**	**01 45 43.0**	**+0.3**
JCJ	**Chichijima**	**27.10**	**212**	P	**P**	**01 45 44.0**	**+1.3**
JCJ	**Chichijima**	**27.10**	**212**	P	**P**	**01 45 42.3**	**-0.5**
JCJ				IAmb	IAmb	01 45 44.5	
	comp=Z,961nm,1.2s						
JCJ	**Chichijima**	**27.10**	**212**	⇑P	**P**	**01 45 43.0**	**+0.3**
JCJ	**Chichijima**	**27.10**	**212**	LR	LR	01 58 11.9	
	comp=Z,3μm,19.3s,baz=16,slow=40						
CIT	**Chita**	**27.13**	**289**	*e*P	**P**	**01 45 43.2**	**+0.4**
CIT				*e*		01 45 59.4	
CIT				*e*		01 46 15.4	
CIT				*e*		01 46 50.0	
CIT				*e*S	**PcP**	**01 49 04.8**	**+3.0**
CIT				*e*		01 50 15.4	
O18K	**Koktuh Hills**	**27.21**	**54**	IAmb	IAmb	01 45 48.6	
	comp=Z,1μm,1.2s						
O18K	**Koktuh Hills**	**27.21**	**54**	P	**P**	**01 45 43.3**	**-0.2**
	baz=273,SNR=183						
O18K				S	S	01 50 18.3	+0.8
	baz=273						
P18K	**Big Mountain,**	**27.23**	**55**	P	**P**	**01 45 43.8**	**+0.1**
	baz=274,SNR=257						
P18K				S	S	01 50 18.5	+0.7
	baz=274						
L19K	**White Mountain**	**27.34**	**49**	IAMs_20	IAMs_20	01 56 07.8	
	comp=Z,14μm,20.0s						
L19K	**White Mountain**	**27.34**	**49**	P	**P**	**01 45 44.7**	**+0.1**
	baz=269,SNR=129						
L19K				S	S	01 50 19.9	+0.4
	baz=269						
Q18K	**Katmai Hardscr**	**27.41**	**56**	P	**P**	**01 45 44.8**	**-0.5**
	baz=276,SNR=158						
Q18K				S	S	01 50 19.3	-1.4
	baz=276						
CHIR	**Chirikof Islan**	**27.48**	**63**	IAmb	IAmb	01 45 46.7	
	comp=Z,1μm,1.2s						
CHIR				IAMs_20	IAMs_20	01 56 39.9	
	comp=Z,24μm,22.0s						
CHIR	**Chirikof Islan**	**27.48**	**63**	P	**P**	**01 45 45.3**	**-0.6**
	baz=281,SNR=20						
CHIR				S	S	01 50 19.8	-1.9
	baz=281						
F20K	**Avaraart Lake**	**27.50**	**38**	P	**P**	**01 45 46.1**	**+0.2**
	baz=259,SNR=73						
F20K				S	S	01 50 20.6	-1.1
	baz=259						
N19K	**Bonanza Creek**	**27.53**	**52**	IAmb	IAmb	01 45 52.0	
	comp=Z,762nm,1.2s						
N19K				IAMs_20	IAMs_20	01 56 03.9	
	comp=Z,14μm,21.0s						
N19K	**Bonanza Creek**	**27.53**	**52**	P	**P**	**01 45 46.9**	**+0.4**
	baz=272,SNR=202						
N19K				S	S	01 50 23.8	+1.2
	baz=272						
D20K	**Etivluk River**	**27.56**	**34**	P	**P**	**01 45 47.3**	**+0.8**
	baz=255						
D20K				S	S	01 50 23.2	+0.5
	baz=255						
M19K	**Big River Lodg**	**27.56**	**49**	IAMs_20	IAMs_20	01 56 15.7	
	comp=Z,14μm,21.0s						
M19K	**Big River Lodg**	**27.56**	**49**	P	**P**	**01 45 46.8**	**+0.2**
	baz=270						
M19K				S	S	01 50 23.7	+0.9
	baz=270						
H20K	**Anotleneega Mo**	**27.58**	**41**	P	**P**	**01 45 46.7**	**0.0**
	baz=263,SNR=252						
H20K				S	S	01 50 23.0	-0.1
	baz=263						
E20K	**Nigu River**	**27.59**	**35**	P	**P**	**01 45 47.4**	**+0.5**
	baz=256,SNR=468						
E20K				S	S	01 50 22.2	-1.1
	baz=256						
I20K	**Naaghedeneel**	**27.67**	**43**	P	**P**	**01 45 47.8**	**+0.4**
	baz=264,SNR=38						
I20K				S	S	01 50 24.3	-0.1
	baz=264						
K20K	**Telida**	**27.74**	**46**	IAMs_20	IAMs_20	01 57 43.3	
	comp=Z,11μm,20.0s						
K20K	**Telida**	**27.74**	**46**	P	**P**	**01 45 48.2**	**+0.1**
	baz=268,SNR=469						
K20K				S	S	01 50 25.8	+0.1
	baz=268						
B20K	**Meade River**	**27.75**	**31**	P	**P**	**01 45 48.6**	**+0.4**
	baz=252						
B20K				S	S	01 50 24.7	-1.0
	baz=252						
J20K	**Nowinta River**	**27.76**	**44**	P	**P**	**01 45 48.2**	**0.0**
	baz=266,SNR=507						
J20K				S	S	01 50 25.1	-0.7
	baz=266						
L20K	**Farewell, AK**	**27.80**	**48**	P	**P**	**01 45 48.8**	**0.0**
	baz=270,SNR=188						
L20K				S	S	01 50 27.8	+1.0
	baz=270						
R18K	**Karluk**	**27.83**	**59**	P	**P**	**01 45 46.7**	**-2.3**
	baz=278						
R18K				S	S	01 50 21.9	-5.2
	baz=278						
Q19K	**Cape Douglas,**	**28.09**	**56**	IAmb	IAmb	01 45 56.8	
	comp=Z,754nm,1.1s						
Q19K	**Cape Douglas,**	**28.09**	**56**	P	**P**	**01 45 50.6**	**-0.7**
	baz=276						
Q19K				S	S	01 50 30.6	-0.6
	baz=276						
IMAR	**Indian Mountai**	**28.11**	**40**	P	**P**	**01 45 51.1**	**-0.3**
SII	**Sitkinak Islan**	**28.14**	**61**	P	**P**	**01 45 51.7**	**-0.1**
SII	**Sitkinak Islan**	**28.14**	**61**	P	**P**	**01 45 51.4**	**-0.4**
SII				IAMs_20	IAMs_20	01 55 57.2	
	comp=Z,14μm,21.0s						
SII	**Sitkinak Islan**	**28.14**	**61**	P	**P**	**01 45 50.6**	**-1.1**
	baz=280,SNR=17						
SII				S	S	01 50 29.3	-2.7
	baz=280						
M20K	**Styx River**	**28.16**	**49**	IAMs_20	IAMs_20	01 56 45.3	
	comp=Z,15μm,21.0s						
M20K	**Styx River**	**28.16**	**49**	P	**P**	**01 45 52.5**	**+0.6**
	baz=271,SNR=147						
M20K				S	S	01 50 34.1	+1.7
	baz=271						
DL2	**Dalian**	**28.17**	**258**	P	**P**	**01 45 52.5**	**+0.3**
DL2				S	S	01 50 33.1	+0.3
DL2				ScS	**ScS**	**01 56 31.3**	**-0.8**
DL2				pmax	pmax		
	comp=Z,97nm,0.9s						
DL2				pmax	pmax		
	comp=Z,640nm,5.6s						
DL2				LR	LR		
	comp=Z,12μm,22.4s						
DL2				LR	LR		
	comp=Z,8μm,22.6s						
DL2				LR	LR		
	comp=Z,21μm,26.7s						
P19K	**Oil Pt**	**28.23**	**54**	P	**P**	**01 45 52.9**	**+0.3**
	baz=275						
P19K				S	S	01 50 33.2	-0.2
	baz=275						
ILSW	**Iliamna Southw**	**28.24**	**53**	IAmb	IAmb	01 45 54.4	
	comp=Z,738nm,1.4s						
G21K	**Allakaket**	**28.28**	**39**	IAMs_20	IAMs_20	01 57 32.2	
	comp=Z,13μm,21.0s						
G21K	**Allakaket**	**28.28**	**39**	P	**P**	**01 45 53.1**	**+0.2**
	baz=262,SNR=250						
G21K				S	S	01 50 34.0	-0.1
	baz=262						
C21K	**Knifeblade Rid**	**28.31**	**34**	P	**P**	**01 45 54.0**	**+0.9**
	baz=256,SNR=189						
C21K				S	S	01 50 34.5	-0.1
	baz=256						
A21K	**Barrow**	**28.36**	**29**	P	**P**	**01 45 53.5**	**0.0**
	baz=250,SNR=22						
A21K				S	S	01 50 34.0	-1.1
	baz=250						
JSU	**Suzuyama**	**28.37**	**236**	P	**P**	**01 45 55.7**	**+1.7**
F21K	**Alatna River**	**28.39**	**38**	P	**P**	**01 45 54.1**	**+0.2**
	baz=261,SNR=110						
F21K				S	S	01 50 36.6	+0.7
	baz=261						
E21K	**Killik River**	**28.43**	**35**	P	**P**	**01 45 54.5**	**+0.2**
	baz=258						
E21K				S	S	01 50 34.4	-2.2
	baz=258						
H21K	**Melozitna Rive**	**28.46**	**41**	IAMs_20	IAMs_20	01 57 16.1	
	comp=Z,12μm,22.0s						
H21K	**Melozitna Rive**	**28.46**	**41**	P	**P**	**01 45 54.8**	**+0.3**
	baz=264,SNR=388						
H21K				S	S	01 50 37.2	+0.3
	baz=264						
B21K	**Ikpikpuk River**	**28.49**	**33**	IAmb	IAmb	01 45 57.8	
	comp=Z,771nm,0.9s						
B21K	**Ikpikpuk River**	**28.49**	**33**	P	**P**	**01 45 55.6**	**+0.9**
	baz=255,SNR=152						
B21K				S	S	01 50 36.5	-0.7
	baz=255						
O20K	**Slope Mountain**	**28.50**	**53**	P	**P**	**01 45 54.8**	**-0.2**
	baz=275,SNR=60						
O20K				S	S	01 50 36.9	-0.8
	baz=275						
OHAK	**Old Harbor**	**28.51**	**59**	P	**P**	**01 45 54.1**	**-0.9**
OHAK	**Old Harbor**	**28.51**	**59**	P	**P**	**01 45 53.4**	**-1.6**
OHAK				IAmb	IAmb	01 45 55.4	
	comp=Z,967nm,1.1s						
OHAK	**Old Harbor**	**28.51**	**59**	P	**P**	**01 45 53.6**	**-1.4**
	baz=280,SNR=105						
OHAK				S	S	01 50 34.5	-3.3
	baz=280						
CHUM	**Lake Minchumin**	**28.55**	**45**	P	**P**	**01 45 55.8**	**+0.5**
	baz=268,SNR=144						
CHUM				S	S	01 50 38.8	+0.6
	baz=268						
PPLA	**Purkeypile**	**28.59**	**47**	P	**P**	**01 45 56.6**	**+0.8**
	baz=270,SNR=104						
PPLA				S	S	01 50 39.8	+0.5
	baz=270						
N20K	**Mount Spurr**	**28.62**	**51**	P	**P**	**01 45 56.6**	**+0.5**
	baz=273,SNR=56						
N20K				S	S	01 50 41.2	+1.5
	baz=273						
SPCR	**Spurr Chakacha**	**28.62**	**51**	P	**P**	**01 45 52.5**	**-3.6**
	baz=273,SNR=48						
SPCR				S	S	01 50 36.9	-2.8
	baz=273						
CAST	**Castle Rocks**	**28.64**	**46**	P	**P**	**01 45 56.5**	**+0.4**
	baz=269,SNR=324						
CAST				S	S	01 50 41.3	+1.5
	baz=269						
SPU	**Mount Spurr**	**28.70**	**51**	P	**P**	**01 45 57.3**	**+0.6**
A22K	**Sinclair Lake**	**28.76**	**30**	P	**P**	**01 45 57.1**	**0.0**
	baz=252,SNR=48						
A22K				S	S	01 50 40.5	-0.9
	baz=252						
Q20K	**Shuyak Island**	**28.77**	**56**	P	**P**	**01 45 56.2**	**-1.1**
	baz=278,SNR=35						
Q20K				S	S	01 50 39.7	-2.2
	baz=278						
SYI	**Shuyak Island**	**28.77**	**56**	IAmb	IAmb	01 45 58.0	
	comp=Z,748nm,1.0s						
KDAK	**Kodiak Island**	**28.79**	**58**	P	**P**	**01 45 56.1**	**-1.4**
KDAK				IAmb	IAmb	01 45 57.8	
	comp=Z,639nm,0.9s						
KDAK	**Kodiak Island**	**28.79**	**58**	IAMs_20	IAMs_20	01 58 10.4	
	comp=Z,14μm,22.0s						
KDAK	**Kodiak Island**	**28.79**	**58**	P	**P**	**01 45 56.3**	**-1.2**
	baz=279						
KDAK				S	S	01 50 40.7	-1.5
	baz=279						
KDAK	**Kodiak Island**	**28.79**	**58**	⇑P	**P**	**01 45 55.9**	**-1.7**
KDAK	**Kodiak Island**	**28.79**	**58**	*i* P	**P**	**01 45 56.0**	**-1.5**
XLT	**XiLinHaoTe**	**28.81**	**271**	⇓*i*P	**P**	**01 45 57.6**	**-0.4**
XLT				pP	pP	01 46 12.9	-0.9
XLT				sP	sP	01 46 23.2	+1.7
XLT				PP	**PnPn**	**01 46 49.8**	**-2.0**

XLT				S	S	01 50 40.5	-2.5
XLT	comp=Z,290nm,0.9s			pmax	pmax		
XLT	comp=Z,3μm,4.7s			pmax	pmax		
XLT	comp=Z,20μm,17.9s			LR	LR		
XLT	comp=Z,23μm,20.8s			LR	LR		
SKT	**Skwentna**	**28.91**	**49**	IAMs_20	IAMs_20	01 57 09.2	
SKT	comp=Z,13μm,21.0s **Skwentna**	**28.91**	**49**	P	**P**	**01 45 58.6**	**0.0**
SKT	baz=272,SNR=119			S	**S**	**01 50 42.4**	**-1.7**
F22K	baz=272 **John River**	**28.93**	**37**	P	**P**	**01 45 59.3**	**+0.6**
F22K	baz=262			S	**S**	**01 50 44.3**	**-0.1**
D22K	baz=262 **Ayikyak River**	**28.99**	**35**	P	**P**	**01 45 59.9**	**+0.8**
D22K	**Ayikyak River**	**28.99**	**35**	P	**P**	**01 45 60.0**	**+0.8**
D22K	baz=259,SNR=61			S	**S**	**01 50 45.3**	**+0.1**
HOM	baz=259 **Homer**	**29.03**	**54**	IAmb	IAmb	01 46 02.1	
HOM	comp=Z,1μm,1.1s **Homer**	**29.03**	**54**	P	**P**	**01 45 59.5**	**-0.1**
HOM	baz=277,SNR=24			S	**S**	**01 50 45.6**	**-0.3**
H22K	baz=277 **Ishtalitna Cre**	**29.07**	**41**	P	**P**	**01 46 00.2**	**+0.3**
H22K	baz=265,SNR=257			S	**S**	**01 50 47.1**	**+0.6**
B22K	baz=265 **Teshekpuk Lake**	**29.07**	**32**	P	**P**	**01 46 00.1**	**+0.3**
B22K	baz=255,SNR=47			S	**S**	**01 50 46.5**	**+0.2**
G22K	baz=255 **Bettles**	**29.12**	**39**	P	**P**	**01 46 00.2**	**-0.1**
G22K	baz=264			S	**S**	**01 50 46.7**	**-0.4**
BPAW	baz=264 **Bear Paw Mtn.**	**29.14**	**45**	P	**P**	**01 46 00.7**	**+0.1**
BPAW	baz=269,SNR=381			S	**S**	**01 50 48.1**	**+0.4**
KTH	baz=269 **Kantishna Hill**	**29.16**	**46**	IAMs_20	IAMs_20	01 58 55.8	
CAPN	comp=Z,10μm,20.0s **Captain Cook N**	**29.16**	**51**	IAMs_20	IAMs_20	01 57 07.1	
CAPN	comp=Z,13μm,20.0s **Captain Cook N**	**29.16**	**51**	P	**P**	**01 46 01.2**	**+0.4**
CAPN	baz=275			S	**S**	**01 50 48.2**	**+0.2**
E22K	baz=275 **Anaktuvuk Pass**	**29.17**	**36**	P	**P**	**01 46 01.2**	**+0.4**
E22K	baz=261			S	**S**	**01 50 46.6**	**-1.5**
CNPM	baz=261 **China Poot**	**29.25**	**54**	IAmb	IAmb	01 46 03.7	
MLY	comp=Z,636nm,1.0s **Manley**	**29.28**	**43**	P	**P**	**01 46 02.0**	**+0.2**
MLY	baz=268,SNR=340			S	**S**	**01 50 50.6**	**+0.7**
SUA	baz=268 **Susitna One**	**29.31**	**50**	IAMs_20	IAMs_20	01 57 12.9	
SUA	comp=Z,13μm,21.0s **Susitna One**	**29.31**	**50**	P	**P**	**01 46 01.6**	**-0.7**
SUA	baz=274,SNR=183			S	**S**	**01 50 49.4**	**-1.2**
BRSE	baz=274 **Bradley Lake S**	**29.47**	**54**	P	**P**	**01 46 02.5**	**-1.1**
BRSE	baz=277,SNR=105			S	**S**	**01 50 51.2**	**-1.8**
CUT	baz=277 **Chulitna**	**29.48**	**48**	IAmb	IAmb	01 46 04.7	
CUT	comp=Z,505nm,1.0s			IAMs_20	IAMs_20	01 57 38.5	
CUT	comp=Z,11μm,21.0s **Chulitna**	**29.48**	**48**	P	**P**	**01 46 03.0**	**-0.6**
CUT	baz=273,SNR=35			S	**S**	**01 50 51.2**	**-1.8**
M22K	baz=273 **Willow**	**29.59**	**49**	IAMs_20	IAMs_20	01 57 09.2	
M22K	comp=Z,13μm,22.0s **Willow**	**29.59**	**49**	P	**P**	**01 46 03.8**	**-0.7**
M22K	baz=274,SNR=15			S	**S**	**01 50 52.7**	**-2.0**
COLD	baz=274 **Coldfoot**	**29.66**	**38**	P	**P**	**01 46 05.3**	**+0.2**
COLD	baz=264,SNR=157			S	**S**	**01 50 56.0**	**+0.3**
G23K	baz=264 **Bananza Creek**	**29.68**	**39**	P	**P**	**01 46 05.3**	**-0.1**
G23K				IAMs_20	IAMs_20	01 58 26.3	
G23K	comp=Z,11μm,21.0s **Bananza Creek**	**29.68**	**39**	P	**P**	**01 46 05.5**	**+0.1**
G23K	baz=265,SNR=270			S	**S**	**01 50 56.8**	**+0.7**
D23K	baz=265 **Nanushuk River**	**29.71**	**35**	P	**P**	**01 46 06.4**	**+0.8**
D23K	baz=261			S	**S**	**01 50 56.8**	**+0.2**
MIDW	baz=261 **Midway**	**29.76**	**132**	IAMs_20	IAMs_20	01 55 00.7	
MIDW	comp=Z,19μm,21.0s **Midway**	**29.76**	**132**	⇑P	**P**	**01 46 05.3**	**-1.0**
BWN	**Browne**	**29.81**	**44**	IAmb	IAmb	01 46 09.3	
H23K	comp=Z,1μm,1.0s **Yukon River**	**29.81**	**41**	IAMs_20	IAMs_20	01 57 56.9	
H23K	comp=Z,12μm,21.0s **Yukon River**	**29.81**	**41**	P	**P**	**01 46 07.0**	**+0.5**
H23K	baz=267,SNR=312			S	**S**	**01 50 59.3**	**+1.1**
RC01	baz=267 **Rabbit Creek A**	**29.83**	**51**	IAMs_20	IAMs_20	01 57 41.5	
RC01	comp=Z,11μm,21.0s **Rabbit Creek A**	**29.83**	**51**	P	**P**	**01 46 05.3**	**-1.3**
RC01	baz=276,SNR=77			S	**S**	**01 50 55.0**	**-3.4**
I23K	baz=276 **Minto, Yukon-K**	**29.86**	**43**	P	**P**	**01 46 07.3**	**+0.4**
I23K	baz=269,SNR=181			S	**S**	**01 50 55.5**	**-3.4**
C23K	baz=269 **Itkillik River**	**29.89**	**33**	P	**P**	**01 46 07.6**	**+0.5**
C23K	baz=259,SNR=171			S	**S**	**01 50 58.6**	**-0.7**
O22K	baz=259 **Cooper Landing**	**29.89**	**52**	IAmb	IAmb	01 47 04.3	
O22K	comp=Z,607nm,1.1s			IAMs_20	IAMs_20	01 57 51.4	
O22K	comp=Z,10μm,20.0s **Cooper Landing**	**29.89**	**52**	P	**P**	**01 46 06.3**	**-1.0**
O22K	baz=277,SNR=9.9			S	**S**	**01 50 57.8**	**-1.7**
E23K	baz=277 **Chandalar**	**29.97**	**37**	P	**P**	**01 46 08.6**	**+0.6**
E23K	baz=263,SNR=484			S	**S**	**01 51 00.9**	**+0.1**
NEA2	baz=263 **Nenana**	**29.98**	**44**	P	**P**	**01 46 07.7**	**-0.3**
NEA2	baz=270,SNR=482			S	**S**	**01 51 00.6**	**-0.2**
MCK	baz=270 **McKinley**	**30.05**	**45**	P	**P**	**01 46 08.3**	**-0.3**
MCK	baz=272,SNR=207			S	**S**	**01 50 59.6**	**-2.4**
MCK	baz=272 **McKinley**	**30.05**	**45**	P	**P**	**01 46 08.6**	**0.0**
TOLK	**Toolik Lake Re**	**30.06**	**35**	P	**P**	**01 46 08.9**	**+0.2**
TOLK	**Toolik Lake Re**	**30.06**	**35**	P	**P**	**01 46 09.2**	**+0.5**
TOLK	baz=262,SNR=159			S	**S**	**01 51 02.5**	**+0.4**
PMR	baz=262 **Palmer**	**30.07**	**50**	P	**P**	**01 46 09.0**	**+0.2**
PMR	**Palmer**	**30.07**	**50**	IAMs_20	IAMs_20	01 57 37.0	
PMR	comp=Z,12μm,22.0s **Palmer**	**30.07**	**50**	P	**P**	**01 46 07.4**	**-1.4**
PMR	baz=275,SNR=42			S	**S**	**01 50 59.9**	**-2.4**
SEW	baz=275 **Seward**	**30.07**	**53**	P	**P**	**01 46 07.8**	**-1.0**
SEW	baz=277,SNR=102			S	**S**	**01 50 59.9**	**-2.3**
RND	baz=277 **Reindeer**	**30.09**	**46**	IAmb	IAmb	01 46 10.1	
RND	comp=Z,526nm,0.9s			IAMs_20	IAMs_20	01 58 16.3	
	comp=Z,10μm,20.0s						
RND	**Reindeer**	**30.09**	**46**	P	**P**	**01 46 08.6**	**-0.5**
GHO	**Glory Hole Cre**	**30.16**	**49**	IAmb	IAmb	01 46 11.9	
WAT1	comp=Z,1μm,1.9s **Susitna Watana**	**30.26**	**47**	P	**P**	**01 46 09.7**	**-0.8**
WAT1	baz=273			S	**S**	**01 51 03.6**	**-1.7**
E24K	baz=273 **Your Creek**	**30.40**	**37**	IAmb	IAmb	01 46 14.4	
E24K	comp=Z,372nm,0.9s **Your Creek**	**30.40**	**37**	P	**P**	**01 46 12.4**	**+0.7**
E24K	baz=264,SNR=498			S	**S**	**01 51 07.9**	**+0.5**
D24K	baz=264 **Happy Valley**	**30.40**	**35**	IAMs_20	IAMs_20	01 59 36.5	
D24K	comp=Z,10μm,20.0s **Happy Valley**	**30.40**	**35**	P	**P**	**01 46 12.2**	**+0.6**
D24K	baz=262,SNR=110			S	**S**	**01 51 07.1**	**-0.2**
WRH	baz=262 **Wood River Hil**	**30.40**	**44**	IAmb	IAmb	01 46 14.1	
KNK	comp=Z,604nm,1.0s **Knik Glacier**	**30.41**	**50**	IAMs_20	IAMs_20	01 57 47.9	
KNK	comp=Z,16μm,22.0s **Knik Glacier**	**30.41**	**50**	P	**P**	**01 46 11.5**	**-0.4**
KNK	baz=276,SNR=189			S	**S**	**01 51 05.8**	**-1.9**
SML	baz=276 **Sawmill**	**30.43**	**49**	IAMs_20	IAMs_20	01 59 30.5	
SML	comp=Z,9μm,20.0s **Sawmill**	**30.43**	**49**	P	**P**	**01 46 11.7**	**-0.4**
SML	baz=275,SNR=626			S	**S**	**01 51 05.4**	**-2.6**
H24K	baz=275 **Noodor Dome**	**30.50**	**41**	IAMs_20	IAMs_20	01 58 19.0	
H24K	comp=Z,12μm,22.0s **Noodor Dome**	**30.50**	**41**	P	**P**	**01 46 13.3**	**+0.6**
H24K	baz=269,SNR=204			S	**S**	**01 51 10.4**	**+1.4**
COLA	baz=269 **College**	**30.50**	**43**	P	**P**	**01 46 12.9**	**+0.3**
COLA	**College**	**30.50**	**43**	P	**P**	**01 46 12.9**	**+0.3**
COLA				IAmb	IAmb	01 46 14.4	
COLA	comp=Z,513nm,0.8s **College**	**30.50**	**43**	P	**P**	**01 46 12.8**	**+0.2**
COLA	baz=270			S	**S**	**01 51 08.8**	**0.0**
COLA	baz=270 **College**	**30.50**	**43**	⇑P	**P**	**01 46 12.6**	**0.0**
COLA	**College**	**30.50**	**43**	*i* P	**P**	**01 46 12.7**	**+0.2**
COLA				pmax	pmax		
COLA	comp=Z,637nm,0.9s **College**	**30.50**	**43**	P	**P**	**01 46 12.8**	**+0.2**
COLA				pP	**pP**	**01 46 26.8**	**-1.5**
CCB	**Clear Creek Bu**	**30.52**	**44**	IAmb	IAmb	01 46 14.4	
C24K	comp=Z,452nm,1.0s **Franklin Bluff**	**30.53**	**33**	P	**P**	**01 46 13.3**	**+0.6**
C24K	baz=261			S	**S**	**01 51 08.5**	**-0.8**
F24K	baz=261 **Squaw Lake**	**30.58**	**38**	P	**P**	**01 46 13.3**	**0.0**
F24K	baz=266,SNR=189			S	**S**	**01 51 10.3**	**+0.1**
WAT6	baz=266 **Susitna Watana**	**30.64**	**48**	P	**P**	**01 46 13.0**	**-1.0**
WAT6	baz=274,SNR=126			S	**S**	**01 51 09.4**	**-2.2**
POKR	baz=274 **Poker Plat Res**	**30.68**	**43**	IAmb	IAmb	01 46 20.1	
POKR	comp=Z,524nm,1.2s **Poker Plat Res**	**30.68**	**43**	P	**P**	**01 46 14.6**	**+0.4**
POKR	baz=270,SNR=223			S	**S**	**01 51 12.8**	**+1.1**
G24K	baz=270 **Hadweenzic Riv**	**30.69**	**39**	IAMs_20	IAMs_20	01 59 06.8	
G24K	comp=Z,11μm,21.0s **Hadweenzic Riv**	**30.69**	**39**	P	**P**	**01 46 14.9**	**+0.7**
G24K	baz=268,SNR=854			S	**S**	**01 51 13.7**	**+1.8**
M23K	baz=268 **Glacier View**	**30.72**	**49**	P	**P**	**01 46 13.9**	**-0.7**
M23K	baz=276,SNR=67			S	**S**	**01 51 11.2**	**-1.3**
DHY	baz=276 **Denali Highway**	**30.78**	**47**	IAmb	IAmb	01 46 16.4	
DHY	comp=Z,573nm,1.3s			IAMs_20	IAMs_20	01 59 38.5	
DHY	comp=Z,10μm,20.0s **Denali Highway**	**30.78**	**47**	P	**P**	**01 46 14.5**	**-0.7**
DHY	baz=274,SNR=288			S	**S**	**01 51 11.1**	**-2.5**
BJI	baz=274 **Beijing**	**30.85**	**265**	P	**P**	**01 46 16.9**	**+1.0**
BJI				S	S	01 51 05.5	-9.4
BJI				sS	**sS**	**01 51 44.4**	**+2.6**
BJI				ScP	**ScP**	**01 52 49.8**	**+1.8**
BJI				PcS	**PcS**	**01 52 57.3**	**+2.1**
BJI				ScS	**ScS**	**01 56 45.3**	**+0.5**
BJI				pmax	pmax		
BJI	comp=Z,780nm,12.0s			LR	LR		
BJI	comp=Z,6μm,20.6s			LR	LR		
BJI	comp=Z,3μm,19.2s			LR	LR		
BJT	comp=Z,9μm,21.0s **Baijiatuau**	**30.87**	**265**	P	**P**	**01 46 18.8**	**+2.7**
BJT	**Baijiatuau**	**30.87**	**265**	IAMs_20	IAMs_20	01 59 05.3	
BJT	comp=Z,16μm,21.0s **Baijiatuau**	**30.87**	**265**	P	**P**	**01 46 18.7**	**+2.7**
BJT	comp=Z,40nm,1.0s			pmax	pmax		
HDA	**Harding Lake**	**30.90**	**44**	P	**P**	**01 46 15.2**	**-0.9**
HDA	baz=272,SNR=168			S	**S**	**01 51 12.4**	**-2.8**
HDA	baz=272			S	**S**	**01 51 12.4**	**-2.8**
SCM	baz=272 **Sheep Creek Mo**	**30.91**	**49**	IAmb	IAmb	01 46 17.8	
SCM	comp=Z,581nm,0.9s			IAMs_20	IAMs_20	01 59 55.0	
SCM	comp=Z,9μm,20.0s **Sheep Creek Mo**	**30.91**	**49**	P	**P**	**01 46 15.9**	**-0.4**
SCM	baz=276,SNR=277			S	**S**	**01 51 15.2**	**-0.3**
ILAR	baz=276 **Eielson Array**	**30.92**	**43**	P	**P**	**01 46 16.2**	**0.0**
ILAR	**Eielson Array**	**30.92**	**43**	P	**P**	**01 46 16.0**	**-0.2**
	comp=Z,215nm,0.8s,baz=259,slow=7.3,SNR=933						
ILAR				pP	**pP**	**01 46 32.1**	**+0.2**
	comp=Z,102nm,0.7s,baz=270,slow=6.4,SNR=8.7						
ILAR				PcP	**PcP**	**01 49 09.9**	**-1.1**
	comp=Z,3.7nm,0.4s,baz=287,slow=2.8,SNR=5.0						
ILAR				LR	LR	02 00 43.7	
	comp=Z,4μm,18.8s,baz=253,slow=40						
	comp=Z,215nm,0.8s						
ILAR	**Eielson Array**	**30.92**	**43**	P	**P**	**01 46 16.2**	**0.0**
P23K	**Montague Islan**	**31.11**	**53**	P	**P**	**01 46 17.5**	**-0.4**
P23K	baz=279			S	**S**	**01 51 18.6**	**+0.1**
GLI	baz=279 **Glacier Island**	**31.13**	**51**	IAmb	IAmb	01 46 19.1	
GLI	comp=Z,568nm,1.2s			IAMs_20	IAMs_20	01 58 33.0	
GLI	comp=Z,10μm,20.0s **Glacier Island**	**31.13**	**51**	P	**P**	**01 46 17.5**	**-0.7**
GLI	baz=278,SNR=117			S	**S**	**01 51 17.5**	**-1.4**
G25K	baz=278 **Bearman Lake**	**31.24**	**39**	P	**P**	**01 46 19.8**	**+0.8**
G25K	baz=269,SNR=96			S	**S**	**01 51 20.4**	**0.0**
D25K	baz=269 **Kavik River**	**31.29**	**34**	IAmb	IAmb	01 46 22.2	
D25K	comp=Z,589nm,0.8s **Kavik River**	**31.29**	**34**	P	**P**	**01 46 19.9**	**+0.3**
D25K	baz=264,SNR=662			S	**S**	**01 51 20.0**	**-1.3**
JAM	baz=264 **Amami Oshima**	**31.30**	**233**	P	**P**	**01 46 21.4**	**+1.5**
H25L	**Birch Creek**	**31.34**	**40**	P	**P**	**01 46 21.1**	**+1.1**
H25L	baz=270,SNR=53			S	**S**	**01 51 25.3**	**+3.3**
M24K	baz=270 **Tolsona, Glenn**	**31.42**	**48**	IAmb	IAmb	01 46 42.0	
M24K	comp=Z,590nm,1.1s			IAMs_20	IAMs_20	02 00 11.5	
	comp=Z,10μm,20.0s						
M24K	**Tolsona, Glenn**	**31.42**	**48**	P	**P**	**01 46 21.1**	**+0.4**
M24K	baz=277,SNR=66			S	**S**	**01 51 24.2**	**+0.8**
F25K	baz=277 **Christian Rive**	**31.44**	**38**	P	**P**	**01 46 21.9**	**+1.0**
F25K	baz=268,SNR=212			S	**S**	**01 51 24.8**	**+1.1**
K24K	baz=268 **Donnelly Dome**	**31.44**	**45**	P	**P**	**01 46 20.1**	**-0.9**
K24K	baz=274,SNR=266			S	**S**	**01 51 21.2**	**-2.6**
FID	baz=274 **Port Fidalgo**	**31.45**	**51**	IAmb	IAmb	01 46 21.8	
FID	comp=Z,739nm,1.2s			IAMs_20	IAMs_20	01 58 40.9	
PRP	comp=Z,12μm,21.0s **Porcupine Dome**	**31.47**	**42**	IAmb	IAmb	01 46 23.8	
PRP	comp=Z,666nm,0.9s			IAMs_20	IAMs_20	01 58 46.8	
PRP	comp=Z,10μm,22.0s **Porcupine Dome**	**31.47**	**42**	P	**P**	**01 46 21.4**	**+0.1**
PRP	baz=272,SNR=450			S	**S**	**01 51 24.3**	**-0.1**
HIN	baz=272 **Hinchinbrook I**	**31.49**	**52**	IAmb	IAmb	01 46 22.6	
HIN	comp=Z,638nm,1.0s			IAMs_20	IAMs_20	02 00 50.5	
E25K	comp=Z,10μm,20.0s **Arctic Village**	**31.49**	**37**	P	**P**	**01 46 22.5**	**+1.2**
E25K	baz=267,SNR=184			S	**S**	**01 51 25.2**	**+0.8**
J25K	baz=267 **Salcha River,**	**31.57**	**44**	P	**P**	**01 46 20.5**	**-1.6**
J25K	baz=273,SNR=243			S	**S**	**01 51 22.8**	**-3.0**
KLU	baz=273 **Klutina**	**31.61**	**50**	IAmb	IAmb	01 46 25.0	
KLU	comp=Z,824nm,1.4s			IAMs_20	IAMs_20	01 58 47.7	
KLU	comp=Z,12μm,21.0s **Klutina**	**31.61**	**50**	P	**P**	**01 46 22.5**	**0.0**
KLU	baz=278,SNR=203			S	**S**	**01 51 26.2**	**-0.3**
PAX	baz=278 **Paxson**	**31.65**	**47**	P	**P**	**01 46 22.0**	**-0.8**
PAX	baz=276,SNR=114			S	**S**	**01 51 26.0**	**-1.2**
Q23K	baz=276 **Middleton Isla**	**31.73**	**53**	IAMs_20	IAMs_20	01 57 00.0	
Q23K	comp=Z,10μm,18.0s **Middleton Isla**	**31.73**	**53**	P	**P**	**01 46 23.8**	**+0.4**
Q23K	baz=281,SNR=22			S	**S**	**01 51 30.0**	**+1.9**
MID	baz=281 **Middleton Isla**	**31.73**	**53**	P	**P**	**01 46 24.7**	**+1.3**
MID	**Middleton Isla**	**31.73**	**53**	IAMs_20	IAMs_20	01 57 00.1	
EYAK	comp=Z,10μm,18.0s **Cordova Ski Ar**	**31.83**	**51**	P	**P**	**01 46 24.8**	**+0.5**
EYAK	**Cordova Ski Ar**	**31.83**	**51**	P	**P**	**01 46 24.1**	**-0.2**
EYAK	baz=280,SNR=72			S	**S**	**01 51 30.0**	**+0.3**
BMAR	baz=280 **Burnt Mountain**	**31.84**	**38**	P	**P**	**01 46 25.7**	**+1.2**
C26K	**Camden Bay**	**31.86**	**33**	P	**P**	**01 46 25.5**	**+1.0**
C26K	baz=265			S	**S**	**01 51 30.5**	**+0.5**
HARP	baz=265 **HAARP**	**31.86**	**48**	P	**P**	**01 46 24.9**	**+0.3**
HARP	baz=277,SNR=52			S	**S**	**01 51 30.2**	**0.0**
F26K	baz=277 **Sheenjek River**	**32.02**	**38**	P	**P**	**01 46 27.1**	**+1.1**
F26K	baz=269,SNR=194			S	**S**	**01 51 34.4**	**+1.7**
G26K	baz=269 **Porcupine Rive**	**32.15**	**39**	P	**P**	**01 46 28.1**	**+1.0**
G26K	baz=271,SNR=443			S	**S**	**01 51 36.1**	**+1.5**
SCRK	baz=271 **Sand Creek**	**32.22**	**45**	IAmb	IAmb	01 46 29.2	
SCRK	comp=Z,434nm,1.0s **Sand Creek**	**32.22**	**45**	P	**P**	**01 46 27.0**	**-0.9**
SCRK	baz=275,SNR=593			S	**S**	**01 51 33.3**	**-2.8**
N25K	baz=275 **Chitina, Valde**	**32.22**	**49**	IAmb	IAmb	01 46 29.7	
N25K	comp=Z,1μm,1.9s **Chitina, Valde**	**32.22**	**49**	P	**P**	**01 46 28.1**	**+0.2**
N25K	baz=279,SNR=94			S	**S**	**01 51 36.3**	**+0.3**
C27K	baz=279 **Jago River**	**32.25**	**34**	P	**P**	**01 46 28.9**	**+1.0**
C27K	baz=267,SNR=382			S	**S**	**01 51 37.7**	**+1.5**
BMRM	baz=267 **Bremner River**	**32.32**	**50**	P	**P**	**01 46 28.6**	**-0.1**
BMRM	baz=280,SNR=153			S	**S**	**01 51 37.5**	**0.0**
J26L	baz=280 **Joseph Creek**	**32.36**	**44**	P	**P**	**01 46 27.5**	**-1.5**
J26L	baz=275,SNR=102			S	**S**	**01 51 36.4**	**-1.8**
RAGM	baz=275 **Ragged Mountai**	**32.38**	**51**	IAmb	IAmb	01 46 31.4	
RAGM	comp=Z,1μm,1.3s			IAMs_20	IAMs_20	02 01 49.2	
MENT	comp=Z,15μm,21.0s **Mentasta**	**32.45**	**47**	P	**P**	**01 46 30.2**	**+0.4**
MENT	**Mentasta**	**32.45**	**47**	IAMs_20	IAMs_20	02 01 19.8	
I26K	comp=Z,11μm,20.0s **Coal Creek Min**	**32.47**	**42**	IAMs_20	IAMs_20	01 59 18.3	
I26K	comp=Z,9μm,21.0s **Coal Creek Min**	**32.47**	**42**	P	**P**	**01 46 28.5**	**-1.4**
I26K	baz=274			S	**S**	**01 51 38.9**	**-0.8**
H11N2	baz=274 **WAKE ISLAND Hy**	**32.48**	**164**	T	T	02 20 27.6	
IRK	baz=350,slow=76 **Irkutsk**	**32.48**	**293**	*e*P	**P**	**01 46 29.8**	**-0.3**
IRK				*e*		01 48 06.2	
IRK				pmax	pmax		
H11N3	comp=Z,180nm,1.6s **WAKE ISLAND Hy**	**32.49**	**164**	T	T	02 20 28.9	
H11N1	baz=350,slow=76 **WAKE ISLAND Hy**	**32.49**	**164**	T	T	02 20 38.7	
ULN	baz=350,slow=76 **Ulaanbaatar**	**32.55**	**284**	P	**P**	**01 46 31.5**	**+0.6**
ULN	**Ulaanbaatar**	**32.55**	**284**	P	**P**	**01 46 30.9**	**0.0**
ULN	**Ulaanbaatar**	**32.55**	**284**	*ce*P	**P**	**01 46 31.5**	**+0.6**
ULN				*i* *PP	**sP**	**01 46 53.2**	**-1.4**
ULN				pmax	pmax		
ULN	comp=Z,47nm,1.7s **Ulaanbaatar**	**32.55**	**284**	P	**P**	**01 46 31.2**	**+0.2**
ULN				pP	**pP**	**01 46 45.1**	**-1.7**
ULN				ScP	**ScP**	**01 52 56.1**	**+2.2**
HMT	**Hamilton**	**32.60**	**51**	IAmb	IAmb	01 46 33.2	
HMT	comp=Z,957nm,1.3s			IAMs_20	IAMs_20	02 02 03.8	
KAIM	comp=Z,13μm,20.0s **Kayak Island**	**32.60**	**52**	IAMs_20	IAMs_20	02 01 06.8	
KAIM	comp=Z,13μm,22.0s **Kayak Island**	**32.60**	**52**	P	**P**	**01 46 31.7**	**+0.7**
KAIM	baz=281,SNR=86			S	**S**	**01 51 43.9**	**+2.2**
L26K	baz=281 **Log Cabin Wild**	**32.61**	**46**	IAMs_20	IAMs_20	02 01 24.9	
L26K	comp=Z,14μm,19.0s **Log Cabin Wild**	**32.61**	**46**	P	**P**	**01 46 31.2**	**0.0**
L26K	baz=277,SNR=43			S	**S**	**01 51 41.8**	**-0.1**
GLB	baz=277 **Gilahina Butte**	**32.62**	**49**	IAmb	IAmb	01 46 34.3	
GLB	comp=Z,535nm,1.4s			IAMs_20	IAMs_20	01 59 18.4	
TIA	comp=Z,9μm,21.0s **Tai'an**	**32.64**	**258**	P	**P**	**01 46 31.2**	**-0.5**
TIA				pP	**pP**	**01 46 46.4**	**-1.2**
TIA				PP	**PnPn**	**01 47 41.2**	**-0.2**
TIA				S	**S**	**01 51 44.9**	**+2.1**
TIA				ScP	**ScP**	**01 52 55.4**	**+1.2**
TIA				ScS	**ScS**	**01 56 54.6**	**+0.7**
TIA				pmax	pmax		
TIA	comp=Z,38nm,1.0s			LR	LR		
TIA	comp=Z,3μm,18.7s			LR	LR		
	comp=Z,6μm,22.3s						

TIA				LR	LR		
	comp=Z,8μm,19.4s						
VRDI	**Verde Repeater**	**32.83**	**50**	IAmb	IAmb	01 46 35.2	
	comp=Z,1μm,2.0s						
VRDI				IAMs_20	IAMs_20	01 59 26.8	
	comp=Z,8μm,20.0s						
M26K	**Nabesna, AK**	**32.85**	**47**	IAmb	IAmb	01 46 35.9	
	comp=Z,442nm,1.1s						
M26K				IAMs_20	IAMs_20	02 00 37.5	
	comp=Z,10μm,20.0s						
M26K	**Nabesna, AK**	**32.85**	**47**	P	**P**	**01 46 34.0**	**+0.7**
	baz=279,SNR=260						
M26K				S	**S**	**01 51 46.9**	**+1.1**
	baz=279						
WAKE	**Wake Island**	**32.88**	**165**	P	**P**	**01 46 34.8**	**+1.0**
SUCK	**Suckling Hills**	**32.88**	**52**	IAmb	IAmb	01 46 36.1	
	comp=Z,985nm,1.4s						
SUCK				IAMs_20	IAMs_20	01 57 32.4	
	comp=Z,12μm,18.0s						
SONM	**Songino Array**	**32.96**	**284**	P	**P**	**01 46 35.8**	**+1.3**
SONM	**Songino Array**	**32.96**	**284**	P	**P**	**01 46 34.7**	**+0.2**
	comp=Z,5.6nm,0.4s,baz=72,slow=8.1,SNR=29						
SONM				PcP	**PcP**	**01 49 16.6**	**-0.5**
	comp=Z,22nm,0.9s,baz=52,slow=1.8,SNR=5.9						
SONM				ScP	**ScP**	**01 52 55.6**	**+0.3**
	comp=Z,26nm,1.1s,baz=92,slow=2.8,SNR=10						
SONM				LR	LR	02 01 05.7	
	comp=Z,24μm,21.2s,baz=64,slow=38						
E27K	**Coleen River**	**32.98**	**37**	P	**P**	**01 46 35.4**	**+1.0**
	baz=271,SNR=112						
E27K				S	**S**	**01 51 49.7**	**+2.1**
	baz=271						
G27K	**Doyon Strip**	**33.00**	**39**	P	**P**	**01 46 35.6**	**+1.1**
	baz=273,SNR=244						
G27K				S	**S**	**01 51 49.9**	**+2.0**
	baz=273						
MCARA	**McCarthy VSAT**	**33.00**	**49**	P	**P**	**01 46 35.2**	**+0.7**
MCARA				IAmb	IAmb	01 46 56.3	
	comp=Z,741nm,1.6s						
MCARA	**McCarthy VSAT**	**33.00**	**49**	P	**P**	**01 46 35.1**	**+0.5**
	baz=280,SNR=34						
MCARA				S	**S**	**01 51 49.0**	**+1.0**
	baz=280						
K27K	**Chicken**	**33.05**	**44**	IAmb	IAmb	01 46 36.8	
	comp=Z,628nm,1.0s						
K27K	**Chicken**	**33.05**	**44**	P	**P**	**01 46 35.1**	**+0.1**
	baz=277						
K27K				S	**S**	**01 51 48.0**	**-0.7**
	baz=277						
CRQM	**Cirque**	**33.06**	**50**	IAMs_20	IAMs_20	01 59 56.7	
	comp=Z,18μm,21.0s						
H27K	**Steamboat Moun**	**33.08**	**40**	P	**P**	**01 46 36.0**	**+0.7**
	baz=274,SNR=468						
H27K				S	**S**	**01 51 52.8**	**+3.6**
	baz=274						
CRQE	**Cirque**	**33.09**	**50**	P	**P**	**01 46 35.8**	**+0.4**
	baz=281,SNR=134						
CRQE				S	**S**	**01 51 50.7**	**+1.1**
	baz=281						
I27K	**Kandik River**	**33.09**	**41**	P	**P**	**01 46 35.2**	**-0.2**
	baz=275,SNR=88						
I27K				S	**S**	**01 51 48.7**	**-0.7**
	baz=275						
BGLC	**Bering Glacier**	**33.12**	**52**	P	**P**	**01 46 36.7**	**+1.2**
	baz=282,SNR=5.6						
BGLC				S	**S**	**01 51 51.4**	**+1.7**
	baz=282						
D27M	**Malcolm River**	**33.21**	**35**	P	**P**	**01 46 37.5**	**+1.1**
	baz=270,SNR=86						
D27M				S	**S**	**01 51 51.9**	**+0.8**
	baz=270						
TGL	**Tana Glacier**	**33.21**	**50**	P	**P**	**01 46 37.0**	**+0.5**
TGL				IAmb	IAmb	01 46 40.6	
	comp=Z,497nm,1.0s						
TGL					**PcP**	**01 49 19.0**	**+1.5**
TGL				IAMs_20	IAMs_20	02 00 01.0	
	comp=Z,18μm,21.0s						
WAX	**Waxell Ridge**	**33.26**	**51**	IAmb	IAmb	01 46 39.3	
	comp=Z,1μm,1.4s						
WAX				IAMs_20	IAMs_20	02 00 11.3	
	comp=Z,12μm,21.0s						
JOW	**Kunigami**	**33.27**	**234**	P	**P**	**01 46 38.6**	**+1.4**
JOW	**Kunigami**	**33.27**	**234**	IAmb	IAmb	01 46 39.6	
	comp=Z,660nm,1.0s						
JOW	**Kunigami**	**33.27**	**234**	⇑P	**P**	**01 46 38.2**	**+1.1**
JOW	**Kunigami**	**33.27**	**234**	P	**P**	**01 46 38.3**	**+1.1**
HHC	**Hu-ho-hao-te**	**33.27**	**270**	*e*P	**P**	**01 46 36.9**	**-0.3**
HHC				pP	pP	01 46 51.6	-1.6
HHC				S	**S**	**01 51 47.5**	**-5.2**
HHC				sS	sS	01 52 26.1	+6.3
HHC				pmax	pmax		
	comp=Z,49nm,1.2s						
HHC				pmax	pmax		
	comp=Z,500nm,6.6s						
HHC				LR	LR		
	comp=Z,12μm,18.6s						
HHC				LR	LR		
	comp=Z,8μm,21.4s						
HHC				LR	LR		
	comp=Z,20μm,21.1s						
L27K	**Beaver Creek,**	**33.29**	**46**	IAMs_20	IAMs_20	02 01 34.9	
	comp=Z,10μm,20.0s						
L27K	**Beaver Creek,**	**33.29**	**46**	P	**P**	**01 46 37.9**	**+0.8**
	baz=278,SNR=1000						
L27K				S	**S**	**01 51 53.8**	**+1.3**
	baz=278						
BCAR	**Beaver Creek A**	**33.31**	**46**	P	**P**	**01 46 38.2**	**+1.0**
SNH	**Sunshine Point**	**33.32**	**51**	IAMs_20	IAMs_20	02 01 54.0	
	comp=Z,9μm,21.0s						
EGAK	**Eagle**	**33.36**	**43**	IAmb	IAmb	01 46 39.1	
	comp=Z,432nm,0.9s						
EGAK	**Eagle**	**33.36**	**43**	P	**P**	**01 46 36.9**	**-0.8**
	baz=276,SNR=524						
EGAK				S	**S**	**01 51 53.9**	**+0.4**
	baz=276						
EGAK	**Eagle**	**33.36**	**43**	⇑P	**P**	**01 46 36.8**	**-0.8**
HNS	**HongShan**	**33.37**	**262**	⇓P	**P**	**01 46 38.5**	**+0.5**
HNS				S	**S**	**01 51 51.9**	**-2.2**
HNS				ScP	**ScP**	**01 52 58.7**	**+2.0**
HNS				ScS	**ScS**	**01 56 57.0**	**-0.6**
HNS				pmax	pmax		
	comp=Z,110nm,1.2s						
HNS				LR	LR		
	comp=Z,9μm,18.3s						
HNS				LR	LR		
	comp=Z,16μm,17.7s						
HNS				LR	LR		
	comp=Z,15μm,18.2s						
M27K	**Edge Creek, AK**	**33.38**	**47**	IAmb	IAmb	01 46 40.7	
	comp=Z,537nm,1.1s						
M27K	**Edge Creek, AK**	**33.38**	**47**	P	**P**	**01 46 38.8**	**+0.8**
	baz=280,SNR=470						
M27K				S	**S**	**01 51 55.9**	**+1.9**
	baz=280						
ISLE	**Juniper Island**	**33.48**	**51**	P	**P**	**01 46 38.9**	**0.0**
ISLE				IAmb	IAmb	01 46 41.7	
	comp=Z,692nm,1.1s						
ISLE				IAMs_20	IAMs_20	02 00 08.1	
	comp=Z,18μm,22.0s						
H11S1	**WAKE ISLAND Hy**	**33.64**	**165**	T	T	02 21 56.0	
	baz=350,slow=76						
F28M	**Old Crow**	**33.65**	**38**	IAmb	IAmb	01 46 42.8	
	comp=Z,352nm,0.9s						
F28M	**Old Crow**	**33.65**	**38**	P	**P**	**01 46 41.5**	**+1.4**
	baz=273,SNR=307						
F28M				S	**S**	**01 51 59.1**	**+1.1**
	baz=273						
H11S3	**WAKE ISLAND Hy**	**33.65**	**165**	T	T	02 21 50.6	
	baz=350,slow=76						
H11S2	**WAKE ISLAND Hy**	**33.66**	**165**	T	T	02 21 59.8	
	baz=350,slow=76						
E28M	**Babbage River**	**33.73**	**36**	IAMs_20	IAMs_20	02 01 24.5	
	comp=Z,10μm,21.0s						
E28M	**Babbage River**	**33.73**	**36**	P	**P**	**01 46 42.1**	**+1.3**
	baz=272,SNR=82						
E28M				S	**S**	**01 51 59.8**	**+0.6**
	baz=272						
GRNC	**Granite Creek**	**33.73**	**50**	IAmb	IAmb	01 46 44.4	
	comp=Z,906nm,1.2s						
GRNC				IAMs_20	IAMs_20	02 00 16.0	
	comp=Z,14μm,21.0s						
ZAK	**Zakamensk**	**33.75**	**290**	*e*P	**P**	**01 46 41.9**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,121nm,1.4s						
MESA	**MESA**	**33.76**	**51**	IAMs_20	IAMs_20	02 02 17.5	
	comp=Z,8μm,20.0s						
MESA	**MESA**	**33.76**	**51**	P	**P**	**01 46 42.0**	**+0.6**
	baz=283,SNR=132						
MESA				S	**S**	**01 52 01.7**	**+1.6**
	baz=283						
SSE	**Sheshan**	**33.78**	**247**	P	**P**	**01 46 39.5**	**-2.1**
SSE				S	**S**	**01 51 59.0**	**-1.5**
SSE				pmax	pmax		
	comp=Z,7.0nm,0.4s						
SSE				LR	LR		
	comp=Z,2μm,21.7s						
SSE				LR	LR		
	comp=Z,3μm,21.0s						
I28M	**Miner Creek**	**33.80**	**42**	IAmb	IAmb	01 46 44.1	
	comp=Z,365nm,1.1s						
I28M				IAMs_20	IAMs_20	02 00 10.4	
	comp=Z,11μm,22.0s						
I28M	**Miner Creek**	**33.80**	**42**	P	**P**	**01 46 41.7**	**+0.1**
	baz=276,SNR=455						
I28M				S	**S**	**01 52 01.4**	**+0.9**
	baz=276						
BVCY	**Beaver Creek**	**33.83**	**47**	S	**S**	**01 52 02.2**	**+1.3**
	baz=280						
CTG	**Chitna Glacier**	**33.88**	**50**	P	**P**	**01 46 43.0**	**+0.6**
	baz=282,SNR=120						
CTG				S	**S**	**01 52 02.7**	**+0.8**
	baz=282						
CTGM	**Chitina Glacie**	**33.89**	**50**	IAmb	IAmb	01 46 44.7	
	comp=Z,399nm,0.9s						
CTGM				IAMs_20	IAMs_20	02 00 34.8	
	comp=Z,10μm,22.0s						
D28M	**Stokes Point**	**34.00**	**35**	P	**P**	**01 46 44.3**	**+1.2**
	baz=272,SNR=8.1						
D28M				S	**S**	**01 52 04.9**	**+1.7**
	baz=272						
LOGN	**Logan Glacier**	**34.08**	**50**	IAmb	IAmb	01 46 48.4	
	comp=Z,271nm,0.8s						
LOGN				IAMs_20	IAMs_20	02 00 28.0	
	comp=Z,14μm,22.0s						
TABL	**Table Mountain**	**34.09**	**51**	IAMs_20	IAMs_20	02 00 37.4	
	comp=Z,11μm,21.0s						
YUK3	**Moose Creek**	**34.14**	**48**	P	**P**	**01 46 45.3**	**+0.6**
	baz=282,SNR=71						
YUK3				S	**S**	**01 52 07.2**	**+1.3**
	baz=282						
DAWY	**Dawson**	**34.22**	**44**	P	**P**	**01 46 45.4**	**+0.3**
DAWY	**Dawson**	**34.22**	**44**	P	**P**	**01 46 45.2**	**+0.1**
	baz=279,SNR=157						
DAWY				S	**S**	**01 52 06.9**	**+0.1**
	baz=279						
E29M	**Blow River**	**34.35**	**36**	IAmb	IAmb	01 46 48.8	
	comp=Z,269nm,1.0s						
E29M				IAMs_20	IAMs_20	02 01 31.8	
	comp=Z,11μm,22.0s						
E29M	**Blow River**	**34.35**	**36**	P	**P**	**01 46 47.5**	**+1.4**
	baz=274,SNR=128						
E29M				S	**S**	**01 52 10.3**	**+1.6**
	baz=274						
H29M	**Whitestone**	**34.36**	**40**	IAmb	IAmb	01 46 48.8	
	comp=Z,319nm,0.9s						
H29M				IAMs_20	IAMs_20	02 01 11.0	
	comp=Z,10μm,20.0s						
H29M	**Whitestone**	**34.36**	**40**	P	**P**	**01 46 47.2**	**+0.9**
	baz=277,SNR=254						
H29M				S	**S**	**01 52 12.3**	**+3.4**
	baz=277						
BTO	**Baotou**	**34.37**	**271**	*e*P	**P**	**01 46 47.6**	**+0.8**
BTO				pP	**pP**	**01 47 04.6**	**+1.8**
BTO				sP	**sP**	**01 47 14.8**	**+4.4**
BTO				PP	**PP**	**01 48 04.8**	**-0.7**
BTO				S	**S**	**01 52 11.4**	**+1.6**
BTO				sS	**sS**	**01 52 39.5**	**+2.6**
BTO				SS	**SnSn**	**01 54 22.2**	**-2.9**
BTO				pmax	pmax		
	comp=Z,68nm,1.3s						
BTO				pmax	pmax		
	comp=Z,1μm,6.5s						
BTO				LR	LR		
	comp=Z,19μm,22.6s						
BTO				LR	LR		
	comp=Z,41μm,20.0s						
BTO				LR	LR		
	comp=Z,55μm,20.0s						
G29M	**Pine Creek**	**34.42**	**39**	IAmb	IAmb	01 46 54.3	
	comp=Z,678nm,1.0s						
G29M	**Pine Creek**	**34.42**	**39**	P	**P**	**01 46 48.1**	**+1.3**
	baz=276,SNR=338						
G29M				S	**S**	**01 52 13.3**	**+3.4**
	baz=276						
NJ2	**Nanjing**	**34.45**	**251**	⇑P	**P**	**01 46 48.5**	**+1.1**
NJ2				sP	**sP**	**01 47 13.7**	**+2.7**
NJ2				PcP	**PcP**	**01 49 22.0**	**+0.6**
NJ2				S	**S**	**01 52 10.6**	**-0.2**
NJ2				ScP	**ScP**	**01 53 01.0**	**+0.4**
NJ2				ScS	**ScS**	**01 57 03.2**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,44nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,1μm,5.2s						
NJ2				LR	LR		
	comp=Z,8μm,14.7s						
NJ2				LR	LR		
	comp=Z,6μm,17.5s						
NJ2				LR	LR		
	comp=Z,10μm,20.4s						
O28M	**Mount Upton**	**34.48**	**50**	P	**P**	**01 46 48.0**	**+0.3**
	baz=283,SNR=273						
O28M				S	**S**	**01 52 13.0**	**+1.7**
	baz=283						
I29M	**Ogilvie Camp,**	**34.49**	**42**	P	**P**	**01 46 47.6**	**+0.1**
	baz=278,SNR=188						
I29M				S	**S**	**01 52 11.1**	**+0.1**
	baz=278						
YUK8	**Steele Glacier**	**34.56**	**49**	P	**P**	**01 46 48.7**	**+0.2**
	baz=283						
MOY	**Mondy**	**34.58**	**293**	*e*P	**P**	**01 46 49.2**	**+0.7**
MOY				pmax	pmax		
	comp=Z,216nm,1.2s						
TIY	**Taiyuan**	**34.58**	**265**	*e*P	**P**	**01 46 50.8**	**+2.2**
TIY				pP	**pP**	**01 47 04.4**	**-0.3**
TIY				S	**S**	**01 52 07.6**	**-5.4**
TIY				pmax	pmax		
	comp=Z,72nm,1.0s						
TIY				pmax	pmax		
	comp=Z,2μm,5.7s						
TIY				LR	LR		
	comp=Z,10μm,27.0s						
TIY				LR	LR		
	comp=Z,5μm,24.0s						
TIY				LR	LR		
	comp=Z,9μm,28.4s						
PINM	**Pinnacle**	**34.60**	**51**	P	**P**	**01 46 48.6**	**+0.1**
	baz=284,SNR=132						
PINM				S	**S**	**01 52 13.2**	**+0.3**
	baz=284						
J29N	**Klondike Camp**	**34.66**	**43**	P	**P**	**01 46 49.6**	**+0.6**
J29N					**PcP**	**01 49 21.9**	**+0.3**
J29N	**Klondike Camp**	**34.66**	**43**	P	**P**	**01 46 49.1**	**+0.1**
	baz=279,SNR=5.9						
J29N				S	**S**	**01 52 14.0**	**+0.3**
	baz=279						
M29M	**Somme Creek**	**34.92**	**47**	P	**P**	**01 46 52.1**	**+0.8**
	baz=282,SNR=265						
M29M				S	**S**	**01 52 19.1**	**+1.3**
	baz=282						
BCPM	**Bancas Point**	**34.94**	**51**	IAmb	IAmb	01 46 55.7	
	comp=Z,662nm,1.0s						
BCPM				IAMs_20	IAMs_20	02 00 55.7	
	comp=Z,8μm,21.0s						
L29M	**L29M**	**34.94**	**46**	IAmb	IAmb	01 46 54.3	
	comp=Z,734nm,1.1s						
L29M				IAMs_20	IAMs_20	02 02 55.6	
	comp=Z,9μm,21.0s						
L29M	**L29M**	**34.94**	**46**	P	**P**	**01 46 52.6**	**+1.2**
	baz=281,SNR=543						
L29M				S	**S**	**01 52 19.7**	**+1.8**
	baz=281						
EPYK	**Eagle Plains**	**35.00**	**40**	IAmb	IAmb	01 46 58.6	
	comp=Z,579nm,1.2s						
EPYK	**Eagle Plains**	**35.00**	**40**	P	**P**	**01 46 52.5**	**+0.7**
	baz=278,SNR=174						
EPYK				S	**S**	**01 52 21.1**	**+2.3**
	baz=278						
K29M	**Barlow Dome**	**35.07**	**44**	P	**P**	**01 46 52.8**	**+0.2**
	baz=281,SNR=155						
K29M				S	**S**	**01 52 21.3**	**+1.2**
	baz=281						
YUK4	**Talbot Arm**	**35.08**	**49**	P	**P**	**01 46 53.1**	**+0.3**
	baz=283,SNR=11						
G30M	**tAoh Zraii Nji**	**35.12**	**39**	IAmb	IAmb	01 46 59.4	
	comp=Z,408nm,1.2s						
G30M	**tAoh Zraii Nji**	**35.12**	**39**	P	**P**	**01 46 53.3**	**+0.4**
	baz=277,SNR=116						
G30M				S	**S**	**01 52 21.6**	**+1.0**
	baz=277						
PNL	**Peninsula**	**35.13**	**52**	P	**P**	**01 46 53.0**	**0.0**
PNL	**Peninsula**	**35.13**	**52**	P	**P**	**01 46 52.9**	**0.0**
	baz=285,SNR=58						
PNL				S	**S**	**01 52 21.0**	**+0.1**
	baz=285						
F30M	**Barrier River**	**35.21**	**37**	P	**P**	**01 46 55.4**	**+1.8**
	baz=277,SNR=162						
F30M				S	**S**	**01 52 24.3**	**+2.3**
	baz=277						
YUK6	**Outpost Mounta**	**35.31**	**49**	P	**P**	**01 46 55.1**	**+0.4**
	baz=284,SNR=84						
YUK6				S	**S**	**01 52 24.3**	**+0.3**
	baz=284						
I30M	**Mount Dempster**	**35.31**	**42**	IAmb	IAmb	01 46 56.6	
	comp=Z,340nm,1.0s						
I30M				IAMs_20	IAMs_20	02 01 07.3	
	comp=Z,8μm,21.0s						
I30M	**Mount Dempster**	**35.31**	**42**	P	**P**	**01 46 55.0**	**+0.3**
	baz=280,SNR=336						
I30M				S	**S**	**01 52 25.2**	**+1.4**
	baz=280						
O29M	**Mount Kennedy**	**35.36**	**50**	IAmb	IAmb	01 46 57.5	
	comp=Z,449nm,1.6s						
O29M				IAMs_20	IAMs_20	02 02 13.9	
	comp=Z,9μm,21.0s						
O29M	**Mount Kennedy**	**35.36**	**50**	P	**P**	**01 46 55.6**	**+0.4**
	baz=285,SNR=64						
O29M				S	**S**	**01 52 25.3**	**+0.6**
	baz=285						
J30M	**Hart River**	**35.45**	**43**	P	**P**	**01 46 56.3**	**+0.5**
	baz=281,SNR=103						
J30M				S	**S**	**01 52 25.4**	**-0.4**
	baz=281						
M30M	**Minto, Yukon**	**35.65**	**46**	P	**P**	**01 46 58.6**	**+1.1**
	baz=283						
M30M				S	**S**	**01 52 31.9**	**+3.1**
	baz=283						
HYT	**Haines Junctio**	**35.74**	**49**	IAmb	IAmb	01 47 03.0	
	comp=Z,924nm,1.4s						
HYT				IAMs_20	IAMs_20	02 01 31.9	
	comp=Z,14μm,22.0s						
HYT	**Haines Junctio**	**35.74**	**49**	P	**P**	**01 46 59.3**	**+0.9**
	baz=285,SNR=186						
HYT				S	**S**	**01 52 31.8**	**+1.4**
	baz=285						
N30M	**Aishikik Lake**	**35.78**	**48**	IAMs_20	IAMs_20	02 03 08.8	
	comp=Z,9μm,20.0s						
N30M	**Aishikik Lake**	**35.78**	**48**	P	**P**	**01 46 59.3**	**+0.7**
	baz=284,SNR=35						
N30M				S	**S**	**01 52 31.6**	**+0.8**
	baz=284						
MAYO	**Mayo, Yukon**	**35.83**	**44**	P	**P**	**01 47 00.2**	**+1.3**
	baz=282,SNR=58						
MAYO				S	**S**	**01 52 34.4**	**+2.9**
	baz=282						
G31M	**Satah River**	**35.89**	**39**	IAmb	IAmb	01 47 01.4	
	comp=Z,325nm,1.2s						
G31M	**Satah River**	**35.89**	**39**	P	**P**	**01 47 00.1**	**+0.8**
	baz=279,SNR=85						
G31M				S	**S**	**01 52 34.3**	**+2.1**
	baz=279						
P29M	**Windy Craggy**	**35.95**	**51**	IAmb	IAmb	01 47 03.6	
	comp=Z,738nm,1.5s						
P29M				IAMs_20	IAMs_20	02 03 26.4	
	comp=Z,8μm,20.0s						
P29M	**Windy Craggy**	**35.95**	**51**	P	**P**	**01 47 00.8**	**+0.8**
	baz=286,SNR=100						
P29M				S	**S**	**01 52 34.6**	**+1.1**
	baz=286						
INK	**Inuvik**	**35.97**	**36**	P	**P**	**01 47 00.9**	**+0.9**
INK	**Inuvik**	**35.97**	**36**	P	**P**	**01 47 00.8**	**+0.7**
	baz=278,SNR=113						
INK				S	**S**	**01 52 34.5**	**+1.0**
	baz=278						
INK	**Inuvik**	**35.97**	**36**	LR	LR	02 04 21.9	
	comp=Z,4μm,20.0s,baz=271,slow=40						
INK	**Inuvik**	**35.97**	**36**	P	**P**	**01 47 00.9**	**+0.9**
INK				pmax	pmax		
	comp=Z,225nm,1.0s						
F31M	**Tsiigehtchic**	**36.01**	**38**	IAmb	IAmb	01 47 02.5	
	comp=Z,330nm,1.0s						
F31M	**Tsiigehtchic**	**36.01**	**38**	P	**P**	**01 47 01.0**	**+0.6**
	baz=279,SNR=50						
F31M				S	**S**	**01 52 33.9**	**-0.2**
	baz=279						
P30M	**Million Dollar**	**36.19**	**50**	P	**P**	**01 47 03.2**	**+1.1**
	baz=286						
P30M				S	**S**	**01 52 38.9**	**+1.8**
	baz=286						
O30N	**Mendenhall**	**36.42**	**49**	IAmb	IAmb	01 47 06.8	
	comp=Z,334nm,1.1s						
O30N				IAMs_20	IAMs_20	02 01 51.9	
	comp=Z,8μm,21.0s						
O30N	**Mendenhall**	**36.42**	**49**	P	**P**	**01 47 05.0**	**+0.9**
	baz=286,SNR=154						
O30N				S	**S**	**01 52 43.7**	**+3.0**
	baz=286						
NRIK	**Noril'sk**	**36.45**	**326**	P	**P**	**01 47 02.9**	**-1.2**
NRIK	**Noril'sk**	**36.45**	**326**	P	**P**	**01 47 03.2**	**-1.0**
	comp=Z,12nm,0.7s,baz=93,slow=8.1,SNR=27						
NRIK				LR	LR	02 03 24.6	
	comp=Z,18μm,18.1s,baz=80,slow=38						
	comp=Z,12nm,0.7s						
NRIK	**Noril'sk**	**36.45**	**326**	*c*eP	**P**	**01 47 02.3**	**-1.9**
NRIK				*i* *PP	**sP**	**01 47 25.5**	**-2.5**
NRIK				pmax	pmax		
	comp=Z,53nm,1.8s						
LYN	**LuoYang**	**36.59**	**260**	⇑P	**P**	**01 47 06.6**	**+0.9**
LYN				pP	pP	01 47 25.5	+3.6
LYN				S	**S**	**01 52 42.8**	**-0.9**
LYN				SS	**SnSn**	**01 55 14.6**	**-4.2**
LYN				ScS	**ScS**	**01 57 16.6**	**+1.5**
LYN				pmax	pmax		
	comp=Z,68nm,1.0s						
LYN				pmax	pmax		
	comp=Z,2μm,5.2s						
LYN				LR	LR		
	comp=Z,11μm,15.1s						
LYN				LR	LR		
	comp=Z,13μm,18.2s						
LYN				LR	LR		
	comp=Z,17μm,19.6s						
PLBC	**Pleasant Camp**	**36.67**	**51**	P	**P**	**01 47 07.3**	**+1.1**
	baz=288,SNR=161						
PLBC				S	**S**	**01 52 46.3**	**+2.0**
	baz=288						
M31M	**Drury Creek, Y**	**36.83**	**46**	IAmb	IAmb	01 47 10.5	
	comp=Z,445nm,1.1s						
M31M	**Drury Creek, Y**	**36.83**	**46**	P	**P**	**01 47 08.6**	**+1.1**
	baz=285,SNR=345						
M31M				S	**S**	**01 52 49.9**	**+3.1**
	baz=285						
WHY	**Whitehorse**	**37.03**	**49**	IAmb	IAmb	01 47 12.4	
	comp=Z,604nm,1.2s						
WHY	**Whitehorse**	**37.03**	**49**	P	**P**	**01 47 10.5**	**+1.2**
	baz=287,SNR=274						
WHY				S	**S**	**01 52 54.9**	**+4.9**
	baz=287						
SKAG	**Skagway**	**37.17**	**51**	P	**P**	**01 47 11.8**	**+1.4**
SKAG	**Skagway**	**37.17**	**51**	IAMs_20	IAMs_20	02 02 27.8	
	comp=Z,9μm,22.0s						
SKAG	**Skagway**	**37.17**	**51**	P	**P**	**01 47 12.0**	**+1.6**
	baz=288,SNR=92						
SKAG				S	**S**	**01 52 56.7**	**+4.7**
	baz=288						
SKAG	**Skagway**	**37.17**	**51**	⇑P	**P**	**01 47 11.8**	**+1.4**
S31K	**Pelican**	**37.21**	**54**	IAmb	IAmb	01 47 13.4	
	comp=Z,607nm,1.2s						
S31K	**Pelican**	**37.21**	**54**	P	**P**	**01 47 11.6**	**+1.0**
	baz=290,SNR=73						
S31K				S	**S**	**01 52 55.6**	**+3.1**
	baz=290						
FARO	**Faro, Yukon**	**37.29**	**46**	IAMs_20	IAMs_20	02 04 11.7	
	comp=E,7μm,22.0s						
FARO	**Faro, Yukon**	**37.29**	**46**	P	**P**	**01 47 12.4**	**+0.9**
	baz=286,SNR=79						
FARO				S	**S**	**01 52 57.1**	**+3.3**
	baz=286						
R31K	**City Hall, Gus**	**37.30**	**53**	P	**P**	**01 47 12.8**	**+1.3**
	baz=289						
R31K				S	**S**	**01 52 59.2**	**+5.3**
	baz=289						

N32M	**Quiet Lake**	**37.72**	**48**	IAmb	IAmb	01 47 17.5	
	comp=Z,270nm,0.9s						
N32M	**Quiet Lake**	**37.72**	**48**	P	**P**	**01 47 15.8**	**+0.7**
	baz=288						
N32M				S	**S**	**01 53 03.1**	**+2.7**
	baz=288						
P32M	**Atlin**	**37.91**	**50**	IAMs_20	IAMs_20	02 02 51.3	
	comp=Z,13μm,21.0s						
P32M	**Atlin**	**37.91**	**50**	P	**P**	**01 47 17.6**	**+0.9**
	baz=289,SNR=26						
P32M				S	**S**	**01 53 05.7**	**+2.4**
	baz=289						
YOJ	**Yonaguni jima**	**37.92**	**238**	⇑P	**P**	**01 47 16.4**	**-0.6**
YOJ	**Yonaguni jima**	**37.92**	**238**	⇑P	**P**	**01 47 16.5**	**-0.6**
R32K	**Eaglecrest**	**37.96**	**53**	IAmb	IAmb	01 47 22.0	
	comp=Z,571nm,1.4s						
R32K				IAMs_20	IAMs_20	02 02 52.6	
	comp=Z,6μm,20.0s						
R32K	**Eaglecrest**	**37.96**	**53**	P	**P**	**01 47 18.4**	**+1.3**
	baz=290,SNR=102						
R32K				S	**S**	**01 53 06.6**	**+2.7**
	baz=290						
SIT	**Sitka**	**37.98**	**55**	P	**P**	**01 47 19.1**	**+1.9**
SIT	**Sitka**	**37.98**	**55**	P	**P**	**01 47 18.9**	**+1.7**
	baz=291,SNR=99						
SIT				S	**S**	**01 53 09.2**	**+5.0**
	baz=291						
JIS	**Juneau Island**	**38.02**	**53**	P	**P**	**01 47 18.7**	**+1.1**
JIS	**Juneau Island**	**38.02**	**53**	IAmb	IAmb	01 47 20.8	
	comp=Z,710nm,1.2s						
MMPY	**Sheldon Lake,**	**38.11**	**45**	IAmb	IAmb	01 47 21.4	
	comp=Z,348nm,1.1s						
MMPY	**Sheldon Lake,**	**38.11**	**45**	P	**P**	**01 47 19.7**	**+1.3**
	baz=287,SNR=305						
MMPY				S	**S**	**01 53 10.1**	**+3.8**
	baz=287						
P33M	**Teslin, Yukon**	**38.14**	**49**	IAmb	IAmb	01 47 21.6	
	comp=Z,482nm,1.1s						
P33M				IAMs_20	IAMs_20	02 03 48.2	
	comp=Z,10μm,21.0s						
P33M	**Teslin, Yukon**	**38.14**	**49**	P	**P**	**01 47 19.7**	**+1.1**
	baz=289,SNR=343						
P33M				S	**S**	**01 53 10.4**	**+3.6**
	baz=289						
A36M	**Sachs Harbour**	**38.20**	**29**	P	**P**	**01 47 20.5**	**+1.6**
	baz=280,SNR=17						
A36M				S	**S**	**01 53 07.8**	**+0.6**
	baz=280						
S32K	**Killisnoo**	**38.21**	**54**	IAmb	IAmb	01 47 22.4	
	comp=Z,554nm,1.4s						
S32K	**Killisnoo**	**38.21**	**54**	P	**P**	**01 47 20.4**	**+1.2**
	baz=291,SNR=89						
S32K				S	**S**	**01 53 13.5**	**+5.8**
	baz=291						
WHN	**Wuhan**	**38.21**	**254**	⇓P	**P**	**01 47 19.6**	**+0.1**
WHN				S	**S**	**01 53 07.4**	**-0.9**
WHN				ScP	**ScP**	**01 53 16.0**	**+1.5**
WHN				ScS	**ScS**	**01 57 23.3**	**-1.1**
WHN				pmax	pmax		
	comp=Z,160nm,0.7s						
WHN				pmax	pmax		
	comp=Z,3μm,5.0s						
WHN				LR	LR		
	comp=Z,7μm,11.2s						
WHN				LR	LR		
	comp=Z,11μm,12.1s						
WHN				LR	LR		
	comp=Z,25μm,20.6s						
TATO	**Taipei**	**38.33**	**240**	P	**P**	**01 47 23.3**	**+2.8**
TATO	**Taipei**	**38.33**	**240**	P	**P**	**01 47 23.0**	**+2.5**
TATO	**Taipei**	**38.33**	**240**	P	**P**	**01 47 23.2**	**+2.8**
YHNB	**Yeheng**	**38.63**	**240**	P	**P**	**01 47 26.3**	**+3.2**
YHNB	**Yeheng**	**38.63**	**240**	P	**P**	**01 47 24.0**	**+0.9**
Q32M	**Nakina River**	**38.82**	**51**	IAmb	IAmb	01 47 31.0	
	comp=Z,1μm,1.6s						
Q32M	**Nakina River**	**38.82**	**51**	P	**P**	**01 47 26.2**	**+1.7**
	baz=291,SNR=182						
Q32M				S	**S**	**01 53 20.4**	**+3.0**
	baz=291						
NACB	**Ninganchiao**	**38.91**	**239**	P	**P**	**01 47 27.2**	**+1.8**
NACB	**Ninganchiao**	**38.91**	**239**	P	**P**	**01 47 25.1**	**-0.3**
XAN	**Xi'an**	**39.12**	**263**	⇓P	**P**	**01 47 27.0**	**-0.2**
XAN				pP	pP	01 47 41.9	-1.5
XAN				sP	sP	01 47 58.6	+7.6
XAN				ScP	**ScP**	**01 53 19.7**	**+1.7**
XAN				S	**S**	**01 53 23.7**	**+1.6**
XAN				ScS	**ScS**	**01 57 29.8**	**+0.1**
XAN				pmax	pmax		
	comp=Z,22nm,1.1s						
XAN				pmax	pmax		
	comp=Z,2μm,7.4s						
XAN				LR	LR		
	comp=Z,12μm,15.9s						
XAN				LR	LR		
	comp=Z,15μm,16.7s						
XAN				LR	LR		
	comp=Z,20μm,17.0s						
C36M	**Paulatuk**	**39.14**	**33**	P	**P**	**01 47 28.0**	**+1.2**
	baz=284,SNR=35						
C36M				S	**S**	**01 53 20.9**	**-0.6**
	baz=284						
GUMO	**Guam**	**39.24**	**200**	LR	LR	02 00 44.0	
	comp=Z,4μm,20.4s,baz=36,slow=32						
T33K	**Petersburg**	**39.28**	**54**	P	**P**	**01 47 29.8**	**+1.7**
	baz=293,SNR=8.9						
R33M	**Jennings River**	**39.30**	**50**	IAmb	IAmb	01 47 31.9	
	comp=Z,527nm,1.0s						
R33M	**Jennings River**	**39.30**	**50**	P	**P**	**01 47 30.1**	**+1.7**
	baz=291,SNR=385						
R33M				S	**S**	**01 53 29.0**	**+4.7**
	baz=291						
U33K	**Whale Pass**	**39.46**	**55**	IAmb	IAmb	01 47 33.3	
	comp=Z,644nm,1.2s						
U33K	**Whale Pass**	**39.46**	**55**	P	**P**	**01 47 31.4**	**+1.8**
	baz=294,SNR=41						
U33K				S	**S**	**01 53 32.4**	**+5.9**
	baz=294						
SSLB	**Suanglung**	**39.57**	**240**	P	**P**	**01 47 33.2**	**+2.3**
YULB	**Yu-li**	**39.70**	**239**	P	**P**	**01 47 32.9**	**+0.9**
CRAG	**Craig**	**39.72**	**56**	P	**P**	**01 47 32.8**	**+1.0**
CRAG	**Craig**	**39.72**	**56**	IAmb	IAmb	01 47 35.5	
	comp=Z,699nm,1.2s						
CRAG	**Craig**	**39.72**	**56**	P	**P**	**01 47 33.5**	**+1.8**
	baz=294,SNR=37						
CRAG				S	**S**	**01 53 35.5**	**+5.1**
	baz=294						
CRAG	**Craig**	**39.72**	**56**	⇑P	**P**	**01 47 32.9**	**+1.1**
WRAK	**Wrangell Islan**	**39.74**	**55**	IAmb	IAmb	01 47 35.5	
	comp=Z,869nm,1.2s						
WRAK	**Wrangell Islan**	**39.74**	**55**	P	**P**	**01 47 33.6**	**+1.7**
	baz=294						
WRAK				S	**S**	**01 53 37.5**	**+6.8**
	baz=294						
S34M	**Telegraph Cree**	**39.77**	**52**	P	**P**	**01 47 33.8**	**+1.7**
	baz=293,SNR=103						
S34M				S	**S**	**01 53 35.8**	**+4.7**
	baz=293						
TGTN	**Hyland Airport**	**39.80**	**46**	P	**P**	**01 47 33.9**	**+1.4**
	baz=290,SNR=44						
TGTN				S	**S**	**01 53 35.0**	**+3.4**
	baz=290						
QZH	**Quanzhou**	**39.95**	**244**	⇑*i*P	**P**	**01 47 35.0**	**+1.0**
QZH				pP	**pP**	**01 47 49.0**	**-1.2**
QZH				S	**S**	**01 53 33.6**	**-0.8**
QZH				SS	**SS**	**01 56 27.5**	**-5.7**
QZH				ScS	**ScS**	**01 57 36.1**	**+1.5**
QZH				pmax	pmax		
	comp=Z,190nm,1.2s						
QZH				pmax	pmax		
	comp=Z,4μm,3.0s						
QZH				LR	LR		
	comp=Z,4μm,15.8s						
QZH				LR	LR		
	comp=Z,3μm,16.2s						
QZH				LR	LR		
	comp=Z,4μm,18.6s						
WTLY	**Watson Lake, Y**	**40.06**	**48**	IAMs_20	IAMs_20	02 06 12.0	
	comp=E,7μm,22.0s						
WTLY	**Watson Lake, Y**	**40.06**	**48**	P	**P**	**01 47 36.2**	**+1.5**
	baz=292,SNR=8.9						
WTLY				S	**S**	**01 53 37.2**	**+1.6**
	baz=292						
DLBC	**Dease Lake**	**40.10**	**51**	P	**P**	**01 47 36.3**	**+1.2**
DLBC				IAmb	IAmb	01 47 38.8	
	comp=Z,771nm,1.4s						
DLBC	**Dease Lake**	**40.10**	**51**	P	**P**	**01 47 36.8**	**+1.8**
	baz=293,SNR=211						
DLBC				S	**S**	**01 53 42.3**	**+6.0**
	baz=293						
DLBC	**Dease Lake**	**40.10**	**51**	LR	LR	02 06 18.9	
	comp=Z,4μm,18.8s,baz=300,slow=39						
TPUB	**Ta-pu**	**40.13**	**240**	P	**P**	**01 47 37.2**	**+1.6**
TPUB	**Ta-pu**	**40.13**	**240**	P	**P**	**01 47 35.9**	**+0.3**
TWGBT	**Beinan**	**40.28**	**239**	P	**P**	**01 47 40.2**	**+3.4**
TWG	**Pinlang**	**40.28**	**239**	P	**P**	**01 47 36.8**	**0.0**
KNMB	**Chin-men Tao**	**40.44**	**243**	P	**P**	**01 47 38.9**	**+0.8**
V35K	**Ketchikan**	**40.56**	**56**	P	**P**	**01 47 39.7**	**+1.0**
V35K				IAmb	IAmb	01 47 42.1	
	comp=Z,918nm,1.6s						
V35K				IAMs_20	IAMs_20	02 03 59.6	
	comp=Z,6μm,20.0s						
V35K	**Ketchikan**	**40.56**	**56**	P	**P**	**01 47 40.8**	**+2.0**
	baz=295,SNR=36						
V35K				S	**S**	**01 53 49.1**	**+6.0**
	baz=295						
T35M	**Bob Quinn**	**40.57**	**53**	IAmb	IAmb	01 47 43.2	
	comp=Z,1μm,1.2s						
T35M	**Bob Quinn**	**40.57**	**53**	P	**P**	**01 47 41.4**	**+2.5**
	baz=294,SNR=270						
T35M				S	**S**	**01 53 50.0**	**+6.8**
	baz=294						
CNSH	**ChangSha**	**40.77**	**253**	P	**P**	**01 47 41.4**	**+0.6**
CNSH				S	**S**	**01 53 43.3**	**-3.4**
CNSH				pmax	pmax		
	comp=Z,62nm,0.6s						
CNSH				LR	LR		
	comp=Z,8μm,22.0s						
CNSH				LR	LR		
	comp=Z,4μm,20.4s						
CNSH				LR	LR		
	comp=Z,6μm,17.1s						
LZH	**Lanzhou**	**40.96**	**270**	*e*P	**P**	**01 47 43.4**	**+0.9**
LZH				pP	pP	01 47 58.6	-0.3
LZH				sP	sP	01 48 09.5	+3.1
LZH				ScP	**ScP**	**01 53 27.7**	**+2.4**
LZH				S	**S**	**01 53 46.8**	**-3.0**
LZH				ScS	**ScS**	**01 57 41.7**	**+0.8**
LZH				pmax	pmax		
	comp=Z,370nm,1.1s						
LZH				pmax	pmax		
	comp=Z,1μm,4.8s						
LZH				LR	LR		
	comp=Z,14μm,19.8s						
LZH				LR	LR		
	comp=Z,19μm,19.1s						
LZH				LR	LR		
	comp=Z,27μm,21.0s						
DIB	**Dawson Inlet,**	**41.04**	**59**	P	**P**	**01 47 43.6**	**+0.9**
DIB				IAmb	IAmb	01 47 45.5	
	comp=Z,513nm,1.1s						
U35K	**Hyder**	**41.13**	**55**	IAMs_20	IAMs_20	02 03 41.5	
	comp=Z,7μm,22.0s						
U35K	**Hyder**	**41.13**	**55**	P	**P**	**01 47 45.2**	**+1.8**
	baz=296						
U35K				S	**S**	**01 53 57.0**	**+5.6**
	baz=296						
WRGLY	**Wrigley**	**41.28**	**42**	IAmb	IAmb	01 47 47.6	
	comp=Z,459nm,1.0s						
WRGLY	**Wrigley**	**41.28**	**42**	P	**P**	**01 47 46.4**	**+1.9**
	baz=292,SNR=14						
WRGLY				S	**S**	**01 53 57.9**	**+4.4**
	baz=292						
ENH	**Enshi**	**41.35**	**258**	P	**P**	**01 47 46.9**	**+1.3**
ENH	**Enshi**	**41.35**	**258**	P	**P**	**01 47 45.8**	**+0.2**
ENH				IAMs_20	IAMs_20	02 05 01.7	
	comp=Z,8μm,21.0s						
GTA	**Gaotai**	**41.43**	**277**	*e*P	**P**	**01 47 47.1**	**+0.8**
GTA				PP	**PnPn**	**01 49 26.1**	**-1.9**
GTA				ScP	**ScP**	**01 53 29.1**	**+2.0**
GTA				S	**S**	**01 53 53.0**	**-3.6**
GTA				ScS	**ScS**	**01 57 43.5**	**0.0**
GTA				pmax	pmax		
	comp=Z,81nm,1.4s						
GTA				pmax	pmax		
	comp=Z,950nm,10.4s						
GTA				LR	LR		
	comp=Z,9μm,22.7s						
GTA				LR	LR		
	comp=Z,13μm,20.3s						
GTA				LR	LR		
	comp=Z,17μm,21.1s						
LIRD	**Liard River Hi**	**41.59**	**48**	P	**P**	**01 47 48.6**	**+1.4**
	baz=294,SNR=53						
LIRD				S	**S**	**01 54 02.9**	**+4.7**
	baz=294						
RUBB	**Prince Rupert**	**41.71**	**57**	P	**P**	**01 47 49.4**	**+1.3**
GRNB	**Grenville Isla**	**42.09**	**57**	P	**P**	**01 47 52.6**	**+1.4**
HG4B	**Hotspring**	**42.15**	**60**	P	**P**	**01 47 52.7**	**+0.9**
HG4B				IAmb	IAmb	01 47 54.6	
	comp=Z,948nm,1.1s						
HG4B				IAMs_20	IAMs_20	02 02 53.7	
	comp=Z,7μm,22.0s						
TOAD	**Toad River Com**	**42.23**	**49**	P	**P**	**01 47 54.0**	**+1.5**
	baz=295,SNR=199						
TOAD				S	**S**	**01 54 11.9**	**+4.2**
	baz=295						
KOTAN	**Kotaneelee Air**	**42.24**	**47**	P	**P**	**01 47 53.6**	**+1.2**
	baz=295,SNR=50						
KOTAN				S	**S**	**01 54 11.9**	**+4.2**
	baz=295						
ZAA0	**Zalesovo Array**	**42.51**	**303**	P	**P**	**01 47 53.7**	**-1.0**
ZALV	**Zalesovo Beam**	**42.51**	**303**	P	**P**	**01 47 53.2**	**-1.4**
	comp=Z,7.1nm,0.4s,baz=61,slow=7.3,SNR=39						
ZALV				PcP	**PcP**	**01 49 45.6**	**-0.5**
	comp=Z,14nm,0.5s,baz=60,slow=3.5,SNR=7.0						
ZALV				ScP	**ScP**	**01 53 30.6**	**-0.3**
	comp=Z,22nm,1.1s,baz=30,slow=6.7,SNR=4.5						
ZALV				LR	LR	02 07 06.6	
	comp=Z,10μm,18.6s,baz=57,slow=38						
	comp=Z,7.1nm,0.4s						
JOHN	**Johnston Islan**	**43.28**	**131**	P	**P**	**01 48 01.3**	**0.0**
JOHN	**Johnston Islan**	**43.28**	**131**	P	**P**	**01 48 00.6**	**-0.6**
JOHN	**Johnston Islan**	**43.28**	**131**	IAMs_20	IAMs_20	02 01 30.8	
	comp=Z,13μm,21.0s						
JOHN	**Johnston Islan**	**43.28**	**131**	⇑P	**P**	**01 48 01.3**	**0.0**
BBB	**Bella Bella**	**43.86**	**59**	P	**P**	**01 48 06.8**	**+1.2**
BBB				IAmb	IAmb	01 48 08.6	
	comp=Z,979nm,1.2s						
BBB	**Bella Bella**	**43.86**	**59**	⇑P	**P**	**01 48 06.5**	**+0.9**
BBB	**Bella Bella**	**43.86**	**59**	LR	LR	02 04 33.1	
	comp=Z,5μm,21.2s,baz=298,slow=33						
KEKH	**Kekaha**	**44.04**	**116**	P	**P**	**01 48 07.6**	**+0.3**
KEKH				IAmb	IAmb	01 48 08.9	
	comp=Z,1μm,1.4s						
KEKH				IAMs_20	IAMs_20	02 02 43.3	
	comp=Z,8μm,19.0s						
GZH	**Guangzhou**	**44.38**	**247**	P	**P**	**01 48 05.7**	**-4.4**
GZH				pP	**pP**	**01 48 20.5**	**-6.0**
GZH				sP	**sP**	**01 48 30.6**	**-3.4**
GZH				S	S	01 54 28.6	-11
GZH				ScS	**SS**	**01 57 58.8**	**-1.7**
GZH				pmax	pmax		
	comp=Z,330nm,1.4s						
GZH				LR	LR		
	comp=Z,4μm,13.9s						
GZH				LR	LR		
	comp=Z,3μm,15.4s						
GZH				LR	LR		
	comp=Z,5μm,15.5s						
CD2	**Chengdu**	**44.45**	**264**	P	**P**	**01 48 11.3**	**+0.7**
CD2				pP	sP	01 48 31.4	-3.3
CD2				PP	**PP**	**01 49 54.2**	**-1.0**
CD2				S	**S**	**01 54 38.8**	**-2.0**
CD2				pmax	pmax		
	comp=Z,70nm,0.7s						
CD2				pmax	pmax		
	comp=Z,2μm,7.9s						
CD2				LR	LR		
	comp=Z,9μm,18.6s						
CD2				LR	LR		
	comp=Z,8μm,17.8s						
CD2				LR	LR		
	comp=Z,7μm,18.0s						
GULI	**GuiLin**	**44.45**	**252**	P	**P**	**01 48 12.6**	**+2.0**
GULI				S	**S**	**01 54 38.2**	**-2.5**
GULI				pmax	pmax		
	comp=Z,100nm,1.1s						
GULI				LR	LR		
	comp=Z,4μm,18.4s						
GULI				LR	LR		
	comp=Z,5μm,16.3s						
GULI				LR	LR		
	comp=Z,7μm,17.3s						
HKPS	**Hong Kong Po S**	**44.55**	**246**	P	**P**	**01 48 13.9**	**+2.4**
HKPS	**Hong Kong Po S**	**44.55**	**246**	P	**P**	**01 48 11.9**	**+0.4**
HOLB	**Holberg**	**44.64**	**61**	P	**P**	**01 48 12.6**	**+0.8**
HOLB				IAmb	IAmb	01 48 14.5	
	comp=Z,1μm,1.1s						
ALE	**Alert**	**44.68**	**7**	P	**P**	**01 48 12.2**	**+0.4**
ALE				pP	**pP**	**01 48 27.3**	**-1.0**
ALE				sP	**sP**	**01 48 34.5**	**-1.3**
YKA	**Yellowknife Ar**	**45.27**	**41**	P	**P**	**01 48 17.5**	**+0.8**
YKA	**Yellowknife Ar**	**45.27**	**41**	P	**P**	**01 48 17.0**	**+0.4**
	comp=Z,108nm,0.9s,baz=301,slow=7.9,SNR=282						
YKA				PcP	**PcP**	**01 49 56.0**	**+0.6**
	comp=Z,18nm,1.0s,baz=314,slow=2.8,SNR=5.6						
	comp=Z,108nm,0.9s						
YKA	**Yellowknife Ar**	**45.27**	**41**	*ce*P	**P**	**01 48 17.0**	**+0.4**
YKA				pmax	pmax		
	comp=Z,106nm,0.9s						
RES	**Resolute Bay**	**45.32**	**21**	P	**P**	**01 48 17.5**	**+0.6**
RES	**Resolute Bay**	**45.32**	**21**	LR	LR	02 09 07.9	
	comp=Z,6μm,21.9s,baz=319,slow=38						
RES	**Resolute Bay**	**45.32**	**21**	P	**P**	**01 48 17.5**	**+0.6**
RES				pmax	pmax		
	comp=Z,218nm,0.8s						
KIP	**Kipapa**	**45.44**	**114**	P	**P**	**01 48 19.2**	**+0.7**
KIP	**Kipapa**	**45.44**	**114**	P	**P**	**01 48 19.4**	**+1.0**
KIP	**Kipapa**	**45.44**	**114**		**P**	**01 48 17.9**	**-0.6**
KIP				IAMs_20	IAMs_20	02 02 40.5	
	comp=Z,9μm,20.0s						
KIP	**Kipapa**	**45.44**	**114**	*ce*P	**P**	**01 48 19.5**	**+1.0**
KIP				pmax	pmax		
	comp=Z,777nm,1.7s						
KIP	**Kipapa**	**45.44**	**114**	P	**P**	**01 48 18.9**	**+0.4**
HON	**Honolulu**	**45.52**	**115**	IAMs_20	IAMs_20	02 02 43.9	
	comp=Z,10μm,21.0s						
ZSN	**Zaisan**	**45.80**	**295**	*e*P	**P**	**01 48 21.0**	**-0.2**
	baz=295						
ZSN				*e*S	**S**	**01 54 57.4**	**-2.5**
	baz=295						
ZSN	**Zaisan**	**45.80**	**295**	*e*P	**P**	**01 48 20.9**	**-0.2**
ZSN				*e*S	**S**	**01 54 57.3**	**-2.6**
GYA	**Guiyang**	**45.82**	**257**	⇑P	**P**	**01 48 22.4**	**+0.8**
GYA				pP	sP	01 48 42.4	-3.1
GYA				PP	**PP**	**01 50 15.7**	**+5.8**
GYA				ScP	**ScP**	**01 53 46.4**	**+1.3**
GYA				S	**S**	**01 55 02.6**	**+1.9**
GYA				sS	sS	01 55 37.3	+8.7
GYA				ScS	**ScS**	**01 58 09.0**	**-2.4**
GYA				SS	**SS**	**01 58 16.1**	**-10**
GYA				pmax	pmax		
	comp=Z,91nm,1.4s						
GYA				pmax	pmax		
	comp=Z,850nm,4.5s						
GYA				LR	LR		
	comp=Z,6μm,17.7s						
GYA				LR	LR		
	comp=Z,6μm,21.7s						
GYA				LR	LR		
	comp=Z,5μm,18.2s						
WMQ	**Urumqi**	**46.22**	**289**	⇓P	**P**	**01 48 25.5**	**+1.0**
WMQ				pP	pP	01 48 40.7	-0.4
WMQ				ScP	**ScP**	**01 53 48.9**	**+2.4**
WMQ				S	**S**	**01 55 04.0**	**-2.0**
WMQ				ScS	**ScS**	**01 58 10.4**	**-3.0**
WMQ				pmax	pmax		
	comp=Z,130nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,3μm,5.7s						
WMQ				LR	LR		
	comp=Z,19μm,15.5s						
WMQ				LR	LR		
	comp=Z,16μm,16.5s						
WMQ				LR	LR		
	comp=Z,12μm,23.1s						
CBB	**Campbell River**	**46.46**	**60**	P	**P**	**01 48 27.0**	**+0.8**
CBB				IAmb	IAmb	01 48 29.0	
	comp=Z,1μm,1.8s						
GOMU	**GeErMu**	**46.53**	**276**	P	**P**	**01 48 27.6**	**+0.2**
GOMU				pP	pP	01 48 43.5	-0.6
GOMU				sP	sP	01 48 53.4	+1.8
GOMU				PP	**PP**	**01 50 16.8**	**-0.5**
GOMU				ScP	**ScP**	**01 53 48.8**	**+0.5**
GOMU				S	**S**	**01 55 12.2**	**+1.0**
GOMU				pmax	pmax		
	comp=Z,100nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,3μm,8.6s						
GOMU				LR	LR		
	comp=Z,15μm,15.9s						
GOMU				LR	LR		
	comp=Z,19μm,15.9s						
GOMU				LR	LR		
	comp=Z,25μm,16.5s						
SEM	**Semipalatinsk**	**46.73**	**301**	*e*P	**P**	**01 48 28.3**	**-0.3**
	comp=Z,2μm,14.9s,baz=301						
SEM				LR	LR	02 10 12.6	
	comp=Z,2μm,15.5s,baz=301						
SEM	**Semipalatinsk**	**46.73**	**301**	*e*P	**P**	**01 48 28.3**	**-0.3**
SEM				MLR	MLR		
	comp=Z,2μm,16.0s						
KHLH	**Kahului Airpor**	**46.76**	**113**	IAMs_20	IAMs_20	02 03 30.4	
	comp=Z,6μm,20.0s						
HLK	**Haleakala**	**46.97**	**113**	P	**P**	**01 48 30.4**	**-0.4**
HLK				IAMs_20	IAMs_20	02 03 01.0	
	comp=Z,10μm,22.0s						
OZB	**Mount Ozzard**	**46.98**	**61**	IAmb	IAmb	01 48 32.9	
	comp=Z,694nm,1.2s						
NOR	**Nord**	**47.12**	**359**	⇑P	**P**	**01 48 30.6**	**-0.4**
NOR	**Nord**	**47.12**	**359**	P	**P**	**01 48 31.5**	**+0.5**
NOR	**Nord**	**47.12**	**359**	*i* P	**P**	**01 48 30.8**	**-0.2**
NOR				IAmb	IAmb	01 48 33.3	
	comp=Z,67nm,0.6s						
KURK	**Kurchatov**	**47.43**	**302**	P	**P**	**01 48 32.8**	**-1.0**
KURK	**Kurchatov**	**47.43**	**302**	P	**P**	**01 48 33.0**	**-0.8**
KURK				S	**S**	**01 55 17.6**	**-5.3**
KURK	**Kurchatov**	**47.43**	**302**	*d i*P	**P**	**01 48 32.6**	**-1.1**
KURK				pmax	pmax		
	comp=Z,391nm,1.7s						
KURK	**Kurchatov**	**47.43**	**302**	P	**P**	**01 48 32.9**	**-0.8**
KURK				ScP	**ScP**	**01 53 52.8**	**+1.5**
KURBB	**Kurchatov Arra**	**47.52**	**302**	P	**P**	**01 48 33.4**	**-1.1**
	comp=Z,53nm,0.6s,baz=62,slow=7.9,SNR=279						
KURBB				PcP	**PcP**	**01 50 03.8**	**+0.3**
	comp=Z,22nm,0.7s,baz=61,slow=7.3,SNR=1.2						
KURBB				ScP	**ScP**	**01 53 51.8**	**+0.1**
	comp=Z,15nm,0.9s,baz=63,slow=3.2,SNR=7.4						
KURBB				LR	LR	02 09 14.5	
	comp=Z,5μm,20.8s,baz=48,slow=37						
	comp=Z,53nm,0.6s						
MK31	**Makanchi Array**	**47.62**	**296**	P	**P**	**01 48 34.5**	**-0.8**
MK31	**Makanchi Array**	**47.62**	**296**	*d i*P	**P**	**01 48 34.3**	**-1.1**
MK31				*i* *PP	**sP**	**01 48 56.6**	**-3.1**
MKAR	**Makanchi Array**	**47.62**	**296**	P	**P**	**01 48 34.5**	**-0.9**
	comp=Z,23nm,0.4s,baz=60,slow=7.2,SNR=137						
MKAR				pP	**pP**	**01 48 51.7**	**-0.4**
	comp=Z,25nm,0.6s,baz=58,slow=6.5,SNR=5.6						
MKAR				ScP	**ScP**	**01 53 52.5**	**+0.3**
	comp=Z,35nm,1.1s,baz=49,slow=5.5,SNR=8.5						
MKAR				ScS	**ScS**	**01 58 19.9**	**-2.5**
	comp=Z,6.9nm,1.1s,baz=64,slow=8.2,SNR=6.3						
MKAR				LR	LR	02 09 31.5	
	comp=Z,16μm,21.2s,baz=54,slow=37						
MKAR				PKPPKP	P'P'df	02 19 43.7	-8.1
	comp=Z,4.8nm,1.2s,baz=219,slow=0.8,SNR=4.9						
	comp=Z,23nm,0.4s						
MAKZ	**Makanchi**	**47.79**	**296**	P	**P**	**01 48 35.8**	**-0.9**
MAKZ	**Makanchi**	**47.79**	**296**	⇑P	**P**	**01 48 35.7**	**-0.9**
MAKZ	**Makanchi**	**47.79**	**296**	P	**P**	**01 48 35.8**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,358nm,1.8s						
MAKZ				MLR	MLR		
	comp=Z,20μm,22.0s						
MAKZ	**Makanchi**	**47.79**	**296**	P	**P**	**01 48 36.0**	**-0.7**
MAKZ				pP	**pP**	**01 48 51.0**	**-2.5

KBS **Kingsbay** 48.27 352 P P 01 48 41.0 +1.1
KBS **Kingsbay** 48.27 352 IAms_20 IAms_20 02 08 47.4
comp=Z,11μm,21.0s
KBS **Kingsbay** 48.27 352⇓ *i* P P 01 48 40.6 +0.7
KBS IVmB_BB 01 48 41.6
comp=Z,5μm,1.9s
KBS *e*S S 01 55 37.1 +2.8
KBS IVMs_BB IVMs_BB 02 08 47.8
comp=Z,3μm,18.1s
KBS **Kingsbay** 48.27 352 *d* *i* P P 01 48 40.2 +0.3
KBS pmax pmax
comp=Z,435nm,1.3s
KBS **Kingsbay** 48.27 352⇓ *i* P P 01 48 40.8 +0.9
KBS IAmb IAmb 01 48 44.5
comp=Z,2μm,0.8s
KBS **Kingsbay** 48.27 352 P P 01 48 40.7 +0.7
KBS ScP ScP 01 53 58.0 +3.6
PGC **Sidney** 48.27 61 P P 01 48 40.5 +0.3
PGC IAmb IAmb 01 48 42.6
comp=Z,937nm,1.6s
MLOA **Mauna Loa Obse** 48.32 114 IAMs_20 IAMs_20 02 04 25.7
comp=Z,8μm,22.0s
HMH **Humu'ula Sheep** 48.32 113 IAMs_20 IAMs_20 02 04 24.7
comp=Z,8μm,20.0s
MWH **Moku'aweowe** 48.35 114 IAMs_20 IAMs_20 02 04 03.5
comp=Z,9μm,21.0s
MLH **Mauna Loa** 48.46 113 IAMs_20 IAMs_20 02 04 07.5
comp=Z,9μm,21.0s
SPA0 **Spitsbergen Ar** 48.49 350 *e*P P 01 48 41.8 +0.2
SPA0 *e*pP pP 01 48 59.2 +0.9
SPA0 *e*ScP ScP 01 53 53.2 -2.2
SPA0 *e*S S 01 55 35.5 -1.9
SPA0 IVMs_BB IVMs_BB 02 09 17.2
comp=Z,3μm,19.7s
SPITS **Spitsbergen Ar** 48.49 350 P P 01 48 41.8 +0.2
comp=Z,112nm,0.3s,baz=61,slow=8.7,SNR=549
SPITS LR LR 02 09 49.9
comp=Z,10μm,19.9s,baz=6.5,slow=37
comp=Z,112nm,0.3s
SPB2 **Spitsbergen Ar** 48.49 350 P P 01 48 42.1 +0.5
KHU **Kahuku** 48.53 114 IAMs_20 IAMs_20 02 04 19.2
comp=Z,9μm,22.0s
UWE **Uwekahuna** 48.57 113 IAMs_20 IAMs_20 02 03 58.4
comp=Z,11μm,22.0s
B04A **Port Angeles** 48.58 61 IAmb IAmb 01 48 45.1
comp=Z,645nm,1.3s
HATHI **Halema'uma'u T** 48.59 113 IAMs_20 IAMs_20 02 04 31.9
comp=Z,7μm,22.0s
PUH **Pauahi** 48.66 113 IAMs_20 IAMs_20 02 04 00.6
comp=Z,9μm,22.0s
HLP **Hilina Pali** 48.66 113 IAMs_20 IAMs_20 02 04 12.8
comp=Z,9μm,22.0s
STCH **Steam Cracks** 48.70 113 IAMs_20 IAMs_20 02 04 13.7
comp=Z,7μm,20.0s
JOKA **Jonika Flow** 48.73 113 IAMs_20 IAMs_20 02 04 13.5
comp=Z,7μm,22.0s
NLWA **Neilton Lookou** 48.77 62 P P 01 48 45.3 +1.1
NLWA **Neilton Lookou** 48.77 62 ⇑P P 01 48 44.8 +0.6
HOPEN **Hopen** 48.79 347⇓ *i* P P 01 48 43.4 -0.6
HOPEN *e*S S 01 55 41.4 -0.2
HOPEN *e*ScS ScS 01 58 30.4 +1.2
HOPEN IVMs_BB IVMs_BB 02 11 21.7
comp=Z,3μm,20.2s
PZH **PanZhiHua** 48.81 261 P P 01 48 45.7 +0.9
PZH pP pP 01 49 01.0 -0.5
PZH S S 01 55 39.9 -3.3
PZH ScS ScS 01 58 22.6 -8.5
PZH pmax pmax
comp=Z,50nm,1.7s
PZH pmax pmax
comp=Z,1μm,7.8s
PZH LR LR
comp=Z,4μm,18.8s
PZH LR LR
comp=Z,5μm,19.0s
PZH LR LR
comp=Z,7μm,19.6s
TULEG **Thule** 48.83 13 P P 01 48 44.8 +0.6
TULEG IAMs_20 IAMs_20 02 10 24.9
comp=Z,6μm,20.0s
TULEG **Thule** 48.83 13 *i* P P 01 48 44.8 +0.6
TULEG IAmb IAmb 01 48 46.8
comp=Z,124nm,0.9s
TULEG *i* 01 55 39.1
KMI **Kunming** 49.19 259⇓ P P 01 48 48.8 +0.9
KMI PP PP 01 50 46.4 +4.4
KMI ScP ScP 01 54 01.2 +1.7
KMI S S 01 55 39.6 -9.3
KMI ScS ScS 01 58 32.3 -1.7
KMI pmax pmax
comp=Z,100nm,1.4s
KMI pmax pmax
comp=Z,660nm,5.1s
KMI LR LR
comp=Z,8μm,18.0s
KMI LR LR
comp=Z,3μm,16.8s
KMI LR LR
comp=Z,9μm,24.1s
GNW **Green Mountain** 49.24 61 IAmb IAmb 01 48 50.3
comp=Z,440nm,1.3s
QIZ **Qiongzhong** 49.57 248 P P 01 48 53.3 +2.7
QIZ **Qiongzhong** 49.57 248 P P 01 48 52.2 +1.6
QIZ pP pP 01 49 07.2 -0.1
QIZ PP PP 01 50 47.0 +1.6
QIZ S S 01 55 55.6 +1.8
QIZ pmax pmax
comp=Z,310nm,1.3s
QIZ pmax pmax
comp=Z,3μm,7.4s
QIZ LR LR
comp=Z,4μm,16.8s
QIZ LR LR
comp=Z,3μm,20.2s
QIZ LR LR
comp=Z,4μm,20.2s
QIZ **Qiongzhong** 49.57 248 P P 01 48 51.4 +0.8
QIZ IAmb IAmb 01 48 56.9
comp=Z,427nm,1.2s
QIZ **Qiongzhong** 49.57 248 P P 01 48 53.5 +2.9
HSPB **Hornsund (broa** 49.60 350 *e*P P 01 48 49.3 -0.8
HSPB *e*S S 01 55 46.7 -6.2
HSPB *e*L L 02 08 38.1
comp=Z,11μm,22.9s
F04D **Rainier, OR** 50.02 63 IAmb IAmb 01 48 55.9
comp=Z,594nm,1.1s
NEEM **North Greenlan** 50.07 8 ⇑P P 01 48 53.8 -0.3
NEEM **North Greenlan** 50.07 8 *i* P P 01 48 54.0 0.0
NEEM IAmb IAmb 01 48 59.9
comp=Z,253nm,0.9s
NEEM *e* 01 55 54.0
BVA0 **Borovoye Array** 50.32 308 *i* P P 01 48 54.5 -1.4
BVAR **Borovoye Array** 50.32 308 P P 01 48 54.2 -1.7
comp=Z,47nm,0.6s,baz=56,slow=7.9,SNR=129
BVAR LR LR 02 12 05.3
comp=Z,17μm,20.9s,baz=55,slow=38
comp=Z,47nm,0.6s
BRVK **Borovoye** 50.35 308 P P 01 48 54.6 -1.5
BRVK **Borovoye** 50.35 308 P P 01 48 54.7 -1.4
BRVK **Borovoye** 50.35 308 *d* *i* P P 01 48 54.5 -1.5
BRVK pmax pmax
comp=Z,173nm,1.7s
F04A **Amboy** 50.44 63 IAmb IAmb 01 48 58.9
comp=Z,641nm,1.1s
LTY **Liberty** 50.60 61 IAmb IAmb 01 49 00.1
comp=Z,650nm,1.4s
COR **Corvallis** 50.76 65 P P 01 49 00.0 +0.8
COR **Corvallis** 50.76 65 ⇑P P 01 49 00.2 +1.0
COR **Corvallis** 50.76 65 P P 01 49 00.0 +0.8
COR pmax pmax
comp=Z,814nm,1.2s
COR **Corvallis** 50.76 65 P P 01 49 00.1 +0.8
TDK **Taldyqorghan** 50.87 296 *e*P P 01 49 00.1 0.0
comp=Z,132nm,1.1s,baz=296
TDK *e*S S 01 56 08.6 -2.8
baz=296
TDK LR LR 02 12 44.4
comp=Z,4μm,16.2s,baz=296
TDK **Taldyqorghan** 50.87 296 *e*P P 01 49 00.1 0.0
TDK *e*S S 01 56 08.6 -2.8
TDK pmax pmax
comp=Z,132nm,1.1s
TDK MLR MLR
comp=Z,4μm,16.0s
H04D **Lebanon** 51.12 65 IAmb IAmb 01 49 04.6
comp=Z,373nm,1.0s

MXC **Moxie City** 51.22 61 IAmb IAmb 01 49 05.1
comp=Z,782nm,1.4s
I03D **Drain, OR** 51.28 66 IAmb IAmb 01 49 06.1
comp=Z,866nm,1.5s
SLVN **Son La** 51.31 255 IAmb IAmb 01 49 22.7
comp=Z,828nm,1.9s
SLVN IAMs_20 IAMs_20 02 13 29.5
comp=Z,5μm,18.0s
BJO1 **Bjornoya** 51.31 347 *e*P P 01 49 02.8 -0.2
BJO1 *e*PP PP 01 51 02.7 +2.7
BJO1 *e*S S 01 56 15.4 -1.2
BJO1 IVMs_BB IVMs_BB 02 10 44.9
comp=Z,3μm,20.1s
SHLS **Shalkode** 51.41 293 *e*P P 01 49 02.2 -2.2
baz=293
SHLS *e*S S 01 56 13.3 -5.8
baz=293
SHLS **Shalkode** 51.41 293 *e*P P 01 49 02.1 -2.2
SHLS *e*S S 01 56 13.2 -5.8
TARA **Tarawa** 51.54 161 P P 01 49 05.5 +0.1
TARA **Tarawa** 51.54 161 P P 01 49 05.4 +0.1
TARA IAmb IAmb 01 49 06.6
comp=Z,724nm,1.2s
TARA **Tarawa** 51.54 161 ⇑P P 01 49 05.1 -0.3
KPKS **Kokpek** 51.66 294 *e*P P 01 49 05.8 -0.3
baz=294
KPKS *e*S S 01 56 20.0 -2.4
baz=294
KPKS **Kokpek** 51.66 294 *e*P P 01 49 05.8 -0.3
KPKS *e*S S 01 56 20.0 -2.4
UZB **Uzynbulak** 51.66 294 *e*P P 01 49 05.9 -0.4
baz=294
UZB **Uzynbulak** 51.66 294 *e*P P 01 49 05.8 -0.4
D08A **Wollman Farm,** 51.67 60 IAmb IAmb 01 49 07.9
comp=Z,717nm,1.5s
DAV **Davao City (W)** 51.69 223 ⇑P P 01 49 07.5 +0.9
DAV **Davao City (W)** 51.69 223 LR LR 02 10 53.9
comp=Z,1μm,21.1s,baz=26,slow=36
DAV **Davao City (W)** 51.69 223⇑ *e*P P 01 49 08.0 +1.5
K02D **Willamette Mer** 51.72 67 IAmb IAmb 01 49 09.4
comp=Z,448nm,1.3s
HAWA **Hanford** 51.75 61 IAmb IAmb 01 49 08.8
comp=Z,715nm,1.2s
HAWA **Hanford** 51.75 61 ⇑P P 01 49 06.7 0.0
I04A **Tendick Farm,** 51.75 65 IAMs_20 IAMs_20 02 06 25.0
comp=Z,5μm,22.0s
TNCH **TengChong** 51.87 263⇓ *i* P P 01 49 09.0 +1.0
TNCH pP pP 01 49 24.3 -0.6
TNCH sP sP 01 49 34.6 +2.3
TNCH ScP ScP 01 54 13.0 +2.1
TNCH S S 01 56 23.0 -2.9
TNCH sS sS 01 56 55.5 +1.3
TNCH ScS ScS 01 58 50.1 -2.1
TNCH SS SS 02 00 02.4 -0.7
TNCH pmax pmax
comp=Z,62nm,0.8s
TNCH pmax pmax
comp=Z,500nm,4.4s
TNCH LR LR
comp=Z,2μm,14.3s
TNCH LR LR
comp=Z,3μm,17.2s
TNCH LR LR
comp=Z,7μm,20.3s
LKP **Lekhapani** 51.88 267 *e*P P 01 49 10.9 +3.0
LKP IAmb IAmb 01 49 13.6
comp=Z,386nm,0.4s
LKP *i* x x 01 54 12.1
NEW **Newport** 51.90 58 P P 01 49 08.2 +0.4
NEW IAmb IAmb 01 49 09.7
comp=Z,624nm,1.4s
NEW **Newport** 51.90 58 P P 01 49 07.9 +0.1
baz=308,SNR=130
NEW S S 01 56 26.2 +0.6
baz=308
NEW **Newport** 51.90 58 ⇑P P 01 49 07.6 -0.2
NEW **Newport** 51.90 58 LR LR 02 11 17.8
comp=Z,3μm,21.1s,baz=298,slow=36
NEW **Newport** 51.90 58 P P 01 49 08.2 +0.4
NEW pmax pmax
comp=Z,624nm,1.4s
NEW MLR MLR
comp=Z,4μm,21.0s
E08A **Dider Farm, El** 51.95 61 IAmb IAmb 01 49 10.1
comp=Z,522nm,1.3s
ZHN **Zhinishke** 51.99 294 *e*P P 01 49 08.4 -0.3
baz=294
ZHN **Zhinishke** 51.99 294 *e*P P 01 49 08.3 -0.3
DAG **Danmarks Havn** 51.99 359 P P 01 49 05.9 -2.1
DAG **Danmarks Havn** 51.99 359 P P 01 49 08.0 0.0
DAG pmax pmax
comp=Z,900nm,1.4s
DAG **Danmarks Havn** 51.99 359⇓ *i* P P 01 49 08.1 0.0
DAG IAmb IAmb 01 49 09.4
comp=Z,333nm,0.8s
KULLO **Kullorsuaq** 52.04 11⇓ *i* P P 01 49 08.3 -0.1
KULLO IAmb IAmb 01 49 11.5
comp=Z,298nm,0.7s
KULLO *i* 01 56 22.2
SATY **Saty** 52.07 294 *e*P P 01 49 08.6 -0.7
baz=294
SATY *e*S S 01 56 25.8 -2.4
baz=294
SATY **Saty** 52.07 294 *e*P P 01 49 08.6 -0.7
SATY *e*S S 01 56 25.8 -2.4
L02F **Cave Junction** 52.13 67 IAmb IAmb 01 49 12.5
comp=Z,522nm,1.3s
L02F IAMs_20 IAMs_20 02 07 34.2
comp=Z,4μm,20.0s
HUMO **Hull Mountain** 52.18 67 IAmb IAmb 01 49 13.0
comp=Z,430nm,1.3s
HUMO IAMs_20 IAMs_20 02 06 55.4
comp=Z,6μm,22.0s
HUMO **Hull Mountain** 52.18 67 ⇑P P 01 49 10.5 +0.5
DIBR **DIBRUGARH** 52.37 268 *e*P P 01 49 12.0 +0.5
DIBR IAmb IAmb 01 49 16.9
comp=Z,259nm,0.7s
CHKK **Chushkaly** 52.38 296 *e*P P 01 49 10.8 -0.7
baz=296
CHKK **Chushkaly** 52.38 296 *e*P P 01 49 10.7 -0.7
PRZ **Przheval'sk** 52.44 293 IAMs_20 IAMs_20 02 13 57.3
comp=Z,8μm,20.0s
PRZ **Przheval'sk** 52.44 293 P P 01 49 13.0 +0.9
SVE **Sverdlovsk** 52.51 317 *ce*P P 01 49 11.2 -0.9
SVE *e* 01 51 11.8
SVE *e*PPP PPP 01 52 13.7
SVE *e*S S 01 56 29.9 -3.6
SVE *e* 01 58 51.5
SVE *e* 02 00 08.9
SVE pmax pmax
comp=Z,174nm,1.7s
SVE MLR MLR
comp=Z,16μm,16.0s
PINE **Pine Mountain** 52.58 64 IAmb IAmb 01 49 16.1
comp=Z,627nm,1.3s
J05D **Fort Rock, OR** 52.74 65 IAMs_20 IAMs_20 02 06 58.0
comp=Z,5μm,22.0s
G08A **Pilot Rock** 52.75 62 IAmb IAmb 01 49 16.2
comp=Z,344nm,1.3s
MDOK **Medeo** 52.78 295 *e*P P 01 49 14.2 -0.3
baz=295
MDOK *e*S S 01 56 35.1 -2.8
baz=295
MDOK LR LR 02 13 20.4
comp=Z,5μm,14.3s,baz=295
MDOK **Medeo** 52.78 295 *e*P P 01 49 14.2 -0.3
MDOK *e*S S 01 56 35.1 -2.8
MDOK MLR MLR
comp=Z,5μm,14.0s
L04D **Klamath Falls** 52.80 67 IAMs_20 IAMs_20 02 08 00.9
comp=Z,5μm,22.0s
AAA **Alma-Ata** 52.83 295 *e*P P 01 49 14.3 -0.5
comp=Z,79nm,1.3s,baz=295
AAA LR LR 02 13 28.2
comp=Z,8μm,17.5s,baz=295
AAA **Alma-Ata** 52.83 295 *e*P P 01 49 14.3 -0.5
AAA pmax pmax
comp=Z,79nm,1.3s
AAA MLR MLR
comp=Z,8μm,18.0s
YBH **Yreka Blue Hor** 52.88 67 P P 01 49 16.0 +0.8
YBH IAmb IAmb 01 49 18.5
comp=Z,701nm,1.4s
YBH **Yreka Blue Hor** 52.88 67 LR LR 02 08 22.2
comp=Z,3μm,20.7s,baz=306,slow=32
YBH **Yreka Blue Hor** 52.88 67 P P 01 49 16.0 +0.8

YBH pmax pmax
comp=Z,701nm,1.4s
TNSS **Tian-Shan** 52.92 295 *e*P P 01 49 15.3 -0.6
baz=295
TNSS **Tian-Shan** 52.92 295 *e*P P 01 49 15.2 -0.6
ZIRO **ZIRO** 52.99 269 *e*P P 01 49 20.1 +3.8
ZIRO IAmb IAmb 01 49 21.4
comp=Z,167nm,1.1s
ZIRO *i* x x 01 54 16.2
VADS **Vadso** 53.12 340⇓ *e*P P 01 49 14.9 -1.5
VADS *e*pP pP 01 49 36.5 +3.2
VADS *i* 01 54 19.0
VADS *e*S S 01 56 40.2 -1.2
VADS IVMs_BB IVMs_BB 02 09 47.2
comp=Z,5μm,31.2s
LSA **Lhasa** 53.15 273 P P 01 49 19.4 +1.6
LSA pmax pmax
comp=Z,26nm,1.0s
LSA **Lhasa** 53.15 273 P P 01 49 19.6 +1.8
LSA S S 01 56 45.6 +1.7
LSA pmax pmax
comp=Z,26nm,1.2s
LSA LR LR
comp=Z,4μm,15.8s
LSA LR LR
comp=Z,5μm,15.8s
LSA LR LR
comp=Z,8μm,15.8s
LSA **Lhasa** 53.15 273 P P 01 49 18.0 +0.2
LSA IAMs_20 IAMs_20 02 14 18.9
comp=Z,6μm,19.0s
LSA **Lhasa** 53.15 273 P P 01 49 18.7 +0.8
LSA **Lhasa** 53.15 273 P P 01 49 18.0 +0.2
LSA pmax pmax
comp=Z,108nm,1.1s
LSA MLR MLR
comp=Z,6μm,19.0s
I07A **Izee** 53.21 63 IAmb IAmb 01 49 20.2
comp=Z,684nm,1.9s
KMRM **Mail Ridge** 53.26 69 IAmb IAmb 01 49 20.8
comp=Z,473nm,1.2s
KMRM IAMs_20 IAMs_20 02 07 02.6
comp=Z,4μm,22.0s
F10A **Beach Ranch, E** 53.26 60 IAmb IAmb 01 49 20.1
comp=Z,465nm,1.4s
F10A **Beach Ranch, E** 53.26 60 ⇑P P 01 49 18.0 0.0
BTLS **Baital** 53.27 298⇓ *i* P P 01 49 17.4 -0.5
baz=298
BTLS **Baital** 53.27 298 *d* *i* P P 01 49 17.4 -0.5
JORH **JORHAT** 53.30 268⇓ *i* x x 01 54 20.6
MOKO **MOKOCHONG** 53.43 267 *e*P P 01 49 22.2 +2.7
MOKO IAmb IAmb 01 49 25.1
comp=Z,1μm,1.9s
MOKO *i* x x 01 54 18.6
LVZ **Lovozero** 53.65 337 P P 01 49 19.9 -0.5
LVZ **Lovozero** 53.65 337 P P 01 49 19.9 -0.5
LVZ pmax pmax
comp=Z,53nm,0.9s
LVZ MLR MLR
comp=Z,20μm,21.0s
LVZ **Lovozero** 53.65 337 P P 01 49 19.4 -1.0
comp=Z,74nm,0.9s,comp=Z,2μm
LVZ **Lovozero** 53.65 337 P P 01 49 19.1 -1.3
LVZ pP pP 01 49 34.2 -3.1
ARU **Arti** 53.65 317 P P 01 49 19.2 -1.3
ARU **Arti** 53.65 317 P P 01 49 18.5 -2.0
comp=Z,28nm,0.3s,baz=44,slow=5.0,SNR=44
ARU ScP ScP 01 54 16.1 -1.9
comp=Z,5.9nm,0.6s,baz=58,slow=4.5,SNR=2.0
ARU LR LR 02 15 16.9
comp=Z,11μm,18.2s,baz=44,slow=39
comp=Z,28nm,0.3s
ARU **Arti** 53.65 317 *i* P P 01 49 18.5 -2.0
ARU pmax pmax
comp=Z,170nm,1.7s
ARU **Arti** 53.65 317 P P 01 49 19.6 -0.9
comp=Z,100nm,1.0s,comp=Z,2μm
ARU **Arti** 53.65 317 P P 01 49 19.0 -1.5
ARU ScP ScP 01 54 19.3 +1.4
KCPM **Cahto Peak** 53.68 70 IAMs_20 IAMs_20 02 06 58.4
comp=Z,5μm,21.0s
TKM2 **Tokmak 2** 53.75 296 P P 01 49 21.0 -0.8
SNR=55
UPNV **Upernavik** 53.79 12⇓ *i* P P 01 49 21.0 -0.3
UPNV IAmb IAmb 01 49 23.6
comp=Z,135nm,1.0s
UPNV *i* 01 56 45.8
HAMF **Hammerfest** 53.81 343⇓ *i* P P 01 49 19.9 -1.6
HAMF IVmB_BB 01 49 22.9
comp=Z,2μm,3.5s
HAMF *e*S S 01 56 49.2 -1.6
HAMF IVMs_BB IVMs_BB 02 14 42.1
comp=Z,4μm,21.8s
ULHL **Ulahol** 53.82 294 P P 01 49 22.6 +0.3
SNR=39
O02D **Mt. Diablo Mer** 53.83 69 IAmb IAmb 01 49 25.5
comp=Z,772nm,1.4s
KEV **Kevo** 53.90 341 P P 01 49 21.7 -0.4
KEV **Kevo** 53.90 341 P P 01 49 21.7 -0.4
KEV pmax pmax
comp=Z,44nm,1.0s
KEV MLR MLR
comp=Z,10μm,22.0s
KEV **Kevo** 53.90 341 P P 01 49 21.0 -1.1
KEV ScP ScP 01 54 21.0 +2.2
SGDS **Sogindy** 53.96 297 *e*P P 01 49 22.7 -0.4
baz=296
SGDS **Sogindy** 53.96 297 *e*P P 01 49 22.7 -0.4
MANU **Manus Island** 54.08 193 P P 01 49 25.0 +0.9
MANU **Manus Island** 54.08 193 P P 01 49 24.5 +0.4
MANU **Manus Island** 54.08 193 ⇑P P 01 49 24.5 +0.4
KOHI **KOHIMA** 54.12 267 *e*P P 01 49 26.7 +2.2
KOHI IAmb IAmb 01 49 30.0
comp=Z,451nm,1.5s
USP **Ospenovka** 54.15 296 P P 01 49 23.9 -0.5
SNR=85
CHMS **Chumysh** 54.18 296 P P 01 49 24.9 +0.2
SNR=23
TAWA **Tawang** 54.18 270 *e*P P 01 50 29.2 +64
TAWA IAmb IAmb 01 50 31.4
comp=Z,862nm,2.2s
KAVG **Kavieng** 54.20 189 P P 01 49 25.9 +0.9
APA **Apatity** 54.20 337⇓ *i* P P 01 49 23.5 -0.9
APA *i* 01 50 24.0
APA *i* 01 51 26.0
APA *i* PPP PPP 01 52 41.0
APA *i* S S 01 56 46.0 -10
APA *i* 01 59 05.0
APA *i* SS SKiKP 02 00 28.0 -0.6
APA pmax pmax
comp=Z,28nm,1.0s
J08A **Circle Bar Ran** 54.24 63 IAmb IAmb 01 49 28.1
comp=Z,688nm,1.4s
CRAI **Chiangrai** 54.29 257 IAmb IAmb 01 49 43.9
comp=Z,299nm,1.4s
KBK **Karagaybulak** 54.29 296 P P 01 49 26.0 +0.3
SNR=29
FRU1 **Bishkek** 54.37 296 P P 01 49 26.2 +0.1
FRU1 **Bishkek** 54.37 296 P P 01 49 26.2 +0.1
FRU1 pmax pmax
comp=Z,353nm,1.7s
FRU1 MLR MLR
comp=Z,14μm,20.0s
ARA0 **ARCESS Array S** 54.38 341 *e*P P 01 49 23.9 -1.8
ARA0 *i* 01 54 23.3
ARA0 *e*S S 01 56 57.4 -1.2
ARA0 IVMs_BB IVMs_BB 02 18 31.2
comp=Z,5μm,18.3s
ARCES **ARCESS Array B** 54.38 341 P P 01 49 24.8 -0.9
ARCES **ARCESS Array B** 54.38 341 P P 01 49 24.7 -1.0
comp=Z,15nm,0.6s,baz=50,slow=9.2,SNR=54
ARCES ScP ScP 01 54 20.8 -0.1
comp=Z,29nm,1.0s,baz=31,slow=2.1,SNR=10
ARCES LR LR 02 18 53.1
comp=Z,13μm,18.6s,baz=30,slow=43
comp=Z,15nm,0.6s
ARCES **ARCESS Array B** 54.38 341 P P 01 49 24.8 -0.9
ARCES pmax pmax
comp=Z,109nm,1.3s
HOPS **Hopland Field** 54.44 70 IAMs_20 IAMs_20 02 07 07.3
comp=Z,8μm,22.0s
MSO **Missoula** 54.48 57 IAMs_20 IAMs_20 02 11 55.7
comp=Z,4μm,22.0s
MSO **Missoula** 54.48 57 P P 01 49 26.9 +0.1
baz=310,SNR=504

MSO S **S** **01 57 02.5 +1.8**
baz=310
MSO Missoula 54.48 57 ⇑P **P** **01 49 26.9 +0.1**
DBG Daneborg 54.48 359 ⇓*i*P **P** **01 49 26.1 -0.3**
DBG IAmb IAmb 01 49 28.8
comp=Z,126nm,0.8s
PLID Pearl Lake 54.49 60 IAmb IAmb 01 49 29.3
comp=Z,497nm,1.1s
PLID IAMs_20 IAMs_20 02 11 25.3
comp=Z,4μm,22.0s
AAK Ala-Archa 54.56 296 P **P** **01 49 26.8 -0.7**
AAK Ala-Archa 54.56 296 *i*P **P** **01 49 26.9 -0.7**
SNR=27
AAK Ala-Archa 54.56 296 ⇑P **P** **01 49 26.9 -0.7**
AAK Ala-Archa 54.56 296 LR LR 02 13 41.6
comp=Z,11μm,20.4s,baz=49,slow=37
AAK Ala-Archa 54.56 296 P **P** **01 49 27.4 -0.2**
AAK Ala-Archa 54.56 296 *d*P **P** **01 49 27.2 -0.4**
AAK pmax pmax
comp=Z,163nm,1.7s
AAK Ala-Archa 54.56 296 P **P** **01 49 27.3 -0.2**
AAK pP **pP** **01 49 42.6 -1.9**
WVOR Wild Horse Val 54.75 64 ⇑P **P** **01 49 29.6 +0.7**
WVOR Wild Horse Val 54.75 64 P **P** **01 49 29.8 +0.9**
WVOR pmax pmax
comp=Z,836nm,1.2s
UCH Uchtor 54.81 295 P **P** **01 49 29.9 +0.2**
SNR=18
IMP Imphal 54.86 266 *e*P **P** **01 49 31.9 +2.1**
IMP IAmb IAmb 01 49 33.9
comp=Z,814nm,2.2s
IMP *i*x x 01 54 26.1
EKS2 Erkin-Say 54.94 296 P **P** **01 49 29.5 -0.8**
SNR=66
ORV Oroville 54.99 69 IAmb IAmb 01 49 32.3
comp=Z,352nm,1.1s
UBPT Khong Chiam 55.08 249 P **P** **01 49 33.8 +2.4**
FFC Flin Flon 55.12 44 P **P** **01 49 32.2 +0.9**
FFC IAmb IAmb 01 49 33.5
comp=Z,498nm,1.1s
FFC Flin Flon 55.12 44 IAMs_20 IAMs_20 02 14 17.1
comp=Z,5μm,21.0s
FFC Flin Flon 55.12 44 ⇑P **P** **01 49 31.6 +0.3**
FFC Flin Flon 55.12 44 P **P** **01 49 32.2 +0.9**
FFC pmax pmax
comp=Z,498nm,1.2s
FFC MLR MLR
comp=Z,5μm,21.0s
FFC Flin Flon 55.12 44 P **P** **01 49 31.7 +0.5**
FFC pP **pP** **01 49 47.6 -0.5**
ARLS Aral 55.16 295 P **P** **01 49 32.5 +0.6**
KTK1 Kautokeino 55.27 342 ⇓*i*P **P** **01 49 31.3 -0.8**
KTK1 IVmB_BB 01 49 32.4
comp=Z,2μm,2.0s
KTK1 *e*ScP **ScP** **01 54 24.6 -0.3**
KTK1 *e*S **S** **01 57 09.7 -0.7**
NUUG Nuugaatsiaq 55.31 12 ⇓*i*P **P** **01 49 32.4 +0.1**
NUUG IAmb IAmb 01 49 35.9
comp=Z,38nm,0.9s
NUUG *i* 01 57 01.8
TRO Tromso 55.53 344 ⇓*i*P **P** **01 49 33.1 -0.8**
TRO IVmB_BB 01 49 35.3
comp=Z,2μm,1.9s
TRO *i* 01 52 47.9
TRO *e*S **S** **01 57 11.9 -1.9**
TRO IVMs_BB IVMs_BB 02 18 56.2
comp=Z,3μm,18.4s
FCC Fort Churchill 55.58 37 P **P** **01 49 34.9 +0.4**
FCC IAmb IAmb 01 49 51.6
comp=Z,451nm,1.5s
FCC Fort Churchill 55.58 37 P **P** **01 49 34.9 +0.4**
FCC pmax pmax
comp=Z,451nm,1.5s
SHL Shillong 55.62 269 IAmb IAmb 01 49 40.1
comp=Z,338nm,1.1s
SHL Shillong 55.62 269 *e*P **P** **01 49 36.4 +1.0**
SHL Shillong 55.62 269 P **P** **01 49 35.9 +0.5**
SNR=61
SHL Shillong 55.62 269 P **P** **01 49 35.0 -0.4**
SHL S **S** **01 57 13.6 -2.9**
SHL pmax pmax
comp=Z,332nm,1.0s
MFID Camas Ranch 55.67 62 IAmb IAmb 01 49 38.1
comp=Z,739nm,1.4s
RABL Rabaul 55.68 187 P **P** **01 49 37.6 +1.9**
RABL Rabaul 55.68 187 P **P** **01 49 36.1 +0.5**
RABL Rabaul 55.68 187 ⇑P **P** **01 49 35.9 +0.3**
ADZR Andozero 55.69 332 ⇓*i*P **P** **01 49 33.3 -1.8**
ADZR *e*S **S** **01 57 10.1 -6.0**
ADZR pmax pmax
comp=Z,81nm,0.9s
PHRA Phrae 55.69 256 P **P** **01 49 37.7 +2.0**
AFDM Forest Hills D 55.70 69 IAmb IAmb 01 49 38.0
comp=Z,383nm,1.3s
SUMG Summit 55.71 6 P **P** **01 49 36.2 +0.5**
SUMG IAMs_20 IAMs_20 02 15 55.5
comp=Z,6μm,18.0s
SUMG Summit 55.71 6 P **P** **01 49 32.9 -2.8**
SUMG Summit 55.71 6 P **P** **01 49 36.2 +0.5**
SUMG pmax pmax
comp=Z,2μm,1.7s
SUMG MLR MLR
comp=Z,6μm,18.0s
SUMG Summit 55.71 6 *i*P **P** **01 49 36.0 +0.3**
SUMG IAmb IAmb 01 49 39.0
comp=Z,252nm,0.8s
SUMG *i* 01 57 11.6
JAY Jayapura 55.75 201 P **P** **01 49 37.3 +1.1**
comp=Z,296nm,1.7s,comp=Z,6μm
JAY Jayapura 55.75 201 P **P** **01 49 37.4 +1.2**
JAY pmax pmax
comp=Z,295nm,1.7s
KSH Kashi 55.76 292 P **P** **01 49 40.2 +4.0**
KSH pP pP 01 49 55.6 +2.4
KSH sP sP 01 50 09.1 +8.5
KSH PcP **PcP** **01 50 41.8 +7.2**
KSH PcS **PcS** **01 54 38.0 +2.9**
KSH S **S** **01 57 22.8 +4.8**
KSH ScS **ScS** **01 59 20.2 +0.9**
KSH pmax pmax
comp=Z,150nm,1.4s
KSH pmax pmax
comp=Z,1μm,3.8s
KSH LR LR
comp=Z,12μm,21.3s
KSH LR LR
comp=Z,9μm,22.0s
KSH LR LR
comp=Z,19μm,25.8s
KIRV Kirov 55.87 323 LR LR 02 15 53.0
comp=Z,29μm,21.9s,baz=42,slow=38
KIRV Kirov 55.87 323 *d*P **P** **01 49 35.1 -1.4**
EGMT Eagleton 55.87 54 IAMs_20 IAMs_20 02 11 35.3
comp=Z,6μm,22.0s
EGMT Eagleton 55.87 54 P **P** **01 49 36.9 +0.1**
baz=311,SNR=139
EGMT S **S** **01 57 19.5 +0.3**
baz=311
EGMT Eagleton 55.87 54 ⇑P **P** **01 49 36.7 -0.1**
SGF Sodankyl 55.90 340 P **P** **01 49 36.2 -0.4**
GENI Genyem 55.95 202 P **P** **01 49 39.6 +2.0**
GENI Genyem 55.95 202 ⇑P **P** **01 49 38.8 +1.2**
GENI Genyem 55.95 202 P **P** **01 49 38.5 +0.9**
comp=Z,610nm,2.1s,comp=Z,12μm
MPK Martis Peak 56.01 68 P **P** **01 49 38.9 +0.7**
PAHR Pah Rah Range 56.11 67 IAmb IAmb 01 49 41.3
comp=Z,758nm,1.3s
PAHR IAMs_20 IAMs_20 02 09 07.4
comp=Z,4μm,22.0s
EMB Emerald Bay 56.18 68 IAmb IAmb 01 49 42.0
comp=Z,614nm,1.4s
CHTO Chiang Mai 56.23 257 P **P** **01 49 40.8 +1.1**
CHTO IAmb IAmb 01 49 43.4
comp=Z,250nm,0.8s
CHTO IAMs_20 IAMs_20 02 14 00.8
comp=Z,4μm,22.0s
CHTO Chiang Mai 56.23 257 P **P** **01 49 40.8 +1.1**
CHTO pmax pmax
comp=Z,250nm,0.9s
CHTO MLR MLR
comp=Z,4μm,22.0s
UMMG Uummannaq 56.24 12 ⇓*i*P **P** **01 49 39.0 0.0**
UMMG IAmb IAmb 01 49 41.3
comp=Z,62nm,1.0s
ARSB Arslanbob 56.27 296 IAMs_20 IAMs_20 02 14 19.9
comp=Z,4μm,22.0s
HLID Hailey 56.35 61 IAmb IAmb 01 49 43.1
comp=Z,536nm,1.4s
HLID Hailey 56.35 61 P **P** **01 49 41.0 +0.5**
baz=312,SNR=451
HLID S **S** **01 57 29.6 +3.7**
baz=312
HLID Hailey 56.35 61 ⇑P **P** **01 49 41.0 +0.5**
GTK Tadong 56.42 273 *e*P **P** **01 49 42.3 +1.2**
GTK IAmb IAmb 01 50 00.3
comp=Z,111nm,0.7s
GTK *i*x x 01 54 33.0
KK31 Karatay Array 56.47 299 P **P** **01 49 39.8 -1.3**
KK31 Karatay Array 56.47 299 P **P** **01 49 39.8 -1.3**
KK31 pmax pmax
comp=Z,330nm,2.0s
KKAR Karatay Array 56.47 299 P **P** **01 49 40.1 -1.0**
KKAR Karatay Array 56.47 299 P **P** **01 49 40.1 -1.0**
KKAR Karatay Array 56.47 299 ⇑P **P** **01 49 39.2 -1.8**
KKAR Karatay Array 56.47 299 P **P** **01 49 40.1 -1.0**
KKAR pmax pmax
comp=Z,328nm,2.0s
BOZ Bozeman (W) 56.50 57 IAmb IAmb 01 49 44.0
comp=Z,716nm,1.2s
BOZ IAMs_20 IAMs_20 02 13 31.2
comp=Z,5μm,22.0s
BOZ Bozeman (W) 56.50 57 P **P** **01 49 42.0 +0.6**
baz=312,SNR=512
BOZ S **S** **01 57 28.8 +1.1**
baz=312
BOZ Bozeman (W) 56.50 57 ⇑P **P** **01 49 41.9 +0.5**
BOZ Bozeman (W) 56.50 57 ⇑P **P** **01 49 41.9 +0.5**
CM31 Chiang Mai Arr 56.51 257 P **P** **01 49 42.4 +0.8**
CM31 IAmb IAmb 01 50 00.1
comp=Z,253nm,0.9s
CMAR Chiang Mai Arr 56.51 257 P **P** **01 49 42.6 +1.0**
CMAR Chiang Mai Arr 56.51 257 LR LR 02 15 43.3
comp=Z,4μm,21.8s,baz=30,slow=38
CMAR Chiang Mai Arr 56.51 257 P **P** **01 49 42.6 +1.0**
MYLDM Lahad Datu 56.54 229 IAmb IAmb 01 50 21.9
comp=Z,455nm,1.3s
MYLDM Lahad Datu 56.54 229 ⇑P **P** **01 49 44.3 +2.5**
MSF Maaselka 56.58 337 P **P** **01 49 41.1 -0.4**
CMB Columbia Colle 56.65 69 IAmb IAmb 01 49 45.0
comp=Z,482nm,1.3s
CMB IAMs_20 IAMs_20 02 09 28.8
comp=Z,4μm,22.0s
CMB Columbia Colle 56.65 69 ⇑P **P** **01 49 42.8 +0.3**
TNTI Ternate 56.70 217 P **P** **01 49 43.7 +0.8**
TNTI Ternate 56.70 217 P **P** **01 49 42.9 0.0**
TNTI Ternate 56.70 217 ⇑P **P** **01 49 43.1 +0.2**
TNTI Ternate 56.70 217 P **P** **01 49 43.0 +0.1**
SWI Sorong 56.82 212 P **P** **01 49 44.0 +0.2**
SWI Sorong 56.82 212 P **P** **01 49 44.7 +0.9**
SWI pmax pmax
comp=Z,998nm,1.5s
BMN Battle Mountai 56.87 65 IAmb IAmb 01 49 47.0
comp=Z,705nm,1.3s
BMN IAMs_20 IAMs_20 02 10 13.4
comp=Z,3μm,21.0s
SAO San Andreas Ge 56.88 71 IAmb IAmb 01 49 46.4
comp=Z,747nm,1.9s
SAO IAMs_20 IAMs_20 02 08 46.0
comp=Z,4μm,21.0s
SAO San Andreas Ge 56.88 71 ⇑P **P** **01 49 44.1 +0.1**
BRLS Borolday 56.88 299 ⇓*i*P **P** **01 49 45.1 +1.1**
baz=299
BRLS Borolday 56.88 299 *d*P **P** **01 49 45.1 +1.1**
WAKR Walker 56.88 68 IAmb IAmb 01 49 47.2
comp=Z,488nm,1.1s
WAKR IAMs_20 IAMs_20 02 09 23.0
comp=Z,4μm,22.0s
OHH Osh 56.91 295 P **P** **01 49 44.7 +0.4**
TRKS Terek-Say 57.16 297 P **P** **01 49 46.3 +0.1**
SAIH SAIHA 57.17 265 *e*P **P** **01 49 47.8 +1.4**
SAIH IAmb IAmb 01 49 53.4
comp=Z,249nm,0.4s
SAIH *i*x x 01 54 33.6
AGT Agartala 57.23 268 *e*P **P** **01 49 47.6 +0.9**
BBGB Big Mountain B 57.24 71 IAMs_20 IAMs_20 02 08 57.7
comp=Z,4μm,22.0s
KVN Kaiserville 57.29 67 P **P** **01 49 48.1 +0.9**
KVN Kaiserville 57.29 67 P **P** **01 49 48.1 +0.9**
KVN pmax pmax
comp=Z,772nm,1.2s
RYN Ryan 57.33 68 IAmb IAmb 01 49 50.0
comp=Z,409nm,1.1s
IUG Iuzhnay 57.37 298 *e*P **P** **01 49 47.1 -0.5**
comp=Z,69nm,1.1s,baz=298
IUG Iuzhnay 57.37 298 *e*P **P** **01 49 47.0 -0.5**
IUG pmax pmax
comp=Z,69nm,1.1s
JMIC Jan Mayen 57.44 355 ⇓*i*P **P** **01 49 49.4 +1.9**
JMIC IVmB_BB 01 49 49.8
comp=Z,10μm,1.8s
JMIC *e*S **S** **01 57 39.4 +0.3**
JMIC Jan Mayen 57.44 355 LR LR 02 12 44.7
comp=Z,4μm,21.9s,baz=15,slow=34
JMI Jan Mayen 57.51 355 ⇓*i*P **P** **01 49 49.9 +1.9**
JMI IVmBBB 01 49 51.4
comp=Z,7μm,1.9s
YNM Yellowstone No 57.57 58 IAmb IAmb 01 49 52.4
comp=Z,544nm,1.3s
YNM IAMs_20 IAMs_20 02 14 05.5
comp=Z,5μm,21.0s
YNR Norris Junctio 57.59 58 IAMs_20 IAMs_20 02 14 06.0
comp=Z,6μm,22.0s
NVAR Mina Array Bea 57.59 68 P **P** **01 49 50.3 +0.9**
NVAR Mina Array Bea 57.59 68 P **P** **01 49 50.0 +0.7**
comp=Z,250nm,1.0s,baz=291,slow=6.6,SNR=476
NVAR pP **pP** **01 50 07.4 +1.1**
comp=Z,66nm,0.8s,baz=317,slow=6.3,SNR=6.4
NVAR LR LR 02 11 38.9
comp=Z,2μm,21.7s,baz=300,slow=33
NVAR SKKP **SKKPdf** **02 14 33.6 -3.2**
comp=Z,0.5nm,0.4s,baz=182,slow=12,SNR=6.6
comp=Z,250nm,1.0s
PMPB Monarch Peak 57.63 71 IAmb IAmb 01 50 09.5
comp=Z,267nm,1.2s
PMPB IAMs_20 IAMs_20 02 09 08.9
comp=Z,4μm,22.0s
KLMR Klimovskoe 57.65 329 *d*P **P** **01 49 47.9 -1.1**
KLMR S **S** **01 57 38.6 -3.4**
KLMR 01 59 26.7
KLMR pmax pmax
comp=Z,145nm,1.5s
KLMR pmax pmax
comp=Z,95nm,1.1s
KLMR MLR MLR
comp=Z,16μm,17.0s
STEI Steigen 57.67 344 ⇓*i*P **P** **01 49 48.1 -1.0**
STEI IVmB_BB 01 49 50.5
comp=Z,2μm,2.8s
STEI *e*pP **pP** **01 50 09.4 +3.1**
STEI *i* 01 53 29.2
STEI *e*S **S** **01 57 40.9 -1.2**
STEI IVMs_BB IVMs_BB 02 20 55.0
comp=Z,3μm,18.7s
NV11 Mina Array Sit 57.68 68 P **P** **01 49 50.5 +0.7**
NV11 IAmb IAmb 01 49 52.5
comp=Z,484nm,1.2s
MDPB Devils Postpil 57.68 69 IAmb IAmb 01 49 52.7
comp=Z,355nm,1.1s
MDPB IAMs_20 IAMs_20 02 09 40.1
comp=Z,6μm,22.0s
YFT Old Faithful 57.68 58 IAmb IAmb 01 49 53.8
comp=Z,572nm,1.1s
ILULI Ilulissat 57.74 12 IAmb IAmb 01 49 51.3
comp=Z,225nm,0.8s
ILULI Ilulissat 57.74 12 ⇑P **P** **01 49 49.0 -0.6**
ILULI Ilulissat 57.74 12 ⇓*i*P **P** **01 49 49.0 -0.6**
ILULI IAmb IAmb 01 49 51.7
comp=Z,174nm,0.8s
LOF Lofoten 57.77 345 ⇓*i*P **P** **01 49 49.0 -0.8**
LOF IVmBBB 01 49 50.3
comp=Z,4μm,1.7s
LOF *e*pP **pP** **01 50 08.4 +1.6**
LOF *e* 01 53 30.2
LOF IVMs_BB IVMs_BB 02 09 29.1
comp=Z,2μm,38.4s
ELK Elko 57.77 64 ⇑P **P** **01 49 51.4 +0.7**
ELK Elko 57.77 64 P **P** **01 49 52.0 +1.4**
AB31 Akbulak array 57.79 310 *i*P **P** **01 49 48.8 -1.4**
ABKAR Akbulak array 57.79 310 P **P** **01 49 48.8 -1.4**
ABKAR Akbulak array 57.79 310 P **P** **01 49 48.6 -1.7**
ABKAR IAmb IAmb 01 50 51.6
comp=Z,91nm,1.2s
ABKAR Akbulak array 57.79 310 ⇑P **P** **01 49 48.5 -1.7**
MLAC Mammoth, Mammo 57.82 69 P **P** **01 49 52.5 +1.5**
baz=313,SNR=12
MLAC S **S** **01 57 52.3 +6.7**
baz=313
YMP Mirror Lake Pl 57.85 57 IAMs_20 IAMs_20 02 15 07.8
comp=Z,5μm,21.0s
H17A Grant Village 57.86 58 IAMs_20 IAMs_20 02 15 19.2
comp=Z,5μm,20.0s
H17A Grant Village 57.86 58 P **P** **01 49 53.6 +2.4**
baz=313
H17A S **S** **01 57 53.1 +7.3**
baz=313
AKTO Aktyubinsk 57.89 312 P **P** **01 49 49.5 -1.5**
comp=Z,14nm,0.5s,baz=46,slow=6.3,SNR=54
AKTO LR LR 02 17 12.1
comp=Z,16μm,19.8s,baz=38,slow=38
comp=Z,14nm,0.5s
OUL Oulu 58.01 338 P **P** **01 49 50.7 -0.8**
RLMT Red Lodge 58.05 56 IAMs_20 IAMs_20 02 16 21.3
comp=Z,5μm,20.0s
RLMT Red Lodge 58.05 56 P **P** **01 49 53.6 +1.2**
baz=313,SNR=438
RLMT S **S** **01 57 51.2 +2.9**
baz=313
RLMT Red Lodge 58.05 56 ⇑P **P** **01 49 53.5 +1.0**
FXWY Fox Creek 58.13 59 P **P** **01 49 54.1 +1.0**
FXWY IAmb IAmb 01 49 56.2
comp=Z,357nm,1.1s
FAUS Fauske 58.16 344 *e*P **P** **01 49 52.0 -0.6**
FAUS IVmBBB 01 49 54.0
comp=Z,3μm,2.0s
FAUS *e* 01 53 10.9
FAUS *e*S **S** **01 57 47.2 -1.2**
FAUS IVMs_BB IVMs_BB 02 21 34.8
comp=Z,3μm,16.0s
MOOW Moose Ponds 58.20 58 IAmb IAmb 01 49 56.7
comp=Z,480nm,1.2s
KMSI Cibinong 58.22 221 P **P** **01 49 53.6 0.0**
comp=Z,303nm,1.1s,comp=Z,11μmcomp=Z,6μm
TABU Tabubil 58.31 200 P **P** **01 49 56.2 +1.9**
DGMT Dagmar 58.32 51 IAMs_20 IAMs_20 02 13 41.1
comp=Z,6μm,22.0s
DGMT Dagmar 58.32 51 P **P** **01 49 54.8 +0.8**
baz=314,SNR=65
DGMT S **S** **01 57 53.6 +2.3**
baz=314
DGMT Dagmar 58.32 51 ⇑P **P** **01 49 54.3 +0.2**
SCO Scoresbysund 58.34 360 IAmb IAmb 01 49 56.7
comp=Z,702nm,1.8s
SCO IAMs_20 IAMs_20 02 15 23.0
comp=Z,4μm,21.0s
SCO Scoresbysund 58.34 360 ⇓*i*P **P** **01 49 54.5 +0.8**
SCO IAmb IAmb 01 49 55.9
comp=Z,66nm,0.8s
BTK Batken 58.34 296 P **P** **01 49 53.9 -0.5**
VOG Valley Oaks Go 58.40 70 P **P** **01 49 54.9 +0.2**
baz=314,SNR=9.3
VOG S **S** **01 57 56.8 +4.4**
baz=314
FAKI Fak Fak 58.43 210 P **P** **01 49 55.7 +0.6**
FAKI Fak Fak 58.43 210 ⇑P **P** **01 49 55.6 +0.5**
FAKI Fak Fak 58.43 210 P **P** **01 49 55.7 +0.6**
comp=Z,663nm,1.4s,comp=Z,10μmcomp=Z,8μm
JOF Joensuu 58.44 334 *e*P **P** **01 49 54.6 0.0**
HVU Hansel Valley 58.44 61 IAmb IAmb 01 49 58.1
comp=Z,428nm,1.3s
DSP Deep Springs 58.51 68 IAMs_20 IAMs_20 02 10 10.9
comp=Z,7μm,22.0s
LAO LASA Array 58.54 53 IAMs_20 IAMs_20 02 15 54.6
comp=Z,7μm,21.0s
GTOI Gorontalo 58.56 222 P **P** **01 49 54.7 -1.3**
TIN Tinemaha, Big 58.57 69 P **P** **01 49 57.1 +1.1**
baz=314,SNR=52
TIN S **S** **01 58 00.2 +5.2**
baz=314
AHID Auburn Hatcher 58.68 60 ⇑P **P** **01 49 57.5 +0.7**
KMPI Kaimana, Papua 58.69 209 P **P** **01 49 57.1 +0.3**
comp=Z,351nm,1.3s,comp=Z,6μmcomp=Z,7μm
SMMC Simmler 58.72 71 P **P** **01 49 57.9 +0.8**
baz=314,SNR=46
SMMC S **S** **01 58 01.2 +4.3**
baz=314
VES Vestal, Richgr 58.90 70 P **P** **01 49 58.0 -0.2**
baz=314,SNR=87
VES S **S** **01 58 01.6 +2.5**
baz=314
GMN Gold Mountain 58.96 68 IAmb IAmb 01 50 01.5
comp=Z,224nm,1.1s
ICESG Greenland Ices 59.04 7 ⇑P **P** **01 49 59.1 0.0**
ICESG Greenland Ices 59.04 7 ⇓*i*P **P** **01 49 59.6 +0.5**
ICESG IAmb IAmb 01 50 03.5
comp=Z,189nm,0.6s
CWC Cottonwood Cre 59.08 69 P **P** **01 50 00.0 +0.4**
baz=314
CWC S **S** **01 58 05.5 +3.8**
baz=314
TOLI2 Tolitoli 59.09 225 P **P** **01 49 59.9 +0.2**
TOLI2 Tolitoli 59.09 225 IAmb IAmb 01 50 01.5
comp=Z,288nm,1.3s
GRAC Grapevine Rang 59.11 68 IAMs_20 IAMs_20 02 10 52.0
comp=Z,5μm,22.0s
GRAC Grapevine Rang 59.11 68 P **P** **01 50 00.5 +0.8**
baz=314,SNR=37
GRAC S **S** **01 58 06.7 +4.8**
baz=314
PKM Mcpherson Peak 59.12 72 P **P** **01 50 00.6 +0.6**
baz=314,SNR=62
PKM S **S** **01 58 08.0 +5.5**
baz=314
MRSI Marisa 59.16 223 P **P** **01 50 00.4 +0.3**
comp=Z,386nm,1.3s,comp=Z,6μm
R11B Troy Canyon, C 59.21 66 IAmb IAmb 01 50 02.9
comp=Z,425nm,1.2s
R11B IAMs_20 IAMs_20 02 11 12.4
comp=Z,5μm,22.0s
R11B Troy Canyon, C 59.21 66 P **P** **01 50 00.9 +0.3**
baz=314,SNR=583
R11B S **S** **01 58 06.6 +3.2**
baz=314
HWUT Hardware Ranch 59.22 61 IAmb IAmb 01 50 03.5
comp=Z,555nm,1.2s
HWUT Hardware Ranch 59.22 61 ⇑P **P** **01 50 01.4 +0.8**
KONS Konsvik 59.32 344 *e*P **P** **01 50 00.9 +0.3**
GAR Garm 59.34 295 P **P** **01 50 01.4 0.0**
GAR IAmb IAmb 01 50 02.7
comp=Z,650nm,1.6s
ISA Isabella, Lake 59.38 70 IAmb IAmb 01 50 03.0
comp=Z,248nm,1.2s
ISA IAMs_20 IAMs_20 02 10 27.3
comp=Z,4μm,22.0s
ISA Isabella, Lake 59.38 70 P **P** **01 50 01.4 -0.2**
baz=314,SNR=62
ISA S **S** **01 58 07.4 +1.9**
baz=314
MOR8 Moi Rana 59.40 344 ⇓*i*P **P** **01 49 58.9 -2.3**
MOR8 IVmB_BB 01 50 01.1
comp=Z,2μm,1.5s
MOR8 *e*pP **pP** **01 50 19.4 +1.0**
MOR8 *i* 01 53 45.0
STOK Stokkvaagen 59.49 344 ⇓*i*P **P** **01 50 01.0 -0.8**
STOK IVmB_BB 01 50 03.4
comp=Z,3μm,2.3s
STOK *i* 02 05 16.8
STOK IVMs_BB IVMs_BB 02 20 12.4
comp=Z,3μm,24.2s
SBC Santa Barbara 59.49 72 P **P** **01 50 03.4 +1.1**
baz=314,SNR=9.7
SBC S **S** **01 58 09.0 +2.3**
baz=314
DUG Dugway, Tooele 59.50 63 P **P** **01 50 03.2 +0.7**
baz=314,SNR=471
DUG S **S** **01 58 11.5 +4.4**
baz=314
DUG Dugway, Tooele 59.50 63 ⇑P **P** **01 50 03.2 +0.7**
DUG Dugway, Tooele 59.50 63 P **P** **01 50 03.4 +0.9**
DUG pmax pmax
comp=Z,524nm,1.5s
BW06 Boulder Array 59.51 59 P **P** **01 50 03.2 +0.6**
baz=314,SNR=664
BW06 S **S** **01 58 10.1 +2.8**
baz=314
BW06 Boulder Array 59.51 59 ⇑P **P** **01 50 03.0 +0.4**
PD31 Pinedale Array 59.51 59 P **P** **01 50 03.3 +0.7**
PD31 IAmb IAmb 01 50 05.1

comp=Z,513nm,1.2s
PDAR Pinedale Array 59.51 59 P **P 01 50 03.4 +0.8**
PDAR Pinedale Array 59.51 59 P **P 01 50 03.0 +0.4**
comp=Z,281nm,1.0s,baz=321,slow=2.1,SNR=739
PDAR LR LR 02 18 05.2
comp=Z,909nm,18.4s,baz=323,slow=38
comp=Z,281nm,1.0s
FRB Frobisher Bay 59.51 22 LR LR 02 18 53.7
comp=Z,6μm,20.6s,baz=329,slow=39
FRB Frobisher Bay 59.51 22 P **P 01 50 01.3 -0.7**
FRB S **S 01 58 03.3 -2.8**
FRB pmax pmax
comp=Z,253nm,1.1s
ARVC Arvin 59.54 71 P **P 01 50 02.5 -0.2**
ARVC S **S 01 58 09.6 +2.2**
baz=314,SNR=37
baz=314
S11A Rachel 59.60 67 IAMs_20 IAMs_20 02 12 08.8
comp=Z,3μm,22.0s
WCT Wildcat Mounta 59.68 68 IAmb IAmb 01 50 06.0
comp=Z,283nm,1.1s
MPMC Manual Prospec 59.69 69 P **P 01 50 04.2 +0.3**
MPMC S **S 01 58 13.0 +3.3**
baz=314,SNR=304
baz=314
CTU Camp Tracy 59.75 62 IAmb IAmb 01 50 06.8
comp=Z,376nm,1.2s
FURC Furnace Creek, 59.77 68 P **P 01 50 04.9 +0.8**
FURC S **S 01 58 14.5 +4.3**
baz=315,SNR=415
baz=314
TPNV Topopah Spring 59.79 68 P **P 01 50 05.0 +0.5**
TPNV S **S 01 58 15.9 +5.0**
baz=314,SNR=504
baz=314
SANI Sanana 59.81 218 P **P 01 50 04.8 +0.1**
SANI Sanana 59.81 218 P **P 01 50 01.3 -3.4**
SANI Sanana 59.81 218 ⇑P **P 01 50 04.4 -0.3**
SANI Sanana 59.81 218 P **P 01 50 04.3 -0.3**
comp=Z,510nm,1.2s,comp=Z,7μmcomp=Z,6μm
VALR Valaam 59.83 334⇑*e*P **P 01 50 03.7 -0.4**
VALR pmax pmax
comp=Z,129nm,0.7s
SCZ2 Santa Cruz Isl 59.85 72 P **P 01 50 05.2 +0.4**
SCZ2 S **S 01 58 13.2 +1.8**
baz=314,SNR=12
baz=314
SFJD Kangerlussuaq 59.89 13 P **P 01 50 04.2 -0.3**
SFJD IAmb IAmb 01 50 06.3
comp=Z,183nm,0.9s
SFJD Kangerlussuaq 59.89 13 LR LR 02 19 38.3
comp=Z,10μm,18.1s,baz=345,slow=40
SFJD Kangerlussuaq 59.89 13 P **P 01 50 04.2 -0.3**
SFJD pmax pmax
comp=Z,183nm,0.9s
SFJD MLR MLR
comp=Z,9μm,19.0s
SFJD Kangerlussuaq 59.89 13⇓*i*P **P 01 50 04.7 +0.2**
SFJD IAmb IAmb 01 50 06.3
comp=Z,108nm,0.8s
SFJD Kangerlussuaq 59.89 13 P **P 01 50 04.7 +0.2**
SFJD pP **pP 01 50 19.8 -1.9**
SFJD sP **sP 01 50 26.6 -2.3**
OSI Osito Audit: C 59.96 71 P **P 01 50 06.1 +0.5**
OSI S **S 01 58 16.4 +3.5**
baz=314,SNR=6.0
baz=314
LRMC Laurel Mtn Rad 59.97 70 P **P 01 50 05.8 +0.1**
LRMC S **S 01 58 16.7 +3.5**
baz=314,SNR=92
baz=314
JLU Jordanelle 59.98 62 IAMs_20 IAMs_20 02 13 52.5
comp=Z,4μm,22.0s
CCAC Calif City Air 60.01 70 IAmb IAmb 01 50 07.8
comp=Z,375nm,1.2s
CCAC IAMs_20 IAMs_20 02 10 34.7
comp=Z,5μm,22.0s
PSUT Pine Spring 60.06 65 IAmb IAmb 01 50 09.0
comp=Z,434nm,1.4s
PSUT IAMs_20 IAMs_20 02 12 19.0
comp=Z,4μm,22.0s
GWY Greenwater Val 60.08 69 IAMs_20 IAMs_20 02 10 43.5
comp=Z,3μm,20.0s
NLU North Lily Min 60.08 62 IAmb IAmb 01 50 09.2
comp=Z,445nm,1.2s
PRN Pahroc Range 60.16 66 IAMs_20 IAMs_20 02 12 38.7
comp=Z,5μm,22.0s
PRN Pahroc Range 60.16 66⇑P **P 01 50 07.6 +0.5**
LUWI Luwuk 60.18 222 P **P 01 50 06.7 -0.4**
LUWI Luwuk 60.18 222 P **P 01 50 06.3 -0.9**
LUWI IAmb IAmb 01 50 07.6
comp=Z,422nm,1.1s
LUWI Luwuk 60.18 222 P **P 01 50 03.8 -3.3**
LUWI Luwuk 60.18 222⇑P **P 01 50 06.0 -1.1**
LUWI Luwuk 60.18 222 P **P 01 50 05.7 -1.4**
comp=Z,361nm,1.2s,comp=Z,5μm
EDW2 Edwards Air Fo 60.21 70 P **P 01 50 07.6 +0.3**
EDW2 S **S 01 58 19.8 +3.8**
baz=314,SNR=163
baz=314
CHGR Chuyangaron 60.23 296 P **P 01 50 06.7 -0.8**
CHGR IAmb IAmb 01 51 04.7
comp=Z,314nm,1.1s
CHGR Chuyangaron 60.23 296 P **P 01 50 06.7 -0.8**
CHGR pmax pmax
comp=Z,314nm,1.1s
SIMJ Simiganj 60.32 296 P **P 01 50 07.3 -0.8**
BSUT Blindstream Ca 60.40 61 IAmb IAmb 01 50 11.9
comp=Z,524nm,1.4s
BSUT IAMs_20 IAMs_20 02 14 38.6
comp=Z,4μm,22.0s
SOEG Soedalen 60.43 4 *i*P **P 01 50 09.0 +0.8**
SOEG IAmb IAmb 01 50 11.5
comp=Z,164nm,0.7s
SNCC San Nicolas Is 60.44 73 P **P 01 50 09.3 +0.5**
SNCC S **S 01 58 19.5 +0.6**
baz=315,SNR=8.7
baz=315
DECC Green Verdugo 60.44 71 P **P 01 50 09.0 +0.1**
DECC S **S 01 58 22.2 +3.2**
baz=315,SNR=23
baz=315
VAF Ylistaro 60.50 338 *e*P **P 01 50 09.8 +1.1**
SHOC Shoshone, Teco 60.50 68 P **P 01 50 09.9 +0.6**
SHOC S **S 01 58 23.0 +3.3**
baz=314,SNR=108
baz=314
DHRM DHARAMSHALA 60.52 286 *e*P **P 01 50 09.2 -0.5**
PASC Pasadena Art C 60.59 71 IAmb IAmb 01 50 11.7
comp=Z,508nm,1.2s
GSC Goldstone, Bar 60.61 69 IAmb IAmb 01 50 12.2
comp=Z,412nm,1.1s
GSC Goldstone, Bar 60.61 69 P **P 01 50 10.3 +0.3**
GSC S **S 01 58 23.6 +2.3**
baz=315,SNR=194
baz=315
BOK Bokaro 60.65 272 *e*P **P 01 50 11.7 +1.3**
HNR Honiara 60.70 178 P **P 01 50 11.1 +0.5**
HNR Honiara 60.70 178 LR LR 02 12 15.0
comp=Z,139μm,21.6s,baz=360,slow=32
HNR Honiara 60.70 178 P **P 01 50 15.4 +4.8**
HNR pmax pmax
comp=Z,84nm,1.2s
BNDI Bandanaira 60.70 212 P **P 01 50 11.3 +0.6**
BNDI Bandanaira 60.70 212⇑P **P 01 50 11.2 +0.5**
BNDI Bandanaira 60.70 212 P **P 01 50 11.2 +0.5**
comp=Z,946nm,1.8s
KEF Keuruu 60.73 337 *e*P **P 01 50 10.1 -0.2**
SHPR Sheep Range 60.73 67 P **P 01 50 11.3 +0.4**
SHPR IAmb IAmb 01 50 13.6
comp=Z,280nm,1.3s
SMLA Simla 60.79 284 *e*P **P 01 50 10.6 -0.6**
RRX Edison Barstow 60.80 70 P **P 01 50 12.0 +0.7**
baz=315,SNR=5.9
RRX S **S 01 58 26.6 +3.1**
baz=315
TCRU Three Creeks R 60.80 64 IAMs_20 IAMs_20 02 12 00.5
comp=Z,3μm,21.0s
FMP Fort Macarthur 60.84 72 P **P 01 50 11.8 +0.3**
baz=315,SNR=5.9
FMP S **S 01 58 27.2 +3.2**
baz=315
BFSC Mount Baldy Ra 60.85 71 P **P 01 50 11.8 +0.1**
baz=315,SNR=69
BFSC S **S 01 58 27.3 +2.8**
baz=315
ULM Lac du Bonnet 60.92 45 IAmb IAmb 01 50 13.6
comp=Z,393nm,1.2s
ULM Lac du Bonnet 60.92 45 P **P 01 50 11.7 -0.1**
comp=Z,143nm,0.9s,baz=314,slow=7.1,SNR=171
ULM pP **pP 01 50 28.8 -0.2**
comp=Z,55nm,0.8s,baz=322,slow=10,SNR=5.2
ULM LR LR 02 17 31.5
comp=Z,4μm,20.9s,baz=314,slow=37
comp=Z,143nm,0.9s
ULM Lac du Bonnet 60.92 45 *i*P **P 01 50 11.6 -0.2**
DY2G Dye2 60.94 11⇓*i*P **P 01 50 11.6 -0.4**
DY2G IAmb IAmb 01 50 15.7
comp=Z,134nm,0.7s
DY2G *i* 01 58 19.4
MDND Maddock 60.95 49 IAMs_20 IAMs_20 02 16 56.5
comp=Z,6μm,22.0s
MDND Maddock 60.95 49 P **P 01 50 13.0 +0.9**
baz=316,SNR=139
MDND S **S 01 58 28.4 +3.3**
baz=316
CIS Catalina Islan 60.99 72 P **P 01 50 13.1 +0.5**
baz=315,SNR=15
CIS S **S 01 58 28.7 +2.7**
baz=315
TMUT Trail Mountain 61.02 62 IAmb IAmb 01 50 15.6
comp=Z,364nm,1.0s
CCUT Cedar City 61.03 65 IAmb IAmb 01 50 15.7
comp=Z,463nm,1.2s
TUQ Turquoise Moun 61.03 69 P **P 01 50 13.3 +0.3**
baz=315,SNR=262
TUQ S **S 01 58 30.1 +3.4**
baz=315
FINES FINESS Array B 61.04 336 P **P 01 50 11.7 -0.7**
FINES FINESS Array B 61.04 336 P **P 01 50 11.9 -0.5**
comp=Z,52nm,0.7s,baz=38,slow=6.4,SNR=216
FINES ScP **ScP 01 54 50.0 -0.4**
comp=Z,13nm,0.9s,baz=45,slow=4.1,SNR=5.1
FINES LR LR 02 20 32.7
comp=Z,17μm,19.8s,baz=26,slow=40
comp=Z,52nm,0.7s
FINES FINESS Array B 61.04 336*ce*P **P 01 50 11.8 -0.7**
FINES pmax pmax
comp=Z,52nm,0.7s
BELG Belogornoye 61.05 319 LR LR 02 19 39.7
comp=Z,11μm,18.5s,baz=38,slow=39
BELG Belogornoye 61.05 319⇓*i*P **P 01 50 11.1 -1.5**
BELG pmax pmax
comp=Z,14nm,0.8s
SZCU Shurtz Canyon 61.15 65 IAmb IAmb 01 50 16.3
comp=Z,510nm,1.4s
K22A Casper 61.19 57 IAMs_20 IAMs_20 02 18 30.4
comp=Z,3μm,20.0s
K22A Casper 61.19 57 P **P 01 50 14.8 +0.7**
baz=315,SNR=103
K22A S **S 01 58 31.0 +2.4**
baz=315
SCI2 San Clemente I 61.21 72 P **P 01 50 14.4 +0.4**
baz=315
HEC Hector,Ludlow 61.22 69 P **P 01 50 14.6 +0.4**
baz=315,SNR=72
HEC S **S 01 58 31.7 +2.7**
baz=315
BBRC Big Bear Solar 61.27 70 P **P 01 50 15.0 +0.3**
baz=315,SNR=7.7
BBRC S **S 01 58 32.6 +2.6**
baz=315
PUL Pulkovo 61.29 333 *i*P **P 01 50 14.2 +0.1**
PUL pmax pmax
comp=Z,87nm,0.7s
Q16A Castle Valley 61.30 63 IAmb IAmb 01 50 17.5
comp=Z,488nm,1.2s
P18A Preston Nutter 61.32 62 IAMs_20 IAMs_20 02 20 02.9
comp=Z,3μm,20.0s
NSS Namsos 61.33 344⇓*e*P **P 01 50 14.0 -0.3**
NSS IVmB_BB 01 50 16.2
comp=Z,2μm,2.7s
NSS *e*S **S 01 58 25.8 -3.5**
E28A Huff 61.34 50 IAMs_20 IAMs_20 02 15 59.0
comp=Z,6μm,22.0s
MTPU Mount Pierson 61.35 64 IAmb IAmb 01 50 18.4
comp=Z,441nm,1.3s
MTPU IAMs_20 IAMs_20 02 12 27.0
comp=Z,4μm,22.0s
PMG Port Moresby 61.35 192 P **P 01 50 15.4 +0.4**
PMG Port Moresby 61.35 192 LR LR 02 13 22.9
comp=Z,6μm,21.8s,baz=38,slow=32
PMG Port Moresby 61.35 192 P **P 01 50 15.4 +0.4**
PMG pmax pmax
comp=Z,672nm,1.2s
PMG Port Moresby 61.35 192 P **P 01 50 15.4 +0.4**
PMG pP **pP 01 50 31.3 -0.9**
NIL Nilore 61.36 289 P **P 01 50 15.4 +0.3**
NIL IAmb IAmb 01 50 32.7
comp=Z,525nm,1.4s
NIL Nilore 61.36 289 P **P 01 50 15.6 +0.5**
NIL Nilore 61.36 289 P **P 01 50 15.4 +0.3**
NIL pmax pmax
comp=Z,525nm,1.5s
NIL Nilore 61.36 289 P **P 01 50 15.4 +0.3**
NIL pP **pP 01 50 31.0 -1.3**
ELS Elsinore Mount 61.40 71 IAmb IAmb 01 50 17.3
comp=Z,596nm,1.3s
RSSD Black Hills 61.44 54 P **P 01 50 16.1 +0.3**
RSSD Black Hills 61.44 54 IAMs_20 IAMs_20 02 16 32.7
comp=Z,4μm,22.0s
RSSD Black Hills 61.44 54 P **P 01 50 16.0 +0.3**
baz=315
RSSD S **S 01 58 34.8 +3.0**
baz=315
RSSD Black Hills 61.44 54 P **P 01 50 16.1 +0.3**
RSSD pmax pmax
comp=Z,1μm,1.3s
RSSD MLR MLR
comp=Z,4μm,22.0s
RSSD Black Hills 61.44 54 P **P 01 50 15.9 +0.2**
RSSD pP **pP 01 50 32.1 -0.8**
V12A Nelson 61.45 68 P **P 01 50 16.6 +0.8**
V12A IAmb IAmb 01 50 18.3
comp=Z,536nm,1.3s
V12A IAMs_20 IAMs_20 02 11 41.9
comp=Z,4μm,22.0s
LCMT Little Creek M 61.47 66 IAMs_20 IAMs_20 02 13 55.3
comp=Z,3μm,20.0s
RWWY Rawlins 61.51 58 IAMs_20 IAMs_20 02 19 32.8
comp=Z,4μm,20.0s
MURC Murrieta 61.58 71 P **P 01 50 16.6 +0.1**
baz=315,SNR=89
MURC S **S 01 58 35.9 +2.4**
baz=315
GMRC Granite Mounta 61.64 69 P **P 01 50 17.4 +0.3**
baz=315,SNR=253
GMRC S **S 01 58 38.0 +3.5**
baz=315
PKCU Pink Cliffs 61.70 65 IAmb IAmb 01 50 20.8
comp=Z,422nm,1.2s
PKCU IAMs_20 IAMs_20 02 13 10.2
comp=Z,4μm,22.0s
KNB Kanab 61.71 65 IAMs_20 IAMs_20 02 13 08.6
comp=Z,3μm,22.0s
XMAS Kiritimati 61.84 127 P **P 01 50 19.0 +0.6**
XMAS Kiritimati 61.84 127 P **P 01 50 18.6 +0.1**
XMAS Kiritimati 61.84 127⇑P **P 01 50 18.5 +0.1**
XMAS Kiritimati 61.84 127 P **P 01 50 18.5 +0.1**
XMAS pP **pP 01 50 34.5 -1.1**
SBUM Sibu 61.98 234⇑P **P 01 50 21.6 +2.2**
BELC Belle Mtn. Jos 62.00 70 P **P 01 50 19.2 -0.3**
baz=315,SNR=140
BELC S **S 01 58 40.9 +1.9**
baz=315
PFO Pinyon Flats O 62.00 70 P **P 01 50 19.5 0.0**
PFO IAmb IAmb 01 50 20.6
comp=Z,259nm,1.2s
PFO Pinyon Flats O 62.00 70 IAMs_20 IAMs_20 02 11 53.7
comp=Z,5μm,22.0s
PFO Pinyon Flats O 62.00 70 P **P 01 50 19.6 +0.1**
baz=315,SNR=52
PFO S **S 01 58 40.5 +1.5**
baz=315
PFO Pinyon Flats O 62.00 70 LR LR 02 12 18.6
comp=Z,3μm,21.7s,baz=298,slow=31
PFO Pinyon Flats O 62.00 70 *i*P **P 01 50 19.5 0.0**
PFO pmax pmax
comp=Z,668nm,2.0s
PFO Pinyon Flats O 62.00 70 P **P 01 50 19.3 -0.3**
PFO pP **pP 01 50 34.5 -2.2**
TPFO Pinon Flats 62.01 70 P **P 01 50 19.4 -0.2**
baz=315,SNR=56
TPFO S **S 01 58 40.5 +1.4**
baz=315
PMD Palm Desert 62.02 70 IAmb IAmb 01 50 20.4
comp=Z,249nm,1.2s
PMD IAMs_20 IAMs_20 02 11 58.2
comp=Z,4μm,22.0s
O20A White River Ci 62.05 60 P **P 01 50 20.2 +0.3**
baz=315,SNR=321
O20A S **S 01 58 42.7 +3.0**
baz=315
109C Camp Elliot, M 62.13 71 IAmb IAmb 01 50 22.2
comp=Z,455nm,1.2s
109C Camp Elliot, M 62.13 71 P **P 01 50 20.5 +0.3**
baz=316,SNR=30
109C S **S 01 58 42.4 +2.0**
baz=316
MOS Moscow 62.26 326 *e*P **P 01 50 18.0 -2.7**
MOS *e* 01 50 42.6
MOS *e* 01 50 57.5
MOS *e* 01 52 35.8
MOS *e*S **S 01 58 34.3 -7.0**
MOS *e* 02 00 03.6
MOS *e*SSS SSS 02 05 34.6
MOS pmax pmax
comp=Z,121nm,1.5s
MOS pmax pmax
comp=N,78nm,1.2s
MOS MLR MLR
comp=N,10μm,17.0s
MOS MLR MLR
comp=Z,11μm,17.0s
NEE2 Needles Airpor 62.26 68 P **P 01 50 21.1 0.0**
baz=315,SNR=44
NEE2 S **S 01 58 44.6 +2.6**
baz=315
AGMN Agassiz Nation 62.35 46 IAmb IAmb 01 50 23.1
comp=Z,414nm,1.1s
AGMN Agassiz Nation 62.35 46 P **P 01 50 21.3 -0.2**
baz=318,SNR=143
AGMN S **S 01 58 45.0 +2.2**
baz=318
NUUK Nuuk 62.38 14 *i*P **P 01 50 22.1 +0.7**
IRM Iron Mountain 62.39 69 P **P 01 50 22.3 +0.4**
baz=316,SNR=370
IRM S **S 01 58 46.5 +2.8**
baz=316
U15A North Rim 62.42 65 IAMs_20 IAMs_20 02 13 30.5
comp=Z,5μm,22.0s
W13A Hualapai Mount 62.45 68 IAmb IAmb 01 50 24.9
comp=Z,420nm,1.2s
W13A IAMs_20 IAMs_20 02 12 12.4
comp=Z,3μm,22.0s
RAF Rauma 62.47 338 *e*P **P 01 50 22.3 +0.3**
MEF Metsahovi 62.52 336 *e*P **P 01 50 22.5 +0.1**
MONP2 Monument Peak 62.53 71 P **P 01 50 23.3 +0.1**
baz=316,SNR=47
MONP2 S **S 01 58 48.8 +2.9**
baz=316
BAR Barrett 62.53 71 IAmb IAmb 01 50 24.9
comp=Z,448nm,1.4s
FUNA Funafuti 62.54 156 P **P 01 50 22.7 -0.3**
BC3 Big Chuckawall 62.56 70 P **P 01 50 23.4 +0.2**
baz=316,SNR=177
BC3 S **S 01 58 47.2 +1.2**
baz=316
ISOG Isortoq, Green 62.58 8⇓*i*P **P 01 50 22.4 -0.2**
ISOG IAmb IAmb 01 50 25.2
comp=Z,121nm,0.6s
ANGG Ammassalik, Gr 62.62 7 P **P 01 50 23.0 0.0**
ANGG IAmb IAmb 01 50 24.6
comp=Z,349nm,1.6s
ANGG IAMs_20 IAMs_20 02 20 11.2
comp=Z,5μm,18.0s
ANGG Ammassalik, Gr 62.62 7⇑P **P 01 50 23.1 +0.2**
ANGG Ammassalik, Gr 62.62 7 *i*P **P 01 50 22.8 -0.2**
TKX Tecate 62.65 71 IAmb IAmb 01 50 25.6
comp=Z,466nm,1.5s
PHWY Pilot Hill 62.71 57 IAmb IAmb 01 50 26.5
comp=Z,410nm,1.6s
PHWY IAMs_20 IAMs_20 02 19 59.6
comp=Z,3μm,21.0s
N23A Red Feather La 62.74 58 IAmb IAmb 01 50 27.2
comp=Z,536nm,1.3s
N23A IAMs_20 IAMs_20 02 19 27.5
comp=Z,3μm,20.0s
N23A Red Feather La 62.74 58 P **P 01 50 25.3 +0.7**
baz=316,SNR=191
N23A S **S 01 58 52.2 +3.7**
baz=316
ARBE Arbavere 62.77 335 *e*P **P 01 50 24.1 0.0**
CBX Cerro Bola 62.80 72 IAMs_20 IAMs_20 02 12 53.9
comp=Z,4μm,19.0s
SWSC Sam W. Stewart 62.86 71 P **P 01 50 25.2 +0.1**
baz=316,SNR=55
SWSC S **S 01 58 51.2 +1.7**
baz=316
PDMCI Parker Dam,Lak 62.87 68 P **P 01 50 25.4 +0.2**
baz=316,SNR=120
PDMCI S **S 01 58 52.7 +3.1**
baz=316
IKP In-Ko-Pah, Jac 62.89 71 P **P 01 50 25.4 0.0**
baz=316,SNR=62
IKP S **S 01 58 52.9 +2.8**
baz=316
RMX La Rumorosa 62.94 71 IAmb IAmb 01 50 28.2
comp=Z,387nm,1.3s
BKB Balikpapan 62.95 227 P **P 01 50 26.7 +0.9**
BKB Balikpapan 62.95 227⇑P **P 01 50 27.5 +1.7**
YUH Yuha Desert 63.00 71 IAmb IAmb 01 50 27.9
comp=Z,401nm,1.3s
CCX Cicese 63.12 72 IAmb IAmb 01 50 28.6
comp=Z,394nm,1.6s
OBN Obninsk 63.12 327 P **P 01 50 25.3 -1.1**
OBN Obninsk 63.12 327⇑P **P 01 50 25.1 -1.4**
OBN Obninsk 63.12 327 LR LR 02 21 19.2
comp=Z,11μm,18.9s,baz=36,slow=39
OBN Obninsk 63.12 327⇑*e*P **P 01 50 25.6 -0.8**
OBN *e**PP **sP 01 50 50.4 -0.7**
OBN *e**SP **PcP 01 51 01.6 -1.9**
OBN *e* 01 52 43.8
OBN *e*S **S 01 58 49.2 -2.9**
OBN *e*SS **SS 02 02 53.1 -4.8**
OBN pmax pmax
comp=Z,147nm,2.5s
OBN MLR MLR
comp=Z,16μm,17.0s
OBN Obninsk 63.12 327 P **P 01 50 25.2 -1.2**
comp=Z,79nm,1.6s,comp=Z,2μm
KBL Kabul 63.19 292 P **P 01 50 25.9 -1.7**
KBL Kabul 63.19 292 P **P 01 50 26.4 -1.1**
SNR=20
KBL S **S 01 58 51.0 -3.1**
KBL Kabul 63.19 292 P **P 01 50 25.9 -1.7**
KBL pmax pmax
comp=Z,155nm,1.4s
GLA Glamis 63.36 70 P **P 01 50 28.9 +0.4**
baz=316,SNR=81
GLA S **S 01 58 59.0 +3.1**
baz=316
VSU Vasula 63.40 334⇑P **P 01 50 27.3 -0.9**
VSU Vasula 63.40 334*ce*P **P 01 50 26.1 -2.1**
VSU pmax pmax
comp=Z,92nm,0.7s
SMCO Snowmass 63.42 60 IAmb IAmb 01 50 31.6
comp=Z,468nm,1.2s
SMCO Snowmass 63.42 60⇑P **P 01 50 29.6 +0.3**
ESJX Sierra Juarez 63.45 71 IAmb IAmb 01 50 31.3
comp=Z,442nm,1.3s
SAUI Saumlaki 63.50 210 P **P 01 50 31.7 +2.3**
SAUI Saumlaki 63.50 210 P **P 01 50 30.5 +1.0**
SAUI Saumlaki 63.50 210⇑P **P 01 50 31.2 +1.8**
SAUI Saumlaki 63.50 210 P **P 01 50 26.5 -2.9**
CPBX Cerro Prieto 63.53 71 IAmb IAmb 01 50 31.8
comp=Z,582nm,1.4s
WUAZ Wupatki 63.59 66 IAMs_20 IAMs_20 02 14 16.5
comp=Z,5μm,22.0s
WUAZ Wupatki 63.59 66 P **P 01 50 31.1 +0.9**
baz=316,SNR=91
WUAZ S **S 01 59 03.4 +4.4**
baz=316
WUAZ Wupatki 63.59 66⇑P **P 01 50 30.9 +0.7**
MTKI Muara Teweh, K 63.60 230 P **P 01 50 31.7 +1.5**
ISCO Idaho Springs 63.71 59 P **P 01 50 31.8 +0.8**
baz=316,SNR=70
ISCO S **S 01 59 05.1 +4.5**
baz=316
ISCO Idaho Springs 63.71 59 P **P 01 50 32.7 +1.7**

ISCO S **S** **01 59 00.1 -0.5**
ISCO pmax pmax
comp=Z,608nm,1.3s
SUSD Miller 63.73 51 IAMs_20 IAMs_20 02 17 18.2
comp=Z,6μm,20.0s
SUSD Miller 63.73 51 P **P** **01 50 30.3 -0.4**
baz=318,SNR=20
SUSD S **S** **01 59 00.5 +0.3**
baz=318
GUVIX Guadalupe Vict 63.75 71 IAMs_20 IAMs_20 02 12 23.9
comp=Z,3μm,21.0s
Y14A Wickenburg 63.79 68 IAmb IAmb 01 50 33.6
comp=Z,534nm,1.3s
SRIT Nakonsritamara 63.83 250 P **P** **01 50 35.0 +3.3**
MOL Molde 63.89 345 *e*P **P** **01 50 31.1 -0.3**
MOL Molde 63.89 345⇓*i*P **P** **01 50 31.5 +0.1**
MOL IVmB_BB 01 50 32.4
comp=Z,3μm,2.0s
MOL *e*S **S** **01 59 01.3 -0.1**
MTSE Matsula 63.97 335 *e*P **P** **01 50 32.6 +0.7**
F33A 5 Mile Ranch, 63.97 48 IAMs_20 IAMs_20 02 18 57.4
comp=Z,6μm,21.0s
VTX Valle De La Tr 63.98 72 IAmb IAmb 01 50 34.7
comp=Z,361nm,1.3s
MVCO Mesa Verde 64.00 62 P **P** **01 50 33.2 +0.4**
baz=316,SNR=240
MVCO S **S** **01 59 08.2 +4.1**
baz=316
MVCO Mesa Verde 64.00 62⇑P **P** **01 50 33.1 +0.2**
BORG Borgarnes 64.10 360 P **P** **01 50 34.4 +1.7**
BORG IAmb IAmb 01 50 36.7
comp=Z,837nm,1.6s
BORG Borgarnes 64.10 360 IAMs_20 IAMs_20 02 16 25.3
comp=Z,3μm,21.0s
BORG Borgarnes 64.10 360 LR LR 02 16 35.7
comp=Z,3μm,21.4s,baz=2.6,slow=34
BORG Borgarnes 64.10 360 P **P** **01 50 34.4 +1.7**
BORG pmax pmax
comp=Z,837nm,1.6s
BORG Borgarnes 64.10 360 P **P** **01 50 35.2 +2.5**
BORG pP **pP** **01 50 50.0 0.0**
DOMB Dombas 64.13 344⇓*i*P **P** **01 50 32.4 -0.7**
DOMB IVmB_BB 01 50 33.6
comp=Z,3μm,2.1s
DOMB *e*S **S** **01 59 03.8 -0.9**
DOMB IVMs_BB IVMs_BB 02 23 59.0
comp=Z,4μm,16.2s
113A Mohawk Valley, 64.18 69 IAmb IAmb 01 50 35.9
comp=Z,465nm,1.3s
113A IAMs_20 IAMs_20 02 13 07.3
comp=Z,3μm,20.0s
LPSR Galich'ya Gora 64.28 324 *e*P **P** **01 50 31.6 -2.6**
LPSR *e*PPP PPP 01 54 34.3
LPSR *e*S S 01 58 56.2 -10
LPSR *e*SSS SSS 02 06 01.0
LPSR pmax pmax
comp=Z,60nm,0.7s
LPSR smax smax
comp=E,1μm,15.9s
LPSR MLR MLR
comp=Z,14μm,20.0s
BBSI Bau Bau 64.29 220 P **P** **01 50 36.0 +1.4**
comp=Z,257nm,1.3s,comp=Z,6μmcomp=Z,8μm
VRH Novokhopyorsk 64.33 321 *e*P **P** **01 50 30.6 -3.8**
VRH *e*PPP PPP 01 54 34.3
VRH *e*S S 01 58 58.1 -9.1
VRH *e*SSS SSS 02 06 10.5
VRH pmax pmax
comp=Z,70nm,0.6s
VRH smax smax
comp=E,1μm,13.6s
VRH MLR MLR
comp=Z,13μm,18.0s
X16A Lo Mia Camp, P 64.34 66 IAmb IAmb 01 50 37.9
comp=Z,445nm,1.2s
STKI Sintang 64.40 233 P **P** **01 50 36.6 +1.2**
comp=Z,270nm,1.4s
NC405 NORSAR Array S 64.53 343 IAmb IAmb 01 50 37.2
comp=Z,1μm,1.9s
S22A 4UR Ranch, Cre 64.53 61 IAMs_20 IAMs_20 02 19 46.0
comp=Z,3μm,22.0s
S22A 4UR Ranch, Cre 64.53 61 P **P** **01 50 37.3 +0.9**
baz=317,SNR=538
S22A S **S** **01 59 15.6 +4.8**
baz=317
EYMN Ely 64.55 44 IAmb IAmb 01 50 37.5
comp=Z,510nm,1.1s
EYMN Ely 64.55 44 P **P** **01 50 35.8 -0.2**
baz=320,SNR=126
EYMN S **S** **01 59 09.9 -0.3**
baz=320
Q24A Divide 64.56 59 IAmb IAmb 01 50 39.0
comp=Z,326nm,1.4s
Q24A IAMs_20 IAMs_20 02 19 43.6
comp=Z,4μm,22.0s
Q24A Divide 64.56 59 P **P** **01 50 37.6 +1.0**
baz=317,SNR=74
Q24A S **S** **01 59 14.9 +3.8**
baz=317
NB2 NORSAR Subarra 64.69 343 P **P** **01 50 36.3 -0.4**
comp=Z,893nm,1.7s,baz=23,slow=6.9
NB2 P'P' 02 19 07.5
comp=Z,0.4nm,0.6s,baz=175,slow=2.7
NB2 NORSAR Subarra 64.69 343 P **P** **01 50 36.3 -0.4**
baz=23,slow=6.9
NOA NORSAR Array B 64.69 343 P **P** **01 50 36.1 -0.6**
comp=Z,51nm,0.6s,baz=22,slow=6.7,SNR=292
NOA LR LR 02 24 09.5
comp=Z,4μm,18.8s,baz=30,slow=41
comp=Z,51nm,0.6s
K30B Basset 64.71 53 IAMs_20 IAMs_20 02 20 28.2
comp=Z,6μm,20.0s
OGNE Ogallala 64.75 56 IAMs_20 IAMs_20 02 19 49.5
comp=Z,4μm,21.0s
OGNE Ogallala 64.75 56 P **P** **01 50 38.5 +0.9**
baz=317,SNR=61
OGNE S **S** **01 59 16.1 +3.1**
baz=317
OGNE Ogallala 64.75 56⇑P **P** **01 50 37.9 +0.3**
NBO00 NORSAR Array S 64.78 343 IAmb IAmb 01 50 38.8
comp=Z,616nm,1.8s
SFX San Felipe 64.79 71 IAmb IAmb 01 50 39.7
comp=Z,437nm,1.4s
W18A Petrified Fore 64.81 65 IAmb IAmb 01 50 40.9
comp=Z,527nm,1.3s
W18A IAMs_20 IAMs_20 02 15 44.7
comp=Z,3μm,21.0s
W18A Petrified Fore 64.81 65 P **P** **01 50 39.1 +0.9**
baz=317,SNR=78
W18A S **S** **01 59 18.8 +4.7**
baz=317
NC602 NORSAR Array S 64.91 342⇓*e*P **P** **01 50 37.6 -0.5**
NC602 IVmB_BB 01 50 39.5
comp=Z,2μm,1.9s
NC602 *e*pP **pP** **01 50 58.1 +2.7**
NC602 *e*S **S** **01 59 16.3 +2.2**
NORES NORESS Array B 64.91 342 P **P** **01 50 37.5 -0.6**
VORR Voronezh 64.92 323 *e*P **P** **01 50 37.1 -1.2**
VORR S **S** **01 59 05.9 -8.6**
VORR pmax pmax
comp=Z,342nm,3.4s
VORR MLR MLR
comp=Z,12μm,16.0s
NAO01 NORSAR Array S 64.93 343 IAmb IAmb 01 50 39.7
comp=Z,563nm,1.7s
KAPI Kappang 65.03 223 P **P** **01 50 41.4 +2.0**
KAPI Kappang 65.03 223 P **P** **01 50 39.9 +0.5**
KAPI IAmb IAmb 01 50 42.0
comp=Z,321nm,1.4s
KAPI Kappang 65.03 223⇑P **P** **01 50 40.2 +0.8**
KAPI Kappang 65.03 223 LR LR 02 18 54.0
comp=Z,702nm,20.8s,baz=34,slow=36
KAPI Kappang 65.03 223 P **P** **01 50 39.9 +0.5**
KAPI pmax pmax
comp=Z,321nm,1.4s
HFS Hagfors 65.04 341 P **P** **01 50 38.4 -0.6**
comp=Z,51nm,0.4s,baz=46,slow=6.6,SNR=504
HFS PKPPKP **P'P'df** **02 19 22.8 -3.8**
comp=Z,12nm,1.1s,baz=224,slow=4.0,SNR=8.1
HFS LR LR 02 23 22.1
comp=Z,13μm,20.3s,baz=24,slow=40
comp=Z,51nm,0.4s
X18A Snowflake 65.12 65 IAMs_20 IAMs_20 02 15 03.8
comp=Z,4μm,22.0s
BKSI Bulukumba 65.15 222 P **P** **01 50 39.3 -0.9**
comp=Z,153nm,1.3s,comp=Z,7μm
FOO Floro 65.20 346 *e*P **P** **01 50 40.2 +0.2**

FOO IVmB_BB 01 50 41.9
comp=Z,3μm,1.9s
FOO *e*PP **PP** **01 53 04.9 +1.6**
FOO *e*S **S** **01 59 17.4 -0.1**
PIX Pinacate 65.23 70 IAmb IAmb 01 50 42.7
comp=Z,598nm,1.4s
SDCO Great Sand Dun 65.25 60 IAmb IAmb 01 50 43.7
comp=Z,624nm,1.4s
SDCO IAMs_20 IAMs_20 02 21 32.1
comp=Z,3μm,20.0s
SDCO Great Sand Dun 65.25 60 P **P** **01 50 41.8 +0.6**
baz=317,SNR=52
SDCO S **S** **01 59 23.5 +3.8**
baz=317
SDCO Great Sand Dun 65.25 60⇑P **P** **01 50 41.7 +0.6**
VSR Storozhevoye 65.30 323 *e*P **P** **01 50 38.6 -2.2**
VSR *e*PPP PPP 01 54 47.6
VSR *e*S S 01 59 08.6 -11
VSR pmax pmax
comp=Z,60nm,1.6s
VSR smax smax
comp=N,980nm,10.3s
VSR MLR MLR
comp=Z,20μm,20.0s
SLIT Slitere, Latvi 65.31 336⇑P **P** **01 50 39.6 -1.1**
SLIT Slitere, Latvi 65.31 336 *e*P **P** **01 50 40.5 -0.2**
214A Organ Pipe Nat 65.33 69 IAMs_20 IAMs_20 02 13 51.6
comp=Z,3μm,21.0s
214A Organ Pipe Nat 65.33 69 P **P** **01 50 41.7 +0.3**
baz=317,SNR=215
214A S **S** **01 59 23.1 +2.9**
baz=317
ECSD EROS Data Cent 65.39 50 IAmb IAmb 01 50 43.0
comp=Z,548nm,1.1s
ECSD EROS Data Cent 65.39 50 P **P** **01 50 41.1 -0.5**
baz=319,SNR=402
ECSD S **S** **01 59 21.5 +1.0**
baz=319
ECSD EROS Data Cent 65.39 50⇑P **P** **01 50 41.0 -0.5**
HYA Hoyanger 65.43 345⇓*i*P **P** **01 50 41.7 +0.2**
HYA IVmB_BB 01 50 42.4
comp=Z,4μm,2.1s
HYA *e*S **S** **01 59 19.1 -1.3**
HYA IVMs_BB IVMs_BB 02 24 14.1
comp=Z,2μm,21.7s
VORD Divnogorie 65.45 322 *e*P **P** **01 50 39.0 -2.8**
VORD *e*S **S** **01 59 12.4 -8.6**
VORD pmax pmax
comp=Z,40nm,0.5s
VORD smax smax
comp=N,30nm,3.1s
VORD MLR MLR
comp=Z,9μm,15.0s
PBA Port Blair 65.53 258 IAmb IAmb 01 51 03.4
comp=Z,424nm,0.9s
PBA Port Blair 65.53 258⇑P **P** **01 50 44.9 +2.1**
PBA Port Blair 65.53 258 *e*P **P** **01 50 44.5 +1.8**
PBA Port Blair 65.53 258 P **P** **01 50 44.6 +1.8**
SKAR Skarslia 65.54 344⇓*e*P **P** **01 50 42.1 -0.2**
SKAR IVmB_BB 01 50 43.3
comp=Z,3μm,2.2s
SKAR *e*S **S** **01 59 18.5 -3.5**
SKAR *e* 02 03 21.6
SKAR IVMs_BB IVMs_BB 02 24 30.9
comp=Z,4μm,17.9s
E38A The Farm, Brul 65.55 45 IAmb IAmb 01 50 43.7
comp=Z,562nm,1.1s
E38A IAMs_20 IAMs_20 02 20 13.0
comp=Z,5μm,21.0s
IVI Ivigtut 65.74 13 IAmb IAmb 01 50 45.8
comp=Z,246nm,0.9s
IVI IAMs_20 IAMs_20 02 20 18.7
comp=Z,6μm,22.0s
IVI Ivigtut 65.74 13⇑P **P** **01 50 43.4 -0.1**
IVI Ivigtut 65.74 13 *i* P **P** **01 50 43.0 -0.4**
IVI IAmb IAmb 01 50 46.3
comp=Z,177nm,0.8s
IVI Ivigtut 65.74 13 P **P** **01 50 43.4 -0.1**
IVI pP **pP** **01 51 00.1 -0.7**
SUE Sulen 65.75 346⇓*i*P **P** **01 50 44.0 +0.5**
SUE IVmB_BB 01 50 45.6
comp=Z,5μm,1.9s
SUE *e*S **S** **01 59 23.9 -0.4**
OSL Oslo 65.80 343⇓*e*P **P** **01 50 44.2 +0.4**
OSL IVmB_BB 01 50 44.9
comp=Z,4μm,2.1s
OSL *e*PP **PP** **01 53 09.9 +1.3**
OSL *e*S **S** **01 59 22.8 -2.2**
OSL IVMs_BB IVMs_BB 02 24 19.1
comp=Z,3μm,17.8s
KSCO Kaye Shedlock' 65.86 57 P **P** **01 50 45.0 +0.2**
baz=318,SNR=23
KSCO S **S** **01 59 28.1 +1.3**
baz=318
KULM Kulim 65.89 247 P **P** **01 50 45.1 0.0**
KULM IAmb IAmb 01 51 03.9
comp=Z,261nm,1.1s
KULM IAMs_20 IAMs_20 02 20 55.0
comp=Z,3μm,19.0s
SPMN Marine on St. 66.05 47 IAmb IAmb 01 50 47.2
comp=Z,533nm,1.2s
SPMN Marine on St. 66.05 47 P **P** **01 50 45.5 -0.2**
baz=320,SNR=86
SPMN S **S** **01 59 28.9 +0.4**
baz=320
ISAL Salakas 66.05 332 *e*P **P** **01 50 46.9 +1.3**
SOFL Sornfelli, Far 66.15 352 *e*P **P** **01 50 46.9 +0.7**
NRS Narsarsuaq 66.16 12 P **P** **01 50 46.5 +0.4**
NRS Narsarsuaq 66.16 12⇑P **P** **01 50 46.7 +0.6**
NRS Narsarsuaq 66.16 12 P **P** **01 50 46.5 +0.4**
NRS pmax pmax
comp=Z,207nm,1.1s
NRS MLR MLR
comp=Z,10μm,21.0s
NRS Narsarsuaq 66.16 12 *i* P **P** **01 50 46.0 -0.2**
IIGN Ignalina 66.22 332 *e*P **P** **01 50 48.8 +2.2**
ASK Askoy 66.24 346 *e*P **P** **01 50 46.7 +0.1**
ASK IVmB_BB 01 50 47.8
comp=Z,4μm,1.9s
ASK *e*S **S** **01 59 30.5 +0.2**
TUC Tucson 66.25 68 P **P** **01 50 48.1 +0.8**
TUC IAmb IAmb 01 50 49.7
comp=Z,428nm,1.3s
TUC Tucson 66.25 68 P **P** **01 50 47.8 +0.4**
baz=317
TUC S **S** **01 59 35.9 +4.4**
baz=317
TUC Tucson 66.25 68⇑P **P** **01 50 47.3 0.0**
TUC Tucson 66.25 68 P **P** **01 50 48.1 +0.8**
TUC pmax pmax
comp=Z,428nm,1.3s
TUC Tucson 66.25 68 P **P** **01 50 47.6 +0.3**
TUC pP **pP** **01 51 04.3 -0.3**
KONO Kongsberg 66.28 343 P **P** **01 50 47.5 +0.5**
KONO IAmb IAmb 01 50 49.0
comp=Z,584nm,1.6s
KONO Kongsberg 66.28 343⇓*i*P **P** **01 50 46.9 0.0**
KONO IVmB_BB 01 50 48.0
comp=Z,3μm,1.9s
KONO *e*PP **PP** **01 53 14.4 +1.6**
KONO *e*S **S** **01 59 30.5 -0.3**
KONO *e*SS **SS** **02 03 47.5 +0.7**
KONO IVMs_BB IVMs_BB 02 26 01.6
comp=Z,3μm,15.9s
KONO Kongsberg 66.28 343⇑P **P** **01 50 47.0 0.0**
KONO Kongsberg 66.28 343*ce*P **P** **01 50 47.8 +0.8**
KONO pmax pmax
comp=Z,282nm,1.3s
KONO Kongsberg 66.28 343 P **P** **01 50 47.1 +0.1**
T25A Trinidad 66.29 60 P **P** **01 50 47.7 0.0**
baz=318,SNR=214
T25A S **S** **01 59 35.6 +3.5**
baz=318
BER Bergen 66.31 346 *e*P **P** **01 50 47.1 0.0**
BER Bergen 66.31 346⇓*i*P **P** **01 50 47.7 +0.6**
BER IVmB_BB 01 50 48.2
comp=Z,4μm,1.8s
BER *e*S **S** **01 59 26.9 -4.2**
BER IVMsBB 02 18 52.1
comp=Z,2μm,16.7s
BER Bergen 66.31 346 P **P** **01 50 47.0 -0.1**
BER pmax pmax
comp=Z,267nm,1.4s
VSVD Vaisvydziai 66.32 334 *e*P **P** **01 50 47.6 +0.4**
BHPL Bhopal 66.32 278 *e*P **P** **01 50 48.1 +0.3**

BGNE Belgrade 66.38 53 P **P** **01 50 47.7 -0.3**
baz=319,SNR=24
BGNE S **S** **01 59 33.0 +0.3**
baz=319
COEN Coen 66.42 196 P **P** **01 50 48.9 +0.6**
COEN Coen 66.42 196 P **P** **01 50 49.0 +0.8**
COEN Coen 66.42 196⇑P **P** **01 50 48.4 +0.1**
NACGM Naroch 66.43 332⇑*i*P **P** **01 50 48.6 +0.6**
comp=Z,127nm,1.1s,baz=30
MNK Minsk 66.45 331 *i* P **P** **01 50 47.7 -0.5**
comp=E,23nm,0.9s
MNK *i* P **P** **01 50 47.7 -0.5**
comp=N,115nm,1.1s
MNK *i* P **P** **01 50 47.7 -0.5**
comp=Z,135nm,0.8s,baz=32
MNK *i* pP **pP** **01 51 05.5 -0.1**
MNK *i* PP **PP** **01 53 14.6 +0.2**
MNK *i* PPP PPP 01 54 49.8
MNK *i* S **S** **01 59 30.7 -2.3**
MNK *i* sS **sS** **02 00 06.7 +4.0**
MNK *i* SS **SS** **02 03 49.7 +0.1**
MNK *i* SSS SSS 02 07 00.3
MNK *i* LQ LQ 02 15 15.2
MNK *i* LR LR 02 19 01.6
MNK *i* LRM MLR 02 22 40.0
comp=Z,16μm,20.6s
MNK *i* LRM MLR 02 22 45.2
comp=E,4μm,19.2s
MNK *i* LRM MLR 02 22 60.0
comp=N,8μm,18.0s
MNK Minsk 66.45 331 *i* P **P** **01 50 47.6 -0.5**
MNK *i* *PP **pP** **01 51 05.4 -0.1**
MNK *i* 01 53 14.6
MNK *i* PPP PPP 01 54 49.8
MNK *i* S **S** **01 59 30.7 -2.3**
MNK *i* *SS **sS** **02 00 06.6 +4.0**
MNK *i* SS **SS** **02 03 49.7 +0.1**
MNK pmax pmax
comp=Z,135nm,0.8s
MNK pmax pmax
comp=E,23nm,0.9s
MNK pmax pmax
comp=N,115nm,1.1s
MNK MLR MLR
comp=Z,16μm,21.0s
MNK MLR MLR
comp=E,4μm,19.0s
MNK MLR MLR
comp=N,8μm,18.0s
ODD1 Odda 66.55 345⇓*e*P **P** **01 50 49.1 +0.4**
ODD1 IVmB_BB 01 50 49.9
comp=Z,3μm,1.9s
ODD1 *e*S **S** **01 59 30.9 -3.3**
ODD1 IVMs_BB IVMs_BB 02 25 22.8
comp=Z,3μm,18.5s
I37A Lemond, Waseca 66.70 48 IAMs_20 IAMs_20 02 20 50.5
comp=Z,6μm,21.0s
PABE Paberze 66.72 334 IAmb IAmb 01 50 52.1
comp=Z,187nm,0.8s
PABE Paberze 66.72 334 *e*P **P** **01 50 49.9 +0.1**
VIS Vishakhapatnam 66.74 269 *e*P **P** **01 50 51.4 +0.9**
ANMO Albuquerque 66.78 63 P **P** **01 50 51.5 +0.8**
ANMO IAmb IAmb 01 50 53.3
comp=Z,364nm,1.3s
ANMO Albuquerque 66.78 63 P **P** **01 50 51.6 +0.8**
baz=318
ANMO S **S** **01 59 42.1 +4.1**
baz=318
ANMO Albuquerque 66.78 63⇑P **P** **01 50 51.2 +0.5**
ANMO Albuquerque 66.78 63 LR LR 02 18 55.4
comp=Z,757nm,21.2s,baz=58,slow=35
ANMO Albuquerque 66.78 63⇑*i*P **P** **01 50 51.3 +0.5**
ANMO pmax pmax
comp=Z,435nm,1.7s
ANMO Albuquerque 66.78 63 P **P** **01 50 51.2 +0.5**
GEYT Alibeck 66.80 302 P **P** **01 50 50.2 -0.5**
GEYT Alibeck 66.80 302 P **P** **01 50 50.0 -0.7**
comp=Z,32nm,0.7s,baz=29,slow=3.4,SNR=84
GEYT LR LR 02 21 43.1
comp=Z,6μm,19.6s,baz=60,slow=37
comp=Z,32nm,0.7s
PBUR Paburge 66.82 335 *e*P **P** **01 50 50.5 0.0**
L34A Svendsen Farm, 66.83 51 IAmb IAmb 01 50 51.8
comp=Z,526nm,1.1s
L34A IAMs_20 IAMs_20 02 18 51.3
comp=Z,5μm,21.0s
COWI Conover 67.00 44 IAmb IAmb 01 50 53.1
comp=Z,419nm,1.2s
BLS5 Blasjo 67.04 345⇓*i*P **P** **01 50 52.4 +0.5**
BLS5 IVmB_BB 01 50 52.9
comp=Z,3μm,1.9s
BLS5 *i* 01 53 25.9
BLS5 *e*S **S** **01 59 36.4 -3.7**
BLS5 IVMs_BB IVMs_BB 02 25 29.4
comp=Z,4μm,16.7s
Y22D IRIS PASSCAL I 67.16 64 IAMs_20 IAMs_20 02 16 17.7
comp=Z,5μm,21.0s
Y22D IRIS PASSCAL I 67.16 64 P **P** **01 50 54.6 +1.5**
baz=318,SNR=15
Y22D S **S** **01 59 47.6 +5.0**
baz=318
G40A Rib Lake 67.19 45 IAmb IAmb 01 50 54.3
comp=Z,302nm,1.2s
MMRI Maumere 67.29 219 P **P** **01 50 54.9 +1.0**
MMRI Maumere 67.29 219 IAmb IAmb 01 50 55.6
comp=Z,606nm,1.1s
MMRI Maumere 67.29 219⇑P **P** **01 50 53.7 -0.2**
MMRI Maumere 67.29 219 P **P** **01 50 54.8 +0.9**
comp=Z,633nm,1.5s,comp=Z,10μmcomp=Z,7μm
TPRI Tanjung Pinang 67.32 240 P **P** **01 50 56.4 +2.2**
comp=Z,333nm,1.4s,comp=Z,5μmcomp=Z,8μm
BTDF Bukit Timah Da 67.36 241 P **P** **01 50 57.1 +2.7**
KHAM Kharkiv 67.38 323 P **P** **01 50 54.5 +0.3**
KMY Karmoy 67.44 345⇓*i*P **P** **01 50 54.7 +0.4**
KMY IVmB_BB 01 50 55.6
comp=Z,4μm,1.9s
KMY *e*S **S** **01 59 42.6 -2.2**
LRW Lerwick 67.45 349 *e*P **P** **01 50 53.6 -0.7**
LRW IAmb IAmb 01 50 55.9
comp=Z,668nm,1.6s
LRW Lerwick 67.45 349⇑P **P** **01 50 54.5 +0.1**
CBKS Cedar Bluff 67.52 56 IAmb IAmb 01 50 56.3
comp=Z,634nm,1.2s
CBKS IAMs_20 IAMs_20 02 21 37.7
comp=Z,4μm,20.0s
CBKS Cedar Bluff 67.52 56 P **P** **01 50 54.5 -0.7**
baz=319,SNR=52
CBKS S **S** **01 59 45.8 -0.7**
baz=319
CBKS Cedar Bluff 67.52 56⇑P **P** **01 50 54.4 -0.8**
SOEI Soe 67.55 216 P **P** **01 50 57.1 +1.4**
SOEI Soe 67.55 216 P **P** **01 50 52.2 -3.4**
SOEI Soe 67.55 216⇑P **P** **01 50 55.3 -0.3**
SOEI Soe 67.55 216 P **P** **01 50 54.9 -0.8**
comp=Z,315nm,1.9s,comp=Z,7μm
EDFI Ende, Flores 67.61 219 P **P** **01 50 56.0 -0.1**
comp=Z,298nm,1.5s,comp=Z,5μmcomp=Z,6μm
KDU Kakadu 67.61 207 P **P** **01 50 56.4 +0.5**
KDU Kakadu 67.61 207⇑P **P** **01 50 55.9 0.0**
SCHQ Schefferville 67.70 26 IAmb IAmb 01 51 13.2
comp=Z,307nm,1.3s
SCHQ Schefferville 67.70 26 P **P** **01 50 56.4 +0.3**
comp=Z,84nm,0.8s,baz=345,slow=6.7,SNR=78
SCHQ PKPPKP 02 19 05.6
comp=Z,3.5nm,0.9s,baz=109,slow=4.2,SNR=5.3
comp=Z,84nm,0.8s
F42A Maple Grove Fa 67.71 44 IAmb IAmb 01 50 57.8
comp=Z,483nm,1.4s
E43A Lone Tree Farm 67.71 43 IAmb IAmb 01 50 57.4
comp=Z,373nm,1.2s
HOMB Homborsund 67.77 343⇓*i*P **P** **01 50 56.6 +0.2**
HOMB IVmB_BB 01 50 58.5
comp=Z,3μm,2.0s
HOMB *e*S **S** **01 59 51.1 +2.3**
HOMB IVMs_BB IVMs_BB 02 25 29.5
comp=Z,3μm,17.4s
HOMB Homborsund 67.77 343 *i* P **P** **01 50 54.0 -2.4**
121A Cookes Peak, D 67.81 65 P **P** **01 50 58.4 +1.1**
baz=318,SNR=182
121A S **S** **01 59 54.7 +4.3**
baz=318
DRS Darwin Rock St 67.83 209 P **P** **01 50 58.1 +0.9**
SNART Snartemo 67.94 344⇓*e*P **P** **01 50 58.3 +0.9**
SNART IVmB_BB 01 50 59.7
comp=Z,7μm,1.8s
SNART *e*PP **PP** **01 53 28.5 +1.3**

SNART *e*S **S** **01 59 50.9 +0.1**
SNART IVMs_BB IVMs_BB 02 27 45.4
comp=Z,6μm,19.5s
SNART Snartemo 67.94 344 *i* P **P** **01 50 56.0 -1.5**
N35A Tabor 68.03 52 IAmb IAmb 01 50 59.9
comp=Z,692nm,1.4s
N35A IAMs_20 IAMs_20 02 20 07.0
comp=Z,5μm,20.0s
I40A Norwalk 68.07 46 IAmb IAmb 01 50 59.8
comp=Z,492nm,1.1s
LHMI Lhok Sumawe 68.09 250 P **P** **01 51 02.4 +3.4**
LHMI Lhok Sumawe 68.09 250 P **P** **01 50 58.9 -0.1**
LHMI Lhok Sumawe 68.09 250 P **P** **01 51 01.5 +2.5**
comp=Z,648nm,1.2s,comp=Z,13μm
MTN Manton Dam 68.15 208 P **P** **01 51 00.1 +0.8**
MTN Manton Dam 68.15 208 ⇑P **P** **01 50 59.5 +0.3**
BATI Baumata 68.19 217 P **P** **01 50 58.8 -0.8**
comp=Z,239nm,1.4s,comp=Z,4μmcomp=Z,5μm
SUW Suwalki 68.25 333 *i* P **P** **01 50 58.3 -1.1**
SUW *e*S **S** **01 59 51.8 -2.9**
SUW *e*L L 02 21 46.7
comp=Z,14μm,24.6s
SUW Suwalki 68.25 333 ⇑P **P** **01 50 58.4 -1.1**
SUW Suwalki 68.25 333 *e*P **P** **01 50 59.5 0.0**
SUW Suwalki 68.25 333 P **P** **01 50 58.6 -0.9**
SUW pmax pmax
comp=Z,180nm,1.3s
MAK Makhachkala 68.27 312*c i*P **P** **01 50 58.7 -1.1**
MAK *e**PP **pP** **01 51 19.6 +2.3**
MAK *e**SP **PcP** **01 51 29.1 +4.0**
MAK *e* 01 53 29.7
MAK *e*PPP PPP 01 55 08.4
MAK *e*S **S** **01 59 52.0 -3.2**
MAK *e**SS **sS** **02 00 28.7 +3.8**
MAK *e*SS **SS** **02 04 12.7 -5.7**
MAK pmax pmax
comp=Z,206nm,1.3s
MAK MLR MLR
comp=Z,18μm,20.0s
PLTM Poltava 68.33 324 P **P** **01 50 59.1 -1.0**
R32A Long Quarter, 68.34 55 IAmb IAmb 01 51 01.0
comp=Z,285nm,1.3s
R32A IAMs_20 IAMs_20 02 24 14.4
comp=Z,4μm,20.0s
DEL Delary 68.38 339 *i* P **P** **01 50 59.0 -1.2**
SCIA State Center 68.40 49 P **P** **01 51 00.7 0.0**
baz=321,SNR=72
SCIA S **S** **01 59 57.4 +0.5**
baz=321
GOF Gofitskoye 68.62 316*d i*P **P** **01 51 00.8 -1.2**
GOF *e*S **S** **01 59 54.2 -5.2**
FUTU Fugatoga 68.78 155 P **P** **01 51 05.2 +2.1**
I42A Draeger Farm, 68.84 45 IAmb IAmb 01 51 04.5
comp=Z,393nm,1.1s
E46A Sault Ste Mari 68.84 41 IAmb IAmb 01 51 04.0
comp=Z,373nm,1.2s
H43A Windswept, Lux 68.88 44 IAmb IAmb 01 51 04.9
comp=Z,495nm,1.2s
KSU1 Kansas State U 68.89 53 IAmb IAmb 01 51 04.1
comp=Z,292nm,1.1s
KSU1 IAMs_20 IAMs_20 02 24 18.0
comp=Z,6μm,20.0s
KSU1 Kansas State U 68.89 53 P **P** **01 51 02.3 -1.5**
baz=320,SNR=39
KSU1 S **S** **01 59 59.6 -3.2**
baz=320
KSU1 Kansas State U 68.89 53 ⇑P **P** **01 51 02.3 -1.5**
JFWS Jewell Farm 69.00 47 IAmb IAmb 01 51 05.1
comp=Z,373nm,1.4s
JFWS Jewell Farm 69.00 47 P **P** **01 51 03.8 -0.6**
baz=322,SNR=43
JFWS S **S** **02 00 02.0 -1.9**
baz=322
JFWS Jewell Farm 69.00 47 ⇑P **P** **01 51 02.6 -1.8**
PPBI Pangkal Pinang 69.05 237 P **P** **01 51 06.4 +1.5**
comp=Z,263nm,1.6s
SRIG Santa Rosalia 69.06 72 IAmb IAmb 01 51 06.7
comp=Z,548nm,1.2s
SRIG IAMs_20 IAMs_20 02 15 19.6
comp=Z,4μm,22.0s
SRIG Santa Rosalia 69.06 72 ⇑P **P** **01 51 05.3 +0.3**
EPT El Paso 69.09 65 IAmb IAmb 01 51 07.5
comp=Z,773nm,1.4s
MLSI Meulaboh, Aceh 69.18 250 P **P** **01 51 04.4 -1.4**
comp=Z,110nm,0.8s
ERBR Yeremizino-Bor 69.19 318 *e*P **P** **01 51 05.0 -0.5**
ERBR *e**PP **PcP** **01 51 26.6 -2.3**
ERBR *e*S **S** **02 00 04.6 -1.4**
ERBR pmax pmax
comp=Z,167nm,2.6s
ERBR MLR MLR
comp=Z,13μm,22.0s
ERBR MLR MLR
comp=E,8μm,23.0s
ERBR MLR MLR
comp=N,14μm,21.0s
L40A Anamosa 69.22 48 IAmb IAmb 01 51 06.5
comp=Z,384nm,1.1s
L40A IAMs_20 IAMs_20 02 22 28.2
comp=Z,5μm,21.0s
LUNU Lund 69.24 339 *i* P **P** **01 51 05.0 -0.6**
AK03 Malin Array Si 69.25 328 P **P** **01 51 04.6 -1.1**
AK23 Malin Array Si 69.25 328 P **P** **01 51 05.5 -0.2**
N38A Joes South For 69.25 50 IAmb IAmb 01 51 07.0
comp=Z,433nm,1.1s
AK21 Malin Array Si 69.26 328 P **P** **01 51 04.7 -1.1**
AK22 Malin Array Si 69.27 328 P **P** **01 51 04.6 -1.3**
AKASG Malin Array Be 69.27 328 P **P** **01 51 04.5 -1.3**
AKASG Malin Array Be 69.27 328 P **P** **01 51 04.4 -1.4**
comp=Z,20nm,0.4s,baz=33,slow=6.0,SNR=58
AKASG PKPPKP 02 19 05.9
comp=Z,4.7nm,1.0s,baz=215,slow=3.6,SNR=8.0
AKASG LR LR 02 25 16.7
comp=Z,10μm,19.4s,baz=32,slow=39
comp=Z,20nm,0.4s
AKASG Malin Array Be 69.27 328 P **P** **01 51 04.6 -1.3**
AKASG pmax pmax
comp=Z,89nm,1.1s
AKBB Malin Array Si 69.27 328 ⇓*i*P **P** **01 51 04.3 -1.6**
AKBB pmax pmax
comp=Z,151nm,1.6s
AKBB Malin Array Si 69.27 328 P **P** **01 51 04.7 -1.2**
AK04 Malin Array Si 69.27 328 P **P** **01 51 04.7 -1.2**
KIEV Kiev 69.28 328 ⇓P **P** **01 51 04.7 -1.2**
KIEV Kiev 69.28 328 P **P** **01 51 04.5 -1.4**
KIEV Kiev 69.28 328 *i* P **P** **01 51 04.1 -1.8**
SNR=18
KIEV Kiev 69.28 328 P **P** **01 51 04.7 -1.2**
KIEV Kiev 69.28 328 P **P** **01 51 04.7 -1.2**
comp=Z,270nm,2.1s,comp=Z,6μm
KIEV Kiev 69.28 328 P **P** **01 51 04.4 -1.6**
KIEV PcP **sP** **01 51 30.1 -0.7**
AK01 Malin Array Si 69.28 328 P **P** **01 51 04.5 -1.4**
PLAI Plampang 69.29 223 P **P** **01 51 06.1 -0.3**
PLAI Plampang 69.29 223 P **P** **01 51 05.2 -1.2**
comp=Z,299nm,1.4s,comp=Z,4μm
AK18 Malin Array Si 69.30 328 P **P** **01 51 04.7 -1.4**
AK20 Malin Array Si 69.30 328 P **P** **01 51 04.7 -1.4**
AK11 Malin Array Si 69.31 328 P **P** **01 51 04.8 -1.3**
AK15 Malin Array Si 69.31 328 P **P** **01 51 04.8 -1.3**
AK02 Malin Array Si 69.31 328 P **P** **01 51 04.5 -1.6**
AK08 Malin Array Si 69.31 328 P **P** **01 51 04.9 -1.3**
AK19 Malin Array Si 69.32 328 P **P** **01 51 04.9 -1.3**
AK09 Malin Array Si 69.32 328 P **P** **01 51 04.7 -1.5**
G45A Suttons Bay 69.34 43 IAmb IAmb 01 51 07.5
comp=Z,350nm,1.0s
AK12 Malin Array Si 69.34 328 P **P** **01 51 04.8 -1.5**
MUD Monsted U'grnd 69.36 342 ⇑P **P** **01 51 07.3 +1.0**
MUD Monsted U'grnd 69.36 342 ⇓*i*P **P** **01 51 07.0 +0.7**
MUD IAmb IAmb 01 51 09.4
comp=Z,95nm,0.6s
BIGH Upper Bighouse 69.37 350 *e*P **P** **01 51 06.6 +0.2**
BIGH IAmb IAmb 01 51 08.0
comp=Z,185nm,0.9s
BSD Bornholm Skovb 69.39 338 ⇑P **P** **01 51 05.8 -0.7**
BSD Bornholm Skovb 69.39 338 *e*P **P** **01 51 07.5 +1.0**
BSD Bornholm Skovb 69.39 338 P **P** **01 51 07.1 +0.6**
BSD Bornholm Skovb 69.39 338 ⇓*i*P **P** **01 51 05.8 -0.7**
BSD IAmb IAmb 01 51 08.7
comp=Z,52nm,0.6s
BASI Baing, Sumba 69.39 220 P **P** **01 51 06.4 -0.6**
COP Copenhagen 69.41 340 P **P** **01 51 07.6 +0.9**
COP Copenhagen 69.41 340 ⇓*i*P **P** **01 51 06.8 +0.1**
COP IAmb IAmb 01 51 08.0
comp=Z,174nm,0.8s

AMTX Amarillo 69.44 60 IAmb IAmb 01 51 09.4
comp=Z,707nm,1.4s
AMTX Amarillo 69.44 60 P **P** **01 51 07.4 0.0**
baz=319
AMTX S **S** **02 00 10.9 +1.4**
baz=319
AMTX Amarillo 69.44 60 ⇑P **P** **01 51 07.2 -0.1**
MSTX Muleshoe 69.53 61 IAmb IAmb 01 51 09.8
comp=Z,757nm,1.3s
MSTX IAMs_20 IAMs_20 02 23 05.5
comp=Z,3μm,21.0s
MSTX Muleshoe 69.53 61 P **P** **01 51 07.9 -0.1**
baz=319,SNR=168
MSTX S **S** **02 00 13.3 +2.6**
baz=319
KAN12 Harper NE Stat 69.56 56 IAmb IAmb 01 51 08.5
comp=Z,411nm,1.2s
MI30 MI30,Zelenitsa 69.57 329 P **P** **01 51 06.4 -1.3**
NOKA Waynoka 69.58 57 IAmb IAmb 01 51 09.2
comp=Z,556nm,1.3s
MI28 Mi28,Pidlybu 69.58 329 P **P** **01 51 06.9 -0.9**
TWSI Taliwang, Sumb 69.59 224 P **P** **01 51 07.0 -1.3**
NCK Nalchik 69.62 315 ⇓*i*P **P** **01 51 07.8 -0.5**
NCK pmax pmax
comp=Z,207nm,3.5s
KAN08 Anthony NE Sta 69.63 56 IAmb IAmb 01 51 08.9
comp=Z,398nm,1.2s
OK035 E0210 Rd and N 69.64 56 IAmb IAmb 01 51 09.4
comp=Z,673nm,1.5s
OK035 IAMs_20 IAMs_20 02 24 53.9
comp=Z,4μm,20.0s
KVAR Kislovodsk Arr 69.65 316 LR LR 02 25 20.5
comp=Z,7μm,20.5s,baz=274,slow=39
KIV Kislovodsk 69.66 316 ⇓P **P** **01 51 08.7 +0.2**
KIV Kislovodsk 69.66 316 P **P** **01 51 07.7 -0.8**
KIV IAMs_20 IAMs_20 02 25 02.9
comp=Z,5μm,19.0s
KIV Kislovodsk 69.66 316 *i* P **P** **01 51 08.0 -0.6**
SNR=16
KIV Kislovodsk 69.66 316 ⇑P **P** **01 51 08.0 -0.6**
KIV Kislovodsk 69.66 316 P **P** **01 51 08.7 +0.2**
KIV Kislovodsk 69.66 316 *e*P **P** **01 51 07.7 -0.8**
KIV *e* 01 53 46.0
KIV *e*PPP PPP 01 55 26.4
KIV *e*S **S** **02 00 09.4 -2.4**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,6μm,17.0s
KIV Kislovodsk 69.66 316 P **P** **01 51 08.4 -0.1**
comp=Z,49nm,0.9s,comp=Z,1μm
KAN06 Argonia West S 69.67 56 IAmb IAmb 01 51 09.2
comp=Z,393nm,1.3s
RNPP9 Sopachiv 69.73 330 P **P** **01 51 08.2 -0.5**
BKNI Bangkinang 69.73 243 P **P** **01 51 12.2 +3.0**
BKNI Bangkinang 69.73 243 P **P** **01 51 09.6 +0.4**
BKNI Bangkinang 69.73 243 P **P** **01 51 08.3 -0.9**
BKNI Bangkinang 69.73 243 P **P** **01 51 12.1 +2.9**
U32A Winter Ranch, 69.74 57 IAmb IAmb 01 51 10.4
comp=Z,470nm,1.2s
KBZ Khabaz 69.75 316 P **P** **01 51 08.7 -0.3**
comp=Z,27nm,1.0s,baz=330,slow=3.8,SNR=23
KBZ PKPPKP P'P'df 02 19 07.0 -11
comp=Z,5.9nm,1.0s,baz=218,slow=4.7,SNR=9.6
KBZ LR LR 02 25 20.7
comp=Z,10μm,21.3s,baz=30,slow=39
comp=Z,27nm,1.0s
KBZ Khabaz 69.75 316*ce*P **P** **01 51 08.3 -0.6**
KBZ pmax pmax
comp=Z,63nm,1.1s
SRBI Singaraja 69.75 226 P **P** **01 51 10.4 +1.2**
comp=Z,283nm,1.6s,comp=Z,6μmcomp=Z,8μm
SEKA Sheki 69.78 311 P **P** **01 51 08.9 -0.4**
MNTX Cornudas Mount 69.79 64 P **P** **01 51 09.9 +0.4**
baz=319,SNR=230
MNTX S **S** **02 00 17.7 +4.2**
baz=319
KAN01 Argonia South 69.79 56 IAmb IAmb 01 51 10.0
comp=Z,613nm,1.3s
OK038 West end E0370 69.80 57 IAmb IAmb 01 51 10.7
comp=Z,711nm,1.3s
OK038 IAMs_20 IAMs_20 02 24 59.6
comp=Z,4μm,20.0s
RNPP2 Kostyukhnivka 69.80 330 P **P** **01 51 08.6 -0.6**
RNPP8 Varash 69.80 330 P **P** **01 51 08.4 -0.8**
OK032 Salt Plains WL 69.83 56 IAmb IAmb 01 51 10.5
comp=Z,644nm,1.6s
SHA1 Shidzhatmaz 69.84 316*ce*P **P** **01 51 08.7 -1.2**
LINV Loch Inver, As 69.85 351 *e*P **P** **01 51 09.8 +0.5**
LINV IAmb IAmb 01 51 11.3
comp=Z,761nm,1.6s
KAN17 Caldwell West 69.87 56 IAmb IAmb 01 51 10.6
comp=Z,502nm,1.2s
KAN09 Caldwell North 69.88 55 IAmb IAmb 01 51 10.6
comp=Z,469nm,1.3s
RNPP5 Staryi Chortor 69.89 330 P **P** **01 51 09.3 -0.4**
ABJI Asem Bagus 69.93 227 P **P** **01 51 11.2 +0.9**
comp=Z,289nm,1.6s,comp=Z,6μmcomp=Z,7μm
LABN Labinsk 69.95 317 *e*P **P** **01 51 09.7 -0.5**
LABN *e**PP **PcP** **01 51 31.3 -0.9**
LABN *e*S **S** **02 00 13.8 -1.2**
LABN pmax pmax
comp=Z,85nm,1.6s
LABN MLR MLR
comp=E,9μm,15.0s
LABN MLR MLR
comp=Z,10μm,21.0s
LABN MLR MLR
comp=N,8μm,17.0s
GLMI Grayling 69.95 42 IAmb IAmb 01 51 11.5
comp=Z,455nm,0.9s
GLMI Grayling 69.95 42 P **P** **01 51 09.9 -0.3**
baz=324,SNR=20
GLMI S **S** **02 00 13.3 -1.8**
baz=324
HYB Hyderabad 69.95 273 *e*P **P** **01 51 11.0 +0.3**
HYB IVmB_BB 01 51 12.1
comp=Z,2μm,1.0s
HYB *e*pP **pP** **01 51 26.0 -2.3**
HYB *e*PP **PP** **01 53 47.7 +1.8**
HYB *e* 02 00 14.7
HYB IVMs_BB IVMs_BB 02 25 52.2
comp=Z,4μm,12.4s
MI29 MI29, Kamyanyy 69.96 329 P **P** **01 51 10.0 -0.2**
L42A Oliver, Polo 69.98 47 IAmb IAmb 01 51 11.0
comp=Z,383nm,1.1s
P38A Dawn 70.01 51 IAmb IAmb 01 51 11.9
comp=Z,780nm,1.4s
P38A IAMs_20 IAMs_20 02 20 18.4
comp=Z,6μm,22.0s
LEWI Lewis, Hebride 70.02 351 *e*P **P** **01 51 10.6 +0.2**
LEWI IAmb IAmb 01 51 12.0
comp=Z,685nm,1.6s
K43A Burlington 70.03 46 IAmb IAmb 01 51 11.5
comp=Z,540nm,1.1s
KAN13 South Haven SW 70.05 55 IAmb IAmb 01 51 11.6
comp=Z,356nm,1.2s
VLDQ Val d'Or 70.07 36 P **P** **01 51 09.5 -1.3**
VLDQ IAmb IAmb 01 51 10.7
comp=Z,403nm,1.0s
CROK Carrier 70.17 56 IAmb IAmb 01 51 12.8
comp=Z,747nm,1.5s
MNGR Mingechevir, A 70.17 311 P **P** **01 51 13.1 +1.5**
SSRD Sdr. Stenderup 70.18 341 ⇓*i*P **P** **01 51 12.4 +1.0**
SSRD IAmb IAmb 01 51 14.8
comp=Z,171nm,0.7s
MCD Coleburn Disti 70.19 349 *e*P **P** **01 51 11.5 0.0**
MCD IAmb IAmb 01 51 13.1
comp=Z,317nm,0.9s
RGN Rugen 70.27 339 IAmb IAmb 01 51 15.1
comp=Z,362nm,1.0s
RGN Rugen 70.27 339 ⇑P **P** **01 51 12.7 +0.8**
RGN Rugen 70.27 339 *e*P **P** **01 51 13.1 +1.2**
RGN Rugen 70.27 339 *e*P 01 51 12.8
comp=Z,360nm,1.0s,baz=22,slow=5.8
MTSU Mount Surprise 70.33 194 P **P** **01 51 13.3 +0.6**
ONI Oni 70.41 314 *e*P **P** **01 51 11.8 -1.3**
ONI Oni 70.41 314 P **P** **01 51 12.9 -0.2**
PMBI Palembang 70.41 238 P **P** **01 51 16.0 +2.7**
PMBI Palembang 70.41 238 ⇑P **P** **01 51 15.9 +2.5**
LUBAR Lubar, Ukraine 70.42 328 P **P** **01 51 11.7 -1.3**
GKP Gorka Klasztor 70.51 336 *i* P **P** **01 51 13.1 -0.4**
GKP *e*S **S** **02 00 17.7 -3.5**
GKP *e*L L 02 21 27.4
comp=Z,10μm,26.6s
GKP Gorka Klasztor 70.51 336 *e*P **P** **01 51 13.9 +0.5**

GKP Gorka Klasztor 70.51 336 P **P** **01 51 13.3 -0.1**
GKP pmax pmax
comp=Z,258nm,0.8s
T35A Sooner Cattle 70.61 55 IAMs_20 IAMs_20 02 24 13.6
comp=Z,5μm,22.0s
GANJ Ganja 70.63 311 P **P** **01 51 14.0 -0.5**
L44A Lake County Fo 70.64 46 IAmb IAmb 01 51 15.4
comp=Z,576nm,1.2s
L44A Lake County Fo 70.64 46 P **P** **01 51 13.9 -0.6**
baz=323,SNR=23
L44A S **S** **02 00 20.3 -2.8**
baz=323
KPL Plockton 70.69 351 *e*P **P** **01 51 14.5 +0.1**
KPL IAmb IAmb 01 51 16.2
comp=Z,1μm,1.8s
VHRN Van Horn 70.69 65 IAmb IAmb 01 51 17.5
comp=Z,598nm,1.3s
SNSI Sinabang, Aceh 70.72 249 P **P** **01 51 17.0 +1.7**
DRUM Mains of Drumt 70.76 349 *e*P **P** **01 51 14.6 -0.3**
DRUM IAmb IAmb 01 51 16.5
comp=Z,288nm,0.9s
DRUM IAMs_20 IAMs_20 02 16 38.6
comp=Z,5μm,29.6s
OK051 E0350 and S346 70.76 55 IAMs_20 IAMs_20 02 23 58.6
comp=Z,4μm,22.0s
DKNS Dickens 70.77 60 IAmb IAmb 01 51 17.3
comp=Z,822nm,1.6s
OK048 Pawnee Station 70.78 56 IAmb IAmb 01 51 16.4
comp=Z,364nm,1.4s
OK048 IAMs_20 IAMs_20 02 26 03.0
comp=Z,4μm,20.0s
P40A Paris 70.81 50 IAmb IAmb 01 51 16.9
comp=Z,736nm,1.2s
BEL Belsk 70.86 333 *e*P **P** **01 51 15.3 -0.2**
BEL *e*PcP **pP** **01 51 31.0 -2.2**
BEL *e*S **S** **02 00 21.2 -4.2**
BEL *e*L L 02 24 41.4
comp=Z,12μm,23.6s
BEL Belsk 70.86 333 ⇑P **P** **01 51 15.5 -0.1**
BEL Belsk 70.86 333 ⇑P **P** **01 51 15.5 -0.1**
PECS Pecos 70.88 64 IAmb IAmb 01 51 18.4
comp=Z,542nm,1.3s
GSI Gunungsitoli 70.89 247 P **P** **01 51 17.8 +1.5**
GSI Gunungsitoli 70.89 247 P **P** **01 51 17.8 +1.5**
comp=Z,225nm,1.4s,comp=Z,9μmcomp=Z,10μm
TRLG Trialeti 70.95 313 P **P** **01 51 16.2 -0.4**
LKRN Lenkeran, Azer 70.97 309 P **P** **01 51 16.2 -0.3**
OK029 Liberty Lake 70.99 56 IAMs_20 IAMs_20 02 25 59.6
comp=Z,4μm,22.0s
SMRI Semarang 71.06 231 P **P** **01 51 19.1 +1.8**
SMRI Semarang 71.06 231 IAmb IAmb 01 51 20.0
comp=Z,669nm,1.3s
SMRI Semarang 71.06 231 P **P** **01 51 18.9 +1.6**
comp=Z,514nm,1.9s,comp=Z,10μm
PDSI Padang 71.08 243 P **P** **01 51 17.8 +0.4**
WMOK Wichita Mounta 71.10 58 IAmb IAmb 01 51 19.1
comp=Z,427nm,1.3s
WMOK Wichita Mounta 71.10 58 P **P** **01 51 17.2 -0.2**
baz=320,SNR=302
WMOK S **S** **02 00 29.3 +0.5**
baz=320
WMOK Wichita Mounta 71.10 58 ⇑P **P** **01 51 17.1 -0.4**
WMOK Wichita Mounta 71.10 58 P **P** **01 51 17.2 -0.2**
WMOK pmax pmax
comp=Z,307nm,1.4s
TV1H Townsville Har 71.11 191 P **P** **01 51 17.9 +0.5**
J47A Sunmer 71.15 43 IAmb IAmb 01 51 19.1
comp=Z,694nm,1.1s
J47A IAMs_20 IAMs_20 02 24 23.9
comp=Z,3μm,21.0s
MSVF Nonsavu 71.15 160 P **P** **01 51 19.2 +1.4**
MSVF Nonsavu 71.15 160 P **P** **01 51 18.7 +1.0**
MSVF IAmb IAmb 01 51 20.8
comp=Z,553nm,1.3s
MSVF Nonsavu 71.15 160 ⇑P **P** **01 51 19.2 +1.4**
MSVF Nonsavu 71.15 160 *i* P **P** **01 51 17.8 0.0**
MSVF Nonsavu 71.15 160 P **P** **01 51 18.9 +1.2**
OK052 Battle Ridge R 71.17 56 IAmb IAmb 01 51 19.1
comp=Z,788nm,1.3s
OK052 IAMs_20 IAMs_20 02 26 12.5
comp=Z,4μm,21.0s
ANN Anapa 71.18 320 *e*P **P** **01 51 15.0 -2.7**
ANN *e* 01 51 34.2
ANN *e**PP **PcP** **01 51 37.8 +0.5**
ANN *e* 01 53 52.4
ANN *e*PPP PPP 01 55 36.1
ANN *e*S **S** **02 00 24.0 -5.3**
ANN *e**SS **sS** **02 01 04.0 +4.8**
ANN *e*SS **SS** **02 05 01.3 -1.7**
ANN *e*SSS SSS 02 08 11.7
ANN pmax pmax
comp=Z,70nm,1.7s
ANN pmax pmax
comp=Z,593nm,3.3s
ANN MLR MLR
comp=Z,7μm,20.0s
ANN MLR MLR
comp=E,9μm,21.0s
ANN MLR MLR
comp=N,9μm,18.0s
OK031 S. Brethren Rd 71.19 56 IAmb IAmb 01 51 19.2
comp=Z,751nm,1.3s
OK031 IAMs_20 IAMs_20 02 26 13.8
comp=Z,3μm,20.0s
VSLR Vesyoloye 71.20 317 *i* P **P** **01 51 17.1 -0.7**
VSLR pmax pmax
comp=Z,129nm,1.2s
M44A Midewin, Midew 71.21 47 IAmb IAmb 01 51 18.8
comp=Z,413nm,1.1s
SN07 Snyder 07 71.22 60 IAmb IAmb 01 51 20.0
comp=Z,844nm,1.5s
SOC Sochi 71.23 317*d i*P **P** **01 51 16.0 -2.0**
SOC *e**PP **PcP** **01 51 39.2 +1.6**
SOC *e* 01 53 51.5
SOC *e*PPP PPP 01 55 37.0
SOC *e*S **S** **02 00 26.2 -3.8**
SOC *e**SS **sS** **02 01 04.7 +4.8**
SOC *e*SS **SS** **02 05 02.6 -1.2**
SOC pmax pmax
comp=Z,41nm,0.8s
SOC MLR MLR
comp=Z,7μm,21.0s
PWJI Pagerwojo 71.25 229 P **P** **01 51 18.0 -0.4**
comp=Z,616nm,1.7s,comp=Z,8μm
OKCSW OKLAHOMA CITY 71.30 57 IAMs_20 IAMs_20 02 22 57.8
comp=Z,6μm,22.0s
HDIL Hopedale 71.30 48 IAMs_20 IAMs_20 02 23 51.4
comp=Z,4μm,19.0s
HDIL Hopedale 71.30 48 P **P** **01 51 18.0 -0.5**
baz=323
HDIL S **S** **02 00 29.4 -1.5**
baz=323
AKH Akhalkalaki 71.33 314 *e*P **P** **01 51 20.1 +1.2**
AUAYR Ayr State High 71.36 190 P **P** **01 51 19.6 +0.8**
SN05 Snyder 5 71.39 61 IAmb IAmb 01 51 20.9
comp=Z,591nm,1.4s
INVG Invergeldie, C 71.42 350 *e*P **P** **01 51 18.6 -0.3**
INVG IAmb IAmb 01 51 20.2
comp=Z,85nm,0.9s
INVG IAMs_20 IAMs_20 02 16 24.0
comp=Z,3μm,28.0s
I49A Point Hope 71.42 42 IAmb IAmb 01 51 20.4
comp=Z,435nm,1.1s
I49A IAMs_20 IAMs_20 02 24 58.1
comp=Z,3μm,19.0s
FNO Franklin 71.43 57 IAmb IAmb 01 51 21.2
comp=Z,574nm,1.4s
DEOK Depew 71.45 56 IAmb IAmb 01 51 20.8
comp=Z,730nm,1.3s
APMT Aspermont 71.46 60 IAmb IAmb 01 51 21.2
comp=Z,908nm,1.5s
BSEG Bad Segeberg 71.49 340 P **P** **01 51 19.9 +0.5**
BSEG pmax pmax
comp=Z,184nm,1.7s
BSEG Bad Segeberg 71.50 340 *e*P 01 51 19.8
comp=Z,128nm,0.9s,baz=22,slow=5.8
BAL3X Bal3x, Balta 71.50 326 P **P** **01 51 19.5 -0.1**
MNHN Monahans 71.52 63 IAmb IAmb 01 51 22.0
comp=Z,776nm,1.3s
PBSI Pulau Batu 71.60 245 P **P** **01 51 21.8 +1.3**
comp=Z,170nm,0.5s
S39A Bolivar 71.62 52 IAmb IAmb 01 51 20.8
comp=Z,377nm,1.2s
S39A IAMs_20 IAMs_20 02 22 17.1
comp=Z,5μm,22.0s
R40A Maddies Statio 71.67 51 IAmb IAmb 01 51 21.7

comp=Z,618nm,1.3s
R40A IAMs_20 IAMs_20 02 21 19.3
comp=Z,5μm,22.0s
LVV L'vov 71.69 331 ⇑*i*P **P 01 51 20.2 -0.5**
LVV *e* 01 53 57.0
LVV *e*S **S 02 00 33.8 -1.3**
LVV MLR MLR
comp=Z,12μm,18.0s
X34A Smith Ranch, M 71.71 57 IAmb IAmb 01 51 23.2
comp=Z,584nm,1.3s
X34A IAMs_20 IAMs_20 02 23 31.7
comp=Z,4μm,20.0s
LAWE Loch Awe, Argy 71.73 350 *e*P **P 01 51 20.8 0.0**
LAWE IAmb IAmb 01 51 22.4
comp=Z,251nm,0.8s
ESY Stoneypath 71.74 349 *e*P **P 01 51 20.3 -0.6**
HLG Helgoland 71.75 342 ⇑P **P 01 51 22.2 +1.4**
HLG Helgoland 71.75 342 *e*P 01 51 21.4
comp=Z,381nm,1.0s,baz=22,slow=5.8
TUL3 Leonard 71.76 55 IAmb IAmb 01 51 22.8
comp=Z,754nm,1.4s
TUL3 IAMs_20 IAMs_20 02 24 58.9
comp=Z,5μm,21.0s
TUL3 Leonard 71.76 55 P **P 01 51 20.9 -0.4**
baz=321,SNR=113
TUL3 S **S 02 00 34.1 -2.2**
baz=321
GNI Garni 71.76 312 P **P 01 51 22.4 +0.9**
GNI IAmb IAmb 01 52 42.2
comp=Z,396nm,1.4s
GNI Garni 71.76 312 P **P 01 51 21.6 +0.2**
GNI Garni 71.76 312 LR LR 02 27 00.4
comp=Z,10μm,20.0s,baz=16,slow=39
GNI Garni 71.76 312 P **P 01 51 22.4 +0.9**
GNI pmax pmax
comp=Z,396nm,1.5s
GNI MLR MLR
comp=Z,10μm,20.0s
SORM Soroca 71.76 327 ⇑P **P 01 51 20.1 -1.0**
SORM Soroca 71.76 327 P **P 01 51 20.1 -1.0**
SORM Soroca 71.76 327 P **P 01 51 19.7 -1.4**
comp=Z,95nm,2.0s,comp=Z,2μm
ALPN Alpine 71.76 64 IAmb IAmb 01 51 23.6
comp=Z,648nm,1.5s
UGM Wanagama 71.77 230 P **P 01 51 22.6 +1.1**
UGM Wanagama 71.77 230 P **P 01 51 22.6 +1.1**
comp=Z,545nm,1.6s
W35A Tecumseh 71.78 56 IAmb IAmb 01 51 23.1
comp=Z,914nm,1.5s
YOGI Yogyakarta 71.80 230 P **P 01 51 22.4 +0.7**
comp=Z,233nm,1.9s,comp=Z,5μm
EDI Edinburgh 71.81 349 *e*P **P 01 51 21.1 -0.1**
EDI IAmb IAmb 01 51 22.7
comp=Z,1μm,1.9s
EDI IAMs_20 IAMs_20 02 18 14.9
comp=Z,4μm,24.4s
P43A Skaggs, Pawnee 71.92 49 IAmb IAmb 01 51 23.3
comp=Z,484nm,1.1s
KOUNC Koumac, New Ca 71.95 174 P **P 01 51 24.1 +1.7**
KOUNC Koumac, New Ca 71.95 174 IAmb IAmb 01 51 25.2
comp=Z,1μm,1.5s
KOUNC IAMs_20 IAMs_20 02 15 34.8
comp=Z,5μm,21.0s
KOUNC Koumac, New Ca 71.95 174 ⇑P **P 01 51 23.5 +1.1**
RLO Rose Lookout 71.95 54 IAmb IAmb 01 51 23.7
comp=Z,369nm,1.2s
BATM Batumi 71.98 315 *e*P **P 01 51 23.9 +1.4**
SGCY Sterling City 71.99 61 IAmb IAmb 01 51 24.7
comp=Z,872nm,1.4s
CTA Charters Tower 71.99 191 P **P 01 51 23.0 +0.3**
CTA pmax pmax
comp=Z,46nm,1.7s
CTAO Charters Tower 71.99 191 P **P 01 51 23.2 +0.5**
CTAO Charters Tower 71.99 191 P **P 01 51 23.0 +0.3**
CTAO IAmb IAmb 01 51 24.3
comp=Z,632nm,1.1s
CTAO Charters Tower 71.99 191 ⇑P **P 01 51 22.3 -0.4**
CTAO Charters Tower 71.99 191 P **P 01 51 23.0 +0.3**
CTAO pmax pmax
comp=Z,632nm,1.2s
WTFS Witchita Falls 72.01 58 IAmb IAmb 01 51 24.3
comp=Z,478nm,1.3s
KMPD K-Podol'skiy 72.02 328 P **P 01 51 20.9 -1.8**
POO Poona 72.05 277 *e*P **P 01 51 23.9 +0.6**
U38A Gravette 72.06 54 IAmb IAmb 01 51 24.1
comp=Z,534nm,1.4s
PGBU Glenifferbraes 72.07 350 *e*P **P 01 51 23.1 +0.3**
PGBU IAmb IAmb 01 51 24.7
comp=Z,3μm,1.8s
RUE Ruedersdorf 72.08 338 *e*P **P 01 51 23.8 +1.0**
RUE Ruedersdorf 72.08 338 *e*P 01 51 22.9
comp=Z,187nm,0.9s,baz=22,slow=5.8
NE56 Odesa 72.12 325 P **P 01 51 22.2 -1.0**
TASB TASBURUN-IGDIR 72.13 312 *e*P **P 01 51 24.2 +0.7**
BCA Borcka 72.14 315 ⇓P **P 01 51 23.7 +0.1**
BCA Borcka 72.14 315 *e*P **P 01 51 22.2 -1.3**
KARS Kars 72.14 313 *e*P **P 01 51 23.9 +0.2**
KARS Kars 72.14 313 P **P 01 51 24.5 +0.8**
KARS IAmb IAmb 01 53 25.9
comp=Z,755nm,1.6s
KARS Kars 72.14 313 ⇑P **P 01 51 24.1 +0.3**
KARS Kars 72.14 313 P **P 01 51 24.5 +0.8**
KARS pmax pmax
comp=Z,755nm,1.6s
KARS MLR MLR
comp=Z,27μm,21.0s
GORT1 Trebel 72.17 340 *e*P 01 51 24.1
comp=Z,790nm,1.7s,baz=22,slow=5.8
SISI Saibi 72.18 244 P **P 01 51 24.9 +0.9**
comp=Z,401nm,1.6s,comp=Z,7μm
NAX Nakhchivan 72.18 311 P **P 01 51 22.3 -1.6**
SADO Sadowa 72.22 39 ⇑P **P 01 51 22.9 -1.0**
SADO Sadowa 72.22 39 LR LR 02 25 04.5
comp=Z,2μm,21.4s,baz=344,slow=37
LEM Lembang 72.26 233 P **P 01 51 25.0 +0.4**
comp=Z,214nm,1.2s,comp=Z,5μm
LEM Lembang 72.26 233 P **P 01 51 25.3 +0.7**
ABTX Abilene, Hawle 72.26 60 IAMs_20 IAMs_20 02 19 46.5
comp=Z,3μm,20.0s
ABTX Abilene, Hawle 72.26 60 P **P 01 51 24.2 -0.2**
baz=320,SNR=222
ABTX S **S 02 00 41.6 -0.6**
baz=320
KWP Kalwaria Pacla 72.26 331 *i* P **P 01 51 25.5 +1.4**
KWP *e*PcP **PcP 01 51 42.7 +0.8**
KWP *e*S **S 02 00 39.2 -2.5**
KWP *e*L L 02 26 44.4
comp=Z,20μm,20.1s
KWP Kalwaria Pacla 72.26 331 IAmb IAmb 01 51 27.5
comp=Z,340nm,0.9s
KWP Kalwaria Pacla 72.26 331 ⇑P **P 01 51 25.5 +1.4**
KWP Kalwaria Pacla 72.26 331 P **P 01 51 25.7 +1.6**
KWP pmax pmax
comp=Z,411nm,1.5s
KWP Kalwaria Pacla 72.26 331 P **P 01 51 26.0 +1.9**
comp=Z,412nm,1.5s,comp=Z,5μm
DRBR Darabani 72.28 328 ⇓P **P 01 51 23.4 -0.8**
CCM Cathedral Cave 72.35 51 P **P 01 51 24.7 -0.1**
CCM IAmb IAmb 01 51 25.9
comp=Z,470nm,1.2s
CCM Cathedral Cave 72.35 51 P **P 01 51 24.4 -0.4**
baz=322
CCM S **S 02 00 42.0 -1.0**
baz=322
CCM Cathedral Cave 72.35 51 ⇑P **P 01 51 23.8 -1.0**
CCM Cathedral Cave 72.35 51 P **P 01 51 24.7 -0.1**
CCM pmax pmax
comp=Z,470nm,1.2s
L48A N Adams 72.36 44 IAmb IAmb 01 51 26.3
comp=Z,775nm,1.1s
LDAQ Lac Daran 72.37 32 P **P 01 51 25.0 +0.1**
SIM Simferopol' 72.38 322 *e*P **P 01 51 23.8 -1.0**
SIM 01 54 15.3
SIM *e*S **S 02 00 37.1 -6.0**
SIM pmax pmax
comp=Z,128nm,1.5s
SLM Saint Louis 72.38 50 P **P 01 51 25.0 +0.1**
SLM IAmb IAmb 01 51 26.2
comp=Z,774nm,1.2s
SLM PcP **pP 01 51 41.8 -0.7**
EKA Eskdalemuir Ar 72.38 349 P **P 01 51 24.7 0.0**
comp=Z,67nm,0.4s,baz=18,slow=5.0,SNR=665
EKA pP **PcP 01 51 42.1 -0.2**
comp=Z,21nm,0.4s,baz=19,slow=5.3,SNR=4.7
EKA PKPPKP 02 18 59.8
comp=Z,5.6nm,1.1s,baz=190,slow=2.4,SNR=7.3
comp=Z,67nm,0.4s
ESK Eskdalemuir 72.41 349 P **P 01 51 24.9 0.0**
ESK Eskdalemuir 72.41 349 IAMs_20 IAMs_20 02 28 35.0
comp=Z,4μm,21.0s
ESK Eskdalemuir 72.41 349 *e*P **P 01 51 24.8 0.0**
ESK IAmb IAmb 01 51 26.5
comp=Z,219nm,0.8s
ESK IAMs_20 IAMs_20 02 18 44.7
comp=Z,4μm,24.5s
ESK Eskdalemuir 72.41 349 ⇑P **P 01 51 24.6 -0.2**
ESK Eskdalemuir 72.41 349 P **P 01 51 24.9 0.0**
ESK pmax pmax
comp=Z,189nm,0.8s
ESK MLR MLR
comp=Z,4μm,21.0s
SBJI Serang 72.41 235 P **P 01 51 24.7 -0.6**
comp=Z,245nm,1.7s
AAM Ann Arbor 72.41 43 IAmb IAmb 01 51 26.7
comp=Z,567nm,1.1s
AAM Ann Arbor 72.41 43 P **P 01 51 25.1 +0.1**
baz=325,SNR=29
AAM S **S 02 00 43.4 -0.1**
baz=325
HHAR Hobbs 72.41 54 IAmb IAmb 01 51 26.1
comp=Z,643nm,1.3s
HHAR IAMs_20 IAMs_20 02 26 34.1
comp=Z,5μm,20.0s
LIFNC LIFOU 72.42 171 P **P 01 51 27.1 +1.9**
LIFNC LIFOU 72.42 171 P **P 01 51 25.4 +0.2**
SFIN Lafayette 72.45 47 IAmb IAmb 01 51 26.4
comp=Z,326nm,1.2s
SFIN Lafayette 72.45 47 P **P 01 51 24.8 -0.5**
baz=324,SNR=44
SFIN S **S 02 00 41.7 -2.3**
baz=324
K50A Casco 72.46 42 IAmb IAmb 01 51 27.7
comp=Z,599nm,1.4s
DBJI Dramaga 72.46 234 P **P 01 51 25.8 +0.1**
comp=Z,395nm,1.2s,comp=Z,12μm
LOOK Love County 72.52 57 IAmb IAmb 01 51 27.5
comp=Z,551nm,1.4s
LOOK IAMs_20 IAMs_20 02 20 24.2
comp=Z,3μm,22.0s
SENK Senkaya-Erzuru 72.53 314 *e*P **P 01 51 26.7 +0.6**
TXAR Lajitas Array 72.54 65 P **P 01 51 26.3 +0.1**
comp=Z,248nm,0.9s,baz=297,slow=4.1,SNR=780
TXAR pP **pP 01 51 44.7 +0.9**
comp=Z,114nm,0.7s,baz=305,slow=4.5,SNR=9.7
comp=Z,248nm,0.9s
LWLI Liwa 72.55 237 P **P 01 51 25.8 -0.5**
MGMO Mountain Grove 72.56 52 IAmb IAmb 01 51 26.8
comp=Z,334nm,1.3s
MGMO IAMs_20 IAMs_20 02 22 55.9
comp=Z,5μm,22.0s
KIS Kishinev 72.58 326 ⇓*i*P **P 01 51 24.8 -1.2**
comp=Z,320nm,2.7s
KIS *e*pP **PcP 01 51 40.0 -3.3**
KIS Kishinev 72.58 326 *e*PP PP 01 54 10.0 +2.6
KIS Kishinev 72.58 326 *d i*P **P 01 51 24.8 -1.2**
KIS *e**PP **PcP 01 51 40.0 -3.3**
KIS *e* 01 54 10.0
KIS *e*S **S 02 00 41.0 -4.3**
KIS *e*PS **PnS 02 01 32.0 +8.4**
KIS pmax pmax
comp=Z,320nm,2.7s
KIS MLR MLR
comp=Z,4μm,15.5s
KIS MLR MLR
comp=E,2μm,14.5s
KIS Kishinev 72.58 326 P **P 01 51 26.4 +0.4**
comp=E,69nm,1.3s
OJC Ojcow 72.58 333 *i* P **P 01 51 25.8 -0.2**
OJC *e*PcP **PcP 01 51 42.6 -0.6**
OJC *e*S **S 02 00 38.5 -6.8**
OJC *e*L L 02 21 19.1
comp=E,10μm,30.0s
OJC Ojcow 72.58 333 P **P 01 51 25.9 -0.1**
OJC IAmb IAmb 01 51 27.8
comp=Z,721nm,1.8s
OJC Ojcow 72.58 333 ⇑P **P 01 51 25.1 -0.9**
OJC Ojcow 72.58 333 P **P 01 51 25.9 -0.1**
OJC pmax pmax
comp=Z,721nm,1.8s
OJC Ojcow 72.58 333 P **P 01 51 26.1 +0.1**
comp=Z,200nm,1.4s,comp=Z,3μm
PURM Purcari 72.61 325 ⇑P **P 01 51 26.7 +0.5**
MILM Milestii Mici 72.65 326 ⇓P **P 01 51 26.3 -0.1**
MILM Milestii Mici 72.65 326 ⇓*i*P **P 01 51 24.7 -1.7**
comp=Z,1μm,4.4s
MILM *e*pP **PcP 01 51 40.0 -3.6**
MILM Milestii Mici 72.65 326 *e*PP PP 01 54 11.0 +3.0
MILM Milestii Mici 72.65 326 *d i*P **P 01 51 24.7 -1.7**
MILM *e**PP **PcP 01 51 40.0 -3.6**
MILM *e* 01 54 11.0
MILM *e*S **S 02 00 40.0 -6.1**
MILM *e*PS **PnS 02 01 31.0 +6.5**
MILM pmax pmax
comp=Z,1μm,4.4s
MILM MLR MLR
comp=E,5μm,14.5s
MILM MLR MLR
comp=Z,4μm,14.5s
N47A Urbana 72.67 45 IAmb IAmb 01 51 27.4
comp=Z,394nm,1.2s
N47A IAMs_20 IAMs_20 02 23 39.5
comp=Z,4μm,21.0s
TRQ Mont Tremblant 72.72 35 P **P 01 51 26.7 -0.2**
TRQ IAmb IAmb 01 51 27.9
comp=Z,417nm,1.2s
NEWG New Galloway 72.72 349 *e*P **P 01 51 26.7 0.0**
NEWG IAMs_20 IAMs_20 02 18 51.9
comp=Z,5μm,22.4s
EDMD Edmundbyers 72.72 348 *e*P **P 01 51 26.5 -0.2**
EDMD IAmb IAmb 01 51 29.2
comp=Z,514nm,1.5s
Q44A Meyer Farm, Va 72.74 49 IAmb IAmb 01 51 28.3
comp=Z,654nm,1.2s
KASI Kota Agung 72.75 237 P **P 01 51 25.5 -1.8**
comp=Z,128nm,0.9s
OZNA Ozona 72.75 62 IAmb IAmb 01 51 29.1
comp=Z,533nm,1.3s
FW03 Perrin-Whitt E 72.79 59 IAmb IAmb 01 51 28.9
comp=Z,620nm,1.3s
FLTG Flechtingen 72.80 339 ⇑P **P 01 51 26.9 -0.3**
FLTG Flechtingen 72.80 339 *e*P 01 51 26.7
comp=Z,121nm,0.9s,baz=22,slow=5.8
CHOM Cayeli-Rize 72.80 315 *e*P P 01 51 17.9 -10
FVM French Village 72.80 50 IAmb IAmb 01 51 28.8
comp=Z,568nm,1.2s
RETH Rethem/Aller, 72.82 341 *e*P 01 51 27.5
comp=Z,165nm,1.1s,baz=22,slow=5.8
PLPT Palo Pinto 72.83 59 IAmb IAmb 01 51 29.2
comp=Z,730nm,1.4s
IAS Iasi 72.85 327 ⇓P **P 01 51 28.2 +0.6**
IAS Iasi 72.85 327 *e*P **P 01 51 27.9 +0.3**
IAS Iasi 72.85 327 P **P 01 51 27.2 -0.4**
IAS pmax pmax
comp=Z,291nm,0.9s
STHS Stebnicka Huta 72.89 332 *e*P **P 01 51 27.3 -0.6**
STHS pmax pmax
comp=Z,103nm,0.8s
STHS Stebnicka Huta 72.89 332 *e*P **P 01 51 27.3 -0.6**
STHS Stebnicka Huta 72.89 332 *e*P **P 01 51 27.3 -0.6**
STHS *e*S **S 02 00 47.4 -1.4**
NRDL Niedersach Rie 72.89 340 *e*P 01 51 27.8
comp=Z,104nm,1.0s,baz=22,slow=5.8
CNJI Cibinong 72.92 233 P **P 01 51 26.4 -1.9**
SAND Sanderson 72.93 63 IAmb IAmb 01 51 30.5
comp=Z,853nm,1.4s
SKJI Sukabumi 72.94 234 P **P 01 51 25.8 -2.7**
comp=Z,337nm,1.4s,comp=Z,5μm
CLDR Caldiran 72.95 312 *e*P **P 01 51 26.9 -1.7**
CLGH Cloghs, Cushen 72.96 350 *e*P **P 01 51 28.0 -0.1**
CLGH IAmb IAmb 01 51 30.0
comp=Z,1μm,1.7s
CLGH IAMs_20 IAMs_20 02 16 48.8
comp=Z,6μm,33.1s
KSP Ksiaz 72.96 336 *i* P **P 01 51 27.9 -0.3**
KSP *e*PcP **PcP 01 51 43.9 -1.0**
KSP *e*S **S 02 00 46.7 -2.9**
KSP *e*L L 02 22 24.3
comp=Z,9μm,27.7s
KSP Ksiaz 72.96 336 ⇑P **P 01 51 27.9 -0.3**
KSP Ksiaz 72.96 336 P **P 01 51 28.2 0.0**
KSP pmax pmax
comp=Z,138nm,1.9s
GDLE Glaisdale, N Y 72.97 347 *e*P **P 01 51 28.0 -0.1**
GDLE IAmb IAmb 01 51 30.7
comp=Z,157nm,0.9s
Z35A Perchaven, San 72.99 58 IAmb IAmb 01 51 29.7
comp=Z,433nm,1.4s
Z35A IAMs_20 IAMs_20 02 27 16.8
comp=Z,3μm,19.0s
X37A Clayton 73.00 56 IAMs_20 IAMs_20 02 25 50.8
comp=Z,5μm,21.0s
P46A Rosedale 73.01 47 IAmb IAmb 01 51 29.9
comp=Z,540nm,1.1s
KOLS Kolonicke sedl 73.02 331 *e*P **P 01 51 28.6 0.0**
KOLS pmax pmax
comp=Z,108nm,0.7s
KOLS Kolonicke sedl 73.02 331 *e*P **P 01 51 28.6 0.0**
KOLS Kolonicke sedl 73.02 331 *e*P **P 01 51 28.6 0.0**
GAL1 Galloway 73.02 350 *e*P **P 01 51 28.1 -0.3**
GAL1 IAmb IAmb 01 51 30.0
comp=Z,2μm,1.8s
GAL1 IAMs_20 IAMs_20 02 19 24.8
comp=Z,4μm,21.0s
AGRB Hanur-Agry 73.03 313 *e*P **P 01 51 30.4 +1.3**
LMQ La Malbaie 73.03 32 IAmb IAmb 01 51 46.1
comp=Z,328nm,1.2s
KESW Keswick, Cumbr 73.11 349 *e*P **P 01 51 29.2 +0.2**
KESW IAmb IAmb 01 51 30.9
comp=Z,2μm,1.7s
FW06 Azle 73.11 58 IAMs_20 IAMs_20 02 22 42.9
comp=Z,4μm,22.0s
IDGL Inch Island, C 73.11 351 P **P 01 51 29.3 +0.3**
IDGL Inch Island, C 73.11 351 *e*P **P 01 51 29.3 +0.3**
IDGL IAmb IAmb 01 51 31.3
comp=Z,2μm,1.7s
SLBS Sierra La Lagu 73.14 73 IAMs_20 IAMs_20 02 18 16.9
comp=Z,3μm,21.0s
SLBS Sierra La Lagu 73.14 73 ⇑P **P 01 51 30.7 +0.9**
PRAR RASCA 73.15 328 ⇑P **P 01 51 30.1 +0.7**
NIE Niedzica 73.16 333 *e*P **P 01 51 30.3 +0.8**
NIE *e*PcP **pP 01 51 47.0 -0.2**
NIE *e*S **S 02 00 48.5 -3.5**
NIE *e*L L 02 24 56.6
comp=Z,9μm,25.4s
NIE Niedzica 73.16 333 P **P 01 51 30.5 +1.0**
NIE Niedzica 73.16 333 P **P 01 51 30.5 +1.0**
comp=Z,67nm,1.9s,comp=Z,1μm
FW07 Weatherford 73.19 59 IAmb IAmb 01 51 31.6
comp=Z,592nm,1.6s
FW07 IAMs_20 IAMs_20 02 22 11.2
comp=Z,4μm,22.0s
MARNC Mare, Loyalty 73.20 170 P **P 01 51 30.7 +0.9**
MARNC Mare, Loyalty 73.20 170 ⇑P **P 01 51 31.2 +1.4**
HPIG 73.21 68 IAmb IAmb 01 51 32.4
comp=Z,740nm,1.6s
HPIG 73.21 68 ⇑P **P 01 51 30.2 -0.1**
KOPR Koprukoy-ERZUR 73.21 314 *e*P **P 01 51 30.4 +0.3**
BUR08 Bucovina Ar. S 73.24 329 P **P 01 51 29.0 -1.1**
OSTC Ostas 73.25 336 ⇓*i*P **P 01 51 29.6 -0.3**
OSTC AMS AMS 02 27 40.0
comp=Z,12μm,19.4s
OSTC Ostas 73.25 336 ⇓*i*P **P 01 51 29.6 -0.3**
OSTC MLR MLR
comp=Z,12μm,19.4s
BURAR Bucovina Array 73.26 329 ⇓P **P 01 51 29.8 -0.3**
BURAR Bucovina Array 73.26 329 P **P 01 51 29.4 -0.8**
BURAR Bucovina Array 73.26 329 P **P 01 51 28.8 -1.4**
BURAR pmax pmax
comp=Z,84nm,0.6s
CHVC Chvalec 73.26 336 ⇓*i*P **P 01 51 29.9 -0.1**
CHVC AMS AMS 02 27 50.0
comp=Z,12μm,18.8s
CHVC Chvalec 73.26 336 ⇓*i*P **P 01 51 29.9 -0.1**
CHVC MLR MLR
comp=Z,12μm,18.8s
UZHM Uzhgorod 73.28 331 P **P 01 51 30.3 +0.2**
CRVS Cervenica-Dubn 73.29 332 *e*P **P 01 51 30.4 +0.2**
CRVS pmax pmax
comp=Z,730nm,2.0s
CRVS Cervenica-Dubn 73.29 332 *e*P **P 01 51 30.4 +0.2**
CRVS Cervenica-Dubn 73.29 332 *e*P **P 01 51 30.4 +0.2**
CRVS *e*S **S 02 00 51.9 -1.4**
N49A Columbus Grove 73.31 44 IAmb IAmb 01 51 31.7
comp=Z,508nm,1.2s
OLIL Olney 73.31 48 IAmb IAmb 01 51 31.8
comp=Z,638nm,1.3s
UPC Upice 73.34 336 ⇓*i*P **P 01 51 30.4 -0.1**
UPC *e*S **S 02 00 47.7 -6.2**
UPC AMS AMS 02 27 50.0
comp=Z,13μm,18.5s
UPC Upice 73.34 336 ⇓*i*P **P 01 51 30.4 -0.1**
UPC *e*S **S 02 00 47.7 -6.2**
UPC MLR MLR
comp=Z,13μm,18.5s
CLL Collm 73.35 338 P **P 01 51 29.8 -0.6**
CLL IAmb IAmb 01 51 31.9
comp=Z,1μm,1.9s
CLL Collm 73.35 338 AMS AMS 02 29 00.0
CLL Collm 73.35 338 *i* P **P 01 51 30.3 -0.2**
CLL *e*S **S 02 00 52.0 -1.9**
CLL *e* 02 01 30.0
CLL pmax pmax
comp=Z,779nm,1.8s
CLL Collm 73.35 338 P **P 01 51 30.5 0.0**
comp=Z,262nm,1.3s,comp=Z,4μm
CLL Collm 73.35 338 *i* P **P 01 51 30.3 -0.2**
comp=Z,779nm,1.8s
CLL Collm 73.35 338 *e*Pmax 01 51 34.0
CLL Collm 73.35 338 *e*PcP **PcP 01 51 47.0 +0.5**
CLL Collm 73.35 338 *e*sP sP 01 51 52.0 -3.4
CLL Collm 73.35 338 *e*x x 01 52 01.0
CLL Collm 73.35 338 *e*S **S 02 00 52.0 -1.9**
CLL Collm 73.35 338 *e*SKSac **SKSac 02 01 30.0 -0.6**
CLL Collm 73.35 338 *e*PPS PPS 02 01 44.0
CLL Collm 73.35 338 *e*SS SS 02 05 36.0 +0.4
CLL Collm 73.35 338 *e*SSS SSS 02 09 00.0
CLL Collm 73.35 338 *e*SSSS 02 10 42.0
CLL Collm 73.35 338 *ex* x 02 18 57.0
CLL Collm 73.35 338 *i* PKPPKPdP'P'df 02 19 01.8 -10
comp=Z,47nm,2.0s
CLL Collm 73.35 338 *i* sPKPPKPd 02 19 25.3
comp=Z,63nm,2.4s
CLL Collm 73.35 338 *e*P 01 51 30.0
comp=Z,141nm,0.8s,baz=22,slow=5.8
OKC Ostrava-Krasne 73.39 334 ⇓*i*P **P 01 51 30.4 -0.3**
OKC AMS AMS 02 27 40.0
comp=Z,10μm,19.0s
OKC Ostrava-Krasne 73.39 334 ⇓*i*P **P 01 51 30.4 -0.3**
OKC MLR MLR
comp=Z,10μm,19.0s
M50A Fremont 73.41 43 IAmb IAmb 01 51 32.1
comp=Z,288nm,1.0s
DPC Dobruska-Polom 73.41 335 ⇓*i*P **P 01 51 30.8 -0.1**
DPC AMS AMS 02 27 40.0
comp=Z,9μm,19.8s
DPC Dobruska-Polom 73.41 335 ⇓*i*P **P 01 51 30.8 -0.1**
DPC MLR MLR
comp=Z,9μm,19.8s
DPC Dobruska-Polom 73.41 335 P **P 01 51 31.6 +0.7**
comp=Z,128nm,1.4s,comp=Z,3μm
O48B Farmland 73.42 45 IAmb IAmb 01 51 31.8
comp=Z,542nm,1.1s
O48B IAMs_20 IAMs_20 02 24 01.2
comp=Z,5μm,22.0s
O48B Farmland 73.42 45 P **P 01 51 30.4 -0.7**
baz=325,SNR=58
O48B S **S 02 00 52.4 -2.6**
baz=325
CLZ Clausthal 73.45 340 *e*P 01 51 31.5
comp=Z,1μm,1.8s,baz=22,slow=5.8
QIS Mount Isa 73.51 198 P **P 01 51 32.3 +0.6**
BRG Berggiesshubel 73.52 337 *e*P **P 01 51 31.2 -0.3**
BRG Amp 01 51 34.0
comp=Z,75nm,1.1s
BRG Berggiesshubel 73.52 337 PP PP 01 54 20.4 +5.0
BRG Amp 01 54 21.5
comp=Z,30nm,1.3s
BRG Berggiesshubel 73.52 337 SKS **SKiKP 02 00 54.0 -1.3**
BRG Berggiesshubel 73.52 337 *e*P **P 01 51 31.2 -0.3**
BRG 01 51 48.9
BRG 01 54 20.3
BRG 02 00 54.0
BRG S **SKSac 02 01 33.0 +1.0**
BRG SS **SS 02 05 37.0 -1.4**
BRG pmax pmax
comp=Z,75nm,1.1s
BRG pmax pmax

comp=Z,30nm,1.3s
BRG Berggiesshubel 73.53 337 *eP* 01 51 31.1
comp=Z,75nm,1.1s,baz=22,slow=5.8
HPK Haverah Park 73.53 348 *eP* **P** **01 51 31.7 +0.2**
HPK IAmb IAmb 01 51 34.3
comp=Z,533nm,0.8s
KRLC Kraliky 73.54 335⇓*iP* **P** **01 51 31.3 -0.4**
KRLC *eS* **SKiKP** **02 00 52.3 -3.1**
KRLC AMS AMS 02 30 50.0
comp=Z,8μm,17.3s
KRLC Kraliky 73.54 335⇓*iP* **P** **01 51 31.3 -0.4**
KRLC *eS* **SKiKP** **02 00 52.3 -3.1**
KRLC MLR MLR
comp=Z,8μm,17.3s
IBBN Ibbenburen 73.55 341 *eP* 01 51 31.8
comp=Z,160nm,0.8s,baz=22,slow=5.8
MLAZ Malazgirt-MUS 73.58 313 *eP* **P** **01 51 33.3 +1.0**
S44A Carbondale 73.59 50 IAmb IAmb 01 51 33.5
comp=Z,592nm,1.2s
IOMK Kirk Michael 73.60 349 *eP* **P** **01 51 31.7 -0.2**
IOMK IAmb IAmb 01 51 34.4
comp=Z,501nm,0.8s
MORC Moravsky Berou 73.61 334⇑P **P** **01 51 32.6 +0.5**
MORC Moravsky Berou 73.61 334 P **P** **01 51 31.9 -0.2**
MORC IAmb IAmb 01 51 34.1
comp=Z,806nm,1.9s
MORC Moravsky Berou 73.61 334 *eP* **P** **01 51 32.0 -0.1**
MORC *eS* **SKiKP** **02 00 54.5 -1.0**
MORC Moravsky Berou 73.61 334⇑P **P** **01 51 32.0 -0.1**
MORC Moravsky Berou 73.61 334 P **P** **01 51 31.9 -0.2**
MORC pmax pmax
comp=Z,806nm,1.9s
MORC MLR MLR
comp=Z,11μm,20.0s
DZM Mont Dzumac 73.63 172 P **P** **01 51 33.9 +1.5**
DZM Mont Dzumac 73.63 172 *eP* **P** **01 51 31.8 -0.6**
comp=Z,2μm,1.5s
DZM Mont Dzumac 73.63 172 *ePP* **PP** **01 54 15.6 -2.1**
comp=Z,1μm,28.6s
DZM *eS* **SKiKP** **02 00 55.2 -0.8**
comp=Z,2μm,24.3s
DZM *eSS* **SS** **02 05 43.5 +0.9**
comp=Z,3μm,31.8s
DZM *eLR* LR 02 14 15.4
comp=Z,22μm,30.4s
DZM Mont Dzumac 73.63 172 P **P** **01 51 33.4 +1.0**
DZM Mont Dzumac 73.63 172⇑P **P** **01 51 34.0 +1.5**
DZM Mont Dzumac 73.63 172 P **P** **01 51 33.8 +1.5**
comp=Z,285nm,1.1s,baz=28,slow=7.2,SNR=58
DZM pP **pP** **01 51 51.8 +1.8**
comp=Z,124nm,1.1s,baz=54,slow=13,SNR=4.3
DZM LR LR 02 17 46.0
comp=Z,5μm,21.9s,baz=10,slow=31
comp=Z,285nm,1.1s
BIR Birlad 73.63 327⇑P **P** **01 51 33.1 +0.8**
BIR Birlad 73.63 327 P **P** **01 51 33.0 +0.8**
FCAR Ozark Folk Cen 73.63 53 IAmb IAmb 01 51 33.1
comp=Z,571nm,1.3s
FCAR IAMs_20 IAMs_20 02 24 54.2
comp=Z,5μm,21.0s
VANB Van 73.63 312 *eP* **P** **01 51 33.3 +0.8**
BRDY Brady 73.63 60 IAmb IAmb 01 51 34.3
comp=Z,495nm,1.3s
LANS Liptovska Anna 73.64 333 *eP* **P** **01 51 33.3 +1.0**
LANS pmax pmax
comp=Z,128nm,0.8s
LANS Liptovska Anna 73.64 333 *eP* **P** **01 51 33.3 +1.0**
LANS Liptovska Anna 73.64 333 *eP* **P** **01 51 33.3 +1.0**
NOUC Port Laguerre 73.64 172 P **P** **01 51 34.1 +1.7**
FW13 Cleburne 73.66 59 IAmb IAmb 01 51 34.2
comp=Z,608nm,1.6s
YATNC Mamie plateau, 73.66 171 P **P** **01 51 33.4 +0.9**
J54A Appleton 73.67 39 IAmb IAmb 01 51 33.8
comp=Z,666nm,1.2s
PVCC Panska Ves 73.69 337⇓*iP* **P** **01 51 32.4 -0.1**
PVCC AMS AMS 02 28 40.0
comp=Z,8μm,15.2s
PVCC Panska Ves 73.69 337⇓*iP* **P** **01 51 32.4 -0.1**
PVCC MLR MLR
comp=Z,8μm,15.2s
CGM3 Cape Girardeau 73.72 50 IAmb IAmb 01 51 34.1
comp=Z,510nm,1.5s
NEUB Neuenburg 73.73 339 *eP* 01 51 32.4
comp=Z,123nm,0.7s,baz=22,slow=5.8
WIM Isle of Man 73.73 349 *eP* **P** **01 51 32.5 -0.2**
FW14 Alvarado 73.75 58 IAmb IAmb 01 51 34.6
comp=Z,505nm,1.4s
TESR Tescani 73.75 327⇓P **P** **01 51 32.0 -0.9**
TESR Tescani 73.75 327 P **P** **01 51 32.2 -0.7**
comp=Z,140nm,1.1s,comp=Z,2μm
BMR Baia Mare 73.76 330⇓P **P** **01 51 33.0 0.0**
BMR Baia Mare 73.76 330 P **P** **01 51 32.9 0.0**
PBMO Poplar Bluff 73.76 51 IAmb IAmb 01 51 34.5
comp=Z,935nm,1.4s
PBMO IAMs_20 IAMs_20 02 24 58.5
comp=Z,3μm,21.0s
RICC Richard 73.79 337⇓*iP* **P** **01 51 32.9 -0.2**
RICC AMS AMS 02 29 00.0
comp=Z,8μm,16.2s
GTTG Gottingen 73.81 340 *eP* 01 51 33.4
comp=Z,81nm,0.9s,baz=22,slow=5.8
JCT Junction City 73.82 61 IAmb IAmb 01 51 35.3
comp=Z,863nm,1.4s
JCT IAMs_20 IAMs_20 02 20 53.9
comp=Z,3μm,22.0s
JCT Junction City 73.82 61 P **P** **01 51 33.5 -0.2**
baz=321,SNR=94
JCT S **S** **02 01 01.1 +1.1**
baz=321
JCT Junction City 73.82 61⇑P **P** **01 51 33.3 -0.3**
ESPY Espiye-Giresun 73.83 316 *eP* **P** **01 51 32.0 -1.5**
VLDR Vladesti 73.84 326⇑P **P** **01 51 33.5 +0.1**
LMK Market Rasen 73.84 347 *eP* **P** **01 51 33.1 -0.2**
LMK IAmb IAmb 01 51 34.8
comp=Z,1μm,1.5s
O49A Covington 73.84 45 IAmb IAmb 01 51 34.7
comp=Z,442nm,1.2s
O49A IAMs_20 IAMs_20 02 24 25.3
comp=Z,4μm,21.0s
FW16 Waxahatchie 73.84 58 IAmb IAmb 01 51 35.3
comp=Z,591nm,1.3s
ONTNC Ouen Toro 73.86 172 P **P** **01 51 35.7 +2.0**
ONTNC Ouen Toro 73.86 172 P **P** **01 51 34.1 +0.5**
ONTNC Ouen Toro 73.86 172⇑P **P** **01 51 35.1 +1.4**
VARL Varlezi 73.87 326⇓P **P** **01 51 33.4 -0.2**
WB0 Warramunga Arr 73.88 203 P **P** **01 51 33.9 +0.1**
GHRR 73.88 327⇓P **P** **01 51 33.8 +0.1**
GHRR 73.88 327 P **P** **01 51 34.1 +0.4**
HSKC Hora Svate Kat 73.89 337⇓*iP* **P** **01 51 33.3 -0.4**
HSKC *eS* **SKiKP** **02 00 55.5 -0.4**
HSKC AMS AMS 02 29 10.0
comp=Z,14μm,16.8s
MAUC Maruska 73.90 334⇓*iP* **P** **01 51 34.0 +0.2**
MAUC *eS* **S** **02 01 00.0 -0.3**
WHTX Lake Whitney, 73.92 59 IAmb IAmb 01 51 35.9
comp=Z,766nm,1.4s
WHTX IAMs_20 IAMs_20 02 28 06.4
comp=Z,3μm,20.0s
WHTX Lake Whitney, 73.92 59 P **P** **01 51 34.0 -0.2**
baz=321,SNR=78
WHTX S **S** **02 01 00.1 -0.9**
baz=321
P48A Milroy 73.94 46 IAmb IAmb 01 51 35.0
comp=Z,624nm,1.2s
KECS Kecovo 73.95 332 *eP* **P** **01 51 35.3 +1.2**
KECS pmax pmax
comp=Z,263nm,2.0s
KECS Kecovo 73.95 332 *eP* **P** **01 51 35.3 +1.2**
KECS Kecovo 73.95 332 *eP* **P** **01 51 35.3 +1.2**
MIAR Mount Ida 73.95 55 IAmb IAmb 01 51 35.8
comp=Z,447nm,1.3s
MIAR IAMs_20 IAMs_20 02 27 27.0
comp=Z,4μm,20.0s
MIAR Mount Ida 73.95 55 P **P** **01 51 33.9 -0.4**
baz=322,SNR=215
MIAR S **S** **02 01 01.1 -0.2**
baz=322
MIAR Mount Ida 73.95 55⇑P **P** **01 51 33.8 -0.6**
MIAR Mount Ida 73.95 55 P **P** **01 51 33.9 -0.4**
MIAR pmax pmax
comp=Z,310nm,1.4s
LCAR Lake Charles 73.97 52 IAmb IAmb 01 51 35.4
comp=Z,547nm,2.0s
LCAR IAMs_20 IAMs_20 02 23 49.1
comp=Z,4μm,22.0s
ARCR ARCALIA 74.00 329⇑P **P** **01 51 34.2 -0.3**

J55A Hilton 74.00 39 IAmb IAmb 01 51 35.4
comp=Z,499nm,1.2s
OUENC Ouen Island, N 74.01 171 P **P** **01 51 36.6 +2.1**
OUENC Ouen Island, N 74.01 171 P **P** **01 51 35.2 +0.7**
SCTR Scanteiesti 74.01 326⇓P **P** **01 51 34.5 0.0**
WHAR Wooly Hollow 74.02 53 IAmb IAmb 01 51 35.8
comp=Z,1μm,1.5s
WHAR IAMs_20 IAMs_20 02 25 07.6
comp=Z,4μm,21.0s
ILTH Belurgan, Co L 74.03 350 P **P** **01 51 34.5 +0.1**
ILTH Belurgan, Co L 74.03 350 *eP* **P** **01 51 34.1 -0.3**
WR0 Warramunga Arr 74.03 203 P **P** **01 51 35.2 +0.5**
WR0 IAmb IAmb 01 51 36.4
comp=Z,620nm,1.1s
AKDM Akdamar-Van 74.04 312 *eP* **P** **01 51 35.5 +0.5**
WRAB Tennant Creek 74.05 203 P **P** **01 51 34.9 +0.1**
WRAB Tennant Creek 74.05 203 P **P** **01 51 34.9 +0.1**
WRAB pmax pmax
comp=Z,776nm,1.1s
WB2 Warramunga Arr 74.06 203 P **P** **01 51 35.1 +0.2**
WRA Warramunga Arr 74.06 203 P **P** **01 51 35.5 +0.6**
WRA Warramunga Arr 74.06 203 P **P** **01 51 34.6 -0.3**
comp=Z,386nm,0.9s,baz=19,slow=6.2,SNR=307
WRA pP **pP** **01 51 51.8 -0.7**
comp=Z,166nm,1.1s,baz=15,slow=6.2,SNR=6.4
WRA PKPPKP **P'P'df** **02 19 07.8 +4.3**
comp=Z,2.7nm,1.0s,baz=200,slow=2.4,SNR=7.1
WRA LR LR 02 21 23.0
comp=Z,4μm,22.0s,baz=16,slow=33
comp=Z,386nm,0.9s
VRTB Varto-Mus 74.06 314 *eP* **P** **01 51 39.0 +3.9**
TREL Terrell 74.07 57 IAmb IAmb 01 51 36.4
comp=Z,483nm,1.2s
LONY Lake Ozonia 74.08 36 P **P** **01 51 34.2 -0.8**
baz=329,SNR=52
LONY S **SKiKP** **02 00 58.3 +2.0**
baz=329
LONY Lake Ozonia 74.08 36⇑P **P** **01 51 34.2 -0.8**
LBWR Ladybower, Pea 74.09 347 *eP* **P** **01 51 35.0 +0.2**
LBWR IAmb IAmb 01 51 36.5
comp=Z,2μm,1.8s
ERPA Erie 74.09 41 IAmb IAmb 01 51 36.4
comp=Z,412nm,1.2s
ERPA Erie 74.09 41 P **P** **01 51 34.7 -0.4**
baz=327,SNR=49
ERPA S **S** **02 00 59.8 -2.9**
baz=327
ERPA Erie 74.09 41⇑P **P** **01 51 34.5 -0.5**
E62A Clayton Lake 74.11 32 IAmb IAmb 01 51 52.5
comp=Z,308nm,1.1s
USIN University of 74.13 48 IAMs_20 IAMs_20 02 25 09.1
comp=Z,5μm,21.0s
PANC Panciu 74.14 327⇓P **P** **01 51 35.2 0.0**
PRA Prague 74.14 336⇓*iP* **P** **01 51 35.4 +0.2**
PRA AMS AMS 02 28 50.0
comp=Z,9μm,15.0s
PRA Prague 74.14 336⇓*iP* **P** **01 51 35.4 +0.2**
PRA MLR MLR
comp=Z,9μm,15.0s
TLCR 74.15 325⇑P **P** **01 51 34.9 -0.4**
TLCR 74.15 325 P **P** **01 51 34.8 -0.4**
SLCR Slobozia Conac 74.17 326⇑P **P** **01 51 35.4 +0.1**
DRIO Del Rio 74.18 63 P **P** **01 51 35.9 +0.2**
PRU Pruhonice 74.19 336⇓*iP* **P** **01 51 35.4 -0.1**
PRU *eS* **S** **02 01 00.4 -3.1**
PRU AMS AMS 02 28 50.0
comp=Z,9μm,15.7s
PRU Pruhonice 74.19 336⇓*iP* **P** **01 51 35.4 -0.1**
PRU *eS* **S** **02 01 00.4 -3.1**
PRU MLR MLR
comp=Z,9μm,15.7s
GOPC GO Pecny, Ondr 74.20 336⇓*iP* **P** **01 51 35.7 +0.2**
GOPC AMS AMS 02 28 30.0
comp=Z,10μm,18.0s
GOPC GO Pecny, Ondr 74.20 336⇓*iP* **P** **01 51 35.7 +0.2**
GOPC MLR MLR
comp=Z,10μm,18.0s
P49A Miami Univ. Ec 74.20 46 IAmb IAmb 01 51 36.7
comp=Z,599nm,1.2s
P49A IAMs_20 IAMs_20 02 25 50.0
comp=Z,5μm,21.0s
P49A Miami Univ. Ec 74.20 46 P **P** **01 51 34.9 -0.8**
baz=325,SNR=108
P49A S **S** **02 01 01.3 -2.6**
baz=325
IZVR Izvoarele 74.21 326⇑P **P** **01 51 35.6 0.0**
SCHL Schela 74.22 326⇓P **P** **01 51 35.8 +0.1**
Z38A Mt. Pleasant 74.24 56 IAMs_20 IAMs_20 02 26 20.6
comp=Z,5μm,22.0s
SCHLR Schela 74.25 326⇓P **P** **01 51 35.7 -0.1**
PINNC Pines Island, 74.26 171 P **P** **01 51 36.9 +1.0**
PINNC Pines Island, 74.26 171 P **P** **01 51 36.9 +1.0**
ODBI Odobesti 74.26 327⇑P **P** **01 51 36.1 +0.2**
ODBI Odobesti 74.26 327 P **P** **01 51 37.3 +1.4**
comp=Z,53nm,1.2s,comp=Z,968nm
VRI Vrincioaia 74.28 327⇑P **P** **01 51 36.3 +0.1**
VRI Vrincioaia 74.28 327 *eP* **P** **01 51 35.2 -0.9**
VRI Vrincioaia 74.28 327 P **P** **01 51 36.2 +0.1**
VRI Vrincioaia 74.28 327 P **P** **01 51 36.1 0.0**
comp=Z,69nm,1.7s,comp=Z,2μm
MOX Moxa 74.29 338 P **P** **01 51 36.2 +0.2**
MOX pmax pmax
comp=Z,152nm,1.5s
MOX Moxa 74.29 338 *eP* 01 51 36.0
comp=Z,80nm,0.9s,baz=22,slow=5.8
MOX *eL* 02 27 00.3
comp=Z,11μm,22.0s
VRAC Vranov 74.29 335⇑P **P** **01 51 36.5 +0.4**
VRAC Vranov 74.29 335 *eP* **P** **01 51 36.0 0.0**
VRAC *eS* **S** **02 01 02.9 -1.7**
VRAC Vranov 74.29 335 LR LR 02 28 48.5
comp=Z,10μm,18.8s,baz=30,slow=39
VRAC Vranov 74.29 335 P **P** **01 51 36.4 +0.4**
GURO Guroymak-BITLI 74.30 313 *eP* **P** **01 51 36.8 +0.4**
GURO Guroymak-BITLI 74.30 313 P **P** **01 51 36.5 0.0**
TANN Tannenbergstha 74.31 338 *eP* 01 51 36.2
comp=Z,247nm,1.6s,baz=22,slow=5.8
PLN Plauen 74.31 338 *eP* 01 51 36.2
comp=Z,111nm,1.1s,baz=22,slow=5.8
PLOR3 Plostina Array 74.32 327 P **P** **01 51 36.9 +0.5**
comp=Z,35nm,1.3s,comp=Z,2μm
PLOR Plostina 74.33 327⇑P **P** **01 51 36.5 +0.1**
PLOR Plostina 74.33 327 P **P** **01 51 36.4 +0.1**
PLOR5 Plostina Array 74.33 327 P **P** **01 51 36.2 -0.2**
comp=Z,78nm,0.9s,comp=Z,2μm
GOA Goa 74.36 275 *eP* **P** **01 51 37.4 +0.5**
TURR Turia 74.36 327⇓P **P** **01 51 36.9 +0.4**
J56A Wolcott 74.37 38 IAmb IAmb 01 51 37.3
comp=Z,350nm,1.1s
M53A WI Miller and 74.38 42 P **P** **01 51 36.5 -0.2**
baz=327,SNR=105
M53A S **S** **02 01 02.9 -2.9**
baz=327
X40A Basin Creek Fa 74.38 54 IAMs_20 IAMs_20 02 27 46.2
comp=Z,4μm,19.0s
MESR Meseseni 74.39 330⇓P **P** **01 51 37.1 +0.5**
ACSO Alum Creek Sta 74.39 44 IAmb IAmb 01 51 38.2
comp=Z,659nm,1.2s
ACSO Alum Creek Sta 74.39 44 P **P** **01 51 36.6 -0.2**
baz=326,SNR=56
ACSO S **S** **02 01 04.1 -1.9**
baz=326
CFR Carcaliu 74.39 326⇑P **P** **01 51 36.2 -0.5**
CFR Carcaliu 74.39 326 P **P** **01 51 36.1 -0.5**
UALR University of 74.40 54 IAMs_20 IAMs_20 02 25 30.7
comp=Z,4μm,20.0s
PVMO Portageville 74.40 51 IAMs_20 IAMs_20 02 23 16.6
comp=Z,5μm,22.0s
OZUR 74.40 328⇑P **P** **01 51 37.2 +0.4**
WACR West Acre 74.41 346 *eP* **P** **01 51 36.9 +0.3**
WACR IAmb IAmb 01 51 38.4
comp=Z,2μm,1.8s
WACR IAMs_20 IAMs_20 02 19 47.2
comp=Z,8μm,32.4s
JAVC Velka Javorina 74.41 334 *eP* **P** **01 51 37.9 +1.1**
JAVC *eS* **S** **02 01 07.1 +1.1**
VYHS Vyhne 74.41 333 *eP* **P** **01 51 37.0 +0.2**
VYHS pmax pmax
comp=Z,536nm,1.9s
VYHS Vyhne 74.41 333 *eP* **P** **01 51 37.0 +0.2**
VYHS Vyhne 74.41 333 *eP* **P** **01 51 37.0 +0.2**
VYHS *eS* **S** **02 01 04.0 -2.0**
WVNY West Valley, N 74.41 40 IAmb IAmb 01 51 38.1
comp=Z,739nm,1.2s
WVNY IAMs_20 IAMs_20 02 25 50.2

comp=Z,5μm,22.0s
WME Myndd Eilian 74.42 349 *eP* **P** **01 51 36.4 -0.3**
T45A Paducah 74.42 50 IAmb IAmb 01 51 38.5
comp=Z,640nm,1.0s
WPS Cemaes, Angles 74.44 349 *eP* **P** **01 51 36.1 -0.7**
STNC Stoke 74.45 348 *eP* **P** **01 51 37.2 +0.3**
STNC IAmb IAmb 01 51 38.8
comp=Z,914nm,1.8s
BOSR Bodos 74.46 328⇑P **P** **01 51 37.0 -0.2**
KASTN Kahler Asten 74.46 341 *eP* 01 51 37.2
comp=Z,115nm,0.8s,baz=22,slow=5.8
BUG Bochum--Univer 74.47 341 P **P** **01 51 37.2 +0.2**
BUG pmax pmax
comp=Z,266nm,1.3s
BUG Bochum--Univer 74.47 341 *eP* 01 51 37.0
comp=Z,153nm,0.8s,baz=22,slow=5.8
COVR Voineasa-Covas 74.48 327⇑P **P** **01 51 37.6 +0.4**
JURR Jurilovca 74.49 325⇑P **P** **01 51 37.0 -0.2**
UBBA Unterbreizbach 74.49 340 *eP* 01 51 37.1
comp=Z,132nm,0.9s,baz=22,slow=5.8
WLF1 Llynfaes 74.54 349 *eP* **P** **01 51 37.1 -0.2**
WLF1 IAmb IAmb 01 51 38.8
comp=Z,1μm,1.7s
WCI Wyandotte Cave 74.55 47 P **P** **01 51 37.5 -0.2**
WCI IAmb IAmb 01 51 39.2
comp=Z,615nm,1.1s
WCI Wyandotte Cave 74.55 47 P **P** **01 51 37.7 0.0**
baz=324
WCI S **S** **02 01 06.3 -1.5**
baz=324
WCI Wyandotte Cave 74.55 47⇑P **P** **01 51 37.2 -0.6**
WCI Wyandotte Cave 74.55 47 P **P** **01 51 37.5 -0.2**
WCI pmax pmax
comp=Z,615nm,1.2s
BNGB Bingl 74.55 314 *eP* **P** **01 51 38.3 +0.4**
PEBM Pemiscott Bayo 74.56 51 IAMs_20 IAMs_20 02 23 19.9
comp=Z,4μm,22.0s
KRUC Moravsky 74.57 335 *eP* **P** **01 51 37.5 -0.1**
KRUC *eS* **S** **02 01 05.7 -2.0**
KRUC Moravsky 74.57 335 P **P** **01 51 38.0 +0.4**
KRUC pmax pmax
comp=Z,184nm,1.4s
BISRR Bisoca 74.57 327 P **P** **01 51 37.9 +0.1**
comp=Z,273nm,1.2s,comp=Z,9μm
TPGR Topolog 74.57 325⇑P **P** **01 51 36.9 -0.8**
CJR Cluj-Napoca 74.58 329⇑P **P** **01 51 38.2 +0.3**
CJR Cluj-Napoca 74.58 329 P **P** **01 51 38.1 +0.3**
TREC Trest 74.59 336⇓*eS* **S** **02 01 03.7 -4.3**
TREC AMS AMS 02 28 20.0
comp=Z,10μm,20.6s
TREC Trest 74.59 336 P **P** **01 51 38.1 +0.3**
YRC Rhoscolyn 74.59 349 *eP* **P** **01 51 38.3 +0.6**
F62A Pittston Farm, 74.60 32 IAmb IAmb 01 51 39.8
comp=Z,346nm,1.3s
GNAR Gosnell 74.61 51 IAMs_20 IAMs_20 02 22 58.0
comp=Z,6μm,22.0s
HBAR Harrisburg 74.62 52 IAMs_20 IAMs_20 02 24 07.4
comp=Z,4μm,22.0s
PSZ Piszkesteto 74.63 332⇓P **P** **01 51 38.8 +0.6**
PSZ Piszkesteto 74.63 332 P **P** **01 51 38.0 -0.1**
PSZ IAmb IAmb 01 51 40.4
comp=Z,669nm,1.9s
PSZ Piszkesteto 74.63 332⇑P **P** **01 51 38.2 +0.1**
PSZ Piszkesteto 74.63 332 P **P** **01 51 38.0 -0.1**
PSZ pmax pmax
comp=Z,669nm,1.9s
PSZ MLR MLR
comp=Z,19μm,22.0s
DOPR Dopca 74.65 328⇓P **P** **01 51 39.0 +0.8**
YLL Llanberis 74.66 349 *eP* **P** **01 51 38.2 +0.1**
CWF Charnwood Fore 74.68 347 *eP* **P** **01 51 38.0 -0.1**
CWF IAmb IAmb 01 51 40.8
comp=Z,1μm,1.6s
DIKM Dikmen 74.68 319⇑P **P** **01 51 39.3 +0.9**
DIKM Dikmen 74.68 319 *eP* **P** **01 51 37.7 -0.7**
DIKM Dikmen 74.68 319 P **P** **01 51 39.2 +0.8**
LNXT Lenox 74.75 51 IAMs_20 IAMs_20 02 23 25.9
comp=Z,6μm,22.0s
MARR Marisel-Cluj 74.76 330⇑P **P** **01 51 38.4 -0.5**
FOEL Foel Wylfa 74.78 348 *eP* **P** **01 51 39.0 +0.2**
FOEL IAmb IAmb 01 51 40.7
comp=Z,2μm,1.9s
DRGR 74.79 330⇑P **P** **01 51 38.3 -0.8**
DRGR 74.79 330 *eP* **P** **01 51 38.8 -0.3**
DRGR 74.79 330 P **P** **01 51 38.2 -0.8**
MANZ Manzenberg 74.79 338 *eP* 01 51 38.9
comp=Z,100nm,1.8s,baz=22,slow=5.8
237A Washetta, Mont 74.79 58 IAmb IAmb 01 51 40.7
comp=Z,440nm,1.4s
237A IAMs_20 IAMs_20 02 24 08.3
comp=Z,4μm,21.0s
435B Jarrell 74.79 60 IAmb IAmb 01 51 41.1
comp=Z,658nm,1.6s
435B IAMs_20 IAMs_20 02 28 29.5
comp=Z,3μm,20.0s
435B Jarrell 74.79 60 P **P** **01 51 39.2 -0.1**
baz=321
435B S **S** **02 01 10.4 -0.3**
baz=321
SMOL Smolenice 74.79 334 *eP* **P** **01 51 40.2 +1.3**
SMOL pmax pmax
comp=Z,261nm,1.9s
ZVC Zvikov 74.79 336⇓*iP* **P** **01 51 39.0 +0.1**
ZVC AMS AMS 02 28 50.0
comp=Z,9μm,18.0s
DSB Dublin 74.80 350 P **P** **01 51 39.0 +0.1**
DSB IAMs_20 IAMs_20 02 23 10.2
comp=Z,3μm,21.0s
DSB Dublin 74.80 350 P **P** **01 51 37.1 -1.8**
DSB Dublin 74.80 350⇑P **P** **01 51 38.9 -0.1**
BORR Bors 74.81 331⇓P **P** **01 51 38.6 -0.5**
FITZ Fitzroy Crossi 74.81 212 P **P** **01 51 40.6 +1.3**
FITZ Fitzroy Crossi 74.81 212 P **P** **01 51 40.0 +0.8**
FITZ Fitzroy Crossi 74.81 212⇑P **P** **01 51 39.9 +0.6**
NEHR Nehoiu 74.82 327⇓P **P** **01 51 38.7 -0.5**
MDB Medias 74.83 328⇓P **P** **01 51 39.3 +0.1**
MDB Medias 74.83 328 P **P** **01 51 39.3 +0.1**
RK1H Rockhampton Ha 74.83 187 P **P** **01 51 40.1 +0.8**
KVT Kavak 74.83 318 *eP* **P** **01 51 36.4 -3.0**
N53A Lisbon 74.83 42 IAmb IAmb 01 51 40.7
comp=Z,740nm,1.2s
RSDY Resadiye-TOKAT 74.86 317 *eP* **P** **01 51 39.9 +0.3**
WLAR White Oak Lake 74.87 55 IAmb IAmb 01 51 41.2
comp=Z,608nm,1.3s
WLAR IAMs_20 IAMs_20 02 28 07.2
comp=Z,4μm,19.0s
MLR Muntele Rosu 74.88 327⇓P **P** **01 51 39.1 -0.6**
MLR Muntele Rosu 74.88 327 *eP* **P** **01 51 39.4 -0.3**
MLR Muntele Rosu 74.88 327 LR LR 02 29 53.9
comp=Z,8μm,18.5s,baz=39,slow=40
MLR Muntele Rosu 74.88 327 P **P** **01 51 39.0 -0.6**
MLR Muntele Rosu 74.88 327 P **P** **01 51 40.1 +0.4**
comp=Z,116nm,1.1s,comp=Z,2μm
HARR Harsova 74.89 325⇓P **P** **01 51 39.4 -0.2**
HARR Harsova 74.89 325 P **P** **01 51 39.3 -0.2**
J58A Remsen 74.90 37 IAmb IAmb 01 51 40.6
comp=Z,354nm,1.1s
IGLA Glengowla, Co 74.92 352 P **P** **01 51 39.4 -0.1**
IGLA Glengowla, Co 74.92 352 *eP* **P** **01 51 39.0 -0.5**
IGLA IAmb IAmb 01 51 41.0
comp=Z,455nm,1.3s
TIRR Tirgusor 74.92 325 P **P** **01 51 40.6 +0.9**
comp=Z,3μm,1.2s,comp=Z,34μm
BZK Bozkurt 74.93 320 *eP* P 01 51 33.8 -6.0
MODS Modra-Piesok 74.96 334 *eP* **P** **01 51 40.6 +0.7**
MODS pmax pmax
comp=Z,913nm,1.8s
MODS Modra-Piesok 74.96 334 *eP* **P** **01 51 40.6 +0.7**
MODS Modra-Piesok 74.96 334 *eP* **P** **01 51 40.6 +0.7**
MODS *eS* **S** **02 01 09.7 -2.4**
ELMS Elmsett, Ipswi 74.96 345 *eP* **P** **01 51 39.9 +0.1**
ELMS IAmb IAmb 01 51 42.5
comp=Z,595nm,0.6s
K57A Scipio Center 74.96 38 IAmb IAmb 01 51 40.9
comp=Z,300nm,1.1s
ROTZ Rotzenmuhle 74.97 338 *eP* 01 51 40.2
comp=Z,164nm,1.9s,baz=22,slow=5.8
TLBR Topalu 74.97 325⇑P **P** **01 51 40.1 0.0**
P51A Williamsport 74.98 44 IAMs_20 IAMs_20 02 26 19.4
comp=Z,3μm,21.0s
HALT Halls 74.98 51 IAMs_20 IAMs_20 02 25 31.8
comp=Z,3μm,22.0s
VT1 Waterbury 75.00 35 IAMs_20 IAMs_20 02 27 45.7
comp=Z,3μm,20.0s
ISR Istrita 75.00 327⇓P **P** **01 51 41.1 +0.8**

ISR	Istrita	75.00 327	P	P	01 51 41.0	+0.8
ISR	Istrita	75.00 327	P	P	01 51 40.9	+0.6
	comp=Z,154nm,1.0s,comp=Z,3μm					
SVAN	Silvan-Diyarba	75.00 313	eP	P	01 51 41.4	+1.0
G62A	West of Eustis	75.00 33	IAmb	IAmb	01 51 42.4	
	comp=Z,478nm,1.2s					
R49A	Shelbyville	75.01 47	IAmb	IAmb	01 51 42.1	
	comp=Z,576nm,1.4s					
PGOR	Pogoanele	75.03 326	⇓P	P	01 51 39.6	-0.7
L56A	Greenwood	75.06 39	IAmb	IAmb	01 51 41.8	
	comp=Z,695nm,1.2s					
BSZH	Besenyszg	75.08 332	⇑P	P	01 51 40.3	-0.3
HLM1	Long Mynd	75.10 348	eP	P	01 51 40.8	+0.1
HLM1			IAmb	IAmb	01 51 42.6	
	comp=Z,1μm,1.8s					
ILIC	ilic-Erzincan	75.11 316	eP	P	01 51 41.0	-0.1
M55A	Ridgway	75.14 40	IAmb	IAmb	01 51 42.5	
	comp=Z,834nm,1.2s					
O53A	New Philadelph	75.14 43	P	P	01 51 40.4	-0.7
	baz=326,SNR=64					
O53A			S	S	02 01 11.1	-3.2
	baz=326					
MFTR	Murfatlar	75.16 325	⇑P	P	01 51 42.3	+1.2
ZST	Bratislava	75.17 334	eP	P	01 51 42.4	+1.3
ZST			pmax	pmax		
	comp=Z,1μm,1.9s					
ZST	Bratislava	75.17 334	eP	P	01 51 42.4	+1.3
ZST	Bratislava	75.17 334	eP	P	01 51 42.4	+1.3
ZST			eS	S	02 01 13.8	-0.6
AMRR	Amara	75.17 326	⇓P	P	01 51 41.1	0.0
AMRR	Amara	75.17 326	P	P	01 51 41.1	0.0
T47A	Sharon Grove	75.18 49	IAmb	IAmb	01 51 43.1	
	comp=Z,835nm,1.2s					
T47A			IAMs_20	IAMs_20	02 25 50.0	
	comp=Z,5μm,21.0s					
SRO	Srobarova	75.18 333	eP	P	01 51 42.5	+1.3
SRO			pmax	pmax		
	comp=Z,571nm,1.8s					
SRO	Srobarova	75.18 333	eP	P	01 51 42.5	+1.3
SRO	Srobarova	75.18 333	eP	P	01 51 42.5	+1.3
DRLN	Deer Lake	75.19 23	⇑P	P	01 51 41.8	+0.6
PTK	Pertek	75.21 315	eP	P	01 51 42.4	+0.6
KHC	Kasperske Hory	75.23 337	P	P	01 51 41.9	+0.4
KHC			IAmb	IAmb	01 51 43.8	
	comp=Z,1μm,2.0s					
KHC	Kasperske Hory	75.23 337	⇑P	P	01 51 41.7	+0.2
KHC	Kasperske Hory	75.23 337	⇓iP	P	01 51 41.7	+0.2
KHC			eS	S	02 01 11.2	-3.9
KHC			AMS	AMS	02 29 50.0	
	comp=Z,10μm,15.4s					
KHC	Kasperske Hory	75.23 337	ceP	P	01 51 42.1	+0.6
KHC			pmax	pmax		
	comp=Z,946nm,1.7s					
KHC	Kasperske Hory	75.23 337	P	P	01 51 42.3	+0.8
	comp=Z,240nm,0.9s,comp=Z,4μm					
VOIR		75.23 328	⇓P	P	01 51 41.9	+0.3
VOIR		75.23 328	P	P	01 51 41.9	+0.3
VOIR		75.23 328	P	P	01 51 41.8	+0.2
	comp=Z,105nm,1.0s,comp=Z,2μm					
GD1S	Gladstone Soft	75.23 186	P	P	01 51 42.6	+1.0
HDBT	Hernando Brdge	75.23 52	IAMs_20	IAMs_20	02 22 39.7	
	comp=Z,3μm,22.0s					
P52A	Corning	75.26 44	IAMs_20	IAMs_20	02 26 51.7	
	comp=Z,4μm,21.0s					
P52A	Corning	75.26 44	P	P	01 51 41.1	-0.6
	baz=326,SNR=32					
P52A			S	S	02 01 12.8	-2.8
	baz=326					
TOKT	Tokat	75.26 318	eP	P	01 51 42.0	+0.1
GRA1	Grafenberg Arr	75.27 338	P	P	01 51 41.9	+0.2
GRF	Grafenberg Arr	75.27 338	P	P	01 51 41.9	+0.2
GRF			pmax	pmax		
	comp=Z,2μm,1.9s					
GRF			MLR	MLR		
	comp=Z,10μm,22.0s					
GRFO	Grafenberg	75.27 338	P	P	01 51 42.0	+0.3
GRFO	Grafenberg	75.27 338	P	P	01 51 42.0	+0.3
GRFO			pmax	pmax		
	comp=Z,1μm,1.8s					
GRFO			MLR	MLR		
	comp=Z,10μm,22.0s					
GRF	Grafenberg Arr	75.27 338	eP		01 51 42.2	
	comp=Z,254nm,0.9s,baz=22,slow=5.8					
GRF			eL		02 27 50.9	
	comp=Z,10μm,21.8s					
BUD	Budapest	75.28 333	P	P	01 51 42.4	+0.7
BUD			pmax	pmax		
	comp=Z,223nm,1.5s					
MET	Memphis--Engin	75.32 52	IAMs_20	IAMs_20	02 24 51.0	
	comp=Z,3μm,22.0s					
CKRC	Cesky Krumlov	75.33 336	⇓iP	P	01 51 42.0	-0.1
CKRC			eS	S	02 01 11.2	-5.0
CKRC			AMS	AMS	02 29 10.0	
	comp=Z,11μm,17.8s					
CKRC	Cesky Krumlov	75.33 336	⇓iP	P	01 51 42.0	-0.1
CKRC			eS	S	02 01 11.2	-5.0
CKRC			MLR	MLR		
	comp=Z,11μm,17.8s					
H62A	Milan	75.35 34	IAmb	IAmb	01 51 44.2	
	comp=Z,588nm,1.2s					
AHRW	Bad Neuenahr-A	75.36 341	eP		01 51 42.4	
	comp=Z,565nm,1.6s,baz=22,slow=5.8					
Z41A	Richland Creek	75.36 55	IAmb	IAmb	01 51 43.2	
	comp=Z,677nm,1.7s					
Z41A			IAMs_20	IAMs_20	02 28 31.4	
	comp=Z,3μm,19.0s					
CCAR	Cane Creek	75.36 54	IAMs_20	IAMs_20	02 28 24.3	
	comp=Z,4μm,19.0s					
LBNH	Lisbon	75.37 35	IAmb	IAmb	01 51 44.3	
	comp=Z,373nm,1.4s					
LBNH			IAMs_20	IAMs_20	02 29 33.3	
	comp=Z,3μm,21.0s					
LBNH	Lisbon	75.37 35	P	P	01 51 42.8	+0.4
	baz=331,SNR=36					
LBNH			S	S	02 01 16.0	-0.8
	baz=331					
LBNH	Lisbon	75.37 35	⇑P	P	01 51 42.8	+0.4
PKME	Peaks-Kenny Pk	75.38 32	IAMs_20	IAMs_20	02 24 56.5	
	comp=Z,5μm,22.0s					
PKME	Peaks-Kenny Pk	75.38 32	P	P	01 51 42.8	+0.5
	baz=332,SNR=23					
PKME			S	S	02 01 15.2	-1.6
	baz=332					
TNS	Taunus Mts	75.38 340	P	P	01 51 42.8	+0.4
TNS			pmax	pmax		
	comp=Z,240nm,1.2s					
TNS	Taunus Mts	75.38 340	eP		01 51 42.5	
	comp=Z,136nm,0.7s,baz=22,slow=5.8					
WET	Wettzell	75.39 337	P	P	01 51 42.7	+0.3
WET			pmax	pmax		
	comp=Z,255nm,1.4s					
WET	Wettzell	75.39 337	eP		01 51 42.8	
	comp=Z,172nm,0.9s,baz=22,slow=5.8					
BEBN	Eben Emael	75.39 342	dP	P	01 51 42.5	+0.2
	comp=Z,344nm,0.7s					
R50A	Paris	75.40 46	IAmb	IAmb	01 51 44.2	
	comp=Z,423nm,1.2s					
SVSK	Karacayir	75.40 317	eP	P	01 51 42.9	+0.3
ARR	Arges	75.43 328	⇑P	P	01 51 42.5	-0.3
ICOR	Ion Corvin	75.43 325	⇓P	P	01 51 43.5	+0.8
GEC2	GERESS Array S	75.46 336	IAmb	IAmb	01 51 45.1	
	comp=Z,703nm,1.9s					
GERES	GERESS Array B	75.46 336	P	P	01 51 43.2	+0.3
	comp=Z,47nm,0.6s,baz=57,slow=4.9,SNR=168					
GERES			LR	LR	02 29 43.6	
	comp=Z,10μm,18.8s,baz=36,slow=40					
	comp=Z,47nm,0.6s					
GEC2	GERESS Array S	75.46 336	eP		01 51 42.8	
	comp=Z,82nm,0.7s,baz=22,slow=5.8					
ACCN	Adirondack Com	75.48 36	IAmb	IAmb	01 51 44.2	
	comp=Z,350nm,1.2s					
SULR		75.48 327	⇑P	P	01 51 43.0	0.0
ARPR	Arapgir-MALATY	75.51 316	eP	P	01 51 43.2	-0.3
ARPR	Arapgir-MALATY	75.51 316	P	P	01 51 43.1	-0.3
BTNL	Ternell	75.51 342	dP	P	01 51 43.1	+0.1
	comp=Z,151nm,0.8s					
MEM	Membach	75.51 342	dP	P	01 51 43.0	0.0
	comp=Z,309nm,0.9s					
MEM	Membach	75.51 342	P	P	01 51 43.4	+0.4
MEM			pmax	pmax		
	comp=Z,511nm,0.8s					
WVT	Waverly	75.53 50	P	P	01 51 43.0	-0.4
WVT			IAmb	IAmb	01 51 45.0	
	comp=Z,348nm,1.3s					
WVT	Waverly	75.53 50	P	P	01 51 43.4	0.0
	baz=324					
WVT			S	S	02 01 18.1	-0.7
	baz=324					
WVT	Waverly	75.53 50	⇑P	P	01 51 42.9	-0.4
WVT	Waverly	75.53 50	P	P	01 51 43.0	-0.4
WVT			pmax	pmax		
	comp=Z,348nm,1.3s					
WVT			MLR	MLR		
	comp=Z,8μm,22.0s					
KURC	Kurucasile-Bar	75.53 321	eP	P	01 51 41.6	-1.7
DEV	Deva	75.53 329	⇓P	P	01 51 43.3	0.0
DEV	Deva	75.53 329	P	P	01 51 43.2	0.0
O54A	Avella	75.55 42	IAmb	IAmb	01 51 45.0	
	comp=Z,714nm,1.3s					
O54A			IAMs_20	IAMs_20	02 27 17.4	
	comp=Z,3μm,21.0s					
SSFO	Shawnee State	75.56 45	IAmb	IAmb	01 51 45.1	
	comp=Z,786nm,1.2s					
SIRR	Siria	75.58 330	⇑P	P	01 51 43.7	+0.1
NATX	Nacogdoches	75.58 57	IAMs_20	IAMs_20	02 27 06.3	
	comp=Z,3μm,21.0s					
NATX	Nacogdoches	75.58 57	P	P	01 51 44.1	+0.3
	baz=322,SNR=32					
NATX			S	S	02 01 19.1	-0.3
	baz=322					
NATX	Nacogdoches	75.58 57	⇑P	P	01 51 44.0	+0.3
MALK	Mahakanadarawa	75.59 265	P	P	01 51 47.7	+3.7
MALK	Mahakanadarawa	75.59 265	⇑P	P	01 51 44.5	+0.5
BSTI	Sart Tilman	75.62 342	dP	P	01 51 44.1	+0.5
	comp=Z,52nm,0.8s					
BINY	Binghamton	75.62 38	IAmb	IAmb	01 51 45.0	
	comp=Z,336nm,1.3s					
BINY	Binghamton	75.62 38	P	P	01 51 43.4	-0.4
	baz=329,SNR=57					
BINY			S	S	02 01 15.5	-4.1
	baz=329					
BINY	Binghamton	75.62 38	⇑P	P	01 51 43.5	-0.4
MCH1	Michaelchurch	75.63 348	eP	P	01 51 43.1	-0.6
MCH1			IAmb	IAmb	01 51 45.4	
	comp=Z,849nm,1.9s					
MCH1	Michaelchurch	75.63 348	⇑P	P	01 51 43.7	0.0
LOT	Lotru	75.64 329	⇓P	P	01 51 43.8	-0.2
DYBB	Diyarbakir	75.64 314	eP	P	01 51 44.8	+0.7
P53A	Whipple	75.70 43	IAmb	IAmb	01 51 45.6	
	comp=Z,447nm,1.3s					
IWEX	Carrickbyrne,	75.70 350	P	P	01 51 44.3	+0.2
IWEX	Carrickbyrne,	75.70 350	eP	P	01 51 44.1	+0.1
IWEX			IAmb	IAmb	01 51 46.0	
	comp=Z,1μm,1.7s					
833A	Chaparral WMA,	75.71 63	IAmb	IAmb	01 51 46.9	
	comp=Z,715nm,1.4s					
833A			IAMs_20	IAMs_20	02 21 07.0	
	comp=Z,4μm,22.0s					
833A	Chaparral WMA,	75.71 63	P	P	01 51 44.9	+0.3
	baz=321,SNR=74					
833A			S	S	02 01 23.0	+2.1
	baz=321					
HNH	Hanover	75.71 35	IAMs_20	IAMs_20	02 29 11.3	
	comp=Z,3μm,21.0s					
PSN	Preselentsi	75.73 325	⇓iP	P	01 51 43.9	-0.5
STRD	Stroud	75.73 347	eP	P	01 51 44.3	0.0
STRD			IAmb	IAmb	01 51 46.2	
	comp=Z,2μm,1.7s					
CONA	Conrad Observa	75.75 335	iP	P	01 51 45.3	+0.7
	comp=Z,33nm,0.6s,SNR=143					
BHOU	Houvegnez	75.75 342	dP	P	01 51 44.6	+0.2
	comp=Z,182nm,0.7s					
Q52A	Bidwell	75.75 44	IAmb	IAmb	01 51 45.8	
	comp=Z,514nm,1.3s					
Q52A			IAMs_20	IAMs_20	02 27 06.9	
	comp=Z,3μm,22.0s					
MONM	Monmouth	75.76 348	eP	P	01 51 44.5	+0.1
MONM			IAmb	IAmb	01 51 46.3	
	comp=Z,2μm,1.8s					
SOP	Sopron	75.78 334	P	P	01 51 46.3	+1.6
SOP			pmax	pmax		
	comp=Z,194nm,1.4s					
BCLA	Clavier	75.83 342	dP	P	01 51 44.8	-0.1
	comp=Z,178nm,0.9s					
BCLA			dx	x	01 52 00.2	
RONA	Rosalia, Austr	75.84 334	iP	P	01 51 46.3	+1.3
	comp=Z,28nm,0.7s,SNR=106					
RONA			eSKS	SKSac	02 01 45.7	-3.8
	comp=Z,13nm,1.8s					
RONA			ePKKP	PKKPbc	02 10 57.1	-2.1
	comp=Z,8.6nm,1.8s					
ELSH	Elham, Standar	75.85 345	eP	P	01 51 45.2	+0.3
ELSH			IAmb	IAmb	01 51 47.1	
	comp=Z,2μm,1.7s					
WVL	Waterville	75.87 33	IAmb	IAmb	01 52 03.0	
	comp=Z,376nm,1.3s					
WVL			IAMs_20	IAMs_20	02 30 15.5	
	comp=Z,4μm,20.0s					
RSBS	Rosebush, Pemb	75.89 349	eP	P	01 51 45.1	-0.1
RSBS			IAmb	IAmb	01 51 46.9	
	comp=Z,585nm,1.5s					
SURR	Surduc	75.90 330	⇓P	P	01 51 45.3	-0.1
I62A	Tamworth	75.90 34	IAmb	IAmb	01 51 47.4	
	comp=Z,570nm,1.8s					
OLDB	Oldbury-Upon-S	75.90 348	eP	P	01 51 44.7	-0.5
OLDB			IAmb	IAmb	01 51 47.2	
	comp=Z,378nm,1.3s					
BGES	Gesves	75.90 342	dP	P	01 51 45.2	0.0
	comp=Z,122nm,1.0s					
M57A	Sunshine Farm,	75.91 39	IAmb	IAmb	01 51 46.7	
	comp=Z,558nm,1.2s					
M57A			IAMs_20	IAMs_20	02 26 47.7	
	comp=Z,4μm,21.0s					
SWN1	Swindon	75.94 347	eP	P	01 51 45.4	0.0
SWN1			IAmb	IAmb	01 51 47.6	
	comp=Z,4μm,1.7s					
BUW	Bucklebury Wes	75.96 347	eP	P	01 51 45.6	0.0
SGRR	Singureni	75.98 327	⇓P	P	01 51 45.4	-0.4
MPLH	Magyarpolny	75.98 333	P	P	01 51 46.8	+1.0
	comp=Z,774nm,1.1s,comp=Z,12μm					
L59A	Walton	75.99 38	IAmb	IAmb	01 51 47.1	
	comp=Z,483nm,1.2s					
I63A	Otisfield	76.01 34	IAmb	IAmb	01 51 48.4	
	comp=Z,509nm,1.2s					
GZR	Gura Zlata	76.01 329	⇑P	P	01 51 45.2	-0.9
GZR	Gura Zlata	76.01 329	P	P	01 51 45.2	-0.9
BMRD	Maredsous	76.04 343	dP	P	01 51 46.0	0.0
	comp=Z,176nm,0.8s					
WOL	Wolverton	76.05 347	eP	P	01 51 46.1	0.0
OXF	Oxford	76.07 52	IAmb	IAmb	01 51 47.8	
	comp=Z,819nm,1.2s					
OXF			IAMs_20	IAMs_20	02 25 12.7	
	comp=Z,4μm,22.0s					
OXF	Oxford	76.07 52	P	P	01 51 46.1	-0.3
	baz=324,SNR=90					
OXF			S	S	02 01 24.4	-0.2
	baz=324					
OXF	Oxford	76.07 52	⇑P	P	01 51 46.0	-0.5
OXF	Oxford	76.07 52	⇑P	P	01 51 45.0	-1.5
JASK	Jask - Hormozg	76.07 294	P	P	01 51 47.1	+0.4
RCHB	Rochefort	76.09 342	dP	P	01 51 46.1	-0.2
	comp=Z,107nm,1.0s					
735A	Kenedy	76.17 61	IAmb	IAmb	01 51 50.0	
	comp=Z,799nm,1.2s					
735A			IAMs_20	IAMs_20	02 21 43.1	
	comp=Z,5μm,22.0s					
BZS	Buzias	76.18 330	⇑P	P	01 51 46.1	-0.9
BZS	Buzias	76.18 330	eP	P	01 51 46.4	-0.5
BZS	Buzias	76.18 330	⇑P	P	01 51 46.2	-0.7
BZS	Buzias	76.18 330	P	P	01 51 46.0	-0.9
U49A	Red Boiling Sp	76.18 48	IAmb	IAmb	01 51 48.6	
	comp=Z,427nm,1.2s					
SSPA	Standing Stone	76.19 40	P	P	01 51 47.0	-0.1
SSPA			IAmb	IAmb	01 51 48.5	
	comp=Z,456nm,1.2s					
SSPA	Standing Stone	76.19 40	IAMs_20	IAMs_20	02 26 20.4	
	comp=Z,4μm,22.0s					
SSPA	Standing Stone	76.19 40	P	P	01 51 47.1	0.0
	baz=328					
SSPA			S	S	02 01 23.6	-2.4
	baz=328					
T50A	Nancy	76.20 47	IAmb	IAmb	01 51 48.7	
	comp=Z,556nm,1.2s					
T50A			IAMs_20	IAMs_20	02 26 33.0	
	comp=Z,5μm,22.0s					
MCWV	Mont Chateau	76.21 42	IAmb	IAmb	01 51 49.0	
	comp=Z,674nm,1.4s					
MCWV			IAMs_20	IAMs_20	02 27 47.9	
	comp=Z,3μm,19.0s					
MCWV	Mont Chateau	76.21 42	P	P	01 51 47.8	+0.5
	baz=327,SNR=59					
MCWV			S	S	02 01 25.2	-0.9
	baz=327					
MCWV	Mont Chateau	76.21 42	⇑P	P	01 51 47.2	0.0
GIVF	Givet	76.22 343	eP	P	01 51 46.5	-0.6
GIVF			pmax	pmax		
	comp=Z,331nm,1.2s					
CANT	Cankiri	76.23 320	eP	P	01 51 48.1	+0.7
MOA	Molln	76.24 336	iP	P	01 51 47.8	+0.5
	comp=Z,27nm,0.6s,SNR=71					
HMNX	Herstmonceux	76.25 346	eP	P	01 51 48.0	+0.8
HMNX			IAmb	IAmb	01 51 49.6	
	comp=Z,2μm,1.9s					
S51A	Beattyville	76.26 46	IAmb	IAmb	01 51 48.9	
	comp=Z,548nm,1.5s					
CLTN	Cedars of Leba	76.27 49	IAmb	IAmb	01 51 49.2	
	comp=Z,534nm,1.2s					
CLTN			IAMs_20	IAMs_20	02 25 22.8	
	comp=Z,5μm,20.0s					
DOU	Dourbes	76.27 343	eP	P	01 51 47.4	0.0
DOU	Dourbes	76.27 343	dP	P	01 51 46.7	-0.6
DARE	Darende-Malaty	76.31 316	eP	P	01 51 49.1	+1.2
COPA	Copaceanca	76.32 327	⇑P	P	01 51 47.2	-0.5
V48A	Smith Brothers	76.32 49	IAmb	IAmb	01 51 49.3	
	comp=Z,484nm,1.3s					
PLAL	Pickwick Lake	76.34 51	IAmb	IAmb	01 51 49.1	
	comp=Z,386nm,1.2s					
Q54A	Coxs Mills	76.36 43	IAmb	IAmb	01 51 49.7	
	comp=Z,399nm,1.2s					
PALK	Pallekele	76.36 264	P	P	01 51 49.4	+1.0
PALK			IAmb	IAmb	01 52 06.2	
	comp=Z,303nm,0.9s					
PALK	Pallekele	76.36 264	IAMs_20	IAMs_20	02 27 47.1	
	comp=Z,3μm,22.0s					
PALK	Pallekele	76.36 264	⇑P	P	01 51 50.1	+1.6
PALK	Pallekele	76.36 264	LR	LR	02 28 20.7	
	comp=Z,2μm,21.5s,baz=139,slow=38					
PALK	Pallekele	76.36 264	P	P	01 51 50.2	+1.7
PALK	Pallekele	76.36 264	P	P	01 51 49.4	+1.0
PALK			pmax	pmax		
	comp=Z,303nm,0.9s					
PALK			MLR	MLR		
	comp=Z,3μm,22.0s					
BAIF	Baives	76.38 343	eP	P	01 51 47.6	-0.4
BAIF			pmax	pmax		
	comp=Z,184nm,0.8s					
HKT	Hockley	76.38 59	P	P	01 51 48.8	+0.6
HKT			IAmb	IAmb	01 51 50.5	
	comp=Z,532nm,1.5s					
HKT	Hockley	76.38 59	IAMs_20	IAMs_20	02 29 41.2	
	comp=Z,3μm,18.0s					
HKT	Hockley	76.38 59	⇑P	P	01 51 48.3	+0.1
HKT	Hockley	76.38 59	P	P	01 51 48.8	+0.6
HKT			pmax	pmax		
	comp=Z,532nm,1.5s					
HKT			MLR	MLR		
	comp=Z,4μm,18.0s					
WLF	Walferdange	76.38 342	P	P	01 51 48.7	+0.7
WLF			IAmb	IAmb	01 51 51.9	
	comp=Z,754nm,1.8s					
WLF	Walferdange	76.38 342	dP	P	01 51 47.5	-0.5
	comp=Z,74nm,1.0s					
WLF	Walferdange	76.38 342	P	P	01 51 48.2	+0.2
WLF	Walferdange	76.38 342	P	P	01 51 48.7	+0.7
WLF			pmax	pmax		
	comp=Z,754nm,1.8s					
WLF			MLR	MLR		
	comp=Z,8μm,22.0s					
WLF	Walferdange	76.38 342	eP		01 51 48.9	
	comp=Z,831nm,1.8s,baz=22,slow=5.8					
VAL	Valentia	76.46 352	P	P	01 51 48.0	-0.3
ARSA	Arzberg	76.46 335	iP	P	01 51 49.4	+0.9
	comp=Z,26nm,0.7s,SNR=75					
ARSA			ePKKP	PKKPbc	02 10 59.2	+1.4
	comp=Z,1.4nm,0.6s					
ARSA	Arzberg	76.46 335	⇑P	P	01 51 48.6	0.0
N58A	Sunbury	76.49 39	IAmb	IAmb	01 51 50.0	
	comp=Z,415nm,1.2s					
N58A			IAMs_20	IAMs_20	02 27 05.2	
	comp=Z,4μm,20.0s					
143A	Socs Landing,	76.52 54	IAmb	IAmb	01 51 51.1	
	comp=Z,518nm,1.2s					
143A			IAMs_20	IAMs_20	02 29 12.8	
	comp=Z,5μm,19.0s					
Y45A	Yeager Farm, C	76.52 52	IAMs_20	IAMs_20	02 30 44.7	
	comp=Z,2μm,20.0s					
MORH	Mrgy, Hungar	76.54 332	⇓P	P	01 51 48.7	-0.2
MORH	Mrgy, Hungar	76.54 332	P	P	01 51 48.6	-0.3
	comp=Z,81nm,1.7s,comp=Z,2μm					
BANR	Banloc	76.54 330	⇑P	P	01 51 48.9	-0.1
BIOA	Bad Ischl, Aus	76.55 336	iP	P	01 51 49.6	+0.5
	comp=Z,46nm,0.8s,SNR=99					
HERR	Herculane	76.58 329	⇓P	P	01 51 48.7	-0.6
STU	Stuttgart	76.59 339	IAmb	IAmb	01 51 51.4	
	comp=Z,512nm,1.6s					
STU	Stuttgart	76.59 339	⇑P	P	01 51 49.4	+0.2
STU	Stuttgart	76.59 339	P	P	01 51 49.6	+0.4
STU			pmax	pmax		
	comp=Z,190nm,1.3s					
STU	Stuttgart	76.59 339	eP		01 51 49.2	
	comp=Z,286nm,0.9s,baz=22,slow=5.8					
L61B	Northampton	76.65 36	IAMs_20	IAMs_20	02 27 15.4	
	comp=Z,4μm,21.0s					
L61B	Northampton	76.65 36	P	P	01 51 49.3	-0.4
	baz=330,SNR=19					
L61B			S	S	02 01 27.8	-3.1
	baz=330					
URFA	Urfa	76.66 314	eP	P	01 51 50.9	+1.0
FUR	Furstenfeldbru	76.68 338	P	P	01 51 50.9	+1.1
FUR			pmax	pmax		
	comp=Z,239nm,1.0s					
FUR	Furstenfeldbru	76.69 338	eP		01 51 50.0	
	comp=Z,197nm,0.9s,baz=22,slow=5.8					
VLAD	Vladila	76.71 327	⇓P	P	01 51 50.6	+0.6
RJOB	Jochberg	76.72 337	eP		01 51 50.5	
	comp=Z,119nm,0.8s,baz=22,slow=5.8					
DJES	Djerdap	76.74 329	⇑P	P	01 51 50.9	+0.8
EIDS	Eidsvold	76.76 186	P	P	01 51 51.5	+1.3
EIDS	Eidsvold	76.76 186	P	P	01 51 51.0	+0.7
EIDS	Eidsvold	76.76 186	⇑P	P	01 51 51.0	+0.7
BNN	Bunyan	76.78 317	eP	P	01 51 50.6	0.0
BNN	Bunyan	76.78 317	⇑P	P	01 51 50.5	-0.2
HTL	Hartland	76.80 349	eP	P	01 51 50.4	+0.1
HTL			IAmb	IAmb	01 51 52.3	
	comp=Z,1μm,1.8s					
KOVH	Kovagotottos	76.81 333	⇑P	P	01 51 49.5	-1.0
SZH	Strazhitsa	76.82 326	⇓iP	P	01 51 50.4	-0.2
MDVR	Moldovita	76.90 330	⇑P	P	01 51 50.6	-0.5
SARI	SarD1z-Kayseri	76.91 317	eP	P	01 51 51.8	+0.4
SHME	Shamm	76.91 295	iP	P	01 51 50.5	-0.9
	SNR=7.0					
SHME	Shamm	76.91 295	P	P	01 51 51.1	-0.2
BANOM	Banah	76.92 295	P	P	01 51 52.2	+0.7
PUNG	Punghina	76.95 329	⇑P	P	01 51 51.0	-0.3
BR131	Keskin Array S	76.97 319	eP	P	01 51 50.9	-0.8
BR131	Keskin Array S	76.97 319	P	P	01 51 51.4	-0.3
BR131	Keskin Array S	76.97 319	iP	P	01 51 50.4	-1.3
BRTR	Keskin Array B	76.97 319	P	P	01 51 51.2	-0.5
	comp=Z,12nm,0.8s,baz=50,slow=3.1,SNR=56					
BRTR			PKKP	PKKPdf	02 10 38.0	-4.7
	comp=Z,0.9nm,0.9s,baz=25,slow=3.3,SNR=4.2					
BRTR			LR	LR	02 31 16.1	
	comp=Z,3μm,20.1s,baz=32,slow=40					
	comp=Z,12nm,0.8s					
BR106	Keskin Array S	76.97 319	P	P	01 51 52.0	+0.3
	comp=Z,47nm,1.0s,comp=Z,404nm					
BR104	Keskin Array S	76.98 319	P	P	01 51 51.6	-0.1
	comp=Z,46nm,0.9s,comp=Z,359nm					
BR105	Keskin Array S	76.98 319	P	P	01 51 51.9	+0.1
	comp=Z,58nm,1.0s,comp=Z,491nm					
KSCT	Kent School, K

HRV pmax pmax
comp=Z,311nm,1.3s
LESA Schwarzleotal 77.04 337 *i* P **P 01 51 52.4 +0.5**
comp=Z,50nm,0.6s
LESA *e*SKS **S 02 01 43.0 +7.9**
comp=Z,21nm,1.7s
LESA *e*PKKP **PKKPbc 02 10 58.1 +1.4**
comp=Z,1.8nm,0.6s
P57A Homestead Farm 77.12 41 IAmb IAmb 01 51 53.8
comp=Z,432nm,1.6s
SOKA Soboth 77.12 335 *i* P **P 01 51 52.9 +0.6**
comp=Z,41nm,0.6s,SNR=148
S54A Dingess, Beckl 77.14 44 IAmb IAmb 01 51 54.0
comp=Z,546nm,1.6s
KVTX Kingsville 77.14 62 IAMs_20 IAMs_20 02 31 13.9
comp=Z,2μm,21.0s
KVTX Kingsville 77.14 62 ⇑P **P 01 51 54.7 +2.1**
FRGS Fruska Gora 77.15 331 ⇑P **P 01 51 52.1 -0.3**
FRGS Fruska Gora 77.15 331 ⇓*i*P **P 01 51 51.7 -0.7**
FRGS Fruska Gora 77.15 331 P **P 01 51 52.2 -0.2**
comp=Z,233nm,1.6s,comp=Z,3μm
441A DeRidder 77.15 57 IAmb IAmb 01 51 55.3
comp=Z,552nm,1.2s
441A IAMs_20 IAMs_20 02 27 49.8
comp=Z,4μm,21.0s
ELND Elena 77.15 326 ⇓P **P 01 51 51.7 -0.8**
SWET Sewanee 77.17 49 IAmb IAmb 01 51 53.7
comp=Z,530nm,1.2s
TZTN Tazewell 77.18 46 IAmb IAmb 01 51 54.4
comp=Z,412nm,1.3s
TZTN Tazewell 77.18 46 P **P 01 51 52.4 -0.4**
baz=326,SNR=91
TZTN S **S 02 01 36.6 -0.3**
baz=326
TZTN Tazewell 77.18 46 ⇑P **P 01 51 52.2 -0.5**
YUVA Yuva-Kibriscik 77.19 321 *e*P **P 01 51 53.8 +0.9**
ANTO Ankara 77.19 320 ⇑P **P 01 51 53.9 +1.0**
ANTO Ankara 77.19 320 P **P 01 51 52.8 0.0**
ANTO Ankara 77.19 320 IAMs_20 IAMs_20 02 30 07.0
comp=Z,3μm,22.0s
ANTO Ankara 77.19 320 ⇑P **P 01 51 52.8 0.0**
ANTO Ankara 77.19 320 P **P 01 51 53.9 +1.0**
ANTO Ankara 77.19 320 P **P 01 51 52.8 0.0**
ANTO pmax pmax
comp=Z,222nm,1.7s
ANTO MLR MLR
comp=Z,3μm,22.0s
ANTO Ankara 77.19 320 P **P 01 51 53.5 +0.7**
comp=Z,25nm,1.0s,comp=Z,924nm
KBA Koelnbreinsper 77.19 336 *i* P **P 01 51 53.9 +1.1**
comp=Z,268nm,0.7s,SNR=315
KBA *i* S **S 02 01 38.0 +1.0**
comp=Z,46nm,1.9s
KBA *e*PKKP **PKKPbc 02 10 56.6 +0.2**
comp=Z,2.2nm,0.7s
KBA Koelnbreinsper 77.19 336 ⇑P **P 01 51 53.3 +0.5**
KBA Koelnbreinsper 77.19 336 P **P 01 51 53.6 +0.8**
KBA pmax pmax
comp=Z,880nm,0.9s
GROS Grobnik 77.19 334 *e*P **P 01 51 52.7 -0.1**
BFO Black Forest 77.20 340 P **P 01 51 52.5 -0.2**
BFO IAmb IAmb 01 51 54.9
comp=Z,861nm,1.9s
BFO Black Forest 77.20 340 ⇑P **P 01 51 52.5 -0.2**
BFO Black Forest 77.20 340 P **P 01 51 52.5 -0.2**
BFO pmax pmax
comp=Z,861nm,1.9s
BFO MLR MLR
comp=Z,8μm,22.0s
BFO Black Forest 77.20 340 *e*P 01 51 52.6
comp=Z,120nm,0.9s,baz=22,slow=5.8
TRNY Table Rock, Ra 77.20 38 IAmb IAmb 01 51 53.9
comp=Z,347nm,1.3s
WES Weston 77.20 35 IAmb IAmb 01 51 54.5
comp=Z,408nm,1.4s
LUPA Lehigh Univers 77.23 39 IAmb IAmb 01 51 54.1
comp=Z,372nm,1.3s
KALN Kalnik 77.24 334 *i* P **P 01 51 52.6 -0.3**
R55A Marlinton 77.25 43 IAmb IAmb 01 51 54.8
comp=Z,504nm,1.2s
SBD Saint Breward 77.25 349 *e*P **P 01 51 52.6 -0.2**
DYA Yadsworthy 77.28 348 *e*P **P 01 51 53.1 0.0**
VALD Valchedram 77.31 328 *i* P **P 01 51 52.5 -0.8**
LOBO Lobor 77.32 334 *i* P **P 01 51 53.1 -0.3**
SILT Sile 77.32 323 *e*P **P 01 51 54.6 +1.2**
CDF Champ du Feu 77.34 340 *e*P **P 01 51 53.1 -0.5**
CDF pmax pmax
comp=Z,221nm,1.0s
VBMS Vicksburg 77.35 54 IAmb IAmb 01 51 55.9
comp=Z,708nm,1.4s
VBMS IAMs_20 IAMs_20 02 26 38.9
comp=Z,4μm,22.0s
VBMS Vicksburg 77.35 54 P **P 01 51 54.0 +0.3**
baz=324,SNR=7.0
VBMS S **S 02 01 38.0 -0.7**
baz=324
VBMS Vicksburg 77.35 54 ⇑P **P 01 51 54.2 +0.4**
WATA Walderalm 77.39 337 *i* P **P 01 51 54.4 +0.5**
comp=Z,57nm,0.6s,SNR=170
WATA *e*S **S 02 01 40.1 +1.0**
comp=Z,15nm,1.9s
WATA *e*PKKP **PKKPbc 02 10 56.8 +0.8**
comp=Z,9.3nm,1.1s
UCCT U. Connecticut 77.39 36 IAmb IAmb 01 51 55.3
comp=Z,377nm,1.2s
MDH Madha 77.40 295 P **P 01 51 52.9 -1.2**
MDH Madha 77.40 295 P **P 01 51 53.8 -0.4**
OBKA Obir 77.41 335 *i* P **P 01 51 54.7 +0.7**
comp=Z,34nm,0.7s,SNR=82
OBKA *e*S **S 02 01 36.3 -2.9**
comp=Z,24nm,1.7s
OBKA Obir 77.41 335 ⇓*i*P **P 01 51 54.0 0.0**
UBR Ueberruh 77.41 338 *e*P 01 51 54.0
comp=Z,430nm,1.5s,baz=22,slow=5.8
SAUV Serdivan-Sakar 77.42 322 *e*P **P 01 51 53.9 -0.1**
MASF Masafi 77.42 295 P **P 01 51 54.6 +0.3**
SNR=5.3
AFSR Afar-Bala (An 77.43 319 *e*P **P 01 51 55.9 +1.7**
MSFE Esma-Masafi 77.43 295 *i* P **P 01 51 53.8 -0.6**
SNR=5.2
RETA Reutte 77.44 338 *i* P **P 01 51 54.5 +0.4**
comp=Z,63nm,0.7s,SNR=96
RETA *e*S **S 02 01 38.9 -0.6**
comp=Z,16nm,1.7s
RETA *i* PKKP **PKKPbc 02 10 56.7 +0.9**
comp=Z,3.6nm,1.0s
WTTA Wattenberg 77.44 337 *i* P **P 01 51 54.9 +0.7**
comp=Z,83nm,0.7s,SNR=171
WTTA *e*S **S 02 01 38.6 -1.1**
comp=Z,24nm,1.7s
WTTA *i* PKKP **PKKPbc 02 10 57.1 +1.2**
comp=Z,12nm,1.4s
WTTA Wattenberg 77.44 337 P **P 01 51 54.0 -0.3**
WTTA pmax pmax
comp=Z,381nm,1.4s
PAL Palisades 77.44 38 IAmb IAmb 01 51 55.3
comp=Z,549nm,1.4s
PAL Palisades 77.44 38 P **P 01 51 53.6 -0.5**
baz=330,SNR=27
PAL S **S 02 01 36.5 -3.0**
baz=330
KMRS Kahramanmaras 77.45 316 *e*P **P 01 51 54.8 +0.5**
KLYT Kilyos 77.46 323 *e*P **P 01 51 51.1 -3.1**
KLYT Kilyos 77.46 323 P **P 01 51 55.0 +0.8**
comp=Z,66nm,1.0s,comp=Z,2μm
BRNJ Basking Ridge 77.47 38 IAmb IAmb 01 51 55.6
comp=Z,375nm,1.2s
W50A Signal Mountai 77.47 48 IAmb IAmb 01 51 55.7
comp=Z,420nm,1.2s
W50A IAMs_20 IAMs_20 02 25 59.7
comp=Z,5μm,20.0s
MPEP Malo Peshtene 77.51 328 ⇓*i*P **P 01 51 54.2 -0.3**
CTYL Yalikoy Yolu 77.55 324 *e*P **P 01 51 52.4 -2.3**
CTYL Yalikoy Yolu 77.55 324 P **P 01 51 55.1 +0.4**
comp=Z,65nm,2.3s,comp=Z,2μm
ECH Echery 77.56 340 P **P 01 51 54.9 +0.2**
ECH IAmb IAmb 01 51 56.7
comp=Z,927nm,1.8s
ECH Echery 77.56 340 ⇑P **P 01 51 54.5 -0.1**
ECH Echery 77.56 340 P **P 01 51 54.9 +0.2**
ECH pmax pmax
comp=Z,927nm,1.8s
ECH MLR MLR
comp=Z,10μm,20.0s
YAYX Yaylak 77.56 319 *e*P P 01 51 26.0 -29
PTJ Puntijarka 77.58 334 *i* P **P 01 51 54.6 -0.3**

SQTA Sankt Quirin 77.58 337 *i* P **P 01 51 56.0 +1.1**
comp=Z,116nm,0.7s,SNR=166
SQTA *e*S **S 02 01 42.3 +1.2**
comp=Z,16nm,1.8s
SQTA *i* PKKP **PKKPbc 02 10 55.8 +0.3**
comp=Z,9.9nm,1.4s
UMQ Umm Al-Quwin 77.59 295 *i* P **P 01 51 55.2 0.0**
SNR=6.7
UMQ Umm Al-Quwin 77.59 295 P **P 01 51 56.5 +1.4**
SNR=6.6
GAZ Gaziantep 77.59 315 *e*P **P 01 51 55.7 +0.6**
GAZ Gaziantep 77.59 315 ⇑P **P 01 51 55.6 +0.5**
CPNY Central Park 77.61 38 IAmb IAmb 01 51 56.3
comp=Z,513nm,1.3s
GULT Gulveren 77.61 322 *e*P **P 01 51 54.8 -0.4**
ISK Istanbul-Kandi 77.62 323 P **P 01 51 53.3 -1.8**
ISK Istanbul-Kandi 77.62 323 P **P 01 51 55.4 +0.3**
ISK pmax pmax
comp=Z,40nm,1.1s
KAVV Kandilli-Istan 77.62 323 *e*P **P 01 51 53.7 -1.4**
BGKT Bogazkoy 77.63 323 *e*P **P 01 51 55.3 +0.2**
MOSL Moslavina 77.63 333 *i* P **P 01 51 54.3 -0.8**
CPCT Cooper Cave 77.64 48 IAmb IAmb 01 51 56.6
comp=Z,374nm,1.2s
ZAG Zagreb 77.64 334 *i* P **P 01 51 55.3 +0.1**
ZAG Zagreb 77.64 334 P **P 01 51 56.2 +1.0**
WSAR Wadi Sarin 77.66 292 LR LR 02 30 25.6
comp=Z,4μm,21.3s,baz=80,slow=39
SERE Sereflikochisa 77.66 319 *e*P **P 01 51 55.4 -0.1**
GBN Guysborough 77.67 27 IAmb IAmb 01 52 13.6
comp=Z,437nm,1.4s
CTKS Kestanelik-??a 77.68 323 *e*P **P 01 51 53.2 -2.2**
CCA1 Carnmenellis 77.69 349 *e*P **P 01 51 55.2 -0.1**
CCA1 IAmb IAmb 01 51 57.2
comp=Z,793nm,1.6s
CCA1 IAMs_20 IAMs_20 02 19 54.3
comp=Z,5μm,31.8s
SLE Schleitheim 77.70 339 P **P 01 51 55.2 -0.3**
ABTA Abfaltersbach 77.71 336 *i* P **P 01 51 56.0 +0.4**
comp=Z,88nm,0.7s,SNR=165
ABTA *e*S **S 02 01 42.0 -0.4**
comp=Z,29nm,1.6s
ABTA *e*PKKP **PKKPbc 02 10 55.8 +0.5**
comp=Z,4.8nm,1.3s
GORS Gorjuse 77.73 335 *e*P **P 01 51 55.1 -0.6**
GORS *e* 01 52 11.2
GORS *e*S **S 02 01 39.0 -3.7**
BIDO Bidbid 77.73 292 P **P 01 51 56.9 +0.9**
SNR=5.4
UOSS Minazif 77.73 295 P **P 01 51 56.0 0.0**
UOSS IAmb IAmb 01 51 56.9
comp=Z,605nm,1.6s
UOSS IAMs_20 IAMs_20 02 32 02.2
comp=Z,3μm,21.0s
UOSS Minazif 77.73 295 *i* P **P 01 51 55.1 -0.9**
SNR=20
UOSS Minazif 77.73 295 ⇑P **P 01 51 55.5 -0.5**
UOSS Minazif 77.73 295 P **P 01 51 56.2 +0.2**
AS01 Alice Springs 77.73 202 P **P 01 51 57.1 +1.3**
V52A Sevierville 77.74 47 IAmb IAmb 01 51 57.4
comp=Z,477nm,1.3s
AS31 Alice Springs 77.74 202 P **P 01 51 56.8 +0.9**
ASAR Alice Springs 77.74 202 P **P 01 51 56.4 +0.5**
comp=Z,152nm,0.9s,baz=14,slow=5.5,SNR=487
ASAR pP **pP 01 52 13.3 -0.3**
comp=Z,47nm,0.7s,baz=14,slow=5.1,SNR=5.8
ASAR PKKPbc **PKKPbc 02 10 56.8 -0.4**
comp=Z,2.5nm,1.0s,baz=150,slow=0.3,SNR=7.3
ASAR PKPPKP **P'P'df 02 18 55.0 -2.0**
comp=Z,1.6nm,0.9s,baz=175,slow=3.0,SNR=4.2
ASAR LR LR 02 24 10.2
comp=Z,4μm,21.9s,baz=26,slow=34
comp=Z,152nm,0.9s
146A Union 77.75 53 IAMs_20 IAMs_20 02 27 42.3
comp=Z,3μm,22.0s
L64A Middleborough 77.77 35 IAmb IAmb 01 51 57.6
comp=Z,538nm,1.4s
Z47A Carrollton 77.78 52 IAmb IAmb 01 51 57.3
comp=Z,441nm,1.1s
Z47A IAMs_20 IAMs_20 02 26 36.1
comp=Z,3μm,22.0s
TEKS Tekeris 77.78 331 *e*P **P 01 51 55.3 -0.7**
EDRB Edirne 77.79 325 *e*P **P 01 51 55.7 -0.4**
EDRB Edirne 77.79 325 P **P 01 51 54.6 -1.5**
M63A Gales Ferry 77.80 36 IAmb IAmb 01 51 57.2
comp=Z,494nm,1.4s
SLVT Silivri 77.80 324 *e*P **P 01 51 56.1 0.0**
KULU Kulu 77.81 319 *e*P **P 01 51 56.7 +0.4**
TKL Tuckaleechee C 77.81 47 IAmb IAmb 01 51 57.6
comp=Z,378nm,1.3s
TKL Tuckaleechee C 77.81 47 LR LR 02 26 51.1
comp=Z,4μm,20.7s,baz=331,slow=36
PTCC Patocco-Chiusa 77.81 336 ⇑P **P 01 51 55.5 -0.7**
DAVA Damuels 77.83 338 *i* P **P 01 51 56.6 +0.2**
comp=Z,76nm,0.8s,SNR=73
DAVA *e*S **S 02 01 42.1 -1.9**
comp=Z,15nm,1.7s
DAVA *i* PKKP **PKKPbc 02 10 55.4 +0.3**
comp=Z,16nm,1.2s
DAVA Damuels 77.83 338 ⇑P **P 01 51 56.5 0.0**
HATD Hatta, Dubai 77.86 294 *i* P **P 01 51 56.0 -0.7**
SNR=27
HATD Hatta, Dubai 77.86 294 P **P 01 51 57.3 +0.6**
SNR=19
FPAL Fort Paine 77.87 49 IAmb IAmb 01 51 57.8
comp=Z,407nm,1.2s
FETA Feichten 77.89 338 *i* P **P 01 51 57.1 +0.4**
comp=Z,98nm,0.8s,SNR=137
FETA *e*S **S 02 01 40.1 -4.4**
comp=Z,34nm,1.8s
FETA *i* PKKP **PKKPbc 02 10 55.7 +0.7**
comp=Z,7.9nm,1.2s
SRCK Saricakaya, Es 77.90 321 *e*P **P 01 51 56.3 -0.4**
ADVT Abdulvahap 77.91 322 *e*P **P 01 51 56.4 -0.3**
ROBS Robic 77.92 336 *e*P **P 01 51 55.7 -1.0**
HAU Haudompre 77.92 341 *e*P **P 01 51 56.1 -0.6**
HAU pmax pmax
comp=Z,293nm,1.1s
BOVS Bovan 77.92 329 ⇑P **P 01 51 56.1 -0.6**
KOZT Kozan 77.94 316 *e*P **P 01 51 56.7 -0.3**
WBK Wadi Bani Khal 77.94 291 P **P 01 51 58.4 +1.1**
SNR=8.3
U54A Nelsons Funny 77.98 45 IAmb IAmb 01 51 58.7
comp=Z,516nm,1.3s
U54A IAMs_20 IAMs_20 02 28 07.8
comp=Z,5μm,21.0s
HINF Hinteralfeld 78.00 340 *e*P **P 01 51 56.3 -0.9**
HINF pmax pmax
comp=Z,515nm,1.8s
NAZ Nazwa, Dubai 78.00 295 *i* P **P 01 51 57.3 -0.2**
SNR=20
NAZ Nazwa, Dubai 78.00 295 P **P 01 51 57.6 +0.1**
SNR=14
BLA Blacksburg 78.02 44 IAmb IAmb 01 51 58.9
comp=Z,484nm,1.3s
BLA Blacksburg 78.02 44 P **P 01 51 57.0 -0.4**
baz=327,SNR=64
BLA S **S 02 01 44.4 -1.5**
baz=327
BLA Blacksburg 78.02 44 ⇑P **P 01 51 56.9 -0.5**
ASHO Ashiyiah 78.02 294 *i* P **P 01 51 57.3 -0.3**
SNR=32
ASHO Ashiyiah 78.02 294 P **P 01 51 58.0 +0.4**
SNR=22
JLN Jalan Bani Buh 78.04 290 P **P 01 51 58.8 +1.1**
SNR=10
DOB Doboj 78.04 332 *e*P **P 01 51 57.0 -0.4**
RMQ Roma 78.05 188 P **P 01 51 59.2 +1.8**
CRLT Corlu 78.06 324 *e*P **P 01 51 56.2 -1.3**
SVRH Sivrihisar-ESK 78.06 320 *e*P **P 01 51 57.2 -0.5**
CAVI Cavuskoy 78.07 322 *e*P **P 01 51 57.7 0.0**
PGB Panagyurishte 78.11 327 ⇓*i*P **P 01 51 57.4 -0.4**
STAL STALIGIAL 78.11 336 IAmb IAmb 01 51 58.9
comp=Z,408nm,1.7s
GEMT Gemlik 78.12 322 *e*P **P 01 51 58.9 +1.0**
ARMT Armutlu 78.13 323 *e*P **P 01 51 57.2 -0.8**
SMDO Samad 78.13 292 P **P 01 51 58.8 +0.4**
SNR=12
BOJS Bojanci 78.14 334 ⇓*i*P **P 01 51 57.8 -0.1**
CMRD Camardi-Nigde 78.14 317 *e*P **P 01 51 59.1 +0.8**
SABO M.te Sabotino 78.14 335 IAMs_20 IAMs_20 02 31 00.9
comp=Z,7μm,20.0s
CEY Cerknica 78.15 335 ⇓*i*P **P 01 51 57.4 -0.6**
HOQ Hoqain 78.15 293 P **P 01 51 58.6 +0.2**
SNR=14
M65A Busby, Falmout 78.17 35 IAMs_20 IAMs_20 02 33 02.4
comp=Z,3μm,20.0s
M65A Busby, Falmout 78.17 35 P **P 01 51 57.9 -0.3**
baz=332
M65A S **S 02 01 45.7 -1.5**
baz=332
SOHO SOHO 78.17 294 *i* P **P 01 51 57.7 -0.7**
SNR=29
SOHO SOHO 78.17 294 P **P 01 51 58.6 +0.2**
S57A Dark Hollow, R 78.18 43 IAmb IAmb 01 52 00.1
comp=Z,464nm,1.4s
S57A IAMs_20 IAMs_20 02 28 43.1
comp=Z,2μm,19.0s
ZAIG Zacatecas 78.20 68 IAmb IAmb 01 52 01.5
comp=Z,536nm,1.2s
ZAIG IAMs_20 IAMs_20 02 31 32.5
comp=Z,2μm,20.0s
ZAIG Zacatecas 78.20 68 ⇑P **P 01 51 59.5 +0.5**
JLP Les Platons 78.20 347 *e*P **P 01 51 58.5 +0.3**
W52A Murphy 78.20 48 IAmb IAmb 01 52 00.0
comp=Z,378nm,1.2s
W52A IAMs_20 IAMs_20 02 26 20.0
comp=Z,5μm,22.0s
X51A Calhoun 78.21 49 IAmb IAmb 01 51 59.9
comp=Z,520nm,1.4s
X51A IAMs_20 IAMs_20 02 26 43.1
comp=Z,5μm,21.0s
PRIJ Prijedor 78.22 333 *e*P **P 01 51 59.7 +1.3**
FAQ Al Faqa, Dubai 78.23 295 *i* P **P 01 51 58.3 -0.5**
SNR=28
FAQ Al Faqa, Dubai 78.23 295 P **P 01 51 59.0 +0.2**
SNR=14
PLD Plovdiv 78.23 326 *e*P **P 01 51 54.5 -4.0**
V53A Saluda 78.24 46 IAmb IAmb 01 52 00.3
comp=Z,394nm,1.4s
CHBY Cihanbeyli 78.24 319 *e*P **P 01 51 58.8 0.0**
P61A Hammonton 78.25 39 IAmb IAmb 01 51 59.7
comp=Z,310nm,1.1s
P61A IAMs_20 IAMs_20 02 27 07.7
comp=Z,3μm,21.0s
JSA Saint Aubin 78.26 347 *e*P **P 01 51 58.6 +0.1**
JSA IAmb IAmb 01 52 00.4
comp=Z,1μm,1.7s
JSA IAMs_20 IAMs_20 02 21 20.6
comp=Z,5μm,28.2s
MDNY Mudanya-Bursa 78.29 323 *e*P P 01 51 52.2 -6.6
BLY Banja Luka 78.30 333 ⇑P **P 01 51 58.3 -0.5**
BLY Banja Luka 78.30 333 ⇓*i*P **P 01 51 58.1 -0.7**
SULT Sultanhani-AKS 78.31 318 *e*P **P 01 51 59.2 +0.1**
DAVOX Davos/Dischmat 78.31 338 LR LR 02 32 54.9
comp=Z,9μm,18.2s,baz=34,slow=40
CIFT Cifteler, Eski 78.31 321 *e*P **P 01 51 57.1 -2.0**
FUORN Ofenpass-Fuorn 78.37 338 P **P 01 52 00.1 +0.5**
FUORN IAmb IAmb 01 52 02.5
comp=Z,960nm,1.9s
HAPS Han Pijesak,Bl 78.38 331 ⇓*i*P **P 01 51 58.8 -0.6**
PLNA Plana 78.39 327 ⇓*i*P P 01 51 51.7 -7.8
FLN La Foliniere 78.43 346 *e*P **P 01 51 59.0 -0.4**
FLN pmax pmax
comp=Z,523nm,1.2s
LRAL Lakeview Retre 78.44 51 IAMs_20 IAMs_20 02 26 02.3
comp=Z,3μm,22.0s
LRAL Lakeview Retre 78.44 51 P **P 01 51 58.8 -1.0**
baz=325,SNR=53
LRAL S **S 02 01 47.7 -2.8**
baz=325
LRAL Lakeview Retre 78.44 51 ⇑P **P 01 51 58.6 -1.1**
BBLS Lazi&#263i 78.44 331 ⇓*i*P **P 01 51 59.3 -0.4**
R58B Mineral 78.46 42 IAmb IAmb 01 52 01.4
comp=Z,344nm,1.4s
UKOP Uzunkopru-Edir 78.46 325 *e*P **P 01 52 01.0 +1.2**
CBN Corbin Frederi 78.47 41 IAmb IAmb 01 52 01.4
comp=Z,499nm,1.3s
CBN Corbin Frederi 78.47 41 P **P 01 51 59.6 -0.3**
baz=329,SNR=15
CBN S **S 02 01 49.8 -0.8**
baz=329
ASUD Al Ashush, Dub 78.47 295 *i* P **P 01 51 59.7 -0.4**
SNR=29
ASUD Al Ashush, Dub 78.47 295 P **P 01 52 00.4 +0.3**
SNR=19
KDZ Kurdzhali 78.48 326 *e*P **P 01 51 59.8 -0.1**
RIY Rijeka 78.52 335 *i* P **P 01 51 59.6 -0.4**
LDF La Druitiere 78.53 345 *e*P **P 01 51 59.5 -0.5**
LDF pmax pmax
comp=Z,411nm,1.3s
346A Big Creek Wild 78.55 54 IAmb IAmb 01 52 02.7
comp=Z,621nm,1.4s
346A IAMs_20 IAMs_20 02 28 09.6
comp=Z,3μm,21.0s
MRMT Marmara Adasi 78.57 324 *e*P **P 01 52 00.2 -0.3**
CTI Castel Tesino 78.58 337 IAmb IAmb 01 52 01.8
comp=Z,844nm,1.8s
KCTX Karacabey (Bur 78.58 323 *e*P **P 01 52 00.3 -0.2**
PLIT Plitvice 78.62 334 *i* P **P 01 51 59.9 -0.7**
MGRS Mrkonjic Grad 78.63 332 ⇓*i*P **P 01 52 01.6 +0.9**
JMDO Jabal Madar 78.63 291 P **P 01 52 01.9 +0.8**
SNR=18
RZN Rozhen 78.64 326 ⇓*i*P **P 01 51 59.8 -1.2**
QLP Quilpie 78.66 192 P **P 01 52 02.4 +1.6**
QLP Quilpie 78.66 192 ⇑P **P 01 52 01.1 +0.4**
AUWSH Wavell State H 78.66 184 P **P 01 52 02.1 +1.4**
RUDO Rudo 78.67 331 *e*P **P 01 51 59.9 -1.0**
ALNE Al Ain 78.68 294 *i* P **P 01 52 01.1 -0.2**
SNR=25
ALNE Al Ain 78.68 294 P **P 01 52 01.6 +0.3**
SNR=28
CLF Chambon-Foret 78.68 344 P **P 01 52 01.8 +0.9**
EDC Edincik 78.69 323 *e*P **P 01 52 00.6 -0.5**
T57A Hurt 78.70 43 IAMs_20 IAMs_20 02 29 08.8
comp=Z,4μm,21.0s
TAHT Tahtakopru-Hat 78.71 316 *e*P **P 01 52 01.7 +0.5**
AJN Ajban 78.72 295 *i* P **P 01 52 01.4 0.0**
SNR=12
AJN Ajban 78.72 295 P **P 01 52 01.1 -0.3**
SNR=16
TUE Stuetta 78.73 338 IAmb IAmb 01 52 04.7
comp=Z,264nm,0.8s
TUE Stuetta 78.73 338 ⇑P **P 01 52 01.7 +0.3**
TUE Stuetta 78.73 338 P **P 01 52 02.5 +1.1**
comp=Z,2μm,0.8s,comp=Z,19μm
A050A Klekovaca 78.73 333 ⇓*i*P **P 01 52 00.8 -0.5**
BG3 Lake Jocassee 78.74 47 P **P 01 52 01.4 -0.1**
BG3 IAmb IAmb 01 52 03.1
comp=Z,633nm,1.3s
U56A King 78.75 44 IAmb IAmb 01 52 03.0
comp=Z,419nm,1.3s
LADK Ladik-KONYA 78.78 319 *e*P **P 01 51 59.7 -2.1**
ARQ Araqi 78.80 293 P **P 01 52 02.2 +0.3**
SNR=21
V55A Taylorsville 78.80 45 IAMs_20 IAMs_20 02 27 19.7
comp=Z,5μm,22.0s
SJES Sjenica 78.81 330 ⇓*i*P **P 01 52 01.4 -0.4**
RDO Rodhopi 78.84 325 *e*P **P 01 52 01.7 -0.1**
RDO Rodhopi 78.84 325 P **P 01 52 00.9 -0.9**
RDO Rodhopi 78.84 325 ⇑P **P 01 52 01.0 -0.8**
KRBG Karabiga-Canak 78.86 324 *e*P **P 01 52 02.3 +0.3**
BSY Bisya 78.87 292 P **P 01 52 02.6 +0.3**
SNR=21
ALN Alexandroupoli 78.88 325 *e*P **P 01 52 01.5 -0.5**
ALN Alexandroupoli 78.88 325 P **P 01 52 01.0 -1.0**
UDBI Udbina 78.90 333 *i* P **P 01 52 01.5 -0.7**
ERIK Erikli-Kesan 78.91 324 *e*P **P 01 52 02.3 +0.1**
PLE Pljevlja 78.93 330 ⇓*i*P **P 01 52 02.2 -0.3**
SUSR Susurluk-Balik 78.94 323 *e*P **P 01 52 02.9 +0.4**
RABC Rab 78.97 334 *i* P **P 01 52 01.5 -1.0**
ENEZ Enez 78.98 325 *e*P **P 01 52 02.5 -0.1**
ENEZ Enez 78.98 325 P **P 01 52 01.7 -0.9**
KONT Konya--Tatoy 79.00 319 *e*P **P 01 52 03.9 +1.0**
KBD Kabd 79.06 303 P **P 01 52 03.2 0.0**
KKB Krupnik 79.06 327 ⇓*i*P **P 01 52 03.0 -0.1**
LPK Lapseki 79.08 324 *e*P **P 01 52 03.6 +0.4**
MMB Musomishta 79.11 327 ⇓*i*P **P 01 52 02.9 -0.5**
LOR Lormes 79.12 342 P **P 01 52 03.6 +0.3**
LOR S **S 02 01 58.0 +0.6**
LOR pmax pmax
comp=Z,439nm,1.3s
GELI Tayfur-Gelibol 79.16 324 *e*P **P 01 52 03.2 -0.4**
IVA Berane 79.19 330 ⇓*i*P **P 01 52 02.9 -0.9**
R61A Willards 79.19 40 IAMs_20 IAMs_20 02 28 47.6
comp=Z,5μm,21.0s
UPM Unac-Piva 79.19 331 *e*P **P 01 52 03.9 -0.1**
UPM Unac-Piva 79.19 331 ⇓*i*P **P 01 52 02.2 -1.8**
SHUT Suhut-Afyon 79.21 321 *e*P **P 01 52 03.9 -0.2**
TEOL Teolo 79.21 336 IAmb IAmb 01 52 06.7
comp=Z,380nm,0.9s

SGMF	Saint Gilles	79.23 347	eP	P	01 52 03.7	-0.2
SGMF			pmax	pmax		
	comp=Z,244nm,1.0s					
NVR	Nevrokopi	79.25 327	P	P	01 52 04.5	+0.4
ROSF	Rostrenen	79.25 347	eP	P	01 52 04.3	+0.3
ROSF	Rostrenen	79.25 347	eP	P	01 52 03.9	-0.1
ROSF			S	S	02 01 59.2	+0.6
ROSF			pmax	pmax		
	comp=Z,539nm,1.1s					
KRMN	Karaman	79.29 318	eP	P	01 52 04.4	-0.1
VIRC	Vir	79.32 334	i P	P	01 52 03.3	-1.1
KOME	Kolasin	79.33 330 ⇑	iP	P	01 52 03.7	-0.9
KAVA	Kavala	79.33 326	P	P	01 52 03.5	-1.0
KMSC	Kings Mountain	79.34 46	IAmb	IAmb	01 52 05.9	
	comp=Z,336nm,1.2s					
KMSC	Kings Mountain	79.34 46	P	P	01 52 04.1	-0.6
	baz=327,SNR=81					
KMSC			S	S	02 01 57.8	-2.3
	baz=327					
SIMA	Simav-Kutahya	79.37 322	eP	P	01 52 03.9	-1.0
SSF	Saint Saulge	79.39 342	eP	P	01 52 04.4	-0.3
SSF			pmax	pmax		
	comp=Z,201nm,0.8s					
GC1S	Gold Coast 1 S	79.40 184	P	P	01 52 06.6	+1.9
COMU	Canakkale	79.42 324	eP	P	01 52 04.4	-0.7
SMTH	Samothraki Isl	79.44 325	P	P	01 52 04.1	-1.1
RICI	Ricice	79.46 332	i P	P	01 52 04.4	-0.8
KIZK	Mersin	79.50 317	eP	P	01 52 06.2	+0.7
SKO	Skopje	79.50 328	i P	P	01 52 06.5	+1.0
STIP	Stip	79.51 328	i P	P	01 52 04.7	-0.8
MORI	Morici	79.53 333	i P	P	01 52 03.9	-1.7
SRS	Serrai	79.55 327	eP	P	01 52 05.2	-0.5
SRS	Serrai	79.55 327	P	P	01 52 04.1	-1.6
GADA	Gvkgeada	79.55 325	eP	P	01 52 05.2	-0.5
NKME	Niksic	79.57 331 ⇓	iP	P	01 52 05.1	-0.8
BRY	Bratogost	79.58 331	eP	P	01 52 04.8	-1.2
BRY	Bratogost	79.58 331 ⇓	iP	P	01 52 05.0	-1.0
DUGI	Dugi Otok	79.59 334	i P	P	01 52 05.3	-0.6
THAS	Thassos island	79.61 326	P	P	01 52 04.9	-1.1
JRN	Qarnain Island	79.62 297	P	P	01 52 06.4	+0.1
	SNR=14					
QUIF	Quistinic	79.65 347	eP	P	01 52 06.0	-0.1
QUIF			pmax	pmax		
	comp=Z,262nm,1.2s					
250A	Grady	79.65 51	IAmb	IAmb	01 52 08.1	
	comp=Z,1μm,1.6s					
250A			IAMs_20	IAMs_20	02 25 51.7	
	comp=Z,5μm,22.0s					
KOKK	Kokkinochori,	79.67 326	P	P	01 52 04.8	-1.6
AVF	Avril sur Loir	79.67 343	eP	P	01 52 06.1	-0.2
AVF			pmax	pmax		
	comp=Z,455nm,1.0s					
SEYD	Seydisehir-KON	79.68 319	eP	P	01 52 08.5	+1.9
MAKA	Makarska	79.68 332	i P	P	01 52 05.0	-1.4
HODGE	Hodges	79.68 47	IAmb	IAmb	01 52 08.1	
	comp=Z,341nm,1.2s					
SILI	Silifke-Mersin	79.69 317	eP	P	01 52 05.7	-0.9
MBWA	Marble Bar	79.69 216	P	P	01 52 07.2	+0.6
MBWA	Marble Bar	79.69 216	P	P	01 52 07.2	+0.6
MBWA			IAmb	IAmb	01 52 08.5	
	comp=Z,477nm,1.3s					
MBWA	Marble Bar	79.69 216 ⇑	P	P	01 52 06.0	-0.6
VAY	Valandovo	79.71 327	i P	P	01 52 07.5	+0.9
KEBE	Keben-Mersin	79.72 317	eP	P	01 52 04.4	-2.4
EZN	Ezine	79.72 324	eP	P	01 52 04.9	-1.7
EZN	Ezine	79.72 324	P	P	01 52 04.8	-1.8
EZN	Ezine	79.72 324	P	P	01 52 06.9	+0.3
EZN	Ezine	79.72 324	P	P	01 52 06.9	+0.3
	comp=Z,115nm,1.6s,comp=Z,2μm					
SMF	Signal de Mont	79.72 342	eP	P	01 52 06.3	-0.3
SMF			pmax	pmax		
	comp=Z,828nm,1.4s					
KNT	Kendrikon	79.74 327	P	P	01 52 06.0	-0.8
V58A	Windy Hill, Pi	79.77 44	IAmb	IAmb	01 52 08.6	
	comp=Z,547nm,1.2s					
MHTO	MHTO	79.78 291	P	P	01 52 08.0	+0.7
	SNR=37					
CEME	Cevo	79.78 330 ⇑	iP	P	01 52 05.8	-1.3
PDG	Podgorica	79.79 330 ⇓	P	P	01 52 06.7	-0.3
PDG	Podgorica	79.79 330	eP	P	01 52 04.4	-2.6
PDG	Podgorica	79.79 330	P	P	01 52 06.6	-0.3
PDG	Podgorica	79.79 330 ⇑	P	P	01 52 05.3	-1.7
PDG	Podgorica	79.79 330 ⇓	iP	P	01 52 05.7	-1.3
PDG	Podgorica	79.79 330 ⇑	iP	P	01 52 06.0	-1.0
HDMB	Hadim	79.79 318	eP	P	01 52 08.4	+1.0
GOGA	Godfrey	79.81 48	P	P	01 52 06.9	-0.3
GOGA	Godfrey	79.81 48	P	P	01 52 07.0	-0.3
	baz=326,SNR=47					
GOGA			S	S	02 02 03.4	-1.6
	baz=326					
GOGA	Godfrey	79.81 48 ⇑	P	P	01 52 06.5	-0.7
GOGA	Godfrey	79.81 48	P	P	01 52 06.9	-0.3
GOGA			pmax	pmax		
	comp=Z,121nm,1.2s					
152A	Waverly Hall	79.83 50	IAmb	IAmb	01 52 08.5	
	comp=Z,395nm,1.4s					
SOMA	Soma-Manisa	79.86 323	eP	P	01 52 07.9	+0.5
STON	Ston	79.86 331 ⇓	iP	P	01 52 05.2	-2.1
SOH	Sokhos	79.89 327	P	P	01 52 06.0	-1.7
IKL	Isikli	79.90 317	eP	P	01 52 06.9	-0.8
W57A	Gilead	79.93 45	IAmb	IAmb	01 52 09.2	
	comp=Z,414nm,1.4s					
BRAL	Brewton	79.93 52	IAmb	IAmb	01 52 10.4	
	comp=Z,894nm,1.4s					
BRAL			IAMs_20	IAMs_20	02 25 36.1	
	comp=Z,3μm,22.0s					
BRAL	Brewton	79.93 52	P	P	01 52 08.7	+0.7
	baz=325,SNR=25					
BRAL			S	S	02 02 07.9	+1.5
	baz=325					
BRAL	Brewton	79.93 52 ⇑	P	P	01 52 08.9	+1.0
SHMA	Al-Shehemyia	79.94 299	P	P	01 52 08.1	0.0
	SNR=18					
HVAR	Hvar	79.95 332	i P	P	01 52 06.5	-1.3
BASM	Basmaki-Afyon	79.96 321	eP	P	01 52 08.4	+0.3
MZWR	Madinat Zayed	79.97 295	P	P	01 52 07.8	-0.5
KULA	Kula-Manisa	79.98 322	eP	P	01 52 07.5	-0.7
KULA	Kula-Manisa	79.98 322	P	P	01 52 06.8	-1.4
BGF	Bois d'Agland	79.99 343	eP	P	01 52 07.9	-0.1
BGF			pmax	pmax		
	comp=Z,151nm,0.7s					
HCY	Herceg Novi	80.01 331	eP	P	01 52 08.0	-0.2
HCY	Herceg Novi	80.01 331 ⇓	iP	P	01 52 07.1	-1.1
BERE	Bereket-Mersin	80.01 318	eP	P	01 52 03.6	-4.9
BUM	Brajici-Budva	80.02 330 ⇓	iP	P	01 52 07.6	-0.7
AKKU	Akkuyu-Mersin	80.03 317	eP	P	01 52 05.7	-2.7
DRME	Dracevica, Mon	80.03 330 ⇓	iP	P	01 52 07.6	-0.7
DRME	Dracevica, Mon	80.03 330 ⇓	iP	P	01 52 07.6	-0.7
PSA00	Pilbara Seismi	80.03 216	P	P	01 52 10.0	+1.6
PSA00	Pilbara Seismi	80.03 216	P	P	01 52 08.5	+0.2
PSA00	Pilbara Seismi	80.03 216	IAmb	IAmb	01 52 10.3	
	comp=Z,363nm,1.3s					
LIA	Limnos Island	80.07 325	eP	P	01 52 07.0	-1.5
LIA	Limnos Island	80.07 325	P	P	01 52 07.0	-1.5
SAKB	Bahrain	80.08 299	P	P	01 52 08.7	-0.1
OUR	Ouranopolis	80.11 326	eP	P	01 52 08.1	-0.6
OUR	Ouranopolis	80.11 326	P	P	01 52 07.4	-1.3
BCK	Bucak	80.14 320	eP	P	01 52 08.7	-0.4
DKL	Dikili	80.17 323	eP	P	01 52 07.4	-1.7
DKL	Dikili	80.17 323	⇑P	P	01 52 06.6	-2.4
HORT	Hortiatis	80.18 327	P	P	01 52 07.7	-1.5
THE	Thessaloniki	80.19 327	P	P	01 52 07.8	-1.4
ULC	Ulcinj	80.21 330 ⇓	iP	P	01 52 08.8	-0.5
LPL	La Plagne	80.21 340	eP	P	01 52 09.9	+0.4
LPL			pmax	pmax		
	comp=Z,264nm,1.0s					
LPG	La Plagne	80.23 340	eP	P	01 52 10.1	+0.4
LPG			pmax	pmax		
	comp=Z,513nm,1.0s					
PRK	Paraskevi	80.25 324	P	P	01 52 07.7	-1.8
PLG	Polygyros	80.26 326	P	P	01 52 08.1	-1.5
EREN	Erenkoy	80.30 316	eP	P	01 52 09.1	-0.7
INKA	Innaminka	80.32 195	P	P	01 52 10.9	+1.2
ZCCA	Zocca	80.33 337	P	P	01 52 11.6	+1.6
TCF	Toulx Ste Croi	80.37 343	eP	P	01 52 10.1	0.0
TCF			pmax	pmax		
	comp=Z,237nm,0.8s					
GHWR	Ruwais	80.38 296	P	P	01 52 10.3	-0.1
ODEM	Odemis-Izmir	80.42 322	eP	P	01 52 11.1	+0.5
SIGR	SIGRI	80.43 324	eP	P	01 52 08.3	-2.2
SIGR	SIGRI	80.43 324	P	P	01 52 08.6	-1.9
GAZI	Gazipasa	80.48 318	eP	P	01 52 09.3	-1.6
OHR	Ohrid	80.49 329	i P	P	01 52 11.6	+0.7
WRKA	Warakurna	80.52 207	P	P	01 52 12.2	+1.2
WRKA	Warakurna	80.52 207	⇑P	P	01 52 11.7	+0.7
PAIG	Paliouri	80.57 326	eP	P	01 52 10.4	-0.9
PAIG	Paliouri	80.57 326	P	P	01 52 09.5	-1.8
TIR	Tirane	80.58 329	eP	P	01 52 11.4	+0.1
TIR	Tirane	80.58 329	P	P	01 52 11.7	+0.4
TIR			IAmb	IAmb	01 52 12.7	
	comp=Z,570nm,1.5s					
TIR	Tirane	80.58 329	P	P	01 52 10.2	-1.1
TIR	Tirane	80.58 329	⇑P	P	01 52 10.7	-0.5
TIR	Tirane	80.58 329	P	P	01 52 11.7	+0.4
TIR			pmax	pmax		
	comp=Z,570nm,1.5s					
TIR	Tirane	80.58 329	P	P	01 52 11.6	+0.4
	comp=Z,282nm,1.5s,comp=Z,4μm					
HWQ	Hawqa	80.58 315	eP	P	01 52 10.9	-0.6
FNA	Florina	80.59 328	eP	P	01 52 10.7	-0.7
FNA	Florina	80.59 328	P	P	01 52 09.6	-1.8
FNA	Florina	80.59 328	⇑P	P	01 52 10.5	-0.9
W59A	Clinton	80.59 44	IAmb	IAmb	01 52 13.2	
	comp=Z,560nm,1.2s					
NAZL	Nazilli-Aydin	80.61 322	eP	P	01 52 10.5	-1.0
KORT	Korkueli	80.63 320	eP	P	01 52 11.1	-0.7
APMY	Acipayam-Deniz	80.64 321	eP	P	01 52 11.6	-0.2
VLC	Villacollemand	80.66 337	P	P	01 52 11.9	+0.2
BNI	Bardonecchia	80.67 340	P	P	01 52 12.7	+0.8
BNI			IAmb	IAmb	01 52 15.0	
	comp=Z,620nm,1.8s					
BNI	Bardonecchia	80.67 340	P	P	01 52 12.7	+0.8
BNI			pmax	pmax		
	comp=Z,620nm,1.8s					
BNI			MLR	MLR		
	comp=Z,10μm,22.0s					
NFK	Norfolk Island	80.67 171	P	P	01 52 12.9	+1.3
NFK	Norfolk Island	80.67 171	⇑P	P	01 52 12.7	+1.1
TRNA	Turayna	80.69 298	P	P	01 52 12.0	-0.1
	SNR=14					
352A	Blakely	80.71 50	P	P	01 52 12.3	+0.2
352A			IAmb	IAmb	01 52 13.7	
	comp=Z,531nm,1.2s					
352A			IAMs_20	IAMs_20	02 29 07.6	
	comp=Z,3μm,22.0s					
MSSA	Maissana	80.72 338	IAmb	IAmb	01 52 14.9	
	comp=Z,333nm,1.1s					
X58A	Rowland	80.72 45	IAmb	IAmb	01 52 13.6	
	comp=Z,420nm,1.2s					
CNNC	Cliffs of the	80.77 43	IAmb	IAmb	01 52 14.0	
	comp=Z,467nm,1.2s					
CNNC	Cliffs of the	80.77 43	P	P	01 52 12.9	+0.5
	baz=329,SNR=11					
CNNC			S	S	02 02 14.6	-0.4
	baz=329					
AYDB	Zeytinkoy-Aydi	80.78 322	eP	P	01 52 12.0	-0.6
MZR	Muzera	80.79 295	i P	P	01 52 12.2	-0.5
	SNR=225					
MZR	Muzera	80.79 295	P	P	01 52 13.0	+0.3
	SNR=46					
LIT	Litokhoron	80.83 327	eP	P	01 52 11.4	-1.3
LIT	Litokhoron	80.83 327	P	P	01 52 10.6	-2.1
LIT	Litokhoron	80.83 327	⇑P	P	01 52 11.2	-1.5
LIT	Litokhoron	80.83 327	⇑P	P	01 52 11.2	-1.5
V61A	Roper	80.86 42	IAmb	IAmb	01 52 14.7	
	comp=Z,749nm,1.4s					
DQM	DQM	80.86 290	P	P	01 52 13.3	+0.3
SSB	Saint Sauveur	80.90 341	IAmb	IAmb	01 52 15.7	
	comp=Z,747nm,1.7s					
SMRA	Abu-Samra	80.90 298	P	P	01 52 13.1	-0.1
	SNR=31					
URLA	Izmir	80.91 323	eP	P	01 52 12.3	-0.8
GUMA	Gualdo di Mace	80.92 334	IAmb	IAmb	01 52 33.7	
	comp=Z,607nm,1.3s					
GUMA			IAMs_20	IAMs_20	02 33 12.9	
	comp=Z,9μm,20.0s					
KBN	Korca	80.93 328	P	P	01 52 10.7	-2.6
KBN	Korca	80.93 328	P	P	01 52 12.9	-0.4
SLWR	Sila	80.95 297	P	P	01 52 13.5	0.0
MBDF	Montbardon	80.96 340	eP	P	01 52 13.2	-0.2
MBDF			pmax	pmax		
	comp=Z,98nm,0.8s					
ORIF	Oris-en-Rattie	80.97 340	eP	P	01 52 13.7	+0.3
ORIF			pmax	pmax		
	comp=Z,248nm,1.0s					
BHL	Bhannes	81.02 315	eP	P	01 52 13.5	-0.4
451A	Vernon	81.02 51	IAMs_20	IAMs_20	02 26 57.0	
	comp=Z,3μm,22.0s					
ELL	Elmali	81.03 320	eP	P	01 52 12.7	-1.2
ELL	Elmali	81.03 320	P	P	01 52 13.7	-0.2
ELL	Elmali	81.03 320	⇑P	P	01 52 13.0	-0.9
ELL	Elmali	81.03 320	P	P	01 52 13.7	-0.2
ELL			pmax	pmax		
	comp=Z,240nm,1.0s					
NEST	Nestorio	81.03 328	P	P	01 52 12.9	-0.9
AULRC	Lightning Ridg	81.04 189	P	P	01 52 14.6	+1.0
OSSC	Osservatorio P	81.04 336	IAmb	IAmb	01 52 15.5	
	comp=Z,642nm,1.5s					
CHOS	Chios island	81.08 324	P	P	01 52 12.8	-1.3
CAME	Cameli-Denizli	81.10 321	eP	P	01 52 14.5	+0.2
Y58A	Scranton	81.12 45	IAmb	IAmb	01 52 15.7	
	comp=Z,332nm,0.9s					
CSS	Mathiatis	81.14 317	IAmb	IAmb	01 52 16.8	
	comp=Z,773nm,1.9s					
CSS	Mathiatis	81.14 317	P	P	01 52 14.4	0.0
	comp=Z,159nm,1.3s,comp=Z,4μm					
LEF	Lefka	81.19 317	eP	P	01 52 13.5	-1.1
SKY	Skiros Island	81.20 325	P	P	01 52 13.5	-1.1
PENT	Pentalofos	81.20 328	P	P	01 52 13.5	-1.2
PMOR	Pomariorio Ree	81.23 128	eP	P	01 52 13.1	-1.8
	comp=Z,886nm,1.3s					
PMOR	Pomariorio Ree	81.23 128	eS	S	02 02 22.7	+2.7
	comp=Z,2μm,24.6s					
PMOR	Pomariorio Ree	81.23 128	eLR	LR	02 17 41.6	
	comp=Z,20μm,24.2s					
TYRN	Tyrnavos	81.27 327	P	P	01 52 12.5	-2.4
VIVF	Saint-Julien-I	81.28 341	eP	P	01 52 15.2	+0.2
VIVF			pmax	pmax		
	comp=Z,263nm,1.0s					
NEO	Neokhori	81.29 326	P	P	01 52 13.5	-1.6
OOD	Oodnadatta	81.32 200	P	P	01 52 16.6	+1.5
YER	Yerkesik	81.33 321	eP	P	01 52 15.6	+0.2
KPRO	Kipourio	81.34 328	P	P	01 52 12.6	-2.9
RAR	Rarotonga	81.35 141	P	P	01 52 15.8	+0.5
RAR			IAmb	IAmb	01 52 17.2	
	comp=Z,828nm,1.6s					
RAR	Rarotonga	81.35 141	LR	LR	02 23 16.0	
	comp=Z,2μm,19.3s,baz=324,slow=32					
RAR	Rarotonga	81.35 141	P	P	01 52 15.9	+0.5
RAR			pmax	pmax		
	comp=Z,828nm,1.7s					
TIGA	Tifton	81.38 49	P	P	01 52 16.1	+0.3
TIGA			pP	pP	01 52 31.4	-2.2
TIGA	Tifton	81.38 49	P	P	01 52 16.0	+0.3
	baz=326,SNR=83					
TIGA			S	S	02 02 21.6	+0.1
	baz=326					
SMG	Samos	81.39 323	P	P	01 52 13.9	-1.7
MLSB	Milas	81.39 322	eP	P	01 52 14.3	-1.4
CAMP	Campotosto	81.39 334	IAmb	IAmb	01 52 18.1	
	comp=Z,550nm,1.2s					
MOIG	Morelia	81.40 69	IAMs_20	IAMs_20	02 22 34.4	
	comp=Z,3μm,22.0s					
MOIG	Morelia	81.40 69	⇑P	P	01 52 17.0	+0.7
LSK	Leskovik	81.42 328	P	P	01 52 15.0	-0.9
RJF	Les Rejaudoux	81.45 343	eP	P	01 52 16.1	+0.3
RJF			pmax	pmax		
	comp=Z,482nm,1.3s					
FETY	Fethiye	81.45 321	eP	P	01 52 14.8	-1.2
DALY	Dalyan (Mula)	81.46 321	eP	P	01 52 15.1	-0.9
THL	Klokotos Trika	81.47 327	P	P	01 52 13.5	-2.5
VLO	Vlora	81.49 329	IAmb	IAmb	01 52 18.1	
	comp=Z,540nm,1.5s					
VLO	Vlora	81.49 329	P	P	01 52 15.6	-0.5
CESX	Cesi	81.55 335	IAmb	IAmb	01 52 19.1	
	comp=Z,450nm,1.3s					
VAH	Vaihoa	81.57 127	eP	P	01 52 15.7	-1.0
	comp=Z,625nm,1.2s					
NHSC	New Hope	81.57 46	IAmb	IAmb	01 52 18.5	
	comp=Z,666nm,1.2s					
NHSC	New Hope	81.57 46	P	P	01 52 17.1	+0.4
	baz=328,SNR=41					
NHSC			S	S	02 02 22.7	-0.7
	baz=328					
NHSC	New Hope	81.57 46 ⇑	P	P	01 52 16.1	-0.5
KYMI	Kymi, Euboea I	81.58 325	P	P	01 52 15.1	-1.5
AKAS	Kas	81.59 320	eP	P	01 52 13.9	-3.0
SBF	Sospel	81.63 339	eP	P	01 52 16.2	-0.7
SBF			pmax	pmax		
	comp=Z,156nm,0.8s					
TURN	Turunc	81.66 321	eP	P	01 52 15.6	-1.5
Y60A	Bolivia	81.68 44	IAmb	IAmb	01 52 18.5	
	comp=Z,399nm,1.0s					
CAF	Calviac	81.71 343	eP	P	01 52 17.8	+0.5
CAF			pmax	pmax		
	comp=Z,368nm,1.2s					
ARMA	Armidale	81.74 185	P	P	01 52 19.0	+1.6
ARMA	Armidale	81.74 185	P	P	01 52 18.6	+1.2
ARMA			IAmb	IAmb	01 52 20.3	
	comp=Z,671nm,1.4s					
ARMA	Armidale	81.74 185 ⇑	P	P	01 52 18.8	+1.3
BODT	Bodrum	81.77 322	eP	P	01 52 17.3	-0.4
BODT	Bodrum	81.77 322	P	P	01 52 16.4	-1.3
JAN	Janina	81.78 328	P	P	01 52 19.1	+1.4
AGG	Agios Georgios	81.85 327	eP	P	01 52 16.6	-1.5
AGG	Agios Georgios	81.85 327	P	P	01 52 15.8	-2.3
AGG	Agios Georgios	81.85 327	⇑P	P	01 52 15.9	-2.3
SRN	Sarande	81.86 329	P	P	01 52 16.9	-1.2
MMAI	Mount Meron Ar	81.88 314	P	P	01 52 18.9	+0.4
	comp=Z,81nm,0.7s,baz=35,slow=6.1,SNR=80					
MMAI			LR	LR	02 34 32.9	
	comp=Z,6μm,18.1s,baz=328,slow=40					
	comp=Z,81nm,0.7s					
ASF	Jabal al Asfar	81.91 313	LR	LR	02 33 03.3	
	comp=Z,10μm,21.7s,baz=334,slow=39					
MAKR	Makrakomi, Fth	81.93 327	P	P	01 52 16.8	-1.7
LFF	La Frestale	81.94 344	eP	P	01 52 18.9	+0.5
LFF			pmax	pmax		
	comp=Z,885nm,1.3s					
DAT	Datca	81.96 322	eP	P	01 52 16.9	-1.9
DAT	Datca	81.96 322	P	P	01 52 17.2	-1.6
AXAR	Agios Charalam	81.97 326	P	P	01 52 16.5	-2.2
RUSF	Rustrel	81.98 340	⇑P	P	01 52 22.9	+4.2
553A	Crawfordville	82.02 51	IAmb	IAmb	01 52 21.3	
	comp=Z,537nm,1.3s					
553A			IAMs_20	IAMs_20	02 27 51.2	
	comp=Z,3μm,22.0s					
EVR	Evrytania	82.12 327	P	P	01 52 19.0	-0.6
DION	Dionisos Attik	82.13 325	P	P	01 52 18.3	-1.3
SCTE	Santa Cesarea	82.18 330	P	P	01 52 19.9	+0.1
PTL	Penteli	82.18 325	P	P	01 52 17.2	-2.6
MATE	Matera	82.19 331	eP	P	01 52 20.1	+0.3
MATE	Matera	82.19 331	⇑P	P	01 52 19.2	-0.5
ARG	Arkhangelos	82.19 321	eP	P	01 52 20.4	+0.5
ARG	Arkhangelos	82.19 321	IAmb	IAmb	01 52 21.7	
	comp=Z,535nm,1.6s					
ARG	Arkhangelos	82.19 321	P	P	01 52 18.3	-1.6
ARG	Arkhangelos	82.19 321	⇑P	P	01 52 19.2	-0.7
ARG	Arkhangelos	82.19 321	P	P	01 52 20.2	+0.3
VILL	Villia	82.27 325	P	P	01 52 17.9	-2.5
ATHU	Athens Univers	82.28 325	P	P	01 52 17.9	-2.4
ATH	Athens Observa	82.30 325	P	P	01 52 18.7	-1.7
MMLI	Mount Malkishu	82.36 314	eP	P	01 52 19.3	-1.6
ANX	Ano Chora	82.38 327	P	P	01 52 19.0	-1.9
VLY	Voula,Athens	82.38 325	P	P	01 52 18.5	-2.3
APE	Apeiranthos	82.44 323	eP	P	01 52 16.1	-5.1
APE	Apeiranthos	82.44 323	P	P	01 52 18.8	-2.4
APE	Apeiranthos	82.44 323	⇑P	P	01 52 18.9	-2.3
KALE	Kalithea	82.48 326	P	P	01 52 18.8	-2.7
PVO	Paravola	82.49 327	P	P	01 52 20.4	-1.0
PGF	Pioggiola	82.51 337	eP	P	01 52 20.8	-0.8
PGF			pmax	pmax		
	comp=Z,602nm,1.8s					
EFP	Efpalio	82.53 327	P	P	01 52 20.3	-1.3
TSLK	Tsoukalades, L	82.60 328	P	P	01 52 20.9	-1.1
PPT	Papeete	82.61 130	P	P	01 52 22.8	+0.6
	comp=Z,487nm,1.1s,baz=3.8,slow=2.9,SNR=32					
PPT			LR	LR	02 21 34.2	
	comp=Z,3μm,21.8s,baz=308,slow=30					
	comp=Z,487nm,1.1s					
LKD2	Lefkada island	82.63 328	eP	P	01 52 20.7	-1.4
LKD2	Lefkada island	82.63 328	P	P	01 52 20.8	-1.4
PPT2	Papeete2	82.63 130	eP	P	01 52 18.1	-4.2
	comp=Z,2μm,31.0s					
PPT2	Papeete2	82.63 130	eP	P	01 52 21.7	-0.6
	comp=Z,714nm,1.3s					
PPT2	Papeete2	82.63 130	ePP	PP	01 55 35.9	+2.9
	comp=Z,931nm,30.0s					
PPT2			eS	S	02 02 28.6	-5.9
	comp=Z,3μm,27.8s					
PPT2			eS	SKSac	02 02 31.0	-6.8
	comp=Z,481nm,25.5s					
PPT2	Papeete2	82.63 130	eLR	LR	02 18 07.3	
	comp=Z,17μm,30.2s					
PPT2			eLR	LR	02 18 18.0	
	comp=Z,9μm,28.2s					
PPT2			eLR	LR	02 18 25.8	
	comp=Z,3μm,23.0s					
PPTF	Pamatai, Papee	82.64 130	P	P	01 52 23.6	+1.3
PPTF	Pamatai, Papee	82.64 130	⇑P	P	01 52 23.2	+0.9
LHI	Lord Howe Isla	82.66 179	⇑P	P	01 52 23.2	+1.2
NYDR	Nydri-Lefkada	82.68 328	P	P	01 52 21.1	-1.3
PAE	Paea	82.69 130	eP	P	01 52 21.7	-0.8
	comp=Z,370nm,1.3s					
PAE	Paea	82.69 130	eS	S	02 02 30.5	-4.4
	comp=Z,327nm,24.9s					
PAE	Paea	82.69 130	eLR	LR	02 18 27.5	
	comp=Z,2μm,25.4s					
456A	Hilliard	82.72 49	IAmb	IAmb	01 52 25.0	
	comp=Z,606nm,1.2s					
456A			IAMs_20	IAMs_20	02 28 38.6	
	comp=Z,5μm,21.0s					
EVGI	Lefkada island	82.78 328	P	P	01 52 21.5	-1.4
KLV	Kalavryta, Ach	82.79 326	P	P	01 52 21.2	-1.9
GUR	Goura	82.82 326	P	P	01 52 20.8	-2.5
EPID	Epidavros	82.83 325	P	P	01 52 20.3	-2.9
UNM	Universidad Na	82.85 68	IAMs_20	IAMs_20	02 24 39.5	
	comp=Z,2μm,22.0s					
UNM	Universidad Na	82.85 68	⇑P	P	01 52 24.8	+0.9
TVO	Taravao	82.95 130	eP	P	01 52 23.8	-0.2
	comp=Z,110nm,1.3s					
TVO	Taravao	82.95 130	eLR	LR	02 18 35.0	
	comp=Z,2μm,25.2s					
RLS	Riolos of Patr	83.01 327	P	P	01 52 23.4	-0.7
KRND	KRANIDI	83.03 325	P	P	01 52 21.4	-2.8
SNT1	Gialos, Santor	83.06 323	P	P	01 52 20.9	-3.4
CUC	Castrocucco	83.06 332	P	P	01 52 24.0	-0.4
CUC	Castrocucco	83.06 332	⇑P	P	01 52 23.2	-1.2
SANT	Santorini	83.08 323	P	P	01 52 24.4	-0.2
SANT	Santorini

EPF pmax pmax
comp=Z,121nm,1.1s
DOK Doka 83.87 292 P **P 01 52 28.6 -0.2**
SNR=5.7
ZKR Zakros 83.90 322 *e*P **P 01 52 26.8 -2.0**
ZKR Zakros 83.90 322 P **P 01 52 27.3 -1.5**
EJON La Jonquera 83.94 342 P **P 01 52 29.5 +0.6**
PYL PYLOS 83.96 326 P **P 01 52 26.8 -2.2**
MULG Mulgathing 84.08 201 P **P 01 52 30.2 +0.8**
DMTO DMTO 84.10 291 P **P 01 52 29.5 -0.5**
CEST Esterri de Car 84.11 343 IAmb IAmb 01 52 32.8
comp=Z,172nm,1.1s
CEST IAMs_20 IAMs_20 02 31 23.7
comp=Z,9μm,22.0s
KZIT Kziot 84.12 314 ⇑P **P 01 52 29.6 -0.4**
ETSF Etsaut 84.14 344 *e*P **P 01 52 30.4 +0.5**
ETSF pmax pmax
comp=Z,43nm,0.7s
STKA Stephens Creek 84.24 194 P **P 01 52 31.0 +0.9**
STKA Stephens Creek 84.24 194 P **P 01 52 30.6 +0.5**
STKA Stephens Creek 84.24 194 P **P 01 52 30.4 +0.3**
comp=Z,129nm,1.0s,baz=351,slow=6.8,SNR=72
STKA pP **pP 01 52 48.0 -0.1**
comp=Z,55nm,0.9s,baz=334,slow=6.3,SNR=7.4
STKA LR LR 02 29 16.2
comp=Z,2μm,20.4s,baz=6.2,slow=35
comp=Z,129nm,1.0s
IDI Anoyia 84.25 323 *e*P **P 01 52 28.5 -2.1**
IDI Anoyia 84.25 323 P **P 01 52 29.1 -1.5**
IDI Anoyia 84.25 323 P **P 01 52 27.6 -3.0**
IDI Anoyia 84.25 323 P **P 01 52 27.5 -3.1**
IDI Anoyia 84.25 323 ⇑P **P 01 52 28.4 -2.1**
IDI Anoyia 84.25 323 LR LR 02 33 45.0
comp=Z,4μm,21.1s,baz=11,slow=38
ELAN Lanestosa 84.27 346 ⇑P **P 01 52 31.2 +0.7**
ANKY Antikythira Is 84.33 324 P **P 01 52 28.4 -2.5**
RODP Rodopos 84.43 324 *e*P **P 01 52 31.9 +0.5**
IMMV Iera Moni Meta 84.44 324 *e*P **P 01 52 30.9 -0.6**
IMMV Iera Moni Meta 84.44 324 P **P 01 52 29.8 -1.7**
HRFI Mount Harif 84.57 313 *e*P **P 01 52 32.2 0.0**
TLIG Tlapa 84.59 69 P **P 01 52 33.0 +0.4**
TLIG IAmb IAmb 01 52 52.5
comp=Z,747nm,1.8s
TLIG IAMs_20 IAMs_20 02 23 41.8
comp=Z,3μm,22.0s
TLIG Tlapa 84.59 69 ⇑P **P 01 52 33.3 +0.6**
WHFO Wadi Hawf 84.63 292 P **P 01 52 31.6 -1.1**
SNR=13
CEL Celeste 84.63 331 P **P 01 52 32.0 -0.5**
RBK Rabkut 84.70 291 P **P 01 52 32.6 -0.5**
KNDR Palaiochora Ch 84.75 324 *e*P **P 01 52 31.8 -1.2**
RAYN Ar Rayn 84.76 302 P **P 01 52 33.5 +0.2**
RAYN IAmb IAmb 01 52 35.4
comp=Z,231nm,0.8s
RAYN Ar Rayn 84.76 302 *i* P **P 01 52 32.7 -0.6**
SNR=244
RAYN Ar Rayn 84.76 302 ⇑P **P 01 52 32.6 -0.7**
RAYN Ar Rayn 84.76 302 P **P 01 52 33.2 -0.1**
RAYN Ar Rayn 84.76 302 P **P 01 52 33.5 +0.2**
RAYN pmax pmax
comp=Z,231nm,0.9s
EIL Elat 84.92 313 *e*P **P 01 52 34.2 +0.2**
EIL Elat 84.92 313 ⇑P **P 01 52 33.5 -0.5**
EIL Elat 84.92 313 LR LR 02 35 07.6
comp=Z,8μm,21.5s,baz=34,slow=39
GVD Gavdhos 84.95 323 *e*P **P 01 52 32.8 -1.3**
GVD Gavdhos 84.95 323 P **P 01 52 32.1 -2.0**
MEEK Meekatharra 85.11 215 P **P 01 52 34.8 +0.1**
SYDH Sydney Hard Ro 85.12 186 P **P 01 52 36.1 +1.6**
RIV Riverview 85.16 186 P **P 01 52 35.6 +0.9**
RIV Riverview 85.16 186 ⇑P **P 01 52 36.1 +1.4**
RIV Riverview 85.16 186 ⇑P **P 01 52 36.1 +1.4**
DWPF Disney Wildern 85.19 50 P **P 01 52 35.8 +0.5**
DWPF IAmb IAmb 01 52 55.2
comp=Z,200nm,0.8s
DWPF Disney Wildern 85.19 50 P **P 01 52 36.1 +0.8**
baz=328
DWPF S **SKSac 02 02 54.7 +0.3**
baz=328
DWPF Disney Wildern 85.19 50 ⇑P **P 01 52 36.2 +0.9**
ABTO Aybut 85.35 292 P **P 01 52 36.0 -0.4**
SNR=10.0
GIB Gibilmanna 85.44 332 ⇑P **P 01 52 34.8 -1.8**
WOLH Wollongong Har 85.75 186 P **P 01 52 38.7 +1.1**
YNG Young 85.83 188 P **P 01 52 39.4 +1.3**
ECAL Calabor 85.99 349 P **P 01 52 39.1 -0.1**
FORT Forrest 86.02 205 P **P 01 52 39.1 0.0**
FORT Forrest 86.02 205 P **P 01 52 39.9 +0.9**
FORT Forrest 86.02 205 ⇑P **P 01 52 39.7 +0.7**
WHYH Whyalla 86.04 197 P **P 01 52 40.1 +1.0**
RAFF Raffo Rosso 86.05 332 IAmb IAmb 01 52 43.1
comp=Z,372nm,1.2s
CLTB Caltabellotta 86.06 333 P **P 01 52 39.8 +0.2**
BBOO Buckleboo 86.11 198 P **P 01 52 40.4 +0.9**
BBOO Buckleboo 86.11 198 P **P 01 52 40.1 +0.7**
MAHO Mahon 86.12 340 P **P 01 52 40.0 +0.3**
MAHO Mahon 86.12 340 ⇑P **P 01 52 40.7 +1.0**
PBRG Braganca 86.12 349⇓*e*P **P 01 52 39.8 0.0**
comp=Z,163nm,1.8s
PBRG *e*pP **pP 01 52 55.6 -2.3**
PBRG *i* LQ LQ 01 53 10.0
PBRG Braganca 86.12 349 *e*PP **PP 01 55 59.3 -0.6**
PGAV Gavieira, Arco 86.14 350⇓*e*P **P 01 52 40.1 +0.1**
comp=Z,199nm,1.7s
PGAV *e*pP **pP 01 52 57.5 -0.6**
PGAV *i* LQ LQ 01 53 10.8
PGAV Gavieira, Arco 86.14 350 *e*PP **PP 01 56 00.2 +0.1**
PGAV *e*SKSac **SKSac 02 03 00.6 +0.3**
PGAV *e*S **S 02 03 10.3 +1.0**
PGAV Gavieira, Arco 86.14 350 *e*LR LR 02 21 54.5
comp=Z,3μm,20.0s
HTT Hallett 86.19 196 P **P 01 52 40.7 +0.9**
HTT Hallett 86.19 196 ⇑P **P 01 52 40.8 +0.9**
HTT Hallett 86.19 196 ⇑P **P 01 52 40.8 +0.9**
PCAB Cabril 86.37 349 *e*P **P 01 52 41.0 0.0**
comp=Z,181nm,1.4s
PCAB *e*pP **pP 01 52 57.6 -1.5**
KAAM Kaadhehdhoo 86.42 266 P **P 01 52 42.3 +0.7**
KAAM Kaadhehdhoo 86.42 266 ⇑P **P 01 52 43.6 +2.1**
KAAM Kaadhehdhoo 86.42 266 P **P 01 52 43.9 +2.4**
SNR=7.6
ETOS Mallorca 86.54 341 ⇑P **P 01 52 42.0 +0.1**
POLO Lamas de Olo 86.67 349⇓*e*P **P 01 52 42.9 +0.3**
comp=Z,115nm,1.3s
POLO *e*pP **pP 01 52 58.3 -2.4**
POLO *i* LQ LQ 01 53 13.0
CNB Canberra Magne 86.76 187 P **P 01 52 43.7 +1.0**
PVRL Vila Real 86.76 349 *e*P **P 01 52 43.2 +0.2**
comp=Z,296nm,1.3s
PVRL *e*pP **pP 01 52 59.7 -1.4**
PVRL *i* LQ LQ 01 53 13.4
CAN Canberra 86.79 187 P **P 01 52 44.1 +1.3**
CAN Canberra 86.79 187 P **P 01 52 43.4 +0.6**
CAN IAmb IAmb 01 52 45.5
comp=Z,314nm,1.4s
CAN Canberra 86.79 187 ⇑P **P 01 52 43.9 +1.1**
CAN Canberra 86.79 187 P **P 01 52 43.4 +0.6**
CAN pmax pmax
comp=Z,314nm,1.4s
CMIG Matias Romero 87.09 66 LR LR 02 28 51.0
comp=Z,2μm,21.9s,baz=332,slow=34
UCM Universidad Co 87.11 346 P **P 01 52 43.5 -1.1**
WDD Wied Dalam 87.29 331 IAMs_20 IAMs_20 02 38 25.3
comp=Z,4μm,19.0s
PVIS Viseu 87.34 349⇓*e*P **P 01 52 45.7 -0.1**
PVIS *e*pP **pP 01 53 01.5 -2.4**
PVIS *i* LQ LQ 01 53 16.1
ECHE Chera 87.43 344 P **P 01 52 45.4 -0.8**
OUZ Omahuta 87.44 167 ⇑P **P 01 52 47.4 +1.6**
EIBI Ibiza 87.55 342 ⇑P **P 01 52 48.3 +1.6**
MTE Manteigas 87.61 349 P **P 01 52 47.6 +0.5**
MTE IAmb IAmb 01 52 51.4
comp=Z,423nm,2.0s
MTE IAMs_20 IAMs_20 02 29 31.0
comp=Z,3μm,22.0s
MTE Manteigas 87.61 349⇓*e*P **P 01 52 47.0 -0.1**
comp=Z,146nm,1.3s
MTE *e*pP **pP 01 53 04.7 -0.5**
MTE *i* LQ LQ 01 53 17.4
MTE *e*SKSac **SKSac 02 03 10.7 +1.5**
MTE *e*S **S 02 03 24.8 +1.5**
MTE *e*SS **SS 02 09 08.8 +0.2**
MTE Manteigas 87.61 349 *e*LR LR 02 22 22.6
comp=Z,2μm,22.0s
TBI Tubuai 87.65 133 *e*P **P 01 52 47.6 +0.4**
comp=Z,1μm,1.3s
TBI Tubuai 87.65 133 *e*P **P 01 52 48.5 +1.3**
comp=Z,7μm,32.5s
TBI Tubuai 87.65 133 *e*PP **PP 01 56 15.0 +1.3**
comp=Z,4μm,30.5s
TBI *e*S **S 02 03 19.9 -3.8**
comp=Z,2μm,24.0s
TBI *e*S **ScS 02 03 27.2 -3.0**
comp=Z,12μm,27.0s
TBI Tubuai 87.65 133 *e*LR LR 02 20 29.8
comp=Z,46μm,30.5s
TBI *e*LR LR 02 20 37.3
comp=Z,7μm,28.0s
TBI *e*LR LR 02 20 40.4
comp=Z,7μm,21.7s
ESBB Sonseca Array 87.83 346 P **P 01 52 48.1 -0.1**
ESDC Sonseca Array 87.83 346 P **P 01 52 48.3 +0.1**
ESDC Sonseca Array 87.83 346 P **P 01 52 47.8 -0.4**
comp=Z,33nm,0.8s,baz=2.3,slow=4.1,SNR=135
ESDC ScS **S 02 03 30.0 +4.5**
comp=Z,4.8nm,1.3s,baz=7.8,slow=11,SNR=6.6
ESDC PKKPbc **PKKPbc 02 10 32.1 -0.1**
comp=Z,3.8nm,1.1s,baz=181,slow=1.6,SNR=14
ESDC PKPPKP 02 18 34.7
comp=Z,1.1nm,0.9s,baz=213,slow=1.2,SNR=6.2
ESDC LR LR 02 39 11.4
comp=Z,5μm,19.2s,baz=27,slow=40
comp=Z,33nm,0.8s
COI Coimbra 87.90 350 IAMs_20 IAMs_20 02 38 34.7
comp=Z,4μm,20.0s
COI Coimbra 87.90 350 *e*P **P 01 52 48.6 +0.2**
comp=Z,174nm,1.6s
COI *e*pP **pP 01 53 06.4 -0.1**
COI *i* LQ LQ 01 53 19.5
PAB San Pablo 88.02 346 P **P 01 52 48.2 -0.9**
PAB San Pablo 88.02 346 P **P 01 52 48.2 -0.9**
PAB pmax pmax
comp=Z,61nm,1.2s
PCAS Casmilo, Conde 88.06 350 *e*P **P 01 52 49.0 -0.2**
comp=Z,167nm,2.0s
PCAS *e*pP **pP 01 53 04.1 -3.2**
PCAS *i* LQ LQ 01 53 19.4
PCBR Castelo Branco 88.15 349 *e*P **P 01 52 51.5 +1.9**
comp=Z,106nm,2.0s
PCBR *e*pP **pP 01 53 05.7 -2.0**
TEIG Tepich 88.23 59 P **P 01 52 50.6 +0.3**
TEIG IAmb IAmb 01 52 52.1
comp=Z,489nm,1.4s
TEIG Tepich 88.23 59 ⇑P **P 01 52 50.5 +0.3**
TEIG Tepich 88.23 59 LR LR 02 33 50.7
comp=Z,984nm,21.5s,baz=340,slow=36
MORW Morawa 88.25 216 P **P 01 52 50.2 +0.2**
MORW Morawa 88.25 216 P **P 01 52 50.4 +0.5**
MORW Morawa 88.25 216 ⇑P **P 01 52 50.1 +0.2**
KMBL Kambalda 88.37 210 P **P 01 52 50.8 +0.4**
BBSR BB Station 88.50 35 P **P 01 52 51.9 +0.6**
BBSR IAmb IAmb 01 52 53.4
comp=Z,334nm,1.2s
MILA Mila 88.50 187 P **P 01 52 52.7 +1.7**
MILA Mila 88.50 187 ⇑P **P 01 52 52.3 +1.3**
PMRV Marv??o 88.55 349⇓*e*P **P 01 52 50.8 -0.7**
comp=Z,81nm,1.7s
PMRV *e*pP **pP 01 53 05.0 -4.7**
PMRV Marv??o 88.55 349 *e*SKSac **SKSac 02 03 16.1 +1.3**
PMRV *e*S **S 02 03 33.4 +1.2**
PMRV Marv??o 88.55 349 *e*LR LR 02 23 06.4
comp=Z,5μm,18.0s
PSBE So Bento 88.63 350⇓*e*P **P 01 52 51.7 -0.2**
comp=Z,119nm,1.9s
PSBE *e*pP **pP 01 53 07.4 -2.7**
PSBE *i* LQ LQ 01 53 22.0
GRZ Great Barrier 88.72 166 P **P 01 52 52.9 +0.9**
KEST Kesra 88.86 335 P **P 01 52 53.8 +0.7**
KEST IAmb IAmb 01 52 56.1
comp=Z,364nm,1.4s
KEST Kesra 88.86 335 P **P 01 52 53.3 +0.2**
comp=Z,188nm,1.1s,baz=299,slow=1.0,SNR=67
KEST LR LR 02 36 27.3
comp=Z,7μm,21.5s,baz=322,slow=38
comp=Z,188nm,1.1s
PMTG Montargil 89.00 349⇓*e*P **P 01 52 52.5 -1.1**
comp=Z,68nm,1.8s
PMTG *e*pP **pP 01 53 08.7 -3.1**
PMTG Montargil 89.00 349 *e*PP **PP 01 56 22.8 -0.2**
ARPS Mount Arapiles 89.01 193 P **P 01 52 54.7 +1.4**
PESTR Estremoz 89.12 349⇓*e*P **P 01 52 53.8 -0.4**
comp=Z,66nm,1.8s
PESTR *e*pP **pP 01 53 08.4 -4.0**
KUZ Kuaotunu 89.25 166 P **P 01 52 55.5 +1.1**
KUZ Kuaotunu 89.25 166 PKP **P 01 52 54.1 -0.3**
CCIG Comitan 89.30 65 IAmb IAmb 01 53 15.1
comp=Z,440nm,1.8s
CCIG Comitan 89.30 65 ⇑P **P 01 52 56.3 +0.8**
TOO Toolangi 89.35 190 P **P 01 52 56.6 +1.7**
TOO Toolangi 89.35 190 P **P 01 52 56.2 +1.3**
TOO Toolangi 89.35 190 ⇑P **P 01 52 56.4 +1.5**
TOO Toolangi 89.35 190 P **P 01 52 56.2 +1.3**
TOO pmax pmax
comp=Z,645nm,1.4s
CART Cartagena 89.39 343 IAMs_20 IAMs_20 02 34 31.3
comp=Z,4μm,21.0s
SET Setif 89.40 338 P **P 01 52 58.0 +2.4**
BLDU Ballidu 89.41 215 P **P 01 52 55.3 0.0**
LIS Lisbon 89.45 350 *e*P **P 01 52 55.0 -0.7**
LIS *e*PP **PP 01 56 27.0 +0.5**
LIS *e*SKSac **SKSac 02 03 17.6 -2.5**
LIS IAMs_20 IAMs_20 02 41 04.0
comp=Z,4μm,14.2s
LIS Lisbon 89.45 350 ⇑P **P 01 52 58.4 +2.7**
CAMR Camarioca 89.45 52 IAmb IAmb 01 52 58.5
comp=Z,893nm,1.4s
CAMR IAMs_20 IAMs_20 02 37 25.2
comp=Z,2μm,19.0s
EVO Evora 89.51 349⇓*e*P **P 01 52 55.3 -0.7**
comp=Z,61nm,1.6s
EVO *e*pP **pP 01 53 11.2 -3.0**
EVO *i* LQ LQ 01 53 25.9
EVO Evora 89.51 349 *e*PP **PP 01 56 27.5 +0.5**
MLBS Spotswood, Mel 89.67 190 P **P 01 52 58.5 +2.2**
SRBC Serra Branca 89.70 5 *e*pP pP 01 53 11.7 -3.4
PGRA Graciosa 89.71 5 *e*pP sP 01 53 24.5 +2.3
AUSSC Sale College, 89.72 188 P **P 01 52 57.9 +1.4**
PBAR Barrancos 89.74 348⇓*e*P **P 01 52 56.8 -0.3**
comp=Z,101nm,1.6s
PBAR *e*pP **pP 01 53 12.1 -3.2**
PBAR *i* LQ LQ 01 53 27.8
KLBR Kellerberrin 89.94 213 P **P 01 52 58.6 +0.8**
PNCL Nicolau / Gran 89.98 349⇓*e*P **P 01 52 57.8 -0.4**
comp=Z,45nm,1.4s
PNCL *e*pP **pP 01 53 13.1 -3.3**
PNCL Nicolau / Gran 89.98 349 *e*PP **PP 01 56 31.0 +0.2**
PBEJ Beja 89.99 349 *e*P **P 01 52 58.4 +0.2**
comp=Z,62nm,1.6s
PBEJ *e*pP **pP 01 53 18.2 +1.8**
PBEJ Beja 89.99 349 *e*PP **PP 01 56 29.8 -1.0**
PSBA Serra de Santa 90.00 4 *e*P **P 01 53 00.9 +2.6**
ROSA Rosais 90.01 5 *e*pP pP 01 53 16.1 -0.4
PAGU Agualva, Azore 90.01 4 *e*P **P 01 53 01.0 +2.7**
comp=Z,90nm,1.2s
PAGU *e*pP **pP 01 53 14.9 -1.6**
PETF Flores 90.06 62 IAmb IAmb 01 53 00.8
comp=Z,151nm,1.4s
PETF IAMs_20 IAMs_20 02 30 58.1
comp=Z,2μm,22.0s
PSCM Serra do Cume 90.08 4 *e*pP pP 01 53 16.5 -0.3
PMAN Manadas 90.10 5 *e*P **P 01 53 01.5 +2.8**
comp=Z,203nm,1.2s
PMAN *e*pP **pP 01 53 15.6 -1.3**
GEXS Deakin Univers 90.11 191 P **P 01 53 00.3 +2.0**
MESJ Messejana 90.21 349 IAMs_20 IAMs_20 02 40 33.0
comp=Z,4μm,20.0s
MESJ Messejana 90.21 349⇓*e*P **P 01 52 59.1 -0.2**
comp=Z,48nm,1.6s
MESJ *e*pP **pP 01 53 14.5 -3.0**
MESJ *i* LQ LQ 01 53 29.2
MESJ Messejana 90.21 349 *e*PP **PP 01 56 32.5 -0.1**
MESJ Messejana 90.21 349 *e*P **P 01 52 58.6 -0.6**
MESJ *e*PP **PP 01 56 33.2 +0.6**
MESJ *e*SKSac **SKSac 02 03 22.1 -2.5**
MESJ IAMs_20 IAMs_20 02 41 26.7
comp=Z,4μm,17.1s
MESJ Messejana 90.21 349 ⇑P **P 01 52 59.3 0.0**
MESJ Messejana 90.21 349 *e*P **P 01 52 58.7 -0.6**
MESJ *e* 01 56 33.2
MESJ *e* 02 03 22.1
PICO Pico 90.22 5 *e*pP pP 01 53 17.1 -0.4
PPNO Prainha do Nor 90.25 5 *e*pP pP 01 53 17.3 -0.4
PID Ribeirinha 90.29 5 *e*pP pP 01 53 17.4 -0.4
PCVE Castro Verde 90.40 349⇓*e*P **P 01 53 00.1 0.0**
comp=Z,81nm,1.4s
PCVE *e*pP **pP 01 53 14.9 -3.5**
PCVE *i* LQ LQ 01 53 30.8
PCVE Castro Verde 90.40 349 *e*PP **PP 01 56 34.9 +0.8**
MXZ Matakaoa Point 90.47 164 P **P 01 53 00.7 +0.6**
MXZ Matakaoa Point 90.47 164 IAmb IAmb 01 53 01.8
comp=Z,264nm,1.2s
PTEO Sao Teotonio 90.56 349 *e*P **P 01 53 01.6 +0.7**
comp=Z,85nm,1.8s
PVAQ Vaqueiros 90.58 349 P **P 01 53 01.5 +0.5**
PVAQ Vaqueiros 90.58 349⇓*e*P **P 01 53 00.7 -0.3**
comp=Z,62nm,1.3s
PVAQ *e*pP **pP 01 53 16.0 -3.2**
PVAQ Vaqueiros 90.58 349 *e*PP **PP 01 56 36.4 +0.8**
PVAQ *e*SKSac **SKSac 02 03 28.1 +1.4**
PVAQ *e*S **ScS 02 03 54.1 -0.5**
PVAQ *e*SS **SS 02 09 53.5 +1.8**
PVAQ Vaqueiros 90.58 349 *e*LR LR 02 23 34.2
comp=Z,5μm,18.0s
PVAQ Vaqueiros 90.58 349 ⇑P **P 01 53 01.4 +0.3**
WMGZ Waiomatatini S 90.74 164 P **P 01 53 02.5 +1.2**
PBDV Barranco-do-Ve 90.77 349 *e*P **P 01 53 02.4 +0.5**
comp=Z,88nm,1.6s
PBDV *e*pP **pP 01 53 17.7 -2.4**
PBDV *i* LQ LQ 01 53 30.5
MORF Marmelete 90.79 349⇓*e*P **P 01 53 01.7 -0.3**
comp=Z,91nm,1.6s
MORF *e*pP **pP 01 53 17.6 -2.7**
MORF Marmelete 90.79 349 *e*P **P 01 53 01.4 -0.7**
MORF *e*PP **PP 01 56 37.8 +0.5**
MORF *e*SKSac **SKSac 02 03 25.8 -2.3**
MORF IAMs_20 IAMs_20 02 29 27.6
comp=Z,5μm,24.7s
MORF Marmelete 90.79 349 *e*P **P 01 53 01.4 -0.7**
MORF *e* 01 56 37.8
MORF *e* 02 03 25.8
HIZ Hauiti 90.85 167 P **P 01 53 01.4 -0.5**
URZ Urewera 90.95 165 P **P 01 53 01.1 -1.1**
comp=Z,94nm,1.1s,baz=108,slow=2.8,SNR=40
URZ LR LR 02 27 10.3
comp=Z,4μm,21.4s,baz=112,slow=31
comp=Z,94nm,1.1s
URZ Urewera 90.95 165 P **P 01 53 01.3 -1.0**
PUZ Puketiti 90.96 164 P **P 01 53 01.8 -0.5**
PFVI Vila Bisbo 90.98 349 *e*P **P 01 53 03.3 +0.4**
comp=Z,86nm,1.3s
PFVI *e*pP **pP 01 53 17.6 -3.5**
PSET Sete Cidades 91.00 3 *e*pP pP 01 53 19.8 -1.4
PCALD Caldeiras da R 91.04 3 *e*pP pP 01 53 20.3 -1.0
BART Pico Bartolome 91.07 2 *e*pP pP 01 53 20.5 -1.0
PGRON Lagoa das Cont 91.07 3 *e*pP pP 01 53 20.9 -0.6
CMLA Cha da Macela 91.07 3 ⇑P **P 01 53 07.0 +3.7**
MWZ Matawai 91.09 165 P **P 01 53 02.3 -0.7**
NWAO Narrogin (SRO) 91.33 213 P **P 01 53 05.0 +0.8**
NWAO Narrogin (SRO) 91.33 213 P **P 01 53 04.4 +0.2**
NWAO IAmb IAmb 01 53 05.8
comp=Z,175nm,1.2s
NWAO Narrogin (SRO) 91.33 213 LR LR 02 34 24.4
comp=Z,1μm,21.3s,baz=38,slow=36
NWAO Narrogin (SRO) 91.33 213 P **P 01 53 04.4 +0.2**
NWAO pmax pmax
comp=Z,175nm,1.2s
TATN Tataouine 91.50 333 IAmb IAmb 01 53 05.4
comp=Z,164nm,1.6s
TATN Tataouine 91.50 333 ⇑P **P 01 53 03.8 -1.6**
BKZ Black Stump Fm 91.74 166 P **P 01 53 05.6 -0.4**
BKZ Black Stump Fm 91.74 166 P **P 01 53 05.6 -0.4**
ECEU Ceuta 91.75 346 ⇑P **P 01 53 05.9 -0.5**
PSMN Pico do Norte, 91.84 2 *e*P **P 01 53 10.1 +3.2**
comp=Z,104nm,1.7s
PSMN *e*pP **pP 01 53 22.5 -2.5**
ESQI Esquipulas 92.26 63 P **P 01 53 09.7 +0.5**
MTO3 Montecristo 92.38 63 P **P 01 53 07.1 -2.8**
FSCY Frank Sound, G 92.69 54 IAMs_20 IAMs_20 02 43 14.3
comp=Z,3μm,18.0s
QRZ Quartz Range 92.82 169 IAMs_20 IAMs_20 02 29 46.6
comp=Z,4μm,21.0s
AULHS Lilydale High 92.83 188 P **P 01 53 12.5 +1.6**
TKNZ Takaka Hill 93.08 169 P **P 01 53 10.9 -1.2**
NNZ Nelson 93.31 168 IAMs_20 IAMs_20 02 34 22.6
comp=Z,3μm,20.0s
TGUH Tegucigalpa,Un 93.82 62 P **P 01 53 16.4 0.0**
TGUH pP **pP 01 53 33.7 -0.9**
TGUH IAMs_20 IAMs_20 02 32 07.8
comp=Z,2μm,22.0s
TGUH Tegucigalpa,Un 93.82 62 ⇑P **P 01 53 16.9 +0.4**
CHIV Chivirico 94.48 50 P **P 01 53 19.8 +0.6**
CHIV IAmb IAmb 01 53 20.8
comp=Z,124nm,1.2s
CHIV pP **pP 01 53 36.5 -0.9**
CHIV IAMs_20 IAMs_20 02 36 37.3
comp=Z,4μm,22.0s
INZ Inchbonnie 94.57 170 P **P 01 53 19.3 +0.4**
AVE Averroes 94.59 348 P **P 01 53 19.8 +0.2**
AVE IAmb IAmb 01 53 23.0
comp=Z,139nm,1.3s
AVE IAMs_20 IAMs_20 02 44 12.9
comp=Z,3μm,20.0s
AVE Averroes 94.59 348 ⇑P **P 01 53 19.5 -0.1**
MDT Midelt 94.65 345 LR LR 02 44 19.6
comp=Z,3μm,19.0s,baz=32,slow=41
GTBY Guantanamo Bay 95.15 49 IAMs_20 IAMs_20 02 38 50.8
comp=Z,3μm,21.0s
OXZ Oxford 95.23 170 IAmb IAmb 01 53 22.2
comp=Z,102nm,1.2s
MTDJ Mount Denham 95.44 52 IAMs_20 IAMs_20 02 38 03.7
comp=Z,3μm,22.0s
RPZ Rata Peaks 95.51 170 P **P 01 53 22.9 -0.3**
comp=Z,32nm,1.0s,baz=23,slow=4.3,SNR=6.7
RPZ LR LR 02 30 12.5
comp=Z,12μm,21.9s,baz=5.0,slow=31
comp=Z,32nm,1.0s
GRTK Grand Turk 95.59 45 IAMs_20 IAMs_20 02 35 38.1
comp=Z,3μm,21.0s
PMOZ Porto Moniz, M 95.94 356 *e*SKSac **SKSac 02 04 02.0 +5.4**
PMOZ Porto Moniz, M 95.94 356 *e*LR LR 02 25 59.6
comp=Z,2μm,22.0s
ATD Arta Tunnel 95.98 297 IAmb IAmb 01 53 28.6
comp=Z,187nm,1.7s
ATD Arta Tunnel 95.98 297 ⇑P **P 01 53 27.4 +1.1**
ATD Arta Tunnel 95.98 297 LR LR 02 43 25.8
comp=Z,141nm,18.1s,baz=29,slow=40
BOAB BOACO BROADBAND 96.02 62 P **P 01 53 24.7 -1.6**
BOAB IAmb IAmb 01 53 26.7
comp=Z,190nm,1.5s
BOAB pP **pP 01 53 39.6 -4.9**
BOAB BOACO BROADBAND 96.02 62 ⇑P **P 01 53 25.1 -1.2**
LBZ Lake Benmore 96.09 171 P **P 01 53 25.1 -0.7**
LBZ IAmb IAmb 01 53 27.3
comp=Z,118nm,1.4s
ACON Acoyapa 96.69 61 IAmb IAmb 01 53 46.6
comp=Z,110nm,1.6s
DCZ Deep Cove 96.91 173 IAMs_20 IAMs_20 02 34 32.7
comp=Z,4μm,21.0s
SDDR Presa de Saban 97.73 46 IAMs_20 IAMs_20 02 44 25.1
comp=Z,3μm,21.0s
JTS Las Juntas de 98.19 62 LR LR 02 41 12.4
comp=Z,578nm,20.5s,baz=308,slow=37
HDC Heredia 98.89 62 IAMs_20 IAMs_20 02 46 03.1
comp=Z,1μm,21.0s
MACI Morro de la Ar 100.45 355 IAMs_20 IAMs_20 02 46 48.1
comp=Z,2μm,19.0s
FURI Furi 100.45 299 IAMs_20 IAMs_20 02 44 40.8
comp=Z,3μm,22.0s
SJG San Juan 100.74 42 IAMs_20 IAMs_20 02 44 29.7
comp=Z,2μm,22.0s
SMRT St. Maarten 102.06 40 IAMs_20 IAMs_20 02 42 32.3
comp=Z,2μm,20.0s
TAM Tamanrasset 102.15 334 P **Pdif 01 53 54.5 +0.6**
SEUS St. Eustatius 102.60 40 IAMs_20 IAMs_20 02 44 29.7
comp=Z,2μm,21.0s
GDSD La Dsirade Is 104.42 39 IAMs_20 IAMs_20 02 43 44.9
comp=Z,1μm,21.0s
CBE Ff, Capester 104.43 39 IAMs_20 IAMs_20 02 43 19.2
comp=Z,3μm,22.0s
MAGL Barre de l'ile 104.67 39 IAMs_20 IAMs_20 02 44 13.5
comp=Z,2μm,21.0s
FDF Fort de France 105.83 39 IAMs_20 IAMs_20 02 49 01.0
comp=Z,2μm,21.0s

ILAM Ilet Lapin Mar 105.90 39 IAMs_20 IAMs_20 02 46 47.9
comp=Z,1μm,19.0s
BIM Bigot 106.05 39 IAMs_20 IAMs_20 02 43 27.1
comp=Z,1μm,21.0s
MPOM Morne Pois Mar 106.20 39 IAMs_20 IAMs_20 02 47 35.9
comp=Z,2μm,20.0s
LODK Lodwar 106.81 298 IAMs_20 IAMs_20 02 49 45.1
comp=Z,3μm,20.0s
SDV Santo Domingo 106.83 51 IAMs_20 IAMs_20 02 49 10.6
comp=Z,2μm,20.0s
GRGR Grenville 107.98 41 IAMs_20 IAMs_20 02 46 32.1
comp=Z,2μm,21.0s
KIBK Kibwezi 110.02 293 IAMs_20 IAMs_20 02 49 10.2
comp=Z,2μm,22.0s
IMBA Imbabura, San 110.19 62 IAMs_20 IAMs_20 02 38 53.4
comp=Z,1μm,19.0s
TORD Torodi Ar. Bea 112.38 335 Pdiff **Pdif 01 54 38.7 -0.6**
comp=Z,1.0nm,0.8s,baz=6.7,slow=6.2,SNR=4.4
TORD PKiKP **PKiKP 01 58 34.7 0.0**
comp=Z,4.0nm,0.6s,baz=17,slow=2.2,SNR=30
TORD PKKPbc **PKKPbc 02 09 21.9 -0.7**
comp=Z,8.5nm,1.1s,baz=204,slow=0.8,SNR=12
TORD PKKPab **PKKPab 02 09 33.0 -2.8**
comp=Z,38nm,1.1s,baz=227,slow=0.4,SNR=36
VOI Vohitsoka 119.89 272 PKiKP 01 58 49.6 +0.4
VOI Vohitsoka 119.89 272 ⇑P **PKiKP 01 58 49.4 +0.2**
DBIC Dimbokro 120.20 340 PKiKP 01 58 50.0 +0.1
DBIC Dimbokro 120.20 340 ⇑P **PKiKP 01 58 49.9 0.0**
DBIC Dimbokro 120.20 340 PKP **PKiKP 01 58 50.0 +0.1**
comp=Z,25nm,0.8s,baz=37,slow=1.6,SNR=20
DBIC pPKP **pPKPdf 01 59 07.5 -1.1**
comp=Z,35nm,0.8s,baz=42,slow=1.5,SNR=10
DBIC PKKPbc **PKKPbc 02 08 55.8 +0.5**
comp=Z,21nm,1.0s,baz=172,slow=5.1,SNR=9.7
TIC Toumodi 120.26 340 ⇑*i*PKiKP **PKiKP 01 58 50.4 +0.3**
comp=Z,15nm,0.3s
KIC Kosan Boka 120.47 340 ⇑*i*PKiKP **PKiKP 01 58 50.7 +0.2**
comp=Z,24nm,0.5s
TEFE Tefe 120.50 52 *e*P **PKiKP 01 58 51.9 +1.5**
LIC Lamto 120.67 340 ⇑*i*PKiKP **PKiKP 01 58 51.1 +0.2**
comp=Z,17nm,0.4s
MACA Manacapuru-AM 122.07 47 *e*P **PKiKP 01 58 55.0 +1.4**
CASY Casey 122.84 201 PKiKP 01 58 53.4 +0.1
CASY Casey 122.84 201 ⇑P **PKPdf 01 58 52.7 -0.4**
MCPB Macapa, AP 123.14 37 *e*P **PKPdf 01 58 55.4 -0.1**
ETMB Extrema 125.08 57 *e*P **PKPdf 01 58 58.0 -1.1**
ITTB Itaituba 125.33 43 *e*P **PKiKP 01 59 00.4 +0.4**
SAML Samuel 125.90 53 PKPdf 01 59 00.4 -0.3
SAML IAMs_20 IAMs_20 02 53 35.4
comp=Z,2μm,22.0s
SAML Samuel 125.90 53 PKiKP **PKPdf 01 59 00.4 -0.3**
SAML MLR MLR
comp=Z,2μm,22.0s
SAML Samuel 125.90 53 *e*P **PKPdf 01 59 00.8 +0.1**
LSZ Lusaka 126.14 293 PKiKP 01 59 01.7 0.0
LSZ Lusaka 126.14 293 ⇑P **PKiKP 01 59 02.1 +0.5**
LSZ Lusaka 126.14 293 PKiKP **PKiKP 01 59 01.7 0.0**
TMAB Tom-Au,PA,Br 126.42 33 *e*P **PKiKP 01 59 02.4 +0.2**
NPGB Novo Progresso 127.89 44 *e*P **PKiKP 01 59 04.9 -0.2**
ROSB Rosrio 128.18 28 *e*P **PKiKP 01 59 06.5 +0.7**
VNDA Vanda 128.76 179 PKP **PKPdf 01 59 04.3 +0.1**
comp=Z,27nm,1.0s,baz=319,slow=4.3,SNR=58
SBA Scott Base 129.19 178 PKiKP **PKiKP 01 59 05.5 -0.3**
PRPB Parauapebas 129.33 37 *e*P **PKPdf 01 59 07.4 +0.1**
LPAZ La Paz 129.39 63 ⇑P **PKPdf 01 59 08.1 +0.1**
LPAZ La Paz 129.39 63 PKP **PKPdf 01 59 08.2 +0.1**
comp=Z,22nm,1.1s,baz=1.1,slow=4.8,SNR=44
LPAZ La Paz 129.39 63 *e*P **PKPdf 01 59 08.3 +0.3**
AP01 Chacalluta 129.80 67 IAMs_20 IAMs_20 02 59 48.6
comp=Z,1μm,22.0s
VILB Vilhena 130.81 53 *e*P **PKiKP 01 59 11.2 +0.3**
NBCL Cascavel-CE 130.99 22 *e*P **PKPdf 01 59 10.9 +0.4**
PDRB Porto dos Gac 131.32 48 *e*P **PKiKP 01 59 11.6 -0.3**
SMTB Santa Maria do 132.63 35 *e*P **PKiKP 01 59 14.4 -0.2**
RCBR Riachuelo 133.07 19 PKPdf 01 59 14.8 +0.4
RCBR Riachuelo 133.07 19 PKIKP **PKPdf 01 59 14.8 +0.4**
RCBR MLR MLR
comp=Z,2μm,20.0s
RCBR Riachuelo 133.07 19 *e*P **PKiKP 01 59 15.7 +0.1**
POGA Pongola 133.22 280 IAMs_20 IAMs_20 03 07 31.8
comp=Z,2μm,22.0s
PTLB Pontes e Lacer 133.47 53 *e*P **PKiKP 01 59 15.7 -0.5**
LVC Limon Verde 133.94 69 PKiKP 01 59 17.0 -0.5
LVC Limon Verde 133.94 69 IAMs_20 IAMs_20 03 07 19.5
comp=Z,2μm,22.0s
LVC Limon Verde 133.94 69 PKIKP **PKiKP 01 59 17.0 -0.5**
LVC Limon Verde 133.94 69 *e*P **PKPdf 01 59 16.7 +0.6**
SNDB Serra Nova Dou 134.03 42 *e*P **PKPdf 01 59 16.7 +0.6**
PB15 IPOC Station P 134.07 70 IAMs_20 IAMs_20 02 59 48.0
comp=Z,2μm,21.0s
BBSD Serra de San D 134.19 56 *e*P **PKPdf 01 59 16.7 +0.4**
TSUM Tsumeb 135.21 301 PKPdf 01 59 18.5 +0.2
NBCA Caruaru-PE 135.37 20 *e*P **PKiKP 01 59 19.7 -0.6**
GO02 Mina Guanaco 135.48 72 IAMs_20 IAMs_20 02 46 05.5
comp=Z,2μm,21.0s
SALV Santo Antonio 135.54 49 *e*P **PKPdf 01 59 18.7 -0.1**
SDBA SAO DESIDERIO 136.87 34 *e*P **PKiKP 01 59 22.6 -0.7**
ARAG Araguaiana, MT 137.15 45 *e*P **PKPdf 01 59 20.1 -1.8**
LCO Las Campanas 137.64 77 PKPdf 01 59 23.2 +0.4
LCO Las Campanas 137.64 77 ⇑P **PKiKP 01 59 23.9 -0.8**
LCO Las Campanas 137.64 77 PKIKP **PKPdf 01 59 23.2 +0.4**
NBLA Lagarto - SE 137.64 23 *e*P **PKPdf 01 59 23.1 +0.2**
MAW Mawson 137.88 215 PKhKP PKPpre 01 59 12.1
comp=Z,4.3nm,0.5s,baz=51,slow=2.0,SNR=9.4
BOSA Boshof 138.08 284 PKhKP PKPpre 01 59 15.4
comp=Z,1.7nm,0.5s,baz=35,slow=2.7,SNR=7.7
BOSA Boshof 138.08 284 ⇑PKIKP **PKiKP 01 59 24.8 -0.6**
RVDE Rio Verde (Bra 138.59 51 *e*P **PKPdf 01 59 25.5 +1.1**
BDFB Brasilia 138.68 40 PKhKP PKPpre 01 59 16.4
comp=Z,8.1nm,0.8s,baz=18,slow=6.4,SNR=9.3
BDFB PP **PP 02 02 15.4 -0.4**
comp=Z,14nm,1.1s,baz=305,slow=9.1,SNR=3.1
VA06 Catapilco 139.75 81 PKPdf 01 59 26.1 0.0
PEL Peldehue 140.52 82 ⇑P **PKPdf 01 59 28.6 +1.0**
PEL Peldehue 140.52 82 ⇑PKIKP **PKPdf 01 59 28.6 +1.0**
GRHM Grahamstown, E 140.65 278 PKPdf 01 59 28.6 +0.7
MT09 Talagante 140.76 83 IAMs_20 IAMs_20 02 50 07.9
comp=Z,2μm,21.0s
GO05 Huala 140.98 85 IAMs_20 IAMs_20 02 47 06.1
comp=Z,2μm,21.0s
QSPA South Pole Qui 141.23 180 PKhKP PKPpre 01 59 20.4
comp=Z,41nm,0.5s,baz=312,slow=1.0,SNR=83
BO02 Sierra Bellavi 141.56 84 IAMs_20 IAMs_20 03 16 45.1
comp=Z,2μm,21.0s
CPUP Villa Florida 143.40 60 PKhKP PKPpre 01 59 28.0
comp=Z,50nm,1.0s,baz=332,slow=3.4,SNR=47
CPUP Villa Florida 143.40 60 PKIKP PKPbc 01 59 30.0 -0.2
SUR Sutherland 143.44 285 PKPdf 01 59 32.8 -0.3
LL01 San Ignacio de 145.09 95 ⇑P **PKPbc 01 59 33.9 -1.0**
PLCA Paso Flores 145.34 91 PKPbc **PKPdf 01 59 35.5 -0.4**
comp=Z,492nm,1.0s,baz=298,slow=3.4,SNR=343
PLCA pPKPbc pPKPab 01 59 53.6 -0.9
comp=Z,362nm,0.9s,baz=297,slow=3.1,SNR=13
SPB Sao Paulo 146.01 45 ⇑P **PKPbc 01 59 38.4 0.0**
COYC Coyhaique 146.93 100 ⇑P **PKPdf 01 59 38.0 -0.3**
TRQA Tornquist 149.09 80 PKPdf 01 59 43.2 +1.0
TRQA IAMs_20 IAMs_20 03 17 46.4
comp=Z,2μm,20.0s
TRQA Tornquist 149.09 80 PKIKP **PKPdf 01 59 43.2 +1.0**
ELIB Princess Elisa 151.43 208 *d*PKPdf **PKPdf 01 59 43.7 -1.2**
ELIB *d*PKP **PKPbc 01 59 50.4 -0.7**
ELIB *d*PKPab **PKPab 02 00 00.7 +0.9**
ELIB *dp*PKP **pPKPbc 02 00 08.8 -1.1**
ELIB *d*PP **PP 02 03 30.7 -0.9**
SMAI San Martin Ant 152.78 145 PKPdf 01 59 45.8 -1.0
NVL N'lazarevskaya 155.26 206 ⇓*i*PKP2 **PKPab 02 00 15.3 -0.5**
NVL pmax pmax
comp=Z,273nm,1.3s
TROLL Troll, Antarti 156.69 199 ⇑PKPab **PKPab 02 00 20.9 -1.2**
comp=Z,9μm,0.8s
TROLL ⇑PKPdf **PKPdf 01 59 51.4 -0.9**
comp=Z,993nm,1.4s
TROLL ⇑PP **PP 02 03 59.7 -1.3**
comp=Z,2μm,1.1s
EFI East Falkland 157.80 105 PKPab 02 00 27.3 0.0
EFI East Falkland 157.80 105 PKP2 **PKPab 02 00 27.3 0.0**
SNAA Sanae 157.98 196 PKPdf 01 59 52.7 -1.2
SNAA Sanae 157.98 196 ⇑PKPab **PKPab 02 00 26.7 -0.9**
comp=Z,1μm,1.4s
SNAA ⇑PKPdf **PKPdf 01 59 52.6 -1.2**
comp=Z,256nm,1.4s
SNAA ⇑PP **PP 02 04 04.2 -3.8**
comp=Z,18μm,2.1s
SNAA Sanae 157.98 196 PKP **PKPdf 01 59 52.6 -1.2**
comp=Z,26nm,1.3s,baz=145,slow=1.0,SNR=29
SNAA PKPab **PKPab 02 00 27.5 -0.1**
comp=Z,138nm,1.3s,baz=190,slow=6.1,SNR=11
VNA2 Neumayer--Watz 159.37 194 ⇑PKPab **PKPab 02 00 29.7 -3.8**
comp=Z,26nm,0.7s,baz=242,slow=2.3
VNA2 ⇑PKPdf **PKPdf 01 59 54.1 -1.3**
comp=Z,4.5nm,0.7s,baz=2.5,slow=0.7
VNA2 ⇑PP **PP 02 04 13.4 -2.0**
comp=Z,22nm,0.8s,baz=143,slow=4.5
VNA3 Neumayer Olymp 159.39 191 ⇑PKPab **PKPab 02 00 29.9 -3.7**
comp=Z,44nm,0.8s
VNA3 ⇑PKPdf **PKPdf 01 59 54.1 -1.4**
comp=Z,3.9nm,1.0s
VNA3 ⇑PP **PP 02 04 09.9 -5.6**
comp=Z,13nm,1.0s
VNA1 Neumayer--Stat 159.74 193 ⇑PKPab **PKPab 02 00 33.8 -1.4**
comp=Z,66nm,1.3s
VNA1 ⇑PKPdf **PKPdf 01 59 55.7 -0.2**
comp=Z,15nm,1.0s
VNA1 ⇑PP **PP 02 04 13.6 -3.8**
comp=Z,47nm,1.5s
HOPE Hope Point 170.88 113 PKPab 02 01 24.1 -0.6
HOPE Hope Point 170.88 113 PKP2 **PKPab 02 01 24.1 -0.6**

*RHSSO **06** 01:49:04.5±0.4, 42°.34N×18°.98E, h5km±2km, ML1.3/7*
*BEO **06** 01:49:04.8±0.5, 42°.34N×18°.96E, h5km±5km, ML1.6/2*
PDG 06 01:49:03.8±0.1, 42°.36N×18°.96E, h16km, ML1.7/7, 10C-4D,
Error ellipse: s-maj=0.2km s-min=0.2km az=0.0,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUM	**Brajici-Budva**	**0.08**	**222**	⇑*i*Pg	Pg	01 49 06.9	-0.2
BUM				*i* Sg	Sg	01 49 09.5	+0.2
CEME	**Cevo**	**0.19**	**350**	⇓*i*Pg	Pg	01 49 08.3	-0.2
CEME				*i* Sg	Sb	01 49 12.3	-0.1
PDG	**Podgorica**	**0.23**	**72**	*e*Pg	Pg	01 49 08.8	-0.2
PDG				*e*Sg	Sb	01 49 13.3	-0.1
PDG	**Podgorica**	**0.23**	**72**	⇑*i*Pg	Pg	01 49 08.7	-0.3
PDG				*e*Sg	Sb	01 49 13.0	-0.4
PDG	**Podgorica**	**0.23**	**72**	⇓*i*Pg	Pg	01 49 08.8	-0.2
PDG				*i* Sg	Sb	01 49 13.0	-0.4
DRME	**Dracevica, Mon**	**0.24**	**136**	*e*Pg	Pg	01 49 09.1	0.0
DRME				*e*Sg	Sg	01 49 13.2	+0.4
DRME	**Dracevica, Mon**	**0.24**	**136**	⇑*i*Pg	Pg	01 49 08.8	-0.3
DRME				*e*Sg	Sg	01 49 12.6	-0.2
DRME	**Dracevica, Mon**	**0.24**	**136**	⇓*i*Pg	Pg	01 49 08.9	-0.2
DRME				*i* Sg	Sb	01 49 13.4	-0.3
HCY	**Herceg Novi**	**0.36**	**284**	⇑*i*Pg	Pg	01 49 10.8	-0.4
HCY				*e*Sg	Sb	01 49 17.2	0.0
HCY	**Herceg Novi**	**0.36**	**284**	⇓*i*Pg	Pg	01 49 10.8	-0.4
HCY				*i* Sg	Sb	01 49 17.0	-0.2
NKME	**Niksic**	**0.41**	**359**	⇑*i*Pg	Pg	01 49 11.8	-0.3
NKME				*i* Sg	Sb	01 49 18.5	-0.2
BRY	**Bratogost**	**0.63**	**330**	⇓*i*Pg	Pg	01 49 15.9	-0.3
BRY				*e*Sg	Sb	01 49 25.9	+0.8
KOME	**Kolasin**	**0.64**	**39**	*e*Pg	Pb	01 49 16.8	+0.2
KOME				*e*Sg	Sb	01 49 26.7	+1.4
KOME	**Kolasin**	**0.64**	**39**	⇑*i*Pg	Pg	01 49 16.2	-0.2
KOME				*i* Sg	Sb	01 49 26.2	+0.9
DBRK	**Dubrovnik**	**0.68**	**297**	*e*Pg	Pg	01 49 16.4	-0.7
DBRK				Sg	Sb	01 49 27.6	+1.2
UPM	**Unac-Piva**	**0.84**	**357**	*e*Sg	Sn	01 49 32.6	-0.8
KLINJ	**Klinje**	**0.86**	**341**	*e*Pg	Pg	01 49 20.6	+0.1
KLINJ				*e*Sg	Sn	01 49 32.7	-0.8
STON	**Ston**	**1.06**	**299**	*e*Pg	Pb	01 49 23.2	-0.6
STON				*e*Sg	Sn	01 49 39.7	+1.3
STON	**Ston**	**1.06**	**299**	*e*Pg	Pb	01 49 22.6	-1.3
STON	**Ston**	**1.06**	**299**	*e*Pg	Pb	01 49 23.6	-0.2
STON				*e*Sg	Sn	01 49 38.9	+0.5
SJES	**Sjenica**	**1.17**	**39**	*e*Pg	Pg	01 49 27.2	+0.8
SJES				*e*Sg	Sg	01 49 42.2	+0.5
SJES	**Sjenica**	**1.17**	**39**	*e*Pg	Pn	01 49 25.4	-0.2
SJES				*e*Sg	Sg	01 49 41.7	0.0
RUDO	**Rudo**	**1.29**	**13**	*e*Pg	Pb	01 49 28.1	+0.4
RUDO				*e*Sg	Sg	01 49 46.2	+0.6
RUDO	**Rudo**	**1.29**	**13**	⇑*i*Pg	Pb	01 49 27.8	+0.1
RUDO				*e*Sg	Sg	01 49 46.1	+0.5
BBLS	**Lazi&#263i**	**1.54**	**12**	*e*Pg	Pg	01 49 32.8	-0.7
BBLS				*e*Sg	Sg	01 49 54.3	+0.8
BBLS	**Lazi&#263i**	**1.54**	**12**	⇑*i*Pn	Pb	01 49 32.7	+0.7
BBLS				*e*Sn	Sg	01 49 53.6	+0.1
HAPS	**Han Pijesak,Bl**	**1.73**	**360**	*e*Sg	Pb	01 49 35.5	+0.3
HAPS	**Han Pijesak,Bl**	**1.73**	**360**	*e*Pg	Sg	01 50 00.2	+0.7
HAPS	**Han Pijesak,Bl**	**1.73**	**360**	⇑*i*Pn	Pb	01 49 35.6	+0.4
HAPS				*e*Sn	Sg	01 49 58.6	-0.9
RICI	**Ricice**	**1.76**	**311**	*e*Pn	Pb	01 49 35.7	0.0
RICI				Sn	Sg	01 49 59.7	-0.8
HVAR	**Hvar**	**2.02**	**295**	*e*Pn	Pn	01 49 38.5	+1.3

IDC 06 01:53:03.0±2.1, 17°.11S×177°.93W, h0km, mb3.7/5,
mbtmp3.7/5, Error ellipse: s-maj=132.9km
s-min=28.4km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.23**	**259**	P	P	02 01 22.7	+0.2
	0.2nm,0.5s,baz=94,slow=7.2,SNR=1.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**45.45**	**253**	P	P	02 01 23.8	-0.4
	0.6nm,0.5s,baz=86,slow=8.5,SNR=4.2						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**85.01**	**13**	P	P	02 05 39.8	-0.2
	0.2nm,0.4s,baz=219,slow=4.8,SNR=4.8						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**85.18**	**58**	P	P	02 05 41.7	-0.1
	0.9nm,0.8s,baz=216,slow=4.5,SNR=6.3						
	0.9nm,0.8s						
PDAR	**Pinedale Array**	**86.46**	**43**	P	P	02 05 48.4	+0.3
	0.5nm,0.7s,baz=197,slow=2.8,SNR=2.6						
	0.5nm,0.7s						

IDC 06 02:04:20.5±7.0, 17°.92S×177°.25W, h0km, mb3.9/3,
mbtmp3.9/3, Error ellipse: s-maj=302.2km
s-min=39.9km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.72**	**259**	P	P	02 12 43.4	-0.4
	0.8nm,0.7s,baz=96,slow=7.2,SNR=14						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**45.85**	**254**	P	P	02 12 45.0	+0.2
	2.8nm,0.6s,baz=87,slow=8.8,SNR=28						
	2.8nm,0.6s						
ILAR	**Eielson Array**	**85.66**	**13**	P	P	02 17 00.6	0.0
	0.3nm,0.4s,baz=223,slow=4.7,SNR=3.4						
	0.3nm,0.4s						

*IDC **06** 02:07:12.8±0.7, 61°.59N×151°.04W, h71km±5km, mb4.0/27,*
mbtmp4.3/32, Error ellipse: s-maj=11.8km s-min=10.3km
az=16.0
*NEIC **06** 02:07:12.2±1.4, 61°.40N±0°.03×150°.94W±0°.05, h66km±3km,*
Error ellipse: s-maj=4.5km s-min=3.5km az=172.0
*AEIC **06** 02:07:13.0±1.4, 61°.40N±0°.03×150°.89W±0°.05, h62km±4km,*
ML4.2, mb4.9/30(NEIC), ML4.3/214(NEIC), Error ellipse:
s-maj=3.6km s-min=3.4km az=178.0
*BGR **06** 02:07:13.4, 62°.30N×152°.55W, h33km, mb4.7, Hypocentre*
not reviewed by the ISC
ISC 06 02:07:12.1±0.5, 61°.42N±0°.03×150°.93W±0°.03, h68km±4km,
n622, σ0=82/605, mb4.5/53, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.10**	**65**		**Pn**	**02 07 22.0**	**-0.3**
SUA					**Sn**	**02 07 29.1**	**-0.5**
SUA	**Susitna One**	**0.10**	**65**	IAML		02 07 29.9	
	comp=N,7μm,0.6s						
SUA				IAML		02 07 31.1	
	comp=E,11μm,0.5s						
SUA	**Susitna One**	**0.10**	**65**	P	**Pn**	**02 07 21.7**	**-0.6**
	baz=226						
SUA				S	**Sn**	**02 07 29.1**	**-0.5**
	baz=226						
STLK	**Strandline Lak**	**0.44**	**280**		**Pn**	**02 07 24.4**	**+0.1**
STLK					**Sn**	**02 07 33.0**	**-0.1**
FIS	**Fire Island**	**0.44**	**129**		**Pn**	**02 07 24.8**	**+0.7**
M22K	**Willow**	**0.51**	**49**		**Pn**	**02 07 24.9**	**+0.1**
M22K	**Willow**	**0.51**	**49**		**Sn**	**02 07 34.6**	**+0.6**
M22K	**Willow**	**0.51**	**49**	P	**Pn**	**02 07 24.8**	**+0.1**
	baz=226						
M22K				S	**Sn**	**02 07 34.6**	**+0.6**
	baz=226						
SPCG	**Spurr Capps Gl**	**0.54**	**256**		**Pn**	**02 07 25.0**	**-0.3**
SPCG					**Sn**	**02 07 34.6**	**-0.3**
SPU	**Mount Spurr**	**0.59**	**246**		**Pn**	**02 07 25.3**	**-0.4**
SPU					**Sn**	**02 07 35.3**	**-0.5**
SPU	**Mount Spurr**	**0.59**	**246**	IAML		02 07 36.0	
	comp=E,18μm,0.3s						
SPU				IAML		02 07 37.5	
	comp=N,12μm,0.6s						
SPCP	**Crater Peak Br**	**0.61**	**256**		**Pn**	**02 07 25.8**	**-0.2**
SPCP					**Sn**	**02 07 36.1**	**-0.1**
SKT	**Skwentna**	**0.63**	**333**		**Pn**	**02 07 25.9**	**-0.3**
SKT					**Sn**	**02 07 36.3**	**0.0**
SKT	**Skwentna**	**0.63**	**333**	P	**Pn**	**02 07 25.8**	**-0.3**
	baz=152						
SKT				S	**Sn**	**02 07 36.3**	**0.0**
	baz=152						
SPCN	**Chakachatna No**	**0.64**	**252**		**Pn**	**02 07 26.1**	**-0.1**
SPCN					**Sn**	**02 07 36.9**	**+0.4**
N20K	**Mount Spurr**	**0.66**	**251**	P	**Pn**	**02 07 26.0**	**-0.5**
	baz=72						
N20K				S	**Sn**	**02 07 36.5**	**-0.5**
	baz=72						
SPCR	**Spurr Chakacha**	**0.66**	**251**		**Pn**	**02 07 26.1**	**-0.4**
SPCR					**Sn**	**02 07 36.5**	**-0.5**
CAPN	**Captain Cook N**	**0.67**	**190**		**Pn**	**02 07 27.8**	**+1.4**
CAPN	**Captain Cook N**	**0.67**	**190**	P	**Pn**	**02 07 27.4**	**+1.0**
	baz=11						
RC01	**Rabbit Creek A**	**0.67**	**120**	Pn	**Pn**	**02 07 26.5**	**0.0**
RC01	**Rabbit Creek A**	**0.67**	**120**		**Sn**	**02 07 37.7**	**+0.6**
RC01	**Rabbit Creek A**	**0.67**	**120**	P	**Pn**	**02 07 26.2**	**-0.2**
	baz=300						
RC01				S	**Sn**	**02 07 37.7**	**+0.6**
	baz=300						
SPBG	**Spurr Blockage**	**0.71**	**257**		**Pn**	**02 07 27.0**	**-0.1**
SPBG					**Sn**	**02 07 38.2**	**+0.1**
SPNN	**North Nagishla**	**0.85**	**267**		**Pn**	**02 07 28.8**	**0.0**
SPNN					**Sn**	**02 07 42.3**	**+1.1**
PMR	**Palmer**	**0.88**	**78**	P	**Pn**	**02 07 28.7**	**-0.2**
PMR	**Palmer**	**0.88**	**78**		**Pn**	**02 07 28.8**	**-0.2**
PMR					**Sn**	**02 07 41.5**	**+0.2**
PMR	**Palmer**	**0.88**	**78**	IAML		02 07 42.2	
	comp=E,8μm,0.5s						
PMR				IAML		02 07 42.6	
	comp=N,12μm,0.8s						
PMR	**Palmer**	**0.88**	**78**	P	**Pn**	**02 07 28.7**	**-0.2**
	baz=258						
PMR				S	**Sn**	**02 07 41.5**	**+0.2**
	baz=258						
SLKM	**Skilak Lake**	**0.98**	**159**		**Pn**	**02 07 29.8**	**-0.5**
GHO	**Glory Hole Cre**	**1.02**	**69**		**Pn**	**02 07 30.9**	**+0.1**
GHO	**Glory Hole Cre**	**1.02**	**69**	IAML		02 07 50.5	
	comp=E,6μm,0.6s						
GHO				IAML		02 07 54.7	
	comp=N,6μm,0.6s						
CUT	**Chulitna**	**1.03**	**17**		**Pn**	**02 07 31.1**	**+0.2**
CUT	**Chulitna**	**1.03**	**17**		**Sn**	**02 07 45.5**	**+0.7**
CUT	**Chulitna**	**1.03**	**17**	P	**Pn**	**02 07 31.1**	**+0.2**
	baz=197						
CUT				S	**Sn**	**02 07 45.5**	**+0.7**
	baz=197						
O22K	**Cooper Landing**	**1.11**	**148**		**Pn**	**02 07 32.0**	**+0.1**
O22K	**Cooper Landing**	**1.11**	**148**	P	**Pn**	**02 07 31.9**	**+0.1**
	baz=329						
RDT	**Redoubt**	**1.12**	**221**		**Pn**	**02 07 31.8**	**-0.2**
M20K	**Styx River**	**1.15**	**295**		**Pn**	**02 07 32.7**	**+0.3**
M20K	**Styx River**	**1.15**	**295**	P	**Pn**	**02 07 32.5**	**0.0**
	baz=113						
KNK	**Knik Glacier**	**1.19**	**89**		**Pn**	**02 07 33.1**	**+0.1**
KNK	**Knik Glacier**	**1.19**	**89**	P	**Pn**	**02 07 33.0**	**+0.1**
	baz=270						
SML	**Sawmill**	**1.30**	**72**	Pn	**Pn**	**02 07 34.2**	**-0.2**
SML				IAML		02 07 55.8	
	comp=E,5μm,0.5s						
SML				IAML		02 07 58.3	
	comp=N,3μm,0.8s						
SML	**Sawmill**	**1.30**	**72**	P	**Pn**	**02 07 34.3**	**-0.2**
	baz=253						
NCT	**North Crescent**	**1.30**	**229**		**Pn**	**02 07 34.6**	**+0.1**
RSO	**Redoubt South**	**1.31**	**224**		**Pn**	**02 07 34.9**	**+0.2**
RDWB	**Redoubt West**	**1.32**	**226**		**Pn**	**02 07 34.9**	**+0.1**
RED	**Redoubt Volcan**	**1.35**	**223**		**Pn**	**02 07 35.1**	**0.0**
SEW	**Seward**	**1.51**	**151**		**Pn**	**02 07 36.5**	**-0.6**
SEW	**Seward**	**1.51**	**151**	P	**Pn**	**02 07 36.5**	**-0.6**
	baz=332						
M23K	**Glacier View**	**1.57**	**75**		**Pn**	**02 07 37.9**	**-0.1**
M23K	**Glacier View**	**1.57**	**75**	P	**Pn**	**02 07 37.9**	**-0.1**
	baz=257						
O20K	**Slope Mountain**	**1.58**	**212**		**Pn**	**02 07 38.7**	**+0.6**
O20K	**Slope Mountain**	**1.58**	**212**	P	**Pn**	**02 07 38.7**	**+0.6**
	baz=32						
PPLA	**Purkeypile**	**1.59**	**339**		**Pn**	**02 07 38.6**	**+0.3**
PPLA	**Purkeypile**	**1.59**	**339**	P	**Pn**	**02 07 38.6**	**+0.3**
	baz=157						
BRLK	**Bradley Lake**	**1.67**	**179**		**Pn**	**02 07 39.3**	**+0.1**
BRLK				IAML		02 08 03.4	
	comp=E,3μm,0.6s						
BRLK				IAML		02 08 04.5	
	comp=N,3μm,0.6s						
BRSE	**Bradley Lake S**	**1.69**	**177**		**Pn**	**02 07 39.4**	**-0.2**
BRSE	**Bradley Lake S**	**1.69**	**177**	P	**Pn**	**02 07 39.4**	**-0.2**
	baz=358						
WAT7	**Susitna Watana**	**1.72**	**34**		**Pn**	**02 07 40.4**	**+0.4**
M19K	**Big River Lodg**	**1.72**	**288**		**Pn**	**02 07 40.0**	**+0.1**
M19K	**Big River Lodg**	**1.72**	**288**	P	**Pn**	**02 07 40.0**	**+0.1**
	baz=105						
IVE	**Iliamna Volcan**	**1.75**	**217**		**Pn**	**02 07 40.6**	**+0.3**
L20K	**Farewell, AK**	**1.75**	**308**		**Pn**	**02 07 40.4**	**+0.1**
L20K	**Farewell, AK**	**1.75**	**308**	P	**Pn**	**02 07 40.4**	**+0.1**
	baz=126						
SCM	**Sheep Creek Mo**	**1.77**	**75**		**Pn**	**02 07 40.5**	**-0.1**
SCM	**Sheep Creek Mo**	**1.77**	**75**	IAML		02 08 08.5	
	comp=E,4μm,0.8s						
SCM				IAML		02 08 10.7	
	comp=N,4μm,0.8s						
SCM	**Sheep Creek Mo**	**1.77**	**75**	P	**Pn**	**02 07 40.4**	**-0.3**
	ba

baz=311
FID Port Fidalgo 2.27 105 Pn 02 07 45.6 -1.7
FID IAML 02 08 23.6
comp=N,2µm,0.4s
FID IAML 02 08 27.6
comp=E,2µm,0.5s
SVW2 Sparrevohn 2.27 264 P Pn 02 07 47.2 -0.2
SVW2 Sparrevohn 2.27 264 Pn 02 07 46.9 -0.4
DHY Denali Highway 2.35 44 Pn Pn 02 07 48.9 +0.3
DHY IAML 02 08 23.0
comp=E,1µm,0.7s
DHY IAML 02 08 31.8
comp=N,1µm,0.7s
DHY Denali Highway 2.35 44 P Pn 02 07 48.8 +0.3
baz=226
M18K Stony River 2.35 274 Pn 02 07 48.5 +0.1
M18K Stony River 2.35 274 P Pn 02 07 48.2 -0.2
baz=90
M24K Tolsona, Glenn 2.36 71 Pn 02 07 49.4 +0.8
M24K Tolsona, Glenn 2.36 71 IAML 02 08 31.8
comp=N,2µm,0.6s
M24K Tolsona, Glenn 2.36 71 P Pn 02 07 49.2 +0.6
baz=254
AU22 Augustine Moun 2.39 211 Pn 02 07 49.7 +0.8
AUL Augustine Lava 2.40 212 Pn 02 07 49.6 +0.5
HIN Hinchinbrook I 2.40 114 Pn 02 07 47.6 -1.5
KLU Klutina 2.41 86 Pn 02 07 48.6 -0.6
KLU IAML 02 08 31.3
comp=E,989nm,0.5s
KLU IAML 02 08 31.6
comp=N,2µm,0.4s
KLU Klutina 2.41 86 P Pn 02 07 48.5 -0.7
baz=270
K20K Telida 2.43 324 Pn 02 07 50.0 +0.5
K20K Telida 2.43 324 IAML 02 08 24.7
comp=N,2µm,0.6s
K20K IAML 02 08 25.3
comp=E,2µm,0.7s
K20K Telida 2.43 324 P Pn 02 07 49.8 +0.3
baz=142
MCK McKinley 2.49 21 Pn 02 07 51.0 +0.6
MCK McKinley 2.49 21 P Pn 02 07 50.6 +0.2
baz=202
DIV Divide 2.51 95 Pn 02 07 49.6 -1.0
N18K Kilae Creek 2.53 255 Pn 02 07 50.6 -0.2
N18K Kilae Creek 2.53 255 P Pn 02 07 50.5 -0.3
baz=71
CHUM Lake Minchumin 2.55 346 Pn 02 07 51.5 +0.4
CHUM Lake Minchumin 2.55 346 P Pn 02 07 51.5 +0.4
baz=165
O18K Koktuh Hills 2.63 235 Pn 02 07 51.9 -0.4
O18K Koktuh Hills 2.63 235 P Pn 02 07 51.9 -0.4
baz=52
EYAK Cordova Ski Ar 2.67 107 P Pn 02 07 51.7 -1.1
EYAK Cordova Ski Ar 2.67 107 Pn 02 07 51.3 -1.4
EYAK Cordova Ski Ar 2.67 107 P Pn 02 07 51.3 -1.4
baz=291
BPAW Bear Paw Mtn. 2.69 359 Pn 02 07 53.0 0.0
BPAW IAML 02 08 25.3
comp=N,787nm,0.8s
BPAW IAML 02 08 28.6
comp=E,944nm,0.5s
BPAW Bear Paw Mtn. 2.69 359 P Pn 02 07 52.9 -0.1
baz=179
BWN Browne 2.84 13 Pn 02 07 55.8 +0.7
BWN Browne 2.84 13 IAML 02 08 51.7
comp=E,1µm,0.9s
BWN IAML 02 09 00.3
comp=N,1µm,0.6s
L18K Granite Mounta 2.85 289 Pn 02 07 55.3 +0.1
L18K IAML 02 08 54.5
comp=N,623nm,0.8s
L18K Granite Mounta 2.85 289 P Pn 02 07 55.2 +0.1
baz=104
Q19K Cape Douglas, 2.85 210 Pn 02 07 55.7 +0.5
Q19K Cape Douglas, 2.85 210 P Pn 02 07 55.7 +0.5
baz=28
HARP HAARP 2.90 68 Pn 02 07 56.6 +0.7
HARP HAARP 2.90 68 P Pn 02 07 56.2 +0.3
baz=252
SYI Shuyak Island 2.92 195 Pn 02 07 56.1 0.0
SYI Shuyak Island 2.92 195 IAML 02 08 38.6
comp=N,1µm,0.8s
SYI IAML 02 08 40.0
comp=E,2µm,0.7s
Q20K Shuyak Island 2.92 195 P Pn 02 07 56.1 0.0
baz=14
P18K Big Mountain, 2.95 228 Pn 02 07 56.2 -0.4
P18K Big Mountain, 2.95 228 P Pn 02 07 56.2 -0.4
baz=45
PAX Paxson 2.99 56 Pn 02 07 57.8 +0.5
PAX Paxson 2.99 56 P Pn 02 07 57.7 +0.5
baz=241
Q23K Middleton Isla 3.03 129 Pn 02 07 56.1 -1.4
Q23K Middleton Isla 3.03 129 IAML 02 08 54.5
comp=E,672nm,0.6s
Q23K IAML 02 09 00.1
comp=N,721nm,0.8s
Q23K Middleton Isla 3.03 129 P Pn 02 07 56.3 -1.3
baz=313
MID Middleton Isla 3.03 129 P Pn 02 07 56.8 -0.8
MID Middleton Isla 3.03 129 Pn 02 07 56.4 -1.2
MID Middleton Isla 3.03 129 IAML 02 08 58.1
comp=E,690nm,0.7s
MID IAML 02 09 00.0
comp=N,725nm,0.9s
N25K Chitina, Valde 3.04 84 Pn 02 07 57.3 -0.6
N25K IAML 02 08 53.0
comp=E,529nm,0.7s
N25K IAML 02 08 57.0
comp=N,722nm,0.8s
N25K Chitina, Valde 3.04 84 P Pn 02 07 56.8 -1.0
baz=269
BMRM Bremner River 3.10 96 Pn 02 07 57.0 -1.6
BMRM Bremner River 3.10 96 P Pn 02 07 57.0 -1.6
baz=281
M17K Holitna River 3.13 272 Pn 02 07 59.1 +0.1
M17K Holitna River 3.13 272 IAML 02 09 01.5
comp=N,936nm,0.8s
M17K IAML 02 09 10.2
comp=E,1µm,0.8s
M17K Holitna River 3.13 272 P Pn 02 07 59.0 -0.1
baz=87
J20K Nowinta River 3.13 333 Pn 02 07 59.5 +0.5
J20K IAML 02 08 35.4
comp=E,1µm,0.5s
J20K IAML 02 08 36.5
comp=N,1µm,0.5s
J20K Nowinta River 3.13 333 P Pn 02 07 59.1 +0.1
baz=150
GOAT Goat Mountain 3.14 103 Pn 02 07 57.6 -1.6
N17K Nushagak Hills 3.18 256 Pn 02 07 59.6 -0.1
N17K Nushagak Hills 3.18 256 P Pn 02 07 59.5 -0.2
baz=71
WACK Wrangell Chich 3.19 77 Pn 02 07 59.2 -0.9
RAGM Ragged Mountai 3.23 106 Pn 02 07 58.5 -1.9
WASW Wrangell South 3.26 78 Pn 02 08 00.5 -0.6
NEA2 Nenana 3.29 14 Pn 02 08 01.4 +0.2
NEA2 Nenana 3.29 14 P Pn 02 08 01.4 +0.2
baz=195
WRH Wood River Hil 3.32 22 Pn 02 08 01.6 0.0
J19K Poorman 3.37 322 Pn 02 08 02.2 0.0
J19K Poorman 3.37 322 IAML 02 08 56.2
comp=N,439nm,0.9s
J19K IAML 02 09 02.5
comp=E,719nm,0.7s
J19K Poorman 3.37 322 P Pn 02 08 02.2 0.0
baz=138
K24K Donnelly Dome 3.37 43 Pn 02 08 04.7 +2.4
J18K Innoko River 3.38 310 Pn 02 08 02.9 +0.5
J18K Innoko River 3.38 310 P Pn 02 08 02.7 +0.2
baz=125
GLB Gilahina Butte 3.42 87 Pn 02 08 01.6 -1.4
GLB Gilahina Butte 3.42 87 IAML 02 08 58.8
comp=E,524nm,0.6s
GLB IAML 02 09 00.2
comp=N,722nm,0.6s
HMT Hamilton 3.44 106 Pn 02 08 01.2 -2.0
KAHC Katmai Hardscr 3.46 218 Pn 02 08 03.7 +0.1
KAHC Katmai Hardscr 3.46 218 Pn 02 08 03.6 0.0
KAHC Katmai Hardscr 3.46 218 P Pn 02 08 03.7 +0.1
baz=35
Q18K Katmai Hardscr 3.46 218 P Pn 02 08 03.5 -0.1
baz=35
KAHG Katmai Hook Gl 3.46 213 Pn 02 08 04.3 +0.8
O17K Koliganek Bris 3.46 244 Pn 02 08 03.5 0.0

O17K Koliganek Bris 3.46 244 P Pn 02 08 03.5 0.0
baz=59
HDA Harding Lake 3.51 30 Pn 02 08 04.3 +0.2
HDA Harding Lake 3.51 30 IAML 02 09 03.3
comp=E,627nm,0.7s
HDA Harding Lake 3.51 30 P Pn 02 08 03.9 -0.2
baz=213
CCB Clear Creek Bu 3.53 22 Pn 02 08 04.3 -0.2
CCB Clear Creek Bu 3.53 22 IAML 02 09 13.5
comp=E,348nm,0.7s
KAIM Kayak Island 3.54 112 Pn 02 08 02.1 -2.5
KAIM Kayak Island 3.54 112 IAML 02 09 08.8
comp=E,451nm,0.6s
KAIM IAML 02 09 16.2
comp=N,481nm,0.8s
KAIM Kayak Island 3.54 112 P Pn 02 08 02.2 -2.3
baz=298
P17K Kvichak River 3.54 233 Pn 02 08 04.6 0.0
P17K Kvichak River 3.54 233 P Pn 02 08 04.2 -0.4
baz=49
L17K Donlin 3.57 285 Pn 02 08 05.2 +0.1
L17K Donlin 3.57 285 P Pn 02 08 05.2 +0.1
baz=99
VRDI Verde Repeater 3.61 90 Pn 02 08 04.3 -1.4
VRDI Verde Repeater 3.61 90 IAML 02 09 10.9
comp=N,442nm,0.9s
NICHA Nichawak Mount 3.61 106 Pn 02 08 03.5 -2.1
MLY Manley 3.62 1 Pn 02 08 06.0 +0.3
MLY Manley 3.62 1 P Pn 02 08 05.8 0.0
baz=181
K17K Iditarod 3.70 294 Pn 02 08 07.1 +0.3
K17K Iditarod 3.70 294 IAML 02 09 19.4
comp=E,614nm,0.8s
K17K IAML 02 09 29.7
comp=N,489nm,1.0s
K17K Iditarod 3.70 294 P Pn 02 08 06.9 +0.1
baz=108
MENT Mentasta 3.71 63 Pn 02 08 07.0 +0.1
COLA College 3.73 21 P Pn 02 08 08.7 +1.5
COLA College 3.73 21 Pn 02 08 07.1 -0.1
KDAK Kodiak Island 3.75 194 Pn 02 08 06.1 -1.3
KDAK Kodiak Island 3.75 194 IAML 02 09 01.8
comp=N,656nm,0.9s
KDAK IAML 02 09 09.3
comp=N,478nm,1.0s
KDAK Kodiak Island 3.75 194 P Pn 02 08 07.4 0.0
comp=N,14nm,0.3s,baz=56,slow=9.4,SNR=87
KDAK S Sn 02 08 50.5 +0.2
comp=N,228nm,0.8s,baz=81,slow=6.6,SNR=6.2
I20K Naaghedeneel 3.75 336 Pn 02 08 07.8 +0.4
I20K Naaghedeneel 3.75 336 P Pn 02 08 07.6 +0.2
baz=153
MDM Murphy Dome 3.75 18 Pn 02 08 07.9 +0.3
MDM Murphy Dome 3.75 18 IAML 02 09 19.2
comp=E,366nm,0.9s
MDM IAML 02 09 19.9
comp=N,310nm,0.7s
KVTA Katmai Vly 10 3.76 218 Pn 02 08 08.0 +0.4
SUCK Suckling Hills 3.76 108 Pn 02 08 05.3 -2.4
SUCK Suckling Hills 3.76 108 IAML 02 09 15.8
comp=N,497nm,0.7s
SUCK IAML 02 09 32.2
comp=E,428nm,1.1s
MCARA McCarthy VSAT 3.80 87 Pn 02 08 06.8 -1.3
MCARA McCarthy VSAT 3.80 87 P Pn 02 08 06.8 -1.3
baz=274
I23K Minto, Yukon-K 3.81 10 Pn 02 08 09.1 +0.9
I23K Minto, Yukon-K 3.81 10 IAML 02 09 26.5
comp=N,407nm,0.8s
I23K IAML 02 09 26.8
comp=E,293nm,0.7s
I23K Minto, Yukon-K 3.81 10 P Pn 02 08 08.8 +0.7
baz=191
IL31 3.83 27 Pn 02 08 08.7 +0.2
ILAR Eielson Array 3.83 27 Pn 02 08 09.4 +0.9
ILAR Eielson Array 3.83 27 P Pn 02 08 07.8 -0.8
comp=E,27nm,0.4s,baz=212,slow=13,SNR=211
ILAR S Sn 02 08 50.4 -1.9
comp=E,54nm,0.4s,baz=193,slow=32,SNR=6.0
CRQM Cirque 3.84 97 Pn 02 08 08.3 -0.6
KCE Katmai Mt Cerb 3.84 216 Pn 02 08 09.3 +0.5
KABU Katmai Buttres 3.85 217 Pn 02 08 09.6 +0.6
KABU Katmai Buttres 3.85 217 IAML 02 09 25.0
comp=E,472nm,1.0s
CRQE Cirque 3.87 97 P Pn 02 08 08.1 -1.0
baz=283
KHIT Khitrov Hills 3.88 101 Pn 02 08 07.2 -2.0
M26K Nabesna, AK 3.88 72 Pn 02 08 08.9 -0.4
M26K Nabesna, AK 3.88 72 IAML 02 09 22.1
comp=N,427nm,0.6s
M26K IAML 02 09 22.3
comp=E,462nm,0.5s
M26K Nabesna, AK 3.88 72 P Pn 02 08 08.9 -0.4
baz=258
DOT Dot Lake 3.89 52 Pn 02 08 09.6 +0.2
GRIN Grindle Hills 3.90 104 Pn 02 08 07.5 -2.0
L26K Log Cabin Wild 3.90 62 Pn 02 08 09.4 -0.1
L26K Log Cabin Wild 3.90 62 IAML 02 09 25.0
comp=E,682nm,0.6s
L26K Log Cabin Wild 3.90 62 P Pn 02 08 09.4 -0.1
baz=248
M16K Timber Creek 3.90 268 Pn 02 08 09.9 +0.4
M16K IAML 02 09 36.7
comp=N,282nm,0.9s
M16K Timber Creek 3.90 268 P Pn 02 08 09.7 +0.1
baz=81
N16K Nishlik Lake 3.94 259 Pn 02 08 10.2 +0.1
N16K Nishlik Lake 3.94 259 P Pn 02 08 10.2 +0.1
baz=73
BGLC Bering Glacier 3.97 106 Pn 02 08 09.5 -0.9
BGLC Bering Glacier 3.97 106 P Pn 02 08 09.5 -0.9
baz=292
O16K Kokwok River B 3.99 246 Pn 02 08 10.7 0.0
O16K IAML 02 09 29.8
comp=N,298nm,1.0s
O16K Kokwok River B 3.99 246 P Pn 02 08 10.7 0.0
baz=60
TGL Tana Glacier 3.99 96 Pn 02 08 11.2 +0.4
TGL IAML 02 09 16.4
comp=E,650nm,0.6s
TGL IAML 02 09 21.7
comp=N,564nm,0.8s
POKR Poker Plat Res 4.03 22 Pn 02 08 11.4 +0.1
POKR Poker Plat Res 4.03 22 IAML 02 09 25.7
comp=N,347nm,0.7s
POKR Poker Plat Res 4.03 22 P Pn 02 08 11.3 0.0
baz=204
CNTC Contact Creek 4.04 220 Pn 02 08 11.8 +0.3
Q17K Contact Creek 4.04 220 P Pn 02 08 11.6 +0.1
baz=37
WAX Waxell Ridge 4.06 100 Pn 02 08 10.1 -1.7
J25K Salcha River, 4.08 36 Pn 02 08 12.9 +0.9
J25K Salcha River, 4.08 36 IAML 02 09 11.2
comp=N,488nm,0.6s
J25K Salcha River, 4.08 36 P Pn 02 08 12.4 +0.3
baz=220
PTPK Patty Peak 4.09 90 Pn 02 08 11.3 -1.0
L16K Owhat River 4.10 278 Pn 02 08 12.2 0.0
L16K Owhat River 4.10 278 IAML 02 09 47.4
comp=N,224nm,0.8s
L16K Owhat River 4.10 278 P Pn 02 08 12.0 -0.2
baz=91
SCRK Sand Creek 4.10 48 Pn 02 08 12.4 +0.1
SCRK Sand Creek 4.10 48 IAML 02 09 14.5
comp=E,409nm,0.8s
SCRK IAML 02 09 17.3
comp=N,306nm,0.6s
SCRK Sand Creek 4.10 48 P Pn 02 08 12.2 -0.1
baz=234
SNH Sunshine Point 4.16 104 Pn 02 08 11.0 -2.0
SNH Sunshine Point 4.16 104 IAML 02 09 27.5
comp=E,427nm,0.6s
SNH IAML 02 09 38.1
comp=N,269nm,1.8s
BALM Baldy 4.17 92 Pn 02 08 11.9 -1.4
KIAG Kiagna River 4.18 93 Pn 02 08 11.7 -1.8
BARK Barkley Ridge 4.25 100 Pn 02 08 12.9 -1.4
ISLE Juniper Island 4.26 97 Pn 02 08 13.1 -1.5
ISLE Juniper Island 4.26 97 IAML 02 09 27.2
comp=E,521nm,0.8s
P16K Nushagak River 4.26 239 Pn 02 08 14.9 +0.5
P16K Nushagak River 4.26 239 P Pn 02 08 14.0 -0.5
baz=53
J17K VABM Dome 4.28 301 Pn 02 08 14.6 0.0
J17K VABM Dome 4.28 301 P Pn 02 08 14.5 -0.2
baz=114

GCSA Galena City Sc 4.29 324 Pn 02 08 15.2 +0.4
GCSA Galena City Sc 4.29 324 P Pn 02 08 15.2 +0.4
baz=138
H21K Melozitna Rive 4.33 350 Pn 02 08 16.0 +0.6
H21K Melozitna Rive 4.33 350 IAML 02 09 05.9
comp=N,194nm,0.6s
H21K IAML 02 09 06.3
comp=E,210nm,0.6s
H21K Melozitna Rive 4.33 350 P Pn 02 08 15.7 +0.3
baz=168
M27K Edge Creek, AK 4.38 74 Pn 02 08 16.6 +0.4
M27K Edge Creek, AK 4.38 74 P Pn 02 08 16.4 +0.1
baz=261
OHAK Old Harbor 4.38 197 P Pn 02 08 14.7 -1.5
OHAK Old Harbor 4.38 197 Pn 02 08 14.6 -1.5
OHAK Old Harbor 4.38 197 IAML 02 09 23.6
comp=N,215nm,0.9s
OHAK IAML 02 09 24.8
comp=E,241nm,0.9s
OHAK Old Harbor 4.38 197 P Pn 02 08 14.6 -1.5
baz=15
BAGL Bagley Icefiel 4.41 98 Pn 02 08 15.2 -1.2
H20K Anotleneega Mo 4.45 338 Pn 02 08 17.5 +0.5
H20K Anotleneega Mo 4.45 338 P Pn 02 08 17.5 +0.5
baz=155
H23K Yukon River 4.46 7 Pn 02 08 17.5 +0.3
H23K Yukon River 4.46 7 P Pn 02 08 17.5 +0.3
baz=188
H22K Ishtalitna Cre 4.49 358 Pn 02 08 18.3 +0.7
GRNC Granite Creek 4.51 95 Pn 02 08 16.7 -1.3
GRNC Granite Creek 4.51 95 IAML 02 09 41.7
comp=E,226nm,0.7s
GRNC IAML 02 09 42.2
comp=N,382nm,0.6s
L27K Beaver Creek, 4.56 65 Pn 02 08 18.6 +0.1
L27K Beaver Creek, 4.56 65 IAML 02 09 37.1
comp=N,194nm,0.8s
L27K Beaver Creek, 4.56 65 P Pn 02 08 18.4 -0.2
baz=253
J26L Joseph Creek 4.56 44 Pn 02 08 18.9 +0.2
J26L Joseph Creek 4.56 44 IAML 02 09 20.6
comp=N,425nm,0.5s
J26L Joseph Creek 4.56 44 P Pn 02 08 18.9 +0.2
baz=230
MESA MESA 4.57 102 Pn 02 08 16.8 -2.1
MESA MESA 4.57 102 P Pn 02 08 17.6 -1.2
baz=290
BCAR Beaver Creek A 4.58 65 Pn 02 08 19.0 +0.1
H24K Noodor Dome 4.63 16 Pn 02 08 20.3 +0.7
H24K Noodor Dome 4.63 16 IAML 02 09 43.2
comp=E,167nm,0.7s
H24K Noodor Dome 4.63 16 P Pn 02 08 19.7 +0.1
baz=198
CTG Chitna Glacier 4.66 91 P Pn 02 08 19.2 -0.9
baz=280
N15K Kwethluk River 4.66 258 Pn 02 08 19.9 0.0
N15K Kwethluk River 4.66 258 IAML 02 09 46.6
comp=E,337nm,0.7s
N15K IAML 02 09 51.5
comp=N,327nm,0.8s
N15K Kwethluk River 4.66 258 P Pn 02 08 19.9 0.0
baz=71
CTGM Chitina Glacie 4.67 91 Pn 02 08 19.2 -0.9
CTGM Chitina Glacie 4.67 91 IAML 02 09 39.4
comp=N,289nm,0.7s
PLK4 Peulik 4 4.70 218 Pn 02 08 21.6 +1.0
IMAR Indian Mountai 4.75 346 Pn 02 08 21.8 +0.7
PRP Porcupine Dome 4.77 28 Pn 02 08 20.8 -0.7
PRP Porcupine Dome 4.77 28 IAML 02 09 18.5
comp=E,218nm,0.5s
PRP IAML 02 09 19.8
comp=N,275nm,0.6s
PRP Porcupine Dome 4.77 28 P Pn 02 08 20.8 -0.7
baz=213
M15K Kasigluk River 4.80 266 Pn 02 08 21.5 -0.2
M15K Kasigluk River 4.80 266 P Pn 02 08 21.5 -0.2
baz=77
H19K Roundabout Mou 4.80 331 Pn 02 08 22.0 +0.2
H19K Roundabout Mou 4.80 331 IAML 02 09 51.6
comp=E,186nm,0.8s
H19K IAML 02 09 54.1
comp=N,150nm,0.8s
H19K Roundabout Mou 4.80 331 P Pn 02 08 22.0 +0.2
baz=146
YUK2 White River 4.83 81 Pn 02 08 21.5 -0.8
K27K Chicken 4.84 53 Pn 02 08 22.1 -0.2
K27K Chicken 4.84 53 IAML 02 09 53.4
comp=N,184nm,0.9s
K27K Chicken 4.84 53 P Pn 02 08 21.8 -0.6
baz=241
LOGN Logan Glacier 4.85 93 Pn 02 08 21.6 -1.1
LOGN Logan Glacier 4.85 93 IAML 02 09 40.6
comp=E,168nm,0.7s
LOGN IAML 02 09 53.7
comp=N,236nm,0.8s
TABL Table Mountain 4.88 97 Pn 02 08 21.7 -1.3
TABL Table Mountain 4.88 97 IAML 02 09 45.7
comp=E,214nm,0.6s
TABL IAML 02 09 58.4
comp=N,234nm,1.1s
J16K Anvik River 4.88 297 Pn 02 08 22.9 +0.1
J16K Anvik River 4.88 297 P Pn 02 08 22.9 +0.1
baz=108
O15K Ungalikthiuk R 4.96 247 Pn 02 08 24.5 +0.5
O15K Ungalikthiuk R 4.96 247 P Pn 02 08 24.2 +0.1
baz=60
H18K Honhosa River 5.02 321 Pn 02 08 25.5 +0.6
H18K Honhosa River 5.02 321 IAML 02 09 26.3
comp=E,144nm,0.6s
H18K IAML 02 09 49.4
comp=N,119nm,1.1s
H18K Honhosa River 5.02 321 P Pn 02 08 25.5 +0.6
baz=135
L15K Ungalak Mounta 5.06 278 Pn 02 08 25.1 -0.1
K15K Wolf Creek Mou 5.10 284 Pn 02 08 26.1 +0.3
K15K Wolf Creek Mou 5.10 284 P Pn 02 08 26.1 +0.3
baz=95
I17K Unalakleet 5.13 303 Pn 02 08 26.9 +0.6
I17K Unalakleet 5.13 303 P Pn 02 08 26.9 +0.6
baz=114
SAMH Samovar Hills 5.14 100 Pn 02 08 25.6 -0.9
SII Sitkinak Islan 5.16 200 P Pn 02 08 28.1 +1.3
I26K Coal Creek Min 5.23 39 Pn 02 08 28.4 +0.7
I26K Coal Creek Min 5.23 39 IAML 02 10 00.0
comp=N,259nm,0.8s
I26K Coal Creek Min 5.23 39 P Pn 02 08 28.4 +0.7
baz=225
G21K Allakaket 5.24 349 Pn 02 08 28.0 +0.2
G21K Allakaket 5.24 349 IAML 02 09 29.5
comp=N,262nm,0.9s
G21K Allakaket 5.24 349 P Pn 02 08 28.0 +0.2
baz=166
O28M Mount Upton 5.25 92 Pn 02 08 27.6 -0.6
O28M Mount Upton 5.25 92 P Pn 02 08 27.6 -0.6
baz=282
G23K Bananza Creek 5.32 4 Pn 02 08 29.3 +0.3
G23K Bananza Creek 5.32 4 IAML 02 09 30.4
comp=E,102nm,0.8s
G23K Bananza Creek 5.32 4 P Pn 02 08 29.3 +0.3
baz=184
H17K Granite Mounta 5.38 315 Pn 02 08 30.2 +0.5
H17K Granite Mounta 5.38 315 P Pn 02 08 30.2 +0.5
baz=127
M14K Bethel 5.40 268 Pn 02 08 30.2 +0.3
M14K Bethel 5.40 268 P Pn 02 08 29.9 0.0
baz=78
PCA Pinnacle 5.40 100 Pn 02 08 28.6 -1.4
PINM Pinnacle 5.40 100 P Pn 02 08 28.6 -1.5
baz=289
G19K Purcell Mounta 5.47 333 Pn 02 08 31.2 +0.3
G19K Purcell Mounta 5.47 333 P Pn 02 08 31.0 +0.2
baz=147
N14K Kuskokwak Cree 5.50 259 Pn 02 08 31.7 +0.4
N14K Kuskokwak Cree 5.50 259 P Pn 02 08 31.5 +0.2
baz=70
G24K Hadweenzic Riv 5.51 14 Pn 02 08 32.4 +0.9
G24K Hadweenzic Riv 5.51 14 P Pn 02 08 32.3 +0.9
baz=197
EGAK Eagle 5.57 49 Pn 02 08 32.5 +0.3
EGAK Eagle 5.57 49 P Pn 02 08 32.5 +0.3
baz=237
O14K Tigyukauivet M 5.58 252 Pn 02 08 32.6 +0.2
O14K Tigyukauivet M 5.58 252 P Pn 02 08 32.5 +0.1
baz=63
G18K Tagagawik 5.65 326 Pn 02 08 33.9 +0.5
G18K Tagagawik 5.65 326 P Pn 02 08 33.6 +0.2

baz=139
L14K Kuka Creek 5.65 274 Pn 02 08 33.9 +0.5
L14K Kuka Creek 5.65 274 P Pn 02 08 33.9 +0.5
baz=84
FYU Fort Yukon 5.74 23 Pn 02 08 36.4 +1.9
BCPM Bancas Point 5.74 100 Pn 02 08 33.7 -0.9
G25K Bearman Lake 5.76 19 Pn 02 08 36.4 +1.5
G25K Bearman Lake 5.76 19 P Pn 02 08 35.7 +0.8
baz=204
COLD Coldfoot 5.84 3 Pn 02 08 37.6 +1.7
COLD Coldfoot 5.84 3 P Pn 02 08 36.4 +0.5
baz=183
I27K Kandik River 5.91 41 Pn 02 08 37.6 +0.6
I27K Kandik River 5.91 41 P Pn 02 08 37.4 +0.4
baz=229
DAWY Dawson 5.93 58 Pn 02 08 37.6 +0.4
DAWY Dawson 5.93 58 P Pn 02 08 37.4 +0.2
baz=248
F21K Alatna River 5.93 350 Pn 02 08 37.8 +0.6
F21K Alatna River 5.93 350 P Pn 02 08 37.6 +0.4
baz=168
PNL Peninsula 5.96 102 P Pn 02 08 36.8 -0.8
PNL Peninsula 5.96 102 Pn 02 08 36.4 -1.2
PNL Peninsula 5.96 102 P Pn 02 08 36.4 -1.2
baz=292
G17K Kiwalik Mounta 5.97 317 Pn 02 08 37.9 +0.1
G17K Kiwalik Mounta 5.97 317 P Pn 02 08 37.9 +0.1
baz=129
M29M Somme Creek 5.97 75 Pn 02 08 37.7 -0.3
M29M Somme Creek 5.97 75 P Pn 02 08 37.7 -0.3
baz=265
F20K Avaraart Lake 6.02 342 Pn 02 08 38.8 +0.4
F20K Avaraart Lake 6.02 342 P Pn 02 08 38.8 +0.4
baz=157
H16K Elim 6.07 307 Pn 02 08 38.9 -0.2
H16K Elim 6.07 307 P Pn 02 08 38.9 -0.2
baz=117
J14K Nanvaranak Lak 6.08 288 Pn 02 08 39.6 +0.4
J14K Nanvaranak Lak 6.08 288 P Pn 02 08 39.3 +0.1
baz=97
YUK6 Outpost Mounta 6.10 89 Pn 02 08 38.9 -0.8
YUK6 Outpost Mounta 6.10 89 P Pn 02 08 38.9 -0.8
baz=280
F22K John River 6.13 355 Pn 02 08 41.8 +1.8
O29M Mount Kennedy 6.14 95 Pn 02 08 39.4 -0.8
O29M Mount Kennedy 6.14 95 P Pn 02 08 39.4 -0.8
baz=286
M13K Dall Lake 6.14 266 Pn 02 08 40.6 +0.5
M13K Dall Lake 6.14 266 P Pn 02 08 40.6 +0.5
baz=75
F19K Shaleruckik Mo 6.20 334 Pn 02 08 41.5 +0.7
F19K Shaleruckik Mo 6.20 334 P Pn 02 08 41.5 +0.7
baz=148
L29M L29M 6.21 69 Pn 02 08 41.2 +0.1
L29M L29M 6.21 69 P Pn 02 08 41.2 +0.1
baz=260
F24K Squaw Lake 6.26 11 Pn 02 08 42.9 +1.2
F24K Squaw Lake 6.26 11 P Pn 02 08 42.9 +1.2
baz=193
YUK7 Dusty Glacier 6.29 93 Pn 02 08 41.9 -0.4
G26K Porcupine Rive 6.36 26 Pn 02 08 43.9 +0.9
G26K Porcupine Rive 6.36 26 P Pn 02 08 43.9 +0.9
baz=212
H27K Steamboat Moun 6.37 37 Pn 02 08 43.4 +0.2
I28M Miner Creek 6.37 46 Pn 02 08 43.8 +0.5
CHGN Chignik 6.44 220 Pn 02 08 45.1 +0.9
F18K Selawik 6.45 327 Pn 02 08 45.1 +0.8
F18K Selawik 6.45 327 P Pn 02 08 45.1 +0.8
baz=140
G16K Koyuk River 6.49 313 Pn 02 08 44.9 +0.1
HYT Haines Junctio 6.53 89 Pn 02 08 44.8 -0.7
J29N Klondike Camp 6.55 57 Pn 02 08 45.6 -0.1
J29N Klondike Camp 6.55 57 P Pn 02 08 45.6 -0.1
baz=248
K13K Kusilvak Mount 6.55 280 Pn 02 08 45.9 +0.1
K13K Kusilvak Mount 6.55 280 P Pn 02 08 45.9 +0.1
baz=89
F25K Christian Rive 6.60 18 Pn 02 08 47.2 +0.8
F25K Christian Rive 6.60 18 P Pn 02 08 46.7 +0.3
baz=202
BMAR Burnt Mountain 6.62 22 Pn 02 08 47.2 +0.5
N30M Aishikik Lake 6.64 84 Pn 02 08 45.2 -1.8
N30M Aishikik Lake 6.64 84 P Pn 02 08 45.2 -1.8
baz=276
E19K Redstone River 6.64 339 Pn 02 08 47.6 +0.7
E19K Redstone River 6.64 339 P Pn 02 08 47.0 +0.1
baz=153
K29M Barlow Dome 6.64 63 Pn 02 08 46.9 -0.1
K29M Barlow Dome 6.64 63 P Pn 02 08 46.9 -0.1
baz=254
VNHG Veniaminof 1 6.74 223 Pn 02 08 49.0 +0.6
E22K Anaktuvuk Pass 6.75 357 Pn 02 08 50.0 +1.6
E22K Anaktuvuk Pass 6.75 357 P Pn 02 08 49.3 +0.9
baz=176
G27K Doyon Strip 6.75 33 Pn 02 08 48.3 -0.2
G27K Doyon Strip 6.75 33 P Pn 02 08 48.3 -0.2
baz=221
P29M Windy Craggy 6.75 100 Pn 02 08 47.7 -0.9
P29M Windy Craggy 6.75 100 P Pn 02 08 47.7 -0.9
baz=291
M30M Minto, Yukon 6.76 74 Pn 02 08 47.9 -0.7
M30M Minto, Yukon 6.76 74 P Pn 02 08 47.9 -0.7
baz=266
E24K Your Creek 6.76 8 Pn 02 08 49.9 +1.3
E24K Your Creek 6.76 8 P Pn 02 08 49.4 +0.8
baz=190
F17K Baldwin Pennin 6.78 322 Pn 02 08 50.1 +1.3
F17K Baldwin Pennin 6.78 322 P Pn 02 08 49.8 +1.0
baz=133
I29M Ogilvie Camp, 6.90 50 Pn 02 08 50.6 +0.1
G15K Niukluk 6.92 307 Pn 02 08 51.0 +0.3
G15K Niukluk 6.92 307 P Pn 02 08 50.8 +0.1
baz=115
F26K Sheenjek River 6.94 22 Pn 02 08 51.9 +0.9
F26K Sheenjek River 6.94 22 P Pn 02 08 51.3 +0.4
baz=208
P30M Million Dollar 6.96 95 Pn 02 08 50.5 -0.9
P30M Million Dollar 6.96 95 P Pn 02 08 50.5 -0.9
baz=287
E25K Arctic Village 7.10 16 Pn 02 08 54.6 +1.4
E21K Killik River 7.16 351 Pn 02 08 56.5 +2.4
E20K Nigu River 7.21 344 Pn 02 08 55.9 +1.1
E20K Nigu River 7.21 344 P Pn 02 08 55.5 +0.7
baz=159
O30N Mendenhall 7.22 89 Pn 02 08 53.9 -1.0
TOLK Toolik Lake Re 7.27 4 Pn 02 08 58.2 +2.7
ANM Nome 7.29 302 Pn 02 08 56.2 +0.5
ANM Nome 7.29 302 P Pn 02 08 56.2 +0.5
baz=109
MAYO Mayo, Yukon 7.29 66 Pn 02 08 55.6 -0.2
E18K Tukpahlearik C 7.32 329 Pn 02 08 57.7 +1.5
E18K Tukpahlearik C 7.32 329 P Pn 02 08 57.1 +0.9
baz=141
H29M Whitestone 7.34 44 Pn 02 08 56.4 -0.1
H29M Whitestone 7.34 44 P Pn 02 08 56.4 -0.1
baz=235
J30M Hart River 7.35 58 Pn 02 08 57.6 +0.8
J30M Hart River 7.35 58 P Pn 02 08 56.9 +0.1
baz=251
E17K Hotham Inlet 7.39 325 Pn 02 08 58.1 +1.0
E17K Hotham Inlet 7.39 325 P Pn 02 08 57.9 +0.8
baz=135
PLBC Pleasant Camp 7.47 99 Pn 02 08 57.4 -0.9
PLBC Pleasant Camp 7.47 99 P Pn 02 08 57.4 -0.9
baz=291
F15K North Star Dit 7.47 311 Pn 02 08 58.6 +0.4
F15K North Star Dit 7.47 311 P Pn 02 08 58.6 +0.4
baz=119
M11K Mekoryuk 7.52 269 Pn 02 08 59.7 +0.8
M11K Mekoryuk 7.52 269 P Pn 02 08 59.5 +0.6
baz=76
D22K Ayikyak River 7.52 355 Pn 02 08 59.6 +0.6
D22K Ayikyak River 7.52 355 P Pn 02 08 59.6 +0.6
baz=173
I30M Mount Dempster 7.57 53 Pn 02 08 59.3 -0.4
I30M Mount Dempster 7.57 53 P Pn 02 08 59.3 -0.4
baz=246
D20K Etivluk River 7.70 344 Pn 02 09 02.3 +0.9
D20K Etivluk River 7.70 344 P Pn 02 09 02.1 +0.7
baz=159
D19K Kuna River 7.72 340 Pn 02 09 02.9 +1.3
D19K Kuna River 7.72 340 P Pn 02 09 02.0 +0.3
baz=153
D24K Happy Valley 7.81 6 Pn 02 09 03.5 +0.6
F28M Old Crow 7.82 33 Pn 02 09 03.2 +0.2
baz=222
WHY Whitehorse 7.83 89 Pn 02 09 02.1 -1.1
WHY Whitehorse 7.83 89 P Pn 02 09 02.1 -1.1
baz=282
E27K Coleen River 7.86 26 Pn 02 09 04.4 +0.9
E27K Coleen River 7.86 26 P Pn 02 09 04.1 +0.5
baz=214
G29M Pine Creek 7.87 40 Pn 02 09 04.2 +0.5
G29M Pine Creek 7.87 40 P Pn 02 09 04.2 +0.5
baz=231
M31M Drury Creek, Y 7.87 77 Pn 02 09 03.8 0.0
C21K Knifeblade Rid 7.93 350 Pn 02 09 05.0 +0.5
C21K Knifeblade Rid 7.93 350 P Pn 02 09 05.0 +0.5
baz=166
SKAG Skagway 7.96 97 P Pn 02 09 04.8 -0.1
SKAG Skagway 7.96 97 Pn 02 09 04.4 -0.5
SKAG Skagway 7.96 97 P Pn 02 09 04.4 -0.5
baz=291
EPYK Eagle Plains 7.98 45 Pn 02 09 04.9 -0.3
EPYK Eagle Plains 7.98 45 P Pn 02 09 04.9 -0.3
baz=238
F14K Arctic Creek 8.00 307 Pn 02 09 06.1 +0.6
D25K Kavik River 8.15 11 Pn 02 09 08.3 +0.7
S31K Pelican 8.20 109 Pn 02 09 05.5 -2.7
FARO Faro, Yukon 8.36 77 Pn 02 09 10.4 0.0
C18K Utukok River 8.44 334 Pn 02 09 11.7 +0.2
C23K Itkillik River 8.45 1 Pn 02 09 12.5 +0.9
G30M tAoh Zraii Nji 8.48 43 Pn 02 09 11.2 -0.9
C19K Lookout Ridge 8.51 339 Pn 02 09 13.8 +1.3
H31M Peel River 8.58 52 Pn 02 09 13.3 -0.1
N32M Quiet Lake 8.60 84 Pn 02 09 13.0 -0.7
E28M Babbage River 8.65 29 Pn 02 09 14.7 +0.2
P32M Atlin 8.69 95 Pn 02 09 14.2 -0.7
R32K Eaglecrest 8.84 104 Pn 02 09 15.8 -1.1
D27M Malcolm River 8.87 24 Pn 02 09 18.6 +1.2
E29M Blow River 8.90 33 Pn 02 09 18.0 +0.3
JIS Juneau Island 8.90 103 Pn 02 09 16.5 -1.2
P33M Teslin, Yukon 8.93 90 Pn 02 09 17.0 -1.3
G31M Satah River 9.10 46 Pn 02 09 20.0 -0.4
SIT Sitka 9.11 112 P Pn 02 09 19.2 -1.4
SIT Sitka 9.11 112 Pn 02 09 18.8 -1.8
S32K Killisnoo 9.21 108 Pn 02 09 20.8 -1.3
MMPY Sheldon Lake, 9.31 74 Pn 02 09 23.6 +0.1
Q32M Nakina River 9.61 97 Pn 02 09 26.7 -0.9
R33M Jennings River 10.07 93 Pn 02 09 33.0 -0.9
INK Inuvik 10.09 39 Pn 02 09 33.7 -0.1
INK Inuvik 10.09 39 P Pn 02 09 32.8 -1.1
comp=E,4.0nm,0.4s,baz=242,slow=15,SNR=11
INK S Sn 02 11 23.9 -1.3
comp=E,5.2nm,0.8s,baz=274,slow=19,SNR=1.7
S34M Telegraph Cree 10.60 101 Pn 02 09 40.2 -0.7
DLBC Dease Lake 10.89 97 Pn 02 09 44.2 -0.8
DLBC Dease Lake 10.89 97 P Pn 02 09 44.6 -0.4
comp=E,3.2nm,0.5s,baz=282,slow=13,SNR=11
UNV Unalaska Valle 11.26 235 P Pn 02 09 51.4 +1.4
T35M Bob Quinn 11.47 104 Pn 02 09 52.1 -0.8
BBB Bella Bella 15.46 116 P P 02 10 47.5 -1.5
comp=E,8.0nm,0.7s,baz=307,slow=12,SNR=5.2
YKA Yellowknife Ar 16.97 70 P P 02 11 05.6 -0.1
YKA Yellowknife Ar 16.97 70 P Pn 02 11 04.0 -0.7
comp=E,7.9nm,0.9s,baz=243,slow=17,SNR=13
BRLDA Berland Lookou 19.15 97 P Pn 02 11 30.7 -0.6
B08A Colville Reser 22.11 112 P P 02 12 01.9 +0.2
RES Resolute Bay 23.55 33 P P 02 12 15.7 -0.2
comp=E,3.4nm,0.7s,baz=233,slow=10,SNR=2.1
comp=E,3.4nm,0.7s
NVAR Mina Array Bea 30.59 124 P P 02 13 20.6 +1.0
comp=E,0.4nm,0.5s,baz=320,slow=10,SNR=4.2
NVAR PcP PcP 02 16 17.4 +0.9
comp=E,1.2nm,0.6s,baz=329,slow=3.2,SNR=6.5
comp=E,0.4nm,0.5s
PDAR Pinedale Array 30.80 108 P P 02 13 22.3 +0.9
comp=E,0.3nm,0.4s,baz=318,slow=4.3,SNR=4.0
comp=E,0.3nm,0.4s
ULM Lac du Bonnet 31.89 85 P P 02 13 31.7 +1.2
comp=E,0.8nm,0.4s,baz=312,slow=12,SNR=1.8
ULM pP pP 02 13 48.7 +1.9
comp=E,4.5nm,0.7s,baz=314,slow=8.4,SNR=5.7
comp=E,0.8nm,0.4s
CCUT Cedar City 33.38 118 P P 02 13 44.4 +0.3
FRB Frobisher Bay 35.54 49 P P 02 14 02.4 +0.3
comp=E,5.8nm,0.6s,baz=303,slow=8.0,SNR=8.3
comp=E,5.8nm,0.6s
SUMG Summit 38.67 26 P P 02 14 29.8 +0.8
SUMG IAmb IAmb 02 15 24.4
comp=Z,29nm,2.0s
SUMG Summit 38.67 26 *i* P P 02 14 29.0 0.0
DAG Danmarks Havn 38.85 16 *i* P P 02 14 29.0 -0.9
KEKH Kekaha 39.88 193 S 02 20 37.7 -1.1
SPITS Spitsbergen Ar 40.42 4 P P 02 14 42.0 -1.1
comp=Z,2.2nm,0.4s,baz=17,slow=6.1,SNR=18
comp=Z,2.2nm,0.4s
SPB2 Spitsbergen Ar 40.43 4 P P 02 14 42.4 -0.7
SPB2 IAmb IAmb 02 14 48.2
comp=Z,15nm,1.1s
SCHQ Schefferville 41.95 59 P P 02 14 55.9 +0.2
comp=Z,4.1nm,0.7s,baz=307,slow=12,SNR=3.7
comp=Z,4.1nm,0.7s
KLR Kul'dur 43.00 290 P P 02 15 03.5 -0.9
comp=Z,0.8nm,0.5s,baz=8.9,slow=8.8,SNR=3.9
comp=Z,0.8nm,0.5s
NRIK Noril'sk 43.07 334 P P 02 15 04.3 -0.3
NRIK Noril'sk 43.07 334 P P 02 15 03.9 -0.7
comp=Z,3.9nm,0.5s,baz=45,slow=3.8,SNR=8.1
comp=Z,3.9nm,0.5s
PBMO Poplar Bluff 44.54 95 P P 02 15 17.7 +0.9
TXAR Lajitas Array 44.58 114 P P 02 15 18.3 +1.0
comp=Z,0.6nm,0.5s,baz=298,slow=6.1,SNR=11
TXAR PcP PcP 02 16 59.6 +0.4
comp=Z,0.5nm,0.6s,baz=270,slow=1.8,SNR=6.1
comp=Z,0.6nm,0.5s
BINY Binghamton 47.19 78 P P 02 15 38.5 +0.8
BINY IAmb IAmb 02 15 38.8
comp=Z,7.5nm,0.6s
P57A Homestead Farm 48.35 82 P P 02 15 47.4 +0.8
P57A IAmb IAmb 02 15 47.7
comp=Z,6.4nm,0.5s
Z47A Carrollton 48.57 96 P P 02 15 48.9 +0.5
Z47A IAmb IAmb 02 15 50.0
comp=Z,9.7nm,0.7s
LUPA Lehigh Univers 48.72 79 P P 02 15 50.4 +1.0
LUPA IAmb IAmb 02 15 50.8
comp=Z,13nm,0.6s
ARCES ARCESS Array B 49.30 2 P P 02 15 52.0 -1.5
comp=Z,2.2nm,0.5s,baz=8.1,slow=7.2,SNR=26
ARCES PcP PcP 02 17 14.7 -0.5
comp=Z,3.5nm,0.8s,baz=28,slow=4.1,SNR=5.9
comp=Z,2.2nm,0.5s
HODGE Hodges 50.52 90 P P 02 16 03.5 +0.4
KSRS Korea Array 53.85 283 P P 02 16 28.2 +0.4
comp=Z,4.3nm,0.7s,baz=34,slow=6.7,SNR=9.9
comp=Z,4.3nm,0.7s
XLT XiLinHaoTe 54.00 297 *e*P P 02 16 31.1 +2.1
XLT sP sP 02 16 55.5 +1.4
XLT pmax pmax
comp=Z,8.0nm,0.7s
SONM Songino Array 54.77 306 P P 02 16 35.2 +0.6
SONM IAmb IAmb 02 16 35.8
comp=Z,8.3nm,0.7s
SONM Songino Array 54.77 306 P P 02 16 35.0 +0.5
comp=Z,10nm,0.7s,baz=39,slow=7.3,SNR=38
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 56.82 324 P P 02 16 47.5 -1.4
comp=Z,1.9nm,0.5s,baz=37,slow=8.2,SNR=7.3
ZALV pP pP 02 17 06.0 -0.5
comp=Z,2.4nm,0.6s,baz=40,slow=6.2,SNR=4.5
ZALV PcP PcP 02 17 42.6 -1.3
comp=Z,1.3nm,0.6s,baz=20,slow=4.6,SNR=3.8
comp=Z,1.9nm,0.5s
NB2 NORSAR Subarra 57.10 10 P P 02 16 49.4 -1.4
comp=Z,1.8nm,0.6s,baz=351,slow=7.4
NOA NORSAR Array B 57.10 10 P P 02 16 49.5 -1.4
comp=Z,3.3nm,0.7s,baz=351,slow=7.0,SNR=14
comp=Z,3.3nm,0.7s
FINES FINESS Array B 57.44 2 P P 02 16 51.7 -1.4
comp=Z,4.2nm,0.6s,baz=1.6,slow=8.4,SNR=20
comp=Z,4.2nm,0.6s
HFS Hagfors 58.19 9 P P 02 16 57.1 -1.4
comp=Z,8.9nm,0.9s,baz=22,slow=4.8,SNR=26
comp=Z,8.9nm,0.9s
HHC Hu-ho-hao-te 58.42 298 *e*P P 02 17 04.5 +4.0
HHC pmax pmax
comp=Z,13nm,0.6s
EKA Eskdalemuir Ar 60.84 20 P P 02 17 16.7 -0.1
comp=Z,8.2nm,0.4s,baz=328,slow=5.4,SNR=191
EKA pP pP 02 17 34.7 +0.3
comp=Z,1.3nm,0.6s,baz=328,slow=5.0,SNR=2.1
comp=Z,8.2nm,0.4s
BVAR Borovoye Array 61.27 333 P P 02 17 18.2 -1.6
comp=Z,1.8nm,0.6s,baz=38,slow=8.0,SNR=9.5
BVAR pP pP 02 17 37.0 -0.5
comp=Z,1.9nm,0.7s,baz=27,slow=7.2,SNR=5.5
comp=Z,1.8nm,0.6s
KURBB Kurchatov Arra 61.52 327 P P 02 17 19.6 -1.8
comp=Z,1.1nm,0.5s,baz=26,slow=6.6,SNR=7.1
KURBB PcP PcP 02 18 01.8 -0.9
comp=Z,2.3nm,0.6s,baz=29,slow=4.6,SNR=9.5
comp=Z,1.1nm,0.5s
MKAR Makanchi Array 63.94 322 P P 02 17 35.5 -2.1
comp=Z,0.7nm,0.5s,baz=33,slow=7.3,SNR=8.7
comp=Z,0.7nm,0.5s
IBBN Ibbenburen 65.35 14 *e*P 02 17 47.1
comp=Z,6.0nm,0.6s,baz=352,slow=6.3
NRDL Niedersach Rie 65.43 13 *e*P 02 17 46.7
comp=Z,4.4nm,0.9s,baz=352,slow=6.3
FLTG Flechtingen 65.71 12 *e*P 02 17 48.6
comp=Z,3.2nm,0.7s,baz=352,slow=6.3
RUE Ruedersdorf 65.79 10 *e*P 02 17 49.9
comp=Z,10nm,0.7s,baz=352,slow=6.3
CLZ Clausthal 66.10 13 *e*P 02 17 52.2
comp=Z,8.9nm,0.7s,baz=352,slow=6.3
BUG Bochum--Univer 66.14 15 *e*P 02 17 51.8
comp=Z,5.3nm,0.8s,baz=352,slow=6.3
NEUB Neuenburg 66.87 12 *e*P 02 17 56.5
comp=Z,8.6nm,0.6s,baz=352,slow=6.3
CLL Collm 66.89 11 *i* P P 02 17 55.9 -0.6
CLL Collm 66.89 11 *e*P 02 17 56.3
comp=Z,3.3nm,0.9s,baz=352,slow=6.3
ABKAR Akbulak array 66.92 339 P P 02 17 55.8 -0.9
ABKAR Akbulak array 66.92 339 P P 02 17 56.0 -0.7
ABKAR IAmb IAmb 02 19 42.0
comp=Z,50nm,1.5s
UBBA Unterbreizbach 67.07 13 *e*P 02 17 57.7
comp=Z,1.6nm,0.6s,baz=352,slow=6.3
BRG Berggiesshubel 67.40 10 *e*P P 02 17 59.5 -0.2
BRG Amp 02 18 02.1
comp=Z,4.1nm,0.8s
BRG Berggiesshubel 67.40 10 *e*P 02 17 59.8
comp=Z,3.5nm,0.9s,baz=352,slow=6.3
MOX Moxa 67.41 12 *e*P 02 18 00.1
comp=Z,6.8nm,0.6s,baz=352,slow=6.3
TNS Taunus Mts 67.48 14 *e*P 02 18 00.6
comp=Z,4.2nm,0.6s,baz=352,slow=6.3
HSKC Hora Svate Kat 67.62 11 *e*P P 02 18 01.4 +0.2
TANN Tannenbergstha 67.72 11 *e*P 02 18 02.6
comp=Z,1.9nm,0.7s,baz=352,slow=6.3
WLF Walferdange 67.75 16 *e*P 02 18 03.3
comp=Z,4.1nm,0.8s,baz=352,slow=6.3
UPC Upice 67.93 9 *e*P P 02 18 03.1 0.0
DPC Dobruska-Polom 68.11 9 *e*P P 02 18 04.7 +0.4
AKASG Malin Array Be 68.22 360 P P 02 18 03.7 -1.2
comp=Z,5.0nm,0.4s,baz=3.5,slow=6.3,SNR=32
AKASG pP pP 02 18 22.9 0.0
comp=Z,0.9nm,0.4s,baz=0.8,slow=6.2,SNR=2.6
comp=Z,5.0nm,0.4s
AKBB Malin Array Si 68.22 360 P P 02 18 04.2 -0.8
KIEV Kiev 68.23 360 P P 02 18 04.2 -0.8
GRF Grafenberg Arr 68.31 12 *e*P 02 18 05.1
comp=Z,3.8nm,0.7s,baz=352,slow=6.3
ROTZ Rotzenmuhle 68.34 12 *e*P 02 18 06.1
comp=Z,0.6nm,0.8s,baz=352,slow=6.3
KRLC Kraliky 68.42 8 *e*P P 02 18 06.4 +0.2
MORC Moravsky Berou 68.77 8 *e*P P 02 18 07.8 -0.6
ZVC Zvikov 68.84 10 *e*P P 02 18 09.2 +0.3
WET Wettzell 69.02 11 *e*P 02 18 10.6
comp=Z,1.5nm,0.7s,baz=352,slow=6.3
TREC Trest 69.09 9 *e*P P 02 18 10.4 0.0
KHC Kasperske Hory 69.09 11 *e*P P 02 18 10.4 -0.1
VRAC Vranov 69.17 9 *e*P P 02 18 10.9 0.0
KWP Kalwaria Pacla 69.18 4 P P 02 18 10.7 -0.2
STHS Stebnicka Huta 69.33 5 *e*P P 02 18 11.3 -0.6
GERES GERESS Array B 69.39 11 P P 02 18 11.8 -0.6
comp=Z,1.4nm,0.6s,baz=193,slow=3.0,SNR=6.1
comp=Z,1.4nm,0.6s
GEC2 GERESS Array S 69.39 11 *e*P 02 18 12.5
comp=Z,1.5nm,0.7s,baz=352,slow=6.3
KRUC Moravsky 69.40 9 *e*P P 02 18 12.0 -0.3
CKRC Cesky Krumlov 69.47 10 *e*P P 02 18 11.2 -1.6
LANS Liptovska Anna 69.51 7 *e*P P 02 18 13.8 +0.8
JAVC Velka Javorina 69.69 8 *e*P P 02 18 14.8 +0.7
VYHS Vyhne 70.12 7 *e*P P 02 18 16.9 +0.1
UBR Ueberruh 70.18 13 *e*P 02 18 17.1
comp=Z,3.3nm,0.8s,baz=352,slow=6.3
RJOB Jochberg 70.41 12 *e*P 02 18 18.3
comp=Z,4.1nm,0.7s,baz=352,slow=6.3
CONA Conrad Observa 70.48 9 *i* P P 02 18 18.9 -0.1
comp=Z,4.0nm,0.7s
BIOA Bad Ischl, Aus 70.53 11 *e*P P 02 18 19.3 0.0
comp=Z,8.6nm,1.5s
DAVA Damuels 70.54 14 *e*P P 02 18 18.6 -0.9
KKAR Karatay Array 70.55 329 P P 02 18 19.1 -0.3
KKAR IAmb IAmb 02 20 03.5
comp=Z,31nm,1.6s
WATA Walderalm 70.68 13 *i* P P 02 18 19.0 -1.3
comp=Z,2.6nm,0.6s
LESA Schwarzleotal 70.70 12 *e*P P 02 18 20.1 -0.3
comp=Z,3.9nm,1.1s
RONA Rosalia, Austr 70.74 9 *e*P P 02 18 21.7 +1.1
comp=Z,5.7nm,1.6s
SQTA Sankt Quirin 70.75 13 *i* P P 02 18 20.8 +0.1
comp=Z,4.6nm,0.6s
WTTA Wattenberg 70.76 12 *i* P P 02 18 21.0 +0.2
comp=Z,4.3nm,0.5s
PSZ Piszkesteto 70.76 7 P P 02 18 20.2 -0.5
PSZ IAmb IAmb 02 19 10.1
comp=Z,34nm,1.9s
FETA Feichten 70.90 13 *e*P P 02 18 21.5 -0.2
comp=Z,4.1nm,1.1s
KBA Koelnbreinsper 71.11 11 *i* P P 02 18 23.6 +0.7
comp=Z,8.4nm,0.5s
BUR08 Bucovina Ar. S 71.24 3 P P 02 18 23.4 -0.3
BUR08 IAmb IAmb 02 18 59.0
comp=Z,29nm,1.9s
FUORN Ofenpass-Fuorn 71.24 14 P P 02 18 24.3 +0.4
FUORN IAmb IAmb 02 18 57.8
comp=Z,19nm,1.7s
ABTA Abfaltersbach 71.36 12 *e*P P 02 18 25.6 +1.2
comp=Z,3.1nm,1.0s
OBKA Obir 71.78 11 *i* P P 02 18 26.9 0.0
comp=Z,12nm,0.7s
KBZ Khabaz 74.60 350 P P 02 18 43.7 +0.3
comp=Z,4.4nm,0.8s,baz=329,slow=4.1,SNR=7.2
comp=Z,4.4nm,0.8s
PZH PanZhiHua 74.88 298 P P 02 18 48.3 +2.8
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
SIMJ Simiganj 75.12 329 P P 02 18 46.1 -0.6
ESDC Sonseca Array 75.73 26 P P 02 18 50.1 0.0
comp=Z,3.1nm,0.8s,baz=345,slow=5.5,SNR=18
ESDC pP pP 02 19 08.9 +0.6
comp=Z,2.4nm,0.8s,baz=342,slow=5.7,SNR=5.5
comp=Z,3.1nm,0.8s
PDG Podgorica 76.19 7 P P 02 18 51.8 -0.8
PDG IAmb IAmb 02 18 55.1
comp=Z,17nm,1.4s
GEYT Alibeck 78.21 337 P P 02 19 03.8 -0.2
GEYT Alibeck 78.21 337 P P 02 19 03.9 -0.2
comp=Z,4.2nm,0.7s,baz=0.0,slow=3.6,SNR=8.1
comp=Z,4.2nm,0.7s
BAUV El Baul 78.80 92 P P 02 19 07.5 0.0
BAUV IAmb IAmb 02 19 08.2
comp=Z,21nm,0.8s
HRA Herat 80.79 333 P P 02 19 17.9 -0.4
KEST Kesra 81.86 16 P P 02 19 24.1 +0.3
comp=Z,2.7nm,0.6s,baz=263,slow=2.3,SNR=6.3
comp=Z,2.7nm,0.6s
BOSA Boshof 147.09 6 PKPbc PKPbc 02 26 46.2 -0.7
comp=Z,4.9nm,0.6s,baz=32,slow=2.6,SNR=12
QSPA South Pole Qui 151.23 180 PKPbc PKPbc 02 26 55.6 -0.4
comp=Z,7.4nm,0.7s,baz=312,slow=0.1,SNR=38

*NEIC **06** 02:16:16.9±1.1,58°.75N±0°.03×154°.63W±0°.07,*
h125km±4km, Error ellipse: s-maj=5.3km s-min=5.0km
az=105.0
*IDC **06** 02:16:17.0±1.6,58°.76N×154°.18W,h141km±47km,mb3.7/4,*
mbtmp4.1/6,MS4.6/1,Error ellipse: s-maj=73.7km
s-min=26.5km az=117.0
*AEIC **06** 02:16:18.3±1.3,58°.76N±0°.04×154°.63W±0°.06,*

h120km,3km,ML3.3,ML3.3/124(NEIC),Error ellipse:
s-maj=5.4km s-min=4.5km az=147.0
ISC 06 02:16:16.9±0.7,58.79N±0.04,154.59W±0.04,
h128km±5km,n339,σ0.88/332,mb4.0/4,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	
KAPH	**Katmai Pasha**	**0.23**	**147**		**Pn**	**02 16 34.6**	**0.0**
KAPH					**Sn**	**02 16 47.5**	**-0.4**
KAHC	**Katmai Hardscr**	**0.26**	**237**		**Pn**	**02 16 34.3**	**-0.4**
KAHC	**Katmai Hardscr**	**0.26**	**237**		**Pn**	**02 16 34.3**	**-0.4**
KAHC					**Sn**	**02 16 46.7**	**-1.5**
KAHC	**Katmai Hardscr**	**0.26**	**237**	P	**Pn**	**02 16 34.3**	**-0.4**
	baz=60						
Q18K	**Katmai Hardscr**	**0.26**	**237**	P	**Pn**	**02 16 34.3**	**-0.4**
	baz=60						
Q18K				S	**Sn**	**02 16 46.7**	**-1.5**
	baz=60						
KAHG	**Katmai Hook Gl**	**0.30**	**176**		**Pn**	**02 16 34.7**	**0.0**
KAHG					**Sn**	**02 16 47.7**	**-0.6**
KARR	**Katmai Rainbow**	**0.30**	**192**		**Pn**	**02 16 34.7**	**0.0**
KAWH	**Katmai**	**0.42**	**195**		**Pn**	**02 16 35.0**	**-0.3**
Q19K	**Cape Douglas,**	**0.51**	**74**		**Pn**	**02 16 35.9**	**+0.2**
Q19K				IAML		02 16 52.2	
	comp=E,948nm,1.1s						
Q19K				IAML		02 16 52.6	
	comp=N,780nm,0.7s						
Q19K	**Cape Douglas,**	**0.51**	**74**		**Sn**	**02 16 49.8**	**-0.1**
Q19K	**Cape Douglas,**	**0.51**	**74**	P	**Pn**	**02 16 35.9**	**+0.2**
	baz=252						
Q19K				S	**Sn**	**02 16 49.8**	**-0.1**
	baz=252						
KVTA	**Katmai Vly 10**	**0.55**	**222**		**Pn**	**02 16 36.0**	**0.0**
KCE	**Katmai Mt Cerb**	**0.63**	**210**		**Pn**	**02 16 37.0**	**+0.4**
KABU	**Katmai Buttres**	**0.64**	**215**		**Pn**	**02 16 36.6**	**0.0**
KABU					**Sn**	**02 16 50.9**	**-0.6**
KABU	**Katmai Buttres**	**0.64**	**215**	IAML		02 16 51.9	
	comp=E,578nm,0.7s						
P18K	**Big Mountain,**	**0.69**	**331**		**Pn**	**02 16 36.3**	**-0.5**
P18K				IAML		02 16 51.3	
	comp=E,229nm,0.7s						
P18K				IAML		02 16 51.5	
	comp=N,474nm,0.7s						
P18K	**Big Mountain,**	**0.69**	**331**		**Sn**	**02 16 50.9**	**-1.3**
P18K	**Big Mountain,**	**0.69**	**331**	P	**Pn**	**02 16 36.4**	**-0.5**
	baz=154						
P18K				S	**Sn**	**02 16 50.9**	**-1.3**
	baz=154						
AUCH	**Augustine Cone**	**0.82**	**45**		**Pn**	**02 16 38.9**	**+0.9**
AUL	**Augustine Lava**	**0.84**	**45**		**Pn**	**02 16 38.9**	**+0.8**
AU22	**Augustine Moun**	**0.86**	**47**		**Pn**	**02 16 39.0**	**+0.8**
CNTC	**Contact Creek**	**0.86**	**233**		**Pn**	**02 16 38.1**	**-0.3**
CNTC					**Sn**	**02 16 53.5**	**-1.2**
Q17K	**Contact Creek**	**0.86**	**233**	P	**Pn**	**02 16 38.1**	**-0.3**
	baz=52						
Q17K				S	**Sn**	**02 16 53.5**	**-1.2**
	baz=52						
P17K	**Kvichak River**	**1.04**	**294**		**Pn**	**02 16 39.8**	**-0.1**
P17K					**Sn**	**02 16 56.7**	**-0.6**
P17K	**Kvichak River**	**1.04**	**294**	P	**Pn**	**02 16 39.8**	**-0.1**
	baz=114						
P17K				S	**Sn**	**02 16 56.7**	**-0.6**
	baz=114						
Q16K	**King Salmon**	**1.08**	**265**		**Pn**	**02 16 39.8**	**-0.4**
Q16K	**King Salmon**	**1.08**	**265**	P	**Pn**	**02 16 39.8**	**-0.4**
	baz=85						
P19K	**Oil Pt**	**1.11**	**38**		**Pn**	**02 16 41.4**	**+0.8**
P19K					**Sn**	**02 16 59.5**	**+0.9**
P19K	**Oil Pt**	**1.11**	**38**	IAML		02 17 00.2	
	comp=E,1μm,0.7s						
P19K				IAML		02 17 00.6	
	comp=N,1μm,0.6s						
P19K	**Oil Pt**	**1.11**	**38**	P	**Pn**	**02 16 41.4**	**+0.8**
	baz=219						
P19K				S	**Sn**	**02 16 59.5**	**+0.9**
	baz=219						
O18K	**Koktuh Hills**	**1.11**	**344**	Pn	**Pn**	**02 16 40.4**	**-0.2**
O18K				IAML		02 16 58.8	
	comp=N,206nm,0.9s						
O18K	**Koktuh Hills**	**1.11**	**344**		**Sn**	**02 16 58.1**	**-0.6**
O18K	**Koktuh Hills**	**1.11**	**344**	P	**Pn**	**02 16 40.5**	**-0.2**
	baz=165						
O18K				S	**Sn**	**02 16 58.1**	**-0.6**
	baz=165						
Q20K	**Shuyak Island**	**1.16**	**98**	P	**Pn**	**02 16 41.5**	**+0.5**
	baz=278						
SYI	**Shuyak Island**	**1.16**	**98**		**Pn**	**02 16 41.5**	**+0.5**
SYI	**Shuyak Island**	**1.16**	**98**	IAML		02 17 00.8	
	comp=N,238nm,0.3s						
SYI				IAML		02 17 00.8	
	comp=E,369nm,0.7s						
R18K	**Karluk**	**1.23**	**177**		**Pn**	**02 16 41.0**	**-0.7**
R18K	**Karluk**	**1.23**	**177**	P	**Pn**	**02 16 41.1**	**-0.6**
	baz=356						
ILSW	**Iliamna Southw**	**1.41**	**31**		**Pn**	**02 16 44.4**	**+0.6**
ILSW				IAML		02 17 05.5	
	comp=E,217nm,1.3s						
ILSW				IAML		02 17 05.6	
	comp=N,221nm,1.2s						
ILSW	**Iliamna Southw**	**1.41**	**31**		**Sn**	**02 17 04.3**	**0.0**
PLK3	**Peulik 3**	**1.42**	**220**		**Pn**	**02 16 43.9**	**0.0**
PLK1	**Peulik 1**	**1.46**	**228**		**Pn**	**02 16 44.4**	**+0.2**
KDAK	**Kodiak Island**	**1.46**	**133**	Pn	**Pn**	**02 16 43.9**	**-0.4**
KDAK				IAML		02 17 05.4	
	comp=N,505nm,0.3s						
KDAK				IAML		02 17 06.3	
	comp=N,663nm,0.4s						
KDAK	**Kodiak Island**	**1.46**	**133**	P	**Pn**	**02 16 43.9**	**-0.4**
	comp=N,105nm,0.3s,baz=19,slow=2.0,SNR=844						
KDAK				S	**Sn**	**02 17 04.0**	**-1.2**
	comp=N,188nm,0.3s,baz=234,slow=23,SNR=41						
IVE	**Iliamna Volcan**	**1.47**	**32**		**Pn**	**02 16 45.2**	**+0.7**
PLK4	**Peulik 4**	**1.49**	**220**		**Pn**	**02 16 44.8**	**0.0**
R17L	**Mt. Peulik Vol**	**1.49**	**220**	P	**Pn**	**02 16 44.4**	**-0.3**
	baz=38						
O17K	**Koliganek Bris**	**1.62**	**309**		**Pn**	**02 16 46.0**	**0.0**
O17K	**Koliganek Bris**	**1.62**	**309**	P	**Pn**	**02 16 46.0**	**0.0**
	baz=129						
O20K	**Slope Mountain**	**1.64**	**37**		**Pn**	**02 16 47.3**	**+0.9**
O20K	**Slope Mountain**	**1.64**	**37**	P	**Pn**	**02 16 47.3**	**+0.9**
	baz=219						
OHAK	**Old Harbor**	**1.72**	**156**	P	**Pn**	**02 16 47.1**	**-0.1**
OHAK	**Old Harbor**	**1.72**	**156**	Pn	**Pn**	**02 16 46.7**	**-0.6**
OHAK				IAML		02 17 09.5	
	comp=N,517nm,0.2s						
OHAK				IAML		02 17 10.9	
	comp=E,306nm,0.1s						
OHAK	**Old Harbor**	**1.72**	**156**	P	**Pn**	**02 16 46.6**	**-0.6**
	baz=336						
P16K	**Nushagak River**	**1.78**	**279**		**Pn**	**02 16 48.1**	**+0.1**
P16K	**Nushagak River**	**1.78**	**279**	P	**Pn**	**02 16 48.1**	**+0.1**
	baz=97						
RED	**Redoubt Volcan**	**1.88**	**29**		**Pn**	**02 16 50.0**	**+0.8**
CNPM	**China Poot**	**1.88**	**65**		**Pn**	**02 16 49.7**	**+0.5**
RDSO	**Redoubt South**	**1.91**	**29**		**Pn**	**02 16 50.5**	**+0.8**
RSO	**Redoubt South**	**1.92**	**28**		**Pn**	**02 16 50.7**	**+0.9**
RDWB	**Redoubt West**	**1.92**	**27**		**Pn**	**02 16 50.5**	**+0.7**
NCT	**North Crescent**	**1.96**	**25**		**Pn**	**02 16 51.0**	**+0.8**
O16K	**Kokwok River B**	**1.98**	**296**		**Pn**	**02 16 50.3**	**0.0**
O16K	**Kokwok River B**	**1.98**	**296**	IAML		02 17 16.3	
	comp=N,67nm,0.7s						
O16K	**Kokwok River B**	**1.98**	**296**	P	**Pn**	**02 16 50.2**	**0.0**
	baz=114						
N18K	**Kilae Creek**	**2.01**	**341**		**Pn**	**02 16 51.1**	**+0.4**
N18K	**Kilae Creek**	**2.01**	**341**	P	**Pn**	**02 16 51.0**	**+0.4**
	baz=161						
N19K	**Bonanza Creek**	**2.03**	**1**		**Pn**	**02 16 51.7**	**+0.7**
N19K	**Bonanza Creek**	**2.03**	**1**	P	**Pn**	**02 16 51.8**	**+0.7**
	baz=182						
RDT	**Redoubt**	**2.10**	**31**		**Pn**	**02 16 52.5**	**+0.6**
BRLK	**Bradley Lake**	**2.14**	**61**		**Pn**	**02 16 53.6**	**+1.3**
BRLK				IAML		02 17 19.3	
	comp=N,411nm,0.3s						
BRLK				IAML		02 17 21.6	
	comp=E,442nm,0.4s						
N17K	**Nushagak Hills**	**2.19**	**324**		**Pn**	**02 16 53.4**	**+0.5**
N17K				IAML		02 17 20.7	
	comp=E,84nm,0.6s						
N17K				IAML		02 17 20.8	
	comp=N,83nm,0.8s						
N17K	**Nushagak Hills**	**2.19**	**324**	P	**Pn**	**02 16 53.3**	**+0.5**
	baz=143						
BRSE	**Bradley Lake S**	**2.19**	**63**		**Pn**	**02 16 53.0**	**0.0**
BRSE	**Bradley Lake S**	**2.19**	**63**	P	**Pn**	**02 16 53.0**	**0.0**
	baz=245						
SII	**Sitkinak Islan**	**2.25**	**174**	P	**Pn**	**02 16 53.2**	**-0.5**
SII	**Sitkinak Islan**	**2.25**	**174**		**Pn**	**02 16 53.2**	**-0.5**
SII	**Sitkinak Islan**	**2.25**	**174**	IAML		02 17 28.9	
	comp=E,410nm,0.8s						
SII	**Sitkinak Islan**	**2.25**	**174**	P	**Pn**	**02 16 53.2**	**-0.5**
	baz=354						
SVW2	**Sparrevohn**	**2.37**	**348**	P	**Pn**	**02 16 55.7**	**+0.5**
SVW2	**Sparrevohn**	**2.37**	**348**		**Pn**	**02 16 55.6**	**+0.5**
SVW2	**Sparrevohn**	**2.37**	**348**	IAML		02 17 55.1	
	comp=N,64nm,0.8s						
N20K	**Mount Spurr**	**2.70**	**25**	P	**Pn**	**02 17 00.3**	**+0.9**
	baz=208						
SPCR	**Spurr Chakacha**	**2.70**	**25**		**Pn**	**02 17 00.3**	**+0.9**
N16K	**Nishlik Lake**	**2.71**	**310**		**Pn**	**02 16 60.0**	**+0.4**
N16K	**Nishlik Lake**	**2.71**	**310**	P	**Pn**	**02 16 60.0**	**+0.4**
	baz=128						
SPBG	**Spurr Blockage**	**2.71**	**23**		**Pn**	**02 17 00.8**	**+1.1**
SPU	**Mount Spurr**	**2.71**	**27**		**Pn**	**02 17 00.5**	**+0.8**
O15K	**Ungalikthiuk R**	**2.74**	**280**		**Pn**	**02 17 00.1**	**+0.2**
O15K	**Ungalikthiuk R**	**2.74**	**280**	P	**Pn**	**02 17 00.1**	**+0.2**
	baz=97						
SPNN	**North Nagishla**	**2.75**	**19**		**Pn**	**02 17 01.1**	**+0.8**
SPCP	**Crater Peak Br**	**2.77**	**25**		**Pn**	**02 17 01.2**	**+0.8**
M18K	**Stony River**	**2.78**	**348**		**Pn**	**02 17 01.1**	**+0.7**
M18K	**Stony River**	**2.78**	**348**	P	**Pn**	**02 17 01.1**	**+0.7**
	baz=167						
SLKM	**Skilak Lake**	**2.81**	**50**		**Pn**	**02 17 01.1**	**+0.3**
SPCG	**Spurr Capps Gl**	**2.82**	**26**		**Pn**	**02 17 01.5**	**+0.5**
SEW	**Seward**	**2.93**	**61**		**Pn**	**02 17 03.1**	**+0.8**
SEW	**Seward**	**2.93**	**61**	P	**Pn**	**02 17 03.1**	**+0.8**
	baz=245						
M17K	**Holitna River**	**2.98**	**333**		**Pn**	**02 17 03.7**	**+0.6**
M17K	**Holitna River**	**2.98**	**333**	IAML		02 17 40.1	
	comp=N,120nm,0.9s						
M17K				IAML		02 17 41.6	
	comp=E,75nm,1.1s						
M17K	**Holitna River**	**2.98**	**333**	P	**Pn**	**02 17 03.7**	**+0.6**
	baz=151						
CHIR	**Chirikof Islan**	**3.03**	**191**		**Pn**	**02 17 02.7**	**-1.0**
CHIR	**Chirikof Islan**	**3.03**	**191**	IAML		02 17 38.4	
	comp=E,137nm,0.6s						
CHIR				IAML		02 17 38.7	
	comp=N,168nm,0.5s						
CHIR	**Chirikof Islan**	**3.03**	**191**	P	**Pn**	**02 17 02.7**	**-1.0**
	baz=9.9						
STLK	**Strandline Lak**	**3.05**	**26**		**Pn**	**02 17 04.9**	**+1.0**
M19K	**Big River Lodg**	**3.12**	**2**		**Pn**	**02 17 05.8**	**+0.8**
M19K	**Big River Lodg**	**3.12**	**2**	P	**Pn**	**02 17 05.7**	**+0.8**
	baz=182						
N15K	**Kwethluk River**	**3.13**	**299**		**Pn**	**02 17 05.9**	**+0.9**
N15K	**Kwethluk River**	**3.13**	**299**	IAML		02 17 43.4	
	comp=N,42nm,0.9s						
N15K				IAML		02 17 60.0	
	comp=E,51nm,0.7s						
N15K	**Kwethluk River**	**3.13**	**299**	P	**Pn**	**02 17 05.7**	**+0.7**
	baz=114						
M16K	**Timber Creek**	**3.14**	**317**		**Pn**	**02 17 05.3**	**+0.2**
M16K	**Timber Creek**	**3.14**	**317**	IAML		02 17 42.6	
	comp=N,28nm,1.1s						
M16K	**Timber Creek**	**3.14**	**317**	P	**Pn**	**02 17 05.3**	**+0.2**
	baz=134						
M20K	**Styx River**	**3.19**	**13**		**Pn**	**02 17 06.7**	**+1.0**
M20K	**Styx River**	**3.19**	**13**	P	**Pn**	**02 17 06.4**	**+0.6**
	baz=194						
FIS	**Fire Island**	**3.22**	**41**		**Pn**	**02 17 07.8**	**+1.7**
FIS	**Fire Island**	**3.22**	**41**	IAML		02 17 48.0	
	comp=N,150nm,0.3s						
FIS				IAML		02 17 55.1	
	comp=E,185nm,0.8s						
CHGN	**Chignik**	**3.24**	**221**	Pn	**Pn**	**02 17 06.1**	**-0.3**
CHGN				IAML		02 17 43.9	
	comp=E,106nm,0.1s						
CHGN				IAML		02 17 45.6	
	comp=N,74nm,0.1s						
SUA	**Susitna One**	**3.30**	**34**		**Pn**	**02 17 08.0**	**+0.7**
SUA				IAML		02 17 46.7	
	comp=E,167nm,0.6s						
SUA				IAML		02 17 47.9	
	comp=N,134nm,0.5s						
SUA	**Susitna One**	**3.30**	**34**	P	**Pn**	**02 17 07.9**	**+0.6**
	baz=217						
RC01	**Rabbit Creek A**	**3.36**	**45**	Pn	**Pn**	**02 17 08.2**	**+0.3**
RC01				IAML		02 17 48.6	
	comp=N,164nm,0.4s						
RC01	**Rabbit Creek A**	**3.36**	**45**	P	**Pn**	**02 17 08.2**	**+0.3**
	baz=229						
L19K	**White Mountain**	**3.41**	**358**		**Pn**	**02 17 09.5**	**+0.9**
L19K	**White Mountain**	**3.41**	**358**	P	**Pn**	**02 17 09.2**	**+0.6**
	baz=178						
O14K	**Tigyukauivet M**	**3.48**	**280**		**Pn**	**02 17 09.7**	**+0.1**
O14K	**Tigyukauivet M**	**3.48**	**280**	P	**Pn**	**02 17 09.7**	**+0.1**
	baz=95						
SKT	**Skwentna**	**3.54**	**24**		**Pn**	**02 17 11.1**	**+0.7**
SKT				IAML		02 17 55.8	
	comp=N,37nm,0.4s						
SKT				IAML		02 18 00.8	
	comp=E,41nm,0.3s						
SKT	**Skwentna**	**3.54**	**24**	P	**Pn**	**02 17 11.0**	**+0.7**
	baz=207						
VNHG	**Veniaminof 1**	**3.57**	**226**		**Pn**	**02 17 11.4**	**+0.5**
L18K	**Granite Mounta**	**3.59**	**344**		**Pn**	**02 17 11.6**	**+0.6**
L18K	**Granite Mounta**	**3.59**	**344**	P	**Pn**	**02 17 11.6**	**+0.6**
	baz=163						
M15K	**Kasigluk River**	**3.63**	**304**		**Pn**	**02 17 12.1**	**+0.5**
M15K	**Kasigluk River**	**3.63**	**304**	P	**Pn**	**02 17 11.9**	**+0.3**
	baz=120						
M22K	**Wilow**	**3.71**	**35**		**Pn**	**02 17 12.5**	**-0.1**
M22K	**Willow**	**3.71**	**35**	P	**Pn**	**02 17 12.5**	**-0.1**
	baz=219						
L20K	**Farewell, AK**	**3.72**	**5**		**Pn**	**02 17 13.6**	**+0.9**
L20K	**Farewell, AK**	**3.72**	**5**	P	**Pn**	**02 17 13.3**	**+0.6**
	baz=186						
N14K	**Kuskokwak Cree**	**3.81**	**290**		**Pn**	**02 17 14.3**	**+0.5**
N14K	**Kuskokwak Cree**	**3.81**	**290**	P	**Pn**	**02 17 14.3**	**+0.5**
	baz=105						
L16K	**Owhat River**	**3.81**	**322**		**Pn**	**02 17 14.3**	**+0.5**
L16K	**Owhat River**	**3.81**	**322**	IAML		02 18 11.7	
	comp=E,23nm,0.9s						
L16K	**Owhat River**	**3.81**	**322**	P	**Pn**	**02 17 14.3**	**+0.5**
	baz=139						
L17K	**Donlin**	**3.82**	**333**		**Pn**	**02 17 14.6**	**+0.5**
L17K	**Donlin**	**3.82**	**333**	P	**Pn**	**02 17 14.6**	**+0.5**
	baz=150						
P23K	**Montague Islan**	**3.87**	**69**		**Pn**	**02 17 14.9**	**+0.3**
P23K	**Montague Islan**	**3.87**	**69**	P	**Pn**	**02 17 14.9**	**+0.3**
	baz=255						
PMR	**Palmer**	**3.91**	**42**	P	**Pn**	**02 17 15.1**	**-0.1**
PMR	**Palmer**	**3.91**	**42**		**Pn**	**02 17 14.4**	**-0.8**
PMR	**Palmer**	**3.91**	**42**	IAML		02 17 59.6	
	comp=E,73nm,0.4s						
PMR				IAML		02 17 59.9	
	comp=N,56nm,0.4s						
PMR	**Palmer**	**3.91**	**42**	P	**Pn**	**02 17 14.4**	**-0.8**
	baz=226						
KNK	**Knik Glacier**	**4.04**	**47**		**Pn**	**02 17 16.4**	**-0.6**
KNK	**Knik Glacier**	**4.04**	**47**	P	**Pn**	**02 17 16.2**	**-0.8**
	baz=232						
GHO	**Glory Hole Cre**	**4.11**	**41**		**Pn**	**02 17 17.0**	**-0.9**
CUT	**Chulitna**	**4.20**	**29**		**Pn**	**02 17 19.6**	**+0.5**
CUT	**Chulitna**	**4.20**	**29**	IAML		02 18 07.4	
	comp=E,90nm,0.3s						
CUT				IAML		02 18 11.7	
	comp=N,74nm,0.4s						
CUT	**Chulitna**	**4.20**	**29**	P	**Pn**	**02 17 19.8**	**+0.7**
	baz=212						
M14K	**Bethel**	**4.21**	**301**		**Pn**	**02 17 20.1**	**+0.9**
M14K				IAML		02 18 28.6	
	comp=E,13nm,2.0s						
M14K				IAML		02 18 37.4	
	comp=N,12nm,2.4s						
PPLA	**Purkeypile**	**4.28**	**15**		**Pn**	**02 17 21.7**	**+1.4**
PPLA	**Purkeypile**	**4.28**	**15**	P	**Pn**	**02 17 21.7**	**+1.4**
	baz=197						
Q23K	**Middleton Isla**	**4.29**	**78**		**Pn**	**02 17 20.7**	**+0.4**
Q23K	**Middleton Isla**	**4.29**	**78**	P	**Pn**	**02 17 20.7**	**+0.4**
	baz=265						
MID	**Middleton Isla**	**4.30**	**78**	P	**Pn**	**02 17 20.9**	**+0.5**
MID	**Middleton Isla**	**4.30**	**78**		**Pn**	**02 17 20.8**	**+0.4**
GLI	**Glacier Island**	**4.32**	**58**		**Pn**	**02 17 19.7**	**-1.0**
GLI	**Glacier Island**	**4.32**	**58**	P	**Pn**	**02 17 19.9**	**-0.8**
	baz=244						
K17K	**Iditarod**	**4.34**	**337**		**Pn**	**02 17 21.8**	**+0.9**
K17K	**Iditarod**	**4.34**	**337**	IAML		02 18 26.5	
	comp=E,15nm,1.4s						
K17K				IAML		02 18 34.1	
	comp=N,12nm,1.7s						
K17K	**Iditarod**	**4.34**	**337**	P	**Pn**	**02 17 21.5**	**+0.6**
	baz=154						
SML	**Sawmill**	**4.34**	**43**		**Pn**	**02 17 20.3**	**-0.7**
SML				IAML		02 18 11.1	
	comp=N,56nm,0.6s						
SML				IAML		02 18 15.3	
	comp=E,60nm,0.8s						
SML	**Sawmill**	**4.34**	**43**	P	**Pn**	**02 17 20.3**	**-0.7**
	baz=228						
HIN	**Hinchinbrook I**	**4.41**	**65**		**Pn**	**02 17 22.1**	**+0.1**
FID	**Port Fidalgo**	**4.54**	**61**		**Pn**	**02 17 22.6**	**-1.1**
M23K	**Glacier View**	**4.55**	**46**		**Pn**	**02 17 23.3**	**-0.5**
M23K	**Glacier View**	**4.55**	**46**	P	**Pn**	**02 17 23.3**	**-0.5**
	baz=232						
K20K	**Telida**	**4.59**	**3**		**Pn**	**02 17 24.5**	**+0.2**
K20K	**Telida**	**4.59**	**3**	P	**Pn**	**02 17 24.5**	**+0.2**
	baz=184						
SCM	**Sheep Creek Mo**	**4.73**	**47**		**Pn**	**02 17 25.8**	**-0.4**
SCM	**Sheep Creek Mo**	**4.73**	**47**	P	**Pn**	**02 17 25.7**	**-0.4**
	baz=233						
M13K	**Dall Lake**	**4.74**	**294**		**Pn**	**02 17 26.5**	**+0.3**
M13K	**Dall Lake**	**4.74**	**294**	IAML		02 18 33.8	
	comp=E,21nm,2.3s						
M13K				IAML		02 20 40.4	
	comp=N,18nm,2.8s						
M13K	**Dall Lake**	**4.74**	**294**	P	**Pn**	**02 17 26.5**	**+0.3**
	baz=107						
L14K	**Kuka Creek**	**4.79**	**306**		**Pn**	**02 17 27.9**	**+0.9**
L14K	**Kuka Creek**	**4.79**	**306**	IAML		02 18 38.4	
	comp=E,12nm,1.1s						
L14K				IAML		02 18 43.8	
	comp=N,12nm,1.0s						
L14K	**Kuka Creek**	**4.79**	**306**	P	**Pn**	**02 17 27.7**	**+0.7**
	baz=119						
CAST	**Castle Rocks**	**4.80**	**14**		**Pn**	**02 17 27.7**	**+0.6**
CAST	**Castle Rocks**	**4.80**	**14**	P	**Pn**	**02 17 27.5**	**+0.4**
	baz=196						
J18K	**Innoko River**	**4.80**	**349**		**Pn**	**02 17 27.8**	**+0.7**
J18K	**Innoko River**	**4.80**	**349**	P	**Pn**	**02 17 27.8**	**+0.7**
	baz=167						
EYAK	**Cordova Ski Ar**	**4.81**	**65**	P	**Pn**	**02 17 28.0**	**+0.8**
EYAK	**Cordova Ski Ar**	**4.81**	**65**		**Pn**	**02 17 27.2**	**-0.1**
EYAK	**Cordova Ski Ar**	**4.81**	**65**	P	**Pn**	**02 17 27.2**	**-0.1**
	baz=252						
CHNA	**Chernabura Isl**	**4.83**	**217**	P	**Pn**	**02 17 25.9**	**-1.6**
	baz=33						
CNBA	**Chernabura Isl**	**4.84**	**217**		**Pn**	**02 17 25.9**	**-1.7**
CNBA	**Chernabura Isl**	**4.84**	**217**	IAML		02 18 25.8	
	comp=E,23nm,0.7s						
CNBA				IAML		02 18 25.9	
	comp=N,20nm,0.8s						
WAT7	**Susitna Watana**	**4.93**	**32**		**Pn**	**02 17 28.3**	**-0.7**
DIV	**Divide**	**5.01**	**58**		**Pn**	**02 17 29.8**	**-0.2**
WAT1	**Susitna Watana**	**5.01**	**34**		**Pn**	**02 17 29.3**	**-0.7**
WAT1	**Susitna Watana**	**5.01**	**34**	P	**Pn**	**02 17 29.3**	**-0.7**
	baz=219						
WAT6	**Susitna Watana**	**5.08**	**39**		**Pn**	**02 17 30.0**	**-1.0**
WAT6	**Susitna Watana**	**5.08**	**39**	P	**Pn**	**02 17 30.0**	**-1.0**
	baz=224						
KTH	**Kantishna Hill**	**5.10**	**19**		**Pn**	**02 17 30.8**	**-0.3**
KTH	**Kantishna Hill**	**5.10**	**19**	IAML		02 18 28.4	
	comp=E,12nm,0.6s						
KTH				IAML		02 18 28.7	
	comp=N,14nm,1.0s						
KLU	**Klutina**	**5.11**	**54**		**Pn**	**02 17 31.3**	**0.0**
KLU	**Klutina**	**5.11**	**54**	P	**Pn**	**02 17 31.1**	**-0.2**
	baz=242						
J17K	**VABM Dome**	**5.11**	**337**		**Pn**	**02 17 31.8**	**+0.6**
J17K	**VABM Dome**	**5.11**	**337**	IAML		02 18 27.0	
	comp=N,6.2nm,4.5s						
J17K				IAML		02 18 56.2	
	comp=E,8.1nm,1.9s						
J17K	**VABM Dome**	**5.11**	**337**	P	**Pn**	**02 17 31.6**	**+0.4**
	baz=153						
CHUM	**Lake Minchumin**	**5.22**	**11**		**Pn**	**02 17 33.7**	**+0.9**
CHUM	**Lake Minchumin**	**5.22**	**11**	P	**Pn**	**02 17 33.5**	**+0.8**
	baz=193						
J19K	**Poorman**	**5.25**	**355**		**Pn**	**02 17 33.4**	**+0.4**
J19K	**Poorman**	**5.25**	**355**	P	**Pn**	**02 17 33.4**	**+0.4**
	baz=174						
RAGM	**Ragged Mountai**	**5.29**	**68**		**Pn**	**02 17 34.2**	**+0.6**
GOAT	**Goat Mountain**	**5.31**	**66**		**Pn**	**02 17 34.2**	**+0.3**
KAIM	**Kayak Island**	**5.33**	**73**		**Pn**	**02 17 35.1**	**+1.0**
KAIM	**Kayak Island**	**5.33**	**73**	P	**Pn**	**02 17 34.7**	**+0.6**
	baz=262						
M24K	**Tolsona, Glenn**	**5.33**	**48**		**Pn**	**02 17 34.1**	**-0.1**
M24K	**Tolsona, Glenn**	**5.33**	**48**	IAML		02 18 44.7	
	comp=N,48nm,0.7s						
M24K	**Tolsona, Glenn**	**5.33**	**48**	P	**Pn**	**02 17 34.1**	**-0.1**
	baz=235						
J16K	**Anvik River**	**5.37**	**330**		**Pn**	**02 17 35.1**	**+0.4**
J16K	**Anvik River**	**5.37**	**330**	IAML		02 18 37.6	
	comp=N,5.8nm,4.0s						
J16K	**Anvik River**	**5.37**	**330**	P	**Pn**	**02 17 34.6**	**-0.1**
	baz=145						
RND	**Reindeer**	**5.40**	**29**		**Pn**	**02 17 34.4**	**-0.8**
J20K	**Nowinta River**	**5.41**	**2**		**Pn**	**02 17 35.6**	**+0.4**
J20K	**Nowinta River**	**5.41**	**2**	P	**Pn**

MDM	Murphy Dome	6.88	23		Pn	02 17 54.0	-1.0
COLA	College	6.88	25		Pn	02 17 54.2	-0.8
L26K	Log Cabin Wild	6.93	47		Pn	02 17 56.9	+1.2
H21K	Melozitna Rive	6.94	6		Pn	02 17 56.3	+0.5
H21K	Melozitna Rive	6.94	6	P	Pn	02 17 56.3	+0.5
	baz=188						
IL31		7.02	28		Pn	02 17 55.7	-1.1
ILAR	Eielson Array	7.02	28		Pn	02 17 55.3	-1.6
ILAR	Eielson Array	7.02	28	P	Pn	02 17 55.5	-1.4
	comp=N,4.9nm,0.5s,baz=212,slow=13,SNR=64						
ILAR				S	Sn	02 19 08.2	-6.9
	comp=N,1.2nm,0.4s,baz=9.5,slow=24,SNR=8.3						
LOGN	Logan Glacier	7.15	68		Pn	02 17 59.1	+0.3
SAMH	Samovar Hills	7.16	73		Pn	02 18 00.1	+1.1
POKR	Poker Plat Res	7.18	25		Pn	02 17 58.0	-1.1
POKR	Poker Plat Res	7.18	25	P	Pn	02 17 58.4	-0.7
	baz=211						
M27K	Edge Creek, AK	7.21	55		Pn	02 18 00.7	+1.1
IMAR	Indian Mountai	7.23	3		Pn	02 18 00.3	+0.6
SCRK	Sand Creek	7.27	40		Pn	02 17 59.2	-1.2
SCRK	Sand Creek	7.27	40	P	Pn	02 17 59.2	-1.2
	baz=229						
H22K	Ishtalitna Cre	7.28	10		Pn	02 18 00.3	-0.2
H22K	Ishtalitna Cre	7.28	10	P	Pn	02 17 59.9	-0.5
	baz=193						
J25K	Salcha River,	7.29	33		Pn	02 17 59.4	-1.3
J25K	Salcha River,	7.29	33	P	Pn	02 17 58.9	-1.7
	baz=221						
G18K	Tagagawik	7.38	347		Pn	02 18 02.5	+0.8
H23K	Yukon River	7.44	16		Pn	02 18 01.8	-0.7
H23K	Yukon River	7.44	16	P	Pn	02 18 01.8	-0.7
	baz=201						
YUK2	White River	7.46	60		Pn	02 18 04.2	+1.2
G19K	Purcell Mounta	7.47	352		Pn	02 18 03.1	+0.2
O28M	Mount Upton	7.53	69		Pn	02 18 04.9	+0.9
O28M	Mount Upton	7.53	69	P	Pn	02 18 04.9	+0.9
	baz=261						
L27K	Beaver Creek,	7.54	50		Pn	02 18 05.2	+1.2
BCAR	Beaver Creek A	7.56	50		Pn	02 18 04.9	+0.7
BCPM	Bancas Point	7.73	75		Pn	02 18 06.7	+0.3
H24K	Noodor Dome	7.73	21		Pn	02 18 05.8	-0.7
H24K	Noodor Dome	7.73	21	P	Pn	02 18 05.7	-0.8
	baz=207						
J26L	Joseph Creek	7.76	38		Pn	02 18 06.4	-0.5
J26L	Joseph Creek	7.76	38	P	Pn	02 18 06.6	-0.4
	baz=228						
G21K	Allakaket	7.77	3		Pn	02 18 07.4	+0.4
G21K	Allakaket	7.77	3	P	Pn	02 18 06.9	-0.1
	baz=184						
PNL	Peninsula	7.84	77	P	Pn	02 18 09.1	+1.1
PNL	Peninsula	7.84	77		Pn	02 18 08.2	+0.2
PNL	Peninsula	7.84	77	P	Pn	02 18 08.2	+0.2
	baz=270						
PRP	Porcupine Dome	7.96	28		Pn	02 18 08.5	-1.2
PRP	Porcupine Dome	7.96	28	P	Pn	02 18 08.5	-1.2
	baz=216						
F19K	Shaleruckik Mo	8.20	351		Pn	02 18 12.7	0.0
F19K	Shaleruckik Mo	8.20	351	P	Pn	02 18 12.7	0.0
	baz=168						
G23K	Bananza Creek	8.22	13		Pn	02 18 11.9	-1.1
G23K	Bananza Creek	8.22	13	P	Pn	02 18 12.0	-1.1
	baz=197						
UNV	Unalaska Valle	8.27	238	P	Pn	02 18 13.1	-0.6
UNV	Unalaska Valle	8.27	238		Pn	02 18 12.2	-1.5
UNV	Unalaska Valle	8.27	238	P	Pn	02 18 12.2	-1.5
	baz=48						
F20K	Avaraart Lake	8.31	357		Pn	02 18 15.3	+1.2
I26K	Coal Creek Min	8.45	35		Pn	02 18 14.9	-1.1
M29M	Somme Creek	8.72	58		Pn	02 18 21.3	+1.4
SKAG	Skagway	9.92	78	P	Pn	02 18 39.7	+3.8
SIT	Sitka	10.39	91	P	Pn	02 18 44.3	+2.1
JIS	Juneau Island	10.57	84	P	Pn	02 18 47.9	+3.3
DLBC	Dease Lake	12.79	81	P	P	02 19 18.9	-0.9
	comp=N,4.2nm,0.3s,baz=267,slow=9.8,SNR=20						
ATKA	Atka Island	12.89	248	P	Pn	02 19 17.5	+2.3
INK	Inuvik	13.29	36	P	Pn	02 19 20.4	+0.1
	comp=N,1.2nm,0.5s,baz=233,slow=8.0,SNR=1.7						
ADK	Adak	14.30	251	P	P	02 19 36.4	-0.2
	comp=N,17nm,1.3s						
KLR	Kul'dur	42.21	291	P	P	02 23 56.9	+0.2
	comp=N,1.2nm,0.5s,baz=35,slow=9.8,SNR=5.6						
	comp=N,1.2nm,0.5s						
LPIG	La Paz	46.58	119	LR	LR	02 40 53.7	
	comp=N,634nm,19.7s,baz=5.5,slow=32						
SONM	Songino Array	54.84	306	P	P	02 25 34.1	+0.6
	comp=N,1.7nm,0.6s,baz=57,slow=4.6,SNR=5.7						
	comp=N,1.7nm,0.6s						
ZALV	Zalesovo Beam	57.86	323	P	P	02 25 54.7	+0.1
	comp=N,0.6nm,0.4s,baz=32,slow=8.0,SNR=2.5						
	comp=N,0.6nm,0.4s						
BVAR	Borovoye Array	62.75	331	P	P	02 26 26.9	-1.0
	comp=N,3.6nm,0.7s,baz=56,slow=4.0,SNR=20						
	comp=N,3.6nm,0.7s						

*GCG **06** 02:16:58.1±1.6, 13°.68N×92°.48W, h75km±70km, MD4.5*
*SNET **06** 02:17:02.2±1.2, 13°.85N×92°.10W, h80km±138km, ML4.1*
*MEX **06** 02:17:05.2±1.0, 14°.15N×92°.24W, h96km±23km, MD4.5*
*NEIC **06** 02:17:05.6±1.5, 13°.74N±0°.07×91°.90W±0°.08, h53km±8km, mb4.4/129, Error ellipse: s-maj=11.5km s-min=9.1km az=56.0*
*IDC **06** 02:17:07.7±2.9, 14°.05N×91°.68W, h71km±23km, mb3.7/16, mbtmp4.0/18, Error ellipse: s-maj=30.5km s-min=14.5km az=46.0*

ISC 06 02:17:04.2±1.1, 13°.86N±0°.06×92°.14W±0°.04, h42km±10km, n394, σ1°93/403, mb4.4/63, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	Suchitepequez,	0.71	52	*i* P	Pn	02 17 18.7	+0.8
RTAL	Retalhuleu	0.79	33		Pn	02 17 18.4	-0.6
RTAL				Sn	Sn	02 17 32.2	+2.6
RTAL	Retalhuleu	0.79	33	*e*P	Pn	02 17 18.3	-0.6
RTAL				*i* S	Sn	02 17 31.0	+1.4
STG3	Santiaguito 3,	1.01	33	*e*P	Pn	02 17 21.6	-0.5
THIG		1.05	353	*e*P	Pn	02 17 21.7	-0.8
THIG				*e*S	Sn	02 17 33.4	-2.5
CHUJ	Union Juarez	1.23	2	*e*P	Pn	02 17 23.2	-2.0
CHUJ				*e*S	Sn	02 17 38.5	-2.2
PATR	El Naranjo	1.25	356	*e*P	Pn	02 17 23.7	-1.8
PATR				*e*S	Sn	02 17 38.0	-3.3
PAVE	Pavencul	1.33	359	*e*P	Pn	02 17 24.9	-1.6
PAVE				*e*S	Sn	02 17 40.2	-2.8
FUG	Fuego 3	1.39	65	*e*P	Pn	02 17 26.6	-0.7
PCG	Pacaya	1.58	70	*e*P	Pn	02 17 29.4	-0.6
NBG	Las Nubes	1.89	67	*e*P	Pn	02 17 35.2	+1.0
NBG				*e*S	Sn	02 18 02.9	+6.0
PCIG		2.11	331	*e*P	Pn	02 17 35.6	-1.4
PCIG				*e*S	Sn	02 17 53.3	-8.7
NUBE	Las Nubes	2.29	89	*e*P	Pn	02 17 37.9	-1.8
NUBE				IAML		02 18 09.1	
	comp=Z,437nm,0.4s						
CCIG	Comitan	2.41	0	Pn	Pn	02 17 44.1	+2.8
CCIG	Comitan	2.41	0	*e*	Pn	02 17 44.2	+2.8
CCIG				*e*		02 18 16.8	
RTR	El Retiro	2.42	89	*e*P	Pn	02 17 41.0	-0.6
CEVE	Cerro Verde	2.45	90	*e*P	Pn	02 17 40.5	-1.4
CEVE				*e*S	Sn	02 18 10.8	+0.1
JAYA	Jayaque - finc	2.62	94	*e*P	Pn	02 17 42.1	-2.1
JAYA				IAML		02 18 23.1	
	comp=Z,948nm,0.2s						
MRL	Marmol	2.67	63	*e*P	Pn	02 17 45.8	+0.8
MTO3	Montecristo	2.75	78	Pn	Pn	02 17 44.4	-1.6
MTO3	Montecristo	2.75	78	*e*P	Pn	02 17 44.6	-1.5
PMON	Piamonte	2.75	93	*e*P	Pn	02 17 45.1	-0.9
LALI	Alcalda de L	2.77	97	*e*P	Pn	02 17 43.7	-2.3
BOQS	Boqueron	2.78	92	*e*P	Pn	02 17 44.3	-2.2
ESQI	Esquipulas	2.80	75	Pn	Pn	02 17 45.3	-1.4
SNET	Serv Nac Est T	2.83	93	Pn	Pn	02 17 45.5	-1.5
LOMA	Loma Larga	2.90	94	*i* P	Pn	02 17 46.0	-1.9
LOMA				IAML		02 18 29.1	
	comp=Z,675nm,0.3s						
CARR	Arriaga	2.92	324	*e*P	Pn	02 17 49.0	+0.7
CARR				*e*S	Sn	02 18 21.7	-0.5
LFRS	El Faro	3.00	94	*e*P	Pn	02 17 48.1	-1.3
TGIG		3.05	342	*e*P	Pn	02 17 50.2	+0.2
TGIG				*e*S	Sn	02 18 23.4	-2.0
COEG	Centro de Oper	3.18	94	*e*P	Pn	02 17 50.9	-0.9
COEG				IAML		02 18 42.5	
	comp=Z,511nm,0.5s						
PETF	Flores	3.75	36	Pn	Pn	02 18 00.2	+0.6
INTP	Intipuca	4.03	99	*e*P	Pn	02 18 01.7	-1.8
CMIG	Matias Romero	4.16	321	P	Pn	02 18 05.3	+0.1
	comp=Z,22nm,0.3s,baz=141,slow=11,SNR=29						
CMIG				S	Sn	02 18 53.1	+0.5
	comp=Z,42nm,0.3s,baz=100,slow=12,SNR=4.6						
CMIG	Matias Romero	4.16	321	*e*P	Pn	02 18 04.8	-0.4
CMIG				*e*S	Sn	02 18 53.6	+1.0
HUIG	Huatulco	4.28	297	*e*P	Pn	02 18 05.8	-1.0
HUIG				*e*S	Sn	02 18 49.0	-6.6
TGUH	Tegucigalpa,Un	4.73	87	Pn	Pn	02 18 10.2	-3.0
CRIN	San Cristobal	5.09	103	Pn	Pn	02 18 17.8	-0.3
SCIG	Sabancuy	5.16	10	*e*P	Pn	02 18 19.8	+0.8
SCIG				*e*S	Sn	02 19 19.2	+2.0
NEUV	Arroyo Zacate	5.20	318	*e*P	Pn	02 18 20.3	+0.8
NEUV				*i* S	Sn	02 19 12.8	-5.5
PEIG	Puerto Escondi	5.28	294	*e*P	Pn	02 18 19.6	-1.1
PEIG				*e*S	Sn	02 19 15.8	-4.6
VHO	Vista Hermosa	5.46	306	*e*P	Pn	02 18 24.5	+1.2
VHO				*e*S	Sn	02 19 25.8	+0.8
PMUV	Sontecomapan	5.47	329	*e*	Sn	02 19 15.3	-10
CNGN	Cerro Negro	5.47	104	Pn	Pn	02 18 20.6	-2.7
YOIG	Yosondua	6.00	300	*e*P	Pn	02 18 32.4	+1.6
YOIG				*e*S	Sn	02 19 40.1	+1.6
PNIG	Pinotepa	6.30	294	*e*P	Pn	02 18 34.0	-0.7
PNIG				*e*S	Sn	02 19 38.2	-7.3
TOIG	Toxpalan	6.34	312	*e*P	Pn	02 18 37.7	+2.5
TOIG				*e*S	Sn	02 19 46.4	0.0
TXIG	Tlaxiaco	6.38	303	*e*P	Pn	02 18 37.8	+1.7
TXIG				*e*S	Sn	02 19 43.6	-4.3
BOAB	BOACO BROADBAN	6.46	102		Pn	02 18 36.3	-0.6
HLIG	Huajuapan de L	6.73	307	*e*	Pn	02 18 45.2	+4.6
HLIG				*e*		02 20 00.2	
TPIG	Tehuac#an	6.76	313	*e*	Pn	02 18 45.6	+4.5
TPIG				*e*		02 20 12.0	
FTIG	Fresnillo de T	7.03	306	*e*P	Pn	02 18 46.6	+1.8
FTIG				*e*S	Sn	02 20 03.6	+0.1
JAUV	Jalcomulco	7.07	321	*e*P	Pn	02 18 43.9	-1.3
JAUV				*e*S	Sn	02 20 02.8	-1.6
MGIG	Malinaltepec	7.10	299	*e*P	Pn	02 18 46.8	+1.1
MGIG				*e*S	Sn	02 20 07.5	+2.2
TLIG	Tlapa	7.20	302	Pn	Pn	02 18 49.1	+2.1
TLIG	Tlapa	7.20	302	*e*P	Pn	02 18 49.2	+2.1
TLIG				*e*S	Sn	02 20 07.0	-0.7
CRIG	Cruz Grande	7.33	294	*e*P	Pn	02 18 49.4	+0.7
CRIG				*e*S	Sn	02 19 57.3	-13
TEIG	Tepich	7.33	30	Pn	Pn	02 18 49.6	+0.8
TEIG	Tepich	7.33	30	P	Pn	02 18 48.7	0.0
	comp=Z,82nm,0.3s,baz=248,slow=1.4,SNR=169						
TEIG				S	Sn	02 20 02.6	-8.1
	comp=Z,29nm,0.7s,baz=41,slow=19,SNR=0.9						
JTS	Las Juntas de	7.88	116	P	Pn	02 18 55.3	-1.0
	comp=Z,2.8nm,0.3s,baz=101,slow=23,SNR=7.1						
JTS				S	Sn	02 20 19.0	-5.2
	comp=Z,2.2nm,0.3s,baz=294,slow=19,SNR=0.8						
DAIG	Los Arroyos	7.89	294	*e*P	Pn	02 18 57.3	+0.8
DAIG				*e*S	Sn	02 20 14.1	-10
PPM	Popocatepetl	8.09	311	*e*P	Pn	02 19 04.3	+4.6
PPM				*e*S	Sn	02 20 27.7	-2.5
MEIG	Mezcala	8.25	300	*e*P	Pn	02 19 03.6	+2.1
MEIG				*e*S	Sn	02 20 30.2	-3.3
YAIG	Yautepec	8.30	308	*e*P	Pn	02 19 04.8	+2.5
YAIG				*e*S	Sn	02 20 28.4	-6.5
PLIG	Platanillo	8.39	303	*e*	Pn	02 19 06.3	+3.0
PLIG				*e*		02 20 44.5	
LCR2	La Lucha 2	8.96	116		Pn	02 19 11.6	+0.3
ARIG	Puente Sto Nin	9.03	300	*e*P	Pn	02 19 14.7	+2.6
ARIG				*e*S	Sn	02 20 49.1	-3.4
833A	Chaparral WMA,	15.89	336	P	P	02 20 47.3	-0.9
	baz=153						
DWPF	Disney Wildern	17.33	33	P	P	02 21 03.6	-0.4
	baz=216						
DRIO	Del Rio	17.36	334	P	P	02 21 05.8	+1.3
BRAL	Brewton	17.85	14	P	P	02 21 10.9	+1.1
	baz=196						
SAND	Sanderson	18.48	332	P	Pn	02 21 19.3	+2.1
WHTX	Lake Whitney,	18.69	346	P	Pn	02 21 21.5	+1.8
	baz=163						
TXAR	Lajitas Array	18.74	327	P	Pn	02 21 21.4	+1.0
	comp=Z,11nm,1.1s,baz=154,slow=8.6,SNR=23						
OZNA	Ozona	18.89	336	P	Pn	02 21 23.5	+1.3
TIGA	Tifton	19.18	23	P	Pn	02 21 25.1	-0.4
	baz=205						
FW07	Weatherford	19.45	346	P	Pn	02 21 28.2	-0.6
FW07				IAmb	IAmb	02 21 35.3	
	comp=Z,17nm,0.6s						
ALPN	Alpine	19.56	329	P	Pn	02 21 31.8	+1.5
Z47A	Carrollton	19.61	10	P	Pn	02 21 30.1	-0.5
Z47A				IAmb	IAmb	02 21 32.9	
	comp=Z,23nm,0.7s						
LRAL	Lakeview Retre	19.66	13	P	Pn	02 21 31.9	+0.7
LRAL	Lakeview Retre	19.66	13	P	Pn	02 21 31.0	-0.2
	baz=194						
PLPT	Palo Pinto	19.69	344	P	P	02 21 30.8	+0.9
WLAR	White Oak Lake	19.76	358	IAmb	IAmb	02 21 38.1	
	comp=Z,21nm,1.1s						
SGCY	Sterling City	19.77	337	P	Pn	02 21 32.2	-0.4
SGCY				IAmb	IAmb	02 21 33.3	
	comp=Z,14nm,0.6s						
FW03	Perrin-Whitt E	19.84	345	IAmb	IAmb	02 21 39.8	
	comp=Z,12nm,0.7s						
ABTX	Abilene, Hawle	19.89	341	P	Pn	02 21 34.8	+0.7
	baz=158,SNR=6.4						
152A	Waverly Hall	19.91	19	P	P	02 21 32.4	0.0
152A				IAmb	IAmb	02 21 38.2	
	comp=Z,12nm,0.8s						
MNHN	Monahans	19.95	332	P	Pn	02 21 34.7	0.0
MNHN				IAmb	IAmb	02 21 38.4	
	comp=Z,23nm,0.8s						
PECS	Pecos	20.49	330	P	Pn	02 21 40.5	-0.7
ODSA	Odessa	20.52	334	P	P	02 21 40.2	+1.1
ODSA				IAmb	IAmb	02 21 41.6	
	comp=Z,16nm,0.7s						
VHRN	Van Horn	20.58	327	P	Pn	02 21 41.7	-0.6
MIAR	Mount Ida	20.64	357	P	P	02 21 40.2	0.0
MIAR	Mount Ida	20.64	357	P	P	02 21 41.6	+1.3
	baz=176						
APMT	Aspermont	20.70	341	P	P	02 21 41.7	+0.8
APMT				IAmb	IAmb	02 21 43.0	
	comp=Z,12nm,0.7s						
OXF	Oxford	20.71	6	P	P	02 21 42.2	+1.2
	baz=187						
POST	Post	20.94	338	IAmb	IAmb	02 21 45.5	
	comp=Z,18nm,0.8s						
GOGA	Godfrey	21.00	21	P	P	02 21 44.0	-0.2
	baz=204						
X48A	Hartselle	21.02	12	P	P	02 21 45.5	+1.2
DKNS	Dickens	21.27	339	P	P	02 21 48.5	+1.3
FPAL	Fort Paine	21.42	15	IAmb	IAmb	02 22 11.0	
	comp=Z,10nm,0.8s						
MNTX	Cornudas Mount	21.51	328	P	P	02 21 51.5	+1.9
	baz=142,SNR=12						
W35A	Tecumseh	21.63	349	IAmb	IAmb	02 21 51.9	
	comp=Z,14nm,0.6s						
WMOK	Wichita Mounta	21.64	345	P	P	02 21 51.8	+0.8
WMOK	Wichita Mounta	21.64	345	P	P	02 21 52.3	+1.3
	baz=162						
SWET	Sewanee	21.99	14	IAmb	IAmb	02 21 56.6	
	comp=Z,11nm,0.7s						
MSTX	Muleshoe	22.22	336	P	P	02 21 58.1	+0.7
	baz=152,SNR=5.2						
OK029	Liberty Lake	22.36	349	IAmb	IAmb	02 21 59.2	
	comp=Z,15nm,0.8s						
WVT	Waverly	22.51	9	P	P	02 22 00.2	-0.2
	baz=190						
AMTX	Amarillo	22.64	339	P	P	02 22 02.8	+0.9
	baz=155						
OK051	E0350 and S346	22.94	350	IAmb	IAmb	02 22 14.5	
	comp=Z,11nm,1.0s						
TKL	Tuckaleechee C	22.97	18	P	P	02 22 03.3	-1.9
	comp=Z,4.6nm,0.7s,baz=172,slow=8.6,SNR=9.9						
	comp=Z,4.6nm,0.7s						
U49A	Red Boiling Sp	23.27	13	IAmb	IAmb	02 22 17.5	
	comp=Z,8.9nm,0.8s						
KMSC	Kings Mountain	23.33	23	P	P	02 22 08.0	-0.7
	baz=207						
121A	Cookes Peak, D	23.44	325	P	P	02 22 11.2	+1.1
	baz=139						
TZTN	Tazewell	23.86	17	P	P	02 22 13.4	-0.4
	baz=200						
V55A	Taylorsville	24.00	22	IAmb	IAmb	02 22 15.7	
	comp=Z,8.0nm,0.7s						
CCM	Cathedral Cave	24.11	2	P	P	02 22 15.9	-0.2
	baz=182						
U54A	Nelsons Funny	24.39	20	IAmb	IAmb	02 22 19.9	
	comp=Z,6.9nm,0.6s						
RTBA	Rita Blanca	24.41	339	IAmb	IAmb	02 22 21.2	
	comp=Z,7.6nm,0.8s						
ANMO	Albuquerque	24.65	331	P	P	02 22 23.2	+1.9
ANMO	Albuquerque	24.65	331	P	P	02 22 23.3	+1.9
	baz=145						
WCI	Wyandotte Cave	24.82	11	P	P	02 22 22.4	-0.2
	baz=193						
KSU1	Kansas State U	25.45	352	P	P	02 22 29.2	+1.0
	baz=170						
T25A	Trinidad	25.64	337	P	P	02 22 33.2	+3.0
	baz=151,SNR=6.1						
SDCO	Great Sand Dun	26.59	336	P	P	02 22 40.5	+1.5
	baz=150						
SFIN	Lafayette	26.79	9	P	P	02 22 39.1	-1.2
	baz=190						
S22A	4UR Ranch, Cre	27.14	334	P	P	02 22 45.5	+1.6
	baz=147						
MVCO	Mesa Verde	27.45	331	IAmb	IAmb	02 22 51.8	
	comp=Z,9.1nm,0.9s						
MVCO	Mesa Verde	27.45	331	P	P	02 22 49.2	+2.6
	baz=144						
WUAZ	Wupatki	27.65	325	P	P	02 22 51.1	+2.7
	baz=136						
SSPA	Standing Stone	29.45	22	P	P	02 23 04.5	+0.5
	baz=209						
O20A	White River Ci	29.74	335	P	P	02 23 08.0	+1.0
	baz=147						
ECSD	EROS Data Cent	30.02	354	P	P	02 23 09.8	+0.7
	baz=171						
SZCU	Shurtz Canyon	30.10	326	IAmb	IAmb	02 23 14.7	
	comp=Z,5.2nm,1.0s						
CCUT	Cedar City	30.22	325	IAmb	IAmb	02 23 15.6	
	comp=Z,6.6nm,1.1s						
TUQ	Turquoise Moun	30.32	319	P	P	02 23 13.3	+1.2
	baz=129						
GSC	Goldstone, Bar	30.81	318	P	P	02 23 16.6	+0.3
	baz=128						
TPNV	Topopah Spring	31.50	321	P	P	02 23 24.6	+2.2
	baz=131						
BINY	Binghamton	31.52	23	P	P	02 23 21.2	-1.1
	baz=211						
MPMC	Manual Prospec	31.71	319	P	P	02 23 26.5	+2.1
	baz=128						
RSSD	Black Hills	31.83	344	P	P	02 23 27.3	+2.0
	baz=158						
DUG	Dugway, Tooele	31.89	329	P	P	02 23 28.5	+2.7
	baz=139						
R11B	Troy Canyon, C	32.04	324	P	P	02 23 29.7	+2.5
	baz=133						
CWC	Cottonwood Cre	32.32	319	P	P	02 23 31.1	+1.5
	baz=127						
HWUT	Hardware Ranch	32.39	332	IAmb	IAmb	02 23 34.2	
	comp=Z,4.1nm,0.9s						
PDAR	Pinedale Array	32.49	336	P	P	02 23 31.2	0.0
	comp=Z,0.4nm,0.6s,baz=142,slow=12,SNR=2.6						
PDAR				PcP	PcP	02 26 16.5	-1.0
	comp=Z,0.3nm,0.6s,baz=126,slow=4.6,SNR=2.3						
	comp=Z,0.4nm,0.6s						
HVU	Hansel Valley	33.09	331	IAmb	IAmb	02 23 39.7	
	comp=Z,5.2nm,0.9s						
NV11	Mina Array Sit	33.60	322	IAmb	IAmb	02 23 48.0	
	comp=Z,3.3nm,0.8s						
LOHW	Long Hollow	33.62	335	IAmb	IAmb	02 23 47.3	
	comp=Z,2.8nm,0.8s						
TPAW	Teton Pass	33.66	335	P	P	02 23 43.0	+1.6
TPAW				IAmb	IAmb	02 23 46.0	
	comp=Z,6.0nm,1.1s						
NVAR	Mina Array Bea	33.69	321	P	P	02 23 42.2	+0.5
	comp=Z,2.6nm,0.8s,baz=135,slow=9.0,SNR=14						
NVAR				PcP	PcP	02 26 21.6	+0.7
	comp=Z,0.7nm,0.6s,baz=126,slow=5.7,SNR=2.6						
	comp=Z,2.6nm,0.8s						
LONY	Lake Ozonia	34.11	23	P	P	02 23 43.3	-1.7
	baz=211						
BMN	Battle Mountai	34.38	325	IAmb	IAmb	02 23 54.3	
	comp=Z,2.9nm,0.8s						
LBNH	Lisbon	34.86	26	P	P	02 23 51.4	0.0
	baz=216						
HLID	Hailey	35.23	331	P	P	02 23 57.3	+2.5
HLID				IAmb	IAmb	02 23 58.1	
	comp=Z,3.8nm,0.8s						
HLID	Hailey	35.23	331	P	P	02 23 57.1	+2.3
	baz=140,SNR=7.3						
MFID	Camas Ranch	35.79	330	P	P	02 24 01.7	+2.1
MFID				IAmb	IAmb	02 24 05.3	
	comp=Z,6.5nm,1.4s						
PKME	Peaks-Kenny Pk	36.81	27	P	P	02 24 07.0	-1.1
	baz=219						
EGMT	Eagleton	37.07	340	P	P	02 24 12.2	+1.8
	baz=151						
J08A	Circle Bar Ran	37.08	328	P	P	02 24 11.9	+1.3
PLID	Pearl Lake	37.13	332	P	P	02 24 12.2	+1.0
PLID				IAmb	IAmb	02 24 15.6	
	comp=Z,7.8nm,1.3s						
G65A	Princeton	37.55	29	P	P	02 24 13.1	-1.3
MSO	Missoula	37.60	335	P	P	02 24 17.2	+2.2
	baz=144						
LPAZ	La Paz	38.22	141	P	P	02 24 20.9	-0.1
	comp=Z,0.6nm,0.7s,baz=304,slow=12,SNR=2.2						
	comp=Z,0.6nm,0.7s						
D62A	Allapoint, All	38.34	26	P	P	02 24 19.8	-1.2
F10A	Beach Ranch, E	38.37	332	P	P	02 24 22.8	+1.4
H04A	Detroit Lake	39.95	326	P	P	02 24 36.5	+1.9
H04A				IAmb	IAmb	02 24 40.6	
	comp=Z,5.5nm,0.8s						
C09A	Chrisman Ranch	40.21	333	P	P	02 24

	baz=126				
M29M	Somme Creek	58.49 337	P	P	02 26 57.9 +1.9
M29M	Somme Creek	58.49 337	P	P	02 26 58.2 +2.2
	baz=124,SNR=11				
MESA	MESA	58.70 333	P	P	02 27 00.3 +2.6
	baz=120				
L29M	L29M	58.74 338	P	P	02 26 59.5 +1.8
	baz=125				
YUK3	Moose Creek	58.90 336	P	P	02 27 01.2 +2.1
	baz=122				
K29M	Barlow Dome	58.95 338	P	P	02 27 01.0 +1.7
	baz=126				
J30M	Hart River	58.98 339	P	P	02 26 59.7 +0.3
J30M			IAmb	IAmb	02 27 09.1
	comp=Z,6.1nm,1.5s				
J30M	Hart River	58.98 339	P	P	02 27 01.3 +1.8
	baz=128				
I30M	Mount Dempster	59.39 340	P	P	02 27 03.3 +1.0
I30M			IAmb	IAmb	02 27 04.2
	comp=Z,3.4nm,0.9s				
I30M	Mount Dempster	59.39 340	P	P	02 27 03.5 +1.2
	baz=128				
DAWY	Dawson	59.76 338	P	P	02 27 05.6 +0.9
	baz=124				
M27K	Edge Creek, AK	59.78 336	P	P	02 27 06.8 +1.8
	baz=121				
G31M	Satah River	59.82 342	P	P	02 27 06.4 +1.4
	baz=131				
BCAR	Beaver Creek A	60.11 336	P	P	02 27 08.4 +1.2
L27K	Beaver Creek,	60.12 336	P	P	02 27 08.7 +1.4
L27K			IAmb	IAmb	02 27 10.4
	comp=Z,3.2nm,0.8s				
L27K	Beaver Creek,	60.12 336	P	P	02 27 09.8 +2.5
	baz=121,SNR=5.4				
EPYK	Eagle Plains	60.22 341	P	P	02 27 08.7 +0.9
	baz=128				
BMRM	Bremner River	60.23 334	P	P	02 27 09.1 +1.0
	baz=117				
M26K	Nabesna, AK	60.25 335	P	P	02 27 09.6 +1.4
	baz=120				
N25K	Chitina, Valde	60.53 334	P	P	02 27 11.7 +1.6
	baz=118				
INK	Inuvik	60.53 344	P	P	02 27 10.7 +0.8
	baz=132				
INK	Inuvik	60.53 344	P	P	02 27 10.3 +0.5
	comp=Z,4.6nm,0.7s,baz=124,slow=6.8,SNR=11				
	comp=Z,4.6nm,0.7s				
EYAK	Cordova Ski Ar	60.55 333	P	P	02 27 11.9 +1.8
	baz=116				
H29M	Whitestone	60.66 340	P	P	02 27 12.3 +1.5
	baz=126				
F30M	Barrier River	60.72 342	P	P	02 27 12.7 +1.5
	baz=130				
K27K	Chicken	60.73 337	P	P	02 27 12.7 +1.4
	baz=121				
EGAK	Eagle	60.79 338	P	P	02 27 13.3 +1.6
	baz=123				
G29M	Pine Creek	60.96 341	P	P	02 27 14.4 +1.5
	baz=127				
KLU	Klutina	61.04 334	P	P	02 27 15.3 +1.7
	baz=116				
I27K	Kandik River	61.40 339	P	P	02 27 17.5 +1.6
	baz=123				
M24K	Tolsona, Glenn	61.42 334	P	P	02 27 18.1 +1.9
	baz=116				
SCRK	Sand Creek	61.42 337	P	P	02 27 17.6 +1.4
	baz=120				
PAX	Paxson	61.53 335	P	P	02 27 18.3 +1.4
	baz=118				
J26L	Joseph Creek	61.53 337	P	P	02 27 18.5 +1.6
J26L	Joseph Creek	61.53 337	P	P	02 27 18.8 +2.0
	baz=120,SNR=7.1				
H27K	Steamboat Moun	61.71 340	P	P	02 27 19.8 +1.8
	baz=123				
I26K	Coal Creek Min	61.79 338	P	P	02 27 20.0 +1.5
I26K			IAmb	IAmb	02 28 04.0
	comp=Z,3.5nm,1.1s				
I26K	Coal Creek Min	61.79 338	P	P	02 27 20.3 +1.8
	baz=121				
SCM	Sheep Creek Mo	61.79 334	P	P	02 27 20.4 +1.8
	baz=115				
E29M	Blow River	61.83 342	P	P	02 27 20.6 +1.9
	baz=128				
F28M	Old Crow	61.96 341	P	P	02 27 20.9 +1.3
F28M	Old Crow	61.96 341	P	P	02 27 21.5 +1.9
	baz=125,SNR=13				
K24K	Donnelly Dome	62.04 336	P	P	02 27 21.9 +1.7
	baz=118				
SEW	Seward	62.04 331	P	P	02 27 22.1 +1.9
	baz=112				
G27K	Doyon Strip	62.07 340	P	P	02 27 21.8 +1.4
	baz=123				
J25K	Salcha River,	62.26 337	P	P	02 27 23.6 +1.8
J25K			IAmb	IAmb	02 27 24.7
	comp=Z,2.0nm,0.7s				
J25K	Salcha River,	62.26 337	P	P	02 27 23.9 +2.1
	baz=118				
WAT6	Susitna Watana	62.29 334	P	P	02 27 23.7 +1.7
	baz=115				
E28M	Babbage River	62.44 342	P	P	02 27 24.2 +1.4
	baz=126				
PMR	Palmer	62.48 333	P	P	02 27 24.5 +1.4
	baz=113				
BRSE	Bradley Lake S	62.51 331	P	P	02 27 24.6 +1.1
	baz=111				
RC01	Rabbit Creek A	62.55 332	P	P	02 27 25.2 +1.5
	baz=112				
D28M	Stokes Point	62.64 343	P	P	02 27 25.2 +1.1
	baz=127				
PRP	Porcupine Dome	62.75 338	P	P	02 27 26.9 +1.8
	baz=119				
HDA	Harding Lake	62.77 336	P	P	02 27 26.5 +1.4
	baz=117				
E27K	Coleen River	62.82 341	P	P	02 27 26.3 +0.9
E27K	Coleen River	62.82 341	P	P	02 27 26.8 +1.4
	baz=124,SNR=7.2				
G26K	Porcupine Rive	62.86 340	P	P	02 27 27.1 +1.6
	baz=121				
IL31		62.91 337	P	P	02 27 27.4 +1.5
IL31			IAmb	IAmb	02 27 29.2
	comp=Z,3.8nm,1.0s				
ILAR	Eielson Array	62.91 337	P	P	02 27 27.2 +1.2
ILAR	Eielson Array	62.91 337	P	P	02 27 26.9 +0.8
	comp=Z,1.8nm,0.8s,baz=130,slow=4.9,SNR=19				
	comp=Z,1.8nm,0.8s				
Q20K	Shuyak Island	62.93 329	P	P	02 27 28.1 +2.0
	baz=109				
OHAK	Old Harbor	62.95 328	P	P	02 27 28.1 +1.7
	baz=107				
SUA	Susitna One	63.14 333	P	P	02 27 29.5 +1.8
	baz=112				
D27M	Malcolm River	63.23 343	P	P	02 27 30.0 +1.9
	baz=125				
F26K	Sheenjek River	63.37 340	P	P	02 27 30.4 +1.3
	baz=121				
BMAR	Burnt Mountain	63.38 340	P	P	02 27 30.8 +1.7
O20K	Slope Mountain	63.52 331	P	P	02 27 31.8 +1.6
	baz=109				
G25K	Bearman Lake	63.56 339	P	P	02 27 32.3 +2.1
	baz=119				
Q19K	Cape Douglas,	63.65 329	P	P	02 27 32.2 +1.2
	baz=108				
SKT	Skwentna	63.68 333	P	P	02 27 32.7 +1.6
	baz=111				
H24K	Noodor Dome	63.77 338	P	P	02 27 33.7 +2.0
	baz=116,SNR=5.4				
F25K	Christian Rive	63.81 340	P	P	02 27 34.1 +2.1
	baz=119,SNR=5.8				
G24K	Hadweenzic Riv	64.01 339	P	P	02 27 34.7 +1.5
	baz=117				
I23K	Minto, Yukon-K	64.03 337	P	P	02 27 34.9 +1.6
	baz=115				
E25K	Arctic Village	64.05 340	P	P	02 27 35.6 +2.1
	baz=120				
BPAW	Bear Paw Mtn.	64.24 335	P	P	02 27 35.7 +0.9
	baz=112				
Q18K	Katmai Hardscr	64.25 329	P	P	02 27 36.4 +1.4
	baz=106				
C27K	Jago River	64.25 342	P	P	02 27 36.6 +1.8
	baz=122,SNR=6.1				
PPLA	Purkeypile	64.30 334	P	P	02 27 36.8 +1.5
	baz=111				
M20K	Styx River	64.36 333	P	P	02 27 36.9 +1.2
M20K			IAmb	IAmb	02 27 38.2
	comp=Z,3.1nm,0.8s				
M20K	Styx River	64.36 333	P	P	02 27 37.5 +1.8
	baz=110				
H23K	Yukon River	64.38 337	P	P	02 27 37.6 +1.9
	baz=115				
CAST	Castle Rocks	64.44 334	P	P	02 27 36.8 +0.6
	baz=111				
MLY	Manley	64.51 336	P	P	02 27 37.7 +1.1
MLY	Manley	64.51 336	P	P	02 27 37.8 +1.2
	baz=113,SNR=8.3				
F24K	Squaw Lake	64.53 339	P	P	02 27 38.6 +1.9
	baz=117				
P18K	Big Mountain,	64.57 330	P	P	02 27 38.3 +1.3
	baz=106				
Q17K	Contact Creek	64.58 328	P	P	02 27 38.3 +1.1
	baz=105				
N19K	Bonanza Creek	64.63 331	P	P	02 27 38.8 +1.3
	baz=108				
O18K	Koktuh Hills	64.69 330	P	P	02 27 39.8 +2.0
	baz=107				
C26K	Camden Bay	64.76 342	P	P	02 27 39.8 +1.7
	baz=121				
L20K	Farewell, AK	64.89 333	P	P	02 27 40.0 +0.9
	baz=109,SNR=6.0				
D25K	Kavik River	64.90 341	P	P	02 27 40.6 +1.6
	baz=119,SNR=6.5				
M19K	Big River Lodg	64.93 332	P	P	02 27 40.5 +1.2
	baz=108				
G23K	Bananza Creek	64.93 338	P	P	02 27 41.0 +1.7
	baz=115				
E24K	Your Creek	64.99 340	P	P	02 27 41.2 +1.5
	baz=117				
H22K	Ishtalitna Cre	65.10 337	P	P	02 27 41.7 +1.3
	baz=113				
P17K	Kvichak River	65.11 329	P	P	02 27 42.5 +2.0
	baz=105				
COLD	Coldfoot	65.21 339	P	P	02 27 42.9 +1.9
	baz=115				
L19K	White Mountain	65.22 333	P	P	02 27 42.7 +1.5
	baz=108				
N18K	Kilae Creek	65.25 331	P	P	02 27 43.0 +1.6
	baz=106				
K20K	Telida	65.26 334	P	P	02 27 42.1 +0.6
K20K			IAmb	IAmb	02 27 46.0
	comp=Z,3.9nm,0.9s				
K20K	Telida	65.26 334	P	P	02 27 42.6 +1.2
	baz=109				
E23K	Chandalar	65.36 340	P	P	02 27 44.0 +1.9
	baz=116,SNR=8.2				
CHGN	Chignik	65.45 326	P	P	02 27 44.1 +1.4
	baz=102				
M18K	Stony River	65.45 332	P	P	02 27 44.0 +1.3
	baz=107				
G22K	Bettles	65.55 338	P	P	02 27 45.3 +2.0
	baz=113				
H21K	Melozitna Rive	65.55 337	P	P	02 27 44.4 +1.1
	baz=111				
J20K	Nowinta River	65.56 335	P	P	02 27 44.6 +1.2
J20K			IAmb	IAmb	02 27 45.3
	comp=Z,2.3nm,0.8s				
J20K	Nowinta River	65.56 335	P	P	02 27 44.6 +1.2
	baz=110				
D24K	Happy Valley	65.59 341	P	P	02 27 44.7 +1.2
	baz=117				
TOLK	Toolik Lake Re	65.61 340	P	P	02 27 44.8 +1.2
TOLK			IAmb	IAmb	02 27 45.9
	comp=Z,4.6nm,0.8s				
TOLK	Toolik Lake Re	65.61 340	P	P	02 27 45.2 +1.6
	baz=116				
C24K	Franklin Bluff	65.81 341	P	P	02 27 46.6 +1.7
	baz=117				
N17K	Nushagak Hills	65.82 331	P	P	02 27 47.1 +2.0
	baz=105				
F22K	John River	66.02 339	P	P	02 27 48.3 +2.0
	baz=113				
O16K	Kokwok River B	66.03 329	P	P	02 27 48.3 +1.9
	baz=104				
IMAR	Indian Mountai	66.03 337	P	P	02 27 46.2 -0.1
L18K	Granite Mounta	66.05 332	P	P	02 27 48.4 +1.9
	baz=106				
D23K	Nanushuk River	66.11 340	P	P	02 27 48.8 +2.0
	baz=115				
J19K	Poorman	66.12 334	P	P	02 27 47.5 +0.6
	baz=108,SNR=5.2				
G21K	Allakaket	66.13 337	P	P	02 27 48.2 +1.3
G21K			IAmb	IAmb	02 27 49.7
	comp=Z,3.4nm,0.7s				
G21K	Allakaket	66.13 337	P	P	02 27 48.3 +1.3
	baz=111,SNR=5.4				
E22K	Anaktuvuk Pass	66.14 339	P	P	02 27 48.2 +1.1
E22K	Anaktuvuk Pass	66.14 339	P	P	02 27 48.8 +1.7
	baz=113				
M17K	Holitna River	66.17 331	P	P	02 27 48.8 +1.5
	baz=105				
H20K	Anotleneega Mo	66.30 336	P	P	02 27 49.9 +1.7
	baz=109				
F21K	Alatna River	66.38 338	P	P	02 27 50.0 +1.3
F21K	Alatna River	66.38 338	P	P	02 27 50.4 +1.8
	baz=111,SNR=12				
J18K	Innoko River	66.42 334	P	P	02 27 51.1 +2.2
	baz=107				
C23K	Itkillik River	66.46 341	P	P	02 27 51.0 +2.0
	baz=115,SNR=5.5				
N16K	Nishlik Lake	66.57 330	P	P	02 27 51.3 +1.3
	baz=104				
D22K	Ayikyak River	66.73 340	P	P	02 27 52.7 +1.9
D22K			IAmb	IAmb	02 27 53.5
	comp=Z,5.4nm,0.8s				
D22K	Ayikyak River	66.73 340	P	P	02 27 52.8 +1.9
	baz=113				
L17K	Donlin	66.76 332	P	P	02 27 52.2 +1.2
	baz=105				
M16K	Timber Creek	66.79 331	P	P	02 27 52.0 +0.7
K17K	Iditarod	66.91 333	P	P	02 27 52.4 +0.4
K17K			IAmb	IAmb	02 28 11.2
	comp=Z,7.3nm,1.4s				
K17K	Iditarod	66.91 333	P	P	02 27 53.3 +1.3
	baz=105				
H19K	Roundabout Mou	66.93 336	P	P	02 27 52.1 0.0
H19K			IAmb	IAmb	02 27 54.6
	comp=Z,3.7nm,0.8s				
H19K	Roundabout Mou	66.93 336	P	P	02 27 53.4 +1.3
	baz=108				
E21K	Killik River	67.00 339	P	P	02 27 53.8 +1.2
	baz=111				
F20K	Avaraart Lake	67.14 338	P	P	02 27 54.7 +1.3
F20K			IAmb	IAmb	02 27 56.4
	comp=Z,3.9nm,0.7s				
F20K	Avaraart Lake	67.14 338	P	P	02 27 55.0 +1.7
	baz=109				
L16K	Owhat River	67.19 332	P	P	02 27 54.9 +1.0
	baz=103				
S12K	Black Hills	67.36 325	P	P	02 27 56.3 +1.3
	baz=99				
G19K	Purcell Mounta	67.37 336	P	P	02 27 56.4 +1.5
	baz=108				
J17K	VABM Dome	67.43 333	P	P	02 27 56.7 +1.4
J17K			IAmb	IAmb	02 28 03.2
	comp=Z,9.1nm,1.5s				
J17K	VABM Dome	67.43 333	P	P	02 27 56.5 +1.3
	baz=104				
C21K	Knifeblade Rid	67.54 340	P	P	02 27 57.2 +1.3
	baz=111				
H18K	Honhosa River	67.59 335	P	P	02 27 57.6 +1.3
H18K			IAmb	IAmb	02 28 05.8
	comp=Z,5.3nm,1.3s				
H18K	Honhosa River	67.59 335	P	P	02 27 57.9 +1.6
	baz=106				
E20K	Nigu River	67.71 339	P	P	02 27 58.7 +1.6
	baz=109				
E19K	Redstone River	67.83 338	P	P	02 27 59.5 +1.7
	baz=108				
F19K	Shaleruckik Mo	67.84 337	P	P	02 27 59.4 +1.6
F19K			IAmb	IAmb	02 28 00.2
	comp=Z,3.1nm,0.7s				
F19K	Shaleruckik Mo	67.84 337	P	P	02 27 59.7 +1.9
	baz=107				
G18K	Tagagawik	67.91 336	P	P	02 27 59.9 +1.6
	baz=106				
D20K	Etivluk River	68.01 339	P	P	02 28 00.6 +1.7
	baz=109				
J16K	Anvik River	68.07 333	P	P	02 28 00.8 +1.5
J16K			IAmb	IAmb	02 28 02.7
	comp=Z,4.4nm,0.6s				
J16K	Anvik River	68.07 333	P	P	02 28 01.2 +1.9
	baz=103				
L15K	Ungalak Mounta	68.12 331	P	P	02 28 01.1 +1.5
	baz=102				
M14K	Bethel	68.17 330	P	P	02 28 01.9 +2.0
M14K	Bethel	68.17 330	P	P	02 28 02.3 +2.4
	baz=101				
K15K	Wolf Creek Mou	68.27 332	P	P	02 28 02.6 +2.0
K15K	Wolf Creek Mou	68.27 332	P	P	02 28 01.8 +1.2
	baz=102				
A22K	Sinclair Lake	68.28 342	P	P	02 28 01.9 +1.4
	baz=111				
D19K	Kuna River	68.46 339	P	P	02 28 03.0 +1.3
D19K	Kuna River	68.46 339	P	P	02 28 03.1 +1.3
	baz=107				
F18K	Selawik	68.49 337	P	P	02 28 05.0 +3.1
	baz=105				
B20K	Meade River	68.62 340	P	P	02 28 05.0 +2.4
	baz=109				
M13K	Dall Lake	68.78 330	P	P	02 28 05.9 +2.1
	baz=99				
C19K	Lookout Ridge	69.16 339	P	P	02 28 08.6 +2.5
C19K	Lookout Ridge	69.16 339	P	P	02 28 09.0 +3.0
	baz=106				
G16K	Koyuk River	69.28 335	P	P	02 28 08.9 +2.1
G16K			IAmb	IAmb	02 28 38.1
	comp=Z,11nm,1.4s				
J14K	Nanvaranak Lak	69.28 332	P	P	02 28 09.5 +2.7
	baz=100				
E17K	Hotham Inlet	69.45 337	P	P	02 28 10.1 +2.2
	baz=103				
K13K	Kusilvak Mount	69.65 331	P	P	02 28 11.5 +2.3
	baz=99				
UNV	Unalaska Valle	69.70 323	P	P	02 28 13.7 +4.0
UNV	Unalaska Valle	69.70 323	P	P	02 28 12.6 +3.0
	baz=94				
G15K	Niukluk	69.89 335	P	P	02 28 13.6 +3.0
	baz=100				
C17K	DeLong Mountai	70.26 338	P	P	02 28 15.1 +2.3
	baz=102				
F15K	North Star Dit	70.28 335	P	P	02 28 14.8 +1.8
F15K			IAmb	IAmb	02 28 19.9
	comp=Z,5.3nm,0.9s				
F15K	North Star Dit	70.28 335	P	P	02 28 15.5 +2.5
	baz=100				
C16K	Lisburne Hills	71.01 338	P	P	02 28 18.8 +1.5
DAG	Danmarks Havn	72.83 13	*i* P	P	02 28 25.0 -3.1
ESK	Eskdalemuir	78.14 36	P	P	02 28 56.3 -2.6
EKB	Eskdalemuir	78.14 36	P	P	02 28 56.4 -2.6
EKA	Eskdalemuir Ar	78.16 36	P	P	02 28 56.1 -3.0
	comp=Z,2.7nm,0.6s,baz=273,slow=5.7,SNR=14				
	comp=Z,2.7nm,0.6s				
ESDC	Sonseca Array	79.91 52	P	P	02 29 06.1 -3.0
	comp=Z,0.6nm,0.7s,baz=269,slow=5.9,SNR=5.7				
	comp=Z,0.6nm,0.7s				
SPITS	Spitsbergen Ar	80.25 11	P	P	02 29 09.0 -1.1
	comp=Z,1.2nm,0.5s,baz=197,slow=4.5,SNR=6.0				
	comp=Z,1.2nm,0.5s				
SPB2	Spitsbergen Ar	80.25 11	P	P	02 29 09.2 -1.0
NBO00	NORSAR Array S	84.13 28	P	P	02 29 30.6 -0.1
NOA	NORSAR Array B	84.33 28	P	P	02 29 30.4 -1.4
	comp=Z,0.4nm,0.7s,baz=290,slow=5.2,SNR=2.2				
	comp=Z,0.4nm,0.7s				
HFS	Hagfors	85.79 29	P	P	02 29 37.7 -1.4
	comp=Z,0.9nm,0.6s,baz=215,slow=1.8,SNR=6.1				
	comp=Z,0.9nm,0.6s				
ARCES	ARCESS Array B	86.31 18	P	P	02 29 42.4 +0.9
ARCES	ARCESS Array B	86.31 18	P	P	02 29 39.9 -1.6
	comp=Z,1.0nm,0.7s,baz=265,slow=6.8,SNR=4.4				
	comp=Z,1.0nm,0.7s				
TORD	Torodi Ar. Bea	90.55 76	P	P	02 30 00.3 -2.4
	comp=Z,0.1nm,0.3s,baz=285,slow=4.7,SNR=1.3				
	comp=Z,0.1nm,0.3s				
KURBB	Kurchatov Arra	115.28 7	PKP	PKiKP	02 35 41.1 -0.2
	comp=Z,0.5nm,0.5s,baz=354,slow=1.4,SNR=4.5				

IDC 06 02:19:27.3±2.1, 7°.44S×145°.39E, h0km, mb3.5/1, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=45.4km s-min=28.2km az=53.0, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.62	138	Pn	Pn	02 20 11.5	+0.5
	13nm,0.3s,baz=59,slow=18,SNR=2.7						
PMG				Sn	Sn	02 20 44.5	+1.0
	3.4nm,0.3s,baz=225,slow=20,SNR=2.2						
WRA	Warramunga Arr	16.42	220	Pn	P	02 23 21.1	-1.1
	0.2nm,0.3s,baz=44,slow=11,SNR=10						
	0.6nm,0.7s						
ASAR	Alice Springs	19.55	213	P	P	02 23 55.6	-1.2
	0.2nm,0.3s,baz=49,slow=8.6,SNR=8.5						
	0.5nm,0.4s						
MKAR	Makanchi Array	77.59	321	P	P	02 31 25.5	+0.1
	0.2nm,0.5s,baz=113,slow=7.2,SNR=2.6						
	0.2nm,0.5s						

IDC 06 02:21:47.2±1.3, 3°.89N×126°.85E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=79.6km s-min=25.7km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.80	163	P	P	02 27 11.2	+0.1
	3.7nm,0.7s,baz=342,slow=10,SNR=30						
	3.7nm,0.7s						
ASAR	Alice Springs	28.24	166	P	P	02 27 42.2	0.0
	0.4nm,0.6s,baz=343,slow=8.0,SNR=2.3						
	0.4nm,0.6s						
MKAR	Makanchi Array	57.49	325	P	P	02 31 38.6	+0.2
	0.5nm,0.7s,baz=142,slow=6.9,SNR=4.4						
	0.5nm,0.7s						
ILAR	Eielson Array	84.91	25	P	P	02 34 23.5	-0.5
	0.1nm,0.5s,baz=254,slow=6.5,SNR=2.4						
	0.1nm,0.5s						

*IDC **06** 02:30:43.4±1.4, 49°.17S×124°.42E, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=78.3km s-min=18.3km az=105.0*

ISC 06 02:30:45.5±1.5, 49°.2S±0°.2×124°.5E±0°.5, h13km, n12, σ0°58/6, mb3.9/6, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	16.20	328	T	T	02 51 27.9	
	baz=154,slow=76,SNR=39						
H01W2	Cape Leeuwin H	16.20	328	T	T	02 51 27.9	
	baz=154,slow=76,SNR=32						
H01W3	Cape Leeuwin H	16.21	328	T	T	02 51 29.0	
	baz=154,slow=76,SNR=38						
STKA	Stephens Creek	21.54	43	P	P	02 35 34.2	-0.1
	5.1nm,0.8s,baz=202,slow=19,SNR=3.4						
	5.1nm,0.8s						
ASAR	Alice Springs	26.53	20	P	P	02 36 22.5	-0.3
	2.3nm,0.8s,baz=194,slow=9.3,SNR=11						
	2.3nm,0.8s						
WRA	Warramunga Arr	30.23	19	P	P	02 36 56.0	+0.2
	1.1nm,1.0s,baz=197,slow=8.1,SNR=4.1						
	1.1nm,1.0s						
VNDA	Vanda	31.78	165	P	P	02 37 09.4	+0.5
	0.8nm,0.6s,baz=298,slow=7.5,SNR=6.5						
	0.8nm,0.6s						
QSPA	South Pole Qui	40.94	180	P	P	02 38 26.6	-0.8
	3.4nm,1.1s,baz=336,slow=7.6,SNR=5.0						
	3.4nm,1.1s						
SNAA	Sanae	53.84	198	P	P	02 40 07.8	+0.3
	3.6nm,0.9s,baz=126,slow=11,SNR=8.9						
	3.6nm,0.9s						
H08S2	Diego Garcia H	60.00	296	T	T	03 46 16.1	
	baz=144						
H08S1	Diego Carcia H	60.01	296	T	T	03 46 23.9	
	baz=144						
H08S3	Diego Garcia H	60.02	296	T	T	03 46 17.2	
	baz=144						

*HEL **06** 02:36:07.8±0.2, 67°.17N×20°.58E, h0km, ML1.6, Suspected explosion*
*UPP **06** 02:36:07.9±0.0, 67°.19N×20°.68E, h0km, ML2.2, Confirmed Induced event*
*IDC **06** 02:36:08.7±0.9, 67°.12N×21°.18E, h0km, mbtmp2.7/4, ML2.0/4, Error ellipse: s-maj=15.9km s-min=7.7km az=116.0*

ISC 06 02:36:07.8±0.7, 67°.21N±0°.02×20°.69E±0°.03, h0km, n41, σ1°24/67, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.10	208	P	Pg	02 36 09.8	+0.2
DUNU				S	Sg	02 36 11.1	+0.2
MASU	Masugnsbyn	0.57	63	P	Pg	02 36 18.9	+0.3

RATU	**Laukkuluspa**	**0.75 326**	P	**Pg**	**02 36 22.2**	**+0.1**
KUA	**Kurravaara**	**0.76 350**	P	**Pg**	**02 36 22.3**	**0.0**
SALU	**Saltoluokta**	**0.86 283**	*e*P	**Pg**	**02 36 24.2**	**-0.1**
SALU	**Saltoluokta**	**0.86 283**	P	**Pg**	**02 36 24.1**	**-0.1**
ERTU	**Ertsjaerv**	**0.89 137**	P	**Pg**	**02 36 23.9**	**-0.8**
ERTU	**Ertsjaerv**	**0.89 137**	PG	**Pg**	**02 36 23.9**	**-0.8**
ERTU			SB	**Sg**	**02 36 35.6**	**-0.5**
LANU	**Lannavaara**	**0.98 30**	P	**Pg**	**02 36 26.3**	**-0.3**
LANU	**Lannavaara**	**0.98 30**	PG	**Pg**	**02 36 26.2**	**-0.3**
LANU			SB	**Sb**	**02 36 40.8**	**-0.3**
KOVU	**Salmi**	**1.04 349**	P	**Pg**	**02 36 27.5**	**-0.2**
HARU	**Harads**	**1.06 174**	P	**Pg**	**02 36 27.0**	**-1.0**
KLF	**Kolari**	**1.28 87**	PG	**Pg**	**02 36 31.1**	**-1.1**
KLF			MSG		02 36 47.7	
	comp=Z,3.2nm,0.2s					
KLF			SB	**Sb**	**02 36 49.3**	**-0.2**
HEF	**Hetta**	**1.65 42**	*e*P	**Pn**	**02 36 38.1**	**+0.1**
HEF	**Hetta**	**1.65 42**	PG	**Pn**	**02 36 37.8**	**-0.2**
HEF			MSG		02 36 58.6	
	comp=Z,3.9nm,0.2s					
HEF			SG	**Sn**	**02 36 60.0**	**+0.1**
KALU	**Kalix**	**1.73 140**	P	**Pn**	**02 36 38.9**	**-0.1**
KALU	**Kalix**	**1.73 140**	PG	**Pn**	**02 36 38.9**	**-0.1**
KALU			SN	**Sb**	**02 37 02.1**	**-0.3**
SJUU	**Sjulsmark**	**1.75 167**	P	**Pn**	**02 36 38.6**	**-0.6**
TOF	**Tornio**	**1.84 126**	PG	**Pn**	**02 36 40.8**	**+0.3**
	baz=304					
TOF			MSG		02 37 03.0	
	comp=Z,3.9nm,0.2s					
TOF			SG	**Sb**	**02 37 05.4**	**-0.4**
KTK1	**Kautokeino**	**2.05 27**	PG	**Pb**	**02 36 45.4**	**-0.4**
KTK1			SG	**Sb**	**02 37 12.5**	**+0.7**
RNF	**Rovaniemi**	**2.19 104**	PB	**Pn**	**02 36 46.3**	**+1.0**
RNF			SG	**Sb**	**02 37 16.1**	**+0.5**
SGF	**Sodankyl**	**2.27 81**	PB	**Pn**	**02 36 48.1**	**+1.6**
SGF			SG	**Sb**	**02 37 19.0**	**+0.7**
TRO	**Tromso**	**2.52 346**	PG	**Pb**	**02 36 53.2**	**-0.7**
TRO			SG	**Sb**	**02 37 26.2**	**+0.9**
BURU	**Burvik**	**2.65 174**	PB	**Pn**	**02 36 52.3**	**+0.6**
BURU			SB	**Sn**	**02 37 25.3**	**+0.8**
RANF	**Ranua**	**2.71 113**	PB	**Pn**	**02 36 54.8**	**+2.3**
	baz=298					
RANF			SG	**Sb**	**02 37 30.6**	**-0.3**
ARA0	**ARCESS Array S**	**2.94 35**	PN	**Pn**	**02 36 56.4**	**+0.7**
ARA0			SB	**Sb**	**02 37 36.7**	**-0.7**
ARCES	**ARCESS Array B**	**2.94 35**	Pn	**Pn**	**02 36 56.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=211,slow=14,SNR=14					
ARCES			Sn	**Sn**	**02 37 32.5**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=212,slow=23,SNR=7.0					
	comp=Z,0.6nm,0.2s					
OUL	**Oulu**	**3.00 133**	SG	**Sb**	**02 37 39.6**	**+0.4**
RAJF	**Raja-Jooseppi**	**3.16 63**	PB	**Pb**	**02 37 03.1**	**-1.5**
RAJF			SG	**Sb**	**02 37 44.5**	**+0.9**
OUF	**Merijarvi**	**3.30 148**	SG	**Sb**	**02 37 50.4**	**+2.5**
UMAU	**Umeaa**	**3.34 180**	PN	**Pn**	**02 37 01.6**	**+0.5**
UMAU			SN	**Sn**	**02 37 41.3**	**-0.1**
KEV	**Kevo**	**3.46 39**	PN	**Pn**	**02 37 03.9**	**+1.2**
KEV			SN	**Sn**	**02 37 44.8**	**+0.4**
VRF	**Varrio**	**3.48 77**	PG	**Pb**	**02 37 11.5**	**+1.4**
VRF			SG	**Sb**	**02 37 54.9**	**+2.1**
OLKF	**Oulanka, Finla**	**3.57 100**	PG	**Pb**	**02 37 13.0**	**+1.3**
OLKF			SN	**Sn**	**02 37 48.5**	**+1.4**
MSF	**Maaselka**	**3.58 107**	SG	**Sb**	**02 37 58.1**	**+2.2**
KU6	**Riekki**	**3.86 104**	PG	**Pb**	**02 37 18.8**	**+2.2**
KU6			SG	**Sg**	**02 38 08.6**	**-2.9**
VAF	**Ylistaro**	**4.27 168**	PN	**Pn**	**02 37 15.6**	**+1.7**
VAF			SN	**Sn**	**02 38 04.0**	**-0.2**
HEMU	**Hemsoen**	**4.69 195**	PG	**Pb**	**02 37 32.1**	**+1.3**
HEMU			SN	**Sn**	**02 38 14.0**	**-0.7**
FINES	**FINESS Array B**	**6.24 155**	Pn	**Pn**	**02 37 40.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=346,slow=15,SNR=5.5					
FINES			Sn	**Sn**	**02 38 49.7**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=338,slow=22,SNR=1.8					
FINES			Lg	Lg	02 39 18.4	
	comp=Z,0.2nm,0.3s,baz=339,slow=25,SNR=2.4					
	comp=Z,1.1nm,0.8s					
NOA	**NORSAR Array B**	**7.44 218**	Pn	**Pn**	**02 37 59.0**	**+1.5**
	baz=31,slow=12,SNR=0.8					
NOA			Sn	**Sn**	**02 39 21.4**	**-1.1**
	baz=26,slow=20,SNR=2.3					
NOA			Lg	Lg	02 40 01.3	
	baz=27,slow=15,SNR=5.0					
	comp=Z,0.2nm,0.6s					
HFS	**Hagfors**	**7.75 207**	Pn	**Pn**	**02 38 00.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=4.1					
HFS			Sn	**Sn**	**02 39 25.6**	**-4.3**
	comp=Z,0.2nm,0.3s,baz=25,slow=21,SNR=6.9					
HFS			Lg	Lg	02 40 06.6	
	comp=Z,0.1nm,0.3s,baz=31,slow=26,SNR=3.2					
	comp=Z,0.7nm,0.5s					

*UPP **06** 02:39:06.5±0.0, 67°.85N×20°.21E, h0km, ML2.5, Confirmed Induced event*
*IDC **06** 02:39:07.0±1.0, 67°.83N×20°.61E, h0km, mbtmp3.0/4, ML2.1/3, Error ellipse: s-maj=17.5km s-min=6.2km az=122.0*
*HEL **06** 02:39:07.1±0.0, 67°.85N×20°.19E, h1km, ML2.3, ML2.5(UPP), Confirmed Induced event*
*BER **06** 02:39:09.4±1.6, 67°.93N×20°.27E, h1km, ML2.0, Confirmed Induced event*

ISC 06 02:39:05.6±0.7, 67°.81N±0°.02×20°.23E±0°.02, h0km, n36, σ0s71/56, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**15**	P	**Pg**	**02 39 09.1**	**+0.6**
KUA				S	**Sg**	**02 39 10.7**	**+0.2**
KUA	**Kurravaara**	**0.15**	**15**	*i* P	**Pg**	**02 39 09.1**	**+0.6**
KUA				*i* S	**Sg**	**02 39 10.7**	**+0.2**
RATU	**Laukkuluspa**	**0.24**	**274**	P	**Pg**	**02 39 11.2**	**+0.9**
RATU	**Laukkuluspa**	**0.24**	**274**	*i* P	**Pg**	**02 39 11.2**	**+0.9**
KOVU	**Salmi**	**0.42**	**356**	P	**Pg**	**02 39 13.8**	**+0.2**
KOVU	**Salmi**	**0.42**	**356**	*i* P	**Pg**	**02 39 13.8**	**+0.2**
DUNU	**Dundret**	**0.70**	**169**	P	**Pb**	**02 39 20.4**	**-0.3**
DUNU	**Dundret**	**0.70**	**169**	*i* P	**Pb**	**02 39 20.4**	**-0.3**
LANU	**Lannavaara**	**0.71**	**69**	P	**Pg**	**02 39 19.8**	**+0.6**
LANU	**Lannavaara**	**0.71**	**69**	*e*P	**Pb**	**02 39 20.0**	**-0.9**
LANU				*e*S	**Sg**	**02 39 29.0**	**+0.6**
MASU	**Masugnsbyn**	**0.76**	**117**	P	**Pb**	**02 39 21.4**	**-0.4**
MASU	**Masugnsbyn**	**0.76**	**117**	*i* P	**Pb**	**02 39 21.4**	**-0.4**
SALU	**Saltoluokta**	**0.79**	**238**	P	**Pb**	**02 39 21.7**	**-0.5**
SALU	**Saltoluokta**	**0.79**	**238**	*i* P	**Pb**	**02 39 21.7**	**-0.5**
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*P	**Pg**	**02 39 29.2**	**+0.2**
KIF				*e*S	**Sg**	**02 39 44.8**	**+0.1**
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*P	**Pn**	**02 39 30.2**	**+0.3**
KIF				*e*S	**Sg**	**02 39 44.9**	**+0.2**
HEF	**Hetta**	**1.42**	**63**	*e*P	**Pb**	**02 39 32.8**	**-0.2**
HEF	**Hetta**	**1.42**	**63**	*e*P	**Pb**	**02 39 32.8**	**-0.2**
HEF				*e*S	**Sg**	**02 39 50.7**	**-0.5**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pb**	**02 39 34.1**	**+0.2**
ERTU	**Ertsjaerv**	**1.47**	**148**	*e*PN	**Pb**	**02 39 34.8**	**+1.0**
ERTU				*e*SB	**Sn**	**02 39 54.2**	**+0.9**
KLF	**Kolari**	**1.55**	**110**	*e*PG	**Pg**	**02 39 35.5**	**+0.3**
KLF				*e*SG	**Sg**	**02 39 55.7**	**+0.5**
KTK1	**Kautokeino**	**1.64**	**41**	*e*P	**Pn**	**02 39 36.1**	**+0.4**
KTK1				*e*S	**Sn**	**02 39 57.3**	**-0.2**
KTK1				IAML		02 40 00.6	
	comp=Z,27nm,0.2s						
KTK1	**Kautokeino**	**1.64**	**41**	*e*PN	**Pb**	**02 39 36.6**	**-0.2**
KTK1				*e*SG	**Sn**	**02 39 57.5**	**0.0**
HARU	**Harads**	**1.68**	**170**	P	**Pg**	**02 39 37.5**	**-0.2**
HARU	**Harads**	**1.68**	**170**	*e*P	**Pg**	**02 39 37.5**	**-0.2**
TRO	**Tromso**	**1.89**	**346**	*e*PG	**Pb**	**02 39 40.5**	**-0.5**
TRO				*e*S	**Sn**	**02 40 04.6**	**+0.9**
STEI	**Steigen**	**1.89**	**276**	*e*P	**Pb**	**02 39 41.2**	**+0.2**
STEI				*e*S	**Sn**	**02 40 04.1**	**+0.4**
STEI				IAML		02 40 13.5	
	comp=Z,28nm,0.5s						
FAUS	**Fauske**	**1.94**	**260**	*e*P	**Pb**	**02 39 41.5**	**-0.3**
FAUS				*e*S	**Sg**	**02 40 07.4**	**-0.5**
FAUS				IAML		02 40 12.2	
	comp=Z,22nm,0.6s						
KALU	**Kalix**	**2.31**	**146**	*e*PB	**Pb**	**02 39 47.5**	**-0.7**
KALU				*e*S	**Sb**	**02 40 16.7**	**-0.6**
TOF	**Tornio**	**2.37**	**135**	*e*PB	**Pb**	**02 39 48.5**	**-0.5**
TOF				*e*SB	**Sb**	**02 40 19.5**	**+0.7**
TOF				MSG		02 40 21.6	
	comp=Z,9.8nm,0.2s						
SGF	**Sodankyl**	**2.44**	**96**	*e*PB	**Pb**	**02 39 50.0**	**-0.2**
SGF				*e*SB	**Sb**	**02 40 20.2**	**-0.5**
SGF				MSG		02 40 24.4	
	comp=Z,7.8nm,0.2s						
RNF	**Rovaniemi**	**2.55**	**115**	*e*PB	**Pb**	**02 39 51.7**	**-0.6**
RNF				*e*SB	**Sb**	**02 40 24.2**	**+0.1**
RNF				MSG		02 40 26.5	
	comp=Z,24nm,0.3s						
ARCES	**ARCESS Array B**	**2.59**	**46**	Pn	**Pn**	**02 39 50.0**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=227,slow=15,SNR=37						
ARCES				Lg	Lg	02 40 23.8	
	comp=Z,3.5nm,0.3s,baz=227,slow=24,SNR=23						
	comp=Z,3.3nm,0.3s						
FINES	**FINESS Array B**	**6.86**	**156**	Pn	**Pn**	**02 40 49.3**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=344,slow=12,SNR=1.9						
FINES				Sn	**Sn**	**02 42 05.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=353,slow=21,SNR=5.1						
FINES				Lg	Lg	02 42 40.7	
	comp=Z,0.5nm,0.3s,baz=348,slow=27,SNR=7.5						
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	**Pn**	**02 41 02.1**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=14,slow=13,SNR=2.1						
NOA				Sn	**Sn**	**02 42 27.9**	**-1.9**
	baz=67,slow=2.6,SNR=3.3						
NOA				Lg	Lg	02 43 13.6	
	baz=133,slow=12,SNR=5.0						
HFS	**Hagfors**	**8.22**	**203**	Pn	**Pn**	**02 41 06.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=20,slow=12,SNR=5.3						
HFS				Sn	**Sn**	**02 42 37.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=22,slow=25,SNR=1.9						
HFS				Lg	Lg	02 43 25.6	
	comp=Z,0.3nm,0.3s,baz=34,slow=26,SNR=2.7						
	comp=Z,2.0nm,0.9s						

NEIC 06 02:40:38.9±0.4, 40°.42N±0°.01×105°.39W±0°.02, h16km±7km, ML2.3/96, Error ellipse: s-maj=2.2km s-min=1.5km az=132.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
N23A	**Red Feather La**	**0.63**	**319**		Pg	02 40 51.6	+0.1
N23A				Sg	Sg	02 40 59.6	-0.4
ISCO	**Idaho Springs**	**0.64**	**195**		Pg	02 40 51.4	-0.2
ISCO				Sg	Sg	02 40 59.7	-0.5
BRIGG	**Briggsdale**	**0.83**	**78**		Pb	02 40 54.9	-0.2
BRIGG				Sg	Sg	02 41 05.2	-1.1
PHWY	**Pilot Hill**	**0.88**	**357**		Pb	02 40 55.6	-0.5
PHWY				Sg	Sb	02 41 07.0	-0.8
Q24A	**Divide**	**1.46**	**173**		Pb	02 41 06.3	+0.3
Q24A				IAML		02 41 26.2	
	comp=N,33nm,0.2s						
Q24A				IAML		02 41 26.3	
	comp=E,34nm,0.3s						
SMCO	**Snowmass**	**1.74**	**225**		Pg	02 41 12.1	-0.3
SMCO				IAML		02 41 38.2	
	comp=E,24nm,0.3s						
RWWY	**Rawlins**	**1.87**	**313**	Pn	Pn	02 41 10.6	0.0
O20A	**White River Ci**	**2.20**	**264**		Pn	02 41 16.4	+1.4
O20A				IAML		02 41 51.3	
	comp=N,17nm,0.5s						
O20A				IAML		02 41 51.8	
	comp=E,13nm,0.4s						
K22A	**Casper**	**2.39**	**340**		Pn	02 41 17.9	+0.3
K22A				IAML		02 41 57.7	
	comp=N,19nm,0.6s						
K22A				IAML		02 41 59.2	
	comp=E,22nm,0.3s						
OGNE	**Ogallala**	**2.61**	**77**	Pn	Pn	02 41 21.4	+0.8
SDCO	**Great Sand Dun**	**2.67**	**182**	Pn	Pn	02 41 22.2	+0.6
S22A	**4UR Ranch, Cre**	**2.89**	**203**	Pn	Pn	02 41 25.7	+1.0
PV15	**Paradox Valley**	**3.17**	**230**	Pn	Pn	02 41 29.1	+0.7
PV15				IAML		02 42 25.2	
	comp=E,8.0nm,3.3s						
PV15				IAML		02 42 40.5	
	comp=N,7.8nm,3.8s						
RDMU	**Red Mountain**	**3.19**	**274**	Pn	Pn	02 41 29.6	+0.9
RDMU				IAML		02 42 06.0	
	comp=E,6.2nm,4.5s						
PV07	**Paradox Valley**	**3.20**	**233**	Pn	Pn	02 41 28.1	-0.8
PV07				IAML		02 42 22.8	
	comp=E,6.6nm,3.9s						
PV07				IAML		02 42 23.1	
	comp=N,10nm,4.4s						
PV22	**Blue Mesa, Par**	**3.23**	**235**	Pn	Pn	02 41 28.0	-1.2
PV22				IAML		02 42 41.2	
	comp=N,6.9nm,3.5s						
PV22				IAML		02 43 32.0	
	comp=E,9.2nm,4.1s						
PV21	**Cone Mtn., Par**	**3.33**	**237**	Pn	Pn	02 41 28.7	-2.0
PV21				IAML		02 42 03.7	
	comp=N,8.8nm,3.4s						
PV21				IAML		02 43 25.3	
	comp=E,9.3nm,4.4s						
PV01	**Paradox Valley**	**3.36**	**228**	Pn	Pn	02 41 28.6	-2.4
PV01				IAML		02 42 10.8	
	comp=N,7.2nm,3.6s						
PV01				IAML		02 43 43.6	
	comp=E,8.2nm,4.9s						
T25A	**Trinidad**	**3.36**	**167**	Pn	Pn	02 41 29.5	-1.6
PV12	**Saucer Basin,**	**3.37**	**233**	Pn	Pn	02 41 30.2	-1.0
PV12				IAML		02 42 52.3	
	comp=N,9.9nm,5.0s						
PV04	**Paradox Valley**	**3.39**	**235**	Pn	Pn	02 41 31.3	-0.1
PV04				IAML		02 42 22.5	
	comp=E,8.2nm,4.0s						
PV04				IAML		02 42 36.5	
	comp=N,9.0nm,3.9s						
PV02	**Paradox Valley**	**3.41**	**231**	Pn	Pn	02 41 31.2	-0.5
PV23	**Carpenter Ridg**	**3.42**	**236**	Pn	Pn	02 41 30.8	-1.1
PV11	**David Mesa, Pa**	**3.43**	**233**	Pn	Pn	02 41 32.2	+0.3
PV03	**Paradox Valley**	**3.44**	**232**	Pn	Pn	02 41 29.8	-2.3
PV03				IAML		02 42 04.3	
	comp=E,9.4nm,4.7s						
PV03				IAML		02 42 47.0	
	comp=N,5.9nm,4.0s						
PV16	**Nyswonger Mesa**	**3.45**	**234**	Pn	Pn	02 41 30.1	-2.1
PV16				IAML		02 41 57.9	
	comp=E,8.1nm,4.4s						
PV16				IAML		02 42 31.0	
	comp=N,9.6nm,4.3s						
PV20	**West Nyswonger**	**3.46**	**234**	Pn	Pn	02 41 30.8	-1.6
PV14	**Lion Creek, Pa**	**3.48**	**235**	Pn	Pn	02 41 31.4	-1.2
PV14				IAML		02 42 44.3	
	comp=N,7.7nm,3.7s						
PV18	**Skein Mesa, Pa**	**3.48**	**233**	Pn	Pn	02 41 32.1	-0.6
PV13	**Radium Mtn., P**	**3.49**	**231**	Pn	Pn	02 41 30.6	-2.2
P18A	**Preston Nutter**	**3.81**	**260**	Pn	Pn	02 41 35.3	-2.0
P18A				IAML		02 42 40.4	
	comp=E,5.8nm,0.8s						
P18A				IAML		02 42 41.0	
	comp=N,5.8nm,1.4s						
RSSD	**Black Hills**	**3.83**	**15**	IAML		02 42 42.2	
	comp=N,4.3nm,0.7s						
RSSD				IAML		02 42 46.5	
	comp=N,3.2nm,0.8s						
RSSD	**Black Hills**	**3.83**	**15**	Pn	Pn	02 41 36.4	-1.1
BW06	**Boulder Array**	**3.91**	**308**	Pn	Pn	02 41 37.4	-1.1
BW06				IAML		02 43 09.4	
	comp=N,2.9nm,4.4s						
BW06				IAML		02 43 27.9	
	comp=N,3.6nm,4.9s						
PDAR	**Pinedale Array**	**3.91**	**308**	Pn	Pn	02 41 36.6	-2.0
SRU	**San Rafael Swe**	**4.16**	**253**	Pn	Pn	02 41 39.7	-2.3
SRU				IAML		02 43 11.4	
	comp=N,4.5nm,3.7s						
SRU				IAML		02 44 13.8	
	comp=E,6.0nm,4.4s						
TMUT	**Trail Mountain**	**4.61**	**258**	Pn	Pn	02 41 46.0	-2.3

ATH 06 03:14:04.5, 38°.13N×20°.32E, h18km±7km, ML0.9/1, Error ellipse: s-maj=11.8km s-min=2.3km az=30.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMLN	**Damoulianata-K**	**0.11**	**21**	P	Pb	03 14 08.1	0.0
DMLN				S	Sg	03 14 10.7	-0.1
PSDA	**Pessada-Kefalo**	**0.21**	**95**	P	Pg	03 14 09.3	-0.1
PSDA				S	Sg	03 14 13.0	+0.1
VLS	**Valsamata**	**0.22**	**78**	P	Pg	03 14 09.4	-0.2
VLS				S	Sg	03 14 13.1	0.0
VLS				AML	AML	03 14 13.6	
	comp=N,72μm,0.1s						
VLS				AML	AML	03 14 13.7	
	comp=E,89μm,0.1s						

ATH 06 03:14:17.4, 38°.30N×22°.18E, h14km±1km, ML1.0/5, Manual Solution by I.Dede This location: 2020/07/03 21:29:44 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.10**	**339**	P	Pg	03 14 20.7	+0.1
KALE				S	Sg	03 14 22.9	+0.1
SERG	**Sergoula**	**0.15**	**319**	P	Pg	03 14 21.4	+0.1
SERG				S	Sg	03 14 24.1	+0.3
EFP	**Efpalio**	**0.25**	**300**	P	Pg	03 14 22.8	0.0
EFP				S	Sg	03 14 26.8	+0.3
KLV	**Kalavryta, Ach**	**0.26**	**186**	P	Pg	03 14 22.8	-0.1
KLV				S	Sg	03 14 27.1	+0.4
GUR	**Goura**	**0.38**	**161**	P	Pg	03 14 25.4	+0.3
GUR				S	Sg	03 14 31.1	+0.7
AGG	**Agios Georgios**	**0.73**	**9**	P	Pb	03 14 31.9	0.0

MEX 06 03:31:26.7±0.5, 16°.07N×97°.12W, h43km±5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.07**	**201**	*e*P	Pn	03 31 32.1	-1.6
PEIG				*e*S	Sn	03 31 36.6	-1.8
YOIG	**Yosondua**	**0.89**	**333**	*e*P	Pn	03 31 41.3	-1.7
YOIG				*i* S	Sn	03 31 52.7	-2.2
HUIG	**Huatulco**	**1.02**	**107**	*e*P	Pn	03 31 43.0	-1.6
HUIG				*e*S	Sn	03 31 56.4	-1.3
PNIG	**Pinotepa**	**1.02**	**289**	*e*P	Pn	03 31 43.2	-1.4
PNIG				*e*S	Sn	03 31 55.0	-2.8
VHO	**Vista Hermosa**	**1.07**	**20**	*i* P	Pn	03 31 43.6	-1.9
VHO				*e*S	Sn	03 31 54.9	-4.3
TXIG	**Tlaxiaco**	**1.33**	**332**	*e*P	Pn	03 31 48.3	-0.9
TXIG				*e*S	Sn	03 32 04.5	-1.4
HLIG	**Huajuapan de L**	**1.87**	**340**	*e*P	Pn	03 31 56.5	0.0
HLIG				*e*S	Sn	03 32 18.0	-1.0
CRIG	**Cruz Grande**	**2.04**	**289**	*e*P	Pn	03 31 57.4	-1.2
CRIG				*e*S	Sn	03 32 18.8	-4.0
NEUV	**Arroyo Zacate**	**2.07**	**37**	*e*P	Pn	03 31 55.8	-3.2
NEUV				*e*S	Sn	03 32 24.6	+1.1
FTIG	**Fresnillo de T**	**2.07**	**332**	*e*P	Pn	03 31 58.9	-0.3
FTIG				*e*S	Sn	03 32 22.5	-1.4
CMIG	**Matias Romero**	**2.38**	**64**	*e*P	Pn	03 32 01.4	-1.7
CMIG				*e*S	Sn	03 32 28.8	-2.3
JAUV	**Jalcomulco**	**3.30**	**5**	*e*P	Pn	03 32 19.8	+3.9
JAUV				*e*S	Sn	03 32 54.4	+0.5

ECX 06 03:34:03.4±0.6, 31°.63N×115°.99W, h6km±4km, MD2.1, ML2.3, 7C-11D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJX	**San Joaquin**	**0.14**	**10**	⇓*i*P	Pg	03 34 10.2	+4.0
SJX				*e*S	Sg	03 34 15.6	+7.5
VTX	**Valle De La Tr**	**0.29**	**143**	⇓*i*P	Pg	03 34 08.7	-0.5
VTX				*e*S	Sg	03 34 12.8	-0.2
SV2X	**San Vicente**	**0.36**	**217**	⇓*i*P	Pg	03 34 10.0	-0.4
SV2X				*e*S	Sg	03 34 14.9	-0.1
SV2X				IAML		03 34 15.1	
	comp=N,303nm,0.1s						
SV2X				⇓*e*		03 34 15.1	
ALAMX	**Rancho Alamar**	**0.45**	**32**	⇓*i*P	Pg	03 34 11.5	-0.6
ALAMX				*e*S	Sg	03 34 17.3	-0.6
PBX	**Punta Banda**	**0.64**	**280**	⇑*i*P	Pg	03 34 14.9	-0.8
SPIG	**San Pedro Mart**	**0.73**	**142**	*e*S	Sg	03 34 25.9	-1.2
SPIG	**San Pedro Mart**	**0.73**	**142**	⇑*e*P	Pg	03 34 16.5	-1.0
SPIG				*e*S	Sg	03 34 26.6	-0.4
SPIG	**San Pedro Mart**	**0.73**	**142**	*e*P	Pg	03 34 16.5	-1.0
RHX	**Rio Hardy**	**0.78**	**50**	*e*P	Pg	03 34 17.6	-0.9
RHX				*e*S	Sg	03 34 27.7	-0.9
ECBX	**El Chinero**	**0.81**	**101**	⇑*i*P	Pg	03 34 18.4	-0.7
ECBX				*e*S	Sg	03 34 28.8	-0.9
CBX	**Cerro Bola**	**0.89**	**320**	⇓*e*P	Pg	03 34 19.2	-1.4
AGSX	**Ej. Aguas Cali**	**0.95**	**48**	⇑*i*P	Pg	03 34 21.4	-0.2
TJIG	**Tijuana**	**0.99**	**324**	*e*S	Sg	03 34 33.5	-1.9
TJIG	**Tijuana**	**0.99**	**324**	⇓*e*P	Pg	03 34 20.7	-1.8
TJIG				*e*S	Sg	03 34 33.9	-1.5
TJIG	**Tijuana**	**0.99**	**324**	*e*P	Pg	03 34 20.5	-2.0
YUH2	**Yuha Desert**	**1.02**	**3**	⇓*i*P	Pg	03 34 21.4	-1.5
IKP	**In-Ko-Pah, Jac**	**1.02**	**354**	⇓*i*P	Pg	03 34 21.8	-1.3
IKP				*e*S	Sg	03 34 34.7	-1.7
SQX	**San Quintin**	**1.05**	**175**	⇓*e*P	Pg	03 34 21.5	-2.1
SQX				*e*S	Sg	03 34 35.3	-1.9
SQX				⇑*e*		03 34 38.7	
SQX				IAML		03 34 38.7	
	comp=E,140nm,0.5s						
TKX	**Tecate**	**1.07**	**331**	*e*S	Sg	03 34 35.7	-2.3
BAR	**Barrett**	**1.20**	**331**	⇓*e*P	Pg	03 34 24.3	-2.1
BAR				*e*S	Sg	03 34 39.4	-2.6
MONP2	**Monument Peak**	**1.31**	**344**	⇑*e*P	Pn	03 34 26.7	-1.8
EML	**El Monte Cty P**	**1.45**	**330**	⇑*e*P	Pn	03 34 28.2	-2.0

*NEIC **06** 03:46:43.5±0.9, 37°.96S±0°.05×74°.5W±0°.1, h10km±2km, mb4.3/6, ML4.0(GUC), Error ellipse: s-maj=14.5km s-min=8.8km az=260.0*
*GUC **06** 03:46:47.6±0.6, 37°.97S×74°.02W, h28km±2km, ML4.0*

**ISC 06 03:46:44.0±2.0, 37°.98

BDFB	**Brasilia**	**32.23**	**54**	P	**P**	**03 53 09.0**	**-0.8**
BDFB				IAmb	IAmb	03 53 51.8	
	comp=Z,5.3nm,1.3s						
SNAA	**Sanae**	**48.68**	**156**	P	**P**	**03 55 26.8**	**+1.8**
SNAA				IAmb	IAmb	03 55 43.3	
	comp=Z,4.6nm,1.3s						
QSPA	**South Pole Qui**	**52.26**	**180**	P	P	03 55 49.0	-3.3
QSPA				IAmb	IAmb	03 56 15.1	
	comp=Z,3.6nm,1.2s						

*RHSSO **06** 03:51:22.7±0.6, 41°.76N×19°.85E, h5km±2km, ML3.1/12*
*PDG **06** 03:51:23.5±0.2, 41°.80N×19°.76E, h13km, MD3.2/3,*
ML3.1/13, Error ellipse: s-maj=0.3km s-min=0.7km az=0.0
*TIR **06** 03:51:23.5, 41°.83N×19°.76E, h26km±1km, Ml3.3*
*THE **06** 03:51:23.3, 41°.72N×19°.39E, h2km±1km, ML2.7/3, Error ellipse: s-maj=4.1km s-min=2.2km az=43.0*
*BEO **06** 03:51:24.7±0.3, 41°.84N×19°.72E, h15km±2km, ML2.9/13*
ISC 06 03:51:23.7±1.0, 41°.81N±0°.01×19°.75E±0°.02, h12km±9km, n121, σ0°99/189, 28C-16D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.26**	**25**	P	**Pb**	**03 51 29.8**	**-0.6**
	baz=24						
PUK				S	**Sb**	**03 51 35.0**	**+0.1**
	baz=24						
PUK				AMP			
	comp=E,24nm,0.3s,baz=24						
ULC	**Ulcinj**	**0.41**	**293**	⇓iPg	**Pb**	**03 51 32.1**	**-0.7**
ULC				*i* Sg	**Sb**	**03 51 38.9**	**-0.1**
TIR	**Tirane**	**0.47**	**169**	⇓P	**Pb**	**03 51 33.7**	**-0.1**
TIR	**Tirane**	**0.47**	**169**	P	**Pb**	**03 51 33.3**	**-0.5**
	baz=171						
TIR				S	**Sb**	**03 51 41.3**	**+0.6**
	baz=171						
TIR				AMP			
	comp=E,6.0nm,0.4s,baz=171						
TIR	**Tirane**	**0.47**	**169**	P	**Pb**	**03 51 33.2**	**-0.7**
TIR				S	**Sb**	**03 51 40.3**	**-0.4**
	comp=E,1μm,0.3s						
TIR	**Tirane**	**0.47**	**169**	*e*Pg	**Pb**	**03 51 33.3**	**-0.5**
TIR				*e*Sg	**Sb**	**03 51 43.1**	**+2.4**
DRME	**Dracevica, Mon**	**0.56**	**312**	*e*Pg	**Pb**	**03 51 35.1**	**-0.4**
DRME				*e*Sg	**Sb**	**03 51 43.5**	**-0.1**
DRME	**Dracevica, Mon**	**0.56**	**312**	⇓*i*Pg	**Pg**	**03 51 34.4**	**-0.3**
DRME				*e*Sg	**Sb**	**03 51 43.8**	**+0.2**
DRME	**Dracevica, Mon**	**0.56**	**312**	⇑*i*Pg	**Pg**	**03 51 34.7**	**0.0**
DRME				*i* Sg	**Sb**	**03 51 43.9**	**+0.3**
BCI	**Bajram Curri**	**0.61**	**23**	P	**Pg**	**03 51 35.2**	**-0.4**
	baz=22						
BCI				S	**Sb**	**03 51 44.7**	**-0.2**
	baz=22						
BCI				AMP			
	comp=E,8.0nm,0.4s,baz=22						
PDG	**Podgorica**	**0.72**	**330**	⇓P	**Pb**	**03 51 38.2**	**0.0**
PDG				⇑S	**Sb**	**03 51 49.2**	**+1.1**
PDG	**Podgorica**	**0.72**	**330**	*e*Pg	**Pg**	**03 51 37.4**	**-0.3**
PDG				*e*Sg	**Sb**	**03 51 48.8**	**+0.7**
PDG	**Podgorica**	**0.72**	**330**	⇓*i*Pg	**Pg**	**03 51 37.1**	**-0.6**
PDG				*e*Sg	**Sb**	**03 51 48.1**	**0.0**
PDG	**Podgorica**	**0.72**	**330**	⇑*i*Pg	**Pg**	**03 51 37.1**	**-0.6**
PDG				*i* Sg	**Sb**	**03 51 48.7**	**+0.7**
PVY	**Plav**	**0.80**	**11**	⇓*i*Pg	**Pg**	**03 51 38.4**	**-0.8**
PVY				*i* Sg	**Sb**	**03 51 51.2**	**+0.7**
BUM	**Brajici-Budva**	**0.80**	**308**	⇑*i*Pg	**Pg**	**03 51 39.1**	**-0.1**
BUM				*i* Sg	**Sb**	**03 51 51.8**	**+1.3**
CEME	**Cevo**	**0.96**	**320**	⇓*i*Pg	**Pg**	**03 51 41.4**	**-0.8**
CEME				*i* Sg	**Sn**	**03 51 57.1**	**+0.3**
OHR	**Ohrid**	**1.05**	**131**	*i* Pg	**Pn**	**03 51 44.1**	**-0.2**
OHR				*i* Sg	**Sn**	**03 52 00.6**	**+1.7**
KOME	**Kolasin**	**1.06**	**351**	*e*Pg	**Pg**	**03 51 43.1**	**-0.9**
KOME	**Kolasin**	**1.06**	**351**	⇑*i*Pg	**Pg**	**03 51 43.2**	**-0.8**
KOME				*i* Sg	**Sn**	**03 51 59.6**	**+0.4**
IVA	**Berane**	**1.07**	**6**	⇓*i*Pg	**Pg**	**03 51 43.5**	**-0.8**
IVA				*i* Sg	**Sn**	**03 52 00.0**	**+0.5**
NKME	**Niksic**	**1.12**	**329**	⇑*i*Pg	**Pg**	**03 51 44.8**	**-0.5**
NKME				*i* Sg	**Sn**	**03 52 02.1**	**+1.3**
HCY	**Herceg Novi**	**1.13**	**305**	*e*Pg	**Pg**	**03 51 45.0**	**-0.4**
HCY				*e*Sg	**Sn**	**03 52 01.7**	**+0.9**
HCY	**Herceg Novi**	**1.13**	**305**	⇑*i*Pg	**Pg**	**03 51 44.4**	**-1.0**
HCY				*i* Sg	**Sn**	**03 52 02.4**	**+1.6**
SKO	**Skopje**	**1.27**	**82**	*i* Pn	**Pn**	**03 51 46.9**	**-0.4**
VLO	**Vlora**	**1.35**	**188**	P	**Pg**	**03 51 49.3**	**-0.3**
	baz=189						
VLO				S	**Sg**	**03 52 09.5**	**+2.4**
	baz=189						
BRY	**Bratogost**	**1.41**	**321**	⇑*i*Pg	**Pb**	**03 51 49.8**	**-0.3**
BRY				*e*Sg	**Sg**	**03 52 10.4**	**+1.2**
BRY	**Bratogost**	**1.41**	**321**	⇑*i*Pg	**Pb**	**03 51 49.9**	**-0.2**
BRY				*i* Sg	**Sg**	**03 52 11.2**	**+2.0**
KBN	**Korca**	**1.42**	**146**	P	**Pg**	**03 51 50.8**	**-0.2**
	baz=147						
KBN				S	**Sg**	**03 52 10.8**	**+1.5**
	baz=147						
KBN	**Korca**	**1.42**	**146**	P	**Pg**	**03 51 51.2**	**+0.3**
KBN				S	**Sg**	**03 52 11.9**	**+2.5**
	comp=E,285nm,0.6s						
SJES	**Sjenica**	**1.46**	**7**	*e*Pg	**Pb**	**03 51 50.5**	**-0.4**
SJES				*e*Sg	**Sb**	**03 52 09.6**	**+0.1**
SJES	**Sjenica**	**1.46**	**7**	⇓*i*Pg	**Pn**	**03 51 50.1**	**+0.1**
SJES				*e*Sg	**Sg**	**03 52 10.5**	**-0.3**
DBRK	**Dubrovnik**	**1.47**	**306**	*e*Pn	**Pn**	**03 51 50.1**	**+0.1**
DBRK				Sn	**Sg**	**03 52 10.6**	**-0.3**
UPM	**Unac-Piva**	**1.53**	**336**	⇓*i*Pn	**Pb**	**03 51 52.1**	**0.0**
UPM				*e*Sn	**Sg**	**03 52 12.8**	**-0.1**
UPM	**Unac-Piva**	**1.53**	**336**	⇑*i*Pg	**Pb**	**03 51 51.8**	**-0.3**
UPM				*i* Sg	**Sg**	**03 52 13.9**	**+1.0**
PLE	**Pljevlja**	**1.54**	**350**	⇑*i*Pg	**Pb**	**03 51 51.9**	**-0.4**
PLE				*i* Sg	**Sg**	**03 52 14.5**	**+1.1**
FNA	**Florina**	**1.60**	**129**	P	**Pb**	**03 51 52.9**	**-0.3**
	baz=130						
FNA				S	**Sg**	**03 52 15.7**	**+0.6**
	baz=130						
FNA	**Florina**	**1.60**	**129**	P	**Pg**	**03 51 53.4**	**-0.9**
FNA	**Florina**	**1.60**	**129**	*e*Pg	**Pg**	**03 51 53.6**	**-0.7**
KLINJ	**Klinje**	**1.61**	**328**	*e*Pn	**Pb**	**03 51 52.9**	**-0.5**
KLINJ				*e*Sn	**Sg**	**03 52 15.2**	**-0.3**
NEST	**Nestorio**	**1.70**	**144**	P	**Pb**	**03 51 54.9**	**-0.1**
LSK	**Leskovik**	**1.78**	**158**	P	**Pn**	**03 51 54.9**	**+0.6**
	baz=159						
LSK				S	**Sg**	**03 52 20.3**	**-0.5**
	baz=159						
LSK	**Leskovik**	**1.78**	**158**	P	**Pb**	**03 51 55.3**	**-0.9**
IVAS	**Ivanjica**	**1.79**	**9**	*e*Pn	**Pn**	**03 51 55.3**	**+0.8**
IVAS				*e*Sn	**Sn**	**03 52 17.2**	**-0.1**
STIP	**Stip**	**1.83**	**93**	*i* Pn	**Pg**	**03 51 57.5**	**-1.2**
RUDO	**Rudo**	**1.83**	**351**	⇓*i*Pn	**Pn**	**03 51 55.5**	**+0.5**
RUDO				*e*Sn	**Sb**	**03 52 20.0**	**0.0**
BARS	**Barje**	**1.84**	**56**	*e*Pn	**Pn**	**03 51 55.7**	**+0.6**
BARS				*e*Sn	**Sn**	**03 52 19.0**	**+0.7**
STON	**Ston**	**1.85**	**306**	*e*Pg	**Pn**	**03 51 56.0**	**+0.7**
STON				*e*Sg	**Sg**	**03 52 22.2**	**-1.0**
STON	**Ston**	**1.85**	**306**	*e*Pn	**Pn**	**03 51 55.0**	**-0.3**
STON	**Ston**	**1.85**	**306**	*e*Pn	**Pn**	**03 51 55.7**	**+0.4**
STON				*e*Sn	**Sb**	**03 52 21.4**	**+0.8**
PRVS	**Prvonek**	**1.87**	**67**	*e*Pn	**Pn**	**03 51 56.1**	**+0.6**
PRVS				*e*Sn	**Sn**	**03 52 19.7**	**+0.6**
SRN	**Sarande**	**1.94**	**174**	P	**Pn**	**03 51 56.8**	**+0.4**
	baz=174						
SRN				S	**Sg**	**03 52 25.0**	**-0.8**
	baz=174						
SRN	**Sarande**	**1.94**	**174**	P	**Pn**	**03 51 56.7**	**+0.3**
SRN				S	**Sn**	**03 52 21.3**	**+0.7**
	comp=E,72nm,0.6s						
BBLS	**Lazi&#263i**	**2.07**	**353**	*e*Pn	**Pn**	**03 51 59.4**	**+1.0**
BBLS				*e*Sn	**Sn**	**03 52 24.5**	**+0.3**
BBLS	**Lazi&#263i**	**2.07**	**353**	⇑*i*Pn	**Pn**	**03 51 59.3**	**+0.9**
BBLS				*e*Sn	**Sn**	**03 52 25.7**	**+1.5**
BOSS	**Bosilegrad**	**2.15**	**70**	*e*Pn	**Pn**	**03 52 00.1**	**+0.8**
VAY	**Valandovo**	**2.17**	**102**	*i* Pn	**Pb**	**03 52 01.6**	**-1.3**
GRUS	**Gruza**	**2.20**	**19**	*e*Pn	**Pn**	**03 52 00.8**	**+0.8**
NOCI	**Noci**	**2.26**	**244**	P	**Pb**	**03 52 03.8**	**-0.7**
	baz=244						
NOCI				S	**Sb**	**03 52 33.0**	**+0.5**
	baz=244						
DIVS	**Divibare**	**2.30**	**4**	*e*Pn	**Pn**	**03 52 02.2**	**+0.7**
DIVS				*e*Sn	**Sn**	**03 52 29.3**	**-0.4**
BOVS	**Bovan**	**2.33**	**38**	⇑S	**Sn**	**03 52 29.9**	**-0.4**
BOVS	**Bovan**	**2.33**	**38**	*e*Pn	**Pn**	**03 52 02.4**	**+0.6**
BOVS				*e*Sn	**Sn**	**03 52 30.0**	**-0.4**
HAPS	**Han Pijesak,BI**	**2.35**	**346**	*e*Pn	**Pn**	**03 52 03.3**	**+1.0**
HAPS				*e*Sn	**Sn**	**03 52 29.3**	**-1.8**
HAPS	**Han Pijesak,BI**	**2.35**	**346**	*e*Pn	**Pn**	**03 52 03.0**	**+0.7**
HAPS				*e*Sn	**Sb**	**03 52 33.5**	**-1.6**
TRUS	**Trudelj**	**2.46**	**11**	*e*Sn	**Pn**	**03 52 04.2**	**+0.5**
TRUS	**Trudelj**	**2.46**	**11**	*e*Pn	**Sn**	**03 52 33.1**	**-0.6**
MAKA	**Makarska**	**2.50**	**307**	*e*Pn	**Pn**	**03 52 04.2**	**+0.1**
RICI	**Ricice**	**2.56**	**312**	*e*Pn	**Pn**	**03 52 05.4**	**+0.4**
MATE	**Matera**	**2.57**	**244**	⇑P	**Pn**	**03 52 02.1**	**-3.0**
MATE				⇑S	**Sn**	**03 52 32.8**	**-3.5**
ZAGS	**Zajecar**	**2.71**	**42**	*e*Pn	**Pn**	**03 52 08.1**	**+1.0**
VTS	**Vitosha**	**2.71**	**71**	*e*Pn	**Pn**	**03 52 08.7**	**+1.4**
VTS				*e*Sn	**Sn**	**03 52 41.5**	**+1.4**
TEKS	**Tekeris**	**2.75**	**357**	*e*Pn	**Pn**	**03 52 08.2**	**+0.6**
TEKS	**Tekeris**	**2.75**	**357**	*e*Pn	**Pn**	**03 52 07.5**	**-0.1**
TEKS				*e*Sn	**Sn**	**03 52 42.6**	**+1.9**
HVAR	**Hvar**	**2.80**	**300**	*e*Pn	**Pn**	**03 52 07.7**	**-0.5**
BLKB	**Belogradchik**	**2.82**	**49**	⇑S	**Sn**	**03 52 44.0**	**+1.4**
THL	**Klokotos Trika**	**2.83**	**142**	P	**Pn**	**03 52 10.2**	**+1.5**
AVAS	**Avala Beograd**	**2.94**	**11**	*e*Pn	**Pn**	**03 52 10.7**	**+0.4**
AVAS				*e*Sn	**Sn**	**03 52 44.7**	**-0.8**
KUBS	**Kucevo**	**2.96**	**28**	*e*Pn	**Pn**	**03 52 09.8**	**-0.7**
KUBS				*e*Sn	**Sn**	**03 52 45.7**	**-0.3**
SRS	**Serrai**	**2.97**	**102**	*e*Pn	**Pn**	**03 52 11.3**	**+0.6**
SGRT	**San Giovanni R**	**2.99**	**270**	P	**Pn**	**03 52 10.2**	**-0.8**
	baz=270						
TSLK	**Tsoukalades, L**	**3.06**	**167**	P	**Pn**	**03 52 12.0**	**+0.1**
LKD2	**Lefkada island**	**3.09**	**167**	P	**Pn**	**03 52 12.2**	**-0.2**
	baz=167						
LKD2	**Lefkada island**	**3.09**	**167**	P	**Pn**	**03 52 12.2**	**-0.2**
NYDR	**Nydri-Lefkada**	**3.17**	**166**	P	**Pn**	**03 52 13.0**	**-0.4**
MGRS	**Mrkonjic Grad**	**3.26**	**324**	*e*Pn	**Pn**	**03 52 15.5**	**+0.9**
MGRS				*e*Sn	**Sn**	**03 52 55.1**	**+1.8**
EVGI	**Lefkada island**	**3.26**	**167**	P	**Pn**	**03 52 14.1**	**-0.5**
MDVR	**Moldovita**	**3.30**	**25**	⇑P	**Pn**	**03 52 16.1**	**+0.8**
MDVR				⇑S	**Sn**	**03 52 54.4**	**0.0**
FRGS	**Fruska Gora**	**3.35**	**1**	⇓P	**Pn**	**03 52 15.9**	**+0.1**
FRGS				⇓S	**Sn**	**03 52 56.1**	**+0.5**
FRGS	**Fruska Gora**	**3.35**	**1**	*e*Pn	**Pn**	**03 52 16.0**	**+0.1**
FRGS	**Fruska Gora**	**3.35**	**1**	⇑*i*Pn	**Pn**	**03 52 16.0**	**+0.1**
FRGS				*e*Sn	**Sn**	**03 52 55.8**	**+0.2**
TIP	**Timpagrande**	**3.48**	**222**	⇑P	**Pn**	**03 52 16.4**	**-1.2**
BLY	**Banja Luka**	**3.48**	**328**	⇑*i*Pn	**Pn**	**03 52 18.5**	**+0.8**
BLY				*e*Sn	**Sn**	**03 53 00.0**	**+1.1**
ZIRJ	**Zirje**	**3.54**	**303**	*e*Pn	**Pn**	**03 52 18.5**	**+0.1**
A050A	**Klekovaca**	**3.56**	**320**	*e*Pn	**Pn**	**03 52 19.7**	**+0.9**
A050A				*e*Sn	**Sn**	**03 53 02.4**	**+1.5**
DMLN	**Damoulianata-K**	**3.60**	**172**	P	**Pn**	**03 52 18.0**	**-1.3**
MORI	**Morici**	**3.61**	**306**	*e*Pn	**Pn**	**03 52 19.9**	**+0.5**
ANX	**Ano Chora**	**3.62**	**152**	P	**Pn**	**03 52 21.2**	**+1.6**
HERR	**Herculane**	**3.64**	**31**	⇓P	**Pn**	**03 52 20.8**	**+1.0**
PSDA	**Pessada-Kefalo**	**3.75**	**170**	P	**Pn**	**03 52 20.2**	**-1.1**
SRE	**Strehaia**	**3.81**	**40**	⇑P	**Pn**	**03 52 23.2**	**+1.0**
BZS	**Buzias**	**4.04**	**19**	⇑P	**Pn**	**03 52 25.8**	**+0.5**
BZS				⇑S	**Sn**	**03 53 11.9**	**-0.7**
DUGI	**Dugi Otok**	**4.08**	**304**	*e*Pn	**Pn**	**03 52 25.8**	**0.0**
GZR	**Gura Zlata**	**4.21**	**31**	⇓P	**Pn**	**03 52 28.2**	**+0.5**
VIRC	**Vir**	**4.24**	**307**	*e*Pn	**Pn**	**03 52 27.8**	**-0.3**
SURR	**Surduc**	**4.30**	**23**	⇑P	**Pn**	**03 52 29.5**	**+0.5**
NVLJ	**Novalja**	**4.50**	**309**	*e*Pn	**Pn**	**03 52 31.4**	**-0.3**
SIRR	**Siria**	**4.67**	**17**	⇑P	**Pn**	**03 52 34.6**	**+0.6**
BOJS	**Bojanci**	**4.93**	**320**	*e*Pn	**Pn**	**03 52 37.8**	**+0.3**
BOJS				*e*Sn	**Sn**	**03 53 34.6**	**+0.1**
DRGR		**5.42**	**22**	⇑P	**Pn**	**03 52 44.5**	**+0.1**
DRGR				⇑S	**Sn**	**03 53 45.3**	**-1.3**
CEY	**Cerknica**	**5.50**	**317**	⇓*i*Pn	**Pn**	**03 52 45.8**	**+0.3**
CEY				*e*Sn	**Sn**	**03 53 48.4**	**-0.3**
OBKA	**Obir**	**6.00**	**323**	*e*Pn	**Pn**	**03 52 54.7**	**+2.2**
	comp=E,0.8nm,0.2s						
OBKA	**Obir**	**6.00**	**323**	*e*Pn	**Pn**	**03 52 52.6**	**+0.2**
ARSA	**Arzberg**	**6.22**	**332**	*e*Pn	**Pn**	**03 52 57.8**	**+2.5**
	comp=E,2.1nm,0.6s						
RONA	**Rosalia, Austr**	**6.38**	**339**	*e*Pn	**Pn**	**03 52 58.1**	**+0.5**
	comp=E,1.8nm,0.5s						
KECS	**Kecovo**	**6.70**	**4**	*e*PN	Pn	03 53 06.9	+5.1
KECS				*e*SN	**Sn**	**03 54 16.5**	**-1.5**
VYHS	**Vyhne**	**6.72**	**355**	*e*PN	Pn	03 53 07.6	+5.5
VYHS				*e*SN	**Sn**	**03 54 18.3**	**-0.3**
KOLS	**Kolonicke sedl**	**7.34**	**13**	*e*PN	**Pn**	**03 53 13.0**	**+2.3**
KOLS				*e*SN	**Sn**	**03 54 30.6**	**-3.4**
WTTA	**Wattenberg**	**7.96**	**316**	*e*Pn	**Pn**	**03 53 20.1**	**+0.8**
	comp=E,0.3nm,0.2s						
FETA	**Feichten**	**8.29**	**312**	*e*Pn	**Pn**	**03 53 24.1**	**+0.2**
	comp=E,0.5nm,0.5s						
KHC	**Kasperske Hory**	**8.51**	**332**	*e*PN	**Pn**	**03 53 29.0**	**+2.3**
KHC				*e*SN	**Sn**	**03 55 04.5**	**+1.9**

IDC 06 04:02:09.4±8.7, 20°.27S×179°.98W, h0km, mb4.0/3, mbtmp4.1/4, ML4.2/1, Error ellipse: s-maj=155.7km s-min=19.2km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.11**	**187**	P	Pn	04 06 22.3	-0.1
	0.9nm,0.3s,baz=314,slow=4.7,SNR=6.6						
URZ				S	Sn	04 09 46.0	+1.0
	2.1nm,0.5s,baz=201,slow=8.7,SNR=1.5						
	2.2nm,0.3s						
STKA	**Stephens Creek**	**36.22**	**243**	P	P	04 09 15.2	+1.0
	1.6nm,0.7s,baz=65,slow=17,SNR=1.3						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**42.76**	**257**	P	P	04 10 08.8	-0.2
	2.1nm,0.6s,baz=88,slow=8.6,SNR=13						
	2.1nm,0.6s						
WRA	**Warramunga Arr**	**42.79**	**262**	P	P	04 10 08.6	-0.6
	0.6nm,0.4s,baz=97,slow=7.9,SNR=24						
	0.6nm,0.4s						

*IDC **06** 04:19:36.7±2.9, 21°.42S×177°.92W, h318km±27km, mb3.2/7, mbtmp3.9/8, Error ellipse: s-maj=32.5km s-min=19.6km az=115.0*
*NEIC **06** 04:19:41.9±1.8, 21°.6S±0°.1×177°.8W±0°.1, h371km±4km, mb4.3/18, Error ellipse: s-maj=18.5km s-min=17.1km az=177.0*
ISC 06 04:19:43.2±0.5, 21°.52S±0°.09×177°.82W±0°.09, h400km, n46, σ1°93/45, mb3.9/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.42**	**313**	Pn	**Pn**	**04 21 08.4**	**-1.4**
RAO	**Raoul Island**	**7.70**	**181**	S	S	04 22 53.6	-12
	121nm,0.4s,baz=263,slow=22,SNR=1.5						
NIUE	**Niue**	**7.79**	**73**	Pn	**Pn**	**04 21 32.1**	**-3.8**
OUENC	**Ouen Island, N**	**14.26**	**264**		**P**	**04 22 45.9**	**-1.9**
DZM	**Mont Dzumac**	**14.63**	**265**		**P**	**04 22 49.5**	**-2.4**
DZM	**Mont Dzumac**	**14.63**	**265**	P	**P**	**04 22 52.3**	**+0.4**
	8.2nm,1.0s,baz=174,slow=22,SNR=1.5						
MXZ	**Matakaoa Point**	**16.34**	**191**	P	**P**	**04 23 06.3**	**-3.7**
URZ	**Urewera**	**17.25**	**194**	P	**P**	**04 23 17.7**	**-1.9**
	1.7nm,0.3s,baz=331,slow=4.7,SNR=10.0						
URZ				S	**S**	**04 26 18.6**	**-0.2**
	3.7nm,0.6s,baz=342,slow=20,SNR=2.0						
RTZ	**Ruatahuna**	**17.62**	**194**	P	**P**	**04 23 19.3**	**-4.4**
RTZ				IAmb	IAmb	04 23 19.5	
	comp=Z,19nm,1.4s						
BKZ	**Black Stump Fm**	**18.25**	**194**	P	**P**	**04 23 28.8**	**-1.6**
MRZ	**Mangatainoka R**	**19.89**	**195**	P	**P**	**04 23 44.5**	**-2.0**
MRZ				IAmb	IAmb	04 23 45.8	
	comp=Z,10nm,1.1s						
QRZ	**Quartz Range**	**20.92**	**201**	P	**P**	**04 23 56.2**	**+0.3**
QRZ				IAmb	IAmb	04 23 56.4	
	comp=Z,19nm,1.1s						
INZ	**Inchbonnie**	**22.98**	**201**	P	**P**	**04 24 14.0**	**-0.6**
EIDS	**Eidsvold**	**28.76**	**256**	P	**P**	**04 25 07.3**	**+1.1**
EIDS				IAmb	IAmb	04 25 24.2	
	comp=Z,17nm,1.3s						
TOO	**Toolangi**	**35.45**	**235**	P	**P**	**04 26 03.4**	**-0.3**
TOO				IAmb	IAmb	04 26 22.1	
	comp=Z,39nm,1.4s						
STKA	**Stephens Creek**	**37.51**	**245**	P	**P**	**04 26 21.8**	**+0.8**
STKA	**Stephens Creek**	**37.51**	**245**	P	**P**	**04 26 22.0**	**+1.1**
	comp=Z,4.0nm,1.0s,baz=90,slow=10,SNR=3.6						
	comp=Z,4.0nm,1.0s						
BBOO	**Buckleboo**	**42.26**	**245**	P	**P**	**04 26 60.0**	**+0.5**
BBOO				IAmb	IAmb	04 27 05.1	
	comp=Z,20nm,0.7s						
WR0	**Warramunga Arr**	**44.45**	**263**	P	**P**	**04 27 17.2**	**+0.3**
WR0				IAmb	IAmb	04 27 34.6	
	comp=Z,9.7nm,0.9s						
KNRA	**Kununurra**	**50.77**	**267**	P	**P**	**04 28 03.8**	**-1.1**
KNRA				IAmb	IAmb	04 28 08.6	
	comp=Z,25nm,1.4s						
VNDA	**Vanda**	**56.91**	**185**	P	**P**	**04 28 49.4**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=27,slow=4.5,SNR=1.6						
	comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**68.55**	**180**	P	**P**	**04 30 06.0**	**+2.0**
QSPA				IAmb	IAmb	04 30 12.7	
	comp=Z,3.0nm,0.8s						
QSPA	**South Pole Qui**	**68.55**	**180**	P	**P**	**04 30 05.5**	**+1.6**
	comp=Z,2.0nm,0.9s,baz=354,slow=3.3,SNR=5.8						
	comp=Z,2.0nm,0.9s						
BELA	**Belgrano 2**	**78.53**	**173**	P	**P**	**04 31 02.3**	**+1.2**
NVAR	**Mina Array Bea**	**81.64**	**43**	P	**P**	**04 31 21.1**	**+2.7**
	comp=Z,0.4nm,0.6s,baz=229,slow=10,SNR=3.8						
	comp=Z,0.4nm,0.6s						
KDAK	**Kodiak Island**	**81.76**	**13**	P	**P**	**04 31 19.1**	**+1.0**
KVN	**Kaiserville**	**82.14**	**43**	P	**P**	**04 31 22.9**	**+2.1**
SYI	**Shuyak Island**	**82.56**	**13**	P	**P**	**04 31 24.3**	**+2.1**
TXAR	**Lajitas Array**	**87.46**	**57**	P	P	04 31 50.5	+3.4
	comp=Z,0.4nm,0.7s,baz=217,slow=5.1,SNR=5.8						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**89.27**	**13**	P	**P**	**04 31 55.5**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=212,slow=5.5,SNR=8.2						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**89.58**	**43**	P	**P**	**04 31 59.3**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=231,slow=5.7,SNR=2.4						
	comp=Z,0.4nm,0.7s						
J30M	**Hart River**	**91.59**	**17**		**P**	**04 32 06.1**	**+0.6**
J30M				IAmb	IAmb	04 32 18.8	
	comp=Z,3.5nm,0.8s						
MKAR	**Makanchi Array**	**112.02**	**313**	PKiKP	**PKiKP**	**04 37 33.5**	**+1.8**
	comp=Z,0.3nm,0.4s,baz=144,slow=1.4,SNR=4.8						
KURBB	**Kurchatov Arra**	**114.91**	**317**	PKP	**PKiKP**	**04 37 38.8**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=78,slow=2.6,SNR=5.2						
BVAR	**Borovoye Array**	**119.97**	**320**	PKP	**PKiKP**	**04 37 49.3**	**+2.5**
	comp=Z,2.3nm,0.4s,baz=121,slow=2.0,SNR=10						
ARCES	**ARCESS Array B**	**129.95**	**350**	PKP	**PKiKP**	**04 38 06.0**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=52,slow=2.0,SNR=5.7						
FINES	**FINESS Array B**	**136.79**	**343**	PKP	**PKPdf**	**04 38 17.8**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=90,slow=4.4,SNR=2.2						
FINES				SKPbc	**SKPab**	**04 41 22.5**	**+2.7**
	comp=Z,2.0nm,0.8s,baz=15,slow=5.8,SNR=3.9						
HFS	**Hagfors**	**140.57**	**351**	PKhKP	PKPpre	04 38 20.6	
	comp=Z,0.7nm,0.4s,baz=67,slow=4.8,SNR=5.6						
AKASG	**Malin Array Be**	**143.98**	**331**	PKP	**PKiKP**	**04 38 32.4**	**-3.0**
	comp=Z,6.3nm,0.5s,baz=43,slow=4.4,SNR=23						
AKBB	**Malin Array Si**	**143.98**	**331**		**PKiKP**	**04 38 32.3**	**-3.0**
KIEV	**Kiev**	**144.00**	**331**		**PKPdf**	**04 38 32.2**	**+0.5**
EKA	**Eskdalemuir Ar**	**146.00**	**5**	PKPbc	**PKiKP**	**04 38 37.7**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=339,slow=3.0,SNR=6.0						
BRTR	**Keskin Array B**	**147.64**	**311**	PKPbc	**PKiKP**	**04 38 42.8**	**-0.7**
	comp=Z,2.2nm,0.5s,baz=140,slow=4.8,SNR=14						
BURAR	**Bucovina Array**	**148.03**	**330**		**PKPab**	**04 38 45.9**	**-0.7**
MMAI	**Mount Meron Ar**	**148.46**	**298**	PKPbc	**PKPab**	**04 38

USRK	Ussuriysk Ar.	52.87	346	P	P	04 30 28.9	-1.4
	comp=Z,1.9nm,0.7s,baz=159,slow=5.7,SNR=2.7						
	comp=Z,1.9nm,0.7s						
PHRA	Phrae	52.90	299	P	P	04 30 32.9	+1.9
CRAI	Chiangrai	53.51	301	P	P	04 30 36.4	+0.9
CRAI				IAmb	IAmb	04 30 49.8	
	comp=Z,12nm,0.9s						
CMAR	Chiang Mai Arr	54.00	299	P	P	04 30 39.4	+0.3
PZH	PanZhiHua	55.34	309	P	P	04 30 53.7	+4.9
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
TNCH	TengChong	57.17	306	eP	P	04 31 06.1	+4.1
TNCH				pmax	pmax		
	comp=Z,100nm,4.1s						
HHC	Hu-ho-hao-te	57.89	328	eP	P	04 31 12.1	+5.5
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,4.9s						
SHL	Shillong	62.83	303	P	P	04 31 40.2	-0.5
SONM	Songino Array	65.47	331	P	P	04 31 57.3	-0.3
	comp=Z,0.7nm,0.4s,baz=145,slow=5.4,SNR=6.2						
	comp=Z,0.7nm,0.4s						
VNDA	Vanda	70.83	177	P	P	04 32 30.9	+0.4
VNDA	Vanda	70.83	177	P	P	04 32 31.9	+1.4
	comp=Z,2.1nm,0.8s,baz=328,slow=6.3,SNR=11						
	comp=Z,2.1nm,0.8s						
WMQ	Urumqi	73.78	319	eP	P	04 32 52.9	+4.2
WMQ				LR	LR		
	comp=N,270nm,15.9s						
WMQ				LR	LR		
	comp=E,220nm,14.7s						
WMQ				LR	LR		
	comp=Z,290nm,15.9s						
CHGN	Chignik	77.22	28	P	P	04 33 07.9	-0.1
	baz=236						
CHIR	Chirikof Islan	78.27	29	P	P	04 33 13.6	-0.3
	baz=238						
L14K	Kuka Creek	78.46	22	P	P	04 33 14.4	-0.3
L14K				IAmb	IAmb	04 33 15.9	
	comp=Z,6.0nm,0.9s						
L14K	Kuka Creek	78.46	22	P	P	04 33 14.7	-0.1
	baz=231						
MK31	Makanchi Array	78.50	321	P	P	04 33 15.0	-0.4
MKAR	Makanchi Array	78.50	321	P	P	04 33 15.4	0.0
MKAR	Makanchi Array	78.50	321	P	P	04 33 14.7	-0.7
	comp=Z,1.7nm,0.6s,baz=99,slow=7.5,SNR=19						
	comp=Z,1.7nm,0.6s						
MAKZ	Makanchi	78.70	320	P	P	04 33 16.7	+0.2
MAKZ				IAmb	IAmb	04 33 18.1	
	comp=Z,6.5nm,1.0s						
M15K	Kasigluk River	78.82	23	P	P	04 33 17.5	+0.7
	baz=233						
J14K	Nanvaranak Lak	79.04	21	P	P	04 33 18.1	+0.2
	baz=230						
L15K	Ungalak Mounta	79.12	22	P	P	04 33 18.7	+0.3
	baz=232						
O16K	Kokwok River B	79.23	25	P	P	04 33 19.3	+0.3
	baz=236						
Q17K	Contact Creek	79.45	27	P	P	04 33 20.3	-0.2
	baz=238						
K15K	Wolf Creek Mou	79.48	22	P	P	04 33 20.3	-0.1
	baz=232						
M16K	Timber Creek	79.70	24	P	P	04 33 22.0	+0.4
	baz=234						
P17K	Kvichak River	79.71	26	P	P	04 33 22.1	+0.5
	baz=237						
O17K	Koliganek Bris	79.75	25	P	P	04 33 22.0	+0.1
	baz=236						
L16K	Owhat River	79.90	23	P	P	04 33 22.7	+0.1
	baz=234						
F14K	Arctic Creek	79.95	18	P	P	04 33 23.9	+1.0
	baz=227						
Q18K	Katmai Hardscr	80.05	27	P	P	04 33 24.1	+0.4
	baz=238						
ZAA0	Zalesovo Array	80.06	328	P	P	04 33 22.4	-1.4
ZAA0				IAmb	IAmb	04 33 23.2	
	comp=Z,4.9nm,0.7s						
ZALV	Zalesovo Beam	80.06	328	P	P	04 33 22.5	-1.2
ZALV	Zalesovo Beam	80.06	328	P	P	04 33 22.2	-1.5
	comp=Z,4.9nm,0.6s,baz=111,slow=5.9,SNR=18						
	comp=Z,4.9nm,0.6s						
KSH	Kashi	80.30	312	P	P	04 33 28.6	+3.1
KSH				pmax	pmax		
	comp=Z,5.0nm,0.5s						
J16K	Anvik River	80.43	21	P	P	04 33 25.8	+0.3
	baz=233						
M17K	Holitna River	80.52	24	P	P	04 33 26.4	+0.4
	baz=236						
F15K	North Star Dit	80.62	18	P	P	04 33 27.7	+1.2
	baz=228						
NIL	Nilore	80.77	306	P	P	04 33 29.1	+1.0
Q19K	Cape Douglas,	80.80	27	P	P	04 33 27.9	+0.3
	baz=240						
J17K	VABM Dome	81.05	22	P	P	04 33 29.7	+0.9
	baz=234						
G16K	Koyuk River	81.14	19	P	P	04 33 29.9	+0.6
	baz=231						
M18K	Stony River	81.22	24	P	P	04 33 29.6	-0.1
	baz=237						
BOOM	Boomskoye usch	81.22	315	P	P	04 33 30.5	+0.1
BOOM				IAmb	IAmb	04 33 55.9	
	comp=Z,4.1nm,0.7s						
P19K	Oil Pt	81.35	26	P	P	04 33 31.3	+0.8
	baz=240						
MAW	Mawson	81.37	203	P	P	04 33 31.6	+1.1
	comp=Z,4.8nm,0.9s,baz=150,slow=2.5,SNR=5.2						
	comp=Z,4.8nm,0.9s						
N19K	Bonanza Creek	81.41	25	P	P	04 33 31.6	+0.8
	baz=239						
H17K	Granite Mounta	81.67	20	P	P	04 33 32.5	+0.4
	baz=233						
G17K	Kiwalik Mounta	81.77	19	P	P	04 33 33.0	+0.4
	baz=232						
O20K	Slope Mountain	81.83	26	P	P	04 33 33.6	+0.5
	baz=240						
J18K	Innoko River	81.96	22	P	P	04 33 33.9	+0.3
	baz=236						
L19K	White Mountain	81.98	24	P	P	04 33 33.8	+0.1
L19K	White Mountain	81.98	24	P	P	04 33 34.0	+0.3
	baz=238						
M19K	Big River Lodg	82.02	24	P	P	04 33 34.2	+0.3
	baz=239						
HOM	Homer	82.05	27	P	P	04 33 34.4	+0.3
	baz=241						
C16K	Lisburne Hills	82.15	16	P	P	04 33 34.6	+0.2
	baz=228						
KURK	Kurchatov	82.23	323	P	P	04 33 35.2	-0.1
KURK				IAmb	IAmb	04 33 36.0	
	comp=Z,4.7nm,1.1s						
KURBB	Kurchatov Arra	82.25	323	P	P	04 33 34.4	-1.0
	comp=Z,1.9nm,0.9s,baz=109,slow=4.3,SNR=8.2						
	comp=Z,1.9nm,0.9s						
E17K	Hotham Inlet	82.38	18	P	P	04 33 35.6	-0.2
	baz=231						
D17K	Noatak River	82.40	17	P	P	04 33 36.2	+0.4
	baz=230						
BRSE	Bradley Lake S	82.50	27	P	P	04 33 37.3	+0.8
	baz=242						
M20K	Styx River	82.52	24	P	P	04 33 36.0	-0.7
M20K				IAmb	IAmb	04 33 55.4	
	comp=Z,4.0nm,0.9s						
M20K	Styx River	82.52	24	P	P	04 33 36.8	+0.2
	baz=240						
L20K	Farewell, AK	82.52	24	P	P	04 33 36.9	+0.2
	baz=239						
J19K	Poorman	82.66	22	P	P	04 33 37.8	+0.6
	baz=237						
G18K	Tagagawik	82.67	20	P	P	04 33 37.2	-0.1
	baz=234						
C17K	DeLong Mountai	82.88	16	P	P	04 33 38.0	-0.4
	baz=230						
QSPA	South Pole Qui	82.90	180	P	P	04 33 38.1	-0.6
QSPA	South Pole Qui	82.90	180	LR	LR	05 10 07.3	
	comp=Z,100nm,18.9s,baz=252,slow=35						
K20K	Telida	82.90	23	P	P	04 33 38.9	+0.4
K20K				IAmb	IAmb	04 33 39.6	
	comp=Z,6.4nm,1.3s						
K20K	Telida	82.90	23	P	P	04 33 39.1	+0.5
	baz=239						
E18K	Tukpahlearik C	82.97	18	P	P	04 33 38.6	-0.1
E18K				IAmb	IAmb	04 33 39.2	
	comp=Z,4.8nm,1.0s						
E18K	Tukpahlearik C	82.97	18	P	P	04 33 38.3	-0.5
	baz=232						
H19K	Roundabout Mou	83.20	20	P	P	04 33 39.5	-0.6
H19K				IAmb	IAmb	04 33 41.6	
	comp=Z,4.2nm,0.8s						
H19K	Roundabout Mou	83.20	20	P	P	04 33 39.4	-0.6
	baz=236						
J20K	Nowinta River	83.30	22	P	P	04 33 40.8	+0.2
J20K				IAmb	IAmb	04 33 41.8	
	comp=Z,4.0nm,1.1s						
J20K	Nowinta River	83.30	22	P	P	04 33 39.8	-0.8
	baz=239						
SUA	Susitna One	83.30	25	P	P	04 33 39.6	-1.2
	baz=242						
G19K	Purcell Mounta	83.33	20	P	P	04 33 40.4	-0.2
G19K				IAmb	IAmb	04 33 42.4	
	comp=Z,8.5nm,1.3s						
G19K	Purcell Mounta	83.33	20	P	P	04 33 40.5	-0.2
	baz=236						
PPLA	Purkeypile	83.41	24	P	P	04 33 41.1	-0.2
	baz=240						
F19K	Shaleruckik Mo	83.50	19	P	P	04 33 41.4	-0.2
	baz=235						
RC01	Rabbit Creek A	83.56	26	P	P	04 33 41.9	-0.1
	baz=243						
CAST	Castle Rocks	83.70	23	P	P	04 33 42.6	-0.1
	baz=240						
M22K	Willow	83.70	25	P	P	04 33 41.9	-0.7
	baz=242						
H20K	Anotleneega Mo	83.73	21	P	P	04 33 42.6	-0.1
	baz=238						
E19K	Redstone River	84.04	19	P	P	04 33 43.8	-0.5
E19K	Redstone River	84.04	19	P	P	04 33 44.3	0.0
	baz=235,SNR=12						
PMR	Palmer	84.05	26	P	P	04 33 44.1	-0.3
	baz=243						
GHO	Glory Hole Cre	84.22	25	P	P	04 33 45.6	+0.1
GHO				IAmb	IAmb	04 33 50.6	
	comp=Z,6.0nm,1.0s						
F20K	Avaraart Lake	84.29	19	P	P	04 33 45.5	0.0
F20K				IAmb	IAmb	04 33 47.2	
	comp=Z,2.9nm,0.7s						
F20K	Avaraart Lake	84.29	19	P	P	04 33 45.6	0.0
	baz=237						
C19K	Lookout Ridge	84.30	17	P	P	04 33 45.6	0.0
C19K	Lookout Ridge	84.30	17	P	P	04 33 45.1	-0.5
	baz=233						
D19K	Kuna River	84.36	18	P	P	04 33 45.5	-0.4
D19K				IAmb	IAmb	04 33 47.5	
	comp=Z,3.8nm,0.6s						
D19K	Kuna River	84.36	18	P	P	04 33 45.3	-0.6
	baz=234						
IMAR	Indian Mountai	84.39	21	P	P	04 33 45.4	-0.7
BPAW	Bear Paw Mtn.	84.46	23	P	P	04 33 45.6	-1.0
	baz=242						
SML	Sawmill	84.49	25	P	P	04 33 45.5	-1.3
SML	Sawmill	84.49	25	P	P	04 33 45.6	-1.1
	baz=244						
H21K	Melozitna Rive	84.56	21	P	P	04 33 45.7	-1.2
	baz=240						
G21K	Allakaket	84.75	20	P	P	04 33 47.3	-0.6
G21K				IAmb	IAmb	04 33 48.8	
	comp=Z,6.0nm,1.1s						
G21K	Allakaket	84.75	20	P	P	04 33 47.3	-0.6
	baz=239						
E20K	Nigu River	84.81	18	P	P	04 33 47.4	-0.9
	baz=236,SNR=5.5						
WAT1	Susitna Watana	84.85	25	P	P	04 33 47.4	-1.1
	baz=244						
SCM	Sheep Creek Mo	84.93	26	P	P	04 33 47.9	-1.1
	baz=245						
D20K	Etivluk River	84.94	18	P	P	04 33 47.7	-1.2
	baz=236						
MLY	Manley	85.00	22	P	P	04 33 48.4	-0.8
MLY				IAmb	IAmb	04 33 49.1	
	comp=Z,3.5nm,0.7s						
MLY	Manley	85.00	22	P	P	04 33 48.1	-1.2
	baz=242,SNR=8.9						
WAT6	Susitna Watana	85.08	25	P	P	04 33 48.3	-1.5
	baz=245						
MCK	McKinley	85.10	24	P	P	04 33 47.8	-1.9
	baz=243						
H22K	Ishtalitna Cre	85.19	21	P	P	04 33 48.9	-1.3
	baz=241						
CHGR	Chuyangaron	85.19	310	P	P	04 33 51.3	+0.4
KKAR	Karatay Array	85.23	314	P	P	04 33 50.2	-0.7
SIMJ	Simiganj	85.30	310	P	P	04 33 51.1	-0.3
SIMJ				IAmb	IAmb	04 33 54.1	
	comp=Z,7.5nm,1.1s						
KLU	Klutina	85.40	26	P	P	04 33 50.0	-1.3
	baz=246						
NEA2	Nenana	85.43	23	P	P	04 33 49.8	-1.6
	baz=243						
DHY	Denali Highway	85.44	25	P	P	04 33 50.7	-0.9
DHY				IAmb	IAmb	04 33 51.3	
	comp=Z,3.4nm,0.8s						
DHY	Denali Highway	85.44	25	P	P	04 33 50.5	-1.2
	baz=245						
KAIM	Kayak Island	85.46	28	P	P	04 33 51.1	-0.5
	baz=248						
M24K	Tolsona, Glenn	85.54	26	P	P	04 33 51.5	-0.6
	baz=246						
E21K	Killik River	85.61	18	P	P	04 33 51.9	-0.2
E21K				IAmb	IAmb	04 33 52.9	
	comp=Z,14nm,1.4s						
E21K	Killik River	85.61	18	P	P	04 33 51.4	-0.8
	baz=238						
G22K	Bettles	85.64	20	P	P	04 33 51.1	-1.2
	baz=241						
F22K	John River	85.71	20	P	P	04 33 51.7	-1.0
	baz=240						
C21K	Knifeblade Rid	85.74	18	P	P	04 33 51.8	-1.0
	baz=238						
BMRM	Bremner River	85.78	27	P	P	04 33 52.6	-0.6
	baz=248						
H23K	Yukon River	85.82	22	P	P	04 33 52.2	-1.1
	baz=243						
G23K	Bananza Creek	86.06	21	P	P	04 33 54.1	-0.4
G23K				IAmb	IAmb	04 33 54.8	
	comp=Z,3.7nm,0.8s						
G23K	Bananza Creek	86.06	21	P	P	04 33 53.3	-1.2
	baz=242,SNR=8.3						
E22K	Anaktuvuk Pass	86.14	19	P	P	04 33 54.3	-0.5
	baz=240						
HDA	Harding Lake	86.18	23	P	P	04 33 54.4	-0.6
	baz=245						
PAX	Paxson	86.19	25	P	P	04 33 53.9	-1.3
	baz=247						
D22K	Ayikyak River	86.24	18	P	P	04 33 55.1	-0.2
D22K				IAmb	IAmb	04 33 57.1	
	comp=Z,5.1nm,0.6s						
D22K	Ayikyak River	86.24	18	P	P	04 33 54.4	-0.9
	baz=240						
COLD	Coldfoot	86.24	20	P	P	04 33 55.0	-0.3
	baz=242,SNR=8.7						
GLB	Gilahina Butte	86.31	27	P	P	04 33 55.9	+0.1
GLB				IAmb	IAmb	04 33 57.0	
	comp=Z,4.3nm,0.8s						
ILAR	Eielson Array	86.36	23	P	P	04 33 53.6	-2.3
	comp=Z,3.2nm,0.7s,baz=250,slow=5.0,SNR=28						
	comp=Z,3.2nm,0.7s						
NRIK	Noril'sk	86.38	342	P	P	04 33 55.2	-0.7
	comp=Z,7.2nm,0.6s,baz=134,slow=3.8,SNR=10						
	comp=Z,7.2nm,0.6s						
H24K	Noodor Dome	86.44	22	P	P	04 33 55.4	-1.0
H24K	Noodor Dome	86.44	22	P	P	04 33 55.6	-0.8
	baz=244						
E23K	Chandalar	86.83	20	P	P	04 33 57.7	-0.6
	baz=242						
J25K	Salcha River,	86.89	23	P	P	04 33 57.5	-1.1
	baz=247,SNR=8.5						
D23K	Nanushuk River	86.91	19	P	P	04 33 58.4	-0.2
	baz=241						
G24K	Hadweenzic Riv	86.96	21	P	P	04 33 58.6	-0.2
	baz=245						
M26K	Nabesna, AK	87.03	26	P	P	04 33 59.3	-0.1
	baz=249						
TOLK	Toolik Lake Re	87.11	19	P	P	04 33 59.4	-0.2
	baz=242						
F24K	Squaw Lake	87.17	20	P	P	04 34 00.2	+0.3
	baz=244,SNR=5.1						
PRP	Porcupine Dome	87.19	23	P	P	04 33 59.2	-1.0
	baz=246						
SCRK	Sand Creek	87.19	24	P	P	04 33 59.5	-0.6
	baz=248						
E24K	Your Creek	87.21	20	P	P	04 34 00.4	+0.3
	baz=244						
CTG	Chitna Glacier	87.26	28	P	P	04 34 00.7	+0.1
	baz=250						
C23K	Itkillik River	87.35	18	P	P	04 34 01.1	+0.5
C23K	Itkillik River	87.35	18	P	P	04 34 01.1	+0.5
	baz=242						
H25L	Birch Creek	87.38	22	P	P	04 34 01.1	+0.3
	baz=246						
G25K	Bearman Lake	87.48	21	P	P	04 34 01.7	+0.4
	baz=246						
M27K	Edge Creek, AK	87.50	26	P	P	04 34 01.5	-0.2
	baz=250,SNR=8.6						
J26L	Joseph Creek	87.56	24	P	P	04 34 01.8	0.0
	baz=248						
D24K	Happy Valley	87.59	19	P	P	04 34 01.8	0.0
	baz=243						
O28M	Mount Upton	87.73	28	P	P	04 34 03.2	+0.2
	baz=251						
L27K	Beaver Creek,	87.76	26	P	P	04 34 02.1	-0.7
L27K				IAmb	IAmb	04 34 04.4	
	comp=Z,3.3nm,1.0s						
L27K	Beaver Creek,	87.76	26	P	P	04 34 03.0	+0.2
	baz=250						
BVAR	Borovoye Array	87.79	324	P	P	04 34 02.1	-1.0
	comp=Z,2.5nm,0.8s,baz=90,slow=3.0,SNR=7.6						
	comp=Z,2.5nm,0.8s						
C24K	Franklin Bluff	87.89	18	P	P	04 34 03.5	+0.3
	baz=243						
YUK3	Moose Creek	87.93	27	P	P	04 34 03.1	-0.7
	baz=251,SNR=5.8						
F25K	Christian Rive	87.98	21	P	P	04 34 04.0	+0.2
	baz=246						
K27K	Chicken	88.00	25	P	P	04 34 04.1	+0.3
	baz=250						
I26K	Coal Creek Min	88.02	23	P	P	04 34 03.8	-0.2
	baz=249						
E25K	Arctic Village	88.22	20	P	P	04 34 04.9	0.0
	baz=246						
O29M	Mount Kennedy	88.34	29	P	P	04 34 05.6	-0.1
	baz=253						
G26K	Porcupine Rive	88.40	22	P	P	04 34 05.9	+0.2
	baz=248,SNR=8.5						
D25K	Kavik River	88.45	19	P	P	04 34 05.7	-0.3
	baz=246						
F26K	Sheenjek River	88.55	21	P	P	04 34 06.0	-0.4
	baz=248						
P29M	Windy Craggy	88.55	29	P	P	04 34 06.2	-0.5
	baz=254						
EGAK	Eagle	88.63	24	P	P	04 34 06.8	0.0
	baz=250						
I27K	Kandik River	88.73	23	P	P	04 34 07.2	-0.2
	baz=250,SNR=5.3						
H27K	Steamboat Moun	88.98	23	P	P	04 34 08.9	+0.4
	baz=250,SNR=5.2						
HYT	Haines Junctio	89.00	28	P	P	04 34 08.8	0.0
	baz=254						
M29M	Somme Creek	89.03	27	P	P	04 34 09.2	+0.2
	baz=253,SNR=6.1						
P30M	Million Dollar	89.07	29	P	P	04 34 09.4	+0.3
	baz=254						
DAWY	Dawson	89.12	25	P	P	04 34 09.3	0.0
	baz=252						
G27K	Doyon Strip	89.13	22	P	P	04 34 08.8	-0.3
	baz=250						
PLBC	Pleasant Camp	89.18	30	P	P	04 34 08.8	-0.7
	baz=255						
I28M	Miner Creek	89.34	24	P	P	04 34 09.8	-0.5
	baz=252						
N30M	Aishikik Lake	89.37	28	P	P	04 34 10.0	-0.5
	baz=254						
L29M	L29M	89.37	26	P	P	04 34 10.1	-0.3
	baz=253						
C27K	Jago River	89.43	19	P	P	04 34 10.4	-0.2
	baz=248						
E27K	Coleen River	89.63	21	P	P	04 34 11.3	-0.2
	baz=250						
O30N	Mendenhall	89.66	29	P	P	04 34 11.6	-0.2
	baz=255						
K29M	Barlow Dome	89.85	25	P	P	04 34 12.3	-0.4
	baz=254,SNR=5.3						
F28M	Old Crow	90.05	21	P	P	04 34 13.5	0.0
	baz=252						
G29M	Pine Creek	90.52	22	P	P	04 34 15.4	-0.3
	baz=253						
J30M	Hart River	90.55	25	P	P	04 34 15.7	-0.3
	baz=255						
I30M	Mount Dempster	90.70	24	P	P	04 34 16.4	-0.3
	baz=255						
EPYK	Eagle Plains	90.87	23	P	P	04 34 17.5	+0.1
	baz=254						
F30M	Barrier River	91.55	22	P	P	04 34 20.0	-0.4
	baz=255						
G31M	Satah River	91.95	23	P	P	04 34 21.6	-0.7
	baz=257						
GEYT	Alibeck	93.63	308	P	P	04 34 31.3	+0.5
	comp=Z,3.2nm,0.7s,baz=116,slow=3.4,SNR=4.3						
	comp=Z,3.2nm,0.7s						
VES	Vestal, Richgr	97.04	55	P	P	04 34 46.4	+0.1
	baz=266						
ISA	Isabella, Lake	97.52	55	P	P	04 34 48.9	+0.3
	baz=267						
NVAR	Mina Array Bea	97.81	52	P	P	04 34 49.8	-0.2
	comp=Z,2.1nm,0.9s,baz=259,slow=5.1,SNR=12						
	comp=Z,2.1nm,0.9s						
EDW2	Edwards Air Fo	97.87	56	P	P	04 34 50.4	+0.3
	baz=267						
CWC	Cottonwood Cre	97.88	54	P	P	04 34 50.7	+0.4
	baz=267						
LRMC	Laurel Mtn Rad	98.16	55	P	Pdif	04 34 52.4	+0.9
	baz=267						
MPMC	Manual Prospec	98.34	55	P	Pdif	04 34 53.2	+0.8
	baz=267						
MURC	Murrieta	98.46	57	P	Pdif	04 34 54.2	+1.3
	baz=267						
FURC	Furnace Creek,	98.86	54	P	Pdif	04 34 55.6	+1.1
	baz=268						
GSC	Goldstone, Bar	98.86	55	P	Pdif	04 34 55.7	+1.0
	baz=268						
NEW	Newport	98.96	42	P	Pdif	04 34 55.1	+0.4
	baz=270						
SNAA	Sanae	98.99	189	P	Pdif	04 34 54.5	+0.1
	comp=Z,0.9nm,0.8s,baz=171,slow=19,SNR=2.4						
	comp=Z,0.9nm,0.8s						
MONP2	Monument Peak	99.08	58	P	Pdif	04 34 56.6	+0.8
	baz=267						
PFO	Pinyon Flats O	99.08	57	P	Pdif	04 34 56.6	+0.9
	baz=268						
TPFO	Pinon Flats	99.08	57	P	Pdif	04 34 56.8	+1.1
	baz=268						
SHOC	Shoshone, Teco	99.32	55	P	Pdif	04 34 58.0	+1.4
	baz=268						
TPNV	Topopah Spring	99.37	54	P	Pdif	04 34 58.0	+1.0
	baz=268						
BELC	Belle Mtn. Jos	99.48	57	P	Pdif	04 34 58.9	+1.4
	baz=268						
TUQ	Turquoise Moun	99.59	55	P	Pdif	04 34 59.4	+1.5
	baz=268						
GMRC	Granite Mounta	99.78	56	P	Pdif	04 34 59.6	+0.8
	baz=268						
BC3	Big Chuckawall	99.92	57	P	Pdif	04 35 00.7	+1.3
	baz=268						
R11B	Troy Canyon, C	99.94	52	P	Pdif	04 35 00.0	+0.6
	baz=269						
HLID	Hailey	100.85	47	P	Pdif	04 35 03.8	+0.4
	baz=271						
PDMCI	Parker Dam,Lak	101.03	57	P	Pdif	04 35 04.8	+0.7
	baz=269						
214A	Organ Pipe Nat	102.10	59	P	Pdif	04 35 10.1	+1.0
	baz=269						
BW06	Boulder Array	104.43	48	P	Pdif	04 35 19.2	-0.2
	baz=274						
PDAR	Pinedale Array	104.43	48	Pdiff	Pdif	04 35 18.3	-1.1
	comp=Z,1.4nm,0.8s,baz=252,slow=2.1,SNR=10						
MVCO	Mesa Verde	105.57	53	P	PKiKP	04 39 38.9	+1.1
	baz=273						
O20A	White River Ci	105.59	50	P	PKiKP	04 39 38.7	+1.0
	baz=274						
ISCO	Idaho Springs	107.64	51	P	PKiKP	04 39 43.2	+1.6
	baz=276						
T25A	Trinidad	108.83	53	P	PKiKP	04 39 46.1	+2.3
	baz=275						
AMTX	Amarillo	111.26	55	P	PKiKP	04 39 49.2	+0.9
	baz=276						
ULM	Lac du Bonnet	112.43	38	PKiKP	PKiKP	04 39 47.4	-2.5
	comp=Z,1.5nm,0.8s,baz=312,slow=11,SNR=3.3						
ECSD	EROS Data Cent	113.63	45	P	PKiKP	04 39 52.8	+0.3
	baz=283						
WMOK	Wichita Mounta	113.65	55	P	PKiKP	04 39 54.3	+1.5
	baz=278						
833A	Chaparral WMA,	113.84	62	P	PKiKP	04 39 54.6	+1.3
	baz=275						
K

MIAR	**Mount Ida**	**117.91**	**55**	P	**PKiKP**	**04 40 02.7 +1.7**
	baz=281					
JFWS	**Jewell Farm**	**118.33**	**45**	P	**PKiKP**	**04 40 02.3 +0.8**
	baz=288					
CCM	**Cathedral Cave**	**118.96**	**50**	P	**PKiKP**	**04 40 03.8 +0.9**
	baz=285					
HDIL	**Hopedale**	**119.72**	**47**	P	**PKiKP**	**04 40 04.8 +0.5**
	baz=288					
O48B	**Farmland**	**122.81**	**46**	P	**PKPdf**	**04 40 10.6 +0.4**
	baz=291					
P49A	**Miami Univ. Ec**	**123.38**	**47**	P	**PKPdf**	**04 40 11.8 +0.5**
	baz=291					
LRAL	**Lakeview Retre**	**123.59**	**55**	P	**PKiKP**	**04 40 12.5 +0.4**
	baz=285					
ACSO	**Alum Creek Sta**	**124.37**	**45**	P	**PKPdf**	**04 40 13.7 +0.5**
	baz=292					
P52A	**Corning**	**125.20**	**46**	P	**PKiKP**	**04 40 15.4 +0.3**
	baz=293					
TZTN	**Tazewell**	**125.27**	**50**	P	**PKPdf**	**04 40 15.0 0.0**
	baz=290					
O53A	**New Philadelph**	**125.61**	**45**	P	**PKPdf**	**04 40 15.8 +0.3**
	baz=294					
GOGA	**Godfrey**	**126.33**	**54**	P	**PKPdf**	**04 40 17.5 +0.4**
	baz=288					
EKA	**Eskdalemuir Ar**	**126.42**	**339**	PKP	**PKiKP**	**04 40 17.1 0.0**
	comp=Z,0.7nm,0.7s,baz=19,slow=3.3,SNR=4.0					
TIGA	**Tifton**	**126.79**	**56**	P	**PKPdf**	**04 40 18.0 0.0**
	baz=286					
BLA	**Blacksburg**	**127.37**	**48**	P	**PKPdf**	**04 40 19.1 0.0**
	baz=293					
LONY	**Lake Ozonia**	**127.84**	**37**	P	**PKPdf**	**04 40 19.9 +0.2**
	baz=303					
BINY	**Binghamton**	**128.24**	**40**	P	**PKPdf**	**04 40 20.8 +0.2**
	baz=300					
L61B	**Northampton**	**130.19**	**38**	P	**PKPdf**	**04 40 24.5 +0.3**
	baz=304					
PKME	**Peaks-Kenny Pk**	**130.51**	**34**	P	**PKiKP**	**04 40 26.2 +0.7**
	baz=309					
LPAZ	**La Paz**	**137.97**	**124**	PKhKP	PKPpre	04 40 34.5
	comp=Z,1.6nm,0.7s,baz=202,slow=11,SNR=3.8					
ROSC	**El Rosal**	**138.58**	**91**	PKP	**PKPdf**	**04 40 39.5 -1.7**
	comp=Z,8.5nm,0.7s,baz=90,slow=20,SNR=2.7					
CPUP	**Villa Florida**	**139.10**	**145**	PKP	**PKPdf**	**04 40 40.8 -0.6**
	comp=Z,2.6nm,0.9s,baz=74,slow=0.9,SNR=4.2					
TORD	**Torodi Ar. Bea**	**145.61**	**283**	PKPbc	**PKPab**	**04 40 54.5 +0.7**
	comp=Z,9.8nm,0.9s,baz=70,slow=4.7,SNR=51					
KIC	**Kosan Boka**	**152.20**	**270**	⇑*i*PKIKP	**PKiKP**	**04 41 11.6 +0.7**
	comp=Z,8.2nm,0.6s					
DBIC	**Dimbokro**	**152.33**	**271**	PKPbc	**PKPbc**	**04 41 10.6 -0.3**
	comp=Z,9.5nm,0.8s,baz=231,slow=0.3,SNR=8.4					
LIC	**Lamto**	**152.48**	**270**	⇑*i*PKIKP	**PKiKP**	**04 41 11.9 +0.4**
	comp=Z,23nm,0.6s					
TIC	**Toumodi**	**152.49**	**271**	⇑*i*PKIKP	**PKiKP**	**04 41 12.0 +0.5**
	comp=Z,5.3nm,0.4s					
BDFB	**Brasilia**	**152.82**	**146**	PKP	**PKPdf**	**04 41 06.0 +1.2**
	comp=Z,2.0nm,0.6s,baz=16,slow=4.2,SNR=4.8					
BDFB				PKPbc	**PKPbc**	**04 41 12.3 +0.3**
	comp=Z,10nm,0.6s,baz=206,slow=0.9,SNR=18					

*KRSC **06** 04:32:20.4±1.6,52°.71N×160°.60E,h61km±18km,Mc5.0, Ml5.7,Felt [IV] at cape Shipunskiy; [III-IV] at MGeoES-1; [III] at Pionersky, Nikolaevka, Elizovo, river Karimshina (stationary KF GS); [II-III] at Petropavlovsk, Ribachiy; [II] at lighthouse Petropavlovskiy, the country "Urojay", Paratunka, lighthouse Krugliy, Sokoch.*

*NEIC **06** 04:32:20.9±1.1,52°.90N±0°.08×160°.2E±0°.1,h20km±3km, mb5.4/882,Mww5.2/7,Error ellipse: s-maj=11.8km s-min=9.6km az=173.0*

*BJI **06** 04:32:21.1±0.0,53°.18N×160°.14E,h37km,mb4.9/66, mB5.1/33,Ms4.7/57,Ms7 4.5/56*

*IDC **06** 04:32:22.7±1.7,52°.94N×160°.24E,h34km±12km,mb5.0/35, mbtmp5.2/40,ML5.1/5,MS4.2/66,Error ellipse: s-maj=11.4km s-min=9.4km az=148.0*

*MOS **06** 04:32:23.6±0.9,52°.82N×160°.30E,h70km,mb5.5/105, MS4.3/25,Error ellipse: s-maj=5.9km s-min=3.6km az=90.1*

MOS Felt (III-IV) at Petropavlovsk-Kamchatskiy.

*GCMT **06** 04:32:23.9±0.3,52°.94N±0°.02×160°.41E±0°.03,h41km, MW5.2/73,Moment Tensor Solution. s71,c95; s73,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.33±.28; $M_{\theta\theta}$-0.90±.19; $M_{\phi\phi}$-5.43±.17; $M_{r\theta}$-0.10±.23; $M_{\theta\phi}$1.95±.13; $M_{\phi r}$-2.18±.14; Best double couple: $M_0$6.61000×10^{16} NP1:ϕ_s167.00000°,δ54.00000°,λ98.00000°. NP2: ϕ_s333.00000°,δ36.00000°,λ79.00000°. Principal axes: T 6.7480, Plg79.0000°, Azm108.0000°; N -0.2800, Plg7.0000°, Azm342.0000°; P -6.4720, Plg9.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **06** 04:32:23.2,52°.93N×160°.13E,h24km*

*NEIC **06** 04:32:23.2,52°.53N×160°.46E,h24km,Moment Tensor Solution. Duration: 1$\div$6 Moment tensor: Scale 10^{16}Nm; M_{rr}8.41; $M_{\theta\theta}$-4.31; $M_{\phi\phi}$-4.10; $M_{r\theta}$1.33; $M_{\theta\phi}$-3.34; $M_{\phi r}$-0.84; Fault plane solution: $M_0$8.11000×10^{16} NP1:ϕ_s55.03000°, δ47.07000°,λ102.48000°. NP2:ϕ_s217.02000°,δ44.36000°, λ76.92000°. Principal axes: T 8.6606, Plg81.0000°, Azm38.0000°; N -1.1016, Plg9.0000°, Azm226.0000°; P -7.5590, Plg1.0000°, Azm136.0000°;*

*BGR **06** 04:32:30.4,53°.76N×159°.59E,h33km,mb5.5,Ms4.2, Hypocentre not reviewed by the ISC*

ISC 06 04:32:23.2±0.3,52°.86N±0°.03×160°.38E±0°.03,h43km±2km, h42km:pP-P,n1755,σ1934/1464,mb5.4/669,MS4.4/101, 85C-43D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.32**	**319**	*e*P	**Pn**	**04 32 32.9**	**+1.0**
SPN	**Mys Shipunski**	**0.32**	**319**	PN	**Pn**	**04 32 32.9**	**+1.0**
NLC	**Nalytchevo**	**0.70**	**297**	*e*P	**Pn**	**04 32 38.0**	**+1.4**
NLC				*e*S	**Sn**	**04 32 49.0**	**+2.8**
NLC	**Nalytchevo**	**0.70**	**297**	PN	**Pn**	**04 32 38.0**	**+1.4**
NLC				S	**Sn**	**04 32 49.0**	**+2.8**
DALK	**Dalny**	**1.00**	**281**	*e*P	**Pn**	**04 32 42.2**	**+1.5**
DALK				*e*S	**Sn**	**04 32 55.3**	**+1.8**
DALK	**Dalny**	**1.00**	**281**	PN	**Pn**	**04 32 42.2**	**+1.5**
DALK				S	**Sn**	**04 32 55.3**	**+1.8**
UGLR	**Uglovaya**	**1.00**	**291**	*e*P	**Pn**	**04 32 42.6**	**+1.8**
UGLR	**Uglovaya**	**1.00**	**291**	PN	**Pn**	**04 32 42.6**	**+1.8**
SMAR	**Somma**	**1.03**	**294**	*e*P	**Pn**	**04 32 42.9**	**+1.5**
SMAR	**Somma**	**1.03**	**294**	PN	**Pn**	**04 32 42.9**	**+1.5**
PET	**Petropavlovsk**	**1.05**	**280**	P	**Pn**	**04 32 42.9**	**+1.6**
PET	**Petropavlovsk**	**1.05**	**280**		**Pn**	**04 32 43.0**	**+1.6**
PET	**Petropavlovsk**	**1.05**	**280**	*e*P	**Pn**	**04 32 43.0**	**+1.6**
PET				*e*S	**Sn**	**04 32 57.5**	**+2.6**
PET	**Petropavlovsk**	**1.05**	**280**	κ *i*PN	**Pn**	**04 32 43.1**	**+1.6**
PET				*e*S	**Sn**	**04 32 58.6**	**+3.6**
PET				pmax	pmax		
	comp=Z,38μm,0.6s						
PET				pmax	pmax		
	comp=Z,45μm,0.5s						
PET				smax	smax		
	comp=E,116μm,0.6s						
PET				smax	smax		
	comp=N,51μm,0.8s						
PET				smax	smax		
	comp=E,57μm,0.5s						
PET	**Petropavlovsk**	**1.05**	**280**	P	**Pn**	**04 32 43.0**	**+1.6**
AVH	**Avacha**	**1.07**	**293**	*e*P	**Pn**	**04 32 43.8**	**+2.1**
AVH				*e*S	**Sn**	**04 32 59.0**	**+3.5**
AVH	**Avacha**	**1.07**	**293**	PN	**Pn**	**04 32 43.8**	**+2.1**
AVH				S	**Sn**	**04 32 59.0**	**+3.5**
KRER	**Koryakskii**	**1.08**	**295**	*e*P	**Pn**	**04 32 44.0**	**+2.0**
KRER	**Koryakskii**	**1.08**	**295**	PN	**Pn**	**04 32 44.0**	**+2.0**
INSR	**Institute**	**1.09**	**282**	*e*P	**Pn**	**04 32 43.5**	**+1.6**
INSR				*e*S	**Sn**	**04 32 59.0**	**+3.1**
KOK	**Koryaka**	**1.14**	**293**	*e*P	**Pn**	**04 32 44.7**	**+2.0**
KOK	**Koryaka**	**1.14**	**293**	PN	**Pn**	**04 32 44.7**	**+2.0**
KRX	**Arik**	**1.16**	**297**	*e*P	**Pn**	**04 32 44.9**	**+1.9**
KRX	**Arik**	**1.16**	**297**	PN	**Pn**	**04 32 44.9**	**+1.9**
KII	**Karymskiy**	**1.30**	**335**	*e*P	**Pn**	**04 32 47.2**	**+2.2**
KII	**Karymskiy**	**1.30**	**335**	PN	**Pn**	**04 32 47.2**	**+2.2**
KRMR	**Karymshinskiy**	**1.36**	**270**	*e*P	**Pn**	**04 32 47.2**	**+1.5**
KRMR				*e*S	**Sn**	**04 33 05.2**	**+2.7**
KRMR	**Karymshinskiy**	**1.36**	**270**	PN	**Pn**	**04 32 47.2**	**+1.5**
KRMR				S	**Sn**	**04 33 05.2**	**+2.7**
MTVR	**Mutnovka**	**1.39**	**255**	*e*P	**Pn**	**04 32 47.5**	**+1.4**
MTVR	**Mutnovka**	**1.39**	**255**	PN	**Pn**	**04 32 47.5**	**+1.4**
GRL	**Gorelyy**	**1.43**	**259**	*e*P	**Pn**	**04 32 48.8**	**+2.0**
GRL	**Gorelyy**	**1.43**	**259**	PN	**Pn**	**04 32 48.8**	**+2.0**
ASAK	**Asacha**	**1.58**	**254**	*e*P	**Pn**	**04 32 50.7**	**+1.9**
ASAK	**Asacha**	**1.58**	**254**	PN	**Pn**	**04 32 50.7**	**+1.9**
GNL	**Ganaly**	**1.69**	**301**	*e*P	**Pn**	**04 32 53.5**	**+3.3**
GNL	**Ganaly**	**1.69**	**301**	PN	**Pn**	**04 32 53.5**	**+3.3**
KDTR	**Khodutka, Kamc**	**1.76**	**234**	*e*P	**Pn**	**04 32 51.9**	**+0.8**
KDTR				*e*S	**Sn**	**04 33 12.9**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.76**	**234**	PN	**Pn**	**04 32 51.9**	**+0.8**
KDTR				S	**Sn**	**04 33 12.9**	**+0.7**
MKZ	**Mys Kozlova**	**1.88**	**25**	*e*P	**Pn**	**04 32 52.9**	**+0.1**
MKZ	**Mys Kozlova**	**1.88**	**25**	PN	**Pn**	**04 32 52.9**	**+0.1**
APC	**Apacha**	**1.95**	**273**	*e*P	**Pn**	**04 32 56.9**	**+3.2**
APC				*e*S	**Sn**	**04 33 22.3**	**+5.3**
APC	**Apacha**	**1.95**	**273**	PN	**Pn**	**04 32 56.9**	**+3.2**
APC				S	**Sn**	**04 33 22.3**	**+5.3**
TUMD	**Tumrok D**	**2.35**	**0**	*e*P	**Pn**	**04 33 01.6**	**+2.4**
TUMD				*e*S	**Sn**	**04 33 28.9**	**+2.0**
TUMR	**Tumrok**	**2.44**	**357**	*e*P	Pn	04 33 03.5	+3.0
TUMR				*e*S	**Sn**	**04 33 33.5**	**+4.4**
TUMR	**Tumrok**	**2.44**	**357**	PN	**Pn**	**04 33 01.6**	**+1.1**
TUMR				S	**Sn**	**04 33 28.9**	**-0.2**
KMNR	**Kamenistaya**	**2.91**	**358**	*e*P	Pn	04 33 10.7	+3.7
KMNR				*e*S	**Sn**	**04 33 45.9**	**+5.2**
KMNR	**Kamenistaya**	**2.91**	**358**	PN	Pn	04 33 10.7	+3.7
KMNR				S	**Sn**	**04 33 45.9**	**+5.2**
BZP	**Bezymyannyi-Pe**	**3.06**	**2**	*e*P	Pn	04 33 12.9	+3.7
BZP				*e*S	**Sn**	**04 33 49.7**	**+5.1**
BZMR	**Bezymyannaya**	**3.09**	**1**	*e*P	Pn	04 33 13.0	+3.5
BZMR				*e*S	**Sn**	**04 33 50.0**	**+4.8**
BZMR	**Bezymyannaya**	**3.09**	**1**	PN	Pn	04 33 13.0	+3.5
BZMR				S	**Sn**	**04 33 50.0**	**+4.8**
BZGR	**Bezymyannyi-Gr**	**3.10**	**3**	*e*P	Pn	04 33 12.9	+3.3
BZGR				*e*S	**Sn**	**04 33 50.9**	**+5.5**
BZGR	**Bezymyannyi-Gr**	**3.10**	**3**	PN	Pn	04 33 12.9	+3.3
BZGR				S	**Sn**	**04 33 50.9**	**+5.5**
KIRR	**Kirishev**	**3.10**	**360**	*e*P	Pn	04 33 13.1	+3.4
KIRR	**Kirishev**	**3.10**	**360**	PN	Pn	04 33 13.1	+3.4
BZWR	**Bezymyannyi-We**	**3.12**	**1**	*e*P	Pn	04 33 13.6	+3.7
BZWR				*e*S	**Sn**	**04 33 51.4**	**+5.5**
BZWR	**Bezymyannyi-We**	**3.12**	**1**	PN	Pn	04 33 13.6	+3.7
BZWR				S	**Sn**	**04 33 51.4**	**+5.5**
KPT	**Kopyto**	**3.12**	**358**	*e*P	Pn	04 33 13.0	+3.2
KPT	**Kopyto**	**3.12**	**358**	PN	Pn	04 33 13.0	+3.2
ZLN	**Zelenaya**	**3.18**	**4**	*e*P	Pn	04 33 14.1	+3.4
ZLN	**Zelenaya**	**3.18**	**4**	PN	Pn	04 33 14.1	+3.4
KOZ	**Kozyrevsk**	**3.22**	**355**	*e*P	Pn	04 33 14.7	+3.5
KOZ	**Kozyrevsk**	**3.22**	**355**	PN	Pn	04 33 14.7	+3.5
LGNR	**Loginova**	**3.24**	**3**	*e*P	Pn	04 33 15.2	+3.5
LGNR	**Loginova**	**3.24**	**3**	PN	Pn	04 33 15.2	+3.5
CIRR	**Tsirk**	**3.27**	**4**	*e*P	Pn	04 33 15.4	+3.4
CIRR	**Tsirk**	**3.27**	**4**	PN	Pn	04 33 15.4	+3.4
SKR	**Severo-Kuril's**	**3.42**	**232**	*e*P	**Pn**	**04 33 14.6**	**+0.7**
SKR				*e*S	**Sn**	**04 33 53.1**	**-0.1**
SKR	**Severo-Kuril's**	**3.42**	**232**	⇓*i*PN	**Pn**	**04 33 15.5**	**+1.5**
SKR				*e*S	**Sn**	**04 33 53.4**	**+0.1**
SKR				pmax	pmax		
	comp=Z,617nm,0.3s						
SKR				smax	smax		
	comp=N,3μm,0.7s						
SKR				smax	smax		
	comp=E,8μm,0.9s						
SKR				MLR	MLR		
	comp=Z,4μm,12.0s						
KLY	**Klyuchi**	**3.47**	**3**	*e*P	**Pn**	**04 33 17.4**	**+2.9**
KLY				*e*S	**Sn**	**04 33 57.7**	**+3.4**
KLY	**Klyuchi**	**3.47**	**3**	PN	**Pn**	**04 33 17.4**	**+2.9**
KLY				S	**Sn**	**04 33 57.7**	**+3.4**
SRDR	**Sredinnyy**	**3.49**	**354**	*e*P	**Pn**	**04 33 17.7**	**+2.8**
SRDR	**Sredinnyy**	**3.49**	**354**	PN	**Pn**	**04 33 17.7**	**+2.8**
KBTR	**Krutoberegovo**	**3.65**	**22**	*e*P	**Pn**	**04 33 18.1**	**+1.2**
KBTR				*e*S	**Sn**	**04 33 58.5**	**-0.2**
KBTR	**Krutoberegovo**	**3.65**	**22**	PN	**Pn**	**04 33 18.2**	**+1.2**
KBTR				S	**Sn**	**04 33 58.5**	**-0.2**
KBG	**Krutoberegovo**	**3.67**	**21**	*e*P	**Pn**	**04 33 18.7**	**+1.5**
KBG				*e*S	**Sn**	**04 33 59.5**	**+0.3**
KBG	**Krutoberegovo**	**3.67**	**21**	PN	**Pn**	**04 33 18.7**	**+1.5**
KBG				S	**Sn**	**04 33 59.5**	**+0.3**
SRKR	**Sorokina**	**3.83**	**7**	*e*P	Pn	04 33 23.6	+4.0
SRKR	**Sorokina**	**3.83**	**7**	PN	Pn	04 33 23.6	+4.0
BKI	**Bering**	**4.05**	**52**	*e*P	**Pn**	**04 33 22.5**	**-0.1**
BKI				*e*S	**Sn**	**04 34 04.4**	**-4.3**
BKI	**Bering**	**4.05**	**52**	PN	**Pn**	**04 33 22.5**	**-0.1**
TIGL	**Tigil**	**5.01**	**349**	*e*P	Pn	04 33 39.0	+3.2
OSSR	**Ossora**	**6.58**	**12**	*e*P	**Pn**	**04 33 59.5**	**+2.3**
OSSR	**Ossora**	**6.58**	**12**	PN	**Pn**	**04 33 59.5**	**+2.3**
TILK	**Tilichiki**	**8.24**	**20**	*e*P	**Pn**	**04 34 22.6**	**+2.6**
TILK	**Tilichiki**	**8.24**	**20**	PN	**Pn**	**04 34 22.6**	**+2.6**
SHEM	**Shemya Is, Ala**	**8.32**	**85**	Pn	**Pn**	**04 34 20.9**	**-0.2**
	comp=Z,104nm,0.3s,baz=31,slow=0.9,SNR=92						
SHEM				Sn	**Sn**	**04 35 47.3**	**-6.4**
	comp=Z,60nm,0.3s,baz=276,slow=21,SNR=11						
	comp=Z,477nm,0.6s						
MA2	**Magadan**	**8.60**	**325**	Pn	**Pn**	**04 34 22.6**	**-2.2**
MA2	**Magadan**	**8.60**	**325**	Pn	**Pn**	**04 34 27.1**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=149,slow=20,SNR=2.8						
MA2				LR	LR	04 38 23.1	
	comp=Z,1μm,19.1s,baz=138,slow=42						
	comp=Z,9.3nm,0.5s						
MA2	**Magadan**	**8.60**	**325**	*i* PN	**Pn**	**04 34 26.5**	**+1.7**
MA2	**Magadan**	**8.60**	**325**	P	**Pn**	**04 34 28.0**	**+3.2**
	comp=Z,45nm,0.6s,comp=Z,693nm						
OKH	**Okha**	**10.49**	**281**	*c i*PN	Pn	04 34 57.8	+7.1
OKH				*e*S	**Sn**	**04 36 51.8**	**+5.1**
OKH				pmax	pmax		
	comp=Z,200nm,10.9s						
OKH				MLR	MLR		
	comp=Z,1μm,14.0s						
OKH				MLR	MLR		
	comp=E,2μm,13.0s						
OKH				MLR	MLR		
	comp=N,700nm,14.0s						
SEY	**Seymchan**	**10.95**	**340**	Pn	Pn	04 35 00.7	+3.7
	baz=148,slow=13						
SEY	**Seymchan**	**10.95**	**340**	*e*PN	**Pn**	**04 34 59.8**	**+2.8**
SEY				pmax	pmax		
	comp=Z,28nm,1.4s						
TYV	**Tymovskoe**	**11.14**	**267**	*e*PN	Pn	04 35 04.9	+5.3
TYV				*e*S	**Sn**	**04 37 04.9**	**+2.2**
TYV				pmax	pmax		
	comp=Z,500nm,4.4s						
TYV				pmax	pmax		
	comp=Z,43nm,1.0s						
TYV				smax	smax		
	comp=E,8.0nm,0.9s						
TYV				smax	smax		
	comp=N,100nm,4.2s						
TYV				smax	smax		
	comp=E,100nm,4.2s						
TYV				MLR	MLR		
	comp=Z,800nm,14.0s						
TYV				MLR	MLR		
	comp=N,600nm,13.0s						
KUR	**Kuril'sk**	**11.19**	**232**	*e*PN	**Pn**	**04 35 02.1**	**+1.7**
KUR				pmax	pmax		
	comp=Z,150nm,0.7s						
KUR				MLR	MLR		
	comp=Z,3μm,15.0s						
AMKA	**Amchitka**	**11.73**	**90**	Pn	**Pn**	**04 35 07.3**	**-0.4**
NKL	**Nikolayevsk**	**11.87**	**279**	*e*PN	**Pn**	**04 35 08.2**	**-1.4**
NKL				pmax	pmax		
	comp=N,63nm,0.8s						
NKL				pmax	pmax		
	comp=E,69nm,0.8s						
NKL				pmax	pmax		
	comp=Z,194nm,0.8s						
NKL				MLR	MLR		
	comp=E,12μm,18.0s						
NKL				MLR	MLR		
	comp=N,5μm,14.0s						
NKL				MLR	MLR		
	comp=Z,4μm,15.0s						
UGL	**Uglegorsk**	**12.14**	**259**	*e*PN	Pn	04 35 18.5	+5.2
UGL				*e*S	**Sn**	**04 37 30.1**	**+2.9**
UGL				pmax	pmax		
	comp=Z,255nm,0.9s						
UGL				smax	smax		
	comp=E,600nm,2.9s						
UGL				smax	smax		
	comp=N,600nm,5.4s						
UGL				MLR	MLR		
	comp=Z,2μm,14.0s						
UGL				MLR	MLR		
	comp=N,400nm,5.0s						
UGL				MLR	MLR		
	comp=E,1μm,8.0s						
SHO	**Shikotan**	**12.71**	**230**	*e*PN	**Pn**	**04 35 17.1**	**-4.0**
SHO				pmax	pmax		
	comp=Z,125nm,0.5s						
YSS	**Yuzh-Sakhalins**	**12.79**	**250**	Pn	**Pn**	**04 35 19.3**	**-2.9**
YSS	**Yuzh-Sakhalins**	**12.79**	**250**	⇓*e*PN	**Pn**	**04 35 23.0**	**+0.8**
YSS				*e*S	**Sn**	**04 37 45.6**	**+2.6**
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS				pmax	pmax		
	comp=Z,400nm,3.0s						
YSS				pmax	pmax		
	comp=E,500nm,3.4s						
YUK	**Yuzh-Kuril'sk**	**13.04**	**233**	*c i*PN	**Pn**	**04 35 23.5**	**-2.2**
YUK				pmax	pmax		
	comp=E,212nm,0.4s						
YUK				pmax	pmax		
	comp=Z,704nm,0.4s						
RUSJ	**Misakicho**	**13.29**	**235**	*e*PN	**Pn**	**04 35 26.9**	**-2.2**
NMR	**Nemuro--Hokkai**	**13.61**	**232**	*e*P	Pn	04 35 27.8	-5.6
KIWB	**Kanaga Island**	**13.77**	**85**	Pn	**Pn**	**04 35 36.4**	**+0.9**
ADK	**Adak**	**14.04**	**85**	P	**Pn**	**04 35 40.2**	**+1.0**
ADK	**Adak**	**14.04**	**85**	Pn	**Pn**	**04 35 38.9**	**-0.3**
ADK	**Adak**	**14.04**	**85**	P	**Pn**	**04 35 38.9**	**-0.3**
GSTR	**Great Sitkin T**	**14.37**	**84**	Pn	**Pn**	**04 35 44.2**	**+0.5**
JKA	**Kamikawa-asahi**	**14.64**	**240**	Pn	**Pn**	**04 35 47.3**	**0.0**
ASAJ	**Asahikawa**	**14.64**	**240**	Pn	**Pn**	**04 35 47.8**	**+0.4**
	comp=Z,19nm,0.3s,baz=73,slow=12,SNR=74						
ASAJ				LR	LR	04 41 01.7	
	comp=Z,1μm,20.8s,baz=18,slow=36						
	comp=Z,281nm,0.7s						
ASAJ	**Asahikawa**	**14.64**	**240**	P	**Pn**	**04 35 47.3**	**-0.1**
GRNR	**Gornyy**	**14.95**	**272**	⇓*i*P	**P**	**04 35 54.0**	**-2.2**
GRNR				pmax	pmax		
	comp=Z,120nm,0.6s						
GRNR				MLR	MLR		
	comp=E,530nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,540nm,11.0s						
ATKA	**Atka Island**	**15.47**	**82**	P	**Pn**	**04 35 58.6**	**+0.5**
ATKA	**Atka Island**	**15.47**	**82**	Pn	**Pn**	**04 35 58.2**	**+0.1**
BILL	**Bilibino**	**15.49**	**8**	Pn	**P**	**04 35 59.8**	**-2.4**
BILL				IAmb	IAmb	04 36 05.7	
	comp=Z,114nm,0.7s						
BILL	**Bilibino**	**15.49**	**8**	*c i*P	**P**	**04 36 00.1**	**-2.1**
BILL				pmax	pmax		
	comp=Z,110nm,0.9s						
BILL				MLR	MLR		
	comp=Z,2μm,22.0s						
ERM	**Erimo**	**15.87**	**234**	Pn	**Pn**	**04 35 58.7**	**-4.6**
ERM				IAmb	IAmb	04 36 08.2	
	comp=Z,144nm,0.6s						
ERM	**Erimo**	**15.87**	**234**	*i* P	**Pn**	**04 36 01.5**	**-1.8**
SPIA	**Saint Paul Isl**	**17.32**	**64**	P	**P**	**04 36 22.5**	**+0.1**
SPIA	**Saint Paul Isl**	**17.32**	**64**	P	**P**	**04 36 22.1**	**-0.3**
	baz=268						
TEY	**Ternei**	**17.41**	**253**	⇑*e*P	**P**	**04 36 23.8**	**+0.3**
TEY				*e*		04 39 40.4	
TEY				pmax	pmax		
	comp=E,20nm,0.6s						
TEY				pmax	pmax		
	comp=Z,30nm,0.6s						
P08K	**Saint George I**	**17.69**	**66**	P	**P**	**04 36 26.8**	**+0.3**
	baz=271						
JTM	**Tenmabayashi**	**17.83**	**235**	Pn	Pn	04 36 21.0	-6.8
KLR	**Kul'dur**	**18.30**	**270**	P	**Pn**	**04 36 34.1**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=67,slow=9.6,SNR=47						
KLR				S	**Sn**	**04 39 48.4**	**-8.4**
	comp=Z,2.6nm,0.9s,baz=249,slow=24,SNR=1.0						
	comp=Z,18nm,0.6s						
KLR	**Kul'dur**	**18.30**	**270**	*e*P	**P**	**04 36 32.9**	**-0.4**
KLR				pmax	pmax		
	comp=Z,58nm,1.7s						
NIKH	**Nikolski High**	**18.49**	**77**	P	**Pn**	**04 36 36.0**	**+0.2**
NIKH	**Nikolski High**	**18.49**	**77**	P	**Pn**	**04 36 36.2**	**+0.4**
	baz=282						
YAK	**Yakutsk**	**18.72**	**311**			**04 36 37.2**	**-0.6**
YAK	**Yakutsk**	**18.72**	**311**	P	**P**	**04 36 36.9**	**-0.9**
	comp=Z,11nm,0.3s,baz=52,slow=0.8,SNR=20						
YAK				S	**Sn**	**04 40 01.6**	**-5.2**
	comp=Z,20nm,0.4s,baz=176,slow=4.3,SNR=1.8						
YAK				LR	LR	04 44 51.5	
	comp=Z,1μm,18.5s,baz=108,slow=40						
	comp=Z,114nm,0.8s						
YAK	**Yakutsk**	**18.72**	**311**	*e*P	**P**	**04 36 36.5**	**-1.3**
YAK				*e*S	**Sn**	**04 40 03.3**	**-3.4**
YAK				pmax	pmax		
	comp=Z,148nm,1.0s						
YAK				pmax	pmax		
	comp=N,22nm,1.2s						
YAK				pmax	pmax		
	comp=E,38nm,1.1s						
YAK				smax	smax		
	comp=N,125nm,1.2s						
YAK				smax	smax		
	comp=E,155nm,1.7s						
YAK				MLR	MLR		
	comp=Z,1μm,27.0s						
YAK				MLR	MLR		
	comp=N,464nm,18.0s						
YAK				MLR	MLR		
	comp=E,1μm,24.0s						
M11K	**Mekoryuk**	**19.69**	**54**	P	**Pn**	**04 36 49.1**	**-1.0**
	baz=263

J14K	**Nanvaranak Lak**	21.32	48	P		**P**	04 37 07.2 +1.2
	baz=260,SNR=24						
JSD	**Sado**	21.33	235	P		**P**	04 37 06.0 -0.3
JSD				IAmb		IAmb	04 37 19.6
	comp=Z,153nm,0.9s						
L14K	**Kuka Creek**	21.52	52	P		**P**	04 37 08.9 +0.8
L14K	**Kuka Creek**	21.52	52	P		**P**	04 37 09.7 +1.6
	baz=264,SNR=30						
F15K	**North Star Dit**	21.65	40	P		**P**	04 37 11.4 +1.9
F15K	**North Star Dit**	21.65	40	P		**P**	04 37 10.9 +1.4
	baz=251,SNR=18						
G15K	**Niukluk**	21.66	42	P		**P**	04 37 11.2 +1.5
	baz=253,SNR=14						
MDJ	**Mudanjiang**	21.77	260	P		**P**	04 37 09.7 -1.3
MDJ				pmax		pmax	
	comp=Z,31nm,0.9s						
MDJ	**Mudanjiang**	21.77	260	P		**P**	04 37 09.9 -1.1
M14K	**Bethel**	21.81	54	P		**P**	04 37 12.6 +1.4
M14K	**Bethel**	21.81	54	P		**P**	04 37 12.8 +1.6
	baz=266,SNR=23						
N14K	**Kuskokwak Cree**	21.90	56	P		**P**	04 37 13.4 +1.1
	baz=268,SNR=9.6						
S12K	**Black Hills**	21.94	67	P		**P**	04 37 14.3 +1.6
S12K				IAmb		IAmb	04 37 34.3
	comp=Z,114nm,1.1s						
S12K	**Black Hills**	21.94	67	P		**P**	04 37 13.9 +1.2
	baz=279,SNR=7.2						
O14K	**Tigyukauivet M**	22.11	58	P		**P**	04 37 15.5 +1.1
	baz=270						
L15K	**Ungalak Mounta**	22.12	51	P		**P**	04 37 15.9 +1.2
	baz=264,SNR=23						
K15K	**Wolf Creek Mou**	22.18	50	IAmb		IAmb	04 37 39.3
	comp=Z,156nm,1.3s						
K15K	**Wolf Creek Mou**	22.18	50	P		**P**	04 37 16.7 +1.5
	baz=263,SNR=33						
PSTR	**Posyet**	22.20	255	*i* P		**P**	04 37 13.5 -2.1
H16K	**Elim**	22.31	44	P		**P**	04 37 17.6 +1.0
	baz=256,SNR=22						
C16K	**Lisburne Hills**	22.40	33	IAmb		IAmb	04 37 20.4
	comp=Z,137nm,0.9s						
C16K	**Lisburne Hills**	22.40	33	P		**P**	04 37 17.9 +0.4
	baz=244,SNR=34						
M15K	**Kasigluk River**	22.43	54	P		**P**	04 37 18.8 +0.8
	baz=268,SNR=51						
G16K	**Koyuk River**	22.46	42	P		**P**	04 37 19.0 +0.8
G16K	**Koyuk River**	22.46	42	P		**P**	04 37 18.8 +0.6
	baz=254,SNR=12						
MAJO	**Matsushiro**	22.53	232	P		**P**	04 37 20.9 +1.6
MAJO	**Matsushiro**	22.53	232	P		**P**	04 37 19.5 +0.2
MAJO	**Matsushiro**	22.53	232	P		**P**	04 37 18.9 -0.4
MJAR	**Matsushiro Arr**	22.53	232	P		**P**	04 37 20.7 +1.5
	comp=Z,110nm,0.7s,baz=21,slow=11,SNR=220						
MJAR				PcP		**PcP**	04 41 11.2 -0.4
	comp=Z,0.6nm,0.3s,baz=58,slow=1.2,SNR=6.1						
	comp=Z,110nm,0.7s						
N15K	**Kwethluk River**	22.71	56	P		**P**	04 37 21.9 +1.0
N15K	**Kwethluk River**	22.71	56	P		**P**	04 37 21.8 +0.9
	baz=269,SNR=35						
J16K	**Anvik River**	22.74	47	P		**P**	04 37 22.1 +0.9
J16K	**Anvik River**	22.74	47	P		**P**	04 37 22.1 +0.9
	baz=261,SNR=65						
I17K	**Unalakleet**	22.81	46	P		**P**	04 37 22.5 +0.6
I17K	**Unalakleet**	22.81	46	P		**P**	04 37 23.1 +1.2
	baz=260,SNR=11						
O15K	**Ungalikthiuk R**	22.85	58	P		**P**	04 37 22.7 +0.3
	baz=272,SNR=12						
D17K	**Noatak River**	22.94	36	P		**P**	04 37 23.5 +0.3
	baz=248,SNR=42						
L16K	**Owhat River**	23.08	52	P		**P**	04 37 25.1 +0.4
L16K	**Owhat River**	23.08	52	P		**P**	04 37 25.1 +0.4
	baz=266,SNR=27						
RDOG	**Red Dog Mine**	23.14	35	IAmb		IAmb	04 37 28.2
	comp=Z,195nm,1.1s						
RDOG	**Red Dog Mine**	23.14	35	P		**P**	04 37 25.8 +0.6
	baz=248,SNR=23						
G17K	**Kiwalik Mounta**	23.17	42	P		**P**	04 37 26.3 +0.7
	baz=256,SNR=26						
E17K	**Hotham Inlet**	23.18	38	P		**P**	04 37 26.8 +1.2
	baz=251,SNR=44						
F17K	**Baldwin Pennin**	23.19	39	IAmb		IAmb	04 37 29.2
	comp=Z,86nm,0.8s						
F17K	**Baldwin Pennin**	23.19	39	P		**P**	04 37 26.3 +0.6
	baz=253,SNR=21						
C17K	**DeLong Mountai**	23.21	34	P		**P**	04 37 26.9 +0.9
	baz=246,SNR=25						
S14K	**Fog Glacier**	23.25	65	P		**P**	04 37 27.1 +0.6
	baz=279						
M16K	**Timber Creek**	23.29	53	P		**P**	04 37 27.4 +0.6
	baz=268,SNR=18						
H17K	**Granite Mounta**	23.35	43	IAmb		IAmb	04 37 29.7
	comp=Z,212nm,1.6s						
H17K	**Granite Mounta**	23.35	43	P		**P**	04 37 28.1 +0.8
	baz=258,SNR=45						
TIXI	**Tiksi**	23.37	335	P		**P**	04 37 26.4 -1.0
TIXI	**Tiksi**	23.37	335	LR		LR	04 47 28.0
	comp=Z,707nm,21.1s,baz=108,slow=39						
TIXI	**Tiksi**	23.37	335	*ce*P		**P**	04 37 26.1 -1.3
TIXI				pmax		pmax	
	comp=Z,61nm,0.8s						
N16K	**Nishlik Lake**	23.37	55	P		**P**	04 37 28.4 +0.8
	baz=270,SNR=34						
J17K	**VABM Dome**	23.44	47	P		**P**	04 37 29.3 +1.1
J17K				IAmb		IAmb	04 37 31.5
	comp=Z,134nm,1.1s						
J17K	**VABM Dome**	23.44	47	P		**P**	04 37 29.4 +1.2
	baz=263,SNR=93						
CHNA	**Chernabura Isl**	23.48	69	P		**P**	04 37 27.4 -1.2
	baz=282,SNR=11						
CNBA	**Chernabura Isl**	23.48	69	IAmb		IAmb	04 37 29.6
	comp=Z,116nm,1.1s						
L17K	**Donlin**	23.67	51	P		**P**	04 37 31.3 +1.0
	baz=266,SNR=38						
JGF	**Kuroka**	23.70	232	P		**P**	04 37 32.5 +1.6
JGF	**Kuroka**	23.70	232	P		**P**	04 37 31.1 +0.1
JGF				IAmb		IAmb	04 37 53.3
	comp=Z,78nm,0.8s						
K17K	**Iditarod**	23.71	49	IAmb		IAmb	04 37 54.0
	comp=Z,77nm,0.9s						
K17K	**Iditarod**	23.71	49	P		**P**	04 37 32.1 +1.3
	baz=265,SNR=41						
O16K	**Kokwok River B**	23.72	57	P		**P**	04 37 31.4 +0.5
	baz=272,SNR=6.5						
E18K	**Tukpahlearik C**	23.74	37	IAmb		IAmb	04 37 33.4
	comp=Z,72nm,0.8s						
E18K	**Tukpahlearik C**	23.74	37	P		**P**	04 37 32.3 +1.4
	baz=252,SNR=58						
P16K	**Nushagak River**	23.80	58	P		**P**	04 37 32.4 +0.8
	baz=274						
F18K	**Selawik**	23.85	39	P		**P**	04 37 33.5 +1.5
	baz=255,SNR=41						
CHGN	**Chignik**	23.87	65	P		**P**	04 37 33.2 +0.9
	baz=280						
C18K	**Utukok River**	23.95	34	P		**P**	04 37 33.4 +0.4
C18K				IAmb		IAmb	04 37 35.9
	comp=Z,160nm,1.1s						
C18K	**Utukok River**	23.95	34	P		**P**	04 37 33.9 +0.8
	baz=249,SNR=41						
B18K	**Kokolik River**	24.03	32	P		**P**	04 37 34.6 +1.0
	baz=246,SNR=37						
H18K	**Honhosa River**	24.04	43	P		**P**	04 37 34.6 +0.9
H18K				IAmb		IAmb	04 37 36.1
	comp=Z,92nm,1.1s						
H18K	**Honhosa River**	24.04	43	P		**P**	04 37 34.7 +0.9
	baz=259,SNR=55						
M17K	**Holitna River**	24.04	52	IAmb		IAmb	04 37 36.3
	comp=Z,95nm,0.9s						
M17K	**Holitna River**	24.04	52	P		**P**	04 37 35.1 +1.3
	baz=269,SNR=52						
INU	**Inuyama**	24.07	233	P		**P**	04 37 35.3 +1.0
INU	**Inuyama**	24.07	233	P		**P**	04 37 34.8 +0.5
INU				IAmb		IAmb	04 37 40.4
	comp=Z,114nm,0.8s						
G18K	**Tagagawik**	24.07	41	IAmb		IAmb	04 37 36.5
	comp=Z,78nm,0.9s						
G18K	**Tagagawik**	24.07	41	P		**P**	04 37 35.1 +1.0
	baz=258,SNR=93						
N17K	**Nushagak Hills**	24.16	55	P		**P**	04 37 35.9 +1.0
	baz=271,SNR=16						
O17K	**Koliganek Bris**	24.22	56	P		**P**	04 37 36.5 +1.0
	baz=273,SNR=25						
L18K	**Granite Mounta**	24.43	51	P		**P**	04 37 38.2 +0.9
	baz=268						
J18K	**Innoko River**	24.50	48	IAmb		IAmb	04 37 40.9
	comp=Z,78nm,1.0s						
J18K	**Innoko River**	24.50	48	P		**P**	04 37 38.8 +0.7
	baz=265,SNR=114						
Q16K	**King Salmon**	24.52	59	P		**P**	04 37 38.9 +0.7
	baz=276						
P17K	**Kvichak River**	24.59	58	P		**P**	04 37 39.8 +1.0
	baz=274,SNR=13						
GCSA	**Galena City Sc**	24.59	44	P		**P**	04 37 38.8 +0.1
	baz=262,SNR=8.8						
A19K	**Wainwright**	24.61	31	P		**P**	04 37 39.2 +0.3
	baz=246,SNR=6.7						
F19K	**Shaleruckik Mo**	24.63	39	IAmb		IAmb	04 37 41.0
	comp=Z,88nm,0.8s						
F19K	**Shaleruckik Mo**	24.63	39	P		**P**	04 37 39.9 +0.7
	baz=256,SNR=80						
C19K	**Lookout Ridge**	24.66	34	P		**P**	04 37 40.4 +0.9
C19K	**Lookout Ridge**	24.66	34	P		**P**	04 37 40.4 +0.9
	baz=250,SNR=42						
JHJ	**Hachijo jima 2**	24.66	225	P		**P**	04 37 41.2 +1.5
	comp=Z,123nm,0.9s,baz=61,slow=19,SNR=2.2						
	comp=Z,123nm,0.9s						
CN2	**Changchun**	24.71	263	*e*P		**P**	04 37 38.0 -2.1
CN2				*es*P		sP	04 37 55.1 -1.1
CN2				*e*S		**S**	04 41 53.2 -5.7
CN2				*es*S		sS	04 42 12.8 -5.1
CN2				pmax		pmax	
	comp=Z,30nm,0.7s						
CN2				LR		LR	
	comp=Z,210nm,13.0s						
CN2				LR		LR	
	comp=Z,370nm,13.0s						
G19K	**Purcell Mounta**	24.75	41	P		**P**	04 37 40.9 +0.6
	baz=259,SNR=34						
R17L	**Mt. Peulik Vol**	24.79	62	P		**P**	04 37 41.6 +0.9
	baz=278,SNR=9.0						
N18K	**Kilae Creek**	24.79	54	P		**P**	04 37 41.9 +1.1
	baz=272,SNR=17						
M18K	**Stony River**	24.82	52	P		**P**	04 37 41.9 +0.9
	baz=270,SNR=33						
H19K	**Roundabout Mou**	24.89	43	IAmb		IAmb	04 37 43.5
	comp=Z,90nm,0.8s						
H19K	**Roundabout Mou**	24.89	43	P		**P**	04 37 42.4 +0.9
	baz=261,SNR=76						
SVW2	**Sparrevohn**	24.94	53	P		**P**	04 37 43.2 +1.2
Q17K	**Contact Creek**	24.96	60	P		**P**	04 37 42.8 +0.4
	baz=277,SNR=16						
D19K	**Kuna River**	24.96	35	P		**P**	04 37 43.0 +0.7
	baz=253,SNR=93						
E19K	**Redstone River**	24.99	38	IAmb		IAmb	04 37 57.2
	comp=Z,149nm,1.0s						
E19K	**Redstone River**	24.99	38	P		**P**	04 37 43.5 +1.1
	baz=256,SNR=122						
J19K	**Poorman**	25.04	46	IAmb		IAmb	04 37 45.0
	comp=Z,51nm,0.8s						
J19K	**Poorman**	25.04	46	P		**P**	04 37 43.4 +0.5
	baz=265,SNR=87						
O18K	**Koktuh Hills**	25.17	56	IAmb		IAmb	04 37 47.5
	comp=Z,66nm,1.1s						
O18K	**Koktuh Hills**	25.17	56	P		**P**	04 37 45.0 +0.9
	baz=274,SNR=16						
P18K	**Big Mountain,**	25.19	57	IAmb		IAmb	04 37 46.3
	comp=Z,73nm,1.1s						
P18K	**Big Mountain,**	25.19	57	P		**P**	04 37 45.3 +1.0
	baz=275,SNR=18						
L19K	**White Mountain**	25.29	51	IAmb		IAmb	04 38 11.3
	comp=Z,101nm,1.4s						
L19K	**White Mountain**	25.29	51	P		**P**	04 37 45.8 +0.6
	baz=269,SNR=30						
Q18K	**Katmai Hardscr**	25.38	59	P		**P**	04 37 46.6 +0.5
	baz=277,SNR=24						
F20K	**Avaraart Lake**	25.47	39	P		**P**	04 37 47.0 +0.3
	baz=258						
N19K	**Bonanza Creek**	25.48	54	IAmb		IAmb	04 37 50.7
	comp=Z,114nm,1.4s						
N19K	**Bonanza Creek**	25.48	54	P		**P**	04 37 48.1 +1.1
	baz=273,SNR=27						
CHIR	**Chirikof Islan**	25.50	66	P		**P**	04 37 47.8 +0.7
	baz=282						
M19K	**Big River Lodg**	25.50	51	P		**P**	04 37 48.2 +1.1
	baz=270						
H20K	**Anotleneega Mo**	25.53	43	P		**P**	04 37 48.0 +0.7
	baz=262,SNR=50						
HIA	**Hailar**	25.54	278	P		**P**	04 37 46.6 -1.1
HIA				IAmb		IAmb	04 37 57.8
	comp=Z,42nm,0.6s						
HIA						**PcP**	04 41 18.2 +0.4
HIA	**Hailar**	25.54	278	P		**P**	04 37 46.6 -1.1
HIA							04 41 18.2
HIA				pmax		pmax	
	comp=Z,42nm,0.6s						
D20K	**Etivluk River**	25.56	35	P		**P**	04 37 48.4 +0.8
	baz=254,SNR=75						
E20K	**Nigu River**	25.58	36	P		**P**	04 37 48.8 +0.9
	baz=255,SNR=87						
I20K	**Naaghedeneel**	25.62	45	P		**P**	04 37 48.6 +0.6
I20K				IAmb		IAmb	04 38 14.8
	comp=Z,124nm,1.1s						
I20K	**Naaghedeneel**	25.62	45	P		**P**	04 37 49.0 +0.9
	baz=264,SNR=9.6						
K20K	**Telida**	25.68	48	P		**P**	04 37 49.5 +0.7
	baz=268,SNR=53						
J20K	**Nowinta River**	25.70	46	IAmb		IAmb	04 37 52.3
	comp=Z,73nm,0.9s						
J20K	**Nowinta River**	25.70	46	P		**P**	04 37 49.6 +0.7
	baz=266,SNR=81						
L20K	**Farewell, AK**	25.75	50	P		**P**	04 37 50.0 +0.7
	baz=270,SNR=20						
B20K	**Meade River**	25.77	32	P		**P**	04 37 49.8 +0.3
	baz=251						
R18K	**Karluk**	25.82	61	P		**P**	04 37 48.3 -1.6
	baz=279						
Q19K	**Cape Douglas,**	26.05	58	P		**P**	04 37 52.0 -0.2
	baz=277						
IMAR	**Indian Mountai**	26.06	42	P		**P**	04 37 52.8 +0.6
IMAR				PcP		**PcP**	04 41 19.8 +1.1
M20K	**Styx River**	26.10	51	P		**P**	04 37 53.8 +1.2
M20K	**Styx River**	26.10	51	P		**P**	04 37 53.6 +0.9
	baz=272						
SII	**Sitkinak Islan**	26.14	64	P		**P**	04 37 53.0 0.0
SII				IAmb		IAmb	04 38 10.6
	comp=Z,109nm,0.8s						
SII	**Sitkinak Islan**	26.14	64	P		**P**	04 37 53.5 +0.6
	baz=282						
P19K	**Oil Pt**	26.18	56	P		**P**	04 37 53.6 +0.3
	baz=276						
G21K	**Allakaket**	26.24	41	P		**P**	04 37 54.5 +0.8
	baz=262,SNR=47						
C21K	**Knifeblade Rid**	26.31	35	P		**P**	04 37 55.4 +1.0
	baz=255,SNR=44						
F21K	**Alatna River**	26.36	39	P		**P**	04 37 55.4 +0.5
	baz=260,SNR=33						
A21K	**Barrow**	26.41	30	P		**P**	04 37 55.6 +0.4
	baz=249						
H21K	**Melozitna Rive**	26.41	43	P		**P**	04 37 56.0 +0.7
	baz=264,SNR=57						
BOD	**Bodaibo**	26.41	299	*e*P		**P**	04 37 54.6 -0.8
BOD				pmax		pmax	
	comp=Z,41nm,1.5s						
E21K	**Killik River**	26.42	36	P		**P**	04 37 55.8 +0.4
	baz=257						
CHUM	**Lake Minchumin**	26.49	47	P		**P**	04 37 56.9 +0.9
	baz=268						
OHAK	**Old Harbor**	26.50	62	P		**P**	04 37 55.9 -0.2
OHAK	**Old Harbor**	26.50	62	P		**P**	04 37 55.4 -0.7
	baz=281,SNR=13						
B21K	**Ikpikpuk River**	26.50	34	P		**P**	04 37 57.0 +1.0
	baz=254						
PPLA	**Purkeypile**	26.53	49	P		**P**	04 37 57.8 +1.3
	baz=270						
N20K	**Mount Spurr**	26.57	53	P		**P**	04 37 57.8 +0.9
	baz=274,SNR=5.8						
SPCR	**Spurr Chakacha**	26.57	53	P		**P**	04 37 53.5 -3.3
	baz=274						
CAST	**Castle Rocks**	26.58	48	P		**P**	04 37 57.6 +0.7
	baz=269						
Q20K	**Shuyak Island**	26.74	59	P		**P**	04 37 58.0 -0.3
	baz=279						
SYI	**Shuyak Island**	26.74	59	P		**P**	04 37 58.7 +0.4
SYI				IAmb		IAmb	04 38 14.7
	comp=Z,77nm,0.9s						
KDAK	**Kodiak Island**	26.77	61	P		**P**	04 37 57.9 -0.7
KDAK						**PcP**	04 41 21.9 +1.5
KDAK	**Kodiak Island**	26.77	61	P		**P**	04 37 57.8 -0.7
	baz=280						
KDAK	**Kodiak Island**	26.77	61	LR		LR	04 48 05.8
	comp=Z,170nm,20.2s,baz=226,slow=35						
KDAK	**Kodiak Island**	26.77	61	P		**P**	04 37 57.9 -0.7
KDAK							04 41 21.9
KDAK				pmax		pmax	
	comp=Z,44nm,0.9s						
A22K	**Sinclair Lake**	26.80	31	P		**P**	04 37 59.1 +0.4
	baz=251						
SKT	**Skwentna**	26.85	51	P		**P**	04 37 59.9 +0.5
	baz=273,SNR=9.1						
F22K	**John River**	26.91	39	P		**P**	04 38 00.4 +0.6
	baz=261						
D22K	**Ayikyak River**	26.98	36	P		**P**	04 38 01.3 +0.9
D22K	**Ayikyak River**	26.98	36	P		**P**	04 38 00.9 +0.5
	baz=258,SNR=26						
HOM	**Homer**	26.98	56	P		**P**	04 38 01.5 +1.0
	baz=277						
H22K	**Ishtalitna Cre**	27.02	42	P		**P**	04 38 01.8 +1.0
	baz=265,SNR=29						
BPAW	**Bear Paw Mtn.**	27.08	46	P		**P**	04 38 01.9 +0.5
	baz=269,SNR=38						
G22K	**Bettles**	27.08	40	P		**P**	04 38 01.4 +0.1
	baz=263						
B22K	**Teshekpuk Lake**	27.09	32	IAmb		IAmb	04 38 03.1
	comp=Z,166nm,1.4s						
B22K	**Teshekpuk Lake**	27.09	32	P		**P**	04 38 01.9 +0.6
	baz=254,SNR=6.3						
CAPN	**Captain Cook N**	27.11	54	P		**P**	04 38 02.0 +0.4
	baz=275						
E22K	**Anaktuvuk Pass**	27.15	37	P		**P**	04 38 02.7 +0.7
	baz=260						
CNPM	**China Poot**	27.21	56	P		**P**	04 38 02.8 +0.3
CNPM				IAmb		IAmb	04 38 04.6
	comp=Z,91nm,1.4s						
MLY	**Manley**	27.22	44	P		**P**	04 38 03.7 +1.1
MLY						**PcP**	04 41 22.5 +1.0
MLY	**Manley**	27.22	44	P		**P**	04 38 03.5 +0.8
	baz=267,SNR=39						
SUA	**Susitna One**	27.25	52	P		**P**	04 38 03.7 +0.7
SUA				PcP		**PcP**	04 41 22.4 +0.7
SUA	**Susitna One**	27.25	52	P		**P**	04 38 02.8 -0.2
	baz=274,SNR=12						
KS19	**Wonju Array Si**	27.28	249	P		**P**	04 38 02.4 -1.0
KSRS	**Korea Array**	27.29	249	P		**P**	04 38 04.5 +1.2
	comp=Z,27nm,0.8s,baz=43,slow=9.7,SNR=53						
KSRS				PcP		**PcP**	04 41 22.4 +0.4
	comp=Z,4.8nm,1.0s,baz=0.0,slow=1.3,SNR=5.6						
	comp=Z,27nm,0.8s						
KSAR	**Wonju Array Be**	27.32	249	P		**P**	04 38 03.3 -0.4
KSAR	**Wonju Array Be**	27.32	249	P		**P**	04 38 03.3 -0.4
CUT	**Chulitna**	27.43	50	IAmb		IAmb	04 38 43.1
	comp=Z,82nm,1.2s						
CUT	**Chulitna**	27.43	50	P		**P**	04 38 03.9 -0.6
	baz=273						
BRSE	**Bradley Lake S**	27.43	56	P		**P**	04 38 03.6 -0.9
	baz=278,SNR=6.6						
M22K	**Willow**	27.53	52	P		**P**	04 38 04.4 -0.9
	baz=274						
COLD	**Coldfoot**	27.63	40	P		**P**	04 38 06.8 +0.7
	baz=264,SNR=38						
G23K	**Bananza Creek**	27.64	41	P		**P**	04 38 06.8 +0.4
	baz=265,SNR=44						
D23K	**Nanushuk River**	27.71	36	P		**P**	04 38 07.7 +0.7
	baz=260						
H23K	**Yukon River**	27.77	43	P		**P**	04 38 08.6 +1.1
	baz=267,SNR=39						
RC01	**Rabbit Creek A**	27.77	53	P		**P**	04 38 08.4 +0.9
RC01				PcP		**PcP**	04 41 23.7 +0.9
RC01	**Rabbit Creek A**	27.77	53	P		**P**	04 38 07.6 +0.1
	baz=276						
I23K	**Minto, Yukon-K**	27.81	44	P		**P**	04 38 08.7 +0.9
	baz=268,SNR=24						
C23K	**Itkillik River**	27.90	34	IAmb		IAmb	04 38 10.6
	comp=Z,87nm,1.1s						
C23K	**Itkillik River**	27.90	34	P		**P**	04 38 09.3 +0.7
	baz=258,SNR=21						
NEA2	**Nenana**	27.92	45	P		**P**	04 38 09.4 +0.5
	baz=270,SNR=27						
E23K	**Chandalar**	27.95	38	P		**P**	04 38 09.8 +0.6
	baz=263,SNR=74						
MCK	**McKinley**	27.99	47	P		**P**	04 38 09.8 +0.3
	baz=272,SNR=16						
PMR	**Palmer**	28.02	52	P		**P**	04 38 10.5 +0.8
	baz=275,SNR=6.1						
SEW	**Seward**	28.02	55	P		**P**	04 38 09.2 -0.6
	baz=278,SNR=6.8						
RND	**Reindeer**	28.03	48	IAmb		IAmb	04 38 11.7
	comp=Z,86nm,1.3s						
RND	**Reindeer**	28.03	48	P		**P**	04 38 09.4 -0.6
TOLK	**Toolik Lake Re**	28.05	37	P		**P**	04 38 10.8 +0.8
	baz=262,SNR=22						
WAT1	**Susitna Watana**	28.20	49	P		**P**	04 38 10.9 -0.5
	baz=274						
WRH	**Wood River Hil**	28.35	46	IAmb		IAmb	04 38 15.3
	comp=Z,100nm,1.3s						
KNK	**Knik Glacier**	28.35	52	IAmb		IAmb	04 38 38.0
	comp=Z,58nm,1.0s						
KNK	**Knik Glacier**	28.35	52	P		**P**	04 38 12.7 0.0
	baz=276,SNR=8.8						
SML	**Sawmill**	28.38	51	IAmb		IAmb	04 38 15.0
	comp=Z,170nm,1.5s						
SML	**Sawmill**	28.38	51	P		**P**	04 38 13.2 +0.2
	baz=276,SNR=33						
E24K	**Your Creek**	28.38	38	P		**P**	04 38 13.9 +0.9
	baz=264						
D24K	**Happy Valley**	28.40	36	P		**P**	04 38 13.3 +0.2
	baz=262,SNR=16						
COLA	**College**	28.45	45	P		**P**	04 38 14.5 +1.0
COLA	**College**	28.45	45	P		**P**	04 38 14.4 +1.0
COLA				IAmb		IAmb	04 38 15.4
	comp=Z,40nm,0.8s						
COLA	**College**	28.45	45	P		**P**	04 38 14.0 +0.5
	baz=270						
COLA	**College**	28.45	45	*i* P		**P**	04 38 14.0 +0.5
COLA				pmax		pmax	
	comp=Z,44nm,0.9s						
H24K	**Noodor Dome**	28.45	43	P		**P**	04 38 14.6 +1.0
	baz=268,SNR=23						
CCB	**Clear Creek Bu**	28.47	45	IAmb		IAmb	04 38 16.3
	comp=Z,118nm,1.6s						
C24K	**Franklin Bluff**	28.53	35	P		**P**	04 38 14.7 +0.5
	baz=261,SNR=13						
F24K	**Squaw Lake**	28.55	39	P		**P**	04 38 15.1 +0.6
	baz=265,SNR=34						
WAT6	**Susitna Watana**	28.59	50	P		**P**	04 38 14.4 -0.5
	baz=275,SNR=8.9						
JTU	**Tsushima**	28.61	243	P		**P**	04 38 17.1 +1.9
POKR	**Poker Plat Res**	28.63	44	IAmb		IAmb	04 38 17.3
	comp=Z,103nm,1.6s						
POKR	**Poker Plat Res**	28.63	44	P		**P**	04 38 15.9 +0.8
	baz=270,SNR=10		

PRP	**Porcupine Dome**	29.42	43	P	P	04 38 22.8 +0.5
	baz=271,SNR=60					
E25K	**Arctic Village**	29.47	38	P	P	04 38 23.8 +1.2
	baz=267,SNR=37					
J25K	**Salcha River,**	29.52	45	P	P	04 38 22.1 -1.1
	baz=273,SNR=30					
FYU	**Fort Yukon**	29.54	41	IAmb	IAmb	04 38 25.7
	comp=Z,58nm,0.8s					
KLU	**Klutina**	29.55	52	P	P	04 38 23.7 +0.2
	baz=278,SNR=9.9					
PAX	**Paxson**	29.59	49	P	P	04 38 24.1 +0.3
	baz=276,SNR=9.0					
Q23K	**Middleton Isla**	29.68	56	P	P	04 38 25.1 +0.7
	baz=281					
EYAK	**Cordova Ski Ar**	29.78	53	P	P	04 38 25.4 +0.1
	baz=280					
HARP	**HAARP**	29.80	50	P	P	04 38 26.0 +0.4
	baz=277					
BMAR	**Burnt Mountain**	29.81	40	P	P	04 38 26.8 +1.1
C26K	**Camden Bay**	29.86	34	P	P	04 38 27.2 +1.2
	baz=264,SNR=6.0					
DL2	**Dalian**	29.96	258	P	P	04 38 27.4 +0.2
DL2				*e*S	S	04 43 22.0 +0.3
DL2				pmax	pmax	
	comp=Z,29nm,1.0s					
DL2				LR	LR	
	comp=Z,980nm,16.8s					
DL2				LR	LR	
	comp=Z,1μm,15.4s					
DL2				LR	LR	
	comp=Z,2μm,23.6s					
F26K	**Sheenjek River**	29.99	39	P	P	04 38 28.7 +1.5
	baz=269,SNR=36					
G26K	**Porcupine Rive**	30.12	40	P	P	04 38 29.8 +1.5
	baz=270,SNR=38					
SCRK	**Sand Creek**	30.16	46	P	P	04 38 28.4 -0.5
	baz=275,SNR=37					
N25K	**Chitina, Valde**	30.16	51	P	P	04 38 29.6 +0.7
	baz=279,SNR=8.3					
C27K	**Jago River**	30.25	35	P	P	04 38 30.2 +0.8
	baz=266,SNR=71					
BMRM	**Bremner River**	30.26	52	P	P	04 38 30.1 +0.4
	baz=280,SNR=14					
J26L	**Joseph Creek**	30.30	45	P	P	04 38 29.6 -0.5
	baz=275,SNR=9.2					
XLT	**XiLinHaoTe**	30.32	271	*e*P	P	04 38 28.8 -1.7
XLT				pP	pP	04 38 40.2 -1.6
XLT				sP	sP	04 38 47.6 +0.7
XLT				pmax	pmax	
	comp=Z,7.0nm,0.7s					
XLT				LR	LR	
	comp=Z,550nm,17.0s					
XLT				LR	LR	
	comp=Z,640nm,16.2s					
I26K	**Coal Creek Min**	30.42	44	P	P	04 38 30.7 -0.3
	baz=274					
KAIM	**Kayak Island**	30.55	54	IAmb	IAmb	04 38 35.1
	comp=Z,69nm,1.2s					
KAIM	**Kayak Island**	30.55	54	P	P	04 38 32.4 +0.3
	baz=282					
L26K	**Log Cabin Wild**	30.55	48	P	P	04 38 32.2 0.0
	baz=277					
M26K	**Nabesna, AK**	30.79	49	P	P	04 38 35.5 +1.1
M26K				PcP	PcP	04 41 32.4 +1.8
M26K	**Nabesna, AK**	30.79	49	P	P	04 38 35.6 +1.2
	baz=279,SNR=12					
MCARA	**McCarthy VSAT**	30.95	51	P	P	04 38 36.4 +0.8
	baz=280					
E27K	**Coleen River**	30.96	38	P	P	04 38 36.8 +1.0
	baz=270,SNR=16					
G27K	**Doyon Strip**	30.96	41	IAmb	IAmb	04 38 38.8
	comp=Z,66nm,1.6s					
G27K	**Doyon Strip**	30.96	41	P	P	04 38 37.2 +1.4
	baz=272,SNR=28					
K27K	**Chicken**	31.00	46	IAmb	IAmb	04 38 38.6
	comp=Z,43nm,1.1s					
K27K	**Chicken**	31.00	46	P	P	04 38 36.5 +0.4
	baz=277					
CRQM	**Cirque**	31.01	53	IAmb	IAmb	04 39 02.8
	comp=Z,53nm,1.0s					
CRQE	**Cirque**	31.03	53	P	P	04 38 37.3 +0.8
	baz=281,SNR=13					
H27K	**Steamboat Moun**	31.04	42	P	P	04 38 37.9 +1.4
	baz=274,SNR=37					
I27K	**Kandik River**	31.05	43	P	P	04 38 36.6 +0.1
	baz=274,SNR=7.9					
D27M	**Malcolm River**	31.20	36	P	P	04 38 38.9 +1.0
D27M				IAmb	IAmb	04 38 40.1
	comp=Z,56nm,1.1s					
D27M	**Malcolm River**	31.20	36	P	P	04 38 38.8 +1.0
	baz=269					
L27K	**Beaver Creek,**	31.23	48	IAmb	IAmb	04 38 41.5
	comp=Z,65nm,1.1s					
L27K	**Beaver Creek,**	31.23	48	P	P	04 38 39.3 +1.1
	baz=279,SNR=69					
BCAR	**Beaver Creek A**	31.25	48	P	P	04 38 39.6 +1.2
SNH	**Sunshine Point**	31.27	54	IAmb	IAmb	04 38 41.2
	comp=Z,45nm,1.1s					
EGAK	**Eagle**	31.31	45	IAmb	IAmb	04 38 40.3
	comp=Z,30nm,0.8s					
EGAK	**Eagle**	31.31	45	P	P	04 38 38.5 -0.3
	baz=276,SNR=63					
M27K	**Edge Creek, AK**	31.32	49	P	P	04 38 40.2 +1.2
	baz=280,SNR=24					
F28M	**Old Crow**	31.62	39	IAmb	IAmb	04 38 44.2
	comp=Z,40nm,0.8s					
F28M	**Old Crow**	31.62	39	P	P	04 38 43.0 +1.5
	baz=273,SNR=53					
GRNC	**Granite Creek**	31.68	52	IAmb	IAmb	04 39 08.8
	comp=Z,33nm,0.9s					
MESA	**MESA**	31.70	53	IAmb	IAmb	04 38 45.6
	comp=Z,53nm,1.2s					
MESA	**MESA**	31.70	53	P	P	04 38 43.7 +1.1
	baz=283,SNR=7.3					
E28M	**Babbage River**	31.72	37	IAmb	IAmb	04 38 44.8
	comp=Z,58nm,1.4s					
E28M	**Babbage River**	31.72	37	P	P	04 38 43.6 +1.3
	baz=271,SNR=24					
I28M	**Miner Creek**	31.76	43	P	P	04 38 43.5 +0.7
	baz=276,SNR=31					
CTG	**Chitna Glacier**	31.83	52	P	P	04 38 44.4 +0.8
	baz=282,SNR=7.0					
D28M	**Stokes Point**	31.99	36	P	P	04 38 44.9 +0.1
	baz=271					
YUK3	**Moose Creek**	32.08	50	P	P	04 38 46.6 +0.8
	baz=282,SNR=16					
DAWY	**Dawson**	32.16	46	IAmb	IAmb	04 38 48.2
	comp=Z,60nm,1.8s					
DAWY	**Dawson**	32.16	46	P	P	04 38 46.6 +0.2
	baz=279,SNR=7.9					
H29M	**Whitestone**	32.32	42	P	P	04 38 48.9 +1.3
	baz=276,SNR=20					
E29M	**Blow River**	32.33	38	IAmb	IAmb	04 38 50.4
	comp=Z,80nm,1.4s					
E29M	**Blow River**	32.33	38	P	P	04 38 49.0 +1.3
	baz=273,SNR=40					
G29M	**Pine Creek**	32.39	40	IAmb	IAmb	04 39 03.5
	comp=Z,62nm,1.1s					
G29M	**Pine Creek**	32.39	40	P	P	04 38 49.7 +1.4
	baz=276,SNR=28					
O28M	**Mount Upton**	32.42	52	P	P	04 38 49.7 +0.7
	baz=283,SNR=6.0					
I29M	**Ogilvie Camp,**	32.44	43	P	P	04 38 49.4 +0.6
	baz=278,SNR=22					
YUK8	**Steele Glacier**	32.51	51	P	P	04 38 50.2 +0.5
	baz=283					
PINM	**Pinnacle**	32.55	53	P	P	04 38 50.7 +0.9
	baz=284					
M29M	**Somme Creek**	32.86	49	P	P	04 38 53.8 +1.2
	baz=282,SNR=24					
L29M	**L29M**	32.88	47	IAmb	IAmb	04 38 56.3
	comp=Z,52nm,0.9s					
L29M	**L29M**	32.88	47	P	P	04 38 54.2 +1.5
	baz=281,SNR=66					
BCPM	**Bancas Point**	32.88	53	IAmb	IAmb	04 39 28.0
	comp=Z,53nm,1.2s					
EPYK	**Eagle Plains**	32.96	41	IAmb	IAmb	04 38 56.5
	comp=Z,122nm,1.6s					
EPYK	**Eagle Plains**	32.96	41	P	P	04 38 54.2 +0.8
	baz=277,SNR=16					
K29M	**Barlow Dome**	33.01	46	P	P	04 38 54.6 +0.7
	baz=281,SNR=11					
YUK4	**Talbot Arm**	33.02	51	P	P	04 38 55.1 +1.0
	baz=284					
PNL	**Peninsula**	33.08	54	P	P	04 38 54.2 -0.2
PNL	**Peninsula**	33.08	54	P	P	04 38 54.8 +0.5
	baz=286					
G30M	**tAoh Zraii Nji**	33.09	40	P	P	04 38 55.1 +0.7
	baz=277,SNR=11					
F30M	**Barrier River**	33.18	39	P	P	04 38 56.8 +1.6
	baz=276,SNR=15					
YUK6	**Outpost Mounta**	33.25	51	P	P	04 38 57.1 +0.9
	baz=284					
I30M	**Mount Dempster**	33.27	43	P	P	04 38 56.5 +0.4
	baz=280,SNR=30					
O29M	**Mount Kennedy**	33.31	53	P	P	04 38 57.5 +1.0
	baz=285					
J30M	**Hart River**	33.40	44	P	P	04 38 57.9 +0.7
	baz=280,SNR=13					
H11N2	**WAKE ISLAND Hy**	33.45	169	T	T	05 14 28.5
	SNR=2553					
H11N3	**WAKE ISLAND Hy**	33.46	169	T	T	05 14 29.1
	baz=159,slow=74,SNR=2285					
H11N1	**WAKE ISLAND Hy**	33.47	169	T	T	05 14 30.2
	baz=353,slow=74,SNR=1842					
M30M	**Minto, Yukon**	33.59	48	P	P	04 39 00.2 +1.3
	baz=283					
HYT	**Haines Junctio**	33.68	51	P	P	04 39 01.0 +1.2
HYT	**Haines Junctio**	33.68	51	P	P	04 39 01.2 +1.4
	baz=285,SNR=18					
ULN	**Ulaanbaatar**	33.72	283	P	P	04 38 59.2 -1.1
ULN					PcP	04 41 39.4 +0.5
ULN	**Ulaanbaatar**	33.72	283	*ce*P	P	04 38 59.3 -1.0
ULN				pmax	pmax	
	comp=Z,9.0nm,1.2s					
N30M	**Aishikik Lake**	33.72	50	P	P	04 39 00.7 +0.6
	baz=284					
MAYO	**Mayo, Yukon**	33.77	46	P	P	04 39 01.5 +1.1
	baz=282					
G31M	**Satah River**	33.85	40	IAmb	IAmb	04 39 02.9
	comp=Z,51nm,1.4s					
G31M	**Satah River**	33.85	40	P	P	04 39 01.5 +0.5
	baz=279,SNR=9.4					
P29M	**Windy Craggy**	33.90	53	P	P	04 39 02.4 +0.8
	baz=287					
INK	**Inuvik**	33.95	37	P	P	04 39 02.8 +0.9
INK				IAmb	IAmb	04 39 03.6
	comp=Z,31nm,0.8s					
INK	**Inuvik**	33.95	37	P	P	04 39 03.0 +1.2
	baz=277,SNR=23					
INK	**Inuvik**	33.95	37	LR	LR	04 55 15.4
	comp=Z,210nm,18.0s,baz=333,slow=40					
INK	**Inuvik**	33.95	37	P	P	04 39 02.8 +0.9
INK				pmax	pmax	
	comp=Z,31nm,0.8s					
F31M	**Tsiigehtchic**	33.98	39	IAmb	IAmb	04 39 16.4
	comp=Z,64nm,1.3s					
F31M	**Tsiigehtchic**	33.98	39	P	P	04 39 03.0 +0.9
	baz=278,SNR=9.3					
H31M	**Peel River**	34.00	42	P	P	04 39 02.8 +0.4
	baz=280					
SONM	**Songino Array**	34.12	284	P	P	04 39 02.5 -1.2
SONM				PcP	PcP	04 41 40.6 +0.5
SONM	**Songino Array**	34.12	284	P	P	04 39 03.3 -0.4
	comp=Z,4.6nm,0.7s,baz=62,slow=7.5,SNR=14					
SONM				PcP	PcP	04 41 40.8 +0.7
	comp=Z,17nm,0.6s,baz=72,slow=1.9,SNR=22					
SONM				ScP	ScP	04 45 22.7 +1.4
	comp=Z,1.9nm,0.9s,baz=72,slow=3.2,SNR=3.4					
	comp=Z,4.6nm,0.7s					
P30M	**Million Dollar**	34.13	52	P	P	04 39 04.9 +1.3
	baz=287					
O30N	**Mendenhall**	34.37	51	P	P	04 39 06.9 +1.3
	baz=286,SNR=15					
TIA	**Tai'an**	34.42	259	P	P	04 39 05.4 -0.9
TIA				pmax	pmax	
	comp=Z,6.0nm,0.7s					
TIA				pmax	pmax	
	comp=Z,120nm,3.5s					
TIA				LR	LR	
	comp=Z,380nm,18.0s					
TIA				LR	LR	
	comp=Z,360nm,17.3s					
TIA				LR	LR	
	comp=Z,670nm,17.2s					
PLBC	**Pleasant Camp**	34.62	53	P	P	04 39 09.1 +1.4
	baz=288,SNR=5.2					
H11S1	**WAKE ISLAND Hy**	34.63	169	T	T	05 15 52.7
	baz=352,slow=74,SNR=1142					
H11S3	**WAKE ISLAND Hy**	34.65	169	T	T	05 15 52.2
	baz=352,slow=74,SNR=1317					
H11S2	**WAKE ISLAND Hy**	34.65	169	T	T	05 15 51.0
	baz=352					
ZAK	**Zakamensk**	34.74	289	*e*P	P	04 39 08.5 -0.5
ZAK				pmax	pmax	
	comp=Z,6.0nm,1.2s					
M31M	**Drury Creek, Y**	34.77	48	IAmb	IAmb	04 39 11.8
	comp=Z,28nm,0.8s					
M31M	**Drury Creek, Y**	34.77	48	P	P	04 39 10.8 +1.7
	baz=285,SNR=32					
HHC	**Hu-ho-hao-te**	34.81	270	*e*P	P	04 39 09.2 -0.6
HHC				sP	sP	04 39 23.3 -3.0
HHC				*e*S	S	04 44 34.6 -2.8
HHC				pmax	pmax	
	comp=Z,12nm,0.6s					
HHC				pmax	pmax	
	comp=Z,61nm,4.9s					
HHC				LR	LR	
	comp=Z,250nm,13.1s					
HHC				LR	LR	
	comp=Z,540nm,18.4s					
HHC				LR	LR	
	comp=Z,660nm,17.7s					
WHY	**Whitehorse**	34.97	51	P	P	04 39 12.2 +1.4
WHY	**Whitehorse**	34.97	51	P	P	04 39 12.6 +1.7
	baz=287,SNR=39					
HNS	**HongShan**	35.08	262	⇓P	P	04 39 12.2 +0.3
HNS				pP	pP	04 39 21.9 -1.3
HNS				PcP	PcP	04 41 43.9 +1.1
HNS				ScS	ScS	04 49 29.1 +0.6
HNS				pmax	pmax	
	comp=Z,9.0nm,0.5s					
HNS				LR	LR	
	comp=Z,470nm,16.7s					
HNS				LR	LR	
	comp=Z,530nm,17.5s					
HNS				LR	LR	
	comp=Z,670nm,16.9s					
SKAG	**Skagway**	35.12	53	IAmb	IAmb	04 39 15.1
	comp=Z,39nm,1.0s					
SKAG	**Skagway**	35.12	53	P	P	04 39 14.0 +2.0
	baz=288,SNR=14					
S31K	**Pelican**	35.16	56	P	P	04 39 13.5 +1.2
	baz=290					
FARO	**Faro, Yukon**	35.23	48	P	P	04 39 14.2 +1.2
	baz=286,SNR=26					
JOW	**Kunigami**	35.31	235	P	P	04 39 14.9 +0.9
N32M	**Quiet Lake**	35.66	50	P	P	04 39 17.7 +0.9
	baz=288,SNR=13					
P32M	**Atlin**	35.86	52	P	P	04 39 19.7 +1.3
	baz=289					
BTO	**Baotou**	35.89	271	*e*P	P	04 39 20.4 +1.4
BTO				pP	pP	04 39 31.5 +0.9
BTO				sP	sP	04 39 37.0 +1.4
BTO				S	S	04 44 56.3 +2.3
BTO				pmax	pmax	
	comp=Z,26nm,0.6s					
BTO				pmax	pmax	
	comp=Z,210nm,5.8s					
BTO				LR	LR	
	comp=Z,1μm,17.1s					
BTO				LR	LR	
	comp=Z,920nm,19.6s					
BTO				LR	LR	
	comp=Z,2μm,16.1s					
R32K	**Eaglecrest**	35.91	55	P	P	04 39 20.5 +1.6
	baz=291,SNR=8.3					
SIT	**Sitka**	35.94	57	IAmb	IAmb	04 39 23.1
	comp=Z,56nm,1.2s					
SIT	**Sitka**	35.94	57	P	P	04 39 21.0 +1.9
	baz=292,SNR=6.4					
JIS	**Juneau Island**	35.97	55	IAmb	IAmb	04 39 22.4
	comp=Z,42nm,1.0s					
MMPY	**Sheldon Lake,**	36.05	47	P	P	04 39 22.0 +1.9
	baz=287,SNR=34					
P33M	**Teslin, Yukon**	36.08	51	P	P	04 39 22.0 +1.6
	baz=289,SNR=24					
S32K	**Killisnoo**	36.17	56	P	P	04 39 22.6 +1.6
	baz=292					
NRIK	**Noril'sk**	36.20	325	P	P	04 39 20.0 -1.2
NRIK	**Noril'sk**	36.20	325	P	P	04 39 19.8 -1.4
	comp=Z,1.9nm,0.3s,baz=85,slow=12,SNR=4.0					
NRIK				PcP	PcP	04 41 46.4 +0.8
	comp=Z,8.0nm,0.7s,baz=119,slow=2.5,SNR=5.7					
NRIK				ScP	ScP	04 45 29.4 +1.2
	comp=Z,3.2nm,0.6s,baz=118,slow=3.5,SNR=3.6					
NRIK				LR	LR	04 55 31.2
	comp=Z,1μm,19.1s,baz=84,slow=38					
	comp=Z,1.9nm,0.3s					
NRIK	**Noril'sk**	36.20	325	*ce*P	P	04 39 19.6 -1.6
NRIK				pmax	pmax	
	comp=Z,9.0nm,1.5s					
A36M	**Sachs Harbour**	36.24	30	P	P	04 39 22.9 +1.4
	baz=279,SNR=5.9					
NJ2	**Nanjing**	36.34	252	⇓P	P	04 39 24.2 +1.4
NJ2				pP	pP	04 39 34.3 +0.1
NJ2				sP	sP	04 39 39.3 +0.1
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.6s					
NJ2				pmax	pmax	
	comp=Z,380nm,5.2s					
Q32M	**Nakina River**	36.77	53	P	P	04 39 28.4 +2.0
	baz=291,SNR=14					
C36M	**Paulatuk**	37.15	35	P	P	04 39 30.1 +0.9
C36M	**Paulatuk**	37.15	35	P	P	04 39 30.2 +0.9
	baz=284,SNR=15					
R33M	**Jennings River**	37.24	52	IAmb	IAmb	04 39 33.6
	comp=Z,52nm,0.9s					
R33M	**Jennings River**	37.24	52	P	P	04 39 32.5 +2.1
	baz=291,SNR=62					
U33K	**Whale Pass**	37.43	58	P	P	04 39 34.1 +2.4
	baz=294					
CRAG	**Craig**	37.69	59	P	P	04 39 36.4 +2.4
	baz=295					
WRAK	**Wrangell Islan**	37.70	57	P	P	04 39 36.3 +2.3
	baz=294					
S34M	**Telegraph Cree**	37.71	54	P	P	04 39 36.2 +2.0
	baz=293,SNR=14					
TGTN	**Hyland Airport**	37.74	48	P	P	04 39 36.0 +1.6
	baz=290,SNR=9.3					
WTLY	**Watson Lake, Y**	38.00	50	IAmb	IAmb	04 39 39.2
	comp=Z,44nm,0.7s					
WTLY	**Watson Lake, Y**	38.00	50	P	P	04 39 38.4 +1.7
	baz=292,SNR=17					
DLBC	**Dease Lake**	38.05	53	P	P	04 39 39.6 +2.5
	baz=293,SNR=36					
DLBC	**Dease Lake**	38.05	53	LR	LR	04 56 24.5
	comp=Z,501nm,20.0s,baz=281,slow=38					
LYN	**LuoYang**	38.33	261	*e*P	P	04 39 39.4 -0.2
LYN				pmax	pmax	
	comp=Z,27nm,0.5s					
LYN				pmax	pmax	
	comp=Z,290nm,4.9s					
T35M	**Bob Quinn**	38.52	55	IAmb	IAmb	04 39 45.1
	comp=Z,57nm,0.9s					
T35M	**Bob Quinn**	38.52	55	P	P	04 39 44.0 +2.9
	baz=295,SNR=22					
V35K	**Ketchikan**	38.53	58	P	P	04 39 42.4 +1.3
	baz=296					
WRGLY	**Wrigley**	39.23	44	P	P	04 39 48.2 +1.4
	baz=292					
LIRD	**Liard River Hi**	39.53	50	P	P	04 39 51.2 +1.8
	baz=294,SNR=9.3					
YOJ	**Yonaguni jima**	39.95	239	P	P	04 39 54.2 +1.0
GRNB	**Grenville Isla**	40.06	60	P	P	04 39 56.0 +2.1
GRNB				IAmb	IAmb	04 39 57.1
	comp=Z,54nm,0.9s					
WHN	**Wuhan**	40.06	255	P	P	04 39 56.4 +2.3
TOAD	**Toad River Com**	40.17	51	P	P	04 39 56.6 +1.8
	baz=295,SNR=48					
KOTAN	**Kotaneelee Air**	40.18	49	P	P	04 39 56.4 +1.6
	baz=295,SNR=7.7					
GUMO	**Guam**	41.08	203	LR	LR	04 54 22.1
	comp=Z,181nm,20.9s,baz=38,slow=32					
YULB	**Yu-li**	41.72	240	P	P	04 40 08.8 +1.0
YULB	**Yu-li**	41.72	240	P	P	04 40 07.4 -0.4
BBB	**Bella Bella**	41.84	61	LR	LR	04 55 22.0
	comp=Z,362nm,22.0s,baz=293,slow=33					
CNSH	**ChangSha**	42.64	254	P	P	04 40 16.6 +1.3
CNSH				S	S	04 46 33.3 -2.0
CNSH				pmax	pmax	
	comp=Z,12nm,0.7s					
CNSH				LR	LR	
	comp=Z,560nm,15.0s					
CNSH				LR	LR	
	comp=Z,450nm,13.7s					
CNSH				LR	LR	
	comp=Z,560nm,19.3s					
GTA	**Gaotai**	42.80	277	*e*P	P	04 40 17.5 +0.8
GTA				pP	pP	04 40 26.5 -1.9
GTA				PcP	PcP	04 42 08.1 +0.8
GTA				pmax	pmax	
	comp=Z,13nm,0.8s					
GTA				LR	LR	
	comp=Z,360nm,16.7s					
GTA				LR	LR	
	comp=Z,260nm,15.9s					
GTA				LR	LR	
	comp=Z,440nm,17.9s					
ZALV	**Zalesovo Beam**	43.05	303	P	P	04 40 16.1 -2.2
ZALV	**Zalesovo Beam**	43.05	303	P	P	04 40 16.6 -1.6
	comp=Z,3.6nm,0.6s,baz=54,slow=7.5,SNR=13					
ZALV				PcP	PcP	04 42 06.4 -1.2
	comp=Z,7.5nm,0.9s,baz=31,slow=6.1,SNR=5.6					
ZALV				ScP	ScP	04 45 55.4 +0.3
	comp=Z,4.4nm,0.9s,baz=29,slow=3.4,SNR=6.0					
ZALV				LR	LR	04 59 22.4
	comp=Z,595nm,19.6s,baz=59,slow=38					
	comp=Z,3.6nm,0.6s					
ZALV	**Zalesovo Beam**	43.05	303	*i*P	P	04 40 16.7 -1.6
ZALV				pmax	pmax	
	comp=Z,2.0nm,0.3s					
YKA	**Yellowknife Ar**	43.22	42	P	P	04 40 20.1 +0.5
YKA	**Yellowknife Ar**	43.22	42	P	P	04 40 20.2 +0.6
	comp=Z,14nm,0.8s,baz=299,slow=8.3,SNR=17					
YKA				LR	LR	04 59 37.1
	comp=Z,368nm,21.8s,baz=310,slow=38					
	comp=Z,14nm,0.8s					
YKA	**Yellowknife Ar**	43.22	42	*ce*P	P	04 40 20.6 +1.0
YKA				pmax	pmax	
	comp=Z,14nm,0.8s					
RES	**Resolute Bay**	43.48	22	P	P	04 40 21.6 +0.1
RES	**Resolute Bay**	43.48	22	P	P	04 40 21.6 +0.1
RES				pmax	pmax	
	comp=Z,34nm,0.8s					
CBB	**Campbell River**	44.45	62	P	P	04 40 31.1 +1.5
NOR	**Nord**	45.77	359	*i*P	P	04 40 39.7 -0.1
CLRS	**Cowichan Lake**	45.80	63	IAmb	IAmb	04 40 42.6
	comp=Z,35nm,1.0s					
C03A	**Quillayute Air**	46.07	64	IAmb	IAmb	04 40 46.3
	comp=Z,81nm,1.3s					
ZSN	**Zaisan**	46.61	295	*e*P	P	04 40 45.6 -1.1
	baz=295					
ZSN				*e*S	S	04 47 28.9 -3.7
	baz=295					
ZSN	**Zaisan**	46.61	295	*e*P	P	04 40 45.6 -1.1
ZSN				*e*S	S	04 47 28.8 -3.7
NLWA	**Neilton Lookou**	46.78	65	P	P	04 40 49.1 +1.0
NLWA				IAmb	IAmb	04 40 50.7
	comp=Z,40nm,1.0s					
WISH	**Wishkah**	47.00	65	P	P	04 40 51.0 +1.3
WISH				IAmb	IAmb	04 40 52.7
	comp=Z,44nm,1.1s					
KBS	**Kingsbay**	47.13	352	P	P	04 40 51.0 +0.6
KBS				IAmb	IAmb	04 40 52.4
	comp=Z,60nm,1.1s					
KBS	**Kingsbay**	47.13	352	*e*P	P	04 40 51.5 +1.1
KBS				IAmb	IAmb	04 40 52.1
	comp=Z,60nm,1.1s					
KBS	**Kingsbay**	47.13	352	*ce*P	P	04 40 50.6 +0.2
KBS				pmax	pmax	
	comp=Z,76nm,1.3s					
KBS	**Kingsbay**	47.13	352	*i*P	P	04 40 51.4 +1.0
TULEG	**Thule**	47.14	14	P	P	04 40 50.6 +0.1
TULEG				IAmb	IAmb	04 40 51.8
	comp=Z,52nm,1.1s					
TULEG	**Thule**	47.14	14	*i*P	P	04 40 50.6 +0.1
TULEG				IAmb	IAmb	04 40 51.3
	comp=Z,25nm,0.8s					
WMQ	**Urumqi**	47.21	290	*e*P	P	04 40 51.2 -0.3
WMQ				sP	sP	04 41 07.3 -1.1
WMQ				ScP	ScP	04 46 16.3 +3.8
WMQ				pmax	pmax	
	comp=Z,44nm,0.7s					
WMQ				pmax	pmax	
	comp=Z,81nm,3.8s					
WMQ				LR	LR	
	comp=Z,310nm,16.3s					
WMQ				LR	LR	
	comp=Z,400nm,16.3s					
WMQ				LR	LR	
	comp=Z,410nm,18.7s					

GNW Green Mountain 47.25 64 P **P** **04 40 52.6 +1.0**
SEM Semipalatinsk 47.34 301 *e*P **P** **04 40 51.7 -0.9**
baz=301
SEM Semipalatinsk 47.34 301 *e*P **P** **04 40 51.7 -0.9**
SPA0 Spitsbergen Ar 47.40 351 *e*P **P** **04 40 52.9 +0.3**
SPA0 IAmb IAmb 04 40 53.6
comp=Z,172nm,1.0s
SPITS Spitsbergen Ar 47.40 351 P **P** **04 40 52.9 +0.3**
comp=Z,51nm,0.4s,baz=61,slow=8.7,SNR=376
SPITS LR LR 05 00 20.1
comp=Z,221nm,21.7s,baz=6.0,slow=36
comp=Z,51nm,0.4s
SPITS Spitsbergen Ar 47.40 351 P **P** **04 40 52.8 +0.3**
SPITS pmax pmax
comp=Z,119nm,0.8s
SPB2 Spitsbergen Ar 47.40 351 P **P** **04 40 52.8 +0.4**
E03A Lebam 47.45 65 P **P** **04 40 54.5 +1.3**
E03A IAmb IAmb 04 40 55.7
comp=Z,54nm,1.1s
GYA Guiyang 47.61 258 ⇓P **P** **04 40 56.2 +1.3**
GYA pmax pmax
comp=Z,12nm,0.5s
GYA pmax pmax
comp=Z,150nm,5.3s
GYA LR LR
comp=Z,380nm,19.1s
GYA LR LR
comp=Z,490nm,15.8s
GYA LR LR
comp=Z,540nm,17.8s
HOPEN Hopen 47.81 347 *e*P **P** **04 40 56.1 +0.5**
HOPEN IAmb IAmb 04 40 56.6
comp=Z,31nm,0.8s
F03A Seaside 47.83 66 P **P** **04 40 57.4 +1.2**
F03A IAmb IAmb 04 40 58.6
comp=Z,46nm,1.0s
D05A Enumclaw 47.93 64 P **P** **04 40 58.3 +1.4**
D05A IAmb IAmb 04 40 59.6
comp=Z,36nm,0.8s
KURK Kurchatov 48.00 302 P **P** **04 40 56.2 -1.3**
KURK IAmb IAmb 04 41 03.0
comp=Z,25nm,0.6s
KURK Kurchatov 48.00 302⇑ *e*P **P** **04 40 56.0 -1.5**
KURK pmax pmax
comp=Z,56nm,1.7s
KURBB Kurchatov Arra 48.10 302 P **P** **04 40 56.9 -1.4**
comp=Z,6.9nm,0.4s,baz=60,slow=7.9,SNR=40
KURBB PcP **PcP** **04 42 25.2 0.0**
comp=Z,3.6nm,0.5s,baz=59,slow=4.7,SNR=4.4
KURBB ScP **ScP** **04 46 17.2 +1.2**
comp=Z,3.2nm,0.9s,baz=57,slow=3.8,SNR=9.4
KURBB S S 04 47 46.0 -7.6
comp=Z,2.1nm,0.8s,baz=57,slow=14,SNR=7.4
KURBB LR LR 05 02 42.3
comp=Z,739nm,18.9s,baz=86,slow=38
comp=Z,6.9nm,0.4s
MK31 Makanchi Array 48.41 296 P **P** **04 40 59.1 -1.7**
MK31 Makanchi Array 48.41 296 P **P** **04 40 59.1 -1.7**
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 48.41 296 P **P** **04 40 58.9 -1.8**
MKAR Makanchi Array 48.41 296 P **P** **04 40 59.2 -1.6**
comp=Z,4.5nm,0.5s,baz=55,slow=6.1,SNR=54
MKAR S **S** **04 47 52.0 -6.1**
comp=Z,0.9nm,0.9s,baz=52,slow=11,SNR=3.0
MKAR LR LR 05 02 43.7
comp=Z,435nm,19.0s,baz=50,slow=38
comp=Z,4.5nm,0.5s
MKAR Makanchi Array 48.41 296 P **P** **04 40 58.9 -1.8**
F04A Amboy 48.45 65 P **P** **04 41 02.1 +1.0**
F04A IAmb IAmb 04 41 02.9
comp=Z,38nm,1.0s
NEEM North Greenlan 48.49 9 *i*P **P** **04 41 01.5 +0.2**
NEEM IAmb IAmb 04 41 03.1
comp=Z,71nm,1.0s
HSPB Hornsund (broa 48.52 350 *e*P **P** **04 41 02.0 +0.9**
MAKZ Makanchi 48.57 296 P **P** **04 41 00.9 -1.1**
MAKZ Makanchi 48.57 296 P **P** **04 41 00.9 -1.1**
MAKZ pmax pmax
comp=Z,19nm,1.1s
LTY Liberty 48.60 63 P **P** **04 41 03.0 +0.7**
LTY IAmb IAmb 04 41 04.0
comp=Z,40nm,1.4s
B08A Colville Reser 48.65 61 P **P** **04 41 03.3 +0.7**
B08A IAmb IAmb 04 41 04.5
comp=Z,49nm,0.9s
COR Corvallis 48.80 67 P **P** **04 41 06.2 +2.5**
I03D Drain, OR 49.33 68 IAmb IAmb 04 41 10.4
comp=Z,103nm,1.7s
J01E Myrtle Point 49.34 69 IAmb IAmb 04 41 10.6
comp=Z,49nm,1.2s
H04A Detroit Lake 49.36 67 IAmb IAmb 04 41 10.1
comp=Z,32nm,1.1s
E07A Sunnyside 49.47 63 IAmb IAmb 04 41 10.9
comp=Z,44nm,1.2s
G05A Wamic 49.49 65 IAmb IAmb 04 41 16.5
comp=Z,47nm,0.9s
C09A Chrisman Ranch 49.55 61 IAmb IAmb 04 41 11.1
comp=Z,51nm,1.2s
D08A Wollman Farm, 49.67 62 IAmb IAmb 04 41 11.9
comp=Z,38nm,1.4s
HAWA Hanford 49.75 63 IAmb IAmb 04 41 12.9
comp=Z,40nm,1.1s
I04A Tendick Farm, 49.79 68 IAmb IAmb 04 41 13.5
comp=Z,34nm,1.0s
F07A Phinny Hill Vi 49.84 64 IAmb IAmb 04 41 13.8
comp=Z,55nm,0.8s
NEW Newport 49.87 60 P **P** **04 41 12.5 +0.6**
NEW IAmb IAmb 04 41 13.6
comp=Z,34nm,1.1s
NEW Newport 49.87 60 P **P** **04 41 12.6 +0.6**
baz=308,SNR=22
NEW Newport 49.87 60 LR LR 05 00 03.1
comp=Z,372nm,22.0s,baz=308,slow=33
NEW Newport 49.87 60 P **P** **04 41 12.5 +0.6**
NEW pmax pmax
comp=Z,34nm,1.1s
I05D Terrebonne, OR 50.05 66 P **P** **04 41 14.0 +0.7**
L02F Cave Junction 50.20 70 IAmb IAmb 04 41 17.2
comp=Z,31nm,1.0s
BJO1 Bjornoya 50.32 347 *e*P **P** **04 41 15.0 +0.1**
BJO1 IAmb IAmb 04 41 16.3
comp=Z,78nm,0.8s
KULLO Kullorsuaq 50.38 12 *i*P **P** **04 41 15.6 +0.2**
KULLO IAmb IAmb 04 41 16.8
comp=Z,73nm,0.8s
E09A Wood Farm, Sta 50.42 62 P **P** **04 41 16.8 +0.8**
E09A IAmb IAmb 04 41 17.7
comp=Z,58nm,0.9s
PZH PanZhiHua 50.52 262 P **P** **04 41 17.6 +0.4**
PZH S **S** **04 48 27.0 -1.3**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.3s
PZH LR LR
comp=Z,460nm,16.7s
PZH LR LR
comp=Z,380nm,17.1s
PZH LR LR
comp=Z,570nm,17.8s
PINE Pine Mountain 50.62 67 IAmb IAmb 04 42 37.5
comp=Z,34nm,0.8s
DAG Danmarks Havn 50.64 360 P **P** **04 41 17.4 +0.1**
DAG pmax pmax
comp=Z,53nm,0.8s
DAG Danmarks Havn 50.64 360⇑ *i*P **P** **04 41 17.2 -0.1**
DAG IAmb IAmb 04 41 19.4
comp=Z,23nm,0.7s
BVA0 Borovoye Array 50.67 309 *i*P **P** **04 41 16.3 -1.5**
BVAR Borovoye Array 50.67 309 P **P** **04 41 16.5 -1.3**
comp=Z,10nm,0.5s,baz=62,slow=7.7,SNR=48
BVAR PcP **PcP** **04 42 33.5 -1.1**
comp=Z,4.8nm,0.5s,baz=57,slow=5.3,SNR=4.2
BVAR PP **PP** **04 43 13.8 +0.1**
comp=Z,15nm,0.9s,baz=62,slow=10,SNR=4.3
BVAR ScP **ScP** **04 46 28.0 +1.0**
comp=Z,3.7nm,0.8s,baz=68,slow=5.3,SNR=5.7
BVAR LR LR 05 05 05.7
comp=Z,668nm,18.1s,baz=55,slow=39
comp=Z,10nm,0.5s
BRVK Borovoye 50.70 309 P **P** **04 41 17.1 -1.0**
BRVK Borovoye 50.70 309⇑ *e*P **P** **04 41 16.6 -1.4**
BRVK pmax pmax
comp=Z,10.0nm,0.6s
J05D Fort Rock, OR 50.78 67 IAmb IAmb 04 41 21.7
comp=Z,46nm,0.9s

L04D Klamath Falls 50.86 69 IAmb IAmb 04 41 22.1
comp=Z,71nm,1.0s
KHMM Horse Mountain 50.92 71 IAmb IAmb 04 41 23.2
comp=Z,58nm,1.2s
YBH Yreka Blue Hor 50.94 70 LR LR 04 59 42.0
comp=Z,250nm,21.8s,baz=298,slow=32
KMI Kunming 50.95 260 ⇓P **P** **04 41 21.5 +1.0**
KMI pmax pmax
comp=Z,11nm,0.7s
KMI LR LR
comp=Z,250nm,24.3s
KMI LR LR
comp=Z,480nm,18.9s
KMI LR LR
comp=Z,680nm,23.9s
KMPM Mount Pierce 50.99 72 IAmb IAmb 04 41 23.8
comp=Z,54nm,1.0s
F10A Beach Ranch, E 51.26 62 P **P** **04 41 23.2 +0.8**
QIZ Qiongzhong 51.51 249 P **P** **04 41 26.0 +1.5**
QIZ S **S** **04 48 44.5 +2.7**
QIZ LR LR
comp=Z,180nm,18.5s
QIZ LR LR
comp=Z,280nm,16.8s
QIZ LR LR
comp=Z,290nm,15.1s
TDK Taldyqorghan 51.65 296 *e*P **P** **04 41 24.5 -0.8**
comp=Z,12nm,0.5s,baz=296
TDK Taldyqorghan 51.65 296 *e*P **P** **04 41 24.5 -0.8**
TDK pmax pmax
comp=Z,12nm,0.5s
BMO Blue Mountains 51.93 64 P **P** **04 41 28.6 +1.1**
BMO Blue Mountains 51.93 64 P **P** **04 41 28.6 +1.1**
BMO pmax pmax
comp=Z,34nm,1.2s
UPNV Upernavik 52.12 13⇑ *i*P **P** **04 41 28.4 0.0**
UPNV IAmb IAmb 04 41 29.5
comp=Z,42nm,0.9s
PDGK Podgornoye 52.14 294 P **P** **04 41 27.6 -1.5**
HATC Hat Creek Radi 52.26 70 IAmb IAmb 04 41 32.7
comp=Z,48nm,1.0s
SHLS Shalkode 52.26 294 *e*P **P** **04 41 27.5 -2.6**
baz=294
SHLS Shalkode 52.26 294 *e*P **P** **04 41 27.4 -2.6**
VADS Vadso 52.33 341 *e*P **P** **04 41 29.3 -0.7**
VADS IAmb IAmb 04 41 30.5
comp=Z,50nm,0.8s
MSO Missoula 52.45 60 IAmb IAmb 04 41 33.2
comp=Z,62nm,1.4s
MSO Missoula 52.45 60 P **P** **04 41 32.1 +0.8**
baz=311,SNR=28
PLID Pearl Lake 52.49 63 P **P** **04 41 32.6 +0.9**
PLID IAmb IAmb 04 41 33.7
comp=Z,34nm,0.8s
KPKS Kokpek 52.49 295 *e*P **P** **04 41 30.7 -1.0**
baz=294
KPKS Kokpek 52.49 295 *e*P **P** **04 41 30.7 -1.0**
UZB Uzynbulak 52.51 294 *e*P **P** **04 41 30.7 -1.3**
baz=294
UZB Uzynbulak 52.51 294 *e*P **P** **04 41 30.6 -1.3**
HOPS Hopland Field 52.54 73 IAmb IAmb 04 41 34.6
comp=Z,63nm,1.4s
WVOR Wild Horse Val 52.78 67 P **P** **04 41 35.2 +1.3**
WVOR pmax pmax
comp=Z,25nm,1.4s
ZHN Zhinishke 52.82 295 *e*P **P** **04 41 33.4 -0.8**
baz=294
ZHN Zhinishke 52.82 295 *e*P **P** **04 41 33.3 -0.8**
SATY Saty 52.91 295 *e*P **P** **04 41 34.0 -0.8**
baz=294
SATY Saty 52.91 295 *e*P **P** **04 41 34.0 -0.8**
HAMF Hammerfest 52.95 343 *e*P **P** **04 41 34.2 -0.4**
HAMF IAmb IAmb 04 41 34.7
comp=Z,56nm,1.0s
LVZ Lovozero 52.98 337 P **P** **04 41 34.3 -0.5**
LVZ Lovozero 52.98 337⇑ *e*P **P** **04 41 34.3 -0.5**
LVZ pmax pmax
comp=Z,133nm,1.2s
LVZ Lovozero 52.98 337 P **P** **04 41 34.4 -0.5**
comp=Z,131nm,1.0s,comp=Z,1μm
FFC Flin Flon 53.07 46 P **P** **04 41 36.4 +0.8**
FFC IAmb IAmb 04 41 37.6
comp=Z,46nm,1.3s
FFC Flin Flon 53.07 46 P **P** **04 41 36.4 +0.8**
FFC pmax pmax
comp=Z,46nm,1.3s
KEV Kevo 53.09 342 P **P** **04 41 35.5 -0.1**
KEV IAmb IAmb 04 41 36.2
comp=Z,34nm,0.7s
KEV Kevo 53.09 342 P **P** **04 41 35.5 -0.1**
KEV pmax pmax
comp=Z,34nm,0.7s
DBG Daneborg 53.12 0 *i*P **P** **04 41 35.3 -0.4**
DBG IAmb IAmb 04 41 36.6
comp=Z,14nm,1.0s
CHKK Chushkaly 53.17 296 *e*P **P** **04 41 35.3 -1.3**
baz=296
CHKK Chushkaly 53.17 296 *e*P **P** **04 41 35.3 -1.3**
APA Apatity 53.53 338 ⇓*i*P **P** **04 41 35.5 -3.4**
APA pmax pmax
comp=Z,34nm,0.8s
APA MLR MLR
comp=Z,200nm,16.0s
TNCH TengChong 53.55 264 *e*P **P** **04 41 41.5 +1.7**
TNCH pP pP 04 41 48.0 -3.9
TNCH S **S** **04 49 14.4 +4.4**
TNCH sS pS 04 49 25.9 +2.4
TNCH SS **SS** **04 52 46.5 -4.0**
TNCH pmax pmax
comp=Z,18nm,0.5s
TNCH pmax pmax
comp=Z,73nm,4.4s
TNCH LR LR
comp=Z,330nm,15.5s
TNCH LR LR
comp=Z,310nm,21.3s
TNCH LR LR
comp=Z,530nm,19.6s
FCC Fort Churchill 53.56 39 P **P** **04 41 39.7 +0.6**
FCC Fort Churchill 53.56 39 P **P** **04 41 39.7 +0.6**
FCC pmax pmax
comp=Z,64nm,0.8s
ARCES ARCESS Array B 53.56 342 P **P** **04 41 38.4 -0.7**
ARCES IAmb IAmb 04 41 40.0
comp=Z,63nm,0.8s
ARCES ARCESS Array B 53.56 342 P **P** **04 41 38.2 -0.9**
comp=Z,65nm,0.8s,baz=34,slow=8.8,SNR=97
ARCES LR LR 05 09 25.2
comp=Z,134nm,19.2s,baz=37,slow=42
comp=Z,65nm,0.8s
ARCES ARCESS Array B 53.56 342 P **P** **04 41 38.4 -0.7**
ARCES pmax pmax
comp=Z,63nm,0.9s
MDOK Medeo 53.59 295 *e*P **P** **04 41 38.9 -1.0**
baz=295
MDOK Medeo 53.59 295 *e*P **P** **04 41 38.8 -1.0**
AAA Alma-Ata 53.63 296 *e*P **P** **04 41 39.6 -0.5**
comp=Z,23nm,0.6s,baz=295
AAA Alma-Ata 53.63 296 *e*P **P** **04 41 39.5 -0.5**
AAA pmax pmax
comp=Z,23nm,0.6s
NUUG Nuugaatsiaq 53.65 13 *i*P **P** **04 41 39.0 -0.6**
MFID Camas Ranch 53.68 64 IAmb IAmb 04 41 42.5
comp=Z,64nm,1.7s
ARU Arti 53.69 318 P **P** **04 41 39.3 -0.8**
ARU Arti 53.69 318 LR LR 05 07 28.6
comp=Z,382nm,20.6s,baz=43,slow=39
ARU Arti 53.69 318 *d*i*P **P** **04 41 38.8 -1.3**
ARU *PP **sP** **04 41 54.7 -2.5**
ARU 04 42 44.0
ARU S **S** **04 49 06.4 -4.3**
ARU SS **SS** **04 52 43.0 -7.9**
ARU pmax pmax
comp=Z,9.0nm,0.5s
ARU MLR MLR
comp=Z,363nm,20.0s
ARU Arti 53.69 318 P **P** **04 41 39.2 -0.9**
comp=Z,25nm,0.8s
TNSS Tian-Shan 53.73 295 *e*P **P** **04 41 40.1 -1.1**
baz=295
TNSS Tian-Shan 53.73 295 *e*P **P** **04 41 40.1 -1.1**
EGMT Eagleton 53.82 56 P **P** **04 41 42.1 +0.7**
baz=312,SNR=10
BTLS Baital 53.96 299 *e*P **P** **04 41 42.1 -0.3**
baz=299
BTLS Baital 53.96 299 *e*P **P** **04 41 42.0 -0.3**

TARG Taragay, Kyrgy 54.13 294 P **P** **04 41 45.7 +1.6**
TARG pmax pmax
comp=Z,11nm,0.8s
SUMG Summit 54.17 7 P **P** **04 41 44.6 +0.6**
SUMG Summit 54.17 7 P **P** **04 41 44.6 +0.6**
SUMG pmax pmax
comp=Z,153nm,1.1s
SUMG Summit 54.17 7⇑ *i*P **P** **04 41 44.8 +0.8**
SUMG IAmb IAmb 04 41 45.9
comp=Z,76nm,1.1s
PAHR Pah Rah Range 54.18 70 P **P** **04 41 45.5 +1.3**
PAHR IAmb IAmb 04 41 46.7
comp=Z,60nm,1.1s
EMB Emerald Bay 54.26 71 IAmb IAmb 04 41 47.5
comp=Z,38nm,1.1s
HLID Hailey 54.35 63 P **P** **04 41 46.3 +0.9**
HLID Hailey 54.35 63 P **P** **04 41 46.6 +1.2**
baz=312,SNR=24
KTK1 Kautokeino 54.44 342 *e*P **P** **04 41 45.1 -0.3**
KTK1 IAmb IAmb 04 41 46.3
comp=Z,87nm,0.7s
BOZ Bozeman (W) 54.47 60 P **P** **04 41 47.1 +0.9**
BOZ IAmb IAmb 04 41 48.3
comp=Z,79nm,1.5s
BOZ Bozeman (W) 54.47 60 P **P** **04 41 47.4 +1.1**
baz=312,SNR=48
BOZ Bozeman (W) 54.47 60 P **P** **04 41 47.1 +0.9**
BOZ pmax pmax
comp=Z,79nm,1.5s
PNTR Pine Nut 54.47 70 P **P** **04 41 48.0 +1.6**
TKM2 Tokmak 2 54.54 296 *i*P **P** **04 41 45.3 -1.6**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
UMMG Uummannaq 54.58 13 *i*P **P** **04 41 44.2 -2.2**
UMMG IAmb IAmb 04 41 47.4
comp=Z,19nm,1.1s
LSA Lhasa 54.61 274 P **P** **04 41 46.8 -1.0**
LSA Lhasa 54.61 274 P **P** **04 41 46.8 -1.0**
LSA pmax pmax
comp=Z,13nm,0.5s
SGDS Sogindy 54.71 297 *e*P **P** **04 41 47.5 -0.5**
baz=297
SGDS Sogindy 54.71 297 *e*P **P** **04 41 47.4 -0.5**
CMB Columbia Colle 54.74 72 P **P** **04 41 49.4 +1.3**
CMB IAmb IAmb 04 41 50.8
comp=Z,42nm,1.2s
CMB Columbia Colle 54.74 72 P **P** **04 41 49.4 +1.3**
CMB pmax pmax
comp=Z,42nm,1.2s
WAKR Walker 54.96 71 P **P** **04 41 51.1 +1.1**
WAKR IAmb IAmb 04 41 52.9
comp=Z,55nm,1.0s
SAO San Andreas Ge 55.00 74 P **P** **04 41 51.1 +1.2**
SAO San Andreas Ge 55.00 74 P **P** **04 41 51.2 +1.2**
SAO pmax pmax
comp=Z,27nm,1.1s
SGF Sodankyl 55.14 340 P **P** **04 41 50.7 +0.2**
SGF pmax pmax
comp=Z,56nm,1.0s
ADZR Andozero 55.18 333 *e*P **P** **04 41 49.6 -1.2**
ADZR pmax pmax
comp=Z,142nm,0.6s
AAK Ala-Archa 55.33 297 P **P** **04 41 51.8 -0.7**
AAK Ala-Archa 55.33 297 P **P** **04 41 52.2 -0.3**
AAK Ala-Archa 55.33 297 LR LR 05 04 57.8
comp=Z,192nm,20.7s,baz=39,slow=35
AAK Ala-Archa 55.33 297 ⇓*i*P **P** **04 41 52.2 -0.3**
AAK pmax pmax
comp=Z,18nm,1.0s
KVN Kaiserville 55.35 69 IAmb IAmb 04 41 55.5
comp=Z,69nm,1.0s
RYN Ryan 55.40 70 IAmb IAmb 04 41 55.7
comp=Z,45nm,0.9s
YFT Old Faithful 55.66 60 IAmb IAmb 04 42 57.9
comp=Z,33nm,0.8s
NVAR Mina Array Bea 55.66 70 P **P** **04 41 56.6 +1.6**
comp=Z,28nm,0.8s,baz=296,slow=7.3,SNR=193
NVAR PcP **PcP** **04 42 55.2 +1.1**
comp=Z,6.1nm,0.8s,baz=308,slow=4.5,SNR=1.8
NVAR LR LR 05 04 29.1
comp=Z,107nm,19.6s,baz=276,slow=34
comp=Z,28nm,0.8s
KIRV Kirov 55.68 324 LR LR 05 08 40.1
comp=Z,497nm,20.4s,baz=40,slow=39
KIRV Kirov 55.68 324 *e*P **P** **04 41 53.7 -0.8**
NV11 Mina Array Sit 55.75 70 IAmb IAmb 04 41 58.3
comp=Z,36nm,1.0s
MDPB Devils Postpil 55.77 71 P **P** **04 41 57.4 +1.6**
MDPB IAmb IAmb 04 41 58.7
comp=Z,41nm,1.0s
ELK Elko 55.80 66 P **P** **04 41 57.5 +1.5**
ELK IAmb IAmb 04 41 58.7
comp=Z,25nm,0.8s
ELK Elko 55.80 66 P **P** **04 41 57.5 +1.5**
ELK pmax pmax
comp=Z,25nm,0.8s
YMP Mirror Lake Pl 55.82 59 IAmb IAmb 04 41 58.9
comp=Z,37nm,1.0s
H17A Grant Village 55.83 60 IAmb IAmb 04 42 00.1
comp=Z,71nm,1.2s
H17A Grant Village 55.83 60 P **P** **04 41 59.0 +2.8**
baz=313
MLAC Mammoth, Mammo 55.91 71 P **P** **04 41 58.3 +1.5**
baz=314
FLWY Flagg Ranch 55.98 60 IAmb IAmb 04 42 58.1
comp=Z,32nm,0.8s
IMW Indian Meadow 55.98 61 IAmb IAmb 04 42 00.2
comp=Z,54nm,1.3s
RLMT Red Lodge 56.02 59 IAmb IAmb 04 42 00.2
comp=Z,46nm,0.9s
RLMT Red Lodge 56.02 59 P **P** **04 41 59.0 +1.6**
baz=313,SNR=29
Q09A Carvers 56.02 69 IAmb IAmb 04 42 00.4
comp=Z,49nm,0.8s
ILULI Ilulissat 56.07 13 IAmb IAmb 04 41 58.0
comp=Z,90nm,0.9s
ILULI Ilulissat 56.07 13⇑ *i*P **P** **04 41 56.9 -0.3**
ILULI IAmb IAmb 04 41 58.0
comp=Z,64nm,0.8s
JMIC Jan Mayen 56.20 356 LR LR 05 04 35.0
comp=Z,61nm,21.2s,baz=59,slow=34
TPAW Teton Pass 56.25 61 IAmb IAmb 04 42 02.4
comp=Z,71nm,1.6s
DGMT Dagmar 56.27 53 IAmb IAmb 04 42 00.9
comp=Z,31nm,1.1s
DGMT Dagmar 56.27 53 P **P** **04 41 59.8 +0.9**
baz=314
LOHW Long Hollow 56.35 61 IAmb IAmb 04 42 02.8
comp=Z,46nm,1.2s
HVU Hansel Valley 56.45 64 IAmb IAmb 04 42 03.3
comp=Z,38nm,0.9s
VOG Valley Oaks Go 56.50 73 P **P** **04 42 01.4 +0.6**
baz=314
DSP Deep Springs 56.59 71 IAmb IAmb 04 42 04.5
comp=Z,46nm,1.0s
KSH Kashi 56.65 293 P **P** **04 42 05.5 +3.5**
KSH pP pP 04 42 14.4 +0.3
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH LR LR
comp=Z,270nm,16.8s
KSH LR LR
comp=Z,320nm,17.2s
KSH LR LR
comp=Z,410nm,21.6s
TIN Tinemaha, Big 56.66 71 P **P** **04 42 03.5 +1.5**
baz=314
AHID Auburn Hatcher 56.67 62 IAmb IAmb 04 42 04.7
comp=Z,51nm,1.1s
MZP Montezuma Peak 56.69 70 P **P** **04 42 03.8 +1.4**
STEI Steigen 56.76 345 *e*P **P** **04 42 01.3 -0.8**
STEI IAmb IAmb 04 42 02.5
comp=Z,80nm,1.5s
LOF Lofoten 56.83 346 *e*P **P** **04 42 02.5 -0.1**
LOF IAmb IAmb 04 42 03.3
comp=Z,187nm,0.7s
SPUT South Promonto 56.95 64 IAmb IAmb 04 42 06.9
comp=Z,58nm,1.1s
VES Vestal, Richgr 57.01 73 P **P** **04 42 04.9 +0.6**
baz=315,SNR=19
KK31 Karatay Array 57.15 299 P **P** **04 42 04.1 -1.2**
KK31 Karatay Array 57.15 299 *e*P **P** **04 42 03.8 -1.5**
KKAR Karatay Array 57.15 299 P **P** **04 42 04.2 -1.1**
KKAR Karatay Array 57.15 299 IAmb IAmb 04 42 10.5
comp=Z,15nm,0.9s
KKAR Karatay Array 57.15 299 P **P** **04 42 04.2 -1.1**

CWC	Cottonwood Cre	57.17	72	P	P	04 42 07.1	+1.4
	baz=315						
SHL	Shillong	57.17	270	P	P	04 42 06.0	+0.1
SHL				pmax	pmax		
	comp=Z,18nm,0.9s						
GRAC	Grapevine Rang	57.19	71	IAmb	IAmb	04 42 08.7	
	comp=Z,46nm,0.9s						
GRAC	Grapevine Rang	57.19	71	P	P	04 42 07.3	+1.6
	baz=315,SNR=15						
HWUT	Hardware Ranch	57.22	63	IAmb	IAmb	04 42 08.8	
	comp=Z,48nm,0.9s						
KLMR	Klimovskoe	57.24	330c	*i* P	P	04 42 05.2	-0.4
KLMR				pmax	pmax		
	comp=Z,68nm,0.7s						
KLMR				MLR	MLR		
	comp=Z,583nm,21.0s						
FAUS	Fauske	57.25	345	*e*P	P	04 42 05.7	+0.1
FAUS				IAmb	IAmb	04 42 06.3	
	comp=Z,84nm,1.0s						
PKM	Mcpherson Peak	57.25	74	P	P	04 42 07.8	+1.5
	baz=315,SNR=7.1						
R11B	Troy Canyon, C	57.26	68	P	P	04 42 07.6	+1.3
	baz=314,SNR=44						
OUL	Oulu	57.29	339	P	P	04 42 05.6	-0.3
OUL				pmax	pmax		
	comp=Z,184nm,0.8s						
BCW	Bitter Crk WRg	57.45	74	IAmb	IAmb	04 42 10.4	
	comp=Z,42nm,1.0s						
ICESG	Greenland Ices	57.48	8	*i* P	P	04 42 07.6	0.0
ICESG				IAmb	IAmb	04 42 09.6	
	comp=Z,52nm,0.9s						
ISA	Isabella, Lake	57.49	73	P	P	04 42 08.3	+0.5
ISA	Isabella, Lake	57.49	73	P	P	04 42 08.4	+0.5
	baz=315,SNR=9.3						
ISA	Isabella, Lake	57.49	73	P	P	04 42 08.3	+0.5
ISA				pmax	pmax		
	comp=Z,21nm,1.0s						
BW06	Boulder Array	57.49	61	P	P	04 42 09.4	+1.4
	baz=314,SNR=59						
PD31	Pinedale Array	57.49	61	IAmb	IAmb	04 42 10.3	
	comp=Z,41nm,1.2s						
PDAR	Pinedale Array	57.49	61	P	P	04 42 09.1	+1.2
PDAR	Pinedale Array	57.49	61	P	P	04 42 09.2	+1.3
	comp=Z,24nm,0.7s,baz=313,slow=3.0,SNR=178						
PDAR				PKPPKP	P'P'df	05 11 58.8	+0.1
	comp=Z,0.4nm,0.9s,baz=150,slow=3.3,SNR=4.5						
	comp=Z,24nm,0.7s						
SPR3	Spring Creek 3	57.51	67	P	P	04 42 10.4	+2.2
DUG	Dugway, Tooele	57.52	65	IAmb	IAmb	04 42 10.9	
	comp=Z,63nm,1.2s						
DUG	Dugway, Tooele	57.52	65	P	P	04 42 09.9	+1.8
	baz=314,SNR=48						
DUG	Dugway, Tooele	57.52	65	P	P	04 42 09.7	+1.6
BRLS	Borolday	57.56	300	*e*P	P	04 42 09.2	+1.0
	baz=299						
BRLS	Borolday	57.56	300	*e*P	P	04 42 09.1	+0.9
SBC	Santa Barbara	57.63	74	P	P	04 42 09.5	+0.8
	baz=315						
TCUT	Toone Canyon	57.65	63	IAmb	IAmb	04 42 11.8	
	comp=Z,90nm,1.6s						
FRB	Frobisher Bay	57.66	23	LR	LR	05 07 18.1	
	comp=Z,147nm,21.4s,baz=332,slow=36						
ARVC	Arvin	57.66	73	P	P	04 42 09.9	+0.9
	baz=315						
CTU	Camp Tracy	57.76	64	IAmb	IAmb	04 42 12.3	
	comp=Z,45nm,1.3s						
WCT	Wildcat Mounta	57.76	70	P	P	04 42 11.0	+1.3
MPMC	Manual Prospec	57.78	72	P	P	04 42 11.3	+1.3
	baz=315,SNR=32						
FURC	Furnace Creek,	57.85	71	P	P	04 42 12.0	+1.8
	baz=315,SNR=70						
JOF	Joensuu	57.85	335	*e*P	P	04 42 10.3	+0.5
TPNV	Topopah Spring	57.86	70	P	P	04 42 12.1	+1.5
	baz=315,SNR=49						
JLU	Jordanelle	57.98	64	IAmb	IAmb	04 42 14.2	
	comp=Z,41nm,1.3s						
CHTO	Chiang Mai	58.02	259	P	P	04 42 11.5	-0.2
CHTO	Chiang Mai	58.02	259	P	P	04 42 11.5	-0.2
CHTO				pmax	pmax		
	comp=Z,17nm,1.0s						
IUG	Iuzhnay	58.07	299	*e*P	P	04 42 11.4	-0.5
	comp=Z,8.8nm,0.5s,baz=299						
IUG	Iuzhnay	58.07	299	*e*P	P	04 42 11.3	-0.6
IUG				pmax	pmax		
	comp=Z,9.0nm,0.5s						
LRMC	Laurel Mtn Rad	58.07	72	P	P	04 42 13.1	+1.1
	baz=315,SNR=24						
AB31	Akbulak array	58.08	311	*i* P	P	04 42 09.8	-1.9
ABKAR	Akbulak array	58.08	311	P	P	04 42 10.5	-1.2
OSI	Osito Audit: C	58.08	74	P	P	04 42 13.4	+1.4
	baz=315						
NLU	North Lily Min	58.09	65	IAmb	IAmb	04 42 14.8	
	comp=Z,28nm,0.9s						
PSUT	Pine Spring	58.10	67	IAmb	IAmb	04 42 14.8	
	comp=Z,36nm,1.2s						
AKTO	Aktyubinsk	58.11	313	LR	LR	05 10 01.5	
	comp=Z,613nm,18.3s,baz=44,slow=39						
CCAC	Calif City Air	58.11	73	P	P	04 42 13.1	+0.9
CCAC				IAmb	IAmb	04 42 14.2	
	comp=Z,33nm,1.0s						
GWY	Greenwater Val	58.16	71	IAmb	IAmb	04 42 14.9	
	comp=Z,48nm,0.9s						
CHM	Chimkent	58.17	299	*e*P	P	04 42 12.0	-0.6
	comp=Z,5.1nm,0.3s,baz=299						
CHM	Chimkent	58.17	299	*e*P	P	04 42 11.9	-0.6
CHM				pmax	pmax		
	comp=Z,5.0nm,0.3s						
SFJD	Kangerlussuaq	58.20	14	P	P	04 42 12.1	-0.2
SFJD				IAmb	IAmb	04 42 13.2	
	comp=Z,66nm,1.1s						
SFJD	Kangerlussuaq	58.20	14	LR	LR	05 09 58.9	
	comp=Z,185nm,18.6s,baz=351,slow=39						
SFJD	Kangerlussuaq	58.20	14	P	P	04 42 12.1	-0.2
SFJD				pmax	pmax		
	comp=Z,66nm,1.2s						
SFJD	Kangerlussuaq	58.20	14	*i* P	P	04 42 12.1	-0.2
SFJD				IAmb	IAmb	04 42 14.3	
	comp=Z,28nm,0.9s						
PRN	Pahroc Range	58.22	69	IAmb	IAmb	04 42 15.7	
	comp=Z,53nm,1.0s						
MPU	Maple Canyon	58.29	64	IAmb	IAmb	04 42 16.2	
	comp=Z,31nm,0.9s						
CMAR	Chiang Mai Arr	58.30	258	P	P	04 42 14.2	+0.6
CMAR	Chiang Mai Arr	58.30	258	P	P	04 42 14.2	+0.6
EDW2	Edwards Air Fo	58.32	73	P	P	04 42 14.9	+1.3
	baz=315,SNR=15						
BSUT	Blindstream Ca	58.40	63	P	P	04 42 15.6	+1.0
KONS	Konsvik	58.41	345	*e*P	P	04 42 13.8	+0.2
KONS				IAmb	IAmb	04 42 14.2	
	comp=Z,44nm,0.9s						
MOR8	Moi Rana	58.50	345	*e*P	P	04 42 13.0	-1.4
MOR8				IAmb	IAmb	04 42 13.8	
	comp=Z,68nm,0.7s						
DECC	Green Verdugo	58.56	74	P	P	04 42 16.6	+1.2
	baz=316,SNR=5.8						
STOK	Stokkvaagen	58.58	345	*e*P	P	04 42 14.9	+0.1
STOK				IAmb	IAmb	04 42 15.4	
	comp=Z,41nm,1.0s						
SNCC	San Nicolas Is	58.58	75	P	P	04 42 16.6	+1.2
	baz=316						
SHOC	Shoshone, Teco	58.59	71	P	P	04 42 16.6	+1.2
	baz=315,SNR=16						
GSC	Goldstone, Bar	58.70	72	IAmb	IAmb	04 42 18.6	
	comp=Z,38nm,0.9s						
GSC	Goldstone, Bar	58.70	72	P	P	04 42 17.7	+1.3
	baz=316,SNR=21						
PASC	Pasadena Art C	58.71	74	IAmb	IAmb	04 42 18.2	
	comp=Z,27nm,0.8s						
SWI	Sorong	58.81	215	P	P	04 42 18.4	+1.3
	comp=Z,42nm,1.5s						
TCRU	Three Creeks R	58.83	66	IAmb	IAmb	04 43 09.4	
	comp=Z,31nm,0.9s						
ULM	Lac du Bonnet	58.86	47	P	P	04 42 17.5	+0.4
ULM	Lac du Bonnet	58.86	47	P	P	04 42 17.9	+0.8
	comp=Z,32nm,0.8s,baz=315,slow=7.3,SNR=60						
ULM				LR	LR	05 08 17.8	
	comp=Z,434nm,21.5s,baz=314,slow=37						
	comp=Z,32nm,0.8s						
ULM	Lac du Bonnet	58.86	47⇑	*e*P	P	04 42 17.7	+0.6
MDND	Maddock	58.89	51	P	P	04 42 18.8	+1.4
	baz=316,SNR=14						
RRX	Edison Barstow	58.90	72	P	P	04 42 18.9	+1.3
	baz=316						
SOEG	Soedalen	58.94	5	*i* P	P	04 42 17.1	-0.2
SOEG				IAmb	IAmb	04 42 18.9	
	comp=Z,33nm,0.6s						
BFSC	Mount Baldy Ra	58.97	73	P	P	04 42 19.4	+1.2
	baz=316,SNR=10						
FMP	Fort Macarthur	58.97	74	P	P	04 42 19.3	+1.2
	baz=316						
DRK	Karamyk	58.99	295	P	P	04 42 17.9	-0.6
DRK				IAmb	IAmb	04 44 00.1	
	comp=Z,45nm,1.0s						
DRK	Karamyk	58.99	295	P	P	04 42 17.9	-0.6
DRK				pmax	pmax		
	comp=Z,45nm,1.0s						
TMUT	Trail Mountain	59.03	65	IAmb	IAmb	04 42 21.3	
	comp=Z,39nm,0.8s						
CCUT	Cedar City	59.07	68	IAmb	IAmb	04 42 21.6	
	comp=Z,30nm,0.9s						
BTK	Batken	59.11	297	P	P	04 42 18.4	-0.8
BTK				IAmb	IAmb	04 42 26.4	
	comp=Z,18nm,0.7s						
BTK	Batken	59.11	297	P	P	04 42 18.4	-0.8
BTK				pmax	pmax		
	comp=Z,18nm,0.7s						
TUQ	Turquoise Moun	59.12	71	P	P	04 42 20.6	+1.4
	baz=316,SNR=39						
CIS	Catalina Islan	59.12	74	P	P	04 42 20.2	+0.9
	baz=316						
K22A	Casper	59.16	59	IAmb	IAmb	04 42 21.8	
	comp=Z,25nm,0.9s						
K22A	Casper	59.16	59	P	P	04 42 20.6	+1.0
	baz=315,SNR=15						
SZCU	Shurtz Canyon	59.19	67	IAmb	IAmb	04 42 22.3	
	comp=Z,40nm,1.2s						
VALR	Valaam	59.27	334	*i* P	P	04 42 20.2	+0.5
VALR				pmax	pmax		
	comp=Z,134nm,0.6s						
DY2G	Dye2	59.29	12	*i* P	P	04 42 19.6	-0.5
DY2G				IAmb	IAmb	04 42 22.1	
	comp=Z,37nm,0.7s						
HEC	Hector,Ludlow	59.31	72	P	P	04 42 21.9	+1.4
	baz=316,SNR=14						
Q16A	Castle Valley	59.32	65	IAmb	IAmb	04 42 23.3	
	comp=Z,32nm,0.9s						
P18A	Preston Nutter	59.32	64	IAmb	IAmb	04 42 23.6	
	comp=Z,28nm,1.0s						
BBRC	Big Bear Solar	59.38	73	P	P	04 42 22.4	+1.2
	baz=316,SNR=5.9						
MTPU	Mount Pierson	59.38	66	IAmb	IAmb	04 42 24.4	
	comp=Z,29nm,1.0s						
RSSD	Black Hills	59.40	56	P	P	04 42 22.1	+0.9
RSSD	Black Hills	59.40	56	P	P	04 42 22.3	+1.1
	baz=316						
RSSD	Black Hills	59.40	56	P	P	04 42 22.1	+0.9
RSSD				pmax	pmax		
	comp=Z,82nm,0.7s						
RWWY	Rawlins	59.49	60	IAmb	IAmb	04 42 22.4	
	comp=Z,20nm,0.8s						
LCMT	Little Creek M	59.52	68	IAmb	IAmb	04 42 24.8	
	comp=Z,50nm,1.0s						
ELS	Elsinore Mount	59.52	74	IAmb	IAmb	04 42 23.9	
	comp=Z,29nm,0.9s						
V12A	Nelson	59.52	70	IAmb	IAmb	04 42 24.6	
	comp=Z,40nm,1.1s						
MURC	Murrieta	59.69	73	P	P	04 42 24.0	+0.8
	baz=316,SNR=14						
GMRC	Granite Mounta	59.73	71	P	P	04 42 24.8	+1.3
	baz=316,SNR=33						
PKCU	Pink Cliffs	59.73	67	IAmb	IAmb	04 42 26.8	
	comp=Z,34nm,0.9s						
KNB	Kanab	59.75	68	IAmb	IAmb	04 43 13.0	
	comp=Z,49nm,1.0s						
VAF	Ylistaro	59.78	339	*e*P	P	04 42 24.0	+0.8
VAF	Ylistaro	59.78	339	P	P	04 42 23.6	+0.4
VAF				pmax	pmax		
	comp=Z,156nm,1.3s						
O20A	White River Ci	60.05	62	IAmb	IAmb	04 42 27.9	
	comp=Z,52nm,1.3s						
O20A	White River Ci	60.05	62	P	P	04 42 26.8	+1.1
	baz=316,SNR=22						
KEF	Keuruu	60.06	338	*e*P	P	04 42 25.8	+0.7
BELC	Belle Mtn. Jos	60.10	72	P	P	04 42 26.8	+0.7
	baz=316,SNR=19						
PFO	Pinyon Flats O	60.11	73	P	P	04 42 26.8	+0.7
PFO	Pinyon Flats O	60.11	73	P	P	04 42 26.8	+0.7
	baz=316,SNR=8.8						
PFO	Pinyon Flats O	60.11	73	LR	LR	05 04 00.3	
	comp=Z,267nm,21.7s,baz=306,slow=32						
PFO	Pinyon Flats O	60.11	73	P	P	04 42 26.8	+0.7
PFO				pmax	pmax		
	comp=Z,15nm,0.9s						
TPFO	Pinon Flats	60.12	73	P	P	04 42 27.0	+0.8
	baz=316,SNR=8.8						
PMD	Palm Desert	60.13	73	IAmb	IAmb	04 42 27.7	
	comp=Z,23nm,0.8s						
109C	Camp Elliot, M	60.25	74	IAmb	IAmb	04 42 29.0	
	comp=Z,41nm,1.1s						
109C	Camp Elliot, M	60.25	74	P	P	04 42 28.0	+1.0
	baz=316						
AGMN	Agassiz Nation	60.29	48	P	P	04 42 27.5	+0.5
AGMN				IAmb	IAmb	04 42 28.7	
	comp=Z,43nm,0.9s						
AGMN	Agassiz Nation	60.29	48	P	P	04 42 27.6	+0.5
	baz=318,SNR=34						
NEE2	Needles Airpor	60.34	71	P	P	04 42 28.6	+1.0
	baz=316						
FIA1	FINESS Array S	60.40	337	P	P	04 42 27.7	+0.2
FINES	FINESS Array B	60.41	337	P	P	04 42 27.7	+0.2
	comp=Z,92nm,0.5s,baz=33,slow=8.6,SNR=530						
FINES				LR	LR	05 11 39.4	
	comp=Z,253nm,21.9s,baz=34,slow=39						
	comp=Z,92nm,0.5s						
FINES	FINESS Array B	60.41	337	*i* P	P	04 42 27.6	+0.1
FINES				pmax	pmax		
	comp=Z,92nm,0.5s						
NSS	Namsos	60.42	345	*e*P	P	04 42 27.7	+0.1
NSS				IAmb	IAmb	04 42 28.2	
	comp=Z,101nm,1.2s						
U15A	North Rim	60.47	68	IAmb	IAmb	04 42 31.4	
	comp=Z,26nm,1.1s						
IRM	Iron Mountain	60.48	72	P	P	04 42 29.9	+1.4
	baz=316,SNR=41						
W13A	Hualapai Mount	60.52	70	IAmb	IAmb	04 42 31.3	
	comp=Z,24nm,0.9s						
MONP2	Monument Peak	60.65	73	P	P	04 42 31.6	+1.7
	baz=317,SNR=5.4						
BAR	Barrett	60.66	74	IAmb	IAmb	04 42 31.6	
	comp=Z,22nm,1.0s						
BC3	Big Chuckawall	60.66	72	P	P	04 42 30.7	+0.9
	baz=316,SNR=19						
NUUK	Nuuk	60.66	15	*i* P	P	04 42 28.1	-1.1
NUUK				IAmb	IAmb	04 42 30.8	
	comp=Z,26nm,1.0s						
N23A	Red Feather La	60.72	60	IAmb	IAmb	04 42 32.9	
	comp=Z,35nm,0.7s						
N23A	Red Feather La	60.72	60	P	P	04 42 31.9	+1.5
	baz=316,SNR=35						
PUL	Pulkovo	60.76	334	*ce*P	P	04 42 31.1	+1.1
PUL				pmax	pmax		
	comp=Z,123nm,0.9s						
TKX	Tecate	60.77	74	IAmb	IAmb	04 44 14.2	
	comp=Z,20nm,0.9s						
PDMCI	Parker Dam,Lak	60.95	71	P	P	04 42 32.9	+1.3
	baz=316,SNR=19						
SWSC	Sam W. Stewart	60.97	73	P	P	04 42 32.5	+0.7
	baz=317,SNR=7.6						
ISOG	Isortoq, Green	61.00	9	*i* P	P	04 42 31.3	-0.2
ISOG				IAmb	IAmb	04 42 31.8	
	comp=Z,57nm,0.6s						
IKP	In-Ko-Pah, Jac	61.01	73	P	P	04 42 33.1	+0.9
	baz=317,SNR=6.8						
BELG	Belogornoye	61.01	320	LR	LR	05 13 38.2	
	comp=Z,175nm,18.1s,baz=43,slow=41						
BELG	Belogornoye	61.01	320	*i* P	P	04 42 31.0	-0.8
BELG				pmax	pmax		
	comp=Z,28nm,1.1s						
CHGR	Chuyangaron	61.01	297	P	P	04 42 31.3	-0.9
CHGR	Chuyangaron	61.01	297	P	P	04 42 31.3	-0.9
CHGR				pmax	pmax		
	comp=Z,53nm,0.7s						
ANGG	Ammassalik, Gr	61.05	8	*i* P	P	04 42 31.1	-0.7
RMX	La Rumorosa	61.06	73	IAmb	IAmb	04 42 35.0	
	comp=Z,24nm,1.0s						
SIMJ	Simiganj	61.09	297	P	P	04 42 31.8	-0.9
SIMJ				IAmb	IAmb	04 42 42.5	
	comp=Z,18nm,0.8s						
YUH	Yuha Desert	61.12	73	IAmb	IAmb	04 42 34.7	
	comp=Z,27nm,1.0s						
BLYC	Blythe	61.13	71	IAmb	IAmb	04 42 35.2	
	comp=Z,36nm,0.8s						
TOLI2	Tolitoli	61.15	227	P	P	04 42 33.4	+0.2
SMCO	Snowmass	61.41	62	IAmb	IAmb	04 42 37.5	
	comp=Z,23nm,0.9s						
GLA	Glamis	61.46	72	P	P	04 42 36.6	+1.4
	baz=317,SNR=15						
ESJX	Sierra Juarez	61.57	74	IAmb	IAmb	04 42 38.2	
	comp=Z,27nm,1.0s						
WUAZ	Wupatki	61.64	68	P	P	04 42 38.1	+1.6
	baz=317,SNR=38						
SUSD	Miller	61.68	53	IAmb	IAmb	04 42 38.0	
	comp=Z,38nm,0.8s						
SUSD	Miller	61.68	53	P	P	04 42 36.9	+0.5
	baz=318,SNR=5.4						
ISCO	Idaho Springs	61.69	61	IAmb	IAmb	04 42 39.8	
	comp=Z,32nm,0.9s						
ISCO	Idaho Springs	61.69	61	P	P	04 42 38.8	+1.8
	baz=317,SNR=47						
ISCO	Idaho Springs	61.69	61	P	P	04 42 38.8	+1.8
RAF	Rauma	61.77	339	*e*P	P	04 42 37.3	+0.5
SANI	Sanana	61.84	220	P	P	04 42 37.5	-0.3
	comp=Z,20nm,0.9s						
Y14A	Wickenburg	61.86	70	P	P	04 42 39.2	+1.3
Y14A				IAmb	IAmb	04 42 40.3	
	comp=Z,35nm,1.0s						
MEF	Metsahovi	61.88	337	*e*P	P	04 42 38.2	+0.7
MOS	Moscow	61.95	327	*e*P	P	04 42 37.7	-0.4
MOS				*e*		04 43 17.9	
MOS				*e*S	S	04 50 56.0	-2.7
MOS				pmax	pmax		
	comp=Z,127nm,1.2s						
MVCO	Mesa Verde	62.01	65	IAmb	IAmb	04 42 41.3	
	comp=Z,24nm,0.8s						
MVCO	Mesa Verde	62.01	65	P	P	04 42 40.3	+1.2
	baz=317,SNR=14						
HNR	Honiara	62.04	180	LR	LR	05 06 01.1	
	comp=Z,2μm,21.0s,baz=349,slow=32						
ARBE	Arbavere	62.18	336	*e*P	P	04 42 40.7	+1.1
LUWI	Luwuk	62.23	224	P	P	04 42 41.6	+1.2
	comp=Z,36nm,0.7s						
MPSI	Mapaga	62.23	227	P	P	04 42 40.8	+0.4
113A	Mohawk Valley,	62.27	72	IAmb	IAmb	04 42 42.6	
	comp=Z,23nm,1.0s						
NIL	Nilore	62.36	290	P	P	04 42 41.0	-0.2
NIL				IAmb	IAmb	04 43 00.9	
	comp=Z,38nm,1.1s						
NIL	Nilore	62.36	290	P	P	04 42 41.0	-0.2
NIL				pmax	pmax		
	comp=Z,38nm,1.1s						
X16A	Lo Mia Camp, P	62.40	69	IAmb	IAmb	04 42 44.5	
	comp=Z,28nm,0.9s						
EYMN	Ely	62.50	46	P	P	04 42 42.5	+0.6
	baz=320,SNR=32						
S22A	4UR Ranch, Cre	62.53	63	IAmb	IAmb	04 42 45.6	
	comp=Z,40nm,1.2s						
S22A	4UR Ranch, Cre	62.53	63	P	P	04 42 44.5	+1.8
	baz=317,SNR=47						
Q24A	Divide	62.54	61	P	P	04 42 44.0	+1.3
	baz=317,SNR=5.4						
OGNE	Ogallala	62.72	58	P	P	04 42 44.7	+1.1
	baz=318,SNR=5.3						
BORG	Borgarnes	62.72	1	P	P	04 42 44.1	+1.0
BORG				IAmb	IAmb	04 42 46.2	
	comp=Z,38nm,0.9s						
BORG	Borgarnes	62.72	1	P	P	04 42 44.1	+1.0
BORG				pmax	pmax		
	comp=Z,38nm,0.9s						
OBN	Obninsk	62.81	328	P	P	04 42 43.6	-0.2
OBN	Obninsk	62.81	328	LR	LR	05 14 37.6	
	comp=Z,274nm,18.5s,baz=1.5,slow=40						
OBN	Obninsk	62.81	328	*ce*P	P	04 42 43.6	-0.2
OBN				*e**PP	sP	04 43 02.3	+1.3
OBN				*e**SP	PcP	04 43 10.3	-12
OBN				*e*		04 43 20.4	
OBN				*e*		04 45 00.0	
OBN				*e*PPP	PPP	04 46 30.0	
OBN				pmax	pmax		
	comp=Z,75nm,1.0s						
OBN				MLR	MLR		
	comp=Z,288nm,18.0s						
OBN	Obninsk	62.81	328	P	P	04 42 43.7	-0.1
	comp=Z,100nm,0.9s,comp=Z,1μm						
VSU	Vasula	62.84	335	*ce*P	P	04 42 44.2	+0.3
VSU				pmax	pmax		
	comp=Z,281nm,1.0s						
W18A	Petrified Fore	62.85	67	IAmb	IAmb	04 42 47.4	
	comp=Z,29nm,1.1s						
W18A	Petrified Fore	62.85	67	P	P	04 42 46.1	+1.4
	baz=317,SNR=10						
MOL	Molde	62.94	346	*e*P	P	04 42 45.0	+0.5
MOL				IAmb	IAmb	04 42 46.1	
	comp=Z,128nm,1.3s						
X18A	Snowflake	63.16	68	IAmb	IAmb	04 42 49.5	
	comp=Z,43nm,1.0s						
DOMB	Dombas	63.22	345	*e*P	P	04 42 46.5	0.0
DOMB				IAmb	IAmb	04 42 47.2	
	comp=Z,90nm,0.8s						
SDCO	Great Sand Dun	63.25	62	IAmb	IAmb	04 42 49.9	
	comp=Z,45nm,1.6s						
SDCO	Great Sand Dun	63.25	62	P	P	04 42 48.8	+1.3
	baz=318,SNR=22						
ECSD	EROS Data Cent	63.33	52	IAmb	IAmb	04 42 49.0	
	comp=Z,32nm,1.1s						
ECSD	EROS Data Cent	63.33	52	P	P	04 42 48.0	+0.4
	baz=319,SNR=31						
PIX	Pinacate	63.34	72	IAmb	IAmb	04 42 49.7	
	comp=Z,28nm,1.2s						
MTSE	Matsula	63.35	336	*e*P	P	04 42 48.2	+0.9
214A	Organ Pipe Nat	63.42	72	IAmb	IAmb	04 42 50.6	
	comp=Z,50nm,1.1s						
214A	Organ Pipe Nat	63.42	72	P	P	04 42 49.5	+1.2
	baz=318,SNR=23						
NC405	NORSAR Array S	63.66	344	P	P	04 42 49.6	+0.1
NB2	NORSAR Subarra	63.82	344	P	P	04 42 50.5	0.0
	comp=Z,56nm,0.7s,baz=21,slow=6.9						
NB2	NORSAR Subarra	63.82	344	P	P	04 42 50.5	0.0
	baz=21,slow=6.9						
NOA	NORSAR Array B	63.82	344	P	P	04 42 50.5	0.0
	comp=Z,65nm,0.8s,baz=21,slow=6.6,SNR=225						
	comp=Z,65nm,0.8s						
KSCO	Kaye Shedlock'	63.84	59	P	P	04 42 51.8	+0.7
KSCO				IAmb	IAmb	04 42 54.1	
	comp=Z,25nm,0.7s						
KSCO	Kaye Shedlock'	63.84	59	P	P	04 42 52.0	+0.9
	baz=318,SNR=9.6						
SPMN	Marine on St.	63.99	49	P	P	04 42 52.3	+0.5
	baz=320,SNR=24						
SBUM	Sibu	64.03	236	P	P	04 42 52.6	+0.2
SBUM				IAmb	IAmb	04 43 06.8	
	comp=Z,43nm,1.7s						
IVI	Ivigtut	64.03	15	P	P	04 42 52.2	+0.4
IVI	Ivigtut	64.03	15	*i* P	P	04 42 51.6	-0.1
NC602	NORSAR Array S	64.05	344	IAmb	IAmb	04 42 52.8	
	comp=Z,35nm,1.0s						
NC602	NORSAR Array S	64.05	344	*e*P	P	04 42 51.7	-0.3
NC602				IAmb	IAmb	04 42 52.5	
	comp=Z,31nm,0.9s						
NORES	NORESS Array B	64.05	344	P	P	04

BGNE Belgrade 64.33 55 P P 04 42 54.4 +0.3
baz=319,SNR=7.5
HYA Hoyanger 64.48 346 *eP* **P 04 42 55.3 +0.6**
HYA IAmb IAmb 04 42 55.8
comp=Z,107nm,1.2s
NRS Narsarsuaq 64.49 14 *i* P **P 04 42 54.4 -0.4**
SKAR Skarslia 64.63 345 *eP* **P 04 42 56.1 +0.3**
SKAR IAmb IAmb 04 42 56.9
comp=Z,116nm,1.2s
SLIT Slitere, Latvi 64.69 337 *eP* **P 04 42 56.8 +0.6**
VORR Voronezh 64.74 324 *eP* **P 04 42 56.4 -0.2**
VORR pmax pmax
comp=Z,98nm,0.5s
SUE Sulen 64.78 347 *eP* **P 04 42 56.8 +0.2**
ANMO Albuquerque 64.79 65 P **P 04 42 58.6 +1.2**
ANMO Albuquerque 64.79 65 P **P 04 42 58.7 +1.2**
baz=318
ANMO Albuquerque 64.79 65 LR LR 05 09 06.0
comp=Z,170nm,21.0s,baz=58,slow=34
ANMO Albuquerque 64.79 65 *ceP* **P 04 42 58.7 +1.2**
ANMO pmax pmax
comp=Z,22nm,1.3s
OSL Oslo 64.94 344 *eP* **P 04 42 58.3 +0.6**
OSL IAmb IAmb 04 42 58.9
comp=Z,104nm,1.2s
G40A Rib Lake 65.13 47 IAmb IAmb 04 43 00.6
comp=Z,49nm,1.2s
VSR Storozhevoye 65.13 324 *eP* **P 04 42 56.7 -2.4**
VSR pmax pmax
comp=Z,60nm,0.9s
Y22D IRIS PASSCAL I 65.18 66 P **P 04 43 01.6 +1.6**
baz=318
ASK Askoy 65.27 347 *eP* **P 04 43 00.6 +0.7**
ASK IAmb IAmb 04 43 01.2
comp=Z,76nm,1.0s
VORD Divnogorie 65.29 323 *eP* **P 04 42 58.9 -1.2**
VORD pmax pmax
comp=Z,60nm,1.0s
BER Bergen 65.35 347 *eP* **P 04 43 00.9 +0.5**
BER IAmb IAmb 04 43 01.6
comp=Z,64nm,0.8s
KONO Kongsberg 65.40 344 P **P 04 43 01.2 +0.5**
KONO Kongsberg 65.40 344 *eP* **P 04 43 01.2 +0.5**
KONO IAmb IAmb 04 43 01.9
comp=Z,90nm,1.2s
KONO Kongsberg 65.40 344 *ceP* **P 04 43 01.5 +0.8**
KONO pmax pmax
comp=Z,77nm,1.3s
CBKS Cedar Bluff 65.48 58 IAmb IAmb 04 43 02.7
comp=Z,63nm,1.4s
CBKS Cedar Bluff 65.48 58 P **P 04 43 01.5 -0.2**
baz=319,SNR=7.4
ISAL Salakas 65.53 333 *eP* **P 04 43 03.5 +1.8**
ODD1 Odda 65.62 346 *eP* **P 04 43 02.9 +0.7**
ODD1 IAmb IAmb 04 43 03.4
comp=Z,77nm,1.2s
E43A Lone Tree Farm 65.66 45 IAmb IAmb 04 43 03.8
comp=Z,41nm,1.1s
IIGN Ignalina 65.70 333 *eP* **P 04 43 05.2 +2.4**
VSVD Vaisvydziai 65.75 335 *eP* **P 04 43 03.8 +0.8**
SCHQ Schefferville 65.78 28 P **P 04 43 03.5 +0.2**
comp=Z,18nm,0.6s,baz=354,slow=5.8,SNR=38
SCHQ LR LR 05 16 58.2
comp=Z,114nm,18.3s,baz=301,slow=41
comp=Z,18nm,0.6s
121A Cookes Peak, D 65.85 68 IAmb IAmb 04 43 07.2
comp=Z,30nm,1.1s
121A Cookes Peak, D 65.85 68 P **P 04 43 05.9 +1.6**
baz=319,SNR=14
MNK Minsk 65.98 332 *i* P **P 04 43 03.5 -1.1**
MNK *i* *PP **sP** **04 43 22.4 +0.5**
MNK *i* 04 45 29.9
MNK *i* PPP PPP 04 47 04.2
MNK *i* S **S** **04 51 46.0 -2.7**
MNK *i* *SS sS 04 52 18.4 +9.0
MNK *i* SS **SS** **04 56 03.7 +0.4**
MNK pmax pmax
comp=E,28nm,0.9s
MNK pmax pmax
comp=Z,228nm,0.9s
MNK pmax pmax
comp=N,107nm,0.9s
MNK MLR MLR
comp=Z,366nm,19.0s
MNK MLR MLR
comp=E,58nm,12.0s
MNK MLR MLR
comp=N,155nm,15.0s
BLS5 Blasjo 66.11 346 *eP* **P 04 43 05.7 +0.4**
BLS5 IAmb IAmb 04 43 06.1
comp=Z,31nm,0.8s
PABE Paberze 66.17 335 *eP* **P 04 43 06.9 +1.2**
PBUR Paburge 66.22 336 *eP* **P 04 43 07.0 +1.0**
SCIA State Center 66.34 51 P **P 04 43 07.6 +0.5**
baz=321,SNR=15
H43A Windswept, Lux 66.83 46 IAmb IAmb 04 43 11.4
comp=Z,46nm,0.9s
KSU1 Kansas State U 66.85 56 IAmb IAmb 04 43 40.2
comp=Z,20nm,0.8s
KSU1 Kansas State U 66.85 56 P **P 04 43 09.5 -0.9**
baz=320,SNR=7.0
HOMB Homborsund 66.89 344 *i* P **P 04 43 10.4 +0.1**
JFWS Jewell Farm 66.94 49 P **P 04 43 10.6 -0.3**
baz=322,SNR=9.3
SNART Snartemo 67.03 345 *eP* **P 04 43 11.7 +0.5**
SNART IAmb IAmb 04 43 12.5
comp=Z,100nm,0.8s
SNART Snartemo 67.03 345 *i* P **P 04 43 11.2 -0.1**
GEYT Alibeck 67.36 303 P **P 04 43 13.2 -0.5**
GEYT IAmb IAmb 04 43 15.5
comp=Z,32nm,1.2s
GEYT Alibeck 67.36 303 P **P 04 43 13.6 -0.1**
comp=Z,9.9nm,0.6s,baz=24,slow=2.5,SNR=13
GEYT LR LR 05 15 12.2
comp=Z,476nm,19.1s,baz=49,slow=38
comp=Z,9.9nm,0.6s
GYA0B ALIBECK ARRAY 67.36 303 P **P 04 43 13.2 -0.5**
GYA0B IAmb IAmb 04 43 15.5
comp=Z,31nm,1.2s
AMTX Amarillo 67.43 62 IAmb IAmb 04 43 16.2
comp=Z,67nm,1.5s
AMTX Amarillo 67.43 62 P **P 04 43 14.8 +0.6**
baz=320
KAN12 Harper NE Stat 67.52 58 IAmb IAmb 04 43 15.1
comp=Z,42nm,1.3s
MSTX Muleshoe 67.53 63 IAmb IAmb 04 43 16.7
comp=Z,43nm,1.0s
MSTX Muleshoe 67.53 63 P **P 04 43 15.7 +0.7**
baz=320,SNR=24
KAN08 Anthony NE Sta 67.59 58 IAmb IAmb 04 43 15.5
comp=Z,36nm,1.1s
OK035 E0210 Rd and N 67.61 59 IAmb IAmb 04 43 16.0
comp=Z,34nm,0.8s
KAN06 Argonia West S 67.63 58 IAmb IAmb 04 43 15.8
comp=Z,29nm,1.1s
U32A Winter Ranch, 67.71 59 IAmb IAmb 04 43 16.9
comp=Z,55nm,1.3s
SUW Suwalki 67.71 334 *eP* **P 04 43 15.0 -0.6**
SUW Suwalki 67.71 334 *eP* **P 04 43 15.9 +0.4**
KAN01 Argonia South 67.75 58 IAmb IAmb 04 43 16.7
comp=Z,40nm,0.8s
OK038 West end E0370 67.77 59 IAmb IAmb 04 43 17.3
comp=Z,34nm,0.7s
OK032 Salt Plains WL 67.79 58 IAmb IAmb 04 43 16.6
comp=Z,16nm,0.8s
MNTX Cornudas Mount 67.82 67 P **P 04 43 18.0 +1.3**
baz=320,SNR=25
KAN17 Caldwell West 67.84 58 IAmb IAmb 04 43 17.2
comp=Z,49nm,1.2s
GLMI Grayling 67.90 44 P **P 04 43 17.0 0.0**
baz=324
P38A Dawn 67.96 53 IAmb IAmb 04 43 18.5
comp=Z,55nm,1.1s
KAN13 South Haven SW 68.01 58 IAmb IAmb 04 43 18.2
comp=Z,30nm,1.0s
COEN Coen 68.17 198 P **P 04 43 19.4 +0.6**
COEN Coen 68.17 198 P **P 04 43 19.5 +0.6**
BLOK Blackwell 68.33 58 IAmb IAmb 04 43 20.5
comp=Z,46nm,1.5s
MAK Makhachkala 68.47 313 *d i*P **P 04 43 21.2 +0.7**
MAK *e* 04 45 56.0
MAK *e*PPP PPP 04 47 31.4
MAK *e*S **S** **04 52 21.0 +2.0**
MAK *e*SS **SS** **04 56 43.2 +0.9**
MAK pmax pmax
comp=Z,139nm,1.0s
MAK MLR MLR
comp=Z,380nm,19.0s
LUNU Lund 68.48 341 *i* P **P 04 43 20.0 -0.4**
LUNU *e* 04 44 35.1
L44A Lake County Fo 68.58 48 P **P 04 43 21.2 0.0**
baz=323,SNR=6.8
BSD Bornholm Skovb 68.66 340 *eP* **P 04 43 22.7 +1.2**
BSD Bornholm Skovb 68.66 340 *i* P **P 04 43 21.7 +0.2**
GOF Gofitskoye 68.68 317 *ceP* **P 04 43 21.7 -0.1**
VHRN Van Horn 68.73 67 IAmb IAmb 04 43 24.7
comp=Z,26nm,0.9s
DKNS Dickens 68.76 62 IAmb IAmb 04 43 24.1
comp=Z,23nm,0.8s
AK23 Malin Array Si 68.88 329 P **P 04 43 22.9 0.0**
AK22 Malin Array Si 68.90 329 P **P 04 43 23.0 -0.1**
AKASG Malin Array Be 68.90 329 P **P 04 43 22.8 -0.3**
AKASG Malin Array Be 68.90 329 P **P 04 43 22.8 -0.3**
comp=Z,70nm,0.5s,baz=31,slow=6.1,SNR=172
AKASG LR LR 05 17 52.3
comp=Z,226nm,18.2s,baz=36,slow=40
comp=Z,70nm,0.5s
AKASG Malin Array Be 68.90 329 *i* P **P 04 43 22.6 -0.5**
AKASG pmax pmax
comp=Z,69nm,0.5s
AKBB Malin Array Si 68.90 329 *ceP* **P 04 43 22.7 -0.3**
AKBB Malin Array Si 68.90 329 P **P 04 43 22.8 -0.3**
PECS Pecos 68.91 66 IAmb IAmb 04 43 25.7
comp=Z,44nm,1.4s
POST Post 68.91 63 P **P 04 43 24.1 +0.6**
POST IAmb IAmb 04 43 25.2
comp=Z,26nm,0.8s
KIEV Kiev 68.92 329 ⇓P **P 04 43 23.0 -0.2**
KIEV Kiev 68.92 329 P **P 04 43 22.6 -0.5**
KIEV Kiev 68.92 329 *i* P **P 04 43 22.8 -0.3**
SNR=17
KIEV Kiev 68.92 329 P **P 04 43 22.9 -0.2**
KIEV Kiev 68.92 329 P **P 04 43 23.0 -0.2**
comp=Z,568nm,1.0s,comp=Z,5μm
AK20 Malin Array Si 68.93 329 P **P 04 43 22.9 -0.4**
AK05 Malin Array Si 68.98 329 P **P 04 43 23.3 -0.3**
GROC Groznyy 69.02 315 *eP* **P 04 43 24.4 +0.4**
GROC pmax pmax
comp=Z,1.0nm,0.1s
AK07 Malin Array Si 69.04 329 P **P 04 43 23.7 -0.2**
ODSA Odessa 69.06 64 IAmb IAmb 04 43 26.2
comp=Z,34nm,0.9s
WMOK Wichita Mounta 69.08 60 **P 04 43 25.0 +0.5**
WMOK IAmb IAmb 04 43 26.1
comp=Z,45nm,0.9s
WMOK Wichita Mounta 69.08 60 P **P 04 43 25.1 +0.5**
baz=321,SNR=76
WMOK Wichita Mounta 69.08 60 P **P 04 43 25.0 +0.5**
WMOK pmax pmax
comp=Z,45nm,1.0s
MCD Coleburn Disti 69.11 351 *eP* **P 04 43 24.7 +0.4**
MCD IAmb IAmb 04 43 25.3
comp=Z,39nm,0.7s
OK052 Battle Ridge R 69.14 58 IAmb IAmb 04 43 25.9
comp=Z,52nm,1.3s
OK031 S. Brethren Rd 69.15 58 IAmb IAmb 04 43 26.1
comp=Z,66nm,1.3s
ERBR Yeremizino-Bor 69.17 319 *eP* **P 04 43 22.3 -2.5**
ERBR *e**PP **sP** **04 43 41.0 -1.1**
ERBR *e*S **S** **04 52 22.6 -4.6**
ERBR pmax pmax
comp=Z,219nm,1.1s
MI30 MI30,Zelenitsa 69.18 330 P **P 04 43 24.4 -0.4**
SN07 Snyder 07 69.22 63 IAmb IAmb 04 43 27.0
comp=Z,46nm,1.5s
HDIL Hopedale 69.24 50 P **P 04 43 25.4 +0.1**
baz=323
RNPP9 Sopachiv 69.28 331 P **P 04 43 25.6 +0.2**
RNPP8 Varash 69.36 331 P **P 04 43 26.0 +0.1**
SN05 Snyder 5 69.39 63 IAmb IAmb 04 43 27.3
comp=Z,16nm,0.8s
FNO Franklin 69.40 59 IAmb IAmb 04 43 28.1
comp=Z,38nm,1.2s
RNPP5 Staryi Chortor 69.44 331 P **P 04 43 26.3 -0.1**
RGN Rugen 69.53 340 *eP* **P 04 43 28.6 +1.8**
RGN Rugen 69.53 340 *eP* 04 43 28.0
comp=Z,186nm,0.9s,baz=19,slow=5.9
KDU Kakadu 69.55 209 P **P 04 43 28.3 +0.9**
S39A Bolivar 69.57 54 IAmb IAmb 04 43 27.7
comp=Z,30nm,1.1s
KPL Plockton 69.57 352 *eP* **P 04 43 27.1 0.0**
KPL IAmb IAmb 04 43 27.6
comp=Z,21nm,1.0s
MI29 MI29, Kamyanyy 69.58 330 P **P 04 43 26.9 -0.4**
R40A Maddies Statio 69.61 53 IAmb IAmb 04 43 28.6
comp=Z,37nm,0.9s
X34A Smith Ranch, M 69.68 59 IAmb IAmb 04 43 30.2
comp=Z,42nm,1.2s
DRUM Mains of Drumt 69.69 350 *eP* **P 04 43 27.7 -0.2**
DRUM IAmb IAmb 04 43 29.3
comp=Z,34nm,0.6s
TUL3 Leonard 69.72 57 P **P 04 43 28.5 +0.1**
baz=321,SNR=17
KVAR Kislovodsk Arr 69.72 317 LR LR 05 19 05.0
comp=Z,314nm,18.9s,baz=278,slow=40
KIV Kislovodsk 69.73 317 P **P 04 43 27.8 -0.7**
KIV IAmb IAmb 04 43 32.8
comp=Z,39nm,0.8s
KIV Kislovodsk 69.73 317 *i* P **P 04 43 28.4 0.0**
SNR=11
KIV Kislovodsk 69.73 317 *eP* **P 04 43 28.8 +0.4**
KIV *e* 04 46 03.3
KIV *e*S **S** **04 52 31.9 -2.1**
KIV pmax pmax
comp=Z,41nm,1.0s
KIV MLR MLR
comp=Z,288nm,17.0s
KIV Kislovodsk 69.73 317 P **P 04 43 29.1 +0.7**
comp=Z,37nm,0.9s,comp=Z,429nm
KBZ Khabaz 69.83 317 P **P 04 43 29.6 +0.7**
comp=Z,77nm,0.9s,baz=69,slow=3.6,SNR=71
KBZ LR LR 05 18 55.6
comp=Z,345nm,20.2s,baz=27,slow=40
comp=Z,77nm,0.9s
KBZ Khabaz 69.83 317 *ceP* **P 04 43 29.4 +0.5**
KBZ pmax pmax
comp=Z,83nm,0.9s
GKP Gorka Klasztor 69.86 337 *eP* **P 04 43 29.8 +0.9**
GKP Gorka Klasztor 69.86 337 *eP* **P 04 43 29.5 +0.6**
RLO Rose Lookout 69.91 56 IAmb IAmb 04 43 30.6
comp=Z,47nm,1.3s
SHA1 Shidzhatmaz 69.92 317 *ceP* **P 04 43 30.5 +0.7**
LABN Labinsk 69.96 319 *eP* **P 04 43 27.5 -2.2**
LABN *e**PP **sP** **04 43 45.2 -1.9**
LABN *e*S **S** **04 52 31.8 -4.7**
LABN pmax pmax
comp=Z,99nm,0.7s
WTFS Witchita Falls 69.99 60 IAmb IAmb 04 43 31.4
comp=Z,50nm,1.3s
SGCY Sterling City 69.99 64 IAmb IAmb 04 43 31.9
comp=Z,27nm,0.9s
SEKA Sheki 70.01 312 P **P 04 43 30.2 0.0**
U38A Gravette 70.02 56 IAmb IAmb 04 43 31.0
comp=Z,35nm,1.1s
LUBAR Lubar, Ukraine 70.04 330 P **P 04 43 29.6 -0.5**
MTN Manton Dam 70.10 210 P **P 04 43 30.7 -0.1**
MTN IAmb IAmb 04 43 32.2
comp=Z,32nm,0.8s
SADO Sadowa 70.19 41 LR LR 05 14 47.4
comp=Z,166nm,21.9s,baz=338,slow=36
ABTX Abilene, Hawle 70.25 62 IAmb IAmb 04 43 33.4
comp=Z,48nm,1.0s
ABTX Abilene, Hawle 70.25 62 P **P 04 43 32.4 +0.6**
baz=321,SNR=32
CCM Cathedral Cave 70.30 53 P **P 04 43 31.9 0.0**
CCM IAmb IAmb 04 43 33.0
comp=Z,48nm,1.1s
CCM Cathedral Cave 70.30 53 P **P 04 43 31.7 -0.2**
baz=323
CCM Cathedral Cave 70.30 53 P **P 04 43 31.9 0.0**
CCM pmax pmax
comp=Z,48nm,1.1s
BEL Belsk 70.30 335 *eP* **P 04 43 32.7 +1.0**
INVG Invergeldie, C 70.33 351 *eP* **P 04 43 31.3 -0.5**
INVG IAmb IAmb 04 43 32.4
comp=Z,8.2nm,0.7s
AAM Ann Arbor 70.35 45 P **P 04 43 32.7 +0.5**
baz=325
SFIN Lafayette 70.39 49 IAmb IAmb 04 43 32.8
comp=Z,22nm,0.8s
SFIN Lafayette 70.39 49 P **P 04 43 32.2 -0.2**
baz=324,SNR=6.2
K50A Casco 70.41 44 IAmb IAmb 04 43 34.7
comp=Z,39nm,0.9s
LOOK Love County 70.49 59 IAmb IAmb 04 43 34.8
comp=Z,38nm,1.1s
MGMO Mountain Grove 70.51 54 IAmb IAmb 04 43 33.8
comp=Z,24nm,0.8s
ONI Oni 70.52 316 P **P 04 43 33.8 +0.5**
TXAR Lajitas Array 70.57 67 P **P 04 43 34.8 +1.0**
comp=Z,29nm,0.7s,baz=300,slow=4.6,SNR=342
comp=Z,29nm,0.7s
LAWE Loch Awe, Argy 70.62 352 *eP* **P 04 43 33.7 +0.2**
LAWE IAmb IAmb 04 43 34.5
comp=Z,25nm,0.7s
BSEG Bad Segeberg 70.70 342 *eP* 04 43 35.1
comp=Z,78nm,1.1s,baz=19,slow=5.9
OZNA Ozona 70.76 64 IAmb IAmb 04 43 36.6
comp=Z,48nm,1.4s
LPIG La Paz 70.76 75 LR LR 05 10 04.1
comp=Z,71nm,21.5s,baz=292,slow=32
FW03 Perrin-Whitt E 70.77 61 IAmb IAmb 04 43 36.1
comp=Z,42nm,0.9s
GANJ Ganja 70.86 313 P **P 04 43 35.7 +0.4**
SAND Sanderson 70.95 66 IAmb IAmb 04 43 38.1
comp=Z,58nm,1.5s
Z35A Perchaven, San 70.97 60 IAmb IAmb 04 43 37.0
comp=Z,49nm,1.2s
PGBU Glenifferbraes 70.98 351 *eP* **P 04 43 36.2 +0.5**
PGBU IAmb IAmb 04 43 36.9
comp=Z,44nm,0.8s
ANN Anapa 71.12 321 *eP* **P 04 43 34.6 -2.1**
ANN *e**PP **sP** **04 43 52.4 -1.7**
ANN *e*S **S** **04 52 45.3 -4.6**
ANN pmax pmax
comp=Z,56nm,1.3s
VSLR Vesyoloye 71.22 318 *i* P **P 04 43 37.8 +0.4**
VSLR pmax pmax
comp=Z,110nm,0.7s
LVV L'vov 71.24 332 *eP* **P 04 43 37.5 +0.1**
SOC Sochi 71.24 319 *eP* **P 04 43 37.0 -0.6**
SOC *e**SP **PcP** **04 43 55.6 -1.7**
SOC *e* 04 46 13.8
SOC *e*PPP PPP 04 48 05.0
SOC *e*S **S** **04 52 53.5 +2.0**
SOC *e*SS **SS** **04 57 20.8 -4.1**
SOC pmax pmax
comp=Z,60nm,1.1s
SOC MLR MLR
comp=Z,233nm,18.0s
N49A Columbus Grove 71.25 46 IAmb IAmb 04 43 38.7
comp=Z,52nm,1.0s
LKRN Lenkeran, Azer 71.30 310 P **P 04 43 38.6 +0.6**
EKA Eskdalemuir Ar 71.32 350 P **P 04 43 38.0 +0.2**
comp=Z,11nm,0.5s,baz=18,slow=5.1,SNR=97
comp=Z,11nm,0.5s
ESK Eskdalemuir 71.34 350 P **P 04 43 37.9 0.0**
ESK IAmb IAmb 04 43 38.7
comp=Z,20nm,0.8s
ESK Eskdalemuir 71.34 350 *eP* **P 04 43 38.2 +0.3**
ESK IAmb IAmb 04 43 38.5
comp=Z,22nm,0.8s
ESK Eskdalemuir 71.34 350 P **P 04 43 37.9 0.0**
ESK pmax pmax
comp=Z,20nm,0.8s
O48B Farmland 71.36 47 P **P 04 43 37.9 -0.5**
baz=325,SNR=23
RUE Ruedersdorf 71.37 339 *eP* **P 04 43 39.3 +1.2**
RUE Ruedersdorf 71.37 339 *eP* 04 43 38.9
comp=Z,200nm,1.2s,baz=19,slow=5.9
GORT1 Trebel 71.40 341 *eP* 04 43 39.6
comp=Z,94nm,1.2s,baz=19,slow=5.9
HYB Hyderabad 71.40 274 *eP* **P 04 43 38.5 -0.4**
SORM Soroca 71.43 328 ⇓P **P 04 43 38.6 +0.1**
SORM Soroca 71.43 328 P **P 04 43 38.4 -0.2**
SORM Soroca 71.43 328 P **P 04 43 37.9 -0.7**
comp=Z,146nm,1.1s,comp=Z,9μm
WBO Williamsburg 71.48 38 IAmb IAmb 04 43 39.2
comp=Z,20nm,0.7s
FCAR Ozark Folk Cen 71.58 55 IAmb IAmb 04 43 40.4
comp=Z,50nm,0.9s
BLO Bloomington 71.62 49 IAmb IAmb 04 43 40.9
comp=Z,43nm,1.0s
BRDY Brady 71.63 62 IAmb IAmb 04 43 41.6
comp=Z,50nm,1.4s
FW13 Cleburne 71.64 61 IAmb IAmb 04 43 41.4
comp=Z,21nm,0.9s
NEWG New Galloway 71.64 351 *eP* **P 04 43 39.7 0.0**
NEWG IAmb IAmb 04 43 40.9
comp=Z,14nm,0.8s
KMPD K-Podol'skiy 71.64 330 P **P 04 43 39.4 -0.4**
CGM3 Cape Girardeau 71.66 52 IAmb IAmb 04 43 41.4
comp=Z,75nm,1.7s
MNTQ Montreal, Queb 71.66 37 IAmb IAmb 04 43 40.6
comp=Z,32nm,0.8s
KWP Kalwaria Pacla 71.78 333 *eP* **P 04 43 43.0 +2.3**
KWP Kalwaria Pacla 71.78 333 P **P 04 43 43.0 +2.3**
KWP Kalwaria Pacla 71.78 333 P **P 04 43 43.0 +2.3**
comp=Z,267nm,1.0s,comp=Z,2μm
O49A Covington 71.78 47 IAmb IAmb 04 43 41.9
comp=Z,63nm,1.1s
MEDO Medina 71.80 41 IAmb IAmb 04 43 41.8
comp=Z,24nm,0.8s
JCT Junction City 71.82 64 IAmb IAmb 04 43 42.9
comp=Z,66nm,1.4s
JCT Junction City 71.82 64 P **P 04 43 41.6 +0.3**
baz=321,SNR=15
CLGH Cloghs, Cushen 71.85 352 *eP* **P 04 43 41.4 +0.4**
CLGH IAmb IAmb 04 43 41.6
comp=Z,26nm,0.8s
NE56 Odesa 71.87 326 P **P 04 43 39.7 -1.5**
D62A Allapoint, All 71.88 33 IAmb IAmb 04 43 42.9
comp=Z,46nm,0.8s
WHTX Lake Whitney, 71.90 61 IAmb IAmb 04 43 43.2
comp=Z,59nm,1.4s
WHTX Lake Whitney, 71.90 61 P **P 04 43 42.0 +0.3**
baz=322,SNR=8.6
MIAR Mount Ida 71.91 57 IAmb IAmb 04 43 43.2
comp=Z,46nm,1.1s
MIAR Mount Ida 71.91 57 P **P 04 43 42.1 +0.3**
baz=322,SNR=30
GAL1 Galloway 71.93 351 *eP* **P 04 43 41.3 -0.2**
GNI Garni 71.96 313 P **P 04 43 43.0 +0.8**
GNI Garni 71.96 313 LR LR 05 20 15.6
comp=Z,198nm,18.3s,baz=27,slow=40
RETH Rethem/Aller, 72.02 342 *eP* 04 43 42.9
comp=Z,55nm,1.2s,baz=19,slow=5.9
OJC Ojcow 72.03 335 *eP* **P 04 43 42.8 +0.6**
OJC Ojcow 72.03 335 P **P 04 43 43.2 +1.0**
comp=Z,77nm,1.1s,comp=Z,732nm
FLTG Flechtingen 72.04 341 *eP* 04 43 42.4
comp=Z,67nm,1.1s,baz=19,slow=5.9
TREL Terrell 72.05 59 IAmb IAmb 04 43 43.8
comp=Z,34nm,0.9s
KESW Keswick, Cumbr 72.05 350 *eP* **P 04 43 42.5 +0.3**
KESW IAmb IAmb 04 43 43.4
comp=Z,56nm,0.9s
ERPA Erie 72.05 43 IAmb IAmb 04 43 43.5
comp=Z,33nm,0.8s
ERPA Erie 72.05 43 P **P 04 43 42.5 0.0**
baz=327,SNR=6.3
LONY Lake Ozonia 72.06 38 P **P 04 43 41.6 -0.9**
baz=329,SNR=9.9
NRDL Niedersach Rie 72.11 341 *eP* 04 43 43.2
comp=Z,46nm,1.1s,baz=19,slow=5.9
P49A Miami Univ. Ec 72.14 47 P **P 04 43 42.9 -0.2**
baz=325,SNR=18
DRIO Del Rio 72.19 65 IAmb IAmb 04 43 44.9
comp=Z,109nm,1.8s
Z38A Mt. Pleasant 72.20 58 IAmb IAmb 04 43 44.7
comp=Z,31nm,0.9s
SIM Simferopol' 72.23 323 *eP* **P 04 43 43.7 +0.2**
SIM pmax pmax
comp=Z,46nm,1.1s
BCA Borcka 72.24 316 ⇑P **P 04 43 43.4 -0.2**
KIS Kishinev 72.28 327 ⇑*i*P **P 04 43 43.6 -0.1**
comp=Z,80nm,1.3s
KIS *e*S **S** **04 53 02.0 -1.3**
KIS *e*L L 05 17 24.0
KIS LRM MLR 05 23 30.0
comp=Z,100nm,20.0s
KIS Kishinev 72.28 327 *c i*P **P 04 43 43.6 -0.1**
KIS *e*S **S** **04 53 02.0 -1.3**
KIS pmax pmax
comp=Z,80nm,1.3s
KSP Ksiaz 72.33 337 *eP* **P 04 43 44.5 +0.6**
M53A Wi Miller and 72.33 44 P **P 04 43 44.3 +0.2**
baz=326,SNR=14

J56A Wolcott 72.33 40 IAmb IAmb 04 43 44.4
comp=Z,41nm,0.7s
ACSO Alum Creek Sta 72.34 46 IAmb IAmb 04 43 45.4
comp=Z,56nm,0.9s
ACSO Alum Creek Sta 72.34 46 P **P 04 43 44.5 +0.3**
baz=326,SNR=14
PURM Purcari 72.34 327 P **P 04 43 44.1 0.0**
comp=Z,171nm,0.8s,comp=Z,4µm
MILM Milestii Mici 72.35 327⇑*i*P **P 04 43 43.6 -0.5**
comp=Z,130nm,0.7s
MILM *e*S **S 04 52 59.0 -5.1**
comp=Z,120nm,6.5s
MILM *e*L L 05 10 42.0
MILM LRM MLR 05 17 07.0
comp=Z,200nm,24.0s
MILM Milestii Mici 72.35 327*c i*P **P 04 43 43.6 -0.5**
MILM *e* 04 53 26.0
MILM pmax pmax
comp=Z,130nm,0.7s
MILM pmax pmax
comp=E,120nm,6.5s
MILM MLR MLR
comp=Z,300nm,16.0s
WVNY West Valley, N 72.37 42 P **P 04 43 44.3 -0.1**
WVNY IAmb IAmb 04 43 45.3
comp=Z,51nm,0.9s
MMNY Mt. Morris Dam 72.38 41 P **P 04 43 44.2 -0.2**
MMNY IAmb IAmb 04 43 45.0
comp=Z,20nm,0.7s
STHS Stebnicka Huta 72.38 333 *e*P **P 04 43 44.6 +0.3**
STHS pmax pmax
comp=Z,57nm,0.8s
STHS Stebnicka Huta 72.38 333 *e*P **P 04 43 44.6 +0.3**
NAX Nakhchivan 72.42 312 P **P 04 43 44.9 +0.1**
WCI Wyandotte Cave 72.49 49 P **P 04 43 45.4 +0.3**
WCI Wyandotte Cave 72.49 49 P **P 04 43 45.3 +0.2**
baz=325
WCI Wyandotte Cave 72.49 49 P **P 04 43 45.4 +0.3**
WCI pmax pmax
comp=Z,68nm,0.9s
HPK Haverah Park 72.50 349 *e*P **P 04 43 45.1 +0.2**
HPK IAmb IAmb 04 43 46.1
comp=Z,45nm,0.7s
IOMK Kirk Michael 72.52 351 *e*P **P 04 43 45.1 +0.1**
IOMK IAmb IAmb 04 43 45.4
comp=Z,31nm,0.8s
KOLS Kolonicke sedl 72.53 333 *e*P **P 04 43 46.0 +0.7**
KOLS pmax pmax
comp=Z,59nm,0.8s
KOLS Kolonicke sedl 72.53 333 *e*P **P 04 43 45.9 +0.7**
F62A Pittston Farm, 72.61 34 IAmb IAmb 04 43 47.3
comp=Z,48nm,1.0s
OSTC Ostas 72.61 337 *e*P **P 04 43 46.5 +0.8**
OSTC AMS AMS 05 21 50.0
comp=Z,200nm,14.9s
OSTC Ostas 72.61 337 *e*P **P 04 43 46.5 +0.8**
OSTC MLR MLR
comp=Z,200nm,14.9s
CHVC Chvalec 72.62 337 *e*P **P 04 43 46.6 +0.9**
CHVC Chvalec 72.62 337 *e*P **P 04 43 46.6 +0.9**
NIE Niedzica 72.63 334 *e*P **P 04 43 47.4 +1.6**
NIE Niedzica 72.63 334 P **P 04 43 47.5 +1.6**
NIE Niedzica 72.63 334 P **P 04 43 47.5 +1.6**
comp=Z,23nm,1.0s,comp=Z,221nm
CLL Collm 72.64 339 *i* P **P 04 43 45.9 +0.1**
comp=Z,113nm,1.1s
CLL *e*PcP **PcP 04 44 03.0 -0.1**
CLL *e*S **S 04 53 08.0 +0.8**
CLL Collm 72.64 339 *i* P **P 04 43 45.9 +0.1**
CLL *e**PP **pP 04 43 58.0 -0.3**
CLL *e*S **S 04 53 08.0 +0.8**
CLL pmax pmax
comp=Z,113nm,1.1s
CLL Collm 72.64 339 P **P 04 43 46.2 +0.4**
comp=Z,95nm,1.1s,comp=Z,742nm
CLL Collm 72.64 339 *e*P 04 43 46.1
comp=Z,95nm,1.0s,baz=19,slow=5.9
BATG Bathurst New B 72.67 31 P **P 04 43 46.5 +0.4**
BATG IAmb IAmb 04 43 47.8
comp=Z,57nm,1.1s
CLZ Clausthal 72.67 341 *e*P 04 43 47.2
comp=Z,82nm,1.0s,baz=19,slow=5.9
UPC Upice 72.70 337 *e*P **P 04 43 47.0 +0.8**
UPC AMS AMS 05 21 50.0
comp=Z,200nm,16.7s
UPC Upice 72.70 337 *e*P **P 04 43 47.0 +0.8**
UPC MLR MLR
comp=Z,200nm,16.7s
IBBN Ibbenburen 72.72 343 *e*P 04 43 47.0
comp=Z,40nm,0.6s,baz=19,slow=5.9
435B Jarrell 72.78 62 IAmb IAmb 04 43 48.8
comp=Z,75nm,1.6s
435B Jarrell 72.78 62 P **P 04 43 47.4 +0.4**
baz=322
DPC Dobruska-Polom 72.78 337 *e*P **P 04 43 47.7 +1.0**
DPC AMS AMS 05 22 00.0
comp=Z,200nm,14.0s
DPC Dobruska-Polom 72.78 337 *e*P **P 04 43 47.7 +1.0**
DPC MLR MLR
comp=Z,200nm,14.0s
DPC Dobruska-Polom 72.78 337 P **P 04 43 47.9 +1.2**
comp=Z,49nm,1.2s,comp=Z,526nm
CRVS Cervenica-Dubn 72.79 333 *e*P **P 04 43 47.5 +0.7**
CRVS pmax pmax
comp=Z,46nm,0.9s
CRVS Cervenica-Dubn 72.79 333 *e*P **P 04 43 47.5 +0.7**
OKC Ostrava-Krasne 72.81 335 AMS AMS 05 18 50.0
comp=Z,200nm,16.1s
WLAR White Oak Lake 72.83 57 IAmb IAmb 04 43 48.7
comp=Z,44nm,1.0s
BRG Berggiesshubel 72.84 338 *i* P **P 04 43 47.5 +0.4**
BRG Amp 04 43 49.3
comp=Z,44nm,1.1s
BRG Berggiesshubel 72.84 338 *i* P **P 04 43 47.4 +0.4**
BRG 04 44 03.1
BRG pmax pmax
comp=Z,44nm,1.1s
BRG Berggiesshubel 72.84 338 *e*P 04 43 47.4
comp=Z,44nm,1.1s,baz=19,slow=5.9
BURAR Bucovina Array 72.86 330 ⇑P **P 04 43 47.9 +0.6**
BURAR Bucovina Array 72.86 330 P **P 04 43 47.8 +0.5**
BURAR Bucovina Array 72.86 330 P **P 04 43 47.6 +0.3**
J58A Remsen 72.87 39 IAmb IAmb 04 43 47.9
comp=Z,30nm,0.8s
P51A Williamsport 72.92 46 IAmb IAmb 04 43 48.4
comp=Z,39nm,1.0s
KRLC Kraliky 72.92 336 *e*pP **pP 04 43 58.5 -1.6**
KRLC AMS AMS 05 22 10.0
comp=Z,200nm,14.6s
K57A Scipio Center 72.93 40 IAmb IAmb 04 43 47.6
comp=Z,25nm,0.9s
R49A Shelbyville 72.95 49 IAmb IAmb 04 43 49.4
comp=Z,72nm,1.3s
NEUB Neuenburg 72.99 340 *e*P 04 43 48.5
comp=Z,46nm,1.0s,baz=19,slow=5.9
MORC Moravsky Berou 73.01 336 ⇑P **P 04 43 49.0 +0.8**
MORC Moravsky Berou 73.01 336 IAmb IAmb 04 43 50.1
comp=Z,64nm,1.0s
MORC Moravsky Berou 73.01 336 *e*P **P 04 43 48.5 +0.4**
MORC Moravsky Berou 73.01 336 P **P 04 43 48.9 +0.8**
PVCC Panska Ves 73.02 338 *e*P **P 04 43 49.1 +1.0**
PVCC Panska Ves 73.02 338 *e*P **P 04 43 49.1 +1.0**
GTTG Gottingen 73.04 341 *e*P 04 43 49.0
comp=Z,23nm,0.9s,baz=19,slow=5.9
LBWR Ladybower, Pea 73.06 349 *e*P **P 04 43 48.4 +0.2**
LBWR IAmb IAmb 04 43 49.3
comp=Z,38nm,0.8s
F63A Nahmakanta, Br 73.07 34 IAmb IAmb 04 43 50.0
comp=Z,38nm,1.1s
J59A Piesco 73.08 38 IAmb IAmb 04 43 49.0
comp=Z,57nm,1.4s
O53A New Philadelph 73.09 45 P **P 04 43 48.8 +0.1**
baz=326,SNR=19
M55A Ridgway 73.09 42 IAmb IAmb 04 43 49.9
comp=Z,47nm,0.8s
LANS Liptovska Anna 73.10 334 *e*P **P 04 43 50.3 +1.7**
LANS pmax pmax
comp=Z,58nm,0.9s
LANS Liptovska Anna 73.10 334 *e*P **P 04 43 50.3 +1.7**
RICC Richard 73.11 338 *e*P **P 04 43 49.5 +0.9**
F64A Sherman 73.19 33 IAmb IAmb 04 43 50.4
comp=Z,44nm,0.9s
HSKC Hora Svate Kat 73.20 339 *e*P **P 04 43 50.0 +0.8**
HSKC AMS AMS 05 22 50.0
comp=Z,200nm,13.3s
P52A Corning 73.20 46 IAmb IAmb 04 43 50.0
comp=Z,44nm,0.8s
P52A Corning 73.20 46 P **P 04 43 48.9 -0.4**
baz=326,SNR=17
BIR Birlad 73.31 328 ⇑P **P 04 43 50.4 +0.6**
BIR Birlad 73.31 328 P **P 04 43 50.4 +0.6**
DRLN Deer Lake 73.31 25 IAmb IAmb 04 43 51.2
comp=Z,56nm,1.7s
MAUC Maruska 73.32 335 *e*P **P 04 43 50.9 +1.0**
MAUC *e*P **P 04 43 51.0 +1.0**
Z41A Richland Creek 73.32 57 IAmb IAmb 04 43 50.7
comp=Z,36nm,1.3s
BMR Baia Mare 73.32 331 ⇑P **P 04 43 49.5 -0.4**
BMR Baia Mare 73.32 331 P **P 04 43 49.5 -0.4**
R50A Paris 73.34 48 IAmb IAmb 04 43 51.6
comp=Z,43nm,0.9s
WME Myndd Eilian 73.35 350 *e*P **P 04 43 49.6 -0.3**
LBNH Lisbon 73.36 36 IAmb IAmb 04 43 51.8
comp=Z,28nm,0.9s
LBNH Lisbon 73.36 36 P **P 04 43 50.5 +0.3**
baz=330,SNR=7.7
PKME Peaks-Kenny Pk 73.39 34 IAmb IAmb 04 43 52.0
comp=Z,48nm,1.1s
PKME Peaks-Kenny Pk 73.39 34 P **P 04 43 50.8 +0.5**
baz=331,SNR=6.3
TESR Tescani 73.41 329 ⇓P **P 04 43 50.5 +0.1**
TESR Tescani 73.41 329 P **P 04 43 50.5 +0.1**
comp=Z,102nm,1.1s,comp=Z,938nm
KECS Kecovo 73.44 333 *e*P **P 04 43 51.6 +1.0**
KECS pmax pmax
comp=Z,30nm,0.8s
KECS Kecovo 73.44 333 *e*P **P 04 43 51.6 +1.0**
ACCN Adirondack Com 73.46 38 IAmb IAmb 04 43 51.6
comp=Z,31nm,0.8s
WLF1 Llynfaes 73.46 351 *e*P **P 04 43 50.1 -0.5**
WLF1 IAmb IAmb 04 43 52.0
comp=Z,39nm,1.3s
WVT Waverly 73.47 52 P **P 04 43 51.4 +0.5**
WVT IAmb IAmb 04 43 52.5
comp=Z,40nm,0.8s
WVT Waverly 73.47 52 P **P 04 43 51.5 +0.5**
baz=324
WVT Waverly 73.47 52 P **P 04 43 51.4 +0.5**
WVT pmax pmax
comp=Z,40nm,0.9s
PRA Prague 73.48 338 AMS AMS 05 22 30.0
comp=Z,300nm,16.7s
PRU Pruhonice 73.53 338 *e*P **P 04 43 52.1 +1.0**
PRU *ex* x 04 44 03.6
PRU AMS AMS 05 18 10.0
comp=Z,300nm,22.1s
PRU Pruhonice 73.53 338 *e*P **P 04 43 52.1 +1.0**
PRU *e* 04 44 03.6
PRU MLR MLR
comp=Z,300nm,22.1s
VLDR Vladesti 73.54 327 ⇑P **P 04 43 51.6 +0.4**
GOPC GO Pecny, Ondr 73.55 338 AMS AMS 05 18 20.0
comp=Z,400nm,22.8s
NATX Nacogdoches 73.55 59 P **P 04 43 52.3 +0.8**
baz=323
MOX Moxa 73.56 340 *e*P 04 43 52.0
comp=Z,37nm,1.1s,baz=19,slow=5.9
MOX *e*L 05 22 23.8
comp=Z,172nm,19.7s
GHRR 73.56 328 ⇑P **P 04 43 51.8 +0.4**
GHRR 73.56 328 P **P 04 43 52.2 +0.9**
BINY Binghamton 73.59 40 P **P 04 43 51.3 -0.3**
baz=328,SNR=5.4
PLN Plauen 73.59 339 *e*P 04 43 52.3
comp=Z,44nm,1.1s,baz=19,slow=5.9
TANN Tannenbergstha 73.59 339 *e*P 04 43 52.3
comp=Z,39nm,1.3s,baz=19,slow=5.9
ARCR ARCALIA 73.60 330 ⇓P **P 04 43 52.6 +1.0**
BUG Bochum–Univer 73.64 343 *e*P 04 43 52.2
comp=Z,41nm,1.1s,baz=19,slow=5.9
P53A Whipple 73.64 45 IAmb IAmb 04 43 53.0
comp=Z,47nm,1.0s
KASTN Kahler Asten 73.66 342 *e*P 04 43 52.7
comp=Z,21nm,0.7s,baz=19,slow=5.9
CTA Charters Tower 73.67 194 LR LR 05 11 05.2
comp=Z,6.5nm,21.4s,baz=8.5,slow=32
CTA Charters Tower 73.67 194 P **P 04 43 52.2 +0.1**
CTAO Charters Tower 73.67 194 P **P 04 43 52.9 +0.8**
CTAO Charters Tower 73.67 194 P **P 04 43 52.3 +0.2**
CTAO IAmb IAmb 04 43 53.3
comp=Z,37nm,0.8s
CTAO Charters Tower 73.67 194 P **P 04 43 52.3 +0.2**
CTAO pmax pmax
comp=Z,37nm,0.8s
VRAC Vranov 73.68 336 ⇑P **P 04 43 52.8 +0.8**
VRAC Vranov 73.68 336 *e*P **P 04 43 52.9 +0.8**
VRAC Vranov 73.68 336 LR LR 05 20 36.4
comp=Z,238nm,18.2s,baz=20,slow=39
VRAC Vranov 73.68 336 P **P 04 43 52.8 +0.8**
HNH Hanover 73.69 37 IAmb IAmb 04 43 53.6
comp=Z,25nm,0.9s
Q52A Bidwell 73.70 46 IAmb IAmb 04 43 53.1
comp=Z,56nm,1.0s
SCTR Scanteiesti 73.72 327 ⇑P **P 04 43 52.9 +0.7**
833A Chaparral WMA, 73.72 65 IAmb IAmb 04 43 54.7
comp=Z,31nm,1.1s
833A Chaparral WMA, 73.72 65 P **P 04 43 53.7 +1.1**
baz=322,SNR=7.2
UBBA Unterbreizbach 73.72 341 *e*P 04 43 52.8
comp=Z,34nm,1.1s,baz=19,slow=5.9
FOEL Foel Wylfa 73.73 350 *e*P **P 04 43 52.5 +0.3**
FOEL IAmb IAmb 04 43 53.4
comp=Z,24nm,0.8s
PANC Panciu 73.81 328 ⇓P **P 04 43 53.1 +0.3**
JAVC Velka Javorina 73.83 335 *e*P **P 04 43 54.7 +1.8**
VYHS Vyhne 73.87 334 *e*P **P 04 43 54.1 +1.0**
VYHS pmax pmax
comp=Z,45nm,1.0s
VYHS Vyhne 73.87 334 *e*P **P 04 43 54.1 +1.0**
NEGRR Negrea 73.88 327 ⇑P **P 04 43 53.8 +0.6**
TLCR 73.88 327 ⇑P **P 04 43 53.6 +0.4**
TLCR 73.88 327 P **P 04 43 53.5 +0.4**
I62A Tamworth 73.89 36 IAmb IAmb 04 43 55.0
comp=Z,86nm,1.7s
J61A Chester 73.91 37 IAmb IAmb 04 43 54.7
comp=Z,27nm,0.9s
SCHL Schela 73.92 327 ⇑P **P 04 43 54.6 +1.2**
ODBI Odobesti 73.94 328 ⇑P **P 04 43 53.4 -0.1**
ODBI Odobesti 73.94 328 P **P 04 43 54.8 +1.2**
comp=Z,71nm,1.0s
SCHLR Schela 73.95 327 ⇓P **P 04 43 54.8 +1.2**
VRI Vrincioaia 73.96 328 ⇑P **P 04 43 54.2 +0.5**
VRI Vrincioaia 73.96 328 P **P 04 43 54.1 +0.5**
VRI Vrincioaia 73.96 328 P **P 04 43 54.0 +0.3**
comp=Z,25nm,1.1s,comp=Z,343nm
KRUC Moravsky 73.96 336 *e*P **P 04 43 54.5 +0.9**
TREC Trest 73.96 337 AMS AMS 05 22 50.0
comp=Z,200nm,14.1s
L59A Walton 73.96 40 IAmb IAmb 04 43 54.0
comp=Z,30nm,0.8s
PLOR3 Plostina Array 73.99 328 P **P 04 43 54.2 +0.3**
comp=Z,20nm,1.0s
PLOR Plostina 73.99 328 ⇑P **P 04 43 54.2 +0.3**
PLOR Plostina 73.99 328 P **P 04 43 54.2 +0.3**
PLOR5 Plostina Array 73.99 328 P **P 04 43 54.4 +0.5**
comp=Z,27nm,0.8s
OXF Oxford 74.01 54 P **P 04 43 54.3 +0.2**
baz=324,SNR=19
G65A Princeton 74.03 33 IAmb IAmb 04 43 55.7
comp=Z,54nm,0.9s
OZUR 74.05 329 ⇑P **P 04 43 55.0 +0.8**
HLM1 Long Mynd 74.06 349 *e*P **P 04 43 54.2 0.0**
HLM1 IAmb IAmb 04 43 54.8
comp=Z,16nm,0.8s
MANZ Manzenberg 74.08 339 *e*P 04 43 55.0
comp=Z,7.7nm,1.2s,baz=19,slow=5.9
CFR Carcaliu 74.11 327 ⇑P **P 04 43 54.8 +0.3**
CFR Carcaliu 74.11 327 P **P 04 43 54.5 0.0**
PSZ Piszkesteto 74.11 334 ⇑P **P 04 43 55.2 +0.5**
PSZ Piszkesteto 74.11 334 IAmb IAmb 04 43 56.9
comp=Z,54nm,1.0s
PSZ Piszkesteto 74.11 334 P **P 04 43 55.1 +0.5**
U49A Red Boiling Sp 74.12 50 IAmb IAmb 04 43 56.2
comp=Z,52nm,1.1s
ZVC Zvikov 74.13 338 *e*P **P 04 43 55.7 +1.1**
ZVC AMS AMS 05 22 40.0
comp=Z,300nm,16.1s
COVR Voineasa-Covas 74.14 329 ⇓P **P 04 43 55.8 +1.1**
T50A Nancy 74.14 49 IAmb IAmb 04 43 56.3
comp=Z,50nm,1.1s
SSPA Standing Stone 74.15 42 P **P 04 43 54.8 -0.1**
SSPA IAmb IAmb 04 43 56.0
comp=Z,80nm,1.2s
SSPA Standing Stone 74.15 42 P **P 04 43 54.8 -0.1**
baz=328
MCWV Mont Chateau 74.16 44 P **P 04 43 55.4 +0.4**
baz=327,SNR=17
CJR Cluj-Napoca 74.16 331 ⇑P **P 04 43 56.0 +1.0**
CJR Cluj-Napoca 74.16 331 P **P 04 43 55.9 +1.0**
S51A Beattyville 74.20 48 IAmb IAmb 04 43 56.4
comp=Z,66nm,1.4s
SMOL Smolenice 74.21 335 *e*P **P 04 43 57.1 +2.0**
JURR Jurilovca 74.22 326 ⇓P **P 04 43 55.3 +0.1**
BISRR Bisoca 74.24 328 ⇓P **P 04 43 56.2 +0.8**
BISRR Bisoca 74.24 328 P **P 04 43 56.2 +0.8**
comp=Z,147nm,1.0s,comp=Z,3µm
ROTZ Rotzenmuhle 74.26 339 *e*P 04 43 56.3
comp=Z,10nm,1.1s,baz=19,slow=5.9
PLAL Pickwick Lake 74.28 53 IAmb IAmb 04 43 56.9
comp=Z,54nm,1.0s
DOPR Dopca 74.29 329 ⇓P **P 04 43 55.8 +0.2**
TPGR Topolog 74.30 327 ⇑P **P 04 43 55.9 +0.2**
MARR Marisel-Cluj 74.33 331 ⇑P **P 04 43 56.4 +0.4**
LMN Caledonia Moun 74.34 31 IAmb IAmb 04 43 57.2
comp=Z,39nm,0.9s
DRGR 74.35 331 ⇑P **P 04 43 56.5 +0.4**
DRGR 74.35 331 P **P 04 43 56.4 +0.4**
HKT Hockley 74.36 61 P **P 04 43 56.8 +0.6**
HKT Hockley 74.36 61 P **P 04 43 56.8 +0.6**
HKT pmax pmax
comp=Z,36nm,1.5s
MODS Modra-Piesok 74.38 335 *e*P **P 04 43 57.6 +1.5**
MODS pmax pmax
comp=Z,113nm,1.1s
MODS Modra-Piesok 74.38 335 *e*P **P 04 43 57.6 +1.5**
N58A Sunbury 74.45 41 IAmb IAmb 04 43 57.5
comp=Z,45nm,1.0s
GURO Guroymak-BITLI 74.47 314 IAmb IAmb 04 43 59.5
comp=Z,30nm,0.9s
143A Socs Landing, 74.47 56 IAmb IAmb 04 43 58.8
comp=Z,64nm,1.1s
EMMW East Machias 74.50 33 IAmb IAmb 04 43 58.3
comp=Z,54nm,0.9s
MLR Muntele Rosu 74.54 329 ⇓P **P 04 43 58.4 +1.1**
MLR Muntele Rosu 74.54 329 IAmb IAmb 04 43 59.6
comp=Z,48nm,0.9s
MLR Muntele Rosu 74.54 329 LR LR 05 21 09.3
comp=Z,282nm,19.7s,baz=36,slow=39
MLR Muntele Rosu 74.54 329 P **P 04 43 57.7 +0.5**
MLR Muntele Rosu 74.54 329 P **P 04 43 58.3 +1.1**
comp=Z,70nm,1.0s,comp=Z,798nm
AHRW Bad Neuenahr-A 74.54 343 *e*P 04 43 57.8
comp=Z,18nm,0.7s,baz=19,slow=5.9
GRF Grafenberg Arr 74.54 340 *e*P 04 43 58.2
comp=Z,162nm,1.5s,baz=19,slow=5.9
GRF *e*L 05 21 28.9
comp=Z,119nm,21.3s
GRFO Grafenberg 74.54 340 P **P 04 43 57.6 +0.6**
GRFO Grafenberg 74.54 340 P **P 04 43 57.6 +0.6**
GRFO pmax pmax
comp=Z,145nm,1.4s
KHC Kasperske Hory 74.56 338 IAmb IAmb 04 44 00.1
comp=Z,56nm,1.1s
KHC Kasperske Hory 74.56 338 *e*P **P 04 43 58.3 +1.1**
KHC *e*PCP **PcP 04 44 10.3 -1.1**
KHC AMS AMS 05 23 10.0
comp=Z,300nm,15.5s
KHC Kasperske Hory 74.56 338*ce*P **P 04 43 58.2 +1.1**
KHC pmax pmax
comp=Z,137nm,1.3s
KHC Kasperske Hory 74.56 338 P **P 04 43 58.0 +0.9**
comp=Z,48nm,1.1s,comp=Z,472nm
ZST Bratislava 74.59 335 *e*P **P 04 43 59.1 +1.8**
ZST pmax pmax
comp=Z,147nm,1.2s
ZST Bratislava 74.59 335 *e*P **P 04 43 59.1 +1.8**
MCH1 Michaelchurch 74.59 349 *e*P **P 04 43 57.2 0.0**
MCH1 IAmb IAmb 04 43 57.8
comp=Z,15nm,0.9s
TNS Taunus Mts 74.59 342 *e*P 04 43 58.1
comp=Z,21nm,0.7s,baz=19,slow=5.9
HARR Harsova 74.61 327 ⇑P **P 04 43 57.4 0.0**
HARR Harsova 74.61 327 P **P 04 43 57.4 0.0**
K62A Royalston 74.61 37 IAmb IAmb 04 43 58.9
comp=Z,48nm,1.4s
SRO Srobarova 74.63 335 *e*P **P 04 43 59.2 +1.7**
SRO pmax pmax
comp=Z,58nm,1.0s
SRO Srobarova 74.63 335 *e*P **P 04 43 59.2 +1.7**
DIKM Dikmen 74.63 321 ⇓P **P 04 43 58.3 +0.6**
DIKM Dikmen 74.63 321 P **P 04 43 58.4 +0.8**
comp=Z,73nm,1.3s,comp=Z,716nm
L61B Northampton 74.64 38 P **P 04 43 57.3 -0.4**
baz=330
MEM Membach 74.66 343 *d*P **P 04 43 58.4 +0.7**
comp=Z,64nm,1.0s
BTNL Ternell 74.66 343 *d*P **P 04 43 58.4 +0.7**
comp=Z,46nm,0.6s
CKRC Cesky Krumlov 74.68 338 *e*P **P 04 43 58.5 +0.7**
CKRC AMS AMS 05 18 30.0
comp=Z,300nm,23.1s
CKRC Cesky Krumlov 74.68 338 *e*P **P 04 43 58.5 +0.7**
CKRC MLR MLR
comp=Z,300nm,23.1s
ISR Istrita 74.68 328 ⇓P **P 04 43 59.1 +1.1**
ISR Istrita 74.68 328 P **P 04 43 59.0 +1.1**
ISR Istrita 74.68 328 P **P 04 43 58.7 +0.8**
comp=Z,113nm,1.1s,comp=Z,1µm
WET Wettzell 74.70 339 *e*P 04 43 59.1
comp=Z,65nm,1.3s,baz=19,slow=5.9
MONM Monmouth 74.72 349 *e*P **P 04 43 58.1 +0.1**
MONM IAmb IAmb 04 43 58.7
comp=Z,23nm,0.8s
BSTI Sart Tilman 74.76 344 *d*P **P 04 43 59.1 +0.9**
DZM Mont Dzumac 74.80 174 *e*LR LR 05 06 53.5
comp=Z,238nm,22.9s
DZM Mont Dzumac 74.80 174 IAmb IAmb 04 44 01.9
comp=Z,76nm,1.2s
DZM Mont Dzumac 74.80 174 LR LR 05 10 00.9
comp=Z,130nm,21.4s,baz=38,slow=30
GEC2 GERESS Array S 74.80 338 P **P 04 43 59.5 +0.9**
GEC2 IAmb IAmb 04 44 01.0
comp=Z,27nm,1.0s
GERES GERESS Array B 74.80 338 P **P 04 43 58.9 +0.3**
GERES GERESS Array B 74.80 338 P **P 04 43 59.3 +0.7**
comp=Z,13nm,0.8s,baz=96,slow=4.0,SNR=33
GERES LR LR 05 20 40.4
comp=Z,194nm,21.5s,baz=36,slow=39
comp=Z,13nm,0.8s
GERES GERESS Array B 74.80 338 P **P 04 43 58.9 +0.3**
GEC2 GERESS Array S 74.80 338 *e*P 04 43 59.2
comp=Z,26nm,1.0s,baz=19,slow=5.9
RSBS Rosebush, Pemb 74.82 351 *e*P **P 04 43 58.4 -0.2**
RSBS IAmb IAmb 04 43 59.5
comp=Z,14nm,1.1s
BZK Bozkurt 74.84 322 P **P 04 43 59.4 +0.6**
comp=Z,40nm,1.2s
VOIR 74.87 329 ⇑P **P 04 43 59.9 +0.9**
VOIR 74.87 329 P **P 04 43 59.9 +0.9**
VOIR 74.87 329 P **P 04 44 00.3 +1.2**
comp=Z,57nm,1.1s,comp=Z,561nm
MFTR Murfatlar 74.90 326 ⇑P **P 04 43 59.4 +0.3**
BHOU Houvegnez 74.91 343 *d*P **P 04 43 60.0 +0.8**
comp=Z,25nm,0.7s
Q56A Snyder Ridge, 74.95 44 IAmb IAmb 04 44 00.4
comp=Z,25nm,0.8s
KSCT Kent School, K 74.96 39 IAmb IAmb 04 44 14.0
comp=Z,54nm,0.9s
BCLA Clavier 74.97 344 *d*P **P 04 43 59.8 +0.3**
HRV Adam Dziewonsk 75.00 37 P **P 04 44 00.5 +0.7**
HRV IAmb IAmb 04 44 01.3
comp=Z,46nm,1.1s
HRV Adam Dziewonsk 75.00 37 P **P 04 44 00.1 +0.3**
baz=331
HRV Adam Dziewonsk 75.00 37 P **P 04 44 00.5 +0.7**
HRV pmax pmax
comp=Z,46nm,1.1s
BGES Gesves 75.03 344 *d*P **P 04 44 00.3 +0.5**
comp=Z,16nm,0.8s
WOL Wolverton 75.05 348 *e*P **P 04 44 00.2 +0.3**
ARR Arges 75.06 329 ⇑P **P 04 44 01.5 +1.3**
P57A Homestead Farm 75.07 43 IAmb IAmb 04 44 01.4
comp=Z,36nm,1.1s
ODNJ Ogdensburg 75.08 40 IAmb IAmb 04 44 00.7
comp=Z,58nm,1.6s
S54A Dingess, Beckl 75.08 46 IAmb IAmb 04 44 01.1
comp=Z,20nm,0.8s

441A **DeRidder** 75.12 59 IAmb IAmb 04 44 03.1
comp=Z,72nm,1.1s
TZTN **Tazewell** 75.12 48 IAmb IAmb 04 44 02.1
comp=Z,44nm,1.1s
TZTN **Tazewell** 75.12 48 P **P** **04 44 01.0 +0.4**
baz=326,SNR=17
SIRR **Siria** 75.13 332 ⇑P **P** **04 44 01.3 +0.8**
CONA **Conrad Observa** 75.14 336 *i* P **P** **04 44 01.7 +1.1**
comp=Z,49nm,1.2s,SNR=33
ICOR **Ion Corvin** 75.16 327 ⇑P **P** **04 44 01.5 +0.8**
SULR 75.17 328 ⇑P **P** **04 44 01.1 +0.5**
BMRD **Maredsous** 75.17 344 *dP* **P** **04 44 01.1 +0.6**
comp=Z,29nm,0.8s
TRNY **Table Rock, Ra** 75.17 40 IAmb IAmb 04 44 01.5
comp=Z,32nm,1.1s
LUPA **Lehigh Univers** 75.19 41 IAmb IAmb 04 44 01.8
comp=Z,52nm,1.1s
R55A **Marlinton** 75.19 45 IAmb IAmb 04 44 02.5
comp=Z,48nm,0.9s
SOP **Sopron** 75.20 336 P **P** **04 44 02.4 +1.6**
X48A **Hartselle** 75.20 52 IAmb IAmb 04 44 02.0
comp=Z,53nm,1.4s
RCHB **Rochefort** 75.23 344 *dP* **P** **04 44 01.3 +0.4**
RONA **Rosalia, Austr** 75.25 336 *i* P **P** **04 44 02.8 +1.6**
comp=Z,39nm,1.0s,SNR=14
QIS **Mount Isa** 75.30 200 P **P** **04 44 01.6 0.0**
VBMS **Vicksburg** 75.31 56 IAmb IAmb 04 44 03.6
comp=Z,52nm,0.9s
VBMS **Vicksburg** 75.31 56 P **P** **04 44 02.3 +0.7**
baz=324
MVL **Millersville** 75.31 42 IAmb IAmb 04 44 02.6
comp=Z,30nm,0.8s
GIVF **Givet** 75.35 344 *eP* **P** **04 44 01.2 -0.5**
GIVF pmax pmax
comp=Z,16nm,0.8s
UCCT **U. Connecticut** 75.37 38 IAmb IAmb 04 44 03.2
comp=Z,33nm,0.9s
DOU **Dourbes** 75.40 344 *dP* **P** **04 44 02.4 +0.5**
PAL **Palisades** 75.42 39 IAmb IAmb 04 44 03.0
comp=Z,37nm,0.8s
PAL **Palisades** 75.42 39 P **P** **04 44 02.0 -0.2**
baz=330,SNR=5.4
MPLH **Magyarpolny** 75.42 335 P **P** **04 44 03.7 +1.6**
comp=Z,301nm,1.1s,comp=Z,3μm
BRNJ **Basking Ridge** 75.44 40 IAmb IAmb 04 44 03.2
comp=Z,38nm,0.8s
SURR **Surduc** 75.46 331 ⇓P **P** **04 44 03.0 +0.7**
BAIF **Baives** 75.50 344 *eP* **P** **04 44 02.2 -0.3**
BAIF pmax pmax
comp=Z,19nm,0.6s
WLF **Walferdange** 75.55 343 IAmb IAmb 04 44 16.7
comp=Z,45nm,1.5s
WLF **Walferdange** 75.55 343 *dP* **P** **04 44 03.5 +0.7**
WLF **Walferdange** 75.55 343 *eP* 04 44 03.7
comp=Z,49nm,1.5s,baz=19,slow=5.9
CPCT **Cooper Cave** 75.58 50 IAmb IAmb 04 44 04.3
comp=Z,57nm,1.1s
ARPR **Arapgir-MALATY** 75.58 317 IAmb IAmb 04 44 05.4
comp=Z,59nm,0.9s
CPNY **Central Park** 75.58 40 IAmb IAmb 04 44 04.1
comp=Z,45nm,0.7s
GZR **Gura Zlata** 75.60 331 ⇑P **P** **04 44 03.6 +0.4**
GZR **Gura Zlata** 75.60 331 P **P** **04 44 03.9 +0.7**
MOA **Molln** 75.60 337 *i* P **P** **04 44 04.1 +0.9**
comp=Z,26nm,1.1s,SNR=12
SDMD **Soldier's Deli** 75.62 42 IAmb IAmb 04 44 04.4
comp=Z,22nm,0.8s
BZS **Buzias** 75.74 331 ⇑P **P** **04 44 04.3 +0.4**
BZS **Buzias** 75.74 331 P **P** **04 44 04.3 +0.4**
GBN **Guysborough** 75.74 29 IAmb IAmb 04 44 06.1
comp=Z,84nm,1.6s
TKL **Tuckaleechee C** 75.75 49 LR LR 05 20 22.9
comp=Z,322nm,19.0s,baz=330,slow=38
WB0 **Warramunga Arr** 75.76 205 P **P** **04 44 04.1 -0.1**
WB0 IAmb IAmb 04 44 05.5
comp=Z,80nm,1.2s
M63A **Gales Ferry** 75.78 38 IAmb IAmb 04 44 05.1
comp=Z,55nm,1.0s
HAL **Halifax** 75.81 31 IAmb IAmb 04 44 05.7
comp=Z,32nm,1.0s
STU **Stuttgart** 75.83 341 IAmb IAmb 04 44 07.0
comp=Z,53nm,1.3s
STU **Stuttgart** 75.83 341 P **P** **04 44 06.2 +1.8**
STU pmax pmax
comp=Z,75nm,1.3s
STU **Stuttgart** 75.83 341 *eP* 04 44 05.1
comp=Z,75nm,1.1s,baz=19,slow=5.9
ARSA **Arzberg** 75.86 336 *i* P **P** **04 44 06.0 +1.3**
comp=Z,40nm,1.0s,SNR=19
BIOA **Bad Ischl, Aus** 75.89 338 *i* P **P** **04 44 06.0 +1.1**
comp=Z,32nm,1.4s,SNR=8.3
WR0 **Warramunga Arr** 75.90 205 IAmb IAmb 04 44 06.3
comp=Z,43nm,1.2s
U54A **Nelsons Funny** 75.92 47 IAmb IAmb 04 44 06.6
comp=Z,44nm,0.8s
WRAB **Tennant Creek** 75.93 205 P **P** **04 44 05.2 0.0**
WRAB IAmb IAmb 04 44 07.2
comp=Z,43nm,1.1s
WRAB **Tennant Creek** 75.93 205 P **P** **04 44 05.2 0.0**
WRAB pmax pmax
comp=Z,43nm,1.1s
WB2 **Warramunga Arr** 75.94 205 IAmb IAmb 04 44 06.6
comp=Z,70nm,1.3s
WRA **Warramunga Arr** 75.94 205 P **P** **04 44 04.9 -0.3**
WRA **Warramunga Arr** 75.94 205 P **P** **04 44 05.4 +0.2**
comp=Z,28nm,0.9s,baz=20,slow=6.1,SNR=78
comp=Z,28nm,0.9s
BLA **Blacksburg** 75.96 46 IAmb IAmb 04 44 06.7
comp=Z,36nm,0.9s
BLA **Blacksburg** 75.96 46 P **P** **04 44 05.6 +0.2**
baz=327,SNR=13
FUR **Furstenfeldbru** 75.98 339 *eP* 04 44 06.2
comp=Z,34nm,0.9s,baz=19,slow=5.9
Y49A **Blount Mountai** 75.99 52 IAmb IAmb 04 44 06.6
comp=Z,53nm,1.2s
MORH **Mrgy, Hungar** 76.02 334 ⇑P **P** **04 44 05.7 +0.2**
MORH **Mrgy, Hungar** 76.02 334 P **P** **04 44 05.5 0.0**
comp=Z,20nm,1.2s
RJOB **Jochberg** 76.05 338 *eP* 04 44 06.9
comp=Z,18nm,1.0s,baz=19,slow=5.9
S57A **Dark Hollow, R** 76.13 45 IAmb IAmb 04 44 08.0
comp=Z,48nm,1.1s
X51A **Calhoun** 76.15 51 IAmb IAmb 04 44 07.8
comp=Z,42nm,0.9s
HERR **Herculane** 76.17 331 ⇓P **P** **04 44 06.3 -0.1**
V53A **Saluda** 76.18 48 IAmb IAmb 04 44 08.1
comp=Z,85nm,1.6s
SBD **Saint Breward** 76.18 350 *eP* **P** **04 44 06.3 -0.1**
DYA **Yadsworthy** 76.23 350 *eP* **P** **04 44 06.7 0.0**
ZAIG **Zacatecas** 76.28 71 P **P** **04 44 08.1 +0.4**
LESA **Schwarzleotal** 76.37 338 *i* P **P** **04 44 08.7 +1.1**
comp=Z,15nm,0.8s
LRAL **Lakeview Retre** 76.38 53 P **P** **04 44 07.5 -0.3**
baz=325,SNR=16
CBN **Corbin Frederi** 76.42 43 P **P** **04 44 08.2 +0.2**
baz=328,SNR=5.4
BFO **Black Forest** 76.42 341 P **P** **04 44 08.1 +0.3**
BFO IAmb IAmb 04 44 09.7
comp=Z,46nm,1.4s
BFO **Black Forest** 76.42 341 P **P** **04 44 08.1 +0.3**
BFO pmax pmax
comp=Z,46nm,1.4s
BFO **Black Forest** 76.42 341 *eP* 04 44 08.4
comp=Z,16nm,0.7s,baz=19,slow=5.9
MDVR **Moldovita** 76.47 331 ⇑P **P** **04 44 07.9 -0.3**
346A **Big Creek Wild** 76.50 56 IAmb IAmb 04 44 10.7
comp=Z,52nm,0.8s
SOKA **Soboth** 76.51 336 *i* P **P** **04 44 09.4 +0.9**
comp=Z,72nm,1.2s,SNR=25
PERS **Pernice** 76.53 336 *i* P **P** **04 44 09.4 +0.9**
KBA **Koelnbreinsper** 76.54 338 *i* P **P** **04 44 10.2 +1.5**
comp=Z,125nm,0.9s,SNR=62
KBA **Koelnbreinsper** 76.54 338 P **P** **04 44 10.3 +1.5**
GROS **Grobnik** 76.60 336 *i* P **P** **04 44 09.6 +0.7**
T57A **Hurt** 76.64 45 IAmb IAmb 04 44 10.3
comp=Z,24nm,0.8s
FRGS **Fruska Gora** 76.67 332 ⇓P **P** **04 44 10.1 +0.8**
FRGS **Fruska Gora** 76.67 332 ⇑*i* P **P** **04 44 09.3 0.0**
FRGS **Fruska Gora** 76.67 332 P **P** **04 44 09.9 +0.6**
comp=Z,97nm,1.1s,comp=Z,831nm
UBR **Ueberruh** 76.68 340 *eP* 04 44 10.2
comp=Z,26nm,0.8s,baz=19,slow=5.9
WATA **Walderalm** 76.70 339 *eP* **P** **04 44 10.7 +1.2**
comp=Z,68nm,1.5s,SNR=16
U56A **King** 76.70 46 P **P** **04 44 10.3 +0.8**
U56A IAmb IAmb 04 44 10.9
comp=Z,90nm,1.4s

RETA **Reutte** 76.73 339 *i* P **P** **04 44 10.7 +1.0**
comp=Z,16nm,0.8s,SNR=8.7
WTTA **Wattenberg** 76.75 339 *i* P **P** **04 44 11.3 +1.4**
comp=Z,61nm,1.4s,SNR=19
ECH **Echery** 76.76 342 IAmb IAmb 04 44 11.4
comp=Z,76nm,1.5s
ECH **Echery** 76.76 342 P **P** **04 44 10.4 +0.7**
OBKA **Obir** 76.79 337 *i* P **P** **04 44 11.3 +1.3**
comp=Z,57nm,0.9s,SNR=16
OBKA **Obir** 76.79 337 *eP* **P** **04 44 10.8 +0.8**
SQTA **Sankt Quirin** 76.89 339 *i* P **P** **04 44 11.8 +1.3**
comp=Z,77nm,1.6s,SNR=20
BR106 **Keskin Array S** 76.91 321 P **P** **04 44 11.4 +0.5**
comp=Z,24nm,1.0s,comp=Z,209nm
BR131 **Keskin Array S** 76.91 321 P **P** **04 44 10.9 0.0**
BR131 IAmb IAmb 04 44 12.2
comp=Z,38nm,1.1s
BR131 **Keskin Array S** 76.91 321 P **P** **04 44 10.9 0.0**
BR131 pmax pmax
comp=Z,38nm,1.1s
BRTR **Keskin Array B** 76.91 321 P **P** **04 44 11.0 +0.1**
BRTR **Keskin Array B** 76.91 321 P **P** **04 44 11.3 +0.4**
comp=Z,19nm,0.9s,baz=55,slow=3.4,SNR=72
BRTR LR LR 05 24 17.8
comp=Z,131nm,18.0s,baz=43,slow=41
comp=Z,19nm,0.9s
BRTR **Keskin Array B** 76.91 321 P **P** **04 44 11.0 +0.1**
BR104 **Keskin Array S** 76.93 321 P **P** **04 44 11.3 +0.3**
comp=Z,27nm,1.1s,comp=Z,237nm
BR105 **Keskin Array S** 76.93 321 P **P** **04 44 11.3 +0.3**
comp=Z,28nm,1.1s,comp=Z,247nm
GOLS **Golise** 76.99 336 *eP* **P** **04 44 11.7 +0.6**
ABTA **Abfaltersbach** 77.04 338 *i* P **P** **04 44 12.4 +0.9**
comp=Z,73nm,1.2s,SNR=25
PRED **Cave del Predi** 77.09 337 IAmb IAmb 04 44 13.8
comp=Z,29nm,0.8s
Y52A **Lilburn** 77.10 50 IAmb IAmb 04 44 13.3
comp=Z,63nm,1.2s
DAVA **Damuels** 77.11 340 *i* P **P** **04 44 12.7 +0.8**
comp=Z,39nm,1.3s,SNR=11
HAU **Haudompre** 77.11 342 *eP* **P** **04 44 11.4 -0.3**
HAU pmax pmax
comp=Z,19nm,0.6s
ANTO **Ankara** 77.11 321 P **P** **04 44 12.3 +0.4**
ANTO IAmb IAmb 04 44 13.7
comp=Z,54nm,1.1s
ANTO **Ankara** 77.11 321 P **P** **04 44 12.3 +0.4**
ANTO pmax pmax
comp=Z,55nm,1.1s
LEGS **Legarje** 77.12 336 *i* P **P** **04 44 12.2 +0.4**
FETA **Feichten** 77.18 339 *i* P **P** **04 44 13.4 +1.1**
comp=Z,36nm,1.1s,SNR=17
JLP **Les Platons** 77.20 348 *eP* **P** **04 44 12.4 +0.3**
HINF **Hinteralfeld** 77.20 342 *eP* **P** **04 44 11.6 -0.6**
HINF pmax pmax
comp=Z,10.0nm,0.6s
JSA **Saint Aubin** 77.26 348 *eP* **P** **04 44 12.7 +0.3**
JSA IAmb IAmb 04 44 13.1
comp=Z,35nm,0.7s
KMSC **Kings Mountain** 77.28 48 IAmb IAmb 04 44 13.8
comp=Z,31nm,0.8s
KMSC **Kings Mountain** 77.28 48 P **P** **04 44 12.7 -0.2**
baz=327,SNR=16
TEKS **Tekeris** 77.31 332 ⇑*i* P **P** **04 44 11.9 -1.0**
T59A **Double "B" Far** 77.39 44 IAmb IAmb 04 44 15.0
comp=Z,33nm,0.9s
BOJS **Bojanci** 77.56 336 ⇑*i* P **P** **04 44 14.3 +0.1**
LDF **La Druitiere** 77.58 347 *eP* **P** **04 44 13.9 -0.4**
LDF pmax pmax
comp=Z,24nm,1.2s
DAVOX **Davos/Dischmat** 77.59 340 LR LR 05 23 56.1
comp=Z,176nm,19.3s,baz=24,slow=40
HODGE **Hodges** 77.62 49 IAmb IAmb 04 44 16.1
comp=Z,37nm,0.9s
FUORN **Ofenpass-Fuorn** 77.66 339 IAmb IAmb 04 44 20.5
comp=Z,18nm,0.7s
GAZ **Gaziantep** 77.68 317 IAmb IAmb 04 44 17.1
comp=Z,54nm,1.0s
SHME **Shamm** 77.69 297 *i* P **P** **04 44 14.5 -0.8**
SNR=8.0
V58A **Windy Hill, Pi** 77.72 46 IAmb IAmb 04 44 16.7
comp=Z,50nm,0.8s
GOGA **Godfrey** 77.75 50 P **P** **04 44 15.4 -0.1**
baz=326,SNR=6.4
BLY **Banja Luka** 77.76 334 ⇑*i* P **P** **04 44 15.1 -0.3**
152A **Waverly Hall** 77.77 52 IAmb IAmb 04 44 16.6
comp=Z,51nm,1.2s
CLF **Chambon-Foret** 77.78 345 IAmb IAmb 04 44 27.9
comp=Z,49nm,1.2s
W57A **Gilead** 77.87 47 IAmb IAmb 04 44 17.2
comp=Z,32nm,0.8s
GRR **Gorron** 77.88 347 *eP* **P** **04 44 15.5 -0.4**
GRR pmax pmax
comp=Z,34nm,0.8s
CTI **Castel Tesino** 77.90 338 IAmb IAmb 04 44 31.8
comp=Z,52nm,1.3s
BBLS **Lazi&#263i** 77.97 332 ⇑*i* P **P** **04 44 16.9 +0.2**
TUE **Stuetta** 77.99 340 P **P** **04 44 18.1 +1.2**
comp=Z,265nm,0.8s,comp=Z,3μm
PALK **Pallekele** 78.00 266 LR LR 05 23 04.9
comp=Z,99nm,19.7s,baz=139,slow=39
JSC **Jenkinsville** 78.04 48 IAmb IAmb 04 44 18.1
comp=Z,28nm,0.9s
BIRD **Birdtown, Kers** 78.09 47 IAmb IAmb 04 44 18.4
comp=Z,33nm,0.8s
A050A **Klekovaca** 78.18 334 ⇑*i* P **P** **04 44 15.4 -2.4**
RUDO **Rudo** 78.21 332 *eP* **P** **04 44 17.3 -0.6**
MSFE **Esma-Masafi** 78.23 296 P **P** **04 44 17.6 -0.7**
LOR **Lormes** 78.26 344 *eP* **P** **04 44 17.7 -0.4**
LOR pmax pmax
comp=Z,23nm,0.8s
EIDS **Eidsvold** 78.31 189 P **P** **04 44 19.4 +1.0**
EIDS **Eidsvold** 78.31 189 P **P** **04 44 19.8 +1.4**
EIDS IAmb IAmb 04 44 20.0
comp=Z,20nm,0.7s
SJES **Sjenica** 78.36 332 ⇑*i* P **P** **04 44 19.3 +0.4**
SSF **Saint Saulge** 78.52 344 *eP* **P** **04 44 19.2 -0.3**
SSF pmax pmax
comp=Z,16nm,0.8s
UOSS **Minazif** 78.54 296 P **P** **04 44 19.5 -0.5**
UOSS IAmb IAmb 04 44 19.6
comp=Z,23nm,0.7s
UOSS **Minazif** 78.54 296 P **P** **04 44 19.4 -0.6**
WSAR **Wadi Sarin** 78.55 293 LR LR 05 22 59.6
comp=Z,171nm,19.6s,baz=78,slow=39
RDO **Rodhopi** 78.56 327 IAmb IAmb 04 44 22.1
comp=Z,40nm,1.0s
ALN **Alexandroupoli** 78.62 326 IAmb IAmb 04 44 21.5
comp=Z,50nm,1.2s
QUIF **Quistinic** 78.63 349 *eP* **P** **04 44 19.7 -0.4**
QUIF pmax pmax
comp=Z,28nm,1.0s
Y57A **Sumter** 78.65 48 IAmb IAmb 04 44 21.4
comp=Z,23nm,0.6s
HATD **Hatta, Dubai** 78.67 296 *i* P **P** **04 44 20.2 -0.6**
SNR=6.7
CNNC **Cliffs of the** 78.72 45 P **P** **04 44 21.2 +0.4**
baz=329
UPM **Unac-Piva** 78.72 332 ⇑*i* P **P** **04 44 21.1 +0.1**
NAZ **Nazwa, Dubai** 78.80 297 *i* P **P** **04 44 21.1 -0.3**
SNR=7.0
AVF **Avril sur Loir** 78.81 344 *eP* **P** **04 44 20.9 -0.2**
AVF pmax pmax
comp=Z,27nm,0.8s
SOHO **SOHO** 79.00 295 *i* P **P** **04 44 22.1 -0.5**
SNR=8.7
BRY **Bratogost** 79.11 332 ⇑*i* P **P** **04 44 22.1 -0.9**
ASUD **Al Ashush, Dub** 79.27 297 P **P** **04 44 22.2 -1.8**
TIGA **Tifton** 79.33 51 P **P** **04 44 24.9 +0.7**
baz=327,SNR=13
PDG **Podgorica** 79.34 332 ⇑P **P** **04 44 24.0 -0.1**
PDG **Podgorica** 79.34 332 IAmb IAmb 04 44 25.6
comp=Z,58nm,1.1s
PDG **Podgorica** 79.34 332 ⇑*i* P **P** **04 44 23.9 -0.2**
STON **Ston** 79.36 333 ⇑*i* P **P** **04 44 22.5 -1.7**
LPL **La Plagne** 79.43 341 *eP* **P** **04 44 25.5 +0.7**
LPL pmax pmax
comp=Z,41nm,0.6s
LPG **La Plagne** 79.45 341 *eP* **P** **04 44 25.8 +0.8**
LPG pmax pmax
comp=Z,48nm,0.6s
EZN **Ezine** 79.48 326 P **P** **04 44 24.7 -0.2**
ALNE **Al Ain** 79.49 296 *i* P **P** **04 44 25.4 +0.2**
SNR=6.7
NHSC **New Hope** 79.51 48 P **P** **04 44 25.5 +0.3**
baz=328,SNR=5.5

HCY **Herceg Novi** 79.54 332 ⇑*i* P **P** **04 44 23.6 -1.6**
DRME **Dracevica, Mon** 79.58 332 ⇑*i* P **P** **04 44 25.1 -0.3**
AS01 **Alice Springs** 79.60 205 P **P** **04 44 26.0 +0.4**
comp=Z,28nm,0.9s
AS31 **Alice Springs** 79.61 205 P **P** **04 44 26.2 +0.5**
ASAR **Alice Springs** 79.61 205 P **P** **04 44 26.5 +0.8**
comp=Z,16nm,0.7s,baz=15,slow=5.5,SNR=240
ASAR LR LR 05 15 36.1
comp=Z,58nm,21.8s,baz=15,slow=33
comp=Z,16nm,0.7s
ZCCA **Zocca** 79.66 338 IAmb IAmb 04 45 00.2
comp=Z,62nm,1.1s
BNI **Bardonecchia** 79.89 341 IAmb IAmb 04 44 49.4
comp=Z,43nm,1.1s
BNI **Bardonecchia** 79.89 341 P **P** **04 44 28.7 +1.5**
BNI pmax pmax
comp=Z,153nm,0.8s
MSSA **Maissana** 80.01 339 IAmb IAmb 04 44 51.1
comp=Z,32nm,1.0s
SSB **Saint Sauveur** 80.07 343 IAmb IAmb 04 44 29.7
comp=Z,20nm,0.6s
TIR **Tirane** 80.16 331 ⇑P **P** **04 44 29.3 +0.8**
TIR **Tirane** 80.16 331 IAmb IAmb 04 44 43.8
comp=Z,45nm,0.7s
TIR **Tirane** 80.16 331 P **P** **04 44 29.3 +0.8**
TIR **Tirane** 80.16 331 P **P** **04 44 29.0 +0.5**
ORIF **Oris-en-Rattie** 80.17 342 *eP* **P** **04 44 29.4 +0.7**
ORIF pmax pmax
comp=Z,36nm,0.8s
CAMP **Campotosto** 80.80 336 IAmb IAmb 04 44 37.0
comp=Z,37nm,0.9s
CAF **Calviac** 80.83 345 *eP* **P** **04 44 32.7 +0.5**
CAF pmax pmax
comp=Z,20nm,0.8s
SBF **Sospel** 80.88 341 *eP* **P** **04 44 33.7 +1.2**
SBF pmax pmax
comp=Z,33nm,0.8s
CESX **Cesi** 80.93 337 IAmb IAmb 04 44 47.6
comp=Z,90nm,1.9s
VLO **Vlora** 81.07 331 IAmb IAmb 04 44 47.5
comp=Z,44nm,0.7s
CSS **Mathiatis** 81.17 318 P **P** **04 44 33.8 -0.3**
CSS IAmb IAmb 04 44 35.2
comp=Z,96nm,1.5s
MZR **Muzera** 81.57 297 *i* P **P** **04 44 35.9 -0.5**
SNR=19
PGF **Pioggiola** 81.81 339 *eP* **P** **04 44 37.6 +0.1**
PGF pmax pmax
comp=Z,31nm,0.9s
MMAI **Mount Meron Ar** 82.00 316 P **P** **04 44 39.1 +0.5**
comp=Z,8.3nm,0.5s,baz=39,slow=6.8,SNR=21
MMAI LR LR 05 26 53.0
comp=Z,137nm,18.4s,baz=333,slow=40
comp=Z,8.3nm,0.5s
PPT **Papeete** 82.36 132 LR LR 05 14 05.6
comp=Z,107nm,21.2s,baz=324,slow=30
PPT2 **Papeete2** 82.38 132 *e*LR LR 05 10 28.7
comp=Z,232nm,27.0s
PPT2 *e*LR LR 05 10 34.1
comp=Z,289nm,24.0s
WRKA **Warakurna** 82.45 209 P **P** **04 44 41.3 +0.6**
CUC **Castrocucco** 82.56 333 P **P** **04 44 40.7 -0.7**
EPF **Esparros** 82.95 345 *eP* **P** **04 44 43.6 +0.2**
EPF pmax pmax
comp=Z,16nm,1.0s
TIP **Timpagrande** 83.06 332 ⇑P **P** **04 44 44.8 +0.8**
TIP **Timpagrande** 83.06 332 IAmb IAmb 04 45 08.7
comp=Z,27nm,1.1s
SJPF **Ste Jean** 83.10 347 *eP* **P** **04 44 45.0 +0.9**
SJPF pmax pmax
comp=Z,22nm,1.0s
DWPF **Disney Wildern** 83.13 52 P **P** **04 44 45.2 +0.8**
baz=328
OOD **Oodnadatta** 83.15 202 P **P** **04 44 44.7 +0.5**
comp=Z,38nm,1.6s
ETSF **Etsaut** 83.21 346 *eP* **P** **04 44 46.1 +1.4**
ETSF pmax pmax
comp=Z,13nm,0.6s
CEST **Esterri de Car** 83.23 345 IAmb IAmb 04 45 02.5
comp=Z,48nm,0.9s
ARMA **Armidale** 83.27 188 P **P** **04 44 46.0 +1.1**
ARMA **Armidale** 83.27 188 IAmb IAmb 04 44 46.9
comp=Z,19nm,0.9s
GHAJ **Ghor Haditha** 83.41 315 IAmb IAmb 04 44 57.5
comp=Z,16nm,0.8s
IDI **Anoyia** 84.06 325 IAmb IAmb 04 45 03.3
comp=Z,13nm,0.6s
IDI **Anoyia** 84.06 325 LR LR 05 27 18.1
comp=Z,106nm,19.2s,baz=21,slow=39
CMSA **Cobar Meteorol** 85.01 193 P **P** **04 44 53.9 +0.3**
PGAV **Gavieira, Arco** 85.05 352 *eP* **P** **04 44 55.0 +0.9**
comp=Z,47nm,1.8s
PGAV *ep*P **pP** **04 45 05.6 -1.2**
PBRG **Braganca** 85.06 350 *eP* **P** **04 44 54.4 +0.3**
comp=Z,36nm,1.6s
PBRG *ep*P **pP** **04 45 05.8 -1.0**
EIL **Elat** 85.08 315 LR LR 05 28 08.4
comp=Z,176nm,20.6s,baz=66,slow=39
LCRK **Leigh Creek** 85.18 199 P **P** **04 44 55.6 +1.1**
PCAB **Cabril** 85.28 351 *eP* **P** **04 44 56.6 +1.4**
comp=Z,32nm,1.3s
PCAB *ep*P **pP** **04 45 06.8 -1.1**
RAYN **Ar Rayn** 85.33 303 P **P** **04 44 55.3 -0.5**
RAYN **Ar Rayn** 85.33 303 *i* P **P** **04 44 55.4 -0.3**
SNR=21
RAYN **Ar Rayn** 85.33 303 P **P** **04 44 55.3 -0.5**
RAYN pmax pmax
comp=Z,31nm,0.7s
POLO **Lamas de Olo** 85.59 351 *eP* **P** **04 44 56.7 -0.1**
comp=Z,18nm,1.2s
POLO *ep*P **pP** **04 45 08.6 -1.0**
PVRL **Vila Real** 85.68 351 *eP* **P** **04 44 58.6 +1.4**
comp=Z,56nm,1.4s
PVRL *ep*P **pP** **04 45 08.8 -1.1**
MULG **Mulgathing** 85.92 203 P **P** **04 44 59.5 +1.4**
STKA **Stephens Creek** 85.95 196 P **P** **04 44 59.1 +0.8**
STKA **Stephens Creek** 85.95 196 P **P** **04 44 58.9 +0.5**
comp=Z,17nm,0.8s,baz=351,slow=7.4,SNR=19
comp=Z,17nm,0.8s
TEIG **Tepich** 86.22 61 LR LR 05 24 54.7
comp=Z,74nm,21.8s,baz=12,slow=36
PVIS **Viseu** 86.25 351 *eP* **P** **04 45 01.0 +0.9**
PVIS *ep*P **pP** **04 45 11.9 -0.9**
MTE **Manteigas** 86.53 351 IAmb IAmb 04 45 03.6
comp=Z,14nm,0.7s
MTE **Manteigas** 86.53 351 *eP* **P** **04 45 01.9 +0.5**
comp=Z,25nm,1.1s
COI **Coimbra** 86.80 351 IAmb IAmb 04 45 04.6
comp=Z,20nm,0.8s
COI **Coimbra** 86.80 351 *eP* **P** **04 45 03.8 +1.1**
comp=Z,32nm,1.1s
ESBB **Sonseca Array** 86.85 348 IAmb IAmb 04 45 16.4
comp=Z,18nm,0.9s
ESDC **Sonseca Array** 86.85 348 P **P** **04 45 03.1 +0.1**
ESDC IAmb IAmb 04 45 16.4
comp=Z,18nm,0.9s
ESDC **Sonseca Array** 86.85 348 P **P** **04 45 03.3 +0.3**
comp=Z,13nm,0.9s,baz=1.4,slow=4.9,SNR=75
comp=Z,13nm,0.9s
PCAS **Casmilo, Conde** 86.96 351 *eP* **P** **04 45 03.5 0.0**
comp=Z,33nm,1.8s
PCAS *ep*P **pP** **04 45 14.1 -2.1**
PAB **San Pablo** 87.02 348 P **P** **04 45 03.9 0.0**
PAB **San Pablo** 87.02 348 P **P** **04 45 03.9 0.0**
PAB pmax pmax
comp=Z,16nm,1.0s
PCBR **Castelo Branco** 87.08 351 *eP* **P** **04 45 04.5 +0.5**
comp=Z,20nm,1.4s
PCBR *ep*P **pP** **04 45 15.9 -0.9**
MEEK **Meekatharra** 87.12 217 P **P** **04 45 04.0 -0.2**
PMRV **Marv??o** 87.48 351 *eP* **P** **04 45 07.4 +1.4**
comp=Z,16nm,2.1s
TBI **Tubual** 87.50 135 *e*LR LR 05 12 57.1
comp=Z,1μm,24.2s
PSBE **So Bento** 87.53 352 *eP* **P** **04 45 06.8 +0.6**
comp=Z,42nm,1.9s
PSBE *ep*P **pP** **04 45 18.8 -0.2**
PMTG **Montargil** 87.91 351 *eP* **P** **04 45 08.3 +0.2**
comp=Z,20nm,1.4s
PMTG *ep*P **pP** **04 45 19.8 -1.0**
FORT **Forrest** 87.93 207 P **P** **04 45 08.8 +0.9**
HTT **Hallett** 87.94 198 P **P** **04 45 08.8 +0.8**
comp=Z,22nm,1.1s
PESTR **Estremoz** 88.05 351 *eP* **P** **04 45 09.7 +0.9**
comp=Z,21nm,1.8s
PESTR *ep*P **pP** **04 45 20.7 -0.8**

KEST	**Kesra**	**88.24 337**	P	**P**	**04 45 09.6**	**-0.1**
KEST			IAmb	IAmb	04 45 22.4	
comp=Z,24nm,0.9s						
KEST	**Kesra**	**88.24 337**	P	**P**	**04 45 09.8**	**+0.1**
comp=Z,8.9nm,0.6s,baz=12,slow=0.7,SNR=15						
KEST			LR	LR	05 30 03.8	
comp=Z,177nm,19.4s,baz=336,slow=39						
comp=Z,8.9nm,0.6s						
EVO	**Evora**	**88.43 351**	*e*P	**P**	**04 45 11.8**	**+1.3**
comp=Z,16nm,1.3s						
OUZ	**Omahuta**	**88.46 169**	P	**P**	**04 45 11.0**	**+0.7**
PBAR	**Barrancos**	**88.68 350**	*e*P	**P**	**04 45 13.0**	**+1.3**
comp=Z,15nm,2.8s						
PBAR			*e*pP	**pP**	**04 45 22.5**	**-2.0**
PBEJ	**Beja**	**88.91 351**	*e*P	**P**	**04 45 13.6**	**+0.8**
comp=Z,22nm,1.6s						
PBEJ			*e*pP	**pP**	**04 45 23.3**	**-2.3**
KLBR	**Kellerberrin**	**91.93 215**	P	**P**	**04 45 26.5**	**-0.1**
RTZ	**Ruatahuna**	**92.23 167**	IAmb	IAmb	04 45 28.4	
comp=Z,16nm,0.9s						
NWAO	**Narrogin (SRO)**	**93.33 215**	LR	LR	05 33 06.7	
comp=Z,24nm,18.0s,baz=30,slow=39						
MDT	**Midelt**	**93.69 347**	LR	LR	05 31 42.8	
comp=Z,54nm,20.6s,baz=16,slow=38						
JTS	**Las Juntas de**	**96.20 64**	LR	LR	05 31 38.1	
comp=Z,59nm,22.0s,baz=312,slow=37						
ATD	**Arta Tunnel**	**96.70 299**	LR	LR	05 34 36.1	
comp=Z,13nm,19.0s,baz=212,slow=39						
TORD	**Torodi Ar. Bea**	**111.75 338**	Pdiff	**Pdif**	**04 46 54.3**	**-1.8**
comp=Z,0.6nm,1.1s,baz=15,slow=5.4,SNR=2.0						
TORD			PKiKP	**PKiKP**	**04 50 53.1**	**-0.2**
comp=Z,1.7nm,0.6s,baz=16,slow=2.3,SNR=18						
TORD			PP	PP	04 51 26.9	-8.0
comp=Z,1.8nm,0.6s,baz=14,slow=9.4,SNR=8.8						
TORD			PKKPbc	**PKKPbc**	**05 01 45.8**	**+1.5**
comp=Z,1.1nm,0.7s,baz=161,slow=2.7,SNR=5.9						
DBIC	**Dimbokro**	**119.39 343**	PKP	**PKPdf**	**04 51 07.8**	**-0.1**
comp=Z,9.1nm,0.7s,baz=32,slow=1.9,SNR=10						
LPAZ	**La Paz**	**127.41 65**	PKP	**PKPdf**	**04 51 23.9**	**-0.1**
comp=Z,2.5nm,0.8s,baz=13,slow=6.1,SNR=12						
LPAZ	**La Paz**	**127.41 65**	*e*P	**PKPdf**	**04 51 23.9**	**-0.1**
VNDA	**Vanda**	**130.11 180**	PKP	**PKPdf**	**04 51 26.4**	**-0.1**
comp=Z,0.9nm,0.6s,baz=341,slow=3.6,SNR=7.7						
SBA	**Scott Base**	**130.50 178**	PKPdf	**PKiKP**	**04 51 28.8**	**+0.7**
SBA	**Scott Base**	**130.50 178**	PKiKP	**PKiKP**	**04 51 28.8**	**+0.7**
PTLB	**Pontes e Lacer**	**131.43 55**	PKPdf	**PKPdf**	**04 51 31.1**	**+0.2**
LBTB	**Lobatse**	**136.21 291**	PKPdf	**PKPdf**	**04 51 40.0**	**+0.3**
LBTB	**Lobatse**	**136.21 291**	PKiKP	**PKPdf**	**04 51 40.0**	**+0.3**
BDFB	**Brasilia**	**136.64 42**	PKP	**PKPdf**	**04 51 40.2**	**-0.6**
comp=Z,2.1nm,0.8s,baz=160,slow=2.8,SNR=4.5						
MT16	**CCHEN**	**139.10 82**	PKPdf	**PKPdf**	**04 51 45.9**	**+1.1**
BOSA	**Boshof**	**139.17 288**	PKhKP	PKPpre	04 51 35.0	
comp=Z,1.9nm,0.7s,baz=18,slow=3.6,SNR=5.9						
MAW	**Mawson**	**139.89 216**	PKhKP	PKPpre	04 51 35.6	
comp=Z,1.9nm,0.8s,baz=88,slow=7.3,SNR=2.3						
CPUP	**Villa Florida**	**141.38 62**	PKhKP	PKPpre	04 51 42.3	
comp=Z,3.1nm,0.9s,baz=330,slow=3.9,SNR=5.9						
QSPA	**South Pole Qui**	**142.60 180**	PKhKP	PKPpre	04 51 44.5	
comp=Z,16nm,0.7s,baz=309,slow=1.3,SNR=79						
SPB	**Sao Paulo**	**143.95 47**		**PKPdf**	**04 51 52.7**	**-1.0**
SPB	**Sao Paulo**	**143.95 47**	*e*P	**PKPdf**	**04 51 54.6**	**+1.0**
SUR	**Sutherland**	**144.52 289**	PKPdf	**PKPdf**	**04 51 54.6**	**-0.1**
COYC	**Coyhaique**	**145.64 99**	PKPdf	**PKPbc**	**04 51 56.6**	**+0.3**
TRQA	**Tornquist**	**147.34 80**	PKPdf	**PKPdf**	**04 52 00.2**	**+1.2**
TRQA	**Tornquist**	**147.34 80**	PKP2	**PKPdf**	**04 52 00.2**	**+1.2**
MG05	**Puerto Natales**	**148.22 109**		**PKPdf**	**04 51 59.9**	**0.0**
MG05			PKPbc	**PKiKP**	**04 52 04.7**	**-0.3**
SMAI	**San Martin Ant**	**152.97 143**		**PKPdf**	**04 52 07.3**	**+0.4**
SMAI			PKPbc	**PKiKP**	**04 52 15.1**	**+0.7**
ELIB	**Princess Elisa**	**153.36 208**	*d*PKP	**PKPbc**	**04 52 14.5**	**-0.7**
ELIB			*dp*PKP	**PKPab**	**04 52 27.6**	**+0.1**
NVL	**N'lazarevskaya**	**157.17 206**	*e*PKP2	**PKPab**	**04 52 42.3**	**-1.3**
NVL			pmax	pmax		
comp=Z,11nm,1.0s						
SNAA	**Sanae**	**159.72 195**		**PKPab**	**04 52 54.4**	**-0.4**
SNAA	**Sanae**	**159.72 195**	⇑PKPab	**PKPab**	**04 52 53.3**	**-1.4**
comp=Z,136nm,0.7s						
SNAA	**Sanae**	**159.72 195**	PKP	**PKPdf**	**04 52 14.1**	**-1.6**
comp=Z,1.2nm,1.0s,baz=80,slow=6.8,SNR=2.6						
SNAA			PKPab	**PKPab**	**04 52 53.9**	**-0.8**
comp=Z,6.1nm,0.7s,baz=170,slow=3.0,SNR=12						
VNA3	**Neumayer Olymp**	**161.02 190**	⇑PKPab	**PKPab**	**04 52 59.2**	**-1.2**
comp=Z,13nm,0.8s						
VNA2	**Neumayer--Watz**	**161.05 192**	⇑PKPab	**PKPab**	**04 52 59.6**	**-0.9**
comp=Z,8.7nm,0.6s,baz=157,slow=3.4						
VNA1	**Neumayer--Stat**	**161.41 192**	⇑PKPab	**PKPab**	**04 53 01.1**	**-1.0**
comp=Z,7.4nm,0.9s						

GUC 06 04:37:05.2±0.6, 37°.90S×74°.13W, h22km±3km, ML3.6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI04	**Isla Mocha**	**0.54**	**160**	*e*P	Pb	04 37 15.4	-0.7
BI04				*e*S	Sb	04 37 22.3	-1.2
BI04				IAML		04 37 23.8	
comp=N,16μm,0.3s							
LR04	**Corral**	**2.05**	**165**	*e*P	Pn	04 37 37.5	-0.8
LR04				*e*S	Sn	04 37 56.5	-6.6
LR04				IAML		04 38 01.6	
comp=E,617nm,0.2s							
LR03	**Panguipulli**	**2.22**	**142**	*e*P	Pn	04 37 41.4	+0.7
LR03				IAML		04 38 23.1	
comp=N,682nm,0.6s							
BI02	**San Fabin de**	**2.59**	**62**	*e*P	Pn	04 37 46.6	+0.8
GO06	**Curarrehue**	**2.67**	**130**	*e*P	Pn	04 37 47.7	+0.7
LR05	**Currie**	**2.85**	**145**	*e*P	Pn	04 37 50.5	+1.1
LR05				IAML		04 38 39.6	
comp=E,193nm,0.4s							
ML02	**Panimavida**	**3.05**	**46**	*e*P	Pn	04 37 53.9	+1.9
ML02				*i*S	Sn	04 38 27.8	0.0
ML02				IAML		04 38 46.9	
comp=E,119nm,0.6s							
GO05	**Huala**	**3.39**	**32**	*e*P	Pn	04 37 58.4	+1.7
LL05	**Los Muermos**	**3.53**	**172**	*e*P	Pn	04 37 58.6	-0.1
BO02	**Sierra Bellavi**	**4.11**	**42**	*e*P	Pn	04 38 08.4	+1.6
BO02				*i*S	Sn	04 38 55.5	+1.2
BO01	**Tunca**	**4.28**	**36**	*e*P	Pn	04 38 10.4	+1.4
BO01				*i*S	Sn	04 39 00.8	+2.5

IDC 06 04:49:41.4±7.2, 29°.62N×103°.07E, h0km, mb3.6/3, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=134.7km s-min=36.2km az=11.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**18.37**	**7**	P	P	04 53 57.9	0.0
0.4nm,0.3s,baz=190,slow=7.3,SNR=2.2							
0.6nm,0.5s							
KSRS	**Korea Array**	**22.10**	**63**	P	P	04 54 37.9	-0.4
2.0nm,0.7s,baz=253,slow=11,SNR=4.8							
2.0nm,0.7s							
MKAR	**Makanchi Array**	**23.56**	**322**	P	P	04 54 53.6	+0.1
0.8nm,0.7s,baz=121,slow=12,SNR=7.6							
0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**27.70**	**337**	P	P	04 55 30.8	-0.3
0.5nm,0.4s,baz=139,slow=8.9,SNR=1.9							
0.5nm,0.4s							

AUST 06 04:50:57.8±0.4, 23°S±3°×117°E±°, h10km, mb4.2/2, Mjma4.4/8, ML3.0/10, MLv3.6/6, Error ellipse: s-maj=9.2km s-min=3.7km az=121.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRL	**Giralia**	**2.71**	**275**	P	Pn	04 51 40.3	-1.2
PSAD3	**Pilbara Seismi**	**2.73**	**63**	P	Pn	04 51 41.6	-0.2
PSAC1	**Pilbara Seismi**	**2.81**	**61**	P	Pn	04 51 43.1	+0.3
PSAC1				S	Sn	04 52 17.2	+0.4
PSA00	**Pilbara Seismi**	**2.82**	**62**	P	Pn	04 51 43.6	+0.6
PSA00				S	Sn	04 52 16.4	-0.6
PSAD1	**Pilbara Seismi**	**2.86**	**60**	P	Pn	04 51 44.1	+0.6
PSAD1				S	Sn	04 52 19.2	+1.1
PSAD2	**Pilbara Seismi**	**2.90**	**64**	P	Pn	04 51 44.9	+0.9
MBWA	**Marble Bar**	**2.95**	**54**	P	Pn	04 51 44.9	+0.2
MEEK	**Meekatharra**	**3.94**	**161**	P	Pn	04 51 59.6	+1.2
MEEK	**Meekatharra**	**3.94**	**161**	S	Sn	04 52 45.9	+1.1
MORW	**Morawa**	**6.22**	**189**	P	Pn	04 52 30.5	+0.9
MORW	**Morawa**	**6.22**	**189**	S	Sn	04 53 41.9	+1.0
BLDU	**Ballidu**	**7.69**	**183**	P	Pn	04 52 51.4	+1.5
BLDU	**Ballidu**	**7.69**	**183**	S	Sn	04 54 16.6	-0.4
KLBR	**Kellerberrin**	**8.67**	**177**	P	Pn	04 53 02.4	-0.8
comp=Z,21nm,1.3s,comp=Z,417nmcomp=Z,0.1nm							
KLBR	**Kellerberrin**	**8.67**	**177**	S	Sn	04 54 39.3	-1.8
KMBL	**Kambalda**	**9.41**	**155**	P	Pn	04 53 13.8	+0.2
comp=Z,25nm,2.2s,comp=Z,3μmcomp=Z,0.2nm							
WRKA	**Warakurna**	**10.40**	**104**	P	Pn	04 53 23.7	-3.4
FORT	**Forrest**	**12.49**	**131**	P	Pn	04 53 53.7	-1.9
OOD	**Oodnadatta**	**17.43**	**110**	P	Pn	04 54 55.3	-5.9

*IDC **06** 04:51:30.4±4.6, 7°.30S×128°.55E, h118km±41km, mb4.0/11, mbtmp4.3/13, Error ellipse: s-maj=47.0km s-min=12.2km az=70.0*
*DJA **06** 04:51:33.8±0.3, 7°S±3°×12°9E±°, h10km, M5.0/11, mb4.7/5, mB5.8/4, MLv5.0/11, Mw(mB)5.3/4*
*NEIC **06** 04:51:34.4±1.8, 7°.33S±0°.08×128°.65E±0°.07, h154km±6km, mb4.5/44, Error ellipse: s-maj=11.6km s-min=10.4km az=154.0*

ISC 06 04:51:33.9±0.4, 7°.42S±0°.05×128°.59E±0°.05, h151km, n113, σ1§65/116, mb4.4/34, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.75**	**102**	P	**Pn**	**04 52 21.2**	**+3.0**
SAUI	**Saumlaki**	**2.75**	**102**	Pn	**Pn**	**04 52 18.9**	**+0.7**
SAUI	**Saumlaki**	**2.75**	**102**	P	**Pn**	**04 52 16.7**	**-1.5**
SAUI				S	**Sn**	**04 52 55.5**	**+3.2**
SOEI	**Soe**	**4.86**	**241**	P	**Pn**	**04 52 47.3**	**+1.6**
SOEI	**Soe**	**4.86**	**241**	Pn	**Pn**	**04 52 46.8**	**+1.2**
SOEI	**Soe**	**4.86**	**241**	P	**Pn**	**04 52 46.7**	**+1.0**
SOEI				S	**Sn**	**04 53 43.2**	**+1.6**
DRS	**Darwin Rock St**	**5.47**	**156**	P	**Pn**	**04 52 56.0**	**+2.3**
BATI	**Baumata**	**5.60**	**240**	P	**Pn**	**04 52 55.7**	**+0.3**
BATI				S	**Sn**	**04 53 58.4**	**-0.6**
FAKI	**Fak Fak**	**5.77**	**39**	P	**Pn**	**04 52 57.0**	**-0.7**
FAKI	**Fak Fak**	**5.77**	**39**	Pn	**Pn**	**04 52 56.4**	**-1.2**
FAKI	**Fak Fak**	**5.77**	**39**	P	**Pn**	**04 52 55.2**	**-2.5**
SANI	**Sanana**	**5.93**	**334**	P	**Pn**	**04 53 00.6**	**+0.8**
18nm,0.8s							
MTN	**Manton Dam**	**5.94**	**155**	P	**Pn**	**04 53 00.9**	**+1.0**
MTN	**Manton Dam**	**5.94**	**155**	Pn	**Pn**	**04 53 00.0**	**+0.1**
KMPI	**Kaimana, Papua**	**6.32**	**54**	P	Pn	04 53 09.7	+4.8
MMRI	**Maumere**	**6.40**	**259**	P	**Pn**	**04 53 08.6**	**+2.5**
MMRI	**Maumere**	**6.40**	**259**	Pn	**Pn**	**04 53 06.6**	**+0.5**
MMRI	**Maumere**	**6.40**	**259**	P	**Pn**	**04 53 07.1**	**+1.0**
110nm,0.6s,0.5nm							
KDU	**Kakadu**	**6.48**	**144**	P	**Pn**	**04 53 07.1**	**0.0**
SWI	**Sorong**	**7.04**	**22**	P	Pn	04 53 20.4	+5.8
KNRA	**Kununurra**	**8.21**	**179**	Pn	**Pn**	**04 53 29.4**	**-0.7**
BASI	**Baing, Sumba**	**8.39**	**250**	P	**Pn**	**04 53 31.4**	**-1.2**
BKSI	**Bulukumba**	**8.67**	**283**	P	**Pn**	**04 53 38.6**	**+2.3**
PLAI	**Plampang**	**10.79**	**262**	P	**Pn**	**04 54 03.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**10.99**	**195**	Pn	**Pn**	**04 54 04.3**	**-2.7**
WB0	**Warramunga Arr**	**13.50**	**156**	Pn	**Pn**	**04 54 37.7**	**-1.9**
WRAB	**Tennant Creek**	**13.64**	**156**	P	**Pn**	**04 54 42.5**	**+1.2**
WRA	**Warramunga Arr**	**13.64**	**156**	Pn	**Pn**	**04 54 40.6**	**-0.8**
WRA	**Warramunga Arr**	**13.64**	**156**	P	**Pn**	**04 54 39.4**	**-2.0**
0.6nm,0.3s,baz=340,slow=10,SNR=42							
WRA				S	**Sn**	**04 57 05.2**	**-7.3**
2.9nm,0.3s,baz=318,slow=27,SNR=5.0							
WB2	**Warramunga Arr**	**13.64**	**156**	Pn	**Pn**	**04 54 40.0**	**-1.4**
WR0	**Warramunga Arr**	**13.74**	**156**		**Pn**	**04 54 40.7**	**-1.8**
MTKI	**Muara Teweh, K**	**15.09**	**295**	P	P	04 55 11.6	+10
COEN	**Coen**	**15.73**	**116**	P	**P**	**04 55 09.8**	**+1.5**
COEN	**Coen**	**15.73**	**116**		**Pn**	**04 55 07.7**	**+0.2**
COEN				IAmb	IAmb	04 55 13.2	
comp=Z,27nm,1.4s							
MBWA	**Marble Bar**	**16.12**	**211**		**Pn**	**04 55 12.7**	**+0.6**
PSA00	**Pilbara Seismi**	**16.41**	**210**	P	**P**	**04 55 16.2**	**+0.5**
PSA00				IAmb	IAmb	04 55 18.4	
comp=Z,28nm,1.1s							
PSA00	**Pilbara Seismi**	**16.41**	**210**	P	**P**	**04 55 16.4**	**+0.7**
PSA00				IAmb	IAmb	04 55 39.0	
comp=Z,12nm,1.4s							
QIS	**Mount Isa**	**16.86**	**142**	P	**Pn**	**04 55 22.5**	**+1.3**
AS31	**Alice Springs**	**16.94**	**163**		**Pn**	**04 55 23.0**	**+0.8**
ASAR	**Alice Springs**	**16.94**	**163**		**Pn**	**04 55 23.4**	**+1.3**
ASAR	**Alice Springs**	**16.94**	**163**	P	**Pn**	**04 55 23.6**	**+1.5**
comp=Z,5.6nm,0.5s,baz=340,slow=9.9,SNR=126							
ASAR				S	**S**	**04 58 23.6**	**-6.9**
comp=Z,1.6nm,0.7s,baz=344,slow=24,SNR=3.3							
AS01	**Alice Springs**	**16.95**	**163**	P	**Pn**	**04 55 24.1**	**+1.8**
WRKA	**Warakurna**	**17.52**	**181**	P	**Pn**	**04 55 30.4**	**+1.3**
OOD	**Oodnadatta**	**21.35**	**162**	P	**P**	**04 56 10.9**	**+1.6**
XMIS	**Christmas Isla**	**22.86**	**261**	P	**P**	**04 56 24.4**	**-0.1**
FORT	**Forrest**	**23.24**	**181**	P	**P**	**04 56 30.9**	**+3.1**
FORT	**Forrest**	**23.24**	**181**	P	**P**	**04 56 28.4**	**+0.5**
FORT				IAmb	IAmb	04 56 59.5	
comp=Z,27nm,0.9s							
MULG	**Mulgathing**	**23.32**	**168**	P	**P**	**04 56 30.3**	**+1.8**
QLP	**Quilpie**	**24.18**	**144**	P	**P**	**04 56 39.8**	**+3.4**
MORW	**Morawa**	**24.57**	**207**	P	**P**	**04 56 42.5**	**+2.6**
MORW				IAmb	IAmb	04 57 17.2	
comp=Z,27nm,1.4s							
LCRK	**Leigh Creek**	**24.62**	**160**	P	**P**	**04 56 41.9**	**+1.5**
BBOO	**Buckleboo**	**26.20**	**166**	P	**P**	**04 56 55.9**	**+1.3**
BBOO	**Buckleboo**	**26.20**	**166**	P	**P**	**04 56 55.6**	**+0.9**
PTPS	**Port Pirie**	**27.07**	**162**	P	**P**	**04 57 04.1**	**+1.7**
STKA	**Stephens Creek**	**27.19**	**155**	P	**P**	**04 57 04.3**	**+0.8**
STKA	**Stephens Creek**	**27.19**	**155**	P	**P**	**04 57 04.5**	**+0.9**
STKA	**Stephens Creek**	**27.19**	**155**	P	**P**	**04 57 04.4**	**+0.9**
comp=Z,4.1nm,0.5s,baz=333,slow=9.2,SNR=11							
comp=Z,4.1nm,0.5s							
HTT	**Hallett**	**27.59**	**161**	P	**P**	**04 57 08.9**	**+1.7**
CMSA	**Cobar Meteorol**	**28.82**	**149**	P	**P**	**04 57 19.4**	**+1.4**
ARMA	**Armidale**	**31.46**	**140**	P	**P**	**04 57 41.4**	**0.0**
LZH	**Lanzhou**	**49.13**	**333**	*e*P	**P**	**05 00 07.4**	**+0.8**
LZH				pmax	pmax		
comp=Z,18nm,1.3s							
WHZ	**Wether Hill Ro**	**51.14**	**145**	P	**P**	**05 00 21.9**	**+0.5**
USRK	**Ussuriysk Ar.**	**51.47**	**3**	P	**P**	**05 00 21.9**	**-1.8**
comp=Z,1.5nm,0.5s,baz=190,slow=7.3,SNR=6.0							
comp=Z,1.5nm,0.5s							
GTA	**Gaotai**	**53.68**	**332**	*e*P	**P**	**05 00 40.7**	**+0.4**
GTA				pmax	pmax		
comp=Z,9.0nm,1.0s							
SONM	**Songino Array**	**58.41**	**343**	P	**P**	**05 01 13.3**	**-0.5**
comp=Z,3.3nm,0.9s,baz=164,slow=8.5,SNR=8.7							
comp=Z,3.3nm,0.9s							
CASY	**Casey**	**60.08**	**188**	P	**P**	**05 01 25.8**	**+1.1**
CASY				IAmb	IAmb	05 01 39.5	
comp=Z,7.0nm,1.2s							
MK31	**Makanchi Array**	**67.82**	**328**		**P**	**05 02 15.8**	**+0.1**
MKAR	**Makanchi Array**	**67.82**	**328**	P	**P**	**05 02 15.2**	**-0.5**
MKAR	**Makanchi Array**	**67.82**	**328**	P	**P**	**05 02 15.6**	**-0.1**
comp=Z,2.3nm,0.4s,baz=114,slow=8.0,SNR=46							
comp=Z,2.3nm,0.4s							
MAKZ	**Makanchi**	**67.99**	**327**	P	**P**	**05 02 16.3**	**-0.5**
BOOM	**Boomskoye usch**	**68.98**	**321**	P	**P**	**05 02 22.8**	**-0.4**
RAR	**Rarotonga**	**70.27**	**110**	P	**P**	**05 02 29.4**	**-1.9**
ZALV	**Zalesovo Beam**	**71.35**	**334**	P	**P**	**05 02 36.1**	**-1.0**
comp=Z,3.2nm,0.5s,baz=126,slow=5.2,SNR=12							
comp=Z,3.2nm,0.5s							
KURBB	**Kurchatov Arra**	**72.14**	**329**	P	**P**	**05 02 41.7**	**-0.2**
comp=Z,4.8nm,0.7s,baz=128,slow=5.1,SNR=42							
comp=Z,4.8nm,0.7s							
KURK	**Kurchatov**	**72.15**	**329**	P	**P**	**05 02 42.0**	**0.0**
KURK				IAmb	IAmb	05 02 42.6	
comp=Z,7.0nm,1.1s							
VNDA	**Vanda**	**72.20**	**173**	P	**P**	**05 02 42.1**	**+0.2**
VNDA	**Vanda**	**72.20**	**173**	P	**P**	**05 02 42.1**	**+0.2**
comp=Z,0.5nm,0.3s,baz=317,slow=8.7,SNR=9.2							
comp=Z,0.5nm,0.3s							
KKAR	**Karatay Array**	**72.74**	**319**	P	**P**	**05 02 47.1**	**+1.4**
KIWB	**Kanaga Island**	**75.01**	**31**	P	**P**	**05 02 58.9**	**+0.2**
ATKA	**Atka Island**	**76.74**	**32**	P	**P**	**05 03 08.1**	**-0.4**
BVAR	**Borovoye Array**	**77.68**	**328**	P	**P**	**05 03 13.2**	**-0.5**
comp=Z,1.5nm,0.5s,baz=125,slow=9.1,SNR=9.0							
comp=Z,1.5nm,0.5s							
HLK	**Haleakala**	**78.91**	**67**	P	**P**	**05 03 18.9**	**-2.5**
UNV	**Unalaska Valle**	**81.61**	**33**	P	**P**	**05 03 34.9**	**0.0**
UNV				IAmb	IAmb	05 04 13.0	
comp=Z,18nm,1.3s							
AKRB	**Akutan Reef Bi**	**81.97**	**33**	P	**P**	**05 03 37.0**	**+0.2**
ABKAR	**Akbulak array**	**81.97**	**322**	P	**P**	**05 03 36.5**	**-0.4**
ABKAR	**Akbulak array**	**81.97**	**322**	P	**P**	**05 03 36.4**	**-0.5**
LVA	**Lava Point**	**82.00**	**33**	P	**P**	**05 03 36.6**	**-0.3**
QSPA	**South Pole Qui**	**82.56**	**180**	P	**P**	**05 03 40.2**	**+0.3**
QSPA	**South Pole Qui**	**82.56**	**180**	P	**P**	**05 03 39.8**	**0.0**
comp=Z,2.5nm,0.6s,baz=73,slow=0.1,SNR=12							
comp=Z,2.5nm,0.6s							
AKTO	**Aktyubinsk**	**83.55**	**323**	P	**P**	**05 03 44.6**	**-0.4**
comp=Z,1.5nm,0.6s,baz=107,slow=5.5,SNR=3.7							
comp=Z,1.5nm,0.6s							
M14K	**Bethel**	**86.61**	**27**	P	**P**	**05 04 00.3**	**+0.3**
M14K				IAmb	IAmb	05 04 01.0	
comp=Z,5.2nm,0.8s							
M16K	**Timber Creek**	**88.08**	**28**	P	**P**	**05 04 06.9**	**-0.2**
M16K				IAmb	IAmb	05 04 30.2	
comp=Z,10nm,1.5s							
L18K	**Granite Mounta**	**89.48**	**27**	P	**P**	**05 04 13.2**	**-0.4**
L18K				IAmb	IAmb	05 04 29.6	
comp=Z,4.6nm,1.4s							
E18K	**Tukpahlearik C**	**89.57**	**21**	P	**P**	**05 04 12.2**	**-1.7**
E18K				IAmb	IAmb	05 04 41.6	
comp=Z,5.1nm,1.1s							
C19K	**Lookout Ridge**	**90.50**	**20**	P	**P**	**05 04 17.8**	**-0.5**
C19K				IAmb	IAmb	05 04 21.5	
comp=Z,6.8nm,1.1s							
E19K	**Redstone River**	**90.81**	**22**	P	**P**	**05 04 18.5**	**-1.2**
E19K				IAmb	IAmb	05 04 19.9	
comp=Z,2.3nm,0.8s							
D19K	**Kuna River**	**90.81**	**21**	P	**P**	**05 04 18.6**	**-1.2**
D19K				IAmb	IAmb	05 04 57.4	
comp=Z,10nm,1.4s							
K20K	**Telida**	**90.95**	**26**	P	**P**	**05 04 20.5**	**0.0**
K20K				IAmb	IAmb	05 05 02.0	
comp=Z,4.8nm,1.5s							
CAST	**Castle Rocks**	**91.83**	**26**	P	**P**	**05 04 23.5**	**-1.1**
RND	**Reindeer**	**93.26**	**27**	P	**P**	**05 04 30.0**	**-1.2**
RND				IAmb	IAmb	05 04 30.2	
comp=Z,3.1nm,0.7s							
I23K	**Minto, Yukon-K**	**93.34**	**25**	P	**P**	**05 04 31.4**	**0.0**
I23K				IAmb	IAmb	05 04 31.4	
comp=Z,2.1nm,0.8s							
G23K	**Bananza Creek**	**93.36**	**23**	P	**P**	**05 04 31.3**	**-0.3**
G23K				IAmb	IAmb	05 04 31.9	
comp=Z,2.7nm,1.1s							
COLD	**Coldfoot**	**93.39**	**23**	P	**P**	**05 04 31.4**	**-0.3**
COLD				IAmb	IAmb	05 04 39.4	
comp=Z,3.3nm,1.5s							
CCB	**Clear Creek Bu**	**93.92**	**25**	P	**P**	**05 04 32.9**	**-1.1**
CCB				IAmb	IAmb	05 04 43.7	
comp=Z,3.3nm,1.4s							
H24K	**Noodor Dome**	**94.07**	**24**	P	**P**	**05 04 34.5**	**-0.4**
H24K				IAmb	IAmb	05 04 35.9	
comp=Z,4.1nm,1.4s							
BELA	**Belgrano 2**	**94.32**	**184**	P	**P**	**05 04 36.1**	**+0.2**
BELA				IAmb	IAmb	05 04 36.8	
comp=Z,1.8nm,0.8s							
ILAR	**Eielson Array**	**94.32**	**25**	P	**P**	**05 04 34.0**	**-2.0**
comp=Z,0.2nm,0.7s,baz=229,slow=5.8,SNR=4.2							
comp=Z,0.2nm,0.7s							
VNA3	**Neumayer Olymp**	**96.77**	**193**	⇓P	**P**	**05 04 51.2**	**+4.1**
comp=Z,3.4nm,0.8s							
EKA	**Eskdalemuir Ar**	**118.86**	**331**	PKP	**PKPdf**	**05 10 03.2**	**-1.1**
comp=Z,0.1nm,0.3s,baz=41,slow=3.8,SNR=1.6							
TXAR	**Lajitas Array**	**126.35**	**59**	PKP	**PKiKP**	**05 10 20.2**	**+0.2**
comp=Z,0.2nm,0.4s,baz=262,slow=1.3,SNR=5.7							
TORD	**Torodi Ar. Bea**	**127.51**	**281**	PKP	**PKPdf**	**05 10 21.8**	**-0.3**
comp=Z,0.8nm,0.5s,baz=57,slow=3.4,SNR=9.1							
CPUP	**Villa Florida**	**145.96**	**170**	PKPbc	**PKPbc**	**05 10 56.5**	**-0.1**
comp=Z,1.5nm,0.4s,baz=179,slow=2.3,SNR=7.6							
LPAZ	**La Paz**	**151.21**	**145**	PKPbc	**PKiKP**	**05 11 12.3**	**+0.6**
comp=Z,1.4nm,0.4s,baz=5.9,sl

az=42.0
ISC 06 05:11:59.8±0.6, 22°92N±0°07×144°2E±0°1, h10km, n74, σ1°15/63, mb4.4/32, MS3.6/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.53**	**337**	Pn	**Pn**	**05 13 09.4**	**+0.9**
JCJ	**Chichijima**	**4.53**	**337**	Pn	**Pn**	**05 13 06.1**	**-2.4**
	22nm,0.3s,baz=108,slow=20,SNR=15						
JCJ				Sn	**Sn**	**05 13 56.7**	**-4.6**
	52nm,0.3s,baz=267,slow=19,SNR=9.0						
JMZ	**Minamidaito 2**	**12.15**	**286**		**Pn**	**05 14 54.8**	**+1.8**
MJAR	**Matsushiro Arr**	**14.53**	**341**	Pn	**Pn**	**05 15 25.9**	**+0.4**
	0.1nm,0.3s,baz=161,slow=11,SNR=1.9						
	0.7nm,0.3s						
JMM	**Marumori**	**15.18**	**350**	Pn	**Pn**	**05 15 34.7**	**+0.4**
JNU	**Nakatsue**	**15.51**	**314**	LR	LR	05 20 34.4	
	comp=Z,94nm,21.9s,baz=116,slow=33						
KSRS	**Korea Array**	**20.13**	**320**	P	**P**	**05 16 34.1**	**+0.1**
	1.3nm,0.6s,baz=148,slow=8.0,SNR=2.5						
	1.3nm,0.6s						
NACB	**Ninganchiao**	**20.74**	**278**	P	**P**	**05 16 42.5**	**+1.8**
NACB				IAmb	IAmb	05 17 21.7	
	comp=Z,15nm,0.8s						
YHNB	**Yeheng**	**20.93**	**279**	P	**P**	**05 16 43.6**	**+0.7**
YHNB				IAmb	IAmb	05 16 56.9	
	comp=Z,42nm,1.2s						
YULB	**Yu-li**	**21.04**	**276**	P	**P**	**05 16 45.2**	**+1.2**
YULB				IAmb	IAmb	05 16 57.0	
	comp=Z,33nm,1.2s						
SSLB	**Suanglung**	**21.33**	**277**	P	**P**	**05 16 48.2**	**+1.0**
H11N1	**WAKE ISLAND Hy**	**21.40**	**94**	T	T	05 38 60.0	
	baz=283,slow=74,SNR=16						
H11N2	**WAKE ISLAND Hy**	**21.40**	**94**	T	T	05 39 00.5	
	baz=283,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**21.42**	**94**	T	T	05 39 02.6	
	baz=283,slow=74,SNR=16						
H11S3	**WAKE ISLAND Hy**	**21.51**	**98**	T	T	05 39 29.2	
	baz=283						
H11S1	**WAKE ISLAND Hy**	**21.52**	**98**	T	T	05 39 36.8	
	baz=283						
H11S2	**WAKE ISLAND Hy**	**21.53**	**98**	T	T	05 39 29.0	
	baz=283						
USRK	**Ussuriysk Ar.**	**23.48**	**338**	P	**P**	**05 17 11.1**	**+1.5**
	comp=Z,4.7nm,0.9s,baz=143,slow=13,SNR=3.9						
	comp=Z,4.7nm,0.9s						
DAV	**Davao City (W)**	**23.84**	**232**	LR	LR	05 24 28.9	
	comp=Z,177nm,21.9s,baz=2.5,slow=32						
KLR	**Kul'dur**	**28.04**	**343**	P	**P**	**05 17 53.4**	**+2.3**
	comp=Z,4.9nm,0.7s,baz=149,slow=9.2,SNR=16						
	comp=Z,4.9nm,0.7s						
COEN	**Coen**	**36.66**	**182**	P	**P**	**05 19 06.5**	**-0.3**
COEN				IAmb	IAmb	05 19 14.0	
	comp=Z,11nm,0.9s						
ULN	**Ulaanbaatar**	**38.62**	**319**	P	**P**	**05 19 23.8**	**+0.4**
SONM	**Songino Array**	**39.00**	**319**	P	**P**	**05 19 27.0**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=155,slow=10,SNR=1.9						
	comp=Z,0.6nm,0.8s						
WR0	**Warramunga Arr**	**43.64**	**193**	P	**P**	**05 20 04.1**	**-0.7**
WR0				IAmb	IAmb	05 20 10.5	
	comp=Z,6.9nm,1.1s						
WRA	**Warramunga Arr**	**43.67**	**193**	P	**P**	**05 20 04.8**	**-0.2**
WRA	**Warramunga Arr**	**43.67**	**193**	P	**P**	**05 20 04.3**	**-0.6**
	comp=Z,4.6nm,0.6s,baz=14,slow=8.5,SNR=47						
WRA				ScP	**ScP**	**05 25 43.2**	**-0.7**
	comp=Z,1.8nm,1.1s,baz=8.9,slow=4.2,SNR=4.6						
	comp=Z,4.6nm,0.6s						
AS31	**Alice Springs**	**47.37**	**193**	P	**P**	**05 20 33.4**	**-0.8**
ASAR	**Alice Springs**	**47.37**	**193**	P	**P**	**05 20 32.7**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=9.3,slow=6.9,SNR=9.1						
ASAR				LR	LR	05 39 53.5	
	comp=Z,67nm,19.3s,baz=22,slow=36						
	comp=Z,1.0nm,0.7s						
SHL	**Shillong**	**47.50**	**284**	P	**P**	**05 20 35.7**	**+0.1**
GSI	**Gunungsitoli**	**50.05**	**251**	P	**P**	**05 20 54.7**	**-0.4**
PSA00	**Pilbara Seismi**	**50.18**	**210**	P	**P**	**05 20 55.8**	**0.0**
PSA00				IAmb	IAmb	05 21 26.4	
	comp=Z,14nm,1.4s						
ZAA0	**Zalesovo Array**	**53.83**	**321**	P	**P**	**05 21 22.6**	**-0.1**
ZAA0				IAmb	IAmb	05 21 29.9	
	comp=Z,2.9nm,0.6s						
ZALV	**Zalesovo Beam**	**53.83**	**321**	P	**P**	**05 21 22.5**	**-0.3**
ZALV	**Zalesovo Beam**	**53.83**	**321**	P	**P**	**05 21 22.8**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=99,slow=4.7,SNR=5.8						
	comp=Z,0.9nm,0.4s						
STKA	**Stephens Creek**	**54.54**	**183**	P	**P**	**05 21 26.8**	**-1.3**
STKA	**Stephens Creek**	**54.54**	**183**	P	**P**	**05 21 27.1**	**-0.9**
	comp=Z,2.3nm,0.7s,baz=305,slow=5.1,SNR=1.7						
	comp=Z,2.3nm,0.7s						
MK31	**Makanchi Array**	**54.56**	**312**	P	**P**	**05 21 28.5**	**+0.3**
MKAR	**Makanchi Array**	**54.56**	**312**	P	**P**	**05 21 28.1**	**-0.1**
MKAR	**Makanchi Array**	**54.56**	**312**	P	**P**	**05 21 29.0**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=94,slow=9.5,SNR=15						
	comp=Z,2.1nm,0.7s						
KDAK	**Kodiak Island**	**56.68**	**35**	LR	LR	05 42 43.2	
	comp=Z,72nm,22.0s,baz=262,slow=32						
C19K	**Lookout Ridge**	**56.96**	**21**	P	**P**	**05 21 45.0**	**-0.1**
E19K	**Redstone River**	**57.15**	**23**	P	**P**	**05 21 47.8**	**+1.3**
KURK	**Kurchatov**	**57.22**	**316**	P	**P**	**05 21 47.8**	**+0.7**
KURK				IAmb	IAmb	05 21 48.4	
	comp=Z,4.0nm,0.9s						
KURBB	**Kurchatov Arra**	**57.27**	**316**	P	**P**	**05 21 47.9**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=95,slow=7.8,SNR=33						
	comp=Z,3.4nm,0.7s						
TARG	**Taragay, Kyrgy**	**57.76**	**306**	P	**P**	**05 21 52.6**	**+0.9**
TARG				IAmb	IAmb	05 21 54.4	
	comp=Z,6.3nm,0.9s						
IMAR	**Indian Mountai**	**57.99**	**25**	P	**P**	**05 21 54.4**	**+2.0**
CAST	**Castle Rocks**	**58.04**	**28**	P	**P**	**05 21 52.5**	**-0.3**
BOOM	**Boomskoye usch**	**59.10**	**307**	P	**P**	**05 22 01.5**	**+0.8**
BOOM				IAmb	IAmb	05 22 02.9	
	comp=Z,6.2nm,0.8s						
E22K	**Anaktuvuk Pass**	**59.31**	**23**	P	**P**	**05 22 03.0**	**+1.4**
E22K				IAmb	IAmb	05 22 35.3	
	comp=Z,3.6nm,1.2s						
ILAR	**Eielson Array**	**60.54**	**27**	P	**P**	**05 22 11.5**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=262,slow=6.7,SNR=4.4						
	comp=Z,0.3nm,0.5s						
BMAR	**Burnt Mountain**	**61.86**	**24**	P	**P**	**05 22 20.1**	**+1.1**
J26L	**Joseph Creek**	**61.92**	**28**	P	**P**	**05 22 19.2**	**-0.3**
BVAR	**Borovoye Array**	**62.35**	**319**	P	**P**	**05 22 23.1**	**+0.6**
	comp=Z,5.4nm,0.4s,baz=88,slow=7.7,SNR=24						
	comp=Z,5.4nm,0.4s						
KK31	**Karatay Array**	**63.02**	**308**	P	**P**	**05 22 26.9**	**-0.3**
KK31				IAmb	IAmb	05 22 35.5	
	comp=Z,6.7nm,0.9s						
KKAR	**Karatay Array**	**63.02**	**308**	P	**P**	**05 22 26.9**	**-0.3**
SIMJ	**Simiganj**	**64.80**	**303**	P	**P**	**05 22 39.3**	**+0.2**
KBL	**Kabul**	**65.55**	**299**	P	**P**	**05 22 44.0**	**-0.2**
G31M	**Satah River**	**65.84**	**25**	P	**P**	**05 22 45.5**	**+0.3**
ARU	**Arti**	**68.83**	**324**	P	**P**	**05 23 04.4**	**+0.1**
ARU				IAmb	IAmb	05 23 05.3	
	comp=Z,4.4nm,0.8s						
BBB	**Bella Bella**	**70.87**	**41**	LR	LR	05 47 22.1	
	comp=Z,18nm,20.8s,baz=228,slow=30						
GEYT	**Alibeck**	**73.31**	**305**	P	**P**	**05 23 32.4**	**+0.5**
	comp=Z,1.5nm,0.4s,baz=91,slow=6.1,SNR=4.3						
	comp=Z,1.5nm,0.4s						
YKA	**Yellowknife Ar**	**74.95**	**28**	LR	LR	05 55 51.8	
	comp=Z,35nm,20.6s,baz=356,slow=35						
YBH	**Yreka Blue Hor**	**77.33**	**50**	LR	LR	05 50 16.4	
	comp=Z,35nm,20.2s,baz=275,slow=30						
ARCES	**ARCESS Array B**	**78.06**	**342**	P	**P**	**05 23 58.9**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=56,slow=6.4,SNR=3.0						
	comp=Z,2.6nm,0.9s						
NVAR	**Mina Array Bea**	**81.67**	**52**	P	**P**	**05 24 21.0**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=302,slow=5.2,SNR=3.0						
NVAR				LR	LR	05 53 48.5	
	comp=Z,60nm,20.1s,baz=276,slow=31						
	comp=Z,0.4nm,0.6s						
KBZ	**Khabaz**	**82.18**	**314**	P	**P**	**05 24 20.2**	**-0.9**
	comp=Z,6.9nm,0.8s,baz=75,slow=2.0,SNR=9.9						
	comp=Z,6.9nm,0.8s						
FINES	**FINESS Array B**	**82.48**	**335**	P	**P**	**05 24 21.6**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=61,slow=4.7,SNR=13						
	comp=Z,1.2nm,0.4s						
PDAR	**Pinedale Array**	**85.89**	**45**	P	**P**	**05 24 40.9**	**+0.5**
	comp=Z,0.1nm,0.6s,baz=294,slow=2.9,SNR=1.9						
PDAR				LR	LR	05 55 36.9	
	comp=Z,21nm,21.5s,baz=329,slow=30						
	comp=Z,0.1nm,0.6s						
AKASG	**Malin Array Be**	**87.05**	**325**	P	**P**	**05 24 44.4**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=55,slow=5.0,SNR=2.9						
	comp=Z,1.5nm,0.6s						
HFS	**Hagfors**	**87.96**	**338**	P	**P**	**05 24 48.7**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=71,slow=5.5,SNR=7.7						
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**88.14**	**339**	P	**P**	**05 24 49.7**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=46,slow=4.9,SNR=3.0						
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**90.17**	**314**	P	**P**	**05 24 59.6**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=45,slow=1.9,SNR=4.2						
	comp=Z,0.8nm,0.7s						
LPIG	**La Paz**	**93.91**	**62**	LR	LR	06 00 41.4	
	comp=Z,22nm,20.5s,baz=218,slow=31						
LPAZ	**La Paz**	**148.91**	**84**	PKPbc	**PKiKP**	**05 31 50.9**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=252,slow=4.1,SNR=13						

*NOU **06** 05:13:44.3, 38°25S×176°47E, h175km, MLv3.1/10, North Island, New Zealand*
*WEL **06** 05:13:48.6, 38°S±7°×17°6E±°, h135km±14km, M2.7/48, mB4.8/1, ML2.5/8, MLv2.7/48, Mw(mB)4.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=96.9*
ISC 06 05:13:45.8±1.6, 38°28S±0°05×176°34E±0°05, h150km, n102, σ1°45/101, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMRZ	**Omania**	**0.17**	**9**	P	Pn	05 14 13.7	+7.6
MUGZ	**Murupara**	**0.39**	**121**	P	**Pn**	**05 14 07.4**	**+0.8**
KMRZ	**Kaimai**	**0.53**	**324**	P	**Pn**	**05 14 07.7**	**+0.3**
MRHZ	**Matea Rd**	**0.56**	**174**	P	**Pn**	**05 14 08.8**	**+1.3**
RTZ	**Ruatahuna**	**0.61**	**124**	P	**Pn**	**05 14 08.8**	**+1.0**
URZ	**Urewera**	**0.61**	**89**	P	**Pn**	**05 14 08.1**	**+0.4**
URZ	**Urewera**	**0.61**	**89**	P	**Pn**	**05 14 08.0**	**+0.3**
TLZ	**Tolley Road**	**0.63**	**265**	P	**Pn**	**05 14 09.3**	**+1.4**
MTHZ	**Maungataniwha**	**0.70**	**146**	P	**Pn**	**05 14 09.6**	**+1.3**
RATZ	**Rangitukua**	**0.74**	**217**	P	**Pn**	**05 14 10.2**	**+1.6**
TOZ	**Tahuroa Road**	**0.86**	**309**	P	**Pn**	**05 14 10.5**	**+1.1**
RAGZ	**Rawiri**	**0.87**	**105**	P	**Pn**	**05 14 11.0**	**+1.4**
BKZ	**Black Stump Fm**	**0.90**	**172**	P	**Pn**	**05 14 11.3**	**+1.5**
BKZ	**Black Stump Fm**	**0.90**	**172**	P	**Pn**	**05 14 11.2**	**+1.5**
NMHZ	**Naumai**	**0.90**	**156**	P	**Pn**	**05 14 12.1**	**+2.3**
SNGZ	**Shannon Statio**	**0.93**	**123**	P	**Pn**	**05 14 11.6**	**+1.6**
MWZ	**Matawai**	**0.94**	**94**	P	**Pn**	**05 14 10.8**	**+0.8**
NTVZ	**North Tongarir**	**0.97**	**212**	P	**Pn**	**05 14 12.3**	**+1.9**
TMVZ	**Te Maari**	**0.97**	**212**	P	**Pn**	**05 14 12.2**	**+1.8**
KRVZ	**Karewarewa**	**0.98**	**214**	P	**Pn**	**05 14 12.3**	**+1.8**
ETVZ	**East Tongariro**	**0.99**	**210**	P	**Pn**	**05 14 12.4**	**+1.9**
WTVZ	**West Tongariro**	**1.02**	**215**	P	**Pn**	**05 14 12.7**	**+1.8**
NNVZ	**North Ngauruho**	**1.02**	**213**	P	**Pn**	**05 14 12.8**	**+1.9**
OTVZ	**Oturere**	**1.03**	**211**	P	**Pn**	**05 14 13.0**	**+2.0**
SNVZ	**South Ngauruho**	**1.06**	**211**	P	**Pn**	**05 14 13.2**	**+1.9**
TWVZ	**Taurewa**	**1.06**	**221**	P	**Pn**	**05 14 12.9**	**+1.7**
WHHZ	**Waihua**	**1.06**	**139**	P	**Pn**	**05 14 12.9**	**+1.8**
NGZ	**Ngauruhoe**	**1.07**	**212**	P	**Pn**	**05 14 13.3**	**+2.0**
RUGZ	**Raukumara Rang**	**1.10**	**74**	P	**Pn**	**05 14 11.0**	**-0.5**
ARHZ	**Aropaoanui**	**1.11**	**153**	P	**Pn**	**05 14 13.6**	**+2.1**
TUVZ	**Tukino**	**1.13**	**208**	P	**Pn**	**05 14 13.7**	**+1.9**
KWHZ	**Kaweka Forest**	**1.15**	**177**	P	**Pn**	**05 14 13.8**	**+1.9**
MAVZ	**Matarangi**	**1.16**	**211**	P	**Pn**	**05 14 12.8**	**+0.5**
WHVZ	**Whangaehu Hut**	**1.16**	**210**	P	**Pn**	**05 14 14.0**	**+1.8**
HIZ	**Hauiti**	**1.19**	**258**	P	**Pn**	**05 14 14.1**	**+1.9**
HIZ	**Hauiti**	**1.19**	**258**	P	**Pn**	**05 14 14.2**	**+1.9**
RIGZ	**Rimuhau**	**1.20**	**111**	P	**Pn**	**05 14 13.7**	**+1.3**
MCHZ	**McNeill Hill**	**1.20**	**167**	P	**Pn**	**05 14 14.6**	**+2.3**
WNVZ	**Wahianoa**	**1.20**	**209**	P	**Pn**	**05 14 14.3**	**+1.8**
MOVZ	**Moawhango**	**1.22**	**202**	P	**Pn**	**05 14 14.0**	**+1.4**
HAZ	**Te Kaha**	**1.25**	**66**	P	**Pn**	**05 14 12.4**	**-0.4**
PKVZ	**Pokaka**	**1.27**	**217**	P	**Pn**	**05 14 15.0**	**+1.9**
KRHZ	**Kereru**	**1.36**	**179**	P	**Pn**	**05 14 15.7**	**+1.7**
CKHZ	**Cape Kidnapper**	**1.50**	**158**	P	**Pn**	**05 14 17.3**	**+2.0**
MKAZ	**Moumakai**	**1.50**	**321**	P	**Pn**	**05 14 16.0**	**+0.7**
MHGZ	**Mahia Peninsul**	**1.51**	**126**	P	**Pn**	**05 14 17.0**	**+1.6**
KAHZ	**Kahuranaki**	**1.57**	**165**	P	**Pn**	**05 14 18.1**	**+2.0**
KUZ	**Kuaotunu**	**1.60**	**342**	P	**Pn**	**05 14 16.8**	**+0.3**
KUZ	**Kuaotunu**	**1.60**	**342**	P	**Pn**	**05 14 16.7**	**+0.3**
PNHZ	**Pukenui**	**1.64**	**184**	P	**Pn**	**05 14 18.3**	**+1.5**
MXZ	**Matakaoa Point**	**1.71**	**66**	P	**Pn**	**05 14 18.0**	**+0.5**
MXZ	**Matakaoa Point**	**1.71**	**66**	P	**Pn**	**05 14 18.1**	**+0.5**
WIAZ	**Waiheke Island**	**1.76**	**327**	P	**Pn**	**05 14 19.0**	**+0.8**
WPHZ	**Waipukurau**	**1.79**	**178**	P	**Pn**	**05 14 19.9**	**+1.4**
PXZ	**Pawanui**	**1.80**	**167**	P	**Pn**	**05 14 20.1**	**+1.6**
TSZ	**Takapari Road**	**1.80**	**189**	P	**Pn**	**05 14 20.0**	**+1.3**
AWAZ	**Awhitu Peninsu**	**1.81**	**311**	P	**Pn**	**05 14 19.3**	**+0.6**
WAZ	**Wanganui**	**1.81**	**215**	P	**Pn**	**05 14 20.7**	**+1.9**
MBAZ	**Motutapu North**	**1.89**	**322**	P	**Pn**	**05 14 20.5**	**+0.9**
PRHZ	**Porangahau**	**2.00**	**174**	P	**Pn**	**05 14 22.2**	**+1.4**
NEZ	**North Egmont**	**2.02**	**240**	P	**Pn**	**05 14 23.8**	**+2.7**
DVHZ	**Dannevirke**	**2.02**	**184**	P	**Pn**	**05 14 22.2**	**+1.0**
PKE	**Pukeiti**	**2.06**	**243**	P	**Pn**	**05 14 24.0**	**+2.5**
KHEZ	**Kahui Hut**	**2.08**	**240**	P	**Pn**	**05 14 24.5**	**+2.6**
KHEZ	**Kahui Hut**	**2.08**	**240**	P	**Pn**	**05 14 24.5**	**+2.6**
POWZ	**Post Office Ro**	**2.16**	**192**	P	**Pn**	**05 14 23.8**	**+1.1**
ANWZ	**Angora Road**	**2.18**	**177**	P	**Pn**	**05 14 24.4**	**+1.4**
PRWZ	**Pori Road**	**2.29**	**187**	P	**Pn**	**05 14 25.6**	**+1.3**
BFZ	**Birch Farm**	**2.40**	**182**	P	**Pn**	**05 14 26.7**	**+1.0**
BFZ	**Birch Farm**	**2.40**	**182**	P	**Pn**	**05 14 26.6**	**+0.9**
MRZ	**Mangatainoka R**	**2.45**	**194**	P	**Pn**	**05 14 27.0**	**+0.7**
TIWZ	**Tintock**	**2.52**	**188**	P	**Pn**	**05 14 28.0**	**+0.8**
OGWZ	**Otaki Gorge**	**2.69**	**199**	P	**Pn**	**05 14 29.8**	**+0.6**
HOWZ	**Holdsworth Sta**	**2.69**	**193**	P	**Pn**	**05 14 29.6**	**+0.3**
KIW	**Kapiti Island**	**2.81**	**203**	P	**Pn**	**05 14 30.8**	**+0.1**
TMWZ	**Te Maipa**	**2.85**	**187**	P	**Pn**	**05 14 31.5**	**+0.3**
MTW	**Mount Morrison**	**2.95**	**192**	P	**Pn**	**05 14 32.4**	**-0.1**
DUWZ	**D'Urville Isla**	**3.14**	**216**	P	**Pn**	**05 14 36.1**	**+1.2**
TRWZ	**Traveller**	**3.16**	**189**	P	**Pn**	**05 14 35.1**	**0.0**
PAWZ	**Paruwai Farm**	**3.18**	**192**	P	**Pn**	**05 14 35.2**	**-0.2**
MSWZ	**Moikau Station**	**3.25**	**195**	P	**Pn**	**05 14 35.9**	**-0.3**
SNZO	**South Karori**	**3.28**	**202**	P	**Pn**	**05 14 36.2**	**-0.4**
BHW	**Baring Head**	**3.33**	**199**	P	**Pn**	**05 14 36.7**	**-0.5**
TCW	**Tory Channel**	**3.33**	**208**	P	**Pn**	**05 14 37.0**	**-0.4**
PLWZ	**Palliser**	**3.39**	**194**	P	**Pn**	**05 14 37.6**	**-0.5**
TUWZ	**Tuamarina**	**3.65**	**210**	P	**Pn**	**05 14 40.8**	**-0.6**
NNZ	**Nelson**	**3.72**	**217**	P	**Pn**	**05 14 42.3**	**0.0**
QRZ	**Quartz Range**	**3.89**	**228**	P	**Pn**	**05 14 44.5**	**-0.1**
QRZ	**Quartz Range**	**3.89**	**228**	P	**Pn**	**05 14 43.9**	**-0.7**
BSWZ	**Blackbirch Sta**	**3.92**	**208**	P	**Pn**	**05 14 44.6**	**-0.4**
MRNZ	**Matariki Terra**	**4.16**	**220**	P	**Pn**	**05 14 46.7**	**-1.4**
THZ	**Tophouse**	**4.37**	**216**	P	**Pn**	**05 14 50.4**	**-0.5**
KHZ	**Kahutara**	**4.66**	**206**	P	**Pn**	**05 14 53.7**	**-0.8**
KHZ	**Kahutara**	**4.66**	**206**	P	**Pn**	**05 14 53.5**	**-1.0**
GVZ	**Greta Valley S**	**5.32**	**207**	P	**Pn**	**05 15 02.1**	**-1.3**
LTZ	**Lake Taylor**	**5.46**	**213**	P	**Pn**	**05 15 04.3**	**-1.0**
OKCZ	**Okains Bay**	**5.98**	**203**	P	**Pn**	**05 15 10.4**	**-1.7**
MQZ	**McQueen's Vall**	**6.10**	**206**	P	**Pn**	**05 15 10.9**	**-2.7**
AKCZ	**Akaroa Harbour**	**6.16**	**204**	P	**Pn**	**05 15 12.8**	**-1.8**
RACZ	**Rakaia**	**6.30**	**209**	P	**Pn**	**05 15 13.8**	**-2.6**
TMZ	**Timaru**	**7.30**	**212**	P	**Pn**	**05 15 28.2**	**-1.6**
ODZ	**Otahua Downs**	**7.99**	**210**	P	**Pn**	**05 15 37.2**	**-1.7**

IDC 06 05:15:13.0±2.9, 53°91N×86°60E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=24.1km s-min=14.4km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**273**	I	I	05 22 10.0	
	baz=90,slow=320,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.05**	**273**	Pg	Pg	05 15 32.6	-0.6
	0.4nm,0.3s,baz=92,slow=16,SNR=2.3						
ZALV				Lg	Lg	05 15 48.0	
	2.5nm,0.3s,baz=95,slow=28,SNR=12						
KURBB	**Kurchatov Arra**	**5.95**	**240**	Pn	Pn	05 16 42.6	+0.4
	0.1nm,0.3s,baz=58,slow=14,SNR=2.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**7.64**	**203**	Pn	Pn	05 17 06.8	+1.4
	0.1nm,0.3s,baz=24,slow=11,SNR=4.4						
	0.1nm,0.4s						

*IDC **06** 05:19:44.1±0.7, 30°36N×103°37E, h0km, mb4.0/11, mbtmp4.0/12, MS3.4/3, Error ellipse: s-maj=30.2km s-min=15.9km az=51.0*
*NEIC **06** 05:19:46.7±1.0, 30°4N±0°1×103°42E±0°09, h10km±1km, mb4.2/17, Error ellipse: s-maj=17.2km s-min=13.3km az=8.0*
ISC 06 05:19:46.7±0.4, 30°38N±0°04×103°40E±0°05, h10km, n49, σ1°86/57, mb4.1/18, MS3.3/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.61**	**30**	Pg	**Pg**	**05 19 59.2**	**+0.6**
CD2				Sg	**Sg**	**05 20 10.6**	**+4.0**
CD2				smax	smax		
	comp=N,4μm,0.5s						
CD2				smax	smax		
	comp=E,5μm,0.6s						
PZH	**PanZhiHua**	**4.13**	**201**	Pn	**Pn**	**05 20 53.0**	**+3.0**
PZH				Pg	**Pb**	**05 21 03.9**	**+4.3**
PZH				Sn	**Sn**	**05 21 34.2**	**-4.2**
PZH				Sg	**Sb**	**05 21 50.5**	**+0.9**
PZH				smax	smax		
	comp=N,280nm,1.2s						
PZH				smax	smax		
	comp=E,390nm,1.3s						
ENH	**Enshi**	**5.26**	**90**	Pn	**Pn**	**05 21 06.4**	**+0.9**
LZH	**Lanzhou**	**5.70**	**4**	Pn	Pn	05 21 09.6	-2.0
LZH				Pg	**Pb**	**05 21 29.4**	**+3.0**
LZH				Sn	**Sb**	**05 22 29.7**	**-5.2**
LZH				Sg	**Sg**	**05 22 49.4**	**-0.4**
LZH				smax	smax		
	comp=N,70nm,0.9s						
LZH				smax	smax		
	comp=E,88nm,1.4s						
LZH				LR	LR		
	comp=N,1μm,7.0s						
LZH				LR	LR		
	comp=E,2μm,7.6s						
LZH				LR	LR		
	comp=Z,730nm,7.9s						
XAN	**Xi'an**	**5.93**	**51**	Pn	**Pn**	**05 21 14.6**	**0.0**
XAN				Pg	**Pb**	**05 21 34.0**	**+3.8**
XAN				Sn	**Sn**	**05 22 21.5**	**-1.2**
XAN				Sg	**Sg**	**05 22 56.2**	**-0.9**
XAN				smax	smax		
	comp=N,310nm,0.6s						
XAN				smax	smax		
	comp=E,260nm,1.3s						
CNSH	**ChangSha**	**8.60**	**102**	P	**Pn**	**05 21 53.3**	**+2.0**
CNSH				S	**Sn**	**05 23 28.8**	**+0.4**
CNSH				smax	smax		
	comp=N,100nm,1.2s						
CNSH				smax	smax		
	comp=E,76nm,1.1s						
SLVN	**Son La**	**9.02**	**177**	Pn	**Pn**	**05 21 58.0**	**+0.9**
LSA	**Lhasa**	**10.64**	**269**	Pn	**Pn**	**05 22 20.4**	**+0.7**
SHL	**Shillong**	**11.25**	**248**	Pn	**Pn**	**05 22 29.2**	**+1.4**
HNS	**HongShan**	**11.71**	**50**	*e*P	**Pn**	**05 22 35.5**	**+1.7**
HNS				LR	LR		
	comp=N,550nm,13.1s						
HNS				LR	LR		
	comp=E,410nm,11.2s						
HNS				LR	LR		
	comp=Z,280nm,12.2s						
CHTO	**Chiang Mai**	**12.21**	**200**	Pn	**Pn**	**05 22 41.5**	**+0.8**
QIZ	**Qiongzhong**	**12.72**	**151**	P	Pn	05 22 44.4	-3.3
QIZ				S	**Sn**	**05 25 04.9**	**-4.6**
QIZ				LR	LR		
	comp=N,510nm,6.7s						
QIZ				LR	LR		
	comp=E,270nm,6.1s						
QIZ				LR	LR		
	comp=Z,390nm,10.4s						
YULB	**Yu-li**	**17.40**	**109**	P	**Pn**	**05 23 50.6**	**+0.9**
YULB				IAmb	IAmb	05 24 13.5	
	comp=Z,21nm,1.2s						
SONM	**Songino Array**	**17.58**	**7**	P	**Pn**	**05 23 52.8**	**+0.9**
SONM	**Songino Array**	**17.58**	**7**	P	**Pn**	**05 23 51.7**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=181,slow=12,SNR=2.4						
WMQ	**Urumqi**	**18.32**	**321**	*e*P	**Pn**	**05 24 03.3**	**+2.4**
WMQ				LR	LR		
	comp=N,280nm,7.1s						
WMQ

0.8nm,0.3s,baz=220,slow=28,SNR=5.8
FINES FINESS Array B 6.25 157 Pn **Pn 05 29 19.6 +2.1**
0.1nm,0.3s,baz=338,slow=14,SNR=1.3
FINES Sn **Sn 05 30 25.5 -3.3**
0.1nm,0.3s,baz=344,slow=25,SNR=1.1
FINES Lg Lg 05 31 01.6
0.5nm,0.3s,baz=346,slow=29,SNR=8.1
1.0nm,0.7s
NOA NORSAR Array B 7.56 219 Sn **Sn 05 30 59.9 -1.4**
baz=33,slow=22,SNR=3.4
NOA Lg Lg 05 31 40.3
baz=43,slow=26,SNR=4.4
HFS Hagfors 7.85 208 Sn **Sn 05 31 07.3 -1.0**
0.2nm,0.3s,baz=16,slow=26,SNR=2.0
HFS Lg Lg 05 31 48.7
0.2nm,0.3s,baz=24,slow=29,SNR=5.2

IDC 06 05:28:50.1±7.9, 17°.24S×173°.59W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=366.9km s-min=67.2km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.27**	**258**	P	P	05 37 39.9	-1.2
	0.2nm,0.4s,baz=91,slow=6.7,SNR=17						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**49.39**	**253**	P	P	05 37 43.0	+1.0
	3.4nm,0.6s,baz=84,slow=7.6,SNR=47						
	3.4nm,0.6s						
BRTR	**Keskin Array B**	**147.44**	**319**	PKPbc	PKPbc	05 48 35.5	-1.0
	0.5nm,0.5s,baz=54,slow=3.5,SNR=2.1						

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*IDC **06** 05:29:13.6±1.0, 14°.74S×173°.83W, h0km, mb3.8/7, mbtmp3.8/7, MS3.2/1, Error ellipse: s-maj=51.1km s-min=23.0km az=146.0*

ISC 06 05:29:19.0±0.9, 14°.7S±0°.3×173°.9W±0°.2, h35km, n15, σ0°48/8, mb3.5/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**20.04**	**246**	LR	LR	05 39 48.2	
	comp=Z,67nm,18.5s,baz=82,slow=32						
H11S2	**WAKE ISLAND Hy 38.13**	**329**		T	T	06 17 29.7	
	baz=149,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy 38.14**	**329**		T	T	06 17 32.2	
	baz=149,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy 38.15**	**329**		T	T	06 17 31.0	
	baz=149,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy 39.08**	**331**		T	T	06 18 56.4	
	baz=149,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy 39.08**	**331**		T	T	06 18 47.9	
	baz=149,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy 39.09**	**331**		T	T	06 18 53.3	
	baz=149,slow=76,SNR=12						
WRA	**Warramunga Arr**	**49.55**	**256**	P	P	**05 38 06.7**	**-0.2**
	0.9nm,0.7s,baz=92,slow=7.5,SNR=15						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**49.88**	**251**	P	P	**05 38 09.2**	**-0.2**
	6.1nm,0.7s,baz=86,slow=8.2,SNR=29						
	6.1nm,0.7s						
NVAR	**Mina Array Bea**	**74.13**	**42**	P	P	**05 40 52.6**	**+0.4**
	0.5nm,0.9s,baz=214,slow=7.3,SNR=2.1						
	0.5nm,0.9s						
QSPA	**South Pole Qui**	**75.33**	**180**	P	P	**05 40 58.8**	**+0.2**
	2.1nm,1.1s,baz=33,slow=1.1,SNR=3.0						
	2.1nm,1.1s						
TXAR	**Lajitas Array**	**80.62**	**56**	P	P	**05 41 28.4**	**-0.1**
	0.2nm,0.8s,baz=215,slow=7.7,SNR=2.4						
	0.2nm,0.8s						
ILAR	**Eielson Array**	**81.86**	**11**	P	P	**05 41 34.2**	**-0.1**
	0.4nm,0.8s,baz=190,slow=6.3,SNR=4.0						
	0.4nm,0.8s						
PDAR	**Pinedale Array**	**82.07**	**42**	P	P	**05 41 35.5**	**-0.6**
	0.5nm,0.9s,baz=179,slow=3.6,SNR=1.8						
	0.5nm,0.9s						
BRTR	**Keskin Array B**	**145.32**	**321**	PKPbc	**PKPab**	**05 48 54.3**	**+0.7**
	1.5nm,0.7s,baz=66,slow=1.9,SNR=6.0						

IDC 06 05:30:21.6±3.5, 54°.20N×87°.30E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=31.5km s-min=19.4km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**261**	I	I	05 39 40.0	
	0.1nm,0.7s,baz=82,slow=320,SNR=9.6						
ZALV	**Zalesovo Beam**	**1.48**	**261**	Pg	Pn	05 30 49.0	-0.5
	0.8nm,0.3s,baz=77,slow=23,SNR=4.0						
ZALV				Lg	Lg	05 31 08.2	
	0.8nm,0.3s,baz=76,slow=28,SNR=3.9						
KURBB	**Kurchatov Arra**	**6.45**	**240**	Pn	Pn	05 31 58.5	+0.9
	baz=54,slow=13,SNR=1.8						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**8.06**	**205**	Pn	Pn	05 32 20.7	+0.8
	baz=26,slow=14,SNR=1.9						
	0.1nm,0.5s						

IDC 06 05:46:28.6±4.4, 53°.63N×90°.69E, h0km, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=44.5km s-min=27.3km az=33.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.50**	**278**	I	I	06 08 00.0	
	0.1nm,0.9s,baz=91,slow=321,SNR=1.8						
ZALV	**Zalesovo Beam**	**3.50**	**278**	Pn	Pn	05 47 26.1	+1.9
	0.3nm,0.3s,baz=90,slow=15,SNR=3.9						
ZALV				Lg	Lg	05 48 18.9	
	0.5nm,0.3s,baz=93,slow=30,SNR=1.6						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**8.06**	**253**	Pn	Pn	05 48 26.2	-0.6
	0.1nm,0.3s,baz=66,slow=14,SNR=3.7						
KURBB				Sn	Sn	05 49 57.3	-1.3
	baz=66,slow=26,SNR=1.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.70**	**222**	Pn	Pn	05 48 36.3	+0.6
	0.1nm,0.3s,baz=31,slow=13,SNR=4.2						
	0.3nm,0.6s						

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*NOU **06** 05:48:32.9, 20°.55S×169°.84E, h0km, MLv4.8/11, Vanuatu Islands*
*IDC **06** 05:48:35.7±3.6, 20°.62S×169°.76E, h88km±29km, mb3.8/8, mbtmp4.1/10, MS3.5/1, Error ellipse: s-maj=25.2km s-min=21.7km az=57.0*
*NEIC **06** 05:48:37.0±1.2, 20°.53S±0°.08×169°.8E±0°.1, h93km±8km, mb4.5/21, Error ellipse: s-maj=17.0km s-min=8.1km az=53.0*

ISC 06 05:48:37.3±0.6, 20°.58S±0°.08×169°.70E±0°.09, h100km, n58, σ0°83/61, mb4.4/20, 4C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.80**	**240**	P	**Pn**	**05 49 06.8**	**-0.5**
LIFNC	**LIFOU**	**2.31**	**265**	P	**Pn**	**05 49 13.2**	**-0.7**
LIFNC	**LIFOU**	**2.31**	**265**		**Pn**	**05 49 12.9**	**-1.0**
PINNC	**Pines Island,**	**2.91**	**226**	P	**Pn**	**05 49 22.1**	**+0.2**
PINNC	**Pines Island,**	**2.91**	**226**		**Pn**	**05 49 21.3**	**-0.6**
YATNC	**Mamie plateau,**	**3.00**	**240**	P	**Pn**	**05 49 22.6**	**-0.5**
OUENC	**Ouen Island, N**	**3.23**	**235**	P	**Pn**	**05 49 26.8**	**+0.7**
OUENC	**Ouen Island, N**	**3.23**	**235**		**Pn**	**05 49 26.4**	**+0.3**
DZM	**Mont Dzumac**	**3.38**	**243**	P	**Pn**	**05 49 28.5**	**+0.3**
DZM	**Mont Dzumac**	**3.38**	**243**		**Pn**	**05 49 28.1**	**-0.1**
DZM	**Mont Dzumac**	**3.38**	**243**	P	**Pn**	**05 49 28.5**	**+0.3**
	196nm,0.4s,baz=102,slow=12,SNR=765						
DZM				S	**Sn**	**05 50 06.1**	**-1.4**
	482nm,0.4s,baz=158,slow=15,SNR=17						
ONTNC	**Ouen Toro**	**3.48**	**240**	P	**Pn**	**05 49 30.4**	**+0.9**
ONTNC	**Ouen Toro**	**3.48**	**240**		**Pn**	**05 49 29.9**	**+0.4**
NOUC	**Port Laguerre**	**3.51**	**244**	P	**Pn**	**05 49 30.6**	**+0.7**
KOUNC	**Koumac, New Ca**	**5.07**	**269**	P	**Pn**	**05 49 52.8**	**+1.8**
	194nm,0.4s						
KOUNC	**Koumac, New Ca**	**5.07**	**269**		**Pn**	**05 49 51.2**	**+0.2**
URZ	**Urewera**	**18.75**	**162**	P	**P**	**05 52 46.6**	**-1.8**
	1.4nm,0.5s,baz=294,slow=20,SNR=3.2						
BKZ	**Black Stump Fm**	**19.43**	**164**	P	**P**	**05 52 56.9**	**+1.1**
NNZ	**Nelson**	**20.81**	**172**	P	**P**	**05 53 10.9**	**+0.3**
THZ	**Tophouse**	**21.29**	**173**	P	**P**	**05 53 15.7**	**-0.2**
THZ				IAmb	IAmb	05 53 29.6	
	comp=Z,32nm,1.4s						
STKA	**Stephens Creek**	**27.52**	**240**	P	**P**	**05 54 16.0**	**+1.3**
	comp=Z,3.7nm,0.9s,baz=89,slow=11,SNR=2.9						
	comp=Z,3.7nm,0.9s						
WB0	**Warramunga Arr**	**33.11**	**265**	P	**P**	**05 55 04.0**	**0.0**
WRA	**Warramunga Arr**	**33.14**	**265**	P	**P**	**05 55 04.0**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=98,slow=7.5,SNR=24						
WRA				PcP	**PcP**	**05 57 45.1**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=96,slow=3.0,SNR=1.4						
	comp=Z,0.5nm,0.3s						
AS31	**Alice Springs**	**33.24**	**258**	P	**P**	**05 55 05.7**	**+0.4**
ASAR	**Alice Springs**	**33.25**	**258**	P	**P**	**05 55 05.0**	**-0.3**
ASAR	**Alice Springs**	**33.25**	**258**	P	**P**	**05 55 05.8**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=88,slow=9.4,SNR=42						
ASAR				PcP	**PcP**	**05 57 45.3**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=102,slow=3.1,SNR=6.2						
ASAR				LR	LR	06 09 48.3	
	comp=Z,65nm,18.2s,baz=204,slow=38						
	comp=Z,3.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.55**	**266**	P	**P**	**05 56 16.0**	**+0.6**
MBWA	**Marble Bar**	**46.53**	**260**	P	**P**	**05 56 55.9**	**+0.8**
VNDA	**Vanda**	**57.11**	**182**	P	**P**	**05 58 14.4**	**+1.5**
VNDA	**Vanda**	**57.11**	**182**	P	**P**	**05 58 10.9**	**-2.0**
	comp=Z,0.7nm,0.8s,baz=323,slow=10,SNR=2.2						
	comp=Z,0.7nm,0.8s						
SBA	**Scott Base**	**57.34**	**181**	P	**P**	**05 58 15.6**	**+1.1**
SBA				IAmb	IAmb	05 58 17.6	
	comp=Z,5.2nm,0.9s						
QSPA	**South Pole Qui**	**69.48**	**180**	P	**P**	**05 59 35.1**	**+0.2**
QSPA				IAmb	IAmb	05 59 36.3	
	comp=Z,4.4nm,0.8s						
QSPA	**South Pole Qui**	**69.48**	**180**	P	**P**	**05 59 35.0**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=329,slow=1.2,SNR=19						
	comp=Z,3.1nm,0.7s						
GSTR	**Great Sitkin T**	**73.43**	**9**	P	**P**	**05 59 58.5**	**+0.1**
LVA	**Lava Point**	**77.31**	**14**	P	**P**	**06 00 20.3**	**-0.3**
BELA	**Belgrano 2**	**80.73**	**175**	P	**P**	**06 00 38.9**	**-0.3**
BELA				IAmb	IAmb	06 00 39.5	
	comp=Z,7.7nm,0.9s						
SMAI	**San Martin Ant**	**82.43**	**162**	P	**P**	**06 00 48.8**	**+0.7**
OHAK	**Old Harbor**	**83.47**	**19**	P	**P**	**06 00 52.9**	**-0.6**
OHAK				IAmb	IAmb	06 00 55.9	
	comp=Z,7.0nm,0.9s						
KABU	**Katmai Buttres**	**83.75**	**18**	P	**P**	**06 00 55.6**	**+0.5**
KABU				IAmb	IAmb	06 01 22.1	
	comp=Z,8.9nm,1.1s						
N15K	**Kwethluk River**	**84.14**	**15**	P	**P**	**06 00 58.2**	**+1.4**
N15K				IAmb	IAmb	06 01 04.2	
	comp=Z,9.0nm,1.2s						
L16K	**Owhat River**	**85.64**	**14**	P	**P**	**06 01 04.8**	**+0.5**
L16K				IAmb	IAmb	06 01 07.1	
	comp=Z,5.7nm,1.4s						
J16K	**Anvik River**	**86.78**	**13**	P	**P**	**06 01 09.1**	**-0.8**
J16K				IAmb	IAmb	06 01 19.3	
	comp=Z,4.4nm,1.2s						
J17K	**VABM Dome**	**87.21**	**14**	P	**P**	**06 01 12.5**	**+0.5**
J17K				IAmb	IAmb	06 01 24.5	
	comp=Z,4.3nm,1.4s						
TROLL	**Troll, Antarti**	**87.23**	**184**	⇑P	**P**	**06 01 12.5**	**+0.1**
	comp=Z,275nm,0.6s						
J18K	**Innoko River**	**87.80**	**14**	P	**P**	**06 01 14.5**	**-0.3**
J18K				IAmb	IAmb	06 01 38.7	
	comp=Z,3.6nm,1.5s						
SNAA	**Sanae**	**87.85**	**182**	P	**P**	**06 01 14.4**	**-0.8**
SNAA	**Sanae**	**87.85**	**182**	⇑P	**P**	**06 01 14.5**	**-0.8**
	comp=Z,50nm,0.5s						
SNAA	**Sanae**	**87.85**	**182**	P	**P**	**06 01 14.4**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=206,slow=8.4,SNR=22						
	comp=Z,1.6nm,0.4s						
VNA3	**Neumayer Olymp**	**88.42**	**180**	⇑P	**P**	**06 01 17.5**	**-0.4**
	comp=Z,12nm,0.7s						
VNA2	**Neumayer--Watz**	**88.72**	**181**	⇑P	**P**	**06 01 19.3**	**0.0**
	comp=Z,9.3nm,0.5s,baz=181,slow=5.2						
NVAR	**Mina Array Bea**	**89.36**	**48**	P	**P**	**06 01 24.0**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=228,slow=7.8,SNR=7.0						
	comp=Z,0.9nm,0.7s						
ILAR	**Eielson Array**	**91.38**	**17**	P	**P**	**06 01 29.7**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=235,slow=5.1,SNR=6.4						
	comp=Z,0.3nm,0.7s						
ARCES	**ARCESS Array B**	**126.47**	**345**	PKP	**PKPdf**	**06 07 26.9**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=48,slow=1.8,SNR=5.6						
BRTR	**Keskin Array B**	**137.97**	**307**	PKP	**PKPdf**	**06 07 51.2**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=129,slow=2.0,SNR=2.0						
EKA	**Eskdalemuir Ar**	**144.88**	**353**	PKP	**PKPab**	**06 08 00.7**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=354,slow=2.4,SNR=25						
GERES	**GERESS Array B**	**145.87**	**331**	PKPbc	**PKPdf**	**06 08 03.9**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=64,slow=3.1,SNR=3.8						
ESDC	**Sonseca Array**	**160.21**	**345**	PKPab	**PKPab**	**06 09 06.1**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=231,slow=6.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**166.35**	**239**	PKPab	**PKPab**	**06 09 32.7**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=112,slow=4.2,SNR=1.4						

IDC 06 05:49:09.4±4.2, 53°.58N×87°.79E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=46.8km s-min=23.4km az=79.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**283**	I	I	06 00 30.0	
	baz=100,slow=327,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.80**	**283**	Pn	Pn	05 49 40.5	-1.2
	0.7nm,0.3s,baz=101,slow=14,SNR=6.5						
ZALV				Sn	Sn	05 50 05.4	+0.1
	1.4nm,0.3s,baz=105,slow=25,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.42**	**246**	Pn	Pn	05 50 46.4	+1.2
	baz=62,slow=14,SNR=4.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.65**	**210**	Pn	Pn	05 51 02.9	+0.9
	baz=30,slow=16,SNR=1.3						
	0.1nm,0.5s						

IDC 06 06:04:41.5±3.5, 53°.59N×87°.71E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=33.9km s-min=16.7km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**283**	I	I	06 15 50.0	
	0.1nm,1.0s,baz=102,slow=321,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.75**	**283**	Pg	Pn	06 05 13.2	+0.1
	0.4nm,0.3s,baz=98,slow=15,SNR=4.4						
ZALV				Lg	Lg	06 05 37.0	
	2.0nm,0.3s,baz=100,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**6.39**	**246**	Pn	Pn	06 06 17.1	+0.4
	baz=61,slow=13,SNR=2.2						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**7.64**	**209**	Pn	Pn	06 06 35.3	+1.3
	0.2nm,0.3s,baz=30,slow=13,SNR=7.3						
	0.2nm,0.3s						

IDC 06 06:09:37.5±3.5, 54°.38N×86°.84E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=30.2km s-min=19.2km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**251**	I	I	06 17 50.0	
	baz=69,slow=317,SNR=4.7						
ZALV	**Zalesovo Beam**	**1.27**	**251**	Pg	Pg	06 10 00.1	-1.6
	2.3nm,0.3s,baz=70,slow=10.0,SNR=12						
ZALV				Lg	Lg	06 10 18.4	
	1.3nm,0.3s,baz=69,slow=26,SNR=5.9						
KURBB	**Kurchatov Arra**	**6.32**	**237**	Pn	Pn	06 11 12.9	+1.2
	0.1nm,0.3s,baz=54,slow=13,SNR=6.0						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**8.13**	**203**	Pn	Pn	06 11 37.9	+1.2
	0.1nm,0.3s,baz=26,slow=13,SNR=2.0						
MKAR				Lg	Lg	06 13 54.4	
	baz=22,slow=28						
	0.1nm,0.3s						

IDC 06 06:16:01.7±3.8, 54°.15N×87°.46E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=33.6km s-min=20.3km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**264**	I	I	06 25 00.0	
	baz=82,slow=318,SNR=6.0						
ZALV	**Zalesovo Beam**	**1.57**	**264**	Pg	Pn	06 16 30.3	-0.5
	1.4nm,0.3s,baz=79,slow=16,SNR=11						
ZALV				Lg	Lg	06 16 50.6	
	0.6nm,0.3s,baz=78,slow=26,SNR=1.7						
KURBB	**Kurchatov Arra**	**6.51**	**241**	Pn	Pn	06 17 40.5	+1.9
	0.1nm,0.3s,baz=56,slow=14,SNR=2.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.07**	**206**	Pn	Pn	06 18 00.1	0.0
	0.1nm,0.3s,baz=26,slow=14,SNR=2.4						
	0.1nm,0.5s						

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*IDC **06** 06:16:43.8±2.2, 21°.73N×143°.17E, h277km±20km, mb3.4/14, mbtmp4.1/17, Error ellipse: s-maj=21.8km s-min=13.6km az=81.0*

ISC 06 06:16:41.6±0.8, 21°.72N±0°.09×143°.2E±0°.2, h250km, n18, σ1°54/21, mb3.6/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.43**	**351**	P	**Pn**	**06 18 04.0**	**+1.5**
	62nm,0.3s,baz=149,slow=19,SNR=10						
JCJ				S	**S**	**06 19 07.3**	**+0.1**
	29nm,0.4s,baz=266,slow=23,SNR=1.4						
JHJ	**Hachijo jima 2**	**11.74**	**346**	P	**P**	**06 19 25.3**	**+0.1**
	76nm,1.0s,baz=230,slow=17,SNR=1.4						
JHJ				S	**S**	**06 21 32.1**	**-0.9**
	188nm,1.1s,baz=90,slow=20,SNR=1.8						
MJAR	**Matsushiro Arr**	**15.39**	**345**	P	**P**	**06 20 04.6**	**-1.0**
	0.9nm,0.4s,baz=131,slow=18,SNR=1.4						
KSRS	**Korea Array**	**20.48**	**323**	P	**P**	**06 21 02.5**	**+1.9**
	1.7nm,0.6s,baz=148,slow=9.1,SNR=5.8						
	1.7nm,0.6s						
WRA	**Warramunga Arr**	**42.29**	**192**	P	**P**	**06 24 11.0**	**0.0**
	0.5nm,0.5s,baz=16,slow=9.1,SNR=10						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**46.00**	**192**	P	**P**	**06 24 39.6**	**-0.7**
	0.2nm,0.5s,baz=17,slow=6.8,SNR=4.6						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**54.18**	**322**	P	**P**	**06 25 40.4**	**-0.8**
	1.1nm,0.6s,baz=107,slow=7.9,SNR=3.6						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**54.67**	**313**	P	**P**	**06 25 44.8**	**-0.1**
	0.6nm,0.5s,baz=89,slow=9.1,SNR=9.4						
MKAR				PcP	**pwP**	**06 26 43.4**	**+0.7**
	0.5nm,0.5s,baz=80,slow=3.4,SNR=5.2						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**57.49**	**317**	P	**P**	**06 26 04.1**	**-0.6**
	2.2nm,0.6s,baz=94,slow=7.6,SNR=25						
	2.2nm,0.6s						
ILAR	**Eielson Array**	**62.03**	**27**	P	**P**	**06 26 34.4**	**-0.9**
	0.2nm,0.6s,baz=262,slow=4.8,SNR=5.8						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**62.64**	**319**	P	**P**	**06 26 39.1**	**-0.4**
	3.6nm,0.4s,baz=97,slow=7.5,SNR=18						
	3.6nm,0.4s						
YKA	**Yellowknife Ar**	**76.45**	**28**	P	**P**	**06 28 03.0**	**-0.4**
	1.0nm,0.8s,baz=292,slow=6.4,SNR=4.5						
	1.0nm,0.8s						
ARCES	**ARCESS Array B**	**78.89**	**341**	P	**P**	**06 28 16.4**	**-0.4**
	1.9nm,0.5s,baz=77,slow=8.5,SNR=19						
	1.9nm,0.5s						
KBZ	**Khabaz**	**82.34**	**314**	P	**P**	**06 28 35.0**	**-0.5**
	3.1nm,0.8s,baz=133,slow=18,SNR=4.3						
	3.1nm,0.8s						
NVAR	**Mina Array Bea**	**83.15**	**51**	P	**P**	**06 28 40.2**	**0.0**
	0.3nm,0.6s,baz=265,slow=5.2,SNR=3.0						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**83.15**	**334**	P	**P**	**06 28 37.7**	**-1.6**
	1.8nm,0.5s,baz=66,slow=4.5,SNR=17						
	1.8nm,0.5s						
HFS	**Hagfors**	**88.70**	**337**	P	**P**	**06 29 04.0**	**-2.4**
	0.7nm,0.4s,baz=49,slow=2.7,SNR=9.0						
	0.7nm,0.4s						
LPAZ	**La Paz**	**149.96**	**85**	PKPbc	**PKPdf**	**06 36 03.6**	**+4.8**
	0.3nm,0.5s,baz=285,slow=2.5,SNR=7.0						

ISC 06 06:18:09.8±1.2, 49°.15N±0°.05×18°.84E±0°.04, h10km, n5, σ0°48/8, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANS	**Liptovska Anna**	**0.41**	**90**	*e*PG	**Pg**	**06 18 17.4**	**-0.5**
LANS				*e*SG	**Sg**	**06 18 24.0**	**+0.7**
VYHS	**Vyhne**	**0.66**	**180**	*e*PG	**Pg**	**06 18 22.2**	**-0.4**
VYHS				*e*SG	**Sb**	**06 18 33.1**	**+0.4**
JAVC	**Velka Javorina**	**0.83**	**250**	*e*PG	**Pb**	**06 18 26.3**	**0.0**
MORC	**Moravsky Berou**	**1.05**	**307**	*e*PG	**Pg**	**06 18 30.1**	**0.0**
MORC				*e*SG	**Sb**	**06 18 43.9**	**-0.2**
VRAC	**Vranov**	**1.48**	**277**	*e*PG	**Pg**	**06 18 38.0**	**-0.3**

IDC 06 06:26:04.6±2.6, 54°.48N×86°.31E, h0km, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=21.1km s-min=13.3km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**239**	I	I	06 33 20.0	
	baz=56,slow=315,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.02**	**239**	Pg	Pg	06 26 22.5	-1.6
	1.8nm,0.3s,baz=56,slow=17,SNR=12						
ZALV				Lg	Lg	06 26 38.5	
	2.5nm,0.3s,baz=58,slow=32,SNR=10						
KURBB	**Kurchatov Arra**	**6.11**	**234**	Pn	Pn	06 27 36.0	0.0
	0.1nm,0.3s,baz=53,slow=14,SNR=11						
KURBB				Lg	Lg	06 29 20.6	
	baz=50,slow=29,SNR=2.2						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**8.10**	**200**	Pn	Pn	06 28 03.7	+0.3
	0.1nm,0.3s,baz=12,slow=11,SNR=5.9						
MKAR				Sn	Sn	06 29 36.3	+0.6
	0.1nm,0.3s,baz=18,slow=20,SNR=2.2						
MKAR				Lg	Lg	06 30 20.7	
	baz=10,slow=40,SNR=2.5						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**9.54**	**268**	Pn	Pn	06 28 24.1	+1.1
	baz=72,slow=14,SNR=2.3						
	0.4nm,0.3s						

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*IDC **06** 06:26:25.8±1.4, 12°.94S×167°.47E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=51.4km s-min=31.7km az=138.0*

**ISC 06 06:26:31.4±1.3, 12°.

LOOK IAML 06 28 11.6
comp=N,73nm,0.3s
WMOK Wichita Mounta 1.05 257 Pg Pg 06 27 47.9 -0.3
OK031 S. Brethren Rd 1.12 30 Pg 06 27 48.9 -0.5
OK052 Battle Ridge R 1.17 31 Pg 06 27 49.8 -0.5
DEOK Depew 1.20 45 Pg Pg 06 27 50.3 -0.7
WTFS Witchita Falls 1.44 212 Pn 06 27 54.3 -0.5
OK048 Pawnee Station 1.50 18 Pn 06 27 55.7 +0.1
CROK Carrier 1.56 347 Pn 06 27 56.6 +0.2
OK051 E0350 and S346 1.61 20 Pn 06 27 57.3 +0.2
Z35A Perchaven, San 1.67 172 Pn 06 27 58.0 +0.1
TUL3 Leonard 1.69 57 Pn 06 27 58.9 +0.7
OK038 West end E0370 1.78 327 Pb 06 28 00.4 -0.7
BLOK Blackwell 1.79 8 Pb 06 28 00.5 -0.7
X37A Clayton 1.82 102 Pb 06 28 01.0 -0.9
X37A IAmb_Lg 06 28 28.4
comp=Z,24nm,1.0s
U32A Winter Ranch, 1.83 320 Pn Pb 06 28 01.1 -0.9
U32A IAmb_Lg 06 28 28.3
comp=Z,22nm,0.8s
GC02 Grant County # 1.88 352 Pb 06 28 01.8 -1.0
OK032 Salt Plains WL 1.89 343 Pn 06 28 01.7 +0.7
KAN14 Manchester OK 1.99 350 Pn 06 28 03.5 +1.1
FW03 Perrin-Whitt E 2.00 193 Pn 06 28 03.0 +0.6
FW06 Azle 2.01 181 Pb 06 28 04.1 -0.9
KAN13 South Haven SW 2.02 1 Pb 06 28 04.1 -1.1
T35A Sooner Cattle 2.09 23 Pn Pn 06 28 04.7 +0.9
SMWD Samnorwood 2.23 274 Pb 06 28 07.2 -1.5
PLPT Palo Pinto 2.27 197 Pn Pn 06 28 07.0 +0.9
TREL Terrell 2.55 152 IAmb_Lg 06 28 48.3
comp=Z,11nm,1.0s
Z38A Mt. Pleasant 2.73 128 IAmb_Lg 06 28 57.9
comp=Z,8.6nm,0.8s
ABTX Abilene, Hawle 2.94 217 IAmb_Lg 06 29 09.3
comp=Z,8.6nm,1.2s
U38A Gravette 2.94 60 IAmb_Lg 06 29 08.8
comp=Z,6.8nm,1.0s
MIAR Mount Ida 3.29 97 IAmb_Lg 06 29 20.6
comp=Z,6.7nm,0.8s
237A Washetta, Mont 3.31 154 IAmb_Lg 06 29 18.3
comp=Z,13nm,0.8s
SN07 Snyder 07 3.37 237 IAmb_Lg 06 29 20.2
comp=Z,7.4nm,0.9s
AMTX Amarillo 3.41 269 IAmb_Lg 06 29 16.5
comp=Z,5.9nm,0.9s
WLAR White Oak Lake 3.88 108 IAmb_Lg 06 29 39.4
comp=Z,7.3nm,1.0s
BRDY Brady 3.89 199 Pn Pn 06 28 28.8 +0.2
X40A Basin Creek Fa 3.90 96 Pn Pn 06 28 30.2 +1.6
X40A IAmb_Lg 06 29 41.3
comp=Z,5.3nm,0.8s
435B Jarrell 4.20 181 IAmb_Lg 06 29 44.6
comp=Z,9.3nm,0.9s
CBKS Cedar Bluff 4.21 336 Pn Pn 06 28 33.7 +0.9
CBKS IAmb_Lg 06 29 46.7
comp=Z,5.8nm,0.8s
UALR University of 4.27 91 IAmb_Lg 06 29 52.9
comp=Z,7.7nm,0.9s
SGCY Sterling City 4.29 225 Pn Pn 06 28 34.5 +0.4
SGCY IAmb_Lg 06 29 50.6
comp=Z,4.6nm,0.7s
WHAR Wooly Hollow 4.31 85 Pn Pn 06 28 35.1 +0.9
WHAR IAmb_Lg 06 29 49.3
comp=Z,5.2nm,0.7s
S39A Bolivar 4.34 50 Pn Pn 06 28 35.8 +1.2
S39A IAmb_Lg 06 29 45.3
comp=Z,9.4nm,0.8s
FCAR Ozark Folk Cen 4.51 77 IAmb_Lg 06 30 02.7
comp=Z,4.1nm,0.7s
MGMO Mountain Grove 4.78 62 IAmb_Lg 06 30 08.9
comp=Z,6.7nm,0.8s
CCAR Cane Creek 4.88 101 Pn Pn 06 28 43.1 +1.1
JCT Junction City 4.89 204 IAmb_Lg 06 30 07.7
comp=Z,8.7nm,0.9s
LCAR Lake Charles 5.31 76 Pn Pn 06 28 48.2 +0.3
R40A Maddies Statio 5.36 51 Pn Pn 06 28 50.2 +1.5
R40A IAmb_Lg 06 30 26.0
comp=Z,7.5nm,1.1s
T42A Van Buren 5.60 67 Pn Pn 06 28 53.1 +1.1
T42A IAmb_Lg 06 30 32.5
comp=Z,4.8nm,0.8s
P38A Dawn 5.62 33 IAmb_Lg 06 30 25.2
comp=Z,5.1nm,0.7s
CCM Cathedral Cave 5.92 57 IAmb_Lg 06 30 38.8
comp=Z,7.0nm,0.8s
T25A Trinidad 5.97 293 IAmb_Lg 06 30 41.2
comp=Z,3.8nm,0.8s
DRIO Del Rio 6.13 206 IAmb_Lg 06 30 50.0
comp=Z,3.7nm,1.0s

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*IDC **06** 06:28:11.0±0.7,51°.30N×175°.35E, h0km, mb4.0/18, mbtmp4.0/19, ML4.1/1, Error ellipse: s-maj=19.7km s-min=15.3km az=3.0*
*NEIC **06** 06:28:11.9±1.8,51°.2N±0°.1×175°.24E±0°.08, h10km±2km, mb3.8/15, ML3.6(AEIC), Error ellipse: s-maj=19.2km s-min=8.1km az=177.0*
*AEIC **06** 06:28:15.6±2.9,51°.08N±0°.09×175°.7E±0°.1, h18km±7km, Error ellipse: s-maj=16.4km s-min=4.2km az=215.0*

ISC 06 06:28:12.6±0.8, 51°.3N±0°.1×175°.34E±0°.06, h10km, n71, σ1§17/71, mb4.1/19, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.65**	**333**	Pn	**Pn**	**06 28 41.1**	**-0.4**
	15nm,0.3s,baz=208,slow=4.7,SNR=27						
SHEM				Sn	**Sn**	**06 29 00.6**	**-2.1**
	45nm,0.3s,baz=227,slow=18,SNR=22						
LSNW	**Little Sitkin**	**2.10**	**69**		**Pn**	**06 28 48.0**	**+0.3**
LSNW					**Sn**	**06 29 12.5**	**-1.4**
LSSE	**Little Sitkin**	**2.12**	**71**		**Pn**	**06 28 48.1**	**+0.1**
LSPA	**Little Sitkin**	**2.13**	**70**		**Pn**	**06 28 48.4**	**+0.3**
AMKA	**Amchitka**	**2.49**	**86**		**Pn**	**06 28 51.8**	**-1.2**
AMKA					**Sn**	**06 29 19.9**	**-3.5**
CESW	**Semis' Southwe**	**2.71**	**75**		**Pn**	**06 28 56.7**	**+0.6**
CEAP	**Semis' Anvil P**	**2.74**	**73**		**Pn**	**06 28 57.4**	**+0.9**
CEAP					**Sn**	**06 29 30.1**	**+0.4**
CEPE	**Semis' Perret**	**2.77**	**74**		**Pn**	**06 28 57.6**	**+0.6**
GANO	**Gareloi North**	**3.69**	**79**		**Pn**	**06 29 10.0**	**+0.3**
GANE	**Gareloi Northe**	**3.71**	**79**		**Pn**	**06 29 10.4**	**+0.5**
GAEA	**Gareloi East**	**3.73**	**80**		**Pn**	**06 29 10.2**	**+0.1**
TANO	**Tanaga North**	**4.13**	**79**		**Pn**	**06 29 16.2**	**+0.7**
TASE	**Tanaga Southea**	**4.17**	**80**		**Pn**	**06 29 16.8**	**+0.5**
TAFP	**Tanaga Falls P**	**4.21**	**79**		**Pn**	**06 29 16.8**	**+0.1**
KICM	**Kanaga Island**	**4.70**	**79**		**Pn**	**06 29 23.9**	**+0.5**
KIWB	**Kanaga Island**	**4.72**	**80**		**Pn**	**06 29 23.6**	**-0.1**
KIRH	**Kanaga Island**	**4.76**	**80**		**Pn**	**06 29 24.6**	**+0.3**
ADK	**Adak**	**5.01**	**80**		**Pn**	**06 29 27.7**	**0.0**
GSCK	**Great Sitkin C**	**5.34**	**79**		**Pn**	**06 29 32.3**	**0.0**
GSMY	**Great Sitkin M**	**5.41**	**78**		**Pn**	**06 29 33.3**	**+0.1**
GSTR	**Great Sitkin T**	**5.41**	**78**	Pn	**Pn**	**06 29 33.3**	**+0.1**
ATKA	**Atka Island**	**6.56**	**78**		**Pn**	**06 29 49.1**	**+0.1**
KOFP	**Korovin Flat P**	**6.63**	**77**		**Pn**	**06 29 50.4**	**+0.3**
CLES	**Cleveland East**	**9.23**	**75**		**Pn**	**06 30 27.3**	**+1.7**
CLCO	**Concord Point,**	**9.33**	**75**		**Pn**	**06 30 28.5**	**+1.5**
NIKH	**Nikolski High**	**9.87**	**74**		**Pn**	**06 30 35.7**	**+1.4**
OKWE	**Okmok W'ng Wal**	**10.28**	**71**		**Pn**	**06 30 41.8**	**+1.8**
AKRB	**Akutan Reef Bi**	**11.63**	**69**	Pn	**Pn**	**06 31 01.0**	**+2.5**
LVA	**Lava Point**	**11.65**	**68**	Pn	**Pn**	**06 31 00.5**	**+1.7**
AKGG	**Akutan Green G**	**11.68**	**68**	Pn	**Pn**	**06 31 01.7**	**+2.5**
AKLV	**Akutan Long Va**	**11.70**	**68**	Pn	**Pn**	**06 31 01.3**	**+1.8**
S12K	**Black Hills**	**14.14**	**63**	Pn	**Pn**	**06 31 34.4**	**+1.7**
CNBA	**Chernabura Isl**	**15.46**	**67**	Pn	**Pn**	**06 31 48.0**	**-2.4**
L14K	**Kuka Creek**	**15.73**	**42**	Pn	**Pn**	**06 31 54.9**	**+1.0**
L14K				IAmb	IAmb	06 31 56.8	
	comp=Z,6.6nm,1.1s						
N15K	**Kwethluk River**	**16.36**	**48**		**Pn**	**06 32 04.1**	**+2.0**
N15K				IAmb	IAmb	06 32 22.4	
	comp=Z,13nm,1.4s						
K15K	**Wolf Creek Mou**	**16.69**	**40**	Pn	**Pn**	**06 32 06.6**	**+0.4**
K15K				IAmb	IAmb	06 32 21.0	
	comp=Z,9.9nm,1.2s						
M16K	**Timber Creek**	**17.21**	**46**	P	**Pn**	**06 32 14.1**	**+1.4**
M16K				IAmb	IAmb	06 32 22.9	
	comp=Z,8.2nm,1.3s						
L16K	**Owhat River**	**17.27**	**43**	P	**Pn**	**06 32 13.4**	**-0.1**
F15K	**North Star Dit**	**17.72**	**28**	P	**Pn**	**06 32 21.0**	**+1.9**
F15K				IAmb	IAmb	06 32 31.7	
	comp=Z,5.5nm,1.1s						
N17K	**Nushagak Hills**	**17.84**	**48**	P	**Pn**	**06 32 21.1**	**+0.5**
KABU	**Katmai Buttres**	**18.22**	**56**	P	**Pn**	**06 32 24.2**	**-1.2**
KABU				IAmb	IAmb	06 32 46.2	
	comp=Z,9.4nm,1.1s						
L18K	**Granite Mounta**	**18.68**	**43**	P	**P**	**06 32 30.3**	**-0.2**
L18K				IAmb	IAmb	06 32 39.9	
	comp=Z,7.0nm,1.4s						
H17K	**Granite Mounta**	**18.74**	**34**	P	**P**	**06 32 33.3**	**+2.1**
Q19K	**Cape Douglas,**	**19.18**	**54**	P	**P**	**06 32 35.1**	**-1.0**
N19K	**Bonanza Creek**	**19.20**	**49**	P	**P**	**06 32 35.5**	**-0.9**
N19K				IAmb	IAmb	06 32 40.4	
	comp=Z,7.2nm,1.3s						
KDAK	**Kodiak Island**	**19.58**	**58**	P	**P**	**06 32 38.3**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=301,slow=2.9,SNR=10						
	comp=Z,1.8nm,0.4s						
SYI	**Shuyak Island**	**19.78**	**56**	P	**P**	**06 32 41.9**	**-0.7**
CNPM	**China Poot**	**20.50**	**53**	P	**P**	**06 32 49.5**	**-1.0**
CNPM				IAmb	IAmb	06 33 19.1	
	comp=Z,10nm,1.0s						
ILAR	**Eielson Array**	**23.68**	**41**	P	**P**	**06 33 22.9**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=243,slow=9.8,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**32.17**	**195**	T	T	07 09 37.5	
	baz=9.7						
H11N3	**WAKE ISLAND Hy**	**32.19**	**195**	T	T	07 10 08.9	
	baz=9.7						
H11N1	**WAKE ISLAND Hy**	**32.19**	**195**	T	T	07 10 13.4	
	baz=9.7						
SONM	**Songino Array**	**43.36**	**294**	P	P	06 36 13.3	-1.5
	comp=Z,0.7nm,0.5s,baz=72,slow=9.5,SNR=3.5						
	comp=Z,0.7nm,0.5s						
NVAR	**Mina Array Bea**	**47.20**	**79**	P	**P**	**06 36 45.8**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=291,slow=7.5,SNR=9.0						
	comp=Z,0.8nm,0.6s						
PDAR	**Pinedale Array**	**49.81**	**69**	P	**P**	**06 37 04.8**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=302,slow=1.8,SNR=4.8						
	comp=Z,0.4nm,0.6s						
SPITS	**Spitsbergen Ar**	**50.17**	**354**	P	**P**	**06 37 08.9**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=52,slow=10,SNR=2.4						
	comp=Z,2.9nm,0.8s						
ULM	**Lac du Bonnet**	**52.76**	**54**	P	**P**	**06 37 26.7**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=304,slow=7.5,SNR=7.9						
	comp=Z,1.3nm,0.4s						
KURBB	**Kurchatov Arra**	**56.47**	**311**	P	**P**	**06 37 54.4**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=43,slow=6.6,SNR=19						
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**57.15**	**305**	P	**P**	**06 37 58.9**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=44,slow=6.9,SNR=8.6						
	comp=Z,0.6nm,0.5s						
ARCES	**ARCESS Array B**	**57.49**	**348**	P	**P**	**06 38 00.8**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=23,slow=9.8,SNR=1.4						
	comp=Z,1.8nm,0.9s						
BVAR	**Borovoye Array**	**58.52**	**317**	P	**P**	**06 38 08.9**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=35,slow=8.0,SNR=7.9						
	comp=Z,1.2nm,0.5s						
TXAR	**Lajitas Array**	**62.28**	**77**	P	**P**	**06 38 35.7**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=304,slow=5.5,SNR=19						
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.98**	**344**	P	**P**	**06 38 51.7**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=57,slow=8.8,SNR=3.6						
	comp=Z,1.5nm,0.8s						
NOA	**NORSAR Array B**	**67.31**	**352**	P	**P**	**06 39 07.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=3.4,slow=4.9,SNR=2.5						
	comp=Z,0.6nm,0.6s						
HFS	**Hagfors**	**67.96**	**350**	P	**P**	**06 39 10.8**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=15,slow=6.3,SNR=7.4						
	comp=Z,1.1nm,0.5s						
EKA	**Eskdalemuir Ar**	**73.75**	**359**	P	**P**	**06 39 45.8**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=8.5,slow=6.7,SNR=7.2						
	comp=Z,1.4nm,0.6s						
AKASG	**Malin Array Be**	**74.40**	**338**	P	**P**	**06 39 50.5**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=26,slow=6.0,SNR=4.3						
	comp=Z,1.1nm,0.5s						
WRA	**Warramunga Arr**	**79.51**	**219**	P	**P**	**06 40 19.1**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=31,slow=6.1,SNR=11						
	comp=Z,0.9nm,0.5s						
ASAR	**Alice Springs**	**83.04**	**218**	P	**P**	**06 40 38.8**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=26,slow=5.6,SNR=11						
	comp=Z,0.8nm,0.6s						
BRTR	**Keskin Array B**	**83.39**	**331**	P	**P**	**06 40 40.7**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=23,slow=7.3,SNR=2.8						
	comp=Z,0.5nm,0.4s						
MAW	**Mawson**	**144.16**	**217**	PKP	**PKPab**	**06 47 45.0**	**+0.2**
	comp=Z,3.8nm,1.1s,baz=24,slow=6.9,SNR=4.0						

IDC 06 06:30:23.5±3.6, 54°.20N×87°.34E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=32.9km s-min=20.5km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**261**	I	I	06 39 40.0	
	baz=80,slow=321,SNR=4.3						
ZALV	**Zalesovo Beam**	**1.51**	**261**	Pg	Pn	06 30 49.7	-2.0
	2.2nm,0.3s,baz=80,slow=14,SNR=11						
ZALV				Lg	Lg	06 31 11.9	
	1.2nm,0.3s,baz=82,slow=24,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.47**	**240**	Pn	Pn	06 32 00.4	+0.5
	0.1nm,0.3s,baz=56,slow=14,SNR=5.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.08**	**205**	Pn	Pn	06 32 23.7	+1.6
	baz=26,slow=13,SNR=1.9						
	0.1nm,0.4s						

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*NNC **06** 06:43:16.1±2.7,54°.35N×87°.57E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=24.7km s-min=16.4km az=179.0, Suspected Mining explosion.*
*IDC **06** 06:43:20.9±3.1,54°.23N×87°.28E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=26.4km s-min=17.2km az=64.0*

ISC 06 06:43:16.9±3.6, 54°.4N±0°.2×87°.5E±0°.1, h0km, n8, σ1§79/11, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.60**	**256**	I	I	06 52 10.0	
	0.1nm,0.8s,baz=76,slow=303,SNR=1.8						
ZAA0	**Zalesovo Array**	**1.60**	**256**	⇓P	**Pb**	**06 43 45.6**	**-1.8**
	0.2nm,0.3s						
ZAA0				⇑S	**Sg**	**06 44 08.9**	**+0.5**
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**1.60**	**256**	Pg	**Pg**	**06 43 46.7**	**-0.9**
	1.3nm,0.3s,baz=78,slow=16,SNR=10						
ZALV				Lg	Lg	06 44 07.8	
	1.1nm,0.3s,baz=82,slow=34,SNR=6.2						
KURK	**Kurchatov**	**6.51**	**239**	⇑Pn	**Pn**	**06 44 53.9**	**+0.1**
	2.9nm,1.1s						
KURK				⇓Sn	**Sn**	**06 46 09.0**	**+0.3**
	1.6nm,1.2s						
KURK				⇑Lg	Lg	06 46 47.6	
	3.1nm,0.8s						
KURBB	**Kurchatov Arra**	**6.61**	**239**	Pn	**Pn**	**06 44 57.9**	**+2.7**
	0.1nm,0.3s,baz=57,slow=14,SNR=9.0						
KURBB				Lg	Lg	06 46 48.2	
	baz=54,slow=31,SNR=4.8						
	1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**6.61**	**239**	⇑Pn	**Pn**	**06 44 56.9**	**+1.7**
	1.3nm,0.5s						
KURBB				⇑Sn	**Sn**	**06 46 13.5**	**+2.3**
	2.1nm,0.7s						
KURBB				⇓Lg	Lg	06 46 51.0	
	3.8nm,0.8s						
MK31	**Makanchi Array**	**8.26**	**206**	⇑Pn	**Pn**	**06 45 19.6**	**+1.8**
	0.6nm,0.7s,baz=29,slow=14,SNR=4.5						
MK31				⇑Sn	**Sn**	**06 46 50.4**	**-1.4**
	0.4nm,0.6s,baz=28,slow=25,SNR=3.8						
MK31				⇓Lg	Lg	06 47 37.5	
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**8.26**	**206**	Pn	Pn	06 45 21.2	+3.4
	0.1nm,0.3s,baz=20,slow=10,SNR=2.4						
MKAR				Sn	**Sn**	**06 46 50.8**	**-0.9**
	baz=24,slow=24,SNR=5.9						
MKAR				Lg	Lg	06 47 39.0	
	baz=18,slow=20,SNR=1.9						
	0.1nm,0.4s						

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*IDC **06** 07:08:07.3±1.1,29°.05S×178°.12W, h0km, mb4.0/5, mbtmp4.0/6, ML3.2/1, MS3.4/2, Error ellipse: s-maj=31.1km s-min=9.8km az=37.0*

ISC 06 07:08:12.7±0.9, 29°.1S±0°.1×178°.2W±0°.1, h35km, n16, σ0§98/11, mb4.0/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.25**	**126**	Pn	**Pn**	**07 08 18.5**	**-1.4**
	797nm,0.3s,baz=260,slow=8.6,SNR=13						
RAO				Sn	**Sn**	**07 08 25.4**	**+0.4**
	3μm,0.3s,baz=336,slow=19,SNR=12						
URZ	**Urewera**	**9.94**	**202**	Pn	**Pn**	**07 10 33.7**	**+0.7**
	0.2nm,0.3s,baz=73,slow=19,SNR=2.0						
URZ				Sn	**Sn**	**07 12 22.5**	**-0.8**
	0.1nm,0.3s,baz=114,slow=16,SNR=1.3						
	3.2nm,0.8s						
DZM	**Mont Dzumac**	**15.56**	**293**	LR	LR	07 16 16.6	
	comp=Z,80nm,18.9s,baz=217,slow=31						
STKA	**Stephens Creek**	**34.66**	**255**	P	**P**	**07 14 59.4**	**+0.4**
	2.8nm,0.7s,baz=25,slow=14,SNR=3.0						
STKA				LR	LR	07 26 30.6	
	comp=Z,90nm,18.7s,baz=206,slow=32						
	2.8nm,0.7s						
ASAR	**Alice Springs**	**43.06**	**266**	P	**P**	**07 16 08.5**	**-0.9**
	1.8nm,0.6s,baz=99,slow=7.2,SNR=30						
	1.8nm,0.6s						
WRA	**Warramunga Arr**	**43.93**	**271**	P	**P**	**07 16 15.5**	**-0.9**
	2.7nm,0.6s,baz=110,slow=7.6,SNR=27						
	2.7nm,0.6s						
QSPA	**South Pole Qui**	**61.00**	**180**	P	**P**	**07 18 23.7**	**+1.3**
	0.7nm,0.5s,baz=11,slow=9.3,SNR=10.0						
	0.7nm,0.5s						
H03S2	**Juan Fernandez**	**81.29**	**124**	T	T	08 50 10.7	
	baz=239,slow=74,SNR=8.7						
H03S1	**Juan Fernandez**	**81.30**	**124**	T	T	08 50 12.0	
	baz=239,slow=74,SNR=8.7						
H03S3	**Juan Fernandez**	**81.30**	**124**	T	T	08 50 10.9	
	baz=239,slow=74,SNR=8.8						
H03N3	**Juan Fernandez**	**81.47**	**123**	T	T	08 50 24.3	
	baz=236,slow=74						
H03N2	**Juan Fernandez**	**81.47**	**123**	T	T	08 50 15.6	
	baz=236						
H03N1	**Juan Fernandez**	**81.49**	**123**	T	T	08 50 10.5	
	baz=236,slow=74						
NVAR	**Mina Array Bea**	**87.38**	**43**	P	**P**	**07 20 57.1**	**+0.8**
	0.3nm,0.6s,baz=218,slow=5.7,SNR=3.0						
	0.3nm,0.6s						
HFS	**Hagfors**	**147.96**	**349**	PKPbc	**PKPbc**	**07 27 53.1**	**-0.5**
	7.3nm,1.3s,baz=12,slow=7.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**164.12**	**179**	PKPab	**PKPab**	**07 29 06.2**	**-0.1**
	0.4nm,0.8s,baz=178,slow=3.6,SNR=3.6						

IDC 06 07:32:05.2±3.0, 54°.23N×86°.98E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=24.7km s-min=18.5km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**258**	I	I	07 40 30.0	
	baz=77,slow=321,SNR=4.0						
ZALV	**Zalesovo Beam**	**1.31**	**258**	Pg	Pg	07 32 29.3	-0.9
	1.1nm,0.3s,baz=76,slow=16,SNR=7.6						
ZALV				Lg	Lg	07 32 47.5	
	1.3nm,0.3s,baz=74,slow=23,SNR=7.7						
KURBB	**Kurchatov Arra**	**6.31**	**238**	Pn	Pn	07 33 40.4	+1.1
	0.1nm,0.3s,baz=55,slow=13,SNR=5.2						
KURBB				Sn	Sn	07 34 50.6	-1.5
	baz=14,slow=27,SNR=1.3						
KURBB				Lg	Lg	07 35 25.5	
	baz=50,slow=30,SNR=2.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**8.02**	**204**	Pn	Pn	07 34 04.0	+1.0
	0.1nm,0.3s,baz=27,slow=15,SNR=2.8						
	0.1nm,0.3s						

IDC 06 07:34:17.6±3.4, 54°.06N×86°.72E, h0km, mbtmp2.4/2, ML2.2/2, Error ellipse: s-maj=28.5km s-min=16.7km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.13**	**265**	I	I	07 39 10.0	
	baz=82,slow=320,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.13**	**265**	Pg	Pg	07 34 39.1	0.0
	0.2nm,0.3s,baz=84,slow=13,SNR=1.5						
ZALV				Lg	Lg	07 34 54.4	
	0.7nm,0.3s,baz=86,slow=27,SNR=2.7						
KURBB	**Kurchatov Arra**	**6.08**	**239**	Pn	Pn	07 35 49.8	+1.1
	baz=57,slow=13,SNR=2.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.80**	**203**	Pn	Pn	07 36 12.9	+0.5
	0.1nm,0.3s,baz=24,slow=14,SNR=1.5						
	0.1nm,0.3s						

IDC 06 07:35:34.6±1.4, 17°.23S×175°.38W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=56.8km s-min=31.4km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.59**	**259**	P	P	07 44 11.7	-0.9
	0.4nm,0.3s,baz=91,slow=6.9,SNR=22						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**47.75**	**253**	P	P	07 44 14.6	+0.7
	3.5nm,0.5s,baz=87,slow=7.9,SNR=75						
	3.5nm,0.5s						
QSPA	**South Pole Qui**	**72.82**	**180**	P	P	07 47 04.6	-0.4
	0.6nm,0.8s,baz=28,slow=1.3,SNR=1.6						
	0.6nm,0.8s						
NVAR	**Mina Array Bea**	**76.96**	**43**	P	P	07 47 29.8	+0.3
	0.4nm,0.8s,baz=210,slow=7.1,SNR=4.1						
	0.4nm,0.8s						

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*IDC **06** 07:43:21.2±0.7,20°.82S×174°.31W, h0km, mb3.9/9, mbtmp3.9/10, ML3.5/1, MS3.5/7, Error ellipse: s-maj=30.0km s-min=21.4km az=142.0*

ISC 06 07:43:22.7±0.7, 20°.8S±0°.2×174°.3W±0°.2, h10km, n20, σ0§90/16, mb3.8/9, MS3.5/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.58**	**94**	Pn	Pn	07 46 25.2	-10
	2.5nm,0.3s,baz=200,slow=6.6,SNR=7.2						
RAR				Sn	Sn	07 48 39.9	-27
	0.7nm,0.3s,baz=1.6,slow=18,SNR=2.1						
RAR				LR	LR	07 52 07.0	
	comp=Z,82nm,18.0s,baz=274,slow=39						
DZM	**Mont Dzumac**	**17.97**	**262**	P	**P**	**07 47 34.5**	**+1.1**
	0.2nm,0.3s,baz=76,slow=19,SNR=2.1						
	6.7nm,0.8s						
PPT	**Papeete**	**23.57**	**86**	LR	LR	07 57 10.8	
	comp=Z,75nm,18.4s,baz=244,slow=35						
HNR	**Honiara**	**27.25**	**291**	LR	LR	07 57 36.4	
	comp=Z,560nm,21.8s,baz=193,slow=31						
ASAR	**Alice Springs**	**47.82**	**256**	P	**P**	**07 51 60.0**	**-0.9**
	2.3nm,0.7s,baz=100,slow=7.8,SNR=24

GERES GERESS Array B 151.28 349 PKPbc **PKiKP 08 03 17.1 +0.1**
0.5nm,0.3s,baz=30,slow=2.7,SNR=0.6

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*NNC **06** 07:49:39.0±4.5, 53°.54N×88°.21E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=34.2km s-min=21.3km az=64.0, Suspected Mining explosion.*
*IDC **06** 07:49:41.2±2.8, 53°.68N×88°.01E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=23.6km s-min=16.3km az=59.0*
ISC 06 07:49:42.7±3.6, 53°.7N±0°.1×87°.9E±0°.2, h0km, n8, σ0§70/12, 5C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.83 280**		I	I		I	08 02 10.0	
	0.2nm,1.0s,baz=95,slow=319,SNR=5.0								
ZAA0	**Zalesovo Array**	**1.83 280**		⇑P			**Pn**	**07 50 15.2**	**-0.2**
	1.0nm,0.6s								
ZAA0				⇓S			**Sg**	**07 50 42.0**	**+0.5**
	1.3nm,0.6s								
ZALV	**Zalesovo Beam**	**1.83 280**		Pn			**Pn**	**07 50 15.4**	**0.0**
	1.7nm,0.3s,baz=100,slow=13,SNR=32								
ZALV				Lg			Lg	07 50 41.9	
	3.6nm,0.3s,baz=94,slow=30,SNR=17								
KURK	**Kurchatov**	**6.41 246**		⇓Pn			Pn	07 51 13.1	-5.1
	1.3nm,0.9s								
KURK				⇓Sn			**Sn**	**07 52 32.8**	**+0.8**
	0.9nm,0.7s								
KURK				⇑Lg			Lg	07 53 06.8	
	2.0nm,0.7s								
KURBB	**Kurchatov Arra**	**6.50 246**		Pn			**Pn**	**07 51 20.1**	**+0.5**
	0.1nm,0.3s,baz=60,slow=14,SNR=5.3								
KURBB				Sn			**Sn**	**07 52 33.7**	**-0.7**
	baz=19,slow=20,SNR=0.9								
KURBB				Lg			Lg	07 53 08.9	
	baz=68,slow=31,SNR=4.5								
	0.7nm,0.3s								
KURBB	**Kurchatov Arra**	**6.50 246**		⇓Pn			**Pn**	**07 51 18.5**	**-1.1**
	0.8nm,0.4s								
KURBB				⇑Sn			**Sn**	**07 52 33.9**	**-0.5**
	2.6nm,0.6s								
KURBB				⇑Lg			Lg	07 53 10.5	
	3.1nm,0.6s								
MK31	**Makanchi Array**	**7.75 210**		Pn			**Pn**	**07 51 37.2**	**+0.5**
	0.2nm,0.5s,baz=29,slow=13,SNR=7.0								
MK31				⇓Sn			**Sn**	**07 53 04.2**	**-0.9**
	0.3nm,0.5s,baz=39,slow=26								
MK31				⇑Lg			Lg	07 53 43.4	
	0.5nm,0.6s,baz=32,slow=30,SNR=3.6								
MKAR	**Makanchi Array**	**7.75 210**		Pn			**Pn**	**07 51 36.7**	**0.0**
	0.2nm,0.3s,baz=28,slow=13,SNR=7.6								
MKAR				Sn			**Sn**	**07 53 05.5**	**+0.4**
	0.1nm,0.3s,baz=33,slow=24,SNR=4.2								
MKAR				Lg			Lg	07 53 47.2	
	baz=34,slow=30,SNR=1.4								
	0.3nm,0.3s								

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*NOU **06** 07:56:51.2, 21°.19S×168°.96E, h0km, MLv4.6/7, Loyalty Islands*
*IDC **06** 07:56:57.2±0.9, 21°.32S×168°.49E, h0km, mb3.8/7, mbtmp3.9/9, ML3.8/2, MS3.1/5, Error ellipse: s-maj=27.5km s-min=20.2km az=159.0*
ISC 06 07:57:00.1±0.8, 21°.28S±0°.08×168°.45E±0°.09, h20km, n23, σ0§85/20, mb4.0/7, MS3.4/4, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.44 243**		P			**Pb**	**07 57 08.9**	**-0.3**
LIFNC	**LIFOU**	**1.24 294**		P			**Pn**	**07 57 20.7**	**-1.6**
PINNC	**Pines Island,**	**1.62 215**		P			**Pn**	**07 57 26.3**	**-1.2**
YATNC	**Mamie plateau,**	**1.64 242**		P			**Pn**	**07 57 26.3**	**-1.6**
OUENC	**Ouen Island, N**	**1.87 233**		P			**Pn**	**07 57 31.2**	**+0.1**
DZM	**Mont Dzumac**	**2.02 247**		P			**Pn**	**07 57 33.0**	**-0.2**
DZM	**Mont Dzumac**	**2.02 247**		Pn			**Pn**	**07 57 33.4**	**+0.2**
	174nm,0.3s,baz=109,slow=9.0,SNR=837								
DZM				LR			LR	07 57 57.8	
	comp=Z,175nm,19.4s,baz=348,slow=30								
DZM				Sn			**Sn**	**07 57 58.7**	**+0.7**
	127nm,0.3s,baz=159,slow=23,SNR=14								
	380nm,0.4s								
KOUNC	**Koumac, New Ca**	**3.96 280**		P			**Pn**	**07 58 00.2**	**+0.4**
URZ	**Urewera**	**18.50 158**		P			**Pn**	**08 01 15.6**	**+0.5**
	0.1nm,0.3s,baz=10,slow=7.2,SNR=3.5								
	7.4nm,1.1s								
CTA	**Charters Tower**	**20.80 269**		P			Pn	08 01 42.5	-0.3
	0.2nm,0.7s,baz=90,slow=15,SNR=2.7								
CTA				LR			LR	08 08 50.2	
	comp=Z,7.8nm,18.3s,baz=89,slow=34								
STKA	**Stephens Creek**	**26.17 241**		LR			LR	08 12 44.8	
	comp=Z,94nm,18.4s,baz=36,slow=36								
WRA	**Warramunga Arr**	**31.92 266**		P			**P**	**08 03 24.0**	**-0.7**
	0.6nm,0.9s,baz=90,slow=8.5,SNR=5.6								
	0.6nm,0.9s								
ASAR	**Alice Springs**	**31.97 259**		P			**P**	**08 03 25.2**	**+0.1**
	1.3nm,0.7s,baz=82,slow=9.2,SNR=14								
	1.3nm,0.7s								
PPT	**Papeete**	**39.67 92**		LR			LR	08 17 59.7	
	comp=Z,94nm,19.3s,baz=342,slow=32								
QSPA	**South Pole Qui**	**68.78 180**		P			**P**	**08 08 02.6**	**0.0**
	1.5nm,0.9s,baz=53,slow=1.9,SNR=5.7								
	1.5nm,0.9s								
SNAA	**Sanae**	**87.09 183**		P			**P**	**08 09 43.9**	**-0.3**
	0.6nm,0.7s,baz=168,slow=20,SNR=1.8								
	0.6nm,0.7s								
SONM	**Songino Array**	**88.41 323**		P			**P**	**08 09 52.4**	**+1.6**
	0.3nm,0.3s,baz=156,slow=7.4,SNR=2.0								
	0.3nm,0.3s								
NVAR	**Mina Array Bea**	**90.70 49**		P			**P**	**08 10 02.2**	**+0.3**
	0.3nm,0.7s,baz=230,slow=6.9,SNR=3.8								
	0.3nm,0.7s								
ILAR	**Eielson Array**	**92.39 18**		P			**P**	**08 10 07.8**	**-1.0**
	0.2nm,0.6s,baz=218,slow=5.6,SNR=2.1								
	0.2nm,0.6s								
DLBC	**Dease Lake**	**94.19 28**		LR			LR	08 47 47.3	
	comp=Z,16nm,18.7s,baz=314,slow=32								
ARCES	**ARCESS Array B 126.84 345**			PKP			**PKiKP**	**08 16 02.4**	**+0.2**
	0.9nm,0.8s,baz=39,slow=4.7,SNR=3.6								
EKA	**Eskdalemuir Ar**	**145.42 352**		PKP			**PKPdf**	**08 16 36.5**	**+0.1**
	2.4nm,0.6s,baz=350,slow=2.1,SNR=14								
GERES	**GERESS Array B 145.91 330**			PKPbc			**PKPbc**	**08 16 38.6**	**+0.3**
	0.8nm,0.5s,baz=2.9,slow=3.9,SNR=3.6								

IDC 06 08:00:00.5±3.2, 54°.10N×86°.77E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=27.9km s-min=16.2km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.16 263**		I			I	08 07 00.0	
	baz=80,slow=319,SNR=1.8								
ZALV	**Zalesovo Beam**	**1.16 263**		Pg			Pg	08 00 21.9	-0.7
	0.5nm,0.3s,baz=86,slow=18,SNR=8.9								
ZALV				Lg			Lg	08 00 38.5	
	2.1nm,0.3s,baz=82,slow=20,SNR=16								
KURBB	**Kurchatov Arra**	**6.13 239**		Pn			Pn	08 01 33.4	+1.2
	0.1nm,0.3s,baz=58,slow=14,SNR=2.6								
	0.9nm,0.2s								
MKAR	**Makanchi Array**	**7.85 203**		Pn			Pn	08 01 56.8	+1.0
	0.1nm,0.3s,baz=26,slow=14,SNR=5.9								
	0.2nm,0.3s								

NNC 06 08:00:19.7±6.0, 54°.21N×86°.64E, h0km, mb2.8, mpv2.6, 4C-1D, Error ellipse: s-maj=48.7km s-min=30.4km az=13.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.10 257**		⇓P			Pg	08 00 38.5	-2.3
	0.5nm,0.6s								
ZAA0				⇑S			Sb	08 00 56.4	-0.1
	1.2nm,0.6s								
KURK	**Kurchatov**	**6.02 238**		Pn			Pn	08 01 54.0	+4.1
	0.8nm,0.6s								
KURK				⇑Sn			Sn	08 03 02.3	+2.8
	0.6nm,0.4s								
KURK				⇑Lg			Lg	08 03 33.8	
	1.0nm,0.6s								
KURBB	**Kurchatov Arra**	**6.12 237**		Pn			Pn	08 01 54.0	+2.7
	1.0nm,0.4s								
KURBB				Sn			Sn	08 03 02.0	-0.1
	0.7nm,0.3s								
KURBB				Lg			Lg	08 03 34.4	
	1.2nm,0.6s								
MK31	**Makanchi Array**	**7.92 202**		Pn			Pn	08 02 19.9	+3.8
	0.1nm,0.2s,baz=28,slow=14,SNR=8.1								
MK31				Sn			Sn	08 03 44.6	-1.9
	0.1nm,0.4s								
MK31				⇑Lg			Lg	08 04 27.2	
	0.1nm,0.5s								

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*NNC **06** 08:09:27.8±3.5, 54°.50N×86°.97E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=33.0km s-min=19.6km az=175.0, Suspected Mining explosion.*
*IDC **06** 08:09:30.2±2.6, 54°.23N×86°.89E, h0km, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=22.0km s-min=14.6km az=62.0*
ISC 06 08:09:30.3±4.2, 54°.4N±0°.2×86°.8E±0°.2, h0km, n9, σ1§99/14, 4C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.22 251**		I			I	08 17 30.0	
	baz=74,slow=317,SNR=5.6								
ZAA0	**Zalesovo Array**	**1.22 251**		⇑P			**Pg**	**08 09 52.2**	**-1.5**
	0.5nm,0.3s								
ZAA0				⇓S			**Sn**	**08 10 13.0**	**+1.2**
	1.7nm,0.6s								
ZALV	**Zalesovo Beam**	**1.22 251**		Pg			**Pg**	**08 09 52.4**	**-1.3**
	2.7nm,0.3s,baz=78,slow=22,SNR=24								
ZALV				Lg			Lg	08 10 10.7	
	2.7nm,0.3s,baz=78,slow=36,SNR=9.5								
KURK	**Kurchatov**	**6.17 237**		⇓Pn			**Pn**	**08 11 03.5**	**+0.9**
	0.7nm,0.5s								
KURK				⇑Sn			**Sn**	**08 12 15.4**	**+1.6**
	0.7nm,0.5s								
KURK				⇓Lg			Lg	08 12 43.0	
	2.3nm,0.9s								
KURBB	**Kurchatov Arra**	**6.28 237**		Pn			**Pn**	**08 11 04.5**	**+0.4**
	0.1nm,0.3s,baz=54,slow=14,SNR=5.9								
KURBB				Sn			**Sn**	**08 12 15.4**	**-0.9**
	0.1nm,0.3s,baz=40,slow=20,SNR=2.2								
KURBB				Lg			Lg	08 12 49.5	
	0.1nm,0.3s,baz=57,slow=32,SNR=1.8								
	0.7nm,0.4s								
KURBB	**Kurchatov Arra**	**6.28 237**		⇓Pn			**Pn**	**08 11 05.0**	**+0.9**
	1.0nm,0.4s								
KURBB				⇓Sn			**Sn**	**08 12 17.7**	**+1.3**
	1.5nm,0.3s								
KURBB				⇑Lg			Lg	08 12 51.3	
	4.1nm,0.8s								
MK31	**Makanchi Array**	**8.10 202**		⇑Pn			**Pn**	**08 11 29.7**	**+0.6**
	baz=26,slow=14,SNR=14								
MK31				⇓Sn			**Sn**	**08 13 05.4**	**+4.0**
	0.2nm,0.3s								
MK31				⇓Lg			Lg	08 13 45.4	
	0.4nm,0.5s,baz=30,slow=32,SNR=3.9								
MKAR	**Makanchi Array**	**8.10 202**		Pn			**Pn**	**08 11 29.2**	**+0.1**
	0.2nm,0.3s,baz=27,slow=14,SNR=10.0								
MKAR				Sn			**Sn**	**08 12 57.5**	**-3.9**
	0.1nm,0.3s,baz=26,slow=27,SNR=2.3								
MKAR				Lg			Lg	08 13 45.1	
	0.1nm,0.3s,baz=27,slow=32,SNR=1.5								
	0.2nm,0.3s								
BVAR	**Borovoye Array**	**9.81 269**		Pn			**Pn**	**08 11 52.6**	**+0.1**
	baz=69,slow=21,SNR=2.1								
	0.3nm,0.3s								

IDC 06 08:29:32.2±3.5, 54°.26N×86°.99E, h0km, mbtmp3.2/2, ML2.4/2, Error ellipse: s-maj=32.0km s-min=19.7km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31 257**		I			I	08 38 30.0	
	baz=78,slow=322,SNR=6.1								
ZALV	**Zalesovo Beam**	**1.32 257**		Pg			Pg	08 29 55.6	-1.8
	1.1nm,0.3s,baz=74,slow=16,SNR=8.4								
ZALV				Lg			Lg	08 30 14.5	
	1.2nm,0.3s,baz=77,slow=20,SNR=3.9								
KURBB	**Kurchatov Arra**	**6.32 238**		Pn			Pn	08 31 07.8	+1.2
	0.1nm,0.3s,baz=55,slow=14,SNR=2.3								
	3.6nm,0.2s								
MKAR	**Makanchi Array**	**8.05 204**		Pn			Pn	08 31 31.7	+1.4
	0.1nm,0.3s,baz=22,slow=15,SNR=1.9								
	0.1nm,0.4s								

IDC 06 08:34:11.3±2.2, 54°.44N×83°.54E, h0km, mbtmp3.1/2, ML2.3/2, Error ellipse: s-maj=18.2km s-min=11.3km az=162.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90 123**		I			I	08 39 10.0	
	baz=305,slow=318,SNR=2.7								
ZALV	**Zalesovo Beam**	**0.90 123**		Pg			Pg	08 34 27.9	-0.6
	1.6nm,0.3s,baz=302,slow=13,SNR=14								
ZALV				Lg			Lg	08 34 41.9	
	1.9nm,0.3s,baz=302,slow=28,SNR=8.8								
KURBB	**Kurchatov Arra**	**4.89 221**		Pn			Pn	08 35 25.7	-0.4
	0.1nm,0.3s,baz=43,slow=14,SNR=1.9								
	1.8nm,0.2s								
MKAR	**Makanchi Array**	**7.70 186**		Pn			Pn	08 36 05.7	+1.1
	0.1nm,0.3s,baz=3.6,slow=9.6,SNR=4.5								
MKAR				Lg			Lg	08 38 12.3	
	baz=9.1,slow=28,SNR=1.9								
	0.3nm,0.6s								

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*IDC **06** 08:44:15.5±1.0, 2°.30N×84°.52W, h0km, mb3.9/11, mbtmp4.0/12, ML4.0/1, MS3.5/26, Error ellipse: s-maj=36.5km s-min=19.4km az=46.0*
*NEIC **06** 08:44:18.3±1.8, 2°.12N±0°.10×84°.7W±0°.1, h10km±2km, mb4.2/13, Error ellipse: s-maj=22.6km s-min=13.9km az=237.0*
ISC 06 08:44:20.7±0.7, 2°.23N±0°.08×84°.6W±0°.1, h35km, n67, σ1§42/45, mb4.0/13, MS3.6/21, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**6.45 108**					**Pn**	**08 45 52.1**	**-1.5**
PULU	**Pululahua**	**6.47 110**		Pn			**Pn**	**08 45 54.2**	**+0.3**
IMBA	**Imbabura, San**	**6.68 107**		Pn			**Pn**	**08 45 58.0**	**+1.3**
SLOR	**San Lorenzo -**	**6.76 116**					**Pn**	**08 45 57.9**	**-0.1**
TULM	**Tulcn-Chalpat**	**6.96 102**					**Pn**	**08 46 02.2**	**+1.5**
ANTS	**Antisana-Sarah**	**6.97 113**		Pn			**Pn**	**08 46 02.6**	**+1.7**
LCR2	**La Lucha 2**	**7.48 4**		Pn			**Pn**	**08 46 07.9**	**+0.3**
HDC	**Heredia**	**7.73 3**					**Pn**	**08 46 12.0**	**+1.0**
JTS	**Las Juntas de**	**8.01 357**					**Pn**	**08 46 15.4**	**+0.7**
JTS	**Las Juntas de**	**8.01 357**		Pn			**Pn**	**08 46 14.5**	**-0.2**
	2.2nm,0.3s,baz=205,slow=3.9,SNR=14								
JTS				Sn			**Sn**	**08 47 41.0**	**-3.2**
	0.4nm,0.3s,baz=270,slow=20,SNR=1.5								
JTS				LR			LR	08 48 35.8	
	comp=Z,448nm,21.6s,baz=190,slow=33								
	23nm,0.7s								
SOCE	**Pocosol**	**8.10 360**					**Pn**	**08 46 17.8**	**+1.9**
ESPN	**Las Esperanzas**	**9.90 2**		Pn			**Pn**	**08 46 43.2**	**+2.6**
ROSC	**El Rosal**	**10.57 76**		Pn			**Pn**	**08 46 52.0**	**+1.9**
ROSC	**El Rosal**	**10.57 76**		Pn			**Pn**	**08 46 52.1**	**+2.0**
	1.1nm,0.3s,baz=183,slow=24,SNR=2.0								
ATAH	**Atahualpa**	**11.17 146**		Pn			**Pn**	**08 47 00.3**	**+1.9**
	0.2nm,0.3s,baz=346,slow=12,SNR=3.0								
TGUH	**Tegucigalpa,Un**	**12.04 347**					**Pn**	**08 47 14.1**	**+4.0**
MTO3	**Montecristo**	**12.97 339**					**Pn**	**08 47 23.8**	**+0.9**
SDV	**Santo Domingo**	**15.38 64**		LR			LR	08 53 16.8	
	comp=Z,85nm,22.0s,baz=276,slow=35								
CZSB	**Cruzeiro do Su**	**15.44 130**		Pn			**Pn**	**08 47 53.1**	**-3.0**
CZSB				IAmb			IAmb	08 48 23.3	
	comp=Z,15nm,1.2s								
NNA	**Nana**	**16.09 152**		LR			LR	08 53 23.4	
	comp=Z,90nm,21.1s,baz=313,slow=34								
BAUV	**El Baul**	**17.76 67**		P			**P**	**08 48 27.0**	**+1.1**
BAUV				IAmb			IAmb	08 48 40.7	
	comp=Z,22nm,1.3s								
CMIG	**Matias Romero**	**17.90 326**		LR			LR	08 52 55.8	
	comp=Z,36nm,21.3s,baz=172,slow=29								
TEIG	**Tepich**	**18.24 349**		LR			LR	08 54 55.7	
	comp=Z,171nm,19.6s,baz=216,slow=35								
PCRV	**Puerto La Cruz**	**21.33 67**		P			**P**	**08 49 05.5**	**+0.5**
	comp=Z,11nm,1.0s,baz=319,slow=9.3,SNR=4.2								
	comp=Z,11nm,1.0s								
LPAZ	**La Paz**	**24.56 139**		P			**P**	**08 49 38.4**	**+0.3**
LPAZ				IAmb			IAmb	08 49 41.8	
	comp=Z,5.2nm,1.1s								
LPAZ	**La Paz**	**24.56 139**		P			**P**	**08 49 39.2**	**+1.0**
	comp=Z,3.8nm,1.0s,baz=326,slow=9.8,SNR=9.5								
	comp=Z,3.8nm,1.0s								
LVC	**Limon Verde**	**29.05 149**		LR			LR	09 00 41.0	
	comp=Z,90nm,18.4s,baz=280,slow=34								
MDP	**Montagnes des**	**32.01 84**		LR			LR	09 02 29.0	
	comp=Z,100nm,18.3s,baz=132,slow=34								
TXAR	**Lajitas Array**	**32.49 328**		P			**P**	**08 50 49.1**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=148,slow=8.2,SNR=4.8								
	comp=Z,0.3nm,0.7s								
TKL	**Tuckaleechee C**	**33.27 1**		LR			LR	09 02 55.8	
	comp=Z,80nm,21.6s,baz=161,slow=34								
DKNS	**Dickens**	**34.81 336**		P			**P**	**08 51 09.0**	**+0.7**
DKNS				IAmb			IAmb	08 51 10.0	
	comp=Z,3.1nm,0.8s								
SMWD	**Samnorwood**	**35.80 338**		P			**P**	**08 51 17.9**	**+1.0**
H03N2	**Juan Fernandez**	**35.88 172**		T			T	09 29 12.5	
	baz=351,slow=76,SNR=9.4								
H03N1	**Juan Fernandez**	**35.88 172**		T			T	09 29 13.0	
	baz=351,slow=76,SNR=11								
H03N3	**Juan Fernandez**	**35.90 172**		T			T	09 29 14.5	
	baz=351,slow=76,SNR=13								
ANMO	**Albuquerque**	**38.38 330**		P			**P**	**08 51 39.6**	**+0.7**
CPUP	**Villa Florida**	**38.73 139**		LR			LR	09 10 53.8	
	comp=Z,44nm,19.6s,baz=40,slow=41								
SDCO	**Great Sand Dun**	**40.22 334**		P			**P**	**08 51 55.3**	**+0.9**
SMCO	**Snowmass**	**42.05 334**		P			**P**	**08 52 10.5**	**+0.9**
SADO	**Sadowa**	**42.63 6**		LR			LR	09 09 41.3	
	comp=Z,83nm,18.4s,baz=322,slow=36								
ECSD	**EROS Data Cent**	**42.69 347**		P			**P**	**08 52 13.9**	**-0.3**
ECSD				IAmb			IAmb	08 52 14.6	
	comp=Z,7.6nm,1.3s								
PFO	**Pinyon Flats O**	**43.16 320**		LR			LR	09 08 14.8	
	comp=Z,43nm,19.1s,baz=141,slow=33								
SPMN	**Marine on St.**	**43.42 352**		P			**P**	**08 52 19.3**	**-0.7**
PDAR	**Pinedale Array**	**46.11 334**		P			**P**	**08 52 40.5**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=116,slow=13,SNR=4.6								
PDAR				PcP			**PcP**	**08 54 17.5**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=145,slow=5.4,SNR=3.6								
PDAR				LR			LR	09 12 28.5	
	comp=Z,38nm,19.7s,baz=131,slow=37								
	comp=Z,0.5nm,0.7s								
NVAR	**Mina Array Bea**	**47.41 324**		P			**P**	**08 52 53.1**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=142,slow=8.0,SNR=8.5								
NVAR				PcP			**PcP**	**08 54 22.8**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=129,slow=6.1,SNR=5.4								
NVAR				LR			LR	09 12 36.7	
	comp=Z,37nm,19.2s,baz=100,slow=36								
	comp=Z,1.1nm,0.8s								
ULM	**Lac du Bonnet**	**48.79 350**		P			**P**	**08 53 01.3**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=175,slow=8.0,SNR=6.1								
	comp=Z,3.0nm,0.8s								
YBH	**Yreka Blue Hor**	**52.12 324**		LR			LR	09 14 10.2	
	comp=Z,30nm,19.1s,baz=118,slow=34								
NEW	**Newport**	**53.72 334**		LR			LR	09 17 03.9	
	comp=Z,20nm,21.0s,baz=118,slow=37								
SCHQ	**Schefferville**	**54.40 13**		LR			LR	09 17 36.4	
	comp=Z,50nm,18.1s,baz=255,slow=37								
FRB	**Frobisher Bay**	**62.50 8**		LR			LR	09 21 22.7	
	comp=Z,84nm,19.3s,baz=209,slow=36								
YKA	**Yellowknife Ar**	**64.15 345**		P			**P**	**08 54 50.8**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=140,slow=6.3,SNR=4.3								
	comp=Z,1.5nm,0.9s								
PPT	**Papeete**	**66.96 250**		LR			LR	09 18 28.4	
	comp=Z,49nm,19.1s,baz=119,slow=31								
SFJD	**Kangerlussuaq**	**68.82 14**		LR			LR	09 24 42.1	
	comp=Z,39nm,21.6s,baz=286,slow=35								
RES	**Resolute Bay**	**72.63 357**		LR			LR	09 28 33.9	
	comp=Z,30nm,18.1s,baz=13,slow=37								
INK	**Inuvik**	**73.74 343**		LR			LR	09 31 16.3	
	comp=Z,37nm,18.2s,baz=326,slow=38								
ILAR	**Eielson Array**	**76.46 337**		P			**P**	**08 56 06.8**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=132,slow=4.5,SNR=13								
ILAR				LR			LR	09 31 58.6	
	comp=Z,35nm,18.2s,baz=106,slow=38								
	comp=Z,1.3nm,0.9s								
ESDC	**Sonseca Array**	**81.36 50**		P			**P**	**08 56 33.9**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=269,slow=5.6,SNR=6.3								
	comp=Z,0.6nm,0.4s								
EKA	**Eskdalemuir Ar**	**83.29 35**		P			**P**	**08 56 42.0**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=258,slow=4.2,SNR=6.0								
	comp=Z,1.5nm,0.8s								
TORD	**Torodi Ar. Bea**	**85.88 77**		P			**P**	**08 56 57.2**	**-0.5**
	comp=Z,0.9nm,1.1s,baz=341,slow=3.1,SNR=2.3								
	comp=Z,0.9nm,1.1s								
SPITS	**Spitsbergen Ar**	**90.08 12**		LR			LR	09 38 39.0	
	comp=Z,39nm,19.4s,baz=249,slow=36								
NOA	**NORSAR Array B**	**90.88 29**		LR			LR	09 36 34.0	
	comp=Z,6.2nm,19.2s,baz=240,slow=35								
QSPA	**South Pole Qui**	**92.27 180**		LR			LR	09 35 15.3	
	comp=Z,51nm,18.4s,baz=208,slow=33								
VRAC	**Vranov**	**95.60 40**		LR			LR	09 33 01.9	
	comp=Z,24nm,21.5s,baz=232,slow=31								
KURBB	**Kurchatov Arra**	**125.40 13**		PKP			**PKPdf**	**09 03 17.6**	**-0.5**
	comp=Z,0.4nm,0.2s,baz=357,slow=3.5,SNR=1.6	

WR0 Warramunga Arr 47.14 187 P P 09 13 49.2 -0.1
WR0 IAmb IAmb 09 14 05.1
comp=Z,11nm,1.3s
WB2 Warramunga Arr 47.14 188 P P 09 13 49.2 -0.1
WB2 IAmb IAmb 09 14 29.4
comp=Z,11nm,1.4s
WRA Warramunga Arr 47.14 188 P P 09 13 49.3 0.0
WRA Warramunga Arr 47.14 188 P P 09 13 49.1 -0.2
comp=Z,0.4nm,0.4s,baz=6.0,slow=7.7,SNR=26
WRA PcP PcP 09 15 12.6 0.0
comp=Z,0.7nm,0.8s,baz=1.9,slow=4.3,SNR=4.8
WRA ScP ScP 09 18 22.5 -1.2
comp=Z,1.1nm,0.8s,baz=11,slow=4.6,SNR=8.3
comp=Z,0.4nm,0.4s
AKRB Akutan Reef Bi 47.33 40 P P 09 13 51.3 +1.0
LVA Lava Point 47.36 40 P P 09 13 51.7 +1.1
AKLV Akutan Long Va 47.40 40 P P 09 13 52.1 +1.2
MNAI Manna 47.77 235 P P 09 13 51.8 -2.4
GSI Gunungsitoli 48.34 245 P P 09 13 58.4 -0.1
ZAA0 Zalesovo Array 48.38 319 P P 09 13 58.2 0.0
ZALV Zalesovo Beam 48.38 319 P P 09 13 58.4 +0.2
ZALV PcP PcP 09 15 16.1 -0.5
ZALV Zalesovo Beam 48.38 319 P P 09 13 58.1 -0.1
comp=Z,2.2nm,0.3s,baz=113,slow=6.6,SNR=8.3
ZALV PcP PcP 09 15 15.7 -0.9
comp=Z,1.6nm,0.3s,baz=93,slow=3.1,SNR=5.7
ZALV ScP ScP 09 18 28.0 -0.5
comp=Z,0.8nm,0.3s,baz=78,slow=13,SNR=4.1
comp=Z,2.2nm,0.3s
MK31 Makanchi Array 49.17 310 P P 09 14 04.9 +0.6
MKAR Makanchi Array 49.17 310 P P 09 14 03.9 -0.4
MKAR PcP PcP 09 15 19.8 0.0
MKAR Makanchi Array 49.17 310 P P 09 14 04.7 +0.3
comp=Z,0.9nm,0.5s,baz=91,slow=10.0,SNR=9.6
MKAR PcP PcP 09 15 19.4 -0.3
comp=Z,0.9nm,0.6s,baz=87,slow=6.0,SNR=7.3
comp=Z,0.9nm,0.5s
MAKZ Makanchi 49.39 310 P P 09 14 06.6 +0.7
K13K Kusilvak Mount 50.12 30 P P 09 14 12.7 +1.7
K13K IAmb IAmb 09 14 54.8
comp=Z,5.0nm,1.2s
L14K Kuka Creek 50.85 31 P P 09 14 18.6 +2.2
AS31 Alice Springs 50.87 188 P P 09 14 16.7 -0.3
ASAR Alice Springs 50.87 188 P P 09 14 16.9 -0.2
comp=Z,0.3nm,0.5s,baz=0.7,slow=5.4,SNR=7.5
ASAR ScP ScP 09 18 37.9 -1.8
comp=Z,0.8nm,0.8s,baz=4.3,slow=5.0,SNR=5.7
comp=Z,0.3nm,0.5s
F15K North Star Dit 51.38 26 P P 09 14 22.1 +1.9
F15K IAmb IAmb 09 14 22.4
comp=Z,5.5nm,1.1s
K15K Wolf Creek Mou 51.63 30 P P 09 14 23.9 +1.8
K15K IAmb IAmb 09 15 05.4
comp=Z,13nm,1.4s
KURK Kurchatov 51.78 315 P P 09 14 23.5 +0.2
KURK IAmb IAmb 09 14 24.1
comp=Z,4.8nm,0.7s
N15K Kwethluk River 51.81 33 P P 09 14 24.9 +1.5
N15K IAmb IAmb 09 15 07.7
comp=Z,7.8nm,1.1s
KURBB Kurchatov Arra 51.83 314 P P 09 14 24.1 +0.4
comp=Z,5.2nm,0.4s,baz=91,slow=8.3,SNR=20
comp=Z,5.2nm,0.4s
NRIK Noril'sk 52.02 339 P P 09 14 24.7 -0.1
comp=Z,2.5nm,0.6s,baz=115,slow=9.2,SNR=6.0
comp=Z,2.5nm,0.6s
CHGN Chignik 52.03 38 P P 09 14 24.8 -0.2
C16K Lisburne Hills 52.10 23 P P 09 14 26.2 +0.8
J16K Anvik River 52.30 29 P P 09 14 27.8 +0.9
M16K Timber Creek 52.53 32 P P 09 14 29.6 +0.9
M16K IAmb IAmb 09 14 40.5
comp=Z,11nm,1.4s
O16K Kokwok River B 52.69 34 P P 09 14 31.1 +1.3
O16K IAmb IAmb 09 14 58.7
comp=Z,5.6nm,1.1s
KOUNC Koumac, New Ca 52.78 151 P P 09 14 31.9 +1.0
F17K Baldwin Pennin 52.93 25 P P 09 14 33.1 +1.7
F17K IAmb IAmb 09 14 36.6
comp=Z,7.7nm,1.0s
J17K VABM Dome 53.00 29 P P 09 14 33.6 +1.7
J17K IAmb IAmb 09 14 34.2
comp=Z,3.9nm,0.8s
K17K Iditarod 53.19 30 P P 09 14 35.2 +1.8
K17K IAmb IAmb 09 14 35.7
comp=Z,7.1nm,0.7s
N17K Nushagak Hills 53.30 33 P P 09 14 35.7 +1.5
N17K IAmb IAmb 09 14 35.9
comp=Z,6.8nm,1.1s
E18K Tukpahlearik C 53.48 24 P P 09 14 37.5 +2.2
C18K Utukok River 53.66 23 P P 09 14 37.7 +1.0
C18K IAmb IAmb 09 14 49.7
comp=Z,17nm,1.4s
H18K Honhosa River 53.72 27 P P 09 14 38.3 +1.2
L18K Granite Mounta 53.83 31 P P 09 14 39.3 +1.4
J18K Innoko River 54.05 30 P P 09 14 39.7 +0.3
H19K Roundabout Mou 54.59 27 P P 09 14 44.6 +1.4
H19K IAmb IAmb 09 14 45.1
comp=Z,3.0nm,0.6s
J19K Poorman 54.63 29 P P 09 14 44.9 +1.3
K20K Telida 55.20 30 P P 09 14 49.4 +1.8
J20K Nowinta River 55.30 29 P P 09 14 49.9 +1.7
J20K IAmb IAmb 09 14 50.4
comp=Z,3.7nm,0.8s
CAST Castle Rocks 56.10 30 P P 09 14 55.2 +1.3
H21K Melozitna Rive 56.10 27 P P 09 14 55.4 +1.5
CNPM China Poot 56.15 35 P P 09 14 54.4 +0.1
BPAW Bear Paw Mtn. 56.66 29 P P 09 14 59.0 +1.2
BPAW IAmb IAmb 09 15 07.8
comp=Z,2.3nm,0.6s
MLY Manley 56.87 28 P P 09 15 00.5 +1.3
BVAR Borovoye Array 56.89 317 P P 09 14 59.9 +0.3
comp=Z,9.5nm,0.4s,baz=85,slow=6.5,SNR=47
BVAR PcP PcP 09 15 48.9 -0.2
comp=Z,1.7nm,0.5s,baz=92,slow=7.4,SNR=4.7
comp=Z,9.5nm,0.4s
BRVK Borovoye 56.96 317 P P 09 15 00.7 +0.7
BRVK IAmb IAmb 09 15 01.0
comp=Z,5.3nm,0.8s
RC01 Rabbit Creek A 56.99 33 P P 09 15 00.5 +0.4
RC01 IAmb IAmb 09 15 01.1
comp=Z,6.4nm,1.1s
RND Reindeer 57.54 30 IAmb IAmb 09 15 04.5
comp=Z,4.4nm,0.6s
C23K Itkillik River 57.61 23 P P 09 15 05.2 +1.1
C23K IAmb IAmb 09 15 06.1
comp=Z,10.0nm,1.2s
KKAR Karatay Array 57.72 306 P P 09 15 06.0 +0.6
E24K Your Creek 58.12 25 IAmb IAmb 09 15 09.8
comp=Z,2.8nm,0.7s
F24K Squaw Lake 58.29 25 IAmb IAmb 09 15 11.0
comp=Z,2.8nm,0.7s
IL31 58.49 29 P P 09 15 09.7 -0.5
ILAR Eielson Array 58.49 29 P P 09 15 09.4 -0.9
ILAR Eielson Array 58.49 29 P P 09 15 09.6 -0.7
comp=Z,0.9nm,0.5s,baz=253,slow=5.6,SNR=21
comp=Z,0.9nm,0.5s
E25K Arctic Village 59.21 25 IAmb IAmb 09 15 17.1
comp=Z,2.9nm,0.6s
N25K Chitina, Valde 59.47 32 P P 09 15 17.8 +0.7
SCRK Sand Creek 59.73 30 IAmb IAmb 09 15 19.6
comp=Z,3.8nm,0.5s
J26L Joseph Creek 59.91 29 IAmb IAmb 09 15 20.2
comp=Z,2.5nm,0.7s
L26K Log Cabin Wild 60.03 31 IAmb IAmb 09 15 22.2
comp=Z,5.0nm,0.6s
F28M Old Crow 61.36 25 P P 09 15 30.5 +1.0
F28M IAmb IAmb 09 15 31.4
comp=Z,3.3nm,0.7s
I28M Miner Creek 61.43 28 P P 09 15 31.0 +0.9
I28M IAmb IAmb 09 15 31.5
comp=Z,3.1nm,1.1s
E28M Babbage River 61.46 24 P P 09 15 31.4 +1.3
E28M IAmb IAmb 09 15 32.1
comp=Z,3.0nm,0.8s
DAWY Dawson 61.75 29 P P 09 15 33.0 +0.9
G29M Pine Creek 62.12 26 IAmb IAmb 09 15 36.6
comp=Z,6.6nm,0.8s
M29M Somme Creek 62.31 31 IAmb IAmb 09 15 37.9
comp=Z,2.8nm,0.7s
K29M Barlow Dome 62.59 30 P P 09 15 38.9 +1.2
EPYK Eagle Plains 62.68 27 P P 09 15 38.5 +0.3
G30M tAoh Zrail Nji 62.82 26 P P 09 15 38.8 -0.2
G30M IAmb IAmb 09 15 41.0
comp=Z,7.4nm,1.2s
N30M Aishikik Lake 63.07 32 IAmb IAmb 09 15 50.6
comp=Z,5.1nm,0.7s
N31M Braeburn, Yuko 63.69 32 P P 09 15 45.9 +1.1
N31M IAmb IAmb 09 15 46.7
comp=Z,3.8nm,0.6s
ABKAR Akbulak array 63.88 314 P P 09 15 45.9 -0.2
ABKAR IAmb IAmb 09 15 46.7
comp=Z,2.2nm,0.8s
SPITS Spitsbergen Ar 70.06 350 P P 09 16 24.4 +0.4
comp=Z,0.8nm,0.4s,baz=90,slow=9.5,SNR=14
comp=Z,0.8nm,0.4s
YKA Yellowknife Ar 72.90 28 P P 09 16 40.6 -0.3
comp=Z,1.2nm,0.6s,baz=338,slow=9.2,SNR=34
comp=Z,1.2nm,0.6s
ARCES ARCESS Array B 72.96 340 P P 09 16 41.4 +0.2
comp=Z,1.7nm,0.5s,baz=70,slow=8.3,SNR=29
comp=Z,1.7nm,0.5s
B08A Colville Reser 76.64 42 P P 09 17 03.0 +0.6
B08A IAmb IAmb 09 17 03.8
comp=Z,2.6nm,0.8s
KBZ Khabaz 76.76 312 P P 09 17 02.9 -0.1
comp=Z,4.0nm,0.8s,baz=38,slow=3.0,SNR=5.6
comp=Z,4.0nm,0.8s
FINES FINESS Array B 77.18 333 P P 09 17 04.7 -0.3
comp=Z,12nm,0.3s,baz=67,slow=4.9,SNR=173
J08A Circle Bar Ran 79.41 47 P P 09 17 18.5 +0.9
J08A IAmb IAmb 09 17 19.4
comp=Z,4.9nm,1.2s
RYN Ryan 81.56 51 P P 09 17 29.9 +0.8
RYN IAmb IAmb 09 17 30.4
comp=Z,1.5nm,0.7s
AKASG Malin Array Be 81.60 323 P P 09 17 28.1 -0.6
comp=Z,1.6nm,0.4s,baz=54,slow=4.9,SNR=8.7
comp=Z,1.6nm,0.4s
AKBB Malin Array Si 81.60 323 P P 09 17 28.3 -0.5
KIEV Kiev 81.61 323 P P 09 17 28.1 -0.7
NVAR Mina Array Bea 81.80 51 P P 09 17 31.0 +0.7
comp=Z,1.2nm,0.6s,baz=299,slow=5.2,SNR=16
comp=Z,1.2nm,0.6s
HFS Hagfors 82.73 336 P P 09 17 33.2 -1.1
comp=Z,2.4nm,0.3s,baz=111,slow=3.3,SNR=39
comp=Z,2.4nm,0.3s
NC405 NORSAR Array S 82.74 338 P P 09 17 33.6 -0.7
NC303 NORSAR Array S 82.77 338 P P 09 17 33.9 -0.6
NB2 NORSAR Subarra 82.96 338 P P 09 17 34.5 -1.0
comp=Z,1.6nm,0.5s,baz=47,slow=4.6
NB2 NORSAR Subarra 82.96 338 P P 09 17 34.5 -1.0
baz=47,slow=4.6
NOA NORSAR Array B 82.96 338 P P 09 17 34.1 -1.4
comp=Z,2.9nm,0.5s,baz=50,slow=5.2,SNR=18
comp=Z,2.9nm,0.5s
RAYN Ar Rayn 83.61 293 P P 09 17 40.2 +0.7
RAYN IAmb IAmb 09 17 40.8
comp=Z,3.9nm,0.8s
DUG Dugway, Tooele 84.64 47 P P 09 17 45.4 +0.9
DUG IAmb IAmb 09 18 16.8
comp=Z,1.6nm,0.8s
HWUT Hardware Ranch 84.72 46 P P 09 17 46.0 +1.1
HWUT IAmb IAmb 09 17 47.0
comp=Z,2.5nm,1.2s
BRTR Keskin Array B 84.75 312 P P 09 17 44.2 -0.8
BRTR Keskin Array B 84.75 312 P P 09 17 44.4 -0.7
comp=Z,0.9nm,0.6s,baz=75,slow=3.5,SNR=4.5
comp=Z,0.9nm,0.6s
PDAR Pinedale Array 85.36 44 P P 09 17 48.6 +0.6
PDAR Pinedale Array 85.36 44 P P 09 17 47.9 -0.2
comp=Z,0.2nm,0.4s,baz=190,slow=2.6,SNR=3.7
comp=Z,0.2nm,0.4s
PMD Palm Desert 85.47 55 P P 09 17 49.5 +1.0
PMD IAmb IAmb 09 17 49.7
comp=Z,2.8nm,0.8s
BUR08 Bucovina Ar. S 85.51 322 P P 09 17 48.4 -0.2
BUR08 IAmb IAmb 09 17 52.1
comp=Z,2.5nm,1.1s
BURAR Bucovina Array 85.52 322 P P 09 17 48.8 +0.2
BURAR IAmb IAmb 09 17 49.2
comp=Z,1.3nm,0.7s
TXAR Lajitas Array 96.91 52 P P 09 18 41.0 -0.6
comp=Z,0.2nm,0.6s,baz=278,slow=2.6,SNR=3.7
comp=Z,0.2nm,0.6s
QSPA South Pole Qui 116.89 180 PKP PKPdf 09 23 50.1 -0.9
comp=Z,0.7nm,0.5s,baz=289,slow=2.7,SNR=9.5
TORD Torodi Ar. Bea 123.30 310 PKP PKPdf 09 24 04.2 -0.6
comp=Z,0.4nm,0.4s,baz=57,slow=1.7,SNR=6.4
LPAZ La Paz 151.52 74 PKP PKPdf 09 24 54.5 -1.7
comp=Z,0.3nm,0.3s,baz=260,slow=6.1,SNR=2.0
LPAZ PKPbc PKPbc 09 25 02.0 -0.9
comp=Z,1.4nm,0.5s,baz=262,slow=3.1,SNR=8.0

IDC 06 09:10:16.5±3.2, 53°.64N×88°.09E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=26.3km s-min=16.2km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**280**	I	I	09 22 00.0	
	0.2nm,0.9s,baz=100,slow=321,SNR=2.8						
ZALV	**Zalesovo Beam**	**1.96**	**280**	Pg	Pn	09 10 51.4	+0.3
	1.1nm,0.3s,baz=99,slow=18,SNR=13						
ZALV				Lg	Lg	09 11 18.0	
	2.1nm,0.3s,baz=95,slow=32,SNR=13						
KURBB	**Kurchatov Arra**	**6.61**	**247**	Pn	Pn	09 11 56.5	+1.6
	0.2nm,0.3s,baz=63,slow=15,SNR=7.2						
KURBB				Sn	Sn	09 13 10.4	-0.5
	baz=49,slow=51,SNR=0.9						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	**7.79**	**211**	Pn	Pn	09 12 11.0	-0.1
	0.1nm,0.3s,baz=22,slow=9.3,SNR=2.7						
MKAR				Sn	Sn	09 13 40.3	+0.2
	baz=32,slow=27,SNR=4.0						
MKAR				Lg	Lg	09 14 22.1	
	0.1nm,0.3s,baz=27,slow=30,SNR=2.0						
	0.2nm,0.3s						

IDC 06 09:20:57.0±1.1, 18°.14N×121°.20E, h0km, mb3.5/5, mbtmp3.6/5, MS3.1/5, Error ellipse: s-maj=64.8km s-min=20.5km az=67.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.12**	**16**	P	P	09 25 32.8	+0.2
	0.7nm,0.6s,baz=198,slow=10,SNR=1.9						
KSRS				LR	LR	09 33 59.2	
	comp=Z,28nm,20.1s,baz=225,slow=39						
	0.7nm,0.6s						
JHJ	**Hachijo jima 2**	**22.37**	**45**	LR	LR	09 33 04.6	
	comp=Z,71nm,20.4s,baz=226,slow=32						
KAPI	**Kappang**	**23.05**	**184**	LR	LR	09 37 24.2	
	comp=Z,31nm,18.5s,baz=40,slow=43						
GUMO	**Guam**	**23.20**	**98**	LR	LR	09 32 56.4	
	comp=Z,24nm,21.7s,baz=179,slow=31						
WRA	**Warramunga Arr**	**39.98**	**161**	P	P	09 28 33.8	+0.2
	0.4nm,1.0s,baz=345,slow=8.4,SNR=2.0						
WRA				PcP	PcP	09 30 38.3	-0.7
	0.4nm,0.9s,baz=344,slow=3.3,SNR=1.9						
	0.4nm,1.0s						
MKAR	**Makanchi Array**	**42.84**	**321**	P	P	09 28 57.2	+0.3
	1.2nm,0.8s,baz=126,slow=8.0,SNR=11						
MKAR				PcP	PcP	09 30 47.2	-0.9
	0.3nm,0.6s,baz=120,slow=5.2,SNR=2.6						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**43.36**	**163**	P	P	09 29 01.2	-0.1
	0.2nm,0.4s,baz=339,slow=6.9,SNR=7.7						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**46.85**	**324**	P	P	09 29 28.3	-0.4
	1.6nm,0.8s,baz=122,slow=8.8,SNR=7.1						
	1.6nm,0.8s						
GNI	**Garni**	**68.32**	**307**	LR	LR	10 05 09.0	
	comp=Z,41nm,18.3s,baz=178,slow=39						

*NEIC **06** 09:23:37.9±1.3, 53°.21N±0°.08×166°.72W±0°.08, h28km±11km, mb3.5/8, ML3.5/12, ML3.2(AEIC), Error ellipse: s-maj=12.7km s-min=2.1km az=150.0*
*AEIC **06** 09:23:38±1.5, 53°.21N±0°.06×166°.68W±0°.07, h27km±8km, Error ellipse: s-maj=10.9km s-min=2.8km az=146.0*

ISC 06 09:23:38.0±1.6, 53°.22N±0°.08×166°.67W±0°.06, h26km±14km, n84, σ0°85/90, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	**0.59**	**348**		**Pb**	**09 23 50.2**	**+0.4**
MGOD					**Sn**	**09 23 59.0**	**-0.6**
MREP	**Makushin Rep't**	**0.59**	**356**		**Pn**	**09 23 50.4**	**-0.5**
UNV	**Unalaska Valle**	**0.64**	**9**	P	**Pb**	**09 23 50.6**	**+0.1**
UNV	**Unalaska Valle**	**0.64**	**9**		**Pb**	**09 23 50.6**	**+0.1**
UNV	**Unalaska Valle**	**0.64**	**9**		**Sn**	**09 24 00.2**	**-0.4**
MSW	**Makushin Switc**	**0.70**	**355**		**Pb**	**09 23 51.7**	**0.0**
MSW					**Sn**	**09 24 02.4**	**+0.2**
MTBL	**Makushin Table**	**0.75**	**360**		**Pb**	**09 23 52.5**	**0.0**
MTBL					**Sn**	**09 24 03.7**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**0.84**	**282**		**Pb**	**09 23 53.6**	**-0.4**
OKNC	**Okmok New Cone**	**0.90**	**286**		**Pn**	**09 23 54.4**	**-0.7**
OKNC					**Sb**	**09 24 06.3**	**-0.4**
OKCE	**Okmok Cone E**	**0.92**	**284**		**Pn**	**09 23 54.8**	**-0.5**
ZRO	**Akutan Zero**	**0.97**	**25**		**Pn**	**09 23 55.3**	**-0.6**
OKWE	**Okmok W'ng Wal**	**0.97**	**286**		**Pn**	**09 23 55.2**	**-0.8**
AKRB	**Akutan Reef Bi**	**0.98**	**21**		**Pn**	**09 23 56.0**	**-0.1**
AKRB					**Sn**	**09 24 09.6**	**+0.5**
AKBBA	**Akutan Broad B**	**0.98**	**26**		**Pn**	**09 23 55.5**	**-0.6**
LVA	**Lava Point**	**1.02**	**22**		**Pn**	**09 23 56.4**	**-0.2**
LVA					**Sn**	**09 24 10.0**	**0.0**
LVA				IAML		09 24 13.8	
	comp=N,2μm,0.4s						
LVA				IAML		09 24 17.0	
	comp=E,1μm,0.7s						
AHB	**Akutan Harbor**	**1.03**	**29**		**Pn**	**09 23 56.2**	**-0.6**
AKLV	**Akutan Long Va**	**1.04**	**24**		**Pn**	**09 23 56.4**	**-0.5**
AKLV				IAML		09 24 11.5	
	comp=E,880nm,0.3s						
AKLV				IAML		09 24 14.4	
	comp=N,951nm,0.6s						
AKGG	**Akutan Green G**	**1.06**	**22**		**Pn**	**09 23 57.0**	**-0.2**
AKGG				IAML		09 24 16.0	
	comp=N,854nm,0.6s						
AKSA	**Akutan Strait**	**1.09**	**32**		**Pn**	**09 23 56.5**	**-1.0**
NIKH	**Nikolski High**	**1.34**	**260**	P	**Pn**	**09 24 00.2**	**-0.8**
NIKH	**Nikolski High**	**1.34**	**260**		**Pn**	**09 24 00.4**	**-0.7**
WESE	**West Dahl East**	**1.76**	**44**		**Pn**	**09 24 07.0**	**+0.1**
WEBT	**Westdahl Beart**	**1.78**	**39**		**Pn**	**09 24 07.2**	**+0.1**
CLCO	**Concord Point,**	**1.89**	**258**		**Pn**	**09 24 08.8**	**+0.2**
CLES	**Cleveland East**	**1.99**	**260**	Pn	**Pn**	**09 24 09.4**	**-0.5**
CLES				IAML		09 24 42.5	
	comp=N,650nm,0.3s						
SSLS	**Shishaldin Sou**	**2.17**	**45**		**Pn**	**09 24 12.9**	**+0.3**
ISLZ	**Isanotski Laza**	**2.31**	**48**		**Pn**	**09 24 14.6**	**+0.2**
FALS	**False Pass**	**2.52**	**48**	P	**Pn**	**09 24 18.4**	**+1.1**
FALS	**False Pass**	**2.52**	**48**		**Pn**	**09 24 17.9**	**+0.6**
PS1A	**Pavlof South-1**	**3.63**	**51**		**Pn**	**09 24 34.0**	**+1.4**
S12K	**Black Hills**	**3.67**	**45**		**Pn**	**09 24 33.7**	**+0.7**
SPIA	**Saint Paul Isl**	**4.46**	**334**	P	**Pn**	**09 24 43.5**	**-0.4**
SPIA	**Saint Paul Isl**	**4.46**	**334**		**Pn**	**09 24 43.4**	**-0.4**
CNBA	**Chernabura Isl**	**4.47**	**66**	Pn	**Pn**	**09 24 44.7**	**+0.7**
ATKA	**Atka Island**	**4.69**	**260**	P	**Pn**	**09 24 48.1**	**+1.1**
ATKA	**Atka Island**	**4.69**	**260**	Pn	**Pn**	**09 24 47.2**	**+0.2**
CHGN	**Chignik**	**5.69**	**54**	Pn	**Pn**	**09 25 02.2**	**+1.5**
ADK	**Adak**	**6.25**	**262**	P	**Pn**	**09 25 10.3**	**+1.8**
ADK	**Adak**	**6.25**	**262**	Pn	**Pn**	**09 25 09.2**	**+0.7**
O14K	**Tigyukauivet M**	**6.76**	**24**	Pn	**Pn**	**09 25 16.6**	**+1.3**
N15K	**Kwethluk River**	**7.85**	**25**	Pn	**Pn**	**09 25 31.4**	**+1.1**
O16K	**Kokwok River B**	**7.96**	**33**	Pn	**Pn**	**09 25 31.9**	**0.0**
M14K	**Bethel**	**7.98**	**17**	Pn	**Pn**	**09 25 31.8**	**-0.2**
ANCK	**Angle Creek**	**8.04**	**47**	Pn	**Pn**	**09 25 32.9**	**-0.2**
ACHA	**Angle Creek He**	**8.12**	**47**	Pn	**Pn**	**09 25 34.0**	**-0.1**
KABU	**Katmai Buttres**	**8.17**	**47**	Pn	**Pn**	**09 25 34.5**	**-0.4**
L14K	**Kuka Creek**	**8.42**	**13**	Pn	**Pn**	**09 25 37.9**	**-0.3**
OHAK	**Old Harbor**	**8.63**	**57**	P	**Pn**	**09 25 43.4**	**+2.3**
K13K	**Kusilvak Mount**	**8.80**	**6**	Pn	**Pn**	**09 25 45.2**	**+1.8**
M16K	**Timber Creek**	**8.87**	**25**	Pn	**Pn**	**09 25 44.1**	**-0.2**
N17K	**Nushagak Hills**	**8.97**	**32**	Pn	**Pn**	**09 25 44.5**	**-1.2**
O18K	**Koktuh Hills**	**9.17**	**39**	Pn	**Pn**	**09 25 48.9**	**+0.3**
KDAK	**Kodiak Island**	**9.20**	**55**	Pn	**Pn**	**09 25 48.1**	**-0.8**
Q19K	**Cape Douglas,**	**9.25**	**47**	Pn	**Pn**	**09 25 48.4**	**-1.3**
L16K	**Owhat River**	**9.35**	**22**	Pn	**Pn**	**09 25 50.6**	**-0.3**
K15K	**Wolf Creek Mou**	**9.50**	**15**	Pn	**Pn**	**09 25 53.9**	**+0.9**
N18K	**Kilae Creek**	**9.51**	**34**	Pn	**Pn**	**09 25 53.8**	**+0.7**
J14K	**Nanvaranak Lak**	**9.70**	**9**	Pn	**Pn**	**09 25 56.7**	**+1.1**
L18K	**Granite Mounta**	**10.47**	**27**	Pn	**Pn**	**09 26 05.7**	**-0.6**
K17K	**Iditarod**	**10.50**	**22**	Pn	**Pn**	**09 26 07.3**	**+0.7**
J16K	**Anvik River**	**10.58**	**15**	Pn	**Pn**	**09 26 08.7**	**+1.0**
J17K	**VABM Dome**	**10.95**	**18**	Pn	**Pn**	**09 26 14.6**	**+1.8**
L19K	**White Mountain**	**10.96**	**30**	Pn	**Pn**	**09 26 12.9**	**-0.1**
J18K	**Innoko River**	**11.51**	**23**	Pn	**Pn**	**09 26 20.6**	**+0.1**
SUA	**Susitna One**	**11.89**	**40**	Pn	**Pn**	**09 26 27.9**	**+2.0**
H17K	**Granite Mounta**	**12.24**	**14**	Pn	**Pn**	**09 26 30.6**	**+0.1**
G16K	**Koyuk River**	**12.40**	**8**	Pn	**Pn**	**09 26 32.9**	**+0.3**
J20K	**Nowinta River**	**12.74**	**26**	Pn	**Pn**	**09 26 37.0**	**-0.2**
GLI	**Glacier Island**	**13.09**	**46**	Pn	**Pn**	**09 26 41.4**	**-0.6**
HIN	**Hinchinbrook I**	**13.14**	**49**	Pn	**Pn**	**09 26 41.8**	**-1.0**
FID	**Port Fidalgo**	**13.30**	**47**	Pn	**Pn**	**09 26 42.3**	**-2.6**
KLU	**Klutina**	**13.87**	**45**	Pn	**Pn**	**09 26 52.9**	**+0.1**
HMT	**Hamilton**	**14.15**	**51**	Pn	**Pn**	**09 26 55.3**	**-1.2**
H21K	**Melozitna Rive**	**14.28**	**24**	Pn	**Pn**	**09 26 57.5**	**-0.7**
MESA	**MESA**	**15.19**	**53**	Pn	**Pn**	**09 27 10.8**	**+0.1**
F21K	**Alatna River**	**15.44**	**19**	Pn	**Pn**	**09 27 13.7**	**-0.1**
GRNC	**Granite Creek**	**15.45**	**51**	Pn	**Pn**	**09 27 13.4**	**-0.7**
GRNC				IAmb	IAmb	09 27 28.4	
	comp=Z,3.4nm,1.0s						
TABL	**Table Mountain**	**15.65**	**52**	Pn	**Pn**	**09 27 15.3**	**-1.5**
TABL				IAmb	IAmb	09 27 39.4	
	comp=Z,4.4nm,0.8s						
L26K	**Log Cabin Wild**	**15.66**	**42**	Pn	**Pn**	**09 27 15.5**	**-1.1**
BMAR	**Burnt Mountain**	**17.80**	**28**	P	**P**	**09 27 44.8**	**+0.6**
C23K	**Itkillik River**	**18.23**	**18**	P	**Pn**	**09 27 47.8**	**-1.0**
M31M	**Drury Creek, Y**	**19.25**	**49**	P	**P**	**09 28 00.3**	**+0.2**
M31M				IAmb	IAmb	09 28 10.8	
	comp=Z,2.5nm,0.9s						
P33M	**Teslin, Yukon**	**19.68**	**56**	P	**P**	**09 28 04.7**	**-0.2**
FARO	**Faro, Yukon**	**19.73**	**50**	P	**P**	**09 28 05.6**	**+0.1**
FARO				IAmb	IAmb	09 28 28.4	
	comp=Z,3.7nm,1.5s						

*IDC **06** 09:24:44.7±1.0, 54°.97N×161°.55E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=47.2km s-min=29.2km az=126.0*
*KRSC **06** 09:24:48.1±0.5, 54°.92N×161°.99E, h54km±9km, Ml4.1*
*MOS **06** 09:24:49.6±0.8, 54°.95N×161°.98E, h44km, mb3.9/1, Error ellipse: s-maj=8.5km s-min=4.6km az=84.2*

ISC 06 09:24:47.3±1.3, 54°.96N±0°.03×161°.96E±0°.03, h11km±9km, n86, σ1°37/112, mb3.8/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.43**	**198**	*eP*	**Pn**	**09 24 59.6**	**+0.2**
MKZ				*eS*	**Sb**	**09 25 07.0**	**+3.6**
MKZ	**Mys Kozlova**	**0.43**	**198**	PN	**Pn**	**09 24 59.6**	**+0.2**
MKZ				S	**Sb**	**09 25 07.0**	**+3.6**
TUMD	**Tumrok D**	**0.93**	**286**	*eP*	**Pb**	**09 25 06.2**	**+0.8**
TUMD				*eS*	**Sb**	**09 25 18.9**	**+1.2**
TUMR	**Tumrok**	**1.09**	**288**	*eP*	**Pb**	**09 25 09.1**	**+0.8**
TUMR	**Tumrok**	**1.09**	**288**	PN	**Pg**	**09 25 06.2**	**-2.1**
TUMR				S	**Sg**	**09 25 18.9**	**-3.5**
BZGR	**Bezymyannyi-Gr**	**1.22**	**324**	*eP*	**Pb**	**09 25 11.1**	**+0.7**
BZGR				*eS*	**Sb**	**09 25 27.2**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**1.22**	**324**	PN	**Pb**	**09 25 11.1**	**+0.7**
BZGR				S	**Sb**	**09 25 27.2**	**+1.1**
ZLN	**Zelenaya**	**1.24**	**329**	*eP*	**Pn**	**09 25 11.8**	**+1.1**
ZLN				*eS*	**Sb**	**09 25 28.3**	**+1.4**
ZLN	**Zelenaya**	**1.24**	**329**	PN	**Pn**	**09 25 11.8**	**+1.1**
ZLN				S	**Sb**	**09 25 28.3**	**+1.4**
BZP	**Bezymyannyi-Pe**	**1.25**	**320**

KLY	**Klyuchi**	**1.54 332**	PN	**Pn**	**09 25 14.7**	**0.0**
KLY			S	**Sn**	**09 25 33.5**	**-1.2**
KOZ	**Kozyrevsk**	**1.62 314**	*e*P	**Pn**	**09 25 16.8**	**+1.1**
KOZ	**Kozyrevsk**	**1.62 314**	PN	**Pn**	**09 25 16.8**	**+1.1**
KII	**Karymskiy**	**1.73 239**	*e*P	**Pn**	**09 25 17.9**	**+0.5**
KII	**Karymskiy**	**1.73 239**	PN	**Pn**	**09 25 17.9**	**+0.5**
SRKR	**Sorokina**	**1.75 346**	*e*P	**Pn**	**09 25 19.0**	**+1.3**
SRKR	**Sorokina**	**1.75 346**	PN	**Pn**	**09 25 19.0**	**+1.3**
SRDR	**Sredinnyy**	**1.86 318**	*e*P	**Pn**	**09 25 19.8**	**+0.7**
SRDR	**Sredinnyy**	**1.86 318**	PN	**Pn**	**09 25 19.8**	**+0.7**
ESO	**Esso**	**2.09 299**	*e*P	**Pn**	**09 25 22.8**	**+0.5**
ESO	**Esso**	**2.09 299**	PN	**Pn**	**09 25 22.8**	**+0.5**
SPN	**Mys Shipunski**	**2.19 212**	*e*P	**Pn**	**09 25 23.5**	**-0.1**
SPN			*e*S	**Sn**	**09 25 47.4**	**-3.3**
SPN	**Mys Shipunski**	**2.19 212**	PN	**Pn**	**09 25 23.5**	**-0.1**
SPN			S	**Sn**	**09 25 47.4**	**-3.3**
BKI	**Bering**	**2.32 82**	*e*P	**Pn**	**09 25 26.1**	**+0.8**
BKI			*e*S	**Sn**	**09 25 53.0**	**-0.8**
BKI	**Bering**	**2.32 82**	PN	**Pn**	**09 25 26.1**	**+0.8**
BKI			S	**Sn**	**09 25 53.0**	**-0.8**
NLC	**Nalytchevo**	**2.37 222**	*e*P	**Pn**	**09 25 26.7**	**+0.7**
NLC	**Nalytchevo**	**2.37 222**	PN	**Pn**	**09 25 26.7**	**+0.7**
KRER	**Koryakskii**	**2.52 230**	*e*P	**Pn**	**09 25 29.3**	**+1.0**
KRER	**Koryakskii**	**2.52 230**	PN	**Pn**	**09 25 29.3**	**+1.0**
SMAR	**Somma**	**2.52 229**	*e*P	**Pn**	**09 25 29.3**	**+0.9**
SMAR	**Somma**	**2.52 229**	PN	**Pn**	**09 25 29.3**	**+0.9**
KRX	**Arik**	**2.52 232**	*e*P	**Pn**	**09 25 29.5**	**+1.1**
KRX	**Arik**	**2.52 232**	PN	**Pn**	**09 25 29.5**	**+1.1**
AVH	**Avacha**	**2.55 229**	*e*P	**Pn**	**09 25 30.0**	**+1.4**
AVH	**Avacha**	**2.55 229**	PN	**Pn**	**09 25 30.0**	**+1.4**
UGLR	**Uglovaya**	**2.55 228**	*e*P	**Pn**	**09 25 29.8**	**+1.1**
UGLR	**Uglovaya**	**2.55 228**	PN	**Pn**	**09 25 29.8**	**+1.1**
KOK	**Koryaka**	**2.58 231**	*e*P	**Pn**	**09 25 29.9**	**+0.9**
KOK	**Koryaka**	**2.58 231**	PN	**Pn**	**09 25 29.9**	**+0.9**
GNL	**Ganaly**	**2.67 243**	*e*P	**Pn**	**09 25 31.7**	**+1.3**
GNL	**Ganaly**	**2.67 243**	PN	**Pn**	**09 25 31.7**	**+1.3**
DALK	**Dalny**	**2.71 226**	*e*P	**Pn**	**09 25 31.6**	**+0.9**
DALK			*e*S	**Sn**	**09 26 02.8**	**-0.6**
DALK	**Dalny**	**2.71 226**	PN	**Pn**	**09 25 31.6**	**+0.9**
DALK			S	**Sn**	**09 26 02.8**	**-0.6**
PET	**Petropavlovsk**	**2.75 226**	*e*P	**Pn**	**09 25 32.5**	**+1.1**
PET			*e*S	**Sn**	**09 26 03.7**	**-0.9**
PET	**Petropavlovsk**	**2.75 226**	*e*PN	**Pn**	**09 25 32.8**	**+1.4**
PET			*e*S	**Sn**	**09 26 05.3**	**+0.7**
PET			pmax	pmax		
	comp=Z,65nm,0.4s					
PET			smax	smax		
	comp=N,275nm,0.5s					
PET			smax	smax		
	comp=E,273nm,0.4s					
KRMR	**Karymshinskiy**	**3.12 228**	*e*P	**Pn**	**09 25 38.2**	**+1.9**
KRMR			*e*S	**Sn**	**09 26 14.2**	**+0.7**
KRMR	**Karymshinskiy**	**3.12 228**	PN	**Pn**	**09 25 38.2**	**+1.9**
KRMR			S	**Sn**	**09 26 14.2**	**+0.7**
GRL	**Gorelyy**	**3.34 225**	*e*P	**Pn**	**09 25 41.8**	**+2.3**
GRL	**Gorelyy**	**3.34 225**	PN	**Pn**	**09 25 41.8**	**+2.3**
MTVR	**Mutnovka**	**3.35 224**	*e*P	**Pn**	**09 25 41.6**	**+1.9**
MTVR			*e*S	**Sn**	**09 26 19.6**	**+0.1**
MTVR	**Mutnovka**	**3.35 224**	PN	**Pn**	**09 25 41.6**	**+1.9**
MTVR			S	**Sn**	**09 26 19.6**	**+0.1**
APC	**Apacha**	**3.50 236**	*e*P	**Pn**	**09 25 43.8**	**+2.3**
APC	**Apacha**	**3.50 236**	PN	**Pn**	**09 25 43.8**	**+2.3**
ASAK	**Asacha**	**3.54 225**	*e*P	**Pn**	**09 25 44.4**	**+2.2**
ASAK	**Asacha**	**3.54 225**	PN	**Pn**	**09 25 44.4**	**+2.2**
KDTR	**Khodutka, Kamc**	**3.92 218**	*e*P	**Pn**	**09 25 48.9**	**+1.5**
KDTR			*e*S	**Sn**	**09 26 31.9**	**-1.5**
KDTR	**Khodutka, Kamc**	**3.92 218**	PN	**Pn**	**09 25 48.9**	**+1.5**
KDTR			S	**Sn**	**09 26 31.9**	**-1.5**
OSSR	**Ossora**	**4.34 7**	*e*P	**Pn**	**09 25 55.6**	**+2.5**
OSSR	**Ossora**	**4.34 7**	PN	**Pn**	**09 25 55.6**	**+2.5**
PDAR	**Pinedale Array**	**55.67 63**	P	**P**	**09 34 24.6**	**+1.1**
	comp=E,0.1nm,0.4s,baz=297,slow=2.7,SNR=1.7					
	comp=E,0.1nm,0.4s					
FINES	**FINESS Array B**	**58.83 337**	P	**P**	**09 34 43.6**	**-1.6**
	comp=E,2.0nm,0.9s,baz=46,slow=6.0,SNR=4.0					
	comp=E,2.0nm,0.9s					
TXAR	**Lajitas Array**	**68.91 69**	P	**P**	**09 35 52.5**	**+0.3**
	comp=E,0.2nm,0.6s,baz=292,slow=4.8,SNR=2.7					
	comp=E,0.2nm,0.6s					
WRA	**Warramunga Arr**	**78.25 206**	P	**P**	**09 36 45.3**	**-1.6**
	comp=E,0.8nm,0.8s,baz=22,slow=6.2,SNR=4.8					
	comp=E,0.8nm,0.8s					
ASAR	**Alice Springs**	**81.92 206**	P	**P**	**09 37 06.0**	**-0.7**
	comp=E,0.8nm,0.7s,baz=16,slow=5.9,SNR=10					
	comp=E,0.8nm,0.7s					
QSPA	**South Pole Qui**	**144.71 180**	PKP	**PKPab**	**09 44 19.4**	**-2.0**
	comp=E,1.9nm,0.7s,baz=348,slow=6.9,SNR=12					

IDC 06 09:30:07.8±2.9, 53°.84N×86°.81E, h0^{km}, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=26.5km s-min=15.0km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.18 276**		I	I	09 37 50.0	
	baz=95,slow=320,SNR=6.2						
ZALV	**Zalesovo Beam**	**1.18 276**		Pg	Pg	09 30 29.3	-1.1
	0.6nm,0.3s,baz=98,slow=16,SNR=6.2						
ZALV				Lg	Lg	09 30 46.5	
	0.6nm,0.3s,baz=94,slow=33,SNR=2.5						
KURBB	**Kurchatov Arra**	**6.02 241**		Pn	Pn	09 31 39.2	+1.3
	baz=59,slow=13,SNR=3.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.62 204**		Pn	Pn	09 32 01.1	+1.1
	0.1nm,0.3s,baz=27,slow=14,SNR=6.0						
	0.2nm,0.2s						

*IDC **06** 09:33:23.3±3.2, 53°.59N×90°.78E, h0^{km}, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=27.3km s-min=22.0km az=77.0*

*NNC **06** 09:33:24.6±8.4, 53°.15N×91°.11E, h0^{km}, mb3.5, mpv3.2, Error ellipse: s-maj=62.8km s-min=45.7km az=70.0, Suspected Mining explosion.*

ISC 06 09:33:24.1±3.3, 53°.7N±0°.1×90°.6E±0°.2, h0^{km}, n9, σ1^{s}94/14, 10C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.44 277**		I	I	09 55 05.0	
	baz=90,slow=317,SNR=7.6						
ZAA0	**Zalesovo Array**	**3.44 277**		⇑Pn	**Pb**	**09 34 24.4**	**-1.4**
	0.5nm,0.6s						
ZAA0				⇑Sn	**Sg**	**09 35 14.5**	**+0.1**
	2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**3.44 277**		Pn	**Pn**	**09 34 21.1**	**+2.3**
	0.4nm,0.3s,baz=92,slow=16,SNR=5.0						
ZALV				Lg	Lg	09 35 14.6	
	1.3nm,0.3s,baz=93,slow=25,SNR=11						
	1.8nm,0.5s						
KURK	**Kurchatov**	**7.94 253**		⇑Pn	**Pn**	**09 35 22.8**	**+2.1**
	1.4nm,0.8s						
KURK				⇑Sn	**Sn**	**09 36 52.8**	**+1.6**
	4.5nm,0.9s						
KURK				⇑Lg	Lg	09 37 39.8	
	12nm,0.9s						
KURBB	**Kurchatov Arra**	**8.04 252**		Pn	**Pn**	**09 35 21.5**	**-0.5**
	0.1nm,0.3s,baz=64,slow=15,SNR=4.8						
KURBB				Sn	**Sn**	**09 36 53.0**	**-0.5**
	baz=66,slow=14,SNR=1.8						
KURBB				Lg	Lg	09 37 42.1	
	baz=71,slow=34,SNR=6.0						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**8.04 252**		⇑Pn	**Pn**	**09 35 22.8**	**+0.8**
	2.1nm,0.7s						
KURBB				⇑Sn	**Sn**	**09 36 52.8**	**-0.7**
	14nm,0.7s						
KURBB				⇑Lg	Lg	09 37 43.7	
	14nm,0.8s						
MK31	**Makanchi Array**	**8.72 221**		Pn	**Pn**	**09 35 28.9**	**-2.5**
	1.0nm,0.7s,baz=34,slow=12,SNR=4.4						
MK31				⇑Sn	**Sn**	**09 37 14.1**	**+3.7**
	0.5nm,0.6s,baz=42,slow=23						
MK31				⇑Lg	Lg	09 37 58.7	
	3.1nm,0.9s,baz=37,slow=30						
MKAR	**Makanchi Array**	**8.72 221**		Pn	**Pn**	**09 35 31.1**	**-0.3**
	0.1nm,0.3s,baz=42,slow=15,SNR=4.7						
MKAR				Sn	**Sn**	**09 37 08.1**	**-2.2**
	0.1nm,0.3s,baz=35,slow=8.8,SNR=1.9						
MKAR				Lg	Lg	09 38 00.1	
	baz=40,slow=28						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**12.09 275**		Pn	**Pn**	**09 36 16.7**	**-0.8**
	0.1nm,0.3s,baz=79,slow=15,SNR=1.6						
	0.3nm,0.4s						

*NNC **06** 09:41:37.2±2.4, 54°.30N×87°.44E, h0^{km}, mb3.1, mpv2.8, Error ellipse: s-maj=20.5km s-min=16.6km az=1.0, Suspected Mining explosion.*

*IDC **06** 09:41:40.2±2.7, 54°.23N×87°.16E, h0^{km}, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=22.4km s-min=16.0km az=60.0*

ISC 06 09:41:36.9±3.5, 54°.4N±0°.2×87°.4E±0°.1, h0^{km}, n8, σ2^{s}13/13, 5C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56 255**		I	I	09 50 20.0	
	baz=79,slow=311,SNR=10						
ZAA0	**Zalesovo Array**	**1.56 255**		⇓Pn	**Pg**	**09 42 05.7**	**-1.0**
	0.5nm,0.6s						
ZAA0				⇑Sn	**Sg**	**09 42 29.0**	**+2.2**
	1.1nm,0.5s						
ZALV	**Zalesovo Beam**	**1.56 255**		Pg	**Pb**	**09 42 04.8**	**-1.8**
	2.0nm,0.3s,baz=74,slow=17,SNR=14						
ZALV				Lg	Lg	09 42 25.2	
	2.1nm,0.3s,baz=79,slow=29,SNR=8.1						
KURK	**Kurchatov**	**6.47 239**		⇑Pn	**Pn**	**09 43 14.2**	**+0.9**
	1.8nm,0.9s						
KURK				⇑Sn	**Sn**	**09 44 29.5**	**+1.7**
	0.7nm,0.4s						
KURK				⇓Lg	Lg	09 45 01.7	
	1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**6.57 239**		Pn	**Pn**	**09 43 16.6**	**+1.9**
	0.1nm,0.3s,baz=56,slow=14,SNR=6.5						
KURBB				Sn	**Sn**	**09 44 27.4**	**-2.9**
	baz=53,slow=22,SNR=1.2						
KURBB				Lg	Lg	09 45 05.2	
	baz=49,slow=30,SNR=2.5						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**6.57 239**		⇓Pn	**Pn**	**09 43 15.6**	**+0.9**
	0.8nm,0.4s						
KURBB				⇑Sn	**Sn**	**09 44 31.3**	**+1.0**
	2.5nm,0.6s						
KURBB				⇓Lg	Lg	09 45 03.5	
	3.0nm,0.7s						
MK31	**Makanchi Array**	**8.25 205**		Pn	**Pn**	**09 43 40.3**	**+2.5**
	0.4nm,0.5s,baz=27,slow=13,SNR=9.5						
MK31				⇑Sn	**Sn**	**09 45 09.4**	**-2.2**
	0.6nm,0.5s,baz=24,slow=27,SNR=5.7						
MK31				⇓Lg	Lg	09 45 59.4	
	3.5nm,1.1s						
MKAR	**Makanchi Array**	**8.25 205**		Pn	**Pn**	**09 43 39.9**	**+2.1**
	0.3nm,0.3s,baz=26,slow=13,SNR=12						
MKAR				Sn	**Sn**	**09 45 09.9**	**-1.7**
	0.2nm,0.3s,baz=25,slow=28,SNR=7.5						
MKAR				Lg	Lg	09 45 57.3	
	baz=28,slow=29						
	0.4nm,0.3s						

*IDC **06** 09:42:37.4±1.3, 41°.80N×20°.22E, h0^{km}, mb3.4/6, mbtmp3.5/8, ML3.4/2, MS2.8/1, Error ellipse: s-maj=26.7km s-min=21.9km az=39.0*

*TIR **06** 09:42:39.2, 41°.92N×20°.17E, h4^{km}±1^{km}, Md3.2, Ml3.7*

*RHSSO **06** 09:42:39.2±0.6, 41°.87N×20°.17E, h3^{km}±2^{km}, ML3.6/15*

*BEO **06** 09:42:40.5±0.2, 41°.94N×20°.24E, h4^{km}±2^{km}, ML3.3/13*

*SKO **06** 09:42:40.3, 41°.94N×20°.14E, h10^{km}, ML3.6*

*THE **06** 09:42:40.3, 41°.93N×20°.21E, h0^{km}±7^{km}, ML3.2/7, Error ellipse: s-maj=12.5km s-min=1.5km az=328.0*

*PDG **06** 09:42:40.1±0.2, 41°.93N×20°.10E, h12^{km}, MD3.5/8, ML3.5/12, Error ellipse: s-maj=0.2km s-min=0.7km az=0.0*

ISC 06 09:42:40.4±0.9, 41°.93N±0°.01×20°.11E±0°.02, h15^{km}±6^{km}, n145, σ1^{s}33/214, mb3.6/4, 33C-17D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.20 303**		P	**Pg**	**09 42 45.1**	**0.0**
	baz=302						
PUK				S	**Sg**	**09 42 48.5**	**+0.3**
	baz=302						
PUK				AMP			
	comp=N,68nm,0.2s,baz=302						
BCI	**Bajram Curri**	**0.43 355**		P	**Pg**	**09 42 48.8**	**-0.4**
	baz=351						
BCI				S	**Sb**	**09 42 56.0**	**-0.2**
	baz=351						
BCI				AMP			
	comp=E,21nm,0.6s,baz=351						
TIR	**Tirane**	**0.61 198**		⇑P	**Pg**	**09 42 51.5**	**-0.9**
TIR				⇑S	**Sg**	**09 43 00.9**	**+0.3**
TIR	**Tirane**	**0.61 198**		P	**Pg**	**09 42 51.7**	**-0.9**
	baz=203						
TIR				S	**Sg**	**09 43 00.9**	**+0.3**
	baz=203						
TIR				AMP			
	comp=N,11nm,0.3s,baz=203						
TIR	**Tirane**	**0.61 198**		P	**Pg**	**09 42 51.6**	**-0.9**
TIR				S	**Sb**	**09 43 01.4**	**0.0**
	comp=N,2μm,0.3s						
TIR	**Tirane**	**0.61 198**		*e*Pg	**Pg**	**09 42 51.9**	**-0.6**
TIR				*e*Sg	**Sb**	**09 43 02.6**	**+1.2**
ULC	**Ulcinj**	**0.65 273**		⇑*i*Pg	**Pg**	**09 42 52.2**	**-1.0**
ULC	**Ulcinj**	**0.65 273**		⇑*i*Pg	**Pg**	**09 42 52.1**	**-1.0**
ULC				*i* Sg	**Sb**	**09 43 02.5**	**+0.1**
PVY	**Plav**	**0.67 350**		⇑*i*Pg	**Pg**	**09 42 52.9**	**-0.7**
PVY				*i* Sg	**Sb**	**09 43 04.0**	**+0.9**
DRME	**Dracevica, Mon**	**0.74 290**		*e*Pg	**Pg**	**09 42 53.8**	**-1.0**
DRME				*e*Sg	**Sn**	**09 43 07.4**	**0.0**
DRME	**Dracevica, Mon**	**0.74 290**		⇑*i*Pg	**Pg**	**09 42 53.5**	**-1.3**
DRME				*e*Sg	**Sg**	**09 43 04.2**	**-0.3**
DRME	**Dracevica, Mon**	**0.74 290**		⇑*i*Pg	**Pg**	**09 42 53.6**	**-1.3**
DRME				*i* Sg	**Sb**	**09 43 05.4**	**+0.5**
PDG	**Podgorica**	**0.81 308**		⇑P	**Pg**	**09 42 55.0**	**-1.2**
PDG				⇑S	**Sb**	**09 43 07.8**	**+0.9**
PDG	**Podgorica**	**0.81 308**		*e*Pg	**Pg**	**09 42 54.9**	**-1.2**
PDG				*e*Sg	**Sn**	**09 43 09.1**	**0.0**
PDG	**Podgorica**	**0.81 308**		⇑*i*Pg	**Pg**	**09 42 54.7**	**-1.4**
PDG				*e*Sg	**Sb**	**09 43 07.5**	**+0.5**
PDG	**Podgorica**	**0.81 308**		⇑*i*Pg	**Pg**	**09 42 54.8**	**-1.4**
PDG				*i* Sg	**Sb**	**09 43 08.0**	**+1.0**
BEY	**Berane**	**0.95 350**		⇓*i*Pg	**Pb**	**09 42 58.2**	**-0.5**
IVA	**Berane**	**0.95 350**		⇓*i*Pg	**Pb**	**09 42 58.2**	**-0.5**
IVA				*i* Sg	**Sn**	**09 43 13.3**	**+0.5**
OHR	**Ohrid**	**0.97 148**		⇑*e*Pg	**Pb**	**09 42 57.3**	**-1.7**
OHR				*i* Sg	**Sg**	**09 43 12.2**	**+0.4**
OHR				*e*Lg	Lg	09 43 14.7	
	comp=N,2μm,0.8s						
OHR				*e*Lg	Lg	09 43 16.8	
	comp=E,1μm,0.5s						
BUM	**Brajici-Budva**	**0.98 292**		⇑*i*Pg	**Pb**	**09 42 58.1**	**-1.1**
BUM				*i* Sg	**Sn**	**09 43 13.6**	**+0.2**
SKO	**Skopje**	**0.99 87**		*i* Pg	**Pb**	**09 42 57.8**	**-1.5**
SKO				*i* Sg	**Sb**	**09 43 11.8**	**-0.3**
KOME	**Kolasin**	**1.02 334**		*e*Pg	**Pb**	**09 42 58.9**	**-0.9**
KOME				*e*Sg	**Sn**	**09 43 14.3**	**-0.1**
KOME	**Kolasin**	**1.02 334**		⇓*i*Pg	**Pb**	**09 42 59.0**	**-0.9**
KOME				*i* Sg	**Sn**	**09 43 15.2**	**+0.8**
CEME	**Cevo**	**1.08 305**		⇑*i*Pg	**Pb**	**09 42 59.6**	**-1.3**
CEME				*i* Sg	**Sn**	**09 43 17.3**	**+1.4**
NKME	**Niksic**	**1.20 314**		⇓*i*Pg	**Pn**	**09 43 01.6**	**-1.2**
NKME				*i* Sg	**Sg**	**09 43 20.8**	**+1.6**
HCY	**Herceg Novi**	**1.31 294**		⇓*i*Pg	**Pn**	**09 43 03.8**	**-0.4**
HCY				*e*Sg	**Sg**	**09 43 22.8**	**+0.1**
HCY	**Herceg Novi**	**1.31 294**		⇓*i*Pg	**Pn**	**09 43 03.8**	**-0.4**
HCY				*i* Sg	**Sg**	**09 43 24.8**	**+2.1**
SJES	**Sjenica**	**1.33 356**		*e*Pg	**Pn**	**09 43 04.9**	**+0.3**
SJES				*e*Sg	**Sg**	**09 43 23.1**	**-0.3**
SJES	**Sjenica**	**1.33 356**		⇑*i*Pg	**Pn**	**09 43 04.7**	**+0.1**
SJES				*e*Sg	**Sg**	**09 43 23.5**	**+0.1**
KBN	**Korca**	**1.40 159**		P	**Pn**	**09 43 06.0**	**+0.4**
	baz=159						
KBN				S	**Sg**	**09 43 26.1**	**+0.4**
	baz=159						
KBN				AMP			
	comp=N,4.4nm,0.5s,baz=159						
KBN	**Korca**	**1.40 159**		P	**Pb**	**09 43 06.2**	**-0.2**
KBN				S	**Sg**	**09 43 26.5**	**+0.8**
	comp=N,1μm,0.6s						
FNA	**Florina**	**1.49 140**		P	**Pn**	**09 43 06.4**	**-0.4**
FNA				S	**Sb**	**09 43 26.9**	**+0.2**
	comp=N,5μm,0.5s						
FNA	**Florina**	**1.49 140**		*e*Pg	**Pn**	**09 43 06.0**	**-0.8**
FNA				*e*Sg	**Sb**	**09 43 26.9**	**+0.2**
FNA	**Florina**	**1.49 140**		⇓*i*Pg	**Pn**	**09 43 06.0**	**-0.8**
FNA				*i* Sg	**Sb**	**09 43 26.8**	**+0.1**
PLE	**Pljevlja**	**1.49 339**		⇓*i*Pg	**Pb**	**09 43 08.2**	**+0.2**
PLE				*i* Sg	**Sg**	**09 43 30.6**	**+1.9**
BRY	**Bratogost**	**1.52 310**		*e*Pn	**Pn**	**09 43 07.1**	**-0.2**
BRY				*e*Sn	**Sg**	**09 43 28.8**	**-0.5**
BRY	**Bratogost**	**1.52 310**		⇓*i*Pg	**Pn**	**09 43 07.0**	**-0.2**
BRY				*i* Sg	**Sg**	**09 43 30.5**	**+1.2**
TREB	**Trebinje**	**1.52 301**		*e*Sn	**Sg**	**09 43 31.3**	**+1.7**
TREB	**Trebinje**	**1.52 301**		⇑*i*Pn	**Pn**	**09 43 07.5**	**+0.3**
TREB				*e*Sn	**Sg**	**09 43 29.6**	**0.0**
VLO	**Vlora**	**1.54 198**		P	**Pg**	**09 43 09.7**	**-0.3**
	baz=200						
VLO				S	**Sg**	**09 43 31.5**	**+1.6**
	baz=200						
VLO				AMP			
	comp=N,6.6nm,0.4s,baz=200						
BARS	**Barje**	**1.54 54**		*e*Pn	**Pn**	**09 43 07.8**	**+0.4**
BARS	**Barje**	**1.54 54**		⇓*i*Pn	**Pn**	**09 43 07.7**	**+0.3**
BARS				*i* Sg	**Sb**	**09 43 27.9**	**-0.1**
PRVS	**Prvonek**	**1.57 68**		*e*Pg	**Pn**	**09 43 08.0**	**+0.2**
PRVS				*e*Sg	**Sn**	**09 43 27.2**	**-0.7**
STIP	**Stip**	**1.57 98**		*i* Pn	**Pg**	**09 43 10.1**	**-0.5**
STIP				*e*Sn	**Sb**	**09 43 32.1**	**+3.3**
STIP				*i* Sg	**Sg**	**09 43 34.9**	**+3.9**
DBRK	**Dubrovnik**	**1.63 297**		*e*Pn	**Pb**	**09 43 09.9**	**-0.4**
IVAS	**Ivanjica**	**1.64 1**		*e*Pn	**Pn**	**09 43 09.5**	**+0.6**
IVAS				*e*Sn	**Sg**	**09 43 32.7**	**-0.6**
KLINJ	**Klinje**	**1.67 318**		*e*Pn	**Pn**	**09 43 10.2**	**+0.9**
KLINJ				*e*Sn	**Sb**	**09 43 33.0**	**+1.0**
NEST	**Nestorio**	**1.67 155**		P	**Pb**	**09 43 10.3**	**-0.7**
NEST				S	**Sb**	**09 43 32.8**	**+0.8**
	comp=N,640nm,0.5s						
RUDO	**Rudo**	**1.77 342**		*e*Pn	**Pn**	**09 43 10.8**	**+0.2**
RUDO				*e*Sn	**Sb**	**09 43 35.9**	**+1.2**
LSK	**Leskovik**	**1.82 168**		P	**Pb**	**09 43 13.7**	**+0.1**
	baz=169						
LSK				S	**Sg**	**09 43 39.6**	**+0.6**
	baz=169						
LSK				AMP			
	comp=N,7.1nm,1.0s,baz=169						
LSK	**Leskovik**	**1.82 168**		P	**Pn**	**09 43 12.0**	**+0.7**
BOSS	**Bosilegrad**	**1.84 71**		*e*Pn	**Pb**	**09 43 12.9**	**-1.0**
VAY	**Valandovo**	**1.94 108**		⇓*i*Pn	**Pn**	**09 43 13.2**	**+0.3**
VAY				*i* Sg	**Sg**	**09 43 42.3**	**-0.5**
VAY				*e*Lg	Lg	09 43 42.6	
	comp=N,292nm,0.6s						
VAY				*e*Lg	Lg	09 43 42.8	
	comp=E,308nm,0.6s						
BBLS	**Lazi&#263i**	**2.00 345**		*e*Pn	**Pn**	**09 43 15.1**	**+1.3**
BBLS				*e*Sn	**Sb**	**09 43 41.8**	**+0.4**
BBLS	**Lazi&#263i**	**2.00 345**		⇑*i*Pn	**Pn**	**09 43 15.1**	**+1.3**
BBLS				*e*Sn	**Sb**	**09 43 40.7**	**-0.7**
GRUS	**Gruza**	**2.00 13**		*e*Pn	**Pb**	**09 43 15.4**	**-1.2**
STON	**Ston**	**2.02 298**		*e*Pn	**Pn**	**09 43 14.9**	**+0.9**
STON				*e*Sn	**Sb**	**09 43 43.3**	**+1.5**
STON	**Ston**	**2.02 298**		*e*Pn	**Pn**	**09 43 14.8**	**+0.8**
STON	**Ston**	**2.02 298**		⇑*i*Pn	**Pn**	**09 43 14.8**	**+0.8**
STON				*e*Sn	**Sb**	**09 43 41.6**	**-0.2**
SRN	**Sarande**	**2.05 182**		P	**Pb**	**09 43 16.1**	**-1.3**
	baz=184						
SRN				S	**Sg**	**09 43 46.8**	**+0.4**
	baz=184						
SRN				AMP			
	comp=E,0.9nm,0.6s,baz=184						
SRN	**Sarande**	**2.05 182**		P	**Pb**	**09 43 16.0**	**-1.4**
SRN				S	**Sb**	**09 43 43.2**	**+0.4**
	comp=E,260nm,0.5s						
BOVS	**Bovan**	**2.06 34**		*e*Pn	**Pn**	**09 43 15.8**	**+1.2**
DIVS	**Divibare**	**2.17 358**		*e*Pn	**Pb**	**09 43 17.9**	**-1.5**
DIVS				*e*Sn	**Sn**	**09 43 44.5**	**+1.8**
KPRO	**Kipourio**	**2.19 154**		P	**Pn**	**09 43 17.3**	**+0.9**
KPRO				S	**Sn**	**09 43 45.0**	**+1.7**
	comp=E,572nm,0.7s						
KNT	**Kendrikon**	**2.23 109**		P	**Pn**	**09 43 16.9**	**0.0**
KNT	**Kendrikon**	**2.23 109**		⇑*i*Pn	**Pn**	**09 43 16.9**	**0.0**
KNT				*e*Sn	**Sn**	**09 43 44.8**	**+0.7**
KKB	**Krupnik**	**2.25 91**		*i* Pn	**Pn**	**09 43 17.9**	**+0.7**
KKB				*e*Sn	**Sn**	**09 43 44.5**	**-0.3**
TRUS	**Trudelj**	**2.30 5**		*e*Pn	**Pb**	**09 43 19.8**	**-1.8**
HAPS	**Han Pijesak,Bl**	**2.31 339**		*e*Pn	**Pn**	**09 43 19.9**	**+1.7**
HAPS				*e*Sn	**Sb**	**09 43 49.1**	**-1.3**
ZAGS	**Zajecar**	**2.44 39**		*e*Pn	**Pn**	**09 43 20.1**	**+0.3**
BLKB	**Belogradchik**	**2.53 47**		⇓S

comp=E,3.3nm,0.2s
BIOA Bad Ischl, Aus 7.37 324 *e*Pn **Pn 09 44 30.5 +3.0**
comp=E,2.0nm,0.2s
LESA Schwarzleotal 7.63 319 *i* Pn **Pn 09 44 34.6 +3.5**
comp=E,8.6nm,0.5s
WATA Walderalm 8.14 314 *e*Pn **Pn 09 44 41.6 +3.5**
comp=E,3.3nm,0.3s
GERES GERESS Array B 8.25 329 Pn **Pn 09 44 42.1 +2.4**
comp=E,0.4nm,0.3s,baz=139,slow=6.5,SNR=2.4
comp=E,0.6nm,0.4s
SQTA Sankt Quirin 8.26 313 *e*Pn **Pn 09 44 42.7 +2.8**
comp=E,1.1nm,0.2s
FETA Feichten 8.42 310 *e*Pn **Pn 09 44 44.8 +2.8**
BRTR Keskin Array B 10.49 98 LR LR 09 49 53.0
comp=E,48nm,18.5s,baz=288,slow=42
CLL Collm 10.57 335 *e*Sg 09 48 18.0
HFS Hagfors 18.65 350 P **Pn 09 46 58.6 +0.8**
comp=E,0.1nm,0.3s,baz=144,slow=13,SNR=2.6
comp=E,1.2nm,0.6s
NOA NORSAR Array B 19.88 347 P **P 09 47 11.1 +0.1**
comp=E,0.3nm,0.5s,baz=156,slow=10,SNR=2.0
comp=E,0.3nm,0.5s
EKA Eskdalemuir Ar 20.27 319 P **P 09 47 15.0 -0.2**
comp=E,0.6nm,0.6s,baz=120,slow=10.0,SNR=3.4
comp=E,0.6nm,0.6s
TORD Torodi Ar. Bea 32.85 215 P **P 09 49 13.5 -0.2**
comp=E,0.4nm,0.9s,baz=45,slow=6.9,SNR=2.2
comp=E,0.4nm,0.9s
BVAR Borovoye Array 35.05 54 P **P 09 49 32.6 +0.2**
comp=E,0.5nm,0.5s,baz=251,slow=9.2,SNR=4.1
comp=E,0.5nm,0.5s
ZALV Zalesovo Beam 43.49 51 P **P 09 50 42.4 -0.5**
comp=E,1.6nm,0.6s,baz=290,slow=10.0,SNR=7.0
comp=E,1.6nm,0.6s
MKAR Makanchi Array 43.69 62 P **P 09 50 43.8 -0.9**
comp=E,0.5nm,0.6s,baz=282,slow=6.8,SNR=5.9
comp=E,0.5nm,0.6s
ASAR Alice Springs 122.80 94 PKP **PKPdf 10 01 33.2 -2.9**
comp=E,0.5nm,0.9s,baz=298,slow=2.0,SNR=4.4

*HEL **06** 09:44:50.2±0.4, 67°.60N×21°.21E, h0km, ML1.6, Suspected explosion*
UPP 06 09:44:49.0±0.0, 67°.63N×21°.02E, h0km, ML2.1, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.41**	**321**	P	Pg	09 44 57.1	+0.1
KUA				S	Sg	09 45 02.8	+0.5
MASU	**Masugnsbyn**	**0.41**	**115**	P	Pg	09 44 57.0	+0.1
MASU				S	Sg	09 45 02.9	+0.6
DUNU	**Dundret**	**0.54**	**199**	P	Pg	09 44 59.3	0.0
LANU	**Lannavaara**	**0.56**	**41**	P	Pg	09 44 59.5	-0.2
LANU	**Lannavaara**	**0.56**	**41**	PG	Pg	09 44 59.5	-0.1
LANU				SG	Sg	09 45 07.4	+0.5
RATU	**Laukkuluspa**	**0.58**	**290**	P	Pg	09 44 59.9	-0.1
KOVU	**Salmi**	**0.68**	**332**	P	Pg	09 45 01.8	-0.2
SALU	**Saltoluokta**	**1.00**	**256**	*e*P	Pg	09 45 07.8	-0.4
SALU	**Saltoluokta**	**1.00**	**256**	P	Pg	09 45 07.6	-0.5
ERTU	**Ertsjaerv**	**1.18**	**157**	P	Pg	09 45 10.5	-1.0
ERTU	**Ertsjaerv**	**1.18**	**157**	PG	Pg	09 45 10.3	-1.2
ERTU				SB	Sg	09 45 26.8	+0.1
KLF	**Kolari** baz=291	**1.20**	**108**	PG	Pg	09 45 11.4	-0.6
KLF				MSG		09 45 24.4	
	comp=Z,1.7nm,0.2s						
KLF				SN	Sb	09 45 28.6	-0.1
HEF	**Hetta**	**1.26**	**51**	*e*P	Pg	09 45 12.3	-0.8
HEF	**Hetta**	**1.26**	**51**	PG	Pg	09 45 12.0	-1.2
HEF				MSG		09 45 27.5	
	comp=Z,3.0nm,0.2s						
HEF				SB	Sg	09 45 28.8	-0.7
HARU	**Harads**	**1.48**	**181**	P	Pn	09 45 15.9	-0.9
KTK1	**Kautokeino**	**1.61**	**30**	PG	Pb	09 45 19.4	-0.2
KTK1				SN	Sg	09 45 40.9	+0.2
KALU	**Kalix**	**2.01**	**151**	PG	Pn	09 45 24.9	+0.8
TOF	**Tornio**	**2.03**	**139**	PG	Pn	09 45 25.5	+1.1
TOF				MSG		09 45 48.5	
	comp=Z,6.3nm,0.2s						
SGF	**Sodankyl**	**2.12**	**93**	PG	Pn	09 45 26.6	+1.0
RNF	**Rovaniemi**	**2.21**	**115**	PG	Pn	09 45 28.1	+1.3
RANF	**Ranua** baz=309	**2.80**	**123**	PG	Pb	09 45 40.2	+0.4
KEV	**Kevo**	**3.05**	**43**	PN	Pn	09 45 39.6	+1.2
KEV				MSG		09 46 19.3	
	comp=Z,4.0nm,0.2s						
KU6	**Riekki**	**3.86**	**111**	PN	Pn	09 45 51.3	+1.8

*UPP **06** 09:45:23.8±0.0, 67°.63N×21°.01E, h0km, ML2.1, Unknown*
*IDC **06** 09:45:24.4±1.4, 67°.64N×21°.34E, h0km, mbtmp3.0/3, ML2.2/1, Error ellipse: s-maj=24.0km s-min=8.2km az=112.0*
*HEL **06** 09:45:25.8±0.2, 67°.70N×21°.15E, h0km, ML2.1, Suspected explosion*
ISC 06 09:45:24.4±0.8, 67°.67N±0°.02×21°.01E±0°.03, h0km, n56, σ1§30/75, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.39**	**319**	P	**Pg**	**09 45 31.7**	**-0.1**
KUA				S	**Sg**	**09 45 37.5**	**+0.7**
MASU	**Masugnsbyn**	**0.43**	**118**	P	**Pg**	**09 45 31.8**	**-0.8**
MASU				S	**Sg**	**09 45 37.5**	**-0.7**
LANU	**Lannavaara**	**0.54**	**44**	P	**Pg**	**09 45 34.6**	**-0.1**
LANU	**Lannavaara**	**0.54**	**44**	PG	**Pg**	**09 45 34.5**	**-0.1**
LANU				SG	**Pb**	**09 45 36.8**	**+0.1**
RATU	**Laukkuluspa**	**0.56**	**287**	P	**Pg**	**09 45 34.6**	**-0.6**
DUNU	**Dundret**	**0.57**	**198**	P	**Pg**	**09 45 34.3**	**-1.0**
KOVU	**Salmi**	**0.65**	**331**	P	**Pg**	**09 45 36.6**	**-0.1**
SALU	**Saltoluokta**	**1.00**	**255**	P	**Pg**	**09 45 42.2**	**-1.4**
ERTU	**Ertsjaerv**	**1.21**	**157**	P	**Pg**	**09 45 45.7**	**-1.7**
ERTU	**Ertsjaerv**	**1.21**	**157**	SG	**Sg**	**09 46 03.1**	**0.0**
KLF	**Kolari** baz=293	**1.22**	**109**	PG	**Pg**	**09 45 46.7**	**-1.0**
KLF				MSG		09 46 01.6	
	comp=Z,18nm,0.2s						
KLF				SG	**Sg**	**09 46 03.0**	**-0.3**
HEF	**Hetta** baz=235	**1.24**	**52**	PG	**Pg**	**09 45 47.0**	**-1.2**
HEF				MSG		09 46 01.6	
	comp=Z,16nm,0.2s						
HEF				SN	**Sn**	**09 46 06.3**	**-0.2**
HARU	**Harads**	**1.51**	**181**	P	**Pn**	**09 45 50.8**	**-1.8**
KTK1	**Kautokeino**	**1.58**	**30**	PN	**Pb**	**09 45 54.1**	**-0.4**
I37NO	**I37NO** baz=148,slow=320,SNR=4.2	**1.67**	**329**	I	I	09 55 30.0	
KALU	**Kalix**	**2.04**	**152**	SN	**Sb**	**09 46 27.5**	**-0.5**
TOF	**Tornio**	**2.06**	**139**	PN	**Pn**	**09 46 01.2**	**+1.0**
TOF				MSG		09 46 26.7	
	comp=Z,20nm,0.2s						
TOF				SB	**Sb**	**09 46 28.2**	**-0.4**
SGF	**Sodankyl**	**2.13**	**93**	PB	**Pn**	**09 46 01.5**	**+0.4**
SGF				SG	**Sb**	**09 46 29.8**	**-0.8**
RNF	**Rovaniemi**	**2.22**	**116**	PN	**Pn**	**09 46 03.2**	**+0.8**
RNF				SN	**Sb**	**09 46 32.8**	**-0.6**
ARA0	**ARCESS Array S**	**2.50**	**39**	SG	**Pn**	**09 46 06.0**	**-0.2**
ARA0	**ARCESS Array S** baz=219	**2.50**	**39**	PN	**Pn**	**09 46 06.0**	**-0.2**
ARA0				SG	**Sb**	**09 46 40.5**	**-0.8**
ARCES	**ARCESS Array B**	**2.50**	**39**	Pn	**Pn**	**09 46 06.6**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=225,slow=14,SNR=16						
ARCES				Lg	Lg	09 46 40.6	
	comp=Z,0.7nm,0.3s,baz=219,slow=28,SNR=11						
	comp=Z,1.2nm,0.3s						
RANF	**Ranua** baz=308	**2.82**	**123**	PN	**Pn**	**09 46 11.5**	**+0.8**
RANF				SB	**Sb**	**09 46 49.1**	**-1.4**
RANF	**Ranua**	**2.82**	**123**	SB	**Pn**	**09 46 11.5**	**+0.8**
RAJF	**Raja-Jooseppi**	**2.86**	**70**	SB	**Pn**	**09 46 11.2**	**+0.1**
RAJF	**Raja-Jooseppi**	**2.86**	**70**	PN	**Pn**	**09 46 11.2**	**+0.1**
RAJF				SG	**Sb**	**09 46 52.7**	**+1.1**
KEV	**Kevo** baz=232	**3.03**	**43**	PN	**Pn**	**09 46 14.1**	**+0.6**
KEV				MSG		09 46 53.1	
	comp=Z,4.6nm,0.2s						
KEV				SG	**Sb**	**09 46 55.2**	**-1.4**
KEV	**Kevo**	**3.03**	**43**	SN	**Pn**	**09 46 14.1**	**+0.6**
BURU	**Burvik**	**3.10**	**177**	SN	**Pn**	**09 46 15.0**	**+0.6**
BURU	**Burvik**	**3.10**	**177**	PN	**Pb**	**09 46 19.1**	**-1.1**
BURU				SN	**Sn**	**09 46 54.7**	**+2.7**
OUL	**Oulu**	**3.25**	**141**	SN	**Pn**	**09 46 17.7**	**+1.2**
OUL	**Oulu**	**3.25**	**141**	PB	**Pb**	**09 46 23.1**	**+0.2**
OUL				SB	**Sb**	**09 47 03.2**	**+0.2**
VRF	**Varrio**	**3.28**	**85**	SN	**Pn**	**09 46 18.6**	**+1.7**
VRF	**Varrio**	**3.28**	**85**	PN	**Pn**	**09 46 18.6**	**+1.7**
VRF				SG	**Sb**	**09 47 05.4**	**+1.6**
OBF4	**Vikkela, Lumij**	**3.31**	**148**	SN	**Pn**	**09 46 19.6**	**+2.4**
OBF4	**Vikkela, Lumij**	**3.31**	**148**	PN	**Pn**	**09 46 19.6**	**+2.4**
OBF0	**Syolatti, Pyha**	**3.44**	**156**	SN	**Pn**	**09 46 20.4**	**+1.3**
OBF0	**Syolatti, Pyha** baz=336	**3.44**	**156**	PB	**Pb**	**09 46 26.0**	**-0.1**
OBF8	**Ulkokalla**	**3.49**	**162**	SB	**Pb**	**09 46 29.0**	**+2.0**
OBF8	**Ulkokalla**	**3.49**	**162**	PB	**Pb**	**09 46 27.1**	**+0.2**
OLKF	**Oulanka, Finla**	**3.56**	**108**	SN	**Pn**	**09 46 22.8**	**+2.0**
OLKF	**Oulanka, Finla**	**3.56**	**108**	PN	**Pn**	**09 46 21.5**	**+0.7**
OLKF				SB	**Sb**	**09 47 10.6**	**-1.1**
MSF	**Maaselka**	**3.63**	**115**	SN	**Pn**	**09 46 24.3**	**+2.5**
MSF	**Maaselka**	**3.63**	**115**	PN	**Pn**	**09 46 22.6**	**+0.8**
MSF				SB	**Sb**	**09 47 15.8**	**+1.9**
OUF	**Merijarvi**	**3.64**	**154**	SN	**Pn**	**09 46 24.5**	**+2.6**
OUF	**Merijarvi** baz=340	**3.64**	**154**	PN	**Pn**	**09 46 24.5**	**+2.6**
OUF				SN	**Sn**	**09 47 08.0**	**+2.5**
UMAU	**Umeaa**	**3.80**	**182**	SN	**Pb**	**09 46 33.8**	**+1.6**
UMAU	**Umeaa**	**3.80**	**182**	PB	**Pb**	**09 46 33.8**	**+1.6**
UMAU				SN	**Sn**	**09 47 10.5**	**+1.2**
KU6	**Riekki**	**3.87**	**111**	PN	**Pn**	**09 46 27.0**	**+1.9**
HUSU	**Husum**	**4.41**	**191**	SN	**Sn**	**09 47 24.8**	**+0.5**
VAF	**Ylistaro**	**4.69**	**171**	*e*P	**Pn**	**09 46 37.0**	**+0.7**
KEF	**Keuruu**	**5.76**	**162**	*e*P	**Pn**	**09 46 51.5**	**+0.6**
JOF	**Joensuu**	**6.42**	**133**	*e*P	**Pn**	**09 46 59.8**	**-0.3**
FINES	**FINESS Array B**	**6.61**	**158**	Pn	**Pn**	**09 47 02.7**	**0.0**
	comp=Z,0.7nm,0.7s,baz=349,slow=13,SNR=1.0						
FINES				Sn	**Sn**	**09 48 15.2**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=346,slow=14,SNR=1.7						
RAF	**Rauma**	**6.68**	**177**	*e*P	**Pn**	**09 47 03.7**	**+0.1**
HFS	**Hagfors**	**8.21**	**207**	Pn	**Pn**	**09 47 23.2**	**-1.4**
	comp=Z,3.3nm,1.1s,baz=17,slow=13,SNR=2.0						

*NEIC **06** 09:46:59.5±0.8, 18°.6S±0°.1×169°.9E±0°.1, h214km±10km, mb4.3/15, Error ellipse: s-maj=22.1km s-min=19.4km az=152.0*
*IDC **06** 09:47:03.0±3.6, 18°.80S×169°.53E, h234km±28km, mb3.8/5, mbtmp4.3/6, Error ellipse: s-maj=35.9km s-min=31.6km az=4.0*
*NOU **06** 09:47:09.3, 19°.22S×169°.41E, h0km, MLv3.9/8, Vanuatu Islands*
ISC 06 09:46:57.9±1.0, 18°.5S±0°.1×169°.9E±0°.1, h200km, n35, σ1§32/36, mb4.2/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**3.36**	**227**	P	**Pn**	**09 47 53.1**	**+1.3**
LIFNC	**LIFOU**	**3.36**	**227**		**Pn**	**09 47 53.3**	**+1.6**
MARNC	**Mare, Loyalty**	**3.44**	**210**	P	**Pn**	**09 47 53.8**	**+1.1**
YATNC	**Mamie plateau,**	**4.51**	**218**	P	**Pn**	**09 48 07.0**	**+0.9**
PINNC	**Pines Island,**	**4.69**	**208**	P	**Pn**	**09 48 08.8**	**+0.6**
PINNC	**Pines Island,**	**4.69**	**208**	Pn	**Pn**	**09 48 10.5**	**+2.2**
DZM	**Mont Dzumac**	**4.79**	**221**		**Pn**	**09 48 10.3**	**+0.6**
DZM	**Mont Dzumac** 16nm,0.8s,baz=27,slow=16,SNR=19	**4.79**	**221**	P	**Pn**	**09 48 10.1**	**+0.4**
DZM				S	**Sn**	**09 49 09.8**	**+3.4**
	2.8nm,0.3s,baz=296,slow=21,SNR=0.8						
OUENC	**Ouen Island, N**	**4.83**	**215**	Pn	**Pn**	**09 48 10.5**	**+0.5**
NOUC	**Port Laguerre**	**4.91**	**222**	P	**Pn**	**09 48 12.0**	**+0.9**
ONTNC	**Ouen Toro**	**4.96**	**220**	P	**Pn**	**09 48 12.7**	**+0.9**
ONTNC	**Ouen Toro**	**4.96**	**220**	Pn	**Pn**	**09 48 12.9**	**+1.2**
KOUNC	**Koumac, New Ca**	**5.64**	**248**	Pn	**Pn**	**09 48 22.1**	**+1.5**
EIDS	**Eidsvold**	**18.71**	**245**	P	**P**	**09 51 00.6**	**-0.9**
EIDS				IAmb	IAmb	09 51 40.5	
	comp=Z,14nm,1.3s						
CTAO	**Charters Tower**	**22.34**	**262**	P	**P**	**09 51 38.9**	**-0.5**
CTAO				IAmb	IAmb	09 52 12.6	
	comp=Z,8.6nm,1.2s						
TKNZ	**Takaka Hill**	**22.62**	**174**	P	**P**	**09 51 40.3**	**-1.5**
STKA	**Stephens Creek**	**28.74**	**237**	P	**P**	**09 52 36.3**	**-0.6**
STKA	**Stephens Creek**	**28.74**	**237**	P	**P**	**09 52 35.9**	**-1.0**
	comp=Z,3.0nm,0.7s,baz=57,slow=11,SNR=4.5						
	comp=Z,3.0nm,0.7s						
WR0	**Warramunga Arr**	**33.35**	**262**	P	**P**	**09 53 16.4**	**-0.9**
WR0				IAmb	IAmb	09 53 27.6	
	comp=Z,13nm,1.5s						
BBOO	**Buckleboo**	**33.48**	**238**	P	**P**	**09 53 17.6**	**-0.8**
WB0	**Warramunga Arr**	**33.50**	**262**	P	**P**	**09 53 17.8**	**-0.9**
WB0				IAmb	IAmb	09 53 39.2	
	comp=Z,11nm,1.5s						
WB2	**Warramunga Arr**	**33.53**	**262**	P	**P**	**09 53 18.1**	**-0.8**
WB2				IAmb	IAmb	09 53 59.9	
	comp=Z,9.3nm,1.4s						
WRA	**Warramunga Arr**	**33.54**	**262**	P	**P**	**09 53 18.4**	**-0.6**
WRA	**Warramunga Arr**	**33.54**	**262**	P	**P**	**09 53 17.7**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=90,slow=8.2,SNR=39						
	comp=Z,1.2nm,0.6s						
AS31	**Alice Springs**	**33.88**	**255**	P	**P**	**09 53 21.3**	**-0.7**
AS31				IAmb	IAmb	09 53 21.6	
	comp=Z,6.0nm,0.4s						
ASAR	**Alice Springs**	**33.88**	**255**	P	**P**	**09 53 21.0**	**-1.0**
ASAR	**Alice Springs**	**33.88**	**255**	P	**P**	**09 53 20.5**	**-1.5**
	comp=Z,7.4nm,0.4s,baz=82,slow=8.9,SNR=165						
	comp=Z,7.4nm,0.4s						
KNRA	**Kununurra**	**39.33**	**268**	P	**P**	**09 54 08.1**	**+0.1**
KNRA				IAmb	IAmb	09 54 42.8	
	comp=Z,23nm,1.4s						
FITZ	**Fitzroy Crossi**	**41.91**	**263**	P	**P**	**09 54 29.4**	**+0.4**
PSA00	**Pilbara Seismi**	**46.93**	**257**	P	**P**	**09 55 07.9**	**-0.9**
PSA00				IAmb	IAmb	09 55 10.0	
	comp=Z,14nm,1.4s						
MBWA	**Marble Bar**	**47.08**	**258**	P	**P**	**09 55 08.5**	**-1.5**
QSPA	**South Pole Qui**	**71.56**	**180**	P	**P**	**09 57 57.1**	**+0.1**
QSPA				IAmb	IAmb	09 58 24.8	
	comp=Z,5.3nm,1.4s						
MAW	**Mawson**	**79.34**	**202**	P	**P**	**09 58 40.0**	**-1.0**
	comp=Z,5.6nm,0.4s,baz=128,slow=8.0,SNR=35						
	comp=Z,5.6nm,0.4s						
BELA	**Belgrano 2**	**82.79**	**175**	P	**P**	**09 58 58.9**	**-0.2**
ILAR	**Eielson Array**	**89.34**	**17**	P	**P**	**09 59 34.5**	**+3.4**
	comp=Z,0.4nm,0.8s,baz=234,slow=4.5,SNR=4.3						
	comp=Z,0.4nm,0.8s						

*MCSM **06** 09:48:17.2±0.6, 52°.7N±7°.1×6E±°, h4km, MLv3.6*
*IPEC **06** 09:48:17.0±0.3, 51°.50N×16°.27E, h1km, ML2.8/3, Error ellipse: s-maj=3.0km s-min=1.5km az=55.0*
*IDC **06** 09:48:17.5±0.9, 51°.46N×15°.86E, h0km, mbtmp3.4/8, ML3.1/7, Error ellipse: s-maj=16.3km s-min=9.2km az=102.0*
*VIE **06** 09:48:18.6±0.7, 51°.42N×16°.10E, h0km, mb2.8/9, ml3.2/11, ms3.1/1, Error ellipse: s-maj=5.4km s-min=2.8km az=46.0, Suspected Mining induced.*
*BGR **06** 09:48:19.1±0.4, 51°.42N×16°.13E, h1km, ML3.1/15, Error ellipse: s-maj=4.4km s-min=2.2km az=13.0*
*PRU **06** 09:48:19.4, 51°.43N×16°.15E, h0km*
ISC 06 09:48:16.0±0.7, 51°.56N±0°.03×16°.17E±0°.02, h0km, n85, σ1§30/150, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**174**	*e*Pg	**Pg**	**09 48 30.4**	**+0.7**
KSP				*e*Sg	**Sg**	**09 48 39.7**	**+0.7**
KSP	**Ksiaz**	**0.72**	**174**	*e*Pg	**Pg**	**09 48 30.4**	**+0.7**
KSP				*e*Sg	**Sg**	**09 48 37.9**	**-1.2**
CHVC	**Chvalec**	**0.97**	**184**	*e*PG	**Pb**	**09 48 35.3**	**-0.4**
CHVC				*e*SG	**Sg**	**09 48 46.9**	**-0.3**
OSTC	**Ostas**	**1.00**	**178**	*e*PG	**Pb**	**09 48 35.8**	**-0.4**
OSTC				*e*SG	**Sg**	**09 48 48.0**	**-0.1**
	comp=Z,119nm,0.5s						
UPC	**Upice**	**1.06**	**186**	*e*PG	**Pg**	**09 48 36.6**	**+0.4**
UPC				*e*SG	**Sg**	**09 48 49.5**	**-0.4**
DPC	**Dobruska-Polom**	**1.21**	**175**	*e*PG	**Pg**	**09 48 39.2**	**0.0**
DPC				*e*SG	**Sg**	**09 48 54.5**	**-0.4**
	comp=Z,101nm,0.3s						
DPC	**Dobruska-Polom**	**1.21**	**175**	*e*Pg	**Pg**	**09 48 39.2**	**0.0**
DPC				*e*Sg	**Sg**	**09 48 54.5**	**-0.4**
PVCC	**Panska Ves**	**1.45**	**225**	*e*PG	**Pb**	**09 48 43.7**	**0.0**
PVCC				*e*SG	**Sn**	**09 49 03.6**	**+0.6**
KRLC	**Kraliky**	**1.54**	**165**	*e*PG	**Pb**	**09 48 45.0**	**-0.3**
KRLC				*e*SG	**Sg**	**09 49 03.6**	**-1.6**
BRG	**Berggiesshubel**	**1.56**	**245**	Pn	**Pn**	**09 48 44.8**	**-0.2**
BRG				Pg	**Pg**	**09 48 46.3**	**+0.5**
BRG				Sg	**Sg**	**09 49 06.7**	**+0.6**
BRG				Amp		09 49 08.3	
	comp=Z,114nm,0.4s						
BRG	**Berggiesshubel**	**1.56**	**245**	*e*Pn	**Pn**	**09 48 44.9**	**0.0**
BRG				*e*Sg	**Sg**	**09 49 06.6**	**+0.6**
PRA	**Prague**	**1.85**	**217**	*e*PG	**Pn**	**09 48 49.3**	**+0.3**
PRA				*e*SG	**Sb**	**09 49 14.0**	**-0.4**
GOPC	**GO Pecny, Ondr**	**1.87**	**209**	*e*PG	**Pb**	**09 48 51.2**	**+0.3**
PRU	**Pruhonice**	**1.88**	**214**	*e*PG	**Pb**	**09 48 51.0**	**-0.2**
PRU				*e*SG	**Sb**	**09 49 15.3**	**+0.1**
	comp=Z,77nm,0.4s						
FBE	**Freiberg**	**1.88**	**251**	*e*Pg	**Pg**	**09 48 52.2**	**+0.2**
FBE				*e*Sg	**Sg**	**09 49 16.1**	**-0.3**
HSKC	**Hora Svate Kat**	**1.97**	**242**	*e*PG	**Pb**	**09 48 52.8**	**+0.1**
HSKC				*e*SG	**Sb**	**09 49 18.4**	**+0.5**
	comp=Z,71nm,0.3s						
MORC	**Moravsky Berou** baz=335	**1.99**	**153**	*e*Pn	**Pn**	**09 48 50.7**	**-0.1**
MORC				*e*Sg	**Sn**	**09 49 16.4**	**0.0**
	comp=Z,80nm,0.5s,baz=335						
MORC	**Moravsky Berou**	**1.99**	**153**	*e*Pn	**Pn**	**09 48 50.9**	**0.0**
MORC				*e*Sg	**Sb**	**09 49 18.4**	**+0.2**
CLL	**Collm**	**2.00**	**264**	*e*Pn	**Pn**	**09 48 51.0**	**0.0**
CLL				*e*Pg	**Pg**	**09 48 55.0**	**+0.8**
CLL				*e*x	x	09 48 57.0	
CLL				*e*x	x	09 49 09.0	
CLL				*e*Sg	**Sg**	**09 49 20.0**	**-0.1**
	comp=Z,66nm,0.6s						
CLL	**Collm**	**2.00**	**264**	*e*Sg	**Sg**	**09 49 21.7**	**+1.6**
CLL	**Collm**	**2.00**	**264**	P	**Pn**	**09 48 50.9**	**0.0**
OKC	**Ostrava-Krasne**	**2.13**	**143**	*e*PG	**Pg**	**09 48 56.4**	**-0.4**
OKC				*e*SG	**Sb**	**09 49 22.4**	**0.0**
OKC	**Ostrava-Krasne**	**2.13**	**143**	*e*Pn	**Pn**	**09 48 53.0**	**+0.2**
OKC				*e*Sg	**Sb**	**09 49 22.8**	**+0.4**
VRAC	**Vranov** baz=355	**2.27**	**173**	*e*Pn	**Pn**	**09 48 54.5**	**-0.2**
VRAC				*e*Sg	**Sb**	**09 49 26.1**	**-0.3**
	comp=Z,55nm,0.3s,baz=355						
VRAC	**Vranov**	**2.27**	**173**	Pn	**Pn**	**09 48 54.9**	**+0.2**
	comp=Z,4.1nm,0.3s,baz=344,slow=16,SNR=23						
VRAC				Lg	Lg	09 49 25.5	
	comp=Z,4.3nm,0.3s,baz=246,slow=20,SNR=3.3						
	comp=Z,12nm,0.3s						
TREC	**Trest**	**2.31**	**191**	*e*SG	**Sb**	**09 49 27.8**	**+0.3**
ZVC	**Zvikov**	**2.47**	**212**	*e*SG	**Sg**	**09 49 34.1**	**-1.2**
KRUC	**Moravsky** baz=358	**2.50**	**177**	*e*Pn	**Pn**	**09 48 58.1**	**+0.2**
KRUC				*e*Sg	**Sb**	**09 49 33.5**	**+0.4**
	comp=Z,39nm,0.6s,baz=358						
TANN	**Tannenbergstha**	**2.61**	**245**	*e*Pn	**Pn**	**09 49 00.3**	**+0.9**
TANN				*e*Sg	**Sg**	**09 49 38.0**	**-1.7**
OJC	**Ojcow**	**2.66**	**119**	*e*Pg	**Pg**	**09 49 06.8**	**-0.1**
OJC				*e*Sg	**Sg**	**09 49 42.8**	**+1.5**
OJC	**Ojcow**	**2.66**	**119**	*e*Pn	**Pn**	**09 49 00.6**	**+0.5**
OJC				*e*Pg	**Pg**	**09 49 07.6**	**+0.7**
OJC				*e*Sg	**Sg**	**09 49 42.9**	**+1.5**
OJC	**Ojcow**	**2.66**	**119**	P	**Pn**	**09 49 01.2**	**+1.2**
WERD	**Werda**	**2.68**	**247**	*e*Pn	**Pn**	**09 49 01.5**	**+1.1**
WERD				*e*Pg	**Pg**	**09 49 07.6**	**+0.2**
WERD				*e*Sg	**Sg**	**09 49 41.1**	**-1.0**
JAVC	**Velka Javorina** baz=342	**2.87**	**160**	*e*Pn	**Pn**	**09 49 03.0**	**0.0**
KHC	**Kasperske Hory**	**2.94**	**215**	*e*PG	**Pb**	**09 49 10.2**	**+0.9**
KHC				*e*SN	**Sn**	**09 49 38.8**	**-1.2**
KHC				*e*SG	**Sg**	**09 49 48.8**	**-1.7**
	comp=Z,50nm,0.5s						
CKRC	**Cesky Krumlov**	**2.99**	**204**	*e*PG	**Pb**	**09 49 11.3**	**+1.2**
CKRC				*e*SG	**Sb**	**09 49 49.0**	**+1.8**
	comp=Z,63nm,0.6s						
MOX	**Moxa**	**3.01**	**254**	*e*Sg	**Sg**	**09 49 54.1**	**+1.4**
MANZ	**Manzenberg**	**3.02**	**240**	*e*Pn	**Pn**	**09 49 06.1**	**+1.1**
MANZ				*e*Pg	**Pg**	**09 49 14.5**	**+0.7**
MANZ				*e*Sg	**Sg**	**09 49 52.1**	**-0.9**
ROTZ	**Rotzenmuhle**	**3.10**	**236**	*e*Pn	**Pn**	**09 49 07.1**	**+1.0**
ROTZ				*e*Sg	**Sg**	**09 49 53.4**	**-1.9**
GEC2	**GERESS Array S**	**3.15**	**211**	*e*Pn	**Pn**	**09 49 07.8**	**+1.0**
GEC2				*e*Sg	**Sg**	**09 49 55.0**	**-1.9**
GERES	**GERESS Array B**	**3.15**	**211**	Pn	**Pn**	**09 49 06.1**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=23,slow=14,SNR=13						
GERES				Lg	Lg	09 49 53.0	
	comp=Z,9.6nm,0.3s,baz=32,slow=39,SNR=8.9						
	comp=Z,2.2nm,0.3s						
LANS	**Liptovska Anna**	**3.20**	**138**	*e*PN	**Pn**	**09 49 07.5**	**-0.1**
LANS				*e*PG	**Pg**	**09 49 17.9**	**+0.6**
LANS				*e*SG	**Sg**	**09 49 58.6**	**-0.2**
WET	**Wettzell**	**3.21**	**222**	*e*Pn	**Pn**	**09 49 08.1**	**+0.5**
WET				*e*Sg	**Sb**	**09 49 56.0**	**+2.6**
MODS	**Modra-Piesok**	**3.27**	**167**	*e*PN	**Pn**	**09 49 10.3**	**+1.9**
MODS				*e*PG	**Pg**	**09 49 19.0**	**+0.5**
MODS				*e*SG	**Sg**	**09 50 00.2**	**-0.7**

comp=Z,4.1nm,0.6s
DAVOX **Davos/Dischmat 6.31 223** Pn **Pn 09 49 49.4 -1.0**
comp=Z,0.4nm,0.3s,baz=18,slow=16,SNR=2.6
DAVOX Lg Lg 09 51 34.5
comp=Z,0.4nm,0.3s,baz=111,slow=4.5,SNR=3.7
comp=Z,1.6nm,0.3s
AK19 Malin Array Si 8.12 91 P **Pn 09 50 15.9 +0.9**
AK21 Malin Array Si 8.13 90 P **Pn 09 50 16.8 +1.7**
AK22 Malin Array Si 8.15 91 P **Pn 09 50 17.1 +1.7**
AK18 Malin Array Si 8.16 91 P **Pn 09 50 17.3 +1.8**
AK04 Malin Array Si 8.22 91 P **Pn 09 50 17.9 +1.6**
AK11 Malin Array Si 8.23 91 P **Pn 09 50 18.3 +1.9**
AK01 Malin Array Si 8.25 91 P **Pn 09 50 19.0 +2.2**
AK02 Malin Array Si 8.26 91 P **Pn 09 50 18.6 +1.8**
AKASG Malin Array Be 8.26 91 Pn **Pn 09 50 18.0 +1.1**
comp=Z,1.2nm,0.5s,baz=279,slow=12,SNR=4.4
AKASG Sn **Sn 09 51 46.5 -4.3**
comp=Z,1.2nm,0.3s,baz=284,slow=7.5,SNR=1.7
AKBB Malin Array Si 8.26 91 P **Pn 09 50 19.1 +2.2**
AK08 Malin Array Si 8.29 91 P **Pn 09 50 18.3 +1.0**
HFS Hagfors 8.71 352 Pn **Pn 09 50 23.3 +0.3**
comp=Z,0.1nm,0.3s,baz=172,slow=12,SNR=1.6
comp=Z,0.5nm,0.4s
FINES FINESS Array B 11.30 25 Pn **Pn 09 50 57.6 -0.9**
comp=Z,0.2nm,0.3s,baz=205,slow=12,SNR=2.4
comp=Z,2.8nm,0.8s
EKA Eskdalemuir Ar 12.12 296 Pn **Pn 09 51 08.0 -1.7**
baz=99,slow=13
comp=Z,0.2nm,0.3s
ARCES ARCESS Array B 18.57 10 Pn **P 09 52 32.0 -2.1**
comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=9.3
comp=Z,0.5nm,0.4s

IDC 06 09:52:19.4±4.1, 55°.01N×88°.26E, h0km, mbtmp2.8/3, ML2.0/3, Error ellipse: s-maj=38.7km s-min=28.5km az=28.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.27**	**243**		I	I	10 06 55.0	
	0.1nm,1.4s,baz=61,slow=317,SNR=8.2							
ZALV	**Zalesovo Beam**	**2.27**	**243**	Pn	Pn	Pn	09 52 59.6	+1.5
	0.7nm,0.3s,baz=57,slow=14,SNR=9.9							
ZALV					Lg	Lg	09 53 31.7	
	0.4nm,0.3s,baz=60,slow=26,SNR=3.6							
	1.7nm,0.3s							
KURBB	**Kurchatov Arra**	**7.35**	**237**	Pn	Pn	Pn	09 54 07.0	-0.9
	baz=54,slow=14,SNR=2.3							
	0.3nm,0.2s							
MKAR	**Makanchi Array**	**9.05**	**207**	Pn	Pn	Pn	09 54 31.9	+0.7
	baz=16,slow=11,SNR=3.8							
	0.2nm,0.5s							

IDC 06 09:54:55.7±2.5, 53°.69N×86°.94E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=23.4km s-min=15.2km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**282**		I	I	10 02 50.0	
	baz=101,slow=318,SNR=2.3							
ZALV	**Zalesovo Beam**	**1.28**	**282**	Pg	Pg	Pg	09 55 18.3	-2.0
	3.1nm,0.3s,baz=99,slow=16,SNR=26							
ZALV					Lg	Lg	09 55 37.6	
	2.5nm,0.3s,baz=104,slow=27,SNR=7.2							
KURBB	**Kurchatov Arra**	**6.02**	**243**	Pn	Pn	Pn	09 56 27.8	+1.8
	0.2nm,0.3s,baz=58,slow=13,SNR=5.7							
KURBB					Sn	Sn	09 57 34.1	-1.4
	baz=60,slow=13,SNR=1.0							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**7.52**	**205**	Pn	Pn	Pn	09 56 47.7	+1.1
	0.3nm,0.3s,baz=24,slow=13,SNR=10.0							
	0.4nm,0.3s							

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*IDC **06** 09:56:15.5±5.3, 37°.46N×71°.87E, h106km±42km, mb3.5/7, mbtmp3.8/13, Error ellipse: s-maj=47.4km s-min=34.3km az=147.0*
*NEIC **06** 09:56:17.7±0.9, 37°.53N±0°.03×71°.78E±0°.09, h119km±7km, mb4.4/12, Error ellipse: s-maj=10.5km s-min=3.5km az=69.0*
*NNC **06** 09:56:21.1±2.3, 37°.83N×71°.73E, h145km±41km, mb3.2, mpv4.2, Error ellipse: s-maj=21.9km s-min=14.8km az=3.0*
ISC 06 09:56:15.1±0.6, 37°.43N±0°.05×71°.92E±0°.06, h100km, n65, σ1§94/72, mb4.3/14, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GAR	**Garm**	**2.01**	**322**			**Pn**	**09 56 49.5**	**+1.5**
DRK	**Karamyk**	**2.05**	**357**			**Pn**	**09 56 51.5**	**+3.0**
CHGR	**Chuyangaron**	**2.50**	**300**			**Pn**	**09 56 54.8**	**+0.6**
SIMJ	**Simiganj**	**2.60**	**299**			**Pn**	**09 56 56.1**	**+0.5**
BTK	**Batken**	**2.76**	**342**			**Pn**	**09 57 00.4**	**+2.7**
KBL	**Kabul**	**3.71**	**220**			**Pn**	**09 57 14.9**	**+4.4**
KSH	**Kashi**	**3.80**	**56**			**Pn**	**09 57 10.8**	**-0.9**
KSH						Sn	**09 57 50.0**	**-5.5**
KSH						smax	smax	
	comp=N,380nm,0.6s							
KSH						smax	smax	
	comp=E,210nm,0.6s							
NIL	**Nilore**	**3.92**	**164**			**Pn**	**09 57 17.6**	**+4.4**
ARSB	**Arslanbob**	**3.98**	**12**			**Pn**	**09 57 15.6**	**+1.6**
UCH	**Uchtor**	**5.19**	**22**			**Pn**	**09 57 32.6**	**+1.8**
	SNR=18							
EKS2	**Erkin-Say**	**5.42**	**15**			**Pn**	**09 57 35.8**	**+2.3**
	SNR=23							
AAK	**Ala-Archa**	**5.56**	**20**			**Pn**	**09 57 38.1**	**+2.5**
	SNR=21							
AAK	**Ala-Archa**	**5.56**	**20**			**Pn**	**09 57 37.9**	**+2.3**
AAK	**Ala-Archa**	**5.56**	**20**			**Pn**	**09 57 37.7**	**+2.2**
	comp=E,28nm,0.4s,baz=186,slow=5.9,SNR=37							
AAK						S	**09 58 37.7**	**-0.5**
	comp=E,7.4nm,0.3s,baz=133,slow=18,SNR=11							
AAK	**Ala-Archa**	**5.56**	**20**			**Pn**	**09 57 38.0**	**+2.5**
	comp=E,18nm,0.4s							
AAK						S	**09 58 38.4**	**+0.2**
	comp=E,18nm,0.5s							
KBK	**Karagaybulak**	**5.71**	**23**			**Pn**	**09 57 40.3**	**+2.7**
	SNR=6.2							
KK31	**Karatay Array**	**5.77**	**350**			**Pn**	**09 57 39.2**	**+1.0**
KK31	**Karatay Array**	**5.77**	**350**		⇑P	**Pn**	**09 57 39.2**	**+1.0**
	comp=E,14nm,0.3s,baz=172,slow=10,SNR=353							
KK31						S	**09 58 40.3**	**-2.7**
	comp=E,13nm,0.3s,baz=186,slow=25,SNR=12							
KKAR	**Karatay Array**	**5.77**	**350**			**Pn**	**09 57 39.3**	**+1.1**
BOOM	**Boomskoye usch**	**5.92**	**30**			**Pn**	**09 57 42.7**	**+2.3**
CHMS	**Chumysh**	**5.97**	**20**			**Pn**	**09 57 43.2**	**+2.2**
	SNR=12							
USP	**Ospenovka**	**6.16**	**18**			**Pn**	**09 57 45.0**	**+1.6**
	SNR=9.2							
TKM2	**Tokmak 2**	**6.17**	**26**			**Pn**	**09 57 46.1**	**+2.4**
	SNR=15							
TKM2	**Tokmak 2**	**6.17**	**26**		⇑P	**Pn**	**09 57 45.9**	**+2.2**
	comp=E,8.2nm,0.6s							
TKM2					⇑S	**Sn**	**09 58 52.9**	**0.0**
	comp=E,2.8nm,0.5s							
TARG	**Taragay, Kyrgy**	**6.25**	**45**			**Pn**	**09 57 47.8**	**+2.7**
DHRM	**DHARAMSHALA**	**6.30**	**144**		*e*P	**Pn**	**09 57 47.0**	**+1.4**
DHRM					*e*S	**Sn**	**09 58 53.7**	**-2.6**
DHRM					IAML		09 58 58.1	
	comp=N,427nm,0.2s							
DHRM					IAML		09 58 58.4	
	comp=E,251nm,0.5s							
SMLA	**Simla**	**7.64**	**144**		*e*P	**Pn**	**09 58 04.4**	**+0.8**
SMLA					*e*S	**Sn**	**09 59 23.2**	**-5.3**
SMLA					IAML		09 59 27.7	
	comp=N,102nm,0.4s							
SMLA					IAML		09 59 28.1	
	comp=E,140nm,0.3s							
HRA	**Herat**	**8.41**	**252**			**Pn**	**09 58 16.7**	**+2.3**
MKAR	**Makanchi Array**	**12.11**	**36**			**Pn**	**09 59 04.9**	**+0.8**
	comp=E,0.7nm,0.8s,baz=220,slow=13,SNR=5.6							
WMQ	**Urumqi**	**13.57**	**57**		*e*P	**P**	**09 59 26.9**	**-1.9**
KURBB	**Kurchatov Arra**	**14.01**	**18**		P	**Pn**	**09 59 27.2**	**-1.7**
	comp=E,0.5nm,0.8s,baz=214,slow=13,SNR=2.2							
AB31	**Akbulak array**	**14.66**	**328**		⇑P	**Pn**	**09 59 35.0**	**-2.3**
	comp=E,0.7nm,0.3s,baz=144,slow=12,SNR=43							
ABKAR	**Akbulak array**	**14.66**	**328**		Pn	**Pn**	**09 59 35.9**	**-1.4**
BVA0	**Borovoye Array**	**15.63**	**357**		⇓P	**Pn**	**09 59 50.5**	**+0.9**
	comp=E,0.5nm,0.3s,baz=168,slow=10,SNR=5.1							
BVAR	**Borovoye Array**	**15.63**	**357**		P	**Pn**	**09 59 48.0**	**-1.5**
	comp=E,0.4nm,0.4s,baz=168,slow=9.9,SNR=5.3							
AKTO	**Aktyubinsk**	**16.37**	**327**		P	**Pn**	**09 59 57.9**	**-0.8**
	comp=E,5.1nm,0.4s,baz=138,slow=6.6,SNR=19							
ZALV	**Zalesovo Beam**	**18.77**	**24**		P	**P**	**10 00 26.1**	**0.0**
	comp=E,0.5nm,0.3s,baz=228,slow=8.7,SNR=1.8							
PZH	**PanZhiHua**	**27.44**	**105**		P	**P**	**10 01 55.1**	**+3.4**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.7s							
PZH					pmax	pmax		
	comp=Z,110nm,5.1s							
HHC	**Hu-ho-hao-te**	**30.76**	**71**		*e*P	**P**	**10 02 23.6**	**+2.6**
HHC					pmax	pmax		
	comp=Z,11nm,0.6s							
HHC					pmax	pmax		
	comp=Z,93nm,5.0s							
FINES	**FINESS Array B**	**37.13**	**325**		P	**P**	**10 03 15.9**	**+0.3**
FINES	**FINESS Array B**	**37.13**	**325**		P	**P**	**10 03 15.5**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=120,slow=10.0,SNR=14							
	comp=Z,1.0nm,0.3s							
ARCES	**ARCESS Array B**	**40.57**	**337**		P	**P**	**10 03 43.9**	**-0.4**
ARCES					IAmb	IAmb	10 04 06.0	
	comp=Z,8.6nm,1.4s							
ARCES	**ARCESS Array B**	**40.57**	**337**		P	**P**	**10 03 43.5**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=106,slow=8.2,SNR=7.3							
	comp=Z,0.6nm,0.5s							
HFS	**Hagfors**	**42.80**	**321**		P	**P**	**10 04 02.4**	**-0.1**
	comp=Z,2.8nm,0.4s,baz=96,slow=11,SNR=18							
	comp=Z,2.8nm,0.4s							
CLL	**Collm**	**43.19**	**308**		*e*P	**P**	**10 04 06.0**	**+0.2**
CLL	**Collm**	**43.19**	**308**		*e*P	**P**	**10 04 06.0**	**+0.2**
KS19	**Wonju Array Si**	**43.83**	**72**		P	**P**	**10 04 11.8**	**+0.6**
KSAR	**Wonju Array Be**	**43.86**	**72**		P	**P**	**10 04 12.2**	**+0.8**
NC602	**NORSAR Array S**	**43.91**	**322**		P	**P**	**10 04 11.6**	**+0.1**
NC602					IAmb	IAmb	10 04 24.4	
	comp=Z,12nm,1.2s							
NC303	**NORSAR Array S**	**44.03**	**323**		P	**P**	**10 04 11.7**	**-0.7**
NC303					IAmb	IAmb	10 04 36.6	
	comp=Z,16nm,1.4s							
NB201	**NORSAR Array S**	**44.05**	**322**		P	**P**	**10 04 12.5**	**-0.1**
NB2	**NORSAR Subarra**	**44.09**	**322**		P	**P**	**10 04 12.3**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**44.09**	**322**		P	**P**	**10 04 12.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=95,slow=7.7,SNR=4.1							
	comp=Z,0.8nm,0.6s							
NAO01	**NORSAR Array S**	**44.24**	**322**		P	**P**	**10 04 13.6**	**-0.4**
NAO01					IAmb	IAmb	10 04 20.3	
	comp=Z,4.8nm,0.9s							
NC204	**NORSAR Array S**	**44.32**	**323**		P	**P**	**10 04 14.5**	**-0.3**
EKA	**Eskdalemuir Ar**	**52.13**	**316**		P	**P**	**10 05 13.7**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=82,slow=5.2,SNR=1.1							
	comp=Z,0.1nm,0.3s							
TORD	**Torodi Ar. Bea**	**66.47**	**269**		P	**P**	**10 06 52.8**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=52,slow=7.6,SNR=4.7							
	comp=Z,0.8nm,0.6s							
D19K	**Kuna River**	**68.04**	**18**		P	**P**	**10 07 03.7**	**+0.4**
D19K					IAmb	IAmb	10 07 04.3	
	comp=Z,8.8nm,1.2s							
C23K	**Itkillik River**	**68.64**	**15**		P	**P**	**10 07 08.2**	**+1.3**
F21K	**Alatna River**	**70.14**	**17**		P	**P**	**10 07 16.6**	**+0.4**
G21K	**Allakaket**	**70.70**	**18**		P	**P**	**10 07 19.7**	**+0.1**
IMAR	**Indian Mountai**	**71.06**	**18**		P	**P**	**10 07 21.6**	**-0.2**
H29M	**Whitestone**	**74.07**	**12**		P	**P**	**10 07 40.3**	**+0.6**
H29M					IAmb	IAmb	10 07 42.7	
	comp=Z,6.7nm,1.4s							
I28M	**Miner Creek**	**74.50**	**13**		P	**P**	**10 07 42.1**	**-0.1**
YKA	**Yellowknife Ar**	**80.28**	**3**		P	**P**	**10 08 14.3**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=358,slow=6.3,SNR=1.8							
	comp=Z,0.4nm,0.6s							

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*NEIC **06** 09:57:16.4±2.9, 35°.50N±0°.08×54°.89E±0°.09, h10km±1km, mb4.3/21, Error ellipse: s-maj=13.8km s-min=11.5km az=157.0*
*IDC **06** 09:57:18.6±1.1, 35°.96N×54°.72E, h0km, mb3.9/17, mbtmp4.0/23, ML3.8/5, MS3.0/6, Error ellipse: s-maj=20.8km s-min=13.1km az=166.0*
*MOS **06** 09:57:19.4±1.5, 36°.01N×54°.82E, h17km, mb4.4/16, Error ellipse: s-maj=7.4km s-min=4.8km az=114.8*
*TEH **06** 09:57:20.9, 36°.08N×54°.80E, h9km±28km, ML4.3*
ISC 06 09:57:20.9±0.5, 36°.11N±0°.04×54°.79E±0°.04, h10km, n183, σ1§90/186, mb4.2/32, MS2.9/4, 8C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**0.87**	**297**		Pg	**Pg**	**09 57 38.9**	**+1.2**
IANJ	**Anjilo**	**0.96**	**228**		Pg	**Pg**	**09 57 39.0**	**-0.4**
IMND	**Minoodasht**	**1.24**	**23**		Pg	**Pn**	**09 57 44.4**	**-0.1**
IALA	**Alasht**	**1.60**	**269**		Pg	**Pn**	**09 57 51.7**	**+2.0**
ILAS	**Lasjerd**	**1.66**	**244**		Pg	**Pn**	**09 57 51.9**	**+1.6**
IFIR	**Firoozkooh**	**1.72**	**255**		Pg	**Pn**	**09 57 52.8**	**+1.6**
IPRN	**Peran**	**1.99**	**274**		Pn	**Pn**	**09 57 57.0**	**+2.2**
SBZV	**Sabzevar**	**2.30**	**82**		Pn	**Pn**	**09 58 00.8**	**+1.7**
IDMV	**Damavand**	**2.30**	**257**		Pn	**Pn**	**09 58 01.3**	**+2.0**
TNSJ	**Nastanj**	**2.61**	**145**		Pn	**Pn**	**09 58 04.7**	**+1.4**
MZPU	**Pul - Mazandar**	**2.62**	**278**		Pn	**Pn**	**09 58 05.8**	**+2.2**
ISFB	**Sefidab**	**2.73**	**231**		Pn	**Pn**	**09 58 05.7**	**+0.8**
IVRN	**Varamin**	**2.73**	**247**		Pn	**Pn**	**09 58 06.8**	**+1.8**
ISFR	**Sfrayin**	**2.75**	**69**		Pn	**Pn**	**09 58 07.6**	**+2.2**
IHSB	**Hasanabad**	**2.94**	**258**		Pn	**Pn**	**09 58 09.9**	**+2.1**
KLST	**Kelardasht - M**	**3.04**	**279**		Pn	**Pn**	**09 58 12.1**	**+2.7**
ANAR	**Anarak**	**3.05**	**197**		Pn	**Pn**	**09 58 10.3**	**+1.0**
KRSH	**Karshahi**	**3.05**	**226**		Pn	**Pn**	**09 58 10.5**	**+1.1**
TKDS	**Koohdasht(Taba**	**3.15**	**142**		Pn	**Pn**	**09 58 12.4**	**+1.7**
GEYT	**Alibeck**	**3.22**	**55**		Pn	**Pn**	**09 58 14.0**	**+2.4**
	7.3nm,0.3s,baz=249,slow=15,SNR=28							
GEYT						Sn	**09 58 54.9**	**+4.8**
	29nm,0.3s,baz=265,slow=16,SNR=7.4							
	22nm,0.6s							
GYA0	**ALIBECK ARRAY**	**3.22**	**55**		P	**Pn**	**09 58 13.6**	**+2.0**
GYA0B	**ALIBECK ARRAY**	**3.22**	**55**		Pn	**Pn**	**09 58 14.2**	**+2.6**
IAKL	**Akhelmad**	**3.24**	**80**		Pn	**Pn**	**09 58 13.8**	**+1.7**
IQOM	**Qom**	**3.29**	**248**		Pn	**Pn**	**09 58 14.2**	**+1.4**
IEMG	**Emamgholi**	**3.36**	**66**		Pn	**Pn**	**09 58 15.9**	**+2.1**
IPAY	**Payeh**	**3.42**	**83**		Pn	**Pn**	**09 58 16.3**	**+1.8**
TPRV	**Parvadeh(Tabas**	**3.45**	**153**		Pn	**Pn**	**09 58 16.6**	**+1.7**
IMOG	**Moghan**	**3.68**	**89**		Pn	**Pn**	**09 58 20.3**	**+2.0**
IZEF	**Zefreh**	**3.80**	**213**		Pn	**Pn**	**09 58 21.2**	**+1.4**
IKLH	**Kolahrood**	**3.84**	**224**		Pn	**Pn**	**09 58 21.8**	**+1.4**
IKRD	**Kardeh**	**3.87**	**79**		Pn	**Pn**	**09 58 22.7**	**+2.0**
ICHK	**Chekchek**	**3.87**	**185**		Pn	**Pn**	**09 58 22.5**	**+1.7**
LHJ2	**Lahijan - Gila**	**3.94**	**287**		Pn	**Pn**	**09 58 23.5**	**+2.0**
IRAZ	**Razeghan**	**4.02**	**261**		Pn	**Pn**	**09 58 24.8**	**+2.0**
JIR1	**Jirandeh**	**4.07**	**280**		Pn	**Pn**	**09 58 25.4**	**+2.1**
QABG	**Abgarm-Qazvin**	**4.25**	**266**		Pn	**Pn**	**09 58 28.5**	**+2.6**
ISAD	**Sadrabad**	**4.29**	**193**		Pn	**Pn**	**09 58 27.9**	**+1.3**
IGAR	**Gharneh**	**4.34**	**212**		Pn	**Pn**	**09 58 29.2**	**+2.0**
AFRZ	**Afriz**	**4.39**	**126**		Pn	**Pn**	**09 58 30.1**	**+2.3**
IBAF	**Bafgh**	**4.56**	**172**		Pn	**Pn**	**09 58 32.0**	**+1.8**
ITEG	**Tejag**	**4.58**	**133**		Pn	**Pn**	**09 58 32.5**	**+2.0**
IPIR	**Pirpir**	**4.70**	**224**		Pn	**Pn**	**09 58 35.0**	**+2.8**
IMEH	**Mehriz**	**4.71**	**182**		Pn	**Pn**	**09 58 34.1**	**+1.7**
IRAM	**Ramesheh**	**4.74**	**206**		Pn	**Pn**	**09 58 34.4**	**+1.7**
IKOO	**Kooshah**	**5.07**	**135**		Pn	**Pn**	**09 58 38.9**	**+1.6**
IBRJ	**Brojen**	**5.12**	**216**		Pn	**Pn**	**09 58 40.0**	**+2.1**
ZNGN	**Zangian**	**5.15**	**220**		Pn	**Pn**	**09 58 41.0**	**+2.6**
JHBN	**Jahan bin**	**5.17**	**223**		Pn	**Pn**	**09 58 41.2**	**+2.5**
GAS1	**Astara - Iran**	**5.26**	**297**		Pn	**Pn**	**09 58 41.4**	**+1.8**
ZRDN	**Zarand Kerman**	**5.34**	**164**		Pn	**Pn**	**09 58 42.7**	**+1.8**
IDAH	**Dahanechah**	**5.38**	**127**		Pn	**Pn**	**09 58 42.9**	**+1.3**
LKRN	**Lenkeran, Azer**	**5.44**	**300**		P	**Pn**	**09 58 44.2**	**+2.1**
KLNJ	**Kolanjah**	**5.75**	**209**		Pn	**Pn**	**09 58 49.0**	**+2.3**
KHGB	**Koh Gabri**	**5.89**	**166**		Pn	**Pn**	**09 58 50.9**	**+2.3**
ISRB	**Sarab**	**5.95**	**289**		Pn	**Pn**	**09 58 52.0**	**+2.7**
SNQR	**Sonqor, Kerman**	**5.98**	**260**		Pn	**Pn**	**09 58 51.6**	**+1.9**
HRA	**Herat**	**6.34**	**104**		Pn	Pn	09 58 46.1	-8.5
IHRS	**Heris**	**6.56**	**292**		Pn	**Pn**	**09 59 00.5**	**+2.8**
CHMN	**Cheshme madani**	**6.65**	**159**		Pn	**Pn**	**09 59 00.8**	**+1.7**
NGRK	**Negar Kerman**	**6.66**	**165**		Pn	**Pn**	**09 59 01.1**	**+2.0**
KBAM	**BAM**	**7.61**	**155**		Pn	**Pn**	**09 59 14.6**	**+2.6**
QIR1	**Qir**	**7.76**	**191**		Pn	**Pn**	**09 59 16.3**	**+2.3**
SEKA	**Sheki**	**7.82**	**313**		P	**Pn**	**09 59 16.9**	**+2.1**
GANJ	**Ganja**	**8.04**	**307**		P	**Pn**	**09 59 18.8**	**+1.0**
DSBU	**Dashti - Bushe**	**8.29**	**202**		Pn	**Pn**	**09 59 22.9**	**+1.6**
VSHL	**Vashlovani**	**8.31**	**310**		P	**Pn**	**09 59 23.9**	**+2.4**
VSHL					S	**Sn**	**10 00 55.5**	**0.0**
LGD	**Lagodekhi**	**8.77**	**313**		P	**Pn**	**09 59 29.7**	**+1.9**
LGD					S	**Sn**	**10 01 03.2**	**-3.4**
LGD	**Lagodekhi**	**8.77**	**313**		*e*P	**Pn**	**09 59 29.6**	**+1.9**
LGD					*e*S	**Sn**	**10 01 03.2**	**-3.4**
GNI	**Garni**	**8.88**	**300**		Pn	**Pn**	**09 59 27.8**	**-1.7**
GNI	**Garni**	**8.88**	**300**		Pn	**Pn**	**09 59 31.6**	**+2.2**
	1.8nm,0.3s,baz=138,slow=16,SNR=1.7							
GNI					Sn	**Sn**	**10 01 05.1**	**-4.5**
	1.5nm,0.3s,baz=162,slow=20,SNR=1.4							
	5.7nm,0.4s							
GROC	**Groznyy**	**9.90**	**318**		*e*P	**Pn**	**09 59 44.3**	**+1.0**
GROC					*e*S	**Sn**	**10 01 34.5**	**0.0**
GROC					pmax	pmax		
	comp=Z,1.0nm,0.4s							
SHTL	**Shatili**	**9.91**	**314**		P	**Pn**	**09 59 45.7**	**+2.1**
SHTL	**Shatili**	**9.91**	**314**		*e*P	**Pn**	**09 59 45.6**	**+2.1**
ONI	**Oni**	**10.90**	**310**		Pn	**Pn**	**09 59 58.5**	**+1.5**
ONI	**Oni**	**10.90**	**310**		P	**Pn**	**09 59 58.5**	**+1.5**
UOSS	**Minazif**	**11.20**	**173**		Pn	Pn	09 59 49.0	-12
KBZ	**Khabaz**	**11.87**	**313**		Pn	**Pn**	**10 00 11.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=180,slow=7.1,SNR=1.7							
KBZ						Sn	Sn	10 02 15.3 -7.4
	comp=Z,0.3nm,0.3s,baz=129,slow=8.7,SNR=1.6							
	comp=Z,1.0nm,0.4s							
KIV	**Kislovodsk**	**12.13**	**314**		Pn	**Pn**	**10 00 16.5**	**+2.6**
KIV	**Kislovodsk**	**12.13**	**314**		*e*P	**Pn**	**10 00 13.6**	**-0.3**
KIV					*e*S	**Sn**	**10 02 27.2**	**-2.0**
KIV					pmax	pmax		
	comp=Z,6.0nm,1.0s							
KIV					MLR	MLR		
	comp=Z,11nm,13.0s							
GAR	**Garm**	**12.65**	**72**		Pn	Pn	10 00 16.6	-4.4
ABKAR	**Akbulak array**	**13.66**	**14**		Pn	**Pn**	**10 00 34.2**	**-0.5**
KK31	**Karatay Array**	**13.97**	**55**		Pn	**Pn**	**10 00 37.1**	**-1.9**
KK31	**Karatay Array**	**13.97**	**55**		P	**Pn**	**10 00 37.1**	**-1.9**
AKTO	**Aktyubinsk**	**14.50**	**8**		Pn	**Pn**	**10 00 45.4**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=176,slow=12,SNR=12							
AKTO						Sn	Sn	10 03 20.2 -6.7
	comp=Z,1.2nm,0.3s,baz=105,slow=11,SNR=9.4							
AKTO						LR	LR	10 07 33.1
	comp=Z,42nm,18.5s,baz=180,slow=42							
	comp=Z,6.6nm,0.5s							
RAYN	**Ar Rayn**	**14.90**	**215**			Pn	10 00 48.9	-2.9
RAYN	**Ar Rayn**	**14.90**	**215**		P	Pn	10 00 48.9	-2.9
ANN	**Anapa**	**15.78**	**309**		*e*P	**Pn**	**10 01 03.3**	**+0.1**
ANN					*e*S	**Sn**	**10 03 57.7**	**-0.3**
ANN					pmax	pmax		
	comp=Z,29nm,1.0s							
AAK	**Ala-Archa**	**16.55**	**61**		Pn	**Pn**	**10 01 12.6**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=258,slow=8.7,SNR=2.1							
AAK					LR	LR	10 08 21.9	
	comp=Z,67nm,18.2s,baz=266,slow=40							
	comp=Z,3.1nm,0.5s							
AAK	**Ala-Archa**	**16.55**	**61**		*ce*P	**Pn**	**10 01 12.1**	**-1.2**
AAK					pmax	pmax		
	comp=Z,5.0nm,0.8s							
BELG	**Belogornoye**	**17.05**	**345**		P	**Pn**	**10 01 18.1**	**-1.1**
	comp=Z,14nm,0.5s,baz=156,slow=7.1,SNR=4.1							
BELG	**Belogornoye**	**17.05**	**345**		*i* P	**Pn**	**10 01 17.6**	**-1.7**
BR131	**Keskin Array S**	**17.07**	**289**			**Pn**	**10 01 18.9**	**-0.9**
BR131	**Keskin Array S**	**17.07**	**289**		P	**Pn**	**10 01 18.9**	**-0.9**
BR131					pmax	pmax		
	comp=Z,4.0nm,1.2s							
BRTR	**Keskin Array B**	**17.07**	**289**			**Pn**	**10 01 20.4**	**+0.6**
BRTR	**Keskin Array B**	**17.07**	**289**		Pn	**P**	**10 01 23.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=93,slow=10,SNR=1.9							
BRTR	**Keskin Array B**	**17.07**	**289**		P	**Pn**	**10 01 20.4**	**+0.6**
KSH	**Kashi**	**17.07**	**72**		P	**Pn**	**10 01 16.1**	**-3.8**
KSH					sP	P	10 01 20.8	-0.8
KSH					pmax	pmax		
	comp=Z,4.0nm,0.4s							
BOOM	**Boomskoye usch**	**17.54**	**62**		Pn	**Pn**

KIEV	Kiev	23.46	316	P	P	10 02 31.9 +1.5
	comp=Z,55nm,0.7s					
AK12	Malin Array Si	23.47	316	P	P	10 02 31.9 +1.4
AK11	Malin Array Si	23.48	316	P	P	10 02 31.9 +1.3
AK04	Malin Array Si	23.50	316	P	P	10 02 31.4 +0.6
AK04				pP	pP	10 02 37.0 +3.0
AK22	Malin Array Si	23.57	316	P	P	10 02 32.5 +1.0
AK19	Malin Array Si	23.58	316	P	P	10 02 32.9 +1.3
AK20	Malin Array Si	23.59	316	P	P	10 02 32.9 +1.2
MLR	Muntele Rosu	23.65	302	P	P	10 02 30.2 -2.3
MLR				IAmb	IAmb	10 02 43.5
	comp=Z,8.2nm,0.8s					
MLR	Muntele Rosu	23.65	302	P	P	10 02 30.2 -2.3
MLR				pmax	pmax	
	comp=Z,8.0nm,0.8s					
IDI	Anoyia	24.25	277	P	P	10 02 34.8 -3.4
IDI				IAmb	IAmb	10 02 43.4
	comp=Z,12nm,1.1s					
IDI	Anoyia	24.25	277	P	P	10 02 37.5 -0.7
	comp=Z,2.6nm,0.4s,baz=30,slow=14,SNR=2.1					
	comp=Z,2.6nm,0.4s					
VOIR		24.25	302	P	P	10 02 41.2 +3.0
VOIR		24.25	302	P	P	10 02 41.2 +3.0
BURAR	Bucovina Array	24.69	307	P	P	10 02 39.5 -2.6
BURAR				IAmb	IAmb	10 02 51.4
	comp=Z,3.4nm,0.7s					
BURAR	Bucovina Array	24.69	307	P	P	10 02 44.2 +2.1
BURAR				pmax	pmax	
	comp=Z,3.0nm,0.6s					
BUR08	Bucovina Ar. S	24.71	307	P	P	10 02 40.9 -1.4
BUR08				IAmb	IAmb	10 02 49.5
	comp=Z,3.3nm,0.8s					
WMQ	Urumqi	26.24	63	eP	P	10 02 57.6 +1.4
KLMR	Klimovskoe	26.61	343	eP	P	10 03 01.3 +2.1
KLMR				pmax	pmax	
	comp=Z,8.0nm,1.2s					
ZALV	Zalesovo Beam	27.41	40	P	P	10 03 07.1 +0.6
	comp=Z,0.3nm,0.3s,baz=262,slow=9.7,SNR=1.4					
	comp=Z,0.3nm,0.3s					
FIA1	FINESS Array S	31.14	333	P	P	10 03 40.3 +0.7
FINES	FINESS Array B	31.14	333	P	P	10 03 40.7 +1.2
FINES	FINESS Array B	31.14	333	P	P	10 03 38.4 -1.1
	comp=Z,2.4nm,0.8s,baz=148,slow=12,SNR=6.7					
	comp=Z,2.4nm,0.8s					
FINES	FINESS Array B	31.14	333	P	P	10 03 40.7 +1.2
HFS	Hagfors	35.57	326	P	P	10 04 17.4 -0.7
	comp=Z,2.0nm,0.6s,baz=108,slow=9.5,SNR=4.9					
	comp=Z,2.0nm,0.6s					
NC405	NORSAR Array S	36.85	326	P	P	10 04 29.8 +0.7
NC405				IAmb	IAmb	10 04 36.7
	comp=Z,5.4nm,0.9s					
KEV	Kevo	36.92	344	P	P	10 04 30.8 +1.3
KEV	Kevo	36.92	344	P	P	10 04 30.8 +1.3
KEV				pmax	pmax	
	comp=Z,14nm,1.4s					
NB201	NORSAR Array S	37.02	326	P	P	10 04 30.6 +0.1
NOA	NORSAR Array B	37.05	326	P	P	10 04 30.2 -0.6
	comp=Z,0.8nm,0.7s,baz=116,slow=8.1,SNR=2.7					
	comp=Z,0.8nm,0.7s					
NAO01	NORSAR Array S	37.12	326	P	P	10 04 31.0 -0.4
NRIK	Noril'sk	37.79	18	i P	P	10 04 36.7 -0.2
NRIK				pmax	pmax	
	comp=Z,8.0nm,2.9s					
PZH	PanZhiHua	40.91	90	P	P	10 05 02.2 -1.5
PZH				pmax	pmax	
	comp=Z,9.0nm,0.8s					
PZH				pmax	pmax	
	comp=Z,100nm,4.7s					
EKA	Eskdalemuir Ar	43.35	315	P	P	10 05 23.4 +0.3
	comp=Z,0.3nm,0.4s,baz=103,slow=7.4,SNR=6.3					
	comp=Z,0.3nm,0.4s					
HHC	Hu-ho-hao-te	44.03	66	eP	P	10 05 27.8 -1.1
HHC				pmax	pmax	
	comp=Z,6.0nm,0.6s					
HHC				pmax	pmax	
	comp=Z,59nm,4.4s					
SPITS	Spitsbergen Ar	45.17	350	P	P	10 05 38.3 +0.9
SPITS				pmax	pmax	
	comp=Z,18nm,1.4s					
ESDC	Sonseca Array	45.79	293	P	P	10 05 42.0 -0.8
	comp=Z,0.3nm,0.3s,baz=62,slow=8.9,SNR=2.2					
	comp=Z,0.3nm,0.3s					
TIXI	Tiksi	51.17	23	LR	LR	10 33 08.1
	comp=Z,26nm,18.9s,baz=196,slow=42					
TOA0	Torodi Ar. Sit	52.68	258	P	P	10 06 30.6 -5.1
TOA0				IAmb	IAmb	10 06 40.7
	comp=Z,4.5nm,0.9s					
TOA0				PcP	PcP	10 07 37.9 -7.8
TORD	Torodi Ar. Bea	52.68	258	P	P	10 06 32.1 -3.6
TORD				IAmb	IAmb	10 06 41.3
	comp=Z,5.9nm,1.2s					
TORD				PcP	PcP	10 07 37.5 -8.2
TORD	Torodi Ar. Bea	52.68	258	P	P	10 06 35.0 -0.8
	comp=Z,2.8nm,0.8s,baz=48,slow=8.0,SNR=15					
	comp=Z,2.8nm,0.8s					
KSRS	Korea Array	57.16	65	P	P	10 07 07.8 -0.1
	comp=Z,0.9nm,0.6s,baz=281,slow=6.6,SNR=2.4					
	comp=Z,0.9nm,0.6s					
SEY	Seymchan	61.78	31	ceP	P	10 07 40.5 +1.1
SEY				pmax	pmax	
	comp=Z,4.0nm,2.5s					
BILL	Bilibino	64.39	23	eP	P	10 07 57.8 +1.1
BILL				pmax	pmax	
	comp=Z,4.0nm,1.3s					
ILAR	Eielson Array	78.01	9	P	P	10 09 19.8 +0.6
	comp=Z,0.4nm,0.8s,baz=316,slow=4.1,SNR=4.8					
	comp=Z,0.4nm,0.8s					
WRA	Warramunga Arr	93.48	112	P	P	10 10 34.5 -2.6
	comp=Z,0.5nm,0.9s,baz=315,slow=3.9,SNR=1.9					
	comp=Z,0.5nm,0.9s					

*ISN **06** 10:08:26.5±0.6, 33.°76N×45.°73E, h10km, ML2.6*
*TEH **06** 10:08:27.0, 33.°78N×45.°74E, h10km±60km, ML2.6*

ISC 06 10:08:26.7±1.6, 33.°77N±0.°04×45.°8E±0.°1, h10km, n8, σ0.°73/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.37	20	Pg	Pg	10 08 33.9	-0.1
GLG1				Sg	Sb	10 08 40.1	-1.1
IBDR	Badra	0.67	168	ePg	Pg	10 08 39.0	-0.7
	baz=345						
IBDR				eSg	Sg	10 08 49.0	+0.5
IBDR				AML	AML	10 08 54.1	
	comp=N,47nm,0.6s						
KGS1	Ghasr-e-Shirin	0.75	349	Pg	Pg	10 08 41.5	+0.3
IGHG	Ghaleghazi	0.88	50	Pg	Pb	10 08 44.4	+0.2
IDHR	Dehrash	1.06	29	Pg	Pn	10 08 48.0	+0.1
KCHF	Cheshme Sefid,	1.18	64	Pg	Pb	10 08 49.6	+0.3
IKFM	Kafar-mosalman	1.76	97	Pg	Pb	10 09 00.2	+1.2
IBZA	Bozab	1.88	68	Pn	Pb	10 09 01.0	-0.3

*HEL **06** 10:09:42.7±0.1, 67.°71N×26.°91E, h0km, ML1.6, Suspected explosion*
*IDC **06** 10:09:43.2±1.6, 67.°72N×26.°71E, h0km, mbtmp3.4/1, ML1.7/1, Error ellipse: s-maj=34.6km s-min=9.6km az=83.0*
*UPP **06** 10:09:43.1±2.2, 67.°72N×26.°92E, h0km, ML1.9*
*BER **06** 10:09:44.9±1.9, 67.°66N×27.°00E, h0km, ML1.2, ML1.9(UPP), Suspected explosion*
*KOLA **06** 10:09:45.5, 67.°75N×27.°00E, h0km, ML2.0, Error ellipse: s-maj=12.6km s-min=5.0km az=70.0, Finland, Lapland*

ISC 06 10:09:43.0±0.8, 67.°70N±0.°02×26.°91E±0.°03, h0km, n46, σ0.°67/67, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGF	Sodankyl	0.29	210	PG	Pg	10 09 48.3	-0.3
SGF				SG	Sg	10 09 52.6	+0.2
VRF	Varrio	1.03	86	PG	Pg	10 10 01.3	-1.5
VRF				MSG		10 10 14.1	
	comp=Z,5.7nm,0.2s						
RNF	Rovaniemi	1.15	198	PB	Pg	10 10 04.1	-0.8
RNF				SB	Sg	10 10 19.9	+0.2
KLF	Kolari	1.23	249	PG	Pg	10 10 05.2	-1.2
	baz=62						
KLF				MSG		10 10 20.0	
	comp=Z,5.6nm,0.2s						
HEF	Hetta	1.41	302	eP	Pn	10 10 08.9	-1.1
HEF				eS	Sg	10 10 28.2	-0.1
HEF	Hetta	1.41	302	PN	Pn	10 10 08.8	-1.1
HEF				MSG		10 10 24.9	
	comp=Z,9.4nm,0.2s						
HEF				SN	Sb	10 10 29.0	+0.3
RANF	Ranua	1.69	182	PG	Pn	10 10 12.9	-0.8
	baz=3.0						
RANF				SN	Sn	10 10 35.0	-1.0
OLKF	Oulanka, Finla	1.69	144	PG	Pn	10 10 13.5	-0.3
OLKF				MSG		10 10 33.8	
	comp=Z,4.1nm,0.2s						
OLKF				SN	Sn	10 10 35.8	-0.4
LANU	Lannavaara	1.89	283	P	Pn	10 10 17.1	+0.5
LANU				S	Sb	10 10 42.7	+0.1
LANU	Lannavaara	1.89	283	P	Pn	10 10 17.1	+0.5
LANU				S	Sb	10 10 42.7	+0.1
LANU	Lannavaara	1.89	283	PG	Pn	10 10 16.2	-0.3
LANU				SG	Sb	10 10 42.6	+0.1
KTK1	Kautokeino	1.90	316	eP	Pn	10 10 17.2	+0.6
KTK1				eS	Sn	10 10 41.9	+0.7
KTK1				IAML		10 10 43.6	
	comp=Z,3.3nm,0.2s						
KTK1	Kautokeino	1.90	316	PG	Pn	10 10 17.0	+0.4
KTK1				SG	Sb	10 10 42.4	-0.3
MASU	Masugnsbyn	1.90	265	P	Pn	10 10 17.1	+0.5
MASU	Masugnsbyn	1.90	265	P	Pn	10 10 17.1	+0.5
ARA0	ARCESS Array S	1.92	345	PG	Pn	10 10 16.9	0.0
	baz=161						
ARA0				SG	Sn	10 10 42.5	+0.8
ARCES	ARCESS Array B	1.92	345	Pg	Pn	10 10 16.9	0.0
	comp=Z,0.3nm,0.3s,baz=162,slow=19,SNR=18						
ARCES				Lg	Lg	10 10 42.1	
	comp=Z,0.4nm,0.3s,baz=168,slow=24,SNR=9.6						
TOF	Tornio	1.92	213	PG	Pn	10 10 17.2	+0.3
TOF				MSG		10 10 40.2	
	comp=Z,3.3nm,0.2s						
TOF				SG	Sn	10 10 42.5	+0.9
MSF	Maaselka	1.98	154	PG	Pn	10 10 18.4	+0.6
MSF				SG	Sb	10 10 45.0	-0.1
KU6	Riekki	2.05	144	PG	Pn	10 10 19.3	+0.6
KU6				MSG		10 10 43.9	
	comp=Z,1.9nm,0.2s						
KU6				SG	Sn	10 10 46.2	+1.2
KEV	Kevo	2.07	1	eP	Pn	10 10 19.0	+0.1
KEV				eS	Sn	10 10 46.1	+0.7
KEV	Kevo	2.07	1	PG	Pn	10 10 19.2	+0.3
KEV				MSG		10 10 43.6	
	comp=Z,3.9nm,0.2s						
KEV				SG	Sn	10 10 45.5	+0.2
ERTU	Ertsjaerv	2.17	240	P	Pn	10 10 21.0	+0.7
ERTU	Ertsjaerv	2.17	240	P	Pn	10 10 21.0	+0.7
ERTU	Ertsjaerv	2.17	240	PG	Pn	10 10 21.1	+0.7
ERTU				SG	Sb	10 10 50.6	+0.1
KALU	Kalix	2.32	219	P	Pn	10 10 23.1	+0.7
KALU	Kalix	2.32	219	P	Pn	10 10 23.1	+0.7
KALU	Kalix	2.32	219	PB	Pn	10 10 23.3	+0.9
KALU				SG	Sb	10 10 55.5	+0.7
APA0	Apatity Array	2.33	89	P	Pn	10 10 23.3	+0.8
APA0				S	Sn	10 10 52.5	+0.7
KUA	Kurravaara	2.51	279	P	Pn	10 10 24.8	-0.2
KUA	Kurravaara	2.51	279	P	Pn	10 10 24.8	-0.2
VADS	Vadso	2.59	19	P	Pn	10 10 27.6	+1.4
VADS				S	Sn	10 10 59.0	+0.7
VADS	Vadso	2.59	19	eP	Pn	10 10 26.5	+0.4
VADS				IAML		10 10 57.3	
	comp=Z,2.2nm,0.3s						
KOVU	Salmi	2.60	285	P	Pn	10 10 26.4	+0.2
KOVU	Salmi	2.60	285	P	Pn	10 10 26.4	+0.2
OUL	Oulu	2.66	189	SG	Sb	10 11 03.6	-0.8
RATU	Laukkuluspa	2.79	276	P	Pn	10 10 29.2	+0.4
RATU	Laukkuluspa	2.79	276	P	Pn	10 10 29.2	+0.4
HARU	Harads	2.80	239	P	Pn	10 10 28.8	-0.1
HARU	Harads	2.80	239	P	Pn	10 10 28.8	-0.1
PRVG	Vayda Guba	2.82	41	P	Pn	10 10 29.9	+0.7
PRVG				S	Sn	10 11 03.8	0.0
OBF4	Vikkela, Lumij	2.99	195	PB	Pn	10 10 32.1	+0.6
OBF4				MSG		10 11 11.1	
	comp=Z,0.8nm,0.2s						
I37NO	I37NO	3.37	298	I	I	10 29 40.0	
	baz=110,slow=318,SNR=5.0						
OBF0	Syolatti, Pyha	3.39	200	PN	Pn	10 10 38.2	+1.1
OUF	Merijarvi	3.46	196	PN	Pn	10 10 39.5	+1.5
FINES	FINESS Array B	6.29	184	Pn	Pn	10 11 16.8	-0.1
	comp=Z,0.1nm,0.3s,baz=7.8,slow=11,SNR=1.7						
	comp=Z,4.2nm,1.2s						

*IDC **06** 10:25:08.9±3.2, 4.°60N×128.°21E, h46km±29km, mb3.9/13, mbtmp4.1/13, MS3.1/9, Error ellipse: s-maj=42.8km s-min=12.6km az=75.0*
*DJA **06** 10:25:08.7±1.4, 5.°N±12.°×12.°8E±.°, h10km, M4.5/9, mb4.5/8, mB4.8/3, MLv4.5/9, Mw(mB)4.1/3*
*NEIC **06** 10:25:09.7±1.7, 4.°57N±0.°06×128.°18E±0.°09, h35km±1km, mb4.4/81, Error ellipse: s-maj=16.0km s-min=9.6km az=67.0*

ISC 06 10:25:08.4±0.4, 4.°61N±0.°06×128.°29E±0.°08, h35km, n127, σ1.°50/125, mb4.3/53, MS3.1/9, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.91	252	P	Pn	10 25 53.0	+0.8
DAV	Davao City (W)	3.64	312	Pn	Pn	10 26 02.8	+0.5
DAV	Davao City (W)	3.64	312	S	Sn	10 26 46.6	+2.6
	136nm,0.4s,baz=221,slow=20,SNR=5.8						
TNTI	Ternate	3.93	194	Pn	Pn	10 26 06.1	-0.1
TNTI	Ternate	3.93	194	P	Pn	10 26 09.1	+2.9
KMSI	Cibinong	5.89	227	P	Pn	10 26 34.3	+1.1
GTOI	Gorontalo	6.59	233	P	Pn	10 26 45.0	+2.1
	38nm,1.0s,374nm0.1nm						
SANI	Sanana	7.01	199	P	Pn	10 26 48.9	+0.3
LUWI	Luwuk	7.87	225	Pn	Pn	10 27 00.3	-0.1
LUWI	Luwuk	7.87	225	P	Pn	10 27 02.6	+2.1
	57nm,0.8s,0.4nm						
TOLI2	Tolitoli	8.27	245		Pn	10 27 06.8	+0.9
FAKI	Fak Fak	8.46	152	Pn	Pn	10 27 10.8	+2.2
FAKI	Fak Fak	8.46	152	P	Pn	10 27 11.6	+3.0
	41nm,1.9s						
MPSI	Mapaga	9.40	243	P	Pn	10 27 23.0	+1.6
	16nm,0.8s						
MYLDM	Lahad Datu	9.77	274	Pn	Pn	10 27 26.6	+0.1
KAPI	Kappang	12.82	222	Pn	Pn	10 28 06.1	-2.1
EDFI	Ende, Flores	14.82	206	P	Pn	10 28 37.3	+1.7
SOEI	Soe	14.83	196	Pn	Pn	10 28 35.2	-0.6
SBUM	Sibu	16.18	263	Pn	Pn	10 28 51.2	-2.1
MTN	Manton Dam	17.57	171	Pn	Pn	10 29 10.2	-0.5
KNRA	Kununurra	20.17	179	P	P	10 29 40.9	+1.0
FITZ	Fitzroy Crossi	22.72	187	P	P	10 30 07.9	+0.5
WB0	Warramunga Arr	24.96	166	P	P	10 30 29.0	+0.2
WB0				IAmb	IAmb	10 30 30.6	
	comp=Z,8.2nm,1.0s						
WRA	Warramunga Arr	25.12	166	P	P	10 30 30.3	+0.1
WRA	Warramunga Arr	25.12	166	P	P	10 30 29.6	-0.6
	comp=Z,3.5nm,0.6s,baz=347,slow=10,SNR=47						
WRA				PcP	PcP	10 34 03.7	-0.5
	comp=Z,0.2nm,0.7s,baz=306,slow=1.2,SNR=1.3						
WRA				LR	LR	10 43 25.8	
	comp=Z,55nm,18.4s,baz=102,slow=44						
	comp=Z,3.5nm,0.6s						
WB2	Warramunga Arr	25.12	166	P	P	10 30 31.3	+1.1
WR0	Warramunga Arr	25.18	166	P	P	10 30 31.4	+0.7
MBWA	Marble Bar	26.95	198	P	P	10 30 46.6	-0.2
PSA00	Pilbara Seismi	27.31	197	P	P	10 30 49.7	-0.3
PSA00				IAmb	IAmb	10 30 51.9	
	comp=Z,20nm,1.4s						
AS31	Alice Springs	28.64	169	P	P	10 31 02.1	+0.2
ASAR	Alice Springs	28.64	169	P	P	10 31 02.1	+0.2
ASAR	Alice Springs	28.64	169	P	P	10 31 01.0	-0.9
	comp=Z,1.8nm,0.5s,baz=355,slow=7.5,SNR=43						
ASAR				PcP	PcP	10 34 11.8	-0.6
	comp=Z,1.9nm,0.5s,baz=351,slow=2.4,SNR=27						
ASAR				ScP	ScP	10 37 47.9	-3.4
	comp=Z,0.4nm,0.8s,baz=1.4,slow=2.9,SNR=5.1						
ASAR				LR	LR	10 44 57.3	
	comp=Z,35nm,18.0s,baz=47,slow=42						
	comp=Z,1.8nm,0.5s						
CHTO	Chiang Mai	31.94	299	P	P	10 31 31.5	+0.4
CHTO				IAmb	IAmb	10 31 40.5	
	comp=Z,9.0nm,1.4s						
KSAR	Wonju Array Be	32.67	359	P	P	10 31 35.9	-1.4
KSRS	Korea Array	32.69	359	LR	LR	10 44 24.7	
	comp=Z,23nm,21.9s,baz=180,slow=35						
KS19	Wonju Array Si	32.73	359	P	P	10 31 37.5	-0.3
MJAR	Matsushiro Arr	33.06	15	P	P	10 31 39.7	-1.1
	comp=Z,1.3nm,0.6s,baz=183,slow=9.9,SNR=4.7						
MJAR				LR	LR	10 43 46.2	
	comp=Z,49nm,20.2s,baz=196,slow=34						
	comp=Z,1.3nm,0.6s						
FORT	Forrest	35.19	180	P	P	10 31 59.4	+0.2
EIDS	Eidsvold	37.12	145	P	P	10 32 15.2	-0.7
EIDS				IAmb	IAmb	10 32 40.4	
	comp=Z,12nm,1.2s						
JTM	Tenmabayashi	37.80	16	P	P	10 32 23.7	+2.3
BBOO	Buckleboo	37.94	169	P	P	10 32 22.9	+0.2
STKA	Stephens Creek	38.44	162	P	P	10 32 27.4	+0.6
STKA	Stephens Creek	38.44	162	P	P	10 32 25.8	-1.1
	comp=Z,4.1nm,0.7s,baz=339,slow=9.0,SNR=13						
	comp=Z,4.1nm,0.7s						
NWAO	Narrogin (SRO)	38.78	195	P	P	10 32 30.0	+0.2
USA0B	Ussuriysk Arra	39.56	4	P	P	10 32 37.7	+1.6
USA0B				IAmb	IAmb	10 32 44.8	
	comp=Z,13nm,1.4s						
USRK	Ussuriysk Ar.	39.56	4	P	P	10 32 37.8	+1.7
USRK	Ussuriysk Ar.	39.56	4	P	P	10 32 36.6	+0.5
	comp=Z,2.1nm,0.7s,baz=148,slow=11,SNR=4.7						
	comp=Z,2.1nm,0.7s						
SHL	Shillong	40.63	305	P	P	10 32 45.2	-0.3
ASAJ	Asahikawa	41.31	16	LR	LR	10 48 47.5	
	comp=Z,27nm,20.4s,baz=340,slow=34						
JKA	Kamikawa-asahi	41.31	16	P	P	10 32 53.5	+2.9
JKA				IAmb	IAmb	10 32 57.6	
	comp=Z,13nm,1.1s						
ARMA	Armidale	41.38	149	P	P	10 32 50.8	-0.7
ARMA				IAmb	IAmb	10 33 10.6	
	comp=Z,15nm,1.4s						
KLR	Kul'dur	44.55	3	LR	LR	10 51 32.7	
	comp=Z,18nm,18.5s,baz=198,slow=36						
OUENC	Ouen Island, N	46.29	127	P	P	10 33 29.1	-1.8
MA2	Magadan	57.48	13	LR	LR	10 57 17.0	
	comp=Z,16nm,21.6s,baz=213,slow=34						
MK31	Makanchi Array	57.74	324	P	P	10 34 56.5	+0.6
MK31				PcP	PcP	10 35 47.2	-1.3
MKAR	Makanchi Array	57.74	324	P	P	10 34 56.4	+0.5
MKAR	Makanchi Array	57.74	324	P	P	10 34 54.1	-1.8
	comp=Z,1.6nm,0.5s,baz=122,slow=8.3,SNR=17						
	comp=Z,1.6nm,0.5s						
ZALV	Zalesovo Beam	60.52	332	P	P	10 35 14.2	-0.8
ZALV	Zalesovo Beam	60.52	332	P	P	10 35 13.5	-1.5
	comp=Z,1.1nm,0.6s,baz=101,slow=7.7,SNR=4.7						
	comp=Z,1.1nm,0.6s						
AAK	Ala-Archa	60.77	317	LR	LR	11 03 59.9	
	comp=Z,21nm,21.1s,baz=120,slow=38						
KURBB	Kurchatov Arra	61.85	327	P	P	10 35 23.4	-0.6
	comp=Z,2.9nm,0.7s,baz=125,slow=6.4,SNR=21						
	comp=Z,2.9nm,0.7s						
BKZ	Black Stump Fm	62.21	139	P	P	10 35 28.1	+1.4
RTZ	Ruatahuna	62.24	138	P	P	10 35 26.8	-0.1
KK31	Karatay Array	63.66	316	P	P	10 35 37.0	+0.7
KK31				IAmb	IAmb	10 35 49.2	
	comp=Z,2.2nm,0.7s						
KKAR	Karatay Array	63.66	316	P	P	10 35 36.3	0.0
BVAR	Borovoye Array	67.44	326	P	P	10 36 00.2	-0.3
	comp=Z,1.6nm,0.6s,baz=111,slow=8.1,SNR=8.2						
	comp=Z,1.6nm,0.6s						
BRVK	Borovoye	67.51	326	P	P	10 36 00.0	-0.9
BRVK				IAmb	IAmb	10 36 22.6	
	comp=Z,3.8nm,1.1s						
UNV	Unalaska Valle	71.81	34	P	P	10 36 28.2	+0.9
CASY	Casey	71.88	187	P	P	10 36 28.1	+0.6
CASY				IAmb	IAmb	10 36 28.9	
	comp=Z,3.2nm,0.9s						
AKRB	Akutan Reef Bi	72.15	34	P	P	10 36 30.7	+1.3
LVA	Lava Point	72.17	34	P	P	10 36 31.0	+1.4
ABKAR	Akbulak array	72.46	320	P	P	10 36 31.1	-0.3
M14K	Bethel	76.17	28	P	P	10 36 54.9	+2.2
M14K				IAmb	IAmb	10 36 59.2	
	comp=Z,8.2nm,1.2s						
K15K	Wolf Creek Mou	76.78	27	P	P	10 36 58.6	+2.4
K15K				IAmb	IAmb	10 37 04.0	
	comp=Z,6.8nm,1.4s						
J16K	Anvik River	77.46	26	P	P	10 37 02.8	+2.8
J16K				IAmb	IAmb	10 37 02.9	
	comp=Z,3.0nm,0.9s						
L16K	Owhat River	77.58	28	P	P	10 37 02.8	+2.1
L16K				IAmb	IAmb	10 37 03.2	
	comp=Z,2.5nm,0.7s						
M16K	Timber Creek	77.66	28	P	P	10 37 03.2	+2.1
M16K				IAmb	IAmb	10 37 11.9	
	comp=Z,6.4nm,1.1s						
J17K	VABM Dome	78.15	26	P	P	10 37 06.6	+2.7
H17K	Granite Mounta	78.17	24	P	P	10 37 05.6	+1.7
H17K				IAmb	IAmb	10 37 06.7	
	comp=Z,4.4nm,1.2s						
K17K	Iditarod	78.34	27	P	P	10 37 06.9	+2.0
K17K				IAmb	IAmb	10 37 08.5	
	comp=Z,5.4nm,1.1s						
E18K	Tukpahlearik C	78.56	22	P	P	10 37 07.2	+1.2
E18K				IAmb	IAmb	10 37 08.3	
	comp=Z,2.9nm,0.9s						
G18K	Tagagawik	78.92	24	P	P	10 37 09.0	+0.9
L18K	Granite Mounta	78.97	27	P	P	10 37 10.7	+2.3
J18K	Innoko River	79.20	26	P	P	10 37 11.5	+1.8
C19K	Lookout Ridge	79.38	20	P	P	10 37 12.9	+2.4
F19K	Shaleruckik Mo	79.48	23	P	P	10 37 11.0	0.0
F19K				IAmb	IAmb	10 37 12.7	
	comp=Z,4.2nm,1.4s						
G19K	Purcell Mounta	79.60	23	P	P	10 37 13.5	+1.8
H19K	Roundabout Mou	79.73	24	P	P	10 37 14.3	+1.9
H19K				IAmb	IAmb	10 37 15.4	
	comp=Z,3.8nm,1.2s						
D19K	Kuna River	79.74	21	P	P	10 37 14.6	+2.1
D19K				IAmb	IAmb	10 37 17.1	
	comp=Z,3.0nm,1.0s						
N19K	Bonanza Creek	79.76	29	P	P	10 37 15.2	+2.4
N19K				IAmb	IAmb	10 37 33.2	
	comp=Z,11nm,1.5s						
J19K	Poorman	79.78	26	P	P	10 37 15.5	+2.7
L19K	White Mountain	79.81	28	P	P	10 37 13.5	+0.5
E19K	Redstone River	79.83	22	P	P	10 37 14.3	+1.3
E19K				IAmb	IAmb	10 37 17.9	
	comp=Z,5.2nm,1.1s						
OHAK	Old Harbor	79.87	33	P	P	10 37 15.4	+2.1
KDAK	Kodiak Island	80.31	32	LR	L

G24K				IAmb	IAmb	10 37 35.2	
	comp=Z,4.1nm,1.0s						
HDA	**Harding Lake**	**83.60**	**26**	P	**P**	**10 37 33.2**	**+0.3**
HDA				IAmb	IAmb	10 37 34.7	
	comp=Z,3.1nm,1.1s						
ILAR	**Eielson Array**	**83.64**	**25**	P	**P**	**10 37 32.6**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=261,slow=3.6,SNR=4.4						
	comp=Z,0.4nm,0.6s						
EYAK	**Cordova Ski Ar**	**84.02**	**30**	P	**P**	**10 37 36.4**	**+1.4**
VNDA	**Vanda**	**84.11**	**173**	P	**P**	**10 37 34.5**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=307,slow=5.2,SNR=4.0						
	comp=Z,0.7nm,0.8s						
E25K	**Arctic Village**	**84.31**	**22**	P	**P**	**10 37 39.2**	**+2.7**
E25K				IAmb	IAmb	10 38 00.3	
	comp=Z,2.2nm,1.0s						
BMRM	**Bremner River**	**84.59**	**29**	P	**P**	**10 37 39.3**	**+1.2**
BMRM				IAmb	IAmb	10 37 40.5	
	comp=Z,5.4nm,1.0s						
BMAR	**Burnt Mountain**	**84.66**	**23**	P	**P**	**10 37 40.1**	**+1.7**
ARCES	**ARCESS Array B**	**90.16**	**340**	P	**P**	**10 38 02.1**	**-2.6**
	comp=Z,1.1nm,0.8s,baz=78,slow=6.5,SNR=1.9						
	comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	**94.51**	**180**	P	**P**	**10 38 25.0**	**0.0**
	comp=Z,1.0nm,0.8s,baz=292,slow=2.2,SNR=7.8						
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**124.11**	**289**	PKP	**PKPdf**	**10 44 03.4**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=84,slow=2.2,SNR=4.4						

IDC 06 10:42:38.7±2.0, 0°70S×123°63E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=172.6km s-min=27.9km az=69.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.81**	**152**	P	P	10 47 34.3	+1.6
	0.5nm,0.4s,baz=331,slow=10,SNR=12						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**24.92**	**157**	P	P	10 48 02.6	-1.1
	0.3nm,0.5s,baz=334,slow=7.0,SNR=12						
	0.3nm,0.5s						
SONM	**Songino Array**	**50.61**	**345**	P	P	10 51 39.5	0.0
	1.0nm,0.6s,baz=147,slow=8.1,SNR=2.4						
	1.0nm,0.6s						

HEL 06 11:02:11.1±0.2, 65°80N×24°79E, h0km, ML1.0, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.34**	**326**	PG	Pg	11 02 16.7	-0.9
TOF				SG	Sg	11 02 20.6	-1.3
KALU	**Kalix**	**0.59**	**276**	SG	Sg	11 02 28.7	-1.4
RANF	**Ranua**	**0.85**	**74**	SB	Sg	11 02 38.7	+0.4
OUL	**Oulu**	**0.85**	**147**	PB	Pg	11 02 26.5	-0.9
RNF	**Rovaniemi**	**0.95**	**31**	PB	Pn	11 02 31.5	-0.2
OBF4	**Vikkela, Lumij**	**1.00**	**172**	MSG		11 02 41.7	
	comp=Z,0.9nm,0.2s						
OBF4				SN	Sn	11 02 49.6	+2.5
ERTU	**Ertsjaerv**	**1.30**	**307**	PG	Pg	11 02 34.8	-1.1
ERTU				SN	Sn	11 02 56.6	+2.0
OBF0	**Syolatti, Pyha**	**1.33**	**190**	PG	Pg	11 02 34.7	-1.8
	baz=5.0						
OBF0				MSG		11 02 51.3	
	comp=Z,0.9nm,0.2s						
OBF0				SG	Sg	11 02 52.5	-1.3
OUF	**Merijarvi**	**1.44**	**181**	PG	Pn	11 02 36.7	-1.7
	baz=359						
OUF				MSG		11 02 54.4	
	comp=Z,1.2nm,0.2s						
OUF				SN	Sn	11 02 58.6	+0.7
KLF	**Kolari**	**1.48**	**347**	PN	Pn	11 02 38.4	-0.5
KLF				MSG		11 02 55.4	
	comp=Z,0.8nm,0.2s						
KLF				SN	Sg	11 02 57.2	-1.3
OBF8	**Ulkokalla**	**1.58**	**202**	PG	Pn	11 02 39.3	-1.0
OBF8				MSG		11 02 58.5	
	comp=Z,0.8nm,0.2s						
BURU	**Burvik**	**1.89**	**231**	SG	Sn	11 03 09.6	+0.6
UMAU	**Umeaa**	**2.61**	**224**	PN	Pn	11 02 54.1	-0.3
HEF	**Hetta**	**2.66**	**351**	MSG		11 03 29.4	
	comp=Z,0.4nm,0.2s						
HEF				SG	Sb	11 03 33.3	+0.7

HEL 06 11:04:02.7±0.1, 60°95N×25°65E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**0.41**	**165**	*e*P	Pg	11 04 09.9	-0.7
PVF				*e*S	Sg	11 04 15.8	-0.2
FIA0	**FINESS Array S**	**0.54**	**22**	SB	Sg	11 04 18.9	-1.2
FIA0	**FINESS Array S**	**0.54**	**22**	*e*P	Pg	11 04 11.9	-1.1
FIA0				*e*S	Sg	11 04 18.9	-1.1
MEF	**Metsahovi**	**0.96**	**221**	*e*P	Pg	11 04 19.6	-1.4
MEF				MSG		11 04 31.5	
	comp=Z,1.4nm,0.2s						
KAF	**Kangasniemi**	**1.21**	**15**	*e*P	Pg	11 04 24.4	-1.6
KAF				MSG		11 04 39.8	
	comp=Z,0.9nm,0.2s						
KEF	**Keuruu**	**1.28**	**343**	*e*P	Pg	11 04 25.5	-1.7
KEF				MSG		11 04 41.6	
	comp=Z,1.0nm,0.2s						
KEF				*e*SB	Sg	11 04 43.2	-0.7
RUF	**Ruokolahti**	**1.67**	**72**	*e*PG	Pn	11 04 32.7	-0.4
RUF				MSG		11 04 53.2	
	comp=Z,1.6nm,0.2s						
RUF				*e*SN	Sg	11 04 56.2	0.0
SUF	**Sumiainen**	**1.80**	**7**	*e*PG	Pn	11 04 35.5	+0.6
SUF				MSG		11 04 56.6	
	comp=Z,0.4nm,0.2s						
RAF	**Rauma**	**1.90**	**274**	*e*PG	Pn	11 04 36.8	+0.5
RAF				MSG		11 04 58.7	
	comp=Z,0.8nm,0.2s						
RAF				*e*SG	Sb	11 05 01.8	-0.5
KPF	**Kankaanpaa**	**1.94**	**299**	*e*P	Pn	11 04 36.3	-0.6

*NNC **06** 11:04:44.2±4.4, 41°58N×83°51E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=41.6km s-min=25.9km az=10.0*
*SOME **06** 11:04:45.0, 41°45N×83°17E, h5km*

ISC 06 11:04:42.2±2.6, 41°4N±0°1×83°19E±0°09, h10km, n28, σ1§63/42, 1C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.93**	**315**	*e*P	**Pg**	**11 05 39.0**	**+0.6**
	1.9nm,0.2s						
KTMS				*e*S	**Sg**	**11 06 17.7**	**+1.3**
	7.9nm,0.3s						
KTMS	**Ketmen**	**2.93**	**315**	Pg	**Pg**	**11 05 39.8**	**+1.5**
	3.5nm,0.2s						
KTMS				Lg	Lg	11 06 19.8	
	14nm,0.5s						
SHLS	**Shalkode**	**3.28**	**304**	*e*P	**Pb**	**11 05 40.2**	**-0.3**
	9.1nm,0.1s						
SHLS				*e*S	**Sb**	**11 06 20.0**	**-0.5**
	91nm,0.3s						
SHLS	**Shalkode**	**3.28**	**304**	Pg	**Pb**	**11 05 40.2**	**-0.3**
	9.8nm,0.2s						
SHLS				Lg	Lg	11 06 20.7	
	91nm,0.4s						
PDGK	**Podgornoye**	**3.35**	**306**	Pg	**Pb**	**11 05 45.7**	**+4.0**
	2.0nm,0.2s						
PDGK				Lg	Lg	11 06 29.2	
	16nm,0.6s						
PDGK	**Podgornoye**	**3.35**	**306**	⇓Pg	**Pg**	**11 05 49.9**	**+3.5**
	4.7nm,0.4s						
PDGK				⇑Sn	**Sg**	**11 06 29.3**	**-0.5**
	35nm,0.8s						
DJR	**Jarkent**	**3.85**	**321**	*e*P	**Pg**	**11 05 54.7**	**-1.2**
	1.1nm,0.1s						
DJR				*e*S	**Sg**	**11 06 45.0**	**-0.9**
	7.8nm,0.3s						
DJR	**Jarkent**	**3.85**	**321**	Pg	**Pg**	**11 05 54.7**	**-1.2**
	7.0nm,0.4s						
DJR				Lg	Lg	11 06 45.9	
	20nm,0.6s						
SATY	**Saty**	**3.92**	**297**	*e*P	**Pg**	**11 05 56.8**	**-0.5**
	7.6nm,0.5s						
SATY				*e*S	**Sg**	**11 06 49.0**	**+0.9**
	22nm,0.4s						
SATY	**Saty**	**3.92**	**297**	Pg	**Pg**	**11 05 56.7**	**-0.5**
	7.6nm,0.5s						
SATY				Lg	Lg	11 06 49.0	
	22nm,0.4s						
KPKS	**Kokpek**	**3.92**	**303**	*e*P	**Pg**	**11 05 56.2**	**-1.2**
	5.7nm,0.3s						
KPKS				*e*S	**Sg**	**11 06 48.1**	**0.0**
	28nm,0.5s						
KPKS	**Kokpek**	**3.92**	**303**	Pg	**Pg**	**11 05 56.2**	**-1.2**
	5.7nm,0.3s						
KPKS				Lg	Lg	11 06 48.1	
	28nm,0.5s						
KNOS	**Konyrlen**	**4.18**	**316**	Pg	**Pg**	**11 06 01.6**	**-0.5**
	1.8nm,0.5s						
KNOS				Lg	Lg	11 06 56.8	
	6.2nm,0.3s						
KURS	**Kuram**	**4.26**	**301**	*e*P	**Pg**	**11 06 02.9**	**-0.9**
	2.2nm,0.6s						
KURS				*e*S	**Sg**	**11 06 58.9**	**-0.1**
	6.6nm,0.6s						
KURS	**Kuram**	**4.26**	**301**	Pg	**Pg**	**11 06 08.1**	**+4.3**
	7.5nm,0.7s						
KURS				Lg	Lg	11 07 07.7	
	4.4nm,0.9s						
BLB	**Baldybastay**	**4.39**	**309**	Pg	**Pg**	**11 06 05.1**	**-1.3**
	12nm,0.3s						
BLB				Lg	Lg	11 07 02.9	
	16nm,0.6s						
ARXS	**Arharly**	**4.85**	**307**	*e*P	**Pg**	**11 06 12.9**	**-2.0**
	2.0nm,0.4s						
ARXS				*e*S	**Sg**	**11 07 16.4**	**-1.3**
	7.7nm,0.4s						
ARXS	**Arharly**	**4.85**	**307**	Pg	**Pg**	**11 06 12.9**	**-2.0**
	2.0nm,0.4s						
ARXS				Lg	Lg	11 07 16.4	
	7.7nm,0.4s						
MDOK	**Medeo**	**4.89**	**293**	*e*P	**Pg**	**11 06 15.4**	**-0.3**
	2.2nm,0.6s						
MDOK				*e*S	**Sg**	**11 07 20.4**	**+1.3**
	6.9nm,0.5s						
MDOK	**Medeo**	**4.89**	**293**	Pg	**Pg**	**11 06 15.4**	**-0.3**
	2.2nm,0.6s						
MDOK				Lg	Lg	11 07 20.3	
	6.9nm,0.5s						
TNSS	**Tian-Shan**	**4.92**	**292**	*e*P	**Pg**	**11 06 14.8**	**-1.5**
	1.0nm,0.1s						
TNSS				*e*S	**Sg**	**11 07 19.2**	**-0.9**
	5.1nm,0.4s						
CHKK	**Chushkaly**	**5.19**	**300**	*e*P	**Pg**	**11 06 19.3**	**-2.3**
	0.7nm,0.1s						
CHKK				*e*S	**Sg**	**11 07 27.3**	**-1.5**
	5.5nm,0.3s						
CHKK	**Chushkaly**	**5.19**	**300**	Pg	**Pg**	**11 06 19.3**	**-2.3**
	0.7nm,0.1s						
CHKK				Lg	Lg	11 07 27.3	
	5.5nm,0.3s						
MK31	**Makanchi Array**	**5.43**	**353**	Pn	**Pn**	**11 06 01.7**	**-1.5**
	0.1nm,0.2s,baz=166,slow=14,SNR=24						
MK31				⇓Pg	**Pb**	**11 06 19.3**	**+2.2**
	0.6nm,0.3s,baz=163,slow=16,SNR=6.3						
MK31				⇓Lg	Lg	11 07 39.1	
	7.8nm,0.6s,baz=164,slow=29,SNR=4.5						
KST	**Kastek**	**5.61**	**289**	*e*P	**Pg**	**11 06 28.9**	**-0.8**
	1.9nm,0.5s						
KST				*e*S	**Sg**	**11 07 43.4**	**+1.1**
	5.8nm,0.5s						
KST	**Kastek**	**5.61**	**289**	Pg	**Pg**	**11 06 28.9**	**-0.8**
	1.9nm,0.5s						
KST				Lg	Lg	11 07 43.4	
	5.8nm,0.5s						
KRBS	**Karabastau**	**6.01**	**295**	*e*P	**Pg**	**11 06 36.7**	**-0.5**
	1.0nm,0.5s						
KRBS				*e*S	**Sg**	**11 07 56.9**	**+2.0**
	3.1nm,0.3s						
KRBS	**Karabastau**	**6.01**	**295**	Pg	**Pg**	**11 06 36.7**	**-0.5**
	1.0nm,0.5s						
KRBS				Lg	Lg	11 07 56.9	
	3.1nm,0.3s						

*IDC **06** 11:14:18.7±2.2, 28°90N×77°81E, h0km, mb3.6/4, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=98.2km s-min=24.0km az=67.0*
*NDI **06** 11:14:22.7±3.4, 29°09N×77°17E, h10km±25km, ML3.3, MW3.5*

ISC 06 11:14:20.0±0.9, 28°95N±0°04×77°2E±0°1, h14km, n12, σ1§81/17, mb3.5/4, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**1.57**	**29**	*e*P	**Pb**	**11 14 48.9**	**+0.1**
DDI				*e*S	**Sg**	**11 15 10.1**	**-0.4**
DDI				IAML		11 15 12.2	
	comp=E,579nm,0.1s						
DDI				IAML		11 15 12.3	
	comp=N,801nm,0.2s						
AGRA	**Agra**	**1.83**	**159**	*e*S	**Sg**	**11 15 21.0**	**+2.0**
SMLA	**Simla**	**2.18**	**359**	*e*P	**Pn**	**11 14 55.3**	**-0.5**
SMLA				*i* x	x	11 14 57.8	
SMLA				*e*S	**Sn**	**11 15 23.1**	**+0.6**
SMLA				IAML		11 15 31.6	
	comp=N,185nm,0.3s						
SMLA				IAML		11 15 31.8	
	comp=E,299nm,0.1s						
BHK	**Bhakra**	**2.55**	**345**	*e*P	**Pb**	**11 15 04.0**	**-1.6**
BHK				*e*S	**Sn**	**11 15 30.2**	**-1.7**
DHRM	**DHARAMSHALA**	**3.38**	**347**	*e*P	**Pn**	**11 15 12.8**	**+0.2**
DHRM				*e*S	**Sn**	**11 15 51.4**	**-1.2**
DHRM				IAML		11 16 15.6	
	comp=N,240nm,0.6s						
THN	**Thein Dam**	**3.70**	**340**	*e*P	**Pn**	**11 15 20.4**	**+3.6**
THN				*ex*	**Sb**	**11 16 08.9**	**-1.0**
THN				IAML		11 16 09.7	
	comp=E,118nm,0.7s						
THN				IAML		11 16 25.4	
	comp=N,94nm,0.3s						
BHPL	**Bhopal**	**5.68**	**178**	*ex*	**Sn**	**11 16 46.5**	**-2.7**
MKAR	**Makanchi Array**	**18.26**	**11**	P	**P**	**11 18 33.8**	**+0.7**
	comp=N,0.1nm,0.3s,baz=186,slow=12,SNR=2.1						
	comp=N,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**21.68**	**2**	P	**P**	**11 19 11.0**	**+0.9**
	comp=N,0.6nm,0.3s,baz=192,slow=10,SNR=9.9						
	comp=N,0.6nm,0.3s						
ARCES	**ARCESS Array B**	**50.07**	**339**	P	**P**	**11 23 16.4**	**+2.4**
	comp=N,1.1nm,0.7s,baz=104,slow=7.5,SNR=5.2						
	comp=N,1.1nm,0.7s						
WRA	**Warramunga Arr**	**73.50**	**124**	P	**P**	**11 25 50.9**	**-1.6**
	comp=N,0.4nm,0.7s,baz=320,slow=6.0,SNR=7.7						
	comp=N,0.4nm,0.7s						
ASAR	**Alice Springs**	**75.59**	**128**	P	**P**	**11 26 03.0**	**-1.6**
	comp=N,0.3nm,0.8s,baz=311,slow=6.5,SNR=5.9						
	comp=N,0.3nm,0.8s						

*NEIC **06** 11:14:28.2±2.5, 7°4S±0°2×155°44E±0°09, h10km±2km, mb4.5/12, Error ellipse: s-maj=27.8km s-min=14.3km az=6.0*
*IDC **06** 11:14:37.7±8.8, 7°03S×155°21E, h100km±66km, mb3.5/5, mbtmp3.9/6, ML2.3/1, MS2.9/3, Error ellipse: s-maj=67.8km s-min=29.1km az=86.0*

ISC 06 11:14:29.1±0.8, 7°2S±0°1×155°66E±0°08, h35km, n32, σ2§11/26, mb4.1/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.79**	**118**	Pn	**Pn**	**11 15 39.8**	**+1.0**
HNR	**Honiara**	**4.79**	**118**	LR	LR	11 17 47.6	
	comp=Z,3µm,18.9s,baz=298,slow=36						
PMG	**Port Moresby**	**8.69**	**255**	Pn	**Pn**	**11 16 29.8**	**-2.6**
PMG	**Port Moresby**	**8.69**	**255**	P	**Pn**	**11 16 35.6**	**+3.3**
	1.8nm,0.3s,baz=86,slow=12,SNR=2.1						
PMG				S	**Sn**	**11 18 14.4**	**+5.1**
	12nm,0.8s,baz=52,slow=12,SNR=1.5						
PMG				LR	LR	11 19 46.3	
	comp=Z,92nm,21.7s,baz=60,slow=37						
	11nm,0.5s						
COEN	**Coen**	**13.98**	**240**	Pn	**Pn**	**11 17 41.7**	**-3.2**
CTAO	**Charters Tower**	**15.73**	**215**	Pn	**Pn**	**11 18 03.9**	**-4.2**
LIFNC	**LIFOU**	**17.55**	**141**		**Pn**	**11 18 32.3**	**+1.2**
LIFNC				IAmb	IAmb	11 18 47.5	
	comp=Z,110nm,0.8s						
EIDS	**Eidsvold**	**18.59**	**193**	P	**P**	**11 18 42.0**	**-1.4**
WR0	**Warramunga Arr**	**24.09**	**236**	P	**P**	**11 19 40.7**	**-0.8**
WR0				IAmb	IAmb	11 20 00.0	
	comp=Z,8.8nm,1.3s						
WB0	**Warramunga Arr**	**24.12**	**237**	P	**P**	**11 19 39.8**	**-2.1**
WB0				IAmb	IAmb	11 19 58.6	
	comp=Z,9.5nm,1.1s						
SAUI	**Saumlaki**	**24.16**	**267**	P	**P**	**11 19 40.1**	**-2.1**
WB2	**Warramunga Arr**	**24.24**	**236**	P	**P**	**11 19 42.0**	**-1.0**
WB2				IAmb	IAmb	11 19 55.2	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**24.25**	**236**	P	**P**	**11 19 43.2**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=58,slow=9.2,SNR=31						
WRA				PcP	**PcP**	**11 23 23.4**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=63,slow=2.7,SNR=4.8						
	comp=Z,1.3nm,0.5s						
MTN	**Manton Dam**	**24.78**	**255**	P	**P**	**11 19 48.7**	**+0.7**
MTN				IAmb	IAmb	11 20 00.3	
	comp=Z,25nm,1.5s						
AS31	**Alice Springs**	**26.53**	**230**	P	**P**	**11 20 03.6**	**-0.2**
ASAR	**Alice Springs**	**26.54**	**230**	P	**P**	**11 20 03.8**	**0.0**
ASAR	**Alice Springs**	**26.54**	**230**	P	**P**	**11 20 04.2**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=60,slow=9.8,SNR=14						
ASAR				PcP	**PcP**	**11 23 28.6**	**+0.5**
	comp=Z,1.2nm,1.0s,baz=46,slow=2.7,SNR=4.3						
	comp=Z,0.5nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**27.75**	**23**	T	T	11 48 23.9	
	baz=204,slow=76,SNR=45						
H11S2	**WAKE ISLAND Hy**	**27.76**	**23**	T	T	11 48 29.8	
	baz=204,slow=76,SNR=48						
H11S1	**WAKE ISLAND Hy**	**27.77**	**23**	T	T	11 48 29.7	
	baz=204,slow=76,SNR=44						
H11N1	**WAKE ISLAND Hy**	**28.94**	**22**	T	T	11 50 10.8	
	baz=203,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.95**	**22**	T	T	11 50 02.8	
	baz=203,slow=74,SNR=7.0						
H11N2	**WAKE ISLAND Hy**	**28.96**	**22**	T	T	11 50 13.0	
	baz=203						
FITZ	**Fitzroy Crossi**	**31.17**	**247**	P	**P**	**11 20 44.4**	**-0.7**
ASAJ	**Asahikawa**	**52.42**	**348**	LR	LR	11 42 50.3	
	comp=Z,13nm,21.6s,baz=146,slow=32						
KLR	**Kul'dur**	**59.96**	**342**	LR	LR	11 48 51.2	
	comp=Z,11nm,21.1s,baz=162,slow=34						
PHRA	**Phrae**	**60.33**	**296**	P	**P**	**11 24 36.1**	**+1.1**
SONM	**Songino Array**	**69.86**	**327**	P	**P**	**11 25 35.9**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=122,slow=5.4,SNR=2.1						
	comp=Z,0.8nm,0.6s						
QSPA	**South Pole Qui**	**82.78**	**180**	P	**P**	**11 26 52.1**	**+2.7**
QSPA				IAmb	IAmb	11 26 56.7	
	comp=Z,4.8nm,1.4s						
QSPA	**South Pole Qui**	**82.78**	**180**	P	**P**	**11 26 51.0**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=40,slow=6.5,SNR=9.6						
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**83.99**	**319**	P	**P**	**11 26 54.9**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=100,slow=5.4,SNR=5.3						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**153.71**	**285**	PKPbc	**PKPbc**	**11 34 24.2**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=52,slow=1.4,SNR=2.1						

*TIR **06** 11:23:25.6, 41°50N×19°45E, h29km±2km, Md3.1, Ml2.5*
*PDG **06** 11:23:28.0±0.3, 41°50N×19°60E, h13km, ML2.5/13, Error ellipse: s-maj=0.9km s-min=1.4km az=0.0*
*SKO **06** 11:23:28.2, 41°54N×19°50E, h14km, ML2.2*
*BEO **06** 11:23:28.1±0.5, 41°46N×19°57E, h15km±3km, ML2.2/7*

ISC 06 11:23:27.7±0.9, 41°48N±0°02×19°53E±0°03, h15km±7km, n40, σ0§94/71, 5C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.28**	**117**	P	**Pg**	**11 23 33.4**	**-0.2**
	baz=116						
TIR				S	**Sg**	**11 23 38.3**	**+0.5**
	baz=116						
TIR				AMP			
	comp=N,3.4nm,0.2s,baz=116						
TIR	**Tirane**	**0.28**	**117**	*e*Pg	**Pg**	**11 23 33.3**	**-0.4**
TIR				*e*Sg	**Sg**	**11 23 38.3**	**+0.5**
ULC	**Ulcinj**	**0.53**	**336**	*i* Pg	**Pg**	**11 23 37.7**	**-0.5**
ULC	**Ulcinj**	**0.53**	**336**	⇓*i*Pg	**Pg**	**11 23 37.6**	**-0.6**
ULC				*i* Sg	**Sb**	**11 23 46.6**	**+0.4**
PUK	**Puka**	**0.63**	**25**	P	**Pg**	**11 23 39.2**	**-0.8**
	baz=31						
PUK				S	**Sb**	**11 23 48.2**	**-0.8**
	baz=31						
PUK				AMP			
	comp=N,1.3nm,0.4s,baz=31						
DRME	**Dracevica, Mon**	**0.76**	**340**	*e*Pg	**Pg**	**11 23 42.5**	**+0.1**
DRME				*e*Sg	**Sn**	**11 23 54.4**	**-0.6**
DRME	**Dracevica, Mon**	**0.76**	**340**	⇑*i*Pg	**Pg**	**11 23 41.7**	**-0.7**
DRME				*i* Sg	**Sn**	**11 23 54.4**	**-0.6**
BUM	**Brajici-Budva**	**0.95**	**330**	⇓*i*Pg	**Pb**	**11 23 46.1**	**+0.2**
BUM				*i* Sg	**Sn**	**11 24 01.1**	**+1.2**
BCI	**Bajram Curri**	**0.97**	**24**	P	**Pb**	**11 23 44.9**	**-1.3**
	baz=28						
BCI				S	**Sg**	**11 23 58.8**	**-0.5**
	baz=28						
BCI				AMP			
	comp=E,0.6nm,0.5s,baz=28						
PDG	**Podgorica**	**0.97**	**348**	*e*Pg	**Pb**	**11 23 46.1**	**-0.2**
PDG				*e*Sg	**Sn**	**11 24 00.7**	**+0.4**
PDG	**Podgorica**	**0.97**	**348**	⇑*i*Pg	**Pb**	**11 23 46.3**	**0.0**
PDG				*i* Sg	**Sn**	**11 24 01.6**	**+1.3**
OHR	**Ohrid**	**1.02**	**110**	*i* Pg	**Pb**	**11 23 47.0**	**-0.1**
OHR				*e*Sg	**Sn**	**11 24 02.8**	**+1.2**
OHR				*e*Lg	Lg	11 24 05.1	
	comp=E,53nm,0.8s						
OHR				*e*Lg	Lg	11 24 05.4	
	comp=N,59nm,0.6s						
PVY	**Plav**	**1.16**	**16**	*e*Pg	**Pb**	**11 23 48.7**	**-0.8**
PVY				*i* Sg	**Sn**	**11 24 06.8**	**+1.6**
CEME	**Cevo**	**1.16**	**337**	⇓*i*Pg	**Pb**	**11 23 49.6**	**+0.1**
CEME				*i* Sg	**Sg**	**11 24 07.6**	**+2.3**
HCY	**Herceg Novi**	**1.24**	**322**	⇑*i*Pg	**Pb**	**11 23 51.2**	**+0.4**
HCY				*i* Sg	**Sg**	**11 24 09.8**	**+2.0**
NKME	**Niksic**	**1.36**	**342**	⇓*i*Pg	**Pb**	**11 23 52.9**	**0.0**
NKME				*i* Sg	**Sg**	**11 24 13.8**	**+2.2**
KOME	**Kolasin**	**1.37**	**359**	*e*Pg	**Pg**	**11 23 54.5**	**+0.4**
KOME				*e*Sg	**Sg**	**11 24 13.0**	**+1.0**
KOME	**Kolasin**	**1.37**	**359**	⇓*i*Pg	**Pg**	**11 23 53.7**	**-0.4**
KOME				*i* Sg	**Sg**	**11 24 14.1**	**+2.1**
BEY	**Berane**	**1.42**	**11**	*i* Pg	**Pn**	**11 23 52.0**	**-1.1**
IVA	**Berane**	**1.42**	**11**	⇓*i*Pg	**Pn**	**11 23 53.2**	**+0.2**
IVA				*i* Sg	**Sg**	**11 24 14.5**	**+1.0**
SKO	**Skopje**	**1.51**	**70**	*e*Pg	**Pb**	**11 23 55.6**	**+0.2**
SKO				*e*Sg	**Sg**	**11 24 16.3**	**-0.1**
TREB	**Trebinje**	**1.52**	**325**	*e*Pg	**Pb**	**11 23 55.8**	**+0.2**
TREB				*e*Sg	**Sg**	**11 24 16.3**	**-0.4**
LSK	**Leskovik**	**1.55**	**148**	P	**Pn**	**11 23 55.6**	**+0.8**
	baz=146						
FNA	**Florina**	**1.56**	**116**	P	**Pb**	**11 23 56.1**	**-0.1**
	baz=115						
F

*HEL **06** 11:29:18.9±0.1, 63°.98N×28°.14E, h0km, ML1.6, Explosion*
*IDC **06** 11:29:21.4±1.7, 63°.84N×27°.74E, h0km, mbtmp2.6/2, ML1.8/2, Error ellipse: s-maj=41.4km s-min=8.4km az=98.0*
ISC 06 11:29:17.7±0.8, **63°.95N**±0°.02×**28°.04E**±0°.03, **h0**km, **n27**, σ1§**29**/38, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.57**	**190**	PG	**Pb**	**11 29 29.9**	**-0.6**
	baz=11						
NIF				SG	**Sb**	**11 29 37.8**	**-1.4**
RMF	**Romuvaara**	**0.88**	**71**	PB	**Pb**	**11 29 34.8**	**-0.9**
RMF				MSG		11 29 44.3	
	comp=Z,5.5nm,0.2s						
RMF				SB	**Sg**	**11 29 45.2**	**-0.5**
OUL	**Oulu**	**1.47**	**322**	PN	**Pg**	**11 29 46.3**	**+0.5**
SUF	**Sumiainen**	**1.50**	**215**	PG	**Pg**	**11 29 47.1**	**+0.7**
SUF				MSG		11 30 05.6	
	comp=Z,3.2nm,0.2s						
OUF	**Merijarvi**	**1.51**	**288**	PG	**Pg**	**11 29 46.7**	**+0.2**
OUF				MSG		11 30 05.0	
	comp=Z,6.3nm,0.2s						
OUF				SG	**Sn**	**11 30 06.8**	**+0.6**
OBF4	**Vikkela, Lumij**	**1.54**	**306**	PN	**Pg**	**11 29 47.5**	**+0.3**
	baz=119						
OBF4				MSG		11 30 05.6	
	comp=Z,3.3nm,0.2s						
OBF0	**Syolatti, Pyha**	**1.75**	**290**	PG	**Pg**	**11 29 51.2**	**0.0**
OBF0				MSG		11 30 12.0	
	comp=Z,5.2nm,0.2s						
OBF0				SN	**Sg**	**11 30 14.4**	**+0.6**
JOF	**Joensuu**	**1.80**	**124**	PG	**Pb**	**11 29 51.0**	**-0.5**
	baz=307						
JOF				SN	**Sg**	**11 30 15.0**	**-0.4**
KAF	**Kangasniemi**	**2.01**	**204**	PG	**Pg**	**11 29 55.3**	**-0.8**
KAF				SB	**Sb**	**11 30 19.6**	**-0.8**
KAF				MSG		11 30 19.8	
	comp=Z,4.5nm,0.2s						
MSF	**Maaselka**	**2.02**	**12**	PG	**Pb**	**11 29 53.7**	**-1.5**
OBF8	**Ulkokalla**	**2.05**	**283**	PG	**Pg**	**11 29 56.3**	**-0.5**
OBF8				MSG		11 30 20.8	
	comp=Z,2.6nm,0.2s						
RANF	**Ranua**	**2.14**	**346**	PG	**Pb**	**11 29 57.1**	**-0.2**
RANF				SG	**Sn**	**11 30 21.9**	**+0.1**
KU6	**Riekki**	**2.23**	**20**	PG	**Pb**	**11 29 58.3**	**-0.4**
	baz=203						
KU6				MSG		11 30 23.4	
	comp=Z,1.7nm,0.2s						
KU6				SG	**Sb**	**11 30 26.5**	**-0.4**
KEF	**Keuruu**	**2.30**	**220**	PG	**Pg**	**11 30 00.6**	**-1.1**
	baz=40						
KEF				SN	**Sn**	**11 30 24.6**	**-1.0**
KEF				MSG		11 30 28.6	
	comp=Z,3.1nm,0.2s						
OLKF	**Oulanka, Finla**	**2.45**	**13**	PG	**Pb**	**11 30 02.1**	**-0.4**
OLKF				MSG		11 30 30.2	
	comp=Z,1.9nm,0.2s						
RUF	**Ruokolahti**	**2.57**	**170**	PG	**Pb**	**11 30 04.5**	**-0.1**
	baz=351						
RUF				MSG		11 30 35.3	
	comp=Z,1.4nm,0.2s						
RUF				SG	**Sg**	**11 30 39.2**	**-0.9**
VAF	**Ylistaro**	**2.57**	**252**	PG	**Pb**	**11 30 04.9**	**+0.3**
VAF				MSG		11 30 36.4	
	comp=Z,1.6nm,0.2s						
VAF				SG	**Sg**	**11 30 39.7**	**-0.5**
TOF	**Tornio**	**2.66**	**325**	PB	**Pb**	**11 30 04.1**	**-2.0**
TOF				MSG		11 30 37.1	
	comp=Z,1.0nm,0.2s						
FIA0	**FINESS Array S**	**2.67**	**201**	PB	**Pb**	**11 30 05.9**	**-0.5**
	baz=21						
FIA0				MSG		11 30 39.0	
	comp=Z,1.3nm,0.2s						
FIA0				SB	**Sb**	**11 30 40.2**	**+0.6**
FINES	**FINESS Array B**	**2.67**	**201**	Pn	**Pb**	**11 30 05.8**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=21,slow=14,SNR=10.0						
FINES				Lg	Lg	11 30 40.3	
	comp=Z,0.4nm,0.3s,baz=18,slow=28,SNR=13						
	comp=Z,1.5nm,0.5s						
KALU	**Kalix**	**2.77**	**316**	SB	**Sn**	**11 30 39.8**	**+2.6**
KPF	**Kankaanpaa**	**3.46**	**235**	PB	**Pb**	**11 30 17.5**	**-2.2**
SGF	**Sodankyl**	**3.56**	**351**	PB	**Pb**	**11 30 18.4**	**-3.0**
ERTU	**Ertsjaerv**	**3.59**	**319**	PB	**Pb**	**11 30 18.4**	**-3.5**
HEMU	**Hemsoen**	**4.69**	**259**	PN	**Pn**	**11 30 32.2**	**+2.6**
	baz=66						
ARCES	**ARCESS Array B**	**5.70**	**351**	Pn	Pn	11 30 48.6	+5.1
	comp=Z,0.2nm,0.3s,baz=168,slow=13,SNR=1.9						
ARCES				Sn	**Sn**	**11 31 50.1**	**+0.7**
	baz=168,slow=23,SNR=1.3						
	comp=Z,0.7nm,0.6s						
I37NO	**I37NO**	**6.37**	**328**	I	I	12 05 40.0	
	baz=140,slow=315,SNR=4.3						

*IDC **06** 11:33:30.4±2.0, 7°.70S×123°.85E, h0km, mb3.3/1, mbtmp3.2/3, ML3.1/2, MS3.4/1, Error ellipse: s-maj=199.5km s-min=32.3km az=58.0*
*DJA **06** 11:33:47.0±1.5, 9°.5S±10°.×12°.3E±°., h143km±15km, M2.9/5, MLv2.9/5*
ISC 06 11:33:46.2±1.3, **8°.7S**±0°.2×**123°.1E**±0°.1, **h150**km, **n8**, σ1§**31**/8, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.81**	**273**	P	**Pn**	**11 34 11.3**	**+1.9**
EDFI	**Ende, Flores**	**1.35**	**267**	P	**Pn**	**11 34 14.2**	**-0.1**
EDFI				S	**Sn**	**11 34 35.8**	**0.0**
SOEI	**Soe**	**1.60**	**132**	P	**Pn**	**11 34 17.9**	**+0.9**
BATI	**Baumata**	**1.63**	**159**	P	**Pn**	**11 34 17.8**	**+0.6**
WRA	**Warramunga Arr**	**15.63**	**137**	Pn	**Pn**	**11 37 16.9**	**-1.6**
	0.1nm,0.3s,baz=315,slow=14,SNR=1.4						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**18.16**	**146**	P	**P**	**11 37 48.2**	**+0.9**
	0.1nm,0.3s,baz=323,slow=10,SNR=5.4						
	0.7nm,0.8s						
PALK	**Pallekele**	**45.09**	**289**	LR	LR	12 01 15.0	
	comp=Z,47nm,21.0s,baz=320,slow=37						
MKAR	**Makanchi Array**	**66.08**	**331**	P	**P**	**11 44 16.3**	**-0.7**
	0.2nm,0.5s,baz=116,slow=6.4,SNR=1.9						
	0.2nm,0.5s						

*IDC **06** 11:47:23.8±1.9, 5°.48S×147°.53E, h172km±22km, mb3.3/3, mbtmp3.9/5, Error ellipse: s-maj=64.3km s-min=15.9km az=103.0*
*NEIC **06** 11:47:29.7±1.9, 5°.9S±0°.1×147°.7E±0°.1, h214km±10km, mb4.4/14, Error ellipse: s-maj=20.9km s-min=10.4km az=141.0*
ISC 06 11:47:26.7±1.1, **5°.7S**±0°.1×**147°.8E**±0°.1, **h200**km, **n25**, σ1§**28**/27, **mb4.1/6**, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.74**	**190**	Pn	**Pn**	**11 48 25.7**	**+0.4**
PMG				Sn	**Sn**	**11 49 10.1**	**-1.3**
PMG	**Port Moresby**	**3.74**	**190**	P	**Pn**	**11 48 25.7**	**+0.4**
	24nm,0.3s,baz=18,slow=6.4,SNR=22						
PMG				S	**Sn**	**11 49 09.8**	**-1.6**
	63nm,0.3s,baz=65,slow=23,SNR=15						
COEN	**Coen**	**9.39**	**209**	Pn	**Pn**	**11 49 39.6**	**+1.5**
CTA	**Charters Tower**	**14.38**	**186**	P	**P**	**11 50 43.5**	**+0.7**
	0.2nm,0.6s,baz=357,slow=11,SNR=3.8						
CTAO	**Charters Tower**	**14.38**	**186**	Pn	**Pn**	**11 50 40.1**	**-1.3**
SAUI	**Saumlaki**	**16.56**	**261**	P	**P**	**11 51 06.9**	**0.0**
MTN	**Manton Dam**	**17.93**	**246**	P	**P**	**11 51 21.0**	**-0.8**
MTN				IAmb	IAmb	11 51 40.2	
	comp=Z,9.5nm,1.1s						
WB0	**Warramunga Arr**	**19.13**	**222**	P	**P**	**11 51 33.6**	**-1.3**
WB0				IAmb	IAmb	11 51 42.1	
	comp=Z,14nm,1.4s						
WR0	**Warramunga Arr**	**19.17**	**221**	P	**P**	**11 51 34.9**	**-0.5**
WR0				IAmb	IAmb	11 51 40.0	
	comp=Z,16nm,1.4s						
WRAB	**Tennant Creek**	**19.28**	**222**	P	**P**	**11 51 33.8**	**-2.7**
WRAB				IAmb	IAmb	11 51 57.1	
	comp=Z,6.9nm,0.7s						
WB2	**Warramunga Arr**	**19.29**	**222**	P	**P**	**11 51 36.1**	**-0.5**
WB2				IAmb	IAmb	11 51 41.2	
	comp=Z,7.4nm,0.7s						
WRA	**Warramunga Arr**	**19.29**	**222**	P	**P**	**11 51 35.3**	**-1.4**
WRA	**Warramunga Arr**	**19.29**	**222**	P	**P**	**11 51 35.9**	**-0.8**
	comp=Z,4.4nm,0.6s,baz=46,slow=11,SNR=17						
WRA				PcP	**PcP**	**11 55 50.2**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=23,slow=2.4,SNR=1.5						
KNRA	**Kununurra**	**21.17**	**241**	P	**P**	**11 51 55.0**	**-1.6**
KNRA				IAmb	IAmb	11 52 10.3	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**22.33**	**215**	P	**P**	**11 52 08.4**	**+0.3**
ASAR	**Alice Springs**	**22.33**	**215**	P	**P**	**11 52 08.2**	**0.0**
ASAR	**Alice Springs**	**22.33**	**215**	P	**P**	**11 52 08.4**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=49,slow=8.8,SNR=18						
ASAR				S	**S**	**11 56 01.7**	**+3.0**
	comp=Z,0.6nm,0.8s,baz=36,slow=15,SNR=4.1						
	comp=Z,2.4nm,0.8s						
LIFNC	**LIFOU**	**24.07**	**130**	P	**P**	**11 52 25.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.92**	**238**	P	**P**	**11 52 30.8**	**-0.8**
PSA00	**Pilbara Seismi**	**31.34**	**237**	P	**P**	**11 53 27.0**	**-1.7**
PSA00				IAmb	IAmb	11 53 29.9	
	comp=Z,6.9nm,0.9s						
NIUE	**Niue**	**43.22**	**112**	P	**P**	**11 55 08.5**	**0.0**
NIUE				IAmb	IAmb	11 55 12.0	
	comp=Z,194nm,0.9s						
SONM	**Songino Array**	**64.55**	**330**	P	P	11 57 41.1	-1.4
	comp=Z,0.2nm,0.3s,baz=116,slow=6.7,SNR=1.4						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**77.79**	**320**	P	P	11 58 59.2	-2.6
	comp=Z,0.6nm,0.5s,baz=107,slow=4.2,SNR=5.9						
	comp=Z,0.6nm,0.5s						
QSPA	**South Pole Qui**	**84.26**	**180**	P	**P**	**11 59 36.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**145.81**	**285**	PKPbc	**PKPdf**	**12 06 41.9**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=69,slow=4.6,SNR=5.9						

*IDC **06** 12:38:21.7±1.4, 30°.73N×51°.61E, h0km, mb3.8/12, mbtmp3.9/14, ML3.7/2, MS2.7/1, Error ellipse: s-maj=28.7km s-min=18.4km az=167.0*
*TEH **06** 12:38:21.1, 30°.80N×51°.63E, h5km, ML3.8*
*NEIC **06** 12:38:22.7±1.7, 30°.71N±0°.05×51°.47E±0°.09, h10km±1km, mb4.1/13, Error ellipse: s-maj=13.1km s-min=7.2km az=106.0*
*SGS **06** 12:38:28.4, 30°.45N×52°.16E, h7km, Ml4.2*
*DSN **06** 12:38:28.1±1.7, 30°.30N×51°.46E, h15km, ML3.7/10, Error ellipse: s-maj=23.0km s-min=9.6km az=12.0*
ISC 06 12:38:22.4±0.5, **30°.81N**±0°.03×**51°.64E**±0°.04, **h10**km, **n73**, σ1§**80**/72, **mb4.0**/17, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNJ	**Kolanjah**	**0.20**	**348**	Pg	**Pg**	**12 38 25.6**	**-1.2**
KLNJ				Sg	**Sg**	**12 38 28.9**	**-1.1**
IBRJ	**Brojen**	**1.14**	**343**	Pg	**Pn**	**12 38 43.6**	**-1.2**
IRAM	**Ramesheh**	**1.18**	**32**	Pg	**Pn**	**12 38 44.9**	**-0.3**
KAZ2	**Kazeron-Fars-I**	**1.19**	**179**	Pg	**Pg**	**12 38 45.1**	**-0.2**
ABEH	**Behbahan**	**1.22**	**261**	Pg	**Pg**	**12 38 46.2**	**+0.5**
SHI	**Shiraz**	**1.39**	**147**	Pg	**Pg**	**12 38 48.5**	**-0.5**
ZNGN	**Zangian**	**1.47**	**333**	Pg	**Pg**	**12 38 50.0**	**-0.7**
IGAR	**Gharneh**	**1.63**	**12**	Pg	**Pg**	**12 38 52.9**	**-0.7**
JHBN	**Jahan bin**	**1.65**	**330**	Pg	**Pg**	**12 38 52.9**	**-1.2**
IPIR	**Pirpir**	**1.98**	**341**	Pn	**Pg**	**12 38 58.8**	**-1.5**
IZEF	**Zefreh**	**2.16**	**15**	Pn	**Pb**	**12 39 01.4**	**-0.4**
DSBU	**Dashti - Bushe**	**2.46**	**188**	Pn	**Pb**	**12 39 04.5**	**-2.3**
IKLH	**Kolahrood**	**2.50**	**359**	Pn	**Pb**	**12 39 06.3**	**-1.4**
AHWZ	**Ahwaz**	**2.62**	**282**	Pn	**Pb**	**12 39 07.6**	**-1.9**
QAMS	**Qamsar**	**2.93**	**356**	Pn	**Pb**	**12 39 12.0**	**-2.8**
ANAR	**Anarak**	**2.96**	**36**	Pn	**Pb**	**12 39 12.5**	**-2.8**
KRSH	**Karshahi**	**3.18**	**7**	Pn	**Pb**	**12 39 15.4**	**-3.7**
ISFB	**Sefidab**	**3.57**	**8**	Pn	Pb	12 39 20.7	-5.0
IQOM	**Qom**	**4.05**	**353**	Pn	**Pn**	**12 39 27.1**	**+2.4**
IVRN	**Varamin**	**4.18**	**1**	Pn	**Pn**	**12 39 28.6**	**+2.4**
KHGB	**Koh Gabri**	**4.19**	**95**	Pn	**Pn**	**12 39 29.2**	**+2.6**
IKFM	**Kafar-mosalman**	**4.21**	**311**	Pn	**Pn**	**12 39 29.4**	**+2.9**
HSAM	**Samen**	**4.26**	**324**	Pn	**Pn**	**12 39 29.9**	**+2.3**
IDMV	**Damavand**	**4.77**	**4**	Pn	**Pn**	**12 39 37.4**	**+2.9**
TPRV	**Parvadeh(Tabas**	**4.83**	**61**	Pn	**Pn**	**12 39 37.9**	**+2.7**
GENO	**Geno**	**5.22**	**129**	Pn	**Pn**	**12 39 43.2**	**+2.5**
TNSJ	**Nastanj**	**5.25**	**52**	Pn	**Pn**	**12 39 43.7**	**+2.7**
TKDS	**Koohdasht(Taba**	**5.42**	**58**	Pn	**Pn**	**12 39 46.5**	**+3.1**
NHRD	**Haradh**	**6.49**	**202**	P	**Pn**	**12 40 00.2**	**+2.1**
MSFE	**Esma-Masafi**	**6.74**	**143**	P	**Pn**	**12 40 02.1**	**+0.7**
NAZ	**Nazwa, Dubai**	**6.80**	**148**	P	**Pn**	**12 40 04.4**	**+2.1**
MDH	**Madha**	**6.86**	**142**	P	**Pn**	**12 40 03.5**	**+0.4**
ASUD	**Al Ashush, Dub**	**6.97**	**151**	P	**Pn**	**12 40 06.6**	**+2.0**
UOSS	**Minazif**	**7.10**	**144**	Pn	**Pn**	**12 40 04.1**	**-2.3**
UOSS	**Minazif**	**7.10**	**144**	P	**Pn**	**12 40 07.9**	**+1.5**
HATD	**Hatta, Dubai**	**7.16**	**145**	P	**Pn**	**12 40 08.5**	**+1.3**
ASHO	**Ashiyiah**	**7.25**	**146**	P	**Pn**	**12 40 09.3**	**+0.9**
ASHO				S	**Sn**	**12 41 28.8**	**-2.1**
ALNE	**Al Ain**	**7.65**	**151**	P	**Pn**	**12 40 14.2**	**+0.2**
SOHO	**SOHO**	**7.94**	**146**	P	**Pn**	**12 40 17.7**	**-0.2**
MZR	**Muzera**	**7.95**	**168**	P	**Pn**	**12 40 18.0**	**0.0**
GEYT	**Alibeck**	**8.89**	**35**	Pn	**Pn**	**12 40 31.9**	**+0.9**
RAYN	**Ar Rayn**	**9.08**	**218**		**Pn**	**12 40 32.0**	**-1.6**
RAYN	**Ar Rayn**	**9.08**	**218**	P	**Pn**	**12 40 31.9**	**-1.8**
HRA	**Herat**	**9.63**	**65**	Pn	Pn	12 40 45.4	+4.2
WSAR	**Wadi Sarin**	**9.78**	**139**	Pn	**Pn**	**12 40 43.1**	**-0.1**
	1.4nm,0.3s,baz=336,slow=13,SNR=14						
WSAR				Sn	**Sn**	**12 42 28.3**	**-4.7**
	0.6nm,0.3s,baz=282,slow=20,SNR=2.1						
	5.6nm,0.4s						
GNI	**Garni**	**10.88**	**331**	LR	LR	12 45 46.2	
	comp=Z,38nm,18.6s,baz=181,slow=41						
BRTR	**Keskin Array B**	**17.16**	**306**	P	**P**	**12 42 24.2**	**+0.2**
	0.1nm,0.3s,baz=96,slow=14,SNR=1.8						
	0.2nm,0.3s						
GAR	**Garm**	**17.34**	**57**		**P**	**12 42 27.2**	**+1.2**
KK31	**Karatay Array**	**19.39**	**46**	P	**Pn**	**12 42 51.1**	**+1.5**
KKAR	**Karatay Array**	**19.39**	**46**	P	**Pn**	**12 42 50.4**	**+0.8**
ABKAR	**Akbulak array**	**19.47**	**16**	P	**Pn**	**12 42 50.0**	**-0.4**
AKTO	**Aktyubinsk**	**20.18**	**12**	P	Pn	12 42 57.9	-1.0
	1.6nm,0.7s,baz=203,slow=8.4,SNR=5.0						
	1.6nm,0.7s						
AAK	**Ala-Archa**	**21.72**	**51**	P	**P**	**12 43 16.6**	**+2.8**
	1.5nm,0.3s,baz=247,slow=7.7,SNR=1.6						
	1.5nm,0.3s						
BOOM	**Boomskoye usch**	**22.63**	**52**	P	**P**	**12 43 24.3**	**+0.7**
BOOM				IAmb	IAmb	12 43 59.9	
	comp=Z,3.9nm,1.1s						
IDI	**Anoyia**	**22.84**	**288**	P	**P**	**12 43 24.4**	**-1.3**
IDI				IAmb	IAmb	12 43 39.9	
	comp=Z,9.2nm,1.0s						
IDI	**Anoyia**	**22.84**	**288**	P	**P**	**12 43 26.4**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=162,slow=6.4,SNR=2.2						
	comp=Z,4.6nm,0.8s						
MLR	**Muntele Rosu**	**24.83**	**313**	P	**P**	**12 43 45.4**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=196,slow=12,SNR=2.3						
	comp=Z,1.2nm,0.3s						
ITM	**Ithomi**	**25.38**	**293**	P	**P**	**12 43 48.6**	**-1.3**
AKASG	**Malin Array Be**	**25.96**	**326**	P	**P**	**12 43 55.7**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=134,slow=9.3,SNR=4.5						
	comp=Z,0.8nm,0.4s						
AKBB	**Malin Array Si**	**25.96**	**326**	P	**P**	**12 43 54.8**	**-0.1**
AKBB				IAmb	IAmb	12 44 06.1	
	comp=Z,3.5nm,0.6s						
KIEV	**Kiev**	**25.96**	**326**	P	**P**	**12 43 55.0**	**0.0**
KIEV				IAmb	IAmb	12 44 06.1	
	comp=Z,3.2nm,0.6s						
BRVK	**Borovoye**	**26.05**	**26**	P	**P**	**12 43 58.2**	**+2.5**
BRVK				IAmb	IAmb	12 43 58.6	
	comp=Z,1.8nm,0.8s						
BVAR	**Borovoye Array**	**26.07**	**26**	P	**P**	**12 43 57.6**	**+1.7**
	comp=Z,2.2nm,0.5s,baz=230,slow=7.4,SNR=13						
	comp=Z,2.2nm,0.5s						
BURAR	**Bucovina Array**	**26.29**	**317**	P	**P**	**12 43 57.1**	**-1.0**
BUR08	**Bucovina Ar. S**	**26.31**	**317**	P	**P**	**12 43 58.7**	**+0.3**
BUR08				IAmb	IAmb	12 44 13.4	
	comp=Z,5.0nm,1.4s						
KURBB	**Kurchatov Arra**	**28.16**	**38**	P	**P**	**12 44 16.0**	**+1.3**
	comp=Z,0.7nm,0.9s,baz=238,slow=9.4,SNR=5.6						
	comp=Z,0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**33.20**	**36**	P	**P**	**12 45 00.4**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=233,slow=9.7,SNR=2.5						
	comp=Z,0.6nm,0.4s						
FINES	**FINESS Array B**	**34.93**	**339**	P	**P**	**12 45 15.4**	**+1.4**
	comp=Z,2.3nm,1.0s,baz=144,slow=9.6,SNR=1.8						
	comp=Z,2.3nm,1.0s						
HFS	**Hagfors**	**38.67**	**330**	P	**P**	**12 45 46.4**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=115,slow=10,SNR=1.1						
	comp=Z,0.4nm,0.4s						
ESDC	**Sonseca Array**	**45.64**	**297**	P	**P**	**12 46 45.9**	**+2.7**
	comp=Z,0.7nm,0.8s,baz=86,slow=8.3,SNR=6.2						
	comp=Z,0.7nm,0.8s						
TOA0	**Torodi Ar. Sit**	**49.12**	**260**	P	**P**	**12 47 09.3**	**-1.2**
TOA0				IAmb	IAmb	12 47 35.5	
	comp=Z,2.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**49.12**	**260**	P	**P**	**12 47 10.1**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=58,slow=9.5,SNR=7.9						
	comp=Z,1.2nm,0.5s						
DBIC	**Dimbokro**	**57.96**	**258**	P	**P**	**12 48 13.0**	**-2.4**

IDC 06 12:41:03.1±3.6, **11°.08N**×**125°.89E**, **h0**km, **mb3.7**/4, **mbtmp3.7**/4, **Error ellipse: s-maj=317.7km s-min=22.0km az=66.0, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.93**	**165**	P	P	12 47 29.9	-0.8
	0.3nm,0.5s,baz=345,slow=8.9,SNR=5.4						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**35.41**	**167**	P	P	12 48 01.6	+0.5
	0.8nm,0.5s,baz=349,slow=8.2,SNR=18						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**51.16**	**323**	P	P	12 50 08.0	-0.1
	0.5nm,0.6s,baz=115,slow=8.7,SNR=5.3						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**55.20**	**325**	P	P	12 50 37.6	-0.1
	0.4nm,0.4s,baz=124,slow=6.8,SNR=6.0						
	0.4nm,0.4s						

IDC 06 12:47:02.8±9.8, **4°.51S**×**129°.01E**, **h260**km±106km, **mb3.2**/2, **mbtmp3.6**/4, **Error ellipse: s-maj=96.1km s-min=34.4km az=63.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.19**	**162**	P	P	12 50 35.0	-0.3
	0.4nm,0.3s,baz=342,slow=12,SNR=8.4						
WRA				S	S	12 53 28.6	-3.1
	0.3nm,0.8s,baz=341,slow=17,SNR=2.9						
ASAR	**Alice Springs**	**19.62**	**167**	P	P	12 51 12.0	-0.2
	0.4nm,0.3s,baz=346,slow=12,SNR=13						
STKA	**Stephens Creek**	**29.67**	**158**	P	P	12 52 45.9	+1.1
	3.3nm,1.0s,baz=330,slow=8.1,SNR=1.8						
	3.3nm,1.0s						
MKAR	**Makanchi Array**	**65.62**	**327**	P	P	12 57 18.9	-0.3
	0.1nm,0.3s,baz=115,slow=6.3,SNR=1.9						
	0.1nm,0.3s						

*HEL **06** 13:21:59.3±0.2, 61°.46N×30°.23E, h0km, ML1.7, Explosion*
*IDC **06** 13:22:01.2±3.2, 61°.55N×29°.62E, h0km, mbtmp3.3/1, ML2.4/1, Error ellipse: s-maj=34.0km s-min=14.2km az=122.0*
ISC 06 13:21:58.5±1.2, **61°.53N**±0°.04×**30°.12E**±0°.06, **h0**km, **n20**, σ1§**20**/33, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.57**	**260**	PG	**Pb**	**13 22 11.0**	**-0.4**
RUF				SG	**Sb**	**13 22 18.5**	**-1.6**
RUF				MSG		13 22 19.0	
	comp=Z,9.9nm,0.2s						
JOF	**Joensuu**	**1.50**	**21**	PG	**Pg**	**13 22 27.1**	**-0.1**
JOF				SG	**Sn**	**13 22 47.0**	**0.0**
VJF	**Virojoki**	**1.60**	**233**	PN	**Pb**	**13 22 28.6**	**-0.2**
VJF				MSG		13 22 47.2	
	comp=Z,8.7nm,0.2s						
VJF				SN	**Sg**	**13 22 50.8**	**+1.0**
KAF	**Kangasniemi**	**1.90**	**290**	PG	**Pg**	**13 22 34.9**	**-0.1**
KAF				MSG		13 22 58.1	
	comp=Z,4.9nm,0.2s						
KAF				SG	**Sg**	**13 22 59.4**	**-0.2**
FIA0	**FINESS Array S**	**1.94**	**269**	PG	**Pb**	**13 22 34.9**	**+0.1**
FIA0				MSG		13 22 58.6	
	comp=Z,4.3nm,0.2s						
FIA0				SG	**Sg**	**13 23 00.4**	**-0.5**
FINES	**FINESS Array B**	**1.94**	**269**	Pn	**Pb**	**13 22 34.7**	**0.0**
	comp=Z,0.8nm,0.3s,baz=85,slow=18,SNR=27						
FINES				Sn	**Sb**	**13 22 59.5**	**0.0**
	comp=Z,0.9nm,0.3s,baz=80,slow=24,SNR=15						
NIF	**Nilsia**	**2.15**	**331**	PB	**Pb**	**13 22 38.3**	**-0.1**
NIF				SN	**Sb**	**13 23 06.3**	**+0.7**
SUF	**Sumiainen**	**2.21**	**304**	PG	**Pb**	**13 22 39.9**	**+0.5**
	baz=117						
SUF				MSG		13 23 07.5	
	comp=Z,5.3nm,0.2s						
SUF				SB	**Sg**	**13 23 09.2**	**-0.4**
PVF	**Pernaja**	**2.30**	**246**	PG	**Pb**	**13 22 40.0**	**-0.8**
PVF				MSG		13 23 08.0	
	comp=Z,2.5nm,0.2s						
PVF				SG	**Sb**	**13 23 09.9**	**+0.2**
KEF	**Keuruu**	**2.57**	**287**	PB	**Pb**	**13 22 45.1**	**-0.3**
	baz=99						
KEF				MSG		13 23 17.3	
	comp=Z,2.1nm,0.2s						
KEF				SB	**Sb**	**13 23 19.0**	**+1.4**
RMF	**Romuvaara**	**2.70**	**358**	PB	**Pb**	**13 22 46.7**	**-1.0**
RMF				MSG	**Sb**	**13 23 20.9**	**-0.3**
	comp=Z,2.7nm,0.2s						
RMF				SB	**Sb**	**13 23 20.9**	**-0.3**
NUR	**Nurmijrvi**	**2.85**	**251**	P

GO03	Copiap	3.10	32		Pn	13 40 53.4	-0.1
AC06	Mina Casimiro	3.26	28	Pn	Pn	13 40 56.2	+0.6
MT09	Talagante	3.62	166		Pn	13 41 01.8	+1.1
MT01	Popeta	3.66	169		Pn	13 41 00.9	-0.1
LMEL	Las Melosas	3.91	157	Pn	Pn	13 41 06.6	+1.9
BO04	La Punta	3.92	162	Pn	Pn	13 41 05.1	+0.5
PB14	IPOC Station P	5.80	15	Pn	Pn	13 41 31.4	+0.5
PB09	IPOC Station P	8.80	17	Pn	Pn	13 42 13.2	+1.2
CPUP	Villa Florida	13.56	77	LR	LR	13 49 02.3	
	comp=E,92nm,21.0s,baz=224,slow=40						
LPAZ	La Paz	14.37	15	Pn	P	13 43 36.2	+0.5
	comp=E,0.1nm,0.3s,baz=218,slow=3.3,SNR=4.0						
	comp=E,1.4nm,0.8s						
SIV	San Ignacio	17.42	38	Pn	P	13 44 10.0	+1.1
	baz=234,slow=10,SNR=8.3						
	comp=E,2.7nm,0.2s						
EFI	East Falkland	23.78	158	P	P	13 45 11.4	-5.6
SNAA	Sanae	55.06	159	P	P	13 49 36.0	-0.1
SNAA				IAmb	IAmb	13 49 53.7	
	comp=Z,3.2nm,1.1s						
QSPA	South Pole Qui	59.96	180	P	P	13 50 11.8	+1.1
QSPA				IAmb	IAmb	13 50 44.9	
	comp=Z,4.8nm,1.4s						
TORD	Torodi Ar. Bea	82.97	70	P	P	13 52 29.9	-0.2
TORD	Torodi Ar. Bea	82.97	70	P	P	13 52 30.8	+0.7
	comp=Z,0.8nm,0.8s,baz=238,slow=3.4,SNR=4.0						
	comp=Z,0.8nm,0.8s						
ZALV	Zalesovo Beam	151.02	29	PKPbc	PKiKP	13 59 58.3	+0.6
	comp=Z,1.5nm,0.8s,baz=316,slow=4.1,SNR=6.2						

*STR **06** 13:41:47.7±0.4, 43°N±3°×±°, h2km, MLv1.7/6, Error ellipse: s-maj=0.0km s-min=0.0km az=29.6, preliminary*
*LDG **06** 13:41:47.3±0.1, 43.06N×0.47W, h2km, Md2.4/2, Ml2.5/8, Error ellipse: s-maj=1.8km s-min=1.4km az=168.0*
*MDD **06** 13:41:49.2±0.3, 43.01N×0.49W, h10km±1km, mb_Lg2.3/30, Error ellipse: s-maj=2.4km s-min=1.3km az=2.0*

ISC 06 13:41:46.1±0.9, 43.07N±0.02×0.46W±0.02, h16km±7km, n26, σ1s01/54, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	Arette	0.17	276	Pg	Pb	13 41 50.8	-0.2
ATE				Sg	Sg	13 41 53.5	+0.1
ETSF	Etsaut	0.18	202	ePg	Pb	13 41 50.9	-0.3
ETSF				eSg	Sg	13 41 53.4	-0.2
	87nm,0.2s						
CANF	Canfranc	0.31	187	Pg	Pb	13 41 53.2	-0.1
CANF				Sg	Sg	13 41 57.1	0.0
PYLO	Lourdes	0.31	84	Pg	Pb	13 41 54.8	+1.5
PYLO				Sg	Sb	13 41 58.1	0.0
URDF	Urds	0.38	346	Pg	Pb	13 41 55.6	+1.0
URDF				Sg	Sb	13 42 02.0	+1.7
VIEF	Viey	0.40	117	Pg	Pb	13 41 54.9	-0.1
VIEF				Sg	Sb	13 42 00.8	-0.2
SJPF	Ste Jean	0.56	275	ePg	Pb	13 41 57.9	+0.3
SJPF				eSg	Sb	13 42 05.8	+0.4
	15nm,0.2s						
EPF	Esparros	0.59	93	ePg	Pb	13 41 58.4	+0.2
EPF				eSg	Sb	13 42 07.3	+1.0
	18nm,0.2s						
OSSF	Osses	0.61	288	Pg	Pb	13 41 58.9	+0.3
OSSF				Sg	Sb	13 42 07.9	+1.0
ECHI	Chisagues Biel	0.63	129	Pg	Pb	13 41 59.0	+0.1
ECHI				Sg	Sg	13 42 07.1	+0.2
ECHI				i Vmb_Lg		13 42 09.9	
ECHI	Chisagues Biel	0.63	129	Pg	Pb	13 41 59.1	+0.2
ECHI				Sg	Sb	13 42 07.4	-0.1
EORO	Oroz-Betelu	0.64	255	Pg	Pb	13 41 59.6	+0.5
EORO				Sg	Sb	13 42 07.5	-0.4
EORO				i Vmb_Lg		13 42 13.0	
TERF	Tercis-les-Bai	0.77	322	Pg	Pn	13 42 03.4	+1.0
TERF				Sg	Sn	13 42 14.3	+0.6
EARA	Aranguren	0.87	251	Pg	Pb	13 42 03.0	+0.1
EARA				Sg	Sb	13 42 14.7	+0.4
EARA				i Vmb_Lg		13 42 26.8	
MLS	Moulis	1.15	95	Pg	Pg	13 42 09.6	+1.3
MLS				Sg	Sn	13 42 25.7	+2.6
SALF	Salau	1.25	104	Pg	Pg	13 42 11.3	+1.0
SALF				Sg	Sg	13 42 28.4	+1.8
ESAC	San Caprasio	1.34	180	Pg	Pn	13 42 09.5	-0.8
ESAC				Sg	Sb	13 42 27.9	-0.1
ESAC				i Vmb_Lg		13 42 30.2	
MTLF	Montolieu	1.98	81	ePg	Pg	13 42 23.7	-0.4
MTLF				eSg	Sg	13 42 49.7	-0.1
	4.8nm,0.3s						
EPOB	Poblet	2.06	146	Pn	Pb	13 42 21.8	-1.4
EPOB				Sn	Sb	13 42 47.8	-0.8
EPOB				i Vmb_Lg		13 42 53.3	
LFF	La Frestale	2.06	24	ePg	Pg	13 42 25.1	-0.6
LFF				eSg	Sg	13 42 52.8	+0.3
	9.3nm,0.2s						
ERTA	Horta de San J	2.19	164	Pn	Pn	13 42 23.1	+1.1
ERTA				Sn	Sn	13 42 49.6	+0.8
ERTA				i Vmb_Lg		13 43 02.8	
CAF	Calviac	2.60	44	ePg	Pg	13 42 35.3	-0.8
CAF				eSn	Sn	13 42 59.1	+0.1
CAF				eSg	Sg	13 43 09.9	+0.1
	3.5nm,0.2s						
RJF	Les Rejaudoux	2.65	32	ePg	Pg	13 42 36.4	-0.6
RJF				eSg	Sg	13 43 10.4	-1.0
	3.8nm,0.2s						
LASF	Ste Croix	3.30	71	ePg	Pg	13 42 47.1	-2.2
LASF				eSn	Sn	13 43 15.1	-1.0
LASF				eSg	Sg	13 43 30.3	-1.8
	1.6nm,0.3s						
MFF	Saint Martin d	3.54	4	eSg	Sg	13 43 38.1	-1.8
	2.2nm,0.3s						
TCF	Toulx Ste Croi	3.74	30	ePg	Pg	13 42 56.5	-1.3
TCF				eSn	Sn	13 43 25.9	-1.2
TCF				eSg	Sg	13 43 44.3	-2.0
	2.4nm,0.2s						

*NEIC **06** 13:50:33.2±1.3, 6.3S±0.1×128.2E±0.1, h316km±23km, mb4.4/4, Error ellipse: s-maj=16.3km s-min=14.3km az=151.0*
*IDC **06** 13:50:35.0±4.6, 6.30S×128.31E, h368km±54km, mb2.8/2, mbtmp3.8/4, Error ellipse: s-maj=169.0km s-min=14.2km az=69.0*

ISC 06 13:50:32.5±0.8, 6.27S±0.08×128.3E±0.1, h350km, n26, σ1s57/28, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	3.46	120	Pn	Pn	13 51 34.1	-2.0
FAKI	Fak Fak	5.18	50		Pn	13 51 53.8	-0.3
SOEI	Soe	5.26	229	Pn	Pn	13 51 54.4	-0.8
DRS	Darwin Rock St	6.66	157	P	Pn	13 52 12.3	+1.4
MTN	Manton Dam	7.12	157	P	Pn	13 52 16.9	+0.6
MTN	Manton Dam	7.12	157		Pn	13 52 16.8	+0.5
LUWI	Luwuk	7.54	313	Pn	Pn	13 52 21.1	-0.2
KDU	Kakadu	7.61	147	P	Pn	13 52 23.1	+1.0
KNRA	Kununurra	9.37	177	Pn	P	13 52 43.2	-1.6
FITZ	Fitzroy Crossi	12.04	192	Pn	Pn	13 53 13.8	-0.8
WB0	Warramunga Arr	14.69	157		Pn	13 53 44.7	-1.1
WRA	Warramunga Arr	14.82	157	P	Pn	13 53 46.3	-1.1
WRA	Warramunga Arr	14.82	157	P	Pn	13 53 46.5	-0.9
	3.2nm,0.7s,baz=332,slow=13,SNR=34						
WRA				S	S	13 56 23.4	-1.7
	1.2nm,0.8s,baz=338,slow=19,SNR=6.3						
WB2	Warramunga Arr	14.83	157	P	Pn	13 53 47.0	-0.4
WR0	Warramunga Arr	14.92	156	P	Pn	13 53 47.8	-0.7
COEN	Coen	16.54	119	P	Pn	13 54 06.6	-0.8
COEN	Coen	16.54	119	P	Pn	13 54 06.2	-1.2
COEN				IAmb	IAmb	13 54 33.7	
	comp=Z,19nm,1.4s						
MBWA	Marble Bar	16.96	208	P	P	13 54 08.1	-0.2
PSA00	Pilbara Seismi	17.26	207	P	P	13 54 11.8	+0.2
PSA00				IAmb	IAmb	13 54 48.7	
	comp=Z,32nm,1.4s						
QIS	Mount Isa	17.97	143	P	P	13 54 24.3	+5.1
AS31	Alice Springs	18.13	163	P	P	13 54 22.8	+1.8
ASAR	Alice Springs	18.13	163	P	P	13 54 22.6	+1.7
ASAR	Alice Springs	18.13	163	P	P	13 54 22.5	+1.5
	comp=Z,2.0nm,0.4s,baz=343,slow=12,SNR=68						
ASAR				S	S	13 57 31.0	+0.6
	comp=Z,1.6nm,0.7s,baz=342,slow=20,SNR=10						
WRKA	Warakurna	18.67	180	P	P	13 54 28.3	+1.7
MKAR	Makanchi Array	66.67	327	P	P	14 00 47.4	+0.8
	comp=Z,0.2nm,0.4s,baz=111,slow=6.4,SNR=4.0						
	comp=Z,0.2nm,0.4s						
KURBB	Kurchatov Arra	70.99	329	P	P	14 01 14.4	+1.5
	comp=Z,0.3nm,0.5s,baz=128,slow=5.4,SNR=2.6						
	comp=Z,0.3nm,0.5s						

ATH 06 14:22:01.4, 38.37N×20.52E, h24km±3km, ML1.7/4, Manual Solution by N.Liadopoulou This location: 2020/06/16 07:00:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 3 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMLN	Damoulianata-K	0.18	222	P	Pb	14 22 05.8	-0.9
DMLN				S	Sb	14 22 08.8	-1.5
LXRA	Lixouri, Kepha	0.18	202	P	Pb	14 22 06.8	0.0
LXRA				S	Sb	14 22 10.4	+0.1
VLS	Valsamata	0.20	165	P	Pb	14 22 07.0	+0.1
VLS				S	Sb	14 22 10.8	+0.1
PSDA	Pessada-Kefalo	0.26	170	P	Pb	14 22 08.0	+0.3
PSDA				S	Sb	14 22 13.2	+1.2
EVGI	Lefkada island	0.27	22	P	Pb	14 22 07.4	-0.5
EVGI				S	Sb	14 22 11.9	-0.5
NYDR	Nydri-Lefkada	0.37	22	P	Pb	14 22 08.9	-0.5
NYDR				S	Sb	14 22 14.9	0.0
LKD2	Lefkada island	0.43	14	P	Pb	14 22 10.6	+0.1
LKD2				S	Sb	14 22 17.1	+0.5
TSLK	Tsoukalades, L	0.47	13	P	Pb	14 22 10.8	-0.3
TSLK				S	Sb	14 22 17.8	+0.3

ATH 06 14:22:32.1, 38.67N×20.55E, h12km±3km, ML1.1/4, Error ellipse: s-maj=4.6km s-min=0.9km az=94.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVGI	Lefkada island	0.10	118	P	Pg	14 22 34.6	-0.4
EVGI				S	Sg	14 22 36.5	-0.5
NYDR	Nydri-Lefkada	0.13	68	P	Pg	14 22 35.1	-0.2
NYDR				S	Sg	14 22 37.6	-0.1
LKD2	Lefkada island	0.15	36	P	Pg	14 22 36.0	+0.3
LKD2				S	Sg	14 22 38.6	+0.3
LKD2				AML	AML	14 22 39.0	
	comp=E,299μm,0.1s						
LKD2				AML	AML	14 22 39.8	
	comp=N,247μm,0.2s						
TSLK	Tsoukalades, L	0.18	28	P	Pg	14 22 35.9	-0.2
TSLK				S	Sg	14 22 38.7	-0.3
TSLK				AML	AML	14 22 40.4	
	comp=E,167μm,0.3s						
TSLK				AML	AML	14 22 42.1	
	comp=N,159μm,0.3s						
FSK	Fiskardo	0.21	176	P	Pg	14 22 36.5	0.0
FSK				S	Sg	14 22 39.9	+0.3
FSK				AML	AML	14 22 41.3	
	comp=E,344μm,0.2s						
FSK				AML	AML	14 22 41.5	
	comp=N,159μm,0.2s						
DMLN	Damoulianata-K	0.45	198	P	Pg	14 22 40.4	-0.6
VLS	Valsamata	0.49	176	P	Pg	14 22 41.5	-0.2
VLS				S	Sg	14 22 48.7	+0.5
VLS				AML	AML	14 22 50.0	
	comp=N,55μm,0.2s						
VLS				AML	AML	14 22 50.8	
	comp=E,54μm,0.2s						
PSDA	Pessada-Kefalo	0.55	177	P	Pg	14 22 42.6	-0.3
PSDA				S	Sb	14 22 50.9	-0.6
PVO	Paravola	0.77	93	P	Pg	14 22 46.6	-0.4

TEH 06 14:25:53.2, 31.32N×56.31E, h8km±26km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.40	151	Pg	Pg	14 26 01.5	+0.5
IBAF	Bafgh	0.69	293	Pg	Pg	14 26 06.4	-0.2
KHGB	Koh Gabri	0.95	171	Pg	Pg	14 26 11.5	0.0
KRM1	Kerman Provinc	1.16	134	Pg	Pn	14 26 15.9	0.0
TVBK	TV Kerman	1.38	164	Pg	Pg	14 26 20.0	+0.3
IMEH	Mehriz	1.46	273	Pg	Pb	14 26 20.9	+0.1
NGRK	Negar Kerman	1.71	168	Pg	Pg	14 26 25.9	0.0
TPRV	Parvadeh(Tabas	1.73	10	Pg	Pb	14 26 25.6	+0.2
CHMN	Cheshme madani	1.80	144	Pg	Pb	14 26 26.4	-0.1
ICHK	Chekchek	1.87	300	Pn	Pb	14 26 27.4	-0.3
TAFT	Taft - Yazd	1.87	283	Pn	Pb	14 26 27.4	-0.4
ISAD	Sadrabad	2.32	286	Pn	Pb	14 26 34.2	-1.3
TKDS	Koohdasht(Taba	2.39	16	Pn	Pn	14 26 34.5	+1.7
IKOO	Kooshah	2.54	64	Pn	Pn	14 26 36.7	+1.7
ITEG	Tejag	2.60	52	Pn	Pn	14 26 37.1	+1.4
TNSJ	Nastanj	2.65	5	Pn	Pn	14 26 38.4	+2.0
KBAM	BAM	2.86	139	Pn	Pn	14 26 41.0	+1.9
ANAR	Anarak	2.88	311	Pn	Pn	14 26 41.7	+2.2
AFRZ	Afriz	3.10	47	Pn	Pn	14 26 44.0	+1.4
IRAM	Ramesheh	3.39	279	Pn	Pn	14 26 49.0	+2.4
IZEF	Zefreh	3.73	296	Pn	Pn	14 26 53.8	+2.5
KLNJ	Kolanjah	4.06	267	Pn	Pn	14 26 58.1	+2.1
KRSH	Karshahi	4.41	308	Pn	Pn	14 27 03.0	+2.4
IKLH	Kolahroood	4.48	298	Pn	Pn	14 27 04.4	+2.8
ISFB	Sefidab	4.57	313	Pn	Pn	14 27 05.1	+2.3
IANJ	Anjilo	4.60	335	Pn	Pn	14 27 05.5	+2.2
SBZV	Sabzevar	5.17	12	Pn	Pn	14 27 13.7	+2.6
IFIR	Firoozkooh	5.24	326	Pn	Pn	14 27 14.2	+2.2
DSBU	Dashti - Bushe	5.29	237	Pn	Pn	14 27 14.6	+2.1
IDMV	Damavand	5.55	321	Pn	Pn	14 27 18.7	+2.3
IPAY	Payeh	5.58	23	Pn	Pn	14 27 19.4	+2.6
IAKL	Akhelmad	5.65	20	Pn	Pn	14 27 20.0	+2.3
ISFR	Sfrayin	5.89	13	Pn	Pn	14 27 23.5	+2.5
IKRD	Kardeh	6.06	25	Pn	Pn	14 27 25.7	+2.4

*IDC **06** 15:17:33.6±0.5, 21.16S×12.11W, h0km, mb4.2/18, mbtmp4.2/18, MS3.6/18, Error ellipse: s-maj=20.5km s-min=15.5km az=129.0*
*NEIC **06** 15:17:36.2±1.4, 21.15S±0.1×11.93W±0.04, h10km±1km, mb4.7/24, Error ellipse: s-maj=24.2km s-min=5.2km az=349.0*

ISC 06 15:17:35.5±0.5, 21.15S±0.1×11.98W±0.10, h10km, n66, σ0s87/47, mb4.5/27, MS3.6/18, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	12.37	348	T	T	15 33 05.3	
	baz=168,slow=74,SNR=161						
H10S3	ASCENSION HYDR	12.38	348	T	T	15 33 06.1	
	baz=52,slow=74,SNR=166						
H10N1	ASCENSION HYDR	13.42	349	T	T	15 34 16.9	
	baz=176						
H10N3	ASCENSION HYDR	13.43	349	T	T	15 34 22.7	
	baz=176						
H10N2	ASCENSION HYDR	13.44	349	T	T	15 34 16.3	
	baz=176						
TSUM	Tsumeb	27.80	91	LR	LR	15 32 49.9	
	comp=Z,148nm,19.1s,baz=330,slow=33						
DBIC	Dimbokro	28.49	15	LR	LR	15 32 14.1	
	comp=Z,86nm,19.0s,baz=108,slow=31						
SUR	Sutherland	31.24	118	P	P	15 23 55.2	-0.4
SUR				IAmb	IAmb	15 24 37.2	
	comp=Z,12nm,1.3s						
SUR	Sutherland	31.24	118	LR	LR	15 33 25.7	
	comp=Z,99nm,19.8s,baz=261,slow=30						
BOSA	Boshof	34.49	110	P	P	15 24 23.5	-0.6
BOSA				IAmb	IAmb	15 24 44.9	
	comp=Z,13nm,1.4s						
BOSA	Boshof	34.49	110	P	P	15 24 23.6	-0.5
	comp=Z,2.6nm,0.8s,baz=274,slow=11,SNR=5.3						
BOSA				LR	LR	15 36 02.4	
	comp=Z,80nm,19.9s,baz=254,slow=32						
	comp=Z,2.6nm,0.8s						
BDFB	Brasilia	34.58	273	P	P	15 24 25.2	+0.4
BDFB				IAmb	IAmb	15 24 26.3	
	comp=Z,11nm,0.7s						
BDFB	Brasilia	34.58	273	P	P	15 24 23.6	-1.3
	comp=Z,10nm,0.7s,baz=108,slow=7.9,SNR=15						
BDFB				LR	LR	15 35 47.6	
	comp=Z,100nm,18.3s,baz=150,slow=32						
	comp=Z,10nm,0.7s						
LBTB	Lobatse	34.72	104	P	P	15 24 25.5	-0.5
TOA0	Torodi Ar. Sit	36.61	23	P	P	15 24 41.1	-1.0
TOA0				IAmb	IAmb	15 24 45.7	
	comp=Z,14nm,1.1s						
TORD	Torodi Ar. Bea	36.61	23	P	P	15 24 41.1	-1.0
TORD	Torodi Ar. Bea	36.61	23	P	P	15 24 41.4	-0.8
	comp=Z,6.3nm,0.6s,baz=202,slow=8.1,SNR=19						
TORD				LR	LR	15 37 43.9	
	comp=Z,73nm,18.1s,baz=147,slow=33						
	comp=Z,6.3nm,0.6s						
PLTB	Pedras Altas	38.54	245	P	P	15 24 58.2	-0.2
PLTB				IAmb	IAmb	15 25 01.0	
	comp=Z,13nm,0.9s						
AQDB	Aquidauana	40.78	263	P	P	15 25 18.5	+1.3
ITQB	Itaqui	41.01	249	P	P	15 25 19.7	+0.7
ITQB				IAmb	IAmb	15 25 21.8	
	comp=Z,21nm,1.2s						
CPUP	Villa Florida	41.68	254		P	15 25 25.2	+0.7
CPUP	Villa Florida	41.68	254	P	P	15 25 22.4	-2.2
	comp=Z,5.5nm,0.9s,baz=88,slow=10,SNR=9.7						
CPUP				LR	LR	15 40 30.7	
	comp=Z,100nm,19.5s,baz=82,slow=33						
	comp=Z,5.5nm,0.9s						
PTLB	Pontes e Lacer	45.00	269		P	15 25 52.9	+1.4
PTLB				IAmb	IAmb	15 25 54.2	
	comp=Z,8.0nm,0.9s						
TRQA	Tornquist	46.08	237		P	15 26 00.5	+0.6
SIV	San Ignacio	46.68	268	LR	LR	15 43 19.9	
	comp=Z,112nm,20.2s,baz=110,slow=33						
MDP	Montagnes des	47.64	299	LR	LR	15 46 17.7	
	comp=Z,44nm,18.4s,baz=109,slow=36						
SAML	Samuel	50.70	276		P	15 26 36.6	+0.8
SAML				IAmb	IAmb	15 26 38.4	
	comp=Z,13nm,1.1s						
LVC	Limon Verde	52.58	257	LR	LR	15 47 07.2	
	comp=Z,51nm,19.6s,baz=158,slow=34						
LPAZ	La Paz	53.18	265	P	P	15 26 54.5	-0.4
LPAZ	La Paz	53.18	265	P	P	15 26 53.5	-1.5
	comp=Z,2.4nm,0.8s,baz=98,slow=5.4,SNR=9.0						
	comp=Z,2.4nm,0.8s						
MT09	Talagante	53.22	243	P	P	15 26 54.8	+0.3
ETMB	Extrema	53.24	273	P	P	15 26 54.8	+0.1
ETMB				IAmb	IAmb	15 26 56.3	
	comp=Z,6.3nm,0.8s						
BO01	Tunca	53.28	242	P	P	15 26 54.5	-0.3
CO02	Combarbal	53.38	246	P	P	15 26 55.6	-0.1
GO01	Chusmiza	53.40	261	P	P	15 26 56.2	-0.2
GO01				IAmb	IAmb	15 26 57.1	
	comp=Z,10nm,1.1s						
GO06	Curarrehue	53.58	236	P	P	15 26 56.7	-0.4
GO06				IAmb	IAmb	15 27 36.5	
	comp=Z,19nm,1.5s						
PB05	IPOC Station P	53.71	257	P	P	15 26 58.0	-0.2
GO08	Villa O'Higgin	55.06	225	P	P	15 27 07.6	0.0
BELA	Belgrano 2	57.84	186	P	P	15 27 27.4	+0.6
FURI	Furi	58.01	64	LR	LR	15 51 23.8	
	comp=Z,67nm,18.0s,baz=172,slow=35						
ESDC	Sonseca Array	60.94	7	P	P	15 27 49.5	+0.8
	comp=Z,0.9nm,1.0s,baz=177,slow=6.1,SNR=4.0						
	comp=Z,0.9nm,1.0s						
NNA	Nana	62.48	267	LR	LR	15 52 16.7	
	comp=Z,28nm,21.7s,baz=94,slow=33						
SDV	Santo Domingo	64.85	291	LR	LR	15 54 25.9	
	comp=Z,92nm,20.0s,baz=80,slow=34						
MAW	Mawson	64.89	156	P	P	15 28 14.1	-0.5
	comp=Z,2.4nm,0.8s,baz=277,slow=11,SNR=4.0						
	comp=Z,2.4nm,0.8s						
ATAH	Atahualpa	65.49	272	LR	LR	15 54 57.0	
	comp=Z,120nm,20.7s,baz=113,slow=34						
ROSC	El Rosal	66.31	285	LR	LR	15 56 21.4	
	comp=Z,85nm,18.6s,baz=144,slow=35						
EIL	Elat	67.77	43	P	P	15 28 35.3	+1.7
	comp=Z,4.7nm,0.8s,baz=274,slow=12,SNR=4.9						
	comp=Z,4.7nm,0.8s						
QSPA	South Pole Qui	69.07	180	P	P	15 28 43.1	+1.6
QSPA				IAmb	IAmb	15 28 45.0	
	comp=Z,5.9nm,1.1s						
QSPA	South Pole Qui	69.07	180	P	P	15 28 42.5	+1.0
	comp=Z,2.4nm,1.0s,baz=340,slow=0.9,SNR=5.9						
	comp=Z,2.4nm,1.0s						
MMAI	Mount Meron Ar	70.32	41	P	P	15 28 51.1	+1.6
	comp=Z,2.1nm,0.6s,baz=224,slow=2.3,SNR=2.8						
	comp=Z,2.1nm,0.6s						
GERES	GERESS Array B	73.33	17	P	P	15 29 07.6	+0.3
	comp=Z,0.6nm,0.6s,baz=146,slow=19,SNR=2.6						
	comp=Z,0.6nm,0.6s						
BRTR	Keskin Array B	74.01	35	P	P	15 29 11.9	+0.4
	comp=Z,1.5nm,0.9s,baz=201,slow=6.1,SNR=6.6						
	comp=Z,1.5nm,0.9s						
MLR	Muntele Rosu	74.73	27	P	P	15 29 15.5	-0.1
	comp=Z,1.9nm,0.5s,baz=254,slow=3.0,SNR=5.0						
	comp=Z,1.9nm,0.5s						
EKA	Eskdalemuir Ar	76.52	5	P	P	15 29 25.4	0.0
	comp=Z,1.0nm,0.8s,baz=146,slow=5.2,SNR=2.4						
	comp=Z,1.0nm,0.8s						
JTS	Las Juntas de	78.14	286	LR	LR	16 02 24.1	
	comp=Z,39nm,20.2s,baz=96,slow=34						
AKASG	Malin Array Be	80.20	25	P	P	15 29 46.6	+0.7
	comp=Z,0.2nm,0.3s,baz=226,slow=5.3,SNR=4.2						
	comp=Z,0.2nm,0.3s						
VNDA	Vanda	81.50	179	P	P	15 29 52.1	-0.5
	comp=Z,1.3nm,0.9s,baz=205,slow=4.8,SNR=5.4						
	comp=Z,1.3nm,0.9s						
HFS	Hagfors	83.63	13	P	P	15 30 03.8	+0.1
	comp=Z,0.9nm,0.6s,baz=34,slow=5.4,SNR=1.7						
	comp=Z,0.9nm,0.6s						
FINES	FINESS Array B	87.76	17	P	P	15 30 23.5	-0.7
	comp=Z,1.3nm,0.8s,baz=48,slow=2.8,SNR=1.6						
	comp=Z,1.3nm,0.8s						
TKL	Tuckaleechee C	88.30	309	LR	LR	16 01 11.2	
	comp=Z,17nm,20.6s,baz=136,slow=30						
CMIG	Matias Romero	89.68	288	LR	LR	16 13 40.3	
	comp=Z,19nm,18.1s,baz=189,slow=38						
TXAR	Lajitas Array	101.46	297	P	Pdif	15 31 28.7	+0.8
	comp=Z,0.1nm,0.3s,baz=190,slow=4.6,SNR=2.2						
ASAR	Alice Springs	124.45	141	PKP	PKPdf	15 36 35.3	-0.5
	comp=Z,0.3nm,0.9s,baz=200,slow=2.5,SNR=1.8						
ILAR	Eielson Array	127.31	338	PKP	PKPdf	15 36 38.9	-1.0
	comp=Z,0.4nm,0.8s,baz=0.9,slow=2.8,SNR=4.8						
WRA	Warramunga Arr	127.55	139	PKP	PKPdf	15 36 41.4	-0.4
	comp=

KIRR			eS	Sn	15 25 06.4 +2.6
BZWR	**Bezymyannyi-We**	**2.19 355**	eP	Pn	15 24 40.5 +2.7
KPT	**Kopyto**	**2.21 351**	eP	Pn	15 24 40.3 +2.2
ZLN	**Zelenaya**	**2.23 359**	eP	Pn	15 24 41.4 +3.0
ASAK	**Asacha**	**2.27 233**	eP	Pn	15 24 41.5 +2.7
ASAK			eS	Sn	15 25 08.7 +3.0
LGNR	**Loginova**	**2.30 358**	eP	Pn	15 24 42.6 +3.1
CIRR	**Tsirk**	**2.33 359**	eP	Pn	15 24 42.6 +2.9
KOZ	**Kozyrevsk**	**2.34 346**	eP	Pn	15 24 42.0 +2.2
APC	**Apacha**	**2.38 250**	eP	Pn	15 24 42.9 +2.7
ESO	**Esso**	**2.48 331**	eP	Pn	15 24 43.1 +1.5
ESO			eS	Sn	15 25 11.8 +1.2
KDTR	**Khodutka, Kamc**	**2.60 222**	eP	Pn	15 24 45.1 +1.8
SRDR	**Sredinnyy**	**2.62 346**	eP	Pn	15 24 45.2 +1.7
KBTR	**Krutoberegovo**	**2.67 24**	eP	Pn	15 24 46.1 +1.8

*THE **06** 15:24:31.7, 41.°50N×19.°47E, h0km±2km, ML2.7/3, Error ellipse: s-maj=5.5km s-min=1.3km az=345.0*
*TIR **06** 15:24:32.5, 41.°46N×19.°52E, h14km, Md2.9, Ml2.8*
*RHSSO **06** 15:24:33.9±0.7, 41.°40N×19.°46E, h7km±2km, ML2.8/10*
*PDG **06** 15:24:33.5±0.1, 41.°47N×19.°61E, h19km, ML2.7/11, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
*BEO **06** 15:24:34.4±0.6, 41.°41N×19.°60E, h12km±2km, ML2.5/8*

ISC 06 15:24:33.4±1.0, **41.°45N**±0.°02×**19.°51E**±0.°02, **h11**km±8km, **n58**, σ1°**08**/104, **12C-7D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.28**	**110**	P	**Pg**	**15 24 38.6**	**-0.5**
TIR	baz=113			S	**Sg**	**15 24 43.5**	**+0.6**
TIR	baz=113			AMP			
	comp=N,9.8nm,0.2s,baz=113						
TIR	**Tirane**	**0.28**	**110**	P	**Pg**	**15 24 37.9**	**-1.2**
TIR				S	**Sg**	**15 24 43.3**	**+0.4**
	comp=N,5μm,0.2s						
TIR	**Tirane**	**0.28**	**110**	ePg	**Pg**	**15 24 39.1**	**0.0**
TIR				eSg	**Sg**	**15 24 43.7**	**+0.8**
ULC	**Ulcinj**	**0.56**	**339**	⇓iPg	**Pg**	**15 24 43.8**	**-0.4**
ULC				i Sg	**Sb**	**15 24 53.5**	**+0.3**
PUK	**Puka**	**0.66**	**25**	P	**Pg**	**15 24 45.3**	**-0.9**
PUK	baz=25			S	**Sb**	**15 24 55.2**	**-1.1**
PUK	baz=25			AMP			
	comp=E,1.8nm,0.4s,baz=25						
DRME	**Dracevica, Mon**	**0.78**	**342**	ePg	**Pb**	**15 24 49.3**	**+0.3**
DRME				eSg	**Sn**	**15 25 03.0**	**+0.8**
DRME	**Dracevica, Mon**	**0.78**	**342**	⇓iPg	**Pg**	**15 24 48.2**	**-0.3**
DRME				eSg	**Sb**	**15 24 59.8**	**+0.1**
DRME	**Dracevica, Mon**	**0.78**	**342**	⇓iPg	**Pg**	**15 24 48.5**	**0.0**
DRME				i Sg	**Sn**	**15 25 00.9**	**-1.3**
BUM	**Brajici-Budva**	**0.97**	**332**	⇑iPg	**Pb**	**15 24 52.5**	**+0.1**
BUM				i Sg	**Sn**	**15 25 08.0**	**+1.0**
VLO	**Vlora**	**0.98**	**181**	P	**Pb**	**15 24 50.9**	**-1.4**
PDG	**Podgorica**	**1.00**	**349**	ePg	**Pn**	**15 24 53.5**	**0.0**
PDG				eSg	**Sn**	**15 25 08.9**	**+1.3**
PDG	**Podgorica**	**1.00**	**349**	⇑iPg	**Pg**	**15 24 52.5**	**-0.2**
PDG				eSg	**Sn**	**15 25 06.5**	**-1.1**
PDG	**Podgorica**	**1.00**	**349**	⇓iPg	**Pg**	**15 24 52.1**	**-0.6**
PDG				i Sg	**Sn**	**15 25 08.6**	**+1.0**
BCI	**Bajram Curri**	**1.01**	**24**	P	**Pg**	**15 24 51.7**	**-1.1**
BCI	baz=24			S	**Sn**	**15 25 06.8**	**-1.0**
BCI	baz=24			AMP			
	comp=E,0.9nm,0.6s,baz=24						
OHR	**Ohrid**	**1.02**	**109**	ePg	**Pb**	**15 24 51.9**	**-1.3**
OHR				eSg	**Sn**	**15 25 07.4**	**-0.8**
CEME	**Cevo**	**1.19**	**338**	⇑iPg	**Pb**	**15 24 55.7**	**-0.3**
CEME				i Sg	**Sn**	**15 25 14.4**	**+2.1**
PVY	**Plav**	**1.20**	**16**	⇑iPg	**Pb**	**15 24 54.7**	**-1.5**
PVY				i Sg	**Sn**	**15 25 13.5**	**+0.9**
HCY	**Herceg Novi**	**1.26**	**323**	⇑iPg	**Pb**	**15 24 57.2**	**0.0**
HCY				eSg	**Sg**	**15 24 14.7**	**+0.8**
HCY	**Herceg Novi**	**1.26**	**323**	⇓iPg	**Pg**	**15 24 57.9**	**+0.3**
HCY				i Sg	**Sg**	**15 26 15.5**	**+2.6**
KBN	**Korca**	**1.27**	**130**	P	**Pn**	**15 24 57.2**	**+0.1**
KBN	baz=130			S	**Sg**	**15 25 14.9**	**+0.8**
KBN	baz=130						
NKME	**Niksic**	**1.39**	**343**	⇓iPg	**Pb**	**15 24 59.1**	**-0.3**
NKME				i Sg	**Sg**	**15 25 18.9**	**+0.9**
KOME	**Kolasin**	**1.40**	**0**	ePg	**Pg**	**15 25 01.2**	**+0.8**
KOME				eSg	**Sg**	**15 25 20.7**	**+2.1**
KOME	**Kolasin**	**1.40**	**0**	⇑iPg	**Pb**	**15 24 59.4**	**-0.3**
KOME				i Sg	**Sg**	**15 25 18.6**	**0.0**
IVA	**Berane**	**1.45**	**11**	⇓iPg	**Pn**	**15 24 59.3**	**-0.5**
IVA				i Sg	**Sg**	**15 25 19.9**	**-0.3**
LSK	**Leskovik**	**1.53**	**147**	P	**Pg**	**15 25 02.8**	**0.0**
LSK	baz=147			S	**Sg**	**15 25 24.4**	**+1.6**
LSK	baz=147						
LSK	**Leskovik**	**1.53**	**147**	P	**Pn**	**15 25 00.1**	**-0.7**
LSK				S	**Sg**	**15 25 22.5**	**-0.2**
	comp=E,162nm,0.7s						
TREB	**Trebinje**	**1.54**	**326**	ePg	**Pb**	**15 25 02.0**	**0.0**
TREB				eSg	**Sg**	**15 25 24.0**	**+1.1**
TREB	**Trebinje**	**1.54**	**326**	⇑iPn	**Pb**	**15 25 01.6**	**-0.4**
TREB				eSn	**Sb**	**15 25 21.8**	**+0.3**
FNA	**Florina**	**1.55**	**115**	P	**Pb**	**15 25 02.5**	**+0.2**
FNA	baz=115			S	**Sg**	**15 25 23.5**	**+0.1**
FNA	baz=115						
DBRK	**Dubrovnik**	**1.59**	**321**	ePn	**Pb**	**15 25 02.7**	**-0.1**
DBRK				Sn	**Sg**	**15 25 24.1**	**-0.5**
SRN	**Sarande**	**1.61**	**167**	P	**Pb**	**15 25 03.3**	**+0.2**
SRN	baz=166			S	**Sg**	**15 25 26.1**	**+1.0**
SRN	baz=166						
SRN	**Sarande**	**1.61**	**167**	P	**Pn**	**15 25 01.9**	**+0.2**
SRN				S	**Sb**	**15 25 24.5**	**+1.1**
	comp=E,68nm,0.6s						
BRY	**Bratogost**	**1.63**	**334**	ePn	**Pb**	**15 25 03.3**	**-0.2**
BRY				eSn	**Sg**	**15 25 25.2**	**-0.5**
BRY	**Bratogost**	**1.63**	**334**	⇑iPn	**Pb**	**15 25 02.8**	**-0.7**
BRY				i Sn	**Sg**	**15 25 25.0**	**-0.7**
SJES	**Sjenica**	**1.85**	**10**	ePg	**Pb**	**15 25 07.5**	**+0.2**
SJES				eSg	**Sg**	**15 25 32.0**	**-0.8**
SJES	**Sjenica**	**1.85**	**10**	⇑iPn	**Pb**	**15 25 06.8**	**-0.5**
SJES				eSn	**Sb**	**15 25 31.1**	**+0.7**
KLINJ	**Klinje**	**1.86**	**339**	ePn	**Pb**	**15 25 06.7**	**-0.7**
KLINJ				eSn	**Sb**	**15 25 30.7**	**0.0**
PLE	**Pljevlja**	**1.89**	**357**	⇑iPn	**Pn**	**15 25 05.5**	**-0.2**
PLE				i Sn	**Sb**	**15 25 30.2**	**-1.4**
STON	**Ston**	**1.96**	**317**	ePn	**Pn**	**15 25 07.0**	**+0.3**
STON				Sn	**Sb**	**15 25 32.2**	**-1.4**
STON	**Ston**	**1.96**	**317**	ePn	**Pn**	**15 25 06.9**	**+0.3**
STON				eSn	**Sb**	**15 25 32.3**	**-1.4**
STIP	**Stip**	**2.02**	**82**	ePn	**Pb**	**15 25 09.8**	**-0.4**
STIP				eSg	**Sg**	**15 25 43.9**	**+5.6**
RUDO	**Rudo**	**2.17**	**357**	⇑iPn	**Pb**	**15 25 11.1**	**-1.7**
RUDO				eSn	**Sb**	**15 25 38.0**	**-1.8**
IVAS	**Ivanjica**	**2.18**	**12**	ePn	**Pn**	**15 25 10.3**	**+0.6**
IVAS				eSn	**Sb**	**15 25 38.9**	**-1.1**
PRVS	**Prvonek**	**2.19**	**60**	ePn	**Pn**	**15 25 10.9**	**+1.1**
BARS	**Barje**	**2.19**	**51**	ePn	**Pn**	**15 25 10.8**	**+1.0**
BARS				eSn	**Sn**	**15 25 36.3**	**-0.7**
BBLS	**Lazi&#263i**	**2.42**	**358**	ePn	**Pn**	**15 25 14.2**	**+1.2**
BBLS				eSn	**Sb**	**15 25 45.5**	**-1.4**
GRUS	**Gruza**	**2.60**	**20**	ePn	**Pn**	**15 25 16.9**	**+1.5**
RICI	**Ricice**	**2.70**	**320**	ePn	**Pn**	**15 25 17.4**	**+0.5**
TRUS	**Trudelj**	**2.85**	**13**	ePn	**Pn**	**15 25 19.6**	**+0.7**
HVAR	**Hvar**	**2.86**	**308**	ePn	**Pn**	**15 25 18.8**	**-0.2**
TEKS	**Tekeris**	**3.10**	**0**	ePn	**Pn**	**15 25 23.6**	**+1.2**
BLY	**Banja Luka**	**3.72**	**333**	ePn	**Pn**	**15 25 32.2**	**+1.4**
BLY				eSn	**Sn**	**15 26 15.0**	**+0.4**
A050A	**Klekovaca**	**3.74**	**325**	⇑iPn	**Pn**	**15 25 31.6**	**+0.4**
A050A				eSn	**Sn**	**15 26 15.8**	**+0.5**
UDBI	**Udbina**	**4.13**	**319**	ePn	**Pn**	**15 25 38.0**	**+1.5**
DUGI	**Dugi Otok**	**4.15**	**309**	ePn	**Pn**	**15 25 36.6**	**-0.2**
VIRC	**Vir**	**4.34**	**312**	ePn	**Pn**	**15 25 38.7**	**-0.6**
BOJS	**Bojanci**	**5.11**	**324**	eSn	**Sn**	**15 26 47.5**	**-1.3**
CEY	**Cerknica**	**5.66**	**321**	eSn	**Sn**	**15 27 01.5**	**-1.1**

*TIR **06** 15:28:10.6, 40.°14N×19.°72E, h4km, Md2.8, Ml2.2*
*ATH **06** 15:28:12.5, 40.°09N×19.°67E, h8km±2km, ML2.1/3, Error ellipse: s-maj=3.3km s-min=1.6km az=201.0*

ISC 06 15:28:11.8±1.1, **40.°11N**±0.°03×**19.°71E**±0.°03, **h9**km±10km, **n14**, σ0°**92**/26, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.32**	**136**	P	**Pg**	**15 28 17.5**	**-0.6**
SRN	baz=140			S	**Sb**	**15 28 24.4**	**-0.5**
SRN	baz=140						
VLO	**Vlora**	**0.39**	**336**	P	**Pg**	**15 28 19.1**	**-0.4**
VLO	baz=333			S	**Sb**	**15 28 26.2**	**-0.8**
VLO	baz=333			AMP			
	comp=E,2.9nm,0.1s,baz=333						
KASA	**Kassiopi**	**0.41**	**154**	P	**Pg**	**15 28 19.7**	**0.0**
KASA				S	**Sg**	**15 28 25.8**	**+0.8**
LSK	**Leskovik**	**0.69**	**86**	P	**Pg**	**15 28 23.9**	**-1.1**
LSK	baz=88			S	**Sg**	**15 28 34.7**	**+0.7**
LSK	baz=88			AMP			
	comp=E,0.5nm,0.6s,baz=88						
SCTE	**Santa Cesarea**	**0.95**	**268**	P	**Pb**	**15 28 30.3**	**-0.1**
SCTE	baz=267			S	**Sn**	**15 28 45.7**	**+0.8**
SCTE	baz=267			AMP			
	comp=N,0.3nm,0.2s,baz=267						
SCTE	**Santa Cesarea**	**0.95**	**268**	P	**Pg**	**15 28 29.9**	**-0.1**
SCTE				S	**Sb**	**15 28 42.9**	**-0.2**
KBN	**Korca**	**0.97**	**58**	P	**Pg**	**15 28 30.4**	**0.0**
KBN	baz=58			S	**Sn**	**15 28 45.8**	**+0.2**
KBN	baz=58						
NEST	**Nestorio**	**1.07**	**73**	P	**Pg**	**15 28 32.1**	**-0.3**
NEST				S	**Sn**	**15 28 49.3**	**+1.3**
NEST				AML	AML	15 28 54.9	
	comp=N,170μm,0.4s						
NEST				AML	AML	15 28 56.1	
	comp=E,77μm,0.3s						
KPRO	**Kipourio**	**1.28**	**96**	P	**Pb**	**15 28 36.1**	**0.0**
KPRO				S	**Sn**	**15 28 53.7**	**+0.4**
KPRO				AML	AML	15 29 03.1	
	comp=E,153μm,0.6s						
KPRO				AML	AML	15 29 04.8	
	comp=N,125μm,0.9s						
FNA	**Florina**	**1.44**	**62**	P	**Pn**	**15 28 37.8**	**-0.3**
FNA	baz=62			S	**Sg**	**15 29 01.5**	**+3.4**
FNA	baz=62			AMP			
	comp=E,0.1nm,0.4s,baz=62						
FNA	**Florina**	**1.44**	**62**	P	**Pn**	**15 28 37.4**	**-0.7**
FNA				S	**Sg**	**15 28 58.0**	**-0.1**
FNA				AML	AML	15 29 04.8	
	comp=N,187μm,0.5s						
FNA				AML	AML	15 29 06.7	
	comp=E,143μm,0.5s						
LKD2	**Lefkada island**	**1.51**	**151**	P	**Pn**	**15 28 38.9**	**-0.1**
THL	**Klokotos Trika**	**1.86**	**106**	P	**Pb**	**15 28 45.2**	**-0.6**
PUK	**Puka**	**1.94**	**4**	P	**Pb**	**15 28 47.2**	**0.0**
PUK	baz=3.0			S	**Sg**	**15 29 13.9**	**0.0**
PUK	baz=3.0						

*ANF **06** 16:26:03.0±0.2, 37.°16N×117.°39W, h14km±1km, ML2.5/12, Error ellipse: s-maj=1.9km s-min=1.5km az=152.0*
*NEIC **06** 16:26:03.1±2.7, 37.°10N±0.°03×117.°42W±0.°02, h10km±9km, Error ellipse: s-maj=4.2km s-min=0.7km az=209.0*
*REN **06** 16:26:03.4±1.5, 37.°16N±0.°03×117.°38W±0.°03, h12km±7km, ML2.5/25, ML2.3/62(NEIC), Error ellipse: s-maj=5.2km s-min=1.8km az=219.0*

ISC 06 16:26:03.4±0.8, **37.°13N**±0.°02×**117.°40W**±0.°02, **h15**km±5km, **n70**, σ0°**75**/81, **California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAC	**Grapevine Rang**	**0.14**	**170**	Pg	**Pb**	**16 26 07.3**	**-0.5**
GRAC				IAML		16 26 11.4	
	comp=N,1μm,0.2s						
GRAC	**Grapevine Rang**	**0.14**	**170**		**Sg**	**16 26 10.1**	**+0.4**
GRAC	**Grapevine Rang**	**0.14**	**170**	P	**Pb**	**16 26 07.3**	**-0.5**
GRAC	baz=357			S	**Sg**	**16 26 10.1**	**+0.4**
GRAC	baz=357						
GMN	**Gold Mountain**	**0.20**	**33**		**Pg**	**16 26 07.4**	**-0.9**
GMN					**Sg**	**16 26 10.3**	**-1.2**
GMN	**Gold Mountain**	**0.20**	**33**	IAML		16 26 10.6	
	comp=N,2μm,0.5s						
GMN				IAML		16 26 11.4	
	comp=E,1μm,0.3s						
LCH	**Last Change Ra**	**0.22**	**297**		**Pg**	**16 26 08.6**	**+0.1**
LCH					**Sg**	**16 26 11.9**	**-0.1**
LCH	**Last Change Ra**	**0.22**	**297**	IAML		16 26 11.9	
	comp=N,487nm,0.2s						
LCH				IAML		16 26 12.0	
	comp=E,803nm,0.2s						
SGV	**South Grapevin**	**0.33**	**117**		**Pg**	**16 26 10.1**	**-0.2**
SGV					**Sg**	**16 26 14.8**	**-0.2**
DSP	**Deep Springs**	**0.52**	**298**		**Pg**	**16 26 13.3**	**-0.3**
DSP					**Sb**	**16 26 20.9**	**-0.5**
DSP	**Deep Springs**	**0.52**	**298**	IAML		16 26 21.1	
	comp=N,175nm,0.3s						
DSP				IAML		16 26 22.6	
	comp=E,75nm,0.3s						
MZP	**Montezuma Peak**	**0.57**	**1**		**Pg**	**16 26 13.9**	**-0.7**
MZP					**Sg**	**16 26 21.3**	**-1.0**
MZP	**Montezuma Peak**	**0.57**	**1**	IAML		16 26 21.6	
	comp=N,168nm,0.2s						
MZP				IAML		16 26 21.6	
	comp=E,190nm,0.2s						
TIN	**Tinemaha, Big**	**0.67**	**264**		**Pb**	**16 26 17.2**	**+0.3**
TIN					**Sb**	**16 26 26.3**	**+0.3**
TIN	**Tinemaha, Big**	**0.67**	**264**	P	**Pb**	**16 26 16.3**	**-0.5**
TIN	baz=81			S	**Sb**	**16 26 25.9**	**-0.1**
TIN	baz=81						
WCT	**Wildcat Mounta**	**0.70**	**118**		**Pg**	**16 26 16.6**	**-0.6**
WCT					**Sg**	**16 26 26.2**	**-0.3**
WCT	**Wildcat Mounta**	**0.70**	**118**		**Pg**	**16 26 16.6**	**-0.6**
WCT					**Sb**	**16 26 26.6**	**-0.4**
WCT	**Wildcat Mounta**	**0.70**	**118**	IAML		16 26 27.0	
	comp=N,122nm,0.3s						
WCT				IAML		16 26 32.4	
	comp=E,189nm,0.2s						
POCCA	**Poleta Canyon**	**0.74**	**288**		**Pb**	**16 26 18.4**	**+0.3**
FURC	**Furnace Creek,**	**0.79**	**147**	P	**Pb**	**16 26 18.8**	**0.0**
FURC	baz=330,SNR=13			S	**Sb**	**16 26 30.3**	**+1.0**
FURC	baz=330						
CWC	**Cottonwood Cre**	**0.88**	**219**		**Pn**	**16 26 21.5**	**0.0**
CWC					**Sn**	**16 26 33.4**	**-0.7**
CWC	**Cottonwood Cre**	**0.88**	**219**	P	**Pn**	**16 26 20.9**	**-0.6**
CWC	baz=38			S	**Sn**	**16 26 33.0**	**-1.1**
CWC	baz=38						
MLNR	**Milner Canyon**	**0.88**	**302**		**Pg**	**16 26 20.0**	**-0.5**
TPNV	**Topopah Spring**	**0.94**	**101**		**Pg**	**16 26 20.9**	**-0.6**
TPNV	**Topopah Spring**	**0.94**	**101**	P	**Pg**	**16 26 21.0**	**-0.6**
TPNV	baz=284,SNR=41			S	**Sg**	**16 26 33.6**	**-0.3**
TPNV	baz=284						
TPH	**Tonopah**	**0.95**	**8**		**Pg**	**16 26 21.2**	**-0.7**
TPH					**Sg**	**16 26 33.5**	**-0.9**
SDH	**Striped Hills**	**0.98**	**119**		**Pg**	**16 26 21.7**	**-0.6**
NSP	**Numbskull Pass**	**1.03**	**113**		**Pg**	**16 26 22.6**	**-0.8**
MPMC	**Manual Prospec**	**1.07**	**184**	P	**Pn**	**16 26 23.8**	**-0.3**
MPMC	baz=4.7,SNR=40			S	**Sn**	**16 26 38.6**	**-0.2**
MPMC	baz=4.7						
CPY	**CP-1**	**1.09**	**100**		**Pg**	**16 26 23.6**	**-0.9**
BENR	**Benton**	**1.10**	**302**		**Pg**	**16 26 24.1**	**-0.6**
GWY	**Greenwater Val**	**1.11**	**148**		**Pn**	**16 26 24.4**	**-0.2**
GWY	**Greenwater Val**	**1.11**	**148**	IAML		16 26 42.1	
	comp=N,74nm,0.4s						
GWY				IAML		16 26 42.1	
	comp=E,67nm,0.6s						
MGNR	**McGee Canyon**	**1.24**	**304**		**Pg**	**16 26 26.9**	**-0.4**
MCY	**Mercury**	**1.24**	**112**		**Pn**	**16 26 26.5**	**+0.2**
MCBM	**Casa Benchmark**	**1.30**	**294**		**Pg**	**16 26 28.1**	**-0.4**
MDYM	**Dry Creek**	**1.39**	**293**		**Pb**	**16 26 29.4**	**+0.1**
S11A	**Rachel**	**1.41**	**68**		**Pb**	**16 26 29.7**	**+0.2**
LHV	**Little Huntoon**	**1.42**	**322**		**Pn**	**16 26 29.3**	**+0.7**
LHV	**Little Huntoon**	**1.42**	**322**	IAML		16 26 55.8	
	comp=E,58nm,0.7s						
MDPB	**Devils Postpil**	**1.43**	**291**		**Pb**	**16 26 30.0**	**+0.1**
MDPB	**Devils Postpil**	**1.43**	**291**	IAML		16 26 36.8	
	comp=N,12nm,0.8s						
MDPB				IAML		16 26 52.2	
	comp=E,13nm,0.3s						
NV11	**Mina Array Sit**	**1.43**	**335**		**Pn**	**16 26 28.9**	**0.0**
NV11	**Mina Array Sit**	**1.43**	**335**	IAML		16 26 56.0	
	comp=E,30nm,1.5s						
NV08	**Mina Array Sit**	**1.46**	**330**		**Pn**	**16 26 30.1**	**+0.7**
NVAR	**Mina Array Bea**	**1.48**	**331**		**Pn**	**16 26 28.5**	**-1.2**
NV09	**Mina Array Sit**	**1.50**	**331**		**Pn**	**16 26 30.1**	**+0.2**
SHOC	**Shoshone, Teco**	**1.53**	**143**		**Pb**	**16 26 31.6**	**+0.2**
SHOC	**Shoshone, Teco**	**1.53**	**143**	P	**Pn**	**16 26 30.2**	**0.0**
SHOC	baz=325,SNR=9.4			Sb	**Sg**	**16 26 52.3**	**-0.3**
SHOC	baz=325						
LRMC	**Laurel Mtn Rad**	**1.67**	**188**	Pg	**Pg**	**16 26 35.4**	**0.0**
LRMC	baz=8.3			Sb	**Sg**	**16 26 57.3**	**+0.2**
LRMC	baz=8.3						
ISA	**Isabella, Lake**	**1.70**	**211**	Pg	**Pg**	**16 26 36.3**	**+0.1**
ISA	baz=30			Sb	**Sg**	**16 26 58.1**	**-0.2**
ISA	baz=30						
RYN	**Ryan**	**1.74**	**330**		**Pn**	**16 26 33.4**	**+0.2**
RYN	**Ryan**	**1.74**	**330**	IAML		16 26 59.9	
	comp=E,41nm,0.4s						
R11B	**Troy Canyon, C**	**1.88**	**49**	Pb	**Pb**	**16 26 37.1**	**-0.4**
R11B	baz=230			Sb	**Sb**	**16 27 01.4**	**+0.5**
R11B	baz=230						
GSC	**Goldstone, Bar**	**1.89**	**165**	Pn	**Pn**	**16 26 35.9**	**+0.7**
GSC				IAML		16 27 05.9	
	comp=N,31nm,0.5s						
GSC				IAML		16 27 07.1	
	comp=E,38nm,0.5s						
GSC	**Goldstone, Bar**	**1.89**	**165**	Sb	**Sg**	**16 27 03.6**	**-0.6**
	baz=346						
PRN	**Pahroc Range**	**1.89**	**81**		**Pn**	**16 26 35.5**	**+0.2**
SHPR	**Sheep Range**	**1.90**	**109**		**Pb**	**16 26 37.0**	**-0.9**
KVN	**Kaiserville**	**1.99**	**344**		**Pn**	**16 26 37.0**	**+0.3**
TUQ	**Turquoise Moun**	**2.07**	**144**		**Pn**	**16 26 38.2**	**+0.5**
TUQ	**Turquoise Moun**	**2.07**	**144**	P	**Pn**	**16 26 38.1**	**+0.3**
TUQ	baz=326,SNR=7.0			S	**Sn**	**16 27 04.1**	**+0.8**
TUQ	baz=326						
WAKR	**Walker**	**2.12**	**311**		**Pg**	**16 26 43.0**	**-1.0**
YERR	**Yerington**	**2.35**	**322**		**Pg**	**16 26 49.9**	**+1.3**
YERR				IAML		16 27 21.5	
	comp=N,14nm,0.5s						
YERR				IAML		16 27 22.3	
	comp=E,22nm,0.3s						
HEC	**Hector,Ludlow**	**2.45**	**159**	Sb	**Sg**	**16 27 20.8**	**-1.5**
	baz=340						
V12A	**Nelson**	**2.49**	**124**		**Pb**	**16 26 49.1**	**+1.3**
V12A				IAML		16 27 22.5	
	comp=N,11nm,0.4s						
V12A				IAML		16 27 42.4	
	comp=E,11nm,4.9s						
CMB	**Columbia Colle**	**2.54**	**292**		**Pg**	**16 26 50.5**	**-1.5**
PNTR	**Pine Nut**	**2.61**	**319**		**Pb**	**16 26 51.9**	**+1.8**
PNTR				IAML		16 27 07.0	
	comp=E,13nm,4.5s						
PNTR				IAML		16 27 31.3	
	comp=N,9.7nm,1.1s						
PSUT	**Pine Spring**	**3.13**	**62**	Pn	**Pn**	**16 26 52.9**	**+0.5**
PSUT				IAML		16 27 43.9	
	comp=E,13nm,0.3s						
LCMT	**Little Creek M**	**3.32**	**91**	Pg	**Pb**	**16 27 04.5**	**+2.4**
LCMT				IAML		16 28 16.2	
	comp=E,5.4nm,4.7s						
AFDM	**Forest Hills D**	**3.35**	**304**		**Pb**	**16 27 04.1**	**+1.5**
AFDM				IAML		16 28 16.5	
	comp=N,6.4nm,4.8s						
AFDM				IAML		16 28 52.5	
	comp=E,5.3nm,4.4s						
KNB	**Kanab**	**3.66**	**90**	Pg	**Pb**	**16 27 09.6**	**+1.7**
KNB				IAML		16 28 45.6	
	comp=E,7.6nm,3.8s						
KNB				IAML		16 28 46.7	
	comp=N,5.6nm,4.6s						

IDC 06 16:26:09.3±4.7, **47.°61N×92.°68W, h0**km, **mbtmp2.2**/1, **ML0.8**/1, **Error ellipse: s-maj=74.5km s-min=28.9km az=53.0, Minnesota**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.38**	**323**	Pn	Pn	16 27 02.3	-1.0
	0.1nm,0.3s,baz=145,slow=16,SNR=1.3						
ULM				Sn	Sn	16 27 41.5	-2.6
	0.6nm,0.3s,baz=140,slow=7.7,SNR=1.8						
ULM				Lg	Lg	16 27 53.9	
	4.8nm,0.3s,baz=240,slow=20,SNR=12						
	0.5nm,0.3s						
I10CA	**LAC DU BONNET**	**3.41**	**321**	I	I	16 46 50.0	
	0.2nm,1.0s,baz=139,slow=312,SNR=8.6						
I56US	**NEWPORT INFRASO**	**16.38**	**281**	I	I	18 07 50.0	
	baz=85,slow=301,SNR=2.4						

*IDC **06** 16:48:35.5±3.9, 5.°75S×104.°72E, h0km, mb4.0/6, mbtmp4.0/6, MS3.2/2, Error ellipse: s-maj=223.1km s-min=19.7km az=52.0*
*DJA **06** 16:48:41.5±2.2, 6.°S±12.°×10.°4E±.°, h18km±18km, M4.1/7, MLv4.1/7*

ISC 06 16:48:41.3±1.1, **6.°18S**±0.°10×**104.°3E**±0.°1, **h49**km, **n25**, σ1°**49**/14, **mb3.9/6, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.69**	**18**	P	**Pn**	**16 48 54.9**	**0.0**
KASI				S	**Sn**	**16 49 04.3**	**-0.3**
LWLI	**Liwa**	**1.18**	**349**	P	**Pn**	**16 49 02.9**	**+1.4**
MNAI	**Manna**	**2.24**	**324**	P	**Pn**	**16 49 17.9**	**+2.0**
SKJI	**Sukabumi**	**2.41**	**110**	P	**Pn**	**16 49 19.3**	**+1.0**
CBJI	**Citeko**	**2.57**	**95**	P	**Pn**	**16 49 24.1**	**+3.7**
CNJI	**Cibinong**	**3.05**	**112**	P	**Pn**	**16 49 26.6**	**-0.4**
H01W3	**Cape Leeuwin H**	**29.98**	**164**	T	T	17 26 44.4	
	baz=343,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	**29.99**	**164**	T	T	17 26 44.3

TXAR Lajitas Array 144.99 46 PKP **PKPab 17 08 13.4 0.0**
0.7nm,0.7s,baz=223,slow=1.9,SNR=6.8

KRSC 06 16:51:36.8±1.5,53.76N×169.01E,h45km±31km,MI3.6,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.29**	**310**	*eP*	Pn	16 52 14.5	+2.6
BKI				*eS*	Sn	16 52 41.8	+3.0
TUMR	**Tumrok**	**5.38**	**290**	*eP*	Pn	16 52 57.9	+3.3
KMNR	**Kamenistaya**	**5.46**	**295**	*eP*	Pn	16 52 59.7	+4.1
KIRR	**Kirishev**	**5.47**	**297**	*eP*	Pn	16 53 00.2	+4.5
KPT	**Kopyto**	**5.54**	**297**	*eP*	Pn	16 53 01.4	+4.8
NLC	**Nalytchevo**	**5.80**	**268**	*eP*	Pn	16 53 04.0	+3.8
SRDR	**Sredinnyy**	**5.92**	**299**	*eP*	Pn	16 53 07.0	+5.1
UGLR	**Uglovaya**	**6.11**	**269**	*eP*	Pn	16 53 09.1	+4.7
SMAR	**Somma**	**6.11**	**269**	*eP*	Pn	16 53 09.2	+4.5
KRER	**Koryakskii**	**6.14**	**270**	*eP*	Pn	16 53 09.7	+4.7
KRER				*eS*	Sn	16 54 17.9	+4.0
AVH	**Avacha**	**6.15**	**269**	*eP*	Pn	16 53 09.7	+4.7
AVH				*eS*	Sn	16 54 20.3	+6.3
DALK	**Dalny**	**6.18**	**267**	*eP*	Pn	16 53 09.9	+4.6
DALK				*eS*	Sn	16 54 18.4	+3.8
KRX	**Arik**	**6.19**	**270**	*eP*	Pn	16 53 09.8	+4.2
KOK	**Koryaka**	**6.21**	**270**	*eP*	Pn	16 53 10.3	+4.5
GNL	**Ganaly**	**6.57**	**274**	*eP*	Pn	16 53 15.7	+4.9
MTVR	**Mutnovka**	**6.64**	**263**	*eP*	Pn	16 53 17.0	+5.1
GRL	**Gorelyy**	**6.69**	**264**	*eP*	Pn	16 53 18.0	+5.5
ASAK	**Asacha**	**6.84**	**263**	*eP*	Pn	16 53 19.8	+5.3
KDTR	**Khodutka, Kamc**	**6.92**	**258**	*eP*	Pn	16 53 20.1	+4.6
KDTR				*eS*	Sn	16 54 36.2	+3.5

IDC 06 17:04:18.8±1.9,2.12N×127.55E,h0km,mb3.3/4,
mbtmp3.4/4,Error ellipse: s-maj=153.2km
s-min=23.1km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.91**	**163**	P	P	17 09 23.8	-0.7
	0.4nm,0.6s,baz=343,slow=10,SNR=5.2						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**26.37**	**167**	P	P	17 09 57.1	+0.2
	0.4nm,0.9s,baz=345,slow=7.1,SNR=4.6						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**59.34**	**325**	P	P	17 14 23.2	+0.5
	0.3nm,0.4s,baz=116,slow=8.1,SNR=6.1						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.53**	**328**	P	P	17 14 50.5	-0.5
	0.3nm,0.6s,baz=132,slow=5.4,SNR=2.7						
	0.3nm,0.6s						

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*IDC **06** 17:07:26.9±1.4,32.12N×49.64E,h0km,mb3.8/12,*
mbtmp3.8/17,ML3.7/5,MS2.8/4,Error ellipse:
s-maj=27.5km s-min=17.9km az=167.0
*TEH **06** 17:07:29.5,32.12N×49.87E,h11km±17km,ML3.7*
*OMAN **06** 17:07:35.0±0.1,31.51N×49.95E,h7km,mb4.8/13,Error*
ellipse: s-maj=1.6km s-min=1.3km az=301.0
*DSN **06** 17:07:40.1±2.2,31.48N×50.32E,h15km,ML3.5/9,Error*
ellipse: s-maj=66.9km s-min=17.3km az=37.0
ISC 06 17:07:28.1±0.5,32.08N±0.03×49.86E±0.03,h10km,n105,
σ2957/124,mb3.8/11,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHBN	**Jahan bin**	**0.70**	**78**	Pg	**Pg**	**17 07 42.9**	**+1.2**
ZNGN	**Zangian**	**0.84**	**87**	Pg	**Pg**	**17 07 45.8**	**+1.4**
IPIR	**Pirpir**	**1.06**	**55**	Pg	**Pg**	**17 07 49.1**	**+0.7**
IBRJ	**Brojen**	**1.20**	**98**	Pg	**Pn**	**17 07 53.4**	**+2.2**
AHWZ	**Ahwaz**	**1.28**	**234**	Pg	**Pg**	**17 07 54.7**	**+2.1**
AHWZ				Sg	**Sg**	**17 08 13.4**	**+4.1**
ABEH	**Behbahan**	**1.52**	**167**	Pg	**Pg**	**17 07 59.4**	**+2.2**
KLNJ	**Kolanjah**	**1.83**	**125**	Pn	**Pb**	**17 08 03.8**	**+2.0**
IGAR	**Gharneh**	**1.88**	**80**	Pn	**Pb**	**17 08 03.9**	**+1.3**
IKLH	**Kolahrood**	**1.90**	**49**	Pn	**Pb**	**17 08 03.7**	**+0.7**
QAMS	**Qamsar**	**2.09**	**38**	Pn	**Pb**	**17 08 06.8**	**+0.5**
IRAM	**Ramesheh**	**2.16**	**97**	Pn	**Pb**	**17 08 07.7**	**+0.3**
IDOB	**Doab**	**2.21**	**321**	Pn	**Pb**	**17 08 08.4**	**+0.1**
IKFM	**Kafar-mosalman**	**2.22**	**311**	Pn	**Pb**	**17 08 08.1**	**-0.2**
IZEF	**Zefreh**	**2.24**	**68**	Pn	**Pb**	**17 08 08.5**	**-0.3**
HSAM	**Samen**	**2.37**	**334**	Pn	**Pn**	**17 08 10.0**	**+2.7**
KRSH	**Karshahi**	**2.68**	**45**	Pn	**Pb**	**17 08 15.1**	**-1.2**
KAZ2	**Kazeron-Fars-I**	**2.91**	**147**	Pn	**Pn**	**17 08 18.1**	**+3.6**
IQOM	**Qom**	**2.93**	**20**	Pn	**Pn**	**17 08 17.6**	**+2.7**
ISFB	**Sefidab**	**3.02**	**41**	Pn	**Pn**	**17 08 18.9**	**+2.9**
KCHF	**Cheshme Sefid,**	**3.22**	**314**	Pn	**Pn**	**17 08 22.1**	**+3.2**
ISAD	**Sadrabad**	**3.25**	**92**	Pn	**Pn**	**17 08 22.8**	**+3.3**
IRAZ	**Razeghan**	**3.31**	**1**	Pn	**Pn**	**17 08 23.0**	**+2.8**
ANAR	**Anarak**	**3.44**	**70**	Pn	**Pn**	**17 08 25.1**	**+3.2**
KBD	**Kabd**	**3.45**	**213**	P	**Pn**	**17 08 24.2**	**+2.3**
KBD				S	**Sn**	**17 09 00.4**	**-2.4**
IHSB	**Hasanabad**	**3.55**	**19**	Pn	**Pn**	**17 08 26.0**	**+2.7**
QABG	**Abgarm-Qazvin**	**3.62**	**356**	Pn	**Pn**	**17 08 27.1**	**+2.6**
IMHD	**Mahdasht**	**3.65**	**10**	Pn	**Pn**	**17 08 27.5**	**+2.7**
ICHK	**Chekchek**	**3.86**	**86**	Pn	**Pn**	**17 08 30.9**	**+3.2**
DSBU	**Dashti - Bushe**	**3.90**	**162**	Pn	**Pn**	**17 08 31.2**	**+3.1**
IDHR	**Dehrash**	**3.90**	**313**	Pn	**Pn**	**17 08 31.1**	**+2.7**
IDMV	**Damavand**	**3.92**	**27**	Pn	**Pn**	**17 08 31.3**	**+2.6**
IMEH	**Mehriz**	**4.11**	**98**	Pn	**Pn**	**17 08 34.6**	**+3.4**
ILAS	**Lasjerd**	**4.18**	**37**	Pn	**Pn**	**17 08 34.4**	**+2.2**
IFIR	**Firoozkooh**	**4.29**	**33**	Pn	**Pn**	**17 08 36.4**	**+2.7**
KLST	**Kelardasht - M**	**4.53**	**12**	Pn	**Pn**	**17 08 39.8**	**+2.7**
MZPU	**Pul - Mazandar**	**4.57**	**18**	Pn	**Pn**	**17 08 40.7**	**+3.3**
IPRN	**Peran**	**4.63**	**26**	Pn	**Pn**	**17 08 41.9**	**+3.7**
IBAF	**Bafgh**	**4.88**	**94**	Pn	**Pn**	**17 08 45.0**	**+3.3**
TPRV	**Parvadeh(Tabas**	**5.84**	**79**	Pn	**Pn**	**17 08 58.1**	**+3.3**
TNSJ	**Nastanj**	**5.97**	**70**	Pn	**Pn**	**17 08 59.8**	**+3.2**
SAKB	**Bahrain**	**6.11**	**174**	P	**Pn**	**17 09 01.7**	**+3.2**
SAKB				S	**Sn**	**17 10 03.7**	**-4.8**
SHMA	**Al-Shehemyia**	**6.28**	**171**	P	**Pn**	**17 09 03.0**	**+2.2**
SHMA				S	**Sn**	**17 10 08.7**	**-3.9**
TKDS	**Koohdasht(Taba**	**6.30**	**74**	Pn	**Pn**	**17 09 04.0**	**+2.9**
TRNA	**Turayna**	**7.42**	**170**	P	**Pn**	**17 09 18.3**	**+1.9**
	SNR=10						
TRNA				S	**Sn**	**17 10 35.7**	**-4.9**
JRN	**Qarnain Island**	**7.58**	**159**	P	**Pn**	**17 09 18.2**	**-0.5**
IKOO	**Kooshah**	**7.75**	**85**	Pn	**Pn**	**17 09 24.5**	**+3.2**
SHME	**Shamm**	**8.14**	**136**	P	**Pn**	**17 09 28.3**	**+1.9**
SHME				S	**Sn**	**17 10 53.7**	**-4.8**
SHME	**Shamm**	**8.14**	**136**	P	**Pn**	**17 09 28.5**	**+2.1**
SHME				S	**Sn**	**17 10 54.4**	**-4.1**
BANOM	**Banah**	**8.33**	**136**	P	**Pn**	**17 09 31.9**	**+2.9**
BANOM	**Banah**	**8.33**	**136**	P	**Pn**	**17 09 32.1**	**+3.1**
BANOM				S	**Sn**	**17 10 59.4**	**-3.8**
ISFR	**Sfrayin**	**8.34**	**51**	Pn	**Pn**	**17 09 33.0**	**+3.6**
MASF	**Masafi**	**8.68**	**139**	P	**Pn**	**17 09 35.2**	**+1.5**
MASF				S	**Sn**	**17 11 07.6**	**-4.1**
MSFE	**Esma-Masafi**	**8.69**	**139**	P	**Pn**	**17 09 35.6**	**+1.8**
AJN	**Ajban**	**8.75**	**148**	P	**Pn**	**17 09 36.8**	**+2.2**
AJN				S	**Sn**	**17 11 10.4**	**-2.9**
MDH	**Madha**	**8.81**	**138**	P	**Pn**	**17 09 36.6**	**+1.1**
MDH	**Madha**	**8.81**	**138**	P	**Pn**	**17 09 37.0**	**+1.5**
ASUD	**Al Ashush, Dub**	**8.85**	**146**	P	**Pn**	**17 09 39.4**	**+3.3**
ASUD	**Al Ashush, Dub**	**8.85**	**146**	P	**Pn**	**17 09 38.3**	**+2.2**
	SNR=8.2						
ASUD				S	**Sn**	**17 11 14.3**	**-1.7**
FAQ	**Al Faqa, Dubai**	**8.88**	**144**	P	**Pn**	**17 09 39.2**	**+2.7**
FAQ	**Al Faqa, Dubai**	**8.88**	**144**	P	**Pn**	**17 09 39.4**	**+2.9**
FAQ				S	**Sn**	**17 11 13.4**	**-3.3**
GEYT	**Alibeck**	**8.94**	**47**	Pn	**Pn**	**17 09 40.1**	**+2.9**
	0.7nm,0.3s,baz=248,slow=16,SNR=5.6						
	1.6nm,0.3s						
UOSS	**Minazif**	**9.04**	**140**	P	**Pn**	**17 09 40.6**	**+1.9**
UOSS	**Minazif**	**9.04**	**140**	P	**Pn**	**17 09 40.5**	**+1.9**
UOSS				S	**Sn**	**17 11 15.7**	**-4.8**
HATD	**Hatta, Dubai**	**9.10**	**141**	P	**Pn**	**17 09 40.8**	**+1.3**
HATD	**Hatta, Dubai**	**9.10**	**141**	P	**Pn**	**17 09 42.0**	**+2.6**
HATD				S	**Sn**	**17 11 19.0**	**-3.0**
ASHO	**Ashiyiah**	**9.17**	**142**	P	**Pn**	**17 09 41.3**	**+0.8**
ASHO	**Ashiyiah**	**9.17**	**142**	P	**Pn**	**17 09 41.6**	**+1.1**
ASHO				S	**Sn**	**17 11 19.8**	**-4.1**
RAYN	**Ar Rayn**	**9.36**	**205**	P	**Pn**	**17 09 42.0**	**-1.1**
ALNE	**Al Ain**	**9.54**	**146**	P	**Pn**	**17 09 46.1**	**+0.6**
ALNE	**Al Ain**	**9.54**	**146**	P	**Pn**	**17 09 46.7**	**+1.1**
ALNE				S	**Sn**	**17 11 29.5**	**-3.3**
MZR	**Muzera**	**9.60**	**160**	P	**Pn**	**17 09 48.1**	**+1.7**
MZR				S	**Sn**	**17 11 30.2**	**-4.1**
SOHO	**SOHO**	**9.87**	**142**	P	**Pn**	**17 09 50.1**	**0.0**
SOHO				S	**Sn**	**17 11 35.9**	**-5.0**
ARQ	**Araqi**	**10.52**	**144**	P	**Pn**	**17 10 00.1**	**+1.1**
	SNR=12						
ARQ				S	**Sn**	**17 11 53.3**	**-3.6**
HOQ	**Hoqain**	**10.73**	**140**	P	**Pn**	**17 10 02.9**	**+1.1**
HOQ				S	**Sn**	**17 11 58.0**	**-4.1**
ASF	**Jabal al Asfar**	**10.99**	**274**	Pn	**Pn**	**17 10 03.6**	**-1.9**
	0.7nm,0.3s,baz=19,slow=0.1,SNR=7.4						
	1.6nm,0.3s						
BIDO	**Bidbid**	**11.23**	**137**	P	**Pn**	**17 10 08.8**	**+0.1**
BSY	**Bisya**	**11.36**	**143**	P	**Pn**	**17 10 11.3**	**+0.9**
BSY				S	**Sn**	**17 12 14.9**	**-2.6**
SMDO	**Samad**	**11.55**	**139**	P	**Pn**	**17 10 13.8**	**+0.6**
SMDO				S	**Sn**	**17 12 19.0**	**-3.4**
WSAR	**Wadi Sarin**	**11.74**	**136**	Pn	**Pn**	**17 10 16.7**	**+1.0**
	1.0nm,0.3s,baz=354,slow=9.9,SNR=15						
WSAR				Sn	**Sn**	**17 12 21.3**	**-5.6**
	1.1nm,0.3s,baz=97,slow=17,SNR=7.9						
	4.0nm,0.4s						
JMDO	**Jabal Madar**	**12.13**	**141**	P	**Pn**	**17 10 21.7**	**+0.6**
MMAI	**Mount Meron Ar**	**12.23**	**278**	LR	LR	17 15 05.4	
	comp=Z,13nm,19.2s,baz=152,slow=38						
WBK	**Wadi Bani Khal**	**12.43**	**137**	P	**Pn**	**17 10 26.2**	**+1.1**
EIL	**Elat**	**13.03**	**263**	LR	LR	17 17 04.1	
	comp=Z,65nm,18.7s,baz=63,slow=45						
MHTO	**MHTO**	**13.21**	**145**	P	**Pn**	**17 10 35.6**	**-0.2**
DOK	**Doka**	**13.95**	**163**	P	**Pn**	**17 10 45.7**	**-0.2**
WHFO	**Wadi Hawf**	**14.54**	**165**	P	**Pn**	**17 10 52.1**	**-1.9**
SHAO	**Shalim**	**14.94**	**158**	P	**Pn**	**17 10 59.7**	**+0.3**
ABTO	**Aybut**	**14.99**	**167**	P	**Pn**	**17 10 58.5**	**-1.7**
DMTO	**DMTO**	**15.03**	**161**	P	**Pn**	**17 10 59.2**	**-1.4**
BRTR	**Keskin Array B**	**15.18**	**305**	Pn	**Pn**	**17 11 02.0**	**-0.7**
	0.1nm,0.3s,baz=115,slow=10,SNR=2.5						
	0.2nm,0.4s						
AKTO	**Aktyubinsk**	**19.31**	**16**	P	**P**	**17 11 54.0**	**+0.8**
	0.3nm,0.3s,baz=187,slow=12,SNR=5.5						
	1.2nm,0.6s						
BELG	**Belogornoye**	**20.36**	**356**	P	**P**	**17 12 04.1**	**-0.4**
	13nm,0.7s,baz=36,slow=1.4,SNR=4.8						
	13nm,0.7s						
IDI	**Anoyia**	**21.01**	**286**	P	**P**	**17 12 10.8**	**-1.0**
	3.3nm,0.6s,baz=81,slow=12,SNR=3.8						
	3.3nm,0.6s						
AAK	**Ala-Archa**	**22.16**	**55**	LR	LR	17 22 34.9	
	comp=Z,46nm,19.7s,baz=244,slow=41						
AKASG	**Malin Array Be**	**24.06**	**327**	P	**P**	**17 12 41.7**	**-1.6**
	0.3nm,0.3s,baz=182,slow=13,SNR=1.9						
	0.3nm,0.3s						
ARU	**Arti**	**25.09**	**11**	LR	LR	17 26 57.2	
	comp=Z,23nm,18.6s,baz=200,slow=47						
BVAR	**Borovoye Array**	**25.65**	**29**	P	**P**	**17 12 57.6**	**-0.1**
	0.7nm,0.5s,baz=217,slow=7.4,SNR=5.1						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**28.80**	**50**	P	**P**	**17 13 27.4**	**+1.2**
	0.4nm,0.5s,baz=244,slow=10,SNR=6.3						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**33.11**	**38**	P	**P**	**17 14 05.2**	**+1.1**
	0.5nm,0.4s,baz=260,slow=4.5,SNR=2.4						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**33.19**	**339**	P	**P**	**17 14 03.8**	**-0.9**
	1.7nm,0.9s,baz=132,slow=10,SNR=4.9						
	1.7nm,0.9s						
HFS	**Hagfors**	**36.81**	**330**	P	**P**	**17 14 34.7**	**-1.2**
	0.8nm,0.4s,baz=133,slow=8.1,SNR=9.2						
	0.8nm,0.4s						
EKA	**Eskdalemuir Ar**	**43.48**	**318**	P	**P**	**17 15 29.9**	**-1.4**
	0.4nm,0.5s,baz=103,slow=7.3,SNR=4.3						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**47.85**	**258**	P	**P**	**17 16 05.3**	**-1.1**
	1.7nm,0.9s,baz=56,slow=10.0,SNR=6.5						
	1.7nm,0.9s						
SPITS	**Spitsbergen Ar**	**48.45**	**351**	P	**P**	**17 16 10.2**	**0.0**
	1.0nm,0.4s,baz=140,slow=12,SNR=7.4						
	1.0nm,0.4s						
ILAR	**Eielson Array**	**82.58**	**7**	P	**P**	**17 19 52.7**	**+1.8**
	0.3nm,0.8s,baz=344,slow=4.1,SNR=4.1						
	0.3nm,0.8s						

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*GUC **06** 17:10:40.9±0.6,27.78S×72.52W,h8km±27km,ML3.8*
*SJA **06** 17:10:42.5±1.6,27.75S×72.18W,h10km,ML3.7,MW3.6*
*NEIC **06** 17:10:44.8±2.6,27.82S±0.04×72.31W±0.07,h10km±1km,*
mb4.4/8,ML3.8(GUC),Error ellipse: s-maj=10.3km
s-min=6.6km az=276.0
*IDC **06** 17:10:50.5±0.7,27.97S×71.97W,h26km±3km,mb4.1/7,*
mbtmp4.2/8,ML3.5/1,MS3.0/2,Error ellipse: s-maj=34.1km
s-min=19.4km az=99.0
ISC 06 17:10:45.7±0.7,27.85S±0.03×72.27W±0.04,h12km±3km,
n105,σ1897/134,mb4.5/10,3C-1D,Off coast of northern
Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**1.11**	**109**		**Pn**	**17 11 06.5**	**-0.7**
AC04				Sn	**Sb**	**17 11 20.3**	**-1.2**
AC04	**Llanos de Chal**	**1.11**	**109**	*i P*	**Pn**	**17 11 06.4**	**-0.8**
AC04				*eS*	**Sg**	**17 11 19.8**	**-1.9**
AC04				IAML		17 11 20.6	
	comp=Z,2μm,0.5s						
AC04	**Llanos de Chal**	**1.11**	**109⇑**	*iP*	**Pn**	**17 11 06.5**	**-0.7**
AC04				*i S*	**Sg**	**17 11 19.8**	**-1.9**
AC04				IAML		17 11 21.1	
	comp=E,5μm,0.6s						
AC06	**Mina Casimiro**	**1.77**	**74**		**Pb**	**17 11 16.7**	**-1.4**
AC06				Sn	**Sn**	**17 11 36.9**	**-1.7**
AC06	**Mina Casimiro**	**1.77**	**74**	*eP*	**Pb**	**17 11 16.5**	**-1.6**
AC06				*i S*	**Sn**	**17 11 37.0**	**-1.6**
LCO	**Las Campanas**	**1.80**	**130**		**Pb**	**17 11 17.5**	**-1.3**
LCO				Sn	**Sn**	**17 11 38.4**	**-1.4**
LCO	**Las Campanas**	**1.80**	**130**	*i P*	**Pb**	**17 11 17.5**	**-1.3**
LCO				*eS*	**Sn**	**17 11 37.2**	**-2.6**
LCO				IAML		17 11 40.7	
	comp=Z,6μm,0.5s						
LCO	**Las Campanas**	**1.80**	**130**	*eP*	**Pb**	**17 11 17.6**	**-1.3**
LCO				*i S*	**Sn**	**17 11 37.2**	**-2.6**
GO03	**Copiap**	**1.82**	**82**		**Pb**	**17 11 17.6**	**-1.5**
GO03				Sn	**Sb**	**17 11 39.2**	**-2.6**
GO03	**Copiap**	**1.82**	**82**	*i P*	**Pb**	**17 11 17.5**	**-1.5**
GO03				*eS*	**Sn**	**17 11 38.5**	**-1.5**
GO03				IAML		17 11 42.2	
	comp=Z,617nm,0.7s						
GO03	**Copiap**	**1.82**	**82**	*eP*	**Pb**	**17 11 17.5**	**-1.5**
GO03				*i S*	**Sn**	**17 11 37.6**	**-2.4**
GO03				IAML		17 11 44.1	
	comp=N,685nm,0.4s						
AC05	**El Transito**	**2.02**	**120**		**Pb**	**17 11 21.1**	**-1.2**
AC05				Sn	**Sn**	**17 11 44.5**	**-0.4**
AC05	**El Transito**	**2.02**	**120**	*i P*	**Pb**	**17 11 20.5**	**-1.9**
AC05				*eS*	**Sn**	**17 11 45.1**	**+0.2**
AC05				IAML		17 11 48.8	
	comp=Z,358nm,1.0s						
AC05	**El Transito**	**2.02**	**120⇑**	*eP*	**Pb**	**17 11 21.2**	**-1.2**
AC05				*i S*	**Sn**	**17 11 44.9**	**-0.1**
AC05				IAML		17 11 49.1	
	comp=N,598nm,0.2s						
CO05	**La Serena**	**2.25**	**157**		**Pn**	**17 11 23.0**	**+0.2**
CO05				Sn	**Sn**	**17 11 48.0**	**-2.6**
CO05	**La Serena**	**2.25**	**157**	*eP*	**Pn**	**17 11 23.4**	**+0.5**
CO05				*i S*	**Sn**	**17 11 49.0**	**-1.6**
CO05				IAML		17 11 52.2	
	comp=N,1μm,0.4s						
AC01	**Pan de Azucar**	**2.26**	**42**		**Pn**	**17 11 22.2**	**-0.7**
AC01				Sn	**Sn**	**17 11 47.6**	**-3.1**
AC01	**Pan de Azucar**	**2.26**	**42**	*i P*	**Pn**	**17 11 21.5**	**-1.3**
AC01				*eS*	**Sn**	**17 11 47.8**	**-2.9**
AC01				IAML		17 11 48.8	
	comp=Z,285nm,0.6s						
AC01	**Pan de Azucar**	**2.26**	**42**	*eP*	**Pn**	**17 11 22.5**	**-0.4**
AC01				*i S*	**Sn**	**17 11 47.7**	**-2.9**
AC01				IAML		17 11 49.2	
	comp=N,330nm,0.6s						
GO04	**Tololo Observa**	**2.65**	**151**		**Pn**	**17 11 29.2**	**+0.6**
GO04				Sn	**Sn**	**17 11 58.6**	**-2.1**
GO04	**Tololo Observa**	**2.65**	**151**	*i P*	**Pn**	**17 11 28.8**	**+0.3**
GO04				IAML		17 12 16.8	
	comp=Z,470nm,0.5s						
GO04	**Tololo Observa**	**2.65**	**151**	*eP*	**Pn**	**17 11 29.4**	**+0.8**
GO04				*i S*	**Sn**	**17 11 59.0**	**-1.7**
CO06	**Fray Jorge**	**2.87**	**169**		**Pn**	**17 11 30.6**	**-0.7**
CO06				Sn	**Sn**	**17 12 00.1**	**-5.7**
CO06	**Fray Jorge**	**2.87**	**169**	*eP*	**Pn**	**17 11 31.0**	**-0.3**
CO06				IAML		17 12 09.3	
	comp=N,274nm,0.5s						
CO03	**El Pedregal**	**3.28**	**156**		**Pn**	**17 11 37.5**	**+0.4**
CO03	**El Pedregal**	**3.28**	**156**	*i P*	**Pn**	**17 11 37.6**	**+0.6**
CO03				IAML		17 12 46.9	
	comp=Z,94nm,0.9s						
CO03	**El Pedregal**	**3.28**	**156**	*eP*	**Pn**	**17 11 37.7**	**+0.6**
CO03				*i S*	**Sn**	**17 12 13.0**	**-3.2**
CO02	**Combarbal**	**3.52**	**162**		**Pn**	**17 11 40.6**	**+0.2**
CO02	**Combarbal**	**3.52**	**162**	*i P*	**Pn**	**17 11 40.3**	**-0.1**
CO02				IAML		17 12 39.1	
	comp=Z,241nm,0.5s						
CO02	**Combarbal**	**3.52**	**162⇓**	*eP*	**Pn**	**17 11 40.9**	**+0.5**
CO02				*i S*	**Sn**	**17 12 18.6**	**-3.5**
GO02	**Mina Guanaco**	**3.59**	**43**		**Pn**	**17 11 41.5**	**-0.1**
GO02	**Mina Guanaco**	**3.59**	**43**	*eP*	**Pn**	**17 11 42.8**	**+1.2**
GO02				*i S*	**Sn**	**17 12 23.0**	**-1.1**
PB14	**IPOC Station P**	**3.62**	**28**	Pn	**Pn**	**17 11 40.5**	**-1.4**
PB14	**IPOC Station P**	**3.62**	**28**	*i P*	**Pn**	**17 11 40.7**	**-1.2**
PB14				IAML		17 12 53.4	
	comp=Z,46nm,0.7s						
PB14	**IPOC Station P**	**3.62**	**28**	*eP*	**Pn**	**17 11 41.0**	**-0.9**
PB14				*i S*	**Sn**	**17 12 20.6**	**-4.1**
PB14				IAML		17 12 23.1	
AGUA	**GUANDACOL**	**3.70**	**117**	*i P*	**Pb**	**17 11 48.6**	**-2.5**
AGUA				IAML		17 12 49.9	
	comp=Z,200nm,1.0s						
ACCO	**Cerro Coronel**	**3.91**	**135**	*i P*	**Pb**	**17 11 50.6**	**-4.2**
DOCA	**Reserva Natura**	**4.16**	**139**	*i P*	**Pn**	**17 11 53.3**	**+4.0**
DOCA				IAML		17 13 09.3	
	comp=Z,81nm,0.8s						
PB10	**IPOC Station P**	**4.58**	**20**	Pn	**Pn**	**17 11 51.6**	**-3.3**
PB10	**IPOC Station P**	**4.58**	**20**	*i P*	**Pn**	**17 11 52.9**	**-2.0**
PB10				IAML		17 13 05.3	
	comp=Z,44nm,2.0s						
RTLS	**Leoncito**	**4.71**	**147**	*i P*	**Pn**	**17 12 01.2**	**+4.3**
RTLS				IAML		17 13 26.5	
	comp=Z,165nm,1.1s						
VA06	**Catapilco**	**4.77**	**170**	Pn	**Pn**	**17 11 55.7**	**-1.8**
ZON	**Zonda**	**4.83**	**141**		**Pn**	**17 11 58.8**	**+0.5**
ACLC	**CERRO LA CRUZ**	**4.93**	**110**	*i P*	**Pn**	**17 12 03.7**	**+3.9**
ACLC				IAML		17 13 28.7	
	comp=Z,33nm,0.7s						
AVFE	**Valle Fertil**	**5.05**	**125**	*i P*	**Pn**	**17 12 04.9**	**+3.5**
AVFE				IAML		17 13 35.2	
	comp=Z,41nm,1.0s						
VA03	**San Esteban**	**5.12**	**164**		**Pn**	**17 12 03.5**	**+1.1**
VA03	**San Esteban**	**5.12**	**164**	*i P*	**Pn**	**17 12 03.7**	**+1.4**
VA03				IAML		17 13 31.8	
	comp=Z,54nm,1.1s						
VA03	**San Esteban**	**5.12**	**164⇑**	*eP*	**Pn**	**17 12 04.0**	**+1.7**
PB15	**IPOC Station P**	**5.27**	**29**		**Pn**	**17 12 02.1**	**-2.4**
PB15	**IPOC Station P**	**5.27**	**29**	*i P*	**Pn**	**17 12 03.1**	**-1.4**
PB15				IAML		17 13 28.0	
	comp=Z,71nm,0.2s						
PB15	**IPOC Station P**	**5.27**	**29**	*eP*	**Pn**	**17 12 01.9**	**-2.6**
PB05	**IPOC Station P**	**5.31**	**21**		**Pn**	**17 12 03.4**	**-1.7**
PB05	**IPOC Station P**	**5.31**	**21**	*i P*	**Pn**	**17 12 02.9**	**-2.1**
PB05				IAML		17 13 48.4	
	comp=Z,24nm,2.3s						
PEL	**Peldehue**	**5.45**	**166**	Pn	**Pn**	**17 12 07.0**	**+0.1**
MT02	**Curacav**	**5.48**	**170**		**Pn**	**17 12 06.6**	**-0.6**
PB06	**IPOC Station P**	**5.67**	**26**		**Pn**	**17 12 09.0**	**-1.0**
MT05	**Renca**	**5.68**	**167**	Pn	**Pn**	**17 12 09.7**	**-0.3**
MT16	**CCHEN**	**5.76**	**165**	Pn	**Pn**	**17 12 10.3**	**-0.8**
PB04	**IPOC Station P**	**5.82**	**20**	Pn	**Pn**	**17 12 09.8**	**-2.2**
MT03	**Universidad Ad**	**5.83**	**165**	Pn	**Pn**	**17 12 12.2

*ISN **06** 17:25:29.1±0.6, 34.°67N×46.°31E, h14km±9km, ML2.7*
*TEH **06** 17:25:30.3, 34.°64N×46.°26E, h8km±49km, ML2.6*
ISC 06 17:25:30.3±1.0, 34.°63N±0.°05×46.°28E±0.°04, h12km±8km, n11, σ0°51/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.11**	**54**	Pg	**Pg**	**17 25 33.2**	**-0.2**
IDHR				Sg	**Sg**	**17 25 36.2**	**+0.4**
IGHG	**Ghaleghazi**	**0.39**	**141**	Pg	**Pb**	**17 25 38.9**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.58**	**258**	Pg	**Pb**	**17 25 41.7**	**-0.7**
GLG1	**Gilan-e-Gharb**	**0.60**	**210**	Pg	**Pg**	**17 25 41.8**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.73**	**119**	Pg	**Pg**	**17 25 44.1**	**-0.2**
SNQR	**Sonqor, Kerman**	**1.14**	**78**	Pg	**Pn**	**17 25 52.4**	**+0.1**
IBZA	**Bozab**	**1.32**	**97**	Pg	**Pg**	**17 25 55.6**	**-0.1**
IBDR	**Badra**	**1.55**	**191**	*e*Pn	**Pb**	**17 25 59.0**	**+0.1**
IBDR				*e*Sn	**Sg**	**17 26 20.0**	**0.0**
IBDR				AML	AML	17 26 25.9	
	comp=E,78nm,0.4s						
IBDR				AML	AML	17 26 29.6	
	comp=N,64nm,0.5s						
IKFM	**Kafar-mosalman**	**1.71**	**130**	Pg	**Pg**	**17 26 03.0**	**0.0**
IKRK	**Kirkuk**	**1.76**	**296**	*e*Pn	**Pn**	**17 26 01.0**	**+0.3**
IKRK				*e*Sn	**Sb**	**17 26 25.0**	**+0.3**
BHD	**Baghdad**	**2.08**	**230**	*e*Pn	**Pn**	**17 26 06.0**	**+1.0**
BHD				*e*Sn	**Sb**	**17 26 33.0**	**-0.8**
BHD				AML	AML	17 26 41.4	
	comp=E,243nm,0.3s						

*TIR **06** 17:29:59.6, 41.°49N×19.°54E, h25km, Md2.6, Ml1.9*
*BEO **06** 17:30:01.8±0.5, 41.°46N×19.°56E, h8km±2km, ML2.0/7*
ISC 06 17:30:00.7±1.0, 41.°48N±0.°03×19.°55E±0.°03, h14km±9km, n18, σ0°74/31, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.27**	**119**	P	**Pg**	**17 30 06.2**	**-0.2**
	baz=119						
TIR				S	**Sg**	**17 30 10.9**	**+0.6**
	baz=119						
TIR				AMP			
	comp=N,0.8nm,0.2s,baz=119						
TIR	**Tirane**	**0.27**	**119**	*e*Pg	**Pg**	**17 30 06.7**	**+0.3**
TIR				*e*Sg	**Sb**	**17 30 11.5**	**-0.4**
PUK	**Puka**	**0.62**	**25**	P	**Pg**	**17 30 11.8**	**-1.0**
	baz=25						
PUK				S	**Sg**	**17 30 21.2**	**+0.2**
	baz=25						
PUK				AMP			
	comp=E,0.2nm,0.3s,baz=25						
DRME	**Dracevica, Mon**	**0.76**	**339**	*e*Pg	**Pb**	**17 30 15.3**	**-0.3**
DRME				*e*Sg	**Sn**	**17 30 27.9**	**-0.3**
BCI	**Bajram Curri**	**0.96**	**24**	P	**Pb**	**17 30 18.4**	**-0.8**
	baz=23						
BCI				S	**Sg**	**17 30 32.6**	**+0.6**
	baz=23						
PDG	**Podgorica**	**0.97**	**347**	*e*Pg	**Pn**	**17 30 20.6**	**+0.6**
PDG				*e*Sg	**Sn**	**17 30 33.6**	**0.0**
TREB	**Trebinje**	**1.52**	**325**	*e*Pg	**Pg**	**17 30 29.8**	**-0.1**
TREB				*e*Sg	**Sg**	**17 30 50.1**	**+0.4**
DBRK	**Dubrovnik**	**1.58**	**319**	*e*Pn	**Pg**	**17 30 30.7**	**-0.3**
DBRK				Sn	**Sg**	**17 30 52.7**	**+1.2**
SCTE	**Santa Cesarea**	**1.63**	**211**	P	**Pb**	**17 30 30.0**	**-0.5**
	baz=211						
SCTE				S	**Sg**	**17 30 52.3**	**-0.8**
	baz=211						
SJES	**Sjenica**	**1.81**	**10**	*e*Pg	**Pg**	**17 30 35.3**	**0.0**
SJES				*e*Sg	**Sg**	**17 30 58.4**	**-0.4**
STON	**Ston**	**1.95**	**316**	*e*Pg	**Pg**	**17 30 37.7**	**-0.4**
STON				*e*Sg	**Sg**	**17 31 03.9**	**+0.4**
STON	**Ston**	**1.95**	**316**	*e*Pn	**Pb**	**17 30 36.0**	**-0.1**
STON				Sn	**Sn**	**17 30 58.7**	**+0.9**
IVAS	**Ivanjica**	**2.14**	**12**	*e*Pn	**Pn**	**17 30 37.4**	**+1.3**
BARS	**Barje**	**2.15**	**51**	*e*Pn	**Pn**	**17 30 37.4**	**+1.2**
BARS				*e*Sn	**Sb**	**17 31 05.6**	**-0.4**
BBLS	**Lazi&#263i**	**2.38**	**358**	*e*Pn	**Pb**	**17 30 41.9**	**-1.6**
RICI	**Ricice**	**2.69**	**319**	*e*Pn	**Pn**	**17 30 44.7**	**+1.1**
ZIRJ	**Zirje**	**3.61**	**308**	*e*Pn	**Pn**	**17 30 56.8**	**+0.6**
DUGI	**Dugi Otok**	**4.15**	**309**	*e*Pn	**Pn**	**17 31 03.5**	**-0.2**

*BUT **06** 17:30:32.4±1.1, 45.°34N±0.°02×112.°09W±0.°04, h3km±3km, Error ellipse: s-maj=5.0km s-min=2.7km az=57.0*
NEIC 06 17:30:32.2±1.1, 45.°38N±0.°03×112.°03W±0.°05, h9km±11km, ML2.8/54, ML3.1/20(BUT), Error ellipse: s-maj=5.2km s-min=4.0km az=76.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZ	**Bozeman (W)**	**0.36**	**52**		Pb	17 30 40.1	-0.7
BOZ				IAML		17 30 48.4	
	804nm,0.4s						
YPDC	**Denny Creek**	**0.87**	**140**		Pg	17 30 48.7	-0.3
CMI	**Centennial Mou**	**0.90**	**161**		Pg	17 30 49.0	-0.6
YMC	**Maple Creek**	**0.95**	**130**		Pg	17 30 50.4	-0.2
YPWB	**West Boundary**	**1.02**	**139**		Pg	17 30 51.8	-0.1
YHH	**Holmes Hill**	**1.02**	**125**		Pg	17 30 51.7	-0.2
YNM	**Yellowstone No**	**1.15**	**124**	Pg	Pg	17 30 52.8	-1.5
YNM				IAML		17 31 11.4	
	comp=N,503nm,2.8s						
YNM				IAML		17 31 13.5	
	comp=E,279nm,0.5s						
YNR	**Norris Junctio**	**1.17**	**124**		Pg	17 30 54.1	-0.5
YNR				Sg	Sg	17 31 08.5	-1.3
YNR				IAML		17 31 11.0	
	comp=N,150nm,0.3s						
YNR				IAML		17 31 12.6	
	comp=E,147nm,0.2s						
YFT	**Old Faithful**	**1.26**	**137**		Pn	17 30 54.7	-1.5
MCID	**Moose Creek**	**1.33**	**153**		Pn	17 30 57.0	-0.2
YPP	**Pitchstone Pla**	**1.41**	**141**		Pb	17 30 58.9	0.0
YPSB	**Soda Butte**	**1.42**	**110**		Pg	17 30 59.7	+0.2
H17A	**Grant Village**	**1.43**	**133**		Pb	17 30 59.1	-0.1
BPMT	**Black Pine Rid**	**1.45**	**317**	Pn	Pn	17 30 59.2	+0.3
YMP	**Mirror Lake Pl**	**1.48**	**115**		Pn	17 30 59.4	+0.1
YTP	**The Promontory**	**1.59**	**128**		Pb	17 31 01.8	0.0
LYMT	**Lyon Mountain**	**1.60**	**354**		Pb	17 31 01.7	-0.4
FLWY	**Flagg Ranch**	**1.61**	**143**		Pn	17 31 01.4	+0.4
FLWY				IAML		17 31 24.9	
	comp=E,185nm,0.8s						
FLWY				IAML		17 31 24.9	
	comp=E,143nm,0.7s						
YPK	**Parker Peak, Y**	**1.63**	**113**		Pg	17 31 03.6	+0.1
IMW	**Indian Meadow**	**1.68**	**152**		Pn	17 31 02.6	+0.6
IMW				IAML		17 31 25.9	
	comp=E,206nm,0.4s						
OVMT	**Ovando**	**1.81**	**339**		Pn	17 31 04.7	+0.9
MOOW	**Moose Ponds**	**1.87**	**150**		Pn	17 31 05.6	+0.9
FXWY	**Fox Creek**	**1.88**	**157**		Pb	17 31 05.9	-1.0
MSO	**Missoula**	**1.97**	**318**		Pb	17 31 07.3	-0.9
MSO				IAML		17 31 35.7	
	comp=E,77nm,0.3s						
MSO				IAML		17 31 35.8	
	comp=E,116nm,0.3s						
RLMT	**Red Lodge**	**1.97**	**97**		Pb	17 31 08.5	+0.1
LOHW	**Long Hollow**	**2.04**	**149**		Pb	17 31 08.7	-0.9
LOHW	**Long Hollow**	**2.04**	**149**	IAML		17 31 36.7	
	comp=E,53nm,0.7s						
LOHW				IAML		17 31 37.2	
	comp=E,71nm,0.3s						
TPAW	**Teton Pass**	**2.04**	**157**		Pb	17 31 08.5	-1.1
TPAW				IAML		17 31 37.8	
	comp=E,76nm,0.5s						
TPAW				IAML		17 31 38.0	
	comp=E,109nm,0.5s						
SNOW	**Snow King Moun**	**2.12**	**154**		Pn	17 31 09.4	+1.3
SNOW				IAML		17 31 41.6	
	comp=E,62nm,0.7s						
SNOW				IAML		17 31 41.8	
	comp=E,69nm,0.7s						
REDW	**Red Top Meadow**	**2.19**	**157**		Pb	17 31 11.2	-0.9
HLID	**Hailey**	**2.49**	**224**		Pn	17 31 14.1	+1.0
HLID	**Hailey**	**2.49**	**224**	IAML		17 31 50.9	
	comp=E,72nm,0.5s						
HLID				IAML		17 31 51.7	
	comp=E,55nm,0.7s						
AHID	**Auburn Hatcher**	**2.70**	**165**		Pn	17 31 18.2	+2.2
AHID				IAML		17 31 57.5	
	comp=E,33nm,1.0s						
AHID				IAML		17 32 00.8	
	comp=E,37nm,0.7s						
PLID	**Pearl Lake**	**2.82**	**265**	Pn	Pn	17 31 18.6	+0.9
PLID				IAML		17 32 00.6	
	comp=E,39nm,0.4s						
PLID				IAML		17 32 04.0	
	comp=E,30nm,0.5s						
EGMT	**Eagleton**	**3.07**	**30**	Pn	Pn	17 31 22.6	+1.6
PD31	**Pinedale Array**	**3.16**	**145**		Pn	17 31 23.2	+0.8
PDAR	**Pinedale Array**	**3.16**	**145**	Pn	Pn	17 31 22.9	+0.5
MFID	**Camas Ranch**	**3.36**	**236**	Pn	Pn	17 31 26.1	+1.1
HVU	**Hansel Valley**	**3.64**	**189**		Pn	17 31 29.2	+0.3
F10A	**Beach Ranch, E**	**3.69**	**281**	Pn	Pn	17 31 28.8	-0.7
BMO	**Blue Mountains**	**3.77**	**264**		Pn	17 31 29.6	-1.0
BMO				IAML		17 32 31.2	
	comp=E,13nm,0.6s						
BMO				IAML		17 32 33.3	
	comp=E,9.8nm,0.6s						
HWUT	**Hardware Ranch**	**3.79**	**175**		Pn	17 31 29.7	-1.3
SPUT	**South Promonto**	**4.08**	**184**	Pn	Pn	17 31 33.7	-1.3
TCUT	**Toone Canyon**	**4.29**	**174**	Pn	Pn	17 31 35.9	-1.9
NEW	**Newport**	**4.53**	**311**	Pn	Pn	17 31 40.4	-0.6
NEW				IAML		17 33 00.1	
	comp=E,6.7nm,0.5s						
NEW				IAML		17 33 04.9	
	comp=E,8.2nm,0.4s						
JLU	**Jordanelle**	**4.79**	**175**	Pn	Pn	17 31 43.4	-1.5
BSUT	**Blindstream Ca**	**4.93**	**169**	Pn	Pn	17 31 44.8	-2.0
C09A	**Chrisman Ranch**	**4.94**	**302**	Pn	Pn	17 31 45.7	-0.9
J08A	**Circle Bar Ran**	**5.04**	**249**	Pn	Pn	17 31 46.6	-1.5
ELK	**Elko**	**5.19**	**208**	Pn	Pn	17 31 48.7	-1.7
DUG	**Dugway, Tooele**	**5.21**	**187**	Pn	Pn	17 31 47.9	-2.7
DUG				IAML		17 33 30.1	
	comp=E,6.8nm,4.5s						
DUG				IAML		17 34 43.6	
	comp=E,6.2nm,4.5s						
I07A	**Izee**	**5.48**	**259**		Pn	17 31 52.3	-1.9
B08A	**Colville Reser**	**5.83**	**303**	Pn	Pn	17 31 55.6	-3.2
RSSD	**Black Hills**	**5.83**	**100**		Pn	17 31 56.6	-2.5
LTY	**Liberty**	**6.27**	**291**	Pn	Pn	17 32 02.9	-2.1

*NOU **06** 17:39:01.7, 38.°83S×175.°53E, h190km, MLv3.7/11, North Island, New Zealand*
*WEL **06** 17:39:04.3±0.7, 39.°S±4.°×17.°6E±.°, h168km±5km, M3.2/58, ML2.8/9, MLv3.2/58, Error ellipse: s-maj=0.0km s-min=0.0km az=147.4, confirmed*
ISC 06 17:39:00.2±1.6, 38.°82S±0.°04×175.°52E±0.°04, h201km±8km, n161, σ1°15/174, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.20**	**58**	P	**Pn**	**17 39 27.6**	**+0.8**
RATZ	**Rangitukua**	**0.21**	**104**	P	**Pn**	**17 39 27.4**	**+0.7**
KATZ	**Kakaramea**	**0.21**	**139**	P	**Pn**	**17 39 27.6**	**+0.8**
TWVZ	**Taurewa**	**0.26**	**193**	P	**Pn**	**17 39 27.8**	**+0.9**
KRVZ	**Karewarewa**	**0.36**	**161**	P	**Pn**	**17 39 28.0**	**+1.0**
WTVZ	**West Tongariro**	**0.30**	**169**	P	**Pn**	**17 39 27.8**	**+0.8**
NTVZ	**North Tongarir**	**0.31**	**156**	P	**Pn**	**17 39 28.1**	**+1.1**
RITZ	**Rihia Road**	**0.31**	**121**	P	**Pn**	**17 39 27.9**	**+1.0**
NNVZ	**North Ngauruho**	**0.33**	**166**	P	**Pn**	**17 39 27.9**	**+0.8**
TMVZ	**Te Maari**	**0.33**	**154**	P	**Pn**	**17 39 28.0**	**+0.9**
ETVZ	**East Tongariro**	**0.35**	**155**	P	**Pn**	**17 39 28.0**	**+0.9**
NGZ	**Ngauruhoe**	**0.37**	**169**	P	**Pn**	**17 39 28.0**	**+0.8**
OTVZ	**Oturere**	**0.37**	**161**	P	**Pn**	**17 39 28.0**	**+0.8**
WHTZ	**Whakaora**	**0.38**	**67**	P	**Pn**	**17 39 28.0**	**+0.9**
SNVZ	**South Ngauruho**	**0.38**	**165**	P	**Pn**	**17 39 28.2**	**+0.9**
COVZ	**Chateau Observ**	**0.39**	**177**	P	**Pn**	**17 39 28.0**	**+0.9**
KUTZ	**Kaahu Road**	**0.41**	**37**	P	**Pn**	**17 39 28.0**	**+0.8**
FWVZ	**Far West T-bar**	**0.44**	**176**	P	**Pn**	**17 39 28.5**	**+1.0**
HATZ	**Hinemaiaia**	**0.46**	**100**	P	**Pn**	**17 39 28.0**	**+0.7**
TUVZ	**Tukino**	**0.47**	**167**	P	**Pn**	**17 39 28.7**	**+1.2**
WHVZ	**Whangaehu Hut**	**0.47**	**173**	P	**Pn**	**17 39 28.7**	**+1.1**
TLZ	**Tolley Road**	**0.49**	**2**	P	**Pn**	**17 39 28.1**	**+0.6**
PKVZ	**Pokaka**	**0.49**	**195**	P	**Pn**	**17 39 28.1**	**+0.6**
WNVZ	**Wahianoa**	**0.52**	**173**	P	**Pn**	**17 39 28.8**	**+1.1**
MTVZ	**Mangateitei**	**0.57**	**183**	P	**Pn**	**17 39 28.9**	**+1.1**
WPRZ	**Whakapapatarin**	**0.59**	**60**	P	**Pn**	**17 39 28.4**	**+0.6**
HIZ	**Hauiti**	**0.60**	**300**	P	**Pn**	**17 39 28.4**	**+0.5**
HIZ	**Hauiti**	**0.60**	**300**	P	**Pn**	**17 39 28.7**	**+0.8**
HIZ				S	**Sn**	**17 39 48.2**	**-1.0**
GRRZ	**Galatos Road**	**0.66**	**45**	P	**Pn**	**17 39 29.0**	**+0.8**
VRZ	**Vera Road**	**0.67**	**242**	P	**Pn**	**17 39 29.1**	**+1.0**
VRZ				S	**Sn**	**17 39 50.0**	**+0.2**
ALRZ	**Allen Road**	**0.70**	**69**	P	**Pn**	**17 39 28.9**	**+0.6**
ALRZ				S	**Sn**	**17 39 48.2**	**-1.9**
MRHZ	**Matea Rd**	**0.70**	**92**	P	**Pn**	**17 39 29.0**	**+0.5**
HRRZ	**Handcock Road**	**0.74**	**55**	P	**Pn**	**17 39 29.3**	**+0.7**
PRRZ	**Plateau Road**	**0.76**	**66**	P	**Pn**	**17 39 29.0**	**+0.3**
HSRZ	**Hossack Road**	**0.76**	**49**	P	**Pn**	**17 39 29.4**	**+0.7**
HSRZ				S	**Sn**	**17 39 50.7**	**0.0**
UTU	**Utuhina**	**0.83**	**40**	P	**Pn**	**17 39 29.9**	**+0.9**
BKZ	**Black Stump Fm**	**0.84**	**115**	P	**Pn**	**17 39 29.9**	**+0.8**
BKZ	**Black Stump Fm**	**0.84**	**115**	P	**Pn**	**17 39 30.1**	**+1.0**
BKZ				S	**Sn**	**17 39 49.7**	**-1.9**
HLRZ	**Highlands Stat**	**0.86**	**50**	P	**Pn**	**17 39 30.6**	**+1.3**
NGRZ	**Ngongotaha**	**0.89**	**37**	P	**Pn**	**17 39 30.2**	**+0.7**
RRRZ	**Republican Roa**	**0.92**	**59**	P	**Pn**	**17 39 30.1**	**+0.5**
KWHZ	**Kaweka Forest**	**0.93**	**131**	P	**Pn**	**17 39 31.2**	**+1.5**
KWHZ				S	**Sn**	**17 39 52.0**	**-0.7**
MHEZ	**Mangahewa**	**0.96**	**254**	P	**Pn**	**17 39 31.3**	**+1.4**
TARZ	**Mount Tarawera**	**0.97**	**54**	P	**Pn**	**17 39 30.7**	**+0.7**
OMRZ	**Omania**	**0.98**	**44**	P	**Pn**	**17 39 30.6**	**+0.6**
KARZ	**Kaharoa**	**0.98**	**36**	P	**Pn**	**17 39 30.7**	**+0.7**
MKRZ	**Makatiti**	**1.01**	**48**	P	**Pn**	**17 39 31.5**	**+1.2**
WAZ	**Wanganui**	**1.02**	**203**	P	**Pn**	**17 39 31.7**	**+1.5**
WAZ				S	**Sn**	**17 39 52.5**	**-1.2**
KMRZ	**Kaimai**	**1.02**	**19**	P	**Pn**	**17 39 31.1**	**+0.8**
MTHZ	**Maungataniwha**	**1.04**	**92**	P	**Pn**	**17 39 31.4**	**+1.0**
MTHZ				S	**Sn**	**17 39 51.6**	**-2.1**
MUGZ	**Murupara**	**1.04**	**71**	P	**Pn**	**17 39 30.6**	**+0.3**
MUGZ				S	**Sn**	**17 39 51.0**	**-2.7**
NMHZ	**Naumai**	**1.05**	**106**	P	**Pn**	**17 39 32.4**	**+1.9**
NMHZ				S	**Sn**	**17 39 54.2**	**+0.3**
KRHZ	**Kereru**	**1.06**	**141**	P	**Pn**	**17 39 32.0**	**+1.5**
KRHZ				S	**Sn**	**17 39 52.5**	**-1.7**
LIRZ	**Lichensteins R**	**1.06**	**40**	P	**Pn**	**17 39 31.3**	**+0.7**
TOZ	**Tahuroa Road**	**1.08**	**359**	P	**Pn**	**17 39 31.7**	**+1.1**
TOZ				S	**Sn**	**17 39 53.1**	**-1.2**
DREZ	**Durham Road**	**1.09**	**250**	P	**Pn**	**17 39 31.9**	**+1.2**
DREZ				S	**Sn**	**17 39 54.1**	**-0.2**
MCHZ	**McNeill Hill**	**1.11**	**125**	P	**Pn**	**17 39 33.0**	**+2.1**
RTZ	**Ruatahuna**	**1.16**	**81**	P	**Pn**	**17 39 32.1**	**+0.8**
PREZ	**Palmer Road**	**1.18**	**243**	P	**Pn**	**17 39 32.8**	**+1.4**
EDRZ	**Edgecumbe**	**1.19**	**54**	P	**Pn**	**17 39 32.1**	**+0.5**
NEZ	**North Egmont**	**1.20**	**247**	P	**Pn**	**17 39 33.0**	**+1.5**
PNHZ	**Pukenui**	**1.22**	**154**	P	**Pn**	**17 39 33.1**	**+1.4**
RAHZ	**Arahi**	**1.23**	**95**	P	**Pn**	**17 39 33.4**	**+1.6**
MARZ	**Manawahe**	**1.23**	**48**	P	**Pn**	**17 39 32.5**	**+0.6**
TGRZ	**Tauranga**	**1.23**	**29**	P	**Pn**	**17 39 32.5**	**+0.7**
ARHZ	**Aropaoanui**	**1.24**	**112**	P	**Pn**	**17 39 33.6**	**+1.8**
PKE	**Pukeiti**	**1.25**	**252**	P	**Pn**	**17 39 33.1**	**+1.2**
KHEZ	**Kahui Hut**	**1.26**	**247**	P	**Pn**	**17 39 33.4**	**+1.4**
KHEZ	**Kahui Hut**	**1.26**	**247**	P	**Pn**	**17 39 33.5**	**+1.4**
OPRZ	**Ohinepanea**	**1.27**	**40**	P	**Pn**	**17 39 32.6**	**+0.5**
TSZ	**Takapari Road**	**1.29**	**165**	P	**Pn**	**17 39 33.7**	**+1.5**
NBEZ	**Newall Road No**	**1.36**	**250**	P	**Pn**	**17 39 34.1**	**+1.3**
WHHZ	**Waihua**	**1.37**	**102**	P	**Pn**	**17 39 34.5**	**+1.6**
URZ	**Urewera**	**1.37**	**67**	P	**Pn**	**17 39 32.9**	**0.0**
URZ	**Urewera**	**1.37**	**67**	P	**Pn**	**17 39 33.1**	**+0.3**
OHWZ	**Ohakea**	**1.40**	**186**	P	**Pn**	**17 39 35.1**	**+2.0**
NMEZ	**Namu Road**	**1.41**	**244**	P	**Pn**	**17 39 34.5**	**+1.4**
SNGZ	**Shannon Statio**	**1.43**	**89**	P	**Pn**	**17 39 34.7**	**+1.4**
KAHZ	**Kahuranaki**	**1.44**	**133**	P	**Pn**	**17 39 35.5**	**+2.0**
WPHZ	**Waipukurau**	**1.44**	**150**	P	**Pn**	**17 39 35.1**	**+1.7**
CKHZ	**Cape Kidnapper**	**1.48**	**125**	P	**Pn**	**17 39 35.8**	**+2.0**
WHRZ	**Whale Island**	**1.50**	**51**	P	**Pn**	**17 39 35.3**	**+1.3**
RAGZ	**Rawiri**	**1.52**	**78**	P	**Pn**	**17 39 35.3**	**+1.0**
DVHZ	**Dannevirke**	**1.56**	**161**	P	**Pn**	**17 39 35.9**	**+1.3**
POWZ	**Post Office Ro**	**1.59**	**173**	P	**Pn**	**17 39 36.1**	**+1.4**
PXZ	**Pawanui**	**1.60**	**140**	P	**Pn**	**17 39 36.5**	**+1.7**
MWZ	**Matawai**	**1.65**	**74**	P	**Pn**	**17 39 36.1**	**+0.7**
PRHZ	**Porangahau**	**1.69**	**149**	P	**Pn**	**17 39 37.4**	**+1.7**
KNZ	**Kokohu**	**1.70**	**98**	P	**Pn**	**17 39 37.1**	**+1.4**
MKAZ	**Moumakai**	**1.73**	**351**	P	**Pn**	**17 39 37.2**	**+1.0**
RIGZ	**Rimuhau**	**1.76**	**87**	P	**Pn**	**17 39 37.8**	**+1.4**
PRWZ	**Pori Road**	**1.77**	**169**	P	**Pn**	**17 39 38.1**	**+1.7**
KBAZ	**Karaka Road Bo**	**1.79**	**344**	P	**Pn**	**17 39 37.7**	**+1.0**
ANWZ	**Angora Road**	**1.80**	**156**	P	**Pn**	**17 39 38.5**	**+1.8**
WIZ	**White Island**	**1.84**	**46**	P	**Pn**	**17 39 37.4**	**+0.2**
MRZ	**Mangatainoka R**	**1.84**	**178**	P	**Pn**	**17 39 38.4**	**+1.2**
PRGZ	**Paritu Road**	**1.85**	**94**	P	**Pn**	**17 39 38.7**	**+1.3**
TKGZ	**Te Karaka**	**1.87**	**79**	P	**Pn**	**17 39 38.8**	**+1.4**
AWAZ	**Awhitu Peninsu**	**1.88**	**338**	P	**Pn**	**17 39 38.9**	**+1.3**
MHGZ	**Mahia Peninsul**	**1.89**	**101**	P	**Pn**	**17 39 39.4**	**+1.7**
RUGZ	**Raukumara Rang**	**1.90**	**64**	P	**Pn**	**17 39 37.8**	**-0.2**
ETAZ	**East Tamaki Re**	**1.92**	**346**	P	**Pn**	**17 39 39.1**	**+1.2**
BFZ	**Birch Farm**	**1.95**	**163**	P	**Pn**	**17 39 39.4**	**+1.2**
BFZ	**Birch Farm**	**1.95**	**163**	P	**Pn**	**17 39 39.6**	**+1.4**
TIWZ	**Tintock**	**1.98**	**172**	P	**Pn**	**17 39 40.1**	**+1.6**
OGWZ	**Otaki Gorge**	**2.02**	**187**	P	**Pn**	**17 39 40.3**	**+1.4**
WTAZ	**Waiatarua**	**2.02**	**338**	P	**Pn**	**17 39 40.6**	**+1.6**
EPAZ	**Eden Park BICE**	**2.03**	**342**	P	**Pn**	**17 39 40.4**	**+1.3**
TWGZ	**Tauwhareparae**	**2.04**	**73**	P	**Pn**	**17 39 40.5**	**+1.3**
WIAZ	**Waiheke Island**	**2.04**	**351**	P	**Pn**	**17 39 40.3**	**+1.1**
HBAZ	**Herne Bay Bore**	**2.06**	**342**	P	**Pn**	**17 39 40.7**	**+1.3**
KUZ	**Kuaotunu**	**2.07**	**5**	P	**Pn**	**17 39 40.3**	**+0.7**
KUZ	**Kuaotunu**	**2.07**	**5**	P	**Pn**	**17 39 40.5**	**+0.9**
HAZ	**Te Kaha**	**2.07**	**60**	P	**Pn**	**17 39 39.6**	**0.0**
HOWZ	**Holdsworth Sta**	**2.08**	**180**	P	**Pn**	**17 39 40.7**	**+1.1**
KIW	**Kapiti Island**	**2.10**	**193**	P	**Pn**	**17 39 40.8**	**+1.0**
MBAZ	**Motutapu North**	**2.10**	**346**	P	**Pn**	**17 39 41.1**	**+1.2**
CNGZ	**Carnagh Statio**	**2.13**	**82**	P	**Pn**	**17 39 41.8**	**+1.6**
CPWZ	**Castlepoint**	**2.16**	**166**	P	**Pn**	**17 39 42.3**	**+2.0**
RVAZ	**Riverhead Bore**	**2.17**	**340**	P	**Pn**	**17 39 42.1**	**+1.5**
PKGZ	**Pakihiroa**	**2.22**	**66**	P	**Pn**	**17 39 41.8**	**+0.6**
ABAZ	**Army Bay**	**2.28**	**346**	P	**Pn**	**17 39 43.4**	**+1.7**
PUZ	**Puketiti**	**2.28**	**72**	P	**Pn**	**17 39 42.3**	**+0.6**
TMWZ	**Te Maipa**	**2.31**	**173**	P	**Pn**	**17 39 43.0**	**+1.0**
DUWZ	**D'Urville Isla**	**2.33**	**211**	P	**Pn**	**17 39 43.2**	**+0.9**
MTW	**Mount Morrison**	**2.34**	**180**	P	**Pn**	**17 39 43.1**	**+0.8**
WMGZ	**Waiomatatini S**	**2.49**	**67**	P	**Pn**	**17 39 44.6**	**+0.6**
MXZ	**Matakaoa Point**	**2.53**	**61**	P	**Pn**	**17 39 45.2**	**+0.7**
MXZ	**Matakaoa Point**	**2.53**	**61**	P	**Pn**	**17 39 45.3**	**+0.7**
WEL	**Wellington**	**2.53**	**193**	P	**Pn**	**17 39 45.4**	**+1.0**
GRZ	**Great Barrier**	**2.56**	**359**	P	**Pn**	**17 39 46.1**	**+1.3**
SNZO	**South Karori**	**2.57**	**194**	P	**Pn**	**17 39 45.9**	**+1.1**
TCW	**Tory Channel**	**2.57**	**201**	P	**Pn**	**17 39 46.0**	**+1.1**
TRWZ	**Traveller**	**2.58**	**177**	P	**Pn**	**17 39 46.0**	**+0.9**
MSWZ	**Moikau Station**	**2.60**	**184**	P	**Pn**	**17 39 46.0**	**+0.7**
BHW	**Baring Head**	**2.64**	**191**	P	**Pn**	**17 39 46.5**	**+0.9**
PLWZ	**Palliser**	**2.76**	**184**	P	**Pn**	**17 39 47.6**	**+0.6**
TUWZ	**Tuamarina**	**2.88**	**204**	P	**Pn**	**17 39 49.1**	**+0.7**
NNZ	**Nelson**	**2.91**	**214**	P	**Pn**	**17 39 49.2**	**+0.5**
TKNZ	**Takaka Hill**	**2.96**	**221**	P	**Pn**	**17 39 49.4**	**0.0**
WCZ	**Waipu Caves**	**3.02**	**342**	P	**Pn**	**17 39 51.8**	**+1.6**
QRZ	**Quartz Range**	**3.05**	**228**	P	**Pn**	**17 39 50.3**	**-0.1**
QRZ	**Quartz Range**	**3.05**	**228**	P	**Pn**	**17 39 50.3**	**-0.1**
BSWZ	**Blackbirch Sta**	**3.16**	**203**	P	**Pn**	**17 39 52.9**	**+1.2**
MRNZ	**Matariki Terra**	**3.34**	**218**	P	**Pn**	**17 39 54.0**	**+0.2**
THZ	**Tophouse**	**3.56**	**213**

CTAO	**Charters Tower**	**16.00 182**	P	**P**	**17 44 46.6 +1.8**	
CTAO	**Charters Tower**	**16.00 182**	P	**Pn**	**17 44 43.6 +2.3**	
CTAO			IAmb	IAmb	17 44 48.6	
	comp=Z,129nm,0.8s					
CTAO	**Charters Tower**	**16.00 182**	P	**Pn**	**17 44 43.6 +2.3**	
CTAO			pmax	pmax		
	comp=Z,129nm,0.9s					
KDU	**Kakadu**	**16.68 238**	P	**Pn**	**17 44 50.5 +0.5**	
KDU	**Kakadu**	**16.68 238**	P	**Pn**	**17 44 50.0 0.0**	
	comp=Z,219nm,0.9s					
GUMO	**Guam**	**17.60 353**	LR	LR	17 51 54.1	
	comp=Z,2μm,18.2s,baz=178,slow=37					
MTN	**Manton Dam**	**17.90 240**	P	**Pn**	**17 45 03.8 -1.4**	
	comp=Z,114nm,0.8s					
MTN	**Manton Dam**	**17.90 240**	P	**Pn**	**17 45 03.0 -2.3**	
MTN			IAmb	IAmb	17 45 09.2	
	comp=Z,161nm,1.2s					
MTN	**Manton Dam**	**17.90 240**	P	**Pn**	**17 45 03.9 -1.4**	
	comp=Z,114nm,0.8s					
QIS	**Mount Isa**	**17.93 203**	P	**Pn**	**17 45 06.8 +1.2**	
QIS	**Mount Isa**	**17.93 203**	P	**Pn**	**17 45 05.4 -0.2**	
	comp=Z,62nm,0.9s					
RK1H	**Rockhampton Ha**	**19.58 170**	P	**Pn**	**17 45 26.7 +1.1**	
WB0	**Warramunga Arr**	**19.86 217**		**P**	**17 45 26.8 -0.6**	
WB0			IAmb	IAmb	17 45 29.4	
	comp=Z,100nm,0.8s					
WR0	**Warramunga Arr**	**19.92 216**	P	**P**	**17 45 27.1 -1.0**	
WRAB	**Tennant Creek**	**20.02 217**	P	**P**	**17 45 28.9 -0.3**	
WRAB	**Tennant Creek**	**20.02 217**	*i* P	**P**	**17 45 28.1 -1.0**	
WB2	**Warramunga Arr**	**20.02 217**		**P**	**17 45 28.3 -0.9**	
WRA	**Warramunga Arr**	**20.03 217**		**P**	**17 45 26.7 -2.6**	
WRA	**Warramunga Arr**	**20.03 217**	P	**P**	**17 45 28.7 -0.6**	
	comp=Z,118nm,0.9s,baz=36,slow=12,SNR=258					
WRA			S	**S**	**17 49 15.2 +0.6**	
	comp=Z,1.9nm,0.8s,baz=32,slow=17,SNR=1.8					
WRA			LR	LR	17 54 04.1	
	comp=Z,5μm,18.4s,baz=58,slow=40					
TNTI	**Ternate**	**20.10 283**		**P**	**17 45 26.8 -3.3**	
TNTI			IAmb	IAmb	17 45 35.4	
	comp=Z,133nm,1.2s					
TNTI	**Ternate**	**20.10 283**	P	**P**	**17 45 29.9 -0.2**	
SANI	**Sanana**	**20.98 275**	P	**P**	**17 45 39.2 -0.5**	
EIDS	**Eidsvold**	**21.62 170**	P	**P**	**17 45 48.5 +2.1**	
EIDS	**Eidsvold**	**21.62 170**	P	**P**	**17 45 46.9 +0.5**	
EIDS			IAmb	IAmb	17 45 54.6	
	comp=Z,93nm,1.1s					
EIDS	**Eidsvold**	**21.62 170**	P	**P**	**17 45 47.4 +1.1**	
	comp=Z,112nm,1.3s					
RMQ	**Roma**	**22.43 176**	P	**P**	**17 45 57.5 +2.4**	
	comp=Z,52nm,1.1s					
QLP	**Quilpie**	**22.60 186**	P	**P**	**17 45 57.8 +0.9**	
QLP	**Quilpie**	**22.60 186**	P	**P**	**17 45 56.8 -0.1**	
	comp=Z,210nm,1.6s					
SOEI	**Soe**	**23.19 255**	P	**P**	**17 46 05.1 +1.8**	
SOEI	**Soe**	**23.19 255**	P	**P**	**17 46 01.4 -1.9**	
SOEI	**Soe**	**23.19 255**	P	**P**	**17 46 02.0 -1.3**	
AS01	**Alice Springs**	**23.21 211**	P	**P**	**17 46 02.9 -0.5**	
AS31	**Alice Springs**	**23.23 212**	P	**P**	**17 46 02.9 -0.7**	
AS31	**Alice Springs**	**23.23 212**	P	**P**	**17 46 03.2 -0.4**	
	comp=Z,44nm,0.8s					
ASAR	**Alice Springs**	**23.24 212**	P	**P**	**17 46 02.4 -1.3**	
ASAR	**Alice Springs**	**23.24 212**	P	**P**	**17 46 03.1 -0.5**	
	comp=Z,101nm,0.8s,baz=48,slow=8.3,SNR=609					
ASAR			S	**S**	**17 50 17.5 +1.6**	
	comp=Z,1.9nm,0.9s,baz=28,slow=18,SNR=2.0					
ASAR			LR	LR	17 55 55.3	
	comp=Z,5μm,18.4s,baz=40,slow=39					
	comp=Z,101nm,0.8s					
KMSI	**Cibinong**	**23.36 281**	P	**P**	**17 46 05.2 +0.3**	
KOUNC	**Koumac, New Ca**	**23.59 136**	P	**P**	**17 46 08.6 +1.5**	
BATI	**Baumata**	**23.87 254**	P	**P**	**17 46 09.3 -0.6**	
	comp=Z,207nm,0.9s,comp=Z,2μm					
DAV	**Davao City (W)**	**23.97 297**	LR	LR	17 54 51.7	
	comp=Z,2μm,21.1s,baz=134,slow=35					
LUWI	**Luwuk**	**24.29 276**	P	**P**	**17 46 12.5 -1.4**	
LUWI	**Luwuk**	**24.29 276**	P	**P**	**17 46 13.6 -0.3**	
	comp=Z,227nm,2.0s					
BBSI	**Bau Bau**	**24.30 266**	P	**P**	**17 46 15.5 +1.5**	
	comp=Z,165nm,2.4s,comp=Z,4μm					
GTOI	**Gorontalo**	**24.33 280**	P	**P**	**17 46 15.1 +0.9**	
	comp=Z,90nm,0.9s,comp=Z,1μm					
INKA	**Innaminka**	**24.33 193**	P	**P**	**17 46 15.0 +1.0**	
MMRI	**Maumere**	**24.95 258**	P	**P**	**17 46 17.2 -2.6**	
MMRI			IAmb	IAmb	17 46 45.2	
	comp=Z,68nm,1.0s					
FITZ	**Fitzroy Crossi**	**25.09 234**	P	**P**	**17 46 19.8 -1.3**	
LIFNC	**LIFOU**	**25.86 132**	P	**P**	**17 46 28.8 +0.8**	
OOD	**Oodnadatta**	**25.97 203**	P	**P**	**17 46 29.2 +0.3**	
NOUC	**Port Laguerre**	**26.02 135**	P	**P**	**17 46 31.5 +2.1**	
DZM	**Mont Dzumac**	**26.10 135**	P	**P**	**17 46 33.3 +3.0**	
DZM	**Mont Dzumac**	**26.10 135**	*e*P	**P**	**17 46 29.2 -1.1**	
	comp=Z,158nm,1.4s					
DZM			*e*S	**S**	**17 51 01.6 -0.3**	
	comp=Z,1μm,23.9s					
DZM			*e*LR	LR	17 53 02.1	
	comp=Z,6μm,24.9s					
DZM	**Mont Dzumac**	**26.10 135**	P	**P**	**17 46 30.6 +0.3**	
DZM			IAmb	IAmb	17 47 09.3	
	comp=Z,63nm,1.1s					
DZM	**Mont Dzumac**	**26.10 135**	LR	LR	17 55 30.4	
	comp=Z,3μm,20.2s,baz=328,slow=34					
TARA	**Tarawa**	**26.53 79**	P	**P**	**17 46 33.6 -0.6**	
OUENC	**Ouen Island, N**	**26.60 135**	P	**P**	**17 46 35.3 +0.6**	
OUENC			IAmb	IAmb	17 46 54.2	
	comp=Z,37nm,1.1s					
TOLI2	**Tolitoli**	**26.60 280**	P	**P**	**17 46 34.1 -0.7**	
TOLI2	**Tolitoli**	**26.60 280**	P	**P**	**17 46 32.9 -1.9**	
TOLI2			IAmb	IAmb	17 46 59.8	
	comp=Z,41nm,1.0s					
ARMA	**Armidale**	**26.65 171**	P	**P**	**17 46 38.9 +3.7**	
	comp=Z,39nm,0.9s					
ARMA	**Armidale**	**26.65 171**	P	**P**	**17 46 35.9 +0.7**	
ARMA			IAmb	IAmb	17 47 12.9	
	comp=Z,71nm,1.4s					
KAPI	**Kappang**	**27.09 267**	P	**P**	**17 46 38.0 -1.3**	
KAPI			IAmb	IAmb	17 46 47.6	
	comp=Z,59nm,1.2s					
KAPI	**Kappang**	**27.09 267**	LR	LR	17 59 15.6	
	comp=Z,851nm,18.3s,baz=104,slow=41					
KAPI	**Kappang**	**27.09 267**	*i* P	**P**	**17 46 39.4 +0.1**	
KAPI			pmax	pmax		
	comp=Z,61nm,1.2s					
CMSA	**Cobar Meteorol**	**27.41 182**	P	**P**	**17 46 44.5 +2.6**	
WRKA	**Warakurna**	**27.53 219**	P	**P**	**17 46 43.6 +0.5**	
LCRK	**Leigh Creek**	**27.55 196**	P	**P**	**17 46 44.7 +1.5**	
STKA	**Stephens Creek**	**28.17 190**	P	**P**	**17 46 49.4 +0.7**	
	comp=Z,6.5nm,0.9s					
STKA	**Stephens Creek**	**28.17 190**	P	**P**	**17 46 50.0 +1.3**	
STKA	**Stephens Creek**	**28.17 190**	P	**P**	**17 46 48.4 -0.3**	
	comp=Z,16nm,0.8s,baz=356,slow=9.2,SNR=8.9					
STKA			LR	LR	17 58 42.6	
	comp=Z,4μm,19.1s,baz=7.7,slow=38					
	comp=Z,16nm,0.8s					
STKA	**Stephens Creek**	**28.17 190**	*i* P	**P**	**17 46 52.2 +3.5**	
MULG	**Mulgathing**	**28.82 204**	P	**P**	**17 46 55.5 +1.0**	
H11S3	**WAKE ISLAND Hy**	**29.66 40**	T	T	18 18 08.8	
	baz=223,slow=76,SNR=74					
H11S2	**WAKE ISLAND Hy**	**29.66 40**	T	T	18 18 06.3	
	baz=223,slow=76,SNR=20					
H11S1	**WAKE ISLAND Hy**	**29.68 40**	T	T	18 18 08.5	
	baz=223,slow=76,SNR=21					
MYLDM	**Lahad Datu**	**29.81 288**	P	**P**	**17 47 02.4 -1.1**	
YNG	**Young**	**30.17 178**	P	**P**	**17 47 08.9 +2.4**	
WAKE	**Wake Island**	**30.21 39**	P	**P**	**17 47 05.6 -1.3**	
BBOO	**Buckleboo**	**30.41 198**	P	**P**	**17 47 11.5 +3.0**	
	comp=Z,48nm,2.1s					
BBOO	**Buckleboo**	**30.41 198**	P	**P**	**17 47 08.5 0.0**	
H11N1	**WAKE ISLAND Hy**	**30.68 39**	T	T	18 19 26.0	
	baz=222,slow=76,SNR=8.4					
H11N3	**WAKE ISLAND Hy**	**30.70 39**	T	T	18 19 25.5	
	baz=222,slow=76,SNR=7.6					
H11N2	**WAKE ISLAND Hy**	**30.70 39**	T	T	18 19 27.0	
	baz=222,slow=76,SNR=11					
CAN	**Canberra**	**31.22 177**	P	**P**	**17 47 16.0 +0.2**	
CAN			IAmb	IAmb	17 47 43.0	
	comp=Z,39nm,1.3s					
CAN	**Canberra**	**31.22 177**	P	**P**	**17 47 16.0 +0.2**	
CAN			pmax	pmax		
	comp=Z,39nm,1.3s					
MBWA	**Marble Bar**	**31.44 235**	P	**P**	**17 47 18.0 +0.2**	
MBWA	**Marble Bar**	**31.44 235**	IAMs_20	IAMs_20	18 00 20.4	
	comp=Z,3μm,19.0s					
PSA00	**Pilbara Seismi**	**31.55 234**	P	**P**	**17 47 18.2 -0.5**	
FORT	**Forrest**	**32.02 212**	P	**P**	**17 47 23.1 +0.3**	
FORT	**Forrest**	**32.02 212**	P	**P**	**17 47 22.5 -0.3**	
MEEK	**Meekatharra**	**35.20 227**	P	**P**	**17 47 51.3 +0.7**	
SBUM	**Sibu**	**35.26 280**	P	**P**	**17 47 49.9 -1.3**	
JOW	**Kunigami**	**35.56 331**	LR	LR	17 59 14.9	
	comp=Z,2μm,21.4s,baz=138,slow=31					
KMBL	**Kambalda**	**35.99 218**	P	**P**	**17 47 58.4 +1.1**	
TWG	**Pinlang**	**36.71 318**	IAMs_20	IAMs_20	18 00 39.8	
	comp=Z,2μm,19.0s					
NACB	**Ninganchiao**	**37.31 320**	IAMs_20	IAMs_20	17 59 15.7	
	comp=Z,3μm,22.0s					
TPUB	**Ta-pu**	**37.34 318**	IAMs_20	IAMs_20	18 02 31.5	
	comp=Z,3μm,19.0s					
JHJ	**Hachijo jima 2**	**37.53 350**	LR	LR	18 02 00.8	
	comp=Z,498nm,20.8s,baz=321,slow=34					
YHNB	**Yeheng**	**37.80 320**	P	**P**	**17 48 10.4 -2.4**	
YHNB			IAMs_20	IAMs_20	18 00 07.7	
	comp=Z,3μm,22.0s					
KLBR	**Kellerberrin**	**38.78 222**	P	**P**	**17 48 22.4 +1.5**	
	comp=Z,34nm,1.2s					
OUZ	**Omahuta**	**39.68 145**	IAMs_20	IAMs_20	18 02 16.8	
	comp=Z,2μm,21.0s					
QZH	**Quanzhou**	**39.81 318**	*e*P	**P**	**17 48 31.6 +2.0**	
QZH			S	**S**	**17 54 37.6 +3.4**	
QZH			LR	LR		
	comp=Z,2μm,14.1s					
QZH			LR	LR		
	comp=Z,1μm,13.1s					
QZH			LR	LR		
	comp=Z,2μm,15.7s					
JNU	**Nakatsue**	**39.93 339**	LR	LR	18 01 33.4	
	comp=Z,1μm,21.7s,baz=153,slow=31					
NWAO	**Narrogin (SRO)**	**39.96 220**	LR	LR	18 05 49.1	
	comp=Z,1μm,21.1s,baz=48,slow=37					
MJAR	**Matsushiro Arr**	**41.15 349**	P	**P**	**17 48 39.5 -1.1**	
	comp=Z,5.5nm,1.0s,baz=177,slow=9.9,SNR=8.5					
	comp=Z,5.5nm,1.0s					
MAJO	**Matsushiro**	**41.15 349**	P	**P**	**17 48 38.8 -1.7**	
MAJO			IAmb	IAmb	17 48 40.9	
	comp=Z,42nm,1.4s					
MAJO	**Matsushiro**	**41.15 349**	*i* P	**P**	**17 48 38.6 -1.9**	
MAJO			pmax	pmax		
	comp=Z,34nm,1.4s					
MJB9	**Matsu-Tunnel**	**41.15 349**	P	**P**	**17 48 39.5 -1.1**	
TOZ	**Tahuroa Road**	**42.54 146**	IAMs_20	IAMs_20	18 03 56.5	
	comp=Z,2μm,22.0s					
SSE	**Sheshan**	**42.67 327**	P	**P**	**17 48 54.0 +1.0**	
SSE			S	**S**	**17 55 18.1 +1.7**	
SSE			pmax	pmax		
	comp=Z,16nm,0.8s					
SSE			pmax	pmax		
	comp=Z,300nm,3.3s					
SSE			LR	LR		
	comp=Z,810nm,22.4s					
SSE			LR	LR		
	comp=Z,670nm,20.6s					
QIZ	**Qiongzhong**	**43.07 303**	P	**P**	**17 48 56.1 -0.4**	
QIZ			PP	**PP**	**17 50 37.8 +1.2**	
QIZ			S	**S**	**17 55 21.5 -1.2**	
QIZ			SS	**SS**	**17 58 25.2 -10**	
QIZ			pmax	pmax		
	comp=Z,25nm,2.0s					
QIZ			LR	LR		
	comp=Z,570nm,17.7s					
QIZ			LR	LR		
	comp=Z,770nm,17.7s					
QIZ			LR	LR		
	comp=Z,2μm,20.0s					
QIZ	**Qiongzhong**	**43.07 303**	IAMs_20	IAMs_20	18 03 29.9	
	comp=Z,2μm,22.0s					
QRZ	**Quartz Range**	**43.30 151**	P	**P**	**17 49 01.6 +3.6**	
	comp=Z,49nm,1.5s					
DSZ	**Denniston Nort**	**43.68 153**	IAMs_20	IAMs_20	18 08 24.8	
	comp=Z,2μm,21.0s					
URZ	**Urewera**	**43.82 145**	LR	LR	18 04 57.6	
	comp=Z,2μm,21.6s,baz=40,slow=33					
RTZ	**Ruatahuna**	**43.99 146**	P	**P**	**17 49 04.4 +0.6**	
RTZ			IAmb	IAmb	17 49 07.2	
	comp=Z,32nm,0.8s					
RTZ			IAMs_20	IAMs_20	18 05 03.9	
	comp=Z,2μm,20.0s					
MXZ	**Matakaoa Point**	**44.04 143**	IAMs_20	IAMs_20	18 05 27.3	
	comp=Z,2μm,20.0s					
BKZ	**Black Stump Fm**	**44.10 147**	P	**P**	**17 49 06.6 +2.0**	
	comp=Z,21nm,1.2s					
BKZ	**Black Stump Fm**	**44.10 147**	IAMs_20	IAMs_20	18 07 12.9	
	comp=Z,1μm,18.0s					
TUWZ	**Tuamarina**	**44.44 151**	P	**P**	**17 49 07.8 +0.6**	
NJ2	**Nanjing**	**44.69 325**	*e*P	**P**	**17 49 08.5 -0.8**	
NJ2			pmax	pmax		
	comp=Z,23nm,1.2s					
NJ2			pmax	pmax		
	comp=Z,700nm,5.0s					
NJ2			LR	LR		
	comp=Z,980nm,9.5s					
NJ2			LR	LR		
	comp=Z,1μm,7.3s					
NJ2			LR	LR		
	comp=Z,2μm,16.6s					
MRZ	**Mangatainoka R**	**44.69 149**	P	**P**	**17 49 09.9 +0.7**	
MRZ			IAMs_20	IAMs_20	18 06 14.5	
	comp=Z,2μm,20.0s					
KSRS	**Korea Array**	**44.87 338**	P	**P**	**17 49 10.6 0.0**	
	comp=Z,3.6nm,0.8s,baz=156,slow=10.0,SNR=7.0					
	comp=Z,3.6nm,0.8s					
RPZ	**Rata Peaks**	**44.94 155**	LR	LR	18 07 21.0	
	comp=Z,629nm,20.6s,baz=324,slow=35					
OXZ	**Oxford**	**45.05 154**	IAMs_20	IAMs_20	18 05 03.9	
	comp=Z,2μm,22.0s					
GVZ	**Greta Valley S**	**45.20 153**	IAMs_20	IAMs_20	18 05 07.1	
	comp=Z,2μm,20.0s					
UBPT	**Khong Chiam**	**45.29 296**	P	**P**	**17 49 12.6 -1.8**	
CNSH	**ChangSha**	**45.76 316**	P	**P**	**17 49 19.9 +2.0**	
CNSH			pmax	pmax		
	comp=Z,270nm,3.4s					
CNSH			LR	LR		
	comp=Z,930nm,21.9s					
CNSH			LR	LR		
	comp=Z,1μm,20.8s					
CNSH			LR	LR		
	comp=Z,2μm,21.5s					
WHN	**Wuhan**	**46.35 320**	P	**P**	**17 49 25.3 +2.8**	
WHN			S	**S**	**17 56 16.0 +6.0**	
WHN			LR	LR		
	comp=Z,4μm,20.1s					
ASAJ	**Asahikawa**	**48.06 356**	LR	LR	18 09 06.4	
	comp=Z,450nm,19.9s,baz=190,slow=35					
SRIT	**Nakonsritamara**	**48.81 285**	P	**P**	**17 49 41.1 -0.8**	
SLVN	**Son La**	**49.08 303**	P	**P**	**17 49 42.2 -1.8**	
SLVN			IAmb	IAmb	17 49 52.4	
	comp=Z,43nm,1.7s					
GYA	**Guiyang**	**49.32 310**	P	**P**	**17 49 48.8 +3.0**	
GYA			S	**S**	**17 56 59.2 +6.6**	
GYA			SS	**SS**	**18 00 23.6 -0.8**	
GYA			pmax	pmax		
	comp=Z,14nm,1.5s					
GYA			pmax	pmax		
	comp=Z,330nm,4.9s					
GYA			LR	LR		
	comp=Z,360nm,17.6s					
GYA			LR	LR		
	comp=Z,920nm,14.8s					
GYA			LR	LR		
	comp=Z,840nm,20.5s					
USA0B	**Ussuriysk Arra**	**49.83 346**	*i* P	**P**	**17 49 47.4 -1.7**	
USRK	**Ussuriysk Ar.**	**49.83 346**	P	**P**	**17 49 49.8 +0.7**	
	comp=Z,1.8nm,0.7s,baz=173,slow=11,SNR=4.4					
	comp=Z,1.8nm,0.7s					
LYN	**LuoYang**	**50.22 323**	*e*P	P	17 49 57.9 +5.6	
LYN			pP	pwP	17 50 02.7 +5.2	
LYN			S	**S**	**17 57 07.2 +2.6**	
LYN			pmax	pmax		
	comp=Z,30nm,0.5s					
LYN			pmax	pmax		
	comp=Z,250nm,3.8s					
LYN			LR	LR		
	comp=Z,3μm,18.6s					
LYN			LR	LR		
	comp=Z,1μm,17.9s					
LYN			LR	LR		
	comp=Z,4μm,18.2s					
HNS	**HongShan**	**50.93 327**	⇓P	**P**	**17 49 59.2 +1.6**	
HNS			*e*S	**S**	**17 57 14.2 -0.2**	
HNS			pmax	pmax		
	comp=Z,41nm,1.4s					
HNS			pmax	pmax		
	comp=Z,480nm,4.9s					
HNS			LR	LR		
	comp=Z,1μm,16.7s					
HNS			LR	LR		
	comp=Z,840nm,19.9s					
HNS			LR	LR		
	comp=Z,2μm,20.2s					
KMI	**Kunming**	**51.73 306**	⇑P	**P**	**17 50 07.1 +2.9**	
KMI			PP	**PP**	**17 52 04.5 +2.5**	
KMI			S	**S**	**17 57 29.6 +3.2**	
KMI			SS	**SS**	**18 01 03.0 -0.2**	
KMI			pmax	pmax		
	comp=Z,22nm,1.4s					
KMI			LR	LR		
	comp=Z,410nm,18.6s					
KMI			LR	LR		
	comp=Z,540nm,18.1s					
KMI			LR	LR		
	comp=Z,750nm,18.2s					
XAN	**Xi'an**	**52.11 320**	⇑P	**P**	**17 50 07.1 +0.5**	
XAN			pP	pwP	17 50 15.9 +4.1	
XAN			S	**S**	**17 57 29.4 -1.5**	
XAN			pmax	pmax		
	comp=Z,17nm,2.0s					
XAN			pmax	pmax		
	comp=Z,220nm,6.3s					
XAN			LR	LR		
	comp=Z,1μm,18.2s					
XAN			LR	LR		
	comp=Z,870nm,16.2s					
XAN			LR	LR		
	comp=Z,2μm,22.6s					
BJI	**Beijing**	**52.13 330**	P	**P**	**17 50 08.3 +1.7**	
BJI			S	**S**	**17 57 35.1 +4.2**	
BJI			pmax	pmax		
	comp=Z,5.0nm,0.9s					
BJI			LR	LR		
	comp=Z,380nm,18.5s					
BJI			LR	LR		
	comp=Z,320nm,16.7s					
BJI			LR	LR		
	comp=Z,470nm,17.6s					
CM31	**Chiang Mai Arr**	**52.26 297**	P	**P**	**17 50 06.6 -1.3**	
CM31			IAmb	IAmb	17 50 15.0	
	comp=Z,34nm,1.1s					
CMAR	**Chiang Mai Arr**	**52.26 297**	P	**P**	**17 50 06.9 -1.0**	
CMAR	**Chiang Mai Arr**	**52.26 297**	P	**P**	**17 50 08.6 +0.7**	
	comp=Z,10.0nm,0.8s,baz=121,slow=5.9,SNR=25					
CMAR			LR	LR	18 12 10.2	
	comp=Z,260nm,19.4s,baz=115,slow=36					
	comp=Z,10.0nm,0.8s					
CHTO	**Chiang Mai**	**52.38 297**	P	**P**	**17 50 08.2 -0.6**	
CHTO			IAmb	IAmb	17 50 15.5	
	comp=Z,29nm,1.3s					
CHTO	**Chiang Mai**	**52.38 297**	P	**P**	**17 50 08.2 -0.6**	
CHTO			pmax	pmax		
	comp=Z,29nm,1.3s					
CHTO			MLR	MLR		
	comp=Z,600nm,21.0s					
BNX	**BinXian**	**52.48 343**	⇓P	**P**	**17 50 09.7 +0.6**	
BNX			pmax	pmax		
	comp=Z,7.0nm,0.9s					
PZH	**PanZhiHua**	**53.17 307**	P	**P**	**17 50 16.5 +1.8**	
PZH			S	**S**	**17 57 42.6 -3.3**	
PZH			pmax	pmax		
	comp=Z,10.0nm,1.8s					
PZH			pmax	pmax		
	comp=Z,160nm,5.2s					
PZH			LR	LR		
	comp=Z,440nm,19.2s					
PZH			LR	LR		
	comp=Z,500nm,19.3s					
PZH			LR	LR		
	comp=Z,760nm,19.4s					
CD2	**Chengdu**	**53.84 313**	P	**P**	**17 50 20.9 +1.4**	
CD2			S	S	17 58 02.6 +7.9	
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
CD2			pmax	pmax		
	comp=Z,200nm,4.7s					
CD2			LR	LR		
	comp=Z,1μm,17.6s					
CD2			LR	LR		
	comp=Z,1μm,14.3s					
RAR	**Rarotonga**	**54.48 113**	LR	LR	18 12 05.0	
	comp=Z,241nm,19.2s,baz=284,slow=34					
KLR	**Kul'dur**	**54.63 348**	LR	LR	18 10 46.2	
	comp=Z,379nm,21.9s,baz=160,slow=33					
KLR	**Kul'dur**	**54.63 348**	*e*P	**P**	**17 50 23.9 -0.9**	
KLR			pmax	pmax		
	comp=Z,13nm,1.6s					
SKR	**Severo-Kuril's**	**55.05 7**	*e*P	**P**	**17 50 23.2 -4.5**	
SKR			*e*S	**S**	**17 58 15.3 +5.3**	
SKR			MLR	MLR		
	comp=Z,300nm,17.0s					
HHC	**Hu-ho-hao-te**	**55.11 328**	*e*P	**P**	**17 50 30.2 +1.6**	
HHC			pP	pwP	17 50 34.6 +0.8	
HHC			S	**S**	**17 58 12.2 +0.7**	
HHC			sS	sS	17 58 19.0 +3.3	
HHC			pmax	pmax		
	comp=Z,13nm,0.7s					
HHC			pmax	pmax		
	comp=Z,120nm,4.9s					
HHC			LR	LR		
	comp=Z,510nm,15.5s					
HHC			LR	LR		
	comp=Z,1μm,17.4s					
HHC			LR	LR		
	comp=Z,2μm,20.9s					
TNCH	**TengChong**	**55.13 304**	*e*P	**P**	**17 50 29.7 +0.6**	
TNCH			S	**S**	**17 58 11.4 -1.1**	
TNCH			SS	**SS**	**18 01 54.8 -1.9**	
TNCH			pmax	pmax		
	comp=Z,15nm,0.6s					
TNCH			pmax	pmax		
	comp=Z,150nm,4.7s					
TNCH			LR	LR		
	comp=Z,340nm,26.8s					
TNCH			LR	LR		
	comp=Z,350nm,19.5s					
TNCH			LR	LR		
	comp=Z,830nm,24.8s					
XLT	**XiLinHaoTe**	**55.16 333**	*e*P	**P**	**17 50 28.6 -0.3**	
XLT			pP	pwP	17 50 33.3 -0.8	
XLT			PcP	**PcP**	**17 51 32.9 +2.9**	
XLT			PP	**PP**	**17 52 35.4 +3.0**	
XLT			S	**S**	**17 58 14.7 +2.6**	
XLT			ScS	**ScS**	**18 00 15.9 -2.5**	
XLT			pmax	pmax		
	comp=Z,13nm,1.4s					
XLT			LR	LR		
	comp=Z,76nm,18.3s					
XLT			LR	LR		
	comp=Z,370nm,18.3s					
XLT			LR	LR		
	comp=Z,940nm,22.1s					
BTO	**Baotou**	**55.77 326**	*e*P	**P**	**17 50 36.4 +3.0**	
BTO			PcP	**PcP**	**17 51 34.0 +1.5**	
BTO			PP	**PP**	**17 52 42.6 +4.6**	
BTO			S	**S**	**17 58 27.4 +7.0**	
BTO			pmax	pmax		
	comp=Z,33nm,1.6s					
BTO			pmax	pmax		
	comp=Z,270nm,5.1s					
BTO			LR	LR		
	comp=Z,2μm,16.7s					
BTO			LR	LR		
	comp=Z,1μm,22.6s					
BTO			LR	LR		
	comp=Z,2μm,19.3s					
HEH	**HeiHe**	**56.60 345**	*e*P	**P**	**17 50 39.2 +0.3**	
HEH			pP	**sP**	**17 50 42.6 +0.1**	
HEH			S	**S**	**17 58 31.9 +1.1**	
HEH			ScS	**ScS**	**18 00 22.7 -5.6**	
HEH			pmax	pmax		
	comp=Z,11nm,0.8s					
HEH			pmax	pmax		
	comp=Z,110nm,4.9s					
HEH			LR	LR		
	comp=Z,830nm,16.5s					
HEH			LR	LR		
	comp=Z,1μm,16.1s					
HEH			LR	LR		
	comp=Z,600nm,17.8s					
LZH	**Lanzhou**	**56.66 319**	*e*P	**P**	**17 50 42.2 +2.3**	
LZH			sP	pwP	17 50 48.7 +3.6	
LZH			S	**S**	**17 58 32.2 -0.3**	
LZH			SS	**SS**	**18 02 19.0 -1.4**	
LZH			pmax	pmax		

comp=Z,36nm,1.1s
LZH LR LR
comp=Z,700nm,15.5s
LZH LR LR
comp=Z,820nm,16.8s
LZH LR LR
comp=Z,2μm,21.0s
PET Petropavlovsk 57.67 8 *e*P **P 17 50 49.3 +2.8**
PET *e*S **S 17 58 46.7 +1.8**
PET 18 04 45.0
PET pmax pmax
comp=Z,100nm,13.0s
PET pmax pmax
comp=Z,200nm,12.5s
PET MLR MLR
comp=Z,400nm,16.0s
PET MLR MLR
comp=Z,500nm,14.0s
ZEA Zeya 59.85 347 *e*P **P 17 51 00.2 -1.4**
ZEA *e*S **S 17 59 13.2 0.0**
ZEA pmax pmax
comp=N,100nm,4.0s
ZEA pmax pmax
comp=Z,200nm,4.8s
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA smax smax
comp=E,100nm,10.7s
ZEA MLR MLR
comp=E,200nm,16.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
SHEM Shemya Is, Ala 61.01 19 LR LR 18 13 19.2
comp=Z,563nm,21.8s,baz=222,slow=32
GTA Gaotai 61.17 320 *e*P **P 17 51 12.2 +1.1**
GTA pP pwP 17 51 16.4 0.0
GTA S **S 17 59 30.6 -0.3**
GTA sS sS 17 59 39.0 +3.8
GTA SS **SS 18 03 35.0 +3.8**
GTA pmax pmax
comp=Z,7.0nm,1.6s
GTA LR LR
comp=Z,380nm,17.5s
GTA LR LR
comp=Z,340nm,19.1s
GTA LR LR
comp=Z,500nm,18.7s
CIT Chita 62.59 337 *e*P **P 17 51 20.4 +0.1**
CIT *e* 17 51 58.4
CIT pmax pmax
comp=Z,56nm,1.4s
SONM Songino Array 62.63 330 P **P 17 51 20.4 -0.3**
SONM IAmb IAmb 17 51 27.2
comp=Z,35nm,1.7s
SONM Songino Array 62.63 330 P **P 17 51 21.0 +0.2**
comp=Z,2.6nm,0.8s,baz=152,slow=5.5,SNR=12
SONM LR LR 18 18 13.4
comp=Z,986nm,19.9s,baz=128,slow=36
comp=Z,2.6nm,0.8s
SONM Songino Array 62.63 330 P **P 17 51 21.0 +0.2**
MA2 Magadan 63.46 2 IAMs_20 IAMs_20 18 14 05.4
comp=Z,1μm,22.0s
MA2 Magadan 63.46 2 LR LR 18 15 11.9
comp=Z,606nm,21.8s,baz=187,slow=32
MA2 Magadan 63.46 2 *i* P **P 17 51 24.1 -1.8**
MA2 pmax pmax
comp=Z,28nm,2.3s
PPT Papeete 63.56 108 LR LR 18 16 32.0
comp=Z,271nm,19.0s,baz=278,slow=34
PPT2 Papeete2 63.56 108 *e*P P 17 51 21.9 -5.6
comp=Z,66nm,37.2s
PPT2 *e*S **S 18 00 02.1 +0.4**
comp=Z,453nm,32.2s
PPT2 *e*SS **SS 18 04 03.6 -5.5**
comp=Z,192nm,27.2s
PPT2 *e*LQ LQ 18 07 38.8
comp=Z,1μm,28.0s
PPT2 *e*LR LR 18 10 26.8
comp=Z,1μm,28.5s
PPT2 *e*LR LR 18 10 30.9
comp=Z,804nm,34.0s
ADK Adak 63.69 24 IAMs_20 IAMs_20 18 14 51.4
comp=Z,907nm,21.0s
TBI Tubuai 64.24 114 *e*P **P 17 51 31.7 0.0**
comp=Z,238nm,32.5s
TBI *e*S **S 18 00 06.7 -3.1**
comp=Z,1μm,29.8s
TBI *e*SS **SS 18 04 20.3 +0.9**
comp=Z,1μm,28.0s
TBI *e*LQ LQ 18 07 57.8
comp=Z,4μm,34.5s
TBI *e*LR LR 18 10 40.4
comp=Z,2μm,37.2s
TBI *e*LR LR 18 10 48.6
comp=Z,12μm,39.0s
ZAK Zakamensk 65.86 331 *e*P **P 17 51 41.4 -0.5**
ZAK pmax pmax
comp=Z,24nm,1.3s
IRK Irkutsk 66.64 333 *e*P **P 17 51 47.3 +0.6**
IRK pmax pmax
comp=Z,32nm,0.7s
SEY Seymchan 66.88 3 LR LR 18 16 02.6
comp=Z,748nm,22.0s,baz=152,slow=32
SEY Seymchan 66.88 3 *e*P **P 17 51 48.4 +0.4**
SEY pmax pmax
comp=Z,16nm,1.5s
PALK Pallekele 67.02 280 LR LR 18 21 40.1
comp=Z,180nm,21.3s,baz=214,slow=36
CASY Casey 67.15 195 P **P 17 51 49.1 -0.6**
CASY IAmb IAmb 17 52 07.6
comp=Z,13nm,0.9s
YAK Yakutsk 67.17 351 LR LR 18 20 12.6
comp=Z,313nm,19.7s,baz=152,slow=35
YAK Yakutsk 67.17 351 *e*P **P 17 51 48.8 -1.0**
YAK *e* 17 52 11.2
YAK *e* 17 54 15.9
YAK *e*PPP PPP 17 55 53.1
YAK *e*S **S 18 00 44.3 +0.2**
YAK *e**SS sS 18 01 04.0 +16
YAK *e*SS **SS 18 05 10.1 +6.6**
YAK pmax pmax
comp=Z,14nm,1.6s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.8s
YAK pmax pmax
comp=Z,116nm,4.8s
YAK pmax pmax
comp=N,90nm,4.5s
YAK pmax pmax
comp=E,65nm,4.0s
YAK smax smax
comp=E,131nm,5.4s
YAK smax smax
comp=N,111nm,5.4s
YAK MLR MLR
comp=E,159nm,23.0s
MOY Mondy 67.79 331 *e*P **P 17 51 54.8 +0.6**
MOY pmax pmax
comp=Z,44nm,1.8s
WMQ Urumqi 71.23 319 *e*P **P 17 52 18.3 +2.7**
WMQ S **S 18 01 33.9 +0.8**
WMQ pmax pmax
comp=Z,29nm,1.1s
WMQ LR LR
comp=Z,400nm,17.9s
WMQ LR LR
comp=Z,420nm,21.5s
WMQ LR LR
comp=Z,290nm,23.3s
BILL Bilibino 73.16 7 *e*P **P 17 52 26.5 0.0**
BILL *e* 17 52 46.8
BILL *e* 17 55 05.9
BILL *e*PPP PPP 17 56 51.2
BILL pmax pmax
comp=Z,12nm,1.1s
CNBA Chernabura Isl 73.33 29 IAMs_20 IAMs_20 18 19 05.9
comp=Z,648nm,20.0s
VNDA Vanda 73.90 177 P **P 17 52 30.3 -0.5**
VNDA Vanda 73.90 177 P **P 17 52 30.6 -0.2**
comp=Z,5.4nm,0.7s,baz=323,slow=5.9,SNR=24
VNDA LR LR 18 23 12.7
comp=Z,569nm,19.1s,baz=345,slow=34
comp=Z,5.4nm,0.7s
SBA Scott Base 74.54 176 P **P 17 52 35.4 +0.9**
SBA IAmb IAmb 17 53 56.3
comp=Z,25nm,1.6s
SBA Scott Base 74.54 176 P **P 17 52 35.4 +0.9**
SBA pmax pmax
comp=Z,25nm,1.6s
ZSN Zaisan 74.55 322 *e*P **P 17 52 34.2 -1.0**
baz=322
ZSN Zaisan 74.55 322 *e*P **P 17 52 34.1 -1.0**
M13K Dall Lake 74.95 23 IAMs_20 IAMs_20 18 20 32.0
comp=Z,913nm,21.0s
O14K Tigyukauivet M 75.09 25 IAMs_20 IAMs_20 18 21 19.0
comp=Z,681nm,22.0s
K13K Kusilvak Mount 75.41 21 IAMs_20 IAMs_20 18 23 09.1
comp=Z,844nm,20.0s
M14K Bethel 75.70 23 P **P 17 52 40.5 -0.9**
M14K IAMs_20 IAMs_20 18 21 04.9
comp=Z,1μm,22.0s
L14K Kuka Creek 75.77 23 P **P 17 52 40.7 -1.1**
L14K IAMs_20 IAMs_20 18 22 10.9
comp=Z,768nm,20.0s
MK31 Makanchi Array 75.92 320 P **P 17 52 41.8 -1.2**
MK31 IAmb IAmb 17 53 11.2
comp=Z,27nm,1.5s
MK31 Makanchi Array 75.92 320 *ce*P **P 17 52 42.0 -1.0**
MKAR Makanchi Array 75.92 320 P **P 17 52 42.2 -0.9**
MKAR Makanchi Array 75.92 320 P **P 17 52 42.9 -0.2**
comp=Z,1.8nm,0.8s,baz=114,slow=5.9,SNR=16
comp=Z,1.8nm,0.8s
N15K Kwethluk River 76.11 24 IAMs_20 IAMs_20 18 22 10.8
comp=Z,626nm,20.0s
MAKZ Makanchi 76.12 320 P **P 17 52 43.1 -1.1**
MAKZ IAmb IAmb 17 53 16.1
comp=Z,31nm,1.4s
MAKZ Makanchi 76.12 320 P **P 17 52 43.1 -1.1**
MAKZ pmax pmax
comp=Z,31nm,1.4s
MAKZ MLR MLR
comp=Z,400nm,21.0s
J14K Nanvaranak Lak 76.32 21 P **P 17 52 44.8 -0.1**
J14K IAmb IAmb 17 53 09.3
comp=Z,32nm,1.7s
J14K IAMs_20 IAMs_20 18 23 17.3
comp=Z,750nm,20.0s
SHLS Shalkode 76.55 316 *e*P **P 17 52 44.1 -2.7**
baz=316
SHLS Shalkode 76.55 316 *e*P **P 17 52 44.1 -2.7**
O16K Kokwok River B 76.62 25 IAMs_20 IAMs_20 18 21 20.5
comp=Z,764nm,22.0s
K15K Wolf Creek Mou 76.79 22 P **P 17 52 47.0 -0.5**
K15K IAmb IAmb 17 53 17.1
comp=Z,20nm,1.4s
UZB Uzynbulak 76.85 316 *e*P **P 17 52 47.7 -0.8**
baz=316
UZB Uzynbulak 76.85 316 *e*P **P 17 52 47.7 -0.8**
ANM Nome 76.86 19 IAMs_20 IAMs_20 18 21 57.4
comp=Z,932nm,22.0s
M16K Timber Creek 77.05 24 IAMs_20 IAMs_20 18 21 46.7
comp=Z,703nm,22.0s
KPKS Kokpek 77.18 316 *e*P **P 17 52 49.7 -0.7**
baz=316
KPKS Kokpek 77.18 316 *e*P **P 17 52 49.6 -0.8**
L16K Owhat River 77.23 23 P **P 17 52 48.8 -1.2**
L16K IAmb IAmb 17 53 38.5
comp=Z,32nm,1.8s
L16K IAMs_20 IAMs_20 18 22 45.5
comp=Z,738nm,21.0s
SATY Saty 77.25 316 *e*P **P 17 52 50.2 -0.6**
baz=316
SATY Saty 77.25 316 *e*P **P 17 52 50.2 -0.6**
ZAA0 Zalesovo Array 77.29 328 P **P 17 52 49.1 -1.5**
ZALV Zalesovo Beam 77.29 328 P **P 17 52 49.1 -1.5**
ZALV Zalesovo Beam 77.29 328 P **P 17 52 50.0 -0.5**
comp=Z,2.3nm,0.7s,baz=104,slow=4.5,SNR=11
ZALV LR LR 18 26 01.4
comp=Z,951nm,21.1s,baz=123,slow=35
comp=Z,2.3nm,0.7s
N17K Nushagak Hills 77.51 25 IAMs_20 IAMs_20 18 22 42.9
comp=Z,742nm,22.0s
J16K Anvik River 77.72 22 P **P 17 52 52.1 -0.6**
J16K IAmb IAmb 17 53 43.1
comp=Z,54nm,2.0s
J16K IAMs_20 IAMs_20 18 24 41.2
comp=Z,887nm,20.0s
F15K North Star Dit 77.84 18 IAMs_20 IAMs_20 18 23 48.2
comp=Z,740nm,21.0s
M17K Holitna River 77.88 24 IAMs_20 IAMs_20 18 22 33.5
comp=Z,689nm,22.0s
KSH Kashi 77.99 312 P **P 17 52 58.7 +3.7**
KSH S **S 18 02 51.5 +2.5**
KSH pmax pmax
comp=Z,6.0nm,1.4s
KSH LR LR
comp=Z,460nm,17.2s
KSH LR LR
comp=Z,530nm,22.7s
KSH LR LR
comp=Z,710nm,21.3s
O18K Koktuh Hills 78.00 26 IAMs_20 IAMs_20 18 22 01.1
comp=Z,699nm,20.0s
I17K Unalakleet 78.04 21 IAMs_20 IAMs_20 18 22 07.7
comp=Z,930nm,22.0s
N18K Kilae Creek 78.13 25 IAMs_20 IAMs_20 18 23 13.5
comp=Z,654nm,22.0s
KDAK Kodiak Island 78.20 28 LR LR 18 21 19.3
comp=Z,485nm,22.0s,baz=268,slow=31
MDOK Medeo 78.23 315 *e*P **P 17 52 55.3 -1.0**
baz=315
MDOK Medeo 78.23 315 *e*P **P 17 52 55.3 -1.0**
K17K Iditarod 78.26 23 P **P 17 52 55.3 -0.5**
K17K IAmb IAmb 17 53 45.7
comp=Z,32nm,1.4s
J17K VABM Dome 78.35 22 IAmb IAmb 17 53 26.1
comp=Z,31nm,1.4s
J17K IAMs_20 IAMs_20 18 23 20.8
comp=Z,837nm,20.0s
G16K Koyuk River 78.38 19 IAMs_20 IAMs_20 18 23 56.6
comp=Z,884nm,21.0s
O19K Port Alsworth 78.56 26 IAMs_20 IAMs_20 18 22 17.8
comp=Z,703nm,22.0s
L18K Granite Mounta 78.62 23 P **P 17 52 57.6 -0.2**
L18K IAmb IAmb 17 53 29.8
comp=Z,21nm,1.4s
L18K IAMs_20 IAMs_20 18 21 07.1
comp=Z,695nm,22.0s
SYI Shuyak Island 78.67 28 IAMs_20 IAMs_20 18 24 50.8
comp=Z,750nm,22.0s
N19K Bonanza Creek 78.80 25 IAMs_20 IAMs_20 18 23 10.0
comp=Z,784nm,22.0s
H17K Granite Mounta 78.93 20 IAmb IAmb 17 53 49.5
comp=Z,42nm,1.8s
H17K IAMs_20 IAMs_20 18 22 44.2
comp=Z,602nm,22.0s
J18K Innoko River 79.27 22 P **P 17 53 01.1 -0.3**
C16K Lisburne Hills 79.32 16 IAMs_20 IAMs_20 18 23 20.1
comp=Z,751nm,21.0s
L19K White Mountain 79.33 24 IAMs_20 IAMs_20 18 23 20.0
comp=Z,654nm,20.0s
M19K Big River Lodg 79.38 24 IAMs_20 IAMs_20 18 22 06.3
comp=Z,725nm,22.0s
F17K Baldwin Pennin 79.38 19 IAMs_20 IAMs_20 18 24 46.0
comp=Z,718nm,20.0s
KURK Kurchatov 79.57 323 P **P 17 53 02.7 -0.6**
KURK Kurchatov 79.57 323 *ce*P **P 17 53 03.0 -0.2**
KURK pmax pmax
comp=Z,16nm,1.3s
KURBB Kurchatov Arra 79.59 323 P **P 17 53 02.9 -0.5**
comp=Z,2.6nm,0.9s,baz=116,slow=4.5,SNR=13
comp=Z,2.6nm,0.9s
H18K Honhosa River 79.60 21 IAMs_20 IAMs_20 18 26 28.8
comp=Z,596nm,20.0s
CNPM China Poot 79.62 27 P **P 17 53 03.4 0.0**
RDOG Red Dog Mine 79.87 17 IAMs_20 IAMs_20 18 22 54.8
comp=Z,616nm,20.0s
AAK Ala-Archa 79.89 314 LR LR 18 28 10.1
comp=Z,820nm,21.1s,baz=106,slow=36
AAK Ala-Archa 79.89 314 *i* P **P 17 53 05.2 -0.2**
AAK pmax pmax
comp=Z,10.0nm,1.8s
M20K Styx River 79.89 25 IAMs_20 IAMs_20 18 23 47.8
comp=Z,703nm,21.0s
J19K Poorman 79.97 22 P **P 17 53 05.6 +0.5**
SGDS Sogindy 80.01 315 *e*P **P 17 53 04.9 -1.1**
baz=315
SGDS Sogindy 80.01 315 *e*P **P 17 53 04.8 -1.1**
E18K Tukpahlearik C 80.18 18 IAMs_20 IAMs_20 18 23 48.9
comp=Z,865nm,22.0s
K20K Telida 80.23 23 IAmb IAmb 17 53 56.4
comp=Z,52nm,1.9s
K20K IAMs_20 IAMs_20 18 25 00.8
comp=Z,658nm,21.0s
H19K Roundabout Mou 80.48 21 IAmb IAmb 17 53 32.2
comp=Z,36nm,1.6s
H19K IAMs_20 IAMs_20 18 27 53.0
comp=Z,588nm,20.0s
G19K Purcell Mounta 80.59 20 P **P 17 53 08.8 +0.4**
G19K IAMs_20 IAMs_20 18 24 55.0
comp=Z,586nm,20.0s
SKT Skwentna 80.61 25 IAMs_20 IAMs_20 18 24 19.7
comp=Z,764nm,21.0s
J20K Nowinta River 80.62 22 IAmb IAmb 17 53 58.5
comp=Z,31nm,1.5s
SUA Susitna One 80.70 26 IAmb IAmb 17 53 30.6
comp=Z,53nm,2.0s
O22K Cooper Landing 80.72 27 IAMs_20 IAMs_20 18 21 44.0
comp=Z,714nm,22.0s
C18K Utukok River 80.74 17 IAMs_20 IAMs_20 18 22 49.7
comp=Z,881nm,22.0s
F19K Shaleruckik Mo 80.74 19 P **P 17 53 09.6 +0.4**
F19K IAMs_20 IAMs_20 18 25 06.9
comp=Z,804nm,20.0s
FIS Fire Island 80.79 26 IAMs_20 IAMs_20 18 21 59.8
comp=Z,648nm,20.0s
BTLS Baital 80.83 317 *e*P **P 17 53 09.0 -1.2**
baz=317
BTLS Baital 80.83 317 *e*P **P 17 53 08.9 -1.2**
RC01 Rabbit Creek A 80.98 26 P **P 17 53 09.9 -0.8**
RC01 IAmb IAmb 17 54 10.2
comp=Z,25nm,1.5s
CAST Castle Rocks 81.05 23 IAMs_20 IAMs_20 18 25 27.3
comp=Z,636nm,20.0s
CUT Chulitna 81.33 25 IAMs_20 IAMs_20 18 24 42.9
comp=Z,664nm,21.0s
C19K Lookout Ridge 81.48 17 IAMs_20 IAMs_20 18 23 58.3
comp=Z,864nm,21.0s
F20K Avaraart Lake 81.54 20 IAmb IAmb 17 53 37.4
comp=Z,22nm,1.4s
F20K IAMs_20 IAMs_20 18 25 52.9
comp=Z,686nm,20.0s
D19K Kuna River 81.57 18 IAMs_20 IAMs_20 18 24 45.7
comp=Z,854nm,22.0s
KTH Kantishna Hill 81.57 24 IAMs_20 IAMs_20 18 26 05.2
comp=Z,690nm,20.0s
IMAR Indian Mountai 81.67 21 P **P 17 53 14.6 +0.4**
KNK Knik Glacier 81.68 26 IAMs_20 IAMs_20 18 31 59.2
comp=Z,504nm,19.0s
BPAW Bear Paw Mtn. 81.80 23 P **P 17 53 15.5 +0.6**
BPAW IAMs_20 IAMs_20 18 24 55.1
comp=Z,858nm,21.0s
SML Sawmill 81.89 26 IAmb IAmb 17 53 45.6
comp=Z,38nm,1.5s
MLY Manley 82.32 22 IAmb IAmb 17 53 59.3
comp=Z,20nm,1.5s
MLY IAMs_20 IAMs_20 18 27 32.7
comp=Z,715nm,20.0s
RND Reindeer 82.34 24 P **P 17 53 18.1 +0.3**
RND Reindeer 82.34 24 P **P 17 53 18.2 +0.3**
RND pmax pmax
comp=Z,14nm,1.1s
RND MLR MLR
comp=Z,900nm,21.0s
F21K Alatna River 82.38 20 IAmb IAmb 17 53 54.5
comp=Z,25nm,1.9s
F21K IAMs_20 IAMs_20 18 26 31.2
comp=Z,804nm,20.0s
BWN Browne 82.43 23 IAMs_20 IAMs_20 18 24 55.5
comp=Z,780nm,22.0s
B20K Meade River 82.70 17 IAMs_20 IAMs_20 18 29 20.5
comp=Z,659nm,20.0s
NEA2 Nenana 82.76 23 IAmb IAmb 17 53 43.0
comp=Z,25nm,1.6s
DHY Denali Highway 82.82 25 IAmb IAmb 17 53 44.2
comp=Z,14nm,1.1s
DHY IAMs_20 IAMs_20 18 25 28.2
comp=Z,668nm,21.0s
KLU Klutina 82.83 26 IAmb IAmb 17 53 51.7
comp=Z,18nm,1.3s
KLU IAMs_20 IAMs_20 18 23 33.6
comp=Z,588nm,22.0s
E21K Killik River 82.83 19 IAmb IAmb 17 53 45.1
comp=Z,17nm,1.1s
E21K IAMs_20 IAMs_20 18 25 24.1
comp=Z,589nm,22.0s
KK31 Karatay Array 82.84 314 P **P 17 53 21.2 +0.4**
KK31 IAmb IAmb 17 54 21.0
comp=Z,23nm,1.6s
KK31 Karatay Array 82.84 314 P **P 17 53 21.3 +0.4**
KK31 pmax pmax
comp=Z,23nm,1.6s
KKAR Karatay Array 82.84 314 P **P 17 53 20.9 0.0**
KKAR Karatay Array 82.84 314 IAmb IAmb 17 54 21.0
comp=Z,23nm,1.6s
KKAR Karatay Array 82.84 314 P **P 17 53 20.9 0.0**
I23K Minto, Yukon-K 82.89 22 IAmb IAmb 17 53 42.9
comp=Z,28nm,1.8s
I23K IAMs_20 IAMs_20 18 27 01.0
comp=Z,702nm,20.0s
M24K Tolsona, Glenn 82.95 26 IAMs_20 IAMs_20 18 23 18.8
comp=Z,598nm,22.0s
RAGM Ragged Mountai 82.99 28 IAMs_20 IAMs_20 18 26 27.9
comp=Z,684nm,20.0s
IUG Iuzhnay 82.99 313 *e*P **P 17 53 20.9 -1.0**
comp=Z,5.9nm,1.0s,baz=313
IUG Iuzhnay 82.99 313 *e*P **P 17 53 20.8 -1.0**
IUG pmax pmax
comp=Z,6.0nm,1.0s
SIMJ Simiganj 83.08 310 P **P 17 53 21.1 -1.2**
WRH Wood River Hil 83.10 23 IAMs_20 IAMs_20 18 27 20.5
comp=Z,544nm,20.0s
H23K Yukon River 83.12 22 IAmb IAmb 17 53 43.6
comp=Z,29nm,1.7s
HMT Hamilton 83.16 28 IAmb IAmb 17 53 52.7
comp=Z,28nm,1.4s
HMT IAMs_20 IAMs_20 18 26 17.6
comp=Z,649nm,19.0s
B21K Ikpikpuk River 83.24 17 IAMs_20 IAMs_20 18 25 51.8
comp=Z,836nm,22.0s
MDM Murphy Dome 83.25 23 P **P 17 53 22.8 +0.4**
MDM IAmb IAmb 17 53 43.8
comp=Z,31nm,1.9s
CCB Clear Creek Bu 83.28 23 IAMs_20 IAMs_20 18 27 25.3
comp=Z,652nm,20.0s
SUCK Suckling Hills 83.30 28 IAMs_20 IAMs_20 18 22 53.2
comp=Z,527nm,21.0s
BRLS Borolday 83.31 314 *e*P **P 17 53 22.4 -0.9**
baz=314
BRLS Borolday 83.31 314 *e*P **P 17 53 22.3 -1.0**
G23K Bananza Creek 83.34 21 IAMs_20 IAMs_20 18 25 10.6
comp=Z,874nm,22.0s
COLA College 83.36 23 *i* P **P 17 53 23.8 +0.8**
COLA pmax pmax
comp=Z,6.0nm,0.9s
NRIK Noril'sk 83.36 342 P **P 17 53 22.6 -0.4**
comp=Z,2.9nm,0.5s,baz=127,slow=5.4,SNR=14
NRIK LR LR 18 31 43.9
comp=Z,157nm,18.6s,baz=120,slow=37
comp=Z,2.9nm,0.5s
NRIK Noril'sk 83.36 342 *ce*P **P 17 53 22.5 -0.4**
NRIK pmax pmax
comp=Z,33nm,1.3s
D22K Ayikyak River 83.46 18 IAMs_20 IAMs_20 18 24 40.7
comp=Z,689nm,22.0s
HDA Harding Lake 83.52 24 IAMs_20 IAMs_20 18 26 22.8
comp=Z,815nm,22.0s
POKR Poker Plat Res 83.62 23 IAMs_20 IAMs_20 18 27 35.2
comp=Z,822nm,21.0s
ILAR Eielson Array 83.69 23 P **P 17 53 23.8 -1.0**
ILAR Eielson Array 83.69 23 P **P 17 53 24.7 -0.1**
comp=Z,2.6nm,0.9s,baz=254,slow=5.0,SNR=11
ILAR LR LR 18 27 49.7
comp=Z,520nm,20.7s,baz=256,slow=34
comp=Z,2.6nm,0.9s
CRQM Cirque 83.83 28 IAmb IAmb 17 53 34.9
comp=Z,11nm,0.9s
VRDI Verde Repeater 83.84 27 IAmb IAmb 17 53 56.2
comp=Z,40nm,1.8s
WAX Waxell Ridge 83.86 28 IAMs_20 IAMs_20 18 31 44.0
comp=Z,537nm,20.0s
B22K Teshekpuk Lake 83.96 17 IAMs_20 IAMs_20 18 25 39.8
comp=Z,761nm,21.0s
MAW Mawson 84.05 203 P **P 17 53 26.4 -0.1**
comp=Z,2.4nm,0.7s,baz=274,slow=13,SNR=1.3
MAW LR LR 18 30 13.0
comp=Z,470nm,18.0s,baz=84,slow=35
comp=Z,2.4nm,0.7s
J25K Salcha River, 84.23 24 P **P 17 53 27.8 +0.1**

J25K					IAmb	IAmb	17 54 07.4	
	comp=Z,17nm,1.1s							
TOLK	**Toolik Lake Re**	**84.35**	**19**		IAMs_20	IAMs_20	18 28 46.3	
	comp=Z,608nm,20.0s							
F24K	**Squaw Lake**	**84.44**	**21**		IAmb	IAmb	17 53 51.8	
	comp=Z,16nm,1.2s							
F24K					IAMs_20	IAMs_20	18 26 52.8	
	comp=Z,524nm,20.0s							
E24K	**Your Creek**	**84.47**	**20**		IAMs_20	IAMs_20	18 28 00.5	
	comp=Z,731nm,20.0s							
PRP	**Porcupine Dome**	**84.51**	**23**		IAMs_20	IAMs_20	18 28 51.9	
	comp=Z,740nm,20.0s							
SCRK	**Sand Creek**	**84.56**	**24**		P	**P**	**17 53 29.5**	**+0.1**
CTGM	**Chitina Glacie**	**84.73**	**28**		IAmb	IAmb	17 54 27.5	
	comp=Z,11nm,1.0s							
D24K	**Happy Valley**	**84.82**	**19**		IAMs_20	IAMs_20	18 30 59.7	
	comp=Z,598nm,20.0s							
J26L	**Joseph Creek**	**84.92**	**24**		IAmb	IAmb	17 53 53.5	
	comp=Z,12nm,1.2s							
M27K	**Edge Creek, AK**	**84.92**	**26**		IAmb	IAmb	17 54 02.0	
	comp=Z,24nm,1.4s							
FYU	**Fort Yukon**	**85.02**	**22**		P	**P**	**17 53 31.6**	**+0.2**
BVAR	**Borovoye Array**	**85.12**	**324**		P	**P**	**17 53 32.2**	**0.0**
	comp=Z,3.2nm,0.6s,baz=107,slow=7.6,SNR=15							
BVAR					LR	LR	18 31 51.2	
	comp=Z,192nm,20.2s,baz=88,slow=36							
	comp=Z,3.2nm,0.6s							
L27K	**Beaver Creek,**	**85.17**	**26**		IAmb	IAmb	17 54 03.1	
	comp=Z,22nm,1.6s							
BRVK	**Borovoye**	**85.19**	**324**		P	**P**	**17 53 32.2**	**-0.4**
BRVK					IAmb	IAmb	17 53 40.4	
	comp=Z,21nm,1.4s							
BRVK	**Borovoye**	**85.19**	**324**	*ce*	P	**P**	**17 53 32.6**	**0.0**
BRVK					pmax	pmax		
	comp=Z,11nm,1.6s							
BCAR	**Beaver Creek A**	**85.19**	**26**		P	**P**	**17 53 33.6**	**+1.2**
I26K	**Coal Creek Min**	**85.36**	**23**		IAMs_20	IAMs_20	18 29 11.4	
	comp=Z,563nm,20.0s							
K27K	**Chicken**	**85.38**	**25**		IAMs_20	IAMs_20	18 26 39.8	
	comp=Z,595nm,22.0s							
BMAR	**Burnt Mountain**	**85.58**	**21**		P	**P**	**17 53 34.9**	**+0.6**
QSPA	**South Pole Qui**	**85.95**	**180**		P	**P**	**17 53 35.5**	**-0.8**
QSPA					IAmb	IAmb	17 53 54.1	
	comp=Z,13nm,1.1s							
QSPA	**South Pole Qui**	**85.95**	**180**		P	**P**	**17 53 35.4**	**-0.9**
	comp=Z,4.8nm,0.9s,baz=334,slow=1.4,SNR=18							
QSPA					LR	LR	18 30 09.0	
	comp=Z,689nm,21.0s,baz=9.0,slow=34							
	comp=Z,4.8nm,0.9s							
EGAK	**Eagle**	**85.99**	**24**		IAmb	IAmb	17 54 01.2	
	comp=Z,12nm,1.1s							
P29M	**Windy Craggy**	**86.07**	**30**		IAmb	IAmb	17 53 59.0	
	comp=Z,18nm,1.4s							
P29M					IAMs_20	IAMs_20	18 32 07.8	
	comp=Z,475nm,18.0s							
DAWY	**Dawson**	**86.51**	**25**		IAmb	IAmb	17 54 04.3	
	comp=Z,22nm,1.3s							
I28M	**Miner Creek**	**86.69**	**24**		P	**P**	**17 53 39.2**	**-0.7**
I28M					IAmb	IAmb	17 54 05.9	
	comp=Z,23nm,1.6s							
L29M	**L29M**	**86.79**	**26**		IAmb	IAmb	17 54 05.3	
	comp=Z,21nm,1.4s							
L29M					IAMs_20	IAMs_20	18 27 51.4	
	comp=Z,588nm,22.0s							
E27K	**Coleen River**	**86.90**	**21**		IAmb	IAmb	17 54 13.0	
	comp=Z,14nm,1.2s							
E27K					IAMs_20	IAMs_20	18 32 13.9	
	comp=Z,648nm,20.0s							
O30N	**Mendenhall**	**87.15**	**29**		P	**P**	**17 53 42.2**	**+0.1**
O30N					IAmb	IAmb	17 54 14.2	
	comp=Z,32nm,1.8s							
S32K	**Killisnoo**	**87.19**	**32**		IAMs_20	IAMs_20	18 23 47.5	
	comp=Z,789nm,22.0s							
K29M	**Barlow Dome**	**87.25**	**25**		IAmb	IAmb	17 54 15.4	
	comp=Z,22nm,1.2s							
K29M					IAMs_20	IAMs_20	18 34 35.4	
	comp=Z,508nm,19.0s							
M30M	**Minto, Yukon**	**87.25**	**27**		IAmb	IAmb	17 54 26.5	
	comp=Z,38nm,2.0s							
I29M	**Ogilvie Camp,**	**87.32**	**24**		IAMs_20	IAMs_20	18 28 18.1	
	comp=Z,602nm,21.0s							
F28M	**Old Crow**	**87.35**	**22**		IAMs_20	IAMs_20	18 29 28.7	
	comp=Z,565nm,20.0s							
JIS	**Juneau Island**	**87.46**	**31**		IAMs_20	IAMs_20	18 23 59.5	
	comp=Z,619nm,22.0s							
N31M	**Braeburn, Yuko**	**87.46**	**28**		IAmb	IAmb	17 54 18.4	
	comp=Z,15nm,1.1s							
H29M	**Whitestone**	**87.52**	**23**		P	**P**	**17 53 43.5**	**-0.3**
H29M					IAmb	IAmb	17 54 49.7	
	comp=Z,24nm,1.4s							
H29M					IAMs_20	IAMs_20	18 30 39.5	
	comp=Z,598nm,20.0s							
U33K	**Whale Pass**	**87.71**	**34**		IAMs_20	IAMs_20	18 29 28.5	
	comp=Z,653nm,19.0s							
E28M	**Babbage River**	**87.76**	**21**		IAmb	IAmb	17 54 16.9	
	comp=Z,24nm,1.4s							
E28M					IAMs_20	IAMs_20	18 30 53.5	
	comp=Z,548nm,20.0s							
J30M	**Hart River**	**87.93**	**25**		P	**P**	**17 53 45.9**	**-0.1**
P32M	**Atlin**	**88.06**	**30**		IAMs_20	IAMs_20	18 33 47.3	
	comp=Z,432nm,19.0s							
I30M	**Mount Dempster**	**88.07**	**24**		IAmb	IAmb	17 54 10.9	
	comp=Z,22nm,1.6s							
I30M					IAMs_20	IAMs_20	18 30 46.9	
	comp=Z,588nm,20.0s							
WRAK	**Wrangell Islan**	**88.19**	**33**		IAMs_20	IAMs_20	18 24 36.2	
	comp=Z,677nm,21.0s							
EPYK	**Eagle Plains**	**88.21**	**23**		IAMs_20	IAMs_20	18 31 09.5	
	comp=Z,655nm,20.0s							
V35K	**Ketchikan**	**88.42**	**34**		IAMs_20	IAMs_20	18 28 05.2	
	comp=Z,560nm,20.0s							
G30M	**tAoh Zraii Nji**	**88.55**	**23**		IAMs_20	IAMs_20	18 30 49.5	
	comp=Z,705nm,20.0s							
P33M	**Teslin, Yukon**	**88.62**	**29**		IAMs_20	IAMs_20	18 29 50.0	
	comp=Z,500nm,20.0s							
N32M	**Quiet Lake**	**88.66**	**29**		IAMs_20	IAMs_20	18 28 42.1	
	comp=Z,574nm,21.0s							
S34M	**Telegraph Cree**	**89.09**	**32**		IAMs_20	IAMs_20	18 24 56.8	
	comp=Z,776nm,22.0s							
G31M	**Satah River**	**89.28**	**23**		P	**P**	**17 53 50.8**	**-1.2**
U35K	**Hyder**	**89.40**	**34**		IAMs_20	IAMs_20	18 24 18.1	
	comp=Z,588nm,21.0s							
R33M	**Jennings River**	**89.41**	**30**		IAmb	IAmb	17 54 37.5	
	comp=Z,24nm,1.6s							
F31M	**Tsiigehtchic**	**89.59**	**22**		IAMs_20	IAMs_20	18 31 10.0	
	comp=Z,678nm,22.0s							
DLBC	**Dease Lake**	**89.75**	**31**		LR	LR	18 26 03.4	
	comp=Z,599nm,21.6s,baz=284,slow=30							
INK	**Inuvik**	**89.84**	**21**		LR	LR	18 29 58.2	
	comp=Z,852nm,21.8s,baz=198,slow=33							
WSAR	**Wadi Sarin**	**89.98**	**293**		LR	LR	18 35 19.4	
	comp=Z,114nm,20.8s,baz=110,slow=36							
BBB	**Bella Bella**	**90.05**	**38**		LR	LR	18 27 32.4	
	comp=Z,667nm,19.9s,baz=272,slow=31							
GEYT	**Alibeck**	**91.48**	**308**		LR	LR	18 36 58.6	
	comp=Z,674nm,20.9s,baz=91,slow=37							
AKTO	**Aktyubinsk**	**92.35**	**320**		LR	LR	18 34 47.5	
	comp=Z,558nm,21.7s,baz=56,slow=35							
ARU	**Arti**	**92.39**	**326**		P	**P**	**17 54 03.6**	**-3.2**
ARU							17 57 44.4	
ARU					S	**SKSac**	**18 04 36.7**	**-3.5**
ARU					MLR	MLR		
	comp=Z,600nm,20.0s							
O02D	**Mt. Diablo Mer**	**92.78**	**50**		IAMs_20	IAMs_20	18 32 59.6	
	comp=Z,600nm,19.0s							
YBH	**Yreka Blue Hor**	**92.92**	**49**		LR	LR	18 29 02.9	
	comp=Z,502nm,20.2s,baz=270,slow=31							
C36M	**Paulatuk**	**93.37**	**21**		IAMs_20	IAMs_20	18 33 16.8	
	comp=Z,647nm,22.0s							
CMB	**Columbia Colle**	**94.57**	**52**		IAMs_20	IAMs_20	18 34 06.1	
	comp=Z,456nm,20.0s							
HAWA	**Hanford**	**95.33**	**44**		IAMs_20	IAMs_20	18 32 25.1	
	comp=Z,422nm,20.0s							
WVOR	**Wild Horse Val**	**95.97**	**48**		IAMs_20	IAMs_20	18 30 00.5	
	comp=Z,640nm,21.0s							
ELIB	**Princess Elisa**	**96.09**	**195**		*dx*	x	17 54 33.0	
NVAR	**Mina Array Bea**	**96.22**	**52**		P	**P**	**17 54 23.6**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=195,slow=6.7,SNR=2.2							
NVAR					LR	LR	18 32 04.0	
	comp=Z,261nm,19.8s,baz=270,slow=32							
	comp=Z,0.1nm,0.3s							
BMO	**Blue Mountains**	**96.91**	**45**		IAMs_20	IAMs_20	18 34 48.1	
	comp=Z,387nm,19.0s							
NEW	**Newport**	**96.94**	**42**		IAMs_20	IAMs_20	18 35 21.6	
	comp=Z,460nm,20.0s							
NEW	**Newport**	**96.94**	**42**		LR	LR	18 30 05.8	
	comp=Z,250nm,21.5s,baz=280,slow=30							
GMN	**Gold Mountain**	**97.04**	**53**		P	**P**	**17 54 27.2**	**-1.7**
KIRV	**Kirov**	**97.31**	**328**		LR	LR	18 39 03.4	
	comp=Z,2μm,20.2s,baz=85,slow=36							
YKA	**Yellowknife Ar**	**97.45**	**28**		P	Pdif	17 54 30.4	+0.5
	comp=Z,1.7nm,1.0s,baz=287,slow=5.7,SNR=3.8							
YKA					LR	LR	18 35 52.3	
	comp=Z,297nm,20.4s,baz=303,slow=34							
	comp=Z,1.7nm,1.0s							
PFO	**Pinyon Flats O**	**97.72**	**57**		LR	LR	18 30 23.7	
	comp=Z,195nm,21.9s,baz=262,slow=30							
BELG	**Belogornoye**	**98.83**	**322**		LR	LR	18 38 47.4	
	comp=Z,368nm,21.2s,baz=74,slow=35							
HLID	**Hailey**	**99.03**	**47**		IAMs_20	IAMs_20	18 38 50.5	
	comp=Z,478nm,20.0s							
MSO	**Missoula**	**99.17**	**43**		IAMs_20	IAMs_20	18 38 40.6	
	comp=Z,451nm,18.0s							
MAK	**Makhachkala**	**99.60**	**313**	*c i*	P	**Pdif**	**17 54 32.0**	**-7.9**
MAK				*e*	SS	SS	18 12 54.6	-9.4
MAK				*e*	SSS	SSS	18 16 53.3	
MAK					pmax	pmax		
	comp=Z,161nm,1.1s							
GROC	**Groznyy**	**100.83**	**313**	*e*	P	**Pdif**	**17 54 45.5**	**+0.1**
GROC				*e*			17 58 49.2	
GROC					pmax	pmax		
	comp=Z,6.0nm,1.0s							
BOZ	**Bozeman (W)**	**100.87**	**44**		IAMs_20	IAMs_20	18 43 44.7	
	comp=Z,346nm,19.0s							
HWUT	**Hardware Ranch**	**101.26**	**49**		IAMs_20	IAMs_20	18 34 21.8	
	comp=Z,415nm,20.0s							
FXWY	**Fox Creek**	**101.48**	**46**		IAMs_20	IAMs_20	18 40 11.2	
	comp=Z,379nm,20.0s							
AHID	**Auburn Hatcher**	**101.51**	**47**		IAMs_20	IAMs_20	18 40 39.1	
	comp=Z,501nm,19.0s							
MOOW	**Moose Ponds**	**101.67**	**46**		IAMs_20	IAMs_20	18 40 22.3	
	comp=Z,391nm,20.0s							
LOHW	**Long Hollow**	**101.79**	**46**		IAMs_20	IAMs_20	18 40 52.4	
	comp=Z,354nm,20.0s							
EGMT	**Eagleton**	**101.88**	**42**		IAMs_20	IAMs_20	18 46 55.2	
	comp=Z,332nm,18.0s							
RWWY	**Rawlins**	**104.50**	**48**		IAMs_20	IAMs_20	18 37 00.4	
	comp=Z,512nm,19.0s							
OBN	**Obninsk**	**104.83**	**326**	*i*	P	**Pdif**	**17 55 00.6**	**-2.2**
OBN				*e*			17 59 21.8	
OBN				*e*	PPP	PPP	18 01 33.4	
OBN					pmax	pmax		
	comp=Z,5.0nm,0.8s							
TULEG	**Thule**	**104.90**	**8**		IAMs_20	IAMs_20	18 38 40.6	
	comp=Z,403nm,22.0s							
Y22D	**IRIS PASSCAL I**	**105.62**	**56**		IAMs_20	IAMs_20	18 41 20.1	
	comp=Z,425nm,18.0s							
EPT	**El Paso**	**106.19**	**58**		IAMs_20	IAMs_20	18 42 10.6	
	comp=Z,461nm,20.0s							
SDCO	**Great Sand Dun**	**106.33**	**52**		IAMs_20	IAMs_20	18 38 32.5	
	comp=Z,382nm,21.0s							
ANN	**Anapa**	**106.59**	**316**	*i*	P	**Pdif**	**17 55 07.1**	**-3.8**
ANN				*e*			18 05 40.7	
ANN				*e*			18 06 31.0	
ANN					pmax	pmax		
	comp=Z,44nm,1.7s							
ANN					pmax	pmax		
	comp=Z,11nm,0.8s							
ANN					MLR	MLR		
	comp=Z,423nm,21.0s							
ANN					MLR	MLR		
	comp=E,814nm,22.0s							
ANN					MLR	MLR		
	comp=N,168nm,19.0s							
OGNE	**Ogallala**	**108.47**	**48**		IAMs_20	IAMs_20	18 37 03.4	
	comp=Z,448nm,22.0s							
KIEV	**Kiev**	**110.40**	**323**		IAMs_20	IAMs_20	18 46 50.2	
	comp=Z,493nm,20.0s							
CBKS	**Cedar Bluff**	**110.62**	**50**		IAMs_20	IAMs_20	18 55 29.7	
	comp=Z,335nm,21.0s							
OK032	**Salt Plains WL**	**112.22**	**52**		IAMs_20	IAMs_20	18 36 28.3	
	comp=Z,392nm,22.0s							
EYMN	**Ely**	**113.75**	**39**		IAMs_20	IAMs_20	18 46 06.7	
	comp=Z,518nm,22.0s							
MLR	**Muntele Rosu**	**114.23**	**319**		IAMs_20	IAMs_20	18 48 36.4	
	comp=Z,377nm,21.0s							
TUL3	**Leonard**	**114.32**	**52**		IAMs_20	IAMs_20	18 46 54.0	
	comp=Z,396nm,19.0s							
HKT	**Hockley**	**115.53**	**59**		IAMs_20	IAMs_20	18 46 07.7	
	comp=Z,358nm,21.0s							
NATX	**Nacogdoches**	**116.16**	**57**		IAMs_20	IAMs_20	18 48 50.3	
	comp=Z,423nm,19.0s							
JFWS	**Jewell Farm**	**116.39**	**44**		IAMs_20	IAMs_20	18 50 49.4	
	comp=Z,364nm,20.0s							
PSZ	**Piszkesteto**	**117.09**	**323**		IAMs_20	IAMs_20	18 51 32.5	
	comp=Z,398nm,20.0s							
CCM	**Cathedral Cave**	**117.26**	**49**		IAMs_20	IAMs_20	18 44 32.3	
	comp=Z,433nm,21.0s							
HDIL	**Hopedale**	**117.88**	**46**		IAMs_20	IAMs_20	18 47 06.2	
	comp=Z,352nm,20.0s							
L44A	**Lake County Fo**	**118.27**	**44**		IAMs_20	IAMs_20	18 44 04.0	
	comp=Z,383nm,20.0s							
HQIL	**Hanson Quary C**	**118.45**	**44**		IAMs_20	IAMs_20	18 45 17.9	
	comp=Z,415nm,20.0s							
CLL	**Collm**	**119.23**	**329**	*e*	SKKSac	SKKSac	18 08 12.0	+5.6
CLL				*e*	SS	**SS**	**18 17 24.0**	**-2.8**
CLL				*e*	SSS	SSS	18 21 54.0	
CLL				*e*	SSSS		18 25 24.0	
CLL				*ex*		x	18 27 00.0	
CLL					AMS	AMS	18 52 00.0	
	comp=N,400nm,20.6s							
CLL					AMS	AMS	18 52 00.0	
	comp=E,500nm,21.4s							
CLL					AMS	AMS	18 52 00.0	
	comp=Z,600nm,21.5s							
CLL					AMS	AMS	18 55 00.0	
	comp=Z,500nm,19.6s							
OXF	**Oxford**	**119.73**	**52**		IAMs_20	IAMs_20	18 45 42.2	
	comp=Z,324nm,20.0s							
WVT	**Waverly**	**120.46**	**50**		IAMs_20	IAMs_20	18 50 22.1	
	comp=Z,411nm,20.0s							
PLAL	**Pickwick Lake**	**120.64**	**51**		IAMs_20	IAMs_20	18 50 09.0	
	comp=Z,412nm,20.0s							
WCI	**Wyandotte Cave**	**120.88**	**47**		IAMs_20	IAMs_20	18 51 51.9	
	comp=Z,378nm,20.0s							
O48B	**Farmland**	**120.93**	**45**		IAMs_20	IAMs_20	18 54 16.6	
	comp=Z,355nm,19.0s							
GRA1	**Grafenberg Arr**	**121.09**	**328**		IAMs_20	IAMs_20	18 56 08.7	
	comp=Z,351nm,20.0s							
GRFO	**Grafenberg**	**121.09**	**328**		IAMs_20	IAMs_20	18 56 07.8	
	comp=Z,366nm,20.0s							
ACSO	**Alum Creek Sta**	**122.45**	**44**		IAMs_20	IAMs_20	18 49 55.9	
	comp=Z,420nm,22.0s							
STU	**Stuttgart**	**122.70**	**328**		IAMs_20	IAMs_20	18 55 10.5	
	comp=Z,344nm,19.0s							
CUC	**Castrocucco**	**123.24**	**316**		IAMs_20	IAMs_20	18 56 28.3	
	comp=Z,261nm,20.0s							
P52A	**Corning**	**123.30**	**44**		IAMs_20	IAMs_20	18 50 10.3	
	comp=Z,392nm,21.0s							
FUORN	**Ofenpass-Fuorn**	**123.39**	**325**		IAMs_20	IAMs_20	18 55 33.8	
	comp=Z,423nm,21.0s							
O53A	**New Philadelph**	**123.66**	**43**		IAMs_20	IAMs_20	18 54 40.8	
	comp=Z,389nm,21.0s							
N53A	**Lisbon**	**123.66**	**42**			**PKPdf**	**17 59 53.0**	**-1.4**
TKL	**Tuckaleechee C**	**123.71**	**49**		PKP	**PKPdf**	**17 59 53.4**	**-1.2**
	comp=Z,1.9nm,0.6s,baz=0.0,slow=7.1,SNR=2.7							
TEIG	**Tepich**	**123.96**	**68**		IAMs_20	IAMs_20	18 45 02.7	
	comp=Z,313nm,22.0s							
O54A	**Avella**	**124.26**	**43**		PKPpre	PKPpre	17 59 46.6	
GOGA	**Godfrey**	**124.76**	**52**		IAMs_20	IAMs_20	18 47 41.2	
	comp=Z,327nm,22.0s							
BLA	**Blacksburg**	**125.56**	**46**		IAMs_20	IAMs_20	18 47 29.5	
	comp=Z,354nm,22.0s							
LONY	**Lake Ozonia**	**125.60**	**36**		IAMs_20	IAMs_20	18 52 04.9	
	comp=Z,377nm,20.0s							
F62A	**Pittston Farm,**	**127.37**	**32**			PKPpre	17 59 48.7	
NHSC	**New Hope**	**127.43**	**51**		IAMs_20	IAMs_20	18 56 33.8	
	comp=Z,380nm,20.0s							
DWPF	**Disney Wildern**	**128.19**	**57**		IAMs_20	IAMs_20	18 58 32.9	
	comp=Z,305nm,18.0s							
LPAZ	**La Paz**	**139.91**	**121**		PKP	**PKPdf**	**18 00 24.7**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=226,slow=2.8,SNR=2.3							
CPUP	**Villa Florida**	**141.79**	**143**		PKP	**PKPdf**	**18 00 27.5**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=180,slow=2.0,SNR=1.6							
TOA0	**Torodi Ar. Sit**	**144.47**	**287**			PKPbc	18 00 32.5	+0.2
TORD	**Torodi Ar. Bea**	**144.47**	**287**			**PKPab**	**18 00 32.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**144.47**	**287**		PKP	**PKPab**	**18 00 31.3**	**-0.7**
	comp=Z,3.8nm,0.9s,baz=55,slow=4.7,SNR=12							
SJG	**San Juan**	**144.74**	**64**		IAMs_20	IAMs_20	18 57 54.7	
	comp=Z,307nm,21.0s							
SAML	**Samuel**	**147.35**	**113**			**PKPbc**	**18 00 40.5**	**-0.6**
SAML	**Samuel**	**147.35**	**113**		PKP2	**PKPbc**	**18 00 40.5**	**-0.6**
PTLB	**Pontes e Lacer**	**147.77**	**127**			**PKPbc**	**18 00 41.7**	**-0.5**
DBIC	**Dimbokro**	**151.77**	**277**		PKPbc	**PKiKP**	**18 00 53.5**	**+1.0**
	comp=Z,8.0nm,1.2s,baz=70,slow=12,SNR=2.4							

*IDC **06** 17:52:57.8±1.5, 0°.10N×98°.52E, h0km, mb3.9/10, mbtmp3.9/10, Error ellipse: s-maj=53.1km s-min=18.5km az=55.0*
*NEIC **06** 17:53:04.6±2.4, 0°.29N±0°.09×98°.46E±0°.08, h41km±8km, mb4.2/17, Error ellipse: s-maj=15.6km s-min=7.3km az=223.0*

ISC 06 17:53:04.4±0.7, 0°.31N±0°.10×98°.53E±0°.08, h43km, n42, σ1§26/38, mb4.1/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.37**	**316**		**Pn**	**17 53 27.3**	**+0.2**
GSI				Sn	**Sn**	**17 53 42.4**	**-1.7**
BKNI	**Bangkinang**	**2.51**	**90**		**Pn**	**17 53 44.3**	**+1.6**
LHMI	**Lhok Sumawe**	**5.14**	**342**	Pn	**Pn**	**17 54 18.4**	**-0.4**
KULM	**Kulim**	**5.38**	**23**		**Pn**	**17 54 23.5**	**+1.3**
MNAI	**Manna**	**6.41**	**136**	Pn	**Pn**	**17 54 36.8**	**+0.5**
SBUM	**Sibu**	**13.85**	**81**	Pn	**Pn**	**17 56 15.0**	**-3.2**
CRAI	**Chiangrai**	**19.88**	**5**	P	**P**	**17 57 31.6**	**-0.6**
MYLDM	**Lahad Datu**	**20.52**	**76**		**P**	**17 57 39.3**	**+0.1**
MYLDM				IAmb	IAmb	17 58 22.7	
	comp=Z,22nm,1.3s						
TOLI2	**Tolitoli**	**22.27**	**88**	P	**P**	**17 57 57.4**	**-0.6**
LUWI	**Luwuk**	**24.28**	**93**	P	**P**	**17 58 17.2**	**-0.7**
KAAM	**Kaadhehdhoo**	**25.53**	**270**	P	**P**	**17 58 30.2**	**+0.9**
H08S2	**Diego Garcia H**	**27.14**	**253**	T	T	18 26 08.7	
	baz=74,slow=75,SNR=143						
H08S3	**Diego Garcia H**	**27.14**	**253**	T	T	18 26 09.2	
	baz=74,slow=75,SNR=113						
H08S1	**Diego Garcia H**	**27.15**	**253**	T	T	18 26 13.9	
	baz=74,slow=75,SNR=78						
ENH	**Enshi**	**31.57**	**18**	P	**P**	**17 59 23.7**	**+0.7**
WB0	**Warramunga Arr**	**40.41**	**122**	P	**P**	**18 00 37.0**	**-1.7**
WRA	**Warramunga Arr**	**40.44**	**122**	P	**P**	**18 00 37.0**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=305,slow=9.3,SNR=9.1						
	comp=Z,0.4nm,0.5s						
WB2	**Warramunga Arr**	**40.45**	**122**	P	**P**	**18 00 36.8**	**-2.2**
WB2				IAmb	IAmb	18 01 20.6	
	comp=Z,8.0nm,1.2s						
WB2				PcP	**PcP**	**18 02 42.1**	**+0.7**
WR0	**Warramunga Arr**	**40.62**	**122**	P	**P**	**18 00 38.3**	**-2.1**
WR0				IAmb	IAmb	18 01 11.4	
	comp=Z,10nm,1.4s						
FORT	**Forrest**	**41.75**	**140**	P	**P**	**18 00 49.6**	**0.0**
ASAR	**Alice Springs**	**41.80**	**127**	P	**P**	**18 00 49.0**	**-1.2**
ASAR				PcP	**PcP**	**18 02 46.8**	**+1.0**
ASAR	**Alice Springs**	**41.80**	**127**	P	**P**	**18 00 49.0**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=303,slow=7.7,SNR=18						
	comp=Z,0.8nm,0.8s						
AS31	**Alice Springs**	**41.80**	**127**	P	**P**	**18 00 49.0**	**-1.2**
TARG	**Taragay, Kyrgy**	**45.28**	**338**	P	**P**	**18 01 17.0**	**-1.4**
TARG				IAmb	IAmb	18 01 48.9	
	comp=Z,2.1nm,0.8s						
KSRS	**Korea Array**	**45.85**	**33**	P	**P**	**18 01 22.4**	**0.0**
	comp=Z,1.9nm,0.7s,baz=221,slow=8.0,SNR=8.0						
	comp=Z,1.9nm,0.7s						
SONM	**Songino Array**	**47.83**	**7**	P	**P**	**18 01 37.0**	**-0.9**
SONM				IAmb	IAmb	18 01 43.7	
	comp=Z,1.4nm,0.7s						
SONM	**Songino Array**	**47.83**	**7**	P	**P**	**18 01 39.3**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=202,slow=11,SNR=5.6						
	comp=Z,1.3nm,0.6s						
MK31	**Makanchi Array**	**48.43**	**345**	P	**P**	**18 01 42.5**	**+0.1**
MK31				IAmb	IAmb	18 01 54.7	
	comp=Z,2.8nm,1.4s						
MK31				PcP	**PcP**	**18 03 09.2**	**+1.0**
MKAR	**Makanchi Array**	**48.43**	**345**	P	**P**	**18 01 43.1**	**+0.7**
MKAR				PcP	**PcP**	**18 03 09.2**	**+1.0**
MKAR	**Makanchi Array**	**48.43**	**345**	P	**P**	**18 01 43.6**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=154,slow=9.4,SNR=17						
	comp=Z,1.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**52.86**	**30**	P	**P**	**18 02 17.0**	**+1.2**
	comp=Z,2.4nm,0.7s,baz=215,slow=9.7,SNR=5.0						
	comp=Z,2.4nm,0.7s						
**K

comp=Z,10μm,1.0s
ILCN San Idelfonso 1.00 77⇓iP Pn 18 03 13.5 +0.2
ILCN *i* S **Sn 18 03 27.3 +0.6**
ILCN IAML 18 03 30.2
comp=Z,6μm,1.0s
JUCU Jucuarın 1.05 329 eP Pn 18 03 14.2 +0.1
JUCU Jucuarın 1.05 329 *i* P **Pn 18 03 14.0 0.0**
JUCU *i* S **Sn 18 03 27.5 -0.4**
JUCU IAML 18 03 28.9
comp=Z,5μm,1.0s
LEVN Ruinas Leon Vi 1.06 87 *i* P **Pn 18 03 14.4 +0.3**
LEVN *i* S **Sn 18 03 28.4 +0.4**
LEVN IAML 18 03 33.4
comp=Z,8μm,1.0s
COPN Copaltepe 1.09 99⇑iP **Pn 18 03 14.8 +0.2**
COPN *i* S **Sn 18 03 29.3 +0.4**
COPN IAML 18 03 32.1
comp=Z,4μm,1.0s
BC86 Nagarote 1.11 94 *i* P **Pn 18 03 14.7 -0.1**
BC86 IAML 18 03 32.0
comp=Z,13μm,1.0s
BC84 Volcan Momotom 1.13 88 *i* P **Pn 18 03 15.8 +0.7**
BC84 IAML 18 03 32.0
comp=Z,11μm,1.0s
MOM2 El Cardon 1.19 86 *i* P **Pn 18 03 16.6 +0.8**
MOM2 *i* S **Sn 18 03 32.1 +1.0**
MOM2 IAML 18 03 36.4
comp=Z,4μm,1.0s
BLLM Bellamira 1.21 334 *eP* **Pn 18 03 16.7 +0.5**
CNRM Centro Naciona 1.21 338 *i* P **Pn 18 03 17.1 +1.0**
CNRM *i* S **Sn 18 03 32.3 +0.7**
CNRM IAML 18 03 37.0
comp=Z,10μm,1.0s
LCY Lacayo 1.22 331 *eP* **Pn 18 03 17.0 +0.7**
RANC El Ranchito 1.22 332 *eP* **Pn 18 03 17.1 +0.7**
RANC El Ranchito 1.22 332⇑iP **Pn 18 03 17.0 +0.6**
RANC *i* S **Sn 18 03 32.7 +0.6**
RANC IAML 18 03 37.7
comp=Z,5μm,1.0s
AMTN Mateare 1.24 95 *i* P **Pn 18 03 17.0 +0.5**
AMTN *i* S **Sn 18 03 33.0 +0.6**
AMTN IAML 18 03 43.3
comp=Z,14μm,1.0s
PACA Pacayal 1.27 331 *eP* **Pn 18 03 17.9 +0.9**
PACA Pacayal 1.27 331⇑iP **Pn 18 03 17.9 +0.9**
PACA *i* S **Sn 18 03 33.9 +0.7**
PACA IAML 18 03 35.5
comp=Z,37μm,1.0s
SAPS Ciudad Sandino 1.28 98⇑iP **Pn 18 03 17.3 +0.3**
SAPS *i* S **Sn 18 03 33.7 +0.5**
SAPS IAML 18 03 39.3
comp=Z,11μm,1.0s
APYN Apoyeque 1.32 95⇓iP **Pn 18 03 18.2 +0.6**
APYN *i* S **Sn 18 03 34.7 +0.4**
APYN IAML 18 03 35.5
comp=Z,250nm,1.0s
APQ2 Apoyeque 1.35 96⇓iP **Pn 18 03 18.4 +0.4**
APQ2 *i* S **Sn 18 03 35.4 +0.5**
APQ2 IAML 18 03 37.4
comp=Z,5μm,1.0s
BRAN Las Pilas 1.37 74 *i* P **Pn 18 03 18.4 +0.2**
BRAN *i* S **Sn 18 03 35.3 -0.1**
BRAN IAML 18 03 38.6
comp=Z,6μm,1.0s
ABCN Banco Central 1.38 99 *i* P **Pn 18 03 18.9 +0.6**
ABCN *i* S **Sn 18 03 36.1 +0.5**
ABCN IAML 18 03 38.7
comp=Z,17μm,1.0s
TECA Tecapa 1.38 326 *eP* **Pn 18 03 19.4 +0.8**
BC87 San Francisco 1.38 83 *i* P **Pn 18 03 18.9 +0.5**
BC87 *i* S **Sn 18 03 36.6 +0.8**
BC87 IAML 18 03 48.2
comp=Z,7μm,1.0s
RE6B4 Centro civico 1.39 99 *i* P **Pn 18 03 19.3 +0.8**
RE6B4 IAML 18 03 41.7
comp=Z,8μm,1.0s
ALLN Telcor Managua 1.41 98 *i* P **Pn 18 03 19.3 +0.6**
ALLN *i* S **Sn 18 03 36.8 +0.5**
ALLN IAML 18 04 38.8
comp=Z,11μm,1.0s
RB28C Hialeah 1.41 99 *i* P **Pn 18 03 19.5 +0.8**
RB28C IAML 18 03 40.4
comp=Z,8μm,1.0s
USIM UNAN 1.41 99 *i* P **Pn 18 03 19.6 +0.8**
USIM *i* S **Sn 18 03 37.2 +0.8**
USIM IAML 18 03 45.3
comp=Z,11μm,1.0s
TISN Laguna Tiscapa 1.41 98⇓iP **Pn 18 03 19.4 +0.6**
TISN IAML 18 03 40.8
comp=Z,500nm,1.0s
CRUN El Crucero 1.42 105 *i* P **Pn 18 03 19.3 +0.3**
CRUN IAML 18 03 42.6
comp=Z,58μm,1.0s
ENAN Enatrel Managu 1.42 99 *i* P **Pn 18 03 19.6 +0.6**
ENAN *i* S **Sn 18 03 37.4 +0.7**
ENAN IAML 18 03 42.9
comp=Z,10μm,1.0s
MGA1 Managua 1.43 98 *i* P **Pn 18 03 19.7 +0.6**
MGA1 *i* S **Sn 18 03 37.5 +0.6**
MGA1 IAML 18 03 40.8
comp=Z,6μm,1.0s
R4DEC Barrio San Lui 1.43 98⇑iP **Pn 18 03 19.7 +0.6**
R4DEC *i* S **Sn 18 03 37.5 +0.6**
R4DEC IAML 18 03 45.0
comp=Z,4μm,1.0s
R0529 La Mascota 1.45 99 *i* P **Pn 18 03 19.9 +0.6**
R0529 IAML 18 03 39.1
comp=Z,5μm,1.0s
MAFN Magfor 1.45 100 *i* P **Pn 18 03 20.0 +0.7**
MAFN *i* S **Sn 18 03 37.9 +0.5**
MAFN IAML 18 03 43.8
comp=Z,9μm,1.0s
LIMN Finca el Limon 1.48 61⇑iP **Pn 18 03 20.2 +0.4**
LIMN IAML 18 03 42.2
comp=Z,3μm,1.0s
WILN Americas 2 1.49 97⇑iP **Pn 18 03 20.6 +0.8**
WILN *i* S **Sn 18 03 38.8 +0.5**
WILN IAML 18 03 48.8
comp=Z,2μm,1.0s
SOMN Somoto 1.50 45⇑iP Pn 18 03 22.8 +2.7
SOMN *i* S **Sn 18 03 43.5 +4.7**
SOMN IAML 18 03 44.1
comp=Z,6μm,1.0s
AERN Aeropuerto Man 1.51 98 *i* P **Pn 18 03 20.8 +0.7**
AERN *i* S **Sn 18 03 39.5 +0.7**
AERN IAML 18 03 42.6
comp=Z,8μm,1.0s
PQSS Presa 15 de Se 1.52 327 *i* P **Pn 18 03 21.4 +1.1**
PQSS *i* S **Sn 18 03 40.5 +1.4**
PQSS IAML 18 03 41.4
comp=Z,2μm,1.0s
MAS3 Al N del Volca 1.52 102⇓iP **Pn 18 03 20.9 +0.6**
MAS3 *i* S **Sn 18 03 39.2 0.0**
MAS3 IAML 18 03 40.5
comp=Z,9μm,1.0s
MASN Masaya 1.56 103 *i* P **Pn 18 03 21.6 +0.8**
MASN *i* S **Sn 18 03 40.5 +0.5**
MASN IAML 18 03 44.0
comp=Z,2μm,1.0s
TECO Alcaldia de Te 1.58 318 *i* P **Pn 18 03 21.6 +0.4**
TECO *i* S **Sn 18 03 40.1 -0.5**
TECO IAML 18 03 47.3
comp=Z,1μm,1.0s
SBEN San Benito 1.60 91 *i* P **Pn 18 03 21.7 +0.3**
SBEN *i* S **Sn 18 03 42.2 +1.1**
SBEN IAML 18 03 54.3
comp=Z,5μm,1.0s
UESV Universidad de 1.66 320 *i* P **Pn 18 03 23.0 +0.8**
UESV *i* S **Sn 18 03 43.0 +0.4**
UESV IAML 18 03 45.1
comp=Z,2μm,1.0s
SCLA Alcaldia de Sa 1.68 323 *eP* Pn 18 03 23.7 +1.2
SCLA Alcaldia de Sa 1.68 323 *i* P Pn 18 03 23.6 +1.2
SCLA *i* S **Sn 18 03 44.1 +1.1**
SCLA IAML 18 03 46.9
comp=Z,1μm,1.0s
COEG Centro de Oper 1.71 318 *eP* Pn 18 03 24.3 +1.4
COEG Centro de Oper 1.71 318 *i* P **Pn 18 03 24.0 +1.1**
COEG *i* S **Sn 18 03 44.8 +1.0**
COEG IAML 18 03 49.3
comp=Z,3μm,1.0s
NADN Granada 1.73 110 *i* S **Sn 18 03 44.2 -0.1**
TGUH Tegucigalpa,Un 1.75 14⇑iP **Pn 18 03 24.6 +1.1**
TGUH *i* S **Sn 18 03 45.7 +0.9**
TGUH IAML 18 03 47.1
comp=Z,2μm,1.0s
YUSH Yuscaran 1.80 27 *eP* **Pn 18 03 25.2 +1.0**
YUSH Yuscaran 1.80 27⇑iP **Pn 18 03 25.1 +1.0**
YUSH *i* S **Sn 18 03 46.8 +0.8**
PAVA Las Pavas 1.81 318 *i* P Pn 18 03 25.6 +1.2
PAVA *i* S **Sn 18 03 47.5 +1.1**
PAVA IAML 18 03 53.9
comp=Z,3μm,1.0s
MARCA Marcala la Paz 1.83 350 *i* P Pn 18 03 25.8 +1.2
MARCA *i* S **Sn 18 03 48.3 +1.6**
LFRS El Faro 1.84 314 *eP* **Pn 18 03 25.5 +0.9**
PANCS Alcalda de 1.91 311 *i* S **Sn 18 03 48.2 -0.5**
LOMA Loma Larga 1.93 312 *eP* **Pn 18 03 26.9 +0.9**
LOMA Loma Larga 1.93 312 *i* P **Pn 18 03 26.9 +0.9**
LOMA *i* S **Sn 18 03 49.6 +0.4**
LOMA IAML 18 03 51.8
comp=Z,2μm,1.0s
LALI Alcalda de L 1.95 306 *i* S **Sn 18 03 49.0 -0.4**
RCPN Sur Rio San Ju 1.95 53⇑iP **Pn 18 03 26.3 0.0**
RCPN *i* S **Sn 18 03 50.2 +0.4**
RCPN IAML 18 03 51.3
comp=Z,33nm,1.0s
UDBS Universidad Do 1.96 314 *i* S **Sn 18 03 50.5 +0.5**
IGN Direccin Gen 1.97 314 *i* S **Sn 18 03 51.2 +1.0**
BOAB BOACO BROADBAN .99 87⇑iP **Pn 18 03 26.8 +0.2**
BOAB *i* S **Sn 18 03 51.2 +0.8**
BOAB IAML 18 04 06.7
comp=Z,630nm,1.0s
SNET Serv Nac Est T 2.00 312 *i* P Pn 18 03 28.1 +1.2
SNET *i* S **Sn 18 03 51.4 +0.5**
SNET IAML 18 03 55.1
comp=Z,5μm,1.0s
UEES Universidad Ev 2.02 312 *i* P Pn 18 03 29.4 +2.2
UEES *i* S **Sn 18 03 52.5 +1.0**
UEES IAML 18 03 57.2
comp=Z,2μm,1.0s
ITCA Escuela Especi 2.03 311 *i* P **Pn 18 03 28.0 +0.8**
ITCA *i* S **Sn 18 03 52.4 +0.9**
ITCA IAML 18 04 01.3
comp=Z,5μm,1.0s
PMON Piamonte 2.08 311 *i* P Pn 18 03 30.1 +2.1
PMON *i* S **Sn 18 03 54.4 +1.6**
PMON IAML 18 04 04.3
comp=Z,3μm,1.0s
QUEZ Alcaldia de Qu 2.13 314 *i* P Pn 18 03 30.1 +1.5
QUEZ *i* S **Sn 18 03 55.6 +1.7**
QUEZ IAML 18 04 13.4
comp=Z,5μm,1.0s
JAYA Jayaque - finc 2.14 307 *eP* **Pn 18 03 29.6 +0.7**
JAYA Jayaque - finc 2.14 307 *i* P **Pn 18 03 29.7 +0.8**
JAYA *i* S **Sn 18 03 54.8 +0.3**
JAYA IAML 18 03 57.1
comp=Z,5μm,1.0s
MORN Al O del Volca 2.16 111 *i* P **Pn 18 03 30.0 +1.0**
MORN IAML 18 04 03.5
comp=Z,3μm,1.0s
LLGN La Laguna 2.17 326 *i* P Pn 18 03 30.9 +1.6
LLGN IAML 18 03 44.6
comp=Z,390nm,1.0s
OMEN Al SSO del Vol 2.19 112 *i* P **Pn 18 03 30.3 +0.9**
OMEN *i* S **Sn 18 03 56.2 +0.8**
OMEN IAML 18 03 58.9
comp=Z,2μm,1.0s
CEDA San Andres 2.19 311 *i* P Pn 18 03 31.2 +1.7
CEDA *i* S **Sn 18 03 56.9 +1.3**
CEDA IAML 18 04 05.0
comp=Z,3μm,1.0s
SBLS San Blas 2.39 308 *eP* Pn 18 03 34.3 +1.9
UNIC Universidad Ca 2.42 312 *i* S **Sn 18 04 03.1 +1.9**
ACON Acoyapa 2.50 98 *i* P **Pn 18 03 33.8 +0.2**
ACON IAML 18 03 58.9
comp=Z,290nm,1.0s
NUBE Las Nubes 2.55 307 *eP* Pn 18 03 36.1 +1.7
NUBE Las Nubes 2.55 307 *i* P **Pn 18 03 35.5 +1.1**
NUBE *i* S **Sn 18 04 05.3 +0.9**
NUBE IAML 18 04 08.6
comp=Z,2μm,1.0s
ESQI Esquipulas 2.72 324 *i* P **Pn 18 03 37.5 +0.8**
ESQI IAML 18 04 25.9
comp=Z,350nm,1.0s
JUTIH Juticalpa Olan 2.72 32 *i* P Pn 18 03 38.4 +1.7
JUTIH *i* S **Sn 18 04 09.2 +0.7**
INDI Punta indio, G 3.28 139 *i* P Pn 18 03 45.4 +1.2
INDI *i* S **Sn 18 04 20.2 -1.8**
INDI IAML 18 04 46.7
comp=Z,280nm,1.0s
ESPN Las Esperanzas 3.33 92 *i* P **Pn 18 03 45.8 +0.9**
ESPN IAML 18 04 51.2
comp=Z,230nm,1.0s
JTS Las Juntas de 3.38 127 Pn Pn 18 03 47.5 +1.8
comp=Z,4.7nm,0.3s,baz=319,slow=19,SNR=5.0
JTS Pg 18 03 52.7
comp=Z,44nm,0.3s,baz=302,slow=21,SNR=32
JTS Sn **Sn 18 04 24.8 +0.1**
comp=Z,8.3nm,0.3s,baz=301,slow=20,SNR=1.5
JTS Lg Lg 18 04 39.5
comp=Z,29nm,0.3s,baz=287,slow=23,SNR=7.0
comp=Z,10nm,0.3s
SOCE Pocosol 3.60 123 *i* P Pn 18 03 50.1 +1.4
SOCE *i* S **Sn 18 04 31.6 +1.6**
SOCE IAML 18 04 43.1
comp=Z,120nm,1.0s
SOKI Kika Raxquin 4.36 305 *i* S **Sn 18 04 51.4 +2.2**
RTAL Retalhuleu 4.45 300 *i* S **Sn 18 04 52.7 +1.8**
LCR2 La Lucha 2 4.46 125 *i* P Pn 18 04 02.5 +1.9
LCR2 IAML 18 04 09.9
comp=Z,99nm,1.0s
LCR2 *i* S **Sn 18 04 55.2 +3.9**
OCHAL Ojochal 5.13 129 *i* S **Sn 18 05 09.1 +1.5**
PIRO Carate, Puerto 5.81 132 *i* P Pn 18 04 20.4 +1.4
PIRO IAML 18 04 23.0
comp=Z,370nm,1.0s
PIRO IVmB_BB 18 04 23.0
comp=Z,5μm,1.0s
PIRO IAmb IAmb 18 04 23.1
comp=Z,150nm,0.5s
PIRO *i* S **Sn 18 05 26.2 +1.9**
PRVC Isla de Provid 6.26 80 *i* P **Pn 18 04 26.4 +1.3**
PRVC IAmb IAmb 18 04 35.9
comp=Z,42nm,1.0s
PRVC IAML 18 05 50.2
comp=Z,58nm,1.0s
CMIG Matias Romero 8.40 305 Pn Pn 18 04 57.9 +3.5
comp=Z,0.6nm,0.3s,baz=111,slow=7.5,SNR=4.4
CMIG Sn **Sn 18 06 26.4 -1.5**
baz=139,slow=20
comp=Z,1.7nm,0.3s
TXAR Lajitas Array 22.50 321 P **P 18 07 51.3 +1.1**
comp=Z,1.6nm,0.6s,baz=137,slow=10,SNR=21
comp=Z,1.6nm,0.6s
PCRV Puerto La Cruz 22.72 93 P **P 18 07 49.8 -2.8**
comp=Z,5.5nm,0.7s,baz=349,slow=11,SNR=2.0
comp=Z,5.5nm,0.7s
TKL Tuckaleechee C 23.48 8 P **P 18 07 55.1 -4.8**
comp=Z,0.7nm,0.4s,baz=128,slow=6.0,SNR=1.5
comp=Z,0.7nm,0.4s
PDAR Pinedale Array 35.75 332 P **P 18 09 49.6 +0.8**
comp=Z,0.4nm,0.5s,baz=127,slow=9.5,SNR=5.1
comp=Z,0.4nm,0.5s
ULM Lac du Bonnet 38.38 352 P **P 18 10 09.8 -0.9**
comp=Z,1.2nm,0.6s,baz=194,slow=10,SNR=1.9
comp=Z,1.2nm,0.6s
ILAR Eielson Array 66.01 336 P **P 18 13 37.1 +1.6**
comp=Z,0.1nm,0.6s,baz=155,slow=5.0,SNR=2.1
comp=Z,0.1nm,0.6s
ASAR Alice Springs 139.01 248 PKhKP PKPpre 18 22 17.1
comp=Z,0.3nm,0.8s,baz=137,slow=1.5,SNR=2.1
WRA Warramunga Arr 139.01 254 PKhKP PKPpre 18 22 17.4
comp=Z,0.5nm,1.0s,baz=65,slow=1.1,SNR=4.7

NOU 06 18:40:04.1, 19°.46S×168°.91E, h0km, MLv3.7/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.04**	**230**	P	Pn	18 40 38.0	-1.8
MARNC	**Mare, Loyalty**	**2.17**	**202**	P	Pn	18 40 40.6	-0.9
YATNC	**Mamie plateau,**	**3.20**	**216**	P	Pn	18 40 55.5	-0.2
PINNC	**Pines Island,**	**3.42**	**203**	P	Pn	18 40 58.7	0.0
DZM	**Mont Dzumac**	**3.48**	**221**	P	Pn	18 40 59.6	0.0
NOUC	**Port Laguerre**	**3.58**	**222**	P	Pn	18 41 01.3	+0.3
ONTNC	**Ouen Toro**	**3.65**	**219**	P	Pn	18 41 02.7	+0.9
KOUNC	**Koumac, New Ca**	**4.48**	**255**	P	Pn	18 41 13.6	+0.3

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*HVO **06** 18:42:25.8±0.9, 19°.4N±0°.3×155°.28W±0°.05, h1km±9km, ML3.7/42, mb4.3/23(NEIC), ML3.6/38(NEIC), Error ellipse: s-maj=37.5km s-min=0.9km az=189.0*
*NEIC **06** 18:42:26.3±1.0, 19°.4N±0°.5×155°.3W±0°.1, h5km±25km, Error ellipse: s-maj=80.4km s-min=7.4km az=191.0*
*IDC **06** 18:42:27.1±13.0, 19°.61N×155°.40W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=275.7km s-min=53.3km az=34.0*

ISC 06 18:42:25.6±1.1, 19°.44N±0°.03×155°.28W±0°.03, h2km±6km, n66, σ1§17/62, mb4.3/17, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.02**	**165**		**Pg**	**18 42 27.0**	**+0.7**
SBLHI	**Steaming Bluff**	**0.02**	**134**		**Pg**	**18 42 27.0**	**+0.7**
UWE	**Uwekahuna**	**0.02**	**207**		**Pg**	**18 42 26.7**	**+0.4**
OBL	**Observatory Le**	**0.02**	**183**		**Pg**	**18 42 26.9**	**+0.6**
RSD	**Rainshed**	**0.02**	**11**	Pg	**Pg**	**18 42 27.4**	**+1.1**
RSD	comp=E,34μm,0.5s			IAML		18 42 27.9	
RSD	comp=N,68μm,0.4s			IAML		18 42 28.1	
HATHI	**Halema'uma'u T**	**0.03**	**131**		**Pg**	**18 42 26.8**	**+0.4**
BYL	**Byron's Ledge**	**0.04**	**143**	Pg	**Pg**	**18 42 26.8**	**+0.3**
WRMHI	**West Rim**	**0.04**	**206**		**Pg**	**18 42 27.7**	**+1.2**
KKO	**Keanakako'i**	**0.04**	**160**		**Pg**	**18 42 27.3**	**+0.7**
RIM	**Rim**	**0.05**	**170**		**Pg**	**18 42 27.5**	**+0.8**
SDHHI	**Sand Hill**	**0.05**	**192**		**Pg**	**18 42 28.1**	**+1.3**
PUH	**Pauahi**	**0.09**	**136**		**Pg**	**18 42 28.2**	**+0.8**
PUH	comp=E,19μm,0.9s			IAML		18 42 29.2	
PUH	comp=N,22μm,0.7s			IAML		18 42 29.7	
MLH	**Mauna Loa**	**0.11**	**299**	Pg	**Pg**	**18 42 29.4**	**+1.5**
MLH	comp=N,19μm,0.9s			IAML		18 42 32.2	
MLH	comp=E,38μm,0.6s			IAML		18 42 32.5	
KNHH	**Kane Nui o Ham**	**0.12**	**120**		**Pg**	**18 42 28.8**	**+0.7**
HLP	**Hilina Pali**	**0.15**	**189**		**Pg**	**18 42 29.1**	**+0.6**
HLP	comp=E,18μm,0.8s			IAML		18 42 32.2	
STCH	**Steam Cracks**	**0.16**	**110**		**Pg**	**18 42 29.4**	**+0.7**
STCH	comp=N,23μm,0.8s			IAML		18 42 32.9	
JCUZ	**Jacuzzi**	**0.18**	**108**		**Pg**	**18 42 29.8**	**+0.7**
HTC	**Hot Caves**	**0.23**	**208**		**Pg**	**18 42 30.7**	**+0.7**
HMH	**Humu'ula Sheep**	**0.25**	**310**	Pg	**Pg**	**18 42 31.9**	**+1.4**
HMH	comp=N,13μm,1.4s			IAML		18 42 38.5	
HMH	comp=E,10μm,0.8s			IAML		18 42 39.9	
JOKA	**Jonika Flow**	**0.26**	**91**	Pg	**Pg**	**18 42 31.2**	**+0.5**
JOKA	comp=N,13μm,1.0s			IAML		18 42 38.9	
JOKA	comp=E,7μm,0.9s			IAML		18 42 39.3	
MLOA	**Mauna Loa Obse**	**0.29**	**289**	Pg	**Pg**	**18 42 32.5**	**+1.1**
MLOA	comp=E,12μm,0.8s			IAML		18 42 39.9	
MWH	**Moku'aweowe**	**0.30**	**279**	Pg	**Pg**	**18 42 32.6**	**+1.1**
PAH	**Pahoa**	**0.32**	**80**		**Pg**	**18 42 32.7**	**+0.9**
KHU	**Kahuku**	**0.37**	**238**	Pg	**Pg**	**18 42 33.2**	**+0.5**
KHU	comp=E,7μm,1.6s			IAML		18 42 40.9	
KHU	comp=N,7μm,1.4s			IAML		18 42 44.0	
POHA	**Pohakuloa**	**0.39**	**323**	Pg	**Pg**	**18 42 34.7**	**+1.4**
HPO	**Honuapo**	**0.43**	**216**	Pg	**Pg**	**18 42 34.1**	**+0.2**
HUH	**Hualalai**	**0.57**	**295**	Pg	**Pg**	**18 42 37.8**	**+1.1**
I59US	**HAWAII INFRASO**	**0.59**	**285**	Pg	**Pg**	**18 42 37.9**	**+0.8**
	baz=111,slow=21						
HPAH	**Hawaii Prepara**	**0.70**	**326**	Pg	**Pg**	**18 42 38.8**	**-0.3**
MHA	**Mahukona**	**0.94**	**322**	Pg	**Pg**	**18 42 42.4**	**-1.3**
HLK	**Haleakala**	**1.59**	**325**	Pn	**Pn**	**18 42 54.4**	**-0.7**
KHLH	**Kahului Airpor**	**1.80**	**324**	Pn	**Pn**	**18 42 54.2**	**-3.5**
DHH	**Diamond Head**	**2.98**	**308**	Pn	Pn	18 43 09.0	-4.9
KEKH	**Kekaha**	**4.86**	**302**	Pn	**Pn**	**18 43 36.2**	**-3.5**
SAO	**San Andreas Ge**	**34.25**	**53**	P	**P**	**18 49 11.3**	**-1.7**
AFDM	**Forest Hills D**	**35.42**	**49**	P	**P**	**18 49 21.8**	**-1.3**
H11N3	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	19 26 30.0	
	baz=84,slow=73,SNR=12						
H11N2	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	19 26 30.1	
	baz=84,slow=73,SNR=13						
H11N1	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	19 26 30.2	
	baz=84,slow=73,SNR=12						
NVAR	**Mina Array Bea**	**37.17**	**51**	P	**P**	**18 49 39.3**	**+0.9**
	comp=N,0.5nm,0.7s,baz=238,slow=8.4,SNR=2.7						
	comp=N,0.5nm,0.7s						
KAIM	**Kayak Island**	**41.19**	**8**	P	**P**	**18 50 10.4**	**-1.0**
N19K	**Bonanza Creek**	**41.33**	**1**	P	**P**	**18 50 13.7**	**+1.1**
N19K	comp=Z,7.9nm,1.2s			IAmb	IAmb	18 50 23.1	
HMT	**Hamilton**	**41.60**	**8**	P	**P**	**18 50 13.6**	**-1.2**
HMT	comp=Z,8.5nm,1.2s			IAmb	IAmb	18 50 18.6	
M26K	**Nabesna, AK**	**43.76**	**8**	P	**P**	**18 50 32.5**	**+0.1**
DHY	**Denali Highway**	**43.94**	**5**	P	**P**	**18 50 34.5**	**+0.6**
KTH	**Kantishna Hill**	**44.18**	**3**	P	**P**	**18 50 36.0**	**+0.3**
M29M	**Somme Creek**	**44.52**	**11**	P	**P**	**18 50 38.2**	**-0.3**
M29M	comp=Z,3.0nm,0.8s			IAmb	IAmb	18 50 41.9	
L27K	**Beaver Creek,**	**44.56**	**9**	P	**P**	**18 50 38.0**	**-0.7**
L27K	comp=Z,5.7nm,1.4s			IAmb	IAmb	18 50 40.7	
BCAR	**Beaver Creek A**	**44.57**	**9**	P	**P**	**18 50 39.0**	**+0.2**
PDAR	**Pinedale Array**	**44.85**	**48**	P	**P**	**18 50 44.1**	**+2.5**
	comp=Z,0.3nm,0.8s,baz=237,slow=8.1,SNR=2.1						
	comp=Z,0.3nm,0.8s						
J25K	**Salcha River,**	**45.63**	**6**	P	**P**	**18 50 47.3**	**0.0**
J25K	comp=Z,2.7nm,0.9s			IAmb	IAmb	18 50 49.8	
ILAR	**Eielson Array**	**45.65**	**5**	P	**P**	**18 50 45.9**	**-1.4**
ILAR	**Eielson Array**	**45.65**	**5**	P	**P**	**18 50 47.8**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=199,slow=7.3,SNR=9.8						
	comp=Z,1.0nm,0.8s						
MLY	**Manley**	**45.66**	**3**	P	**P**	**18 50 46.2**	**-1.3**
J26L	**Joseph Creek**	**45.72**	**7**	P	**P**	**18 50 47.5**	**-0.5**
J26L	comp=Z,2.8nm,1.1s			IAmb	IAmb	18 50 51.0	
MDM	**Murphy Dome**	**45.73**	**4**	P	**P**	**18 50 47.6**	**-0.4**
MDM	comp=Z,3.8nm,1.0s			IAmb	IAmb	18 50 56.9	
EGAK	**Eagle**	**46.29**	**8**	P	**P**	**18 50 52.7**	**+0.4**
EGAK	comp=Z,2.4nm,0.8s			IAmb	IAmb	18 50 55.5	
PRP	**Porcupine Dome**	**46.50**	**6**	P	**P**	**18 50 53.3**	**-0.9**
PRP	comp=Z,2.7nm,1.1s			IAmb	IAmb	18 50 56.0	
I26K	**Coal Creek Min**	**46.54**	**7**	P	**P**	**18 50 54.7**	**+0.4**
I26K	comp=Z,3.3nm,1.0s			IAmb	IAmb	18 50 57.4	
I30M	**Mount Dempster**	**47.45**	**11**	P	**P**	**18 51 02.3**	**+0.7**
I30M	comp=Z,2.6nm,0.9s			IAmb	IAmb	18 51 04.3	
TXAR	**Lajitas Array**	**47.71**	**68**	P	**P**	**18 51 06.1**	**+2.0**
	comp=Z,1.2nm,0.7s,baz=254,slow=8.3,SNR=15						
	comp=Z,1.2nm,0.7s						
H29M	**Whitestone**	**48.05**	**9**	P	**P**	**18 51 06.8**	**+0.7**
E18K	**Tukpahlearik C**	**48.09**	**357**	P	**P**	**18 51 07.8**	**+1.5**
G27K	**Doyon Strip**	**48.16**	**7**	P	**P**	**18 51 07.1**	**+0.1**
G29M	**Pine Creek**	**48.74**	**9**	P	**P**	**18 51 12.3**	**+0.8**
G29M	comp=Z,2.3nm,0.8s			IAmb	IAmb	18 51 12.8	
G31M	**Satah River**	**49.36**	**11**	P	**P**	**18 51 16.9**	**+0.8**
G31M	comp=Z,3.9nm,0.8s			IAmb	IAmb	18 51 17.5	

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*TAP **06** 19:00:07.4, 24°.35N×122°.26E, h65km, ML2.8, C*
*JMA **06** 19:00:07.4±0.1, 24°.2N±0°.7×122°.3E±0°.2, h59km±1km, MV2.1/12, TAIWAN REGION*

ISC 06 19:00:07.6±1.2, 24°.34N±0°.02×122°.29E±0°.02, h61km±5km, n119, σ1§09/235, 2C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS3	**EOS3**	**0.06**	**159**	P	**Pn**	**19 00 16.9**	**+0.4**
EOS3	baz=214						
	baz=214			*i* S	**Sn**	**19 00 24.1**	**+1.3**
EOS2	**EOS2**	**0.10**	**323**	*i* P	**Pn**	**19 00 16.9**	**+0.3**
	baz=293						

EOS2				S	Sn	19 00 24.3	+1.3		
		baz=293							
EOS4	**EOS4**		**0.22 174**	P	Pn	19 00 16.8	-0.1		
		baz=172							
EOS4				*e*S	Sn	19 00 24.4	+0.9		
		baz=172							
ESAO	**Su ao**		**0.47 300**	P	Pn	19 00 19.3	0.0		
		baz=301							
ESAO				S	Sn	19 00 27.0	-0.9		
		baz=301							
EWUT	**Wuta**		**0.48 282**	*i* P	Pn	19 00 19.3	-0.1		
		baz=283							
EWUT				*e*S	Sn	19 00 27.4	-0.7		
		baz=283							
TWC	**Suao**		**0.48 303**	P	Pn	19 00 19.3	-0.2		
		baz=306							
TWC				*e*S	Sn	19 00 27.1	-1.0		
		baz=306							
EAHA	**Aohua**		**0.51 269**	*i* P	Pn	19 00 19.8	+0.1		
		baz=271							
EAHA				*e*S	Sn	19 00 28.7	+0.2		
		baz=271							
ENA	**Nanau**		**0.51 280**	P	Pn	19 00 19.4	-0.3		
		baz=280							
ENA				*e*S	Sn	19 00 28.0	-0.6		
		baz=280							
EGS			**0.60 327**	*i* P	Pn	19 00 20.6	-0.1		
		baz=330							
EGS				S	Sn	19 00 30.7	+0.4		
		baz=330							
NDS	**Dongshan**		**0.60 299**	P	Pn	19 00 21.0	+0.3		
		baz=300							
NDS				S	Sn	19 00 31.0	+0.6		
		baz=300							
JYNG	**Yonagunijimaku**		**0.60 80**	P	Pn	19 00 21.0	+0.2		
JYNG				*e*S	Sn	19 00 30.8	+0.4		
ETL	**Fush Village**		**0.64 254**	P	Pn	19 00 20.9	-0.3		
		baz=246							
ETL				*e*S	Sn	19 00 30.9	-0.3		
		baz=246							
NACB	**Ninganchiao**		**0.66 255**	P	Pn	19 00 21.0	-0.5		
		baz=248							
NACB				S	Sn	19 00 30.8	-0.8		
		baz=248							
YOJ	**Yonaguni jima**		**0.66 80**	*e*P	Pn	19 00 21.8	+0.4		
		baz=80							
YOJ				*e*S	Sn	19 00 32.3	+0.7		
		baz=80							
YOJ	**Yonaguni jima**		**0.66 80**	*e*P	Pn	19 00 21.6	+0.1		
YOJ				*e*S	Sn	19 00 31.9	+0.2		
TWE	**Neicheng**		**0.68 304**	*i* P	Pn	19 00 22.1	+0.4		
		baz=310							
TWE				S	Sn	19 00 32.3	+0.3		
		baz=310							
TWD	**Chiawan**		**0.69 248**	*i* P	Pn	19 00 21.5	-0.2		
		baz=240							
TWD				*e*S	Sn	19 00 31.2	-0.9		
		baz=240							
TWB1	**Santiao Chiao**		**0.72 337**	*i* P	Pn	19 00 21.7	-0.4		
		baz=332							
TWB1				S	Sn	19 00 31.7	-1.1		
		baz=332							
LATG	**Datong**		**0.72 285**	*i* P	Pn	19 00 22.4	+0.1		
		baz=280							
LATG				S	Sn	19 00 33.5	+0.4		
		baz=280							
ENTT	**Nioudou**		**0.73 294**	*i* P	Pn	19 00 22.5	+0.2		
		baz=289							
ENTT				S	Sn	19 00 33.2	+0.2		
		baz=289							
HWA	**Hwalien**		**0.73 240**	*i* P	Pn	19 00 22.3	0.0		
		baz=238							
HWA				S	Sn	19 00 33.1	+0.2		
		baz=238							
NDT	**Datong Townshi**		**0.76 290**	*i* P	Pn	19 00 22.8	+0.2		
		baz=287							
NDT				*e*S	Sn	19 00 33.5	-0.1		
		baz=287							
TIPB	**Shuangxi**		**0.76 326**	*i* P	Pn	19 00 22.6	-0.1		
		baz=334							
TIPB				S	Sn	19 00 33.2	-0.5		
		baz=334							
FUSB	**Fushanzhiwuyua**		**0.77 303**	P	Pn	19 00 23.3	+0.5		
		baz=311							
FUSB				S	Sn	19 00 35.0	+1.0		
		baz=311							
TEYL	**Yanliau Villag**		**0.79 234**	P	Pn	19 00 22.4	-0.6		
		baz=228							
TEYL				*e*S	Sn	19 00 33.5	-0.8		
		baz=228							
ETM	**Tongmen**		**0.82 243**	P	Pn	19 00 23.0	-0.4		
		baz=233							
ETM				*e*S	Sn	19 00 34.3	-0.7		
		baz=233							
NNSB	**Datong**		**0.83 276**	*i* P	Pn	19 00 23.5	-0.2		
		baz=276							
NNSB				*i* S	Sn	19 00 35.2	-0.3		
		baz=276							
SXI1	**Grass Mountain**		**0.84 333**	*e*P	Pn	19 00 23.4	-0.3		
		baz=340							
SXI1				*e*S	Sn	19 00 34.9	-0.7		
		baz=340							
NWLT	**Wulai**		**0.84 301**	*i* P	Pn	19 00 24.1	+0.5		
		baz=308							
NWLT				S	Sn	19 00 36.0	+0.5		
		baz=308							
NNS	**Nan Shan**		**0.84 277**	*e*P	Pn	19 00 23.6	-0.2		
		baz=277							
NNS				*e*S	Sn	19 00 35.2	-0.5		
		baz=277							
SHUL	**Shoufeng**		**0.87 231**	⇑P	Pn	19 00 23.6	-0.4		
		baz=229							
SHUL				*e*S	Sn	19 00 35.9	-0.1		
		baz=229							
YHNB	**Yeheng**		**0.90 291**	*e*P	Pn	19 00 24.7	+0.3		
		baz=286							
YHNB				*e*S	Sn	19 00 37.2	+0.4		
		baz=286							
TWA	**Mucha**		**0.91 315**	*i* P	Pn	19 00 24.5	0.0		
		baz=326							
TWA				*e*S	Sn	19 00 36.3	-0.6		
		baz=326							
NSK	**Sanguang**		**0.92 291**	P	Pn	19 00 24.6	0.0		
		baz=286							
NSK				*i* S	Sn	19 00 37.2	0.0		
		baz=286							
NHDH	**Xindian Distri**		**0.93 312**	*e*P	Pn	19 00 26.3	+1.5		
		baz=324							
NHDH				*e*S	Sn	19 00 37.0	-0.5		
		baz=324							
ESL	**Shilin**		**0.95 236**	P	Pn	19 00 24.2	-0.8		
		baz=234							
ESL				*e*S	Sn	19 00 36.2	-1.6		
		baz=234							
WHF	**Hehuan Shan**		**0.96 258**	*i* P	Pn	19 00 25.4	-0.2		
		baz=249							
WHF				S	Sn	19 00 38.2	-0.6		
		baz=249							
FUSS	**Fushou**		**0.96 265**	⇓P	Pn	19 00 25.8	+0.4		
		baz=264							
FUSS				*e*S	Sn	19 00 38.1	-0.5		
		baz=264							
TATO	**Taipei**		**0.97 311**	*e*P	Pn	19 00 26.5	+1.3		
		baz=324							
TATO				*i* S	Sn	19 00 38.2	-0.1		
		baz=324							
TAP	**Taipei**		**1.00 314**	P	Pn	19 00 25.7	+0.1		
		baz=327							
TAP				*e*S	Sn	19 00 39.4	+0.4		
		baz=327							
TWT	**Tachien**		**1.02 265**	⇑*i*P	Pn	19 00 26.8	+0.7		
		baz=259							
TWT				*e*S	Sn	19 00 40.4	+0.5		
		baz=259							
YM01	**YM01**		**1.04 321**	P	Pn	19 00 25.5	-0.7		
		baz=330							
YM01				*e*S	Sn	19 00 38.9	-1.1		
		baz=330							
WARBT	**Fenglin Townsh**		**1.04 233**	*i* P	Pn	19 00 25.7	-0.5		
		baz=232							
WARBT				*i* S	Sn	19 00 38.6	-1.3		
		baz=232							
EGFH	**Guangfu**		**1.04 230**	*e*P	Pn	19 00 24.6	-1.6		
		baz=222							
EGFH				*e*S	Sn	19 00 38.0	-1.9		
		baz=222							
TDCB	**Techi**		**1.04 265**	P	Pn	19 00 26.7	+0.4		
		baz=259							
TDCB				*i* S	Sn	19 00 39.9	-0.3		
		baz=259							
YM08	**YM08**		**1.06 323**	P	Pn	19 00 26.7	+0.2		
		baz=325							
YM08				*e*S	Sn	19 00 38.8	-1.6		
		baz=325							
CHGB	**Renai**		**1.06 255**	*e*P	Pn	19 00 27.0	+0.3		
		baz=246							
CHGB				*e*S	Sn	19 00 40.7	-0.1		
		baz=246							
OWD	**Renai**		**1.09 249**	*e*P	Pn	19 00 27.1	+0.1		
		baz=242							
OWD				*e*S	Sn	19 00 40.9	-0.6		
		baz=242							
ANP	**Anpu**		**1.10 320**	*e*P	Pn	19 00 28.0	+1.0		
		baz=322							
ANP				*e*S	Sn	19 00 38.4	-3.0		
		baz=322							
TWS1	**Kuangyinshan**		**1.10 314**	P	Pn	19 00 26.9	-0.1		
		baz=325							
TWS1				*e*S	Sn	19 00 41.8	+0.5		
		baz=325							
NFF	**Wufeng Townshi**		**1.11 285**	*e*P	Pn	19 00 27.8	+0.7		
		baz=296							
NFF				*e*S	Sn	19 00 41.8	+0.1		
		baz=296							
NTST	**Danshui**		**1.12 317**	*e*P	Pn	19 00 27.7	+0.5		
		baz=327							
NTST				*e*S	Sn	19 00 42.4	+0.5		
		baz=327							
TWY	**Chenhua**		**1.12 326**	*e*P	Pn	19 00 27.9	+0.6		
		baz=328							
TWY				*e*S	Sn	19 00 42.0	+0.1		
		baz=328							
WUSB	**Renai**		**1.13 252**	P	Pn	19 00 27.8	+0.3		
		baz=246							
WUSB				S	Sn	19 00 41.4	-0.9		
		baz=246							
HGSD	**Ruisui**		**1.16 223**	P	Pn	19 00 28.1	+0.3		
		baz=219							
HGSD				S	Sn	19 00 43.3	+0.5		
		baz=219							
NCUH	**Zhongli**		**1.19 302**	P	Pn	19 00 28.1	0.0		
		baz=303							
NCUH				*e*S	Sn	19 00 43.5	+0.1		
		baz=303							
LIOB	**Emei**		**1.20 285**	*e*P	Pn	19 00 29.3	+1.0		
		baz=286							
LIOB				*e*S	Sn	19 00 45.4	+1.5		
		baz=286							
VWDT	**VWDT**		**1.21 241**	*e*P	Pn	19 00 29.0	+0.6		
		baz=233							
VWDT				*e*S	Sn	19 00 43.5	-0.3		
		baz=233							
EHYH	**Wanrong**		**1.21 226**	P	Pn	19 00 28.4	0.0		
		baz=224							
EHYH				*e*S	Sn	19 00 43.4	-0.6		
		baz=224							
NSTT	**Nanjuang**		**1.21 284**	P	Pn	19 00 29.3	+0.9		
		baz=285							
NSTT				*e*S	Sn	19 00 45.5	+1.4		
		baz=285							
EHY	**Hungye**		**1.22 227**	*e*P	Pn	19 00 28.5	-0.1		
		baz=225							
EHY				*e*S	Sn	19 00 40.2	-4.0		
		baz=225							
WHP	**Taichung City**		**1.23 267**	*e*P	Pn	19 00 31.0	+2.2		
		baz=263							
WHP				*e*S	Sn	19 00 45.6	+0.9		
		baz=263							
WPL	**Puli Township**		**1.27 255**	P	Pn	19 00 29.4	+0.2		
		baz=251							
WPL				*e*S	Sn	19 00 45.5	+0.2		
		baz=251							
ECBN	**Changbin**		**1.28 217**	*e*P	Pn	19 00 29.3	-0.1		
		baz=208							
ECBN				*e*S	Sn	19 00 44.2	-1.5		
		baz=208							
DPDB	**Guoxing**		**1.29 256**	P	Pn	19 00 30.3	+0.8		
		baz=252							
DPDB				*e*S	Sn	19 00 46.1	+0.2		
		baz=252							
WCS	**Beigang Elemen**		**1.29 258**	*e*P	Pn	19 00 30.4	+0.8		
		baz=253							
WCS				*e*S	Sn	19 00 47.0	+1.1		
		baz=253							
IRIF	**Iriomote-Funau**		**1.31 90**	*e*P	Pn	19 00 29.8	+0.1		
IRIF				*e*S	Sn	19 00 46.8	+0.5		
YULB	**Yu-li**		**1.31 224**	*e*P	Pn	19 00 29.6	-0.2		
		baz=232							
YULB				S	Sn	19 00 44.9	-1.6		
		baz=232							
EYUL	**Yuli**		**1.33 222**	*e*P	Pn	19 00 30.4	+0.3		
		baz=230							
EYUL				*e*S	Sn	19 00 47.2	+0.3		
		baz=230							
SSLB	**Suanglung**		**1.34 246**	*e*P	Pn	19 00 30.5	+0.2		
		baz=240							
SSLB				*e*S	Sn	19 00 47.0	-0.2		
		baz=240							
TWF1	**Yuli**		**1.34 223**	*e*P	Pn	19 00 30.2	0.0		
		baz=230							
TWF1				S	Sn	19 00 45.8	-1.4		
		baz=230							
SMLT	**Sun Moon Lake**		**1.35 251**	*e*P	Pn	19 00 32.0	+1.5		
		baz=245							
SMLT				S	Sn	19 00 47.5	-0.1		
		baz=245							
NMLH	**Miaoli**		**1.38 278**	*i* P	Pn	19 00 31.5	+0.7		
		baz=279							
NMLH				*e*S	Sn	19 00 48.4	+0.3		
		baz=279							
TYC	**Yuchr**		**1.38 252**	P	Pn	19 00 31.3	+0.6		
		baz=245							
TYC				*e*S	Sn	19 00 48.2	+0.1		
		baz=245							
TWQ1	**Liyutan**		**1.39 271**	*e*P	Pn	19 00 32.8	+2.0		
		baz=271							
TWQ1				*e*S	Sn	19 00 49.9	+1.6		
		baz=271							
CHKH	**Chenggong**		**1.41 216**	P	Pn	19 00 30.0	-1.1		
		baz=206							
CHKH				*e*S	Sn	19 00 46.0	-2.8		
		baz=206							
FULB	**Fuli**		**1.46 219**	*i* P	Pn	19 00 31.5	-0.4		
		baz=209							
FULB				*e*S	Sn	19 00 49.1	-1.0		
		baz=209							
WHYT	**Xinyi Township**		**1.47 244**	*e*P	Pn	19 00 32.9	+1.0		
		baz=240							
WHYT				S	Sn	19 00 50.5	+0.3		
		baz=240							
WWF	**Wufeng**		**1.49 259**	*e*P	Pn	19 00 34.4	+2.3		
		baz=271							
WWF				*e*S	Sn	19 00 53.5	+2.9		
		baz=271							
TCU	**Taichung**		**1.49 263**	P	Pn	19 00 33.3	+1.2		
		baz=275							
TCU				*e*S	Sn	19 00 50.9	+0.3		
		baz=275							
YUS	**Yu-Shan**		**1.49 236**	P	Pn	19 00 32.8	+0.1		
		baz=227							
YUS				S	Sn	19 00 50.6	-0.9		
		baz=227							
CHKT	**Chengkung**		**1.50 215**	P	Pn	19 00 31.3	-1.1		
		baz=206							
CHKT				*e*S	Sn	19 00 48.1	-2.9		
		baz=206							
WNT1	**Nantou City**		**1.54 254**	*e*P	Pn	19 00 33.5	+0.7		
		baz=253							
WNT1				S	Sn	19 00 54.4	+2.6		
		baz=253							
WNT	**Mingjian**		**1.54 253**	*e*P	Pn	19 00 34.9	+2.0		
		baz=252							
WNT				*e*S	Sn	19 00 55.3	+3.4		
		baz=252							
EHD	**Haiduan**		**1.55 220**	P	Pn	19 00 33.1	+0.1		
		baz=227							
EHD				*e*S	Sn	19 00 52.5	+0.4		
		baz=227							
JKRS	**Kuro-shima**		**1.57 93**	*e*P	Pn	19 00 34.1	+0.9		
JKRS				*e*S	Sn	19 00 54.0	+1.4		
ECS	**Chishang**		**1.58 219**	P	Pn	19 00 33.9	+0.4		
		baz=227							
ECS				S	Sn	19 00 53.3	+0.3		
		baz=227							
WYL	**Yuanlin Townsh**		**1.61 257**	*e*S	Sn	19 00 56.3	+2.7		
		baz=256							
ELDTW	**Lidau**		**1.64 226**	P	Pn	19 00 34.1	-0.2		
		baz=220							
ELDTW				*e*S	Sn	19 00 53.1	-1.4		
		baz=220							
CHN5	**Tsauling**		**1.65 244**	*e*P	Pn	19 00 36.2	+1.7		
		baz=235							
CHN5				*e*S	Sn	19 00 56.5	+1.8		
		baz=235							
JIJ	**Ishigaki jima**		**1.69 89**	P	Pn	19 00 34.9	+0.1		
JIJ				*e*S	Sn	19 00 55.2	-0.2		
WDLH	**Douliu**		**1.73 248**	*e*P	Pn	19 00 37.2	+1.8		
		baz=247							
WDLH				S	Sn	19 00 58.8	+2.3		
		baz=247							
LONT	**Longtian**		**1.78 217**	*e*P	Pn	19 00 36.3	+0.1		
		baz=223							
LONT				*e*S	Sn	19 00 58.2	+0.4		
		baz=223							
WCKO	**Fanlu**		**1.79 240**	*e*P	Pn	19 00 38.1	+1.8		
		baz=239							
WCKO				*e*S	Sn	19 01 00.4	+2.5		
		baz=239							
WRL	**Guolierlin Hig**		**1.81 256**	*i* P	Pn	19 00 37.2	+0.7		
		baz=256							
WRL				*e*S	Sn	19 00 58.5	+0.2		
		baz=256							
STYH	**Taoyuan**		**1.82 230**	*e*P	Pn	19 00 38.0	+1.4		
		baz=225							
STYH				*e*S	Sn	19 00 59.4	+0.8		
		baz=225							
RLNB	**Erlin**		**1.82 256**	P	Pn	19 00 37.4	+0.8		
		baz=256							
RLNB				*e*S	Sn	19 00 58.9	+0.1		
		baz=256							
LDUT	**Ludao**		**1.83 205**	*e*P	Pn	19 00 36.2	-0.5		
		baz=203							
LDUT				*e*S	Sn	19 00 56.5	-2.3		
		baz=203							
STYT	**Tauyuan**		**1.83 230**	*i* P	Pn	19 00 37.5	+0.6		
		baz=225							
STYT				S	Sn	19 00 59.5	+0.4		
		baz=225							
CHN4	**Tsaushan**		**1.84 238**	*e*P	Pn	19 00 38.6	+1.7		
		baz=229							
CHN4				*e*S	Sn	19 01 01.9	+2.7		
		baz=229							
TPUB	**Ta-pu**		**1.84 236**	*e*P	Pn	19 00 37.2	+0.2		
		baz=228							
TPUB				*e*S	Sn	19 01 01.3	+2.1		
		baz=228							
JISG	**Ishigakijimahi**		**1.85 82**	*e*P	Pn	19 00 37.1	0.0		
JISG				*e*S	Sn	19 00 59.2	-0.3		
WTK	**Tuku**		**1.86 250**	*i* P	Pn	19 00 38.3	+1.1		
		baz=249							
WTK				*e*S	Sn	19 01 01.2	+1.6		
		baz=249							
TWGBT	**Beinan**		**1.88 217**	*e*P	Pn	19 00 37.0	-0.5		
		baz=221							
TWGBT				*e*S	Sn	19 00 59.5	-0.7		
		baz=221							
TWG	**Pinlang**		**1.89 217**	*e*P	Pn	19 00 37.8	+0.3		
		baz=221							
TWG				*e*S	Sn	19 00 59.8	-0.5		
		baz=221							
WTP	**Ta-pu**		**1.89 235**	*e*P	Pn	19 00 39.5	+1.9		
		baz=226							
WTP				*e*S	Sn	19 01 02.3	+1.9		
		baz=226							
TWK	**Hsinying**		**1.97 237**	*e*P	Pn	19 00 40.4	+1.6		
		baz=236							
TWK				S	Sn	19 01 03.9	+1.5		
		baz=236							
SNST	**Tainan City**		**1.99 236**	P	Pn	19 00 39.5	+0.6		
		baz=235							
SNST				*e*S	Sn	19 01 04.6	+1.8		
		baz=235							
SLGT	**Liugui**		**2.02 229**	*e*P	Pn	19 00 39.9	+0.5		
		baz=227							
SLGT				S	Sn	19 01 05.1	+1.5		
		baz=227							
SCST	**Cishan**		**2.20 229**	*e*P	Pn	19 00 40.9	-0.9		
		baz=238							
SSD	**Sandimen**		**2.20 224**	*e*P	Pn	19 00 41.8	0.0		
		baz=223							
SSD				*e*S	Sn	19 01 08.7	+0.7		
		baz=223							
MASBT	**Mashibuluo**		**2.30 222**	*e*P	Pn	19 00 45.2	+2.0		
		baz=220							
MASBT				*e*S	Sn	19 01 10.8	+0.5		
		baz=220							
EAST	**Anshuo**		**2.36 215**	*e*P	Pn	19 00 43.8	-0.3		
		baz=207							
EAST				*e*S	Sn	19 01 10.5	-1.4		
		baz=207							
VWUC	**VWUC**		**2.67 285**	*e*P	Pn	19 00 47.5	-0.6		
		baz=286							
VWUC				*e*S	Sn	19 01 17.1	-2.2		
		baz=286							
PTMZ	**Houxiangcun**		**2.97 284**	*e*P	Pn	19 00 52.0	-0.3		
		baz=286							
PTMZ				*e*S	Sn	19 01 24.7	-2.1		
		baz=286							
LYJJ	**Jianjiangzhen**		**3.17 314**	P	Pn	19 00 55.2	+0.1		
		baz=317							
LYJJ				*e*S	Sn	19 01 30.3	-1.5		
		baz=317							
XPSS	**Dashiqiu**		**3.20 324**	*e*P	Pn	19 00 55.6	+0.2		
		baz=326							
XPSS				*e*S	Sn	19 01 30.8	-1.6		
		baz=326							
MHZQ	**Yeshan**		**3.44 301**	*e*P	Pn	19 00 58.4	-0.3		
		baz=304							
MHZQ				*e*S	Sn	19 01 35.6	-2.5		
		baz=304							
KNMB	**Chin-men Tao**		**3.56 273**	P	Pn	19 01 00.5	+0.1		
		baz=274							

*IDC **06** 19:20:20.2±1.6, 5°.87S×130°.25E, h0km, mb3.6/1, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=71.9km s-min=26.1km az=60.0*

ISC 06 19:20:37.0±0.9, **6°.49S**±0°.09×**130°.1E**±0°.1, **h150**km, **n17**, σ**1**§**45**/18, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.13**	**31**	P	**Pn**	**19 21 39.2**	**+0.2**
DRS	**Darwin Rock St**	**5.95**	**173**	P	**Pn**	**19 22 06.0**	**+2.9**
KDU	**Kakadu**	**6.58**	**160**	P	**Pn**	**19 22 12.2**	**+0.7**
SOEI	**Soe**	**6.64**	**240**	P	**Pn**	**19 22 12.7**	**+0.2**
PLAI	**Plampang**	**12.46**	**258**	P	**Pn**	**19 23 29.8**	**+0.5**
WRA	**Warramunga Arr**	**13.99**	**163**	Pn	**Pn**	**19 23 48.4**	**-0.4**
	0.9nm,0.3s,baz=345,slow=11,SNR=47						
WRA				Sn	Sn	19 26 13.7	-10
	0.4nm,0.3s,baz=339,slow=21,SNR=3.9						
	1.2nm,0.4s						
COEN	**Coen**	**14.83**	**121**	P	**P**	**19 24 01.6**	**+0.2**
QIS	**Mount Isa**	**16.74**	**148**	P	**Pn**	**19 24 23.6**	**+0.8**
ASAR	**Alice Springs**	**17.46**	**168**	P	**Pn**	**19 24 31.4**	**-0.1**
	0.6nm,0.3s,baz=348,slow=11,SNR=52						
ASAR				S	**S**	**19 27 40.5**	**-4.2**
	0.4nm,0.7s,baz=342,slow=10,SNR=3.4						
	2.5nm,0.5s						
AS01	**Alice Springs**	**17.47**	**168**	P	**Pn**	**19 24 31.6**	**0.0**
MTSU	**Mount Surprise**	**18.04**	**131**	P	**Pn**	**19 24 39.0**	**+0.5**
WRKA	**Warakurna**	**18.53**	**185**	P	**P**	**19 24 42.6**	**+0.5**
CTA	**Charters Tower**	**20.69**	**132**	P	**P**	**19 25 06.0**	**+0.6**
	0.1nm,0.6s,baz=300,slow=8.1,SNR=1.7						
OOD	**Oodnadatta**	**21.84**	**167**	P	**P**	**19 25 17.1**	**-0.5**
INKA	**Innaminka**	**23.42**	**156**	P	**P**	**19 25 33.4**	**+0.8**
MULG	**Mulgathing**	**23.96**	**172**	P	**P**	**19 25 37.8**	**+0.3**
MKAR	**Makanchi Array**	**67.87**	**327**	P	**P**	**19 31 17.8**	**-1.5**
	0.3nm,0.4s,baz=134,slow=6.2,SNR=7.5						
	0.3nm,0.4s						

*NEIC **06** 19:21:49.5±1.9, 45°.24N±0°.07×106°.87W±0°.09, h0km±1km, ML3.1/56, Error ellipse: s-maj=13.5km s-min=8.3km az=42.0*

*IDC **06** 19:21:49.4±1.3, 44°.95N×106°.99W, h0km, mbtmp4.2/1, ML2.5/1, Error ellipse: s-maj=58.1km s-min=8.1km az=135.0*

ISC 06 19:21:51.6±1.2, **45°.27N**±0°.05×**106°.86W**±0°.06, **h0**km, **n50**, σ**1**§**15**/49, **Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.49**	**17**	Pg	**Pb**	**19 22 21.0**	**+0.9**
LAO	201nm,3.0s			IAML		19 22 48.0	
LAO	238nm,0.7s			IAML		19 22 53.4	
RLMT	**Red Lodge**	**1.71**	**266**		**Pn**	**19 22 21.6**	**-1.2**
RLMT	182nm,0.9s			IAML		19 22 53.9	
GCMT	**Greycliff**	**2.04**	**286**	Pn	**Pn**	**19 22 26.2**	**-1.1**
RSSD	**Black Hills**	**2.32**	**119**	Pn	**Pn**	**19 22 30.9**	**-0.3**
RSSD	112nm,0.6s			IAML		19 23 03.7	
YMP	**Mirror Lake Pl**	**2.40**	**258**		**Pn**	**19 22 31.4**	**-0.9**
YMP	comp=E,164nm,0.8s			IAML		19 23 04.9	
YMP	comp=N,138nm,0.8s			IAML		19 23 07.8	
K22A	**Casper**	**2.63**	**175**		**Pn**	**19 22 34.1**	**-1.3**
K22A	comp=N,78nm,0.9s			IAML		19 23 27.8	
K22A	comp=E,92nm,3.2s			IAML		19 23 55.6	
YNR	**Norris Junctio**	**2.76**	**260**	Pn	**Pn**	**19 22 36.4**	**-1.0**
YNR	comp=N,62nm,2.0s			IAML		19 23 21.0	
H17A	**Grant Village**	**2.78**	**253**		**Pn**	**19 22 37.2**	**-0.4**
H17A	comp=E,52nm,2.1s			IAML		19 23 19.3	
H17A	comp=N,56nm,1.9s			IAML		19 23 23.2	
YHH	**Holmes Hill**	**2.87**	**262**		**Pn**	**19 22 38.0**	**-0.9**
FLWY	**Flagg Ranch**	**2.98**	**248**		**Pn**	**19 22 39.3**	**-1.0**
FLWY	comp=N,77nm,2.1s			IAML		19 23 32.4	
LOHW	**Long Hollow**	**3.15**	**240**		**Pn**	**19 22 40.5**	**-2.1**
LOHW	comp=N,38nm,0.9s			IAML		19 23 37.6	
MOOW	**Moose Ponds**	**3.17**	**243**	Pn	**Pn**	**19 22 41.1**	**-1.7**
BW06	**Boulder Array**	**3.17**	**219**	Pn	**Pn**	**19 22 42.6**	**-0.3**
PD31	**Pinedale Array**	**3.17**	**219**		**Pn**	**19 22 42.5**	**-0.4**
PDAR	**Pinedale Array**	**3.17**	**219**		**Pn**	**19 22 42.8**	**-0.1**
PDAR	**Pinedale Array**	**3.17**	**219**	Pg	**Pn**	**19 22 43.2**	**+0.4**
PDAR	comp=N,3.7nm,0.3s,baz=51,slow=20,SNR=74 comp=N,2.8nm,0.3s,baz=46,slow=28,SNR=6.4			Lg	Lg	19 23 20.5	
IMW	**Indian Meadow**	**3.22**	**246**	Pn	**Pn**	**19 22 43.9**	**+0.3**
IMW	comp=N,54nm,0.7s			IAML		19 23 45.3	
QLMT	**Earthquake Lak**	**3.27**	**264**	Pn	**Pn**	**19 22 45.0**	**+0.8**
SNOW	**Snow King Moun**	**3.32**	**238**		**Pn**	**19 22 43.9**	**-1.2**
SNOW	comp=N,49nm,2.1s			IAML		19 23 49.6	
SNOW	comp=N,62nm,3.8s			IAML		19 24 44.6	
BOZ	**Bozeman (W)**	**3.37**	**277**		**Pn**	**19 22 45.2**	**-0.4**
BOZ	comp=N,38nm,2.1s			IAML		19 23 41.2	
FXWY	**Fox Creek**	**3.40**	**243**		**Pn**	**19 22 47.0**	**+1.0**
EGMT	**Eagleton**	**3.40**	**325**	Pn	**Pn**	**19 22 48.1**	**+2.2**
EGMT	comp=N,57nm,0.8s			IAML		19 23 48.8	
EGMT	comp=N,68nm,1.0s			IAML		19 24 00.9	
TPAW	**Teton Pass**	**3.43**	**240**	Pn	**Pn**	**19 22 48.0**	**+1.5**
TPAW	comp=N,30nm,4.3s			IAML		19 24 50.6	
REDW	**Red Top Meadow**	**3.44**	**238**		**Pn**	**19 22 47.3**	**+0.7**
RWWY	**Rawlins**	**3.59**	**184**		**Pn**	**19 22 48.2**	**-0.4**
RWWY	comp=N,44nm,3.1s			IAML		19 23 46.9	
RWWY	comp=N,39nm,3.5s			IAML		19 24 47.6	
DGMT	**Dagmar**	**3.69**	**29**	Pn	**Pn**	**19 22 47.8**	**-2.0**
AHID	**Auburn Hatcher**	**3.95**	**232**		**Pn**	**19 22 52.6**	**-1.0**
AHID	comp=N,21nm,1.9s			IAML		19 23 59.9	
AHID	comp=N,31nm,0.8s			IAML		19 24 38.8	
LRM	**Limekiln Ridge**	**3.96**	**280**	Pn	**Pn**	**19 22 53.4**	**-0.4**
PHWY	**Pilot Hill**	**4.09**	**165**	Pn	**Pn**	**19 22 53.8**	**-1.9**
PHWY	comp=N,20nm,1.1s			IAML		19 23 59.0	
LYMT	**Lyon Mountain**	**4.14**	**296**		**Pn**	**19 22 53.8**	**-2.4**
MCMT	**McKenzie Canyo**	**4.26**	**266**	Pn	**Pn**	**19 22 56.4**	**-1.6**
N23A	**Red Feather La**	**4.42**	**171**		**Pn**	**19 22 59.0**	**-1.2**
N23A	comp=N,27nm,1.0s			IAML		19 24 27.3	
OVMT	**Ovando**	**4.62**	**295**		**Pn**	**19 23 01.6**	**-1.2**
BPMT	**Black Pine Rid**	**4.75**	**287**		**Pn**	**19 23 03.0**	**-1.6**
HWUT	**Hardware Ranch**	**5.01**	**225**	Pn	**Pn**	**19 23 07.3**	**-0.9**
HWUT	comp=N,19nm,2.0s			IAML		19 24 49.7	
HWUT	comp=N,18nm,4.3s			IAML		19 26 18.4	
RDMU	**Red Mountain**	**5.10**	**204**	Pn	**Pn**	**19 23 09.0**	**-0.4**
MSO	**Missoula**	**5.17**	**290**		**Pn**	**19 23 10.0**	**-0.3**
O20A	**White River Ci**	**5.23**	**192**	Pn	**Pn**	**19 23 13.3**	**+2.1**
TCUT	**Toone Canyon**	**5.31**	**220**	Pn	**Pn**	**19 23 12.7**	**+0.3**
BSUT	**Blindstream Ca**	**5.53**	**213**	Pn	**Pn**	**19 23 15.6**	**+0.2**
HVU	**Hansel Valley**	**5.53**	**233**	Pn	**Pn**	**19 23 16.1**	**+0.8**
HLID	**Hailey**	**5.67**	**255**	Pn	**Pn**	**19 23 17.5**	**+0.3**
SPUT	**South Promonto**	**5.68**	**228**	Pn	**Pn**	**19 23 17.0**	**-0.4**
JLU	**Jordanelle**	**5.75**	**217**	Pn	**Pn**	**19 23 18.8**	**+0.4**
SMCO	**Snowmass**	**6.09**	**181**	Pn	**Pn**	**19 23 22.8**	**-0.4**
P18A	**Preston Nutter**	**6.17**	**205**		**Pn**	**19 23 23.0**	**-1.1**
PLID	**Pearl Lake**	**6.46**	**272**	Pn	**Pn**	**19 23 26.9**	**-1.2**
SRU	**San Rafael Swe**	**6.72**	**205**		**Pn**	**19 23 30.3**	**-1.4**
I56US	**NEWPORT INFRAS**	**7.66**	**297**	I	I	20 04 20.0	
	comp=N,0.1nm,1.1s,baz=111,slow=307,SNR=5.3						
ULM	**Lac du Bonnet**	**8.92**	**52**	Pn	**Pn**	**19 24 01.8**	**+0.2**
ULM	comp=N,0.8nm,0.3s,baz=236,slow=12,SNR=12 comp=N,0.2nm,0.3s,baz=276,slow=18,SNR=2.0 comp=N,2.6nm,0.2s			Lg	Lg	19 26 29.7	

*NEIC **06** 19:35:39.1±2.0, 3°.5N±0°.1×127°.8E±0°.2, h99km±17km, mb4.0/7, Error ellipse: s-maj=26.0km s-min=10.7km az=60.0*
*IDC **06** 19:35:56.3±4.5, 1°.68N×126°.19E, h148km±52km, mb3.6/6, mbtmp4.1/7, Error ellipse: s-maj=150.0km s-min=14.0km az=67.0*
ISC 06 19:35:55.2±0.9, 1°.95N±0°.08×127°.4E±0°.1, h150km, n24, σ1§60/20, mb3.8/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.17**	**180**		**Pn**	**19 36 20.6**	**-0.9**
TNTI	**Ternate**	**1.17**	**180**	P	Pn	19 36 29.7	+8.2
KMSI	**Cibinong**	**3.66**	**248**	P	**Pn**	**19 36 51.4**	**+0.4**
GTOI	**Gorontalo**	**4.55**	**253**	P	**Pn**	**19 37 01.7**	**-1.0**
DAV	**Davao City (W)**	**5.39**	**341**	P	**Pn**	**19 37 15.1**	**+1.3**
LUWI	**Luwuk**	**5.48**	**237**	Pn	**Pn**	**19 37 14.8**	**-0.2**
TOLI2	**Tolitoli**	**6.64**	**263**		Pn	19 37 23.8	-6.7
FAKI	**Fak Fak**	**6.87**	**135**	Pn	**Pn**	**19 37 31.5**	**-2.0**
MYLDM	**Lahad Datu**	**9.42**	**290**	Pn	Pn	19 37 50.9	-17
SAUI	**Saumlaki**	**10.62**	**158**	Pn	**Pn**	**19 38 24.6**	**+1.2**
MTN	**Manton Dam**	**15.16**	**166**		**P**	**19 39 24.9**	**+1.6**
MTN	comp=Z,15nm,1.4s			IAmb	IAmb	19 39 37.5	
KNRA	**Kununurra**	**17.57**	**176**	P	**Pn**	**19 39 55.1**	**+4.1**
KNRA	comp=Z,5.5nm,0.9s			IAmb	IAmb	19 39 58.2	
FITZ	**Fitzroy Crossi**	**20.00**	**185**	P	**Pn**	**19 40 20.9**	**+1.4**
WB0	**Warramunga Arr**	**22.66**	**163**	P	**P**	**19 40 44.3**	**+0.4**
WB0	comp=Z,12nm,1.3s			IAmb	IAmb	19 40 47.8	
WRA	**Warramunga Arr**	**22.81**	**163**	P	**P**	**19 40 46.6**	**+1.3**
WB2	**Warramunga Arr**	**22.81**	**163**	P	**P**	**19 40 45.6**	**+0.3**
AS31	**Alice Springs**	**26.24**	**166**	P	**P**	**19 41 15.7**	**-0.8**
ASAR	**Alice Springs**	**26.25**	**166**	P	**P**	**19 41 15.6**	**-0.9**
ASAR	**Alice Springs**	**26.25**	**166**	P	**P**	**19 41 17.6**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=354,slow=7.5,SNR=21 comp=Z,0.8nm,0.6s						
STKA	**Stephens Creek**	**36.25**	**159**	P	**P**	**19 42 43.2**	**-0.8**
STKA	comp=Z,2.2nm,1.3s			IAmb	IAmb	19 42 56.1	
STKA	**Stephens Creek**	**36.25**	**159**	P	P	19 42 48.5	+4.5
	comp=Z,1.5nm,0.4s,baz=342,slow=8.6,SNR=5.5 comp=Z,1.5nm,0.4s						
MKAR	**Makanchi Array**	**59.37**	**326**	P	**P**	**19 45 40.2**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=119,slow=8.6,SNR=6.1 comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**63.57**	**328**	P	**P**	**19 46 08.6**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=116,slow=6.4,SNR=5.5 comp=Z,1.4nm,0.3s						
BVAR	**Borovoye Array**	**69.15**	**327**	P	**P**	**19 46 43.1**	**-2.1**
	comp=Z,1.9nm,1.1s,baz=132,slow=8.5,SNR=2.8 comp=Z,1.9nm,1.1s						

*KOLA **06** 19:37:31.9, 67°.63N×33°.87E, h0km, ML2.3, Error ellipse: s-maj=3.4km s-min=1.9km az=130.0, Khibiny, mines Rasvumchorr, Central*
*HEL **06** 19:37:31.5±0.3, 67°.71N×33°.79E, h0km, ML2.0, Suspected explosion*
*BER **06** 19:37:32.4±1.0, 67°.51N×33°.98E, h0km, ML2.6, Suspected explosion*
*IDC **06** 19:37:33.8±1.8, 67°.76N×33°.61E, h0km, mbtmp3.3/5, ML2.2/3, Error ellipse: s-maj=18.6km s-min=9.8km az=84.0*
ISC 06 19:37:30.3±0.8, 67°.62N±0°.04×33°.87E±0°.04, h0km, n35, σ1§49/63, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.19**	**253**	P	**Pg**	**19 37 35.1**	**+1.3**
APA0	**Apatity Array**	**0.34**	**267**	P	**Pg**	**19 37 37.6**	**+0.9**
APA0				S	**Sg**	**19 37 42.5**	**+1.4**
LVZ	**Lovozero**	**0.41**	**47**	P	**Pg**	**19 37 39.2**	**+1.2**
LVZ				S	**Sg**	**19 37 44.6**	**+1.3**
LVZ	**Lovozero**	**0.41**	**47**	PG	**Pg**	**19 37 38.8**	**+0.7**
LVZ				SG	**Sg**	**19 37 41.4**	**-1.9**
VRF	**Varrio** baz=87	**1.63**	**276**	PG	**Pn**	**19 38 00.4**	**+0.2**
VRF				MSG		19 38 19.2	
VRF	comp=Z,16nm,0.2s			SN	**Sn**	**19 38 21.7**	**-0.2**
TERR	**Teriberka**	**1.65**	**16**	P	**Pn**	**19 38 01.2**	**+0.7**
TERR				S	**Sn**	**19 38 22.4**	**0.0**
OLKF	**Oulanka, Finla**	**2.19**	**235**	PG	**Pb**	**19 38 10.8**	**0.0**
OLKF				MSG		19 38 37.3	
OLKF	comp=Z,8.0nm,0.2s			SG	**Sg**	**19 38 40.0**	**-0.6**
KU6	**Riekki**	**2.25**	**226**	PG	**Pb**	**19 38 11.2**	**-0.6**
KU6				MSG		19 38 39.4	
KU6	comp=Z,4.9nm,0.2s			SG	**Sb**	**19 38 41.0**	**+1.0**
RAJF	**Raja-Jooseppi**	**2.26**	**295**	PG	**Pn**	**19 38 09.8**	**+1.0**
RAJF				SG	**Sn**	**19 38 38.8**	**+1.4**
MSF	**Maaselka**	**2.57**	**230**	PB	**Pb**	**19 38 16.6**	**-0.6**
MSF				SG	**Sb**	**19 38 50.2**	**+0.8**
SGF	**Sodankyl**	**2.83**	**270**	PN	**Pn**	**19 38 18.0**	**+1.3**
SGF				SB	**Sb**	**19 38 54.6**	**-2.0**
VADS	**Vadso**	**2.99**	**329**	P	**Pn**	**19 38 19.7**	**+0.8**
VADS				S	**Sn**	**19 38 56.0**	**+0.6**
RANF	**Ranua** baz=56	**3.23**	**243**	PN	**Pn**	**19 38 24.3**	**+2.1**
RANF				SG	**Sb**	**19 39 09.4**	**+1.0**
RNF	**Rovaniemi** baz=64	**3.23**	**255**	PN	**Pn**	**19 38 23.5**	**+1.2**
RNF				SN	**Sn**	**19 39 03.2**	**+1.9**
KEV	**Kevo**	**3.29**	**314**	*e*P	**Pn**	**19 38 24.9**	**+1.8**
KEV				*e*S	**Sn**	**19 39 03.9**	**+1.1**
KEV	**Kevo** baz=124	**3.29**	**314**	PN	**Pn**	**19 38 24.2**	**+1.1**
KEV				SN	**Sn**	**19 39 03.4**	**+0.5**
ARCES	**ARCESS Array B**	**3.62**	**306**	Pn	**Pn**	**19 38 28.5**	**+0.9**
	comp=Z,9.6nm,0.4s,baz=121,slow=15,SNR=196						
ARCES				Sn	**Sn**	**19 39 10.0**	**-0.9**
	comp=Z,1.9nm,0.3s,baz=118,slow=25,SNR=16						
ARCES				Lg	Lg	19 39 21.5	
	comp=Z,7.2nm,0.3s,baz=116,slow=33,SNR=18						
RMF	**Romuvaara** baz=26	**3.78**	**207**	PN	**Pn**	**19 38 31.6**	**+1.9**
KLF	**Kolari**	**3.84**	**269**	PN	**Pn**	**19 38 31.3**	**+0.7**
KLF				SG	**Sb**	**19 39 28.1**	**+2.3**
HEF	**Hetta**	**3.92**	**286**	*e*P	**Pn**	**19 38 32.4**	**+0.7**
HEF				*e*S	**Sn**	**19 39 18.2**	**-0.1**
HEF	**Hetta**	**3.92**	**286**	PN	**Pn**	**19 38 32.3**	**+0.7**
HEF				SN	**Sn**	**19 39 18.1**	**-0.1**
TOF	**Tornio**	**4.07**	**252**	PG	**Pb**	**19 38 43.0**	**+0.2**
TOF				SN	**Sn**	**19 39 22.3**	**+0.3**
OUL	**Oulu**	**4.10**	**235**	PB	**Pb**	**19 38 41.5**	**-1.7**
OUL				SB	**Sb**	**19 39 32.8**	**-0.4**
KTK1	**Kautokeino**	**4.18**	**294**	*e*P	**Pn**	**19 38 36.9**	**+1.6**
KTK1				*e*S	**Sn**	**19 39 24.0**	**-0.8**
KTK1	comp=Z,24nm,0.5s			IAML		19 39 53.2	
KTK1	**Kautokeino**	**4.18**	**294**	SN	**Sn**	**19 39 23.8**	**-1.0**
LANU	**Lannavaara**	**4.52**	**281**	PN	**Pn**	**19 38 40.0**	**+0.1**
LANU				SN	**Sn**	**19 39 32.8**	**-0.3**
KALU	**Kalix**	**4.53**	**252**	PB	**Pb**	**19 38 49.3**	**-1.3**
KALU				SN	**Sn**	**19 39 33.5**	**+0.3**
ERTU	**Ertsjaerv** baz=68	**4.69**	**262**	PN	**Pn**	**19 38 42.6**	**+0.4**
ERTU				SN	**Sn**	**19 39 36.7**	**-0.6**
HAMF	**Hammerfest**	**4.74**	**314**	*e*P	**Pn**	**19 38 43.9**	**+1.1**
HAMF	comp=Z,23nm,0.5s			IAML		19 39 57.5	
TRO	**Tromso**	**5.82**	**297**	*e*P	**Pn**	**19 38 59.2**	**+1.6**
TRO				*e*S	**Sn**	**19 40 01.8**	**-3.2**
TRO	comp=Z,14nm,0.5s			IAML		19 40 37.8	
FINES	**FINESS Array B**	**7.05**	**212**	Pn	**Pn**	**19 39 17.0**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=18,slow=13,SNR=3.4						
FINES				Sn	**Sn**	**19 40 34.0**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=28,slow=21,SNR=4.1						
FINES				Lg	Lg	19 41 05.6	
	comp=Z,0.9nm,0.3s,baz=21,slow=27,SNR=11 comp=Z,0.6nm,0.7s						
FAUS	**Fauske**	**7.13**	**277**	S	**Sn**	**19 40 33.0**	**-4.1**
HFS	**Hagfors**	**11.58**	**239**	Pn	**Pn**	**19 40 15.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=41,slow=9.8,SNR=5.1						
HFS				Sn	**Sn**	**19 42 21.6**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=45,slow=18,SNR=2.3						
HFS				Lg	Lg	19 43 28.2	
	comp=Z,0.4nm,0.3s,baz=51,slow=27,SNR=5.2 comp=Z,0.9nm,0.6s						
SPITS	**Spitsbergen Ar**	**11.70**	**342**	Pn	**Pn**	**19 40 15.8**	**-2.3**
	comp=Z,0.8nm,0.4s,baz=142,slow=16,SNR=4.1						
NOA	**NORSAR Array B** baz=46,slow=11,SNR=4.0	**11.77**	**247**	Pn	**Pn**	**19 40 18.4**	**-0.9**
NOA				Lg	Lg	19 43 40.4	
	baz=47,slow=14,SNR=5.5 comp=Z,0.2nm,0.6s						

*TEH **06** 20:04:44.8, 27°.54N×57°.50E, h5km±24km, ML2.9*
*DSN **06** 20:04:46.1±1.4, 27°.96N×56°.95E, h15km, ML2.6/5, Error ellipse: s-maj=45.9km s-min=10.8km az=116.0*
ISC 06 20:04:45.7±1.1, 27°.58N±0°.04×57°.39E±0°.08, h10km, n15, σ1§78/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.46**	**37**	Pg	**Pb**	**20 04 54.3**	**-1.8**
IBND	**Bandar-abas**	**0.77**	**261**	Pg	**Pn**	**20 05 02.8**	**+0.2**
GENO	**Geno**	**1.10**	**261**	Pg	**Pn**	**20 05 09.0**	**+1.7**
JASK	**Jask - Hormozg**	**1.76**	**166**	Pg	**Pg**	**20 05 20.0**	**+0.5**
KBAM	**BAM**	**1.81**	**31**	Pn	**Pb**	**20 05 18.1**	**-1.0**
SHME	**Shamm**	**1.89**	**217**	P	**Pb**	**20 05 19.5**	**-0.8**
SHME				S	**Sg**	**20 05 46.0**	**-0.4**
BANOM	**Banah**	**1.92**	**211**	P	**Pb**	**20 05 20.2**	**-0.6**
NGRK	**Negar Kerman**	**2.14**	**344**	Pn	**Pb**	**20 05 24.4**	**-0.4**
CHMN	**Cheshme madani**	**2.28**	**3**	Pn	**Pb**	**20 05 26.8**	**-0.4**
MSFE	**Esma-Masafi**	**2.47**	**207**	P	**Pb**	**20 05 28.7**	**-1.5**
UOSS	**Minazif**	**2.83**	**202**	P	**Pb**	**20 05 34.7**	**-1.7**
KHGB	**Koh Gabri**	**2.90**	**344**	Pn	**Pb**	**20 05 35.2**	**-2.5**
HATD	**Hatta, Dubai**	**2.96**	**203**	P	**Pb**	**20 05 36.8**	**-1.9**
ASHO	**Ashiyiah**	**3.12**	**203**	P	**Pb**	**20 05 38.1**	**-3.2**
ASUD	**Al Ashush, Dub**	**3.48**	**213**	P	**Pn**	**20 05 42.5**	**+2.6**

*IDC **06** 20:27:18.7±1.0, 27°.33N×142°.63E, h0km, mb3.8/10, mbtmp3.8/14, ML3.1/4, MS3.1/1, Error ellipse: s-maj=23.7km s-min=14.4km az=102.0*
ISC 06 20:27:23.0±0.9, 27°.38N±0°.06×142°.6E±0°.1, h30km, n16, σ1§07/18, mb3.9/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 46nm,0.3s,baz=39,slow=14,SNR=30	**0.44**	**229**	Pn	**Pb**	**20 27 32.4**	**-0.1**
JCJ	149nm,0.3s,baz=224,slow=19,SNR=14			Sn	**Sb**	**20 27 38.8**	**-0.2**
JHJ	**Hachijo jima 2** 0.8nm,0.3s,baz=114,slow=20,SNR=1.7	**6.20**	**338**	Pn	**Pn**	**20 28 51.4**	**-1.1**
JHJ	2.4nm,0.3s,baz=252,slow=19,SNR=1.2 61nm,0.8s			Sn	**Sn**	**20 30 00.8**	**-1.6**
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=163,slow=13,SNR=2.1 0.9nm,0.5s	**9.85**	**339**	Pn	**Pn**	**20 29 41.6**	**-1.0**
GUMO	**Guam** 2.3nm,0.3s,baz=339,slow=17,SNR=2.2	**13.89**	**171**	Pn	**Pn**	**20 30 36.7**	**-1.2**
KSRS	**Korea Array** 0.1nm,0.3s,baz=109,slow=14,SNR=1.8 1.4nm,0.9s	**15.90**	**313**	Pn	**Pn**	**20 31 03.6**	**-1.0**
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=100,slow=17,SNR=1.7	**18.82**	**336**	P	**P**	**20 31 40.0**	**-0.1**
USRK	comp=Z,54nm,19.3s,baz=330,slow=36 0.8nm,0.6s			LR	LR	20 38 38.5	
SONM	**Songino Array** 0.5nm,0.5s,baz=126,slow=7.0,SNR=3.9 0.5nm,0.5s	**34.74**	**316**	P	**P**	**20 34 11.9**	**+1.3**
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=11,slow=8.7,SNR=9.4 0.8nm,0.6s	**47.72**	**190**	P	**P**	**20 35 57.4**	**+0.2**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=73,slow=9.8,SNR=2.0 0.4nm,0.4s	**49.49**	**319**	P	**P**	**20 36 12.0**	**+1.5**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=84,slow=11,SNR=3.0 0.2nm,0.6s	**50.55**	**309**	P	**P**	**20 36 19.7**	**+1.0**
ASAR	**Alice Springs** 0.1nm,0.4s,baz=8.1,slow=8.2,SNR=4.7 0.1nm,0.4s	**51.44**	**190**	P	**P**	**20 36 24.7**	**-0.7**
KURBB	**Kurchatov Arra** 0.7nm,0.3s,baz=90,slow=8.1,SNR=6.2 0.7nm,0.3s	**53.08**	**314**	P	**P**	**20 36 38.7**	**+1.3**
BVAR	**Borovoye Array** 2.1nm,0.6s,baz=84,slow=8.2,SNR=16 2.1nm,0.6s	**58.06**	**317**	P	**P**	**20 37 14.7**	**+1.5**
FINES	**FINESS Array B** 1.6nm,0.9s,baz=68,slow=6.8,SNR=6.8 1.6nm,0.9s	**77.84**	**334**	P	**P**	**20 39 17.9**	**+0.7**
HFS	**Hagfors** 1.7nm,0.9s,baz=103,slow=11,SNR=2.0 1.7nm,0.9s	**83.29**	**337**	P	**P**	**20 39 46.9**	**+0.3**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=284,slow=0.7,SNR=2.0 0.1nm,0.3s	**83.77**	**45**	P	**P**	**20 39 50.0**	**+0.3**

*HEL **06** 20:38:12.7±0.4, 67°.16N×20°.52E, h0km, ML0.8, Suspected explosion*
UPP 06 20:38:13.0±0.1, 67°.18N×20°.70E, h0km, ML1.9, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**221**	P	Pg	20 38 14.8	+0.4
DUNU				S	Sg	20 38 16.1	+0.7
MASU	**Masugnsbyn**	**0.58**	**60**	P	Pg	20 38 24.0	0.0
RATU	**Laukkuluspa**	**0.78**	**327**	P	Pg	20 38 27.2	-0.6
KUA	**Kurravaara**	**0.79**	**350**	P	Pg	20 38 28.3	+0.1
ERTU	**Ertsjaerv**	**0.86**	**136**	P	Pg	20 38 29.0	-0.5
ERTU	**Ertsjaerv**	**0.86**	**136**	PG	Pg	20 38 28.9	-0.5
ERTU				SB	Sg	20 38 41.3	+0.7
SALU	**Saltoluokta**	**0.87**	**284**	P	Pg	20 38 29.5	-0.2
LANU	**Lannavaara**	**1.00**	**29**	P	Pg	20 38 31.6	-0.7
LANU	**Lannavaara**	**1.00**	**29**	PG	Pg	20 38 31.8	-0.5
KLF	**Kolari**	**1.27**	**86**	PG	Pg	20 38 36.5	-0.8
KLF	comp=Z,0.3nm,0.2s			MSG		20 38 53.1	
KLF				SG	Sb	20 38 54.3	-0.4
HEF	**Hetta** comp=Z,0.8nm,0.2s	**1.67**	**41**	MSG		20 39 04.3	
KALU	**Kalix**	**1.70**	**140**	SN	Sg	20 39 08.1	+0.6
TOF	**Tornio**	**1.82**	**126**	PG	Pb	20 38 46.6	-0.5
TOF	comp=Z,0.3nm,0.2s			MSG		20 39 08.4	
TOF				SN	Sg	20 39 11.8	+0.4
RNF	**Rovaniemi**	**2.17**	**103**	PG	Pb	20 38 52.7	-0.5
SGF	**Sodankyl**	**2.28**	**81**	SG	Sb	20 39 24.6	+1.0
RANF	**Ranua**	**2.70**	**113**	SG	Sb	20 39 37.6	+1.9
UMAU	**Umeaa**	**3.31**	**180**	SB	Sb	20 39 50.1	-3.1
KEV	**Kevo**	**3.48**	**39**	PN	Pn	20 39 09.9	+1.6

*GUC **06** 20:45:39.2±0.8, 41°.27S×73°.96W, h40km±2km, ML3.6*
ISC 06 20:45:38.3±1.7, 41°.28S±0°.04×74°.03W±0°.08, h29km±12km, n9, σ0§65/18, 3C, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL05	**Los Muermos**	**0.44**	**107**	*e*P	**Pb**	**20 45 47.8**	**+0.2**
LL05				*i* S	**Sb**	**20 45 54.4**	**+0.3**
LL05	comp=N,4μm,0.1s			IAML		20 45 55.9	
LL06	**Loncomilla**	**0.98**	**162**	⇑*i*P	**Pb**	**20 45 55.3**	**-1.4**
LL06				*i* S	**Sb**	**20 46 09.8**	**+0.5**
LL06	comp=N,3μm,0.5s			IAML		20 46 11.7	
LL03	**Petrohue**	**1.24**	**84**	*e*P	**Pn**	**20 45 59.9**	**+0.2**
LL03				*i* S	**Sn**	**20 46 14.7**	**-0.7**
LL03	comp=N,1μm,0.5s			IAML		20 46 28.9	
LL04	**Puerto Octay**	**1.28**	**74**	⇑*i*P	**Pn**	**20 46 00.3**	**0.0**
LL04				*i* S	**Sn**	**20 46 15.9**	**-0.6**
LL04	comp=N,3μm,0.2s			IAML		20 46 19.1	
LR04	**Corral**	**1.48**	**18**	*e*P	**Pn**	**20 46 02.9**	**0.0**
LR04				*i* S	**Sn**	**20 46 21.6**	**+0.4**
LR04	comp=E,3μm,0.3s			IAML		20 46 32.1	
LL07	**Hotel Espejo d**	**1.60**	**165**	*e*P	**Pn**	**20 46 04.7**	**0.0**
LL07				*i* S	**Sn**	**20 46 25.5**	**+1.1**
LL07	comp=E,687nm,0.6s			IAML		20 46 32.6	
LL01	**San Ignacio de**	**1.63**	**133**	*e*P	**Pn**	**20 46 05.1**	**0.0**
LL01				*i* S	**Sn**	**20 46 25.1**	**-0.1**
LL01	comp=N,637nm,0.3s			IAML		20 46 26.8	
GO07	**Milladeo Hill,**	**1.85**	**172**	⇑*i*P	**Pn**	**20 46 08.1**	**0.0**
GO07				*i* S	**Sn**	**20 46 31.5**	**+0.9**
GO07	comp=N,2μm,0.5s			IAML		20 46 41.6	
LR05	**Currie**	**1.86**	**56**	*e*P	**Pn**	**20 46 09.1**	**+0.7**
LR05				*e*S	**Sn**	**20 46 30.7**	**-0.2**
LR05	comp=N,1μm,0.3s			IAML	

SARA Sarapiqu 1.33 198 *eP* **Pg 21 10 13.1 0.0**
CARI Cariari 1.36 186 *eP* **Pg 21 10 14.6 +0.9**
CARI *eS* **Sg 21 10 33.5 +2.2**
ITAL Pital 1.43 208 *eP* **Pg 21 10 14.8 -0.1**
VERA Finca Concepci 1.51 235 *eP* **Pb 21 10 15.4 -0.9**
ACON Acoyapa 1.56 279 **Pn 21 10 15.6 -0.5**
ACON Acoyapa 1.56 279⇑ *iP* **Pn 21 10 15.9 -0.3**
ACON IAML 21 10 16.5
comp=Z,8μm,1.0s
ACON *iS* **Sb 21 10 36.3 -0.8**
ACON Acoyapa 1.56 279 *eP* **Pn 21 10 15.8 -0.3**
ACON *eS* **Sb 21 10 36.3 -0.8**
IRES Siquirres 1.62 177 *eP* **Pb 21 10 17.9 -0.2**
LCOCO El Coco 1.63 178 *eP* **Pb 21 10 17.9 -0.4**
CEDE Laguna Cedeo 1.64 221 *eP* **Pb 21 10 17.4 -1.0**
VPS6 Volcano Poas 1.64 202 *eP* **Pb 21 10 18.3 -0.4**
SOCE Pocosol 1.66 217 **Pn 21 10 17.5 0.0**
SOCE Pocosol 1.66 217 *iP* **Pn 21 10 17.6 0.0**
SOCE IAML 21 10 45.9
comp=Z,6μm,1.0s
SOCE Pocosol 1.66 217 *eP* **Pn 21 10 17.6 0.0**
ARE1 Arenal 1 1.67 221 *eP* **Pb 21 10 17.9 -1.0**
CVTR Volcan Turrial 1.70 185 *eP* **Pb 21 10 19.2 -0.5**
VTR0 Volcan Turrial 1.70 185 *eP* **Pb 21 10 19.2 -0.6**
RVSTA Santa Teresita 1.74 181 *eP* **Pb 21 10 19.7 -0.5**
HDC3 Heredia 3 1.78 196 *iP* **Pn 21 10 19.5 +0.2**
HDC3 *iS* **Sg 21 10 44.9 0.0**
HDC3 IAML 21 10 54.1
comp=Z,5μm,1.0s
CORON Coronado 1.78 193 *eP* **Pb 21 10 20.9 -0.1**
HDC Heredia 1.78 196 **Pn 21 10 19.5 +0.2**
HDC Heredia 1.78 196⇓ *iP* **Pb 21 10 20.5 -0.5**
HDC *iS* **Sg 21 10 44.6 -0.4**
HDC IAML 21 10 54.1
comp=Z,5μm,1.0s
HDC Heredia 1.78 196 *eP* **Pb 21 10 20.5 -0.5**
TCS1 Tacares 1.81 202⇓ *iP* **Pb 21 10 21.1 -0.2**
TCS1 IAML 21 10 53.8
comp=Z,17μm,1.0s
TCS1 Tacares 1.81 202 *eP* **Pb 21 10 21.2 -0.1**
PCAYA Pacayas 1.81 187 *eP* **Pb 21 10 21.0 -0.4**
TURIB Turrialba 1.81 183 *eP* **Pb 21 10 20.6 -0.7**
LUPE Guadalupe 1.82 194 *eP* **Pb 21 10 21.4 -0.2**
VINA Juan Vinas 1.82 184 *eP* **Pb 21 10 21.1 -0.5**
BELE Belen 1.83 198 *eP* **Pb 21 10 20.9 -0.8**
RAMO San Ramon 1.83 208 *eP* **Pg 21 10 22.4 -0.5**
MTEVE Monteverde 1.84 221 *eP* **Pb 21 10 20.9 -1.1**
LUJA Lujan 1.84 195 *eP* **Pg 21 10 23.2 +0.2**
TRIO Tres Rios 1.85 192 *eP* **Pb 21 10 21.6 -0.5**
CUI Cuipilapa 1.86 236 *eP* **Pn 21 10 20.1 -0.3**
AMPA Desamparados 1.87 194 *eP* **Pb 21 10 21.9 -0.5**
COLC Colonia 1.89 236 *eP* **Pn 21 10 21.2 +0.4**
REPA Paraso 1.90 188 *eP* **Pb 21 10 23.5 +0.5**
JTS Las Juntas de 1.94 223 **Pn 21 10 21.3 -0.1**
JTS Las Juntas de 1.94 223⇓ *iP* **Pn 21 10 21.4 0.0**
JTS *eS* **Sn 21 10 45.1 -1.3**
JTS Las Juntas de 1.94 223 *eP* **Pn 21 10 21.4 -0.1**
ACOS Acosta 1.99 196 *eP* **Pb 21 10 24.0 -0.6**
OMEN Al SSO del Vol 1.99 264 *iP* **Pb 21 10 23.3 -1.2**
OMEN *iS* **Sg 21 10 50.2 -1.6**
OMEN IAML 21 10 51.4
comp=Z,12μm,1.0s
LCR2 La Lucha 2 2.01 191 **Pn 21 10 22.7 +0.2**
LCR2 La Lucha 2 2.01 191⇓ *iP* **Pn 21 10 22.7 +0.2**
LCR2 *iS* **Sb 21 10 50.2 -0.1**
LCR2 IAML 21 10 52.8
comp=Z,6μm,1.0s
LCR2 La Lucha 2 2.01 191 *eP* **Pn 21 10 22.7 +0.2**
MORN Al O del Volca 2.01 265⇑ *iP* **Pb 21 10 23.5 -1.3**
MORN IAML 21 10 32.2
comp=Z,12μm,1.0s
ABE2 San Pablo 2.05 193 *eP* **Pn 21 10 24.0 +0.8**
LCRUZ La Cruz 2.09 252 *eP* **Pb 21 10 26.2 +0.1**
BOAB BOACO BROADBAN 2.14 290 Pn **Pn 21 10 23.8 -0.4**
BOAB BOACO BROADBAN 2.14 290⇑ *iP* **Pn 21 10 23.8 -0.4**
BOAB *iS* **Sb 21 10 52.0 -2.0**
BOAB IAML 21 11 04.0
comp=Z,4μm,1.0s
NADN Granada 2.38 271 *iP* **Pn 21 10 28.0 +0.6**
NADN *iS* **Sb 21 10 59.1 -1.7**
NADN IAML 21 11 05.8
comp=Z,9μm,1.0s
MASN Masaya 2.51 276 *iP* **Pn 21 10 30.8 +1.5**
MASN *iS* **Sb 21 11 02.3 -2.3**
MASN IAML 21 11 08.4
comp=Z,900nm,1.0s
MAS3 Al N del Volca 2.54 277 *iP* **Pb 21 10 31.8 -2.0**
MAS3 *iS* **Sb 21 11 04.6 -0.8**
MAS3 IAML 21 11 11.8
comp=Z,3μm,1.0s
CNI2 El Empalme, Bo 2.54 154 *eP* **Pn 21 10 31.3 +1.7**
CNI2 *eS* **Sn 21 10 59.6 -1.5**
WILN Americas 2 2.57 280 *iP* **Pn 21 10 29.8 -0.2**
WILN IAML 21 10 36.8
comp=Z,3μm,1.0s
WILN *iS* **Sb 21 11 03.4 -2.8**
OCHAL Ojochal 2.61 181 *iP* **Pn 21 10 32.2 +1.6**
OCHAL *iS* **Sb 21 11 05.4 -2.0**
OCHAL IAML 21 11 16.1
comp=Z,2μm,1.0s
R0529 La Mascota 2.61 279 *iP* **Pn 21 10 32.4 +1.8**
R0529 IAML 21 11 10.2
comp=Z,4μm,1.0s
R4DEC Barrio San Lui 2.62 280 *iP* **Pn 21 10 31.1 +0.3**
R4DEC IAML 21 10 37.4
comp=Z,3μm,1.0s
R4DEC *iS* **Sb 21 11 05.4 -2.4**
INDI Punta indio, G 2.62 226 *iP* **Pn 21 10 31.8 +1.0**
INDI IAML 21 10 33.1
comp=Z,1μm,1.0s
INDI *iS* **Sb 21 11 06.0 -1.9**
TISN Laguna Tiscapa 2.64 279 *iP* **Pn 21 10 30.6 -0.5**
TISN IAML 21 11 09.3
comp=Z,260nm,1.0s
APQ2 Apoyeque 2.71 280 *iP* **Pn 21 10 31.5 -0.4**
APQ2 *iS* **Sb 21 11 07.1 -3.1**
APQ2 IAML 21 11 21.7
comp=Z,3μm,1.0s
PRVC Isla de Provid 2.73 53 *iP* **Pn 21 10 31.7 -0.6**
PRVC IAML 21 11 21.3
comp=Z,460nm,1.0s
SAPS Ciudad Sandino 2.78 279 *iP* **Pn 21 10 32.5 -0.4**
SAPS *iS* **Sn 21 11 08.0 +1.1**
SAPS IAML 21 11 33.0
comp=Z,2μm,1.0s
MOM2 El Cardon 2.91 284 *iP* **Pn 21 10 34.3 -0.4**
MOM2 IAML 21 10 47.0
comp=Z,2μm,1.0s
MOM2 *iS* **Sb 21 11 12.5 -3.5**
COPN Copaltepe 2.96 279 *iP* **Pn 21 10 34.8 -0.6**
COPN IAML 21 10 42.6
comp=Z,1μm,1.0s
LIMN Finca el Limon 3.01 297 *iP* **Pn 21 10 35.9 -0.3**
LIMN IAML 21 11 33.1
comp=Z,2μm,1.0s
RCPN Sur Rio San Ju 3.02 307 *iP* **Pn 21 10 35.2 -1.2**
RCPN IAML 21 11 19.6
comp=Z,7.0nm,1.0s
LEVN Ruinas Leon Vi 3.02 283 *iP* **Pn 21 10 36.5 +0.2**
LEVN *iS* **Sb 21 11 15.2 -4.2**
LEVN IAML 21 11 22.3
comp=Z,2μm,1.0s
BRU2 Volcan 3.05 163 **Pn 21 10 37.5 +0.7**
BRU2 Volcan 3.05 163 *eP* **Pn 21 10 37.4 +0.7**
BRU2 *eS* **Sn 21 11 12.8 -1.0**
BRU2 Volcan 3.05 163 *iP* **Pn 21 10 37.1 +0.3**
BRU2 IAML 21 11 16.9
comp=Z,2μm,1.0s
CHGR2 Aguacate 3.12 152 *eP* **Pn 21 10 36.7 -0.9**
CNGN Cerro Negro 3.12 285 **Pn 21 10 37.1 -0.6**
CNGN Cerro Negro 3.12 285 *iP* **Pn 21 10 37.7 0.0**
CNGN IAML 21 10 45.8
comp=Z,1μm,1.0s
CNGA Al SSO del Vol 3.13 285 *iP* **Pn 21 10 37.3 -0.5**
CNGA IAML 21 11 39.3
comp=Z,870nm,1.0s
ILCN San Idelfonso 3.15 286 *iP* **Pn 21 10 36.3 -1.7**
ILCN IAML 21 10 44.7
comp=Z,650nm,1.0s
ILCN *iS* **Sn 21 11 17.9 +1.9**
BCO2 Palmira 3.17 160 *eP* **Pn 21 10 38.7 +0.2**
BCO2 *eS* **Sn 21 11 16.1 -0.7**

ROCN Rota Cerro Neg 3.17 285 *iP* **Pn 21 10 37.4 -1.0**
ROCN IAML 21 10 49.2
comp=Z,920nm,1.0s
CDITO Canoas 3.21 167 *iP* **Pn 21 10 40.1 +1.2**
CDITO *iS* **Sn 21 11 18.7 +1.1**
CDITO IAML 21 11 24.1
comp=Z,630nm,1.0s
OCON Estacion meteo 3.39 304 *iP* **Pn 21 10 41.2 -0.2**
OCON IAML 21 11 35.1
comp=Z,2μm,1.0s
SOMN Somoto 3.39 300 *iP* **Pn 21 10 41.3 -0.2**
SOMN IAML 21 10 49.6
comp=Z,790nm,1.0s
CRIN San Cristobal 3.51 286 **Pn 21 10 42.3 -0.7**
YUSH Yuscaran 3.86 305 *iP* **Pn 21 10 47.8 -0.1**
JUTIH Juticalpa Olan 3.89 319 *iP* **Pn 21 10 47.6 -0.6**
JUTIH *iS* **Sn 21 11 32.6 -1.8**
AMPH Amapala 4.25 292⇓ *iP* **Pn 21 10 52.9 -0.3**
TGUH Tegucigalpa,Un 4.26 303 Pn **Pn 21 10 53.0 -0.5**
TGUH Tegucigalpa,Un 4.26 303 *iP* **Pn 21 10 53.5 0.0**
TGUH IAML 21 11 10.6
comp=Z,1μm,1.0s
CNCH Conchagua 4.41 291 *iP* **Pn 21 10 54.9 -0.6**
CNCH IAML 21 11 17.8
comp=Z,860nm,1.0s
BCIP Isla Barro Col 4.49 124 **Pn 21 10 55.6 -1.0**
BCIP Isla Barro Col 4.49 124 *iP* **Pn 21 10 55.5 -1.0**
BCIP IAML 21 11 12.8
comp=Z,220nm,1.0s
CHIT3 Chitre 4.88 140 *eP* **Pn 21 11 01.5 -0.4**
CHIT3 *eS* **Sn 21 11 55.0 -3.9**
MARCA Marcala la Paz 4.95 300 *iP* **Pn 21 11 02.1 -0.9**
AZU Azuero 5.10 140 *eP* **Pn 21 11 04.1 -0.8**
AZU *eS* **Sn 21 12 00.9 -3.4**
MTO3 Montecristo 6.21 296 **Pn 21 11 20.0 -0.3**
ESQI Esquipulas 6.26 297 Pn **Pn 21 11 19.7 -1.2**
TEIG Tepich 9.57 333 Pn **Pn 21 12 04.7 -1.6**
TEIG Tepich 9.57 333 LR LR 21 15 28.0
comp=Z,74nm,19.4s,baz=284,slow=38
BAUV El Baul 15.56 99 **Pn 21 13 25.8 -2.2**
BAUV IAmb IAmb 21 13 35.2
comp=Z,13nm,1.1s
AOPR Arecibo Observ 17.55 66 Pn **Pn 21 13 51.5 -1.8**
AOPR IAmb IAmb 21 13 54.0
comp=Z,26nm,0.9s
TXAR Lajitas Array 25.62 316 P **P 21 15 19.2 +0.8**
comp=Z,1.1nm,0.7s,baz=130,slow=8.4,SNR=14
comp=Z,1.1nm,0.7s
LPAZ La Paz 31.76 151 LR LR 21 29 20.6
comp=Z,54nm,19.5s,baz=9.5,slow=36
PDAR Pinedale Array 38.27 329 P **P 21 17 10.1 +0.7**
comp=Z,0.3nm,0.6s,baz=137,slow=8.6,SNR=1.9
comp=Z,0.3nm,0.6s
NVAR Mina Array Bea 40.77 317 P **P 21 17 31.6 +1.3**
comp=Z,1.1nm,0.7s,baz=133,slow=7.8,SNR=6.9
comp=Z,1.1nm,0.7s
ILAR Eielson Array 68.22 336 P **P 21 20 51.8 +2.6**
comp=Z,0.3nm,0.7s,baz=109,slow=4.9,SNR=2.4
ILAR LR LR 21 53 08.0
comp=Z,20nm,18.4s,baz=323,slow=38
comp=Z,0.3nm,0.7s
WRA Warramunga Arr 142.66 253 PKP **PKiKP 21 29 31.2 +5.0**
comp=Z,0.5nm,1.0s,baz=103,slow=2.7,SNR=1.9

*TIR **06** 21:11:17.4, 41.°50N×19.°59E, h32km±2km, Ml2.9*
*THE **06** 21:11:18.2, 41.°51N×19.°64E, h8km±1km, ML2.8/6, Error ellipse: s-maj=2.2km s-min=1.2km az=150.0*
*BEO **06** 21:11:18.1±0.4, 41.°46N×19.°62E, h14km±2km, ML2.5/13*
*RHSSO **06** 21:11:18.5±0.7, 41.°47N×19.°53E, h7km±2km, ML2.7/10*
ISC 06 21:11:17.6±0.9,**41.°47N**±0.°02×**19.°57E**±0.°02,**h11**km±7km,
n62, σ0**.°77**/111,**4C-2D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.25**	**118**	P	**Pg**	**21 11 22.6**	**-0.2**
	baz=126						
TIR				S	**Sg**	**21 11 27.0**	**+0.7**
	baz=126						
TIR				AMP			
	comp=E,13nm,0.1s,baz=126						
TIR	**Tirane**	**0.25**	**118**	P	**Pg**	**21 11 22.5**	**-0.3**
TIR				S	**Sg**	**21 11 26.8**	**+0.5**
	comp=E,4μm,0.3s						
TIR	**Tirane**	**0.25**	**118**	*e*Pg	**Pg**	**21 11 22.5**	**-0.3**
TIR				*e*Sg	**Sg**	**21 11 27.0**	**+0.7**
PUK	**Puka**	**0.62**	**23**	P	**Pg**	**21 11 28.9**	**-0.9**
	baz=22						
PUK				S	**Sb**	**21 11 39.2**	**-0.2**
	baz=22						
PUK				AMP			
	comp=N,1.5nm,0.1s,baz=22						
DRME	**Dracevica, Mon**	**0.77**	**338**	*e*Pg	**Pg**	**21 11 32.1**	**-0.5**
DRME				*e*Sg	**Sb**	**21 11 45.2**	**+1.5**
DRME	**Dracevica, Mon**	**0.77**	**338**	*i*Pg	**Pg**	**21 11 31.8**	**-0.8**
DRME				*e*Sg	**Sb**	**21 11 43.6**	**-0.1**
BCI	**Bajram Curri**	**0.97**	**22**	P	**Pg**	**21 11 35.0**	**-1.4**
	baz=22						
BCI				S	**Sb**	**21 11 50.0**	**+0.6**
	baz=22						
BCI				AMP			
	comp=N,1.0nm,0.3s,baz=22						
PDG	**Podgorica**	**0.99**	**346**	*e*Pg	**Pg**	**21 11 36.8**	**+0.1**
PDG				*e*Sg	**Sb**	**21 11 50.6**	**+0.7**
PDG	**Podgorica**	**0.99**	**346**	*e*Pg	**Pg**	**21 11 36.1**	**-0.6**
PDG				*e*Sg	**Sg**	**21 11 49.7**	**+0.2**
OHR	**Ohrid**	**0.99**	**111**	*i*Pg	**Pg**	**21 11 35.5**	**-1.2**
OHR				*i*Sg	**Sb**	**21 11 50.6**	**+0.6**
VLO	**Vlora**	**1.00**	**183**	P	**Pn**	**21 11 37.7**	**+0.1**
	baz=185						
VLO				S	**Sn**	**21 11 52.1**	**+0.4**
	baz=185						
VLO				AMP			
	comp=E,1.9nm,0.2s,baz=185						
VLO	**Vlora**	**1.00**	**183**	P	**Pn**	**21 11 37.7**	**+0.1**
VLO				S	**Sn**	**21 11 53.2**	**+1.5**
	comp=E,605nm,0.3s						
KBN	**Korca**	**1.25**	**132**	P	**Pg**	**21 11 41.5**	**-0.1**
	baz=133						
KBN				S	**Sn**	**21 11 59.2**	**+1.2**
	baz=133						
KBN				AMP			
	comp=E,0.8nm,0.9s,baz=133						
KBN	**Korca**	**1.25**	**132**	P	**Pn**	**21 11 40.7**	**-0.4**
KBN				S	**Sn**	**21 11 58.5**	**+0.5**
	comp=E,270nm,0.7s						
HCY	**Herceg Novi**	**1.27**	**321**	*e*Pg	**Pn**	**21 11 41.3**	**0.0**
HCY				*e*Sg	**Sb**	**21 11 57.9**	**+0.1**
KOME	**Kolasin**	**1.38**	**358**	*e*Pg	**Pn**	**21 11 43.2**	**+0.2**
KOME				*e*Sg	**Sg**	**21 12 03.5**	**+1.4**
SKO	**Skopje**	**1.49**	**70**	*e*Pn	**Pn**	**21 11 43.0**	**-1.4**
SKO				*e*Sg	**Sg**	**21 12 05.7**	**+0.2**
FNA	**Florina**	**1.53**	**116**	P	**Pb**	**21 11 45.7**	**-0.3**
	baz=117						
FNA				S	**Sg**	**21 12 06.7**	**0.0**
	baz=117						
FNA				AMP			
	comp=E,0.5nm,0.5s,baz=117						
FNA	**Florina**	**1.53**	**116**	P	**Pn**	**21 11 45.2**	**+0.3**
FNA				S	**Sn**	**21 12 05.0**	**+0.2**
	comp=E,290nm,0.5s						
FNA	**Florina**	**1.53**	**116**	*e*Pg	**Pb**	**21 11 45.5**	**-0.5**
FNA				*e*Sg	**Sg**	**21 12 05.9**	**-0.8**
LSK	**Leskovik**	**1.53**	**149**	P	**Pb**	**21 11 46.4**	**+0.3**
	baz=150						
LSK				S	**Sg**	**21 12 06.7**	**-0.2**
	baz=150						
LSK				AMP			
	comp=N,1.0nm,0.5s,baz=150						
LSK	**Leskovik**	**1.53**	**149**	P	**Pn**	**21 11 45.2**	**+0.2**
LSK				S	**Sg**	**21 12 07.1**	**+0.2**
	comp=N,268nm,0.6s						
NEST	**Nestorio**	**1.54**	**133**	P	**Pb**	**21 11 46.0**	**-0.2**
NEST				S	**Sb**	**21 12 05.8**	**+0.1**
	comp=N,125nm,0.5s						
DBRK	**Dubrovnik**	**1.60**	**319**	*e*Pn	**Pn**	**21 11 45.9**	**0.0**
DBRK				Sn	**Sn**	**21 12 07.3**	**+0.7**
SRN	**Sarande**	**1.62**	**168**	P	**Pb**	**21 11 47.0**	**-0.5**
	baz=168						
SRN				S	**Sg**	**21 12 09.8**	**+0.1**
	baz=168						
SRN				AMP			
	comp=E,0.3nm,0.4s,baz=168						
SRN	**Sarande**	**1.62**	**168**	P	**Pn**	**21 11 46.6**	**+0.5**
SRN				S	**Sg**	**21 12 09.1**	**-0.6**

BRY Bratogost 1.62 332⇑ *iPn* **Pn 21 11 46.8 +0.4**
BRY *eSn* **Sn 21 12 08.2 +0.8**
SCTE Santa Cesarea 1.63 211 P **Pb 21 11 47.9 +0.3**
baz=212
UPM Unac-Piva 1.80 344⇑ *iPn* **Pb 21 11 50.3 -0.5**
UPM *eSn* **Sn 21 12 12.7 +0.9**
SJES Sjenica 1.82 9 *e*Pg **Pb 21 11 51.3 +0.3**
SJES *eSg* **Sg 21 12 15.2 -0.8**
SJES Sjenica 1.82 9⇑ *iPn* **Pb 21 11 50.6 -0.4**
SJES *eSn* **Sb 21 12 14.0 +0.2**
STON Ston 1.97 316 *e*Pg **Pb 21 11 53.1 -0.5**
STON *eSg* **Sg 21 12 20.8 -0.2**
STON Ston 1.97 316 *e*Pn **Pn 21 11 50.7 -0.5**
STON *eSn* **Sn 21 12 15.2 -0.5**
STON Ston 1.97 316 *e*Pn **Pn 21 11 52.0 +1.0**
STON *eSn* **Sn 21 12 16.8 +1.1**
STIP Stip 1.98 83⇓ *iPn* **Pb 21 11 53.5 -0.1**
STIP *eSg* **Sg 21 12 22.1 +0.9**
NOCI Noci 2.01 251 P **Pn 21 11 50.7 -0.8**
baz=251
PRVS Prvonek 2.14 60 *e*Pn **Pn 21 11 53.9 +0.6**
PRVS *eSn* **Sn 21 12 18.7 -1.2**
BARS Barje 2.15 50 *e*Pn **Pn 21 11 53.9 +0.5**
IVAS Ivanjica 2.15 11 *e*Pn **Pn 21 11 53.9 +0.4**
IVAS *eSn* **Sn 21 12 20.1 -0.1**
RUDO Rudo 2.15 356⇑ *iPn* **Pn 21 11 54.8 +1.3**
RUDO *eSn* **Sn 21 12 21.4 +1.2**
VAY Valandovo 2.26 93 *e*Pn **Pb 21 11 57.9 -0.6**
VAY *eSg* **Sn 21 12 23.2 +0.4**
BBLS Lazi&#263i 2.40 357 *e*Pn **Pn 21 11 58.4 +1.4**
BBLS *eSn* **Sn 21 12 26.5 +0.1**
BBLS Lazi&#263i 2.40 357 *e*Pn **Pn 21 11 58.0 +1.0**
BBLS *eSn* **Sn 21 12 27.7 +1.3**
GRUS Gruza 2.56 19 *e*Pn **Pn 21 11 59.8 +0.7**
DIVS Divibare 2.65 7 *e*Pn **Pn 21 12 01.1 +0.7**
DIVS *eSn* **Sn 21 12 32.2 -0.3**
HAPS Han Pijesak,Bl 2.66 350 *e*Pn **Pn 21 12 01.4 +0.9**
RICI Ricice 2.71 319 *e*Pn **Pn 21 12 01.0 -0.2**
RICI Sn **Sn 21 12 34.0 +0.1**
HVAR Hvar 2.88 307 *e*Pn **Pn 21 12 02.6 -0.8**
TEKS Tekeris 3.08 359 *e*Pn **Pn 21 12 06.4 +0.1**
TEKS Tekeris 3.08 359 *e*Pn **Pn 21 12 07.4 +1.1**
TEKS *eSn* **Sn 21 12 44.6 +1.5**
AVAS Avala Beograd 3.30 12 *e*Pn **Pn 21 12 09.1 -0.2**
KUBS Kucevo 3.32 27 *e*Pn **Pn 21 12 08.5 -1.1**
KUBS *eSn* **Sn 21 12 47.6 -1.5**
ZIRJ Zirje 3.63 308 *e*Pn **Pn 21 12 13.7 -0.1**
FRGS Fruska Gora 3.69 3 *e*Pn **Pn 21 12 15.9 +1.2**
FRGS *eSn* **Sn 21 12 58.9 +0.7**
BLY Banja Luka 3.71 333 *e*Pn **Pn 21 12 16.5 +1.6**
BLY *eSn* **Sn 21 12 59.4 +0.7**
MORI Morici 3.72 311 *e*Pn **Pn 21 12 15.0 -0.1**
A050A Klekovaca 3.75 325 *e*Pn **Pn 21 12 16.1 +0.6**
A050A *eSn* **Sn 21 13 00.3 +0.7**
UDBI Udbina 4.14 319 *e*Pn **Pn 21 12 21.3 +0.5**
DUGI Dugi Otok 4.17 309 *e*Pn **Pn 21 12 21.3 +0.1**
DUGI Sn **Sn 21 13 07.2 -2.8**
VIRC Vir 4.36 312 *e*Pn **Pn 21 12 23.4 -0.3**
NVLJ Novalja 4.63 313 *e*Pn **Pn 21 12 26.7 -0.8**
BOJS Bojanci 5.11 324 *e*Pn **Pn 21 12 34.4 +0.3**
BOJS *eSn* **Sn 21 13 32.7 -0.5**

*IDC **06** 21:15:17.0±2.2, 12.°36N×141.°95E, h166km±24km, mb3.4/12, mbtmp3.9/13, Error ellipse: s-maj=27.3km s-min=16.6km az=95.0*
ISC 06 21:15:15.5±0.8,**12.°4N**±0.°1×**141.°8E**±0.°1,**h150**km,**n13,**
σ0**.°74**/15,**mb3.6**/12,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.24**	**67**	P	**Pn**	**21 16 06.6**	**+0.6**
	20nm,0.2s,baz=217,slow=5.2,SNR=1.5						
GUMO				S	**Sn**	**21 16 44.9**	**-0.1**
	67nm,0.3s,baz=304,slow=24,SNR=8.3						
USRK	**Ussuriysk Ar.**	**32.83**	**347**	P	**P**	**21 21 34.2**	**-0.5**
	1.6nm,0.6s,baz=153,slow=9.4,SNR=3.4						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**32.92**	**193**	P	**P**	**21 21 35.8**	**0.0**
	0.4nm,0.7s,baz=16,slow=9.7,SNR=2.0						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**36.62**	**192**	P	**P**	**21 22 07.7**	**+0.1**
	0.2nm,0.5s,baz=19,slow=11,SNR=5.6						
	0.2nm,0.5s						
SONM	**Songino Array**	**46.07**	**327**	P	**P**	**21 23 25.7**	**+1.2**
	0.4nm,0.3s,baz=148,slow=5.9,SNR=4.6						
SONM				PcP	**PcP**	**21 24 57.7**	**-0.6**
	0.2nm,0.3s,baz=134,slow=4.2,SNR=2.0						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**60.31**	**317**	P	**P**	**21 25 09.4**	**+0.9**
	0.4nm,0.6s,baz=92,slow=7.8,SNR=4.7						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**60.90**	**325**	P	**P**	**21 25 12.5**	**+0.2**
	0.4nm,0.4s,baz=132,slow=8.0,SNR=2.4						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.64**	**321**	P	**P**	**21 25 30.8**	**+0.2**
	1.4nm,0.5s,baz=107,slow=6.7,SNR=10						
	1.4nm,0.5s						
BVAR	**Borovoye Array**	**69.04**	**322**	P	**P**	**21 26 05.4**	**+0.5**
	1.4nm,0.4s,baz=109,slow=7.8,SNR=15						
	1.4nm,0.4s						
ILAR	**Eielson Array**	**70.96**	**25**	P	**P**	**21 26 15.6**	**-0.8**
	0.5nm,0.6s,baz=248,slow=5.8,SNR=9.4						
	0.5nm,0.6s						
ARCES	**ARCESS Array B**	**87.31**	**342**	P	**P**	**21 27 44.7**	**-0.4**
	3.1nm,1.1s,baz=50,slow=9.6,SNR=3.6						
	3.1nm,1.1s						
NVAR	**Mina Array Bea**	**90.03**	**51**	P	**P**	**21 27 59.0**	**+0.3**
	0.2nm,0.5s,baz=296,slow=1.8,SNR=1.7						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**90.99**	**334**	P	**P**	**21 28 01.0**	**-1.4**
	0.8nm,0.7s,baz=90,slow=5.7,SNR=4.0						
	0.8nm,0.7s						

*NEIC **06** 21:46:05.9±0.9, 19.°42N±0.°01×155.°270W±0.°007, h2km±3km, Error ellipse: s-maj=1.6km s-min=0.9km az=177.0*
HVO 06 21:46:05.6±0.8,**19.°412N**±0.°010×**155.°262W**±0.°006,
h0km±4km,**ML3.7**/36,**ML3.2**/38(NEIC),**Error ellipse:**
s-maj=1.4km s-min=0.7km az=191.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.00**	**82**		Pg	21 46 06.0	+0.1
HATHI	**Halema'uma'u T**	**0.01**	**6**		Pg	21 46 06.1	+0.2
KKO	**Keanakako`i**	**0.01**	**195**		Pg	21 46 06.2	+0.3
SBLHI	**Steaming Bluff**	**0.02**	**340**		Pg	21 46 06.1	+0.1
RIM	**Rim**	**0.02**	**214**		Pg	21 46 06.3	+0.3
UWB	**Uwekahuna B**	**0.02**	**311**		Pg	21 46 06.2	+0.1
OBL	**Observatory Le**	**0.02**	**286**		Pg	21 46 06.5	+0.3
UWE	**Uwekahuna**	**0.03**	**288**		Pg	21 46 06.4	+0.2
WRMHI	**West Rim**	**0.04**	**262**		Pg	21 46 06.9	+0.5
SDHHI	**Sand Hill**	**0.04**	**234**		Pg	21 46 07.4	+1.0
RSD	**Rainshed**	**0.05**	**344**		Pg	21 46 06.9	+0.2
RSD				IAML		21 46 07.9	
	comp=N,11μm,0.5s						
PUH	**Pauahi**	**0.06**	**131**		Pg	21 46 07.1	+0.4
KNHH	**Kane Nui o Ham**	**0.09**	**110**		Pg	21 46 07.8	+0.4
HLP	**Hiilina Pali**	**0.12**	**201**		Pg	21 46 08.9	+0.9
HLP				IAML		21 46 11.6	
	comp=N,9μm,1.1s						
HLP				IAML		21 46 12.2	
	comp=E,6μm,0.9s						
STCH	**Steam Cracks**	**0.13**	**101**		Pg	21 46 08.3	+0.1
STCH				IAML		21 46 11.8	
	comp=N,6μm,0.7s						
MLH	**Mauna Loa**	**0.14**	**305**		Pg	21 46 08.9	+0.5
MLH				IAML		21 46 13.1	
	comp=E,9μm,0.7s						
NPOC	**North of Pu'u**	**0.14**	**97**		Pg	21 46 09.1	+0.6
JCUZ	**Jacuzzi**	**0.15**	**100**		Pg	21 46 09.2	+0.6
JOKA	**Jonika Flow**	**0.24**	**85**		Pg	21 46 09.8	-0.5
JOKA					Sg	21 46 10.2	-3.3
JOKA				IAML		21 46 18.3	
	comp=N,4μm,0.8s						
JOKA				IAML		21 46 18.4	
	comp=E,3μm,1.3s						
HMH	**Humu'ula Sheep**	**0.28**	**312**		Pg	21 46 10.8	-0.3
HMH				IAML		21 46 20.5	
	comp=E,4μm,1.2s						
HMH				IAML		21 46 20.6	
	comp=N,4μm,1.4s						
PAH	**Pahoa**	**0.31**	**74**		Pg	21 46 12.4	+0.9

MLOA	**Mauna Loa Obse**	**0.32 293**	Pg	Pg	21 46 12.1	+0.3
MLOA			IAML		21 46 19.4	
	comp=E,3μm,1.3s					
MLOA			IAML		21 46 21.0	
	comp=N,4μm,1.3s					
MWH	**Moku'aweowe**	**0.32 283**		Pg	21 46 12.3	+0.5
KHU	**Kahuku**	**0.37 244**	Pg	Pg	21 46 12.9	+0.2
HPO	**Honuapo**	**0.42 221**		Pg	21 46 14.4	+0.6
POHA	**Pohakuloa**	**0.43 324**	Pg	Pg	21 46 12.8	-1.1
HUH	**Hualalai**	**0.60 297**		Pg	21 46 18.0	+0.7
HPAH	**Hawaii Prepara**	**0.74 326**	Pg	Pg	21 46 18.7	-1.1
HPAH				Sg	21 46 29.4	-0.1
HPAH			IAML		21 46 44.9	
	comp=E,952nm,1.3s					
HPAH			IAML		21 46 45.1	
	comp=N,1μm,0.8s					

*NEIC **06** 21:49:35.6±2.1,39°.24N±0°.04×115°.00W±0°.05,h5km±7km, Error ellipse: s-maj=5.4km s-min=5.2km az=213.0*

REN 06 21:49:36.7±1.7,39°.25N±0°.04×115°.03W±0°.05,h7km±7km, ML2.3/2,ML2.7/131(NEIC),Error ellipse: s-maj=5.9km s-min=4.6km az=140.0,Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPR3	**Spring Creek 3**	**0.59 114**			Pg	21 49 48.0	-0.2
R11B	**Troy Canyon, C**	**1.00 206**		Pg	Pg	21 49 55.6	-0.3
PSUT	**Pine Spring**	**1.16 128**			Pg	21 49 57.4	-1.5
PSUT				IAML		21 50 15.8	
	comp=N,123nm,0.7s						
PSUT				IAML		21 50 22.7	
	comp=E,134nm,0.7s						
FSU	**Fish Springs**	**1.35 69**			Pn	21 50 01.1	-1.0
ELK	**Elko**	**1.51 354**			Pn	21 50 03.3	-1.0
S11A	**Rachel**	**1.70 200**			Pg	21 50 08.9	-0.3
Q09A	**Carvers**	**1.73 257**			Pn	21 50 07.4	+0.1
Q09A					Pb	21 50 08.4	-0.4
PRN	**Pahroc Range**	**1.84 181**			Pn	21 50 09.4	+0.7
DUG	**Dugway, Tooele**	**1.95 60**		Pn	Pn	21 50 09.8	-0.6
DUG				IAML		21 50 45.8	
	comp=E,62nm,0.7s						
DUG				IAML		21 50 46.3	
	comp=E,53nm,0.6s						
BMN	**Battle Mountai**	**2.06 306**			Pn	21 50 11.5	-0.4
BMN				IAML		21 50 48.4	
	comp=E,36nm,1.0s						
TPH	**Tonopah**	**2.08 236**			Pn	21 50 12.1	0.0
TCRU	**Three Creeks R**	**2.11 107**			Pn	21 50 12.4	-0.2
TCRU				IAML		21 50 57.1	
	comp=N,42nm,0.8s						
TCRU				IAML		21 50 57.6	
	comp=E,33nm,0.8s						
CCUT	**Cedar City**	**2.14 142**			Pn	21 50 13.5	+0.6
CCUT				IAML		21 50 47.3	
	comp=N,68nm,0.7s						
CCUT				IAML		21 50 55.8	
	comp=E,41nm,0.7s						
SZCU	**Shurtz Canyon**	**2.24 137**			Pn	21 50 14.5	+0.1
SZCU				IAML		21 50 54.4	
	comp=E,28nm,0.7s						
SZCU				IAML		21 50 57.8	
	comp=N,30nm,0.8s						
BGU	**Big Grassy Mou**	**2.27 42**			Pn	21 50 14.2	-0.6
MVU	**Marysvale**	**2.32 108**			Pn	21 50 15.1	-0.4
MSU	**Marysvale**	**2.34 107**			Pn	21 50 15.7	-0.1
NLU	**North Lily Min**	**2.39 72**		Pg	Pb	21 50 20.2	+0.2
NLU				IAML		21 51 02.2	
	comp=E,42nm,0.8s						
KVN	**Kaiserville**	**2.40 266**			Pn	21 50 17.2	+0.7
KVN	**Kaiserville**	**2.40 266**		IAML		21 50 59.2	
	comp=E,54nm,0.7s						
KVN				IAML		21 50 60.0	
	comp=N,44nm,0.8s						
MZP	**Montezuma Peak**	**2.41 231**			Pb	21 50 21.6	+1.2
MZP				IAML		21 50 56.5	
	comp=N,30nm,0.8s						
MTPU	**Mount Pierson**	**2.53 118**			Pn	21 50 17.4	-1.0
NV11	**Mina Array Sit**	**2.58 253**			Pn	21 50 19.2	+0.3
NV11				IAML		21 51 10.4	
	comp=N,26nm,0.8s						
NV11				IAML		21 51 11.7	
	comp=E,21nm,0.8s						
GMN	**Gold Mountain**	**2.62 223**			Pn	21 50 19.7	+0.1
GMN				IAML		21 51 11.9	
	comp=N,32nm,0.8s						
LCMT	**Little Creek M**	**2.63 147**			Pn	21 50 20.2	+0.5
LCMT					Pg	21 50 26.7	-0.5
LCMT				IAML		21 51 11.5	
	comp=E,20nm,0.7s						
MCY	**Mercury**	**2.68 196**			Pb	21 50 23.1	-1.9
NSP	**Numbskull Pass**	**2.68 201**			Pg	21 50 29.0	+0.9
NVAR	**Mina Array Bea**	**2.69 253**			Pn	21 50 20.7	+0.2
NV08	**Mina Array Sit**	**2.71 253**			Pn	21 50 22.5	+1.7
NV09	**Mina Array Sit**	**2.71 254**			Pg	21 50 30.0	+1.4
MPU	**Maple Canyon**	**2.73 73**			Pn	21 50 21.3	+0.3
MPU				Pg	Pb	21 50 26.4	+0.5
SHPR	**Sheep Range**	**2.74 182**			Pn	21 50 21.6	+0.4
SHPR					Pg	21 50 28.8	-0.3
SHPR				IAML		21 51 14.3	
	comp=E,16nm,0.7s						
WCT	**Wildcat Mounta**	**2.76 208**	Pn	Pn		21 50 21.4	+0.1
WCT					Pg	21 50 28.9	-0.6
WCT				IAML		21 51 37.1	
	comp=E,16nm,2.5s						
SGV	**South Grapevin**	**2.76 216**			Pb	21 50 28.0	+1.6
PKCU	**Pink Cliffs**	**2.79 129**			Pn	21 50 21.9	-0.1
RYN	**Ryan**	**2.80 258**			Pn	21 50 22.7	+0.7
RYN				IAML		21 51 02.5	
	comp=E,37nm,0.7s						
RYN				IAML		21 51 09.0	
	comp=N,29nm,0.8s						
KNB	**Kanab**	**2.82 141**			Pn	21 50 22.6	+0.3
KNB				IAML		21 51 07.6	
	comp=N,37nm,0.8s						
KNB				IAML		21 51 12.7	
	comp=E,28nm,0.7s						
SPUT	**South Promonto**	**2.85 43**			Pn	21 50 22.9	+0.1
SPUT				Pg	Pb	21 50 29.4	+1.4
SPUT				IAML		21 51 11.1	
	comp=E,26nm,0.8s						
SPUT				IAML		21 51 16.6	
	comp=N,28nm,0.8s						
LHV	**Little Huntoon**	**2.90 251**			Pg	21 50 32.4	+0.2
CTU	**Camp Tracy**	**2.90 59**	Pn	Pn		21 50 23.7	+0.3
CTU				IAML		21 51 14.3	
	comp=E,15nm,0.7s						
GRAC	**Grapevine Rang**	**2.91 220**	Pn	Pn		21 50 23.2	-0.2
GRAC				IAML		21 51 20.1	
	comp=E,30nm,0.7s						
GRAC				IAML		21 51 39.3	
	comp=N,35nm,0.7s						
TMUT	**Trail Mountain**	**2.96 88**			Pn	21 50 24.1	-0.3
TMUT				IAML		21 50 47.7	
	comp=E,17nm,0.6s						
TMUT				IAML		21 51 32.3	
	comp=N,23nm,0.8s						
DSP	**Deep Springs**	**2.98 232**	Pg	Pg		21 50 32.7	-1.0
DSP				IAML		21 51 19.3	
	comp=E,19nm,1.0s						
DSP				IAML		21 51 22.4	
	comp=N,14nm,1.0s						
Q16A	**Castle Valley**	**3.02 95**	Pn	Pn		21 50 23.7	-1.3
Q16A					Pb	21 50 30.3	-0.5
WTNK	**Soaring Height**	**3.05 180**	Pn	Pn		21 50 24.9	-0.5
WTNK					Pg	21 50 35.2	+0.1
HVU	**Hansel Valley**	**3.06 33**			Pn	21 50 25.6	0.0
HVU				IAML		21 51 18.1	
	comp=E,29nm,0.7s						
JLU	**Jordanelle**	**3.06 63**	Pn	Pn		21 50 24.8	-0.9
JLU				IAML		21 51 20.3	
	comp=N,14nm,0.8s						
YERR	**Yerington**	**3.29 267**			Pn	21 50 27.8	-1.0
YERR				IAML		21 51 24.4	
	comp=N,20nm,0.8s						
YERR				IAML		21 51 29.6	
	comp=E,25nm,0.7s						
GWY	**Greenwater Val**	**3.32 204**			Pn	21 50 29.9	+0.7
GWY				IAML		21 51 39.0	
	comp=N,15nm,0.9s						
PAHR	**Pah Rah Range**	**3.41 279**	Pn	Pn		21 50 31.2	+0.9
PAHR				Pg		21 50 41.3	-0.6
PAHR				IAML		21 51 27.6	
	comp=N,9.8nm,0.9s						
PAHR				IAML		21 51 30.5	
	comp=E,11nm,1.4s						
SRU	**San Rafael Swe**	**3.50 91**			Pn	21 50 31.6	0.0
SRU				IAML		21 51 28.4	
	comp=N,8.4nm,0.7s						
SRU				IAML		21 51 30.9	
	comp=E,11nm,0.7s						
V12A	**Nelson**	**3.52 178**	Pn	Pn		21 50 30.9	-0.9
V12A				IAML		21 51 32.8	
	comp=E,13nm,2.3s						
V12A				IAML		21 51 39.5	
	comp=N,20nm,0.7s						
WAKR	**Walker**	**3.52 259**			Pn	21 50 31.4	-0.6
WAKR				IAML		21 51 36.3	
	comp=E,14nm,0.8s						
WAKR				IAML		21 51 43.1	
	comp=N,15nm,0.8s						
BSUT	**Blindstream Ca**	**3.52 67**			Pn	21 50 33.0	+0.8
HWUT	**Hardware Ranch**	**3.54 47**	Pn	Pn		21 50 31.1	-1.1
HWUT				Pg	Pg	21 50 42.9	-1.6
HWUT				IAML		21 51 42.3	
	comp=N,9.6nm,0.9s						
HWUT				IAML		21 51 43.6	
	comp=N,9.4nm,1.1s						
U15A	**North Rim**	**3.55 142**			Pn	21 50 32.4	0.0
U15A			Pg	Pg		21 50 42.7	-2.0
PNTR	**Pine Nut**	**3.56 269**			Pn	21 50 33.2	+0.7
PNTR				Pg	Pg	21 50 45.8	+0.9
MDPB	**Devils Postpil**	**3.57 244**	Pn	Pn		21 50 31.7	-0.9
MDPB				IAML		21 51 41.4	
	comp=E,19nm,1.9s						
MDPB				IAML		21 52 46.4	
	comp=N,15nm,0.6s						
HMU	**Henry Mountain**	**3.60 110**	IAML			21 51 58.6	
	comp=N,17nm,0.9s						
HMU				IAML		21 52 07.5	
	comp=E,16nm,1.1s						
P18A	**Preston Nutter**	**3.72 83**			Pn	21 50 33.7	-1.1
P18A				IAML		21 52 02.1	
	comp=E,7.9nm,4.1s						
GSC	**Goldstone, Bar**	**4.18 200**	IAML			21 52 04.7	
	comp=N,9.5nm,1.3s						
MFID	**Camas Ranch**	**4.21 352**	IAML			21 51 54.1	
	comp=N,10nm,0.8s						
MFID				IAML		21 52 07.4	
	comp=N,9.6nm,0.8s						
W13A	**Hualapai Mount**	**4.24 167**	IAML			21 53 24.2	
	comp=E,9.9nm,0.1s						
HLID	**Hailey**	**4.34 6**	IAML			21 52 00.4	
	comp=E,6.8nm,0.8s						
AFDM	**Forest Hills D**	**4.64 268**	IAML			21 52 09.0	
	comp=E,5.4nm,0.8s						
AFDM				IAML		21 52 25.4	
	comp=N,4.8nm,4.6s						

*IDC **06** 21:51:51.0±0.6,55°.11S×124°.62W,h0km,mb3.8/8, mbtmp3.8/8,MS4.3/37,Error ellipse: s-maj=33.1km s-min=22.3km az=143.0*

*GCMT **06** 21:51:59.0±0.1,55°.81S±0°.01×124°.29W±0°.01,h22km, MW5.3/134,Moment Tensor Solution. s105,c167; s134,c226; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.08±.02; $M_{\theta\theta}$0.58±.02; $M_{\phi\phi}$-0.49±.01; $M_{r\theta}$-0.24±.03; $M_{r\phi}$0.80±.01; $M_{\theta\phi}$-0.12±.02; Best double couple: $M_0$0.99300×10^{17} NP1:ϕ_s288.00000°,δ81.00000°, λ10.00000°. NP2:ϕ_s196.00000°,δ80.00000°,λ171.00000°. Principal axes: T 1.0670, Plg13.0000°, Azm152.0000°; N -0.1470, Plg77.0000°, Azm331.0000°; P -0.9200, Plg0.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 06 21:51:52.2±0.6,55°.3S±0°.1×124°.3W±0°.2,h10km,n80, σ2°37/34,mb3.8/9,MS4.3/38,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**30.41 133**		LR	LR	22 06 35.8	
	comp=Z,621nm,21.9s,baz=263,slow=29						
VNDA	**Vanda**	**33.38 202**		P	**P**	**21 58 30.9**	**+0.9**
	0.4nm,0.8s,baz=50,slow=7.9,SNR=1.5						
VNDA				LR	LR	22 07 40.7	
	comp=Z,449nm,21.1s,baz=88,slow=28						
	0.4nm,0.8s						
QSPA	**South Pole Qui**	**34.92 180**		P	**P**	**21 58 45.7**	**+1.9**
	1.0nm,0.9s,baz=93,slow=10,SNR=2.1						
QSPA				LR	LR	22 10 38.8	
	comp=Z,487nm,19.5s,baz=85,slow=32						
	1.0nm,0.9s						
H03S2	**Juan Fernandez**	**37.91 75**		T	T	22 39 43.9	
	baz=219,slow=74,SNR=60						
H03S1	**Juan Fernandez**	**37.91 75**		T	T	22 39 36.6	
	baz=219,slow=74,SNR=200						
H03S3	**Juan Fernandez**	**37.93 75**		T	T	22 39 44.7	
	baz=219,slow=74,SNR=248						
H03N3	**Juan Fernandez**	**38.20 74**		T	T	22 39 54.0	
	baz=222,slow=72,SNR=171						
H03N2	**Juan Fernandez**	**38.20 74**		T	T	22 39 59.3	
	baz=222,slow=72,SNR=136						
H03N1	**Juan Fernandez**	**38.21 74**		T	T	22 40 04.7	
	baz=222,slow=72,SNR=129						
RPZ	**Rata Peaks**	**42.05 258**		LR	LR	22 13 54.5	
	comp=Z,338nm,18.2s,baz=128,slow=32						
URZ	**Urewera**	**42.21 269**		LR	LR	22 13 09.6	
	comp=Z,469nm,21.0s,baz=210,slow=30						
PPT	**Papeete**	**42.27 323**		LR	LR	22 12 33.5	
	comp=Z,621nm,18.4s,baz=158,slow=30						
RAR	**Rarotonga**	**43.10 309**		LR	LR	22 12 34.7	
	comp=Z,270nm,20.4s,baz=148,slow=29						
SNAA	**Sanae**	**46.91 158**		P	**P**	**22 00 19.4**	**-2.8**
	0.7nm,0.8s,baz=231,slow=11,SNR=1.8						
SNAA				LR	LR	22 18 41.9	
	comp=Z,464nm,19.9s,baz=238,slow=34						
LVC	**Limon Verde**	**52.15 74**		LR	LR	22 17 58.5	
	comp=Z,155nm,20.0s,baz=225,slow=30						
CPUP	**Villa Florida**	**55.77 88**		LR	LR	22 21 42.0	
	comp=Z,256nm,20.5s,baz=229,slow=32						
NNA	**Nana**	**56.79 60**		LR	LR	22 19 47.7	
	comp=Z,97nm,18.3s,baz=200,slow=30						
MAW	**Mawson**	**57.34 183**		LR	LR	22 23 55.2	
	comp=Z,613nm,21.4s,baz=166,slow=34						
LPAZ	**La Paz**	**57.70 71**		P	**P**	**22 01 44.5**	**+0.9**
	0.6nm,0.5s,baz=182,slow=7.0,SNR=3.6						
LPAZ				LR	LR	22 20 42.5	
	comp=Z,146nm,20.9s,baz=209,slow=30						
	0.6nm,0.5s						
ATAH	**Atahualpa**	**60.25 55**		LR	LR	22 22 26.4	
	comp=Z,229nm,18.6s,baz=220,slow=30						
DZM	**Mont Dzumac**	**60.35 274**		LR	LR	22 23 10.8	
	comp=Z,207nm,20.2s,baz=149,slow=31						
SIV	**San Ignacio**	**61.82 77**		LR	LR	22 24 46.4	
	comp=Z,76nm,19.3s,baz=213,slow=32						
STKA	**Stephens Creek**	**66.65 248**		P	**P**	**22 02 43.2**	**+0.4**
	4.3nm,1.1s,baz=153,slow=2.3,SNR=1.6						
STKA				LR	LR	22 27 13.2	
	comp=Z,212nm,19.1s,baz=161,slow=32						
	4.3nm,1.1s						
BDFB	**Brasilia**	**69.50 88**		LR	LR	22 30 27.6	
	comp=Z,403nm,20.6s,baz=193,slow=33						
ROSC	**El Rosal**	**72.67 53**		LR	LR	22 30 07.3	
	comp=Z,185nm,21.2s,baz=218,slow=32						
JTS	**Las Juntas de**	**73.14 41**		LR	LR	22 28 33.8	
	comp=Z,202nm,19.9s,baz=202,slow=30						
CTA	**Charters Tower**	**73.42 259**		LR	LR	22 30 51.7	
	comp=Z,14nm,19.4s,baz=143,slow=32						
H01W1	**Cape Leeuwin H**	**77.24 226**		T	T	23 29 14.9	
	baz=146						
H01W2	**Cape Leeuwin H**	**77.24 226**		T	T	23 29 15.2	
	baz=146						
H01W3	**Cape Leeuwin H**	**77.25 226**		T	T	23 29 16.2	
	baz=146						
ASAR	**Alice Springs**	**77.28 247**		P	**P**	**22 03 46.9**	**+0.2**
	0.6nm,0.8s,baz=150,slow=3.9,SNR=2.5						
ASAR				LR	LR	22 31 55.0	
	comp=Z,334nm,21.8s,baz=146,slow=31						
	0.6nm,0.8s						
NWAO	**Narrogin (SRO)**	**77.62 229**		LR	LR	22 27 39.3	
	comp=Z,67nm,19.4s,baz=153,slow=28						
SDV	**Santo Domingo**	**77.93 55**		LR	LR	22 33 31.2	
	comp=Z,155nm,21.8s,baz=215,slow=32						
LPIG	**La Paz**	**79.94 13**		LR	LR	22 30 53.9	
	comp=Z,187nm,20.6s,baz=226,slow=29						
WRA	**Warramunga Arr**	**80.08 249**		P	**P**	**22 04 01.6**	**-0.5**
	2.2nm,1.0s,baz=148,slow=5.3,SNR=5.2						
WRA				LR	LR	22 34 49.8	
	comp=Z,307nm,20.2s,baz=90,slow=32						
	2.2nm,1.0s						
TEIG	**Tepich**	**81.21 34**		LR	LR	22 34 18.8	
	comp=Z,86nm,20.4s,baz=230,slow=31						
PCRV	**Puerto La Cruz**	**81.92 59**		LR	LR	22 35 33.4	
	comp=Z,245nm,21.5s,slow=32						
MDP	**Montagnes des**	**83.87 72**		LR	LR	22 36 46.3	
	comp=Z,144nm,18.6s,baz=190,slow=32						
TXAR	**Lajitas Array**	**86.09 18**		P	**P**	**22 04 32.8**	**-0.1**
	0.3nm,0.6s,baz=212,slow=3.2,SNR=2.1						
	0.3nm,0.6s						
SUR	**Sutherland**	**87.74 151**		LR	LR	22 39 29.3	
	comp=Z,194nm,18.6s,baz=170,slow=32						
PFO	**Pinyon Flats O**	**88.77 7**		LR	LR	22 35 59.1	
	comp=Z,198nm,18.2s,baz=192,slow=30						
ANMO	**Albuquerque**	**91.14 15**		LR	LR	22 37 19.9	
	comp=Z,57nm,21.0s,baz=288,slow=30						
BOSA	**Boshof**	**92.49 154**		LR	LR	22 41 18.6	
	comp=Z,185nm,20.1s,baz=203,slow=32						
NVAR	**Mina Array Bea**	**93.46 5**		P		**22 05 07.7**	**+0.2**
	0.2nm,0.5s,baz=207,slow=7.1,SNR=1.5						
NVAR				LR	LR	22 37 56.8	
	comp=Z,188nm,20.8s,baz=145,slow=30						
	0.2nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**93.64 297**		T	T	23 49 24.4	
	baz=148,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**93.65 297**		T	T	23 49 28.5	
	baz=148,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**93.66 297**		T	T	23 49 25.8	
	baz=148,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**94.57 298**		T	T	23 50 41.1	
	baz=148,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**94.57 298**		T	T	23 50 29.1	
	baz=148,slow=76,SNR=19						
H11N2	**WAKE ISLAND Hy**	**94.58 298**		T	T	23 50 40.2	
	baz=148,slow=76,SNR=16						
YBH	**Yreka Blue Hor**	**96.63 1**		LR	LR	22 38 48.2	
	comp=Z,230nm,21.6s,baz=174,slow=29						
TKL	**Tuckaleechee C**	**96.99 32**		LR	LR	22 45 20.6	
	comp=Z,31nm,18.3s,baz=197,slow=33						
PDAR	**Pinedale Array**	**98.46 11**		LR	LR	22 42 35.1	
	comp=Z,105nm,19.0s,baz=192,slow=31						
TSUM	**Tsumeb**	**99.08 144**		LR	LR	22 43 21.6	
	comp=Z,117nm,21.9s,baz=150,slow=31						
TORD	**Torodi Ar. Bea**	**120.88 113**	PKP		**PKiKP**	**22 10 46.3**	**+1.6**
	0.2nm,0.5s,baz=223,slow=0.8,SNR=1.7						
ILAR	**Eielson Array**	**120.94 349**	PKP		**PKiKP**	**22 10 44.4**	**+1.1**
	0.1nm,0.5s,baz=193,slow=2.8,SNR=2.2						
ESDC	**Sonseca Array**	**138.14 86**	PKP		**PKiKP**	**22 11 18.5**	**-0.2**
	0.1nm,0.3s,baz=169,slow=1.1,SNR=1.8						
EKA	**Eskdalemuir Ar**	**147.37 65**	PKPbc		**PKPab**	**22 11 36.7**	**-0.1**
	0.1nm,0.3s,baz=245,slow=2.9,SNR=1.3						
SONM	**Songino Array**	**148.22 278**	PKPbc		**PKPbc**	**22 11 38.0**	**+0.4**
	0.2nm,0.5s,baz=91,slow=2.3,SNR=2.5						
DAVA	**Damuels**	**150.73 86**	*i* PKP		PKPab	22 12 04.6	+14
	5.7nm,1.0s						
FETA	**Feichten**	**151.07 88**	*e*PKP		**PKPab**	**22 11 53.5**	**+1.1**
	6.5nm,1.4s						
RETA	**Reutte**	**151.34 87**	*e*PKP		**PKPab**	**22 11 58.2**	**+4.8**
	4.4nm,1.1s						
SQTA	**Sankt Quirin**	**151.46 88**	*e*PKP		**PKPab**	**22 11 55.2**	**+1.3**
	2.8nm,0.8s						
WTTA	**Wattenberg**	**151.72 88**	*e*PKP		**PKPab**	**22 12 01.5**	**+6.4**
	5.1nm,1.2s						
WATA	**Walderalm**	**151.73 88**	*e*PKP		PKPab	22 12 03.2	+8.1
	6.3nm,1.3s						
ABTA	**Abfaltersbach**	**151.94 89**	*e*PKP		**PKPab**	**22 11 59.1**	**+3.2**
	4.5nm,1.4s						
LESA	**Schwarzleotal**	**152.41 88**	*i* PKP		**PKPab**	**22 11 56.7**	**-1.1**
	2.2nm,1.0s						
MYKA	**Terra Mystica**	**152.52 91**	*e*PKP		**PKPab**	**22 11 58.6**	**+0.2**
	2.9nm,1.0s						
OBKA	**Obir**	**152.97 92**	*e*PKP		**PKPab**	**22 11 57.8**	**-2.5**
	6.5nm,1.5s						
SPITS	**Spitsbergen Ar**	**153.34 17**	PKPbc		**PKPbc**	**22 11 47.0**	**-1.6**
	3.2nm,0.8s,baz=298,slow=3.1,SNR=1.6						
SOKA	**Soboth**	**153.34 92**	*e*PKP		**PKPab**	**22 11 59.3**	**-2.5**
	2.6nm,1.3s						
MOA	**Molln**	**153.54 89**	*i* PKP		**PKPab**	**22 12 03.0**	**+0.5**
	1.2nm,0.5s						
GERES	**GERESS Array B**	**153.73 86**	PKPbc		**PKPbc**	**22 11 48.9**	**-1.5**
	0.3nm,0.4s,baz=155,slow=12,SNR=2.4						
CONA	**Conrad Observa**	**154.50 90**	*e*PKP		**PKPab**	**22 11 59.5**	**-7.2**
	1.1nm,0.8s						
BRTR	**Keskin Array B**	**158.62 127**	PKP		**PKPdf**	**22 11 48.1**	**-1.2**
	0.3nm,0.6s,baz=215,slow=4.8,SNR=1.7						
BRTR				PKPab	**PKPab**	**22 12 25.5**	**+0.8**
	0.2nm,0.5s,baz=188,slow=4.2,SNR=1.3						
MKAR	**Makanchi Array**	**161.33 254**	PKPab		**PKPab**	**22 12 34.4**	**-1.8**
	0.1nm,0.3s,baz=134,slow=4.2,SNR=2.1						
ZALV	**Zalesovo Beam**	**163.11 278**	PKPab		**PKPab**	**22 12 42.8**	**-0.9**
	0.3nm,0.4s,baz=94,slow=6.1,SNR=1.4						
AKASG	**Malin Array Be**	**163.48 95**	PKP		**PKPdf**	**22 11 54.3**	**+0.4**
	0.3nm,0.3s,baz=315,slow=0.5,SNR=1.5						
KURBB	**Kurchatov Arra**	**165.48 261**	PKPab		**PKPab**	**22 12 52.8**	**-1.4**
	0.1nm,0.4s,baz=66,slow=3.2,SNR=1.6						
BVAR	**Borovoye Array**	**171.07 262**	PKPab		**PKPab**	**22 13 19.1**	**+0.1**
	0.2nm,0.4s,baz=94,slow=8.7,SNR=2.5						

*IDC **06** 22:02:49.3±0.9,6°.42N×73°.97W,h107km±11km,mb3.5/9, mbtmp3.9/11,MS3.3/1,Error ellipse: s-maj=19.7km s-min=8.2km az=129.0*

*NEIC **06** 22:02:50.1±1.4,6°.5N±0°.1×73°.94W±0°.09,h100km±10km, mb4.0/6,Error ellipse: s-maj=18.7km s-min=5.1km az=139.0*

*RSNC **06** 22:02:51.2±0.0,7°N±1°×7°4W±°,h76km±3km,M3.8,mb3.8, ML3.6*

ISC 06 22:02:48.2±0.7,6°.56N±0°.02×74°.07W±0°.03,h84km±6km, n67,σ1°92/107,mb3.7/11,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTBC	**PUERTO BERRIO,**	**0.39 268**		P	**Pn**	**22 03 01.7**	**+0.2**
PTBC				S	**Sn**	**22 03 11.1**	**-0.2**
VMM10	**El Carmen**	**0.40 58**		P	**Pn**	**22 03 03.3**	**+1.7**
VMM10				S	**Sn**	**22 03 13.1**	**+1.6**
VMM07	**Puerto Wilches**	**0.83 15**		P	**Pn**	**22 03 07.9**	**+2.3**
VMM07				S	**Sn**	**22 03 21.0**	**+2.5**
SPBC	**San Pablo de B**	**0.90 180**		P	**Pn**	**22 03 06.9**	**+0.4**
SPBC				S	**Sn**	**22 03 19.9**	**-0.1**
VMM09	**Lebrija**	**0.96 54**		P	**Pn**	**22 03 09.1**	**+1.9**
VMM09				S	**Sn**	**22 03 22.9**	**+1.6**
ZARC	**Zaragoza, Cau

PRAC Prado 2.94 196 P **Pn** **22 03 32.9 0.0**
PRAC S **Sn** **22 04 12.4 +5.1**
PTGC Puerto Gaitan, 3.03 140 P **Pn** **22 03 34.6 +0.5**
PTGC S **Sn** **22 04 09.6 +0.1**
ARGC Ariguani, Magd 3.29 357 P **Pn** **22 03 40.8 +3.2**
ARGC S Sn 22 04 25.9 +10
YOTC Yotoco, Valle 3.42 222 P **Pn** **22 03 39.4 0.0**
SJCC San Jacinto, C 3.50 342 P **Pn** **22 03 40.9 +0.4**
SJCC S **Sn** **22 04 21.7 +0.9**
PIZC Pizarro, Choco 3.64 244 P **Pn** **22 03 44.0 +1.7**
PIZC S **Sn** **22 04 26.2 +2.0**
PTAC Punta Ardita, 3.76 279 P **Pn** **22 03 45.4 +1.4**
PTAC S **Sn** **22 04 27.9 +0.7**
CAPC Capurgana 3.86 303 P **Pn** **22 03 45.7 +0.4**
CAPC S **Sn** **22 04 26.0 -3.5**
SDV Santo Domingo 4.12 56 Pn **Pn** **22 03 51.4 +2.5**
SDV Sn **Sn** **22 04 36.8 +0.7**
SDV Santo Domingo 4.12 56 P **Pn** **22 03 52.0 +3.0**
69nm,0.3s,baz=184,slow=4.1,SNR=11
SDV S **Sn** **22 04 37.8 +1.7**
229nm,0.4s,baz=276,slow=18,SNR=16
SDV Santo Domingo 4.12 56 P **Pn** **22 03 51.5 +2.5**
SDV S **Sn** **22 04 37.3 +1.2**
MALC Bahia Malaga 4.12 232 P **Pn** **22 03 50.9 +2.0**
MALC S **Sn** **22 04 40.8 +4.9**
JAMC Jamundi, Valle 4.21 218 P **Pn** **22 03 49.8 -0.6**
GUVC San Jose del G 4.24 160 P **Pn** **22 03 51.2 +0.7**
GUVC S **Sn** **22 04 39.0 +0.2**
GARC Garzon, Huila 4.57 198 P **Pn** **22 03 55.2 0.0**
GARC S **Sn** **22 04 48.1 +0.9**
CRJC Cerrejon, Guaj 4.59 15 P **Pn** **22 03 57.0 +1.7**
CRJC S **Sn** **22 04 52.5 +5.0**
BBAC Balboa, Cauca 5.51 215 P **Pn** **22 04 10.6 +2.6**
9.1nm,0.8s
URIC Uribia, Colomb 5.51 22 P **Pn** **22 04 09.2 +1.4**
URIC S **Sn** **22 05 11.8 +2.0**
BCIP Isla Barro Col 6.28 295 P **Pn** **22 04 17.8 -0.5**
BAUV El Baul 6.42 68 Pn **Pn** **22 04 19.6 -0.7**
BAUV Sn **Sn** **22 05 30.8 -1.5**
PCRV Puerto La Cruz 10.00 68 P **Pn** **22 05 10.4 +1.2**
6.6nm,0.4s,baz=211,slow=5.9,SNR=12
PCRV S **Sn** **22 06 56.7 -3.0**
9.0nm,0.5s,baz=136,slow=23,SNR=6.4
BOAV Boa Vista 14.12 106 **Pn** **22 06 01.9 -2.6**
ATAH Atahualpa 14.27 198 LR LR 22 12 10.5
comp=Z,103nm,18.8s,baz=13,slow=40
ETMB Extrema 18.05 154 P **Pn** **22 06 53.0 -0.6**
ETMB IAmb IAmb 22 06 56.2
comp=Z,6.4nm,1.3s
SAML Samuel 18.84 145 P **P** **22 06 59.9 -1.8**
SAML IAmb IAmb 22 07 03.5
comp=Z,4.7nm,1.0s
MDP Montagnes des 21.36 93 P **P** **22 07 27.9 -1.2**
comp=Z,6.7nm,1.2s,baz=259,slow=10,SNR=2.1
comp=Z,6.7nm,1.2s
LPAZ La Paz 23.45 166 P **P** **22 07 49.6 -1.5**
LPAZ La Paz 23.45 166 P **P** **22 07 48.6 -2.4**
comp=Z,1.1nm,0.5s,baz=338,slow=10,SNR=4.6
comp=Z,1.1nm,0.5s
456A Hilliard 25.18 344 **S** **22 12 30.2 +5.1**
CCM Cathedral Cave 35.02 336 **P** **22 09 33.2 +0.4**
TXAR Lajitas Array 35.94 313 P **P** **22 09 41.7 +0.6**
comp=Z,0.3nm,0.4s,baz=122,slow=8.6,SNR=4.2
comp=Z,0.3nm,0.4s
WMOK Wichita Mounta 36.13 324 P **P** **22 09 42.4 -0.2**
WMOK IAmb IAmb 22 09 42.6
comp=Z,3.5nm,0.6s
PDAR Pinedale Array 47.74 325 P **P** **22 11 16.9 -0.3**
comp=Z,0.5nm,0.5s,baz=127,slow=10,SNR=7.6
comp=Z,0.5nm,0.5s
BGU Big Grassy Mou 48.75 321 P **P** **22 11 25.2 +0.3**
BGU IAmb IAmb 22 11 25.9
comp=Z,3.5nm,0.8s
NVAR Mina Array Bea 51.00 315 P **P** **22 11 41.4 -0.7**
comp=Z,0.5nm,0.7s,baz=114,slow=9.0,SNR=2.6
comp=Z,0.5nm,0.7s
YKA Yellowknife Ar 63.19 340 P **P** **22 13 06.4 -0.9**
comp=Z,1.8nm,0.6s,baz=134,slow=6.4,SNR=12
comp=Z,1.8nm,0.6s
ILAR Eielson Array 76.81 335 P **P** **22 14 29.4 -1.2**
comp=Z,0.5nm,0.6s,baz=104,slow=4.7,SNR=7.0
comp=Z,0.5nm,0.6s
NOA NORSAR Array B 82.02 29 P **P** **22 14 59.3 +0.2**
comp=Z,0.5nm,0.7s,baz=265,slow=4.1,SNR=2.7
comp=Z,0.5nm,0.7s
ARCES ARCESS Array B 87.25 20 P **P** **22 15 24.7 -0.4**
comp=Z,1.9nm,1.0s,baz=266,slow=4.2,SNR=1.9
comp=Z,1.9nm,1.0s
ASAR Alice Springs 148.19 235 PKPbc **PKPdf** **22 22 22.6 +0.4**
comp=Z,1.1nm,0.7s,baz=121,slow=3.2,SNR=10
WRA Warramunga Arr 149.38 241 PKPbc **PKPdf** **22 22 26.1 +2.0**
comp=Z,1.8nm,0.4s,baz=108,slow=2.6,SNR=38

IDC 06 22:19:14.5±1.9, 1°.63N×124°.92E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=192.8km s-min=25.0km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.35**	**157**	P	P	22 24 25.1	+0.4
	1.2nm,0.3s,baz=336,slow=10.0,SNR=19						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**26.63**	**161**	P	P	22 24 54.2	-0.7
	0.2nm,0.3s,baz=345,slow=6.7,SNR=4.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**58.27**	**327**	P	P	22 29 11.2	+0.2
	0.3nm,0.4s,baz=119,slow=7.6,SNR=7.0						
	0.3nm,0.4s						

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*IDC **06** 22:50:54.9±0.5, 20°.60S×174°.22W, h0km, mb4.4/15, mbtmp4.4/17, ML5.2/2, MS3.8/18, Error ellipse: s-maj=20.8km s-min=15.0km az=124.0*
*NEIC **06** 22:50:56.5±1.7, 20°.61S±0°.09×173°.81W±0°.08, h10km±1km, mb4.9/196, Error ellipse: s-maj=15.3km s-min=11.8km az=148.0*
*NOU **06** 22:51:01.0, 20°.24S×173°.50W, h99km, mb4.8/8, Tonga Islands*
*BGR **06** 22:51:11.3, 20°.74S×172°.52W, h122km, Hypocentre not reviewed by the ISC*
ISC 06 22:50:55.8±0.3, 20°.65S±0°.06×173°.90W±0°.05, h10km, n582, σ1°.12/569, mb4.9/118, MS3.9/17, 47C-32D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.06**	**68**	P	**Pn**	**22 51 55.2**	**-2.8**
NIUE	**Niue**	**4.06**	**68**	Pn	**Pn**	**22 51 55.7**	**-2.4**
FUTU	**Fugatoga**	**7.48**	**327**	P	**Pn**	**22 52 43.3**	**-1.8**
MSVF	**Nonsavu**	**8.14**	**290**	P	Pn	22 53 00.8	+6.6
MSVF	**Nonsavu**	**8.14**	**290**	Pn	**Pn**	**22 52 56.3**	**+2.1**
RAO	**Raoul Island**	**9.30**	**202**	Pn	**Pn**	**22 53 10.1**	**0.0**
RAO	**Raoul Island**	**9.30**	**202**	Pn	**Pn**	**22 53 09.1**	**-0.9**
	64nm,0.3s,baz=49,slow=20,SNR=2.2						
RAO				Sn	**Sn**	**22 54 48.4**	**-6.4**
	62nm,0.3s,baz=37,slow=20,SNR=2.9						
RAR	**Rarotonga**	**13.22**	**95**		**Pn**	**22 54 02.1**	**-1.5**
RAR	**Rarotonga**	**13.22**	**95**	Pn	**Pn**	**22 54 01.6**	**-2.0**
	14nm,0.3s,baz=269,slow=9.4,SNR=26						
RAR				LR	LR	22 59 54.7	
	comp=Z,218nm,18.2s,baz=286,slow=40						
PINNC	**Pines Island,**	**17.45**	**260**	P	**P**	**22 55 02.7**	**+2.0**
DZM	**Mont Dzumac**	**18.36**	**262**	P	**Pn**	**22 55 14.3**	**+3.5**
DZM	**Mont Dzumac**	**18.36**	**262**	*e*P	**Pn**	**22 55 12.6**	**+1.8**
	72nm,1.2s						
DZM				*e*S	**S**	**22 58 49.9**	**+9.0**
	148nm,25.1s						
DZM				*e*LR	LR	22 59 42.7	
	801nm,22.1s						
DZM	**Mont Dzumac**	**18.36**	**262**	P	**P**	**22 55 10.8**	**-0.1**
DZM	**Mont Dzumac**	**18.36**	**262**	P	**P**	**22 55 07.9**	**-2.9**
	6.6nm,0.7s,baz=114,slow=17,SNR=2.8						
DZM				LR	LR	23 01 25.0	
	comp=Z,878nm,18.5s,baz=98,slow=35						
NOUC	**Port Laguerre**	**18.49**	**262**	P	**Pn**	**22 55 14.9**	**+2.6**
URZ	**Urewera**	**19.19**	**202**	P	**P**	**22 55 20.2**	**+0.5**
URZ	**Urewera**	**19.19**	**202**	P	**P**	**22 55 19.1**	**-0.7**
	2.5nm,0.3s,baz=37,slow=2.2,SNR=18						
	18nm,0.6s						
BKZ	**Black Stump Fm**	**20.22**	**202**		**P**	**22 55 32.0**	**+0.9**
HIZ	**Hauiti**	**20.27**	**206**		**P**	**22 55 32.3**	**+0.7**
HIZ				IAmb	IAmb	22 55 39.5	
	comp=Z,53nm,1.0s						

KOUNC Koumac, New Ca 20.42 266 P **P** **22 55 31.3 -2.0**
TBI Tubuai 22.81 101 *e*P **P** **22 56 05.0 +6.0**
comp=Z,244nm,26.2s
TBI *e*S **S** **23 00 08.2 -0.2**
comp=Z,4μm,28.5s
TBI *e*LR LR 23 01 30.0
comp=Z,2μm,26.0s
PPT2 Papeete2 23.18 87 *e*S **S** **23 00 14.5 -0.4**
comp=Z,857nm,27.0s
PPT2 *e*LR LR 23 01 35.4
comp=Z,330nm,25.0s
PPT2 *e*LR LR 23 01 36.3
comp=Z,545nm,25.8s
PPT Papeete 23.18 87 LR LR 23 04 21.4
comp=Z,153nm,18.1s,baz=210,slow=34
QRZ Quartz Range 23.19 207 P **P** **22 56 04.6 +1.8**
THZ Tophouse 23.82 205 P **P** **22 56 08.6 -0.5**
THZ IAmb IAmb 22 56 17.0
comp=Z,51nm,1.1s
KHZ Kahutara 24.14 203 P **P** **22 56 12.1 +0.1**
KHZ Kahutara 24.14 203 P **P** **22 56 11.0 -0.9**
KHZ IAmb IAmb 22 56 18.9
comp=Z,35nm,0.9s
LTZ Lake Taylor 24.93 205 P **P** **22 56 19.5 +0.2**
RPZ Rata Peaks 26.20 205 P **P** **22 56 31.1 +0.4**
RPZ IAmb IAmb 22 56 42.5
comp=Z,38nm,0.9s
FOZ Fox Glacier 26.56 207 P **P** **22 56 35.1 +1.2**
LBZ Lake Benmore 27.11 206 P **P** **22 56 39.5 +0.6**
LBZ IAmb IAmb 22 56 54.3
comp=Z,39nm,1.1s
HNR Honiara 27.56 290 LR LR 23 06 49.6
comp=Z,2μm,18.6s,baz=172,slow=35
CAN Canberra 35.64 238 P **P** **22 57 53.5 -0.7**
CTA Charters Tower 37.29 264 P **P** **22 58 06.2 -2.2**
comp=Z,0.7nm,0.5s,baz=87,slow=9.6,SNR=16
CTA LR LR 23 11 29.4
comp=Z,21nm,19.0s,baz=102,slow=33
comp=Z,0.7nm,0.5s
CTAO Charters Tower 37.29 264 P **P** **22 58 06.5 -1.9**
CTAO IAmb IAmb 22 58 09.0
comp=Z,12nm,0.6s
TOO Toolangi 38.94 235 P **P** **22 58 21.6 -0.5**
STKA Stephens Creek 41.19 245 P **P** **22 58 39.8 -1.1**
STKA Stephens Creek 41.19 245 P **P** **22 58 38.7 -2.1**
comp=Z,2.7nm,0.5s,baz=88,slow=11,SNR=6.1
STKA LR LR 23 14 10.7
comp=Z,155nm,18.1s,baz=50,slow=34
comp=Z,2.7nm,0.5s
COEN Coen 41.42 272 P **P** **22 58 40.4 -2.5**
COEN IAmb IAmb 22 58 42.9
comp=Z,21nm,0.8s
WR0 Warramunga Arr 48.19 261 P **P** **22 59 34.8 -2.1**
AS31 Alice Springs 48.21 256 P **P** **22 59 35.2 -1.8**
ASAR Alice Springs 48.22 256 P **P** **22 59 34.3 -2.8**
ASAR Alice Springs 48.22 256 P **P** **22 59 34.8 -2.3**
comp=Z,3.0nm,0.4s,baz=97,slow=7.9,SNR=70
ASAR PcP **PcP** **23 01 04.2 -0.1**
comp=Z,4.1nm,0.8s,baz=101,slow=4.0,SNR=10.0
ASAR LR LR 23 18 05.6
comp=Z,156nm,20.2s,baz=108,slow=34
comp=Z,3.0nm,0.4s
WB0 Warramunga Arr 48.36 262 P **P** **22 59 35.7 -2.5**
WB0 IAmb IAmb 22 59 40.3
comp=Z,6.7nm,0.6s
WB2 Warramunga Arr 48.37 261 P **P** **22 59 36.2 -2.0**
WB2 IAmb IAmb 22 59 39.1
comp=Z,5.6nm,0.8s
WRA Warramunga Arr 48.38 261 P **P** **22 59 36.1 -2.2**
WRA Warramunga Arr 48.38 261 P **P** **22 59 35.5 -2.9**
comp=Z,3.0nm,0.5s,baz=96,slow=7.7,SNR=35
WRA PcP **PcP** **23 01 04.9 0.0**
comp=Z,1.8nm,0.9s,baz=96,slow=3.4,SNR=6.5
WRA LR LR 23 19 23.4
comp=Z,82nm,19.7s,baz=23,slow=36
comp=Z,3.0nm,0.5s
FORT Forrest 52.76 247 P **P** **23 00 10.0 -1.3**
GUMO Guam 52.91 307 LR LR 23 21 10.7
comp=Z,53nm,18.9s,baz=141,slow=34
MTN Manton Dam 53.00 269 P **P** **23 00 10.7 -2.6**
FITZ Fitzroy Crossi 56.81 261 P **P** **23 00 39.1 -1.7**
SBA Scott Base 58.00 185 P **P** **23 00 52.0 +3.6**
VNDA Vanda 58.13 186 P **P** **23 00 48.8 -0.4**
VNDA Vanda 58.13 186 P **P** **23 00 51.8 +2.6**
comp=Z,1.0nm,0.8s,baz=4.5,slow=4.8,SNR=5.6
comp=Z,1.0nm,0.8s
SOEI Soe 60.34 270 P **P** **23 01 04.9 -0.8**
PSA00 Pilbara Seismi 61.36 256 P **P** **23 01 10.3 -2.1**
PSA00 IAmb IAmb 23 01 25.8
comp=Z,12nm,1.0s
MBWA Marble Bar 61.56 257 P **P** **23 01 11.8 -1.9**
MBWA IAmb IAmb 23 01 13.9
comp=Z,14nm,1.1s
MORW Morawa 63.31 247 P **P** **23 01 24.2 -1.1**
MORW IAmb IAmb 23 01 25.5
comp=Z,13nm,1.1s
CASY Casey 65.47 206 P **P** **23 01 39.4 +0.6**
CASY IAmb IAmb 23 01 58.6
comp=Z,6.2nm,1.1s
GIRL Giralia 66.20 254 P **P** **23 01 42.5 -1.8**
QSPA South Pole Qui 69.42 180 P **P** **23 02 06.2 +2.2**
QSPA IAmb IAmb 23 02 22.0
comp=Z,10.0nm,1.1s
QSPA South Pole Qui 69.42 180 P **P** **23 02 05.4 +1.4**
comp=Z,4.3nm,0.9s,baz=36,slow=1.7,SNR=19
comp=Z,4.3nm,0.9s
MJAR Matsushiro Arr 72.67 321 P **P** **23 02 23.2 -0.8**
comp=Z,8.5nm,0.8s,baz=154,slow=5.7,SNR=23
comp=Z,8.5nm,0.8s
SHEM Shemya Is, Ala 73.81 352 LR LR 23 30 39.2
comp=Z,94nm,19.2s,baz=300,slow=32
ASAJ Asahikawa 75.76 329 LR LR 23 30 16.3
comp=Z,62nm,21.4s,baz=162,slow=31
LPIG La Paz 76.22 57 LR LR 23 32 05.6
comp=Z,98nm,18.3s,baz=226,slow=32
EDW2 Edwards Air Fo 76.59 44 P **P** **23 02 49.1 +2.3**
baz=233
TPFO Pinon Flats 76.86 46 P **P** **23 02 50.8 +2.4**
baz=234
BELC Belle Mtn. Jos 77.40 46 P **P** **23 02 54.2 +2.7**
baz=234
CWC Cottonwood Cre 77.48 43 P **P** **23 02 54.0 +2.1**
baz=232
GSC Goldstone, Bar 77.62 45 P **P** **23 02 54.3 +1.7**
baz=234
MPMC Manual Prospec 77.63 44 P **P** **23 02 54.5 +1.7**
baz=233
HEC Hector,Ludlow 77.65 45 P **P** **23 02 55.4 +2.6**
baz=234
IRM Iron Mountain 78.06 46 P **P** **23 02 57.6 +2.6**
baz=235
DSP Deep Springs 78.11 42 P **P** **23 02 56.1 +1.0**
LHV Little Huntoon 78.32 41 P **P** **23 02 57.6 +1.3**
LHV IAmb IAmb 23 02 59.6
comp=Z,8.1nm,1.1s
YERR Yerington 78.32 40 P **P** **23 02 57.2 +0.6**
GMN Gold Mountain 78.52 43 P **P** **23 02 58.1 +0.4**
NVAR Mina Array Bea 78.55 41 P **P** **23 02 58.5 +0.6**
NVAR Mina Array Bea 78.55 41 P **P** **23 02 59.7 +1.8**
comp=Z,2.7nm,0.8s,baz=234,slow=7.6,SNR=14
comp=Z,2.7nm,0.8s
WCT Wildcat Mounta 78.62 44 P **P** **23 02 58.1 0.0**
NV11 Mina Array Sit 78.64 41 P **P** **23 02 58.3 0.0**
PAHR Pah Rah Range 78.69 40 P **P** **23 02 58.1 -0.4**
TPH Tonopah 79.01 42 P **P** **23 03 00.8 +0.4**
KVN Kaiserville 79.06 41 P **P** **23 03 01.3 +0.7**
R17L Mt. Peulik Vol 79.35 9 P **P** **23 03 02.0 +0.4**
baz=197
SHPR Sheep Range 79.41 44 P **P** **23 03 03.5 +1.0**
W13A Hualapai Mount 79.45 46 P **P** **23 03 03.0 +0.1**
KSRS Korea Array 79.59 317 P **P** **23 03 03.5 +0.2**
comp=Z,4.0nm,0.8s,baz=127,slow=5.7,SNR=9.2
comp=Z,4.0nm,0.8s
R18K Karluk 79.60 11 P **P** **23 03 03.2 +0.4**
baz=198
PRN Pahroc Range 80.00 44 P **P** **23 03 07.4 +1.6**
Q17K Contact Creek 80.03 10 P **P** **23 03 05.5 +0.1**
baz=197
O15K Ungalikthiuk R 80.38 7 P **P** **23 03 07.3 +0.2**
baz=193
P16K Nushagak River 80.47 8 P **P** **23 03 07.9 +0.4**
baz=195
Q18K Katmai Hardscr 80.54 10 P **P** **23 03 08.3 +0.2**
baz=198
X16A Lo Mia Camp, P 80.75 48 P **P** **23 03 11.3 +1.4**
P17K Kvichak River 80.84 9 P **P** **23 03 10.0 +0.5**
baz=196
N14K Kuskokwak Cree 80.90 6 P **P** **23 03 10.6 +0.8**
baz=192
M11K Mekoryuk 80.99 4 P **P** **23 03 11.4 +1.1**
baz=187
O16K Kokwok River B 81.00 8 P **P** **23 03 09.4 -0.9**
O16K IAmb IAmb 23 03 11.1
comp=Z,8.6nm,0.8s
O16K Kokwok River B 81.00 8 P **P** **23 03 10.2 -0.2**
baz=195
P18K Big Mountain, 81.22 10 P **P** **23 03 11.6 0.0**
baz=198
M13K Dall Lake 81.23 5 P **P** **23 03 12.8 +1.3**
baz=190
U15A North Rim 81.27 46 P **P** **23 03 13.7 +0.9**
USRK Ussuriysk Ar. 81.30 324 P **P** **23 03 13.1 +0.8**
comp=Z,1.9nm,0.6s,baz=158,slow=7.2,SNR=5.3
USRK LR LR 23 34 23.3
comp=Z,90nm,20.4s,baz=156,slow=32
comp=Z,1.9nm,0.6s
O17K Koliganek Bris 81.31 9 P **P** **23 03 12.2 +0.3**
baz=196
N15K Kwethluk River 81.31 7 P **P** **23 03 12.4 +0.3**
N15K IAmb IAmb 23 03 14.3
comp=Z,6.3nm,0.7s
N15K Kwethluk River 81.31 7 P **P** **23 03 12.9 +0.8**
baz=193
J08A Circle Bar Ran 81.51 37 P **P** **23 03 14.8 +1.2**
O18K Koktuh Hills 81.66 9 P **P** **23 03 13.9 0.0**
O18K IAmb IAmb 23 03 15.4
comp=Z,12nm,1.0s
O18K Koktuh Hills 81.66 9 P **P** **23 03 14.2 +0.3**
baz=198
M14K Bethel 81.69 6 P **P** **23 03 14.1 +0.1**
M14K IAmb IAmb 23 03 16.4
comp=Z,16nm,0.9s
M14K Bethel 81.69 6 P **P** **23 03 15.3 +1.4**
baz=191,SNR=7.6
M15K Kasigluk River 81.76 7 P **P** **23 03 15.4 +1.0**
baz=192,SNR=14
N16K Nishlik Lake 81.77 8 P **P** **23 03 15.4 +0.9**
baz=194,SNR=6.4
P19K Oil Pt 81.79 10 P **P** **23 03 15.2 +0.6**
baz=199
D05A Enumclaw 82.09 33 P **P** **23 03 17.5 +1.0**
D05A IAmb IAmb 23 03 22.9
comp=Z,10nm,0.8s
ILSW Iliamna Southw 82.12 10 P **P** **23 03 16.1 -0.3**
L14K Kuka Creek 82.21 5 P **P** **23 03 17.3 +0.7**
L14K Kuka Creek 82.21 5 P **P** **23 03 18.1 +1.4**
baz=190,SNR=13
MTPU Mount Pierson 82.23 45 P **P** **23 03 18.4 +0.5**
M16K Timber Creek 82.28 7 P **P** **23 03 17.8 +0.7**
M16K Timber Creek 82.28 7 P **P** **23 03 18.4 +1.3**
baz=194,SNR=12
O20K Slope Mountain 82.30 11 P **P** **23 03 18.3 +1.0**
baz=200
BRLK Bradley Lake 82.31 12 P **P** **23 03 17.7 +0.3**
BRLK IAmb IAmb 23 03 18.9
comp=Z,14nm,0.9s
BRSE Bradley Lake S 82.32 12 P **P** **23 03 18.0 +0.6**
baz=202
N18K Kilae Creek 82.35 9 P **P** **23 03 18.2 +0.7**
baz=197
G08A Pilot Rock 82.45 36 P **P** **23 03 19.4 +0.9**
MVU Marysvale 82.47 44 P **P** **23 03 19.3 +0.3**
MVU IAmb IAmb 23 03 24.1
comp=Z,16nm,1.1s
MSU Marysvale 82.50 44 P **P** **23 03 21.7 +2.6**
K13K Kusilvak Mount 82.63 4 P **P** **23 03 19.1 +0.2**
K13K IAmb IAmb 23 03 21.5
comp=Z,9.2nm,1.0s
K13K Kusilvak Mount 82.63 4 P **P** **23 03 20.2 +1.3**
baz=189
L15K Ungalak Mounta 82.65 6 P **P** **23 03 19.9 +0.9**
baz=192,SNR=28
N19K Bonanza Creek 82.69 9 P **P** **23 03 19.7 +0.3**
N19K IAmb IAmb 23 03 20.4
comp=Z,7.5nm,0.8s
N19K Bonanza Creek 82.69 9 P **P** **23 03 19.3 -0.1**
baz=198
H03S2 Juan Fernandez 82.72 123 T T 00 35 21.5
baz=248,slow=75,SNR=136
H03S1 Juan Fernandez 82.73 123 T T 00 35 22.5
baz=248,slow=75,SNR=144
H03S3 Juan Fernandez 82.74 123 T T 00 35 21.2
baz=248,slow=75,SNR=128
E07A Sunnyside 82.78 34 P **P** **23 03 20.6 +0.4**
E07A IAmb IAmb 23 03 38.8
comp=Z,6.5nm,0.9s
M17K Holitna River 82.83 8 P **P** **23 03 20.5 +0.5**
M17K IAmb IAmb 23 03 22.7
comp=Z,12nm,0.9s
M17K Holitna River 82.83 8 P **P** **23 03 21.4 +1.4**
baz=195,SNR=6.1
HAWA Hanford 82.85 35 P **P** **23 03 20.8 +0.3**
H03N2 Juan Fernandez 82.85 123 T T 00 35 36.9
baz=257,slow=71,SNR=13
H03N3 Juan Fernandez 82.85 123 T T 00 35 51.2
baz=257,slow=71,SNR=6.8
H03N1 Juan Fernandez 82.86 123 T T 00 35 34.4
baz=257,slow=71,SNR=9.7
L16K Owhat River 82.89 7 P **P** **23 03 20.7 +0.4**
L16K IAmb IAmb 23 03 22.9
comp=Z,14nm,1.1s
L16K Owhat River 82.89 7 P **P** **23 03 21.2 +0.9**
baz=194,SNR=9.5
Q23K Middleton Isla 82.94 14 P **P** **23 03 20.5 0.0**
MFID Camas Ranch 83.07 39 P **P** **23 03 22.4 +0.6**
BMO Blue Mountains 83.09 37 P **P** **23 03 22.6 +0.8**
HMU Henry Mountain 83.13 45 P **P** **23 03 23.2 +0.7**
E08A Dider Farm, El 83.16 35 P **P** **23 03 22.5 +0.5**
E08A IAmb IAmb 23 03 24.5
comp=Z,7.3nm,0.9s
P23K Montague Islan 83.22 13 P **P** **23 03 23.6 +1.5**
baz=205
K15K Wolf Creek Mou 83.25 6 P **P** **23 03 22.8 +0.7**
K15K Wolf Creek Mou 83.25 6 P **P** **23 03 23.7 +1.6**
baz=192,SNR=47
L17K Donlin 83.44 7 P **P** **23 03 24.8 +1.7**
baz=195,SNR=10
J14K Nanvaranak Lak 83.52 5 P **P** **23 03 23.3 -0.2**
J14K IAmb IAmb 23 03 25.2
comp=Z,5.2nm,0.8s
J14K Nanvaranak Lak 83.52 5 P **P** **23 03 24.7 +1.2**
baz=190,SNR=6.0
TMUT Trail Mountain 83.56 44 P **P** **23 03 24.8 +0.1**
TMUT IAmb IAmb 23 03 29.6
comp=Z,5.4nm,0.9s
D08A Wollman Farm, 83.60 34 P **P** **23 03 24.8 +0.5**
D08A IAmb IAmb 23 03 26.8
comp=Z,7.4nm,1.0s
E09A Wood Farm, Sta 83.67 35 P **P** **23 03 25.1 +0.5**
E09A IAmb IAmb 23 03 26.8
comp=Z,7.4nm,0.9s
L18K Granite Mounta 83.72 8 P **P** **23 03 25.1 +0.6**
L18K IAmb IAmb 23 03 26.6
comp=Z,8.2nm,0.7s
L18K Granite Mounta 83.72 8 P **P** **23 03 25.8 +1.3**
baz=196,SNR=10
M19K Big River Lodg 83.74 9 P **P** **23 03 24.7 0.0**
M19K IAmb IAmb 23 03 25.8
comp=Z,5.5nm,0.7s
M19K Big River Lodg 83.74 9 P **P** **23 03 25.4 +0.7**
baz=198
RC01 Rabbit Creek A 83.76 12 P **P** **23 03 24.8 +0.1**
RC01 IAmb IAmb 23 03 26.2
comp=Z,8.1nm,1.0s
RC01 Rabbit Creek A 83.76 12 P **P** **23 03 25.4 +0.6**
baz=203
KAIM Kayak Island 83.82 14 P **P** **23 03 25.5 +0.4**
baz=208
F10A Beach Ranch, E 83.83 36 P **P** **23 03 25.8 +0.2**
F10A IAmb IAmb 23 03 27.6
comp=Z,7.8nm,0.9s
SPUT South Promonto 83.88 42 P **P** **23 03 27.1 +1.0**
SRU San Rafael Swe 83.91 44 P **P** **23 03 27.3 +1.0**
SRU IAmb IAmb 23 03 30.7
comp=Z,7.6nm,1.0s
M20K Styx River 83.91 10 P **P** **23 03 25.7 +0.1**
M20K IAmb IAmb 23 03 28.4
comp=Z,4.0nm,0.9s
M20K Styx River 83.91 10 P **P** **23 03 26.0 +0.3**
baz=199
SUA Susitna One 83.92 11 P **P** **23 03 25.6 -0.1**
SUA Susitna One 83.92 11 P **P** **23 03 26.1 +0.3**

baz=202,SNR=21
L19K White Mountain 83.94 9 P P 23 03 25.8 +0.1
L19K IAmb IAmb 23 03 27.3
comp=Z,3.4nm,0.8s
L19K White Mountain 83.94 9 P P 23 03 26.0 +0.3
baz=198,SNR=5.8
HVU Hansel Valley 83.95 41 P P 23 03 27.0 +0.6
HVU IAmb IAmb 23 03 39.4
comp=Z,5.0nm,1.1s
PLID Pearl Lake 83.97 37 P P 23 03 27.1 +0.5
HLID Hailey 83.98 39 P P 23 03 27.1 +0.5
HLID Hailey 83.98 39 P P 23 03 26.5 0.0
baz=234
K17K Iditarod 84.00 7 P P 23 03 26.5 +0.6
K17K IAmb IAmb 23 03 28.0
comp=Z,5.8nm,0.7s
K17K Iditarod 84.00 7 P P 23 03 26.9 +1.0
baz=195,SNR=8.1
GLI Glacier Island 84.09 13 P P 23 03 26.4 -0.1
GLI Glacier Island 84.09 13 P P 23 03 26.7 +0.2
baz=205
B08A Colville Reser 84.21 33 P P 23 03 27.4 0.0
B08A IAmb IAmb 23 03 29.1
comp=Z,5.1nm,0.8s
SKT Skwentna 84.27 10 P P 23 03 27.6 +0.2
baz=201
KNK Knik Glacier 84.30 12 P P 23 03 27.3 -0.3
KNK Knik Glacier 84.30 12 P P 23 03 27.7 +0.1
baz=204
M22K Willow 84.30 11 P P 23 03 27.3 -0.2
J16K Anvik River 84.31 6 P P 23 03 27.8 +0.2
J16K Anvik River 84.31 6 P P 23 03 29.1 +1.6
baz=192,SNR=13
PMR Palmer 84.34 12 P P 23 03 27.1 -0.6
PMR IAmb IAmb 23 03 28.6
comp=Z,6.1nm,0.8s
PMR Palmer 84.34 12 P P 23 03 28.2 +0.5
baz=203
S31K Pelican 84.35 19 P P 23 03 28.6 +0.8
baz=215
L20K Farewell, AK 84.36 9 P P 23 03 28.0 +0.1
baz=199,SNR=6.9
P18A Preston Nutter 84.36 44 P P 23 03 29.0 +0.2
TCUT Toone Canyon 84.43 42 P P 23 03 29.6 +0.6
PV10 Paradox Valley 84.50 46 P P 23 03 29.1 -0.3
PV10 IAmb IAmb 23 03 32.8
comp=Z,9.5nm,1.1s
PV18 Skein Mesa, Pa 84.52 46 P P 23 03 29.7 +0.2
PV18 IAmb IAmb 23 03 34.4
comp=Z,8.0nm,1.1s
BSUT Blindstream Ca 84.52 43 P P 23 03 28.7 -0.9
PV20 West Nyswonger 84.53 46 P P 23 03 29.9 +0.4
PV20 IAmb IAmb 23 03 34.4
comp=Z,9.0nm,1.0s
PV13 Radium Mtn., P 84.53 46 P P 23 03 29.6 +0.1
ANMO Albuquerque 84.54 50 P P 23 03 30.3 +0.6
ANMO Albuquerque 84.54 50 LR LR 23 34 54.5
comp=Z,36nm,18.4s,baz=20,slow=31
GHO Glory Hole Cre 84.54 12 P P 23 03 28.0 -0.8
J17K VABM Dome 84.58 7 P P 23 03 30.1 +1.2
J17K VABM Dome 84.58 7 P P 23 03 29.7 +0.8
baz=194,SNR=12
DIV Divide 84.59 13 P P 23 03 29.0 -0.1
WAX Waxell Ridge 84.66 15 P P 23 03 29.9 +0.5
KLR Kul'dur 84.66 328 LR LR 23 36 09.9
comp=Z,68nm,19.7s,baz=122,slow=32
SML Sawmill 84.69 12 P P 23 03 29.6 +0.1
SML IAmb IAmb 23 03 42.7
comp=Z,6.2nm,1.0s
SML Sawmill 84.69 12 P P 23 03 29.8 +0.2
baz=204
BMRM Bremner River 84.70 14 P P 23 03 30.1 +0.5
BMRM IAmb IAmb 23 03 31.4
comp=Z,9.2nm,0.9s
BMRM Bremner River 84.70 14 P P 23 03 29.8 +0.2
baz=207
BNX BinXian 84.81 323 ⇑P P 23 03 30.2 -0.3
BNX pmax pmax
comp=Z,11nm,0.7s
CRQM Cirque 84.86 15 P P 23 03 30.6 0.0
CRQM IAmb IAmb 23 03 32.4
comp=Z,9.4nm,0.8s
PNL Peninsula 84.86 17 P P 23 03 31.5 +1.0
baz=212
CRQE Cirque 84.86 15 P P 23 03 31.2 +0.6
baz=209
KLU Klutina 84.89 13 P P 23 03 30.9 +0.2
KLU IAmb IAmb 23 03 37.1
comp=Z,5.6nm,1.1s
KLU Klutina 84.89 13 P P 23 03 31.0 +0.4
baz=206
I17K Unalakleet 84.89 6 P P 23 03 31.6 +1.2
baz=192
SCM Sheep Creek Mo 84.91 12 P P 23 03 30.8 +0.1
SCM Sheep Creek Mo 84.91 12 P P 23 03 31.4 +0.7
baz=205,SNR=11
J18K Innoko River 84.92 8 P P 23 03 30.9 +0.2
J18K Innoko River 84.92 8 P P 23 03 31.1 +0.5
baz=196,SNR=22
PINM Pinnacle 85.00 16 P P 23 03 31.5 +0.3
baz=211
MA2 Magadan 85.01 343 LR LR 23 35 15.5
comp=Z,81nm,21.6s,baz=108,slow=31
TABL Table Mountain 85.07 16 P P 23 03 31.8 +0.1
GRNC Granite Creek 85.17 15 P P 23 03 32.9 +0.7
GRNC IAmb IAmb 23 03 34.1
comp=Z,9.9nm,0.9s
K20K Telida 85.17 9 P P 23 03 31.8 -0.1
K20K IAmb IAmb 23 03 33.7
comp=Z,9.2nm,0.8s
K20K Telida 85.17 9 P P 23 03 32.6 +0.7
baz=198,SNR=13
VRDI Verde Repeater 85.20 14 P P 23 03 32.6 +0.3
VRDI IAmb IAmb 23 03 33.6
comp=Z,4.7nm,0.8s
N25K Chitina, Valde 85.28 14 P P 23 03 33.1 +0.5
N25K Chitina, Valde 85.28 14 P P 23 03 32.9 +0.4
baz=207,SNR=9.1
P29M Windy Craggy 85.29 18 P P 23 03 33.0 +0.4
P29M IAmb IAmb 23 03 35.1
comp=Z,8.5nm,0.8s
P29M Windy Craggy 85.29 18 P P 23 03 33.2 +0.6
baz=214
GLB Gilahina Butte 85.31 14 P P 23 03 32.7 +0.1
GLB IAmb IAmb 23 03 34.4
comp=Z,5.4nm,0.7s
M24K Tolsona, Glenn 85.39 13 P P 23 03 33.8 +0.8
M24K Tolsona, Glenn 85.39 13 P P 23 03 33.8 +0.8
baz=206
MCARA McCarthy VSAT 85.43 14 P P 23 03 33.9 +0.7
baz=209
CTG Chitna Glacier 85.47 15 P P 23 03 34.0 +0.4
baz=210
CTGM Chitina Glacie 85.47 15 P P 23 03 34.1 +0.5
H16K Elim 85.50 5 P P 23 03 34.5 +1.1
baz=191
WAT6 Susitna Watana 85.51 12 P P 23 03 34.4 +0.6
baz=204,SNR=11
CAST Castle Rocks 85.53 10 P P 23 03 32.5 -1.2
CAST IAmb IAmb 23 03 35.2
comp=Z,7.4nm,0.6s
CAST Castle Rocks 85.53 10 P P 23 03 34.0 +0.3
baz=200
PLBC Pleasant Camp 85.54 18 P P 23 03 34.6 +0.8
baz=215
J19K Poorman 85.57 8 P P 23 03 34.4 +0.6
J19K IAmb IAmb 23 03 36.2
comp=Z,9.7nm,1.0s
J19K Poorman 85.57 8 P P 23 03 34.5 +0.6
baz=197,SNR=8.4
WAT1 Susitna Watana 85.58 11 P P 23 03 33.9 -0.1
baz=204
O28M Mount Upton 85.59 16 P P 23 03 34.8 +0.4
baz=211,SNR=5.7
O29M Mount Kennedy 85.62 17 P P 23 03 35.5 +1.2
O29M IAmb IAmb 23 03 36.7
comp=Z,5.5nm,0.8s
O29M Mount Kennedy 85.62 17 P P 23 03 34.3 -0.1
baz=213
G15K Niukluk 85.71 4 P P 23 03 35.1 +0.6
baz=189
KTH Kantishna Hill 85.84 10 P P 23 03 34.8 -0.5
KTH IAmb IAmb 23 03 36.0
comp=Z,9.6nm,1.0s
P30M Million Dollar 85.92 18 P P 23 03 36.1 +0.3
baz=214

CHUM Lake Minchumin 85.93 9 P P 23 03 35.5 -0.1
baz=200
J20K Nowinta River 85.94 9 P P 23 03 36.1 +0.5
J20K Nowinta River 85.94 9 P P 23 03 35.9 +0.2
baz=198,SNR=25
H17K Granite Mounta 86.00 6 P P 23 03 36.0 +0.1
H17K IAmb IAmb 23 03 37.8
comp=Z,8.9nm,1.0s
H17K Granite Mounta 86.00 6 P P 23 03 36.4 +0.5
baz=193,SNR=6.6
DHY Denali Highway 86.03 12 P P 23 03 36.3 0.0
DHY IAmb IAmb 23 03 40.2
comp=Z,5.3nm,0.9s
DHY Denali Highway 86.03 12 P P 23 03 36.5 +0.1
baz=205
F14K Arctic Creek 86.05 3 P P 23 03 36.9 +0.7
baz=187
RND Reindeer 86.06 11 P P 23 03 36.3 -0.1
TNA Tin City 86.06 2 P P 23 03 36.4 +0.2
baz=186
GCSA Galena City Sc 86.14 7 P P 23 03 37.2 +0.6
baz=196
YUK8 Steele Glacier 86.14 16 P P 23 03 37.7 +0.6
baz=212
YUK6 Outpost Mounta 86.22 17 P P 23 03 37.8 +0.4
baz=213
G16K Koyuk River 86.23 5 P P 23 03 37.5 +0.4
G16K IAmb IAmb 23 03 39.1
comp=Z,5.5nm,0.8s
G16K Koyuk River 86.23 5 P P 23 03 37.3 +0.2
baz=191
PAX Paxson 86.31 13 P P 23 03 36.8 -0.8
PAX IAmb IAmb 23 03 39.0
comp=Z,4.8nm,0.8s
PAX Paxson 86.31 13 P P 23 03 37.3 -0.4
baz=206,SNR=5.1
M26K Nabesna, AK 86.33 14 P P 23 03 38.6 +0.9
baz=209,SNR=6.1
BPAW Bear Paw Mtn. 86.34 10 P P 23 03 36.3 -1.4
BPAW IAmb IAmb 23 03 38.2
comp=Z,3.7nm,0.8s
BPAW Bear Paw Mtn. 86.34 10 P P 23 03 37.5 -0.2
baz=201,SNR=9.1
MCK McKinley 86.35 11 P P 23 03 37.4 -0.4
MCK McKinley 86.35 11 P P 23 03 37.7 0.0
baz=203,SNR=14
HYT Haines Junctio 86.35 17 P P 23 03 37.9 -0.1
baz=214
H18K Honhosa River 86.36 7 P P 23 03 37.4 -0.4
H18K IAmb IAmb 23 03 39.5
comp=Z,9.6nm,1.1s
H18K Honhosa River 86.36 7 P P 23 03 38.1 +0.4
baz=194,SNR=6.2
YUK3 Moose Creek 86.39 15 P P 23 03 38.2 0.0
baz=211,SNR=11
Q32M Nakina River 86.40 20 P P 23 03 38.3 0.0
baz=218
G17K Kiwalik Mounta 86.48 5 P P 23 03 39.3 +1.0
baz=192,SNR=6.3
YUK4 Talbot Arm 86.48 16 P P 23 03 39.8 +1.1
baz=213
BW06 Boulder Array 86.48 42 P P 23 03 39.5 +0.3
baz=238
PDAR Pinedale Array 86.48 42 P P 23 03 40.2 +1.0
comp=Z,0.7nm,0.6s,baz=201,slow=3.8,SNR=7.2
comp=Z,0.7nm,0.6s
I20K Naaghedeneel 86.49 8 P P 23 03 38.8 +0.5
I20K Naaghedeneel 86.49 8 P P 23 03 39.2 +0.8
baz=198,SNR=5.3
M27K Edge Creek, AK 86.55 14 P P 23 03 39.4 +0.4
M27K Edge Creek, AK 86.55 14 P P 23 03 39.6 +0.7
baz=210,SNR=17
MENT Mentasta 86.65 13 P P 23 03 39.5 +0.2
MENT IAmb IAmb 23 03 41.4
comp=Z,11nm,1.1s
BWN Browne 86.66 10 P P 23 03 39.5 +0.3
O30N Mendenhall 86.70 18 P P 23 03 40.1 +0.6
O30N IAmb IAmb 23 03 41.9
comp=Z,5.2nm,0.9s
O30N Mendenhall 86.70 18 P P 23 03 40.5 +0.9
baz=215,SNR=6.4
H17A Grant Village 86.74 40 P P 23 03 40.9 +0.5
baz=237
DLBC Dease Lake 86.74 21 P P 23 03 41.0 +1.1
baz=220
L26K Log Cabin Wild 86.81 13 P P 23 03 40.3 +0.3
L26K IAmb IAmb 23 03 42.2
comp=Z,6.5nm,0.7s
L26K Log Cabin Wild 86.81 13 P P 23 03 41.5 +1.5
baz=208
ELIB Princess Elisa 86.89 185 dP P 23 03 41.7 +1.0
comp=Z,4.7nm,0.8s
H19K Roundabout Mou 86.94 7 P P 23 03 41.6 +1.0
H19K IAmb IAmb 23 03 42.9
comp=Z,13nm,1.0s
H19K Roundabout Mou 86.94 7 P P 23 03 41.4 +0.9
baz=196,SNR=13
N30M Aishikik Lake 86.99 17 P P 23 03 42.0 +1.0
baz=214
K24K Donnelly Dome 87.00 12 P P 23 03 41.7 +0.7
baz=206
G18K Tagagawik 87.06 6 P P 23 03 41.1 -0.1
G18K IAmb IAmb 23 03 42.9
comp=Z,9.8nm,1.0s
G18K Tagagawik 87.06 6 P P 23 03 41.5 +0.4
baz=194,SNR=11
H20K Anotleneega Mo 87.10 8 P P 23 03 42.2 +0.8
baz=198,SNR=11
NEA2 Nenana 87.12 10 P P 23 03 41.1 -0.3
NEA2 IAmb IAmb 23 03 43.8
comp=Z,5.1nm,0.9s
NEA2 Nenana 87.12 10 P P 23 03 41.9 +0.4
baz=203,SNR=5.2
R33M Jennings River 87.16 20 P P 23 03 42.4 +0.4
R33M Jennings River 87.16 20 P P 23 03 42.9 +0.9
baz=220
WRH Wood River Hil 87.17 11 P P 23 03 41.7 0.0
L27K Beaver Creek, 87.18 14 P P 23 03 42.6 +0.8
L27K Beaver Creek, 87.18 14 P P 23 03 42.3 +0.5
baz=210,SNR=5.9
BCAR Beaver Creek A 87.19 14 P P 23 03 42.2 +0.3
P33M Teslin, Yukon 87.21 19 P P 23 03 42.9 +0.7
baz=218
MLY Manley 87.25 10 P P 23 03 41.8 -0.4
MLY IAmb IAmb 23 03 43.2
comp=Z,10nm,1.2s
MLY Manley 87.25 10 P P 23 03 42.1 -0.1
baz=202,SNR=9.5
HDA Harding Lake 87.32 11 P P 23 03 42.5 0.0
HDA Harding Lake 87.32 11 P P 23 03 42.4 -0.1
baz=205,SNR=9.6
F17K Baldwin Pennin 87.35 5 P P 23 03 41.9 -0.6
F17K IAmb IAmb 23 03 43.9
comp=Z,7.8nm,1.1s
F17K Baldwin Pennin 87.35 5 P P 23 03 43.1 +0.6
baz=192
N31M Braeburn, Yuko 87.37 17 P P 23 03 43.1 +0.4
N31M IAmb IAmb 23 03 45.2
comp=Z,7.4nm,1.0s
N31M Braeburn, Yuko 87.37 17 P P 23 03 43.2 +0.4
baz=215
CCB Clear Creek Bu 87.39 11 P P 23 03 42.2 -0.5
Q24A Divide 87.42 47 P P 23 03 44.2 +0.3
baz=241
M29M Somme Creek 87.45 16 P P 23 03 44.0 +0.7
M29M IAmb IAmb 23 03 45.5
comp=Z,5.3nm,0.8s
M29M Somme Creek 87.45 16 P P 23 03 44.1 +0.8
baz=213,SNR=10.0
G19K Purcell Mounta 87.46 7 P P 23 03 43.5 +0.4
G19K IAmb IAmb 23 03 45.2
comp=Z,12nm,1.0s
G19K Purcell Mounta 87.46 7 P P 23 03 44.0 +0.9
baz=196,SNR=12
HEH HeiHe 87.50 327 eP P 23 03 43.8 +0.2
SCRK Sand Creek 87.51 13 P P 23 03 43.7 +0.1
SCRK IAmb IAmb 23 03 45.4
comp=Z,5.8nm,0.8s
SCRK Sand Creek 87.51 13 P P 23 03 43.6 +0.1
baz=208,SNR=10
H21K Melozitna Rive 87.53 9 P P 23 03 44.0 +0.5
H21K IAmb IAmb 23 04 00.9
comp=Z,4.7nm,1.1s
H21K Melozitna Rive 87.53 9 P P 23 03 43.9 +0.5
baz=200,SNR=10
TROLL Troll, Antarti 87.55 179 ⇑P P 23 03 44.9 +1.0
comp=Z,104nm,0.7s

I23K Minto, Yukon-K 87.58 10 P P 23 03 43.7 +0.1
I23K IAmb IAmb 23 03 47.2
comp=Z,4.1nm,0.8s
I23K Minto, Yukon-K 87.58 10 P P 23 03 44.0 +0.4
baz=203
COLA College 87.58 11 P P 23 03 44.0 +0.3
COLA College 87.58 11 P P 23 03 43.9 +0.3
baz=204
MDM Murphy Dome 87.60 11 P P 23 03 43.4 -0.5
IL31 87.66 11 P P 23 03 44.3 +0.3
IL31 IAmb IAmb 23 03 46.9
comp=Z,6.1nm,0.8s
ILAR Eielson Array 87.66 11 P P 23 03 43.8 -0.3
ILAR Eielson Array 87.66 11 P P 23 03 44.3 +0.2
comp=Z,2.8nm,0.6s,baz=214,slow=5.4,SNR=30
comp=Z,2.8nm,0.6s
IL03 Eielson Array 87.67 11 P P 23 03 44.4 +0.3
VNA3 Neumayer Olymp 87.69 175 ⇑P P 23 03 45.5 +1.1
comp=Z,1.7nm,0.8s
SNAA Sanae 87.71 177 ⇑P P 23 03 45.0 +0.4
comp=Z,39nm,0.8s
SNAA Sanae 87.71 177 P P 23 03 44.8 +0.2
comp=Z,1.5nm,0.8s,baz=183,slow=4.1,SNR=5.8
comp=Z,1.5nm,0.8s
IMAR Indian Mountai 87.71 8 P P 23 03 44.6 +0.3
J25K Salcha River, 87.81 12 P P 23 03 45.2 +0.3
J25K IAmb IAmb 23 03 46.6
comp=Z,7.6nm,0.8s
J25K Salcha River, 87.81 12 P P 23 03 45.1 +0.2
baz=206,SNR=11
N23A Red Feather La 87.84 45 P P 23 03 46.0 +0.1
baz=240
POKR Poker Plat Res 87.88 11 P P 23 03 45.0 -0.2
POKR IAmb IAmb 23 03 47.4
comp=Z,5.3nm,0.9s
POKR Poker Plat Res 87.88 11 P P 23 03 45.6 +0.4
baz=205
E17K Hotham Inlet 87.94 5 P P 23 03 45.7 +0.4
baz=191
H22K Ishtalitna Cre 87.96 9 P P 23 03 45.9 +0.3
baz=201,SNR=9.4
K27K Chicken 87.97 13 P P 23 03 45.9 +0.4
baz=210
M30M Minto, Yukon 88.00 16 P P 23 03 45.7 -0.1
M30M IAmb IAmb 23 03 47.7
comp=Z,4.4nm,1.0s
M30M Minto, Yukon 88.00 16 P P 23 03 46.1 +0.3
baz=214
F19K Shaleruckik Mo 88.06 6 P P 23 03 46.0 +0.1
F19K IAmb IAmb 23 03 47.1
comp=Z,4.7nm,0.8s
F19K Shaleruckik Mo 88.06 6 P P 23 03 46.5 +0.6
baz=195,SNR=8.8
J26L Joseph Creek 88.07 13 P P 23 03 46.9 +0.8
J26L Joseph Creek 88.07 13 P P 23 03 46.8 +0.6
baz=208,SNR=17
L29M L29M 88.10 15 P P 23 03 46.7 +0.4
L29M L29M 88.10 15 P P 23 03 47.3 +1.0
baz=213,SNR=12
H23K Yukon River 88.18 10 P P 23 03 47.2 +0.6
baz=203
VNA2 Neumayer--Watz 88.18 176 ⇑P P 23 03 47.9 +1.2
comp=Z,0.7nm,0.4s,baz=183,slow=5.6
G21K Allakaket 88.25 8 P P 23 03 47.1 +0.2
G21K IAmb IAmb 23 03 48.3
comp=Z,3.8nm,0.8s
G21K Allakaket 88.25 8 P P 23 03 47.9 +1.0
baz=199,SNR=6.0
E18K Tukpahlearik C 88.37 5 P P 23 03 47.9 +0.5
E18K IAmb IAmb 23 03 50.2
comp=Z,5.6nm,0.8s
E18K Tukpahlearik C 88.37 5 P P 23 03 48.7 +1.3
baz=192,SNR=5.2
D17K Noatak River 88.45 4 P P 23 03 48.8 +1.0
baz=190
H24K Noodor Dome 88.46 10 P P 23 03 49.0 +1.1
baz=204
F20K Avaraart Lake 88.49 7 P P 23 03 48.7 +0.8
F20K IAmb IAmb 23 03 49.8
comp=Z,4.8nm,1.0s
F20K Avaraart Lake 88.49 7 P P 23 03 48.9 +1.0
baz=197
HNS HongShan 88.51 311 ⇑P P 23 03 50.9 +2.1
HNS pmax pmax
comp=Z,11nm,0.8s
PRP Porcupine Dome 88.59 11 P P 23 03 49.4 +0.7
baz=206
DAWY Dawson 88.60 14 P P 23 03 49.5 +0.8
baz=212
E19K Redstone River 88.72 6 P P 23 03 49.0 -0.1
E19K Redstone River 88.72 6 P P 23 03 50.1 +1.0
baz=196,SNR=12
TOAD Toad River Com 88.74 23 P P 23 03 50.1 +0.7
baz=225,SNR=7.5
BRLDA Berland Lookou 88.79 29 P P 23 03 50.4 +0.6
EGAK Eagle 88.81 13 P P 23 03 51.1 +1.5
baz=210,SNR=5.7
I26K Coal Creek Min 88.86 12 P P 23 03 50.1 +0.3
I26K IAmb IAmb 23 03 51.5
comp=Z,3.7nm,0.8s
I26K Coal Creek Min 88.86 12 P P 23 03 50.8 +1.1
baz=208
K29M Barlow Dome 88.86 15 P P 23 03 50.6 +0.6
K29M IAmb IAmb 23 03 52.6
comp=Z,8.9nm,1.0s
K29M Barlow Dome 88.86 15 P P 23 03 51.4 +1.4
baz=214,SNR=8.8
F21K Alatna River 88.92 8 P P 23 03 49.7 -0.3
F21K Alatna River 88.92 8 P P 23 03 50.8 +0.7
baz=199
G23K Bananza Creek 88.92 9 P P 23 03 50.9 +0.8
G23K Bananza Creek 88.92 9 P P 23 03 51.3 +1.2
baz=202
EGMT Eagleton 89.19 37 P P 23 03 52.3 +0.5
baz=237
ENH Enshi 89.33 303 P P 23 03 50.5 -2.3
F22K John River 89.36 8 P P 23 03 52.6 +0.5
baz=200,SNR=5.2
COLD Coldfoot 89.38 9 P P 23 03 53.0 +0.8
baz=202
I27K Kandik River 89.44 13 P P 23 03 53.0 +0.4
baz=210
MMPY Sheldon Lake, 89.56 18 P P 23 03 54.0 +0.8
MMPY Sheldon Lake, 89.56 18 P P 23 03 53.9 +0.7
baz=219
E20K Nigu River 89.60 7 P P 23 03 54.1 +0.8
baz=196,SNR=11
G25K Bearman Lake 89.61 11 P P 23 03 53.9 +0.7
baz=206
D19K Kuna River 89.64 6 P P 23 03 53.8 +0.4
D19K IAmb IAmb 23 03 54.9
comp=Z,9.1nm,0.9s
D19K Kuna River 89.64 6 P P 23 03 54.1 +0.7
baz=195
I28M Miner Creek 89.66 14 P P 23 03 54.4 +0.7
I28M IAmb IAmb 23 03 55.5
comp=Z,4.6nm,0.7s
I28M Miner Creek 89.66 14 P P 23 03 54.5 +0.8
baz=211,SNR=9.0
J30M Hart River 89.76 15 P P 23 03 54.5 +0.4
J30M IAmb IAmb 23 03 56.5
comp=Z,3.8nm,0.8s
J30M Hart River 89.76 15 P P 23 03 55.0 +0.9
baz=215
D20K Etivluk River 90.00 6 P P 23 03 55.6 +0.5
baz=196
H27K Steamboat Moun 90.00 13 P P 23 03 56.4 +1.3
baz=210,SNR=6.1
F24K Squaw Lake 90.00 10 P P 23 03 56.6 +1.5
baz=204
E21K Killik River 90.03 7 P P 23 03 55.8 +0.6
baz=198
C19K Lookout Ridge 90.10 5 P P 23 03 56.6 +1.0
C19K Lookout Ridge 90.10 5 P P 23 03 56.5 +1.0
baz=193
G26K Porcupine Rive 90.19 11 P P 23 03 57.5 +1.6
baz=208,SNR=12
E23K Chandalar 90.24 9 P P 23 03 57.8 +1.5
baz=203
I30M Mount Dempster 90.29 15 P P 23 03 57.6 +1.0
I30M IAmb IAmb 23 03 58.8
comp=Z,6.5nm,0.9s
I30M Mount Dempster 90.29 15 P P 23 03 57.8 +1.2
baz=215,SNR=9.7
E24K Your Creek 90.42 9 P P 23 03 58.5 +1.5
E24K Your Creek 90.42 9 P P 23 03 58.8 +1.8
baz=204

F25K	Christian Rive	90.44	10	P	P	23 03 58.6 +1.4
	baz=206					
BMAR	Burnt Mountain	90.47	11	P	P	23 03 59.1 +1.8
G27K	Doyon Strip	90.47	12	P	P	23 03 58.4 +1.1
G27K	Doyon Strip	90.47	12	P	P	23 03 58.7 +1.4
	baz=210,SNR=5.2					
D22K	Ayikyak River	90.60	8	P	P	23 03 59.4 +1.5
	baz=200					
C21K	Knifeblade Rid	90.61	7	P	P	23 03 59.6 +1.7
	baz=198					
XLT	XiLinHaoTe	90.63	317	*e*P	P	23 03 57.4 -1.3
XLT				pmax	pmax	
	comp=Z,5.0nm,0.9s					
XLT				pmax	pmax	
	comp=Z,53nm,3.8s					
RSSD	Black Hills	90.64	43	P	P	23 03 59.7 +0.8
	baz=241					
H29M	Whitestone	90.66	14	P	P	23 03 59.1 +0.9
H29M				IAmb	IAmb	23 04 00.4
	comp=Z,7.3nm,0.8s					
H29M	Whitestone	90.66	14	P	P	23 03 59.5 +1.3
	baz=213,SNR=5.5					
TOLK	Toolik Lake Re	90.78	9	P	P	23 04 00.1 +1.3
	baz=203					
F26K	Sheenjek River	90.79	11	P	P	23 03 60.0 +1.2
	baz=208					
E25K	Arctic Village	90.92	10	P	P	23 04 00.7 +1.3
	baz=206					
D23K	Nanushuk River	90.93	8	P	P	23 04 00.9 +1.5
	baz=202					
B20K	Meade River	91.19	6	P	P	23 04 01.4 +0.8
	baz=196					
H31M	Peel River	91.26	15	P	P	23 04 01.9 +1.0
	baz=216					
G29M	Pine Creek	91.32	13	P	P	23 04 02.3 +1.0
G29M				IAmb	IAmb	23 04 03.3
	comp=Z,4.4nm,0.9s					
G29M	Pine Creek	91.32	13	P	P	23 04 02.1 +0.8
	baz=213					
D24K	Happy Valley	91.36	9	P	P	23 04 02.5 +1.2
	baz=203					
F28M	Old Crow	91.53	12	P	P	23 04 03.0 +0.8
	baz=212					
E27K	Coleen River	91.69	12	P	P	23 04 04.4 +1.5
E27K				IAmb	IAmb	23 04 05.0
	comp=Z,3.8nm,0.9s					
E27K	Coleen River	91.69	12	P	P	23 04 04.0 +1.1
	baz=210,SNR=5.7					
C23K	Itkillik River	91.75	8	P	P	23 04 04.4 +1.2
	baz=202					
G30M	tAoh Zraii Nji	91.77	14	P	P	23 04 04.3 +1.0
G30M	tAoh Zraii Nji	91.77	14	P	P	23 04 04.4 +1.0
	baz=215,SNR=6.6					
C24K	Franklin Bluff	91.90	9	P	P	23 04 05.0 +1.2
	baz=203					
G31M	Satah River	92.17	15	P	P	23 04 06.1 +1.0
G31M	Satah River	92.17	15	P	P	23 04 06.4 +1.3
	baz=217,SNR=6.2					
HHC	Hu-ho-hao-te	92.23	313	*e*P	P	23 03 58.0 -8.2
HHC				pmax	pmax	
	comp=Z,8.0nm,0.6s					
HHC				pmax	pmax	
	comp=Z,65nm,4.5s					
F30M	Barrier River	92.39	14	P	P	23 04 07.4 +1.3
	baz=215					
E28M	Babbage River	92.44	12	P	P	23 04 08.0 +1.6
E28M				IAmb	IAmb	23 04 08.6
	comp=Z,5.7nm,0.8s					
E28M	Babbage River	92.44	12	P	P	23 04 07.7 +1.3
	baz=212,SNR=6.7					
C27K	Jago River	92.58	10	P	P	23 04 08.6 +1.6
	baz=208					
E29M	Blow River	92.58	13	P	P	23 04 07.9 +0.9
	baz=213					
F31M	Tsiigehtchic	92.71	14	P	P	23 04 08.7 +1.1
	baz=217					
KMI	Kunming	92.86	296	⇑P	P	23 04 10.8 +1.2
KMI				pmax	pmax	
	comp=Z,13nm,0.9s					
TEIG	Tepich	93.06	70	LR	LR	23 37 38.2
	comp=Z,43nm,20.8s,baz=274,slow=30					
INK	Inuvik	93.45	14	P	P	23 04 12.3 +1.3
	baz=217					
YAK	Yakutsk	93.73	337	LR	LR	23 41 50.9
	comp=Z,24nm,19.6s,baz=146,slow=33					
CMAR	Chiang Mai Arr	93.80	288	P	P	23 04 14.5 +0.7
	comp=Z,4.9nm,0.8s,baz=124,slow=2.8,SNR=25					
	comp=Z,4.9nm,0.8s					
PZH	PanZhiHua	94.19	297	P	P	23 04 07.4 -8.2
PZH				pmax	pmax	
	comp=Z,8.0nm,0.9s					
PZH				pmax	pmax	
	comp=Z,110nm,5.4s					
YKA	Yellowknife Ar	95.08	24	P	P	23 04 17.6 -1.0
	comp=Z,1.2nm,0.8s,baz=223,slow=2.5,SNR=3.6					
	comp=Z,1.2nm,0.8s					
TIXI	Tiksi	99.91	344	LR	LR	23 45 42.7
	comp=Z,66nm,21.6s,baz=178,slow=33					
ZALV	Zalesovo Beam	113.02	321	PKiKP	PKiKP	23 09 32.4 -0.7
	comp=Z,1.2nm,0.5s,baz=41,slow=1.0,SNR=6.6					
MKAR	Makanchi Array	114.10	313	PKiKP	PKPdf	23 09 34.8 -0.7
	comp=Z,1.3nm,0.7s,baz=66,slow=2.4,SNR=13					
KURBB	Kurchatov Arra	116.77	317	PKP	PKPdf	23 09 39.2 -1.2
	comp=Z,1.6nm,0.8s,baz=98,slow=1.8,SNR=12					
KURBB				PP	PP	23 10 43.0 -5.8
	comp=Z,0.4nm,0.7s,baz=92,slow=7.9,SNR=4.1					
BVAR	Borovoye Array	121.66	320	PKP	PKPdf	23 09 49.5 -0.2
	comp=Z,2.9nm,0.5s,baz=78,slow=0.5,SNR=25					
SPITS	Spitsbergen Ar	122.22	358	PKP	PKPdf	23 09 50.5 +0.3
	comp=Z,4.1nm,0.7s,baz=80,slow=5.5,SNR=1.9					
ARCES	ARCESS Array B	129.71	351	PKP	PKPdf	23 10 04.7 0.0
	comp=Z,2.8nm,0.6s,baz=4.8,slow=2.2,SNR=22					
GEYT	Alibeck	132.09	303	PKP	PKPdf	23 10 10.3 +0.1
	comp=Z,2.9nm,0.7s,baz=100,slow=4.8,SNR=5.1					
FINES	FINESS Array B	136.92	346	PKhKP	PKPpre	23 10 11.2
	comp=Z,0.8nm,0.6s,baz=29,slow=3.2,SNR=5.2					
FINES				PKP	PKPdf	23 10 18.6 +0.2
	comp=Z,2.2nm,0.7s,baz=39,slow=2.7,SNR=8.4					
HFS	Hagfors	140.19	354	PKhKP	PKPpre	23 10 14.5
	comp=Z,1.0nm,0.6s,baz=5.7,slow=1.4,SNR=7.1					
SUW	Suwalki	144.23	343	*e*PKP	PKPab	23 10 30.2 +0.6
EKA	Eskdalemuir Ar	144.68	9	PKP	PKPab	23 10 31.2 0.0
	comp=Z,5.7nm,0.8s,baz=347,slow=2.9,SNR=30					
AKASG	Malin Array Be	144.91	334	PKP	PKPab	23 10 31.6 -0.6
	comp=Z,14nm,0.6s,baz=40,slow=4.3,SNR=25					
GKP	Gorka Klasztor	146.33	348	*e*PKP	PKPbc	23 10 37.3 +0.7
BSEG	Bad Segeberg	146.62	355	*e*PKPbc		23 10 38.2
	baz=7.2,slow=2.5					
BEL	Belsk	146.83	343	*e*PKP	PKPbc	23 10 38.9 +0.8
SORM	Soroca	147.24	332	⇓P	PKPbc	23 10 39.6 +0.2
PURM	Purcari	147.71	329	⇓P	PKPbc	23 10 41.3 +0.6
RETH	Rethem/Aller,	147.88	356	*e*PKPbc		23 10 41.9
	baz=7.2,slow=2.5					
MILM	Milestii Mici	147.94	330	⇓P	PKPbc	23 10 41.5 +0.2
NRDL	Niedersach Rie	148.07	355	*e*PKPbc		23 10 42.0
	baz=7.2,slow=2.5					
FLTG	Flechtingen	148.13	354	*e*PKPbc		23 10 42.4
	baz=7.2,slow=2.5					
KWP	Kalwaria Pacla	148.20	339	*e*PKP	PKiKP	23 10 43.7 0.0
IBBN	Ibbenburen	148.38	358	*e*PKPbc		23 10 43.1
	baz=7.2,slow=2.5					
OJC	Ojcow	148.56	343	*e*PKP	PKPbc	23 10 43.2 +0.3
CLZ	Clausthal	148.69	355	*e*PKPbc		23 10 44.2
	baz=7.2,slow=2.5					
KSP	Ksiaz	148.82	347	*e*PKP	PKPbc	23 10 44.5 +1.0
CLL	Collm	148.93	352	*e*PKPdf	PKPdf	23 10 41.0 +1.2
CLL				⇑*i*PKPbc	PKPbc	23 10 44.3 +0.5
	comp=Z,18nm,0.7s					
CLL				*i* PKiKP	pPKPbc	23 10 46.1 +0.3
CLL				⇓*i*PKPab	sPKPbc	23 10 47.5 +1.0
	comp=Z,15nm,0.9s					
CLL				*e*x	x	23 11 03.0
CLL	Collm	148.93	352	*e*PKPbc		23 10 44.4
	baz=7.2,slow=2.5					
CLL				*e*pPKPbc		23 11 17.1
KOLS	Kolonicke sedl	148.95	339	*e*PKP	PKPbc	23 10 45.2 +1.2
BURAR	Bucovina Array	148.97	335	⇑P	PKPbc	23 10 45.0 +0.8
VLDR	Vladesti	149.07	329	⇑P	PKPbc	23 10 45.1 +0.8
OSTC	Ostas	149.11	347	⇑*e*PKP	PKPbc	23 10 45.5 +1.2
CHVC	Chvalec	149.11	348	⇑*e*PKP	PKPbc	23 10 45.2 +0.9
NIE	Niedzica	149.14	342	*e*PKP	PKiKP	23 10 46.2 +0.5
TLCR		149.18	328	⇑P	PKPbc	23 10 44.5 -0.1
UPC	Upice	149.19	348	⇑*e*PKP	PKPbc	23 10 45.5 +1.0
BRG	Berggiesshubel	149.22	350	*i* PKP	PKPbc	23 10 45.6 +1.1
BRG				Amp		23 10 46.3
	comp=Z,11nm,0.8s					
BRG	Berggiesshubel	149.22	350	*e*PKPbc		23 10 45.4
	baz=7.2,slow=2.5					
GHRR		149.22	330	⇓P	PKiKP	23 10 46.1 +0.1
TESR	Tescani	149.23	332	⇑P	PKPbc	23 10 44.8 +0.1
SCTR	Scanteiesti	149.23	329	⇓P	PKiKP	23 10 46.0 0.0
CRVS	Cervenica-Dubn	149.24	340	*e*PKP	PKiKP	23 10 46.7 +0.8
DPC	Dobruska-Polom	149.28	347	⇑*e*PKP	PKiKP	23 10 46.1 +0.1
SLCR	Slobozia Conac	149.40	329	⇓P	PKPbc	23 10 45.9 +0.7
KRLC	Kraliky	149.44	346	⇑*e*PKP	PKPbc	23 10 46.2 +1.0
PVCC	Panska Ves	149.44	349	⇑*e*PKP	PKiKP	23 10 46.5 +0.2
JURR	Jurilovca	149.45	327	⇑P	PKPbc	23 10 45.9 +0.6
TUDR		149.45	329	⇑P	PKiKP	23 10 47.0 +0.6
RICC	Richard	149.51	350	⇑*e*PKP	PKiKP	23 10 46.6 +0.2
CFR	Carcaliu	149.53	328	⇑P	PKPbc	23 10 45.8 +0.3
MORC	Moravsky Berou	149.55	345	⇑P	PKPbc	23 10 46.4 +0.9
MORC	Moravsky Berou	149.55	345	*e*PKP	PKPbc	23 10 46.1 +0.6
HSKC	Hora Svate Kat	149.55	351	⇑*e*PKP	PKPbc	23 10 46.2 +0.8
BMR	Baia Mare	149.59	336	⇑P	PKiKP	23 10 46.9 +0.2
TPGR	Topolog	149.62	328	⇓P	PKPbc	23 10 46.7 +0.9
LANS	Liptovska Anna	149.62	343	*e*PKP	PKiKP	23 10 47.3 +0.6
VRI	Vrincioaia	149.69	331	⇓P	PKPbc	23 10 46.3 +0.4
BRTR	Keskin Array B	149.72	315	PKPbc	PKPbc	23 10 46.4 0.0
	comp=Z,5.0nm,0.6s,baz=132,slow=3.3,SNR=25					
BRTR				PP	PP	23 14 19.0 -0.5
	comp=Z,0.8nm,0.8s,baz=58,slow=12,SNR=3.7					
PLOR	Plostina	149.73	331	⇓P	PKPbc	23 10 46.4 +0.3
MOX	Moxa	149.76	353	*e*PKPbc		23 10 46.6
	baz=7.2,slow=2.5					
MAUC	Maruska	149.86	345	⇑*e*PKP	PKiKP	23 10 47.6 +0.4
TURR	Turia	149.86	332	⇓P	PKiKP	23 10 47.6 +0.2
TANN	Tannenbergstha	149.88	352	*e*PKPbc		23 10 47.0
	baz=7.2,slow=2.5					
OZUR		149.93	332	⇑P	PKPbc	23 10 47.3 +0.8
COVR	Voineasa-Covas	149.94	331	⇓P	PKPbc	23 10 47.0 +0.5
PRU	Pruhonice	149.97	349	⇑*e*PKP	PKPbc	23 10 47.3 +0.9
HARR	Harsova	149.98	328	⇑P	PKiKP	23 10 47.9 +0.4
BOSR	Bodos	150.00	332	⇑P	PKiKP	23 10 47.9 +0.2
MEM	Membach	150.11	0	*d*PKP	PKPbc	23 10 47.5 +0.7
BSTI	Sart Tilman	150.13	1	*d*PKP	PKPbc	23 10 47.2 +0.5
BTNL	Ternell	150.13	360	*d*PKP	PKPbc	23 10 47.3 +0.5
VRAC	Vranov	150.20	346	⇓P	PKiKP	23 10 48.2 +0.3
VRAC	Vranov	150.20	346	*e*PKP	PKPbc	23 10 47.6 +0.5
NEHR	Nehoiu	150.22	331	⇓P	PKPbc	23 10 47.9 +0.6
MESR	Meseseni	150.23	337	⇑P	PKiKP	23 10 49.5 +1.5
BCLA	Clavier	150.29	1	*d*PKP	PKPab	23 10 52.9 -0.4
BGES	Gesves	150.32	1	*d*PKP	PKPab	23 10 53.2 -0.3
MLR	Muntele Rosu	150.33	331	⇑P	PKPbc	23 10 47.6 -0.1
ISR	Istrita	150.33	330	⇑P	PKiKP	23 10 48.7 +0.4
CJR	Cluj-Napoca	150.34	335	⇓P	PKPbc	23 10 48.5 +1.0
MANZ	Manzenberg	150.34	352	*e*PKPbc		23 10 48.2
	baz=7.2,slow=2.5					
BHOU	Houvegnez	150.36	0	*d*PKP	PKiKP	23 10 48.5 +0.4
JAVC	Velka Javorina	150.37	344	*e*PKP	PKiKP	23 10 49.1 +0.8
VYHS	Vyhne	150.39	343	*e*PKP	PKPbc	23 10 48.3 +0.8
BMRD	Maredsous	150.40	2	*d*PKP	PKPbc	23 10 47.7 +0.3
TNS	Taunus Mts	150.44	357	*e*PKPab		23 10 54.7
	baz=7.2,slow=2.5					
TREC	Trest	150.45	347	⇑*e*PKP	PKPbc	23 10 48.3 +0.6
KRUC	Moravsky	150.48	346	*e*PKP	PKPbc	23 10 48.2 +0.5
ROTZ	Rotzenmuhle	150.55	352	*e*PKPbc		23 10 48.6
	baz=7.2,slow=2.5					
RCHB	Rochefort	150.55	1	*d*PKP	PKPbc	23 10 48.1 +0.3
ZVC	Zvikov	150.56	349	⇑*e*PKP	PKPbc	23 10 48.7 +0.8
MARR	Marisel-Cluj	150.56	336	⇓P	PKPbc	23 10 48.8 +0.7
DOU	Dourbes	150.60	2	*d*PKP	PKPbc	23 10 48.7 +0.7
PSZ	Piszkesteto	150.60	341	⇑P	PKPbc	23 10 47.5 -0.6
DRGR		150.62	336	⇑P	PKPbc	23 10 48.3 +0.1
GRF	Grafenberg Arr	150.74	353	*e*PKPbc		23 10 49.2
	baz=7.2,slow=2.5					
VOIR		150.77	332	⇓P	PKPbc	23 10 49.3 +0.7
MODS	Modra-Piesok	150.92	345	*e*PKP	PKiKP	23 10 49.9 +0.5
KHC	Kasperske Hory	150.96	350	⇑*e*PKP	PKPbc	23 10 49.7 +0.8
KHC				*e*x	x	23 10 57.0
ARR	Arges	151.00	332	⇓P	PKiKP	23 10 50.3 +0.5
WLF	Walferdange	151.05	360	*d*PKP	PKiKP	23 10 50.4 +0.8
CKRC	Cesky Krumlov	151.13	349	⇑*e*PKP	PKiKP	23 10 50.2 +0.4
MMAI	Mount Meron Ar	151.20	301	PKPbc	PKPbc	23 10 50.5 +0.5
	comp=Z,14nm,0.7s,baz=75,slow=6.1,SNR=24					
GERES	GERESS Array B	151.22	350	PKPbc	PKPbc	23 10 50.1 +0.5
	comp=Z,5.0nm,0.7s,baz=48,slow=2.0,SNR=20					
GEC2	GERESS Array S	151.22	350	*e*PKPbc		23 10 50.0
	baz=7.2,slow=2.5					
LOT	Lotru	151.31	334	⇑P	PKPbc	23 10 50.1 +0.1
SIRR	Siria	151.45	337	⇑P	PKPbc	23 10 50.8 +0.7
HUMR	Humele	151.50	331	⇑P	PKPbc	23 10 50.6 +0.4
CONA	Conrad Observa	151.67	346	*e*PKP	PKPbc	23 10 51.3 +0.7
	comp=Z,8.7nm,0.6s,SNR=8.2					
SURR	Surduc	151.71	336	⇓P	PKPbc	23 10 51.1 +0.4
GZR	Gura Zlata	151.75	335	⇓P	PKPbc	23 10 51.2 +0.3
RONA	Rosalia, Austr	151.78	345	*i* PKP	PKPbc	23 10 51.6 +0.7
	comp=Z,13nm,0.5s,SNR=8.8					
BZS	Buzias	152.02	336	⇑P	PKPbc	23 10 51.7 +0.3
MOA	Molln	152.08	348	*i* PKP	PKPbc	23 10 51.7 +0.2
	comp=Z,5.4nm,0.6s					
FUR	Furstenfeldbru	152.24	353	*e*PKPbc		23 10 52.6
	baz=7.2,slow=2.5					
HERR	Herculane	152.32	335	⇑P	PKPbc	23 10 51.5 -0.6
BFO	Black Forest	152.33	357	*e*PKPbc		23 10 52.6
	baz=7.2,slow=2.5					
BIOA	Bad Ischl, Aus	152.34	349	*i* PKP	PKPbc	23 10 52.2 +0.1
	comp=Z,4.0nm,0.8s					
ARSA	Arzberg	152.38	346	*e*PKiKP	PKPdf	23 10 45.5 +0.2
	comp=Z,1.4nm,0.5s					
MORH	Mrgy, Hungar	152.51	341	⇓P	PKPbc	23 10 53.0 +0.5
MDVR	Moldovita	152.68	335	⇑P	PKPbc	23 10 53.0 0.0
LESA	Schwarzleotal	152.76	350	*i* PKP	PKPbc	23 10 53.1 0.0
	comp=Z,5.0nm,0.9s					
UBR	Ueberruh	152.84	354	*e*PKPbc		23 10 53.7
	baz=7.2,slow=2.5					
RETA	Reutte	152.97	353	*i* PKP	PKPbc	23 10 53.5 0.0
	comp=Z,8.0nm,1.6s					
KBA	Koelnbreinsper	152.99	349	*i* PKP	PKPbc	23 10 54.0 +0.3
	comp=Z,6.0nm,0.6s					
WATA	Walderalm	153.01	352	*i* PKP	PKPbc	23 10 54.1 +0.3
	comp=Z,5.6nm,0.6s					
SOKA	Soboth	153.03	346	*i* PKP	PKPbc	23 10 53.7 -0.1
	comp=Z,5.7nm,0.9s					
FRGS	Fruska Gora	153.06	338	⇑P	PKiKP	23 10 54.9 +0.9
WTTA	Wattenberg	153.08	352	*i* PKP	PKPbc	23 10 54.5 +0.6
	comp=Z,13nm,0.6s,SNR=7.6					
SQTA	Sankt Quirin	153.17	352	*i* PKP	PKiKP	23 10 54.7 +0.5
	comp=Z,4.8nm,0.5s					
DAVA	Damuels	153.25	354	*i* PKP	PKiKP	23 10 55.5 +1.1
	comp=Z,5.7nm,0.8s					
OBKA	Obir	153.30	347	*i* PKP	PKPbc	23 10 54.0 -0.3
	comp=Z,2.7nm,0.7s					
MYKA	Terra Mystica	153.37	348	*i* PKP	PKPbc	23 10 54.3 -0.2
	comp=Z,5.6nm,0.8s					
FETA	Feichten	153.43	353	*i* PKP	PKPbc	23 10 55.1 +0.4
	comp=Z,8.4nm,0.9s					
ABTA	Abfaltersbach	153.45	350	*e*PKP	PKPbc	23 10 54.6 -0.1
	comp=Z,9.8nm,0.6s,SNR=5.6					
PDG	Podgorica	155.62	336	⇑P	PKPab	23 11 15.2 -0.8
ESDC	Sonseca Array	159.17	22	PKPab	PKPab	23 11 33.3 +1.8
	comp=Z,0.2nm,0.4s,baz=335,slow=4.6,SNR=4.1					
TORD	Torodi Ar. Bea	171.43	150	PKP	PKPdf	23 11 04.8 -0.8
	comp=Z,0.7nm,0.8s,baz=358,slow=1.5,SNR=3.8					

RSNC 06 23:12:35.3±0.0, 4°N±2°, 7°7W±°, h109km±4km, M2.5, mb4.2, ML2.5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMC	Jamundi, Valle	0.50	146	P	Pn	23 12 49.6	-2.7
JAMC				S	Sn	23 13 01.7	-3.3
MALC	Bahia Malaga	0.54	315	P	Pn	23 12 51.2	-1.1
MALC				S	Sn	23 13 05.0	-0.1
YOTC	Yotoco, Valle	0.70	60	P	Pn	23 12 50.4	-3.3
YOTC				S	Sn	23 13 04.1	-3.4
POPC	Popayan, Colom	1.12	166	P	Pn	23 12 56.0	-1.9
POPC				S	Sn	23 13 13.0	-2.0
GR1C	Gorgona, Isla	1.36	243	P	Pn	23 12 58.2	-2.3
GR1C				S	Sn	23 13 17.1	-2.4
PIZC	Pizarro, Choco	1.39	343	P	Pn	23 12 59.2	-1.5
PIZC				S	Sn	23 13 18.8	-1.2
PLMC	San Jos del P	1.43	28	P	Pn	23 12 58.0	-3.3
PLMC				S	Sn	23 13 16.3	-4.8
BBAC	Balboa, Cauca	1.62	191	P	Pn	23 13 02.7	-1.1
BBAC				S	Sn	23 13 24.7	-0.8
ORTC	Ortega, Tolima	1.72	81	P	Pn	23 13 02.9	-1.9
ORTC				S	Sn	23 13 24.8	-2.5
ANIL	Santa Ana	1.76	61	P	Pn	23 13 03.2	-2.4
ANIL				S	Sn	23 13 26.1	-2.5
GARC	Garzon, Huila	2.04	135	P	Pn	23 13 07.0	-2.1
GARC				S	Sn	23 13 32.5	-2.3
PRAC	Prado	2.06	88	P	Pn	23 13 07.5	-1.6
PRAC				S	Sn	23 13 32.6	-2.3
GUY2C	Guyana, Caldas	2.24	45	P	Pn	23 13 10.1	-1.7
GUY2C				S	Sn	23 13 37.8	-1.8
NORC	Norcasia	2.83	47	P	Pn	23 13 17.8	-1.3
VILC	Villavicencio,	3.28	82	P	Pn	23 13 25.1	-0.1
PTAC	Punta Ardita,	3.60	346	P	Pn	23 13 27.8	-1.5
PTAC				S	Sn	23 14 06.9	-4.1
PAC1	Pacto, Paraso	3.81	209	P	Pn	23 13 32.3	0.0
PAC1				S	Sn	23 14 10.6	-5.9
BCIP	Isla Barro Col	6.20	333	P	Pn	23 14 03.2	-1.3
BCIP				S	Sn	23 15 13.9	-0.1

*IDC **06** 23:22:18.1±1.7, 1°.51N×126°.83E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=180.4km s-min=18.9km az=67.0*
*NEIC **06** 23:22:28.6±0.7, 1°.73N±0°.09×127°.7E±0°.2, h91km±12km, mb4.0/8, Error ellipse: s-maj=33.2km s-min=12.8km az=96.0*

ISC 06 23:22:28.8±1.1, 1°.7N±0°.1×127°.6E±0°.3, h100km, n15, σ0§42/16, mb4.0/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.92	193		Pn	23 22 48.1	-0.2
TNTI				Sn	Sn	23 23 03.3	+0.2
WB0	Warramunga Arr	22.33	163	P	P	23 27 18.8	+0.3
WB0				IAmb	IAmb	23 27 37.7	
	comp=Z,12nm,1.3s						
WRA	Warramunga Arr	22.48	163	P	P	23 27 19.4	-0.7
WRA	Warramunga Arr	22.48	163	P	P	23 27 20.0	0.0
	comp=Z,2.3nm,0.4s,baz=340,slow=11,SNR=18						
	comp=Z,2.3nm,0.4s						
WB2	Warramunga Arr	22.48	163	P	P	23 27 20.3	+0.2
WB2				IAmb	IAmb	23 27 21.2	
	comp=Z,9.5nm,1.2s						
WR0	Warramunga Arr	22.56	163	P	P	23 27 20.2	-0.6
WR0				IAmb	IAmb	23 27 25.4	
	comp=Z,4.8nm,1.0s						
AS31	Alice Springs	25.93	167	P	P	23 27 52.6	+0.7
ASAR	Alice Springs	25.93	167	P	P	23 27 52.5	+0.6
	comp=Z,0.7nm,0.3s,baz=347,slow=8.0,SNR=22						
	comp=Z,0.7nm,0.3s						
BBOO	Buckleboo	35.22	168	P	P	23 29 13.4	-0.2
HIZ	Hauiti	59.06	138	P	P	23 32 18.8	+0.1
MK31	Makanchi Array	59.72	326	P	P	23 32 23.4	+0.3
MK31				IAmb	IAmb	23 32 23.7	
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	59.72	326	P	P	23 32 23.1	+0.1
MKAR	Makanchi Array	59.72	326	P	P	23 32 23.3	+0.2
	comp=Z,1.1nm,0.4s,baz=117,slow=7.6,SNR=21						
	comp=Z,1.1nm,0.4s						
KURBB	Kurchatov Arra	63.92	328	P	P	23 32 50.9	-0.2
	comp=Z,1.7nm,0.6s,baz=128,slow=6.3,SNR=20						
	comp=Z,1.7nm,0.6s						
BVAR	Borovoye Array	69.50	327	P	P	23 33 26.4	-0.1
	comp=Z,0.7nm,0.6s,baz=125,slow=7.2,SNR=4.8						
	comp=Z,0.7nm,0.6s						

*SJA **06** 23:29:39.8±0.7, 21°.27S×67°.13W, h220km±5km, ML4.5, MW4.2*
*IDC **06** 23:29:40.0±0.8, 21°.14S×67°.08W, h182km±9km, mb4.2/5, mbtmp4.7/9, MS2.7/1, Error ellipse: s-maj=22.9km s-min=11.7km az=140.0*
*SCB **06** 23:29:41.7±1.6, 21°.33S×67°.14W, h198km±23km, ML4.4/3, MW4.0, Error ellipse: s-maj=5.4km s-min=4.7km az=0.0*
*NEIC **06** 23:29:41.6±1.6, 21°.30S±0°.07×67°.21W±0°.09, h210km±10km, mb4.5/14, Error ellipse: s-maj=11.6km s-min=9.7km az=91.0*
*VAO **06** 23:29:42.0±0.4, 21°.16S×67°.11W, h212km±3km, mb4.4*

ISC 06 23:29:41.4±0.6, 21°.26S±0°.04×67°.11W±0°.04, h206km±6km, n163, σ1§26/186, mb4.3/10, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	Mochara	1.37	90	Pg	Pn	23 30 15.8	+0.8
YJA	Yavi	1.74	122	*e*P	Pn	23 30 19.2	+0.9
YJA				*e*S	S	23 30 47.5	+1.0
AF01	San Pedro de A	1.95	210	Pn	Pn	23 30 20.7	+0.5
AF01				Sn	S	23 30 51.0	+0.9
AF01	San Pedro de A	1.95	210	Pg	Pn	23 30 20.4	+0.2
PB09	IPOC Station P	2.06	255	Pn	Pn	23 30

ALOL eS S 23 31 25.8 -2.5
PB10 IPOC Station P 3.90 234 Pn Pn 23 30 41.1 -1.0
PB18 Visviri 4.28 328 Pn 23 30 48.9 +1.4
SOEJ Jacaque 4.38 346 Pg Pn 23 30 51.0 +2.2
BBOE La Paz, Chanca 4.50 349 Pg Pn 23 30 52.2 +1.9
PB14 IPOC Station P 4.52 222 Pn Pn 23 30 49.3 -0.8
BBOD La Paz, Gloria 4.81 343 Pg Pn 23 30 55.8 +1.7
LPAZ La Paz 5.04 349 Pn Pn 23 30 57.7 +0.6
LPAZ La Paz 5.04 349 eP Pn 23 30 58.5 +1.4
LPAZ La Paz 5.04 349 P Pn 23 30 58.1 +1.0
comp=Z,13nm,0.3s,baz=152,slow=6.3,SNR=100
LPAZ S S 23 31 53.5 -2.9
comp=Z,14nm,0.6s,baz=198,slow=20,SNR=2.1
LPAZ La Paz 5.04 349 Pg Pn 23 30 58.1 +1.0
LPAZ Sg S 23 31 56.5 +0.1
LPAZ IAML 23 31 58.2
comp=Z,16nm,0.6s
LPAZ La Paz 5.04 349 eP Pn 23 30 58.1 +1.0
AC01 Pan de Azucar 5.82 213 Pn 23 31 04.7 -1.7
AC06 Mina Casimiro 6.75 205 Pn 23 31 15.8 -2.6
GO03 Copiap 6.92 204 Pn 23 31 18.1 -2.5
BBSD Serra de San D 7.35 58 eP Pn 23 31 24.4 -2.0
SIV San Ignacio 7.76 49 P Pn 23 31 30.0 -1.6
comp=Z,115nm,0.4s,baz=227,slow=10,SNR=589
SIV S S 23 32 54.2 -5.2
comp=Z,7.2nm,0.3s,baz=305,slow=21,SNR=4.2
AC04 Llanos de Chal 7.80 207 Pn Pn 23 31 27.9 -4.0
AC05 El Transito 8.07 200 Pn 23 31 33.2 -2.4
LCO Las Campanas 8.37 202 Pn Pn 23 31 37.2 -2.5
PAPY Pozo Azul 8.67 111 eP Pn 23 31 44.9 +1.6
MURT Porto Murtinho 8.85 94 Pg Pn 23 31 44.7 -1.0
MURT Porto Murtinho 8.85 94 eP Pn 23 31 44.5 -1.3
GO04 Tololo Observa 9.48 200 Pn Pn 23 31 51.5 -2.5
PTLB Pontes e Lacer 9.52 54 Pn Pn 23 31 53.1 -1.3
PTLB Pontes e Lacer 9.52 54 eP Pn 23 31 52.8 -1.6
CO03 El Pedregal 10.07 198 Pn Pn 23 32 00.0 -1.4
CO06 Fray Jorge 10.22 203 Pn Pn 23 32 00.8 -2.5
CPUP Villa Florida 10.28 121 Pn Pn 23 32 04.5 +0.5
CPUP Villa Florida 10.28 121 P Pn 23 32 04.0 0.0
comp=Z,2.8nm,0.5s,baz=302,slow=11,SNR=8.0
CPUP Villa Florida 10.28 121 eP Pn 23 32 04.3 +0.2
ZON Zonda 10.34 187 Pn Pn 23 32 04.8 -0.2
CO02 Combarbal 10.50 199 Pn Pn 23 32 06.3 -0.7
VILB Vilhena 10.57 40 Pn Pn 23 32 07.8 -0.2
VILB Vilhena 10.57 40 eP Pn 23 32 07.8 -0.2
AQDB Aquidauana 10.69 88 Pn Pn 23 32 09.7 +0.1
AQDB Aquidauana 10.69 88 eP Pn 23 32 10.8 +1.3
ETMB Extrema 11.41 4 Pn 23 32 17.7 -1.0
ETMB Extrema 11.41 4 eP Pn 23 32 17.4 -1.3
RVDE Rio Verde (Bra 11.64 81 eP Pn 23 32 22.5 +0.8
VA06 Catapilco 11.86 197 Pn Pn 23 32 22.5 -1.7
VA03 San Esteban 11.86 194 Pn 23 32 23.4 -1.0
SALV Santo Antonio 12.06 66 eP Pn 23 32 26.3 -0.7
MT02 Curacav 12.47 196 Pn 23 32 31.3 -0.8
MT16 CCHEN 12.49 193 Pn Pn 23 32 31.1 -1.2
MT03 Universidad Ad 12.55 193 Pn Pn 23 32 32.0 -1.1
MT03 P P 23 32 38.8 +2.0
ITQB Itaqui 12.63 134 eP P 23 32 36.9 -0.7
MT13 San Alfonso 12.75 192 P Pn 23 32 36.8 +1.2
SAML Samuel 12.81 18 Pn 23 32 35.6 -0.8
SAML Samuel 12.81 18 eP Pn 23 32 35.6 -0.8
LMEL Las Melosas 12.83 192 P Pn 23 32 37.8 +1.1
MT09 Talagante 12.93 195 Pn 23 32 36.6 -1.4
PSAL Palomas, Salto 12.97 141 eP P 23 32 41.0 -0.3
MT01 Popeta 13.08 195 Pn 23 32 38.4 -1.2
CRSM Crissiumal (Br 13.42 120 eP P 23 32 45.8 -0.6
TRCB Terra Rica 13.51 99 P P 23 32 49.1 +1.6
BO01 Tunca 13.54 194 P 23 32 46.6 -1.1
PDRB Porto dos Gac 13.82 48 eP Pn 23 32 48.6 -0.4
BO02 Sierra Bellavi 13.86 193 P P 23 32 51.5 +0.1
RODS Rosario do Sul 14.02 133 eP Pn 23 32 52.0 +0.7
PTGB Pitanga 14.27 107 eP P 23 32 55.7 -0.3
TBOT Tacuaremb 14.40 138 eP P 23 32 57.3 +0.1
CZSB Cruzeiro do Su 14.50 337 P P 23 32 58.8 +0.3
PCMB Pacaembu 14.76 94 eP Pn 23 33 00.4 -0.1
ALGR Alto Alegre (B 14.80 123 eP P 23 33 01.5 -0.2
ITAB Concordia 14.89 116 P P 23 33 03.4 +0.7
ITAB Concordia 14.89 116 eP P 23 33 03.3 +0.5
ML02 Panimavida 14.93 194 P Pn 23 33 01.8 -0.7
LDASE Londrina, Braz 14.95 101 eP P 23 33 04.3 +0.8
CPSB Cacapava Do Su 15.30 129 eP Pn 23 33 06.7 -0.3
ARAG Araguaiana, MT 15.52 72 eP Pn 23 33 10.9 +1.1
ITRB Iturama 15.77 87 eP Pn 23 33 13.5 +0.7
PLTB Pedras Altas 15.97 134 P P 23 33 14.6 0.0
PLTB IAmb IAmb 23 33 15.5
comp=Z,7.9nm,0.8s
PLTB Pedras Altas 15.97 134 eP Pn 23 33 15.3 +0.3
FRTB Fartura 16.37 101 eP Pn 23 33 20.0 0.0
CNLB Canela 16.73 122 eP Pn 23 33 23.9 -0.4
TRQA Tornquist 17.32 166 P P 23 33 28.6 -0.7
BB19B Bebedouro 17.33 93 eP Pn 23 33 30.9 -0.6
SNDB Serra Nova Dou 17.73 61 eP P 23 33 34.2 +0.1
IPMB Ipameri, GO 18.09 83 eP P 23 33 39.0 +0.9
NPGB Novo Progresso 18.13 40 eP P 23 33 38.0 -0.5
RCLB Rio Claro- Sao 18.21 97 eP P 23 33 39.8 +0.5
SPB Sao Paulo 18.34 101 P P 23 33 40.9 +0.4
SPB IAmb IAmb 23 33 42.0
comp=Z,26nm,1.0s
SPB Sao Paulo 18.34 101 eP P 23 33 41.0 +0.4
PET01 Itanhaem-SP 18.53 103 eP P 23 33 42.8 +0.2
GO06 Curarrehue 18.64 191 P P 23 33 44.7 +0.9
GO06 IAmb IAmb 23 33 49.8
comp=Z,32nm,0.8s
VAO Valinhos 18.74 99 P P 23 33 45.2 +0.2
VAO Valinhos 18.74 99 eP P 23 33 45.3 +0.2
BDFB Brasilia 18.95 76 P P 23 33 48.1 +0.7
BDFB IAmb IAmb 23 33 52.4
comp=Z,14nm,0.6s
BDFB Brasilia 18.95 76 P P 23 33 48.0 +0.6
comp=Z,14nm,0.5s,baz=252,slow=9.6,SNR=26
MACA Manacapuru-AM 19.05 20 eP P 23 33 46.2 -2.1
LR05 Currie 19.36 191 P P 23 33 52.1 +0.6
PMNB Patos De Minas 19.62 86 eP P 23 33 54.1 -0.5
PARB Paraibuna 19.99 100 eP P 23 33 58.1 -0.3
ITTB Itaituba 20.10 35 eP P 23 33 58.7 -0.9
BSCB Bom Sucesso 20.83 93 eP P 23 34 07.6 +0.1
LL01 San Ignacio de 21.52 191 P P 23 34 14.6 +0.4
LL01 IAmb IAmb 23 34 16.0
comp=Z,9.0nm,0.7s
VAS01 Vassouras-RJ 22.00 97 eP P 23 34 19.0 -0.2
LL02 Futaleuf 22.22 189 P P 23 34 20.9 -0.2
LL02 IAmb IAmb 23 34 22.2
comp=Z,5.4nm,0.7s
DIAM Diamantina, MG 22.25 86 eP P 23 34 21.3 -0.4
GO07 Milladeo Hill, 22.47 193 P P 23 34 22.1 -1.3
PRPB Paraua pebas 22.48 51 eP P 23 34 22.3 -1.5
SMTB Santa Maria do 22.49 60 eP P 23 34 23.9 +0.1
JANB Januaria 22.51 78 eP P 23 34 23.3 -0.7
SDBA SAO DESIDERIO 22.98 71 eP P 23 34 27.5 -0.8
SJMB Sao Joao De Ma 24.49 89 eP P 23 34 41.0 -0.9
RIB01 Linhares ES 25.12 90 eP P 23 34 45.8 -1.8
GUA01 Guaratinga, BA 26.23 84 eP P 23 34 57.2 -0.4
GO08 Villa O'Higgin 27.49 188 P P 23 35 07.6 -0.8
ROSB Rosrio 28.87 54 eP P 23 35 22.5 +1.4
NBLA Lagarto - SE 29.91 75 eP P 23 35 28.7 -1.6
NBPB Pedra_Branca-C 30.91 64 eP P 23 35 38.9 -0.2
NBAN Anadia - AL 31.80 74 eP P 23 35 45.8 -1.2
NBCL Cascavel-CE 32.71 63 eP P 23 35 55.3 +0.5
RCBR Riachuelo 33.89 68 P P 23 36 05.4 +0.3
RCBR IAmb IAmb 23 36 06.6
comp=Z,20nm,0.9s
V48A Smith Brothers 59.69 341 P P 23 39 24.2 0.0
WVT Waverly 60.35 341 P P 23 39 27.9 -0.8
WVT IAmb IAmb 23 39 29.3
comp=Z,3.8nm,0.7s
TXAR Lajitas Array 61.41 324 P P 23 39 36.8 +0.7
comp=Z,0.1nm,0.6s,baz=150,slow=9.2,SNR=1.3
DBIC Dimbokro 67.06 73 P P 23 40 13.0 0.0
comp=Z,11nm,0.8s,baz=243,slow=8.9,SNR=11
comp=Z,11nm,0.8s
QSPA South Pole Qui 68.93 180 P P 23 40 26.4 +2.5
comp=Z,1.3nm,0.5s,baz=163,slow=0.8,SNR=16
comp=Z,1.3nm,0.5s
TORD Torodi Ar. Bea 75.70 70 P P 23 41 05.0 +0.4
comp=Z,11nm,0.5s,baz=256,slow=5.2,SNR=145
comp=Z,11nm,0.5s
BOSA Boshof 82.07 118 P P 23 41 40.4 +1.1
comp=Z,2.3nm,0.4s,baz=252,slow=4.1,SNR=23
comp=Z,2.3nm,0.4s
ESDC Sonseca Array 84.49 44 P P 23 41 52.6 +1.4
comp=Z,3.9nm,0.8s,baz=247,slow=5.5,SNR=34
comp=Z,3.9nm,0.8s

KURBB Kurchatov Arra 140.21 34 PKP PKPdf 23 48 44.8 -0.6
comp=Z,0.4nm,0.7s,baz=300,slow=2.4,SNR=3.2
ZALV Zalesovo Beam 141.01 26 PKP PKPdf 23 48 47.7 +1.0
comp=Z,1.0nm,0.6s,baz=270,slow=0.7,SNR=5.3
MKAR Makanchi Array 144.44 37 PKP PKPdf 23 48 53.7 +0.6
comp=Z,4.1nm,0.7s,baz=318,slow=3.8,SNR=38

ISK ***06*** *23:33:15.4, 37.°18N×35.°98E, h13km, ML3.3/17*
AFAD ***06*** *23:33:16.3±0.0, 37.°24N×36.°00E, h16km±3km, MW3.5*
ISC 06 23:33:15.3±1.0, 37.°21N±0.°02×35.°98E±0.°02, h15km±8km, n50, σ1§02/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.29	336	Pg	Pb	23 33 22.7	+0.5
KOZT				Sg	Sb	23 33 27.5	+0.6
ANDN	Andirin	0.47	38	P	Pg	23 33 24.8	+0.1
YURE	YUREGIR	0.47	216	P	Pg	23 33 25.5	+0.8
AKO	Adana	0.49	301	P	Pb	23 33 26.1	+0.5
KAMA	Osmaniye	0.55	93	P	Pg	23 33 25.9	-0.3
KAMA				S	Sg	23 33 34.0	+0.4
HASA	Hatay-Hassa-Ha	0.62	138	P	Pg	23 33 27.3	-0.1
HASA				S	Sg	23 33 33.9	-1.7
HCB	Kahramanmara	0.75	80	P	Pg	23 33 29.5	-0.5
HCB				S	Sg	23 33 38.6	-1.3
KHMR	Kahramanmara	0.75	80	P	Pg	23 33 29.6	-0.4
KHMR				S	Sg	23 33 38.7	-1.3
SAIM	ADANA	0.77	6	P	Pg	23 33 29.1	-1.2
KMRS	Kahramanmaras	0.79	68	Pg	Pg	23 33 30.4	-0.3
TAHT	Tahtakopru-Hat	0.85	169	Pg	Pg	23 33 32.0	+0.2
TAHT				Sg	Sb	23 33 43.7	+0.8
KAHM	Kahramanmaras,	0.86	69	P	Pg	23 33 31.1	-0.9
CMRD	Camardi-Nigde	0.91	300	Pg	Pb	23 33 32.5	-0.2
CMRD				Sg	Sn	23 33 46.5	+0.1
ASUZ	Hatay-Arsuz	0.93	190	P	Pg	23 33 34.0	+0.6
ASUZ				S	Sg	23 33 46.5	+0.9
KHMN	Narli-Kahraman	0.96	79	Pg	Pn	23 33 34.8	+0.6
GULE	Gulek	0.96	275	P	Pb	23 33 33.5	-0.2
GULE				S	Sb	23 33 45.2	-1.1
DED	Mersin	0.97	255	P	Pb	23 33 33.1	-0.7
DED				S	Sb	23 33 43.6	-2.9
KUZU	Kuzuini	0.98	116	P	Pg	23 33 34.8	+0.5
KUZU				S	Sb	23 33 47.0	+0.2
GAZ	Gaziantep	0.99	92	Pg	Pg	23 33 34.9	+0.5
GAZ				Sg	Sn	23 33 48.9	+0.6
YAHY	KAYSERI_Yahyal	1.01	331	P	Pb	23 33 34.1	-0.3
YAHY				S	Sb	23 33 44.7	-2.9
RHAN	Hatay/Reyhanl	1.07	152	P	Pb	23 33 35.7	+0.2
RHAN				S	Sb	23 33 48.3	-1.0
NIDE	Nigde/Merkez-G	1.24	310	P	Pn	23 33 37.6	-0.5
SARI	SarD1z-Kayseri	1.24	16	Pn	Pb	23 33 39.4	+0.9
SARI				Sn	Sg	23 33 56.9	+1.4
GZT	Gaziantep	1.27	83	P	Pn	23 33 38.8	+0.1
NZIP	Nizip/Gaziante	1.37	97	P	Pn	23 33 40.6	+0.8
NZIP				S	Sn	23 33 57.1	-0.6
NIG	Nigde	1.41	310	Pn	Pn	23 33 41.5	+0.9
ELBS	KAHRAMANMARAS	1.44	39	P	Pb	23 33 42.2	+0.4
ELBS				S	Sn	23 33 58.4	-1.1
AKCA	Adyaman/G¶l	1.48	66	P	Pn	23 33 41.8	+0.4
AKCA				S	Sn	23 34 00.8	+0.2
KERG	Konya-Eregli	1.49	278	P	Pn	23 33 41.8	+0.2
KERG				S	Sn	23 33 59.3	-1.6
BNN	Bunyan	1.64	356	Pn	Pb	23 33 45.2	-0.1
BNN				Sn	Sb	23 34 06.9	+1.1
KIZK	Mersin	1.64	244	Pn	Pn	23 33 44.5	+1.0
KIZK	Mersin	1.64	244	P	Pn	23 33 43.8	+0.2
BSIR	Belisirma, Guz	1.70	309	P	Pb	23 33 46.4	+0.1
GUNE	Kayseri	1.71	351	P	Pn	23 33 46.0	+1.4
DARE	Darende-Malaty	1.81	41	Pn	Pn	23 33 47.5	+1.6
CUGUR	Gurin_SVAS	1.82	34	P	Pb	23 33 48.4	0.0
AVNS	Nevsehir-Avano	1.82	331	P	Pn	23 33 47.1	+0.9
AZEY	Adyaman-Merk	1.90	71	P	Pn	23 33 48.0	+0.7
KEBE	Keben-Mersin	1.97	248	Pn	Pn	23 33 49.7	+1.6
IKL	Isikli	2.08	243	Pn	Pn	23 33 50.4	+0.8
SURC	SANLIURFA_SURC	2.13	98	P	Pn	23 33 50.3	-0.1
SURC				S	Sn	23 34 16.4	-0.2
KRMN	Karaman	2.17	270	Pn	Pn	23 33 52.5	+1.6
KOZK	Kozakli-Nevseh	2.18	337	Pn	Pn	23 33 52.9	+1.9
SULT	Sultanhani-AKS	2.19	298	Pn	Pn	23 33 53.0	+1.9
EREN	Erenkoy	2.22	222	P	Pn	23 33 52.1	+0.6
MAYA	Malatya/Merkez	2.23	59	P	Pn	23 33 53.1	+1.3
NARI	Adyaman-Kaht	2.31	72	P	Pn	23 33 53.1	+0.3
HANM	anlurfa/Hi	2.34	80	P	Pn	23 33 53.7	+0.5
SANL	SANLIURFA_Merk	2.41	90	P	Pn	23 33 54.1	+0.1
YAYX	Yaylak	2.43	316	Pn	Pn	23 33 56.4	+1.9

NEIC ***06*** *23:35:43.0±1.8, 49.°63S±0.°05×126.°0E±0.°2, h10km±1km, mb5.0/37, Ms_20 5.0/252, Mwb5.5/13, Mww5.5/22, Error ellipse: s-maj=18.0km s-min=8.5km az=84.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr~0.64; Mθθ0.94; Mφφ-0.30; Mrθ0.12; Mrφ1.95; Mθφ0.38; Fault plane solution: M0 2.16000×10^17 NP1:φs98.65000°, δ77.21000°, λ-4.22000°. NP2:φs189.59000°, δ85.88000°, λ-167.17000°. Principal axes: T 2.4066, Plg6.0000°, Azm323.0000°; N -0.6271, Plg77.0000°, Azm207.0000°; P -1.7794, Plg12.0000°, Azm55.0000°;*
IDC ***06*** *23:35:42.5±0.6, 49.°60S×126.°18E, h0km, mb4.4/9, mbtmp4.5/10, ML2.9/1, MS4.7/30 Error ellipse: s-maj=32.8km s-min=15.4km az=101.0*
NEIC ***06*** *23:35:43.4, 49.°65S×125.°63E, h20km*
NEIC ***06*** *23:35:43.3, 49.°66S×125.°69E, h10km*
NEIC ***06*** *23:35:43.4, 49.°45S×125.°48E, h20km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^17Nm; Mrr~0.31; Mθθ1.61; Mφφ-1.31; Mrθ0.55; Mrφ1.80; Mθφ~0.97; Fault plane solution: M0 2.58000×10^17 NP1: φs286.77000°, δ73.96000°, λ-19.53000°. NP2:φs22.37000°, δ71.26000°, λ-163.04000°. Principal axes: T 2.4743, Plg2.0000°, Azm335.0000°; N 0.2087, Plg65.0000°, Azm69.0000°; P -2.6830, Plg25.0000°, Azm244.0000°;*
GCMT ***06*** *23:35:45.4±0.1, 49.°65S±0.°01×125.°97E±0.°01, h21km, MW5.5/144, Moment Tensor Solution. s120,c203; s144,c270; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr~0.30±.03; Mθθ1.24±.03; Mφφ-0.94±.03; Mrθ0.44±.06; Mrφ2.40±.03; Mθφ~0.23±.05; Best double couple: M0 2.68800×10^17 NP1:φs282.00000°, δ86.00000°, λ-11.00000°. NP2:φs13.00000°, δ79.00000°, λ-175.00000°. Principal axes: T 2.8060, Plg5.0000°, Azm328.0000°; N -0.2320, Plg78.0000°, Azm80.0000°; P -2.5700, Plg11.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 23:35:43.4±0.3, 49.°67S±0.°06×126.°15E±0.°06, h10km, n258, σ1§49/99, mb4.9/30, MS5.0/155, 5C-1D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	Tasmania Unive	16.09	73	Pn	Pn	23 39 27.9	-1.7
TAU				IAmb	IAmb	23 39 42.0	
comp=Z,93nm,1.2s							
MOO	Moorlands	16.26	72	P	P	23 39 38.6	+3.8
RKGY	Rocky Gully	16.49	332	P	Pn	23 39 32.5	-2.3
CORO	Coronation Par	16.80	69	P	P	23 39 44.8	+4.0
ARPS	Mount Arapiles	17.18	47	P	P	23 39 48.5	+3.5
H01W1	Cape Leeuwin H	17.19	325	T	T	23 57 18.1	
baz=153,slow=76,SNR=1141							
H01W2	Cape Leeuwin H	17.20	325	T	T	23 57 27.6	
baz=153,slow=76,SNR=906							
H01W3	Cape Leeuwin H	17.21	325	T	T	23 57 19.1	
baz=153,slow=76,SNR=963							
NWAO	Narrogin (SRO)	17.99	335	P	Pn	23 39 53.1	-0.4
NWAO	Narrogin (SRO)	17.99	335		Pn	23 39 51.5	-2.0
NWAO				IAmb	IAmb	23 40 10.7	
comp=Z,116nm,1.4s							
NWAO	Narrogin (SRO)	17.99	335	P	Pn	23 39 53.0	-0.6
comp=Z,2.0nm,0.3s,baz=144,slow=8.4,SNR=16							
NWAO				LR	LR	23 45 10.7	
comp=Z,7μm,19.7s,baz=158,slow=32							
comp=Z,22nm,0.7s							
BBOO	Buckleboo	18.39	27	P	Pn	23 39 58.0	-0.3
TOO	Toolangi	18.43	56	P	P	23 39 58.4	-0.5
CASY	Casey	18.50	200	P	P	23 39 58.7	-0.7
FORT	Forrest	18.92	5	P	Pn	23 40 05.1	+0.3
FORT	Forrest	18.92	5	P	P	23 40 03.8	-0.4
FORT				IAmb	IAmb	23 40 20.0	
comp=Z,64nm,0.9s							
KLBR	Kellerberrin	19.13	338	P	P	23 40 04.8	-1.7
MULG	Mulgathing	20.27	20	P	Pn	23 40 20.0	-0.9
STKA	Stephens Creek	21.20	39	P	P	23 40 26.3	-2.7
STKA	Stephens Creek	21.20	39	P	P	23 40 27.9	-1.1
comp=Z,4.1nm,0.7s,baz=208,slow=16,SNR=6.0							
STKA				LR	LR	23 47 17.6	
comp=Z,2μm,21.1s,baz=206,slow=33							
comp=Z,4.1nm,0.7s							
LCRK	Leigh Creek	21.25	30	P	P	23 40 32.1	+2.5
MORW	Morawa	21.97	336	P	P	23 40 36.9	-0.4
MORW	Morawa	21.97	336	P	P	23 40 36.3	-1.0
MORW				IAmb	IAmb	23 40 55.4	
comp=Z,80nm,1.2s							
CAN	Canberra	22.00	58	P	P	23 40 37.1	-0.6
CAN				IAmb	IAmb	23 40 50.6	
comp=Z,57nm,1.4s							
CAN				IAMs_20	IAMs_20	23 47 13.3	
comp=Z,7μm,21.0s							
OOD	Oodnadatta	23.04	22	P	P	23 40 50.9	+2.3
MEEK	Meekatharra	23.72	343	P	P	23 40 55.6	+0.1
WRKA	Warakurna	24.64	5	P	P	23 41 05.5	+1.4
ASAR	Alice Springs	26.66	16	P	P	23 41 21.0	-1.4
ASAR	Alice Springs	26.66	16	P	P	23 41 21.8	-0.6
comp=Z,14nm,0.7s,baz=191,slow=9.0,SNR=72							
ASAR				PcP	PcP	23 44 48.4	+2.3
comp=Z,0.9nm,0.8s,baz=197,slow=2.8,SNR=2.6							
ASAR				LR	LR	23 50 57.4	
comp=Z,1μm,20.8s,baz=196,slow=34							
comp=Z,14nm,0.7s							
AS31	Alice Springs	26.66	16	P	P	23 41 21.7	-0.7
AS01	Alice Springs	26.67	16	P	P	23 41 22.6	+0.2
LBZ	Lake Benmore	30.14	97	IAMs_20	IAMs_20	23 50 36.3	
comp=Z,3μm,22.0s							
WRA	Warramunga Arr	30.37	15	LR	LR	23 53 42.0	
comp=Z,1μm,19.7s,baz=190,slow=36							
RPZ	Rata Peaks	31.00	96	LR	LR	23 51 57.8	
comp=Z,3μm,21.1s,baz=240,slow=32							
VNDA	Vanda	31.05	166	P	P	23 42 01.3	+0.5
VNDA				IAmb	IAmb	23 42 05.5	
comp=Z,12nm,0.8s							
VNDA	Vanda	31.05	166	P	P	23 42 01.4	+0.5
comp=Z,12nm,0.8s,baz=308,slow=7.5,SNR=27							
VNDA				LR	LR	23 53 41.5	
comp=Z,5μm,19.0s,baz=324,slow=35							
comp=Z,12nm,0.8s							
SBA	Scott Base	32.07	165	P	P	23 42 11.3	+1.5
SBA	Scott Base	32.07	165	IAMs_20	IAMs_20	23 53 39.4	
comp=Z,4μm,20.0s							
CTA	Charters Tower	33.59	36	LR	LR	23 54 59.1	
comp=Z,121nm,21.7s,baz=204,slow=34							
MAW	Mawson	35.51	216	P	P	23 42 41.8	+2.0
comp=Z,7.9nm,1.0s,baz=86,slow=10,SNR=5.9							
MAW				LR	LR	23 54 47.7	
comp=Z,1μm,18.1s,baz=84,slow=32							
comp=Z,7.9nm,1.0s							
RTZ	Ruatahuna	37.44	93	P	P	23 42 56.6	-0.1
RTZ				IAmb	IAmb	23 43 12.8	
comp=Z,56nm,1.1s							
URZ	Urewera	37.73	92	LR	LR	23 56 20.5	
comp=Z,1μm,19.6s,baz=314,slow=33							
COEN	Coen	38.24	27	P	P	23 43 03.0	-0.6
COEN				IAmb	IAmb	23 43 18.8	
comp=Z,26nm,1.2s							
CTZ	Chatham Island	38.87	104	P	P	23 43 09.3	+0.7
MXZ	Matakaoa Point	38.90	92	IAMs_20	IAMs_20	23 55 29.2	
comp=Z,3μm,22.0s							
QSPA	South Pole Qui	40.45	180	P	P	23 43 21.3	-0.5
QSPA				IAmb	IAmb	23 43 49.6	
comp=Z,76nm,1.2s							
QSPA	South Pole Qui	40.45	180	IAMs_20	IAMs_20	23 59 34.9	
comp=Z,2μm,18.0s							
QSPA	South Pole Qui	40.45	180	P	P	23 43 22.2	+0.5
comp=Z,5.8nm,0.9s,baz=336,slow=5.8,SNR=14							
QSPA				LR	LR	23 59 10.6	
comp=Z,2μm,19.1s,baz=342,slow=35							
comp=Z,5.8nm,0.9s							
DZM	Mont Dzumac	41.95	64	eP	P	23 43 32.4	-2.1
comp=Z,129nm,25.1s							
DZM	Mont Dzumac	41.95	64	ePP	PP	23 45 08.0	-3.4
comp=Z,140nm,26.1s							
DZM				eS	S	23 49 55.6	+2.6
comp=Z,424nm,31.3s							
DZM				eSS	SS	23 53 00.5	+0.9
comp=Z,375nm,26.6s							
DZM				eLR	LR	23 55 36.4	
comp=Z,5μm,28.4s							
DZM	Mont Dzumac	41.95	64	LR	LR	23 58 22.4	
comp=Z,3μm,19.2s,baz=236,slow=32							
JAGI	Jajag, Banyuwa	42.27	342	IAMs_20	IAMs_20	23 59 03.0	
comp=Z,3μm,22.0s							
PMG	Port Moresby	43.78	31	IAMs_20	IAMs_20	00 04 59.6	
comp=Z,2μm,18.0s							
PMG	Port Moresby	43.78	31	LR	LR	00 03 45.6	
comp=Z,1μm,19.2s,baz=196,slow=38							
KAPI	Kappang	44.83	351	LR	LR	00 00 45.0	
comp=Z,741nm,21.9s,baz=177,slow=34							
RAO	Raoul Island	46.56	86	LR	LR	00 01 07.1	
comp=Z,756nm,19.2s,baz=148,slow=33							
ELIB	Princess Elisa	47.36	204	dP	P	23 44 17.5	+0.4
comp=Z,12nm,1.1s							
H04S1	CROZET ISLANDS	47.63	243	T	T	00 35 59.5	
baz=123							
H04S2	CROZET ISLANDS	47.64	243	T	T	00 35 56.3	
baz=123							
H04S3	CROZET ISLANDS	47.65	243	T	T	00 35 57.9	
baz=123							
HNR	Honiara	48.97	47	IAMs_20	IAMs_20	00 04 50.1	
comp=Z,2μm,18.0s							
BELA	Belgrano 2	52.17	185	P	P	23 44 53.0	-0.5
BELA				IAmb	IAmb	23 45 15.3	
comp=Z,22nm,1.1s							
MSVF	Nonsavu	52.25	72	P	P	23 44 54.9	0.0
MSVF				IAmb	IAmb	23 45 17.3	
comp=Z,36nm,1.1s							
TROLL	Troll, Antarti	52.36	199	⇑P	P	23 44 55.3	+0.2
comp=Z,237nm,0.8s							
SBUM	Sibu	53.29	343	P	P	23 45 02.5	+0.2
SNAA	Sanae	53.72	198	P	P	23 45 05.0	0.0
SNAA	Sanae	53.72	198	⇑P	P	23 45 06.2	+1.2
comp=Z,409nm,1.0s							
SNAA	Sanae	53.72	198	P	P	23 45 05.9	+0.9
comp=Z,12nm,0.9s,baz=147,slow=7.9,SNR=24							
SNAA				LR	LR	00 06 32.4	
comp=Z,833nm,21.7s,baz=140,slow=34							
comp=Z,12nm,0.9s							
VNA2	Neumayer--Watz	55.20	197	⇑P	P	23 45 16.8	+1.1
comp=Z,5.6nm,0.9s,baz=156,slow=8.1							
VNA3	Neumayer Olymp	55.35	196	⇑P	P	23 45 16.9	+0.1
comp=Z,5.9nm,0.7s							
VNA1	Neumayer--Stat	55.59	197	⇑P	P	23 45 19.3	+0.8
comp=Z,28nm,1.0s							
GSI	Gunungsitoli	56.41	325	P	P	23 45 24.5	-0.5

comp=E,290nm,17.7s
QIZ LR LR
comp=Z,820nm,25.0s
CMAR Chiang Mai Arr 71.98 333 P **P 23 47 06.1 -1.0**
comp=Z,0.5nm,0.3s,baz=177,slow=6.2,SNR=1.7
CMAR LR LR 00 17 45.6
comp=Z,621nm,20.0s,baz=165,slow=35
comp=Z,0.5nm,0.3s
CHTO Chiang Mai 72.32 333 IAMs_20 IAMs_20 00 15 27.4
comp=Z,776nm,22.0s
POGA Pongola 72.39 249 P **P 23 47 07.7 -1.9**
POGA IAmb IAmb 23 47 16.3
comp=Z,25nm,1.3s
PPT2 Papeete2 73.13 97 *e*P **P 23 47 11.1 -3.1**
comp=Z,19nm,23.8s
PPT2 Papeete2 73.13 97 *e*PP PP 23 49 46.4 -10
comp=Z,52nm,31.0s
PPT2 *e*S **SKiKP 23 56 46.1 -0.2**
comp=Z,213nm,28.2s
PPT2 *e*SS **SS 00 01 22.0 -0.8**
comp=Z,199nm,33.5s
PPT2 *e*LQ LQ 00 06 33.8
comp=Z,3μm,41.5s
PPT2 *e*LR LR 00 09 43.3
comp=Z,646nm,22.8s
PPT2 *e*LR LR 00 09 43.9
comp=Z,881nm,22.8s
PPT Papeete 73.15 97 LR LR 00 13 06.9
comp=Z,480nm,19.2s,baz=208,slow=31
CRAI Chiangrai 73.25 335 P **P 23 47 13.2 -1.4**
NACB Ninganchiao 73.62 356 P **P 23 47 15.4 -1.2**
NACB IAmb IAmb 23 47 39.6
comp=Z,16nm,0.9s
SUR Sutherland 74.95 238 LR LR 00 12 32.6
comp=Z,593nm,21.9s,baz=146,slow=30
USHA Ushuaia 75.16 171 LR LR 00 19 23.3
comp=Z,2μm,18.4s,baz=181,slow=35
BOSA Boshof 75.28 243 P **P 23 47 28.0 +1.3**
comp=Z,2.3nm,0.8s,baz=146,slow=5.7,SNR=4.1
BOSA LR LR 00 14 03.9
comp=Z,664nm,19.8s,baz=145,slow=31
comp=Z,2.3nm,0.8s
JOW Kunigami 76.18 2 P **P 23 47 32.1 +0.7**
PZH PanZhiHua 78.88 338 P **P 23 47 49.1 +2.4**
PZH pmax pmax
comp=Z,6.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
NJ2 Nanjing 81.61 354 *e*P **P 23 48 03.4 +2.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
CD2 Chengdu 82.66 341 P **P 23 48 08.0 +1.3**
JHJ Hachijo jima 2 83.31 11 LR LR 00 23 02.3
comp=Z,243nm,20.5s,baz=172,slow=34
JMN Monobe 83.31 6 P **P 23 48 09.8 -0.2**
LSZ Lusaka 83.56 254 P **P 23 48 11.7 -0.3**
LSZ IAmb IAmb 23 48 24.5
comp=Z,9.7nm,1.2s
COYC Coyhaique 83.82 167 P **P 23 48 13.2 +0.5**
COYC IAmb IAmb 23 48 28.1
comp=Z,24nm,1.5s
WIN Windhoek 84.61 241 P **P 23 48 15.6 -1.8**
TJN Taejon 85.68 1 P **P 23 48 20.2 -1.6**
MJAR Matsushiro Arr 86.50 10 P **P 23 48 26.9 +1.0**
comp=Z,0.7nm,0.3s,baz=179,slow=4.2,SNR=2.1
comp=Z,0.7nm,0.3s
KSRS Korea Array 86.76 1 LR LR 00 32 27.8
comp=Z,59nm,18.9s,baz=180,slow=39
LL06 Loncomilla 86.87 165 P **P 23 48 26.4 -1.6**
LL01 San Ignacio de 86.90 166 P **P 23 48 28.5 +0.4**
LL01 IAmb IAmb 23 48 50.0
comp=Z,10nm,1.2s
TSUM Tsumeb 86.96 244 LR LR 00 21 26.7
comp=Z,1μm,19.3s,baz=151,slow=32
LZH Lanzhou 87.64 342 *e*P **P 23 48 36.3 +4.6**
LZH sP pwP 23 48 43.7 +4.3
LZH pmax pmax
comp=Z,20nm,1.1s
RPN Rapa Nui 89.05 133 LR LR 00 21 01.5
comp=Z,320nm,18.8s,baz=271,slow=30
WSAR Wadi Sarin 94.00 302 LR LR 00 25 04.8
comp=Z,720nm,18.7s,baz=150,slow=32
ATD Arta Tunnel 94.40 283 LR LR 00 23 39.8
comp=Z,12nm,21.6s,baz=144,slow=30
FURI Furi 95.08 278 LR LR 00 24 13.7
comp=Z,266nm,21.7s,baz=152,slow=31
KLR Kul'dur 98.64 4 LR LR 00 33 29.5
comp=Z,114nm,21.1s,baz=178,slow=35
BRTR Keskin Array B 120.39 297 PKP **PKiKP 23 54 36.1 +1.5**
comp=Z,0.3nm,0.5s,baz=131,slow=1.6,SNR=2.0
TORD Torodi Ar. Bea 122.00 251 PKP **PKiKP 23 54 38.4 0.0**
comp=Z,0.6nm,0.9s,baz=75,slow=1.9,SNR=2.6
K13K Kusilvak Mount 124.10 32 IAMs_20 IAMs_20 00 43 36.1
comp=Z,365nm,22.0s
M14K Bethel 124.26 34 IAMs_20 IAMs_20 00 41 58.7
comp=Z,421nm,21.0s
J14K Nanvaranak Lak 125.03 32 IAMs_20 IAMs_20 00 42 39.7
comp=Z,306nm,21.0s
ANM Nome 125.64 30 IAMs_20 IAMs_20 00 42 38.7
comp=Z,358nm,22.0s
N17K Nushagak Hills 125.91 36 IAMs_20 IAMs_20 00 43 32.5
comp=Z,284nm,20.0s
O18K Koktuh Hills 126.27 38 IAMs_20 IAMs_20 00 40 48.0
comp=Z,378nm,22.0s
N18K Kilae Creek 126.51 37 IAMs_20 IAMs_20 00 41 46.3
comp=Z,330nm,21.0s
F15K North Star Dit 126.63 29 IAMs_20 IAMs_20 00 45 00.8
comp=Z,317nm,21.0s
N19K Bonanza Creek 127.14 37 IAMs_20 IAMs_20 00 42 14.0
comp=Z,427nm,22.0s
L19K White Mountain 127.81 36 IAMs_20 IAMs_20 00 42 43.7
comp=Z,438nm,22.0s
M19K Big River Lodg 127.83 36 IAMs_20 IAMs_20 00 42 31.0
comp=Z,460nm,22.0s
BRLK Bradley Lake 127.97 40 IAMs_20 IAMs_20 00 42 14.8
comp=Z,464nm,22.0s
C16K Lisburne Hills 128.09 26 IAMs_20 IAMs_20 00 50 12.2
comp=Z,273nm,20.0s
M20K Styx River 128.30 37 IAMs_20 IAMs_20 00 43 14.6
comp=Z,346nm,21.0s
MLR Muntele Rosu 128.41 298 IAMs_20 IAMs_20 00 47 36.5
comp=Z,304nm,22.0s
RDOG Red Dog Mine 128.66 27 IAMs_20 IAMs_20 00 45 40.3
comp=Z,355nm,22.0s
K20K Telida 128.79 35 IAMs_20 IAMs_20 00 44 10.5
comp=Z,321nm,20.0s
SKT Skwentna 128.98 37 IAMs_20 IAMs_20 00 45 04.5
comp=Z,330nm,21.0s
SUA Susitna One 129.00 38 IAMs_20 IAMs_20 00 41 49.1
comp=Z,407nm,22.0s
RC01 Rabbit Creek A 129.20 39 IAMs_20 IAMs_20 00 43 42.4
comp=Z,406nm,22.0s
M22K Willow 129.41 38 IAMs_20 IAMs_20 00 42 13.9
comp=Z,360nm,22.0s
I20K Naaghedeneel 129.47 33 IAMs_20 IAMs_20 00 46 26.1
comp=Z,365nm,21.0s
F19K Shaleruckik Mo 129.51 30 IAMs_20 IAMs_20 00 44 21.2
comp=Z,346nm,22.0s
C18K Utukok River 129.52 27 IAMs_20 IAMs_20 00 48 15.2
comp=Z,383nm,20.0s
KIEV Kiev 129.54 305 IAMs_20 IAMs_20 00 51 23.8
comp=Z,269nm,20.0s
CAST Castle Rocks 129.57 35 IAMs_20 IAMs_20 00 43 37.0
comp=Z,444nm,22.0s
CUT Chulitna 129.71 37 IAMs_20 IAMs_20 00 43 01.9
comp=Z,304nm,22.0s
HIN Hinchinbrook I 130.16 40 IAMs_20 IAMs_20 00 42 59.9
comp=Z,347nm,21.0s
C19K Lookout Ridge 130.26 27 IAMs_20 IAMs_20 00 49 11.8
comp=Z,375nm,20.0s
D19K Kuna River 130.36 28 IAMs_20 IAMs_20 00 49 09.3
comp=Z,269nm,20.0s
SCM Sheep Creek Mo 130.57 39 IAMs_20 IAMs_20 00 43 27.7
comp=Z,437nm,22.0s
RND Reindeer 130.79 36 IAMs_20 IAMs_20 00 47 29.3
comp=Z,296nm,20.0s
RAGM Ragged Mountai 130.93 41 IAMs_20 IAMs_20 00 41 37.3
comp=Z,417nm,21.0s
HMT Hamilton 131.08 41 IAMs_20 IAMs_20 00 42 05.3
comp=Z,416nm,22.0s
F21K Alatna River 131.13 31 IAMs_20 IAMs_20 00 50 19.0
comp=Z,267nm,20.0s
SUCK Suckling Hills 131.15 42 IAMs_20 IAMs_20 00 39 55.4
comp=Z,413nm,22.0s
WRH Wood River Hil 131.62 35 IAMs_20 IAMs_20 00 45 13.3
comp=Z,414nm,21.0s
WAX Waxell Ridge 131.74 42 IAMs_20 IAMs_20 00 44 23.9
comp=Z,339nm,22.0s

CRQM Cirque 131.77 41 IAMs_20 IAMs_20 00 41 38.1
comp=Z,373nm,22.0s
H23K Yukon River 131.77 33 IAMs_20 IAMs_20 00 45 58.1
comp=Z,368nm,22.0s
CCB Clear Creek Bu 131.82 35 IAMs_20 IAMs_20 00 45 08.5
comp=Z,389nm,21.0s
GLB Gilahina Butte 131.82 40 IAMs_20 IAMs_20 00 43 53.9
comp=Z,330nm,22.0s
VRDI Verde Repeater 131.87 41 IAMs_20 IAMs_20 00 43 56.2
comp=Z,322nm,22.0s
TGL Tana Glacier 131.90 41 IAMs_20 IAMs_20 00 43 19.1
comp=Z,315nm,22.0s
COLA College 131.91 35 IAMs_20 IAMs_20 00 45 01.9
comp=Z,351nm,22.0s
MESA MESA 132.00 42 IAMs_20 IAMs_20 00 48 59.8
comp=Z,261nm,20.0s
HDA Harding Lake 132.03 36 IAMs_20 IAMs_20 00 44 49.0
comp=Z,416nm,22.0s
B21K Ikpikpuk River 132.03 28 IAMs_20 IAMs_20 00 47 34.4
comp=Z,320nm,21.0s
POKR Poker Plat Res 132.19 35 IAMs_20 IAMs_20 00 45 44.2
comp=Z,360nm,21.0s
ILAR Eielson Array 132.22 35 PKP **PKiKP 23 54 57.9 +0.7**
comp=Z,0.6nm,0.9s,baz=256,slow=3.5,SNR=4.6
TABL Table Mountain 132.48 42 IAMs_20 IAMs_20 00 49 26.4
comp=Z,264nm,20.0s
J25K Salcha River, 132.72 36 IAMs_20 IAMs_20 00 45 23.4
comp=Z,329nm,22.0s
B22K Teshekpuk Lake 132.74 27 IAMs_20 IAMs_20 00 50 50.4
comp=Z,365nm,21.0s
G24K Hadweenzic Riv 132.93 33 IAMs_20 IAMs_20 00 46 56.6
comp=Z,380nm,21.0s
HATC Hat Creek Radi 133.06 74 IAMs_20 IAMs_20 00 40 52.6
comp=Z,363nm,20.0s
M27K Edge Creek, AK 133.06 40 IAMs_20 IAMs_20 00 45 09.7
comp=Z,325nm,22.0s
PRP Porcupine Dome 133.08 35 IAMs_20 IAMs_20 00 45 58.9
comp=Z,391nm,21.0s
TOLK Toolik Lake Re 133.12 30 IAMs_20 IAMs_20 00 46 39.6
comp=Z,342nm,21.0s
HUMO Hull Mountain 133.14 71 IAMs_20 IAMs_20 00 41 33.6
comp=Z,392nm,21.0s
E24K Your Creek 133.22 31 IAMs_20 IAMs_20 00 49 03.1
comp=Z,407nm,21.0s
P29M Windy Craggy 133.62 44 IAMs_20 IAMs_20 00 44 10.7
comp=Z,294nm,22.0s
FYU Fort Yukon 133.66 34 IAMs_20 IAMs_20 00 46 31.1
comp=Z,364nm,22.0s
NVAR Mina Array Bea 133.68 78 PKP **PKPdf 23 54 60.0 0.0**
comp=Z,0.9nm,0.7s,baz=224,slow=3.8,SNR=3.2
K27K Chicken 133.74 38 IAMs_20 IAMs_20 00 44 59.4
comp=Z,334nm,21.0s
I26K Coal Creek Min 133.88 36 IAMs_20 IAMs_20 00 44 48.9
comp=Z,353nm,22.0s
SNET Serv Nac Est T 133.92 129 IAMs_20 IAMs_20 00 44 48.8
comp=Z,287nm,20.0s
EGAK Eagle 134.42 37 IAMs_20 IAMs_20 00 45 57.3
comp=Z,334nm,22.0s
D25K Kavik River 134.46 30 IAMs_20 IAMs_20 00 47 54.9
comp=Z,312nm,22.0s
PABE Paberze 134.68 309 IAMs_20 IAMs_20 00 56 26.8
comp=Z,315nm,20.0s
WRAK Wrangell Islan 134.75 50 IAMs_20 IAMs_20 00 48 13.0
comp=Z,306nm,20.0s
O30N Mendenhall 134.86 43 IAMs_20 IAMs_20 00 44 41.4
comp=Z,280nm,21.0s
L29M L29M 134.95 40 IAMs_20 IAMs_20 00 43 46.5
comp=Z,294nm,22.0s
G27K Doyon Strip 135.06 34 IAMs_20 IAMs_20 00 46 49.1
comp=Z,399nm,22.0s
K29M Barlow Dome 135.49 39 IAMs_20 IAMs_20 00 46 47.8
comp=Z,390nm,22.0s
E27K Coleen River 135.61 32 IAMs_20 IAMs_20 00 48 32.5
comp=Z,360nm,22.0s
U35K Hyder 135.69 52 IAMs_20 IAMs_20 00 43 25.1
comp=Z,339nm,22.0s
WVOR Wild Horse Val 135.72 74 IAMs_20 IAMs_20 00 42 54.0
comp=Z,356nm,21.0s
I29M Ogilvie Camp, 135.76 37 IAMs_20 IAMs_20 00 49 28.8
comp=Z,273nm,22.0s
S34M Telegraph Cree 135.98 49 IAMs_20 IAMs_20 00 45 13.6
comp=Z,362nm,21.0s
F28M Old Crow 136.01 33 IAMs_20 IAMs_20 00 47 19.1
comp=Z,407nm,22.0s
T35M Bob Quinn 136.03 50 IAMs_20 IAMs_20 00 45 37.0
comp=Z,388nm,22.0s
P33M Teslin, Yukon 136.11 45 IAMs_20 IAMs_20 00 46 05.7
comp=Z,351nm,21.0s
FINES FINESS Array B 136.16 317 PKP **PKiKP 23 55 05.0 -0.3**
comp=Z,0.7nm,0.7s,baz=142,slow=6.9,SNR=1.2
D27M Malcolm River 136.21 31 IAMs_20 IAMs_20 00 49 11.2
comp=Z,288nm,21.0s
I30M Mount Dempster 136.47 37 IAMs_20 IAMs_20 00 52 05.5
comp=Z,251nm,20.0s
R33M Jennings River 136.65 47 IAMs_20 IAMs_20 00 46 21.1
comp=Z,374nm,21.0s
EPYK Eagle Plains 136.73 36 IAMs_20 IAMs_20 00 47 10.4
comp=Z,360nm,22.0s
E29M Blow River 136.97 33 IAMs_20 IAMs_20 00 48 36.5
comp=Z,293nm,22.0s
HAWA Hanford 137.21 68 IAMs_20 IAMs_20 00 46 25.2
comp=Z,359nm,20.0s
TXAR Lajitas Array 137.44 99 PKP **PKPdf 23 55 06.8 -0.4**
comp=Z,0.6nm,0.7s,baz=183,slow=1.8,SNR=7.8
H31M Peel River 137.46 37 IAMs_20 IAMs_20 00 52 24.7
comp=Z,311nm,19.0s
BMO Blue Mountains 137.80 71 IAMs_20 IAMs_20 00 43 55.0
comp=Z,384nm,22.0s
KEV Kevo 138.47 329 IAMs_20 IAMs_20 00 57 36.5
comp=Z,323nm,22.0s
CLL Collm 138.77 299 IAMs_20 IAMs_20 01 01 27.6
comp=Z,253nm,20.0s
HLID Hailey 138.95 75 IAMs_20 IAMs_20 00 47 27.5
comp=Z,362nm,20.0s
CART Cartagena 140.66 273 IAMs_20 IAMs_20 00 57 16.5
comp=Z,312nm,22.0s
JCT Junction City 140.68 102 IAMs_20 IAMs_20 00 47 51.5
comp=Z,345nm,21.0s
MSO Missoula 140.81 70 IAMs_20 IAMs_20 00 47 39.6
comp=Z,339nm,20.0s
FXWY Fox Creek 141.12 76 IAMs_20 IAMs_20 00 43 38.9
comp=Z,238nm,20.0s
IMW Indian Meadow 141.30 76 IAMs_20 IAMs_20 00 51 53.6
comp=Z,226nm,19.0s
MOOW Moose Ponds 141.35 76 IAMs_20 IAMs_20 00 50 26.1
comp=Z,257nm,20.0s
SDCO Great Sand Dun 141.53 88 IAMs_20 IAMs_20 00 49 18.1
comp=Z,294nm,20.0s
PDAR Pinedale Array 141.61 78 PKP **PKiKP 23 55 16.3 -1.1**
comp=Z,0.3nm,0.7s,baz=197,slow=2.8,SNR=1.8
A36M Sachs Harbour 141.90 29 IAMs_20 IAMs_20 00 54 17.3
comp=Z,284nm,21.0s
C36M Paulatuk 142.06 33 IAMs_20 IAMs_20 00 51 36.1
comp=Z,254nm,20.0s
WLF Walferdange 142.08 294 IAMs_20 IAMs_20 01 03 14.5
comp=Z,280nm,20.0s
RWWY Rawlins 142.57 81 IAMs_20 IAMs_20 00 48 19.5
comp=Z,311nm,20.0s
ISCO Idaho Springs 142.60 85 IAMs_20 IAMs_20 00 51 18.5
comp=Z,314nm,20.0s
KBS Kingsbay 142.88 343 IAMs_20 IAMs_20 00 59 06.5
comp=Z,331nm,22.0s
RLMT Red Lodge 142.93 75 IAMs_20 IAMs_20 00 46 33.0
comp=Z,248nm,20.0s
PHWY Pilot Hill 143.50 83 IAMs_20 IAMs_20 00 51 26.1
comp=Z,288nm,20.0s
ESDC Sonseca Array 143.75 273 PKP **PKPdf 23 55 17.8 -0.4**
comp=Z,1.0nm,0.8s,baz=117,slow=2.2,SNR=11
EGMT Eagleton 143.89 71 IAMs_20 IAMs_20 00 48 25.1
comp=Z,309nm,22.0s
PAB San Pablo 143.93 273 IAMs_20 IAMs_20 01 00 34.1
comp=Z,221nm,18.0s
PVAQ Vaqueiros 144.92 267 *e*LR LR 00 45 58.9
comp=Z,185nm,20.0s
YKA Yellowknife Ar 145.15 45 PKPbc **PKPdf 23 55 20.6 +0.9**
comp=Z,12nm,1.0s,baz=269,slow=3.4,SNR=8.7
PESTR Estremoz 145.67 270 *e*PKP **PKiKP 23 55 26.8 +1.3**
OK032 Salt Plains WL 145.72 95 IAMs_20 IAMs_20 00 47 54.9
comp=Z,344nm,22.0s
EVO Evora 145.75 269 *e*PKP **PKiKP 23 55 24.8 -0.9**
PMRV Marv??o 145.85 271 *e*PKP **PKiKP 23 55 26.8 +0.9**
PMRV Marv??o 145.85 271 *e*LR LR 00 47 08.9
comp=Z,242nm,22.0s
PNCL Nicolau / Gran 145.85 268 *e*PKP **PKiKP 23 55 27.4 +1.5**
CBKS Cedar Bluff 145.88 91 IAMs_20 IAMs_20 00 52 52.2
comp=Z,290nm,21.0s
PCBR Castelo Branco 146.12 271 *e*PKP **PKiKP 23 55 25.5 -0.9**
PMTG Montargil 146.19 269 *e*PKP **PKiKP 23 55 27.6 +1.1**

MTE Manteigas 146.46 272 IAMs_20 IAMs_20 00 57 10.0
comp=Z,352nm,22.0s
MTE Manteigas 146.46 272 *e*PKP **PKiKP 23 55 27.2 0.0**
MTE Manteigas 146.46 272 *e*LR LR 00 47 41.4
comp=Z,269nm,22.0s
PBRG Braganca 146.66 275 *e*PKP **PKiKP 23 55 27.2 -0.3**
PGAV Gavieira, Arco 147.73 274 *e*LR LR 00 48 23.0
comp=Z,250nm,22.0s
PMOZ Porto Moniz, M 148.10 252 *e*LR LR 00 43 36.2
comp=Z,340nm,20.0s
EKA Eskdalemuir Ar 149.21 300 PKPbc **PKPbc 23 55 30.1 -0.9**
comp=Z,5.7nm,0.7s,baz=111,slow=2.5,SNR=26
DAG Danmarks Havn 149.54 345 *i* P **PKiKP 23 55 33.0 +0.7**
OXF Oxford 149.91 107 IAMs_20 IAMs_20 01 01 54.6
comp=Z,221nm,19.0s
TULEG Thule 152.38 8 IAMs_20 IAMs_20 01 17 43.0
comp=Z,220nm,20.0s
TZTN Tazewell 154.84 110 IAMs_20 IAMs_20 01 08 33.3
comp=Z,262nm,18.0s
P52A Corning 157.64 106 IAMs_20 IAMs_20 01 12 13.3
comp=Z,304nm,22.0s
CBN Corbin Frederi 159.64 115 IAMs_20 IAMs_20 01 03 49.9
comp=Z,295nm,21.0s

IDC 06 23:45:34.1±9.0, 2°.66S×138°.64E, h0km, mb3.5/2, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=381.6km s-min=32.1km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.68**	**193**	P	Pn	23 49 41.6	-0.3
	0.2nm,0.3s,baz=15,slow=13,SNR=2.6						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**21.38**	**192**	P	P	23 50 23.6	+0.2
	0.8nm,0.5s,baz=14,slow=11,SNR=10						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**69.71**	**322**	P	P	23 56 45.9	0.0
	0.4nm,0.6s,baz=113,slow=7.5,SNR=3.6						
	0.4nm,0.6s						

KRSC 06 23:46:48.5±2.1, 50°.18N×157°.27E, h17km±39km, Ml3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.89**	**305**	*e*P	Pb	23 47 04.5	-1.0
SKR				*e*S	Sb	23 47 15.8	-1.3
KDTR	**Khodutka, Kamc**	**1.71**	**17**	*e*P	Pb	23 47 19.1	-0.3
KDTR				*e*S	Sb	23 47 41.1	+0.6
ASAK	**Asacha**	**2.24**	**10**	*e*P	Pb	23 47 27.3	-1.2
ASAK				*e*S	Sb	23 47 54.9	-1.0
MTVR	**Mutnovka**	**2.37**	**14**	*e*P	Pn	23 47 28.7	+2.0
MTVR				*e*S	Sb	23 47 57.7	-2.1
GRL	**Gorelyy**	**2.42**	**12**	*e*P	Pb	23 47 30.0	-1.7
GRL				*e*S	Sb	23 47 59.5	-1.9
KRMR	**Karymshinskiy**	**2.70**	**11**	*e*S	Sb	23 48 09.3	+0.1
APC	**Apacha**	**2.75**	**359**	*e*P	Pn	23 47 32.6	+0.9
PET	**Petropavlovsk**	**2.97**	**16**	*e*S	Sn	23 48 12.5	+2.5
DALK	**Dalny**	**3.00**	**17**	*e*S	Sn	23 48 13.0	+2.3
UGLR	**Uglovaya**	**3.18**	**17**	*e*P	Pn	23 47 40.2	+2.4
UGLR				*e*S	Sn	23 48 17.2	+1.8
AVH	**Avacha**	**3.22**	**16**	*e*P	Pb	23 47 42.0	-3.2
AVH				*e*S	Sb	23 48 20.7	-3.4
KOK	**Koryaka**	**3.23**	**15**	*e*P	Pn	23 47 41.9	+3.4
KOK				*e*S	Sb	23 48 21.4	-2.9
SMAR	**Somma**	**3.23**	**17**	*e*P	Pb	23 47 42.0	-3.4
KRER	**Koryakskii**	**3.26**	**16**	*e*P	Pb	23 47 42.9	-3.0
KRX	**Arik**	**3.29**	**15**	*e*P	Pn	23 47 42.4	+3.0
KRX				*e*S	Sn	23 48 21.7	+3.5
SPN	**Mys Shipunski**	**3.38**	**29**	*e*P	Pn	23 47 42.7	+2.3
SPN				*e*S	Sn	23 48 22.0	+1.8
GNL	**Ganaly**	**3.54**	**6**	*e*P	Pn	23 47 46.2	+3.5
TUMR	**Tumrok**	**5.40**	**18**	*e*P	Pn	23 48 13.9	+5.6

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*SJA **06** 23:47:49.4±0.6, 21°.07S×68°.98W, h128km±4km, ML4.1, MW4.1*
*IDC **06** 23:47:49.9±1.7, 20°.95S×68°.78W, h97km±16km, mb4.0/6, mbtmp4.3/8, MS4.7/1, Error ellipse: s-maj=23.7km s-min=16.4km az=124.0*
*VAO **06** 23:47:50.3±0.5, 21°.09S×68°.64W, h93km±3km, mb4.7*
*NEIC **06** 23:47:50.8±1.9, 21°.11S±0°.04×69°.04W±0°.03, h124km±6km, mb4.5/11, ML4.2(GUC), Error ellipse: s-maj=5.9km s-min=4.2km az=199.0*
*GUC **06** 23:47:51.7±0.6, 21°.09S×68°.91W, h112km±3km, ML4.2*

ISC 06 23:47:49.7±0.6, 21°.10S±0°.03×68°.93W±0°.04, h113km±5km, n143, σ1°85/175, mb4.3/9, 9C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.76**	**203**		**Pn**	**23 48 10.4**	**+1.4**
PB09				Sn	**Sn**	**23 48 25.7**	**+2.1**
PB09	**IPOC Station P**	**0.76**	**203**	*e*P	**Pn**	**23 48 10.7**	**+1.7**
PB09				*e*S	**Sn**	**23 48 26.6**	**+3.0**
PB09				IAML		23 48 28.6	
	comp=Z,5μm,0.5s						
PB09	**IPOC Station P**	**0.76**	**203**	⇑*i*P	**Pn**	**23 48 10.8**	**+1.7**
PB09				*i* S	**Sn**	**23 48 25.6**	**+2.0**
PB09				IAML		23 48 28.1	
	comp=E,4μm,0.4s						
PX03	**IPOC Station P**	**0.95**	**316**	*e*P	**Pn**	**23 48 11.3**	**+0.5**
PX03				*e*S	**Sn**	**23 48 27.5**	**+0.8**
PX03				IAML		23 48 28.8	
	comp=Z,7μm,0.3s						
PATCX	**Punta Patache**	**1.18**	**283**	Pn	**Pn**	**23 48 14.9**	**+1.8**
PATCX	**Punta Patache**	**1.18**	**283**	*e*P	**Pn**	**23 48 14.8**	**+1.7**
PATCX	**Punta Patache**	**1.18**	**283**	⇑*i*P	**Pn**	**23 48 14.8**	**+1.7**
HMBC	**Humberstone**	**1.21**	**312**		**Pn**	**23 48 14.8**	**+1.3**
HMBC				Sn	**Sn**	**23 48 32.6**	**+1.1**
HMBC	**Humberstone**	**1.21**	**312**	*e*P	**Pn**	**23 48 14.8**	**+1.3**
HMBC				*e*S	**Sn**	**23 48 32.8**	**+1.3**
HMBC	**Humberstone**	**1.21**	**312**	⇑*i*P	**Pn**	**23 48 14.8**	**+1.3**
HMBC				*i* S	**Sn**	**23 48 32.6**	**+1.1**
HMBC				IAML		23 48 33.8	
	comp=N,9μm,0.4s						
TA01	**Diego Aracena**	**1.28**	**294**		**Pn**	**23 48 15.6**	**+1.4**
TA01				Sn	**Sn**	**23 48 34.1**	**+1.3**
TA01	**Diego Aracena**	**1.28**	**294**	*e*P	**Pn**	**23 48 14.8**	**+0.7**
TA01				*e*S	**Sn**	**23 48 36.2**	**+3.5**
TA01				IAML		23 48 38.9	
	comp=Z,2μm,0.3s						
TA01	**Diego Aracena**	**1.28**	**294**	⇑*i*P	**Pn**	**23 48 15.6**	**+1.4**
TA01				*i* S	**Sn**	**23 48 33.9**	**+1.1**
TA01				IAML		23 48 36.5	
	comp=N,6μm,0.3s						
TA02	**Huaiquique**	**1.39**	**306**	⇓*i*P	**Pn**	**23 48 16.8**	**+1.4**
TA02				*i* S	**Sn**	**23 48 36.3**	**+1.4**
TA02				IAML		23 48 39.5	
	comp=N,6μm,0.5s						
GO01	**Chusmiza**	**1.44**	**350**		**Pn**	**23 48 18.1**	**+1.7**
GO01				Sn	**Sn**	**23 48 39.4**	**+2.6**
GO01	**Chusmiza**	**1.44**	**350**	*e*P	**Pn**	**23 48 17.1**	**+0.6**
GO01				*e*S	**Sn**	**23 48 39.8**	**+3.0**
GO01	**Chusmiza**	**1.44**	**350**	*e*P	**Pn**	**23 48 18.0**	**+1.5**
GO01				*e*S	**Sn**	**23 48 38.1**	**+1.3**
PB11	**IPOC Station P**	**1.49**	**333**	Pn	**Pn**	**23 48 18.0**	**+1.2**
PB11				Sn	**Sn**	**23 48 38.5**	**+1.2**
PB11	**IPOC Station P**	**1.49**	**333**	*e*P	**Pn**	**23 48 13.9**	**-2.9**
PB11				*e*S	**Sn**	**23 48 38.9**	**+1.6**
PB11				IAML		23 48 40.4	
	comp=Z,1μm,1.1s						
PB11	**IPOC Station P**	**1.49**	**333**	*e*P	**Pn**	**23 48 18.0**	**+1.2**
PB11				*i* S	**Sn**	**23 48 38.6**	**+1.2**
PB11				IAML		23 48 40.6	
	comp=E,4μm,0.4s						
LVC	**Limon Verde**	**1.51**	**179**	Pn	**Pn**	**23 48 19.2**	**+2.0**
LVC				Sn	**Sn**	**23 48 40.4**	**+2.5**
LVC	**Limon Verde**	**1.51**	**179**	*e*P	**Pn**	**23 48 19.3**	**+2.2**
LVC				*e*S	**Sn**	**23 48 41.0**	**+3.1**
LVC				IAML		23 48 44.0	
	comp=Z,1μm,0.5s						
LVC	**Limon Verde**	**1.51**	**179**	P	**Pn**	**23 48 19.3**	**+2.2**
	comp=Z,244nm,0.3s,baz=350,slow=11,SNR=600						
LVC				S	**Sn**	**23 48 39.7**	**+1.7**
	comp=Z,1μm,0.4s,baz=53,slow=18,SNR=19						
LVC				LR	LR	23 49 10.0	
	comp=Z,82nm,18.7s,baz=344,slow=48						
LVC	**Limon Verde**	**1.51**	**179**	⇑*i*P	**Pn**	**23 48 19.3**	**+2.2**
LVC				*i* S	**Sn**	**23 48 40.3**	**+2.4**
LVC	**Limon Verde**	**1.51**	**179**	*e*P	**Pn**	**23 48 16.4**	**-0.7**

PB04 IPOC Station P 1.68 222 Pn 23 48 19.9 +1.0
PB04 IPOC Station P 1.68 222 *eP* **Pn 23 48 20.5 +1.5**
PB04 *eS* **Sn 23 48 46.5 +5.3**
PB04 IAML 23 48 55.1
comp=Z,1μm,0.4s
PB04 IPOC Station P 1.68 222 ⇑*iP* **Pn 23 48 20.5 +1.5**
PB04 *i* S **Sn 23 48 42.4 +1.2**
PB04 IAML 23 48 50.2
comp=E,2μm,0.3s
PB06 IPOC Station P 1.71 200 Pn 23 48 21.1 +1.8
PB06 **Sn 23 48 43.6 +1.6**
PB06 IPOC Station P 1.71 200 *eP* **Pn 23 48 21.2 +1.8**
PB06 *eS* **Sn 23 48 44.5 +2.5**
PB06 IAML 23 48 46.6
comp=Z,2μm,0.5s
PB06 IPOC Station P 1.71 200 ⇑*iP* **Pn 23 48 21.2 +1.8**
PB06 *i* S **Sn 23 48 43.8 +1.8**
PB06 IAML 23 48 46.7
comp=E,3μm,0.3s
AF01 San Pedro de A 1.97 160 Pn 23 48 26.1 +3.3
AF01 San Pedro de A 1.97 160 *eP* **Pn 23 48 26.0 +3.3**
AF01 *eS* **Sn 23 48 49.9 +1.9**
AF01 IAML 23 49 03.6
comp=E,2μm,0.5s
PB05 IPOC Station P 2.11 214 Pn 23 48 25.7 +1.3
PB05 IPOC Station P 2.11 214 *eP* **Pn 23 48 25.6 +1.3**
PB05 *eS* **Sn 23 48 44.3 -6.5**
PB05 IAML 23 48 52.1
comp=Z,462nm,0.9s
PB05 IPOC Station P 2.11 214 ⇑*iP* **Pn 23 48 25.3 +1.0**
PB05 *i* S **Sn 23 48 51.1 +0.3**
PB15 IPOC Station P 2.16 193 Pn 23 48 26.8 +1.8
PB15 IPOC Station P 2.16 193 *eP* **Pn 23 48 26.6 +1.5**
PB15 *eS* **Sn 23 48 55.2 +3.0**
PB15 IAML 23 48 59.3
comp=Z,4μm,0.2s
PB15 IPOC Station P 2.16 193 *eP* **Pn 23 48 26.9 +1.8**
PB15 *i* S **Sn 23 48 53.7 +1.6**
PB10 IPOC Station P 2.84 212 Pn **Pn 23 48 34.7 +1.0**
PB10 IPOC Station P 2.84 212 *eP* **Pn 23 48 34.4 +0.7**
PB10 IAML 23 49 30.7
comp=Z,231nm,0.4s
PB10 IPOC Station P 2.84 212 ⇑*iP* **Pn 23 48 34.6 +1.0**
PB10 *i* S **Sn 23 49 03.8 -3.7**
AP01 Chacalluta 3.02 334 Pn **Pn 23 48 37.3 +1.2**
YJA Yavi 3.35 109 *eP* **Pn 23 48 43.7 +2.9**
PB18 Visviri 3.53 351 Pn 23 48 45.5 +2.3
PB14 IPOC Station P 3.77 201 Pn **Pn 23 48 46.9 +0.6**
PB14 IPOC Station P 3.77 201 *eP* **Pn 23 48 46.7 +0.4**
PB14 *eS* Sn 23 49 21.8 -8.2
PB14 IAML 23 49 58.4
comp=Z,240nm,0.5s
AZAP Zapla 4.74 132 *eP* **Pn 23 49 01.4 +2.2**
LPAZ La Paz 4.84 9 Pn **Pn 23 49 03.1 +2.1**
LPAZ La Paz 4.84 9 *eP* **Pn 23 49 04.3 +3.3**
LPAZ La Paz 4.84 9 P **Pn 23 49 03.6 +2.6**
comp=Z,7.7nm,0.4s,baz=179,slow=8.9,SNR=30
LPAZ La Paz 4.84 9 *eP* **Pn 23 49 02.0 +1.0**
AC01 Pan de Azucar 5.26 197 Pn **Pn 23 49 05.4 -0.6**
AC01 Pan de Azucar 5.26 197 *eP* **Pn 23 49 04.5 -1.5**
AC01 IAML 23 50 39.4
comp=Z,85nm,0.6s
ALOL LOMAS DE OLMED 5.32 122 *eP* **Pn 23 49 08.2 +1.4**
ALOL *eS* **Sn 23 50 06.9 0.0**
AC06 Mina Casimiro 6.37 192 Pn 23 49 20.1 -1.0
GO03 Copiap 6.58 190 Pn 23 49 23.6 -0.3
AC04 Llanos de Chal 7.34 195 Pn Pn 23 49 31.0 -3.2
AC05 El Transito 7.80 189 Pn 23 49 39.5 -1.1
BBSD Serra de San D 8.77 65 *eP* **Pn 23 49 50.4 -3.2**
SIV San Ignacio 9.02 57 P **Pn 23 49 54.8 -2.1**
comp=Z,27nm,0.3s,baz=239,slow=12,SNR=211
MURT Porto Murtinho 10.56 95 *eP* **Pn 23 50 14.0 -3.9**
PTLB Pontes e Lacer 10.86 60 Pn **Pn 23 50 19.8 -2.1**
PTLB Pontes e Lacer 10.86 60 *eP* **Pn 23 50 19.2 -2.8**
VILB Vilhena 11.62 47 Pn **Pn 23 50 31.5 -0.7**
VILB Vilhena 11.62 47 *eP* **Pn 23 50 30.2 -2.0**
NNA Nana 11.81 319 LR LR 23 54 32.9
comp=Z,79nm,18.9s,baz=122,slow=34
CPUP Villa Florida 11.83 118 P **Pn 23 50 34.9 +0.1**
comp=Z,1.5nm,0.6s,baz=308,slow=14,SNR=4.1
AQDB Aquidauana 12.39 90 Pn 23 50 42.6 +0.4
AQDB Aquidauana 12.39 90 *eP* **Pn 23 50 39.3 -2.9**
SAML Samuel 13.29 25 Pn 23 50 54.3 +0.4
SAML Samuel 13.29 25 *eP* **Pn 23 50 53.7 -0.2**
RVDE Rio Verde (Bra 13.31 84 *eP* **Pn 23 50 51.0 -3.2**
SALV Santo Antonio 13.57 70 *eP* **Pn 23 50 55.5 -2.1**
CRSM Crissiumal (Br 14.99 118 *eP* **Pn 23 51 15.3 -0.3**
PDRB Porto dos Gac 15.02 53 *eP* **Pn 23 51 16.8 +0.6**
TRCB Terra Rica 15.21 99 P **P 23 51 22.3 +1.4**
TRCB Terra Rica 15.21 99 *eP* **Pn 23 51 17.7 -0.9**
CLDB Colider 16.20 53 *eP* **Pn 23 51 30.5 -0.3**
PCMB Pacaembu 16.47 95 *eP* **Pn 23 51 34.1 0.0**
ITAB Concordia 16.50 115 P 23 51 35.7 +0.7
LDASE Londrina, Braz 16.65 101 *eP* **Pn 23 51 36.8 +0.4**
ARAG Araguaiana, MT 17.10 75 *eP* **P 23 51 41.4 -0.4**
PLTB Pedras Altas 17.34 131 P **P 23 51 42.2 -2.0**
ITRB Iturama 17.46 89 *eP* **P 23 51 44.7 -1.1**
TRQA Tornquist 17.94 162 P **Pn 23 51 53.5 +1.7**
FRTB Fartura 18.07 101 *eP* **P 23 51 51.9 -0.5**
BB19B Bebedouro 19.04 94 *eP* **P 23 52 02.9 -0.2**
SNDB Serra Nova Dou 19.17 65 *eP* **P 23 52 03.4 -1.1**
NPGB Novo Progresso 19.17 45 *eP* **P 23 52 03.0 -1.5**
MACA Manacapuru-AM 19.55 25 P **P 23 52 08.1 -0.5**
IPMB Ipameri, GO 19.77 85 *eP* **P 23 52 10.8 -0.2**
IPMB *ep*P **pP 23 52 27.3 -5.7**
RCLB Rio Claro- Sao 19.92 98 *eP* **P 23 52 12.7 +0.1**
SPB Sao Paulo 20.04 101 *eP* **P 23 52 13.3 -0.5**
SPB *ep*P **pP 23 52 30.3 -5.8**
PET01 Itanhaem-SP 20.23 103 *eP* **P 23 52 13.9 -1.9**
VAO Valinhos 20.45 99 P **P 23 52 17.5 -0.8**
VAO IAmb IAmb 23 52 18.8
comp=Z,23nm,0.5s
VAO Valinhos 20.45 99 *eP* **P 23 52 16.9 -1.4**
BDFB Brasilia 20.57 78 P **P 23 52 19.9 +0.1**
BDFB IAmb IAmb 23 52 23.8
comp=Z,15nm,0.5s
BDFB Brasilia 20.57 78 P **P 23 52 20.1 +0.4**
comp=Z,15nm,0.5s,baz=254,slow=10,SNR=25
comp=Z,15nm,0.5s
BDFB Brasilia 20.57 78 *eP* **P 23 52 18.8 -0.9**
ITTB Itaituba 21.00 39 *eP* **P 23 52 23.4 -0.7**
PMNB Patos De Minas 21.31 87 *eP* **P 23 52 25.3 -2.3**
PARB Paraibuna 21.69 100 *eP* **P 23 52 30.8 -0.8**
SLP01 Ubatuba-SP 22.12 100 *eP* **P 23 52 35.3 -0.9**
BSCB Bom Sucesso 22.54 94 *eP* **P 23 52 39.8 -0.7**
MAN01 Angra dos Reis 23.21 99 *eP* **P 23 52 46.2 -0.7**
PRPB Parauapebas 23.73 54 *eP* **P 23 52 51.0 -0.6**
SMTB Santa Maria do 23.90 63 *eP* **P 23 52 53.0 -0.1**
DIAM Diamantina, MG 23.93 88 *eP* **P 23 52 54.0 +0.4**
JANB Januaria 24.14 80 *eP* **P 23 52 55.1 -0.3**
SDBA SAO DESIDERIO 24.55 73 *eP* **P 23 52 59.3 +0.3**
DUB01 Friburgo-RJ 24.70 97 *eP* **P 23 53 00.1 -0.3**
BOAV Boa Vista 24.75 20 P **P 23 53 02.0 +1.2**
BOAV IAmb IAmb 23 53 03.8
comp=Z,12nm,0.9s
BOAV Boa Vista 24.75 20 *eP* **P 23 53 01.9 +1.0**
CAM01 Campos-RJ 25.38 97 *eP* **P 23 53 06.7 +0.1**
SJMB Sao Joao De Ma 26.18 90 *eP* **P 23 53 14.1 +0.2**
ALF01 Guarapari-ES 26.35 94 *eP* **P 23 53 15.0 -0.3**
MCPB Macapa, AP 26.39 41 *eP* **P 23 53 17.4 +1.8**
BSFB Barra de Sao F 26.48 90 *eP* **P 23 53 16.8 +0.3**
RIB01 Linhares ES 26.82 91 *eP* **P 23 53 19.9 +0.3**
NAN01 Guarapari, ES 27.33 88 *eP* **P 23 53 23.8 -0.3**
GUA01 Guaratinga, BA 27.91 86 *eP* **P 23 53 29.7 +0.5**
GDU01 Guandu, BA 28.92 80 *eP* **P 23 53 38.6 +0.4**
NBPN Ponto Novo - B 29.39 74 *eP* **P 23 53 42.6 +0.2**
ROSB Rosrio 30.17 56 *eP* **P 23 53 50.2 +0.9**
NBPS Pedro II - PI 31.43 62 *eP* **P 23 54 00.8 +0.2**
NBLA Lagarto - SE 31.51 76 *eP* **P 23 54 00.9 -0.2**
NBMA Muriti-CE 32.19 69 *eP* **P 23 54 07.4 +0.3**
NBPB Pedra_Branca-C 32.38 66 *eP* **P 23 54 09.2 +0.5**
NBMO Morrinhos-CE 33.20 62 *eP* **P 23 54 16.4 +0.4**
NBAN Anadia - AL 33.40 75 *eP* **P 23 54 17.2 -0.4**
NBLV Livramento - P 33.81 71 *eP* **P 23 54 21.7 +0.4**
TXAR Lajitas Array 60.29 325 P **P 23 57 48.6 +2.0**
comp=Z,0.4nm,0.6s,baz=156,slow=8.6,SNR=6.8
comp=Z,0.4nm,0.6s
W18A Petrified Fore 68.01 325 P **P 23 58 34.3 -2.7**
W18A IAmb IAmb 23 58 35.4
comp=Z,18nm,0.7s
DBIC Dimbokro 68.64 74 P **P 23 58 41.7 +0.6**
comp=Z,5.6nm,0.7s,baz=241,slow=5.2,SNR=5.8
comp=Z,5.6nm,0.7s
QSPA South Pole Qui 69.09 180 P **P 23 58 46.7 +3.3**
comp=Z,1.0nm,0.5s,baz=131,slow=4.7,SNR=18
comp=Z,1.0nm,0.5s
PHWY Pilot Hill 70.73 332 P **P 23 58 50.5 -3.3**
PHWY IAmb IAmb 23 58 50.9
comp=Z,5.2nm,1.1s
ULM Lac du Bonnet 74.93 342 P **P 23 59 18.5 +0.5**
comp=Z,2.0nm,0.6s,baz=112,slow=5.4,SNR=4.3
comp=Z,2.0nm,0.6s
TOA0 Torodi Ar. Sit 77.24 70 P **P 23 59 32.8 +0.9**
TOA0 IAmb IAmb 23 59 39.1
comp=Z,4.0nm,0.6s
TORD Torodi Ar. Bea 77.24 70 P **P 23 59 32.8 +0.9**
TORD IAmb IAmb 23 59 39.1
comp=Z,3.2nm,0.7s
TORD Torodi Ar. Bea 77.24 70 P **P 23 59 32.4 +0.5**
comp=Z,2.8nm,0.6s,baz=255,slow=5.0,SNR=24
comp=Z,2.8nm,0.6s
DLBC Dease Lake 93.84 333 LR LR 00 45 38.3
comp=Z,381nm,21.6s,baz=280,slow=37
MKAR Makanchi Array 145.32 36 PKPbc **PKPab 00 07 16.7 +2.3**
comp=Z,0.6nm,0.5s,baz=320,slow=4.3,SNR=6.4

TAP 07 00:02:45.5, 24°.38N×121°.75E, h14km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.05**	**350**	*eP*	Pg	00 02 48.0	-0.1
ENA	baz=358			*eS*	Sg	00 02 50.2	+0.3
EAHA	**Aohua**	**0.05**	**190**	*eP*	Pg	00 02 47.9	-0.1
EAHA	baz=191			*eS*	Sg	00 02 49.8	-0.1
EWUT	**Wuta**	**0.07**	**23**	P	Pg	00 02 48.2	-0.1
EWUT	baz=22			S	Sg	00 02 50.2	+0.1
TWC	**Suao**	**0.24**	**22**	*eP*	Pg	00 02 51.0	+0.3
TWC	baz=18			*eS*	Sg	00 02 54.5	+0.3
ETL	**Fush Village**	**0.25**	**207**	*eP*	Pg	00 02 50.5	-0.3
ETL	baz=208			*eS*	Sg	00 02 54.2	-0.3
NACB	**Ninganchiao**	**0.25**	**214**	P	Pg	00 02 50.5	-0.4
NACB	baz=210			S	Sg	00 02 54.2	-0.3
LATG	**Datong**	**0.25**	**307**	*eP*	Pg	00 02 51.5	+0.5
LATG	baz=306			*eS*	Sg	00 02 55.1	+0.4
ENTT	**Nioudou**	**0.31**	**327**	*eP*	Pb	00 02 52.5	-0.3
ENTT	baz=327			*eS*	Sg	00 02 56.7	+0.6
NDT	**Datong Townshi**	**0.31**	**315**	*eP*	Pg	00 02 52.3	+0.5
NDT	baz=315			*eS*	Sg	00 02 56.7	+0.5
NNSB	**Datong**	**0.34**	**278**	*eP*	Pg	00 02 52.9	+0.4
NNSB	baz=282			*eS*	Sg	00 02 56.7	-0.4
FUSB	**Fushanzhiwuyua**	**0.40**	**339**	*eS*	Sg	00 02 59.8	+0.7
YHNB	baz=338						
YHNB	**Yeheng**	**0.45**	**310**	*eP*	Pb	00 02 55.0	-0.2
YHNB	baz=310			*eS*	Sg	00 03 01.1	+0.7
NSK	**Sanguang**	**0.46**	**309**	*eP*	Pg	00 02 54.8	+0.1
NSK	baz=309			*eS*	Sg	00 03 01.3	+0.4
WHF	**Hehuan Shan**	**0.50**	**242**	*eP*	Pg	00 02 55.3	-0.2
WHF	baz=242			*eS*	Sg	00 03 02.4	+0.1
	baz=242						

JMA 07 00:03:28.3±0.1, 24°.3N±0°.4×123°.8E±0°.4, h14km±1km, MV1.1/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.10**	**328**	P	Pg	00 03 31.4	-0.1
IRIF				S	Sg	00 03 33.9	+0.3
HATJ	**Hateruma jima**	**0.19**	**176**	*eP*	Pg	00 03 32.5	-0.2
HATJ				*eS*	Sg	00 03 35.9	+0.2
JKRS	**Kuro-shima**	**0.20**	**93**	P	Pg	00 03 33.0	+0.1
JKRS				S	Sb	00 03 36.9	-0.6
JIJ	**Ishigaki jima**	**0.34**	**70**	*eP*	Pg	00 03 35.0	-0.3
JIJ				S	Sg	00 03 40.0	-0.1
JISG	**Ishigakijimahi**	**0.58**	**55**	*eP*	Pg	00 03 39.9	+0.1
JISG				S	Sg	00 03 47.9	+0.4
YOJ	**Yonaguni jima**	**0.74**	**287**	*eP*	Pg	00 03 42.7	0.0
YOJ				*eS*	Sb	00 03 52.9	0.0
JTJ	**Tarama**	**0.92**	**65**	*eS*	Sg	00 03 58.4	+0.2

*IDC **07** 00:19:46.0±0.8, 3°.10N×75°.96W, h0km, mb3.6/10, mbtmp3.8/14, ML3.6/4, MS3.6/4, Error ellipse: s-maj=20.9km s-min=17.9km az=113.0*
*RSNC **07** 00:19:48.2±0.0, 3°.N±2°.×7°.6W±°, h0km±4km, M4.3, mB5.0, mb4.6, ML3.9, Mw(mB)4.4, MwMwp6.3, Mwp6.3*
*VAO **07** 00:19:51.1±1.0, 2°.78N×75°.70W, h10km, mb4.0*
*NEIC **07** 00:19:52.5±1.2, 2°.94N±0°.03×75°.62W±0°.10, h66km±10km, mb4.5/18, Error ellipse: s-maj=14.4km s-min=4.1km az=100.0*

ISC 07 00:19:46.0±1.1, 3°.01N±0°.02×75°.96W±0°.02, h2km±7km, n103, σ1°.89/140, mb4.2/19, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BETC	**Betania**	**0.61**	**122**	P	**Pg**	**00 19 58.2**	**+0.4**
BETC				S	**Sg**	**00 20 06.4**	**+0.7**
JAMC	**Jamundi, Valle**	**0.74**	**286**	P	**Pg**	**00 20 00.5**	**+0.2**
JAMC				S	**Sg**	**00 20 11.1**	**+1.2**
POPC	**Popayan, Colom**	**0.85**	**237**	P	**Pg**	**00 20 02.4**	**0.0**
POPC				S	**Sg**	**00 20 13.9**	**+0.4**
GARC	**Garzon, Huila**	**0.94**	**150**	P	**Pg**	**00 20 04.3**	**+0.2**
GARC				S	**Sg**	**00 20 16.9**	**+0.6**
YOTC	**Yotoco, Valle**	**1.04**	**338**	P	**Pg**	**00 20 04.7**	**-1.4**
YOTC				S	**Sg**	**00 20 18.3**	**-1.3**
ORTC	**Ortega, Tolima**	**1.15**	**39**	P	**Pg**	**00 20 07.3**	**-0.7**
ORTC				S	**Sg**	**00 20 22.8**	**-0.1**
PRAC	**Prado**	**1.28**	**57**	P	**Pg**	**00 20 09.8**	**-0.8**
PRAC				S	**Sg**	**00 20 26.8**	**-0.5**
ANIL	**Santa Ana**	**1.58**	**21**	P	**Pn**	**00 20 13.9**	**-1.4**
ANIL				S	**Sn**	**00 20 34.5**	**-1.9**
BBAC	**Balboa, Cauca**	**1.61**	**233**	P	**Pn**	**00 20 15.8**	**+0.1**
BBAC				S	**Sn**	**00 20 36.9**	**-0.3**
MALC	**Bahia Malaga**	**1.70**	**306**	P	**Pb**	**00 20 17.5**	**-0.4**
MALC				S	**Sg**	**00 20 43.1**	**+2.5**
CRUC	**La Cruz**	**1.74**	**215**	P	**Pb**	**00 20 19.2**	**+0.3**
CRUC				S	**Sg**	**00 20 45.5**	**+3.5**
PLMC	**San Jos del P**	**1.91**	**350**	P	**Pn**	**00 20 19.0**	**-0.7**
PLMC				S	**Sn**	**00 20 44.7**	**+0.3**
RECRC	**Villamaria, Ca**	**2.03**	**17**	P	**Pb**	**00 20 23.6**	**-0.4**
RECRC				S	**Sb**	**00 20 49.9**	**-0.1**
NIZA	**Niza - Manizal**	**2.10**	**13**	P	**Pb**	**00 20 24.6**	**-0.3**
NIZA				S	**Sb**	**00 20 51.7**	**+0.2**
GR1C	**Gorgona, Isla**	**2.20**	**270**	P	**Pn**	**00 20 23.7**	**+0.1**
GR1C				S	**Sn**	**00 20 50.4**	**-1.0**
GCUF	**Volcan Galeras**	**2.25**	**218**	P	**Pb**	**00 20 28.4**	**+0.8**
GCUF				S	**Sg**	**00 21 00.1**	**+1.8**
GUY2C	**Guyana, Caldas**	**2.28**	**15**	P	**Pn**	**00 20 26.2**	**+1.1**
GUY2C				S	**Sb**	**00 20 56.9**	**-0.2**
PIZC	**Pizarro, Choco**	**2.39**	**324**	P	**Pb**	**00 20 29.3**	**-0.5**
PIZC				S	**Sb**	**00 21 00.9**	**+1.1**
CVER	**Cruz Verde, Cu**	**2.41**	**51**	P	**Pb**	**00 20 29.8**	**-0.6**
CVER				S	**Sb**	**00 21 01.9**	**+1.1**
ROSC	**El Rosal**	**2.45**	**42**		**Pn**	**00 20 28.5**	**+1.1**
ROSC	**El Rosal**	**2.45**	**42**	Pn	**Pn**	**00 20 28.3**	**+0.9**
	97nm,0.3s,baz=240,slow=14,SNR=61						
ROSC				Sn	**Sn**	**00 20 59.8**	**+1.7**
	158nm,0.3s,baz=251,slow=24,SNR=4.4						
	294nm,0.3s						

ROSC El Rosal 2.45 42 P **Pn 00 20 29.2 +1.8**
ROSC S **Sb 00 21 03.0 +1.2**
VILC Villavicencio, 2.52 64 P **Pb 00 20 30.7 -1.3**
VILC S **Sb 00 21 04.4 +0.9**
CHIC Chingaza 2.75 54 P **Pn 00 20 33.4 +1.9**
CHIC S **Sb 00 21 09.9 -0.5**
NORC Norcasia 2.76 23 P **Pn 00 20 33.3 +1.9**
NORC S **Sb 00 21 08.9 -1.6**
TULM Tulcn-Chalpat 2.92 219 Pn **Pb 00 20 39.0 -0.1**
TULM Tulcn-Chalpat 2.92 219 P **Pb 00 20 38.3 -0.8**
TULM S **Sg 00 21 18.7 -1.2**
BONI La Bonita 2.98 212 P **Pb 00 20 40.9 +0.9**
BONI S **Sg 00 21 20.8 -1.1**
TUMC Tumaco 3.00 247 P **Pn 00 20 36.7 +2.1**
TUMC S **Sn 00 21 13.1 +1.9**
PTLC Puerto Leguiza 3.05 158 P **Pb 00 20 41.0 0.0**
PTLC S **Sg 00 21 28.3 +4.2**
SPBC San Pablo de B 3.23 36 P **Pn 00 20 39.7 +1.8**
SPBC S **Sb 00 21 21.0 -3.1**
GUVC San Jose del G 3.36 98 P **Pn 00 20 41.0 +1.4**
GUVC S **Sb 00 21 25.9 -1.9**
IMBA Imbabura, San 3.52 220 Pn **Pb 00 20 47.0 -2.2**
CUSE Cuicocha Este 3.62 222 P **Pb 00 20 49.4 -1.7**
OTAV Otavalo 3.71 222 Pn **Pb 00 20 49.9 -2.7**
OTAV Otavalo 3.71 222 P **Pb 00 20 49.1 -3.5**
OTAV S **Sg 00 21 44.0 -1.3**
OTAV Otavalo 3.71 222 *eP* **Pb 00 20 49.4 -3.2**
PULU Pululahua 3.90 221 Pb 00 20 52.4 -3.5
PAC1 Pacto, Paraso 3.93 226 P **Pn 00 20 50.8 +3.3**
PAC1 S **Sb 00 21 42.3 -1.8**
DBBC Dabeiba 3.99 356 P **Pn 00 20 51.8 +3.5**
DBBC S **Sb 00 21 44.4 -1.6**
PTGC Puerto Gaitan, 4.00 73 P **Pb 00 20 57.8 +0.6**
ANTS Antisana-Sarah 4.12 212 Pn **Pb 00 20 55.5 -4.2**
SLOR San Lorenzo - 4.50 214 Pn **Pb 00 21 01.6 -4.4**
ZARC Zaragoza, Cauc 4.59 14 P **Pn 00 20 58.7 +2.2**
ZARC S **Sb 00 22 06.9 +3.8**
APAC Apartado, Choc 4.90 353 P **Pn 00 21 05.0 +4.3**
TAMC Tame, Arauca 5.37 51 P **Pn 00 21 09.2 +1.9**
138nm,0.8s,2μm
TAMC S **Sn 00 22 10.8 +1.0**
138nm,0.8s,2μm
PAMC Pamplona, Colo 5.39 37 P **Pn 00 21 10.7 +2.8**
OCAC Ocana 5.82 27 P **Pn 00 21 15.7 +2.1**
OCAC S **Sn 00 22 27.8 +6.7**
AZU Azuero 6.40 318 P **Pn 00 21 22.2 +0.8**
17nm,0.9s
BCIP Isla Barro Col 7.23 328 P **Pn 00 21 35.4 +2.6**
64nm,1.6s
BCIP S **Sn 00 22 58.4 +2.9**
64nm,1.6s
SDV Santo Domingo 7.88 42 Pn **Pn 00 21 41.6 -0.3**
6.1nm,0.3s,baz=352,slow=7.1,SNR=2.1
SDV Sn **Sn 00 23 11.5 -0.4**
9.1nm,0.3s,baz=44,slow=18,SNR=7.3
13nm,0.3s
SDV Santo Domingo 7.88 42 P **Pn 00 21 39.6 -2.4**
37nm,1.0s
SDV S **Sn 00 23 12.1 +0.2**
37nm,1.0s
CRJC Cerrejon, Guaj 8.53 21 P **Pn 00 21 50.9 +0.2**
CRJC S **Sn 00 23 35.3 +7.7**
BAUV El Baul 9.84 53 Pn **Pn 00 22 06.8 -1.8**
ATAH Atahualpa 10.36 194 Pn **Pn 00 22 19.1 +2.9**
0.9nm,0.3s,baz=50,slow=8.6,SNR=12
18nm,0.9s
CZSB Cruzeiro do Su 11.15 163 Pn **Pn 00 22 25.9 -0.7**
CZSB Cruzeiro do Su 11.15 163 *eP* **Pn 00 22 25.5 -1.1**
JTS Las Juntas de 11.49 309 LR LR 00 26 43.9
comp=Z,142nm,20.0s,baz=102,slow=36
TEFE Tefe 13.04 120 *eP* **Pn 00 22 53.4 +1.0**
PCRV Puerto La Cruz 13.31 57 Pn **Pn 00 22 56.7 +0.5**
0.9nm,0.3s,baz=89,slow=6.1,SNR=1.3
PCRV LR LR 00 29 14.4
comp=Z,140nm,21.9s,slow=43
3.9nm,0.4s
BOAV Boa Vista 15.43 92 Pn **Pn 00 23 21.5 -3.5**
ETMB Extrema 16.02 143 Pn **Pn 00 23 29.5 -3.1**
MACA Manacapuru-AM 16.45 112 *eP* **Pn 00 23 37.9 -0.3**
SAML Samuel 17.42 133 P **Pn 00 23 48.7 -1.6**
SAML Samuel 17.42 133 *eP* **P 00 23 51.1 -0.6**
LPAZ La Paz 20.68 158 P Pn 00 24 30.6 +0.3
1.0nm,0.7s,baz=329,slow=6.6,SNR=4.3
1.0nm,0.7s
LPAZ La Paz 20.68 158 *eP* **P 00 24 26.1 -1.9**
ITTB Itaituba 21.50 110 *eP* **P 00 24 35.6 -0.8**
VILB Vilhena 22.28 136 *eP* **P 00 24 46.2 +1.4**
NPGB Novo Progresso 22.86 116 *eP* **P 00 24 51.2 +0.3**
PDRB Porto dos Gac 24.02 128 *eP* **P 00 25 02.4 -0.1**
PTLB Pontes e Lacer 24.77 138 *eP* **P 00 25 10.8 +1.4**
BBSD Serra de San D 25.14 143 *eP* **P 00 25 14.4 +1.7**
ARAG Araguaiana, MT 30.27 129 *eP* **P 00 25 59.9 +1.1**
MURT Porto Murtinho 30.39 145 *eP* **P 00 26 00.6 +0.9**
Z47A Carrollton 32.10 341 P **P 00 26 15.9 +1.2**
V48A Smith Brothers 34.09 344 P **P 00 26 32.6 +0.6**
V48A IAmb IAmb 00 26 38.9
comp=Z,6.7nm,0.8s
WLAR White Oak Lake 34.47 334 P **P 00 26 37.0 +1.6**
WVT Waverly 34.74 343 P **P 00 26 37.8 +0.1**
PBMO Poplar Bluff 36.16 340 P **P 00 26 49.3 -0.5**
T42A Van Buren 36.61 339 P **P 00 26 52.3 -1.4**
T42A IAmb IAmb 00 26 54.3
comp=Z,3.3nm,0.7s
HHAR Hobbs 37.04 336 P **P 00 26 56.9 -0.5**
HHAR IAmb IAmb 00 26 58.1
comp=Z,4.5nm,0.8s
TXAR Lajitas Array 37.12 318 P **P 00 26 59.9 +1.6**
comp=Z,0.2nm,0.5s,baz=162,slow=6.6,SNR=6.6
TXAR LR LR 00 46 51.6
comp=Z,163nm,18.0s,baz=228,slow=44
comp=Z,0.2nm,0.5s
FVM French Village 37.25 341 P **P 00 26 58.9 -0.3**
U38A Gravette 37.36 335 P **P 00 26 59.7 -0.5**
U38A IAmb IAmb 00 27 04.0
comp=Z,4.6nm,0.9s
CCM Cathedral Cave 37.59 340 P **P 00 27 01.1 -0.9**
CCM IAmb IAmb 00 27 02.8
comp=Z,5.3nm,0.8s
R40A Maddies Statio 38.15 339 P **P 00 27 06.2 -0.6**
R40A IAmb IAmb 00 27 07.0
comp=Z,4.2nm,0.7s
ANMO Albuquerque 42.56 322 LR LR 00 49 15.9
comp=Z,216nm,18.4s,baz=325,slow=42
RSSD Black Hills 47.88 333 P **P 00 28 25.0 -0.8**
RSSD IAmb IAmb 00 28 28.3
comp=Z,4.9nm,0.9s
PDAR Pinedale Array 49.62 328 P **P 00 28 38.4 -0.9**
comp=Z,0.5nm,0.7s,baz=151,slow=5.7,SNR=4.0
comp=Z,0.5nm,0.7s
ULM Lac du Bonnet 50.00 343 P **P 00 28 40.2 -1.5**
comp=Z,3.2nm,0.7s,baz=149,slow=8.6,SNR=5.2
comp=Z,3.2nm,0.7s
RLMT Red Lodge 51.12 330 P **P 00 28 50.8 +0.3**
RLMT IAmb IAmb 00 28 53.3
comp=Z,3.7nm,0.7s
IMW Indian Meadow 51.13 328 P **P 00 28 50.6 -0.1**
IMW IAmb IAmb 00 28 51.5
comp=Z,2.3nm,0.7s
NVAR Mina Array Bea 52.27 318 P **P 00 29 00.1 +0.8**
comp=Z,1.3nm,0.8s,baz=126,slow=6.8,SNR=8.6
comp=Z,1.3nm,0.8s
SUMG Summit 73.24 11 *i*P **P 00 31 17.0 -1.8**
ESDC Sonseca Array 74.26 50 P **P 00 31 25.1 +0.1**
comp=Z,0.2nm,0.4s,baz=270,slow=6.2,SNR=1.9
comp=Z,0.2nm,0.4s
E29M Blow River 77.15 340 P **P 00 31 39.9 -1.0**
E29M IAmb IAmb 00 31 49.5
comp=Z,4.4nm,1.1s
TORD Torodi Ar. Bea 77.31 77 P **P 00 31 43.2 +0.4**
comp=Z,0.4nm,0.9s,baz=253,slow=2.4,SNR=2.1
comp=Z,0.4nm,0.9s
EKA Eskdalemuir Ar 77.79 34 P **P 00 31 43.4 -1.3**
comp=Z,0.2nm,0.5s,baz=243,slow=4.7,SNR=2.8
comp=Z,0.2nm,0.5s
ILAR Eielson Array 79.22 336 P **P 00 31 51.6 -0.9**
comp=Z,0.5nm,0.9s,baz=116,slow=4.1,SNR=3.2
comp=Z,0.5nm,0.9s
SNAA Sanae 87.58 162 P **P 00 32 35.6 +0.3**
comp=Z,0.7nm,0.7s,baz=333,slow=4.5,SNR=2.0
comp=Z,0.7nm,0.7s
ASAR Alice Springs 144.57 232 PKP **PKPab 00 39 22.7 -0.9**
comp=Z,2.2nm,0.7s,baz=118,slow=3.7,SNR=14
WRA Warramunga Arr 145.98 238 PKPbc **PKPbc 00 39 28.0 -0.3**
comp=Z,3.0nm,0.8s,baz=119,slow=2.7,SNR=13

IDC 07 00:53:41.5±6.3, 31°.99S×179°.58W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=315.7km s-min=47.6km az=162.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.70**	**269**	P	P	01 01 32.9	+0.6
	0.4nm,0.9s,baz=92,slow=6.5,SNR=1.8						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**42.84**	**275**	P	P	01 01 40.7	-0.9
	0.3nm,0.3s,baz=116,slow=7.6,SNR=4.5						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**146.14**	**338**	PKPbc	PKPbc	01 13 22.8	-0.1
	0.7nm,0.5s,baz=25,slow=3.7,SNR=13						
HFS	**Hagfors**	**150.50**	**347**	PKPbc	PKPbc	01 13 33.3	-1.1
	0.4nm,0.4s,baz=163,slow=2.4,SNR=5.1						

*RHSSO **07** 00:59:11.3±0.6, 41°.85N×20°.23E, h3km±2km, ML3.0/13*
*TIR **07** 00:59:12.1, 41°.91N×20°.16E, h6km, Md2.9, Ml3.3*
*SKO **07** 00:59:13.3, 41°.96N×20°.14E, h10km, ML3.0*
*THE **07** 00:59:13.5, 41°.90N×20°.20E, h2km±5km, ML2.8/5, Error ellipse: s-maj=8.1km s-min=1.1km az=304.0*
*BEO **07** 00:59:13.1±0.2, 41°.93N×20°.21E, h3km±2km, ML2.7/14*
*SOF **07** 00:59:25.9, 42°.17N±0°.02×21°.48E±0°.07, h12km±3km, MD2.4/4*

ISC 07 00:59:13.0±1.0, 41°.93N±0°.02×20°.14E±0°.02, h8km±8km, n119, σ0°82/173, 14C-16D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.22**	**302**	P	**Pg**	**00 59 17.0**	**-0.4**
	baz=304						
PUK				S	**Sg**	**00 59 21.1**	**+0.7**
	baz=304						
PUK				AMP			
	comp=N,29nm,0.2s,baz=304						
BCI	**Bajram Curri**	**0.44**	**353**	P	**Pg**	**00 59 21.7**	**+0.1**
	baz=352						
BCI				S	**Sg**	**00 59 28.6**	**+1.2**
	baz=352						
TIR	**Tirane**	**0.62**	**200**	⇓P	**Pg**	**00 59 24.4**	**-0.5**
TIR				⇑S	**Sg**	**00 59 33.5**	**+0.5**
TIR	**Tirane**	**0.62**	**200**	P	**Pg**	**00 59 24.0**	**-0.9**
	baz=202						
TIR				S	**Sg**	**00 59 33.6**	**+0.6**
	baz=202						
TIR				AMP			
	comp=N,2.4nm,0.2s,baz=202						
TIR	**Tirane**	**0.62**	**200**	P	**Pg**	**00 59 24.0**	**-0.9**
TIR				S	**Sg**	**00 59 33.6**	**+0.6**
	comp=N,478nm,0.2s						
TIR	**Tirane**	**0.62**	**200**	*e*Pg	**Pg**	**00 59 24.2**	**-0.7**
TIR				*e*Sg	**Sb**	**00 59 34.1**	**-0.7**
ULC	**Ulcinj**	**0.67**	**273**	⇓*i*Pg	**Pg**	**00 59 25.0**	**-0.9**
DRME	**Dracevica, Mon**	**0.76**	**290**	*e*Pg	**Pg**	**00 59 26.4**	**-1.2**
DRME				*e*Sg	**Sb**	**00 59 39.7**	**+0.8**
DRME	**Dracevica, Mon**	**0.76**	**290**	⇑*i*Pg	**Pg**	**00 59 26.0**	**-1.6**
DRME				*e*Sg	**Sg**	**00 59 38.4**	**+1.0**
PDG	**Podgorica**	**0.83**	**308**	⇓P	**Pg**	**00 59 27.6**	**-1.3**
PDG				⇓S	**Sg**	**00 59 39.2**	**-0.4**
PDG	**Podgorica**	**0.83**	**308**	*e*Pg	**Pg**	**00 59 27.3**	**-1.6**
PDG				*e*Sg	**Sg**	**00 59 40.4**	**+0.8**
PDG	**Podgorica**	**0.83**	**308**	⇑*i*Pg	**Pg**	**00 59 27.3**	**-1.6**
PDG				*e*Sg	**Sb**	**00 59 40.7**	**-0.2**
OHR	**Ohrid**	**0.96**	**149**	*i* Pg	**Pg**	**00 59 30.4**	**-1.0**
OHR				*i* Sg	**Sb**	**00 59 44.7**	**+0.1**
OHR				*e*Lg	Lg	00 59 45.6	
	comp=E,292nm,0.5s						
OHR				*e*Lg	Lg	00 59 47.0	
	comp=N,437nm,0.3s						
BEY	**Berane**	**0.96**	**349**	⇓*i*Pg	**Pg**	**00 59 30.8**	**-0.7**
SKO	**Skopje**	**0.97**	**87**	*i* Pg	**Pg**	**00 59 30.7**	**-1.0**
SKO				*i* Sg	**Sb**	**00 59 45.1**	**0.0**
KOME	**Kolasin**	**1.03**	**334**	*e*Pg	**Pg**	**00 59 31.6**	**-1.2**
KOME				*e*Sg	**Sb**	**00 59 47.7**	**+0.8**
HCY	**Herceg Novi**	**1.33**	**293**	⇓*i*Pg	**Pn**	**00 59 36.2**	**-1.7**
HCY				*e*Sg	**Sn**	**00 59 56.5**	**+0.8**
SJES	**Sjenica**	**1.34**	**355**	*e*Pg	**Pn**	**00 59 37.6**	**-0.5**
SJES				*e*Sg	**Sg**	**00 59 56.3**	**+0.3**
SJES	**Sjenica**	**1.34**	**355**	⇓*i*Pg	**Pn**	**00 59 36.6**	**-1.5**
SJES				*e*Sg	**Sn**	**00 59 57.0**	**+0.9**
KBN	**Korca**	**1.39**	**159**	P	**Pb**	**00 59 39.3**	**0.0**
	baz=159						
KBN				S	**Sg**	**00 59 58.7**	**+0.9**
	baz=159						
KBN				AMP			
	comp=N,1.3nm,1.0s,baz=159						
KBN	**Korca**	**1.39**	**159**	P	**Pn**	**00 59 38.7**	**-0.1**
KBN				S	**Sn**	**00 59 57.5**	**+0.1**
	comp=N,292nm,0.5s						
FNA	**Florina**	**1.48**	**140**	P	**Pn**	**00 59 40.0**	**+0.1**
	baz=140						
FNA				S	**Sg**	**01 00 01.3**	**+0.9**
	baz=140						
FNA	**Florina**	**1.48**	**140**	P	**Pn**	**00 59 39.0**	**-1.0**
FNA				S	**Sn**	**00 59 59.4**	**0.0**
	comp=N,862nm,0.5s						
FNA	**Florina**	**1.48**	**140**	*e*Pg	**Pn**	**00 59 38.9**	**-1.0**
FNA				*e*Sg	**Sn**	**00 59 59.4**	**0.0**
BARS	**Barje**	**1.52**	**54**	*e*Pn	**Pn**	**00 59 40.2**	**-0.4**
BARS	**Barje**	**1.52**	**54**	⇓*i*Pn	**Pn**	**00 59 40.2**	**-0.4**
BARS				*i* Sg	**Sn**	**01 00 00.7**	**0.0**
BRY	**Bratogost**	**1.53**	**310**	*e*Pn	**Pn**	**00 59 40.2**	**-0.6**
BRY				*e*Sn	**Sg**	**01 00 02.7**	**+0.4**
VLO	**Vlora**	**1.54**	**199**	P	**Pg**	**00 59 42.2**	**-0.3**
	baz=200						
VLO				S	**Sg**	**01 00 03.5**	**+1.1**
	baz=200						
STIP	**Stip**	**1.55**	**98**	⇑*i*Pn	**Pg**	**00 59 42.6**	**0.0**
STIP				*e*Sn	**Sg**	**01 00 05.5**	**+2.7**
PRVS	**Prvonek**	**1.55**	**67**	*e*Pg	**Pn**	**00 59 40.6**	**-0.3**
PRVS				*e*Sg	**Sn**	**01 00 00.9**	**-0.4**
UPM	**Unac-Piva**	**1.57**	**325**	⇑*i*Pn	**Pn**	**00 59 41.2**	**-0.1**
UPM				*e*Sn	**Sg**	**01 00 03.4**	**0.0**
IVAS	**Ivanjica**	**1.65**	**0**	*e*Pn	**Pn**	**00 59 42.0**	**-0.3**
IVAS				*e*Sn	**Sg**	**01 00 05.7**	**-0.2**
DBRK	**Dubrovnik**	**1.65**	**297**	*e*Pn	**Pn**	**00 59 41.8**	**-0.5**
DBRK				Sn	**Sg**	**01 00 08.2**	**+2.1**
NEST	**Nestorio**	**1.66**	**155**	P	**Pn**	**00 59 42.5**	**0.0**
NEST				S	**Sb**	**01 00 04.9**	**-0.1**
	comp=N,145nm,0.3s						
KLINJ	**Klinje**	**1.69**	**318**	⇓*i*Pn	**Pn**	**00 59 43.4**	**+0.5**
KLINJ				*e*Sn	**Sb**	**01 00 06.1**	**+0.2**
RUDO	**Rudo**	**1.78**	**342**	⇓*i*Pn	**Pn**	**00 59 43.9**	**-0.2**
RUDO				*e*Sn	**Sb**	**01 00 08.1**	**-0.3**
LSK	**Leskovik**	**1.81**	**169**	P	**Pb**	**00 59 46.7**	**+0.3**
	baz=169						
LSK				S	**Sg**	**01 00 12.7**	**+1.4**
	baz=169						
LSK				AMP			
	comp=E,1.3nm,0.7s,baz=169						
LSK	**Leskovik**	**1.81**	**169**	P	**Pn**	**00 59 44.7**	**+0.1**
LSK				S	**Sn**	**01 00 08.3**	**+0.5**
	comp=E,332nm,0.7s						
BOSS	**Bosilegrad**	**1.83**	**71**	*e*Pn	**Pb**	**00 59 45.9**	**-0.8**
VAY	**Valandovo**	**1.92**	**108**	⇑*e*Pn	**Pb**	**00 59 48.4**	**+0.2**
VAY				*i* Sg	**Sg**	**01 00 14.8**	**0.0**
VAY				*e*Lg	Lg	01 00 15.2	
	comp=N,101nm,0.6s						
VAY				*e*Lg	Lg	01 00 15.2	
	comp=E,77nm,0.5s						
GRUS	**Gruza**	**2.00**	**12**	*e*Pn	**Pn**	**00 59 47.4**	**+0.3**
BBLS	**Lazi&#263i**	**2.01**	**345**	*e*Pn	**Pn**	**00 59 47.8**	**+0.5**
BBLS				*e*Sn	**Sb**	**01 00 14.7**	**-0.3**
BBLS	**Lazi&#263i**	**2.01**	**345**	⇓*i*Pn	**Pn**	**00 59 47.3**	**0.0**
BBLS				*e*Sn	**Sn**	**01 00 14.2**	**+1.5**
STON	**Ston**	**2.04**	**298**	*e*Pn	**Pn**	**00 59 48.9**	**+1.3**
STON				*e*Sn	**Sb**	**01 00 15.9**	**+0.2**
STON	**Ston**	**2.04**	**298**	*e*Pn	**Pn**	**00 59 47.2**	**-0.4**
STON				Sn	**Sg**	**01 00 18.8**	**+0.3**
STON	**Ston**	**2.04**	**298**	⇓*i*Pn	**Pn**	**00 59 47.2**	**-0.4**
STON				*e*Sn	**Sn**	**01 00 14.6**	**+1.4**
SRN	**Sarande**	**2.05**	**183**	P	**Pn**	**00 59 48.7**	**+1.0**
	baz=184						
SRN				S	**Sg**	**01 00 19.0**	**+0.2**
	baz=184						
KTI	**Kastanea**	**2.14**	**135**	P	**Pn**	**00 59 49.5**	**+0.3**
DIVS	**Divibare**	**2.17**	**357**	*e*Pn	**Pn**	**00 59 49.6**	**+0.1**
DIVS				*e*Sn	**Sn**	**01 00 18.1**	**+1.5**
KPRO	**Kipourio**	**2.18**	**154**	P	**Pn**	**00 59 49.6**	**0.0**
KNT	**Kendrikon**	**2.21**	**109**	P	**Pn**	**00 59 49.4**	**-0.5**
KNT	**Kendrikon**	**2.21**	**109**	*e*Pn	**Pn**	**00 59 49.5**	**-0.5**
KNT				*e*Sn	**Sn**	**01 00 17.3**	**-0.1**
KKB	**Krupnik**	**2.23**	**91**	P	**Pn**	**00 59 50.2**	**-0.1**
KKB	**Krupnik**	**2.23**	**91**	*i* Pn	**Pn**	**00 59 50.4**	**0.0**
HAPS	**Han Pijesak,BI**	**2.33**	**338**	*e*Pn	**Pn**	**00 59 53.0**	**+1.3**
HAPS				*e*Sn	**Sn**	**01 00 21.5**	**+1.0**
VTS	**Vitosha**	**2.40**	**72**	P	**Pn**	**00 59 52.0**	**-0.7**
VTS	**Vitosha**	**2.40**	**72**	*e*Pn	**Pn**	**00 59 52.4**	**-0.3**
ZAGS	**Zajecar**	**2.43**	**39**	*e*Pn	**Pn**	**00 59 53.1**	**+0.1**
THE	**Thessaloniki**	**2.49**	**120**	*e*Pn	**Pn**	**00 59 53.4**	**-0.4**
PLNA	**Plana**	**2.50**	**76**	P	**Pn**	**00 59 55.3**	**+1.2**
LIT	**Litokhoron**	**2.55**	**135**	P	**Pn**	**00 59 54.4**	**-0.3**
TEKS	**Tekeris**	**2.66**	**351**	*e*Pn	**Pn**	**00 59 57.4**	**+1.3**
TEKS	**Tekeris**	**2.66**	**351**	*e*Pn	**Pn**	**00 59 56.2**	**+0.1**
TEKS				*e*Sn	**Sn**	**01 00 29.8**	**+1.3**
SOH	**Sokhos**	**2.66**	**114**	*e*Pn	**Pn**	**00 59 56.7**	**+0.5**
MAKA	**Makarska**	**2.67**	**302**	*e*Pn	**Pn**	**00 59 57.0**	**+0.7**
RICI	**Ricice**	**2.71**	**306**	*e*Pn	**Pn**	**00 59 57.8**	**+0.8**
SRS	**Serrai**	**2.72**	**106**	*e*Pn	**Pn**	**00 59 56.8**	**-0.1**
TYRN	**Tyrnavos**	**2.73**	**144**	P	**Pn**	**00 59 57.3**	**+0.2**
MMB	**Musomishta**	**2.73**	**97**	P	**Pn**	**00 59 58.6**	**+1.5**
MMB	**Musomishta**	**2.73**	**97**	*e*Pn	**Pn**	**00 59 58.0**	**+0.8**
THL	**Klokotos Trika**	**2.76**	**148**	P	**Pn**	**00 59 57.9**	**+0.4**
NVR	**Nevrokopi**	**2.85**	**100**	P	**Pn**	**00 59 58.6**	**-0.2**
PLG	**Polygyros**	**2.94**	**121**	P	Sg	01 01 00.0	+13
MPEP	**Malo Peshtene**	**3.01**	**61**	P	**Pb**	**01 00 06.5**	**-0.4**
MDVR	**Moldovita**	**3.07**	**21**	⇑P	**Pn**	**01 00 01.4**	**-0.5**
MDVR	**Moldovita**	**3.07**	**21**	*e*Pn	**Pn**	**01 00 01.6**	**-0.3**
KOKK	**Kokkinochori,**	**3.11**	**110**	P	**Pn**	**01 00 01.9**	**-0.4**
FRGS	**Fruska Gora**	**3.24**	**356**	⇓P	**Pn**	**01 00 04.1**	**0.0**
FRGS	**Fruska Gora**	**3.24**	**356**	*e*Pn	**Pn**	**01 00 04.0**	**-0.1**
FRGS	**Fruska Gora**	**3.24**	**356**	⇑*i*Pn	**Pn**	**01 00 03.5**	**-0.6**
FRGS				*e*Sn	**Sn**	**01 00 42.9**	**+0.1**
EVR	**Evrytania**	**3.27**	**157**	P	**Pn**	**01 00 05.1**	**+0.5**
MGRS	**Mrkonjic Grad**	**3.34**	**319**	*e*Pn	**Pn**	**01 00 06.1**	**+0.5**
MGRS				*e*Sn	**Sn**	**01 00 45.9**	**+0.4**
AGG	**Agios Georgios**	**3.35**	**149**	P	**Pn**	**01 00 05.7**	**0.0**
RZN	**Rozhen**	**3.45**	**92**	P	**Pn**	**01 00 07.5**	**+0.4**
BANR	**Banloc**	**3.53**	**11**	⇑P	**Pn**	**01 00 08.5**	**+0.4**
BLY	**Banja Luka**	**3.55**	**324**	*e*Pn	**Pn**	**01 00 10.5**	**+2.1**
BLY	**Banja Luka**	**3.55**	**324**	*e*Pn	**Pn**	**01 00 08.9**	**+0.5**
BLY				*e*Sn	**Sn**	**01 00 51.4**	**+0.9**
ANX	**Ano Chora**	**3.60**	**157**	P	**Pn**	**01 00 09.1**	**-0.1**
A050A	**Klekovaca**	**3.67**	**315**	*e*Pn	**Pn**	**01 00 10.8**	**+0.7**
A050A				*e*Sn	**Sn**	**01 00 54.5**	**+0.9**
ZIRJ	**Zirje**	**3.73**	**299**	*e*Pn	**Pn**	**01 00 11.2**	**+0.3**
MORI	**Morici**	**3.79**	**302**	*e*Pn	**Pn**	**01 00 12.0**	**+0.4**
BZS	**Buzias**	**3.84**	**16**	⇓P	**Pn**	**01 00 12.5**	**+0.1**
BZS	**Buzias**	**3.84**	**16**	*e*Pn	**Pn**	**01 00 12.2**	**-0.1**
BZS				*e*Sn	**Sn**	**01 00 57.3**	**-0.3**
SURR	**Surduc**	**4.08**	**20**	⇑P	**Pn**	**01 00 15.7**	**0.0**
UDBI	**Udbina**	**4.12**	**311**	*e*Pn	**Pn**	**01 00 18.0**	**+1.7**
DUGI	**Dugi Otok**	**4.26**	**301**	*e*Pn	**Pn**	**01 00 18.2**	**+0.1**
ELND	**Elena**	**4.36**	**75**	⇑P	**Pn**	**01 00 19.8**	**+0.3**
VIRC	**Vir**	**4.41**	**304**	*e*Pn	**Pn**	**01 00 20.3**	**+0.1**
PLIT	**Plitvice**	**4.42**	**313**	*e*Pn	**Pn**	**01 00 21.6**	**+1.3**
MORH	**Mrgy, Hungar**	**4.42**	**346**	⇑P	**Pn**	**01 00 19.6**	**-0.7**
SIRR	**Siria**	**4.47**	**14**	⇑P	**Pn**	**01 00 20.7**	**-0.4**
NVLJ	**Novalja**	**4.66**	**306**	*e*Pn	**Pn**	**01 00 23.7**	**+0.1**
NVLJ				Sn	**Sn**	**01 01 15.9**	**-2.0**
RABC	**Rab**	**4.82**	**308**	*e*Pn	**Pn**	**01 00 25.9**	**+0.1**
BOJS	**Bojanci**	**5.03**	**317**	⇓*i*Pn	**Pn**	**01 00 28.8**	**+0.1**
BOJS				*e*Sn	**Sn**	**01 01 26.8**	**-0.2**
DRGR		**5.20**	**20**	⇓P	**Pn**	**01 00 30.9**	**-0.2**
RIY	**Rijeka**	**5.33**	**311**	*e*Pn	**Pn**	**01 00 33.4**	**+0.6**
SMRN	**Sveta Marina**	**5.35**	**308**	*e*Pn	**Pn**	**01 00 33.3**	**+0.3**
BRJN	**Brijuni**	**5.52**	**305**	*e*Pn	**Pn**	**01 00 35.3**	**-0.2**
CEY	**Cerknica**	**5.62**	**315**	⇑Pn	**Pn**	**01 00 37.0**	**+0.2**
CEY				*e*Sn	**Sn**	**01 01 40.1**	**-1.5**
SOKA	**Soboth**	**6.00**	**324**	*e*Pn	**Pn**	**01 00 42.9**	**+0.8**
	comp=E,0.8nm,0.3s,SNR=4.6						
OBKA	**Obir**	**6.09**	**321**	*i* Pn	**Pn**	**01 00 44.8**	**+1.4**
	comp=E,0.5nm,0.2s						
OBKA	**Obir**	**6.09**	**321**	*e*Pn	**Pn**	**01 00 43.2**	**-0.2**
OBKA				*e*Sn	**Sn**	**01 01 51.4**	**-1.9**
ARSA	**Arzberg**	**6.26**	**330**	*i* Pn	**Pn**	**01 00 46.9**	**+1.3**
	comp=E,1.7nm,0.4s						
MOA	**Molln**	**7.24**	**327**	*e*Pn	**Pn**	**01 01 01.1**	**+2.1**
	comp=E,0.5nm,0.3s						
ABTA	**Abfaltersbach**	**7.29**	**314**	*e*Pn	**Pn**	**01 00 59.8**	**0.0**
	comp=E,2.8nm,0.6s,SNR=4.7						
LESA	**Schwarzleotal**	**7.64**	**318**	*i* Pn	**Pn**	**01 01 05.8**	**+1.1**
	comp=E,2.1nm,0.4s						
WTTA	**Wattenberg**	**8.08**	**314**	*i* Pn	**Pn**	**01 01 11.4**	**+0.7**
	comp=E,2.1nm,0.5s						
SQTA	**Sankt Quirin**	**8.28**	**313**	*i* Pn	**Pn**	**01 01 14.1**	**+0.7**
	comp=E,0.8nm,0.2s						
FETA	**Feichten**	**8.43**	**310**	*e*Pn	**Pn**	**01 01 16.6**	**+1.0**
	comp=E,0.5nm,0.3s						

*NAO **07** 01:09:49.3, 35°.47N×24°.38E, h33km, mb3.8*
*THE **07** 01:10:03.6, 36°.65N×21°.39E, h3km±1km, ML3.3/7, Error ellipse: s-maj=1.4km s-min=0.6km az=45.0*
*ATH **07** 01:10:04.1, 36°.66N×21°.43E, h12km±2km, ML3.3/34, Manual Solution by N.Liadopoulou This location: 2020/06/16 06:55:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*NEIC **07** 01:10:05.4±1.8, 36°.68N±0°.07×21°.44E±0°.08, h40km±13km, mb4.0/5, Error ellipse: s-maj=10.5km s-min=8.6km az=159.0*
*IDC **07** 01:10:06.2±1.5, 36°.58N×21°.30E, h60km±25km, mb3.3/9, mbtmp3.5/13, ML3.9/2, Error ellipse: s-maj=37.7km s-min=10.7km az=20.0*

ISC 07 01:10:03.1±1.2, 36°.66N±0°.04×21°.36E±0°.03, h25km±9km, n189, σ1°65/209, mb3.8/12, 2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.39**	**52**	P	**Pb**	**01 10 11.1**	**-0.4**
PYL				S	**Sb**	**01 10 16.4**	**-0.9**
	7μm,0.3s						
PYL	**PYLOS**	**0.39**	**52**	P	**Pb**	**01 10 11.1**	**-0.4**
PYL				S	**Sb**	**01 10 16.3**	**-0.9**
ITM	**Ithomi**	**0.69**	**41**	Pn	**Pb**	**01 10 16.3**	**-0.3**
ITM				Sn	**Sb**	**01 10 25.4**	**-0.4**
ITM	**Ithomi**	**0.69**	**41**	P	**Pb**	**01 10 16.4**	**-0.1**
ITM				S	**Sb**	**01 10 26.2**	**+0.5**
	3μm,0.5s						
ITM	**Ithomi**	**0.69**	**41**	P	**Pb**	**01 10 16.5**	**-0.1**
ITM				S	**Sb**	**01 10 26.0**	**+0.3**
LTHK	**Lithakia**	**1.13**	**338**	P	**Pb**	**01 10 24.3**	**+0.3**
LTHK				S	**Sn**	**01 10 42.0**	**+4.0**
	1μm,0.4s						
LTHK	**Lithakia**	**1.13**	**338**	P	**Pb**	**01 10 24.6**	**+0.6**
LTHK				S	**Sn**	**01 10 41.1**	**+3.1**
VLI	**Veliai**	**1.27**	**87**	P	**Pb**	**01 10 26.5**	**+0.2**
VLI				S	**Sb**	**01 10 45.7**	**+3.5**
	1μm,0.6s						
VLI	**Veliai**	**1.27**	**87**	P	**Pb**	**01 10 27.5**	**+1.2**
VLI				S	**Sb**	**01 10 43.3**	**+1.1**
MNVA	**Monemvasia**	**1.35**	**88**	P	**Pb**	**01 10 28.3**	**+0.6**
MNVA				S	**Sb**	**01 10 44.4**	**0.0**
RLS	**Riolos of Patr**	**1.40**	**3**	P	**Pb**	**01 10 29.1**	**+0.5**
RLS				S	**Sb**	**01 10 49.2**	**+3.2**
	482nm,0.7s						
RLS	**Riolos of Patr**	**1.40**	**3**	P	**Pb**	**01 10 29.4**	**+0.8**
RTZL	**Ratzakli, Kefa**	**1.49**	**342**	P	**Pb**	**01 10 30.5**	**+0.3**
RTZL				S	**Sb**	**01 10 50.9**	**+2.2**
	325nm,0.4s						
GUR	**Goura**	**1.50**	**31**	P	**Pb**	**01 10 30.1**	**-0.2**
GUR				S	**Sb**	**01 10 51.5**	**+2.6**
	1μm,0.5s						
GUR	**Goura**	**1.50**	**31**	P	**Pb**	**01 10 30.1**	**-0.2**
GUR				S	**Sb**	**01 10 50.5**	**+1.6**
KLV	**Kalavryta, Ach**	**1.52**	**24**	P	**Pb**	**01 10 30.8**	**+0.1**
KLV	**Kalavryta, Ach**	**1.52**	**24**	P	**Pb**	**01 10 30.6**	**-0.1**
PSDA	**Pessada-Kefalo**	**1.58**	**337**	P	**Pb**	**01 10 31.5**	**-0.2**
PSDA	**Pessada-Kefalo**	**1.58**	**337**	P	**Pb**	**01 10 31.8**	**+0.1**
PSDA				S	**Sb**	**01 10 53.5**	**+2.3**
KRND	**KRANIDI**	**1.60**	**63**	P	**Pb**	**01 10 31.9**	**-0.1**
KRND	**KRANIDI**	**1.60**	**63**	P	**Pb**	**01 10 32.0**	**-0.1**
VLS	**Valsamata**	**1.64**	**338**	P	**Pb**	**01 10 32.7**	**+0.1**
VLS	**Valsamata**	**1.64**	**338**	P	**Pb**	**01 10 32.8**	**+0.2**
UPR	**University Cam**	**1.66**	**12**	P	**Pb**	**01 10 33.1**	**+0.1**
SMHA	**Samh**	**1.69**	**341**	P	**Pb**	**01 10 34.0**	**+0.5**
LXRA	**Lixouri, Kepha**	**1.71**	**335**	P	**Pb**	**01 10 33.9**	**+0.1**
ANKY	**Antikythira Is**	**1.75**	**116**	P	**Pb**	**01 10 33.7**	**-0.9**
ANKY	**Antikythira Is**	**1.75**	**116**	P	**Pb**	**01 10 34.5**	**-0.2**
DMLN	**Damoulianata-K**	**1.76**	**334**	P	**Pb**	**01 10 34.4**	**-0.4**
DMLN	**Damoulianata-K**	**1.76**	**334**	P	**Pb**	**01 10 34.4**	**-0.4**
EFP	**Efpalio**	**1.82**	**14**	P	**Pb**	**01 10 36.5**	**+0.8**
EFP	**Efpalio**	**1.82**	**14**	P	**Pb**	**01 10 36.0**	**+0.3**
YDRA	**Hydra**	**1.82**	**67**	P	**Pb**	**01 10 34.6**	**-1.1**
KALE	**Kalithea**	**1.84**	**19**	P	**Pb**	**01 10 36.0**	**-0.1**
KALE	**Kalithea**	**1.84**	**19**	P	**Pb**	**01 10 36.5**	**+0.4**
LOUT	**Loutraki**	**1.85**	**44**	P	**Pb**	**01 10 35.2**	**-1.0**
LOUT	**Loutraki**	**1.85**	**44**	P	**Pb**	**01 10 35.4**	**-0.8**
PVO	**Paravola**	**1.96**	**4**	P	**Pb**	**01 10 38.5**	**+0.4**
PVO	**Paravola**	**1.96**	**4**	P	**Pb**	**01 10 37.8**	**-0.4**
ANX	**Ano Chora**	**1.98**	**13**	P	**Pb**	**01 10 38.2**	**-0.4**
ANX	**Ano Chora**	**1.98**	**13**	P	**Pb**	**01 10 38.7**	**+0.1**
EVGI	**Lefkada island**	**2.04**	**344**	P	**Pb**	**01 10 38.6**	**-0.9**
EVGI	**Lefkada island**	**2.04**	**344**	P	**Pb**	**01 10 38.6**	**-0.9**
NYDR	**Nydri-Lefkada**	**2.12**	**346**	P	**Pb**	**01 10 40.4**	**-0.4**
NYDR	**Nydri-Lefkada**	**2.12**	**346**	P	**Pb**	**01 10 40.0**	**-0.8**
VILL	**Villia**	**2.16**	**45**	P	**Pb**	**01 10 39.0**	**+1.5**
VIL2	**Platees**	**2.17**	**44**	P	**Pb**	**01 10 39.0**	**+1.3**
LKD2	**Lefkada island**	**2.20**	**345**	P	**Pb**	**01 10 41.4**	**-0.8**
LKD2	**Lefkada island**	**2.20**	**345**	P	**Pb**	**01 10 41.5**	**-0.8**
TSLK	**Tsoukalades, L**	**2.23**	**346**	P	**Pb**	**01 10 42.1**	**-0.7**
TSLK	**Tsoukalades, L**	**2.23**	**346**	P	**Pb**	**01 10 42.0**	**-0.8**
VLY	**Voula,Athens**	**2.28**	**58**	P	**Pb**	**01 10 40.5**	**+1.5**
VLY	**Voula,Athens**	**2.28**	**58**	P	**Pn**	**01 10 40.6**	**+1.5**
EVR	**Evrytania**	**2.28**	**9**	P	**Pb**	**01 10 43.0**	**-0.7**
EVR	**Evrytania**	**2.28**	**9**	P	**Pb**	**01 10 42.5**	**-1.2**
ATH	**Athens Observa**	**2.29**	**54**	P	**Pn**	**01 10 40.9**	**+1.6**
ATHU	**Athens Univers**	**2.33**	**55**	P	**Pn**	**01 10 41.3**	**+1.5**
ATHU	**Athens Univers**	**2.33**	**55**	P	**Pn**	**01 10 41.4**	**+1.5**
AXAR	**Agios Charalam**	**2.34**	**26**	P	**Pn**	**01 10 42.9**	**-1.8**
AXAR	**Agios Charalam**	**2.34**	**26**	P	**Pb**	**01 10 42.7**	**-2.0**
KNDR	**Palaiochora Ch**	**2.36**	**126**	P	**Pn**	**01 10 42.4**	**+2.2**
MAKR	**Makrakomi, Fth**	**2.43**	**14**	P	**Pb**	**01 10 43.8**	**-2.3**
MAKR	**Makrakomi, Fth**	**2.43**	**14**	P	**Pb**	**01 10 44.9**	**-1.2**
PTL	**Penteli**	**2.43**	**54**	P	**Pn**	**01 10 42.9**	**+1.7**
PTL	**Penteli**	**2.43**	**54**	P	**Pn**	**01 10 42.6**	**+1.4**
IMMV	**Iera Moni Meta**	**2.44**	**119**	P	**Pb**	**01 10 43.9**	**-2.3**
IMMV	**Iera Moni Meta**	**2.44**	**119**	P	**Pn**	**01 10 43.3**	**+2.1**
MHLO	**Agia Marina, M**	**2.44**	**88**	P	**Pn**	**01 10 43.0**	**+1.6**
MHLO	**Agia Marina, M**	**2.44**	**88**	P	**Pn**	**01 10 43.0**	**+1.6**
CHAN	**Chania**	**2.45**	**117**	P	**Pn**	**01 10 43.6**	**+2.2**
AGG	**Agios Georgios**	**2.48**	**18**		**Pb**	**01 10 45.2**	**-1.8**
AGG	**Agios Georgios**	**2.48**	**18**	P	**Pb**	**01 10 45.4**	**-1.6**
AGG	**Agios Georgios**	**2.48**	**18**	P	**Pb**	**01 10 45.3**	**-1.8**
DION	**Dionisos Attik**	**2.49**	**55**	P	**Pn**	**01 10 44.5**	**+2.4**
DION	**Dionisos Attik**	**2.49**	**55**	P	**Pn**	**01 10 44.5**	**+2.4**
KYMI	**Kymi, Euboea I**	**2.93**	**47**	P	**Pn**	**01 10 49.5**	**+1

BBLS	**Lazi&#263i**	**7.35**	**349**	*e*Pn	**Pn**	**01 11 48.0**	**-0.9**
MAKA	**Makarska**	**7.41**	**335**	*e*Pn	**Pn**	**01 11 50.5**	**+0.9**
HVAR	**Hvar**	**7.53**	**331**	*e*Pn	**Pn**	**01 11 51.2**	**+0.1**
RICI	**Ricice**	**7.56**	**336**	*e*Pn	**Pn**	**01 11 51.6**	**0.0**
INTR	**Introdacqua**	**7.87**	**315**	Pn	**Pn**	**01 11 58.4**	**+2.4**
ZIRJ	**Zirje**	**8.24**	**330**	*e*Pn	**Pn**	**01 12 01.1**	**0.0**
MORI	**Morici**	**8.39**	**331**	*e*Pn	**Pn**	**01 12 03.9**	**+0.8**
MGRS	**Mrkonjic Grad**	**8.40**	**339**	*e*Pn	**Pn**	**01 12 04.5**	**+1.2**
CAMP	**Campotosto**	**8.49**	**316**	Pn	**Pn**	**01 12 07.0**	**+2.4**
FRGS	**Fruska Gora**	**8.57**	**353**	*e*Pn	**Pn**	**01 12 05.2**	**-0.3**
A050A	**Klekovaca**	**8.63**	**336**	*e*Pn	**Pn**	**01 12 07.6**	**+1.1**
BLY	**Banja Luka**	**8.68**	**340**	*e*Pn	**Pn**	**01 12 07.0**	**0.0**
DUGI	**Dugi Otok**	**8.76**	**329**	*e*Pn	**Pn**	**01 12 09.0**	**+0.9**
UDBI	**Udbina**	**8.94**	**333**	*e*Pn	**Pn**	**01 12 12.2**	**+1.5**
VIRC	**Vir**	**9.01**	**330**	*e*Pn	**Pn**	**01 12 12.6**	**+1.1**
NVLJ	**Novalja**	**9.31**	**330**	*e*Pn	**Pn**	**01 12 16.5**	**+0.9**
MLR	**Muntele Rosu**	**9.47**	**20**	P	Pn	01 12 22.5	+4.5
	comp=E,0.3nm,0.3s,baz=234,slow=8.7,SNR=2.9						
	comp=E,1.4nm,0.5s						
BOJS	**Bojanci**	**9.96**	**334**	*e*Pn	**Pn**	**01 12 25.0**	**+0.4**
SMRN	**Sveta Marina**	**9.99**	**329**	*e*Pn	**Pn**	**01 12 26.6**	**+1.7**
BRJN	**Brijuni**	**10.05**	**327**	*e*Pn	**Pn**	**01 12 26.1**	**+0.3**
CEY	**Cerknica**	**10.46**	**332**	*e*Pn	**Pn**	**01 12 31.1**	**-0.4**
SABO	**M.te Sabotino**	**10.98**	**330**	Pn	**Pn**	**01 12 37.7**	**-0.9**
SOKA	**Soboth**	**11.07**	**337**	*i* Pn	**Pn**	**01 12 39.7**	**-0.1**
	comp=E,1.7nm,0.3s						
OBKA	**Obir**	**11.08**	**335**	*i* Pn	**Pn**	**01 12 41.4**	**+1.4**
	comp=E,0.5nm,0.2s						
OBKA	**Obir**	**11.08**	**335**	*e*Pn	**Pn**	**01 12 40.8**	**+0.8**
TEOL	**Teolo**	**11.36**	**323**	Pn	**Pn**	**01 12 44.3**	**+0.6**
PRED	**Cave del Predi**	**11.38**	**332**	Pn	**Pn**	**01 12 44.8**	**+0.7**
ABTA	**Abfaltersbach**	**12.05**	**330**	*e*Pn	**Pn**	**01 12 54.2**	**+1.0**
	comp=E,0.2nm,0.2s						
MOA	**Molln**	**12.35**	**337**	*e*Pn	**Pn**	**01 12 58.2**	**+0.9**
	comp=E,0.8nm,0.3s						
KWP	**Kalwaria Pacla**	**13.00**	**4**	Pn	**Pn**	**01 13 07.0**	**+0.8**
GERES	**GERESS Array B**	**13.41**	**338**	P	**Pn**	**01 13 12.4**	**+0.7**
	comp=E,0.2nm,0.3s,baz=138,slow=9.2,SNR=4.2						
	comp=E,0.4nm,0.4s						
KHC	**Kasperske Hory**	**13.70**	**338**	*e*P	**P**	**01 13 20.5**	**-3.6**
PABE	**Paberze**	**18.93**	**5**		**P**	**01 14 21.8**	**-0.1**
HFS	**Hagfors**	**24.00**	**351**	P	**P**	**01 15 14.2**	**-1.3**
	comp=E,1.3nm,0.4s,baz=164,slow=11,SNR=18						
	comp=E,1.3nm,0.4s						
NC602	**NORSAR Array S**	**24.90**	**349**	P	**P**	**01 15 23.5**	**-0.1**
NC602				IAmb	IAmb	01 15 27.0	
	comp=Z,14nm,1.4s						
FINES	**FINESS Array B**	**24.98**	**5**	P	**P**	**01 15 24.0**	**-0.4**
FINES	**FINESS Array B**	**24.98**	**5**	P	**P**	**01 15 24.6**	**+0.2**
	comp=E,1.2nm,0.5s,baz=169,slow=11,SNR=17						
	comp=Z,1.2nm,0.5s						
EKA	**Eskdalemuir Ar**	**25.06**	**326**	P	**P**	**01 15 25.9**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=123,slow=7.7,SNR=6.8						
	comp=Z,0.2nm,0.4s						
NB2	**NORSAR Subarra**	**25.24**	**348**	P	**P**	**01 15 27.0**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**25.24**	**348**	P	**P**	**01 15 26.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=157,slow=9.1,SNR=7.6						
	comp=Z,0.8nm,0.6s						
ARCES	**ARCESS Array B**	**33.01**	**3**	P	**P**	**01 16 36.3**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=189,slow=11,SNR=5.4						
	comp=Z,1.5nm,0.9s						
BVAR	**Borovoye Array**	**37.60**	**48**	P	**P**	**01 17 16.5**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=292,slow=4.5,SNR=2.7						
	comp=Z,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**42.61**	**52**	P	**P**	**01 17 56.4**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=280,slow=8.9,SNR=2.3						
	comp=Z,0.2nm,0.4s						
MK31	**Makanchi Array**	**45.54**	**57**	P	**P**	**01 18 19.7**	**-0.9**
MK31				IAmb	IAmb	01 18 26.2	
	comp=Z,2.4nm,1.4s						
MKAR	**Makanchi Array**	**45.54**	**57**	P	**P**	**01 18 19.9**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=267,slow=7.8,SNR=1.8						
	comp=Z,0.1nm,0.4s						
ZAA0	**Zalesovo Array**	**46.22**	**47**	P	**P**	**01 18 25.4**	**-0.4**
ZAA0				IAmb	IAmb	01 18 30.3	
	comp=Z,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**46.22**	**47**	P	**P**	**01 18 25.1**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=256,slow=8.7,SNR=3.9						
	comp=Z,0.7nm,0.4s						

IDC 07 01:11:41.3±2.3, 6°82S×128°93E, h0km, mb3.5/1, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=119.9km s-min=33.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.06**	**159**	Pn	Pn	01 15 01.9	-0.1
	0.2nm,0.3s,baz=337,slow=13,SNR=5.8						
WRA				Sn	Sn	01 17 25.0	-14
	0.4nm,0.3s,baz=332,slow=23,SNR=6.2						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**17.42**	**165**	P	Pn	01 15 46.0	0.0
	0.3nm,0.3s,baz=343,slow=11,SNR=14						
ASAR				S	Sn	01 18 44.5	-16
	0.3nm,0.4s,baz=344,slow=26,SNR=4.0						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**67.49**	**327**	P	P	01 22 39.3	0.0
	0.3nm,0.6s,baz=129,slow=8.0,SNR=2.7						
	0.3nm,0.6s						

*IDC **07** 01:34:14.0±3.6, 35°62N×74°54E, h76km±32km, mb3.5/12, mbtmp4.0/19, MS3.5/2, Error ellipse: s-maj=21.4km s-min=17.7km az=155.0*

*MOS **07** 01:34:13.3±1.2, 35°67N×74°43E, h81km, mb4.4/6, Error ellipse: s-maj=10.0km s-min=4.3km az=89.4*

*NEIC **07** 01:34:15.5±2.2, 35°69N±0°07×74°45E±0°03, h83km±8km, mb4.3/22, Error ellipse: s-maj=11.0km s-min=1.9km az=163.0*

*NNC **07** 01:34:19.4±3.7, 36°31N×74°12E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=30.1km s-min=27.0km az=108.0*

ISC 07 01:34:15.4±0.4, 35°65N±0°04×74°38E±0°05, h100km, n122, σ2°50/144, mb3.9/23, 9C-7D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**2.20**	**205**		**Pn**	**01 34 51.6**	**+0.9**
NIL				Sn	**Sn**	**01 35 17.9**	**+0.3**
JMU	**Jammu**	**2.96**	**171**	*e*P	**Pn**	**01 35 01.8**	**+1.1**
JMU				*e*S	**Sn**	**01 35 34.3**	**-1.1**
THN	**Thein Dam**	**3.40**	**161**	*e*P	**Pn**	**01 35 06.9**	**+0.4**
THN				IAML		01 35 46.7	
	comp=E,401nm,0.2s						
THN				*ex*	x	01 35 55.0	
THN				IAML		01 35 58.0	
	comp=E,434nm,0.4s						
DHRM	**DHARAMSHALA**	**3.75**	**154**	*e*P	**Pn**	**01 35 11.3**	**-0.2**
DHRM				*e*S	**Sn**	**01 35 50.8**	**-4.0**
DHRM				IAML		01 35 55.9	
	comp=E,745nm,0.4s						
DHRM				IAML		01 35 56.3	
	comp=N,759nm,0.4s						
KSH	**Kashi**	**4.06**	**18**	Pn	**Pn**	**01 35 11.6**	**-4.0**
KSH				Sn	Sn	01 35 51.4	-11
KSH				smax	smax		
	comp=N,83nm,0.3s						
KSH				smax	smax		
	comp=E,73nm,0.3s						
DRK	**Karamyk**	**4.34**	**333**		**Pn**	**01 35 19.5**	**+0.1**
DRK	**Karamyk**	**4.34**	**333**	P	**Pn**	**01 35 19.5**	**+0.1**
KBL	**Kabul**	**4.51**	**257**		**Pn**	**01 35 21.9**	**+0.2**
KBL	**Kabul**	**4.51**	**257**	P	**Pn**	**01 35 21.9**	**+0.2**
BHK	**Bhakra**	**4.55**	**157**	*e*P	**Pn**	**01 35 21.9**	**-0.3**
BHK				*e*S	**Sn**	**01 36 09.4**	**-4.6**
BHK				IAML		01 36 17.5	
	comp=N,498nm,0.2s						
GAR	**Garm**	**4.65**	**317**		**Pn**	**01 35 23.5**	**-0.1**
SMLA	**Simla**	**5.08**	**152**	*e*P	**Pn**	**01 35 28.3**	**-0.9**
SMLA				*e*S	**Sn**	**01 36 19.7**	**-6.9**
SMLA				IAML		01 36 23.2	
	comp=E,517nm,0.3s						
SMLA				IAML		01 36 23.6	
	comp=N,465nm,0.1s						
CHGR	**Chuyangaron**	**5.14**	**307**		**Pn**	**01 35 29.1**	**-1.0**
CHGR	**Chuyangaron**	**5.14**	**307**	P	**Pn**	**01 35 29.1**	**-1.0**
BTK	**Batken**	**5.22**	**328**	Pn	**Pn**	**01 35 32.2**	**+0.9**
BTK	**Batken**	**5.22**	**328**	P	**Pn**	**01 35 32.2**	**+0.9**
SIMJ	**Simiganj**	**5.24**	**307**		**Pn**	**01 35 30.3**	**-1.2**
ARSB	**Arslanbob**	**5.77**	**349**		**Pn**	**01 35 38.4**	**-0.3**
ARSB	**Arslanbob**	**5.77**	**349**	P	**Pn**	**01 35 38.4**	**-0.3**
DDI	**Dehra Dun**	**6.14**	**149**	*e*S	**Sn**	**01 36 44.9**	**-7.8**
DDI				IAML		01 36 50.3	
	comp=E,556nm,0.3s						
DDI				IAML		01 36 51.1	
	comp=N,449nm,0.3s						
UCH	**Uchtor**	**6.57**	**1**	P	**Pn**	**01 35 50.2**	**+0.4**
	SNR=52						
TARG	**Taragay, Kyrgy**	**6.63**	**23**		**Pn**	**01 35 50.7**	**0.0**
TARG	**Taragay, Kyrgy**	**6.63**	**23**	P	**Pn**	**01 35 50.7**	**0.0**
ULHL	**Ulahol**	**6.75**	**12**	P	**Pn**	**01 35 52.5**	**+0.5**
	SNR=9.8						
BOOM	**Boomskoye usch**	**6.94**	**10**	Pn	**Pn**	**01 35 54.7**	**+0.1**
BOOM	**Boomskoye usch**	**6.94**	**10**	P	**Pn**	**01 35 54.7**	**+0.1**
AAK	**Ala-Archa**	**6.98**	**1**	Pn	**Pn**	**01 35 54.4**	**-0.7**
AAK	**Ala-Archa**	**6.98**	**1**	P	**Pn**	**01 35 54.1**	**-1.0**
	comp=N,7.2nm,0.3s,baz=236,slow=7.9,SNR=7.2						
AAK				S	**Sn**	**01 37 08.9**	**-4.1**
	comp=N,5.3nm,0.5s,baz=261,slow=19,SNR=1.6						
AAK	**Ala-Archa**	**6.98**	**1**	⇑P	**Pn**	**01 35 55.4**	**+0.3**
	comp=N,6.3nm,0.5s						
AAK				⇑S	**Sn**	**01 37 08.6**	**-4.4**
	comp=N,9.3nm,0.8s						
AAK	**Ala-Archa**	**6.98**	**1**	*ce*P	**Pn**	**01 35 53.4**	**-1.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KBK	**Karagaybulak**	**7.01**	**3**	P	**Pn**	**01 35 56.9**	**+1.3**
	SNR=39						
EKS2	**Erkin-Say**	**7.02**	**356**	P	**Pn**	**01 35 55.9**	**+0.3**
	SNR=8.0						
IUG	**luzhnay**	**7.32**	**334**	*e*P	**Pn**	**01 35 58.9**	**-0.8**
TKM2	**Tokmak 2**	**7.32**	**7**	P	**Pn**	**01 36 00.3**	**+0.5**
	SNR=42						
TKM2	**Tokmak 2**	**7.32**	**7**	⇓P	**Pn**	**01 36 00.0**	**+0.2**
	comp=Z,5.0nm,0.2s						
TKM2				⇓S	**Sn**	**01 37 16.3**	**-5.1**
	comp=Z,12nm,0.7s						
TKM2	**Tokmak 2**	**7.32**	**7**	*i* P	**Pn**	**01 36 00.0**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.2s						
CHMS	**Chumysh**	**7.34**	**2**	P	**Pn**	**01 36 00.5**	**+0.5**
	SNR=13						
CHMS	**Chumysh**	**7.34**	**2**	⇓P	**Pn**	**01 35 60.0**	**0.0**
	comp=Z,6.7nm,0.2s						
CHMS				⇑S	**Sn**	**01 37 18.2**	**-3.6**
	comp=Z,6.6nm,0.8s						
PRZ	**Przheval'sk**	**7.51**	**23**	Pn	**Pn**	**01 36 01.9**	**-0.4**
PRZ	**Przheval'sk**	**7.51**	**23**	P	**Pn**	**01 36 01.9**	**-0.4**
USP	**Ospenovka**	**7.61**	**1**	P	**Pn**	**01 36 03.8**	**+0.3**
	SNR=15						
KUDL	**Kundal**	**7.70**	**166**	*e*P	**Pn**	**01 36 02.1**	**-2.6**
KUDL				*e*S	Sn	01 37 21.4	-8.9
MDOK	**Medeo**	**7.78**	**15**	⇓P	**Pn**	**01 36 05.5**	**-0.5**
	comp=Z,5.4nm,0.6s						
MDOK				S	**Sn**	**01 37 33.2**	**+0.6**
	comp=Z,2.8nm,0.5s						
MDOK	**Medeo**	**7.78**	**15**	P	**Pn**	**01 36 05.5**	**-0.5**
KK31	**Karatay Array**	**8.02**	**339**	Pn	**Pn**	**01 36 08.1**	**-1.1**
KK31	**Karatay Array**	**8.02**	**339**	⇓P	**Pn**	**01 36 08.2**	**-1.1**
	comp=Z,37nm,0.8s,baz=155,slow=12,SNR=166						
KK31				⇑S	**Sn**	**01 37 30.9**	**-7.3**
	comp=Z,38nm,0.6s,baz=151,slow=21,SNR=20						
KK31	**Karatay Array**	**8.02**	**339**	*e*P	**Pn**	**01 36 08.5**	**-0.7**
KK31				S	**Sn**	**01 37 31.3**	**-6.9**
KKAR	**Karatay Array**	**8.02**	**339**	Pn	**Pn**	**01 36 08.1**	**-1.1**
KKAR	**Karatay Array**	**8.02**	**339**	P	**Pn**	**01 36 08.1**	**-1.1**
BRLS	**Borolday**	**8.17**	**336**	*e*P	**Pn**	**01 36 07.3**	**-3.8**
UZB	**Uzynbulak**	**8.30**	**24**	*e*P	**Pn**	**01 36 12.6**	**-0.5**
SHLS	**Shalkode**	**8.46**	**26**	*e*P	**Pn**	**01 36 16.5**	**+1.2**
KPKS	**Kokpek**	**8.48**	**22**	*e*P	**Pn**	**01 36 14.9**	**-0.6**
PDGK	**Podgornoye**	**8.62**	**26**	⇓P	**Pn**	**01 36 16.5**	**-1.0**
	comp=Z,9.4nm,0.4s						
PDGK				⇓S	**Sn**	**01 37 50.7**	**-2.4**
	comp=Z,9.3nm,0.8s						
PDGK	**Podgornoye**	**8.62**	**26**	P	**Pn**	**01 36 16.4**	**-1.0**
AJM	**Ajmer**	**9.14**	**179**	*e*P	**Pn**	**01 36 23.1**	**-1.4**
AJM				*e*S	Sn	01 37 54.6	-11
AJM				IAML		01 38 00.9	
	comp=N,85nm,0.3s						
AJM				IAML		01 38 01.3	
	comp=E,78nm,0.1s						
MAKZ	**Makanchi**	**12.52**	**25**		**Pn**	**01 37 08.2**	**-1.7**
MAKZ	**Makanchi**	**12.52**	**25**	P	**Pn**	**01 37 08.2**	**-1.7**
MK31	**Makanchi Array**	**12.62**	**26**	*ce*P	**Pn**	**01 37 10.6**	**-0.6**
MKAR	**Makanchi Array**	**12.62**	**26**	Pn	**Pn**	**01 37 10.0**	**-1.2**
MKAR	**Makanchi Array**	**12.62**	**26**	P	**Pn**	**01 37 10.5**	**-0.7**
	comp=E,1.0nm,0.4s,baz=209,slow=14,SNR=16						
MKAR	**Makanchi Array**	**12.62**	**26**	P	**Pn**	**01 37 10.0**	**-1.2**
BHPL	**Bhopal**	**12.65**	**167**	*e*P	**Pn**	**01 37 07.7**	**-4.0**
BHPL				*e*S	Sn	01 39 17.4	-13
WMQ	**Urumqi**	**13.09**	**47**	*e*P	**Pn**	**01 37 18.4**	**+0.9**
GEYT	**Alibeck**	**13.23**	**285**	S	**Sn**	**01 39 37.4**	**-7.5**
	comp=E,1.8nm,0.4s,baz=100,slow=15,SNR=3.1						
GYA0B	**ALIBECK ARRAY**	**13.23**	**285**	Pn	**Pn**	**01 37 16.3**	**-3.1**
KURBB	**Kurchatov Arra**	**15.27**	**10**	P	**Pn**	**01 37 43.0**	**-2.3**
	comp=E,3.7nm,0.6s,baz=196,slow=12,SNR=17						
KURK	**Kurchatov**	**15.37**	**10**	Pn	**Pn**	**01 37 43.7**	**-2.9**
KURK				IAmb	IAmb	01 37 50.3	
	comp=Z,18nm,0.8s						
KURK	**Kurchatov**	**15.37**	**10**	*ce*P	**P**	**01 37 48.4**	**-0.7**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BVA0	**Borovoye Array**	**17.60**	**352**	*i* P	**Pn**	**01 38 16.8**	**+2.7**
BVAR	**Borovoye Array**	**17.60**	**352**	P	**P**	**01 38 12.7**	**-1.0**
	comp=Z,5.5nm,0.5s,baz=160,slow=9.7,SNR=26						
BRVK	**Borovoye**	**17.64**	**352**		**P**	**01 38 12.5**	**-1.7**
BRVK				IAmb	IAmb	01 38 18.4	
	comp=Z,8.4nm,0.7s						
BRVK	**Borovoye**	**17.64**	**352**	*i* P	**Pn**	**01 38 15.1**	**+0.5**
WSAR	**Wadi Sarin**	**18.44**	**232**	P	**Pn**	**01 38 26.1**	**+1.6**
	comp=Z,2.5nm,0.6s,baz=69,slow=8.6,SNR=7.8						
AKTO	**Aktyubinsk**	**18.95**	**326**	P	**Pn**	**01 38 30.3**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=116,slow=13,SNR=7.2						
AKTO				S	**S**	**01 41 48.5**	**-10**
	comp=Z,1.5nm,0.6s,baz=72,slow=13,SNR=5.9						
ZAA0	**Zalesovo Array**	**19.70**	**19**	P	**P**	**01 38 35.9**	**-0.8**
ZAA0				IAmb	IAmb	01 38 37.8	
	comp=Z,17nm,0.6s						
ZALV	**Zalesovo Beam**	**19.70**	**19**	P	**P**	**01 38 35.9**	**-0.7**
ZALV	**Zalesovo Beam**	**19.70**	**19**	P	**P**	**01 38 35.8**	**-0.8**
	comp=Z,22nm,0.5s,baz=211,slow=11,SNR=91						
ZALV	**Zalesovo Beam**	**19.70**	**19**	*i* P	**P**	**01 38 36.5**	**-0.1**
ZALV				pmax	pmax		
	comp=Z,23nm,0.5s						
ARU	**Arti**	**23.39**	**338**	*c i*P	**P**	**01 39 17.7**	**+2.6**
ARU						01 39 46.3	
ARU				SS	**SnSn**	**01 44 12.4**	**+5.3**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**26.61**	**53**	P	**P**	**01 39 44.3**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=261,slow=9.8,SNR=3.7						
	comp=Z,1.5nm,0.6s						
RAYN	**Ar Rayn**	**27.76**	**252**	P	**P**	**01 39 57.1**	**+2.3**
RAYN	**Ar Rayn**	**27.76**	**252**	P	**P**	**01 39 57.2**	**+2.3**
RAYN				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BRTR	**Keskin Array B**	**32.30**	**290**	P	**P**	**01 40 37.9**	**+2.9**
	comp=Z,0.7nm,0.7s,baz=97,slow=8.2,SNR=6.2						
	comp=Z,0.7nm,0.7s						
NRIK	**Noril'sk**	**34.52**	**8**	P	**P**	**01 40 54.8**	**+1.2**
	comp=Z,1.2nm,0.4s,baz=180,slow=7.1,SNR=3.8						
	comp=Z,1.2nm,0.4s						
NRIK	**Noril'sk**	**34.52**	**8**	*ce*P	**P**	**01 40 55.0**	**+1.3**
NRIK				pmax	pmax		
	comp=Z,7.0nm,2.0s						
ELL	**Elmali**	**35.66**	**285**	P	**P**	**01 41 06.2**	**+2.2**
ELL	**Elmali**	**35.66**	**285**	P	**P**	**01 41 06.2**	**+2.2**
ELL				pmax	pmax		
	comp=Z,20nm,0.6s						
MNK	**Minsk**	**37.03**	**315**	*i* P	**P**	**01 41 15.0**	**-0.3**
	comp=E,3.0nm,0.8s,baz=101						
MNK				*i* P	**P**	**01 41 15.0**	**-0.3**
	comp=N,8.0nm,0.8s,baz=101						
MNK				*i* P	**P**	**01 41 15.0**	**-0.3**
	comp=Z,5.0nm,0.8s,baz=101						
MNK				*i* pP	**pP**	**01 41 32.0**	**-7.0**
	baz=101						
MNK				*i* PP	**PP**	**01 42 40.6**	**-0.8**
	baz=101						
MNK				*i* S	**S**	**01 46 56.2**	**+2.8**
	baz=101						
MNK				*i* sS	sS	01 47 25.9	-9.0
	baz=101						
MNK				*i* SS	**SnSn**	**01 49 37.1**	**0.0**
	baz=101						
MNK				*i* SSS	SSS	01 49 54.6	
	baz=101						
MNK				*i* LQ	LQ	01 53 48.6	
	baz=101						
MNK				*i* LR	LR	01 56 37.8	
	baz=101						
MNK				*i* LRM	MLR	01 58 26.5	
	comp=E,64nm,19.4s,baz=101						
MNK				*i* LRM	MLR	01 58 27.5	
	comp=N,177nm,25.1s,baz=101						
MNK				*i* LRM	MLR	01 58 27.5	
	comp=Z,51nm,17.9s,baz=101						
MNK	**Minsk**	**37.03**	**315**	*i* P	**P**	**01 41 14.9**	**-0.3**
MNK				*i* *PP	**pP**	**01 41 31.9**	**-7.0**
MNK				*i*		01 42 40.6	
MNK				*i*		01 43 34.2	
MNK				*i* S	**S**	**01 46 56.2**	**+2.8**
MNK				*i* *SS	sS	01 47 25.9	-9.1
MNK				*i* SS	**SnSn**	**01 49 37.1**	**0.0**
MNK				*i*		01 51 22.5	
MNK				pmax	pmax		
	comp=E,3.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,8.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MNK				MLR	MLR		
	comp=E,64nm,19.0s						
MNK				MLR	MLR		
	comp=Z,51nm,18.0s						
MNK				MLR	MLR		
	comp=N,177nm,25.0s						
FINES	**FINESS Array B**	**39.72**	**326**	P	**P**	**01 41 39.6**	**+1.9**
	comp=N,0.5nm,0.5s,baz=119,slow=10,SNR=7.6						
	comp=N,0.5nm,0.5s						
IDI	**Anoyia**	**39.96**	**284**	P	**P**	**01 41 42.6**	**+2.5**
IDI	**Anoyia**	**39.96**	**284**	LR	LR	02 01 13.7	
	comp=N,61nm,21.9s,baz=300,slow=40						
ARCES	**ARCESS Array B**	**42.98**	**337**	P	**P**	**01 42 06.9**	**+2.6**
ARCES				IAmb	IAmb	01 42 12.6	
	comp=Z,6.4nm,1.5s						
ARCES	**ARCESS Array B**	**42.98**	**337**	P	**P**	**01 42 07.0**	**+2.6**
	comp=Z,0.5nm,0.5s,baz=110,slow=7.8,SNR=7.9						
	comp=Z,0.5nm,0.5s						
ARCES	**ARCESS Array B**	**42.98**	**337**	P	**P**	**01 42 07.0**	**+2.7**
HFS	**Hagfors**	**45.42**	**322**	P	**P**	**01 42 26.1**	**+2.3**
	comp=Z,1.4nm,0.6s,baz=90,slow=9.5,SNR=6.8						
	comp=Z,1.4nm,0.6s						
TIXI	**Tiksi**	**45.56**	**21**	P	**P**	**01 42 26.1**	**+1.4**
TIXI				IAmb	IAmb	01 42 33.0	
	comp=Z,5.5nm,0.8s						
TIXI	**Tiksi**	**45.56**	**21**	P	**P**	**01 42 26.1**	**+1.4**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NB2	**NORSAR Subarra**	**46.70**	**323**	P	**P**	**01 42 35.9**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**46.70**	**323**	P	**P**	**01 42 36.0**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=95,slow=7.8,SNR=4.0						
	comp=Z,0.7nm,0.7s						
SPITS	**Spitsbergen Ar**	**48.95**	**347**	P	**P**	**01 42 53.5**	**+2.5**
SPITS				pmax	pmax		
	comp=Z,19nm,1.3s						
SCO	**Scoresbysund**	**58.91**	**337**	P	**P**	**01 44 04.2**	**+0.7**
SCO	**Scoresbysund**	**58.91**	**337**	P	**P**	**01 44 04.2**	**+0.7**
SCO				pmax	pmax		
	comp=Z,26nm,1.4s						
ESDC	**Sonseca Array**	**60.27**	**299**	P	**P**	**01 44 15.1**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=53,slow=7.0,SNR=8.8						
	comp=Z,0.5nm,0.6s						
VOI	**Vohitsoka**	**62.93**	**209**	P	**P**	**01 44 32.8**	**+1.4**
TOA0	**Torodi Ar. Sit**	**68.45**	**271**	P	**P**	**01 45 07.7**	**+0.6**
TORD	**Torodi Ar. Bea**	**68.45**	**271**	P	**P**	**01 45 07.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**68.45**	**271**	P	**P**	**01 45 07.2**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=41,slow=6.4,SNR=15						
	comp=Z,0.8nm,0.6s						
D19K	**Kuna River**	**69.11**	**18**	P	**P**	**01 45 12.1**	**+1.7**
D19K				IAmb	IAmb	01 45 27.0	
	comp=Z,5.5nm,1.2s						
E18K	**Tukpahlearik C**	**69.22**	**20**	P	**P**	**01 45 12.6**	**+1.6**
E18K				IAmb	IAmb	01 45 20.9	
	comp=Z,4.6nm,1.3s						
G19K	**Purcell Mounta**	**71.11**	**20**	P	**P**	**01 45 24.3**	**+1.7**
G19K				IAmb	IAmb	01 45 38.0	
	comp=Z,3.6nm,1.4s						
IMAR	**Indian Mountai**	**72.13**	**19**	P	**P**	**01 45 30.0**	**+1.3**
**K15K

comp=E,121nm,0.5s
HMBC Humberstone 2.75 7 *e*P **Pn 01 42 16.2 -1.1**
HMBC *e*S **Sb 01 43 01.1 +4.0**
HMBC IAML 01 43 06.6
comp=Z,150nm,0.4s
HMBC Humberstone 2.75 7 *e*P **Pn 01 42 16.3 -1.1**
HMBC *i*S **Sn 01 42 51.4 +1.7**
HMBC IAML 01 43 04.8
comp=E,307nm,0.7s
AC01 Pan de Azucar 3.13 186 *e*P **Pn 01 42 21.5 -1.0**
AC01 *e*S **Sb 01 43 09.9 +2.0**
AC01 IAML 01 43 10.3
comp=Z,49nm,0.7s
AC01 Pan de Azucar 3.13 186 *e*P **Pn 01 42 21.5 -1.0**
AC01 *i*S **Sn 01 42 56.3 -2.5**
AC01 IAML 01 43 10.8
comp=E,115nm,0.4s
PB11 IPOC Station P 3.29 10 *e*P **Pn 01 42 23.4 -1.4**
PB11 *e*S **Sn 01 43 05.6 +2.5**
PB11 IAML 01 43 16.3
comp=Z,71nm,0.4s
PB11 IPOC Station P 3.29 10 *e*P **Pn 01 42 23.7 -1.1**
PB11 *i*S **Sn 01 43 00.3 -2.7**
PB11 IAML 01 43 14.0
comp=N,150nm,0.3s
GO01 Chusmiza 3.48 16 *e*P **Pn 01 42 28.7 +1.1**
AC04 Llanos de Chal 5.22 188 *e*P Pn 01 42 37.1 -14

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*SOME **07** 01:52:07.7, 38.°97N×72.°92E, h15km*
*KRNET **07** 01:52:18.7±0.1, 39.°38N×72.°76E, h15km, mb3.2*
*NNC **07** 01:52:24.1±3.7, 39.°60N×72.°72E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=31.1km s-min=18.0km az=15.0
ISC 07 01:52:13.2±1.4,**39.°29N**±0.°05×**72.°97E**±0.°03,**h2**km±11km,
n41,σ2s**10**/69,**31C-23D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.83**	**30**	⇓*i*P	**Pn**	**01 52 34.9**	**+2.7**
SFK	baz=42			⇓*i*S	**Sn**	**01 52 46.9**	**+1.7**
DRK	**Karamyk**	**0.92**	**282**	⇓*i*P	**Pn**	**01 52 32.9**	**-0.6**
DRK	baz=79			⇓*i*S	**Sg**	**01 52 43.5**	**+0.6**
OHH	**Osh**	**1.24**	**354**	⇑*i*P	**Pg**	**01 52 40.5**	**+3.4**
OHH	baz=1.0			⇑*i*S	**Sn**	**01 52 56.3**	**+1.3**
BTK	**Batken**	**1.83**	**296**	⇓*i*P	**Pg**	**01 52 49.2**	**+1.0**
BTK	baz=95			⇓*i*S	**Sg**	**01 53 11.8**	**-0.1**
ARSB	**Arslanbob**	**2.03**	**0**	⇑*i*P	**Pg**	**01 52 54.7**	**+2.5**
ARSB	baz=5.0			⇑*i*S	**Sg**	**01 53 21.1**	**+2.5**
GAR	**Garm**	**2.08**	**263**	⇑*i*P	**Pg**	**01 52 54.3**	**+1.2**
GAR	baz=60			⇑*i*S	**Sg**	**01 53 20.4**	**+0.4**
ARK	**Arkit**	**2.62**	**343**	⇑*i*P	**Pb**	**01 53 02.2**	**+1.2**
ARK	baz=46			⇑*i*S	**Sb**	**01 53 34.0**	**+0.4**
TRKS	**Terek-Say**	**2.64**	**329**	⇓*i*P	**Pb**	**01 53 00.9**	**-0.4**
TRKS	baz=30			⇓*i*S	**Sb**	**01 53 31.9**	**-2.3**
ARLS	**Aral**	**2.77**	**21**	⇑*e*P	**Pg**	**01 53 05.7**	**-0.6**
ARLS	baz=25			⇑*i*S	**Sg**	**01 53 40.1**	**-2.2**
CHGR	**Chuyangaron**	**3.03**	**259**	⇓*i*P	**Pb**	**01 53 07.6**	**-0.4**
CHGR	baz=57			⇓*i*S	**Sb**	**01 53 43.4**	**-2.1**
NRN	**Naryn**	**3.16**	**46**	⇑*e*P	**Pg**	**01 53 12.0**	**-1.7**
NRN	baz=49			⇑*e*S	**Sb**	**01 53 51.0**	**+1.7**
UCH	**Uchtor**	**3.16**	**21**	P	**Pg**	**01 53 13.9**	**+0.1**
UCH	SNR=12						
UCH	**Uchtor**	**3.16**	**21**	⇑*i*P	**Pb**	**01 53 11.3**	**+0.9**
UCH	baz=24			⇑*i*S	**Sb**	**01 53 50.0**	**+0.4**
MNAS	**Manas**	**3.21**	**354**	⇑*i*P	**Pb**	**01 53 10.7**	**-0.4**
MNAS	baz=57			⇑*i*S	**Sb**	**01 53 48.9**	**-1.9**
EKS2	**Erkin-Say**	**3.43**	**10**	P	**Pg**	**01 53 18.1**	**-0.8**
EKS2	SNR=7.4						
EKS2	**Erkin-Say**	**3.43**	**10**	⇑*i*P	**Pb**	**01 53 14.3**	**-0.4**
EKS2	baz=13			⇑*i*S	**Sb**	**01 53 55.1**	**-1.7**
MRKS	**Merke**	**3.46**	**3**	*e*P	**Pb**	**01 53 17.2**	**+2.0**
MRKS	7.6nm,0.3s			*e*S	**Sg**	**01 54 06.0**	**+1.7**
MRKS	**Merke**	**3.46**	**3**	Pg	**Pb**	**01 53 17.2**	**+2.0**
MRKS	7.6nm,0.3s			Lg	Lg	01 54 06.0	
AAK	**Ala-Archa**	**3.54**	**19**	P	**Pg**	**01 53 19.3**	**-1.8**
AAK	SNR=5.5						
AAK	**Ala-Archa**	**3.54**	**19**	⇑Pn	**Pg**	**01 53 18.9**	**-2.2**
AAK	7.9nm,0.5s			⇑Lg	Lg	01 54 07.5	
AAK	**Ala-Archa**	**3.54**	**19**	⇑*i*P	**Pb**	**01 53 16.2**	**-0.5**
AAK	baz=21			⇑*i*S	**Sb**	**01 53 58.3**	**-1.8**
IUG	**Iuzhnay**	**3.62**	**323**	*e*P	**Pb**	**01 53 18.4**	**+0.4**
IUG	12nm,0.2s			*e*S	**Sg**	**01 54 08.0**	**-1.6**
IUG	**Iuzhnay**	**3.62**	**323**	Pg	**Pb**	**01 53 18.4**	**+0.4**
IUG	12nm,0.2s			Lg	Lg	01 54 07.4	
KBK	**Karagaybulak**	**3.69**	**23**	P	**Pg**	**01 53 27.0**	**+3.1**
KBK	43nm,0.5s SNR=9.7						
KBK	**Karagaybulak**	**3.69**	**23**	⇑*i*P	**Pb**	**01 53 18.6**	**-0.5**
KBK	baz=26			⇑*i*S	**Sb**	**01 54 02.2**	**-2.1**
ULHL	**Ulahol**	**3.86**	**39**	⇑*i*P	**Pb**	**01 53 21.8**	**-0.4**
ULHL	baz=42			⇑*i*S	**Sb**	**01 54 07.7**	**-1.8**
BOOM	**Boomskoye usch**	**3.91**	**34**	⇓*i*P	**Pb**	**01 53 22.3**	**-0.7**
BOOM	baz=37			⇓*i*S	**Sb**	**01 54 08.5**	**-2.4**
CHMS	**Chumysh**	**3.94**	**19**	P	**Pb**	**01 53 24.6**	**+1.1**
CHMS	SNR=7.9						
CHMS	**Chumysh**	**3.94**	**19**	⇑Pn	**Pb**	**01 53 23.5**	**0.0**
CHMS	2.3nm,0.3s			⇑Lg	Lg	01 54 21.4	
CHMS	**Chumysh**	**3.94**	**19**	⇓*i*P	**Pb**	**01 53 21.9**	**-1.6**
CHMS	baz=22			⇓*i*S	**Sb**	**01 54 07.9**	**-3.7**
TKM2	**Tokmak 2**	**4.14**	**28**	P	**Pb**	**01 53 27.2**	**+0.3**
TKM2	SNR=5.8						
TKM2	**Tokmak 2**	**4.14**	**28**	Pn	**Pb**	**01 53 26.8**	**0.0**
TKM2	3.8nm,0.6s			⇑Lg	Lg	01 54 30.2	
TKM2	**Tokmak 2**	**4.14**	**28**	⇓*i*P	**Pb**	**01 53 25.1**	**-1.8**
TKM2	baz=30			⇓*i*S	**Sb**	**01 54 13.5**	**-3.9**
USP	**Ospenovka**	**4.14**	**16**	P	**Pb**	**01 53 26.9**	**+0.1**
USP	SNR=5.8						
USP	**Ospenovka**	**4.14**	**16**	⇑*i*P	**Pb**	**01 53 24.4**	**-2.4**
USP	baz=18			⇑*i*S	**Sb**	**01 54 12.3**	**-5.0**
KK31	**Karatay Array**	**4.24**	**335**	⇓Pn	**Pb**	**01 53 26.8**	**-1.6**
KK31	1.4nm,0.3s,baz=151,slow=11,SNR=18			Sn	**Sb**	**01 54 14.4**	**-5.7**
14nm,0.5s,baz=151,slow=25,SNR=7.5
KK31 ⇓Lg Lg 01 54 28.4
5.3nm,0.3s,baz=154,slow=27,SNR=4.7
KKAR Karatay Array 4.24 335 ⇓*e*P **Pb 01 53 24.3 -4.1**
KKAR baz=36 ⇓*i*S **Sn 01 54 12.2 +3.4**
KDJ Kajisay 4.28 47 ⇓*i*P **Pb 01 53 28.1 -1.2**
KDJ baz=49 ⇓*i*S **Sb 01 54 18.7 -2.7**
BRLS Borolday 4.42 329 *e*P **Pb 01 53 31.6 +0.1**
BRLS 2.6nm,0.2s *e*S **Sg 01 54 30.8 -4.4**
BRLS Borolday 4.42 329 Pg **Pb 01 53 31.6 +0.1**
BRLS 2.6nm,0.2s Lg Lg 01 54 30.8
MDOK Medeo 4.95 37 ⇓Pn **Pb 01 53 39.0 -1.6**
MDOK 3.7nm,0.5s Pg **Pg 01 53 50.4 +2.4**
MDOK 8.5nm,0.6s Lg Lg 01 54 54.2
13nm,1.2s

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*NEIC **07** 02:02:16.9±0.6, 19.°399N±0.°008×155.°284W±0.°009,*
h5km±1km, Error ellipse: s-maj=2.3km s-min=1.5km
az=51.0
HVO 07 02:02:16.7±0.5,**19.°412N**±0.°009×**155.°279W**±0.°007,
h1km±4km,**ML3.6**/34,**ML3.2**/41(NEIC),**Error ellipse:**
s-maj=1.3km s-min=0.9km az=192.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**322**		Pg	02 02 17.2	+0.1
UWB	**Uwekahuna B**	**0.01**	**5**		Pg	02 02 17.4	+0.3
UWE	**Uwekahuna**	**0.02**	**306**		Pg	02 02 17.5	+0.4
RIM	**Rim**	**0.02**	**163**		Pg	02 02 17.4	+0.3
BYL	**Byron's Ledge**	**0.02**	**89**		Pg	02 02 17.6	+0.5
KKO	**Keanakako`i**	**0.02**	**138**		Pg	02 02 17.4	+0.3
SBLHI	**Steaming Bluff**	**0.02**	**35**		Pg	02 02 17.6	+0.4
WRMHI	**West Rim**	**0.02**	**255**		Pg	02 02 17.5	+0.3
HATHI	**Halema`uma`u T**	**0.02**	**57**		Pg	02 02 17.5	+0.3
SDHHI	**Sand Hill**	**0.03**	**212**		Pg	02 02 17.9	+0.6
RSD	**Rainshed**	**0.05**	**1**		Pg	02 02 18.0	+0.3
RSD	comp=N,19μm,0.4s			IAML		02 02 19.1	
PUH	**Pauahi**	**0.07**	**122**		Pg	02 02 18.6	+0.5
PUH	comp=E,16μm,0.8s			IAML		02 02 19.9	
KNHH	**Kane Nui o Ham**	**0.11**	**107**		Pg	02 02 19.5	+0.7
HLP	**Hilina Pali**	**0.12**	**193**		Pg	02 02 19.7	+0.8
HLP	comp=N,4μm,1.1s			IAML		02 02 22.1	
MLH	**Mauna Loa**	**0.13**	**309**		Pg	02 02 19.8	+0.5
MLH	comp=E,10μm,0.6s			IAML		02 02 23.4	
STCH	**Steam Cracks**	**0.15**	**100**		Pg	02 02 20.0	+0.5
STCH	comp=E,11μm,0.8s			IAML		02 02 24.4	
STCH	comp=N,12μm,0.8s			IAML		02 02 24.4	
JOKA	**Jonika Flow**	**0.26**	**85**		Pg	02 02 21.9	+0.2
JOKA	comp=E,2μm,0.9s			IAML		02 02 30.8	
JOKA	comp=N,5μm,0.8s			IAML		02 02 30.0	
HMH	**Humu`ula Sheep**	**0.27**	**315**		Pg	02 02 22.4	+0.5
HMH	comp=N,6μm,0.6s			IAML		02 02 29.7	
HMH	comp=E,6μm,0.8s			IAML		02 02 31.8	
MLOA	**Mauna Loa Obse**	**0.31**	**294**	Pg	Pg	02 02 22.9	+0.3
MLOA	comp=N,5μm,0.6s			IAML		02 02 31.6	
MWH	**Moku`aweowe**	**0.31**	**284**		Pg	02 02 22.9	+0.3
PAH	**Pahoa**	**0.32**	**75**	Pg	Pg	02 02 23.6	+0.7
KHU	**Kahuku**	**0.36**	**243**	Pg	Pg	02 02 23.9	+0.3
KHU	comp=E,2μm,0.6s			IAML		02 02 31.6	
KHU	comp=N,2μm,0.6s			IAML		02 02 35.6	
HPO	**Honuapo**	**0.41**	**219**		Pg	02 02 25.0	+0.4
POHA	**Pohakuloa**	**0.42**	**325**	Pg	Pg	02 02 25.1	+0.3
HUH	**Hualalai**	**0.59**	**297**		Pg	02 02 28.6	+0.5
HPAH	**Hawaii Prepara**	**0.73**	**327**	Pg	Pg	02 02 29.7	-1.0
HPAH	comp=E,1μm,1.5s			IAML		02 02 49.7	
HPAH	comp=N,1μm,0.9s			IAML		02 02 56.0	

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*JSO **07** 02:07:45, 32.°86N×35.°58E, h5km, ML3.4/30*
*GRAL **07** 02:07:47.0±0.3, 32.°87N×35.°57E, h0km±2km, MD3.9*
ISC 07 02:07:45.5±1.0,**32.°85N**±0.°02×**35.°60E**±0.°04,**h11**km±10km,
n45,σ0s**68**/47,**Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHMJ	**Saham**	**0.19**	**132**	P	**Pg**	**02 07 49.4**	**-0.3**
MMB1	**Mount Meron ar**	**0.22**	**316**	P	**Pg**	**02 07 50.2**	**-0.1**
GEM	**Giv`at Ha'Em**	**0.36**	**9**	P	**Pg**	**02 07 52.7**	**-0.1**
BLGI	**Bet Lehem HaGe**	**0.36**	**251**	P	**Pg**	**02 07 52.5**	**-0.3**
HNTI	**Hanita**	**0.42**	**303**	P	**Pg**	**02 07 53.8**	**-0.1**
NATI	**Neve Ativ**	**0.42**	**16**	P	**Pg**	**02 07 53.8**	**-0.1**
SHBL	**Chebaa**	**0.51**	**14**	*e*P	**Pg**	**02 07 56.0**	**+0.4**
QRNJ	**Al-Qirein**	**0.52**	**182**	P	**Pg**	**02 07 55.6**	**0.0**
OFRI	**`Ofer**	**0.56**	**246**	P	**Pg**	**02 07 56.1**	**-0.5**
HMDT	**Nahal Hemdat**	**0.60**	**186**	P	**Pg**	**02 07 57.1**	**-0.1**
RCY	**Rachaya**	**0.67**	**17**	*e*P	**Pg**	**02 07 58.9**	**+0.3**
RCY				*e*S	**Sg**	**02 08 07.9**	**+0.4**
QRWL	**Qaraoun**	**0.70**	**6**	*e*P	**Pg**	**02 07 59.4**	**+0.3**
SLTI	**Sal'it**	**0.77**	**218**	P	**Pg**	**02 07 59.9**	**-0.5**
DQRL	**Deir Qamar**	**0.85**	**359**	*e*P	**Pb**	**02 08 02.1**	**-0.3**
DQRL				*e*S	**Sg**	**02 08 13.1**	**0.0**
HSUJ	**Al Zarqa**	**0.90**	**146**	P	**Pb**	**02 08 02.8**	**-0.4**
ZAHL	**Zahle**	**1.03**	**14**	*e*P	**Pb**	**02 08 05.5**	**0.0**
BHL	**Bhannes**	**1.05**	**3**	*e*P	**Pb**	**02 08 05.7**	**-0.1**
ASF	**Jabal al Asfar**	**1.29**	**121**	P	**Pn**	**02 08 10.0**	**+0.4**
DSI	**Dead Sea**	**1.29**	**188**	P	**Pn**	**02 08 08.4**	**-1.1**
HWQ	**Hawqa**	**1.45**	**12**	*e*P	**Pb**	**02 08 12.6**	**-0.1**
YTIR	**Yattir**	**1.54**	**195**	P	**Pn**	**02 08 12.9**	**-0.1**
GHAJ	**Ghor Haditha**	**1.55**	**181**	P	**Pn**	**02 08 13.4**	**+0.4**
MDBI	**Mazsada**	**1.55**	**188**	P	**Pn**	**02 08 13.2**	**+0.2**
LISJ	**El Lisan**	**1.61**	**184**	P	**Pb**	**02 08 15.2**	**-0.1**
SWQJ	**Swaqa**	**1.65**	**166**	P	**Pn**	**02 08 12.7**	**-1.9**
KARJ	**KARJ**	**1.73**	**178**	P	Pn	02 08 01.6	-14
BEIL	**Beino**	**1.75**	**16**	*e*P	**Pb**	**02 08 17.3**	**-0.5**
ZFRI	**Zfri**	**2.32**	**189**	P	**Pn**	**02 08 24.3**	**+0.7**
PRNI	**Paran**	**2.54**	**192**	P	**Pn**	**02 08 28.3**	**+1.5**
HSNJ	**Maan**	**2.59**	**178**	P	**Pb**	**02 08 32.9**	**+0.8**
CSS	**Mathiatis**	**2.82**	**319**	P	**Pn**	**02 08 30.8**	**+0.2**
CSS				S	**Sn**	**02 09 03.9**	**-0.8**
KRMI	**Paran Flat**	**2.83**	**195**	P	**Pn**	**02 08 32.3**	**+1.6**
HRFI	**Mount Harif**	**2.85**	**190**	P	**Pn**	**02 08 32.7**	**+1.7**
EREN	**Erenkoy**	**2.92**	**337**	*e*P	**Pn**	**02 08 31.2**	**-0.7**
MBRI	**Mt Berech**	**3.10**	**191**	P	**Pn**	**02 08 35.0**	**+0.4**
LEF	**Lefka**	**3.19**	**316**	*e*P	**Pn**	**02 08 36.7**	**+1.1**
AKKU	**Akkuyu-Mersin**	**3.70**	**333**	*e*P	**Pn**	**02 08 42.6**	**-0.1**
IKL	**Isikli**	**3.73**	**335**	*e*P	**Pn**	**02 08 42.8**	**-0.2**
KIZK	**Mersin**	**3.81**	**342**	*e*P	**Pn**	**02 08 44.0**	**-0.2**
KEBE	**Keben-Mersin**	**3.91**	**337**	*e*P	**Pn**	**02 08 45.2**	**-0.3**
TEVE	**Tevekalti-Mers**	**3.99**	**334**	*e*P	**Pn**	**02 08 46.7**	**0.0**
BERE	**Bereket-Mersin**	**4.00**	**331**	*e*P	**Pn**	**02 08 46.5**	**-0.4**
GAZI	**Gazipasa**	**4.33**	**322**	*e*P	**Pn**	**02 08 52.1**	**+0.8**
KRMN	**Karaman**	**4.72**	**337**	*e*P	**Pn**	**02 08 56.8**	**+0.1**
HDMB	**Hadim**	**4.83**	**329**	*e*P	**Pn**	**02 08 58.8**	**+0.4**

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*IDC **07** 02:14:47.6±2.0, 24.°03S×67.°15W, h180km±26km, mb3.1/2,*
mbtmp3.7/6, Error ellipse: s-maj=36.4km s-min=19.2km
az=131.0
*SJA **07** 02:14:47.0±1.3, 24.°33S×67.°21W, h150km, ML3.5, MW3.4*
ISC 07 02:14:46.0±0.8,**24.°25S**±0.°04×**67.°20W**±0.°04,**h170**km±9km,
n22,σ1s**63**/39,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**1.94**	**90**	*e*P	**Pn**	**02 15 24.1**	**+2.0**
AZAP				*e*S	**Sn**	**02 15 48.2**	**-1.6**
LVC	**Limon Verde**	**2.27**	**316**	*e*P	**Pn**	**02 15 27.4**	**+1.6**
LVC				*e*S	**Sn**	**02 15 57.8**	**+1.2**
LVC	**Limon Verde**	**2.27**	**316**	P	**Pn**	**02 15 27.4**	**+1.6**
LVC	12nm,0.3s,baz=143,slow=6.9,SNR=120			S	**Sn**	**02 15 57.0**	**+0.5**
YJA	**Yavi**	**2.58**	**37**	*e*P	**Pn**	**02 15 32.0**	**+2.4**
YJA	61nm,0.4s,baz=246,slow=20,SNR=60			*e*S	**Sn**	**02 16 00.8**	**-2.5**
PB06	**IPOC Station P**	**2.67**	**305**	*e*P	**Pn**	**02 15 31.6**	**+1.3**
PB06				*e*S	**Sn**	**02 16 04.9**	**+0.2**
PB06	comp=Z,173nm,0.3s			IAML		02 16 10.4	
PB14	**IPOC Station P**	**2.95**	**262**	*e*P	**Pn**	**02 15 34.5**	**+0.7**
PB14				*e*S	**Sn**	**02 16 11.1**	**+0.1**
PB14	comp=Z,56nm,0.2s			IAML		02 16 12.8	
PB09	**IPOC Station P**	**3.08**	**322**	*e*P	**Pn**	**02 15 36.6**	**+1.2**
PB09				*e*S	**Sn**	**02 16 14.6**	**+0.7**
PB09	comp=Z,94nm,0.2s			IAML		02 16 16.2	
PB10	**IPOC Station P**	**3.16**	**283**	*e*P	**Pn**	**02 15 37.0**	**+0.8**
PB10				*e*S	**Sn**	**02 16 14.7**	**-0.5**
PB10	comp=Z,93nm,0.4s			IAML		02 16 20.6	
PB04	**IPOC Station P**	**3.32**	**304**	*e*P	**Pn**	**02 15 39.4**	**+1.0**
PB04				*e*S	**Sn**	**02 16 18.2**	**-0.8**
PB04	comp=Z,165nm,0.3s			IAML		02 16 21.8	
AC01	**Pan de Azucar**	**3.62**	**238**	*e*P	**Pn**	**02 15 41.8**	**-0.1**
AC01				*e*S	**Sn**	**02 16 24.1**	**-1.4**
GO03	**Copiap**	**4.31**	**219**	*e*P	**Pn**	**02 15 50.6**	**-0.2**
GO03				*e*S	**Sn**	**02 16 40.5**	**-1.1**
PATCX	**Punta Patache**	**4.37**	**321**	*e*P	**Pn**	**02 15 53.0**	**+1.3**
PATCX				*e*S	**Sn**	**02 16 43.2**	**+0.1**
PB11	**IPOC Station P**	**5.01**	**332**	*e*P	**Pn**	**02 15 59.6**	**-0.5**
PB11				*e*S	**Sn**	**02 16 57.2**	**-1.0**
AC04	**Llanos de Chal**	**5.26**	**221**	*e*P	**Pn**	**02 16 01.9**	**-1.2**
AC04				*e*S	**Sn**	**02 17 00.6**	**-3.1**
AC05	**El Transito**	**5.33**	**210**	*e*P	**Pn**	**02 16 03.9**	**-0.4**
AC05				*e*S	**Sn**	**02 17 04.3**	**-1.3**
AGUA	**GUANDACOL**	**5.34**	**192**	*e*P	**Pn**	**02 16 06.2**	**+1.8**
AGUA				*e*S	**Sn**	**02 17 07.5**	**+1.6**
LPAZ	**La Paz**	**7.97**	**354**	P	**Pn**	**02 16 39.7**	**+0.1**
LPAZ	comp=Z,1.4nm,0.3s,baz=185,slow=9.5,SNR=22			S	**Sn**	**02 18 04.3**	**-4.9**
SIV	**San Ignacio**	**10.03**	**36**	P	**Pn**	**02 17 03.5**	**-2.7**
BDFB	**Brasilia**	**19.94**	**68**	P	**P**	**02 19 04.9**	**-0.3**
QSPA	**South Pole Qui**	**65.96**	**180**	P	**P**	**02 25 15.3**	**+1.6**
TORD	**Torodi Ar. Bea**	**76.83**	**69**	P	**P**	**02 26 20.7**	**+1.2**
MKAR	**Makanchi Array**	**146.83**	**40**	PKPbc	**PKPbc**	**02 34 06.9**	**-1.2**

comp=Z,3.0nm,0.4s,baz=335,slow=14,SNR=1.5
comp=Z,1.5nm,0.3s,baz=211,slow=11,SNR=11
comp=Z,4.1nm,0.7s,baz=252,slow=13,SNR=6.6
comp=Z,0.4nm,0.5s,baz=117,slow=2.3,SNR=7.6
comp=Z,0.4nm,0.5s
comp=Z,0.3nm,0.7s,baz=258,slow=4.4,SNR=1.5
comp=Z,0.3nm,0.7s
comp=Z,0.2nm,0.6s,baz=322,slow=4.4,SNR=2.4

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*IDC **07** 02:17:00.2±1.7, 1.°16S×146.°38E, h0km, mb3.7/6,*
mbtmp3.8/6, MS2.9/2, Error ellipse: s-maj=67.3km
s-min=24.0km az=103.0
ISC 07 02:17:03.8±1.8,**1.°2S**±0.°2×**146.°3E**±0.°5,**h22**km,**n13,**
σ0s73/6,mb3.8/6,Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**14.75**	**354**	LR	LR	02 25 52.6	
WRA	**Warramunga Arr**	**22.02**	**211**	P	**P**	**02 21 56.4**	**-0.6**
WRA				LR	LR	02 31 33.9	
ASAR	**Alice Springs**	**25.39**	**207**	P	**P**	**02 22 30.4**	**+0.7**
H11S3	**WAKE ISLAND Hy 27.99**	**45**		T	T	02 52 20.0	
H11S2	**WAKE ISLAND Hy 28.00**	**45**		T	T	02 52 15.2	
H11S1	**WAKE ISLAND Hy 28.01**	**45**		T	T	02 52 18.5	
H11N1	**WAKE ISLAND Hy 28.96**	**43**		T	T	02 53 26.2	
H11N2	**WAKE ISLAND Hy 28.97**	**43**		T	T	02 53 27.4	
H11N3	**WAKE ISLAND Hy 28.97**	**43**		T	T	02 53 31.5	
MKAR	**Makanchi Array**	**73.39**	**320**	P	**P**	**02 28 34.5**	**+0.3**
KURBB	**Kurchatov Arra**	**77.01**	**323**	P	**P**	**02 28 54.4**	**-0.5**
ILAR	**Eielson Array**	**81.36**	**23**	P	**P**	**02 29 18.2**	**-0.2**
BVAR	**Borovoye Array**	**82.51**	**324**	P	**P**	**02 29 25.4**	**+0.7**

3.6nm,0.7s,baz=33,slow=10,SNR=15
comp=Z,94nm,19.3s,baz=42,slow=40
3.6nm,0.7s
3.2nm,0.7s,baz=39,slow=8.2,SNR=24
3.2nm,0.7s
baz=228,slow=75,SNR=46
baz=228,slow=75,SNR=58
baz=228,slow=75,SNR=41
baz=226,slow=76,SNR=71
baz=226,slow=76,SNR=81
baz=226,slow=76,SNR=51
0.3nm,0.8s,baz=116,slow=6.6,SNR=2.8
0.3nm,0.8s
0.4nm,0.2s,baz=124,slow=5.8,SNR=1.9
0.4nm,0.2s
0.3nm,0.9s,baz=242,slow=5.0,SNR=2.0
0.3nm,0.9s
0.3nm,0.5s,baz=94,slow=4.3,SNR=1.8
0.3nm,0.5s

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*NAO **07** 02:47:46.8±6.2, 74.°30N×9.°55E, ML3.0*
*BER **07** 02:47:49.7±2.6, 74.°24N×9.°52E, h10km, mb(Pn)3.7,*
Confirmed Earthquake
*FCIAR **07** 02:47:50.0, 74.°29N×10.°34E, h10km, station SPA0 has*
station magnitude of 2.97
ISC 07 02:47:46.3±2.1,**74.°18N**±0.°06×**9.°7E**±0.°1,**h10**km,**n22,**
σ2s16/35,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.54**	**78**	*e*P	**Pn**	**02 48 29.4**	**+2.0**
BJO1				*e*S	**Sn**	**02 48 58.9**	**+0.6**
BJO1	comp=Z,15nm,0.4s			IAML		02 49 02.2	
BJO1	**Bjornoya**	**2.54**	**78**	Pn	**Pn**	**02 48 29.1**	**+1.7**
BJO1				Sn	**Sn**	**02 48 58.9**	**+0.6**
BJO1	**Bjornoya**	**2.54**	**78**	*e*P	**Pn**	**02 48 29.1**	**+1.7**
BJO1				*e*S	**Sn**	**02 48 58.2**	**-0.1**
BRBA	**Barentsburg A**	**4.05**	**13**	*e*P	**Pn**	**02 48 48.7**	**+0.6**
BRBA	comp=Z,2.6nm,0.4s			IAML		02 49 43.5	
BRBB	**Barentsburg B**	**4.08**	**13**	*e*P	**Pn**	**02 48 49.0**	**+0.5**
SPA0	**Spitsbergen Ar**	**4.32**	**18**	*e*P	**Pn**	**02 48 53.0**	**+1.1**
SPA0	comp=Z,2.0nm,0.6s			IAML		02 49 41.7	
SPA0	**Spitsbergen Ar**	**4.32**	**18**	Pn	**Pn**	**02 48 53.1**	**+1.1**
SPA0	**Spitsbergen Ar**	**4.32**	**18**	*e*P	**Pn**	**02 48 52.9**	**+1.1**
SPA0				*e*S	**Sn**	**02 49 41.8**	**-0.4**
HOPEN	**Hopen**	**4.52**	**52**	*e*P	**Pn**	**02 48 56.8**	**+2.1**
HOPEN				*e*S	**Sn**	**02 49 45.4**	**-1.8**
HOPEN	comp=Z,8.1nm,0.4s			IAML		02 49 47.1	
HOPEN	**Hopen**	**4.52**	**52**	Pn	**Pn**	**02 48 56.6**	**+1.9**
HOPEN				Sn	**Sn**	**02 49 45.7**	**-1.5**
HOPEN	**Hopen**	**4.52**	**52**	*e*P	**Pn**	**02 48 56.4**	**+1.8**
HOPEN				*e*S	**Sn**	**02 49 44.6**	**-2.6**
KBS	**Kingsbay**	**4.80**	**5**	*e*P	**Pn**	**02 48 57.9**	**-0.5**
KBS				*e*S	**Sn**	**02 49 51.1**	**-2.9**
KBS	comp=Z,2.5nm,0.7s			IAML		02 49 54.6	
KBS	**Kingsbay**	**4.80**	**5**	Pn	**Pn**	**02 48 57.9**	**-0.5**
KBS				Sn	**Sn**	**02 49 52.5**	**-1.4**
TRO	**Tromso**	**5.39**	**143**	*e*P	**Pn**	**02 49 09.6**	**+3.0**
TRO				*e*S	**Sn**	**02 50 06.1**	**-2.5**
TRO	comp=Z,0.8nm,0.8s			IAML		02 50 10.8	
HAMF	**Hammerfest**	**5.52**	**123**	*e*S	**Sn**	**02 50 08.3**	**-3.4**
HAMF	comp=Z,2.0nm,0.6s			IAML		02 50 17.4	
KIF	**Kilpisjarvi**	**6.26**	**141**	*e*P	**Pn**	**02 49 21.6**	**+3.1**
KIF				*e*S	**Sn**	**02 50 27.4**	**-2.6**
ARA0	**ARCESS Array S**	**6.77**	**126**	*e*S	**Sn**	**02 50 38.0**	**-4.4**
ARA0	comp=Z,1.5nm,0.8s			IAML		02 51 07.7

VADS IAML 02 50 55.1
comp=Z,6.4nm,0.4s
ZFI2 Zemlya Franca- 10.29 34 *eP* **Pn 02 50 13.8 +0.2**
OMEGA Omega 10.29 34 *eP* **Pn 02 50 13.9 +0.2**

*IDC **07** 02:54:32.8±3.0,35°.89N×70°.69E,h98km±26km,mb3.8/19, mbtmp4.2/25,MS2.6/1,Error ellipse: s-maj=18.9km s-min=14.4km az=176.0*
*MOS **07** 02:54:34.5±1.0,36°.06N×70°.58E,h121km,mb4.3/13,Error ellipse: s-maj=7.1km s-min=4.5km az=93.0*
*NEIC **07** 02:54:36.4±2.1,36°.09N±0°.04×70°.60E±0°.07,h123km±8km, mb4.4/19,Error ellipse: s-maj=8.4km s-min=5.0km az=83.0*
*NNC **07** 02:54:36.5±5.2,36°.69N×70°.19E,h0km,mb4.9,mpv4.5, Error ellipse: s-maj=56.7km s-min=23.0km az=149.0*
ISC 07 02:54:34.8±0.4,36°.12N±0°.04×70°.61E±0°.04,h110km, h110km:pP-P,n142,σ2s13/179,mb4.2/29,11C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.03**	**219**		**Pn**	**02 55 10.1**	**+1.7**
KBL				Sn	**Sn**	**02 55 35.2**	**+1.1**
KBL	**Kabul**	**2.03**	**219**	PN	**Pn**	**02 55 10.1**	**+1.7**
KBL				S	**Sn**	**02 55 35.0**	**+1.0**
CHGR	**Chuyangaron**	**2.78**	**336**	Pn	**Pn**	**02 55 19.5**	**+1.5**
CHGR	**Chuyangaron**	**2.78**	**336**	PN	**Pn**	**02 55 19.5**	**+1.5**
SIMJ	**Simiganj**	**2.83**	**334**	Pn	**Pn**	**02 55 20.4**	**+1.6**
GAR	**Garm**	**2.88**	**355**	Pn	**Pn**	**02 55 21.6**	**+2.2**
NIL	**Nilore**	**3.29**	**138**	Pn	**Pn**	**02 55 26.1**	**+1.4**
NIL	**Nilore**	**3.29**	**138**	PN	**Pn**	**02 55 26.1**	**+1.4**
DRK	**Karamyk**	**3.48**	**15**		**Pn**	**02 55 29.6**	**+2.2**
DRK	**Karamyk**	**3.48**	**15**	PN	**Pn**	**02 55 29.7**	**+2.2**
BTK	**Batken**	**3.93**	**2**	Pn	**Pn**	**02 55 36.6**	**+3.3**
BTK	**Batken**	**3.93**	**2**	PN	**Pn**	**02 55 36.6**	**+3.3**
JMU	**Jammu**	**4.91**	**133**	*eP*	**Pn**	**02 55 46.9**	**+0.5**
JMU				*eS*	**Sn**	**02 56 40.0**	**-2.1**
KSH	**Kashi**	**5.43**	**50**	Pn	**Pn**	**02 55 52.4**	**-1.2**
KSH				Sn	**Sn**	**02 56 47.1**	**-7.8**
KSH				smax	smax		
	comp=N,450nm,0.6s						
KSH				smax	smax		
	comp=E,320nm,0.7s						
ARSB	**Arslanbob**	**5.52**	**19**		**Pn**	**02 55 55.9**	**+1.2**
ARSB	**Arslanbob**	**5.52**	**19**	PN	**Pn**	**02 55 55.9**	**+1.2**
THN	**Thein Dam**	**5.61**	**130**	*eP*	**Pn**	**02 55 56.8**	**+1.0**
THN				*eS*	**Sn**	**02 56 57.6**	**-1.4**
THN				IAML		02 56 59.2	
	comp=E,368nm,0.5s						
THN				IAML		02 57 13.2	
	comp=E,561nm,0.3s						
IUG	**luzhnay**	**6.03**	**356**	*i* PN	**Pn**	**02 56 04.9**	**+3.2**
DHRM	**DHARAMSHALA**	**6.10**	**128**	*eP*	**Pn**	**02 56 03.0**	**+0.3**
DHRM				*eS*	**Sn**	**02 57 08.2**	**-3.0**
DHRM				*eS*		02 57 10.2	
DHRM				IAML		02 57 12.8	
	comp=E,687nm,0.4s						
DHRM				IAML		02 57 14.2	
	comp=E,663nm,0.2s						
BHK	**Bhakra**	**6.74**	**132**	*eP*	**Pn**	**02 56 11.4**	**+0.2**
BHK				*eS*	**Sn**	**02 57 24.1**	**-2.4**
UCH	**Uchtor**	**6.81**	**25**	P	**Pn**	**02 56 14.7**	**+2.1**
	SNR=41						
BRLS	**Borolday**	**6.92**	**355**	*i* PN	**Pn**	**02 56 11.8**	**-1.9**
KK31	**Karatay Array**	**6.97**	**359**		**Pn**	**02 56 15.5**	**+1.2**
KK31	**Karatay Array**	**6.97**	**359**	⇑P	**Pn**	**02 56 15.6**	**+1.3**
	comp=E,20nm,0.4s,baz=175,slow=11,SNR=359						
KK31				⇑S	**Sn**	**02 57 29.5**	**-2.6**
	comp=E,52nm,0.7s,baz=190,slow=24,SNR=4.5						
KK31	**Karatay Array**	**6.97**	**359**	PN	**Pn**	**02 56 15.5**	**+1.2**
KKAR	**Karatay Array**	**6.97**	**359**	Pn	**Pn**	**02 56 15.3**	**+1.0**
KKAR	**Karatay Array**	**6.97**	**359**	Pn	**Pn**	**02 56 15.5**	**+1.2**
KKAR	**Karatay Array**	**6.97**	**359**	PN	**Pn**	**02 56 15.3**	**+1.0**
EKS2	**Erkin-Say**	**6.98**	**20**	P	**Pn**	**02 56 16.4**	**+1.9**
	SNR=25						
AAK	**Ala-Archa**	**7.17**	**24**	P	**Pn**	**02 56 19.4**	**+2.3**
	SNR=15						
AAK	**Ala-Archa**	**7.17**	**24**		**Pn**	**02 56 19.1**	**+2.0**
AAK	**Ala-Archa**	**7.17**	**24**	P	**Pn**	**02 56 18.2**	**+1.1**
	comp=E,21nm,0.3s,baz=208,slow=11,SNR=25						
AAK				S	**Sn**	**02 57 35.9**	**-1.1**
	comp=E,36nm,0.5s,baz=15,slow=16,SNR=9.2						
AAK				LR	LR	02 59 05.5	
	comp=E,46nm,20.0s,baz=191,slow=37						
AAK	**Ala-Archa**	**7.17**	**24**	P	**Pn**	**02 56 19.1**	**+2.0**
	comp=E,12nm,0.3s						
AAK				⇓S	**Sn**	**02 57 35.5**	**-1.5**
	comp=E,48nm,0.7s						
AAK	**Ala-Archa**	**7.17**	**24**	*ce*PN	**Pn**	**02 56 18.4**	**+1.3**
AAK				pmax	pmax		
	comp=Z,24nm,0.8s						
KBK	**Karagaybulak**	**7.34**	**26**	P	**Pn**	**02 56 23.0**	**+3.6**
	SNR=6.2						
SMLA	**Simla**	**7.40**	**130**	*eP*	**Pn**	**02 56 19.5**	**-0.6**
SMLA				*eS*	**Sn**	**02 57 37.0**	**-5.4**
SMLA				IAML		02 57 43.5	
	comp=E,276nm,0.2s						
SMLA				IAML		02 57 45.7	
	comp=E,236nm,0.6s						
CHMS	**Chumysh**	**7.58**	**24**	P	**Pn**	**02 56 25.0**	**+2.5**
	SNR=14						
CHMS	**Chumysh**	**7.58**	**24**	⇑P	**Pn**	**02 56 24.5**	**+2.0**
	comp=E,14nm,0.5s						
CHMS				⇑S	**Sn**	**02 57 45.6**	**-1.2**
	comp=E,40nm,0.6s						
CHMS	**Chumysh**	**7.58**	**24**	PN	**Pn**	**02 56 24.5**	**+2.0**
BOOM	**Boomskoye usch**	**7.58**	**31**	Pn	**Pn**	**02 56 24.6**	**+1.9**
BOOM	**Boomskoye usch**	**7.58**	**31**	PN	**Pn**	**02 56 24.6**	**+1.9**
HNLY	**HANLEY**	**7.67**	**113**	*eP*	**Pn**	**02 56 25.2**	**+0.8**
HNLY				IAML		02 57 47.7	
	comp=E,20nm,0.5s						
HNLY				*ex*	x	02 57 51.7	
HNLY				IAML		02 57 57.0	
	comp=N,25nm,1.2s						
USP	**Ospenovka**	**7.74**	**22**	P	**Pn**	**02 56 27.2**	**+2.5**
	SNR=22						
TKM2	**Tokmak 2**	**7.81**	**28**	P	**Pn**	**02 56 29.4**	**+3.6**
	SNR=35						
TKM2	**Tokmak 2**	**7.81**	**28**	⇓P	**Pn**	**02 56 27.5**	**+1.7**
	comp=N,24nm,0.6s						
TKM2				⇑S	**Sn**	**02 57 50.8**	**-1.8**
	comp=N,14nm,0.7s						
TKM2	**Tokmak 2**	**7.81**	**28**	PN	**Pn**	**02 56 27.5**	**+1.7**
KLP	**Kalpa**	**7.83**	**124**	*eP*	**Pn**	**02 56 26.8**	**+0.4**
KLP				*ex*	x	02 57 46.4	
KLP				IAML		02 57 53.7	
	comp=E,184nm,0.5s						
KLP				IAML		02 57 58.1	
	comp=N,234nm,0.8s						
TARG	**Taragay, Kyrgy**	**7.92**	**43**	Pn	**Pn**	**02 56 29.1**	**+1.5**
TARG	**Taragay, Kyrgy**	**7.92**	**43**	PN	**Pn**	**02 56 29.1**	**+1.5**
DDI	**Dehra Dun**	**8.51**	**131**	*eP*	**Pn**	**02 56 35.1**	**-0.1**
DDI				*eS*	**Sn**	**02 58 02.2**	**-7.3**
NDI	**New Delhi**	**9.28**	**141**	*eP*	**Pn**	**02 56 45.4**	**-0.3**
BTLS	**Baital**	**9.29**	**15**	*i* P	**Pn**	**02 56 46.7**	**+1.1**
KUDL	**Kundal**	**9.38**	**146**	*eP*	**Pn**	**02 56 45.3**	**-1.7**
KUDL				*eS*	Sn	02 58 20.3	-10
KPKS	**Kokpek**	**9.61**	**38**	*i* P	**Pn**	**02 56 50.8**	**+0.7**
GEYT	**Alibeck**	**10.15**	**284**	P	**Pn**	**02 56 56.3**	**-1.1**
	comp=N,5.3nm,0.4s,baz=109,slow=12,SNR=13						
GEYT				S	**Sn**	**02 58 44.5**	**-4.8**
	comp=N,5.3nm,0.3s,baz=291,slow=25,SNR=5.4						
GEYT	**Alibeck**	**10.15**	**284**	P	**Pn**	**02 56 56.4**	**-1.0**
GYA0	**ALIBECK ARRAY**	**10.15**	**284**	P	**Pn**	**02 56 55.9**	**-1.5**
GYA0				S	**Sn**	**02 58 45.2**	**-4.1**
GYA0B	**ALIBECK ARRAY**	**10.15**	**284**	Pn	**Pn**	**02 56 56.0**	**-1.4**
GYA0B	**ALIBECK ARRAY**	**10.15**	**284**	⇓P	**Pn**	**02 56 56.0**	**-1.4**
GYA0B				⇓S	**Sn**	**02 58 45.2**	**-4.1**
AJM	**Ajmer**	**10.21**	**159**	*ex*	x	02 56 47.1	
AJM				*eP*	**Pn**	**02 56 57.0**	**-1.3**
AJM				*eS*	Sn	02 58 34.9	-16
AJM				IAML		02 58 47.4	
	comp=E,44nm,0.5s						
AJM				IAML		02 58 49.7	
	comp=E,56nm,0.2s						
AJM				IAML		02 58 51.0	
	comp=N,40nm,0.5s						
AJM				IAML		02 58 51.4	
	comp=N,38nm,0.5s						
MAKZ	**Makanchi**	**13.65**	**35**		**Pn**	**02 57 44.3**	**+0.6**
MAKZ	**Makanchi**	**13.65**	**35**	P	**Pn**	**02 57 44.3**	**+0.6**
MK31	**Makanchi Array**	**13.78**	**36**	Pn	**Pn**	**02 57 46.8**	**+1.3**
MK31	**Makanchi Array**	**13.78**	**36**	*i* P	**Pn**	**02 57 45.6**	**+0.2**
MKAR	**Makanchi Array**	**13.78**	**36**		**Pn**	**02 57 45.8**	**+0.4**
MKAR	**Makanchi Array**	**13.78**	**36**	P	**Pn**	**02 57 47.0**	**+1.6**
	comp=N,0.4nm,0.3s,baz=220,slow=12,SNR=8.9						
MKAR	**Makanchi Array**	**13.78**	**36**	P	**Pn**	**02 57 45.8**	**+0.4**
BHPL	**Bhopal**	**14.13**	**153**	*eP*	**Pn**	**02 57 47.9**	**-2.2**
BHPL				*i* pP	**P**	**02 57 55.9**	**+1.7**
BHPL				*ex*	x	03 00 13.6	
BHPL				*ex*	x	03 00 13.6	
WMQ	**Urumqi**	**15.17**	**54**	*eP*	**P**	**02 58 05.2**	**-0.5**
KURBB	**Kurchatov Arra**	**15.58**	**19**	P	**Pn**	**02 58 08.5**	**+0.3**
	comp=N,2.0nm,0.7s,baz=209,slow=10,SNR=9.5						
KURK	**Kurchatov**	**15.69**	**19**	Pn	**Pn**	**02 58 09.5**	**0.0**
KURK	**Kurchatov**	**15.69**	**19**	*ce*P	**Pn**	**02 58 09.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BVAR	**Borovoye Array**	**16.90**	**360**	P	**Pn**	**02 58 24.3**	**-0.2**
	comp=Z,5.1nm,0.4s,baz=167,slow=14,SNR=27						
BRVK	**Borovoye**	**16.94**	**359**	P	**Pn**	**02 58 25.3**	**+0.4**
BRVK				IAmb	IAmb	02 58 30.3	
	comp=Z,10.0nm,0.7s						
BRVK	**Borovoye**	**16.94**	**359**	*ce*P	**Pn**	**02 58 25.2**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AKTO	**Aktyubinsk**	**16.95**	**331**	P	**P**	**02 58 26.3**	**+1.0**
	comp=Z,8.0nm,0.3s,baz=139,slow=13,SNR=30						
AKTO				S	**Sn**	**03 01 24.2**	**-9.3**
	comp=Z,2.9nm,0.6s,baz=109,slow=7.5,SNR=2.8						
LKRN	**Lenkeran, Azer**	**17.53**	**285**	P	**P**	**02 58 31.9**	**+0.2**
SEKA	**Sheki**	**18.95**	**293**	P	**P**	**02 58 46.7**	**-0.6**
MNGR	**Mingechevir, A**	**18.98**	**291**	P	**P**	**02 58 47.8**	**+0.2**
GANJ	**Ganja**	**19.55**	**291**	P	**P**	**02 58 53.8**	**0.0**
HYB	**Hyderabad**	**19.92**	**157**	*eP*	**P**	**02 58 57.6**	**-0.4**
HYB				*ep*Pn	**pP**	**02 59 24.9**	**+5.7**
HYB				*es*P	**sP**	**02 59 35.9**	**+2.8**
HYB				*es*S	**S**	**03 02 36.2**	**0.0**
HYB				*es*S	**sS**	**03 03 13.9**	**+1.8**
NAX	**Nakhchivan**	**20.10**	**286**	P	**P**	**02 58 59.8**	**0.0**
ZAA0	**Zalesovo Array**	**20.39**	**25**	P	**P**	**02 59 03.6**	**+1.0**
ZAA0				IAmb	IAmb	02 59 08.3	
	comp=Z,12nm,0.6s						
ZALV	**Zalesovo Beam**	**20.39**	**25**	P	**P**	**02 59 03.2**	**+0.6**
ZALV	**Zalesovo Beam**	**20.39**	**25**	P	**P**	**02 59 03.5**	**+0.8**
	comp=Z,15nm,0.5s,baz=222,slow=11,SNR=28						
	comp=Z,15nm,0.5s						
ZALV	**Zalesovo Beam**	**20.39**	**25**	*i* P	**P**	**02 59 04.1**	**+1.4**
ZALV				pmax	pmax		
	comp=Z,15nm,0.5s						
GNI	**Garni**	**20.71**	**289**	P	**P**	**02 59 08.6**	**+2.1**
GNI	**Garni**	**20.71**	**289**	P	**P**	**02 59 06.7**	**+0.2**
	comp=Z,39nm,0.6s,baz=137,slow=14,SNR=22						
	comp=Z,39nm,0.6s						
GNI	**Garni**	**20.71**	**289**	*ce*P	**P**	**02 59 08.4**	**+1.9**
GNI				pmax	pmax		
	comp=Z,38nm,0.7s						
SHL	**Shillong**	**21.04**	**114**	P	**P**	**02 59 09.6**	**-0.5**
SHL				IAmb	IAmb	02 59 14.1	
	comp=Z,19nm,0.8s						
SHL	**Shillong**	**21.04**	**114**	P	**P**	**02 59 09.6**	**-0.5**
SHL				pmax	pmax		
	comp=Z,19nm,0.8s						
SVE	**Sverdlovsk**	**21.77**	**345**	*eP*	**P**	**02 59 19.8**	**+2.3**
SVE				*eS*	**S**	**03 03 17.3**	**+5.8**
SVE				pmax	pmax		
	comp=Z,13nm,0.9s						
ARU	**Arti**	**21.89**	**342**	P	**P**	**02 59 19.5**	**+0.8**
ARU				IAmb	IAmb	02 59 22.6	
	comp=Z,9.8nm,0.8s						
ARU	**Arti**	**21.89**	**342**	*d i* P	**P**	**02 59 20.9**	**+2.2**
ARU						02 59 51.2	
ARU				S	**S**	**03 03 16.9**	**+3.4**
ARU				SS	**SnSn**	**03 03 59.1**	**+9.3**
ARU				pmax	pmax		
	comp=Z,11nm,0.8s						
NCK	**Nalchik**	**21.95**	**298**	*i* P	**P**	**02 59 19.8**	**+0.3**
NCK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KBZ	**Khabaz**	**22.50**	**298**	P	**P**	**02 59 26.4**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=105,slow=12,SNR=2.7						
	comp=Z,2.6nm,0.8s						
BELG	**Belogornoye**	**22.99**	**322**	*i* P	**P**	**02 59 30.0**	**+0.2**
BELG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BR131	**Keskin Array S**	**29.25**	**288**	P	**P**	**03 00 26.7**	**+0.1**
BR131	**Keskin Array S**	**29.25**	**288**	*i* P	**P**	**03 00 28.0**	**+1.5**
BRTR	**Keskin Array B**	**29.25**	**288**	P	**P**	**03 00 27.3**	**+0.8**
BRTR	**Keskin Array B**	**29.25**	**288**	P	**P**	**03 00 27.7**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=100,slow=8.0,SNR=14						
	comp=Z,1.7nm,0.7s						
BRTR	**Keskin Array B**	**29.25**	**288**	*ce*P	**P**	**03 00 28.2**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**32.19**	**69**	*eP*	**P**	**03 00 52.3**	**-0.1**
HHC				pmax	pmax		
	comp=Z,59nm,5.2s						
ELL	**Elmali**	**32.58**	**283**	P	**P**	**03 00 56.5**	**+0.7**
ELL	**Elmali**	**32.58**	**283**	P	**P**	**03 00 56.5**	**+0.7**
ELL				pmax	pmax		
	comp=Z,32nm,0.5s						
AKASG	**Malin Array Be**	**32.94**	**309**	P	**P**	**03 00 59.2**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=83,slow=7.2,SNR=3.3						
	comp=Z,0.8nm,0.4s						
MNK	**Minsk**	**34.55**	**316**	*i* P	**P**	**03 01 11.4**	**-1.1**
	comp=E,2.0nm,0.7s,baz=104						
MNK				*i* P	**P**	**03 01 11.4**	**-1.1**
	comp=N,10.0nm,0.8s,baz=104						
MNK				*i* P	**P**	**03 01 11.4**	**-1.1**
	comp=Z,4.0nm,0.7s,baz=104						
MNK				*i* pP	**pP**	**03 01 36.9**	**-0.7**
	baz=104						
MNK				*i* PP	**PnPn**	**03 02 30.4**	**-1.1**
	baz=104						
MNK				*i* S	**S**	**03 06 31.7**	**-1.4**
	baz=104						
MNK				*i* sS	**sS**	**03 07 16.8**	**-1.1**
	baz=104						
MNK				*i* SS	**SnSn**	**03 08 56.1**	**-0.3**
	baz=104						
MNK				*i* LR	LR	03 14 24.2	
	baz=104						
MNK	**Minsk**	**34.55**	**316**	*i* P	**P**	**03 01 11.3**	**-1.1**
MNK				*i* *PP	**pP**	**03 01 36.9**	**-0.7**
MNK				*i*		03 02 30.4	
MNK				*i*		03 03 44.0	
MNK				*i* S	**S**	**03 06 31.7**	**-1.4**
MNK				*i* *SS	**sS**	**03 07 16.8**	**-1.1**
MNK				*i* SS	**SnSn**	**03 08 56.1**	**-0.3**
MNK				*i*		03 11 21.4	
MNK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.7s						
MNK				pmax	pmax		
	comp=N,10.0nm,0.9s						
NRIK	**Noril'sk**	**34.56**	**11**	P	**P**	**03 01 12.8**	**+0.5**
NRIK	**Noril'sk**	**34.56**	**11**	P	**P**	**03 01 13.3**	**+0.9**
	comp=N,2.9nm,0.4s,baz=175,slow=5.3,SNR=3.8						
	comp=N,2.9nm,0.4s						
NRIK	**Noril'sk**	**34.56**	**11**	*ce*P	**P**	**03 01 14.2**	**+1.8**
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MLR	**Muntele Rosu**	**34.69**	**300**	P	**P**	**03 01 14.4**	**+0.4**
MLR	**Muntele Rosu**	**34.69**	**300**	P	**P**	**03 01 14.4**	**+0.4**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
JOF	**Joensuu**	**36.04**	**330**	*eP*	**P**	**03 01 26.9**	**+1.8**
SANT	**Santorini**	**36.16**	**284**	P	**P**	**03 01 27.1**	**+0.5**
FIA1	**FINESS Array S**	**37.62**	**326**	P	**P**	**03 01 39.8**	**+1.2**
FIA1				IAmb	IAmb	03 01 56.8	
	comp=Z,14nm,1.4s						
FINES	**FINESS Array B**	**37.62**	**326**	P	**P**	**03 01 39.8**	**+1.2**
	comp=Z,4.7nm,0.6s,baz=113,slow=9.1,SNR=38						
	comp=Z,4.7nm,0.6s						
MTSE	**Matsula**	**37.82**	**322**	*eP*	**P**	**03 01 42.2**	**+1.9**
AGG	**Agios Georgios**	**38.02**	**289**	P	**P**	**03 01 42.4**	**+0.1**
AGG				IAmb	IAmb	03 02 03.1	
	comp=Z,7.6nm,1.2s						
AGG	**Agios Georgios**	**38.02**	**289**	P	**P**	**03 01 42.4**	**+0.1**
AGG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KEF	**Keuruu**	**38.42**	**327**	*eP*	**P**	**03 01 46.6**	**+1.3**
PUK	**Puka**	**39.33**	**295**	P	**P**	**03 01 53.1**	**-0.1**
PUK				IAmb	IAmb	03 02 08.1	
	comp=Z,6.9nm,1.2s						
VAF	**Ylistaro**	**39.68**	**328**	*eP*	**P**	**03 01 57.8**	**+2.1**
KEV	**Kevo**	**41.04**	**339**	P	**P**	**03 02 07.5**	**+0.7**
KEV				IAmb	IAmb	03 02 32.9	
	comp=Z,8.6nm,1.1s						
KEV	**Kevo**	**41.04**	**339**	P	**P**	**03 02 07.5**	**+0.7**
KEV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**03 02 11.0**	**+1.4**
ARCES				IAmb	IAmb	03 02 14.0	
	comp=Z,12nm,1.5s						
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**03 02 11.0**	**+1.4**
	comp=Z,4.7nm,0.6s,baz=106,slow=6.7,SNR=39						
	comp=Z,4.7nm,0.6s						
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**03 02 11.0**	**+1.4**
ARCES				pmax	pmax		
	comp=Z,12nm,1.5s						
HFS	**Hagfors**	**43.17**	**322**	P	**P**	**03 02 25.1**	**+0.8**
	comp=Z,3.8nm,0.5s,baz=98,slow=11,SNR=30						
	comp=Z,3.8nm,0.5s						
NORES	**NORESS Array B**	**44.30**	**323**	P	**P**	**03 02 34.3**	**+1.0**
NB2	**NORSAR Subarra**	**44.49**	**323**	P	**P**	**03 02 35.9**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.49**	**323**	P	**P**	**03 02 35.6**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=104,slow=7.3,SNR=11						
	comp=Z,1.4nm,0.6s						
SPITS	**Spitsbergen Ar**	**47.79**	**347**	P	**P**	**03 03 02.4**	**+1.9**
	comp=Z,1.7nm,0.5s,baz=108,slow=9.3,SNR=6.7						
	comp=Z,1.7nm,0.5s						
KEST	**Kesra**	**48.85**	**289**	P	**P**	**03 03 10.8**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=27,slow=9.0,SNR=4.6						
	comp=Z,1.7nm,0.6s						
EKA	**Eskdalemuir Ar**	**52.34**	**316**	P	**P**	**03 03 35.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=74,slow=7.0,SNR=5.5						
	comp=Z,0.1nm,0.3s						
ESDC	**Sonseca Array**	**57.35**	**298**	P	**P**	**03 04 12.0**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=58,slow=8.2,SNR=4.8						
	comp=Z,0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.39**	**269**	P	**P**	**03 05 04.4**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=47,slow=5.7,SNR=16						
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**75.23**	**16**	P	**P**	**03 06 04.6**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=342,slow=4.7,SNR=5.1						
	comp=Z,0.2nm,0.7s						
BOSA	**Boshof**	**77.25**	**220**	P	**P**	**03 06 16.7**	**-0.4**
	comp=Z,2.7nm,1.0s,baz=65,slow=5.3,SNR=3.1						
	comp=Z,2.7nm,1.0s						
WRA	**Warramunga Arr**	**82.06**	**122**	P	**P**	**03 06 41.7**	**-1.5**
	comp=Z,1.3nm,1.0s,baz=322,slow=4.9,SNR=7.5						
	comp=Z,1.3nm,1.0s						
WB2	**Warramunga Arr**	**82.07**	**122**	P	**P**	**03 06 41.3**	**-1.8**
WB2				IAmb	IAmb	03 07 04.7	
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**84.30**	**125**	P	**P**	**03 06 53.0**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=304,slow=4.7,SNR=8.7						
	comp=Z,0.6nm,0.6s						

*IDC **07** 03:14:25.5±0.6,31°.70N×83°.72E,h0km,mb3.9/20, mbtmp4.0/23,ML3.8/3,MS3.3/23,Error ellipse: s-maj=20.3km s-min=13.1km az=44.0*
*NDI **07** 03:14:26.5±2.6,32°.33N×84°.12E,h10km,ML3.6,MW4.1, mb4.4(NEIC)*
*MOS **07** 03:14:26.0±1.1,31°.76N×83°.71E,h16km,mb4.7/9,Error ellipse: s-maj=11.5km s-min=5.1km az=119.6*
*NEIC **07** 03:14:27.7±1.3,31°.81N±0°.08×83°.78E±0°.10,h10km±1km, mb4.4/31,Error ellipse: s-maj=16.8km s-min=10.4km az=222.0*
ISC 07 03:14:27.4±0.4,31°.85N±0°.05×83°.77E±0°.05,h10km,n133, σ1s45/130,mb4.3/42,MS3.3/23,6C,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.83**	**234**	*eP*	**Pb**	**03 15 31.9**	**-3.2**
PTH				*eS*	**Sb**	**03 16 22.7**	**+1.1**
PTH				IAML		03 16 30.6	
	comp=E,767nm,1.1s						
PTH				IAML		03 16 31.1	
	comp=N,494nm,0.5s						
LGTI	**Lohaghat**	**3.87**	**233**	*ex*	Pn	03 15 17.7	-9.3
LGTI				*eS*	**Sb**	**03 16 24.8**	**+2.2**
SMLA	**Simla**	**5.69**	**264**	*eP*	**Pn**	**03 15 54.4**	**+2.4**
SMLA				IAML		03 17 12.8	
	comp=E,28nm,0.8s						
SMLA				IAML		03 17 16.6	
	comp=N,39nm,0.9s						
GTK	**Tadong**	**6.17**	**136**	*eP*	**Pn**	**03 16 00.3**	**+1.5**
GTK				IAML		03 17 23.4	
	comp=N,36nm,0.6s						
GTK				IAML		03 17 25.7	
	comp=E,30nm,0.2s						
DHRM	**DHARAMSHALA**	**6.36**	**276**	*ex*	Pn	03 15 49.6	-12
LSA	**Lhasa**	**6.70**	**107**	Pn	**Pn**	**03 16 06.7**	**+0.3**
LSA	**Lhasa**	**6.70**	**107**	P	**Pn**	**03 16 06.7**	**+0.3**
THN	**Thein Dam**	**6.86**	**277**	*eP*	**Pn**	**03 16 11.3**	**+3.2**
NIL	**Nilore**	**9.04**	**284**	Pn	**Pn**	**03 16 39.1**	**+1.1**
NIL	**Nilore**	**9.04**	**284**	P	**Pn**	**03 16 39.1**	**+1.1**
SHL	**Shillong**	**9.48**	**129**	Pn	**Pn**	**03 16 43.6**	**-0.7**
SHL	**Shillong**	**9.48**	**129**	P	**Pn**	**03 16 43.6**	**-0.7**
KSH	**Kashi**	**9.93**	**323**	P	**Pn**	**03 16 54.3**	**+4.0**

comp=Z,38nm,18.1s,baz=185,slow=43
comp=Z,0.7nm,0.3s
KURBB **Kurchatov Arra 19.15 350** P **Pn 03 18 51.5 -0.1**
comp=Z,0.2nm,0.3s,baz=169,slow=11,SNR=12
comp=Z,2.2nm,0.5s
KURK **Kurchatov 19.23 350** P **P 03 18 51.0 -0.6**
KURK **Kurchatov 19.23 350** *ceP* **P 03 18 51.4 -0.2**
KURK pmax pmax
comp=Z,9.0nm,1.3s
GEYT **Alibeck 21.86 293** P **P 03 19 21.2 +0.8**
GEYT **Alibeck 21.86 293** P **P 03 19 21.4 +1.0**
comp=Z,1.3nm,0.5s,baz=124,slow=7.8,SNR=3.9
GEYT LR LR 03 28 50.0
comp=Z,87nm,18.0s,baz=158,slow=40
comp=Z,1.3nm,0.5s
ZAA0 **Zalesovo Array 22.10 2** P **P 03 19 22.6 0.0**
ZAA0 IAmb IAmb 03 19 25.5
comp=Z,15nm,0.8s
ZALV **Zalesovo Beam 22.10 2** P **P 03 19 22.8 +0.1**
ZALV **Zalesovo Beam 22.10 2** P **P 03 19 24.1 +1.5**
comp=Z,15nm,0.7s,baz=177,slow=12,SNR=58
ZALV LR LR 03 29 07.9
comp=Z,45nm,18.3s,baz=156,slow=40
comp=Z,15nm,0.7s
BVAR **Borovoye Array 23.27 339** P **P 03 19 36.1 +1.1**
comp=Z,1.9nm,0.6s,baz=134,slow=10,SNR=8.3
BVAR LR LR 03 29 35.9
comp=Z,58nm,19.8s,baz=148,slow=39
comp=Z,1.9nm,0.6s
BRVK **Borovoye 23.34 339** P **P 03 19 36.3 +0.6**
BRVK IAmb IAmb 03 19 58.1
comp=Z,3.7nm,0.7s
BRVK **Borovoye 23.34 339** *i* P **P 03 19 36.3 +0.6**
BRVK pmax pmax
comp=Z,12nm,2.2s
SONM **Songino Array 23.46 41** P **P 03 19 37.0 -0.2**
SONM **Songino Array 23.46 41** P **P 03 19 38.1 +1.0**
comp=Z,1.7nm,1.0s,baz=232,slow=11,SNR=6.9
SONM LR LR 03 30 06.7
comp=Z,51nm,20.2s,baz=333,slow=40
comp=Z,1.7nm,1.0s
HHC **Hu-ho-hao-te 24.04 60** *eP* **P 03 19 42.9 +0.1**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,64nm,5.2s
HHC LR LR
comp=N,170nm,8.0s
HHC LR LR
comp=E,160nm,8.8s
HHC LR LR
comp=Z,130nm,13.1s
AKTO **Aktyubinsk 26.63 322** P **P 03 20 06.5 +0.4**
comp=Z,2.1nm,0.6s,baz=117,slow=4.5,SNR=8.3
AKTO LR LR 03 31 29.1
comp=Z,34nm,18.0s,baz=271,slow=38
comp=Z,2.1nm,0.6s
ARU **Arti 30.18 332** LR LR 03 33 29.3
comp=Z,50nm,21.3s,baz=127,slow=38
ARU **Arti 30.18 332** *i* P **P 03 20 37.4 -0.3**
ARU pmax pmax
comp=Z,6.0nm,1.7s
BELG **Belogornoye 33.27 319** LR LR 03 35 47.9
comp=Z,27nm,18.7s,baz=268,slow=38
KIV **Kislovodsk 34.26 303** *eP* **P 03 21 10.3 -3.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,30nm,16.0s
KIRV **Kirov 35.38 329** LR LR 03 36 20.7
comp=Z,59nm,21.2s,baz=115,slow=37
KIRV **Kirov 35.38 329** *ceP* **P 03 21 24.0 +1.0**
KSRS **Korea Array 36.49 69** P **P 03 21 33.2 +0.3**
comp=Z,0.5nm,0.4s,baz=285,slow=7.9,SNR=1.5
comp=Z,0.5nm,0.4s
NRIK **Noril'sk 37.59 2** P **P 03 21 42.7 +0.9**
NRIK IAmb IAmb 03 21 44.5
comp=Z,8.1nm,0.9s
NRIK **Noril'sk 37.59 2** P **P 03 21 43.2 +1.4**
comp=Z,5.8nm,0.6s,baz=162,slow=7.8,SNR=8.9
comp=Z,5.8nm,0.6s
NRIK **Noril'sk 37.59 2** *ceP* **P 03 21 43.2 +1.4**
NRIK pmax pmax
comp=Z,11nm,1.0s
JOW **Kunigami 38.91 86** LR LR 03 39 13.1
comp=Z,44nm,19.3s,baz=356,slow=38
USRK **Ussuriysk Ar. 39.40 58** LR LR 03 41 22.3
comp=Z,34nm,18.6s,baz=224,slow=41
JNU **Nakatsue 39.49 75** LR LR 03 41 44.5
comp=Z,30nm,19.4s,baz=254,slow=41
BRTR **Keskin Array B 40.97 295** P **P 03 22 11.5 +0.9**
comp=Z,0.4nm,0.6s,baz=131,slow=6.5,SNR=4.3
comp=Z,0.4nm,0.6s
AKASG **Malin Array Be 44.01 312** P **P 03 22 34.2 -0.7**
comp=Z,0.5nm,0.4s,baz=84,slow=7.4,SNR=2.7
AKASG LR LR 03 44 09.2
comp=Z,45nm,18.9s,baz=75,slow=40
comp=Z,0.5nm,0.4s
AKBB **Malin Array Si 44.01 312** *ceP* **P 03 22 34.1 -0.9**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
ELL **Elmali 44.28 292** P **P 03 22 37.8 +0.3**
ELL **Elmali 44.28 292** P **P 03 22 37.8 +0.3**
ELL pmax pmax
comp=Z,28nm,0.8s
MNK **Minsk 45.17 317** *i* P **P 03 22 40.1 -4.2**
MNK *i* P **P 03 22 40.1 -4.2**
comp=N,12nm,1.2s,baz=97
MNK *i* P **P 03 22 40.1 -4.2**
comp=Z,5.0nm,0.6s,baz=97
MNK *i* PP **PP 03 24 29.6 -0.1**
baz=97
MNK *i* PPP PPP 03 25 07.6
baz=97
MNK *i* S **S 03 29 20.7 -3.0**
MNK *i* SS **SS 03 32 44.7 -1.2**
baz=97
MNK *i* SSS SSS 03 33 30.1
baz=97
MNK *i* LQ LQ 03 37 54.6
baz=97
MNK *i* LR LR 03 40 30.9
baz=97
MNK *i* LRM MLR 03 42 20.4
comp=Z,60nm,18.8s,baz=97
MNK *i* LRM MLR 03 43 40.4
comp=N,166nm,17.4s,baz=97
MNK *i* LRM MLR 03 43 42.9
comp=E,99nm,17.1s,baz=97
MNK Minsk 45.17 317 *i* P **P 03 22 40.0 -4.2**
MNK *i* 03 24 29.5
MNK *i* PPP PPP 03 25 07.5
MNK *i* S **S 03 29 20.7 -3.0**
MNK *i* SS **SS 03 32 44.6 -1.2**
MNK *i* SSS SSS 03 33 30.0
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK pmax pmax
comp=N,12nm,1.2s
MNK MLR MLR
comp=Z,60nm,19.0s
MNK MLR MLR
comp=N,166nm,17.0s
MNK MLR MLR
comp=E,99nm,17.0s
JOF **Joensuu 45.23 329** *eP* **P 03 22 45.8 +1.3**
MLR **Muntele Rosu 46.21 304** P **P 03 22 52.8 +0.1**
MLR IAmb IAmb 03 22 55.9
comp=Z,5.0nm,0.8s
MLR **Muntele Rosu 46.21 304** P **P 03 22 52.6 -0.1**
comp=Z,3.8nm,0.8s,baz=104,slow=9.1,SNR=7.1
MLR LR LR 03 48 04.1
comp=Z,18nm,20.6s,baz=71,slow=44
comp=Z,3.8nm,0.8s
MLR **Muntele Rosu 46.21 304** P **P 03 22 52.8 +0.1**
MLR pmax pmax
comp=Z,5.0nm,0.8s
TIXI **Tiksi 46.49 18** LR LR 03 42 38.9
comp=Z,45nm,18.5s,baz=248,slow=36
FINES **FINESS Array B 47.23 326** P **P 03 23 00.6 +0.3**
comp=Z,2.8nm,0.7s,baz=103,slow=10,SNR=9.0
comp=Z,2.8nm,0.7s
PABE **Paberze 47.51 318** *eP* **P 03 23 03.5 +1.0**
MEF **Metsahovi 47.82 325** *eP* **P 03 23 06.2 +1.3**
KEF Keuruu 47.93 327 *eP* **P 03 23 06.6 +0.9**
VAF Ylistaro 49.09 328 *eP* **P 03 23 15.7 +1.1**
ARCES **ARCESS Array B 49.53 337** P **P 03 23 18.5 +0.6**
comp=Z,2.0nm,0.8s,baz=88,slow=7.4,SNR=5.3
comp=Z,2.0nm,0.8s
MA2 **Magadan 51.59 37** LR LR 03 46 51.0
comp=Z,29nm,18.7s,baz=285,slow=38
VRAC **Vranov 52.19 310** LR LR 03 48 06.2
comp=Z,36nm,18.5s,baz=78,slow=39
HFS **Hagfors 53.14 324** P **P 03 23 45.2 0.0**
comp=Z,1.5nm,0.7s,baz=91,slow=8.3,SNR=7.7
comp=Z,1.5nm,0.7s
GERES **GERESS Array B 54.13 310** LR LR 03 50 56.5
comp=Z,27nm,19.1s,baz=87,slow=40
NB2 **NORSAR Subarra 54.34 325** P **P 03 23 53.8 -0.2**
comp=Z,1.1nm,0.7s,baz=88,slow=7.4
NOA **NORSAR Array B 54.34 325** P **P 03 23 53.9 -0.2**
comp=Z,1.0nm,0.7s,baz=88,slow=7.3,SNR=5.2
NOA LR LR 03 47 49.5
comp=Z,33nm,19.7s,baz=270,slow=37
comp=Z,1.0nm,0.7s
DAVOX **Davos/Dischmat 57.06 308** LR LR 03 52 34.3
comp=Z,26nm,18.2s,baz=87,slow=40
EKA **Eskdalemuir Ar 62.80 320** P **P 03 24 52.6 -0.3**
comp=Z,0.4nm,0.7s,baz=66,slow=7.8,SNR=1.7
comp=Z,0.4nm,0.7s
SUMG **Summit 68.65 344** *i* P **P 03 25 32.0 +1.1**
ESDC **Sonseca Array 68.91 304** P **P 03 25 31.6 -1.0**
comp=Z,0.1nm,0.3s,baz=74,slow=6.8,SNR=1.7
comp=Z,0.1nm,0.3s
F17K **Baldwin Pennin 70.34 23** P **P 03 25 41.9 +1.0**
WRA **Warramunga Arr 70.70 130** P **P 03 25 43.2 -0.6**
WRA **Warramunga Arr 70.70 130** P **P 03 25 43.0 -0.8**
comp=Z,1.8nm,0.6s,baz=324,slow=6.2,SNR=16
comp=Z,1.8nm,0.6s
WRA **Warramunga Arr 70.70 130** *i* P **P 03 25 42.0 -1.8**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WB2 **Warramunga Arr 70.71 130** P **P 03 25 42.8 -1.1**
WR0 **Warramunga Arr 70.85 130** P **P 03 25 43.9 -0.8**
E19K **Redstone River 71.00 21** P **P 03 25 45.7 +0.7**
E19K IAmb IAmb 03 25 46.7
comp=Z,3.3nm,0.7s
G19K **Purcell Mounta 71.87 22** P **P 03 25 50.6 +0.4**
G19K IAmb IAmb 03 25 52.0
comp=Z,2.3nm,0.8s
G21K **Allakaket 72.73 21** P **P 03 25 55.6 +0.2**
G21K IAmb IAmb 03 25 57.1
comp=Z,3.9nm,0.8s
ASAR **Alice Springs 73.11 133** P **P 03 25 57.9 -0.3**
comp=Z,1.5nm,0.7s,baz=316,slow=5.6,SNR=18
comp=Z,1.5nm,0.7s
K17K **Iditarod 73.59 25** P **P 03 26 01.3 +0.7**
BMAR **Burnt Mountain 74.56 17** P **P 03 26 07.3 +1.1**
MLY **Manley 74.58 21** P **P 03 26 06.9 +0.6**
MLY IAmb IAmb 03 26 08.3
comp=Z,2.7nm,0.8s
ILAR **Eielson Array 75.92 20** P **P 03 26 14.1 +0.1**
comp=Z,1.8nm,0.8s,baz=312,slow=5.1,SNR=23
ILAR PP **PP 03 29 04.5 +0.9**
comp=Z,0.2nm,0.8s,baz=326,slow=7.9,SNR=4.1
comp=Z,1.8nm,0.8s
TOA0 **Torodi Ar. Sit 76.53 277** P **P 03 26 17.0 -1.3**
TOA0 IAmb IAmb 03 26 34.4
comp=Z,5.2nm,1.2s
TORD **Torodi Ar. Bea 76.53 277** P **P 03 26 17.0 -1.2**
TORD IAmb IAmb 03 26 40.3
comp=Z,1.9nm,1.3s
TORD **Torodi Ar. Bea 76.53 277** P **P 03 26 17.1 -1.1**
comp=Z,0.8nm,0.6s,baz=42,slow=5.7,SNR=13
TORD LR LR 04 04 49.3
comp=Z,36nm,18.1s,baz=136,slow=40
comp=Z,0.8nm,0.6s
H29M **Whitestone 77.05 16** P **P 03 26 20.6 +0.3**
H29M IAmb IAmb 03 26 44.0
comp=Z,4.1nm,1.2s
J26L **Joseph Creek 77.07 19** P **P 03 26 20.9 +0.3**
J26L IAmb IAmb 03 26 22.1
comp=Z,3.0nm,0.7s
SCRK **Sand Creek 77.35 20** P **P 03 26 22.3 0.0**
SCRK IAmb IAmb 03 26 23.8
comp=Z,4.5nm,1.0s
SML **Sawmill 77.65 23** P **P 03 26 24.4 +0.5**
SML **Sawmill 77.65 23** P **P 03 26 24.4 +0.5**
SML pmax pmax
comp=Z,8.0nm,0.8s
SCM **Sheep Creek Mo 77.95 22** P **P 03 26 26.1 +0.5**
SCM IAmb IAmb 03 26 27.5
comp=Z,4.1nm,0.7s
SCM **Sheep Creek Mo 77.95 22** P **P 03 26 26.1 +0.5**
SCM pmax pmax
comp=Z,4.0nm,0.7s
I30M **Mount Dempster 78.34 16** P **P 03 26 28.8 +1.1**
I30M IAmb IAmb 03 26 34.0
comp=Z,1.9nm,0.9s
J30M **Hart River 78.89 16** P **P 03 26 31.9 +1.2**
J30M IAmb IAmb 03 26 37.0
comp=Z,1.9nm,0.8s
KDAK **Kodiak Island 79.00 27** P **P 03 26 31.9 +0.7**
KDAK **Kodiak Island 79.00 27** P **P 03 26 31.9 +0.7**
KDAK pmax pmax
comp=Z,24nm,1.5s
K29M **Barlow Dome 79.20 17** P **P 03 26 33.3 +0.8**
K29M IAmb IAmb 03 26 34.3
comp=Z,1.8nm,0.8s
TXAR **Lajitas Array 118.74 7** PKP **PKPdf 03 33 16.1 -0.4**
comp=Z,0.2nm,0.7s,baz=323,slow=0.5,SNR=2.8
QSPA **South Pole Qui 121.64 180** PKP **PKPdf 03 33 19.4 -1.2**
comp=Z,0.6nm,0.7s,baz=258,slow=0.2,SNR=5.2
LPAZ **La Paz 150.15 295** PKPbc **PKiKP 03 34 21.7 +0.9**
comp=Z,0.6nm,0.6s,baz=0.0,slow=1.0,SNR=1.6

*IDC **07** 03:26:04.8±1.1, 13°.00N×50°.94E, h0km, mb3.7/7, mbtmp3.7/7, MS3.3/14, Error ellipse: s-maj=35.0km s-min=27.2km az=172.0*
ISC 07 03:26:07.4±1.1, 13°.0N±0°.2×50°.9E±0°.2, h16km, n22, σ0°69/10, mb3.9/7, MS3.3/13, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.04**	**260**	LR	LR	03 30 37.1	
	comp=Z,11nm,18.3s,baz=208,slow=34						
WSAR	**Wadi Sarin**	**12.52**	**35**	LR	LR	03 33 35.5	
	comp=Z,201nm,18.3s,baz=224,slow=36						
GEYT	**Alibeck**	**25.62**	**13**	P	**P**	**03 31 35.6**	**-0.5**
	2.2nm,0.7s,baz=210,slow=8.3,SNR=4.6						
GEYT				LR	LR	03 43 25.0	
	comp=Z,119nm,19.3s,baz=182,slow=41						
	2.2nm,0.7s						
GNI	**Garni**	**27.57**	**350**	LR	LR	03 44 50.4	
	comp=Z,71nm,19.1s,baz=165,slow=41						
BRTR	**Keskin Array B**	**30.67**	**333**	LR	LR	03 45 17.2	
	comp=Z,23nm,19.2s,baz=143,slow=38						
KBZ	**Khabaz**	**31.38**	**349**	LR	LR	03 47 04.2	
	comp=Z,66nm,19.0s,baz=148,slow=40						
AAK	**Ala-Archa**	**35.88**	**30**	LR	LR	03 48 50.7	
	comp=Z,44nm,21.6s,baz=212,slow=38						
AKTO	**Aktyubinsk**	**37.76**	**7**	LR	LR	03 52 01.9	
	comp=Z,49nm,18.6s,baz=273,slow=41						
BELG	**Belogornoye**	**39.36**	**357**	LR	LR	03 53 39.2	
	comp=Z,30nm,19.0s,baz=243,slow=42						
MKAR	**Makanchi Array**	**42.74**	**32**	P	**P**	**03 34 04.6**	**+0.7**
	0.2nm,0.4s,baz=222,slow=7.4,SNR=3.0						
MKAR				LR	LR	03 53 14.2	
	comp=Z,27nm,20.6s,baz=217,slow=38						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**42.82**	**17**	PcP	**PcP**	**03 35 55.3**	**-0.2**
	0.3nm,0.4s,baz=258,slow=4.3,SNR=2.0						
BVAR				LR	LR	03 53 52.8	
	comp=Z,32nm,20.0s,baz=189,slow=39						
ARU	**Arti**	**43.72**	**6**	LR	LR	03 54 27.9	
	comp=Z,30nm,19.8s,baz=164,slow=39						
KIRV	**Kirov**	**45.49**	**359**	LR	LR	03 58 03.8	
	comp=Z,38nm,18.4s,baz=198,slow=42						
TORD	**Torodi Ar. Bea**	**47.90**	**276**	P	**P**	**03 34 45.9**	**+0.6**
	1.1nm,1.0s,baz=76,slow=7.0,SNR=4.8						
	1.1nm,1.0s						
BOSA	**Boshof**	**48.27**	**211**	LR	LR	03 58 22.1	
	comp=Z,28nm,18.2s,baz=22,slow=40						
SUR	**Sutherland**	**53.56**	**212**	LR	LR	03 58 27.3	
	comp=Z,39nm,19.0s,baz=95,slow=36						
ESDC	**Sonseca Array**	**54.91**	**309**	P	**P**	**03 35 37.5**	**-0.1**
	0.7nm,0.9s,baz=81,slow=6.1,SNR=6.5						
	0.7nm,0.9s						
SONM	**Songino Array**	**57.47**	**41**	P	**P**	**03 35 55.9**	**0.0**
	0.6nm,0.9s,baz=236,slow=4.7,SNR=4.9						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**88.32**	**111**	P	**P**	**03 38 58.4**	**-0.5**
	1.5nm,1.1s,baz=311,slow=4.8,SNR=5.0						
	1.5nm,1.1s						
ASAR	**Alice Springs**	**88.85**	**114**	P	**P**	**03 39 02.3**	**+0.8**
	0.5nm,0.8s,baz=297,slow=4.1,SNR=2.9						
	0.5nm,0.8s						
LPAZ	**La Paz**	**121.14**	**259**	PKP	**PKPdf**	**03 45 00.3**	**-0.9**
	0.8nm,0.9s,baz=80,slow=5.0,SNR=2.7						
TXAR	**Lajitas Array**	**131.28**	**330**	PKP	**PKPdf**	**03 45 19.1**	**-0.6**
	0.1nm,0.6s,baz=90,slow=2.7,SNR=2.1						

*SJA **07** 03:46:25.6±0.4, 20°.71S×69°.96W, h53km±3km, ML3.3, MW3.5*
*GUC **07** 03:46:27.4±0.8, 20°.73S×69°.92W, h48km±5km, ML3.4*
ISC 07 03:46:27.5±1.5, 20°.71S±0°.03×69°.97W±0°.09, h46km±13km, n18, σ0°91/32, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATCX	**Punta Patache**	**0.21**	**237**	*eP*	**Pn**	**03 46 35.0**	**-0.6**
PATCX				IAML		03 46 44.7	
	comp=Z,1μm,0.4s						
PATCX	**Punta Patache**	**0.21**	**237**	⇑*iP*	**Pn**	**03 46 35.0**	**-0.6**
PATCX				*eS*	**Sn**	**03 46 40.9**	**-0.3**
PATCX				IAML		03 46 41.3	
	comp=N,5μm,0.2s						
TA01	**Diego Aracena**	**0.25**	**306**	*eP*	**Pn**	**03 46 35.5**	**-0.3**
TA01				*eS*	**Sn**	**03 46 42.3**	**+0.7**
TA01				IAML		03 46 42.5	
	comp=Z,1μm,0.1s						
TA01	**Diego Aracena**	**0.25**	**306**	⇑*iP*	**Pn**	**03 46 35.7**	**-0.1**
TA01				*eS*	**Sn**	**03 46 42.1**	**+0.5**
TA01				IAML		03 46 42.7	
	comp=E,5μm,0.3s						
HMBC	**Humberstone**	**0.43**	**10**	*eP*	**Pn**	**03 46 37.4**	**-0.5**
HMBC				*eS*	**Sn**	**03 46 45.5**	**+0.3**
HMBC				IAML		03 46 47.1	
	comp=N,2μm,0.1s						
TA02	**Huaiquique**	**0.46**	**341**	*eP*	**Pn**	**03 46 38.2**	**+0.1**
TA02				*eS*	**Sn**	**03 46 46.8**	**+1.2**
PB11	**IPOC Station P**	**0.99**	**17**	*eP*	**Pn**	**03 46 44.5**	**-0.7**
PB11				*eS*	**Sn**	**03 46 58.6**	**+0.5**
PB11				IAML		03 47 01.2	
	comp=Z,507nm,0.2s						
PB11	**IPOC Station P**	**0.99**	**17**	*i* P	**Pn**	**03 46 44.5**	**-0.7**
PB11				*eS*	**Sn**	**03 46 58.1**	**0.0**
PB11				IAML		03 46 59.2	
	comp=N,1μm,0.1s						
GO01	**Chusmiza**	**1.27**	**35**	*eP*	**Pn**	**03 46 48.8**	**-0.5**
GO01				*eS*	**Sn**	**03 47 06.1**	**+0.8**
GO01				IAML		03 47 06.6	
	comp=Z,761nm,0.1s						
GO01	**Chusmiza**	**1.27**	**35**	*i* P	**Pn**	**03 46 48.9**	**-0.3**
GO01				*eS*	**Sn**	**03 47 05.3**	**0.0**
GO01				IAML		03 47 07.9	
	comp=N,3μm,0.1s						
PB09	**IPOC Station P**	**1.28**	**148**	*eP*	**Pn**	**03 46 48.5**	**-0.6**
PB09				*eS*	**Sn**	**03 47 05.5**	**+0.3**
PB09				IAML		03 47 05.9	
	comp=Z,997nm,0.2s						
PB09	**IPOC Station P**	**1.28**	**148**	⇓*iP*	**Pn**	**03 46 48.5**	**-0.6**
PB09				*eS*	**Sn**	**03 47 04.4**	**-0.7**
PB09				IAML		03 47 05.6	
	comp=E,1μm,0.2s						
PB04	**IPOC Station P**	**1.62**	**186**	*eP*	**Pn**	**03 46 53.2**	**-0.7**
PB04				*eS*	**Sn**	**03 47 14.2**	**+0.5**
PB04				IAML		03 47 17.4	
	comp=Z,586nm,0.2s						
PB04	**IPOC Station P**	**1.62**	**186**	*eP*	**Pn**	**03 46 53.0**	**-0.9**
PB06	**IPOC Station P**	**2.02**	**170**	*eP*	**Pn**	**03 46 59.0**	**-0.3**
PB06				*eS*	**Sn**	**03 47 25.0**	**+1.6**
PB06				IAML		03 47 29.8	
	comp=Z,285nm,0.6s						
LVC	**Limon Verde**	**2.13**	**153**	*eP*	**Pn**	**03 47 00.9**	**-0.1**
LVC				*eS*	**Sn**	**03 47 29.3**	**+2.8**
LVC				IAML		03 47 30.2	
	comp=Z,131nm,0.9s						
PB10	**IPOC Station P**	**2.84**	**191**	*eP*	**Pn**	**03 47 10.8**	**+0.4**
PB10				*eS*	Sn	03 47 58.2	+15
PB10				IAML		03 48 02.7	
	comp=Z,50nm,0.3s						
PB14	**IPOC Station P**	**3.92**	**186**	*eP*	**Pn**	**03 47 23.6**	**-1.9**
PB14				IAML		03 48 32.4	
	comp=Z,33nm,0.6s						

*IDC **07** 03:49:33.5±4.9, 31°.70S×179°.84E, h302km±39km, mb3.1/4, mbtmp3.8/5, Error ellipse: s-maj=49.1km s-min=21.1km az=52.0*
ISC 07 03:49:33.1±1.6, 31°.7S±0°.1×179°.9E±0°.3, h300km, n6, σ0°78/7, mb3.2/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.94**	**198**	P	**Pn**	**03 51 14.3**	**+0.7**
	4.0nm,0.4s,baz=355,slow=4.1,SNR=18						
URZ				S	**S**	**03 52 34.4**	**-0.5**
	17nm,0.6s,baz=325,slow=23,SNR=13						
ASAR	**Alice Springs**	**41.26**	**269**	P	**P**	**03 56 50.1**	**+0.3**
	0.5nm,1.0s,baz=105,slow=7.5,SNR=1.9						
	0.5nm,1.0s						
WRA	**Warramunga Arr**	**42.37**	**275**	P	**P**	**03 56 58.3**	**-0.5**
	0.3nm,0.3s,baz=114,slow=8.0,SNR=9.8						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**58.42**	**180**	P	**P**	**03 58 58.1**	**+0.5**
	3.1nm,0.7s,baz=8.2,slow=0.9,SNR=27						
	3.1nm,0.7s						
SNAA	**Sanae**	**76.91**	**179**	P	**P**	**04 00 51.1**	**-1.0**
	0.4nm,0.4s,baz=187,slow=19,SNR=2.8						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**145.69**	**338**	PKPbc	**PKPdf**	**04 08 35.4**	**+0.4**
	0.9nm,0.4s,baz=45,slow=4.1,SNR=18						

*NEIC **07** 03:52:07.2±1.1, 34°.99N±0°.01×97°.56W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=29.0*
TUL 07 03:52:07.5±1.1, 34°.99N±0°.01×97°.55W±0°.01, h5km±4km, ML2.2, mb_Lg2.4/47(NEIC), ML2.3/29(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=134.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.29**	**24**	Pg	Pg	03 52 13.7	+0.5
FNO				Sg	Sg	03 52 18.4	+1.3
FNO				IAML		03 52 21.7	
	comp=E,390nm,0.5s						
FNO				IAML		03 52 22.1	
	comp=N,380nm,0.4s						
OKCSW	**OKLAHOMA CITY**	**0.42**	**12**	Pg	Pg	03 52 15.9	+0.2
OKCSW				Sg	Sg	03 52 22.1	+0.9
OKCSW				IAML		03 52 25.6	
	comp=N,298nm,0.5s						
OKCSW				IAML		03 52 29.3	
	comp=E,543nm,0.7s						
X34A	**Smith Ranch, M**	**0.45**	**211**	Pg	Pg	03 52 16.5	+0.3
X34A				Sg	Sb	03 52 23.7	-1.4
X34A				IAML		03 52 27.8	
	comp=E,176nm,0.6s						
X34A				IAML		03 52 30.4	
	comp=N,170nm,0.5s						
W35A	**Tecumseh**	**0.57**	**74**	Pg	Pg	03 52 18.1	-0.4
W35A				Sg	Sg	03 52 26.9	+0.8
W35A				IAML		03 52 36.2	
	comp=N,139nm,0.4s						
LOOK	**Love County**	**1.04**	**163**	Pg	Pg	03 52 27.2	-0.3
LOOK				Sg	Sb	03 52 41.8	-0.2
WMOK	**Wichita Mounta**	**1.04**	**256**	Pg	Pg	03 52 26.2	-1.4
WMOK				Sg	Sg	03 52 40.3	-0.8
OK031	**S. Brethren Rd**	**1.12**	**31**	Pg	Pg	03 52 27.9	-1.1
OK031				Sg	Sg	03 52 43.5	0.0
OK031				IAML		03 52 48.6	
	comp=N,103nm,0.2s						
CSTR	**Hydro, Custer**	**1.14**	**305**	Pg	Pg	03 52 29.0	-0.4
OK052	**Battle Ridge R**	**1.17**	**31**	Pg	Pg	03 52 28.8	-1.2
OK052				Sg	Sg	03 52 45.0	-0.1
DEOK	**Depew**	**1.21**	**45**	Pg	Pg	03 52 29.2	-1.4
WTFS	**Witchita Falls**	**1.44**	**212**		Pn	03 52 33.3	-0.9
OK048	**Pawnee Station**	**1.50**	**19**		Pn	03 52 34.5	-0.6
CROK	**Carrier**	**1.55**	**347**		Pn	03 52 35.9	+0.1
OK051	**E0350 and S346**	**1.62**	**21**		Pn	03 52 36.7	0.0
Z35A	**Perchaven, San**	**1.67**	**172**		Pn	03 52 37.1	-0.3
TUL3	**Leonard**	**1.70**	**57**		Pn	03 52 37.9	0.0

TUL3 IAmb_Lg 03 53 04.1
comp=Z,16nm,0.7s
OK038 West end E0370 1.77 327 Pn Pn 03 52 39.4 +0.5
BLOK Blackwell 1.79 9 Pn Pn 03 52 39.8 +0.8
U32A Winter Ranch, 1.82 320 Pn Pn 03 52 39.7 +0.1
X37A Clayton 1.84 102 Pn Pn 03 52 40.5 +0.8
GC02 Grant County # 1.87 352 Pn Pn 03 52 40.9 +0.6
OK032 Salt Plains WL 1.89 344 Pn Pn 03 52 40.4 0.0
OK035 E0210 Rd and N 1.96 331 Pn Pn 03 52 42.1 +0.7
NOKA Waynoka 1.99 326 Pn Pn 03 52 42.7 +0.8
KAN14 Manchester OK 1.99 350 Pn Pn 03 52 42.0 +0.2
FW03 Perrin-Whitt E 1.99 193 Pn Pn 03 52 42.5 +0.6
FW06 Azle 2.01 180 Pn Pn 03 52 43.3 +1.1
KAN13 South Haven SW 2.02 2 Pn Pn 03 52 42.6 +0.4
KAN17 Caldwell West 2.06 355 Pn Pn 03 52 43.4 +0.7
T35A Sooner Cattle 2.10 23 Pn Pn 03 52 44.1 +0.8
SMWD Samnorwood 2.21 274 Pn Pb 03 52 46.5 -1.5
SMWD IAmb_Lg 03 53 16.7
comp=Z,17nm,0.9s
PLPT Palo Pinto 2.27 197 Pn Pn 03 52 46.2 +0.6
FW07 Weatherford 2.29 185 IAmb_Lg 03 53 22.3
comp=Z,14nm,0.8s
RLO Rose Lookout 2.37 60 Pn Pn 03 52 47.3 +0.2
FW14 Alvarado 2.60 173 IAmb_Lg 03 53 36.1
comp=Z,18nm,1.0s
FW13 Cleburne 2.63 178 IAmb_Lg 03 53 30.8
comp=Z,16nm,1.2s
APMT Aspermont 2.71 233 Pn Pn 03 52 52.0 +0.3
Z38A Mt. Pleasant 2.74 128 IAmb_Lg 03 53 38.1
comp=Z,14nm,0.9s
U38A Gravette 2.95 60 Pn Pn 03 52 55.4 +0.3
DKNS Dickens 3.09 246 Pn Pn 03 52 58.4 +1.4
HHAR Hobbs 3.21 65 Pn Pn 03 52 58.8 +0.2
MIAR Mount Ida 3.30 97 Pn Pn 03 53 01.2 +1.4
MIAR IAmb_Lg 03 53 56.9
comp=Z,8.3nm,0.8s
AMTX Amarillo 3.40 269 IAmb_Lg 03 53 59.0
comp=Z,7.9nm,0.9s
R32A Long Quarter, 3.55 345 Pn Pn 03 53 01.5 -1.8
R32A IAmb_Lg 03 54 04.5
comp=Z,8.5nm,0.8s
POST Post 3.80 241 Pn Pn 03 53 07.8 +1.0
BRDY Brady 3.89 199 Pn Pn 03 53 05.9 -2.1
BRDY IAmb_Lg 03 54 12.9
comp=Z,6.6nm,0.7s
CBKS Cedar Bluff 4.20 336 IAmb_Lg 03 54 23.8
comp=Z,6.7nm,0.8s
SGCY Sterling City 4.29 225 IAmb_Lg 03 54 29.4
comp=Z,6.8nm,0.9s
WHAR Wooly Hollow 4.32 85 Pn Pn 03 53 16.2 +2.3
WHAR IAmb_Lg 03 54 30.7
comp=Z,7.6nm,0.8s
S39A Bolivar 4.35 50 IAmb_Lg 03 54 27.7
comp=Z,9.4nm,0.9s
MSTX Muleshoe 4.43 258 IAmb_Lg 03 54 31.0
comp=Z,5.3nm,0.9s
FCAR Ozark Folk Cen 4.52 77 IAmb_Lg 03 54 37.9
comp=Z,5.5nm,0.9s
MGMO Mountain Grove 4.79 62 IAmb_Lg 03 54 52.6
comp=Z,7.5nm,0.9s
OZNA Ozona 5.05 218 Pn Pn 03 53 23.1 -0.9
R40A Maddies Statio 5.37 51 IAmb_Lg 03 55 12.9
comp=Z,9.0nm,1.2s
HNDO Hondo 5.64 196 IAmb_Lg 03 55 10.5
comp=Z,8.5nm,0.9s
T25A Trinidad 5.96 293 IAmb_Lg 03 55 23.1
comp=Z,5.0nm,0.8s
DRIO Del Rio 6.13 206 IAmb_Lg 03 55 36.0
comp=Z,4.7nm,1.0s
Q24A Divide 7.26 305 IAmb_Lg 03 55 52.6
comp=Z,5.4nm,0.7s
PLAL Pickwick Lake 7.78 87 IAmb_Lg 03 56 27.1
comp=Z,2.5nm,0.8s
N23A Red Feather La 8.87 314 IAmb_Lg 03 57 03.2
comp=Z,2.7nm,0.8s

*IDC **07** 03:56:02.4±0.7, 6°.53S×106°.60E, h0km, mb4.0/10, mbtmp4.0/10, MS3.3/3, Error ellipse: s-maj=42.7km s-min=18.6km az=50.0*
*NEIC **07** 03:56:05.7±1.5, 7°.05S±0°.07×106°.25E±0°.07, h10km±1km, mb4.5/9, Error ellipse: s-maj=13.1km s-min=11.7km az=42.0*
*DJA **07** 03:56:06.4±0.3, 7°S±3°×10°6E±°, h10km, M4.7/14, mb5.1/1, MLv4.4/14*

ISC 07 03:56:04.1±1.7, 6°.97S±0°.05×106°.33E±0°.05, h4km±11km, n55, σ1°.56/48, mb4.2/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.23**	**100**	P	**Pg**	**03 56 10.6**	**+2.0**
DBJI	**Dramaga**	**0.58**	**46**	P	**Pb**	**03 56 16.1**	**-0.9**
CBJI	**Citeko**	**0.75**	**44**	P	**Pg**	**03 56 17.6**	**-0.9**
CBJI				S	**Sg**	**03 56 25.2**	**-3.0**
TNG	**Tangerang**	**0.85**	**22**	P	**Pg**	**03 56 21.3**	**+0.9**
TNG				P	**Pb**	**03 56 21.1**	**-0.4**
CNJI	**Cibinong**	**0.86**	**113**	P	**Pg**	**03 56 21.0**	**+0.3**
SBJI	**Serang**	**0.86**	**347**	P	**Pg**	**03 56 21.8**	**+1.1**
LEM	**Lembang**	**1.28**	**84**	P	**Pn**	**03 56 28.8**	**-0.3**
BLSI	**Bandar Lampung**	**1.92**	**326**	P	**Pn**	**03 56 39.6**	**+1.9**
JCJI	**Jatiwangi**	**1.98**	**76**	P	**Pn**	**03 56 37.9**	**-0.6**
CMJI	**Cimerak**	**2.25**	**111**	P	**Pn**	**03 56 42.9**	**+0.6**
KASI	**Kota Agung**	**2.32**	**308**	P	**Pn**	**03 56 45.3**	**+2.1**
KPJI	**Karang Pucung**	**2.61**	**98**	P	**Pn**	**03 56 48.7**	**+1.6**
LWLI	**Liwa**	**2.98**	**310**	P	**Pn**	**03 56 54.5**	**+2.2**
XMIS	**Christmas Isla**	**3.56**	**191**	Pn	**Pn**	**03 56 57.9**	**-2.4**
SMRI	**Semarang**	**4.08**	**91**		**Pn**	**03 57 08.8**	**+1.3**
MNAI	**Manna**	**4.24**	**307**	Pn	**Pn**	**03 57 10.7**	**+1.1**
MNAI	**Manna**	**4.24**	**307**	P	**Pn**	**03 57 12.1**	**+2.5**
UGM	**Wanagama**	**4.26**	**103**	Pn	**Pn**	**03 57 11.8**	**+1.9**
UGM	**Wanagama**	**4.26**	**103**	P	**Pn**	**03 57 10.6**	**+0.6**
PMBI	**Palembang**	**4.30**	**339**	Pn	**Pn**	**03 57 12.4**	**+1.9**
PPSI	**Pulau Pagai**	**7.55**	**303**	P	**Pn**	**03 57 56.8**	**+1.6**
JAGI	**Jajag, Banyuwa**	**7.89**	**101**	Pn	**Pn**	**03 58 01.6**	**+1.7**
GSI	**Gunungsitoli**	**11.99**	**313**	Pn	**Pn**	**03 58 56.3**	**+0.2**
KAPI	**Kappang**	**13.49**	**82**	LR	LR	04 05 12.3	
	comp=Z,95nm,19.5s,baz=297,slow=42						
FITZ	**Fitzroy Crossi**	**21.83**	**122**	P	**P**	**04 00 58.1**	**+0.3**
KNRA	**Kununurra**	**23.62**	**113**	P	**P**	**04 01 15.3**	**-1.2**
KNRA				IAmb	IAmb	04 01 16.4	
	comp=Z,8.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**26.29**	**344**	LR	LR	04 13 51.1	
	comp=Z,67nm,19.3s,baz=180,slow=41						
NWAO	**Narrogin (SRO)**	**27.75**	**160**	LR	LR	04 13 15.0	
	comp=Z,53nm,18.8s,baz=224,slow=37						
H01W3	**Cape Leeuwin H**	**28.70**	**167**	T	T	04 32 40.2	
	baz=344,slow=74						
H01W1	**Cape Leeuwin H**	**28.71**	**167**	T	T	04 32 38.2	
	baz=344,slow=74						
H01W2	**Cape Leeuwin H**	**28.71**	**167**	T	T	04 32 37.9	
	baz=344						
WB0	**Warramunga Arr**	**30.06**	**118**	P	**P**	**04 02 14.3**	**-0.5**
WB0				IAmb	IAmb	04 02 22.8	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**30.07**	**118**	P	**P**	**04 02 13.8**	**-1.1**
WRA	**Warramunga Arr**	**30.07**	**118**	P	**P**	**04 02 14.2**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=299,slow=8.8,SNR=11						
WRA				PcP	**PcP**	**04 05 15.9**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=310,slow=2.1,SNR=6.7						
	comp=Z,2.3nm,0.9s						
ASAR	**Alice Springs**	**31.25**	**125**	P	**P**	**04 02 24.7**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=309,slow=9.4,SNR=6.8						
ASAR				PcP	**PcP**	**04 05 18.4**	**-1.7**
	comp=Z,1.5nm,1.1s,baz=307,slow=3.4,SNR=4.0						
	comp=Z,1.0nm,0.9s						
H08S2	**Diego Garcia H**	**33.57**	**267**	T	T	04 38 13.1	
	baz=92,slow=76,SNR=244						
H08S3	**Diego Garcia H**	**33.58**	**267**	T	T	04 38 13.9	
	baz=92,slow=76,SNR=240						
H08S1	**Diego Carcia H**	**33.58**	**267**	T	T	04 38 12.6	
	baz=92,slow=76,SNR=160						
STKA	**Stephens Creek**	**41.16**	**132**	P	**P**	**04 03 49.3**	**-0.6**
STKA	**Stephens Creek**	**41.16**	**132**	P	**P**	**04 03 48.7**	**-1.2**
	comp=Z,1.8nm,0.4s,baz=299,slow=13,SNR=1.6						
	comp=Z,1.8nm,0.4s						
LYN	**LuoYang**	**41.70**	**8**	*eP*	**P**	**04 03 58.5**	**+4.3**
LYN				pmax	pmax		
	comp=Z,15nm,0.8s						
MKAR	**Makanchi Array**	**57.63**	**341**	P	**P**	**04 05 54.9**	**-0.6**
MKAR	**Makanchi Array**	**57.63**	**341**	P	P	04 05 50.9	-4.6
	comp=Z,0.2nm,0.4s,baz=159,slow=4.5,SNR=2.3						
	comp=Z,0.2nm,0.4s						
BVAR	**Borovoye Array**	**67.08**	**337**	P	**P**	**04 06 55.6**	**-3.0**
	comp=Z,0.5nm,0.6s,baz=138,slow=9.0,SNR=2.1						
	comp=Z,0.5nm,0.6s						
VNDA	**Vanda**	**76.12**	**169**	P	**P**	**04 07 53.3**	**+0.4**
VNDA				IAmb	IAmb	04 07 56.6	
	comp=Z,3.3nm,1.4s						
VNDA	**Vanda**	**76.12**	**169**	P	**P**	**04 07 53.6**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=298,slow=7.6,SNR=5.0						
	comp=Z,0.5nm,0.4s						
KBZ	**Khabaz**	**76.18**	**318**	P	**P**	**04 07 52.1**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=207,slow=4.5,SNR=2.4						
	comp=Z,1.6nm,0.7s						
BRTR	**Keskin Array B**	**81.31**	**312**	P	**P**	**04 08 21.5**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=136,slow=9.9,SNR=5.0						
	comp=Z,0.6nm,0.7s						
QSPA	**South Pole Qui**	**83.03**	**180**	P	**P**	**04 08 31.0**	**+0.2**
QSPA				IAmb	IAmb	04 08 32.4	
	comp=Z,5.3nm,1.3s						
QSPA	**South Pole Qui**	**83.03**	**180**	P	**P**	**04 08 31.5**	**+0.7**
	comp=Z,1.8nm,1.0s,baz=4.2,slow=1.0,SNR=6.7						
	comp=Z,1.8nm,1.0s						
MLR	**Muntele Rosu**	**88.22**	**316**	P	**P**	**04 08 57.2**	**+0.2**
SNAA	**Sanae**	**89.36**	**197**		**P**	**04 09 02.7**	**+0.9**
SNAA				IAmb	IAmb	04 09 10.3	
	comp=Z,4.9nm,1.2s						
SNAA	**Sanae**	**89.36**	**197**	P	**P**	**04 09 03.1**	**+1.3**
	comp=Z,2.2nm,1.0s,baz=42,slow=1.9,SNR=4.2						
	comp=Z,2.2nm,1.0s						
CPUP	**Villa Florida**	**143.30**	**205**	PKP	PKPbc	04 15 39.3	+1.7
	comp=Z,1.3nm,0.9s,baz=130,slow=1.4,SNR=3.1						
BDFB	**Brasilia**	**146.09**	**228**	PKPbc	**PKPdf**	**04 15 47.0**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=142,slow=3.7,SNR=3.3						

DJA 07 04:01:15.3±0.4, 7°S±4°×10°6E±°, h10km, M4.2/13, mb4.4/1, MLv4.1/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.16**	**127**	P	Pg	04 01 19.8	+1.0
DBJI	**Dramaga**	**0.47**	**42**	P	Pb	04 01 25.4	-0.4
CBJI	**Citeko**	**0.64**	**41**	P	Pg	04 01 26.5	-1.2
TNG	**Tangerang**	**0.76**	**16**	P	Pg	04 01 30.1	0.0
TNG				P	Pg	04 01 30.1	0.0
CNJI	**Cibinong**	**0.80**	**120**	P	Pg	04 01 30.0	-0.7
SBJI	**Serang**	**0.84**	**339**	P	Pg	04 01 31.2	-0.3
LEM	**Lembang**	**1.18**	**86**	P	Pg	04 01 38.0	-0.1
JCJI	**Jatiwangi**	**1.88**	**77**	P	Pn	04 01 47.5	+0.1
BLSI	**Bandar Lampung**	**1.93**	**322**	P	Pn	04 01 48.2	-0.1
CMJI	**Cimerak**	**2.18**	**114**	P	Pn	04 01 51.3	-0.4
KASI	**Kota Agung**	**2.37**	**306**	P	Pn	04 01 54.9	+0.7
KPJI	**Karang Pucung**	**2.52**	**100**	P	Pn	04 01 56.9	+0.6
LWLI	**Liwa**	**3.02**	**308**	P	Pn	04 02 03.0	-0.3
UGM	**Wanagama**	**4.18**	**104**	P	Pn	04 02 19.8	+0.6
PWJI	**Pagerwojo**	**5.44**	**102**	P	Pn	04 02 37.1	+0.6

*NEIC **07** 04:04:37.6, 19°.40N×155°.29W, h12km*
*BJI **07** 04:04:37.7±0.0, 19°.03N×154°.95W, h22km, mb4.9/19, mBs.7/26, Ms5.2/29, Ms7 5.0/30*
*HVO **07** 04:04:37.6±1.4, 19°.4N±0°.1×155°.3W±0°.2, h0km±7km, ML4.1/45, mb4.9/83(NEIC), ML3.6/40(NEIC), Mww5.3/19(NEIC), Error ellipse: s-maj=24.2km s-min=21.3km az=108.0*
*NEIC **07** 04:04:37.6, 19°.50N×155°.29W, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.98; $M_{\theta\theta}$0.45; $M_{\phi\phi}$0.52; $M_{r\theta}$-0.25; $M_{\theta\phi}$0.43; $M_{\phi r}$0.42; Fault plane solution: $M_0$1.05000×10^{17} NP1: ϕ_s201.81000°, δ53.11000°, λ-116.15000°. NP2: ϕ_s61.09000°, δ44.12000°, λ-59.58000°. Principal axes: T 0.9283, Plg5.0000°, Azm310.0000°; N 0.2364, Plg21.0000°, Azm218.0000°; P -1.1646, Plg69.0000°, Azm52.0000°;*
*NEIC **07** 04:04:38.6±1.1, 19°.4N±0°.1×155°.3W±0°.2, h4km±6km Error ellipse: s-maj=24.8km s-min=18.9km az=100.0*
*IDC **07** 04:04:40.4±1.3, 19°.49N×155°.33W, h0km, mb4.0/10, mbtmp4.0/10, MS4.4/68, Error ellipse: s-maj=41.3km s-min=12.3km az=175.0*
*GCMT **07** 04:04:45.6±0.1, 19°.36N±0°.01×155°.20W±0°.01, h12km, MW5.3/148, Moment Tensor Solution. s73, c102; s148, c247; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.00±.01; $M_{\theta\theta}$0.50±.01; $M_{\phi\phi}$0.49±.01; $M_{r\theta}$0.32±.04; $M_{\theta\phi}$0.41±.01; $M_{\phi r}$0.13±.04; Best double couple: $M_0$1.01000×10^{17} NP1: ϕ_s232.00000°, δ55.00000°, λ-82.00000°. NP2: ϕ_s39.00000°, δ36.00000°, λ-101.00000°. Principal axes: T 0.9560, Plg9.0000°, Azm317.0000°; N 0.1090, Plg6.0000°, Azm48.0000°; P -1.0650, Plg79.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 04:04:39.3±0.3, 19°.43N±0°.03×155°.26W±0°.03, h10km, n590, σ1°.77/548, mb4.8/61, MS4.5/85, 1C-2D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATHI	**Halema'uma'u T**	**0.00**	**167**	Pg	**Pg**	**04 04 39.0**	**-2.2**
SBLHI	**Steaming Bluff**	**0.01**	**270**		**Pg**	**04 04 39.7**	**-1.5**
BYL	**Byron's Ledge**	**0.01**	**173**		**Pg**	**04 04 39.1**	**-2.1**
UWB	**Uwekahuna B**	**0.01**	**261**		**Pg**	**04 04 39.9**	**-1.4**
OBL	**Observatory Le**	**0.02**	**246**		**Pg**	**04 04 39.1**	**-2.2**
KKO	**Keanakako'i**	**0.03**	**187**		**Pg**	**04 04 39.3**	**-2.1**
UWE	**Uwekahuna**	**0.03**	**259**		**Pg**	**04 04 38.6**	**-2.8**
RIM	**Rim**	**0.03**	**200**		**Pg**	**04 04 39.3**	**-2.0**
RSD	**Rainshed**	**0.04**	**337**		**Pg**	**04 04 39.6**	**-1.8**
WRMHI	**West Rim**	**0.04**	**240**		**Pg**	**04 04 38.4**	**-3.0**
SDHHI	**Sand Hill**	**0.05**	**219**		**Pg**	**04 04 38.9**	**-2.6**
PUH	**Pauahi**	**0.07**	**141**		**Pg**	**04 04 40.1**	**-1.5**
PUH				IAML		04 04 40.5	
	comp=E,3μm,0.9s						
PUH				IAML		04 04 41.5	
	comp=N,10μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.10**	**118**		**Pg**	**04 04 41.2**	**-0.8**
MLH	**Mauna Loa**	**0.14**	**300**	Pg	**Pg**	**04 04 41.4**	**-1.3**
MLH				IAML		04 04 44.0	
	comp=E,35μm,0.9s						
MLH				IAML		04 04 44.2	
	comp=N,21μm,0.8s						
STCH	**Steam Cracks**	**0.14**	**108**		**Pg**	**04 04 41.8**	**-0.8**
STCH				IAML		04 04 46.0	
	comp=E,42μm,0.9s						
STCH				IAML		04 04 46.0	
	comp=N,29μm,1.1s						
HLP	**Hilina Pali**	**0.14**	**198**	Pg	**Pg**	**04 04 40.9**	**-1.7**
HLP				IAML		04 04 43.1	
	comp=E,16μm,0.8s						
HLP				IAML		04 04 43.3	
	comp=N,11μm,0.7s						
NPOC	**North of Pu'u**	**0.15**	**103**		**Pg**	**04 04 41.9**	**-0.8**
NPOC					**Sg**	**04 04 44.4**	**-0.7**
JCUZ	**Jacuzzi**	**0.16**	**106**		**Pg**	**04 04 42.3**	**-0.6**
JCUZ					**Sg**	**04 04 45.0**	**-0.3**
HTC	**Hot Caves**	**0.23**	**214**		**Pg**	**04 04 42.2**	**-1.9**
JOKA	**Jonika Flow**	**0.24**	**88**		**Pg**	**04 04 43.6**	**-0.7**
JOKA				IAML		04 04 50.2	
	comp=N,26μm,1.6s						
JOKA				IAML		04 04 52.7	
	comp=E,33μm,1.3s						
HMH	**Humu'ula Sheep**	**0.27**	**310**		**Pg**	**04 04 43.9**	**-1.1**
HMH				IAML		04 04 50.1	
	comp=E,23μm,0.8s						
HMH				IAML		04 04 50.2	
	comp=N,32μm,1.9s						
PAH	**Pahoa**	**0.30**	**77**	Pg	**Pg**	**04 04 45.3**	**-0.2**
MLOA	**Mauna Loa Obse**	**0.32**	**290**	Pg	**Pg**	**04 04 44.6**	**-1.2**
MLOA				IAML		04 04 51.8	
	comp=N,26μm,1.2s						
MWH	**Moku'aweowe**	**0.32**	**280**	Pg	**Pg**	**04 04 44.8**	**-1.2**
KHU	**Kahuku**	**0.38**	**242**	Pg	**Pg**	**04 04 45.9**	**-1.1**
KHU				IAML		04 04 53.5	
	comp=E,14μm,2.8s						
KHU				IAML		04 04 54.5	
	comp=N,21μm,0.8s						
POHA	**Pohakuloa**	**0.42**	**322**	Pg	**Pg**	**04 04 47.3**	**-0.3**
POHA	**Pohakuloa**	**0.42**	**322**		**Sg**	**04 04 48.6**	**-4.6**
HPO	**Honuapo**	**0.43**	**219**		**Pg**	**04 04 46.6**	**-1.3**
HUH	**Hualalai**	**0.60**	**295**	Pg	**Pg**	**04 04 50.2**	**-0.9**
I59US	**HAWAII INFRASO**	**0.62**	**285**	Pg	**Pg**	**04 04 50.7**	**-0.7**
	baz=149,slow=6.1						
I59US				I	I	04 07 54.6	
	comp=N,0.1nm,1.0s,baz=107,slow=316,SNR=2.1						
HPAH	**Hawaii Prepara**	**0.73**	**326**	Pg	**Pg**	**04 04 51.6**	**-1.8**
MHA	**Mahukona**	**0.97**	**322**	Pg	**Pg**	**04 04 55.3**	**-2.7**
HLK	**Haleakala**	**1.62**	**325**		**Pn**	**04 05 06.2**	**-2.0**
KHLH	**Kahului Airpor**	**1.83**	**323**	Pn	**Pn**	**04 05 08.3**	**-2.5**
KPA	**Kalaupapa**	**2.39**	**318**	Pn	**Pn**	**04 05 16.2**	**-2.3**
DHH	**Diamond Head**	**3.00**	**308**	Pn	**Pn**	**04 05 25.0**	**-2.0**
HON	**Honolulu**	**3.19**	**307**	Pn	**Pn**	**04 05 27.1**	**-2.4**
KIP	**Kipapa**	**3.26**	**308**	Pn	**Pn**	**04 05 28.1**	**-2.4**
AFDM	**Forest Hills D**	**35.41**	**49**	P	**P**	**04 11 35.4**	**-0.2**
YBH	**Yreka Blue Hor**	**35.45**	**44**	P	**P**	**04 11 36.3**	**+0.3**
CHNA	**Chernabura Isl**	**35.50**	**356**	P	**P**	**04 11 35.4**	**-0.6**
	baz=173						
H11N3	**WAKE ISLAND Hy**	**35.60**	**277**	T	T	04 48 44.7	
	baz=84,slow=73,SNR=138						
H11N2	**WAKE ISLAND Hy**	**35.61**	**277**	T	T	04 48 45.5	
	baz=84,slow=73,SNR=92						
H11N1	**WAKE ISLAND Hy**	**35.61**	**277**	T	T	04 48 46.0	
	baz=84,slow=73,SNR=59						
OSI	**Osito Audit: C**	**35.67**	**57**	P	**P**	**04 11 36.6**	**-1.4**
	baz=254						
H11S2	**WAKE ISLAND Hy**	**35.94**	**275**	T	T	04 49 12.0	
	baz=82,slow=74,SNR=22						
H11S1	**WAKE ISLAND Hy**	**35.94**	**275**	T	T	04 49 09.4	
	baz=82,slow=74,SNR=13						
H11S3	**WAKE ISLAND Hy**	**35.95**	**275**	T	T	04 49 13.2	
	baz=82,slow=74,SNR=16						
ISA	**Isabella, Lake**	**36.16**	**56**	P	**P**	**04 11 39.9**	**-2.2**
ISA				IAmb	IAmb	04 12 10.7	
	comp=Z,14nm,1.4s						
ISA	**Isabella, Lake**	**36.16**	**56**	P	**P**	**04 11 42.1**	**0.0**
	baz=253						
EDW2	**Edwards Air Fo**	**36.32**	**57**	P	**P**	**04 11 43.2**	**-0.4**
	baz=255						
WAKR	**Walker**	**36.35**	**51**	P	**P**	**04 11 44.6**	**+0.7**
WAKR				IAmb	IAmb	04 11 56.1	
	comp=Z,16nm,1.4s						
MLAC	**Mammoth, Mammo**	**36.49**	**52**	P	**P**	**04 11 44.6**	**-0.6**
	baz=250						
109C	**Camp Elliot, M**	**36.58**	**61**	P	**P**	**04 11 45.1**	**-0.6**
	baz=258						
MURC	**Murrieta**	**36.65**	**60**	P	**P**	**04 11 45.8**	**-0.5**
	baz=257						
CWC	**Cottonwood Cre**	**36.69**	**55**	P	**P**	**04 11 46.6**	**-0.2**
	baz=253						
LRMC	**Laurel Mtn Rad**	**36.73**	**56**	P	**P**	**04 11 47.0**	**-0.1**
	baz=254						
PAHR	**Pah Rah Range**	**36.84**	**49**	P	**P**	**04 11 48.2**	**+0.3**
CHGN	**Chignik**	**36.89**	**357**	P	**P**	**04 11 48.2**	**+0.3**
	baz=175						
MPMC	**Manual Prospec**	**37.04**	**55**	P	**P**	**04 11 48.9**	**-0.8**
	baz=254						
DSP	**Deep Springs**	**37.06**	**53**	P	**P**	**04 11 50.0**	**+0.4**
MONP2	**Monument Peak**	**37.14**	**61**	P	**P**	**04 11 50.2**	**-0.5**
	baz=259						
NVAR	**Mina Array Bea**	**37.16**	**51**	P	**P**	**04 11 47.5**	**-3.3**
NVAR	**Mina Array Bea**	**37.16**	**51**	P	**P**	**04 11 54.0**	**+3.2**
	comp=Z,1.4nm,0.9s,baz=246,slow=9.8,SNR=6.4						
NVAR				LR	LR	04 24 37.2	
	comp=Z,203nm,20.3s,baz=268,slow=32						
	comp=Z,1.4nm,0.9s						
PPT	**Papeete**	**37.19**	**171**	LR	LR	04 23 22.8	
	comp=Z,1μm,19.2s,baz=330,slow=30						
PPT2	**Papeete2**	**37.21**	**171**	*e*PKIKP	**P**	**04 11 52.6**	**+1.5**
	comp=Z,118nm,23.5s						
PPT2				*e*S	**S**	**04 17 38.5**	**+0.3**
	comp=Z,418nm,25.0s						
PPT2				*e*LQ	LQ	04 20 06.2	
	comp=Z,347nm,20.5s						
PPT2				*e*LR	LR	04 21 47.1	
	comp=Z,3μm,27.0s						
PPT2				*e*LR	LR	04 21 47.9	
	comp=Z,4μm,25.5s						
PFO	**Pinyon Flats O**	**37.26**	**60**	P	**P**	**04 11 50.7**	**-0.9**
	baz=258						
PFO	**Pinyon Flats O**	**37.26**	**60**	LR	LR	04 22 55.9	
	comp=Z,182nm,19.1s,baz=263,slow=29						
TPFO	**Pinon Flats**	**37.26**	**60**	P	**P**	**04 11 50.5**	**-1.1**
	baz=258						
NV11	**Mina Array Sit**	**37.27**	**51**	P	**P**	**04 11 51.5**	**-0.2**
ESJX	**Sierra Juarez**	**37.37**	**62**	P	**P**	**04 11 51.2**	**-1.4**
ESJX				IAmb	IAmb	04 12 03.2	
	comp=Z,29nm,2.0s						
GSC	**Goldstone, Bar**	**37.37**	**57**	P	**P**	**04 11 50.7**	**-1.8**
	baz=255						
GRAC	**Grapevine Rang**	**37.41**	**54**	P	**P**	**04 11 52.5**	**-0.2**
	baz=252						
GMN	**Gold Mountain**	**37.58**	**54**	P	**P**	**04 11 55.0**	**+0.6**
FURC	**Furnace Creek,**	**37.64**	**55**	P	**P**	**04 11 54.2**	**-0.3**
	baz=254						
BELC	**Belle Mtn. Jos**	**37.71**	**59**	P	**P**	**04 11 54.5**	**-1.0**
	baz=258						
OHAK	**Old Harbor**	**37.77**	**2**	P	**P**	**04 11 55.8**	**+0.4**
	baz=183						
TPH	**Tonopah**	**37.85**	**52**	P	**P**	**04 11 55.4**	**-1.3**
WCT	**Wildcat Mounta**	**37.91**	**55**	P	**P**	**04 11 56.9**	**-0.2**
SHOC	**Shoshone, Teco**	**37.94**	**56**	P	**P**	**04 11 56.3**	**-0.9**
	baz=255						
BC3	**Big Chuckawall**	**38.09**	**60**	P	**P**	**04 11 57.2**	**-1.4**
	baz=258						
R18K	**Karluk**	**38.09**	**1**	P	**P**	**04 11 58.3**	**+0.3**
	baz=181						
TUQ	**Turquoise Moun**	**38.10**	**57**	P	**P**	**04 11 58.3**	**-0.5**
	baz=256						
R17L	**Mt. Peulik Vol**	**38.16**	**359**	P	**P**	**04 11 58.8**	**+0.1**
	baz=178						
GMRC	**Granite Mounta**	**38.16**	**58**	P	**P**	**04 11 58.5**	**-0.7**
	baz=257						
TPNV	**Topopah Spring**	**38.25**	**55**	P	**P**	**04 11 59.4**	**-0.6**
	baz=254						
KDAK	**Kodiak Island**	**38.35**	**2**	P	**P**	**04 12 00.9**	**+0.6**
	baz=184						
KDAK	**Kodiak Island**	**38.35**	**2**	LR	LR	04 24 06.4	
	comp=Z,1μm,21.4s,baz=

baz=177
O18K Koktuh Hills 40.38 0 P P 04 12 16.9 -0.3
baz=180
SIT Sitka 40.39 17 P P 04 12 17.5 +0.2
baz=210
BRSE Bradley Lake S 40.40 4 P P 04 12 17.7 +0.3
baz=187
Q23K Middleton Isla 40.47 7 P P 04 12 18.1 +0.1
baz=193
LCMT Little Creek M 40.59 55 P P 04 12 17.9 -1.6
RAR Rarotonga 40.63 186 LR LR 04 25 34.0
comp=Z,718nm,19.1s,baz=322,slow=31
O20K Slope Mountain 40.65 2 P P 04 12 19.4 -0.2
baz=184
N14K Kuskokwak Cree 40.71 355 P P 04 12 20.0 +0.1
baz=171
WRAK Wrangell Islan 40.72 19 P P 04 12 20.3 +0.3
baz=214
O19K Port Alsworth 40.73 1 P P 04 12 20.0 0.0
baz=181
N15K Kwethluk River 40.84 356 P P 04 12 20.7 -0.3
baz=173
SEW Seward 40.84 4 P P 04 12 21.0 0.0
baz=188
T33K Petersburg 40.86 19 P P 04 12 21.5 +0.3
baz=213
SHEM Shemya Is, Ala 40.86 332 LR LR 04 25 52.7
comp=Z,1µm,21.6s,baz=131,slow=31
P23K Montague Islan 40.92 6 P P 04 12 21.1 -0.5
baz=191
S31K Pelican 40.95 15 P P 04 12 21.7 -0.2
baz=208
S32K Killisnoo 40.95 17 P P 04 12 21.8 -0.1
baz=211
U35K Hyder 41.07 21 P P 04 12 22.8 -0.2
baz=218
N17K Nushagak Hills 41.08 359 P P 04 12 23.2 +0.2
N17K IAmb IAmb 04 12 30.9
comp=Z,29nm,1.8s
N17K Nushagak Hills 41.08 359 P P 04 12 23.1 +0.2
baz=177
N16K Nishlik Lake 41.08 357 P P 04 12 23.3 +0.3
baz=175
KAIM Kayak Island 41.20 8 P P 04 12 23.6 -0.4
baz=196
O22K Cooper Landing 41.20 4 P P 04 12 23.9 -0.1
baz=188
N18K Kilae Creek 41.21 360 P P 04 12 23.9 -0.2
baz=179
N19K Bonanza Creek 41.35 1 P P 04 12 24.7 -0.6
N19K Bonanza Creek 41.35 1 P P 04 12 24.9 -0.4
baz=181,SNR=15
M13K Dall Lake 41.35 354 P P 04 12 25.2 +0.1
baz=168
CAPN Captain Cook N 41.40 3 P P 04 12 25.4 -0.1
baz=186
M15K Kasigluk River 41.40 356 P P 04 12 25.2 -0.4
baz=172
PKCU Pink Cliffs 41.41 55 P P 04 12 26.0 -0.5
PKCU IAmb IAmb 04 13 05.3
comp=Z,34nm,1.8s
R31K City Hall, Gus 41.47 15 P P 04 12 25.8 -0.3
baz=208
BGLC Bering Glacier 41.54 9 P P 04 12 26.5 -0.3
baz=197
M14K Bethel 41.55 355 P P 04 12 25.8 -1.0
M14K IAmb IAmb 04 12 34.1
comp=Z,53nm,1.8s
M14K Bethel 41.55 355 P P 04 12 26.1 -0.8
baz=170
EYAK Cordova Ski Ar 41.63 7 P P 04 12 27.2 -0.3
baz=194
M16K Timber Creek 41.63 357 P P 04 12 26.7 -0.8
baz=175
M11K Mekoryuk 41.65 352 P P 04 12 25.6 -2.0
baz=164
R32K Eaglecrest 41.66 16 P P 04 12 25.7 -2.1
baz=210
TUC Tucson 41.75 63 P P 04 12 27.2 -1.8
baz=263
WUAZ Wupatki 41.75 58 P P 04 12 27.9 -1.2
baz=259
HLID Hailey 41.76 46 P P 04 12 28.8 -0.2
HLID Hailey 41.76 46 P P 04 12 26.1 -2.9
baz=248
DUG Dugway, Tooele 41.76 51 P P 04 12 27.8 -1.3
baz=253
N20K Mount Spurr 41.79 2 P P 04 12 27.7 -1.1
baz=184
PNL Peninsula 41.79 12 P P 04 12 27.1 -1.8
baz=203
RC01 Rabbit Creek A 41.80 4 P P 04 12 27.9 -1.1
baz=188
MESA MESA 41.81 10 P P 04 12 28.6 -0.7
baz=199
GLI Glacier Island 41.81 6 P P 04 12 27.6 -1.4
baz=192
T35M Bob Quinn 41.85 20 P P 04 12 28.8 -0.6
baz=217
LPIG La Paz 41.88 75 LR LR 04 25 22.1
comp=Z,266nm,20.4s,baz=264,slow=30
M17K Holitna River 41.96 358 P P 04 12 29.1 -1.1
baz=177
PINM Pinnacle 42.02 11 P P 04 12 31.0 +0.1
baz=201
M18K Stony River 42.02 360 P P 04 12 32.0 +1.3
baz=179
P29M Windy Craggy 42.09 13 P P 04 12 31.6 +0.3
baz=205
NEW Newport 42.10 38 P P 04 12 31.9 +0.3
baz=240
NEW Newport 42.10 38 LR LR 04 28 41.7
comp=Z,168nm,18.7s,baz=232,slow=34
SUA Susitna One 42.12 3 P P 04 12 31.3 -0.3
SUA Susitna One 42.12 3 P P 04 12 30.7 -0.9
baz=186
CRQE Cirque 42.18 9 P P 04 12 32.3 +0.2
baz=197
BMRM Bremner River 42.18 8 P P 04 12 32.1 0.0
baz=195
L14K Kuka Creek 42.20 355 P P 04 12 31.1 -1.0
baz=170
KNK Knik Glacier 42.22 5 P P 04 12 32.0 -0.4
baz=190
PLBC Pleasant Camp 42.24 14 P P 04 12 33.1 +0.5
baz=207
S34M Telegraph Cree 42.33 19 P P 04 12 31.4 -1.8
baz=215
PMR Palmer 42.34 4 P P 04 12 34.8 +1.5
PMR IAmb IAmb 04 12 40.9
comp=Z,37nm,1.9s
PMR Palmer 42.34 4 P P 04 12 31.9 -1.3
baz=189
L16K Owhat River 42.35 357 P P 04 12 33.2 -0.1
baz=174
L15K Ungalak Mounta 42.44 356 P P 04 12 32.0 -2.1
baz=171
M22K Willow 42.44 4 P P 04 12 33.1 -1.0
baz=187
M19K Big River Lodg 42.44 1 P P 04 12 35.3 +1.2
M19K IAmb IAmb 04 12 39.4
comp=Z,29nm,1.8s
M19K Big River Lodg 42.44 1 P P 04 12 34.5 +0.3
baz=181
M20K Styx River 42.44 1 P P 04 12 33.4 -0.8
baz=183
SKAG Skagway 42.49 15 P P 04 12 35.1 +0.6
baz=208
KLU Klutina 42.53 7 P P 04 12 33.6 -1.4
baz=193
O29M Mount Kennedy 42.53 12 P P 04 12 34.8 -0.3
baz=204
LOGN Logan Glacier 42.58 10 P P 04 12 36.3 +0.9
SKT Skwentna 42.59 3 P P 04 12 36.8 +1.4
SKT IAmb IAmb 04 12 42.6
comp=Z,56nm,1.9s
SKT Skwentna 42.59 3 P P 04 12 35.3 -0.1
baz=185,SNR=8.4
SML Sawmill 42.62 5 P P 04 12 35.0 -0.7
baz=190
CTG Chitna Glacier 42.65 10 P P 04 12 36.4 +0.4
baz=200
CTGM Chitina Glacie 42.65 10 P P 04 12 36.8 +0.7
M23K Glacier View 42.65 5 P P 04 12 36.2 +0.3
baz=190
O28M Mount Upton 42.67 11 P P 04 12 37.3 +1.0
baz=201,SNR=9.2
P30M Million Dollar 42.71 13 P P 04 12 35.5 -0.9
baz=206
L19K White Mountain 42.72 0 P P 04 12 36.5 +0.1
L19K IAmb IAmb 04 12 43.3
comp=Z,40nm,1.8s
L19K White Mountain 42.72 0 P P 04 12 37.2 +0.8
baz=181,SNR=11
L17K Donlin 42.72 358 P P 04 12 35.8 -0.6
baz=176
SCM Sheep Creek Mo 42.73 6 P P 04 12 35.1 -1.5
baz=191
L18K Granite Mounta 42.77 359 P P 04 12 35.3 -1.4
baz=178
MCARA McCarthy VSAT 42.79 9 P P 04 12 35.6 -1.4
baz=197
N25K Chitina, Valde 42.80 7 P P 04 12 35.6 -1.5
baz=195
Q32M Nakina River 42.87 17 P P 04 12 34.5 -3.4
baz=213
TBI Tubuai 42.89 172 *e*P P 04 12 38.2 +0.1
comp=Z,365nm,25.0s
TBI *e*LQ LQ 04 22 35.9
comp=Z,4µm,28.0s
TBI *e*LR LR 04 24 26.8
comp=Z,2µm,27.0s
TBI *e*LR LR 04 24 32.0
comp=Z,13µm,28.5s
K13K Kusilvak Mount 42.97 353 P P 04 12 36.3 -2.1
baz=167
W18A Petrified Fore 43.00 59 P P 04 12 35.4 -3.9
baz=261
P32M Atlin 43.01 16 P P 04 12 36.0 -2.9
baz=210
L20K Farewell, AK 43.02 1 P P 04 12 37.4 -1.5
baz=182,SNR=10
K15K Wolf Creek Mou 43.05 356 P P 04 12 38.4 -0.6
baz=171
CUT Chulitna 43.08 3 P P 04 12 38.7 -0.5
baz=187
DLBC Dease Lake 43.09 19 P P 04 12 37.0 -2.6
baz=216
DLBC Dease Lake 43.09 19 LR LR 04 26 38.7
comp=Z,482nm,20.9s,baz=244,slow=31
M24K Tolsona, Glenn 43.11 6 P P 04 12 35.8 -3.8
baz=193
YUK6 Outpost Mounta 43.17 12 P P 04 12 37.3 -3.0
baz=204
YUK8 Steele Glacier 43.22 11 P P 04 12 38.4 -2.4
baz=202
HYT Haines Junctio 43.23 13 P P 04 12 38.1 -2.6
baz=205
K17K Iditarod 43.30 358 P P 04 12 39.0 -2.1
baz=176
BSUT Blindstream Ca 43.36 51 P P 04 12 41.6 -0.8
BSUT IAmb IAmb 04 12 49.1
comp=Z,35nm,1.9s
MSO Missoula 43.36 41 P P 04 12 39.9 -2.1
baz=245
WAT6 Susitna Watana 43.43 5 P P 04 12 40.7 -1.6
baz=190,SNR=9.7
YUK4 Talbot Arm 43.48 12 P P 04 12 43.4 +0.6
baz=203
O30N Mendenhall 43.48 14 P P 04 12 43.1 +0.4
baz=207
PPLA Purkeypile 43.48 2 P P 04 12 41.1 -1.6
baz=184
HARP HAARP 43.50 7 P P 04 12 41.3 -1.4
baz=194
YUK3 Moose Creek 43.56 10 P P 04 12 42.1 -1.4
baz=200
R33M Jennings River 43.60 18 P P 04 12 41.7 -2.0
baz=214
WAT1 Susitna Watana 43.61 4 P P 04 12 41.9 -1.8
baz=189
J14K Nanvaranak Lak 43.66 354 P P 04 12 42.2 -1.7
baz=169
M26K Nabesna, AK 43.77 8 P P 04 12 45.4 +0.5
M26K IAmb IAmb 04 12 51.9
comp=Z,9.4nm,0.9s
M26K Nabesna, AK 43.77 8 P P 04 12 45.2 +0.2
baz=197
P33M Teslin, Yukon 43.78 16 P P 04 12 42.8 -2.3
baz=211
M27K Edge Creek, AK 43.89 9 P P 04 12 46.7 +0.7
baz=198,SNR=8.0
N30M Aishikik Lake 43.89 12 P P 04 12 45.9 0.0
baz=205
K20K Telida 43.90 1 P P 04 12 44.5 -1.5
baz=182
DHY Denali Highway 43.95 5 P P 04 12 46.7 +0.2
DHY IAmb IAmb 04 12 54.1
comp=Z,29nm,1.4s
DHY Denali Highway 43.95 5 P P 04 12 44.9 -1.6
baz=191,SNR=13
J16K Anvik River 43.98 357 P P 04 12 45.4 -1.1
baz=173
CAST Castle Rocks 44.01 2 P P 04 12 44.4 -2.4
baz=184
J17K VABM Dome 44.01 358 P P 04 12 45.7 -1.1
baz=175
J18K Innoko River 44.02 359 P P 04 12 45.4 -1.5
baz=178
PAX Paxson 44.03 6 P P 04 12 47.1 +0.1
baz=193,SNR=18
KTH Kantishna Hill 44.19 3 P P 04 12 47.5 -0.8
KTH IAmb IAmb 04 12 54.3
comp=Z,27nm,1.1s
N31M Braeburn, Yuko 44.19 13 P P 04 12 48.8 +0.4
baz=207
121A Cookes Peak, D 44.29 63 P P 04 12 47.4 -2.3
baz=265
L26K Log Cabin Wild 44.33 8 P P 04 12 48.9 -0.4
baz=196
MVCO Mesa Verde 44.34 56 P P 04 12 49.3 -0.8
baz=260
BOZ Bozeman (W) 44.35 44 P P 04 12 49.5 -0.5
baz=249
CHUM Lake Minchumin 44.47 2 P P 04 12 49.8 -0.6
baz=184
MCK McKinley 44.48 4 P P 04 12 50.4 -0.2
baz=189
N32M Quiet Lake 44.52 15 P P 04 12 51.2 +0.2
baz=210
M29M Somme Creek 44.53 11 P P 04 12 49.8 -1.3
baz=203,SNR=7.8
J19K Poorman 44.54 360 P P 04 12 50.0 -1.0
J19K IAmb IAmb 04 12 58.5
comp=Z,22nm,1.6s
J19K Poorman 44.54 360 P P 04 12 49.9 -1.1
baz=180,SNR=8.3
L27K Beaver Creek, 44.57 9 P P 04 12 51.4 +0.1
L27K IAmb IAmb 04 12 57.2
comp=Z,22nm,1.9s
L27K Beaver Creek, 44.57 9 P P 04 12 51.5 +0.2
baz=198,SNR=6.0
BCAR Beaver Creek A 44.58 9 P P 04 12 51.2 -0.2
I17K Unalakleet 44.58 357 P P 04 12 52.1 +0.8
baz=173
H17A Grant Village 44.64 46 P P 04 12 51.6 -0.9
baz=251
J20K Nowinta River 44.73 1 P P 04 12 51.6 -0.8
baz=182
BPAW Bear Paw Mtn. 44.73 3 P P 04 12 52.4 -0.2
BPAW IAmb IAmb 04 12 56.8
comp=Z,44nm,2.0s
BPAW Bear Paw Mtn. 44.73 3 P P 04 12 51.5 -1.1
baz=186,SNR=6.9
K24K Donnelly Dome 44.81 6 P P 04 12 53.5 +0.2
baz=193
WTLY Watson Lake, Y 44.82 18 P P 04 12 53.1 -0.3
baz=217
BW06 Boulder Array 44.84 48 P P 04 12 52.7 -1.4
baz=253
PDAR Pinedale Array 44.84 48 P P 04 12 53.2 -0.8
PDAR Pinedale Array 44.84 48 P P 04 12 57.0 +3.0
comp=Z,0.9nm,0.8s,baz=251,slow=5.6,SNR=10
PDAR LR LR 04 29 39.3
comp=Z,34nm,18.9s,baz=262,slow=33
comp=Z,0.9nm,0.8s
BWN Browne 44.89 4 P P 04 12 53.3 -0.5
M30M Minto, Yukon 44.97 12 P P 04 12 54.5 0.0
baz=205
TOAD Toad River Com 44.99 22 P P 04 12 54.4 -0.3
baz=222
LIRD Liard River Hi 45.12 21 P P 04 12 56.3 +0.6
baz=220
O20A White River Ci 45.13 52 P P 04 12 55.1 -1.2
baz=257
M31M Drury Creek, Y 45.13 14 P P 04 12 55.6 -0.3
baz=208
Y22D IRIS PASSCAL I 45.16 61 P P 04 12 56.5 -0.2
baz=264
SCRK Sand Creek 45.17 7 P P 04 12 55.4 -0.8
baz=195
L29M L29M 45.21 11 P P 04 12 56.1 -0.3
baz=203
WRH Wood River Hil 45.27 4 P P 04 12 56.7 -0.1
WRH IAmb IAmb 04 13 03.1
comp=Z,31nm,1.3s
HDA Harding Lake 45.30 5 P P 04 12 57.1 0.0
HDA IAmb IAmb 04 13 01.9
comp=Z,21nm,1.5s
HDA Harding Lake 45.30 5 P P 04 12 56.9 -0.2
baz=191
GCSA Galena City Sc 45.30 359 P P 04 12 57.4 +0.3
baz=178
NEA2 Nenana 45.33 4 P P 04 12 57.6 +0.3
NEA2 Nenana 45.33 4 P P 04 12 56.2 -1.1
baz=188,SNR=11
I20K Naaghedeneel 45.34 0 P P 04 12 55.3 -2.1
baz=181
FARO Faro, Yukon 45.40 14 P P 04 12 57.3 -0.6
baz=210,SNR=7.0
H16K Elim 45.42 356 P P 04 12 56.6 -1.5
baz=171
K27K Chicken 45.46 8 P P 04 12 58.9 +0.6
K27K IAmb IAmb 04 13 06.6
comp=Z,11nm,1.2s
K27K Chicken 45.46 8 P P 04 12 57.0 -1.3
baz=198
CCB Clear Creek Bu 45.47 4 P P 04 12 58.7 +0.3
CCB IAmb IAmb 04 13 05.4
comp=Z,42nm,1.8s
H17K Granite Mounta 45.59 357 P P 04 12 57.3 -2.0
baz=174
ANM Nome 45.62 354 P P 04 12 58.4 -1.1
baz=167
ANMO Albuquerque 45.64 60 P P 04 12 56.5 -3.9
baz=263
ANMO Albuquerque 45.64 60 LR LR 04 27 27.7
comp=Z,193nm,21.5s,baz=348,slow=30
J25K Salcha River, 45.64 6 P P 04 12 59.2 -0.6
J25K Salcha River, 45.64 6 P P 04 12 58.7 -1.2
baz=193,SNR=17
IL31 45.66 5 P P 04 13 00.1 +0.2
IL31 IAmb IAmb 04 13 05.8
comp=Z,7.7nm,1.1s
ILAR Eielson Array 45.66 5 P P 04 12 58.5 -1.4
ILAR Eielson Array 45.66 5 P P 04 13 01.1 +1.2
comp=Z,2.0nm,0.8s,baz=194,slow=7.2,SNR=18
ILAR PcP PcP 04 14 39.7 +1.8
comp=Z,0.5nm,0.8s,baz=197,slow=4.9,SNR=2.2
ILAR LR LR 04 29 02.2
comp=Z,462nm,19.4s,baz=184,slow=32
comp=Z,2.0nm,0.8s
MLY Manley 45.68 3 P P 04 12 59.9 -0.2
MLY IAmb IAmb 04 13 03.3
comp=Z,28nm,1.8s
MLY Manley 45.68 3 P P 04 12 57.6 -2.5
baz=186,SNR=7.0
COLA College 45.69 4 P P 04 12 60.0 -0.1
baz=190
J26L Joseph Creek 45.73 7 P P 04 13 01.4 +0.8
J26L Joseph Creek 45.73 7 P P 04 12 59.0 -1.6
baz=196,SNR=7.7
S22A 4UR Ranch, Cre 45.74 56 P P 04 12 59.9 -1.4
baz=260
H18K Honhosa River 45.75 358 P P 04 12 58.5 -2.1
baz=176
MDM Murphy Dome 45.75 4 P P 04 13 00.6 0.0
RLMT Red Lodge 45.76 45 P P 04 12 57.9 -3.4
baz=251
I23K Minto, Yukon-K 45.86 3 P P 04 13 00.1 -1.4
baz=188
DAWY Dawson 45.88 10 P P 04 13 00.5 -1.2
baz=201,SNR=11
SMCO Snowmass 45.88 54 P P 04 13 02.7 +0.1
SMCO IAmb IAmb 04 13 13.9
comp=Z,7.6nm,1.1s
G15K Niukluk 45.92 355 P P 04 13 01.9 0.0
baz=168
POKR Poker Plat Res 45.96 5 P P 04 13 00.5 -1.8
baz=190
K29M Barlow Dome 45.99 11 P P 04 13 02.1 -0.6
baz=204
H20K Anotleneega Mo 46.04 0 P P 04 13 01.4 -1.5
baz=180,SNR=6.9
H19K Roundabout Mou 46.08 359 P P 04 13 03.2 0.0
H19K Roundabout Mou 46.08 359 P P 04 13 02.8 -0.4
baz=178
TGTN Hyland Airport 46.12 18 P P 04 13 02.7 -1.0
baz=216
G16K Koyuk River 46.18 356 P P 04 13 02.9 -1.1
baz=171
G17K Kiwalik Mounta 46.19 357 P P 04 13 02.9 -1.2
baz=173
H21K Melozitna Rive 46.23 1 P P 04 13 03.3 -1.2
baz=183
MNTX Cornudas Mount 46.27 64 P P 04 13 02.8 -2.5
baz=267
EGAK Eagle 46.30 8 P P 04 13 05.9 +1.0
EGAK Eagle 46.30 8 P P 04 13 03.8 -1.1
baz=199,SNR=11
KOTAN Kotaneelee Air 46.35 21 P P 04 13 02.8 -2.6
baz=222
J29N Klondike Camp 46.44 10 P P 04 13 05.5 -0.6
baz=202
EGMT Eagleton 46.45 41 P P 04 13 05.0 -1.5
baz=248
G18K Tagagawik 46.50 358 P P 04 13 05.3 -1.2
baz=176
H22K Ishtalitna Cre 46.51 2 P P 04 13 06.9 +0.2
baz=185
PRP Porcupine Dome 46.51 6 P P 04 13 07.3 +0.5
PRP IAmb IAmb 04 13 13.1
comp=Z,14nm,1.4s
PRP Porcupine Dome 46.51 6 P P 04 13 06.4 -0.4
baz=193
H23K Yukon River 46.53 3 P P 04 13 07.4 +0.7
H23K IAmb IAmb 04 13 24.5
comp=Z,21nm,1.4s
H23K Yukon River 46.53 3 P P 04 13 06.2 -0.5
baz=188,SNR=8.7
I26K Coal Creek Min 46.55 7 P P 04 13 08.1 +1.1
I26K Coal Creek Min 46.55 7 P P 04 13 06.5 -0.4
baz=196
F14K Arctic Creek 46.60 354 P P 04 13 07.5 +0.2
baz=166
H24K Noodor Dome 46.64 4 P P 04 13 08.0 +0.3
H24K Noodor Dome 46.64 4 P P 04 13 06.5 -1.2
baz=190,SNR=12
F15K North Star Dit 46.67 355 P P 04 13 07.8 0.0
baz=168
G19K Purcell Mounta 46.71 359 P P 04 13 08.0 -0.2
baz=178
SDCO Great Sand Dun 46.78 56 P P 04 13 07.1 -2.4
baz=261
TNA Tin City 46.86 353 P P 04 13 09.6 +0.2
baz=164
J30M Hart River 46.88 11 P P 04 13 09.2 -0.4
baz=205
K22A Casper 46.97 49 P P 04 13 08.7 -2.1
baz=256
N23A Red Feather La 47.00 52 P P 04 13 07.9 -3.2
baz=258
I27K Kandik River 47.02 8 P P 04 13 10.2 -0.5
baz=198
ISCO Idaho Springs 47.03 53 P P 04 13 09.9 -1.6
baz=259
G21K Allakaket 47.08 1 P P 04 13 09.9 -1.2
baz=182
I28M Miner Creek 47.10 9 P P 04 13 11.3 -0.1
I28M IAmb IAmb 04 13 16.5
comp=Z,27nm,1.9s
I28M Miner Creek 47.10 9 P P 04 13 11.1 -0.3
baz=200
F17K Baldwin Pennin 47.16 357 P P 04 13 09.8 -1.8
baz=172
H25L Birch Creek 47.22 5 P P 04 13 09.7 -2.4
baz=192,SNR=15
F18K Selawik 47.24 358 P P 04 13 09.1 -3.1
baz=174
Q24A Divide 47.24 55 P P 04 13 10.1 -3.0
baz=260
I29M Ogilvie Camp, 47.27 10 P P 04 13 11.7 -0.8
I29M IAmb IAmb 04 13 19.8

comp=Z,5.3nm,1.0s
G23K **Bananza Creek** 47.39 3 P P 04 13 11.6 -1.9
baz=187
F19K **Shaleruckik Mo** 47.41 359 P P 04 13 13.7 0.0
F19K **Shaleruckik Mo** 47.41 359 P P 04 13 13.7 0.0
baz=177
I30M **Mount Dempster** 47.46 11 P P 04 13 12.2 -2.0
baz=204,SNR=9.8
G24K **Hadweenzic Riv** 47.52 4 P P 04 13 11.7 -2.8
baz=190
G22K **Bettles** 47.54 2 P P 04 13 12.5 -2.1
baz=185
T25A **Trinidad** 47.55 57 P P 04 13 11.9 -3.6
baz=263
FYU **Fort Yukon** 47.57 5 P P 04 13 14.7 -0.1
F20K **Avaraart Lake** 47.60 360 P P 04 13 13.6 -1.5
baz=179
H27K **Steamboat Moun** 47.64 7 P P 04 13 14.5 -0.9
baz=198,SNR=16
G25K **Bearman Lake** 47.69 5 P P 04 13 13.6 -2.1
baz=192
TXAR **Lajitas Array** 47.70 68 P P 04 13 18.9 +2.4
comp=Z,3.5nm,0.7s,baz=251,slow=7.3,SNR=49
TXAR LR LR 04 29 18.6
comp=Z,111nm,21.0s,baz=244,slow=31
comp=Z,3.5nm,0.7s
F21K **Alatna River** 47.79 1 P P 04 13 16.3 -0.3
F21K **Alatna River** 47.79 1 P P 04 13 15.7 -0.9
baz=182,SNR=9.5
E17K **Hotham Inlet** 47.83 357 P P 04 13 14.6 -2.2
baz=172
COLD **Coldfoot** 47.89 3 P P 04 13 15.5 -1.8
baz=186
E19K **Redstone River** 48.03 359 P P 04 13 18.4 0.0
baz=178
H29M **Whitestone** 48.05 9 P P 04 13 17.6 -1.1
H29M **Whitestone** 48.05 9 P P 04 13 17.1 -1.5
baz=202,SNR=11
G26K **Porcupine Rive** 48.08 6 P P 04 13 18.3 -0.5
baz=195,SNR=8.1
E18K **Tukpahlearik C** 48.10 357 P P 04 13 17.8 -1.2
baz=173
G27K **Doyon Strip** 48.17 7 P P 04 13 18.4 -1.2
baz=197
F24K **Squaw Lake** 48.31 4 P P 04 13 18.1 -2.6
baz=189
H31M **Peel River** 48.35 11 P P 04 13 19.5 -1.5
baz=207
EPYK **Eagle Plains** 48.45 10 P P 04 13 19.2 -2.6
baz=204
D17K **Noatak River** 48.51 356 P P 04 13 19.6 -2.5
baz=170
F25K **Christian Rive** 48.54 5 P P 04 13 19.2 -3.2
baz=192
MSTX **Muleshoe** 48.59 62 P P 04 13 19.5 -3.9
baz=266
E22K **Anaktuvuk Pass** 48.74 2 P P 04 13 22.5 -1.5
baz=184
E23K **Chandalar** 48.75 3 P P 04 13 22.1 -2.0
baz=187
G29M **Pine Creek** 48.75 9 P P 04 13 23.9 -0.1
G29M **Pine Creek** 48.75 9 P P 04 13 22.5 -1.6
baz=202,SNR=11
F26K **Sheenjek River** 48.77 6 P P 04 13 21.9 -2.2
baz=194,SNR=6.6
E20K **Nigu River** 48.82 360 P P 04 13 22.3 -2.3
baz=179
E24K **Your Creek** 48.82 3 P P 04 13 22.3 -2.3
baz=188
WRGLY **Wrigley** 48.85 18 P P 04 13 21.9 -2.9
baz=221
RDOG **Red Dog Mine** 48.85 356 P P 04 13 22.6 -2.2
baz=170
E21K **Killik River** 49.01 1 P P 04 13 23.8 -2.2
baz=182
E25K **Arctic Village** 49.06 5 P P 04 13 24.9 -1.6
baz=192
RSSD **Black Hills** 49.08 48 P P 04 13 23.3 -3.8
baz=257
D19K **Kuna River** 49.09 359 P P 04 13 24.7 -1.9
baz=176
G30M **tAoh Zraii Nji** 49.09 10 P P 04 13 25.7 -1.0
G30M **tAoh Zraii Nji** 49.09 10 P P 04 13 26.8 +0.1
baz=204
F28M **Old Crow** 49.16 8 P P 04 13 26.9 -0.3
baz=199
KSCO **Kaye Shedlock'** 49.19 55 P P 04 13 27.5 -0.6
baz=262
C16K **Lisburne Hills** 49.25 355 P P 04 13 27.7 0.0
baz=167
D20K **Etivluk River** 49.28 359 P P 04 13 27.3 -0.8
baz=178
C17K **DeLong Mountai** 49.29 356 P P 04 13 27.6 -0.5
baz=170
TOLK **Toolik Lake Re** 49.33 3 P P 04 13 28.6 +0.1
baz=187
C18K **Utukok River** 49.35 357 P P 04 13 28.1 -0.6
baz=173
G31M **Satah River** 49.37 11 P P 04 13 28.8 +0.1
G31M IAmb IAmb 04 13 34.6
comp=Z,19nm,1.2s
G31M **Satah River** 49.37 11 P P 04 13 27.5 -1.2
baz=206
D22K **Ayikyak River** 49.47 1 P P 04 13 28.6 -0.9
baz=183
E27K **Coleen River** 49.50 7 P P 04 13 29.2 -0.6
baz=197,SNR=6.5
AMTX **Amarillo** 49.54 60 P P 04 13 29.9 -0.8
baz=266
D23K **Nanushuk River** 49.61 2 P P 04 13 28.7 -1.9
baz=186
C21K **Knifeblade Rid** 49.72 0 P P 04 13 29.5 -1.9
baz=181
F30M **Barrier River** 49.74 10 P P 04 13 30.0 -1.6
baz=204
C19K **Lookout Ridge** 49.74 358 P P 04 13 29.7 -1.9
baz=175
D24K **Happy Valley** 49.88 3 P P 04 13 31.0 -1.5
baz=188
OGNE **Ogallala** 49.92 52 P P 04 13 31.9 -1.6
baz=261
F31M **Tsiigehtchic** 49.93 11 P P 04 13 32.9 0.0
baz=207
B18K **Kokolik River** 50.09 357 P P 04 13 33.6 -0.6
baz=172
DGMT **Dagmar** 50.10 42 P P 04 13 32.1 -2.5
baz=253
E28M **Babbage River** 50.14 7 P P 04 13 34.0 -0.6
baz=200
E29M **Blow River** 50.15 8 P P 04 13 33.4 -1.2
baz=202
D25K **Kavik River** 50.19 4 P P 04 13 34.7 -0.3
D25K IAmb IAmb 04 13 41.5
comp=Z,10nm,1.2s
D25K **Kavik River** 50.19 4 P P 04 13 33.7 -1.3
baz=191
B21K **Ikpikpuk River** 50.19 0 P P 04 13 33.7 -1.2
baz=181
C24K **Franklin Bluff** 50.45 3 P P 04 13 36.3 -0.5
baz=188,SNR=9.0
C23K **Itkillik River** 50.48 2 P P 04 13 37.1 0.0
baz=186
D27M **Malcolm River** 50.59 7 P P 04 13 37.6 -0.4
baz=198
B20K **Meade River** 50.59 359 P P 04 13 35.7 -2.2
baz=178
C27K **Jago River** 50.69 5 P P 04 13 36.8 -1.9
baz=194
INK **Inuvik** 50.74 10 P P 04 13 38.9 -0.1
INK IAmb IAmb 04 13 42.5
comp=Z,40nm,1.8s
INK **Inuvik** 50.74 10 P P 04 13 38.2 -0.9
baz=207,SNR=6.9
INK **Inuvik** 50.74 10 LR LR 04 33 23.7
comp=Z,512nm,18.7s,baz=184,slow=34
C26K **Camden Bay** 50.88 5 P P 04 13 40.1 0.0
baz=193
B22K **Teshekpuk Lake** 50.92 1 P P 04 13 39.6 -0.9
baz=182
D28M **Stokes Point** 50.92 7 P P 04 13 39.9 -0.5
baz=200
JCT **Junction City** 51.04 66 P P 04 13 41.2 -0.9
baz=271
ABTX **Abilene, Hawle** 51.16 63 P P 04 13 41.4 -1.5
baz=270
YKA **Yellowknife Ar** 51.30 23 LR LR 04 32 29.3
comp=Z,201nm,20.6s,baz=224,slow=32
CBKS **Cedar Bluff** 51.41 55 P P 04 13 42.9 -1.8
baz=264
833A **Chaparral WMA,** 51.47 69 P P 04 13 41.4 -3.9
baz=273
A22K **Sinclair Lake** 51.58 0 P P 04 13 43.8 -1.5
baz=180
A21K **Barrow** 51.91 359 P P 04 13 45.9 -1.9
baz=178
WMOK **Wichita Mounta** 51.92 61 P P 04 13 46.0 -2.5
baz=268
K30B **Basset** 51.97 51 P P 04 13 47.7 -1.2
K30B IAmb IAmb 04 13 55.1
comp=Z,21nm,0.8s
HNR **Honiara** 52.63 241 LR LR 04 32 59.0
comp=Z,2µm,20.8s,baz=69,slow=32
SUSD **Miller** 52.72 49 P P 04 13 52.6 -1.7
baz=261
BGNE **Belgrade** 52.89 52 P P 04 13 52.9 -2.7
baz=264
MDND **Maddock** 52.92 44 P P 04 13 53.2 -2.5
baz=258
435B **Jarrell** 52.94 66 P P 04 13 55.3 -0.8
baz=272
WHTX **Lake Whitney,** 53.02 64 P P 04 13 54.5 -2.2
baz=271
RAO **Raoul Island** 53.10 205 LR LR 04 36 06.9
comp=Z,71nm,18.4s,baz=126,slow=36
C36M **Paulatuk** 53.45 13 P P 04 13 58.4 -0.8
baz=218
KSU1 **Kansas State U** 53.86 55 P P 04 14 02.7 -0.1
KSU1 IAmb IAmb 04 14 08.9
comp=Z,12nm,1.0s
KSU1 **Kansas State U** 53.86 55 P P 04 14 01.4 -1.4
baz=266
ECSD **EROS Data Cent** 54.29 50 P P 04 14 05.4 -0.4
ECSD **EROS Data Cent** 54.29 50 P P 04 14 04.8 -1.1
baz=263
TUL3 **Leonard** 54.39 59 P P 04 14 05.0 -1.7
baz=269
A36M **Sachs Harbour** 55.36 11 P P 04 14 12.9 -0.1
baz=215
NATX **Nacogdoches** 55.40 64 P P 04 14 13.0 -1.0
baz=273
MA2 **Magadan** 55.45 330 LR LR 04 33 40.1
comp=Z,978nm,21.8s,baz=113,slow=31
AGMN **Agassiz Nation** 55.47 44 P P 04 14 13.5 -0.7
baz=260
DZM **Mont Dzumac** 55.70 224 *e*P P 04 14 13.9 -2.4
comp=Z,106nm,27.2s
DZM *e*S S 04 22 03.3 +0.2
comp=Z,250nm,24.6s
DZM *e*SS SS 04 25 46.5 -2.3
comp=Z,162nm,26.8s
DZM *e*LR LR 04 30 27.5
comp=Z,455nm,33.0s
DZM **Mont Dzumac** 55.70 224 LR LR 04 37 27.5
comp=Z,67nm,18.1s,baz=54,slow=35
ULM **Lac du Bonnet** 55.80 42 P P 04 14 19.1 +2.4
comp=Z,2.3nm,0.8s,baz=251,slow=9.8,SNR=2.8
ULM LR LR 04 36 32.0
comp=Z,127nm,18.2s,baz=241,slow=34
comp=Z,2.3nm,0.8s
SEY **Seymchan** 56.10 334 LR LR 04 37 13.0
comp=Z,219nm,18.6s,baz=147,slow=35
MIAR **Mount Ida** 56.21 61 P P 04 14 17.9 -1.9
baz=271
P38A **Dawn** 56.27 55 P P 04 14 18.7 -1.5
P38A IAmb IAmb 04 14 25.9
comp=Z,12nm,1.1s
SCIA **State Center** 56.62 52 P P 04 14 20.6 -2.0
baz=267
ASAJ **Asahikawa** 56.84 310 LR LR 04 33 29.8
comp=Z,1µm,21.8s,baz=145,slow=30
CMIG **Matias Romero** 57.13 82 LR LR 04 33 05.6
comp=Z,259nm,21.5s,baz=292,slow=30
SPMN **Marine on St.** 57.16 48 P P 04 14 25.4 -1.0
SPMN IAmb IAmb 04 14 34.4
comp=Z,9.7nm,1.1s
SPMN **Marine on St.** 57.16 48 P P 04 14 25.6 -0.8
baz=265
GUMO **Guam** 57.46 274 LR LR 04 33 54.6
comp=Z,358nm,21.9s,baz=78,slow=31
JCJ **Chichijima** 57.48 290 LR LR 04 34 17.6
comp=Z,279nm,20.3s,baz=116,slow=31
CCM **Cathedral Cave** 58.04 57 P P 04 14 30.3 -2.5
baz=270
E38A **The Farm, Brul** 58.15 47 P P 04 14 32.0 -1.4
EYMN **Ely** 58.32 45 P P 04 14 33.3 -1.3
baz=264
JFWS **Jewell Farm** 58.86 51 P P 04 14 36.3 -2.0
baz=268
VBMS **Vicksburg** 58.89 64 P P 04 14 38.1 -0.6
baz=274
G40A **Rib Lake** 59.00 48 P P 04 14 38.9 -0.4
G40A IAmb IAmb 04 14 43.1
comp=Z,9.6nm,1.0s
JHJ **Hachijo jima 2** 59.00 297 LR LR 04 36 36.0
comp=Z,367nm,20.0s,baz=96,slow=32
HDIL **Hopedale** 59.54 54 P P 04 14 41.7 -1.4
baz=270
OXF **Oxford** 59.65 61 P P 04 14 43.7 -0.3
baz=274
MJAR **Matsushiro Arr** 60.09 302 P P 04 14 50.2 +3.2
comp=Z,1.5nm,0.8s,baz=106,slow=6.7,SNR=5.1
MJAR LR LR 04 36 28.8
comp=Z,286nm,21.4s,baz=76,slow=32
comp=Z,1.5nm,0.8s
L44A **Lake County Fo** 60.57 52 P P 04 14 47.1 -3.1
baz=270
H43A **Windswept, Lux** 60.69 49 P P 04 14 50.8 -0.2
H43A IAmb IAmb 04 14 58.4
comp=Z,12nm,0.8s
WVT **Waverly** 60.84 59 P P 04 14 49.9 -2.2
baz=274
T47A **Sharon Grove** 61.37 58 P P 04 14 55.2 -0.4
T47A IAmb IAmb 04 15 00.4
comp=Z,18nm,1.4s
LRAL **Lakeview Retre** 61.77 62 P P 04 14 53.9 -4.5
baz=276
BRAL **Brewton** 61.93 64 P P 04 14 57.6 -2.0
baz=277
WCI **Wyandotte Cave** 61.93 56 P P 04 14 56.3 -3.2
baz=273
CLTN **Cedars of Leba** 62.05 59 P P 04 15 00.5 +0.2
TEIG **Tepich** 62.60 77 LR LR 04 38 36.0
comp=Z,136nm,20.4s,baz=232,slow=32
O48B **Farmland** 62.70 54 P P 04 15 01.5 -3.1
baz=273
GLMI **Grayling** 62.94 49 P P 04 15 03.6 -2.5
baz=271
P49A **Miami Univ. Ec** 63.08 55 P P 04 15 04.0 -3.2
baz=274
E46A **Sault Ste Mari** 63.14 47 P P 04 15 07.3 -0.1
T50A **Nancy** 63.17 58 P P 04 15 07.8 0.0
T50A IAmb IAmb 04 15 15.8
comp=Z,22nm,1.8s
PMG **Port Moresby** 63.54 248 LR LR 04 42 01.8
comp=Z,88nm,18.2s,baz=99,slow=35
152A **Waverly Hall** 63.72 62 P P 04 15 09.3 -2.2
152A IAmb IAmb 04 15 15.2
comp=Z,4.9nm,0.9s
RES **Resolute Bay** 63.72 15 LR LR 04 38 55.3
comp=Z,431nm,21.6s,baz=223,slow=32
AAM **Ann Arbor** 63.73 52 P P 04 15 10.7 -0.7
baz=273
Y52A **Lilburn** 64.12 61 P P 04 15 13.6 -0.5
Y52A IAmb IAmb 04 15 17.8
comp=Z,20nm,1.6s
TKL **Tuckaleechee C** 64.16 59 LR LR 04 41 22.0
comp=Z,102nm,19.2s,baz=272,slow=34
RPN **Rapa Nui** 64.21 135 LR LR 04 35 51.4
comp=Z,617nm,21.3s,baz=298,slow=29
TZTN **Tazewell** 64.25 58 P P 04 15 12.0 -2.9
baz=276
ACSO **Alum Creek Sta** 64.37 54 P P 04 15 12.8 -2.8
baz=274
KLR **Kul'dur** 64.49 316 LR LR 04 38 24.9
comp=Z,427nm,21.1s,baz=106,slow=31
GOGA **Godfrey** 64.67 62 P P 04 15 15.5 -2.2
baz=277
TIGA **Tifton** 64.83 64 P P 04 15 15.9 -2.9
baz=278
P52A **Corning** 65.07 55 P P 04 15 17.6 -2.6
baz=275
O53A **New Philadelph** 65.71 54 P P 04 15 22.9 -1.5
baz=275
M53A **WI Miller and** 66.01 52 P P 04 15 24.4 -1.9
baz=275
YAK **Yakutsk** 66.03 330 LR LR 04 40 17.8
comp=Z,976nm,21.8s,baz=95,slow=32
MDJ **Mudanjiang** 66.16 311 P P 04 15 25.6 -1.6
MDJ pmax pmax
comp=Z,12nm,1.6s
MDJ pmax pmax
comp=Z,560nm,6.5s
MDJ LR LR
comp=Z,580nm,15.8s
MDJ LR LR
comp=Z,620nm,24.8s
MDJ LR LR
comp=Z,1µm,24.5s
KMSC **Kings Mountain** 66.20 59 P P 04 15 24.7 -2.9
baz=278
JNU **Nakatsue** 66.42 298 LR LR 04 44 31.9
comp=Z,360nm,18.0s,baz=99,slow=36
ERPA **Erie** 66.46 52 P P 04 15 27.2 -1.9
baz=275
BLA **Blacksburg** 66.66 57 P P 04 15 27.0 -3.6
baz=277
MCWV **Mont Chateau** 66.82 54 P P 04 15 27.7 -3.8
baz=276
SADO **Sadowa** 66.84 49 LR LR 04 45 09.4
comp=Z,71nm,18.2s,baz=244,slow=36
DWPF **Disney Wildern** 67.22 67 P P 04 15 31.1 -3.2
baz=281
TIXI **Tiksi** 67.26 341 LR LR 04 44 27.4
comp=Z,364nm,19.6s,baz=135,slow=36
NHSC **New Hope** 67.44 61 P P 04 15 33.1 -2.4
baz=279
JTS **Las Juntas de** 68.18 86 LR LR 04 38 04.9
comp=Z,339nm,21.2s,baz=307,slow=29
KSRS **Korea Array** 68.19 303 LR LR 04 44 02.4
comp=Z,288nm,18.8s,baz=75,slow=35
SSPA **Standing Stone** 68.19 53 P P 04 15 38.2 -1.9
baz=277
CBN **Corbin Frederi** 68.92 56 P P 04 15 41.2 -3.5
baz=279
CNNC **Cliffs of the** 68.97 59 P P 04 15 41.9 -3.2
baz=279
BINY **Binghamton** 69.41 51 P P 04 15 44.8 -2.9
baz=278
CTA **Charters Tower** 69.46 239 LR LR 04 42 27.5
comp=Z,9.0nm,19.9s,baz=68,slow=33
JOW **Kunigami** 69.77 292 LR LR 04 40 26.2
comp=Z,151nm,21.2s,baz=176,slow=31
LONY **Lake Ozonia** 70.09 49 P P 04 15 49.3 -2.6
baz=278
PAL **Palisades** 71.13 52 P P 04 15 55.7 -2.5
baz=280
FRB **Frobisher Bay** 71.33 28 LR LR 04 45 48.6
comp=Z,86nm,18.1s,baz=335,slow=35
L61B **Northampton** 71.79 51 P P 04 15 59.1 -3.1
baz=280
LBNH **Lisbon** 72.03 49 P P 04 16 01.7 -1.9
baz=280
HRV **Adam Dziewonsk** 72.60 50 P P 04 16 04.9 -2.2
baz=281
M65A **Busby, Falmout** 73.44 51 P P 04 16 09.7 -2.4
baz=281
NJ2 **Nanjing** 76.58 299 *e*P P 04 16 29.4 -1.0
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,850nm,5.5s
BJI **Beijing** 76.70 308 P P 04 16 33.6 +2.7
BJI S S 04 26 21.7 +3.8
BJI SS SS 04 31 17.2 +4.0
BJI pmax pmax
comp=Z,4.0nm,2.4s
BJI pmax pmax
comp=Z,190nm,5.2s
BJI LR LR
comp=Z,110nm,15.6s
BJI LR LR
comp=Z,140nm,21.5s
BJI LR LR
comp=Z,300nm,33.4s
SFJD **Kangerlussuaq** 77.86 23 LR LR 04 46 57.0
comp=Z,278nm,21.8s,baz=304,slow=33
HNS **HongShan** 78.49 306 ⇓P P 04 16 42.5 +1.6
HNS SS SS 04 31 42.0 +1.7
HNS pmax pmax
comp=Z,540nm,8.4s
HNS LR LR
comp=Z,310nm,17.5s
HNS LR LR
comp=Z,410nm,17.5s
HNS LR LR
comp=Z,470nm,24.5s
STKA **Stephens Creek** 79.11 231 LR LR 04 46 10.8
comp=Z,182nm,20.5s,baz=30,slow=32
SUMG **Summit** 79.22 16 *i*P P 04 16 46.0 +1.2
WRA **Warramunga Arr** 79.30 244 LR LR 04 46 55.2
comp=Z,228nm,21.2s,baz=56,slow=32
HHC **Hu-ho-hao-te** 79.88 310 *e*P P 04 16 51.6 +3.0
HHC PP PP 04 19 55.2 +5.4
HHC *e*S S 04 26 56.8 +4.5
HHC SS SS 04 32 07.4 +6.2
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,340nm,7.7s
HHC LR LR
comp=Z,200nm,14.1s
HHC LR LR
comp=Z,460nm,20.4s
HHC LR LR
comp=Z,600nm,19.3s
ROSC **El Rosal** 79.88 88 LR LR 04 43 51.4
comp=Z,196nm,21.4s,baz=279,slow=29
ATAH **Atahualpa** 80.10 101 LR LR 04 44 20.0
comp=Z,341nm,21.5s,baz=298,slow=30
TIY **Taiyuan** 80.14 306 *e*P P 04 16 53.1 +3.0
TIY S S 04 26 54.1 -1.0
TIY pmax pmax
comp=Z,420nm,6.5s
TIY LR LR
comp=Z,280nm,16.7s
TIY LR LR
comp=Z,240nm,26.1s
TIY LR LR
comp=Z,390nm,37.7s
WHN **Wuhan** 80.70 299 ⇓P P 04 16 56.3 +3.2
WHN LR LR
comp=Z,2µm,19.5s
NRIK **Noril'sk** 81.02 341 LR LR 04 53 08.0
comp=Z,295nm,20.1s,baz=54,slow=36
LYN **LuoYang** 81.04 303 P P 04 16 57.6 +2.7
LYN pP PcP 04 17 03.6 +2.3
LYN PP PP 04 20 05.5 +6.0
LYN S SKSac 04 27 13.1 -1.1
LYN SS SS 04 32 24.3 +5.7
LYN pmax pmax
comp=Z,19nm,1.5s
LYN pmax pmax
comp=Z,520nm,7.0s
LYN LR LR
comp=Z,330nm,14.2s
LYN LR LR
comp=Z,660nm,17.3s
LYN LR LR
comp=Z,1µm,20.9s
BTO **Baotou** 81.07 310 *e*P P 04 16 55.2 +0.2
BTO S S 04 27 07.5 +2.7
BTO pmax pmax
comp=Z,17nm,0.5s
BTO pmax pmax
comp=Z,320nm,5.1s
BTO LR LR
comp=Z,600nm,17.7s
BTO LR LR
comp=Z,1µm,18.4s
BTO LR LR
comp=Z,990nm,23.1s
ASAR **Alice Springs** 81.25 241 P P 04 16 58.4 +2.3
comp=Z,0.6nm,0.7s,baz=55,slow=5.1,SNR=5.9
ASAR LR LR 04 47 32.5
comp=Z,166nm,20.5s,baz=51,slow=32
comp=Z,0.6nm,0.7s
SONM **Songino Array** 81.25 318 P P 04 16 58.2 +2.3
comp=Z,0.5nm,0.5s,baz=93,slow=4.9,SNR=4.8
SONM LR LR 04 50 53.6
comp=Z,503nm,20.8s,baz=66,slow=34
comp=Z,0.5nm,0.5s
SDV **Santo Domingo** 82.07 83 LR LR 04 48 29.7
comp=Z,112nm,21.5s,baz=228,slow=32

SPITS	Spitsbergen Ar	82.47	2	LR	LR	04 50 07.6
	comp=Z,198nm,21.3s,baz=324,slow=33					
NNA	Nana	83.27 105		LR	LR	04 45 02.6
	comp=Z,353nm,21.6s,baz=285,slow=29					
XAN	Xi'an	83.98 304	⇑P	P	P	04 17 13.0 +2.7
XAN			S	S	S	04 27 38.9 +4.1
XAN			pmax	pmax		
	comp=Z,660nm,9.8s					
XAN			LR	LR		
	comp=Z,520nm,19.9s					
XAN			LR	LR		
	comp=Z,540nm,24.7s					
XAN			LR	LR		
	comp=Z,730nm,17.9s					
JMIC	Jan Mayen	86.92	10	LR	LR	04 53 05.9
	comp=Z,129nm,21.7s,baz=318,slow=33					
KAPI	Kappang	86.94 264		LR	LR	04 51 31.9
	comp=Z,92nm,18.5s,baz=84,slow=32					
LZH	Lanzhou	87.17 307		P	P	04 17 29.3 +3.0
LZH				S	S	04 28 05.4 -0.9
LZH				SS	SS	04 33 58.6 +9.2
LZH				pmax	pmax	
	comp=Z,420nm,5.3s					
LZH				LR	LR	
	comp=Z,330nm,16.0s					
LZH				LR	LR	
	comp=Z,410nm,17.0s					
LZH				LR	LR	
	comp=Z,650nm,20.8s					
PCRV	Puerto La Cruz	87.25	80	LR	LR	04 53 18.4
	comp=Z,134nm,19.4s,slow=33					
QIZ	Qiongzhong	88.22 289		P	P	04 17 31.6 +0.2
QIZ				S	S	04 28 13.4 -3.2
QIZ				SS	SS	04 34 04.5 -0.9
QIZ				pmax	pmax	
	comp=Z,390nm,6.7s					
QIZ				LR	LR	
	comp=Z,220nm,11.2s					
QIZ				LR	LR	
	comp=Z,300nm,20.2s					
QIZ				LR	LR	
	comp=Z,310nm,20.2s					
GYA	Guiyang	88.41 297		P	P	04 17 32.0 -0.4
GYA				S	S	04 28 24.6 +6.1
GYA				SS	SS	04 34 09.5 +1.5
GYA				pmax	pmax	
	comp=Z,15nm,0.6s					
GYA				pmax	pmax	
	comp=Z,240nm,6.8s					
GYA				LR	LR	
	comp=Z,500nm,24.0s					
GYA				LR	LR	
	comp=Z,470nm,24.6s					
GYA				LR	LR	
	comp=Z,630nm,25.6s					
BORG	Borgarnes	88.98	18	LR	LR	04 54 07.0
	comp=Z,125nm,21.7s,baz=327,slow=33					
H03N2	Juan Fernandez	89.70 126		T	T	05 56 46.9
	baz=298,slow=76,SNR=4.7					
H03N3	Juan Fernandez	89.72 126		T	T	05 56 46.0
	baz=298,slow=76,SNR=4.2					
H03N1	Juan Fernandez	89.72 126		T	T	05 56 44.8
	baz=298,slow=76,SNR=4.4					
ZALV	Zalesovo Beam	90.66 329		P	P	04 17 44.0 +1.8
	comp=Z,0.6nm,0.6s,baz=46,slow=5.6,SNR=4.1					
ZALV				LR	LR	04 56 22.9
	comp=Z,538nm,20.5s,baz=65,slow=34					
	comp=Z,0.6nm,0.6s					
PZH	PanZhiHua	92.49 299		P	P	04 17 49.7 -1.7
PZH				S	S	04 29 00.0 +4.0
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,220nm,6.5s					
PZH				LR	LR	
	comp=Z,210nm,23.5s					
PZH				LR	LR	
	comp=Z,230nm,25.0s					
PZH				LR	LR	
	comp=Z,380nm,25.0s					
LPAZ	La Paz	92.68 106		LR	LR	04 51 55.9
	comp=Z,161nm,20.3s,baz=288,slow=31					
GOMU	GeErMu	93.77 310		P	P	04 17 56.5 -0.9
GOMU				S	S	04 29 05.7 -1.8
GOMU				SS	SS	04 35 24.8 -0.3
GOMU				LR	LR	
	comp=Z,520nm,19.7s					
GOMU				LR	LR	
	comp=Z,430nm,18.7s					
GOMU				LR	LR	
	comp=Z,730nm,17.9s					
LVC	Limon Verde	94.06 112		LR	LR	04 51 12.4
	comp=Z,415nm,20.1s,baz=271,slow=30					
WMQ	Urumqi	94.73 320		eP	P	04 18 01.4 +0.1
WMQ					LR	LR
	comp=Z,480nm,17.7s					
WMQ					LR	LR
	comp=Z,280nm,20.7s					
WMQ					LR	LR
	comp=Z,380nm,18.7s					
KURBB	Kurchatov Arra	95.75 329		LR	LR	04 59 03.8
	comp=Z,521nm,21.9s,baz=26,slow=34					
MKAR	Makanchi Array	96.18 324		P	P	04 18 10.3 +2.5
	comp=Z,0.5nm,0.9s,baz=59,slow=3.9,SNR=2.8					
MKAR				LR	LR	04 58 48.6
	comp=Z,394nm,21.7s,baz=34,slow=34					
	comp=Z,0.5nm,0.9s					
CMAR	Chiang Mai Arr	98.04 293		LR	LR	05 02 00.9
	comp=Z,163nm,19.2s,baz=60,slow=35					
NWAO	Narrogin (SRO)	98.30 238		LR	LR	04 58 57.8
	comp=Z,46nm,21.6s,baz=183,slow=33					
SIV	San Ignacio	99.02 104		LR	LR	04 56 16.3
	comp=Z,419nm,20.1s,baz=296,slow=31					
NOA	NORSAR Array B	99.08	7	LR	LR	05 00 49.4
	comp=Z,114nm,20.6s,baz=350,slow=34					
ARU	Arti	99.25 342		LR	LR	05 03 43.8
	comp=Z,490nm,21.4s,baz=44,slow=36					
KIRV	Kirov	99.64 347		LR	LR	05 06 12.9
	comp=Z,347nm,19.8s,baz=28,slow=37					
VNDA	Vanda	99.92 189		LR	LR	04 54 41.0
	comp=Z,199nm,20.3s,baz=34,slow=30					
CLL	Collm	108.82	8	ePP	PP	04 23 40.0 +5.7
CLL				ePS	PS	04 32 54.0 -6.2
CLL				ePPS	PPS	04 34 06.0
CLL				eSS	SS	04 39 00.0 +8.6
TORD	Torodi Ar. Bea	140.47	37	PKP	PKiKP	04 24 12.2 -0.2
	comp=Z,0.7nm,0.9s,baz=345,slow=2.8,SNR=2.8					

*IDC **07** 04:23:59.6±5.0, 4°.96S×151°.88E, h113km±42km, mb3.3/7, mbtmp3.7/8, Error ellipse: s-maj=43.7km s-min=27.2km az=111.0*

ISC 07 04:23:58.0±1.0, **4°.9S**±0°.2×**152°.0E**±0°.2, **h100**km, **n9,** σ0$98/10, **mb3.4/7, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.54	227	P	Pn	04 25 33.3	+1.6
	33nm,0.5s,baz=50,slow=8.1,SNR=6.2						
PMG				S	Sn	04 26 43.9	-1.0
	83nm,0.7s,baz=131,slow=21,SNR=6.9						
WRA	Warramunga Arr	22.76	227	P	P	04 28 51.2	-0.9
	1.8nm,0.7s,baz=52,slow=9.9,SNR=12						
	1.8nm,0.7s						
ASAR	Alice Springs	25.52	221	P	P	04 29 17.2	-0.2
	0.9nm,0.6s,baz=58,slow=8.1,SNR=12						
	0.9nm,0.6s						
VNDA	Vanda	72.77	178	P	P	04 35 15.0	0.0
	0.5nm,0.7s,baz=335,slow=5.0,SNR=3.6						
	0.5nm,0.7s						
MKAR	Makanchi Array	79.85	319	P	P	04 35 56.1	+0.4
	0.5nm,0.9s,baz=106,slow=5.1,SNR=2.6						
	0.5nm,0.9s						
ILAR	Eielson Array	82.56	22	P	P	04 36 09.7	+0.1
	0.2nm,0.6s,baz=254,slow=4.6,SNR=2.7						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	83.36	322	P	P	04 36 14.0	0.0
	0.2nm,0.4s,baz=109,slow=5.1,SNR=1.7						
	0.2nm,0.4s						
NVAR	Mina Array Bea	92.80	52	P	P	04 37 00.1	+0.2
	0.6nm,0.8s,baz=264,slow=1.8,SNR=4.4						
	0.6nm,0.8s						
TORD	Torodi Ar. Bea	149.54	288	PKPbc	PKiKP	04 43 36.5	-1.5
	0.8nm,0.7s,baz=81,slow=3.0,SNR=5.1						

*GCG **07** 04:58:52.2±0.6, 14°.36N×90°.20W, h0km±3km, MD2.6*

*CATAC **07** 04:58:54.9±0.3, 14°.46N×90°.29W, h2km±2km, ML2.8*
*SNET **07** 04:58:55.9±0.9, 14°.52N×90°.16W, h13km±959km, ML2.4*

ISC 07 04:58:54.8±1.1, **14°.46N**±0°.04×**90°.24W**±0°.03, **h9**km±10km, **n24,** σ0$76/43, **Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBG	Las Nubes	0.16	321	*i* P	Pg	04 58 59.2	+0.7
GCG4	OSOP	0.31	294	*i* P	Pg	04 59 00.1	-1.0
GCG4				*i* S	Sg	04 59 04.5	-0.7
GCG4				IAML		04 59 06.8	
	comp=Z,3μm,1.0s						
PCG	Pacaya	0.36	259	*i* P	Pg	04 59 02.1	+0.1
FUG	Fuego 3	0.58	269	*i* P	Pg	04 59 05.9	-0.2
FUG				*i* S	Sb	04 59 17.3	+1.5
SLOZ	Alcaldia de Sa	0.62	134	*e*P	Pb	04 59 07.4	-0.5
SLOZ				*e*S	Sb	04 59 16.4	-0.4
LOAL	Lomas de Alarc	0.64	136	*i* P	Pb	04 59 07.7	-0.6
LOAL				*i* S	Sb	04 59 17.3	-0.1
LOAL				IAML		04 59 26.5	
	comp=Z,1μm,1.0s						
NUBE	Las Nubes	0.71	141	*e*P	Pb	04 59 09.0	-0.6
NUBE				*e*S	Sb	04 59 19.7	+0.2
NUBE	Las Nubes	0.71	141	*i* P	Pb	04 59 09.0	-0.6
NUBE				*i* S	Sb	04 59 19.3	-0.2
NUBE				IAML		04 59 21.1	
	comp=Z,150nm,1.0s						
RTR	El Retiro	0.81	134	*e*P	Pb	04 59 10.9	-0.2
RTR				*e*S	Sb	04 59 23.0	+0.8
MRL	Marmol	0.82	41	*i* P	Pb	04 59 11.8	+0.4
MRL				*i* S	Sn	04 59 24.4	-0.9
UNIC	Universidad Ca	0.82	125	*e*P	Pb	04 59 10.8	-0.7
UNIC				*e*S	Sb	04 59 22.9	+0.2
UNIC				IAML		04 59 24.3	
	comp=Z,108nm,0.1s						
UNIC	Universidad Ca	0.82	125	*i* P	Pb	04 59 10.7	-0.7
UNIC				*i* S	Sb	04 59 22.7	0.0
UNIC				IAML		04 59 24.2	
	comp=Z,330nm,1.0s						
SNJE	San Jose	0.85	134	*e*P	Pb	04 59 11.6	-0.4
SNJE				*e*S	Sb	04 59 24.6	+1.0
MTO3	Montecristo	0.86	94	*e*P	Pb	04 59 11.7	-0.4
MTO3				*e*S	Sb	04 59 22.4	-1.3
MTO3	Montecristo	0.86	94	*i* P	Pb	04 59 11.9	-0.1
MTO3				*i* S	Sb	04 59 24.1	+0.4
MTO3				IAML		04 59 29.4	
	comp=Z,160nm,1.0s						
ESQI	Esquipulas	0.88	83	*i* P	Pb	04 59 12.5	+0.1
ESQI				IAML		04 59 13.0	
	comp=Z,390nm,1.0s						
ESQI				*i* S	Sn	04 59 25.4	-1.1
JAYA	Jayaque - finc	1.11	136	*i* P	Pb	04 59 16.1	-0.3
JAYA				IAML		04 59 17.7	
	comp=Z,250nm,1.0s						
JAYA				*i* S	Sn	04 59 32.2	-0.1
PMON	Piamonte	1.17	129	*e*P	Pb	04 59 17.0	-0.3
PMON				*e*S	Sb	04 59 32.8	+0.2
PMON	Piamonte	1.17	129	*i* P	Pb	04 59 17.4	+0.1
PMON				*i* S	Sn	04 59 34.4	+0.8
PMON				IAML		04 59 37.7	
	comp=Z,310nm,1.0s						
SOKI	Kika Raxquin	1.18	288	*i* P	Pg	04 59 16.0	-1.6
SOKI				IAML		04 59 32.2	
	comp=Z,160nm,1.0s						
LLGN	La Laguna	1.29	103	*i* P	Pn	04 59 19.6	+0.4
LLGN				IAML		04 59 36.7	
	comp=Z,290nm,1.0s						
LLGN				*i* S	Sn	04 59 38.1	+1.4
PAVA	Las Pavas	1.47	120	IAML		04 59 44.2	
	comp=Z,60nm,0.2s						
PAVA	Las Pavas	1.47	120	*i* P	Pg	04 59 22.3	-0.7
PAVA				*i* S	Sn	04 59 42.6	+1.5
PAVA				IAML		04 59 44.3	
	comp=Z,160nm,1.0s						
SCLA	Alcaldia de Sa	1.65	117	*i* P	Pg	04 59 25.9	-0.6
SCLA				*i* S	Sg	04 59 49.2	+1.2
SCLA				IAML		05 00 01.9	
	comp=Z,21nm,1.0s						

*IDC **07** 05:08:21.7±8.0, 56°.5S×27°.28W, h141km±74km, mb3.6/4, mbtmp4.1/5, Error ellipse: s-maj=32.9km s-min=22.6km az=68.0*

ISC 07 05:08:17.2±1.0, **56°.5S**±0°.2×**27°.2W**±0°.3, **h100**km, **n7,** σ0$87/7, **mb4.1/4, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	18.34	155	P	P	05 12 23.6	+0.1
	2.5nm,0.6s,baz=306,slow=10.0,SNR=16						
QSPA	South Pole Qui	33.75	180	P	P	05 14 49.4	+0.5
	1.1nm,0.7s,baz=203,slow=2.8,SNR=9.9						
	1.1nm,0.7s						
VNDA	Vanda	46.12	183	P	P	05 16 30.5	-0.2
	0.4nm,0.6s,baz=190,slow=6.1,SNR=2.8						
	0.4nm,0.6s						
LPAZ	La Paz	50.61	306	P	P	05 17 06.9	+0.3
	2.1nm,0.5s,baz=149,slow=3.0,SNR=17						
	2.1nm,0.5s						
TORD	Torodi Ar. Bea	73.46	29	P	P	05 19 39.2	+0.7
	2.5nm,0.5s,baz=200,slow=6.1,SNR=36						
	2.5nm,0.5s						
ILAR	Eielson Array	150.39	311	PKPbc	PKPbc	05 27 54.4	-0.9
	1.8nm,0.8s,baz=90,slow=2.5,SNR=20						
SONM	Songino Array	150.78	87	PKPbc	PKPbc	05 27 55.8	-1.2
	0.9nm,0.5s,baz=227,slow=2.5,SNR=3.6						

*IDC **07** 05:18:19.1±0.8, 6°.84S×106°.25E, h0km, mb3.9/10, mbtmp4.0/11, ML4.4/1, MS3.6/4, Error ellipse: s-maj=33.3km s-min=17.9km az=55.0*
*DJA **07** 05:18:23.0±0.3, 7°.3S±5°×10°6E±°, h10km, M4.5/14, mb4.5/1, MLv4.6/14*
*NEIC **07** 05:18:23±1.5, 7°.35S±0°.07×106°.29E±0°.07, h10km±1km, mb4.2/10, Error ellipse: s-maj=12.8km s-min=11.5km az=56.0*

ISC 07 05:18:21.7±0.6, **7°.17S**±0°.06×**106°.29E**±0°.05, **h10**km, **n50,** σ1$39/42, **mb4.1/14, MS3.6/4, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.31	59	P	Pg	05 18 27.6	-0.3
DBJI	Dramaga	0.76	37	P	Pg	05 18 32.7	-3.7
CNJI	Cibinong	0.84	100	P	Pg	05 18 37.8	-0.2
CBJI	Citeko	0.93	37	P	Pg	05 18 34.5	-5.1
SBJI	Serang	1.05	351	P	Pn	05 18 38.6	-3.9
SBJI				Pg	Pn	05 18 38.6	-3.9
LEM	Lembang	1.36	76	P	Pn	05 18 45.7	-1.2
BLSI	Bandar Lampung	2.07	330	P	Pn	05 18 56.3	-0.2
JCJI	Jatiwangi	2.08	71	P	Pn	05 18 54.9	-1.7
CMJI	Cimerak	2.23	106	P	Pn	05 18 59.3	+0.6
KASI	Kota Agung	2.42	312	P	Pn	05 19 01.3	0.0
KPJI	Karang Pucung	2.62	94	P	Pn	05 19 05.1	+0.9
LWLI	Liwa	3.08	314	P	Pn	05 19 11.7	+1.1
XMIS	Christmas Isla	3.35	191	Pn	Pn	05 19 12.7	-1.6
SMRI	Semarang	4.12	89	Pn	Pn	05 19 25.1	+0.3
SMRI	Semarang	4.12	89	P	Pn	05 19 23.9	-0.9
UGM	Wanagama	4.26	100	Pn	Pn	05 19 27.2	+0.5
UGM	Wanagama	4.26	100	P	Pn	05 19 26.6	-0.1
MNAI	Manna	4.33	310	Pn	Pn	05 19 29.5	+1.8
MNAI	Manna	4.33	310	P	Pn	05 19 28.2	+0.5
PMBI	Palembang	4.47	340	Pn	Pn	05 19 33.5	+3.8
PWJI	Pagerwojo	5.53	99	P	Pn	05 19 43.9	-0.3
JAGI	Jajag, Banyuwa	7.90	100	Pn	Pn	05 20 17.1	+0.3
KAPI	Kappang	13.55	82	Pn	Pn	05 21 32.6	-1.6
	2.1nm,0.3s,baz=169,slow=10,SNR=2.2						
	5.8nm,0.3s						
LUWI	Luwuk	17.52	70	P	Pn	05 22 24.4	-1.9
FITZ	Fitzroy Crossi	21.76	122	P	P	05 23 13.3	-0.4
KNRA	Kununurra	23.57	113	P	P	05 23 33.0	+0.3
KNRA				IAmb	IAmb	05 23 34.0	
	comp=Z,6.9nm,0.7s						
MTN	Manton Dam	25.09	105	P	P	05 23 46.1	-0.7
MTN				IAmb	IAmb	05 24 25.9	
	comp=Z,6.1nm,0.7s						
CMAR	Chiang Mai Arr	26.47	344	P	P	05 23 55.3	-4.0
	comp=Z,0.5nm,0.3s,baz=168,slow=9.2,SNR=1.1						
	comp=Z,0.5nm,0.3s						
PALK	Pallekele	29.28	299	LR	LR	05 35 06.6	
	comp=Z,56nm,20.3s,baz=207,slow=35						
WRA	Warramunga Arr	30.02	118	P	P	05 24 30.7	-0.3
WRA	Warramunga Arr	30.02	118	P	P	05 24 31.6	+0.6
	comp=Z,1.8nm,0.7s,baz=298,slow=8.9,SNR=11						
WRA				PcP	PcP	05 27 32.6	-0.7
	comp=Z,0.3nm,0.4s,baz=300,slow=2.0,SNR=2.1						
	comp=Z,1.8nm,0.7s						
WB2	Warramunga Arr	30.03	118	P	P	05 24 30.8	-0.3
WB2				IAmb	IAmb	05 24 41.2	
	comp=Z,4.6nm,0.9s						
ASAR	Alice Springs	31.17	125	P	P	05 24 42.0	+0.8
	comp=Z,1.4nm,0.9s,baz=309,slow=9.1,SNR=6.0						
	comp=Z,1.4nm,0.9s						
STKA	Stephens Creek	41.05	132	P	P	05 26 05.8	+0.2
STKA				IAmb	IAmb	05 26 08.3	
	comp=Z,2.8nm,1.0s						
STKA	Stephens Creek	41.05	132	P	P	05 26 06.5	+0.8
	comp=Z,4.9nm,0.7s,baz=314,slow=9.5,SNR=7.2						
	comp=Z,4.9nm,0.7s						
SONM	Songino Array	54.76	0	P	P	05 27 55.1	+3.5
SONM	Songino Array	54.76	0	P	P	05 27 48.8	-2.9
	comp=Z,0.3nm,0.5s,baz=180,slow=8.6,SNR=1.6						
	comp=Z,0.3nm,0.5s						
USRK	Ussuriysk Ar.	56.15	22	LR	LR	05 51 36.1	
	comp=Z,33nm,19.0s,baz=287,slow=36						
MKAR	Makanchi Array	57.81	341	P	P	05 28 09.2	-4.2
	comp=Z,0.2nm,0.4s,baz=141,slow=7.8,SNR=3.6						
	comp=Z,0.2nm,0.4s						
RAO	Raoul Island	74.15	118	P	P	05 29 59.1	+0.2
	comp=Z,131nm,0.3s,baz=333,slow=22,SNR=1.8						
VNDA	Vanda	75.94	169	P	P	05 30 09.9	+1.6
VNDA				IAmb	IAmb	05 30 30.2	
	comp=Z,1.9nm,1.2s						
VNDA	Vanda	75.94	169	P	P	05 30 08.8	+0.5
	comp=Z,0.6nm,0.8s,baz=299,slow=11,SNR=3.0						
	comp=Z,0.6nm,0.8s						
MMAI	Mount Meron Ar	78.13	306	LR	LR	06 09 49.0	
	comp=Z,66nm,18.2s,baz=144,slow=40						
BRTR	Keskin Array B	81.41	312	P	P	05 30 37.2	-2.1
	comp=Z,0.5nm,0.6s,baz=113,slow=7.7,SNR=1.8						
	comp=Z,0.5nm,0.6s						
QSPA	South Pole Qui	82.83	180	P	P	05 30 47.6	+1.3
QSPA				IAmb	IAmb	05 31 00.4	
	comp=Z,3.3nm,1.1s						
QSPA	South Pole Qui	82.83	180	P	P	05 30 46.9	+0.7
	comp=Z,2.1nm,0.9s,baz=61,slow=1.8,SNR=5.4						
	comp=Z,2.1nm,0.9s						
SNAA	Sanae	89.16	197	P	P	05 31 17.5	+0.1
	comp=Z,2.0nm,1.1s,baz=110,slow=1.3,SNR=2.7						
	comp=Z,2.0nm,1.1s						
VRAC	Vranov	95.18	319	LR	LR	06 21 31.7	
	comp=Z,35nm,19.4s,baz=149,slow=40						
TXAR	Lajitas Array	144.20	48	PKP	PKPab	05 37 56.1	-0.5
	comp=Z,0.2nm,0.6s,baz=270,slow=1.8,SNR=2.9						
BDFB	Brasilia	145.92	228	PKPbc	PKPdf	05 38 02.4	+0.3
	comp=Z,1.9nm,0.7s,baz=102,slow=8.3,SNR=3.3						

*IDC **07** 05:23:42.6±0.8, 6°.35S×106°.69E, h0km, mb4.0/9, mbtmp4.0/9, MS3.6/9, Error ellipse: s-maj=44.5km s-min=19.2km az=52.0*
*DJA **07** 05:23:45.6±0.3, 7°.5±3°×10°6E±°, h10km, M4.8/19, mb4.9/2, mB6.2/2, MLv4.7/19, Mw(mB)5.9/2*

ISC 07 05:23:46.1±0.7, **6°.82S**±0°.06×**106°.46E**±0°.05, **h10**km, **n36,** σ0$77/24, **mb4.0/9, MS3.6/9, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.21	153	P	Pg	05 23 50.3	-0.2
DBJI	Dramaga	0.39	48	P	Pb	05 23 55.3	+0.2
CBJI	Citeko	0.55	44	P	Pg	05 23 57.1	+0.2
TNG	Tangerang	0.67	16	P	Pn	05 24 00.4	-1.2
TNG				P	Pb	05 24 00.3	+0.4
SBJI	Serang	0.77	335	P	Pg	05 24 01.3	+0.4
CNJI	Cibinong	0.82	126	P	Pg	05 24 00.4	-1.7
LEM	Lembang	1.15	91	P	Pg	05 24 08.6	+0.3
JCJI	Jatiwangi	1.83	80	P	Pn	05 24 18.0	+0.4
BLSI	Bandar Lampung	1.88	320	P	Pn	05 24 18.2	-0.2
CMJI	Cimerak	2.19	116	P	Pn	05 24 22.1	-0.6
KASI	Kota Agung	2.34	303	P	Pn	05 24 24.1	-0.5
KPJI	Karang Pucung	2.50	102	P	Pn	05 24 27.5	+0.6
LWLI	Liwa	2.98	307	P	Pn	05 24 33.4	-0.3
SMRI	Semarang	3.96	94	P	Pn	05 24 46.3	-0.7
UGM	Wanagama	4.17	105	P	Pn	05 24 50.2	+0.2
MNAI	Manna	4.26	305	P	Pn	05 24 51.4	+0.3
PPBI	Pangkal Pinang	4.63	356	P	Pn	05 24 56.8	+0.5
PWJI	Pagerwojo	5.43	103	P	Pn	05 25 07.9	+0.7
	89nm,0.8s,0.7nm						
KAPI	Kappang	13.34	83	LR	LR	05 31 42.1	
	comp=Z,144nm,20.4s,baz=261,slow=37						
CMAR	Chiang Mai Arr	26.19	344	LR	LR	05 40 14.5	
	comp=Z,77nm,18.3s,baz=155,slow=38						
WRA	Warramunga Arr	30.03	118	P	P	05 29 54.1	-1.5
	2.4nm,0.9s,baz=288,slow=11,SNR=8.5						
	2.4nm,0.9s						
ASAR	Alice Springs	31.23	125	P	P	05 30 04.2	-1.9
	2.2nm,1.0s,baz=302,slow=8.1,SNR=8.4						
ASAR				LR	LR	05 43 58.7	
	comp=Z,50nm,19.5s,baz=338,slow=39						
	2.2nm,1.0s						
CTA	Charters Tower	40.76	113	LR	LR	05 51 09.0	
	comp=Z,4.7nm,18.1s,baz=284,slow=40						
STKA	Stephens Creek	41.16	132	P	P	05 31 30.4	-0.5
	3.8nm,0.6s,baz=296,slow=9.8,SNR=6.2						
STKA				LR	LR	05 50 22.0	
	comp=Z,68nm,19.3s,baz=274,slow=39						
	3.8nm,0.6s						
JNU	Nakatsue	46.00	29	LR	LR	05 52 51.4	
	comp=Z,67nm,18.1s,baz=171,slow=38						
SONM	Songino Array	54.41	360	LR	LR	05 58 29.0	
	comp=Z,109nm,19.7s,baz=90,slow=39						
MKAR	Makanchi Array	57.53	341	P	P	05 33 31.4	-4.4
	0.5nm,0.5s,baz=148,slow=8.4,SNR=7.9						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	62.10	340	P	P	05 34 03.0	-4.1
	0.3nm,0.4s,baz=150,slow=6.4,SNR=2.6						
KURBB				LR	LR	06 03 02.6	
	comp=Z,82nm,20.4s,baz=167,slow=38						
	0.3nm,0.4s						
KBZ	Khabaz	76.16	318	LR	LR	06 12 42.0	
	comp=Z,48nm,21.1s,baz=164,slow=39						
VNDA	Vanda	76.25	169	P	P	05 35 35.5	+1.0
	0.3nm,0.5s,baz=312,slow=7.8,SNR=2.1						
	0.3nm,0.5s						
BRTR	Keskin Array B	81.31	312	P	P	05 35 59.9	-3.3
	0.6nm,0.6s,baz=126,slow=7.3,SNR=3.3						
	0.6nm,0.6s						
QSPA	South Pole Qui	83.17	180	P	P	05 36 12.7	+0.3
	1.2nm,0.9s,baz=270,slow=4.0,SNR=2.3						
	1.2nm,0.9s						
OBN	Obninsk	84.28	327	LR	LR	06 17 08.1	
	comp=Z,30nm,20.6s,baz=182,slow=38						
SNAA	Sanae	89.54	197	P	P	05 36 44.4	+0.8
	1.8nm,0.9s,baz=39,slow=16,SNR=2.3						
	1.8nm,0.9s						
TXAR	Lajitas Array	143.84	48	PKP	PKPab	05 43 19.9	+0.3
	0.1nm,0.4s,baz=229,slow=0.8,SNR=2.0						
BDFB	Brasilia	146.28	228	PKPbc	PKPdf	05 43 27.1	-0.1
	1.6nm,0.8s,baz=211,slow=13,SNR=2.6						

*SKHL **07** 05:42:15.4±0.7, 48°.00N×146°.50E, h502km±9km, mb5.6/8,

YSS	**Yuzh-Sakhalins**	**2.78 244**	P	**P**	**05 43 27.0**	**+1.8**
YSS	**Yuzh-Sakhalins**	**2.78 244**	P	**P**	**05 43 26.4**	**+1.1**
YSS	**Yuzh-Sakhalins**	**2.78 244**	*i* P	**P**	**05 43 27.4**	**+2.2**
YSS			AMB	AMB	05 43 29.8	
	1μm,0.5s					
YSS			*i* S	**S**	**05 44 22.7**	**+1.7**
YSS			A	A	05 44 23.8	
	8μm,6.2s					
YSS			A	A	05 44 23.8	
	8μm,6.2s					
YSS			A	A	05 44 24.7	
	2μm,1.1s					
YSS			A	A	05 44 24.7	
	1μm,1.1s					
YSS	**Yuzh-Sakhalins**	**2.78 244**α	*i* PN	**P**	**05 43 27.6**	**+2.4**
YSS			*i* S	**S**	**05 44 22.7**	**+1.7**
YSS			pmax	pmax		
	comp=Z,1μm,0.5s					
YSS			smax	smax		
	comp=N,8μm,5.6s					
YSS			smax	smax		
	comp=E,8μm,6.2s					
YSS			smax	smax		
	comp=N,2μm,0.8s					
YSS			smax	smax		
	comp=E,1μm,1.1s					
YSS			MLR	MLR		
	comp=Z,1μm,8.3s					
UGL	**Uglegorsk**	**3.00 288**	*i* P	**P**	**05 43 28.8**	**+2.2**
UGL			AMB	AMB	05 43 29.4	
	comp=Z,870nm,0.4s					
UGL			AMB	AMB	05 43 31.0	
	comp=Z,4μm,1.1s					
UGL			*e*S	**S**	**05 44 25.7**	**+2.0**
UGL			A	A	05 44 26.6	
	comp=Z,3μm,2.4s					
UGL			A	A	05 44 26.6	
	comp=Z,8μm,2.4s					
UGL			A	A	05 44 27.1	
	comp=Z,1μm,1.0s					
UGL			A	A	05 44 27.1	
	comp=Z,2μm,1.0s					
UGL	**Uglegorsk**	**3.00 288**⇑	*i* PN	**P**	**05 43 28.9**	**+2.3**
UGL			*e*S	**S**	**05 44 25.5**	**+1.8**
UGL			pmax	pmax		
	comp=Z,872nm,0.4s					
UGL			pmax	pmax		
	comp=Z,4μm,1.1s					
UGL			smax	smax		
	comp=N,3μm,1.3s					
UGL			smax	smax		
	comp=E,8μm,2.4s					
UGL			smax	smax		
	comp=E,1μm,1.6s					
UGL			smax	smax		
	comp=N,1μm,1.1s					
KUR	**Kuril'sk**	**3.16 161**	*i* P	**P**	**05 43 28.2**	**+0.3**
KUR			AMB	AMB	05 43 29.0	
	comp=N,390nm,0.4s					
KUR			*e*S	**S**	**05 44 24.5**	**-1.2**
KUR			A	A	05 44 27.4	
	comp=N,2μm,2.0s					
KUR			A	A	05 44 27.4	
	comp=N,2μm,2.0s					
KUR			A	A	05 44 28.2	
	comp=N,230nm,0.6s					
KUR			A	A	05 44 28.2	
	comp=N,310nm,0.6s					
KUR	**Kuril'sk**	**3.16 161**⇓	*i* PN	**P**	**05 43 28.4**	**+0.5**
KUR			*e*S	**S**	**05 44 24.8**	**-0.9**
KUR			pmax	pmax		
	comp=Z,320nm,0.4s					
KUR			pmax	pmax		
	comp=E,31nm,0.2s					
KUR			pmax	pmax		
	comp=N,106nm,0.3s					
KUR			smax	smax		
	comp=N,230nm,0.6s					
KUR			smax	smax		
	comp=E,99nm,0.5s					
TYV	**Tymovskoe**	**3.60 319**	*e*P	**P**	**05 43 32.8**	**+1.9**
TYV			AMB	AMB	05 43 35.0	
	comp=E,800nm,1.7s					
TYV			*e*S	**S**	**05 44 33.2**	**+1.6**
TYV			A	A	05 44 35.5	
	comp=E,1μm,2.9s					
TYV			A	A	05 44 35.5	
	comp=E,1μm,2.9s					
TYV	**Tymovskoe**	**3.60 319**	*e*PN	**P**	**05 43 32.8**	**+1.9**
TYV			*e*S	**S**	**05 44 33.9**	**+2.3**
TYV			pmax	pmax		
	comp=Z,133nm,0.7s					
TYV			pmax	pmax		
	comp=Z,800nm,1.7s					
TYV			smax	smax		
	comp=N,1μm,2.6s					
TYV			smax	smax		
	comp=E,1μm,2.6s					
TYV			smax	smax		
	comp=N,135nm,1.5s					
TYV			smax	smax		
	comp=E,83nm,1.5s					
JSE	**Soyaes**	**4.20 220**	P	**P**	**05 43 37.3**	**+1.3**
JSE			S	**S**	**05 44 40.9**	**+0.3**
RUSJ	**Misakicho**	**4.20 191**	*e*PN	**P**	**05 43 36.7**	**+0.7**
RUSJ			*e*S	**S**	**05 44 41.1**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**4.21 185**	*e*P	**P**	**05 43 35.3**	**-0.8**
YUK			AMB	AMB	05 43 38.3	
	comp=E,620nm,0.3s					
YUK			*e*S	**S**	**05 44 37.5**	**-3.2**
YUK			A	A	05 44 40.4	
	comp=E,7μm,2.0s					
YUK			A	A	05 44 40.4	
	comp=E,4μm,2.0s					
YUK			A	A	05 44 48.4	
	comp=E,2μm,0.6s					
YUK			A	A	05 44 48.4	
	comp=E,2μm,0.6s					
YUK	**Yuzh-Kuril'sk**	**4.21 185**	PN	**P**	**05 43 35.3**	**-0.8**
YUK			S	**S**	**05 44 38.6**	**-2.1**
YUK			pmax	pmax		
	comp=Z,618nm,0.3s					
YUK			pmax	pmax		
	comp=N,439nm,0.4s					
YUK			pmax	pmax		
	comp=E,346nm,0.4s					
YUK			smax	smax		
	comp=E,2μm,0.6s					
YUK			smax	smax		
	comp=N,2μm,0.5s					
JWK2	**Keihoku**	**4.25 228**	P	**P**	**05 43 38.5**	**+2.1**
JWK2			S	**S**	**05 44 43.3**	**+2.0**
JWK2	**Keihoku**	**4.25 228**	A	A	05 43 38.5	
	comp=E,6.0nm,5.2s,comp=N,5.0nm,6.1s					
SHO	**Shikotan**	**4.37 176**	*e*P	P	05 43 35.1	-2.4
SHO			AMB	AMB	05 43 37.1	
	comp=N,610nm,0.3s					
SHO			*e*S	S	05 44 37.1	-6.1
SHO			A	A	05 44 39.3	
	comp=N,3μm,0.6s					
SHO			A	A	05 44 39.3	
	comp=N,4μm,0.6s					
SHO	**Shikotan**	**4.37 176**	*e*PN	P	05 43 34.9	-2.6
SHO			*e*S	S	05 44 38.0	-5.2
SHO			pmax	pmax		
	comp=N,225nm,0.3s					
SHO			pmax	pmax		
	comp=Z,607nm,0.3s					
SHO			pmax	pmax		
	comp=E,156nm,0.2s					
SHO			smax	smax		
	comp=E,4μm,0.6s					
SHO			smax	smax		
	comp=N,3μm,0.4s					
JRA	**Rausu**	**4.38 192**	*e*P	**P**	**05 43 37.3**	**-0.3**
JTKR	**Abashiri--Toko**	**4.59 203**	P	**P**	**05 43 39.7**	**+0.2**
JTKR			S	**S**	**05 44 46.6**	**-0.2**
JRBN	**Rebuntou**	**4.61 235**	P	**P**	**05 43 40.6**	**+1.0**
JRBN			S	**S**	**05 44 47.6**	**+0.5**
JMP	**Maruseppu**	**4.72 208**	P	**P**	**05 43 40.9**	**+0.2**
JMP			S	**S**	**05 44 49.0**	**0.0**
JNK	**Nakash**	**4.79 195**	*i* P	**P**	**05 43 40.5**	**-0.7**
JNK			S	**S**	**05 44 48.6**	**-1.4**
NMR	**Nemuro--Hokkai**	**4.88 186**	*e*P	P	05 43 39.6	-2.4
NMR			*e*S	**S**	**05 44 47.4**	**-4.1**
NMR	**Nemuro--Hokkai**	**4.88 186**	*e*PN	P	05 43 39.6	-2.4
NMR			S	**S**	**05 44 47.4**	**-4.1**
NEM2	**Nemuro 2**	**4.88 186**	*i* P	P	05 43 39.5	-2.5
NEM2			S	**S**	**05 44 47.3**	**-4.2**
JKA	**Kamikawa-asahi**	**4.88 214**		**P**	**05 43 42.3**	**+0.3**
ASAJ	**Asahikawa**	**4.89 214**	P	**P**	**05 43 42.9**	**+0.8**
	comp=N,112nm,0.6s,baz=357,slow=6.2,SNR=53					
ASAJ			S	**S**	**05 44 55.2**	**+3.6**
	comp=N,103nm,1.0s,baz=341,slow=32,SNR=14					
ASAJ	**Asahikawa**	**4.89 214**	PN	**P**	**05 43 42.3**	**+0.2**
JSS	**Shosan**	**4.96 221**	P	**P**	**05 43 44.0**	**+1.3**
JSS			S	**S**	**05 44 53.5**	**+0.7**
JSS	**Shosan**	**4.96 221**	A	A	05 43 44.0	
	comp=E,4.0nm,5.3s,comp=N,3.0nm,4.6s					
JKK2	**Kamakawa 2**	**5.04 212**	P	**P**	**05 43 44.0**	**+0.5**
JKK2			S	**S**	**05 44 54.1**	**-0.2**
JAR	**Ashorobuto**	**5.26 201**	*i* P	**P**	**05 43 45.4**	**-0.2**
JAR			S	**S**	**05 44 57.0**	**-1.0**
AKK	**Akkeshi**	**5.32 192**	*e*P	**P**	**05 43 45.1**	**-1.0**
JAK	**Akkeshi**	**5.36 194**	P	**P**	**05 43 44.9**	**-1.6**
JAK			S	**S**	**05 44 55.3**	**-4.4**
JHR	**Hokuryu**	**5.54 218**	P	**P**	**05 43 49.1**	**+1.0**
JHR			S	**S**	**05 45 02.7**	**-0.1**
JFR	**Furan**	**5.72 209**	*i* P	**P**	**05 43 50.2**	**+0.3**
JFR			S	**S**	**05 45 04.2**	**-1.8**
OKH	**Okha**	**5.77 339**	*i* P	**P**	**05 43 51.9**	**+1.9**
OKH			AMB	AMB	05 43 56.0	
	comp=N,2μm,5.0s					
OKH			*i* S	**S**	**05 45 09.5**	**+3.0**
OKH			A	A	05 45 09.8	
	comp=N,4μm,4.0s					
OKH			A	A	05 45 09.8	
	comp=N,3μm,4.0s					
OKH	**Okha**	**5.77 339**c	*i* PN	**P**	**05 43 50.7**	**+0.7**
OKH			*i* S	**S**	**05 45 01.6**	**-4.9**
OKH			pmax	pmax		
	comp=Z,200nm,7.5s					
OKH			smax	smax		
	comp=E,2μm,9.3s					
OKH			smax	smax		
	comp=N,2μm,8.0s					
JCH	**Churui**	**6.00 202**	P	**P**	**05 43 51.0**	**-1.6**
JCH			S	S	05 45 05.2	-5.8
NKL	**Nikolayevsk**	**6.13 326**	*e*P	**P**	**05 43 55.4**	**+1.9**
NKL			AMB	AMB	05 43 56.1	
	comp=N,1μm,0.7s					
NKL			*e*S	**S**	**05 45 14.4**	**+1.5**
NKL			A	A	05 45 18.6	
	comp=N,2μm,2.0s					
NKL			A	A	05 45 18.6	
	comp=N,2μm,2.0s					
NKL	**Nikolayevsk**	**6.13 326**	*e*PN	**P**	**05 43 51.1**	**-2.4**
NKL			pmax	pmax		
	comp=E,652nm,0.6s					
NKL			pmax	pmax		
	comp=N,2μm,1.9s					
NKL			pmax	pmax		
	comp=Z,1μm,0.8s					
JBT2	**Biratori 2**	**6.14 209**	*i* P	**P**	**05 43 53.8**	**-0.2**
JBT2			S	**S**	**05 45 09.8**	**-3.7**
JEW	**Eniwo**	**6.41 215**	*e*P	**P**	**05 43 56.6**	**0.0**
JEW			S	**S**	**05 45 14.7**	**-3.6**
JNBK	**Urakawa-nobuka**	**6.48 205**	P	**P**	**05 43 55.8**	**-1.5**
JNBK			*e*S	S	05 45 13.4	-6.1
JEM	**Erimo**	**6.62 201**	P	**P**	**05 43 58.8**	**+0.1**
ERM	**Erimo**	**6.62 201**	P	**P**	**05 43 58.4**	**-0.3**
ERM	**Erimo**	**6.62 201**		**P**	**05 43 58.2**	**-0.5**
ERM	**Erimo**	**6.62 201**	*i* PN	**P**	**05 43 57.9**	**-0.8**
SKR	**Severo-Kuril's**	**6.79 65**	*e*P	**P**	**05 44 00.9**	**+0.7**
SKR			AMB	AMB	05 44 01.6	
	comp=Z,300nm,1.0s					
SKR			AMB	AMB	05 44 01.6	
	comp=Z,2μm,3.5s					
SKR			*e*S	**S**	**05 45 23.2**	**-1.9**
SKR			A	A	05 45 25.0	
	comp=Z,700nm,2.0s					
SKR			A	A	05 45 25.0	
	comp=Z,700nm,2.0s					
SKR			A	A	05 45 28.4	
	comp=Z,220nm,0.8s					
SKR			A	A	05 45 28.4	
	comp=Z,150nm,0.8s					
SKR	**Severo-Kuril's**	**6.79 65**	*e*PN	**P**	**05 44 00.9**	**+0.7**
SKR			*e*S	**S**	**05 45 24.4**	**-0.7**
SKR			pmax	pmax		
	comp=Z,2μm,4.1s					
SKR			pmax	pmax		
	comp=Z,301nm,1.5s					
SKR			smax	smax		
	comp=N,213nm,0.8s					
SKR			smax	smax		
	comp=E,135nm,0.6s					
SKR			MLR	MLR		
	comp=Z,600nm,13.0s					
GRNR	**Gornyy**	**6.98 295**	*e*P	**P**	**05 44 04.1**	**+1.9**
GRNR	**Gornyy**	**6.98 295**⇓	*i* PN	**P**	**05 44 04.1**	**+1.9**
GRNR			pmax	pmax		
	comp=E,100nm,0.6s					
GRNR			pmax	pmax		
	comp=Z,120nm,0.6s					
GRNR			MLR	MLR		
	comp=Z,810nm,11.0s					
TEY	**Ternei**	**7.46 248**	*e*P	**P**	**05 44 06.5**	**-0.7**
TEY	**Ternei**	**7.46 248**⇑	*e*PN	**P**	**05 44 06.5**	**-0.7**
TEY			pmax	pmax		
	comp=N,1μm,1.0s					
TEY			pmax	pmax		
	comp=Z,100nm,1.0s					
TEY			pmax	pmax		
	comp=E,30nm,1.0s					
TEY			pmax	pmax		
	comp=N,1μm,1.4s					
TEY			pmax	pmax		
	comp=E,100nm,1.4s					
TEY			pmax	pmax		
	comp=Z,100nm,1.4s					
JOT	**Ohata**	**7.83 211**	*e*P	**P**	**05 44 10.1**	**-1.0**
JOT			S	S	05 45 38.1	-6.7
JOSM	**Okushiri--Mats**	**7.85 221**	*e*P	**P**	**05 44 11.5**	**+0.2**
JOSM			*e*S	**S**	**05 45 40.0**	**-5.2**
JSI2	**Shiura 2**	**8.34 213**	*e*P	**P**	**05 44 16.1**	**-0.3**
JSI2			*e*S	**S**	**05 45 48.9**	**-5.7**
JTM	**Tenmabayashi**	**8.36 209**	P	**P**	**05 44 17.4**	**+0.8**
JTM	**Tenmabayashi**	**8.36 209**		**P**	**05 44 15.8**	**-0.7**
JANG	**Nango**	**8.59 206**	*e*P	**P**	**05 44 18.5**	**-0.6**
JANG			S	**S**	**05 45 54.0**	**-5.6**
JIW	**Iwasaki**	**8.89 213**	*e*P	**P**	**05 44 21.8**	**-0.5**
JIW			*e*S	**S**	**05 46 00.7**	**-4.7**
PET	**Petropavlovsk**	**9.14 54**	P	**P**	**05 44 25.2**	**+0.6**
PET	**Petropavlovsk**	**9.14 54**	P	**P**	**05 44 23.6**	**-1.1**
PET	**Petropavlovsk**	**9.14 54**	*e*P	**P**	**05 44 24.8**	**+0.2**
PET	**Petropavlovsk**	**9.14 54**κ	*i* PN	**P**	**05 44 24.8**	**+0.2**
PET			*e*S	**S**	**05 46 06.5**	**-3.3**
PET			pmax	pmax		
	comp=Z,300nm,4.8s					
PET			pmax	pmax		
	comp=Z,600nm,4.2s					
PET			pmax	pmax		
	comp=Z,99nm,0.7s					
PET			MLR	MLR		
	comp=Z,100nm,7.0s					
PET			MLR	MLR		
	comp=Z,300nm,11.0s					
PET	**Petropavlovsk**	**9.14 54**	P	**P**	**05 44 24.6**	**0.0**
	comp=Z,96nm,1.1s,comp=Z,1μm					
KLR	**Kul'dur**	**9.74 281**	P	**P**	**05 44 32.8**	**+1.7**
	comp=Z,49nm,0.5s,baz=81,slow=8.6,SNR=139					
KLR			S	**S**	**05 46 23.6**	**+2.0**
	comp=Z,14nm,0.9s,baz=91,slow=16,SNR=5.9					
KLR	**Kul'dur**	**9.74 281**	*e*PN	**P**	**05 44 28.9**	**-2.2**
KLR			pmax	pmax		
	comp=Z,160nm,1.3s					
USA0B	**Ussuriysk Arra**	**10.77 253**	P	**P**	**05 44 41.3**	**-0.8**
USA0B	**Ussuriysk Arra**	**10.77 253**	*i* PN	**P**	**05 44 41.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**10.77 253**	P	**P**	**05 44 42.0**	**-0.1**
	comp=Z,34nm,0.5s,baz=66,slow=11,SNR=68					
USRK			S	**S**	**05 46 42.8**	**+0.9**
	comp=Z,18nm,1.1s,baz=68,slow=16,SNR=4.1					
JMM	**Marumori**	**11.13 204**	P	**P**	**05 44 47.2**	**+1.1**
JMM	**Marumori**	**11.13 204**	P	**P**	**05 44 46.7**	**+0.6**
VLA	**Vladivostok**	**11.37 249**	*i* PN	**P**	**05 44 46.4**	**-2.0**
MA2	**Magadan**	**11.66 11**	P	**P**	**05 44 52.7**	**+1.4**
MA2	**Magadan**	**11.66 11**	P	**P**	**05 44 51.4**	**+0.1**
MA2	**Magadan**	**11.66 11**	P	**P**	**05 44 52.3**	**+1.0**
	comp=Z,40nm,0.6s,baz=198,slow=9.9,SNR=23					
MA2	**Magadan**	**11.66 11**	*e*P	**P**	**05 44 52.6**	**+1.3**
MA2	**Magadan**	**11.66 11**	*ce*PN	**P**	**05 44 52.6**	**+1.3**
MA2			pmax	pmax		
	comp=Z,46nm,0.7s					
JSD	**Sado**	**11.78 213**	P	**P**	**05 44 54.4**	**+1.4**
JSD	**Sado**	**11.78 213**	P	**P**	**05 44 54.6**	**+1.6**
MSHR	**Mys Shultsa**	**12.11 248**	*ce*PN	**P**	**05 44 56.8**	**+0.4**
MSHR			pmax	pmax		
	comp=Z,45nm,1.0s					
MDJ	**Mudanjiang**	**12.15 259**	P	**P**	**05 44 56.9**	**+0.1**
MDJ	**Mudanjiang**	**12.15 259**	P	**P**	**05 44 56.2**	**-0.6**
MDJ			S	S	05 47 00.4	-8.4
MDJ			pmax	pmax		
	comp=Z,120nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,550nm,3.5s					
MDJ	**Mudanjiang**	**12.15 259**	P	**P**	**05 44 55.8**	**-1.0**
PSTR	**Posyet**	**12.29 249**	*e*P	**P**	**05 44 58.1**	**-0.2**
PSTR	**Posyet**	**12.29 249**	*i* PN	**P**	**05 44 56.0**	**-2.3**
HEH	**HeiHe**	**12.58 286**	*e*P	**P**	**05 45 00.9**	**-0.4**
HEH			sP		05 46 40.3	
HEH			S	**S**	**05 47 14.8**	**-2.2**
HEH			pmax	pmax		
	comp=Z,130nm,0.9s					
HEH			pmax	pmax		
	comp=Z,500nm,5.1s					
MJB9	**Matsu-Tunnel**	**13.14 210**	P	**P**	**05 45 08.8**	**+1.3**
MAJO	**Matsushiro**	**13.14 210**	P	**P**	**05 45 08.6**	**+1.1**
MAJO	**Matsushiro**	**13.14 210**	P	**P**	**05 45 07.7**	**+0.3**
MAJO	**Matsushiro**	**13.14 210**	*e*PN	**P**	**05 45 07.8**	**+0.3**
MJAR	**Matsushiro Arr**	**13.14 210**	P	**P**	**05 45 08.8**	**+1.3**
	comp=Z,140nm,0.8s,baz=22,slow=11,SNR=236					
BNX	**BinXian**	**13.21 266**	⇓P	**P**	**05 45 06.5**	**-1.6**
BNX			pmax	pmax		
	comp=Z,130nm,1.0s					
ZEA	**Zeya**	**13.25 302**	*e*P	**P**	**05 45 07.7**	**-0.7**
ZEA	**Zeya**	**13.25 302**	*i* PN	**P**	**05 45 06.8**	**-1.6**
JGF	**Kuroka**	**14.29 211**	P	**P**	**05 45 20.9**	**+1.3**
JGF	**Kuroka**	**14.29 211**	P	**P**	**05 45 19.6**	**0.0**
SEY	**Seymchan**	**15.11 11**	P	**P**	**05 45 28.6**	**+0.8**
	comp=Z,25nm,0.3s,baz=189,slow=8.1,SNR=73					
SEY			S	**S**	**05 48 06.8**	**+1.2**
	comp=Z,6.0nm,0.8s,baz=316,slow=22,SNR=8.3					
SEY	**Seymchan**	**15.11 11**	*e*P	**P**	**05 45 27.3**	**-0.6**
SEY	**Seymchan**	**15.11 11**	*e*P	**P**	**05 45 27.3**	**-0.6**
SEY			pmax	pmax		
	comp=Z,60nm,1.1s					
JHJ	**Hachijo jima 2**	**15.89 201**	P	**P**	**05 45 39.1**	**+2.6**
	comp=Z,169nm,0.8s,baz=137,slow=6.4,SNR=5.0					
YAK	**Yakutsk**	**16.74 332**	P	**P**	**05 45 42.8**	**-2.1**
YAK	**Yakutsk**	**16.74 332**	P	**P**	**05 45 43.1**	**-1.9**
	comp=Z,89nm,0.3s,baz=104,slow=2.7,SNR=23					
YAK			S	**S**	**05 48 34.6**	**-1.5**
	comp=Z,47nm,0.8s,baz=117,slow=19,SNR=15					
YAK	**Yakutsk**	**16.74 332**	*e*P	**P**	**05 45 42.7**	**-2.2**
YAK	**Yakutsk**	**16.74 332**	*e*P	**P**	**05 45 42.7**	**-2.2**
YAK			*e*S	**S**	**05 48 34.8**	**-1.3**
YAK			pmax	pmax		
	comp=Z,125nm,1.1s					
YAK			pmax	pmax		
	comp=E,37nm,1.2s					
YAK			pmax	pmax		
	comp=N,54nm,1.2s					
YAK			smax	smax		
	comp=E,283nm,1.9s					
YAK			smax	smax		
	comp=N,166nm,1.5s					
KS19	**Wonju Array Si**	**17.26 238**	P	**P**	**05 45 50.6**	**0.0**
KSRS	**Korea Array**	**17.26 238**	P	**P**	**05 45 51.7**	**+1.1**
	comp=N,69nm,0.9s,baz=45,slow=9.5,SNR=77					
KSRS			PcP	**PcP**	**05 50 04.7**	**+0.7**
	comp=N,3.3nm,0.9s,baz=19,slow=1.2,SNR=6.0					
KSRS			ScP	**ScP**	**05 52 52.3**	**0.0**
	comp=N,3.5nm,1.0s,baz=5.7,slow=2.5,SNR=6.9					
KSAR	**Wonju Array Be**	**17.29 238**	P	**P**	**05 45 50.8**	**-0.1**
KSAR	**Wonju Array Be**	**17.29 238**	P	**P**	**05 45 50.8**	**-0.1**
HIA	**Hailar**	**17.59 283**	P	**P**	**05 45 55.7**	**+2.1**
HIA	**Hailar**	**17.59 283**	*i* P	**P**	**05 45 51.7**	**-1.9**
HIA			pmax	pmax		
	comp=Z,23nm,0.7s					
INCN	**Inchon**	**17.99 241**	P	**P**	**05 45 59.4**	**+1.9**
SHEM	**Shemya Is, Ala**	**18.14 65**	P	**P**	**05 46 00.6**	**+2.0**
	comp=Z,116nm,1.0s,baz=68,slow=3.0,SNR=6.9					
TJN	**Taejon**	**18.34 237**	P	**P**	**05 46 02.4**	**+1.6**
TJN	**Taejon**	**18.34 237**	*ce*P	**P**	**05 46 01.9**	**+1.1**
JNU	**Nakatsue**	**19.08 223**	P	**P**	**05 46 10.1**	**+2.5**
JNU	**Nakatsue**	**19.08 223**	P	**P**	**05 46 09.0**	**+1.3**
JNU	**Nakatsue**	**19.08 223**	P	**P**	**05 46 09.2**	**+1.5**
	comp=Z,145nm,0.8s,baz=58,slow=6.9,SNR=35					
CIT	**Chita**	**21.30 293**	*e*P	**P**	**05 46 28.0**	**+0.5**
CIT			*e*		05 49 50.7	
CIT			*e*		05 50 12.8	
CIT			pmax	pmax		
	comp=Z,82nm,1.2s					
AMKA	**Amchitka**	**21.36 69**	P	**P**	**05 46 28.5**	**+0.5**
XLT	**XiLinHaoTe**	**21.41 270**	*e*P	**P**	**05 46 27.8**	**-0.9**
XLT			sP	sP	05 48 37.9	-1.2
XLT			S	**S**	**05 49 51.9**	**-1.0**
XLT			pmax	pmax		
	comp=Z,20nm,0.6s					
XLT			pmax	pmax		
	comp=Z,320nm,3.7s					
BOD	**Bodaibo**	**21.53 309**	*e*P	**P**	**05 46 27.5**	**-1.9**
BOD			pmax	pmax		
	comp=Z,125nm,1.0s					
BILL	**Bilibino**	**22.26 20**	*e*P	**P**	**05 46 34.5**	**-1.4**
BILL	**Bilibino**	**22.26 20**⇓	*e*P	**P**	**05 46 34.5**	**-1.4**
BILL			*i* S	**S**	**05 50 08.6**	**+3.1**
BILL			pmax	pmax		
	comp=Z,23nm,1.7s					
BJI	**Beijing**	**23.07 260**	P	**P**	**05 46 45.3**	**+1.7**
BJI			S	**S**	**05 50 19.3**	**+0.2**
BJI			pmax	pmax		
	comp=Z,19nm,0.9s					
BJI			pmax	pmax		
	comp=Z,71nm,4.3s					
BJT	**Baijiatuau**	**23.09 260**	P	**P**	**05 46 45.6**	**+1.9**
BJT	**Baijiatuau**	**23.09 260**	P	**P**	**05 46 44.8**	**+1.1**
HNS	**HongShan**	**25.47 257**	⇑P	**P**	**05 47 06.6**	**+1.7**
HNS			S	**S**	**05 50 58.2**	**+1.3**
HNS			pmax	pmax		
	comp=Z,58nm,1.1s					
JOW	**Kunigami**	**25.62 220**	P	**P**	**05 47 07.5**	**+1.1**
HHC	**Hu-ho-hao-te**	**25.74 266**⇑	*i* P	**P**	**05 47 08.4**	**+1.0**
HHC			S	**S**	**05 51 01.1**	**-0.1**
HHC			ScS	**ScS**	**05 57 04.2**	**0.0**
HHC			pmax	pmax		
	comp=Z,120nm,0.8s					
HHC			pmax	pmax		
	comp=Z,45nm,3.6s					
NJ2	**Nanjing**	**26.35 242**	*e*P	**P**	**05 47 13.9**	**+1.2**
NJ2			pmax	pmax		
	comp=Z,19nm,0.6s					
SONM	**Songino Array**	**26.55 284**	P	**P**	**05 47 14.2**	**-0.3**
SONM			IAmb	IAmb	05 47 23.4	
	comp=Z,14nm,0.8s					
SONM	**Songino Array**	**26.55 284**	P	**P**	**05 47 14.9**	**+0.4**
	comp=Z,8.6nm,0.7s,baz=73,slow=8.5,SNR=37					
SONM			PcP	**PcP**	**05 50 22.7**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=117,slow=2.1,SNR=3.8					
SONM			ScP	**ScP**	**05 53 16.1**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=108,slow=2.1,SNR=11					
	comp=Z,8.6nm,0.7s					
BTO	**Baotou**	**26.89 267**	*e*P	**P**	**05 47 18.7**	**+1.2**
BTO			sP	**sP**	**05 49 35.0**	**-2.2**
BTO			S	**S**	**05 51 29.0**	**+10**
BTO			pmax	pmax		
	comp=Z,67nm,0.9s					
ZAK	**Zakamensk**	**27.92 291**	*e*P	**P**	**05 47 26.3**	**-0.1**
ZAK	**Zakamensk**	**27.92 291**	*e*P	**P**	**05 47 26.3**	**-0.1**
ZAK			pmax	pmax		
	comp=Z,35nm,1.1s					
NIKH	**Nikolski High**	**28.43 63**	P	**P**	**05 47 31.4**	**+0.6**
	baz=279					
LYN	**LuoYang**	**28.64 254**	P	**P**	**05 47 35.2**	**+2.4**
LYN			pmax	pmax		
	comp=Z,23nm,0.7s					
TNA	**Tin City**	**29.48 37**	P	**P**	**05 47 39.6**	**-0.1**
	baz=257					
M11K	**Mekoryuk**	**29.52 48**	P	**P**	**05 47 40.7**	**+0.6**
	baz=266					
F14K	**Arctic Creek**	**30.11 38**	P	**P**	**05 47 45.5**	**+0.3**
	baz=258					
WHN	**Wuhan**	**30.13 246**	⇑P	**P**	**05 47 46.2**	**+0.4**

WHN pmax pmax
comp=Z,120nm,0.7s
ANM Nome 30.34 40 P P 05 47 47.6 +0.4
baz=261
K13K Kusilvak Mount 30.36 45 P P 05 47 47.5 +0.1
baz=266
F15K North Star Dit 30.84 37 P P 05 47 53.6 +2.1
F15K North Star Dit 30.84 37 P P 05 47 51.4 -0.1
baz=260
J14K Nanvaranak Lak 30.93 43 P P 05 47 52.6 +0.3
baz=266
M13K Dall Lake 30.94 48 P P 05 47 53.5 +1.2
M13K IAmb IAmb 05 47 55.3
comp=Z,22nm,0.8s
M13K Dall Lake 30.94 48 P P 05 47 52.5 +0.2
baz=270,SNR=6.0
G15K Niukluk 30.97 39 P P 05 47 52.6 0.0
baz=262
C16K Lisburne Hills 31.15 32 P P 05 47 54.1 +0.1
baz=255
XAN Xi'an 31.25 257 ⇑P **P 05 47 56.6 +1.1**
XAN pP pP 05 49 24.2 +4.6
XAN S **S 05 52 24.5 -2.4**
XAN sS sS 05 55 04.9 +2.3
XAN pmax pmax
comp=Z,53nm,1.0s
XAN pmax pmax
comp=Z,260nm,5.3s
L14K Kuka Creek 31.27 46 P P 05 47 55.7 +0.5
L14K IAmb IAmb 05 47 57.4
comp=Z,24nm,1.2s
L14K Kuka Creek 31.27 46 P P 05 47 55.7 +0.5
baz=269,SNR=9.6
M14K Bethel 31.62 47 P P 05 47 58.6 +0.4
M14K IAmb IAmb 05 48 01.0
comp=Z,23nm,0.7s
M14K Bethel 31.62 47 P P 05 47 58.7 +0.4
baz=271,SNR=13
H16K Elim 31.69 40 P P 05 47 58.9 +0.1
baz=264,SNR=8.6
G16K Koyuk River 31.73 38 P P 05 47 58.9 -0.2
G16K IAmb IAmb 05 48 01.5
comp=Z,15nm,0.8s
G16K Koyuk River 31.73 38 P P 05 47 59.0 -0.2
baz=263,SNR=16
N14K Kuskokwak Cree 31.78 49 P P 05 48 00.0 +0.4
baz=272,SNR=8.0
D17K Noatak River 31.84 34 P P 05 47 59.8 -0.2
baz=258,SNR=5.7
K15K Wolf Creek Mou 31.85 44 P P 05 48 00.5 +0.3
K15K Wolf Creek Mou 31.85 44 P P 05 48 00.5 +0.3
baz=268,SNR=8.0
L15K Ungalak Mounta 31.85 45 P P 05 47 59.9 -0.4
baz=270
S12K Black Hills 31.96 57 P P 05 48 01.0 -0.2
baz=279
C17K DeLong Mountai 31.97 32 P P 05 48 00.9 -0.4
baz=257
RDOG Red Dog Mine 31.98 33 P P 05 48 00.5 -0.7
baz=258
O14K Tigyukauivet M 32.02 50 P P 05 48 02.2 +0.6
O14K IAmb IAmb 05 48 03.7
comp=Z,21nm,1.2s
O14K Tigyukauivet M 32.02 50 P P 05 48 01.7 0.0
baz=274
E17K Hotham Inlet 32.20 35 P P 05 48 03.1 0.0
baz=260,SNR=7.5
M15K Kasigluk River 32.25 47 P P 05 48 03.8 +0.2
baz=272,SNR=17
I17K Unalakleet 32.30 41 P P 05 48 03.8 -0.1
I17K IAmb IAmb 05 48 06.1
comp=Z,13nm,0.7s
I17K Unalakleet 32.30 41 P P 05 48 04.1 +0.1
baz=267,SNR=7.0
J16K Anvik River 32.31 42 P P 05 48 04.5 +0.4
J16K Anvik River 32.31 42 P P 05 48 04.4 +0.3
baz=268,SNR=5.1
F17K Baldwin Pennin 32.33 37 P P 05 48 04.2 0.0
F17K Baldwin Pennin 32.33 37 P P 05 48 04.1 0.0
baz=262
G17K Kiwalik Mounta 32.45 38 P P 05 48 05.5 +0.2
baz=264,SNR=20
N15K Kwethluk River 32.56 48 P P 05 48 07.0 +0.7
N15K Kwethluk River 32.56 48 P P 05 48 07.0 +0.7
baz=273,SNR=24
B18K Kokolik River 32.66 31 P P 05 48 07.2 +0.1
baz=257
CNSH ChangSha 32.68 244 P P 05 48 08.0 +0.3
CNSH pmax pmax
comp=Z,60nm,0.8s
H17K Granite Mounta 32.71 39 P P 05 48 07.5 0.0
H17K IAmb IAmb 05 48 10.4
comp=Z,12nm,0.8s
H17K Granite Mounta 32.71 39 P P 05 48 07.7 +0.2
baz=266,SNR=14
C18K Utukok River 32.72 32 P P 05 48 07.0 -0.6
C18K IAmb IAmb 05 48 09.4
comp=Z,14nm,0.8s
C18K Utukok River 32.72 32 P P 05 48 08.0 +0.4
baz=259
E18K Tukpahlearik C 32.72 35 P P 05 48 07.0 -0.5
E18K Tukpahlearik C 32.72 35 P P 05 48 07.3 -0.3
baz=261,SNR=8.3
O15K Ungalikthiuk R 32.77 50 P P 05 48 08.0 -0.1
baz=275
L16K Owhat River 32.81 45 P P 05 48 08.4 0.0
baz=271
F18K Selawik 32.98 36 P P 05 48 09.8 0.0
baz=263,SNR=9.7
J17K VABM Dome 33.00 42 P P 05 48 09.9 -0.1
J17K IAmb IAmb 05 48 11.8
comp=Z,20nm,1.2s
J17K VABM Dome 33.00 42 P P 05 48 10.3 +0.3
baz=269,SNR=18
M16K Timber Creek 33.08 47 P P 05 48 10.5 -0.2
M16K IAmb IAmb 05 48 13.4
comp=Z,18nm,0.7s
M16K Timber Creek 33.08 47 P P 05 48 11.3 +0.6
baz=273,SNR=14
N16K Nishlik Lake 33.20 48 P P 05 48 12.8 +1.0
baz=274,SNR=16
G18K Tagagawik 33.31 38 P P 05 48 12.1 -0.5
G18K IAmb IAmb 05 48 14.5
comp=Z,25nm,0.8s
G18K Tagagawik 33.31 38 P P 05 48 12.6 0.0
baz=266,SNR=46
ENH Enshi 33.34 251 P P 05 48 15.6 +2.2
K17K Iditarod 33.35 44 P P 05 48 13.0 +0.1
K17K IAmb IAmb 05 48 16.0
comp=Z,19nm,0.8s
K17K Iditarod 33.35 44 P P 05 48 13.4 +0.5
baz=271,SNR=15
L17K Donlin 33.36 45 P P 05 48 14.1 +1.1
baz=272,SNR=21
C19K Lookout Ridge 33.38 32 P P 05 48 12.3 -0.9
C19K IAmb IAmb 05 48 15.0
comp=Z,21nm,1.1s
C19K Lookout Ridge 33.38 32 P P 05 48 13.1 -0.1
baz=260
H18K Honhosa River 33.38 39 P P 05 48 12.7 -0.5
H18K IAmb IAmb 05 48 15.8
comp=Z,14nm,0.8s
H18K Honhosa River 33.38 39 P P 05 48 13.2 0.0
baz=267,SNR=17
LZH Lanzhou 33.39 265 P P 05 48 15.9 +2.0
LZH S S 05 52 58.2 -1.5
LZH ScP ScP 05 53 39.6 +0.7
LZH pmax pmax
comp=Z,120nm,1.1s
LZH pmax pmax
comp=Z,230nm,4.3s
CHNA Chernabura Isl 33.51 58 P P 05 48 14.2 -0.1
baz=282
O16K Kokwok River B 33.61 49 P P 05 48 15.4 +0.2
O16K Kokwok River B 33.61 49 P P 05 48 15.7 +0.5
baz=276,SNR=9.0
P16K Nushagak River 33.72 50 P P 05 48 15.8 -0.3
baz=277
F19K Shaleruckik Mo 33.75 36 P P 05 48 15.9 -0.3
baz=265,SNR=38
M17K Holitna River 33.80 46 P P 05 48 17.9 +1.1
baz=273,SNR=26
D19K Kuna River 33.81 33 P P 05 48 16.2 -0.7
baz=262,SNR=10
CHGN Chignik 33.89 55 P P 05 48 17.3 -0.3
baz=280
G19K Purcell Mounta 33.97 37 P P 05 48 17.1 -1.1
G19K IAmb IAmb 05 48 20.0
comp=Z,18nm,0.8s
G19K Purcell Mounta 33.97 37 P P 05 48 17.6 -0.6
baz=267,SNR=21
N17K Nushagak Hills 33.98 47 P P 05 48 18.9 +0.6
baz=275,SNR=9.2
GCSA Galena City Sc 34.00 40 P P 05 48 17.7 -0.7
baz=269
E19K Redstone River 34.02 35 P P 05 48 18.3 -0.3
E19K Redstone River 34.02 35 P P 05 48 18.5 0.0
baz=264,SNR=55
J18K Innoko River 34.06 42 P P 05 48 18.8 -0.2
J18K Innoko River 34.06 42 P P 05 48 18.8 -0.2
baz=271,SNR=15
O17K Koliganek Bris 34.10 49 P P 05 48 20.2 +0.9
baz=276
L18K Granite Mounta 34.11 44 P P 05 48 20.4 +1.0
baz=273,SNR=20
H19K Roundabout Mou 34.20 39 P P 05 48 19.6 -0.5
H19K Roundabout Mou 34.20 39 P P 05 48 20.3 +0.3
baz=268,SNR=62
GTA Gaotai 34.30 273 *e*P **P 05 48 22.7 +1.3**
GTA PP **PP 05 49 56.4 -2.8**
GTA sP PcP 05 50 45.2 +1.3
GTA S **S 05 53 15.2 +1.9**
GTA ScP **ScP 05 53 42.4 +0.3**
GTA pmax pmax
comp=Z,33nm,1.0s
B20K Meade River 34.38 30 P P 05 48 21.3 -0.2
baz=261
D20K Etivluk River 34.39 33 P P 05 48 21.2 -0.4
baz=263,SNR=21
Q16K King Salmon 34.45 51 P P 05 48 21.7 -0.6
baz=278
E20K Nigu River 34.49 34 P P 05 48 22.4 -0.2
baz=264,SNR=38
P17K Kvichak River 34.50 50 P P 05 48 22.4 -0.3
baz=278,SNR=5.4
J19K Poorman 34.54 41 P P 05 48 22.7 -0.3
baz=271,SNR=16
M18K Stony River 34.57 46 P P 05 48 24.0 +0.8
baz=275,SNR=12
F20K Avaraart Lake 34.57 36 P P 05 48 22.9 -0.3
baz=267
N18K Kilae Creek 34.60 47 P P 05 48 24.6 +1.0
baz=276,SNR=24
R17L Mt. Peulik Vol 34.77 52 P P 05 48 25.2 +0.2
baz=280
A21K Barrow 34.78 28 P P 05 48 24.5 -0.4
baz=260
H20K Anotleneega Mo 34.85 39 P P 05 48 25.6 0.0
baz=270,SNR=45
Q17K Contact Creek 34.91 51 P P 05 48 26.3 0.0
baz=279,SNR=9.7
L19K White Mountain 34.97 44 P P 05 48 26.3 -0.4
L19K White Mountain 34.97 44 P P 05 48 26.8 +0.1
baz=274,SNR=5.3
I20K Naaghedeneel 35.03 40 P P 05 48 27.3 +0.3
baz=271,SNR=9.2
O18K Koktuh Hills 35.04 48 P P 05 48 28.2 +1.0
baz=278,SNR=9.9
P18K Big Mountain, 35.09 49 P P 05 48 27.4 -0.2
P18K IAmb IAmb 05 48 29.9
comp=Z,15nm,0.8s
P18K Big Mountain, 35.09 49 P P 05 48 28.4 +0.7
baz=278,SNR=14
C21K Knifeblade Rid 35.09 32 P P 05 48 27.6 +0.1
baz=264,SNR=18
NRIK Noril'sk 35.13 328 P P 05 48 27.3 -0.5
NRIK Noril'sk 35.13 328 P P 05 48 27.4 -0.5
comp=Z,2.7nm,0.4s,baz=110,slow=8.6,SNR=12
NRIK ScP **ScP 05 53 43.0 -1.3**
comp=Z,1.0nm,0.3s,baz=147,slow=4.1,SNR=4.5
comp=Z,2.7nm,0.4s
NRIK Noril'sk 35.13 328 *ce*P **P 05 48 27.1 -0.7**
NRIK pmax pmax
comp=Z,20nm,1.8s
J20K Nowinta River 35.19 41 P P 05 48 28.3 0.0
baz=272,SNR=45
B21K Ikpikpuk River 35.20 31 P P 05 48 28.3 -0.2
baz=264
M19K Big River Lodg 35.21 45 P P 05 48 29.0 +0.4
baz=275
K20K Telida 35.26 42 P P 05 48 28.8 -0.2
K20K Telida 35.26 42 P P 05 48 28.8 -0.2
baz=273,SNR=17
A22K Sinclair Lake 35.26 29 P P 05 48 28.3 -0.6
baz=262
N19K Bonanza Creek 35.28 47 P P 05 48 29.8 +0.5
N19K IAmb IAmb 05 48 31.9
comp=Z,12nm,0.7s
N19K Bonanza Creek 35.28 47 P P 05 48 30.0 +0.7
baz=277,SNR=14
Q18K Katmai Hardscr 35.31 51 P P 05 48 29.6 -0.1
baz=279,SNR=22
E21K Killik River 35.33 33 P P 05 48 29.1 -0.5
baz=266
L20K Farewell, AK 35.40 44 P P 05 48 30.2 0.0
baz=275,SNR=7.9
G21K Allakaket 35.43 37 P P 05 48 30.0 -0.4
G21K Allakaket 35.43 37 P P 05 48 30.2 -0.2
baz=269,SNR=75
F21K Alatna River 35.45 36 P P 05 48 30.1 -0.5
baz=268,SNR=30
B22K Teshekpuk Lake 35.69 30 P P 05 48 31.8 -0.6
B22K IAmb IAmb 05 48 33.9
comp=Z,21nm,0.7s
B22K Teshekpuk Lake 35.69 30 P P 05 48 31.8 -0.6
baz=264,SNR=8.5
H21K Melozitna Rive 35.72 38 P P 05 48 32.3 -0.5
H21K IAmb IAmb 05 48 34.6
comp=Z,12nm,0.6s
H21K Melozitna Rive 35.72 38 P P 05 48 32.5 -0.3
baz=271,SNR=27
R18K Karluk 35.79 52 P P 05 48 33.1 -0.4
baz=281
M20K Styx River 35.81 45 P P 05 48 33.7 0.0
baz=276
D22K Ayikyak River 35.83 33 P P 05 48 33.6 -0.1
baz=267,SNR=30
F22K John River 35.96 35 P P 05 48 35.0 +0.1
baz=269
Q19K Cape Douglas, 35.96 50 P P 05 48 34.8 -0.2
baz=280,SNR=9.5
CHUM Lake Minchumin 36.01 41 P P 05 48 35.4 +0.2
baz=274
P19K Oil Pt 36.05 49 P P 05 48 36.1 +0.4
baz=279
E22K Anaktuvuk Pass 36.12 34 P P 05 48 36.1 -0.1
baz=269
PPLA Purkeypile 36.14 43 P P 05 48 36.7 +0.2
baz=276
CAST Castle Rocks 36.14 42 P P 05 48 36.9 +0.5
baz=275
G22K Bettles 36.22 36 P P 05 48 36.7 -0.2
baz=271
O20K Slope Mountain 36.29 48 P P 05 48 37.6 -0.1
baz=279
H22K Ishtalitna Cre 36.30 38 P P 05 48 37.7 +0.1
baz=272,SNR=42
N20K Mount Spurr 36.33 46 P P 05 48 37.9 -0.1
baz=278
OHAK Old Harbor 36.48 53 P P 05 48 39.2 0.0
OHAK Old Harbor 36.48 53 P P 05 48 38.7 -0.5
baz=282,SNR=8.5
SKT Skwentna 36.55 44 P P 05 48 39.5 -0.2
baz=277
D23K Nanushuk River 36.55 33 P P 05 48 39.5 -0.2
baz=269,SNR=11
BPAW Bear Paw Mtn. 36.57 41 P P 05 48 40.0 +0.1
baz=275,SNR=14
C23K Itkillik River 36.61 31 P P 05 48 40.0 -0.1
baz=268,SNR=28
MLY Manley 36.61 39 P P 05 48 39.8 -0.4
MLY IAmb IAmb 05 48 43.5
comp=Z,9.7nm,0.6s
MLY Manley 36.61 39 P P 05 48 40.1 -0.2
baz=274,SNR=21
Q20K Shuyak Island 36.66 50 P P 05 48 40.0 -0.7
baz=281
SYI Shuyak Island 36.66 50 P P 05 48 40.4 -0.3
SYI IAmb IAmb 05 48 42.3
comp=Z,18nm,0.7s
COLD Coldfoot 36.73 36 P P 05 48 40.7 -0.5
baz=272,SNR=33
KDAK Kodiak Island 36.73 52 P P 05 48 40.7 -0.6
baz=282
KDAK Kodiak Island 36.73 52 *i* P **P 05 48 40.9 -0.4**
KDAK pmax pmax
comp=Z,48nm,1.5s
G23K Bananza Creek 36.81 36 P P 05 48 41.4 -0.6
G23K Bananza Creek 36.81 36 P P 05 48 41.7 -0.2
baz=272,SNR=61
E23K Chandalar 36.94 34 P P 05 48 42.7 -0.3
baz=271,SNR=54
TOLK Toolik Lake Re 36.95 33 P P 05 48 42.9 -0.1
baz=270,SNR=30
SUA Susitna One 36.99 45 P P 05 48 43.1 -0.4
baz=279,SNR=8.1
H23K Yukon River 37.06 38 P P 05 48 44.4 +0.5
baz=274,SNR=37
CUT Chulitna 37.08 44 P P 05 48 44.0 -0.1
baz=278
I23K Minto, Yukon-K 37.18 39 P P 05 48 45.0 +0.1
baz=275,SNR=18
D24K Happy Valley 37.22 32 P P 05 48 44.8 -0.4
D24K Happy Valley 37.22 32 P P 05 48 44.8 -0.4
baz=270,SNR=57
M22K Willow 37.24 45 P P 05 48 45.6 +0.2
baz=279
C24K Franklin Bluff 37.27 31 P P 05 48 45.2 -0.4
baz=270
BRSE Bradley Lake S 37.28 48 P P 05 48 45.4 -0.4
baz=281,SNR=6.6
NEA2 Nenana 37.36 40 P P 05 48 46.0 -0.4
baz=276
E24K Your Creek 37.36 34 P P 05 48 46.5 0.0
baz=272
MCK McKinley 37.51 41 P P 05 48 47.5 -0.2
baz=277,SNR=9.7
MCK McKinley 37.51 41 P P 05 48 47.8 +0.1
RC01 Rabbit Creek A 37.53 46 P P 05 48 47.5 -0.3
baz=280
F24K Squaw Lake 37.61 35 P P 05 48 48.1 -0.4
baz=273,SNR=59
PMR Palmer 37.73 45 P P 05 48 50.6 +1.1
PMR Palmer 37.73 45 P P 05 48 48.8 -0.6
baz=280,SNR=6.3
H24K Noodor Dome 37.74 38 P P 05 48 49.7 +0.1
baz=275,SNR=36
GYA Guiyang 37.77 249 ⇓P **P 05 48 51.1 +0.7**
GYA pmax pmax
comp=Z,71nm,0.8s
WAT1 Susitna Watana 37.81 43 P P 05 48 49.4 -0.7
baz=279
G24K Hadweenzic Riv 37.83 36 P P 05 48 50.1 -0.1
baz=275,SNR=47
COLA College 37.85 39 P P 05 48 51.4 +1.1
COLA College 37.85 39 P P 05 48 50.5 +0.2
baz=277
COLA College 37.85 39 *i* P **P 05 48 50.0 -0.3**
COLA pmax pmax
comp=Z,31nm,0.6s
SEW Seward 37.85 47 P P 05 48 50.0 -0.4
baz=282
POKR Poker Plat Res 38.00 39 P P 05 48 51.5 -0.1
baz=277,SNR=6.5
ZALV Zalesovo Beam 38.02 302 P P 05 48 51.2 -0.7
comp=Z,5.0nm,0.5s,baz=59,slow=7.7,SNR=13
ZALV PcP **PcP 05 50 54.9 +0.1**
comp=Z,3.5nm,0.3s,baz=90,slow=1.9,SNR=12
ZALV ScP **ScP 05 53 54.0 -1.4**
comp=Z,5.4nm,0.8s,baz=70,slow=4.9,SNR=13
comp=Z,5.0nm,0.5s
SML Sawmill 38.07 44 P P 05 48 52.3 -0.1
baz=280,SNR=8.5
KNK Knik Glacier 38.08 45 P P 05 48 52.1 -0.3
baz=281,SNR=7.5
D25K Kavik River 38.09 32 P P 05 48 52.0 -0.4
baz=272
WAT6 Susitna Watana 38.22 43 P P 05 48 52.9 -0.7
baz=280
ILAR Eielson Array 38.27 39 P P 05 48 53.1 -0.7
comp=Z,21nm,0.7s,baz=266,slow=6.9,SNR=127
ILAR PcP **PcP 05 50 54.6 -0.7**
comp=Z,0.7nm,0.5s,baz=281,slow=3.6,SNR=5.3
ILAR ScP **ScP 05 53 54.1 -2.2**
comp=Z,1.0nm,1.1s,baz=285,slow=4.4,SNR=3.6
ILAR S **S 05 54 09.2 -2.6**
comp=Z,0.5nm,0.9s,baz=269,slow=15,SNR=4.1
comp=Z,21nm,0.7s
HDA Harding Lake 38.29 40 P P 05 48 53.3 -0.7
baz=278,SNR=14
DHY Denali Highway 38.30 42 P P 05 48 53.7 -0.6
baz=279,SNR=24
M23K Glacier View 38.36 44 P P 05 48 54.3 -0.3
baz=281
G25K Bearman Lake 38.37 36 P P 05 48 54.8 +0.2
baz=276,SNR=13
E25K Arctic Village 38.45 34 P P 05 48 55.4 +0.1
baz=274,SNR=23
F25K Christian Rive 38.47 35 P P 05 48 55.5 +0.1
baz=275,SNR=36
H25L Birch Creek 38.53 37 P P 05 48 56.4 +0.5
baz=277
SCM Sheep Creek Mo 38.54 44 P P 05 48 56.2 +0.1
baz=281,SNR=9.7
C26K Camden Bay 38.58 31 P P 05 48 56.7 +0.5
baz=273
PRP Porcupine Dome 38.74 38 P P 05 48 58.1 +0.3
baz=278,SNR=65
GLI Glacier Island 38.84 46 P P 05 48 58.0 -0.5
baz=282
P23K Montague Islan 38.88 47 P P 05 48 58.9 +0.1
baz=283,SNR=6.9
K24K Donnelly Dome 38.89 41 P P 05 48 58.0 -1.0
baz=280,SNR=11
J25K Salcha River, 38.94 40 P P 05 48 58.6 -0.7
baz=279,SNR=14
C27K Jago River 39.01 31 P P 05 48 59.9 +0.1
baz=274,SNR=61
M24K Tolsona, Glenn 39.02 44 P P 05 49 00.7 +0.6
baz=282
F26K Sheenjek River 39.03 35 P P 05 49 00.3 +0.3
baz=276,SNR=48
G26K Porcupine Rive 39.26 36 P P 05 49 02.3 +0.6
baz=278,SNR=48
KLU Klutina 39.26 45 P P 05 49 02.4 +0.3
baz=282,SNR=13
HARP HAARP 39.43 43 P P 05 49 03.8 +0.5
baz=282,SNR=6.9
Q23K Middleton Isla 39.53 48 P P 05 49 05.1 +1.0
baz=285
EYAK Cordova Ski Ar 39.55 46 P P 05 49 06.3 +2.0
EYAK Cordova Ski Ar 39.55 46 P P 05 49 04.6 +0.3
baz=284
SCRK Sand Creek 39.64 40 P P 05 49 04.1 -1.0
baz=281,SNR=80
J26L Joseph Creek 39.73 40 P P 05 49 05.5 -0.2
baz=281,SNR=14
I26K Coal Creek Min 39.76 38 P P 05 49 05.4 -0.5
baz=280
N25K Chitina, Valde 39.86 44 P P 05 49 06.5 -0.4
baz=283
E27K Coleen River 39.92 34 P P 05 49 07.0 -0.2
baz=278,SNR=12
MENT Mentasta 39.97 42 P P 05 49 09.2 +1.6
BMRM Bremner River 40.00 45 P P 05 49 08.1 +0.1
baz=284
D27M Malcolm River 40.02 32 P P 05 49 07.7 -0.3
baz=277
G27K Doyon Strip 40.11 36 P P 05 49 09.2 +0.5
baz=280,SNR=18
L26K Log Cabin Wild 40.11 42 P P 05 49 09.2 +0.4
baz=283,SNR=11
WMQ Urumqi 40.15 286 *e*P **P 05 49 10.4 +1.0**
WMQ pmax pmax
comp=Z,45nm,0.7s
H27K Steamboat Moun 40.26 37 P P 05 49 10.8 +0.8
baz=280,SNR=22
I27K Kandik River 40.33 38 P P 05 49 11.1 +0.5
baz=281,SNR=19
KAIM Kayak Island 40.35 47 P P 05 49 11.5 +0.8
baz=285
M26K Nabesna, AK 40.41 43 P P 05 49 12.3 +1.1
baz=284,SNR=17
K27K Chicken 40.45 40 P P 05 49 11.7 +0.2
baz=282
E28M Babbage River 40.62 33 P P 05 49 12.6 -0.2
baz=279
MCARA McCarthy VSAT 40.64 44 P P 05 49 13.7 +0.7
baz=285,SNR=9.7
F28M Old Crow 40.66 34 P P 05 49 13.1 0.0
baz=280,SNR=21
EGAK Eagle 40.69 39 P P 05 49 12.8 -0.5

baz=282,SNR=68
CRQE Cirque 40.77 45 P P 05 49 15.0 +0.7
baz=285,SNR=6.3
L27K Beaver Creek, 40.78 41 P P 05 49 15.0 +0.8
baz=284,SNR=41
D28M Stokes Point 40.79 32 P P 05 49 13.4 -0.6
baz=279
PZH PanZhiHua 40.87 254 P P 05 49 15.8 +0.3
PZH pmax pmax
comp=Z,40nm,0.7s
PZH pmax pmax
comp=Z,100nm,3.5s
M27K Edge Creek, AK 40.93 43 P P 05 49 16.4 +1.0
baz=284,SNR=31
WAX Waxell Ridge 40.97 46 P P 05 49 16.9 +1.1
I28M Miner Creek 41.05 38 P P 05 49 16.6 +0.3
I28M Miner Creek 41.05 38 P P 05 49 17.0 +0.6
baz=282,SNR=41
ISLE Juniper Island 41.17 45 P P 05 49 17.8 +0.4
KMI Kunming 41.20 252 ‖P P 05 49 19.1 +0.9
KMI PP **PP 05 51 05.5 -1.3**
KMI S **S 05 54 54.1 -2.0**
KMI pmax pmax
comp=Z,27nm,0.9s
KMI pmax pmax
comp=Z,150nm,3.8s
E29M Blow River 41.25 33 P P 05 49 18.2 +0.4
baz=281,SNR=24
GRNC Granite Creek 41.41 45 P P 05 49 19.3 -0.2
GRNC IAmb IAmb 05 49 22.2
comp=Z,16nm,0.6s
MESA MESA 41.47 46 P P 05 49 20.4 +0.5
baz=287,SNR=5.5
G29M Pine Creek 41.50 35 P P 05 49 20.2 +0.4
baz=282,SNR=12
H29M Whitestone 41.51 36 P P 05 49 20.4 +0.5
baz=283,SNR=16
CTG Chitna Glacier 41.54 44 P P 05 49 20.5 +0.2
baz=286,SNR=14
CTGM Chitina Glacie 41.54 44 P P 05 49 20.6 +0.2
DAWY Dawson 41.60 40 P P 05 49 20.1 -0.6
baz=284,SNR=8.4
YUK3 Moose Creek 41.72 43 P P 05 49 22.0 +0.1
baz=286,SNR=15
I29M Ogilvie Camp, 41.73 38 P P 05 49 21.6 -0.1
I29M Ogilvie Camp, 41.73 38 P P 05 49 22.0 +0.3
baz=284,SNR=16
TABL Table Mountain 41.78 45 P P 05 49 21.8 -0.6
EPYK Eagle Plains 42.13 36 P P 05 49 25.1 +0.3
baz=284,SNR=18
O28M Mount Upton 42.13 45 P P 05 49 25.1 -0.2
baz=287,SNR=5.5
G30M tAoh Zraii Nji 42.17 35 P P 05 49 25.3 +0.1
baz=284,SNR=11
YUK8 Steele Glacier 42.18 44 P P 05 49 26.0 +0.4
baz=287
F30M Barrier River 42.19 34 P P 05 49 25.8 +0.5
baz=283,SNR=28
MK31 Makanchi Array 42.20 293 *i* P **P 05 49 25.5 -0.2**
MK31 pmax pmax
comp=Z,22nm,0.5s
MKAR Makanchi Array 42.20 293 P P 05 49 25.6 -0.1
comp=Z,21nm,0.6s,baz=71,slow=7.8,SNR=145
MKAR PcP **PcP 05 51 07.6 -1.0**
comp=Z,1.7nm,0.6s,baz=48,slow=2.6,SNR=3.2
MKAR ScP **ScP 05 54 10.7 -1.5**
comp=Z,3.8nm,0.7s,baz=58,slow=4.3,SNR=12
comp=Z,21nm,0.6s
PINM Pinnacle 42.31 45 P P 05 49 26.7 +0.3
baz=288
MAKZ Makanchi 42.38 293 P P 05 49 26.5 -0.6
MAKZ IAmb IAmb 05 49 29.2
comp=Z,19nm,0.8s
MAKZ Makanchi 42.38 293 P P 05 49 26.5 -0.6
MAKZ pmax pmax
comp=Z,19nm,0.9s
L29M L29M 42.39 41 P P 05 49 28.1 +1.1
baz=286,SNR=42
M29M Somme Creek 42.44 42 P P 05 49 28.2 +0.8
baz=287,SNR=26
K29M Barlow Dome 42.45 40 P P 05 49 27.9 +0.4
K29M IAmb IAmb 05 49 30.2
comp=Z,11nm,0.7s
K29M Barlow Dome 42.45 40 P P 05 49 28.0 +0.4
baz=286,SNR=21
I30M Mount Dempster 42.55 37 P P 05 49 28.3 0.0
baz=286,SNR=51
YUK4 Talbot Arm 42.68 43 P P 05 49 29.6 +0.1
baz=288
KURK Kurchatov 42.72 300 P P 05 49 29.1 -0.5
KURK Kurchatov 42.72 300 *e*P **P 05 49 29.3 -0.3**
KURK Kurchatov 42.72 300 *ce*P **P 05 49 29.3 -0.3**
KURK pmax pmax
comp=Z,58nm,1.3s
J30M Hart River 42.75 38 P P 05 49 30.2 +0.4
baz=286,SNR=11
KURBB Kurchatov Arra 42.81 300 P P 05 49 30.0 -0.4
comp=Z,21nm,0.6s,baz=71,slow=8.8,SNR=112
KURBB PcP **PcP 05 51 10.6 0.0**
comp=Z,3.6nm,0.5s,baz=68,slow=3.6,SNR=8.1
KURBB ScP **ScP 05 54 13.0 -1.5**
comp=Z,5.4nm,0.9s,baz=70,slow=3.3,SNR=14
KURBB S **S 05 55 15.3 -2.9**
comp=Z,3.5nm,1.0s,baz=72,slow=14,SNR=9.7
comp=Z,21nm,0.6s
KURBB Kurchatov Arra 42.81 300 P P 05 49 29.6 -0.7
INK Inuvik 42.85 33 P P 05 49 30.2 -0.1
baz=285,SNR=19
INK Inuvik 42.85 33 P P 05 49 30.3 -0.1
INK pmax pmax
comp=Z,29nm,0.9s
PNL Peninsula 42.85 46 P P 05 49 30.9 +0.3
baz=289
G31M Satah River 42.93 35 P P 05 49 30.4 -0.7
G31M IAmb IAmb 05 49 32.9
comp=Z,22nm,0.7s
G31M Satah River 42.93 35 P P 05 49 31.2 +0.2
baz=285,SNR=18
YUK6 Outpost Mounta 42.94 44 P P 05 49 32.1 +0.6
baz=288
F31M Tsiigehtchic 42.99 34 P P 05 49 31.2 -0.3
baz=285,SNR=13
M30M Minto, Yukon 43.14 41 P P 05 49 33.5 +0.7
baz=288
H31M Peel River 43.21 36 P P 05 49 33.3 0.0
baz=286
MAYO Mayo, Yukon 43.22 40 P P 05 49 33.6 +0.2
baz=288
N30M Aishikik Lake 43.36 43 P P 05 49 35.0 +0.4
baz=289,SNR=11
HYT Haines Junctio 43.37 44 P P 05 49 36.2 +1.4
baz=289,SNR=57
P29M Windy Craggy 43.66 46 P P 05 49 38.3 +1.3
P29M Windy Craggy 43.66 46 P P 05 49 38.4 +1.4
baz=290,SNR=35
P30M Million Dollar 43.86 45 P P 05 49 39.7 +1.2
baz=290
N31M Braeburn, Yuko 43.94 43 P P 05 49 40.1 +1.1
baz=290,SNR=28
O30N Mendenhall 44.04 44 P P 05 49 40.4 +0.5
O30N IAmb IAmb 05 49 42.7
comp=Z,9.7nm,0.7s
O30N Mendenhall 44.04 44 P P 05 49 40.4 +0.5
baz=290,SNR=17
M31M Drury Creek, Y 44.32 41 P P 05 49 42.6 +0.6
baz=290,SNR=9.9
PLBC Pleasant Camp 44.38 45 P P 05 49 43.3 +0.9
baz=291,SNR=7.9
FARO Faro, Yukon 44.77 41 P P 05 49 46.2 +0.7
baz=291,SNR=16
SKAG Skagway 44.87 45 P P 05 49 47.5 +1.3
SKAG Skagway 44.87 45 P P 05 49 46.8 +0.6
baz=292
S31K Pelican 45.00 47 P P 05 49 47.4 +0.1
baz=293
N32M Quiet Lake 45.28 42 P P 05 49 49.7 +0.3
baz=292
P32M Atlin 45.58 45 P P 05 49 52.9 +1.1
baz=293
R32K Eaglecrest 45.72 46 P P 05 49 53.8 +1.0
baz=294
P33M Teslin, Yukon 45.76 43 P P 05 49 53.9 +0.7
P33M IAmb IAmb 05 49 56.0
comp=Z,17nm,0.6s
P33M Teslin, Yukon 45.76 43 P P 05 49 53.8 +0.7
baz=293,SNR=22
C36M Paulatuk 45.80 30 P P 05 49 52.7 -0.5
baz=291,SNR=7.7
SIT Sitka 45.81 48 P P 05 49 55.9 +2.4
SIT Sitka 45.81 48 P P 05 49 54.2 +0.8
baz=294,SNR=6.9
UZB Uzynbulak 45.98 290 *e*P **P 05 49 54.9 -0.3**
UZB pmax pmax
comp=Z,7.0nm,0.4s
S32K Kilisnoo 46.01 47 P P 05 49 56.3 +1.3
baz=294
KPKS Kokpek 46.03 291 *e*P **P 05 49 55.8 +0.3**
KPKS pmax pmax
comp=Z,8.0nm,0.6s
BVA0 Borovoye Array 46.36 306 *i* P **P 05 49 57.3 -0.4**
BRVK Borovoye 46.40 306 *e*P **P 05 49 57.3 -0.8**
BRVK Borovoye 46.40 306 *ce*P **P 05 49 57.3 -0.8**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
Q32M Nakina River 46.51 45 P P 05 50 00.4 +1.3
baz=294,SNR=9.0
R33M Jennings River 46.94 44 P P 05 50 03.3 +1.0
baz=295,SNR=8.1
TGTN Hyland Airport 47.26 41 P P 05 50 05.2 +0.7
baz=295
U33K Whale Pass 47.32 49 P P 05 50 05.8 +0.9
baz=296
TARG Taragay, Kyrgy 47.49 289 P P 05 50 08.5 +1.5
TARG pmax pmax
comp=Z,23nm,0.7s
S34M Telegraph Cree 47.50 46 P P 05 50 07.5 +1.2
baz=296,SNR=6.0
WRAK Wrangell Islan 47.57 48 P P 05 50 08.7 +1.9
baz=297
CRAG Craig 47.60 50 P P 05 50 09.1 +2.0
baz=297
WTLY Watson Lake, Y 47.63 42 P P 05 50 08.7 +1.5
baz=296
DLBC Dease Lake 47.80 45 P P 05 50 09.9 +1.2
baz=296,SNR=13
BTLS Baital 48.09 295 *e*P **P 05 50 10.4 -0.5**
BTLS pmax pmax
comp=Z,6.0nm,0.7s
ULHL Ulahol 48.20 290 P P 05 50 12.7 +0.6
SNR=23
TKM2 Tokmak 2 48.24 292 P P 05 50 13.0 +0.6
SNR=20
TKM2 Tokmak 2 48.24 292 *i* P **P 05 50 12.4 0.0**
TKM2 pmax pmax
comp=Z,11nm,0.7s
T35M Bob Quinn 48.35 47 P P 05 50 13.6 +0.9
baz=298,SNR=8.0
V35K Ketchikan 48.43 49 P P 05 50 14.0 +0.7
baz=298
CMAR Chiang Mai Arr 48.46 249 P P 05 50 14.9 +0.9
comp=Z,6.5nm,0.8s,baz=37,slow=6.8,SNR=30
CMAR PcP **PcP 05 51 31.8 +0.7**
comp=Z,2.7nm,0.7s,baz=7.4,slow=3.5,SNR=8.7
CMAR ScP **ScP 05 54 38.9 +0.2**
comp=Z,1.5nm,0.3s,baz=18,slow=3.1,SNR=4.9
comp=Z,6.5nm,0.8s
USP Ospenovka 48.74 293 P P 05 50 16.5 +0.7
SNR=31
KBK Karagaybulak 48.79 292 P P 05 50 17.2 +0.8
SNR=8.4
DIB Dawson Inlet, 49.00 52 P P 05 50 18.6 +1.0
AAK Ala-Archa 49.08 292 P P 05 50 19.2 +0.6
SNR=8.7
AAK Ala-Archa 49.08 292 *e*P **P 05 50 19.2 +0.6**
AAK Ala-Archa 49.08 292 *ce*P **P 05 50 19.2 +0.6**
AAK pmax pmax
comp=Z,19nm,0.7s
LIRD Liard River Hi 49.16 42 P P 05 50 19.9 +1.2
baz=298
EKS2 Erkin-Say 49.51 292 P P 05 50 22.6 +0.8
SNR=28
SVE Sverdlovsk 49.59 314 *e*P **P 05 50 22.0 +0.1**
SVE *e*S **S 05 56 52.1 -0.7**
SVE pmax pmax
comp=Z,38nm,0.8s
KOTAN Kotaneelee Air 49.73 41 P P 05 50 23.7 +0.8
baz=299
TOAD Toad River Com 49.83 43 P P 05 50 24.9 +1.3
baz=299,SNR=24
KSH Kashi 49.88 288 P P 05 50 28.4 +4.0
KSH S **S 05 57 03.9 +6.4**
KSH pmax pmax
comp=Z,14nm,0.8s
HG4B Hotspring 50.13 52 P P 05 50 26.4 +0.5
SPITS Spitsbergen Ar 50.29 348 P P 05 50 26.1 -0.7
comp=Z,6.2nm,0.7s,baz=55,slow=7.2,SNR=11
comp=Z,6.2nm,0.7s
JAY Jayapura 50.77 187 P P 05 50 30.9 -0.3
comp=Z,15nm,1.0s
ARU Arti 50.79 314 *e*P **P 05 50 30.2 -0.5**
ARU Arti 50.79 314 *ce*P **P 05 50 30.2 -0.5**
ARU pmax pmax
comp=Z,28nm,0.7s
ARU Arti 50.79 314 P P 05 50 30.0 -0.7
comp=Z,42nm,0.8s,comp=Z,455nm
RES Resolute Bay 50.84 17 P P 05 50 30.7 -0.1
RES pmax pmax
comp=Z,71nm,0.6s
KK31 Karatay Array 51.27 294 P P 05 50 34.6 +0.1
KK31 Karatay Array 51.27 294 P P 05 50 34.6 +0.1
KK31 pmax pmax
comp=Z,15nm,0.9s
KKAR Karatay Array 51.27 294 P P 05 50 34.6 +0.1
KKAR Karatay Array 51.27 294 P P 05 50 34.6 +0.1
GTOI Gorontalo 51.55 210 P P 05 50 35.6 -1.1
TOLI2 Tolitoli 51.89 213 P P 05 50 40.4 +1.2
IUG Iuzhnay 52.10 294 *e*P **P 05 50 40.9 +0.3**
YKA Yellowknife Ar 52.41 35 P P 05 50 42.2 -0.1
comp=Z,11nm,0.6s,baz=303,slow=7.1,SNR=19
comp=Z,11nm,0.6s
FAKI Fak Fak 52.41 198 P P 05 50 43.9 +0.9
FAKI IAmb IAmb 05 50 44.4
comp=Z,46nm,0.9s
FAKI Fak Fak 52.41 198 P P 05 50 42.6 -0.4
comp=Z,58nm,0.9s
BTK Batken 52.82 291 P P 05 50 45.9 +0.1
MPSI Mapaga 52.93 214 P P 05 50 46.6 -0.1
comp=Z,15nm,0.8s
SANI Sanana 53.14 206 P P 05 50 47.4 -0.8
comp=Z,24nm,0.9s
TABU Tabubil 53.46 186 P P 05 50 52.4 +1.9
GAR Garm 53.75 290 P P 05 50 52.9 +0.5
KIRV Kirov 53.79 320 *ce*P **P 05 50 51.5 -0.7**
APA Apatity 54.10 334 ‖*i*P **P 05 50 52.2 -2.1**
APA pmax pmax
comp=Z,5.0nm,0.8s
CHGR Chuyangaron 54.68 291 P P 05 50 59.4 +0.4
CHGR Chuyangaron 54.68 291 P P 05 50 59.4 +0.4
CHGR pmax pmax
comp=Z,95nm,0.5s
SIMJ Simiganj 54.77 291 P P 05 51 00.1 +0.4
ARCES ARCESS Array B 54.88 338 P P 05 50 59.9 0.0
comp=Z,1.1nm,0.3s,baz=46,slow=8.1,SNR=24
ARCES PcP **PcP 05 51 54.5 0.0**
comp=Z,2.5nm,0.8s,baz=48,slow=5.6,SNR=3.9
comp=Z,1.1nm,0.3s
KTK1 Kautokeino 55.82 339 *e*P **P 05 51 06.1 -0.3**
KTK1 IAmb IAmb 05 51 06.4
comp=Z,8.3nm,0.8s
BRLDA Berland Lookou 56.06 45 P P 05 51 08.9 +0.6
BRLDA IAmb IAmb 05 51 10.9
comp=Z,31nm,0.6s
MTKI Muara Teweh, K 56.09 219 P P 05 51 09.0 0.0
TRO Tromso 56.36 341 *e*P **P 05 51 09.6 -0.4**
TRO IAmb IAmb 05 51 10.2
comp=Z,13nm,0.9s
KLMR Klimovskoe 56.41 326 *e*P **P 05 51 08.1 -2.4**
KLMR pmax pmax
comp=Z,36nm,1.8s
KBL Kabul 57.29 287 P P 05 51 17.6 +0.3
KBL IAmb IAmb 05 51 18.9
comp=Z,21nm,0.8s
KBL Kabul 57.29 287 P P 05 51 17.6 +0.3
KBL pmax pmax
comp=Z,21nm,0.9s
JOF Joensuu 57.91 331 *e*P **P 05 51 19.5 -1.2**
OUL Oulu 58.01 335 P P 05 51 21.0 -0.4
OUL pmax pmax
comp=Z,20nm,0.8s
BELG Belogornoye 58.33 315 *i* P **P 05 51 23.4 -0.4**
BELG pmax pmax
comp=Z,4.0nm,0.6s
FAUS Fauske 58.97 340 *e*P **P 05 51 27.4 -0.4**
FAUS IAmb IAmb 05 51 28.1
comp=Z,15nm,0.9s
H04D Lebanon 59.17 56 P P 05 51 31.5 +1.9
H04D IAmb IAmb 05 51 33.8
comp=Z,28nm,0.9s
MXC Moxie City 59.22 53 P P 05 51 31.5 +1.5
SUMG Summit 59.45 2 P P 05 51 31.6 +0.1
SUMG IAmb IAmb 05 51 34.0
comp=Z,25nm,0.9s
SUMG Summit 59.45 2 P P 05 51 31.7 +0.1
SUMG pmax pmax
comp=Z,25nm,0.9s
NEW Newport 59.81 50 P P 05 51 35.0 +1.1
baz=310,SNR=12
NEW Newport 59.81 50 P P 05 51 34.6 +0.7
I04A Tendick Farm, 59.82 57 P P 05 51 35.1 +1.1
I04A IAmb IAmb 05 51 37.6
comp=Z,24nm,0.6s
MOR8 Moi Rana 60.15 340 *e*P **P 05 51 34.1 -1.7**
MOR8 IAmb IAmb 05 51 34.8
comp=Z,18nm,0.8s
KSXB Camp Six Broad 60.23 59 P P 05 51 37.5 +0.6
KRMB Red Mountain 60.41 60 P P 05 51 39.0 +0.9
VAF Ylistaro 60.49 334 *e*P **P 05 51 37.6 -0.5**
KEF Keuruu 60.50 333 *e*P **P 05 51 36.8 -1.4**
FIA1 FINESS Array S 60.67 332 P P 05 51 38.9 -0.5
FIA1 IAmb IAmb 05 51 39.7
comp=Z,22nm,0.8s
FINES FINESS Array B 60.67 332 P P 05 51 38.8 -0.5
FINES FINESS Array B 60.67 332 P P 05 51 38.6 -0.7
comp=Z,18nm,0.7s,baz=36,slow=7.9,SNR=77
FINES PcP **PcP 05 52 17.7 +0.1**
comp=Z,2.7nm,0.6s,baz=48,slow=6.2,SNR=3.3
comp=Z,18nm,0.7s
FINES FINESS Array B 60.67 332 *i* P **P 05 51 38.5 -0.8**
FINES pmax pmax
comp=Z,18nm,0.7s
G08A Pilot Rock 60.76 54 P P 05 51 41.2 +0.9
I07A Izee 61.24 55 P P 05 51 44.9 +1.3
OBN Obninsk 61.43 322 ‖*e*P **P 05 51 41.9 -2.5**
OBN *e**PP **pP 05 53 22.2 -1.5**
OBN *e* 05 54 06.1
OBN *e*S **S 05 59 19.7 -7.1**
OBN pmax pmax
comp=Z,11nm,0.6s
VRH Novokhopyorsk 61.88 316 *e*P **P 05 51 46.7 -0.7**
VRH pmax pmax
comp=Z,13nm,0.8s
KDU Kakadu 61.89 195 P P 05 51 49.0 +1.1
GEYT Alibeck 61.91 296 P P 05 51 48.0 +0.1
GEYT IAmb IAmb 05 51 50.4
comp=Z,18nm,0.6s
GEYT Alibeck 61.91 296 P P 05 51 48.6 +0.7
comp=Z,16nm,0.6s,baz=34,slow=2.7,SNR=21
comp=Z,16nm,0.6s
GYA0 ALIBECK ARRAY 61.91 296 P P 05 51 48.0 +0.1
GYA0 pmax pmax
comp=Z,15nm,0.6s
GYA0B ALIBECK ARRAY 61.91 296 P P 05 51 48.0 +0.1
GYA0B IAmb IAmb 05 51 50.4
comp=Z,15nm,0.7s
O02D Mt. Diablo Mer 61.93 60 P P 05 51 49.6 +1.5
O02D IAmb IAmb 05 51 52.0
comp=Z,17nm,1.1s
DRS Darwin Rock St 61.94 197 P P 05 51 49.5 +1.3
COEN Coen 61.97 184 P P 05 51 49.6 +1.2
COEN Coen 61.97 184 P P 05 51 49.1 +0.7
NSS Namsos 62.10 340 *e*P **P 05 51 49.4 +0.8**
MEF Metsahovi 62.14 331 *e*P **P 05 51 48.4 -0.6**
LPSR Galich'ya Gora 62.18 319 *e*P **P 05 51 47.5 -1.9**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ARBE Arbavere 62.22 330 *e*P **P 05 51 49.2 -0.3**
MTN Manton Dam 62.29 197 P P 05 51 51.7 +1.2
RAF Rauma 62.33 333 *e*P **P 05 51 49.2 -1.0**
MSO Missoula 62.38 50 P P 05 51 51.9 +0.9
baz=312,SNR=22
FCC Fort Churchill 62.42 31 P P 05 51 50.2 -0.6
FCC IAmb IAmb 05 51 52.5
comp=Z,25nm,1.1s
FCC Fort Churchill 62.42 31 P P 05 51 50.2 -0.6
FCC pmax pmax
comp=Z,25nm,1.2s
PLID Pearl Lake 62.47 52 P P 05 51 51.9 +0.2
PLID IAmb IAmb 05 51 54.5
comp=Z,16nm,0.8s
VORR Voronezh 62.70 318 *e*P **P 05 51 53.6 +0.8**
VORR pmax pmax
comp=Z,12nm,0.5s
WVOR Wild Horse Val 62.80 56 P P 05 51 56.0 +2.2
GSI Gunungsitoli 62.81 238 P P 05 51 54.2 +0.2
comp=Z,31nm,0.8s
VSR Storozhevoye 63.04 318 *e*P **P 05 51 53.1 -1.8**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 63.16 317 *e*P **P 05 51 53.0 -2.7**
VORD pmax pmax
comp=Z,10.0nm,1.0s
MTSE Matsula 63.49 331 *e*P **P 05 51 57.8 +0.1**
EGMT Eagleton 63.66 47 P P 05 51 60.0 +0.8
baz=314,SNR=22
HLID Hailey 64.34 53 P P 05 52 05.0 +1.3
baz=313,SNR=8.1
BOZ Bozeman (W) 64.40 50 P P 05 52 05.1 +1.1
baz=314,SNR=48
DOMB Dombas 64.91 339 *e*P **P 05 52 06.3 -0.5**
DOMB IAmb IAmb 05 52 07.0
comp=Z,10nm,0.8s
NC303 NORSAR Array S 65.05 338 P P 05 52 07.0 -0.7
NC303 IAmb IAmb 05 52 08.3
comp=Z,25nm,1.2s
NB2 NORSAR Subarra 65.25 338 P P 05 52 08.1 -0.9
comp=Z,21nm,1.0s,baz=30,slow=6.5
NB2 NORSAR Subarra 65.25 338 P P 05 52 08.1 -0.9
baz=30,slow=6.5
NB2 NORSAR Subarra 65.25 338 P P 05 52 05.0 -4.0
NB2 pmax pmax
comp=Z,5.0nm,1.0s
NOA NORSAR Array B 65.25 338 P P 05 52 08.5 -0.5
comp=Z,8.0nm,0.7s,baz=30,slow=6.7,SNR=76
comp=Z,8.0nm,0.7s
IIGN Ignalina 65.27 327 *e*P **P 05 52 10.9 +1.8**
MNK Minsk 65.31 326 *i* P **P 05 52 08.8 -0.6**
MNK *i* 05 52 36.3
MNK *i* *PP **pP 05 53 48.2 -1.9**
MNK *i* 05 54 40.0
MNK *i* PPP PPP 05 56 22.6
MNK *i* S **S 06 00 14.6 +0.6**
MNK *i* 06 01 16.2
MNK *i* SS **SS 06 04 39.7 +2.2**
MNK pmax pmax
comp=Z,38nm,0.8s
MNK pmax pmax
comp=E,7.0nm,0.6s
MNK pmax pmax
comp=N,25nm,0.8s
MNK MLR MLR
comp=N,366nm,19.0s
MNK MLR MLR
comp=E,151nm,17.0s
MNK MLR MLR
comp=Z,51nm,16.0s
HFS Hagfors 65.38 336 P P 05 52 08.9 -0.8
comp=Z,8.3nm,0.5s,baz=46,slow=6.4,SNR=62
comp=Z,8.3nm,0.5s
NC602 NORSAR Array S 65.43 337 *e*P **P 05 52 09.2 -0.8**
NORES NORESS Array B 65.43 337 P P 05 52 09.3 -0.7
VSVD Vaisvydziai 65.60 329 *e*P **P 05 52 10.6 -0.6**
NVAR Mina Array Bea 65.68 59 P P 05 52 12.8 +0.5
comp=Z,16nm,0.7s,baz=300,slow=6.3,SNR=101
comp=Z,16nm,0.7s
H17A Grant Village 65.77 50 P P 05 52 15.0 +2.2
baz=315,SNR=17
ELK Elko 65.82 55 P P 05 52 14.2 +1.0
RLMT Red Lodge 65.92 49 P P 05 52 15.0 +1.3
baz=315,SNR=14
PABE Paberze 65.96 328 *e*P **P 05 52 12.3 -1.1**
DGMT Dagmar 65.97 43 P P 05 52 14.2 +0.5
DGMT Dagmar 65.97 43 P P 05 52 14.3 +0.6
baz=316,SNR=14
MTSU Mount Surprise 66.08 182 P P 05 52 15.9 +1.3
MOOW Moose Ponds 66.14 51 P P 05 52 16.3 +1.3
MOOW IAmb IAmb 05 52 19.4
comp=Z,28nm,1.4s
PLTM Poltava 66.25 319 P P 05 52 15.6 +0.2

SNOW Snow King Moun 66.33 51 P P 05 52 17.3 +0.9
SNOW IAmb IAmb 05 52 20.0
comp=Z,34nm,1.4s
HYA Hoyanger 66.35 340 *e*P **P 05 52 15.8 +0.1**
HYA IAmb IAmb 05 52 16.7
comp=Z,13nm,0.7s
KIV Kislovodsk 66.44 310 *e*P **P 05 52 18.3 +1.5**
KIV pmax pmax
comp=Z,33nm,1.1s
KIV MLR MLR
comp=Z,13nm,17.0s
KBZ Khabaz 66.49 310 P **P 05 52 17.7 +0.8**
comp=Z,12nm,0.8s,baz=48,slow=4.6,SNR=18
comp=Z,12nm,0.8s
KBZ Khabaz 66.49 310 *e*P **P 05 52 16.7 -0.2**
KBZ Khabaz 66.49 310 *ce*P **P 05 52 16.7 -0.2**
KBZ pmax pmax
comp=Z,19nm,0.9s
VOG Valley Oaks Go 66.50 61 P **P 05 52 18.5 +1.4**
baz=314
SHA1 Shidzhatmaz 66.61 310 *ce*P **P 05 52 19.5 +1.5**
MZP Montezuma Peak 66.71 59 P **P 05 52 19.6 +0.8**
SMMC Simmler 66.82 63 P **P 05 52 20.3 +1.0**
baz=314
SPUT South Promonto 66.95 53 P **P 05 52 20.6 +0.5**
SPUT IAmb IAmb 05 52 23.3
comp=Z,11nm,0.8s
VES Vestal, Richgr 67.00 62 P **P 05 52 21.1 +0.8**
baz=314,SNR=7.3
CWC Cottonwood Cre 67.18 61 P **P 05 52 22.9 +1.4**
baz=314
GRAC Grapevine Rang 67.20 60 P **P 05 52 23.2 +1.7**
baz=314,SNR=12
HWUT Hardware Ranch 67.21 53 P **P 05 52 22.6 +0.9**
HWUT IAmb IAmb 05 52 25.0
comp=Z,20nm,0.8s
PKM Mcpherson Peak 67.22 63 P **P 05 52 23.1 +1.2**
baz=314
R11B Troy Canyon, C 67.28 58 P **P 05 52 22.9 +0.7**
baz=314,SNR=16
BW06 Boulder Array 67.44 51 P **P 05 52 23.7 +0.5**
baz=316,SNR=34
PDAR Pinedale Array 67.44 51 P **P 05 52 23.2 0.0**
PDAR Pinedale Array 67.44 51 P **P 05 52 23.6 +0.4**
comp=Z,19nm,0.6s,baz=319,slow=1.1,SNR=119
comp=Z,19nm,0.6s
ISA Isabella, Lake 67.48 61 P **P 05 52 24.1 +0.7**
baz=314,SNR=5.6
DUG Dugway, Tooele 67.53 55 P **P 05 52 24.6 +0.9**
DUG IAmb IAmb 05 52 27.0
comp=Z,14nm,0.8s
DUG Dugway, Tooele 67.53 55 P **P 05 52 24.8 +1.1**
baz=315,SNR=17
DUG Dugway, Tooele 67.53 55 P **P 05 52 24.6 +0.9**
DUG pmax pmax
comp=Z,14nm,0.8s
ARVC Arvin 67.64 62 P **P 05 52 26.3 +2.1**
baz=314
AK03 Malin Array Si 67.67 322 P **P 05 52 23.0 -1.1**
AKASG Malin Array Be 67.69 322 P **P 05 52 23.6 -0.7**
comp=Z,8.8nm,0.7s,baz=37,slow=6.1,SNR=24
comp=Z,8.8nm,0.7s
AKBB Malin Array Si 67.69 322 *i* P **P 05 52 22.1 -2.1**
AKBB pmax pmax
comp=Z,17nm,0.9s
AKBB Malin Array Si 67.69 322 P **P 05 52 23.2 -1.0**
AK04 Malin Array Si 67.70 322 P **P 05 52 23.1 -1.2**
AK01 Malin Array Si 67.70 322 P **P 05 52 23.0 -1.3**
KIEV Kiev 67.70 322 P **P 05 52 23.5 -0.8**
KIEV Kiev 67.70 322 P **P 05 52 23.5 -0.8**
comp=Z,66nm,1.0s
WCT Wildcat Mounta 67.77 59 P **P 05 52 25.2 +0.1**
WCT IAmb IAmb 05 52 28.2
comp=Z,9.1nm,0.7s
MPMC Manual Prospec 67.78 60 P **P 05 52 27.0 +1.7**
baz=314,SNR=15
FURC Furnace Creek, 67.86 60 P **P 05 52 27.2 +1.7**
baz=314,SNR=25
TPNV Topopah Spring 67.88 59 P **P 05 52 27.0 +1.1**
baz=314,SNR=52
CTA Charters Tower 68.00 180 P **P 05 52 27.3 +0.9**
CTAO Charters Tower 68.00 180 P **P 05 52 27.3 +0.9**
GNI Garni 68.04 306 *i* P **P 05 52 27.9 +1.1**
GNI pmax pmax
comp=Z,19nm,1.3s
GNI Garni 68.04 306 P **P 05 52 27.3 +0.5**
comp=Z,14nm,0.8s
LRMC Laurel Mtn Rad 68.07 61 P **P 05 52 28.5 +1.5**
baz=314,SNR=6.6
MI30 MI30,Zelenitsa 68.08 323 P **P 05 52 25.7 -0.9**
NLU North Lily Min 68.10 54 P **P 05 52 28.0 +0.7**
NLU IAmb IAmb 05 52 30.4
comp=Z,15nm,0.9s
PSUT Pine Spring 68.12 56 P **P 05 52 28.3 +0.9**
PSUT IAmb IAmb 05 52 30.5
comp=Z,11nm,0.8s
MI28 Mi28,Pidlybu 68.14 323 P **P 05 52 26.8 -0.2**
ULM Lac du Bonnet 68.26 38 P **P 05 52 27.4 -0.3**
comp=Z,8.6nm,0.5s,baz=310,slow=5.8,SNR=15
comp=Z,8.6nm,0.5s
ULM Lac du Bonnet 68.26 38 *i* P **P 05 52 26.4 -1.3**
EDW2 Edwards Air Fo 68.31 62 P **P 05 52 29.6 +1.2**
baz=314,SNR=7.6
BSUT Blindstream Ca 68.40 53 P **P 05 52 30.3 +1.1**
BSUT IAmb IAmb 05 52 33.1
comp=Z,11nm,0.9s
RNPP9 Sopachiv 68.47 325 P **P 05 52 28.3 -0.6**
MDND Maddock 68.50 41 P **P 05 52 30.7 +1.4**
baz=319
DECC Green Verdugo 68.54 62 P **P 05 52 31.8 +2.0**
baz=315
FITZ Fitzroy Crossi 68.58 201 P **P 05 52 30.9 +0.9**
SHOC Shoshone, Teco 68.60 60 P **P 05 52 31.3 +1.2**
baz=315
WRAB Tennant Creek 68.70 192 *i* P **P 05 52 30.6 -0.1**
WRAB pmax pmax
comp=Z,22nm,1.0s
WB2 Warramunga Arr 68.71 192 P **P 05 52 30.7 0.0**
WB2 IAmb IAmb 05 52 32.0
comp=Z,19nm,0.9s
GSC Goldstone, Bar 68.71 61 P **P 05 52 31.9 +1.0**
baz=315,SNR=8.3
WRA Warramunga Arr 68.71 192 P **P 05 52 30.8 +0.1**
comp=Z,15nm,0.8s,baz=8.0,slow=6.4,SNR=66
WRA PKP2bc 06 20 39.8
comp=Z,2.1nm,1.0s,baz=204,slow=3.2,SNR=7.7
comp=Z,15nm,0.8s
WRA Warramunga Arr 68.71 192 *i* P **P 05 52 30.7 -0.1**
WRA pmax pmax
comp=Z,16nm,0.9s
QIS Mount Isa 68.73 187 P **P 05 52 31.2 +0.3**
LUBAR Lubar, Ukraine 68.89 323 P **P 05 52 30.2 -1.4**
FMP Fort Macarthur 68.94 63 P **P 05 52 33.6 +1.5**
baz=315
BFSC Mount Baldy Ra 68.95 62 P **P 05 52 33.7 +1.3**
baz=315,SNR=6.5
TMUT Trail Mountain 69.04 54 P **P 05 52 33.2 +0.2**
K22A Casper 69.08 49 P **P 05 52 33.4 +0.4**
baz=317,SNR=9.2
CCUT Cedar City 69.09 57 P **P 05 52 34.3 +1.0**
TUQ Turquoise Moun 69.13 60 P **P 05 52 34.8 +1.4**
baz=315,SNR=11
RSSD Black Hills 69.23 47 P **P 05 52 34.5 +0.5**
baz=318
RSSD Black Hills 69.23 47 P **P 05 52 34.0 0.0**
SCI2 San Clemente I 69.31 64 P **P 05 52 35.5 +1.2**
baz=315
HEC Hector,Ludlow 69.31 61 P **P 05 52 36.4 +1.9**
baz=315,SNR=7.7
BBRC Big Bear Solar 69.37 62 P **P 05 52 35.2 +0.2**
baz=315,SNR=5.1
MTPU Mount Pierson 69.40 56 P **P 05 52 36.1 +0.8**
MTPU IAmb IAmb 05 52 39.0
comp=Z,9.6nm,0.7s
ELS Elsinore Mount 69.50 62 P **P 05 52 35.3 -0.3**
ELS IAmb IAmb 05 52 38.3
comp=Z,38nm,1.5s
LCMT Little Creek M 69.54 57 P **P 05 52 37.3 +1.4**
SRU San Rafael Swe 69.54 54 P **P 05 52 36.4 +0.5**
SRU San Rafael Swe 69.54 54 P **P 05 52 36.4 +0.5**
SRU pmax pmax
comp=Z,28nm,0.8s
MURC Murrieta 69.67 62 P **P 05 52 37.7 +1.1**
baz=315
GMRC Granite Mounta 69.74 60 P **P 05 52 38.0 +0.9**
baz=315,SNR=12

AGMN Agassiz Nation 69.78 39 P **P 05 52 36.1 -0.8**
baz=321,SNR=5.7
O20A White River Ci 70.02 52 P **P 05 52 39.6 +0.8**
baz=317,SNR=16
SORM Soroca 70.04 321 ⇓P **P 05 52 37.3 -1.1**
SORM Soroca 70.04 321 ⇓P **P 05 52 37.3 -1.1**
BELC Belle Mtn. Jos 70.10 61 P **P 05 52 40.0 +0.7**
baz=315,SNR=7.6
PFO Pinyon Flats O 70.10 62 P **P 05 52 39.6 +0.3**
PFO IAmb IAmb 05 52 42.7
comp=Z,21nm,1.4s
PFO Pinyon Flats O 70.10 62 P **P 05 52 40.5 +1.2**
baz=315
PFO Pinyon Flats O 70.10 62 *i* P **P 05 52 40.2 +0.9**
PFO pmax pmax
comp=Z,21nm,1.3s
TPFO Pinon Flats 70.11 62 P **P 05 52 40.4 +1.1**
baz=315
109C Camp Elliot, M 70.23 63 P **P 05 52 41.2 +1.3**
baz=315
HMU Henry Mountain 70.27 55 P **P 05 52 41.0 +0.6**
IRM Iron Mountain 70.48 60 P **P 05 52 42.5 +1.1**
baz=316,SNR=17
KMPD K-Podol'skiy 70.49 322 P **P 05 52 39.9 -1.2**
MONP2 Monument Peak 70.63 62 P **P 05 52 43.7 +1.2**
baz=316
N23A Red Feather La 70.66 50 P **P 05 52 43.5 +0.9**
baz=318,SNR=7.3
BC3 Big Chuckawall 70.66 61 P **P 05 52 43.9 +1.3**
baz=316
PDMCI Parker Dam,Lak 70.96 60 P **P 05 52 45.9 +1.7**
baz=316,SNR=5.3
SWSC Sam W. Stewart 70.96 62 P **P 05 52 45.6 +1.4**
baz=316
IKP In-Ko-Pah, Jac 70.99 62 P **P 05 52 45.7 +1.2**
baz=316
YUH Yuha Desert 71.10 62 P **P 05 52 45.5 +0.5**
YUH IAmb IAmb 05 52 47.8
comp=Z,12nm,1.0s
SMCO Snowmass 71.39 52 P **P 05 52 47.1 -0.1**
SMCO IAmb IAmb 05 52 49.9
comp=Z,13nm,0.7s
SUSD Miller 71.39 43 P **P 05 52 47.3 +0.7**
baz=320
GLA Glamis 71.46 61 P **P 05 52 48.8 +1.6**
baz=316,SNR=7.4
MSVF Nonsavu 71.49 148 *i* P **P 05 52 48.7 +1.3**
MSVF pmax pmax
comp=Z,70nm,2.3s
ISCO Idaho Springs 71.64 51 P **P 05 52 48.6 +0.1**
ISCO Idaho Springs 71.64 51 P **P 05 52 49.5 +1.0**
baz=318,SNR=8.4
ISCO Idaho Springs 71.64 51 P **P 05 52 48.6 +0.1**
ISCO pmax pmax
comp=Z,10.0nm,1.2s
WUAZ Wupatki 71.67 57 P **P 05 52 50.4 +1.9**
baz=317,SNR=7.7
OJC Ojcow 71.72 327 P **P 05 52 48.0 -0.4**
OJC Ojcow 71.72 327 P **P 05 52 48.0 -0.4**
comp=Z,11nm,0.9s
BURAR Bucovina Array 71.75 322 ⇓P **P 05 52 48.4 -0.3**
STHS Stebnicka Huta 71.85 326 *e*P **P 05 52 47.4 -1.7**
STHS pmax pmax
comp=Z,7.0nm,0.9s
STHS Stebnicka Huta 71.85 326 *e*P **P 05 52 47.4 -1.7**
EYMN Ely 71.85 37 P **P 05 52 48.8 -0.4**
baz=324,SNR=26
KOLS Kolonicke sedl 71.85 325 *e*P **P 05 52 48.6 -0.6**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 71.85 325 *e*P **P 05 52 48.6 -0.6**
MVCO Mesa Verde 72.02 54 P **P 05 52 51.7 +1.0**
baz=318,SNR=21
TESR Tescani 72.03 321 ⇓P **P 05 52 50.4 +0.2**
CRVS Cervenica-Dubn 72.19 325 *e*P **P 05 52 51.6 +0.5**
CRVS pmax pmax
comp=Z,5.0nm,0.9s
CRVS Cervenica-Dubn 72.19 325 *e*P **P 05 52 51.6 +0.5**
NIE Niedzica 72.20 326 P **P 05 52 51.9 +0.7**
NIE Niedzica 72.20 326 P **P 05 52 51.9 +0.7**
comp=Z,5.3nm,1.0s
AS01 Alice Springs 72.43 192 P **P 05 52 54.3 +1.6**
AS31 Alice Springs 72.43 192 P **P 05 52 53.9 +1.1**
KSP Ksiaz 72.43 329 P **P 05 52 53.1 +0.6**
ASAR Alice Springs 72.43 192 P **P 05 52 53.9 +1.1**
comp=Z,24nm,0.8s,baz=4.8,slow=5.3,SNR=143
comp=Z,24nm,0.8s
K30B Basset 72.44 45 P **P 05 52 53.0 +0.2**
Q24A Divide 72.50 51 P **P 05 52 54.0 +0.5**
baz=319,SNR=8.6
VRI Vrincioaia 72.51 320 ⇑P **P 05 52 54.1 +1.0**
VRI Vrincioaia 72.51 320 ⇑P **P 05 52 54.1 +1.0**
S22A 4UR Ranch, Cre 72.52 53 P **P 05 52 55.0 +1.4**
baz=318,SNR=12
TPGR Topolog 72.57 319 ⇓P **P 05 52 53.9 +0.5**
OGNE Ogallala 72.59 48 P **P 05 52 53.7 +0.1**
OGNE Ogallala 72.59 48 P **P 05 52 53.8 +0.1**
baz=320,SNR=9.2
TURR Turia 72.66 321 ⇑P **P 05 52 54.9 +0.9**
OZUR 72.72 321 ⇓P **P 05 52 55.3 +1.0**
LANS Liptovska Anna 72.73 327 *e*P **P 05 52 54.9 +0.6**
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 72.73 327 *e*P **P 05 52 54.9 +0.6**
FLTG Flechtingen 72.78 333 *e*P 05 52 53.8
comp=Z,7.3nm,0.8s,baz=29,slow=5.7
DPC Dobruska-Polom 72.84 329 *e*P **P 05 52 55.8 +0.9**
DPC Dobruska-Polom 72.84 329 *e*P **P 05 52 55.8 +0.9**
W18A Petrified Fore 72.87 56 P **P 05 52 55.1 -0.4**
baz=318
MORC Moravsky Berou 72.90 328 ⇓P **P 05 52 55.9 +0.6**
MORC Moravsky Berou 72.90 328 *e*P **P 05 52 55.4 +0.1**
MORC Moravsky Berou 72.90 328 ⇓P **P 05 52 55.9 +0.6**
KECS Kecovo 72.90 326 *e*P **P 05 52 54.8 -0.4**
KECS Kecovo 72.90 326 *e*P **P 05 52 54.8 -0.4**
KRLC Kraliky 72.91 329 *e*P **P 05 52 55.6 +0.3**
KRLC Kraliky 72.91 329 *e*P **P 05 52 55.6 +0.3**
NRDL Niedersach Rie 72.98 334 *e*P 05 52 55.4
comp=Z,3.9nm,0.9s,baz=29,slow=5.7
ECSD EROS Data Cent 73.00 42 P **P 05 52 55.8 -0.2**
baz=322,SNR=27
CLL Collm 73.12 332 *i* P **P 05 52 56.0 -0.5**
comp=Z,13nm,0.8s
CLL *e*PcP **PcP 05 53 11.0 +0.9**
CLL *e*pP pP 05 54 32.0 -8.0
CLL Collm 73.12 332 *i* P **P 05 52 56.0 -0.5**
CLL pmax pmax
comp=Z,13nm,0.8s
CLL Collm 73.12 332 P **P 05 52 55.9 -0.5**
comp=Z,16nm,0.9s
CLL Collm 73.12 332 *e*P 05 52 55.9
comp=Z,13nm,1.0s,baz=29,slow=5.7
ASSE Asse, Remlinge 73.13 333 *e*P 05 52 55.6
comp=Z,0.1nm,0.8s,baz=29,slow=5.7
MLR Muntele Rosu 73.14 321 ⇑P **P 05 52 57.7 +0.8**
MLR Muntele Rosu 73.14 321 ⇑P **P 05 52 57.7 +0.8**
BRG Berggiesshubel 73.19 331 *e*P **P 05 52 56.7 -0.1**
BRG Amp 05 52 58.2
comp=Z,3.6nm,0.9s
BRG Berggiesshubel 73.19 331 *e*P **P 05 52 56.7 -0.1**
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 73.19 331 *e*P 05 52 56.5
comp=Z,3.3nm,1.0s,baz=29,slow=5.7
SDCO Great Sand Dun 73.22 52 P **P 05 52 57.9 +0.2**
SDCO Great Sand Dun 73.22 52 P **P 05 52 58.4 +0.7**
baz=319,SNR=21
PIX Pinacate 73.33 61 P **P 05 52 58.7 +0.7**
DRGR 73.42 323 ⇓P **P 05 52 58.7 +0.3**
DRGR 73.42 323 ⇓P **P 05 52 58.7 +0.3**
214A Organ Pipe Nat 73.42 61 P **P 05 52 59.9 +1.3**
baz=317,SNR=6.0
CLZ Clausthal 73.47 333 *e*P 05 52 58.8
comp=Z,9.0nm,1.0s,baz=29,slow=5.7
SPMN Marine on St. 73.49 39 P **P 05 52 59.2 +0.5**
baz=323,SNR=5.3
VYHS Vyhne 73.50 327 *e*P **P 05 52 59.1 +0.4**
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 73.50 327 *e*P **P 05 52 59.1 +0.4**
VOIR 73.56 321 ⇓P **P 05 53 00.1 +0.9**
VOIR 73.56 321 ⇓P **P 05 53 00.1 +0.9**
SCHQ Schefferville 73.57 19 P **P 05 52 59.1 +0.1**
comp=Z,4.4nm,0.5s,baz=346,slow=5.8,SNR=11
comp=Z,4.4nm,0.5s

PSZ Piszkesteto 73.59 326 P **P 05 53 03.4 +4.1**
NEUB Neuenburg 73.59 332 *e*P 05 52 58.9
comp=Z,7.8nm,0.8s,baz=29,slow=5.7
NEUB *e*PcP 05 53 13.2
JAVC Velka Javorina 73.62 328 *e*P **P 05 53 00.3 +0.9**
VRAC Vranov 73.62 328 *e*P **P 05 52 59.8 +0.4**
EKA Eskdalemuir Ar 73.69 342 P **P 05 52 59.7 0.0**
comp=Z,4.4nm,0.8s,baz=18,slow=5.8,SNR=15
comp=Z,4.4nm,0.8s
KSCO Kaye Shedlock' 73.76 49 P **P 05 53 00.5 0.0**
baz=320
IBBN Ibbenburen 73.82 335 *e*P 05 53 00.1
comp=Z,12nm,0.9s,baz=29,slow=5.7
GTTG Gottingen 73.85 333 *e*P 05 53 01.6
comp=Z,10nm,1.1s,baz=29,slow=5.7
KRUC Moravsky 73.90 328 *e*P **P 05 53 01.1 +0.1**
TANN Tannenbergstha 74.06 331 *e*P 05 53 02.2
comp=Z,1.4nm,0.8s,baz=29,slow=5.7
BGNE Belgrade 74.11 45 P **P 05 53 02.4 0.0**
baz=321
BR131 Keskin Array S 74.11 312 *i* P **P 05 53 01.4 -1.1**
BRTR Keskin Array B 74.11 312 P **P 05 53 03.1 +0.6**
comp=Z,2.5nm,0.8s,baz=62,slow=3.4,SNR=12
comp=Z,2.5nm,0.8s
MOX Moxa 74.13 332 *e*P 05 53 02.1
comp=Z,4.9nm,1.0s,baz=29,slow=5.7
MODS Modra-Piesok 74.17 327 *e*P **P 05 53 03.4 +0.9**
MODS pmax pmax
comp=Z,12nm,1.0s
MODS Modra-Piesok 74.17 327 *e*P **P 05 53 03.4 +0.9**
T25A Trinidad 74.25 52 P **P 05 53 03.7 +0.2**
baz=319,SNR=12
SIRR Siria 74.27 324 ⇓P **P 05 53 02.3 -0.8**
TUC Tucson 74.34 59 P **P 05 53 04.6 +0.8**
baz=318
TUC Tucson 74.34 59 P **P 05 53 05.6 +1.8**
QLP Quilpie 74.49 182 P **P 05 53 06.8 +2.4**
GZR Gura Zlata 74.54 323 ⇓P **P 05 53 04.6 -0.1**
GZR Gura Zlata 74.54 323 ⇓P **P 05 53 04.6 -0.1**
MANZ Manzenberg 74.55 331 *e*P 05 53 04.5
comp=Z,0.8nm,1.0s,baz=29,slow=5.7
KASTN Kahler Asten 74.61 334 *e*P 05 53 04.9
comp=Z,5.0nm,0.9s,baz=29,slow=5.7
ROTZ Rotzenmuhle 74.71 331 *e*P 05 53 05.7
comp=Z,0.8nm,0.9s,baz=29,slow=5.7
WRKA Warakurna 74.72 197 P **P 05 53 05.9 +0.1**
ANMO Albuquerque 74.81 54 P **P 05 53 07.0 +0.4**
baz=319
ANMO Albuquerque 74.81 54 *i* P **P 05 53 06.8 +0.2**
ANMO pmax pmax
comp=Z,5.0nm,0.8s
KHC Kasperske Hory 74.81 330 *e*P **P 05 53 06.4 +0.3**
KHC Kasperske Hory 74.81 330 *e*P **P 05 53 06.4 +0.3**
KHC Kasperske Hory 74.81 330 P **P 05 53 06.1 0.0**
comp=Z,9.8nm,1.2s
BZS Buzias 74.82 323 ⇑P **P 05 53 05.9 -0.3**
BZS Buzias 74.82 323 ⇑P **P 05 53 05.9 -0.3**
CKRC Cesky Krumlov 74.83 329 *e*P **P 05 53 06.9 +0.7**
CKRC Cesky Krumlov 74.83 329 *e*P **P 05 53 06.9 +0.7**
GERES GERESS Array B 75.01 330 P **P 05 53 07.5 +0.1**
comp=Z,1.1nm,0.5s,baz=359,slow=12,SNR=7.1
comp=Z,1.1nm,0.5s
GEC2 GERESS Array S 75.02 330 *e*P 05 53 07.1
comp=Z,2.7nm,0.9s,baz=29,slow=5.7
WET Wettzell 75.03 330 *e*P 05 53 07.7
comp=Z,6.0nm,0.8s,baz=29,slow=5.7
CONA Conrad Observa 75.05 328 *i* P **P 05 53 08.3 +0.7**
comp=Z,5.0nm,0.8s
GRF Grafenberg Arr 75.09 332 *e*P 05 53 07.9
comp=Z,9.9nm,0.7s,baz=29,slow=5.7
GRF *e*pP 05 54 51.3
MPLH Magyarpolny 75.09 327 P **P 05 53 07.9 +0.2**
comp=Z,24nm,0.9s
RONA Rosalia, Austr 75.09 328 *i* P **P 05 53 08.9 +1.1**
comp=Z,10nm,1.1s
HERR Herculane 75.10 322 ⇑P **P 05 53 07.8 +0.1**
CBKS Cedar Bluff 75.35 48 P **P 05 53 09.2 -0.2**
baz=321
MDVR Moldovita 75.47 323 ⇓P **P 05 53 09.2 -0.7**
TNS Taunus Mts 75.47 334 *e*P 05 53 10.7
comp=Z,4.1nm,0.8s,baz=29,slow=5.7
AHRW Bad Neuenahr-A 75.59 335 *e*P 05 53 10.4
comp=Z,8.5nm,1.0s,baz=29,slow=5.7
MOA Molln 75.68 329 *i* P **P 05 53 11.7 +0.7**
comp=Z,5.3nm,1.3s
N35A Tabor 75.71 44 P **P 05 53 11.3 0.0**
ARSA Arzberg 75.75 328 *i* P **P 05 53 12.4 +0.9**
comp=Z,2.5nm,0.7s
BTNL Ternell 75.82 335 *d*P **P 05 53 11.4 -0.3**
comp=Z,5.2nm,1.1s
MEM Membach 75.83 335 *d*P **P 05 53 11.8 0.0**
comp=Z,8.8nm,1.0s
121A Cookes Peak, D 75.87 57 P **P 05 53 13.0 +0.4**
baz=319,SNR=8.8
SCIA State Center 75.98 42 P **P 05 53 12.9 +0.1**
baz=324
BSTI Sart Tilman 75.98 335 *d*P **P 05 53 12.6 0.0**
BSTI *d*PcP **PcP 05 53 21.6 -0.8**
BIOA Bad Ischl, Aus 76.03 329 *e*P **P 05 53 13.6 +0.6**
comp=Z,8.3nm,1.1s
BCLA Clavier 76.20 336 *d*P **P 05 53 13.7 -0.1**
comp=Z,4.8nm,1.0s
RJOB Jochberg 76.28 330 *e*P 05 53 14.7
comp=Z,5.8nm,0.9s,baz=29,slow=5.7
BGES Gesves 76.29 336 *d*P **P 05 53 14.2 -0.1**
comp=Z,5.0nm,0.9s
BGES *d*PcP **PcP 05 53 23.2 -0.6**
FUR Furstenfeldbru 76.41 331 *e*P 05 53 15.2
comp=Z,14nm,0.7s,baz=29,slow=5.7
SOKA Soboth 76.42 328 *i* P **P 05 53 15.4 +0.2**
comp=Z,8.9nm,1.1s
BOVS Bovan 76.42 322 ⇓P **P 05 53 14.6 -0.6**
JFWS Jewell Farm 76.44 39 P **P 05 53 14.4 -0.9**
baz=325,SNR=8.6
BMRD Maredsous 76.45 336 *d*P **P 05 53 15.1 -0.1**
comp=Z,7.6nm,0.9s
RCHB Rochefort 76.46 335 *d*P **P 05 53 14.9 -0.3**
comp=Z,3.5nm,1.0s
RCHB *d*PcP **PcP 05 53 23.9 -0.6**
STU Stuttgart 76.53 332 *e*P 05 53 15.6
comp=Z,22nm,0.7s,baz=29,slow=5.7
STU *e*PcP 05 53 25.0
LESA Schwarzleotal 76.59 330 *i* P **P 05 53 16.8 +0.7**
comp=Z,14nm,1.2s
KSU1 Kansas State U 76.65 45 P **P 05 53 15.7 -0.8**
baz=322,SNR=5.0
KBA Koelnbreinsper 76.66 329 *i* P **P 05 53 17.5 +0.8**
comp=Z,9.6nm,0.7s
DOU Dourbes 76.69 336 *d*P **P 05 53 16.1 -0.4**
VLDQ Val d'Or 76.78 28 P **P 05 53 15.5 -1.5**
MYKA Terra Mystica 76.95 329 *e*P **P 05 53 15.9 -2.2**
WATA Walderalm 77.03 330 *i* P **P 05 53 19.1 +0.4**
comp=Z,4.3nm,0.5s
WTTA Wattenberg 77.08 330 *e*P **P 05 53 19.6 +0.7**
comp=Z,5.3nm,0.5s
GLMI Grayling 77.11 35 P **P 05 53 18.9 -0.1**
baz=328
RETA Reutte 77.17 331 *i* P **P 05 53 19.8 +0.5**
comp=Z,9.4nm,1.1s
BFO Black Forest 77.19 333 *e*P 05 53 19.1
comp=Z,5.7nm,1.0s,baz=29,slow=5.7
UBR Ueberruh 77.21 331 *e*P 05 53 18.2
comp=Z,2.0nm,0.8s,baz=29,slow=5.7
ABTA Abfaltersbach 77.23 329 *e*P **P 05 53 19.8 +0.2**
comp=Z,3.6nm,1.1s
SQTA Sankt Quirin 77.25 330 *i* P **P 05 53 20.2 +0.4**
comp=Z,16nm,1.3s
AMTX Amarillo 77.40 51 P **P 05 53 21.2 +0.4**
AMTX IAmb IAmb 05 53 23.5
comp=Z,18nm,0.7s
AMTX Amarillo 77.40 51 P **P 05 53 21.4 +0.6**
baz=321
MSTX Muleshoe 77.53 53 P **P 05 53 21.9 +0.4**
baz=320
FETA Feichten 77.59 331 *i* P **P 05 53 22.3 +0.6**
comp=Z,7.2nm,1.2s
DAVA Damuels 77.63 331 *e*P **P 05 53 22.0 +0.1**
comp=Z,12nm,1.2s
MNTX Cornudas Mount 77.84 56 P **P 05 53 24.0 +0.9**
baz=320,SNR=11
MMAI Mount Meron Ar 78.36 307 P **P 05 53 26.1 +0.1**
comp=Z,4.8nm,0.5s,baz=51,slow=6.6,SNR=8.9
comp=Z,4.8nm,0.5s
LCRK Leigh Creek 78.66 187 P **P 05 53 30.2 +3.0**
HDIL Hopedale 78.79 40 P **P 05 53 28.0 0.0**
baz=326
WMOK Wichita Mounta 79.01 50 P **P 05 53 29.9 +0.6**

baz=322,SNR=10
CMSA Cobar Meteorol 79.40 181 P P 05 53 33.7 +2.5
APMT Aspermont 79.42 51 P P 05 53 31.4 -0.2
APMT IAmb IAmb 05 53 33.6
comp=Z,11nm,0.6s
TUL3 Leonard 79.57 47 P P 05 53 32.6 +0.3
baz=323,SNR=19
AAM Ann Arbor 79.62 35 P P 05 53 32.4 -0.1
baz=329
RLO Rose Lookout 79.74 46 P 05 53 33.2 -0.1
RLO IAmb IAmb 05 53 35.3
comp=Z,15nm,0.8s
STKA Stephens Creek 79.85 184 P P 05 53 35.0 +1.4
STKA Stephens Creek 79.85 184 P P 05 53 34.5 +0.9
comp=Z,12nm,0.8s,baz=334,slow=7.1,SNR=9.9
comp=Z,12nm,0.8s
STKA Stephens Creek 79.85 184 *i* P **P 05 53 32.5 -1.1**
SFIN Lafayette 79.86 39 P P 05 53 33.5 -0.3
baz=327
CCM Cathedral Cave 79.98 43 P P 05 53 34.1 -0.3
CCM IAmb IAmb 05 53 36.2
comp=Z,19nm,0.9s
CCM Cathedral Cave 79.98 43 P P 05 53 34.5 +0.1
baz=325
CCM Cathedral Cave 79.98 43 P P 05 53 34.1 -0.3
CCM pmax pmax
comp=Z,19nm,1.0s
AUDCS Dubbo College 80.11 178 P P 05 53 37.0 +2.1
ABTX Abilene, Hawle 80.22 51 P P 05 53 35.8 0.0
baz=322,SNR=5.6
TX31 Lajitas Ar. Si 80.60 56 P P 05 53 38.2 +0.3
TX31 IAmb IAmb 05 53 40.9
comp=Z,12nm,0.8s
TXAR Lajitas Array 80.60 56 P P 05 53 38.1 +0.2
TXAR Lajitas Array 80.60 56 P P 05 53 38.6 +0.6
comp=Z,10nm,0.6s,baz=287,slow=3.2,SNR=113
comp=Z,10nm,0.6s
TXAR Lajitas Array 80.60 56 P P 05 53 38.1 +0.2
OZNA Ozona 80.76 54 P P 05 53 38.5 -0.3
O48B Farmland 80.77 37 P P 05 53 38.2 -0.3
baz=329
X37A Clayton 80.83 47 P 05 53 38.8 -0.2
M53A WI Miller and 81.50 34 P P 05 53 41.7 -0.6
baz=330
P49A Miami Univ. Ec 81.56 37 P P 05 53 42.1 -0.4
baz=328,SNR=9.1
ACSO Alum Creek Sta 81.66 36 P P 05 53 43.1 0.0
baz=329,SNR=5.9
MIAR Mount Ida 81.75 46 P P 05 53 44.1 +0.4
baz=324,SNR=13
JCT Junction City 81.81 53 P P 05 53 44.4 +0.3
baz=322,SNR=5.4
WHTX Lake Whitney, 81.85 50 P P 05 53 44.4 +0.2
baz=323
LBNH Lisbon 81.96 27 P P 05 53 45.1 +0.6
baz=335
WCI Wyandotte Cave 82.01 39 P P 05 53 44.6 -0.3
baz=328
O53A New Philadelph 82.33 35 P P 05 53 46.7 +0.2
baz=330,SNR=6.5
BINY Binghamton 82.50 30 P P 05 53 46.8 -0.5
baz=333
P52A Corning 82.50 36 P P 05 53 46.9 -0.5
baz=330
WVT Waverly 83.10 41 P P 05 53 50.6 0.0
baz=327
WVT Waverly 83.10 41 P P 05 53 50.5 0.0
WVT pmax pmax
comp=Z,16nm,0.6s
SSPA Standing Stone 83.22 32 P P 05 53 50.7 -0.3
baz=332
L61B Northampton 83.35 28 P P 05 53 51.8 +0.2
baz=335
MCWV Mont Chateau 83.36 34 P P 05 53 52.1 +0.4
baz=331
NATX Nacogdoches 83.46 49 P P 05 53 53.7 +1.4
baz=324
HRV Adam Dziewonsk 83.64 27 P P 05 53 53.6 +0.5
baz=336
833A Chaparral WMA, 83.73 54 P P 05 53 54.1 +0.4
baz=322
OXF Oxford 83.74 43 P P 05 53 53.9 +0.3
baz=326,SNR=6.7
TZTN Tazewell 84.59 38 P P 05 53 58.0 +0.1
baz=329,SNR=6.6
VBMS Vicksburg 85.11 45 P P 05 54 01.1 +0.6
baz=326
BLA Blacksburg 85.27 36 P P 05 54 01.3 +0.1
baz=331
CBN Corbin Frederi 85.55 33 P P 05 54 02.9 +0.4
baz=333
LRAL Lakeview Retre 86.07 43 P P 05 54 05.4 +0.3
baz=328
KMSC Kings Mountain 86.70 37 P P 05 54 08.8 +0.7
baz=330,SNR=5.2
GOGA Godfrey 87.31 40 P P 05 54 11.6 +0.7
baz=329,SNR=5.6
CNNC Cliffs of the 87.98 35 P P 05 54 14.7 +0.7
baz=332
ESDC Sonseca Array 88.61 338 P P 05 54 15.8 -1.2
comp=Z,0.7nm,0.9s,baz=358,slow=7.3,SNR=4.2
comp=Z,0.7nm,0.9s
TIGA Tifton 88.94 41 P P 05 54 19.6 +1.0
baz=329
NHSC New Hope 88.94 38 P P 05 54 19.3 +0.8
baz=331
TORD Torodi Ar. Bea 111.33 323 PKiKP **PKiKP 05 59 54.0 -0.9**
comp=Z,0.5nm,0.4s,baz=21,slow=2.0,SNR=7.9
TORD PKKPbc **PKKPbc 06 10 50.8 +1.0**
comp=Z,0.2nm,0.5s,baz=185,slow=2.7,SNR=4.2
TORD PKKPab **PKKPab 06 11 03.3 -1.3**
comp=Z,1.1nm,0.9s,baz=242,slow=3.2,SNR=4.1
DBIC Dimbokro 119.78 327 PKP **PKiKP 06 00 10.9 -0.4**
comp=Z,2.1nm,0.4s,baz=10,slow=2.1,SNR=5.4
VNDA Vanda 125.84 176 PKP **PKiKP 06 00 21.1 -0.1**
comp=Z,1.9nm,1.0s,baz=322,slow=3.6,SNR=9.7
BOSA Boshof 131.18 271 SKPbc **SKPbc 06 03 10.0 -1.4**
comp=Z,3.7nm,0.8s,baz=82,slow=4.4,SNR=5.3
LPAZ La Paz 137.41 54 PKP **PKPdf 06 00 45.1 -0.1**
comp=Z,1.8nm,0.7s,baz=32,slow=4.9,SNR=8.0
LPAZ SKPbc **SKPbc 06 03 31.6 -0.6**
comp=Z,2.4nm,1.0s,baz=351,slow=6.6,SNR=4.5
QSPA South Pole Qui 137.96 180 PKP **PKPdf 06 00 43.9 -0.1**
comp=Z,12nm,1.1s,baz=304,slow=2.2,SNR=12
QSPA SKPbc **SKPbc 06 03 30.4 -1.0**
comp=Z,2.8nm,0.9s,baz=10,slow=2.9,SNR=4.6
ARAG Araguaiana, MT 144.27 31 *e*P **PKPdf 06 00 57.1 +0.4**
PP1B Ponte de Pedra 144.86 37 *e*P **PKPab 06 00 58.6 -0.1**
ELIB Princess Elisa 145.10 207 *d*PKPdf **PKPbc 06 00 57.6 +0.2**
PANT Pantanal (Braz 145.37 41 *e*P **PKPab 06 01 00.3 -0.3**
BDFB Brasilia 145.40 25 PKPbc **PKPbc 06 00 59.7 -0.1**
comp=Z,16nm,0.9s,baz=11,slow=2.8,SNR=19
BDFB Brasilia 145.40 25 *e*P **PKPbc 06 00 59.9 0.0**
JANB Januaria 145.76 19 *e*P **PKPbc 06 01 00.7 -0.2**
AQDB Aquidauana 147.08 40 *e*P **PKPbc 06 01 04.2 -0.1**
IPMB Ipameri, GO 147.56 27 *e*P **PKPbc 06 01 04.7 -1.0**
PMNB Patos De Minas 148.60 24 *e*P **PKPdf 06 01 05.3 +1.2**
NVL N'lazarevskaya 148.99 207 ↓*i*PKHKP PKPpre 06 01 07.0
NVL *e*SS SS 06 23 16.1 +0.5
NVL pmax pmax
comp=Z,37nm,0.9s
AMBA Amambai (Brazi 149.54 42 *e*P **PKPbc 06 01 08.4 -2.0**
SJMB Sao Joao De Ma 149.91 14 *e*P **PKPdf 06 01 07.9 +1.9**
TROLL Troll, Antarti 150.99 202 ↑PKPbc **PKiKP 06 01 12.7 -0.2**
comp=Z,991nm,0.7s
CPUP Villa Florida 151.33 49 PKPbc **PKiKP 06 01 14.4 -0.4**
comp=Z,4.9nm,0.8s,baz=345,slow=2.1,SNR=5.4
CPUP PKPab **PKPab 06 01 26.1 +1.2**
comp=Z,4.9nm,1.0s,baz=15,slow=1.7,SNR=4.6
SNAA Sanae 152.52 201 ↑PKPbc **PKPbc 06 01 15.2 -0.6**
comp=Z,52nm,0.4s
SNAA Sanae 152.52 201 PKPbc **PKPbc 06 01 15.2 -0.6**
comp=Z,2.1nm,0.3s,baz=208,slow=4.0,SNR=20
SNAA PKPab **PKPab 06 01 29.1 +0.3**
comp=Z,5.2nm,0.6s,baz=136,slow=5.3,SNR=13
VNA2 Neumayer--Watz 154.09 199 ↑PKPbc **PKPbc 06 01 18.8 -0.3**
comp=Z,8.4nm,0.7s,baz=135,slow=1.3

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*IDC **07** 06:03:40.6±1.1, 13°.14S×45°.62E, h0km, mb3.9/6, mbtmp4.0/7, ML4.6/1, MS3.5/1, Error ellipse: s-maj=36.0km s-min=28.7km az=123.0*
ISC 07 06:03:42.4±1.0, 13°.2S±0°.1×45°.7E±0°.2, h10km, n8, σ0§95/9, mb3.9/6, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.53**	**165**	Pn	**Pn**	**06 05 06.2**	**+1.2**
	1.6nm,0.3s,baz=351,slow=13,SNR=43						
OPO				Sn	**Sn**	**06 06 07.0**	**-1.7**
	9.5nm,0.3s,baz=272,slow=20,SNR=21						
	27nm,0.3s						
BOSA	**Boshof**	**24.39**	**228**	P	**P**	**06 09 00.7**	**-0.5**
	1.3nm,0.4s,baz=55,slow=9.8,SNR=9.4						
BOSA				LR	LR	06 19 21.6	
	comp=Z,108nm,18.1s,baz=39,slow=38						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**68.17**	**26**	P	**P**	**06 14 42.2**	**-0.6**
	0.2nm,0.7s,baz=210,slow=5.0,SNR=2.1						
	0.2nm,0.7s						
QSPA	**South Pole Qui**	**76.89**	**180**	P	**P**	**06 15 35.3**	**+0.6**
	1.3nm,1.1s,baz=37,slow=13,SNR=1.9						
	1.3nm,1.1s						
ASAR	**Alice Springs**	**83.23**	**113**	P	**P**	**06 16 09.9**	**+0.2**
	0.7nm,0.6s,baz=259,slow=4.7,SNR=9.3						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**84.38**	**109**	P	**P**	**06 16 15.5**	**-0.1**
	0.7nm,0.8s,baz=260,slow=5.0,SNR=4.9						
	0.7nm,0.8s						
STKA	**Stephens Creek**	**88.08**	**122**	P	**P**	**06 16 33.8**	**+0.1**
	2.9nm,0.8s,baz=174,slow=24,SNR=3.7						
	2.9nm,0.8s						
TXAR	**Lajitas Array**	**147.35**	**304**	PKPbc	**PKPbc**	**06 23 27.0**	**-0.2**
	0.3nm,0.7s,baz=123,slow=3.3,SNR=5.5						

WEL 07 06:06:22.3±0.9, 45°S±5°×16°.7E±°, h63km±8km, M3.6/7, ML3.8/7, MLv3.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=125.3, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.36**	**194**	P	Pn	06 06 34.3	+1.2
DCZ				S	Sn	06 06 43.8	+2.8
TAFS	**Te Anau Fire S**	**0.43**	**134**	P	Pn	06 06 34.1	+0.3
TAFS				S	Sn	06 06 44.8	+2.6
MSZ	**Milford Sound**	**0.64**	**46**	P	Pn	06 06 37.6	+1.6
MSZ				S	Sn	06 06 49.4	+3.4
MLZ	**Mavora Lakes**	**0.64**	**113**	P	Pn	06 06 37.1	+1.0
MLZ				S	Sn	06 06 48.4	+2.2
MOSS	**Mossburn Schoo**	**0.87**	**129**	P	Pn	06 06 39.6	+0.8
MOSS				S	Sn	06 06 53.6	+2.7
WHZ	**Wether Hill Ro**	**0.90**	**149**	P	Pn	06 06 39.4	+0.2
WHZ				S	Sn	06 06 52.7	+0.9
QTPS	**Queenstown Pol**	**0.98**	**85**	P	Pn	06 06 40.9	+0.7
QTPS				S	Sn	06 06 55.1	+1.6
RRKS	**Rarakau**	**1.04**	**173**	P	Pn	06 06 41.3	+0.4
RRKS				S	Sn	06 06 56.0	+1.3
PYZ	**Puysegur Point**	**1.13**	**202**	P	Pn	06 06 42.2	+0.1
PYZ				S	Sn	06 06 57.3	+0.5
ORPS	**Orepuki**	**1.22**	**164**	S	Sn	06 06 59.0	+0.2
WKZ	**Wanaka**	**1.27**	**77**	P	Pn	06 06 44.6	+0.6
WKZ				S	Sn	06 07 01.2	+1.0
WNPS	**Wanaka Nationa**	**1.39**	**73**	S	Sn	06 07 02.8	-0.2
EAZ	**Earnscleugh**	**1.44**	**95**	P	Pn	06 06 46.3	+0.1
EAZ				S	Sn	06 07 04.1	-0.1
JCZ	**Jackson Bay**	**1.50**	**46**	P	Pn	06 06 46.9	-0.2
JCZ				S	Sn	06 07 05.3	-0.5
APZ	**The Paps**	**1.78**	**164**	P	Pn	06 06 49.9	-0.9
TUZ	**Tuapeka**	**1.85**	**118**	P	Pn	06 06 51.2	-0.5
SYZ	**Scrubby Hill**	**1.92**	**138**	P	Pn	06 06 51.9	-0.8
LBZ	**Lake Benmore**	**2.20**	**71**	P	Pn	06 06 55.0	-1.5
ODZ	**Otahua Downs**	**2.39**	**89**	P	Pn	06 06 57.6	-1.4
FOZ	**Fox Glacier**	**2.42**	**50**	P	Pn	06 06 57.7	-1.6
HHSZ	**Highcliff Hill**	**2.46**	**109**	P	Pn	06 06 59.0	-0.9
TMZ	**Timaru**	**2.76**	**76**	P	Pn	06 07 01.9	-2.2
GCSZ	**Gaunt Creek Bo**	**2.84**	**52**	P	Pn	06 07 03.3	-1.9
ARCZ	**Arundel**	**3.02**	**69**	P	Pn	06 07 05.2	-2.5
RPZ	**Rata Peaks**	**3.05**	**64**	P	Pn	06 07 05.7	-2.3
WVZ	**Waitaha Valley**	**3.22**	**52**	P	Pn	06 07 08.9	-1.5
MHCZ	**Mount Hutt**	**3.46**	**64**	P	Pn	06 07 11.0	-2.7
WACZ	**Wakanui South**	**3.47**	**72**	P	Pn	06 07 11.1	-2.6
INZ	**Inchbonnie**	**3.85**	**53**	P	Pn	06 07 16.5	-2.4
MQZ	**McQueen's Vall**	**4.10**	**72**	P	Pn	06 07 19.6	-2.8
LTZ	**Lake Taylor**	**4.30**	**59**	P	Pn	06 07 21.7	-3.4
DSZ	**Denniston Nort**	**4.72**	**46**	P	Pn	06 07 28.8	-2.1
THZ	**Tophouse**	**5.29**	**53**	P	Pn	06 07 37.4	-1.4
MRNZ	**Matariki Terra**	**5.46**	**49**	P	Pn	06 07 39.5	-1.5
QRZ	**Quartz Range**	**5.77**	**44**	P	Pn	06 07 43.5	-1.7
TKNZ	**Takaka Hill**	**5.83**	**48**	P	Pn	06 07 44.9	-1.2

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*SJA **07** 06:07:24.5±0.9, 22°.66S×70°.28W, h60km±5km, ML3.7, MW3.7*
*GUC **07** 06:07:26.8±0.6, 22°.71S×70°.19W, h54km±2km, ML4.1*
ISC 07 06:07:26.7±1.3, 22°.72S±0°.03×70°.24W±0°.05, h33km±3km, n27, σ1§32/43, 3C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.39**	**13**	*e*P	**Pn**	**06 07 36.6**	**+0.4**
PB04				*e*S	**Sn**	**06 07 43.9**	**+1.6**
PB04				IAML		06 07 44.6	
	comp=Z,13μm,0.4s						
PB04	**IPOC Station P**	**0.39**	**13**	↑*i*P	**Pn**	**06 07 36.6**	**+0.4**
PB04				*e*S	**Sn**	**06 07 43.8**	**+1.4**
PB04				IAML		06 07 44.3	
	comp=E,39μm,0.1s						
PB06	**IPOC Station P**	**0.62**	**89**	↓*i*P	**Pb**	**06 07 39.1**	**-0.2**
PB06				*e*S	**Sb**	**06 07 48.1**	**+0.2**
PB06				IAML		06 07 48.6	
	comp=N,19μm,0.2s						
PB10	**IPOC Station P**	**0.84**	**200**	*e*P	**Pn**	**06 07 42.2**	**-0.1**
PB10				*e*S	**Sb**	**06 07 55.3**	**+1.3**
PB10	**IPOC Station P**	**0.84**	**200**	↑*e*P	**Pn**	**06 07 42.8**	**+0.6**
PB10				*e*S	**Sb**	**06 07 54.7**	**+0.7**
LVC	**Limon Verde**	**1.23**	**85**	*e*P	**Pn**	**06 07 47.5**	**-0.4**
LVC				*e*S	**Sn**	**06 08 05.0**	**+1.4**
LVC				IAML		06 08 05.8	
	comp=Z,1μm,0.5s						
LVC	**Limon Verde**	**1.23**	**85**	*e*P	**Pn**	**06 07 47.8**	**-0.2**
LVC				*i* S	**Sn**	**06 08 03.5**	**-0.1**
LVC				IAML		06 08 05.1	
	comp=Z,11μm,0.4s						
PB09	**IPOC Station P**	**1.30**	**45**	*e*P	Pn	06 07 43.9	-4.8
PB09				*e*P		06 07 48.5	
PB09				*e*S	**Sn**	**06 08 05.7**	**+0.6**
PB09				IAML		06 08 06.5	
	comp=Z,2μm,0.5s						
PB09	**IPOC Station P**	**1.30**	**45**	↓*e*P	**Pn**	**06 07 49.2**	**+0.6**
PB09				*e*S	**Sn**	**06 08 05.2**	**+0.2**
PATCX	**Punta Patache**	**1.89**	**3**	*e*P	**Pn**	**06 07 55.4**	**-1.3**
PATCX				*e*S	**Sn**	**06 08 15.4**	**-4.0**
PATCX				IAML		06 08 25.4	
	comp=Z,312nm,0.4s						
PATCX	**Punta Patache**	**1.89**	**3**	*e*P	**Pn**	**06 07 55.8**	**-0.9**
PATCX				*e*S	**Sn**	**06 08 19.3**	**-0.1**
PB14	**IPOC Station P**	**1.91**	**184**	*e*P	**Pn**	**06 07 56.9**	**-0.2**
PB14				*e*S	**Sb**	**06 08 27.2**	**+2.6**
PB14				IAML		06 08 30.1	
	comp=Z,392nm,0.6s						
PB14	**IPOC Station P**	**1.91**	**184**	↑*e*P	**Pn**	**06 07 57.1**	**0.0**
AF01	**San Pedro de A**	**1.92**	**97**	↓*i*P	**Pb**	**06 08 00.2**	**-1.0**
AF01				*e*S	**Sb**	**06 08 25.4**	**+0.5**
TA01	**Diego Aracena**	**2.14**	**2**	*e*P	**Pn**	**06 07 59.1**	**-1.0**
TA01				*e*S	Sn	06 08 15.4	-10
TA01				*e*S		06 08 25.9	
TA01				IAML		06 08 41.6	
	comp=Z,220nm,0.3s						
TA01	**Diego Aracena**	**2.14**	**2**	*e*P	**Pn**	**06 07 58.9**	**-1.2**
PX03	**IPOC Station P**	**2.37**	**14**	*e*P	**Pn**	**06 08 04.1**	**+0.8**
HMBC	**Humberstone**	**2.45**	**8**	*e*P	**Pn**	**06 08 03.4**	**-1.0**
HMBC				*e*S	**Sb**	**06 08 43.1**	**+3.1**
HMBC				IAML		06 08 45.6	
	comp=Z,333nm,0.5s						
HMBC	**Humberstone**	**2.45**	**8**	*e*P	**Pn**	**06 08 03.5**	**-0.9**
HMBC				*i* S	**Sn**	**06 08 35.6**	**+2.3**
HMBC				IAML		06 08 47.8	
	comp=N,483nm,0.2s						
PB11	**IPOC Station P**	**2.99**	**11**	*e*P	**Pn**	**06 08 11.0**	**-0.9**
PB11				*e*S	**Sn**	**06 08 48.9**	**+2.2**
PB11				IAML		06 09 01.5	
	comp=Z,178nm,1.1s						
PB11	**IPOC Station P**	**2.99**	**11**	*e*P	**Pn**	**06 08 11.1**	**-0.9**
PB11				IAML		06 09 10.7	
	comp=N,298nm,0.4s						
GO01	**Chusmiza**	**3.19**	**18**	*e*P	**Pn**	**06 08 15.5**	**+0.6**
GO01				*e*S	**Sb**	**06 09 00.9**	**-0.6**
GO01				IAML		06 09 07.4	
	comp=Z,172nm,0.7s						
GO01	**Chusmiza**	**3.19**	**18**	*e*P	**Pn**	**06 08 16.0**	**+1.1**
GO01				IAML		06 09 10.6	
	comp=E,369nm,0.3s						
AC01	**Pan de Azucar**	**3.43**	**185**	*e*P	**Pn**	**06 08 16.9**	**-0.9**
AC01				IAML		06 09 24.9	
	comp=Z,117nm,0.8s						
AC01	**Pan de Azucar**	**3.43**	**185**	*e*P	**Pn**	**06 08 16.8**	**-1.1**
AC06	**Mina Casimiro**	**4.62**	**181**	*e*P	**Pn**	**06 08 33.6**	**-0.6**
GO03	**Copiap**	**4.86**	**180**	*e*P	**Pn**	**06 08 36.8**	**-0.7**

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*IDC **07** 06:08:36.4±1.1, 33°.72N×71°.84E, h0km, mb3.7/7, mbtmp3.7/11, ML3.6/4, Error ellipse: s-maj=32.9km s-min=19.3km az=64.0*
ISC 07 06:08:41.2±1.3, 33°.7N±0°.1×71°.8E±0°.2, h35km, n11, σ1§20/12, mb3.7/7, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.21**	**13**	Pn	**Pn**	**06 10 52.5**	**+0.8**
	1.1nm,0.3s,baz=184,slow=5.8,SNR=2.6						
AAK				Sn	**Sn**	**06 12 35.7**	**+1.5**
	0.3nm,0.3s,baz=3.1,slow=22,SNR=1.3						
	2.7nm,0.3s						
MKAR	**Makanchi Array**	**15.36**	**28**	Pn	**Pn**	**06 12 12.8**	**-2.5**
	0.1nm,0.3s,baz=212,slow=15,SNR=4.0						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**17.66**	**14**	P	**Pn**	**06 12 43.9**	**-0.4**
	0.1nm,0.3s,baz=205,slow=10,SNR=8.9						
	0.4nm,0.5s						
AKTO	**Aktyubinsk**	**19.57**	**333**	P	**Pn**	**06 13 06.7**	**-0.7**
	0.8nm,0.3s,baz=146,slow=8.8,SNR=10						
	4.8nm,0.6s						
ZALV	**Zalesovo Beam**	**22.29**	**21**	P	**P**	**06 13 33.9**	**-1.3**
	2.0nm,0.5s,baz=221,slow=10,SNR=7.8						
	2.0nm,0.5s						
FINES	**FINESS Array B**	**40.20**	**328**	P	**P**	**06 16 13.7**	**-0.1**
	0.9nm,0.7s,baz=119,slow=12,SNR=4.0						
	0.9nm,0.7s						
ARCES	**ARCESS Array B**	**44.01**	**339**	P	**P**	**06 16 45.0**	**+0.2**
	1.0nm,0.5s,baz=112,slow=7.9,SNR=9.6						
	1.0nm,0.5s						
HFS	**Hagfors**	**45.70**	**324**	P	**P**	**06 16 58.4**	**+0.1**
	0.6nm,0.4s,baz=96,slow=11,SNR=5.2						
	0.6nm,0.4s						
NOA	**NORSAR Array B**	**47.04**	**325**	P	**P**	**06 17 08.8**	**-0.2**
	0.4nm,0.6s,baz=100,slow=8.1,SNR=1.7						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**79.96**	**122**	P	**P**	**06 20 47.6**	**+0.7**
	0.4nm,0.4s,baz=323,slow=5.2,SNR=11						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**82.12**	**125**	P	**P**	**06 20 59.3**	**+0.9**
	0.3nm,0.7s,baz=305,slow=5.3,SNR=5.4						
	0.3nm,0.7s						

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*STR **07** 06:15:18.1±2.7, 46°N±10°×°±1°.2, h5km, MLv0.6/3, Error ellipse: s-maj=0.0km s-min=0.0km az=68.8, preliminary*
ZUR 07 06:15:19.1, 46°.29N×7°.30E, h2km±1km, MLh0.7/13, Error ellipse: s-maj=2243.5km s-min=802.3km az=231.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRYON	**Gryon**	**0.14**	**252**	Pg	Pg	06 15 22.1	+0.2
AIGLE	**Aigle**	**0.24**	**281**	Pg	Pg	06 15 23.9	0.0
AIGLE				Sg	Sg	06 15 28.0	+1.0
SALAN	**Lac Salanfe**	**0.27**	**237**	Pg	Pg	06 15 24.6	+0.2
A173A	**Vacheresse, 74**	**0.43**	**275**	Pg	Pg	06 15 26.5	-0.9
A173A				Sg	Sg	06 15 32.5	-0.4
OGSI	**Sixt**	**0.44**	**239**	Pg	Pg	06 15 27.3	-0.3
OGSI				Sg	Sg	06 15 33.9	+0.5

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*STR **07** 06:15:24.5±0.3, 45°N±2°×°±°, h5km, MLv1.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=67.4, preliminary*
*LDG **07** 06:15:24.4±0.1, 44°.55N×7°.16E, h5km, Md1.7/2, Ml1.7/2, Error ellipse: s-maj=1.2km s-min=0.8km az=63.0*
*GEN **07** 06:15:24, 44°.56N×7°.16E, h6km, Ml0.4*
ROM 07 06:15:23.7±0.1, 44°.549N±0°.007×7°.17E±0°.02, h11km, ML1.0/6, 2C-1D, Error ellipse: s-maj=1.6km s-min=0.6km az=250.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.06**	**221**	↑Pg	Pg	06 15 26.3	+0.3
PZZ	**Stroppo**	**0.06**	**221**	↑P	Pg	06 15 26.3	+0.3
PZZ				S	Sg	06 15 27.8	0.0
PZZ				AML	AML		
	comp=E,178μm,0.3s						
PZZ				AML	AML		
	comp=N,150μm,0.5s						
PZZ				AML	AML		
	comp=N,149μm,0.1s						
PZZ	**Stroppo**	**0.06**	**221**	Pg	Pg	06 15 26.3	+0.2
PZZ				Sg	Sg	06 15 27.7	-0.1
PZZ	**Stroppo**	**0.06**	**221**	P	Pg	06 15 26.3	+0.3
PZZ				S	Sg	06 15 27.6	-0.2
SURF	**Saint Ours**	**0.26**	**255**	Pg	Pb	06 15 29.9	-0.7
SURF				Sg	Sg	06 15 33.4	+0.5
SURF	**Saint Ours**	**0.26**	**255**	P	Pb	06 15 29.9	-0.7
SURF				S	Sg	06 15 33.0	+0.2
BHB	**Bricherasio**	**0.30**	**13**	↓P	Pg	06 15 30.3	+0.5
BHB				S	Sg	06 15 34.3	+0.4
BHB				AML	AML		
	comp=E,38μm,1.5s						
BHB				AML	AML		
	comp=N,44μm,0.8s						
BHB				AML	AML		
	comp=E,38μm,0.5s						
BHB				AML	AML		
	comp=N,44μm,1.2s						
BHB				AML	AML		
	comp=N,37μm,0.2s						
BHB	**Bricherasio**	**0.30**	**13**	Pg	Pg	06 15 30.3	+0.5
BHB	**Bricherasio**	**0.30**	**13**	Sg	Sg	06 15 34.2	+0.3
BHB	**Bricherasio**	**0.30**	**13**	P	Pg	06 15 30.1	+0.3
BHB				S	Sg	06 15 34.0	+0.1
JAUF	**Jausiers**	**0.32**	**248**	Pg	Pg	06 15 30.7	+0.5
JAUF				Sg	Sg	06 15 35.4	+0.8
STV	**Sant Anna di V**	**0.32**	**159**	P	Pb	06 15 31.0	-0.5
STV				S	Sg	06 15 35.3	+0.7
STV				AML	AML		
	comp=N,8μm,0.2s						
STV				AML	AML		
	comp=E,8μm,0.1s						
STV	**Sant Anna di V**	**0.32**	**159**	Sg	Sg	06 15 35.4	+0.8
STV	**Sant Anna di V**	**0.32**	**159**	Pg	Pb	06 15 31.0	-0.6
STV	**Sant Anna di V**	**0.32**	**159**	P	Pb	06 15 31.1	-0.5
STV				S	Sg	06 15 35.2	+0.7
MBDF	**Montbardon**	**0.33**	**302**	*e*Pg	Pb	06 15 31.3	-0.5
MBDF				*e*Sg	Sg	06 15 35.7	+0.7
	comp=E,13nm,0.5s						
ENR	**Entracque**	**0.37**	**151**	P	Pg	06 15 31.7	+0.6
ENR				S	Sg	06 15 37.0	+1.0
ENR				AML	AML		
	comp=N,33μm,0.4s						
ENR				AML	AML		
	comp=E,35μm,0.1s						
ENR	**Entracque**	**0.37**	**151**	Sg	Sg	06 15 37.0	+1.1
ENR	**Entracque**	**0.37**	**151**	Pg	Pg	06 15 31.6	+0.5
ENR	**Entracque**	**0.37**	**151**	P	Pg	06 15 31.6	+0.6
ENR				S	Sb	06 15 37.2	-1.0
ISO	**Isola**	**0.38**	**193**	Pg	Pb	06 15 32.0	-0.4
ISO				Sg	Sg	06 15 36.8	+0.7
ISO	**Isola**	**0.38**	**193**	P	Pb	06 15 32.7	+0.3
ISO				S	Sg	06 15 37.2	+1.1
CREF	**Crivoux**	**0.39**	**270**	Pg	Pg	06 15 32.1	+0.6
CREF				S

TURF	**col de Turini**	**0.60**	**164**	Pg	Pb	06 15 36.1	-0.2
TURF				Sg	Sb	06 15 44.4	-0.3
RSP	**Reno Superiore**	**0.60**	**7**	P	Pg	06 15 35.6	+0.1
RSP	**Reno Superiore**	**0.60**	**7**	Pg	Pg	06 15 35.7	+0.3
RSP	**Reno Superiore**	**0.60**	**7**	Sg	Sg	06 15 43.8	+0.4
RSP	**Reno Superiore**	**0.60**	**7**	P	Pb	06 15 37.0	+0.6
RSP				S	Sb	06 15 44.3	-0.7
SAOF	**Saorge**	**0.63**	**154**	Pg	Pb	06 15 36.4	-0.2
SAOF				Sg	Sb	06 15 45.0	-0.5
MVIF	**Mont Vial**	**0.65**	**181**	Pg	Pb	06 15 37.3	+0.1
MVIF				Sg	Sb	06 15 46.4	+0.1
SBF	**Sospel**	**0.71**	**164**	*e*Pg	Pg	06 15 37.7	+0.2
SBF				*e*Sg	Sb	06 15 47.6	-0.4
	comp=E,4.1nm,0.3s						
ESCA	**l'Escarene**	**0.73**	**168**	S	Sb	06 15 49.7	+1.2
CALF	**Calern**	**0.82**	**193**	Pg	Pn	06 15 40.7	-0.6
CALF				Sg	Sb	06 15 51.6	+0.6
LPL	**La Plagne**	**1.02**	**342**	*e*Pg	Pg	06 15 43.3	0.0
SMRF	**Simiane la Rot**	**1.28**	**244**	*e*Pg	Pb	06 15 48.0	+0.2
SMRF				*e*Sg	Sb	06 16 04.5	+0.2
	comp=E,1.8nm,0.5s						
LMR	**La Mourre**	**1.30**	**202**	*e*Pg	Pb	06 15 48.4	+0.2
LMR				*e*Sg	Sg	06 16 05.5	-0.2
	comp=E,1.9nm,0.2s						

*IDC **07** 06:23:29.8±0.9, 3°.14S×147°.62E, h0km, mb4.0/10, mbtmp4.1/11, ML1.7/1, MS3.6/22, Error ellipse: s-maj=42.0km s-min=17.1km az=97.0*
*NEIC **07** 06:23:31.2±1.7, 2°.88S±0°.06×147°.5E±0°.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=19.6km s-min=9.6km az=265.0*

ISC 07 06:23:31.4±0.6, 2°.95S±0°.06×147°.63E±0°.08, h10km, n77, σ1°.50/50, mb4.5/22, MS3.5/21, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**0.94**	**344**	P	**Pg**	**06 23 47.1**	**-2.3**
MANU	**Manus Island**	**0.94**	**344**		**Pg**	**06 23 47.0**	**-2.3**
KAVG	**Kavieng**	**3.20**	**84**	P	**Pn**	**06 24 19.0**	**-2.7**
RABL	**Rabaul**	**4.69**	**105**	P	**Pn**	**06 24 44.9**	**+2.6**
RABL	**Rabaul**	**4.69**	**105**	Pn	**Pn**	**06 24 43.0**	**+0.7**
PMG	**Port Moresby**	**6.43**	**184**	Pn	**Pn**	**06 25 03.7**	**-2.6**
	1.2nm,0.3s,baz=144,slow=6.2,SNR=1.9						
PMG				Sn	**Sn**	**06 26 18.3**	**-1.5**
	1.3nm,0.3s,baz=221,slow=15,SNR=1.7 9.4nm,0.6s						
GENI	**Genyem**	**7.46**	**273**	P	**Pn**	**06 25 23.0**	**+2.7**
	77nm,1.4s						
COEN	**Coen**	**11.79**	**202**	P	**Pn**	**06 26 21.2**	**+1.5**
	18nm,1.0s						
COEN	**Coen**	**11.79**	**202**	Pn	**Pn**	**06 26 18.6**	**-1.2**
HNR	**Honiara**	**13.83**	**118**	LR	LR	06 31 58.1	
	comp=Z,2μm,18.5s,baz=262,slow=37						
MTSU	**Mount Surprise**	**15.44**	**192**	P	**P**	**06 27 15.0**	**+1.0**
	7.6nm,1.1s						
GUMO	**Guam**	**16.66**	**351**	LR	LR	06 32 18.4	
	comp=Z,295nm,21.9s,baz=180,slow=31						
CTA	**Charters Tower**	**17.09**	**184**	LR	LR	06 33 38.2	
	comp=Z,16nm,19.4s,baz=1.0,slow=36						
KDU	**Kakadu**	**17.85**	**236**	P	**P**	**06 27 39.9**	**-0.8**
	25nm,1.1s						
MTN	**Manton Dam**	**19.05**	**238**	P	**P**	**06 27 52.7**	**-1.2**
	33nm,1.1s						
MTN	**Manton Dam**	**19.05**	**238**	P	**P**	**06 27 52.1**	**-1.9**
DRS	**Darwin Rock St**	**19.05**	**239**	P	**Pn**	**06 27 55.3**	**+0.6**
	16nm,1.0s						
QIS	**Mount Isa**	**19.17**	**203**	P	**Pn**	**06 27 56.0**	**-0.1**
	13nm,1.2s						
RK1H	**Rockhampton Ha**	**20.51**	**172**	P	Pn	06 28 13.9	+1.9
	11nm,1.1s						
TNTI	**Ternate**	**20.59**	**280**	P	**P**	**06 28 08.2**	**-2.6**
TNTI				IAmb	IAmb	06 28 24.0	
	comp=Z,42nm,1.3s						
WB0	**Warramunga Arr**	**21.13**	**217**	P	**P**	**06 28 15.3**	**-1.3**
WB0				IAmb	IAmb	06 28 22.6	
	comp=Z,31nm,1.2s						
WRA	**Warramunga Arr**	**21.30**	**217**	P	**P**	**06 28 16.5**	**-1.9**
WRA	**Warramunga Arr**	**21.30**	**217**	P	**P**	**06 28 16.2**	**-2.2**
	comp=Z,17nm,1.1s,baz=41,slow=9.3,SNR=18						
WRA				LR	LR	06 37 16.2	
	comp=Z,262nm,19.9s,baz=31,slow=39 comp=Z,17nm,1.1s						
QLP	**Quilpie**	**23.72**	**188**	P	**P**	**06 28 45.3**	**+1.6**
	comp=Z,76nm,1.9s						
AS01	**Alice Springs**	**24.48**	**212**	P	**P**	**06 28 50.6**	**-0.3**
	comp=Z,16nm,1.1s						
AS31	**Alice Springs**	**24.50**	**212**	P	**P**	**06 28 50.1**	**-1.0**
ASAR	**Alice Springs**	**24.50**	**212**	P	**P**	**06 28 49.9**	**-1.3**
ASAR	**Alice Springs**	**24.50**	**212**	P	**P**	**06 28 50.0**	**-1.1**
	comp=Z,9.0nm,0.9s,baz=42,slow=6.4,SNR=34						
ASAR				LR	LR	06 39 00.6	
	comp=Z,92nm,21.4s,baz=38,slow=38 comp=Z,9.0nm,0.9s						
INKA	**Innaminka**	**25.52**	**194**	P	**P**	**06 29 01.5**	**+1.3**
	comp=Z,62nm,1.1s						
DZM	**Mont Dzumac**	**26.37**	**138**	LR	LR	06 37 57.2	
	comp=Z,282nm,20.3s,baz=255,slow=33						
OOD	**Oodnadatta**	**27.21**	**204**	P	**P**	**06 29 15.2**	**-0.3**
	comp=Z,22nm,1.2s						
ARMA	**Armidale**	**27.58**	**173**	P	**P**	**06 29 19.5**	**+0.5**
KAPI	**Kappang**	**27.88**	**265**	LR	LR	06 41 36.6	
	comp=Z,112nm,18.3s,baz=81,slow=39						
H11S3	**WAKE ISLAND Hy**	**28.40**	**41**	T	T	06 59 09.8	
	baz=222,slow=76,SNR=234						
H11S2	**WAKE ISLAND Hy**	**28.41**	**41**	T	T	06 59 08.9	
	baz=222,slow=76,SNR=172						
H11S1	**WAKE ISLAND Hy**	**28.41**	**41**	T	T	06 59 11.1	
	baz=222,slow=76,SNR=169						
STKA	**Stephens Creek**	**29.33**	**191**	LR	LR	06 41 40.8	
	comp=Z,174nm,18.5s,baz=18,slow=37						
H11N1	**WAKE ISLAND Hy**	**29.42**	**39**	T	T	07 00 28.1	
	baz=221,slow=76,SNR=142						
H11N3	**WAKE ISLAND Hy**	**29.43**	**39**	T	T	07 00 27.7	
	baz=221,slow=76,SNR=263						
H11N2	**WAKE ISLAND Hy**	**29.43**	**39**	T	T	07 00 27.1	
	baz=221,slow=76,SNR=251						
JCJ	**Chichijima**	**30.33**	**350**	LR	LR	06 39 52.0	
	comp=Z,78nm,21.9s,baz=115,slow=32						
FORT	**Forrest**	**33.29**	**212**	P	**P**	**06 30 07.1**	**-2.2**
JOW	**Kunigami**	**35.01**	**329**	LR	LR	06 41 26.3	
	comp=Z,120nm,20.8s,baz=101,slow=31						
JHJ	**Hachijo jima 2**	**36.63**	**349**	LR	LR	06 45 41.5	
	comp=Z,24nm,18.6s,baz=86,slow=36						
JNU	**Nakatsue**	**39.22**	**338**	LR	LR	06 44 02.0	
	comp=Z,50nm,20.2s,baz=142,slow=31						
MJAR	**Matsushiro Arr**	**40.26**	**348**	LR	LR	06 45 46.1	
	comp=Z,49nm,19.7s,baz=164,slow=33						
NWAO	**Narrogin (SRO)**	**41.22**	**220**	LR	LR	06 49 04.7	
	comp=Z,187nm,20.9s,baz=178,slow=37						
KSRS	**Korea Array**	**44.17**	**337**	P	**P**	**06 31 42.0**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=157,slow=9.2,SNR=4.3						
KSRS				LR	LR	06 48 16.9	
	comp=Z,65nm,21.2s,baz=160,slow=34 comp=Z,1.3nm,0.7s						
URZ	**Urewera**	**44.28**	**146**	LR	LR	06 47 34.4	
	comp=Z,196nm,19.3s,baz=30,slow=33						
ASAJ	**Asahikawa**	**47.07**	**355**	LR	LR	06 51 01.9	
	comp=Z,37nm,20.3s,baz=174,slow=35						
USRK	**Ussuriysk Ar.**	**48.99**	**345**	LR	LR	06 52 19.8	
	comp=Z,47nm,18.6s,baz=177,slow=35						
CMAR	**Chiang Mai Arr**	**52.43**	**296**	LR	LR	06 53 12.0	
	comp=Z,16nm,21.7s,baz=200,slow=34						
KLR	**Kul'dur**	**53.76**	**347**	LR	LR	06 53 57.3	
	comp=Z,25nm,20.9s,baz=214,slow=34						
SONM	**Songino Array**	**62.08**	**330**	P	**P**	**06 33 54.8**	**+2.4**
	comp=Z,0.4nm,0.4s,baz=133,slow=6.3,SNR=2.3 comp=Z,0.4nm,0.4s						
MA2	**Magadan**	**62.38**	**2**	LR	LR	06 57 40.0	
	comp=Z,34nm,21.9s,baz=184,slow=33						
YAK	**Yakutsk**	**66.24**	**351**	LR	LR	07 03 36.7	
	comp=Z,34nm,18.1s,baz=184,slow=36						
VNDA	**Vanda**	**74.90**	**177**	P	**P**	**06 35 10.7**	**-1.3**
VNDA	**Vanda**	**74.90**	**177**	P	**P**	**06 35 10.5**	**-1.5**
	comp=Z,1.7nm,1.1s,baz=3.5,slow=7.5,SNR=4.1 comp=Z,1.7nm,1.1s						
MKAR	**Makanchi Array**	**75.57**	**320**	P	**P**	**06 35 17.1**	**+0.7**
	comp=Z,0.8nm,1.0s,baz=104,slow=6.1,SNR=3.8 comp=Z,0.8nm,1.0s						
L16K	**Owhat River**	**75.99**	**23**	P	**P**	**06 35 18.4**	**0.0**
L16K				IAmb	IAmb	06 35 43.4	
	comp=Z,5.9nm,1.3s						
J17K	**VABM Dome**	**77.11**	**22**	P	**P**	**06 35 25.1**	**+0.4**
J17K				IAmb	IAmb	06 35 41.2	
	comp=Z,5.3nm,1.2s						
L19K	**White Mountain**	**78.08**	**24**	P	**P**	**06 35 31.1**	**+0.9**
L19K				IAmb	IAmb	06 35 34.1	
	comp=Z,3.2nm,0.8s						
CNPM	**China Poot**	**78.36**	**27**		**P**	**06 35 32.5**	**+0.7**
KURBB	**Kurchatov Arra**	**79.19**	**323**	P	**P**	**06 35 36.4**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=95,slow=5.4,SNR=5.1 comp=Z,0.8nm,0.9s						
AAK	**Ala-Archa**	**79.67**	**314**	LR	LR	07 10 33.6	
	comp=Z,55nm,21.0s,baz=121,slow=35						
ILAR	**Eielson Array**	**82.45**	**23**	P	**P**	**06 35 54.0**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=252,slow=5.1,SNR=10 comp=Z,1.0nm,0.8s						
NRIK	**Noril'sk**	**82.58**	**342**	P	**P**	**06 35 55.7**	**+1.4**
	comp=Z,2.4nm,0.6s,baz=132,slow=5.8,SNR=5.9 comp=Z,2.4nm,0.6s						
J25K	**Salcha River,**	**82.99**	**24**		**P**	**06 35 55.8**	**-0.8**
J25K				IAmb	IAmb	06 36 01.4	
	comp=Z,2.8nm,0.8s						
M27K	**Edge Creek, AK**	**83.67**	**26**	P	**P**	**06 35 60.0**	**-0.3**
M27K				IAmb	IAmb	06 36 03.2	
	comp=Z,2.9nm,0.8s						
BCAR	**Beaver Creek A**	**83.93**	**26**	P	**P**	**06 36 01.6**	**+0.1**
BMAR	**Burnt Mountain**	**84.34**	**21**	P	**P**	**06 36 03.1**	**-0.4**
L29M	**L29M**	**85.54**	**26**	P	**P**	**06 36 09.8**	**+0.2**
L29M				IAmb	IAmb	06 36 18.0	
	comp=Z,3.8nm,1.2s						
F28M	**Old Crow**	**86.11**	**21**	P	**P**	**06 36 14.0**	**+1.7**
F28M				IAmb	IAmb	06 36 28.0	
	comp=Z,6.2nm,1.4s						
G31M	**Satah River**	**88.04**	**23**	P	**P**	**06 36 21.9**	**+0.3**
DLBC	**Dease Lake**	**88.48**	**31**	P	**P**	**06 36 26.0**	**+2.0**
	comp=Z,1.3nm,0.8s,baz=274,slow=7.8,SNR=4.9 comp=Z,1.3nm,0.8s						
YBH	**Yreka Blue Hor**	**91.69**	**48**	LR	LR	07 11 17.4	
	comp=Z,37nm,19.5s,baz=318,slow=31						
TORD	**Torodi Ar. Bea**	**144.83**	**289**	PKP	**PKPab**	**06 43 08.6**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=76,slow=3.7,SNR=4.7						

*IDC **07** 06:29:57.9±1.6, 3°.24N×125°.86E, h0km, mb3.9/5, mbtmp3.9/5, MS3.8/3, Error ellipse: s-maj=184.9km s-min=19.0km az=65.0*
*DJA **07** 06:30:01.0±1.8, 4°.N±28°.×12°.7E±°, h10km±33km, M3.9/6, mb4.1/3, MLv3.8/6*

ISC 07 06:29:59.2±1.4, 3°.8N±0°.1×126°.77E±0°.09, h10km, n11, σ0°.79/8, mb4.0/5, MS4.0/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.25**	**263**	P	**Pb**	**06 30 22.6**	**-0.3**
SGSI				S	**Sb**	**06 30 38.4**	**-0.6**
TNTI	**Ternate**	**3.11**	**169**	P	**Pn**	**06 30 48.0**	**-0.3**
TNTI				S	**Sn**	**06 31 26.6**	**+1.0**
GTOI	**Gorontalo**	**4.93**	**230**	P	**Pn**	**06 31 13.9**	**+0.6**
WRA	**Warramunga Arr**	**24.78**	**163**	P	P	06 35 17.9	-3.5
	2.1nm,0.8s,baz=339,slow=8.8,SNR=11 2.1nm,0.8s						
ASAR	**Alice Springs**	**28.21**	**166**	P	P	06 35 49.2	-3.2
	0.4nm,0.5s,baz=343,slow=7.4,SNR=4.3 0.4nm,0.5s						
STKA	**Stephens Creek**	**38.22**	**159**	P	**P**	**06 37 18.6**	**-0.8**
	2.3nm,0.6s,baz=318,slow=7.8,SNR=3.4 2.3nm,0.6s						
SONM	**Songino Array**	**47.20**	**341**	LR	LR	07 00 53.4	
	comp=Z,57nm,18.5s,baz=74,slow=39						
MKAR	**Makanchi Array**	**57.49**	**325**	P	**P**	**06 39 49.2**	**+0.6**
	0.6nm,0.4s,baz=120,slow=7.6,SNR=15 0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**61.67**	**327**	P	**P**	**06 40 17.6**	**+0.3**
	0.7nm,0.5s,baz=130,slow=6.3,SNR=11 0.7nm,0.5s						
OBN	**Obninsk**	**86.99**	**325**	LR	LR	07 25 11.0	
	comp=Z,59nm,20.7s,baz=18,slow=38						
VRAC	**Vranov**	**100.07**	**321**	LR	LR	07 32 38.3	
	comp=Z,46nm,22.0s,baz=125,slow=38						

IDC 07 07:11:28.3±2.1, 5°.59S×151°.69E, h0km, mb3.8/3, mbtmp3.8/4, ML1.6/1, Error ellipse: s-maj=126.2km s-min=25.9km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.88**	**230**	Pn	Pn	07 12 57.7	+0.9
	1.0nm,0.3s,baz=143,slow=10,SNR=1.8						
PMG				Sn	Sn	07 14 05.1	+0.2
	1.6nm,0.3s,baz=129,slow=1.9,SNR=3.8 5.1nm,0.4s						
WRA	**Warramunga Arr**	**22.09**	**228**	P	P	07 16 25.1	-0.2
	3.0nm,0.5s,baz=53,slow=9.9,SNR=39 3.0nm,0.5s						
ASAR	**Alice Springs**	**24.82**	**222**	P	P	07 16 53.0	+0.5
	2.4nm,0.7s,baz=58,slow=8.7,SNR=26 2.4nm,0.7s						
ILAR	**Eielson Array**	**83.31**	**22**	P	P	07 23 57.5	+0.7
	0.2nm,0.5s,baz=244,slow=5.7,SNR=1.8 0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.49**	**286**	PKPbc	PKPbc	07 31 19.1	-1.6
	0.4nm,0.4s,baz=86,slow=2.5,SNR=4.4						

*NAO **07** 07:11:45.4, 37°.82N×13°.95E, h5km, mb3.5*
*ROM **07** 07:11:45.7±0.1, 37°.849N±0°.005×13°.976E±0°.008, h6km, ML3.7/103, Error ellipse: s-maj=0.6km s-min=0.6km az=324.0*
*LDG **07** 07:11:45.3±0.2, 37°.84N×13°.91E, h5km, Ml3.6/3, Error ellipse: s-maj=5.0km s-min=2.4km az=27.0*
*IDC **07** 07:11:46.1±0.9, 38°.05N×14°.02E, h0km, mb3.6/6, mbtmp3.6/15, ML3.5/8, MS3.4/21, Error ellipse: s-maj=17.9km s-min=7.7km az=74.0*

ISC 07 07:11:46.4±0.7, 37°.87N±0°.02×13°.99E±0°.02, h12km±4km, n84, σ1°.73/78, mb3.8/5, MS3.4/15, 26C, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSLB	**Castelbuono**	**0.08**	**41**	⇑P	**Pg**	**07 11 48.5**	**-0.6**
CSLB				S	**Sg**	**07 11 50.7**	**-0.4**
CSLB				AML	AML		
	comp=E,26600μm,0.6s						
CSLB				AML	AML		
	comp=N,33100μm,0.7s						
CSLB				AML	AML		
	comp=E,25450μm,0.8s						
CSLB				AML	AML		
	comp=N,30150μm,0.5s						
CSLB				AML	AML		
	comp=E,15113μm,3.3s						
CSLB				AML	AML		
	comp=N,22049μm,3.0s						
CSLB				AML	AML		
	comp=E,25450μm,1.2s						
PETRA	**Petralia Sopra**	**0.11**	**112**	⇑P	**Pg**	**07 11 48.2**	**-1.2**
PETRA				S	**Sg**	**07 11 50.9**	**-0.9**
PETRA				AML	AML		
PETRA				AML	AML		
PETRA				AML	AML		
PETRA				AML	AML		
GIB	**Gibilmanna**	**0.12**	**14**	⇑P	**Pg**	**07 11 49.5**	**-0.1**
GIB				S	**Sg**	**07 11 52.7**	**+0.8**
GIB				AML	AML		
	comp=N,62350μm,1.0s						
GIB				AML	AML		
	comp=E,43850μm,1.5s						
GIB				AML	AML		
	comp=N,51100μm,0.7s						
GIB				AML	AML		
	comp=E,42159μm,0.8s						
GIB				AML	AML		
	comp=E,42200μm,0.8s						
GIB				AML	AML		
	comp=N,54393μm,0.9s						
PLLN	**Pollina**	**0.17**	**46**	⇑P	**Pg**	**07 11 50.1**	**-0.2**
PLLN				S	**Sg**	**07 11 53.2**	**+0.1**
PLLN				AML	AML		
	comp=E,56250μm,1.1s						
PLLN				AML	AML		
	comp=N,57150μm,0.4s						
PLLN				AML	AML		
	comp=N,44250μm,0.5s						
PLLN				AML	AML		
	comp=N,44250μm,1.5s						
PLLN				AML	AML		
	comp=E,51014μm,0.7s						
PLLN				AML	AML		
	comp=N,50053μm,0.5s						
RESU	**Resuttano**	**0.23**	**167**	⇑P	**Pg**	**07 11 49.8**	**-1.6**
RESU				S	**Sg**	**07 11 53.5**	**-1.2**
RESU				AML	AML		
	comp=E,80600μm,0.4s						
RESU				AML	AML		
MCT	**Mte Cammarata**	**0.37**	**229**	AML	AML		
	comp=E,13250μm,0.8s						
MCT				AML	AML		
	comp=N,13850μm,0.6s						
MCT				AML	AML		
	comp=N,13850μm,1.4s						
MCT				AML	AML		
	comp=E,13250μm,0.8s						
MCT				AML	AML		
	comp=N,13824μm,0.6s						
SOLUN	**Solunto**	**0.42**	**301**	⇑P	**Pg**	**07 11 54.2**	**-0.5**
SOLUN				S	**Sb**	**07 12 01.6**	**-0.4**
SOLUN				AML	AML		
	comp=N,3695μm,1.2s						
SOLUN				AML	AML		
	comp=E,4470μm,0.7s						
SOLUN				AML	AML		
	comp=N,3700μm,1.2s						
SOLUN				AML	AML		
	comp=N,3700μm,0.8s						
SOLUN				AML	AML		
	comp=E,4472μm,0.7s						
SOLUN				AML	AML		
	comp=N,3465μm,0.7s						
CMDO	**Montedoro**	**0.43**	**198**	P	**Pb**	**07 11 54.9**	**-1.0**
CMDO				AML	AML		
	comp=E,5990μm,1.6s						
CMDO				AML	AML		
	comp=N,12550μm,1.6s						
CMDO				AML	AML		
	comp=N,12550μm,0.4s						
CMDO				AML	AML		
	comp=E,8450μm,1.0s						
CMDO				AML	AML		
	comp=E,5993μm,1.6s						
CMDO				AML	AML		
	comp=N,12561μm,1.7s						
CAGR	**Agira**	**0.48**	**122**	⇑P	**Pb**	**07 11 56.4**	**-0.3**
CAGR				AML	AML		
	comp=N,26050μm,0.7s						
CAGR				AML	AML		
	comp=N,26024μm,0.7s						
CAGR				AML	AML		
	comp=E,30300μm,0.6s						
CAGR				AML	AML		
	comp=E,30309μm,0.6s						
GALF	**Gagliano Caste**	**0.49**	**109**	⇑P	**Pb**	**07 11 56.0**	**-0.9**
GALF				AML	AML		
	comp=E,4295μm,0.6s						
GALF				AML	AML		
	comp=N,4850μm,0.6s						
GALF				AML	AML		
	comp=E,4300μm,0.5s						
GALF				AML	AML		
	comp=E,16650μm,0.6s						
GALF				AML	AML		
	comp=N,16100μm,0.6s						
GALF				AML	AML		
	comp=N,16099μm,0.6s						
GALF				AML	AML		
	comp=N,4851μm,0.6s						
GALF				AML	AML		
	comp=N,4850μm,1.4s						
GALF				AML	AML		
	comp=E,4297μm,0.6s						
GALF				AML	AML		
	comp=E,16664μm,0.6s						
VAE	**Valguarnera**	**0.52**	**139**	Pg	**Pb**	**07 11 58.1**	**+0.7**
	comp=E,112nm,0.3s,baz=298,slow=1.7,SNR=66						
VAE				Lg	Lg	07 12 08.2	
	comp=E,290nm,0.3s,baz=326,slow=18,SNR=8.0						
CORL	**Corleone**	**0.54**	**272**	⇑P	**Pg**	**07 11 56.0**	**-1.0**
CORL				AML	AML		
	comp=E,8720μm,1.6s						
CORL				AML	AML		
	comp=N,10060μm,0.6s						
CORL				AML	AML		
	comp=E,8720μm,0.4s						
CORL				AML	AML		
	comp=N,10068μm,0.6s						
CORL				AML	AML		
	comp=E,7477μm,0.5s						
MNO	**Monte Soro**	**0.56**	**84**	⇑P	**Pg**	**07 11 57.2**	**-0.2**
MNO				AML	AML		
	comp=E,15000μm,1.1s						
MNO				AML	AML		
	comp=N,16000μm,1.0s						
MNO				AML	AML		
	comp=E,15000μm,0.9s						
MNO				AML	AML		
	comp=N,16005μm,1.0s						
MNO				AML	AML		
	comp=E,13655μm,0.6s						
MPG	**Monte Pellegri**	**0.57**	**300**	⇑P	**Pg**	**07 11 57.0**	**-0.5**
MPG				AML	AML		
	comp=E,3135μm,1.0s						
MPG				AML	AML		
	comp=N,3110μm,1.1s						
MPG				AML	AML		
	comp=N,3110μm,0.9s						
MPG				AML	AML		
	comp=N,3109μm,1.1s						
MPG				AML	AML		
	comp=E,3135μm,1.0s						
MPG				AML	AML		
	comp=E,3138μm,1.0s						
FAVR	**Favara**	**0.66**	**203**	P	**Pn**	**07 12 00.6**	**-0.8**
FAVR				AML	AML		
	comp=N,6340μm,1.2s						
FAVR				AML	AML		
	comp=E,4620μm,1.0s						
FAVR				AML	AML		
	comp=N,6585μm,1.2s						
FAVR				AML	AML		
	comp=E,8795μm,1.0s						
FAVR				AML	AML		
	comp=N,6485μm,1.4s						
FAVR				AML	AML		
	comp=N,6870μm,1.3s						
FAVR				AML	AML		
	comp=E,4620μm,1.0s						
FAVR				AML	AML		
	comp=E,4619μm,1.0s						
FAVR				AML	AML		
	comp=E,8804μm,1.0s						
FAVR				AML	AML		
	comp=E,8795μm,1.0s						
FAVR				AML	AML		
	comp=N,8099μm,1.1s						
FAVR				AML	AML		
	comp=N,6870μm,0.7s						
FAVR				AML	AML		
	comp=N,6485μm,0.6s						
FAVR				AML	AML		
	comp=N,7803μm,1.1s						
CLTB	**Caltabellotta**	**0.68**	**245**	⇑P	**Pb**	**07 12 00.6**	**+0.5**
CLTB				AML	AML		
	comp=E,35600μm,0.5s						
CLTB				AML	AML		
	comp=N,52800μm,0.8s						
CLTB				AML	AML		
	comp=N,52800μm,1.2s						
CLTB				AML	AML		
	comp=E,35619μm,0.5s						
CLTB				AML	AML		
	comp=N,52842μm,0.8s						
EPZF	**Pizzo Felice**	**0.69**	**94**	⇑P	**Pb**	**07 12 00.2**	**-0.1**
EPZF				AML	AML		
	comp=E,17200μm,0.6s						
EPZF				AML	AML		
	comp=N,20100μm,0.5s						
EPZF				AML	AML		
	comp=E,17192μm,0.6s						
EPZF				AML	AML		
	comp=N,20115μm,0.5s						
CLTA	**Licata**	**0.71**	**182**	P	**Pb**	**07 12 00.4**	**-0.3**
CLTA				AML	AML		
	comp=N,2385μm,0.8s						
CLTA				AML	AML		
	comp=E,2790μm,1.1s						
CLTA				AML	AML		
	comp=N,2390μm,0.8s						
CLTA				AML	AML		
	comp=E,2792μm,1.1s						
CLTA				AML	AML		

comp=N,2388μm,0.8s
CLTA AML AML
comp=N,2390μm,1.2s
RAFF Raffo Rosso 0.71 155 ⇑P Pg 07 11 59.5 -0.7
RAFF AML AML
comp=E,4815μm,1.2s
RAFF AML AML
comp=N,4660μm,0.7s
RAFF AML AML
comp=N,4660μm,1.3s
RAFF AML AML
comp=E,4815μm,0.8s
RAFF AML AML
comp=N,4661μm,0.7s
RAFF AML AML
comp=E,4812μm,1.2s
IACL Alicudi 0.72 24 ⇑P Pb 07 12 01.0 +0.1
IACL AML AML
comp=E,7805μm,0.4s
IACL AML AML
comp=N,6330μm,0.9s
IACL AML AML
comp=N,6330μm,1.1s
IACL AML AML
comp=N,6396μm,0.5s
MUCR Ucria 0.72 76 ⇑P Pg 07 11 59.9 -0.5
MUCR AML AML
comp=E,11450μm,1.1s
MUCR AML AML
comp=E,11450μm,0.9s
MUCR AML AML
comp=E,9027μm,0.5s
MUCR AML AML
comp=N,10064μm,0.5s
MUCR AML AML
comp=N,10060μm,0.5s
ESML S. M. di Licod 0.75 110 P Pb 07 12 01.6 +0.3
ESML AML AML
comp=E,9350μm,0.6s
ESML AML AML
comp=N,11785μm,0.7s
ESML AML AML
comp=N,11770μm,0.7s
ESML AML AML
comp=E,9350μm,1.4s
ESML AML AML
comp=E,9351μm,0.6s
EMSG Monte Spagnolo 0.76 94 P Pg 07 12 01.0 -0.1
EMSG AML AML
comp=E,25300μm,0.5s
EMSG AML AML
comp=E,25298μm,0.5s
EMSG AML AML
comp=N,21700μm,0.6s
EMSG AML AML
comp=N,21678μm,0.6s
CRJA Costa Raja 0.78 265 P Pb 07 12 01.3 -0.7
ESLN Serra La Nave 0.80 103 P Pg 07 12 01.5 -0.4
ESLN AML AML
comp=N,15200μm,1.0s
ESLN AML AML
comp=N,15200μm,1.0s
ESLN AML AML
comp=N,15204μm,1.0s
ESLN AML AML
comp=E,17200μm,0.6s
ESLN AML AML
comp=E,17201μm,0.6s
MBFT Monte Bonifato 0.82 275 P Pg 07 12 01.2 -1.0
MBFT AML AML
comp=N,2490μm,0.8s
MBFT AML AML
comp=N,2490μm,1.2s
MBFT AML AML
comp=N,159μm,1.1s
MBFT AML AML
comp=E,1900μm,0.8s
MBFT AML AML
comp=E,1898μm,0.8s
MBFT AML AML
comp=E,1825μm,0.8s
MBFT AML AML
comp=N,2491μm,0.8s
IFIL Filicudi I Eol 0.83 33 ⇑P Pg 07 12 00.6 -1.7
MFNL Monte Finestre 0.85 265 P Pn 07 12 03.5 -0.6
HVZN Vizzini 0.90 140 ⇑P Pg 07 12 03.0 -0.8
NOV Novara 0.92 80 ⇑P Pg 07 12 03.3 -0.9
NOV AML AML
comp=E,9095μm,0.6s
NOV AML AML
comp=N,12000μm,0.9s
NOV AML AML
comp=N,11969μm,0.9s
NOV AML AML
comp=E,9095μm,1.4s
NOV AML AML
comp=E,9094μm,0.6s
IVGP Vulcano Grotta 0.93 55 ⇑P Pg 07 12 03.6 -0.6
VPL Vulcano Piano 0.93 57 ⇑P Pg 07 12 03.5 -0.8
VPL AML AML
comp=E,6555μm,1.0s
VPL AML AML
comp=N,7995μm,0.6s
VPL AML AML
comp=E,6500μm,1.2s
VPL AML AML
comp=N,7995μm,0.6s
EPOZ Pozzillo 0.94 112 P Pn 07 12 05.2 -0.1
EPOZ AML AML
comp=E,16050μm,0.6s
EPOZ AML AML
comp=N,34950μm,0.7s
EPOZ AML AML
comp=N,34950μm,1.3s
EPOZ AML AML
comp=E,16050μm,1.4s
EPOZ AML AML
comp=E,16044μm,0.6s
EPOZ AML AML
comp=N,34987μm,0.7s
LLI Lipari 0.95 53 ⇑P Pg 07 12 04.3 -0.3
MTGR Montagna Grand 0.97 272 ⇑P Pn 07 12 05.8 -0.1
AIO Antillo 0.99 84 ⇑P Pg 07 12 04.7 -0.8
AIO AML AML
comp=N,6410μm,1.1s
AIO AML AML
comp=E,6350μm,0.5s
AIO AML AML
comp=E,6349μm,0.5s
AIO AML AML
comp=N,6410μm,0.9s
AIO AML AML
comp=N,6165μm,0.6s
CAVT Castelvetrano 1.00 259 P Pn 07 12 05.8 -0.4
CAVT AML AML
comp=E,4995μm,0.7s
CAVT AML AML
comp=N,5315μm,0.8s
CAVT AML AML
comp=E,4995μm,1.3s
CAVT AML AML
comp=E,5000μm,0.7s
CAVT AML AML
comp=N,5314μm,0.8s
USI Ustica 1.05 323 P Pg 07 12 05.5 -1.1
USI AML AML
comp=E,1945μm,0.9s
USI AML AML
comp=N,6625μm,0.8s
USI AML AML
comp=N,6625μm,1.2s
USI AML AML
comp=N,6626μm,0.8s
USI AML AML
comp=E,1600μm,0.5s
MILZ Milazzo 1.06 68 ⇑P Pg 07 12 06.0 -0.7
MILZ AML AML
comp=N,5850μm,0.7s
MILZ AML AML
comp=E,5860μm,0.5s
MILZ AML AML
comp=N,5850μm,1.3s
MILZ AML AML
comp=E,5859μm,0.5s
MILZ AML AML
comp=N,5852μm,0.7s
HAGA Augusta 1.10 122 P Pg 07 12 06.4 -1.1
HAGA AML AML
comp=E,9775μm,1.1s
HAGA AML AML
comp=N,12950μm,0.9s
HAGA AML AML
comp=N,12950μm,1.1s
HAGA AML AML
comp=E,9775μm,0.9s
HAGA AML AML
comp=N,12928μm,0.9s
HAGA AML AML
comp=E,9199μm,0.6s
MPNC Port Mandanici 1.11 75 ⇑P Pg 07 12 06.9 -0.8
MPNC AML AML
comp=E,14400μm,0.6s
MPNC AML AML
comp=N,10710μm,1.0s
MPNC AML AML
comp=N,10696μm,1.0s
MPNC AML AML
comp=E,14415μm,0.6s
MPNC AML AML
comp=E,14400μm,1.4s
HMDC Modica 1.11 145 P Pg 07 12 06.4 -1.3
HMDC AML AML
comp=E,4796μm,0.4s
ERC Erice 1.12 279 P Pb 07 12 07.3 -0.4
MARS Marsala (TP) I 1.13 264 P Pn 07 12 08.3 +0.3
MARS AML AML
comp=E,3950μm,0.9s
MARS AML AML
comp=N,3325μm,0.9s
MARS AML AML
comp=E,3950μm,1.1s
MARS AML AML
comp=N,3325μm,1.1s
AGST Augusta-Monte 1.16 122 P Pg 07 12 07.2 -1.5
AGST AML AML
comp=N,21650μm,0.9s
AGST AML AML
comp=E,11900μm,0.4s
AGST AML AML
comp=N,21656μm,0.9s
AGST AML AML
comp=E,11868μm,0.4s
KEST Kesra 4.29 242 Pn Pn 07 12 52.8 +1.2
comp=E,0.6nm,0.3s,baz=58,slow=9.0,SNR=4.9
KEST Sn Sn 07 13 44.8 +3.2
comp=E,0.6nm,0.3s,baz=3.1,slow=24,SNR=5.8
comp=E,2.6nm,0.5s
LNSS Leonessa 4.78 352 AML AML
comp=E,29μm,0.5s
LNSS AML AML
comp=N,20μm,0.6s
PGF Pioggiola 6.03 322 eP Pn 07 13 17.1 +1.7
PGF eSn Sn 07 14 18.3 -6.1
comp=N,124nm,1.5s
SBF Sospel 7.77 322 eP Pn 07 13 41.7 +2.4
SBF eSn Sn 07 15 00.0 -7.2
comp=N,0.9nm,0.2s
LMR La Mourre 7.88 316 eP Pn 07 13 41.1 +0.4
MBDF Montbardon 8.74 324 eP Pn 07 13 56.1 +3.5
SMRF Simiane la Rot 8.81 316 eP Pn 07 13 56.6 +3.1
IDI Anoyia 9.14 103 Pn Pn 07 13 58.3 +0.2
comp=N,8.2nm,0.9s,baz=21,slow=8.6,SNR=2.5
IDI Sn Sn 07 15 37.9 -3.0
comp=N,1.1nm,0.3s,baz=282,slow=24,SNR=6.6
ORIF Oris-en-Rattie 9.30 322 eP Pn 07 14 02.7 +2.4
LPG La Plagne 9.34 327 eP Pn 07 14 04.1 +3.1
DAVOX Davos/Dischmat 9.40 342 Pn Pn 07 14 05.3 +3.6
comp=N,0.1nm,0.3s,baz=165,slow=20,SNR=1.5
DAVOX LR LR 07 17 53.5
comp=N,118nm,19.9s,baz=106,slow=40
GERES GERESS Array B 10.97 359 Pn Pn 07 14 22.9 -0.2
comp=N,0.1nm,0.3s,baz=176,slow=16,SNR=3.9
comp=N,0.8nm,0.7s
VRAC Vranov 11.58 9 LR LR 07 19 46.1
comp=N,111nm,18.4s,baz=196,slow=42
MLR Muntele Rosu 11.73 46 Pn Pn 07 14 33.8 +0.2
comp=N,0.1nm,0.3s,baz=248,slow=11,SNR=2.8
MLR LR LR 07 20 21.7
comp=N,132nm,20.0s,baz=239,slow=44
comp=N,2.3nm,0.7s
ESDC Sonseca Array 14.12 283 Pn Pn 07 15 08.0 +1.8
baz=93,slow=10,SNR=2.4
ESDC LR LR 07 20 00.1
comp=N,22nm,18.4s,baz=94,slow=35
comp=N,0.2nm,0.5s
BRTR Keskin Array B 15.43 77 Pn Pn 07 15 26.3 +2.3
comp=N,0.1nm,0.3s,baz=248,slow=12,SNR=4.3
BRTR LR LR 07 22 56.2
comp=N,80nm,20.1s,baz=270,slow=44
comp=N,0.5nm,0.5s
MDT Midelt 15.99 257 Pn P 07 15 34.9 +0.2
comp=N,0.1nm,0.3s,baz=120,slow=9.5,SNR=4.2
comp=N,2.0nm,0.6s
AKASG Malin Array Be 16.79 35 Pn Pn 07 15 41.0 -0.1
comp=N,0.5nm,0.3s,baz=232,slow=11,SNR=3.1
comp=N,0.4nm,0.4s
EIL Elat 19.22 109 P Pn 07 16 13.1 +1.8
comp=N,0.2nm,0.3s,baz=356,slow=15,SNR=2.0
comp=N,1.7nm,0.7s
ASF Jabal al Asfar 19.59 100 LR LR 07 26 06.6
comp=N,424nm,18.8s,baz=338,slow=44
EKA Eskdalemuir Ar 20.96 332 P P 07 16 30.2 +1.2
comp=N,1.1nm,0.7s,baz=141,slow=11,SNR=2.7
comp=N,1.1nm,0.7s
HFS Hagfors 22.28 360 P P 07 16 42.5 -0.6
comp=N,4.1nm,0.8s,baz=169,slow=8.6,SNR=6.8
HFS LR LR 07 26 36.2
comp=N,104nm,20.3s,baz=164,slow=40
comp=N,4.1nm,0.8s
NB2 NORSAR Subarra 23.25 357 P P 07 16 53.7 +0.3
comp=Z,2.7nm,1.0s,baz=174,slow=11
NOA NORSAR Array B 23.25 357 P P 07 16 52.8 -0.6
comp=Z,0.8nm,0.8s,baz=171,slow=11,SNR=9.4
comp=Z,0.8nm,0.8s
FINES FINESS Array B 24.77 14 P P 07 17 07.3 -0.3
comp=Z,3.0nm,0.7s,baz=174,slow=9.3,SNR=11
comp=Z,3.0nm,0.7s
TORD Torodi Ar. Bea 26.95 207 P P 07 17 30.6 +2.9
comp=Z,0.7nm,1.0s,baz=27,slow=9.7,SNR=3.3
TORD LR LR 07 30 26.7
comp=Z,96nm,18.8s,baz=329,slow=41
comp=Z,0.7nm,1.0s
BELG Belogornoye 27.52 47 LR LR 07 29 53.2
comp=Z,62nm,20.9s,baz=246,slow=40
ARCES ARCESS Array B 32.33 8 LR LR 07 32 21.6
comp=Z,54nm,18.7s,baz=188,slow=38
ARU Arti 34.76 43 LR LR 07 34 40.7
comp=Z,21nm,19.8s,baz=201,slow=40
JMIC Jan Mayen 35.19 347 LR LR 07 33 20.7
comp=Z,19nm,18.1s,baz=182,slow=37
DBIC Dimbokro 35.46 214 LR LR 07 33 31.0
comp=Z,70nm,19.9s,baz=20,slow=37
BBTS Babate 35.55 238 LR LR 07 34 56.7
comp=Z,58nm,19.0s,baz=317,slow=39
ZALV Zalesovo Beam 49.70 47 LR LR 07 43 48.7
comp=Z,29nm,18.5s,baz=50,slow=39
MKAR Makanchi Array 49.82 57 P P 07 20 38.4 -0.6
comp=Z,0.7nm,0.7s,baz=283,slow=6.3,SNR=9.6
MKAR LR LR 07 43 50.7
comp=Z,48nm,18.5s,baz=235,slow=39
comp=Z,0.7nm,0.7s
TIXI Tiksi 61.68 19 LR LR 07 54 06.3
comp=Z,35nm,18.5s,baz=352,slow=41
SONM Songino Array 64.57 48 LR LR 07 52 05.6
comp=Z,43nm,20.8s,baz=16,slow=38
YAK Yakutsk 67.83 27 LR LR 07 56 22.1
comp=Z,39nm,19.0s,baz=322,slow=40
MA2 Magadan 76.54 21 LR LR 08 02 24.5
comp=Z,18nm,18.0s,baz=70,slow=40
CPUP Villa Florida 92.42 238 LR LR 08 09 29.7
comp=Z,68nm,18.0s,baz=65,slow=37

*IDC **07** 07:19:52.8±2.0, 9°.70S×125°.12E, h0km, mb3.6/1, mbtmp3.8/3, ML3.7/2, Error ellipse: s-maj=199.1km s-min=32.8km az=56.0*
*DJA **07** 07:19:58.0±0.8, 9°.S±4°.×12°.6E±°, h13km±6km, M3.5/6, MLv3.5/6*
ISC 07 07:19:57.4±1.4, 9°.5S±0°.2×125°.7E±0°.1, h35km, n6, σ0°.87/8,
Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.43**	**260**	P	**Pn**	**07 20 21.1**	**+0.1**
SOEI				S	**Sn**	**07 20 38.8**	**+0.1**
BATI	**Baumata**	**2.12**	**251**	P	**Pn**	**07 20 30.4**	**0.0**
EDFI	**Ende, Flores**	**4.03**	**281**	P	**Pn**	**07 20 56.4**	**-0.4**
WRA	**Warramunga Arr**	**13.31**	**142**	**Pn**	**Pn**	**07 23 05.2**	**+1.3**
	0.3nm,0.3s,baz=318,slow=15,SNR=20						
WRA				Sn	**Sn**	**07 25 29.6**	**-1.0**
	0.5nm,0.3s,baz=318,slow=24,SNR=8.9 1.7nm,0.7s						
ASAR	**Alice Springs**	**16.11**	**152**	Pn	**P**	**07 23 43.4**	**-0.9**
	0.5nm,0.3s,baz=322,slow=11,SNR=47 2.4nm,0.5s						
MKAR	**Makanchi Array**	**68.10**	**329**	P	**P**	**07 30 53.7**	**0.0**
	0.4nm,0.5s,baz=131,slow=6.5,SNR=4.6 0.4nm,0.5s						

*TIR **07** 07:41:37.8, 41°.52N×19°.51E, h31km±2km, Ml3.0*
*SKO **07** 07:41:38.2, 41°.43N×19°.43E, h11km, ML2.8*
*PDG **07** 07:41:38.6±0.1, 41°.50N×19°.62E, h8km, ML2.8/13, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*
*RHSSO **07** 07:41:40.0±0.7, 41°.49N×19°.45E, h7km±2km, ML3.0/11*
*BEO **07** 07:41:40.0±0.4, 41°.44N×19°.65E, h10km±2km, ML2.6/12*
*THE **07** 07:41:40.1, 41°.48N×19°.62E, h11km±1km, ML2.6/4, Error ellipse: s-maj=2.8km s-min=1.3km az=357.0*
*IDC **07** 07:41:46.4±18.0, 42°.32N×20°.96E, h0km, mb3.8/2, mbtmp3.8/4, ML3.0/2, MS3.1/1, Error ellipse: s-maj=330.7km s-min=46.9km az=43.0*
ISC 07 07:41:39.0±0.9, 41°.49N±0°.02×19°.53E±0°.02, h12km±7km, n95, σ0°.94/153, 13C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**120**	P	**Pg**	**07 41 44.7**	**-0.3**
	baz=122						
TIR				S	**Sg**	**07 41 49.0**	**0.0**
	baz=122						
TIR				AMP			
	comp=E,28nm,0.4s,baz=122						
TIR	**Tirane**	**0.29**	**120**	P	**Pg**	**07 41 44.6**	**-0.3**
TIR				S	**Sg**	**07 41 48.5**	**-0.4**
	comp=E,5μm,0.3s						
TIR	**Tirane**	**0.29**	**120**	*e*Pg	**Pg**	**07 41 44.6**	**-0.3**
TIR				*e*Sg	**Sg**	**07 41 48.8**	**-0.1**
ULC	**Ulcinj**	**0.52**	**336**	⇑*e*Pg	**Pg**	**07 41 49.1**	**-0.1**
ULC	**Ulcinj**	**0.52**	**336**	⇓*i*Pg	**Pg**	**07 41 49.1**	**-0.1**
ULC				*i* Sg	**Sb**	**07 41 58.2**	**+0.6**
PUK	**Puka**	**0.61**	**26**	P	**Pg**	**07 41 50.0**	**-1.0**
	baz=28						
PUK				S	**Sg**	**07 41 59.6**	**+0.5**
	baz=28						
PUK				AMP			
	comp=N,2.2nm,0.2s,baz=28						
DRME	**Dracevica, Mon**	**0.74**	**340**	*e*Pg	**Pg**	**07 41 53.2**	**-0.2**
DRME				*e*Sg	**Sn**	**07 42 07.3**	**+0.8**
DRME	**Dracevica, Mon**	**0.74**	**340**	⇑*i*Pg	**Pg**	**07 41 52.6**	**-0.8**
DRME				*e*Sg	**Sb**	**07 42 03.7**	**-0.3**
DRME	**Dracevica, Mon**	**0.74**	**340**	⇓*i*Pg	**Pg**	**07 41 53.5**	**+0.1**
DRME				*i* Sg	**Sn**	**07 42 05.2**	**-1.3**
BUM	**Brajici-Budva**	**0.94**	**330**	⇓*i*Pg	**Pb**	**07 41 57.4**	**+0.1**
BUM				*i* Sg	**Sn**	**07 42 11.7**	**+0.2**
PDG	**Podgorica**	**0.96**	**348**	*e*Pg	**Pn**	**07 41 58.3**	**0.0**
PDG				*e*Sg	**Sn**	**07 42 12.3**	**+0.4**
PDG	**Podgorica**	**0.96**	**348**	⇑*i*Pg	**Pb**	**07 41 56.9**	**-0.7**
PDG				*e*Sg	**Sg**	**07 42 10.6**	**+0.5**
PDG	**Podgorica**	**0.96**	**348**	⇓*i*Pg	**Pb**	**07 41 57.6**	**0.0**
PDG				*i* Sg	**Sn**	**07 42 11.7**	**-0.2**
BCI	**Bajram Curri**	**0.96**	**24**	P	**Pb**	**07 41 55.9**	**-1.7**
	baz=25						
BCI				S	**Sg**	**07 42 10.6**	**+0.4**
	baz=25						
BCI				AMP			
	comp=N,1.9nm,0.5s,baz=25						
VLO	**Vlora**	**1.02**	**182**	P	**Pb**	**07 41 59.0**	**+0.4**
	baz=181						
VLO				S	**Sg**	**07 42 13.2**	**+1.2**
	baz=181						
OHR	**Ohrid**	**1.03**	**111**	*e*Pg	**Pb**	**07 41 57.4**	**-1.3**
OHR				*i* Sg	**Sb**	**07 42 13.1**	**+0.9**
OHR				*e*Lg	Lg	07 42 16.6	
	comp=N,199nm,0.7s						
OHR				*e*Lg	Lg	07 42 17.4	
	comp=E,162nm,0.5s						
PVY	**Plav**	**1.15**	**16**	*e*Pg	**Pg**	**07 42 01.7**	**+0.6**
PVY				*e*Sg	**Sn**	**07 42 19.0**	**+2.3**
PVY	**Plav**	**1.15**	**16**	⇓*i*Pg	**Pb**	**07 42 00.4**	**-0.5**
PVY				*i* Sg	**Sn**	**07 42 16.8**	**+0.1**
CEME	**Cevo**	**1.15**	**337**	⇑*i*Pg	**Pn**	**07 42 01.2**	**+0.2**
CEME				*i* Sg	**Sn**	**07 42 18.3**	**+1.6**
HCY	**Herceg Novi**	**1.23**	**321**	*e*Pg	**Pb**	**07 42 02.2**	**0.0**
HCY				*e*Sg	**Sb**	**07 42 17.9**	**-0.1**
HCY	**Herceg Novi**	**1.23**	**321**	⇑*i*Pg	**Pg**	**07 42 03.0**	**+0.3**
HCY				*i* Sg	**Sg**	**07 42 21.1**	**+2.4**
KBN	**Korca**	**1.28**	**132**	P	**Pb**	**07 42 03.7**	**+0.5**
	baz=132						
KBN				S	**Sg**	**07 42 21.3**	**+0.8**
	baz=132						
NKME	**Niksic**	**1.35**	**342**	⇑*i*Pg	**Pb**	**07 42 04.7**	**+0.5**
NKME				*i* Sg	**Sg**	**07 42 24.3**	**+1.9**
KOME	**Kolasin**	**1.36**	**359**	*e*Pg	**Pg**	**07 42 06.1**	**+0.9**
KOME				*e*Sg	**Sg**	**07 42 25.0**	**+2.2**
KOME	**Kolasin**	**1.36**	**359**	⇑*i*Pg	**Pb**	**07 42 04.5**	**+0.1**
KOME				*i* Sg	**Sg**	**07 42 24.0**	**+1.2**
BEY	**Berane**	**1.41**	**11**	*e*Pg	**Pn**	**07 42 04.6**	**+0.1**
IVA	**Berane**	**1.41**	**11**	⇓*i*Pg	**Pn**	**07 42 05.0**	**+0.5**
IVA				*i* Sg	**Sg**	**07 42 25.1**	**+0.8**
SKO	**Skopje**	**1.51**	**71**	*e*Pn	**Pn**	**07 42 05.7**	**-0.1**
SKO				*i* Sg	**Sg**	**07 42 28.6**	**+1.1**
FNA	**Florina**	**1.56**	**116**	P	**Pn**	**07 42 06.9**	**+0.2**
	baz=116						
FNA				S	**Sb**	**07 42 28.5**	**+0.9**
	baz=116						
FNA	**Florina**	**1.56**	**116**	P	**Pn**	**07 42 05.8**	**-0.8**
FNA				S	**Sn**	**07 42 26.9**	**+0.1**
	comp=E,245nm,0.5s						
FNA	**Florina**	**1.56**	**116**	*e*Pg	**Pn**	**07 42 07.2**	**+0.6**
FNA				*e*Sg	**Sn**	**07 42 27.3**	**+0.5**
FNA	**Florina**	**1.56**	**116**	⇓*i*Pn	**Pn**	**07 42 06.8**	**+0.2**
FNA				*i* Sg	**Sb**	**07 42 29.4**	**+1.8**
LSK	**Leskovik**	**1.56**	**148**	P	**Pn**	**07 42 07.5**	**+0.9**
	baz=148						
LSK				S	**Sb**	**07 42 28.7**	**+1.0**
	baz=148						
LSK	**Leskovik**	**1.56**	**148**	P	**Pn**	**07 42 07.2**	**+0.5**
DBRK	**Dubrovnik**	**1.57**	**319**	*e*Pn	**Pn**	**07 42 07.1**	**+0.4**
DBRK				Sn	**Sb**	**07 42 28.2**	**+0.6**
NEST	**Nestorio**	**1.57**	**133**	P	**Pn**	**07 42 06.7**	**-0.1**
NEST				S	**Sn**	**07 42 26.6**	**-0.5**
	comp=E,110nm,0.4s						
BRY	**Bratogost**	**1.59**	**333**	⇑*i*Pn	**Pb**	**07 42 08.6**	**+0.2**
BRY				*e*Sn	**Sb**	**07 42 29.2**	**+0.7**
BRY	**Bratogost**	**1.59**	**333**	⇓*i*Pn	**Pb**	**07 42 08.8**	**+0.4**
BRY				*i* Sn	**Sg**	**07 42 32.3**	**+2.0**
SRN	**Sarande**	**1.65**	**167**	P	**Pn**	**07 42 08.2**	**+0.5**
	baz=167						
SRN				S	**Sn**	**07 42 29.2**	**+0.5**
	baz=167						
SRN	**Sarande**	**1.65**	**167**	P	**Pn**	**07 42 08.2**	**+0.5**
SRN				S	**Sn**	**07 42 29.3**	**+0.5**
	comp=E,92nm,0.5s						
UPM	**Unac-Piva**	**1.77**	**345**	⇑*i*Pn	**Pb**	**07 42 11.6**	**0.0**
UPM				*e*Sn	**Sb**	**07 42 34.0**	**+0.2**
UPM	**Unac-Piva**	**1.77**	**345**	⇓*i*Pn	**Pb**	**07 42 11.3**	**-0.3**
UPM				*i* Sn	**Sg**	**07 42 36.3**	**+0.2**
SJES	**Sjenica**	**1.80**	**10**	*e*Pg	**Pg**	**07 42 13.1**	**-0.5**
SJES				*e*Sg	**Sg**	**07 42 37.8**	**+0.9**
SJES	**Sjenica**	**1.80**	**10**	⇑*i*Pn	**Pn**	**07 42 11.0**	**+1.1**
SJES				*e*Sn	**Sb**	**07 42 34.8**	**+0.3**
KLINJ	**Klinje**	**1.82**	**338**	*e*Pn	**Pb**	**07 42 11.7**	**-0.6**
KLINJ				*e*Sn	**Sb**	**07 42 34.6**	**-0.4**
PLE	**Pljevlja**	**1.84**	**357**	⇓*i*Pn	**Pb**	**07 42 12.0**	**-0.7**
PLE				*i* Sn	**Sg**	**07 42 37.7**	**-0.6**
STON	**Ston**	**1.94**	**316**	*e*Pn	**Pn**	**07 42 12.2**	**+0.5**
STON	**Ston**	**1.94**	**316**	*e*Pn	**Pn**	**07 42 12.1**	**+0.4**
STON				*e*Sn	**Sb**	**07 42 37.0**	**-1.4**
NOCI	**Noci**	**1.99**	**250**	P	**Pn**	**07 42 12.5**	**0.0**
	baz=250						
STIP	**Stip**	**2.00**	**83**	⇓*i*Pn	**Pb**	**07 42 15.2**	**-0.1**
KPRO	**Kipourio**	**2.07**	**137**	P	**Pn**	**07 42 13.6**	**0.0**
RUDO	**Rudo**	**2.13**	**357**	*e*Pn	**Pb**	**07 42 16.3**	**-1.2**
RUDO				*e*Sn	**Sn**	**07 42 42.0**	**+1.2**
IVAS	**Ivanjica**	**2.13**	**12**	*e*Pn	**Pb**	**07 42 16.3**	**-1.3**
IVAS				*e*Sn	**Sb**	**07 42 44.0**	**-0.1**
PRVS	**Prvonek**	**2.15**	**61**	*e*Pg	**Pn**	**07 42 16.5**	**+1.8**

PRVS				*e*Sg		**Sb**	**07 42 45.3**	**+0.8**
BARS	**Barje**	**2.15**	**51**	*e*Pn		**Pn**	**07 42 15.5**	**+0.8**
BARS				*e*Sn		**Sn**	**07 42 43.0**	**+1.7**
BARS	**Barje**	**2.15**	**51**	*i* Pn		**Pn**	**07 42 15.0**	**+0.3**
BARS				*e*Sn		**Sb**	**07 42 43.9**	**-0.7**
KTI	**Kastanea**	**2.24**	**118**	P		**Pn**	**07 42 15.1**	**-1.0**
VAY	**Valandovo**	**2.29**	**93**	*i* Pn		**Pn**	**07 42 16.7**	**+0.2**
VAY				*e*Sn		**Sn**	**07 42 46.3**	**+1.6**
VAY				*e*Lg		Lg	07 42 55.3	
	comp=N,54nm,0.8s							
VAY				*e*Lg		Lg	07 42 57.5	
	comp=E,43nm,0.7s							
BBLS	**Lazi&#263i**	**2.38**	**358**	*e*Pn		**Pb**	**07 42 20.7**	**-1.1**
BBLS				*e*Sn		**Sb**	**07 42 50.6**	**-0.4**
BBLS	**Lazi&#263i**	**2.38**	**358**	*e*Pn		**Pn**	**07 42 19.5**	**+1.7**
BBLS				*e*Sn		**Sb**	**07 42 49.6**	**-1.4**
GRUS	**Gruza**	**2.55**	**20**	*e*Pn		**Pn**	**07 42 21.0**	**+0.8**
KNT	**Kendrikon**	**2.56**	**96**	*i* Pn		**Pn**	**07 42 20.8**	**+0.6**
MAKA	**Makarska**	**2.59**	**315**	*e*Pn		**Pn**	**07 42 20.4**	**-0.2**
DIVS	**Divibare**	**2.63**	**7**	*e*Pn		**Pn**	**07 42 23.1**	**+1.8**
HAPS	**Han Pijesak,BI**	**2.63**	**351**	*e*Pn		**Pn**	**07 42 22.6**	**+1.2**
HAPS	**Han Pijesak,BI**	**2.63**	**351**	⇓ *i* Pn		**Pn**	**07 42 22.5**	**+1.2**
HAPS				*e*Sn		**Sn**	**07 42 54.9**	**+1.7**
RICI	**Ricice**	**2.68**	**319**	*e*Pn		**Pn**	**07 42 21.3**	**-0.6**
KKB	**Krupnik**	**2.72**	**81**	⇑ *i* Pn		**Pn**	**07 42 23.0**	**+0.5**
TSLK	**Tsoukalades, L**	**2.80**	**162**	P		**Pn**	**07 42 23.8**	**+0.2**
LKD2	**Lefkada island**	**2.83**	**162**	P		**Pn**	**07 42 24.2**	**+0.1**
	baz=161							
LKD2	**Lefkada island**	**2.83**	**162**	P		**Pn**	**07 42 24.1**	**0.0**
HVAR	**Hvar**	**2.84**	**307**	*e*Pn		**Pn**	**07 42 23.7**	**-0.4**
SGRT	**San Giovanni R**	**2.85**	**277**	P		**Pn**	**07 42 25.1**	**+0.8**
	baz=277							
EVGI	**Lefkada island**	**2.99**	**163**	P		**Pn**	**07 42 25.9**	**-0.3**
ZAGS	**Zajecar**	**3.06**	**40**	*e*Pn		**Pn**	**07 42 27.4**	**+0.3**
MAKR	**Makrakomi, Fth**	**3.17**	**140**	P		**Pn**	**07 42 29.9**	**+1.1**
KUBS	**Kucevo**	**3.32**	**28**	*e*Pn		**Pn**	**07 42 31.6**	**+0.9**
ANX	**Ano Chora**	**3.42**	**147**	P		**Pn**	**07 42 32.8**	**+0.5**
MGRS	**Mrkonjic Grad**	**3.43**	**329**	*e*Pn		**Pn**	**07 42 33.8**	**+1.5**
FRGS	**Fruska Gora**	**3.67**	**3**	*e*Pn		**Pn**	**07 42 36.7**	**+1.1**
FRGS				*e*Sn		**Sn**	**07 43 20.1**	**+1.3**
BLY	**Banja Luka**	**3.68**	**333**	⇑ *i* Pn		**Pn**	**07 42 37.0**	**+1.3**
BLY				*e*Sn		**Sn**	**07 43 19.4**	**+0.4**
A050A	**Klekovaca**	**3.71**	**325**	⇑ *i* Pn		**Pn**	**07 42 37.3**	**+1.1**
A050A				*e*Sn		**Sn**	**07 43 19.9**	**0.0**
DUGI	**Dugi Otok**	**4.14**	**309**	*e*Pn		**Pn**	**07 42 42.3**	**+0.4**
VIRC	**Vir**	**4.32**	**312**	*e*Pn		**Pn**	**07 42 43.2**	**-1.3**
BOJS	**Bojanci**	**5.08**	**324**	*e*Pn		**Pn**	**07 42 56.0**	**+1.1**
BOJS				*e*Sn		**Sn**	**07 43 52.0**	**-1.4**
BRJN	**Brijuni**	**5.43**	**311**	*e*Pn		**Pn**	**07 42 59.7**	**-0.1**
CEY	**Cerknica**	**5.64**	**321**	*e*Pn		**Pn**	**07 43 02.8**	**+0.2**
CEY				*e*Sn		**Sn**	**07 44 05.9**	**-1.3**
SOKA	**Soboth**	**6.11**	**330**	*e*Pn		**Pn**	**07 43 09.6**	**+0.4**
	comp=E,0.3nm,0.2s							
OBKA	**Obir**	**6.17**	**326**	*i* Pn		**Pn**	**07 43 11.8**	**+1.8**
	comp=E,0.4nm,0.2s							
OBKA	**Obir**	**6.17**	**326**	*e*Sn		**Sn**	**07 44 18.3**	**-2.2**
ABTA	**Abfaltersbach**	**7.29**	**319**	*i* Pn		**Pn**	**07 43 26.5**	**+1.2**
	comp=E,3.6nm,0.9s							
HFS	**Hagfors**	**19.01**	**351**	P		**Pn**	**07 46 02.7**	**+1.5**
	comp=E,0.1nm,0.3s,baz=168,slow=10,SNR=2.2							
	comp=E,1.6nm,0.8s							
FINES	**FINESS Array B**	**20.37**	**9**	P		**P**	**07 46 13.4**	**-1.7**
	comp=E,0.2nm,0.3s,baz=190,slow=11,SNR=8.5							
	comp=E,0.8nm,0.3s							
ZALV	**Zalesovo Beam**	**44.11**	**50**	P		**P**	**07 49 45.2**	**-1.6**
	comp=E,0.9nm,0.3s,baz=283,slow=8.7,SNR=2.0							
	comp=E,0.9nm,0.3s							
MKAR	**Makanchi Array**	**44.29**	**61**	P		**P**	**07 49 46.9**	**-1.6**
	comp=E,0.6nm,0.6s,baz=277,slow=6.9,SNR=8.9							
MKAR				LR		LR	08 10 51.8	
	comp=E,22nm,18.2s,baz=102,slow=41							
	comp=E,0.6nm,0.6s							

CNRM ***07*** *08:02:00.1, 35°.26N×9°.72W, h17km, ML3.1*
MDD ***07*** *08:02:05.6±1.9, 35°.78N×9°.84W, h0km, mb_Lg2.4/2, Error ellipse: s-maj=30.6km s-min=13.8km az=126.0*
INMG ***07*** *08:02:05.8±1.2, 35°.60N×9°.94W, h86km±13km, ML1.7, Error ellipse: s-maj=10.5km s-min=9.0km az=143.0*
IGIL ***07*** *08:02:05.5, 35°.79N×9°.97W, h0km*
ISC 07 08:02:06.4±4.4, 35°.8N±0°.2×9°.9W±0°.2, h85km±40km, n25, σ0§48/30, 1C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.65**	**33**	*e*P	**Pn**	**08 02 33.4**	**-0.4**
MORF	**Marmelete**	**1.87**	**33**	*e*P	**Pn**	**08 02 36.6**	**-0.1**
MORF				*e*S	**Sn**	**08 03 00.3**	**+0.5**
MORF	**Marmelete**	**1.87**	**33**	*e*P	**Pn**	**08 02 36.6**	**-0.1**
PTEO	**Sao Teotonio**	**2.04**	**28**	*e*P	**Pn**	**08 02 39.0**	**0.0**
PTEO				*e*S	**Sn**	**08 03 03.8**	**0.0**
PTEO				A	A	08 03 10.9	
	3.7nm,0.8s						
PBDV	**Barranco-do-Ve**	**2.20**	**47**	*e*P	**Pn**	**08 02 41.3**	**+0.2**
PBDV				*e*S	**Sn**	**08 03 07.2**	**-0.5**
PCVE	**Castro Verde**	**2.42**	**39**	*e*P	**Pn**	**08 02 44.4**	**+0.4**
PCVE				*e*S	**Sn**	**08 03 12.6**	**-0.3**
PCVE				A	A	08 03 14.9	
	1.1nm,0.3s						
PVAQ	**Vaqueiros**	**2.44**	**47**	⇑ *e*P	**Pn**	**08 02 44.4**	**+0.2**
PVAQ				*e*S	**Sn**	**08 03 12.4**	**-0.8**
PVAQ				A	A	08 03 14.3	
	2.2nm,0.1s						
PVAQ	**Vaqueiros**	**2.44**	**47**	P	**Pn**	**08 02 44.5**	**+0.2**
PVAQ	**Vaqueiros**	**2.44**	**47**	S	**Sn**	**08 03 14.4**	**+1.2**
MESJ	**Messejana**	**2.50**	**33**	*e*P	**Pn**	**08 02 45.3**	**+0.1**
MESJ				*e*S	**Sn**	**08 03 15.9**	**+1.1**
MESJ	**Messejana**	**2.50**	**33**	*e*P	**Pn**	**08 02 45.2**	**+0.1**
PNCL	**Nicolau / Gran**	**2.62**	**25**	*e*P	**Pn**	**08 02 46.6**	**0.0**
PNCL				*e*S	**Sn**	**08 03 17.5**	**0.0**
EGRO	**El Granado**	**2.66**	**47**	P	**Pn**	**08 02 47.3**	**+0.1**
EGRO				S	**Sn**	**08 03 17.9**	**-0.7**
EGRO				*i* Vmb_Lg		08 03 20.5	
PBAR	**Barrancos**	**3.36**	**43**	*e*P	**Pn**	**08 02 56.7**	**+0.1**
PBAR				*e*S	**Sn**	**08 03 34.8**	**-0.6**
PBAR				A	A	08 03 36.4	
	1.7nm,1.0s						
PMTG	**Montargil**	**3.58**	**22**	*e*P	**Pn**	**08 02 59.9**	**+0.2**
PMTG				*e*S	**Sn**	**08 03 40.2**	**-0.7**
PESTR	**Estremoz**	**3.63**	**30**	*e*P	**Pn**	**08 03 00.3**	**-0.1**
PESTR				*e*S	**Sn**	**08 03 42.4**	**+0.2**
EBAD	**Badajoz**	**3.80**	**37**	P	**Pn**	**08 03 02.4**	**-0.2**
EBAD				S	**Sn**	**08 03 46.6**	**+0.3**
EBAD				*i* Vmb_Lg		08 03 46.9	
PMRV	**Marv??o**	**4.20**	**28**	*e*P	**Pn**	**08 03 08.1**	**+0.1**
TISM	**Timmit**	**4.96**	**143**	P	Pn	08 03 06.2	-12
TISM	**Timmit**	**4.96**	**143**	S	Sn	08 04 00.6	-14
MD31	**MD31**	**5.16**	**122**	P	Pn	08 03 10.5	-11
MD31	**MD31**	**5.16**	**122**	S	Sn	08 04 07.3	-12
TTIG	**Tnine Tigouga,**	**5.34**	**166**	P	Pn	08 03 12.1	-12
OUZM	**OUZ**	**5.51**	**150**	P	Pn	08 03 15.1	-11
OUZM	**OUZ**	**5.51**	**150**	S	Sn	08 04 14.1	-14

IDC ***07*** *08:09:32.2±3.3, 4°.32N×95°.59E, h0km, mb3.9/3, mbtmp4.0/4, ML4.6/1, MS3.0/2, Error ellipse: s-maj=125.0km s-min=27.9km az=62.0*
DJA ***07*** *08:09:36.5±0.9, 5°.N±4°.×9°.6E±°, h10km, M4.6/8, mb4.8/1, MLv4.5/8*
ISC 07 08:09:35.7±1.2, 4°.92N±0°.06×96°.01E±0°.10, h10km, n21, σ1§43/12, mb3.9/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.76**	**148**	P	**Pg**	**08 09 50.2**	**-0.1**
MLSI				S	**Sb**	**08 10 01.9**	**+0.6**
LHMI	**Lhok Sumawe**	**0.99**	**72**	P	**Pg**	**08 09 54.4**	**-0.3**
LHMI				S	**Sb**	**08 10 08.6**	**+0.7**
KCSI	**Kotacane, Aceh**	**2.24**	**128**	P	**Pb**	**08 10 16.5**	**+0.3**
SNSI	**Sinabang, Aceh**	**2.51**	**173**	P	**Pn**	**08 10 16.4**	**-0.2**
GSI	**Gunungsitoli**	**3.91**	**156**	P	**Pn**	**08 10 35.7**	**-0.2**
PBSI	**Pulau Batu**	**5.43**	**155**	P	**Pn**	**08 10 59.3**	**+2.5**
CMAR	**Chiang Mai Arr**	**13.76**	**12**	Pn	**P**	**08 12 59.3**	**-0.3**
	0.9nm,0.3s,baz=200,slow=10,SNR=2.1						
	1.7nm,0.3s						
PALK	**Pallekele**	**15.40**	**280**	LR	LR	08 17 07.6	
	comp=Z,37nm,20.3s,baz=210,slow=30						
H08S2	**Diego Garcia H**	**26.57**	**242**	T	T	08 42 13.7	
	baz=61,slow=75,SNR=40						
H08S3	**Diego Garcia H**	**26.57**	**242**	T	T	08 42 15.9	
	baz=61,slow=75,SNR=25						
H08S1	**Diego Garcia H**	**26.59**	**242**	T	T	08 42 18.3	
	baz=61,slow=75,SNR=36						
MKAR	**Makanchi Array**	**43.37**	**346**	P	**P**	**08 17 39.8**	**+1.5**
	0.2nm,0.5s,baz=152,slow=6.5,SNR=2.1						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**45.05**	**124**	P	**P**	**08 17 49.9**	**-2.2**
	1.1nm,0.7s,baz=304,slow=9.2,SNR=8.9						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**46.61**	**129**	P	**P**	**08 18 02.5**	**-1.9**
	4.9nm,0.5s,baz=301,slow=8.0,SNR=83						
	4.9nm,0.5s						
KURBB	**Kurchatov Arra**	**47.86**	**345**	LR	LR	08 43 16.7	
	comp=Z,19nm,18.4s,baz=169,slow=42						
H04N2	**CROZET ISLANDS**	**64.20**	**213**	T	T	09 29 33.8	
	baz=50,slow=75,SNR=14						
H04N1	**CROZET ISLANDS**	**64.21**	**213**	T	T	09 29 34.5	
	baz=50,slow=75,SNR=14						
H04N3	**CROZET ISLANDS**	**64.22**	**213**	T	T	09 29 33.1	
	baz=50,slow=75,SNR=14						
H04S1	**CROZET ISLANDS**	**64.57**	**212**	T	T	09 29 52.7	
	baz=53						
H04S3	**CROZET ISLANDS**	**64.58**	**212**	T	T	09 29 57.3	
	baz=53						
H04S2	**CROZET ISLANDS**	**64.59**	**212**	T	T	09 29 53.5	
	baz=53						

BER ***07*** *08:16:29.6±2.6, 80°.20N×1°.05E, h10km, mb(Pn)4.0, ML3.7(NAO), Confirmed Earthquake*
KOLA ***07*** *08:16:30.2, 80°.40N×2°.73E, h0km, ML3.2, Error ellipse: s-maj=102.9km s-min=32.8km az=40.0, Greenland sea, Knipovich ridge, north*
DNK ***07*** *08:16:30.4±2.5, 80°.02N×0°.84E, h32km±22km, ML2.1*
FCIAR ***07*** *08:16:31.0, 80°.00N×1°.15E, h10km, station ZFI2 has station magnitude of 3.60 station OMEGA has station magnitude of 3.40*
IDC ***07*** *08:16:33.4±3.8, 80°.14N×3°.18E, h0km, mb3.5/2, mbtmp3.6/5, ML2.7/2, Error ellipse: s-maj=61.6km s-min=34.9km az=70.0*
ISC 07 08:16:36.1±3.3, 80°.04N±0°.06×4°.8E±0°.1, h9km±15km, n47, σ1§13/54, 1C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.73**	**127**	*e*P	**Pn**	**08 17 06.0**	**-0.3**
KBS				*e*S	**Sg**	**08 17 31.9**	**+0.3**
KBS				IAML		08 17 42.3	
	comp=Z,68nm,0.3s						
KBS	**Kingsbay**	**1.73**	**127**	Pn	**Pn**	**08 17 06.0**	**-0.3**
KBS				Sn	**Sg**	**08 17 32.1**	**+0.6**
KBS	**Kingsbay**	**1.73**	**127**	*e*P	**Pn**	**08 17 05.7**	**-0.5**
KBS				*e*S	**Sg**	**08 17 31.5**	**-0.1**
KBS	**Kingsbay**	**1.73**	**127**	*i* P	**Pn**	**08 17 05.3**	**-1.0**
KBS				*i* S	**Sg**	**08 17 32.6**	**+1.0**
BRBB	**Barentsburg B**	**2.66**	**133**	P	**Pn**	**08 17 19.6**	**+0.7**
BRBB				S	**Sb**	**08 17 56.0**	**-0.3**
BRBB	**Barentsburg B**	**2.66**	**133**	Pn	**Pn**	**08 17 19.5**	**+0.5**
BRBB	**Barentsburg B**	**2.66**	**133**	Pn	**Pn**	**08 17 19.5**	**+0.5**
BRBA	**Barentsburg A**	**2.68**	**133**	Pn	**Pn**	**08 17 20.8**	**+1.4**
BRBA				*e*S	**Sb**	**08 17 56.9**	**-0.3**
BRBA				IAML		08 17 58.9	
	comp=Z,49nm,0.3s						
BRBA	**Barentsburg A**	**2.68**	**133**	Pn	**Pn**	**08 17 20.8**	**+1.4**
BRBA				Sn	**Sb**	**08 17 57.9**	**+0.7**
SPA0	**Spitsbergen Ar**	**2.89**	**125**	Pn	**Pn**	**08 17 22.8**	**+0.6**
	baz=310,slow=7.4						
SPA0				Sn	**Sb**	**08 18 01.0**	**-2.0**
	baz=324,slow=18						
SPA0				IAML		08 18 06.6	
	comp=Z,27nm,0.5s						
SPA0	**Spitsbergen Ar**	**2.89**	**125**	Pn	**Pn**	**08 17 22.8**	**+0.6**
	baz=310,slow=7.4						
SPA0				Sn	**Sb**	**08 18 01.0**	**-2.0**
	baz=324,slow=18						
SPA0	**Spitsbergen Ar**	**2.89**	**125**	⇑ *i* P	**Pn**	**08 17 22.6**	**+0.3**
SPA0				*i* S	**Sb**	**08 18 01.1**	**-1.9**
SPITS	**Spitsbergen Ar**	**2.89**	**125**	P	**Pn**	**08 17 22.5**	**+0.3**
SPITS				S	**Sb**	**08 18 01.1**	**-1.9**
SPITS	**Spitsbergen Ar**	**2.89**	**125**	Pn	**Pn**	**08 17 22.6**	**+0.3**
	comp=Z,73nm,0.2s,baz=313,slow=9.2,SNR=526						
SPITS				Sn	**Sb**	**08 18 00.5**	**-2.5**
	baz=319,slow=16						
HSPB	**Hornsund (broa**	**3.73**	**139**	P	**Pn**	**08 17 33.3**	**-0.4**
HSPB	**Hornsund (broa**	**3.73**	**139**	Pn	**Pn**	**08 17 32.8**	**-1.0**
HSPB				Sn	**Sn**	**08 18 18.8**	**+1.1**
HSPB	**Hornsund (broa**	**3.73**	**139**	Pn	**Pn**	**08 17 32.8**	**-1.0**
HSPB				Sn	**Sn**	**08 18 18.8**	**+1.1**
NOR	**Nord**	**3.76**	**305**	*e*	Pn	08 17 07.6	-26
NOR				*i* P	Pb	08 17 17.5	-25
NOR				IAML		08 18 13.0	
	comp=Z,6.3nm,0.4s						
NOR	**Nord**	**3.76**	**305**	Pn	Pn	08 17 07.8	-26
HOPEN	**Hopen**	**5.40**	**120**	*e*P	**Pn**	**08 17 56.8**	**+0.1**
HOPEN				*e*S	**Sn**	**08 19 01.5**	**+2.6**
HOPEN				IAML		08 19 03.3	
	comp=Z,19nm,0.3s						
HOPEN	**Hopen**	**5.40**	**120**	Pn	**Pn**	**08 17 56.9**	**+0.1**
HOPEN				Sn	**Sn**	**08 19 01.5**	**+2.6**
HOPEN	**Hopen**	**5.40**	**120**	*e*P	**Pn**	**08 17 56.3**	**-0.4**
HOPEN				*e*S	**Sn**	**08 18 59.9**	**+1.0**
DAG	**Danmarks Havn**	**5.70**	**247**	*i* P	Pn	08 17 43.0	-18
DAG				*e*S	Sn	08 18 35.3	-31
DAG				IAML		08 18 40.2	
	comp=Z,25nm,0.3s						
DAG	**Danmarks Havn**	**5.70**	**247**	*e*	Pn	08 17 41.4	-19
	baz=50,slow=16						
DAG				*i* P	Pb	08 17 43.0	-33
DAG				*i* S	Sn	08 18 36.2	-30
DAG				IAML		08 18 40.2	
	comp=Z,25nm,0.3s						
BJO1	**Bjornoya**	**6.36**	**143**	*e*P	**Pn**	**08 18 09.7**	**-0.2**
BJO1				*e*S	**Sn**	**08 19 21.8**	**-0.7**
BJO1				IAML		08 19 28.9	
	comp=Z,6.6nm,0.7s						
BJO1	**Bjornoya**	**6.36**	**143**	Pn	**Pn**	**08 18 10.3**	**+0.4**
BJO1				Sn	**Sn**	**08 19 21.1**	**-1.3**
BJO1	**Bjornoya**	**6.36**	**143**	*e*P	**Pn**	**08 18 08.8**	**-1.0**
BJO1				*e*S	**Sn**	**08 19 21.3**	**-1.1**
ZFI2	**Zemlya Franca-**	**7.06**	**63**	*e*P	**Pn**	**08 18 19.1**	**-0.2**
ZFI2				*e*S	**Sn**	**08 19 38.4**	**-1.1**
	comp=Z,15nm,1.1s						
OMEGA	**Omega**	**7.08**	**63**	*e*P	**Pn**	**08 18 19.4**	**-0.2**
OMEGA				*e*S	**Sn**	**08 19 39.4**	**-0.6**
	comp=Z,10nm,0.2s						
DBG	**Daneborg**	**7.90**	**237**	*i* P	Pn	08 18 14.2	-17
DBG				*e*S	Sn	08 19 28.2	-32
DBG				IAML		08 19 34.3	
	comp=Z,13nm,0.4s						
DBG	**Daneborg**	**7.90**	**237**	Pn	Pn	08 18 14.4	-17
DBG				Sn	Sn	08 19 29.8	-31
DBG	**Daneborg**	**7.90**	**237**	*i* P	Pn	08 18 14.2	-17
DBG				*i* S	Sn	08 19 29.5	-31
DBG				IAML		08 19 34.3	
	comp=Z,13nm,0.4s						
JMIC	**Jan Mayen**	**9.64**	**207**	*e*P	Pn	08 18 43.2	-12
JMIC				*e*S	Sn	08 20 23.0	-20
JMIC				IAML		08 20 26.9	
	comp=Z,21nm,0.5s						
JMI	**Jan Mayen**	**9.72**	**207**	*e*P	Pn	08 18 42.5	-13
JMI				*e*S	Sn	08 20 24.2	-21
JMI				IAML		08 20 27.4	
	comp=Z,18nm,0.5s						
HAMF	**Hammerfest**	**10.49**	**144**	*e*P	**Pn**	**08 19 05.0**	**-1.4**
NEEM	**North Greenlan**	**10.81**	**285**	*i* P	Pn	08 18 49.6	-21
NEEM				*i* S	Sn	08 20 34.6	-37
NEEM				IAML		08 20 41.5	
	comp=Z,9.6nm,0.3s						
NEEM	**North Greenlan**	**10.81**	**285**	*i* P	Pn	08 18 49.6	-21
NEEM				*i* S	Sn	08 20 34.6	-37
NEEM				IAML		08 20 41.5	
	comp=Z,9.6nm,0.3s						
SCO	**Scoresbysund**	**11.56**	**229**	*e*	Pn	08 19 06.8	-14
SCO				IAML		08 21 21.4	
	comp=Z,0.6nm,0.4s						
SCO	**Scoresbysund**	**11.56**	**229**	*e*	Pn	08 19 06.8	-14
SCO				IAML		08 21 21.4	
	comp=Z,0.6nm,0.4s						
VADS	**Vadso**	**11.63**	**135**	*e*P	**Pn**	**08 19 21.3**	**-0.7**
ARCES	**ARCESS Array B**	**11.74**	**142**	Pn	**Pn**	**08 19 22.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=7.8						
	comp=Z,0.6nm,0.4s						
KIF	**Kilpisjarvi**	**11.80**	**151**	*e*P	**Pn**	**08 19 23.1**	**-1.2**
SUMG	**Summit**	**12.26**	**256**	*i* P	Pn	08 19 11.0	-20
SUMG				IAML		08 21 13.8	
	comp=Z,2.8nm,0.3s						
SUMG	**Summit**	**12.26**	**256**	*i* P	Pn	08 19 11.0	-20
SUMG				IAML		08 21 13.8	
	comp=Z,2.8nm,0.3s						
FINES	**FINESS Array B**	**19.69**	**149**	P	**P**	**08 21 05.1**	**0.0**
	baz=348,slow=13,SNR=2.1						
	comp=Z,1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**37.80**	**94**	P	**P**	**08 23 53.5**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=341,slow=7.7,SNR=5.2						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**42.16**	**92**	P	**P**	**08 24 29.0**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=329,slow=8.5,SNR=4.8						
	comp=Z,0.3nm,0.6s						

BJI ***07*** *08:18:37.0±0.0, 6°.55S×154°.66E, h10km, mb4.9/30, mB5.1/7, Ms7 4.5/1*
NEIC ***07*** *08:18:38.4±1.4, 6°.53S±0°.09×154°.74E±0°.09, h10km±1km, mb4.7/40, Error ellipse: s-maj=17.7km s-min=11.5km az=43.0*
IDC ***07*** *08:18:40.3±3.2, 6°.49S×154°.72E, h27km±20km, mb4.3/15, mbtmp4.5/17, ML3.0/2, MS3.6/10, Error ellipse: s-maj=19.1km s-min=14.3km az=94.0*
ISC 07 08:18:37.9±0.4, 6°.62S±0°.06×154°.80E±0°.06, h10km, n107, σ1§51/108, mb4.7/42, MS3.6/8, 1C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.56**	**313**	P	**Pn**	**08 19 35.7**	**+2.4**
RABL	**Rabaul**	**3.56**	**313**		**Pn**	**08 19 33.0**	**-0.4**
HNR	**Honiara**	**5.81**	**119**	Pn	**Pn**	**08 20 05.1**	**+0.8**
HNR	**Honiara**	**5.81**	**119**	LR	LR	08 22 36.8	
	comp=Z,15μm,18.4s,baz=250,slow=40						
PMG	**Port Moresby**	**8.05**	**249**	Pn	**Pn**	**08 20 37.0**	**+2.0**
	27nm,0.3s,baz=58,slow=8.8,SNR=27						
PMG				Sn	**Sn**	**08 22 06.9**	**+0.6**
	3.9nm,0.3s,baz=56,slow=19,SNR=6.4						
PMG				LR	LR	08 23 44.6	
	comp=Z,526nm,19.1s,baz=24,slow=38						
	103nm,0.5s						
COEN	**Coen**	**13.56**	**237**	P	**Pn**	**08 21 52.5**	**+2.0**
COEN	**Coen**	**13.56**	**237**	Pn	**Pn**	**08 21 50.0**	**-0.5**
CTA	**Charters Tower**	**15.75**	**211**	Pn	**Pn**	**08 22 20.9**	**+0.9**
	baz=39,slow=13,SNR=3.4						
CTA				LR	LR	08 27 50.2	
	comp=Z,20nm,19.2s,baz=36,slow=35						
CTAO	**Charters Tower**	**15.75**	**211**		**Pn**	**08 22 20.9**	**+0.9**
EIDS	**Eidsvold**	**18.98**	**190**	P	**P**	**08 23 00.4**	**+0.8**
DZM	**Mont Dzumac**	**19.04**	**145**	*e*S	**Sn**	**08 26 31.2**	**-3.4**
DZM				*e*LR	LR	08 27 34.3	
	111nm,25.3s						
	388nm,25.4s						
DZM	**Mont Dzumac**	**19.04**	**145**	P	**P**	**08 23 01.0**	**+0.6**
DZM	**Mont Dzumac**	**19.04**	**145**	P	**Pn**	**08 23 03.6**	**+2.4**
	21nm,0.9s,baz=275,slow=7.2,SNR=13						
DZM				LR	LR	08 29 33.2	
	comp=Z,258nm,18.9s,baz=276,slow=34						
OUENC	**Ouen Island, N**	**19.54**	**145**	P	**P**	**08 23 07.0**	**+1.2**
OUENC				IAmb	IAmb	08 23 26.2	
	comp=Z,33nm,1.1s						
QIS	**Mount Isa**	**20.22**	**225**	P	**P**	**08 23 14.4**	**+1.1**
GUMO	**Guam**	**22.37**	**334**	LR	LR	08 32 53.2	
	comp=Z,27nm,18.1s,baz=162,slow=38						
WR0	**Warramunga Arr**	**23.72**	**234**	P	**P**	**08 23 49.8**	**-0.6**
WR0				IAmb	IAmb	08 23 54.3	
	comp=Z,18nm,0.8s						
ARMA	**Armidale**	**23.86**	**187**	P	**P**	**08 23 53.3**	**+1.6**
ARMA				IAmb	IAmb	08 23 54.3	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**23.87**	**234**	P	**P**	**08 23 52.0**	**+0.1**
WRA	**Warramunga Arr**	**23.87**	**234**	P	**P**	**08 23 52.6**	**+0.8**
	comp=Z,11nm,0.7s,baz=58,slow=9.8,SNR=90						
WRA				PcP	**PcP**	**08 27 35.2**	**+0.3**
	comp=Z,5.1nm,0.7s,baz=61,slow=2.3,SNR=16						
WRA				ScP	**ScP**	**08 31 10.7**	**-2.9**
	comp=Z,1.2nm,1.0s,baz=57,slow=3.0,SNR=4.2						
	comp=Z,11nm,0.7s						
MTN	**Manton Dam**	**24.12**	**253**	P	**P**	**08 23 53.0**	**-1.2**
MTN				IAmb	IAmb	08 24 20.9	
	comp=Z,18nm,1.1s						
AS31	**Alice Springs**	**26.27**	**228**	P	**P**	**08 24 13.1**

BTO	**Baotou**	**62.44**	**323**	*e*P	**P**	**08 29 03.7**	**+2.2**
BTO				pP	**pwP**	**08 29 08.1**	**+1.1**
BTO				sP	**sP**	**08 29 10.6**	**+5.6**
BTO				PP	**PP**	**08 31 19.4**	**+0.3**
BTO				S	**S**	**08 37 33.0**	**+4.2**
BTO				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BTO				pmax	pmax		
	comp=Z,300nm,4.3s						
BTO				LR	LR		
	comp=Z,160nm,8.3s						
LZH	**Lanzhou**	**63.91**	**316**	*e*P	**P**	**08 29 11.7**	**+0.2**
LZH				sP	pwP	08 29 19.6	+2.8
LZH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CASY	**Casey**	**66.89**	**198**	P	**P**	**08 29 29.6**	**-0.4**
CASY				IAmb	IAmb	08 30 09.5	
	comp=Z,6.2nm,1.2s						
SONM	**Songino Array**	**68.92**	**327**	P	**P**	**08 29 41.9**	**-1.3**
SONM	**Songino Array**	**68.92**	**327**	P	**P**	**08 29 41.1**	**-2.1**
	comp=Z,0.9nm,0.4s,baz=122,slow=3.9,SNR=4.9						
	comp=Z,0.9nm,0.4s						
SHL	**Shillong**	**68.94**	**300**	P	**P**	**08 29 42.7**	**-1.2**
VNDA	**Vanda**	**70.96**	**178**	P	**P**	**08 29 56.0**	**+0.8**
VNDA				IAmb	IAmb	08 29 56.8	
	comp=Z,5.0nm,0.8s						
VNDA	**Vanda**	**70.96**	**178**	P	**P**	**08 29 56.0**	**+0.8**
	comp=Z,4.5nm,0.7s,baz=331,slow=7.0,SNR=31						
	comp=Z,4.5nm,0.7s						
PALK	**Pallekele**	**75.19**	**279**	P	**P**	**08 30 20.9**	**-0.5**
K15K	**Wolf Creek Mou**	**76.43**	**19**	P	**P**	**08 30 27.1**	**-0.4**
K15K				IAmb	IAmb	08 30 45.0	
	comp=Z,9.8nm,0.9s						
M16K	**Timber Creek**	**76.44**	**21**	P	**P**	**08 30 27.5**	**0.0**
M16K				IAmb	IAmb	08 30 45.1	
	comp=Z,8.7nm,0.9s						
N18K	**Kilae Creek**	**77.35**	**22**	P	**P**	**08 30 32.6**	**-0.1**
N18K				IAmb	IAmb	08 30 50.4	
	comp=Z,4.2nm,0.9s						
P19K	**Oil Pt**	**77.75**	**24**	P	**P**	**08 30 34.4**	**-0.6**
P19K				IAmb	IAmb	08 30 38.4	
	comp=Z,8.4nm,0.7s						
J17K	**VABM Dome**	**78.01**	**19**	P	**P**	**08 30 36.8**	**+0.4**
J17K				IAmb	IAmb	08 30 54.1	
	comp=Z,4.8nm,0.9s						
WMQ	**Urumqi**	**78.42**	**317**	*e*P	**P**	**08 30 38.7**	**-0.4**
WMQ				pmax	pmax		
	comp=Z,27nm,0.7s						
L19K	**White Mountain**	**78.68**	**22**	P	**P**	**08 30 39.6**	**-0.5**
L19K				IAmb	IAmb	08 30 57.6	
	comp=Z,8.0nm,0.9s						
J18K	**Innoko River**	**78.85**	**20**	P	**P**	**08 30 41.0**	**0.0**
H19K	**Roundabout Mou**	**80.29**	**19**	P	**P**	**08 30 48.5**	**-0.2**
H19K				IAmb	IAmb	08 31 06.1	
	comp=Z,6.0nm,1.1s						
E19K	**Redstone River**	**81.33**	**17**	P	**P**	**08 30 53.9**	**-0.4**
E19K				IAmb	IAmb	08 30 55.9	
	comp=Z,6.6nm,1.2s						
MLY	**Manley**	**81.87**	**20**	P	**P**	**08 30 56.5**	**-0.8**
MK31	**Makanchi Array**	**82.99**	**319**	P	**P**	**08 31 02.5**	**-1.0**
MK31				IAmb	IAmb	08 31 04.3	
	comp=Z,3.7nm,0.7s						
MKAR	**Makanchi Array**	**82.99**	**319**	P	**P**	**08 31 03.0**	**-0.5**
	comp=Z,5.5nm,0.7s,baz=100,slow=5.4,SNR=49						
	comp=Z,5.5nm,0.7s						
ILAR	**Eielson Array**	**83.10**	**22**	P	**P**	**08 31 01.8**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=236,slow=5.6,SNR=15						
	comp=Z,0.4nm,0.4s						
QSPA	**South Pole Qui**	**83.35**	**180**	P	**P**	**08 31 05.4**	**+0.2**
	comp=Z,14nm,1.0s,baz=329,slow=1.2,SNR=58						
	comp=Z,14nm,1.0s						
J25K	**Salcha River,**	**83.58**	**22**	P	**P**	**08 31 05.0**	**-1.2**
J25K				IAmb	IAmb	08 31 22.9	
	comp=Z,6.2nm,1.3s						
ZALV	**Zalesovo Beam**	**83.76**	**326**	P	**P**	**08 31 05.3**	**-1.9**
	comp=Z,1.7nm,0.4s,baz=124,slow=5.4,SNR=9.8						
	comp=Z,1.7nm,0.4s						
M27K	**Edge Creek, AK**	**83.88**	**25**	P	**P**	**08 31 07.8**	**-0.1**
M27K				IAmb	IAmb	08 31 25.6	
	comp=Z,9.3nm,1.1s						
MAW	**Mawson**	**84.67**	**203**	P	**P**	**08 31 11.8**	**+0.2**
	comp=Z,8.4nm,0.6s,baz=91,slow=5.1,SNR=11						
MAW				LR	LR	09 05 56.3	
	comp=Z,36nm,18.6s,baz=84,slow=34						
	comp=Z,8.4nm,0.6s						
KSH	**Kashi**	**85.62**	**310**	P	**P**	**08 31 19.2**	**+2.0**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KURBB	**Kurchatov Arra**	**86.45**	**322**	P	**P**	**08 31 19.2**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=103,slow=4.4,SNR=6.9						
	comp=Z,0.8nm,0.6s						
J30M	**Hart River**	**87.06**	**24**	P	**P**	**08 31 25.0**	**+1.3**
NVAR	**Mina Array Bea**	**91.64**	**52**	P	**P**	**08 31 46.1**	**+0.2**
NVAR	**Mina Array Bea**	**91.64**	**52**	P	**P**	**08 31 47.0**	**+1.0**
	comp=Z,3.9nm,0.9s,baz=257,slow=6.4,SNR=22						
	comp=Z,3.9nm,0.9s						
KVN	**Kaiserville**	**91.88**	**51**	P	**P**	**08 31 47.4**	**+0.3**
KVN				IAmb	IAmb	08 31 48.5	
	comp=Z,3.1nm,0.8s						
ELIB	**Princess Elisa**	**95.52**	**194**	*d*P	**P**	**08 32 02.0**	**-1.0**
	comp=Z,1.8nm,1.0s						
PDAR	**Pinedale Array**	**98.59**	**48**	P	Pdif	08 32 18.6	+1.0
	comp=Z,0.3nm,0.6s,baz=256,slow=6.0,SNR=4.2						
	comp=Z,0.3nm,0.6s						
NB2	**NORSAR Subarra**	**119.28**	**341**	PKPdf	**PKPdf**	**08 37 25.0**	**-2.3**
	comp=Z,0.7nm,0.8s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**119.28**	**341**	PKP	**PKPdf**	**08 37 26.3**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=44,slow=1.9,SNR=4.2						
BOSA	**Boshof**	**120.10**	**232**	PKP	**PKPdf**	**08 37 29.5**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=132,slow=1.3,SNR=9.7						
GERES	**GERESS Array B**	**126.63**	**329**	PKP	**PKPdf**	**08 37 40.3**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=35,slow=3.6,SNR=1.4						
EKA	**Eskdalemuir Ar**	**128.32**	**344**	PKP	**PKPdf**	**08 37 43.8**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=21,slow=2.8,SNR=6.9						
LPAZ	**La Paz**	**131.81**	**119**	PKP	**PKPdf**	**08 37 51.4**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=286,slow=1.5,SNR=6.7						
CPUP	**Villa Florida**	**134.79**	**138**	PKP	**PKPdf**	**08 37 56.9**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=21,slow=3.7,SNR=4.8						
SIV	**San Ignacio**	**137.98**	**123**	PKP	**PKPdf**	**08 38 03.5**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=218,slow=7.0,SNR=6.3						
ESDC	**Sonseca Array**	**141.95**	**333**	PKP	**PKPdf**	**08 38 10.6**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=45,slow=2.4,SNR=2.1						
BDFB	**Brasilia**	**148.38**	**135**	PKPbc	**PKPbc**	**08 38 25.3**	**-0.6**
	comp=Z,11nm,0.6s,baz=1.1,slow=2.8,SNR=11						
TORD	**Torodi Ar. Bea**	**152.74**	**286**	PKP	**PKPdf**	**08 38 27.9**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=26,slow=2.6,SNR=8.2						
TORD				PKPbc	**PKPbc**	**08 38 35.0**	**-1.2**
	comp=Z,14nm,0.7s,baz=51,slow=3.5,SNR=55						

*OSPL **07** 08:27:23.8±3.7, 19°.47N×72°.99W, h0km±16km, ML2.6*
*SSNC **07** 08:27:24.4±2.1, 19°.29N×73°.02W, h5km±10km, MD3.4, ML2.6*
*SDD **07** 08:27:24.2±1.7, 19°.38N×72°.98W, h18km±316km, MD3.5, ML3.0, MW3.3*

ISC 07 08:27:22.7±1.3, 19°.42N±0°.05×72°.96W±0°.03, h10km±11km, n24, σ1º20/34, 9C-1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**1.08**	**145**	⇑*e*Pg	**Pb**	**08 27 42.2**	**-1.4**
PAPH				IAML		08 27 56.8	
	comp=N,993nm,0.2s						
PAPH				IAML		08 27 57.6	
	comp=E,678nm,0.1s						
PAPH	**Port-au-Prince**	**1.08**	**145**	*e*P	**Pb**	**08 27 42.1**	**-1.4**
PAPH				*e*S	**Sg**	**08 27 56.2**	**-1.5**
PAPH				IAML		08 27 56.7	
	comp=E,248nm,0.2s						
PAPH				IAML		08 27 56.8	
	comp=N,399nm,0.2s						
PAPH	**Port-au-Prince**	**1.08**	**145**	*i* P	**Pb**	**08 27 43.1**	**-0.5**
PAPH				*e*S	**Sg**	**08 27 58.5**	**+0.7**
LODA1	**ITESIL, Dajabo**	**1.19**	**84**	*i* P	**Pg**	**08 27 45.8**	**+0.3**
LODA1				*e*S	**Sb**	**08 28 01.1**	**+0.3**
MCDR	**Montecristi**	**1.31**	**69**	⇑*e*Pg	**Pg**	**08 27 48.6**	**+0.6**
MCDR				IAML		08 28 08.4	
	comp=E,198nm,0.1s						
MCDR				IAML		08 28 09.4	
	comp=N,249nm,0.1s						
JIDR	**Jimani**	**1.39**	**131**	⇑*e*Pg	**Pn**	**08 27 47.8**	**-0.4**
JIDR				IAML		08 28 09.2	
	comp=E,155nm,0.2s						
JIDR				IAML		08 28 12.3	
	comp=N,116nm,0.2s						
MASC	**Masc**	**1.42**	**302**	*e*P	**Pb**	**08 27 49.0**	**-0.3**
MASC				*e*S	**Sb**	**08 28 07.1**	**-0.3**
MASC				IAML		08 28 12.7	
	comp=E,23nm,0.4s						
MASC				IAML		08 28 12.9	
	comp=N,24nm,0.2s						
MASC	**Masc**	**1.42**	**302**	*i* P	**Pb**	**08 27 49.0**	**-0.3**
MASC				IAML		08 28 09.0	
	comp=Z,46nm,2.6s						
REDR	**Restauracion**	**1.50**	**99**	⇑*e*Pg	**Pn**	**08 27 45.5**	**-4.2**
REDR				IAML		08 28 01.3	
	comp=E,810nm,0.1s						
REDR				IAML		08 28 02.1	
	comp=N,661nm,0.1s						
SDDR	**Presa de Saban**	**1.64**	**105**	⇑*e*Pg	**Pb**	**08 27 52.9**	**-0.1**
SDDR				IAML		08 28 15.2	
	comp=E,167nm,0.6s						
SDDR				IAML		08 28 16.0	
	comp=N,207nm,0.3s						
SDDR	**Presa de Saban**	**1.64**	**105**	*e*P	**Pn**	**08 27 52.2**	**+0.6**
SDDR				*e*S	**Sn**	**08 28 13.3**	**+0.6**
SDDR				IAML		08 28 15.4	
	comp=N,160nm,0.5s						
SDDR				IAML		08 28 16.2	
	comp=N,200nm,0.3s						
SDDR	**Presa de Saban**	**1.64**	**105**	*i* P	**Pn**	**08 27 52.2**	**+0.6**
SDDR				*e*S	**Sn**	**08 28 13.6**	**+0.9**
SDDR				IAML		08 28 15.4	
	comp=Z,127nm,0.5s						
NEDR	**Neiba UASD**	**1.73**	**122**	⇓*e*Pg	**Pn**	**08 27 53.8**	**+1.0**
NEDR				IAML		08 28 20.3	
	comp=E,108nm,0.7s						
NEDR				IAML		08 28 20.3	
	comp=N,92nm,0.8s						
QMBU	**Quimbuelo**	**1.91**	**294**	*e*P	**Pn**	**08 27 54.5**	**-0.8**
QMBU				*e*S	**Sn**	**08 28 17.7**	**-1.9**
LUDR	**Luperon**	**1.95**	**76**	⇑*e*Pg	**Pb**	**08 27 58.5**	**+0.2**
LUDR				IAML		08 28 27.5	
	comp=N,314nm,0.3s						
LUDR				IAML		08 28 35.3	
	comp=E,256nm,0.3s						
PODR	**Polo**	**2.02**	**128**	*i* P	**Pn**	**08 27 58.5**	**+1.6**
PODR				*e*S	**Sg**	**08 28 28.3**	**+0.7**
GTBY	**Guantanamo Bay**	**2.09**	**284**	⇑*e*Pg	**Pb**	**08 27 59.7**	**-1.0**
GTBY				⇑*e*Sg	**Sb**	**08 28 27.0**	**+0.2**
GTBY				IAML		08 28 31.9	
	comp=N,27nm,0.8s						
GTBY				IAML		08 28 34.7	
	comp=E,44nm,2.0s						
GTBY	**Guantanamo Bay**	**2.09**	**284**	*e*P	**Pn**	**08 27 58.3**	**+0.5**
GTBY	**Guantanamo Bay**	**2.09**	**284**	*i* P	**Pn**	**08 27 57.9**	**+0.1**
MOAC	**Moa**	**2.25**	**304**	*e*P	**Pn**	**08 28 01.1**	**+1.1**
RCC	**Rio Carpintero**	**2.64**	**283**	*e*P	**Pn**	**08 28 05.3**	**-0.1**
RCC				IAML		08 28 50.5	
	comp=E,15nm,0.5s						
GRTK	**Grand Turk**	**2.70**	**39**	⇑*e*Pg	**Pb**	**08 28 09.7**	**-1.4**
GRTK				IAML		08 28 59.5	
	comp=N,62nm,0.1s						
MARVS	**Santiago de Cu**	**2.83**	**282**	*e*P	**Pn**	**08 28 08.7**	**+0.7**
PINC	**Pinares de May**	**2.87**	**292**	*e*P	**Pn**	**08 28 09.6**	**+1.1**
PINC				*e*S	**Sn**	**08 28 44.4**	**+1.2**

*IDC **07** 08:51:28.1±0.4, 55°.46N×133°.42E, h0km, mb4.6/28, mbtmp4.7/38, ML4.3/9, MS4.5/73, Error ellipse: s-maj=9.8km s-min=8.7km az=92.0*
*SKHL **07** 08:51:28.7±0.4, 55°.51N×133°.29E, h9km±4km, mb5.4/11, Ms5.4/10, msh5.4/10*
*MOS **07** 08:51:28.2±1.0, 55°.59N×133°.24E, h10km, mb5.3/71, MS5.0/37, Error ellipse: s-maj=6.3km s-min=3.7km az=102.0*
*NEIC **07** 08:51:30.1±1.2, 55°.60N±0°.05×133°.2E±0°.1, h10km±1km, mb5.2/140, Mww5.1/26, Error ellipse: s-maj=13.7km s-min=8.0km az=81.0*
*GCMT **07** 08:51:30.1±0.2, 55°.62N±0°.01×133°.23E±0°.02, h13km, MW5.2/126, Moment Tensor Solution. s85, c128; s126, c229; Duration: 1ºº0 Moment tensor: Scale 10^16 Nm; Mrr-3.09±.17; Mθθ5.64±.16; Mφφ-2.56±.14; Mrθ-1.08±.35; Mθφ6.17±.13; Mφr1.44±.36; Best double couple: M07.84600×10^16 NP1:φs104.00000°, δ73.00000°, λ-20.00000°. NP2:φs200.00000°, δ71.00000°, λ-162.00000°. Principal axes: T 8.9540, Plg1.0000°, Azm152.0000°; N -2.2270, Plg64.0000°, Azm245.0000°; P -6.7370, Plg26.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **07** 08:51:30.1, 55°.59N×133°.27E, h16km*
*BJI **07** 08:51:30.6±0.0, 55°.44N×132°.85E, h7km, mb4.9/73, mB5.2/46, ML5.8/4, Ms5.6/76, Ms7 5.2/73*
*NEIC **07** 08:51:30.1, 55°.69N×133°.10E, h16km, Moment Tensor Solution. Duration: 1ºº9 Moment tensor: Scale 10^16Nm; Mrr-1.05; Mθθ3.96; Mφφ-2.91; Mrθ0.18; Mθφ3.96; Mφr3.57; Fault plane solution: M06.40000×10^16 NP1: φs203.46000°, δ79.46000°, λ-146.79000°. NP2: φs106.63000°, δ57.42000°, λ-12.54000°. Principal axes: T 6.1930, Plg15.0000°, Azm331.0000°; N 0.4134, Plg55.0000°, Azm219.0000°; P -6.6064, Plg31.0000°, Azm70.0000°;*

ISC 07 08:51:30.4±0.2, 55°.64N±0°.03×133°.26E±0°.02, h10km, n1025, σ1ºº36/1033, mb5.1/207, MS5.0/124, 44C-25D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	**Ekimchan**	**2.58**	**184**	⇑*i*Pn	**Pn**	**08 52 09.6**	**-2.6**
EKMR				*e*Pg	**Pb**	**08 52 12.5**	**-4.2**
EKMR				AMB	AMB	08 52 13.5	
	3μm,0.7s						
EKMR				*e*Sg	**Sn**	**08 52 44.3**	**+0.7**
EKMR				A	A	08 52 48.1	
	22μm,0.7s						
BMKR	**Bomnak**	**2.70**	**252**	*e*Pn	**Pn**	**08 52 12.4**	**-1.4**
BMKR				*e*Pg	**Pb**	**08 52 16.6**	**-2.1**
BMKR				*e*Sg	**Sb**	**08 52 51.9**	**0.0**
BMKR				A	A	08 52 53.1	
	47μm,0.6s						
OCTB	**Oktyabr'skiy**	**3.77**	**228**	*e*Pn	**Pn**	**08 52 26.8**	**-1.7**
OCTB				*e*Pg	**Pb**	**08 52 35.5**	**-1.5**
OCTB				AMB	AMB	08 52 36.9	
	2μm,1.0s						
OCTB				*e*Sg	**Sb**	**08 53 23.1**	**+0.5**
OCTB				A	A	08 53 29.0	
	21μm,1.1s						
OCTB				AMS	AMS	08 54 13.8	
	14μm,4.0s						
OCTB				AMS	AMS	08 54 13.8	
	9μm,4.0s						
OCTB				AMS	AMS	08 54 13.8	
	12μm,4.0s						
ZEA	**Zeya**	**3.97**	**244**	*e*Pn	**Pn**	**08 52 29.5**	**-1.8**
ZEA				*e*Pg	**Pb**	**08 52 38.5**	**-2.0**
ZEA				AMB	AMB	08 52 39.8	
	1μm,0.9s						
ZEA				*e*Sg	**Sb**	**08 53 29.3**	**+0.8**
ZEA				A	A	08 53 32.7	
	12μm,0.8s						
ZEA	**Zeya**	**3.97**	**244**	*e*P	**Pn**	**08 52 29.5**	**-1.8**
ZEA				pmax	pmax		
	comp=E,4μm,2.2s						
ZEA				pmax	pmax		
	comp=N,3μm,2.3s						
ZEA				pmax	pmax		
	comp=Z,4μm,1.9s						
ZEA				pmax	pmax		
	comp=E,1μm,1.3s						
ZEA				pmax	pmax		
	comp=N,1μm,0.9s						
ZEA				pmax	pmax		
	comp=Z,1μm,0.9s						
NKL	**Nikolayevsk**	**5.00**	**117**	⇓*i*Pn	**Pn**	**08 52 43.3**	**-2.1**
NKL				*e*Pg	**Pb**	**08 52 58.1**	**+0.2**
NKL				AMB	AMB	08 53 01.3	
	comp=Z,1μm,0.8s						
NKL				*e*Sg	**Sb**	**08 54 02.2**	**+4.2**
NKL				A	A	08 54 07.4	
	comp=Z,14μm,0.7s						
NKL				AMS	AMS	08 54 56.3	
	comp=Z,13μm,4.5s						
NKL				AMS	AMS	08 54 56.3	
	comp=Z,11μm,4.5s						
NKL				AMS	AMS	08 54 56.3	
	comp=Z,12μm,4.5s						
NKL	**Nikolayevsk**	**5.00**	**117**	*e*P	**Pn**	**08 52 44.1**	**-1.3**
NKL				*e*S	**Sn**	**08 53 42.3**	**-0.9**
NKL				pmax	pmax		
	comp=N,500nm,0.8s						
NKL				pmax	pmax		
	comp=Z,2μm,0.9s						
NKL				smax	smax		
	comp=E,108μm,1.1s						
NKL				smax	smax		
	comp=N,89μm,1.0s						
GRNR	**Gornyy**	**5.23**	**157**	⇑*i*Pn	**Pn**	**08 52 46.0**	**-2.6**
GRNR				*e*Pg	**Pb**	**08 53 02.2**	**+0.2**
GRNR				AMB	AMB	08 53 06.8	
	comp=N,600nm,1.1s						
GRNR				*e*Sg	**Sb**	**08 54 08.9**	**+4.1**
GRNR				A	A	08 54 16.5	
	comp=N,5μm,0.9s						
GRNR				AMS	AMS	08 55 28.2	
	comp=N,5μm,6.0s						
GRNR				AMS	AMS	08 55 28.2	
	comp=N,2μm,6.0s						
GRNR				AMS	AMS	08 55 28.2	
	comp=N,5μm,6.0s						
GRNR	**Gornyy**	**5.23**	**157**	⇑*i*P	**Pn**	**08 52 46.1**	**-2.6**
GRNR				*e*S	**Sn**	**08 53 49.7**	**+0.7**
GRNR				pmax	pmax		
	comp=N,40nm,0.3s						
GRNR				pmax	pmax		
	comp=E,10.0nm,0.3s						
GRNR				pmax	pmax		
	comp=Z,40nm,0.3s						
GRNR				smax	smax		
	comp=N,140nm,0.3s						
GRNR				MLR	MLR		
	comp=N,3μm,10.0s						
GRNR				MLR	MLR		
	comp=Z,4μm,11.0s						
OKH	**Okha**	**6.00**	**106**	*e*Pn	**Pn**	**08 52 56.6**	**-2.5**
OKH				AMB	AMB	08 52 58.5	
	comp=Z,156nm,0.5s						
OKH				*e*Sg	**Sb**	**08 54 32.6**	**+5.9**
OKH				AMS	AMS	08 56 41.3	
	comp=Z,38μm,8.5s						
OKH				AMS	AMS	08 56 41.3	
	comp=Z,30μm,8.5s						
OKH	**Okha**	**6.00**	**106**	*d i*P	**Pn**	**08 52 54.8**	**-4.3**
OKH				*i* S	**Sn**	**08 54 00.3**	**-7.5**
OKH				pmax	pmax		
	comp=Z,200nm,8.2s						
OKH				MLR	MLR		
	comp=E,13μm,9.0s						
OKH				MLR	MLR		
	comp=N,13μm,8.0s						
OKH				MLR	MLR		
	comp=Z,5μm,10.0s						
HEH	**HeiHe**	**6.45**	**216**	*e*Pn	**Pn**	**08 53 02.0**	**-3.3**
HEH				Sn	**Sn**	**08 54 12.6**	**-6.2**
HEH				smax	smax		
	comp=Z,7μm,1.2s						
HEH				smax	smax		
	comp=Z,4μm,1.6s						
KLR	**Kul'dur**	**6.48**	**189**	Pn	**Pn**	**08 53 03.6**	**-2.2**
	comp=Z,13nm,0.3s,baz=8.8,slow=12,SNR=171						
KLR				Lg	Lg	08 54 45.5	
	comp=Z,70nm,0.3s,baz=278,slow=22,SNR=18						
KLR				LR	LR	08 55 45.8	
	comp=Z,3μm,19.4s,baz=7.0,slow=41						
	comp=Z,49nm,0.4s						
KLR	**Kul'dur**	**6.48**	**189**	*e*Pn	**Pn**	**08 53 03.6**	**-2.2**
KLR				*e*rx	rx	08 53 26.3	
KLR				*e*Sg	**Sb**	**08 54 45.5**	**+4.8**
KLR	**Kul'dur**	**6.48**	**189**	*e*P	Pn	08 53 00.4	-5.4
KLR				pmax	pmax		
	comp=Z,210nm,1.0s						
OKHT	**Okhotsk**	**6.54**	**51**	*e*Pg	**Pb**	**08 53 27.6**	**+3.4**
OKHT				AMB	AMB	08 53 29.5	
	comp=Z,580nm,0.7s						
OKHT				*e*Sg	**Sg**	**08 54 55.9**	**-4.3**
OKHT				A	A	08 55 02.5	
	comp=Z,6μm,0.9s						
YAK	**Yakutsk**	**6.68**	**345**	Pn	**Pn**	**08 53 08.5**	**+0.1**
YAK	**Yakutsk**	**6.68**	**345**	Pn	**Pn**	**08 53 09.6**	**+1.2**
	comp=Z,26nm,0.3s,baz=148,slow=4.7,SNR=44						
YAK				Pg	**Pb**	**08 53 28.0**	**+1.5**
	comp=Z,220nm,0.3s,baz=166,slow=19,SNR=61						
YAK				Lg	Lg	08 54 54.5	
	comp=Z,292nm,0.3s,baz=199,slow=18,SNR=8.9						
	comp=Z,318nm,0.9s						
YAK	**Yakutsk**	**6.68**	**345**	*e*Pn	**Pn**	**08 53 08.7**	**+0.3**
YAK	**Yakutsk**	**6.68**	**345**	*e*P	**Pn**	**08 53 07.4**	**-1.0**
YAK				*e*		08 54 21.2	
YAK				pmax	pmax		
	comp=Z,248nm,0.8s						
YAK				pmax	pmax		
	comp=N,112nm,1.3s						
YAK				pmax	pmax		
	comp=E,10.0nm,0.3s						
YAK				smax	smax		
	comp=N,486nm,0.6s						
YAK				smax	smax		
	comp=E,121nm,0.3s						
YAK				smax	smax		
	comp=E,2μm,4.9s						
YAK				smax	smax		
	comp=N,8μm,5.8s						
TYV	**Tymovskoe**	**7.39**	**126**	*e*Pn	**Pn**	**08 53 16.9**	**-1.3**
TYV				AMS	AMS	08 57 32.0	
	comp=N,10μm,5.0s						
TYV				AMS	AMS	08 57 32.0	
	comp=N,10μm,5.0s						
TYV	**Tymovskoe**	**7.39**	**126**	*e*P	**Pn**	**08 53 21.2**	**+3.0**
TYV				*e*S	Sn	08 54 50.9	+8.9
TYV				pmax	pmax		
	comp=Z,22nm,1.2s						
TYV				pmax	pmax		
	comp=Z,200nm,6.5s						
TYV				smax	smax		
	comp=N,207nm,1.4s						
TYV				smax	smax		
	comp=E,185nm,1.4s						
TYV				smax	smax		
	comp=N,1μm,10.2s						
TYV				MLR	MLR		
	comp=Z,12μm,12.0s						
UGL	**Uglegorsk**	**8.49**	**137**	*e*Pn	**Pn**	**08 53 33.7**	**+0.4**
UGL				AMB	AMB	08 53 34.8	
	comp=Z,140nm,1.1s						
UGL				*e*Sg	Sg	08 55 51.1	-12
UGL				AMS	AMS	08 58 17.0	
	comp=Z,13μm,5.0s						
UGL				AMS	AMS	08 58 17.0	
	comp=Z,8μm,5.0s						
UGL				AMS	AMS	08 58 17.0	
	comp=Z,12μm,5.0s						
UGL	**Uglegorsk**	**8.49**	**137**	*e*P	**Pn**	**08 53 33.7**	**+0.4**
UGL				*e*S	**Sn**	**08 55 11.7**	**+2.6**
UGL				pmax	pmax		
	comp=Z,1μm,1.3s						
UGL				pmax	pmax		
	comp=Z,638nm,1.0s						
UGL				smax	smax		
	comp=E,526nm,0.8s						
UGL				smax	smax		
	comp=N,269nm,0.8s						
UGL				smax	smax		
	comp=N,30μm,2.3s						
UGL				smax	smax		
	comp=E,20μm,3.5s						
UGL				MLR	MLR		
	comp=Z,15μm,6.5s						
UGL				MLR	MLR		
	comp=N,16μm,9.5s						
UGL				MLR	MLR		
	comp=E,18μm,5.2s						
MA2	**Magadan**	**10.18**	**60**	Pn	**Pn**	**08 53 57.4**	**+0.9**
MA2	**Magadan**	**10.18**	**60**	Pn	**Pn**

comp=Z,121nm,1.2s,comp=Z,1μm
YSS Yuzh-Sakhalins 10.52 142 Pn **Pn 08 54 01.2 +0.1**
YSS Yuzh-Sakhalins 10.52 142 *e*P **Pn 08 54 01.7 +0.6**
YSS AMS AMS 08 58 58.9
comp=Z,930nm,3.5s
YSS AMS AMS 08 58 58.9
comp=Z,730nm,3.5s
YSS Yuzh-Sakhalins 10.52 142 *e*P **Pn 08 53 57.7 -3.4**
YSS *e* 08 55 52.6
YSS pmax pmax
comp=Z,30nm,1.1s
YSS smax smax
comp=N,70nm,0.7s
YSS smax smax
comp=E,270nm,1.3s
YSS MLR MLR
comp=Z,7μm,13.0s
YSS MLR MLR
comp=N,5μm,8.8s
YSS MLR MLR
comp=E,6μm,13.0s
BNX BinXian 10.58 203 ⇑P **Pn 08 53 59.5 -2.4**
TEY Ternei 10.82 167 *e*P **Pn 08 54 04.5 -0.8**
TEY AMB AMB 08 54 07.3
comp=E,19nm,0.8s
MDJ Mudanjiang 11.28 194 P **Pn 08 54 10.5 -1.0**
MDJ PP **PnPn 08 54 18.2 -0.8**
MDJ pmax pmax
comp=E,53nm,1.0s
MDJ pmax pmax
comp=E,270nm,3.8s
MDJ LR LR
comp=E,13μm,6.9s
MDJ LR LR
comp=E,45μm,10.3s
MDJ LR LR
comp=E,9μm,7.9s
USA0B Ussuriysk Arra 11.48 185 Pn **Pn 08 54 12.5 -1.8**
USA0B Ussuriysk Arra 11.48 185 *i* P **Pn 08 54 12.9 -1.3**
USRK Ussuriysk Ar. 11.48 185 Pn **Pn 08 54 12.2 -2.1**
USRK Ussuriysk Ar. 11.48 185 Pn **Pn 08 54 12.6 -1.7**
comp=E,0.3nm,0.3s,baz=359,slow=15,SNR=19
USRK Lg Lg 08 57 20.1
comp=E,1.2nm,0.3s,baz=356,slow=17,SNR=6.8
USRK LR LR 08 58 00.2
comp=E,2μm,18.3s,baz=0.3,slow=35
comp=E,16nm,0.9s
GRTR Gornotajezhnoj 11.96 184 *e*P **Pn 08 54 19.8 -1.1**
GRTR AMB AMB 08 54 24.7
comp=E,7.0nm,1.0s
SEY Seymchan 12.17 45 Pn **Pn 08 54 25.4 +1.8**
comp=E,2.3nm,0.3s,baz=248,slow=12,SNR=59
SEY Lg Lg 08 57 51.5
comp=E,3.9nm,0.3s,baz=195,slow=17,SNR=8.7
SEY LR LR 08 59 26.8
comp=E,4μm,18.4s,baz=244,slow=39
comp=E,130nm,1.2s
SEY Seymchan 12.17 45 *e*P **Pn 08 54 24.2 +0.6**
SEY pmax pmax
comp=Z,173nm,1.4s
CIT Chita 12.18 261 *e*P **Pn 08 54 23.7 -0.2**
CIT Chita 12.18 261 *e*P **Pn 08 54 23.7 -0.2**
CIT *e* 08 56 40.2
CIT pmax pmax
comp=Z,278nm,1.6s
VLA Vladivostok 12.56 185 *i* P **Pn 08 54 29.2 +0.2**
VLA pmax pmax
comp=Z,16nm,1.0s
ASAJ Asahikawa 12.99 149 Pn **Pn 08 54 33.0 -2.0**
comp=Z,0.7nm,0.3s,baz=336,slow=18,SNR=13
ASAJ LR LR 08 59 58.4
comp=Z,4μm,18.2s,baz=346,slow=40
comp=Z,30nm,0.9s
ASAJ Asahikawa 12.99 149 P **Pn 08 54 33.0 -2.0**
JKA Kamikawa-asahi 12.99 149 Pn **Pn 08 54 32.3 -2.6**
PSTR Posyet 13.10 188 *e*P **Pn 08 54 35.0 -1.3**
PSTR Posyet 13.10 188 *i* P **Pn 08 54 35.0 -1.3**
MSHR Mys Shultsa 13.14 187 *i* P **Pn 08 54 37.0 +0.1**
MSHR pmax pmax
comp=Z,25nm,1.1s
MSHR MLR MLR
comp=Z,1μm,9.0s
KUR Kuril'sk 13.94 132 *e*P **Pn 08 54 48.4 +0.6**
KUR AMS AMS 09 01 43.1
comp=Z,2μm,10.0s
KUR AMS AMS 09 01 43.1
comp=Z,2μm,10.0s
KUR AMS AMS 09 01 43.1
comp=Z,2μm,10.0s
KUR Kuril'sk 13.94 132 P **Pn 08 54 49.9 +2.1**
KUR pmax pmax
comp=Z,1μm,2.5s
KUR pmax pmax
comp=Z,133nm,1.0s
KUR pmax pmax
comp=N,2μm,6.5s
KUR pmax pmax
comp=E,1μm,5.1s
KUR MLR MLR
comp=Z,5μm,15.0s
KUR MLR MLR
comp=E,6μm,13.0s
KUR MLR MLR
comp=N,4μm,14.0s
YUK Yuzh-Kuril'sk 14.15 140 *e*P **Pn 08 54 51.3 +0.6**
YUK Yuzh-Kuril'sk 14.15 140 P **Pn 08 54 52.0 +1.3**
YUK *e*S **Sn 08 57 30.3 +2.7**
YUK pmax pmax
comp=Z,1μm,1.1s
YUK pmax pmax
comp=E,513nm,1.0s
YUK pmax pmax
comp=Z,2μm,1.2s
YUK MLR MLR
comp=N,2μm,14.0s
YUK MLR MLR
comp=E,2μm,14.0s
YUK MLR MLR
comp=Z,2μm,14.0s
SHO Shikotan 14.65 138 *e*P **Pn 08 54 59.0 +1.5**
PET Petropavlovsk 15.01 89 **Pn 08 55 02.5 +0.1**
PET IAmb IAmb 08 55 04.7
comp=Z,65nm,0.9s
PET Petropavlovsk 15.01 89 P **Pn 08 55 03.6 +1.2**
PET Petropavlovsk 15.01 89κ *i*P **Pn 08 55 03.9 +1.5**
PET *e*S **Sn 08 57 41.6 -7.0**
PET pmax pmax
comp=Z,500nm,6.4s
PET pmax pmax
comp=Z,200nm,4.9s
PET pmax pmax
comp=Z,111nm,1.0s
PET MLR MLR
comp=Z,4μm,14.0s
PET MLR MLR
comp=Z,4μm,13.0s
ERM Erimo 15.09 151 *i* P **Pn 08 55 03.9 +0.5**
ERM pmax pmax
comp=Z,170nm,1.0s
ERM MLR MLR
comp=Z,4μm,14.0s
SNY Shenyang 15.20 209 ⇑P **Pn 08 55 06.1 +1.1**
SNY S **Sn 08 57 50.4 -2.8**
SNY pmax pmax
comp=Z,28nm,2.1s
SNY pmax pmax
comp=Z,190nm,4.5s
SNY LR LR
comp=Z,15μm,11.2s
SNY LR LR
comp=Z,26μm,6.7s
SNY LR LR
comp=Z,4μm,12.6s
JTM Tenmabayashi 15.73 158 Pn **Pn 08 55 11.7 -0.1**
XLT XiLinHaoTe 16.10 230 *e*P **P 08 55 21.4 +1.3**
XLT pP sP 08 55 24.4 -0.5
XLT S **Sn 08 58 21.1 +5.8**
XLT pmax pmax
comp=Z,53nm,1.5s
XLT LR LR
comp=N,1μm,7.4s
XLT LR LR
comp=E,20μm,7.6s
XLT LR LR
comp=Z,8μm,8.0s
TIXI Tiksi 16.18 355 Pn **Pn 08 55 16.3 -1.3**
TIXI IAmb IAmb 08 55 21.0
comp=Z,125nm,0.8s
TIXI Tiksi 16.18 355 Pn **Pn 08 55 17.1 -0.4**
comp=Z,2.0nm,0.3s,baz=175,slow=11,SNR=15
TIXI Lg Lg 09 00 00.0
comp=Z,1.9nm,0.3s,baz=279,slow=19,SNR=3.9
comp=Z,122nm,0.9s
TIXI Tiksi 16.18 355 P **Pn 08 55 16.2 -1.3**
TIXI Tiksi 16.18 355*ce*P **Pn 08 55 16.2 -1.3**
TIXI pmax pmax
comp=Z,138nm,0.8s
TIXI MLR MLR
comp=Z,4μm,12.0s
IRK Irkutsk 17.34 271 *e*P **Pn 08 55 32.4 +0.1**
IRK Irkutsk 17.34 271 *e*P **Pn 08 55 32.4 +0.1**
IRK pmax pmax
comp=Z,436nm,1.7s
SONM Songino Array 18.29 256 P **P 08 55 44.0 -0.3**
SONM IAmb IAmb 08 55 50.1
comp=Z,200nm,1.0s
SONM Songino Array 18.29 256 P **P 08 55 45.5 +1.2**
comp=Z,2.4nm,0.3s,baz=58,slow=9.2,SNR=66
SONM Lg Lg 09 01 00.7
comp=Z,2.1nm,0.3s,baz=51,slow=21,SNR=9.1
SONM LR LR 09 03 18.9
comp=Z,3μm,18.3s,baz=58,slow=39
comp=Z,132nm,0.9s
SONM Songino Array 18.29 256 P **P 08 55 44.0 -0.3**
SONM pmax pmax
comp=Z,200nm,1.0s
DL2 Dalian 18.46 210 P **Pn 08 55 46.9 +0.7**
DL2 S **S 08 59 15.1 -1.6**
DL2 pmax pmax
comp=Z,97nm,1.0s
DL2 pmax pmax
comp=Z,430nm,4.4s
DL2 LR LR
comp=Z,14μm,13.4s
DL2 LR LR
comp=Z,20μm,9.9s
DL2 LR LR
comp=Z,8μm,12.7s
JMM Marumori 18.49 161 P **P 08 55 43.9 -2.5**
KSRS Korea Array 18.55 193 P **P 08 55 45.3 -1.7**
comp=Z,0.1nm,0.3s,baz=8.2,slow=11,SNR=8.2
KSRS Lg Lg 09 01 07.8
comp=Z,0.2nm,0.3s,baz=5.0,slow=29,SNR=5.9
KSRS LR LR 09 02 57.2
comp=Z,638nm,21.5s,baz=15,slow=37
comp=Z,2.0nm,0.7s
KSAR Wonju Array Be 18.56 194 P **Pn 08 55 46.5 -0.9**
KSAR Wonju Array Be 18.56 194 P **Pn 08 55 46.5 -0.9**
KSAR Wonju Array Be 18.56 194 P **Pn 08 55 46.5 -0.9**
ZAK Zakamensk 18.70 266 P **Pn 08 55 49.6 +0.5**
ZAK Zakamensk 18.70 266 *e*P **Pn 08 55 49.6 +0.5**
ZAK pmax pmax
comp=Z,52nm,1.3s
INCN Inchon 18.71 197 P **P 08 55 47.9 -0.9**
INCN Inchon 18.71 197 P **P 08 55 47.9 -0.9**
INCN Inchon 18.71 197 P **P 08 55 47.9 -0.9**
INCN pmax pmax
comp=Z,124nm,1.2s
BJI Beijing 19.28 223 P **Pn 08 55 56.8 +0.7**
BJI S **S 08 59 32.7 -0.4**
BJI pmax pmax
comp=Z,65nm,0.8s
BJI pmax pmax
comp=Z,230nm,8.6s
BJI LR LR
comp=Z,3μm,10.1s
BJI LR LR
comp=Z,5μm,10.5s
BJI LR LR
comp=Z,2μm,8.1s
MJB9 Matsu-Tunnel 19.39 168 P **Pn 08 55 56.3 -1.2**
MAJO Matsushiro 19.39 168 P **P 08 55 55.8 -0.6**
MAJO Matsushiro 19.39 168 *i* P **Pn 08 55 56.3 -1.2**
MAJO pmax pmax
comp=Z,88nm,1.4s
MJAR Matsushiro Arr 19.40 168 P **P 08 55 55.2 -1.2**
comp=Z,0.2nm,0.3s,baz=355,slow=6.9,SNR=47
MJAR LR 09 03 20.1
comp=Z,758nm,19.1s,baz=359,slow=37
comp=Z,56nm,0.9s
BILL Bilibino 19.60 38 P **P 08 55 58.4 0.0**
BILL Bilibino 19.60 38*d i*P **P 08 55 58.9 +0.5**
BILL *i* S **Sn 08 59 41.7 +2.3**
BILL pmax pmax
comp=Z,328nm,1.1s
BILL MLR MLR
comp=Z,4μm,11.0s
TJN Taejon 19.68 194*ce*P **P 08 55 59.3 -0.1**
JGF Kuroka 20.23 170 P **P 08 56 02.0 -3.6**
HHC Hu-ho-hao-te 20.55 233 ⇑P Pn 08 56 10.5 -0.8
HHC S **S 08 59 57.8 -1.0**
HHC sS Sn 09 00 03.3 +0.4
HHC pmax pmax
comp=Z,94nm,1.5s
HHC pmax pmax
comp=Z,150nm,3.6s
HHC LR LR
comp=Z,4μm,12.7s
HHC LR LR
comp=Z,6μm,11.2s
HHC LR LR
comp=Z,8μm,12.0s
BTO Baotou 21.45 235 *e*P **P 08 56 19.6 +0.8**
BTO pP **sP 08 56 24.2 +0.7**
BTO sP **pP 08 56 26.7 +4.6**
BTO PP **PnPn 08 56 36.5 -2.2**
BTO pmax pmax
comp=Z,140nm,0.9s
BTO pmax pmax
comp=Z,420nm,6.1s
BTO LR LR
comp=Z,16μm,8.3s
BTO LR LR
comp=Z,12μm,8.8s
BTO LR LR
comp=Z,20μm,9.6s
HNS HongShan 22.14 222 ⇓P **P 08 56 27.3 +1.3**
HNS S **S 09 00 30.4 +0.6**
HNS pmax pmax
comp=Z,110nm,1.0s
HNS LR LR
comp=Z,5μm,14.3s
HNS LR LR
comp=Z,2μm,10.0s
HNS LR LR
comp=Z,4μm,10.6s
TIA Tai'an 22.33 216 P **P 08 56 29.8 +1.7**
TIA S **S 09 00 36.0 +2.5**
TIA pmax pmax
comp=Z,7.0nm,0.8s
TIA pmax pmax
comp=Z,130nm,3.5s
TIA LR LR
comp=Z,3μm,16.0s
TIA LR LR
comp=Z,2μm,12.5s
TIA LR LR
comp=Z,1μm,18.4s
JNU Nakatsue 22.57 185 P **P 08 56 29.6 -1.2**
JNU IAmb IAmb 08 56 40.2
comp=Z,100nm,1.2s
TIY Taiyuan 22.77 227 *e*P **P 08 56 34.3 +1.4**
TIY S **S 09 00 39.7 -2.0**
TIY SS **SnSn 09 01 19.2 +7.4**
TIY pmax pmax
comp=Z,45nm,0.6s
TIY pmax pmax
comp=Z,560nm,3.5s
TIY LR LR
comp=Z,3μm,10.2s
TIY LR LR
comp=Z,2μm,7.3s
TIY LR LR
comp=Z,4μm,8.5s
SHEM Shemya Is, Ala 23.83 80 LR LR 09 06 16.9
comp=Z,883nm,20.6s,baz=300,slow=37
NRIK Noril'sk 24.41 322 P **P 08 56 49.1 +0.6**
NRIK IAmb IAmb 08 57 15.1
comp=Z,58nm,0.9s
NRIK Noril'sk 24.41 322 P **P 08 56 49.6 +1.1**
comp=Z,13nm,0.9s,baz=108,slow=9.6,SNR=37
NRIK S **S 09 01 14.2 +6.4**
comp=Z,17nm,0.9s,baz=39,slow=7.1,SNR=1.4
NRIK Lg Lg 09 04 22.6
comp=Z,0.6nm,0.3s,baz=36,slow=17,SNR=1.7
comp=Z,13nm,0.9s
NRIK Noril'sk 24.41 322*ce*P **P 08 56 48.4 -0.2**
NRIK pmax pmax
comp=Z,48nm,1.3s
NRIK MLR MLR
comp=Z,3μm,13.0s
LYN LuoYang 25.50 223 *e*P **P 08 57 00.7 +2.0**
LYN pP sP 08 57 06.2 +2.6
LYN PP **PnPn 08 57 37.3 +3.2**
LYN S **S 09 01 29.0 +3.1**
LYN pmax pmax
comp=Z,40nm,0.9s
LYN pmax pmax
comp=Z,250nm,4.2s
LYN LR LR
comp=Z,5μm,11.4s
LYN LR LR
comp=Z,4μm,12.6s
LYN LR LR
comp=Z,5μm,12.1s
NJ2 Nanjing 25.66 209 *e*P **P 08 56 59.4 -0.8**
NJ2 pP **pP 08 57 01.8 -1.8**
NJ2 pmax pmax
comp=Z,11nm,0.9s
NJ2 pmax pmax
comp=Z,880nm,3.7s
NJ2 LR LR
comp=Z,3μm,10.9s
NJ2 LR LR
comp=Z,4μm,11.4s
NJ2 LR LR
comp=Z,4μm,14.4s
SSE Sheshan 25.98 204 P **P 08 57 01.4 -1.6**
SSE S **S 09 01 33.4 0.0**
SSE pmax pmax
comp=Z,20nm,1.4s
SSE pmax pmax
comp=Z,460nm,3.7s
SSE LR LR
comp=Z,3μm,15.2s
SSE LR LR
comp=Z,7μm,15.7s
XAN Xi'an 27.38 228 ⇓P **P 08 57 17.4 +1.6**
XAN S **S 09 01 55.9 +0.2**
XAN pmax pmax
comp=Z,32nm,2.5s
XAN pmax pmax
comp=Z,490nm,4.5s
XAN LR LR
comp=Z,9μm,13.7s
XAN LR LR
comp=Z,14μm,15.9s
XAN LR LR
comp=Z,6μm,11.7s
ZAA0 Zalesovo Array 27.53 287 P **P 08 57 16.4 -0.4**
ZALV Zalesovo Beam 27.53 287 P **P 08 57 16.2 -0.7**
ZALV Zalesovo Beam 27.53 287 P **P 08 57 16.4 -0.5**
comp=Z,4.1nm,0.8s,baz=69,slow=5.1,SNR=7.1
ZALV Lg Lg 09 06 00.3
comp=Z,0.2nm,0.3s,baz=51,slow=21,SNR=5.4
comp=Z,4.1nm,0.8s
ZALV Zalesovo Beam 27.53 287 *i* P **P 08 57 17.0 +0.1**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
LZH Lanzhou 27.98 238 *e*P **P 08 57 23.8 +2.5**
LZH sP sP 08 57 31.6 +5.4
LZH sS sS 09 02 15.4 +4.4
LZH pmax pmax
comp=Z,11nm,1.0s
LZH LR LR
comp=Z,5μm,13.1s
LZH LR LR
comp=Z,4μm,11.9s
LZH LR LR
comp=Z,5μm,13.9s
WHN Wuhan 28.44 216 ⇑P **P 08 57 26.3 +1.1**
WHN pmax pmax
comp=Z,100nm,1.0s
WHN LR LR
comp=Z,17μm,16.3s
WHN LR LR
comp=Z,14μm,12.5s
WHN LR LR
comp=Z,6μm,11.4s
TNA Tin City 29.40 46 P **P 08 57 33.2 -0.2**
baz=279
C16K Lisburne Hills 30.05 41 P **P 08 57 38.8 -0.3**
baz=276
F14K Arctic Creek 30.07 46 P **P 08 57 39.7 +0.4**
baz=280
ZSN Zaisan 30.63 275 *e*P **P 08 57 44.4 -0.2**
baz=275
ZSN *e*S **S 09 02 47.7 +1.2**
baz=275
ZSN Zaisan 30.63 275 *e*P **P 08 57 44.3 -0.2**
ZSN *e*S **S 09 02 47.7 +1.2**
ANM Nome 30.65 48 P **P 08 57 44.5 0.0**
ANM IAmb IAmb 08 57 46.3
comp=Z,37nm,1.0s
ANM Nome 30.65 48 P **P 08 57 44.5 0.0**
baz=282,SNR=8.2
ANM Nome 30.65 48 P **P 08 57 44.5 0.0**
ANM pmax pmax
comp=Z,37nm,1.0s
F15K North Star Dit 30.72 46 P **P 08 57 45.3 +0.2**
F15K IAmb IAmb 08 57 46.8
comp=Z,37nm,1.4s
F15K North Star Dit 30.72 46 P **P 08 57 45.0 0.0**
baz=281
C17K DeLong Mountai 30.83 40 P **P 08 57 45.9 -0.1**
baz=278
D17K Noatak River 30.98 42 P **P 08 57 47.3 0.0**
baz=279,SNR=25
RDOG Red Dog Mine 30.99 41 P **P 08 57 46.6 -0.9**
RDOG Red Dog Mine 30.99 41 P **P 08 57 47.1 -0.4**
baz=279
CNSH ChangSha 31.09 216 P **P 08 57 50.3 +1.6**
CNSH pmax pmax
comp=Z,13nm,1.4s
CNSH LR LR
comp=Z,3μm,11.0s
CNSH LR LR
comp=Z,2μm,10.7s
CNSH LR LR
comp=Z,2μm,10.8s
G15K Niukluk 31.12 47 P **P 08 57 48.8 +0.2**
baz=283,SNR=12
WMQ Urumqi 31.16 267 *e*P **P 08 57 50.3 +1.0**
WMQ pmax pmax
comp=Z,86nm,1.3s
WMQ pmax pmax
comp=Z,410nm,4.7s
WMQ LR LR
comp=Z,13μm,12.7s
WMQ LR LR
comp=Z,6μm,15.9s
WMQ LR LR
comp=Z,2μm,15.9s
B18K Kokolik River 31.20 38 P **P 08 57 49.1 -0.2**
baz=278
A19K Wainwright 31.35 37 P **P 08 57 50.1 -0.4**
baz=277
M11K Mekoryuk 31.41 56 P **P 08 57 50.6 -0.6**
baz=289
C18K Utukok River 31.52 40 P **P 08 57 51.6 -0.6**
C18K IAmb IAmb 08 57 53.5
comp=Z,56nm,1.6s
C18K Utukok River 31.52 40 P **P 08 57 51.3 -0.9**
baz=279
E17K Hotham Inlet 31.56 43 P **P 08 57 52.4 -0.1**
baz=281,SNR=5.5
K13K Kusilvak Mount 31.65 53 P **P 08 57 52.3 -0.9**
baz=287
G16K Koyuk River 31.72 46 P **P 08 57 53.1 -0.7**
G16K IAmb IAmb 08 57 55.2
comp=Z,40nm,1.3s
G16K Koyuk River 31.72 46 P **P 08 57 53.9 +0.1**
baz=283,SNR=15
J14K Nanvaranak Lak 31.90 51 P **P 08 57 55.3 -0.1**
baz=287
F17K Baldwin Pennin 31.92 44 P **P 08 57 55.8 +0.3**
F17K IAmb IAmb 08 58 12.1
comp=Z,31nm,0.8s
F17K Baldwin Pennin 31.92 44 P **P 08 57 55.9 +0.3**

baz=283,SNR=17
H16K Elim 31.95 47 P P 08 57 55.6 -0.3
baz=285,SNR=7.6
E18K Tukpahlearik C 31.96 42 P P 08 57 55.7 -0.3
E18K Tukpahlearik C 31.96 42 P P 08 57 55.8 -0.3
baz=282,SNR=8.8
C19K Lookout Ridge 32.02 39 P P 08 57 56.9 +0.3
C19K IAmb IAmb 08 57 58.5
comp=Z,70nm,1.6s
C19K Lookout Ridge 32.02 39 P P 08 57 56.3 -0.2
baz=280
CD2 Chengdu 32.31 232 P P 08 58 00.1 +0.7
CD2 S S 09 03 15.3 +2.3
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,220nm,4.2s
CD2 LR LR
comp=Z,2μm,12.9s
CD2 LR LR
comp=Z,3μm,9.8s
CD2 LR LR
comp=Z,3μm,11.4s
G17K Kiwalik Mounta 32.38 45 P P 08 57 60.0 +0.3
baz=285,SNR=27
KURK Kurchatov 32.39 285 P P 08 57 59.5 -0.3
KURK Kurchatov 32.39 285 P P 08 57 59.7 -0.2
KURK Kurchatov 32.39 285 *ce*P P 08 57 59.7 -0.2
KURK pmax pmax
comp=Z,82nm,1.7s
KURK MLR MLR
comp=Z,2μm,8.0s
MK31 Makanchi Array 32.45 276 P P 08 58 00.1 -0.5
MK31 IAmb IAmb 08 58 05.4
comp=Z,30nm,0.8s
MK31 Makanchi Array 32.45 276 *ce*P P 08 58 00.4 -0.2
MKAR Makanchi Array 32.45 276 P P 08 57 59.4 -1.2
MKAR Makanchi Array 32.45 276 P P 08 58 00.2 -0.4
comp=Z,32nm,0.8s,baz=58,slow=9.2,SNR=74
MKAR Lg Lg 09 08 37.3
baz=60,slow=17,SNR=5.1
MKAR LR LR 09 11 57.8
comp=Z,3μm,19.7s,baz=48,slow=38
comp=Z,32nm,0.8s
GOMU GeErMu 32.48 249 P P 08 58 00.8 -0.5
GOMU pP pP 08 58 03.3 -1.5
GOMU S S 09 03 15.3 -1.0
GOMU pmax pmax
comp=Z,53nm,0.9s
GOMU pmax pmax
comp=Z,190nm,5.3s
GOMU LR LR
comp=Z,7μm,11.3s
GOMU LR LR
comp=Z,4μm,12.7s
GOMU LR LR
comp=Z,10μm,12.0s
KURBB Kurchatov Arra 32.48 284 P P 08 58 00.8 +0.1
comp=Z,16nm,0.8s,baz=66,slow=8.6,SNR=23
KURBB Lg Lg 09 08 38.4
comp=Z,0.1nm,0.3s,baz=66,slow=29,SNR=5.1
KURBB LR LR 09 13 23.5
comp=Z,152nm,20.7s,baz=54,slow=40
comp=Z,16nm,0.8s
F18K Selawik 32.51 43 P P 08 58 00.8 +0.1
baz=284,SNR=18
MAKZ Makanchi 32.62 276 P P 08 58 00.5 -1.5
MAKZ IAmb IAmb 08 58 06.9
comp=Z,31nm,1.1s
MAKZ Makanchi 32.62 276 P P 08 58 00.5 -1.5
MAKZ pmax pmax
comp=Z,31nm,1.2s
A21K Barrow 32.66 34 P P 08 58 02.2 +0.2
baz=279
D19K Kuna River 32.66 40 P P 08 58 01.9 -0.3
D19K IAmb IAmb 08 58 03.4
comp=Z,33nm,0.9s
D19K Kuna River 32.66 40 P P 08 58 01.9 -0.3
baz=282,SNR=16
B20K Meade River 32.70 37 P P 08 58 02.4 0.0
baz=280
L14K Kuka Creek 32.73 53 P P 08 58 02.6 -0.1
L14K Kuka Creek 32.73 53 P P 08 58 02.5 -0.1
baz=289
M13K Dall Lake 32.74 55 P P 08 58 03.4 +0.6
baz=290,SNR=5.5
I17K Unalakleet 32.80 48 P P 08 58 03.2 -0.2
baz=287
H17K Granite Mounta 32.83 46 P P 08 58 03.5 -0.1
H17K IAmb IAmb 08 58 05.2
comp=Z,27nm,1.1s
H17K Granite Mounta 32.83 46 P P 08 58 03.7 +0.1
baz=286,SNR=19
K15K Wolf Creek Mou 32.93 51 P P 08 58 04.3 -0.3
K15K IAmb IAmb 08 58 06.2
comp=Z,25nm,1.1s
K15K Wolf Creek Mou 32.93 51 P P 08 58 04.1 -0.4
baz=289,SNR=11
J16K Anvik River 33.02 49 P P 08 58 04.7 -0.7
J16K Anvik River 33.02 49 P P 08 58 05.0 -0.3
baz=288,SNR=12
NIKH Nikolski High 33.04 70 P P 08 58 05.4 -0.2
baz=298
G18K Tagagawik 33.08 44 P P 08 58 05.4 -0.4
baz=285,SNR=21
D20K Etivluk River 33.15 39 P P 08 58 06.2 -0.2
baz=283,SNR=17
L15K Ungalak Mounta 33.16 52 P P 08 58 06.5 +0.1
baz=290,SNR=8.1
F19K Shaleruckik Mo 33.17 42 P P 08 58 06.4 -0.2
baz=285,SNR=42
E19K Redstone River 33.22 41 P P 08 58 07.1 +0.1
baz=284,SNR=28
A22K Sinclair Lake 33.24 35 P P 08 58 07.4 +0.3
baz=281
M14K Bethel 33.26 54 P P 08 58 07.4 +0.1
M14K IAmb IAmb 08 58 08.8
comp=Z,28nm,1.1s
M14K Bethel 33.26 54 P P 08 58 07.1 -0.3
baz=291,SNR=6.8
H18K Honhosa River 33.40 46 P P 08 58 08.4 -0.2
H18K Honhosa River 33.40 46 P P 08 58 08.8 +0.2
baz=287,SNR=26
E20K Nigu River 33.41 40 P P 08 58 08.8 0.0
baz=284,SNR=30
G19K Purcell Mounta 33.62 44 P P 08 58 10.4 -0.1
baz=286,SNR=25
J17K VABM Dome 33.64 49 P P 08 58 10.4 -0.3
baz=289,SNR=16
B21K Ikpikpuk River 33.65 37 P P 08 58 10.6 -0.1
B21K Ikpikpuk River 33.65 37 P P 08 58 10.9 +0.2
baz=283,SNR=15
N14K Kuskokwak Cree 33.69 55 P P 08 58 10.6 -0.5
baz=292
C21K Knifeblade Rid 33.70 38 P P 08 58 11.4 +0.3
baz=284,SNR=14
M15K Kasigluk River 33.86 54 P P 08 58 12.4 -0.2
baz=292,SNR=11
UNV Unalaska Valle 33.87 67 P P 08 58 10.5 -2.3
baz=298
B22K Teshekpuk Lake 33.88 36 P P 08 58 12.8 +0.1
baz=283,SNR=8.3
F20K Avaraart Lake 33.90 42 P P 08 58 12.4 -0.4
baz=286
L16K Owhat River 34.04 52 P P 08 58 13.3 -0.9
baz=291,SNR=7.5
H19K Roundabout Mou 34.06 44 P P 08 58 14.5 +0.3
baz=288,SNR=82
GCSA Galena City Sc 34.12 46 P P 08 58 14.6 -0.3
baz=288
O14K Tigyukauivet M 34.15 56 P P 08 58 14.5 -0.6
baz=293
E21K Killik River 34.16 39 P P 08 58 15.5 +0.2
baz=285
K17K Iditarod 34.20 50 P P 08 58 15.8 +0.2
baz=290,SNR=31
N15K Kwethluk River 34.34 54 P P 08 58 16.5 -0.3
baz=293,SNR=5.5
L17K Donlin 34.41 51 P P 08 58 17.4 0.0
baz=291,SNR=14
D22K Ayikyak River 34.50 38 P P 08 58 17.9 -0.2
D22K Ayikyak River 34.50 38 P P 08 58 18.5 +0.4
baz=286,SNR=22
M16K Timber Creek 34.53 53 P P 08 58 18.1 -0.3
baz=292,SNR=10
J18K Innoko River 34.62 48 P P 08 58 18.4 -0.9
baz=290,SNR=15

F21K Alatna River 34.68 41 P P 08 58 19.6 -0.1
baz=287,SNR=60
H20K Anotleneega Mo 34.69 44 P P 08 58 19.9 +0.2
baz=289,SNR=51
N16K Nishlik Lake 34.83 54 P P 08 58 20.7 -0.3
baz=293,SNR=14
O15K Ungalikthiuk R 34.86 56 P P 08 58 20.1 -1.2
baz=294,SNR=5.4
J19K Poorman 34.89 47 P P 08 58 21.4 -0.1
baz=290,SNR=31
G21K Allakaket 34.89 42 P P 08 58 21.9 +0.4
baz=288,SNR=83
C23K Itkillik River 34.94 36 P P 08 58 22.3 +0.5
baz=286,SNR=34
GYA Guiyang 34.96 224 ⇓P P 08 58 23.8 +1.2
GYA S S 09 03 57.8 +3.5
GYA pmax pmax
comp=Z,35nm,1.5s
GYA pmax pmax
comp=Z,300nm,3.8s
GYA LR LR
comp=Z,1μm,9.8s
GYA LR LR
comp=Z,1μm,9.1s
GYA LR LR
comp=Z,2μm,10.7s
E22K Anaktuvuk Pass 35.02 39 P P 08 58 22.6 -0.1
baz=287
M17K Holitna River 35.06 52 P P 08 58 23.7 +0.6
baz=293,SNR=18
F22K John River 35.08 40 P P 08 58 23.9 +0.8
baz=288
I20K Naaghedeneel 35.08 45 P P 08 58 23.3 +0.1
baz=290,SNR=17
L18K Granite Mounta 35.08 50 P P 08 58 23.1 -0.1
baz=292,SNR=14
D23K Nanushuk River 35.17 37 P P 08 58 24.3 +0.5
baz=287
J20K Nowinta River 35.43 46 P P 08 58 26.5 +0.3
baz=291,SNR=42
H21K Melozitna Rive 35.45 43 P P 08 58 26.4 0.0
H21K IAmb IAmb 08 58 27.6
comp=Z,52nm,1.1s
H21K Melozitna Rive 35.45 43 P P 08 58 26.3 0.0
baz=290,SNR=52
O16K Kokwok River B 35.49 55 P P 08 58 25.8 -0.9
baz=295,SNR=6.8
G22K Bettles 35.51 41 P P 08 58 26.7 -0.1
baz=289,SNR=19
N17K Nushagak Hills 35.52 53 P P 08 58 27.3 +0.3
N17K Nushagak Hills 35.52 53 P P 08 58 26.8 -0.2
baz=294,SNR=7.5
C24K Franklin Bluff 35.61 36 P P 08 58 27.6 -0.1
baz=288,SNR=29
BVA0 Borovoye Array 35.65 293 *i* P P 08 58 27.9 -0.3
TOLK Toolik Lake Re 35.65 38 P P 08 58 28.0 -0.1
baz=288,SNR=24
BRVK Borovoye 35.69 293 P P 08 58 28.5 0.0
BRVK Borovoye 35.69 293 *ce*P P 08 58 28.5 0.0
BRVK pmax pmax
comp=Z,42nm,1.0s
BRVK MLR MLR
comp=Z,2μm,11.0s
TDK Taldyqorghan 35.70 276 *e*P P 08 58 29.1 +0.3
comp=Z,21nm,0.7s,baz=276
TDK LR LR 09 12 41.2
comp=Z,3μm,10.9s,baz=276
TDK Taldyqorghan 35.70 276 *e*P P 08 58 29.0 +0.3
TDK pmax pmax
comp=Z,21nm,0.7s
TDK MLR MLR
comp=Z,3μm,11.0s
M18K Stony River 35.74 51 P P 08 58 28.6 -0.2
baz=294,SNR=12
D24K Happy Valley 35.75 37 P P 08 58 29.0 +0.2
baz=288,SNR=20
K20K Telida 35.77 47 P P 08 58 28.8 -0.4
K20K IAmb IAmb 08 58 30.5
comp=Z,56nm,1.4s
K20K Telida 35.77 47 P P 08 58 29.2 +0.1
baz=292,SNR=22
P16K Nushagak River 35.78 56 P P 08 58 28.4 -0.8
baz=295
E23K Chandalar 35.83 39 P P 08 58 30.1 +0.4
baz=289,SNR=37
O17K Koliganek Bris 35.88 54 P P 08 58 30.0 0.0
baz=295,SNR=13
L19K White Mountain 35.89 50 P P 08 58 29.5 -0.7
L19K White Mountain 35.89 50 P P 08 58 29.8 -0.4
baz=293,SNR=13
COLD Coldfoot 35.89 40 P P 08 58 30.3 +0.2
baz=290,SNR=24
H22K Ishtalitna Cre 35.92 43 P P 08 58 30.4 0.0
baz=291
N18K Kilae Creek 36.04 52 P P 08 58 31.2 -0.3
baz=294,SNR=10
PDGK Podgornoye 36.12 273 P P 08 58 31.8 -0.7
G23K Bananza Creek 36.14 41 P P 08 58 32.0 -0.3
baz=291,SNR=29
L20K Farewell, AK 36.19 49 P P 08 58 32.7 -0.1
baz=293,SNR=26
M19K Big River Lodg 36.20 50 P P 08 58 32.5 -0.3
baz=294
E24K Your Creek 36.22 38 P P 08 58 33.0 0.0
baz=290
SHLS Shalkode 36.25 273 *e*P P 08 58 31.5 -2.1
comp=Z,23nm,0.7s,baz=273
SHLS Shalkode 36.25 273 *e*P P 08 58 31.4 -2.1
SHLS pmax pmax
comp=Z,23nm,0.7s
CHUM Lake Minchumin 36.29 46 P P 08 58 33.9 +0.4
baz=293,SNR=44
P17K Kvichak River 36.43 55 P P 08 58 34.7 0.0
baz=296,SNR=9.6
MLY Manley 36.48 44 P P 08 58 35.2 0.0
MLY IAmb IAmb 08 58 36.9
comp=Z,58nm,1.2s
MLY Manley 36.48 44 P P 08 58 35.5 +0.3
baz=292,SNR=57
KPKS Kokpek 36.49 274 *e*P P 08 58 35.7 0.0
comp=Z,12nm,0.7s,baz=274
KPKS Kokpek 36.49 274 *e*P P 08 58 35.6 0.0
KPKS pmax pmax
comp=Z,12nm,0.7s
UZB Uzynbulak 36.50 273 *e*P P 08 58 35.8 0.0
comp=Z,28nm,0.8s,baz=273
UZB Uzynbulak 36.50 273 *e*P P 08 58 35.7 0.0
UZB pmax pmax
comp=Z,28nm,0.8s
ARXS Arharly 36.51 276 *i* P P 08 58 35.6 -0.1
D25K Kavik River 36.52 36 P P 08 58 35.8 +0.3
baz=290,SNR=14
Q16K King Salmon 36.56 56 P P 08 58 35.0 -0.8
baz=296
CAST Castle Rocks 36.57 47 P P 08 58 36.2 +0.2
baz=293
N19K Bonanza Creek 36.61 52 P P 08 58 36.5 0.0
baz=295,SNR=10.0
F24K Squaw Lake 36.63 39 P P 08 58 37.0 +0.5
baz=291,SNR=48
H23K Yukon River 36.64 42 P P 08 58 36.1 -0.5
H23K IAmb IAmb 08 58 38.5
comp=Z,65nm,1.1s
H23K Yukon River 36.64 42 P P 08 58 37.1 +0.5
baz=292,SNR=57
O18K Koktuh Hills 36.70 53 P P 08 58 37.1 0.0
O18K Koktuh Hills 36.70 53 P P 08 58 37.1 0.0
baz=296,SNR=13
PPLA Purkeypile 36.74 48 P P 08 58 37.8 +0.3
baz=294
BPAW Bear Paw Mtn. 36.75 45 P P 08 58 37.5 +0.1
baz=293,SNR=47
M20K Styx River 36.75 49 P P 08 58 37.9 +0.3
baz=295
C26K Camden Bay 36.79 35 P P 08 58 38.5 +0.8
baz=290
P18K Big Mountain, 36.90 54 P P 08 58 38.8 -0.1
baz=296,SNR=18
SATY Saty 36.91 274 *e*P P 08 58 39.5 +0.3
comp=Z,30nm,0.9s,baz=274
SATY Saty 36.91 274 *e*P P 08 58 39.5 +0.3
SATY pmax pmax
comp=Z,30nm,0.9s
CHNA Chernabura Isl 36.94 63 P P 08 58 38.0 -1.2
baz=300
O19K Port Alsworth 36.95 52 P P 08 58 38.8 -0.4
baz=296

I23K Minto, Yukon-K 36.98 43 P P 08 58 39.3 0.0
I23K Minto, Yukon-K 36.98 43 P P 08 58 39.9 +0.6
baz=293,SNR=53
PZH PanZhiHua 36.99 231 P P 08 58 40.6 +0.6
PZH S S 09 04 24.9 -0.4
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,170nm,3.5s
PZH LR LR
comp=Z,2μm,12.9s
PZH LR LR
comp=Z,4μm,13.0s
PZH LR LR
comp=Z,3μm,12.2s
G24K Hadweenzic Riv 37.09 40 P P 08 58 40.8 +0.5
baz=292,SNR=71
Q17K Contact Creek 37.10 56 P P 08 58 39.9 -0.7
baz=297,SNR=8.1
R17L Mt. Peulik Vol 37.17 57 P P 08 58 40.5 -0.7
baz=298
CHKK Chushkaly 37.21 276 *e*P P 08 58 41.3 -0.4
baz=276
CHKK Chushkaly 37.21 276 *e*P P 08 58 41.2 -0.4
E25K Arctic Village 37.22 38 P P 08 58 41.6 +0.1
E25K IAmb IAmb 08 58 43.6
comp=Z,67nm,1.2s
E25K Arctic Village 37.22 38 P P 08 58 42.4 +0.9
baz=292,SNR=64
H24K Noodor Dome 37.27 42 P P 08 58 42.5 +0.6
baz=293,SNR=59
C27K Jago River 37.28 35 P P 08 58 42.4 +0.4
baz=292,SNR=16
NEA2 Nenana 37.31 44 P P 08 58 41.6 -0.6
NEA2 IAmb IAmb 08 58 43.5
comp=Z,53nm,1.0s
NEA2 Nenana 37.31 44 P P 08 58 42.3 0.0
baz=294,SNR=66
Q18K Katmai Hardscr 37.34 55 P P 08 58 42.2 -0.4
baz=297,SNR=9.6
SKT Skwentna 37.40 49 P P 08 58 42.5 -0.5
baz=296,SNR=7.6
F25K Christian Rive 37.40 39 P P 08 58 44.0 +1.0
baz=293,SNR=75
SPCR Spurr Chakacha 37.45 50 P P 08 58 39.6 -3.9
baz=296,SNR=6.3
N20K Mount Spurr 37.45 50 P P 08 58 43.9 +0.4
baz=296,SNR=7.1
MDM Murphy Dome 37.49 43 P P 08 58 43.6 -0.2
MDM IAmb IAmb 08 58 59.8
comp=Z,41nm,0.9s
KUU Kurty 37.55 276 *e*P P 08 58 44.8 +0.3
baz=276
KUU LR LR 09 12 49.3
comp=Z,3μm,10.9s,baz=276
KUU Kurty 37.55 276 *e*P P 08 58 44.8 +0.3
KUU MLR MLR
comp=Z,3μm,11.0s
G25K Bearman Lake 37.56 40 P P 08 58 44.7 +0.4
baz=293,SNR=44
MDOK Medeo 37.61 275 *e*P P 08 58 45.4 +0.1
baz=275
MDOK *e*S S 09 04 35.6 +0.9
baz=275
MDOK LR LR 09 13 27.1
comp=Z,3μm,10.1s,baz=275
MDOK Medeo 37.61 275 *e*P P 08 58 45.3 +0.1
MDOK *e*S S 09 04 35.5 +0.9
MDOK MLR MLR
comp=Z,3μm,10.0s
AAA Alma-Ata 37.66 275 *e*P P 08 58 45.5 0.0
comp=Z,44nm,1.2s,baz=275
AAA Alma-Ata 37.66 275 *e*P P 08 58 45.5 0.0
AAA Alma-Ata 37.66 275 *e*P P 08 58 45.5 0.0
AAA pmax pmax
comp=Z,44nm,1.2s
COLA College 37.67 43 P P 08 58 44.8 -0.4
COLA IAmb IAmb 08 58 53.8
comp=Z,30nm,0.7s
COLA College 37.67 43 P P 08 58 45.6 +0.4
baz=294
COLA College 37.67 43 *d i*P P 08 58 44.9 -0.3
COLA pmax pmax
comp=Z,31nm,0.9s
P19K Oil Pt 37.69 53 P P 08 58 43.9 -1.6
baz=297
MCK McKinley 37.72 45 P P 08 58 45.7 -0.1
baz=295,SNR=26
MCK McKinley 37.72 45 P P 08 58 45.5 -0.3
POKR Poker Plat Res 37.73 43 P P 08 58 46.0 +0.2
POKR IAmb IAmb 08 58 49.3
comp=Z,52nm,1.1s
POKR Poker Plat Res 37.73 43 P P 08 58 46.1 +0.2
baz=294,SNR=18
CUT Chulitna 37.75 48 P P 08 58 45.4 -0.6
CUT Chulitna 37.75 48 P P 08 58 45.2 -0.7
baz=296,SNR=6.5
WRH Wood River Hil 37.75 44 P P 08 58 45.3 -0.6
KMI Kunming 37.76 229 ⇓P P 08 58 47.6 +0.9
KMI S S 09 04 38.9 +1.6
KMI pmax pmax
comp=Z,22nm,1.3s
KMI LR LR
comp=Z,3μm,13.9s
KMI LR LR
comp=Z,5μm,14.2s
KMI LR LR
comp=Z,2μm,16.2s
O20K Slope Mountain 37.77 52 P P 08 58 45.9 -0.3
baz=297
Q19K Cape Douglas, 37.84 54 P P 08 58 45.9 -0.8
baz=298
H25L Birch Creek 37.87 41 P P 08 58 47.7 +0.8
baz=294,SNR=46
F26K Sheenjek River 37.89 38 P P 08 58 47.8 +0.7
baz=294,SNR=85
RND Reindeer 37.90 46 P P 08 58 46.7 -0.6
RND IAmb IAmb 08 58 48.9
comp=Z,41nm,1.3s
RND Reindeer 37.90 46 P P 08 58 46.7 -0.6
RND pmax pmax
comp=Z,41nm,1.3s
FYU Fort Yukon 37.96 40 P P 08 58 47.9 +0.3
SUA Susitna One 37.96 49 P P 08 58 47.1 -0.8
SUA IAmb IAmb 08 58 59.0
comp=Z,32nm,0.8s
SUA Susitna One 37.96 49 P P 08 58 47.4 -0.5
baz=297,SNR=17
IL31 38.09 43 P P 08 58 48.0 -0.8
ILAR Eielson Array 38.09 43 P P 08 58 48.4 -0.5
ILAR Eielson Array 38.09 43 P P 08 58 48.7 -0.1
comp=Z,53nm,0.9s,baz=287,slow=7.3,SNR=314
ILAR LR LR 09 13 44.6
comp=Z,1μm,18.8s,baz=290,slow=35
comp=Z,53nm,0.9s
M22K Willow 38.10 49 P P 08 58 48.0 -0.9
M22K IAmb IAmb 08 59 00.2
comp=Z,33nm,0.7s
M22K Willow 38.10 49 P P 08 58 48.0 -0.9
baz=297,SNR=6.2
TARG Taragay, Kyrgy 38.10 272 P P 08 58 50.1 +0.4
TARG IAmb IAmb 09 00 09.0
comp=Z,42nm,0.7s
TARG Taragay, Kyrgy 38.10 272 P P 08 58 50.1 +0.4
TARG pmax pmax
comp=Z,42nm,0.7s
R18K Karluk 38.11 56 P P 08 58 46.8 -2.2
baz=299
BTLS Baital 38.12 279 *e*P P 08 58 48.9 -0.5
baz=279
BTLS Baital 38.12 279 *e*P P 08 58 48.8 -0.5
HDA Harding Lake 38.22 44 P P 08 58 49.3 -0.6
HDA IAmb IAmb 08 58 50.9
comp=Z,56nm,1.0s
HDA Harding Lake 38.22 44 P P 08 58 49.5 -0.4
baz=296,SNR=44
WAT1 Susitna Watana 38.27 47 P P 08 58 49.6 -0.9
baz=296
PRP Porcupine Dome 38.29 42 P P 08 58 50.8 +0.1
PRP IAmb IAmb 08 58 52.4
comp=Z,34nm,1.0s
PRP Porcupine Dome 38.29 42 P P 08 58 51.2 +0.5
baz=295,SNR=59
G26K Porcupine Rive 38.32 39 P P 08 58 51.6 +0.9
baz=295,SNR=81
D27M Malcolm River 38.33 35 P P 08 58 51.0 +0.1
baz=294

HOM	Homer	38.40	52	P	P	08 58 51.0	-0.4
	baz=298						
CHIR	Chirikof Islan	38.41	59	P	P	08 58 50.0	-1.6
	baz=300						
E27K	Coleen River	38.56	37	P	P	08 58 53.2	+0.5
	baz=295,SNR=73						
Q20K	Shuyak Island	38.56	54	P	P	08 58 51.5	-1.3
	baz=299,SNR=10.0						
RC01	Rabbit Creek A	38.57	49	P	P	08 58 51.6	-1.3
	baz=298						
TKM2	Tokmak 2	38.58	276	P	P	08 58 54.2	+0.7
	SNR=28						
TKM2	Tokmak 2	38.58	276	*i* P	P	08 58 53.2	-0.3
TKM2				pmax	pmax		
	comp=Z,35nm,0.9s						
PMR	Palmer	38.59	48	P	P	08 58 51.9	-1.1
	baz=297,SNR=12						
GHO	Glory Hole Cre	38.60	48	P	P	08 58 52.5	-0.7
SVE	Sverdlovsk	38.63	303	*de*P	P	08 58 54.3	+0.9
SVE				*e*S	S	09 04 49.3	-0.2
SVE				*e*		09 07 26.7	
SVE				pmax	pmax		
	comp=Z,46nm,1.2s						
SVE				MLR	MLR		
	comp=Z,3µm,13.0s						
DHY	Denali Highway	38.64	46	P	P	08 58 52.9	-0.7
	baz=297,SNR=68						
ULHL	Ulahol	38.65	274	P	P	08 58 57.8	+3.7
	SNR=6.9						
BOOM	Boomskoye usch	38.67	275	P	P	08 58 54.0	0.0
BOOM				IAmb	IAmb	08 59 00.1	
	comp=Z,57nm,1.0s						
BOOM	Boomskoye usch	38.67	275	P	P	08 58 54.1	0.0
BOOM				pmax	pmax		
	comp=Z,57nm,1.0s						
WAT6	Susitna Watana	38.72	47	P	P	08 58 53.1	-1.3
	baz=297,SNR=32						
SII	Sitkinak Islan	38.73	58	P	P	08 58 52.5	-1.9
	baz=300						
J25K	Salcha River,	38.75	43	P	P	08 58 53.4	-1.0
	baz=296,SNR=33						
BRSE	Bradley Lake S	38.76	52	P	P	08 58 53.3	-1.2
	baz=298,SNR=7.3						
SGDS	Sogindy	38.79	277	*e*P	P	08 58 55.2	+0.2
	baz=277						
SGDS	Sogindy	38.79	277	*e*P	P	08 58 55.1	+0.1
OHAK	Old Harbor	38.83	56	P	P	08 58 53.0	-2.0
	baz=300,SNR=5.6						
SML	Sawmill	38.83	48	P	P	08 58 54.4	-0.7
	baz=298,SNR=51						
O22K	Cooper Landing	38.86	50	P	P	08 58 54.4	-0.9
	baz=298						
KDAK	Kodiak Island	38.88	55	P	P	08 58 53.4	-2.0
	baz=300						
KDAK	Kodiak Island	38.88	55	LR	LR	09 14 59.2	
	comp=Z,1µm,19.9s,baz=338,slow=36						
K24K	Donnelly Dome	38.95	44	P	P	08 58 55.2	-0.9
	baz=297,SNR=14						
KNK	Knik Glacier	38.96	48	P	P	08 58 55.6	-0.6
	baz=298,SNR=13						
USP	Ospenovka	38.98	277	P	P	08 59 00.1	+3.5
	SNR=21						
CHMS	Chumysh	39.01	276	P	P	08 59 00.6	+3.7
	SNR=9.7						
D28M	Stokes Point	39.01	34	P	P	08 58 56.8	+0.4
	baz=296,SNR=6.7						
E28M	Babbage River	39.07	36	P	P	08 58 57.6	+0.6
	baz=296,SNR=45						
M23K	Glacier View	39.09	48	P	P	08 58 56.6	-0.7
	baz=298,SNR=7.7						
KBK	Karagaybulak	39.12	276	P	P	08 59 01.8	+3.9
	SNR=7.8						
G27K	Doyon Strip	39.14	39	P	P	08 58 58.5	+0.8
	baz=296,SNR=113						
SEW	Seward	39.16	51	P	P	08 58 56.6	-1.1
	baz=299,SNR=7.9						
SCM	Sheep Creek Mo	39.24	48	P	P	08 58 58.0	-0.5
SCM				IAmb	IAmb	08 58 59.5	
	comp=Z,61nm,1.1s						
SCM	Sheep Creek Mo	39.24	48	P	P	08 58 58.1	-0.5
	baz=298,SNR=21						
SCM	Sheep Creek Mo	39.24	48	P	P	08 58 58.0	-0.5
SCM				pmax	pmax		
	comp=Z,61nm,1.1s						
I26K	Coal Creek Min	39.28	41	P	P	08 58 59.1	+0.3
	baz=297						
AAK	Ala-Archa	39.39	276	P	P	08 59 04.0	+3.8
	SNR=20						
AAK	Ala-Archa	39.39	276	P	P	08 58 59.5	-0.6
AAK				IAmb	IAmb	08 59 05.8	
	comp=Z,44nm,0.9s						
AAK	Ala-Archa	39.39	276	Lg	Lg	09 12 13.1	
	comp=Z,0.5nm,0.3s,baz=163,slow=20,SNR=1.5						
AAK				LR	LR	09 15 58.7	
	comp=Z,3µm,19.3s,baz=40,slow=37						
AAK	Ala-Archa	39.39	276	P	P	08 59 00.3	+0.2
AAK	Ala-Archa	39.39	276	*ce*P	P	08 59 00.3	+0.2
AAK				pmax	pmax		
	comp=Z,45nm,0.8s						
AAK				MLR	MLR		
	comp=Z,4µm,11.0s						
F28M	Old Crow	39.40	37	P	P	08 59 00.2	+0.4
F28M				IAmb	IAmb	08 59 01.8	
	comp=Z,77nm,1.1s						
F28M	Old Crow	39.40	37	P	P	08 59 00.7	+0.9
	baz=297,SNR=90						
H27K	Steamboat Moun	39.45	39	P	P	08 59 01.0	+0.8
	baz=297,SNR=50						
PAX	Paxson	39.46	45	P	P	08 58 59.4	-1.0
	baz=298,SNR=37						
J26L	Joseph Creek	39.49	43	P	P	08 58 59.1	-1.6
	baz=298,SNR=54						
SCRK	Sand Creek	39.58	43	P	P	08 58 59.8	-1.6
	baz=298,SNR=25						
M24K	Tolsona, Glenn	39.59	47	P	P	08 59 01.9	+0.4
	baz=299,SNR=20						
E29M	Blow River	39.70	35	P	P	08 59 01.5	-0.8
E29M	Blow River	39.70	35	P	P	08 59 02.9	+0.6
	baz=298,SNR=40						
I27K	Kandik River	39.71	40	P	P	08 59 03.3	+0.9
	baz=298,SNR=41						
TNCH	TengChong	39.71	234	*e*P	P	08 59 04.4	+1.4
TNCH				S	S	09 05 07.8	+1.2
TNCH				pmax	pmax		
	comp=Z,140nm,4.9s						
TNCH				LR	LR		
	comp=Z,920nm,7.5s						
TNCH				LR	LR		
	comp=Z,1µm,8.6s						
TNCH				LR	LR		
	comp=Z,1µm,11.5s						
GLI	Glacier Island	39.80	49	P	P	08 59 02.1	-1.1
	baz=299						
ARU	Arti	39.82	303	P	P	08 59 03.0	-0.4
ARU	Arti	39.82	303	P	P	08 59 03.5	+0.1
ARU	Arti	39.82	303	*c i*P	P	08 59 03.4	+0.1
ARU						09 00 34.7	
ARU				PPP	PPP	09 00 56.5	
ARU				S	S	09 05 09.2	+1.9
ARU				SS	SS	09 08 02.1	-0.8
ARU				pmax	pmax		
	comp=Z,38nm,1.2s						
ARU				MLR	MLR		
	comp=Z,2µm,13.0s						
ARU	Arti	39.82	303	P	P	08 59 02.7	-0.7
	comp=Z,28nm,1.3s						
HARP	HAARP	39.87	46	P	P	08 59 02.7	-1.0
	baz=299						
KLU	Klutina	39.99	47	P	P	08 59 04.7	-0.1
	baz=299,SNR=9.4						
P23K	Montague Islan	40.11	50	P	P	08 59 05.2	-0.4
	baz=300,SNR=8.1						
MENT	Mentasta	40.18	45	P	P	08 59 05.6	-0.8
EGAK	Eagle	40.27	41	P	P	08 59 06.9	-0.1
	baz=299,SNR=80						
L26K	Log Cabin Wild	40.29	44	P	P	08 59 06.7	-0.6
	baz=299,SNR=45						
K27K	Chicken	40.29	43	P	P	08 59 07.1	-0.1
	baz=299,SNR=62						
HIN	Hinchinbrook I	40.29	49	P	P	08 59 06.8	-0.5
HIN				IAmb	IAmb	08 59 08.5	
	comp=Z,74nm,1.1s						
G29M	Pine Creek	40.36	38	P	P	08 59 08.6	+0.8
	baz=299,SNR=74						
I28M	Miner Creek	40.40	40	P	P	08 59 09.1	+0.9
	baz=299,SNR=57						
N25K	Chitina, Valde	40.49	47	P	P	08 59 09.4	+0.5
	baz=300,SNR=46						
EYAK	Cordova Ski Ar	40.54	49	P	P	08 59 09.5	+0.2
	baz=300,SNR=16						
H29M	Whitestone	40.58	39	P	P	08 59 09.8	+0.3
H29M				IAmb	IAmb	08 59 11.8	
	comp=Z,52nm,1.1s						
H29M	Whitestone	40.58	39	P	P	08 59 10.4	+0.8
	baz=299,SNR=32						
QIZ	Qiongzhong	40.61	215	P	P	08 59 09.6	-0.6
QIZ				S	S	09 05 20.6	+0.9
QIZ				LR	LR		
	comp=Z,2µm,16.0s						
QIZ				LR	LR		
	comp=Z,4µm,15.1s						
QIZ				LR	LR		
	comp=Z,1µm,15.3s						
KSH	Kashi	40.62	271	P	P	08 59 15.4	+5.1
KSH				pP	sP	08 59 18.3	+3.0
KSH				S	S	09 05 25.9	+6.0
KSH				pmax	pmax		
	comp=Z,12nm,1.0s						
KSH				LR	LR		
	comp=Z,4µm,12.4s						
KSH				LR	LR		
	comp=Z,9µm,12.4s						
KSH				LR	LR		
	comp=Z,3µm,17.2s						
SLVN	Son La	40.65	225	P	P	08 59 10.8	+0.1
M26K	Nabesna, AK	40.74	45	P	P	08 59 11.4	+0.4
	baz=300,SNR=55						
F30M	Barrier River	40.78	36	P	P	08 59 12.2	+1.0
	baz=300,SNR=37						
BMRM	Bremner River	40.81	48	P	P	08 59 11.8	+0.2
	baz=301,SNR=25						
Q23K	Middleton Isla	40.86	50	P	P	08 59 11.1	-0.8
	baz=301						
L27K	Beaver Creek,	40.87	44	P	P	08 59 12.0	-0.1
	baz=300,SNR=75						
BCAR	Beaver Creek A	40.88	44	P	P	08 59 12.2	0.0
G30M	tAoh Zraii Nji	40.95	37	P	P	08 59 13.1	+0.5
	baz=300,SNR=41						
I29M	Ogilvie Camp,	41.03	40	P	P	08 59 13.7	+0.4
	baz=300,SNR=57						
RAGM	Ragged Mountai	41.08	48	P	P	08 59 14.2	+0.4
RAGM				IAmb	IAmb	08 59 15.6	
	comp=Z,68nm,1.2s						
EPYK	Eagle Plains	41.09	38	P	P	08 59 14.1	+0.3
	baz=300,SNR=33						
ARSB	Arslanbob	41.10	276	P	P	08 59 13.8	-0.5
ARSB	Arslanbob	41.10	276	P	P	08 59 13.8	-0.5
ARSB				pmax	pmax		
	comp=Z,16nm,1.2s						
SPITS	Spitsbergen Ar	41.14	344	P	P	08 59 15.7	+1.6
	comp=Z,12nm,0.9s,baz=350,slow=7.3,SNR=3.0						
SPITS				LR	LR	09 16 56.6	
	comp=Z,761nm,18.8s,baz=7.5,slow=37						
	comp=Z,12nm,0.9s						
INK	Inuvik	41.16	34	P	P	08 59 15.2	+1.0
	baz=301,SNR=17						
INK	Inuvik	41.16	34	LR	LR	09 19 04.7	
	comp=Z,963nm,19.5s,baz=262,slow=40						
INK	Inuvik	41.16	34	P	P	08 59 15.0	+0.7
M27K	Edge Creek, AK	41.21	45	P	P	08 59 15.4	+0.5
	baz=301,SNR=63						
MCARA	McCarthy VSAT	41.25	47	P	P	08 59 16.0	+0.8
	baz=301,SNR=26						
HMT	Hamilton	41.28	48	P	P	08 59 15.8	+0.3
HMT				IAmb	IAmb	08 59 27.0	
	comp=Z,35nm,0.8s						
DAWY	Dawson	41.29	42	P	P	08 59 15.0	-0.5
DAWY	Dawson	41.29	42	P	P	08 59 15.1	-0.4
	baz=301,SNR=26						
KK31	Karatay Array	41.32	280	*i* P	P	08 59 14.6	-1.4
KAIM	Kayak Island	41.43	49	P	P	08 59 17.2	+0.6
	baz=302,SNR=6.4						
J29N	Klondike Camp	41.53	41	P	P	08 59 18.0	+0.5
	baz=301						
F31M	Tsiigehtchic	41.54	36	P	P	08 59 18.1	+0.7
	baz=301,SNR=56						
CRQE	Cirque	41.55	47	P	P	08 59 18.4	+0.7
	baz=302,SNR=21						
G31M	Satah River	41.64	36	P	P	08 59 18.6	+0.4
	baz=302,SNR=38						
TGL	Tana Glacier	41.66	47	P	P	08 59 18.6	0.0
BRLS	Borolday	41.75	280	*e*P	P	08 59 21.2	+1.6
	baz=280						
BRLS	Borolday	41.75	280	*e*P	P	08 59 21.1	+1.6
I30M	Mount Dempster	41.80	39	P	P	08 59 19.4	-0.3
I30M				IAmb	IAmb	08 59 21.1	
	comp=Z,39nm,1.1s						
I30M	Mount Dempster	41.80	39	P	P	08 59 20.0	+0.2
	baz=302,SNR=43						
BGLC	Bering Glacier	41.81	48	P	P	08 59 19.0	-0.6
	baz=302						
HSPB	Hornsund (broa	42.05	343	*e*P	P	08 59 25.6	+4.2
YUK3	Moose Creek	42.08	45	P	P	08 59 22.1	-0.1
	baz=302,SNR=14						
K29M	Barlow Dome	42.12	41	P	P	08 59 22.2	-0.1
	baz=302,SNR=26						
J30M	Hart River	42.16	40	P	P	08 59 23.2	+0.5
	baz=302,SNR=72						
CTG	Chitna Glacier	42.16	46	P	P	08 59 23.6	+0.8
	baz=303,SNR=57						
CTGM	Chitina Glacie	42.17	46	P	P	08 59 23.1	+0.3
H31M	Peel River	42.21	38	P	P	08 59 23.0	0.0
	baz=302						
IUG	Iuzhnay	42.22	279	*e*P	P	08 59 23.7	+0.3
	comp=Z,28nm,0.9s,baz=279						
IUG	Iuzhnay	42.22	279	*e*P	P	08 59 23.7	+0.3
IUG				pmax	pmax		
	comp=Z,28nm,0.9s						
L29M	L29M	42.28	43	P	P	08 59 24.5	+0.9
	baz=303,SNR=133						
MESA	MESA	42.34	48	P	P	08 59 24.7	+0.4
MESA				IAmb	IAmb	08 59 26.1	
	comp=Z,56nm,1.0s						
MESA	MESA	42.34	48	P	P	08 59 25.1	+0.8
	baz=303,SNR=13						
SHL	Shillong	42.45	242	P	P	08 59 26.6	+1.0
SHL				pmax	pmax		
	comp=Z,20nm,1.0s						
M29M	Somme Creek	42.51	43	P	P	08 59 26.7	+1.1
	baz=303,SNR=52						
YUK8	Steele Glacier	42.63	45	P	P	08 59 26.6	-0.2
	baz=303,SNR=16						
O28M	Mount Upton	42.74	46	P	P	08 59 27.9	+0.2
	baz=304,SNR=8.9						
KIRV	Kirov	42.82	310	LR	LR	09 17 04.7	
	comp=Z,694nm,20.0s,baz=55,slow=36						
KIRV	Kirov	42.82	310	*ce*P	P	08 59 27.6	-0.3
MAYO	Mayo, Yukon	42.86	41	P	P	08 59 28.6	+0.3
	baz=304,SNR=15						
GUMO	Guam	42.91	163	LR	LR	09 14 53.9	
	comp=Z,216nm,21.3s,baz=6.0,slow=33						
YUK4	Talbot Arm	43.05	45	P	P	08 59 30.9	+0.8
	baz=304,SNR=15						
M30M	Minto, Yukon	43.09	43	P	P	08 59 31.1	+0.9
	baz=304,SNR=84						
PINM	Pinnacle	43.09	47	P	P	08 59 30.3	0.0
	baz=304,SNR=15						
YUK6	Outpost Mounta	43.39	45	P	P	08 59 33.6	+0.8
	baz=304,SNR=39						
C36M	Paulatuk	43.45	30	P	P	08 59 33.3	+0.5
	baz=306,SNR=9.3						
AKTO	Aktyubinsk	43.48	296	LR	LR	09 18 03.6	
	comp=Z,1µm,18.3s,baz=58,slow=37						
N30M	Aishikik Lake	43.60	44	P	P	08 59 35.7	+1.4
	baz=305,SNR=74						
O29M	Mount Kennedy	43.67	46	P	P	08 59 35.7	+0.8
	baz=305,SNR=16						
PNL	Peninsula	43.69	47	P	P	08 59 35.1	+0.1
	baz=305,SNR=13						
HYT	Haines Junctio	43.80	45	P	P	08 59 36.4	+0.3
HYT	Haines Junctio	43.80	45	P	P	08 59 37.2	+1.1
	baz=305,SNR=81						
N31M	Braeburn, Yuko	44.10	44	P	P	08 59 39.6	+1.3
	baz=306,SNR=78						
M31M	Drury Creek, Y	44.22	42	P	P	08 59 40.0	+0.8
	baz=306,SNR=35						
O30N	Mendenhall	44.40	45	P	P	08 59 41.9	+1.2
	baz=306,SNR=79						
P29M	Windy Craggy	44.40	47	P	P	08 59 42.0	+1.3
	baz=306,SNR=13						
P30M	Million Dollar	44.43	46	P	P	08 59 42.2	+1.2
	baz=306						
FARO	Faro, Yukon	44.60	42	P	P	08 59 43.0	+0.8
	baz=306,SNR=160						
ARCES	ARCESS Array B	44.74	332	P	P	08 59 45.4	+2.1
	comp=Z,3.1nm,0.7s,baz=46,slow=8.7,SNR=9.8						
ARCES				LR	LR	09 21 30.6	
	comp=Z,574nm,18.7s,baz=42,slow=40						
	comp=Z,3.1nm,0.7s						
CHTO	Chiang Mai	44.96	229	P	P	08 59 44.6	-1.0
CHTO	Chiang Mai	44.96	229	P	P	08 59 44.6	-1.0
CHTO				pmax	pmax		
	comp=Z,20nm,0.9s						
CHGR	Chuyangaron	45.06	276	P	P	08 59 46.1	-0.2
CHGR				pmax	pmax		
	comp=Z,93nm,1.0s						
PLBC	Pleasant Camp	45.07	46	P	P	08 59 46.8	+0.9
	baz=307,SNR=22						
SIMJ	Simiganj	45.15	276	P	P	08 59 46.0	-1.0
SIMJ				IAmb	IAmb	08 59 52.5	
	comp=Z,36nm,1.1s						
CMAR	Chiang Mai Arr	45.27	229	P	P	08 59 48.5	+0.4
	comp=Z,7.0nm,0.7s,baz=17,slow=7.5,SNR=21						
CMAR				PcP	PcP	09 01 28.2	+0.4
	comp=Z,1.4nm,0.3s,baz=328,slow=2.7,SNR=2.1						
CMAR				LR	LR	09 20 48.0	
	comp=Z,995nm,19.4s,baz=25,slow=39						
	comp=Z,7.0nm,0.7s						
N32M	Quiet Lake	45.35	43	P	P	08 59 48.8	+0.5
	baz=307						
SKAG	Skagway	45.49	46	P	P	08 59 50.6	+1.3
	baz=307,SNR=50						
KLMR	Klimovskoe	45.56	317	*e*P	P	08 59 47.4	-2.5
KLMR				pmax	pmax		
	comp=Z,61nm,1.2s						
KLMR				MLR	MLR		
	comp=Z,1µm,16.0s						
R31K	City Hall, Gus	45.96	47	P	P	08 59 53.4	+0.4
	baz=308						
P33M	Teslin, Yukon	46.03	44	P	P	08 59 54.6	+0.9
	baz=308,SNR=123						
S31K	Pelican	46.03	48	P	P	08 59 54.4	+0.8
	baz=308,SNR=11						
P32M	Atlin	46.06	45	P	P	08 59 55.0	+1.1
	baz=308,SNR=41						
RES	Resolute Bay	46.09	16	LR	LR	09 19 12.8	
	comp=Z,498nm,21.8s,baz=306,slow=36						
TRO	Tromso	46.39	334	P	P	08 59 56.3	+0.1
R32K	Eaglecrest	46.55	47	P	P	08 59 58.4	+0.7
	baz=309,SNR=11						
DAG	Danmarks Havn	46.66	351	P	P	09 00 02.3	+4.0
DAG				pmax	pmax		
	comp=Z,21nm,0.8s						
TGTN	Hyland Airport	46.93	40	P	P	09 00 01.2	+0.5
	baz=310						
SIT	Sitka	46.98	48	P	P	09 00 02.3	+1.2
	baz=309,SNR=14						
Q32M	Nakina River	47.03	45	P	P	09 00 03.0	+1.3
	baz=309,SNR=29						
S32K	Killisnoo	47.04	48	P	P	09 00 02.3	+0.8
	baz=309						
JOF	Joensuu	47.26	322	*e*P	P	09 00 03.6	+0.4
R33M	Jennings River	47.27	44	P	P	09 00 05.1	+1.6
	baz=310,SNR=178						
BELG	Belogornoye	47.36	304	LR	LR	09 21 47.1	
	comp=Z,1µm,18.2s,baz=52,slow=38						
BELG	Belogornoye	47.36	304	*c i*P	P	09 00 03.9	-0.2
BELG				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BELG				MLR	MLR		
	comp=Z,190nm,14.0s						
WRGLY	Wrigley	47.51	37	P	P	09 00 05.7	+0.6
	baz=312						
OUL	Oulu	47.59	327	P	P	09 00 07.5	+1.8
OUL				pmax	pmax		
	comp=Z,18nm,1.2s						
WTLY	Watson Lake, Y	47.65	42	P	P	09 00 07.0	+0.7
	baz=311,SNR=22						
KBL	Kabul	48.05	272	P	P	09 00 08.5	-1.5
KBL				IAmb	IAmb	09 00 30.4	
	comp=Z,16nm,0.9s						
KBL	Kabul	48.05	272	P	P	09 00 08.5	-1.5
KBL				pmax	pmax		
	comp=Z,16nm,1.0s						
T33K	Petersburg	48.14	47	P	P	09 00 11.2	+1.2
	baz=311,SNR=9.5						
S34M	Telegraph Cree	48.17	45	P	P	09 00 11.3	+1.1
	baz=311,SNR=17						
DLBC	Dease Lake	48.27	44	P	P	09 00 13.0	+1.8
	baz=311,SNR=117						
DLBC	Dease Lake	48.27	44	LR	LR	09 23 14.8	
	comp=Z,782nm,18.1s,baz=308,slow=40						
VALR	Valaam	48.45	321	*i* P	P	09 00 12.6	+0.2
VALR				pmax	pmax		
	comp=Z,26nm,1.0s						
VALR				MLR	MLR		
	comp=Z,55nm,5.0s						
U33K	Whale Pass	48.52	48	P	P	09 00 13.7	+0.7
	baz=311,SNR=5.3						
WRAK	Wrangell Islan	48.65	48	P	P	09 00 14.9	+0.9
	baz=311						
DAV	Davao City (W)	48.82	190	LR	LR	09 20 49.3	
	comp=Z,579nm,21.4s,baz=348,slow=36						
CRAG	Craig	48.95	49	P	P	09 00 17.1	+0.8
	baz=311,SNR=7.3						
LIRD	Liard River Hi	49.13	42	P	P	09 00 17.8	+0.1
	baz=313,SNR=6.4						
T35M	Bob Quinn	49.14	46	P	P	09 00 20.1	+2.2
	baz=312,SNR=21						
KOTAN	Kotaneelee Air	49.40	40	P	P	09 00 20.3	+0.5
	baz=313,SNR=10						
MOS	Moscow	49.62	312	*e*P	P	09 00 17.8	-3.7
MOS				*e*		09 01 37.5	
MOS				*e*		09 02 12.6	
MOS				*e*PPP	PPP	09 03 05.7	
MOS				*e*S	S	09 07 27.0	-2.3
MOS				*e*		09 10 07.4	
MOS				*e*SS	SS	09 11 00.6	-0.2
MOS				pmax	pmax		
	comp=Z,33nm,0.6s						
MOS				MLR	MLR		
	comp=Z,1µm,16.0s						
V35K	Ketchikan	49.68	48	P	P	09 00 22.3	+0.4
	baz=312						
PUL	Pulkovo	49.74	320	P	P	09 00 23.3	+1.0
PUL	Pulkovo	49.74	320	*i* P	P	09 00 23.3	+1.0
PUL				pmax	pmax		
	comp=Z,49nm,1.0s						
PUL				MLR	MLR		
	comp=Z,1µm,12.0s						
TOAD	Toad River Com	49.84	42	P	P	09 00 23.4	+0.2
	baz=313,SNR=49						
U35K	Hyder	49.95	47	P	P	09 00 24.8	+0.9
	baz=313						
KEF	Keuruu	49.95	324	*e*P	P	09 00 24.1	+0.2
VAF	Ylistaro	50.03	326	*e*P	P	09 00 24.8	+0.3
FIA1	FINESS Array S	50.06	323	P	P	09 00 24.3	-0.4
FIA1				IAmb	IAmb	09 00 33.8	
	comp=Z,32nm,1.1s						
FINES	FINESS Array B	50.07	323	P	P	09 00 23.9	-0.9
FINES	FINESS Array B	50.07	323	P	P	09 00 25.0	+0.2
	comp=Z,9.2nm,0.5s,baz=43,slow=8.3,SNR=21						
FINES				LR	LR	09 26 13.5	
	comp=Z,337nm,18.4s,baz=54,slow=42						
	comp=Z,9.2nm,0.5s						
FINES	FINESS Array B	50.07	323	*i* P	P	09 00 25.2	+0.4
FINES				pmax	pmax		
	comp=Z,12nm,0.5s						
OBN	Obninsk	50.49	312	LR	LR	09 22 06.5	
	comp=Z,405nm,19.8s,baz=46,slow=36						
OBN	Obninsk	50.49	312	P	P	09 00 27.6	-0.4
OBN	Obninsk	50.49	312	*d i*P	P	09 00 27.6	-0.4
OBN				*e*		09 01 49.4	
OBN				*e*		09 02 21.4	
OBN				*e*S	S	09 07 36.1	-5.3
OBN				pmax	pmax		
	comp=Z,51nm,1.7s						
OBN				MLR	MLR		
	comp=Z,2µm,14.0s						
JMIC	Jan Mayen	50.78	345	LR	LR	09 22 19.2	
	comp=Z,125nm,18.5s,baz=38,slow=36						
VRH	Novokhopyorsk	50.90	306	*e*P	P	09 00 30.9	-0.3
VRH				pmax	pmax		
	comp=Z,53nm,1.2s						
YKA	Yellowknife Ar	50.92	34	P	P	09 00 31.8	+0.5
	comp=Z,17nm,1.1s,baz=315,slow=7.5,SNR=18						
YKA				LR	LR	09 22 43.9	
	comp=Z,496nm,20.3s,baz=301,slow=37						
	comp=Z,

comp=Z,18nm,1.1s
LPSR Galich'ya Gora 51.20 309 *e*P P 09 00 31.2 -2.2
LPSR pmax pmax
comp=Z,30nm,0.9s
LPSR MLR MLR
comp=Z,2μm,13.0s
MEF Metsahovi 51.52 323 *e*P P 09 00 39.1 +3.4
VORR Voronezh 51.72 308 *e*P P 09 00 37.0 -0.3
VORR pmax pmax
comp=Z,30nm,1.3s
GEYT Alibeck 51.74 283 P **P 09 00 37.5 -0.3**
GEYT Alibeck 51.74 283 P **P 09 00 37.5 -0.3**
comp=Z,8.5nm,0.6s,baz=28,slow=6.7,SNR=9.6
GEYT LR LR 09 22 10.1
comp=Z,825nm,21.8s,baz=58,slow=36
comp=Z,8.5nm,0.6s
GEYT Alibeck 51.74 283 P **P 09 00 37.5 -0.3**
GEYT pmax pmax
comp=Z,120nm,1.8s
GYA0 ALIBECK ARRAY 51.74 283 P **P 09 00 38.1 +0.3**
GYA0B ALIBECK ARRAY 51.74 283 P **P 09 00 37.6 -0.2**
RAF Rauma 51.81 325 *e*P P 09 00 37.8 -0.1
VSU Vasula 51.98 320 *ce*P P 09 00 39.5 +0.4
VSU pmax pmax
comp=Z,40nm,1.3s
VSU MLR MLR
comp=Z,1μm,16.0s
HRA Herat 52.00 277 P **P 09 00 39.1 -0.9**
HRA IAmb IAmb 09 00 45.4
comp=Z,66nm,1.9s
VSR Storozhevoye 52.05 307 *e*P P 09 00 37.2 -2.6
VSR pmax pmax
comp=Z,30nm,1.1s
VSR MLR MLR
comp=Z,2μm,12.0s
VORD Divnogorie 52.17 307 *e*P P 09 00 39.0 -1.7
VORD pmax pmax
comp=Z,60nm,0.3s
VORD MLR MLR
comp=Z,840nm,10.0s
MTSE Matsula 52.83 322 *e*P P 09 00 46.4 +0.9
MAK Makhachkala 53.83 295 *d*P P 09 00 47.2 -5.9
MAK *e*S **S 09 08 20.0 -7.6**
MAK *e*SS **SS 09 12 07.0 -0.9**
MAK MLR MLR
comp=Z,1μm,17.0s
MNK Minsk 54.45 316 *i*P P 09 00 55.9 -1.5
MNK *i* 09 01 59.2
MNK *i* 09 02 58.1
MNK *i* PPP PPP 09 04 17.6
MNK *i* S **S 09 08 35.5 -0.2**
MNK *i* 09 10 45.3
MNK *i* SS **SS 09 12 19.4 +2.2**
MNK *i* SSS SSS 09 14 20.0
MNK pmax pmax
comp=N,19nm,0.9s
MNK pmax pmax
comp=Z,20nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK MLR MLR
comp=N,567nm,19.0s
MNK MLR MLR
comp=Z,1μm,16.0s
MNK MLR MLR
comp=E,370nm,16.0s
GOF Gofitskoye 54.58 300 *ce*P P 09 00 58.6 +0.1
NB2 NORSAR Subarra 55.03 330 P **P 09 01 01.2 -0.4**
comp=Z,14nm,0.8s,baz=37,slow=7.4
NB2 NORSAR Subarra 55.03 330 P **P 09 01 01.1 -0.5**
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 55.03 330 P **P 09 01 01.6 0.0**
comp=Z,3.3nm,0.8s,baz=35,slow=7.0,SNR=18
NOA LR LR 09 27 49.6
comp=Z,672nm,19.2s,baz=30,slow=40
comp=Z,3.3nm,0.8s
HFS Hagfors 55.03 328 P **P 09 01 01.0 -0.6**
comp=Z,5.7nm,0.8s,baz=64,slow=10,SNR=7.9
HFS LR LR 09 27 20.8
comp=Z,537nm,19.3s,baz=28,slow=39
comp=Z,5.7nm,0.8s
NORES NORESS Array B 55.18 329 P **P 09 01 06.5 +3.8**
PABE Paberze 55.19 319 *e*P P 09 01 02.9 +0.1
ERBR Yeremizino-Bor 55.35 302 *e*P P 09 01 04.4 +0.3
ERBR *e* 09 03 15.2
ERBR *e*S **S 09 08 46.0 -2.1**
ERBR pmax pmax
comp=Z,40nm,0.6s
ERBR MLR MLR
comp=Z,876nm,12.0s
NCK Nalchik 55.43 298 *i*P P 09 01 05.4 +0.7
NCK pmax pmax
comp=Z,12nm,0.8s
NCK MLR MLR
comp=Z,992nm,12.0s
KIV Kislovodsk 55.55 299 ⇑P **P 09 01 06.2 +0.5**
KIV Kislovodsk 55.55 299 P **P 09 01 06.0 +0.3**
KIV Kislovodsk 55.55 299 *e*P P 09 01 06.0 +0.3
KIV *e*S **S 09 08 52.2 +1.2**
KIV pmax pmax
comp=Z,15nm,4.2s
KIV pmax pmax
comp=Z,57nm,1.0s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 55.55 299 P **P 09 01 05.8 +0.1**
comp=Z,62nm,1.0s,comp=Z,464nm
KBZ Khabaz 55.61 299 P **P 09 01 06.0 0.0**
comp=Z,3.6nm,0.9s,baz=51,slow=5.8,SNR=3.8
KBZ LR LR 09 28 54.0
comp=Z,1μm,18.4s,baz=46,slow=40
comp=Z,3.6nm,0.9s
SHA1 Shidzhatmaz 55.73 299 *ce*P P 09 01 07.3 +0.2
LABN Labinsk 56.02 301 *e*P P 09 01 05.7 -3.2
LABN *e*S **S 09 08 52.8 -4.2**
LABN pmax pmax
comp=Z,29nm,0.4s
LABN MLR MLR
comp=Z,2μm,15.0s
HYB Hyderabad 56.09 250 *e*P P 09 01 10.9 +1.1
GANJ Ganja 56.12 294 P **P 09 01 09.4 -0.3**
LKRN Lenkeran, Azer 56.24 290 P **P 09 01 12.9 +2.4**
BRLDA Berland Lookou 56.29 42 P **P 09 01 11.1 +0.2**
SUW Suwalki 56.63 318 *e*P P 09 01 11.9 -1.2
AKASG Malin Array Be 56.75 312 P **P 09 01 13.1 -0.9**
comp=Z,4.2nm,0.7s,baz=39,slow=7.4,SNR=24
AKASG LR LR 09 27 44.9
comp=Z,619nm,18.3s,baz=42,slow=38
comp=Z,4.2nm,0.7s
AKASG Malin Array Be 56.75 312 *i*P P 09 01 13.3 -0.7
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 56.75 312 *ce*P P 09 01 13.1 -1.0
AKBB pmax pmax
comp=Z,15nm,0.9s
AKBB Malin Array Si 56.75 312 P **P 09 01 13.0 -1.0**
AK04 Malin Array Si 56.76 313 P **P 09 01 13.4 -0.7**
AK01 Malin Array Si 56.76 312 P **P 09 01 12.9 -1.2**
KIEV Kiev 56.76 312 ⇑P **P 09 01 13.2 -1.0**
KIEV Kiev 56.76 312 P **P 09 01 13.1 -1.0**
KIEV Kiev 56.76 312 P **P 09 01 12.5 -1.6**
AK08 Malin Array Si 56.79 312 P **P 09 01 13.3 -1.0**
AK09 Malin Array Si 56.79 312 P **P 09 01 13.3 -1.0**
AK02 Malin Array Si 56.79 312 P **P 09 01 13.0 -1.3**
AK11 Malin Array Si 56.79 312 P **P 09 01 13.1 -1.2**
AK18 Malin Array Si 56.80 313 P **P 09 01 12.9 -1.5**
AK20 Malin Array Si 56.81 313 P **P 09 01 13.6 -0.8**
AK10 Malin Array Si 56.82 312 P **P 09 01 13.2 -1.3**
MI28 Mi28,Pidlybu 57.22 314 P **P 09 01 16.5 -0.8**
SOC Sochi 57.29 300 *e*P P 09 01 14.3 -3.6
SOC *e* 09 03 22.9
SOC *e*S **S 09 09 10.7 -3.0**
SOC *e*SS **SS 09 13 03.7 +1.4**
SOC pmax pmax
comp=Z,18nm,0.6s
SOC MLR MLR
comp=Z,965nm,17.0s
GNI Garni 57.30 294 *ce*P P 09 01 18.9 +0.6
GNI pmax pmax
comp=Z,33nm,1.7s
ANN Anapa 57.49 303 *e*P P 09 01 17.7 -1.6
ANN *e*S **S 09 09 14.5 -1.8**
ANN pmax pmax
comp=Z,30nm,1.1s
ANN MLR MLR
comp=Z,895nm,13.0s
RNPP9 Sopachiv 57.58 315 P **P 09 01 19.5 -0.3**
SFJD Kangerlussuaq 57.65 2 LR LR 09 26 50.7
comp=Z,535nm,18.2s,baz=346,slow=37
BORG Borgarnes 58.37 348 LR LR 09 29 01.8
comp=Z,165nm,18.2s,baz=3.1,slow=38
SORM Soroca 59.08 311 P **P 09 01 29.7 -0.7**
SORM Soroca 59.08 311 P **P 09 01 29.7 -0.7**
comp=Z,22nm,0.9s
BEL Belsk 59.24 318 *e*P P 09 01 31.8 +0.4
KMPD K-Podol'skiy 59.55 312 P **P 09 01 32.3 -1.3**
LVV L'vov 59.56 315 *e*P P 09 01 33.2 -0.5
LVV *e* 09 02 21.9
LVV *e*S **S 09 09 43.4 +0.2**
LVV MLR MLR
comp=Z,900nm,14.0s
FRB Frobisher Bay 59.76 11 LR LR 09 28 32.2
comp=Z,616nm,19.6s,baz=342,slow=37
MILM Milestii Mici 59.82 310 *e*P P 09 01 32.0 -3.5
MILM Milestii Mici 59.82 310 *e*PP PP 09 03 54.0 +7.0
MILM Milestii Mici 59.82 310 *e*P P 09 01 32.0 -3.5
MILM *e* 09 02 26.0
MILM *e* 09 03 54.0
MILM MLR MLR
comp=Z,2μm,13.5s
MILM MLR MLR
comp=N,2μm,14.0s
KWP Kalwaria Pacla 60.24 315 *e*P P 09 01 40.3 +1.9
BUR08 Bucovina Ar. S 60.79 313 P **P 09 01 41.7 -0.6**
BURAR Bucovina Array 60.81 313 ⇑P **P 09 01 42.0 -0.4**
OJC Ojcow 60.91 318 *e*P P 09 01 42.5 -0.4
OJC Ojcow 60.91 318 P **P 09 01 43.1 +0.2**
NEW Newport 60.95 46 P **P 09 01 43.0 -0.3**
baz=322,SNR=13
NEW Newport 60.95 46 LR LR 09 30 09.0
comp=N,378nm,20.8s,baz=328,slow=38
NEW Newport 60.95 46 P **P 09 01 43.0 -0.3**
MXC Moxie City 60.95 49 P **P 09 01 42.5 -0.8**
KOLS Kolonicke sedl 60.97 315 *e*P P 09 01 48.0 +4.6
KOLS pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 60.97 315 *e*P P 09 01 48.0 +4.6
STHS Stebnicka Huta 60.99 316 *e*P P 09 01 46.4 +2.9
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 60.99 316 *e*P P 09 01 46.4 +2.9
COR Corvallis 61.18 52 P **P 09 01 45.9 +1.1**
CRVS Cervenica-Dubn 61.31 316 *e*P P 09 01 46.1 +0.4
CRVS pmax pmax
comp=Z,33nm,1.6s
CRVS Cervenica-Dubn 61.31 316 *e*P P 09 01 46.1 +0.4
HOOD Mount Hood Mea 61.34 51 P **P 09 01 45.7 -0.4**
NIE Niedzica 61.36 317 *e*P P 09 01 46.9 +0.9
NIE Niedzica 61.36 317 P **P 09 01 47.1 +1.1**
KAPI Kappang 61.46 195 LR LR 09 27 12.0
comp=Z,276nm,21.5s,baz=7.5,slow=35
VRI Vrincioaia 61.54 310 ⇑P **P 09 01 46.2 -1.2**
VRI Vrincioaia 61.54 310 P **P 09 01 46.1 -1.2**
PLOR Plostina 61.59 310 ⇑P **P 09 01 46.5 -1.1**
PLOR Plostina 61.59 310 P **P 09 01 46.5 -1.1**
TPGR Topolog 61.59 309 ⇓P **P 09 01 47.5 -0.1**
KSP Ksiaz 61.71 320 *e*P P 09 01 48.1 -0.2
KSP Ksiaz 61.71 320 P **P 09 01 48.7 +0.4**
OZUR 61.77 311 ⇓P **P 09 01 48.1 -0.7**
OKC Ostrava-Krasne 61.84 318 AMS AMS 09 31 00.0
comp=Z,800nm,13.9s
OKC Ostrava-Krasne 61.84 318 P **P 09 01 50.9 +1.7**
LANS Liptovska Anna 61.90 317 *e*P P 09 01 50.5 +0.8
LANS pmax pmax
comp=Z,8.0nm,0.8s
LANS Liptovska Anna 61.90 317 *e*P P 09 01 50.5 +0.8
OSTC Ostas 61.97 320 AMS AMS 09 30 40.0
comp=Z,1μm,15.4s
J01E Myrtle Point 62.00 54 P **P 09 01 51.0 +0.6**
CHVC Chvalec 62.00 320 AMS AMS 09 30 40.0
comp=Z,1μm,16.9s
KECS Kecovo 62.04 316 *e*P P 09 01 51.8 +1.2
KECS Kecovo 62.04 316 *e*P P 09 01 51.8 +1.2
UPC Upice 62.08 320 AMS AMS 09 30 40.0
comp=Z,1μm,18.6s
DPC Dobruska-Polom 62.10 320 *e*P P 09 01 51.4 +0.4
DPC AMS AMS 09 30 30.0
comp=Z,1μm,15.9s
DPC Dobruska-Polom 62.10 320 *e*P P 09 01 51.4 +0.4
DPC MLR MLR
comp=Z,1μm,15.9s
DPC Dobruska-Polom 62.10 320 P **P 09 01 50.2 -0.8**
comp=Z,18nm,1.1s
MORC Moravsky Berou 62.12 319 ⇑P **P 09 01 51.2 0.0**
MORC Moravsky Berou 62.12 319 *e*P P 09 01 51.0 -0.2
MORC Moravsky Berou 62.12 319 P **P 09 01 51.1 0.0**
KRLC Kraliky 62.16 319 *e*P P 09 01 51.5 +0.1
KRLC Kraliky 62.16 319 *e*P P 09 01 51.5 +0.1
MLR Muntele Rosu 62.17 311 ⇑P **P 09 01 50.7 -1.0**
MLR Muntele Rosu 62.17 311 LR LR 09 31 57.5
comp=Z,1μm,18.1s,baz=44,slow=39
MLR Muntele Rosu 62.17 311 P **P 09 01 50.7 -1.0**
MARR Marisel-Cluj 62.42 313 ⇑P **P 09 01 53.5 +0.1**
CLL Collm 62.49 322 *i*P P 09 01 52.8 -0.8
CLL *i* 09 02 00.5
CLL pmax pmax
comp=Z,23nm,1.6s
CLL Collm 62.49 322 P **P 09 01 52.8 -0.8**
comp=Z,15nm,1.8s
DRGR 62.50 314 ⇑P **P 09 01 53.7 -0.1**
DRGR 62.50 314 P **P 09 01 53.7 -0.1**
BRG Berggiesshubel 62.52 321 *e*P P 09 01 54.4 +0.5
BRG Amp 09 01 56.1
comp=Z,6.4nm,1.2s
BRG Berggiesshubel 62.52 321 P **P 09 01 57.4 +3.6**
BRG Amp 09 01 58.5
comp=Z,2.9nm,0.6s
BRG Berggiesshubel 62.52 321 *e*P P 09 01 54.3 +0.5
BRG 09 01 57.4
BRG 09 02 37.5
BRG pmax pmax
comp=Z,6.0nm,1.3s
BRG MLR MLR
comp=N,859nm,11.9s
BRG MLR MLR
comp=Z,1μm,15.0s
G08A Pilot Rock 62.53 49 P **P 09 01 53.8 -0.3**
G08A IAmb IAmb 09 01 55.5
comp=Z,28nm,1.2s
PVCC Panska Ves 62.59 321 AMS AMS 09 31 20.0
comp=Z,1μm,17.9s
VOIR 62.60 311 ⇑P **P 09 01 54.8 +0.2**
VOIR 62.60 311 P **P 09 01 54.7 +0.2**
VYHS Vyhne 62.67 317 *e*P P 09 01 55.1 +0.3
VYHS pmax pmax
comp=Z,20nm,1.3s
VYHS Vyhne 62.67 317 *e*P P 09 01 55.1 +0.3
PSZ Piszkesteto 62.73 316 ⇑P **P 09 01 55.6 +0.2**
PSZ Piszkesteto 62.73 316 P **P 09 01 55.5 +0.2**
JAVC Velka Javorina 62.82 318 *e*P P 09 01 56.6 +0.7
VRAC Vranov 62.86 319 ⇓P **P 09 01 55.6 -0.5**
VRAC Vranov 62.86 319 *e*P P 09 01 56.2 +0.1
VRAC Vranov 62.86 319 LR LR 09 31 54.9
comp=Z,1μm,18.7s,baz=30,slow=38
VRAC Vranov 62.86 319 P **P 09 01 55.6 -0.5**
HSKC Hora Svate Kat 62.93 322 AMS AMS 09 31 30.0
comp=Z,1μm,15.9s
L02F Cave Junction 62.98 54 P **P 09 01 56.9 -0.1**
L02F IAmb IAmb 09 01 58.6
comp=Z,16nm,1.1s
PRA Prague 63.02 321 AMS AMS 09 31 30.0
comp=Z,2μm,16.9s
PRU Pruhonice 63.05 321 AMS AMS 09 31 20.0
comp=Z,2μm,18.2s
J05D Fort Rock, OR 63.12 52 P **P 09 01 58.2 +0.1**
KRUC Moravsky 63.13 319 *e*P P 09 01 57.8 -0.1
BR131 Keskin Array S 63.17 302 *i*P P 09 01 58.5 +0.1
BRTR Keskin Array B 63.17 302 P **P 09 01 58.6 +0.1**
comp=Z,4.4nm,0.8s,baz=72,slow=4.3,SNR=14
comp=Z,2.4nm,0.8s
BRTR Keskin Array B 63.17 302 *i*P P 09 01 58.7 +0.2
BRTR pmax pmax
comp=Z,3.0nm,0.9s
SIRR Siria 63.35 314 ⇓P **P 09 01 59.5 +0.1**
MODS Modra-Piesok 63.37 318 *e*P P 09 02 00.5 +1.0
MODS pmax pmax
comp=Z,37nm,1.3s
MODS Modra-Piesok 63.37 318 *e*P P 09 02 00.5 +1.0
MSO Missoula 63.39 45 P **P 09 01 59.9 +0.2**
baz=324,SNR=14
PALK Pallekele 63.54 242 LR LR 09 34 25.5
comp=Z,377nm,19.1s,baz=104,slow=41
GZR Gura Zlata 63.60 313 ⇓P **P 09 02 01.0 -0.1**
GZR Gura Zlata 63.60 313 P **P 09 02 00.9 -0.1**
ZVC Zvikov 63.63 320 AMS AMS 09 31 40.0
comp=Z,2μm,16.4s
YBH Yreka Blue Hor 63.68 54 P **P 09 02 01.5 -0.2**
YBH Yreka Blue Hor 63.68 54 LR LR 09 27 57.9
comp=Z,366nm,19.6s,baz=332,slow=34
YBH Yreka Blue Hor 63.68 54 P **P 09 02 01.5 -0.2**
YBH pmax pmax
comp=Z,12nm,1.1s
EKA Eskdalemuir Ar 63.81 334 P **P 09 02 04.6 +2.3**
comp=Z,5.2nm,0.9s,baz=23,slow=4.5,SNR=13
comp=Z,5.2nm,0.9s
BZS Buzias 63.90 313 ⇑P **P 09 02 02.6 -0.4**
BZS Buzias 63.90 313 P **P 09 02 02.5 -0.4**
EGMT Eagleton 64.04 42 P **P 09 02 04.1 +0.1**
baz=326,SNR=21
CKRC Cesky Krumlov 64.10 320 *e*P P 09 02 08.3 +4.0
CKRC AMS AMS 09 31 50.0
comp=Z,2μm,17.1s
CKRC Cesky Krumlov 64.10 320 *e*P P 09 02 08.3 +4.0
CKRC MLR MLR
comp=Z,2μm,17.1s
KHC Kasperske Hory 64.11 321 *e*P P 09 02 04.4 0.0
KHC AMS AMS 09 31 50.0
comp=Z,2μm,17.5s
KHC Kasperske Hory 64.11 321 *ce*P P 09 02 04.9 +0.5
KHC pmax pmax
comp=Z,36nm,1.7s
KHC Kasperske Hory 64.11 321 P **P 09 02 03.5 -0.9**
comp=Z,7.1nm,0.9s
HERR Herculane 64.16 312 ⇑P **P 09 02 03.5 -1.2**
ELND Elena 64.24 309 ⇑P **P 09 02 05.6 +0.3**
MPLH Magyarpolny 64.26 317 P **P 09 02 05.7 +0.4**
comp=Z,86nm,1.6s,comp=Z,1μm
CONA Conrad Observa 64.27 318 *e*pP P 09 02 05.9 +0.4
comp=Z,4.8nm,0.9s,SNR=7.4
RONA Rosalia, Austr 64.30 318 *e*pP P 09 02 06.8 +1.2
comp=Z,14nm,1.6s
GERES GERESS Array B 64.30 320 P **P 09 02 06.2 +0.5**
GERES GERESS Array B 64.30 320 P **P 09 02 05.8 +0.1**
comp=Z,1.0nm,0.8s,baz=32,slow=7.3,SNR=2.6
GERES LR LR 09 32 31.0
comp=Z,1μm,18.0s,baz=31,slow=38
comp=Z,1.0nm,0.8s
GERES GERESS Array B 64.30 320 P **P 09 02 06.2 +0.5**
MDVR Moldovita 64.53 313 ⇑P **P 09 02 06.0 -1.3**
MORH Mrgy, Hungar 64.61 316 ⇑P **P 09 02 07.1 -0.5**
MORH Mrgy, Hungar 64.61 316 P **P 09 02 06.8 -0.8**
comp=Z,6.8nm,1.1s
MOA Molln 64.93 319 *i*pP P 09 02 10.3 +0.6
comp=Z,9.5nm,1.6s
WVOR Wild Horse Val 64.96 51 P **P 09 02 10.3 +0.2**
WVOR Wild Horse Val 64.96 51 P **P 09 02 10.3 +0.2**
WVOR pmax pmax
comp=Z,40nm,1.0s
ARSA Arzberg 64.96 318 *e*pP P 09 02 11.0 +1.0
comp=Z,9.2nm,1.6s
FRGS Fruska Gora 65.01 314 P **P 09 02 09.7 -0.6**
comp=Z,29nm,1.1s,comp=Z,339nm
BIOA Bad Ischl, Aus 65.29 320 *e*P P 09 02 10.8 -1.3
comp=Z,2.8nm,0.7s
BOZ Bozeman (W) 65.32 44 P **P 09 02 12.4 -0.1**
BOZ IAmb IAmb 09 02 14.1
comp=Z,30nm,1.3s
BOZ Bozeman (W) 65.32 44 P **P 09 02 12.3 -0.1**
baz=326,SNR=24
BOZ Bozeman (W) 65.32 44 P **P 09 02 12.4 -0.1**
BOZ pmax pmax
comp=Z,30nm,1.3s
BTNL Ternell 65.39 326 *d*P P 09 02 13.5 +0.9
MEM Membach 65.41 326 *d*P P 09 02 12.4 -0.3
comp=Z,16nm,1.1s
SOKA Soboth 65.62 318 *i*pP P 09 02 14.9 +0.6
comp=Z,6.2nm,1.2s
DGMT Dagmar 65.68 38 P **P 09 02 14.4 -0.2**
baz=328
PMG Port Moresby 65.83 165 LR LR 09 27 13.6
comp=Z,82nm,21.4s,baz=311,slow=33
HLID Hailey 65.85 47 P **P 09 02 16.5 +0.5**
baz=325,SNR=60
LESA Schwarzleotal 65.87 320 *e*pP P 09 02 16.7 +0.8
comp=Z,8.9nm,1.3s
BGES Gesves 65.89 327 *d*P P 09 02 14.9 -1.0
KBA Koelnbreinsper 65.92 320 *e*pP P 09 02 16.5 +0.1
comp=Z,8.3nm,1.2s
KBA Koelnbreinsper 65.92 320 P **P 09 02 15.8 -0.5**
OBKA Obir 65.95 318 *i*pP P 09 02 16.8 +0.4
comp=Z,16nm,1.6s
GOLS Golise 65.96 317 *e*P P 09 02 16.3 -0.1
RCHB Rochefort 66.05 326 *d*P P 09 02 15.6 -1.3
comp=Z,5.7nm,1.0s
BMRD Maredsous 66.06 327 *d*P P 09 02 17.1 +0.1
comp=Z,13nm,1.0s
CRES Cresnjev 66.18 317 *e*P P 09 02 17.2 -0.6
MYKA Terra Mystica 66.19 319 *i*pP P 09 02 18.5 +0.5
comp=Z,9.6nm,0.9s
GIVF Givet 66.22 327 *e*P P 09 02 17.7 -0.3
GIVF pmax pmax
comp=Z,14nm,1.0s
YHH Holmes Hill 66.30 44 P **P 09 02 18.8 -0.2**
DOU Dourbes 66.30 327 *d*P P 09 02 18.1 -0.3
comp=Z,10nm,1.0s
WATA Walderalm 66.34 321 *e*pP P 09 02 19.5 +0.5
comp=Z,9.9nm,1.5s
VISS Visnje 66.43 318 *e*P P 09 02 19.1 -0.4
BAIF Baives 66.45 327 *e*P P 09 02 18.9 -0.6
BAIF pmax pmax
comp=Z,12nm,0.9s
ABTA Abfaltersbach 66.50 320 *e*pP P 09 02 19.9 -0.1
comp=Z,5.2nm,1.2s
RETA Reutte 66.50 321 *e*pP P 09 02 20.3 +0.3
comp=Z,1.7nm,0.7s
EZN Ezine 66.53 307 P **P 09 02 19.8 -0.3**
SQTA Sankt Quirin 66.57 321 *i*pP P 09 02 21.2 +0.7
comp=Z,10.0nm,1.3s
RLMT Red Lodge 66.64 43 P **P 09 02 21.1 +0.1**
RLMT Red Lodge 66.64 43 P **P 09 02 21.6 +0.6**
baz=327,SNR=19
H17A Grant Village 66.73 44 P **P 09 02 23.1 +1.4**
baz=326,SNR=13
ULM Lac du Bonnet 66.83 32 P **P 09 02 20.9 -1.0**
comp=Z,3.2nm,0.8s,baz=328,slow=8.9,SNR=3.1
ULM LR LR 09 32 36.3
comp=Z,496nm,21.2s,baz=18,slow=37
comp=Z,3.2nm,0.8s
CDF Champ du Feu 66.90 324 *e*P P 09 02 26.4 +3.9
CDF pmax pmax
comp=Z,4.0nm,0.8s
FETA Feichten 66.91 321 *i*pP P 09 02 23.3 +0.6
comp=Z,5.8nm,1.2s
DAVA Damuels 66.98 322 *e*P P 09 02 21.2 -1.9
comp=Z,5.6nm,1.3s
CSS Mathiatis 67.07 299 P **P 09 02 23.2 -0.5**
comp=Z,22nm,0.8s,comp=Z,1μm
ECH Echery 67.11 324 P **P 09 02 23.6 -0.2**
BMN Battle Mountai 67.20 51 P **P 09 02 24.4 -0.2**
BMN Battle Mountai 67.20 51 P **P 09 02 24.4 -0.2**
BMN pmax pmax
comp=Z,26nm,1.0s
DAVOX Davos/Dischmat 67.42 322 LR LR 09 34 46.3
comp=Z,991nm,18.8s,baz=35,slow=38
HINF Hinteralfeld 67.56 324 *e*P P 09 02 28.5 +1.9
HINF pmax pmax
comp=Z,10.0nm,0.5s
HAU Haudompre 67.56 324 *e*P P 09 02 26.3 -0.3
HAU pmax pmax
comp=Z,16nm,1.4s
MMAI Mount Meron Ar 67.57 296 LR LR 09 35 39.7
comp=Z,553nm,19.3s,baz=341,slow=39
MDND Maddock 67.78 35 P **P 09 02 26.9 -1.1**
baz=331
ELK Elko 67.81 50 P **P 09 02 29.2 +0.6**
KVN Kaiserville 67.93 53 P **P 09 02 29.2 -0.1**
KVN Kaiserville 67.93 53 P **P 09 02 29.2 -0.1**
KVN pmax pmax
comp=Z,49nm,1.0s
HVU Hansel Valley 68.01 47 P **P 09 02 29.2 -0.5**
HVU IAmb IAmb 09 02 31.3
comp=Z,23nm,1.1s
HVU Hansel Valley 68.01 47 P **P 09 02 29.2 -0.5**
HVU pmax pmax

comp=Z,23nm,1.1s
KDU Kakadu 68.07 181 P **P 09 02 32.2 +2.2**
comp=Z,16nm,1.0s
NVAR Mina Array Bea 68.34 53 P **P 09 02 32.0 +0.1**
comp=Z,19nm,0.9s,baz=297,slow=5.5,SNR=109
NVAR LR LR 09 32 36.7
comp=Z,283nm,18.4s,baz=345,slow=36
comp=Z,19nm,0.9s
BW06 Boulder Array 68.50 45 P **P 09 02 32.4 -0.4**
baz=327,SNR=11
PDAR Pinedale Array 68.50 45 P **P 09 02 32.2 -0.6**
comp=Z,4.1nm,0.9s,baz=356,slow=2.2,SNR=24
PDAR PKP2bc 09 30 45.0
comp=Z,3.5nm,1.3s,baz=143,slow=5.2,SNR=3.6
PDAR LR LR 09 32 21.9
comp=Z,320nm,19.5s,baz=326,slow=36
comp=Z,4.1nm,0.9s
HNR Honiara 68.55 152 LR LR 09 33 56.8
comp=Z,1μm,18.7s,baz=347,slow=37
AGMN Agassiz Nation 68.57 33 P **P 09 02 31.1 -1.8**
baz=333,SNR=7.5
HWUT Hardware Ranch 68.65 47 P **P 09 02 33.8 0.0**
SCHQ Schefferville 68.67 12 P **P 09 02 33.2 -0.3**
comp=Z,5.2nm,1.0s,baz=345,slow=4.7,SNR=2.1
SCHQ LR LR 09 33 00.4
comp=Z,554nm,21.1s,baz=343,slow=36
comp=Z,5.2nm,1.0s
MLAC Mammoth, Mammo 68.75 54 P **P 09 02 35.0 +0.4**
baz=325,SNR=5.5
DUG Dugway, Tooele 69.31 48 P **P 09 02 38.3 +0.4**
baz=326,SNR=16
DUG Dugway, Tooele 69.31 48 P **P 09 02 38.2 +0.4**
SSF Saint Saulge 69.31 326 *e*P P 09 02 42.2 +4.6
SSF pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 69.46 40 P **P 09 02 38.3 -0.5**
baz=329
RSSD Black Hills 69.46 40 P **P 09 02 37.7 -1.1**
TIN Tinemaha, Big 69.50 54 P **P 09 02 38.8 -0.2**
baz=325
VOG Valley Oaks Go 69.56 55 P **P 09 02 39.1 -0.1**
baz=325
LPL La Plagne 69.61 323 *e*P **P 09 02 42.3 +2.6**
LPL pmax pmax
comp=Z,15nm,1.2s
LPG La Plagne 69.62 323 *e*P **P 09 02 42.6 +2.8**
LPG pmax pmax
comp=Z,17nm,1.1s
R11B Troy Canyon, C 69.63 51 P **P 09 02 39.8 -0.1**
baz=326,SNR=23
SPR3 Spring Creek 3 69.65 50 P **P 09 02 39.8 -0.3**
RAYN Ar Rayn 69.68 282 P **P 09 02 39.6 -0.6**
K22A Casper 69.79 43 P **P 09 02 39.2 -1.6**
baz=329,SNR=5.3
NLU North Lily Min 69.82 48 P **P 09 02 40.9 -0.2**
NLU IAmb IAmb 09 02 42.5
comp=Z,28nm,1.1s
COEN Coen 69.83 170 P **P 09 02 40.5 -0.4**
COEN IAmb IAmb 09 02 44.4
comp=Z,20nm,1.0s
COEN Coen 69.83 170 P **P 09 02 42.2 +1.2**
comp=Z,22nm,1.8s
GRAC Grapevine Rang 69.94 54 P **P 09 02 42.1 +0.5**
baz=325,SNR=32
BNI Bardonecchia 70.03 323 P **P 09 02 40.1 -2.1**
CWC Cottonwood Cre 70.07 54 P **P 09 02 42.3 -0.3**
baz=325
VES Vestal, Richgr 70.10 55 P **P 09 02 41.6 -0.9**
baz=325,SNR=16
SMMC Simmler 70.10 56 P **P 09 02 42.1 -0.5**
baz=325
EYMN Ely 70.18 30 P **P 09 02 42.4 -0.5**
baz=335,SNR=12
PSUT Pine Spring 70.24 50 P **P 09 02 43.2 -0.5**
RDMU Red Mountain 70.34 46 P **P 09 02 44.2 0.0**
EIL Elat 70.47 294 LR LR 09 37 32.6
comp=Z,357nm,18.7s,baz=38,slow=39
TPNV Topopah Spring 70.49 53 P **P 09 02 45.0 -0.1**
baz=326,SNR=37
ISA Isabella, Lake 70.53 55 P **P 09 02 44.1 -1.1**
baz=325,SNR=5.3
PKM Mcpherson Peak 70.53 57 P **P 09 02 45.6 +0.1**
baz=325,SNR=9.9
SSB Saint Sauveur 70.55 324 P **P 09 02 45.5 +0.2**
FURC Furnace Creek, 70.61 53 P **P 09 02 45.9 +0.3**
baz=326,SNR=22
MPMC Manual Prospec 70.66 54 P **P 09 02 46.2 0.0**
baz=326,SNR=21
IDI Anoyia 70.88 305 LR LR 09 35 06.2
comp=Z,392nm,21.4s,baz=60,slow=37
SBC Santa Barbara 70.94 57 P **P 09 02 46.5 -1.2**
baz=325
SUSD Miller 70.98 37 P **P 09 02 46.0 -1.9**
baz=332
LRMC Laurel Mtn Rad 71.04 55 P **P 09 02 48.1 -0.4**
baz=326,SNR=28
O20A White River Ci 71.25 45 P **P 09 02 49.3 -0.4**
baz=328,SNR=17
OSI Osito Audit: C 71.27 56 P **P 09 02 48.4 -1.4**
baz=325
SHOC Shoshone, Teco 71.34 53 P **P 09 02 50.3 +0.1**
baz=326,SNR=8.2
EDW2 Edwards Air Fo 71.39 55 P **P 09 02 50.5 0.0**
baz=326,SNR=13
N23A Red Feather La 71.51 43 P **P 09 02 50.8 -0.6**
baz=329
GSC Goldstone, Bar 71.59 54 P **P 09 02 51.7 0.0**
baz=326,SNR=10
WTNK Soaring Height 71.67 52 P **P 09 02 52.0 -0.1**
DECC Green Verdugo 71.75 56 P **P 09 02 52.3 -0.4**
baz=326
LCMT Little Creek M 71.77 51 P **P 09 02 52.9 0.0**
RRX Edison Barstow 71.86 55 P **P 09 02 52.8 -0.5**
baz=326
TUQ Turquoise Moun 71.89 53 P **P 09 02 53.5 -0.1**
baz=326,SNR=12
KNB Kanab 71.95 50 P **P 09 02 53.6 -0.4**
KNB Kanab 71.95 50 P **P 09 02 53.6 -0.4**
KNB pmax pmax
comp=Z,51nm,1.1s
BFSC Mount Baldy Ra 72.08 55 P **P 09 02 54.2 -0.6**
baz=326,SNR=8.8
V12A Nelson 72.13 52 P **P 09 02 54.7 -0.4**
V12A IAmb IAmb 09 02 56.6
comp=Z,32nm,1.1s
HEC Hector,Ludlow 72.20 54 P **P 09 02 55.6 +0.2**
baz=326,SNR=9.8
SPMN Marine on St. 72.26 32 P **P 09 02 54.0 -1.5**
baz=335
ECSD EROS Data Cent 72.39 36 P **P 09 02 55.2 -1.1**
baz=333,SNR=9.8
BBRC Big Bear Solar 72.40 55 P **P 09 02 56.5 -0.3**
baz=326,SNR=11
CIS Catalina Islan 72.41 56 P **P 09 02 55.9 -0.7**
baz=326
GMRC Granite Mounta 72.55 54 P **P 09 02 57.1 -0.4**
baz=326,SNR=16
SMCO Snowmass 72.58 45 P **P 09 02 57.2 -0.8**
SMCO IAmb IAmb 09 02 59.1
comp=Z,24nm,1.1s
ISCO Idaho Springs 72.58 44 P **P 09 02 57.9 0.0**
baz=330,SNR=13
ISCO Idaho Springs 72.58 44 P **P 09 02 58.0 +0.1**
SCI2 San Clemente I 72.69 57 P **P 09 02 57.9 -0.4**
baz=326
MURC Murrieta 72.82 55 P **P 09 02 58.7 -0.4**
baz=326,SNR=6.2
OGNE Ogallala 72.95 41 P **P 09 02 59.5 -0.3**
baz=331
NEE2 Needles Airpor 73.03 53 P **P 09 02 59.8 -0.5**
baz=327
BELC Belle Mtn. Jos 73.04 54 P **P 09 02 59.7 -0.8**
baz=326,SNR=9.2
PFO Pinyon Flats O 73.15 55 P **P 09 03 00.1 -1.1**
baz=326,SNR=6.3
PFO Pinyon Flats O 73.15 55 LR LR 09 34 21.6
comp=Z,233nm,18.5s,baz=340,slow=35
PFO Pinyon Flats O 73.15 55 P **P 09 03 01.1 -0.1**
TPFO Pinon Flats 73.16 55 P **P 09 03 00.1 -1.1**
baz=326,SNR=7.1
IRM Iron Mountain 73.30 54 P **P 09 03 02.3 +0.3**
baz=327,SNR=29
109C Camp Elliot, M 73.45 56 P **P 09 03 01.9 -0.9**
baz=326
Q24A Divide 73.48 44 P **P 09 03 02.3 -1.0**
baz=330
BC3 Big Chuckawall 73.58 54 P **P 09 03 03.0 -0.7**
baz=327,SNR=5.5
MVCO Mesa Verde 73.63 47 P **P 09 03 03.8 -0.3**
baz=329,SNR=7.9
PDMCI Parker Dam,Lak 73.64 53 P **P 09 03 03.4 -0.4**
baz=327,SNR=8.8
VAE Valguarnera 73.65 313 LR LR 09 37 55.7
comp=Z,831nm,18.0s,baz=27,slow=38
MONP2 Monument Peak 73.77 55 P **P 09 03 04.4 -0.5**
baz=326,SNR=9.2
WUAZ Wupatki 73.84 50 P **P 09 03 05.5 +0.2**
baz=328,SNR=14
S22A 4UR Ranch, Cre 73.86 46 P **P 09 03 05.1 -0.4**
baz=329,SNR=11
SWSC Sam W. Stewart 74.01 55 P **P 09 03 05.8 -0.3**
baz=327,SNR=5.3
IKP In-Ko-Pah, Jac 74.11 55 P **P 09 03 06.4 -0.4**
baz=327,SNR=9.1
GLA Glamis 74.37 54 P **P 09 03 07.9 -0.3**
baz=327,SNR=5.0
SDCO Great Sand Dun 74.39 45 P **P 09 03 08.2 -0.4**
baz=330,SNR=13
KSCO Kaye Shedlock' 74.42 42 P **P 09 03 08.1 -0.4**
baz=331
W18A Petrified Fore 74.89 49 P **P 09 03 10.8 -0.5**
W18A Petrified Fore 74.89 49 P **P 09 03 11.2 -0.2**
baz=329
JFWS Jewell Farm 75.12 32 P **P 09 03 11.3 -1.0**
baz=336
SCIA State Center 75.13 34 P **P 09 03 12.5 +0.1**
baz=335
WRA Warramunga Arr 75.28 179 P **P 09 03 13.9 +0.5**
WRA Warramunga Arr 75.28 179 P **P 09 03 11.1 -2.2**
comp=Z,6.2nm,0.9s,baz=355,slow=6.2,SNR=14
WRA LR LR 09 35 32.4
comp=Z,117nm,21.8s,baz=352,slow=35
comp=Z,6.2nm,0.9s
WRA Warramunga Arr 75.28 179 *i*P **P 09 03 15.3 +1.9**
WRA pmax pmax
comp=Z,5.0nm,0.7s
T25A Trinidad 75.35 44 P **P 09 03 12.7 -1.3**
baz=330,SNR=14
CBKS Cedar Bluff 75.67 40 P **P 09 03 13.9 -1.7**
baz=332
QIS Mount Isa 76.08 174 P **P 09 03 17.6 -0.4**
comp=Z,24nm,1.0s
N38A Joes South For 76.13 35 P **P 09 03 17.0 -1.1**
N38A IAmb IAmb 09 03 24.9
comp=Z,18nm,0.8s
214A Organ Pipe Nat 76.21 53 P **P 09 03 18.8 0.0**
baz=328,SNR=9.1
CTA Charters Tower 76.23 167 P **P 09 03 16.1 -2.7**
comp=Z,0.2nm,0.8s,baz=338,slow=11,SNR=1.9
CTA LR LR 09 35 10.4
comp=Z,7.3nm,21.8s,baz=334,slow=34
SADO Sadowa 76.28 23 LR LR 09 37 00.5
comp=Z,325nm,21.5s,baz=44,slow=36
ANMO Albuquerque 76.42 47 P **P 09 03 19.8 -0.3**
baz=330
ANMO Albuquerque 76.42 47 LR LR 09 41 02.1
comp=Z,294nm,19.4s,baz=68,slow=39
ANMO Albuquerque 76.42 47 *ce*P **P 09 03 20.6 +0.4**
ANMO pmax pmax
comp=Z,8.0nm,1.7s
L44A Lake County Fo 76.48 30 P **P 09 03 19.5 -0.6**
baz=338
KSU1 Kansas State U 76.53 38 P **P 09 03 19.0 -1.4**
baz=334
TUC Tucson 76.82 51 P **P 09 03 21.3 -1.0**
baz=328
TUC Tucson 76.82 51 P **P 09 03 22.8 +0.5**
Y22D IRIS PASSCAL I 76.98 48 P **P 09 03 22.7 -0.6**
baz=330
PBRG Braganca 77.16 330 *e*P **P 09 03 24.9 +0.9**
comp=Z,12nm,2.4s
KEST Kesra 77.20 316 LR LR 09 40 25.1
comp=Z,602nm,18.9s,baz=352,slow=38
LONY Lake Ozonia 77.38 20 P **P 09 03 23.9 -1.2**
baz=344
PGAV Gavieira, Arco 77.43 332 *e*LR LR 09 29 00.0
comp=Z,219nm,16.0s
HDIL Hopedale 77.57 32 P **P 09 03 24.9 -1.4**
baz=337
PKME Peaks-Kenny Pk 77.68 16 P **P 09 03 25.8 -1.0**
baz=347
POLO Lamas de Olo 77.85 331 *e*P **P 09 03 29.3 +1.4**
comp=Z,7.9nm,1.8s
121A Cookes Peak, D 77.94 49 P **P 09 03 27.8 -0.9**
baz=330,SNR=8.2
319A Douglas 78.28 51 P **P 09 03 30.3 -0.2**
319A IAmb IAmb 09 03 31.9
comp=Z,29nm,1.1s
ESDC Sonseca Array 78.31 328 P **P 09 03 30.7 +0.2**
ESDC Sonseca Array 78.31 328 P **P 09 03 30.5 0.0**
comp=Z,2.5nm,1.0s,baz=17,slow=5.1,SNR=15
ESDC LR LR 09 42 51.5
comp=Z,495nm,18.4s,baz=25,slow=39
comp=Z,2.5nm,1.0s
SFIN Lafayette 78.38 30 P **P 09 03 29.1 -1.7**
baz=338
AMTX Amarillo 78.39 43 P **P 09 03 30.3 -0.8**
AMTX IAmb IAmb 09 03 36.4
comp=Z,21nm,0.8s
AMTX Amarillo 78.39 43 P **P 09 03 30.3 -0.8**
baz=332
PVIS Viseu 78.49 331 *e*P **P 09 03 32.9 +1.5**
comp=Z,16nm,2.5s
ERPA Erie 78.61 25 P **P 09 03 30.4 -1.6**
baz=342
MTE Manteigas 78.69 331 *e*P P 09 03 38.8 +6.2
comp=Z,18nm,1.3s
MTE *e*S **S 09 13 33.4 +3.9**
MTE *e*LQ LQ 09 22 22.2
MTE *e*LR LR 09 29 30.8
comp=Z,266nm,16.0s
R40A Maddies Statio 78.71 35 P **P 09 03 32.0 -0.6**
SMWD Samnorwood 78.75 42 P **P 09 03 32.8 -0.2**
SMWD IAmb IAmb 09 03 34.0
comp=Z,37nm,1.2s
MSTX Muleshoe 78.77 45 P **P 09 03 31.7 -1.5**
baz=331
AS31 Alice Springs 78.98 179 P **P 09 03 34.7 +0.6**
comp=Z,3.6nm,0.7s
ASAR Alice Springs 78.98 179 P **P 09 03 32.2 -1.9**
comp=Z,7.8nm,0.9s,baz=360,slow=4.9,SNR=25
ASAR PKKPbc **PKKPbc 09 22 27.2 +1.2**
comp=Z,0.4nm,0.8s,baz=190,slow=1.8,SNR=4.1
ASAR LR LR 09 40 12.0
comp=Z,54nm,18.2s,baz=358,slow=37
comp=Z,7.8nm,0.9s
O48B Farmland 79.03 29 P **P 09 03 33.1 -1.3**
baz=339
M53A WI Miller and 79.08 25 P **P 09 03 32.8 -1.8**
baz=341
CCM Cathedral Cave 79.26 34 P **P 09 03 34.4 -1.2**
baz=336
PCAS Casmilo, Conde 79.27 331 *e*P **P 09 03 34.9 -0.8**
comp=Z,14nm,1.1s
BINY Binghamton 79.42 22 P **P 09 03 35.6 -0.9**
baz=344
HSIG 79.55 53 P **P 09 03 37.1 -0.3**
PMRV Marv??o 79.55 330 *e*LR LR 09 29 54.4
comp=Z,296nm,18.0s
WMOK Wichita Mounta 79.63 41 **P 09 03 36.9 -0.8**
WMOK IAmb IAmb 09 03 46.1
comp=Z,15nm,0.8s
WMOK Wichita Mounta 79.63 41 P **P 09 03 37.4 -0.4**
baz=333,SNR=24
WMOK Wichita Mounta 79.63 41 P **P 09 03 36.9 -0.8**
WMOK pmax pmax
comp=Z,15nm,0.8s
ACSO Alum Creek Sta 79.64 27 P **P 09 03 36.0 -1.7**
baz=340
TUL3 Leonard 79.67 39 P **P 09 03 37.4 -0.5**
TUL3 Leonard 79.67 39 P **P 09 03 37.2 -0.8**
baz=334,SNR=7.7
MNTX Cornudas Mount 79.68 48 P **P 09 03 37.0 -1.1**
baz=331,SNR=11
U38A Gravette 79.68 37 P **P 09 03 37.3 -0.7**
DKNS Dickens 79.76 43 P **P 09 03 37.5 -1.1**
P49A Miami Univ. Ec 79.83 29 P **P 09 03 36.8 -1.9**
baz=339
L61B Northampton 79.83 19 P **P 09 03 37.5 -1.2**
baz=346
HRV Adam Dziewonsk 79.98 18 P **P 09 03 37.5 -2.0**
baz=346
POST Post 80.06 44 P **P 09 03 39.7 -0.5**
O53A New Philadelph 80.08 26 P **P 09 03 38.3 -1.7**
baz=341
PMTG Montargil 80.11 331 *e*P **P 09 03 40.7 +0.4**
comp=Z,17nm,1.3s
PESTR Estremoz 80.12 330 *e*P **P 09 03 40.5 +0.1**
PESTR Estremoz 80.12 330 *e*S **SKSac 09 13 50.6 -7.1**
P52A Corning 80.42 27 P **P 09 03 40.2 -1.7**
baz=341
WCI Wyandotte Cave 80.60 31 P **P 09 03 42.0 -0.9**
WCI IAmb IAmb 09 03 48.1
comp=Z,20nm,0.8s
WCI Wyandotte Cave 80.60 31 P **P 09 03 41.4 -1.6**
baz=339
WCI Wyandotte Cave 80.60 31 P **P 09 03 42.0 -0.9**
WCI pmax pmax
comp=Z,20nm,0.8s
PBAR Barrancos 80.61 329 *e*P P 09 03 48.7 +5.8
comp=Z,16nm,1.5s
PBAR Barrancos 80.61 329 *e*S **S 09 13 53.5 +3.7**
ATD Arta Tunnel 80.82 277 LR LR 09 44 16.9
comp=Z,38nm,18.7s,baz=35,slow=39
FCAR Ozark Folk Cen 80.95 36 P **P 09 03 43.3 -1.5**
MCWV Mont Chateau 80.97 25 P **P 09 03 43.8 -1.1**
baz=342
MNHN Monahans 81.07 46 P **P 09 03 44.7 -0.9**
PNCL Nicolau / Gran 81.09 330 *e*S **SKSac 09 14 02.2 -2.1**
ABTX Abilene, Hawle 81.18 43 P **P 09 03 45.3 -0.8**
baz=333,SNR=22
FW03 Perrin-Whitt E 81.41 42 P **P 09 03 46.3 -1.0**
FW03 IAmb IAmb 09 03 54.3
comp=Z,19nm,0.9s
PLPT Palo Pinto 81.52 42 P **P 09 03 46.8 -1.1**
PLPT IAmb IAmb 09 03 54.8
comp=Z,14nm,0.9s
PVAQ Vaqueiros 81.52 330 *e*LR LR 09 30 57.3
comp=Z,480nm,20.0s
MIAR Mount Ida 81.68 37 P **P 09 03 47.5 -1.2**
baz=335
X40A Basin Creek Fa 81.98 37 P **P 09 03 48.1 -2.2**
X40A IAmb IAmb 09 03 56.8
comp=Z,22nm,1.2s
WVT Waverly 82.09 32 P **P 09 03 50.0 -0.8**
baz=338
WVT Waverly 82.09 32 P **P 09 03 49.4 -1.4**
EIDS Eidsvold 82.11 164 P **P 09 03 52.3 +1.6**
comp=Z,33nm,1.0s
FW13 Cleburne 82.26 41 P **P 09 03 51.4 -0.4**
FW13 IAmb IAmb 09 03 59.5
comp=Z,19nm,0.9s
DZM Mont Dzumac 82.39 149 *e*S **S 09 14 07.9 -0.5**
comp=Z,62nm,25.9s
DZM *e*SS **SS 09 19 28.1 -1.7**
comp=Z,132nm,37.1s
DZM Mont Dzumac 82.39 149 *e*LR LR 09 29 34.8
comp=Z,357nm,35.7s
DZM Mont Dzumac 82.39 149 LR LR 09 42 30.1
comp=Z,119nm,18.0s,baz=349,slow=37
TXAR Lajitas Array 82.46 48 P **P 09 03 52.5 -0.5**
TXAR Lajitas Array 82.46 48 P **P 09 03 51.6 -1.3**
comp=Z,2.2nm,1.1s,baz=270,slow=2.5,SNR=14
TXAR LR LR 09 44 02.1
comp=Z,182nm,18.8s,baz=338,slow=38
comp=Z,2.2nm,1.1s
TXAR Lajitas Array 82.46 48 P **P 09 03 52.5 -0.5**
WHTX Lake Whitney, 82.58 42 P **P 09 03 52.7 -0.7**
baz=334
TZTN Tazewell 82.95 29 P **P 09 03 53.7 -1.7**
baz=340
JCT Junction City 83.02 44 P **P 09 03 54.3 -1.5**
baz=333
OXF Oxford 83.09 34 P **P 09 03 54.9 -1.2**
baz=337
BLA Blacksburg 83.15 26 P **P 09 03 55.1 -1.3**
baz=342
435B Jarrell 83.61 42 P **P 09 03 58.1 -0.7**
baz=334
DRIO Del Rio 83.63 45 P **P 09 03 57.5 -1.5**
DRIO IAmb IAmb 09 04 05.6
comp=Z,12nm,1.0s
HPIG 83.69 50 P **P 09 03 59.5 0.0**
HPIG IAmb IAmb 09 04 04.9
comp=Z,14nm,1.1s
TKL Tuckaleechee C 83.72 30 LR LR 09 46 46.7
comp=Z,378nm,18.3s,baz=352,slow=40
NATX Nacogdoches 83.81 39 P **P 09 03 59.5 -0.3**
NATX Nacogdoches 83.81 39 P **P 09 03 59.2 -0.6**
baz=335
MDT Midelt 84.83 325 LR LR 09 45 58.7
comp=Z,231nm,20.1s,baz=34,slow=38
VBMS Vicksburg 84.83 36 P **P 09 04 04.0 -1.0**
baz=337
KMSC Kings Mountain 84.87 28 P **P 09 04 04.0 -1.1**
baz=341
HKT Hockley 85.02 41 P **P 09 04 06.9 +1.0**
833A Chaparral WMA, 85.09 45 P **P 09 04 05.5 -0.9**
baz=333
LRAL Lakeview Retre 85.21 33 P **P 09 04 05.6 -1.3**
baz=338
FURI Furi 85.31 279 LR LR 09 46 50.7
comp=Z,409nm,18.5s,baz=38,slow=39
CNNC Cliffs of the 85.65 25 P **P 09 04 07.6 -1.4**
baz=343
GOGA Godfrey 85.91 30 P **P 09 04 08.8 -1.5**
baz=340
GOGA Godfrey 85.91 30 P **P 09 04 09.1 -1.3**
NHSC New Hope 87.10 28 P **P 09 04 14.7 -1.5**
baz=342
ARMA Armidale 87.14 164 P **P 09 04 18.1 +1.9**
comp=Z,35nm,2.9s
STKA Stephens Creek 87.45 173 P **P 09 04 15.5 -2.1**
comp=Z,6.5nm,0.8s,baz=327,slow=6.2,SNR=6.9
STKA LR LR 09 44 15.3
comp=Z,92nm,19.6s,baz=12,slow=36
comp=Z,6.5nm,0.8s
CMSA Cobar Meteorol 87.47 169 P **P 09 04 18.8 +1.1**
comp=Z,30nm,0.9s
TIGA Tifton 87.72 31 P **P 09 04 17.9 -1.4**
baz=340
PMOZ Porto Moniz, M 88.34 335 *e*LR LR 09 34 20.2
comp=Z,135nm,20.0s
NWAO Narrogin (SRO) 89.27 193 P **P 09 04 26.1 -0.1**
comp=Z,5.5nm,0.9s,baz=60,slow=14,SNR=2.1
NWAO LR LR 09 50 07.9
comp=Z,63nm,18.3s,baz=50,slow=40
comp=Z,5.5nm,0.9s
DWPF Disney Wildern 91.48 30 P **P 09 04 35.1 -1.7**
baz=341
RAR Rarotonga 95.12 120 LR LR 09 41 40.8
comp=Z,113nm,21.0s,baz=284,slow=32
TEIG Tepich 96.63 39 LR LR 09 53 58.5
comp=Z,271nm,19.4s,baz=36,slow=39
CMIG Matias Romero 96.97 46 LR LR 09 54 10.3
comp=Z,180nm,18.8s,baz=358,slow=39
PPT Papeete 97.29 110 LR LR 09 42 07.2
comp=Z,171nm,20.9s,baz=322,slow=31
PPT2 Papeete2 97.31 110 *e*LR LR 09 36 30.4
comp=Z,305nm,28.5s
PPT2 *e*LR LR 09 36 34.9
comp=Z,393nm,24.5s
TORD Torodi Ar. Bea 100.39 312 P **Pdif 09 05 17.1 -0.5**
comp=Z,0.6nm,1.1s,baz=38,slow=7.3,SNR=1.9
TORD PP **PP 09 09 21.2 -2.0**
comp=Z,3.7nm,1.2s,baz=28,slow=10,SNR=5.7
TBI Tubuai 102.11 114 *e*LR LR 09 38 46.4
comp=Z,2μm,29.0s
TBI *e*LR LR 09 38 48.3
comp=Z,1μm,27.0s
MAW Mawson 133.46 210 PKhKP PKPpre 09 10 40.7
comp=Z,2.5nm,0.9s,baz=89,slow=12,SNR=3.9
VNDA Vanda 134.08 172 PKP **PKPdf 09 10 44.5 -1.7**
comp=Z,0.7nm,1.0s,baz=298,slow=19,SNR=2.3
QSPA South Pole Qui 145.39 180 PKPbc **PKPbc 09 11 04.8 -2.2**
comp=Z,69nm,0.8s,baz=322,slow=1.7,SNR=69
ELIB Princess Elisa 147.44 213 *d*PKP **PKPdf 09 11 11.1 +0.7**
CPUP Villa Florida 149.72 19 PKPbc **PKPbc 09 11 17.5 -2.5**
comp=Z,5.6nm,0.8s,baz=19,slow=3.9,SNR=5.8
NVL N'lazarevskaya 151.06 216 *e*PKIKP **PKPbc 09 11 19.6 -2.3**
NVL pmax pmax
comp=Z,45nm,0.9s
TROLL Troll, Antarti 153.88 212 ⇑PKPab **PKPbc 09 11 26.9 -1.5**
comp=Z,733nm,0.8s
SNAA Sanae 155.60 212 PKP **PKPdf 09 11 23.0 +0.3**
comp=Z,1.0nm,0.9s,baz=202,slow=22,SNR=1.3
VNA2 Neumayer--Watz 157.23 213 ⇑PKPab **PKPab 09 11 57.7 +1.8**
comp=Z,7.7nm,0.7s,baz=94,slow=3.5
VNA1 Neumayer--Stat 157.60 213 ⇑PKPab **PKPab 09 11 59.2 +1.8**
comp=Z,8.1nm,0.8s

ISK 07 08:59:11.3, 37°.14N×27°.85E, h0km, ML1.6/9, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.17**	**340**	Pg	Pg	08 59 15.2	+0.6
MLSB				Sg	Sg	08 59 18.2	+1.4
YER	**Yerkesik**	**0.35**	**90**	Pg	Pg	08 59 18.6	+0.7
YER				Sg	Sg	08 59 24.0	+1.6
BODT	**Bodrum**	**0.44**	**260**	Pg	Pg	08 59 20.3	+0.6
BODT				Sg	Sg	08 59 26.9	+1.6
DAT	**Datca**	**0.46**	**208**	Pg	Pg	08 59 20.7	+0.6
TURN	**Turunc**	**0.48**	**139**	Pg	Pg	08 59 21.0	+0.5
DALY	**Dalyan (Mula)**	**0.72**	**116**	Pg	Pg	08 59 25.6	+0.5
AYDB	**Zeytinkoy-Aydi**	**0.81**	**2**	Pg	Pg	08 59 27.3	+0.5
NAZL	**Nazilli-Aydin**	**0.90**	**23**	Pg	Pg	08 59 28.9	+0.4
CAME	**Cameli-Denizli**	**1.18**	**99**	Pn	Pg	08 59 34.2	+0.3

*KRNET **07** 08:59:54.9±0.1, 42°.15N×78°.56E, h17km, mb2.8*
*SOME **07** 08:59:55.3, 42°.18N×78°.50E, h5km*
*NNC **07** 08:59:56.6±0.9, 42°.25N×78°.55E, h0km, mb3.5, mpv3.4,*
Error ellipse: s-maj=6.8km s-min=2.8km az=167.0
ISC 07 08:59:55.5±1.2, 42°.18N±0°.03×78°.50E±0°.02, h3km±10km, n54, σ1§22/97, 20C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.31**	**346**	⇑*eP*	**Pg**	**09 00 02.2**	**+0.6**
	baz=42						
PRZ				⇑*iS*	**Sb**	**09 00 07.7**	**-1.7**
	baz=42						
TARG	**Taragay, Kyrgy**	**0.69**	**229**	⇑*iP*	**Pg**	**09 00 08.1**	**-0.7**
	baz=34						
TARG				⇑*eS*	**Sg**	**09 00 17.9**	**+0.1**
	baz=34						
ANVS	**Anan'yevo**	**0.86**	**314**	⇑*iP*	**Pg**	**09 00 12.5**	**+0.4**
	baz=14						
ANVS				⇑*eS*	**Sb**	**09 00 25.3**	**0.0**
	baz=14						
SATY	**Saty**	**0.88**	**355**	*eP*	**Pb**	**09 00 13.2**	**-0.3**
	17nm,0.1s						
SATY				*eS*	**Sn**	**09 00 26.1**	**-2.2**
	93nm,0.1s						
SATY	**Saty**	**0.88**	**355**	P	**Pb**	**09 00 13.2**	**-0.3**
	17nm,0.1s						
SATY				S	**Sg**	**09 00 24.4**	**+0.6**
	93nm,0.1s						
KDJ	**Kajisay**	**0.98**	**267**	⇑*iP*	**Pg**	**09 00 14.1**	**-0.3**
	baz=69						
KDJ				⇑*eS*	**Sg**	**09 00 28.1**	**+0.9**
	baz=69						
UZB	**Uzynbulak**	**1.04**	**22**	*eP*	**Pg**	**09 00 14.8**	**-0.7**
	5.8nm,0.4s						
UZB				*eS*	**Sg**	**09 00 28.7**	**-0.2**
	21nm,0.1s						
UZB	**Uzynbulak**	**1.04**	**22**	P	**Pb**	**09 00 15.6**	**-0.6**
UZB				S	**Sg**	**09 00 28.7**	**-0.2**
SHLS	**Shalkode**	**1.20**	**36**	*eP*	**Pg**	**09 00 21.5**	**+2.9**
	30nm,0.2s						
SHLS				*eS*	**Sn**	**09 00 40.6**	**+4.3**
	79nm,0.3s						
SHLS	**Shalkode**	**1.20**	**36**	P	**Pg**	**09 00 21.8**	**+3.1**
	30nm,0.2s						
SHLS				S	**Sn**	**09 00 38.8**	**+2.4**
	79nm,0.3s						
KPKS	**Kokpek**	**1.29**	**6**	*eP*	**Pn**	**09 00 19.6**	**-0.9**
	20nm,0.2s						
KPKS				*eS*	**Sn**	**09 00 37.0**	**-1.4**
	36nm,0.3s						
KPKS	**Kokpek**	**1.29**	**6**	P	**Pb**	**09 00 19.9**	**-0.6**
	20nm,0.2s						
KPKS				S	**Sb**	**09 00 36.7**	**-0.9**
	36nm,0.3s						
PDGK	**Podgornoye**	**1.36**	**32**	P	**Pn**	**09 00 20.6**	**-0.9**
	3.7nm,0.2s						
PDGK				S	**Sb**	**09 00 38.1**	**-1.4**
	17nm,0.3s						
PDGK	**Podgornoye**	**1.36**	**32**	⇑P	**Pn**	**09 00 20.1**	**-1.4**
	7.8nm,0.8s						
PDGK				⇓S	**Sb**	**09 00 37.7**	**-1.8**
	18nm,0.4s						
TNSS	**Tian-Shan**	**1.43**	**307**	*eP*	**Pb**	**09 00 22.8**	**-0.3**
	6.1nm,0.2s						
TNSS				*eS*	**Sg**	**09 00 42.4**	**+0.9**
	30nm,0.2s						
TNSS	**Tian-Shan**	**1.43**	**307**	P	**Pb**	**09 00 23.0**	**-0.1**
	10nm,0.2s						
TNSS				S	**Sn**	**09 00 41.0**	**-1.3**
	30nm,0.2s						
MDOK	**Medeo**	**1.45**	**313**	*eP*	**Pb**	**09 00 23.2**	**-0.2**
	28nm,0.2s						
MDOK				*eS*	**Sg**	**09 00 42.9**	**+0.7**
	24nm,0.2s						
MDOK	**Medeo**	**1.45**	**313**	P	**Pn**	**09 00 22.3**	**-0.5**
	5.7nm,0.2s						
MDOK				Pg	**Pb**	**09 00 23.3**	**0.0**
	28nm,0.2s						
MDOK				S	**Sb**	**09 00 42.3**	**0.0**
	29nm,0.6s						
MDOK				Lg	Lg	09 00 42.8	
	32nm,0.6s						
KOTS	**Kotyrbulak**	**1.47**	**316**	*eP*	**Pg**	**09 00 23.7**	**0.0**
	30nm,0.2s						
KOTS				*eS*	**Sg**	**09 00 43.9**	**+1.2**
	59nm,0.3s						
KOTS	**Kotyrbulak**	**1.47**	**316**	P	**Pg**	**09 00 23.9**	**+0.2**
	30nm,0.2s						
KOTS				S	**Sg**	**09 00 43.0**	**+0.4**
	59nm,0.3s						
IZV	**Izvestkoviy**	**1.63**	**302**	*eP*	**Pg**	**09 00 26.8**	**-0.1**
	36nm,0.2s						
IZV				*eS*	**Sg**	**09 00 49.6**	**+1.5**
	162nm,0.5s						
IZV	**Izvestkoviy**	**1.63**	**302**	P	**Pg**	**09 00 27.8**	**+1.0**
	36nm,0.2s						
IZV				S	**Sg**	**09 00 49.6**	**+1.5**
	162nm,0.5s						
ULHL	**Ulahol**	**1.68**	**273**	⇑*iP*	**Pb**	**09 00 26.6**	**-0.6**
	baz=74						
ULHL				⇑*iS*	**Sg**	**09 00 49.9**	**+0.4**
	baz=74						
MTBS	**Maitube**	**1.80**	**302**	*eP*	**Pb**	**09 00 29.0**	**-0.2**
	8.0nm,0.1s						
MTBS				*eS*	**Sg**	**09 00 53.6**	**+0.3**
	158nm,0.3s						
MTBS	**Maitube**	**1.80**	**302**	P	**Pg**	**09 00 30.2**	**+0.2**
	5.9nm,0.2s						
MTBS				S	**Sg**	**09 00 53.6**	**+0.3**
	158nm,0.3s						
KTMS	**Ketmen**	**1.86**	**47**	*eP*	**Pb**	**09 00 28.7**	**-1.5**
	2.6nm,0.2s						
KTMS				*eS*	**Sb**	**09 00 53.0**	**-0.9**
	12nm,0.3s						
KTMS	**Ketmen**	**1.86**	**47**	P	**Pb**	**09 00 29.8**	**-0.4**
	5.8nm,0.2s						
KTMS				S	**Sb**	**09 00 53.0**	**-0.9**
	12nm,0.3s						
BLB	**Baldybastay**	**1.91**	**359**	P	**Pg**	**09 00 31.9**	**-0.3**
	37nm,0.3s						
BLB				S	**Sg**	**09 00 56.7**	**-0.3**
	106nm,0.2s						
BOOM	**Boomskoye usch**	**1.92**	**280**	⇓*iP*	**Pb**	**09 00 30.7**	**-0.7**
	baz=81						
BOOM				⇓*eS*	**Sg**	**09 00 56.9**	**-0.4**
	baz=81						
CHKK	**Chushkaly**	**2.00**	**327**	*eP*	**Pb**	**09 00 32.9**	**+0.2**
	39nm,0.5s						
CHKK				*eS*	**Sg**	**09 01 00.2**	**+0.2**
	35nm,0.3s						
CHKK	**Chushkaly**	**2.00**	**327**	Pg	**Pg**	**09 00 33.8**	**-0.1**
	30nm,0.4s						
CHKK				Lg	Lg	09 01 00.2	
	35nm,0.3s						
NRN	**Naryn**	**2.02**	**249**	⇓*eP*	**Pb**	**09 00 32.5**	**-0.5**
	baz=50						
NRN				⇓*eS*	**Sg**	**09 01 00.0**	**-0.3**
	baz=50						
KTBS	**Karatobe**	**2.03**	**319**	*eP*	**Pb**	**09 00 33.3**	**+0.2**
	24nm,0.2s						
KTBS				*eS*	**Sg**	**09 01 00.8**	**+0.1**
	32nm,0.3s						
KTBS	**Karatobe**	**2.03**	**319**	Pg	**Pg**	**09 00 34.3**	**-0.2**
	12nm,0.3s						
KTBS				Lg	Lg	09 01 00.8	
	32nm,0.3s						
KST	**Kastek**	**2.06**	**295**	*eP*	**Pb**	**09 00 34.3**	**+0.6**
	6.9nm,0.4s						
KST				*eS*	**Sg**	**09 01 02.0**	**+0.3**
	87nm,0.4s						
KST	**Kastek**	**2.06**	**295**	Pg	**Pg**	**09 00 35.1**	**0.0**
	6.9nm,0.4s						
KST				Lg	Lg	09 01 02.0	
	87nm,0.4s						
ARXS	**Arharly**	**2.09**	**347**	*eP*	**Pb**	**09 00 33.9**	**-0.3**
	12nm,0.3s						
ARXS				*eS*	**Sg**	**09 01 01.8**	**-0.8**
	44nm,0.3s						
ARXS	**Arharly**	**2.09**	**347**	Pg	**Pg**	**09 00 34.9**	**-0.7**
	5.6nm,0.2s						
ARXS				Lg	Lg	09 01 02.3	
	44nm,0.3s						
KNOS	**Konyrlen**	**2.23**	**13**	Pg	**Pg**	**09 00 37.4**	**-0.9**
	1.1nm,0.3s						
KNOS				Lg	Lg	09 01 06.0	
	22nm,0.3s						
TKM2	**Tokmak 2**	**2.27**	**290**	⇓Pg	**Pb**	**09 00 37.2**	**-0.1**
	5.1nm,0.7s						
TKM2				⇑Lg	Lg	09 01 08.4	
	15nm,0.3s						
TKM2	**Tokmak 2**	**2.27**	**290**	⇑*eP*	**Pb**	**09 00 35.6**	**-1.7**
	baz=90						
TKM2				⇑*iS*	**Sb**	**09 01 05.4**	**-0.4**
	baz=90						
DGS	**Degeres**	**2.27**	**299**	*eP*	**Pb**	**09 00 37.6**	**+0.4**
	6.7nm,0.3s						
DGS				*eS*	**Sg**	**09 01 08.4**	**-0.2**
	44nm,0.4s						
DGS	**Degeres**	**2.27**	**299**	Pg	**Pg**	**09 00 38.8**	**-0.3**
	6.7nm,0.3s						
DGS				Lg	Lg	09 01 08.4	
	44nm,0.4s						
DJR	**Jarkent**	**2.34**	**23**	*eP*	**Pb**	**09 00 37.0**	**-1.5**
	1.7nm,0.1s						
DJR				*eS*	**Sb**	**09 01 07.6**	**-0.3**
	73nm,0.3s						
DJR	**Jarkent**	**2.34**	**23**	Pg	**Pb**	**09 00 38.2**	**-0.3**
	2.7nm,0.2s						
DJR				Lg	Lg	09 01 07.4	
	73nm,0.3s						
KRBS	**Karabastau**	**2.57**	**307**	*eP*	**Pb**	**09 00 42.3**	**0.0**
	4.4nm,0.2s						
KRBS				*eS*	**Sg**	**09 01 16.9**	**-1.2**
	30nm,0.3s						
KRBS	**Karabastau**	**2.57**	**307**	Pg	**Pg**	**09 00 43.7**	**-1.0**
	3.3nm,0.3s						
KRBS				Lg	Lg	09 01 16.8	
	30nm,0.3s						
KBK	**Karagaybulak**	**2.67**	**281**	⇑*eP*	**Pn**	**09 00 41.1**	**+1.4**
	baz=82						
KBK				⇑*iS*	**Sb**	**09 01 14.9**	**-2.5**
	baz=82						
CHMS	**Chumysh**	**2.89**	**288**	⇑*eP*	**Pn**	**09 00 44.0**	**+1.5**
	baz=88						
CHMS				⇑*eS*	**Sn**	**09 01 19.9**	**+2.2**
	baz=88						
ARLS	**Aral**	**3.13**	**265**	⇓*eP*	**Pn**	**09 00 47.4**	**+1.5**
	baz=66						
ARLS				⇓*eS*	**Sb**	**09 01 26.7**	**-3.8**
	baz=66						
USP	**Ospenovka**	**3.14**	**292**	⇑*iP*	**Pn**	**09 00 47.6**	**+1.6**
	baz=92						
USP				⇑*eS*	**Sn**	**09 01 26.1**	**+2.1**
	baz=92						
KAPS	**Kapalarasan**	**3.16**	**11**	Pg	**Pb**	**09 00 53.5**	**+1.1**
	3.5nm,0.3s						
KAPS				Lg	Lg	09 01 34.0	
	41nm,0.2s						
EKS2	**Erkin-Say**	**3.53**	**279**	⇓*iP*	**Pn**	**09 00 53.0**	**+1.6**
	baz=80						
EKS2				⇓*eS*	**Sn**	**09 01 35.4**	**+1.7**
	baz=80						
KK31	**Karatay Array**	**5.96**	**282**	⇓Lg	Lg	09 03 09.8	
	2.1nm,0.6s,baz=99,slow=30,SNR=3.0						

IDC 07 09:06:02.0±2.2, 31°.16N×69°.75E, h0km, mb3.7/3, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=84.5km s-min=34.9km az=66.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.36**	**28**	P	Pn	09 10 17.9	-0.2
	0.1nm,0.3s,baz=225,slow=10,SNR=2.6						
	6.5nm,1.1s						
ARCES	**ARCESS Array B**	**45.73**	**340**	P	P	09 14 24.5	-0.1
	1.5nm,0.9s,baz=131,slow=9.7,SNR=1.1						
	1.5nm,0.9s						
WRA	**Warramunga Arr**	**80.13**	**120**	P	P	09 18 14.1	-0.1
	0.8nm,1.1s,baz=309,slow=6.7,SNR=2.1						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**82.12**	**124**	P	P	09 18 24.9	+0.2
	0.5nm,0.9s,baz=312,slow=5.3,SNR=4.6						
	0.5nm,0.9s						

*MDD **07** 09:10:09.6±0.2, 43°.39N×0°.65W, h0km, mb_Lg2.5/22,*
Error ellipse: s-maj=2.2km s-min=1.3km az=178.0
*LDG **07** 09:10:09.3±0.1, 43°.46N×0°.66W, h2km, Md2.9/2, Ml2.9/23,*
Error ellipse: s-maj=1.5km s-min=1.2km az=94.0
*STR **07** 09:10:10.0±0.5, 43°.N±3°×°±°, h0km, MLv2.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=21.0, preliminary*
ISC 07 09:10:06.7±0.7, 43°.51N±0°.02×0°.67W±0°.02, h0km, n52, σ1§51/109, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URDF	**Urds**	**0.09**	**142**	Pg	**Pg**	**09 10 11.5**	**+3.1**
URDF				Sg	**Sg**	**09 10 12.5**	**+3.0**
TERF	**Tercis-les-Bai**	**0.37**	**298**	Pg	**Pn**	**09 10 18.4**	**-0.9**
TERF				Sg	**Sb**	**09 10 25.1**	**+2.7**
ATE	**Arette**	**0.42**	**183**	Pg	**Pb**	**09 10 16.2**	**-0.9**
ATE				Sg	**Sg**	**09 10 21.1**	**+0.9**
OSSF	**Osses**	**0.50**	**240**	Pg	**Pb**	**09 10 18.5**	**+0.1**
OSSF				Sg	**Sb**	**09 10 25.5**	**-0.8**
SJPF	**Ste Jean**	**0.57**	**226**	*e*Pg	**Pb**	**09 10 19.2**	**-0.3**
SJPF				*e*Sg	**Sg**	**09 10 26.4**	**+1.5**
	126nm,0.4s						
PYLO	**Lourdes**	**0.61**	**132**	Pg	**Pb**	**09 10 20.7**	**+0.4**
PYLO				Sg	**Sb**	**09 10 28.4**	**-1.0**
ETSF	**Etsaut**	**0.61**	**173**	*e*Pg	**Pb**	**09 10 19.6**	**-0.8**
ETSF				*e*Sg	**Sg**	**09 10 27.0**	**+0.6**
	67nm,0.3s						
CANF	**Canfranc**	**0.75**	**172**	Pg	**Pb**	**09 10 22.2**	**-0.6**
CANF				Sg	**Sg**	**09 10 31.4**	**+0.6**
EORO	**Oroz-Betelu**	**0.77**	**218**	Pg	**Pb**	**09 10 23.0**	**-0.1**
EORO				Sg	**Sg**	**09 10 32.2**	**+0.7**
EORO				*i* Vmb_Lg		09 10 37.9	
VIEF	**Viey**	**0.80**	**141**	Pg	**Pb**	**09 10 24.0**	**+0.4**
VIEF				Sg	**Sb**	**09 10 33.9**	**-1.1**
EPF	**Esparros**	**0.88**	**123**	*e*Pg	**Pb**	**09 10 25.4**	**+0.5**
EPF				*e*Sg	**Sb**	**09 10 36.7**	**-0.4**
	38nm,0.2s						
EARA	**Aranguren**	**0.99**	**223**	Pg	**Pb**	**09 10 27.5**	**+0.7**
EARA	**Aranguren**	**0.99**	**223**	Sg	**Sg**	**09 10 39.4**	**+0.8**
ECHI	**Chisagues Biel**	**1.05**	**143**	Pg	**Pb**	**09 10 27.9**	**+0.1**
ECHI				Sg	**Sg**	**09 10 40.5**	**0.0**
ECHI				*i* Vmb_Lg		09 10 44.3	
ECHI	**Chisagues Biel**	**1.05**	**143**	Pg	**Pb**	**09 10 28.0**	**+0.1**
ECHI	**Chisagues Biel**	**1.05**	**143**	Sg	**Sb**	**09 10 41.8**	**-0.5**
ESAC	**San Caprasio**	**1.79**	**175**	Pn	**Pn**	**09 10 38.3**	**-0.6**
ESAC				Sn	**Sn**	**09 11 00.7**	**-1.7**
ELAN	**Lanestosa**	**2.04**	**263**	Pg	**Pg**	**09 10 46.1**	**+0.4**
ELAN				Sg	**Sg**	**09 11 13.0**	**+0.8**
ELAN				*i* Vmb_Lg		09 11 21.6	
MTLF	**Montolieu**	**2.11**	**94**	*e*Pn	**Pn**	**09 10 44.4**	**+1.1**
MTLF	**Montolieu**	**2.11**	**94**	*e*Pg	**Pg**	**09 10 49.2**	**+2.1**
MTLF				*e*Sn	**Sn**	**09 11 07.3**	**-2.9**
MTLF				*e*Sg	**Sg**	**09 11 15.9**	**+1.4**
	26nm,0.3s						
RJF	**Les Rejaudoux**	**2.38**	**40**	*e*Pn	**Pn**	**09 10 47.8**	**+0.7**
RJF	**Les Rejaudoux**	**2.38**	**40**	*e*Pg	**Pg**	**09 10 55.2**	**+2.8**
RJF				*e*Sn	**Sn**	**09 11 15.8**	**-1.2**
RJF				*e*Sg	**Sg**	**09 11 25.3**	**+2.0**
	14nm,0.2s						
CAF	**Calviac**	**2.42**	**53**	*e*Pn	**Pn**	**09 10 48.1**	**+0.5**
CAF	**Calviac**	**2.42**	**53**	*e*Pg	**Pg**	**09 10 54.5**	**+1.3**
CAF				*e*Sn	**Sn**	**09 11 16.8**	**-1.2**
CAF				*e*Sg	**Sg**	**09 11 26.0**	**+1.4**
	24nm,0.3s						
EPOB	**Poblet**	**2.51**	**148**	Pn	**Pn**	**09 10 48.8**	**-0.1**
EPOB				Pg	**Pb**	**09 10 52.5**	**-0.2**
EPOB				Sn	**Sn**	**09 11 19.0**	**-1.2**
EPOB				Sg	**Sb**	**09 11 25.2**	**+1.0**
EPOB				*i* Vmb_Lg		09 11 27.8	
ERTA	**Horta de San J**	**2.66**	**163**	Pn	**Pn**	**09 10 50.1**	**-0.7**
ERTA				Pg	**Pb**	**09 10 55.1**	**0.0**
ERTA				Sn	**Sn**	**09 11 22.2**	**-1.5**
ERTA				Sg	**Sb**	**09 11 27.7**	**-0.6**
ERTA				*i* Vmb_Lg		09 11 39.6	
ETOR	**Torete**	**2.88**	**201**	Pn	**Pn**	**09 10 54.3**	**+0.4**
ETOR				Sn	**Sn**	**09 11 29.5**	**+0.2**
ETOR				Sg	**Sg**	**09 11 37.1**	**-2.1**
ETOR				*i* Vmb_Lg		09 11 46.0	
MFF	**Saint Martin d**	**3.12**	**7**	*e*Pn	**Pn**	**09 10 58.7**	**+1.6**
MFF	**Saint Martin d**	**3.12**	**7**	*e*Pg	**Pg**	**09 11 08.8**	**+2.3**
MFF				*e*Sn	**Sn**	**09 11 33.1**	**-2.0**
MFF				*e*Sg	**Sg**	**09 11 49.3**	**+2.5**
	19nm,0.6s						
EARI	**Arriondas**	**3.32**	**268**	Pn	**Pn**	**09 11 01.9**	**+2.0**
EARI				Sn	**Sn**	**09 11 40.6**	**+0.5**
EARI				Sg	**Sg**	**09 11 51.8**	**-1.5**
LASF	**Ste Croix**	**3.33**	**79**	*e*Pn	**Pn**	**09 11 00.2**	**+0.2**
LASF	**Ste Croix**	**3.33**	**79**	*e*Pg	**Pg**	**09 11 10.3**	**-0.1**
LASF				*e*Sn	**Sn**	**09 11 37.1**	**-3.1**
LASF				*e*Sg	**Sg**	**09 11 54.1**	**+0.6**
	17nm,0.5s						
TCF	**Toulx Ste Croi**	**3.45**	**35**	*e*Pn	**Pn**	**09 11 02.1**	**+0.3**
TCF	**Toulx Ste Croi**	**3.45**	**35**	*e*Pg	**Pg**	**09 11 13.7**	**+0.8**
TCF				*e*Sn	**Sn**	**09 11 41.3**	**-2.1**
TCF				*e*Sg	**Sg**	**09 11 59.0**	**+1.4**
	9.2nm,0.5s						
BGF	**Bois d'Agland**	**3.94**	**38**	*e*Pn	**Pn**	**09 11 09.3**	**+0.9**
BGF	**Bois d'Agland**	**3.94**	**38**	*e*Pg	**Pg**	**09 11 23.0**	**+0.8**
BGF				*e*Sg	**Sg**	**09 12 13.6**	**+0.4**
	50nm,0.4s						
VIVF	**Saint-Julien-l**	**4.07**	**69**	*e*Pn	**Pn**	**09 11 10.2**	**-0.1**
VIVF	**Saint-Julien-l**	**4.07**	**69**	*e*Pg	**Pg**	**09 11 25.8**	**+1.1**
VIVF				*e*Sg	**Sg**	**09 12 17.0**	**-0.5**
	7.2nm,0.4s						
AVF	**Avril sur Loir**	**4.34**	**39**	*e*Pn	**Pn**	**09 11 14.3**	**+0.3**
AVF	**Avril sur Loir**	**4.34**	**39**	*e*Pg	**Pg**	**09 11 29.8**	**-0.1**
AVF				*e*Sn	**Sn**	**09 12 01.7**	**-3.6**
AVF				*e*Sg	**Sg**	**09 12 26.5**	**+0.3**
	9.4nm,0.5s						
SMF	**Signal de Mont**	**4.48**	**44**	*e*Pn	**Pn**	**09 11 16.6**	**+0.8**
SMF	**Signal de Mont**	**4.48**	**44**	*e*Pg	**Pg**	**09 11 33.3**	**+0.8**
SMF				*e*Sn	**Sn**	**09 12 05.0**	**-3.6**
SMF				*e*Sg	**Sg**	**09 12 32.0**	**+1.5**
	5.6nm,0.7s						
SSF	**Saint Saulge**	**4.62**	**38**	*e*Pn	**Pn**	**09 11 18.2**	**+0.5**
SSF				*e*Sn	**Sn**	**09 12 08.2**	**-3.8**
SSF				*e*Sg	**Sg**	**09 12 34.7**	**-0.2**
	6.9nm,0.6s						
QUIF	**Quistinic**	**4.74**	**339**	*e*Pn	**Pn**	**09 11 20.2**	**+0.7**
QUIF	**Quistinic**	**4.74**	**339**	*e*Pg	**Pg**	**09 11 38.0**	**+0.4**
QUIF				*e*Sn	**Sn**	**09 12 12.6**	**-2.5**
QUIF				*e*Sg	**Sg**	**09 12 40.2**	**+1.1**
	4.0nm,0.5s						
GRR	**Gorron**	**4.88**	**359**	*e*Pn	**Pn**	**09 11 21.5**	**+0.1**
GRR				*e*Sn	**Sn**	**09 12 16.4**	**-2.2**
	1.3nm,0.2s						
GRR				*e*Sg	**Sg**	**09 12 44.0**	**+0.4**
	2.9nm,0.7s						
SGMF	**Saint Gilles**	**4.93**	**345**	*e*Pn	**Pn**	**09 11 23.0**	**+1.0**
SGMF	**Saint Gilles**	**4.93**	**345**	*e*Pg	**Pg**	**09 11 41.7**	**+0.6**
SGMF				*e*Sn	**Sn**	**09 12 16.8**	**-2.9**
SGMF				*e*Sg	**Sg**	**09 12 45.5**	**+0.5**
	7.2nm,0.6s						
LOR	**Lormes**	**4.93**	**39**	*e*Pn	**Pn**	**09 11 22.1**	**0.0**
LOR				*e*Sg	**Sg**	**09 12 44.9**	**-0.1**
	6.3nm,0.5s,baz=219						
LDF	**La Druitiere**	**5.10**	**4**	*e*Pg	**Pg**	**09 11 44.8**	**+0.3**
LDF				*e*Sn	**Sn**	**09 12 20.3**	**-3.7**
LDF				*e*Sg	**Sg**	**09 12 51.0**	**+0.5**
	2.3nm,0.3s						
ROSF	**Rostrenen**	**5.16**	**340**	*e*Pn	**Pn**	**09 11 26.5**	**+1.3**
ROSF				*e*Sn	**Sn**	**09 12 22.1**	**-3.3**
ROSF				*e*Sg	**Sg**	**09 12 53.6**	**+1.2**
	5.4nm,0.6s						
FLN	**La Foliniere**	**5.26**	**1**	*e*Pg	**Pg**	**09 11 48.2**	**+0.7**
	baz=181						
FLN				*e*Sn	**Sn**	**09 12 24.3**	**-3.5**
FLN				*e*Sg	**Sg**	**09 12 56.3**	**+0.7**
	3.6nm,0.4s						

IDC 07 09:15:04.7±7.6, 3°.04N×128°.00E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=155.0km s-min=119.0km az=80.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.68**	**165**	P	P	09 20 18.6	+0.4
	0.3nm,0.5s,baz=345,slow=11,SNR=13						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**27.16**	**168**	P	P	09 20 49.4	-0.7
	0.5nm,0.9s,baz=354,slow=8.4,SNR=2.5						
	0.5nm,0.9s						
STKA	**Stephens Creek**	**37.05**	**161**	P	P	09 22 16.7	+0.1
	1.3nm,0.5s,baz=341,slow=7.3,SNR=5.5						
	1.3nm,0.5s						

IDC 07 09:19:03.4±54.0, 19°.40S×177°.33W, h0km, mb4.0/3, mbtmp4.0/3, MS3.8/1, Error ellipse: s-maj=994.9km s-min=167.2km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**35.73**	**281**	LR	LR	09 38 38.3	
	comp=Z,128nm,18.4s,baz=126,slow=33						
STKA	**Stephens Creek**	**38.84**	**243**	P	P	09 26 30.1	-0.4
	2.3nm,0.8s,baz=110,slow=12,SNR=1.6						
	2.3nm,0.8s						
WRA	**Warramunga Arr**	**45.39**	**261**	P	P	09 27 24.1	0.0
	0.7nm,0.5s,baz=96,slow=7.5,SNR=37						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**45.39**	**256**	P	P	09 27 24.1	0.0
	1.5nm,0.5s,baz=96,slow=7.4,SNR=29						
	1.5nm,0.5s						

*IDC **07** 09:41:40.3±12.0, 18°.66S×177°.27W, h396km±133km, mb3.1/9, mbtmp3.8/9, Error ellipse: s-maj=40.0km s-min=27.4km az=18.0*
**ISC 07 09:41:40.5±0.8, 18°.6S±0°.2×177°.3W±0°.2, h400km, n9, σ0§85/9, mb3

FUG	**Fuego 3**	**0.53**	**272**	*i* P	**Pb**	**09 52 22.6**	**-0.5**
NUBE	**Las Nubes**	**0.72**	**137**	*i* P	**Pg**	**09 52 25.7**	**-0.2**
NUBE				*i* S	**Sg**	**09 52 36.0**	**+0.5**
NUBE				IAML		09 52 36.9	
	comp=Z,94nm,1.0s						
MRL	**Marmol**	**0.87**	**42**	*i* P	**Pg**	**09 52 28.6**	**-0.2**
MRL				*i* S	**Sg**	**09 52 40.4**	**+0.1**
MTO3	**Montecristo**	**0.90**	**92**	*i* P	**Pg**	**09 52 28.6**	**-0.7**
MTO3				IAML		09 52 30.2	
	comp=Z,150nm,1.0s						
JAYA	**Jayaque - finc**	**1.12**	**133**	*i* P	**Pg**	**09 52 33.0**	**-0.6**
JAYA				IAML		09 53 11.8	
	comp=Z,170nm,1.0s						
PMON	**Piamonte**	**1.19**	**127**	*i* P	**Pg**	**09 52 34.4**	**-0.3**
PMON				IAML		09 52 52.8	
	comp=Z,200nm,1.0s						
LLGN	**La Laguna**	**1.33**	**101**	*i* P	**Pn**	**09 52 36.5**	**+0.3**
LLGN				*i* S	**Sg**	**09 52 55.6**	**+0.7**
LLGN				IAML		09 53 02.7	
	comp=Z,460nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.68**	**115**	*i* P	**Pn**	**09 52 42.2**	**+1.3**
SCLA				IAML		09 53 12.9	
	comp=Z,25nm,1.0s						
COMHN	**El Horno**	**2.65**	**89**	*i* P	**Pb**	**09 52 58.5**	**-0.7**

*IDC **07** 10:08:38.1±0.6,36°.22N×69°.95E,h0km,mb4.2/27, mbtmp4.2/32,ML4.3/4,MS3.7/44,Error ellipse: s-maj=14.7km s-min=11.1km az=11.0*

*BJI **07** 10:08:40.4±0.0,36°.55N×69°.92E,h8km,mb4.7/42, mB4.9/15,ML4.5/2,Ms4.1/20,Ms7 3.8/20*

*MOS **07** 10:08:41.1±1.1,36°.43N×69°.86E,h22km,mb4.7/37,Error ellipse: s-maj=5.1km s-min=3.2km az=79.6*

*NNC **07** 10:08:41.6±1.8,36°.72N×69°.58E,h0km,mb4.9,mpv4.9, Error ellipse: s-maj=20.8km s-min=10.2km az=153.0*

*NEIC **07** 10:08:44.7±1.9,36°.51N±0°.04×69°.82E±0°.06,h29km±5km, mb4.6/140,Error ellipse: s-maj=7.8km s-min=5.0km az=132.0*

ISC 07 10:08:41.6±0.3,36°.45N±0°.03×69°.80E±0°.03,h10km,n625, σ1§48/561,mb4.5/141,MS3.7/48,39C-13D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.00**	**198**		**Pn**	**10 09 18.9**	**+3.2**
KBL	**Kabul**	**2.00**	**198**	PN	**Pn**	**10 09 18.9**	**+3.2**
CHGR	**Chuyangaron**	**2.26**	**347**		**Pn**	**10 09 21.0**	**+1.8**
CHGR	**Chuyangaron**	**2.26**	**347**	PN	**Pn**	**10 09 21.0**	**+1.8**
SIMJ	**Simiganj**	**2.29**	**344**		**Pn**	**10 09 21.6**	**+1.9**
GAR	**Garm**	**2.58**	**9**		**Pn**	**10 09 25.5**	**+1.9**
BTK	**Batken**	**3.69**	**12**	PN	**Pn**	**10 09 42.7**	**+3.9**
OHH	**Osh**	**4.69**	**29**	PN	**Pn**	**10 09 55.7**	**+3.1**
TRKS	**Terek-Say**	**5.18**	**11**	PN	**Pn**	**10 10 00.7**	**+1.3**
TRKS				pmax	pmax		
	comp=Z,146nm,0.6s						
ARSB	**Arslanbob**	**5.46**	**26**	Pn	**Pn**	**10 10 05.3**	**+2.0**
ARSB	**Arslanbob**	**5.46**	**26**	PN	**Pn**	**10 10 05.3**	**+2.0**
ARK	**Arkit**	**5.60**	**17**	PN	**Pn**	**10 10 07.3**	**+2.2**
ARK				pmax	pmax		
	comp=Z,100nm,0.7s						
JMU	**Jammu**	**5.62**	**130**	*e*P	**Pn**	**10 10 07.8**	**+2.6**
JMU				*e*S	**Sn**	**10 11 12.5**	**+2.7**
IUG	**Iuzhnay**	**5.69**	**2**	*e*Pn	**Pn**	**10 10 08.3**	**+2.0**
	baz=1.1						
IUG				*e*Pg	**Pb**	**10 10 23.0**	**+1.9**
	baz=1.1						
IUG				*e*Sn	**Sn**	**10 11 10.6**	**-1.2**
	baz=1.1						
IUG	**Iuzhnay**	**5.69**	**2**	*e*PN	**Pn**	**10 10 08.3**	**+2.0**
IUG				*e*		10 10 23.0	
KSH	**Kashi**	**5.76**	**56**	Pn	**Pn**	**10 10 05.9**	**-1.4**
KSH				Sn	**Sn**	**10 11 08.8**	**-4.6**
KSH				smax	smax		
	comp=N,440nm,0.7s						
KSH				smax	smax		
	comp=E,380nm,0.9s						
THN	**Thein Dam**	**6.32**	**128**	*e*P	**Pn**	**10 10 18.2**	**+3.3**
THN				*e*S	**Sn**	**10 11 30.7**	**+3.6**
THN				IAML		10 11 53.8	
	comp=N,354nm,1.2s						
THN				IAML		10 12 02.6	
	comp=E,600nm,1.8s						
ARLS	**Aral**	**6.45**	**32**	PN	**Pn**	**10 10 18.3**	**+1.6**
ARLS				pmax	pmax		
	comp=Z,67nm,0.8s						
HRA	**Herat**	**6.50**	**254**	Pn	**Pn**	**10 10 19.2**	**+1.6**
BRLS	**Borolday**	**6.57**	**0**	*e*Pn	**Pn**	**10 10 16.2**	**-2.2**
	baz=359						
BRLS				*e*Pg	**Pb**	**10 10 34.6**	**-1.4**
	baz=359						
BRLS	**Borolday**	**6.57**	**0**	*e*PN	**Pn**	**10 10 16.1**	**-2.2**
KK31	**Karatay Array**	**6.67**	**4**	Pn	**Pn**	**10 10 21.1**	**+1.5**
KK31	**Karatay Array**	**6.67**	**4**	⇓Pn	**Pn**	**10 10 18.8**	**-0.9**
	comp=Z,25nm,0.5s,baz=200,slow=16,SNR=186						
KK31				⇓Sn	**Sn**	**10 11 33.3**	**-2.4**
	comp=Z,62nm,0.7s						
KK31				⇑Lg	Lg	10 12 04.9	
	comp=Z,47nm,0.5s,baz=189,slow=28,SNR=3.7						
KK31	**Karatay Array**	**6.67**	**4**	PN	**Pn**	**10 10 21.4**	**+1.7**
KKAR	**Karatay Array**	**6.67**	**4**	Pn	**Pn**	**10 10 21.4**	**+1.7**
KKAR	**Karatay Array**	**6.67**	**4**	PN	**Pn**	**10 10 21.4**	**+1.7**
DHRM	**DHARAMSHALA**	**6.81**	**126**	*e*P	**Pn**	**10 10 23.9**	**+2.0**
DHRM				*e*x	x	10 11 40.8	
DHRM				IAML		10 12 20.6	
	comp=E,859nm,1.0s						
DHRM				IAML		10 12 21.5	
	comp=N,391nm,0.4s						
UCH	**Uchtor**	**6.83**	**31**	P	**Pn**	**10 10 24.4**	**+2.1**
	SNR=45						
EKS2	**Erkin-Say**	**6.92**	**25**	P	**Pn**	**10 10 25.5**	**+2.3**
	SNR=8.4						
AAK	**Ala-Archa**	**7.16**	**29**	Pn	**Pn**	**10 10 28.7**	**+2.1**
AAK	**Ala-Archa**	**7.16**	**29**	Pn	**Pn**	**10 10 28.8**	**+2.2**
	comp=N,4.6nm,0.3s,baz=201,slow=9.4,SNR=19						
AAK				Sn	**Sn**	**10 11 46.8**	**-1.3**
	comp=N,3.4nm,0.3s,baz=141,slow=23,SNR=7.0						
AAK				Lg	Lg	10 12 24.4	
	comp=N,3.4nm,0.3s,baz=277,slow=10,SNR=3.9						
AAK				LR	LR	10 13 41.3	
	comp=N,361nm,19.3s,baz=222,slow=42						
	comp=N,18nm,0.5s						
AAK	**Ala-Archa**	**7.16**	**29**	*i* PN	**Pn**	**10 10 28.2**	**+1.6**
FRU1	**Bishkek**	**7.36**	**29**	Pn	**Pn**	**10 10 28.7**	**-0.6**
FRU1	**Bishkek**	**7.36**	**29**	P	**Pn**	**10 10 28.7**	**-0.6**
KBK	**Karagaybulak**	**7.36**	**31**	P	**Pn**	**10 10 31.9**	**+2.5**
	SNR=8.5						
BHK	**Bhakra**	**7.45**	**130**	*e*P	**Pn**	**10 10 31.7**	**+1.3**
BHK				*e*S	**Sn**	**10 11 57.3**	**+2.4**
BHK				IAML		10 12 40.6	
	comp=E,429nm,1.3s						
BHK				IAML		10 12 49.1	
	comp=E,442nm,0.6s						
CHMS	**Chumysh**	**7.57**	**29**	P	**Pn**	**10 10 34.0**	**+2.0**
	SNR=12						
CHMS	**Chumysh**	**7.57**	**29**	⇑Pn	**Pn**	**10 10 30.6**	**-1.5**
	comp=E,86nm,0.7s						
CHMS				⇓Sn	**Sn**	**10 11 56.6**	**-1.3**
	comp=E,145nm,0.8s						
CHMS	**Chumysh**	**7.57**	**29**	P	**Pn**	**10 10 30.6**	**-1.5**
CHMS				S	**Sn**	**10 11 56.6**	**-1.3**
ULHL	**Ulahol**	**7.64**	**39**	P	**Pn**	**10 10 35.2**	**+2.0**
	SNR=8.5						
BOOM	**Boomskoye usch**	**7.67**	**36**		**Pn**	**10 10 33.9**	**+0.2**
BOOM	**Boomskoye usch**	**7.67**	**36**	P	**Pn**	**10 10 33.9**	**+0.2**
USP	**Ospenovka**	**7.71**	**27**	P	**Pn**	**10 10 35.5**	**+1.6**
	SNR=7.5						
TKM2	**Tokmak 2**	**7.86**	**33**	P	**Pn**	**10 10 37.5**	**+1.4**
	SNR=32						
TKM2	**Tokmak 2**	**7.86**	**33**	⇑Pn	**Pn**	**10 10 37.6**	**+1.4**
	comp=E,48nm,0.6s						
TKM2				⇑Sn	**Sn**	**10 12 04.2**	**-1.0**
	comp=E,66nm,1.1s						
TKM2				⇑Lg	Lg	10 12 45.6	
	comp=E,94nm,1.2s						
TKM2	**Tokmak 2**	**7.86**	**33**	P	**Pn**	**10 10 37.5**	**+1.4**
TKM2						10 12 04.2	
SGDS	**Sogindy**	**7.92**	**26**	*e*Pn	**Pn**	**10 10 38.2**	**+1.4**
	baz=26						
SGDS				*e*Pg	**Pb**	**10 11 03.3**	**+4.4**
	baz=26						
SGDS				*e*Sn	**Sn**	**10 12 05.1**	**-1.3**
	baz=26						
SGDS	**Sogindy**	**7.92**	**26**	*e*P	**Pn**	**10 10 38.2**	**+1.4**
SGDS				*e*		10 12 05.1	
SMLA	**Simla**	**8.11**	**129**	*e*P	**Pn**	**10 10 41.0**	**+1.6**
SMLA				*e*x	x	10 12 14.2	
SMLA				IAML		10 12 45.8	
	comp=N,203nm,1.1s						
SMLA				IAML		10 13 00.9	
	comp=N,226nm,0.7s						
SMLA				IAML		10 13 01.1	
	comp=E,330nm,0.5s						
TARG	**Taragay, Kyrgy**	**8.15**	**47**	Pn	**Pn**	**10 10 41.1**	**+0.7**
TARG	**Taragay, Kyrgy**	**8.15**	**47**	P	**Pn**	**10 10 41.1**	**+0.7**
HNLY	**HANLEY**	**8.40**	**113**	*e*P	**Pn**	**10 10 46.2**	**+2.2**
KLP	**Kalpa**	**8.56**	**123**	*e*P	**Pn**	**10 10 46.4**	**+0.5**
TNSS	**Tian-Shan**	**8.57**	**38**	*e*Pn	**Pn**	**10 10 47.8**	**+1.6**
	baz=38						
TNSS				*e*Pg	Pg	10 11 15.3	-10
	baz=38						
TNSS	**Tian-Shan**	**8.57**	**38**	*e*P	**Pn**	**10 10 47.7**	**+1.6**
MDOK	**Medeo**	**8.72**	**38**	*e*Pn	**Pn**	**10 10 49.5**	**+1.6**
	baz=38						
MDOK				*e*Pg	Pg	10 11 18.0	-10
	baz=38						
MDOK	**Medeo**	**8.72**	**38**	⇓Pn	**Pn**	**10 10 49.4**	**+1.5**
	comp=E,45nm,0.8s						
MDOK				Lg	Lg	10 13 15.1	
	comp=E,102nm,1.2s						
MDOK	**Medeo**	**8.72**	**38**	*e*P	**Pn**	**10 10 49.5**	**+1.6**
ANVS	**Anan'yevo**	**8.76**	**41**	P	**Pn**	**10 10 52.1**	**+3.5**
ANVS				pmax	pmax		
	comp=Z,30nm,0.6s						
BKNR	**BIKANER**	**8.91**	**160**	*e*P	**Pn**	**10 10 51.3**	**+0.9**
BKNR				*e*S	**Sn**	**10 12 27.1**	**-3.7**
BKNR				*e*S		10 12 27.8	
PRZ	**Przheval'sk**	**8.97**	**45**	Pn	**Pn**	**10 10 51.6**	**+0.2**
PRZ	**Przheval'sk**	**8.97**	**45**	P	**Pn**	**10 10 51.6**	**+0.2**
BTLS	**Baital**	**9.16**	**19**	*e*Pn	**Pn**	**10 10 54.8**	**+0.9**
	baz=19						
BTLS				*e*Pg		10 11 25.9	
	baz=19						
BTLS				*e*Sn	**Sn**	**10 12 36.2**	**-0.8**
	baz=19						
BTLS	**Baital**	**9.16**	**19**	*e*P	**Pn**	**10 10 54.8**	**+0.9**
BTLS				*e*		10 12 36.2	
CHKK	**Chushkaly**	**9.21**	**34**	*e*Pn	**Pn**	**10 10 55.1**	**+0.4**
	baz=34						
CHKK				*e*Pg		10 11 27.0	
	baz=34						
CHKK	**Chushkaly**	**9.21**	**34**	*e*P	**Pn**	**10 10 55.0**	**+0.4**
DDI	**Dehra Dun**	**9.22**	**129**	*e*P	**Pn**	**10 10 56.3**	**+1.6**
DDI				*e*x	x	10 12 46.2	
DDI				IAML		10 13 54.5	
	comp=E,376nm,1.0s						
DDI				IAML		10 13 54.6	
	comp=N,250nm,1.0s						
SATY	**Saty**	**9.35**	**42**	*e*Pn	**Pn**	**10 10 58.0**	**+1.4**
	baz=42						
SATY				*e*Pg		10 11 29.7	
	baz=42						
SATY	**Saty**	**9.35**	**42**	*e*P	**Pn**	**10 10 57.9**	**+1.4**
GEYT	**Alibeck**	**9.44**	**282**	Pn	**Pn**	**10 10 57.4**	**-0.3**
GEYT	**Alibeck**	**9.44**	**282**	Pn	**Pn**	**10 10 56.8**	**-0.9**
	comp=N,13nm,0.3s,baz=111,slow=10,SNR=52						
GEYT				Sn	**Sn**	**10 12 39.0**	**-4.9**
	comp=N,14nm,0.3s,baz=99,slow=18,SNR=6.3						
GEYT				LR	LR	10 15 56.6	
	comp=N,596nm,21.4s,baz=115,slow=46						
	comp=N,40nm,0.6s						
GEYT	**Alibeck**	**9.44**	**282**	P	**Pn**	**10 10 57.4**	**-0.3**
GYA0	**ALIBECK ARRAY**	**9.44**	**282**	P	**Pn**	**10 10 57.4**	**-0.3**
GYA0						10 12 40.2	
GYA0B	**ALIBECK ARRAY**	**9.44**	**282**	Pn	**Pn**	**10 10 57.4**	**-0.3**
GYA0B	**ALIBECK ARRAY**	**9.44**	**282**	⇓Pn	**Pn**	**10 10 57.2**	**-0.5**
GYA0B				⇑Sn	**Sn**	**10 12 39.6**	**-4.3**
JASL	**Jaisalmer**	**9.54**	**174**	*e*S	Sn	10 12 41.5	-5.0
JASL				*e*S		10 12 42.6	
UZB	**Uzynbulak**	**9.75**	**44**	*e*Pn	**Pn**	**10 11 02.6**	**+0.6**
	baz=44						
UZB				*e*Pg		10 11 36.5	
	baz=44						
UZB	**Uzynbulak**	**9.75**	**44**	*e*P	**Pn**	**10 11 02.6**	**+0.6**
KPKS	**Kokpek**	**9.77**	**41**	*e*Pn	**Pn**	**10 11 02.9**	**+0.5**
	baz=42						
KPKS				*e*Pg		10 11 36.8	
	baz=42						
KPKS	**Kokpek**	**9.77**	**41**	*e*P	**Pn**	**10 11 02.8**	**+0.5**
ARXS	**Arharly**	**9.88**	**36**	*i* P	**Pn**	**10 11 03.5**	**-0.2**
NPLP	**NPLP New Delhi**	**9.96**	**139**	*e*P	**Pn**	**10 11 05.5**	**+0.6**
SHLS	**Shalkode**	**10.00**	**45**	*e*Pn	**Pn**	**10 11 09.2**	**+3.7**
	baz=46						
SHLS				*e*Pg		10 11 45.8	
	baz=46						
SHLS	**Shalkode**	**10.00**	**45**	*e*P	**Pn**	**10 11 09.2**	**+3.7**
KUDL	**Kundal**	**10.03**	**144**	*e*P	**Pn**	**10 11 06.2**	**+0.5**
JOSI	**Joshimath**	**10.04**	**123**	*e*P	**Pn**	**10 11 07.1**	**+0.9**
JOSI				*e*x	x	10 12 55.0	
PDGK	**Podgornoye**	**10.13**	**44**	⇑Pn	**Pn**	**10 11 07.0**	**-0.2**
	comp=N,15nm,0.7s						
PDGK				⇑Sn	**Sn**	**10 13 01.8**	**+0.9**
	comp=N,29nm,1.1s						
PDGK				⇓Lg	Lg	10 14 02.7	
	comp=N,44nm,1.1s						
PDGK	**Podgornoye**	**10.13**	**44**	P	**Pn**	**10 11 06.9**	**-0.2**
PDGK						10 12 53.0	
AJM	**Ajmer**	**10.76**	**156**	*e*P	**Pn**	**10 11 17.4**	**+1.5**
AJM				*e*x	x	10 13 13.4	
AJM				IAML		10 13 16.9	
	comp=N,57nm,0.9s						
AJM				IAML		10 13 17.1	
	comp=E,59nm,0.7s						
LGTI	**Lohaghat**	**11.21**	**126**	*e*P	Pn	10 11 20.2	-1.7
JHNI	**Jhansi**	**13.26**	**143**	*e*x	Pn	10 11 46.2	-3.8
GUNA	**GUNA**	**13.43**	**149**	*i* x	Pn	10 12 02.1	+10
GUNA				*e*x	x	10 14 12.3	
MAKZ	**Makanchi**	**13.77**	**38**	⇑P	**Pn**	**10 11 55.6**	**-1.2**
	comp=E,24nm,0.8s						
MAKZ	**Makanchi**	**13.77**	**38**	P	**Pn**	**10 11 55.6**	**-1.2**
MK31	**Makanchi Array**	**13.91**	**38**	Pn	**Pn**	**10 11 57.3**	**-1.5**
MK31	**Makanchi Array**	**13.91**	**38**	⇓P	**Pn**	**10 11 57.3**	**-1.5**
	comp=E,9.5nm,0.7s,baz=221,slow=13,SNR=38						
MK31	**Makanchi Array**	**13.91**	**38**	*c*e*P	**Pn**	**10 11 57.8**	**-1.0**
MKAR	**Makanchi Array**	**13.91**	**38**	Pn	**Pn**	**10 11 57.6**	**-1.2**
	comp=E,0.3nm,0.3s,baz=224,slow=15,SNR=28						
MKAR				LR	LR	10 17 44.4	
	comp=E,157nm,21.7s,baz=234,slow=39						
	comp=E,2.6nm,0.6s						
MKAR	**Makanchi Array**	**13.91**	**38**	*i* P	**Pn**	**10 11 57.5**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BHPL	**Bhopal**	**14.72**	**151**	*e*P	Pn	10 12 08.5	-1.5
BHPL				*i* x	x	10 12 17.7	
BHPL				*e*x	x	10 14 44.7	
ALBI	**Allahabad**	**15.14**	**134**	*e*x	x	10 14 52.4	
ALBI				IAML		10 14 55.4	
	comp=N,48nm,0.5s						
ALBI				IAML		10 14 56.7	
	comp=E,30nm,0.5s						
KURBB	**Kurchatov Arra**	**15.50**	**21**	Pn	**Pn**	**10 12 16.6**	**-3.5**
	comp=E,1.0nm,0.6s,baz=210,slow=12,SNR=12						
KURBB				Lg	Lg	10 16 52.7	
	baz=217,slow=28,SNR=4.2						
KURBB				LR	LR	10 18 59.4	
	comp=E,261nm,18.0s,baz=159,slow=40						
KURBB	**Kurchatov Arra**	**15.50**	**21**	⇓P	**Pn**	**10 12 21.1**	**+0.9**
	comp=E,18nm,0.7s						
KURBB	**Kurchatov Arra**	**15.50**	**21**	P	**Pn**	**10 12 16.4**	**-3.8**
WMQ	**Urumqi**	**15.52**	**56**	*e*P	**Pn**	**10 12 19.7**	**-0.9**
WMQ				pmax	pmax		
	comp=E,16nm,0.9s						
WMQ				LR	LR		
	comp=E,350nm,13.5s						
WMQ				LR	LR		
	comp=E,160nm,18.5s						
KURK	**Kurchatov**	**15.61**	**21**		**Pn**	**10 12 19.4**	**-2.2**
KURK	**Kurchatov**	**15.61**	**21**	⇓P	**Pn**	**10 12 20.1**	**-1.5**
	comp=E,12nm,0.7s						
KURK	**Kurchatov**	**15.61**	**21**	*i* P	**Pn**	**10 12 23.1**	**+1.5**
AKTO	**Aktyubinsk**	**16.36**	**332**	Pn	**Pn**	**10 12 30.1**	**-1.2**
	comp=E,1.3nm,0.3s,baz=142,slow=12,SNR=32						
AKTO				Sn	Sn	10 15 21.8	-11
	comp=E,0.6nm,0.3s,baz=48,slow=20,SNR=1.5						
AKTO				LR	LR	10 19 51.2	
	comp=E,189nm,20.3s,baz=70,slow=40						
	comp=E,9.1nm,0.4s						
BVA0	**Borovoye Array**	**16.58**	**1**	⇑P	**Pn**	**10 12 31.9**	**-2.2**
	comp=E,23nm,1.2s,baz=168,slow=13,SNR=39						
BVA0	**Borovoye Array**	**16.58**	**1**	*i* P	**Pn**	**10 12 31.8**	**-2.2**
BRVK	**Borovoye**	**16.61**	**1**	Pn	**Pn**	**10 12 32.8**	**-1.7**
BRVK	**Borovoye**	**16.61**	**1**	⇑P	**Pn**	**10 12 32.5**	**-2.0**
	comp=E,17nm,0.8s						
BRVK	**Borovoye**	**16.61**	**1**	*c*e*P*	**Pn**	**10 12 33.4**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,22nm,1.7s						
SEKA	**Sheki**	**18.22**	**292**	P	**Pn**	**10 12 57.0**	**+2.3**
MAK	**Makhachkala**	**18.32**	**298**	*e*P	**Pn**	**10 12 52.6**	**-3.2**
MAK				*e*S	**Sn**	**10 16 16.7**	**-3.6**
MAK				pmax	pmax		
	comp=Z,204nm,1.1s						
MAK				MLR	MLR		
	comp=Z,397nm,14.0s						
GTK	**Tadong**	**18.36**	**114**	*e*P	**Pn**	**10 12 56.1**	**-0.4**
GTK				IAmb	IAmb	10 13 01.8	
	comp=Z,25nm,1.0s						
GANJ	**Ganja**	**18.82**	**290**	P	**P**	**10 13 02.9**	**+1.5**
LSA	**Lhasa**	**19.10**	**104**		**P**	**10 13 05.2**	**+0.2**
LSA				IAmb	IAmb	10 13 08.5	
	comp=Z,30nm,0.8s						
LSA	**Lhasa**	**19.10**	**104**	P	**P**	**10 13 05.2**	**+0.2**
LSA				pmax	pmax		
	comp=Z,29nm,0.8s						
GROC	**Groznyy**	**19.59**	**298**	*e*P	**P**	**10 13 10.2**	**+0.3**
GROC				*e*S	**S**	**10 16 51.5**	**+0.6**
GROC				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI	**Garni**	**19.99**	**288**	P	**P**	**10 13 13.8**	**-0.6**
GNI				IAmb	IAmb	10 13 32.2	
	comp=Z,38nm,0.9s						
GNI	**Garni**	**19.99**	**288**	P	**P**	**10 13 16.2**	**+1.9**
	comp=Z,4.5nm,0.4s,baz=96,slow=2.4,SNR=3.9						
GNI				LR	LR	10 23 11.2	
	comp=Z,174nm,20.9s,baz=100,slow=43						
	comp=Z,4.5nm,0.4s						
GNI	**Garni**	**19.99**	**288**	*i* P	**P**	**10 13 16.3**	**+1.9**
GNI				pmax	pmax		
	comp=Z,64nm,2.5s						
ZAA0	**Zalesovo Array**	**20.37**	**26**	P	**P**	**10 13 17.2**	**-1.0**
ZAA0				IAmb	IAmb	10 13 33.8	
	comp=Z,22nm,0.8s						
ZAA0	**Zalesovo Array**	**20.37**	**26**	⇑P	**P**	**10 13 16.7**	**-1.6**
	comp=Z,3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**20.37**	**26**	P	**P**	**10 13 17.1**	**-1.1**
ZALV	**Zalesovo Beam**	**20.37**	**26**	P	**P**	**10 13 16.9**	**-1.3**
	comp=Z,7.4nm,0.5s,baz=217,slow=10,SNR=39						
ZALV				LR	LR	10 22 28.9	
	comp=Z,90nm,21.1s,baz=208,slow=40						
	comp=Z,7.4nm,0.5s						
ZALV	**Zalesovo Beam**	**20.37**	**26**	*i* P	**P**	**10 13 16.8**	**-1.4**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ONI	**Oni**	**21.18**	**295**	P	**P**	**10 13 26.6**	**-0.6**
ONI				IAmb	IAmb	10 13 46.3	
	comp=Z,16nm,0.9s						
ONI	**Oni**	**21.18**	**295**	P	**P**	**10 13 26.6**	**-0.6**
ONI				pmax	pmax		
	comp=Z,16nm,0.9s						
SVE	**Sverdlovsk**	**21.30**	**346**	*e*P	**P**	**10 13 28.1**	**-0.1**
SVE				*e*S	**S**	**10 17 15.8**	**-8.8**
SVE				pmax	pmax		
	comp=Z,29nm,1.1s						
SVE				MLR	MLR		
	comp=Z,585nm,16.0s						
BWNR	**Bhubaneshwar**	**21.34**	**135**	*e*P	**P**	**10 13 29.4**	**+0.6**
ARU	**Arti**	**21.38**	**343**	P	**P**	**10 13 29.6**	**+0.4**
ARU	**Arti**	**21.38**	**343**	P	**P**	**10 13 29.9**	**+0.8**
	comp=Z,4.6nm,0.4s,baz=155,slow=8.8,SNR=7.5						
ARU				LR	LR	10 22 55.6	
	comp=Z,382nm,18.6s,baz=150,slow=40						
	comp=Z,4.6nm,0.4s						
ARU	**Arti**	**21.38**	**343**	*c i* P	**P**	**10 13 29.5**	**+0.4**
ARU				PPP	PPP	10 13 56.5	
ARU				S	**S**	**10 17 29.7**	**+3.5**
ARU				SS	**SnSn**	**10 17 55.2**	**+6.3**
ARU				pmax	pmax		
	comp=Z,14nm,1.3s						
ARU				MLR	MLR		
	comp=Z,355nm,16.0s						
ARU	**Arti**	**21.38**	**343**	P	**P**	**10 13 29.1**	**0.0**
	comp=Z,48nm,0.8s,comp=Z,454nm						
KBZ	**Khabaz**	**21.77**	**298**	P	**P**	**10 13 32.8**	**-0.6**
	comp=Z,14nm,0.8s,baz=112,slow=8.9,SNR=20						
KBZ				S	**S**	**10 17 29.4**	**-4.6**
	comp=Z,1.8nm,0.6s,baz=40,slow=18,SNR=1.4						
KBZ				LR	LR	10 24 37.3	
	comp=Z,162nm,18.7s,baz=81,slow=44						
	comp=Z,14nm,0.8s						
KBZ	**Khabaz**	**21.77**	**298**	*c*e*P*	**P**	**10 13 33.4**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,17nm,0.9s						
SHL	**Shillong**	**21.77**	**114**	P	**P**	**10 13 32.6**	**-1.0**
SHL	**Shillong**	**21.77**	**114**	P	**P**	**10 13 32.7**	**-1.0**
SHL				pmax	pmax		
	comp=Z,49nm,0.7s						
TEZP	**TEZPUR**	**21.87**	**110**	*e*P	**P**	**10 13 33.8**	**-0.8**
TEZP				IAmb	IAmb	10 13 37.4	
	comp=Z,32nm,0.7s						
SHA1	**Shidzhatmaz**	**21.94**	**298**	*c*e*P*	**P**	**10 13 36.7**	**+1.2**
GOF	**Gofitskoye**	**21.94**	**301**	*c*e*P*	P	10 13 43.8	+8.6
KIV	**Kislovodsk**	**21.96**	**298**	P	**P**	**10 13 35.7**	**+0.2**
KIV	**Kislovodsk**	**21.96**	**298**	*e*P	**P**	**10 13 37.5**	**+2.0**
KIV				*e*S	**S**	**10 17 41.2**	**+3.3**
KIV				pmax	pmax		
	comp=Z,33nm,1.1s						
KIV				MLR	MLR		
	comp=Z,193nm,14.0s						
KIV	**Kisl

ARPR IAmb IAmb 10 14 21.2
comp=Z,12nm,0.9s
ANN Anapa 25.81 299 *e*P **P 10 14 14.6 +1.8**
ANN *e*S **S 10 18 42.8 +0.7**
ANN *e*SS **SnSn 10 19 41.2 +3.8**
ANN pmax pmax
comp=Z,47nm,0.7s
ANN MLR MLR
comp=Z,379nm,16.0s
KIRV Kirov 25.87 335 LR LR 10 25 23.1
comp=Z,165nm,20.1s,baz=141,slow=38
KIRV Kirov 25.87 335*ce*P **P 10 14 13.7 +0.5**
GAZ Gaziantep 26.03 281 P **P 10 14 14.0 -1.1**
GAZ IAmb IAmb 10 14 25.9
comp=Z,20nm,1.2s
VSR Storozhevoye 26.33 314 *e*P **P 10 14 16.4 -1.1**
VSR pmax pmax
comp=Z,30nm,1.0s
VORR Voronezh 26.48 315 P **P 10 14 19.4 +0.5**
VORR pmax pmax
comp=Z,35nm,1.3s
LPSR Galich'ya Gora 27.02 316 *e*P **P 10 14 21.5 -2.2**
LPSR pmax pmax
comp=Z,40nm,1.0s
ZAK Zakamensk 27.75 49 *e*P **P 10 14 30.2 -0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
MMAI Mount Meron Ar 28.39 273 LR LR 10 27 29.2
comp=Z,67nm,20.2s,baz=12,slow=40
BR131 Keskin Array S 28.53 288 P **P 10 14 38.1 +0.6**
BR131 Keskin Array S 28.53 288 *i* P **P 10 14 38.2 +0.7**
BRTR Keskin Array B 28.53 288 P **P 10 14 38.1 +0.6**
BRTR Keskin Array B 28.53 288 P **P 10 14 38.8 +1.3**
comp=Z,0.9nm,0.7s,baz=93,slow=8.7,SNR=3.8
BRTR LR LR 10 28 58.4
comp=Z,74nm,20.9s,baz=85,slow=42
comp=Z,0.9nm,0.7s
BRTR Keskin Array B 28.53 288 *i* P **P 10 14 40.7 +3.2**
BRTR pmax pmax
comp=Z,3.0nm,1.1s
PZH PanZhiHua 28.88 101 P **P 10 14 43.0 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,60nm,4.0s
MOS Moscow 29.09 322 *e*P **P 10 14 46.4 +4.2**
MOS *e* 10 15 39.6
SONM Songino Array 29.16 56 P **P 10 14 41.9 -1.2**
SONM Songino Array 29.16 56 P **P 10 14 42.7 -0.4**
comp=Z,2.7nm,0.8s,baz=258,slow=9.5,SNR=14
SONM LR LR 10 27 54.7
comp=Z,231nm,21.5s,baz=267,slow=40
comp=Z,2.7nm,0.8s
OBN Obninsk 29.35 320 LR LR 10 28 09.8
comp=Z,225nm,22.0s,baz=167,slow=40
OBN Obninsk 29.35 320⇑*e*P **P 10 14 44.3 -0.1**
OBN *e* 10 15 40.5
OBN *e*SS SS 10 21 03.4 -39
OBN pmax pmax
comp=Z,10.0nm,0.6s
OBN MLR MLR
comp=Z,208nm,17.0s
EIL Elat 29.86 267 LR LR 10 30 12.8
comp=Z,96nm,19.2s,baz=66,slow=43
PALK Pallekele 30.70 158 P **P 10 14 57.5 +0.7**
PALK Pallekele 30.70 158 LR LR 10 28 03.8
comp=Z,248nm,18.3s,baz=83,slow=38
PALK Pallekele 30.70 158 P **P 10 14 57.5 +0.7**
PALK pmax pmax
comp=Z,22nm,0.9s
KLMR Klimovskoe 31.06 331 *e*P **P 10 14 57.6 -1.9**
KLMR pmax pmax
comp=Z,15nm,1.0s
CHTO Chiang Mai 31.06 117 P **P 10 15 00.2 +0.3**
CHTO Chiang Mai 31.06 117 P **P 10 15 00.2 +0.3**
CHTO pmax pmax
comp=Z,4.0nm,1.0s
CMAR Chiang Mai Arr 31.29 117 P **P 10 15 01.8 -0.1**
CMAR Chiang Mai Arr 31.29 117 P P 10 14 59.0 -2.9
comp=Z,2.4nm,0.9s,baz=300,slow=8.2,SNR=10
CMAR LR LR 10 31 34.0
comp=Z,103nm,18.9s,baz=290,slow=44
comp=Z,2.4nm,0.9s
CMAR Chiang Mai Arr 31.29 117 P **P 10 15 01.8 -0.1**
ELL Elmali 31.87 283 P **P 10 15 07.8 +0.7**
ELL Elmali 31.87 283 P **P 10 15 07.8 +0.7**
ELL pmax pmax
comp=Z,75nm,0.8s
AK10 Malin Array Si 32.19 309 P **P 10 15 09.8 +0.2**
AK08 Malin Array Si 32.19 309 P **P 10 15 09.8 +0.2**
AK07 Malin Array Si 32.21 309 P **P 10 15 10.0 +0.3**
AK05 Malin Array Si 32.22 309 P **P 10 15 10.1 +0.3**
AK05 pP **pP 10 15 16.9 +3.2**
AKASG Malin Array Be 32.22 309 P **P 10 15 10.0 +0.2**
comp=Z,1.1nm,0.5s,baz=92,slow=6.9,SNR=5.0
AKASG LR LR 10 31 23.2
comp=Z,90nm,18.4s,baz=90,slow=42
comp=Z,1.1nm,0.5s
AKASG Malin Array Be 32.22 309 *i* P **P 10 15 10.0 +0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 32.22 309 P **P 10 15 09.8 0.0**
AKBB Malin Array Si 32.22 309*ce*P **P 10 15 10.2 +0.3**
AKBB pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 32.22 309 P **P 10 15 10.1 +0.2**
AK01 Malin Array Si 32.23 309 P **P 10 15 10.1 +0.2**
AK03 Malin Array Si 32.23 309 P **P 10 15 10.1 +0.2**
KIEV Kiev 32.23 309 ⇓P P 10 15 17.5 +7.6
KIEV Kiev 32.23 309 P **P 10 15 09.8 -0.1**
KIEV Kiev 32.23 309 P **P 10 15 09.9 -0.1**
KIEV pmax pmax
comp=Z,17nm,1.1s
KIEV Kiev 32.23 309 P **P 10 15 10.1 +0.2**
comp=Z,61nm,1.1s
AK04 Malin Array Si 32.26 309 P **P 10 15 10.4 +0.2**
AK18 Malin Array Si 32.33 309 P **P 10 15 11.1 +0.3**
SORM Soroca 32.43 304 P **P 10 15 12.1 +0.4**
SORM Soroca 32.43 304 P **P 10 15 12.1 +0.4**
comp=Z,10nm,1.2s,comp=Z,467nm
HHC Hu-ho-hao-te 32.69 69 *e*P **P 10 15 15.3 +1.1**
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,60nm,4.4s
HHC LR LR
comp=Z,150nm,16.8s
HHC LR LR
comp=Z,190nm,14.1s
HHC LR LR
comp=Z,210nm,15.3s
GYA Guiyang 32.82 97 P **P 10 15 16.9 +1.4**
GYA pmax pmax
comp=Z,19nm,0.9s
MI30 MI30,Zelenitsa 32.88 309 P **P 10 15 15.9 +0.3**
MI30 pP **pP 10 15 22.7 +3.3**
LUBAR Lubar, Ukraine 33.03 307 P **P 10 15 17.2 +0.3**
MI29 MI29, Kamyanyy 33.04 308 P **P 10 15 16.7 -0.3**
MI28 Mi28,Pidlybu 33.23 309 P **P 10 15 17.9 -0.8**
VRI Vrincioaia 33.41 300 ⇑P P 10 15 30.8 +10
PLOR Plostina 33.47 300 ⇑P P 10 15 28.1 +7.2
PLOR Plostina 33.47 300 ⇑P P 10 15 28.1 +7.2
KMPD K-Podol'skiy 33.73 305 P **P 10 15 22.6 -0.4**
MNK Minsk 33.86 316 *i* P **P 10 15 22.6 -1.4**
comp=E,5.0nm,0.7s,baz=105
MNK *i* P **P 10 15 22.6 -1.4**
comp=N,11nm,0.7s,baz=105
MNK *i* P **P 10 15 22.6 -1.4**
comp=Z,4.0nm,0.5s,baz=105
MNK *i* PP **PnPn 10 16 35.2 -1.3**
baz=105
MNK *i* PPP PPP 10 16 49.0
baz=105
MNK *i* S **S 10 20 47.8 -0.3**
baz=105
MNK *i* SS **SnSn 10 22 54.4 +1.2**
baz=105
MNK *i* SSS SSS 10 23 10.1
baz=105
MNK *i* LQ LQ 10 28 02.5
baz=105
MNK *i* LR LR 10 29 10.4
baz=105
MNK *i* LRM MLR 10 32 30.8
comp=N,420nm,23.6s,baz=105
MNK *i* LRM MLR 10 32 37.3
comp=Z,170nm,17.6s,baz=105
MNK *i* LRM MLR 10 32 42.6
comp=E,195nm,19.2s,baz=105
MNK Minsk 33.86 316 *i* P **P 10 15 22.6 -1.4**
MNK *i* 10 16 35.2
MNK *i* PPP PPP 10 16 48.9
MNK *i* 10 18 01.0
MNK *i* S **S 10 20 47.7 -0.3**
MNK *i* SS **SnSn 10 22 54.3 +1.2**
MNK *i* 10 25 47.6
MNK pmax pmax
comp=E,5.0nm,0.7s
MNK pmax pmax
comp=N,11nm,0.6s
MNK pmax pmax
comp=Z,4.0nm,0.5s
MNK MLR MLR
comp=N,420nm,24.0s
MNK MLR MLR
comp=Z,170nm,18.0s
MNK MLR MLR
comp=E,195nm,19.0s
TURR Turia 33.91 300 ⇑P P 10 15 32.1 +7.4
MLR Muntele Rosu 33.96 299 ⇑P **P 10 15 27.7 +2.4**
MLR Muntele Rosu 33.96 299 P **P 10 15 24.4 -0.8**
MLR Muntele Rosu 33.96 299 LR LR 10 34 25.7
comp=E,199nm,18.3s,baz=78,slow=45
MLR Muntele Rosu 33.96 299 ⇑P **P 10 15 27.7 +2.4**
MLR Muntele Rosu 33.96 299 P **P 10 15 24.9 -0.4**
comp=E,18nm,0.9s,comp=E,267nm
NRIK Noril'sk 34.35 11 P **P 10 15 29.1 +0.9**
NRIK IAmb IAmb 10 15 40.0
comp=Z,7.0nm,0.8s
NRIK Noril'sk 34.35 11 P **P 10 15 29.4 +1.1**
comp=Z,3.0nm,0.4s,baz=289,slow=2.6,SNR=3.8
NRIK LR LR 10 31 39.4
comp=Z,220nm,18.4s,baz=190,slow=40
comp=Z,3.0nm,0.4s
NRIK Noril'sk 34.35 11 *i* P **P 10 15 28.9 +0.7**
NRIK pmax pmax
comp=Z,4.0nm,0.7s
RNPP5 Staryi Chortor 34.39 309 P **P 10 15 28.5 -0.3**
RNPP9 Sopachiv 34.42 310 P **P 10 15 28.7 -0.3**
BURAR Bucovina Array 34.50 303 ⇓P P 10 15 38.7 +8.8
BURAR Bucovina Array 34.50 303 P **P 10 15 29.8 -0.1**
BURAR Bucovina Array 34.50 303 P **P 10 15 29.8 -0.1**
BURAR pmax pmax
comp=Z,3.0nm,0.9s
BUR08 Bucovina Ar. S 34.51 303 P **P 10 15 30.6 +0.6**
NACGM Naroch 34.58 316⇑*e*P P 10 15 38.5 +8.2
comp=Z,43nm,1.0s,baz=104
LYN LuoYang 34.59 80 *e*P **P 10 15 31.8 +1.2**
LYN pmax pmax
comp=Z,47nm,0.8s
LYN pmax pmax
comp=Z,280nm,4.0s
VOIR 34.59 299 ⇑P P 10 15 26.7 -3.9
VOIR 34.59 299 ⇑P P 10 15 26.7 -4.0
HNS HongShan 35.66 75 *e*P **P 10 15 41.1 +1.3**
MARR Marisel-Cluj 35.92 301 ⇑P **P 10 15 44.4 +2.3**
IDI Anoyia 36.16 282 P **P 10 15 45.0 +0.7**
GZR Gura Zlata 36.19 299 ⇑P P 10 15 52.9 +8.5
GZR Gura Zlata 36.19 299 ⇑P P 10 15 52.9 +8.5
DRGR 36.20 302 ⇑P P 10 15 52.0 +7.5
DRGR 36.20 302 ⇑P P 10 15 52.0 +7.5
SUW Suwalki 36.45 314 P **P 10 15 46.8 +0.4**
SUW Suwalki 36.45 314 P **P 10 15 46.8 +0.4**
SUW pmax pmax
comp=Z,12nm,0.7s
MDVR Moldovita 36.98 298 ⇑P P 10 15 57.5 +6.3
FINES FINESS Array B 36.99 326 P **P 10 15 51.2 +0.3**
comp=Z,0.8nm,0.4s,baz=122,slow=11,SNR=8.9
FINES LR LR 10 32 15.2
comp=Z,324nm,18.6s,baz=88,slow=38
comp=Z,0.8nm,0.4s
BZS Buzias 37.00 300 ⇓P **P 10 15 52.9 +1.7**
BZS Buzias 37.00 300 ⇓P **P 10 15 52.9 +1.7**
WHN Wuhan 37.36 86 P **P 10 15 54.7 +0.2**
FNA Florina 37.70 292 P **P 10 15 57.5 +0.2**
FNA IAmb IAmb 10 16 10.9
comp=Z,7.4nm,1.0s
FNA Florina 37.70 292 P **P 10 15 57.5 +0.2**
FNA pmax pmax
comp=Z,7.0nm,1.0s
UBPT Khong Chiam 38.09 114 P **P 10 15 59.3 -1.4**
UBPT IAmb IAmb 10 16 10.3
comp=Z,7.2nm,0.7s
PSZ Piszkesteto 38.09 303 P **P 10 16 00.7 +0.1**
PSZ Piszkesteto 38.09 303 P **P 10 16 00.7 +0.1**
PSZ pmax pmax
comp=Z,5.0nm,1.1s
FURI Furi 39.38 234 LR LR 10 35 09.8
comp=Z,66nm,19.8s,baz=182,slow=40
MORC Moravsky Berou 39.61 306 *e*P **P 10 16 14.1 +0.8**
VRAC Vranov 40.24 306 *e*P **P 10 16 18.6 +0.2**
VRAC *e* 10 16 26.8
VRAC Vranov 40.24 306 LR LR 10 38 03.2
comp=Z,62nm,18.2s,baz=75,slow=44
NJ2 Nanjing 40.44 81 *e*P **P 10 16 20.3 +0.1**
NJ2 pmax pmax
comp=Z,22nm,0.8s
NJ2 pmax pmax
comp=Z,550nm,3.6s
KEV Kevo 40.49 339 P **P 10 16 19.7 -0.5**
KEV Kevo 40.49 339 P **P 10 16 19.7 -0.5**
KEV pmax pmax
comp=Z,4.0nm,0.8s
CONA Conrad Observa 40.80 304 *i* pP pP 10 16 31.8 +4.8
comp=Z,10nm,1.4s
ARCES ARCESS Array B 40.82 338 P **P 10 16 23.1 +0.1**
ARCES IAmb IAmb 10 16 44.6
comp=Z,10nm,1.1s
ARCES ARCESS Array B 40.82 338 P **P 10 16 23.1 +0.1**
comp=Z,0.8nm,0.4s,baz=117,slow=7.7,SNR=14
ARCES LR LR 10 34 26.3
comp=Z,95nm,20.3s,baz=130,slow=38
comp=Z,0.8nm,0.4s
ARCES ARCESS Array B 40.82 338 P **P 10 16 23.1 +0.1**
ARCES pmax pmax
comp=Z,10.0nm,1.1s
SOKA Soboth 41.47 302 *i* pP pP 10 16 34.5 +1.9
comp=Z,9.3nm,1.6s
MOA Molln 41.88 304 *i* pP pP 10 16 40.3 +4.5
comp=Z,4.5nm,0.8s
BRG Berggiesshubel 41.89 308 *e*P P 10 16 41.0 +9.0
BRG Amp 10 16 42.4
comp=Z,6.7nm,1.0s
BRG Amp 10 38 12.0
comp=Z,0.2nm,13.5s
BRG Berggiesshubel 41.89 308 *e*P P 10 16 41.0 +9.0
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG MLR MLR
comp=Z,173nm,13.5s
CUC Castrocucco 42.02 292 P **P 10 16 33.4 +0.2**
GEC2 GERESS Array S 42.17 305 P **P 10 16 33.5 -0.9**
GERES GERESS Array B 42.17 305 LR LR 10 35 56.6
comp=Z,74nm,21.1s,baz=78,slow=39
BIOA Bad Ischl, Aus 42.31 304 *e*pP pP 10 16 44.7 +5.3
comp=Z,0.1nm,0.2s
MYKA Terra Mystica 42.43 302 *e*pP pP 10 16 44.7 +4.3
comp=Z,1.4nm,0.4s
CLL Collm 42.47 309 *i* pP **pP 10 16 44.4 +3.8**
comp=Z,6.0nm,0.9s
CLL *e*PP **PP 10 18 17.0 +2.1**
CLL *es*PP 10 18 30.0
CLL *e*PPP PPP 10 18 47.0
HFS Hagfors 42.51 322 P **P 10 16 36.7 -0.1**
comp=Z,3.4nm,0.5s,baz=104,slow=11,SNR=14
HFS LR LR 10 37 20.5
comp=Z,136nm,18.3s,baz=94,slow=40
comp=Z,3.4nm,0.5s
LESA Schwarzleotal 42.99 303 *i* pP pP 10 16 49.5 +4.5
comp=Z,7.8nm,1.3s
HEH HeiHe 43.05 53 *e*P **P 10 16 41.3 -0.1**
HEH pmax pmax
comp=Z,29nm,0.8s
ABTA Abfaltersbach 43.19 302 *e*pP pP 10 16 53.6 +7.0
comp=Z,4.9nm,1.2s
GSI Gunungsitoli 43.40 137 P **P 10 16 44.2 -0.4**
WTTA Wattenberg 43.71 303 *e*P P 10 16 43.5 -3.6
comp=Z,4.7nm,1.1s
WATA Walderalm 43.74 303 *e*P **P 10 16 50.0 +2.8**
comp=Z,7.3nm,1.8s
NC303 NORSAR Array S 43.79 323 P **P 10 16 47.3 +0.1**
NB2 NORSAR Subarra 43.84 323 P **P 10 16 46.7 -1.0**
comp=Z,0.7nm,0.5s,baz=96,slow=7.9
NOA NORSAR Array B 43.84 323 P **P 10 16 47.3 -0.4**
comp=Z,1.0nm,0.5s,baz=98,slow=7.9,SNR=6.9
NOA LR LR 10 37 07.6
comp=Z,101nm,19.5s,baz=95,slow=39
comp=Z,1.0nm,0.5s
SQTA Sankt Quirin 44.01 303 *e*pP pP 10 16 54.5 +1.3
comp=Z,2.2nm,0.4s
NC204 NORSAR Array S 44.08 323 P **P 10 16 49.7 0.0**
NC204 IAmb IAmb 10 16 58.8
comp=Z,9.3nm,0.8s
RETA Reutte 44.27 304 *e*pP pP 10 16 59.0 +3.7
comp=Z,4.1nm,1.0s
FETA Feichten 44.36 303 *e*P **P 10 16 53.2 +1.0**
comp=Z,2.6nm,1.1s
KONO Kongsberg 44.52 321 P **P 10 16 53.0 0.0**
KONO IAmb IAmb 10 17 18.3
comp=Z,7.7nm,0.9s
KONO Kongsberg 44.52 321 P **P 10 16 53.0 0.0**
KONO pmax pmax
comp=Z,8.0nm,1.0s
YAK Yakutsk 44.57 36 P **P 10 16 52.7 -0.7**
YAK Yakutsk 44.57 36 LR LR 10 36 00.1
comp=Z,58nm,20.0s,baz=200,slow=37
YAK Yakutsk 44.57 36*c i* P **P 10 16 52.5 -0.9**
YAK *e* 10 18 32.9
YAK *e*S **S 10 23 28.2 -0.6**
YAK *e*SS **pS 10 23 33.9 +0.9**
YAK *e*SS **SS 10 26 45.6 -2.6**
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax smax
comp=E,30nm,2.2s
YAK smax smax
comp=N,23nm,2.0s
DAVA Damuels 44.89 303 *e*pP pP 10 17 03.9 +3.6
comp=N,4.7nm,0.7s
DAVOX Davos/Dischmat 44.97 303 LR LR 10 39 07.7
comp=N,52nm,19.4s,baz=83,slow=40
KSRS Korea Array 45.81 70 P P 10 17 00.8 -2.8
comp=N,2.1nm,0.7s,baz=278,slow=7.3,SNR=7.1
KSRS LR LR 10 38 40.4
comp=N,135nm,19.6s,baz=290,slow=39
comp=N,2.1nm,0.7s
KLR Kul'dur 45.95 54 LR LR 10 38 04.0
comp=N,76nm,20.7s,baz=288,slow=38
KLR Kul'dur 45.95 54 *e*P **P 10 17 03.1 -1.5**
KLR pmax pmax
comp=Z,5.0nm,1.1s
TIXI Tiksi 46.18 22 LR LR 10 38 01.2
comp=Z,75nm,19.9s,baz=309,slow=38
USRK Ussuriysk Ar. 47.04 60 P **P 10 17 11.7 -1.5**
comp=Z,1.5nm,0.8s,baz=291,slow=12,SNR=1.9
USRK LR LR 10 39 23.0
comp=Z,168nm,19.8s,baz=293,slow=39
comp=Z,1.5nm,0.8s
SPITS Spitsbergen Ar 47.32 347 P **P 10 17 16.1 +1.1**
comp=Z,1.8nm,0.6s,baz=104,slow=6.1,SNR=2.4
SPITS LR LR 10 40 15.1
comp=Z,102nm,18.1s,baz=84,slow=40
comp=Z,1.8nm,0.6s
KEST Kesra 48.13 288 P **P 10 17 22.2 +0.3**
comp=Z,0.8nm,0.4s,baz=13,slow=9.0,SNR=1.8
comp=Z,0.8nm,0.4s
JOW Kunigami 50.04 84 LR LR 10 41 50.4
comp=Z,95nm,18.9s,baz=131,slow=40
EKA Eskdalemuir Ar 51.65 316 P **P 10 17 48.6 +0.4**
comp=Z,1.0nm,0.7s,baz=102,slow=7.1,SNR=6.2
comp=Z,1.0nm,0.7s
SBUM Sibu 51.70 121 P **P 10 17 48.1 -1.0**
JMIC Jan Mayen 52.23 336 LR LR 10 40 06.5
comp=Z,28nm,20.1s,baz=201,slow=36
MJAR Matsushiro Arr 53.87 68 P **P 10 18 03.1 -1.9**
comp=Z,4.7nm,1.1s,baz=291,slow=9.6,SNR=7.7
MJAR LR LR 10 43 12.2
comp=Z,47nm,18.2s,baz=326,slow=38
comp=Z,4.7nm,1.1s
ASAJ Asahikawa 54.40 58 LR LR 10 43 57.4
comp=Z,50nm,18.4s,baz=280,slow=39
SEY Seymchan 55.00 34*ce*P **P 10 18 13.5 +0.7**
SEY pmax pmax
comp=Z,12nm,1.7s
JHJ Hachijo jima 2 56.41 71 LR LR 10 44 59.0
comp=Z,69nm,18.8s,baz=299,slow=39
ESDC Sonseca Array 56.62 297 P **P 10 18 24.7 -0.2**
comp=Z,0.6nm,0.7s,baz=59,slow=8.0,SNR=5.9
comp=Z,0.6nm,0.7s
BORG Borgarnes 58.16 330 LR LR 10 46 34.4
comp=Z,40nm,18.8s,baz=46,slow=39
BILL Bilibino 59.08 26⇑*e*P **P 10 18 42.1 +0.5**
BILL *e* 10 20 57.9
BILL *i* PPP PPP 10 22 16.7
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,93nm,17.0s
SUMG Summit 60.79 341 *i* P P 10 19 01.0 +7.2
TOA0 Torodi Ar. Sit 64.75 268 P P 10 19 18.8 -1.7
TOA0 IAmb IAmb 10 19 34.1
comp=Z,3.8nm,0.8s
TORD Torodi Ar. Bea 64.75 268 P **P 10 19 19.1 -1.4**
TORD IAmb IAmb 10 19 27.6
comp=Z,3.8nm,1.0s
TORD Torodi Ar. Bea 64.75 268 P P 10 19 18.6 -1.9
comp=Z,1.4nm,0.6s,baz=47,slow=6.6,SNR=10.0
comp=Z,1.4nm,0.6s
A21K Barrow 67.61 15 P **P 10 19 36.4 -1.6**
baz=321
C16K Lisburne Hills 67.82 19 P **P 10 19 38.0 -1.4**
baz=314
B18K Kokolik River 67.94 17 P **P 10 19 39.2 -0.9**
baz=317
A22K Sinclair Lake 68.19 14 P **P 10 19 40.2 -1.5**
baz=322
C17K DeLong Mountai 68.25 18 P **P 10 19 40.7 -1.5**
baz=316
B20K Meade River 68.52 16 P **P 10 19 42.7 -1.0**
baz=321
C18K Utukok River 68.62 18 P **P 10 19 43.4 -1.1**
baz=318
C19K Lookout Ridge 68.66 17 P **P 10 19 43.6 -1.2**
baz=319
D17K Noatak River 68.83 19 P **P 10 19 44.4 -1.3**
baz=316
TNA Tin City 68.97 22 P **P 10 19 45.7 -1.0**
baz=313
B22K Teshekpuk Lake 69.04 14 P **P 10 19 45.6 -1.4**
baz=324
B21K Ikpikpuk River 69.37 15 P **P 10 19 48.7 -0.4**
baz=323
D19K Kuna River 69.48 17 P **P 10 19 49.4 -0.4**
baz=320
F14K Arctic Creek 69.52 22 P **P 10 19 49.2 -0.8**
baz=314
E17K Hotham Inlet 69.62 19 P **P 10 19 50.4 -0.2**
baz=318
D20K Etivluk River 69.65 16 P **P 10 19 50.2 -0.7**
baz=322
E18K Tukpahlearik C 69.68 18 IAmb IAmb 10 19 52.9
comp=Z,4.0nm,0.8s
E18K Tukpahlearik C 69.68 18 P **P 10 19 50.3 -0.8**
baz=318
C21K Knifeblade Rid 69.71 16 P **P 10 19 50.6 -0.5**
baz=323
F15K North Star Dit 69.84 21 IAmb IAmb 10 20 02.2
F15K North Star Dit 69.84 21 P **P 10 19 52.1 0.0**
baz=316
C23K Itkillik River 70.00 14 P **P 10 19 52.3 -0.6**
baz=326
E20K Nigu River 70.11 17 P **P 10 19 52.8 -1.0**
baz=322
F17K Baldwin Pennin 70.25 19 P **P 10 19 53.6 -0.8**
baz=318
D22K Ayikyak River 70.38 15 P **P 10 19 54.7 -0.6**
baz=325
ANM Nome 70.45 22 P **P 10 19 54.9 -0.9**
baz=315
E21K Killik River 70.46 16 P **P 10 19 55.0 -0.8**
baz=324
C24K Franklin Bluff 70.46 13 P **P 10 19 54.9 -0.8**
baz=328

E19K	Redstone River	70.49	17	IAmb	IAmb	10 19 57.3	
	comp=Z,3.3nm,0.9s						
E19K	Redstone River	70.49	17	P	P	10 19 55.0	-1.0
	baz=321						
G15K	Niukluk	70.53	21	P	P	10 19 55.3	-1.0
	baz=316						
F18K	Selawik	70.55	19	P	P	10 19 55.2	-1.1
	baz=320						
D23K	Nanushuk River	70.72	14	P	P	10 19 56.7	-0.7
	baz=326						
G16K	Koyuk River	70.73	21	P	P	10 19 55.8	-1.7
	baz=318						
F19K	Shaleruckik Mo	70.85	18	P	P	10 19 56.9	-1.2
	baz=321						
D24K	Happy Valley	70.92	14	P	P	10 19 57.6	-1.0
	baz=328						
C26K	Camden Bay	70.96	12	P	P	10 19 57.9	-0.8
	baz=331						
G17K	Kiwalik Mounta	71.12	20	P	P	10 19 58.6	-1.2
	baz=319,SNR=6.8						
E22K	Anaktuvuk Pass	71.18	15	P	P	10 19 58.8	-1.4
	baz=326						
F20K	Avaraart Lake	71.18	17	P	P	10 19 59.0	-1.1
	baz=323						
TOLK	Toolik Lake Re	71.21	14	P	P	10 19 59.6	-0.8
	baz=327,SNR=8.7						
D25K	Kavik River	71.23	13	IAmb	IAmb	10 20 16.8	
	comp=Z,4.8nm,0.8s						
D25K	Kavik River	71.23	13	P	P	10 19 59.3	-1.2
	baz=330						
H16K	Elim	71.32	21	P	P	10 19 59.9	-1.1
	baz=318						
A36M	Sachs Harbour	71.34	5	P	P	10 20 00.6	-0.5
	baz=347						
G18K	Tagagawik	71.35	19	P	P	10 20 00.5	-0.8
	baz=320						
C27K	Jago River	71.42	12	P	P	10 20 00.8	-0.8
	baz=332						
F21K	Alatna River	71.56	16	IAmb	IAmb	10 20 04.0	
	comp=Z,4.8nm,0.9s						
F21K	Alatna River	71.56	16	P	P	10 20 01.3	-1.2
	baz=324,SNR=7.5						
G19K	Purcell Mounta	71.56	18	IAmb	IAmb	10 20 12.1	
	comp=Z,4.8nm,0.8s						
G19K	Purcell Mounta	71.56	18	P	P	10 20 01.8	-0.7
	baz=322,SNR=8.0						
F22K	John River	71.62	16	P	P	10 20 01.8	-1.1
	baz=325						
E23K	Chandalar	71.69	15	P	P	10 20 02.2	-1.2
	baz=327						
H17K	Granite Mounta	71.75	20	P	P	10 20 02.8	-0.9
	baz=320						
E24K	Your Creek	71.91	14	IAmb	IAmb	10 20 06.8	
	comp=Z,5.2nm,1.1s						
E24K	Your Creek	71.91	14	P	P	10 20 03.9	-0.8
	baz=328,SNR=6.5						
H18K	Honhosa River	72.01	19	IAmb	IAmb	10 20 06.5	
	comp=Z,3.6nm,0.8s						
H18K	Honhosa River	72.01	19	P	P	10 20 04.0	-1.2
	baz=321						
G21K	Allakaket	72.13	17	P	P	10 20 04.1	-1.8
	baz=324						
D27M	Malcolm River	72.20	11	P	P	10 20 05.1	-1.3
	baz=334						
H19K	Roundabout Mou	72.21	18	P	P	10 20 05.4	-1.0
	baz=322						
G22K	Bettles	72.25	16	P	P	10 20 05.6	-1.0
	baz=326						
COLD	Coldfoot	72.28	15	P	P	10 20 05.7	-1.0
	baz=327						
J14K	Nanvaranak Lak	72.33	23	P	P	10 20 06.2	-0.9
	baz=317						
I17K	Unalakleet	72.33	21	P	P	10 20 05.7	-1.5
	baz=319						
E25K	Arctic Village	72.42	13	P	P	10 20 05.7	-2.0
	baz=331						
D28M	Stokes Point	72.45	10	P	P	10 20 06.8	-1.0
	baz=336						
F24K	Squaw Lake	72.50	14	P	P	10 20 06.9	-1.3
	baz=329						
IMAR	Indian Mountai	72.51	17	P	P	10 20 07.4	-0.8
K13K	Kusilvak Mount	72.57	24	P	P	10 20 07.2	-1.4
	baz=317						
H20K	Anotleneega Mo	72.63	18	P	P	10 20 07.6	-1.4
	baz=324,SNR=6.4						
GCSA	Galena City Sc	72.72	19	P	P	10 20 08.0	-1.4
	baz=322						
G23K	Bananza Creek	72.75	15	P	P	10 20 09.2	-0.4
G23K	Bananza Creek	72.75	15	P	P	10 20 08.5	-1.2
	baz=327						
J16K	Anvik River	72.82	21	IAmb	IAmb	10 20 11.0	
	comp=Z,5.9nm,0.7s						
J16K	Anvik River	72.82	21	P	P	10 20 09.4	-0.7
	baz=320,SNR=6.6						
F25K	Christian Rive	72.87	13	P	P	10 20 09.2	-1.2
	baz=331,SNR=8.2						
E28M	Babbage River	73.00	11	P	P	10 20 09.7	-1.4
	baz=336						
H21K	Melozitna Rive	73.00	17	P	P	10 20 09.7	-1.4
	baz=325						
E27K	Coleen River	73.06	12	IAmb	IAmb	10 20 14.0	
	comp=Z,4.8nm,1.1s						
E27K	Coleen River	73.06	12	P	P	10 20 10.1	-1.3
	baz=334						
F26K	Sheenjek River	73.06	13	P	P	10 20 10.0	-1.4
	baz=332						
H22K	Ishtalitna Cre	73.14	16	P	P	10 20 10.5	-1.4
	baz=326						
J17K	VABM Dome	73.17	21	P	P	10 20 10.6	-1.6
	baz=321						
BMAR	Burnt Mountain	73.21	13	P	P	10 20 12.8	+0.4
G24K	Hadweenzic Riv	73.29	15	P	P	10 20 11.2	-1.6
	baz=329,SNR=5.6						
K15K	Wolf Creek Mou	73.29	22	P	P	10 20 10.5	-2.4
	baz=319						
I20K	Naaghedeneel	73.30	18	P	P	10 20 13.0	+0.2
I20K	Naaghedeneel	73.30	18	P	P	10 20 10.7	-2.1
	baz=324						
E29M	Blow River	73.44	10	P	P	10 20 13.2	-0.5
E29M				IAmb	IAmb	10 20 16.8	
	comp=Z,5.5nm,1.0s						
E29M	Blow River	73.44	10	P	P	10 20 11.6	-2.0
	baz=337						
G25K	Bearman Lake	73.51	14	P	P	10 20 12.3	-1.8
	baz=330						
H23K	Yukon River	73.61	16	IAmb	IAmb	10 20 30.9	
	comp=Z,4.0nm,1.0s						
H23K	Yukon River	73.61	16	P	P	10 20 13.6	-1.1
	baz=328,SNR=5.2						
L14K	Kuka Creek	73.65	23	P	P	10 20 13.9	-1.0
	baz=318						
J19K	Poorman	73.65	19	IAmb	IAmb	10 20 17.1	
	comp=Z,6.0nm,1.1s						
J19K	Poorman	73.65	19	P	P	10 20 14.0	-0.9
	baz=323,SNR=6.7						
DBIC	Dimbokro	73.73	266	LR	LR	10 57 31.5	
	comp=Z,64nm,18.3s,baz=120,slow=40						
L15K	Ungalak Mounta	73.77	23	P	P	10 20 14.0	-1.7
	baz=319						
J18K	Innoko River	73.78	20	P	P	10 20 15.0	-0.8
J18K				IAmb	IAmb	10 20 16.4	
	comp=Z,4.2nm,0.8s						
J18K	Innoko River	73.78	20	P	P	10 20 14.6	-1.2
	baz=322,SNR=9.2						
G26K	Porcupine Rive	73.78	13	P	P	10 20 14.3	-1.4
	baz=332						
F28M	Old Crow	73.85	11	P	P	10 20 14.8	-1.3
	baz=336						
J20K	Nowinta River	73.89	18	P	P	10 20 15.9	-0.4
J20K				IAmb	IAmb	10 20 18.4	
	comp=Z,6.3nm,1.1s						
J20K	Nowinta River	73.89	18	P	P	10 20 15.0	-1.4
	baz=324,SNR=6.0						
K17K	Iditarod	73.93	21	P	P	10 20 15.6	-1.1
	baz=321,SNR=10						
H24K	Noodor Dome	73.95	15	P	P	10 20 16.0	-0.8
	baz=329,SNR=5.3						
LBTB	Lobatse	74.00	221	P	P	10 20 16.8	-0.8
LBTB				IAmb	IAmb	10 20 32.1	
	comp=Z,6.2nm,0.8s						
LBTB	Lobatse	74.00	221	P	P	10 20 16.8	-0.8
LBTB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
H25L	Birch Creek	74.00	14	P	P	10 20 15.6	-1.4
	baz=331						
MLY	Manley	74.01	17	P	P	10 20 16.2	-0.9
MLY	Manley	74.01	17	P	P	10 20 16.1	-1.0
	baz=327						
C36M	Paulatuk	74.02	5	P	P	10 20 16.2	-0.7
	baz=348						
INK	Inuvik	74.11	9	P	P	10 20 17.1	-0.4
INK				IAmb	IAmb	10 20 19.8	
	comp=Z,4.6nm,0.8s						
INK	Inuvik	74.11	9	P	P	10 20 16.8	-0.8
	baz=341						
INK	Inuvik	74.11	9	LR	LR	10 56 38.0	
	comp=Z,36nm,20.2s,baz=352,slow=39						
INK	Inuvik	74.11	9	P	P	10 20 17.1	-0.4
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
M13K	Dall Lake	74.12	24	P	P	10 20 16.8	-0.9
	baz=318						
I23K	Minto, Yukon-K	74.22	16	IAmb	IAmb	10 20 20.5	
	comp=Z,4.8nm,0.9s						
I23K	Minto, Yukon-K	74.22	16	P	P	10 20 17.5	-0.8
	baz=328,SNR=6.8						
G27K	Doyon Strip	74.29	12	IAmb	IAmb	10 20 20.8	
	comp=Z,3.6nm,0.8s						
G27K	Doyon Strip	74.29	12	P	P	10 20 17.6	-1.1
	baz=334,SNR=8.6						
M14K	Bethel	74.32	24	P	P	10 20 19.2	+0.3
M14K	Bethel	74.32	24	P	P	10 20 18.1	-0.8
	baz=319						
L16K	Owhat River	74.37	22	P	P	10 20 18.1	-1.0
	baz=321,SNR=8.0						
L17K	Donlin	74.39	21	P	P	10 20 18.3	-1.0
	baz=322						
F30M	Barrier River	74.47	10	P	P	10 20 18.7	-0.9
	baz=339						
K20K	Telida	74.58	19	IAmb	IAmb	10 20 22.0	
	comp=Z,7.5nm,1.1s						
K20K	Telida	74.58	19	P	P	10 20 19.4	-1.0
	baz=325,SNR=8.3						
CHUM	Lake Minchumin	74.59	18	P	P	10 20 19.3	-1.2
	baz=326						
P08K	Saint George I	74.60	30	P	P	10 20 19.4	-1.3
	baz=314						
MDM	Murphy Dome	74.63	16	IAmb	IAmb	10 20 22.6	
	comp=Z,5.6nm,1.0s						
POKR	Poker Plat Res	74.67	15	IAmb	IAmb	10 20 22.7	
	comp=Z,8.9nm,1.1s						
POKR	Poker Plat Res	74.67	15	P	P	10 20 19.7	-1.2
	baz=330						
PRP	Porcupine Dome	74.72	14	P	P	10 20 20.0	-1.4
	baz=331						
BPAW	Bear Paw Mtn.	74.73	17	P	P	10 20 20.3	-1.0
	baz=327						
NEA2	Nenana	74.76	16	IAmb	IAmb	10 20 23.4	
	comp=Z,6.7nm,0.8s						
NEA2	Nenana	74.76	16	P	P	10 20 20.7	-0.8
	baz=328,SNR=13						
M15K	Kasigluk River	74.77	23	P	P	10 20 20.8	-0.7
	baz=320						
L18K	Granite Mounta	74.78	21	IAmb	IAmb	10 20 23.0	
	comp=Z,4.9nm,0.9s						
L18K	Granite Mounta	74.78	21	P	P	10 20 20.5	-1.1
	baz=323						
G29M	Pine Creek	74.79	11	P	P	10 20 20.6	-1.0
	baz=337						
COLA	College	74.79	16	P	P	10 20 20.9	-0.6
COLA	College	74.79	16	P	P	10 20 20.5	-1.0
	baz=329						
COLA	College	74.79	16	P	P	10 20 20.9	-0.6
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
H27K	Steamboat Moun	74.83	13	P	P	10 20 20.6	-1.4
	baz=334,SNR=9.2						
F31M	Tsiigehtchic	74.90	9	P	P	10 20 21.3	-0.9
	baz=340						
G30M	tAoh Zraii Nji	74.99	10	P	P	10 20 23.1	+0.3
G30M				IAmb	IAmb	10 20 24.8	
	comp=Z,6.5nm,0.9s						
G30M	tAoh Zraii Nji	74.99	10	P	P	10 20 21.9	-0.9
	baz=338						
CCB	Clear Creek Bu	75.00	16	P	P	10 20 22.2	-0.6
CAST	Castle Rocks	75.03	18	P	P	10 20 22.0	-1.1
	baz=326						
N14K	Kuskokwak Cree	75.04	24	P	P	10 20 22.4	-0.7
	baz=319						
M16K	Timber Creek	75.06	22	P	P	10 20 23.2	0.0
M16K				IAmb	IAmb	10 20 24.6	
	comp=Z,4.3nm,0.9s						
M16K	Timber Creek	75.06	22	P	P	10 20 22.0	-1.2
	baz=321						
ILAR	Eielson Array	75.09	15	P	P	10 20 22.2	-1.1
ILAR	Eielson Array	75.09	15	P	P	10 20 21.2	-2.1
	comp=Z,3.0nm,1.0s,baz=322,slow=4.2,SNR=22						
	comp=Z,3.0nm,1.0s						
ILAR	Eielson Array	75.09	15	P	P	10 20 22.2	-1.1
IL03	Eielson Array	75.09	15	P	P	10 20 22.2	-1.2
KTH	Kantishna Hill	75.21	18	IAmb	IAmb	10 20 40.0	
	comp=Z,9.1nm,1.2s						
M17K	Holitna River	75.22	21	P	P	10 20 23.2	-1.0
	baz=322						
G31M	Satah River	75.32	10	P	P	10 20 23.7	-0.9
	baz=340						
L19K	White Mountain	75.33	20	P	P	10 20 23.8	-1.0
	baz=324						
L20K	Farewell, AK	75.35	19	P	P	10 20 23.3	-1.6
	baz=325						
I26K	Coal Creek Min	75.37	14	P	P	10 20 23.9	-1.1
	baz=333						
N15K	Kwethluk River	75.37	23	P	P	10 20 23.9	-1.1
	baz=320						
H29M	Whitestone	75.38	11	P	P	10 20 23.6	-1.4
	baz=337,SNR=6.2						
I27K	Kandik River	75.39	13	P	P	10 20 23.7	-1.4
	baz=334						
HDA	Harding Lake	75.39	16	P	P	10 20 23.5	-1.5
	baz=330						
PPLA	Purkeypile	75.44	18	P	P	10 20 24.4	-1.2
	baz=326						
EPYK	Eagle Plains	75.49	11	P	P	10 20 24.6	-1.1
	baz=338						
MCK	McKinley	75.53	17	P	P	10 20 24.6	-1.3
	baz=329						
J25K	Salcha River,	75.55	15	P	P	10 20 24.4	-1.6
	baz=331						
N16K	Nishlik Lake	75.55	23	P	P	10 20 24.6	-1.5
	baz=321,SNR=5.4						
M18K	Stony River	75.61	21	P	P	10 20 25.2	-1.2
	baz=324						
M19K	Big River Lodg	75.68	20	P	P	10 20 25.5	-1.3
	baz=325						
O14K	Tigyukauivet M	75.69	24	P	P	10 20 25.3	-1.5
	baz=320						
I28M	Miner Creek	75.82	12	IAmb	IAmb	10 20 36.1	
	comp=Z,3.8nm,0.8s						
I28M	Miner Creek	75.82	12	P	P	10 20 26.4	-1.3
	baz=336,SNR=8.2						
RND	Reindeer	75.83	17	IAmb	IAmb	10 20 27.8	
	comp=Z,3.4nm,0.7s						
N17K	Nushagak Hills	75.99	22	P	P	10 20 27.5	-1.1
	baz=323						
J26L	Joseph Creek	76.01	14	IAmb	IAmb	10 20 30.2	
	comp=Z,3.7nm,0.9s						
J26L	Joseph Creek	76.01	14	P	P	10 20 27.5	-1.2
	baz=333,SNR=7.8						
M20K	Styx River	76.04	19	P	P	10 20 27.7	-1.2
	baz=326						
K24K	Donnelly Dome	76.17	15	P	P	10 20 28.7	-0.9
	baz=331,SNR=5.9						
I29M	Ogilvie Camp,	76.18	12	IAmb	IAmb	10 20 30.9	
	comp=Z,7.3nm,1.1s						
I29M	Ogilvie Camp,	76.18	12	P	P	10 20 29.1	-0.5
	baz=337,SNR=7.9						
EGAK	Eagle	76.22	13	P	P	10 20 28.7	-1.1
	baz=335						
O15K	Ungalikthiuk R	76.22	24	P	P	10 20 28.7	-1.2
	baz=321						
H31M	Peel River	76.36	10	P	P	10 20 29.3	-1.3
	baz=340						
SKT	Skwentna	76.38	19	P	P	10 20 29.4	-1.3
	baz=327,SNR=8.2						
SCRK	Sand Creek	76.39	15	IAmb	IAmb	10 20 32.1	
	comp=Z,4.8nm,1.0s						
SCRK	Sand Creek	76.39	15	P	P	10 20 29.8	-1.1
	baz=333,SNR=9.2						
WAT1	Susitna Watana	76.39	17	P	P	10 20 30.0	-0.9
	baz=329						
O16K	Kokwok River B	76.45	23	P	P	10 20 29.8	-1.4
	baz=322,SNR=6.4						
DHY	Denali Highway	76.45	16	IAmb	IAmb	10 20 40.7	
	comp=Z,3.6nm,0.6s						
DHY	Denali Highway	76.45	16	P	P	10 20 29.9	-1.5
	baz=330,SNR=6.2						
N19K	Bonanza Creek	76.55	21	P	P	10 20 30.6	-1.2
	baz=325						
I30M	Mount Dempster	76.61	11	IAmb	IAmb	10 20 34.1	
	comp=Z,7.2nm,1.0s						
I30M	Mount Dempster	76.61	11	P	P	10 20 31.1	-1.1
	baz=339,SNR=9.5						
O17K	Koliganek Bris	76.62	22	P	P	10 20 31.3	-0.8
	baz=323						
K27K	Chicken	76.72	14	P	P	10 20 31.8	-0.9
	baz=334						
WAT6	Susitna Watana	76.80	17	P	P	10 20 31.9	-1.4
	baz=330						
P16K	Nushagak River	76.93	23	P	P	10 20 32.9	-0.9
	baz=322						
M22K	Willow	76.93	18	P	P	10 20 32.6	-1.3
	baz=328						
PAX	Paxson	76.97	16	P	P	10 20 33.0	-1.2
	baz=332,SNR=6.7						
SUA	Susitna One	77.02	19	IAmb	IAmb	10 20 50.0	
	comp=Z,4.3nm,0.7s						
SUA	Susitna One	77.02	19	P	P	10 20 33.4	-1.1
	baz=328						
BOSA	Boshof	77.09	219	P	P	10 20 32.2	-3.1
	comp=Z,3.4nm,0.9s,baz=15,slow=8.6,SNR=5.0						
	comp=Z,3.4nm,0.9s						
O18K	Koktuh Hills	77.12	21	IAmb	IAmb	10 20 36.0	
	comp=Z,6.6nm,0.8s						
O18K	Koktuh Hills	77.12	21	P	P	10 20 33.8	-1.2
	baz=324						
DAWY	Dawson	77.19	13	IAmb	IAmb	10 20 36.5	
	comp=Z,5.8nm,1.1s						
DAWY	Dawson	77.19	13	P	P	10 20 34.8	-0.6
	baz=336,SNR=7.6						
J30M	Hart River	77.23	11	IAmb	IAmb	10 20 44.5	
	comp=Z,3.9nm,0.7s						
J30M	Hart River	77.23	11	P	P	10 20 34.2	-1.5
	baz=339,SNR=5.9						
P17K	Kvichak River	77.28	22	P	P	10 20 34.7	-1.2
	baz=323						
PMR	Palmer	77.32	18	P	P	10 20 35.1	-0.9
	baz=329						
SML	Sawmill	77.33	17	P	P	10 20 34.7	-1.5
	baz=329						
M23K	Glacier View	77.48	17	P	P	10 20 35.8	-1.2
	baz=330						
P18K	Big Mountain,	77.49	22	IAmb	IAmb	10 20 37.6	
	comp=Z,8.9nm,1.1s						
P18K	Big Mountain,	77.49	22	P	P	10 20 35.5	-1.6
	baz=324						
CAPN	Captain Cook N	77.50	19	P	P	10 20 36.0	-1.0
	baz=327						
HARP	HAARP	77.55	16	P	P	10 20 36.1	-1.2
	baz=332						
SCM	Sheep Creek Mo	77.55	17	P	P	10 20 36.2	-1.2
	baz=330						
M24K	Tolsona, Glenn	77.57	16	P	P	10 20 36.3	-1.3
	baz=331,SNR=5.7						
RC01	Rabbit Creek A	77.59	18	P	P	10 20 35.8	-1.8
	baz=328						
Q16K	King Salmon	77.63	23	P	P	10 20 37.0	-0.8
	baz=323						
KNK	Knik Glacier	77.64	18	P	P	10 20 36.4	-1.5
	baz=329						
L27K	Beaver Creek,	77.65	14	P	P	10 20 36.8	-1.2
	baz=334,SNR=6.3						
BCAR	Beaver Creek A	77.65	14	P	P	10 20 37.6	-0.4
K29M	Barlow Dome	77.72	12	IAmb	IAmb	10 20 39.8	
	comp=Z,4.1nm,0.8s						
K29M	Barlow Dome	77.72	12	P	P	10 20 37.1	-1.3
	baz=338,SNR=7.6						
P19K	Oil Pt	77.86	21	P	P	10 20 38.0	-1.2
	baz=326						
M26K	Nabesna, AK	78.00	15	P	P	10 20 38.8	-1.2
	baz=334						
KLU	Klutina	78.17	17	IAmb	IAmb	10 20 57.6	
	comp=Z,6.3nm,0.8s						
KLU	Klutina	78.17	17	P	P	10 20 40.5	-0.4
	baz=331						
Q17K	Contact Creek	78.20	23	P	P	10 20 40.2	-1.0
	baz=324						
MAYO	Mayo, Yukon	78.21	11	P	P	10 20 39.9	-1.1
	baz=339						
M27K	Edge Creek, AK	78.27	14	P	P	10 20 40.3	-1.3
	baz=334,SNR=9.9						
L29M	L29M	78.29	13	IAmb	IAmb	10 20 43.1	
	comp=Z,4.3nm,1.1s						
L29M	L29M	78.29	13	P	P	10 20 40.5	-1.1
	baz=337						
GLI	Glacier Island	78.43	17	P	P	10 20 41.7	-0.6
	baz=330						
BRSE	Bradley Lake S	78.48	20	P	P	10 20 41.4	-1.1
	baz=326						
SEW	Seward	78.51	19	P	P	10 20 41.7	-1.0
	baz=329						
M29M	Somme Creek	78.85	13	P	P	10 20 43.3	-1.4
	baz=337						
BMRM	Bremner River	78.94	16	P	P	10 20 43.7	-1.4
	baz=332						
VRDI	Verde Repeater	78.96	16	IAmb	IAmb	10 20 46.5	
	comp=Z,3.6nm,0.8s						
M30M	Minto, Yukon	79.02	12	P	P	10 20 44.5	-1.1
	baz=338						
EYAK	Cordova Ski Ar	79.04	17	P	P	10 20 44.4	-1.2
	baz=332						
YUK3	Moose Creek	79.09	14	P	P	10 20 44.5	-1.6
	baz=336,SNR=6.1						
P23K	Montague Islan	79.12	18	P	P	10 20 44.7	-1.3
	baz=330						
R18K	Karluk	79.22	23	P	P	10 20 44.8	-1.8
	baz=325						
CRQE	Cirque	79.47	16	P	P	10 20 46.6	-1.5
	baz=334						
KDAK	Kodiak Island	79.60	22	P	P	10 20 47.7	-1.0
KDAK				IAmb	IAmb	10 20 48.9	
	comp=Z,7.1nm,0.8s						
KDAK	Kodiak Island	79.60	22	P	P	10 20 47.4	-1.3
	baz=326						
KDAK	Kodiak Island	79.60	22	P	P	10 20 47.7	-1.0
KDAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
M31M	Drury Creek, Y	79.76	11	IAmb	IAmb	10 20 50.7	
	comp=Z,3.9nm,0.8s						
M31M	Drury Creek, Y	79.76	11	P	P	10 20 48.2	-1.4
	baz=340,SNR=5.7						
GRNC	Granite Creek	79.77	15	IAmb	IAmb	10 20 51.5	
	comp=Z,6.1nm,1.0s						
YUK4	Talbot Arm	79.83	13	P	P	10 20 48.8	-1.4
	baz=337,SNR=5.8						
LOGN	Logan Glacier	79.84	15	IAmb	IAmb	10 20 51.9	
	comp=Z,4.7nm,0.9s						
OHAK	Old Harbor	79.86	22	P	P	10 20 49.6	-0.5
	baz=326						
FARO	Faro, Yukon	79.90	11	P	P	10 20 49.6	-0.7
	baz=341						
N30M	Aishikik Lake	80.01	13	P	P	10 20 50.2	-0.8
	baz=338,SNR=5.1						
O28M	Mount Upton	80.06	14	P	P	10 20 50.2	-1.3
	baz=336						
N31M	Braeburn, Yuko	80.21	12	IAmb	IAmb	10 20 53.1	
	comp=Z,6.9nm,1.0s						
N31M	Braeburn, Yuko	80.21	12	P	P	10 20 51.5	-0.5
	baz=339,SNR=5.7						
YUK6	Outpost Mounta	80.25	14	P	P	10 20 51.3	-1.2
	baz=337						
HYT	Haines Junctio	80.53	13	P	P	10 20 53.0	-0.9
	baz=338,SNR=5.9						
PINM	Pinnacle	80.66	15	P	P	10 20 53.6	-0.9
	baz=336						
O30N	Mendenhall	80.83	13	P	P	10 20 54.7	-0.6
	baz=339						
N32M	Quiet Lake	80.96	11	P	P	10 20 55.6	-0.5
	baz=342						
PNL	Peninsula	81.23	15	P	P	10 20 56.9	-0.6
	baz=337						
P30M	Million Dollar	81.28	13	P	P	10 20 56.9	-0.9
	baz=339						
YKA	Yellowknife Ar	81.33	2	P	P	10 20 56.3	-1.6
	comp=Z,3.1nm,0.9s,baz=352,slow=4.3,SNR=3.7						
YKA				LR	LR	11 01 01.7	
	comp=Z,47nm,19.4s,baz=313,slow=38						
	comp=Z,3.1nm,0.9s						
YKA	Yellowknife Ar	81.33	2	*i* P	P	10 20 59.4	+1.5
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
P29M	Windy Craggy	81.59	14	P	P	10 20 58.2	-1.2
	baz=338						
P33M	Teslin, Yukon	81.90	11

P33M	Teslin, Yukon baz=342,SNR=9.5	81.90	11	P	P	10 20 59.9	-1.2
PLBC	Pleasant Camp baz=339,SNR=8.8	82.01	13	P	P	10 21 00.8	-0.8
SKAG	Skagway comp=Z,3.8nm,0.9s	82.19	13	IAmb	IAmb	10 21 03.6	
SKAG	Skagway baz=340	82.19	13	P	P	10 21 01.7	-0.8
P32M	Atlin baz=341	82.35	12	P	P	10 21 03.0	-0.4
WRA	Warramunga Arr comp=Z,2.5nm,0.7s,baz=325,slow=4.9,SNR=29 comp=Z,2.5nm,0.7s	82.79	121	P	P	10 21 02.8	-3.4
R33M	Jennings River comp=Z,4.2nm,0.9s	82.96	11	IAmb	IAmb	10 21 07.4	
R33M	Jennings River baz=343	82.96	11	P	P	10 21 06.1	-0.7
Q32M	Nakina River comp=Z,2.6nm,0.8s	83.18	11	IAmb	IAmb	10 21 10.1	
Q32M	Nakina River baz=342	83.18	11	P	P	10 21 07.0	-1.0
DLBC	Dease Lake baz=344	84.02	10	P	P	10 21 10.9	-1.2
S32K	Killisnoo baz=340	84.21	13	P	P	10 21 11.8	-1.1
TOAD	Toad River Com baz=348	84.23	8	P	P	10 21 12.2	-0.9
S34M	Telegraph Cree baz=343	84.36	11	P	P	10 21 12.9	-0.8
SIT	Sitka baz=340	84.46	13	P	P	10 21 13.5	-0.7
ASAR	Alice Springs comp=Z,2.3nm,0.6s,baz=310,slow=5.0,SNR=37 comp=Z,2.3nm,0.6s	85.02	124	P	P	10 21 14.6	-3.0
ANMO	Albuquerque baz=3.1	108.88	357	P	PKiKP	10 27 11.0	-0.7
SBC	Santa Barbara baz=352	108.92	8	P	PKiKP	10 27 10.7	-0.7
FMP	Fort Macarthur baz=353	109.79	7	P	PKiKP	10 27 12.5	-0.7

IDC 07 10:14:54.6±5.1, 2°.74S×150°.60E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=159.5km s-min=37.3km az=103.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.3nm,0.6s,baz=49,slow=10,SNR=5.4 0.3nm,0.6s	23.33	222	P	P	10 20 04.6	-0.1
ASAR	Alice Springs 0.8nm,1.0s,baz=58,slow=8.8,SNR=4.9 0.8nm,1.0s	26.33	216	P	P	10 20 33.0	+0.6
MKAR	Makanchi Array 0.2nm,0.5s,baz=125,slow=7.6,SNR=1.9 0.2nm,0.5s	77.34	319	P	P	10 26 50.9	-0.4

*IDC **07** 10:21:02.7±1.0, 58°.70S×25°.76W, h0km, mb4.1/4, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=76.4km s-min=21.5km az=97.0*

ISC 07 10:21:15.7±1.1, 59°.0S±0°.1×24°.3W±0°.4, h100km, n21, σ1§23/13, mb4.0/4, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat comp=Z,2.7nm,0.2s	13.48	157	⇑P	Pn	10 24 20.9	-1.7
VNA3	Neumayer Olymp comp=Z,2.6nm,0.2s	13.70	160	⇑P	Pn	10 24 23.8	-1.6
VNA2	Neumayer--Watz comp=Z,2.7nm,0.3s,baz=309,slow=10	13.88	157	⇑P	Pn	10 24 26.3	-1.4
SNAA	Sanae comp=Z,28nm,0.3s	15.42	154	⇑P	Pn	10 24 47.8	+0.3
SNAA	Sanae comp=Z,0.5nm,0.3s,baz=318,slow=16,SNR=4.7 comp=Z,1.5nm,0.4s	15.42	154	Pn	Pn	10 24 47.7	+0.3
TROLL	Troll, Antarti comp=Z,45nm,0.3s	16.92	151	⇑P	P	10 25 07.6	+1.2
QSPA	South Pole Qui comp=Z,1.2nm,0.5s,baz=214,slow=1.6,SNR=20 comp=Z,1.2nm,0.5s	31.27	180	P	P	10 27 26.4	+0.7
VNDA	Vanda comp=Z,0.7nm,0.6s,baz=173,slow=6.9,SNR=7.5 comp=Z,0.7nm,0.6s	43.71	182	P	P	10 29 11.1	+1.0
H04S2	CROZET ISLANDS baz=225,slow=75,SNR=15	44.99	110	T	T	11 19 40.4	
H04S3	CROZET ISLANDS baz=225,slow=75,SNR=16	45.00	109	T	T	11 19 40.9	
H04S1	CROZET ISLANDS baz=225,slow=75,SNR=13	45.01	110	T	T	11 19 44.1	
H10S2	ASCENSION HYDR baz=187,slow=74,SNR=18	50.44	12	T	T	11 24 30.6	
H10S3	ASCENSION HYDR baz=33,slow=74,SNR=17	50.44	12	T	T	11 24 30.8	
H10N1	ASCENSION HYDR baz=187,slow=76,SNR=4.0	51.55	12	T	T	11 25 56.6	
H10N3	ASCENSION HYDR baz=187,slow=76,SNR=17	51.55	12	T	T	11 25 56.7	
H10N2	ASCENSION HYDR baz=187,slow=76,SNR=8.6	51.57	12	T	T	11 25 57.1	
DBIC	Dimbokro comp=Z,2.2nm,0.7s,baz=113,slow=15,SNR=1.4 comp=Z,2.2nm,0.7s	67.25	21	P	P	10 31 58.9	-0.4
TORD	Torodi Ar. Bea comp=Z,1.6nm,0.5s,baz=201,slow=6.1,SNR=19 comp=Z,1.6nm,0.5s	74.90	26	P	P	10 32 46.4	+1.0
FINES	FINESS Array B comp=Z,2.5nm,0.8s,baz=182,slow=11,SNR=5.2	126.25	27	PKP	PKPdf	10 40 04.7	-0.1
ARCES	ARCESS Array B comp=Z,0.4nm,0.5s,baz=260,slow=0.7,SNR=3.6	133.08	22	PKP	PKPdf	10 40 16.4	-1.3
ILAR	Eielson Array comp=Z,1.4nm,0.8s,baz=135,slow=1.3,SNR=9.4	153.19	307	PKPbc	PKPbc	10 40 58.9	-1.2

*IDC **07** 10:26:07.8±2.5, 30°.83N×47°.90E, h0km, mb3.6/4, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=54.3km s-min=32.5km az=157.0*
*TEH **07** 10:26:11.2, 31°.16N×47°.85E, h18km±25km, ML3.6*
*ISN **07** 10:26:12.1±1.1, 30°.88N×47°.98E, h28km±566km, ML3.6*

ISC 07 10:26:11.7±1.1, 30°.99N±0°.10×47°.78E±0°.06, h10km, n29, σ1§96/31, mb3.6/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	Ahwaz	0.81	65	Pg	Pg	10 26 25.3	-2.1
ABEH	Behbahan	2.16	100	Pn	Pb	10 26 52.7	+1.8
IKFM	Kafar-mosalman	2.52	1	Pn	Pn	10 26 52.2	-0.5
IBDR	Badra	2.63	324	*e*Pn	Pb	10 27 00.0	+1.1
IBDR				*e*Sn	Sg	10 27 35.0	-1.3
IBDR				AML	AML	10 27 48.0	
	comp=N,286nm,0.4s						
IBDR				AML	AML	10 27 57.8	
	comp=E,257nm,1.1s						
JHBN	Jahan bin	2.75	63	Pn	Pn	10 26 56.2	0.0
IDOB	Doab	2.81	7	Pn	Pn	10 26 55.5	-1.4
ZNGN	Zangian	2.85	66	Pn	Pn	10 26 58.0	+0.4
ILBA	Ilam Banvizeh	2.94	333	Pn	Pn	10 26 58.3	-0.3
IBRJ	Brojen	3.11	72	Pn	Pn	10 27 00.9	-0.1
IPIR	Pirpir	3.14	57	Pn	Pn	10 27 01.4	-0.1
KLNJ	Kolanjah	3.27	89	Pn	Pn	10 27 03.6	+0.2
HSAM	Samen	3.28	12	Pn	Pn	10 27 02.7	-0.8
BHD	Baghdad	3.67	309	*e*Pn	Pb	10 27 15.0	-1.7
BHD				*e*Sn	Sb	10 28 01.0	-0.2
BHD				AML	AML	10 28 16.0	
	comp=E,298nm,0.7s						
IDHR	Dehrash	3.88	343	Pn	Pn	10 27 11.2	-0.4
IGAR	Gharneh	3.89	68	Pn	Pn	10 27 12.3	+0.4
IKLH	Kolahrood	3.97	53	Pn	Pn	10 27 12.5	-0.4
IRAM	Ramesheh	4.02	77	Pn	Pn	10 27 14.0	+0.5
IZEF	Zefreh	4.31	63	Pn	Pn	10 27 17.6	+0.1
KRSH	Karshahi	4.73	50	Pn	Pn	10 27 23.0	-0.2
IQOM	Qom	4.73	35	Pn	Pn	10 27 22.2	-1.1
QABG	Abgarm-Qazvin	4.94	17	Pn	Pn	10 27 25.8	-0.4
ISFB	Sefidab	5.04	47	Pn	Pn	10 27 26.7	-0.6
ISAD	Sadrabad	5.13	78	Pn	Pn	10 27 29.0	+0.2
IKRK	Kirkuk	5.26	328	*e*Pn	Pn	10 27 37.0	+6.7
IKRK				*e*Sn	Sn	10 28 39.0	+8.0
BRTR	Keskin Array B comp=E,0.1nm,0.3s,baz=121,slow=13,SNR=2.2 comp=E,0.2nm,0.4s	14.45	311	Pn	Pn	10 29 39.9	+3.5
MKAR	Makanchi Array comp=E,0.5nm,0.6s,baz=254,slow=8.0,SNR=5.9 comp=E,0.5nm,0.6s	30.85	49	P	P	10 32 26.2	-1.8
FINES	FINESS Array B comp=E,0.6nm,0.6s,baz=134,slow=11,SNR=4.3 comp=E,0.6nm,0.6s	33.62	341	P	P	10 32 52.3	+0.3
ARCES	ARCESS Array B comp=E,1.3nm,0.9s,baz=138,slow=9.6,SNR=1.9 comp=E,1.3nm,0.9s	40.61	348	P	P	10 33 49.1	-2.2
TORD	Torodi Ar. Bea comp=E,0.2nm,0.4s,baz=53,slow=8.3,SNR=2.3 comp=E,0.2nm,0.4s	45.89	258	P	P	10 34 32.7	-2.0

*IDC **07** 10:27:35.8±0.8, 41°.12S×44°.37E, h0km, mb4.0/6, mbtmp3.9/7, ML2.9/1, Error ellipse: s-maj=33.2km s-min=20.0km az=39.0*

ISC 07 10:27:37.4±0.9, 41°.1S±0°.2×44°.4E±0°.2, h12km, n18, σ0§90/15, mb3.9/6, Crozet Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	CROZET ISLANDS baz=300,slow=12	7.35	136	Pn	Pn	10 29 23.3	-1.0
H04N3	CROZET ISLANDS baz=300,slow=12	7.36	136	Pn	Pn	10 29 23.4	-1.1
H04N2	CROZET ISLANDS baz=300,slow=12	7.37	136	Pn	Pn	10 29 23.0	-1.5
H04S3	CROZET ISLANDS baz=334,slow=16	7.86	139	Pn	Pn	10 29 32.6	+1.3
H04S2	CROZET ISLANDS baz=334,slow=16	7.88	139	Pn	Pn	10 29 32.5	+0.9
H04S1	CROZET ISLANDS baz=334,slow=16	7.88	139	Pn	Pn	10 29 31.8	+0.2
BOSA	Boshof baz=146,slow=15,SNR=1.6 2.3nm,1.1s	20.00	303	P	P	10 32 09.3	-0.8
SNAA	Sanae 1.8nm,0.9s,baz=46,slow=7.4,SNR=4.4 1.8nm,0.9s	38.38	202	P	P	10 34 57.6	-0.5
QSPA	South Pole Qui 2.3nm,0.8s,baz=268,slow=2.4,SNR=12 2.3nm,0.8s	49.07	180	P	P	10 36 24.7	+0.4
H01W2	Cape Leeuwin H baz=242,slow=75,SNR=56	53.98	108	T	T	11 35 13.1	
H01W3	Cape Leeuwin H baz=242,slow=75,SNR=63	53.99	108	T	T	11 35 13.8	
H01W1	Cape Leeuwin H baz=242,slow=75,SNR=47	53.99	108	T	T	11 35 14.4	
TORD	Torodi Ar. Bea 0.3nm,0.7s,baz=157,slow=5.6,SNR=2.1 0.3nm,0.7s	66.87	314	P	P	10 38 30.0	+0.5
ASAR	Alice Springs 0.7nm,0.8s,baz=216,slow=6.2,SNR=5.7 0.7nm,0.8s	74.49	108	P	P	10 39 16.2	+0.2
STKA	Stephens Creek 3.6nm,0.7s,baz=317,slow=5.5,SNR=6.3 3.6nm,0.7s	74.71	119	P	P	10 39 16.8	-0.3
WRA	Warramunga Arr 1.3nm,0.8s,baz=223,slow=4.8,SNR=9.0 1.3nm,0.8s	77.13	105	P	P	10 39 31.9	+0.8
ULM	Lac du Bonnet	151.08	302	PKPbc	PKPbc	10 47 29.3	-0.4
TXAR	Lajitas Array 1.9nm,0.7s,baz=132,slow=5.3,SNR=27	151.53	256	PKPbc	PKiKP	10 47 32.6	+0.6

*IDC **07** 10:40:46.2±2.0, 23°.47S×179°.96W, h527km±21km, mb3.5/11, mbtmp4.4/12, Error ellipse: s-maj=17.8km s-min=15.1km az=133.0*
*NEIC **07** 10:40:49.2±1.6, 23°.7S±0°.1×180°.0W±0°.1, h552km±7km, mb4.2/59, Error ellipse: s-maj=19.6km s-min=17.9km az=115.0*

ISC 07 10:40:46.9±0.5, 23°.62S±0°.06×180°.00W±0°.08, h532km, n101, σ1§60/100, mb4.2/40, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	5.92	162	P	P	10 42 27.5	+3.7
GLKZ				S	S	10 43 42.9	-0.2
MSVF	Nonsavu	6.13	342	P	P	10 42 27.5	+1.4
PINNC	Pines Island,	11.60	272	P	P	10 43 24.0	+2.7
DZM	Mont Dzumac	12.60	274	P	P	10 43 34.9	+3.1
DZM	Mont Dzumac 9.5nm,0.7s,baz=103,slow=22,SNR=2.9	12.60	274	P	P	10 43 33.1	+1.3
WCZ	Waipu Caves	13.22	200	P	P	10 43 40.4	+2.4
MKAZ	Moumakai	14.07	196	P	P	10 43 48.9	+2.0
HAZ	Te Kaha	14.22	187	P	P	10 43 49.1	+0.7
PUZ	Puketiti	14.49	186	P	P	10 43 53.4	+2.2
PUZ				S	S	10 46 21.3	-1.8
TOZ	Tahuroa Road	14.59	194	P	P	10 43 53.7	+1.5
TWGZ	Tauwhareparae	14.62	186	P	P	10 43 52.4	-0.2
TWGZ				S	S	10 46 25.9	+0.2
URZ	Urewera 6.0nm,0.3s,baz=9.3,slow=3.5,SNR=14	14.80	189	P	P	10 43 51.9	-2.6
URZ				S	S	10 46 26.0	-3.1
	8.7nm,0.9s,baz=284,slow=22,SNR=8.4						
URZ	Urewera	14.80	189	P	P	10 43 52.3	-2.2
URZ				S	S	10 46 25.8	-3.3
MWZ	Matawai	14.82	188	P	P	10 43 55.2	+0.5
MWZ				S	S	10 46 28.8	-0.8
BKZ	Black Stump Fm	15.79	190	P	P	10 44 02.4	-2.3
BKZ				S	S	10 46 43.2	-3.8
VRZ	Vera Road	16.09	195	P	P	10 44 09.0	+1.3
KRHZ	Kereru	16.27	190	P	P	10 44 07.5	-2.0
KRHZ				P	sP	10 46 52.0	+33
KAHZ	Kahuranaki	16.34	189	P	P	10 44 08.6	-1.6
KAHZ				S	S	10 46 57.2	+0.7
TSZ	Takapari Road	16.75	191	P	P	10 44 14.0	0.0
TSZ				S	S	10 46 59.6	-3.6
BFZ	Birch Farm	17.31	190	P	P	10 44 19.3	+0.1
QRZ	Quartz Range	18.27	198	P	P	10 44 29.7	+1.7
RPZ	Rata Peaks 8.8nm,0.5s,baz=59,slow=3.5,SNR=7.0 8.8nm,0.5s	21.36	198	P	P	10 44 56.4	+0.4
ARMA	Armidale	26.12	249	P	P	10 45 40.6	+1.9
ARMA				IAmb	IAmb	10 45 42.0	
	comp=Z,14nm,1.1s						
EIDS	Eidsvold	26.36	260	P	P	10 45 42.0	+1.3
EIDS				IAmb	IAmb	10 45 59.2	
	comp=Z,8.9nm,1.1s						
CAN	Canberra	29.29	239	P	P	10 46 08.0	+1.8
CAN				IAmb	IAmb	10 46 23.0	
	comp=Z,9.2nm,1.1s						
CTAO	Charters Tower	31.48	270	P	P	10 46 26.4	+1.1
TOO	Toolangi	32.60	237	P	P	10 46 36.2	+1.5
TOO				IAmb	IAmb	10 46 40.1	
	comp=Z,12nm,0.9s						
STKA	Stephens Creek	34.83	248	P	P	10 46 54.8	+1.3
STKA	Stephens Creek comp=Z,5.5nm,0.6s,baz=94,slow=12,SNR=18 comp=Z,5.5nm,0.6s	34.83	248	P	P	10 46 54.0	+0.5
COEN	Coen	36.07	279	P	P	10 47 04.7	+0.7
COEN				IAmb	IAmb	10 47 07.1	
	comp=Z,7.8nm,1.1s						
BBOO	Buckleboo	39.56	247	P	P	10 47 32.1	-0.1
AS31	Alice Springs	42.08	260	P	P	10 47 52.8	+0.3
AS31				IAmb	IAmb	10 47 53.7	
	comp=Z,2.4nm,0.5s						
ASAR	Alice Springs	42.08	260	P	P	10 47 52.4	-0.1
ASAR	Alice Springs comp=Z,5.9nm,0.5s,baz=95,slow=7.4,SNR=82	42.08	260	P	P	10 47 52.6	+0.2
ASAR				ScP	ScP	10 52 36.1	+1.3
	comp=Z,1.7nm,0.7s,baz=111,slow=4.3,SNR=14						
ASAR				S	S	10 53 30.6	-3.0
	comp=Z,0.7nm,0.6s,baz=100,slow=14,SNR=10 comp=Z,5.9nm,0.5s						
WR0	Warramunga Arr	42.24	266	P	P	10 47 53.3	-0.4
WR0				IAmb	IAmb	10 47 53.8	
	comp=Z,4.4nm,0.8s						
WB2	Warramunga Arr	42.42	266	P	P	10 47 55.0	-0.1
WB2				IAmb	IAmb	10 47 55.4	
	comp=Z,14nm,1.0s						
WB0	Warramunga Arr	42.42	266	P	P	10 47 55.0	-0.2
WB0				IAmb	IAmb	10 47 55.4	
	comp=Z,11nm,0.7s						
WRAB	Tennant Creek	42.42	266	P	P	10 47 55.1	-0.1
WRA	Warramunga Arr	42.43	266	P	P	10 47 54.9	-0.3
WRA	Warramunga Arr comp=Z,7.3nm,0.5s,baz=92,slow=8.4,SNR=243	42.43	266	P	P	10 47 54.8	-0.3
WRA				ScP	ScP	10 52 37.6	+1.3
	comp=Z,1.1nm,0.9s,baz=102,slow=4.5,SNR=4.9						
WRA				S	S	10 53 32.2	-6.3
	comp=Z,1.4nm,0.9s,baz=107,slow=13,SNR=6.8 comp=Z,7.3nm,0.5s						
FORT	Forrest	46.41	249	P	P	10 48 25.7	-0.1
MTN	Manton Dam	47.44	274	P	P	10 48 33.5	-0.2
MTN				IAmb	IAmb	10 48 36.5	
	comp=Z,4.6nm,0.8s						
KNRA	Kununurra	48.69	270	P	P	10 48 43.3	+0.2
KNRA				IAmb	IAmb	10 48 54.0	
	comp=Z,5.4nm,1.1s						
FITZ	Fitzroy Crossi	50.85	265	P	P	10 48 59.5	+0.6
PSA00	Pilbara Seismi	55.22	259	P	P	10 49 29.6	-0.4
NWAO	Narrogin (SRO)	55.35	245	P	P	10 49 30.8	0.0
NWAO				IAmb	IAmb	10 49 47.0	
	comp=Z,12nm,1.1s						
MBWA	Marble Bar	55.42	260	P	P	10 49 31.1	-0.4
MORW	Morawa	56.97	250	P	P	10 49 41.1	-0.9
QSPA	South Pole Qui	66.47	180	P	P	10 50 45.0	+1.6
QSPA				IAmb	IAmb	10 50 45.5	
	comp=Z,4.0nm,0.7s						
QSPA	South Pole Qui comp=Z,3.6nm,0.6s,baz=326,slow=0.6,SNR=38 comp=Z,3.6nm,0.6s	66.47	180	P	P	10 50 44.7	+1.3
MJAR	Matsushiro Arr comp=Z,1.7nm,0.8s,baz=161,slow=5.2,SNR=5.1 comp=Z,1.7nm,0.8s	71.67	326	P	P	10 51 14.1	-0.8
JSD	Sado	72.78	327	P	P	10 51 23.8	+2.4
BELA	Belgrano 2	76.71	173	P	P	10 51 43.2	+0.4
KSAR	Wonju Array Be	78.05	320	P	P	10 51 43.4	-7.2
KS19	Wonju Array Si	78.10	320	P	P	10 51 44.3	-6.6
CMB	Columbia Colle	82.99	43	P	P	10 52 16.7	+0.3
KRMB	Red Mountain	83.04	39	P	P	10 52 18.0	+1.4
HUMO	Hull Mountain	84.28	39	P	P	10 52 23.5	+0.8
NVAR	Mina Array Bea comp=Z,1.2nm,0.9s,baz=225,slow=8.7,SNR=7.9 comp=Z,1.2nm,0.9s	84.55	44	P	P	10 52 24.3	0.0
I03D	Drain, OR	84.75	37	P	P	10 52 25.5	+0.7
I03D				IAmb	IAmb	10 52 40.0	
	comp=Z,4.6nm,1.1s						
SNAA	Sanae	84.95	179	P	P	10 52 24.9	-0.7
SNAA	Sanae comp=Z,1.2nm,0.6s,baz=217,slow=9.7,SNR=5.2 comp=Z,1.2nm,0.6s	84.95	179	P	P	10 52 24.3	-1.3
N15K	Kwethluk River	85.06	10	P	P	10 52 26.1	+0.2
N15K				IAmb	IAmb	10 52 26.8	
	comp=Z,10.0nm,0.8s						
O18K	Koktuh Hills	85.62	12	P	P	10 52 28.0	-0.7
O18K				IAmb	IAmb	10 52 28.4	
	comp=Z,6.7nm,0.7s						
J05D	Fort Rock, OR	85.69	39	P	P	10 52 30.4	+0.8
J05D				IAmb	IAmb	10 52 31.0	
	comp=Z,3.9nm,0.8s						
ILSW	Iliamna Southw	86.15	13	P	P	10 52 30.9	-0.5
PINE	Pine Mountain	86.17	38	P	P	10 52 32.7	+0.7
PINE				IAmb	IAmb	10 52 33.1	
	comp=Z,3.7nm,0.8s						
TUC	Tucson	86.34	52	P	P	10 52 33.2	+0.2
I07A	Izee	87.17	39	P	P	10 52 37.3	+0.8
I07A				IAmb	IAmb	10 52 37.9	
	comp=Z,4.0nm,1.0s						
J08A	Circle Bar Ran	87.34	40	P	P	10 52 37.4	0.0
J08A				IAmb	IAmb	10 52 39.1	
	comp=Z,4.4nm,1.0s						
U15A	North Rim	87.42	48	P	P	10 52 38.6	+0.5
U15A				IAmb	IAmb	10 52 39.7	
	comp=Z,4.0nm,0.9s						
L19K	White Mountain comp=Z,3.2nm,0.8s	87.84	12	IAmb	IAmb	10 52 39.5	
SUA	Susitna One comp=Z,4.9nm,0.7s	88.00	14	IAmb	IAmb	10 52 39.6	
G08A	Pilot Rock comp=Z,4.0nm,1.0s	88.20	38	IAmb	IAmb	10 52 42.5	
MXC	Moxie City comp=Z,2.5nm,0.9s	88.24	37	IAmb	IAmb	10 52 54.4	
MTPU	Mount Pierson comp=Z,2.4nm,0.7s	88.34	47	IAmb	IAmb	10 52 43.9	
MFID	Camas Ranch comp=Z,3.7nm,0.9s	88.94	41	IAmb	IAmb	10 52 45.9	
CAST	Castle Rocks comp=Z,3.3nm,0.8s	89.49	12	IAmb	IAmb	10 52 46.0	
SRU	San Rafael Swe comp=Z,3.9nm,0.7s	90.00	47	IAmb	IAmb	10 52 50.9	
TX31	Lajitas Ar. Si comp=Z,2.4nm,0.9s	90.28	58	IAmb	IAmb	10 52 52.9	
TXAR	Lajitas Array comp=Z,1.4nm,0.7s,baz=210,slow=6.3,SNR=19 comp=Z,1.4nm,0.7s	90.28	58	P	P	10 52 52.1	+0.8
ILAR	Eielson Array comp=Z,0.3nm,0.5s,baz=201,slow=6.5,SNR=5.3 comp=Z,0.3nm,0.5s	91.76	14	P	P	10 52 55.5	-1.7
PDAR	Pinedale Array comp=Z,0.6nm,0.7s,baz=180,slow=2.4,SNR=7.2 comp=Z,0.6nm,0.7s	92.49	44	P	P	10 53 00.4	-1.0
MKAR	Makanchi Array comp=Z,0.5nm,0.6s,baz=237,slow=0.8,SNR=8.0	111.96	313	PKiKP	PKiKP	10 58 20.1	-1.5
KURBB	Kurchatov Arra comp=Z,0.7nm,0.6s,baz=97,slow=2.1,SNR=10	115.04	316	PKP	PKPdf	10 58 25.1	-2.2
SPITS	Spitsbergen Ar comp=Z,4.5nm,0.7s,baz=84,slow=4.5,SNR=2.3	124.84	356	PKP	PKPdf	10 58 44.3	-1.1
ARCES	ARCESS Array B comp=Z,1.4nm,0.6s,baz=48,slow=1.8,SNR=11	131.61	348	PKP	PKPdf	10 58 57.1	-1.4
FINES	FINESS Array B comp=Z,1.0nm,0.6s,baz=92,slow=4.6,SNR=5.7	138.18	342	PKP	PKPdf	10 59 09.5	-1.4
NB2	NORSAR Subarra comp=Z,1.2nm,0.7s,baz=20,slow=3.6	141.80	351	PKP	PKPpre	10 59 12.4	
NOA	NORSAR Array B comp=Z,1.3nm,0.7s,baz=16,slow=4.6,SNR=7.4	141.80	351	PKhKP	PKPpre	10 59 11.9	
HFS	Hagfors comp=Z,5.6nm,0.4s,baz=66,slow=3.6,SNR=64	142.27	349	PKhKP	PKPpre	10 59 13.6	
AKASG	Malin Array Be comp=Z,4.4nm,0.6s,baz=44,slow=3.9,SNR=14	144.74	327	PKP	PKPdf	10 59 21.7	-1.2
KIEV	Kiev	144.75	327	PKPdf	PKPdf	10 59 21.7	-1.2
BRTR	Keskin Array B comp=Z,1.7nm,0.6s,baz=145,slow=4.5,SNR=5.0	147.41	308	PKPbc	PKPbc	10 59 30.4	-0.9
MMAI	Mount Meron Ar comp=Z,5.1nm,0.5s,baz=64,slow=5.7,SNR=11	147.59	295	PKPbc	PKPbc	10 59 31.7	-0.2
EKA	Eskdalemuir Ar comp=Z,1.4nm,0.5s,baz=335,slow=2.5,SNR=17	148.24	3	PKPbc	PKPbc	10 59 30.6	-2.1
BURAR	Bucovina Array	148.74	326		PKPbc	10 59 34.5	+0.2
CLL	Collm	150.59	343		PKPbc	10 59 38.0	-0.5
FUORN	Ofenpass-Fuorn	155.60	343		PKPab	11 00 09.6	+0.1
ESDC	Sonseca Array comp=Z,0.7nm,0.9s,baz=344,slow=4.5,SNR=5.7	163.64	11	PKPab	PKPab	11 00 43.5	-0.9
TORD	Torodi Ar. Bea comp=Z,0.9nm,1.1s,baz=167,slow=7.0,SNR=3.0	169.46	189	PKP	PKPdf	10 59 52.6	-1.5

TAP 07 10:56:39.5, 24°.44N×121°.42E, h5km, ML1.0, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	Datong baz=252	0.04	253	*i* P	Pg	10 56 40.9	+0.1
NNSB				*i* S	Sg	10 56 41.9	+0.2
	baz=252						
NNSH	Datong baz=258	0.04	253	P	Pg	10 56 40.7	-0.1
NNSH				S	Sg	10 56 41.9	+0.2
	baz=258						
NNS	Nan Shan baz=266	0.05	270	⇑*i* P	Pg	10 56 40.9	0.0
NNS				*i* S	Sg	10 56 42.1	+0.2
	baz=266						
LATG	Datong baz=44	0.13	44	P	Pg	10 56 42.7	+0.5
LATG				S	Sg	10 56 46.0	+1.9
	baz=44						
NDT	Datong Townshi baz=26

TAP 07 10:56:41.8, 24.°45N×121.°38E, h10km, ML0.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNS	**Nan Shan**	**0.01**	**189**	*i* P	Pg	10 56 44.0	+0.3
	baz=157						
NNS				*i* S	Sg	10 56 45.2	+0.2
	baz=157						
NNSB	**Datong**	**0.03**	**163**	P	Pg	10 56 43.9	+0.2
	baz=163						
NNSB				S	Sg	10 56 45.1	+0.1
	baz=163						
NNSH	**Datong**	**0.03**	**163**	P	Pg	10 56 43.9	+0.2
	baz=182						
NNSH				*i* S	Sg	10 56 45.0	-0.1
	baz=182						
LATG	**Datong**	**0.16**	**59**	S	Sg	10 56 49.3	+1.4
	baz=57						
NDT	**Datong Townshi**	**0.20**	**40**	*i* S	Sg	10 56 49.1	+0.4
	baz=38						
YHNB	**Yeheng**	**0.22**	**0**	*i* S	Sg	10 56 49.7	+0.3
	baz=358						
NSK	**Sanguang**	**0.22**	**356**	P	Pg	10 56 46.8	+0.4
	baz=356						
NSK				*i* S	Sg	10 56 49.7	+0.1
	baz=356						
ENTT	**Nioudou**	**0.26**	**43**	*i* S	Sg	10 56 51.2	+0.6
	baz=37						
TDCB	**Techi**	**0.28**	**225**	*e*P	Pg	10 56 47.4	-0.2
	baz=226						
TDCB				S	Sg	10 56 51.1	-0.2
	baz=226						
NACB	**Ninganchiao**	**0.34**	**144**	*e*P	Pg	10 56 49.1	+0.5
	baz=144						
NACB				*e*S	Sg	10 56 54.1	+0.9
	baz=144						
NWLT	**Wulai**	**0.34**	**20**	*e*P	Pg	10 56 48.1	-0.6
	baz=10.0						
NWLT				*e*S	Sg	10 56 52.9	-0.4
	baz=10.0						
FUSB	**Fushanzhiwuyua**	**0.36**	**32**	*e*S	Sg	10 56 53.5	-0.3
	baz=23						

*BER **07** 11:07:46.1±1.8, 67.°42N×31.°14E, h0km, ML1.5, Suspected explosion*
*HEL **07** 11:07:46.6±0.3, 67.°57N×30.°36E, h0km, ML2.0, Suspected explosion*
*IDC **07** 11:07:47.5±2.2, 67.°63N×30.°34E, h0km, mbtmp3.0/3, ML2.0/3, Error ellipse: s-maj=28.7km s-min=8.3km az=78.0.*

ISC 07 11:07:46.5±1.0, **67.°54N**±0.°02×**30.°34E**±0.°05, **h0**km, **n30**, σ1°**42**/50, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**0.35**	**308**	PG	**Pg**	**11 07 52.9**	**-0.4**
VRF				SG	**Sg**	**11 07 57.6**	**-0.2**
RAJF	**Raja-Jooseppi**	**1.22**	**322**	PN	**Pg**	**11 08 10.2**	**+0.4**
RAJF				SN	**Sb**	**11 08 26.4**	**-0.2**
OLKF	**Oulanka, Finla**	**1.28**	**197**	PG	**Pg**	**11 08 10.5**	**-0.5**
	baz=13						
OLKF				MSG		11 08 26.3	
	comp=Z,16nm,0.2s						
OLKF				SN	**Sn**	**11 08 30.4**	**+1.0**
SGF	**Sodankyl**	**1.47**	**268**	PG	**Pn**	**11 08 13.6**	**-0.7**
SGF				SN	**Sn**	**11 08 35.7**	**+1.5**
KU6	**Riekki**	**1.53**	**187**	PG	**Pn**	**11 08 14.4**	**-0.6**
	baz=11						
KU6				MSG		11 08 33.5	
	comp=Z,7.2nm,0.2s						
KU6				SN	**Sn**	**11 08 37.4**	**+1.8**
LVZ	**Lovozero**	**1.68**	**76**	SN	**Sn**	**11 08 39.0**	**-0.5**
MSF	**Maaselka**	**1.71**	**198**	PG	**Pn**	**11 08 17.6**	**0.0**
MSF				SG	**Sn**	**11 08 40.6**	**+0.4**
RNF	**Rovaniemi**	**1.93**	**243**	PG	**Pn**	**11 08 21.2**	**+0.6**
RNF				SG	**Sg**	**11 08 49.2**	**+0.6**
RANF	**Ranua**	**2.08**	**224**	PG	**Pn**	**11 08 23.8**	**+1.3**
	baz=39						
RANF				SG	**Sg**	**11 08 53.2**	**+0.1**
KLF	**Kolari**	**2.48**	**266**	PN	**Pn**	**11 08 28.6**	**+0.4**
KLF				MSG		11 09 00.2	
	comp=Z,5.0nm,0.2s						
KLF				SG	**Sb**	**11 09 03.2**	**+0.1**
KEV	**Kevo**	**2.54**	**333**	*e*P	**Pn**	**11 08 29.5**	**+0.5**
KEV				*e*S	**Sn**	**11 09 02.7**	**+2.2**
KEV	**Kevo**	**2.54**	**333**	PB	**Pn**	**11 08 29.6**	**+0.7**
	baz=153						
KEV				MSG		11 09 01.0	
	comp=Z,6.0nm,0.2s						
KEV				SG	**Sb**	**11 09 03.0**	**-1.8**
HEF	**Hetta**	**2.67**	**292**	*e*P	**Pb**	**11 08 34.6**	**-0.5**
HEF				*e*S	**Sb**	**11 09 07.6**	**-0.7**
HEF	**Hetta**	**2.67**	**292**	PG	**Pb**	**11 08 34.8**	**-0.3**
	baz=107						
HEF				MSG		11 09 05.1	
	comp=Z,9.2nm,0.2s						
HEF				SG	**Sb**	**11 09 07.4**	**-0.9**
ARA0	**ARCESS Array S**	**2.68**	**321**	PG	**Pn**	**11 08 33.0**	**+2.1**
ARA0				SB	**Sn**	**11 09 04.2**	**+0.1**
ARCES	**ARCESS Array B**	**2.68**	**321**	Pn	**Pn**	**11 08 30.5**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=136,slow=15,SNR=17						
ARCES				Sn	**Sn**	**11 09 03.9**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=139,slow=25,SNR=7.5						
ARCES				Lg	Lg	11 09 09.4	
	comp=Z,1.0nm,0.3s,baz=136,slow=25,SNR=8.1						
	comp=Z,0.7nm,0.2s						
TOF	**Tornio**	**2.79**	**241**	PB	**Pn**	**11 08 34.8**	**+2.4**
TOF				MSG		11 09 09.5	
	comp=Z,2.5nm,0.2s						
TOF				SG	**Sg**	**11 09 15.0**	**-1.2**
KTK1	**Kautokeino**	**3.03**	**303**	*e*P	**Pn**	**11 08 38.0**	**+2.3**
KTK1				*e*S	**Sb**	**11 09 15.6**	**-3.2**
KTK1				IAML		11 09 23.1	
	comp=Z,3.5nm,0.5s						
KTK1	**Kautokeino**	**3.03**	**303**	PB	**Pn**	**11 08 38.6**	**+2.9**
KTK1				SG	**Sb**	**11 09 18.5**	**-0.3**
OUL	**Oulu**	**3.04**	**218**	PG	**Pb**	**11 08 42.5**	**+1.0**
OUL				SG	**Sb**	**11 09 20.8**	**+1.7**
LANU	**Lannavaara**	**3.21**	**283**	PB	**Pn**	**11 08 40.0**	**+1.8**
LANU				SG	**Sg**	**11 09 26.6**	**-3.0**
KALU	**Kalix**	**3.25**	**242**	SG	**Sg**	**11 09 29.0**	**-1.7**
RMF	**Romuvaara**	**3.34**	**183**	PN	**Pn**	**11 08 40.3**	**+0.5**
ERTU	**Ertsjaerv**	**3.34**	**257**	PN	**Pn**	**11 08 40.7**	**+0.7**
OBF4	**Vikkela, Lumij**	**3.46**	**220**	SB	**Sb**	**11 09 27.7**	**-3.5**
OUF	**Merijarvi**	**3.92**	**218**	SG	**Sg**	**11 09 50.7**	**-1.7**
SALU	**Saltoluokta**	**4.56**	**274**	*e*P	**Pn**	**11 08 57.3**	**+0.7**
I37NO	**I37NO**	**4.62**	**295**	I	I	11 34 40.0	
	baz=101,slow=316,SNR=2.9						
FINES	**FINESS Array B**	**6.39**	**199**	Pn	**Pn**	**11 09 23.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=21,slow=12,SNR=1.5						
FINES				Sn	**Sn**	**11 10 36.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=14,slow=23,SNR=1.4						
FINES				Lg	Lg	11 11 07.5	
	comp=Z,0.2nm,0.3s,baz=20,slow=28,SNR=2.7						
	comp=Z,0.8nm,0.8s						
HFS	**Hagfors**	**10.41**	**233**	Pn	**Pn**	**11 10 16.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=54,slow=14,SNR=1.7						
	comp=Z,1.0nm,0.7s						

*KOLA **07** 11:21:10.5, 67.°66N×34.°25E, h0km, ML2.5, Error ellipse: s-maj=7.1km s-min=3.2km az=120.0, Murmansk region, Kirovsk district*
*HEL **07** 11:21:10.1±0.2, 67.°68N×34.°19E, h0km, ML2.1, Suspected explosion*
*IDC **07** 11:21:13.6±2.7, 67.°67N×33.°58E, h0km, mbtmp2.9/2, ML2.2/2, Error ellipse: s-maj=28.1km s-min=10.1km az=77.0*

ISC 07 11:21:09.8±0.9, **67.°68N**±0.°03×**34.°22E**±0.°04, **h0**km, **n28**, σ1°**36**/50, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.27**	**37**	P	**Pg**	**11 21 15.2**	**+0.3**
LVZ				S	**Sg**	**11 21 18.8**	**+0.4**
LVZ	**Lovozero**	**0.27**	**37**	PG	**Pg**	**11 21 15.1**	**+0.2**
LVZ				SG	**Sg**	**11 21 18.9**	**+0.5**
APA	**Apatity**	**0.33**	**250**	P	**Pg**	**11 21 16.1**	**0.0**
APA				S	**Sg**	**11 21 20.9**	**+0.5**
APA0	**Apatity Array**	**0.48**	**261**	P	**Pg**	**11 21 18.3**	**-0.5**
APA0				S	**Sg**	**11 21 25.1**	**0.0**
TERR	**Teriberka**	**1.56**	**12**	P	**Pn**	**11 21 38.2**	**-0.5**
TERR				S	**Sn**	**11 21 59.0**	**-0.6**
VRF	**Varrio**	**1.76**	**274**	PG	**Pn**	**11 21 41.2**	**-0.2**
VRF				MSG		11 22 02.2	
	comp=Z,20nm,0.2s						
VRF				SG	**Sn**	**11 22 03.7**	**-0.8**
PRVG	**Vayda Guba**	**2.20**	**341**	P	**Pb**	**11 21 49.5**	**-0.9**
PRVG				S	**Sb**	**11 22 17.9**	**-0.3**
OLKF	**Oulanka, Finla**	**2.34**	**236**	PG	**Pn**	**11 21 50.3**	**+0.9**
OLKF				MSG		11 22 18.8	
	comp=Z,8.5nm,0.2s						
OLKF				SG	**Sb**	**11 22 22.2**	**+0.2**
RAJF	**Raja-Jooseppi**	**2.36**	**292**	PN	**Pn**	**11 21 49.6**	**0.0**
RAJF				SB	**Sb**	**11 22 21.0**	**-1.6**
KU6	**Riekki**	**2.39**	**228**	PG	**Pn**	**11 21 50.9**	**+0.9**
KU6				MSG		11 22 20.3	
	comp=Z,8.2nm,0.2s						
KU6				SG	**Sb**	**11 22 23.7**	**+0.2**
MSF	**Maaselka**	**2.72**	**231**	PG	**Pn**	**11 21 56.0**	**+1.5**
MSF				SG	**Sb**	**11 22 32.5**	**-0.5**
SGF	**Sodankyl**	**2.96**	**269**	PN	**Pn**	**11 21 58.5**	**+0.6**
SGF				SG	**Sb**	**11 22 39.5**	**-0.5**
VADS	**Vadso**	**3.01**	**327**	P	**Pn**	**11 21 58.9**	**+0.2**
VADS				S	**Sn**	**11 22 35.3**	**-0.1**
KEV	**Kevo**	**3.35**	**312**	PN	**Pn**	**11 22 03.8**	**+0.5**
	baz=123						
KEV				SN	**Sn**	**11 22 44.6**	**+0.9**
RNF	**Rovaniemi**	**3.38**	**255**	PN	**Pn**	**11 22 03.4**	**-0.2**
	baz=69						
RNF				SN	**Sn**	**11 22 45.5**	**+1.1**
RANF	**Ranua**	**3.38**	**244**	PB	**Pn**	**11 22 04.7**	**+1.0**
RANF				SG	**Sb**	**11 22 51.9**	**-0.2**
ARA0	**ARCESS Array S**	**3.69**	**304**	PN	**Pn**	**11 22 08.0**	**0.0**
ARA0				SN	**Sn**	**11 22 53.3**	**+1.1**
ARCES	**ARCESS Array B**	**3.69**	**304**	Pn	**Pn**	**11 22 08.1**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=119,slow=14,SNR=61						
ARCES				Pg	**Pb**	**11 22 15.8**	**0.0**
	comp=Z,1.1nm,0.3s,baz=118,slow=16,SNR=22						
ARCES				Sn	**Sn**	**11 22 50.8**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=120,slow=24,SNR=7.2						
ARCES				Lg	Lg	11 23 03.1	
	comp=Z,2.4nm,0.3s,baz=115,slow=32,SNR=14						
	comp=Z,1.9nm,0.3s						
RMF	**Romuvaara**	**3.90**	**209**	PN	**Pn**	**11 22 10.5**	**-0.3**
KLF	**Kolari**	**3.98**	**268**	PN	**Pn**	**11 22 11.6**	**-0.3**
HEF	**Hetta**	**4.03**	**285**	PN	**Pn**	**11 22 12.3**	**-0.4**
HEF				SN	**Sn**	**11 23 01.6**	**+1.0**
TOF	**Tornio**	**4.22**	**252**	PG	**Pb**	**11 22 25.4**	**+0.7**
OUL	**Oulu**	**4.24**	**236**	PG	**Pb**	**11 22 26.2**	**+1.1**
KTK1	**Kautokeino**	**4.28**	**293**	PG	**Pb**	**11 22 25.5**	**-0.3**
KTK1				SG	**Sb**	**11 23 20.9**	**+2.9**
LANU	**Lannavaara**	**4.64**	**280**	PN	**Pn**	**11 22 20.1**	**-0.9**
LANU				SG	**Sb**	**11 23 31.8**	**+3.5**
I37NO	**I37NO**	**5.94**	**291**	I	I	11 54 30.0	
	baz=96,slow=318,SNR=2.7						
FINES	**FINESS Array B**	**7.17**	**213**	Pn	**Pn**	**11 22 56.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=3.5						
FINES				Sn	**Sn**	**11 24 13.9**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=37,slow=23,SNR=1.4						
FINES				Lg	Lg	11 24 51.6	
	comp=Z,0.3nm,0.3s,baz=35,slow=27,SNR=5.9						
	comp=Z,0.7nm,0.7s						
FAUS	**Fauske**	**7.25**	**276**	S	**Sn**	**11 24 14.3**	**-5.4**

*BJI **07** 11:23:39.7±0.0, 34.°90N×141.°32E, h37km, mb5.4/96, mB5.5/68, Ms5.6/98, Ms7 5.4/94*
*NEIC **07** 11:23:44.7, 35.°14N×140.°69E, h1km*
*BGR **07** 11:23:46.0, 34.°84N×141.°87E, h33km, mb5.4, Ms5.4, Hypocentre not reviewed by the ISC*
*MOS **07** 11:23:47.4±1.1, 35.°10N×140.°53E, h36km, mb5.8/134, MS5.3/55, Error ellipse: s-maj=6.1km s-min=3.1km az=119.5*
*JMA **07** 11:23:48.9±0.2, 35.°2N±0.°6×14.°1E±.°, h57km±2km, MD6.0/44, MW5.9/44, E OFF BOSO PENINSULA*
JMA Felt V J1 at E OFF BOSO PENINSULA .
*IDC **07** 11:23:48.7±1.8, 35.°06N×140.°46E, h38km±14km, mb5.1/31, mbtmp5.3/33, ML4.4/2, MS5.2/73, Error ellipse: s-maj=12.8km s-min=9.3km az=72.0*
*NIED **07** 11:23:48.9, 35.°17N×140.°59E, h57km, MW5.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.58; $M_{\theta\theta}$4.50; $M_{\phi\phi}$-6.08; $M_{r\theta}$-1.09; $M_{\theta\phi}$-4.31; $M_{\phi r}$3.51; Fault plane solution: $M_0$7.77000×10^{17} NP1: ϕ_s337.00000°, δ85.00000°, λ30.00000°. NP2: ϕ_s244.00000°, δ60.00000°, λ174.00000°.*
*IPGP **07** 11:23:49.0, 35.°09N×140.°65E, h39km, Mw5.8, Fault plane solution: NP1:ϕ_s354.00000°, δ70.00000°, λ50.00000°. NP2:ϕ_s242.00000°, δ44.00000°, λ150.00000°.*
*NEIC **07** 11:23:50.0±2.0, 35.°11N±0.°05×140.°64E±0.°08, h40km±1km, mb5.7/322, Ms_20 5.2/320, Mwb5.8/77, Mww5.9/29, Error ellipse: s-maj=10.8km s-min=8.3km az=282.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.49; $M_{\theta\theta}$4.37; $M_{\phi\phi}$-5.86; $M_{r\theta}$-0.08; $M_{\theta\phi}$-4.37; $M_{\phi r}$2.12; Fault plane solution: $M_0$7.17000×10^{17} NP1: ϕ_s245.79000°, δ74.04000°, λ-179.03000°. NP2: ϕ_s155.52000°, δ89.07000°, λ-15.96000°. Principal axes: T 6.1309, Plg11.0000°, Azm202.0000°; N 1.7547, Plg74.0000°, Azm332.0000°; P -7.8856, Plg12.0000°, Azm110.0000°;*
*NEIC **07** 11:23:50, 35.°11N×140.°89E, h46km, Moment Tensor Solution. Duration: 4s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.77; $M_{\theta\theta}$6.19; $M_{\phi\phi}$-6.95; $M_{r\theta}$-0.78; $M_{\theta\phi}$-2.35; $M_{\phi r}$3.17; Fault plane solution: $M_0$7.63000×10^{17} NP1: ϕ_s144.78000°, δ86.59000°, λ-22.74000°. NP2: ϕ_s236.21000°, δ67.31000°, λ-176.30000°. Principal axes: T 6.9081, Plg13.0000°, Azm193.0000°; N 1.4465, Plg67.0000°, Azm317.0000°; P -8.3546, Plg18.0000°, Azm98.0000°;*
*NEIC **07** 11:23:50, 35.°11N×140.°65E, h46km*
*GCMT **07** 11:23:54.1±0.1, 35.°11N×140.°56E, h45km, MW5.9/165, Moment Tensor Solution. s147, c299; s165, c484; Duration: 2s2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.22±.01; $M_{\theta\theta}$0.65±.01; $M_{\phi\phi}$-0.86±.01; $M_{r\theta}$-0.11±.01; $M_{\theta\phi}$-0.48±.01; $M_{\phi r}$0.30±.01; Best double couple: $M_0$0.94800×10^{18} NP1:ϕ_s333.00000°, δ86.00000°, λ21.00000°. NP2:ϕ_s241.00000°, δ69.00000°, λ175.00000°. Principal axes: T 0.8450, Plg18.0000°, Azm199.0000°; N 0.2060, Plg69.0000°, Azm344.0000°; P -1.0510, Plg11.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 07 11:23:49.3±0.3, **35.°09N**±0.°02×**140.°63E**±0.°03, **h41**km±1km, **h41**km:**pP-P, n2234,** σ1°**65**/2365, **mb5.7**/456, **MS5.3**/296, **64C-74D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO4	**Boso 4**	**0.26**	**247**	↓*i*P	**Pn**	**11 23 58.8**	**+1.7**
KTR	**Katsuura**	**0.26**	**282**	↓*i*P	**Pn**	**11 23 58.1**	**+0.9**
KTR				↓*e*S	**Sn**	**11 24 05.1**	**+2.4**
BSO3	**Boso 3**	**0.31**	**198**	↓*i*P	**Pn**	**11 23 59.5**	**+2.0**
I30JP	**ISUMI INFRASON**	**0.33**	**310**	Pg	**Pn**	**11 23 58.6**	**+0.6**
	baz=146,slow=31						
I30JP				Lg	Lg	11 24 08.6	
	baz=104,slow=26						
JKUC	**kamogawauchiur**	**0.36**	**281**	↓*i*P	**Pn**	**11 23 58.9**	**+0.6**
JKUC				↓*e*S	**Sn**	**11 24 06.3**	**+1.8**
JKUC	**kamogawauchiur**	**0.36**	**281**	A	A	11 23 58.9	
	comp=E,3μm,1.6s,comp=N,3μm,1.6s						
JCN	**Nagara**	**0.47**	**313**	↓P	**Pn**	**11 24 00.1**	**+0.4**
JCN				↓*e*S	**Sn**	**11 24 08.8**	**+1.7**
JCN	**Nagara**	**0.47**	**313**	A	A	11 24 00.1	
	comp=E,3μm,4.9s,comp=N,2μm,1.6s						
BSO1	**Boso 1**	**0.53**	**146**	*i* P	**Pn**	**11 24 01.9**	**+2.0**
JSMT	**Sammumatsuo**	**0.57**	**345**	*i* P	**Pn**	**11 24 00.9**	**-0.1**
JSMT	**Sammumatsuo**	**0.57**	**345**	A	A	11 24 00.9	
	comp=E,4μm,1.4s,comp=N,3μm,1.4s						
TATJ	**Tateyama 2**	**0.61**	**264**	↓P	**Pn**	**11 24 02.4**	**+1.0**
TATJ				↓*e*S	**Sn**	**11 24 11.5**	**+1.3**
TATJ	**Tateyama 2**	**0.61**	**264**	A	A	11 24 02.4	
	comp=E,2μm,3.0s,comp=N,3μm,4.1s						
JYO	**Yokosk**	**0.80**	**280**	↓P	**Pn**	**11 24 04.6**	**+0.5**
JYO				↓*e*S	**Sn**	**11 24 16.2**	**+1.4**
JYO	**Yokosk**	**0.80**	**280**	A	A	11 24 04.6	
	comp=E,1μm,3.9s,comp=N,2μm,1.6s						
JIHU	**Itakohorinouch**	**0.87**	**355**	P	**Pn**	**11 24 05.1**	**0.0**
JIHU	**Itakohorinouch**	**0.87**	**355**	A	A	11 24 05.1	
	comp=E,3μm,5.7s,comp=N,3μm,2.6s						
TOK	**Tokyo**	**0.92**	**310**	P	**Pn**	**11 24 06.1**	**+0.4**
TOK	**Tokyo**	**0.92**	**310**	A	A	11 24 06.1	
	comp=E,1μm,3.7s,comp=N,1μm,1.7s						
JIM2	**Oshima 3**	**1.05**	**249**	↓*i*P	**Pn**	**11 24 07.0**	**-0.6**
JIM2	**Oshima 3**	**1.05**	**249**	A	A	11 24 07.0	
	comp=E,811nm,1.3s,comp=N,913nm,2.0s						
JYT	**Yasato**	**1.19**	**343**	↓P	**Pn**	**11 24 08.3**	**-1.0**
JYT				↓*e*S	**Sn**	**11 24 23.8**	**-0.5**
JYT	**Yasato**	**1.19**	**343**	A	A	11 24 08.3	
	comp=E,524nm,2.1s,comp=N,387nm,2.2s						
JTHY	**Toshimahigashi**	**1.24**	**243**	A	A	11 24 10.5	
	comp=E,975nm,1.8s,comp=N,968nm,5.8s						
JHYU	**Hitachinakayam**	**1.25**	**359**	P	**Pn**	**11 24 09.2**	**-1.0**
JHYU	**Hitachinakayam**	**1.25**	**359**	A	A	11 24 09.2	
	comp=E,438nm,5.4s,comp=N,396nm,3.6s						
JSGW	**Sagamiharawaka**	**1.27**	**294**	↓P	**Pn**	**11 24 09.7**	**-0.8**
JSGW	**Sagamiharawaka**	**1.27**	**294**	A	A	11 24 09.7	
	comp=E,248nm,5.1s,comp=N,332nm,4.4s						
JOD2	**Odawara 2**	**1.27**	**278**	↓*i*P	**Pn**	**11 24 09.8**	**-0.8**
JOD2				↓*e*S	**Sn**	**11 24 25.1**	**-1.3**
JOD2	**Odawara 2**	**1.27**	**278**	A	A	11 24 09.8	
	comp=E,260nm,2.2s,comp=N,321nm,2.4s						
JHU	**Hanno**	**1.33**	**305**	A	A	11 24 10.8	
	comp=E,262nm,1.1s,comp=N,312nm,2.2s						
JHTM	**Izuhatsuma**	**1.33**	**265**	A	A	11 24 11.4	
	comp=E,1μm,1.4s,comp=N,1μm,0.9s						
JNIO	**Nijimaoohara**	**1.33**	**237**	A	A	11 24 11.9	
	comp=E,887nm,1.4s,comp=N,939nm,2.5s						
JMYK	**Miyake Tsubota**	**1.36**	**221**	P	**Pn**	**11 24 12.2**	**+0.5**
JMYK	**Miyake Tsubota**	**1.36**	**221**	A	A	11 24 12.2	
	comp=E,1μm,1.3s,comp=N,701nm,1.3s						
JSKK	**Shikinejimakit**	**1.39**	**237**	A	A	11 24 12.7	
	comp=E,677nm,1.3s,comp=N,478nm,3.6s						
JMKN	**Mikurajimanish**	**1.47**	**216**	↓*i*P	**Pn**	**11 24 13.5**	**+0.1**
JMKN	**Mikurajimanish**	**1.47**	**216**	A	A	11 24 13.5	
	comp=E,341nm,0.9s,comp=N,390nm,2.5s						
JIZS	**Izushimoda**	**1.48**	**256**	↓*i*P	**Pn**	**11 24 13.0**	**-0.5**
JIZS	**Izushimoda**	**1.48**	**256**	A	A	11 24 13.0	
	comp=E,219nm,1.7s,comp=N,417nm,4.4s						
JHO	**Hitachi**	**1.52**	**358**	A	A	11 24 13.2	
	comp=E,344nm,5.5s,comp=N,278nm,2.9s						
JKO	**Kozu shima**	**1.52**	**234**	A	A	11 24 14.6	
	comp=E,981nm,2.5s,comp=N,816nm,1.8s						
JFNN	**Fujinakano**	**1.59**	**274**	↓*i*P	**Pn**	**11 24 14.5**	**-0.5**
JFNN	**Fujinakano**	**1.59**	**274**	A	A	11 24 14.5	
	comp=E,275nm,2.8s,comp=N,422nm,4.7s						
JAG	**Ashikaga**	**1.64**	**325**	↓*i*P	**Pn**	**11 24 14.8**	**-0.8**
JAG	**Ashikaga**	**1.64**	**325**	A	A	11 24 14.8	
	comp=E,302nm,6.2s,comp=N,385nm,2.5s						
JRY	**Ryogami san**	**1.68**	**304**	A	A	11 24 15.7	
	comp=E,177nm,1.8s,comp=N,204nm,1.6s						
JRY	**Ryogami san**	**1.68**	**304**	↓P	**Pn**	**11 24 15.5**	**-0.7**
JYN	**Shimob**	**1.75**	**284**	A	A	11 24 17.0	
	comp=E,143nm,1.9s,comp=N,136nm,7.0s						
JYN	**Shimob**	**1.75**	**284**	↓P	**Pn**	**11 24 16.4**	**-0.8**
JSB	**Shiboa**	**1.96**	**343**	A	A	11 24 19.4	
	comp=E,690nm,3.1s,comp=N,489nm,2.5s						
SHZ3	**Shizuoka 3**	**1.98**	**270**	A	A	11 24 20.5	
	comp=E,120nm,1.2s,comp=N,343nm,2.0s						
SHZ3	**Shizuoka 3**	**1.98**	**270**	P	**Pn**	**11 24 20.4**	**+0.1**
JFFD	**Fukushimafurud**	**1.99**	**359**	A	A	11 24 19.9	
	comp=E,258nm,7.8s,comp=N,144nm,4.0s						
JKT	**Katashina**	**2.01**	**327**	A	A	11 24 20.2	
	comp=E,207nm,2.5s,comp=N,201nm,1.2s						
ONAJ	**Iwakimizuishiy**	**2.01**	**4**	A	A	11 24 20.2	
	comp=E,203nm,7.8s,comp=N,147nm,3.7s						
JSG	**Sagara**	**2.05**	**259**	P	**Pn**	**11 24 22.8**	**+1.6**
JSG	**Sagara**	**2.05**	**259**	Pn	**Pn**	**11 24 22.0**	**+0.8**
JSG	**Sagara**	**2.05**	**259**	A	A	11 24 21.6	
	comp=E,407nm,2.9s,comp=N,498nm,2.9s						
JHJ2	**Mitsune**	**2.09**	**199**	P	**Pn**	**11 24 23.5**	**+1.7**
JHJ2	**Mitsune**	**2.09**	**199**	Pn	**Pn**	**11 24 22.4**	**+0.6**
JHJ2	**Mitsune**	**2.09**	**199**	A	A	11 24 23.1	
	comp=E,406nm,4.1s,comp=N,348nm,6.6s						
JHJ2	**Mitsune**	**2.09**	**199**	P	**Pn**	**11 24 22.3**	**+0.6**
JHJ	**Hachijo jima 2**	**2.09**	**200**	Pn	**Pn**	**11 24 22.4**	**+0.6**
	comp=N,5μm,0.3s,baz=324,slow=12,SNR=491						
JHJ				Sn	**Sn**	**11 24 46.9**	**+0.3**
	comp=N,6μm,0.3s,baz=249,slow=21,SNR=5.4						
JHCJ	**Hachijojimakas**	**2.13**	**199**	A	A	11 24 23.7	
	comp=E,268nm,6.0s,comp=N,279nm,5.3s						
JNT	**Takato**	**2.17**	**292**	A	A	11 24 22.9	
	comp=E,94nm,5.6s,comp=N,132nm,4.1s						
JGK	**Kuni**	**2.18**	**313**	A	A	11 24 22.7	
	comp=E,217nm,3.6s,comp=N,322nm,3.2s						
JKKS	**Kakegawashinom**	**2.20**	**262**	A	A	11 24 23.6	
	comp=E,267nm,4.0s,comp=N,256nm,4.8s						
JFK	**Kawauchi**	**2.28**	**5**	A	A	11 24 24.0	
	comp=E,168nm,5.7s,comp=N,115nm,2.7s						
JNY	**Yasuok**	**2.28**	**277**	A	A	11 24 24.5	
	comp=E,186nm,3.6s,comp=N,398nm,1.2s						
HMMJ	**Hamamatsu 2**	**2.40**	**265**	A	A	11 24 26.4	
	comp=E,75nm,2.4s,comp=N,96nm,4.9s						
JFY	**Yanaizu**	**2.43**	**342**	A	A	11 24 26.0	
	comp=E,393nm,7.3s,comp=N,194nm,4.6s						

comp=E,46nm,8.0s,comp=N,58nm,4.7s
TSUJ Tsu 2 3.48 265 A A 11 24 41.6
comp=E,39nm,4.3s,comp=N,47nm,5.8s
TTO1 TONANKAI O.B.S 3.50 246 A A 11 24 42.3
comp=E,282nm,4.1s,comp=N,396nm,5.3s
JSD Sado 3.50 328 P **Pn 11 24 43.0 +1.8**
JSD Sado 3.50 328 Pn **Pn 11 24 41.6 +0.4**
JSD Sado 3.50 328 A A 11 24 41.2
comp=E,142nm,6.2s,comp=N,95nm,7.0s
JOFO Osakifurukawao 3.51 4 A A 11 24 41.4
comp=E,655nm,2.7s,comp=N,530nm,2.9s
JSZ Suzu 3.53 313 A A 11 24 41.7
comp=E,57nm,6.0s,comp=N,82nm,6.3s
JAW Awa shima 3.53 342 A A 11 24 41.7
comp=E,161nm,5.6s,comp=N,94nm,5.9s
JYA Atsumi 3.57 348 A A 11 24 42.2
comp=E,276nm,5.5s,comp=N,97nm,2.2s
JJH Hakui 3.61 302 A A 11 24 43.0
comp=E,88nm,5.7s,comp=N,101nm,5.5s
JKN2 Miekihoku 3.69 258 A A 11 24 44.7
comp=E,21nm,6.2s,comp=N,37nm,5.5s
JKG Kaga 3.69 290 A A 11 24 44.2
comp=E,64nm,3.6s,comp=N,77nm,4.6s
JKMT Kesennumamotoy 3.77 10 A A 11 24 45.1
comp=E,87nm,4.9s,comp=N,37nm,4.0s
JFM Mihama 3.82 278 A A 11 24 46.2
comp=E,40nm,5.4s,comp=N,67nm,3.2s
JYK Kaneyama 3.82 357 A A 11 24 45.8
comp=E,139nm,5.7s,comp=N,69nm,2.0s
JMK Ichinoseki 3.88 7 A A 11 24 46.6
comp=E,60nm,5.5s,comp=N,41nm,2.4s
JYYZ Yamagatayuza 3.96 352 A A 11 24 47.5
comp=E,447nm,4.2s,comp=N,478nm,4.8s
JNTK Naratenkawa 3.99 259 A A 11 24 48.9
comp=E,25nm,6.3s,comp=N,34nm,3.6s
JMMH Miemihama 4.01 253 A A 11 24 49.3
comp=E,24nm,9.8s,comp=N,29nm,5.9s
JHG Hegura jima 4.06 314 A A 11 24 49.1
comp=E,50nm,5.9s,comp=N,62nm,5.4s
OFUJ Ofunato 4.07 12 A A 11 24 49.3
comp=E,60nm,3.3s,comp=N,39nm,6.7s
JHE Heguri 4.09 265 A A 11 24 50.2
comp=E,33nm,6.7s,comp=N,53nm,2.5s
JTB Tobi-shima 4.18 349 A A 11 24 50.8
comp=E,118nm,7.5s,comp=N,67nm,4.5s
JWY Kouya 4.24 260 A A 11 24 52.4
comp=E,22nm,4.3s,comp=N,29nm,10.0s
JWT Wachi 4.28 274 A A 11 24 52.8
comp=E,28nm,4.6s,comp=N,67nm,4.4s
JRG Rokugo 4.29 0 A A 11 24 52.4
comp=E,178nm,5.4s,comp=N,115nm,2.2s
JTNC Tanabenakahech 4.33 254 A A 11 24 53.8
comp=E,20nm,5.1s,comp=N,31nm,7.7s
JOM Ohasama 4.40 7 A A 11 24 54.0
comp=E,75nm,5.8s,comp=N,30nm,3.9s
JYW Yuwa 4.45 356 A A 11 24 54.6
comp=E,166nm,4.9s,comp=N,182nm,2.9s
JWM Minabe 4.53 256 A A 11 24 56.5
comp=E,21nm,6.2s,comp=N,32nm,5.7s
JKY Yasaka 4.54 278 A A 11 24 56.4
comp=E,36nm,4.1s,comp=N,58nm,4.9s
MIYJ Miyakonagasawa 4.58 12 A A 11 24 56.4
comp=E,85nm,4.2s,comp=N,54nm,4.2s
JMIK Miki 4.58 268 A A 11 24 57.1
comp=E,46nm,4.0s,comp=N,46nm,5.1s
JSZI Iwateshizukuis 4.65 3 A A 11 24 57.3
comp=E,224nm,3.1s,comp=N,158nm,2.3s
JKS Kasai 4.75 270 A A 11 24 59.3
comp=E,18nm,5.2s,comp=N,33nm,5.8s
JAWN Awajishima-nag 4.75 264 A A 11 24 59.4
comp=E,29nm,4.3s,comp=N,37nm,3.4s
JKSM Kasumi 4.90 277 A A 11 25 01.3
comp=E,25nm,7.1s,comp=N,41nm,6.5s
JKZ Kuzumaki 4.92 6 A A 11 25 01.1
comp=E,56nm,6.0s,comp=N,38nm,4.8s
JTH Tanohata 4.94 11 A A 11 25 01.5
comp=E,59nm,4.4s,comp=N,37nm,3.2s
JOG3 Oga3 4.97 346 A A 11 25 00.2
comp=E,168nm,5.9s,comp=N,109nm,5.5s
JAH Hinai 5.09 0 A A 11 25 03.5
comp=E,84nm,5.4s,comp=N,66nm,4.1s
JAH Hinai 5.09 0 P **Pn 11 25 03.5 +0.5**
JKEN Kujiedanarisaw 5.18 9 A A 11 25 04.8
comp=E,80nm,4.5s,comp=N,59nm,2.2s
JNTW Noshirotokiwa 5.18 356 A A 11 25 04.8
comp=E,182nm,3.8s,comp=N,217nm,2.9s
JAI Aioi 5.26 257 A A 11 25 06.8
comp=E,20nm,4.0s,comp=N,33nm,5.9s
JANG Nango 5.32 7 A A 11 25 06.8
comp=E,37nm,5.4s,comp=N,31nm,5.3s
JIW Iwasaki 5.51 355 A A 11 25 09.4
comp=E,92nm,5.4s,comp=N,34nm,4.0s
JHHS Hirosakihyakuz 5.55 358 A A 11 25 09.9
comp=E,221nm,6.0s,comp=N,214nm,5.1s
JJS Sakaide 5.56 264 A A 11 25 10.8
comp=E,15nm,3.8s,comp=N,24nm,3.8s
JKR Kurayoshi 5.58 275 A A 11 25 10.9
comp=E,25nm,4.5s,comp=N,50nm,7.7s
JTM Tenmabayashi 5.70 3 P **Pn 11 25 11.2 -0.1**
JTM Tenmabayashi 5.70 3 Pn **Pn 11 25 11.0 -0.3**
JTM Tenmabayashi 5.70 3 A A 11 25 12.0
comp=E,85nm,4.1s,comp=N,43nm,4.9s
JMN Monobe 5.74 258 P **Pn 11 25 15.2 +3.2**
JMN Monobe 5.74 258 Pn **Pn 11 25 14.4 +2.4**
JMN Monobe 5.74 258 A A 11 25 13.4
comp=E,18nm,4.8s,comp=N,23nm,3.8s
JARK Aomorirokkasho 5.93 5 A A 11 25 15.3
comp=E,59nm,5.2s,comp=N,39nm,5.7s
JSI2 Shiura 2 5.96 358 A A 11 25 15.6
comp=E,50nm,4.1s,comp=N,35nm,5.8s
JKHR Kochiharuno 6.11 257 A A 11 25 18.5
comp=E,19nm,5.7s,comp=N,24nm,4.2s
JOI OKI 6.12 283 A A 11 25 18.3
comp=E,11nm,8.7s,comp=N,19nm,4.9s
JJG Jouge 6.16 268 A A 11 25 19.1
comp=E,17nm,5.6s,comp=N,29nm,4.6s
JHS Saijyo 6.16 271 A A 11 25 19.1
comp=E,15nm,9.4s,comp=N,40nm,4.5s
JAHD Aomorihigashid 6.19 5 A A 11 25 18.9
comp=E,60nm,4.5s,comp=N,45nm,5.5s
JNM Ikuma 6.22 276 A A 11 25 19.9
comp=E,33nm,5.7s,comp=N,44nm,3.6s
JOT Ohata 6.29 3 A A 11 25 20.3
comp=E,53nm,4.2s,comp=N,38nm,5.4s
JISK Izumosakaura 6.37 276 A A 11 25 21.9
comp=E,16nm,5.7s,comp=N,43nm,7.6s
JSR Shiriuchi 6.43 359 A A 11 25 22.2
comp=E,43nm,5.5s,comp=N,48nm,6.3s
JOMM Oshimamatsumae 6.44 356 A A 11 25 22.3
comp=E,33nm,4.8s,comp=N,29nm,4.0s
JKU Kubokawa 6.51 256 A A 11 25 24.2
comp=E,12nm,3.3s,comp=N,16nm,4.4s
ERM Erimo 7.19 15 P **Pn 11 25 29.5 -2.2**
ERM Erimo 7.19 15 Pn **Pn 11 25 29.2 -2.5**
ERM Erimo 7.19 15 *i* P **Pn 11 25 29.6 -2.2**
JEM Erimo 7.19 15 P **Pn 11 25 29.4 -2.4**
JCJ Chichijima 8.08 170 P **Pn 11 25 43.7 -0.4**
JCJ Chichijima 8.08 170 Pn **Pn 11 25 43.0 -1.2**
JCJ Chichijima 8.08 170 Pn Pn 11 25 39.2 -4.9
comp=N,868nm,0.3s,baz=338,slow=12,SNR=114
JCJ Sn **Sn 11 27 05.3 -8.9**
comp=N,484nm,0.3s,baz=277,slow=22,SNR=5.8
JCJ LR LR 11 28 45.5
comp=N,16μm,19.5s,baz=357,slow=37
JNU Nakatsue 8.32 259 P **Pn 11 25 50.9 +3.5**
JNU Nakatsue 8.32 259 Pn **Pn 11 25 50.9 +3.5**
comp=N,9,0nm,0.3s,baz=73,slow=8.3,SNR=27
JNU Sn **Sn 11 27 27.4 +7.3**
baz=186,slow=13
JNU LR LR 11 29 25.0
comp=N,28μm,20.4s,baz=72,slow=41
JAR Ashorobuto 8.55 16 P **Pn 11 25 46.5 -4.0**
JIU3 Izumi3 8.55 256 P **Pn 11 25 54.3 +3.8**
JKK2 Kamakawa 2 8.92 10 P **Pn 11 25 52.5 -3.1**
ASAJ Asahikawa 9.14 9 Pn **Pn 11 25 56.0 -2.5**
comp=N,40nm,0.3s,baz=228,slow=9.7,SNR=70
ASAJ Sn **Sn 11 27 37.7 -2.3**
comp=N,24nm,0.3s,baz=93,slow=20,SNR=4.3
ASAJ Asahikawa 9.14 9 P **Pn 11 25 55.4 -3.1**
JKA Kamikawa-asahi 9.14 9 Pn **Pn 11 25 55.4 -3.1**
NMR Nemuro--Hokkai 9.16 24 *e*P **Pn 11 25 54.7 -4.1**
JTN Tanegashima 3 9.24 244 P **Pn 11 26 03.9 +3.9**
JTU Tsushima 9.25 270 P **Pn 11 26 03.1 +3.0**
RUSJ Misakicho 9.68 20 *e*P **Pn 11 26 02.7 -3.2**
YUK Yuzh-Kuril'sk 9.80 23 *e*P **Pn 11 26 03.9 -3.6**
YUK pmax pmax
comp=N,639nm,0.4s
YUK pmax pmax
comp=E,637nm,0.4s
YUK pmax pmax
comp=Z,651nm,0.4s
YUK pmax pmax
comp=Z,2μm,1.1s
YUK MLR MLR
comp=Z,5μm,11.0s
YUK MLR MLR
comp=E,4μm,12.0s
YUK MLR MLR
comp=N,6μm,11.0s
SHO Shikotan 9.99 27 *e*P **Pn 11 26 06.1 -4.0**
SHO pmax pmax
comp=Z,160nm,0.5s
SHO pmax pmax
comp=N,106nm,0.6s
SHO pmax pmax
comp=E,128nm,0.6s
SHO pmax pmax
comp=Z,308nm,1.0s
TEY Ternei 10.40 344 *e*P **Pn 11 26 14.0 -1.7**
TEY 11 28 06.6
TEY pmax pmax
comp=N,800nm,0.8s
TEY pmax pmax
comp=E,80nm,0.8s
TEY pmax pmax
comp=Z,30nm,0.8s
TEY MLR MLR
comp=N,10μm,10.0s
TEY MLR MLR
comp=E,4μm,10.0s
TEY MLR MLR
comp=Z,400nm,10.0s
VLA Vladivostok 10.50 322 *i* P **Pn 11 26 18.2 +1.1**
MSHR Mys Shultsa 10.50 318 *ce*P **Pn 11 26 18.0 +0.8**
MSHR pmax pmax
comp=Z,242nm,1.7s
KSRS Korea Array 10.52 287 Pn **Pn 11 26 21.3 +3.8**
comp=Z,6.3nm,0.3s,baz=102,slow=13,SNR=116
KSRS LR LR 11 30 25.2
comp=Z,24μm,20.3s,baz=95,slow=38
KSRS ScP **ScP 11 35 50.4 +1.6**
comp=Z,5.0nm,1.0s,baz=90,slow=1.2,SNR=6.7
KSAR Wonju Array Be 10.55 287 Pn **Pn 11 26 21.0 +3.1**
KSAR Wonju Array Be 10.55 287 P **Pn 11 26 21.0 +3.1**
KS19 Wonju Array Si 10.57 287 Pn **Pn 11 26 21.1 +2.8**
PSTR Posyet 10.74 318 *i* P **Pn 11 26 21.4 +0.9**
TJN Taejon 10.86 281 P **Pn 11 26 24.6 +2.5**
TJN Taejon 10.86 281 Pn **Pn 11 26 25.1 +3.0**
TJN Taejon 10.86 281 *de*P **Pn 11 26 24.5 +2.5**
USA0B Ussuriysk Arra 11.26 326 Pn **Pn 11 26 29.0 +1.4**
USA0B Ussuriysk Arra 11.26 326 *i* P **Pn 11 26 28.5 +0.9**
USRK Ussuriysk Ar. 11.26 326 Pn **Pn 11 26 28.9 +1.3**
USRK Ussuriysk Ar. 11.26 326 Pn **Pn 11 26 29.2 +1.7**
comp=Z,3.0nm,0.3s,baz=135,slow=12,SNR=40
USRK LR LR 11 31 11.0
comp=Z,8μm,18.1s,baz=141,slow=39
USRK Ussuriysk Ar. 11.26 326 P **Pn 11 26 28.9 +1.3**
KUR Kuril'sk 11.54 26 *e*P **Pn 11 26 28.3 -3.0**
KUR pmax pmax
comp=E,107nm,0.8s
KUR pmax pmax
comp=Z,416nm,0.8s
KUR pmax pmax
comp=N,158nm,0.6s
KUR pmax pmax
comp=Z,2μm,4.3s
KUR MLR MLR
comp=E,20μm,16.0s
KUR MLR MLR
comp=N,15μm,15.0s
INCN Inchon 11.54 286 P **Pn 11 26 34.4 +2.9**
INCN Inchon 11.54 286 **Pn 11 26 34.2 +2.7**
INCN Inchon 11.54 286 P **Pn 11 26 34.2 +2.7**
YSS Yuzh-Sakhalins 11.96 7 P **Pn 11 26 35.3 -1.7**
YSS Yuzh-Sakhalins 11.96 7 Pn **Pn 11 26 32.8 -4.2**
YSS Yuzh-Sakhalins 11.96 7 *e*P **Pn 11 26 33.5 -3.5**
YSS *e*S **Sn 11 28 43.1 -5.9**
YSS pmax pmax
comp=Z,600nm,2.9s
YSS pmax pmax
comp=Z,370nm,0.7s
YSS smax smax
comp=E,3μm,6.1s
YSS MLR MLR
comp=Z,12μm,16.0s
YSS MLR MLR
comp=N,10μm,14.0s
JMZ Minamidaito 2 12.29 224 P Pn 11 26 47.0 +5.3
JMZ Minamidaito 2 12.29 224 **Pn 11 26 43.0 +1.3**
MDJ Mudanjiang 12.73 322 P **Pn 11 26 49.4 +1.8**
MDJ Mudanjiang 12.73 322 P **Pn 11 26 49.0 +1.4**
MDJ sP P 11 27 02.0 +4.1
MDJ S **Sn 11 29 09.9 +2.0**
MDJ pmax pmax
comp=N,54nm,1.1s
MDJ pmax pmax
comp=N,3μm,6.2s
MDJ LR LR
comp=N,24μm,20.6s
MDJ LR LR
comp=N,23μm,21.3s
MDJ LR LR
comp=N,17μm,19.9s
MDJ Mudanjiang 12.73 322 Pn **Pn 11 26 48.4 +0.8**
JOW Kunigami 13.41 235 P **Pn 11 26 59.5 +2.5**
JOW Kunigami 13.41 235 **Pn 11 26 58.6 +1.6**
JOW Kunigami 13.41 235 Pn **Pn 11 26 59.2 +2.2**
comp=N,4.4nm,0.3s,baz=63,slow=11,SNR=24
JOW Sn **Sn 11 29 30.8 +6.0**
baz=58,slow=12
UGL Uglegorsk 14.02 4 *e*P Pn 11 26 53.3 -12
UGL pmax pmax
comp=Z,45nm,1.0s
UGL MLR MLR
comp=Z,10μm,16.0s
CN2 Changchun 14.58 311 ⇑P **Pn 11 27 13.7 +0.9**
CN2 *es*P P 11 27 21.0 +2.5
CN2 *e*S **Sn 11 29 57.0 +3.9**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,2μm,4.0s
CN2 LR LR
comp=Z,4μm,11.0s
CN2 LR LR
comp=Z,5μm,11.0s
CN2 LR LR
comp=Z,3μm,16.0s
BNX BinXian 14.62 321 ⇓P **Pn 11 27 12.7 -0.7**
BNX S **Sn 11 29 54.0 -0.1**
BNX pmax pmax
comp=Z,210nm,0.9s
BNX pmax pmax
comp=Z,2μm,3.8s
BNX LR LR
comp=Z,23μm,19.3s
BNX LR LR
comp=Z,21μm,18.4s
BNX LR LR
comp=Z,12μm,16.8s
SNY Shenyang 14.94 302 ⇑P **Pn 11 27 18.4 +0.8**
SNY S **Sn 11 30 04.6 +2.8**
SNY pmax pmax
comp=Z,490nm,0.7s
SNY pmax pmax
comp=Z,290nm,4.9s
SNY LR LR
comp=Z,15μm,12.2s
SNY LR LR
comp=Z,10μm,19.0s
SNY LR LR
comp=Z,13μm,21.6s
KLR Kul'dur 15.57 338 Pn **Pn 11 27 23.0 -2.7**
comp=Z,1.9nm,0.3s,baz=134,slow=13,SNR=37
KLR Sn **Sn 11 30 23.2 +6.2**
baz=224,slow=9.7
KLR LR LR 11 33 30.9
comp=Z,5μm,19.2s,baz=151,slow=37
comp=Z,18nm,0.6s
KLR Kul'dur 15.57 338 *ce*P **Pn 11 27 23.0 -2.7**
KLR pmax pmax
comp=Z,24nm,0.8s
DL2 Dalian 15.65 290 P **P 11 27 29.5 -0.9**
DL2 S **Sn 11 30 22.0 +3.0**
DL2 pmax pmax
comp=Z,770nm,0.8s
DL2 pmax pmax
comp=Z,11μm,10.6s
DL2 LR LR
comp=Z,17μm,17.5s
DL2 LR LR
comp=Z,11μm,19.7s
DL2 LR LR
comp=Z,26μm,19.6s
TYV Tymovskoe 15.83 5 *e*P **Pn 11 27 28.1 -1.0**
TYV *e*S **Sn 11 30 24.8 +1.5**
TYV pmax pmax
comp=Z,800nm,2.7s
TYV pmax pmax
comp=Z,357nm,1.0s
TYV smax smax
comp=N,2μm,9.7s
TYV smax smax
comp=E,4μm,9.7s
TYV smax smax
comp=N,75nm,1.6s
TYV smax smax
comp=E,91nm,1.6s
GRNR Gornyy 15.96 350 ⇓*i*P **Pn 11 27 25.3 -5.5**
GRNR pmax pmax
comp=N,5.0nm,0.7s
GRNR pmax pmax
comp=Z,7.0nm,0.7s
GRNR MLR MLR
comp=N,4μm,15.0s
GRNR MLR MLR
comp=Z,6μm,15.0s
JMJ Miyako jima 2 16.76 236 P **P 11 27 44.1 +1.3**
SSE Sheshan 16.77 262 P **Pn 11 27 39.0 -2.1**
SSE pmax pmax
comp=Z,32nm,2.0s
SSE pmax pmax
comp=Z,950nm,3.8s
SSE LR LR
comp=Z,700nm,22.2s
SSE LR LR
comp=Z,4μm,22.5s
HEH HeiHe 17.95 332 *e*P **Pn 11 27 51.5 -4.1**
HEH sP **pP 11 28 05.4 -0.5**
HEH pmax pmax
comp=Z,31nm,0.8s
HEH pmax pmax
comp=Z,610nm,5.7s
HEH LR LR
comp=Z,22μm,20.4s
HEH LR LR
comp=Z,27μm,19.4s
HEH LR LR
comp=Z,9μm,16.3s
NKL Nikolayevsk 18.05 0 *e*P **Pn 11 27 53.8 -3.0**
NKL *e*S **S 11 31 23.7 +2.2**
NKL pmax pmax
comp=N,195nm,1.1s
NKL pmax pmax
comp=E,409nm,1.0s
NKL pmax pmax
comp=Z,689nm,1.0s
NKL smax smax
comp=E,2μm,4.9s
NKL smax smax
comp=N,2μm,5.0s
NKL MLR MLR
comp=E,10μm,11.0s
NKL MLR MLR
comp=N,14μm,12.0s
NKL MLR MLR
comp=Z,23μm,15.0s
NJ2 Nanjing 18.39 267 *e*P **P 11 28 00.4 -0.4**
NJ2 pmax pmax
comp=Z,70nm,0.8s
NJ2 pmax pmax
comp=Z,5μm,7.0s
NJ2 LR LR
comp=Z,11μm,14.3s
NJ2 LR LR
comp=Z,5μm,12.0s
NJ2 LR LR
comp=Z,6μm,13.9s
YOJ Yonaguni jima 18.57 240 P **Pn 11 28 03.9 +0.5**
YOJ Yonaguni jima 18.57 240 P **P 11 28 01.6 -1.2**
YOJ Yonaguni jima 18.57 240 P **P 11 28 01.6 -1.2**
YOJ pmax pmax
comp=Z,250nm,0.9s
TIA Tai'an 19.13 280 P **P 11 28 07.4 -1.4**
TIA pmax pmax
comp=Z,26nm,0.9s
TIA LR LR
comp=Z,6μm,14.3s
TIA LR LR
comp=Z,6μm,15.3s
TIA LR LR
comp=Z,8μm,15.0s
SKR Severo-Kuril's 19.21 31 *e*P **Pn 11 28 10.9 +0.1**
SKR *e*S **Sn 11 31 46.0 +0.9**
SKR pmax pmax
comp=Z,3μm,5.1s
SKR MLR MLR
comp=Z,9μm,16.0s
TATO Taipei 19.37 244 P **Pn 11 28 12.4 -0.5**
TATO Taipei 19.37 244 P **P 11 28 11.2 -0.4**
YHNB Yeheng 19.63 243 P **P 11 28 14.0 -0.5**
YHNB Yeheng 19.63 243 P **P 11 28 13.0 -1.5**
NACB Ninganchiao 19.77 242 P **P 11 28 16.2 +0.3**
NACB Ninganchiao 19.77 242 P **P 11 28 14.5 -1.4**
BJI Beijing 19.98 292 P **P 11 28 14.9 -3.2**
BJI pmax pmax
comp=Z,100nm,0.8s
BJI pmax pmax
comp=Z,2μm,9.5s
BJI LR LR
comp=Z,3μm,19.2s
BJI LR LR
comp=Z,2μm,23.7s
BJI LR LR
comp=Z,4μm,24.2s
BJT Baijiatuau 19.98 291 P **P 11 28 16.1 -2.0**
BJT Baijiatuau 19.98 291 P **P 11 28 16.2 -2.0**
BJT Baijiatuau 19.98 291 P **P 11 28 16.2 -1.9**
BJT pmax pmax
comp=Z,179nm,0.9s
YULB Yu-li 20.46 240 P **P 11 28 22.5 -1.0**
YULB Yu-li 20.46 240 P **P 11 28 21.2 -2.3**
SSLB Suanglung 20.46 242 P **P 11 28 23.1 -0.4**
SSLB Suanglung 20.46 242 P **P 11 28 20.8 -2.7**
XLT XiLinHaoTe 20.82 302 *e*P **P 11 28 23.7 -3.6**
XLT pP pP 11 28 34.0 -3.5
XLT PP **PnPn 11 28 52.6 +6.1**
XLT pmax pmax
comp=Z,40nm,1.4s
XLT LR LR
comp=Z,8μm,20.8s
XLT LR LR
comp=Z,11μm,20.4s
ZEA Zeya 20.88 337 *e*P **P 11 28 24.5 -3.2**
ZEA *e*S S 11 32 05.1 -13
ZEA pmax pmax
comp=N,400nm,2.3s
ZEA pmax pmax
comp=Z,700nm,2.2s
ZEA pmax pmax
comp=E,200nm,1.7s
ZEA pmax pmax
comp=N,280nm,0.9s
ZEA pmax pmax
comp=Z,560nm,0.8s
ZEA smax smax
comp=N,3μm,8.1s
ZEA smax smax
comp=E,4μm,8.1s
HIA Hailar 20.88 319 P **P 11 28 25.2 -2.7**
HIA Hailar 20.88 319 P **P 11 28 24.3 -3.5**
HIA Hailar 20.88 319 IAMs_20 IAMs_20 11 36 18.8
comp=Z,11μm,21.0s
HIA Hailar 20.88 319 P **P 11 28 24.3 -3.5**
HIA pmax pmax
comp=Z,92nm,0.7s
HIA MLR MLR
comp=Z,11μm,21.0s
TWGBT Beinan 20.98 240 P **P 11 28 29.8 +0.7**

TPUB	Ta-pu	21.00 241	P	P	11 28 30.0	+0.7
HNS	HongShan	21.01 284	⇓P	P	11 28 25.8	-3.5
HNS			pmax	pmax		
	comp=Z,200nm,0.7s					
HNS			LR	LR		
	comp=Z,14μm,18.3s					
HNS			LR	LR		
	comp=Z,5μm,19.9s					
HNS			LR	LR		
	comp=Z,8μm,15.9s					
QZH	Quanzhou	21.55 248	P	P	11 28 33.6	-1.6
QZH			S	S	11 32 28.5	-3.4
QZH			pmax	pmax		
	comp=Z,100nm,0.8s					
QZH			LR	LR		
	comp=Z,9μm,17.7s					
QZH			LR	LR		
	comp=Z,6μm,11.4s					
QZH			LR	LR		
	comp=Z,9μm,13.3s					
GUMO	Guam	21.75 169	P	P	11 28 39.5	+2.2
GUMO	Guam	21.75 169	P	P	11 28 38.2	+0.9
GUMO	Guam	21.75 169	P	P	11 28 37.6	+0.3
	comp=Z,346nm,0.7s,baz=333,slow=6.3,SNR=14					
GUMO			S	S	11 32 39.6	+3.8
	comp=Z,40nm,0.3s,baz=88,slow=18,SNR=2.0					
GUMO			LR	LR	11 35 11.7	
	comp=Z,8μm,20.5s,baz=7.0,slow=31					
	comp=Z,346nm,0.7s					
GUMO	Guam	21.75 169	P	P	11 28 38.2	+0.9
GUMO			pmax	pmax		
	comp=Z,3μm,1.2s					
PET	Petropavlovsk	22.01 30	P	P	11 28 40.5	+0.7
PET	Petropavlovsk	22.01 30	P	P	11 28 39.5	-0.3
PET			IAmb	IAmb	11 29 00.5	
	comp=Z,457nm,1.3s					
PET			IAMs_20	IAMs_20	11 36 45.2	
	comp=Z,9μm,22.0s					
PET	Petropavlovsk	22.01 30	⇑*i*P	P	11 28 40.2	+0.4
PET			*e*S	S	11 32 34.5	-5.7
PET			pmax	pmax		
	comp=Z,306nm,1.2s					
PET			pmax	pmax		
	comp=Z,5μm,14.8s					
PET			pmax	pmax		
	comp=Z,6μm,14.7s					
PET			MLR	MLR		
	comp=Z,8μm,21.0s					
WHN	Wuhan	22.52 266	⇑P	P	11 28 43.6	-1.9
WHN			pP	pP	11 28 55.9	+0.3
WHN			sP	sP	11 29 02.3	+1.7
WHN			S	S	11 32 45.8	-4.0
WHN			sS	Sn	11 33 05.4	+0.6
WHN			pmax	pmax		
	comp=Z,230nm,0.9s					
WHN			pmax	pmax		
	comp=Z,3μm,4.0s					
WHN			LR	LR		
	comp=Z,15μm,10.6s					
WHN			LR	LR		
	comp=Z,10μm,13.7s					
WHN			LR	LR		
	comp=Z,20μm,12.9s					
TIY	Taiyuan	22.81 285	P	P	11 28 46.2	-2.4
TIY			pP	sP	11 29 02.0	-2.0
TIY			S	S	11 32 52.6	-2.4
TIY			sS	Sn	11 33 05.9	-5.9
TIY			pmax	pmax		
	comp=Z,53nm,0.7s					
TIY			pmax	pmax		
	comp=Z,870nm,8.0s					
TIY			LR	LR		
	comp=Z,4μm,12.0s					
TIY			LR	LR		
	comp=Z,8μm,16.7s					
TIY			LR	LR		
	comp=Z,8μm,18.6s					
LYN	LuoYang	23.10 277	P	P	11 28 48.5	-3.0
LYN			pP	pP	11 28 59.6	-2.2
LYN			PP	PnPn	11 29 16.6	-1.0
LYN			pmax	pmax		
	comp=Z,100nm,1.0s					
LYN			pmax	pmax		
	comp=Z,830nm,4.9s					
LYN			LR	LR		
	comp=Z,13μm,16.4s					
LYN			LR	LR		
	comp=Z,9μm,18.0s					
LYN			LR	LR		
	comp=Z,14μm,18.0s					
HHC	Hu-ho-hao-te	23.56 293	⇑*i*P	P	11 28 53.7	-2.4
HHC			pP	pP	11 29 04.1	-2.7
HHC			PP	PnPn	11 29 27.5	+3.5
HHC			S	S	11 33 05.5	-1.9
HHC			pmax	pmax		
	comp=Z,63nm,1.0s					
HHC			pmax	pmax		
	comp=Z,690nm,4.1s					
HHC			LR	LR		
	comp=Z,6μm,11.8s					
HHC			LR	LR		
	comp=Z,4μm,18.1s					
HHC			LR	LR		
	comp=Z,8μm,19.8s					
CNSH	ChangSha	24.52 261	P	P	11 29 02.1	-2.8
CNSH			pmax	pmax		
	comp=Z,85nm,0.9s					
CNSH			LR	LR		
	comp=Z,15μm,23.3s					
CNSH			LR	LR		
	comp=Z,6μm,20.4s					
CNSH			LR	LR		
	comp=Z,7μm,18.5s					
BTO	Baotou	24.71 292	*e*P	P	11 29 06.6	-0.1
BTO			pP	pP	11 29 17.2	-0.6
BTO			PP	PnPn	11 29 40.3	+0.5
BTO			S	S	11 33 26.4	+0.5
BTO			SS	SnSn	11 34 24.4	+10
BTO			pmax	pmax		
	comp=Z,50nm,0.9s					
BTO			pmax	pmax		
	comp=Z,3μm,6.4s					
BTO			LR	LR		
	comp=Z,14μm,14.2s					
BTO			LR	LR		
	comp=Z,14μm,14.1s					
BTO			LR	LR		
	comp=Z,16μm,15.5s					
MA2	Magadan	25.38 12	P	P	11 29 12.8	+0.4
MA2	Magadan	25.38 12	P	P	11 29 11.9	-0.5
MA2			IAMs_20	IAMs_20	11 38 46.5	
	comp=Z,9μm,22.0s					
MA2	Magadan	25.38 12	LR	LR	11 39 08.2	
	comp=Z,8μm,21.6s,baz=201,slow=36					
MA2	Magadan	25.38 12	*ce*P	P	11 29 12.4	0.0
MA2			pmax	pmax		
	comp=Z,764nm,1.0s					
CIT	Chita	25.69 320	*e*P	P	11 29 13.4	-2.0
CIT			*e*		11 29 22.0	
CIT			*e*		11 29 26.5	
CIT			*e*		11 29 55.2	
CIT			*e*		11 30 05.5	
CIT			*e*S	S	11 33 31.3	-10
CIT			pmax	pmax		
	comp=Z,241nm,2.4s					
XAN	Xi'an	26.08 277	⇑P	P	11 29 16.3	-2.8
XAN			pP	pP	11 29 25.6	-4.5
XAN			S	S	11 33 48.9	+1.3
XAN			pmax	pmax		
	comp=Z,310nm,1.2s					
XAN			pmax	pmax		
	comp=Z,1μm,7.8s					
XAN			LR	LR		
	comp=Z,15μm,17.2s					
XAN			LR	LR		
	comp=Z,8μm,18.6s					
XAN			LR	LR		
	comp=Z,12μm,17.9s					
HKPS	Hong Kong Po S	26.42 248	IAMs_20	IAMs_20	11 41 25.1	
	comp=Z,5μm,18.0s					
ENH	Enshi	26.59 268	P	P	11 29 21.2	-2.5
ENH	Enshi	26.59 268	P	P	11 29 20.9	-2.8
ENH			IAmb	IAmb	11 29 24.5	
	comp=Z,239nm,0.9s					
H11N2	WAKE ISLAND Hy 27.78 117		T	T	11 58 54.9	
	baz=309,slow=75,SNR=798					
H11N1	WAKE ISLAND Hy 27.79 117		T	T	11 58 57.5	
	baz=309,slow=75,SNR=980					
H11N3	WAKE ISLAND Hy 27.80 117		T	T	11 58 56.7	
	baz=309,slow=75,SNR=678					
GULI	GuiLin	27.83 258	⇓P	P	11 29 32.6	-2.2
GULI			pmax	pmax		
	comp=Z,30nm,0.8s					
GULI			LR	LR		
	comp=Z,11μm,26.0s					
GULI			LR	LR		
	comp=Z,5μm,26.0s					
GULI			LR	LR		
	comp=Z,7μm,22.2s					
YAK	Yakutsk	27.84 349	P	P	11 29 32.8	-1.6
YAK	Yakutsk	27.84 349	IAMs_20	IAMs_20	11 41 18.8	
	comp=Z,7μm,18.0s					
YAK	Yakutsk	27.84 349	LR	LR	11 41 53.5	
	comp=Z,5μm,18.8s,baz=144,slow=39					
YAK	Yakutsk	27.84 349	*c i*P	P	11 29 33.6	-0.9
YAK			*e**PP	pP	11 29 43.7	-1.9
YAK			*e*		11 30 20.2	
YAK			*e*		11 32 45.6	
YAK			*e*S	S	11 34 14.7	+0.1
YAK			*e**SS	sS	11 34 35.7	+2.6
YAK			*e*SS	SnSn	11 35 40.6	+10
YAK			pmax	pmax		
	comp=Z,382nm,1.1s					
YAK			pmax	pmax		
	comp=E,57nm,1.2s					
YAK			pmax	pmax		
	comp=N,174nm,1.1s					
YAK			pmax	pmax		
	comp=Z,316nm,1.5s					
YAK			pmax	pmax		
	comp=E,130nm,1.3s					
YAK			pmax	pmax		
	comp=N,247nm,1.5s					
YAK			smax	smax		
	comp=N,3μm,5.7s					
YAK			smax	smax		
	comp=E,986nm,2.3s					
YAK			MLR	MLR		
	comp=Z,8μm,17.0s					
YAK			MLR	MLR		
	comp=N,6μm,16.0s					
YAK			MLR	MLR		
	comp=E,3μm,15.0s					
SONM	Songino Array	28.39 307	P	P	11 29 38.1	-1.6
SONM	Songino Array	28.39 307	P	P	11 29 38.2	-1.6
	comp=E,49nm,0.6s,baz=105,slow=8.2,SNR=109					
SONM			ScP	ScP	11 36 30.9	+1.7
	comp=E,8.0nm,1.1s,baz=123,slow=5.3,SNR=5.7					
SONM			LR	LR	11 41 48.6	
	comp=E,7μm,18.4s,baz=107,slow=38					
	comp=E,49nm,0.6s					
H11S3	WAKE ISLAND Hy 28.41 119		T	T	11 59 38.0	
	baz=311,slow=75,SNR=437					
H11S1	WAKE ISLAND Hy 28.41 119		T	T	11 59 42.1	
	baz=311,slow=75,SNR=517					
H11S2	WAKE ISLAND Hy 28.43 119		T	T	11 59 39.0	
	baz=311,slow=75,SNR=464					
SEY	Seymchan	28.81 11	LR	LR	11 41 40.5	
	comp=E,7μm,20.7s,baz=201,slow=37					
SEY	Seymchan	28.81 11	*e*P	P	11 29 41.7	-1.5
SEY			pmax	pmax		
	comp=Z,152nm,1.0s					
BOD	Bodaibo	28.86 330	*e*P	P	11 29 44.9	+1.2
BOD			pmax	pmax		
	comp=Z,315nm,0.8s					
SHEM	Shemya Is, Ala	29.50 43	LR	LR	11 39 29.2	
	comp=Z,4μm,21.7s,baz=246,slow=32					
LZH	Lanzhou	29.82 283	*e*P	P	11 29 51.1	-1.5
LZH			pP	pP	11 30 02.1	-1.7
LZH			PP	PnPn	11 30 53.4	+4.0
LZH			pmax	pmax		
	comp=Z,120nm,1.1s					
LZH			pmax	pmax		
	comp=Z,680nm,4.6s					
LZH			LR	LR		
	comp=Z,9μm,19.4s					
LZH			LR	LR		
	comp=Z,4μm,19.2s					
LZH			LR	LR		
	comp=Z,7μm,20.6s					
GYA	Guiyang	30.31 263	⇓P	P	11 29 54.2	-2.8
GYA			pP	pP	11 30 04.9	-3.2
GYA			PP	PnPn	11 30 58.8	+2.8
GYA			S	S	11 34 49.4	-5.0
GYA			sS	sS	11 35 07.4	-5.6
GYA			pmax	pmax		
	comp=Z,73nm,0.9s					
GYA			pmax	pmax		
	comp=Z,360nm,4.1s					
GYA			LR	LR		
	comp=Z,3μm,15.6s					
GYA			LR	LR		
	comp=Z,6μm,15.4s					
GYA			LR	LR		
	comp=Z,8μm,15.2s					
IRK	Irkutsk	30.97 315	*e*P	P	11 30 00.9	-1.5
IRK			pmax	pmax		
	comp=Z,96nm,1.2s					
ZAK	Zakamensk	31.02 311	*e*P	P	11 30 01.1	-1.9
ZAK			pmax	pmax		
	comp=Z,50nm,1.3s					
CD2	Chengdu	31.09 273	P	P	11 30 01.6	-2.1
CD2			sP	sP	11 30 18.0	-1.8
CD2			PP	PP	11 31 12.1	-2.2
CD2			pmax	pmax		
	comp=Z,240nm,0.5s					
CD2			pmax	pmax		
	comp=Z,540nm,5.9s					
CD2			LR	LR		
	comp=Z,10μm,14.3s					
CD2			LR	LR		
	comp=Z,10μm,16.9s					
CD2			LR	LR		
	comp=Z,9μm,15.3s					
DAV	Davao City (W)	31.14 210	LR	LR	11 40 43.8	
	comp=Z,6μm,21.8s,baz=70,slow=33					
QIZ	Qiongzhong	31.57 248	P	P	11 30 05.3	-2.8
QIZ			S	S	11 35 15.9	+1.8
QIZ			pmax	pmax		
	comp=Z,28nm,1.1s					
QIZ			pmax	pmax		
	comp=Z,230nm,7.1s					
QIZ			LR	LR		
	comp=Z,3μm,26.9s					
QIZ			LR	LR		
	comp=Z,3μm,20.2s					
QIZ			LR	LR		
	comp=Z,4μm,30.3s					
QIZ	Qiongzhong	31.57 248	P	P	11 30 07.3	-0.7
GTA	Gaotai	32.57 290	*e*P	P	11 30 16.7	-0.1
GTA			sP	pP	11 30 27.6	-0.4
GTA			PP	PP	11 31 28.3	-2.5
GTA			pmax	pmax		
	comp=Z,42nm,1.1s					
GTA			LR	LR		
	comp=Z,4μm,15.9s					
GTA			LR	LR		
	comp=Z,6μm,21.9s					
GTA			LR	LR		
	comp=Z,8μm,23.5s					
KMI	Kunming	34.07 264	⇑P	P	11 30 27.3	-2.8
KMI			PP	PnPn	11 31 45.0	+0.6
KMI			sS	sS	11 36 13.9	+1.9
KMI			pmax	pmax		
	comp=Z,60nm,0.8s					
KMI			pmax	pmax		
	comp=Z,280nm,5.3s					
KMI			LR	LR		
	comp=Z,4μm,15.4s					
KMI			LR	LR		
	comp=Z,5μm,14.8s					
KMI			LR	LR		
	comp=Z,7μm,15.4s					
PZH	PanZhiHua	34.31 266	P	P	11 30 29.4	-2.6
PZH			PP	PnPn	11 31 48.5	+1.3
PZH			ScS	ScS	11 40 49.4	-2.8
PZH			pmax	pmax		
	comp=Z,80nm,0.8s					
PZH			pmax	pmax		
	comp=Z,270nm,3.5s					
PZH			LR	LR		
	comp=Z,10μm,26.5s					
PZH			LR	LR		
	comp=Z,6μm,25.0s					
PZH			LR	LR		
	comp=Z,4μm,24.5s					
ADK	Adak	34.64 48	IAMs_20	IAMs_20	11 42 22.4	
	comp=Z,5μm,20.0s					
SLVN	Son La	34.94 257	P	P	11 30 35.2	-2.3
BILL	Bilibino	36.06 16	P	P	11 30 46.3	-0.2
BILL			IAmb	IAmb	11 30 49.2	
	comp=Z,82nm,1.0s					
BILL			IAMs_20	IAMs_20	11 45 42.5	
	comp=Z,4μm,22.0s					
BILL	Bilibino	36.06 16	*d i*P	P	11 30 45.5	-1.0
BILL			*e*		11 32 13.8	
BILL			pmax	pmax		
	comp=Z,71nm,0.9s					
BILL			MLR	MLR		
	comp=Z,7μm,24.0s					
BILL	Bilibino	36.06 16	P	P	11 30 46.3	-0.2
MYLDM	Lahad Datu	36.11 220	P	P	11 30 46.0	-1.4
MYLDM			IAmb	IAmb	11 30 48.7	
	comp=Z,123nm,1.0s					
MYLDM			IAMs_20	IAMs_20	11 39 56.1	
	comp=Z,5μm,19.0s					
MIDW	Midway	36.20 89	IAMs_20	IAMs_20	11 43 04.8	
	comp=Z,3μm,18.0s					
ATKA	Atka Island	36.21 48	IAMs_20	IAMs_20	11 44 25.9	
	comp=Z,4μm,20.0s					
TNTI	Ternate	36.32 203	P	P	11 30 49.5	+0.3
TNTI	Ternate	36.32 203	P	P	11 30 47.9	-1.3
TNTI			IAmb	IAmb	11 31 18.6	
	comp=Z,132nm,1.2s					
TNTI	Ternate	36.32 203	P	P	11 30 48.4	-0.8
	comp=Z,97nm,1.1s,comp=Z,1μm					
SWI	Sorong	36.83 196	P	P	11 30 52.6	-0.9
	comp=Z,151nm,0.9s,comp=Z,2μm,comp=Z,3μm					
SWI	Sorong	36.83 196	P	P	11 30 52.3	-1.2
SWI			pmax	pmax		
	comp=Z,151nm,1.0s					
GOMU	GeErMu	36.98 285	P	P	11 30 54.5	-0.7
GOMU			pP	pP	11 31 04.7	-1.8
GOMU			sP	sP	11 31 08.7	-2.6
GOMU			PP	PP	11 32 19.7	-0.1
GOMU			S	S	11 36 35.7	-2.3
GOMU			pmax	pmax		
	comp=Z,210nm,1.4s					
GOMU			pmax	pmax		
	comp=Z,2μm,4.0s					
GOMU			LR	LR		
	comp=Z,5μm,13.6s					
GOMU			LR	LR		
	comp=Z,9μm,17.0s					
GOMU			LR	LR		
	comp=Z,13μm,16.7s					
TIXI	Tiksi	37.14 354	P	P	11 30 54.7	-0.9
TIXI			IAmb	IAmb	11 31 22.8	
	comp=Z,58nm,0.8s					
TIXI	Tiksi	37.14 354	IAMs_20	IAMs_20	11 48 20.3	
	comp=Z,5μm,19.0s					
TIXI	Tiksi	37.14 354	LR	LR	11 48 31.5	
	comp=Z,5μm,19.6s,baz=170,slow=40					
TIXI	Tiksi	37.14 354	*ce*P	P	11 30 55.2	-0.4
TIXI			pmax	pmax		
	comp=Z,29nm,0.8s					
TIXI			MLR	MLR		
	comp=Z,5μm,19.0s					
TIXI	Tiksi	37.14 354	P	P	11 30 55.2	-0.4
TIXI			pP	pP	11 31 05.8	-1.2
UBPT	Khong Chiam	37.16 247	P	P	11 30 55.8	-0.6
UBPT	Khong Chiam	37.16 247	P	P	11 30 54.3	-2.1
UBPT			IAmb	IAmb	11 31 10.5	
	comp=Z,72nm,0.8s					
UBPT			IAMs_20	IAMs_20	11 46 07.0	
	comp=Z,5μm,22.0s					
JAY	Jayapura	37.41 180	P	P	11 31 00.0	+1.5
	comp=Z,202nm,0.9s,comp=Z,3μm					
JAY	Jayapura	37.41 180	P	P	11 30 59.2	+0.7
JAY			pmax	pmax		
	comp=Z,203nm,0.9s					
MANU	Manus Island	37.48 169	P	P	11 31 00.5	+1.4
MANU	Manus Island	37.48 169	P	P	11 30 58.7	-0.4
MANU			IAmb	IAmb	11 31 09.3	
	comp=Z,64nm,0.8s					
GENI	Genyem	37.49 181	P	P	11 31 03.4	+4.3
GENI	Genyem	37.49 181	P	P	11 31 01.0	+1.9
TNCH	TengChong	37.56 266	P	P	11 30 57.5	-2.5
TNCH			sP	pP	11 31 13.2	+2.0
TNCH			PP	PP	11 32 25.8	-0.3
TNCH			S	S	11 36 43.3	-3.4
TNCH			pmax	pmax		
	comp=Z,97nm,0.8s					
TNCH			pmax	pmax		
	comp=Z,350nm,4.0s					
TNCH			LR	LR		
	comp=Z,5μm,19.6s					
TNCH			LR	LR		
	comp=Z,2μm,18.9s					
TNCH			LR	LR		
	comp=Z,5μm,24.0s					
KMSI	Cibinong	37.69 208	P	P	11 30 59.7	-1.1
GTOI	Gorontalo	38.02 209	P	P	11 31 00.6	-3.0
	comp=Z,79nm,1.1s					
CRAI	Chiangrai	38.33 258	P	P	11 31 04.4	-1.9
CRAI			IAmb	IAmb	11 31 12.7	
	comp=Z,103nm,1.0s					
TOLI2	Tolitoli	38.54 213	P	P	11 31 06.2	-1.8
TOLI2	Tolitoli	38.54 213	P	P	11 31 05.1	-2.9
TOLI2			IAMs_20	IAMs_20	11 44 17.4	
	comp=Z,4μm,22.0s					
MRSI	Marisa	38.60 211	P	P	11 31 06.9	-1.6
	comp=Z,196nm,1.3s,comp=Z,2μm,comp=Z,2μm					
FAKI	Fak Fak	38.62 193	P	P	11 31 09.9	+1.2
FAKI	Fak Fak	38.62 193	P	P	11 31 07.2	-1.5
FAKI			IAmb	IAmb	11 31 13.4	
	comp=Z,122nm,0.8s					
FAKI	Fak Fak	38.62 193	P	P	11 31 11.3	+2.6
	comp=Z,164nm,0.8s,comp=Z,2μm					
KAVG	Kavieng	38.67 164	P	P	11 31 11.1	+2.0
LKP	Lekhapani	38.81 271	*e*P	P	11 31 08.6	-1.7
PHRA	Phrae	39.36 256	P	P	11 31 13.2	-1.8
SANI	Sanana	39.41 203	P	P	11 31 13.5	-1.8
SANI	Sanana	39.41 203	P	P	11 31 12.5	-2.8
	comp=Z,187nm,0.9s,comp=Z,2μm,comp=Z,2μm					
SPIA	Saint Paul Isl	39.44 40	P	P	11 31 14.2	-0.9
	baz=257					
DIBR	DIBRUGARH	39.53 272	*e*P	P	11 31 14.8	-1.4
NIKH	Nikolski High	39.55 47	P	P	11 31 15.1	-0.9
	baz=264					
MPSI	Mapaga	39.62 214	P	P	11 31 15.2	-1.9
LUWI	Luwuk	39.64 209	P	P	11 31 19.5	+2.3
LUWI	Luwuk	39.64 209	P	P	11 31 13.5	-3.7
LUWI			IAmb	IAmb	11 32 09.2	
	comp=Z,109nm,0.8s					
LUWI	Luwuk	39.64 209	P	P	11 31 20.8	+3.6
	comp=Z,101nm,1.0s,comp=Z,2μm					
P08K	Saint George I	39.70 41	P	P	11 31 17.7	+0.4
	baz=259					
TABU	Tabubil	40.15 179	P	P	11 31 24.9	+3.4
CHTO	Chiang Mai	40.22 257	P	P	11 31 19.9	-2.2
CHTO			IAMs_20	IAMs_20	11 49 48.5	
	comp=Z,5μm,19.0s					
CHTO	Chiang Mai	40.22 257	P	P	11 31 19.9	-2.2
CHTO			pmax	pmax		
	comp=Z,47nm,1.0s					
CHTO			MLR	MLR		
	comp=Z,5μm,19.0s					
MOKO	MOKOCHONG	40.30 270	*e*P	P	11 31 21.1	-1.7
JORH	JORHAT	40.35 271	*e*P	P	11 31 21.3	-1.7
ZIRO	ZIRO	40.37 273	*e*P	P	11 31 21.5	-2.0
ZIRO			IAmb	IAmb	11 31 29.1	
	comp=Z,190nm,0.7s					
CM31	Chiang Mai Arr	40.41 257	P	P	11 31 21.8	-1.9
CMAR	Chiang Mai Arr	40.41 257	P	P	11 31 21.5	-2.2
CMAR	Chiang Mai Arr	40.41 257	P	P	11 31 20.2	-3.4
	comp=Z,15nm,0.7s,baz=47,slow=7.1,SNR=84					
CMAR			LR	LR	11 50 05.7	
	comp=Z,4μm,19.1s,baz=60,slow=39					
	comp=Z,15nm,0.7s					
CMAR	Chiang Mai Arr	40.41 257	P	P	11 31 21.5	-2.2
RABL	Rabaul	40.55 162	P	P	11 31 28.3	+3.5
RABL	Rabaul	40.55 162	P	P	11 31 24.0	-0.8
KOHI	KOHIMA	40.88 270	*e*P	P	11 31 25.3	-2.3
UNV	Unalaska Valle	41.03 46	P	P	11 31 29.3	+1.0
	baz=265					
WMQ	Urumqi	41.18 299	⇓P	P	11 31 30.3	+0.5

WMQ pP pP 11 31 38.3 -3.0
WMQ S **S** **11 37 41.0 +0.6**
WMQ pmax pmax
comp=Z,450nm,1.1s
WMQ pmax pmax
comp=Z,2μm,3.9s
WMQ LR LR
comp=Z,6μm,15.7s
WMQ LR LR
comp=Z,5μm,17.3s
WMQ LR LR
comp=Z,4μm,22.9s
IMP Imphal 41.39 269 *e*P **P** **11 31 30.1 -1.7**
IMP IAmb IAmb 11 31 33.5
comp=Z,21nm,0.5s
TEZP TEZPUR 41.59 272 *e*P **P** **11 31 30.7 -2.6**
TEZP IAmb IAmb 11 31 34.6
comp=Z,114nm,0.5s
LSA Lhasa 41.78 277 P **P** **11 31 35.5 +0.1**
LSA pmax pmax
comp=Z,15nm,0.7s
LSA Lhasa 41.78 277 P **P** **11 31 34.6 -0.7**
LSA IAMs_20 IAMs_20 11 50 54.6
comp=Z,4μm,18.0s
LSA Lhasa 41.78 277 P **P** **11 31 35.3 -0.1**
LSA Lhasa 41.78 277 P **P** **11 31 34.7 -0.7**
LSA pmax pmax
comp=Z,74nm,0.8s
LSA MLR MLR
comp=Z,4μm,18.0s
LSA Lhasa 41.78 277 P **P** **11 31 35.5 +0.1**
SBUM Sibu 41.84 225 P **P** **11 31 33.6 -1.8**
M11K Mekoryuk 42.19 36 P **P** **11 31 39.4 +1.7**
baz=258,SNR=5.3
M11K S **S** **11 37 56.2 +1.4**
baz=258
BKB Balikpapan 42.44 217 IAMs_20 IAMs_20 11 49 32.2
comp=Z,4μm,20.0s
BKB Balikpapan 42.44 217 P **P** **11 31 39.3 -0.9**
comp=Z,183nm,1.1s
SRDT SRDT 42.59 252 P **P** **11 31 41.2 -0.4**
SHL Shillong 42.77 271 P **P** **11 31 40.4 -2.8**
SHL Shillong 42.77 271 *e*P **P** **11 31 40.5 -2.6**
SHL IAmb IAmb 11 31 43.9
comp=Z,51nm,0.8s
SHL Shillong 42.77 271 P **P** **11 31 40.9 -2.2**
SNR=16
SHL Shillong 42.77 271 P **P** **11 31 40.4 -2.8**
SHL pmax pmax
comp=Z,84nm,0.9s
ZAA0 Zalesovo Array 42.77 314 P **P** **11 31 42.4 -0.1**
ZAA0 IAmb IAmb 11 31 44.7
comp=Z,148nm,0.9s
ZALV Zalesovo Beam 42.77 314 P **P** **11 31 41.8 -0.8**
ZALV Zalesovo Beam 42.77 314 P **P** **11 31 41.6 -0.9**
comp=Z,110nm,0.8s,baz=103,slow=7.7,SNR=213
ZALV LR LR 11 49 39.6
comp=Z,2μm,19.6s,baz=87,slow=36
comp=Z,110nm,0.8s
ZSN Zaisan 42.82 304 *e*P **P** **11 31 42.6 -0.5**
comp=Z,104nm,0.8s,baz=304
ZSN *e*S **S** **11 38 05.1 +0.6**
baz=304
ZSN Zaisan 42.82 304 *e*P **P** **11 31 42.6 -0.5**
ZSN *e*S **S** **11 38 05.1 +0.6**
ZSN pmax pmax
comp=Z,104nm,0.8s
TNA Tin City 42.86 29 P **P** **11 31 44.5 +1.4**
baz=250,SNR=7.9
TNA S **S** **11 38 06.1 +1.7**
baz=250
FALS False Pass 42.91 45 P **P** **11 31 42.9 -0.7**
baz=266
MTKI Muara Teweh, K 43.17 219 P **P** **11 31 47.6 +1.4**
comp=Z,72nm,0.6s
SAIH SAIHA 43.22 266 *e*P **P** **11 31 44.8 -2.0**
SAIH IAmb IAmb 11 31 51.9
comp=Z,113nm,0.9s
K13K Kusilvak Mount 43.26 34 P **P** **11 31 47.2 +0.9**
K13K Kusilvak Mount 43.26 34 P **P** **11 31 47.7 +1.3**
baz=258
K13K S **S** **11 38 12.9 +2.5**
baz=258
F14K Arctic Creek 43.46 29 P **P** **11 31 49.6 +1.6**
baz=252
F14K S **S** **11 38 16.6 +3.3**
baz=252
ANM Nome 43.59 30 P **P** **11 31 49.6 +0.6**
ANM Nome 43.59 30 P **P** **11 31 50.8 +1.8**
baz=254,SNR=22
ANM S **S** **11 38 19.1 +3.9**
baz=254
ANM Nome 43.59 30 P **P** **11 31 49.6 +0.6**
ANM pmax pmax
comp=Z,93nm,1.1s
ANM MLR MLR
comp=Z,2μm,18.0s
M13K Dall Lake 43.59 37 P **P** **11 31 50.3 +1.2**
M13K Dall Lake 43.59 37 P **P** **11 31 50.8 +1.8**
baz=260,SNR=9.8
M13K S **S** **11 38 18.6 +3.3**
baz=260
S12K Black Hills 43.74 44 P **P** **11 31 50.4 0.0**
baz=267
BBSI Bau Bau 43.80 206 P **P** **11 31 50.6 -0.6**
comp=Z,100nm,1.1s,comp=Z,2μm
J14K Nanvaranak Lak 43.93 33 P **P** **11 31 52.6 +0.9**
J14K Nanvaranak Lak 43.93 33 P **P** **11 31 53.1 +1.3**
baz=258,SNR=11
J14K S **S** **11 38 24.4 +4.2**
baz=258
L14K Kuka Creek 44.07 35 P **P** **11 31 54.2 +1.3**
L14K IAmb IAmb 11 32 30.1
comp=Z,132nm,1.3s
L14K Kuka Creek 44.07 35 P **P** **11 31 54.7 +1.9**
baz=260,SNR=20
L14K S **S** **11 38 25.4 +3.2**
baz=260
F15K North Star Dit 44.20 29 P **P** **11 31 55.8 +1.9**
F15K North Star Dit 44.20 29 P **P** **11 31 55.3 +1.5**
baz=254,SNR=36
F15K S **S** **11 38 28.0 +3.9**
baz=254
STKI Sintang 44.21 224 P **P** **11 31 53.9 -0.6**
comp=Z,129nm,1.2s
G15K Niukluk 44.25 30 P **P** **11 31 55.7 +1.3**
baz=255,SNR=46
G15K S **S** **11 38 28.4 +3.6**
baz=255
M14K Bethel 44.32 36 P **P** **11 31 56.5 +1.6**
M14K IAmb IAmb 11 32 17.2
comp=Z,114nm,0.8s
M14K Bethel 44.32 36 P **P** **11 31 56.3 +1.4**
baz=261,SNR=28
M14K S **S** **11 38 29.4 +3.6**
baz=261
N14K Kuskokwak Cree 44.34 38 P **P** **11 31 56.4 +1.4**
baz=263,SNR=9.1
N14K S **S** **11 38 26.6 +0.4**
baz=263
KAPI Kappang 44.47 210 P **P** **11 31 56.3 -0.3**
KAPI Kappang 44.47 210 P **P** **11 31 55.2 -1.4**
KAPI IAmb IAmb 11 31 57.1
comp=Z,186nm,1.2s
KAPI Kappang 44.47 210 LR LR 11 51 23.7
comp=Z,882nm,20.3s,baz=10,slow=37
KAPI Kappang 44.47 210 P **P** **11 31 55.5 -1.1**
KAPI P **P** **11 31 55.5 -1.1**
KAPI Kappang 44.47 210 *i* P **P** **11 31 54.1 -2.5**
KAPI pmax pmax
comp=Z,100nm,1.1s
O14K Tigyukauivet M 44.47 39 P **P** **11 31 57.6 +1.4**
O14K Tigyukauivet M 44.47 39 P **P** **11 31 57.5 +1.4**
baz=264,SNR=7.7
O14K S **S** **11 38 29.1 +1.0**
baz=264
MK31 Makanchi Array 44.63 304 P **P** **11 31 57.0 -0.7**
MK31 IAmb IAmb 11 32 02.9
comp=Z,181nm,1.0s
MK31 Makanchi Array 44.63 304 *ce*P **P** **11 31 56.8 -0.9**
MKAR Makanchi Array 44.63 304 P **P** **11 31 57.2 -0.5**
MKAR Makanchi Array 44.63 304 P **P** **11 31 56.9 -0.8**
comp=Z,81nm,0.6s,baz=87,slow=9.2,SNR=235
MKAR LR LR 11 51 32.4
comp=Z,6μm,19.7s,baz=94,slow=37
comp=Z,81nm,0.6s

MKAR Makanchi Array 44.63 304 P **P** **11 31 57.2 -0.5**
PMG Port Moresby 44.69 171 S **S** **11 38 30.2 -1.8**
comp=Z,7.5nm,0.7s,baz=338,slow=14,SNR=1.8
PMG Port Moresby 44.69 171 P **P** **11 31 59.8 +1.5**
L15K Ungalak Mounta 44.69 35 P **P** **11 31 59.1 +1.3**
baz=261,SNR=13
L15K S **S** **11 38 32.4 +1.1**
baz=261
C16K Lisburne Hills 44.72 25 P **P** **11 31 59.1 +1.1**
C16K IAmb IAmb 11 32 00.6
comp=Z,158nm,1.0s
C16K IAMs_20 IAMs_20 11 51 18.8
comp=Z,3μm,19.0s
C16K Lisburne Hills 44.72 25 P **P** **11 31 58.8 +0.7**
baz=251,SNR=25
C16K S **S** **11 38 32.2 +0.6**
baz=251
GTK Tadong 44.75 275 *e*P **P** **11 31 57.5 -1.4**
K15K Wolf Creek Mou 44.77 34 P **P** **11 32 00.2 +1.7**
baz=260,SNR=18
K15K S **S** **11 38 34.0 +1.6**
baz=260
NRIK Noril'sk 44.77 336 P **P** **11 31 58.0 -0.4**
NRIK IAmb IAmb 11 32 19.4
comp=Z,147nm,1.0s
NRIK Noril'sk 44.77 336 P **P** **11 31 58.0 -0.4**
comp=Z,32nm,0.5s,baz=115,slow=7.2,SNR=59
NRIK S **S** **11 38 27.5 -4.7**
comp=Z,1.5nm,0.3s,baz=354,slow=4.9,SNR=1.1
NRIK LR LR 11 51 58.8
comp=Z,4μm,18.5s,baz=114,slow=38
comp=Z,32nm,0.5s
NRIK Noril'sk 44.77 336 *ce*P **P** **11 31 57.4 -1.0**
NRIK pmax pmax
comp=Z,89nm,1.2s
NRIK MLR MLR
comp=Z,4μm,18.0s
MAKZ Makanchi 44.85 304 P **P** **11 31 59.4 0.0**
MAKZ Makanchi 44.85 304 P **P** **11 31 59.4 0.0**
MAKZ pmax pmax
comp=Z,174nm,0.9s
MAKZ MLR MLR
comp=Z,6μm,19.0s
MAKZ Makanchi 44.85 304 P **P** **11 31 59.8 +0.4**
H16K Elim 44.91 31 P **P** **11 32 00.6 +1.0**
baz=257,SNR=16
H16K S **S** **11 38 36.7 +2.3**
baz=257
M15K Kasigluk River 44.93 37 P **P** **11 32 00.9 +1.1**
baz=263,SNR=18
M15K S **S** **11 38 36.3 +1.5**
baz=263
G16K Koyuk River 45.04 30 P **P** **11 32 00.6 0.0**
G16K Koyuk River 45.04 30 P **P** **11 32 01.6 +1.0**
baz=256,SNR=8.1
G16K S **S** **11 38 37.2 +1.0**
baz=256
TARA Tarawa 45.06 131 P **P** **11 32 04.2 +2.9**
TARA Tarawa 45.06 131 IAMs_20 IAMs_20 11 47 05.8
comp=Z,3μm,21.0s
CHNA Chernabura Isl 45.12 45 P **P** **11 32 01.0 -0.3**
baz=270,SNR=21
CHNA S **S** **11 38 37.8 +0.1**
baz=270
CNBA Chernabura Isl 45.12 45 P **P** **11 32 01.6 +0.2**
CNBA IAmb IAmb 11 32 05.0
comp=Z,125nm,1.0s
CNBA IAMs_20 IAMs_20 11 49 00.6
comp=Z,4μm,22.0s
N15K Kwethluk River 45.16 37 P **P** **11 32 02.9 +1.2**
N15K IAmb IAmb 11 32 30.3
comp=Z,69nm,0.8s
N15K Kwethluk River 45.16 37 P **P** **11 32 03.1 +1.4**
baz=264,SNR=20
N15K S **S** **11 38 39.2 +0.9**
baz=264
O15K Ungalikthiuk R 45.20 39 P **P** **11 32 03.0 +1.1**
baz=265,SNR=32
O15K S **S** **11 38 40.0 +1.2**
baz=265
D17K Noatak River 45.36 27 P **P** **11 32 04.1 +1.0**
baz=254,SNR=35
D17K S **S** **11 38 43.3 +2.5**
baz=254
J16K Anvik River 45.36 33 P **P** **11 32 04.2 +1.0**
J16K Anvik River 45.36 33 P **P** **11 32 04.5 +1.4**
baz=260,SNR=12
J16K S **S** **11 38 42.7 +1.8**
baz=260
I17K Unalakleet 45.42 32 P **P** **11 32 04.7 +1.1**
I17K IAmb IAmb 11 32 30.2
comp=Z,106nm,1.2s
I17K Unalakleet 45.42 32 P **P** **11 32 04.9 +1.3**
baz=260,SNR=23
I17K S **S** **11 38 44.3 +2.5**
baz=260
RDOG Red Dog Mine 45.52 26 P **P** **11 32 05.1 +0.7**
RDOG IAmb IAmb 11 32 23.0
comp=Z,101nm,1.0s
RDOG IAMs_20 IAMs_20 11 51 54.8
comp=Z,3μm,20.0s
RDOG Red Dog Mine 45.52 26 P **P** **11 32 05.5 +1.1**
baz=253,SNR=9.6
RDOG S **S** **11 38 44.6 +1.4**
baz=253
C17K DeLong Mountai 45.55 25 P **P** **11 32 05.9 +1.2**
baz=253,SNR=23
C17K S **S** **11 38 43.8 +0.2**
baz=253
SEM Semipalatinsk 45.64 309 *e*P **P** **11 32 05.5 -0.3**
comp=Z,61nm,0.8s,baz=309
SEM *e*S **S** **11 38 46.1 +0.4**
baz=309
SEM LR LR 11 51 43.5
comp=Z,2μm,15.2s,baz=309
SEM Semipalatinsk 45.64 309 *e*P **P** **11 32 05.5 -0.3**
SEM *e*S **S** **11 38 46.1 +0.4**
SEM pmax pmax
comp=Z,61nm,0.8s
SEM MLR MLR
comp=Z,2μm,15.0s
L16K Owhat River 45.64 35 P **P** **11 32 06.5 +1.0**
L16K Owhat River 45.64 35 P **P** **11 32 06.2 +0.8**
baz=263,SNR=33
L16K S **S** **11 38 47.5 +2.4**
baz=263
E17K Hotham Inlet 45.66 28 P **P** **11 32 06.6 +1.1**
baz=255,SNR=43
E17K S **S** **11 38 46.6 +1.5**
baz=255
F17K Baldwin Pennin 45.72 28 P **P** **11 32 06.9 +0.9**
F17K IAmb IAmb 11 32 24.2
comp=Z,84nm,1.0s
F17K Baldwin Pennin 45.72 28 P **P** **11 32 07.2 +1.2**
baz=256
F17K S **S** **11 38 49.2 +3.1**
baz=256
G17K Kiwalik Mounta 45.76 30 P **P** **11 32 07.6 +1.3**
baz=258,SNR=38
G17K S **S** **11 38 48.9 +2.3**
baz=258
CHGN Chignik 45.81 43 P **P** **11 32 06.6 -0.2**
CHGN Chignik 45.81 43 P **P** **11 32 05.8 -1.0**
baz=269
M16K Timber Creek 45.81 36 P **P** **11 32 07.5 +0.8**
M16K IAmb IAmb 11 32 33.3
comp=Z,169nm,1.6s
M16K Timber Creek 45.81 36 P **P** **11 32 07.9 +1.1**
baz=264,SNR=20
M16K S **S** **11 38 49.8 +2.3**
baz=264
SRIT Nakonsritamara 45.83 245 P **P** **11 32 07.4 -0.1**
SRIT Nakonsritamara 45.83 245 P **P** **11 32 06.3 -1.2**
N16K Nishlik Lake 45.85 37 P **P** **11 32 08.5 +1.4**
baz=265,SNR=49
N16K S **S** **11 38 51.1 +3.0**
baz=265
H17K Granite Mounta 45.95 31 P **P** **11 32 09.1 +1.3**
H17K Granite Mounta 45.95 31 P **P** **11 32 09.0 +1.2**
baz=259,SNR=44
H17K S **S** **11 38 50.4 +1.0**
baz=259
J17K VABM Dome 46.05 33 P **P** **11 32 09.7 +1.0**
J17K IAmb IAmb 11 32 35.6
comp=Z,111nm,1.1s
J17K VABM Dome 46.05 33 P **P** **11 32 10.0 +1.4**
baz=262,SNR=50

J17K S **S** **11 38 54.3 +3.3**
baz=262
O16K Kokwok River B 46.12 38 P **P** **11 32 10.3 +1.2**
O16K IAmb IAmb 11 32 36.6
comp=Z,76nm,1.1s
O16K Kokwok River B 46.12 38 P **P** **11 32 10.4 +1.2**
baz=266,SNR=39
O16K S **S** **11 38 54.7 +2.8**
baz=266
P16K Nushagak River 46.13 39 P **P** **11 32 10.5 +1.2**
baz=267,SNR=24
P16K S **S** **11 38 54.9 +2.7**
baz=267
E18K Tukpahlearik C 46.20 27 P **P** **11 32 11.2 +1.5**
E18K IAmb IAmb 11 32 31.2
comp=Z,88nm,1.1s
E18K Tukpahlearik C 46.20 27 P **P** **11 32 11.0 +1.2**
baz=256,SNR=40
E18K S **S** **11 38 55.5 +2.5**
baz=256
L17K Donlin 46.25 35 P **P** **11 32 11.7 +1.6**
baz=264,SNR=55
L17K S **S** **11 38 56.8 +3.0**
baz=264
B18K Kokolik River 46.29 24 P **P** **11 32 11.4 +1.0**
baz=253
B18K S **S** **11 38 56.1 +2.0**
baz=253
C18K Utukok River 46.30 25 P **P** **11 32 11.9 +1.4**
C18K IAmb IAmb 11 32 28.4
comp=Z,117nm,0.9s
C18K IAMs_20 IAMs_20 11 52 20.4
comp=Z,3μm,20.0s
C18K Utukok River 46.30 25 P **P** **11 32 11.5 +0.9**
baz=254,SNR=30
C18K S **S** **11 38 56.7 +2.3**
baz=254
K17K Iditarod 46.31 34 P **P** **11 32 12.4 +1.7**
K17K IAmb IAmb 11 32 34.4
comp=Z,105nm,0.8s
K17K Iditarod 46.31 34 P **P** **11 32 12.3 +1.6**
baz=263,SNR=79
K17K S **S** **11 38 58.3 +3.6**
baz=263
F18K Selawik 46.38 28 P **P** **11 32 12.3 +1.1**
baz=258,SNR=60
F18K S **S** **11 38 57.9 +2.4**
baz=258
M17K Holitna River 46.58 36 P **P** **11 32 14.4 +1.6**
M17K IAmb IAmb 11 32 17.9
comp=Z,100nm,1.0s
M17K Holitna River 46.58 36 P **P** **11 32 14.3 +1.5**
baz=265,SNR=51
M17K S **S** **11 39 01.9 +3.4**
baz=265
N17K Nushagak Hills 46.63 37 P **P** **11 32 14.4 +1.2**
N17K IAmb IAmb 11 32 38.2
comp=Z,109nm,1.1s
N17K Nushagak Hills 46.63 37 P **P** **11 32 14.8 +1.5**
baz=266,SNR=44
N17K S **S** **11 39 03.3 +4.0**
baz=266
O17K Koliganek Bris 46.63 38 P **P** **11 32 14.6 +1.4**
baz=267,SNR=37
O17K S **S** **11 39 02.3 +3.0**
baz=267
H18K Honhosa River 46.63 31 P **P** **11 32 14.2 +1.0**
H18K IAmb IAmb 11 32 34.3
comp=Z,102nm,1.1s
H18K Honhosa River 46.63 31 P **P** **11 32 14.2 +1.0**
baz=261,SNR=65
H18K S **S** **11 39 01.8 +2.6**
baz=261
G18K Tagagawik 46.64 30 P **P** **11 32 13.7 +0.4**
G18K IAmb IAmb 11 32 17.5
comp=Z,102nm,0.9s
G18K Tagagawik 46.64 30 P **P** **11 32 14.2 +0.9**
baz=260
G18K S **S** **11 39 01.9 +2.6**
baz=260
KURK Kurchatov 46.65 309 P **P** **11 32 12.5 -0.9**
KURK Kurchatov 46.65 309 P **P** **11 32 14.1 +0.6**
KURK P **P** **11 32 14.1 +0.6**
KURK Kurchatov 46.65 309 *ce*P **P** **11 32 12.2 -1.3**
KURK pmax pmax
comp=Z,220nm,0.9s
KURK MLR MLR
comp=Z,5μm,17.0s
KURK Kurchatov 46.65 309 P **P** **11 32 12.6 -0.8**
KURK sP **sP** **11 32 29.1 -0.8**
KURBB Kurchatov Arra 46.71 309 P **P** **11 32 12.6 -1.4**
comp=Z,156nm,0.5s,baz=86,slow=8.2,SNR=170
KURBB S **S** **11 38 59.4 -1.3**
comp=Z,7.1nm,1.1s,baz=89,slow=14,SNR=4.2
KURBB LR LR 11 52 21.6
comp=Z,8μm,20.5s,baz=82,slow=37
comp=Z,156nm,0.5s
A19K Wainwright 46.77 23 P **P** **11 32 15.2 +1.1**
baz=253
A19K S **S** **11 39 03.5 +2.5**
baz=253
Q16K King Salmon 46.81 40 P **P** **11 32 15.3 +0.7**
baz=268,SNR=17
Q16K S **S** **11 39 03.7 +1.9**
baz=268
MMRI Maumere 46.84 205 P **P** **11 32 15.0 -0.3**
MMRI Maumere 46.84 205 P **P** **11 32 14.3 -1.0**
MMRI IAmb IAmb 11 33 10.3
comp=Z,144nm,1.0s
MMRI Maumere 46.84 205 P **P** **11 32 15.0 -0.3**
comp=Z,134nm,1.1s,comp=Z,3μmcomp=Z,3μm
P17K Kvichak River 46.94 39 P **P** **11 32 16.7 +1.1**
baz=268
P17K S **S** **11 39 05.7 +2.0**
baz=268
R17L Mt. Peulik Vol 46.95 41 P **P** **11 32 15.7 -0.1**
baz=270,SNR=9.5
C19K Lookout Ridge 46.98 25 P **P** **11 32 17.1 +1.3**
C19K IAMs_20 IAMs_20 11 54 22.3
comp=Z,4μm,19.0s
C19K Lookout Ridge 46.98 25 P **P** **11 32 17.0 +1.2**
baz=256,SNR=44
C19K S **S** **11 39 06.1 +1.9**
baz=256
L18K Granite Mounta 47.01 35 P **P** **11 32 17.8 +1.6**
L18K IAmb IAmb 11 32 19.2
comp=Z,74nm,1.1s
L18K Granite Mounta 47.01 35 P **P** **11 32 17.7 +1.5**
baz=265,SNR=51
L18K S **S** **11 39 08.7 +4.2**
baz=265
J18K Innoko River 47.12 33 P **P** **11 32 17.5 +0.5**
baz=264,SNR=21
J18K S **S** **11 39 09.1 +2.9**
baz=264
EDFI Ende, Flores 47.14 206 P **P** **11 32 16.0 -1.7**
comp=Z,63nm,0.6s,comp=Z,2μm
PDGK Podgornoye 47.14 299 P **P** **11 32 17.8 +0.2**
F19K Shaleruckik Mo 47.16 28 P **P** **11 32 17.5 +0.2**
F19K Shaleruckik Mo 47.16 28 P **P** **11 32 17.6 +0.4**
baz=260,SNR=53
F19K S **S** **11 39 08.5 +1.8**
baz=260
SHLS Shalkode 47.20 299 *e*P **P** **11 32 15.1 -2.9**
comp=Z,58nm,0.7s,baz=299
SHLS *e*S **S** **11 39 04.2 -3.9**
baz=299
SHLS Shalkode 47.20 299 *e*P **P** **11 32 15.1 -2.9**
SHLS *e*S **S** **11 39 04.1 -3.9**
SHLS pmax pmax
comp=Z,58nm,0.7s
GCSA Galena City Sc 47.20 31 P **P** **11 32 17.9 +0.4**
baz=262,SNR=10
GCSA S **S** **11 39 10.3 +3.1**
baz=262
Q17K Contact Creek 47.21 40 P **P** **11 32 17.4 -0.5**
baz=269
Q17K S **S** **11 39 07.3 -0.5**
baz=269
SOEI Soe 47.21 202 P **P** **11 32 19.1 +0.7**
SOEI Soe 47.21 202 P **P** **11 32 17.1 -1.3**
SOEI Soe 47.21 202 P **P** **11 32 17.6 -0.8**
comp=Z,270nm,0.9s,comp=Z,4μm
N18K Kilae Creek 47.28 37 P **P** **11 32 19.8 +1.5**
baz=267,SNR=34
N18K S **S** **11 39 11.9 +3.3**
baz=267

KULM	**Kulim**	**47.30**	**241**	P	**P**	**11 32 17.9**	**-1.1**
KULM				IAmb	IAmb	11 32 29.5	
	comp=Z,99nm,1.3s						
KULM				IAMs_20	IAMs_20	11 50 24.5	
	comp=Z,2µm,21.0s						
G19K	**Purcell Mounta**	**47.32**	**29**	P	**P**	**11 32 19.5**	**+1.0**
G19K				IAmb	IAmb	11 32 22.4	
	comp=Z,72nm,1.0s						
G19K	**Purcell Mounta**	**47.32**	**29**	P	**P**	**11 32 19.0**	**+0.5**
	baz=261,SNR=87						
G19K				S	**S**	**11 39 11.2**	**+2.3**
	baz=261						
D19K	**Kuna River**	**47.36**	**26**	P	**P**	**11 32 19.2**	**+0.4**
D19K				IAMs_20	IAMs_20	11 53 07.4	
	comp=Z,3µm,21.0s						
D19K	**Kuna River**	**47.36**	**26**	P	**P**	**11 32 19.5**	**+0.7**
	baz=258						
D19K				S	**S**	**11 39 12.0**	**+2.5**
	baz=258						
M18K	**Stony River**	**47.36**	**36**	P	**P**	**11 32 20.4**	**+1.5**
	baz=266,SNR=47						
M18K				S	**S**	**11 39 12.5**	**+2.9**
	baz=266						
CHIR	**Chirikof Islan**	**47.38**	**43**	P	**P**	**11 32 19.6**	**+0.5**
CHIR	**Chirikof Islan**	**47.38**	**43**	P	**P**	**11 32 19.1**	**0.0**
	baz=272,SNR=6.0						
CHIR				S	**S**	**11 39 12.1**	**+2.1**
	baz=272						
SVW2	**Sparrevohn**	**47.45**	**36**	P	**P**	**11 32 21.6**	**+1.9**
SVW2	**Sparrevohn**	**47.45**	**36**	P	**P**	**11 32 20.2**	**+0.6**
E19K	**Redstone River**	**47.48**	**28**	P	**P**	**11 32 20.4**	**+0.6**
E19K	**Redstone River**	**47.48**	**28**	P	**P**	**11 32 20.8**	**+1.0**
	baz=260						
E19K				S	**S**	**11 39 12.5**	**+1.2**
	baz=260						
H19K	**Roundabout Mou**	**47.48**	**30**	P	**P**	**11 32 20.3**	**+0.5**
H19K				IAmb	IAmb	11 32 24.4	
	comp=Z,117nm,1.0s						
H19K	**Roundabout Mou**	**47.48**	**30**	P	**P**	**11 32 20.7**	**+0.9**
	baz=262,SNR=114						
H19K				S	**S**	**11 39 14.0**	**+2.7**
	baz=262						
UZB	**Uzynbulak**	**47.51**	**299**	*e*P	**P**	**11 32 20.0**	**-0.6**
	comp=Z,53nm,0.7s,baz=299						
UZB				*e*S	**S**	**11 39 12.7**	**0.0**
	baz=299						
UZB	**Uzynbulak**	**47.51**	**299**	*e*P	**P**	**11 32 19.9**	**-0.6**
UZB				*e*S	**S**	**11 39 12.6**	**0.0**
UZB				pmax	pmax		
	comp=Z,53nm,0.7s						
P18K	**Big Mountain,**	**47.57**	**39**	P	**P**	**11 32 21.4**	**+0.8**
	baz=269,SNR=8.0						
P18K				S	**S**	**11 39 12.6**	**-0.2**
	baz=269						
TDK	**Taldyqorghan**	**47.59**	**302**	*e*P	**P**	**11 32 20.8**	**-0.2**
	comp=Z,55nm,0.6s,baz=302						
TDK				LR	LR	11 52 45.8	
	comp=Z,1µm,14.8s,baz=302						
TDK	**Taldyqorghan**	**47.59**	**302**	*e*P	**P**	**11 32 20.7**	**-0.2**
TDK				pmax	pmax		
	comp=Z,55nm,0.6s						
TDK				MLR	MLR		
	comp=Z,1µm,15.0s						
O18K	**Koktuh Hills**	**47.59**	**38**	P	**P**	**11 32 22.1**	**+1.3**
	baz=268,SNR=10						
O18K				S	**S**	**11 39 15.3**	**+2.3**
	baz=268						
J19K	**Poorman**	**47.66**	**32**	P	**P**	**11 32 22.0**	**+0.8**
J19K				IAmb	IAmb	11 32 24.0	
	comp=Z,100nm,1.1s						
J19K	**Poorman**	**47.66**	**32**	P	**P**	**11 32 21.8**	**+0.6**
	baz=264,SNR=86						
J19K				S	**S**	**11 39 15.3**	**+1.5**
	baz=264						
Q18K	**Katmai Hardscr**	**47.67**	**40**	P	**P**	**11 32 21.2**	**-0.3**
	baz=270						
Q18K				S	**S**	**11 39 13.4**	**-1.0**
	baz=270						
KPKS	**Kokpek**	**47.69**	**300**	*e*P	**P**	**11 32 21.2**	**-0.7**
	comp=Z,39nm,0.8s,baz=300						
KPKS				*e*S	**S**	**11 39 15.8**	**+0.7**
	baz=300						
KPKS	**Kokpek**	**47.69**	**300**	*e*P	**P**	**11 32 21.1**	**-0.7**
KPKS				*e*S	**S**	**11 39 15.7**	**+0.7**
KPKS				pmax	pmax		
	comp=Z,39nm,0.8s						
WUS	**Wushi**	**47.80**	**297**	P	**P**	**11 32 23.5**	**+0.7**
TPRI	**Tanjung Pinang**	**47.81**	**233**	P	**P**	**11 32 22.5**	**-0.4**
	comp=Z,120nm,1.2s						
BATI	**Baumata**	**47.83**	**203**	P	**P**	**11 32 23.2**	**+0.2**
	comp=Z,311nm,1.1s,comp=Z,3µm						
L19K	**White Mountain**	**47.86**	**35**	P	**P**	**11 32 24.1**	**+1.3**
L19K				IAmb	IAmb	11 32 28.1	
	comp=Z,71nm,1.1s						
L19K	**White Mountain**	**47.86**	**35**	P	**P**	**11 32 23.7**	**+0.9**
	baz=267,SNR=52						
L19K				S	**S**	**11 39 20.4**	**+3.6**
	baz=267						
HNR	**Honiara**	**47.91**	**154**	P	**P**	**11 32 23.3**	**-0.3**
HNR	**Honiara**	**47.91**	**154**	P	**P**	**11 32 23.5**	**-0.1**
HNR	**Honiara**	**47.91**	**154**	LR	LR	11 51 06.2	
	comp=Z,43µm,22.0s,baz=334,slow=34						
HNR	**Honiara**	**47.91**	**154**	P	**P**	**11 32 23.5**	**-0.1**
HNR				pmax	pmax		
	comp=Z,375nm,1.2s						
D20K	**Etivluk River**	**47.94**	**26**	P	**P**	**11 32 24.2**	**+0.8**
	baz=259						
D20K				S	**S**	**11 39 20.6**	**+2.8**
	baz=259						
BTDF	**Bukit Timah Da**	**47.97**	**234**	P	**P**	**11 32 23.6**	**-0.6**
SATY	**Saty**	**47.97**	**299**	*e*P	**P**	**11 32 23.7**	**-0.4**
	comp=Z,42nm,0.9s,baz=299						
SATY				*e*S	**S**	**11 39 20.0**	**+0.9**
	baz=299						
SATY	**Saty**	**47.97**	**299**	*e*P	**P**	**11 32 23.7**	**-0.4**
SATY				*e*S	**S**	**11 39 20.0**	**+0.9**
SATY				pmax	pmax		
	comp=Z,42nm,0.9s						
N19K	**Bonanza Creek**	**47.98**	**37**	P	**P**	**11 32 25.2**	**+1.4**
	baz=268,SNR=14						
N19K				S	**S**	**11 39 21.8**	**+3.2**
	baz=268						
R18K	**Karluk**	**47.98**	**41**	P	**P**	**11 32 23.0**	**-0.7**
	baz=271						
R18K				S	**S**	**11 39 17.8**	**-0.7**
	baz=271						
F20K	**Avaraart Lake**	**47.99**	**28**	P	**P**	**11 32 24.5**	**+0.8**
F20K	**Avaraart Lake**	**47.99**	**28**	P	**P**	**11 32 24.3**	**+0.6**
	baz=261,SNR=26						
F20K				S	**S**	**11 39 18.9**	**+0.5**
	baz=261						
E20K	**Nigu River**	**48.02**	**27**	P	**P**	**11 32 24.8**	**+0.9**
	baz=260,SNR=67						
E20K				S	**S**	**11 39 21.1**	**+2.2**
	baz=260						
B20K	**Meade River**	**48.02**	**24**	P	**P**	**11 32 25.4**	**+1.6**
B20K	**Meade River**	**48.02**	**24**	P	**P**	**11 32 24.6**	**+0.8**
	baz=257,SNR=21						
B20K				S	**S**	**11 39 19.7**	**+0.9**
	baz=257						
O19K	**Port Alsworth**	**48.04**	**38**	P	**P**	**11 32 25.1**	**+0.9**
	baz=269						
O19K				S	**S**	**11 39 21.8**	**+2.5**
	baz=269						
M19K	**Big River Lodg**	**48.06**	**35**	P	**P**	**11 32 26.0**	**+1.6**
M19K	**Big River Lodg**	**48.06**	**35**	P	**P**	**11 32 25.7**	**+1.4**
	baz=267,SNR=20						
M19K				S	**S**	**11 39 22.5**	**+2.8**
	baz=267						
PRZ	**Przheval'sk**	**48.10**	**298**	P	**P**	**11 32 26.4**	**+1.2**
PRZ	**Przheval'sk**	**48.10**	**298**	P	**P**	**11 32 26.4**	**+1.2**
PRZ				pmax	pmax		
	comp=Z,392nm,0.9s						
H20K	**Anotleneega Mo**	**48.13**	**30**	P	**P**	**11 32 25.8**	**+1.0**
	baz=264,SNR=97						
H20K				S	**S**	**11 39 23.0**	**+2.5**
	baz=264						
KDU	**Kakadu**	**48.14**	**191**	P	**P**	**11 32 26.7**	**+1.3**
KDU	**Kakadu**	**48.14**	**191**	P	**P**	**11 32 25.1**	**-0.3**
	comp=Z,0.0nmcomp=Z,517nm,0.9s						
ARXS	**Arharly**	**48.14**	**301**	*i* P	**P**	**11 32 25.1**	**-0.2**
DRS	**Darwin Rock St**	**48.16**	**193**	P	**P**	**11 32 25.5**	**0.0**
SII	**Sitkinak Islan**	**48.16**	**42**	P	**P**	**11 32 26.7**	**+1.6**
SII	**Sitkinak Islan**	**48.16**	**42**	P	**P**	**11 32 25.4**	**+0.3**
SII	**Sitkinak Islan**	**48.16**	**42**	P	**P**	**11 32 25.4**	**+0.3**
	baz=272,SNR=9.9						
SII				S	**S**	**11 39 22.2**	**+1.1**
	baz=272						
I20K	**Naaghedeneel**	**48.23**	**31**	P	**P**	**11 32 25.8**	**+0.2**
I20K	**Naaghedeneel**	**48.23**	**31**	P	**P**	**11 32 27.0**	**+1.5**
	baz=265,SNR=39						
I20K				S	**S**	**11 39 25.8**	**+4.0**
	baz=265						
K20K	**Telida**	**48.29**	**33**	P	**P**	**11 32 27.1**	**+1.0**
K20K				IAmb	IAmb	11 32 48.5	
	comp=Z,68nm,0.8s						
K20K	**Telida**	**48.29**	**33**	P	**P**	**11 32 27.6**	**+1.5**
	baz=266,SNR=100						
K20K				S	**S**	**11 39 26.3**	**+3.4**
	baz=266						
J20K	**Nowinta River**	**48.32**	**32**	P	**P**	**11 32 27.1**	**+0.8**
J20K				IAmb	IAmb	11 32 49.7	
	comp=Z,100nm,1.1s						
J20K	**Nowinta River**	**48.32**	**32**	P	**P**	**11 32 27.5**	**+1.2**
	baz=266,SNR=92						
J20K				S	**S**	**11 39 26.0**	**+2.8**
	baz=266						
L20K	**Farewell, AK**	**48.33**	**34**	P	**P**	**11 32 27.6**	**+1.1**
	baz=267,SNR=46						
L20K				S	**S**	**11 39 28.1**	**+4.6**
	baz=267						
Q19K	**Cape Douglas,**	**48.38**	**39**	P	**P**	**11 32 26.2**	**-0.6**
	baz=271						
Q19K				S	**S**	**11 39 25.4**	**+1.2**
	baz=271						
BOK	**Bokaro**	**48.45**	**272**	*e*P	**P**	**11 32 26.7**	**-1.2**
BOK				IAmb	IAmb	11 32 30.0	
	comp=Z,107nm,0.4s						
A21K	**Barrow**	**48.49**	**22**	P	**P**	**11 32 28.3**	**+0.8**
	baz=257,SNR=16						
A21K				S	**S**	**11 39 26.8**	**+1.5**
	baz=257						
MTN	**Manton Dam**	**48.52**	**192**	P	**P**	**11 32 29.0**	**+0.7**
MTN	**Manton Dam**	**48.52**	**192**	P	**P**	**11 32 27.8**	**-0.5**
MTN	**Manton Dam**	**48.52**	**192**	P	**P**	**11 32 27.4**	**-0.9**
	comp=Z,341nm,0.9s						
P19K	**Oil Pt**	**48.59**	**38**	P	**P**	**11 32 29.0**	**+0.5**
	baz=270						
P19K				S	**S**	**11 39 29.0**	**+1.9**
	baz=270						
OHAK	**Old Harbor**	**48.62**	**42**	P	**P**	**11 32 28.7**	**0.0**
OHAK	**Old Harbor**	**48.62**	**42**	P	**P**	**11 32 28.6**	**0.0**
	baz=272						
OHAK				S	**S**	**11 39 26.7**	**-0.8**
	baz=272						
IMAR	**Indian Mountai**	**48.65**	**30**	P	**P**	**11 32 28.5**	**-0.3**
M20K	**Styx River**	**48.66**	**35**	P	**P**	**11 32 30.8**	**+1.7**
M20K	**Styx River**	**48.66**	**35**	P	**P**	**11 32 30.4**	**+1.4**
	baz=268,SNR=22						
M20K				S	**S**	**11 39 30.6**	**+2.4**
	baz=268						
C21K	**Knifeblade Rid**	**48.67**	**25**	P	**P**	**11 32 30.3**	**+1.4**
	baz=260,SNR=36						
C21K				S	**S**	**11 39 30.2**	**+2.2**
	baz=260						
TARG	**Taragay, Kyrgy**	**48.71**	**298**	P	**P**	**11 32 29.4**	**-0.7**
TARG	**Taragay, Kyrgy**	**48.71**	**298**	P	**P**	**11 32 29.4**	**-0.7**
TARG				pmax	pmax		
	comp=Z,232nm,0.8s						
PLAI	**Plampang**	**48.73**	**211**	P	**P**	**11 32 28.8**	**-1.2**
PLAI	**Plampang**	**48.73**	**211**	P	**P**	**11 32 28.8**	**-1.2**
	comp=Z,118nm,0.9s						
G21K	**Allakaket**	**48.80**	**29**	P	**P**	**11 32 30.7**	**+0.8**
G21K				IAmb	IAmb	11 32 34.4	
	comp=Z,82nm,1.1s						
G21K				IAMs_20	IAMs_20	11 52 41.5	
	comp=Z,2µm,19.0s						
G21K	**Allakaket**	**48.80**	**29**	P	**P**	**11 32 30.8**	**+0.9**
	baz=264,SNR=106						
G21K				S	**S**	**11 39 32.7**	**+2.8**
	baz=264						
CHKK	**Chushkaly**	**48.81**	**301**	*e*P	**P**	**11 32 30.0**	**-0.4**
	baz=300						
CHKK	**Chushkaly**	**48.81**	**301**	*e*P	**P**	**11 32 30.0**	**-0.4**
B21K	**Ikpikpuk River**	**48.81**	**25**	P	**P**	**11 32 31.2**	**+1.2**
B21K				IAMs_20	IAMs_20	11 54 23.8	
	comp=Z,2µm,19.0s						
B21K	**Ikpikpuk River**	**48.81**	**25**	P	**P**	**11 32 30.8**	**+0.9**
	baz=260,SNR=51						
B21K				S	**S**	**11 39 32.8**	**+2.9**
	baz=260						
COEN	**Coen**	**48.84**	**177**	P	**P**	**11 32 32.3**	**+1.5**
COEN	**Coen**	**48.84**	**177**	P	**P**	**11 32 31.5**	**+0.8**
COEN	**Coen**	**48.84**	**177**	P	**P**	**11 32 30.4**	**-0.3**
	comp=Z,261nm,1.2s						
E21K	**Killik River**	**48.86**	**27**	P	**P**	**11 32 30.8**	**+0.4**
E21K				IAmb	IAmb	11 32 34.4	
	comp=Z,94nm,0.9s						
E21K				IAMs_20	IAMs_20	11 53 54.0	
	comp=Z,2µm,21.0s						
E21K	**Killik River**	**48.86**	**27**	P	**P**	**11 32 31.0**	**+0.6**
	baz=262						
E21K				S	**S**	**11 39 31.6**	**+0.9**
	baz=262						
F21K	**Alatna River**	**48.88**	**28**	P	**P**	**11 32 31.2**	**+0.6**
F21K	**Alatna River**	**48.88**	**28**	P	**P**	**11 32 31.0**	**+0.4**
	baz=263,SNR=55						
F21K				S	**S**	**11 39 31.3**	**+0.2**
	baz=263						
O20K	**Slope Mountain**	**48.89**	**38**	P	**P**	**11 32 30.9**	**+0.1**
	baz=270						
O20K				S	**S**	**11 39 33.4**	**+1.9**
	baz=270						
MDOK	**Medeo**	**48.92**	**300**	*e*P	**P**	**11 32 31.3**	**-0.1**
	baz=300						
MDOK				*e*S	**S**	**11 39 33.3**	**+0.7**
	baz=300						
MDOK				LR	LR	11 53 51.8	
	comp=Z,2µm,16.8s,baz=300						
MDOK	**Medeo**	**48.92**	**300**	*e*P	**P**	**11 32 31.3**	**-0.1**
MDOK				*e*S	**S**	**11 39 33.2**	**+0.7**
MDOK				MLR	MLR		
	comp=Z,2µm,17.0s						
A22K	**Sinclair Lake**	**48.94**	**23**	P	**P**	**11 32 31.8**	**+0.9**
	baz=259						
A22K				S	**S**	**11 39 31.8**	**+0.1**
	baz=259						
KDAK	**Kodiak Island**	**48.98**	**41**	P	**P**	**11 32 31.4**	**+0.1**
	baz=273						
KDAK				S	**S**	**11 39 33.5**	**+1.0**
	baz=273						
KDAK	**Kodiak Island**	**48.98**	**41**	P	**P**	**11 32 31.7**	**+0.3**
KDAK				pP	**pP**	**11 32 44.2**	**+1.3**
H21K	**Melozitna Rive**	**49.00**	**30**	P	**P**	**11 32 31.7**	**+0.2**
H21K				IAmb	IAmb	11 32 34.7	
	comp=Z,96nm,1.2s						
H21K				IAMs_20	IAMs_20	11 51 25.9	
	comp=Z,2µm,22.0s						
H21K	**Melozitna Rive**	**49.00**	**30**	P	**P**	**11 32 32.6**	**+1.1**
	baz=266,SNR=96						
H21K				S	**S**	**11 39 35.3**	**+2.4**
	baz=266						
AAA	**Alma-Ata**	**49.01**	**300**	*e*P	**P**	**11 32 31.6**	**-0.3**
	baz=300						
AAA	**Alma-Ata**	**49.01**	**300**	*e*P	**P**	**11 32 31.6**	**-0.3**
TNSS	**Tian-Shan**	**49.02**	**299**	*e*P	**P**	**11 32 32.1**	**-0.5**
	baz=300						
TNSS	**Tian-Shan**	**49.02**	**299**	*e*P	**P**	**11 32 32.0**	**-0.5**
TWSI	**Taliwang, Sumb**	**49.03**	**212**	P	**P**	**11 32 30.5**	**-1.8**
	comp=Z,173nm,1.0s						
Q20K	**Shuyak Island**	**49.04**	**40**	P	**P**	**11 32 31.9**	**0.0**
	baz=272,SNR=11						
Q20K				S	**S**	**11 39 33.5**	**+0.1**
	baz=272						
N20K	**Mount Spurr**	**49.09**	**36**	P	**P**	**11 32 33.6**	**+1.3**
	baz=270,SNR=21						
N20K				S	**S**	**11 39 36.4**	**+2.1**
	baz=270						
SPCR	**Spurr Chakacha**	**49.09**	**36**	P	**P**	**11 32 29.3**	**-3.1**
	baz=270,SNR=20						
SPCR				S	**S**	**11 39 33.9**	**-0.4**
	baz=270						
CHUM	**Lake Minchumin**	**49.10**	**33**	P	**P**	**11 32 33.6**	**+1.3**
	baz=268,SNR=46						
CHUM				S	**S**	**11 39 36.5**	**+2.3**
	baz=268						
PPLA	**Purkeypile**	**49.13**	**34**	P	**P**	**11 32 34.1**	**+1.4**
	baz=268,SNR=48						
PPLA				S	**S**	**11 39 37.7**	**+2.8**
	baz=268						
PPBI	**Pangkal Pinang**	**49.16**	**228**	P	**P**	**11 32 32.9**	**-0.4**
	comp=Z,67nm,0.8s,comp=Z,5µm						
SPU	**Mount Spurr**	**49.17**	**36**	P	**P**	**11 32 33.3**	**+0.4**
SPU				IAmb	IAmb	11 32 35.9	
	comp=Z,107nm,1.2s						
CAST	**Castle Rocks**	**49.19**	**33**	P	**P**	**11 32 34.4**	**+1.4**
CAST				IAmb	IAmb	11 32 35.8	
	comp=Z,73nm,1.2s						
CAST	**Castle Rocks**	**49.19**	**33**	P	**P**	**11 32 34.0**	**+1.0**
	baz=268,SNR=59						
CAST				S	**S**	**11 39 37.2**	**+1.7**
	baz=268						
SRBI	**Singaraja**	**49.20**	**214**	P	**P**	**11 32 34.4**	**+0.9**
	comp=Z,119nm,1.1s						
B22K	**Teshekpuk Lake**	**49.34**	**24**	P	**P**	**11 32 35.3**	**+1.4**
B22K				IAMs_20	IAMs_20	11 53 38.6	
	comp=Z,3µm,21.0s						
B22K	**Teshekpuk Lake**	**49.34**	**24**	P	**P**	**11 32 34.5**	**+0.5**
	baz=261,SNR=17						
B22K				S	**S**	**11 39 38.8**	**+1.6**
	baz=261						
D22K	**Ayikyak River**	**49.38**	**26**	P	**P**	**11 32 35.0**	**+0.7**
D22K				IAmb	IAmb	11 32 39.0	
	comp=Z,112nm,0.9s						
D22K				IAMs_20	IAMs_20	11 52 44.9	
	comp=Z,4µm,22.0s						
D22K	**Ayikyak River**	**49.38**	**26**	P	**P**	**11 32 35.6**	**+1.2**
	baz=263,SNR=62						
D22K				S	**S**	**11 39 40.7**	**+2.6**
	baz=263						
HOM	**Homer**	**49.40**	**38**	P	**P**	**11 32 35.0**	**+0.4**
	baz=272						
HOM				S	**S**	**11 39 38.2**	**-0.2**
	baz=272						
ABJI	**Asem Bagus**	**49.40**	**215**	P	**P**	**11 32 32.8**	**-2.3**
	comp=Z,109nm,1.0s						
F22K	**John River**	**49.42**	**28**	P	**P**	**11 32 35.8**	**+1.1**
	baz=264						
F22K				S	**S**	**11 39 41.4**	**+2.9**
	baz=264						
SKT	**Skwentna**	**49.42**	**35**	P	**P**	**11 32 33.1**	**-1.6**
SKT	**Skwentna**	**49.42**	**35**	P	**P**	**11 32 35.2**	**+0.4**
	baz=270,SNR=29						
SKT				S	**S**	**11 39 40.4**	**+1.7**
	baz=270						
GRJI	**Gresik**	**49.50**	**218**	P	**P**	**11 32 35.4**	**-0.5**
	comp=Z,308nm,1.0s						
H22K	**Ishtalitna Cre**	**49.61**	**30**	P	**P**	**11 32 37.9**	**+1.7**
	baz=267,SNR=104						
H22K				S	**S**	**11 39 45.4**	**+4.1**
	baz=267						
CAPN	**Captain Cook N**	**49.61**	**37**	P	**P**	**11 32 36.8**	**+0.6**
	baz=271						
E22K	**Anaktuvuk Pass**	**49.62**	**27**	P	**P**	**11 32 37.1**	**+0.9**
E22K				IAmb	IAmb	11 32 40.6	
	comp=Z,120nm,0.9s						
E22K				IAMs_20	IAMs_20	11 54 31.1	
	comp=Z,3µm,20.0s						
E22K	**Anaktuvuk Pass**	**49.62**	**27**	P	**P**	**11 32 37.3**	**+1.1**
	baz=264						
E22K				S	**S**	**11 39 43.0**	**+1.6**
	baz=264						
G22K	**Bettles**	**49.63**	**29**	P	**P**	**11 32 36.9**	**+0.7**
	baz=266						
G22K				S	**S**	**11 39 43.5**	**+2.1**
	baz=266						
BPAW	**Bear Paw Mtn.**	**49.70**	**32**	P	**P**	**11 32 38.0**	**+1.1**
BPAW				IAmb	IAmb	11 33 02.5	
	comp=Z,51nm,1.0s						
BPAW	**Bear Paw Mtn.**	**49.70**	**32**	P	**P**	**11 32 38.0**	**+1.1**
	baz=268,SNR=44						
BPAW				S	**S**	**11 39 45.1**	**+2.5**
	baz=268						
KTH	**Kantishna Hill**	**49.71**	**33**	P	**P**	**11 32 38.2**	**+1.1**
KTH				IAmb	IAmb	11 32 40.2	
	comp=Z,139nm,1.2s						
ULHL	**Ulahol**	**49.71**	**299**	P	**P**	**11 32 39.6**	**+2.1**
	SNR=26						
SUA	**Susitna One**	**49.80**	**36**	P	**P**	**11 32 37.8**	**+0.1**
	baz=271,SNR=24						
SUA				S	**S**	**11 39 44.8**	**+0.6**
	baz=271						
MLY	**Manley**	**49.83**	**31**	P	**P**	**11 32 39.2**	**+1.3**
MLY				IAmb	IAmb	11 32 42.7	
	comp=Z,93nm,0.9s						
MLY	**Manley**	**49.83**	**31**	P	**P**	**11 32 39.4**	**+1.4**
	baz=268,SNR=224						
MLY				S	**S**	**11 39 47.6**	**+3.1**
	baz=268						
BRSE	**Bradley Lake S**	**49.85**	**38**	P	**P**	**11 32 37.6**	**-0.4**
	baz=272						
BRSE				S	**S**	**11 39 45.2**	**+0.4**
	baz=272						
BOOM	**Boomskoye usch**	**49.87**	**299**	P	**P**	**11 32 38.5**	**-0.2**
BOOM				IAmb	IAmb	11 32 56.8	
	comp=Z,126nm,1.1s						
BOOM	**Boomskoye usch**	**49.87**	**299**	P	**P**	**11 32 38.5**	**-0.2**
BOOM				pmax	pmax		
	comp=Z,126nm,1.1s						
CUT	**Chulitna**	**50.01**	**35**	P	**P**	**11 32 39.2**	**+0.1**
CUT				IAmb	IAmb	11 33 18.0	
	comp=Z,136nm,1.1s						
CUT	**Chulitna**	**50.01**	**35**	P	**P**	**11 32 39.5**	**+0.3**
	baz=271,SNR=8.1						
CUT				S	**S**	**11 39 46.9**	**+0.1**
	baz=271						
TKM2	**Tokmak 2**	**50.01**	**300**	P	**P**	**11 32 40.0**	**+0.2**
	SNR=147						
TKM2	**Tokmak 2**	**50.01**	**300**	P	**P**	**11 32 39.1**	**-0.7**
LHMI	**Lhok Sumawe**	**50.03**	**244**	P	**P**	**11 32 40.5**	**+0.6**
JAGI	**Jajag, Banyuwa**	**50.03**	**215**	P	**P**	**11 32 40.8**	**+0.9**
JAGI	**Jajag, Banyuwa**	**50.03**	**215**	P	**P**	**11 32 38.0**	**-1.9**
JAGI				IAmb	IAmb	11 32 41.8	
	comp=Z,86nm,1.0s						
JAGI	**Jajag, Banyuwa**	**50.03**	**215**	P	**P**	**11 32 37.4**	**-2.5**
	comp=Z,74nm,1.0s						
M22K	**Willow**	**50.09**	**35**	P	**P**	**11 32 39.5**	**-0.2**
M22K				IAmb	IAmb	11 33 14.8	
	comp=Z,114nm,0.9s						
M22K	**Willow**	**50.09**	**35**	P	**P**	**11 32 39.7**	**-0.1**
	baz=271,SNR=18						
M22K				S	**S**	**11 39 48.0**	**+0.1**
	baz=271						
D23K	**Nanushuk River**	**50.11**	**26**	P	**P**	**11 32 41.0**	**+1.1**
	baz=265,SNR=24						
D23K				S	**S**	**11 39 51.2**	**+3.1**
	baz=265						
COLD	**Coldfoot**	**50.16**	**28**	P	**P**	**11 32 41.3**	**+1.0**
	baz=267						
COLD				S	**S**	**11 39 53.6**	**+4.7**
	baz=267						
G23K	**Bananza Creek**	**50.20**	**29**	P	**P**	**11 32 41.6**	**+0.9**
G23K				IAmb	IAmb	11 32 45.1	
	comp=Z,58nm,1.0s						
G23K	**Bananza Creek**	**50.20**	**29**	P	**P**	**11 32 41.3**	**+0.7**
	baz=267,SNR=74						
G23K				S	**S**	**11 39 51.9**	**+2.4**
	baz=267						
C23K	**Itkillik River**	**50.22**	**25**	P	**P**	**11 32 41.8**	**+1.1**
C23K				IAMs_20	IAMs_20	11 55 48.0	
	comp=Z,2µm,19.0s						
C23K	**Itkillik River**	**50.22**	**25**	P	**P**	**11 32 41.6**	**+0.9**
	baz=264,SNR=68						
C23K				S	**S**	**11 39 52.1**	**+2.4**
	baz=264						
RC01	**Rabbit Creek A**	**50.29**	**36**	P	**P**	**11 32 41.9**	**+0.5**
RC01				IAmb	IAmb	11 33 19.1	
	comp=Z,129nm,1.1s						
RC01				IAMs_20	IAMs_20	11 53 59.1	
	comp=Z,3µm,20.0s						
RC01	**Rabbit Creek A**	**50.29**	**36**	P	**P**	**11 32 41.3**	**0.0**
	baz=272,SNR=21						
RC01				S	**S**	**11 39 49.5**	**-1.3**

		baz=266,SNR=92						
E23K					S	S	11 39 54.7	+1.8
		baz=266						
SEW	Seward		50.48	38	P	P	11 32 42.6	-0.1
		baz=273,SNR=16						
SEW					S	S	11 39 54.0	+0.6
		baz=273						
TOLK	Toolik Lake Re		50.49	26	P	P	11 32 43.9	+1.1
TOLK					IAmb	IAmb	11 32 47.2	
		comp=Z,84nm,1.1s						
TOLK					IAMs_20	IAMs_20	11 54 48.0	
		comp=Z,2μm,21.0s						
TOLK	Toolik Lake Re		50.49	26	P	P	11 32 43.9	+1.1
		baz=266,SNR=34						
TOLK					S	S	11 39 56.1	+2.6
		baz=266						
NEA2	Nenana		50.54	32	P	P	11 32 44.2	+1.0
NEA2	Nenana		50.54	32	P	P	11 32 44.2	+1.0
		baz=270,SNR=109						
NEA2					S	S	11 39 57.0	+2.7
		baz=270						
KBK	Karagaybulak		50.54	299	P	P	11 32 43.7	-0.1
		SNR=70						
BKNI	Bangkinang		50.57	236	P	P	11 32 44.2	+0.2
BKNI	Bangkinang		50.57	236	P	P	11 32 42.4	-1.6
PMR	Palmer		50.57	36	P	P	11 32 43.8	+0.4
PMR	Palmer		50.57	36	P	P	11 32 43.2	-0.2
PMR					IAmb	IAmb	11 32 47.3	
		comp=Z,96nm,1.0s						
PMR	Palmer		50.57	36	P	P	11 32 43.4	0.0
		baz=272,SNR=46						
PMR					S	S	11 39 56.7	+2.1
		baz=272						
PMR	Palmer		50.57	36	P	P	11 32 43.2	-0.2
PMR					pmax	pmax		
		comp=Z,96nm,1.0s						
SGDS	Sogindy		50.57	301	*e*P	P	11 32 43.3	-0.5
		baz=300						
SGDS	Sogindy		50.57	301	*e*P	P	11 32 43.3	-0.5
CHMS	Chumysh		50.59	300	P	P	11 32 43.5	-0.5
		SNR=23						
BTLS	Baital		50.60	303	*e*P	P	11 32 44.0	0.0
		comp=Z,40nm,0.7s,baz=303						
BTLS					*e*S	S	11 39 55.9	+0.2
		baz=303						
BTLS	Baital		50.60	303	*e*P	P	11 32 44.0	0.0
BTLS					*e*S	S	11 39 55.8	+0.2
BTLS					pmax	pmax		
		comp=Z,40nm,0.7s						
MCK	McKinley		50.60	33	P	P	11 32 43.9	+0.2
		baz=271,SNR=28						
MCK					S	S	11 39 56.4	+1.2
		baz=271						
MCK	McKinley		50.60	33	P	P	11 32 44.0	+0.2
KSH	Kashi		50.63	295	P	P	11 32 47.5	+3.0
KSH					S	S	11 39 59.8	+3.3
KSH					pmax	pmax		
		comp=Z,54nm,0.8s						
KSH					pmax	pmax		
		comp=Z,940nm,3.6s						
KSH					LR	LR		
		comp=Z,4μm,22.7s						
KSH					LR	LR		
		comp=Z,4μm,19.9s						
KSH					LR	LR		
		comp=Z,2μm,22.3s						
RND	Reindeer		50.64	33	P	P	11 32 44.2	+0.1
RND					IAmb	IAmb	11 32 46.2	
		comp=Z,148nm,1.2s						
RND	Reindeer		50.64	33	P	P	11 32 44.2	+0.1
RND					pmax	pmax		
		comp=Z,148nm,1.2s						
GHO	Glory Hole Cre		50.66	35	P	P	11 32 44.5	+0.3
GHO					IAmb	IAmb	11 32 46.0	
		comp=Z,128nm,1.0s						
PTH	Pithoragarh		50.68	282	*e*P	P	11 32 44.7	-0.3
LGTI	Lohaghat		50.69	282	*e*P	P	11 32 44.9	+0.1
USP	Ospenovka		50.71	300	P	P	11 32 44.4	-0.5
		SNR=41						
PWJI	Pagerwojo		50.79	218	P	P	11 32 44.0	-1.6
		comp=Z,141nm,0.7s						
D24K	Happy Valley		50.79	26	P	P	11 32 46.3	+1.3
D24K					IAMs_20	IAMs_20	11 53 53.1	
		comp=Z,4μm,22.0s						
D24K	Happy Valley		50.79	26	P	P	11 32 45.9	+0.9
		baz=266,SNR=68						
D24K					S	S	11 40 00.4	+2.8
		baz=266						
WAT1	Susitna Watana		50.79	34	P	P	11 32 45.2	0.0
		baz=272						
WAT1					S	S	11 39 57.9	0.0
		baz=272						
E24K	Your Creek		50.86	27	P	P	11 32 46.4	+0.8
E24K					IAmb	IAmb	11 33 24.4	
		comp=Z,80nm,0.9s						
E24K					IAMs_20	IAMs_20	11 55 20.8	
		comp=Z,2μm,20.0s						
E24K	Your Creek		50.86	27	P	P	11 32 46.6	+1.0
		baz=268,SNR=65						
E24K					S	S	11 40 01.9	+3.2
		baz=268						
AAK	Ala-Archa		50.87	300	P	P	11 32 45.9	-0.3
AAK					IAmb	IAmb	11 32 59.2	
		comp=Z,80nm,0.9s						
AAK	Ala-Archa		50.87	300	*i* P	P	11 32 47.3	+1.1
		SNR=14						
AAK	Ala-Archa		50.87	300	LR	LR	11 55 39.3	
		comp=Z,5μm,19.8s,baz=75,slow=38						
AAK	Ala-Archa		50.87	300	P	P	11 32 47.4	+1.1
AAK					P	P	11 32 47.4	+1.1
AAK	Ala-Archa		50.87	300	*ce*P	P	11 32 46.6	+0.4
AAK					pmax	pmax		
		comp=Z,44nm,0.8s						
AAK					MLR	MLR		
		comp=Z,5μm,21.0s						
AAK	Ala-Archa		50.87	300	P	P	11 32 46.7	+0.5
C24K	Franklin Bluff		50.87	25	P	P	11 32 46.4	+0.8
		baz=266						
C24K					S	S	11 40 00.5	+1.8
		baz=266						
KNK	Knik Glacier		50.90	36	P	P	11 32 46.3	+0.3
KNK					IAMs_20	IAMs_20	11 54 29.0	
		comp=Z,2μm,21.0s						
KNK	Knik Glacier		50.90	36	P	P	11 32 46.5	+0.5
		baz=273,SNR=28						
KNK					S	S	11 40 00.7	+1.3
		baz=273						
MDM	Murphy Dome		50.90	31	P	P	11 32 47.0	+1.1
SML	Sawmill		50.94	35	P	P	11 32 46.9	+0.6
SML					IAmb	IAmb	11 32 50.2	
		comp=Z,84nm,0.8s						
SML					IAMs_20	IAMs_20	11 53 45.1	
		comp=Z,2μm,21.0s						
SML	Sawmill		50.94	35	P	P	11 32 46.9	+0.6
		baz=273,SNR=47						
SML					S	S	11 40 03.0	+3.1
		baz=273						
SML	Sawmill		50.94	35	P	P	11 32 46.9	+0.6
SML					pmax	pmax		
		comp=Z,84nm,0.8s						
UCH	Uchtor		50.96	299	P	P	11 32 48.1	+0.8
		SNR=56						
H24K	Noodor Dome		51.05	30	P	P	11 32 48.6	+1.5
H24K					IAmb	IAmb	11 32 49.9	
		comp=Z,97nm,1.1s						
H24K	Noodor Dome		51.05	30	P	P	11 32 48.5	+1.5
		baz=270,SNR=108						
H24K					S	S	11 40 03.3	+2.0
		baz=270						
COLA	College		51.06	31	P	P	11 32 48.1	+1.0
COLA	College		51.06	31	P	P	11 32 47.3	+0.2
COLA					IAmb	IAmb	11 32 51.9	
		comp=Z,101nm,0.8s						
COLA	College		51.06	31	P	P	11 32 48.1	+1.0
		baz=271						
COLA					S	S	11 40 01.4	0.0
		baz=271						
COLA	College		51.06	31	*d i* P	P	11 32 47.9	+0.8
COLA					pmax	pmax		
		comp=Z,90nm,0.9s						
COLA	College		51.06	31	P	P	11 32 47.9	+0.8
COLA					pP	pP	11 32 59.0	+0.3
F24K	Squaw Lake		51.06	28	P	P	11 32 48.2	+1.0
F24K					IAMs_20	IAMs_20	11 53 30.3	
		comp=Z,2μm,21.0s						
F24K	Squaw Lake		51.06	28	P	P	11 32 48.2	+1.0
		baz=268,SNR=15						
F24K					S	S	11 40 03.4	+1.9
		baz=268						
MLSI	Meulaboh, Aceh		51.07	243	P	P	11 32 48.0	+0.2
		comp=Z,77nm,0.7s						
CCB	Clear Creek Bu		51.08	32	P	P	11 32 47.1	-0.2
ALBI	Allahabad		51.12	276	*e*P	P	11 32 46.1	-2.0
WAT6	Susitna Watana		51.18	34	P	P	11 32 48.3	+0.1
		baz=273,SNR=42						
WAT6					S	S	11 40 02.8	-0.7
		baz=273						
ARLS	Aral		51.19	299	P	P	11 32 49.3	+0.6
ARLS					pmax	pmax		
		comp=Z,128nm,1.1s						
G24K	Hadweenzic Riv		51.21	29	P	P	11 32 49.9	+1.6
		baz=270,SNR=80						
G24K					S	S	11 40 06.6	+3.0
		baz=270						
M23K	Glacier View		51.23	35	P	P	11 32 48.7	+0.3
		baz=273,SNR=28						
M23K					S	S	11 40 05.1	+1.3
		baz=273						
POKR	Poker Plat Res		51.23	31	P	P	11 32 49.6	+1.2
POKR	Poker Plat Res		51.23	31	P	P	11 32 49.6	+1.2
		baz=271,SNR=291						
POKR					S	S	11 40 06.2	+2.4
		baz=271						
DHY	Denali Highway		51.32	34	P	P	11 32 49.1	-0.2
DHY					IAmb	IAmb	11 33 11.1	
		comp=Z,135nm,1.4s						
DHY	Denali Highway		51.32	34	P	P	11 32 49.2	-0.1
		baz=273,SNR=33						
DHY					S	S	11 40 06.4	+1.0
		baz=273						
UGM	Wanagama		51.35	220	P	P	11 32 49.5	-0.4
UGM	Wanagama		51.35	220	P	P	11 32 48.1	-1.8
EKS2	Erkin-Say		51.37	300	P	P	11 32 50.1	+0.1
		SNR=10						
SCM	Sheep Creek Mo		51.41	35	IAMs_20	IAMs_20	11 54 40.6	
		comp=Z,2μm,21.0s						
SCM	Sheep Creek Mo		51.41	35	P	P	11 32 50.4	+0.5
		baz=274,SNR=73						
SCM					S	S	11 40 08.0	+1.5
		baz=274						
BVA0	Borovoye Array		51.42	313	*i* P	P	11 32 46.9	-3.1
HDA	Harding Lake		51.46	32	P	P	11 32 50.2	+0.1
HDA					IAmb	IAmb	11 32 51.9	
		comp=Z,121nm,1.0s						
HDA	Harding Lake		51.46	32	P	P	11 32 49.9	-0.2
		baz=272,SNR=84						
HDA					S	S	11 40 07.9	+0.9
		baz=272						
HDA					S	S	11 40 07.9	+0.9
		baz=272						
IL31			51.48	31	P	P	11 32 50.0	-0.1
ILAR	Eielson Array		51.48	31	P	P	11 32 50.1	-0.1
		comp=Z,98nm,0.9s,baz=270,slow=5.7,SNR=370						
ILAR					PKP2bc		12 03 46.3	
		comp=Z,0.3nm,0.6s,baz=14,slow=0.4,SNR=4.0						
		comp=Z,98nm,0.9s						
BRVK	Borovoye		51.48	313	P	P	11 32 49.8	-0.7
BRVK					IAmb	IAmb	11 32 56.2	
		comp=Z,160nm,1.4s						
BRVK	Borovoye		51.48	313	P	P	11 32 51.7	+1.3
BRVK					P	P	11 32 51.7	+1.3
BRVK	Borovoye		51.48	313	*ce*P	P	11 32 48.8	-1.6
BRVK					pmax	pmax		
		comp=Z,176nm,2.5s						
BRVK					MLR	MLR		
		comp=Z,3μm,18.0s						
BRVK	Borovoye		51.48	313	P	P	11 32 50.4	0.0
P23K	Montague Islan		51.51	38	P	P	11 32 51.2	+0.6
		baz=275,SNR=24						
P23K					S	S	11 40 08.8	+1.0
		baz=275						
GLI	Glacier Island		51.59	36	P	P	11 32 51.5	+0.4
GLI					IAmb	IAmb	11 32 56.7	
		comp=Z,88nm,1.0s						
GLI	Glacier Island		51.59	36	P	P	11 32 51.5	+0.4
		baz=275,SNR=10						
GLI					S	S	11 40 11.4	+2.5
		baz=275						
D25K	Kavik River		51.67	26	P	P	11 32 52.6	+0.9
D25K					IAmb	IAmb	11 33 28.0	
		comp=Z,74nm,0.8s						
D25K					IAMs_20	IAMs_20	11 54 20.4	
		comp=Z,3μm,22.0s						
D25K	Kavik River		51.67	26	P	P	11 32 52.6	+0.9
		baz=268,SNR=73						
D25K					S	S	11 40 10.5	+0.6
		baz=268						
KPJI	Karang Pucung		51.72	222	P	P	11 32 51.4	-1.2
		comp=Z,125nm,0.8s						
G25K	Bearman Lake		51.76	29	P	P	11 32 54.2	+1.9
		baz=271,SNR=62						
G25K					S	S	11 40 14.2	+3.2
		baz=271						
PDSI	Padang		51.86	235	P	P	11 32 54.2	+0.4
H25L	Birch Creek		51.88	30	P	P	11 32 55.1	+1.9
		baz=271						
H25L					S	S	11 40 17.6	+5.0
		baz=271						
FID	Port Fidalgo		51.90	37	P	P	11 32 53.4	-0.1
FID					IAmb	IAmb	11 33 31.8	
		comp=Z,179nm,1.3s						
FID					IAMs_20	IAMs_20	11 54 58.2	
		comp=Z,2μm,20.0s						
HIN	Hinchinbrook I		51.92	37	P	P	11 32 54.2	+0.5
HIN					IAMs_20	IAMs_20	11 54 19.2	
		comp=Z,2μm,22.0s						
F25K	Christian Rive		51.93	28	P	P	11 32 55.4	+1.8
		baz=270,SNR=69						
F25K					S	S	11 40 16.9	+3.5
		baz=270						
M24K	Tolsona, Glenn		51.94	35	P	P	11 32 55.1	+1.3
M24K	Tolsona, Glenn		51.94	35	P	P	11 32 54.9	+1.1
		baz=274,SNR=29						
M24K					S	S	11 40 17.0	+3.3
		baz=274						
E25K	Arctic Village		51.95	27	P	P	11 32 55.4	+1.6
E25K					IAmb	IAmb	11 33 23.5	
		comp=Z,84nm,0.9s						
E25K					IAMs_20	IAMs_20	11 54 42.8	
		comp=Z,2μm,22.0s						
E25K	Arctic Village		51.95	27	P	P	11 32 55.4	+1.6
		baz=270,SNR=86						
E25K					S	S	11 40 16.6	+2.9
		baz=270						
K24K	Donnelly Dome		52.00	33	P	P	11 32 54.4	+0.1
		baz=273,SNR=48						
K24K					S	S	11 40 15.0	+0.5
		baz=273						
PRP	Porcupine Dome		52.02	31	P	P	11 32 54.8	+0.3
PRP	Porcupine Dome		52.02	31	P	P	11 32 55.2	+0.7
		baz=272,SNR=76						
PRP					S	S	11 40 18.2	+3.2
		baz=272						
LEM	Lembang		52.03	223	P	P	11 32 53.9	-1.2
LEM					pmax	pmax		
		comp=Z,134nm,1.4s						
Q23K	Middleton Isla		52.10	38	P	P	11 32 55.9	+1.0
		baz=276						
Q23K					S	S	11 40 18.7	+3.0
		baz=276						
KLU	Klutina		52.10	36	P	P	11 32 55.8	+0.7
KLU					IAmb	IAmb	11 32 59.3	
		comp=Z,84nm,0.9s						
KLU	Klutina		52.10	36	P	P	11 32 55.8	+0.7
		baz=275,SNR=48						
KLU					S	S	11 40 19.8	+3.7
		baz=275						
MID	Middleton Isla		52.10	38	P	P	11 32 56.1	+1.2
MID	Middleton Isla		52.10	38	P	P	11 32 55.5	+0.6
MID					IAmb	IAmb	11 33 07.1	
		comp=Z,126nm,1.0s						
MID	Middleton Isla		52.10	38	P	P	11 32 55.5	+0.6
MID					pmax	pmax		
		comp=Z,125nm,1.0s						
FYU	Fort Yukon		52.11	29	P	P	11 32 56.0	+1.1
DDI	Dehra Dun		52.11	283	*e*P	P	11 32 54.8	-0.8
DDI					IAmb	IAmb	11 32 58.4	
		comp=Z,110nm,0.5s						
J25K	Salcha River,		52.13	32	P	P	11 32 54.3	-0.9
J25K					IAMs_20	IAMs_20	11 52 33.7	
		comp=Z,2μm,22.0s						
J25K	Salcha River,		52.13	32	P	P	11 32 54.5	-0.7
		baz=273,SNR=24						
J25K					S	S	11 40 15.9	-0.4
		baz=273						
C26K	Camden Bay		52.20	25	P	P	11 32 57.2	+1.7
		baz=269,SNR=9.5						
C26K					S	S	11 40 19.9	+3.1
		baz=269						
PAX	Paxson		52.20	34	P	P	11 32 56.1	+0.4
		baz=274,SNR=63						
PAX					S	S	11 40 18.9	+1.6
		baz=274						
GSI	Gunungsitoli		52.26	240	P	P	11 32 55.2	-1.5
GSI	Gunungsitoli		52.26	240	P	P	11 32 55.1	-1.7
GSI	Gunungsitoli		52.26	240	P	P	11 32 54.8	-1.9
		comp=Z,386nm,1.2s						
EYAK	Cordova Ski Ar		52.28	37	P	P	11 32 58.0	+1.8
EYAK	Cordova Ski Ar		52.28	37	P	P	11 32 57.1	+0.9
		baz=276,SNR=39						
EYAK					S	S	11 40 20.5	+2.3
		baz=276						
DBJI	Dramaga		52.30	224	P	P	11 32 56.9	-0.1
		comp=Z,96nm,1.5s						
ARSB	Arslanbob		52.31	298	P	P	11 32 56.6	-0.3
ARSB					IAmb	IAmb	11 33 13.1	
		comp=Z,80nm,1.0s						
ARSB	Arslanbob		52.31	298	P	P	11 32 56.7	-0.3
ARSB					pmax	pmax		
		comp=Z,80nm,1.0s						
BMAR	Burnt Mountain		52.34	28	P	P	11 32 58.2	+1.6
HARP	HAARP		52.39	34	P	P	11 32 58.1	+1.0
		baz=275,SNR=32						
HARP					S	S	11 40 23.4	+3.6
		baz=275						
F26K	Sheenjek River		52.50	28	P	P	11 32 59.8	+1.9
		baz=272,SNR=132						
F26K					S	S	11 40 26.7	+5.5
		baz=272						
SMLA	Simla		52.51	285	*e*P	P	11 32 57.2	-1.2
SMLA					IAmb	IAmb	11 33 01.1	
		comp=Z,212nm,1.0s						
C27K	Jago River		52.61	25	P	P	11 33 00.0	+1.4
		baz=271,SNR=46						
C27K					S	S	11 40 25.0	+2.4
		baz=271						
G26K	Porcupine Rive		52.67	29	P	P	11 33 00.8	+1.7
		baz=273,SNR=89						
G26K					S	S	11 40 29.5	+6.1
		baz=273						
LWLI	Liwa		52.67	228	P	P	11 32 58.9	-0.9
N25K	Chitina, Valde		52.73	35	P	P	11 33 00.8	+1.1
N25K					IAMs_20	IAMs_20	11 58 48.4	
		comp=Z,2μm,18.0s						
N25K	Chitina, Valde		52.73	35	P	P	11 33 00.7	+1.1
		baz=276,SNR=21						
N25K					S	S	11 40 27.4	+2.8
		baz=276						
PBSI	Pulau Batu		52.73	238	P	P	11 32 59.6	-0.6
		comp=Z,164nm,1.5s						
DHRM	DHARAMSHALA		52.77	286	*e*P	P	11 32 59.4	-1.2
DHRM					IAmb	IAmb	11 33 04.2	
		comp=Z,428nm,1.1s						
SCRK	Sand Creek		52.78	32	P	P	11 33 00.2	+0.1
SCRK					IAmb	IAmb	11 33 02.3	
		comp=Z,142nm,1.1s						
SCRK	Sand Creek		52.78	32	P	P	11 33 00.6	+0.5
		baz=275,SNR=210						
SCRK					S	S	11 40 25.7	+0.4
		baz=275						
BMRM	Bremner River		52.79	36	P	P	11 33 01.2	+1.1
		baz=277,SNR=45						
BMRM					S	S	11 40 30.4	+5.0
		baz=277						
KASI	Kota Agung		52.80	227	P	P	11 32 58.4	-2.3
		comp=Z,157nm,1.1s						
RAGM	Ragged Mountai		52.83	37	P	P	11 33 01.6	+1.2
RAGM					IAmb	IAmb	11 33 05.0	
		comp=Z,111nm,1.0s						
J26L	Joseph Creek		52.92	32	P	P	11 33 00.2	-0.9
J26L					IAMs_20	IAMs_20	11 52 58.4	
		comp=Z,2μm,22.0s						
J26L	Joseph Creek		52.92	32	P	P	11 33 00.7	-0.4
		baz=275,SNR=73						
J26L					S	S	11 40 26.8	-0.4
		baz=275						
MENT	Mentasta		52.99	34	P	P	11 33 03.3	+1.7
MENT	Mentasta		52.99	34		P	11 33 02.9	+1.3
KAIM	Kayak Island		53.01	38	P	P	11 33 02.5	+0.8
KAIM					IAmb	IAmb	11 33 06.4	
		comp=Z,95nm,0.8s						
KAIM	Kayak Island		53.01	38	P	P	11 33 03.0	+1.3
		baz=278,SNR=12						
KAIM					S	S	11 40 31.5	+3.2
		baz=278						
I26K	Coal Creek Min		53.03	31	P	P	11 33 01.3	-0.4
I26K	Coal Creek Min		53.03	31	P	P	11 33 01.3	-0.4
		baz=274						
I26K					S	S	11 40 31.1	+2.7
		baz=274						
MTSU	Mount Surprise		53.05	176	P	P	11 33 05.1	+2.7
GLB	Gilahina Butte		53.12	36	P	P	11 33 03.7	+1.1
GLB					IAmb	IAmb	11 33 05.6	
		comp=Z,77nm,1.2s						
GLB					IAMs_20	IAMs_20	11 55 20.8	
		comp=Z,2μm,21.0s						
L26K	Log Cabin Wild		53.16	34	IAMs_20	IAMs_20	11 57 50.7	
		comp=Z,2μm,19.0s						
L26K	Log Cabin Wild		53.16	34		P	11 33 04.0	+1.3
L26K	Log Cabin Wild		53.16	34	P	P	11 33 04.1	+1.3
		baz=276,SNR=128						
L26K					S	S	11 40 33.6	+3.3
		baz=276						
THN	Thein Dam		53.16	287	*e*P	P	11 33 03.7	+0.5
SUCK	Suckling Hills		53.31	37	IAMs_20	IAMs_20	11 51 39.9	
		comp=Z,3μm,21.0s						
VRDI	Verde Repeater		53.32	36	P	P	11 33 05.2	+1.0
VRDI					IAmb	IAmb	11 33 08.4	
		comp=Z,67nm,0.9s						
VRDI					IAMs_20	IAMs_20	11 56 05.0	
		comp=Z,2μm,21.0s						
M26K	Nabesna, AK		53.39	34	P	P	11 33 05.5	+1.0
M26K					IAmb	IAmb	11 33 31.6	
		comp=Z,99nm,1.1s						
M26K					IAMs_20	IAMs_20	11 56 37.8	
		comp=Z,2μm,21.0s						
M26K	Nabesna, AK		53.39	34	P	P	11 33 05.5	+1.0
		baz=277,SNR=50						
M26K					S	S	11 40 36.8	+3.3
		baz=277						
NDI	New Delhi		53.43	282	*e*P	P	11 33 04.4	-0.8
E27K	Coleen River		53.44	27	P	P	11 33 05.2	+0.5
E27K					IAmb	IAmb	11 33 09.6	
		comp=Z,62nm,0.8s						
E27K					IAMs_20	IAMs_20	11 56 54.0	
		comp=Z,2μm,20.0s						
E27K	Coleen River		53.44	27	P	P	11 33 06.1	+1.3
		baz=274,SNR=73						
E27K					S	S	11 40 36.6	+2.7
		baz=274						
MCARA	McCarthy VSAT		53.50	36	P	P	11 33 05.6	+0.3
MCARA					IAMs_20	IAMs_20	11 54 53.9	
		comp=Z,2μm,22.0s						
MCARA	McCarthy VSAT		53.50	36	P	P	11 33 06.5	+1.3
		baz=278,SNR=36						
MCARA					S	S	11 40 39.1	+4.2
		baz=278						
G27K	Doyon Strip		53.52	29	IAMs_20	IAMs_20	11 59 47.1	
		comp=Z,2μm,18.0s						
G27K	Doyon Strip		53.52	29	P	P	11 33 06.5	+1.2
		baz=275,SNR=58						
G27K					S	S	11 40 38.7	+3.7
		baz=275						
CRQM	Cirque		53.53	36	P	P	11 33 06.6	+0.9
BGLC	Bering Glacier		53.55	37	P	P	11 33 06.6	+1.0
		baz=278						
CRQE	Cirque		53.55	36	P	P	11 33 06.8	+1.0
		baz=278,SNR=35						
KK31	Karatay Array		53.56	301	P	P	11 33 05.3	-0.7
KK31	Karatay Array		53.56	301	*i* P	P	11 33 04.2	-1.8
KKAR	Karatay Array		53.56	301	P	P	11 33 05.5	-0.5
KKAR	Karatay Array		53.56	301	P	P	11 33 05.5	-0.5
KKAR					IAmb	IAmb	11 33 22.1	
		comp=Z,145nm,1.0s						
KKAR	Karatay Array		53.56	301	P	P	11 33 05.5	-0.5
KKAR					pmax	pmax		
		comp=Z,145nm,1.0s						
TRKS	Terek-Say		53.57	299	P	P	11 33 06.0	-0.3
TRKS					pmax	pmax		
		comp=Z,138nm,1.0s						

D27M	**Malcolm River**	**53.60**	**26**	P	**P**	**11 33 06.8**	**+0.9**
D27M				IAmb	IAmb	11 33 08.5	
	comp=Z,70nm,1.1s						
D27M				IAMs_20	IAMs_20	11 57 22.2	
	comp=Z,2μm,20.0s						
D27M	**Malcolm River**	**53.60**	**26**	P	**P**	**11 33 07.3**	**+1.3**
	baz=274,SNR=57						
K27K	**Chicken**	**53.61**	**32**	P	**P**	**11 33 06.7**	**+0.6**
K27K				IAmb	IAmb	11 33 10.5	
	comp=Z,115nm,0.9s						
K27K	**Chicken**	**53.61**	**32**	P	**P**	**11 33 07.2**	**+1.2**
	baz=276						
H27K	**Steamboat Moun**	**53.62**	**29**	P	**P**	**11 33 08.0**	**+1.8**
	baz=275,SNR=103						
I27K	**Kandik River**	**53.64**	**30**	P	**P**	**11 33 07.2**	**+0.9**
	baz=276,SNR=70						
TGL	**Tana Glacier**	**53.68**	**36**	P	**P**	**11 33 07.4**	**+0.6**
TGL				IAmb	IAmb	11 33 37.1	
	comp=Z,96nm,1.1s						
SONA	**Sohna**	**53.72**	**282**	*e*P	**P**	**11 33 06.8**	**-0.5**
WAX	**Waxell Ridge**	**53.72**	**37**	P	**P**	**11 33 07.2**	**+0.2**
WAX				IAmb	IAmb	11 33 34.5	
	comp=Z,92nm,0.9s						
WAX				IAMs_20	IAMs_20	11 54 56.6	
	comp=Z,2μm,21.0s						
JHNI	**Jhansi**	**53.72**	**278**	*e*P	**P**	**11 33 04.6**	**-2.8**
L27K	**Beaver Creek,**	**53.84**	**33**	P	**P**	**11 33 08.6**	**+0.9**
L27K				IAmb	IAmb	11 33 11.0	
	comp=Z,88nm,1.0s						
L27K				IAMs_20	IAMs_20	11 56 29.8	
	comp=Z,3μm,22.0s						
L27K	**Beaver Creek,**	**53.84**	**33**	P	**P**	**11 33 08.9**	**+1.1**
	baz=277,SNR=147						
BCAR	**Beaver Creek A**	**53.86**	**33**	P	**P**	**11 33 09.1**	**+1.2**
M27K	**Edge Creek, AK**	**53.91**	**34**	P	**P**	**11 33 09.5**	**+1.1**
M27K				IAmb	IAmb	11 33 13.0	
	comp=Z,130nm,1.0s						
M27K				IAMs_20	IAMs_20	11 57 00.7	
	comp=Z,3μm,22.0s						
M27K	**Edge Creek, AK**	**53.91**	**34**	P	**P**	**11 33 09.5**	**+1.1**
	baz=278,SNR=127						
M27K				S	S	11 40 52.7	+12
	baz=278						
EGAK	**Eagle**	**53.92**	**31**	P	**P**	**11 33 08.5**	**+0.2**
EGAK				IAmb	IAmb	11 33 11.6	
	comp=Z,66nm,1.1s						
EGAK				IAMs_20	IAMs_20	11 53 38.9	
	comp=Z,3μm,22.0s						
EGAK	**Eagle**	**53.92**	**31**	P	**P**	**11 33 08.5**	**+0.2**
	baz=277,SNR=68						
EGAK				S	**S**	**11 40 48.2**	**+7.7**
	baz=277						
ISLE	**Juniper Island**	**53.94**	**36**	P	**P**	**11 33 09.3**	**+0.6**
ISLE				IAmb	IAmb	11 33 32.4	
	comp=Z,195nm,1.6s						
ISLE				IAMs_20	IAMs_20	11 55 16.6	
	comp=Z,2μm,20.0s						
BRLS	**Borolday**	**54.06**	**301**	*e*P	**P**	**11 33 10.5**	**+0.8**
	comp=Z,24nm,0.6s,baz=301						
BRLS	**Borolday**	**54.06**	**301**	*e*P	**P**	**11 33 10.4**	**+0.8**
BRLS				pmax	pmax		
	comp=Z,24nm,0.6s						
F28M	**Old Crow**	**54.13**	**28**	P	**P**	**11 33 10.9**	**+1.1**
F28M				IAmb	IAmb	11 33 36.5	
	comp=Z,118nm,1.2s						
F28M	**Old Crow**	**54.13**	**28**	P	**P**	**11 33 11.4**	**+1.6**
	baz=276,SNR=65						
F28M				S	**S**	**11 40 47.3**	**+3.9**
	baz=276						
E28M	**Babbage River**	**54.16**	**26**	P	**P**	**11 33 11.4**	**+1.4**
E28M				IAmb	IAmb	11 33 12.8	
	comp=Z,68nm,1.1s						
E28M				IAMs_20	IAMs_20	11 59 21.2	
	comp=Z,2μm,18.0s						
E28M	**Babbage River**	**54.16**	**26**	P	**P**	**11 33 11.5**	**+1.4**
	baz=275,SNR=87						
E28M				S	**S**	**11 40 47.0**	**+3.3**
	baz=275						
IUG	**Iuzhnay**	**54.18**	**300**	*e*P	**P**	**11 33 10.5**	**-0.2**
	baz=300						
IUG	**Iuzhnay**	**54.18**	**300**	*e*P	**P**	**11 33 10.4**	**-0.2**
MESA	**MESA**	**54.20**	**37**	P	**P**	**11 33 11.6**	**+1.0**
	baz=279,SNR=16						
MESA				S	**S**	**11 40 48.8**	**+3.9**
	baz=279						
GRNC	**Granite Creek**	**54.21**	**36**	P	**P**	**11 33 11.1**	**+0.3**
GRNC				IAmb	IAmb	11 33 38.4	
	comp=Z,75nm,1.0s						
KUDL	**Kundal**	**54.24**	**282**	*e*P	**P**	**11 33 10.2**	**-0.9**
I28M	**Miner Creek**	**54.35**	**30**	P	**P**	**11 33 12.7**	**+1.1**
I28M				IAMs_20	IAMs_20	12 00 32.3	
	comp=Z,2μm,18.0s						
I28M	**Miner Creek**	**54.35**	**30**	P	**P**	**11 33 12.8**	**+1.2**
	baz=277,SNR=67						
I28M				S	**S**	**11 40 49.4**	**+2.8**
	baz=277						
BVCY	**Beaver Creek**	**54.37**	**34**	S	**S**	**11 40 50.0**	**+3.3**
	baz=279						
CTG	**Chitna Glacier**	**54.37**	**36**	P	**P**	**11 33 12.4**	**+0.6**
	baz=279,SNR=28						
CTGM	**Chitina Glacie**	**54.37**	**36**	P	**P**	**11 33 12.6**	**+0.8**
CTGM				IAmb	IAmb	11 33 18.0	
	comp=Z,63nm,0.9s						
D28M	**Stokes Point**	**54.38**	**26**	P	**P**	**11 33 12.8**	**+1.3**
	baz=276,SNR=14						
D28M				S	**S**	**11 40 51.6**	**+5.1**
	baz=276						
TABL	**Table Mountain**	**54.55**	**37**	P	**P**	**11 33 13.4**	**+0.2**
TABL				IAmb	IAmb	11 33 19.0	
	comp=Z,51nm,0.8s						
LOGN	**Logan Glacier**	**54.56**	**36**	P	**P**	**11 33 12.6**	**-0.6**
NIL	**Nilore**	**54.63**	**289**	P	**P**	**11 33 14.8**	**+0.8**
NIL	**Nilore**	**54.63**	**289**	P	**P**	**11 33 14.8**	**+0.8**
NIL				pmax	pmax		
	comp=Z,197nm,0.8s						
NIL	**Nilore**	**54.63**	**289**	P	**P**	**11 33 14.6**	**+0.6**
YUK3	**Moose Creek**	**54.66**	**35**	P	**P**	**11 33 14.7**	**+0.8**
	baz=279,SNR=52						
YUK3				S	**S**	**11 40 55.1**	**+4.1**
	baz=279						
AUAYR	**Ayr State High**	**54.75**	**172**	P	**P**	**11 33 18.6**	**+3.9**
DAWY	**Dawson**	**54.78**	**32**	P	**P**	**11 33 15.4**	**+0.8**
DAWY	**Dawson**	**54.78**	**32**	P	**P**	**11 33 15.4**	**+0.8**
	baz=279,SNR=42						
DAWY				S	**S**	**11 40 53.4**	**+1.2**
	baz=279						
E29M	**Blow River**	**54.79**	**27**	P	**P**	**11 33 16.0**	**+1.5**
E29M				IAMs_20	IAMs_20	11 56 45.7	
	comp=Z,3μm,21.0s						
E29M	**Blow River**	**54.79**	**27**	P	**P**	**11 33 16.0**	**+1.5**
	baz=277,SNR=64						
E29M				S	**S**	**11 40 55.0**	**+3.0**
	baz=277						
WB0	**Warramunga Arr**	**54.88**	**187**	P	**P**	**11 33 14.8**	**-0.9**
H29M	**Whitestone**	**54.89**	**29**	P	**P**	**11 33 16.7**	**+1.4**
H29M				IAmb	IAmb	11 34 02.1	
	comp=Z,80nm,1.0s						
H29M	**Whitestone**	**54.89**	**29**	P	**P**	**11 33 16.5**	**+1.2**
	baz=278,SNR=45						
H29M				S	**S**	**11 40 56.8**	**+3.2**
	baz=278						
G29M	**Pine Creek**	**54.93**	**28**	P	**P**	**11 33 17.3**	**+1.6**
G29M				IAMs_20	IAMs_20	11 57 45.5	
	comp=Z,2μm,21.0s						
G29M	**Pine Creek**	**54.93**	**28**	P	**P**	**11 33 17.2**	**+1.5**
	baz=278,SNR=120						
G29M				S	**S**	**11 40 56.6**	**+2.5**
	baz=278						
O28M	**Mount Upton**	**54.96**	**36**	P	**P**	**11 33 17.0**	**+0.8**
	baz=280,SNR=14						
O28M				S	**S**	**11 40 56.8**	**+1.6**
	baz=280						
GAR	**Garm**	**54.97**	**296**	P	**P**	**11 33 15.7**	**-0.8**
I29M	**Ogilvie Camp,**	**55.04**	**30**	IAMs_20	IAMs_20	11 59 43.5	
	comp=Z,2μm,19.0s						
I29M	**Ogilvie Camp,**	**55.04**	**30**	P	**P**	**11 33 17.5**	**+1.0**
	baz=279,SNR=129						
I29M				S	**S**	**11 40 57.9**	**+2.2**
	baz=279						
WRAB	**Tennant Creek**	**55.05**	**187**	*c i*P	**P**	**11 33 16.5**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,303nm,0.9s						
PINM	**Pinnacle**	**55.05**	**37**	P	**P**	**11 33 17.5**	**+0.8**
	baz=281,SNR=13						
WR0	**Warramunga Arr**	**55.05**	**187**	P	**P**	**11 33 16.1**	**-0.8**
WB2	**Warramunga Arr**	**55.06**	**187**	P	**P**	**11 33 16.0**	**-1.0**
WRA	**Warramunga Arr**	**55.06**	**187**	P	**P**	**11 33 16.1**	**-0.9**
	comp=Z,342nm,1.0s,baz=3.1,slow=7.3,SNR=203						
WRA				S	**S**	**11 40 57.6**	**+0.9**
	comp=Z,14nm,1.0s,baz=5.3,slow=13,SNR=6.9						
WRA				LR	LR	11 54 27.5	
	comp=Z,3μm,21.4s,baz=8.5,slow=33						
WRA				PKP2bc		12 03 40.4	
	comp=Z,1.2nm,0.8s,baz=184,slow=1.7,SNR=4.9						
WRA				P4KPbc		12 10 36.0	
	comp=Z,1.0nm,1.2s,baz=2.8,slow=4.6,SNR=2.4						
YUK8	**Steele Glacier**	**55.07**	**35**	P	**P**	**11 33 17.9**	**+0.9**
	baz=280						
CTA	**Charters Tower**	**55.14**	**174**	P	**P**	**11 33 19.5**	**+1.9**
CTA	**Charters Tower**	**55.14**	**174**	LR	LR	11 56 53.5	
	comp=Z,95nm,20.9s,baz=356,slow=36						
CTA	**Charters Tower**	**55.14**	**174**	P	**P**	**11 33 18.8**	**+1.2**
CTA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
CTAO	**Charters Tower**	**55.14**	**174**	P	**P**	**11 33 19.5**	**+1.9**
CTAO	**Charters Tower**	**55.14**	**174**	P	**P**	**11 33 17.1**	**-0.5**
CTAO				IAmb	IAmb	11 33 26.1	
	comp=Z,131nm,1.3s						
CTAO	**Charters Tower**	**55.14**	**174**	P	**P**	**11 33 17.1**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,131nm,1.3s						
CTAO	**Charters Tower**	**55.14**	**174**	P	**P**	**11 33 18.3**	**+0.8**
J29N	**Klondike Camp**	**55.22**	**31**	P	**P**	**11 33 18.9**	**+1.1**
J29N				IAMs_20	IAMs_20	11 57 37.3	
	comp=Z,2μm,22.0s						
J29N	**Klondike Camp**	**55.22**	**31**	P	**P**	**11 33 18.9**	**+1.1**
	baz=279						
QIS	**Mount Isa**	**55.35**	**181**	P	**P**	**11 33 19.0**	**-0.1**
QIS	**Mount Isa**	**55.35**	**181**	P	**P**	**11 33 18.8**	**-0.4**
	comp=Z,257nm,1.1s						
BCPM	**Bancas Point**	**55.38**	**37**	P	**P**	**11 33 19.3**	**+0.3**
BCPM				IAmb	IAmb	11 33 23.8	
	comp=Z,64nm,0.9s						
BCPM				IAMs_20	IAMs_20	11 55 24.7	
	comp=Z,2μm,21.0s						
M29M	**Somme Creek**	**55.47**	**34**	IAMs_20	IAMs_20	11 56 31.8	
	comp=Z,3μm,22.0s						
M29M	**Somme Creek**	**55.47**	**34**	P	**P**	**11 33 21.1**	**+1.5**
	baz=281,SNR=151						
M29M				S	**S**	**11 41 03.9**	**+2.4**
	baz=281						
L29M	**L29M**	**55.49**	**33**	P	**P**	**11 33 21.4**	**+1.6**
	baz=280,SNR=188						
L29M				S	**S**	**11 41 03.1**	**+1.3**
	baz=280						
EPYK	**Eagle Plains**	**55.53**	**29**	P	**P**	**11 33 21.1**	**+1.1**
	baz=279,SNR=147						
EPYK				S	**S**	**11 41 04.4**	**+2.3**
	baz=279						
PNL	**Peninsula**	**55.56**	**37**	P	**P**	**11 33 22.6**	**+2.3**
PNL	**Peninsula**	**55.56**	**37**	P	**P**	**11 33 21.2**	**+0.9**
	baz=282,SNR=35						
PNL				S	**S**	**11 41 05.1**	**+2.4**
	baz=282						
YUK4	**Talbot Arm**	**55.59**	**35**	P	**P**	**11 33 22.0**	**+1.3**
	baz=281,SNR=49						
G30M	**tAoh Zraii Nji**	**55.62**	**28**	P	**P**	**11 33 21.4**	**+0.7**
G30M	**tAoh Zraii Nji**	**55.62**	**28**	P	**P**	**11 33 21.7**	**+1.0**
	baz=279,SNR=91						
G30M				S	**S**	**11 41 04.6**	**+1.2**
	baz=279						
BHPL	**Bhopal**	**55.62**	**276**	*e*P	P	11 33 16.2	-5.1
BHPL				IAmb	IAmb	11 33 23.2	
	comp=Z,74nm,1.2s						
K29M	**Barlow Dome**	**55.63**	**32**	P	**P**	**11 33 22.0**	**+1.2**
K29M				IAmb	IAmb	11 33 25.6	
	comp=Z,54nm,0.8s						
K29M				IAMs_20	IAMs_20	11 57 21.1	
	comp=Z,2μm,21.0s						
K29M	**Barlow Dome**	**55.63**	**32**	P	**P**	**11 33 22.1**	**+1.2**
	baz=280,SNR=66						
K29M				S	**S**	**11 41 05.1**	**+1.4**
	baz=280						
F30M	**Barrier River**	**55.69**	**27**	P	**P**	**11 33 22.5**	**+1.4**
	baz=279,SNR=50						
F30M				S	**S**	**11 41 06.5**	**+2.4**
	baz=279						
YUK6	**Outpost Mounta**	**55.80**	**36**	P	**P**	**11 33 23.8**	**+1.5**
	baz=282,SNR=40						
YUK6				S	**S**	**11 41 10.9**	**+4.6**
	baz=282						
O29M	**Mount Kennedy**	**55.83**	**36**	IAMs_20	IAMs_20	11 54 24.5	
	comp=Z,2μm,22.0s						
O29M	**Mount Kennedy**	**55.83**	**36**	P	**P**	**11 33 24.1**	**+1.7**
	baz=282,SNR=78						
O29M				S	**S**	**11 41 08.6**	**+2.1**
	baz=282						
I30M	**Mount Dempster**	**55.87**	**30**	P	**P**	**11 33 22.8**	**+0.3**
I30M				IAMs_20	IAMs_20	11 55 03.2	
	comp=Z,2μm,20.0s						
I30M	**Mount Dempster**	**55.87**	**30**	P	**P**	**11 33 23.6**	**+1.1**
	baz=280,SNR=336						
I30M				S	**S**	**11 41 10.8**	**+4.0**
	baz=280						
CHGR	**Chuyangaron**	**55.94**	**296**	P	**P**	**11 33 22.7**	**-0.7**
CHGR	**Chuyangaron**	**55.94**	**296**	P	**P**	**11 33 22.7**	**-0.7**
CHGR				pmax	pmax		
	comp=Z,538nm,0.7s						
J30M	**Hart River**	**56.01**	**31**	P	**P**	**11 33 24.4**	**+0.9**
J30M				IAMs_20	IAMs_20	11 58 55.0	
	comp=Z,2μm,21.0s						
J30M	**Hart River**	**56.01**	**31**	P	**P**	**11 33 24.6**	**+1.1**
	baz=281,SNR=74						
J30M				S	**S**	**11 41 12.3**	**+3.6**
	baz=281						
SIMJ	**Simiganj**	**56.05**	**296**	P	**P**	**11 33 23.4**	**-0.8**
SIMJ	**Simiganj**	**56.05**	**296**	P	**P**	**11 33 23.6**	**-0.6**
SVE	**Sverdlovsk**	**56.19**	**319**	*ce*P	**P**	**11 33 25.7**	**+0.9**
SVE				*e*S	**S**	**11 41 09.9**	**-1.2**
SVE				pmax	pmax		
	comp=Z,207nm,1.0s						
SVE				MLR	MLR		
	comp=Z,3μm,19.0s						
M30M	**Minto, Yukon**	**56.20**	**34**	P	**P**	**11 33 25.7**	**+0.9**
M30M				IAMs_20	IAMs_20	11 57 05.2	
	comp=Z,3μm,22.0s						
M30M	**Minto, Yukon**	**56.20**	**34**	P	**P**	**11 33 26.4**	**+1.5**
	baz=282,SNR=79						
M30M				S	**S**	**11 41 14.2**	**+3.0**
	baz=282						
HYT	**Haines Junctio**	**56.24**	**36**	P	**P**	**11 33 26.4**	**+1.2**
HYT	**Haines Junctio**	**56.24**	**36**	P	**P**	**11 33 27.2**	**+2.0**
	baz=282,SNR=85						
HYT				S	**S**	**11 41 15.5**	**+3.6**
	baz=282						
N30M	**Aishikik Lake**	**56.30**	**35**	P	**P**	**11 33 27.4**	**+1.9**
N30M	**Aishikik Lake**	**56.30**	**35**	P	**P**	**11 33 26.8**	**+1.3**
	baz=282,SNR=38						
N30M				S	**S**	**11 41 15.9**	**+3.4**
	baz=282						
G31M	**Satah River**	**56.39**	**28**	P	**P**	**11 33 26.1**	**+0.2**
G31M	**Satah River**	**56.39**	**28**	P	**P**	**11 33 26.7**	**+0.7**
	baz=281,SNR=27						
G31M				S	**S**	**11 41 14.1**	**+0.7**
	baz=281						
MAYO	**Mayo, Yukon**	**56.39**	**32**	P	**P**	**11 33 27.6**	**+1.5**
	baz=282,SNR=24						
MAYO				S	**S**	**11 41 16.1**	**+2.5**
	baz=282						
P29M	**Windy Craggy**	**56.39**	**37**	P	**P**	**11 33 28.1**	**+1.9**
P29M				IAmb	IAmb	11 34 01.6	
	comp=Z,89nm,0.8s						
P29M				IAMs_20	IAMs_20	11 56 03.3	
	comp=Z,2μm,22.0s						
P29M	**Windy Craggy**	**56.39**	**37**	P	**P**	**11 33 28.1**	**+1.9**
	baz=283,SNR=50						
P29M				S	**S**	**11 41 16.6**	**+2.8**
	baz=283						
INK	**Inuvik**	**56.40**	**26**	P	**P**	**11 33 26.7**	**+0.6**
INK	**Inuvik**	**56.40**	**26**	P	**P**	**11 33 26.5**	**+0.5**
	baz=281,SNR=43						
INK				S	**S**	**11 41 14.7**	**+1.1**
	baz=281						
INK	**Inuvik**	**56.40**	**26**	LR	LR	12 01 11.5	
	comp=Z,1μm,18.1s,baz=279,slow=40						
INK	**Inuvik**	**56.40**	**26**	P	**P**	**11 33 26.7**	**+0.6**
INK				pmax	pmax		
	comp=Z,285nm,1.8s						
AJM	**Ajmer**	**56.43**	**281**	*e*P	**P**	**11 33 24.3**	**-2.7**
F31M	**Tsiigehtchic**	**56.49**	**27**	P	**P**	**11 33 27.1**	**+0.4**
F31M				IAmb	IAmb	11 33 53.7	
	comp=Z,140nm,1.2s						
F31M	**Tsiigehtchic**	**56.49**	**27**	P	**P**	**11 33 27.2**	**+0.4**
	baz=281,SNR=20						
F31M				S	**S**	**11 41 15.3**	**+0.6**
	baz=281						
H31M	**Peel River**	**56.58**	**29**	P	**P**	**11 33 27.9**	**+0.4**
H31M				IAMs_20	IAMs_20	12 00 33.2	
	comp=Z,2μm,20.0s						
H31M	**Peel River**	**56.58**	**29**	P	**P**	**11 33 28.7**	**+1.2**
	baz=282						
H31M				S	**S**	**11 41 18.0**	**+1.8**
	baz=282						
P30M	**Million Dollar**	**56.66**	**36**	P	**P**	**11 33 30.0**	**+1.8**
	baz=283						
P30M				S	**S**	**11 41 19.5**	**+2.2**
	baz=283						
N31M	**Braeburn, Yuko**	**56.91**	**35**	P	**P**	**11 33 31.6**	**+1.7**
	baz=283,SNR=103						
N31M				S	**S**	**11 41 23.3**	**+2.7**
	baz=283						
O30N	**Mendenhall**	**56.93**	**36**	P	**P**	**11 33 30.9**	**+0.9**
O30N	**Mendenhall**	**56.93**	**36**	P	**P**	**11 33 31.2**	**+1.1**
	baz=284,SNR=51						
O30N				S	**S**	**11 41 22.9**	**+2.1**
	baz=284						
PLBC	**Pleasant Camp**	**57.11**	**37**	P	**P**	**11 33 32.9**	**+1.7**
	baz=284,SNR=90						
PLBC				S	**S**	**11 41 25.7**	**+2.6**
	baz=284						
M31M	**Drury Creek, Y**	**57.37**	**34**	P	**P**	**11 33 34.3**	**+1.2**
	baz=284,SNR=134						
M31M				S	**S**	**11 41 28.1**	**+1.4**
	baz=284						
ARU	**Arti**	**57.40**	**319**	P	**P**	**11 33 32.5**	**-0.8**
ARU	**Arti**	**57.40**	**319**	*d i*P	**P**	**11 33 32.6**	**-0.8**
ARU				*PP	**pP**	**11 33 45.4**	**+0.2**
ARU						11 34 25.1	
ARU				PPP	PPP	11 36 58.9	
ARU				S	**S**	**11 41 26.9**	**-0.2**
ARU				*SS	**sS**	**11 41 48.4**	**+1.6**
ARU				SS	**SS**	**11 45 14.7**	**-1.8**
ARU				pmax	pmax		
	comp=Z,166nm,0.7s						
ARU	**Arti**	**57.40**	**319**	P	**P**	**11 33 32.5**	**-0.8**
	comp=Z,246nm,0.8s,comp=Z,3μm						
ARU	**Arti**	**57.40**	**319**	P	**P**	**11 33 32.9**	**-0.4**
HYB	**Hyderabad**	**57.52**	**269**	*e*P	**P**	**11 33 34.1**	**-0.7**
HYB				IVmB_BB		11 33 36.8	
	comp=Z,767nm,2.2s						
HYB				*e*pP	**pP**	**11 33 46.1**	**-0.6**
HYB				*e*sP	**sP**	**11 33 51.7**	**+0.2**
HYB				*e*PcP	**PcP**	**11 34 30.7**	**+2.6**
HYB				*e*ScP	**ScP**	**11 38 24.6**	**-0.1**
HYB				*e*S	**S**	**11 41 29.0**	**-0.8**
HYB				*e*ScS	**ScS**	**11 43 24.8**	**+3.5**
HYB				IVMs_BB	IVMs_BB	11 56 55.8	
	comp=Z,875nm,23.8s						
KBL	**Kabul**	**57.53**	**292**	P	**P**	**11 33 33.8**	**-1.1**
KBL				IAmb	IAmb	11 33 53.9	
	comp=Z,74nm,0.8s						
KBL	**Kabul**	**57.53**	**292**	P	**P**	**11 33 34.8**	**-0.1**
	SNR=38						
KBL	**Kabul**	**57.53**	**292**	P	**P**	**11 33 33.8**	**-1.1**
KBL				pmax	pmax		
	comp=Z,74nm,0.9s						
S31K	**Pelican**	**57.56**	**39**	P	**P**	**11 33 34.0**	**-0.4**
S31K				IAmb	IAmb	11 34 06.0	
	comp=Z,106nm,1.4s						
S31K	**Pelican**	**57.56**	**39**	P	**P**	**11 33 35.8**	**+1.3**
	baz=285,SNR=19						
S31K				S	**S**	**11 41 31.4**	**+2.4**
	baz=285						
SKAG	**Skagway**	**57.62**	**37**	P	**P**	**11 33 36.6**	**+1.8**
SKAG	**Skagway**	**57.62**	**37**	P	**P**	**11 33 36.6**	**+1.8**
SKAG				IAmb	IAmb	11 34 15.8	
	comp=Z,93nm,1.2s						
SKAG	**Skagway**	**57.62**	**37**	P	**P**	**11 33 36.6**	**+1.8**
	baz=285,SNR=37						
SKAG				S	**S**	**11 41 32.4**	**+2.5**
	baz=285						
R31K	**City Hall, Gus**	**57.69**	**38**	P	**P**	**11 33 36.8**	**+1.5**
	baz=285						
FARO	**Faro, Yukon**	**57.84**	**34**	P	**P**	**11 33 36.5**	**+0.1**
FARO				IAmb	IAmb	11 33 40.9	
	comp=Z,58nm,0.8s						
FARO	**Faro, Yukon**	**57.84**	**34**	P	**P**	**11 33 37.8**	**+1.4**
	baz=285,SNR=159						
FARO				S	**S**	**11 41 34.9**	**+2.1**
	baz=285						
N32M	**Quiet Lake**	**58.25**	**35**	P	**P**	**11 33 40.0**	**+0.6**
N32M				IAmb	IAmb	11 34 15.2	
	comp=Z,116nm,1.2s						
N32M				IAMs_20	IAMs_20	11 57 02.4	
	comp=Z,2μm,22.0s						
N32M	**Quiet Lake**	**58.25**	**35**	P	**P**	**11 33 40.5**	**+1.1**
	baz=286						
N32M				S	**S**	**11 41 40.3**	**+2.1**
	baz=286						
SIT	**Sitka**	**58.28**	**40**	P	**P**	**11 33 41.6**	**+2.1**
SIT	**Sitka**	**58.28**	**40**	P	**P**	**11 33 41.2**	**+1.7**
SIT				IAmb	IAmb	11 33 49.5	
	comp=Z,70nm,1.2s						
SIT	**Sitka**	**58.28**	**40**	P	**P**	**11 33 41.0**	**+1.6**
	baz=286,SNR=14						
SIT				S	**S**	**11 41 42.0**	**+3.5**
	baz=286						
SIT	**Sitka**	**58.28**	**40**	P	**P**	**11 33 41.2**	**+1.7**
SIT				pmax	pmax		
	comp=Z,70nm,1.2s						
A36M	**Sachs Harbour**	**58.29**	**21**	P	**P**	**11 33 40.2**	**+0.8**
	baz=286,SNR=6.9						
A36M				S	**S**	**11 41 40.6**	**+2.3**
	baz=286						
R32K	**Eaglecrest**	**58.35**	**38**	P	**P**	**11 33 41.5**	**+1.5**
	baz=286,SNR=26						
P32M	**Atlin**	**58.38**	**37**	P	**P**	**11 33 41.5**	**+1.2**
	baz=286,SNR=75						
P32M				S	**S**	**11 41 44.7**	**+4.8**
	baz=286						
JIS	**Juneau Island**	**58.42**	**38**	P	**P**	**11 33 42.3**	**+1.9**
MDRS	**Chennai**	**58.43**	**264**	*e*P	**P**	**11 33 42.6**	**+1.4**
S32K	**Killisnoo**	**58.55**	**39**	P	**P**	**11 33 42.7**	**+1.3**
	baz=287,SNR=10						
P33M	**Teslin, Yukon**	**58.64**	**36**	IAMs_20	IAMs_20	11 57 29.7	
	comp=Z,2μm,22.0s						
P33M	**Teslin, Yukon**	**58.64**	**36**	P	**P**	**11 33 43.5**	**+1.4**
	baz=287,SNR=141						
P33M				S	**S**	**11 41 46.5**	**+3.2**
	baz=287						
AS01	**Alice Springs**	**58.78**	**187**	P	**P**	**11 33 43.8**	**+0.5**
AS31	**Alice Springs**	**58.78**	**187**	P	**P**	**11 33 42.8**	**-0.5**
AS31				IAmb	IAmb	11 33 54.8	
	comp=Z,36nm,0.5s						
AS31	**Alice Springs**	**58.78**	**187**	P	**P**	**11 33 43.1**	**-0.3**
	comp=Z,46nm,0.5s						
ASAR	**Alice Springs**	**58.78**	**187**	P	**P**	**11 33 43.0**	**-0.4**
ASAR	**Alice Springs**	**58.78**	**187**	P	**P**	**11 33 42.8**	**-0.6**
	comp=Z,88nm,0.8s,baz=1.1,slow=4.9,SNR=218						
ASAR				S	**S**	**11 41 43.2**	**-2.6**
	comp=Z,13nm,1.2

PSAC1	Pilbara Seismi	59.68	203	P		P	11 33 48.8 -0.8
	comp=Z,323nm,1.2s						
PSA00	Pilbara Seismi	59.71	202	P		P	11 33 49.4 -0.3
PSA00	Pilbara Seismi	59.71	202	P		P	11 33 49.5 -0.3
PSA00	Pilbara Seismi	59.71	202	P		P	11 33 49.1 -0.6
PSA00				IAmb		IAmb	11 33 51.7
	comp=Z,143nm,1.0s						
PSA00	Pilbara Seismi	59.71	202	P		P	11 33 48.8 -1.0
	comp=Z,297nm,1.1s						
KOUNC	Koumac, New Ca	59.73	154	P		P	11 33 52.3 +2.4
U33K	Whale Pass	59.73	40	P		P	11 33 50.7 +1.2
U33K				IAmb		IAmb	11 33 54.5
	comp=Z,85nm,0.8s						
U33K				IAms_20		IAms_20	11 56 27.6
	comp=Z,2μm,20.0s						
U33K	Whale Pass	59.73	40	P		P	11 33 51.0 +1.5
	baz=289,SNR=68						
U33K				S		S	11 42 00.6 +3.4
	baz=289						
R33M	Jennings River	59.77	36	P		P	11 33 51.0 +1.0
R33M				IAmb		IAmb	11 34 33.6
	comp=Z,107nm,1.5s						
R33M	Jennings River	59.77	36	P		P	11 33 51.6 +1.6
	baz=288,SNR=38						
R33M				S		S	11 42 01.9 +3.8
	baz=288						
CRAG	Craig	59.93	41	P		P	11 33 52.9 +1.9
CRAG	Craig	59.93	41	P		P	11 33 52.3 +1.3
CRAG				IAmb		IAmb	11 34 09.7
	comp=Z,59nm,1.0s						
CRAG	Craig	59.93	41	P		P	11 33 52.5 +1.5
	baz=289,SNR=16						
CRAG				S		S	11 42 03.1 +3.1
	baz=289						
WRAK	Wrangell Islan	60.04	40	P		P	11 33 52.8 +1.2
WRAK				IAmb		IAmb	11 33 56.4
	comp=Z,53nm,1.0s						
WRAK	Wrangell Islan	60.04	40	P		P	11 33 53.1 +1.4
	baz=289						
WRAK				S		S	11 42 02.7 +1.5
	baz=289						
S34M	Telegraph Cree	60.17	38	P		P	11 33 54.2 +1.7
S34M				IAmb		IAmb	11 33 57.7
	comp=Z,60nm,1.0s						
S34M	Telegraph Cree	60.17	38	P		P	11 33 54.3 +1.7
	baz=289,SNR=48						
S34M				S		S	11 42 09.7 +6.7
	baz=289						
TGTN	Hyland Airport	60.34	33	P		P	11 33 55.3 +1.5
	baz=289,SNR=33						
TGTN				S		S	11 42 09.4 +4.1
	baz=289						
DLBC	Dease Lake	60.55	37	P		P	11 33 56.7 +1.5
DLBC				IAmb		IAmb	11 34 23.1
	comp=Z,92nm,1.3s						
DLBC	Dease Lake	60.55	37	P		P	11 33 56.8 +1.5
	baz=290,SNR=49						
DLBC				S		S	11 42 10.8 +2.8
	baz=290						
DLBC	Dease Lake	60.55	37	LR		LR	12 01 01.3
	comp=Z,653nm,21.3s,baz=298,slow=37						
WTLY	Watson Lake, Y	60.58	35	P		P	11 33 56.7 +1.3
WTLY				IAmb		IAmb	11 34 18.2
	comp=Z,68nm,1.1s						
WTLY	Watson Lake, Y	60.58	35	P		P	11 33 56.5 +1.1
	baz=290						
V35K	Ketchikan	60.79	41	P		P	11 33 57.7 +0.9
V35K	Ketchikan	60.79	41	P		P	11 33 57.6 +0.9
	baz=290,SNR=24						
V35K				S		S	11 42 14.0 +3.0
	baz=290						
WRKA	Warakurna	60.93	193	P		P	11 33 58.7 +0.6
WRKA	Warakurna	60.93	193	P		P	11 33 57.4 -0.7
	comp=Z,235nm,0.7s						
T35M	Bob Quinn	60.94	39	P		P	11 33 59.5 +1.6
T35M	Bob Quinn	60.94	39	P		P	11 33 59.9 +2.0
	baz=290,SNR=72						
T35M				S		S	11 42 17.4 +4.6
	baz=290						
EIDS	Eidsvold	60.94	169	P		P	11 33 59.7 +1.6
EIDS	Eidsvold	60.94	169	P		P	11 33 58.5 +0.4
EIDS				IAmb		IAmb	11 34 04.3
	comp=Z,72nm,0.9s						
EIDS	Eidsvold	60.94	169	P		P	11 33 57.7 -0.4
DIB	Dawson Inlet,	61.06	43	P		P	11 33 59.2 +0.5
DIB				IAmb		IAmb	11 34 04.4
	comp=Z,49nm,1.1s						
PALK	Pallekele	61.34	258	P		P	11 34 01.9 +0.7
PALK	Pallekele	61.34	258	LR		LR	12 04 00.9
	comp=Z,2μm,18.1s,baz=148,slow=39						
PALK	Pallekele	61.34	258	P		P	11 34 00.7 -0.5
PALK	Pallekele	61.34	258	P		P	11 34 01.9 +0.7
PALK				pmax		pmax	
	comp=Z,339nm,2.0s						
KIRV	Kirov	61.41	323	LR		LR	12 03 20.8
	comp=Z,4μm,19.3s,baz=67,slow=39						
KIRV	Kirov	61.41	323	*ce*P		P	11 34 01.1 +0.1
U35K	Hyder	61.43	40	IAMs_20		IAMs_20	11 57 31.6
	comp=Z,2μm,20.0s						
U35K	Hyder	61.43	40	P		P	11 34 02.2 +1.1
	baz=291						
QLP	Quilpie	61.44	176	P		P	11 34 02.8 +1.4
QLP	Quilpie	61.44	176	P		P	11 34 00.4 -1.0
	comp=Z,185nm,0.7s						
RMQ	Roma	61.73	172	P		P	11 34 05.8 +2.4
HOPEN	Hopen	61.76	346	*e*P		P	11 34 04.2 +1.1
HOPEN				IAmb		IAmb	11 34 13.8
	comp=Z,83nm,0.9s						
WRGLY	Wrigley	61.84	31	P		P	11 34 04.8 +1.1
WRGLY	Wrigley	61.84	31	P		P	11 34 04.7 +0.9
	baz=292,SNR=31						
WRGLY				S		S	11 42 26.5 +2.5
	baz=292						
NOUC	Port Laguerre	61.88	153	P		P	11 34 07.6 +3.1
RUBB	Prince Rupert	61.89	42	P		P	11 34 04.8 +0.6
DZM	Mont Dzumac	61.91	153	P		P	11 34 08.2 +3.4
DZM	Mont Dzumac	61.91	153	*e*P		P	11 34 05.9 +1.1
	comp=Z,432nm,1.2s						
DZM				*e*S		S	11 42 27.8 +1.9
	comp=Z,1μm,26.9s						
DZM				*e*SS		SS	11 46 32.2 +3.1
	comp=Z,699nm,26.7s						
DZM				*e*LQ		LQ	11 49 53.6
	comp=Z,6μm,29.4s						
DZM				*e*LR		LR	11 52 31.9
	comp=Z,7μm,24.7s						
DZM	Mont Dzumac	61.91	153	P		P	11 34 06.2 +1.4
DZM	Mont Dzumac	61.91	153	LR		LR	11 59 11.7
	comp=Z,2μm,21.8s,baz=352,slow=34						
DZM	Mont Dzumac	61.91	153	P		P	11 34 06.7 +1.9
DZM				pP		sP	11 34 18.9 -2.0
YATNC	Mamie plateau,	62.06	152	P		P	11 34 08.2 +2.4
ALE	Alert	62.08	3	P		P	11 34 05.3 +0.1
LIRD	Liard River Hi	62.10	35	P		P	11 34 06.8 +1.1
	baz=292,SNR=53						
LIRD				S		S	11 42 29.8 +2.3
	baz=292						
HG4B	Hotspring	62.12	44	P		P	11 34 06.0 +0.1
ONTNC	Ouen Toro	62.13	153	P		P	11 34 09.6 +3.5
GRNB	Grenville Isla	62.23	42	P		P	11 34 07.2 +0.6
GRNB				IAmb		IAmb	11 34 29.0
	comp=Z,69nm,1.3s						
KOD	Kodaikanal	62.26	263	*e*P		P	11 34 06.8 -0.9
SPA0	Spitsbergen Ar	62.30	349	*e*P		P	11 34 05.4 -1.3
SPITS	Spitsbergen Ar	62.30	349	P		P	11 34 06.7 0.0
	comp=Z,17nm,0.7s,baz=34,slow=16,SNR=6.4						
SPITS				LR		LR	12 04 38.2
	comp=Z,2μm,18.4s,baz=14,slow=39						
	comp=Z,17nm,0.7s						
SPITS	Spitsbergen Ar	62.30	349	P		P	11 34 06.9 +0.2
SPITS				pmax		pmax	
	comp=Z,101nm,1.0s						
OUENC	Ouen Island, N	62.37	153	P		P	11 34 10.1 +2.3
KBS	Kingsbay	62.46	350	P		P	11 34 07.9 +0.1
KBS				IAmb		IAmb	11 34 46.7
	comp=Z,94nm,0.9s						
KBS	Kingsbay	62.46	350	IAMs_20		IAMs_20	12 04 38.7
	comp=Z,2μm,19.0s						
KBS	Kingsbay	62.46	350	*e*P		P	11 34 08.8 +1.1
KBS				IAmb		IAmb	11 34 18.5
	comp=Z,46nm,0.9s						
KBS	Kingsbay	62.46	350	*ce*P		P	11 34 08.8 +1.1
KBS				pmax		pmax	
	comp=Z,37nm,0.8s						
KBS	Kingsbay	62.46	350	*i* P		P	11 34 08.7 +1.1
KBS	Kingsbay	62.46	350	P		P	11 34 08.8 +1.1
INKA	Innaminka	62.49	180	P		P	11 34 10.9 +2.4
GIRL	Giralia	62.64	208	P		P	11 34 11.9 +2.3
GIRL	Giralia	62.64	208	P		P	11 34 10.3 +0.7
GIRL	Giralia	62.64	208	P		P	11 34 09.9 +0.3
	comp=Z,461nm,1.4s						
HRA	Herat	62.72	294	P		P	11 34 10.2 -0.3
HRA				IAmb		IAmb	11 34 36.5
	comp=Z,45nm,0.8s						
OOD	Oodnadatta	62.72	185	P		P	11 34 11.2 +1.2
TOAD	Toad River Com	62.73	36	P		P	11 34 10.9 +1.0
	baz=293,SNR=40						
TOAD				S		S	11 42 39.6 +4.0
	baz=293						
KOTAN	Kotaneelee Air	62.78	34	P		P	11 34 10.9 +0.7
	baz=293,SNR=9.0						
KOTAN				S		S	11 42 40.9 +4.9
	baz=293						
NOR	Nord	62.95	356	*i* P		P	11 34 10.2 -0.8
NOR				IAmb		IAmb	11 34 15.5
	comp=Z,21nm,0.9s						
HSPB	Hornsund (broa	63.21	348	*e*P		P	11 34 11.1 -1.6
HSPB				*e*S		S	11 42 40.0 -0.9
HSPB				*e*L		L	12 04 51.2
	comp=Z,3μm,18.5s						
MSVF	Nonsavu	63.42	140	P		P	11 34 17.6 +2.6
LVZ	Lovozero	63.62	336	P		P	11 34 15.7 +0.1
LVZ				IAmb		IAmb	11 34 45.1
	comp=Z,47nm,0.9s						
LVZ	Lovozero	63.62	336	*i* P		P	11 34 15.2 -0.4
LVZ				pmax		pmax	
	comp=Z,106nm,2.3s						
LVZ				MLR		MLR	
	comp=Z,3μm,19.0s						
BBB	Bella Bella	63.90	43	P		P	11 34 17.4 -0.2
VADS	Vadso	64.15	339	*e*P		P	11 34 19.2 +0.2
ADZR	Andozero	64.15	331	*e*P		P	11 34 18.1 -1.0
ADZR				pmax		pmax	
	comp=Z,68nm,0.7s						
APA	Apatity	64.19	336	*i* P		P	11 34 18.5 -0.8
APA				*i*			11 36 44.0
APA				*i* S		S	11 42 52.0 -1.3
APA				*i* PS		PnS	11 43 14.0 -0.8
APA				*i* SSS		SSS	11 49 47.0
APA				pmax		pmax	
	comp=Z,39nm,0.9s						
GEYT	Alibeck	64.22	299	P		P	11 34 19.9 -0.2
GEYT				IAmb		IAmb	11 34 28.2
	comp=Z,74nm,1.1s						
GEYT	Alibeck	64.22	299	P		P	11 34 19.1 -1.1
	comp=Z,26nm,0.9s,baz=75,slow=1.6,SNR=18						
GEYT				LR		LR	12 04 31.7
	comp=Z,3μm,19.3s,baz=76,slow=38						
	comp=Z,26nm,0.9s						
GEYT	Alibeck	64.22	299	P		P	11 34 19.9 -0.2
GEYT				pmax		pmax	
	comp=Z,74nm,1.1s						
GYA0	ALIBECK ARRAY	64.22	299	P		P	11 34 20.9 +0.8
GYA0B	ALIBECK ARRAY	64.22	299	P		P	11 34 20.5 +0.4
GYA0B				IAmb		IAmb	11 34 30.1
	comp=Z,76nm,1.0s						
HOLB	Holberg	64.53	45	P		P	11 34 22.2 +0.3
HOLB				IAmb		IAmb	11 34 59.3
	comp=Z,58nm,1.0s						
AULRC	Lightning Ridg	64.55	173	P		P	11 34 23.3 +1.2
RES	Resolute Bay	64.63	14	P		P	11 34 21.9 -0.1
RES				IAmb		IAmb	11 34 23.6
	comp=Z,80nm,0.9s						
RES	Resolute Bay	64.63	14	LR		LR	12 04 45.0
	comp=Z,1μm,20.9s,baz=318,slow=38						
RES	Resolute Bay	64.63	14	P		P	11 34 22.0 -0.1
RES				pmax		pmax	
	comp=Z,79nm,0.9s						
BELG	Belogornoye	64.79	317	LR		LR	12 04 30.2
	comp=Z,3μm,20.5s,baz=64,slow=38						
BELG	Belogornoye	64.79	317	*d i* P		P	11 34 22.6 -0.9
BELG				pmax		pmax	
	comp=Z,21nm,0.7s						
MEEK	Meekatharra	64.83	202	P		P	11 34 24.6 +0.6
MEEK	Meekatharra	64.83	202	P		P	11 34 23.1 -1.0
	comp=Z,230nm,1.2s						
KEV	Kevo	65.03	339	P		P	11 34 24.5 -0.3
KEV				IAmb		IAmb	11 34 45.0
	comp=Z,61nm,1.0s						
KEV				IAMs_20		IAMs_20	12 06 18.9
	comp=Z,2μm,20.0s						
KEV	Kevo	65.03	339	P		P	11 34 24.5 -0.3
KEV				pmax		pmax	
	comp=Z,61nm,1.0s						
KEV				MLR		MLR	
	comp=Z,2μm,20.0s						
KEV	Kevo	65.03	339	P		P	11 34 24.2 -0.5
KEV				sP		sP	11 34 41.7 +0.3
KLMR	Klimovskoe	65.06	328	*e*P		P	11 34 23.7 -1.4
KLMR				*e*			11 36 47.0
KLMR				S		S	11 43 03.9 -0.3
KLMR				pmax		pmax	
	comp=Z,62nm,0.7s						
KLMR				MLR		MLR	
	comp=Z,1μm,14.0s						
LCRK	Leigh Creek	65.23	182	P		P	11 34 27.7 +1.2
MULG	Mulgathing	65.32	186	P		P	11 34 27.9 +0.8
HAMF	Hammerfest	65.44	341	*e*P		P	11 34 27.1 -0.3
HAMF				IAmb		IAmb	11 34 38.6
	comp=Z,21nm,1.0s						
ARCES	ARCESS Array B	65.59	340	P		P	11 34 28.1 -0.2
ARCES	ARCESS Array B	65.59	340	P		P	11 34 27.7 -0.7
	comp=Z,17nm,0.8s,baz=53,slow=8.1,SNR=33						
	comp=Z,17nm,0.8s						
ARCES	ARCESS Array B	65.59	340	*e*P		P	11 34 28.2 -0.2
YKA	Yellowknife Ar	65.81	29	P		P	11 34 29.8 -0.1
YKA	Yellowknife Ar	65.81	29	P		P	11 34 29.3 -0.6
	comp=Z,28nm,0.9s,baz=294,slow=6.3,SNR=29						
YKA				LR		LR	12 04 03.9
	comp=Z,907nm,21.7s,baz=284,slow=37						
	comp=Z,28nm,0.9s						
YKA	Yellowknife Ar	65.81	29	P		P	11 34 29.8 -0.1
ARMA	Armidale	65.98	170	P		P	11 34 34.8 +3.3
ARMA	Armidale	65.98	170	P		P	11 34 31.6 +0.2
ARMA				IAmb		IAmb	11 34 36.4
	comp=Z,98nm,1.4s						
ARMA	Armidale	65.98	170	P		P	11 34 31.4 -0.1
	comp=Z,59nm,1.0s						
CBB	Campbell River	66.39	45	P		P	11 34 34.0 +0.1
CMSA	Cobar Meteorol	66.45	175	P		P	11 34 36.3 +2.0
CMSA	Cobar Meteorol	66.45	175	P		P	11 34 34.3 0.0
	comp=Z,77nm,1.3s						
SGF	Sodankyl	66.50	337	P		P	11 34 34.1 -0.1
SGF				pmax		pmax	
	comp=Z,80nm,1.0s						
MSF	Maaselka	66.54	335	P		P	11 34 34.5 -0.1
MSF				pmax		pmax	
	comp=Z,64nm,0.8s						
AUPHS	Peel High Scho	66.55	170	P		P	11 34 38.6 +3.6
KTK1	Kautokeino	66.55	340	*e*P		P	11 34 34.4 -0.1
FORT	Forrest	66.58	192	P		P	11 34 36.6 +1.5
FORT	Forrest	66.58	192	P		P	11 34 35.4 +0.2
FORT	Forrest	66.58	192	P		P	11 34 34.9 -0.2
	comp=Z,588nm,0.9s						
STKA	Stephens Creek	66.62	179	P		P	11 34 36.5 +1.1
STKA	Stephens Creek	66.62	179	P		P	11 34 35.7 +0.3
STKA	Stephens Creek	66.62	179	P		P	11 34 34.9 -0.5
	comp=Z,23nm,0.8s,baz=343,slow=7.2,SNR=36						
STKA				LR		LR	12 02 43.5
	comp=Z,2μm,20.5s,baz=1.7,slow=35						
	comp=Z,23nm,0.8s						
STKA	Stephens Creek	66.62	179	P		P	11 34 35.7 +0.3
STKA				pmax		pmax	
	comp=Z,13nm,0.9s						
STKA	Stephens Creek	66.62	179	P		P	11 34 35.4 0.0
	comp=Z,17nm,0.9s						
TULEG	Thule	67.10	7	IAMs_20		IAMs_20	12 03 57.9
	comp=Z,2μm,22.0s						
TULEG	Thule	67.10	7	*i* P		P	11 34 36.0 -2.0
TULEG				IAmb		IAmb	11 34 40.5
	comp=Z,56nm,1.0s						
TRO	Tromso	67.34	341	*e*P		P	11 34 39.4 -0.2
TRO				IAmb		IAmb	11 34 41.5
	comp=Z,56nm,1.3s						
TRO	Tromso	67.34	341	P		P	11 34 37.3 -2.3
JOF	Joensuu	67.37	332	*e*P		P	11 34 39.6 -0.3
AUDCS	Dubbo College	67.39	173	P		P	11 34 42.4 +2.1
NEEM	North Greenlan	67.49	3	*i* P		P	11 34 40.4 -0.4
NEEM				IAmb		IAmb	11 34 46.1
	comp=Z,68nm,0.8s						
DAG	Danmarks Havn	67.65	355	P		P	11 34 41.4 0.0
DAG				pmax		pmax	
	comp=Z,70nm,1.1s						
DAG	Danmarks Havn	67.65	355	*i* P		P	11 34 41.0 -0.4
DAG				IAmb		IAmb	11 34 46.2
	comp=Z,35nm,0.9s						
CLRS	Cowichan Lake	67.67	45	P		P	11 34 43.0 +0.9
CLRS				IAmb		IAmb	11 35 03.8
	comp=Z,105nm,1.6s						
BBOO	Buckleboo	67.68	184	P		P	11 34 43.5 +1.4
BBOO	Buckleboo	67.68	184	P		P	11 34 41.9 -0.2
BBOO				IAmb		IAmb	11 34 49.4
	comp=Z,87nm,0.8s						
BBOO	Buckleboo	67.68	184	P		P	11 34 43.0 +0.9
	comp=Z,128nm,0.9s						
WHYH	Whyalla	67.83	183	P		P	11 34 44.2 +1.2
MORW	Morawa	67.90	203	P		P	11 34 44.4 +0.8
MORW	Morawa	67.90	203	P		P	11 34 43.7 +0.1
MORW	Morawa	67.90	203	P		P	11 34 43.9 +0.3
	comp=Z,175nm,1.5s						
PTPS	Port Pirie	67.95	182	P		P	11 34 46.4 +2.6
OUL	Oulu	68.09	335	P		P	11 34 44.1 -0.3
OUL				pmax		pmax	
	comp=Z,70nm,1.0s						
PGC	Sidney	68.14	45	P		P	11 34 45.3 +0.3
PGC				IAmb		IAmb	11 35 07.5
	comp=Z,58nm,1.1s						
HTT	Hallett	68.19	182	P		P	11 34 48.0 +2.7
HTT	Hallett	68.19	182	P		P	11 34 46.6 +1.3
	comp=Z,89nm,1.0s						
B04A	Port Angeles	68.40	46	P		P	11 34 47.1 +0.5
B04A				IAmb		IAmb	11 35 08.9
	comp=Z,67nm,1.0s						
VALR	Valaam	68.40	331	*i* P		P	11 34 46.1 -0.3
VALR				pmax		pmax	
	comp=Z,33nm,0.6s						
VALR				MLR		MLR	
	comp=Z,12nm,3.0s						
KMBL	Kambalda	68.42	197	P		P	11 34 47.7 +0.9
KMBL	Kambalda	68.42	197	P		P	11 34 46.3 -0.5
	comp=Z,120nm,0.9s						
MOS	Moscow	68.43	324	*e*P		P	11 34 45.8 -0.8
MOS				*e*			11 35 10.8
MOS				*e*			11 37 16.1
MOS				*e*S		S	11 43 43.8 -1.2
MOS				*e*SS		SS	11 48 11.1 +2.7
MOS				pmax		pmax	
	comp=Z,166nm,1.6s						
MOS				MLR		MLR	
	comp=Z,2μm,16.0s						
NTLH	Newcastle Hard	68.43	170	P		P	11 34 49.8 +3.0
VRH	Novokhopyorsk	68.59	318	*e*P		P	11 34 46.2 -1.5
VRH				pmax		pmax	
	comp=Z,120nm,0.6s						
VRH				MLR		MLR	
	comp=Z,2μm,15.0s						
BRLDA	Berland Lookou	68.76	38	P		P	11 34 48.8 -0.1
BRLDA				IAmb		IAmb	11 35 10.7
	comp=Z,174nm,1.4s						
GNW	Green Mountain	69.04	46	P		P	11 34 51.4 +0.8
GNW				IAmb		IAmb	11 35 13.0
	comp=Z,136nm,1.6s						
BLDU	Ballidu	69.13	202	P		P	11 34 52.4 +1.2
BLDU	Ballidu	69.13	202	P		P	11 34 50.6 -0.7
	comp=Z,129nm,0.7s						
SYDH	Sydney Hard Ro	69.15	171	P		P	11 34 52.8 +1.6
MAK	Makhachkala	69.15	308	*e*P		P	11 34 52.1 +0.7
MAK				*e*			11 37 23.5
MAK				*e*PPP		PPP	11 39 05.3
MAK				*e*S		S	11 43 56.7 +2.6
MAK				*e*SS		SS	11 48 20.9 +0.7
MAK				pmax		pmax	
	comp=Z,333nm,1.7s						
MAK				MLR		MLR	
	comp=Z,3μm,15.0s						
OBN	Obninsk	69.27	323	LR		LR	12 07 46.8
	comp=Z,4μm,20.8s,baz=56,slow=38						
OBN	Obninsk	69.27	323	*d i* P		P	11 34 51.8 0.0
OBN				*e*			11 35 14.7
OBN				*e*			11 37 22.9
OBN				*i* S		S	11 44 01.0 +6.0
OBN				pmax		pmax	
	comp=Z,64nm,0.7s						
OBN				MLR		MLR	
	comp=Z,4μm,20.0s						
RIV	Riverview	69.27	171	P		P	11 34 53.1 +1.2
	comp=Z,131nm,1.6s						
LPSR	Galich'ya Gora	69.38	320	*e*P		P	11 34 51.4 -1.2
LPSR				pmax		pmax	
	comp=Z,110nm,0.7s						
LPSR				MLR		MLR	
	comp=Z,3μm,17.0s						
YNG	Young	69.41	173	P		P	11 34 55.0 +2.1
YNG	Young	69.41	173	P		P	11 34 53.0 +0.1
	comp=Z,297nm,0.9s						
STEI	Steigen	69.49	341	*e*P		P	11 34 52.4 -0.5
STEI				IAmb		IAmb	11 35 01.2
	comp=Z,125nm,1.2s						
PUL	Pulkovo	69.53	330	*i* P		P	11 34 53.6 +0.2
PUL				pmax		pmax	
	comp=Z,50nm,0.9s						
PUL				MLR		MLR	
	comp=Z,1μm,15.0s						
VORR	Voronezh	69.71	319	*e*P		P	11 34 55.2 +0.5
VORR				pmax		pmax	
	comp=Z,112nm,1.3s						
LOF	Lofoten	69.79	341	*e*P		P	11 34 52.0 -2.9
FAUS	Fauske	69.86	340	*e*P		P	11 34 55.2 -0.1
FAUS				IAmb		IAmb	11 34 57.4
	comp=Z,125nm,1.4s						
KULLO	Kullorsuaq	69.96	5	*i* P		P	11 34 54.4 -1.5
KULLO				IAmb		IAmb	11 35 00.4
	comp=Z,36nm,1.0s						
VSR	Storozhevoye	69.97	319	*e*P		P	11 34 54.1 -2.2
VSR				pmax		pmax	
	comp=Z,90nm,0.7s						
VSR				MLR		MLR	
	comp=Z,1μm,13.0s						
VORD	Divnogorie	70.03	319	*e*P		P	11 34 55.3 -1.4
VORD				pmax		pmax	
	comp=Z,100nm,1.3s						
GROC	Groznyy	70.13	309	*e*P		P	11 34 57.7 +0.3
GROC				*e*			11 35 20.0
GROC				*e*S		S	11 44 08.3 +2.8
GROC				pmax		pmax	
	comp=Z,2.0nm,0.6s						
DBG	Daneborg	70.13	355	*i* P		P	11 34 55.4 -1.5
DBG				IAmb		IAmb	11 35 08.7
	comp=Z,6.9nm,0.9s						
SEKA	Sheki	70.21	307	P		P	11 34 58.2 +0.2
COR	Corvallis	70.22	49	P		P	11 34 59.7 +1.8
FIA1	FINESS Array S	70.23	332	P		P	11 34 57.1 -0.6
FIA1				IAmb		IAmb	11 35 22.1
	comp=Z,94nm,0.9s						
FINES	FINESS Array B	70.23	332	P		P	11 34 57.2 -0.5
FINES	FINESS Array B	70.23	332	P		P	11 34 56.9 -0.8
	comp=Z,29nm,0.6s,baz=54,slow=6.2,SNR=93						
FINES				LR		LR	12 07 47.0
	comp=Z,1μm,20.2s,baz=52,slow=38						
	comp=Z,29nm,0.6s						
KEF	Keuruu	70.24	333	*e*P		P	11 34 57.4 -0.3
LKRN	Lenkeran, Azer	70.38	304	P		P	11 34 58.8 -0.2
VAF	Ylistaro	70.47	335	*e*P		P	11 34 59.5 +0.4
CAN	Canberra	70.49	173	P		P	11 35 00.9 +1.4
CAN	Canberra	70.49	173	P		P	11 35 00.5 +1.0
CAN	Canberra	70.49	173	P		P	11 35 00.5 +1.0
CAN				pmax		pmax	
	comp=Z,51nm,1.0s						
CAN	Canberra	70.49	173	P		P	11 35 00.1 +0.6
	comp=Z,57nm,1.3s						
CAN	Canberra	70.49	173	P		P	11 35 00.2 +0.

GOF	**Gofitskoye**	**70.91 312**	*ce*P	**P**	**11 35 02.0**	**-0.2**
GOF			*e*S	**S**	**11 44 13.1**	**-1.5**
MOR8	**Moi Rana**	**70.96 340**	*e*P	**P**	**11 35 00.6**	**-1.5**
MOR8			IAmb	IAmb	11 35 05.4	
	comp=Z,71nm,0.4s					
BIDO	**Bidbid**	**71.01 286**	P	**P**	**11 35 04.0**	**+0.9**
	SNR=15					
GANJ	**Ganja**	**71.06 307**	P	**P**	**11 35 03.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**71.13 201**	P	**P**	**11 35 04.0**	**+0.5**
NWAO	**Narrogin (SRO)**	**71.13 201**	P	**P**	**11 35 03.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**71.13 201**	P	**P**	**11 35 03.6**	**+0.1**
NWAO	**Narrogin (SRO)**	**71.13 201**	LR	LR	12 04 39.1	
	comp=Z,663nm,21.6s,baz=32,slow=34					
NWAO	**Narrogin (SRO)**	**71.13 201**	P	**P**	**11 35 03.9**	**+0.5**
NWAO	**Narrogin (SRO)**	**71.13 201**	P	**P**	**11 35 03.6**	**+0.1**
NWAO			pmax	pmax		
	comp=Z,125nm,0.9s					
NWAO	**Narrogin (SRO)**	**71.13 201**	P	**P**	**11 35 03.5**	**0.0**
SHME	**Shamm**	**71.28 289**	*i* P	**P**	**11 35 05.4**	**+0.7**
	SNR=20					
SHME	**Shamm**	**71.28 289**	P	**P**	**11 35 05.6**	**+0.9**
	SNR=7.7					
SMDO	**Samad**	**71.31 285**	P	**P**	**11 35 06.1**	**+1.1**
	SNR=11					
GUDG	**Gudauri**	**71.34 309**	P	**P**	**11 35 07.4**	**+2.3**
NCK	**Nalchik**	**71.37 310**	*e*P	**P**	**11 35 03.9**	**-1.1**
NCK			pmax	pmax		
	comp=Z,24nm,0.8s					
ARBE	**Arbavere**	**71.50 331**	*e*P	**P**	**11 35 05.4**	**0.0**
ARPS	**Mount Arapiles**	**71.51 179**	P	**P**	**11 35 09.5**	**+3.9**
ARPS	**Mount Arapiles**	**71.51 179**	P	**P**	**11 35 06.5**	**+0.9**
	comp=Z,95nm,1.0s					
MASF	**Masafi**	**71.61 288**	P	**P**	**11 35 07.7**	**+0.9**
JMDO	**Jabal Madar**	**71.62 285**	P	**P**	**11 35 07.0**	**+0.2**
	SNR=8.3					
MSFE	**Esma-Masafi**	**71.62 288**	P	**P**	**11 35 07.1**	**+0.3**
HOQ	**Hoqain**	**71.62 286**	P	**P**	**11 35 08.3**	**+1.4**
	SNR=17					
MEF	**Metsahovi**	**71.64 332**	*e*P	**P**	**11 35 06.1**	**-0.1**
KBZ	**Khabaz**	**71.68 311**	P	**P**	**11 35 07.0**	**+0.3**
	comp=Z,94nm,0.8s,baz=81,slow=2.2,SNR=93					
KBZ			LR	LR	12 09 17.5	
	comp=Z,2μm,20.4s,baz=53,slow=38					
	comp=Z,94nm,0.8s					
KBZ	**Khabaz**	**71.68 311**	*ce*P	**P**	**11 35 06.3**	**-0.5**
KBZ			pmax	pmax		
	comp=Z,112nm,1.0s					
AUHAR	**St Anne's Scho**	**71.69 202**	P	**P**	**11 35 09.2**	**+2.5**
KIV	**Kislovodsk**	**71.70 311**	⇓P	**P**	**11 35 08.1**	**+1.1**
KIV	**Kislovodsk**	**71.70 311**	P	**P**	**11 35 07.8**	**+0.7**
KIV	**Kislovodsk**	**71.70 311**	*i* P	**P**	**11 35 08.0**	**+0.9**
	SNR=32					
KIV	**Kislovodsk**	**71.70 311**	P	**P**	**11 35 08.4**	**+1.3**
KIV	**Kislovodsk**	**71.70 311**	*e*P	**P**	**11 35 07.4**	**+0.4**
KIV			*e*		11 37 46.9	
KIV			*e*S	**S**	**11 44 24.9**	**+1.0**
KIV			*e*SS	**SS**	**11 49 02.4**	**+3.0**
KIV			pmax	pmax		
	comp=Z,213nm,4.6s					
KIV			pmax	pmax		
	comp=Z,275nm,1.0s					
KIV			MLR	MLR		
	comp=Z,2μm,18.0s					
KIV	**Kislovodsk**	**71.70 311**	P	**P**	**11 35 07.8**	**+0.7**
	comp=Z,241nm,0.8s,comp=Z,2μm					
KIV	**Kislovodsk**	**71.70 311**	P	**P**	**11 35 08.1**	**+1.1**
UPNV	**Upernavik**	**71.79 5**	*i* P	**P**	**11 35 06.3**	**-0.6**
UPNV			IAmb	IAmb	11 35 13.7	
	comp=Z,23nm,0.9s					
UOSS	**Minazif**	**71.80 288**	*i* P	**P**	**11 35 08.2**	**+0.4**
	SNR=5.2					
UOSS	**Minazif**	**71.80 288**	P	**P**	**11 35 08.4**	**+0.6**
UOSS	**Minazif**	**71.80 288**	P	**P**	**11 35 10.8**	**+3.0**
UOSS			sP	**PcP**	**11 35 27.0**	**+0.4**
VSU	**Vasula**	**71.80 330**	*ce*P	**P**	**11 35 07.1**	**-0.1**
VSU			pmax	pmax		
	comp=Z,43nm,0.9s					
VSU			MLR	MLR		
	comp=Z,3μm,15.0s					
SHA1	**Shidzhatmaz**	**71.83 311**	*ce*P	**P**	**11 35 08.1**	**+0.1**
HATD	**Hatta, Dubai**	**71.91 288**	*i* P	**P**	**11 35 08.6**	**0.0**
	SNR=7.5					
HATD	**Hatta, Dubai**	**71.91 288**	P	**P**	**11 35 09.5**	**+0.9**
	SNR=6.4					
ONI	**Oni**	**71.92 310**	*e*P	**P**	**11 35 10.1**	**+1.7**
ONI	**Oni**	**71.92 310**	P	**P**	**11 35 09.3**	**+0.9**
ONI			IAmb	IAmb	11 35 15.2	
	comp=Z,66nm,1.0s					
ONI	**Oni**	**71.92 310**	P	**P**	**11 35 09.3**	**+0.9**
ONI			pmax	pmax		
	comp=Z,66nm,1.0s					
JMIC	**Jan Mayen**	**71.94 350**	LR	LR	12 06 57.7	
	comp=Z,484nm,18.8s,baz=36,slow=36					
SOHO	**SOHO**	**71.95 287**	*i* P	**P**	**11 35 08.6**	**-0.2**
	SNR=9.8					
SOHO	**SOHO**	**71.95 287**	P	**P**	**11 35 09.3**	**+0.5**
NEW	**Newport**	**71.97 43**	P	**P**	**11 35 08.4**	**-0.1**
NEW	**Newport**	**71.97 43**	P	**P**	**11 35 08.9**	**+0.4**
	baz=303,SNR=63					
NEW			S	**S**	**11 44 28.5**	**+1.7**
	baz=303					
NEW	**Newport**	**71.97 43**	LR	LR	12 02 40.6	
	comp=Z,368nm,21.5s,baz=301,slow=32					
NEW	**Newport**	**71.97 43**	P	**P**	**11 35 08.4**	**-0.1**
NEW			pmax	pmax		
	comp=Z,43nm,0.9s					
YBH	**Yreka Blue Hor**	**72.04 51**	P	**P**	**11 35 10.1**	**+0.9**
YBH	**Yreka Blue Hor**	**72.04 51**	LR	LR	12 01 16.4	
	comp=Z,268nm,21.1s,baz=300,slow=31					
YBH	**Yreka Blue Hor**	**72.04 51**	P	**P**	**11 35 10.1**	**+0.9**
YBH			pmax	pmax		
	comp=Z,24nm,0.9s					
ASHO	**Ashiyiah**	**72.04 288**	*i* P	**P**	**11 35 08.9**	**-0.4**
	SNR=10.0					
ASHO	**Ashiyiah**	**72.04 288**	P	**P**	**11 35 09.6**	**+0.2**
	SNR=14					
TRLG	**Trialeti**	**72.05 308**	P	**P**	**11 35 10.4**	**+1.1**
PINE	**Pine Mountain**	**72.09 49**	P	**P**	**11 35 10.4**	**+0.9**
PINE			IAmb	IAmb	11 35 14.8	
	comp=Z,98nm,0.8s					
ERBR	**Yeremizino-Bor**	**72.11 314**	*e*P	**P**	**11 35 10.6**	**+1.2**
ERBR			*e**PP	**pP**	**11 35 19.1**	**-2.4**
ERBR			*e*		11 37 47.9	
ERBR			pmax	pmax		
	comp=Z,220nm,1.3s					
ERBR			MLR	MLR		
	comp=Z,2μm,17.0s					
RAF	**Rauma**	**72.11 333**	*e*P	**P**	**11 35 08.9**	**-0.1**
BSY	**Bisya**	**72.14 286**	P	**P**	**11 35 10.2**	**+0.2**
	SNR=17					
J05D	**Fort Rock, OR**	**72.17 49**	P	**P**	**11 35 10.9**	**+0.9**
NAZ	**Nazwa, Dubai**	**72.20 288**	P	**P**	**11 35 10.2**	**0.0**
E09A	**Wood Farm, Sta**	**72.32 45**	P	**P**	**11 35 11.3**	**+0.7**
E09A			IAmb	IAmb	11 35 15.3	
	comp=Z,77nm,1.0s					
GNI	**Garni**	**72.35 307**	P	**P**	**11 35 13.0**	**+1.8**
GNI	**Garni**	**72.35 307**	P	**P**	**11 35 12.7**	**+1.6**
GNI	**Garni**	**72.35 307**	LR	LR	12 10 06.9	
	comp=Z,3μm,18.2s,baz=66,slow=38					
GNI	**Garni**	**72.35 307**	P	**P**	**11 35 13.9**	**+2.7**
GNI	**Garni**	**72.35 307**	*ce*P	**P**	**11 35 10.6**	**-0.5**
GNI			pmax	pmax		
	comp=Z,100nm,1.3s					
NAX	**Nakhchivan**	**72.36 306**	P	**P**	**11 35 12.3**	**+1.2**
ARQ	**Araqi**	**72.37 286**	P	**P**	**11 35 12.0**	**+0.7**
	SNR=12					
FAQ	**Al Faqa, Dubai**	**72.38 288**	P	**P**	**11 35 11.5**	**+0.2**
TOO	**Toolangi**	**72.44 176**	P	**P**	**11 35 13.6**	**+2.4**
TOO	**Toolangi**	**72.44 176**	P	**P**	**11 35 12.3**	**+1.1**
TOO			IAmb	IAmb	11 35 18.2	
	comp=Z,66nm,1.1s					
TOO	**Toolangi**	**72.44 176**	P	**P**	**11 35 12.3**	**+1.1**
TOO			pmax	pmax		
	comp=Z,66nm,1.1s					
MHTO	**MHTO**	**72.44 284**	P	**P**	**11 35 12.0**	**+0.3**
	SNR=15					
G08A	**Pilot Rock**	**72.50 47**	P	**P**	**11 35 12.2**	**+0.4**
AKH	**Akhalkalaki**	**72.51 309**	*e*P	**P**	**11 35 13.5**	**+1.4**
LABN	**Labinsk**	**72.54 313**	*e*P	**P**	**11 35 12.3**	**+0.4**
LABN			*e**PP	**pP**	**11 35 20.7**	**-3.4**
LABN			*e*S	**S**	**11 44 32.3**	**-1.0**
LABN			pmax	pmax		
	comp=Z,117nm,0.9s					
LABN			MLR	MLR		
	comp=Z,2μm,18.0s					
ALNE	**Al Ain**	**72.61 287**	*i* P	**P**	**11 35 12.9**	**+0.2**
	SNR=11					
ALNE	**Al Ain**	**72.61 287**	P	**P**	**11 35 13.6**	**+0.9**
	SNR=15					
SUMG	**Summit**	**72.62 360**	P	**P**	**11 35 13.1**	**+0.7**
SUMG			IAmb	IAmb	11 35 27.1	
	comp=Z,62nm,0.9s					
SUMG			IAMs_20	IAMs_20	12 11 54.9	
	comp=Z,1μm,20.0s					
SUMG	**Summit**	**72.62 360**	P	**P**	**11 35 13.1**	**+0.7**
SUMG			pmax	pmax		
	comp=Z,62nm,0.9s					
SUMG			MLR	MLR		
	comp=Z,1μm,20.0s					
SUMG	**Summit**	**72.62 360**	*i* P	**P**	**11 35 13.0**	**+0.6**
SUMG			IAmb	IAmb	11 35 16.9	
	comp=Z,38nm,0.9s					
ASUD	**Al Ashush, Dub**	**72.64 288**	*i* P	**P**	**11 35 13.4**	**+0.5**
	SNR=5.9					
ASUD	**Al Ashush, Dub**	**72.64 288**	P	**P**	**11 35 13.3**	**+0.4**
RKGY	**Rocky Gully**	**72.78 200**	P	**P**	**11 35 14.6**	**+1.3**
RKGY	**Rocky Gully**	**72.78 200**	P	**P**	**11 35 14.0**	**+0.8**
	comp=Z,145nm,1.1s					
O02D	**Mt. Diablo Mer**	**72.80 53**	P	**P**	**11 35 14.1**	**+0.4**
O02D			IAMs_20	IAMs_20	12 02 12.1	
	comp=Z,2μm,20.0s					
I07A	**Izee**	**72.81 48**	P	**P**	**11 35 14.7**	**+0.9**
MTSE	**Matsula**	**72.83 331**	*e*P	**P**	**11 35 13.5**	**+0.2**
NSS	**Namsos**	**72.87 339**	*e*P	**P**	**11 35 13.3**	**-0.2**
NSS			IAmb	IAmb	11 35 18.6	
	comp=Z,18nm,0.7s					
F10A	**Beach Ranch, E**	**73.15 45**	P	**P**	**11 35 15.7**	**0.0**
NUUG	**Nuugaatsiaq**	**73.21 5**	*i* P	**P**	**11 35 13.6**	**-1.9**
HOPS	**Hopland Field**	**73.23 54**	IAMs_20	IAMs_20	12 03 13.6	
	comp=Z,2μm,20.0s					
DQM	**DQM**	**73.33 283**	P	**P**	**11 35 16.6**	**-0.4**
CLDR	**Caldiran**	**73.42 306**	*e*P	**P**	**11 35 20.6**	**+3.0**
BATM	**Batumi**	**73.56 309**	*e*P	**P**	**11 35 18.8**	**+0.8**
BATM	**Batumi**	**73.56 309**	P	**P**	**11 35 18.2**	**+0.2**
BCA	**Borcka**	**73.69 309**	⇑P	**P**	**11 35 20.2**	**+1.4**
BCA	**Borcka**	**73.69 309**	*e*P	**P**	**11 35 18.6**	**-0.2**
SOC	**Sochi**	**73.72 312**	*e*P	**P**	**11 35 18.0**	**-0.9**
SOC			*e*		11 38 01.1	
SOC			*e*PPP	PPP	11 39 46.4	
SOC			*e*S	**S**	**11 44 47.0**	**+0.2**
SOC			*e*SS	**SS**	**11 49 32.0**	**+2.0**
SOC			pmax	pmax		
	comp=Z,94nm,0.9s					
SOC			MLR	MLR		
	comp=Z,2μm,19.0s					
MNK	**Minsk**	**73.74 326**	*i* P	**P**	**11 35 16.0**	**-2.8**
MNK			*i* *PP	**pP**	**11 35 28.1**	**-2.9**
MNK			*i*		11 38 00.6	
MNK			*i* PPP	PPP	11 39 45.8	
MNK			*i* S	**SKiKP**	**11 44 44.7**	**0.0**
MNK			*i*		11 45 22.0	
MNK			*i* SS	**SS**	**11 49 29.8**	**0.0**
MNK			pmax	pmax		
	comp=N,14nm,0.6s					
MNK			pmax	pmax		
	comp=E,7.0nm,0.7s					
MNK			pmax	pmax		
	comp=Z,65nm,1.0s					
MNK			MLR	MLR		
	comp=N,1μm,17.0s					
MNK			MLR	MLR		
	comp=Z,2μm,20.0s					
MNK			MLR	MLR		
	comp=E,1μm,18.0s					
AGRB	**Hanur-Agry**	**73.80 307**	*e*P	**P**	**11 35 21.8**	**+2.0**
ISAL	**Salakas**	**73.86 327**	*e*P	**P**	**11 35 20.7**	**+1.2**
IIGN	**Ignalina**	**73.96 327**	*e*P	**P**	**11 35 22.2**	**+2.1**
SCO	**Scoresbysund**	**73.97 354**	IAMs_20	IAMs_20	12 06 59.7	
	comp=Z,1μm,22.0s					
SCO	**Scoresbysund**	**73.97 354**	*i* P	**P**	**11 35 21.3**	**+1.4**
SCO			IAmb	IAmb	11 35 23.6	
	comp=Z,15nm,0.9s					
VANB	**Van**	**74.06 306**	*e*P	**P**	**11 35 22.6**	**+1.4**
UMMG	**Uummannaq**	**74.13 4**	*i* P	**P**	**11 35 18.8**	**-2.0**
SLIT	**Slitere, Latvi**	**74.15 331**	*e*P	**P**	**11 35 21.6**	**+0.4**
WVOR	**Wild Horse Val**	**74.24 49**	P	**P**	**11 35 23.3**	**+1.1**
WVOR			pmax	pmax		
	comp=Z,41nm,1.2s					
KOPR	**Koprukoy-ERZUR**	**74.32 308**	*e*P	**P**	**11 35 24.6**	**+1.9**
MLAZ	**Malazgirt-MUS**	**74.32 307**	*e*P	**P**	**11 35 24.9**	**+2.1**
PLID	**Pearl Lake**	**74.36 46**	IAMs_20	IAMs_20	12 02 23.0	
	comp=Z,1μm,22.0s					
JRN	**Qarnain Island**	**74.40 290**	P	**P**	**11 35 22.7**	**-0.5**
ANN	**Anapa**	**74.42 314**	*e*P	**P**	**11 35 22.6**	**-0.3**
ANN			*e**PP	**pP**	**11 35 33.7**	**-1.5**
ANN			*e*		11 38 09.7	
ANN			*e*S	**S**	**11 44 55.5**	**+1.0**
ANN			pmax	pmax		
	comp=Z,195nm,1.3s					
ANN			MLR	MLR		
	comp=Z,2μm,18.0s					
CHOM	**Cayeli-Rize**	**74.42 309**	*e*P	**P**	**11 35 18.6**	**-4.5**
AKDM	**Akdamar-Van**	**74.47 306**	*e*P	**P**	**11 35 24.5**	**+0.8**
VSVD	**Vaisvydziai**	**74.56 329**	*e*P	**P**	**11 35 23.8**	**+0.3**
MSO	**Missoula**	**74.56 43**	P	**P**	**11 35 24.3**	**+0.4**
	baz=305,SNR=44					
MSO			S	**S**	**11 44 53.9**	**-2.5**
	baz=305					
PABE	**Paberze**	**74.85 328**	*e*P	**P**	**11 35 25.4**	**+0.1**
MZR	**Muzera**	**74.93 288**	*i* P	**P**	**11 35 25.6**	**-0.7**
	SNR=14					
MZR	**Muzera**	**74.93 288**	P	**P**	**11 35 26.4**	**+0.1**
	SNR=12					
GURO	**Guroymak-BITLI**	**74.98 307**	*e*P	**P**	**11 35 27.6**	**+1.0**
RAO	**Raoul Island**	**75.00 143**	LR	LR	12 09 00.3	
	comp=Z,792nm,18.2s,baz=341,slow=36					
BPMT	**Black Pine Rid**	**75.06 43**	P	**P**	**11 35 27.2**	**+0.2**
SHMA	**Al-Shehemyia**	**75.37 291**	P	**P**	**11 35 28.4**	**-0.4**
PBUR	**Paburge**	**75.37 329**	*e*P	**P**	**11 35 28.5**	**+0.3**
AK03	**Malin Array Si**	**75.42 322**	P	**P**	**11 35 27.9**	**-0.8**
AKASG	**Malin Array Be**	**75.44 322**	P	**P**	**11 35 27.5**	**-1.2**
	comp=Z,15nm,0.4s,baz=48,slow=5.6,SNR=5.8					
AKASG			LR	LR	12 11 58.9	
	comp=Z,5μm,18.2s,baz=51,slow=38					
	comp=Z,15nm,0.4s					
AKBB	**Malin Array Si**	**75.44 322**	P	**P**	**11 35 28.5**	**-0.3**
AKBB			IAmb	IAmb	11 35 43.9	
	comp=Z,80nm,0.8s					
AKBB	**Malin Array Si**	**75.44 322**	*ce*P	**P**	**11 35 27.3**	**-1.4**
AKBB			pmax	pmax		
	comp=Z,46nm,1.0s					
AKBB	**Malin Array Si**	**75.44 322**	P	**P**	**11 35 27.9**	**-0.8**
AK01	**Malin Array Si**	**75.45 322**	P	**P**	**11 35 27.8**	**-1.0**
AK23	**Malin Array Si**	**75.45 322**	P	**P**	**11 35 28.0**	**-0.8**
KIEV	**Kiev**	**75.45 322**	⇑P	**P**	**11 35 28.7**	**-0.1**
KIEV	**Kiev**	**75.45 322**	*i* P	**P**	**11 35 27.8**	**-1.0**
	SNR=16					
KIEV	**Kiev**	**75.45 322**	P	**P**	**11 35 28.7**	**-0.1**
KIEV	**Kiev**	**75.45 322**	P	**P**	**11 35 27.9**	**-0.9**
	comp=Z,383nm,0.8s,comp=Z,6μm					
AK04	**Malin Array Si**	**75.45 322**	P	**P**	**11 35 27.9**	**-0.9**
HFS	**Hagfors**	**75.59 336**	P	**P**	**11 35 28.9**	**-0.6**
	comp=Z,24nm,0.5s,baz=72,slow=4.7,SNR=65					
HFS			LR	LR	12 10 08.8	
	comp=Z,2μm,20.6s,baz=46,slow=37					
	comp=Z,24nm,0.5s					
DOMB	**Dombas**	**75.62 339**	*e*P	**P**	**11 35 29.3**	**-0.3**
DOMB			IAmb	IAmb	11 35 43.4	
	comp=Z,53nm,0.8s					
BNGB	**Bingl**	**75.62 308**	*e*P	**P**	**11 35 32.6**	**+2.4**
SAKB	**Bahrain**	**75.63 292**	P	**P**	**11 35 29.7**	**-0.6**
ILULI	**Ilulissat**	**75.64 4**	IAMs_20	IAMs_20	12 08 44.6	
	comp=Z,2μm,22.0s					
ILULI	**Ilulissat**	**75.64 4**	*i* P	**P**	**11 35 29.8**	**+0.2**
MOL	**Molde**	**75.65 340**	*e*P	**P**	**11 35 30.1**	**+0.4**
MOL			IAmb	IAmb	11 35 38.6	
	comp=Z,53nm,1.1s					
NC204	**NORSAR Array S**	**75.69 338**	P	**P**	**11 35 29.9**	**-0.2**
NC204			IAmb	IAmb	11 35 48.4	
	comp=Z,79nm,0.7s					
NB2	**NORSAR Subarra**	**75.72 337**	P	**P**	**11 35 29.5**	**-0.8**
	comp=Z,73nm,1.2s,baz=41,slow=5.9					
NB2			PP	**PP**	**11 38 21.1**	**+1.4**
	comp=Z,70nm,2.0s,baz=38,slow=8.6					
NB2	**NORSAR Subarra**	**75.72 337**	P	**P**	**11 35 29.5**	**-0.8**
	baz=41,slow=5.9					
NB2	**NORSAR Subarra**	**75.72 337**	P	**P**	**11 35 27.2**	**-3.1**
NB2			pmax	pmax		
	comp=Z,2μm,2.9s					
NOA	**NORSAR Array B**	**75.72 337**	P	**P**	**11 35 29.8**	**-0.5**
	comp=Z,31nm,0.8s,baz=40,slow=5.7,SNR=67					
NOA			PP	**PP**	**11 38 21.2**	**+1.5**
	comp=Z,8.7nm,0.9s,baz=47,slow=8.5,SNR=3.7					
NOA			LR	LR	12 11 47.3	
	comp=Z,3μm,21.6s,baz=40,slow=38					
	comp=Z,31nm,0.8s					
SVAN	**Silvan-Diyarba**	**75.75 307**	*e*P	**P**	**11 35 30.9**	**0.0**
SLWR	**Sila**	**75.76 289**	P	**P**	**11 35 30.9**	**-0.2**
ESPY	**Espiye-Giresun**	**75.80 310**	*e*P	**P**	**11 35 31.2**	**+0.1**
NC602	**NORSAR Array S**	**75.85 337**	*e*P	**P**	**11 35 28.9**	**-2.1**
NC602			IAmb	IAmb	11 35 32.7	
	comp=Z,525nm,2.7s					
NORES	**NORESS Array B**	**75.85 337**	P	**P**	**11 35 31.7**	**+0.8**
SHAO	**Shalim**	**75.88 282**	P	**P**	**11 35 32.0**	**+0.2**
MI30	**MI30,Zelenitsa**	**75.93 323**	P	**P**	**11 35 30.7**	**-0.9**
FCC	**Fort Churchill**	**76.02 26**	P	**P**	**11 35 31.8**	**-0.1**
FCC			IAmb	IAmb	11 35 49.3	
	comp=Z,103nm,1.1s					
FCC	**Fort Churchill**	**76.02 26**	P	**P**	**11 35 31.8**	**-0.1**
FCC			pmax	pmax		
	comp=Z,103nm,1.1s					
KBD	**Kabd**	**76.06 296**	P	**P**	**11 35 32.8**	**+0.1**
SMRA	**Abu-Samra**	**76.06 290**	P	**P**	**11 35 33.4**	**+0.6**
MI28	**MI28,Pidlybu**	**76.07 323**	P	**P**	**11 35 31.5**	**-0.8**
ICESG	**Greenland Ices**	**76.13 0**	*i* P	**P**	**11 35 33.2**	**+0.4**
ICESG			IAmb	IAmb	11 35 38.5	
	comp=Z,62nm,0.8s					
EGMT	**Eagleton**	**76.15 41**	P	**P**	**11 35 33.5**	**+0.4**
EGMT	**Eagleton**	**76.15 41**	P	**P**	**11 35 33.6**	**+0.6**
	baz=307,SNR=42					
HLID	**Hailey**	**76.16 46**	P	**P**	**11 35 33.8**	**+0.5**
HLID	**Hailey**	**76.16 46**	P	**P**	**11 35 34.4**	**+1.1**
	baz=305,SNR=48					
SUW	**Suwalki**	**76.17 327**	*e*P	**P**	**11 35 33.6**	**+0.7**
SUW			*e*S	**S**	**11 45 10.0**	**-3.8**
SUW			*e*L	L	12 10 45.6	
	comp=Z,2μm,24.1s					
SUW	**Suwalki**	**76.17 327**	P	**P**	**11 35 32.6**	**-0.3**
SUW			IAmb	IAmb	11 35 50.7	
	comp=Z,107nm,1.0s					
SUW	**Suwalki**	**76.17 327**	*e*P	**P**	**11 35 32.8**	**-0.1**
SUW	**Suwalki**	**76.17 327**	P	**P**	**11 35 32.6**	**-0.3**
SUW			pmax	pmax		
	comp=Z,107nm,1.0s					
SIM	**Simferopol'**	**76.26 316**	*e*P	**P**	**11 35 35.6**	**+2.0**
SIM			*PP	**sP**	**11 35 53.0**	**+2.5**
SIM			*e*		11 38 28.0	
SIM			*e*S	**S**	**11 45 15.0**	**0.0**
SIM			pmax	pmax		
	comp=Z,57nm,0.8s					
SIM			MLR	MLR		
	comp=Z,900nm,16.0s					
MI29	**MI29, Kamyanyy**	**76.30 323**	P	**P**	**11 35 33.2**	**-0.5**
RYN	**Ryan**	**76.41 52**	P	**P**	**11 35 36.3**	**+1.5**
RYN			IAmb	IAmb	11 36 04.2	
	comp=Z,70nm,1.2s					
PTK	**Pertek**	**76.51 308**	*e*P	**P**	**11 35 37.5**	**+2.1**
DYBB	**Diyarbakir**	**76.55 307**	*e*P	**P**	**11 35 36.9**	**+1.4**
BOZ	**Bozeman (W)**	**76.58 43**	P	**P**	**11 35 36.3**	**+0.7**
BOZ	**Bozeman (W)**	**76.58 43**	P	**P**	**11 35 35.8**	**+0.2**
	baz=307,SNR=48					
BOZ	**Bozeman (W)**	**76.58 43**	P	**P**	**11 35 36.3**	**+0.7**
BOZ			pmax	pmax		
	comp=Z,46nm,1.0s					
DMTO	**DMTO**	**76.58 282**	P	**P**	**11 35 35.8**	**-0.1**
MAZI	**Mazidag**	**76.63 306**	*e*P	**P**	**11 35 37.7**	**+1.8**
RNPP9	**Sopachiv**	**76.63 324**	P	**P**	**11 35 35.1**	**-0.4**
LUBAR	**Lubar, Ukraine**	**76.66 322**	P	**P**	**11 35 34.6**	**-1.1**
NVAR	**Mina Array Bea**	**76.67 52**	P	**P**	**11 35 37.4**	**+1.1**
	comp=Z,31nm,0.7s,baz=283,slow=5.7,SNR=140					
NVAR			LR	LR	12 02 30.1	
	comp=Z,907nm,21.2s,baz=292,slow=30					
	comp=Z,31nm,0.7s					
RNPP8	**Varash**	**76.69 324**	P	**P**	**11 35 35.1**	**-0.8**
OSL	**Oslo**	**76.72 337**	*e*P	**P**	**11 35 36.1**	**+0.2**
OSL			IAmb	IAmb	11 35 44.3	
	comp=Z,67nm,1.1s					
ILIC	**Ilic-Erzincan**	**76.73 309**	*e*P	**P**	**11 35 38.1**	**+1.6**
RNPP5	**Staryi Chortor**	**76.75 324**	P	**P**	**11 35 35.4**	**-0.8**
DOK	**Doka**	**76.75 283**	P	**P**	**11 35 36.6**	**-0.2**
MLAC	**Mammoth, Mammo**	**76.77 53**	P	**P**	**11 35 38.4**	**+1.5**
	baz=304					
SOEG	**Soedalen**	**76.84 357**	*i* P	**P**	**11 35 34.7**	**-1.7**
SKAR	**Skarslia**	**76.91 338**	*e*P	**P**	**11 35 37.2**	**+0.2**
SKAR			IAmb	IAmb	11 35 47.3	
	comp=Z,32nm,0.3s					
ARPR	**Arapgir-MALATY**	**77.08 309**	*e*P	**P**	**11 35 41.9**	**+3.4**
ARPR	**Arapgir-MALATY**	**77.08 309**	P	**P**	**11 35 39.0**	**+0.5**
FOO	**Floro**	**77.14 340**	*e*P	**P**	**11 35 38.7**	**+0.5**
FOO			IAmb	IAmb	11 35 48.4	
	comp=Z,90nm,1.6s					
VOG	**Valley Oaks Go**	**77.14 55**	P	**P**	**11 35 39.3**	**+0.6**
	baz=304					
HYA	**Hoyanger**	**77.16 339**	*e*P	**P**	**11 35 38.6**	**+0.3**
HYA			IAmb	IAmb	11 35 41.0	
	comp=Z,20nm,0.8s					
STRU	**Stroemstad**	**77.26 336**	*i* P	**P**	**11 35 37.9**	**-1.0**
SMMC	**Simmler**	**77.29 56**	P	**P**	**11 35 40.7**	**+1.1**
	baz=304					
ELK	**Elko**	**77.29 49**	P	**P**	**11 35 41.0**	**+1.2**
RBK	**Rabkut**	**77.30 282**	P	**P**	**11 35 39.3**	**-0.6**
KONO	**Kongsberg**	**77.31 337**	*e*P	**P**	**11 35 39.9**	**+0.7**
KONO	**Kongsberg**	**77.31 337**	*ce*P	**P**	**11 35 40.6**	**+1.4**
KONO			pmax	pmax		
	comp=Z,23nm,1.0s					
SNOP	**Sinop**	**77.34 313**	P	**P

comp=Z,2µm,14.5s
ODD1 Odda 78.03 338 *e*P **P 11 35 42.9 -0.4**
ODD1 IAmb IAmb 11 35 47.8
comp=Z,80nm,1.4s
BER Bergen 78.04 339 *e*P **P 11 35 43.9 +0.7**
BER IAmb IAmb 11 35 52.0
comp=Z,44nm,0.9s
BER Bergen 78.04 339 P **P 11 35 44.8 +1.6**
BER pmax pmax
comp=Z,65nm,1.1s
GRAC Grapevine Rang 78.09 53 P **P 11 35 44.8 +0.7**
baz=305,SNR=34
BZK Bozkurt 78.09 313 ⇑P **P 11 35 44.8 +0.9**
BZK Bozkurt 78.09 313 *e*P **P 11 35 44.3 +0.4**
ABTO Aybut 78.10 283 P **P 11 35 44.0 -0.4**
ISA Isabella, Lake 78.12 55 P **P 11 35 43.7 -0.5**
baz=305,SNR=14
ARVC Arvin 78.18 55 P **P 11 35 44.9 +0.4**
baz=305
RLMT Red Lodge 78.19 43 P **P 11 35 45.3 +0.6**
baz=308,SNR=24
DEL Delary 78.24 333 *i* P **P 11 35 44.3 -0.1**
ONAU Onsala 78.25 334 *i* P **P 11 35 44.0 -0.5**
FABU Falkenberg 78.27 334 *i* P **P 11 35 45.6 +1.0**
R11B Troy Canyon, C 78.47 51 P **P 11 35 47.0 +0.7**
baz=306,SNR=66
BLS5 Blasjo 78.48 338 *e*P **P 11 35 46.2 +0.5**
BLS5 IAmb IAmb 11 35 55.8
comp=Z,40nm,0.7s
IAS Iasi 78.50 320 P **P 11 35 48.8 +2.8**
IAS pmax pmax
comp=Z,242nm,0.9s
OSI Osito Audit: C 78.54 56 P **P 11 35 46.6 0.0**
baz=305
MPMC Manual Prospec 78.55 54 P **P 11 35 47.1 +0.3**
baz=305,SNR=31
LVV L'vov 78.56 324 *e*P **P 11 35 48.1 +1.7**
LVV *e* 11 38 47.7
LVV *e*S **S 11 45 39.1 -0.7**
LVV *e*SS **SS 11 50 47.2 +4.3**
LVV MLR MLR
comp=Z,3µm,22.0s
KUZ Kuaotunu 78.58 152 P **P 11 35 48.7 +2.3**
DY2G Dye2 78.62 3 *i* P **P 11 35 46.0 -0.6**
DY2G IAmb IAmb 11 35 49.9
comp=Z,26nm,0.9s
SARI SarD1z-Kayseri 78.70 309 *e*P **P 11 35 48.4 +0.8**
BEL Belsk 78.72 327 *e*P **P 11 35 47.7 +0.6**
BEL *e*S **S 11 45 38.7 -2.6**
FURC Furnace Creek, 78.73 53 P **P 11 35 48.2 +0.8**
baz=305,SNR=22
HOMB Homborsund 78.74 336 *i* P **P 11 35 46.4 -0.8**
LRMC Laurel Mtn Rad 78.75 55 P **P 11 35 48.5 +0.6**
baz=305,SNR=38
DGMT Dagmar 78.75 38 P **P 11 35 47.6 +0.1**
DGMT IAmb IAmb 11 35 50.9
comp=Z,94nm,1.1s
DGMT Dagmar 78.75 38 IAMs_20 IAMs_20 12 13 09.8
comp=Z,979nm,20.0s
DGMT Dagmar 78.75 38 P **P 11 35 47.5 +0.1**
baz=311,SNR=18
BNN Bunyan 78.80 310 *e*P **P 11 35 50.1 +2.0**
FRB Frobisher Bay 78.80 13 LR LR 12 12 52.6
comp=Z,2µm,20.7s,baz=342,slow=37
FRB Frobisher Bay 78.80 13 P **P 11 35 47.3 -0.1**
FRB pmax pmax
comp=Z,54nm,1.0s
BSD Bornholm Skovb 78.85 332 *e*P **P 11 35 46.4 -1.4**
BSD Bornholm Skovb 78.85 332 P **P 11 35 46.4 -1.4**
BSD pmax pmax
comp=Z,61nm,0.8s
BSD Bornholm Skovb 78.85 332 *i* P **P 11 35 44.9 -2.8**
BSD *i* P PcP 11 35 45.2 -11
BSD IAmb IAmb 11 35 48.6
comp=Z,25nm,1.0s
TPNV Topopah Spring 78.85 53 P **P 11 35 49.3 +0.9**
baz=306,SNR=52
BJUU Bjuv 78.85 333 *i* P **P 11 35 47.5 -0.3**
LAO LASA Array 78.86 40 IAMs_20 IAMs_20 12 06 26.5
comp=Z,1µm,20.0s
EDW2 Edwards Air Fo 78.88 55 P **P 11 35 49.5 +1.0**
baz=305,SNR=26
GAZ Gaziantep 78.91 308 *e*P **P 11 35 50.9 +2.3**
KMRS Kahramanmaras 78.92 308 *e*P **P 11 35 50.5 +1.9**
KURC Kurucasile-Bar 78.92 314 *e*P **P 11 35 49.6 +1.2**
DECC Green Verdugo 79.01 56 P **P 11 35 49.7 +0.6**
baz=305
LUNU Lund 79.03 333 *i* P **P 11 35 49.7 +1.0**
SNART Snartemo 79.11 337 *e*P **P 11 35 50.0 +0.8**
SNART Snartemo 79.11 337 *i* P **P 11 35 49.2 +0.1**
DUG Dugway, Tooele 79.11 48 P **P 11 35 50.4 +0.6**
baz=307,SNR=31
DUG Dugway, Tooele 79.11 48 P **P 11 35 51.0 +1.2**
DUG pmax pmax
comp=Z,63nm,1.1s
CANT Cankiri 79.14 312 *e*P **P 11 35 50.3 +0.5**
GKP Gorka Klasztor 79.25 329 *e*P **P 11 35 50.7 +0.7**
GKP *e*L L 12 14 46.5
comp=Z,2µm,23.0s
JURR Jurilovca 79.33 318 ⇑P **P 11 35 51.6 +1.1**
KWP Kalwaria Pacla 79.33 324 *e*P **P 11 35 52.4 +1.9**
KWP *e*PP **PP 11 38 54.0 +3.8**
KWP *e*S **S 11 45 46.4 -1.6**
KWP *e*L L 12 13 33.2
comp=Z,4µm,23.2s
FMP Fort Macarthur 79.35 56 P **P 11 35 52.0 +1.1**
baz=305
COP Copenhagen 79.36 333 P **P 11 35 51.0 +0.4**
COP pmax pmax
comp=Z,823nm,0.9s
COP Copenhagen 79.36 333 *i* P **P 11 35 48.2 -2.4**
COP *e*P PcP 11 35 50.7 -7.9
COP IAmb IAmb 11 35 55.7
comp=Z,135nm,0.8s
TESR Tescani 79.41 320 ⇑P **P 11 35 51.5 +0.5**
TESR Tescani 79.41 320 P **P 11 35 50.8 -0.3**
comp=Z,73nm,0.9s,comp=Z,1µm
BUR08 Bucovina Ar. S 79.42 322 P **P 11 35 51.5 +0.3**
BURAR Bucovina Array 79.43 322 ⇑P **P 11 35 52.0 +0.7**
BURAR Bucovina Array 79.43 322 P **P 11 35 51.2 -0.1**
BURAR Bucovina Array 79.43 322 P **P 11 35 51.2 -0.1**
GSC Goldstone, Bar 79.44 54 P **P 11 35 52.1 +0.6**
baz=306,SNR=25
SHOC Shoshone, Teco 79.44 54 P **P 11 35 52.4 +0.9**
baz=306,SNR=12
CIS Catalina Islan 79.44 57 P **P 11 35 51.8 +0.2**
baz=305
CFR Carcaliu 79.47 318 ⇑P **P 11 35 52.3 +0.9**
CFR Carcaliu 79.47 318 P **P 11 35 52.3 +0.9**
BFSC Mount Baldy Ra 79.48 56 P **P 11 35 52.3 +0.4**
baz=305,SNR=18
BORG Borgarnes 79.48 352 LR LR 12 12 33.2
comp=Z,570nm,19.0s,baz=22,slow=37
BW06 Boulder Array 79.48 45 P **P 11 35 52.0 +0.1**
baz=308,SNR=30
PD31 Pinedale Array 79.48 45 P **P 11 35 51.7 -0.2**
PDAR Pinedale Array 79.48 45 P **P 11 35 52.0 +0.1**
PDAR Pinedale Array 79.48 45 P **P 11 35 52.4 +0.5**
comp=Z,6.8nm,0.6s,baz=298,slow=3.2,SNR=48
comp=Z,6.8nm,0.6s
TPGR Topolog 79.52 318 ⇑P **P 11 35 52.2 +0.4**
RAR Rarotonga 79.56 125 LR LR 12 06 23.9
comp=Z,864nm,19.1s,baz=304,slow=32
RRX Edison Barstow 79.56 55 P **P 11 35 53.0 +0.9**
baz=306
SCI2 San Clemente I 79.60 57 P **P 11 35 54.1 +1.8**
baz=305
KOZT Kozan 79.62 309 *e*P **P 11 35 54.1 +1.7**
BR131 Keskin Array S 79.66 311 *e*P **P 11 35 52.6 -0.1**
BR131 Keskin Array S 79.66 311 P **P 11 35 53.4 +0.7**
BR131 Keskin Array S 79.66 311 *e*P **P 11 35 51.5 -1.2**
BRTR Keskin Array B 79.66 311 P **P 11 35 52.5 -0.2**
BRTR Keskin Array B 79.66 311 P **P 11 35 53.4 +0.7**
comp=Z,18nm,0.8s,baz=106,slow=4.7,SNR=41
BRTR PKKPbc **PKKPbc 11 54 41.0 +2.0**
comp=Z,0.9nm,0.6s,baz=194,slow=4.3,SNR=4.6
BRTR LR LR 12 16 14.9
comp=Z,1µm,19.5s,baz=40,slow=40
comp=Z,18nm,0.8s
BRTR Keskin Array B 79.66 311 *i* P **P 11 35 53.4 +0.7**
BRTR pmax pmax
comp=Z,19nm,0.8s
BR106 Keskin Array S 79.66 311 P **P 11 35 53.6 +0.8**
comp=Z,43nm,0.9s,comp=Z,300nm
BR105 Keskin Array S 79.67 311 P **P 11 35 53.7 +0.9**
comp=Z,59nm,1.0s,comp=Z,419nm
JLU Jordanelle 79.70 47 P **P 11 35 54.1 +1.0**
JLU IAmb IAmb 11 36 15.2
comp=Z,128nm,1.8s
VRI Vrincioaia 79.79 320 ⇓P **P 11 35 54.6 +1.4**
VRI Vrincioaia 79.79 320 *e*P **P 11 35 54.3 +1.1**
VRI Vrincioaia 79.79 320 P **P 11 35 54.6 +1.4**
PLOR Plostina 79.84 320 ⇓P **P 11 35 54.8 +1.3**
PLOR Plostina 79.84 320 P **P 11 35 54.8 +1.3**
HARR Harsova 79.89 318 ⇑P **P 11 35 54.9 +1.1**
HARR Harsova 79.89 318 P **P 11 35 54.8 +1.1**
TLBR Topalu 79.92 318 ⇑P **P 11 35 55.0 +1.1**
MUD Monsted U'grnd 79.94 335 *i* P **P 11 35 53.7 0.0**
MUD IAmb IAmb 11 35 58.1
comp=Z,29nm,1.0s
TUQ Turquoise Moun 79.94 54 P **P 11 35 55.2 +0.9**
baz=306,SNR=35
BBRC Big Bear Solar 79.96 55 P **P 11 35 54.9 +0.3**
baz=306,SNR=12
BISRR Bisoca 80.00 319 ⇓P **P 11 35 55.7 +1.3**
KOLS Kolonicke sedl 80.01 324 *e*P **P 11 35 56.5 +2.2**
KOLS Kolonicke sedl 80.01 324 *e*P **P 11 35 56.5 +2.2**
HEC Hector,Ludlow 80.03 54 P **P 11 35 55.7 +0.9**
baz=306,SNR=13
TAHT Tahtakopru-Hat 80.04 307 *e*P **P 11 35 57.3 +2.6**
TURR Turia 80.04 320 ⇑P **P 11 35 55.5 +0.9**
CMRD Camardi-Nigde 80.05 309 *e*P **P 11 35 57.6 +2.7**
COVR Voineasa-Covas 80.08 320 ⇑P **P 11 35 56.3 +1.5**
ANTO Ankara 80.09 312 ⇓P **P 11 35 56.3 +1.3**
ANTO Ankara 80.09 312 P **P 11 35 56.3 +1.3**
ANTO Ankara 80.09 312 P **P 11 35 56.3 +1.3**
OZUR 80.14 320 ⇑P **P 11 35 56.3 +1.3**
MURC Murrieta 80.16 56 P **P 11 35 56.2 +0.8**
baz=306,SNR=23
SERE Sereflikochisa 80.17 311 *e*P **P 11 35 56.6 +1.1**
STHS Stebnicka Huta 80.17 325 *e*P **P 11 35 55.1 -0.1**
STHS pmax pmax
comp=Z,20nm,1.1s
STHS Stebnicka Huta 80.17 325 *e*P **P 11 35 55.1 -0.1**
AFSR Afar-Bala (An 80.17 311 *e*P **P 11 35 55.9 +0.4**
ARCR ARCALIA 80.22 322 ⇑P **P 11 35 56.8 +1.3**
BMR Baia Mare 80.26 322 P **P 11 35 57.9 +2.2**
BMR pmax pmax
comp=Z,78nm,1.0s
OJC Ojcow 80.29 326 *e*P **P 11 35 55.4 -0.4**
OJC *e*PP **PP 11 38 59.0 +0.9**
OJC *e*S **S 11 45 55.0 -3.1**
OJC *e*SS **SS 11 51 14.7 +6.0**
OJC *e*L L 12 14 25.1
comp=Z,2µm,21.1s
OJC Ojcow 80.29 326 P **P 11 35 55.9 +0.1**
OJC pmax pmax
comp=Z,72nm,0.9s
OJC Ojcow 80.29 326 P **P 11 35 55.7 -0.1**
comp=Z,72nm,0.9s,comp=Z,1µm
ISR Istrita 80.37 319 ⇓P **P 11 35 57.5 +1.1**
ISR Istrita 80.37 319 P **P 11 35 57.5 +1.1**
CRVS Cervenica-Dubn 80.42 324 *e*P **P 11 35 57.4 +0.9**
CRVS pmax pmax
comp=Z,150nm,1.7s
CRVS Cervenica-Dubn 80.42 324 *e*P **P 11 35 57.4 +0.9**
DOPR Dopca 80.43 320 ⇓P **P 11 35 57.7 +1.1**
URZ Urewera 80.44 152 LR LR 12 08 01.4
comp=Z,1µm,21.9s,baz=58,slow=33
MLR Muntele Rosu 80.45 320 ⇓P **P 11 35 58.1 +1.2**
MLR Muntele Rosu 80.45 320 *e*P **P 11 35 58.1 +1.2**
MLR Muntele Rosu 80.45 320 LR LR 12 13 57.4
comp=Z,4µm,21.7s,baz=50,slow=37
MLR Muntele Rosu 80.45 320 P **P 11 35 58.1 +1.2**
GMRC Granite Mounta 80.50 54 P **P 11 35 58.2 +0.9**
baz=306,SNR=44
MVU Marysvale 80.50 49 P **P 11 35 58.5 +1.0**
NUUK Nuuk 80.58 5 *i* P **P 11 35 56.4 -0.6**
NUUK IAmb IAmb 11 35 59.9
comp=Z,31nm,1.0s
NIE Niedzica 80.62 325 *e*P **P 11 35 59.2 +1.7**
NIE *e*PP **PP 11 39 03.8 +2.9**
NIE *e*S **S 11 45 59.4 -2.2**
NIE Niedzica 80.62 325 P **P 11 35 59.3 +1.7**
NIE pmax pmax
comp=Z,220nm,1.0s
109C Camp Elliot, M 80.64 56 IAMs_20 IAMs_20 12 09 52.8
comp=Z,1µm,19.0s
109C Camp Elliot, M 80.64 56 P **P 11 35 58.7 +0.7**
baz=306,SNR=13
PFO Pinyon Flats O 80.65 56 P **P 11 35 59.1 +0.9**
baz=306,SNR=50
PFO Pinyon Flats O 80.65 56 LR LR 12 07 12.2
comp=Z,2µm,19.8s,baz=292,slow=32
SULT Sultanhani-AKS 80.66 310 *e*P **P 11 35 59.3 +1.2**
TPFO Pinon Flats 80.66 56 P **P 11 35 58.9 +0.7**
baz=306,SNR=55
BELC Belle Mtn. Jos 80.74 55 P **P 11 35 58.8 +0.2**
baz=306,SNR=34
LCMT Little Creek M 80.75 51 P **P 11 35 59.9 +1.2**
LCMT IAmb IAmb 11 36 04.4
comp=Z,71nm,1.1s
RAYN Ar Rayn 80.80 292 P **P 11 35 58.5 -0.5**
RAYN IAmb IAmb 11 36 12.0
comp=Z,97nm,1.1s
RAYN Ar Rayn 80.80 292 *i* P **P 11 35 59.3 +0.3**
SNR=28
RAYN Ar Rayn 80.80 292 P **P 11 35 59.4 +0.4**
RAYN Ar Rayn 80.80 292 P **P 11 35 58.5 -0.5**
RAYN pmax pmax
comp=Z,97nm,1.1s
CHBY Cihanbeyli 80.81 311 *e*P **P 11 35 59.3 +0.4**
CJR Cluj-Napoca 80.86 322 ⇑P **P 11 36 00.2 +1.3**
CJR Cluj-Napoca 80.86 322 P **P 11 36 00.2 +1.3**
VOIR 80.96 320 ⇓P **P 11 36 00.8 +1.2**
VOIR 80.96 320 P **P 11 36 00.7 +1.2**
MONP2 Monument Peak 81.10 56 P **P 11 36 00.9 +0.2**
baz=306,SNR=36
GULT Gulveren 81.11 313 *e*P **P 11 36 00.6 +0.2**
SVRH Sivrihisar-ESK 81.12 312 *e*P **P 11 36 01.6 +1.1**
MARR Marisel-Cluj 81.13 322 ⇓P **P 11 36 01.0 +0.6**
PRD Provadia 81.17 317 P **P 11 36 01.0 +0.4**
SILT Sile 81.17 314 *e*P **P 11 36 02.3 +1.7**
KECS Kecovo 81.18 324 *e*P **P 11 36 00.7 +0.1**
KECS pmax pmax
comp=Z,8.0nm,1.0s
KECS Kecovo 81.18 324 *e*P **P 11 36 00.7 +0.1**
LANS Liptovska Anna 81.19 325 *e*P **P 11 36 01.4 +0.7**
LANS pmax pmax
comp=Z,22nm,1.5s
LANS Liptovska Anna 81.19 325 *e*P **P 11 36 01.4 +0.7**
NEE2 Needles Airpor 81.20 54 P **P 11 36 01.4 +0.5**
baz=307
IRM Iron Mountain 81.22 54 P **P 11 36 01.7 +0.6**
baz=307,SNR=46
ARR Arges 81.22 320 ⇑P **P 11 36 02.1 +1.2**
DRGR 81.25 322 ⇓P **P 11 36 02.1 +1.0**
DRGR 81.25 322 *e*P **P 11 36 01.3 +0.2**
DRGR 81.25 322 P **P 11 36 02.1 +1.0**
RUE Ruedersdorf 81.25 330 *e*P **P 11 36 01.1 +0.3**
RUE Ruedersdorf 81.26 330 *e*P 11 36 01.4
comp=Z,58nm,1.1s,baz=39,slow=5.0
SRCK Saricakaya, Es 81.29 313 *e*P **P 11 36 00.3 -1.0**
K22A Casper 81.29 43 P **P 11 36 01.9 +0.4**
baz=310,SNR=11
KIZK Mersin 81.30 309 *e*P **P 11 36 01.9 +0.5**
BC3 Big Chuckawall 81.31 55 P **P 11 36 01.9 +0.2**
baz=306,SNR=46
OKC Ostrava-Krasne 81.31 326 *e*P **P 11 36 02.3 +1.1**
OKC AMS AMS 12 17 20.0
comp=Z,2µm,15.2s
OKC Ostrava-Krasne 81.31 326 *e*P **P 11 36 02.3 +1.1**
OKC MLR MLR
comp=Z,2µm,15.2s
LADK Ladik-KONYA 81.37 311 *e*P **P 11 36 03.2 +1.3**
KSP Ksiaz 81.41 328 *e*P **P 11 36 01.9 +0.2**
KSP *e*PP **PP 11 39 07.7 +0.4**
KSP *e*S **S 11 46 07.7 -2.0**
KSP *e*SS **SS 11 51 22.2 -3.1**
KSP *e*L L 12 15 21.4
comp=Z,2µm,21.7s
KSP Ksiaz 81.41 328 P **P 11 36 01.9 +0.2**
KSP pmax pmax
comp=Z,38nm,1.1s
MDND Maddock 81.44 36 P **P 11 36 02.2 +0.2**
MDND Maddock 81.44 36 P **P 11 36 02.0 0.0**
baz=314
CIFT Cifteler, Eski 81.45 312 *e*P **P 11 36 01.6 -0.7**
IKP In-Ko-Pah, Jac 81.46 56 P **P 11 36 03.0 +0.6**
baz=306,SNR=27
KLYT Kilyos 81.46 315 *e*P **P 11 36 01.9 -0.2**
ULM Lac du Bonnet 81.47 33 P **P 11 36 01.8 -0.3**
ULM Lac du Bonnet 81.47 33 P **P 11 36 01.3 -0.7**
comp=Z,25nm,1.0s,baz=322,slow=5.4,SNR=7.2
ULM LR LR 12 13 28.6
comp=Z,597nm,21.1s,baz=334,slow=36
comp=Z,25nm,1.0s
ULM Lac du Bonnet 81.47 33 P **P 11 36 01.8 -0.3**
ULM pmax pmax
comp=Z,52nm,1.1s
W13A Hualapai Mount 81.49 53 P **P 11 36 03.0 +0.3**
SWSC Sam W. Stewart 81.49 56 P **P 11 36 02.6 +0.2**
baz=306,SNR=24
BSEG Bad Segeberg 81.50 333 P **P 11 36 02.5 +0.4**
BSEG pmax pmax
comp=Z,52nm,1.8s
BSEG Bad Segeberg 81.50 333 *e*P 11 36 02.0
comp=Z,35nm,1.0s,baz=39,slow=5.0
KONT Konya--Tatoy 81.53 311 *e*P **P 11 36 03.9 +1.2**
ISK Istanbul-Kandi 81.57 315 *e*P **P 11 36 02.6 -0.1**
ADVT Abdulvahap 81.57 314 *e*P **P 11 36 03.9 +1.1**
KEBE Keben-Mersin 81.59 309 *e*P **P 11 36 03.6 +0.5**
LOT Lotru 81.62 321 ⇑P **P 11 36 03.7 +0.6**
MORC Moravsky Berou 81.63 327 ⇑P **P 11 36 03.7 +0.7**
MORC Moravsky Berou 81.63 327 P **P 11 36 02.9 -0.1**
MORC Moravsky Berou 81.63 327 *e*P **P 11 36 02.7 -0.3**
MORC *e*PP **PP 11 39 08.7 -0.5**
MORC *e*S **S 11 46 10.5 -1.7**
MORC Moravsky Berou 81.63 327 P **P 11 36 03.7 +0.7**
OSTC Ostas 81.65 328 *e*P **P 11 36 03.9 +0.9**
OSTC AMS AMS 12 16 20.0
comp=Z,3µm,16.3s
OSTC Ostas 81.65 328 *e*P **P 11 36 03.9 +0.9**
OSTC MLR MLR
comp=Z,3µm,16.3s
CAVI Cavuskoy 81.66 314 *e*P **P 11 36 04.6 +1.3**
BGKT Bogazkoy 81.66 315 *e*P **P 11 36 03.3 +0.1**
CHVC Chvalec 81.70 328 *e*P **P 11 36 04.0 +0.7**
CHVC AMS AMS 12 16 20.0
comp=Z,3µm,17.1s
CHVC Chvalec 81.70 328 *e*P **P 11 36 04.0 +0.7**
CHVC MLR MLR
comp=Z,3µm,17.1s
RSSD Black Hills 81.70 41 IAMs_20 IAMs_20 12 13 60.0
comp=Z,950nm,21.0s
RSSD Black Hills 81.70 41 P **P 11 36 03.5 -0.2**
baz=312
RSSD Black Hills 81.70 41 P **P 11 36 03.9 +0.2**
RSSD pmax pmax
comp=Z,33nm,1.3s
IKL Isikli 81.74 309 *e*P **P 11 36 03.9 +0.2**
KRLC Kraliky 81.75 327 AMS AMS 12 18 00.0
comp=Z,2µm,20.7s
DPC Dobruska-Polom 81.76 328 *e*P **P 11 36 03.8 +0.2**
DPC AMS AMS 12 16 10.0
comp=Z,4µm,17.3s
DPC Dobruska-Polom 81.76 328 *e*P **P 11 36 03.8 +0.2**
DPC MLR MLR
comp=Z,4µm,17.3s
DPC Dobruska-Polom 81.76 328 P **P 11 36 03.9 +0.3**
comp=Z,37nm,1.2s,comp=Z,1µm
UPC Upice 81.78 328 *e*P **P 11 36 03.8 +0.1**
UPC AMS AMS 12 16 20.0
comp=Z,3µm,16.9s
UPC Upice 81.78 328 *e*P **P 11 36 03.8 +0.1**
UPC MLR MLR
comp=Z,3µm,16.9s
PDMCI Parker Dam,Lak 81.80 54 P **P 11 36 04.9 +0.8**
baz=307,SNR=18
EREN Erenkoy 81.86 308 *e*P **P 11 36 05.9 +1.6**
PSZ Piszkesteto 81.86 324 ⇓P **P 11 36 05.1 +0.9**
PSZ Piszkesteto 81.86 324 P **P 11 36 05.1 +0.9**
AKKU Akkuyu-Mersin 81.87 309 *e*P **P 11 36 05.6 +1.2**
SZH Strazhitsa 81.89 318 P **P 11 36 04.0 -0.4**
O20A White River Ci 81.91 46 P **P 11 36 05.7 +0.8**
baz=310,SNR=33
VYHS Vyhne 81.95 325 *e*P **P 11 36 05.0 +0.3**
VYHS pmax pmax
comp=Z,83nm,1.7s
VYHS Vyhne 81.95 325 *e*P **P 11 36 05.0 +0.3**
SLVT Silivri 81.96 315 *e*P **P 11 36 07.5 +2.7**
ARMT Armutlu 82.00 314 *e*P **P 11 36 05.9 +0.8**
HDMB Hadim 82.06 310 *e*P **P 11 36 05.9 +0.2**
GLA Glamis 82.09 55 P **P 11 36 07.1 +1.4**
GLA IAmb IAmb 11 36 28.8
comp=Z,96nm,1.0s
GLA Glamis 82.09 55 P **P 11 36 06.6 +0.9**
baz=307,SNR=16
GLA Glamis 82.09 55 P **P 11 36 07.1 +1.4**
GLA pmax pmax
comp=Z,96nm,1.0s
JMB Yambol 82.09 317 P **P 11 36 07.0 +1.5**
MDNY Mudanya-Bursa 82.12 314 *e*P **P 11 36 06.9 +1.3**
SIRR Siria 82.14 322 ⇑P **P 11 36 06.5 +0.8**
TEKE Tekeli-Mersin 82.16 309 *e*P **P 11 36 06.8 +0.8**
ELND Elena 82.17 318 ⇑P **P 11 36 06.5 +0.6**
GZR Gura Zlata 82.17 321 ⇑P **P 11 36 06.4 +0.4**
GZR Gura Zlata 82.17 321 P **P 11 36 06.3 +0.4**
JAVC Velka Javorina 82.23 326 *e*P **P 11 36 07.9 +1.7**
JAVC Velka Javorina 82.23 326 *e*S **S 11 46 19.6 +1.2**
SURR Surduc 82.26 322 ⇑P **P 11 36 06.9 +0.7**
SHUT Suhut-Afyon 82.27 312 *e*P **P 11 36 06.3 -0.3**
BHW Baring Head 82.37 155 IAMs_20 IAMs_20 12 07 30.8
comp=Z,1µm,20.0s
PVCC Panska Ves 82.38 329 *e*P **P 11 36 07.3 +0.5**
PVCC AMS AMS 12 17 00.0
comp=Z,2µm,18.0s
PVCC Panska Ves 82.38 329 *e*P **P 11 36 07.3 +0.5**
PVCC MLR MLR
comp=Z,2µm,18.0s
FLTG Flechtingen 82.39 331 *e*P 11 36 06.1
comp=Z,40nm,0.9s,baz=39,slow=5.0
BRG Berggiesshubel 82.39 329 *e*P **P 11 36 06.7 -0.2**
BRG Amp 11 36 10.7
comp=Z,23nm,1.1s
BRG Berggiesshubel 82.39 329 P P 11 36 14.7 +7.8
BRG Amp 11 36 15.6
comp=Z,29nm,1.0s
BRG Berggiesshubel 82.39 329 SKS **S 11 46 19.0 -0.8**
BRG Berggiesshubel 82.39 329 SS SS 11 51 43.0 +3.2
BRG Amp 12 09 02.0
comp=N,1.9nm,18.4s
BRG Amp 12 09 12.0
comp=E,3.3nm,20.5s
BRG Amp 12 18 04.0
comp=Z,2.1nm,15.7s
BRG Berggiesshubel 82.39 329 *e*P **P 11 36 06.6 -0.2**
BRG 11 36 14.6
BRG 11 39 12.6
BRG 11 46 19.0
BRG SS SS 11 51 43.0 +3.2
BRG pmax pmax
comp=Z,23nm,1.1s
BRG pmax pmax
comp=Z,21nm,1.0s
BRG Berggiesshubel 82.39 329 *e*P 11 36 06.7
comp=Z,17nm,0.8s,baz=39,slow=5.0
EDRB Edirne 82.39 316 *e*P **P 11 36 08.6 +1.5**
EDRB Edirne 82.39 316 P **P 11 36 08.2 +1.1**
VRAC Vranov 82.40 327 ⇓P **P 11 36 07.5 +0.6**
VRAC Vranov 82.40 327 *e*P **P 11 36 06.9 -0.1**
VRAC *e*PP **PP 11 39 14.4 -1.1**
VRAC *e*S **S 11 46 17.6 -2.4**
VRAC Vranov 82.40 327 LR LR 12 16 42.6
comp=Z,2µm,18.7s,baz=38,slow=38
VRAC Vranov 82.40 327 P **P 11 36 07.5 +0.6**
CLL Collm 82.45 330 *e*P **P 11 36 06.0 -1.2**
CLL pmax pmax
comp=Z,55nm,0.9s
CLL MLR MLR
comp=Z,2µm,20.3s
CLL Collm 82.45 330 P **P 11 36 06.6 -0.6**
comp=Z,64nm,0.8s,comp=Z,994nm
CLL Collm 82.46 330 *e*P 11 36 06.7
comp=Z,37nm,0.8s,baz=39,slow=5.0
KCTX Karacabey (Bur 82.49 314 *e*P **P 11 36 08.3 +0.7**
MMAI Mount Meron Ar 82.56 305 P **P 11 36 08.5 +0.3**
comp=Z,18nm,0.6s,baz=50,slow=7.8,SNR=22
MMAI LR LR 12 16 56.5
comp=Z,2µm,19.0s,baz=356,slow=39
comp=Z,18nm,0.6s
RICC Richard 82.57 329 AMS AMS 12 15 20.0
comp=Z,2µm,19.7s

BUD	Budapest	82.58	324	P	P	11 36 09.5	+1.6
SMOL	Smolenice	82.59	326	eP	P	11 36 08.9	+0.9
BZS	Buzias	82.61	322	⇑P	P	11 36 08.4	+0.3
BZS	Buzias	82.61	322	eP	P	11 36 09.0	+0.9
BZS	Buzias	82.61	322	P	P	11 36 08.4	+0.3
GAZI	Gazipasa	82.61	309	eP	P	11 36 07.6	-0.8
KRUC	Moravsky	82.66	327	eP	P	11 36 08.0	-0.3
KRUC				ePP	PP	11 39 16.4	-1.3
KRUC				eS	S	11 46 23.0	+0.3
KRUC	Moravsky	82.66	327	P	P	11 36 08.5	+0.2
KRUC				pmax	pmax		
comp=Z,48nm,1.3s							
SRO	Srobarova	82.68	325	eP	P	11 36 10.7	+2.3
SRO				pmax	pmax		
comp=Z,104nm,1.6s							
SRO	Srobarova	82.68	325	eP	P	11 36 10.7	+2.3
NRDL	Niedersach Rie	82.70	332	eP		11 36 08.5	
comp=Z,16nm,0.9s,baz=39,slow=5.0							
HERR	Herculane	82.71	321	⇑P	P	11 36 09.0	+0.4
MRMT	Marmara Adasi	82.72	315	eP	P	11 36 10.3	+1.4
EDC	Edincik	82.73	315	eP	P	11 36 09.3	+0.5
EDC	Edincik	82.73	315	P	P	11 36 10.1	+1.3
CSS	Mathiatis	82.75	308	eP	P	11 36 10.2	+1.1
N23A	Red Feather La	82.76	45	P	P	11 36 10.0	+0.6
baz=311,SNR=67							
MODS	Modra-Piesok	82.76	326	eP	P	11 36 10.9	+2.0
MODS				pmax	pmax		
comp=Z,215nm,1.6s							
MODS	Modra-Piesok	82.76	326	eP	P	11 36 10.9	+2.0
PHWY	Pilot Hill	82.77	44	IAms_20	IAms_20	12 07 53.4	
comp=Z,904nm,22.0s							
PRA	Prague	82.78	328	eP	P	11 36 10.3	+1.4
PRA				AMS	AMS	12 17 00.0	
comp=Z,2μm,19.6s							
PRA	Prague	82.78	328	eP	P	11 36 10.3	+1.4
PRA				MLR	MLR		
comp=Z,2μm,19.6s							
PRU	Pruhonice	82.80	328	eP	P	11 36 09.2	+0.2
PRU				eS	S	11 46 22.0	-2.0
PRU				AMS	AMS	12 16 10.0	
comp=Z,2μm,16.9s							
PRU	Pruhonice	82.80	328	eP	P	11 36 09.2	+0.2
PRU				e		11 46 22.0	
PRU				MLR	MLR		
comp=Z,2μm,16.9s							
HSKC	Hora Svate Kat	82.81	329	eP	P	11 36 08.8	-0.3
HSKC				AMS	AMS	12 19 30.0	
comp=Z,3μm,17.6s							
WUAZ	Wupatki	82.86	51	IAms_20	IAms_20	12 05 57.3	
comp=Z,1μm,21.0s							
WUAZ	Wupatki	82.86	51	P	P	11 36 10.6	+0.8
baz=308,SNR=42							
SIMA	Simav-Kutahya	82.88	313	eP	P	11 36 10.6	+0.8
AGMN	Agassiz Nation	82.89	34	IAms_20	IAms_20	12 11 11.1	
comp=Z,1μm,21.0s							
AGMN	Agassiz Nation	82.89	34	P	P	11 36 09.8	+0.3
baz=316							
MMLI	Mount Malkishu	82.90	305	eP	P	11 36 10.9	+1.0
LEF	Lefka	82.94	308	eP	P	11 36 08.3	-1.7
113A	Mohawk Valley,	82.97	55	P	P	11 36 10.1	-0.1
ZST	Bratislava	82.97	326	eP	P	11 36 12.5	+2.6
ZST				pmax	pmax		
comp=Z,523nm,2.1s							
ZST	Bratislava	82.97	326	eP	P	11 36 12.5	+2.6
VALD	Valchedram	82.98	319	P	P	11 36 12.0	+1.9
KRBG	Karabiga-Canak	83.03	315	eP	P	11 36 11.9	+1.6
NEUB	Neuenburg	83.03	330	eP		11 36 10.1	
comp=Z,48nm,0.9s,baz=39,slow=5.0							
MPEP	Malo Peshtene	83.05	319	P	P	11 36 11.0	+0.6
CLZ	Clausthal	83.10	332	eP		11 36 10.5	
comp=Z,43nm,0.9s,baz=39,slow=5.0							
MDVR	Moldovita	83.14	321	⇑P	P	11 36 11.6	+0.7
RPZ	Rata Peaks	83.19	158	LR	LR	12 10 10.9	
comp=Z,800nm,19.7s,baz=337,slow=33							
SMCO	Snowmass	83.27	46	IAms_20	IAms_20	12 13 57.8	
comp=Z,1μm,20.0s							
ERIK	Erikli-Kesan	83.30	316	eP	P	11 36 13.4	+1.7
PLD	Plovdiv	83.31	318	eP	P	11 36 13.6	+1.8
PLD	Plovdiv	83.31	318	P	P	11 36 13.0	+1.2
LPK	Lapseki	83.35	315	eP	P	11 36 13.9	+1.9
TANN	Tannenbergstha	83.36	330	eP		11 36 13.5	
comp=Z,11nm,0.9s,baz=39,slow=5.0							
ZVC	Zvikov	83.36	328	eP	P	11 36 12.2	+0.3
ZVC				AMS	AMS	12 16 40.0	
comp=Z,3μm,17.5s							
KORT	Korkueli	83.37	311	eP	P	11 36 12.9	+0.5
ALN	Alexandroupoli	83.41	316	eP	P	11 36 13.6	+1.3
ALN	Alexandroupoli	83.41	316	P	P	11 36 11.5	-0.8
KULA	Kula-Manisa	83.44	313	eP	P	11 36 13.8	+1.2
GHAJ	Ghor Haditha	83.48	304	P	P	11 36 13.7	+0.9
GTTG	Gottingen	83.49	332	eP		11 36 13.1	
comp=Z,91nm,0.9s,baz=39,slow=5.0							
GELI	Tayfur-Gelibol	83.50	315	eP	P	11 36 12.6	-0.2
MPLH	Magyarpolny	83.51	325	P	P	11 36 13.0	+0.2
comp=Z,150nm,1.2s,comp=Z,3μm							
MOX	Moxa	83.53	330	P	P	11 36 12.6	-0.2
MOX				pmax	pmax		
comp=Z,24nm,1.3s							
MOX	Moxa	83.53	330	eP		11 36 12.7	
comp=Z,14nm,0.9s,baz=39,slow=5.0							
MOX				eL		12 17 26.8	
comp=Z,2μm,20.3s							
RDO	Rodhopi	83.54	317	eP	P	11 36 14.4	+1.4
RDO	Rodhopi	83.54	317	P	P	11 36 12.7	-0.3
SOP	Sopron	83.60	326	P	P	11 36 15.6	+2.4
SOP				pmax	pmax		
comp=Z,38nm,1.4s							
MVCO	Mesa Verde	83.61	49	P	P	11 36 14.1	+0.4
baz=310,SNR=53							
RZN	Rozhen	83.62	317	P	P	11 36 14.0	+0.3
KPL	Plockton	83.62	342	eP	P	11 36 14.2	+1.2
ISCO	Idaho Springs	83.66	45	IAms_20	IAms_20	12 13 50.2	
comp=Z,885nm,22.0s							
ISCO	Idaho Springs	83.66	45	P	P	11 36 14.8	+0.7
baz=311,SNR=36							
ISCO	Idaho Springs	83.66	45	P	P	11 36 15.1	+1.0
ISCO				pmax	pmax		
comp=Z,33nm,1.8s							
MORH	Mrgy, Hungar	83.67	324	⇑P	P	11 36 13.8	+0.3
MORH	Mrgy, Hungar	83.67	324	P	P	11 36 13.5	-0.1
comp=Z,22nm,1.4s,comp=Z,940nm							
RONA	Rosalia, Austr	83.71	326	eP	P	11 36 14.3	+0.5
comp=Z,58nm,1.3s,SNR=18							
RONA				ePP	PP	11 39 29.0	+2.7
comp=Z,27nm,1.2s							
APMY	Acipayam-Deniz	83.72	312	eP	P	11 36 14.9	+0.8
IBBN	Ibbenburen	83.73	333	eP		11 36 13.4	
comp=Z,41nm,0.8s,baz=39,slow=5.0							
CONA	Conrad Observa	83.74	326	i P	P	11 36 14.7	+0.7
comp=Z,79nm,2.5s,SNR=24							
CONA				ePP	PP	11 39 30.7	+4.1
comp=Z,37nm,1.5s							
CKRC	Cesky Krumlov	83.77	328	eP	P	11 36 14.0	-0.1
CKRC				eS	SKSac	11 46 30.7	-3.0
CKRC				AMS	AMS	12 16 20.0	
comp=Z,3μm,19.3s							
CKRC	Cesky Krumlov	83.77	328	eP	P	11 36 14.0	-0.1
CKRC				e		11 46 30.7	
CKRC				MLR	MLR		
comp=Z,3μm,19.3s							
ELL	Elmali	83.80	311	eP	P	11 36 13.9	-0.7
PLNA	Plana	83.81	319	P	P	11 36 16.0	+1.4
VTS	Vitosha	83.82	319	P	P	11 36 15.0	+0.4
MANZ	Manzenberg	83.83	329	eP		11 36 14.2	
comp=Z,4.5nm,0.8s,baz=39,slow=5.0							
FRGS	Fruska Gora	83.84	322	⇓P	P	11 36 15.8	+1.2
FRGS	Fruska Gora	83.84	322	eP	P	11 36 14.8	+0.3
FRGS	Fruska Gora	83.84	322	P	P	11 36 15.0	+0.5
comp=Z,68nm,1.3s,comp=Z,2μm							
KHC	Kasperske Hory	83.86	328	eP	P	11 36 14.5	0.0
KHC				AMS	AMS	12 16 50.0	
comp=Z,3μm,16.1s							
KHC	Kasperske Hory	83.86	328	ceP	P	11 36 14.8	+0.3
KHC				pmax	pmax		
comp=Z,196nm,2.5s							
KHC	Kasperske Hory	83.86	328	P	P	11 36 14.5	0.0
comp=Z,41nm,1.8s,comp=Z,1μm							
ROTZ	Rotzenmuhle	83.96	329	eP		11 36 15.0	
comp=Z,8.3nm,1.1s,baz=39,slow=5.0							
EZN	Ezine	83.96	315	eP	P	11 36 16.3	+1.1
EZN	Ezine	83.96	315	P	P	11 36 16.0	+0.8
GADA	Gvkgeada	83.97	316	eP	P	11 36 16.3	+1.1
SMTH	Samothraki Isl	83.99	316	P	P	11 36 15.0	-0.3
GEC2	GERESS Array S	84.02	328	P	P	11 36 15.3	-0.1
GEC2	GERESS Array S	84.02	328	P	P	11 36 15.1	-0.3
GEC2				pmax	pmax		
comp=Z,26nm,0.9s							
GERES	GERESS Array B	84.02	328	P	P	11 36 15.3	-0.1
GERES	GERESS Array B	84.02	328	P	P	11 36 14.6	-0.8
comp=Z,8.9nm,0.8s,baz=29,slow=6.7,SNR=16							
GERES				PP	PP	11 39 28.4	-0.5
comp=Z,3.3nm,0.8s,baz=9.9,slow=12,SNR=3.9							
GERES				LR	LR	12 18 33.6	
comp=Z,2μm,18.3s,baz=46,slow=39							
comp=Z,8.9nm,0.8s							
GERES	GERESS Array B	84.02	328	P	P	11 36 15.3	-0.1
GEC2	GERESS Array S	84.02	328	eP		11 36 14.9	
comp=Z,16nm,0.9s,baz=39,slow=5.0							
INVG	Invergeldie, C	84.02	341	eP	P	11 36 15.8	+0.6
214A	Organ Pipe Nat	84.10	55	P	P	11 36 16.4	+0.2
214A				IAmb	IAmb	11 36 46.4	
comp=Z,79nm,1.2s							
214A	Organ Pipe Nat	84.10	55	P	P	11 36 16.5	+0.4
baz=308,SNR=22							
WET	Wettzell	84.15	329	P	P	11 36 15.9	-0.1
WET				pmax	pmax		
comp=Z,24nm,1.0s							
SUSD	Miller	84.15	38	P	P	11 36 15.8	-0.3
baz=315							
WET	Wettzell	84.15	329	eP		11 36 15.8	
comp=Z,18nm,1.0s,baz=39,slow=5.0							
W18A	Petrified Fore	84.16	51	P	P	11 36 14.9	-1.6
baz=309							
KAVA	Kavala	84.21	317	P	P	11 36 17.4	+1.0
AYDB	Zeytinkoy-Aydi	84.27	313	eP	P	11 36 16.6	-0.3
MMB	Musomishta	84.27	318	P	P	11 36 16.0	-0.8
S22A	4UR Ranch, Cre	84.28	47	P	P	11 36 18.4	+1.2
baz=311							
AKAS	Kas	84.32	311	eP	P	11 36 16.9	-0.4
NVR	Nevrokopi	84.34	318	P	P	11 36 19.1	+2.0
PPT	Papeete	84.35	116	P	P	11 36 17.2	-0.1
comp=Z,19nm,1.0s,baz=335,slow=6.3,SNR=1.7							
PPT				LR	LR	12 07 03.7	
comp=Z,964nm,20.4s,baz=308,slow=31							
comp=Z,19nm,1.0s							
THAS	Thassos island	84.36	317	P	P	11 36 17.9	+0.7
KASTN	Kahler Asten	84.36	332	eP		11 36 17.3	
comp=Z,18nm,0.9s,baz=39,slow=5.0							
PPT2	Papeete2	84.36	116	eP	P	11 36 18.1	+0.6
comp=Z,118nm,23.2s							
PPT2	Papeete2	84.36	116	ePP	PP	11 39 34.3	+1.2
comp=Z,100nm,26.8s							
PPT2				eS	SKSac	11 46 36.7	-1.5
comp=Z,357nm,25.0s							
PPT2				eSS	SS	11 52 11.9	0.0
comp=Z,692nm,32.0s							
PPT2	Papeete2	84.36	116	eLR	LR	12 02 50.7	
comp=Z,5μm,30.8s							
PPT2				eLR	LR	12 02 52.1	
comp=Z,3μm,32.2s							
PRK	Paraskevi	84.37	315	P	P	11 36 17.9	+0.6
ARSA	Arzberg	84.39	326	eP	P	11 36 17.4	+0.2
comp=Z,24nm,1.1s,SNR=13							
ARSA				ePP	PP	11 39 31.7	-0.2
comp=Z,17nm,1.4s							
KKB	Krupnik	84.41	318	P	P	11 36 18.0	+0.6
TEKS	Tekeris	84.42	322	eP	P	11 36 16.3	-1.1
GRA1	Grafenberg Arr	84.42	330	IAms_20	IAms_20	12 16 38.3	
comp=Z,1μm,20.0s							
GRF	Grafenberg Arr	84.42	330	P	P	11 36 18.2	+0.8
GRF				pmax	pmax		
comp=Z,93nm,1.1s							
GRF	Grafenberg Arr	84.43	330	eP		11 36 17.7	
comp=Z,48nm,0.8s,baz=39,slow=5.0							
GRF				eL		12 17 42.1	
comp=Z,1μm,21.4s							
GRFO	Grafenberg	84.43	330	IAms_20	IAms_20	12 17 42.4	
comp=Z,1μm,21.0s							
Q24A	Divide	84.48	46	P	P	11 36 19.0	+0.7
baz=311,SNR=10							
MOA	Molln	84.52	327	i P	P	11 36 18.1	+0.2
comp=Z,30nm,1.1s,SNR=19							
MOA				ePP	PP	11 39 33.1	+0.3
comp=Z,0.2nm,0.2s							
LAWE	Loch Awe, Argy	84.52	342	eP	P	11 36 17.7	+0.1
LAWE				IAmb	IAmb	11 36 20.4	
comp=Z,432nm,2.6s							
DALY	Dalyan (Mula)	84.53	312	eP	P	11 36 19.2	+1.1
YER	Yerkesik	84.55	312	eP	P	11 36 18.9	+0.6
YER	Yerkesik	84.55	312	P	P	11 36 19.7	+1.4
YER	Yerkesik	84.55	312	P	P	11 36 19.8	+1.4
LIA	Limnos Island	84.57	316	eP	P	11 36 17.9	-0.3
LIA	Limnos Island	84.57	316	P	P	11 36 18.6	+0.4
BUG	Bochum--Univer	84.61	333	P	P	11 36 19.5	+1.3
BUG				pmax	pmax		
comp=Z,25nm,1.0s							
BUG	Bochum--Univer	84.61	333	eP		11 36 17.9	
comp=Z,15nm,0.8s,baz=39,slow=5.0							
HRFI	Mount Harif	84.61	303	eP	P	11 36 20.0	+1.3
KOKK	Kokkinochori,	84.62	317	P	P	11 36 18.5	0.0
SIGR	SIGRI	84.64	315	eP	P	11 36 18.6	0.0
SIGR	SIGRI	84.64	315	P	P	11 36 18.4	-0.2
KOGS	Kog	84.64	325	eP	P	11 36 19.1	+0.6
KOGS				eS	SKSac	11 46 40.1	+0.8
SRS	Serrai	84.64	317	eP	P	11 36 18.6	-0.1
SRS	Serrai	84.64	317	P	P	11 36 18.5	-0.1
PGBU	Glenifferbraes	84.68	341	eP	P	11 36 18.6	+0.1
EKA	Eskdalemuir Ar	84.74	340	P	P	11 36 17.5	-1.3
comp=Z,9.8nm,0.8s,baz=31,slow=4.7,SNR=27							
EKA				PP	PP	11 39 33.3	-1.0
comp=Z,2.7nm,0.7s,baz=34,slow=6.8,SNR=3.5							
comp=Z,9.8nm,0.8s							
MLSB	Milas	84.76	312	eP	P	11 36 21.6	+2.3
URLA	Izmir	84.77	314	eP	P	11 36 20.1	+0.8
ESK	Eskdalemuir	84.77	340	P	P	11 36 19.5	+0.5
ESK				pmax	pmax		
comp=Z,24nm,1.4s							
TURN	Turunc	84.81	312	eP	P	11 36 19.9	+0.4
GCAM	G?zelcaml?	84.82	313	eP	P	11 36 20.3	+0.7
EIL	Elat	84.89	303	eP	P	11 36 20.9	+0.8
EIL	Elat	84.89	303	LR	LR	12 18 19.3	
comp=Z,1μm,20.3s,baz=51,slow=39							
BIOA	Bad Ischl, Aus	84.91	327	eP	P	11 36 20.0	+0.1
comp=Z,42nm,1.0s,SNR=17							
OGNE	Ogallala	84.93	42	P	P	11 36 20.2	0.0
baz=313,SNR=11							
OUR	Ouranopolis	84.96	317	eP	P	11 36 19.3	-0.9
OUR	Ouranopolis	84.96	317	P	P	11 36 20.6	+0.4
BBLS	Lazi&#263i	84.96	322	eP	P	11 36 20.0	-0.3
KNT	Kendrikon	85.00	318	P	P	11 36 20.4	0.0
STIP	Stip	85.02	319	eP	P	11 36 19.6	-0.9
HAPS	Han Pijesak,Bl	85.04	322	eP	P	11 36 20.6	-0.1
SOKA	Soboth	85.04	326	eP	P	11 36 20.3	-0.3
comp=Z,30nm,0.9s,SNR=43							
SOKA				ePP	PP	11 39 36.6	-0.6
comp=Z,19nm,1.3s							
SMG	Samos	85.05	313	P	P	11 36 21.1	+0.3
VAY	Valandovo	85.07	318	eP	P	11 36 21.8	+1.1
VAY				eS	S	11 46 46.6	-0.5
SDCO	Great Sand Dun	85.08	47	IAms_20	IAms_20	12 15 41.7	
comp=Z,946nm,21.0s							
SDCO	Great Sand Dun	85.08	47	P	P	11 36 22.0	+0.7
baz=311,SNR=104							
SJES	Sjenica	85.10	321	eP	P	11 36 21.3	+0.3
EYMN	Ely	85.11	32	IAms_20	IAms_20	12 15 55.7	
comp=Z,999nm,20.0s							
EYMN	Ely	85.11	32	P	P	11 36 20.2	-0.7
baz=320,SNR=17							
TNS	Taunus Mts	85.13	331	P	P	11 36 20.8	-0.2
TNS				pmax	pmax		
comp=Z,34nm,1.3s							
TNS	Taunus Mts	85.13	331	eP		11 36 21.0	
comp=Z,20nm,0.9s,baz=39,slow=5.0							
RUDO	Rudo	85.16	321	eP	P	11 36 20.6	-0.6
BODT	Bodrum	85.19	313	eP	P	11 36 21.6	+0.1
BODT	Bodrum	85.19	313	P	P	11 36 22.2	+0.7
NEWG	New Galloway	85.22	341	eP	P	11 36 21.1	-0.1
NEWG				IAmb	IAmb	11 36 29.9	
comp=Z,40nm,1.1s							
SKO	Skopje	85.23	319	eP	P	11 36 23.4	+1.8
SKO				eS	S	11 46 52.3	+3.6
PLG	Polygyros	85.23	317	P	P	11 36 21.3	-0.4
TUC	Tucson	85.23	54	P	P	11 36 22.3	+0.5
baz=309							
TUC	Tucson	85.23	54	P	P	11 36 23.0	+1.1
TUC				pmax	pmax		
comp=Z,35nm,1.3s							
ARG	Arkhangelos	85.25	311	eP	P	11 36 23.9	+2.2
ARG	Arkhangelos	85.25	311	P	P	11 36 20.1	-1.6
ARG	Arkhangelos	85.25	311	P	P	11 36 24.5	+2.8
ARG				pmax	pmax		
comp=Z,154nm,1.0s							
DAT	Datca	85.25	312	eP	P	11 36 20.3	-1.6
HORT	Hortiatis	85.27	317	eP	P	11 36 21.3	-0.6
HORT	Hortiatis	85.27	317	P	P	11 36 20.9	-1.0
KESW	Keswick, Cumbr	85.38	340	eP	P	11 36 22.1	+0.1
KESW				IAmb	IAmb	11 36 24.6	
comp=Z,1μm,2.9s							
OBKA	Obir	85.39	326	eP	P	11 36 21.9	-0.5
comp=Z,18nm,0.7s,SNR=6.3							
OBKA				ePP	PP	11 39 39.5	-0.6
comp=Z,31nm,1.1s							
OBKA	Obir	85.39	326	eP	P	11 36 21.9	-0.5
AHRW	Bad Neuenahr-A	85.40	332	eP		11 36 21.9	
comp=Z,38nm,1.0s,baz=39,slow=5.0							
PAIG	Paliouri	85.40	317	eP	P	11 36 23.3	+0.9
PAIG	Paliouri	85.40	317	P	P	11 36 22.3	-0.1
BLY	Banja Luka	85.44	323	eP	P	11 36 22.8	+0.3
HPK	Haverah Park	85.50	339	eP	P	11 36 23.5	+0.9
HPK				IAmb	IAmb	11 36 30.8	
comp=Z,75nm,1.1s							
KBA	Koelnbreinsper	85.51	327	i PcP	PcP	11 36 25.4	-0.6
comp=Z,14nm,0.6s,SNR=13							
KBA				ePP	PP	11 39 42.1	+1.0
comp=Z,35nm,1.2s							
KBA	Koelnbreinsper	85.51	327	P	P	11 36 23.7	+0.6
KBA				pmax	pmax		
comp=Z,57nm,1.1s							
LESA	Schwarzleotal	85.54	328	i P	P	11 36 23.0	-0.1
comp=Z,31nm,1.0s							
LESA				ePP	PP	11 39 42.0	+0.7
comp=Z,18nm,1.3s							
GAL1	Galloway	85.58	341	eP	P	11 36 22.8	-0.2
FUR	Furstenfeldbru	85.58	329	P	P	11 36 22.7	-0.5
FUR				pmax	pmax		
comp=Z,84nm,0.8s							
MYKA	Terra Mystica	85.71	326	eP	P	11 36 22.7	-1.3
comp=Z,18nm,0.8s,SNR=9.6							
MYKA				ePP	PP	11 39 41.5	-1.1
comp=Z,31nm,1.3s							
BEBN	Eben Emael	85.72	333	dP	P	11 36 24.4	+0.7
BTNL	Ternell	85.72	333	dP	P	11 36 23.0	-0.9
comp=Z,26nm,1.0s							
MGRS	Mrkonjic Grad	85.73	323	eP	P	11 36 24.7	+0.7
LJU	Ljubljana	85.75	326	eP	P	11 36 24.4	+0.4
LJU				eS	SKSac	11 46 50.5	+4.1
MEM	Membach	85.75	333	dP	P	11 36 23.5	-0.5
comp=Z,33nm,1.0s							
MEM	Membach	85.75	333	P	P	11 36 23.9	-0.1
MEM				pmax	pmax		
comp=Z,57nm,1.1s							
CLGH	Cloghs, Cushen	85.76	342	eP	P	11 36 24.1	+0.2
BOJS	Bojanci	85.81	325	eP	P	11 36 23.5	-0.9
ECSD	EROS Data Cent	85.84	38	IAms_20	IAms_20	12 10 46.1	
comp=Z,1μm,22.0s							
ECSD	EROS Data Cent	85.84	38	P	P	11 36 23.9	-0.7
baz=316,SNR=22							
WACR	West Acre	85.86	337	eP	P	11 36 25.8	+1.4
WACR				IAmb	IAmb	11 36 27.6	
comp=Z,128nm,1.0s							
KSCO	Kaye Shedlock'	85.91	44	P	P	11 36 25.1	-0.1
baz=313,SNR=8.6							
A050A	Klekovaca	85.95	324	eP	P	11 36 23.5	-1.7
LIT	Litokhoron	85.95	317	eP	P	11 36 25.1	-0.1
LIT	Litokhoron	85.95	317	P	P	11 36 24.5	-0.7
BHOU	Houvegnez	85.96	333	dP	P	11 36 24.7	-0.3
comp=Z,17nm,1.0s							
CADS	Cadrg	85.97	326	eP	P	11 36 24.9	-0.3
STU	Stuttgart	85.97	330	P	P	11 36 24.9	-0.2
STU				pmax	pmax		
comp=Z,50nm,0.9s							
STU	Stuttgart	85.98	330	eP		11 36 24.7	
comp=Z,70nm,0.8s,baz=39,slow=5.0							
LBWR	Ladybower, Pea	86.01	338	eP	P	11 36 25.0	-0.2
LBWR				IAmb	IAmb	11 36 34.0	
comp=Z,174nm,1.0s							
CEY	Cerknica	86.02	325	eP	P	11 36 24.6	-0.9
KYMI	Kymi, Euboea I	86.04	315	P	P	11 36 26.0	+0.3
PDG	Podgorica	86.06	321	⇓P	P	11 36 26.6	+1.0
PDG	Podgorica	86.06	321	eP	P	11 36 25.9	+0.3
PDG	Podgorica	86.06	321	eP	P	11 36 25.6	0.0
IOMK	Kirk Michael	86.07	340	eP	P	11 36 25.2	-0.2
NEO	Neokhori	86.08	316	P	P	11 36 26.1	+0.2
WATA	Walderalm	86.09	328	i PcP	P	11 36 27.0	+1.1
comp=Z,8.2nm,0.8s,SNR=7.9							
WATA				ePP	PP	11 39 47.6	+1.9
comp=Z,23nm,1.3s							
FNA	Florina	86.09	318	eP	P	11 36 25.6	-0.3
FNA	Florina	86.09	318	P	P	11 36 25.4	-0.5
BRY	Bratogost	86.09	321	eP	P	11 36 25.0	-1.0
IDGL	Inch Island, C	86.12	342	eP	P	11 36 25.8	+0.1
WTTA	Wattenberg	86.12	328	i P	P	11 36 25.8	-0.4
comp=Z,16nm,1.1s,SNR=7.4							
WTTA				ePP	PP	11 39 44.1	-2.0
comp=Z,35nm,1.4s							
WTTA	Wattenberg	86.12	328	P	P	11 36 26.8	+0.7
WTTA				pmax	pmax		
comp=Z,24nm,1.2s							
T25A	Trinidad	86.13	47	P	P	11 36 27.0	+0.6
baz=312,SNR=59							
ABTA	Abfaltersbach	86.13	327	eP	P	11 36 25.0	-1.1
comp=Z,24nm,0.9s,SNR=12							
ABTA				ePP	PP	11 39 44.0	-2.0
comp=Z,9.8nm,1.4s							
BCLA	Clavier	86.17	333	dP	P	11 36 25.2	-0.8
comp=Z,24nm,1.1s							
OHR	Ohrid	86.18	319	eP	P	11 36 28.3	+2.0
OHR				eS	S	11 46 58.1	-0.1
WIM	Isle of Man	86.20	340	eP	P	11 36 25.9	-0.3
APE	Apeiranthos	86.25	313	⇑

comp=Z,12nm,1.0s
BGNE Belgrade 86.71 40 P **P 11 36 28.7 -0.3**
baz=316
ILTH Belurgan, Co L 86.76 341 *e*P **P 11 36 28.4 -0.4**
SANT Santorini 86.76 313 IAMs_20 IAMs_20 12 19 02.7
comp=Z,957nm,22.0s
WME Myndd Eilian 86.77 340 *e*P **P 11 36 28.5 -0.3**
MORI Morici 86.81 324 *i* P **P 11 36 29.6 +0.3**
VIRC Vir 86.81 324 *i* P **P 11 36 29.2 0.0**
319A Douglas 86.81 54 P **P 11 36 30.5 +0.8**
319A IAmb IAmb 11 36 54.0
comp=Z,71nm,1.3s
WPS Cemaes, Angles 86.82 340 *e*P **P 11 36 28.9 -0.2**
WPS IAmb IAmb 11 36 32.5
comp=Z,107nm,1.9s
DAVA Damuels 86.86 329 *e*P **P 11 36 29.5 -0.2**
comp=Z,33nm,0.9s,SNR=17
BAIF Baives 86.86 334 *e*P **P 11 36 28.5 -0.9**
BAIF pmax pmax
comp=Z,19nm,1.0s
WLF1 Llynfaes 86.89 340 *e*P **P 11 36 30.1 +0.6**
WLF1 IAmb IAmb 11 36 31.7
comp=Z,1μm,3.0s
FOEL Foel Wylfa 86.89 339 *e*P **P 11 36 29.5 0.0**
YLL Llanberis 86.95 340 *e*P **P 11 36 29.4 -0.4**
LSK Leskovik 86.96 318 P **P 11 36 31.9 +1.7**
BRJN Brijuni 86.96 325 *i* P **P 11 36 30.3 +0.3**
DUGI Dugi Otok 87.03 324 *i* P **P 11 36 28.4 -2.0**
CDF Champ du Feu 87.03 331 *e*P **P 11 36 29.5 -0.9**
CDF pmax pmax
comp=Z,30nm,0.9s
121A Cookes Peak, D 87.05 52 P **P 11 36 31.8 +0.9**
baz=310,SNR=11
SLE Schleitheim 87.06 330 P **P 11 36 30.1 -0.4**
SLE pmax pmax
comp=Z,18nm,1.6s
HLM1 Long Mynd 87.12 339 *e*P **P 11 36 31.3 +0.6**
FUORN Ofenpass-Fuorn 87.21 328 P **P 11 36 31.1 -0.4**
FUORN IAmb IAmb 11 36 40.2
comp=Z,40nm,0.8s
ECH Echery 87.24 331 P **P 11 36 30.7 -0.7**
ECH pmax pmax
comp=Z,31nm,1.0s
DAVOX Davos/Dischmat 87.25 329 LR LR 12 19 06.7
comp=Z,1μm,18.1s,baz=36,slow=38
SCHQ Schefferville 87.37 15 P **P 11 36 32.0 +0.2**
comp=Z,17nm,1.0s,baz=311,slow=7.5,SNR=4.5
SCHQ LR LR 12 16 55.0
comp=Z,2μm,21.4s,baz=346,slow=36
comp=Z,17nm,1.0s
HMNX Herstmonceux 87.53 336 *e*P **P 11 36 33.5 +0.9**
STRD Stroud 87.55 338 *e*P **P 11 36 32.5 -0.3**
STRD IAmb IAmb 11 36 42.7
comp=Z,155nm,0.9s
COWI Conover 87.56 32 IAMs_20 IAMs_20 12 18 37.6
comp=Z,1μm,22.0s
SWN1 Swindon 87.67 338 *e*P **P 11 36 33.2 -0.1**
SWN1 IAmb IAmb 11 36 42.6
comp=Z,128nm,1.2s
CBKS Cedar Bluff 87.68 43 P **P 11 36 33.1 -0.6**
baz=315
HINF Hinteralfeld 87.68 331 *e*P **P 11 36 33.0 -0.5**
HINF pmax pmax
comp=Z,16nm,1.1s
MONM Monmouth 87.69 338 *e*P **P 11 36 33.1 -0.3**
MONM IAmb IAmb 11 36 34.9
comp=Z,65nm,1.2s
TUE Stuetta 87.72 329 P **P 11 36 34.8 +0.8**
comp=Z,136nm,1.4s,comp=Z,3μm
HAU Haudompre 87.73 331 *e*P **P 11 36 32.4 -1.3**
HAU pmax pmax
comp=Z,60nm,1.8s
OLDB Oldbury-Upon-S 87.77 338 *e*P **P 11 36 34.0 +0.3**
IDI Anoyia 87.83 312 *e*P **P 11 36 31.9 -2.6**
TBI Tubuai 88.09 120 *e*P **P 11 36 33.5 -2.1**
comp=Z,395nm,24.8s
TBI Tubuai 88.09 120 *e*S **S 11 47 11.6 -5.1**
TBI pmax pmax
comp=Z,1μm,30.5s
TBI *e*SS **SS 11 53 04.1 -2.2**
comp=Z,2μm,33.5s
TBI *e*LQ LQ 12 00 34.0
comp=Z,8μm,39.2s
TBI *e*LR LR 12 04 33.7
comp=Z,10μm,31.5s
TBI *e*LR LR 12 04 37.3
comp=Z,3μm,29.5s
RSBS Rosebush, Pemb 88.17 339 *e*P **P 11 36 34.9 -0.8**
RSBS IAmb IAmb 11 36 44.1
comp=Z,31nm,1.0s
IMMV Iera Moni Meta 88.26 313 *e*P **P 11 36 36.6 +0.1**
ITM Ithomi 88.29 316 *e*P **P 11 36 36.9 +0.3**
ITM Ithomi 88.29 316 P **P 11 36 35.2 -1.4**
SGRT San Giovanni R 88.35 322 P **P 11 36 36.5 -0.3**
SGRT IAmb IAmb 11 36 39.9
comp=Z,62nm,0.9s
EPT El Paso 88.37 52 IAMs_20 IAMs_20 12 12 04.2
comp=Z,865nm,20.0s
GVD Gavdhos 88.62 313 *e*P **P 11 36 40.3 +2.2**
SCIA State Center 88.87 37 IAMs_20 IAMs_20 12 14 20.5
comp=Z,896nm,20.0s
HTL Hartland 88.94 339 *e*P **P 11 36 40.0 +0.7**
HTL IAmb IAmb 11 36 42.1
comp=Z,208nm,2.2s
CABF La Chapelle 88.96 331 *e*P **P 11 36 40.9 +1.2**
CABF pmax pmax
comp=Z,93nm,2.1s
MNTX Cornudas Mount 89.14 51 P **P 11 36 40.5 -0.2**
baz=312
KSU1 Kansas State U 89.19 41 IAMs_20 IAMs_20 12 17 41.1
comp=Z,1μm,22.0s
KSU1 Kansas State U 89.19 41 P **P 11 36 39.4 -1.4**
baz=316
MSTX Muleshoe 89.25 48 P **P 11 36 40.4 -0.9**
baz=313
AMTX Amarillo 89.28 47 IAMs_20 IAMs_20 12 16 33.0
comp=Z,920nm,19.0s
AMTX Amarillo 89.28 47 P **P 11 36 42.0 +0.6**
baz=314
LOR Lormes 89.30 332 *e*P **P 11 36 40.7 -0.4**
LOR pmax pmax
comp=Z,72nm,1.8s
SBD Saint Breward 89.38 339 *e*P **P 11 36 40.9 -0.5**
JFWS Jewell Farm 89.53 35 P **P 11 36 41.9 -0.4**
baz=321
LPL La Plagne 89.58 330 *e*P **P 11 36 42.7 -0.1**
LPL pmax pmax
comp=Z,25nm,0.9s
LPG La Plagne 89.59 330 *e*P **P 11 36 42.2 -0.7**
LPG pmax pmax
comp=Z,19nm,0.8s
ATD Arta Tunnel 89.72 284 LR LR 12 20 29.4
comp=Z,13nm,20.1s,baz=40,slow=38
JSA Saint Aubin 89.81 337 *e*P **P 11 36 43.1 -0.2**
GLMI Grayling 90.50 30 IAMs_20 IAMs_20 12 22 07.2
comp=Z,1μm,20.0s
GLMI Grayling 90.50 30 P **P 11 36 46.9 +0.1**
baz=324
SSB Saint Sauveur 90.67 331 IAMs_20 IAMs_20 12 24 54.6
comp=Z,994nm,20.0s
LPIG La Paz 90.71 60 LR LR 12 16 36.9
comp=Z,332nm,18.0s,baz=302,slow=35
OK051 E0350 and S346 90.94 43 IAMs_20 IAMs_20 12 21 00.5
comp=Z,981nm,21.0s
OK048 Pawnee Station 90.94 43 IAMs_20 IAMs_20 12 22 04.7
comp=Z,940nm,20.0s
WMOK Wichita Mounta 91.09 45 IAMs_20 IAMs_20 12 13 14.8
comp=Z,863nm,21.0s
WMOK Wichita Mounta 91.09 45 P **P 11 36 49.7 0.0**
baz=315,SNR=34
L44A Lake County Fo 91.19 34 P **P 11 36 50.1 +0.1**
baz=322
OK052 Battle Ridge R 91.33 43 IAMs_20 IAMs_20 12 22 08.8
comp=Z,866nm,20.0s
OK031 S. Brethren Rd 91.33 43 IAMs_20 IAMs_20 12 22 09.1
comp=Z,828nm,20.0s
HDIL Hopedale 91.81 36 IAMs_20 IAMs_20 12 17 08.1
comp=Z,1μm,20.0s
HDIL Hopedale 91.81 36 P **P 11 36 53.7 +0.7**
baz=321
TXAR Lajitas Array 91.81 52 P **P 11 36 54.0 +0.7**
comp=Z,7.7nm,1.0s,baz=301,slow=2.8,SNR=29
TXAR PKKPbc **PKKPbc 11 54 14.0 +3.9**
comp=Z,0.1nm,0.4s,baz=173,slow=3.6,SNR=4.9
TXAR PKPPKP **P'P'df 12 02 19.9 -5.2**
comp=Z,0.4nm,1.0s,baz=107,slow=3.0,SNR=3.5
TXAR LR LR 12 14 21.0
comp=Z,709nm,20.2s,baz=303,slow=33
comp=Z,7.7nm,1.0s
TXAR Lajitas Array 91.81 52 P **P 11 36 54.0 +0.7**
TUL3 Leonard 91.95 43 IAMs_20 IAMs_20 12 19 40.3
comp=Z,1μm,22.0s
TUL3 Leonard 91.95 43 P **P 11 36 53.5 -0.1**
baz=317,SNR=9.8
ABTX Abilene, Hawle 92.07 47 P **P 11 36 53.9 -0.4**
baz=315,SNR=16
VAE Valguarnera 92.22 320 LR LR 12 22 12.6
comp=Z,2μm,19.2s,baz=22,slow=38
SADO Sadowa 92.71 27 LR LR 12 20 48.5
comp=Z,795nm,21.4s,baz=46,slow=37
CCM Cathedral Cave 92.77 38 IAMs_20 IAMs_20 12 17 13.8
comp=Z,1μm,22.0s
CCM Cathedral Cave 92.77 38 P **P 11 36 57.5 +0.1**
baz=320
AAM Ann Arbor 92.97 31 IAMs_20 IAMs_20 12 23 29.4
comp=Z,954nm,19.0s
AAM Ann Arbor 92.97 31 P **P 11 36 58.5 +0.3**
baz=325
SFIN Lafayette 92.99 34 P **P 11 36 58.8 +0.5**
baz=323
WDD Wied Dalam 93.38 319 IAMs_20 IAMs_20 12 23 31.3
comp=Z,1μm,21.0s
JCT Junction City 93.47 49 IAMs_20 IAMs_20 12 13 44.0
comp=Z,1μm,22.0s
JCT Junction City 93.47 49 P **P 11 37 00.8 -0.1**
baz=314
WHTX Lake Whitney, 93.82 46 P **P 11 37 02.6 +0.2**
baz=316
O48B Farmland 93.97 33 P **P 11 37 02.9 0.0**
baz=324
MIAR Mount Ida 94.18 42 IAMs_20 IAMs_20 12 24 39.3
comp=Z,852nm,20.0s
MIAR Mount Ida 94.18 42 P **P 11 37 04.1 +0.1**
baz=318,SNR=15
FURI Furi 94.58 284 LR LR 12 26 16.8
comp=Z,721nm,18.1s,baz=40,slow=40
435B Jarrell 94.61 47 P **P 11 37 06.3 +0.3**
baz=316
ERPA Erie 94.63 29 IAMs_20 IAMs_20 12 22 26.3
comp=Z,1μm,20.0s
ERPA Erie 94.63 29 P **P 11 37 06.8 +0.9**
baz=328
P49A Miami Univ. Ec 94.75 34 P **P 11 37 05.7 -0.8**
baz=324
M53A WI Miller and 94.92 30 P **P 11 37 06.6 -0.6**
baz=327
ACSO Alum Creek Sta 94.95 32 P **P 11 37 07.5 +0.1**
baz=326
WCI Wyandotte Cave 95.07 35 IAMs_20 IAMs_20 12 22 35.4
comp=Z,990nm,21.0s
WCI Wyandotte Cave 95.07 35 P **P 11 37 06.9 -1.0**
baz=323
833A Chaparral WMA, 95.23 50 P **P 11 37 08.7 -0.2**
baz=315
PKME Peaks-Kenny Pk 95.55 21 P **P 11 37 09.6 -0.4**
baz=336
NATX Nacogdoches 95.62 45 IAMs_20 IAMs_20 12 22 25.8
comp=Z,1μm,21.0s
NATX Nacogdoches 95.62 45 P **P 11 37 10.3 -0.3**
baz=318
LBNH Lisbon 95.68 23 P **P 11 37 10.0 -0.7**
baz=334
O53A New Philadelph 95.70 31 IAMs_20 IAMs_20 12 22 26.7
comp=Z,929nm,20.0s
O53A New Philadelph 95.70 31 P **P 11 37 10.2 -0.6**
baz=327
P52A Corning 95.82 32 IAMs_20 IAMs_20 12 19 20.9
comp=Z,986nm,22.0s
P52A Corning 95.82 32 P **P 11 37 10.4 -1.0**
baz=326
WVT Waverly 95.99 38 IAMs_20 IAMs_20 12 15 36.8
comp=Z,1μm,22.0s
WVT Waverly 95.99 38 P **P 11 37 11.9 -0.3**
baz=322
WVL Waterville 96.08 21 IAMs_20 IAMs_20 12 21 37.3
comp=Z,1μm,21.0s
BINY Binghamton 96.09 26 P **P 11 37 12.9 +0.3**
baz=331
KEST Kesra 96.17 322 P **P 11 37 12.4 -0.7**
comp=Z,4.4nm,0.8s,baz=12,slow=9.3,SNR=5.5
KEST LR LR 12 26 16.8
comp=Z,954nm,18.1s,baz=352,slow=39
comp=Z,4.4nm,0.8s
HKT Hockley 96.25 47 IAMs_20 IAMs_20 12 15 11.3
comp=Z,1μm,21.0s
OXF Oxford 96.44 40 IAMs_20 IAMs_20 12 28 50.0
comp=Z,718nm,20.0s
OXF Oxford 96.44 40 P **P 11 37 13.5 -0.7**
baz=321
SSPA Standing Stone 96.72 28 IAMs_20 IAMs_20 12 27 23.6
comp=Z,986nm,19.0s
SSPA Standing Stone 96.72 28 P **P 11 37 14.9 -0.6**
baz=329
PLAL Pickwick Lake 96.76 38 IAMs_20 IAMs_20 12 27 03.4
comp=Z,982nm,20.0s
L61B Northampton 97.03 24 IAMs_20 IAMs_20 12 24 37.5
comp=Z,1μm,21.0s
L61B Northampton 97.03 24 P Pdif 11 37 17.0 +0.1
baz=333
HRV Adam Dziewonsk 97.35 23 IAMs_20 IAMs_20 12 23 11.0
comp=Z,1μm,20.0s
HRV Adam Dziewonsk 97.35 23 P Pdif 11 37 18.4 +0.1
baz=334
VBMS Vicksburg 97.61 42 IAMs_20 IAMs_20 12 27 49.1
comp=Z,832nm,20.0s
PBRG Bragança 97.83 336 *e*P **P 11 37 20.3 -0.2**
PGAV Gavieira, Arco 98.18 337 *e*P Pdif 11 37 24.4 +2.2
PGAV Gavieira, Arco 98.18 337 *e*SS SS 11 56 03.3 +35
PGAV Gavieira, Arco 98.18 337 *e*LQ LQ 12 06 04.5
PGAV *e*LR LR 12 10 25.8
comp=Z,1μm,20.0s
POLO Lamas de Olo 98.56 337 *e*P **P 11 37 23.7 -0.1**
POLO Lamas de Olo 98.56 337 *e*S S 11 49 13.4 +24
POLO *e*SS SS 11 55 59.6 +26
BLA Blacksburg 98.58 32 IAMs_20 IAMs_20 12 24 02.9
comp=Z,1μm,20.0s
BLA Blacksburg 98.58 32 P **P 11 37 23.8 -0.1**
baz=327
ESDC Sonseca Array 98.74 333 P **P 11 37 24.0 -0.6**
comp=Z,0.4nm,0.6s,baz=358,slow=7.4,SNR=4.8
ESDC PKKPab PKKPdf 11 54 19.4 +25
comp=Z,0.5nm,0.7s,baz=208,slow=2.5,SNR=4.1
ESDC LR LR 12 26 56.6
comp=Z,1μm,20.2s,baz=19,slow=38
comp=Z,0.4nm,0.6s
LRAL Lakeview Retre 98.84 39 IAMs_20 IAMs_20 12 28 36.4
comp=Z,971nm,20.0s
LRAL Lakeview Retre 98.84 39 P **P 11 37 24.2 -1.0**
baz=322
MTE Manteigas 99.36 336 *e*PP **PP 11 41 31.1 +1.4**
MTE *e*S **S 11 48 57.6 +1.1**
MTE *e*SS SS 11 56 04.5 +20
MTE *e*LQ LQ 12 05 21.6
MTE *e*LR LR 12 13 15.7
comp=Z,947nm,20.0s
COI Coimbra 99.82 336 *e*PP **PP 11 41 34.5 +1.4**
COI Coimbra 99.82 336 *e*SS SS 11 56 16.6 +26
PCAS Casmilo, Conde 99.98 336 *e*PP **PP 11 41 35.8 +1.4**
PCAS Casmilo, Conde 99.98 336 *e*SS SS 11 55 49.1 -4.1
PMRV Marv??o 100.18 335 *e*SS SS 11 56 10.0 +14
PMRV Marv??o 100.18 335 *e*LQ LQ 12 07 47.4
PMRV *e*LR LR 12 11 05.1
comp=Z,981nm,20.0s
BRAL Brewton 100.28 40 IAMs_20 IAMs_20 12 30 39.8
comp=Z,949nm,20.0s
GOGA Godfrey 100.31 36 IAMs_20 IAMs_20 12 24 16.1
comp=Z,799nm,20.0s
GOGA Godfrey 100.31 36 P **Pdif 11 37 31.8 +0.1**
baz=325
PSBE So Bento 100.57 336 *e*PP **PP 11 41 41.4 +2.5**
PSBE So Bento 100.57 336 *e*SS SS 11 56 11.6 +10
PESTR Estremoz 100.75 335 *e*PP **PP 11 41 41.6 +1.4**
PESTR *e*S **sS 11 49 32.6 +3.4**
PESTR *e*SS **SS 11 56 14.2 +10**
PMTG Montargil 100.78 336 *e*PP **PP 11 41 42.8 +2.3**
PMTG *e*S S 11 47 42.0
PMTG *e*SS SS 11 56 37.5 +33
PBAR Barrancos 101.17 335 *e*PP **PP 11 41 42.4 -1.1**
PBAR *e*S **sS 11 49 31.0 -1.8**
PBAR *e*SS SS 11 56 22.7 +13
KMBO Kilima Mbogo 101.58 277 IAMs_20 IAMs_20 12 26 00.8
comp=Z,578nm,19.0s
KIBK Kibwezi 101.63 275 IAMs_20 IAMs_20 12 22 55.6
comp=Z,664nm,22.0s
PNCL Nicolau / Gran 101.75 336 *e*PP **PP 11 41 49.4 +1.7**
PNCL *e*S **SKSac 11 48 12.7 -1.5**
PNCL *e*SS **SS 11 56 23.4 +5.7**
TIGA Tifton 101.85 38 P **Pdif 11 37 38.0 -0.6**
baz=324
MESJ Messejana 101.89 335 *e*Pdif **Pdif 11 37 38.9 +0.3**
MESJ *e*PP **PP 11 41 50.6 +1.7**
MESJ *e*SS SS 11 56 23.9 +4.2
MESJ IAMs_20 IAMs_20 12 13 53.3
comp=E,3μm,51.9s
MESJ Messejana 101.89 335 *e*P **Pdif 11 37 38.9 +0.3**
MESJ *e* 11 41 50.6
MESJ *e*SS SS 11 56 23.9 +4.2
PCVE Castro Verde 102.01 335 *e*PP **PP 11 41 51.2 +1.4**
PCVE Castro Verde 102.01 335 *e*SS SS 11 56 46.6 +25
PVAQ Vaqueiros 102.10 335 *e*PP **PP 11 41 51.4 +0.9**
PVAQ *e*S sS 11 49 38.4 -2.3
PVAQ *e*SS SS 11 56 34.9 +12
PVAQ Vaqueiros 102.10 335 *e*LQ LQ 12 08 38.4
PVAQ *e*LR LR 12 15 05.5
comp=E,2μm,20.0s
NHSC New Hope 102.11 34 P **Pdif 11 37 38.9 -0.8**
baz=327
PBDV Barranco-do-Ve 102.32 335 *e*PP **PP 11 41 54.9 +2.8**
PBDV *e*S S 11 48 44.9
PBDV *e*SS SS 11 56 45.7 +20
MORF Marmelete 102.52 335 *e*PP **PP 11 41 55.0 +1.4**
MORF Marmelete 102.52 335 *e*SS SS 11 56 51.7 +23
MORF Marmelete 102.52 335 *e*PP **PP 11 41 55.2 +1.6**
MORF IAMs_20 IAMs_20 12 13 52.2
comp=E,4μm,34.8s
PFVI Vila Bisbo 102.73 335 *e*PP **PP 11 41 58.5 +3.4**
DWPF Disney Wildern 105.64 38 IAMs_20 IAMs_20 12 31 26.4
comp=Z,755nm,20.0s
DWPF Disney Wildern 105.64 38 P **PKiKP 11 42 08.1 -0.3**
baz=325
TAM Tamanrasset 108.40 317 IAMs_20 IAMs_20 12 35 03.2
comp=Z,679nm,19.0s
BBSR BB Station 108.80 22 IAMs_20 IAMs_20 12 30 20.1
comp=Z,744nm,20.0s
PMOZ Porto Moniz, M 109.31 340 *e*PP PP 11 42 31.7 -12
PMOZ Porto Moniz, M 109.31 340 *e*SS SS 11 58 31.4 +30
PMOZ Porto Moniz, M 109.31 340 *e*LQ LQ 12 08 55.5
PMOZ *e*LR LR 12 14 05.5
comp=Z,808nm,20.0s
SNET Serv Nac Est T 112.29 53 IAMs_20 IAMs_20 12 17 27.0
comp=Z,588nm,19.0s
VNDA Vanda 113.10 175 PKiKP **PKiKP 11 42 20.5 -0.4**
comp=Z,2.1nm,0.8s,baz=322,slow=4.9,SNR=9.7
LSZ Lusaka 116.87 270 IAMs_20 IAMs_20 12 32 15.3
comp=Z,894nm,22.0s
MAW Mawson 117.52 205 PKiKP **PKPdf 11 42 29.5 0.0**
comp=Z,3.6nm,0.6s,baz=74,slow=3.1,SNR=9.8
MAW PP **PP 11 43 40.7 -2.0**
comp=Z,29nm,1.1s,baz=64,slow=9.3,SNR=13
TORD Torodi Ar. Bea 118.22 313 PKP **PKPdf 11 42 31.3 -1.3**
comp=Z,6.2nm,0.6s,baz=29,slow=2.0,SNR=18
TORD PKKPbc **PKKPbc 11 52 51.4 +1.3**
comp=Z,1.9nm,0.7s,baz=212,slow=2.4,SNR=7.6
SJG San Juan 121.29 30 IAMs_20 IAMs_20 12 38 27.6
comp=Z,678nm,22.0s
LBTB Lobatse 123.74 261 PKPdf **PKiKP 11 42 43.9 +0.6**
LBTB Lobatse 123.74 261 PKiKP **PKiKP 11 42 43.9 +0.6**
QSPA South Pole Qui 124.84 180 **PKPdf 11 42 43.0 -0.7**
QSPA South Pole Qui 124.84 180 PKP **PKPdf 11 42 43.6 -0.2**
comp=Z,23nm,0.8s,baz=295,slow=0.9,SNR=40
QSPA PP **PP 11 44 34.2 +1.5**
comp=Z,31nm,1.0s,baz=261,slow=2.3,SNR=5.8
HATO Hato, Curacao 125.26 36 IAMs_20 IAMs_20 12 41 52.1
comp=Z,649nm,21.0s
BOSA Boshof 125.56 258 PKP **PKiKP 11 42 47.7 +0.9**
comp=Z,9.2nm,0.8s,baz=86,slow=2.4,SNR=6.4
SDV Santo Domingo 127.22 40 IAMs_20 IAMs_20 12 48 27.4
comp=Z,673nm,20.0s
DBIC Dimbokro 127.24 315 PKP **PKPdf 11 42 49.2 -0.7**
comp=Z,7.9nm,0.6s,baz=22,slow=1.8,SNR=4.9
TIC Toumodi 127.35 315⇑ *j*PKIKP **PKPdf 11 42 50.1 -0.1**
comp=Z,11nm,0.2s
KIC Kosan Boka 127.42 315⇑ *e*PKIKP **PKPdf 11 42 49.7 -0.6**
comp=Z,22nm,0.7s
LIC Lamto 127.70 315⇑ *i*PKIKP **PKPdf 11 42 50.1 -0.7**
comp=Z,14nm,0.4s
ROSC El Rosal 128.45 47 PKP **PKiKP 11 42 53.5 +0.1**
comp=Z,20nm,0.8s,baz=331,slow=10,SNR=10
BAUV El Baul 128.50 37 PKPdf **PKPdf 11 42 51.4 -0.9**
ELIB Princess Elisa 131.37 202 *d*PKPdf **PKPdf 11 42 57.3 +0.2**
ELIB *d*PP **PP 11 45 14.5 -1.0**
ELIB *d*SKP 11 46 17.8
TROLL Troll, Antarti 137.19 198 ⇑PKPdf PKPdf 11 42 57.1 -10
comp=Z,497nm,0.5s
SNAA Sanae 138.71 197 PKPdf **PKPdf 11 43 10.2 +0.4**
SNAA Sanae 138.71 197 ⇑PKPdf **PKPdf 11 43 04.1 -5.7**
comp=Z,255nm,0.9s
SNAA Sanae 138.71 197 PKhKP PKPpre 11 43 02.0
comp=Z,3.1nm,0.6s,baz=139,slow=4.0,SNR=8.2
SNAA PP **PP 11 45 56.0 -5.6**
comp=Z,12nm,1.1s,baz=151,slow=2.4,SNR=4.9
SNAA Sanae 138.71 197 PKIKP **PKPdf 11 43 10.2 +0.4**
CZSB Cruzeiro do Su 139.07 56 **PKPdf 11 43 10.7 -1.4**
VNA2 Neumayer--Watz 140.28 196 ⇑PKPdf **PKPdf 11 43 08.5 -4.1**
comp=Z,48nm,0.7s,baz=127,slow=2.4
VNA3 Neumayer Olymp 140.53 195 ⇑PKPdf **PKPdf 11 43 06.3 -6.8**
comp=Z,10nm,0.5s
VNA1 Neumayer--Stat 140.68 196 ⇑PKPdf **PKPdf 11 43 08.6 -4.6**
comp=Z,24nm,0.9s
ETMB Extrema 144.89 51 PKPdf **PKPab 11 43 20.0 -1.6**
SAML Samuel 146.06 46 **PKPdf 11 43 24.0 -0.5**
SAML Samuel 146.06 46 PKIKP **PKPdf 11 43 24.0 -0.5**
H03N2 Juan Fernandez 147.41 99 T T 14 28 18.9
baz=289,slow=76,SNR=504
H03N3 Juan Fernandez 147.42 99 T T 14 28 20.0
baz=289,slow=76,SNR=417
H03N1 Juan Fernandez 147.43 99 T T 14 28 24.3
baz=289,slow=76,SNR=507
H03S2 Juan Fernandez 147.51 99 T T 14 28 40.8
baz=284,slow=74
H03S3 Juan Fernandez 147.52 99 T T 14 28 36.6
baz=284,slow=74
H03S1 Juan Fernandez 147.53 99 T T 14 28 41.2
baz=284
LPAZ La Paz 148.20 61 PKPdf **PKPdf 11 43 28.9 +0.1**
LPAZ La Paz 148.20 61 PKPbc **PKPdf 11 43 30.0 +1.3**
comp=Z,38nm,1.0s,baz=344,slow=3.4,SNR=38
PB11 IPOC Station P 149.24 68 PKPdf **PKPdf 11 43 29.2 -0.5**
HMBC Humberstone 149.36 69 **PKPdf 11 43 30.7 +0.8**
RCBR Riachuelo 150.70 353 PKPbc **PKPbc 11 43 36.6 -1.0**
comp=Z,32nm,1.0s,baz=63,slow=5.2,SNR=6.0
LVC Limon Verde 151.41 72 PKPbc **PKiKP 11 43 39.8 -0.1**
comp=Z,43nm,1.0s,baz=292,slow=2.1,SNR=17
SIV San Ignacio 152.81 51 PKP **PKPdf 11 43 35.7 +0.5**
comp=Z,9.0nm,1.0s,baz=270,slow=1.3,SNR=20
COYC Coyhaique 153.13 123 PKPdf **PKPdf 11 43 33.7 -1.0**
BDFB Brasilia 159.14 24 PKP **PKPdf 11 43 44.8 +1.1**
comp=Z,1.4nm,0.3s,baz=1.9,slow=8.6,SNR=2.7
AQDB Aquidauana 159.53 49 PKPdf **PKPdf 11 43 41.8 -2.0**
AQDB PKPab **PKPab 11 44 23.1 +1.1**
TRQA Tornquist 161.61 106 PKPdf **PKPdf 11 43 44.3 -1.3**
TRQA PKPab **PKPab 11 44 32.2 +1.4**
TRQA Tornquist 161.61 106 PKIKP **PKPdf 11 43 44.3 -1.3**
CPUP Villa Florida 162.28 65 PKP **PKPdf 11 43 46.8 +0.2**
comp=Z,12nm,1.2s,baz=5.4,slow=2.0,SNR=5.8

NEIC ***07*** *11:31:34.8±1.0,58°.74N±0°.02×152°.71W±0°.07,h54km±7km,*
Error ellipse: s-maj=5.2km s-min=2.6km az=80.0
AEIC 07 11:31:35.4±0.8,58°.75N±0°.04×152°.69W±0°.08,h54km±5km,
ML2.5,ML2.7/44(NEIC),Error ellipse: s-maj=7.2km
s-min=4.1km az=133.0,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYI	**Shuyak Island**	**0.21**	**133**		Pn	11 31 43.4	-0.8
SYI					Sn	11 31 50.1	-0.4
SYI	**Shuyak Island**	**0.21**	**133**	IAML		11 31 50.5	
	comp=E,440nm,0.6s						
SYI				IAML		11 31 50.6	
	comp=N,436nm,0.3s						
Q19K	**Cape Douglas,**	**0.53**	**290**		Pn	11 31 46.7	-0.6
Q19K					Sn	11 31 55.8	-0.1
Q19K	**Cape Douglas,**	**0.53**	**290**	IAML		11 31 56.1	
	comp=N,390nm,0.4s						
Q19K				IAML		11 31 56.2	
	comp=E,409nm,0.7s						
AU22	**Augustine Moun**	**0.71**	**331**		Pn	11 31 48.8	-0.6
AU22					Sn	11 31 59.8	+0.2

AUCH	**Augustine Cone**	**0.73 328**		Pn	11 31 49.2	-0.5
AUL	**Augustine Lava**	**0.74 329**		Pn	11 31 49.3	-0.6
P19K	**Oil Pt**	**0.94 343**		Pn	11 31 51.5	-1.0
P19K			IAML		11 32 07.2	
	comp=N,291nm,0.5s					
P19K			IAML		11 32 07.4	
	comp=E,246nm,0.5s					
P19K	**Oil Pt**	**0.94 343**		Sn	11 32 05.5	+0.4
KDAK	**Kodiak Island**	**0.97 177**		Pn	11 31 51.8	-1.0
KDAK			IAML		11 32 09.5	
	comp=E,124nm,0.3s					
KAHG	**Katmai Hook Gl**	**1.01 256**		Pn	11 31 52.8	-0.6
HOM	**Homer**	**1.05 30**		Pn	11 31 53.6	-0.3
HOM				Sn	11 32 08.7	+1.1
HOM	**Homer**	**1.05 30**	IAML		11 32 08.8	
	comp=N,172nm,0.4s					
HOM			IAML		11 32 09.0	
	comp=E,215nm,0.7s					
CNPM	**China Poot**	**1.08 43**		Pn	11 31 53.7	-0.5
CNPM			IAML		11 32 10.0	
	comp=N,102nm,0.5s					
KAHC	**Katmai Hardscr**	**1.22 266**		Pn	11 31 55.7	-0.5
KAHC	**Katmai Hardscr**	**1.22 266**		Pn	11 31 55.5	-0.7
KAHC				Sn	11 32 11.8	+0.1
ILSW	**Iliamna Southw**	**1.25 349**		Pn	11 31 55.7	-1.1
IVE	**Iliamna Volcan**	**1.28 353**		Pn	11 31 56.0	-1.0
O20K	**Slope Mountain**	**1.33 1**		Pn	11 31 57.4	-0.4
O20K				Sn	11 32 15.5	+1.0
BRLK	**Bradley Lake**	**1.37 42**		Pn	11 31 57.1	-1.1
BRLK	**Bradley Lake**	**1.37 42**	IAML		11 32 17.3	
	comp=N,98nm,0.2s					
BRLK			IAML		11 32 17.7	
	comp=E,96nm,0.1s					
BRSE	**Bradley Lake S**	**1.41 44**		Pn	11 31 57.8	-0.9
KVTA	**Katmai Vly 10**	**1.42 256**		Pn	11 31 58.6	-0.2
P18K	**Big Mountain,**	**1.46 297**	Pn	Pn	11 31 57.8	-1.6
P18K			IAML		11 32 16.7	
	comp=N,69nm,0.4s					
R18K	**Karluk**	**1.52 219**		Pn	11 31 59.7	-0.4
OHAK	**Old Harbor**	**1.57 192**		Pn	11 31 59.9	-0.9
ANCK	**Angle Creek**	**1.58 251**		Pn	11 32 01.1	0.0
O19K	**Port Alsworth**	**1.67 331**		Pn	11 32 01.4	-0.8
O19K				Sn	11 32 21.5	-1.0
RED	**Redoubt Volcan**	**1.67 359**		Pn	11 32 01.5	-0.9
O18K	**Koktuh Hills**	**1.70 312**		Pn	11 32 01.9	-0.8
RDSO	**Redoubt South**	**1.71 359**		Pn	11 32 02.1	-0.8
RDSO				Sn	11 32 23.6	0.0
RSO	**Redoubt South**	**1.71 359**		Pn	11 32 02.3	-0.7
RDWB	**Redoubt West**	**1.74 357**		Pn	11 32 02.6	-0.7
CNTC	**Contact Creek**	**1.75 255**		Pn	11 32 03.0	-0.4
NCT	**North Crescent**	**1.82 356**		Pn	11 32 04.0	-0.3
RDT	**Redoubt**	**1.83 4**		Pn	11 32 03.9	-0.6
RDT				Sn	11 32 26.9	+0.4
DFR	**Drift River**	**1.84 360**		Pn	11 32 04.1	-0.6
P17K	**Kvichak River**	**1.99 284**		Pn	11 32 05.9	-0.7
Q16K	**King Salmon**	**2.07 270**		Pn	11 32 07.5	-0.2
SLKM	**Skilak Lake**	**2.16 34**		Pn	11 32 08.3	-0.6
N19K	**Bonanza Creek**	**2.26 337**		Pn	11 32 09.6	-0.7
N19K	**Bonanza Creek**	**2.26 337**	IAML		11 32 50.0	
	comp=E,27nm,2.4s					
O22K	**Cooper Landing**	**2.29 40**	Pn	Pn	11 32 09.6	-1.1
SII	**Sitkinak Islan**	**2.34 201**		Pn	11 32 10.5	-1.0
SPU	**Mount Spurr**	**2.46 7**	Pn	Pn	11 32 13.3	+0.3
SPU			IAML		11 32 47.5	
	comp=N,28nm,1.4s					
SPU			IAML		11 32 54.7	
	comp=E,30nm,1.6s					
O17K	**Koliganek Bris**	**2.48 296**		Pn	11 32 12.4	-0.9
N18K	**Kilae Creek**	**2.52 321**	Pn	Pn	11 32 13.2	-0.7
N18K			IAML		11 32 45.8	
	comp=E,28nm,2.4s					
RC01	**Rabbit Creek A**	**2.77 31**	Pn	Pn	11 32 16.2	-1.1
SUA	**Susitna One**	**2.89 19**	Pn	Pn	11 32 20.2	+1.2
SUA			IAML		11 33 47.7	
	comp=N,34nm,1.2s					
M20K	**Styx River**	**3.15 356**	Pn	Pn	11 32 23.0	+0.5
M20K			IAML		11 33 08.2	
	comp=E,27nm,1.2s					
M20K			IAML		11 33 20.0	
	comp=N,20nm,1.2s					
SKT	**Skwentna**	**3.29 10**	Pn	Pn	11 32 25.1	+0.8
SKT			IAML		11 33 08.6	
	comp=E,27nm,1.4s					
SKT			IAML		11 33 48.6	
	comp=N,19nm,1.6s					

DJA 07 11:36:10.5±0.6, 1°N±8°×12°4E±°, h215km±6km, M3.7/6, MLv3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.81**	**186**	P	Pn	11 36 42.7	+1.9
KMSI				S	S	11 37 05.6	+1.2
GTOI	**Gorontalo**	**1.29**	**234**	P	Pn	11 36 46.4	+2.5
GTOI				S	S	11 37 08.9	-0.8
MRSI	**Marisa**	**2.31**	**247**	P	Pn	11 36 53.9	+0.6
LUWI	**Luwuk**	**2.74**	**208**	P	Pn	11 36 57.9	-0.1
SANI	**Sanana**	**3.92**	**151**	P	Pn	11 37 07.0	-4.9
LBMI	**Labuha**	**3.99**	**120**	P	Pn	11 37 11.4	-1.3
MPSI	**Mapaga**	**4.29**	**256**	P	Pn	11 37 17.0	+0.6

IDC 07 11:42:11.7±9.1, 5°64S×150°71E, h93km±63km, mb2.9/2, mbtmp3.3/3, ML1.4/1, Error ellipse: s-maj=130.5km s-min=59.6km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.14**	**223**	P	Pn	11 43 26.4	+0.2
	0.9nm,0.3s,baz=220,slow=15,SNR=1.3						
PMG				S	Sn	11 44 25.2	+0.9
	9.8nm,0.3s,baz=11,slow=5.7,SNR=2.5 3.7nm,0.4s						
WRA	**Warramunga Arr**	**21.35**	**227**	P	P	11 46 51.2	-0.4
	0.4nm,0.6s,baz=53,slow=10,SNR=4.8 0.4nm,0.6s						
ASAR	**Alice Springs**	**24.15**	**220**	P	P	11 47 19.1	-0.2
	0.3nm,0.4s,baz=52,slow=9.0,SNR=8.4 0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**148.56**	**286**	PKPbc	PKPbc	12 01 48.6	-0.3
	0.8nm,0.6s,baz=80,slow=2.4,SNR=5.6						

*JMA **07** 11:45:19.3±0.2, 35°1N±0°5×140°6E±0°9, h58km±1km, MV3.2/38, SE OFF BOSO PENINSULA*
JMA Felt I J1 at SE OFF BOSO PENINSULA .
*IDC **07** 11:45:20.4±1.1, 34°20N×138°29E, h0km, mb3.5/4, mbtmp3.5/5, ML2.5/1, MS4.1/1, Error ellipse: s-maj=33.9km s-min=16.5km az=62.0*
ISC 07 11:45:20.0±1.0, 35°03N±0°04×140°62E±0°06, h54km±7km, n27, σ0°84/33, mb3.5/4, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO4	**Boso 4**	**0.23**	**260**	*i* P	**Pn**	**11 45 29.1**	**+0.2**
BSO4				X		11 45 36.8	
BSO3	**Boso 3**	**0.24**	**201**	*i* P	**Pn**	**11 45 29.2**	**+0.4**
BSO3				*e*X		11 45 36.2	
KTR	**Katsuura**	**0.28**	**296**	⇓*i*P	**Pn**	**11 45 28.9**	**-0.5**
KTR				⇓S	**Sn**	**11 45 35.9**	**-0.1**
BSO2	**Boso 2**	**0.30**	**158**	X		11 45 37.6	
JKUC	**kamogawauchiur**	**0.37**	**291**	⇓*i*P	**Pn**	**11 45 29.7**	**-0.4**
JKUC				⇓S	**Sn**	**11 45 37.2**	**-0.2**
BSO1	**Boso 1**	**0.48**	**142**	P	**Pn**	**11 45 31.2**	**+0.5**
JCN	**Nagara**	**0.52**	**319**	⇓*i*P	**Pn**	**11 45 31.5**	**-0.2**
JCN				⇓S	**Sn**	**11 45 41.1**	**+0.9**
JSMT	**Sammumatsuo**	**0.63**	**347**	P	**Pn**	**11 45 32.4**	**-0.6**
JSMT				S	**Sn**	**11 45 42.5**	**+0.1**
JIM2	**Oshima 3**	**1.02**	**253**	⇓*i*P	**Pn**	**11 45 37.5**	**-0.7**
JIM2				⇓S	**Sn**	**11 45 50.3**	**-1.3**
JOD2	**Odawara 2**	**1.28**	**281**	⇓*i*P	**Pn**	**11 45 40.7**	**-0.8**
JOD2				⇓*e*S	**Sn**	**11 45 56.3**	**-1.3**
JMYK	**Miyake Tsubota**	**1.31**	**223**	P	**Pn**	**11 45 42.1**	**+0.2**
JMKN	**Mikurajimanish**	**1.42**	**217**	P	**Pn**	**11 45 43.4**	**-0.1**
JIZS	**Izushimoda**	**1.46**	**258**	*i* P	**Pn**	**11 45 43.7**	**-0.4**
JHJ2	**Mitsune**	**2.02**	**199**	P	**Pn**	**11 45 52.2**	**+0.5**
JHJ	**Hachijo jima 2**	**2.03**	**200**	Pn	**Pn**	**11 45 51.8**	**+0.1**
	50nm,0.3s,baz=320,slow=19,SNR=70						
JHJ				Sn	**Sn**	**11 46 15.3**	**-0.6**
	93nm,0.3s,baz=268,slow=23,SNR=10						
MJAR	**Matsushiro Arr**	**2.47**	**308**	Pn	**Pn**	**11 45 58.1**	**+0.3**
	1.3nm,0.3s,baz=163,slow=13,SNR=55						
MJAR				Sn	**Sn**	**11 46 29.6**	**+2.7**
	1.1nm,0.3s,baz=266,slow=7.4,SNR=9.2 6.0nm,0.3s						
MAJO	**Matsushiro**	**2.48**	**308**	P	**Pn**	**11 45 58.4**	**+0.5**
JGF	**Kuroka**	**2.73**	**283**	P	**Pn**	**11 46 02.6**	**+1.2**
JMM	**Marumori**	**2.83**	**3**	P	**Pn**	**11 46 02.2**	**-0.6**
JTM	**Tenmabayashi**	**5.76**	**3**	P	**Pn**	**11 46 42.2**	**-0.6**
ERM	**Erimo**	**7.25**	**15**	P	**Pn**	**11 47 02.3**	**-1.0**
JEM	**Erimo**	**7.25**	**15**	P	**Pn**	**11 47 02.5**	**-0.8**
KAPI	**Kappang**	**44.41**	**210**	LR	LR	12 10 35.4	
	comp=Z,272nm,21.5s,baz=286,slow=35						
MKAR	**Makanchi Array**	**44.66**	**304**	P	**P**	**11 53 27.6**	**+0.3**
	0.3nm,0.6s,baz=98,slow=8.7,SNR=3.2 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**46.75**	**309**	P	**P**	**11 53 44.3**	**+0.7**
	0.3nm,0.3s,baz=81,slow=7.7,SNR=2.2 0.3nm,0.3s						
WRA	**Warramunga Arr**	**54.99**	**187**	P	**P**	**11 54 44.9**	**-0.9**
	0.7nm,0.4s,baz=1.6,slow=7.8,SNR=15 0.7nm,0.4s						
ASAR	**Alice Springs**	**58.72**	**187**	P	**P**	**11 55 12.5**	**+0.3**
	0.2nm,0.7s,baz=21,slow=10.0,SNR=2.4 0.2nm,0.7s						

*JSO **07** 11:46:32, 32°86N×35°58E, h2km, ML2.8/16*
*GRAL **07** 11:46:34.0±0.3, 32°88N×35°60E, h0km±3km, MD3.3*
ISC 07 11:46:32.5±1.0, 32°86N±0°03×35°58E±0°05, h13km, n19, σ0°64/20, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	**Mount Meron ar**	**0.21**	**318**	P	**Pg**	**11 46 36.5**	**-0.7**
BLGI	**Bet Lehem HaGe**	**0.35**	**249**	P	**Pg**	**11 46 39.4**	**-0.1**
GEM	**Giv'at Ha'Em**	**0.36**	**12**	P	**Pg**	**11 46 39.2**	**-0.5**
HNTI	**Hanita**	**0.41**	**304**	P	**Pg**	**11 46 40.4**	**-0.2**
QRNJ	**Al-Qirein**	**0.52**	**180**	P	**Pg**	**11 46 42.6**	**-0.1**
HMDT	**Nahal Hemdat**	**0.60**	**184**	P	**Pg**	**11 46 44.0**	**-0.3**
RCY	**Rachaya**	**0.67**	**19**	*e*P	**Pg**	**11 46 45.5**	**-0.2**
RCY				*e*S	**Sg**	**11 46 54.1**	**-0.4**
SLTI	**Sal'it**	**0.77**	**216**	P	**Pg**	**11 46 47.0**	**-0.3**
DQRL	**Deir Qamar**	**0.84**	**360**	*e*P	**Pg**	**11 46 48.7**	**-0.2**
DQRL				*e*S	**Sg**	**11 46 59.6**	**-0.4**
HSUJ	**Al Zarqa**	**0.91**	**145**	P	**Pg**	**11 46 49.8**	**-0.4**
ZAHL	**Zahle**	**1.03**	**14**	*e*P	**Pb**	**11 46 52.0**	**-0.3**
BHL	**Bhannes**	**1.04**	**4**	*e*P	**Pb**	**11 46 52.3**	**-0.2**
DSI	**Dead Sea**	**1.30**	**187**	P	**Pn**	**11 46 55.5**	**-0.8**
HWQ	**Hawqa**	**1.45**	**12**	*e*P	**Pn**	**11 46 59.2**	**+0.7**
YTIR	**Yattir**	**1.54**	**195**	P	**Pn**	**11 47 00.3**	**+0.6**
KARJ	**KARJ**	**1.73**	**178**	P	Pn	11 46 48.7	-14
BEIL	**Beino**	**1.75**	**17**	*e*P	**Pn**	**11 47 03.9**	**+1.2**
PRNI	**Paran**	**2.55**	**191**	P	**Pn**	**11 47 14.6**	**+1.1**
MBRI	**Mt Berech**	**3.11**	**191**	P	**Pn**	**11 47 22.3**	**+1.0**

*AEIC **07** 12:18:07.2±1.8, 54°87N±0°09×161°75W±0°09, h83km±6km, Error ellipse: s-maj=13.7km s-min=4.8km az=154.0*
NEIC 07 12:18:05.4±1.2, 54°91N±0°07×161°8W±0°1, h92km±8km, ML3.3/26, MLB.1(AEIC), Error ellipse: s-maj=13.2km s-min=4.6km az=142.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAG	**Hague Volcano**	**0.42**	**349**		Pn	12 18 20.0	+0.2
HAG					Sn	12 18 31.6	+1.1
PS4A	**Pavlof South-4**	**0.44**	**353**		Pn	12 18 19.9	-0.1
PS4A					Sn	12 18 31.4	+0.6
PVV	**Pavlof Volcano**	**0.47**	**358**		Pn	12 18 20.1	0.0
PVV					Sn	12 18 31.5	+0.5
PS1A	**Pavlof South-1**	**0.52**	**1**		Pn	12 18 20.6	+0.1
PS1A					Sn	12 18 32.0	+0.4
PN7A	**Pavlof North-7**	**0.54**	**346**		Pn	12 18 21.0	+0.2
S12K	**Black Hills**	**0.81**	**348**		Pn	12 18 23.0	-0.3
S12K					Sn	12 18 36.1	-0.5
S12K	**Black Hills**	**0.81**	**348**	IAML		12 18 36.7	
	comp=E,583nm,0.5s						
S12K				IAML		12 18 37.3	
	comp=N,315nm,0.2s						
S12K	**Black Hills**	**0.81**	**348**	P	Pn	12 18 23.0	-0.3
	baz=168						
S12K				S	Sn	12 18 36.1	-0.5
	baz=168						
SDPT	**Sand Point**	**0.86**	**59**		Pn	12 18 23.7	0.0
SDPT	**Sand Point**	**0.86**	**59**	IAML		12 18 38.3	
	comp=N,553nm,0.2s						
SDPT	**Sand Point**	**0.86**	**59**	P	Pn	12 18 23.7	0.0
	baz=237						
FALS	**False Pass**	**0.96**	**268**		Pn	12 18 24.2	-0.5
FALS	**False Pass**	**0.96**	**268**	P	Pn	12 18 24.2	-0.5
	baz=88						
ISLZ	**Isanotski Laza**	**1.14**	**262**		Pn	12 18 26.7	-0.2
ISLZ					Sn	12 18 43.0	0.0
ISNN	**Isanotski Nort**	**1.17**	**267**		Pn	12 18 27.3	+0.2
CHNA	**Chernabura Isl**	**1.26**	**93**	P	Pn	12 18 27.8	-0.5
	baz=273						
CNBA	**Chernabura Isl**	**1.26**	**93**		Pn	12 18 27.6	-0.7
CNBA				IAML		12 18 47.0	
	comp=N,174nm,0.2s						
CNBA				IAML		12 18 48.8	
	comp=E,200nm,0.3s						
SSLS	**Shishaldin Sou**	**1.31**	**262**		Pn	12 18 29.2	+0.2
SSLS					Sn	12 18 47.4	+0.8
WESE	**West Dahl East**	**1.70**	**256**		Pn	12 18 34.1	+0.3
VNSW	**Veniaminof 7**	**1.71**	**46**		Pn	12 18 34.7	+0.7
VNWF	**Veniaminof 8**	**1.77**	**44**		Pn	12 18 35.5	+0.8
VNSS	**Veniaminof 8**	**1.86**	**44**		Pn	12 18 36.6	+0.6
CHGN	**Chignik**	**2.36**	**52**		Pn	12 18 42.1	-0.2
CHGN				IAML		12 19 11.0	
	comp=N,150nm,0.3s						
CHGN				IAML		12 19 12.8	
	comp=E,195nm,0.1s						
CHGN	**Chignik**	**2.36**	**52**		Sn	12 19 10.8	+0.2
CHGN	**Chignik**	**2.36**	**52**	P	Pn	12 18 42.3	0.0
	baz=234						
CHGN				S	Sn	12 19 10.8	+0.2
	baz=234						
AKSA	**Akutan Strait**	**2.42**	**253**		Pn	12 18 43.4	+0.2
AHB	**Akutan Harbor**	**2.49**	**253**		Pn	12 18 44.2	+0.1
AKLV	**Akutan Long Va**	**2.55**	**255**		Pn	12 18 44.8	-0.2
LVA	**Lava Point**	**2.60**	**255**		Pn	12 18 45.4	-0.2
LVA	**Lava Point**	**2.60**	**255**	IAML		12 19 21.2	
	comp=E,122nm,1.9s						
LVA				IAML		12 19 37.6	
	comp=N,120nm,1.9s						
UNV	**Unalaska Valle**	**2.97**	**251**		Pn	12 18 49.9	-0.6
UNV	**Unalaska Valle**	**2.97**	**251**	P	Pn	12 18 49.9	-0.6
	baz=68						
MTBL	**Makushin Table**	**3.02**	**254**		Pn	12 18 51.1	-0.2
MSW	**Makushin Switc**	**3.10**	**253**		Pn	12 18 51.7	-0.5
CHIR	**Chirikof Islan**	**3.62**	**73**		Pn	12 18 58.5	-0.8
CHIR	**Chirikof Islan**	**3.62**	**73**	IAML		12 19 39.8	
	comp=N,72nm,1.3s						
CHIR				IAML		12 20 10.6	
	comp=E,43nm,1.6s						
CHIR	**Chirikof Islan**	**3.62**	**73**	P	Pn	12 18 58.5	-0.8
	baz=257						
OKTU	**Okmok Mt. Tuli**	**3.99**	**250**		Pn	12 19 04.6	+0.2
R17L	**Mt. Peulik Vol**	**4.07**	**46**	P	Pn	12 19 05.6	+0.3
	baz=230						
PLK4	**Peulik 4**	**4.07**	**46**		Pn	12 19 05.6	+0.3
OKSP	**Okmok Steeple**	**4.19**	**249**		Pn	12 19 06.9	-0.1
O14K	**Tigyukauivet M**	**4.37**	**3**	Pn	Pn	12 19 08.9	-0.5
SII	**Sitkinak Islan**	**4.59**	**66**		Pn	12 19 11.3	-1.2
SII	**Sitkinak Islan**	**4.59**	**66**	P	Pn	12 19 11.3	-1.2
	baz=252						
P16K	**Nushagak River**	**4.62**	**25**		Pn	12 19 12.6	-0.1
P16K	**Nushagak River**	**4.62**	**25**	P	Pn	12 19 12.6	-0.1
	baz=208						
ANCK	**Angle Creek**	**4.79**	**44**		Pn	12 19 15.2	+0.1
ACHA	**Angle Creek He**	**4.86**	**44**	Pn	Pn	12 19 15.4	-0.7
R18K	**Karluk**	**4.87**	**54**		Pn	12 19 16.0	-0.2
R18K	**Karluk**	**4.87**	**54**	P	Pn	12 19 16.0	-0.2
	baz=240						
O16K	**Kokwok River B**	**5.10**	**21**		Pn	12 19 19.4	+0.1
O16K	**Kokwok River B**	**5.10**	**21**	P	Pn	12 19 19.2	-0.1
	baz=204						
P17K	**Kvichak River**	**5.19**	**32**		Pn	12 19 21.4	+0.9
P17K	**Kvichak River**	**5.19**	**32**	P	Pn	12 19 21.4	+0.9
	baz=216						
KAHC	**Katmai Hardscr**	**5.28**	**42**		Pn	12 19 21.9	+0.1
Q18K	**Katmai Hardscr**	**5.28**	**42**	P	Pn	12 19 21.9	+0.1
	baz=227						
OHAK	**Old Harbor**	**5.29**	**61**		Pn	12 19 20.0	-1.8
OHAK				IAML		12 20 28.3	
	comp=N,27nm,0.3s						
OHAK	**Old Harbor**	**5.29**	**61**	P	Pn	12 19 20.1	-1.6
	baz=247						
N15K	**Kwethluk River**	**5.35**	**9**		Pn	12 19 23.0	+0.2
N15K	**Kwethluk River**	**5.35**	**9**	P	Pn	12 19 23.0	+0.2
	baz=190						
M13K	**Dall Lake**	**5.59**	**352**		Pn	12 19 26.0	+0.2
M13K	**Dall Lake**	**5.59**	**352**	P	Pn	12 19 26.0	+0.2
	baz=170						
P18K	**Big Mountain,**	**5.73**	**36**		Pn	12 19 28.1	+0.2
M15K	**Kasigluk River**	**5.83**	**5**		Pn	12 19 29.2	-0.1
M15K	**Kasigluk River**	**5.83**	**5**	P	Pn	12 19 29.2	-0.1
	baz=186						
KDAK	**Kodiak Island**	**5.86**	**57**		Pn	12 19 28.1	-1.6
M14K	**Bethel**	**5.86**	**359**	Pn	Pn	12 19 28.3	-1.3
Q19K	**Cape Douglas,**	**6.00**	**44**	Pn	Pn	12 19 31.5	0.0
O18K	**Koktuh Hills**	**6.09**	**33**		Pn	12 19 33.6	+0.8
N17K	**Nushagak Hills**	**6.14**	**22**	Pn	Pn	12 19 33.8	+0.3
M16K	**Timber Creek**	**6.31**	**13**	Pn	Pn	12 19 35.3	-0.5
SYI	**Shuyak Island**	**6.35**	**50**	Pn	Pn	12 19 35.8	-0.4
L14K	**Kuka Creek**	**6.47**	**356**	Pn	Pn	12 19 37.3	-0.6
N18K	**Kilae Creek**	**6.58**	**26**	Pn	Pn	12 19 40.2	+0.7
M17K	**Holitna River**	**6.90**	**18**	Pn	Pn	12 19 43.1	-0.7
L16K	**Owhat River**	**6.93**	**9**	Pn	Pn	12 19 42.6	-1.5
K15K	**Wolf Creek Mou**	**7.41**	**1**	Pn	Pn	12 19 49.6	-1.1
L18K	**Granite Mounta**	**7.80**	**18**	Pn	Pn	12 19 56.3	+0.4
L19K	**White Mountain**	**8.13**	**24**	Pn	Pn	12 19 59.0	-1.6
J16K	**Anvik River**	**8.42**	**4**	Pn	Pn	12 20 03.9	-0.6
K20K	**Telida**	**9.34**	**22**	Pn	Pn	12 20 15.9	-1.1

*NEIC **07** 12:19:24.1±1.1, 59°61N±0°04×153°02W±0°09, h111km±7km, Error ellipse: s-maj=7.0km s-min=6.1km az=122.0*
AEIC 07 12:19:24.7±1.2, 59°58N±0°03×153°05W±0°09, h111km±5km, ML2.2, ML2.8/122(NEIC), Error ellipse: s-maj=6.5km s-min=4.5km az=75.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P19K	**Oil Pt**	**0.12**	**310**	Pn	Pn	12 19 39.9	-0.2
P19K				IAML		12 19 52.1	
	comp=N,292nm,0.3s						
P19K				IAML		12 19 52.7	
	comp=E,341nm,0.4s						
AU22	**Augustine Moun**	**0.26**	**217**		Pn	12 19 39.9	-0.5
AUL	**Augustine Lava**	**0.28**	**225**		Pn	12 19 40.1	-0.5
AUCH	**Augustine Cone**	**0.29**	**223**		Pn	12 19 40.4	-0.3
ILSW	**Iliamna Southw**	**0.41**	**354**	Pn	Pn	12 19 40.5	-0.8
IVE	**Iliamna Volcan**	**0.44**	**2**		Pn	12 19 40.5	-1.0
O20K	**Slope Mountain**	**0.55**	**23**		Pn	12 19 41.5	-0.6
Q19K	**Cape Douglas,**	**0.72**	**205**	Pn	Pn	12 19 42.2	-1.2
Q19K				IAML		12 19 59.6	
	comp=N,232nm,0.7s						
Q19K				IAML		12 20 02.3	
	comp=E,318nm,0.8s						
HOM	**Homer**	**0.72**	**83**	Pn	Pn	12 19 42.8	-0.5
RED	**Redoubt Volcan**	**0.86**	**9**		Pn	12 19 43.7	-1.0
O19K	**Port Alsworth**	**0.89**	**315**	Pn	Pn	12 19 44.0	-0.9
RDSO	**Redoubt South**	**0.89**	**10**		Pn	12 19 44.1	-1.0
RSO	**Redoubt South**	**0.90**	**9**	Pn	Pn	12 19 43.9	-1.4
RDWB	**Redoubt West**	**0.92**	**7**		Pn	12 19 44.4	-0.9
CNPM	**China Poot**	**0.93**	**92**	Pn	Pn	12 19 44.3	-0.9
CNPM				IAML		12 20 02.2	
	comp=E,259nm,0.3s						
NCT	**North Crescent**	**0.99**	**3**		Pn	12 19 45.1	-0.9
SYI	**Shuyak Island**	**1.03**	**160**	Pn	Pn	12 19 45.1	-1.1
SYI				IAML		12 20 02.0	
	comp=N,147nm,0.7s						
SYI				IAML		12 20 02.6	
	comp=E,242nm,0.3s						
RDT	**Redoubt**	**1.05**	**18**		Pn	12 19 45.6	-1.0
BRLK	**Bradley Lake**	**1.11**	**79**	Pn	Pn	12 19 45.7	-1.5
P18K	**Big Mountain,**	**1.13**	**261**	Pn	Pn	12 19 45.8	-1.6
O18K	**Koktuh Hills**	**1.13**	**285**	Pn	Pn	12 19 46.4	-0.9
O18K				IAML		12 20 03.8	
	comp=N,84nm,0.8s						
BRSE	**Bradley Lake S**	**1.19**	**81**		Pn	12 19 47.0	-0.9
KAHG	**Katmai Hook Gl**	**1.33**	**216**		Pn	12 19 49.2	-0.5
KAHC	**Katmai Hardscr**	**1.37**	**228**		Pn	12 19 49.5	-0.7
N19K	**Bonanza Creek**	**1.43**	**331**	Pn	Pn	12 19 49.4	-1.4
N19K				IAML		12 20 10.3	
	comp=N,84nm,0.7s						
N19K				IAML		12 20 10.7	
	comp=E,43nm,0.7s						
CAPN	**Captain Cook N**	**1.53**	**38**	Pn	Pn	12 19 51.4	-0.4
KVTA	**Katmai Vly 10**	**1.67**	**225**		Pn	12 19 53.0	-0.6
SPCR	**Spurr Chakacha**	**1.68**	**14**		Pn	12 19 53.0	-0.8
SPU	**Mount Spurr**	**1.69**	**17**	Pn	Pn	12 19 53.1	-0.7
SPU				IAML		12 20 16.2	
	comp=N,31nm,0.2s						
SPU				IAML		12 20 16.2	
	comp=E,34nm,0.2s						
SLKM	**Skilak Lake**	**1.70**	**55**		Pn	12 19 52.7	-1.3
SPCN	**Chakachatna No**	**1.71**	**14**		Pn	12 19 53.6	-0.5
SPBG	**Spurr Blockage**	**1.72**	**11**		Pn	12 19 53.9

GLI	Glacier Island	3.25	64	IAML		12 20 50.8		
	comp=E,26nm,0.5s							
GLI				IAML		12 20 51.3		
	comp=N,20nm,0.8s							
M16K	Timber Creek	3.28	299		Pn	12 20 14.0	-0.4	
HIN	Hinchinbrook I	3.39	73		Pn	12 20 15.0	-0.9	
HIN	Hinchinbrook I	3.39	73	IAML		12 20 55.3		
	comp=E,20nm,1.1s							
HIN				IAML		12 21 04.1		
	comp=N,16nm,1.2s							
M23K	Glacier View	3.44	47		Pn	12 20 15.1	-1.4	
FID	Port Fidalgo	3.49	67		Pn	12 20 14.9	-2.2	
FID	Port Fidalgo	3.49	67	IAML		12 20 55.4		
	comp=E,27nm,0.5s							
FID				IAML		12 20 55.7		
	comp=N,25nm,0.4s							
N15K	Kwethluk River	3.60	283		Pn	12 20 19.1	+0.5	
N15K	Kwethluk River	3.60	283	IAML		12 21 03.1		
	comp=N,11nm,0.9s							
N15K				IAML		12 21 08.9		
	comp=E,11nm,0.9s							
SCM	Sheep Creek Mo	3.61	49		Pn	12 20 17.5	-1.3	
SCM	Sheep Creek Mo	3.61	49	IAML		12 21 01.1		
	comp=E,20nm,0.3s							
SCM				IAML		12 21 01.4		
	comp=N,17nm,0.2s							
WAT7	Susitna Watana	3.85	30		Pn	12 20 21.0	-1.1	
CAST	Castle Rocks	3.88	6	Pn	Pn	12 20 21.8	-0.6	
WAT1	Susitna Watana	3.92	32		Pn	12 20 22.0	-1.0	
DIV	Divide	3.94	64		Pn	12 20 22.2	-1.0	
WAT6	Susitna Watana	3.97	38		Pn	12 20 22.2	-1.5	
KLU	Klutina	4.01	58		Pn	12 20 22.8	-1.4	
KLU	Klutina	4.01	58	IAML		12 21 10.5		
	comp=E,15nm,0.5s							
K17K	Iditarod	4.05	323	Pn	Pn	12 20 23.1	-1.5	
K17K				IAML		12 21 45.1		
	comp=E,6.0nm,1.1s							
KTH	Kantishna Hill	4.12	13		Pn	12 20 25.0	-0.6	
KTH	Kantishna Hill	4.12	13	IAML		12 21 13.2		
	comp=E,6.4nm,0.9s							
KTH				IAML		12 21 16.8		
	comp=N,5.5nm,0.7s							
M24K	Tolsona, Glenn	4.21	50		Pn	12 20 25.9	-1.0	
M24K	Tolsona, Glenn	4.21	50	IAML		12 21 17.3		
	comp=E,12nm,0.8s							
M24K				IAML		12 21 23.0		
	comp=N,10nm,0.9s							
J18K	Innoko River	4.28	337	Pn	Pn	12 20 26.2	-1.5	
RAGM	Ragged Mountai	4.29	75	Pn	Pn	12 20 27.6	-0.3	
RAGM				IAML		12 21 37.1		
	comp=E,15nm,1.0s							
RND	Reindeer	4.34	26		Pn	12 20 27.5	-1.1	
RND	Reindeer	4.34	26	IAML		12 21 16.7		
	comp=E,14nm,0.3s							
RND				IAML		12 21 16.9		
	comp=N,14nm,0.6s							
KAIM	Kayak Island	4.38	82	Pn	Pn	12 20 30.8	+1.7	
KAIM				IAML		12 21 17.5		
	comp=E,15nm,1.2s							
BMRM	Bremner River	4.43	68		Pn	12 20 28.8	-1.0	
DHY	Denali Highway	4.45	35		Pn	12 20 29.1	-1.0	
DHY	Denali Highway	4.45	35	IAML		12 21 20.9		
	comp=N,10nm,0.3s							
DHY				IAML		12 21 21.8		
	comp=E,12nm,0.6s							
HMT	Hamilton	4.49	76	Pn	Pn	12 20 32.3	+1.8	
J19K	Poorman	4.60	346	Pn	Pn	12 20 30.3	-1.7	
MCK	McKinley	4.61	23		Pn	12 20 31.4	-0.7	
N25K	Chitina, Valde	4.64	60		Pn	12 20 31.9	-0.7	
N25K	Chitina, Valde	4.64	60	IAML		12 21 28.1		
	comp=E,3.2nm,0.7s							
N25K				IAML		12 21 28.4		
	comp=N,5.3nm,0.6s							
BPAW	Bear Paw Mtn.	4.64	11		Pn	12 20 31.7	-0.9	
BPAW	Bear Paw Mtn.	4.64	11	IAML		12 21 22.7		
	comp=N,4.4nm,0.9s							
BPAW				IAML		12 21 23.1		
	comp=E,3.1nm,1.0s							
J20K	Nowinta River	4.65	354	Pn	Pn	12 20 31.9	-0.7	
SUCK	Suckling Hills	4.71	80	Pn	Pn	12 20 34.4	+0.9	
SUCK				IAML		12 22 30.3		
	comp=N,11nm,1.1s							
SUCK				IAML		12 23 46.0		
	comp=E,9.4nm,1.2s							
J17K	VABM Dome	4.80	326	Pn	Pn	12 20 33.4	-1.2	
BWN	Browne	4.91	19	Pn	Pn	12 20 34.8	-1.5	
GLB	Gilahina Butte	4.94	64		Pn	12 20 35.9	-0.8	
GLB	Gilahina Butte	4.94	64	IAML		12 21 31.4		
	comp=N,3.2nm,0.6s							
GLB				IAML		12 21 39.3		
	comp=E,3.2nm,0.8s							
PAX	Paxson	5.00	44		Pn	12 20 36.5	-0.9	
VRDI	Verde Repeater	5.04	67	Pn	Pn	12 20 38.0	-0.2	
VRDI				IAML		12 21 34.1		
	comp=N,3.0nm,0.2s							
WAX	Waxell Ridge	5.19	76	Pn	Pn	12 20 43.1	+3.0	
WAX				IAML		12 21 38.0		
	comp=E,8.7nm,0.5s							
NEA2	Nenana	5.37	19		Pn	12 20 40.6	-1.8	
NEA2	Nenana	5.37	19	IAML		12 21 39.3		
	comp=E,4.0nm,0.8s							
NEA2				IAML		12 21 42.2		
	comp=N,3.3nm,0.9s							
WRH	Wood River Hil	5.44	23		Pn	12 20 41.2	-2.1	
PTPK	Patty Peak	5.49	68		Pn	12 20 43.3	-1.0	
MLY	Manley	5.58	10		Pn	12 20 44.5	-0.8	
MENT	Mentasta	5.62	49	Pn	Pn	12 20 44.6	-1.3	
CCB	Clear Creek Bu	5.65	24		Pn	12 20 44.2	-1.9	
I23K	Minto, Yukon-K	5.85	15		Pn	12 20 47.4	-1.4	
MDM	Murphy Dome	5.85	21		Pn	12 20 47.5	-1.4	
IL31		5.96	26		Pn	12 20 48.6	-1.7	
ILAR	Eielson Array	5.96	26	Pn	Pn	12 20 47.6	-2.7	
TABL	Table Mountain	6.04	77	Pn	Pn	12 20 51.9	+0.3	
H21K	Melozitna Rive	6.11	1	Pn	Pn	12 20 50.9	-1.4	
H18K	Honhosa River	6.12	338	Pn	Pn	12 20 50.6	-1.9	
SCRK	Sand Creek	6.16	40	Pn	Pn	12 20 52.7	-0.5	
J25K	Salcha River,	6.21	32	Pn	Pn	12 20 52.7	-1.0	
IMAR	Indian Mountai	6.44	357	Pn	Pn	12 20 55.4	-1.4	
H23K	Yukon River	6.47	13		Pn	12 20 55.9	-1.5	
J26L	Joseph Creek	6.65	38	Pn	Pn	12 20 59.6	-0.2	
H24K	Noodor Dome	6.72	19	Pn	Pn	12 20 58.8	-1.9	
PRP	Porcupine Dome	6.90	27	Pn	Pn	12 21 02.3	-0.9	
G23K	Bananza Creek	7.29	10		Pn	12 21 06.3	-2.1	
O29M	Mount Kennedy	7.31	78	Pn	Pn	12 21 11.8	+3.0	
I26K	Coal Creek Min	7.35	34	Pn	Pn	12 21 11.7	+2.5	

*IDC **07** 12:42:34.9±12.0, 2°.83N×98°.80E, h171km±113km, mb3.3/8, mbtmp3.8/9, Error ellipse: s-maj=99.8km s-min=14.3km az=55.0*
*DJA **07** 12:42:37.8±0.6, 3°N±3°×9°9E±°, h172km±8km, M4.2/10, mb4.5/1, MLv4.0/10*

ISC 07 12:42:36.0±0.7, 2°.94N±0°.06×98°.94E±0°.07, h177km, n19, σ1°16/26, mb3.5/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	Kotacane, Aceh	1.30	296	P	Pn	12 43 07.3	+1.4
KCSI				S	Sn	12 43 29.6	+0.6
GSI	Gunungsitoli	2.12	220	P	Pn	12 43 15.7	+1.5
GSI				S	Sn	12 43 42.5	-1.4
SNSI	Sinabang, Aceh	2.66	259	P	Pn	12 43 22.7	+2.3
SNSI				S	Sn	12 43 53.5	-1.4
MLSI	Meulaboh, Aceh	2.85	298	P	Pn	12 43 23.5	+0.8
MLSI				S	Sn	12 43 57.8	-1.3
LHMI	Lhok Sumawe	3.02	319	P	Pn	12 43 26.0	+1.2
PBSI	Pulau Batu	3.05	192	P	Pn	12 43 25.9	+0.8
PBSI				S	Sn	12 44 04.7	+1.3
BKNI	Bangkinang	3.34	141	P	Pn	12 43 30.2	+1.5
PDSI	Padang	4.12	158	P	Pn	12 43 40.0	+1.4
PDSI				S	Sn	12 44 27.7	+0.1
SISI	Saibi	4.24	178	P	Pn	12 43 41.7	+1.6
SISI				S	Sn	12 44 29.0	-1.4
MNAI	Manna	8.29	151	P	Pn	12 44 32.2	-1.0
CMAR	Chiang Mai Arr	15.42	0	P	Pn	12 46 05.2	+0.7
	0.4nm,0.3s,baz=190,slow=10,SNR=4.2						
WRA	Warramunga Arr	41.53	125	P	P	12 50 06.4	0.0
	1.0nm,0.7s,baz=302,slow=9.2,SNR=10.0						
	1.0nm,0.7s						
ASAR	Alice Springs	43.11	130	P	P	12 50 18.6	-0.4
	0.3nm,0.6s,baz=304,slow=7.6,SNR=4.1						
	0.3nm,0.6s						
MKAR	Makanchi Array	46.02	344	P	P	12 50 41.6	-0.1
	0.5nm,0.4s,baz=158,slow=7.9,SNR=8.2						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	50.54	343	P	P	12 51 16.0	-0.3
	0.4nm,0.4s,baz=154,slow=7.1,SNR=2.8						
	0.4nm,0.4s						
ZALV	Zalesovo Beam	52.15	349	P	P	12 51 28.1	0.0
	0.7nm,0.4s,baz=163,slow=7.9,SNR=5.7						
	0.7nm,0.4s						
STKA	Stephens Creek	53.27	134	P	P	12 51 36.1	-0.6
	1.6nm,0.7s,baz=315,slow=10.0,SNR=3.1						
	1.6nm,0.7s						
BRTR	Keskin Array B	69.25	311	P	P	12 53 23.6	-0.6
	0.4nm,0.3s,baz=147,slow=7.0,SNR=3.6						
	0.4nm,0.3s						
FINES	FINESS Array B	79.28	332	P	P	12 54 21.4	-0.1
	0.8nm,0.4s,baz=109,slow=5.8,SNR=12						
	0.8nm,0.4s						

*IDC **07** 12:51:40.2±0.9, 41°.43N×116°.59W, h0km, mbtmp3.1/4, ML3.5/3, Error ellipse: s-maj=11.4km s-min=7.9km az=131.0*
*REN **07** 12:51:42.1±1.4, 41°.22N±0°.04×116°.28W±0°.03, h4km±6km, ML3.3/13, ML3.3/76(NEIC), Error ellipse: s-maj=6.1km s-min=3.3km az=171.0*
*NEIC **07** 12:51:42.4±1.8, 41°.17N±0°.04×116°.19W±0°.03, h11km±8km, Error ellipse: s-maj=6.2km s-min=3.7km az=175.0*

ISC 07 12:51:42.3±0.9, 41°.24N±0°.05×116°.31W±0°.04, h9km, n55, σ1°00/48, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELK	Elko	0.95	121		Pg	12 51 59.1	-1.4
ELK				Sg	Sg	12 52 10.3	-2.7
BMN	Battle Mountai	1.07	221		Pg	12 52 02.4	-0.4
BMN	Battle Mountai	1.07	221	Sg	Sb	12 52 17.9	+0.8
BMN				IAML		12 52 19.1	
	comp=N,704nm,0.7s						
BMN				IAML		12 52 19.7	
	comp=E,960nm,0.9s						
WVOR	Wild Horse Val	2.11	305		Pb	12 52 20.7	-0.1
WVOR				IAML		12 53 00.4	
	comp=E,217nm,0.9s						
WVOR				IAML		12 53 01.0	
	comp=E,281nm,0.8s						
MFID	Camas Ranch	2.20	9		Pb	12 52 21.8	-0.6
MFID				IAML		12 52 53.6	
	comp=E,308nm,0.4s						
BGU	Big Grassy Mou	2.50	96		Pn	12 52 23.1	-0.2
BGU				IAML		12 53 03.8	
	comp=E,155nm,0.5s						
Q09A	Carvers	2.50	196		Pn	12 52 23.2	-0.1
KVN	Kaiserville	2.58	213		Pn	12 52 24.1	-0.3
J08A	Circle Bar Ran	2.66	323		Pb	12 52 28.6	-1.5
SPR3	Spring Creek 3	2.71	145		Pn	12 52 28.3	+2.1
SPR3				IAML		12 53 11.5	
	comp=E,143nm,0.6s						
HVU	Hansel Valley	2.71	77		Pn	12 52 26.7	+0.6
HLID	Hailey	2.71	31	Pn	Pn	12 52 27.9	+1.7
HLID				IAML		12 53 14.4	
	comp=E,88nm,0.7s						
HLID				IAML		12 53 19.3	
	comp=E,89nm,0.7s						
PAHR	Pah Rah Range	2.80	238		Pn	12 52 27.5	0.0
PAHR				IAML		12 53 15.3	
	comp=N,76nm,1.2s						
DUG	Dugway, Tooele	2.85	110		Pn	12 52 28.1	0.0
DUG				IAML		12 53 13.8	
	comp=N,170nm,0.7s						
R11B	Troy Canyon, C	2.94	169	Pn	Pn	12 52 29.1	-0.3
R11B				IAML		12 53 18.3	
	comp=E,81nm,0.7s						
RYN	Ryan	3.12	214		Pn	12 52 31.5	-0.2
RYN	Ryan	3.12	214	IAML		12 53 28.7	
	comp=N,76nm,0.7s						
RYN				IAML		12 53 32.2	
	comp=E,67nm,0.8s						
NV11	Mina Array Sit	3.15	207		Pn	12 52 32.2	0.0
YERR	Yerington	3.18	226		Pn	12 52 32.6	-0.1
YERR	Yerington	3.18	226	IAML		12 53 27.6	
	comp=E,121nm,0.9s						
YERR				IAML		12 53 29.5	
	comp=N,70nm,0.9s						
NVAR	Mina Array Bea	3.20	209	Pn	Pn	12 52 33.0	0.0
	comp=N,8.5nm,0.3s,baz=27,slow=14,SNR=148						
NVAR				Sn	Sn	12 53 13.4	+2.0
	comp=N,6.8nm,0.3s,baz=45,slow=19,SNR=5.0						
NVAR				Lg	Lg	12 53 23.9	
	comp=N,13nm,0.3s,baz=29,slow=28,SNR=3.3						
	comp=N,9.6nm,0.4s						
NV09	Mina Array Sit	3.21	210		Pn	12 52 33.0	-0.1
NV08	Mina Array Sit	3.23	209		Pn	12 52 33.2	-0.1
PEAR	Peavine Mounta	3.23	241		Pn	12 52 33.6	+0.2
TPH	Tonopah	3.24	193		Pn	12 52 33.6	0.0
PSUT	Pine Spring	3.30	144	Pn	Pn	12 52 34.4	+0.1
PNTR	Pine Nut	3.31	231		Pn	12 52 34.6	+0.1
PNTR	Pine Nut	3.31	231	IAML		12 53 32.2	
	comp=E,105nm,1.4s						
PNTR				IAML		12 53 34.0	
	comp=N,107nm,0.9s						
BEKR	Beckworth	3.38	247		Pn	12 52 35.7	+0.3
LHV	Little Huntoon	3.43	210		Pn	12 52 36.2	+0.3
LHV	Little Huntoon	3.43	210	IAML		12 53 44.5	
	comp=N,73nm,1.2s						
LHV				IAML		12 53 45.8	
	comp=E,88nm,0.9s						
MPK	Martis Peak	3.45	237		Pn	12 52 36.8	+0.4
MPK	Martis Peak	3.45	237	IAML		12 53 36.3	
	comp=E,85nm,0.9s						
MPK				IAML		12 53 38.8	
	comp=N,79nm,0.8s						
DONR	Donner Summit	3.60	240		Pn	12 52 38.6	+0.1
S11A	Rachel	3.62	173		Pn	12 52 39.2	+0.6
MZP	Montezuma Peak	3.63	194		Pn	12 52 39.0	0.0
MZP	Montezuma Peak	3.63	194	IAML		12 53 40.8	
	comp=E,42nm,0.6s						
WAKR	Walker	3.64	222		Pn	12 52 39.2	+0.2
EMB	Emerald Bay	3.69	233		Pn	12 52 39.0	-0.6
HATC	Hat Creek Radi	3.92	265	Pn	Pn	12 52 43.3	+0.6
HATC				IAML		12 53 53.4	
	comp=E,57nm,1.5s						
HATC				IAML		12 53 59.0	
	comp=N,51nm,2.6s						
PRN	Pahroc Range	3.95	165		Pn	12 52 43.8	+0.6
GMN	Gold Mountain	4.00	191		Pn	12 52 44.6	+0.5
GMN	Gold Mountain	4.00	191	IAML		12 53 55.4	
	comp=N,49nm,0.5s						
GMN				IAML		12 53 58.5	
	comp=E,29nm,0.4s						
TPNV	Topopah Spring	4.29	179		Pn	12 52 48.8	+0.9
SGV	South Spring	4.29	188		Pn	12 52 48.5	+0.6
CPY	CP-1	4.31	177		Pn	12 52 48.6	+0.5
NSP	Numbskull Pass	4.51	179		Pn	12 52 51.5	+0.6
MCY	Mercury	4.58	177		Pn	12 52 52.6	+0.7
SHPR	Sheep Range	4.81	169		Pn	12 52 56.1	+1.0
YBH	Yreka Blue Hor	4.83	278	Pn	Pn	12 52 51.0	-4.3
	comp=E,0.1nm,0.3s,baz=95,slow=14,SNR=1.2						
YBH				Lg	Lg	12 54 05.9	
	baz=77,slow=12						
KNB	Kanab	5.01	146		Pn	12 52 59.0	+1.2
KNB	Kanab	5.01	146	IAML		12 54 25.9	
	comp=N,31nm,1.2s						
KNB				IAML		12 54 27.3	
	comp=E,25nm,1.4s						
PDAR	Pinedale Array	5.25	71	Pn	Pn	12 53 04.2	+2.9
	comp=E,0.3nm,0.3s,baz=238,slow=14,SNR=7.3						
PDAR				Lg	Lg	12 54 30.1	
	comp=E,0.9nm,0.3s,baz=225,slow=27,SNR=5.7						
	comp=E,0.5nm,0.3s						
NEW	Newport	7.04	356	Pn	Pn	12 53 24.4	-1.2
	comp=E,0.1nm,0.3s,baz=140,slow=10.0,SNR=1.9						
NEW				Lg	Lg	12 55 15.4	
	comp=E,0.1nm,0.3s,baz=133,slow=13,SNR=1.9						
	comp=E,0.9nm,0.6s						
TXAR	Lajitas Array	15.72	135	Pn	P	12 55 29.9	+1.9
	comp=E,0.4nm,0.9s,baz=325,slow=11,SNR=4.0						

IDC 07 12:53:36.9±2.2, 1°.63N×126°.31E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=185.4km s-min=28.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.84	160	P	P	12 58 40.9	-1.1
	0.3nm,0.4s,baz=338,slow=11,SNR=7.2						
	0.3nm,0.4s						
ASAR	Alice Springs	26.21	164	P	P	12 59 14.6	+0.9
	0.3nm,0.7s,baz=348,slow=12,SNR=5.7						
	0.3nm,0.7s						
MKAR	Makanchi Array	59.04	326	P	P	13 03 38.7	-0.1
	0.3nm,0.7s,baz=108,slow=8.5,SNR=3.1						
	0.3nm,0.7s						

*IDC **07** 12:57:00.5±12.0, 7°.53S×128°.90E, h126km±134km, mb3.7/5, mbtmp4.1/7, ML3.8/2, Error ellipse: s-maj=116.2km s-min=48.4km az=45.0*
*NEIC **07** 12:57:01.0±2.1, 7°.45S±0°.09×128°.94E±0°.05, h130km±9km, mb4.1/13, Error ellipse: s-maj=13.7km s-min=6.7km az=166.0*

ISC 07 12:57:01.4±0.6, 7°.59S±0°.07×128°.90E±0°.09, h131km, n33, σ2°29/35, mb4.0/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.41	100	Pn	Pn	12 57 37.9	-2.6
SOEI	Soe	5.06	244		Pn	12 58 16.9	+1.5
MTN	Manton Dam	5.67	157	Pn	Pn	12 58 26.8	+3.3
FAKI	Fak Fak	5.71	36	Pn	Pn	12 58 24.3	+0.2
FITZ	Fitzroy Crossi	10.92	197		Pn	12 59 32.4	-1.6
WB0	Warramunga Arr	13.23	157		Pn	13 00 04.3	0.0
WRA	Warramunga Arr	13.37	157	Pn	Pn	13 00 04.6	-1.5
WRA	Warramunga Arr	13.37	157	P	Pn	13 00 05.2	-0.8
	0.5nm,0.3s,baz=326,slow=15,SNR=19						
WRA				S	Sn	13 02 27.9	-5.8
	9.1nm,0.7s,baz=330,slow=25,SNR=10						
	4.3nm,0.8s						
WB2	Warramunga Arr	13.37	157		Pn	13 00 06.1	0.0
WR0	Warramunga Arr	13.46	157		Pn	13 00 06.7	-0.6
COEN	Coen	15.38	115	P	P	13 00 39.3	+6.0
COEN				IAmb	IAmb	13 00 55.1	
	comp=Z,13nm,1.4s						
MBWA	Marble Bar	16.14	212	P	Pn	13 00 41.2	+0.3
PSA00	Pilbara Seismi	16.42	211	P	Pn	13 00 44.7	+0.4
PSA00				IAmb	IAmb	13 00 59.5	
	comp=Z,22nm,1.2s						
AS31	Alice Springs	16.69	164	P	Pn	13 00 50.2	+2.5
ASAR	Alice Springs	16.69	164	P	Pn	13 00 49.5	+1.9
ASAR	Alice Springs	16.69	164	P	Pn	13 00 48.7	+1.0
	comp=Z,0.4nm,0.3s,baz=336,slow=10,SNR=36						
ASAR				S	Sn	13 03 48.2	-5.5
	comp=Z,1.5nm,0.8s,baz=328,slow=18,SNR=5.2						
	comp=Z,3.5nm,0.7s						
MORW	Morawa	24.56	208	P	P	13 02 11.9	+2.7
CMAR	Chiang Mai Arr	39.29	312	P	P	13 04 16.9	-0.7
	comp=Z,2.1nm,1.0s,baz=143,slow=6.8,SNR=7.4						
	comp=Z,2.1nm,1.0s						
SONM	Songino Array	58.66	342	P	P	13 06 45.2	+0.2
	comp=Z,0.4nm,0.4s,baz=178,slow=4.5,SNR=4.1						
	comp=Z,0.4nm,0.4s						
MK31	Makanchi Array	68.12	327	P	P	13 07 45.3	-1.9
MK31				IAmb	IAmb	13 07 47.5	
	comp=Z,2.4nm,1.1s						
MKAR	Makanchi Array	68.12	327	P	P	13 07 45.8	-1.5
MKAR	Makanchi Array	68.12	327	P	P	13 07 46.8	-0.5
	comp=Z,1.1nm,0.6s,baz=129,slow=7.5,SNR=13						
	comp=Z,1.1nm,0.6s						
MAKZ	Makanchi	68.30	327	P	P	13 07 47.3	-1.0
MAKZ				IAmb	IAmb	13 07 48.4	
	comp=Z,4.1nm,1.3s						
ARSB	Arslanbob	70.60	319	P	P	13 08 01.5	-1.2
GAR	Garm	71.31	315	P	P	13 08 06.3	-0.8
ZAA0	Zalesovo Array	71.63	334	P	P	13 08 06.7	-1.8
ZAA0				IAmb	IAmb	13 08 08.4	
	comp=Z,2.2nm,0.8s						
ZALV	Zalesovo Beam	71.63	334	P	P	13 08 06.6	-1.9
ZALV	Zalesovo Beam	71.63	334	P	P	13 08 07.0	-1.5
	comp=Z,1.6nm,0.6s,baz=122,slow=5.4,SNR=10						
	comp=Z,1.6nm,0.6s						
VNDA	Vanda	72.00	173	P	P	13 08 11.0	+0.7
KURBB	Kurchatov Arra	72.44	329	P	P	13 08 13.0	-0.4
	comp=Z,1.3nm,0.2s,baz=131,slow=5.2,SNR=22						
	comp=Z,1.3nm,0.2s						
KURK	Kurchatov	72.45	329	P	P	13 08 12.8	-0.6
KURK				IAmb	IAmb	13 08 14.1	
	comp=Z,3.1nm,0.6s						
KKAR	Karatay Array	73.07	319	P	P	13 08 15.8	-1.5
QSPA	South Pole Qui	82.39	180	P	P	13 09 09.7	+1.0
QSPA				IAmb	IAmb	13 09 44.4	
	comp=Z,3.0nm,1.1s						

*NEIC **07** 12:59:52.8±1.4, 19°.398N±0°.010×155°.252W±0°.005, h1km±5km, Error ellipse: s-maj=1.5km s-min=0.5km az=200.0*

HVO 07 12:59:52.2±1.1, 19°.417N±0°.010×155°.261W±0°.009, h0km±4km, ML3.5/36, ML3.0/42(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	Byron's Ledge	0.01	166	Pg	Pg	12 59 52.5	0.0
HATHI	Halema'uma'u T	0.01	2	Pg	Pg	12 59 52.6	+0.1
UWB	Uwekahuna B	0.02	297		Pg	12 59 52.9	+0.3
OBL	Observatory Le	0.02	272		Pg	12 59 53.1	+0.4
RIM	Rim	0.02	210		Pg	12 59 53.0	+0.3
UWE	Uwekahuna	0.03	278		Pg	12 59 53.2	+0.3
WRMHI	West Rim	0.04	255		Pg	12 59 53.5	+0.5
SDHHI	Sand Hill	0.04	229		Pg	12 59 53.4	+0.4
RSD	Rainshed	0.05	341		Pg	12 59 53.6	+0.4
PUH	Pauahi	0.06	135		Pg	12 59 54.1	+0.7
PUH	Pauahi	0.06	135	IAML		12 59 55.0	
	comp=N,5μm,0.8s						
PUH				IAML		12 59 55.1	
	comp=E,5μm,0.9s						
KNHH	Kane Nui o Ham	0.09	113		Pg	12 59 54.8	+0.7
HLP	Hilina Pali	0.13	200		Pg	12 59 55.6	+0.9
HLP				IAML		12 59 58.2	
	comp=E,4μm,0.9s						
HLP				IAML		12 59 58.8	
	comp=N,8μm,0.9s						
STCH	Steam Cracks	0.13	104		Pg	12 59 55.4	+0.6
STCH				IAML		12 59 58.4	
	comp=E,6μm,1.3s						
STCH				IAML		12 59 58.6	
	comp=N,5μm,0.5s						
MLH	Mauna Loa	0.14	303		Pg	12 59 56.0	+1.1
MLH	Mauna Loa	0.14	303	IAML		12 59 59.2	
	comp=E,5μm,1.1s						
MLH				IAML		12 59 59.3	
	comp=N,4μm,0.6s						

comp=E,621nm,1.1s
HPAH Hawaii Prepara 0.74 326 Sg 13 00 15.5 -0.4

JMA 07 13:01:09.4±0.2, 32°.3N±0°.6×140°.7E±0°.6, h35km, MV3.6/50, E OFF HACHIJOJIMA ISLAND, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.78**	**286**	*eP*	Pn	13 01 24.1	+0.1
JHCJ	**Hachijojimakas**	**1.09**	**319**	*eP*	Pn	13 01 28.9	+0.6
JHCJ				*eS*	Sn	13 01 42.1	0.0
JHJ2	**Mitsune**	**1.11**	**321**	*eP*	Pn	13 01 29.1	+0.6
JMKN	**Mikurajimanish**	**1.87**	**332**	*eS*	Sn	13 02 01.9	+0.7
JMYK	**Miyake Tsubota**	**2.03**	**333**	*eS*	Sn	13 02 07.1	+1.8
BSO1	**Boso 1**	**2.42**	**6**	*eP*	Pn	13 01 47.1	+1.2
BSO1				*eS*	Sn	13 02 15.3	+1.3
BSO3	**Boso 3**	**2.55**	**357**	*eP*	Pn	13 01 49.6	+1.5
BSO3				*eS*	Sn	13 02 19.1	+1.3
JIM2	**Oshima 3**	**2.67**	**338**	*eP*	Pn	13 01 51.3	+1.4
JIM2				*eS*	Sn	13 02 21.6	+0.6
BSO4	**Boso 4**	**2.75**	**355**	*eS*	Sn	13 02 24.7	+1.8
JIE	**Ise**	**3.93**	**304**	*eP*	Pn	13 02 07.7	+0.3
JYT	**Yasato**	**3.99**	**355**	*eS*	Sn	13 02 56.0	+2.5
JRY	**Ryogami san**	**4.03**	**339**	*eP*	Pn	13 02 12.1	+3.4
JKN2	**Miekihoku**	**4.17**	**300**	*eP*	Pn	13 02 10.7	+0.1
JAG	**Ashikaga**	**4.28**	**347**	*eS*	Sn	13 03 00.7	-0.2
JHO	**Hitachi**	**4.35**	**359**	*eP*	Pn	13 02 14.3	+1.2
JHO				*eS*	Sn	13 03 02.2	-0.4
JTNC	**Tanabenakahech**	**4.51**	**292**	*eP*	Pn	13 02 14.9	-0.4
JWY	**Kouya**	**4.67**	**296**	*eP*	Pn	13 02 17.9	+0.4

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*NNC **07** 13:13:32.9±0.6, 49°.96N×78°.70E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=10.6km s-min=3.2km az=77.0, Suspected Mining explosion.*
*IDC **07** 13:13:34.9±1.2, 50°.05N×78°.81E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=14.2km s-min=7.5km az=64.0.*
ISC 07 13:13:34.7±1.0, 50°.00N±0°.06×78°.7E±0°.1, h0km, n18, σ0.81/28, 18C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**351**	⇑P	**Pg**	**13 13 45.2**	**-0.9**
KUR07				⇑S	**Sg**	**13 13 54.6**	**+1.0**
KUR06	**Kurchatov Arra**	**0.61**	**351**	⇑P	**Pg**	**13 13 45.8**	**-0.6**
KUR06				⇓S	**Sg**	**13 13 55.3**	**+1.0**
KUR14	**Kurchatov Arra**	**0.61**	**356**	⇑P	**Pg**	**13 13 45.3**	**-1.2**
KUR14				⇑S	**Sg**	**13 13 54.5**	**0.0**
KUR15	**Kurchatov Arra**	**0.62**	**354**	⇓P	**Pg**	**13 13 45.6**	**-1.1**
KUR15				⇓S	**Sg**	**13 13 54.8**	**+0.1**
KURBB	**Kurchatov Arra**	**0.63**	**352**	Pg	**Pg**	**13 13 46.4**	**-0.4**
	2.7nm,0.3s,baz=165,slow=19,SNR=36						
KURBB				Lg	Lg	13 13 55.7	
	3.1nm,0.3s,baz=161,slow=34,SNR=14						
KURBB	**Kurchatov Arra**	**0.63**	**352**	⇑P	**Pg**	**13 13 45.8**	**-1.0**
	30nm,0.5s						
KURBB				⇓S	**Sg**	**13 13 55.8**	**+1.0**
	117nm,0.6s						
KUR16	**Kurchatov Arra**	**0.63**	**350**	⇓P	**Pg**	**13 13 46.2**	**-0.6**
KUR16				⇑S	**Sg**	**13 13 56.0**	**+0.9**
KUR17	**Kurchatov Arra**	**0.64**	**349**	⇑P	**Pg**	**13 13 46.1**	**-0.9**
KUR17				⇓S	**Sg**	**13 13 56.3**	**+0.9**
KUR05	**Kurchatov Arra**	**0.65**	**353**	⇓P	**Pg**	**13 13 46.1**	**-1.0**
KUR05				⇑S	**Sg**	**13 13 56.0**	**+0.5**
KUR04	**Kurchatov Arra**	**0.67**	**353**	⇑P	**Pg**	**13 13 46.4**	**-1.1**
KUR04				⇑S	**Sg**	**13 13 56.7**	**+0.6**
KURK	**Kurchatov**	**0.71**	**358**	⇑P	**Pg**	**13 13 47.2**	**-1.3**
	12nm,0.5s						
KURK				⇓S	**Sg**	**13 13 58.0**	**+0.3**
	33nm,0.7s						
MAKZ	**Makanchi**	**3.88**	**144**	⇑Pg	**Pb**	**13 14 44.0**	**-0.1**
	6.6nm,1.0s						
MAKZ				⇓Lg	Lg	13 15 32.5	
	18nm,1.1s						
MK31	**Makanchi Array**	**4.02**	**142**	⇑Pn	**Pn**	**13 14 37.4**	**-0.2**
	0.1nm,0.2s,baz=334,slow=13,SNR=40						
MK31				⇑Pg	**Pb**	**13 14 46.7**	**+0.3**
	1.8nm,0.5s,baz=334,slow=12,SNR=18						
MK31				⇑Lg	Lg	13 15 41.1	
	15nm,0.6s,baz=339,slow=28,SNR=12						
MKAR	**Makanchi Array**	**4.02**	**142**	Pn	**Pn**	**13 14 38.1**	**+0.6**
	0.3nm,0.3s,baz=325,slow=13,SNR=27						
MKAR				Lg	Lg	13 15 40.1	
	1.8nm,0.3s,baz=333,slow=31,SNR=10.0						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**5.48**	**42**	Pn	**Pn**	**13 14 58.0**	**+0.4**
	0.6nm,0.3s,baz=229,slow=14,SNR=8.8						
ZALV				Lg	Lg	13 16 24.7	
	0.3nm,0.3s,baz=231,slow=28,SNR=5.9						
	1.6nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.48**	**42**	I	I	13 53 10.0	
	baz=229,slow=325,SNR=1.1						
BVA0	**Borovoye Array**	**5.99**	**304**	⇑Sn	**Sn**	**13 16 14.3**	**+0.5**
	2.2nm,0.7s,baz=111,slow=22,SNR=5.5						
BVA0				⇓Lg	Lg	13 16 41.9	
	4.0nm,0.8s,baz=124,slow=26,SNR=6.1						
BRVK	**Borovoye**	**6.06**	**304**	⇑Sn	**Sn**	**13 16 15.0**	**-0.5**
	2.7nm,0.6s						
BRVK				⇓Lg	Lg	13 16 44.7	
	7.0nm,1.3s						

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*IDC **07** 13:15:29.2±1.1, 59°.78N×154°.09W, h110km±13km, mb3.6/14, mbtmp4.0/18, Error ellipse: s-maj=13.2km s-min=10.7km az=105.0*
*NEIC **07** 13:15:31.4±1.6, 59°.67N±0°.04×153°.92W±0°.07, h143km±3km, Error ellipse: s-maj=6.1km s-min=4.8km az=191.0*
*AEIC **07** 13:15:32.6±1.6, 59°.66N±0°.04×153°.85W±0°.08, h139km±4km, ML4.0, mb4.5/7(NEIC), ML4.0/154(NEIC), Error ellipse: s-maj=6.0km s-min=5.6km az=183.0*
ISC 07 13:15:31.7±0.6, 59°.68N±0°.03×153°.84W±0°.03, h140km±5km, n372, σ0.996/387, mb4.2/20, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P19K	**Oil Pt**	**0.31**	**95**	Pn	**Pn**	**13 15 51.4**	**+0.3**
P19K				IAML		13 16 07.7	
	comp=N,6μm,0.5s						
P19K				IAML		13 16 07.7	
	comp=E,8μm,0.6s						
P19K	**Oil Pt**	**0.31**	**95**		**Sn**	**13 16 06.8**	**+0.9**
P19K	**Oil Pt**	**0.31**	**95**	P	**Pn**	**13 15 51.5**	**+0.4**
	baz=272						
P19K				S	**Sn**	**13 16 06.8**	**+0.9**
	baz=272						
AUL	**Augustine Lava**	**0.36**	**145**		**Pn**	**13 15 51.7**	**+0.4**
AUL					**Sn**	**13 16 07.2**	**+1.1**
AUCH	**Augustine Cone**	**0.38**	**148**		**Pn**	**13 15 51.7**	**+0.2**
AU22	**Augustine Moun**	**0.40**	**142**		**Pn**	**13 15 51.7**	**+0.3**
ILSW	**Iliamna Southw**	**0.46**	**49**		**Pn**	**13 15 51.6**	**-0.3**
ILSW				IAML		13 16 07.7	
	comp=N,929nm,1.0s						
ILSW				IAML		13 16 10.7	
	comp=E,903nm,0.7s						
ILSW	**Iliamna Southw**	**0.46**	**49**		**Sn**	**13 16 06.8**	**-0.4**
IVE	**Iliamna Volcan**	**0.54**	**51**		**Pn**	**13 15 52.2**	**0.0**
IVE					**Sn**	**13 16 08.6**	**+0.8**
O19K	**Port Alsworth**	**0.57**	**335**		**Pn**	**13 15 52.0**	**-0.3**
O19K	**Port Alsworth**	**0.57**	**335**	IAML		13 16 08.3	
	comp=N,1μm,0.5s						
O19K				IAML		13 16 09.2	
	comp=E,843nm,0.5s						
O19K	**Port Alsworth**	**0.57**	**335**	P	**Pn**	**13 15 51.9**	**-0.3**
	baz=156						
O18K	**Koktuh Hills**	**0.71**	**285**		**Pn**	**13 15 53.0**	**-0.2**
O18K				IAML		13 16 10.0	
	comp=N,1μm,0.9s						
O18K	**Koktuh Hills**	**0.71**	**285**		**Sn**	**13 16 09.3**	**-0.3**
O18K	**Koktuh Hills**	**0.71**	**285**	P	**Pn**	**13 15 53.0**	**-0.2**
	baz=105						
O18K				S	**Sn**	**13 16 09.3**	**-0.3**
	baz=105						
O20K	**Slope Mountain**	**0.73**	**56**		**Pn**	**13 15 53.9**	**+0.4**
O20K					**Sn**	**13 16 10.8**	**+0.8**
O20K	**Slope Mountain**	**0.73**	**56**	P	**Pn**	**13 15 53.9**	**+0.4**
	baz=236						
O20K				S	**Sn**	**13 16 10.8**	**+0.8**
	baz=236						
Q19K	**Cape Douglas,**	**0.76**	**172**		**Pn**	**13 15 53.5**	**-0.1**
Q19K				IAML		13 16 11.5	
	comp=E,6μm,1.0s						
Q19K				IAML		13 16 15.2	
	comp=N,6μm,0.9s						
Q19K	**Cape Douglas,**	**0.76**	**172**		**Sn**	**13 16 10.0**	**-0.3**
Q19K	**Cape Douglas,**	**0.76**	**172**	P	**Pn**	**13 15 53.5**	**-0.1**
	baz=352						
Q19K				S	**Sn**	**13 16 10.0**	**-0.3**
	baz=352						
P18K	**Big Mountain,**	**0.77**	**248**		**Pn**	**13 15 53.1**	**-0.6**
P18K				IAML		13 16 10.0	
	comp=E,765nm,0.8s						
P18K				IAML		13 16 10.1	
	comp=N,664nm,0.8s						
P18K	**Big Mountain,**	**0.77**	**248**		**Sn**	**13 16 09.4**	**-0.9**
P18K	**Big Mountain,**	**0.77**	**248**	P	**Pn**	**13 15 53.0**	**-0.6**
	baz=68						
P18K				S	**Sn**	**13 16 09.4**	**-0.9**
	baz=68						
RDSO	**Redoubt South**	**0.95**	**35**		**Pn**	**13 15 55.3**	**+0.1**
RDWB	**Redoubt West**	**0.95**	**31**		**Sn**	**13 16 13.4**	**+0.2**
RSO	**Redoubt South**	**0.95**	**34**		**Pn**	**13 15 55.4**	**+0.1**
DFR	**Drift River**	**1.08**	**32**		**Pn**	**13 15 56.5**	**+0.2**
HOM	**Homer**	**1.11**	**90**		**Pn**	**13 15 56.9**	**+0.4**
HOM				IAML		13 16 17.9	
	comp=E,6μm,0.4s						
HOM	**Homer**	**1.11**	**90**		**Sn**	**13 16 16.6**	**+1.1**
HOM	**Homer**	**1.11**	**90**	P	**Pn**	**13 15 57.0**	**+0.4**
	baz=271						
HOM				S	**Sn**	**13 16 16.5**	**+1.1**
	baz=271						
KAPH	**Katmai Pasha**	**1.12**	**194**		**Pn**	**13 15 56.9**	**+0.2**
N19K	**Bonanza Creek**	**1.18**	**344**		**Pn**	**13 15 57.2**	**-0.1**
N19K				IAML		13 16 17.3	
	comp=E,554nm,0.9s						
N19K	**Bonanza Creek**	**1.18**	**344**		**Sn**	**13 16 16.8**	**-0.1**
N19K	**Bonanza Creek**	**1.18**	**344**	P	**Pn**	**13 15 57.2**	**-0.1**
	baz=164						
N19K				S	**Sn**	**13 16 16.8**	**-0.1**
	baz=164						
KAHC	**Katmai Hardscr**	**1.20**	**211**		**Pn**	**13 15 57.1**	**-0.4**
KAHC	**Katmai Hardscr**	**1.20**	**211**		**Pn**	**13 15 57.1**	**-0.4**
KAHC	**Katmai Hardscr**	**1.20**	**211**	P	**Pn**	**13 15 57.1**	**-0.4**
	baz=30						
Q18K	**Katmai Hardscr**	**1.20**	**211**	P	**Pn**	**13 15 57.1**	**-0.4**
	baz=30						
KAHG	**Katmai Hook Gl**	**1.25**	**197**		**Pn**	**13 15 57.9**	**-0.1**
KAHG					**Sn**	**13 16 17.7**	**-0.2**
Q20K	**Shuyak Island**	**1.31**	**145**	P	**Pn**	**13 15 58.3**	**-0.1**
	baz=325						
Q20K				S	**Sn**	**13 16 18.2**	**-0.6**
	baz=325						
SYI	**Shuyak Island**	**1.31**	**145**	Pn	**Pn**	**13 15 58.3**	**-0.2**
SYI				IAML		13 16 18.9	
	comp=E,3μm,0.6s						
SYI				IAML		13 16 19.4	
	comp=N,3μm,0.7s						
SYI	**Shuyak Island**	**1.31**	**145**		**Sn**	**13 16 18.2**	**-0.6**
CNPM	**China Poot**	**1.33**	**96**	Pn	**Pn**	**13 15 58.5**	**-0.2**
CNPM				IAML		13 16 20.4	
	comp=E,2μm,0.4s						
CNPM				IAML		13 16 21.4	
	comp=N,4μm,0.6s						
P17K	**Kvichak River**	**1.42**	**251**		**Pn**	**13 15 59.5**	**-0.1**
P17K	**Kvichak River**	**1.42**	**251**	P	**Pn**	**13 15 59.5**	**-0.1**
	baz=69						
N18K	**Kilae Creek**	**1.43**	**315**	Pn	**Pn**	**13 15 59.7**	**-0.1**
N18K				IAML		13 16 21.5	
	comp=E,420nm,0.8s						
N18K	**Kilae Creek**	**1.43**	**315**		**Sn**	**13 16 20.6**	**-0.6**
N18K	**Kilae Creek**	**1.43**	**315**	P	**Pn**	**13 15 59.7**	**-0.1**
	baz=134						
N18K				S	**Sn**	**13 16 20.7**	**-0.6**
	baz=134						
BRLK	**Bradley Lake**	**1.50**	**86**		**Pn**	**13 15 60.0**	**-0.5**
BRLK				IAML		13 16 24.1	
	comp=E,3μm,0.3s						
BRLK				IAML		13 16 24.3	
	comp=N,2μm,0.2s						
BRSE	**Bradley Lake S**	**1.57**	**86**		**Sn**	**13 16 22.9**	**-1.0**
BRSE	**Bradley Lake S**	**1.57**	**86**	P	**Pn**	**13 16 00.9**	**-0.3**
	baz=268						
BRSE				S	**Sn**	**13 16 22.9**	**-1.0**
	baz=268						
KCE	**Katmai Mt Cerb**	**1.60**	**206**		**Pn**	**13 16 02.0**	**+0.3**
O17K	**Koliganek Bris**	**1.65**	**275**		**Pn**	**13 16 02.2**	**+0.1**
O17K					**Sn**	**13 16 25.8**	**+0.4**
O17K	**Koliganek Bris**	**1.65**	**275**	P	**Pn**	**13 16 02.2**	**+0.1**
	baz=92						
O17K				S	**Sn**	**13 16 25.8**	**+0.4**
	baz=92						
SVW2	**Sparrevohn**	**1.66**	**329**	P	**Pn**	**13 16 02.4**	**+0.1**
SVW2	**Sparrevohn**	**1.66**	**329**		**Pn**	**13 16 02.3**	**0.0**
SVW2				IAML		13 16 25.9	
	comp=E,318nm,1.2s						
ANCK	**Angle Creek**	**1.72**	**211**		**Pn**	**13 16 02.9**	**-0.1**
N20K	**Mount Spurr**	**1.73**	**27**	P	**Pn**	**13 16 03.5**	**+0.4**
	baz=208						
N20K				S	**Sn**	**13 16 28.0**	**+0.9**
	baz=208						
SPCR	**Spurr Chakacha**	**1.73**	**27**		**Pn**	**13 16 03.5**	**+0.4**
SPCR					**Sn**	**13 16 28.0**	**+0.9**
CAPN	**Captain Cook N**	**1.73**	**50**		**Pn**	**13 16 05.0**	**+2.0**
CAPN	**Captain Cook N**	**1.73**	**50**	P	**Pn**	**13 16 05.0**	**+2.0**
	baz=232						
SPU	**Mount Spurr**	**1.75**	**30**		**Pn**	**13 16 03.4**	**+0.1**
SPU				IAML		13 16 33.7	
	comp=N,341nm,0.3s						
SPU				IAML		13 16 34.3	
	comp=E,514nm,0.3s						
Q16K	**King Salmon**	**1.77**	**236**	P	**Pn**	**13 16 03.4**	**0.0**
	baz=54						
CNTC	**Contact Creek**	**1.77**	**218**		**Sn**	**13 16 27.9**	**-0.2**
Q17K	**Contact Creek**	**1.77**	**218**	P	**Pn**	**13 16 03.3**	**-0.3**
	baz=36						
Q17K				S	**Sn**	**13 16 27.9**	**-0.2**
	baz=36						
SPCG	**Spurr Capps Gl**	**1.85**	**28**		**Sn**	**13 16 31.6**	**+1.9**
N17K	**Nushagak Hills**	**1.88**	**298**	Pn	**Pn**	**13 16 04.8**	**+0.1**
N17K				IAML		13 16 31.1	
	comp=E,497nm,0.9s						
N17K	**Nushagak Hills**	**1.88**	**298**	P	**Pn**	**13 16 04.8**	**+0.1**
	baz=116						
KDAK	**Kodiak Island**	**2.01**	**160**	Pn	**Pn**	**13 16 05.2**	**-1.2**
KDAK				IAML		13 16 33.9	
	comp=E,1μm,0.5s						
KDAK				IAML		13 16 37.1	
	comp=E,2μm,0.6s						
KDAK	**Kodiak Island**	**2.01**	**160**	P	**Pn**	**13 16 05.1**	**-1.2**
	comp=E,142nm,0.2s,baz=28,slow=6.4,SNR=1294						
KDAK				S	**Sn**	**13 16 30.7**	**-2.2**
	comp=E,712nm,0.5s,baz=235,slow=23,SNR=9.6						
M18K	**Stony River**	**2.06**	**333**	P	**Pn**	**13 16 06.9**	**0.0**
	baz=151						
STLK	**Strandline Lak**	**2.08**	**28**		**Pn**	**13 16 07.7**	**+0.5**
R18K	**Karluk**	**2.15**	**189**		**Pn**	**13 16 06.7**	**-1.2**
R18K					**Sn**	**13 16 34.0**	**-1.7**
R18K	**Karluk**	**2.15**	**189**	P	**Pn**	**13 16 06.7**	**-1.2**
	baz=8.2						
R18K				S	**Sn**	**13 16 34.0**	**-1.7**
	baz=8.2						
O16K	**Kokwok River B**	**2.16**	**270**	Pn	**Pn**	**13 16 08.2**	**+0.1**
O16K				IAML		13 16 36.5	
	comp=N,221nm,1.1s						
O16K				IAML		13 16 37.5	
	comp=E,501nm,0.8s						
O16K	**Kokwok River B**	**2.16**	**270**	P	**Pn**	**13 16 08.2**	**+0.1**
	baz=86						
O22K	**Cooper Landing**	**2.21**	**67**	P	**Pn**	**13 16 09.1**	**+0.4**
	baz=250						
P16K	**Nushagak River**	**2.22**	**255**		**Sn**	**13 16 38.0**	**+0.6**
P16K	**Nushagak River**	**2.22**	**255**	P	**Pn**	**13 16 09.2**	**+0.4**
	baz=72						
P16K				S	**Sn**	**13 16 38.0**	**+0.6**
	baz=72						
M20K	**Styx River**	**2.24**	**9**	P	**Pn**	**13 16 09.3**	**+0.2**
	baz=189						
M19K	**Big River Lodg**	**2.25**	**353**		**Pn**	**13 16 08.9**	**-0.3**
M19K	**Big River Lodg**	**2.25**	**353**	P	**Pn**	**13 16 08.9**	**-0.3**
	baz=173						
SEW	**Seward**	**2.25**	**77**		**Pn**	**13 16 09.3**	**+0.1**
SEW	**Seward**	**2.25**	**77**	P	**Pn**	**13 16 09.3**	**+0.1**
	baz=261						
FIS	**Fire Island**	**2.32**	**49**		**Pn**	**13 16 11.4**	**+1.4**
FIS	**Fire Island**	**2.32**	**49**	IAML		13 16 44.2	
	comp=N,2μm,0.6s						
FIS				IAML		13 16 47.9	
	comp=E,2μm,0.4s						
SUA	**Susitna One**	**2.35**	**39**	Pn	**Pn**	**13 16 10.9**	**+0.4**
SUA				IAML		13 16 42.2	
	comp=E,2μm,0.4s						
SUA				IAML		13 16 42.5	
	comp=N,1μm,0.4s						
SUA	**Susitna One**	**2.35**	**39**		**Sn**	**13 16 40.4**	**0.0**
SUA	**Susitna One**	**2.35**	**39**	P	**Pn**	**13 16 10.8**	**+0.3**
	baz=222						
SUA				S	**Sn**	**13 16 40.4**	**0.0**
	baz=222						
PLK4	**Peulik 4**	**2.44**	**214**		**Pn**	**13 16 11.8**	**+0.1**
PLK4					**Sn**	**13 16 43.2**	**+0.8**
R17L	**Mt. Peulik Vol**	**2.44**	**214**	P	**Pn**	**13 16 11.8**	**+0.1**
	baz=32						
R17L				S	**Sn**	**13 16 43.2**	**+0.9**
	baz=32						
M17K	**Holitna River**	**2.48**	**316**		**Sn**	**13 16 43.3**	**+0.3**
M17K	**Holitna River**	**2.48**	**316**		**Pn**	**13 16 12.4**	**+0.4**
M17K				IAML		13 16 45.1	
	comp=E,378nm,1.0s						
M17K				IAML		13 16 46.7	
	comp=N,172nm,1.1s						
M17K	**Holitna River**	**2.48**	**316**	P	**Pn**	**13 16 12.2**	**+0.2**
	baz=133						
M17K				S	**Sn**	**13 16 43.3**	**+0.3**
	baz=133						
RC01	**Rabbit Creek A**	**2.48**	**54**	Pn	**Pn**	**13 16 11.8**	**-0.2**
RC01	**Rabbit Creek A**	**2.48**	**54**	P	**Pn**	**13 16 11.8**	**-0.2**
	baz=237						
OHAK	**Old Harbor**	**2.48**	**173**	P	**Pn**	**13 16 10.7**	**-1.4**
OHAK	**Old Harbor**	**2.48**	**173**	Pn	**Pn**	**13 16 10.6**	**-1.4**
OHAK				IAML		13 16 41.6	
	comp=N,850nm,0.5s						
OHAK				IAML		13 16 43.0	
	comp=E,789nm,0.6s						
OHAK	**Old Harbor**	**2.48**	**173**	P	**Pn**	**13 16 10.6**	**-1.4**
	baz=353						
L19K	**White Mountain**	**2.56**	**349**	P	**Pn**	**13 16 12.6**	**-0.5**
	baz=169						
SKT	**Skwentna**	**2.57**	**25**	Pn	**Pn**	**13 16 13.5**	**+0.4**
SKT				IAML		13 16 50.9	
	comp=E,491nm,0.3s						
SKT				IAML		13 16 50.9	
	comp=N,460nm,0.3s						
SKT	**Skwentna**	**2.57**	**25**		**Sn**	**13 16 45.9**	**+0.8**
SKT	**Skwentna**	**2.57**	**25**	P	**Pn**	**13 16 13.5**	**+0.4**
	baz=207						
SKT				S	**Sn**	**13 16 45.9**	**+0.8**
	baz=207						
N16K	**Nishlik Lake**	**2.59**	**290**	P	**Pn**	**13 16 13.8**	**+0.3**
	baz=106						
M22K	**Willow**	**2.77**	**40**	P	**Pn**	**13 16 15.5**	**-0.1**
	baz=223						
L20K	**Farewell, AK**	**2.81**	**360**	P	**Pn**	**13 16 16.1**	**-0.1**
	baz=180						
M16K	**Timber Creek**	**2.88**	**300**	P	**Pn**	**13 16 17.4**	**+0.4**
	baz=116						
L18K	**Granite Mounta**	**2.90**	**333**		**Sn**	**13 16 51.4**	**-1.2**
L18K	**Granite Mounta**	**2.90**	**333**	P	**Pn**	**13 16 17.3**	**0.0**
	baz=150						
L18K				S	**Sn**	**13 16 51.4**	**-1.2**
	baz=150						
PMR	**Palmer**	**3.01**	**48**	P	**Pn**	**13 16 17.9**	**-0.8**
PMR	**Palmer**	**3.01**	**48**	Pn	**Pn**	**13 16 17.3**	**-1.4**
PMR				IAML		13 16 53.2	
	comp=E,484nm,0.6s						
PMR				IAML		13 16 53.9	
	comp=N,641nm,0.3s						
PMR	**Palmer**	**3.01**	**48**	P	**Pn**	**13 16 17.5**	**-1.2**
	baz=232						
O15K	**Ungalikthiuk R**	**3.10**	**263**		**Pn**	**13 16 20.4**	**+0.5**
O15K	**Ungalikthiuk R**	**3.10**	**263**	P	**Pn**	**13 16 20.4**	**+0.5**
	baz=78						
SII	**Sitkinak Islan**	**3.14**	**183**	P	**Pn**	**13 16 19.4**	**-1.0**
SII	**Sitkinak Islan**	**3.14**	**183**	Pn	**Pn**	**13 16 19.0**	**-1.5**
SII				IAML		13 16 57.4	
	comp=N,1μm,0.8s						
SII				IAML		13 17 00.2	
	comp=E,1μm,0.5s						
SII	**Sitkinak Islan**	**3.14**	**183**	P	**Pn**	**13 16 18.9**	**-1.5**
	baz=3.1						
KNK	**Knik Glacier**	**3.17**	**55**	IAML		13 17 01.3	
	comp=N,1μm,0.5s						
KNK	**Knik Glacier**	**3.17**	**55**	P	**Pn**	**13 16 19.8**	**-1.0**
	baz=239						
N15K	**Kwethluk River**	**3.19**	**282**	Pn	**Pn**	**13 16 21.6**	**+0.7**
N15K				IAML		13 17 02.6	
	comp=E,220nm,0.8s						
N15K				IAML		13 17 03.4	
	comp=N,173nm,0.9s						
N15K	**Kwethluk River**	**3.19**	**282**	P	**Pn**	**13 16 21.7**	**+0.7**
	baz=96						
GHO	**Glory Hole Cre**	**3.20**	**47**	IAML		13 16 57.7	
	comp=E,923nm,0.4s						
GHO				IAML		13 17 00.5	
	comp=N,745nm,0.6s						
CUT	**Chulitna**	**3.24**	**31**	P	**Pn**	**13 16 21.4**	**-0.2**
	baz=214						
P23K	**Montague Islan**	**3.26**	**82**	P	**Pn**	**13 16 22.0**	**0.0**
	baz=267						
L17K	**Donlin**	**3.29**	**320**	P	**Pn**	**13 16 22.3**	**+0.1**
	baz=137						
PPLA	**Purkeypile**	**3.32**	**13**	P	**Pn**	**13 16 24.1**	**+1.2**
	baz=195						
L16K	**Owhat River**	**3.44**	**309**	P	**Pn**	**13 16 24.5**	**+0.3**
	baz=124						
SML	**Sawmill**	**3.44**	**49**	IAML		13 17 06.3	
	comp=N,477nm,0.9s						
SML				IAML		13 17 11.4	
	comp=E,509nm,0.6s						
SML	**Sawmill**	**3.44**	**49**	P	**Pn**	**13 16 23.1**	**-1.2**
	baz=234						
GLI	**Glacier Island**	**3.57**	**67**	IAML		13 17 10.5	
	comp=N,732nm,0.3s						
GLI	**Glacier Island**	**3.57**	**67**	P	**Pn**	**13 16 25.4**	**-0.6**
	baz=253						
M15K	**Kasigluk River**	**3.57**	**289**	P	**Pn**	**13 16 26.2**	**+0.3**
	baz=104						
M23K	**Glacier View**	**3.67**	**52**	P	**Pn**	**13 16 26.1**	**-1.2**
	baz=237						
K20K	**Telida**	**3.69**	**358**		**Pn**	**13 16 27.4**	**-0.2**
K20K	**Telida**	**3.69**	**358**	P	**Pn**	**13 16 27.4**	**-0.2**
	baz=178						
K17K	**Iditarod**	**3.73**	**327**	Pn	**Pn**	**13 16 28.4**	**+0.4**
K17K

KTH	Kantishna Hill	4.13	18	IAML			13 17 21.9
	comp=E,97nm,0.6s						
KTH				IAML			13 17 22.9
	comp=N,135nm,0.7s						
EYAK	Cordova Ski Ar	4.14	74	P		Pn	13 16 34.2 +0.8
EYAK	Cordova Ski Ar	4.14	74	P		Pn	13 16 33.0 -0.4
	baz=261						
WAT6	Susitna Watana	4.15	43	P		Pn	13 16 32.5 -1.1
	baz=228						
CHGN	Chignik	4.17	218	Pn		Pn	13 16 32.9 -1.0
CHGN				IAML			13 17 21.9
	comp=N,78nm,0.6s						
CHGN				IAML			13 17 25.1
	comp=E,92nm,0.3s						
CHGN	Chignik	4.17	218	P		Pn	13 16 33.3 -0.6
	baz=34						
M14K	Bethel	4.19	288	Pn		Pn	13 16 34.9 +0.8
M14K	Bethel	4.19	288	P		Pn	13 16 34.8 +0.8
	baz=102						
L15K	Ungalak Mounta	4.26	301	P		Pn	13 16 35.5 +0.5
	baz=115						
CHUM	Lake Minchumin	4.28	9			Pn	13 16 35.5 +0.3
CHUM	Lake Minchumin	4.28	9	P		Pn	13 16 35.5 +0.3
	baz=190						
KLU	Klutina	4.31	62	P		Pn	13 16 34.8 -0.9
	baz=248						
J19K	Poorman	4.41	350	P		Pn	13 16 36.4 -0.6
	baz=168						
RND	Reindeer	4.43	30	IAML			13 17 31.1
	comp=N,111nm,0.4s						
RND				IAML			13 17 31.7
	comp=E,110nm,0.4s						
M24K	Tolsona, Glenn	4.46	54	P		Pn	13 16 37.1 -0.6
	baz=240						
J17K	VABM Dome	4.49	328	Pn		Pn	13 16 38.0 -0.1
J17K	VABM Dome	4.49	328	P		Pn	13 16 37.8 -0.2
	baz=144						
J20K	Nowinta River	4.51	358	P		Pn	13 16 37.9 -0.5
	baz=178						
K15K	Wolf Creek Mou	4.57	308	P		Pn	13 16 39.9 +0.8
	baz=122						
DHY	Denali Highway	4.61	40	IAML			13 17 32.4
	comp=E,302nm,0.4s						
DHY				IAML			13 17 32.9
	comp=N,194nm,0.3s						
DHY	Denali Highway	4.61	40	P		Pn	13 16 38.9 -0.9
	baz=225						
BPAW	Bear Paw Mtn.	4.63	16	IAML			13 17 31.9
	comp=E,58nm,0.6s						
BPAW				IAML			13 17 32.7
	comp=N,45nm,0.9s						
BPAW	Bear Paw Mtn.	4.63	16	P		Pn	13 16 38.8 -1.1
	baz=198						
GOAT	Goat Mountain	4.65	75			Pn	13 16 39.2 -0.9
RAGM	Ragged Mountai	4.65	77			Pn	13 16 40.1 -0.1
L14K	Kuka Creek	4.68	295	IAML			13 17 24.9
	comp=E,52nm,1.3s						
L14K				IAML			13 18 06.3
	comp=N,43nm,1.4s						
L14K	Kuka Creek	4.68	295	P		Pn	13 16 41.3 +0.8
	baz=107						
MCK	McKinley	4.69	28	P		Pn	13 16 40.3 -0.3
	baz=212						
KAIM	Kayak Island	4.76	83	Pn		Pn	13 16 42.1 +0.5
KAIM	Kayak Island	4.76	83	P		Pn	13 16 42.2 +0.5
	baz=271						
BMRM	Bremner River	4.77	70	P		Pn	13 16 41.5 -0.3
	baz=258						
M13K	Dall Lake	4.82	283	Pn		Pn	13 16 43.8 +1.3
M13K				IAML			13 18 14.8
	comp=N,49nm,2.5s						
M13K				IAML			13 18 26.6
	comp=E,60nm,2.4s						
M13K	Dall Lake	4.82	283	P		Pn	13 16 42.6 +0.2
	baz=95						
J16K	Anvik River	4.85	321	P		Pn	13 16 42.9 0.0
	baz=135						
N25K	Chitina, Valde	4.94	63	P		Pn	13 16 43.5 -0.6
	baz=251						
BWN	Browne	4.96	23			Pn	13 16 44.3 0.0
BWN	Browne	4.96	23	IAML			13 17 58.4
	comp=N,90nm,0.5s						
BWN				IAML			13 18 32.0
	comp=E,88nm,1.3s						
HARP	HAARP	5.02	53	P		Pn	13 16 44.6 -0.5
	baz=241						
SUCK	Suckling Hills	5.09	81	IAML			13 17 45.8
	comp=E,185nm,0.4s						
SUCK				IAML			13 17 46.8
	comp=N,307nm,0.5s						
I20K	Naaghedeneel	5.14	357	IAML			13 17 50.8
	comp=N,83nm,2.1s						
I20K				IAML			13 18 28.0
	comp=E,78nm,1.1s						
I20K	Naaghedeneel	5.14	357	P		Pn	13 16 46.9 +0.3
	baz=176						
PAX	Paxson	5.21	47	P		Pn	13 16 47.0 -0.6
	baz=234						
GRIN	Grindle Hills	5.32	79			Pn	13 16 49.3 +0.2
NEA2	Nenana	5.41	22			Pn	13 16 49.3 -1.0
NEA2	Nenana	5.41	22	P		Pn	13 16 49.3 -1.0
	baz=206						
CRQE	Cirque	5.46	74	P		Pn	13 16 51.0 -0.1
	baz=263						
WRH	Wood River Hil	5.51	27			Pn	13 16 50.5 -1.1
SNH	Sunshine Point	5.56	80			Pn	13 16 52.8 +0.5
MLY	Manley	5.56	14			Pn	13 16 51.5 -0.8
MLY	Manley	5.56	14	P		Pn	13 16 51.5 -0.8
	baz=196						
MCARA	McCarthy VSAT	5.61	68			Pn	13 16 53.0 +0.1
MCARA	McCarthy VSAT	5.61	68	P		Pn	13 16 53.0 +0.1
	baz=257						
J14K	Nanvaranak Lak	5.61	307	P		Pn	13 16 53.7 +0.8
	baz=119						
K24K	Donnelly Dome	5.63	39	P		Pn	13 16 53.9 +0.6
	baz=226						
CCB	Clear Creek Bu	5.73	27			Pn	13 16 53.4 -1.1
BARK	Barkley Ridge	5.73	78			Pn	13 16 54.9 +0.2
HDA	Harding Lake	5.74	31	P		Pn	13 16 53.6 -1.1
	baz=217						
CNBA	Chernabura Isl	5.79	215	Pn		Pn	13 16 52.8 -2.5
ISLE	Juniper Island	5.82	76			Pn	13 16 56.1 +0.2
PTPK	Patty Peak	5.83	70			Pn	13 16 56.4 +0.3
H20K	Anotleneega Mo	5.85	356	P		Pn	13 16 56.0 -0.1
	baz=175						
MENT	Mentasta	5.87	52	P		Pn	13 16 56.2 -0.2
I23K	Minto, Yukon-K	5.87	19			Pn	13 16 55.4 -0.9
I23K	Minto, Yukon-K	5.87	19	P		Pn	13 16 55.4 -0.9
	baz=203						
COLA	College	5.91	26	P		Pn	13 16 55.9 -1.0
COLA	College	5.91	26			Pn	13 16 55.8 -1.1
M26K	Nabesna, AK	5.93	58			Pn	13 16 57.3 0.0
M26K	Nabesna, AK	5.93	58	P		Pn	13 16 57.3 0.0
	baz=247						
H17K	Granite Mounta	5.98	334	P		Pn	13 16 57.5 -0.4
	baz=149						
MESA	MESA	6.00	80	P		Pn	13 16 58.9 +0.5
	baz=270						
H21K	Melozitna Rive	6.02	4	P		Pn	13 16 58.3 0.0
	baz=185						
PS1A	Pavlof South-1	6.03	228			Pn	13 16 58.5 -0.1
ILAR	Eielson Array	6.05	29	Pn		Pn	13 16 57.6 -1.2
ILAR	Eielson Array	6.05	29	P		Pn	13 16 57.3 -1.5
	comp=E,119nm,0.5s,baz=215,slow=13,SNR=2038						
ILAR				S		Sn	13 18 03.7 -3.2
	comp=E,25nm,0.5s,baz=192,slow=24,SNR=10						
POKR	Poker Flat Res	6.21	26	P		Pn	13 17 00.1 -0.9
	baz=212						
IMAR	Indian Mountai	6.33	0	Pn		Pn	13 17 00.9 -1.6
H22K	Ishtalitna Cre	6.34	9	P		Pn	13 17 02.4 -0.3
	baz=191						
J25K	Salcha River,	6.34	35			Pn	13 17 01.9 -0.9
J25K	Salcha River,	6.34	35	P		Pn	13 17 01.9 -0.9
	baz=222						
CTG	Chitna Glacier	6.34	73	P		Pn	13 17 03.5 +0.7
	baz=264						
SCRK	Sand Creek	6.35	43			Pn	13 17 01.8 -1.1
SCRK	Sand Creek	6.35	43	P		Pn	13 17 01.8 -1.1
	baz=232						
M27K	Edge Creek, AK	6.40	60			Pn	13 17 04.0 +0.3
M27K	Edge Creek, AK	6.40	60	P		Pn	13 17 04.0 +0.3
	baz=250						
H23K	Yukon River	6.47	16			Pn	13 17 03.8 -0.7
H23K	Yukon River	6.47	16	P		Pn	13 17 03.8 -0.7
	baz=200						
G18K	Tagagawik	6.61	343	P		Pn	13 17 06.0 -0.4
	baz=158						
G17K	Kiwalik Mounta	6.63	335			Pn	13 17 05.9 -0.6
G17K	Kiwalik Mounta	6.63	335	P		Pn	13 17 05.9 -0.6
	baz=149						
G19K	Purcell Mounta	6.65	349	P		Pn	13 17 06.8 -0.1
	baz=166						
L27K	Beaver Creek,	6.69	54	P		Pn	13 17 07.1 -0.3
	baz=245						
BCAR	Beaver Creek A	6.71	54	Pn		Pn	13 17 05.1 -2.6
YUK2	White River	6.71	66			Pn	13 17 08.1 +0.3
H24K	Noodor Dome	6.75	21	P		Pn	13 17 07.5 -0.8
	baz=207						
J26L	Joseph Creek	6.83	41	P		Pn	13 17 08.0 -1.3
	baz=230						
G21K	Allakaket	6.86	1			Pn	13 17 09.9 +0.2
G21K	Allakaket	6.86	1	P		Pn	13 17 09.9 +0.2
	baz=182						
YUK3	Moose Creek	6.89	67	P		Pn	13 17 10.8 +0.5
	baz=258						
G16K	Koyuk River	6.95	329	P		Pn	13 17 10.7 -0.1
	baz=142						
PRP	Porcupine Dome	7.00	30			Pn	13 17 10.8 -0.8
PRP	Porcupine Dome	7.00	30	P		Pn	13 17 10.8 -0.8
	baz=217						
K27K	Chicken	7.06	47			Pn	13 17 11.9 -0.5
K27K	Chicken	7.06	47	P		Pn	13 17 11.9 -0.5
	baz=237						
FALS	False Pass	7.09	231	P		Pn	13 17 12.9 +0.1
FALS	False Pass	7.09	231			Pn	13 17 12.7 -0.1
FALS	False Pass	7.09	231	P		Pn	13 17 12.7 -0.1
	baz=43						
G23K	Bananza Creek	7.26	12			Pn	13 17 14.5 -0.6
G23K	Bananza Creek	7.26	12	P		Pn	13 17 14.5 -0.6
	baz=196						
ISLZ	Isanotski Laza	7.30	231			Pn	13 17 15.4 -0.3
PNL	Peninsula	7.31	84	P		Pn	13 17 16.1 +0.3
	comp=E,116nm,0.7s						
PNL	Peninsula	7.31	84	P		Pn	13 17 15.8 0.0
	baz=276						
F19K	Shaleruckik Mo	7.39	348			Pn	13 17 17.4 +0.6
F19K	Shaleruckik Mo	7.39	348	P		Pn	13 17 17.3 +0.6
	baz=164						
F20K	Avaraart Lake	7.44	354	P		Pn	13 17 17.9 +0.5
	baz=173						
I26K	Coal Creek Min	7.50	37	P		Pn	13 17 16.7 -1.5
	baz=226						
H25L	Birch Creek	7.54	25			Pn	13 17 17.9 -0.9
H25L	Birch Creek	7.54	25	P		Pn	13 17 17.9 -0.9
	baz=213						
F21K	Alatna River	7.57	1			Pn	13 17 19.5 +0.3
F21K	Alatna River	7.57	1	P		Pn	13 17 19.5 +0.3
	baz=181						
G24K	Hadweenzic Riv	7.61	19			Pn	13 17 18.6 -1.0
G24K	Hadweenzic Riv	7.61	19	P		Pn	13 17 18.6 -1.0
	baz=205						
O29M	Mount Kennedy	7.68	79			Pn	13 17 19.8 -0.9
O29M	Mount Kennedy	7.68	79	P		Pn	13 17 19.8 -0.9
	baz=272						
COLD	Coldfoot	7.75	11			Pn	13 17 20.8 -0.7
COLD	Coldfoot	7.75	11	P		Pn	13 17 20.8 -0.7
	baz=194						
YUK6	Outpost Mounta	7.79	74			Pn	13 17 22.6 +0.2
YUK6	Outpost Mounta	7.79	74	P		Pn	13 17 22.5 +0.2
	baz=267						
EGAK	Eagle	7.81	44	P		Pn	13 17 21.1 -1.2
	baz=235						
F15K	North Star Dit	7.82	325	P		Pn	13 17 22.9 +0.4
	baz=136						
F22K	John River	7.89	5			Pn	13 17 24.3 +0.8
F22K	John River	7.89	5	P		Pn	13 17 24.3 +0.8
	baz=186						
G25K	Bearman Lake	7.92	23			Pn	13 17 22.3 -1.5
G25K	Bearman Lake	7.92	23	P		Pn	13 17 22.3 -1.5
	baz=210						
M29M	Somme Creek	7.95	63	P		Pn	13 17 24.7 +0.3
	baz=256						
DAWY	Dawson	8.11	51			Pn	13 17 26.3 -0.1
DAWY	Dawson	8.11	51	P		Pn	13 17 26.3 -0.1
	baz=244						
P29M	Windy Craggy	8.15	83	Pn		Pn	13 17 27.3 +0.3
I27K	Kandik River	8.17	38	P		Pn	13 17 25.8 -1.4
	baz=229						
L29M	L29M	8.28	59	P		Pn	13 17 29.1 +0.4
	baz=252						
F24K	Squaw Lake	8.30	16	P		Pn	13 17 27.7 -1.2
	baz=201						
N30M	Aishikik Lake	8.44	71	P		Pn	13 17 30.1 -0.8
	baz=265						
E22K	Anaktuvuk Pass	8.53	5			Pn	13 17 32.7 +0.6
E22K	Anaktuvuk Pass	8.53	5	P		Pn	13 17 32.7 +0.6
	baz=187						
G26K	Porcupine Rive	8.57	27			Pn	13 17 30.5 -2.0
G26K	Porcupine Rive	8.57	27	P		Pn	13 17 30.5 -2.0
	baz=216						
E23K	Chandalar	8.61	11	P		Pn	13 17 32.7 -0.4
	baz=194						
H27K	Steamboat Moun	8.62	35	P		Pn	13 17 32.1 -1.2
	baz=226						
I28M	Miner Creek	8.63	42			Pn	13 17 32.4 -1.0
I28M	Miner Creek	8.63	42	P		Pn	13 17 32.4 -1.0
	baz=234						
F25K	Christian Rive	8.73	21	P		Pn	13 17 32.8 -1.9
	baz=208						
M30M	Minto, Yukon	8.74	63	P		Pn	13 17 35.0 +0.1
	baz=258						
E24K	Your Creek	8.75	13	P		Pn	13 17 34.0 -0.9
	baz=198						
K29M	Barlow Dome	8.78	55	P		Pn	13 17 35.9 +0.4
	baz=249						
BMAR	Burnt Mountain	8.79	24	Pn		Pn	13 17 33.1 -2.4
O30N	Mendenhall	8.90	75			Pn	13 17 36.7 -0.3
O30N	Mendenhall	8.90	75	P		Pn	13 17 36.7 -0.3
	baz=271						
G27K	Doyon Strip	9.00	32	P		Pn	13 17 36.5 -1.8
	baz=223						
UNV	Unalaska Valle	9.08	235			Pn	13 17 37.7 -1.7
UNV	Unalaska Valle	9.08	235	P		Pn	13 17 37.7 -1.7
	baz=45						
MSW	Makushin Switc	9.15	236			Pn	13 17 39.0 -1.3
D20K	Etivluk River	9.15	354			Pn	13 17 40.4 +0.2
D20K	Etivluk River	9.15	354	P		Pn	13 17 40.4 +0.2
	baz=171						
TOLK	Toolik Lake Re	9.18	10	P		Pn	13 17 41.2 +0.5
	baz=194						
E25K	Arctic Village	9.21	20			Pn	13 17 39.5 -1.6
E25K	Arctic Village	9.21	20	P		Pn	13 17 39.5 -1.6
	baz=207						
S31K	Pelican	9.29	93			Pn	13 17 41.7 -0.5
S31K	Pelican	9.29	93	P		Pn	13 17 41.7 -0.5
	baz=288						
SKAG	Skagway	9.39	83	P		Pn	13 17 46.5 +3.0
D23K	Nanushuk River	9.42	7	P		Pn	13 17 43.8 -0.1
	baz=190						
C21K	Knifeblade Rid	9.52	358			Pn	13 17 45.3 +0.1
C21K	Knifeblade Rid	9.52	358	P		Pn	13 17 45.3 +0.1
	baz=177						
H29M	Whitestone	9.60	40	P		Pn	13 17 45.5 -0.8
	baz=234						
I30M	Mount Dempster	9.79	48			Pn	13 17 49.0 +0.1
I30M	Mount Dempster	9.79	48	P		Pn	13 17 49.0 +0.1
	baz=244						
SIT	Sitka	10.07	97	P		Pn	13 17 53.2 +0.7
JIS	Juneau Island	10.14	90	P		Pn	13 17 55.8 +2.4
P32M	Atlin	10.19	82	Pn		Pn	13 17 55.6 +1.4
P33M	Teslin, Yukon	10.55	78	Pn		Pn	13 17 58.5 -0.5
G30M	tAoh Zrail Nji	10.74	40	Pn		Pn	13 18 00.2 -1.3
E28M	Babbage River	10.88	29	Pn		Pn	13 18 00.6 -2.6
E29M	Blow River	11.14	32	Pn		Pn	13 18 05.7 -1.0
G31M	Satah River	11.36	42	Pn		Pn	13 18 08.2 -1.3
U33K	Whale Pass	11.57	99			Pn	13 18 12.7 +0.2
F31M	Tsiigehtchic	11.80	40	Pn		Pn	13 18 13.7 -1.7
DLBC	Dease Lake	12.30	85	P		Pn	13 18 23.9 +1.9
	comp=E,2.5nm,0.4s,baz=272,slow=6.5,SNR=40						
DLBC				S		Sn	13 20 34.5 -3.1
	comp=E,2.1nm,0.4s,baz=265,slow=15,SNR=3.6						
INK	Inuvik	12.35	37	Pn		Pn	13 18 21.8 -0.6
INK	Inuvik	12.35	37	P		Pn	13 18 22.1 -0.3
	comp=E,24nm,0.7s,baz=246,slow=14,SNR=48						
INK				S		Sn	13 20 32.1 -6.4
	comp=E,2.0nm,0.6s,baz=225,slow=7.9,SNR=1.9						
V35K	Ketchikan	12.69	100	P		Pn	13 18 28.5 +1.5
GRNB	Grenville Isla	14.29	104	P		P	13 18 50.0 -0.5
HG4B	Hotspring	14.62	110	P		P	13 18 54.9 +0.8
C36M	Paulatuk	15.86	40	IAmb		IAmb	13 19 08.2
	comp=Z,17nm,0.6s						
YKA	Yellowknife Ar	18.97	65	P		P	13 19 41.4 -0.4
YKA	Yellowknife Ar	18.97	65	P		P	13 19 42.8 +1.0
	comp=Z,3.2nm,0.5s,baz=279,slow=10,SNR=12						
K02D	Willamette Mer	25.10	119	P		P	13 20 46.8 +3.6
NVAR	Mina Array Bea	30.95	117	P		P	13 21 37.6 +2.2
	comp=Z,0.2nm,0.6s,baz=317,slow=7.5,SNR=3.8						
	comp=Z,0.2nm,0.6s						
PDAR	Pinedale Array	31.74	102	P		P	13 21 44.4 +2.1
	comp=Z,0.2nm,0.5s,baz=329,slow=3.8,SNR=3.5						
	comp=Z,0.2nm,0.5s						
ULM	Lac du Bonnet	33.54	80	P		P	13 21 58.8 +1.1
	comp=Z,3.0nm,0.7s,baz=314,slow=8.0,SNR=4.3						
	comp=Z,3.0nm,0.7s						
EYMN	Ely	37.23	80	P		P	13 22 30.5 +1.3
EYMN				IAmb		IAmb	13 22 31.2
	comp=Z,7.2nm,0.7s						
G40A	Rib Lake	39.72	82	P		P	13 22 51.2 +1.2
E43A	Lone Tree Farm	40.54	78	P		P	13 22 57.5 +0.7
E43A				IAmb		IAmb	13 22 58.7
	comp=Z,6.5nm,0.9s						
E46A	Sault Ste Mari	41.88	76	P		P	13 23 08.3 +0.6
E46A				IAmb		IAmb	13 23 19.7
	comp=Z,9.0nm,1.1s						
KLR	Kul'dur	42.26	290	P		P	13 23 09.4 -1.3
	comp=Z,1.8nm,0.8s,baz=33,slow=8.6,SNR=8.0						
	comp=Z,1.8nm,0.8s						
SPITS	Spitsbergen Ar	42.26	3	P		P	13 23 10.1 -0.2
	comp=Z,2.5nm,0.7s,baz=338,slow=11,SNR=1.5						
	comp=Z,2.5nm,0.7s						
NRIK	Noril'sk	43.99	333	P		P	13 23 23.4 -0.9
	comp=Z,3.8nm,0.5s,baz=40,slow=3.4,SNR=4.4						
	comp=Z,3.8nm,0.5s						
TXAR	Lajitas Array	45.27	109	P		P	13 23 37.0 +1.9
	comp=Z,0.2nm,0.7s,baz=329,slow=6.8,SNR=2.3						
	comp=Z,0.2nm,0.7s						
ARCES	ARCESS Array B	51.08	0	P		P	13 24 18.7 -0.3
	comp=Z,1.0nm,0.7s,baz=4.7,slow=7.4,SNR=6.0						
	comp=Z,1.0nm,0.7s						
KSRS	Korea Array	52.83	282	P		P	13 24 32.4 0.0
	comp=Z,5.8nm,0.9s,baz=39,slow=7.1,SNR=13						
	comp=Z,5.8nm,0.9s						
SONM	Songino Array	54.63	305	P		P	13 24 46.2 +0.7
	comp=Z,2.8nm,0.6s,baz=42,slow=6.7,SNR=12						
	comp=Z,2.8nm,0.6s						
ZAA0	Zalesovo Array	57.38	323	P		P	13 25 04.0 -0.8
ZAA0				IAmb		IAmb	13 25 04.9
	comp=Z,3.8nm,0.6s						
ZALV	Zalesovo Beam	57.38	323	P		P	13 25 03.9 -0.8
ZALV	Zalesovo Beam	57.38	323	P		P	13 25 04.2 -0.6
	comp=Z,4.1nm,0.6s,baz=27,slow=7.1,SNR=18						
	comp=Z,4.1nm,0.6s						
HHC	Hu-ho-hao-te	57.95	297	eP		P	13 25 10.2 +1.1
HHC				pmax		pmax	
	comp=Z,10.0nm,0.5s						
HHC				pmax		pmax	
	comp=Z,95nm,4.4s						
EKA	Eskdalemuir Ar	62.97	18	P		P	13 25 43.0 +0.2
	comp=Z,0.1nm,0.3s,baz=332,slow=4.0,SNR=2.1						
	comp=Z,0.1nm,0.3s						
MKAR	Makanchi Array	64.41	321	P		P	13 25 51.2 -1.2
	comp=Z,0.8nm,0.6s,baz=29,slow=7.0,SNR=5.3						
	comp=Z,0.8nm,0.6s						
AKASG	Malin Array Be	69.95	358	P		P	13 26 26.4 -0.7
	comp=Z,0.6nm,0.4s,baz=4.1,slow=6.1,SNR=3.3						
	comp=Z,0.6nm,0.4s						
PZH	PanZhiHua	74.38	296	P		P	13 26 55.1 +1.1
PZH				pmax		pmax	
	comp=Z,10.0nm,0.5s						
PZH				pmax		pmax	
	comp=Z,100nm,4.5s						
QSPA	South Pole Qui	149.48	180	PKPdf		PKPbc	13 35 01.3 -1.3

*IDC **07** 13:17:02.0±1.1, 35°.09N×140°.31E, h0km, mb3.8/8, mbtmp3.8/9, ML3.3/1, MS3.0/1, Error ellipse: s-maj=39.2km s-min=19.4km az=76.0*
*JMA **07** 13:17:07.9±0.2, 35°.2N±0°.5×140°.6E±1°.0, h58km±1km, MV3.6/39, E OFF BOSO PENINSULA*
JMA Felt I J1 at E OFF BOSO PENINSULA .
ISC 07 13:17:08.3±0.8, 35°.22N±0°.04×140°.58E±0°.05, h54km±6km, n46, σ1°.79/47, mb3.9/8, 16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	Katsuura	0.23	252	P	Pn	13 17 17.2	-0.1
KTR				eS	Sn	13 17 23.8	0.0
BSO4	Boso 4	0.30	221	⇓P	Pn	13 17 17.9	+0.1
BSO4				⇓eX		13 17 25.6	
JKUC	kamogawauchiur	0.32	259	⇓iP	Pn	13 17 17.8	-0.2
JKUC				⇓S	Sn	13 17 24.8	-0.2
JCN	Nagara	0.37	303	⇓iP	Pn	13 17 19.0	+0.5
JCN				⇓eS	Sn	13 17 27.7	+2.0
BSO3	Boso 3	0.42	188	P	Pn	13 17 18.6	-0.1
BSO3				eX		13 17 26.6	
JSMT	Sammumatsuo	0.44	346	iP	Pn	13 17 19.9	+0.7
JSMT				S	Sn	13 17 28.8	+1.8
BSO1	Boso 1	0.65	150	⇓P	Pn	13 17 21.0	-0.1
JIM2	Oshima 3	1.07	242	⇓iP	Pn	13 17 25.8	-1.3
JIM2				⇓eS	Sn	13 17 39.3	-1.7
JOD2	Odawara 2	1.22	272	⇓iP	Pn	13 17 28.5	-0.6
JOD2				⇓S	Sn	13 17 43.9	-0.8
JMYK	Miyake Tsubota	1.44	217	eP	Pn	13 17 31.4	-0.6
JMYK				eS	Sn	13 17 49.2	-0.6
JIZS	Izushimoda	1.48	251	⇓iP	Pn	13 17 31.7	-1.0
JIZS				⇓eS	Sn	13 17 50.0	-1.0
JAG	Ashikaga	1.51	323	⇓P	Pn	13 17 33.5	+0.4
JFNN	Fujinakano	1.55	270	⇓iP	Pn	13 17 33.2	-0.4
JFNN				⇓S	Sn	13 17 51.9	-0.7
JMKN	Mikurajimanish	1.56	212	iP	Pn	13 17 32.6	-1.0
JMKN				eS	Sn	13 17 51.2	-1.5
JSG	Sagara	2.04	255	P	Pn	13 17 40.2	0.0
JHJ2	Mitsune	2.19	197	P	Pn	13 17 41.5	-0.9
JHJ	Hachijo jima 2	2.20	198	Pn	Pn	13 17 41.6	-0.8
	415nm,0.3s,baz=149,slow=24,SNR=335						
JHJ				Sn	Sn	13 18 06.2	-2.2
	256nm,0.3s,baz=82,slow=23,SNR=14						
MJAR	Matsushiro Arr	2.33	305	Pn	Pn	13 17 44.7	+0.4
	4.8nm,0.3s,baz=152,slow=11,SNR=133						
MJAR				Sn	Sn	13 18 14.0	+2.2
	4.6nm,0.3s,baz=296,slow=22,SNR=4.2						
MAJO	Matsushiro	2.33	305	P	Pn	13 17 45.1	+0.8
JMM	Marumori	2.65	4	P	Pn	13 17 49.1	+0.6
JGF	Kuroka	2.66	279	P

0.8nm,0.4s
ASAR Alice Springs 58.91 187 P **P 13 27 02.6 +0.8**
0.8nm,0.8s,baz=22,slow=12,SNR=12
0.8nm,0.8s
FINES FINESS Array B 70.10 332 P **P 13 28 14.7 +0.3**
2.0nm,1.0s,baz=72,slow=4.5,SNR=1.8
2.0nm,1.0s
NOA NORSAR Array B 75.59 337 P **P 13 28 48.9 +1.9**
0.4nm,0.7s,baz=40,slow=5.9,SNR=2.5
0.4nm,0.7s
H03N2 Juan Fernandez 147.47 98 T T 16 21 34.7
baz=283
H03N3 Juan Fernandez 147.48 98 T T 16 21 34.0
baz=283
H03N1 Juan Fernandez 147.48 98 T T 16 21 42.2
baz=283

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*IDC **07** 13:30:18.6±4.0, 34°.42N×139°.30E, h0km, mb3.6/3, mbtmp3.5/4, ML2.4/1, Error ellipse: s-maj=146.1km s-min=25.4km az=74.0*
*JMA **07** 13:30:20.6±0.2, 35°.2N±0°.5×140°.6E±0°.9, h57km±1km, MV3.0/38, E OFF BOSO PENINSULA*
ISC 07 13:30:21.4±1.1, 35°.11N±0°.04×140°.52E±0°.06, h54km±7km, n24, σ0s82/28, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.17**	**282**	*i*	P	**Pn**		**13 30 29.7**	**-0.4**
KTR					S	**Sn**		**13 30 36.3**	**0.0**
BSO4	**Boso 4**	**0.20**	**231**	*i*	P	**Pn**		**13 30 30.3**	**+0.2**
JKUC	**kamogawauchiur**	**0.27**	**280**	*i*	P	**Pn**		**13 30 30.4**	**-0.3**
JKUC					S	**Sn**		**13 30 37.6**	**+0.2**
BSO3	**Boso 3**	**0.31**	**182**	*i*	P	**Pn**		**13 30 30.8**	**+0.1**
JCN	**Nagara**	**0.40**	**319**	*i*	P	**Pn**		**13 30 31.8**	**-0.1**
JCN					S	**Sn**		**13 30 40.0**	**+0.5**
BSO2	**Boso 2**	**0.41**	**152**	*e*	X			13 30 42.3	
JSMT	**Sammumatsuo**	**0.53**	**353**	*i*	P	**Pn**		**13 30 32.7**	**-0.7**
JSMT					S	**Sn**		**13 30 41.7**	**-0.3**
BSO1	**Boso 1**	**0.59**	**141**	*i*	P	**Pn**		**13 30 33.3**	**-0.2**
JIM2	**Oshima 3**	**0.98**	**247**		P	**Pn**		**13 30 38.4**	**-0.6**
JIM2					S	**Sn**		**13 30 52.1**	**+0.1**
JOD2	**Odawara 2**	**1.19**	**278**	*i*	P	**Pn**		**13 30 41.2**	**-0.6**
JOD2					S	**Sn**		**13 30 55.8**	**-1.1**
JMYK	**Miyake Tsubota**	**1.32**	**218**		P	**Pn**		**13 30 43.6**	**0.0**
JMYK				*e*	S	**Sn**		**13 31 01.0**	**+0.8**
JIZS	**Izushimoda**	**1.41**	**254**		P	**Pn**		**13 30 44.6**	**-0.1**
JIZS					S	**Sn**		**13 31 01.9**	**-0.3**
JMKN	**Mikurajimanish**	**1.44**	**213**	*e*	P	**Pn**		**13 30 44.9**	**-0.3**
JMKN				*e*	S	**Sn**		**13 31 03.6**	**+0.6**
JFNN	**Fujinakano**	**1.51**	**274**		P	**Pn**		**13 30 46.0**	**-0.1**
JFNN					S	**Sn**		**13 31 04.2**	**-0.5**
MJAR	**Matsushiro Arr**	**2.36**	**308**		Pn	**Pn**		**13 30 57.3**	**-0.4**
	1.0nm,0.3s,baz=275,slow=19,SNR=72								
MJAR					Sn	**Sn**		**13 31 28.2**	**+2.7**
	1.1nm,0.3s,baz=186,slow=9.9,SNR=3.0								
	5.0nm,0.3s								
H11N2	**WAKE ISLAND Hy 27.86**	**116**		T		T		14 05 16.4	
	baz=309,slow=75,SNR=18								
H11N1	**WAKE ISLAND Hy 27.87**	**116**		T		T		14 05 23.5	
	baz=309,slow=75,SNR=17								
H11N3	**WAKE ISLAND Hy 27.88**	**116**		T		T		14 05 17.4	
	baz=309,slow=75,SNR=17								
H11S3	**WAKE ISLAND Hy 28.50**	**119**		T		T		14 06 07.1	
	baz=311,slow=76,SNR=10								
H11S1	**WAKE ISLAND Hy 28.50**	**119**		T		T		14 06 05.4	
	baz=311,slow=76,SNR=9.1								
H11S2	**WAKE ISLAND Hy 28.51**	**119**		T		T		14 06 08.1	
	baz=311,slow=76,SNR=6.6								
MKAR	**Makanchi Array**	**44.55**	**304**		P	**P**		**13 38 29.5**	**+1.7**
	0.3nm,0.7s,baz=77,slow=8.9,SNR=3.7								
	0.3nm,0.7s								
KURBB	**Kurchatov Arra**	**46.64**	**309**		P	**P**		**13 38 44.3**	**+0.1**
	0.7nm,0.3s,baz=82,slow=8.5,SNR=1.7								
	0.7nm,0.3s								
WRA	**Warramunga Arr**	**55.06**	**187**		P	**P**		**13 39 46.6**	**-1.2**
	0.4nm,0.8s,baz=3.4,slow=7.7,SNR=2.0								
	0.4nm,0.8s								

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*ASRS **07** 14:09:46.0±0.2, 50°N±1°×8°8E±°, h10km, MLh3.1/11, Error ellipse: s-maj=3.2km s-min=2.1km az=44.3, confirmed*
*NNC **07** 14:09:51.0±2.6, 50°.04N×87°.33E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=19.2km s-min=10.8km az=70.0*
ISC 07 14:09:47.4±1.0, 50°.15N±0°.03×87°.79E±0°.03, h13km±8km, n16, σ1s45/32, 10C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.21**	**328**	⇓	Pg	**Pg**		**14 09 52.4**	**+0.2**
AKAR					Sg	**Sb**		**14 09 56.3**	**-0.6**
CUR	**Chagan-Uzun**	**0.36**	**97**	⇑	Pg	**Pg**		**14 09 54.5**	**-0.3**
CUR					Sg	**Sg**		**14 10 00.1**	**+0.3**
ULGR	**Ulagan, Altay**	**0.49**	**13**		Pg	**Pn**		**14 09 59.5**	**-0.7**
ULGR					Sg	**Sn**		**14 10 06.9**	**-1.8**
DGZ	**Jazzator, Alta**	**0.50**	**208**	⇑	Pg	**Pg**		**14 09 55.0**	**-2.3**
DGZ					Sg	**Sg**		**14 10 00.5**	**-3.6**
ELDR	**Elanda**	**1.52**	**315**		Pg	**Pn**		**14 10 14.6**	**+0.2**
ELDR					Sg	**Sg**		**14 10 36.1**	**-0.4**
YALR	**Yailyu, Altay**	**1.63**	**356**		Pg	**Pb**		**14 10 17.2**	**-0.2**
YALR					Sg	**Sg**		**14 10 39.2**	**-0.7**
ARTR	**Artybash**	**1.69**	**349**		Pg	**Pg**		**14 10 19.0**	**-0.8**
ARTR					Sg	**Sg**		**14 10 40.6**	**-1.1**
TEL	**Teeli**	**1.77**	**59**	⇑	Pg	**Pb**		**14 10 19.5**	**-0.2**
TEL					Sg	**Sg**		**14 10 43.7**	**-0.6**
UKR	**Ust'-Kan**	**2.08**	**294**		Pg	**Pb**		**14 10 25.0**	**-0.1**
UKR					Sg	**Sb**		**14 10 51.6**	**+0.7**
GALT	**Gorno-Altaysk,**	**2.16**	**328**		Pg	**Pb**		**14 10 26.2**	**-0.1**
GALT					Sg	**Sg**		**14 10 56.9**	**+0.1**
ELT	**Eltsovka**	**3.27**	**343**		Sg	**Sg**		**14 11 28.8**	**-3.5**
VEH	**Verkhnyaya Baz**	**3.49**	**26**		Pg	**Pg**		**14 10 54.7**	**+0.5**
VEH					Sg	**Sg**		**14 11 37.4**	**-2.0**
MK31	**Makanchi Array**	**4.96**	**230**	⇑	Pn	**Pn**		**14 11 03.6**	**+2.0**
	0.4nm,0.3s,baz=56,slow=13,SNR=44								
MK31				⇑	Pg	**Pb**		**14 11 16.2**	**+2.0**
	0.6nm,0.3s,baz=45,slow=16,SNR=3.4								
MK31				⇑	Sn	**Sn**		**14 11 59.6**	**+0.8**
	0.8nm,0.5s,baz=55,slow=27,SNR=4.9								
MK31				⇓	Lg	Lg		14 12 20.1	
	0.9nm,0.3s,baz=53,slow=29,SNR=5.4								
MAKZ	**Makanchi**	**5.11**	**231**	⇑	Pn	**Pn**		**14 11 05.0**	**+1.4**
	0.8nm,0.5s								
MAKZ				⇓	Pg	**Pb**		**14 11 18.5**	**+1.9**
	1.2nm,0.6s								
MAKZ				⇓	Sn	**Sn**		**14 12 01.1**	**-1.3**
	2.2nm,0.8s								
MAKZ				⇑	Lg	Lg		14 12 23.7	
	1.7nm,0.5s								
KURK	**Kurchatov**	**5.89**	**279**	⇓	Sn	**Sn**		**14 12 22.2**	**+0.6**
	3.2nm,0.8s								
KURK				⇓	Lg	Lg		14 12 47.3	
	11nm,1.1s								
KURBB	**Kurchatov Arra**	**5.94**	**278**	⇓	Pn	**Pn**		**14 11 15.5**	**+0.5**
	0.6nm,0.4s								
KURBB				⇑	Sn	**Sn**		**14 12 23.0**	**+0.1**
	3.3nm,0.7s								
KURBB				⇑	Lg	Lg		14 12 53.9	
	14nm,0.8s								

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*IDC **07** 14:12:10.6±0.7, 27°.93N×141°.75E, h0km, mb3.9/10, mbtmp3.9/10, Error ellipse: s-maj=39.8km s-min=14.7km az=71.0*
*NEIC **07** 14:12:17.8±2.9, 27°.90N±0°.07×142°.0E±0°.2, h57km±12km, mb4.6/12, Error ellipse: s-maj=30.7km s-min=5.1km az=72.0*
ISC 07 14:12:16.1±0.6, 27°.92N±0°.06×141°.9E±0°.1, h42km, n44, σ1s56/39, mb4.3/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.85**	**165**			**Pn**		**14 12 33.2**	**+1.7**
JCJ	**Chichijima**	**0.85**	**165**		Pn	**Pn**		**14 12 29.4**	**-2.1**
	769nm,0.3s,baz=359,slow=18,SNR=348								
JCJ					Sn	**Sn**		**14 12 40.2**	**-2.5**
	514nm,0.3s,baz=289,slow=22,SNR=8.0								
JHJ	**Hachijo jima 2**	**5.51**	**341**		Pn	**Pn**		**14 13 36.9**	**+1.3**
	3.0nm,0.3s,baz=350,slow=22,SNR=12								
JHJ					Sn	**Sn**		**14 14 32.8**	**-4.9**
	3.4nm,0.3s,baz=340,slow=20,SNR=0.9								
MJAR	**Matsushiro Arr**	**9.16**	**341**		Pn	**Pn**		**14 14 27.1**	**+1.4**
	0.2nm,0.3s,baz=158,slow=12,SNR=18								
MAJO	**Matsushiro**	**9.16**	**341**		Pn	**Pn**		**14 14 27.5**	**+1.8**
MJB9	**Matsu-Tunnel**	**9.17**	**341**		Pn	**Pn**		**14 14 28.8**	**+3.0**
JMM	**Marumori**	**9.97**	**355**		Pn	**Pn**		**14 14 36.1**	**-0.5**
KSRS	**Korea Array**	**15.14**	**312**		Pn	**P**		**14 15 53.2**	**+1.7**
	0.1nm,0.3s,baz=122,slow=10,SNR=4.7								
USRK	**Ussuriysk Ar.**	**18.11**	**336**			**P**		**14 16 25.6**	**+1.3**
	1.0nm,0.7s,baz=158,slow=14,SNR=4.1								
NACB	**Ninganchiao**	**18.66**	**263**		P	**P**		**14 16 29.5**	**-1.0**
SSLB	**Suanglung**	**19.33**	**262**		P	**P**		**14 16 38.2**	**+0.3**
H11N2	**WAKE ISLAND Hy 24.20**	**104**			T	T		14 43 13.4	
	baz=296,slow=75,SNR=31								
H11N1	**WAKE ISLAND Hy 24.21**	**104**			T	T		14 43 13.2	
	baz=296,slow=75,SNR=20								
H11N3	**WAKE ISLAND Hy 24.22**	**104**			T	T		14 43 11.1	
	baz=296,slow=75,SNR=28								
H11S3	**WAKE ISLAND Hy 24.56**	**107**			T	T		14 43 03.3	
	baz=297,slow=75,SNR=54								
H11S1	**WAKE ISLAND Hy 24.56**	**107**			T	T		14 43 08.1	
	baz=297,slow=75,SNR=36								
H11S2	**WAKE ISLAND Hy 24.58**	**107**			T	T		14 43 09.0	
	baz=297,slow=75,SNR=54								
HNR	**Honiara**	**41.02**	**152**		P	**P**		**14 19 53.4**	**-1.9**
COEN	**Coen**	**41.64**	**178**		P	**P**		**14 20 00.9**	**+0.4**
COEN					IAmb	IAmb		14 20 29.2	
	comp=Z,14nm,1.5s								
MTN	**Manton Dam**	**41.85**	**196**		P	**P**		**14 20 02.2**	**+0.1**
MTN					IAmb	IAmb		14 20 30.1	
	comp=Z,16nm,1.4s								
KNRA	**Kununurra**	**45.18**	**198**		P	**P**		**14 20 27.6**	**-1.3**
KNRA					IAmb	IAmb		14 20 29.9	
	comp=Z,16nm,1.5s								
KULM	**Kulim**	**45.19**	**248**		P	**P**		**14 20 28.8**	**-0.4**
KULM					IAmb	IAmb		14 20 45.2	
	comp=Z,18nm,1.5s								
WB0	**Warramunga Arr**	**47.96**	**190**		P	**P**		**14 20 51.8**	**+1.1**
WB0					IAmb	IAmb		14 20 57.9	
	comp=Z,5.9nm,1.1s								
WR0	**Warramunga Arr**	**48.13**	**189**		P	**P**		**14 20 53.2**	**+1.2**
WB2	**Warramunga Arr**	**48.14**	**190**		P	**P**		**14 20 53.7**	**+1.6**
WB2					IAmb	IAmb		14 21 04.4	
	comp=Z,14nm,1.5s								
WRA	**Warramunga Arr**	**48.14**	**190**		P	**P**		**14 20 51.3**	**-0.9**
WRA	**Warramunga Arr**	**48.14**	**190**		P	**P**		**14 20 53.2**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=13,slow=8.8,SNR=41								
WRA					PcP	**PcP**		**14 22 21.0**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=358,slow=3.5,SNR=1.8								
	comp=Z,1.1nm,0.3s								
FITZ	**Fitzroy Crossi**	**48.39**	**201**		P	**P**		**14 20 54.2**	**+0.2**
ZALV	**Zalesovo Beam**	**48.73**	**319**		PcP	**PcP**		**14 22 20.9**	**0.0**
	comp=Z,1.1nm,0.6s,baz=106,slow=4.8,SNR=4.2								
MKAR	**Makanchi Array**	**49.79**	**309**		P	**P**		**14 21 03.3**	**-1.3**
MKAR	**Makanchi Array**	**49.79**	**309**		P	**P**		**14 21 03.4**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=86,slow=8.4,SNR=3.3								
MKAR					PcP	**PcP**		**14 22 25.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=67,slow=4.8,SNR=3.9								
	comp=Z,0.3nm,0.6s								
ASAR	**Alice Springs**	**51.87**	**189**		P	**P**		**14 21 21.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=6.0,slow=8.6,SNR=4.7								
	comp=Z,0.3nm,0.6s								
KURBB	**Kurchatov Arra**	**52.32**	**314**		P	**P**		**14 21 21.8**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=91,slow=7.7,SNR=12								
	comp=Z,0.8nm,0.5s								
ARCES	**ARCESS Array B**	**72.70**	**341**		P	**P**		**14 23 40.4**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=74,slow=8.9,SNR=10								
	comp=Z,0.4nm,0.4s								
FINES	**FINESS Array B**	**77.12**	**334**		P	**P**		**14 24 05.5**	**+0.7**
	comp=Z,4.3nm,0.4s,baz=68,slow=4.9,SNR=84								
	comp=Z,4.3nm,0.4s								
SUMG	**Summit**	**79.78**	**0**	*i*	P	**P**		**14 24 19.0**	**-0.8**
NVAR	**Mina Array Bea**	**80.18**	**52**		P	**P**		**14 24 24.3**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=281,slow=5.5,SNR=4.0								
	comp=Z,0.5nm,0.7s								
AKASG	**Malin Array Be**	**81.83**	**324**		P	**P**		**14 24 30.5**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=50,slow=6.2,SNR=3.0								
	comp=Z,0.4nm,0.4s								
HFS	**Hagfors**	**82.59**	**337**		P	**P**		**14 24 34.6**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=72,slow=4.7,SNR=12								
	comp=Z,1.2nm,0.5s								
NB2	**NORSAR Subarra**	**82.77**	**338**		P	**P**		**14 24 35.3**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=42,slow=5.3								
NOA	**NORSAR Array B**	**82.77**	**338**		P	**P**		**14 24 35.7**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=55,slow=7.0,SNR=4.8								
	comp=Z,0.4nm,0.4s								
H03N2	**Juan Fernandez**	**144.58**	**109**		T	T		17 13 38.8	
	baz=277								
H03N3	**Juan Fernandez**	**144.59**	**109**		T	T		17 13 39.4	
	baz=277								
H03N1	**Juan Fernandez**	**144.60**	**109**		T	T		17 13 45.2	
	baz=277								

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*IDC **07** 14:22:11.3±1.1, 34°.97N×140°.69E, h0km, mb3.4/5, mbtmp3.6/8, ML3.1/2, Error ellipse: s-maj=34.9km s-min=19.4km az=77.0*
*JMA **07** 14:22:18.0±0.2, 35°.2N±0°.6×140°.6E±1°.0, h57km±1km, MV3.2/34, E OFF BOSO PENINSULA*
JMA Felt I J1 at E OFF BOSO PENINSULA .
ISC 07 14:22:18.7±0.9, 35°.12N±0°.06×140°.52E±0°.07, h56km±6km, n24, σ0s75/23, mb3.5/5, 12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.17**	**279**		P	**Pn**		**14 22 27.1**	**-0.4**
KTR					S	**Sn**		**14 22 33.8**	**0.0**
BSO4	**Boso 4**	**0.20**	**229**	⇓	P	**Pn**		**14 22 27.7**	**+0.1**
BSO4				⇓	*e*X			14 22 35.0	
JKUC	**kamogawauchiur**	**0.27**	**279**	⇓	P	**Pn**		**14 22 27.9**	**-0.2**
JKUC				⇓	*e*S	**Sn**		**14 22 35.1**	**+0.2**
BSO3	**Boso 3**	**0.32**	**182**	⇓	P	**Pn**		**14 22 28.2**	**0.0**
BSO3				⇓	X			14 22 36.3	
JCN	**Nagara**	**0.40**	**319**	⇓	P	**Pn**		**14 22 29.3**	**0.0**
JCN				⇓	S	**Sn**		**14 22 37.5**	**+0.6**
JSMT	**Sammumatsuo**	**0.53**	**353**		P	**Pn**		**14 22 30.1**	**-0.5**
BSO1	**Boso 1**	**0.60**	**141**		P	**Pn**		**14 22 30.5**	**-0.4**
JIM2	**Oshima 3**	**0.98**	**246**	⇓	P	**Pn**		**14 22 35.7**	**-0.6**
JIM2				⇓	S	**Sn**		**14 22 49.0**	**-0.4**
JOD2	**Odawara 2**	**1.18**	**277**	⇓	P	**Pn**		**14 22 38.7**	**-0.3**
JOD2				⇓	S	**Sn**		**14 22 53.4**	**-0.8**
JHJ	**Hachijo jima 2**	**2.09**	**197**		Pn	**Pn**		**14 22 51.0**	**-0.2**
	106nm,0.3s,baz=337,slow=16,SNR=111								
JHJ					Sn	**Sn**		**14 23 15.7**	**-0.4**
	82nm,0.3s,baz=82,slow=20,SNR=11								
MJAR	**Matsushiro Arr**	**2.35**	**308**		Pn	**Pn**		**14 22 55.3**	**+0.4**
	1.0nm,0.3s,baz=273,slow=6.0,SNR=54								
	4.6nm,0.3s								
JCJ	**Chichijima**	**8.12**	**169**		Pn	Pn		14 24 06.7	-7.3
	38nm,0.4s,baz=91,slow=23,SNR=8.1								
ASAJ	**Asahikawa**	**9.13**	**9**		Pn	**Pn**		**14 24 25.5**	**-2.1**
	0.4nm,0.3s,baz=208,slow=15,SNR=7.0								
	3.5nm,0.9s								
H11N2	**WAKE ISLAND Hy 27.87**	**116**			T	T		14 57 20.3	
	baz=309,slow=75,SNR=38								
H11N1	**WAKE ISLAND Hy 27.87**	**116**			T	T		14 57 23.0	
	baz=309,slow=75,SNR=25								
H11N3	**WAKE ISLAND Hy 27.88**	**116**			T	T		14 57 21.8	
	baz=309,slow=75,SNR=29								
H11S3	**WAKE ISLAND Hy 28.50**	**119**			T	T		14 58 07.2	
	baz=311,slow=75,SNR=28								
H11S1	**WAKE ISLAND Hy 28.50**	**119**			T	T		14 58 12.1	
	baz=311,slow=75,SNR=42								
H11S2	**WAKE ISLAND Hy 28.52**	**119**			T	T		14 58 13.2	
	baz=311,slow=75,SNR=24								
MKAR	**Makanchi Array**	**44.55**	**304**		P	**P**		**14 30 26.5**	**+1.6**
	0.2nm,0.5s,baz=90,slow=8.6,SNR=1.9								
	0.2nm,0.5s								
KURBB	**Kurchatov Arra**	**46.63**	**309**		P	**P**		**14 30 41.4**	**+0.2**
	0.5nm,0.6s,baz=84,slow=7.5,SNR=7.4								
	0.5nm,0.6s								
ILAR	**Eielson Array**	**51.50**	**32**		P	**P**		**14 31 18.8**	**+0.6**
	0.4nm,0.8s,baz=264,slow=5.6,SNR=5.0								
	0.4nm,0.8s								
WRA	**Warramunga Arr**	**55.07**	**187**		P	**P**		**14 31 44.1**	**-0.8**
	0.5nm,0.6s,baz=1.1,slow=7.7,SNR=8.5								
	0.5nm,0.6s								
ASAR	**Alice Springs**	**58.80**	**187**		P	**P**		**14 32 11.1**	**-0.1**
	0.3nm,1.0s,baz=20,slow=12,SNR=1.5								
	0.3nm,1.0s								

IDC 07 14:29:36.0±1.8, 6°.55S×151°.99E, h0km, mb3.7/3, mbtmp3.8/4, ML1.8/1, Error ellipse: s-maj=108.1km s-min=24.1km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.56**	**239**		Pn	Pn		14 31 01.5	+1.5
	1.9nm,0.3s,baz=353,slow=1.9,SNR=3.4								
PMG					Sn	Sn		14 32 05.2	+0.5
	1.0nm,0.3s,baz=207,slow=19,SNR=1.4								
	13nm,0.7s								
WRA	**Warramunga Arr**	**21.70**	**230**		P	P		14 34 28.3	-0.5
	2.2nm,0.9s,baz=55,slow=10,SNR=8.5								
	2.2nm,0.9s								
ASAR	**Alice Springs**	**24.32**	**224**		P	P		14 34 55.3	-0.4
	2.0nm,0.8s,baz=58,slow=8.9,SNR=14								
	2.0nm,0.8s								
ILAR	**Eielson Array**	**84.08**	**22**		P	P		14 42 08.1	-0.3
	1.0nm,0.9s,baz=258,slow=5.1,SNR=8.8								
	1.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**150.03**	**285**		PKPbc	PKPbc		14 49 30.1	+0.4
	1.1nm,0.8s,baz=76,slow=2.9,SNR=4.6								

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*IDC **07** 14:34:37.1±0.9, 4°.90S×153°.05E, h0km, mb3.9/9, mbtmp3.9/10, ML1.7/1, MS3.5/4, Error ellipse: s-maj=28.6km s-min=20.7km az=80.0*
ISC 07 14:34:43.2±0.9, 4°.9S±0°.1×153°.1E±0°.1, h43km, n14, σ1s39/14, mb3.8/9, MS3.4/3, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.39**	**233**		Pn	**Pn**		**14 36 28.0**	**-0.6**
	0.6nm,0.3s,baz=219,slow=15,SNR=2.6								
PMG					Sn	**Sn**		**14 37 52.3**	**+1.2**
	1.8nm,0.3s,baz=122,slow=19,SNR=2.0								
	12nm,0.8s								
HNR	**Honiara**	**8.14**	**124**		LR	LR		14 39 39.2	
	comp=Z,2μm,19.1s,baz=336,slow=37								
GUMO	**Guam**	**20.12**	**336**		LR	LR		14 47 50.9	
	comp=Z,36nm,18.4s,baz=116,slow=40								
DZM	**Mont Dzumac**	**21.40**	**144**		P	**P**		**14 39 26.8**	**-0.7**
	6.1nm,0.5s,baz=327,slow=12,SNR=13								
DZM					LR	LR		14 46 17.6	
	comp=Z,130nm,18.2s,baz=279,slow=33								
	6.1nm,0.5s								
WRA	**Warramunga Arr**	**23.59**	**229**		P	**P**		**14 39 48.8**	**-1.5**
	2.3nm,0.7s,baz=53,slow=9.9,SNR=12								
WRA					PcP	**PcP**		**14 43 37.2**	**+2.6**
	0.4nm,0.7s,baz=50,slow=2.4,SNR=1.6								
	2.3nm,0.7s								
ASAR	**Alice Springs**	**26.27**	**223**		P	**P**		**14 40 13.8**	**-1.0**
	0.7nm,0.7s,baz=56,slow=9.4,SNR=8.9								
ASAR					PcP	**PcP**		**14 43 43.2**	**+2.6**
	0.2nm,0.6s,baz=60,slow=2.7,SNR=1.8								
	0.7nm,0.7s								
KLR	**Kul'dur**	**57.04**	**343**		LR	LR		15 09 57.9	
	comp=Z,30nm,18.1s,baz=202,slow=37								
CMAR	**Chiang Mai Arr**	**58.19**	**295**		P	**P**		**14 44 32.9**	**-0.6**
	0.3nm,0.4s,baz=111,slow=4.9,SNR=1.7								
	0.3nm,0.4s								
VNDA	**Vanda**	**72.70**	**178**		P	**P**		**14 46 06.7**	**+0.5**
	0.7nm,0.8s,baz=327,slow=5.4,SNR=4.3								
	0.7nm,0.8s								
MKAR	**Makanchi Array**	**80.61**	**319**		P	**P**		**14 46 52.2**	**+0.8**
	0.9nm,0.8s,baz=106,slow=6.7,SNR=7.8								
	0.9nm,0.8s								
ZALV	**Zalesovo Beam**	**81.41**	**326**		P	**P**		**14 46 55.1**	**-0.4**
	0.9nm,0.6s,baz=126,slow=7.5,SNR=4.8								
	0.9nm,0.6s								
KURBB	**Kurchatov Arra**	**84.07**	**322**		P	**P**		**14 47 09.2**	**-0.2**
	0.7nm,0.8s,baz=104,slow=3.6,SNR=6.8								
	0.7nm,0.8s								
QSPA	**South Pole Qui**	**85.05**	**180**		P	**P**		**14 47 14.0**	**-0.2**
	1.9nm,0.6s,baz=52,slow=2.5,SNR=14								
	1.9nm,0.6s								
TORD	**Torodi Ar. Bea**	**150.62**	**288**		PKPbc	**PKPbc**		**14 54 30.8**	**-0.9**
	2.5nm,0.8s,baz=51,slow=3.2,SNR=12								

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*IDC **07** 14:49:06.3±1.1, 35°.09N×140°.50E, h0km, mb3.7/6, mbtmp3.7/7, ML3.4/1, MS3.4/2, Error ellipse: s-maj=38.5km s-min=20.5km az=86.0*
*NIED **07** 14:49:12.6, 35°.16N×140°.59E, h55km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.55; $M_{\theta\theta}$1.21; $M_{\phi\phi}$0.34; $M_{r\theta}$-0.48; $M_{r\phi}$-0.33; $M_{\theta\phi}$3.86; Fault plane solution: $M_0$4.05000×10^{14} NP1: ϕ_s169.00000°, δ83.00000°, λ-

H03N3	Juan Fernandez	147.44	99	T	T	17 53 36.7
	baz=289					
H03N1	Juan Fernandez	147.45	99	T	T	17 53 34.3
	baz=289					

SJA ***07*** *15:01:22.9±1.2, 32°.02S×70°.61W, h80km, ML3.4, MW3.5*
GUC ***07*** *15:01:24.1±0.7, 32°.04S×70°.72W, h111km±3km, ML3.6*

ISC 07 15:01:22.6±1.3, 32°.04S±0°.02×70°.69W±0°.04, h120km±8km, n55, σ1°.12/105, 2C-10D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.73**	**171**	*eP*	**Pn**	**15 01 42.4**	**0.0**
VA03				*eS*	**Sn**	**15 01 56.4**	**-1.0**
VA03				IAML		15 01 58.4	
	comp=Z,789nm,0.5s						
VA03	**San Esteban**	**0.73**	**171**	⇓*iP*	**Pn**	**15 01 42.5**	**+0.1**
VA03				*i* S	**Sn**	**15 01 56.3**	**-1.1**
VA03				IAML		15 01 57.4	
	comp=E,3μm,0.2s						
VA06	**Catapilco**	**0.74**	**225**	⇓*iP*	**Pn**	**15 01 42.4**	**+0.1**
VA06				*i* S	**Sn**	**15 01 55.8**	**-1.3**
VA06				IAML		15 01 56.4	
	comp=N,4μm,0.3s						
CO02	**Combarbal**	**0.87**	**342**	*eP*	**Pn**	**15 01 43.9**	**+0.2**
CO02				*eS*	**Sn**	**15 01 59.1**	**-0.4**
CO02				IAML		15 02 00.4	
	comp=Z,2μm,0.2s						
CO02	**Combarbal**	**0.87**	**342**	⇑*iP*	**Pn**	**15 01 43.9**	**+0.2**
CO02				*i* S	**Sn**	**15 01 58.8**	**-0.7**
ROCH	**El Roble**	**0.97**	**196**	⇓*iP*	**Pn**	**15 01 44.8**	**+0.2**
ROCH				*i* S	**Sn**	**15 02 00.3**	**-1.0**
PEL	**Peldehue**	**1.10**	**180**	⇓*iP*	**Pn**	**15 01 46.0**	**+0.2**
PEL				*i* S	**Sn**	**15 02 02.6**	**-0.7**
CO03	**El Pedregal**	**1.19**	**360**	*eP*	**Pn**	**15 01 47.2**	**+0.4**
CO03				*eS*	**Sn**	**15 02 04.6**	**-0.5**
CO03				IAML		15 02 05.4	
	comp=Z,1μm,0.1s						
CO03	**El Pedregal**	**1.19**	**360**	*eP*	**Pn**	**15 01 47.2**	**+0.4**
CO03				*i* S	**Sn**	**15 02 04.4**	**-0.7**
RTLS	**Leoncito**	**1.20**	**79**	*eP*	**Pn**	**15 01 47.4**	**+0.3**
RTLS				*eS*	**Sn**	**15 02 04.5**	**-1.1**
RTLS				IAML		15 02 07.5	
	comp=Z,541nm,0.2s						
MT10	**Hacienda Santa**	**1.24**	**174**	⇓*iP*	**Pn**	**15 01 47.9**	**+0.6**
MT10				*i* S	**Sn**	**15 02 05.6**	**-0.5**
MT10				IAML		15 02 07.9	
	comp=N,2μm,0.2s						
VA01	**Torpederas**	**1.28**	**219**	*eP*	**Pn**	**15 01 48.3**	**+0.8**
VA01	**Torpederas**	**1.28**	**219**	*eP*	**Pn**	**15 01 46.6**	**-0.9**
FCH	**Farellones**	**1.33**	**166**	⇓*eP*	**Pn**	**15 01 49.6**	**+1.2**
FCH				*i* S	**Sn**	**15 02 08.4**	**+0.3**
FCH				IAML		15 02 09.7	
	comp=N,1μm,0.1s						
MT05	**Renca**	**1.35**	**182**	*eP*	**Pn**	**15 01 49.9**	**+1.4**
MT05				*eS*	**Sn**	**15 02 09.7**	**+1.6**
MT05				IAML		15 02 10.9	
	comp=Z,661nm,0.2s						
MT05	**Renca**	**1.35**	**182**	*eP*	**Pn**	**15 01 50.2**	**+1.7**
MT05				*i* S	**Sn**	**15 02 09.1**	**+1.0**
MT14	**Cerro Cal¡n**	**1.36**	**175**	*eP*	**Pn**	**15 01 49.4**	**+0.8**
MT14				*i* S	**Sn**	**15 02 08.3**	**0.0**
MT14				IAML		15 02 11.8	
	comp=N,843nm,0.1s						
MT16	**CCHEN**	**1.39**	**174**	*eP*	**Pn**	**15 01 49.8**	**+0.8**
MT16				*i* S	**Sn**	**15 02 08.9**	**0.0**
MT16				IAML		15 02 10.6	
	comp=N,408nm,0.2s						
MT03	**Universidad Ad**	**1.46**	**174**	*eP*	**Pn**	**15 01 50.4**	**+0.6**
MT03				*eS*	**Sn**	**15 02 11.5**	**+1.2**
MT03				IAML		15 02 13.4	
	comp=Z,900nm,0.1s						
MT03	**Universidad Ad**	**1.46**	**174**	*eP*	**Pn**	**15 01 50.6**	**+0.8**
MT03				*i* S	**Sn**	**15 02 10.5**	**+0.2**
MT03				IAML		15 02 12.8	
	comp=E,1μm,0.2s						
CO06	**Fray Jorge**	**1.58**	**329**	⇑*iP*	**Pn**	**15 01 52.0**	**+0.9**
CO06				*i* S	**Sn**	**15 02 12.4**	**-0.3**
CO06				IAML		15 02 14.3	
	comp=E,635nm,0.2s						
MT12	**Pirque**	**1.69**	**176**	⇓*eP*	**Pn**	**15 01 53.2**	**+0.8**
MT12				*i* S	**Sn**	**15 02 15.0**	**-0.2**
MT12				IAML		15 02 18.0	
	comp=N,514nm,0.3s						
MT13	**San Alfonso**	**1.73**	**169**	⇓*eP*	**Pn**	**15 01 54.4**	**+1.4**
MT13				*i* S	**Sn**	**15 02 17.1**	**+0.9**
MT09	**Talagante**	**1.75**	**188**	⇓*eP*	**Pn**	**15 01 53.7**	**+0.5**
MT09				*i* S	**Sn**	**15 02 16.0**	**-0.6**
MT09				IAML		15 02 18.6	
	comp=E,458nm,0.1s						
VA05	**Santo Domingo**	**1.79**	**206**	*eP*	**Pn**	**15 01 54.0**	**+0.5**
VA05				*i* S	**Sn**	**15 02 16.9**	**-0.3**
VA05				IAML		15 02 22.8	
	comp=E,536nm,0.2s						
LMEL	**Las Melosas**	**1.85**	**167**	*eP*	**Pn**	**15 01 55.6**	**+1.2**
LMEL				*i* S	**Sn**	**15 02 20.1**	**+1.4**
LMEL				IAML		15 02 23.7	
	comp=N,782nm,0.3s						
GO04	**Tololo Observa**	**1.86**	**357**	*eP*	**Pn**	**15 01 55.2**	**+0.5**
GO04				*eS*	**Sn**	**15 02 18.1**	**-0.9**
GO04				IAML		15 02 22.4	
	comp=Z,645nm,0.4s						
GO04	**Tololo Observa**	**1.86**	**357**	*eP*	**Pn**	**15 01 54.9**	**+0.2**
GO04				*i* S	**Sn**	**15 02 17.8**	**-1.2**
MT01	**Popeta**	**1.88**	**194**	*eP*	**Pn**	**15 01 55.4**	**+0.8**
MT01				*eS*	**Sn**	**15 02 19.7**	**+0.5**
MT01				IAML		15 02 20.8	
	comp=Z,206nm,0.1s						
MT01	**Popeta**	**1.88**	**194**	⇓*eP*	**Pn**	**15 01 55.4**	**+0.8**
MT01				*i* S	**Sn**	**15 02 18.7**	**-0.4**
MT01				IAML		15 02 20.2	
	comp=E,370nm,0.1s						
ACCO	**Cerro Coronel**	**2.00**	**44**	*eP*	**Pn**	**15 01 57.4**	**+0.9**
ACCO				*eS*	**Sn**	**15 02 24.4**	**+2.2**
AROD	**Rodeo**	**2.13**	**29**	*eP*	**Pn**	**15 02 00.0**	**+1.9**
AROD				*eS*	**Sn**	**15 02 27.3**	**+2.1**
CO05	**La Serena**	**2.16**	**347**	*eP*	**Pn**	**15 01 58.7**	**+0.5**
CO05				*i* S	**Sn**	**15 02 23.9**	**-1.4**
CO05				IAML		15 02 26.9	
	comp=N,366nm,0.3s						
ACDV	**Cuesta del Vie**	**2.29**	**36**	*eP*	**Pn**	**15 02 01.4**	**+1.4**
ACDV				*eS*	**Sn**	**15 02 33.0**	**+4.5**
BO01	**Tunca**	**2.37**	**188**	*eP*	**Pn**	**15 02 01.5**	**+0.6**
BO01				*eS*	**Sn**	**15 02 30.2**	**+0.1**
BO01				IAML		15 02 31.7	
	comp=Z,102nm,0.1s						
BO01	**Tunca**	**2.37**	**188**	*eP*	**Pn**	**15 02 01.4**	**+0.6**
BO01				*i* S	**Sn**	**15 02 29.1**	**-1.0**
BO01				IAML		15 02 31.2	
	comp=E,244nm,0.1s						
BO02	**Sierra Bellavi**	**2.75**	**182**	*eP*	**Pn**	**15 02 06.2**	**+0.5**
BO02				*eS*	**Sn**	**15 02 39.2**	**+0.3**
BO02				IAML		15 02 42.1	
	comp=Z,160nm,0.2s						
BO02	**Sierra Bellavi**	**2.75**	**182**	*i* Pg	**Pn**	**15 02 06.8**	**+1.0**
BO02				*i* S	**Sn**	**15 02 38.8**	**-0.1**
LCO	**Las Campanas**	**3.02**	**360**	*eP*	**Pn**	**15 02 09.7**	**+0.3**
LCO				*eS*	**Sn**	**15 02 45.0**	**-0.4**
LCO	**Las Campanas**	**3.02**	**360**	*eP*	**Pn**	**15 02 09.6**	**+0.2**
LCO				*i* S	**Sn**	**15 02 43.5**	**-1.9**
AVFE	**Valle Fertil**	**3.08**	**64**	*eP*	**Pn**	**15 02 10.2**	**+0.1**
AVFE				*eS*	**Sn**	**15 02 45.7**	**-1.0**
AVFE				IAML		15 02 48.2	
	comp=Z,46nm,0.6s						
GO05	**Huala**	**3.14**	**199**	*eP*	**Pn**	**15 02 10.6**	**-0.3**
GO05				*eS*	**Sn**	**15 02 48.4**	**+0.4**
GO05				IAML		15 02 51.5	
	comp=Z,51nm,0.2s						
GO05	**Huala**	**3.14**	**199**	*eP*	**Pn**	**15 02 10.5**	**-0.3**
GO05				*i* S	**Sn**	**15 02 46.6**	**-1.4**
AC05	**El Transito**	**3.21**	**6**	*eP*	**Pn**	**15 02 12.0**	**+0.2**
AC05				*eS*	**Sn**	**15 02 50.2**	**+0.4**
AC05				IAML		15 02 51.4	
	comp=Z,74nm,0.4s						
AC05	**El Transito**	**3.21**	**6**	*eP*	**Pn**	**15 02 12.7**	**+0.8**
AC05				*i* S	**Sn**	**15 02 49.6**	**-0.2**
AC05				IAML		15 02 51.3	
	comp=E,217nm,0.2s						
RFA	**San Rafael**	**3.30**	**146**	*eP*	**Pn**	**15 02 13.3**	**+0.4**
ACHE	**Chepes**	**3.54**	**77**	*eP*	**Pn**	**15 02 16.3**	**+0.1**
ACHE				*eS*	**Sn**	**15 02 55.9**	**-1.7**
AC04	**Llanos de Chal**	**3.83**	**355**	*eP*	**Pn**	**15 02 20.6**	**+0.6**
AC04				*eS*	**Sn**	**15 03 06.7**	**+2.3**
AC04				IAML		15 03 16.8	
	comp=Z,30nm,0.5s						
AC04	**Llanos de Chal**	**3.83**	**355**	*eP*	**Pn**	**15 02 20.6**	**+0.6**
AC04				*i* S	**Sn**	**15 03 02.1**	**-2.3**
VCA	**Vinchina**	**3.93**	**34**	*eP*	**Pn**	**15 02 21.9**	**+0.5**
VCA				*eS*	Sn	15 02 39.9	-27
VCA				IAML		15 03 19.5	
	comp=Z,35nm,0.3s						
VCA	**Vinchina**	**3.93**	**34**	*eP*	**Pn**	**15 02 22.1**	**+0.7**
ACLC	**CERRO LA CRUZ**	**4.14**	**52**	*eP*	**Pn**	**15 02 23.7**	**-0.5**
ACLC				*eS*	**Sn**	**15 03 13.2**	**+1.4**
MRA	**San Martin**	**4.23**	**96**	*eP*	**Pn**	**15 02 25.1**	**-0.2**
MRA				*eS*	**Sn**	**15 03 11.5**	**-2.4**
MRA				*eS*		15 03 13.1	
MRA				IAML		15 03 32.9	
	comp=Z,18nm,0.7s						
GO03	**Copiap**	**4.45**	**5**	*eP*	**Pn**	**15 02 28.5**	**+0.3**
GO03				*eP*		15 02 28.9	
GO03				*eS*	**Sn**	**15 03 18.7**	**-0.4**
GO03				IAML		15 03 26.9	
	comp=Z,25nm,1.6s						
TCA	**Tanti**	**5.24**	**84**	*eP*	**Pn**	**15 02 38.4**	**-0.5**
TCA				IAML		15 03 34.1	
	comp=Z,16nm,0.6s						
TCA				*eS*	**Sn**	**15 03 34.2**	**-4.0**

IDC ***07*** *15:12:49.4±0.6, 15°.31S×173°.54W, h0km, mb4.3/11, mbtmp4.3/11, MS3.6/38, Error ellipse: s-maj=29.7km s-min=16.7km az=130.0*
NEIC ***07*** *15:12:51.0±1.7, 15°.36S±0°.09×173°.4W±0°.1, h10km±1km, mb4.8/45, Error ellipse: s-maj=22.2km s-min=4.5km az=48.0*

ISC 07 15:12:54.5±0.4, 15°.36S±0°.09×173°.38W±0°.08, h42km, n157, σ1°.89/103, mb4.7/35, MS3.7/38, 9C-12D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.95**	**139**	Pn	**Pn**	**15 14 04.9**	**-1.5**
RAR	**Rarotonga**	**14.17**	**116**	Pn	**Pn**	**15 16 09.6**	**-3.0**
	3.1nm,0.3s,baz=233,slow=4.1,SNR=6.6						
RAR				Sn	Sn	15 18 34.0	-15
	1.2nm,0.3s,baz=144,slow=22,SNR=1.5						
RAR				LR	LR	15 20 31.3	
	comp=Z,96nm,21.9s,baz=286,slow=32						
PINNC	**Pines Island,**	**19.50**	**245**	P	**Pn**	**15 17 19.4**	**-0.4**
PINNC				IAmb	IAmb	15 17 26.3	
	comp=Z,92nm,1.1s						
OUENC	**Ouen Island, N**	**19.98**	**246**	P	**Pn**	**15 17 26.8**	**+1.4**
DZM	**Mont Dzumac**	**20.23**	**248**	*eP*	Pn	15 17 31.6	+3.1
	comp=Z,141nm,1.1s						
DZM				*eS*	Sn	15 21 22.8	+7.2
	comp=Z,86nm,23.9s						
DZM				*e*LR	LR	15 22 45.5	
	comp=Z,773nm,27.4s						
DZM	**Mont Dzumac**	**20.23**	**248**	P	Pn	15 17 29.4	+0.8
DZM				IAmb	IAmb	15 17 35.3	
	comp=Z,71nm,1.1s						
DZM	**Mont Dzumac**	**20.23**	**248**	LR	LR	15 24 25.6	
	comp=Z,108nm,18.2s,baz=78,slow=35						
PPT	**Papeete**	**22.93**	**99**	LR	LR	15 24 19.3	
	comp=Z,74nm,19.7s,baz=305,slow=30						
PPT2	**Papeete2**	**22.93**	**99**	*e*LR	LR	15 22 53.8	
	comp=Z,495nm,27.5s						
PPT2				*e*LR	LR	15 22 55.8	
	comp=Z,285nm,32.5s						
TBI	**Tubuai**	**23.90**	**113**	*eS*	S	15 22 00.6	-18
	comp=Z,1μm,25.0s						
TBI				*e*LR	LR	15 23 31.2	
	comp=Z,2μm,29.0s						
URZ	**Urewera**	**24.31**	**198**	LR	LR	15 26 26.0	
	comp=Z,177nm,21.1s,baz=74,slow=34						
TOZ	**Tahuroa Road**	**24.36**	**202**	P	**P**	**15 18 10.6**	**+2.0**
TOZ				IAmb	IAmb	15 18 12.9	
	comp=Z,28nm,0.8s						
RTZ	**Ruatahuna**	**24.68**	**198**	P	**P**	**15 18 12.9**	**+1.3**
RTZ				IAmb	IAmb	15 18 15.5	
	comp=Z,19nm,0.8s						
BKZ	**Black Stump Fm**	**25.33**	**199**	P	**P**	**15 18 17.1**	**-0.3**
BKZ				IAmb	IAmb	15 18 30.9	
	comp=Z,24nm,1.3s						
SNZO	**South Karori**	**27.84**	**199**	P	**P**	**15 18 43.1**	**+3.1**
TCW	**Tory Channel**	**27.90**	**200**	P	**P**	**15 18 40.6**	**+0.1**
QRZ	**Quartz Range**	**28.18**	**203**	P	**P**	**15 18 42.8**	**-0.2**
LTZ	**Lake Taylor**	**29.98**	**201**	P	**P**	**15 18 57.8**	**-1.2**
LTZ				IAmb	IAmb	15 19 02.8	
	comp=Z,16nm,0.7s						
MLZ	**Mavora Lakes**	**33.73**	**204**	P	**P**	**15 19 32.3**	**+0.3**
WHZ	**Wether Hill Ro**	**34.24**	**203**	P	**P**	**15 19 36.2**	**-0.1**
ARMA	**Armidale**	**35.38**	**239**	P	**P**	**15 19 45.6**	**-0.9**
CTA	**Charters Tower**	**38.67**	**257**	LR	LR	15 34 08.5	
	comp=Z,9.5nm,18.0s,baz=98,slow=33						
CTAO	**Charters Tower**	**38.67**	**257**	P	**P**	**15 20 13.8**	**-0.7**
PMG	**Port Moresby**	**38.95**	**274**	LR	LR	15 34 50.5	
	comp=Z,80nm,18.1s,baz=104,slow=34						
CAN	**Canberra**	**39.07**	**232**	P	**P**	**15 20 17.2**	**-0.5**
CAN				IAmb	IAmb	15 20 36.3	
	comp=Z,28nm,1.4s						
H11N3	**WAKE ISLAND Hy**	**39.89**	**330**	T	T	16 03 16.6	
	baz=150,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**39.89**	**330**	T	T	16 02 52.4	
	baz=150,slow=76,SNR=17						
H11N2	**WAKE ISLAND Hy**	**39.90**	**330**	T	T	16 03 18.6	
	baz=150,slow=76,SNR=24						
COEN	**Coen**	**42.01**	**266**	P	**P**	**15 20 41.5**	**-0.6**
COEN				IAmb	IAmb	15 20 45.1	
	comp=Z,21nm,0.8s						
STKA	**Stephens Creek**	**44.08**	**240**	P	**P**	**15 20 57.0**	**-1.7**
STKA	**Stephens Creek**	**44.08**	**240**	P	**P**	**15 20 57.1**	**-1.6**
	comp=Z,6.4nm,0.8s,baz=92,slow=11,SNR=9.3						
STKA				LR	LR	15 38 17.0	
	comp=Z,79nm,19.2s,baz=26,slow=35						
	comp=Z,6.4nm,0.8s						
BBOO	**Buckleboo**	**48.85**	**240**	P	**P**	**15 21 34.7**	**-1.4**
WR0	**Warramunga Arr**	**49.68**	**257**	P	**P**	**15 21 40.5**	**-2.2**
WR0				IAmb	IAmb	15 21 41.5	
	comp=Z,5.8nm,0.8s						
WB0	**Warramunga Arr**	**49.83**	**257**	P	**P**	**15 21 43.4**	**-0.4**
WB0				IAmb	IAmb	15 21 44.3	
	comp=Z,15nm,0.9s						
WB2	**Warramunga Arr**	**49.86**	**257**	P	**P**	**15 21 44.0**	**0.0**
WB2				IAmb	IAmb	15 21 44.6	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**49.87**	**257**	P	**P**	**15 21 43.9**	**-0.2**
WRA	**Warramunga Arr**	**49.87**	**257**	P	**P**	**15 21 43.9**	**-0.2**
	comp=Z,6.6nm,0.7s,baz=92,slow=7.2,SNR=67						
WRA				PcP	**PcP**	**15 23 04.9**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=87,slow=3.7,SNR=8.3						
WRA				LR	LR	15 41 07.8	
	comp=Z,124nm,19.9s,baz=303,slow=34						
	comp=Z,6.6nm,0.7s						
AS31	**Alice Springs**	**50.14**	**252**	P	**P**	**15 21 45.3**	**-0.8**
ASAR	**Alice Springs**	**50.14**	**252**	P	**P**	**15 21 46.1**	**-0.1**
	comp=Z,20nm,0.8s,baz=85,slow=8.7,SNR=129						
ASAR				LR	LR	15 41 41.2	
	comp=Z,154nm,20.5s,baz=98,slow=35						
	comp=Z,20nm,0.8s						
GUMO	**Guam**	**50.33**	**303**	LR	LR	15 37 52.0	
	comp=Z,16nm,21.4s,baz=144,slow=30						
FORT	**Forrest**	**55.45**	**243**	P	**P**	**15 22 23.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**58.24**	**258**	P	**P**	**15 22 45.0**	**-0.2**
SBA	**Scott Base**	**63.29**	**185**	P	**P**	**15 23 21.6**	**+3.0**
SBA				IAmb	IAmb	15 23 22.8	
	comp=Z,9.1nm,0.9s						
VNDA	**Vanda**	**63.42**	**186**	P	**P**	**15 23 21.5**	**+2.1**
VNDA				IAmb	IAmb	15 23 22.8	
	comp=Z,7.7nm,1.1s						
VNDA	**Vanda**	**63.42**	**186**	P	**P**	**15 23 21.1**	**+1.7**
	comp=Z,4.0nm,1.0s,baz=10,slow=6.9,SNR=16						
	comp=Z,4.0nm,1.0s						
DAV	**Davao City (W)**	**64.44**	**286**	LR	LR	15 50 45.7	
	comp=Z,25nm,18.1s,baz=156,slow=35						
JHJ	**Hachijo jima 2**	**65.75**	**318**	LR	LR	15 45 34.2	
	comp=Z,18nm,21.6s,baz=62,slow=30						
MJAR	**Matsushiro Arr**	**68.92**	**320**	LR	LR	15 48 35.0	
	comp=Z,35nm,20.3s,baz=158,slow=31						
JOW	**Kunigami**	**70.48**	**306**	LR	LR	15 48 02.8	
	comp=Z,40nm,19.8s,baz=58,slow=30						
JNU	**Nakatsue**	**71.79**	**313**	LR	LR	15 49 09.8	
	comp=Z,24nm,20.2s,baz=178,slow=30						
PFO	**Pinyon Flats O**	**72.88**	**47**	LR	LR	15 48 33.2	
	comp=Z,78nm,19.7s,baz=234,slow=29						
LPIG	**La Paz**	**73.00**	**58**	LR	LR	15 47 27.1	
	comp=Z,70nm,19.5s,baz=234,slow=28						
YBH	**Yreka Blue Hor**	**73.55**	**37**	P	**P**	**15 24 24.9**	**+1.6**
	comp=Z,0.9nm,0.9s,baz=286,slow=7.4,SNR=1.5						
YBH				LR	LR	15 49 09.6	
	comp=Z,45nm,19.8s,baz=230,slow=30						
	comp=Z,0.9nm,0.9s						
NVAR	**Mina Array Bea**	**74.28**	**42**	P	**P**	**15 24 29.4**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=225,slow=11,SNR=3.2						
NVAR				LR	LR	15 49 48.7	
	comp=Z,69nm,21.8s,baz=252,slow=30						
	comp=Z,0.5nm,0.8s						
QSPA	**South Pole Qui**	**74.69**	**180**	P	**P**	**15 24 31.2**	**+1.6**
QSPA	**South Pole Qui**	**74.69**	**180**	P	**P**	**15 24 31.2**	**+1.6**
	comp=Z,20nm,0.8s,baz=27,slow=1.4,SNR=68						
	comp=Z,20nm,0.8s						
KDAK	**Kodiak Island**	**74.88**	**11**	LR	LR	15 50 01.8	
	comp=Z,48nm,21.4s,baz=206,slow=30						
PINE	**Pine Mountain**	**75.85**	**36**	IAmb	IAmb	15 25 02.6	
	comp=Z,6.9nm,1.1s						
KSRS	**Korea Array**	**76.14**	**316**	LR	LR	15 52 19.0	
	comp=Z,10nm,21.8s,baz=95,slow=31						
M14K	**Bethel**	**76.40**	**6**	P	**P**	**15 24 41.1**	**+2.0**
USRK	**Ussuriysk Ar.**	**77.36**	**323**	LR	LR	15 53 17.9	
	comp=Z,34nm,20.4s,baz=138,slow=31						
BBB	**Bella Bella**	**77.84**	**27**	LR	LR	15 50 35.2	
	comp=Z,36nm,20.6s,baz=220,slow=29						
NJ2	**Nanjing**	**80.16**	**307**	*eP*	P	15 24 48.6	-12
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TXAR	**Lajitas Array**	**80.57**	**56**	P	**P**	**15 25 04.5**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=266,slow=3.4,SNR=5.2						
	comp=Z,0.6nm,0.9s						
NEW	**Newport**	**80.66**	**34**	LR	LR	15 52 57.5	
	comp=Z,36nm,20.3s,baz=194,slow=30						
ANMO	**Albuquerque**	**80.76**	**50**	LR	LR	15 52 40.3	
	comp=Z,58nm,20.9s,baz=346,slow=30						
M27K	**Edge Creek, AK**	**81.33**	**14**	IAmb	IAmb	15 25 34.5	
	comp=Z,6.9nm,1.2s						
DLBC	**Dease Lake**	**81.66**	**21**	LR	LR	15 53 05.0	
	comp=Z,32nm,20.4s,baz=95,slow=30						
HDA	**Harding Lake**	**82.06**	**11**	IAmb	IAmb	15 25 12.1	
	comp=Z,4.8nm,0.9s						
CCB	**Clear Creek Bu**	**82.12**	**11**	IAmb	IAmb	15 25 11.8	
	comp=Z,5.2nm,0.8s						
PDAR	**Pinedale Array**	**82.22**	**42**	P	**P**	**15 25 12.4**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=202,slow=3.9,SNR=5.0						
PDAR				LR	LR	15 53 55.2	
	comp=Z,31nm,20.8s,baz=230,slow=30						
	comp=Z,0.8nm,0.9s						
SCRK	**Sand Creek**	**82.27**	**13**	P	**P**	**15 25 11.7**	**+0.4**
ILAR	**Eielson Array**	**82.40**	**11**	P	**P**	**15 25 12.4**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=227,slow=6.6,SNR=11						
ILAR				LR	LR	15 53 55.6	
	comp=Z,25nm,21.4s,baz=199,slow=30						
	comp=Z,0.7nm,0.7s						
J26L	**Joseph Creek**	**82.82**	**13**	IAmb	IAmb	15 25 42.3	
	comp=Z,4.5nm,1.1s						
L29M	**L29M**	**82.89**	**15**	IAmb	IAmb	15 25 42.5	
	comp=Z,7.2nm,1.1s						
PRP	**Porcupine Dome**	**83.33**	**11**	IAmb	IAmb	15 25 18.9	
	comp=Z,6.1nm,1.0s						
CMIG	**Matias Romero**	**83.85**	**70**	LR	LR	15 52 43.9	
	comp=Z,41nm,21.1s,baz=190,slow=28						
BELA	**Belgrano 2**	**84.03**	**172**	IAmb	IAmb	15 25 21.2	
	comp=Z,6.9nm,1.1s						
PMSA	**Palmer Station**	**84.20**	**156**	LR	LR	16 00 26.3	
	comp=Z,32nm,18.0s,baz=148,slow=34						
E22K	**Anaktuvuk Pass**	**84.72**	**8**	IAmb	IAmb	15 25 52.8	
	comp=Z,7.3nm,1.1s						
E21K	**Killik River**	**84.74**	**7**	IAmb	IAmb	15 25 43.5	
	comp=Z,14nm,1.4s						
ABTX	**Abilene, Hawle**	**85.02**	**54**	P	**P**	**15 25 26.3**	**+0.4**
H03S2	**Juan Fernandez**	**85.21**	**124**	T	T	16 59 26.7	
	baz=251,slow=75,SNR=7.4						
BMAR	**Burnt Mountain**	**85.21**	**11**	P	**P**	**15 25 27.8**	**+1.6**
H03S1	**Juan Fernandez**	**85.22**	**124**	T	T	16 59 27.6	
	baz=251,slow=75,SNR=6.6						
H03S3	**Juan Fernandez**	**85.22**	**124**	T	T	16 59 23.3	
	baz=251,slow=75,SNR=6.2						
MAW	**Mawson**	**87.84**	**199**	P	**P**	**15 25 40.2**	**+1.1**
	comp=Z,4.0nm,0.8s,baz=138,slow=9.8,SNR=8.7						
	comp=Z,4.0nm,0.8s						
INK	**Inuvik**	**88.22**	**14**	LR	LR	15 58 02.5	
	comp=Z,28nm,19.6s,baz=164,slow=31						
HHC	**Hu-ho-hao-te**	**89.01**	**313**	*eP*	P	15 25 31.6	-14
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,62nm,4.7s						
YKA	**Yellowknife Ar**	**90.05**	**23**	LR	LR	15 58 27.7	
	comp=Z,31nm,20.7s,baz=63,slow=30						
JTS	**Las Juntas de**	**91.18**	**80**	LR	LR	15 56 16.3	
	comp=Z,37nm,20.9s,baz=239,slow=28						
CD2	**Chengdu**	**91.81**	**301**	*eP*	P	15 25 46.0	-12
ELIB	**Princess Elisa**	**92.18**	**185**	*dP*	**P**	**15 26 00.4**	**+0.9**
	comp=Z,12nm,0.9s						
PZH	**PanZhiHua**	**92.27**	**297**	P

SURR	Surduc	147.01	340	⇓P	PKiKP	15 32 34.2	-1.1
GZR	Gura Zlata	147.11	339	⇓P	PKPab	15 32 33.4	-1.4
BIOA	Bad Ischl, Aus	147.24	351	*e*PKP	PKPdf	15 32 31.2	+0.1
	comp=Z,2.4nm,0.8s						
BZS	Buzias	147.30	340	⇑P	PKPab	15 32 34.6	-0.8
ARSA	Arzberg	147.35	349	*i* PKP	PKiKP	15 32 35.6	-0.4
	comp=Z,1.4nm,0.6s						
LESA	Schwarzleotal	147.63	352	*i* PKP	PKPbc	15 32 34.2	-0.3
	comp=Z,4.8nm,1.3s						
HERR	Herculane	147.68	339	⇓P	PKiKP	15 32 35.8	-0.9
RETA	Reutte	147.78	355	*e*PKP	PKiKP	15 32 35.8	-1.2
	comp=Z,3.8nm,1.1s						
WTTA	Wattenberg	147.92	354	*e*PKP	PKiKP	15 32 36.0	-1.4
	comp=Z,4.2nm,0.8s						
SOKA	Soboth	147.99	349	*i* PKP	PKiKP	15 32 36.2	-1.3
	comp=Z,6.4nm,1.1s						
DAVA	Damuels	148.05	356	*i* PKP	PKiKP	15 32 37.3	-0.4
	comp=Z,9.4nm,1.2s						
OBKA	Obir	148.24	350	*i* PKP	PKPab	15 32 40.3	+1.0
	comp=Z,8.5nm,1.4s						
FETA	Feichten	148.25	355	*i* PKP	PKPbc	15 32 34.6	-1.8
	comp=Z,4.0nm,1.2s						
MYKA	Terra Mystica	148.28	351	*i* PKP	PKiKP	15 32 36.6	-1.4
	comp=Z,3.5nm,0.9s						
ABTA	Abfaltersbach	148.32	352	*i* PKP	PKiKP	15 32 37.0	-1.1
	comp=Z,4.9nm,0.8s						
MMAI	Mount Meron Ar	148.56	309	PKPbc	PKiKP	15 32 39.0	0.0
	comp=Z,3.0nm,0.7s,baz=70,slow=7.2,SNR=4.1						
ESDC	Sonseca Array	154.06	19	PKPab	PKPab	15 33 04.5	+0.9
	comp=Z,0.5nm,0.6s,baz=357,slow=2.8,SNR=4.0						

*ANF **07** 15:37:02.6±0.1,34°.79N×116°.28W,h11km,ML3.6/44,*
Error ellipse: s-maj=0.9km s-min=0.8km az=60.0
*PAS **07** 15:37:03.6±0.8,34°.803N±0°.010×116°.28W±0°.01,*
h3km±1km,ML3.6/316,ML3.3/90(NEIC),Error ellipse:
s-maj=1.6km s-min=1.3km az=128.0
*NEIC **07** 15:37:03.2±0.7,34°.800N±0°.010×116°.28W±0°.01,*
h7km±5km,Error ellipse: s-maj=1.5km s-min=1.4km
az=157.0

ISC 07 15:37:02.7±0.8,34°.81N±0°.01×116°.25W±0°.02,h10km±5km,
n110,σ0ˢ92/147,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEC	Hector,Ludlow	0.07	287		Pg	15 37 05.1	0.0
HEC	Hector,Ludlow	0.07	287	P	Pg	15 37 05.1	0.0
	baz=120,SNR=1000						
HEC				S	Sg	15 37 06.3	-0.5
	baz=120						
DSCC	Desert Studies	0.35	20		Pb	15 37 10.7	-0.5
DSCC					Sb	15 37 15.9	-0.9
GMRC	Granite Mounta	0.49	93		Pb	15 37 13.2	-0.3
GMRC					Sb	15 37 20.0	-0.7
GMRC	Granite Mounta	0.49	93	P	Pb	15 37 13.2	-0.3
	baz=272,SNR=692						
GMRC				S	Sb	15 37 20.1	-0.6
	baz=272						
GTM	Goat Mountain	0.52	190		Pb	15 37 13.2	-0.8
RRX	Edison Barstow	0.62	276		Pb	15 37 14.9	-0.7
RRX					Sb	15 37 23.9	-0.5
RRX	Edison Barstow	0.62	276	P	Pb	15 37 14.9	-0.7
	baz=97,SNR=50						
RRX				S	Sb	15 37 23.4	-1.0
	baz=97						
GSC	Goldstone, Bar	0.67	317	Pg	Pb	15 37 15.9	-0.7
GSC	Goldstone, Bar	0.67	317	P	Pb	15 37 16.1	-0.4
	baz=139,SNR=573						
GSC				S	Sb	15 37 25.3	-0.7
	baz=139						
TUQ	Turquoise Moun	0.68	23		Pb	15 37 16.6	-0.2
TUQ					Sb	15 37 26.3	0.0
TUQ	Turquoise Moun	0.68	23	P	Pb	15 37 16.6	-0.2
	baz=205,SNR=130						
TUQ				S	Sb	15 37 26.3	0.0
	baz=205						
TPC	Twentynine Pal	0.72	167		Pb	15 37 17.3	-0.1
DANC	Danby, Needles	0.74	103		Pb	15 37 18.1	+0.5
BLAC	Blackrock camp	0.75	189		Pb	15 37 17.3	-0.6
BLAC					Sg	15 37 27.3	+0.4
BBRC	Big Bear Solar	0.78	226		Sg	15 37 28.0	+0.1
BBRC	Big Bear Solar	0.78	226	P	Pg	15 37 17.8	0.0
	baz=44,SNR=28						
BBRC				S	Sg	15 37 27.9	0.0
	baz=44						
BELC	Belle Mtn. Jos	0.83	165	P	Pb	15 37 19.3	-0.1
	baz=344,SNR=366						
BELC				S	Sb	15 37 30.4	-0.3
	baz=344						
MTPC	Mountain Pass	0.89	40		Pb	15 37 20.2	0.0
MTPC					Sb	15 37 32.6	+0.3
DEVC	Devers	0.91	197		Pb	15 37 20.5	-0.1
VTV	Victorville	0.92	255		Pg	15 37 20.1	-0.4
VTV					Sg	15 37 32.6	+0.1
ADO	Adelanto Recei	1.01	256		Pb	15 37 22.3	0.0
CSP	Cedar Springs	1.05	241		Pg	15 37 22.4	-0.4
SHOC	Shoshone, Teco	1.09	359		Pb	15 37 23.7	0.0
SHOC	Shoshone, Teco	1.09	359	P	Pb	15 37 23.7	0.0
	baz=180,SNR=127						
SHOC				S	Sb	15 37 38.4	+0.5
	baz=180						
IRM	Iron Mountain	1.12	125		Pg	15 37 23.9	-0.4
IRM	Iron Mountain	1.12	125	P	Pg	15 37 23.9	-0.4
	baz=305,SNR=366						
IRM				S	Sn	15 37 40.1	0.0
	baz=305						
PMD	Palm Desert	1.16	185		Pg	15 37 24.7	-0.4
PMD				IAML		15 37 42.4	
	comp=E,390nm,0.5s						
PFO	Pinyon Flats O	1.21	188		Pg	15 37 25.5	-0.5
PFO				IAML		15 37 42.4	
	comp=E,329nm,0.4s						
PFO	Pinyon Flats O	1.21	188	P	Pg	15 37 25.2	-0.7
	baz=7.1,SNR=147						
PFO				S	Sg	15 37 41.4	-0.2
	baz=7.1						
BFSC	Mount Baldy Ra	1.29	244	Pg	Pg	15 37 26.9	-0.7
BFSC				S	Sg	15 37 43.7	-0.7
	baz=63						
BC3	Big Chuckawall	1.33	150	P	Pn	15 37 26.8	-0.6
	baz=330,SNR=210						
BC3				S	Sb	15 37 45.3	+0.4
	baz=330						
NEE2	Needles Airpor	1.34	91		Pn	15 37 27.3	-0.3
NEE2	Needles Airpor	1.34	91	P	Pn	15 37 27.1	-0.4
	baz=272,SNR=130						
NEE2				Sg	Sn	15 37 47.7	+2.2
	baz=272						
LRMC	Laurel Mtn Rad	1.35	300	P	Pn	15 37 27.3	-0.5
	baz=120,SNR=260						
LRMC				S	Sb	15 37 45.8	+0.2
	baz=120						
GWY	Greenwater Val	1.42	346		Pg	15 37 29.5	-0.4
EDW2	Edwards Air Fo	1.44	273	P	Pn	15 37 28.0	-0.9
	baz=93,SNR=92						
EDW2				S	Sb	15 37 47.3	-0.7
	baz=93						
MURC	Murrieta	1.44	213	Pb	Pn	15 37 29.1	+0.2
	baz=32,SNR=79						
MURC				Sb	Sg	15 37 48.9	-0.1
	baz=32						
V12A	Nelson	1.47	51	Pg	Pb	15 37 29.7	-0.5
V12A				IAML		15 37 52.2	
	comp=N,750nm,0.5s						
CCAC	Calif City Air	1.49	284		Pg	15 37 30.6	-0.8
ELS	Elsinore Mount	1.51	220		Pn	15 37 30.1	+0.1
MPMC	Manual Prospec	1.60	321	P	Pn	15 37 31.0	-0.3
	baz=142,SNR=164						
MPMC				Sb	Sg	15 37 54.2	-0.2
	baz=142						
PASC	Pasadena Art C	1.72	249		Pb	15 37 33.9	-0.5
PASC				IAML		15 37 58.5	
	comp=N,374nm,0.5s						
PASC				IAML		15 37 59.6	
	comp=E,404nm,0.5s						
FURC	Furnace Creek,	1.73	343	Pg	Pg	15 37 36.1	+0.2
	baz=164						
FURC				Sb	Sg	15 37 58.5	+0.2
	baz=164						
BLYC	Blythe	1.78	126	Pn	Pn	15 37 32.8	-0.7
BLYC				IAML		15 38 03.5	
	comp=N,256nm,0.5s						
BLYC				IAML		15 38 06.2	
	comp=E,261nm,0.7s						
DECC	Green Verdugo	1.81	253	Pg	Pg	15 37 36.7	-0.7
	baz=71						
DECC				S	Sn	15 37 56.8	-0.1
	baz=71						
PDMCI	Parker Dam,Lak	1.81	106		Pg	15 37 37.2	-0.3
PDMCI	Parker Dam,Lak	1.81	106	P	Pn	15 37 33.5	-0.5
	baz=286						
PDMCI				Sb	Sg	15 38 00.6	-0.5
	baz=286						
SWSC	Sam W. Stewart	1.90	168	Pb	Pb	15 37 37.2	-0.3
	baz=348						
SWSC				Sg	Sg	15 38 05.4	+1.7
	baz=348						
SHPR	Sheep Range	1.91	27		Pn	15 37 36.0	+0.4
MONP2	Monument Peak	1.92	184	P	Pn	15 37 35.6	0.0
	baz=3.5						
MONP2				Sb	Sg	15 38 03.2	-1.2
	baz=3.5						
W13A	Hualapai Mount	1.96	81		Pn	15 37 36.4	+0.1
W13A				IAML		15 38 08.3	
	comp=E,297nm,0.3s						
W13A				IAML		15 38 08.5	
	comp=N,341nm,0.3s						
WCT	Wildcat Mounta	2.00	351		Pn	15 37 36.8	0.0
WCT				IAML		15 38 09.3	
	comp=N,189nm,0.6s						
WCT				IAML		15 38 09.3	
	comp=E,217nm,0.4s						
ISA	Isabella, Lake	2.01	296	P	Pn	15 37 36.2	-0.5
	baz=115,SNR=97						
ISA				Sb	Sg	15 38 06.3	-1.0
	baz=115						
FMP	Fort Macarthur	2.01	238	Sb	Sb	15 38 05.7	+1.2
	baz=56						
109C	Camp Elliot, M	2.04	201	Pb	Pb	15 37 39.7	-0.2
	baz=20						
109C				Sb	Sb	15 38 06.8	+1.4
	baz=20						
OSI	Osito Audit: C	2.04	265	P	Pn	15 37 36.8	-0.4
	baz=84						
OSI				Sb	Sg	15 38 07.1	-1.4
	baz=84						
GLA	Glamis	2.12	146		Pn	15 37 37.5	-0.7
GLA				IAML		15 38 14.9	
	comp=N,392nm,0.5s						
GLA	Glamis	2.12	146	P	Pn	15 37 37.4	-0.8
	baz=326,SNR=34						
GLA				Sb	Sg	15 38 09.9	-0.8
	baz=326						
TPNV	Topopah Spring	2.14	0	P	Pn	15 37 39.0	+0.4
	baz=181,SNR=65						
TPNV				Sb	Sg	15 38 11.1	-0.3
	baz=181						
ARVC	Arvin	2.14	279	Pg	Pg	15 37 42.7	-1.1
	baz=98						
ARVC				Sb	Sg	15 38 10.0	-1.6
	baz=98						
IKP	In-Ko-Pah, Jac	2.16	177	P	Pn	15 37 38.5	-0.3
	baz=356						
IKP				Sb	Sg	15 38 10.8	-1.2
	baz=356						
YUH	Yuha Desert	2.17	173		Pn	15 37 38.4	-0.6
CWC	Cottonwood Cre	2.21	318	Pg	Pg	15 37 44.7	-0.4
	baz=138						
CWC				Sb	Sg	15 38 12.6	-1.1
	baz=138						
CIS	Catalina Islan	2.28	233	Pb	Pb	15 37 44.0	+0.1
	baz=51						
CIS				Sb	Sb	15 38 13.8	+1.6
	baz=51						
GRAC	Grapevine Rang	2.36	338		Pn	15 37 42.3	+0.7
GRAC	Grapevine Rang	2.36	338	P	Pn	15 37 42.3	+0.7
	baz=158,SNR=13						
GRAC				Sb	Sg	15 38 18.1	-0.6
	baz=158						
VES	Vestal, Richgr	2.54	295	Sb	Sg	15 38 22.6	-1.6
	baz=114						
BCW	Bitter Crk WRg	2.60	274		Pn	15 37 44.0	-1.0
BCW				IAML		15 38 28.2	
	comp=N,254nm,0.7s						
BCW				IAML		15 38 37.3	
	comp=E,248nm,0.8s						
GMN	Gold Mountain	2.62	342		Pn	15 37 46.2	+0.9
GMN				IAML		15 38 29.1	
	comp=E,94nm,0.6s						
GMN				IAML		15 38 33.7	
	comp=N,96nm,0.7s						
SCI2	San Clemente I	2.64	227	Sg	Sg	15 38 28.7	+1.1
	baz=45						
TIN	Tinemaha, Big	2.76	325	Sg	Sg	15 38 33.3	+1.9
	baz=144						
PRN	Pahroc Range	2.77	20	IAML		15 38 44.7	
	comp=N,92nm,0.8s						
PRN				IAML		15 38 44.8	
	comp=E,97nm,1.0s						
Y14A	Wickenburg	2.82	107		Pn	15 37 47.1	-0.9
Y14A				IAML		15 38 35.8	
	comp=E,118nm,0.4s						
Y14A				IAML		15 38 36.5	
	comp=N,106nm,0.2s						
SCZ2	Santa Cruz Isl	2.91	255	S	Sn	15 38 24.0	-0.2
	baz=73						
PKM	Mcpherson Peak	2.93	273	Sg	Sg	15 38 37.5	+0.6
	baz=91						
VOG	Valley Oaks Go	2.96	301	Sg	Sg	15 38 39.9	+1.9
	baz=120						
SNCC	San Nicolas Is	3.13	241	Sg	Sg	15 38 44.9	+1.5
	baz=59						
LCMT	Little Creek M	3.29	47	IAML		15 38 36.1	
	comp=N,51nm,0.5s						
LCMT				IAML		15 38 36.4	
	comp=E,48nm,0.5s						
MLAC	Mammoth, Mammo	3.51	324	Sg	Sg	15 38 57.3	+1.9
	baz=143						
KNB	Kanab	3.55	51	Pn	Pn	15 37 59.5	+1.4
KNB				IAML		15 39 01.2	
	comp=E,66nm,0.9s						
KNB				IAML		15 39 01.3	
	comp=N,67nm,1.0s						
R11B	Troy Canyon, C	3.57	8		Pn	15 37 59.3	+0.9
R11B	Troy Canyon, C	3.57	8	P	Pn	15 37 59.1	+0.7
	baz=189						
R11B				Sb	Sg	15 38 54.7	-2.9
	baz=189						
CCUT	Cedar City	3.60	40	Pn	Pn	15 37 59.4	+0.6
LHV	Little Huntoon	3.88	333		Pn	15 38 04.3	+1.9
LHV				IAML		15 39 13.4	
	comp=N,49nm,1.7s						
LHV				IAML		15 39 14.5	
	comp=E,50nm,1.8s						
NVAR	Mina Array Bea	3.97	336		Pg	15 38 17.8	-1.1
X16A	Lo Mia Camp, P	3.99	94		Pn	15 38 04.4	+0.4
X16A				IAML		15 39 21.7	
	comp=N,23nm,1.1s						
214A	Organ Pipe Nat	4.05	134		Pn	15 38 03.8	-1.0
214A				IAML		15 39 16.7	
	comp=N,24nm,0.3s						
214A				IAML		15 39 18.7	
	comp=E,26nm,0.7s						
214A	Organ Pipe Nat	4.05	134	P	Pn	15 38 03.9	-0.8
	baz=316						
214A				S	Sn	15 38 51.3	-0.9
	baz=316						
WUAZ	Wupatki	4.06	79		Pn	15 38 05.7	+0.7
WUAZ				IAML		15 39 14.9	
	comp=E,71nm,0.5s						
WUAZ	Wupatki	4.06	79	P	Pn	15 38 06.0	+1.0
	baz=261						
PSUT	Pine Spring	4.19	27	IAML		15 39 24.8	
	comp=E,34nm,0.8s						
PSUT				IAML		15 39 28.4	
	comp=N,23nm,1.2s						
SPR3	Spring Creek 3	4.46	20		Pn	15 38 10.5	-0.2
SPR3				IAML		15 39 32.4	
	comp=N,16nm,1.6s						
SPR3				IAML		15 39 39.8	
	comp=E,15nm,1.9s						
KVN	Kaiserville	4.49	341		Pn	15 38 12.1	+1.2
WAKR	Walker	4.49	326		Pg	15 38 26.5	-2.2
WAKR				IAML		15 39 33.5	
	comp=E,16nm,2.4s						
MSU	Marysvale	4.94	40		Pg	15 38 35.0	-2.3
TUC	Tucson	5.20	117		Pn	15 38 20.6	-0.1
TUC				IAML		15 39 57.8	
	comp=E,8.6nm,0.9s						
TUC	Tucson	5.20	117	P	Pn	15 38 20.5	-0.1
	baz=300						
X18A	Snowflake	5.20	91	Pn	Pn	15 38 21.5	+0.8
W18A	Petrified Fore	5.36	85	Pn	Pn	15 38 25.3	+2.3
W18A				IAML		15 39 57.2	
	comp=E,26nm,1.1s						
NADM	Allendale	5.87	310		Pb	15 38 46.8	+1.7
MCCM	Marconi Confer	6.29	304	Pn	Pb	15 38 45.1	-7.3
319A	Douglas	6.78	118	Pn	Pn	15 38 42.2	-0.1
121A	Cookes Peak, D	7.41	105	Pn	Pn	15 38 51.5	+0.4
121A	Cookes Peak, D	7.41	105	P	Pn	15 38 52.1	+0.9
	baz=290						
O02D	Mt. Diablo Mer	7.46	318	Pn	Pn	15 38 52.5	+0.8
KCPM	Cahto Peak	7.61	312	Pn	Pn	15 38 53.0	-0.7
KMRM	Mail Ridge	8.02	315	Pn	Pn	15 39 02.3	+3.0
TX31	Lajitas Ar. Si	11.98	114		Pn	15 39 54.6	+0.9
TXAR	Lajitas Array	11.98	114	Pn	Pn	15 39 55.1	+1.4

IDC 07 15:52:22.1±3.3,4°.12S×134°.59E,h0km,mb3.3/1,
mbtmp3.2/3,ML3.3/2,MS3.5/1,Error ellipse:
s-maj=148.4km s-min=33.6km az=78.0,Irian Jaya
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	13.54	113	LR	LR	16 03 02.0	
	comp=Z,182nm,18.6s,baz=258,slow=47						
WRA	Warramunga Arr	15.73	181	Pn	Pn	15 56 03.8	-1.5
	0.1nm,0.3s,baz=0.4,slow=12,SNR=5.5						
WRA				Sn	Sn	15 58 44.1	-16
	0.2nm,0.3s,baz=358,slow=23,SNR=6.5						
	0.2nm,0.4s						
ASAR	Alice Springs	19.45	182	P	P	15 56 51.0	+0.5
	0.2nm,0.3s,baz=4.9,slow=9.4,SNR=5.7						
	0.4nm,0.5s						
MKAR	Makanchi Array	68.45	324	P	P	16 03 26.2	+0.1
	0.2nm,0.5s,baz=114,slow=8.1,SNR=2.0						
	0.2nm,0.5s						

*IDC **07** 15:58:01.0±1.2,6°.19S×143°.70E,h0km,mb3.9/3,*
mbtmp4.0/5,ML1.8/1,MS3.3/2,Error ellipse: s-maj=40.9km
s-min=25.5km az=61.0

ISC 07 15:58:04.7±1.1,6°.7S±0°.1×143°.2E±0°.1,h35km,n8,σ1ˢ14/7,
mb4.0/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.73	125	Pn	Pn	15 59 13.4	-0.1
	2.9nm,0.3s,baz=28,slow=3.3,SNR=10						
PMG				Sn	Sn	16 00 07.8	+0.6
	3.7nm,0.3s,baz=223,slow=21,SNR=6.4						
	13nm,0.5s						
WRA	Warramunga Arr	15.75	212	Pn	P	16 01 47.3	-0.3
	0.5nm,0.3s,baz=30,slow=13,SNR=12						
WRA				Sn	Sn	16 04 37.4	-0.2
	0.1nm,0.3s,baz=30,slow=23,SNR=2.6						
WRA				Lg	Lg	16 06 38.4	
	0.1nm,0.3s,baz=36,slow=26,SNR=4.8						
ASAR	Alice Springs	19.11	207	P	Pn	16 02 32.8	+7.0
	6.5nm,0.6s,baz=33,slow=10,SNR=75						
MJAR	Matsushiro Arr	43.26	354	LR	LR	16 21 31.8	
	comp=Z,20nm,20.2s,baz=170,slow=33						
URZ	Urewera	43.90	141	LR	LR	16 26 48.0	
	comp=Z,55nm,18.3s,baz=4.0,slow=39						
MKAR	Makanchi Array	75.68	322	P	P	16 09 48.1	+1.6
	1.0nm,0.5s,baz=108,slow=7.3,SNR=11						
	1.0nm,0.5s						
KURBB	Kurchatov Arra	79.57	324	P	P	16 10 08.5	+0.5
	0.2nm,0.5s,baz=113,slow=4.4,SNR=1.8						
	0.2nm,0.5s						
ILAR	Eielson Array	87.60	24	P	P	16 10 47.6	-1.3
	0.7nm,0.5s,baz=262,slow=4.5,SNR=8.9						
	0.7nm,0.5s						

*IDC **07** 16:03:02.7±0.8,49°.67S×125°.87E,h0km,mb4.2/6,*
mbtmp4.2/6,MS3.6/10,Error ellipse: s-maj=54.3km
s-min=17.8km az=94.0
*NEIC **07** 16:03:03.4±2.7,49°.59S±0°.07×126°.3E±0°.4,h10km±1km,*
mb4.5/11,Error ellipse: s-maj=39.7km s-min=11.9km
az=269.0

ISC 07 16:03:03.4±0.6,49°.64S±0°.08×126°.4E±0°.2,h10km,n37,
σ1ˢ20/27,mb4.4/11,MS3.5/10,2C,Western
Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	17.27	324	T	T	16 24 35.1	
	baz=152,slow=74,SNR=79						
H01W2	Cape Leeuwin H	17.28	324	T	T	16 24 34.5	
	baz=152,slow=74,SNR=60						
H01W3	Cape Leeuwin H	17.29	324	T	T	16 24 39.7	
	baz=152,slow=74,SNR=77						
NWAO	Narrogin (SRO)	18.05	334	P	P	16 07 16.5	+1.8
	4.4nm,0.6s,baz=231,slow=5.7,SNR=1.9						
NWAO				LR	LR	16 12 19.1	
	comp=Z,313nm,18.3s,baz=54,slow=31						
CASY	Casey	18.59	200	P	Pn	16 07 20.9	+0.3
FORT	Forrest	18.88	4	P	P	16 07 22.4	-1.4
FORT				IAmb	IAmb	16 07 39.2	
	comp=Z,48nm,1.1s						
STKA	Stephens Creek	21.07	38	LR	LR	16 14 28.0	
	comp=Z,102nm,19.2s,baz=210,slow=32						
ASAR	Alice Springs	26.58	15	P	P	16 08 40.4	-1.3
ASAR	Alice Springs	26.58	15	P	P	16 08 43.6	+1.9
	comp=Z,3.5nm,0.6s,baz=189,slow=9.7,SNR=10						
ASAR				LR	LR	16 17 51.8	
	comp=Z,111nm,21.2s,baz=182,slow=33						
	comp=Z,3.5nm,0.6s						
AS31	Alice Springs	26.59	15	P	P	16 08 42.0	+0.2
ARMA	Armidale	27.02	54	P	P	16 08 45.6	0.0
WRA	Warramunga Arr	30.30	15	P	P	16 09 16.1	+1.2
	comp=Z,1.3nm,0.9s,baz=196,slow=8.3,SNR=3.2						
	comp=Z,1.3nm,0.9s						
WR0	Warramunga Arr	30.32	15	P	P	16 09 13.1	-1.9
WR0				IAmb	IAmb	16 09 28.5	
	comp=Z,9.9nm,1.2s						
VNDA	Vanda	31.03	166	P	P	16 09 22.1	+1.3
VNDA				IAmb	IAmb	16 09 30.7	
	comp=Z,7.1nm,1.1s						
VNDA	Vanda	31.03	166	P	P	16 09 21.8	+1.0
	comp=Z,3.4nm,0.8s,baz=317,slow=9.3,SNR=17						
VNDA				LR	LR	16 20 39.4	
	comp=Z,147nm,20.5s,baz=324,slow=34						
	comp=Z,3.4nm,0.8s						
SBA	Scott Base	32.05	165	P	P	16 09 27.9	-1.9
SBA				IAmb	IAmb	16 09 34.5	
	comp=Z,5.3nm,1.1s						
CTA	Charters Tower	33.47	35	LR	LR	16 22 31.7	
	comp=Z,4.7nm,20.3s,baz=246,slow=35						
QSPA	South Pole Qui	40.48	180	P	P	16 10 42.5	+0.4
QSPA				IAmb	IAmb	16 10 51.6	
	comp=Z,21nm,1.2s						
QSPA	South Pole Qui	40.48	180	P	P	16 10 42.1	0.0
	comp=Z,5.5nm,1.1s,baz=328,slow=6.9,SNR=7.7						
QSPA				PcP	PcP	16 12 45.3	+0.9
	comp=Z,3.4nm,1.0s,baz=274,slow=2.7,SNR=5.1						
QSPA				LR	LR	16 26 47.3	
	comp=Z,78nm,18.0s,baz=341,slow=35						
	comp=Z,5.5nm,1.1s						
PMG	Port Moresby	43.67	30	LR	LR	16 29 35.7	
	comp=Z,62nm,18.5s,baz=158,slow=36						
KAPI	Kappang	44.83	351	LR	LR	16 30 02.8	
	comp=Z,43nm,19.1s,baz=354,slow=36						
BELA	Belgrano 2	52.21	185	P	P	16 12 12.8	-1.1
BELA				IAmb	IAmb	16 12 22.7	
	comp=Z,13nm,1.3s						
SBUM	Sibu	53.32	342	P	P	16 12 21.5	-1.1
SBUM				IAmb	IAmb	16 12 33.5	
	comp=Z,3.9nm,0.9s						
SNAA	Sanae	53.80	198	P	P	16 12 24.4	-1.3
SNAA	Sanae	53.80	198	⇑P	P	16 12 25.6	0.0
	comp=Z,165nm,1.0s						
SNAA	Sanae	53.80	198	P	P	16 12 25.7	0.0
	comp=Z,7.8nm,1.1s,baz=151,slow=8.1,SNR=9.5						
SNAA				LR	LR	16 33 35.7	
	comp=Z,62nm,21.1s,baz=134,

PALK	**Pallekele**	**69.22 311**	LR	LR	16 40 31.4		
	comp=Z,25nm,18.3s,baz=242,slow=33						
CMAR	**Chiang Mai Arr**	**72.04 333**	P	**P**	**16 14 27.5**	**0.0**	
	comp=Z,0.5nm,0.9s,baz=193,slow=4.4,SNR=4.1						
CMAR			LR	LR	16 45 04.5		
	comp=Z,26nm,19.8s,baz=170,slow=35						
	comp=Z,0.5nm,0.9s						
ILAR	**Eielson Array**	**132.10 35**	PKP	**PKPdf**	**16 22 16.5**	**+0.5**	
	comp=Z,0.4nm,0.8s,baz=336,slow=2.0,SNR=3.1						
NVAR	**Mina Array Bea**	**133.50 78**	PKP	**PKiKP**	**16 22 22.8**	**+1.8**	
	comp=Z,0.3nm,0.7s,baz=152,slow=4.0,SNR=1.9						
TXAR	**Lajitas Array**	**137.27 99**	PKP	**PKPdf**	**16 22 26.1**	**-0.8**	
	comp=Z,0.3nm,0.8s,baz=205,slow=4.0,SNR=2.4						
YKA	**Yellowknife Ar**	**145.00 45**	PKPbc	**PKPdf**	**16 22 41.1**	**+1.6**	
	comp=Z,3.6nm,1.0s,baz=266,slow=2.5,SNR=6.7						
EKA	**Eskdalemuir Ar**	**149.35 300**	PKPbc	**PKPbc**	**16 22 51.1**	**-0.3**	
	comp=Z,1.5nm,0.7s,baz=126,slow=2.2,SNR=8.4						

KRSC 07 16:35:58.1±0.7, 55°.07N×162°.44E, h43km±1.4km, MI3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.66**	**219**	*eP*	Pn	16 36 11.9	+0.9
MKZ				*eS*	Sn	16 36 20.9	+0.7
KBTR	**Krutoberegovo**	**1.17**	**11**	*eP*	Pn	16 36 19.4	+1.4
KBTR				*eS*	Sn	16 36 34.8	+2.2
KBG	**Krutoberegovo**	**1.20**	**7**	*eP*	Pn	16 36 20.1	+1.6
KBG				*eS*	Sn	16 36 35.1	+1.6
BZGR	**Bezymyannyi-Gr**	**1.32**	**312**	*eP*	Pn	16 36 22.0	+1.8
BZGR				*eS*	Sn	16 36 38.6	+1.9
ZLN	**Zelenaya**	**1.33**	**316**	*eP*	Pn	16 36 22.1	+1.8
ZLN				*eS*	Sn	16 36 39.1	+2.3
TUMR	**Tumrok**	**1.33**	**280**	*eP*	Pn	16 36 22.3	+2.0
TUMR				*eS*	Sn	16 36 39.8	+2.8
BZP	**Bezymyannyi-Pe**	**1.37**	**309**	*eP*	Pn	16 36 22.2	+1.2
BZP				*eS*	Sn	16 36 38.6	+0.6
BZMR	**Bezymyannaya**	**1.41**	**309**	*eP*	Pn	16 36 22.7	+1.3
BZMR				*eS*	Sn	16 36 40.2	+1.3
LGNR	**Loginova**	**1.42**	**316**	*eP*	Pn	16 36 23.7	+2.0
LGNR				*eS*	Sn	16 36 41.5	+2.1
CIRR	**Tsirk**	**1.42**	**318**	*eP*	Pn	16 36 23.2	+1.6
CIRR				*eS*	Sn	16 36 40.5	+1.3
BZWR	**Bezymyannyi-We**	**1.43**	**310**	*eP*	Pn	16 36 23.1	+1.5
BZWR				*eS*	Sn	16 36 40.5	+1.3
KMNR	**Kamenistaya**	**1.43**	**300**	*eP*	Pn	16 36 23.6	+1.9
KMNR				*eS*	Sn	16 36 41.2	+1.8
KIRR	**Kirishev**	**1.49**	**308**	*eP*	Pn	16 36 24.4	+1.9
KPT	**Kopyto**	**1.55**	**307**	*eP*	Pn	16 36 25.3	+2.0
KRSR	**Krestovskiy**	**1.57**	**318**	*eP*	Pn	16 36 25.2	+1.6
KLY	**Klyuchi**	**1.61**	**322**	*eP*	Pn	16 36 24.5	+0.6
KLY				*eS*	Sn	16 36 43.4	-0.1
KOZ	**Kozyrevsk**	**1.76**	**305**	*eP*	Pn	16 36 28.3	+2.1
SRDR	**Sredinnyy**	**1.99**	**310**	*eP*	Pn	16 36 31.2	+2.0
BKI	**Bering**	**2.03**	**85**	*eS*	Sn	16 36 55.2	+1.2
ESO	**Esso**	**2.29**	**294**	*eP*	Pn	16 36 34.7	+1.3
SPN	**Mys Shipunski**	**2.43**	**217**	*eP*	Pn	16 36 37.6	+2.3
NLC	**Nalytchevo**	**2.63**	**225**	*eS*	Sn	16 37 12.1	+3.5
KRER	**Koryakskii**	**2.79**	**232**	*eP*	Pn	16 36 44.4	+3.9
KRER				*eS*	Sn	16 37 16.7	+3.7
SMAR	**Somma**	**2.80**	**231**	*eP*	Pn	16 36 43.7	+3.2
SMAR				*eS*	Sn	16 37 16.7	+3.6
KRX	**Arik**	**2.81**	**234**	*eP*	Pn	16 36 44.4	+3.8
KRX				*eS*	Sn	16 37 17.8	+4.6
UGLR	**Uglovaya**	**2.83**	**230**	*eP*	Pn	16 36 44.1	+3.3
UGLR				*eS*	Sn	16 37 16.7	+3.1
AVH	**Avacha**	**2.83**	**232**	*eP*	Pn	16 36 44.4	+3.6
AVH				*eS*	Sn	16 37 18.1	+4.5
KOK	**Koryaka**	**2.85**	**233**	*eP*	Pn	16 36 44.5	+3.3
KOK				*eS*	Sn	16 37 16.7	+2.3
GNL	**Ganaly**	**2.97**	**244**	*eP*	Pn	16 36 46.1	+3.4
DALK	**Dalny**	**2.98**	**228**	*eP*	Pn	16 36 46.1	+3.3
DALK				*eS*	Sn	16 37 19.8	+2.6
PET	**Petropavlovsk**	**3.03**	**229**	*eP*	Pn	16 36 46.5	+3.1
PET				*eS*	Sn	16 37 22.1	+3.7
KRMR	**Karymshinskiy**	**3.39**	**230**	*eS*	Sn	16 37 51.6	+4.3
GRL	**Gorelyy**	**3.61**	**228**	*eP*	Pn	16 36 53	+4.7
GRL				*eS*	Sn	16 37 38.4	+5.4
MTVR	**Mutnovka**	**3.62**	**226**	*eP*	Pn	16 36 56.1	+4.4
ASAK	**Asacha**	**3.81**	**227**	*eP*	Pn	16 36 59.0	+4.8
KDTR	**Khodutka, Kamc**	**4.18**	**220**	*eS*	Sn	16 37 49.3	+2.6

*JMA **07** 17:01:58.8±0.5, 30°.N±4°.×13°.9E±°, h493km, MV3.5/17, NEAR TORISHIMA IS*
*IDC **07** 17:02:03.3±0.9, 30°.41N×138°.54E, h441km±13km, mb3.0/8, mbtmp3.8/12, Error ellipse: s-maj=38.6km s-min=13.5km az=78.0*
ISC 07 17:02:02.7±0.9, **30°.35N**±0°.09×**138°.7E**±0°.1, **h440**km, **n21**, σ1§34/23, **mb3.4/8, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.91**	**18**	P	**P**	**17 03 10.1**	**+1.9**
	20nm,0.3s,baz=340,slow=20,SNR=12						
JHJ				S	**S**	**17 04 02.0**	**+0.5**
	29nm,0.2s,baz=285,slow=22,SNR=6.2						
JHJ2	**Mitsune**	**2.91**	**19**	*eP*	**P**	**17 03 10.7**	**+2.5**
JTNC	**Tanabenakahech**	**4.35**	**324**	*eP*	**P**	**17 03 21.5**	**+1.2**
JIE	**Ise**	**4.37**	**338**	*eP*	**P**	**17 03 22.4**	**+1.9**
CBIJ	**Chichi jima**	**4.45**	**136**	*eS*	**S**	**17 04 23.5**	**-1.9**
JWY	**Kouya**	**4.67**	**326**	*eP*	**P**	**17 03 25.1**	**+1.6**
JTO	**Tosashimizu**	**5.63**	**298**	*eP*	**P**	**17 03 33.6**	**+0.8**
JRY	**Ryogami san**	**5.65**	**2**	*eP*	**P**	**17 03 33.6**	**+0.6**
JRY				*eS*	**S**	**17 04 44.4**	**-2.5**
MJAR	**Matsushiro Arr**	**6.19**	**356**	P	**P**	**17 03 38.4**	**-0.1**
	3.9nm,0.4s,baz=170,slow=11,SNR=12						
JHS	**Saijyo**	**6.61**	**316**	*eP*	**P**	**17 03 43.8**	**+0.7**
JMK	**Ichinoseki**	**8.83**	**13**	*eP*	**P**	**17 04 08.7**	**+1.8**
KSRS	**Korea Array**	**11.42**	**311**	P	**P**	**17 04 34.4**	**-0.8**
	0.7nm,0.5s,baz=128,slow=9.7,SNR=4.7						
USRK	**Ussuriysk Ar.**	**14.82**	**341**	P	**P**	**17 05 12.2**	**+0.3**
	1.8nm,0.6s,baz=154,slow=8.0,SNR=9.3						
MKAR	**Makanchi Array**	**46.07**	**307**	P	**P**	**17 09 44.5**	**-0.9**
	0.4nm,0.8s,baz=86,slow=8.8,SNR=2.8						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**48.60**	**313**	P	**P**	**17 10 03.6**	**-0.8**
	1.6nm,0.3s,baz=99,slow=7.5,SNR=3.8						
	1.6nm,0.3s						
WRA	**Warramunga Arr**	**50.18**	**185**	P	**P**	**17 10 17.1**	**+0.5**
	0.4nm,0.5s,baz=1.2,slow=7.7,SNR=9.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**53.91**	**185**	P	**P**	**17 10 44.4**	**+0.9**
	0.3nm,0.6s,baz=355,slow=4.5,SNR=6.4						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**69.46**	**340**	P	**P**	**17 12 25.2**	**+0.1**
	0.5nm,0.4s,baz=66,slow=9.4,SNR=9.8						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**73.68**	**332**	P	**P**	**17 12 49.8**	**-0.2**
	0.6nm,0.4s,baz=79,slow=6.1,SNR=10						
	0.6nm,0.4s						
HFS	**Hagfors**	**79.22**	**335**	P	**P**	**17 13 20.3**	**-0.4**
	0.7nm,0.4s,baz=79,slow=5.4,SNR=12						
	0.7nm,0.4s						
NOA	**NORSAR Array B**	**79.45**	**337**	P	**P**	**17 13 21.7**	**-0.3**
	0.4nm,0.5s,baz=44,slow=5.4,SNR=3.1						
	0.4nm,0.5s						

KRSC 07 17:14:04.0±1.4, 54°.71N×163°.86E, h59km±27km, MI3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.25**	**264**	*eP*	Pn	17 14 26.8	+1.7
MKZ				*eS*	Sn	17 14 41.9	+0.9
BKI	**Bering**	**1.32**	**67**	*eS*	Sn	17 14 44.5	+1.8
KBTR	**Krutoberegovo**	**1.62**	**339**	*eP*	Pn	17 14 30.8	+0.7
KBTR				*eS*	Sn	17 14 49.5	-0.4
KBG	**Krutoberegovo**	**1.68**	**338**	*eP*	Pn	17 14 31.8	+0.7
KBG				*eS*	Sn	17 14 53.0	+1.5
TUMD	**Tumrok D**	**2.05**	**285**	*eP*	Pn	17 14 38.8	+2.7
BZGR	**Bezymyannyi-Gr**	**2.19**	**306**	*eP*	Pn	17 14 41.3	+3.3
BZGR				*eS*	Sn	17 15 07.5	+3.5
TUMR	**Tumrok**	**2.21**	**287**	*eP*	Pn	17 14 41.5	+3.1
BZP	**Bezymyannyi-Pe**	**2.25**	**304**	*eP*	Pn	17 14 41.7	+2.8
LGNR	**Loginova**	**2.27**	**309**	*eP*	Pn	17 14 43.5	+4.2
BZMR	**Bezymyannaya**	**2.28**	**304**	*eP*	Pn	17 14 42.5	+3.1
BZMR				*eS*	Sn	17 15 10.1	+3.7
BZWR	**Bezymyannyi-We**	**2.29**	**305**	*eP*	Pn	17 14 42.8	+3.2
BZWR				*eS*	Sn	17 15 10.6	+3.9
KMNR	**Kamenistaya**	**2.32**	**298**	*eP*	Pn	17 14 42.9	+3.0
KMNR				*eS*	Sn	17 15 11.8	+4.4
KIRR	**Kirishev**	**2.36**	**303**	*eP*	Pn	17 14 43.9	+3.4
KIRR				*eS*	Sn	17 15 12.3	+3.9
KRSR	**Krestovskiy**	**2.41**	**310**	*eP*	Pn	17 14 43.8	+2.8
KRSR				*eS*	Sn	17 15 12.2	+2.8
KPT	**Kopyto**	**2.43**	**303**	*eP*	Pn	17 14 44.7	+3.4
KPT				*eS*	Sn	17 15 13.6	+3.7
KLY	**Klyuchi**	**2.43**	**313**	*eP*	Pn	17 14 42.9	+1.7
KLY				*eS*	Sn	17 15 11.2	+1.4
KOZ	**Kozyrevsk**	**2.64**	**302**	*eP*	Pn	17 14 47.9	+3.7
KII	**Karymskiy**	**2.66**	**257**	*eP*	Pn	17 14 48.1	+3.6
SPN	**Mys Shipunski**	**2.78**	**236**	*eS*	Sn	17 15 18.8	+0.4
SRDR	**Sredinnyy**	**2.85**	**306**	*eP*	Pn	17 14 50.4	+3.3
SRDR				*eS*	Sn	17 15 23.1	+2.9
NLC	**Nalytchevo**	**3.08**	**242**	*eS*	Sn	17 15 27.0	+1.4
ESO	**Esso**	**3.19**	**295**	*eP*	Pn	17 14 54.3	+2.7
ESO				*eS*	Sn	17 15 30.5	+2.1
SMAR	**Somma**	**3.32**	**246**	*eP*	Pn	17 14 57.1	+3.6
SMAR				*eS*	Sn	17 15 33.9	+2.1
KRER	**Koryakskii**	**3.33**	**247**	*eP*	Pn	17 14 57.0	+3.4
KRER				*eS*	Sn	17 15 34.5	+2.5
UGLR	**Uglovaya**	**3.33**	**245**	*eP*	Pn	17 14 57.6	+3.9
UGLR				*eS*	Sn	17 15 34.7	+2.7
AVH	**Avacha**	**3.35**	**247**	*eP*	Pn	17 14 57.9	+4.1
AVH				*eS*	Sn	17 15 35.2	+2.8
KRX	**Arik**	**3.35**	**248**	*eP*	Pn	17 14 57.1	+3.1
KRX				*eS*	Sn	17 15 35.6	+3.0
KOK	**Koryaka**	**3.39**	**247**	*eP*	Pn	17 14 58.2	+3.7
KOK				*eS*	Sn	17 15 36.0	+2.5
DALK	**Dalny**	**3.46**	**243**	*eP*	Pn	17 14 58.5	+3.3
DALK				*eS*	Sn	17 15 36.9	+2.0
PET	**Petropavlovsk**	**3.51**	**243**	*eP*	Pn	17 14 59.5	+3.5
GNL	**Ganaly**	**3.62**	**256**	*eP*	Pn	17 15 01.7	+4.1
KRMR	**Karymshinskiy**	**3.88**	**243**	*eS*	Sn	17 15 48.3	+3.0
MTVR	**Mutnovka**	**4.05**	**239**	*eP*	Pn	17 15 07.1	+3.6
MTVR				*eS*	Sn	17 15 50.8	+1.1
GRL	**Gorelyy**	**4.06**	**240**	*eP*	Pn	17 15 08.0	+4.3
ASAK	**Asacha**	**4.25**	**239**	*eP*	Pn	17 15 10.2	+4.1
KDTR	**Khodutka, Kamc**	**4.52**	**232**	*eP*	Pn	17 15 11.6	+1.8
OSSR	**Ossora**	**4.58**	**355**	*eP*	Pn	17 15 12.9	+2.3

*RSNC **07** 17:30:04.7±0.0, 7°.N±1°.×7°.3W±°, h152km±2km, M3.1, mb3.5, ML3.1*
*IDC **07** 17:30:08.6±6.7, 6°.50N×75°.43W, h157km±165km, Error ellipse: s-maj=900.7km s-min=91.3km az=64.0*
ISC 07 17:30:04.1±1.1, **6°.86N**±0°.03×**73°.16W**±0°.04, **h148**km±8km, **n33**, σ1§30/60, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.66**	**44**	P	**Pn**	**17 30 27.2**	**+0.5**
PAMC				S	**Sn**	**17 30 44.4**	**+0.5**
PTBC	**PUERTO BERRIO,**	**1.33**	**256**	P	**Pn**	**17 30 30.7**	**-1.1**
PTBC				S	**Sn**	**17 30 52.0**	**-0.9**
OCAC	**Ocana**	**1.38**	**353**	P	**Pn**	**17 30 32.7**	**+0.2**
OCAC				S	**Sn**	**17 30 54.4**	**+0.2**
TAMC	**Tame, Arauca**	**1.42**	**107**	P	**Pn**	**17 30 32.8**	**+0.1**
TAMC				S	**Sn**	**17 30 54.6**	**0.0**
SPBC	**San Pablo de B**	**1.50**	**217**	P	**Pn**	**17 30 33.1**	**-0.6**
SPBC				S	**Sn**	**17 30 55.6**	**-0.7**
ZARC	**Zaragoza, Cauc**	**1.80**	**291**	P	**Pn**	**17 30 36.8**	**0.0**
ZARC				S	**Sn**	**17 31 02.4**	**+0.5**
NORC	**Norcasia**	**2.13**	**233**	P	**Pn**	**17 30 40.3**	**-0.5**
NORC				S	**Sn**	**17 31 08.7**	**-0.2**
CHIC	**Chingaza**	**2.29**	**195**	P	**Pn**	**17 30 42.6**	**-0.4**
CHIC				S	**Sn**	**17 31 11.9**	**-1.0**
ROSC	**El Rosal**	**2.31**	**210**	P	**Pn**	**17 30 44.4**	**+1.1**
	65nm,0.3s,baz=124,slow=21,SNR=73						
ROSC				S	**Sn**	**17 31 12.1**	**-1.3**
	129nm,0.3s,baz=151,slow=21,SNR=8.2						
ROSC	**El Rosal**	**2.31**	**210**	P	**Pn**	**17 30 44.1**	**+0.8**
ROSC				S	**Sn**	**17 31 14.0**	**+0.6**
CVER	**Cruz Verde, Cu**	**2.50**	**201**	P	**Pn**	**17 30 45.9**	**+0.3**
CVER				S	**Sn**	**17 31 18.4**	**+0.9**
UREC	**San Jos de Ur**	**2.52**	**291**	P	**Pn**	**17 30 44.1**	**-1.3**
UREC				S	**Sn**	**17 31 15.5**	**-1.7**
GUY2C	**Guyana, Caldas**	**2.73**	**234**	P	**Pn**	**17 30 48.6**	**+0.1**
GUY2C				S	**Sn**	**17 31 22.9**	**+0.3**
VILC	**Villavicencio,**	**2.78**	**191**	P	**Pn**	**17 30 47.8**	**-1.0**
VILC				S	**Sn**	**17 31 21.9**	**-1.4**
PTGC	**Puerto Gaitan,**	**2.83**	**159**	P	**Pn**	**17 30 47.6**	**-1.7**
PTGC				S	**Sn**	**17 31 20.8**	**-3.5**
DBBC	**Dabeiba**	**3.03**	**273**	P	**Pn**	**17 30 51.8**	**-0.1**
DBBC				S	**Sn**	**17 31 27.6**	**-1.3**
ARGC	**Ariguani, Magd**	**3.17**	**340**	P	**Pn**	**17 30 54.4**	**+0.8**
ARGC				S	**Sn**	**17 31 34.8**	**+2.9**
SDV	**Santo Domingo**	**3.21**	**51**	P	**Pn**	**17 30 54.0**	**-0.3**
SDV				S	**Sn**	**17 31 31.6**	**-1.5**
ANIL	**Santa Ana**	**3.25**	**224**	P	**Pn**	**17 30 55.9**	**+1.1**
ANIL				S	**Sn**	**17 31 35.3**	**+1.2**
APAC	**Apartado, Choc**	**3.55**	**287**	P	**Pn**	**17 30 58.1**	**-0.4**
APAC				S	**Sn**	**17 31 40.2**	**-0.4**
PRAC	**Prado**	**3.57**	**209**	P	**Pn**	**17 30 58.4**	**-0.4**
PRAC				S	**Sn**	**17 31 39.7**	**-1.5**
ORTC	**Ortega, Tolima**	**3.59**	**215**	P	**Pn**	**17 30 58.8**	**-0.3**
ORTC				S	**Sn**	**17 31 41.8**	**+0.1**
SJCC	**San Jacinto, C**	**3.62**	**327**	P	**Pn**	**17 30 58.1**	**-1.4**
SJCC				S	**Sn**	**17 31 40.5**	**-1.9**
PLMC	**San Jos del P**	**3.67**	**238**	P	**Pn**	**17 31 00.3**	**+0.2**
PLMC				S	**Sn**	**17 31 43.6**	**+0.2**
CRJC	**Cerrejon, Guaj**	**4.14**	**4**	P	**Pn**	**17 31 05.1**	**-1.2**
CRJC				S	**Sn**	**17 31 52.5**	**-2.2**
YOTC	**Yotoco, Valle**	**4.27**	**228**	P	**Pn**	**17 31 08.0**	**0.0**
YOTC				S	**Sn**	**17 31 56.7**	**-1.0**
CAPC	**Capurgana**	**4.51**	**293**	P	**Pn**	**17 31 10.3**	**-0.8**
CAPC				S	**Sn**	**17 31 59.4**	**-3.9**
PTAC	**Punta Ardita,**	**4.63**	**274**	P	**Pn**	**17 31 11.3**	**-1.3**
JAMC	**Jamundi, Valle**	**5.04**	**224**	P	**Pn**	**17 31 19.6**	**+1.3**
	4.9nm,0.5s						
GARC	**Garzon, Huila**	**5.19**	**207**	P	**Pn**	**17 31 18.6**	**-1.8**
POPC	**Popayan, Colom**	**5.54**	**219**	P	**Pn**	**17 31 25.3**	**+0.3**
ASAR	**Alice Springs**	**149.10**	**234**	PKPbc	**PKPdf**	**17 49 33.1**	**+1.5**
	0.4nm,0.7s,baz=107,slow=3.6,SNR=6.0						
WRA	**Warramunga Arr**	**150.32**	**241**	PKPbc	**PKPdf**	**17 49 36.1**	**+2.6**
	0.2nm,0.4s,baz=106,slow=2.7,SNR=6.5						

*IDC **07** 17:48:05.9±0.8, 15°.65N×147°.25E, h0km, mb4.2/18, mbtmp4.2/19, ML4.1/1, MS3.5/17, Error ellipse: s-maj=23.5km s-min=16.3km az=93.0*
*BJI **07** 17:48:07.9±0.0, 15°.63N×147°.26E, h24km, mb4.8/41, mB5.0/12*
*NEIC **07** 17:48:08.6±1.4, 15°.71N±0°.07×147°.09E±0°.08, h9km±5km, mb4.8/58, Error ellipse: s-maj=11.7km s-min=9.8km az=131.0*
ISC 07 17:48:11.2±0.6, **15°.63N**±0°.07×**147°.09E**±0°.10, **h33**km, **n112**, σ1§57/100, **mb4.7**/54, **MS3.5**/17, **1D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.95**	**227**	Pn	**Pn**	**17 48 55.9**	**0.0**
GUMO				Sn	**Sn**	**17 49 30.4**	**+0.3**
GUMO	**Guam**	**2.95**	**227**	Pn	**Pn**	**17 48 55.5**	**-0.3**
	26nm,0.3s,baz=39,slow=15,SNR=5.1						
GUMO				Sn	**Sn**	**17 49 27.6**	**-2.6**
	14nm,0.3s,baz=66,slow=20,SNR=4.1						
	51nm,0.3s						
JCJ	**Chichijima**	**12.29**	**339**	Pn	**Pn**	**17 51 01.7**	**-2.2**
JCJ	**Chichijima**	**12.29**	**339**	LR	LR	17 55 31.0	
	comp=Z,118nm,20.2s,baz=158,slow=36						
JMZ	**Minamidaito 2**	**17.96**	**307**	P	**P**	**17 52 21.2**	**+2.5**
JHJ2	**Mitsune**	**18.61**	**341**	P	**P**	**17 52 24.8**	**-1.1**
JHJ	**Hachijo jima 2**	**18.63**	**340**	P	**P**	**17 52 22.5**	**-3.6**
	87nm,1.0s,baz=240,slow=16,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**18.95**	**79**	T	T	18 11 58.0	
	baz=263,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy**	**18.97**	**79**	T	T	18 11 52.9	
	baz=263,slow=74,SNR=9.7						
H11S2	**WAKE ISLAND Hy**	**18.97**	**79**	T	T	18 11 54.3	
	baz=263,slow=74,SNR=15						
JOW	**Kunigami**	**20.75**	**306**	P	**P**	**17 52 49.2**	**-0.1**
JOW	**Kunigami**	**20.75**	**306**	Pn	Pn	17 52 50.9	-0.9
	12nm,0.6s,baz=113,slow=11,SNR=5.4						
JOW				LR	LR	18 00 12.8	
	comp=Z,234nm,19.6s,baz=132,slow=35						
	12nm,0.6s						
JGF	**Kuroka**	**21.71**	**338**	P	**P**	**17 52 54.1**	**-5.5**
JGF				IAmb	IAmb	17 53 03.9	
	comp=Z,54nm,1.6s						
MJAR	**Matsushiro Arr**	**22.28**	**341**	P	**P**	**17 53 04.8**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=170,slow=10,SNR=12						
	comp=Z,2.8nm,0.7s						
MAJO	**Matsushiro**	**22.28**	**341**	P	**P**	**17 53 02.3**	**-3.4**
MJB9	**Matsu-Tunnel**	**22.29**	**341**	P	**P**	**17 53 02.1**	**-3.7**
DAV	**Davao City (W)**	**22.72**	**250**	LR	LR	18 01 06.0	
	comp=Z,112nm,20.3s,baz=42,slow=34						
JNU	**Nakatsue**	**22.78**	**323**	LR	LR	18 01 30.7	
	comp=Z,53nm,19.1s,baz=152,slow=35						
JMM	**Marumori**	**22.84**	**347**	P	**P**	**17 53 09.3**	**-2.2**
JMM				IAmb	IAmb	17 53 18.9	
	comp=Z,20nm,0.7s						
FAKI	**Fak Fak**	**23.56**	**220**	P	**P**	**17 53 19.2**	**+0.2**
NACB	**Ninganchiao**	**25.40**	**294**	P	**P**	**17 53 33.8**	**-2.0**
YULB	**Yu-li**	**25.48**	**292**	P	**P**	**17 53 36.1**	**-0.4**
TWG	**Pinlang**	**25.56**	**290**	P	**P**	**17 53 34.6**	**-2.7**
JTM	**Tenmabayashi**	**25.61**	**349**	P	**P**	**17 53 35.6**	**-1.9**
YHNB	**Yeheng**	**25.72**	**295**	P	**P**	**17 53 37.2**	**-1.7**
YHNB				IAmb	IAmb	17 54 00.3	
	comp=Z,26nm,1.2s						
SSLB	**Suanglung**	**25.88**	**292**	P	**P**	**17 53 39.2**	**-1.0**
KSRS	**Korea Array**	**27.58**	**326**	P	**P**	**17 53 53.6**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=143,slow=8.7,SNR=4.4						
KSRS				LR	LR	18 03 46.7	
	comp=Z,80nm,21.6s,baz=145,slow=34						
	comp=Z,1.7nm,0.8s						
HNR	**Honiara**	**27.97**	**152**	LR	LR	18 03 24.8	
	comp=Z,1μm,21.7s,baz=216,slow=33						
JKA	**Kamikawa-asahi**	**28.65**	**353**	P	**P**	**17 54 05.6**	**+0.8**
ASAJ	**Asahikawa**	**28.65**	**353**	LR	LR	18 05 26.8	
	comp=Z,64nm,20.7s,baz=179,slow=36						
NJ2	**Nanjing**	**30.43**	**308**	*eP*	**P**	**17 54 20.6**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**31.23**	**339**	P	**P**	**17 54 27.9**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=139,slow=8.4,SNR=5.4						
	comp=Z,1.8nm,0.6s						
MTN	**Manton Dam**	**32.40**	**210**	P	**P**	**17 54 38.6**	**+0.5**
KAPI	**Kappang**	**33.96**	**235**	P	**P**	**17 54 51.5**	**-0.4**
LYN	**LuoYang**	**36.33**	**308**	*eP*	**P**	**17 55 12.7**	**+0.6**
LYN				pmax	pmax		
	comp=Z,24nm,0.5s						
LYN				pmax	pmax		
	comp=Z,200nm,5.2s						
SBUM	**Sibu**	**36.76**	**253**	P	**P**	**17 55 15.4**	**-0.6**
WB0	**Warramunga Arr**	**37.32**	**200**	P	**P**	**17 55 20.6**	**0.0**
WB0				IAmb	IAmb	17 56 21.0	
	comp=Z,30nm,1.8s						
WB2	**Warramunga Arr**	**37.50**	**200**	P	**P**	**17 55 22.4**	**+0.3**
WB2				IAmb	IAmb	17 55 38.9	
	comp=Z,42nm,1.9s						
WRA	**Warramunga Arr**	**37.50**	**200**	P	**P**	**17 55 21.5**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=20,slow=9.4,SNR=3.8						
	comp=Z,0.9nm,0.8s						
HEH	**HeiHe**	**38.03**	**339**	*eP*	**P**	**17 55 26.9**	**+0.6**
XAN	**Xi'an**	**38.91**	**305**	⇓P	**P**	**17 55 34.1**	**+0.1**
XAN				pP	pP	17 55 38.4	-3.7
XAN				pmax	pmax		
	comp=Z,16nm,0.7s						
GYA	**Guiyang**	**39.09**	**293**	P	**P**	**17 55 37.8**	**+2.1**
GYA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
FITZ	**Fitzroy Crossi**	**39.62**	**213**	P	**P**	**17 55 41.4**	**+1.4**
HHC	**Hu-ho-hao-te**	**39.71**	**316**	*eP*	**P**	**17 55 43.4**	**+2.7**
HHC				pP	pP	17 55 48.6	-0.2
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						

ARSB	**Arslanbob**	**67.99**	**309**	P	**P**	**17 59 07.4**	**0.0**
BCPM	**Bancas Point**	**68.23**	**31**	P	**P**	**17 59 07.2**	**-1.3**
M29M	**Somme Creek**	**69.08**	**29**	P	**P**	**17 59 13.9**	**+0.1**
M29M				IAmb	IAmb	17 59 27.5	
	comp=Z,9.2nm,1.4s						
L29M	**L29M**	**69.30**	**28**	P	**P**	**17 59 15.0**	**-0.1**
L29M				IAmb	IAmb	17 59 28.1	
	comp=Z,5.0nm,0.9s						
HYT	**Haines Junctio**	**69.37**	**30**	P	**P**	**17 59 15.9**	**+0.2**
BRVK	**Borovoye**	**69.75**	**321**	P	**P**	**17 59 17.9**	**-0.1**
BRVK				IAmb	IAmb	17 59 19.4	
	comp=Z,9.0nm,0.9s						
KK31	**Karatay Array**	**69.75**	**311**	P	**P**	**17 59 18.3**	**0.0**
KK31				IAmb	IAmb	17 59 19.8	
	comp=Z,7.1nm,0.8s						
KK31				PcP	**PcP**	**17 59 40.5**	**-0.4**
KKAR	**Karatay Array**	**69.75**	**311**	P	**P**	**17 59 18.6**	**+0.3**
KKAR				PcP	**PcP**	**17 59 40.5**	**-0.4**
KKAR	**Karatay Array**	**69.75**	**311**	IAmb	IAmb	17 59 19.8	
	comp=Z,7.0nm,0.8s						
GAR	**Garm**	**70.15**	**306**	P	**P**	**17 59 20.9**	**0.0**
GAR				IAmb	IAmb	17 59 35.6	
	comp=Z,5.5nm,0.6s						
PPT	**Papeete**	**70.60**	**115**	LR	LR	18 22 44.1	
	comp=Z,79nm,20.5s,baz=173,slow=30						
PPT2	**Papeete2**	**70.61**	**115**	*e*LR	LR	18 20 48.5	
	comp=Z,88nm,23.5s						
SIMJ	**Simiganj**	**71.19**	**306**	P	**P**	**17 59 27.4**	**+0.1**
SIMJ				IAmb	IAmb	17 59 28.4	
	comp=Z,5.3nm,0.8s						
ARU	**Arti**	**76.33**	**325**	P	**P**	**17 59 57.0**	**+0.1**
ARU				IAmb	IAmb	17 59 58.0	
	comp=Z,8.1nm,0.7s						
ARU	**Arti**	**76.33**	**325**	P	**P**	**17 59 57.4**	**+0.6**
	comp=Z,6.7nm,0.5s,baz=84,slow=4.0,SNR=16						
	comp=Z,6.7nm,0.5s						
AKTO	**Aktyubinsk**	**77.54**	**319**	P	**P**	**18 00 04.0**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=117,slow=6.4,SNR=6.1						
AKTO				LR	LR	18 36 47.8	
	comp=Z,27nm,18.1s,baz=20,slow=38						
	comp=Z,1.8nm,0.5s						
GEYT	**Alibeck**	**79.77**	**307**	P	**P**	**18 00 17.7**	**+1.3**
	comp=Z,3.0nm,0.6s,baz=170,slow=0.9,SNR=8.8						
	comp=Z,3.0nm,0.6s						
KIRV	**Kirov**	**80.75**	**328**	LR	LR	18 38 10.3	
	comp=Z,29nm,19.0s,baz=54,slow=37						
PINE	**Pine Mountain**	**80.76**	**47**	P	**P**	**18 00 22.7**	**+0.9**
PINE				IAmb	IAmb	18 00 31.3	
	comp=Z,12nm,1.4s						
BMO	**Blue Mountains**	**83.04**	**45**	P	**P**	**18 00 33.3**	**-0.3**
BMO				IAmb	IAmb	18 00 46.2	
	comp=Z,7.0nm,1.4s						
NVAR	**Mina Array Bea**	**83.98**	**52**	P	**P**	**18 00 39.9**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=272,slow=5.6,SNR=5.1						
	comp=Z,0.5nm,0.6s						
ELK	**Elko**	**85.62**	**49**	P	**P**	**18 00 46.6**	**-0.5**
ARCES	**ARCESS Array B**	**85.81**	**343**	P	**P**	**18 00 47.2**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=70,slow=7.0,SNR=24						
ARCES				LR	LR	18 43 21.6	
	comp=Z,29nm,20.3s,baz=72,slow=39						
	comp=Z,1.4nm,0.5s						
KBZ	**Khabaz**	**89.25**	**315**	P	**P**	**18 01 02.7**	**-1.4**
	comp=Z,3.9nm,0.9s,baz=159,slow=4.4,SNR=7.4						
	comp=Z,3.9nm,0.9s						
FINES	**FINESS Array B**	**90.22**	**336**	P	**P**	**18 01 07.7**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=71,slow=3.9,SNR=19						
FINES				LR	LR	18 43 29.4	
	comp=Z,15nm,18.5s,baz=76,slow=37						
	comp=Z,1.4nm,0.5s						
HFS	**Hagfors**	**95.71**	**339**	P	**P**	**18 01 32.3**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=101,slow=6.0,SNR=5.8						
	comp=Z,1.4nm,0.8s						
NOA	**NORSAR Array B**	**95.90**	**340**	LR	LR	18 49 02.1	
	comp=Z,15nm,20.4s,baz=105,slow=38						
FRB	**Frobisher Bay**	**96.23**	**15**	LR	LR	18 44 57.6	
	comp=Z,19nm,19.1s,baz=203,slow=36						
DBIC	**Dimbokro**	**144.46**	**307**	PKP	**PKPab**	**18 07 43.8**	**+0.3**
	comp=Z,11nm,0.8s,baz=60,slow=3.5,SNR=9.7						
LPAZ	**La Paz**	**146.16**	**96**	PKPbc	**PKPdf**	**18 07 48.3**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=244,slow=3.9,SNR=2.7						

ASRS ***07*** *17:56:03.2±0.5,50°N±2°×8°8E±°,h10km,MLh3.9/11,Error ellipse: s-maj=5.2km s-min=3.0km az=159.9,confirmed*
NNC ***07*** *17:56:06.3±1.9,49°.96N×87°.97E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=17.0km s-min=6.9km az=104.0*

ISC 07 17:56:05.6±1.3,49°.91N±0°.04×88°.13E±0°.03,h3km±10km, n19,σ1°05/41,16C-7D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**0.23**	**37**	⇓Pg	**Pg**	**17 56 09.6**	**-0.5**
CUR				Sg	**Sg**	**17 56 13.5**	**+0.3**
DGZ	**Jazzator, Alta**	**0.50**	**245**	⇑Pg	**Pg**	**17 56 14.0**	**-1.2**
DGZ				Sg	**Sg**	**17 56 21.1**	**-0.7**
AKAR	**Aktash**	**0.53**	**321**	⇓Pg	**Pg**	**17 56 15.8**	**+0.1**
AKAR				Sg	**Sb**	**17 56 24.4**	**-1.3**
CHBI	**Chibit, Altay**	**0.57**	**315**	⇓Pg	**Pg**	**17 56 16.7**	**+0.1**
CHBI				Sg	**Sb**	**17 56 25.7**	**-1.2**
ULGR	**Ulagan, Altay**	**0.72**	**351**	⇓Pg	**Pb**	**17 56 21.1**	**+0.1**
ULGR				Sg	**Sb**	**17 56 32.1**	**+0.8**
TEL	**Teeli**	**1.72**	**49**	⇓Pg	**Pn**	**17 56 35.0**	**-1.6**
TEL				Sg	**Sn**	**17 56 57.2**	**-2.0**
ELDR	**Elanda**	**1.84**	**316**	Pg	**Pb**	**17 56 39.7**	**-0.4**
ELDR				Sg	**Sg**	**17 57 05.4**	**+0.6**
YALR	**Yailyu, Altay**	**1.89**	**350**	Pg	**Pb**	**17 56 40.5**	**-0.2**
YALR				Sg	**Sg**	**17 57 06.4**	**+0.2**
ARTR	**Artybash**	**1.96**	**344**	Pg	**Pb**	**17 56 41.5**	**-0.6**
ARTR				Sg	**Sg**	**17 57 09.0**	**+0.3**
UKR	**Ust'-Kan**	**2.38**	**297**	Pg	**Pb**	**17 56 49.3**	**+0.1**
UKR				Sg	**Sg**	**17 57 22.4**	**+0.3**
GALT	**Gorno-Altaysk,**	**2.47**	**327**	Pg	**Pb**	**17 56 51.3**	**+0.6**
GALT				Sg	**Sg**	**17 57 25.2**	**+0.2**
DJO	**Djoy, Khakassi**	**3.46**	**33**	Pg	**Pb**	**17 57 09.5**	**+1.9**
DJO				Sg	**Sg**	**17 57 56.9**	**+0.1**
ELT	**Eltsovka**	**3.56**	**341**	Pn	**Pn**	**17 57 03.0**	**+1.3**
ELT				Pg	**Pb**	**17 57 09.1**	**0.0**
ELT				Sg	**Sb**	**17 57 53.9**	**+1.2**
ARDR	**Aradan**	**4.27**	**49**	Pg	**Pn**	**17 57 12.3**	**+0.7**
ARDR				Sg	**Sn**	**17 58 01.6**	**-0.3**
ZAA0	**Zalesovo Array**	**4.53**	**334**	⇑Pn	**Pn**	**17 57 15.0**	**-0.2**
	0.3nm,0.3s						
ZAA0				⇑Pg	**Pb**	**17 57 25.8**	**0.0**
	1.7nm,0.7s						
ZAA0				⇑Sn	**Sn**	**17 58 08.4**	**+0.1**
	2.3nm,0.7s						
ZAA0				⇑Lg	Lg	17 58 29.0	
	8.3nm,0.6s						
MK31	**Makanchi Array**	**4.99**	**234**	⇑Pn	**Pn**	**17 57 22.2**	**+0.7**
	4.3nm,0.4s,baz=52,slow=14,SNR=201						
MK31				⇓Pg	**Pb**	**17 57 34.9**	**+1.3**
	3.5nm,0.3s,baz=56,slow=17,SNR=11						
MK31				⇑Sn	**Sn**	**17 58 20.1**	**+0.4**
	5.7nm,0.4s,baz=57,slow=22,SNR=4.8						
MK31				⇓Lg	Lg	17 58 42.4	
	33nm,0.6s,baz=54,slow=28,SNR=5.5						
MAKZ	**Makanchi**	**5.15**	**235**	⇑Pn	**Pn**	**17 57 24.1**	**+0.5**
	7.5nm,0.6s						
MAKZ				⇑Sn	**Sn**	**17 58 25.0**	**+1.5**
	6.0nm,0.3s						
MAKZ				⇑Lg	Lg	17 58 46.9	
	14nm,0.3s						
KURK	**Kurchatov**	**6.15**	**281**	⇑Pn	**Pn**	**17 57 37.4**	**+0.1**
	8.1nm,0.9s						
KURK				⇑Sn	**Sn**	**17 58 44.5**	**-3.6**
	20nm,0.7s						
KURK				⇑Lg	Lg	17 59 21.3	
	30nm,0.6s						
KURBB	**Kurchatov Arra**	**6.20**	**280**	⇑Pn	**Pn**	**17 57 38.4**	**+0.4**
	8.2nm,0.5s						
KURBB				⇑Sn	**Sn**	**17 58 50.6**	**+1.3**
	32nm,0.7s						
KURBB				⇑Lg	Lg	17 59 23.1	
	67nm,0.6s						

DJA ***07*** *18:10:20.6±0.3,2°N±3°×10°0E±°,h178km±5km,M4.4/14, mb4.6/4,mB5.2/1,MLv4.2/14,Mw(mB)4.6/1*
NEIC ***07*** *18:10:21.3±1.5,1°.74N±0°.06×99°.48E±0°.07,h174km±8km, mb4.2/18,Error ellipse: s-maj=11.3km s-min=8.0km az=51.0*
IDC ***07*** *18:10:25.2±13.0,1°.68N×99°.60E,h216km±124km,mb3.5/6, mbtmp4.1/6,Error ellipse: s-maj=105.1km s-min=15.5km az=58.0*

ISC 07 18:10:20.2±0.6,1°.75N±0°.06×99°.56E±0°.05,h166km,n46, σ1°20/50,mb3.7/13,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPSI	**Rantau Prapat**	**1.14**	**326**		**Pn**	**18 10 49.8**	**+2.2**
GSI	**Gunungsitoli**	**2.03**	**258**		**Pn**	**18 10 58.9**	**+2.3**
GSI				Sn	**Sn**	**18 11 24.5**	**-0.3**
GSI	**Gunungsitoli**	**2.03**	**258**	P	**Pn**	**18 10 58.9**	**+2.3**
BKNI	**Bangkinang**	**2.05**	**134**		**Pn**	**18 11 00.0**	**+3.2**
BKNI	**Bangkinang**	**2.05**	**134**	P	**Pn**	**18 10 59.4**	**+2.6**
PBSI	**Pulau Batu**	**2.20**	**216**	P	**Pn**	**18 11 00.6**	**+2.1**
KCSI	**Kotacane, Aceh**	**2.51**	**315**	P	**Pn**	**18 11 03.2**	**+1.0**
PDSI	**Padang**	**2.79**	**161**	P	**Pn**	**18 11 07.4**	**+1.7**
SISI	**Saibi**	**3.09**	**189**	P	**Pn**	**18 11 09.7**	**+0.4**
SNSI	**Sinabang, Aceh**	**3.29**	**282**	P	**Pn**	**18 11 12.9**	**+1.1**
KULM	**Kulim**	**3.69**	**17**		**Pn**	**18 11 17.8**	**+1.0**
MLSI	**Meulaboh, Aceh**	**4.02**	**309**	P	**Pn**	**18 11 21.9**	**+0.7**
LHMI	**Lhok Sumawe**	**4.33**	**323**	Pn	**Pn**	**18 11 25.0**	**-0.1**
LHMI				Sn	**Sn**	**18 12 13.4**	**-2.5**
LHMI	**Lhok Sumawe**	**4.33**	**323**	P	**Pn**	**18 11 25.8**	**+0.7**
PPSI	**Pulau Pagai**	**4.50**	**174**	P	**Pn**	**18 11 27.2**	**-0.2**
TPRI	**Tanjung Pinang**	**5.04**	**99**	P	**Pn**	**18 11 35.0**	**+0.6**
	24nm,0.9s,0.2nm						
MNAI	**Manna**	**6.95**	**151**	Pn	**Pn**	**18 11 59.9**	**+0.2**
MNAI				Sn	**Sn**	**18 13 16.8**	**-1.2**
MNAI	**Manna**	**6.95**	**151**	P	**Pn**	**18 11 59.7**	**0.0**
	250nm,1.1s						
LWLI	**Liwa**	**8.09**	**146**	P	**Pn**	**18 12 13.6**	**-1.2**
KASI	**Kota Agung**	**8.75**	**146**	P	**Pn**	**18 12 22.5**	**-0.9**
SBUM	**Sibu**	**12.68**	**87**	Pn	**P**	**18 13 18.2**	**-1.4**
MYLDM	**Lahad Datu**	**19.21**	**79**	P	**Pn**	**18 14 36.3**	**+1.9**
MYLDM				IAmb	IAmb	18 14 39.7	
	comp=Z,16nm,1.2s						
PALK	**Pallekele**	**19.57**	**287**	P	**P**	**18 14 35.8**	**+0.2**
PALK				IAmb	IAmb	18 15 06.2	
	comp=Z,36nm,1.3s						
FITZ	**Fitzroy Crossi**	**32.38**	**129**	P	**P**	**18 16 33.9**	**-0.4**
KNRA	**Kununurra**	**33.66**	**122**	P	**P**	**18 16 45.2**	**-0.3**
KNRA				IAmb	IAmb	18 16 50.3	
	comp=Z,16nm,1.4s						
MTN	**Manton Dam**	**34.53**	**116**	P	**P**	**18 16 53.1**	**+0.2**
WRA	**Warramunga Arr**	**40.35**	**124**	P	**P**	**18 17 41.4**	**-0.6**
	comp=Z,5.0nm,0.3s,baz=302,slow=9.1,SNR=58						
	comp=Z,5.0nm,0.3s						
WB2	**Warramunga Arr**	**40.36**	**124**	P	**P**	**18 17 42.1**	**+0.1**
WB2				IAmb	IAmb	18 17 44.5	
	comp=Z,6.5nm,0.4s						
WR0	**Warramunga Arr**	**40.53**	**124**	P	**P**	**18 17 43.3**	**-0.1**
AS31	**Alice Springs**	**41.88**	**129**	P	**P**	**18 17 53.8**	**-0.5**
ASAR	**Alice Springs**	**41.88**	**129**	P	**P**	**18 17 54.1**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=301,slow=7.5,SNR=52						
	comp=Z,1.0nm,0.4s						
FORT	**Forrest**	**42.22**	**142**	P	**P**	**18 17 57.5**	**+0.5**
CHGR	**Chuyangaron**	**46.07**	**327**	P	**P**	**18 18 26.7**	**-0.9**
CHGR				IAmb	IAmb	18 18 27.3	
	comp=Z,5.3nm,0.6s						
ARSB	**Arslanbob**	**46.12**	**332**	P	**P**	**18 18 28.8**	**+0.8**
SONM	**Songino Array**	**46.29**	**6**	P	**P**	**18 18 30.0**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=198,slow=8.8,SNR=4.3						
SONM				PcP	**PcP**	**18 20 00.7**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=179,slow=4.7,SNR=4.7						
	comp=Z,0.5nm,0.5s						
MK31	**Makanchi Array**	**47.33**	**344**	P	**P**	**18 18 36.5**	**-0.6**
MKAR	**Makanchi Array**	**47.33**	**344**	P	**P**	**18 18 36.3**	**-0.8**
MKAR	**Makanchi Array**	**47.33**	**344**	P	**P**	**18 18 37.6**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=160,slow=7.8,SNR=32						
	comp=Z,1.2nm,0.4s						
MAKZ	**Makanchi**	**47.43**	**344**	P	**P**	**18 18 37.6**	**-0.4**
KK31	**Karatay Array**	**48.65**	**332**	P	**P**	**18 18 47.1**	**-0.3**
KK31				IAmb	IAmb	18 19 25.6	
	comp=Z,1.9nm,1.2s						
KKAR	**Karatay Array**	**48.65**	**332**	P	**P**	**18 18 47.1**	**-0.3**
KKAR				IAmb	IAmb	18 19 25.6	
	comp=Z,1.9nm,1.2s						
BBOO	**Buckleboo**	**48.68**	**138**	P	**P**	**18 18 47.0**	**-0.7**
STKA	**Stephens Creek**	**52.00**	**134**	P	**P**	**18 19 13.5**	**+0.8**
STKA				IAmb	IAmb	18 19 48.0	
	comp=Z,2.1nm,1.3s						
ZALV	**Zalesovo Beam**	**53.43**	**349**	P	**P**	**18 19 23.2**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=187,slow=8.8,SNR=3.8						
	comp=Z,0.7nm,0.5s						
CASY	**Casey**	**68.33**	**175**	P	**P**	**18 21 02.8**	**-0.2**
CASY				IAmb	IAmb	18 21 44.4	
	comp=Z,10.0nm,1.2s						
FINES	**FINESS Array B**	**80.61**	**332**	P	**P**	**18 22 14.3**	**+0.2**
	comp=Z,1.6nm,1.1s,baz=107,slow=7.4,SNR=3.4						
	comp=Z,1.6nm,1.1s						

SNET ***07*** *18:24:10.5±1.0,12°.74N×87°.84W,h67km±9km,ML2.9*
CATAC ***07*** *18:24:14.4±1.1,13°.77N×87°.72W,h10km,ML3.2*

ISC 07 18:24:11.5±3.5,12°.8N±0°.2×87°.88W±0°.07,h66km±17km, n17,σ0°88/23,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.44**	**338**	*e*P	**Pn**	**18 24 22.9**	**-0.6**
INTP				*e*S	**Sn**	**18 24 32.5**	**+0.4**
CNCH	**Conchagua**	**0.49**	**6**	*e*P	**Pn**	**18 24 23.6**	**-0.4**
CNCH				*e*S	**Sn**	**18 24 34.4**	**+1.2**
CNCH				IAML		18 24 40.6	
	comp=Z,620nm,0.2s						
CNCH	**Conchagua**	**0.49**	**6**	*i* P	**Pn**	**18 24 23.7**	**-0.4**
CNCH				IAML		18 24 40.4	
	comp=Z,650nm,1.0s						
LCND	**La Caada**	**0.52**	**359**	*e*P	**Pn**	**18 24 24.1**	**-0.2**
LCND				*e*S	**Sn**	**18 24 34.3**	**+0.8**
LCND				IAML		18 24 37.0	
	comp=Z,260nm,0.3s						
AMPH	**Amapala**	**0.55**	**24**	*e*P	**Pn**	**18 24 23.8**	**-0.7**
AMPH				*e*S	**Sn**	**18 24 34.2**	**+0.3**
JUCU	**Jucuarı n**	**0.59**	**323**	*e*P	**Pn**	**18 24 24.6**	**-0.4**
JUCU				*e*S	**Sn**	**18 24 35.5**	**+0.6**
BLLM	**Bellamira**	**0.74**	**332**	*e*P	**Pn**	**18 24 26.9**	**+0.2**
LCY	**Lacayo**	**0.75**	**328**	*e*P	**Pn**	**18 24 27.1**	**+0.2**
LCY				IAML		18 24 42.1	
	comp=Z,521nm,0.1s						
RANC	**El Ranchito**	**0.76**	**329**	*e*P	**Pn**	**18 24 27.2**	**+0.2**
RANC	**El Ranchito**	**0.76**	**329**	*i* P	**Pn**	**18 24 27.1**	**+0.1**
RANC				*i* S	**Sn**	**18 24 36.3**	**-2.1**
RANC				IAML		18 24 42.3	
	comp=Z,410nm,1.0s						
PACA	**Pacayal**	**0.81**	**328**	*e*P	**Pn**	**18 24 27.8**	**+0.2**
PACA				*e*S	**Sn**	**18 24 41.2**	**+1.9**
PACA	**Pacayal**	**0.81**	**328**	*i* P	**Pn**	**18 24 28.0**	**+0.4**
PACA				*i* S	**Sn**	**18 24 37.8**	**-1.5**
PACA				IAML		18 24 45.3	
	comp=Z,1μm,1.0s						
PLRN	**Geotermica Pol**	**1.11**	**100**	*i* P	Pn	18 24 41.2	+10
PLRN				IAML		18 24 42.7	
	comp=Z,770nm,1.0s						
ROCN	**Rota Cerro Neg**	**1.14**	**103**	*i* P	Pn	18 24 42.7	+11
ROCN				IAML		18 26 02.6	
	comp=Z,680nm,1.0s						
CNGN	**Cerro Negro**	**1.19**	**104**	*i* P	Pn	18 24 43.9	+12
CNGN				IAML		18 24 49.9	
	comp=Z,230nm,1.0s						
SOMN	**Somoto**	**1.39**	**63**	*i* P	**Pn**	**18 24 35.3**	**+0.2**
SOMN				IAML		18 24 35.8	
	comp=Z,110nm,1.0s						
YUSH	**Yuscaran**	**1.54**	**41**	*e*P	**Pn**	**18 24 36.6**	**-0.5**
YUSH				*e*S	**Sn**	**18 24 56.3**	**0.0**

IDC ***07*** *18:37:43.0±0.7,6°.71N×72°.94W,h162km±7km,mb3.5/6, mbtmp4.0/9,Error ellipse: s-maj=21.2km s-min=7.7km az=133.0*
RSNC ***07*** *18:37:45.5±0.0,7°N±1°×7°3W±°,h142km±2km,M4.1,mb4.4, mB4.8,ML3.6,Mw(mB)4.1*

ISC 07 18:37:42.9±0.7,6°.87N±0°.03×73°.12W±0°.04,h154km±6km, n53,σ1°43/92,mb3.5/5,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.62**	**42**	P	**Pn**	**18 38 07.0**	**+1.0**
PAMC				S	**Sn**	**18 38 24.0**	**+0.4**
PTBC	**PUERTO BERRIO,**	**1.37**	**256**	P	**Pn**	**18 38 10.5**	**-0.9**
PTBC				S	**Sn**	**18 38 32.0**	**-1.3**
OCAC	**Ocana**	**1.37**	**352**	P	**Pn**	**18 38 12.3**	**+0.7**
OCAC				S	**Sn**	**18 38 34.0**	**+0.2**
TAMC	**Tame, Arauca**	**1.39**	**108**	P	**Pn**	**18 38 12.5**	**+0.8**
TAMC				S	**Sn**	**18 38 34.2**	**+0.5**
SPBC	**San Pablo de B**	**1.54**	**218**	P	**Pn**	**18 38 12.9**	**-0.4**
SPBC				S	**Sn**	**18 38 35.6**	**-1.0**
SPBC				S		18 38 35.7	
ZARC	**Zaragoza, Cauc**	**1.83**	**290**	P	**Pn**	**18 38 16.2**	**-0.1**
ZARC				S	**Sn**	**18 38 41.9**	**-0.2**
NORC	**Norcasia**	**2.17**	**233**	P	**Pn**	**18 38 19.8**	**-0.5**
NORC				S	**Sn**	**18 38 47.6**	**-1.6**
CHIC	**Chingaza**	**2.31**	**195**	P	**Pn**	**18 38 22.1**	**-0.3**
CHIC				S	**Sn**	**18 38 51.6**	**-1.2**
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**18 38 24.1**	**+1.3**
	428nm,0.3s,baz=275,slow=4.7,SNR=263						
ROSC				S	**Sn**	**18 38 53.6**	**+0.1**
	1μm,0.3s,baz=195,slow=23,SNR=7.3						
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**18 38 23.7**	**+0.9**
ROSC				S	**Sn**	**18 38 54.9**	**+1.4**
CVER	**Cruz Verde, Cu**	**2.52**	**202**	P	**Pn**	**18 38 25.5**	**+0.5**
CVER				S	**Sn**	**18 38 57.5**	**+0.1**
UREC	**San Jos de Ur**	**2.55**	**290**	P	**Pn**	**18 38 23.8**	**-1.0**
UREC				S	**Sn**	**18 38 54.7**	**-2.5**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	P	**Pn**	**18 38 28.1**	**+0.1**
GUY2C				S	**Sn**	**18 39 01.4**	**-1.4**
VILC	**Villavicencio,**	**2.80**	**192**	P	**Pn**	**18 38 27.8**	**-0.3**
VILC				S	**Sn**	**18 39 01.5**	**-1.6**
PTGC	**Puerto Gaitan,**	**2.83**	**160**	P	**Pn**	**18 38 27.3**	**-1.0**
PTGC				S	**Sn**	**18 39 00.3**	**-3.2**
RECRC	**Villamaria, Ca**	**2.92**	**230**	P	**Pn**	**18 38 31.9**	**+1.9**
RECRC				S	**Sn**	**18 39 08.7**	**+2.4**
NIZA	**Niza - Manizal**	**2.95**	**232**	P	**Pn**	**18 38 32.3**	**+2.2**
NIZA				S	**Sn**	**18 39 08.4**	**+1.8**
DBBC	**Dabeiba**	**3.07**	**273**	P	**Pn**	**18 38 31.5**	**+0.1**
DBBC				S	**Sn**	**18 39 06.3**	**-2.6**
ARGC	**Ariguani, Magd**	**3.17**	**339**	P	**Pn**	**18 38 33.9**	**+1.3**
ARGC				S	**Sn**	**18 39 13.1**	**+2.0**
SDV	**Santo Domingo**	**3.17**	**51**	P	**Pn**	**18 38 33.8**	**+1.0**
	39nm,0.3s,baz=241,slow=4.1,SNR=9.2						
SDV				S	**Sn**	**18 39 11.4**	**-0.1**
	188nm,0.5s,baz=64,slow=23,SNR=38						
SDV	**Santo Domingo**	**3.17**	**51**	P	**Pn**	**18 38 33.8**	**+1.0**
SDV				S	**Sn**	**18 39 11.0**	**-0.5**
ANIL	**Santa Ana**	**3.28**	**224**	P	**Pn**	**18 38 35.4**	**+1.1**
ANIL				S	**Sn**	**18 39 15.2**	**+1.1**
APAC	**Apartado, Choc**	**3.58**	**287**	P	**Pn**	**18 38 37.9**	**+0.1**
APAC				S	**Sn**	**18 39 19.8**	**-0.7**
PRAC	**Prado**	**3.60**	**209**	P	**Pn**	**18 38 37.2**	**-0.9**
PRAC				S	**Sn**	**18 39 19.7**	**-1.3**
ORTC	**Ortega, Tolima**	**3.63**	**216**	P	**Pn**	**18 38 38.1**	**-0.4**
ORTC				S	**Sn**	**18 39 21.5**	**-0.2**
SJCC	**San Jacinto, C**	**3.63**	**326**	P	**Pn**	**18 38 37.7**	**-0.8**
SJCC				S	**Sn**	**18 39 19.3**	**-2.5**
PLMC	**San Jos del P**	**3.70**	**238**	P	**Pn**	**18 38 39.5**	**0.0**
PLMC				S	**Sn**	**18 39 23.0**	**-0.5**
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	P	**Pn**	**18 38 44.6**	**-0.4**
CRJC				S	**Sn**	**18 39 31.2**	**-2.2**
YOTC	**Yotoco, Valle**	**4.31**	**228**	P	**Pn**	**18 38 46.6**	**-0.8**
YOTC				S	**Sn**	**18 39 38.9**	**+1.3**
GUVC	**San Jose del G**	**4.33**	**173**	P	**Pn**	**18 38 46.7**	**-0.9**
GUVC				S	**Sn**	**18 39 35.2**	**-2.8**
CAPC	**Capurgana**	**4.54**	**293**	P	**Pn**	**18 38 48.9**	**-1.5**
CAPC				S	**Sn**	**18 39 41.2**	**-1.8**
PIZC	**Pizarro, Choco**	**4.62**	**246**	P	**Pn**	**18 38 52.8**	**+1.4**
PIZC				S	**Sn**	**18 39 45.8**	**+0.9**
PTAC	**Punta Ardita,**	**4.66**	**274**	P	**Pn**	**18 38 50.9**	**-1.0**
URIC	**Uribia, Colomb**	**4.92**	**13**	P	**Pn**	**18 38 54.7**	**-0.7**
URIC				S	**Sn**	**18 39 48.9**	**-3.1**
MALC	**Bahia Malaga**	**5.07**	**236**	P	**Pn**	**18 38 58.7**	**+1.4**
MALC				S	**Sn**	**18 39 55.4**	**0.0**
JAMC	**Jamundi, Valle**	**5.07**	**224**	P	**Pn**	**18 38 57.1**	**-0.5**
	32nm,0.9s,1μm						
JAMC				S	**Sn**	**18 39 54.8**	**-1.1**
	32nm,0.9s,1μm						
GARC	**Garzon, Huila**	**5.22**	**207**	P	**Pn**	**18 38 58.3**	**-1.3**
GARC				S	**Sn**	**18 39 55.8**	**-3.7**
POPC	**Popayan, Colom**	**5.58**	**220**	P	**Pn**	**18 39 03.8**	**-0.4**
	33nm,0.7s						
POPC				S	**Sn**	**18 40 05.9**	**-1.9**
	33nm,0.7s						
GR1C	**Gorgona, Isla**	**6.33**	**233**	P	**Pn**	**18 39 12.4**	**-1.6**
BBAC	**Balboa, Cauca**	**6.34**	**221

SMST	**Manzhou Townsh**	**0.35**	**329**	P	**Pb**	**18 51 02.2**	**-0.3**
	baz=325						
SMST				*e*S	**Sb**	**18 51 08.3**	**+0.2**
	baz=325						
SNW	**Nanwan**	**0.36**	**312**	*e*P	**Pb**	**18 51 02.4**	**-0.2**
	baz=309						
SNW				*e*S	**Sb**	**18 51 08.3**	**+0.1**
	baz=309						
HEN	**Hengchun**	**0.40**	**316**	P	**Pb**	**18 51 02.8**	**-0.5**
	baz=313						
HEN				*i* S	**Sb**	**18 51 09.3**	**-0.1**
	baz=313						
SLIU	**Shizi**	**0.54**	**336**	P	**Pb**	**18 51 05.7**	**0.0**
	baz=334						
SLIU				*e*S	**Sb**	**18 51 14.2**	**+0.6**
	baz=334						
LAY	**Lan-yu**	**0.58**	**56**	*e*P	**Pb**	**18 51 06.8**	**+0.5**
	baz=56						
LYUB	**Lan-yu**	**0.58**	**61**	⇑*i*P	**Pb**	**18 51 06.4**	**0.0**
	baz=61						
LYUB				S	**Sb**	**18 51 14.9**	**+0.1**
	baz=61						
TAWH	**Dawu Township**	**0.63**	**348**	⇑P	**Pb**	**18 51 07.2**	**-0.1**
	baz=345						
TAWH				*e*S	**Sb**	**18 51 17.0**	**+0.8**
	baz=345						
TAW	**Tawu**	**0.65**	**349**	⇑*i*P	**Pb**	**18 51 07.4**	**-0.2**
	baz=347						
TAW				*e*S	**Sb**	**18 51 17.2**	**+0.5**
	baz=347						
EAST	**Anshuo**	**0.68**	**345**	⇑*i*P	**Pb**	**18 51 08.0**	**-0.2**
	baz=344						
EAST				S	**Sb**	**18 51 18.7**	**+1.0**
	baz=344						
SCZT	**Fangliau**	**0.76**	**330**	⇑*i*P	**Pb**	**18 51 09.4**	**+0.1**
	baz=328						
SCZT				*e*S	**Sb**	**18 51 20.4**	**+0.7**
	baz=328						
ECL	**Taimali**	**0.88**	**355**	*e*P	**Pg**	**18 51 09.9**	**-1.1**
	baz=354						
MASBT	**Mashibuluo**	**0.96**	**337**	⇑P	**Pb**	**18 51 12.9**	**0.0**
	baz=336						
MASBT				S	**Sb**	**18 51 25.5**	**-0.2**
	baz=336						
LDUT	**Ludao**	**1.03**	**23**	*e*P	**Pb**	**18 51 12.9**	**-1.2**
	baz=22						
LDUT				*e*S	**Sb**	**18 51 27.3**	**-0.4**
	baz=22						
TTN	**Taitung**	**1.04**	**6**	*e*P	**Pn**	**18 51 15.0**	**+0.3**
	baz=5.0						
TSPT	**Pingtung City**	**1.08**	**332**	*e*P	**Pn**	**18 51 15.2**	**-0.1**
	baz=331						
SSD	**Sandimen**	**1.09**	**340**	*e*P	**Pb**	**18 51 14.6**	**-0.4**
	baz=339						
TWGBT	**Beinan**	**1.09**	**2**	P	**Pb**	**18 51 12.9**	**-2.3**
TWGBT	**Beinan**	**1.09**	**2**	*e*P	**Pb**	**18 51 12.7**	**-2.5**
	baz=1.0						
TWG	**Pinlang**	**1.10**	**2**	*e*P	**Pb**	**18 51 12.7**	**-2.5**
	baz=1.0						
SGLT	**Jiouru**	**1.12**	**333**	*e*P	**Pb**	**18 51 15.5**	**-0.1**
	baz=332						
LONT	**Longtian**	**1.19**	**4**	*e*P	**Pb**	**18 51 14.2**	**-2.5**
	baz=3.0						
TWM1	**Shoushan**	**1.24**	**333**	*e*P	**Pb**	**18 51 17.7**	**+0.1**
	baz=332						
SCST	**Cishan**	**1.27**	**337**	*e*P	**Pg**	**18 51 19.2**	**+0.8**
	baz=335						
EDH	**Donghe**	**1.27**	**11**	*e*P	**Pn**	**18 51 15.9**	**-2.0**
	baz=10.0						
SLGT	**Liugui**	**1.32**	**344**	*e*P	**Pb**	**18 51 19.0**	**0.0**
	baz=343						
ECS	**Chishang**	**1.38**	**7**	*e*P	**Pn**	**18 51 17.7**	**-1.8**
	baz=6.0						
CHKT	**Chengkung**	**1.41**	**12**	*e*P	**Pn**	**18 51 18.0**	**-1.8**
	baz=12						
SGST	**Jiashian**	**1.42**	**343**	*e*P	**Pb**	**18 51 20.9**	**+0.2**
	baz=342						
EHD	**Haiduan**	**1.43**	**6**	*e*P	**Pn**	**18 51 19.5**	**-0.7**
	baz=5.0						
SHHT	**Tainan City**	**1.44**	**334**	*e*P	**Pg**	**18 51 23.3**	**+1.5**
	baz=333						
STYT	**Tauyuan**	**1.46**	**350**	*e*P	**Pb**	**18 51 21.0**	**-0.5**
	baz=349						
ELDTW	**Lidau**	**1.46**	**359**	*e*P	**Pn**	**18 51 18.9**	**-1.9**
	baz=359						
STYH	**Taoyuan**	**1.47**	**351**	*e*P	**Pb**	**18 51 21.3**	**-0.2**
	baz=350						
FULB	**Fuli**	**1.49**	**9**	*e*P	**Pn**	**18 51 19.7**	**-1.4**
	baz=8.0						
CHKH	**Chenggong**	**1.50**	**13**	*e*P	**Pn**	**18 51 19.5**	**-1.6**
	baz=12						
WTP	**Ta-pu**	**1.57**	**346**	*e*P	**Pn**	**18 51 22.2**	**+0.1**
	baz=345						
SNST	**Tainan City**	**1.57**	**342**	*e*P	**Pb**	**18 51 23.6**	**+0.2**
	baz=340						
TPUB	**Ta-pu**	**1.62**	**347**	P	**Pg**	**18 51 25.0**	**-0.2**
TPUB	**Ta-pu**	**1.62**	**347**	*e*P	**Pb**	**18 51 23.8**	**-0.3**
	baz=345						
TWK	**Hsinying**	**1.62**	**342**	*e*P	**Pg**	**18 51 25.0**	**-0.3**
	baz=341						
ECBN	**Changbin**	**1.64**	**14**	*e*P	**Pb**	**18 51 23.5**	**-0.9**
	baz=13						
EYUL	**Yuli**	**1.64**	**9**	*e*P	**Pn**	**18 51 21.7**	**-1.4**
	baz=8.0						
TWF1	**Yuli**	**1.64**	**8**	*e*P	**Pn**	**18 51 22.2**	**-0.9**
	baz=8.0						
SCLT	**Jiali**	**1.65**	**332**	*e*P	**Pn**	**18 51 22.4**	**-0.7**
	baz=331						
TSCK	**Chigu Township**	**1.67**	**329**	*e*P	**Pn**	**18 51 22.6**	**-0.9**
	baz=327						
CHN4	**Tsaushan**	**1.68**	**346**	*e*P	**Pn**	**18 51 23.6**	**+0.1**
	baz=345						
YULB	**Yu-li**	**1.68**	**8**	P	**Pn**	**18 51 23.0**	**-0.7**
YULB	**Yu-li**	**1.68**	**8**	*e*P	**Pn**	**18 51 22.2**	**-1.4**
	baz=7.0						
WCKO	**Fanlu**	**1.76**	**347**	*e*P	**Pb**	**18 51 25.6**	**-0.8**
	baz=346						
YUS	**Yu-Shan**	**1.77**	**358**	*e*P	**Pn**	**18 51 23.7**	**-1.5**
	baz=357						
ICHU	**Yijhu**	**1.78**	**337**	*e*P	**Pb**	**18 51 26.4**	**-0.4**
	baz=336						
CHN8	**Yiju**	**1.79**	**335**	*e*P	**Pn**	**18 51 25.6**	**+0.6**
	baz=334						
EHY	**Hungye**	**1.80**	**8**	*e*P	**Pn**	**18 51 24.7**	**-0.6**
	baz=8.0						
HGSD	**Ruisui**	**1.80**	**11**	*e*P	**Pn**	**18 51 24.4**	**-0.9**
	baz=11						
WHYT	**Xinyi Township**	**1.98**	**355**	*e*P	**Pn**	**18 51 28.3**	**+0.6**
	baz=354						
WDGT	**Dungji**	**1.99**	**321**	*e*P	**Pn**	**18 51 28.1**	**+0.3**
	baz=319						
WGK	**Gukeng**	**2.01**	**348**	*e*P	**Pn**	**18 51 29.1**	**+1.0**
	baz=347						
WDLH	**Douliu**	**2.01**	**347**	*e*P	**Pn**	**18 51 28.3**	**+0.1**
	baz=346						
WARBT	**Fenglin Townsh**	**2.02**	**9**	*e*P	**Pn**	**18 51 27.8**	**-0.4**
	baz=8.0						
VWDT	**VWDT**	**2.03**	**3**	*e*P	**Pn**	**18 51 27.9**	**-0.5**
	baz=2.0						
WTK	**Tuku**	**2.05**	**343**	*e*P	**Pn**	**18 51 27.6**	**-1.1**
	baz=342						
WSF	**Szhu**	**2.05**	**339**	*e*P	**Pn**	**18 51 29.0**	**+0.3**
	baz=338						
SSLB	**Suanglung**	**2.06**	**358**	P	**Pn**	**18 51 29.9**	**+1.0**
SSLB	**Suanglung**	**2.06**	**358**	*e*P	**Pn**	**18 51 29.3**	**+0.5**
	baz=357						
VCHM	**Qimei**	**2.10**	**315**	*e*P	**Pn**	**18 51 28.3**	**-1.0**
	baz=314						
SHUL	**Shoufeng**	**2.12**	**13**	*e*P	**Pn**	**18 51 29.3**	**-0.3**
	baz=12						
ESL	**Shilin**	**2.12**	**10**	*e*P	**Pn**	**18 51 29.6**	**0.0**
	baz=9.0						
SMLT	**Sun Moon Lake**	**2.16**	**357**	*e*P	**Pn**	**18 51 30.8**	**+0.5**
	baz=356						
WNT	**Mingjian**	**2.17**	**352**	*e*P	**Pn**	**18 51 31.5**	**+1.1**
	baz=351						
TYC	**Yuchr**	**2.18**	**356**	*e*P	**Pn**	**18 51 31.5**	**+1.0**
	baz=355						
OWD	**Renai**	**2.23**	**3**	*e*P	**Pn**	**18 51 32.1**	**+0.9**
	baz=2.0						
PHUB	**P'eng-hu**	**2.24**	**323**	*e*P	**Pn**	**18 51 30.0**	**-1.2**
	baz=322						
WUSB	**Renai**	**2.27**	**2**	*e*P	**Pn**	**18 51 31.9**	**+0.2**
	baz=1.0						
PNG	**Penghu**	**2.29**	**324**	*e*P	**Pn**	**18 51 30.1**	**-1.9**
	baz=323						
DPDB	**Guoxing**	**2.31**	**358**	*e*P	**Pn**	**18 51 32.2**	**0.0**
	baz=357						
WCS	**Beigang Elemen**	**2.33**	**357**	*e*P	**Pn**	**18 51 32.0**	**-0.6**
	baz=356						
CHGB	**Renai**	**2.33**	**3**	*e*P	**Pn**	**18 51 33.7**	**+0.9**
	baz=2.0						
WHF	**Hehuan Shan**	**2.42**	**5**	*e*P	**Pn**	**18 51 33.9**	**-0.3**
	baz=4.0						
NACB	**Ninganchiao**	**2.50**	**12**	P	**Pn**	**18 51 34.5**	**-0.3**
NACB	**Ninganchiao**	**2.50**	**12**	*e*P	**Pn**	**18 51 34.6**	**-0.3**
	baz=11						
FUSS	**Fushou**	**2.52**	**4**	*e*P	**Pn**	**18 51 35.2**	**-0.3**
	baz=4.0						
TDCB	**Techi**	**2.53**	**3**	*e*P	**Pn**	**18 51 35.6**	**+0.3**
	baz=2.0						
WHP	**Taichung City**	**2.55**	**358**	*e*P	**Pn**	**18 51 36.3**	**+0.6**
	baz=357						
TWQ1	**Liyutan**	**2.63**	**355**	*e*P	**Pn**	**18 51 38.6**	**+2.0**
	baz=354						
NNSB	**Datong**	**2.72**	**7**	*e*P	**Pn**	**18 51 38.2**	**+0.2**
	baz=6.0						
NNS	**Nan Shan**	**2.73**	**6**	*e*P	**Pn**	**18 51 39.8**	**+1.7**
	baz=6.0						
ENA	**Nanau**	**2.77**	**13**	*e*P	**Pn**	**18 51 39.4**	**+0.8**
	baz=13						
EWUT	**Wuta**	**2.80**	**14**	*e*P	**Pn**	**18 51 39.7**	**+0.7**
	baz=13						
EOS3	**EOS3**	**2.82**	**25**	*e*P	**Pn**	**18 51 40.9**	**+1.8**
	baz=24						
LATG	**Datong**	**2.84**	**9**	*e*P	**Pn**	**18 51 40.3**	**+0.6**
	baz=8.0						
NFF	**Wufeng Townshi**	**2.90**	**1**	*e*P	**Pn**	**18 51 42.0**	**+1.5**
	baz=1.0						
NDT	**Datong Townshi**	**2.91**	**9**	*e*P	**Pn**	**18 51 40.5**	**+0.1**
	baz=8.0						
LIOB	**Emei**	**2.91**	**360**	*e*P	**Pn**	**18 51 41.3**	**+0.7**
	baz=359						
ENTT	**Nioudou**	**2.95**	**9**	*e*P	**Pn**	**18 51 42.5**	**+1.5**
	baz=9.0						
YHNB	**Yeheng**	**2.96**	**6**	P	**Pn**	**18 51 41.9**	**+0.7**
YHNB	**Yeheng**	**2.96**	**6**	*e*P	**Pn**	**18 51 41.5**	**+0.3**
	baz=5.0						
NSK	**Sanguang**	**2.96**	**6**	*e*P	**Pn**	**18 51 41.8**	**+0.5**
	baz=5.0						
TWC	**Suao**	**2.97**	**14**	*e*P	**Pn**	**18 51 43.5**	**+2.1**
	baz=14						
TWE	**Neicheng**	**3.04**	**11**	*e*P	**Pn**	**18 51 43.4**	**+1.1**
	baz=11						
FUSB	**Fushanzhiwuyua**	**3.07**	**9**	*e*P	**Pn**	**18 51 43.4**	**+0.6**
	baz=9.0						
NWLT	**Wulai**	**3.08**	**8**	*e*P	**Pn**	**18 51 42.5**	**-0.3**
	baz=7.0						
YOJ	**Yonaguni jima**	**3.28**	**33**	*e*P	**Pn**	**18 51 46.4**	**+0.8**
	baz=33						
YOJ				*e*S	**Sn**	**18 52 26.2**	**+1.5**
	baz=33						
TIPB	**Shuangxi**	**3.32**	**12**	*e*P	**Pn**	**18 51 45.9**	**-0.3**
	baz=12						
TWB1	**Santiao Chiao**	**3.39**	**15**	*e*P	**Pn**	**18 51 48.4**	**+1.3**
	baz=14						
HATJ	**Hateruma jima**	**3.46**	**47**	*e*P	**Pn**	**18 51 48.1**	**+0.1**
IRIF	**Iriomote-Funau**	**3.60**	**43**	*e*P	**Pn**	**18 51 50.2**	**+0.3**
KNMB	**Chin-men Tao**	**3.66**	**319**	*e*P	**Pn**	**18 51 50.1**	**-0.8**
	baz=317						
JKRS	**Kuro-shima**	**3.71**	**47**	*e*P	**Pn**	**18 51 51.5**	**0.0**
PTMZ	**Houxiangcun**	**3.75**	**332**	*e*P	**Pn**	**18 51 50.5**	**-1.5**
	baz=331						
DSXP	**Dongshan**	**3.88**	**301**	*e*P	**Pn**	**18 51 52.3**	**-1.5**
	baz=300						
JIJ	**Ishigaki jima**	**3.89**	**47**	*e*P	**Pn**	**18 51 53.7**	**-0.3**
JISG	**Ishigakijimahi**	**4.15**	**46**	*e*P	**Pn**	**18 51 56.7**	**-0.9**

*ROM **07** 18:51:37.6±0.1, 37°.844N±0°.007×13°.953E±0°.008,*
h4km±1km, ML3.0/40, Error ellipse: s-maj=0.7km
s-min=0.2km az=158.0
*IDC **07** 18:51:39.3±1.4, 38°.02N×13°.96E, h0km, mb3.3/3,*
mbtmp3.3/4, ML2.7/1, Error ellipse: s-maj=27.5km
s-min=14.4km az=68.0

ISC 07 18:51:38.8±0.8, 37°.87N±0°.02×13°.97E±0°.02, h7km±6km,
n47, σ1°.09/53, 5C, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSLB	**Castelbuono**	**0.09**	**47**	⇑P	**Pg**	**18 51 40.6**	**-0.4**
CSLB				S	**Sg**	**18 51 43.6**	**+1.0**
CSLB				AML	AML		
	comp=E,7160μm,0.5s						
CSLB				AML	AML		
	comp=N,9940μm,0.4s						
CSLB				AML	AML		
	comp=E,7159μm,0.5s						
CSLB				AML	AML		
	comp=N,9943μm,0.4s						
CSLB				AML	AML		
	comp=E,7159μm,1.5s						
PETRA	**Petralia Sopra**	**0.12**	**110**	⇑P	**Pg**	**18 51 40.4**	**-1.1**
PETRA				S	**Sg**	**18 51 42.9**	**-0.5**
GIB	**Gibilmanna**	**0.12**	**20**	⇑P	**Pg**	**18 51 41.7**	**+0.2**
GIB				S	**Sg**	**18 51 45.1**	**+1.7**
GIB				AML	AML		
	comp=N,13450μm,0.5s						
GIB				AML	AML		
	comp=E,13400μm,1.2s						
GIB				AML	AML		
	comp=N,11550μm,0.4s						
GIB				AML	AML		
	comp=N,11550μm,1.6s						
GIB				AML	AML		
	comp=N,12129μm,0.5s						
GIB				AML	AML		
	comp=E,10157μm,0.3s						
GIB				AML	AML		
	comp=E,13400μm,0.8s						
PLLN	**Pollina**	**0.18**	**49**	⇑P	**Pg**	**18 51 42.2**	**-0.3**
PLLN				S	**Sg**	**18 51 45.2**	**+0.2**
PLLN				AML	AML		
	comp=N,10990μm,0.8s						
PLLN				AML	AML		
	comp=E,8910μm,0.5s						
PLLN				AML	AML		
	comp=N,8500μm,0.5s						
PLLN				AML	AML		
	comp=N,8501μm,0.5s						
PLLN				AML	AML		
	comp=E,8903μm,0.5s						
ALJA	**Alia**	**0.21**	**234**	P	**Pg**	**18 51 41.1**	**-2.0**
ALJA				S	**Sg**	**18 51 44.9**	**-1.1**
ALJA				AML	AML		
	comp=E,13500μm,1.6s						
ALJA				AML	AML		
	comp=N,11865μm,1.5s						
RESU	**Resuttano**	**0.24**	**164**	P	**Pg**	**18 51 41.8**	**-1.7**
RESU				S	**Sg**	**18 51 45.5**	**-1.3**
RESU				AML	AML		
	comp=E,9745μm,0.4s						
RESU				AML	AML		
	comp=N,17900μm,0.9s						
MCT	**Mte Cammarata**	**0.36**	**228**	AML	AML		
	comp=E,3065μm,0.6s						
MCT				AML	AML		
	comp=N,3765μm,1.1s						
MCT				AML	AML		
	comp=N,3765μm,0.9s						
MCT				AML	AML		
	comp=E,3064μm,0.6s						
MCT				AML	AML		
	comp=N,3071μm,0.6s						
SOLUN	**Solunto**	**0.41**	**302**	P	**Pg**	**18 51 46.4**	**-0.4**
SOLUN				S	**Sb**	**18 51 53.4**	**-1.4**
SOLUN				AML	AML		
	comp=E,1590μm,0.8s						
SOLUN				AML	AML		
	comp=N,1130μm,0.8s						
SOLUN				AML	AML		
	comp=E,1590μm,0.8s						
SOLUN				AML	AML		
	comp=E,1590μm,1.2s						
SOLUN				AML	AML		
	comp=N,1129μm,0.8s						
CMDO	**Montedoro**	**0.43**	**196**	P	**Pg**	**18 51 47.9**	**+0.8**
CMDO				AML	AML		
	comp=N,2435μm,1.6s						
CMDO				AML	AML		
	comp=N,2435μm,0.4s						
CMDO				AML	AML		
	comp=E,1197μm,0.8s						
CMDO				AML	AML		
	comp=N,2022μm,1.1s						
CMDO				AML	AML		
	comp=N,2022μm,0.9s						
CMDO				AML	AML		
	comp=E,1715μm,1.2s						
CAGR	**Agira**	**0.49**	**121**	P	**Pg**	**18 51 49.0**	**+0.8**
GALF	**Gagliano Caste**	**0.50**	**109**	P	**Pg**	**18 51 48.5**	**+0.1**
GALF				AML	AML		
	comp=E,708μm,0.7s						
GALF				AML	AML		
	comp=N,918μm,0.7s						
GALF				AML	AML		
	comp=E,2815μm,0.7s						
GALF				AML	AML		
	comp=N,2450μm,0.7s						
GALF				AML	AML		
	comp=N,849μm,0.6s						
GALF				AML	AML		
	comp=E,500μm,0.6s						
GALF				AML	AML		
	comp=E,500μm,1.4s						
GALF				AML	AML		
	comp=N,2442μm,0.6s						
GALF				AML	AML		
	comp=E,1920μm,0.5s						
VAE	**Valguarnera**	**0.53**	**139**	Pg	**Pb**	**18 51 51.6**	**+1.3**
	comp=E,16nm,0.3s,baz=352,slow=6.3,SNR=17						
CORL	**Corleone**	**0.53**	**272**	P	**Pg**	**18 51 48.3**	**-0.8**
CORL				AML	AML		
	comp=E,2745μm,0.8s						
CORL				AML	AML		
	comp=N,2840μm,0.5s						
MPG	**Monte Pellegri**	**0.56**	**301**	P	**Pg**	**18 51 49.2**	**-0.5**
MPG				AML	AML		
	comp=E,959μm,0.6s						
MPG				AML	AML		
	comp=N,910μm,0.5s						
MPG				AML	AML		
	comp=N,910μm,0.5s						
MPG				AML	AML		
	comp=E,960μm,0.6s						
MNO	**Monte Soro**	**0.57**	**84**	P	**Pg**	**18 51 49.1**	**-0.8**
FAVR	**Favara**	**0.65**	**202**	P	**Pb**	**18 51 53.9**	**+1.4**
CLTB	**Caltabellotta**	**0.67**	**244**	P	**Pb**	**18 51 53.2**	**+0.3**
CLTB				AML	AML		
	comp=E,10370μm,0.5s						
CLTB				AML	AML		
	comp=N,18600μm,0.6s						
CLTB				AML	AML		
	comp=N,18596μm,0.6s						
CLTB				AML	AML		
	comp=E,10363μm,0.5s						
CLTB				AML	AML		
	comp=N,18596μm,1.4s						
EPZF	**Pizzo Felice**	**0.70**	**94**	P	**Pg**	**18 51 51.9**	**-0.4**
EPZF				AML	AML		
	comp=E,2295μm,1.5s						
EPZF				AML	AML		
	comp=N,2395μm,1.0s						
EPZF				AML	AML		
	comp=N,2338μm,0.5s						
EPZF				AML	AML		
	comp=E,2274μm,0.6s						
EPZF				AML	AML		
	comp=N,2338μm,1.5s						
CLTA	**Licata**	**0.71**	**181**	P	**Pg**	**18 51 53.1**	**+0.6**
CLTA				AML	AML		
	comp=E,618μm,0.6s						
CLTA				AML	AML		
	comp=N,530μm,0.9s						
CLTA				AML	AML		
	comp=N,529μm,0.9s						
CLTA				AML	AML		
	comp=E,618μm,0.6s						
CLTA				AML	AML		
	comp=N,529μm,1.1s						
RAFF	**Raffo Rosso**	**0.72**	**154**	P	**Pg**	**18 51 52.4**	**-0.2**
RAFF				AML	AML		
	comp=E,949μm,1.6s						
RAFF				AML	AML		
	comp=N,852μm,1.6s						
RAFF				AML	AML		
	comp=N,746μm,0.6s						
RAFF				AML	AML		
	comp=E,895μm,0.6s						
RAFF				AML	AML		
	comp=N,746μm,1.4s						
RAFF				AML	AML		
	comp=E,895μm,1.4s						
IACL	**Alicudi**	**0.72**	**24**	⇑P	**Pb**	**18 51 53.1**	**-0.6**
IACL				AML	AML		
	comp=E,2570μm,0.4s						
IACL				AML	AML		
	comp=N,2305μm,0.4s						
IACL				AML	AML		
	comp=N,2301μm,0.4s						
IACL				AML	AML		
	comp=E,2566μm,0.4s						
MUCR	**Ucria**	**0.73**	**76**	P	**Pg**	**18 51 51.9**	**-0.9**
MUCR				AML	AML		
	comp=E,1615μm,0.6s						
MUCR				AML	AML		
	comp=N,1410μm,0.5s						
MUCR				AML	AML		
	comp=E,1615μm,0.6s						
MUCR				AML	AML		
	comp=N,1409μm,0.5s						
MUCR				AML	AML		
	comp=E,1615μm,1.4s						
EMSG	**Monte Spagnolo**	**0.78**	**94**	P	**Pg**	**18 51 54.3**	**+0.6**
MBFT	**Monte Bonifato**	**0.81**	**275**	P	**Pg**	**18 51 53.0**	**-1.4**
MBFT				AML	AML		
	comp=E,917μm,0.6s						
MBFT				AML	AML		
	comp=N,604μm,0.8s						
MBFT				AML	AML		
	comp=E,954μm,0.7s						
MBFT				AML	AML		
	comp=E,917μm,0.6s						
MBFT				AML	AML		
	comp=N,604μm,0.8s						
IFIL	**Filicudi I Eol**	**0.83**	**34**	P	**Pg**	**18 51 53.7**	**-1.1**
HLNI	**Lentini**	**0.89**	**126**	P	**Pg**	**18 51 54.8**	**-1.0**
HLNI				AML	AML		
	comp=E,846μm,0.8s						
HLNI				AML	AML		
	comp=N,893μm,1.1s						
HLNI				AML	AML		
	comp=N,817μm,0.3s						
HLNI				AML	AML		
	comp=E,825μm,0.5s						
HVZN	**Vizzini**	**0.91**	**139**	P	**Pg**	**18 51 55.5**	**-0.8**
NOV	**Novara**	**0.93**	**80**	P	**Pg**	**18 51 55.5**	**-1.2**
NOV				AML	AML		
	comp=E,1345μm,0.6s						
NOV				AML	AML		
	comp=N,1850μm,0.7s						
NOV				AML	AML		
	comp=E,1342μm,0.6s						
NOV				AML	AML		
	comp=N,1850μm,0.7s						
NOV				AML	AML		
	comp=N,1850μm,1.3s						
NOV				AML	AML		
	comp=E,1342μm,1.4s						
IVGP	**Vulcano Grotta**	**0.94**	**56**	P	**Pg**	**18 51 56.5**	**-0.2**
VPL	**Vulcano Piano**	**0.94**	**57**	P	**Pg**	**18 51 56.2**	**-0.7**
LLI	**Lipari**	**0.96**	**53**	P	**Pg**	**18 51 55.9**	**-1.3**
CAVT	**Castelvetrano**	**0.98**	**259**	P	**Pb**	**18 51 58.0**	**-0.2**
CAVT				AML	AML		
	comp=E,1420μm,0.8s						
CAVT				AML	AML		
	comp=N,1870μm,0.6s						
CAVT				AML	AML		
	comp=E,1417μm,0.8s						
CAVT				AML	AML		
	comp=E,1417μm,1.2s						
CAVT				AML	AML		
	comp=N,1874μm,0.6s						
AIO	**Antillo**	**1.00**	**84**	P	**Pg**	**18 51 57.5**	**-0.5**
USI	**Ustica**	**1.04**	**323**	P	**Pg**	**18 51 57.4**	**-1.3**
HAGA	**Augusta**	**1.11**	**122**	P	**Pg**	**18 51 58.7**	**-1.3**
HMDC	**Modica**	**1.12**	**145**	P	**Pg**	**18 51 58.4**	**-1.8**
HMDC				AML	AML		
	comp=E,855μm,0.7s						
MPNC	**Port Mandanici**	**1.12**	**76**	P	**Pg**	**18 51 59.0**	**-1.3**
MARS	**Marsala (TP) I**	**1.12**	**264**	P	**Pg**	**18 52 00.1**	**-0.2**

MARS AML AML
comp=E,960μm,0.7s
MARS AML AML
comp=N,897μm,0.7s
MARS AML AML
comp=N,897μm,0.7s
MARS AML AML
comp=N,897μm,1.3s
MARS AML AML
comp=E,960μm,0.7s
AGST Augusta-Monte 1.17 121 P **Pg 18 51 59.6 -1.7**
AGST AML AML
comp=E,2000μm,0.6s
AGST AML AML
comp=N,2620μm,1.0s
AGST AML AML
comp=N,2544μm,0.7s
AGST AML AML
comp=E,1999μm,0.6s
AGST AML AML
comp=E,1999μm,1.4s
MTTG Motta San Giov 1.37 84 P **Pn 18 52 04.2 0.0**
HPAC Pachino 1.48 142 P **Pn 18 52 04.2 -1.7**
CEL Celeste 1.56 75 P **Pn 18 52 06.0 -1.0**
SOI Samo 1.66 83 P **Pn 18 52 09.0 +0.8**
SOI AML AML
comp=E,307μm,0.9s
SOI AML AML
comp=N,326μm,0.7s
SOI AML AML
comp=E,307μm,0.9s
SOI AML AML
comp=N,278μm,3.2s
SOI AML AML
comp=E,307μm,1.1s
SOI AML AML
comp=N,278μm,0.8s
KEST Kesra 4.29 241 Pn **Pn 18 52 46.5 +2.1**
comp=N,0.4nm,0.3s,baz=330,slow=8.7,SNR=5.9
KEST Sn **Sn 18 53 36.4 +1.6**
comp=N,0.3nm,0.3s,baz=171,slow=19,SNR=1.3
comp=N,2.8nm,0.6s
EKA Eskdalemuir Ar 20.96 332 P Pn 18 56 24.1 -0.6
comp=N,0.4nm,0.6s,baz=147,slow=11,SNR=2.3
comp=N,0.4nm,0.6s
FINES FINESS Array B 24.78 14 P **P 18 57 00.5 -0.3**
comp=N,2.1nm,0.9s,baz=193,slow=7.8,SNR=4.4
comp=N,2.1nm,0.9s
MKAR Makanchi Array 49.83 57 P **P 19 00 32.8 +0.5**
comp=N,0.1nm,0.4s,baz=275,slow=6.5,SNR=2.7
comp=N,0.1nm,0.4s

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*IDC **07** 19:11:39.3±2.7, 36°.42N×71°.23E, h201km±24km, mb3.4/12, mbtmp4.0/17, Error ellipse: s-maj=17.5km s-min=13.3km az=0.0*
*NEIC **07** 19:11:41.8±1.4, 36°.68N±0°.06×71°.13E±0°.09, h216km±5km, mb4.3/19, Error ellipse: s-maj=10.0km s-min=9.0km az=112.0*
*NNC **07** 19:11:46.9±4.0, 37°.40N×71°.09E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=32.2km s-min=28.4km az=135.0*
ISC 07 19:11:40.0±0.4, 36°.67N±0°.05×71°.16E±0°.05, h200km, n74, σ1§83/84, mb3.9/20, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.42**	**344**		Pn	**Pn**	**19 12 25.8**	**+2.8**
CHGR	**Chuyangaron**	**2.54**	**322**		Pn	**Pn**	**19 12 26.6**	**+2.3**
SIMJ	**Simiganj**	**2.62**	**320**		Pn	**Pn**	**19 12 27.6**	**+2.4**
KBL	**Kabul**	**2.74**	**220**		Pn	**Pn**	**19 12 29.8**	**+2.9**
DRK	**Karamyk**	**2.85**	**10**			**Pn**	**19 12 30.8**	**+2.7**
BTK	**Batken**	**3.39**	**356**		Pn	**Pn**	**19 12 37.6**	**+3.3**
NIL	**Nilore**	**3.47**	**150**		Pn	**Pn**	**19 12 38.0**	**+2.7**
KSH	**Kashi**	**4.74**	**52**		Pn	Pn	19 12 48.3	-2.8
KSH					Sn	Sn	19 13 37.9	-9.3
KSH					smax	smax		
	comp=N,210nm,0.6s							
KSH					smax	smax		
	comp=E,170nm,0.7s							
ARSB	**Arslanbob**	**4.86**	**16**			**Pn**	**19 12 54.0**	**+1.4**
THN	**Thein Dam**	**5.66**	**137**	*eP*		**Pn**	**19 13 05.2**	**+2.4**
THN				*eS*		**Sn**	**19 14 07.9**	**-0.3**
THN				IAML			19 14 10.9	
	comp=N,100nm,0.3s							
THN				IAML			19 14 11.8	
	comp=E,148nm,0.7s							
DHRM	**DHARAMSHALA**	**6.12**	**135**	*eP*		**Pn**	**19 13 10.4**	**+1.3**
DHRM				*eS*		**Sn**	**19 14 18.0**	**-1.5**
DHRM				IAML			19 14 20.2	
	comp=E,448nm,0.6s							
DHRM				IAML			19 14 20.8	
	comp=E,288nm,0.4s							
UCH	**Uchtor**	**6.12**	**24**	P		**Pn**	**19 13 11.0**	**+1.9**
	SNR=60							
EKS2	**Erkin-Say**	**6.31**	**18**	P		**Pn**	**19 13 14.0**	**+2.7**
	SNR=15							
KK31	**Karatay Array**	**6.44**	**356**			**Pn**	**19 13 14.3**	**+1.5**
KK31	**Karatay Array**	**6.44**	**356**	P		**Pn**	**19 13 14.2**	**+1.3**
	comp=E,1.7nm,0.2s,baz=179,slow=14,SNR=78							
KK31				⇑S		**Sn**	**19 14 20.1**	**-6.5**
	comp=E,45nm,0.5s,baz=182,slow=23,SNR=11							
KKAR	**Karatay Array**	**6.44**	**356**			**Pn**	**19 13 14.2**	**+1.3**
KKAR	**Karatay Array**	**6.44**	**356**			**Pn**	**19 13 14.1**	**+1.3**
AAK	**Ala-Archa**	**6.49**	**22**			**Pn**	**19 13 15.3**	**+1.7**
AAK	**Ala-Archa**	**6.49**	**22**	P		**Pn**	**19 13 15.8**	**+2.2**
	comp=E,3.9nm,0.3s,baz=55,slow=21,SNR=4.7							
AAK				S		**Sn**	**19 14 28.0**	**+0.2**
	comp=E,16nm,0.6s,baz=189,slow=23,SNR=3.9							
AAK	**Ala-Archa**	**6.49**	**22**	⇑P		**Pn**	**19 13 14.9**	**+1.3**
	comp=E,5.2nm,0.6s							
AAK				⇑S		**Sn**	**19 14 25.6**	**-2.2**
	comp=E,45nm,0.7s							
KBK	**Karagaybulak**	**6.65**	**25**	P		**Pn**	**19 13 18.9**	**+3.2**
	SNR=6.3							
ULHL	**Ulahol**	**6.81**	**34**	P		**Pn**	**19 13 19.8**	**+2.0**
	SNR=7.2							
BHK	**Bhakra**	**6.82**	**139**	*eP*		**Pn**	**19 13 19.0**	**+1.1**
BHK				*eS*		**Sn**	**19 14 32.8**	**-2.8**
BHK				IAML			19 14 34.1	
	comp=N,119nm,0.8s							
BHK				IAML			19 14 34.2	
	comp=E,43nm,0.7s							
BOOM	**Boomskoye usch**	**6.88**	**31**	Pn		**Pn**	**19 13 20.2**	**+1.5**
CHMS	**Chumysh**	**6.89**	**23**	⇓P		**Pn**	**19 13 20.3**	**+1.6**
	comp=E,4.3nm,0.7s							
CHMS				⇓S		**Sn**	**19 14 31.8**	**-5.4**
	comp=E,11nm,0.7s							
USP	**Ospenovka**	**7.07**	**20**	P		**Pn**	**19 13 23.9**	**+2.9**
	SNR=6.8							
TKM2	**Tokmak 2**	**7.11**	**27**	P		**Pn**	**19 13 23.6**	**+1.8**
	SNR=17							
TKM2	**Tokmak 2**	**7.11**	**27**	⇓P		**Pn**	**19 13 22.9**	**+1.2**
	comp=E,4.8nm,0.5s							
TKM2				⇓S		**Sn**	**19 14 40.9**	**-1.7**
	comp=E,5.5nm,0.6s							
TARG	**Taragay, Kyrgy**	**7.22**	**44**	Pn		**Pn**	**19 13 24.5**	**+1.2**
SMLA	**Simla**	**7.45**	**136**	*eP*		**Pn**	**19 13 26.9**	**+0.9**
SMLA				*eS*		**Sn**	**19 14 48.0**	**-2.3**
SMLA				IAML			19 14 50.6	
	comp=E,88nm,0.4s							
SMLA				IAML			19 14 50.9	
	comp=E,88nm,0.5s							
HRA	**Herat**	**7.62**	**255**	Pn		**Pn**	**19 13 29.1**	**+0.7**
KUDL	**Kundal**	**9.62**	**151**	*eP*		**Pn**	**19 13 52.9**	**-1.4**
KUDL				*eS*		Sn	19 15 35.0	-7.0
GEYT	**Alibeck**	**10.47**	**281**	P		**Pn**	**19 14 05.1**	**-0.1**
	comp=E,3.4nm,0.4s,baz=314,slow=39,SNR=7.5							
GEYT				S		**Sn**	**19 16 00.2**	**-1.9**
	comp=E,3.5nm,0.4s,baz=70,slow=17,SNR=2.6							
GYA0B	**ALIBECK ARRAY**	**10.47**	**281**	Pn		**Pn**	**19 14 04.6**	**-0.6**
LGTI	**Lohaghat**	**10.48**	**131**	*eP*		**Pn**	**19 14 03.2**	**-2.2**
LGTI				*eS*		Sn	19 15 53.9	-8.6
MAKZ	**Makanchi**	**12.94**	**35**			**Pn**	**19 14 36.9**	**+0.3**
MK31	**Makanchi Array**	**13.07**	**36**	Pn		**Pn**	**19 14 39.0**	**+0.8**
MKAR	**Makanchi Array**	**13.07**	**36**	Pn		**Pn**	**19 14 38.7**	**+0.5**
MKAR	**Makanchi Array**	**13.07**	**36**	P		**Pn**	**19 14 39.4**	**+1.2**
	comp=E,1.0nm,0.8s,baz=209,slow=10,SNR=12							
BRVK	**Borovoye**	**16.39**	**358**	P		**P**	**19 15 18.5**	**+0.6**
AKTO	**Aktyubinsk**	**16.70**	**330**	P		**P**	**19 15 23.4**	**+2.0**
	comp=E,9.2nm,0.6s,baz=138,slow=7.9,SNR=18							
AKTO				S		**S**	**19 18 24.0**	**-1.3**
	comp=E,0.7nm,0.4s,baz=0.0,slow=20,SNR=1.8							
UOSS	**Minazif**	**17.34**	**232**	P		**P**	**19 15 28.4**	**-0.3**
UOSS				IAmb		IAmb	19 15 50.8	
	comp=Z,12nm,1.1s							
ZAA0	**Zalesovo Array**	**19.70**	**24**	P		**P**	**19 15 53.9**	**0.0**
ZAA0				IAmb		IAmb	19 15 57.9	
	comp=Z,2.2nm,0.4s							
ZALV	**Zalesovo Beam**	**19.70**	**24**	P		**P**	**19 15 53.6**	**-0.3**
ZALV	**Zalesovo Beam**	**19.70**	**24**	P		**P**	**19 15 54.8**	**+0.9**
	comp=Z,2.5nm,0.3s,baz=211,slow=11,SNR=12							
IMP	**Imphal**	**22.80**	**115**	*eP*		**P**	**19 16 27.2**	**+1.6**
SONM	**Songino Array**	**28.13**	**56**	P		**P**	**19 17 14.6**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=238,slow=8.0,SNR=2.3							
	comp=Z,0.3nm,0.5s							
BRTR	**Keskin Array B**	**29.50**	**287**	P		**P**	**19 17 27.4**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=97,slow=8.4,SNR=5.1							
	comp=Z,0.6nm,0.6s							
FIA1	**FINESS Array S**	**37.41**	**326**	P		**P**	**19 18 33.5**	**+0.1**
FIA1				IAmb		IAmb	19 18 40.9	
	comp=Z,21nm,1.4s							
FINES	**FINESS Array B**	**37.41**	**326**	P		**P**	**19 18 34.0**	**+0.7**
FINES	**FINESS Array B**	**37.41**	**326**	P		**P**	**19 18 34.8**	**+1.4**
	comp=Z,1.1nm,0.5s,baz=122,slow=8.9,SNR=13							
	comp=Z,1.1nm,0.5s							
VLO	**Vlora**	**40.10**	**292**	P		**P**	**19 18 55.7**	**-0.3**
ARCES	**ARCESS Array B**	**41.03**	**337**	P		**P**	**19 19 04.1**	**+0.8**
ARCES	**ARCESS Array B**	**41.03**	**337**	P		**P**	**19 19 04.7**	**+1.5**
	comp=Z,1.0nm,0.5s,baz=113,slow=7.7,SNR=14							
	comp=Z,1.0nm,0.5s							
GSI	**Gunungsitoli**	**42.84**	**139**	P		**P**	**19 19 19.3**	**+0.8**
GSI				IAmb		IAmb	19 19 29.6	
	comp=Z,32nm,1.5s							
HFS	**Hagfors**	**43.01**	**322**	P		**P**	**19 19 20.4**	**+1.0**
	comp=Z,2.3nm,0.5s,baz=95,slow=9.4,SNR=20							
	comp=Z,2.3nm,0.5s							
PAOL	**Paolisi**	**43.63**	**294**	P		**P**	**19 19 25.5**	**+0.9**
PAOL				IAmb		IAmb	19 19 44.7	
	comp=Z,32nm,1.5s							
NC405	**NORSAR Array S**	**44.08**	**323**	P		**P**	**19 19 28.3**	**+0.4**
NC405				IAmb		IAmb	19 19 41.4	
	comp=Z,13nm,1.4s							
NB2	**NORSAR Subarra**	**44.32**	**323**	P		**P**	**19 19 30.2**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.32**	**323**	P		**P**	**19 19 30.5**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=96,slow=7.7,SNR=8.9							
	comp=Z,0.8nm,0.5s							
TIXI	**Tiksi**	**45.56**	**22**	P		**P**	**19 19 39.3**	**0.0**
TIXI				IAmb		IAmb	19 19 54.2	
	comp=Z,13nm,0.9s							
KMBO	**Kilima Mbogo**	**49.04**	**228**	P		**P**	**19 20 08.1**	**+0.9**
VOI	**Vohitsoka**	**62.65**	**206**	P		**P**	**19 21 43.4**	**0.0**
TOA0	**Torodi Ar. Sit**	**65.85**	**269**	P		**P**	**19 22 02.8**	**-1.5**
TOA0				IAmb		IAmb	19 22 14.4	
	comp=Z,6.4nm,1.4s							
TORD	**Torodi Ar. Bea**	**65.85**	**269**	P		**P**	**19 22 02.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**65.85**	**269**	P		**P**	**19 22 03.0**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=48,slow=6.1,SNR=19							
	comp=Z,1.6nm,0.6s							
C19K	**Lookout Ridge**	**68.12**	**17**	P		**P**	**19 22 18.2**	**+0.3**
D19K	**Kuna River**	**68.94**	**17**	P		**P**	**19 22 23.1**	**+0.3**
D19K				IAmb		IAmb	19 22 42.9	
	comp=Z,4.9nm,1.1s							
F15K	**North Star Dit**	**69.24**	**21**	P		**P**	**19 22 25.6**	**+0.9**
F15K				IAmb		IAmb	19 22 31.1	
	comp=Z,8.9nm,1.3s							
ILAR	**Eielson Array**	**74.58**	**16**	P		**P**	**19 22 56.4**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=340,slow=5.7,SNR=7.6							
	comp=Z,0.6nm,0.7s							
BOSA	**Boshof**	**77.96**	**220**	P		**P**	**19 23 14.9**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=46,slow=7.6,SNR=3.8							
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**81.06**	**3**	P		**P**	**19 23 32.8**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=14,slow=5.7,SNR=4.9							
	comp=Z,2.1nm,0.8s							
WRA	**Warramunga Arr**	**81.97**	**122**	P		**P**	**19 23 36.1**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=325,slow=4.9,SNR=12							
	comp=Z,0.8nm,0.6s							
ASAR	**Alice Springs**	**84.25**	**125**	P		**P**	**19 23 47.5**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=308,slow=5.3,SNR=13							
	comp=Z,0.9nm,0.7s							

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*IDC **07** 19:16:26.9±1.8, 36°.56N×141°.92E, h0km, mb3.6/6, mbtmp3.6/7, ML3.1/1, MS2.5/2, Error ellipse: s-maj=47.9km s-min=23.2km az=57.0*
*JMA **07** 19:16:31.6±0.2, 36°.5N±0°.4×14°.2E±°, h55km±3km, MV3.2/33, E OFF IBARAKI PREF*
ISC 07 19:16:29.3±1.3, 36°.48N±0°.08×141°.68E±0°.08, h10km, n15, σ0§59/17, mb3.5/6, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.90**	**261**	⇓P		**Pg**	**19 16 47.4**	**+0.8**
JHYU				⇓*eS*		**Sb**	**19 16 59.0**	**+0.1**
JHO	**Hitachi**	**0.91**	**278**	⇓P		**Pg**	**19 16 47.0**	**+0.3**
JHO				⇓*eS*		**Sg**	**19 16 58.7**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.94**	**311**	P		**Pb**	**19 16 48.0**	**+0.2**
JFFD	**Fukushimafurud**	**1.09**	**304**	P		**Pg**	**19 16 49.5**	**-0.7**
JFK	**Kawauchi**	**1.09**	**324**	P		**Pb**	**19 16 50.5**	**+0.1**
JYT	**Yasato**	**1.23**	**259**	*i P*		**Pb**	**19 16 51.7**	**-0.9**
JOTO	**OTAMA OYAMA**	**1.52**	**315**	*eP*		**Pn**	**19 16 57.2**	**+0.6**
MJAR	**Matsushiro Arr**	**2.80**	**272**	Pn		**Pn**	**19 17 14.8**	**+0.7**
	2.9nm,0.3s,baz=106,slow=11,SNR=152							
MJAR				Sn		**Sb**	**19 17 53.0**	**-0.8**
	1.1nm,0.3s,baz=110,slow=16,SNR=7.5							
MJAR				LR		LR	19 18 38.2	
	comp=Z,82nm,18.2s,baz=36,slow=44							
	12nm,0.3s							
KSRS	**Korea Array**	**11.05**	**279**	LR		LR	19 23 35.6	
	comp=Z,20nm,18.3s,baz=180,slow=38							
SONM	**Songino Array**	**28.27**	**305**	P		**P**	**19 22 23.0**	**+0.2**
	1.4nm,0.7s,baz=108,slow=9.5,SNR=9.4							
	1.4nm,0.7s							
ZALV	**Zalesovo Beam**	**42.45**	**313**	P		**P**	**19 24 23.4**	**-0.8**
	0.6nm,0.6s,baz=103,slow=6.5,SNR=3.0							
	0.6nm,0.6s							
MKAR	**Makanchi Array**	**44.60**	**303**	P		**P**	**19 24 41.8**	**+0.1**
	0.2nm,0.5s,baz=82,slow=7.9,SNR=4.1							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**46.51**	**308**	P		**P**	**19 24 56.7**	**0.0**
	0.7nm,0.5s,baz=84,slow=7.7,SNR=6.5							
	0.7nm,0.5s							
WRA	**Warramunga Arr**	**56.55**	**188**	P		**P**	**19 26 11.2**	**-0.8**
	0.2nm,0.6s,baz=5.2,slow=7.4,SNR=1.5							
	0.2nm,0.6s							
ASAR	**Alice Springs**	**60.27**	**188**	P		**P**	**19 26 38.4**	**+0.4**
	0.3nm,0.6s,baz=359,slow=5.9,SNR=5.3							
	0.3nm,0.6s							

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*NEIC **07** 19:22:18.7±2.5, 43°.63N±0°.05×105°.27W±0°.08, h0km±1km, ML3.2/44, Error ellipse: s-maj=10.2km s-min=8.6km az=97.0*
*IDC **07** 19:22:21.1±1.3, 43°.88N×105°.57W, h0km, mbtmp3.1/3, ML3.8/2, Error ellipse: s-maj=21.7km s-min=10.0km az=151.0*
ISC 07 19:22:19.6±1.0, 43°.61N±0°.05×105°.26W±0°.05, h0km, n24, σ1§16/23, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.02**	**59**	Pg		**Pg**	**19 22 38.6**	**-0.7**
K22A	**Casper**	**1.33**	**225**			**Pg**	**19 22 44.6**	**-0.5**
PHWY	**Pilot Hill**	**2.31**	**184**	Pn		**Pn**	**19 22 59.7**	**+0.6**
PHWY				IAML			19 23 34.8	
	113nm,0.8s							
RWWY	**Rawlins**	**2.40**	**218**			**Pn**	**19 23 01.2**	**+0.9**
N23A	**Red Feather La**	**2.76**	**191**			**Pn**	**19 23 05.8**	**+0.5**
N23A				IAML			19 23 52.9	
	comp=N,100nm,0.7s							
N23A				IAML			19 23 59.8	
	comp=E,102nm,0.7s							
LAO	**LASA Array**	**3.16**	**348**	Pn		**Pn**	**19 23 09.4**	**-1.2**
RLMT	**Red Lodge**	**3.25**	**299**			**Pn**	**19 23 10.4**	**-1.6**
RLMT				IAML			19 24 13.2	
	comp=E,51nm,0.6s							
RLMT				IAML			19 24 18.1	
	comp=E,50nm,0.7s							
PD31	**Pinedale Array**	**3.25**	**257**			**Pn**	**19 23 13.4**	**+1.3**
PDAR	**Pinedale Array**	**3.25**	**257**	Pn		**Pn**	**19 23 13.6**	**+1.5**
	comp=E,2.7nm,0.3s,baz=78,slow=14,SNR=31							
PDAR				Lg		Lg	19 24 00.1	
	comp=E,8.0nm,0.3s,baz=71,slow=33,SNR=16							
	comp=E,2.9nm,0.4s							
OGNE	**Ogallala**	**3.58**	**137**	Pn		**Pn**	**19 23 17.5**	**+1.1**
YMP	**Mirror Lake PI**	**3.70**	**290**			**Pn**	**19 23 18.7**	**+0.4**
ISCO	**Idaho Springs**	**3.81**	**184**			**Pn**	**19 23 19.4**	**-0.4**
ISCO				IAML			19 25 12.2	
	comp=E,29nm,3.7s							
ISCO				IAML			19 25 29.7	
	comp=E,33nm,4.2s							
LOHW	**Long Hollow**	**3.88**	**272**			**Pn**	**19 23 21.7**	**+1.0**
O20A	**White River Ci**	**4.12**	**214**			**Pn**	**19 23 23.5**	**-0.4**
O20A				IAML			19 25 16.4	
	comp=E,41nm,1.7s							
AHID	**Auburn Hatcher**	**4.35**	**261**			**Pn**	**19 23 27.6**	**+0.4**
AHID				IAML			19 24 49.1	
	comp=E,36nm,1.3s							
AHID				IAML			19 24 54.2	
	comp=E,35nm,2.3s							
E28A	**Huff**	**4.39**	**46**	Pn		**Pn**	**19 23 28.8**	**+1.3**
RDMU	**Red Mountain**	**4.41**	**228**			**Pn**	**19 23 27.4**	**-0.6**
RDMU				IAML			19 24 52.2	
	comp=E,24nm,1.3s							
RDMU				IAML			19 25 02.2	
	comp=N,22nm,1.6s							
Q24A	**Divide**	**4.64**	**179**			**Pn**	**19 23 30.8**	**-0.3**
DGMT	**Dagmar**	**4.92**	**8**			**Pn**	**19 23 35.9**	**+1.0**
BOZ	**Bozeman (W)**	**4.96**	**296**			**Pn**	**19 23 37.9**	**+2.4**
BOZ				IAML			19 25 01.2	
	comp=N,12nm,0.8s							
BOZ				IAML			19 26 41.0	
	comp=N,13nm,4.1s							
EGMT	**Eagleton**	**5.42**	**326**			**Pn**	**19 23 43.6**	**+1.9**
ULM	**Lac du Bonnet**	**9.24**	**41**	Pn		**Pn**	**19 24 32.8**	**-1.1**
	comp=N,2.2nm,0.7s,baz=234,slow=11,SNR=1.3							
ULM				Lg		Lg	19 27 06.7	
	comp=N,0.2nm,0.3s,baz=311,slow=18,SNR=2.4							
I56US	**NEWPORT INFRAS**	**9.49**	**304**	I		I	20 16 10.0	
	baz=116,slow=311,SNR=3.1							
TXAR	**Lajitas Array**	**14.30**	**174**	Pn		**P**	**19 25 51.3**	**+0.4**
	baz=350,slow=16,SNR=2.4							
TXAR				Pg			19 26 49.3	
	comp=N,0.1nm,0.3s,baz=9.1,slow=17,SNR=7.7							
TXAR				Lg		Lg	19 29 49.8	
	comp=N,0.1nm,0.3s,baz=3.0,slow=26,SNR=5.9							
	comp=N,0.2nm,0.7s							

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*JMA **07** 19:41:43.6±0.3, 45°.N±3°.×14°.3E±°, h318km, MV3.1/20, NE OFF HOKKAIDO*
*IDC **07** 19:41:44.1±3.6, 45°.56N×142°.58E, h312km±30km, mb2.8/1, mbtmp3.4/3, Error ellipse: s-maj=69.0km s-min=47.3km az=63.0*
ISC 07 19:41:44.1±1.5, 45°.4N±0°.1×142°.6E±0°.1, h317km, n16, σ1§24/21, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.51**	**265**	*eP*		**Pn**	**19 42 24.0**	**-0.6**
ASAJ	**Asahikawa**	**1.24**	**180**	P		**Pn**	**19 42 28.0**	**+0.4**
	2.9nm,0.5s,baz=256,slow=5.2,SNR=6.0							
ASAJ	**Asahikawa**	**1.24**	**180**	*eP*		**Pn**	**19 42 28.1**	**+0.4**
JMP	**Maruseppu**	**1.46**	**158**	P		**Pn**	**19 42 29.0**	**+0.2**
JMP				*eS*		**S**	**19 43 04.6**	**+0.1**
JKK2	**Kamakawa 2**	**1.49**	**176**	P		**Pn**	**19 42 29.8**	**+0.7**
JTKR	**Abashiri--Toko**	**1.67**	**146**	P		**Pn**	**19 42 30.3**	**+0.2**
JAR	**Ashorobuto**	**2.22**	**158**	P		**Pn**	**19 42 35.0**	**+0.7**
JAR				*eS*		**S**	**19 43 16.1**	**+1.8**
JEW	**Eniwo**	**2.66**	**199**	P		**Pn**	**19 42 39.7**	**+1.8**
JCH	**Churui**	**2.80**	**169**	P		**Pn**	**19 42 38.6**	**-0.6**
JCH				*eS*		**S**	**19 43 20.9**	**-2.4**
JAK	**Akkeshi**	**2.80**	**147**	P		**Pn**	**19 42 39.2**	**0.0**
JAK				*eS*		**S**	**19 43 22.4**	**-0.9**
NEM2	**Nemuro 2**	**3.00**	**131**	P		**Pn**	**19 42 42.2**	**+1.1**
JNBK	**Urakawa-nobuka**	**3.08**	**178**	P		**Pn**	**19 42 43.1**	**+1.2**
JOT	**Ohata**	**4.14**	**197**	P		**Pn**	**19 42 53.1**	**+0.3**
JOT				*eS*		**S**	**19 43 45.7**	**-2.2**
USRK	**Ussuriysk Ar.**	**7.65**	**265**	P		**Pn**	**19 43 33.6**	**+0.1**
	2.0nm,0.5s,baz=73,slow=14,SNR=7.1							
MJAR	**Matsushiro Arr**	**9.42**	**202**	P		**Pn**	**19 43 57.2**	**+2.1**
	0.8nm,0.6s,baz=12,slow=14,SNR=5.6							
SONM	**Songino Array**	**24.87**	**289**	P		**P**	**19 46 38.3**	**-0.4**
	0.5nm,0.6s,baz=97,slow=8.6,SNR=3.6							
	0.5nm,0.6s							

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*IDC **07** 19:52:34.1±1.1, 56°.10N×164°.37E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=60.1km s-min=20.6km az=159.0*
*KRSC **07** 19:52:34.4±1.2, 55°.67N×164°.76E, h56km±23km, Ml4.0*
ISC 07 19:52:36.9±2.6, 55°.72N±0°.05×164°.71E±0°.05, h23km±21km, n50, σ1§15/59, mb3.5/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.89**	**125**	*eP*		**Pn**	**19 52 52.7**	**-1.3**
BKI				*eS*		**Sb**	**19 53 05.7**	**+0.7**
KBTR	**Krutoberegovo**	**1.17**	**295**	*eP*		**Pn**	**19 52 55.5**	**-2.4**
KBTR				*eS*		**Sn**	**19 53 10.4**	**-2.6**
KBG	**Krutoberegovo**	**1.25**	**296**	*eP*		**Pn**	**19 52 56.7**	**-2.2**
KBG				*eS*		**Sn**	**19 53 12.7**	**-2.2**
MKZ	**Mys Kozlova**	**2.07**	**237**	*eP*		**Pn**	**19 53 07.5**	**-2.7**
SRKR	**Sorokina**	**2.19**	**297**	*eP*		**Pn**	**19 53 12.2**	**+0.3**
ZLN	**Zelenaya**	**2.22**	**279**	*eP*		**Pn**	**19 53 12.9**	**+0.5**
ZLN				*eS*		**Sn**	**19 53 40.5**	**+1.3**
CIRR	**Tsirk**	**2.26**	**282**	*eP*		**Pn**	**19 53 12.9**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**2.27**	**277**	*eP*		**Pn**	**19 53 12.5**	**-0.7**
BZGR				*eS*		**Sn**	**19 53 39.7**	**-0.8**
LGNR	**Loginova**	**2.29**	**281**	*eP*		**Pn**	**19 53 13.8**	**+0.3**
LGNR				*eS*		**Sn**	**19 53 41.7**	**+0.6**
KLY	**Klyuchi**	**2.35**	**286**	*eP*		**Pn**	**19 53 12.7**	**-1.4**
BZP	**Bezymyannyi-Pe**	**2.36**	**276**	*eP*		**Pn**	**19 53 14.2**	**-0.2**
KRSR	**Krestovskiy**	**2.38**	**284**	*eP*		**Pn**	**19 53 14.1**	**-0.5**
**

0.5nm,0.7s,baz=308,slow=7.2,SNR=3.9
0.5nm,0.7s
CMAR Chiang Mai Arr 61.32 261 P **P 20 02 51.2 +0.6**
0.3nm,0.3s,baz=20,slow=8.0,SNR=4.4
0.3nm,0.3s
TXAR Lajitas Array 67.18 71 P **P 20 03 29.6 +0.6**
0.3nm,0.5s,baz=296,slow=4.9,SNR=5.0
0.3nm,0.5s

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*IDC **07** 19:57:31.0±1.2, 9°.54S×113°.05E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=63.3km s-min=20.2km az=57.0.*
*DJA **07** 19:57:33.5±0.5, 10°.S±6°.×11°.3E±°., h10km, M4.3/13, mb4.4/7, mB5.4/1, MLv4.3/13, Mw(mB)4.8/1*
ISC 07 19:57:36.3±0.8, 9.70S±0°.09×112.96E±0°.07, h36km, n25, σ0:92/24, mb3.7/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.69**	**44**	P	**Pn**	**19 58 02.9**	**-0.5**
JAGI				S	**Sn**	**19 58 24.0**	**+0.2**
PWJI	**Pagerwojo**	**2.02**	**325**	P	**Pn**	**19 58 08.5**	**+0.6**
PWJI				S	**Sn**	**19 58 31.8**	**-0.1**
ABJI	**Asem Bagus**	**2.27**	**34**	P	**Pn**	**19 58 13.3**	**+2.0**
DNP	**Denpasar**	**2.44**	**66**	P	**Pn**	**19 58 13.9**	**+0.3**
SRBI	**Singaraja**	**2.74**	**54**	P	**Pn**	**19 58 18.9**	**+1.1**
GRJI	**Gresik**	**2.81**	**350**	P	**Pn**	**19 58 19.0**	**+0.3**
UGM	**Wanagama**	**3.00**	**306**	P	**Pn**	**19 58 22.4**	**+1.1**
BWJI	**Bawean**	**3.84**	**355**	P	**Pn**	**19 58 34.6**	**+1.7**
TWSI	**Taliwang, Sumb**	**3.98**	**76**	P	**Pn**	**19 58 35.9**	**+1.0**
PLAI	**Plampang**	**4.83**	**80**	P	**Pn**	**19 58 46.4**	**-0.1**
CMJI	**Cimerak**	**4.85**	**293**	P	**Pn**	**19 58 46.6**	**-0.2**
CNJI	**Cibinong**	**6.24**	**292**	P	**Pn**	**19 59 05.3**	**-0.6**
28nm,1.6s,0.2nm							
EDFI	**Ende, Flores**	**8.67**	**84**	P	**Pn**	**19 59 38.1**	**-1.2**
KASI	**Kota Agung**	**9.36**	**296**	P	**Pn**	**19 59 49.3**	**+0.5**
45nm,1.7s							
BATI	**Baumata**	**10.55**	**94**	P	**Pn**	**20 00 05.8**	**+0.7**
MNAI	**Manna**	**11.26**	**297**	P	**Pn**	**20 00 14.8**	**0.0**
WRA	**Warramunga Arr**	**23.01**	**119**	P	**P**	**20 02 37.3**	**-1.0**
1.1nm,0.9s,baz=296,slow=11,SNR=3.7							
1.1nm,0.9s							
ASAR	**Alice Springs**	**24.35**	**127**	P	**P**	**20 02 51.2**	**+0.2**
1.1nm,0.6s,baz=301,slow=8.4,SNR=20							
ASAR				S		20 07 20.9	+13
0.2nm,0.7s,baz=311,slow=26,SNR=2.3							
1.1nm,0.6s							
STKA	**Stephens Creek**	**34.49**	**134**	P	**P**	**20 04 21.4**	**+0.2**
3.6nm,1.0s,baz=328,slow=12,SNR=3.1							
3.6nm,1.0s							
H08S2	**Diego Garcia H**	**40.04**	**270**	T	T	20 48 04.7	
baz=96,slow=75,SNR=3.0							
H08S3	**Diego Garcia H**	**40.05**	**270**	T	T	20 48 05.6	
baz=96,slow=75,SNR=3.2							
H08S1	**Diego Garcia H**	**40.06**	**270**	T	T	20 48 00.3	
baz=96,slow=75,SNR=4.0							
SONM	**Songino Array**	**57.58**	**355**	P	**P**	**20 07 22.2**	**-0.3**
0.5nm,0.6s,baz=174,slow=6.0,SNR=4.0							
0.5nm,0.6s							
MKAR	**Makanchi Array**	**62.55**	**337**	P	**P**	**20 07 55.5**	**-1.1**
0.5nm,0.5s,baz=151,slow=7.4,SNR=12							
0.5nm,0.5s							
VNDA	**Vanda**	**72.28**	**170**	P	**P**	**20 08 58.9**	**+1.2**
0.6nm,0.8s,baz=295,slow=2.7,SNR=5.6							
0.6nm,0.8s							

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*IDC **07** 20:05:44.9±6.9, 24°.12S×179°.94W, h477km±67km, mb3.1/5, mbtmp4.0/6, Error ellipse: s-maj=49.9km s-min=19.4km az=54.0*
ISC 07 20:05:48.8±1.2, 24°.4S±0°.1×179°.7E±0°.3, h500km, n13, σ1:16/12, mb3.6/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.99**	**189**	P	**P**	**20 08 48.4**	**+0.2**
3.0nm,0.3s,baz=338,slow=5.1,SNR=8.3							
URZ				S	**S**	**20 11 16.4**	**+0.1**
11nm,0.8s,baz=295,slow=23,SNR=8.6							
ASAR	**Alice Springs**	**41.72**	**261**	P	**P**	**20 12 54.2**	**+0.6**
0.4nm,0.6s,baz=93,slow=6.5,SNR=7.9							
0.4nm,0.6s							
WRA	**Warramunga Arr**	**42.13**	**267**	P	**P**	**20 12 56.6**	**-0.4**
1.0nm,0.5s,baz=97,slow=8.4,SNR=13							
1.0nm,0.5s							
VNDA	**Vanda**	**53.86**	**185**	P	**P**	**20 14 23.9**	**+0.1**
0.5nm,0.6s,baz=356,slow=4.4,SNR=4.7							
0.5nm,0.6s							
QSPA	**South Pole Qui**	**65.68**	**180**	P	**P**	**20 15 42.9**	**-0.1**
3.6nm,0.7s,baz=29,slow=1.5,SNR=32							
3.6nm,0.7s							
MAW	**Mawson**	**77.20**	**201**	P	**P**	**20 16 50.1**	**-0.1**
1.7nm,0.6s,baz=143,slow=7.4,SNR=7.8							
1.7nm,0.6s							
FINES	**FINESS Array B**	**138.84**	**341**	PKhKP	PKPpre	20 24 06.7	
1.6nm,1.0s,baz=355,slow=4.8,SNR=3.3							
HFS	**Hagfors**	**142.99**	**348**	PKhKP	PKPpre	20 24 19.3	
2.1nm,0.4s,baz=64,slow=3.4,SNR=30							
AKASG	**Malin Array Be**	**145.26**	**327**	PKPbc	**PKPdf**	**20 24 26.7**	**-2.2**
0.7nm,0.4s,baz=64,slow=2.2,SNR=3.4							
BRTR	**Keskin Array B**	**147.68**	**306**	PKPbc	**PKPdf**	**20 24 35.1**	**+1.6**
0.4nm,0.6s,baz=90,slow=2.9,SNR=3.0							
MMAI	**Mount Meron Ar**	**147.68**	**294**	PKPbc	**PKPbc**	**20 24 36.6**	**-0.6**
0.6nm,0.6s,baz=82,slow=6.8,SNR=5.2							
EKA	**Eskdalemuir Ar**	**149.03**	**3**	PKPbc	**PKPdf**	**20 24 36.8**	**+1.8**
0.2nm,0.4s,baz=343,slow=2.5,SNR=4.8							
TORD	**Torodi Ar. Bea**	**168.65**	**190**	PKPab	**PKPab**	**20 26 10.9**	**-1.0**
0.7nm,0.7s,baz=174,slow=4.7,SNR=3.7							

ISC 07 20:27:18.9±0.8, 45°.20N±0°.02×14°.80E±0°.03, h9km, n19, σ0:62/33, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIY	**Rijeka**	**0.26**	**299**	*e*Pg	**Pb**	**20 27 25.1**	**-0.7**
RIY				Sg	**Sb**	**20 27 29.7**	**-0.7**
GBRS	**Gornja Briga**	**0.33**	**1**	*i* Pg	**Pb**	**20 27 27.0**	**-0.1**
GBRS				*i* Sg	**Sb**	**20 27 32.3**	**-0.2**
GBRS				IAML		20 27 33.3	
comp=Z,8.3nm,0.1s							
BOJS	**Bojanci**	**0.44**	**46**	*i* Pg	**Pb**	**20 27 28.5**	**-0.3**
BOJS				*i* Sg	**Sb**	**20 27 35.2**	**-0.3**
BOJS				IAML		20 27 35.9	
comp=Z,3.9nm,0.1s							
KNDS	**Knezji Dol**	**0.44**	**318**	*i* Pg	**Pb**	**20 27 28.6**	**-0.4**
KNDS				*i* Sg	**Sb**	**20 27 36.2**	**+0.4**
KNDS				IAML		20 27 38.4	
comp=Z,4.5nm,0.1s							
RABC	**Rab**	**0.45**	**182**	*e*Pg	**Pg**	**20 27 28.0**	**+0.3**
RABC				Sg	**Sb**	**20 27 35.1**	**-0.7**
SMRN	**Sveta Marina**	**0.49**	**251**	*e*Pg	**Pb**	**20 27 30.1**	**+0.4**
SMRN				Sg	**Sb**	**20 27 36.6**	**-0.3**
VISS	**Visnje**	**0.60**	**2**	*i* Pg	**Pb**	**20 27 31.7**	**0.0**
VISS				IAML		20 27 42.9	
comp=Z,3.0nm,0.1s							
OZLJ	**Ozalj**	**0.63**	**48**	*e*Pg	**Pb**	**20 27 32.0**	**0.0**
OZLJ				Sg	**Sb**	**20 27 40.9**	**0.0**
NVLJ	**Novalja**	**0.64**	**176**	*e*Pg	**Pg**	**20 27 31.3**	**0.0**
NVLJ				Sg	**Sb**	**20 27 40.7**	**-0.5**
SKDS	**Skadanscina**	**0.66**	**302**	*i* Pg	**Pg**	**20 27 31.9**	**+0.3**
SKDS				*i* Sg	**Sb**	**20 27 42.4**	**+0.6**
SKDS				IAML		20 27 44.1	
comp=Z,5.4nm,0.1s							
PLIT	**Plitvice**	**0.66**	**119**	*e*Pg	**Pb**	**20 27 32.1**	**-0.6**
PLIT				Sg	**Sb**	**20 27 41.2**	**-0.8**
BRJN	**Brijuni**	**0.80**	**249**	*e*Pg	**Pn**	**20 27 36.1**	**-0.3**
BRJN				Sg	**Sn**	**20 27 47.5**	**-0.9**
JAVS	**Javornik**	**0.87**	**323**	*i* Pg	**Pg**	**20 27 35.7**	**+0.1**
JAVS				*i* Sg	**Sn**	**20 27 49.4**	**-0.8**
JAVS				IAML		20 27 51.3	
comp=Z,4.6nm,0.2s							
VIRC	**Vir**	**0.92**	**169**	*e*Pg	**Pb**	**20 27 37.2**	**+0.1**
VIRC				Sg	**Sn**	**20 27 51.1**	**-0.4**
UDBI	**Udbina**	**0.96**	**134**	Sg	**Sn**	**20 27 51.6**	**-0.8**
VOJS	**Vojsko**	**1.05**	**323**	*i* Sg	**Sn**	**20 27 56.2**	**+1.3**
VOJS				IAML		20 27 56.3	
comp=Z,1.9nm,0.2s							
DUGI	**Dugi Otok**	**1.22**	**171**	*e*Pg	**Pg**	**20 27 43.4**	**+1.0**
DUGI				Sg	**Sn**	**20 28 00.0**	**+1.2**
MOSL	**Moslavina**	**1.44**	**73**	Sg	**Sg**	**20 28 05.5**	**+0.5**
MORI	**Morici**	**1.48**	**154**	*e*Pn	**Pg**	**20 27 48.2**	**+0.9**

IDC 07 20:32:48.4±1.2, 19°.91N×121°.43E, h0km, mb3.7/4, mbtmp3.9/5, ML3.7/1, MS3.1/7, Error ellipse: s-maj=51.2km s-min=21.8km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**9.32**	**41**	Pn	Pn	20 35 04.2	+0.1
1.8nm,0.3s,baz=112,slow=16,SNR=2.0							
7.0nm,0.3s							
JNU	**Nakatsue**	**15.62**	**31**	LR	LR	20 43 16.4	
comp=Z,38nm,18.3s,baz=151,slow=40							
KSRS	**Korea Array**	**18.37**	**17**	LR	LR	20 44 45.0	
comp=Z,41nm,18.7s,baz=200,slow=39							
JHJ	**Hachijo jima 2**	**21.00**	**48**	LR	LR	20 45 23.3	
comp=Z,34nm,18.5s,baz=18,slow=36							
CMAR	**Chiang Mai Arr**	**21.29**	**270**	LR	LR	20 45 48.7	
comp=Z,53nm,19.2s,baz=80,slow=37							
KLR	**Kul'dur**	**30.40**	**13**	LR	LR	20 51 29.3	
comp=Z,28nm,18.6s,baz=214,slow=37							
WRA	**Warramunga Arr**	**41.58**	**162**	P	P	20 40 37.4	-0.7
2.6nm,0.8s,baz=342,slow=9.1,SNR=9.5							
2.6nm,0.8s							
MKAR	**Makanchi Array**	**41.63**	**319**	P	P	20 40 38.4	+0.1
0.7nm,0.9s,baz=106,slow=9.1,SNR=5.2							
0.7nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**42.66**	**84**	T	T	21 26 28.0	
baz=279,slow=75,SNR=7.2							
H11N1	**WAKE ISLAND Hy**	**42.67**	**82**	T	T	21 26 33.1	
baz=278,slow=75,SNR=3.1							
H11N2	**WAKE ISLAND Hy**	**42.67**	**82**	T	T	21 26 31.9	
baz=278,slow=75,SNR=5.3							
H11S1	**WAKE ISLAND Hy**	**42.67**	**84**	T	T	21 26 31.7	
baz=279,slow=75,SNR=8.6							
H11S2	**WAKE ISLAND Hy**	**42.68**	**84**	T	T	21 26 34.4	
baz=279,slow=75,SNR=7.4							
H11N3	**WAKE ISLAND Hy**	**42.68**	**82**	T	T	21 26 32.0	
baz=278,slow=75,SNR=3.8							
ASAR	**Alice Springs**	**44.99**	**164**	P	P	20 41 06.1	+0.4
1.3nm,0.7s,baz=339,slow=6.8,SNR=11							
1.3nm,0.7s							
KURBB	**Kurchatov Arra**	**45.57**	**323**	P	P	20 41 09.6	-0.4
0.4nm,0.6s,baz=115,slow=8.3,SNR=2.7							
0.4nm,0.6s							
AKASG	**Malin Array Be**	**76.22**	**319**	LR	LR	21 20 26.4	
comp=Z,29nm,18.4s,baz=239,slow=38							
NOA	**NORSAR Array B**	**82.10**	**333**	LR	LR	21 25 42.7	
comp=Z,20nm,19.4s,baz=155,slow=39							

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*INMG **07** 20:47:14.2±1.3, 34°.86N×12°.00W, h31km, ML1.9, Error ellipse: s-maj=17.2km s-min=5.2km az=94.0*
*CNRM **07** 20:47:16.6, 34°.30N×11°.86W, h49km, ML2.6*
ISC 07 20:47:10.7±3.1, 34°.79N±0°.05×12°.0W±0°.2, h35km, n21, σ2:51/22, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**3.68**	**46**	*e*P	**Pn**	**20 48 07.0**	**+1.8**
PTEO	**Sao Teotonio**	**3.81**	**43**	*e*S	**Sn**	**20 48 48.6**	**-1.8**
PBDV	**Barranco-do-Ve**	**4.10**	**52**	*e*P	**Pn**	**20 48 15.4**	**+4.5**
PBDV				*e*S	**Sn**	**20 48 56.0**	**-1.6**
PCVE	**Castro Verde**	**4.27**	**47**	*e*S	**Sn**	**20 49 00.6**	**-1.2**
MESJ	**Messejana**	**4.30**	**44**	*e*S	**Sn**	**20 49 01.3**	**-1.3**
PVAQ	**Vaqueiros**	**4.33**	**52**	*e*S	**Sn**	**20 49 00.9**	**-2.3**
PNCL	**Nicolau / Gran**	**4.33**	**39**	*e*P	**Pn**	**20 48 16.9**	**+2.9**
PNCL				*e*S	**Sn**	**20 49 00.5**	**-2.7**
PNCL				A	A	20 49 06.0	
2.0nm,0.7s							
ZHG	**ZHG**	**4.63**	**105**	P	**Pn**	**20 48 20.9**	**+2.7**
ZHG	**ZHG**	**4.63**	**105**	S	**Sn**	**20 49 09.9**	**-0.9**
TTIG	**Tnine Tigouga,**	**5.18**	**144**	P	Pn	20 48 24.5	-1.4
TTIG	**Tnine Tigouga,**	**5.18**	**144**	S	Sn	20 49 19.9	-4.6
PBAR	**Barrancos**	**5.22**	**48**	*e*S	**Sn**	**20 49 22.8**	**-2.5**
PMTG	**Montargil**	**5.22**	**34**	*e*P	**Pn**	**20 48 28.6**	**+2.3**
PMTG				*e*S	**Sn**	**20 49 21.9**	**-3.4**
TIO	**Tiouine**	**5.53**	**133**	P	**Pn**	**20 48 31.6**	**+0.9**
TIO	**Tiouine**	**5.53**	**133**	S	**Sn**	**20 49 30.7**	**-2.5**
TISM	**Timmit**	**5.56**	**122**	P	**Pn**	**20 48 32.5**	**+1.5**
TISM	**Timmit**	**5.56**	**122**	S	**Sn**	**20 49 32.2**	**-1.5**
OUZM	**OUZ**	**5.86**	**130**	P	**Pn**	**20 48 35.3**	**+0.1**
OUZM	**OUZ**	**5.86**	**130**	S	Sn	20 49 36.3	-4.8
PMRV	**Marv??o**	**5.91**	**37**	*e*P	**Pn**	**20 48 36.4**	**+0.7**
PMRV				*e*S	**Sn**	**20 49 37.9**	**-4.3**
MD31	**MD31**	**6.31**	**106**	P	**Pn**	**20 48 43.5**	**+2.1**

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*IDC **07** 21:12:20.9±7.0, 22°.36S×179°.14W, h406km±67km, mb3.0/5, mbtmp3.9/6, Error ellipse: s-maj=41.4km s-min=22.8km az=55.0*
ISC 07 21:12:25.6±1.0, 22°.6S±0°.2×179°.4W±0°.3, h450km, n12, σ1:73/11, mb3.3/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.94**	**190**	P	**P**	**21 15 44.9**	**-1.7**
12nm,1.0s,baz=20,slow=4.2,SNR=8.4							
ASAR	**Alice Springs**	**42.85**	**259**	P	**P**	**21 19 44.4**	**+1.4**
1.3nm,0.9s,baz=98,slow=8.6,SNR=7.5							
ASAR				PcP	**PcP**	**21 21 22.9**	**-1.4**
0.5nm,0.7s,baz=107,slow=4.1,SNR=4.4							
1.3nm,0.9s							
WRA	**Warramunga Arr**	**43.10**	**265**	P	**P**	**21 19 43.8**	**-1.2**
0.7nm,0.9s,baz=94,slow=8.0,SNR=3.1							
0.7nm,0.9s							
VNDA	**Vanda**	**55.76**	**185**	P	**P**	**21 21 18.2**	**+0.3**
0.6nm,0.8s,baz=347,slow=4.1,SNR=4.7							
0.6nm,0.8s							
QSPA	**South Pole Qui**	**67.51**	**180**	P	**P**	**21 22 36.3**	**+0.8**
2.3nm,0.7s,baz=254,slow=0.6,SNR=22							
2.3nm,0.7s							
ILAR	**Eielson Array**	**90.60**	**13**	P	**P**	**21 24 36.3**	**-2.0**
0.3nm,0.8s,baz=188,slow=5.9,SNR=2.5							
0.3nm,0.8s							
ARCES	**ARCESS Array B**	**130.70**	**349**	PKP	**PKPdf**	**21 30 44.0**	**+0.1**
0.3nm,0.5s,baz=5.7,slow=2.7,SNR=4.0							
HFS	**Hagfors**	**141.35**	**350**	PKhKP	PKPpre	21 30 56.4	
0.8nm,0.6s,baz=102,slow=3.5,SNR=4.5							
AKASG	**Malin Array Be**	**144.16**	**329**	PKP	PKPbc	21 31 07.3	-0.9
1.2nm,0.4s,baz=39,slow=4.7,SNR=4.4							
EKA	**Eskdalemuir Ar**	**147.15**	**4**	PKPbc	**PKPdf**	**21 31 15.8**	**+1.8**
0.8nm,0.9s,baz=350,slow=2.9,SNR=3.4							
BRTR	**Keskin Array B**	**147.22**	**309**	PKPbc	**PKPdf**	**21 31 17.6**	**+2.8**
0.5nm,0.7s,baz=70,slow=1.8,SNR=4.9							
TORD	**Torodi Ar. Bea**	**170.58**	**186**	PKPab	**PKPab**	**21 33 01.8**	**-0.3**
0.4nm,0.7s,baz=166,slow=2.5,SNR=2.8							

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*SJA **07** 21:14:17.2±0.7, 24°.32S×67°.18W, h194km±7km, ML3.6, MW3.4*
ISC 07 21:14:16.2±1.7, 24°.30S±0°.04×67°.15W±0°.05, h199km±16km, n33, σ1:61/62, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.64**	**325**	*e*P	**Pn**	**21 14 53.5**	**+1.9**
AF01				*e*S	**Sn**	**21 15 20.2**	**+1.3**
AZAP	**Zapla**	**1.90**	**88**	*e*P	**Pn**	**21 14 55.4**	**+1.4**
AZAP				*e*S	**Sn**	**21 15 18.3**	**-4.9**
LVC	**Limon Verde**	**2.34**	**316**	*e*P	**Pn**	**21 15 00.1**	**+1.4**
LVC				*e*S	**Sn**	**21 15 31.3**	**-0.3**
LVC	**Limon Verde**	**2.34**	**316**	*e*P	**Pn**	**21 15 00.1**	**+1.4**
LVC				*i* S	**Sn**	**21 15 30.1**	**-1.6**
LVC				IAML		21 15 34.1	
698nm,0.1s							
PB15	**IPOC Station P**	**2.39**	**297**	*e*P	**Pn**	**21 15 00.2**	**+1.1**
PB15				*e*S	**Sn**	**21 15 32.1**	**-0.3**
PB15				IAML		21 15 33.7	
comp=Z,879nm,0.1s							
PB15	**IPOC Station P**	**2.39**	**297**	*e*P	**Pn**	**21 15 00.7**	**+1.6**
PB15				*i* S	**Sn**	**21 15 30.5**	**-1.9**
YJA	**Yavi**	**2.60**	**36**	*e*P	**Pn**	**21 15 04.0**	**+2.3**
PB06	**IPOC Station P**	**2.73**	**305**	*e*P	**Pn**	**21 15 04.3**	**+1.3**
PB06				*e*S	**Sn**	**21 15 38.0**	**-1.4**
PB06				IAML		21 15 39.8	
comp=Z,229nm,0.1s							
PB06	**IPOC Station P**	**2.73**	**305**	*e*P	**Pn**	**21 15 04.3**	**+1.3**
PB06				*e*S	**Sn**	**21 15 37.3**	**-2.0**
PB06				IAML		21 15 39.7	
comp=N,372nm,0.2s							
PB14	**IPOC Station P**	**2.98**	**263**	*e*P	**Pn**	**21 15 07.0**	**+1.0**
PB14				*e*S	**Sn**	**21 15 43.5**	**-1.2**
PB14	**IPOC Station P**	**2.98**	**263**	*e*P	**Pn**	**21 15 07.2**	**+1.2**
PB14				*i* S	**Sn**	**21 15 42.8**	**-2.0**
PB05	**IPOC Station P**	**3.15**	**297**	*e*P	**Pn**	**21 15 08.9**	**+1.2**
PB05				*e*S	**Sn**	**21 15 46.2**	**-1.8**
PB05				IAML		21 15 56.8	
comp=Z,51nm,0.4s							
PB05	**IPOC Station P**	**3.15**	**297**	*e*P	**Pn**	**21 15 09.0**	**+1.2**
PB05				*i* S	**Sn**	**21 15 45.3**	**-2.8**
PB05				IAML		21 15 47.3	
comp=E,105nm,0.4s							
PB09	**IPOC Station P**	**3.15**	**322**	*e*P	**Pn**	**21 15 09.3**	**+1.4**
PB09				*e*S	**Sn**	**21 15 47.8**	**-0.4**
PB09				*e*S		21 15 47.9	
PB09				IAML		21 15 48.0	
comp=Z,100nm,0.5s							
PB09	**IPOC Station P**	**3.15**	**322**	*e*P	**Pn**	**21 15 09.9**	**+2.0**
PB09				*i* S	**Sn**	**21 15 47.4**	**-0.8**
PB09				IAML		21 15 49.3	
comp=N,98nm,0.4s							
PB10	**IPOC Station P**	**3.21**	**283**	*e*P	**Pn**	**21 15 09.8**	**+1.4**
PB10				*e*S	**Sn**	**21 15 47.9**	**-1.2**
PB10				IAML		21 15 53.9	
comp=Z,50nm,0.4s							
PB10	**IPOC Station P**	**3.21**	**283**	*e*P	**Pn**	**21 15 09.9**	**+1.4**
PB10				*i* S	**Sn**	**21 15 47.4**	**-1.8**
PB10				IAML		21 15 52.8	
comp=N,106nm,0.3s							
PB04	**IPOC Station P**	**3.38**	**305**	*e*P	**Pn**	**21 15 11.8**	**+1.2**
PB04				*e*S	**Sn**	**21 15 51.5**	**-1.6**
PB04				IAML		21 15 55.6	
comp=Z,118nm,0.1s							
PB04	**IPOC Station P**	**3.38**	**305**	*e*P	**Pn**	**21 15 11.8**	**+1.2**
PB04				*i* S	**Sn**	**21 15 50.5**	**-2.7**
AC01	**Pan de Azucar**	**3.62**	**239**	*e*P	**Pn**	**21 15 14.2**	**+0.9**
AC01				*e*S	**Sn**	**21 15 57.0**	**-1.1**
AC01	**Pan de Azucar**	**3.62**	**239**	*e*P	**Pn**	**21 15 14.2**	**+0.9**
AC01				*i* S	**Sn**	**21 15 56.4**	**-1.8**
PB01	**IPOC Station P**	**3.90**	**326**	*e*P	**Pn**	**21 15 17.5**	**+0.6**
PB01				*e*S	**Sn**	**21 16 03.0**	**-1.4**
PB01				IAML		21 16 09.4	
comp=Z,37nm,0.2s							
PB01	**IPOC Station P**	**3.90**	**326**	*e*P	**Pn**	**21 15 17.5**	**+0.6**
PB01				*i* S	**Sn**	**21 16 01.5**	**-2.9**
AC06	**Mina Casimiro**	**4.20**	**223**	*e*P	**Pn**	**21 15 21.5**	**+1.1**
AC06				*i* S	**Sn**	**21 16 10.3**	**-0.7**
GO03	**Copiap**	**4.30**	**220**	*e*P	**Pn**	**21 15 22.8**	**+1.1**
GO03				*e*S	**Sn**	**21 16 13.0**	**-0.3**
GO03	**Copiap**	**4.30**	**220**	*e*P	**Pn**	**21 15 22.6**	**+0.9**
PATCX	**Punta Patache**	**4.44**	**321**	*e*P	**Pn**	**21 15 25.2**	**+1.5**
PATCX				*e*S	**Sn**	**21 16 16.8**	**+0.2**
PATCX				IAML		21 16 41.2	
comp=Z,43nm,2.5s							
HMBC	**Humberstone**	**4.74**	**327**	*e*P	**Pn**	**21 15 27.4**	**-0.1**
GO01	**Chusmiza**	**4.99**	**337**	*e*P	**Pn**	**21 15 32.3**	**+1.3**
GO01				*e*S	**Sn**	**21 16 29.9**	**+0.1**
PB11	**IPOC Station P**	**5.08**	**332**	*e*P	**Pn**	**21 15 31.7**	**-0.2**
PB11				*e*S	**Sn**	**21 16 29.3**	**-2.3**
PB11				IAML		21 16 35.3	
comp=Z,19nm,1.3s							
ACLC	**CERRO LA CRUZ**	**5.11**	**178**	*e*P	**Pn**	**21 15 34.9**	**+2.8**
AC04	**Llanos de Chal**	**5.25**	**221**	*e*P	**Pn**	**21 15 34.4**	**+0.6**
AC04				*e*S	**Sn**	**21 16 34.1**	**-0.8**
AC04				IAML		21 16 49.3	
comp=Z,30nm,2.1s							
AC05	**El Transito**	**5.31**	**211**	*e*P	**Pn**	**21 15 36.1**	**+1.4**
AC05				*e*S	**Sn**	**21 16 36.5**	**-0.2**
AC05				IAML		21 17 12.5	
comp=Z,27nm,4.8s							

ROM 07 21:28:55.3±0.1, 42°.770N±0°.003×13°.247E±0°.004, h10km, ML1.3/22, 8C-2D, Error ellipse: s-maj=0.3km s-min=0.3km az=58.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTRA	**Matera**	**0.11**	**97**	⇑P	Pg	21 28 58.7	+0.6
MTRA				S	Sg	21 29 00.9	+0.8
MTRA				AML	AML		
comp=E,237μm,0.8s							
MTRA				AML	AML		
comp=N,144μm,0.2s							
NRCA	**Norcia**	**0.12**	**303**	⇑P	Pg	21 28 58.7	+0.5
NRCA				S	Sg	21 29 00.8	+0.5
NRCA				AML	AML		
comp=N,474μm,0.1s							
NRCA				AML	AML		
comp=E,728μm,0.1s							
MMO1	**Montemonaco**	**0.14**	**24**	P	Pg	21 28 59.0	+0.4
MMO1				S	Sg	21 29 01.5	+0.6
SMA1	**SAN MARTINO**	**0.15**	**155**	⇑P	Pg	21 28 59.5	+0.7
SMA1				S	Sg	21 29 02.2	+0.9
SMA1				AML	AML		
comp=E,283μm,1.1s							
SMA1				AML	AML		
comp=N,237μm,0.1s							
SMA1				AML	AML		
comp=E,283μm,0.9s							
LNSS	**Leonessa**	**0.23**	**223**	P	Pb	21 29 00.8	-0.8
LNSS				S	Sg	21 29 04.7	+1.5
LNSS				AML	AML		
comp=E,166μm,0.2s							
LNSS				AML	AML		

BJI **07** 21:33:47.2±0.0,29.°94S×177.°46W,h33km,mb5.4/58, mB5.9/64,Ms5.7/88,Ms7 5.6/84
NEIC **07** 21:33:48.9,30.°60S×178.°07W,h31km
NEIC **07** 21:33:49.6±1.3,30.°57S±0.°04×178.°07W±0.°05,h35km±1km, mb5.8/199,Ms_20 5.7/977,Mwb5.9/57,Mww6.0/36,Error ellipse: s-maj=9.5km s-min=4.4km az=223.0,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.07; $M_{\theta\theta}$-0.43; $M_{\phi\phi}$-0.64; $M_{r\theta}$0.16; $M_{\theta\phi}$-0.30; $M_{\phi r}$0.37; Fault plane solution: $M_0$1.05000×10^{18} NP1: ϕ_s217.63000°,δ33.96000°,λ95.35000°. NP2:ϕ_s31.19000°, δ56.20000°,λ86.41000°. Principal axes: T 1.1472, Plg78.0000°, Azm288.0000°; N -0.2216, Plg3.0000°, Azm33.0000°; P -0.9256, Plg11.0000°, Azm124.0000°;
MOS **07** 21:33:49.3±0.9,30.°46S×178.°11W,h44km,mb5.9/51, MS5.7/56 Error ellipse: s-maj=8.3km s-min=7.1km az=105.1
IPGP **07** 21:33:49.0,30.°61S×178.°02W,h37km,Mw6.1,Fault plane solution: NP1:ϕ_s18.00000°,δ55.00000°,λ84.00000°. NP2:ϕ_s208.00000°,δ35.00000°,λ99.00000°.
NEIC **07** 21:33:49.6,30.°57S×178.°07W,h50km
NEIC **07** 21:33:49.6,30.°67S×177.°49W,h50km,Moment Tensor Solution. Duration: 4s9 Moment tensor: Scale 10^{18}Nm; M_{rr}1.16; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-1.11; $M_{r\theta}$0.23; $M_{\theta\phi}$-0.39; $M_{\phi r}$0.35; Fault plane solution: $M_0$1.27000×10^{18} NP1:ϕ_s23.27000°, δ54.55000°,λ96.28000°. NP2:ϕ_s192.52000°,δ35.93000°, λ81.26000°. Principal axes: T 1.2360, Plg79.0000°, Azm318.0000°; N 0.0654, Plg5.0000°, Azm200.0000°; P -1.3014, Plg9.0000°, Azm109.0000°;
IDC **07** 21:33:51.7±1.1,30.°38S×178.°02W,h57km±9km,mb5.0/14, mbtmp5.2/15,MS5.5/51 Error ellipse: s-maj=13.7km s-min=10.3km az=90.0
GCMT **07** 21:33:53.6±0.1,30.°64S×177.°79W,h46km,MW6.0/166, Moment Tensor Solution. s166,c386; s164,c556; Duration: 2s6 Moment tensor: Scale 10^{18}Nm; M_{rr}1.30±.01; $M_{\theta\theta}$-0.03±.01; $M_{\phi\phi}$-1.27±.01; $M_{r\theta}$0.08±.01; $M_{\theta\phi}$-0.38±.01; $M_{\phi r}$0.60±.01; Best double couple: $M_0$1.47200×10^{18} NP1:ϕ_s12.00000°,δ57.00000°, λ86.00000°. NP2:ϕ_s200.00000°,δ33.00000°,λ96.00000°. Principal axes: T 1.4350, Plg77.0000°, Azm268.0000°; N 0.0730, Plg4.0000°, Azm14.0000°; P -1.5090, Plg12.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

ISC 07 21:33:49.1±0.2,**30.°58S**±0.°03×**177.°93W**±0.°04,**h38**km±1km, **h39**km:**pP-P,n2085,**σ1§**79**/1735,**mb5.8**/217,**MS5.7**/583, **89C-62D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.31**	**0**	P	**Pn**	**21 34 10.8**	**-0.1**
GLKZ				S	**Sn**	**21 34 30.0**	**+2.9**
RAO	**Raoul Island**	**1.32**	**0**	P	**Pn**	**21 34 11.5**	**+0.5**
RAO	**Raoul Island**	**1.32**	**0**	⇑P	**Pn**	**21 34 10.3**	**-0.7**
RAO	**Raoul Island**	**1.32**	**0**	P	**Pn**	**21 34 10.5**	**-0.5**
	10μm,0.2s,baz=72,slow=8.0,SNR=90						
RAO				S	**Sn**	**21 34 25.8**	**-1.5**
	45μm,0.3s,baz=73,slow=19,SNR=11						
RAO				LR	LR	21 34 38.7	
	comp=Z,53μm,19.6s,baz=66,slow=42						
RIZ	**Raoul Island**	**1.33**	**0**	P	**Pn**	**21 34 11.1**	**0.0**
MXZ	**Matakaoa Point**	**7.63 203**		P	**Pn**	**21 35 35.8**	**-1.9**
MXZ	**Matakaoa Point**	**7.63 203**		Pn	**Pn**	**21 35 34.9**	**-2.8**
MXZ	**Matakaoa Point**	**7.63 203**		P	**Pn**	**21 35 34.3**	**-3.4**
MXZ				S	**Sn**	**21 37 02.5**	**-0.4**
WMGZ	**Waiomatatini S**	**7.83 202**		P	**Pn**	**21 35 38.6**	**-1.8**
WMGZ				S	**Sn**	**21 37 07.5**	**-0.2**
PKGZ	**Pakihiroa**	**7.99 203**		P	**Pn**	**21 35 39.2**	**-3.4**
PKGZ				S	**Sn**	**21 37 10.0**	**-1.5**
HAZ	**Te Kaha**	**7.99 205**		P	**Pn**	**21 35 39.8**	**-2.8**
HAZ				S	**Sn**	**21 37 11.1**	**-0.6**
WIZ	**White Island**	**8.03 209**		P	**Pn**	**21 35 43.0**	**-0.1**
PUZ	**Puketiti**	**8.11 202**		P	**Pn**	**21 35 40.6**	**-3.7**
PUZ				S	**Sn**	**21 37 12.5**	**-2.2**
KUZ	**Kuaotunu**	**8.11 219**		P	**Pn**	**21 35 47.7**	**+3.4**
RUGZ	**Raukumara Rang**	**8.22 205**		P	**Pn**	**21 35 43.6**	**-2.3**
RUGZ				S	**Sn**	**21 37 15.6**	**-1.8**
TWGZ	**Tauwhareparae**	**8.30 203**		P	**Pn**	**21 35 43.6**	**-3.3**
TWGZ				S	**Sn**	**21 37 17.0**	**-2.3**
WCZ	**Waipu Caves**	**8.39 228**		P	Pn	21 35 55.4	+7.3
WHRZ	**Whale Island**	**8.39 209**		P	**Pn**	**21 35 50.2**	**+2.0**
WIAZ	**Waiheke Island**	**8.47 221**		P	**Pn**	**21 35 53.1**	**+3.9**
OUZ	**Omahuta**	**8.49 235**		P	Pn	21 35 55.8	+6.3
OUZ	**Omahuta**	**8.49 235**		⇓P	Pn	21 35 55.3	+5.7
OUZ	**Omahuta**	**8.49 235**		P	Pn	21 35 55.1	+5.6
CNGZ	**Carnagh Statio**	**8.51 201**		P	**Pn**	**21 35 46.4**	**-3.3**
CNGZ				S	**Sn**	**21 37 21.3**	**-3.1**
OPRZ	**Ohinepanea**	**8.56 211**		P	**Pn**	**21 35 48.9**	**-1.6**
TKGZ	**Te Karaka**	**8.58 203**		P	**Pn**	**21 35 47.4**	**-3.3**
TKGZ				S	**Sn**	**21 37 22.7**	**-3.5**
MBAZ	**Motutapu North**	**8.59 222**		P	Pn	21 35 55.8	+5.0
MWZ	**Matawai**	**8.60 205**		P	**Pn**	**21 35 47.4**	**-3.6**
MWZ				S	**Sn**	**21 37 23.4**	**-3.3**
TGRZ	**Tauranga**	**8.60 212**		P	**Pn**	**21 35 49.8**	**-1.2**
MKAZ	**Moumakai**	**8.68 220**		P	**Pn**	**21 35 54.2**	**+2.1**
URZ	**Urewera**	**8.69 207**		P	**Pn**	**21 35 48.8**	**-3.4**
URZ	**Urewera**	**8.69 207**		⇓P	**Pn**	**21 35 48.1**	**-4.1**
URZ	**Urewera**	**8.69 207**		P	**Pn**	**21 35 48.3**	**-3.9**
	25nm,0.3s,baz=349,slow=4.3,SNR=111						
URZ				S	**Sn**	**21 37 26.9**	**-1.9**
	2μm,0.8s,baz=98,slow=14,SNR=3.5						
URZ	**Urewera**	**8.69 207**		P	**Pn**	**21 35 49.4**	**-2.8**
EDRZ	**Edgecumbe**	**8.71 209**		P	**Pn**	**21 35 52.7**	**+0.2**
RVAZ	**Riverhead Bore**	**8.78 223**		P	Pn	21 35 59.7	+6.3
RAGZ	**Rawiri**	**8.78 205**		P	**Pn**	**21 35 52.4**	**-1.1**
KMRZ	**Kaimai**	**8.85 213**		P	**Pn**	**21 35 56.6**	**+2.3**
KARZ	**Kaharoa**	**8.85 211**		P	**Pn**	**21 35 53.6**	**-0.8**
RIGZ	**Rimuhau**	**8.85 202**		P	**Pn**	**21 35 51.7**	**-2.7**
OMRZ	**Omania**	**8.86 211**		P	Pn	21 36 00.8	+6.2
NGRZ	**Ngongotaha**	**8.94 211**		P	**Pn**	**21 35 57.9**	**+2.1**
AWAZ	**Awhitu Peninsu**	**8.94 222**		P	Pn	21 36 05.9	+10
TOZ	**Tahuroa Road**	**8.97 216**		P	**Pn**	**21 35 54.2**	**-1.9**
HLRZ	**Highlands Stat**	**8.99 210**		P	**Pn**	**21 35 57.6**	**+1.2**
RRRZ	**Republican Roa**	**9.00 209**		P	**Pn**	**21 35 55.0**	**-1.4**
RRRZ				S	**Sn**	**21 37 37.4**	**+0.9**
PRGZ	**Paritu Road**	**9.01 201**		P	**Pn**	**21 35 52.6**	**-4.0**
PRGZ				S	**Sn**	**21 37 34.5**	**-2.2**
MUGZ	**Murupara**	**9.01 208**		P	**Pn**	**21 35 52.2**	**-4.4**
MUGZ				S	**Sn**	**21 37 36.6**	**-0.2**
RTZ	**Ruatahuna**	**9.05 206**		Pn	**Pn**	**21 35 54.0**	**-3.2**
SNGZ	**Shannon Statio**	**9.06 204**		P	**Pn**	**21 35 54.3**	**-3.0**
HSRZ	**Hossack Road**	**9.09 210**		P	**Pn**	**21 36 00.5**	**+2.8**
HRRZ	**Handcock Road**	**9.14 210**		P	Pn	21 36 03.7	+5.4
KNZ	**Kokohu**	**9.16 202**		P	Pn	21 35 53.8	-4.9
PRRZ	**Plateau Road**	**9.18 209**		P	**Pn**	**21 35 58.5**	**-0.5**
MHGZ	**Mahia Peninsul**	**9.21 201**		P	**Pn**	**21 35 54.7**	**-4.7**
ALRZ	**Allen Road**	**9.26 209**		P	**Pn**	**21 35 58.5**	**-1.5**
RAHZ	**Arahi**	**9.27 205**		P	**Pn**	**21 35 57.6**	**-2.6**
WPRZ	**Whakapapatarin**	**9.30 210**		P	**Pn**	**21 36 00.6**	**+0.1**
MTHZ	**Maungataniwha**	**9.31 206**		P	**Pn**	**21 35 58.1**	**-2.6**
WHHZ	**Waihua**	**9.36 204**		P	**Pn**	**21 35 58.4**	**-3.0**
TLZ	**Tolley Road**	**9.43 213**		P	**Pn**	**21 36 04.6**	**+2.2**
MRHZ	**Matea Rd**	**9.46 208**		P	**Pn**	**21 35 59.3**	**-3.5**
NMHZ	**Naumai**	**9.53 206**		P	**Pn**	**21 36 01.2**	**-2.7**
ARHZ	**Aropaoanui**	**9.61 204**		P	Pn	21 35 59.9	-4.9
WATZ	**Wairara**	**9.64 211**		P	**Pn**	**21 36 08.2**	**+2.9**
BKZ	**Black Stump Fm**	**9.71 207**		P	**Pn**	**21 36 03.2**	**-3.1**
BKZ	**Black Stump Fm**	**9.71 207**		P	**Pn**	**21 36 01.9**	**-4.3**
RATZ	**Rangitukua**	**9.76 210**		P	**Pn**	**21 36 09.5**	**+2.7**
RITZ	**Rihia Road**	**9.81 210**		P	**Pn**	**21 36 11.2**	**+3.7**
KATZ	**Kakaramea**	**9.88 210**		P	**Pn**	**21 36 11.7**	**+3.1**
MCHZ	**McNeill Hill**	**9.88 205**		P	**Pn**	**21 36 04.8**	**-3.7**
HIZ	**Hauiti**	**9.90 215**		P	**Pn**	**21 36 08.4**	**-0.4**
HIZ	**Hauiti**	**9.90 215**		P	**Pn**	**21 36 11.1**	**+2.4**
CKHZ	**Cape Kidnapper**	**9.94 203**		P	Pn	21 36 04.1	-5.2
KWHZ	**Kaweka Forest**	**9.96 206**		P	Pn	21 36 04.9	-4.8
NTVZ	**North Tongarir**	**9.99 210**		P	**Pn**	**21 36 07.7**	**-2.4**
TMVZ	**Te Maari**	**9.99 210**		P	**Pn**	**21 36 08.5**	**-1.7**
KRVZ	**Karewarewa**	**10.00 210**		P	**Pn**	**21 36 08.8**	**-1.5**
ETVZ	**East Tongariro**	**10.01 210**		P	**Pn**	**21 36 09.0**	**-1.4**
WTVZ	**West Tongariro**	**10.04 210**		P	**Pn**	**21 36 10.5**	**-0.3**
NNVZ	**North Ngauruho**	**10.04 210**		P	**Pn**	**21 36 10.9**	**0.0**
SNVZ	**South Ngauruho**	**10.08 210**		P	**Pn**	**21 36 13.2**	**+1.8**
KAHZ	**Kahuranaki**	**10.13 203**		P	**Pn**	**21 36 07.5**	**-4.5**
COVZ	**Chateau Observ**	**10.13 210**		P	**Pn**	**21 36 12.7**	**+0.6**
FWVZ	**Far West T-bar**	**10.17 210**		P	**Pn**	**21 36 10.6**	**-2.2**
KRHZ	**Kereru**	**10.18 206**		P	**Pn**	**21 36 07.9**	**-4.7**
WHVZ	**Whangaehu Hut**	**10.18 210**		P	**Pn**	**21 36 12.7**	**-0.2**
WNVZ	**Wahianoa**	**10.21 210**		P	**Pn**	**21 36 12.8**	**-0.5**
MOVZ	**Moawhango**	**10.22 209**		P	**Pn**	**21 36 09.0**	**-4.1**
PXZ	**Pawanui**	**10.34 203**		P	Pn	21 36 09.8	-5.0
VRZ	**Vera Road**	**10.43 213**		P	**Pn**	**21 36 19.5**	**+3.5**
PNHZ	**Pukenui**	**10.47 206**		P	Pn	21 36 10.7	-6.0
WPHZ	**Waipukurau**	**10.52 204**		P	**Pn**	**21 36 12.6**	**-4.7**
PRHZ	**Porangahau**	**10.63 203**		P	Pn	21 36 12.2	-6.6
TSZ	**Takapari Road**	**10.69 206**		P	Pn	21 36 14.0	-5.7
DVHZ	**Dannevirke**	**10.82 205**		P	Pn	21 36 15.3	-6.2
WAZ	**Wanganui**	**10.83 210**		P	**Pn**	**21 36 21.6**	**+0.1**
ANWZ	**Angora Road**	**10.86 203**		P	Pn	21 36 15.4	-6.5
POWZ	**Post Office Ro**	**11.05 206**		P	**Pn**	**21 36 20.1**	**-4.4**
PRWZ	**Pori Road**	**11.12 205**		P	Pn	21 36 20.5	-5.0
BFZ	**Birch Farm**	**11.14 204**		P	Pn	21 36 20.8	-4.9
BFZ	**Birch Farm**	**11.14 204**		P	Pn	21 36 18.8	-6.8
CPWZ	**Castlepoint**	**11.36 203**		P	**Pn**	**21 36 26.3**	**-2.3**
MRZ	**Mangatainoka R**	**11.36 206**		P	Pn	21 36 21.9	-6.9
HOWZ	**Holdsworth Sta**	**11.59 206**		P	Pn	21 36 24.9	-7.0
OGWZ	**Otaki Gorge**	**11.65 207**		P	Pn	21 36 26.2	-6.5
TRWZ	**Traveller**	**11.97 204**		P	Pn	21 36 30.1	-6.9
PAWZ	**Paruwai Farm**	**12.04 205**		P	Pn	21 36 32.0	-6.1
MSWZ	**Moikau Station**	**12.14 205**		P	**Pn**	**21 36 38.4**	**-1.0**
DUWZ	**D'Urville Isla**	**12.16 211**		P	**Pn**	**21 36 35.6**	**-4.1**
BHW	**Baring Head**	**12.27 206**		P	**Pn**	**21 36 36.9**	**-4.3**
NFK	**Norfolk Island**	**12.37 274**		P	**P**	**21 36 52.2**	**-1.8**
NFK	**Norfolk Island**	**12.37 274**		P	Pn	21 36 47.9	+5.3
	comp=Z,10μmcomp=Z,0.0nmcomp=Z,1μm,1.2s						
CTZ	**Chatham Island**	**13.18 176**		Pn	**Pn**	**21 36 50.7**	**-2.8**
CTZ	**Chatham Island**	**13.18 176**		P	**Pn**	**21 36 50.2**	**-3.3**
NIUE	**Niue**	**13.55 34**		Pn	Pn	21 36 53.3	-5.6
KHZ	**Kahutara**	**13.65 208**		P	Pn	21 36 55.0	-5.0
DSZ	**Denniston Nort**	**13.88 214**		P	**Pn**	**21 37 00.3**	**-2.9**
GVZ	**Greta Valley S**	**14.32 208**		P	Pn	21 37 03.3	-5.8
AMCZ	**Amberley**	**14.65 208**		P	**Pn**	**21 37 09.8**	**-3.7**
INZ	**Inchbonnie**	**14.81 212**		P	**Pn**	**21 37 11.4**	**-4.3**
PINNC	**Pines Island,**	**15.29 298**			**Pn**	**21 37 22.3**	**+0.1**
MHCZ	**Mount Hutt**	**15.39 210**		P	**Pn**	**21 37 18.8**	**-4.7**
MARNC	**Mare, Loyalty**	**15.52 302**		P	**P**	**21 37 31.1**	**+2.0**
WACZ	**Wakanui South**	**15.61 208**		P	**Pn**	**21 37 21.0**	**-5.2**
RPZ	**Rata Peaks**	**15.76 211**		P	**P**	**21 37 29.9**	**-1.8**
RPZ	**Rata Peaks**	**15.76 211**			**Pn**	**21 37 26.5**	**-1.7**
RPZ	**Rata Peaks**	**15.76 211**		P	**Pn**	**21 37 23.7**	**-4.5**
	comp=Z,14nm,0.3s,baz=30,slow=20,SNR=3.1						
RPZ				S	Sn	21 40 06.3	-15
	comp=Z,253nm,0.7s,baz=179,slow=23,SNR=11						
RPZ				LR	LR	21 44 08.0	
	comp=Z,11μm,19.7s,baz=46,slow=39						
RPZ	**Rata Peaks**	**15.76 211**		P	**Pn**	**21 37 28.5**	**+0.3**
GCSZ	**Gaunt Creek Bo**	**15.78 213**		P	**Pn**	**21 37 27.3**	**-1.2**
OUENC	**Ouen Island, N**	**15.86 297**		P	**P**	**21 37 35.4**	**+2.5**
OUENC	**Ouen Island, N**	**15.86 297**		P	**Pn**	**21 37 30.5**	**+0.9**
YATNC	**Mamie plateau,**	**16.02 298**		P	**P**	**21 37 37.2**	**+2.5**
FOZ	**Fox Glacier**	**16.19 214**			**Pn**	**21 37 31.4**	**-2.2**
ONTNC	**Ouen Toro**	**16.22 297**		P	**P**	**21 37 40.1**	**+3.3**
ONTNC	**Ouen Toro**	**16.22 297**		P	**P**	**21 37 35.9**	**-0.9**
ONTNC	**Ouen Toro**	**16.22 297**		⇑P	**P**	**21 37 40.0**	**+3.1**
DZM	**Mont Dzumac**	**16.36 297**		P	**P**	**21 37 42.3**	**+3.8**
DZM	**Mont Dzumac**	**16.36 297**		*e*Pn	**P**	**21 37 40.3**	**+1.8**
	comp=Z,977nm,1.1s						
DZM				*e*LR	LR	21 41 21.8	
	comp=Z,123μm,25.4s						
DZM	**Mont Dzumac**	**16.36 297**		P	**Pn**	**21 37 37.0**	**+1.0**
DZM	**Mont Dzumac**	**16.36 297**		⇑P	**P**	**21 37 41.1**	**+2.6**
DZM	**Mont Dzumac**	**16.36 297**		P	**P**	**21 37 38.8**	**+0.3**
	comp=Z,63nm,0.9s,baz=139,slow=12,SNR=21						
DZM				LR	LR	21 42 46.2	
	comp=Z,59μm,19.1s,baz=128,slow=33						
NOUC	**Port Laguerre**	**16.45 297**		P	**P**	**21 37 43.1**	**+3.7**
LIFNC	**LIFOU**	**16.54 303**		P	**Pn**	**21 37 38.4**	**+0.3**
JCZ	**Jackson Bay**	**17.09 214**		P	**Pn**	**21 37 44.1**	**-1.0**
HHSZ	**Highcliff Hill**	**17.71 207**		P	**P**	**21 37 53.5**	**+0.3**
MSZ	**Milford Sound**	**17.95 214**		P	**Pn**	**21 37 55.4**	**-0.1**
RAR	**Rarotonga**	**18.79 65**		P	**Pn**	**21 38 06.2**	**+0.2**
RAR	**Rarotonga**	**18.79 65**		P	**Pn**	**21 38 05.5**	**-0.4**
	comp=Z,184nm,0.9s,baz=209,slow=8.0,SNR=15						
RAR				S	Sn	21 41 20.2	-15
	comp=Z,183nm,1.1s,baz=77,slow=18,SNR=3.8						
RAR				LR	LR	21 44 49.2	
	comp=Z,9μm,19.8s,baz=234,slow=35						
RAR	**Rarotonga**	**18.79 65**		P	**Pn**	**21 38 06.2**	**+0.2**
RAR				pmax	pmax		
	comp=Z,244nm,1.0s						
SYZ	**Scrubby Hill**	**18.83 209**		P	**P**	**21 38 05.4**	**-0.1**
SYZ	**Scrubby Hill**	**18.83 209**		P	**P**	**21 38 05.3**	**-0.1**
KOUNC	**Koumac, New Ca**	**18.87 298**		P	**Pn**	**21 38 11.2**	**+4.2**
KOUNC	**Koumac, New Ca**	**18.87 298**			**P**	**21 38 05.5**	**-0.7**
KOUNC	**Koumac, New Ca**	**18.87 298**		⇑P	**Pn**	**21 38 10.3**	**+3.4**
GC1S	**Gold Coast 1 S**	**24.98 268**		P	**P**	**21 39 13.3**	**+4.1**
	comp=Z,149nm,0.8s						
AUWSH	**Wavell State H**	**25.56 270**		P	**P**	**21 39 19.2**	**+4.7**
NTLH	**Newcastle Hard**	**25.89 257**		P	**P**	**21 39 21.7**	**+4.3**
	comp=Z,533nm,1.1s						
ARMA	**Armidale**	**26.19 263**		P	**P**	**21 39 26.1**	**+5.7**
ARMA	**Armidale**	**26.19 263**		P	**P**	**21 39 20.7**	**+0.4**
ARMA				IAmb	IAmb	21 39 27.3	
	comp=Z,269nm,1.4s						
ARMA				IAMs_20	IAMs_20	21 47 30.8	
	comp=Z,23μm,22.0s						
ARMA	**Armidale**	**26.19 263**		⇑P	**P**	**21 39 23.6**	**+3.3**
ARMA	**Armidale**	**26.19 263**		P	**P**	**21 39 23.2**	**+2.9**
RIV	**Riverview**	**26.31 255**		P	**P**	**21 39 24.4**	**+3.2**
RIV	**Riverview**	**26.31 255**		⇑P	**P**	**21 39 24.6**	**+3.5**
RIV	**Riverview**	**26.31 255**		P	**P**	**21 39 24.0**	**+2.8**
TBI	**Tubuai**	**26.33 81**		*e*P	**P**	**21 39 24.7**	**+3.2**
	comp=Z,6μm,27.8s						
TBI	**Tubuai**	**26.33 81**		*e*P	**P**	**21 39 27.8**	**+6.3**
	comp=Z,684nm,1.5s						
TBI				*e*S	**S**	**21 43 52.2**	**+0.3**
	comp=Z,59μm,30.5s						
TBI				*e*LQ	LQ	21 44 43.9	
	comp=Z,73μm,24.0s						
TBI				*e*LR	LR	21 46 00.0	
	comp=Z,38μm,23.8s						
TBI				*e*LR	LR	21 46 02.2	
	comp=Z,228μm,27.2s						
TBI				*e*LR	LR	21 46 05.0	
	comp=Z,47μm,26.0s						
SYDH	**Sydney Hard Ro**	**26.66 255**		P	**P**	**21 39 27.8**	**+3.5**
	comp=Z,390nm,0.9s						
AUPHS	**Peel High Scho**	**26.73 261**		P	**P**	**21 39 28.4**	**+3.3**
AUUHS	**Ulladulla High**	**26.87 251**		P	**P**	**21 39 30.0**	**+3.7**
CNB	**Canberra Magne**	**27.78 251**		P	**P**	**21 39 37.8**	**+3.3**
CNB	**Canberra Magne**	**27.78 251**		P	**P**	**21 39 36.5**	**+2.0**
	comp=Z,0.0nmcomp=Z,293nm,1.2s						
EIDS	**Eidsvold**	**27.80 273**		P	**P**	**21 39 37.3**	**+2.6**
EIDS	**Eidsvold**	**27.80 273**		P	**P**	**21 39 34.1**	**-0.7**
EIDS				IAmb	IAmb	21 39 43.6	
	comp=Z,191nm,1.1s						
EIDS	**Eidsvold**	**27.80 273**		⇑P	**P**	**21 39 36.4**	**+1.7**
EIDS	**Eidsvold**	**27.80 273**		P	**P**	**21 39 36.0**	**+1.2**
	comp=Z,0.0nmcomp=Z,205nm,1.3s						
MILA	**Mila**	**28.01 248**		P	**P**	**21 39 39.3**	**+2.8**
MILA	**Mila**	**28.01 248**		⇑P	**P**	**21 39 39.0**	**+2.5**
MILA	**Mila**	**28.01 248**		P	**P**	**21 39 37.8**	**+1.3**
	comp=Z,322nm,1.4s						
CAN	**Canberra**	**28.07 251**		P	**P**	**21 39 41.0**	**+3.9**
CAN	**Canberra**	**28.07 251**		P	**P**	**21 39 37.6**	**+0.5**
CAN				IAmb	IAmb	21 39 44.0	
	comp=Z,332nm,1.1s						
CAN				IAMs_20	IAMs_20	21 48 25.4	
	comp=Z,19μm,22.0s						
CAN	**Canberra**	**28.07 251**		⇑P	**P**	**21 39 39.1**	**+2.0**
CAN	**Canberra**	**28.07 251**		P	**P**	**21 39 37.6**	**+0.5**
CAN				pmax	pmax		
	comp=Z,332nm,1.1s						
CAN				MLR	MLR		
	comp=Z,19μm,22.0s						
CAN	**Canberra**	**28.07 251**		P	**P**	**21 39 39.4**	**+2.3**
	comp=Z,0.0nmcomp=Z,298nm,1.2s						
AUDCS	**Dubbo College**	**28.53 258**		P	**P**	**21 39 44.9**	**+3.8**
YNG	**Young**	**28.59 254**		P	**P**	**21 39 44.2**	**+2.5**
YNG	**Young**	**28.59 254**		P	**P**	**21 39 43.3**	**+1.7**
	comp=Z,0.0nmcomp=Z,1μm,1.1s						
PAE	**Paea**	**28.80 70**		*e*P	P	21 39 55.0	+11
	comp=Z,58nm,1.1s						
PAE				*e*S	S	21 44 15.7	-15
	comp=Z,1μm,24.8s						
PAE				*e*LR	LR	21 47 02.3	
	comp=Z,7μm,24.9s						
PPT2	**Papeete2**	**28.84 70**		*e*P	**P**	**21 39 43.0**	**-1.1**
	comp=Z,1μm,25.2s						
PPT2	**Papeete2**	**28.84 70**		*e*P	P	21 39 57.6	+14
	comp=Z,173nm,1.1s						
PPT2				*e*S	**S**	**21 44 32.3**	**+0.5**
	comp=Z,2μm,24.5s						
PPT2				*e*S	S	21 44 36.7	+4.9
	comp=Z,9μm,27.5s						
PPT2				*e*LQ	LQ	21 45 52.6	
	comp=Z,12μm,23.2s						
PPT2				*e*LR	LR	21 47 07.7	
	comp=Z,48μm,26.5s						
PPT2				*e*LR	LR	21 47 11.3	
	comp=Z,11μm,24.9s						
PPT2				*e*LR	LR	21 47 15.6	
	comp=Z,27μm,25.2s						
PPT	**Papeete**	**28.85 70**		P	**P**	**21 39 47.8**	**+3.7**
	comp=Z,34nm,0.9s,baz=292,slow=5.4,SNR=2.2						
PPT				LR	LR	21 49 48.9	
	comp=Z,6μm,18.4s,baz=240,slow=33						
RK1H	**Rockhampton Ha**	**28.97 277**		P	**P**	**21 39 47.4**	**+2.3**
	comp=Z,242nm,0.8s						
TVO	**Taravao**	**29.00 71**		*e*P	P	21 40 01.4	+16
	comp=Z,16nm,0.8s						
TVO				*e*S	S	21 44 16.6	-18
	comp=Z,1μm,27.0s						
TVO				*e*LR	LR	21 47 01.8	
	comp=Z,3μm,24.4s						
GLAD	**Gladstone**	**29.35 240**		P	**P**	**21 39 50.2**	**+1.8**
	comp=Z,139nm,0.8s						
HNR	**Honiara**	**29.46 311**		P	**P**	**21 39 49.2**	**-0.2**
HNR				IAmb	IAmb	21 40 48.1	
	comp=Z,176nm,1.0s						
HNR	**Honiara**	**29.46 311**		LR	LR	21 49 46.1	
	comp=Z,145μm,22.0s,baz=147,slow=33						
HNR	**Honiara**	**29.46 311**		P	**P**	**21 39 49.3**	**-0.2**
HNR				pmax	pmax		
	comp=Z,176nm,1.0s						
HNR				MLR	MLR		
	comp=Z,12μm,22.0s						
AULRC	**Lightning Ridg**	**29.48 263**		P	P	21 39 54.8	+5.2
RMQ	**Roma**	**29.49 270**		P	**P**	**21 39 53.4**	**+3.7**
RMQ	**Roma**	**29.49 270**		P	**P**	**21 39 51.6**	**+1.9**
	comp=Z,91nm,1.5s						
AULHS	**Lilydale High**	**29.99 240**		P	**P**	**21 39 55.5**	**+1.6**
CORO	**Coronation Par**	**30.08 239**		P	**P**	**21 39 58.5**	**+3.8**
	comp=Z,69nm,1.2s						
AUTAR	**Taroona High S**	**30.21 236**		P	**P**	**21 39 57.2**	**+1.3**
MOO	**Moorlands**	**30.23 237**		P	**P**	**21 39 57.9**	**+1.8**
MOO	**Moorlands**	**30.23 237**		P	**P**	**21 39 56.1**	**+0.1**
	comp=Z,0.0nmcomp=Z,258nm,1.2s						
TAU	**Tasmania Unive**	**30.23 236**		P	**P**	**21 39 56.5**	**+0.4**
TAU	**Tasmania Unive**	**30.23 236**		P	**P**	**21 39 56.3**	**+0.2**
TAU				IAmb	IAmb	21 39 58.0	
	comp=Z,123nm,0.9s						
TAU	**Tasmania Unive**	**30.23 236**		⇑P	**P**	**21 39 57.5**	**+1.4**
TAU	**Tasmania

comp=Z,14µm,22.0s
AS01 Alice Springs 43.12 267 P **P 21 41 46.1 +0.1**
comp=Z,152nm,0.7s
AS31 Alice Springs 43.16 267 P **P 21 41 45.7 -0.6**
AS31 Alice Springs 43.16 267 P **P 21 41 45.9 -0.4**
comp=Z,0.0nmcomp=Z,57nm,0.6s
ASAR Alice Springs 43.16 267 P **P 21 41 46.0 -0.3**
ASAR Alice Springs 43.16 267 P **P 21 41 45.6 -0.6**
comp=Z,92nm,0.5s,baz=105,slow=7.2,SNR=1515
ASAR ScP **ScP 21 47 21.1 -2.7**
comp=Z,2.5nm,0.6s,baz=106,slow=3.8,SNR=2.3
ASAR LR LR 21 59 40.6
comp=Z,23µm,18.2s,baz=118,slow=36
comp=Z,92nm,0.5s
ASAR Alice Springs 43.16 267 P **P 21 41 46.0 -0.3**
MANU Manus Island 43.41 304 P **P 21 41 49.3 +1.0**
comp=Z,63nm,1.1s
MANU Manus Island 43.41 304 P **P 21 41 47.7 -0.5**
WR0 Warramunga Arr 43.98 272 P **P 21 41 52.4 -0.5**
WR0 IAmb IAmb 21 41 57.4
comp=Z,303nm,1.2s
DRV Dumont d'Urvil 44.00 203 P **P 21 41 52.4 0.0**
DRV ScP **ScP 21 47 26.6 +0.4**
WRAB Tennant Creek 44.16 272 P **P 21 41 54.0 -0.3**
WRAB IAmb IAmb 21 41 58.8
comp=Z,198nm,0.7s
WRAB Tennant Creek 44.16 272 *i* P **P 21 41 54.7 +0.4**
WRAB pmax pmax
comp=Z,73nm,0.4s
WRAB MLR MLR
comp=Z,15µm,16.0s
WRA Warramunga Arr 44.16 272 P **P 21 41 53.7 -0.7**
WRA Warramunga Arr 44.16 272 P **P 21 41 53.9 -0.5**
comp=Z,198nm,0.5s,baz=112,slow=7.8,SNR=764
WRA ScP **ScP 21 47 27.3 -0.6**
comp=Z,21nm,1.2s,baz=104,slow=3.7,SNR=5.4
WRA S **S 21 48 23.7 -1.4**
comp=Z,14nm,1.1s,baz=110,slow=15,SNR=4.9
WRA PKiKP **PKiKP 21 50 38.4 -1.4**
comp=Z,1.8nm,0.8s,baz=132,slow=0.3,SNR=5.1
WRA LR LR 21 59 51.4
comp=Z,16µm,18.1s,baz=104,slow=35
WB0 Warramunga Arr 44.19 273 P **P 21 41 54.2 -0.3**
FORT Forrest 46.06 255 P **P 21 42 09.8 +0.5**
FORT Forrest 46.06 255 P **P 21 42 08.5 -0.8**
FORT Forrest 46.06 255 ⇑P **P 21 42 08.3 -0.9**
FORT Forrest 46.06 255 P **P 21 42 07.6 -1.7**
comp=Z,0.0nmcomp=Z,434nm,0.8s
WRKA Warakurna 47.52 263 P **P 21 42 20.8 0.0**
WRKA Warakurna 47.52 263 ⇑P **P 21 42 19.7 -1.2**
WRKA Warakurna 47.52 263 P **P 21 42 18.7 -2.1**
SBA Scott Base 47.87 184 P **P 21 42 24.6 +1.9**
SBA Scott Base 47.87 184 P **P 21 42 24.6 +1.9**
SBA pmax pmax
comp=Z,169nm,0.9s
SBA Scott Base 47.87 184 P **P 21 42 26.5 +3.8**
SBA ScP **ScP 21 47 51.3 +9.1**
VNDA Vanda 47.93 186 P **P 21 42 24.5 +1.3**
VNDA Vanda 47.93 186 P **P 21 42 25.2 +2.1**
comp=Z,14nm,0.6s,baz=3.2,slow=7.5,SNR=55
VNDA LR LR 21 59 08.1
comp=Z,3µm,21.6s,baz=30,slow=32
comp=Z,14nm,0.6s
VNDA Vanda 47.93 186 P **P 21 42 25.9 +2.7**
JAY Jayapura 48.03 297 P **P 21 42 24.5 -0.4**
GENI Genyem 48.40 297 P **P 21 42 30.2 +2.6**
GENI Genyem 48.40 297 P **P 21 42 28.1 +0.5**
comp=Z,184nm,1.1s,comp=Z,3µmcomp=Z,9µm
KDU Kakadu 49.01 280 P **P 21 42 32.4 +0.1**
KDU Kakadu 49.01 280 ⇑P **P 21 42 31.8 -0.5**
KDU Kakadu 49.01 280 P **P 21 42 30.8 -1.5**
MTN Manton Dam 50.07 279 P **P 21 42 41.3 +0.9**
MTN Manton Dam 50.07 279 P **P 21 42 39.8 -0.7**
MTN IAmb IAmb 21 42 41.4
comp=Z,81nm,0.7s
MTN Manton Dam 50.07 279 ⇑P **P 21 42 39.6 -0.8**
MTN Manton Dam 50.07 279 P **P 21 42 40.2 -0.3**
comp=Z,0.0nmcomp=Z,120nm,0.7s
DRS Darwin Rock St 50.47 279 P **P 21 42 43.7 +0.3**
comp=Z,139nm,0.9s
KMBL Kambalda 51.03 253 P **P 21 42 46.5 -1.0**
KMBL Kambalda 51.03 253 P **P 21 42 45.0 -2.5**
WAKE Wake Island 51.74 341 IAms_20 IAms_20 22 01 10.8
comp=Z,8µm,21.0s
FITZ Fitzroy Crossi 52.42 270 P **P 21 42 57.0 -1.1**
CCD Concordia, Ant 52.80 196 P **P 21 43 01.4 +0.9**
CCD ScP **ScP 21 48 06.0 +2.1**
RKGY Rocky Gully 54.14 247 P **P 21 43 08.9 -1.7**
comp=Z,73nm,1.2s
NWAO Narrogin (SRO) 54.39 249 P **P 21 43 12.4 0.0**
NWAO Narrogin (SRO) 54.39 249 P **P 21 43 11.4 -1.0**
NWAO IAmb IAmb 21 43 14.1
comp=Z,149nm,1.4s
NWAO Narrogin (SRO) 54.39 249 IAms_20 IAms_20 22 02 24.5
comp=Z,8µm,22.0s
NWAO Narrogin (SRO) 54.39 249 LR LR 22 02 58.4
comp=Z,7µm,21.4s,baz=87,slow=32
NWAO Narrogin (SRO) 54.39 249 P **P 21 43 11.4 -1.0**
NWAO P **P 21 43 11.4 -1.0**
NWAO Narrogin (SRO) 54.39 249 P **P 21 43 11.4 -1.0**
NWAO pmax pmax
comp=Z,149nm,1.5s
NWAO MLR MLR
comp=Z,8µm,22.0s
NWAO Narrogin (SRO) 54.39 249 P **P 21 43 11.8 -0.6**
FAKI Fak Fak 54.46 290 P **P 21 43 15.6 +2.6**
comp=Z,85nm,1.2s
FAKI Fak Fak 54.46 290 P **P 21 43 11.7 -1.4**
FAKI IAmb IAmb 21 43 17.1
comp=Z,154nm,1.3s
FAKI Fak Fak 54.46 290 ⇑P **P 21 43 12.2 -0.9**
FAKI Fak Fak 54.46 290 P **P 21 43 12.3 -0.7**
comp=Z,85nm,1.1s,comp=Z,2µmcomp=Z,9µm
CASY Casey 55.01 208 P **P 21 43 15.8 -0.5**
CASY Casey 55.01 208 ⇑P **P 21 43 15.3 -1.0**
CASY Casey 55.01 208 P **P 21 43 15.8 -0.5**
KIP Kipapa 55.13 23 P **P 21 43 15.7 -1.9**
KIP Kipapa 55.13 23 P **P 21 43 19.2 +1.6**
KIP Kipapa 55.13 23 *ce*P **P 21 43 17.6 0.0**
KIP pmax pmax
comp=Z,123nm,1.7s
MEEK Meekatharra 55.20 257 P **P 21 43 17.6 -0.8**
MEEK Meekatharra 55.20 257 P **P 21 43 15.7 -2.6**
AUHAR St Anne's Scho 55.43 249 P **P 21 43 20.5 +0.7**
comp=Z,241nm,1.4s
BLDU Ballidu 55.50 252 P **P 21 43 19.0 -1.4**
comp=Z,93nm,1.4s
BLDU Ballidu 55.50 252 P **P 21 43 18.1 -2.3**
MTKN Mount Kenneth 55.86 250 P **P 21 43 25.0 +2.0**
comp=Z,236nm,1.1s
MTKN Mount Kenneth 55.86 250 P **P 21 43 23.0 +0.1**
comp=Z,236nm,1.1s
PSA00 Pilbara Seismi 56.01 263 P **P 21 43 26.0 +1.9**
comp=Z,39nm,1.2s
PSA00 Pilbara Seismi 56.01 263 P **P 21 43 22.9 -1.3**
PSA00 IAmb IAmb 21 43 26.2
comp=Z,87nm,1.4s
PSA00 Pilbara Seismi 56.01 263 P **P 21 43 23.1 -1.1**
PSA00 IAmb IAmb 21 43 26.2
comp=Z,40nm,1.4s
PSA00 Pilbara Seismi 56.01 263 P **P 21 43 22.5 -1.6**
comp=Z,39nm,1.2s
PSAC1 Pilbara Seismi 56.05 263 P **P 21 43 22.8 -1.7**
comp=Z,39nm,1.2s
MBWA Marble Bar 56.27 264 P **P 21 43 25.0 -1.0**
MBWA Marble Bar 56.27 264 P **P 21 43 24.6 -1.4**
MBWA IAmb IAmb 21 43 28.0
comp=Z,98nm,1.4s
MBWA Marble Bar 56.27 264 ⇓P **P 21 43 24.6 -1.4**
MBWA Marble Bar 56.27 264 P **P 21 43 24.7 -1.3**
MBWA P **P 21 43 24.7 -1.3**
MBWA Marble Bar 56.27 264 P **P 21 43 23.6 -2.4**
MBWA Marble Bar 56.27 264 P **P 21 43 24.5 -1.4**
SWI Sorong 56.46 292 P **P 21 43 26.9 -0.5**
comp=Z,106nm,1.8s,comp=Z,2µmcomp=Z,8µm
MORW Morawa 56.54 254 P **P 21 43 27.0 -0.9**
MORW Morawa 56.54 254 P **P 21 43 26.7 -1.1**
MORW IAmb IAmb 21 43 29.7
comp=Z,165nm,1.4s
MORW Morawa 56.54 254 ⇑P **P 21 43 26.3 -1.6**
MORW Morawa 56.54 254 P **P 21 43 24.9 -3.0**
GUMO Guam 56.65 315 LR LR 22 06 06.7
comp=Z,3µm,18.9s,baz=142,slow=34
SOEI Soe 57.44 278 P P 21 43 40.0 +5.5
SOEI Soe 57.44 278 P **P 21 43 33.4 -1.2**

SOEI IAmb IAmb 21 43 47.8
comp=Z,108nm,0.9s
SOEI Soe 57.44 278 P **P 21 43 34.2 -0.4**
SOEI Soe 57.44 278 ⇓P **P 21 43 36.0 +1.5**
SOEI Soe 57.44 278 P **P 21 43 33.7 -0.8**
comp=Z,154nm,1.1s,comp=Z,2µm
BATI Baumata 57.73 277 P **P 21 43 36.0 -0.5**
comp=Z,65nm,0.8s,comp=Z,8µm
MIDW Midway 58.47 1 P **P 21 43 41.6 +0.4**
MIDW IAms_20 IAms_20 22 03 52.5
comp=Z,6µm,21.0s
VA02 Isla de Pascua 59.24 105 IAms_20 IAms_20 22 02 14.2
comp=Z,8µm,22.0s
RPN Rapa Nui 59.33 105 LR LR 22 02 50.4
comp=Z,7µm,21.9s,baz=224,slow=29
QSPA South Pole Qui 59.53 180 P **P 21 43 49.4 +1.0**
QSPA South Pole Qui 59.53 180 P **P 21 43 50.3 +1.9**
comp=Z,100nm,0.9s,baz=28,slow=1.5,SNR=215
QSPA LR LR 22 06 56.7
comp=Z,3µm,19.9s,baz=39,slow=33
comp=Z,100nm,0.9s
QSPA South Pole Qui 59.53 180 P **P 21 43 50.5 +2.1**
MMRI Maumere 59.73 278 P **P 21 43 51.1 +0.7**
comp=Z,117nm,1.4s
MMRI Maumere 59.73 278 P **P 21 43 48.9 -1.5**
MMRI IAMs_20 IAMs_20 22 10 31.1
comp=Z,7µm,19.0s
MMRI Maumere 59.73 278 P **P 21 43 49.2 -1.2**
comp=Z,114nm,1.4s,comp=Z,2µmcomp=Z,9µm
SANI Sanana 60.07 287 P **P 21 43 53.6 +0.9**
SANI Sanana 60.07 287 P **P 21 43 49.5 -3.2**
SANI Sanana 60.07 287 P **P 21 43 50.7 -2.0**
comp=Z,79nm,0.9s,comp=Z,2µmcomp=Z,7µm
EDFI Ende, Flores 60.14 278 P **P 21 43 51.9 -1.4**
comp=Z,41nm,0.7s,comp=Z,1µmcomp=Z,9µm
GIRL Giralia 60.37 260 P **P 21 43 58.2 +3.5**
comp=Z,171nm,1.3s
GIRL Giralia 60.37 260 P **P 21 43 54.2 -0.5**
GIRL Giralia 60.37 260 ⇑P **P 21 43 54.8 +0.1**
GIRL Giralia 60.37 260 P **P 21 43 54.0 -0.7**
comp=Z,171nm,1.3s
TNTI Ternate 60.56 290 P **P 21 43 56.7 +0.7**
comp=Z,71nm,1.3s
TNTI Ternate 60.56 290 P **P 21 43 55.1 -0.9**
TNTI IAmb IAmb 21 43 59.1
comp=Z,109nm,1.3s
LUWI Luwuk 63.29 286 P **P 21 44 14.6 +0.2**
LUWI Luwuk 63.29 286 P **P 21 44 13.9 -0.5**
LUWI Luwuk 63.29 286 P **P 21 44 12.4 -2.0**
LUWI Luwuk 63.29 286 P **P 21 44 13.5 -0.9**
comp=Z,129nm,1.3s,comp=Z,1µmcomp=Z,8µm
PLAI Plampang 63.46 275 P **P 21 44 15.8 +0.3**
comp=Z,163nm,0.9s
PLAI Plampang 63.46 275 P **P 21 44 14.3 -1.2**
comp=Z,160nm,1.0s
KAPI Kappang 63.70 280 P **P 21 44 21.8 +4.7**
KAPI Kappang 63.70 280 P **P 21 44 16.7 -0.4**
KAPI Kappang 63.70 280 LR LR 22 12 56.0
comp=Z,6µm,18.0s,baz=122,slow=37
KAPI Kappang 63.70 280 P **P 21 44 17.8 +0.7**
KAPI P **P 21 44 17.8 +0.7**
KAPI Kappang 63.70 280 *i* P **P 21 44 18.0 +0.9**
KAPI pmax pmax
comp=Z,23nm,1.1s
TWSI Taliwang, Sumb 64.27 275 P **P 21 44 19.5 -1.3**
comp=Z,135nm,1.2s,comp=Z,2µmcomp=Z,8µm
DAV Davao City (W) 65.75 295 P **P 21 44 29.6 -0.8**
DAV Davao City (W) 65.75 295 LR LR 22 13 44.8
comp=Z,1µm,19.0s,baz=130,slow=36
SRBI Singaraja 66.02 275 P **P 21 44 30.0 -2.2**
comp=Z,129nm,1.1s,comp=Z,9µm
TOLI2 Tolitoli 66.14 286 P **P 21 44 34.6 +1.6**
TOLI2 Tolitoli 66.14 286 P **P 21 44 30.7 -2.2**
MPSI Mapaga 66.44 285 P **P 21 44 32.7 -2.2**
JAGI Jajag, Banyuwa 66.75 274 P **P 21 44 36.6 -0.3**
JAGI Jajag, Banyuwa 66.75 274 P **P 21 44 35.2 -1.6**
JAGI Jajag, Banyuwa 66.75 274 ⇓P **P 21 44 35.5 -1.4**
JAGI Jajag, Banyuwa 66.75 274 P **P 21 44 34.8 -2.1**
comp=Z,174nm,1.2s,comp=Z,8µm
JCJ Chichijima 68.86 322 IAms_20 IAms_20 22 11 10.9
comp=Z,4µm,22.0s
JCJ Chichijima 68.86 322 LR LR 22 11 16.8
comp=Z,3µm,21.7s,baz=145,slow=33
PWJI Pagerwojo 68.99 273 P **P 21 44 49.7 -1.3**
SMAI San Martin Ant 69.24 158 P **P 21 44 52.7 +1.1**
BELA Belgrano 2 69.60 172 P **P 21 44 53.9 +0.1**
BELA IAmb IAmb 21 44 59.1
comp=Z,92nm,1.0s
UGM Wanagama 70.14 272 P **P 21 45 02.8 +4.6**
UGM Wanagama 70.14 272 P **P 21 44 57.7 -0.5**
MYLDM Lahad Datu 70.31 289 P **P 21 44 58.9 -0.1**
MYLDM IAmb IAmb 21 45 03.3
comp=Z,102nm,1.3s
SMRI Semarang 70.64 273 P **P 21 45 03.8 +2.6**
comp=Z,102nm,1.5s
SMRI Semarang 70.64 273 P **P 21 45 00.1 -1.1**
PMSA Palmer Station 72.08 156 LR LR 22 10 07.5
comp=Z,3µm,21.4s,baz=240,slow=30
MAW Mawson 72.16 201 P **P 21 45 09.8 +0.4**
comp=Z,86nm,0.8s,baz=117,slow=6.9,SNR=76
MAW LR LR 22 15 38.1
comp=Z,8µm,20.4s,baz=116,slow=35
comp=Z,86nm,0.8s
MAW Mawson 72.16 201 P **P 21 45 09.0 -0.4**
comp=Z,0.0nmcomp=Z,32nm,1.2s
BBJI Bungbulang 72.84 271 P **P 21 45 13.5 -1.0**
comp=Z,68nm,1.2s
XMIS Christmas Isla 73.10 268 P **P 21 45 14.6 -1.4**
XMIS IAmb IAmb 21 45 16.0
comp=Z,174nm,0.9s
XMIS IAMs_20 IAMs_20 22 16 12.0
comp=Z,6µm,22.0s
SBUM Sibu 74.02 283 P **P 21 45 20.0 -1.3**
JHJ Hachijo jima 2 74.92 324 LR LR 22 15 26.1
comp=Z,1µm,18.9s,baz=155,slow=33
MG03 Isla Dawson 75.26 144 P **P 21 45 28.2 +0.4**
MG03 IAmb IAmb 21 45 48.2
comp=Z,76nm,0.9s
MG03 IAMs_20 IAMs_20 22 10 01.0
comp=Z,5µm,22.0s
MG05 Puerto Natales 75.33 142 P **P 21 45 28.8 +0.5**
MG05 IAmb IAmb 21 45 48.9
comp=Z,140nm,0.9s
MG05 IAMs_20 IAMs_20 22 10 06.1
comp=Z,5µm,21.0s
GO09 Cerro Castillo 75.63 141 P **P 21 45 30.8 +0.8**
GO09 IAmb IAmb 21 45 50.9
comp=Z,249nm,1.4s
GO09 IAMs_20 IAMs_20 22 10 26.0
comp=Z,6µm,22.0s
USHA Ushuaia 75.74 146 LR LR 22 12 29.1
comp=Z,1µm,21.5s,baz=226,slow=30
MG01 Puerto William 76.07 146 P **P 21 45 33.2 +0.7**
MG01 IAmb IAmb 21 45 53.1
comp=Z,88nm,1.1s
ELIB Princess Elisa 76.68 187 *d*P **P 21 45 36.4 +0.6**
comp=Z,110nm,0.7s
ELIB *d*S **S 21 55 16.8 -2.7**
ELIB *d*SKS **SKSac 21 55 44.1 -0.4**
JOW Kunigami 76.82 312 P **P 21 45 38.1 +1.0**
JOW Kunigami 76.82 312 P **P 21 45 36.3 -0.8**
JOW IAmb IAmb 21 45 40.3
comp=Z,109nm,1.5s
JOW IAMs_20 IAMs_20 22 13 16.7
comp=Z,4µm,22.0s
JOW Kunigami 76.82 312 LR LR 22 15 02.1
comp=Z,4µm,21.2s,baz=136,slow=32
JSG Sagara 76.96 324 P **P 21 45 37.4 -0.2**
GO08 Villa O'Higgin 76.96 139 P **P 21 45 38.4 +0.7**
AY03 Cochrane 77.58 138 P **P 21 45 42.0 +0.9**
AY03 IAmb IAmb 21 46 02.5
comp=Z,86nm,1.1s
PMBI Palembang 77.58 274 P **P 21 45 40.5 -1.2**
AY02 Valle Explorad 77.62 137 P **P 21 45 41.9 +0.5**
AY02 IAmb IAmb 21 46 15.9
comp=Z,168nm,1.1s
TROLL Troll, Antarti 77.70 180 ⇑P **P 21 45 42.7 +1.2**
comp=Z,8µm,0.8s
SNAA Sanae 77.98 178 P **P 21 45 43.2 +0.2**
SNAA IAmb IAmb 21 45 52.9
comp=Z,219nm,1.2s
SNAA IAMs_20 IAMs_20 22 15 05.5
comp=Z,4µm,22.0s
SNAA Sanae 77.98 178 ⇑P **P 21 45 43.7 +0.6**
comp=Z,2µm,0.8s
SNAA ⇓S **S 21 55 39.1 +5.7**

comp=Z,59nm,0.7s
SNAA Sanae 77.98 178 P **P 21 45 43.6 +0.6**
comp=Z,67nm,1.0s,baz=165,slow=4.8,SNR=47
SNAA LR LR 22 16 47.2
comp=Z,3µm,21.9s,baz=196,slow=33
comp=Z,67nm,1.0s
SNAA Sanae 77.98 178 *ce*P **P 21 45 43.4 +0.4**
SNAA pmax pmax
comp=Z,210nm,1.2s
INU Inuyama 78.08 324 P **P 21 45 46.4 +2.5**
INU Inuyama 78.08 324 P **P 21 45 42.8 -1.1**
JGF Kuroka 78.11 324 P **P 21 45 44.4 +0.3**
JGF Kuroka 78.11 324 P **P 21 45 43.3 -0.8**
JGF IAmb IAmb 21 46 06.8
comp=Z,194nm,1.8s
VNA3 Neumayer Olymp 78.12 176 ⇑P **P 21 45 44.4 +0.7**
comp=Z,306nm,0.7s
VNA3 ⇓S **S 21 55 41.4 +6.5**
comp=Z,2.6nm,0.7s
JMM Marumori 78.25 328 IAMs_20 IAMs_20 22 18 10.2
comp=Z,4µm,21.0s
MJAR Matsushiro Arr 78.42 325 P **P 21 45 44.8 -1.0**
comp=Z,16nm,1.0s,baz=161,slow=5.4,SNR=19
MJAR LR LR 22 15 09.6
comp=Z,1µm,21.7s,baz=146,slow=32
comp=Z,16nm,1.0s
MAJO Matsushiro 78.42 325 P **P 21 45 47.9 +2.1**
MAJO Matsushiro 78.42 325 P **P 21 45 45.3 -0.5**
MAJO Matsushiro 78.42 325 *i* P **P 21 45 45.6 -0.2**
MAJO pmax pmax
comp=Z,23nm,1.0s
MAJO MLR MLR
comp=Z,1µm,18.0s
MNAI Manna 78.43 272 P **P 21 45 44.2 -2.2**
MNAI IAMs_20 IAMs_20 22 23 41.4
comp=Z,5µm,20.0s
MJB9 Matsu-Tunnel 78.43 325 P **P 21 45 45.8 -0.1**
JMN Monobe 78.50 321 IAMs_20 IAMs_20 22 14 10.4
comp=Z,4µm,22.0s
VNA2 Neumayer--Watz 78.56 177 ⇑P **P 21 45 47.0 +0.8**
comp=Z,187nm,0.6s,baz=179,slow=5.0
VNA2 ⇓S **S 21 55 43.7 +4.1**
comp=Z,0.0nm,0.1s,baz=223,slow=4.3
NVL N'lazarevskaya 78.70 183 ⇓*i* P **P 21 45 47.1 +0.2**
NVL *e*PPP PPP 21 50 42.4
NVL *e*S S 21 55 31.9 -9.2
NVL *e*SS **SS 22 00 50.2 +5.7**
NVL pmax pmax
comp=Z,184nm,1.1s
NVL MLR MLR
comp=Z,4µm,20.0s
YOJ Yonaguni jima 78.72 307 P **P 21 45 46.3 -1.3**
YOJ IAmb IAmb 21 45 57.1
comp=Z,98nm,1.0s
YOJ Yonaguni jima 78.72 307 P **P 21 45 46.3 -1.3**
YOJ pmax pmax
comp=Z,98nm,1.0s
YOJ MLR MLR
comp=Z,2µm,20.0s
COYC Coyhaique 78.77 136 P **P 21 45 48.7 +1.0**
COYC IAmb IAmb 21 46 09.1
comp=Z,126nm,1.0s
COYC Coyhaique 78.77 136 IAMs_20 IAMs_20 22 12 06.5
comp=Z,4µm,21.0s
VNA1 Neumayer--Stat 78.79 177 ⇑P **P 21 45 48.4 +1.0**
comp=Z,176nm,0.9s
VNA1 ⇑S **S 21 55 48.2 +6.3**
comp=Z,13nm,1.0s
TWGBT Beinan 79.00 305 P **P 21 45 49.8 +0.5**
TWG Pinlang 79.01 305 P **P 21 45 46.9 -2.4**
YULB Yu-li 79.22 305 P **P 21 45 51.6 +1.2**
YULB Yu-li 79.22 305 P **P 21 45 48.3 -2.2**
NACB Ninganchiao 79.51 306 P **P 21 45 53.8 +1.8**
JSD Sado 79.58 326 IAMs_20 IAMs_20 22 23 55.2
comp=Z,4µm,20.0s
LL06 Loncomilla 79.60 133 P **P 21 45 53.5 +1.2**
TPUB Ta-pu 79.63 305 P **P 21 45 52.8 +0.1**
SSLB Suanglung 79.71 305 P **P 21 45 52.8 -0.4**
SSLB Suanglung 79.71 305 P **P 21 45 51.0 -2.2**
SSLB IAmb IAmb 21 45 56.3
comp=Z,108nm,1.4s
JNU Nakatsue 79.73 318 P **P 21 45 56.9 +3.9**
JNU Nakatsue 79.73 318 P **P 21 45 53.0 -0.1**
JNU IAmb IAmb 21 46 15.8
comp=Z,69nm,1.0s
JNU IAMs_20 IAMs_20 22 15 15.9
comp=Z,4µm,22.0s
JNU Nakatsue 79.73 318 LR LR 22 17 33.0
comp=Z,1µm,21.4s,baz=134,slow=33
YHNB Yeheng 79.98 306 P **P 21 45 55.6 +0.9**
PAF Port-aux-Franc 80.04 218 P **P 21 45 54.6 0.0**
PAF IAmb IAmb 21 46 01.2
comp=Z,204nm,1.1s
PAF Port-aux-Franc 80.04 218 P **P 21 45 54.6 0.0**
PAF pmax pmax
comp=Z,204nm,1.1s
TATO Taipei 80.10 307 P **P 21 45 53.6 -1.6**
TATO IAmb IAmb 21 45 54.7
comp=Z,201nm,1.8s
LL02 Futaleuf 80.19 135 P **P 21 45 56.2 +0.6**
LL02 IAmb IAmb 21 46 16.8
comp=Z,158nm,1.4s
LL01 San Ignacio de 80.27 134 P **P 21 45 56.8 +0.8**
LL01 IAmb IAmb 21 46 17.0
comp=Z,210nm,1.9s
H03S2 Juan Fernandez 80.32 123 T T 23 15 04.7
baz=238,slow=74,SNR=426
H03S1 Juan Fernandez 80.33 124 T T 23 15 05.9
baz=238,slow=74,SNR=332
H03S3 Juan Fernandez 80.33 123 T T 23 15 12.4
baz=238,slow=74,SNR=290
H03N3 Juan Fernandez 80.51 123 T T 23 15 17.1
baz=241,slow=72,SNR=120
H03N2 Juan Fernandez 80.51 123 T T 23 15 17.9
baz=241,slow=72,SNR=160
JTM Tenmabayashi 80.51 330 IAMs_20 IAMs_20 22 21 29.0
comp=Z,3µm,20.0s
H03N1 Juan Fernandez 80.53 123 T T 23 15 23.6
baz=241,slow=72,SNR=156
BTDF Bukit Timah Da 80.62 277 P **P 21 45 58.0 -0.3**
comp=Z,39nm,1.1s
ERM Erimo 80.64 332 P **P 21 45 58.4 +0.7**
ERM IAmb IAmb 21 48 56.6
comp=Z,88nm,1.4s
ERM Erimo 80.64 332 IAMs_20 IAMs_20 22 17 13.5
comp=Z,4µm,20.0s
ERM Erimo 80.64 332 *i* P **P 21 45 58.0 +0.3**
ERM pmax pmax
comp=Z,28nm,0.9s
ERM MLR MLR
comp=Z,3µm,18.0s
JEM Erimo 80.65 332 IAMs_20 IAMs_20 22 17 25.0
comp=Z,4µm,20.0s
LL04 Puerto Octay 81.07 132 P **P 21 46 01.5 +1.2**
LL04 IAmb IAmb 21 46 22.2
comp=Z,298nm,2.0s
YUK Yuzh-Kuril'sk 81.30 334 *e*P **P 21 46 01.2 +0.1**
YUK *e* 21 49 06.9
YUK *e*PPP PPP 21 50 57.1
YUK *e*S **S 21 56 10.1 +1.3**
YUK *e*SS **SS 22 01 27.7 +1.8**
YUK *e*SSS SSS 22 04 54.4
YUK pmax pmax
comp=Z,142nm,0.9s
YUK pmax pmax
comp=Z,147nm,1.1s
KUR Kuril'sk 81.61 336 P **P 21 46 00.3 -2.4**
KUR S **S 21 56 16.2 +4.2**
KUR MLR MLR
comp=Z,4µm,18.0s
LR05 Currie 81.69 132 P **P 21 46 04.3 +0.7**
LR05 IAmb IAmb 21 46 26.0
comp=Z,184nm,1.4s
KIWB Kanaga Island 82.08 0 P **P 21 46 05.5 +0.5**
QZH Quanzhou 82.11 305 P **P 21 46 05.3 -0.5**
QZH S **S 21 56 19.2 +1.2**
QZH sS **sS 21 56 37.5 +1.0**
QZH pmax pmax
comp=Z,1µm,10.2s
QZH LR LR
comp=Z,1µm,15.2s
QZH LR LR
comp=Z,2µm,19.0s
QZH LR LR
comp=Z,2µm,20.8s
ADK Adak 82.11 1 P **P 21 46 02.9 -2.3**

ADK Adak 82.11 1 P **P** **21 46 05.0 -0.2**
ADK Adak 82.11 1 P **P** **21 46 05.0 -0.2**
ADK pmax pmax
comp=Z,472nm,1.7s
ADK MLR MLR
comp=Z,6μm,21.0s
GO06 Curarrehue 82.39 132 P **P** **21 46 07.8 +0.4**
GO06 IAmb IAmb 21 46 28.8
comp=Z,125nm,1.4s
BKNI Bangkinang 82.44 275 P **P** **21 46 07.6 -0.3**
BKNI Bangkinang 82.44 275 P **P** **21 46 05.8 -2.1**
BKNI Bangkinang 82.44 275 P **P** **21 46 04.5 -3.4**
ATKA Atka Island 82.49 2 P **P** **21 46 04.3 -2.9**
ATKA Atka Island 82.49 2 P **P** **21 46 07.2 0.0**
ATKA IAMs_20 IAMs_20 22 17 40.9
comp=Z,4μm,20.0s
EFI East Falkland 82.61 147 P **P** **21 46 08.9 +0.7**
EFI IAmb IAmb 21 46 13.9
comp=Z,121nm,0.9s
EFI East Falkland 82.61 147 *ce*P **P** **21 46 10.0 +1.8**
EFI pmax pmax
comp=Z,56nm,0.9s
EFI MLR MLR
comp=Z,478nm,17.0s
JKA Kamikawa-asahi 82.62 333 P **P** **21 46 08.7 +0.6**
ASAJ Asahikawa 82.62 333 LR LR 22 18 14.8
comp=Z,5μm,21.1s,baz=175,slow=32
ASAJ Asahikawa 82.62 333 P **P** **21 46 08.7 +0.6**
ASAJ pmax pmax
comp=Z,43nm,0.9s
ASAJ MLR MLR
comp=Z,5μm,21.0s
SHEM Shemya Is, Ala 83.25 355 LR LR 22 19 34.7
comp=Z,6μm,19.4s,baz=166,slow=33
CLES Cleveland East 83.34 5 IAMs_20 IAMs_20 22 19 18.6
comp=Z,3μm,20.0s
NIKH Nikolski High 83.57 6 P **P** **21 46 13.8 +1.1**
comp=Z,293nm,1.3s
NIKH Nikolski High 83.57 6 P **P** **21 46 13.8 +1.1**
baz=187
TJN Taejon 84.07 319 P **P** **21 46 18.4 +2.7**
comp=Z,202nm,1.2s
TJN Taejon 84.07 319 P **P** **21 46 15.4 -0.3**
TJN Taejon 84.07 319 *i*P **P** **21 46 15.9 +0.2**
SKR Severo-Kuril's 84.10 344 *e*P **P** **21 46 15.6 +0.1**
SKR *e*S **SKSac** **21 56 34.1 -1.3**
SKR pmax pmax
comp=Z,43nm,1.7s
SKR pmax pmax
comp=Z,700nm,10.4s
SKR MLR MLR
comp=Z,1μm,15.0s
SNCC San Nicolas Is 84.12 46 P **P** **21 46 14.2 -1.9**
baz=227
SSE Sheshan 84.27 311 P **P** **21 46 16.0 -0.9**
SSE pmax pmax
comp=Z,15nm,0.8s
SSE pmax pmax
comp=Z,420nm,9.2s
SSE LR LR
comp=Z,640nm,21.7s
SSE LR LR
comp=Z,880nm,22.0s
KSRS Korea Array 84.52 320 P **P** **21 46 17.8 -0.2**
comp=Z,10nm,1.0s,baz=138,slow=5.4,SNR=13
KSRS LR LR 22 20 07.4
comp=Z,1μm,21.1s,baz=125,slow=33
comp=Z,10nm,1.0s
KSAR Wonju Array Be 84.53 320 P **P** **21 46 17.6 -0.4**
KSAR Wonju Array Be 84.53 320 P **P** **21 46 17.6 -0.4**
ML02 Panimavida 84.54 128 P **P** **21 46 18.6 +0.2**
ML02 IAmb IAmb 21 46 38.3
comp=Z,117nm,0.9s
ML02 IAMs_20 IAMs_20 22 13 44.3
comp=Z,4μm,21.0s
SCI2 San Clemente I 84.55 47 P **P** **21 46 16.6 -1.6**
baz=227
SCZ2 Santa Cruz Isl 84.56 45 P **P** **21 46 16.8 -1.5**
baz=227
LPIG La Paz 84.58 58 LR LR 22 19 41.4
comp=Z,3μm,18.1s,baz=240,slow=32
KS19 Wonju Array Si 84.59 320 P **P** **21 46 17.6 -0.7**
KS19 IAmb IAmb 21 46 42.0
comp=Z,56nm,1.2s
SLBS Sierra La Lagu 84.60 59 IAMs_20 IAMs_20 22 19 38.8
comp=Z,4μm,19.0s
GO05 Huala 84.61 128 P **P** **21 46 19.3 +0.5**
UNV Unalaska Valle 84.65 7 P **P** **21 46 20.5 +2.2**
baz=189
GZH Guangzhou 84.79 300 P **P** **21 46 20.5 +0.8**
GZH PP **PP** **21 49 41.2 +4.6**
GZH S **SKSac** **21 56 42.3 +1.1**
GZH pmax pmax
comp=Z,57nm,1.0s
GZH pmax pmax
comp=Z,870nm,8.9s
GZH LR LR
comp=Z,760nm,20.2s
GZH LR LR
comp=Z,390nm,26.5s
GZH LR LR
comp=Z,2μm,21.6s
CIS Catalina Islan 84.91 46 P **P** **21 46 20.2 0.0**
baz=227
YSS Yuzh-Sakhalins 84.93 334 P **P** **21 46 22.8 +3.0**
YSS Yuzh-Sakhalins 84.93 334 P **P** **21 46 20.4 +0.6**
YSS IAmb IAmb 21 46 42.6
comp=Z,80nm,1.0s
YSS Yuzh-Sakhalins 84.93 334 *ce*P **P** **21 46 19.9 +0.1**
YSS *e*S **SKSac** **21 56 42.2 +1.3**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=Z,800nm,8.1s
PKM Mcpherson Peak 85.05 44 P **P** **21 46 21.6 +0.6**
baz=226
QIZ Qiongzhong 85.12 295 P **P** **21 46 22.3 +0.8**
QIZ PP **PP** **21 49 40.9 +1.5**
QIZ SKS **SKSac** **21 56 38.8 -4.7**
QIZ S **SKKSac** **21 56 51.4 +1.5**
QIZ pmax pmax
comp=Z,20nm,0.8s
QIZ pmax pmax
comp=Z,980nm,12.0s
QIZ LR LR
comp=Z,740nm,21.9s
QIZ LR LR
comp=Z,1μm,32.0s
QIZ LR LR
comp=Z,3μm,37.0s
QIZ Qiongzhong 85.12 295 P **P** **21 46 20.9 -0.6**
QIZ IAmb IAmb 21 47 11.0
comp=Z,66nm,1.6s
SRIG Santa Rosalia 85.14 54 P **P** **21 46 22.8 +1.5**
SRIG IAmb IAmb 21 46 43.6
comp=Z,126nm,1.1s
SRIG IAMs_20 IAMs_20 22 22 31.9
comp=Z,2μm,18.0s
FMP Fort Macarthur 85.20 46 P **P** **21 46 22.0 +0.5**
baz=228
SMMC Simmler 85.23 44 P **P** **21 46 22.5 +0.8**
baz=226
VTX Valle De La Tr 85.28 49 P **P** **21 46 22.8 +0.7**
VTX IAmb IAmb 21 46 44.7
comp=Z,46nm,1.1s
KULM Kulim 85.31 279 P **P** **21 46 21.4 -1.2**
KULM IAmb IAmb 21 46 22.9
comp=Z,73nm,1.1s
BCW Bitter Crk WRg 85.33 45 P **P** **21 46 23.5 +1.3**
BCW IAmb IAmb 21 46 29.6
comp=Z,60nm,0.9s
BCW IAMs_20 IAMs_20 22 18 12.6
comp=Z,3μm,20.0s
PMPB Monarch Peak 85.37 43 IAMs_20 IAMs_20 22 24 04.5
comp=Z,4μm,18.0s
SAO San Andreas Ge 85.37 42 P **P** **21 46 23.6 +1.3**
SAO IAmb IAmb 21 46 43.9
comp=Z,68nm,1.2s
SAO San Andreas Ge 85.37 42 P **P** **21 46 23.6 +1.3**
SAO pmax pmax
comp=Z,68nm,1.2s
SAO MLR MLR
comp=Z,5μm,18.0s
109C Camp Elliot, M 85.40 47 P **P** **21 46 22.1 -0.4**
baz=228
BBGB Big Mountain B 85.48 43 IAMs_20 IAMs_20 22 15 15.4
comp=Z,4μm,22.0s
BO02 Sierra Bellavi 85.51 128 P **P** **21 46 23.9 +0.4**
BO02 IAmb IAmb 21 46 43.4
comp=Z,102nm,0.9s
MCCM Marconi Confer 85.51 40 IAMs_20 IAMs_20 22 23 28.3
comp=Z,3μm,18.0s
DECC Green Verdugo 85.53 46 P **P** **21 46 22.9 -0.3**
baz=227
OSI Osito Audit: C 85.53 45 P **P** **21 46 23.7 +0.5**
baz=227
BO01 Tunca 85.53 127 P **P** **21 46 23.5 +0.1**
BO01 IAmb IAmb 21 46 44.1
comp=Z,57nm,1.1s
BO01 IAMs_20 IAMs_20 22 15 11.6
comp=Z,4μm,22.0s
VA05 Santo Domingo 85.58 127 P **P** **21 46 24.0 +0.4**
VA05 IAmb IAmb 21 46 43.2
comp=Z,90nm,0.9s
VA05 IAMs_20 IAMs_20 22 14 47.9
comp=Z,4μm,22.0s
MT01 Popeta 85.71 127 P **P** **21 46 24.5 +0.2**
MT01 IAMs_20 IAMs_20 22 15 53.5
comp=Z,3μm,22.0s
PET Petropavlovsk 85.72 346 P **P** **21 46 24.3 +0.8**
PET IAmb IAmb 21 46 28.4
comp=Z,71nm,1.3s
PET IAMs_20 IAMs_20 22 19 47.4
comp=Z,3μm,21.0s
PET Petropavlovsk 85.72 346 *α i*P **P** **21 46 23.5 -0.1**
PET *e* 21 49 41.4
PET *e* 21 56 37.8
PET *e*S **S** **21 56 55.4 +2.4**
PET *e*PS **PnS** **21 58 06.9 +13**
PET *e*SS **SS** **22 02 25.7 -5.3**
PET pmax pmax
comp=Z,43nm,1.0s
PET pmax pmax
comp=Z,1μm,19.6s
PET pmax pmax
comp=Z,400nm,23.4s
PET MLR MLR
comp=Z,2μm,18.0s
PET Petropavlovsk 85.72 346 P **P** **21 46 22.9 -0.7**
comp=Z,37nm,0.5s,comp=Z,898nm
ARVC Arvin 85.81 45 P **P** **21 46 24.9 +0.4**
baz=227
MURC Murrieta 85.81 47 P **P** **21 46 25.3 +0.7**
baz=228,SNR=16
MONP2 Monument Peak 85.84 48 P **P** **21 46 24.5 -0.5**
baz=229,SNR=14
TEY Ternei 85.88 330 *e*P **P** **21 46 24.6 0.0**
TEY *e* 21 56 42.8
IKP In-Ko-Pah, Jac 85.88 48 P **P** **21 46 25.6 +0.5**
baz=229,SNR=12
VA01 Torpederas 85.91 126 P **P** **21 46 25.8 +0.6**
GSI Gunungsitoli 85.91 274 P **P** **21 46 26.6 +1.0**
GSI Gunungsitoli 85.91 274 P **P** **21 46 24.6 -1.0**
BFSC Mount Baldy Ra 85.94 46 P **P** **21 46 26.0 +0.7**
baz=228,SNR=25
FALS False Pass 86.00 8 P **P** **21 46 27.4 +2.5**
baz=192
HOPS Hopland Field 86.01 40 P **P** **21 46 26.6 +1.1**
HOPS IAmb IAmb 21 46 47.1
comp=Z,96nm,1.1s
HOPS IAMs_20 IAMs_20 22 20 50.3
comp=Z,3μm,19.0s
MT02 Curacav 86.13 126 P **P** **21 46 26.3 -0.1**
MT02 IAmb IAmb 21 46 47.6
comp=Z,75nm,0.9s
MT02 IAMs_20 IAMs_20 22 15 55.6
comp=Z,4μm,21.0s
VES Vestal, Richgr 86.13 44 P **P** **21 46 26.8 +0.7**
baz=227
EDW2 Edwards Air Fo 86.16 45 P **P** **21 46 27.0 +0.6**
baz=228,SNR=30
SWSC Sam W. Stewart 86.27 48 P **P** **21 46 27.3 +0.5**
baz=229,SNR=11
VOG Valley Oaks Go 86.28 44 P **P** **21 46 28.2 +1.5**
baz=227
TPFO Pinon Flats 86.28 47 P **P** **21 46 27.8 +0.8**
baz=229,SNR=31
PFO Pinyon Flats O 86.28 47 P **P** **21 46 28.4 +1.3**
PFO IAmb IAmb 21 46 34.0
comp=Z,46nm,1.1s
PFO Pinyon Flats O 86.28 47 IAMs_20 IAMs_20 22 28 20.0
comp=Z,3μm,18.0s
PFO Pinyon Flats O 86.28 47 P **P** **21 46 28.2 +1.1**
baz=229,SNR=24
PFO Pinyon Flats O 86.28 47 LR LR 22 18 00.2
comp=Z,2μm,20.9s,baz=243,slow=31
PFO Pinyon Flats O 86.28 47 P **P** **21 46 28.4 +1.3**
PFO pmax pmax
comp=Z,46nm,1.1s
PFO MLR MLR
comp=Z,3μm,18.0s
PMD Palm Desert 86.36 47 IAMs_20 IAMs_20 22 28 05.0
comp=Z,3μm,18.0s
ISA Isabella, Lake 86.38 45 P **P** **21 46 28.5 +1.1**
baz=227,SNR=37
NJ2 Nanjing 86.41 311 ⇑P **P** **21 46 27.6 +0.1**
NJ2 pP **pwP** **21 46 41.5 -0.6**
NJ2 pmax pmax
comp=Z,25nm,0.7s
NJ2 pmax pmax
comp=Z,590nm,3.7s
NJ2 LR LR
comp=Z,2μm,24.6s
NJ2 LR LR
comp=Z,2μm,21.8s
NJ2 LR LR
comp=Z,3μm,20.0s
MT03 Universidad Ad 86.43 127 P **P** **21 46 29.0 +1.0**
MT03 IAmb IAmb 21 46 48.9
comp=Z,100nm,1.0s
MT03 IAMs_20 IAMs_20 22 14 50.5
comp=Z,4μm,22.0s
LMEL Las Melosas 86.44 127 P **P** **21 46 28.9 +0.8**
LMEL IAmb IAmb 21 46 50.4
comp=Z,74nm,0.9s
LMEL IAMs_20 IAMs_20 22 14 52.7
comp=Z,4μm,22.0s
MT13 San Alfonso 86.44 127 P **P** **21 46 29.5 +1.4**
MT13 IAmb IAmb 21 46 48.5
comp=Z,82nm,0.8s
MT13 IAMs_20 IAMs_20 22 15 40.8
comp=Z,4μm,22.0s
KMPM Mount Pierce 86.45 38 P **P** **21 46 29.5 +1.8**
KMPM IAMs_20 IAMs_20 22 15 31.9
comp=Z,3μm,21.0s
CNBA Chernabura Isl 86.50 11 P **P** **21 46 28.1 +0.7**
CNBA IAMs_20 IAMs_20 22 19 42.8
comp=Z,4μm,22.0s
PEL Peldehue 86.51 127 P **P** **21 46 29.3 +1.0**
PEL Peldehue 86.51 127 P **P** **21 46 29.3 +1.0**
PEL pmax pmax
comp=Z,200nm,0.9s
CHNA Chernabura Isl 86.52 11 P **P** **21 46 29.1 +1.7**
baz=195
KMRM Mail Ridge 86.53 38 IAMs_20 IAMs_20 22 16 06.7
comp=Z,3μm,22.0s
MSHR Mys Shultsa 86.54 325 *ce*P **P** **21 46 28.5 +0.6**
MSHR pmax pmax
comp=Z,31nm,1.1s
MSHR MLR MLR
comp=Z,1μm,20.0s
UBPT Khong Chiam 86.54 290 P **P** **21 46 28.2 -0.3**
UBPT IAmb IAmb 21 46 32.3
comp=Z,73nm,1.3s
VLA Vladivostok 86.58 326 *i*P **P** **21 46 28.4 +0.3**
VLA pmax pmax
comp=Z,17nm,0.9s
VLA MLR MLR
comp=Z,1μm,17.2s
LRMC Laurel Mtn Rad 86.74 45 P **P** **21 46 30.4 +1.1**
baz=228,SNR=33
PSTR Posyet 86.77 325 *i*P **P** **21 46 29.2 +0.2**
RRX Edison Barstow 86.77 46 P **P** **21 46 30.1 +0.8**
baz=228
JCC Jacoby Creek, 86.79 38 IAMs_20 IAMs_20 22 15 41.8
comp=Z,3μm,22.0s
BELC Belle Mtn. Jos 86.83 47 P **P** **21 46 30.3 +0.6**
baz=229,SNR=50
CMB Columbia Colle 86.85 42 P **P** **21 46 30.4 +0.8**
CMB IAmb IAmb 21 46 50.8
comp=Z,57nm,1.2s
CMB IAMs_20 IAMs_20 22 16 42.8
comp=Z,4μm,22.0s
CMB Columbia Colle 86.85 42 P **P** **21 46 30.5 +0.8**
CMB pmax pmax
comp=Z,57nm,1.2s
CMB MLR MLR
comp=Z,4μm,22.0s
SDPT Sand Point 86.88 10 P **P** **21 46 31.9 +2.7**
baz=194
BC3 Big Chuckawall 86.95 48 P **P** **21 46 31.2 +0.9**
baz=229,SNR=30
UGL Uglegorsk 86.96 335 *e*P **P** **21 46 25.7 -4.1**
UGL *e*S **S** **21 56 59.5 -5.7**
UGL pmax pmax
comp=Z,80nm,0.6s
UGL pmax pmax
comp=Z,2μm,8.0s
UGL smax smax
comp=E,400nm,5.0s
UGL smax smax
comp=N,2μm,8.5s
GLA Glamis, 86.97 49 P **P** **21 46 32.2 +1.9**
baz=230,SNR=12
KHMM Horse Mountain 86.98 38 P **P** **21 46 31.4 +1.1**
KHMM IAmb IAmb 21 46 52.1
comp=Z,71nm,1.2s
KHMM IAMs_20 IAMs_20 22 17 40.1
comp=Z,3μm,21.0s
O02D Mt. Diablo Mer 87.00 39 P **P** **21 46 31.9 +1.6**
O02D IAmb IAmb 21 46 52.4
comp=Z,112nm,1.1s
O02D IAMs_20 IAMs_20 22 16 57.4
comp=Z,4μm,22.0s
S12K Black Hills 87.00 9 IAMs_20 IAMs_20 22 25 42.6
comp=Z,2μm,19.0s
S12K Black Hills 87.00 9 P **P** **21 46 31.2 +1.4**
baz=193
HSIG 87.07 54 P **P** **21 46 31.8 +1.0**
HSIG IAmb IAmb 21 46 53.2
comp=Z,150nm,1.5s
CWC Cottonwood Cre 87.14 44 P **P** **21 46 33.1 +1.8**
baz=228
AFDM Forest Hills D 87.15 41 IAMs_20 IAMs_20 22 16 50.5
comp=Z,4μm,22.0s
HEC Hector,Ludlow 87.15 46 P **P** **21 46 32.1 +0.9**
baz=229,SNR=46
GSC Goldstone, Bar 87.17 46 P **P** **21 46 32.1 +0.8**
baz=228,SNR=51
MPMC Manual Prospec 87.24 45 P **P** **21 46 32.3 +0.5**
baz=228,SNR=35
ORV Oroville 87.27 40 IAMs_20 IAMs_20 22 21 30.7
comp=Z,2μm,19.0s
USA0B Ussuriysk Arra 87.34 326 P **P** **21 46 32.0 +0.3**
USA0B Ussuriysk Arra 87.34 326 *i*P **P** **21 46 32.0 +0.3**
USRK Ussuriysk Ar. 87.34 326 P **P** **21 46 32.0 +0.2**
USRK Ussuriysk Ar. 87.34 326 P **P** **21 46 31.8 0.0**
comp=Z,11nm,0.6s,baz=154,slow=3.7,SNR=16
USRK LR LR 22 19 49.8
comp=Z,1μm,21.4s,baz=137,slow=32
comp=Z,11nm,0.6s
USRK Ussuriysk Ar. 87.34 326 P **P** **21 46 32.0 +0.2**
TIN Tinemaha, Big 87.45 44 P **P** **21 46 32.9 +0.2**
baz=227
IRM Iron Mountain 87.47 48 P **P** **21 46 33.4 +0.7**
baz=229,SNR=61
113A Mohawk Valley, 87.48 49 P **P** **21 46 34.2 +1.5**
113A IAmb IAmb 21 46 55.7
comp=Z,78nm,1.3s
MLAC Mammoth, Mammo 87.48 43 P **P** **21 46 32.9 -0.1**
baz=227
GMRC Granite Mounta 87.54 47 P **P** **21 46 33.6 +0.4**
baz=229,SNR=22
214A Organ Pipe Nat 87.60 51 P **P** **21 46 35.1 +1.6**
214A IAmb IAmb 21 46 54.0
comp=Z,57nm,1.2s
214A Organ Pipe Nat 87.60 51 P **P** **21 46 33.2 -0.2**
baz=231
WAKR Walker 87.72 42 IAMs_20 IAMs_20 22 17 21.7
comp=Z,4μm,22.0s
TUQ Turquoise Moun 87.80 46 P **P** **21 46 35.6 +1.2**
baz=229
GWY Greenwater Val 87.83 45 P **P** **21 46 35.7 +1.1**
GWY IAmb IAmb 21 46 55.9
comp=Z,33nm,0.9s
SHOC Shoshone, Teco 87.88 46 P **P** **21 46 35.7 +1.0**
baz=229
FURC Furnace Creek, 87.89 45 P **P** **21 46 35.2 +0.7**
baz=228,SNR=13
SRIT Nakonsritamara 87.90 281 P **P** **21 46 35.5 +0.3**
SRIT Nakonsritamara 87.90 281 P **P** **21 46 34.3 -0.9**
SRIT IAmb IAmb 21 46 38.0
comp=Z,51nm,1.2s
GRAC Grapevine Rang 87.93 44 IAMs_20 IAMs_20 22 19 25.6
comp=Z,3μm,20.0s
GRAC Grapevine Rang 87.93 44 P **P** **21 46 36.0 +1.2**
baz=228,SNR=12
CNSH ChangSha 88.09 304 P **P** **21 46 37.0 +1.2**
LHV Little Huntoon 88.09 43 P **P** **21 46 36.9 +1.4**
LHV IAmb IAmb 21 46 57.1
comp=Z,90nm,1.4s
GO04 Tololo Observa 88.10 124 IAMs_20 IAMs_20 22 15 44.1
comp=Z,4μm,21.0s
CHGN Chignik 88.12 11 P **P** **21 46 36.0 +0.9**
CHGN IAMs_20 IAMs_20 22 20 43.2
comp=Z,3μm,22.0s
CHGN Chignik 88.12 11 P **P** **21 46 35.4 +0.3**
baz=196
YBH Yreka Blue Hor 88.13 38 IAMs_20 IAMs_20 22 16 48.5
comp=Z,3μm,22.0s
YBH Yreka Blue Hor 88.13 38 LR LR 22 18 17.3
comp=Z,2μm,21.9s,baz=234,slow=30
CHIR Chirikof Islan 88.14 12 P **P** **21 46 36.8 +1.5**
baz=198
YERR Yerington 88.16 42 IAMs_20 IAMs_20 22 17 35.3
comp=Z,4μm,22.0s
HATC Hat Creek Radi 88.17 39 IAMs_20 IAMs_20 22 25 16.4
comp=Z,3μm,18.0s
NEE2 Needles Airpor 88.19 47 P **P** **21 46 36.3 +0.2**
baz=230
PDMCI Parker Dam,Lak 88.20 48 P **P** **21 46 36.8 +0.7**
baz=230,SNR=13
TYV Tymovskoe 88.24 336 *e*P **P** **21 46 36.6 +0.7**
TYV *e*S **S** **21 57 20.3 +2.8**
TYV pmax pmax
comp=Z,500nm,8.1s
TYV pmax pmax
comp=Z,38nm,1.2s
TYV smax smax
comp=E,200nm,11.5s
K02D Willamette Mer 88.32 37 P **P** **21 46 38.0 +1.4**
NVAR Mina Array Bea 88.33 43 P **P** **21 46 37.9 +0.9**
NVAR Mina Array Bea 88.33 43 P **P** **21 46 38.0 +1.1**
comp=E,25nm,0.9s,baz=221,slow=7.8,SNR=54
NVAR PKKPbc **PKKPbc** **22 04 21.0 0.0**
comp=E,1.4nm,0.7s,baz=101,slow=2.4,SNR=6.8
NVAR PKPPKP **P'P'df** **22 12 29.9 +4.7**
comp=E,1.8nm,0.8s,baz=105,slow=1.8,SNR=8.7
NVAR LR LR 22 20 28.8
comp=E,2μm,19.5s,baz=230,slow=32
comp=E,25nm,0.9s
RYN Ryan 88.33 42 IAMs_20 IAMs_20 22 17 42.0
comp=Z,3μm,22.0s
LHMI Lhok Sumawe 88.44 277 P **P** **21 46 36.6 -1.2**
WHN Wuhan 88.50 307 ⇓P **P** **21 46 40.0 +2.4**
WHN sP **pP** **21 46 47.7 -0.9**
WHN LR LR
comp=Z,3μm,14.8s
WHN LR LR
comp=Z,2μm,15.0s
WHN LR LR
comp=Z,5μm,19.4s
TPNV Topopah Spring 88.58 45 P **P** **21 46 38.3 +0.2**
baz=229,SNR=27
V12A Nelson 88.66 47 IAMs_20 IAMs_20 22 19 35.8
comp=Z,2μm,20.0s
CO01 Juntas del Tor 88.72 124 P **P** **21 46 40.0 +0.7**
MDJ Mudanjiang 88.81 325 P **P** **21 46 38.9 +0.2**
MDJ pmax pmax
comp=Z,13nm,1.2s
MDJ pmax pmax
comp=Z,1μm,11.6s
MDJ LR LR
comp=Z,2μm,24.1s
MDJ LR LR
comp=Z,2μm,24.9s
MDJ LR LR
comp=Z,5μm,24.1s
MDJ Mudanjiang 88.81 325 P **P** **21 46 39.0 +0.2**
ZON Zonda 88.81 126 P **P** **21 46 40.2 +0.8**

ZON IAmb IAmb 21 46 59.2
comp=Z,64nm,1.1s
ZON Zonda 88.81 126 P P 21 46 40.2 +0.8
ZON pmax pmax
comp=Z,64nm,1.1s
ZON MLR MLR
comp=Z,6μm,21.0s
LCO Las Campanas 88.83 123 P P 21 46 40.4 +0.6
LCO Las Campanas 88.83 123 P P 21 46 40.4 +0.6
LCO pmax pmax
comp=Z,79nm,0.9s
LCO MLR MLR
comp=Z,9μm,22.0s
KVN Kaiserville 88.86 42 IAMs_20 IAMs_20 22 17 57.9
comp=Z,3μm,22.0s
MOIG Morelia 89.03 67 P P 21 46 41.2 +0.5
MOIG IAmb IAmb 21 47 02.1
comp=Z,44nm,0.7s
SII Sitkinak Islan 89.11 13 P P 21 46 40.9 +1.0
SII Sitkinak Islan 89.11 13 P P 21 46 39.9 +0.1
baz=200
HOPE Hope Point 89.17 159 P P 21 46 41.7 +1.2
HOPE Hope Point 89.17 159 P P 21 46 41.7 +1.2
HOPE pmax pmax
comp=Z,174nm,1.1s
TUC Tucson 89.17 51 P P 21 46 42.1 +1.2
TUC Tucson 89.17 51 P P 21 46 41.0 +0.1
baz=232
TUC Tucson 89.17 51 P P 21 46 42.1 +1.2
AC05 El Transito 89.23 123 P P 21 46 41.6 0.0
Q09A Carvers 89.25 43 IAMs_20 IAMs_20 22 26 32.4
comp=Z,3μm,18.0s
TRQA Tornquist 89.27 135 P P 21 46 41.4 0.0
TRQA IAmb IAmb 21 47 02.8
comp=Z,72nm,1.2s
TRQA IAMs_20 IAMs_20 22 17 52.6
comp=Z,3μm,21.0s
TRQA Tornquist 89.27 135 P P 21 46 41.4 0.0
TRQA pmax pmax
comp=Z,72nm,1.2s
TRQA MLR MLR
comp=Z,3μm,21.0s
S11A Rachel 89.33 45 IAMs_20 IAMs_20 22 20 41.6
comp=Z,3μm,20.0s
PRN Pahroc Range 89.61 45 IAMs_20 IAMs_20 22 20 38.8
comp=Z,2μm,20.0s
ZAIG Zacatecas 89.64 63 P P 21 46 44.5 +0.9
ZAIG IAMs_20 IAMs_20 22 16 45.4
comp=Z,3μm,22.0s
R17L Mt. Peulik Vol 89.73 11 P P 21 46 42.9 +0.2
baz=198
COR Corvallis 89.85 36 P P 21 46 44.4 +0.8
COR IAmb IAmb 21 46 50.5
comp=Z,88nm,1.2s
COR Corvallis 89.85 36 IAMs_20 IAMs_20 22 18 02.7
comp=Z,4μm,22.0s
COR Corvallis 89.85 36 P P 21 46 44.4 +0.8
COR pmax pmax
comp=Z,88nm,1.3s
COR MLR MLR
comp=Z,4μm,22.0s
R11B Troy Canyon, C 89.89 44 IAMs_20 IAMs_20 22 24 18.2
comp=Z,2μm,19.0s
R11B Troy Canyon, C 89.89 44 P P 21 46 43.3 -0.9
baz=229,SNR=14
OHAK Old Harbor 89.91 13 IAMs_20 IAMs_20 22 22 25.6
comp=Z,3μm,20.0s
OHAK Old Harbor 89.91 13 P P 21 46 43.8 +0.3
baz=200
SNY Shenyang 89.97 320 ⇓P **P 21 46 44.2 0.0**
SNY pmax pmax
comp=Z,26nm,1.5s
SNY pmax pmax
comp=Z,380nm,4.9s
SNY LR LR
comp=Z,1μm,22.9s
SNY LR LR
comp=Z,1μm,21.6s
SNY LR LR
comp=Z,3μm,23.9s
TLIG Tlapa 90.00 70 P P 21 46 47.0 +1.9
TLIG IAmb IAmb 21 47 08.6
comp=Z,103nm,1.3s
TLIG IAMs_20 IAMs_20 22 16 53.0
comp=Z,4μm,22.0s
R18K Karluk 90.01 12 P P 21 46 44.9 +0.9
baz=199
HEBO Mount Hebo 90.07 35 IAMs_20 IAMs_20 22 18 30.5
comp=Z,3μm,22.0s
TIA Tai'an 90.14 313 P P 21 46 45.6 +0.4
TIA S **S 21 57 35.9 0.0**
TIA pmax pmax
comp=Z,16nm,1.0s
TIA pmax pmax
comp=Z,500nm,5.9s
TIA LR LR
comp=Z,880nm,23.4s
TIA LR LR
comp=Z,940nm,22.3s
TIA LR LR
comp=Z,2μm,24.2s
BMN Battle Mountai 90.28 42 IAMs_20 IAMs_20 22 18 40.5
comp=Z,4μm,22.0s
G03D McMinnville, O 90.31 35 IAMs_20 IAMs_20 22 18 39.0
comp=Z,3μm,22.0s
CN2 Changchun 90.32 323 *e*P **P 21 46 45.7 -0.1**
CN2 *e*S **S 21 57 37.9 +0.6**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,400nm,6.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,17.0s
Q17K Contact Creek 90.41 11 P P 21 46 46.3 +0.3
baz=198
UNM Universidad Na 90.44 68 IAMs_20 IAMs_20 22 17 22.8
comp=Z,4μm,22.0s
GRNR Gornyy 90.47 333 ⇑*i*P **P 21 46 47.0 +0.6**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
O14K Tigyukauivet M 90.56 8 IAMs_20 IAMs_20 22 30 54.6
comp=Z,2μm,19.0s
O14K Tigyukauivet M 90.56 8 P P 21 46 47.9 +1.4
baz=194
KDAK Kodiak Island 90.57 13 P P 21 46 47.3 +0.7
KDAK IAmb IAmb 21 46 52.6
comp=Z,31nm,1.1s
KDAK Kodiak Island 90.57 13 IAMs_20 IAMs_20 22 22 35.2
comp=Z,3μm,21.0s
KDAK Kodiak Island 90.57 13 P P 21 46 47.7 +1.1
baz=201
KDAK Kodiak Island 90.57 13 LR LR 22 22 17.3
comp=Z,2μm,19.7s,baz=227,slow=32
KDAK Kodiak Island 90.57 13 *i* P **P 21 46 46.4 -0.2**
KDAK pmax pmax
comp=Z,80nm,1.5s
I05D Terrebonne, OR 90.68 37 P P 21 46 48.6 +1.0
O15K Ungalikthiuk R 90.68 9 P P 21 46 48.0 +0.9
baz=195
F03A Seaside 90.68 35 IAMs_20 IAMs_20 22 18 57.6
comp=Z,3μm,22.0s
BNX BinXian 90.69 325 ⇓P **P 21 46 47.2 -0.3**
BNX sP **sP 21 47 04.3 +1.5**
BNX PP **PP 21 50 21.2 -2.4**
BNX pmax pmax
comp=Z,26nm,1.1s
BNX pmax pmax
comp=Z,330nm,8.7s
BNX LR LR
comp=Z,920nm,22.2s
BNX LR LR
comp=Z,1μm,29.8s
BNX LR LR
comp=Z,3μm,27.1s
CCUT Cedar City 90.73 46 P P 21 46 49.8 +1.6
WUAZ Wupatki 90.73 48 P P 21 46 49.5 +1.3
baz=232
KNB Kanab 90.74 47 IAMs_20 IAMs_20 22 31 18.9
comp=Z,2μm,18.0s
WVOR Wild Horse Val 90.82 40 IAMs_20 IAMs_20 22 23 56.6
comp=Z,3μm,19.0s
RADR Rader Ridge 90.91 34 IAMs_20 IAMs_20 22 18 40.8
comp=Z,4μm,22.0s

Q18K Katmai Hardscr 90.93 12 P **P 21 46 48.8 +0.3**
baz=199
SLVN Son La 91.04 294 IAMs_20 IAMs_20 22 35 20.4
comp=Z,3μm,20.0s
PSUT Pine Spring 91.05 45 IAMs_20 IAMs_20 22 21 35.1
comp=Z,3μm,20.0s
F04D Rainier, OR 91.06 35 IAMs_20 IAMs_20 22 18 59.6
comp=Z,3μm,22.0s
SPR3 Spring Creek 3 91.06 44 IAMs_20 IAMs_20 22 21 44.2
comp=Z,2μm,20.0s
E03A Lebam 91.12 34 P **P 21 46 50.7 +1.3**
E03A IAMs_20 IAMs_20 22 19 21.1
comp=Z,2μm,22.0s
M11K Mekoryuk 91.14 6 P **P 21 46 49.9 +0.7**
baz=189
N14K Kuskokwak Cree 91.16 8 P **P 21 46 51.2 +1.9**
baz=193
HOOD Mount Hood Mea 91.20 36 IAMs_20 IAMs_20 22 18 57.5
comp=Z,4μm,22.0s
P17K Kvichak River 91.20 11 P **P 21 46 49.8 +0.3**
baz=198
KLR Kul'dur 91.22 330 LR LR 22 21 39.0
comp=Z,2μm,21.9s,baz=146,slow=32
KLR Kul'dur 91.22 330 *ce*P **P 21 46 49.7 -0.2**
KLR pmax pmax
comp=Z,16nm,1.0s
KLR MLR MLR
comp=Z,2μm,18.0s
F04A Amboy 91.24 35 IAMs_20 IAMs_20 22 18 33.6
comp=Z,3μm,22.0s
SRDT SRDT 91.26 286 P **P 21 46 54.3 +3.4**
O16K Kokwok River B 91.33 10 IAMs_20 IAMs_20 22 22 55.0
comp=Z,2μm,22.0s
O16K Kokwok River B 91.33 10 P P 21 46 50.9 +0.8
baz=196
121A Cookes Peak, D 91.34 53 P P 21 46 50.6 -0.6
baz=233
Q20K Shuyak Island 91.37 13 P P 21 46 50.2 -0.1
baz=201
SYI Shuyak Island 91.38 13 IAMs_20 IAMs_20 22 23 03.5
comp=Z,3μm,21.0s
WISH Wishkah 91.42 34 IAMs_20 IAMs_20 22 19 18.3
comp=Z,3μm,22.0s
Q19K Cape Douglas, 91.44 12 IAMs_20 IAMs_20 22 23 18.1
comp=Z,4μm,21.0s
Q19K Cape Douglas, 91.44 12 P P 21 46 50.2 -0.5
baz=200
M13K Dall Lake 91.45 7 P P 21 46 51.6 +1.0
baz=192
J08A Circle Bar Ran 91.52 39 IAMs_20 IAMs_20 22 26 43.3
comp=Z,3μm,18.0s
W18A Petrified Fore 91.56 50 P P 21 46 53.5 +1.4
W18A IAmb IAmb 21 47 09.8
comp=Z,73nm,1.4s
W18A Petrified Fore 91.56 50 P P 21 46 51.8 -0.3
baz=232
NLWA Neilton Lookou 91.57 33 P P 21 46 53.0 +1.3
NLWA IAmb IAmb 21 46 58.4
comp=Z,34nm,1.1s
NLWA IAMs_20 IAMs_20 22 19 22.2
comp=Z,3μm,22.0s
P18K Big Mountain, 91.59 11 IAMs_20 IAMs_20 22 23 46.1
comp=Z,2μm,21.0s
P18K Big Mountain, 91.59 11 P P 21 46 51.3 -0.1
baz=199
N15K Kwethluk River 91.60 9 IAMs_20 IAMs_20 22 23 28.2
comp=Z,3μm,21.0s
N15K Kwethluk River 91.60 9 P P 21 46 52.8 +1.4
baz=195,SNR=11
ELK Elko 91.63 42 P P 21 46 53.3 +0.9
ELK IAMs_20 IAMs_20 22 19 36.3
comp=Z,4μm,22.0s
ELK Elko 91.63 42 P P 21 46 53.3 +0.9
ELK pmax pmax
comp=Z,21nm,1.1s
ELK MLR MLR
comp=Z,4μm,22.0s
O17K Koliganek Bris 91.65 10 P P 21 46 52.2 +0.6
baz=197
GYA Guiyang 91.69 300 ⇓P **P 21 46 53.2 +0.4**
GYA pP pP 21 47 04.9 +1.1
GYA PP **PP 21 50 38.8 +6.7**
GYA SKS **SKSac 21 57 24.0 +1.2**
GYA S **S 21 57 51.6 +0.8**
GYA sS sS 21 58 12.5 +2.7
GYA pmax pmax
comp=Z,16nm,1.2s
GYA pmax pmax
comp=Z,710nm,13.9s
GYA LR LR
comp=Z,1μm,20.6s
GYA LR LR
comp=Z,920nm,21.2s
GYA LR LR
comp=Z,2μm,22.0s
ENH Enshi 91.75 304 P **P 21 46 56.0 +3.1**
ENH Enshi 91.75 304 P **P 21 46 52.5 -0.4**
M14K Bethel 91.93 8 IAMs_20 IAMs_20 22 27 00.9
comp=Z,2μm,20.0s
M14K Bethel 91.93 8 P P 21 46 53.6 +0.8
baz=193
M15K Kasigluk River 92.03 8 P P 21 46 53.7 +0.4
baz=194,SNR=10
O18K Koktuh Hills 92.03 11 P P 21 46 53.9 +0.4
baz=199
MVU Marysvale 92.04 46 P P 21 46 55.7 +1.4
HOLB Holberg 92.05 29 P P 21 46 55.2 +1.4
HOLB IAmb IAmb 21 47 00.4
comp=Z,77nm,1.1s
HOLB IAMs_20 IAMs_20 22 19 17.6
comp=Z,2μm,22.0s
N16K Nishlik Lake 92.07 9 P P 21 46 54.4 +0.8
baz=196
HG4B Hotspring 92.08 27 P P 21 46 55.4 +1.6
HG4B IAmb IAmb 21 47 01.2
comp=Z,58nm,1.1s
LON Longmire 92.12 35 IAMs_20 IAMs_20 22 19 33.7
comp=Z,3μm,22.0s
LYN LuoYang 92.16 309 P P 21 46 55.0 +0.4
LYN sP pwP 21 47 09.3 -0.4
LYN SKS **SKSac 21 57 26.2 +1.4**
LYN S **S 21 57 48.5 -5.9**
LYN sS sS 21 58 13.1 -0.3
LYN pmax pmax
comp=Z,66nm,1.1s
LYN pmax pmax
comp=Z,970nm,11.4s
LYN LR LR
comp=Z,2μm,22.8s
LYN LR LR
comp=Z,1μm,21.7s
LYN LR LR
comp=Z,4μm,21.8s
P19K Oil Pt 92.19 12 IAMs_20 IAMs_20 22 23 42.0
comp=Z,3μm,21.0s
P19K Oil Pt 92.19 12 P P 21 46 53.5 -0.7
baz=200
GNW Green Mountain 92.19 34 IAMs_20 IAMs_20 22 19 54.7
comp=Z,3μm,22.0s
VHRN Van Horn 92.30 55 P P 21 46 56.6 +1.1
VHRN IAmb IAmb 21 47 17.9
comp=Z,37nm,1.5s
N17K Nushagak Hills 92.36 10 P P 21 46 54.4 -0.5
baz=197
HNS HongShan 92.39 313 ⇑P **P 21 46 56.1 +0.5**
HNS PP **PP 21 50 36.3 -1.0**
HNS SKS **SKSac 21 57 26.7 +0.8**
HNS S **SKKSac 21 57 49.6 +6.1**
HNS pmax pmax
comp=Z,33nm,1.3s
HNS LR LR
comp=Z,670nm,24.7s
HNS LR LR
comp=Z,2μm,21.5s
HNS LR LR
comp=Z,3μm,23.6s
L14K Kuka Creek 92.43 7 P P 21 46 54.5 -0.7
baz=192
TX31 Lajitas Ar. Si 92.43 57 P P 21 46 56.9 +0.7
TX31 IAmb IAmb 21 47 18.7
comp=Z,45nm,1.4s
TXAR Lajitas Array 92.43 57 P P 21 46 57.2 +1.1
TXAR Lajitas Array 92.43 57 P P 21 46 57.4 +1.2
comp=Z,7.4nm,1.0s,baz=212,slow=4.4,SNR=24
TXAR PKKPbc **PKKPbc 22 04 10.6 +0.7**
comp=Z,0.6nm,0.7s,baz=140,slow=4.5,SNR=3.4
TXAR LR LR 22 19 18.4

comp=Z,2μm,21.9s,baz=218,slow=30
comp=Z,7.4nm,1.0s
CNPM China Poot 92.45 13 P P 21 46 56.2 +0.8
CNPM IAmb IAmb 21 47 01.1
comp=Z,60nm,1.2s
CNPM IAMs_20 IAMs_20 22 23 36.0
comp=Z,4μm,21.0s
F07A Phinny Hill Vi 92.47 36 IAMs_20 IAMs_20 22 27 23.2
comp=Z,2μm,18.0s
CLRS Cowichan Lake 92.48 32 IAMs_20 IAMs_20 22 23 16.0
comp=Z,2μm,20.0s
PHRA Phrae 92.49 290 P P 21 46 56.6 +0.1
HOM Homer 92.49 13 IAMs_20 IAMs_20 22 23 49.0
comp=Z,4μm,21.0s
ILSW Iliamna Southw 92.52 12 P P 21 46 56.0 +0.2
ILSW IAmb IAmb 21 47 00.7
comp=Z,40nm,0.9s
ILSW IAMs_20 IAMs_20 22 24 03.6
comp=Z,3μm,21.0s
MNTX Cornudas Mount 92.53 54 P P 21 46 53.5 -3.0
baz=235
M16K Timber Creek 92.58 9 IAMs_20 IAMs_20 22 24 09.0
comp=Z,3μm,21.0s
M16K Timber Creek 92.58 9 P P 21 46 56.4 +0.5
baz=196,SNR=12
PGC Sidney 92.67 33 IAMs_20 IAMs_20 22 19 31.1
comp=Z,2μm,22.0s
PB05 IPOC Station P 92.68 118 P 21 46 58.7 +1.0
PB05 IAmb IAmb 21 47 18.7
comp=Z,50nm,0.9s
O20K Slope Mountain 92.70 12 P P 21 46 56.0 -0.6
baz=201
N18K Kilae Creek 92.70 11 P P 21 46 55.4 -1.2
baz=198
DUG Dugway, Tooele 92.72 44 P P 21 46 57.4 +0.1
DUG IAMs_20 IAMs_20 22 22 39.2
comp=Z,2μm,20.0s
DUG Dugway, Tooele 92.72 44 P P 21 46 54.0 -3.3
baz=231
DUG Dugway, Tooele 92.72 44 P P 21 46 57.4 +0.1
DUG pmax pmax
comp=Z,16nm,1.4s
DUG MLR MLR
comp=Z,2μm,20.0s
BRLK Bradley Lake 92.74 13 P P 21 46 57.2 +0.5
BRLK IAmb IAmb 21 47 20.1
comp=Z,36nm,1.0s
BRLK IAMs_20 IAMs_20 22 23 45.2
comp=Z,3μm,21.0s
BRSE Bradley Lake S 92.75 13 P P 21 46 56.3 -0.4
baz=202
CMIG Matias Romero 92.75 72 LR LR 22 20 30.6
comp=Z,1μm,20.9s,baz=237,slow=30
MXC Moxie City 92.75 36 IAMs_20 IAMs_20 22 27 01.5
comp=Z,3μm,19.0s
CBB Campbell River 92.80 31 IAMs_20 IAMs_20 22 20 09.3
comp=Z,4μm,22.0s
L15K Ungalak Mounta 92.89 8 P P 21 46 56.6 -0.7
baz=193,SNR=10
E07A Sunnyside 92.96 36 IAMs_20 IAMs_20 22 27 28.1
comp=Z,3μm,18.0s
HAWA Hanford 93.01 36 P P 21 46 59.1 +0.8
HAWA IAmb IAmb 21 47 19.4
comp=Z,34nm,1.1s
HAWA IAMs_20 IAMs_20 22 19 54.4
comp=Z,3μm,22.0s
NLU North Lily Min 93.02 45 IAMs_20 IAMs_20 22 22 40.1
comp=Z,2μm,20.0s
PB04 IPOC Station P 93.02 118 IAMs_20 IAMs_20 22 19 06.0
comp=Z,3μm,21.0s
LTY Liberty 93.03 35 IAMs_20 IAMs_20 22 20 13.9
comp=Z,3μm,22.0s
BGU Big Grassy Mou 93.04 43 IAMs_20 IAMs_20 22 29 02.7
comp=Z,3μm,18.0s
N19K Bonanza Creek 93.06 11 IAMs_20 IAMs_20 22 29 03.9
comp=Z,2μm,20.0s
N19K Bonanza Creek 93.06 11 P P 21 46 57.3 -0.9
baz=199
BJT Baijiatuau 93.08 315 P P 21 46 59.2 +0.5
BJT Baijiatuau 93.08 315 P P 21 46 58.7 -0.1
BJT Baijiatuau 93.08 315 P P 21 46 58.7 -0.1
BJT pmax pmax
comp=Z,26nm,1.2s
BJT MLR MLR
comp=Z,2μm,20.0s
BJI Beijing 93.09 315 P P 21 46 58.7 -0.1
BJI SKS **SKSac 21 57 30.1 +0.4**
BJI S **ScS 21 58 03.3 -0.9**
BJI SS **SS 22 04 19.4 +0.8**
BJI pmax pmax
comp=Z,7.0nm,1.2s
BJI pmax pmax
comp=Z,250nm,9.4s
BJI LR LR
comp=Z,630nm,29.0s
BJI LR LR
comp=Z,660nm,27.6s
BJI LR LR
comp=Z,2μm,29.3s
BMO Blue Mountains 93.14 38 P P 21 46 59.5 +0.4
BMO IAmb IAmb 21 47 20.6
comp=Z,43nm,1.6s
BMO IAMs_20 IAMs_20 22 21 43.1
comp=Z,2μm,21.0s
BMO Blue Mountains 93.14 38 P P 21 46 59.5 +0.4
BMO pmax pmax
comp=Z,43nm,1.7s
BMO MLR MLR
comp=Z,2μm,21.0s
M17K Holitna River 93.15 10 IAMs_20 IAMs_20 22 24 14.3
comp=Z,2μm,21.0s
M17K Holitna River 93.15 10 P P 21 46 59.0 +0.4
baz=197,SNR=8.5
L16K Owhat River 93.17 9 P P 21 46 59.5 +0.9
baz=195,SNR=11
BBB Bella Bella 93.22 28 P P 21 47 00.3 +1.3
BBB IAmb IAmb 21 47 27.8
comp=Z,34nm,1.1s
BBB IAMs_20 IAMs_20 22 19 49.5
comp=Z,2μm,22.0s
BBB Bella Bella 93.22 28 LR LR 22 20 58.9
comp=Z,2μm,21.9s,baz=232,slow=30
PB06 IPOC Station P 93.24 119 IAMs_20 IAMs_20 22 19 30.0
comp=Z,4μm,21.0s
CRAI Chiangrai 93.27 291 P P 21 47 00.5 +0.3
CRAI IAmb IAmb 21 47 18.1
comp=Z,48nm,1.8s
NNA Nana 93.32 106 LR LR 22 19 42.4
comp=Z,4μm,21.6s,baz=246,slow=29
E08A Dider Farm, El 93.32 36 IAMs_20 IAMs_20 22 23 55.6
comp=Z,2μm,20.0s
MPU Maple Canyon 93.32 45 IAMs_20 IAMs_20 22 29 40.2
comp=Z,2μm,19.0s
SEW Seward 93.34 14 P P 21 46 59.2 -0.2
baz=204
Q23K Middleton Isla 93.41 16 IAMs_20 IAMs_20 22 23 58.6
comp=Z,2μm,20.0s
Q23K Middleton Isla 93.41 16 P P 21 46 60.0 +0.2
baz=206
MID Middleton Isla 93.41 16 IAMs_20 IAMs_20 22 24 08.6
comp=Z,2μm,19.0s
MA2 Magadan 93.48 345 P P 21 47 00.4 +0.3
MA2 Magadan 93.48 345 P P 21 47 00.6 +0.5
MA2 IAMs_20 IAMs_20 22 24 00.5
comp=Z,3μm,21.0s
MA2 Magadan 93.48 345 LR LR 22 24 22.2
comp=Z,3μm,21.4s,baz=160,slow=32
MA2 Magadan 93.48 345 *ce*P **P 21 46 59.6 -0.5**
MA2 pmax pmax
comp=Z,17nm,1.1s
MA2 MLR MLR
comp=Z,3μm,20.0s
M18K Stony River 93.48 10 P P 21 47 02.0 +1.9
baz=198,SNR=11
K15K Wolf Creek Mou 93.48 8 P P 21 47 01.0 +0.9
baz=193,SNR=14
CM31 Chiang Mai Arr 93.52 289 P P 21 47 01.4 +0.1
CMAR Chiang Mai Arr 93.52 289 P P 21 47 00.8 -0.4
CMAR Chiang Mai Arr 93.52 289 P P 21 47 01.5 +0.2
comp=Z,5.3nm,0.9s,baz=144,slow=3.8,SNR=16
CMAR PP **PP 21 50 38.8 -7.6**
comp=Z,2.2nm,0.8s,baz=119,slow=5.6,SNR=3.1
CMAR PKKPbc **PKKPbc 22 04 07.2 +0.6**
comp=Z,0.7nm,0.5s,baz=285,slow=4.1,SNR=6.2
CMAR LR LR 22 32 00.1
comp=Z,728nm,19.5s,baz=135,slow=37
comp=Z,5.3nm,0.9s

MVCO	Mesa Verde	93.61	48	P	P	21 46 60.0	-1.6	
	baz=233							
O22K	Cooper Landing	93.63	14	IAMs_20	IAMs_20	22 24 10.3		
	comp=Z,2μm,21.0s							
ANMO	Albuquerque	93.64	51	P	P	21 47 02.3	+0.6	
ANMO	Albuquerque	93.64	51	P	P	21 46 59.2	-2.5	
	baz=234							
ANMO	Albuquerque	93.64	51	LR	LR	22 22 06.6		
	comp=Z,1μm,21.9s,baz=340,slow=31							
ANMO	Albuquerque	93.64	51	*e*P	P	21 47 02.3	+0.6	
ANMO				pmax	pmax			
	comp=Z,12nm,1.0s							
CTU	Camp Tracy	93.66	44	IAMs_20	IAMs_20	22 23 18.2		
	comp=Z,2μm,20.0s							
P23K	Montague Islan	93.68	15	P	P	21 47 01.5	+0.5	
	baz=205							
CHTO	Chiang Mai	93.70	290	P	P	21 47 01.3	-0.8	
J14K	Nanvaranak Lak	93.72	7	IAMs_20	IAMs_20	22 26 11.8		
	comp=Z,2μm,20.0s							
J14K	Nanvaranak Lak	93.72	7	P	P	21 47 01.0	-0.1	
	baz=192							
HVU	Hansel Valley	93.72	43	IAMs_20	IAMs_20	22 20 41.7		
	comp=Z,3μm,22.0s							
L17K	Donlin	93.74	9	P	P	21 47 00.5	-0.7	
	baz=196,SNR=9.2							
GRNB	Grenville Isla	93.76	26	P	P	21 47 02.6	+1.1	
GRNB				IAmb	IAmb	21 47 24.4		
	comp=Z,34nm,1.3s							
D08A	Wollman Farm,	93.77	36	IAMs_20	IAMs_20	22 28 01.5		
	comp=Z,3μm,19.0s							
JLU	Jordanelle	93.79	44	IAMs_20	IAMs_20	22 23 25.6		
	comp=Z,3μm,20.0s							
LVC	Limon Verde	93.80	119	LR	LR	22 20 32.5		
	comp=Z,5μm,21.7s,baz=260,slow=30							
N20K	Mount Spurr	93.82	12	P	P	21 47 01.3	-0.4	
	baz=201							
CRAG	Craig	93.88	24	P	P	21 47 03.4	+1.4	
CRAG	Craig	93.88	24	P	P	21 47 01.4	-0.6	
	baz=217							
HEH	HeiHe	93.89	328	*e*P	P	21 47 01.3	-0.9	
HEH				SKS	SKSac	21 57 33.7	+0.1	
HEH				S	S	21 58 08.7	-0.3	
HEH				pmax	pmax			
	comp=Z,10.0nm,1.3s							
HEH				pmax	pmax			
	comp=Z,590nm,8.6s							
HEH				LR	LR			
	comp=Z,2μm,19.2s							
HEH				LR	LR			
	comp=Z,1μm,20.4s							
HEH				LR	LR			
	comp=Z,3μm,20.6s							
HLID	Hailey	93.90	41	P	P	21 47 03.5	+0.8	
HLID				IAMs_20	IAMs_20	22 29 53.3		
	comp=Z,2μm,19.0s							
HLID	Hailey	93.90	41	P	P	21 47 01.2	-1.5	
	baz=230,SNR=28							
P18A	Preston Nutter	93.94	46	IAMs_20	IAMs_20	22 23 09.5		
	comp=Z,3μm,20.0s							
KMI	Kunming	93.95	297	⇑P	P	21 47 04.0	+0.6	
KMI				PP	PP	21 50 52.8	+2.8	
KMI				SKS	SKSac	21 57 37.9	+2.2	
KMI				pmax	pmax			
	comp=Z,13nm,1.4s							
KMI				LR	LR			
	comp=Z,1μm,20.1s							
KMI				LR	LR			
	comp=Z,1μm,19.4s							
KMI				LR	LR			
	comp=Z,2μm,20.8s							
PLID	Pearl Lake	94.00	39	P	P	21 47 03.5	+0.4	
PLID				IAmb	IAmb	21 47 25.9		
	comp=Z,37nm,1.1s							
PLID				IAMs_20	IAMs_20	22 28 29.8		
	comp=Z,3μm,18.0s							
TIY	Taiyuan	94.03	312	*e*P	P	21 47 05.0	+1.7	
TIY				PP	PP	21 50 47.0	-3.2	
TIY				SKS	SKSac	21 57 29.6	-5.6	
TIY				SS	SS	22 04 33.4	+1.1	
TIY				pmax	pmax			
	comp=Z,30nm,1.4s							
TIY				pmax	pmax			
	comp=Z,430nm,9.2s							
TIY				LR	LR			
	comp=Z,1μm,23.7s							
TIY				LR	LR			
	comp=Z,2μm,23.9s							
TIY				LR	LR			
	comp=Z,3μm,24.1s							
L18K	Granite Mounta	94.05	10	P	P	21 47 01.9	-0.7	
	baz=198,SNR=12							
M19K	Big River Lodg	94.10	11	IAMs_20	IAMs_20	22 30 04.3		
	comp=Z,2μm,19.0s							
M19K	Big River Lodg	94.10	11	P	P	21 47 02.1	-0.8	
	baz=200							
TCUT	Toone Canyon	94.13	44	IAMs_20	IAMs_20	22 23 24.5		
	comp=Z,2μm,20.0s							
FIS	Fire Island	94.14	13	IAMs_20	IAMs_20	22 24 42.7		
	comp=Z,3μm,22.0s							
RC01	Rabbit Creek A	94.19	13	P	P	21 47 02.3	-1.0	
	baz=203							
HIN	Hinchinbrook I	94.24	15	IAMs_20	IAMs_20	22 24 48.5		
	comp=Z,3μm,20.0s							
XAN	Xi'an	94.27	307	⇓P	P	21 47 06.0	+1.6	
XAN				pP	pwP	21 47 18.5	-1.0	
XAN				PP	PP	21 50 50.2	-1.9	
XAN				S	S	21 58 10.7	-2.5	
XAN				pmax	pmax			
	comp=Z,16nm,1.6s							
XAN				pmax	pmax			
	comp=Z,1μm,12.0s							
XAN				LR	LR			
	comp=Z,2μm,19.3s							
XAN				LR	LR			
	comp=Z,2μm,22.0s							
XAN				LR	LR			
	comp=Z,3μm,19.2s							
L19K	White Mountain	94.29	11	P	P	21 47 03.9	+0.1	
L19K				IAmb	IAmb	21 47 10.0		
	comp=Z,96nm,1.5s							
L19K	White Mountain	94.29	11	P	P	21 47 03.9	+0.1	
	baz=199,SNR=20							
M20K	Styx River	94.29	11	IAMs_20	IAMs_20	22 24 28.6		
	comp=Z,3μm,22.0s							
M20K	Styx River	94.29	11	P	P	21 47 04.2	+0.3	
	baz=200							
K17K	Iditarod	94.29	9	IAMs_20	IAMs_20	22 29 57.4		
	comp=Z,2μm,19.0s							
K17K	Iditarod	94.29	9	P	P	21 47 04.6	+0.8	
	baz=196,SNR=9.6							
V35K	Ketchikan	94.30	24	IAMs_20	IAMs_20	22 21 52.7		
	comp=Z,2μm,21.0s							
V35K	Ketchikan	94.30	24	P	P	21 47 03.2	-0.7	
	baz=218							
KAIM	Kayak Island	94.31	16	IAMs_20	IAMs_20	22 24 25.3		
	comp=Z,3μm,20.0s							
KAIM	Kayak Island	94.31	16	P	P	21 47 03.1	-0.8	
	baz=208							
HWUT	Hardware Ranch	94.33	44	IAMs_20	IAMs_20	22 21 14.9		
	comp=Z,3μm,22.0s							
SUA	Susitna One	94.33	13	P	P	21 47 04.0	-0.1	
SUA	Susitna One	94.33	13	P	P	21 47 04.6	+0.5	
	baz=202,SNR=9.1							
U33K	Whale Pass	94.39	23	P	P	21 47 03.7	-0.6	
	baz=217							
GLI	Glacier Island	94.55	15	IAMs_20	IAMs_20	22 24 41.4		
	comp=Z,3μm,20.0s							
GLI	Glacier Island	94.55	15	P	P	21 47 03.1	-1.8	
	baz=206							
EYAK	Cordova Ski Ar	94.55	15	P	P	21 47 05.2	+0.3	
	baz=207							
ATAH	Atahualpa	94.55	101	LR	LR	22 19 29.7		
	comp=Z,2μm,21.9s,baz=235,slow=29							
J16K	Anvik River	94.55	8	P	P	21 47 04.3	-0.6	
	baz=194,SNR=8.0							
FID	Port Fidalgo	94.56	15	IAMs_20	IAMs_20	22 24 58.7		
	comp=Z,3μm,20.0s							
SUCK	Suckling Hills	94.59	16	IAMs_20	IAMs_20	22 25 24.8		
	comp=Z,3μm,20.0s							
C09A	Chrisman Ranch	94.59	36	IAMs_20	IAMs_20	22 20 51.3		
	comp=Z,3μm,22.0s							
CCIG	Comitan	94.60	74	P	P	21 47 07.4	+0.9	
CCIG				IAmb	IAmb	21 47 36.5		
	comp=Z,41nm,1.3s							
CCIG				IAMs_20	IAMs_20	22 18 46.1		
	comp=Z,3μm,22.0s							
SKT	Skwentna	94.67	12	IAMs_20	IAMs_20	22 25 23.5		
	comp=Z,3μm,21.0s							
SKT	Skwentna	94.67	12	P	P	21 47 03.8	-1.7	
	baz=202							
L20K	Farewell, AK	94.73	11	P	P	21 47 05.9	0.0	
	baz=200,SNR=7.1							
KNK	Knik Glacier	94.74	14	P	P	21 47 05.2	-0.7	
	baz=204							
PMR	Palmer	94.77	13	P	P	21 47 05.1	-0.8	
	baz=204							
J17K	VABM Dome	94.85	8	IAMs_20	IAMs_20	22 26 38.0		
	comp=Z,2μm,21.0s							
J17K	VABM Dome	94.85	8	P	P	21 47 06.2	-0.1	
	baz=196,SNR=10							
PB11	IPOC Station P	94.85	116	P	P	21 47 08.1	+0.4	
S31K	Pelican	94.88	21	IAMs_20	IAMs_20	22 23 45.6		
	comp=Z,3μm,20.0s							
S31K	Pelican	94.88	21	P	P	21 47 06.6	+0.2	
	baz=214							
WRAK	Wrangell Islan	94.90	23	P	P	21 47 07.8	+1.1	
WRAK	Wrangell Islan	94.90	23	IAMs_20	IAMs_20	22 21 40.5		
	comp=Z,2μm,22.0s							
RDMU	Red Mountain	94.91	45	IAMs_20	IAMs_20	22 23 44.4		
	comp=Z,3μm,20.0s							
SNH	Sunshine Point	94.92	17	IAMs_20	IAMs_20	22 25 26.4		
	comp=Z,3μm,20.0s							
S32K	Killisnoo	95.00	22	IAMs_20	IAMs_20	22 22 22.9		
	comp=Z,3μm,20.0s							
S32K	Killisnoo	95.00	22	P	P	21 47 06.2	-0.9	
	baz=216							
S22A	4UR Ranch, Cre	95.00	49	P	P	21 47 08.5	+0.4	
833A	Chaparral WMA,	95.04	60	P	P	21 47 03.8	-4.2	
	baz=237							
SML	Sawmill	95.12	14	P	P	21 47 07.1	-0.6	
	baz=205							
I17K	Unalakleet	95.13	8	P	P	21 47 08.7	+1.1	
	baz=194							
MESA	MESA	95.14	17	P	P	21 47 08.7	+0.8	
MESA				IAmb	IAmb	21 50 25.1		
	comp=Z,50nm,0.8s							
MESA				IAMs_20	IAMs_20	22 25 33.3		
	comp=Z,3μm,20.0s							
MESA	MESA	95.14	17	P	P	21 47 07.5	-0.4	
	baz=210							
WAX	Waxell Ridge	95.15	17	IAMs_20	IAMs_20	22 25 44.5		
	comp=Z,4μm,20.0s							
YKU2	Yakutat	95.17	18	IAMs_20	IAMs_20	22 21 30.3		
	comp=Z,3μm,21.0s							
BMRM	Bremner River	95.18	16	P	P	21 47 08.1	+0.2	
	baz=208							
J18K	Innoko River	95.23	9	IAMs_20	IAMs_20	22 25 39.1		
	comp=Z,3μm,21.0s							
J18K	Innoko River	95.23	9	P	P	21 47 09.1	+1.0	
	baz=198,SNR=18							
CUT	Chulitna	95.29	13	P	P	21 47 08.8	+0.5	
CUT				IAmb	IAmb	21 47 14.8		
	comp=Z,76nm,1.2s							
CUT	Chulitna	95.29	13	P	P	21 47 09.0	+0.6	
	baz=203							
AHID	Auburn Hatcher	95.31	43	P	P	21 47 10.0	+0.8	
AHID				IAmb	IAmb	21 47 15.4		
	comp=Z,29nm,1.2s							
AHID				IAMs_20	IAMs_20	22 21 43.7		
	comp=Z,3μm,22.0s							
ANM	Nome	95.34	5	IAMs_20	IAMs_20	22 26 08.7		
	comp=Z,3μm,21.0s							
ANM	Nome	95.34	5	P	P	21 47 08.9	+0.4	
	baz=190							
CRQM	Cirque	95.35	16	IAMs_20	IAMs_20	22 25 09.9		
	comp=Z,3μm,20.0s							
KLU	Klutina	95.35	15	IAMs_20	IAMs_20	22 25 25.8		
	comp=Z,2μm,20.0s							
KLU	Klutina	95.35	15	P	P	21 47 09.3	+0.6	
	baz=207							
SCM	Sheep Creek Mo	95.36	14	P	P	21 47 09.2	+0.4	
SCM				IAmb	IAmb	21 47 14.3		
	comp=Z,19nm,0.8s							
SCM				IAMs_20	IAMs_20	22 25 38.8		
	comp=Z,2μm,21.0s							
SCM	Sheep Creek Mo	95.36	14	P	P	21 47 07.4	-1.4	
	baz=205							
SCM	Sheep Creek Mo	95.36	14	P	P	21 47 09.2	+0.4	
SCM				pmax	pmax			
	comp=Z,19nm,0.8s							
SCM				MLR	MLR			
	comp=Z,2μm,21.0s							
PNL	Peninsula	95.38	19	P	P	21 47 09.1	+0.2	
	baz=212							
PPLA	Purkeypile	95.40	12	P	P	21 47 08.1	-0.9	
	baz=201							
ISLE	Juniper Island	95.41	17	IAMs_20	IAMs_20	22 25 41.4		
	comp=Z,3μm,20.0s							
TGL	Tana Glacier	95.42	16	IAMs_20	IAMs_20	22 25 01.7		
	comp=Z,3μm,20.0s							
PZH	PanZhiHua	95.44	297	P	P	21 47 10.7	+0.6	
PZH				PP	PP	21 51 03.3	+1.8	
PZH				SKS	SKSac	21 57 37.3	-6.1	
PZH				S	S	21 58 18.4	-5.5	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,340nm,6.2s							
PZH				LR	LR			
	comp=Z,1μm,19.6s							
PZH				LR	LR			
	comp=Z,670nm,20.0s							
PZH				LR	LR			
	comp=Z,20μm,21.0s							
O20A	White River Ci	95.48	46	P	P	21 47 08.1	-1.9	
	baz=234							
NEW	Newport	95.48	36	IAMs_20	IAMs_20	22 21 39.8		
	comp=Z,3μm,22.0s							
NEW	Newport	95.48	36	P	P	21 47 07.8	-1.9	
	baz=228							
NEW	Newport	95.48	36	LR	LR	22 22 46.5		
	comp=Z,2μm,21.6s,baz=217,slow=31							
PINM	Pinnacle	95.51	18	P	P	21 47 09.5	0.0	
	baz=211							
XLT	XiLinHaoTe	95.51	318	*e*P	P	21 47 07.7	-2.2	
XLT				SKS	SKSac	21 57 40.1	-2.8	
XLT				SS	SS	22 04 49.5	-3.7	
XLT				pmax	pmax			
	comp=Z,290nm,9.2s							
XLT				LR	LR			
	comp=Z,2μm,22.2s							
XLT				LR	LR			
	comp=Z,2μm,24.8s							
K20K	Telida	95.52	11	P	P	21 47 09.9	+0.5	
	baz=200							
BCPM	Bancas Point	95.55	18	IAMs_20	IAMs_20	22 26 07.4		
	comp=Z,3μm,20.0s							
TABL	Table Mountain	95.57	17	IAMs_20	IAMs_20	22 22 06.8		
	comp=Z,3μm,21.0s							
MSTX	Muleshoe	95.62	54	P	P	21 47 10.8	+0.1	
MSTX				IAmb	IAmb	21 47 30.3		
	comp=Z,20nm,0.9s							
MSTX	Muleshoe	95.62	54	P	P	21 47 08.6	-2.1	
	baz=236							
R32K	Eaglecrest	95.66	21	IAMs_20	IAMs_20	22 24 00.5		
	comp=Z,2μm,20.0s							
R32K	Eaglecrest	95.66	21	P	P	21 47 10.3	+0.2	
	baz=216							
GRNC	Granite Creek	95.67	17	P	P	21 47 10.9	+0.5	
GRNC				IAMs_20	IAMs_20	22 25 50.3		
	comp=Z,3μm,20.0s							
VRDI	Verde Repeater	95.68	16	P	P	21 47 10.6	+0.2	
VRDI				IAMs_20	IAMs_20	22 25 20.6		
	comp=Z,3μm,20.0s							
H16K	Elim	95.69	7	P	P	21 47 10.3	+0.2	
	baz=193							
JIS	Juneau Island	95.71	21	IAMs_20	IAMs_20	22 24 12.6		
	comp=Z,3μm,20.0s							
N25K	Chitina, Valde	95.75	15	IAMs_20	IAMs_20	22 25 46.3		
	comp=Z,3μm,20.0s							
N25K	Chitina, Valde	95.75	15	P	P	21 47 11.6	+1.0	
	baz=208							
KVTX	Kingsville	95.76	62	IAMs_20	IAMs_20	22 29 45.6		
	comp=Z,3μm,18.0s							
GLB	Gilahina Butte	95.79	16	IAMs_20	IAMs_20	22 25 24.3		
	comp=Z,2μm,21.0s							
P29M	Windy Craggy	95.81	19	IAMs_20	IAMs_20	22 25 55.2		
	comp=Z,3μm,20.0s							
P29M	Windy Craggy	95.81	19	P	P	21 47 11.6	+0.8	
	baz=213							
TPAW	Teton Pass	95.83	42	P	P	21 47 12.6	+0.9	
TPAW				IAMs_20	IAMs_20	22 21 59.5		
	comp=Z,3μm,22.0s							
M24K	Tolsona, Glenn	95.84	14	P	P	21 47 10.9	-0.1	
	baz=206							
SDCO	Great Sand Dun	95.86	49	P	P	21 47 12.3	+0.4	
SDCO	Great Sand Dun	95.86	49	P	P	21 47 09.3	-2.7	
	baz=235							
JCT	Junction City	95.87	58	P	P	21 47 08.3	-3.5	
	baz=237							
G15K	Niukluk	95.87	6	P	P	21 47 10.0	-0.9	
	baz=191							
FXWY	Fox Creek	95.88	42	IAMs_20	IAMs_20	22 22 00.7		
	comp=Z,3μm,22.0s							
J19K	Poorman	95.89	10	IAMs_20	IAMs_20	22 26 00.6		
	comp=Z,3μm,22.0s							
J19K	Poorman	95.89	10	P	P	21 47 10.2	-0.8	
	baz=198							
CAST	Castle Rocks	95.91	11	P	P	21 47 10.0	-1.2	
CAST				IAmb	IAmb	21 47 12.8		
	comp=Z,40nm,1.6s							
CAST				IAMs_20	IAMs_20	22 25 51.0		
	comp=Z,3μm,21.0s							
CAST	Castle Rocks	95.91	11	P	P	21 47 10.6	-0.6	
	baz=202							
MCARA	McCarthy VSAT	95.92	16	IAMs_20	IAMs_20	22 25 28.9		
	comp=Z,2μm,20.0s							
MCARA	McCarthy VSAT	95.92	16	P	P	21 47 12.2	+1.0	
	baz=209							
SNOW	Snow King Moun	95.93	42	IAMs_20	IAMs_20	22 22 14.1		
	comp=Z,3μm,22.0s							
LOGN	Logan Glacier	95.94	17	IAMs_20	IAMs_20	22 21 57.4		
	comp=Z,3μm,22.0s							
WAT6	Susitna Watana	95.94	14	P	P	21 47 11.0	-0.5	
	baz=205,SNR=11							
CTG	Chitna Glacier	95.97	17	P	P	21 47 12.2	+0.6	
	baz=210							
CTGM	Chitina Glacie	95.97	17	IAMs_20	IAMs_20	22 22 21.3		
	comp=Z,3μm,22.0s							
MTO3	Montecristo	95.98	77	IAMs_20	IAMs_20	22 20 13.6		
	comp=Z,3μm,22.0s							
WAT1	Susitna Watana	96.01	13	P	P	21 47 10.7	-0.9	
	baz=204							
PLBC	Pleasant Camp	96.06	20	P	P	21 47 11.3	-0.6	
	baz=214							
T35M	Bob Quinn	96.07	24	IAMs_20	IAMs_20	22 23 08.3		
	comp=Z,2μm,20.0s							
T35M	Bob Quinn	96.07	24	P	P	21 47 12.9	+0.8	
	baz=219							
IMW	Indian Meadow	96.09	42	IAMs_20	IAMs_20	22 22 20.1		
	comp=Z,2μm,21.0s							
O28M	Mount Upton	96.10	18	P	P	21 47 12.9	+0.5	
	baz=211							
LOHW	Long Hollow	96.11	42	IAMs_20	IAMs_20	22 22 19.8		
	comp=Z,3μm,22.0s							
MOOW	Moose Ponds	96.11	42	IAMs_20	IAMs_20	22 22 07.8		
	comp=Z,3μm,22.0s							
O29M	Mount Kennedy	96.14	19	IAMs_20	IAMs_20	22 22 45.8		
	comp=Z,3μm,22.0s							
O29M	Mount Kennedy	96.14	19	P	P	21 47 13.0	+0.5	
	baz=213							
TNA	Tin City	96.14	4	P	P	21 47 12.7	+0.6	
	baz=188							
F14K	Arctic Creek	96.16	5	P	P	21 47 13.2	+0.9	
	baz=189							
SEY	Seymchan	96.16	347	*ce*P	P	21 47 11.1	-1.2	
SEY				pmax	pmax			
	comp=Z,22nm,1.4s							
SEY				MLR	MLR			
	comp=Z,3μm,21.0s							
MSO	Missoula	96.22	38	IAMs_20	IAMs_20	22 21 39.4		
	comp=Z,3μm,22.0s							
MSO	Missoula	96.22	38	P	P	21 47 12.2	-0.9	
	baz=230							
BW06	Boulder Array	96.22	44	P	P	21 47 11.7	-1.7	
	baz=233							
PD31	Pinedale Array	96.22	44	P	P	21 47 13.1	-0.3	
PDAR	Pinedale Array	96.22	44	P	P	21 47 13.5	+0.1	
	comp=Z,1.4nm,0.7s,baz=217,slow=3.2,SNR=7.9							
PDAR				PKKPbc	PKKPbc	22 03 59.0	-1.6	
	comp=Z,3.2nm,0.8s,baz=83,slow=4.7,SNR=18							
PDAR				LR	LR	22 23 10.9		
	comp=Z,2μm,21.8s,baz=222,slow=31							
	comp=Z,1.4nm,0.7s							
KTH	Kantishna Hill	96.23	12	IAMs_20	IAMs_20	22 26 22.7		
	comp=Z,3μm,21.0s							
CD2	Chengdu	96.23	302	P	P	21 47 14.2	+0.7	
CD2				pP	pP	21 47 25.1	+0.6	
CD2				PP	PP	21 51 09.1	+1.7	
CD2				SKS	SKSac	21 57 44.2	-3.0	
CD2				pmax	pmax			
	comp=Z,440nm,8.6s							
CD2				LR	LR			
	comp=Z,1μm,21.8s							
CD2				LR	LR			
	comp=Z,1μm,21.6s							
CD2				LR	LR			
	comp=Z,1μm,20.6s							
H17K	Granite Mounta	96.23	8	P	P	21 47 13.2	+0.6	
	baz=195							
BPMT	Black Pine Rid	96.24	39	P	P	21 47 13.5	0.0	
T25A	Trinidad	96.25	50	P	P	21 47 14.3	+0.7	
T25A	Trinidad	96.25	50	P	P	21 47 11.7	-2.0	
	baz=236							
J20K	Nowinta River	96.28	10	P	P	21 47 13.6	+0.8	
	baz=200,SNR=11							
CHUM	Lake Minchumin	96.30	11	P	P	21 47 14.0	+1.2	
	baz=201							
HARP	HAARP	96.33	15	P	P	21 47 14.4	+1.3	
	baz=207							
FLWY	Flagg Ranch	96.34	42	IAMs_20	IAMs_20	22 22 17.8		
	comp=Z,3μm,22.0s							
SKAG	Skagway	96.37	20	IAMs_20	IAMs_20	22 26 42.2		
	comp=Z,3μm,20.0s							
HHC	Hu-ho-hao-te	96.40	314	*e*P	P	21 47 14.1	0.0	
HHC				SKS	SKSac	21 57 50.4	+2.7	
HHC				pmax	pmax			
	comp=Z,9.0nm,0.9s							
HHC				pmax	pmax			
	comp=Z,360nm,7.9s							
HHC				LR	LR			
	comp=Z,1μm,22.9s							
HHC				LR	LR			
	comp=Z,1μm,21.2s							
HHC				LR	LR			
	comp=Z,3μm,22.9s							
G16K	Koyuk River	96.42	6	P	P	21 47 14.8	+1.4	
	baz=193							
GCSA	Galena City Sc	96.43	9	P	P	21 47 14.2	+0.8	
	baz=197							
ZEA	Zeya	96.43	331	*e*P	P	21 47 13.9	+0.2	
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,200nm,11.7s							
P30M	Million Dollar	96.44	19	P	P	21 47 13.8	+0.1	
	baz=214							
DHY	Denali Highway	96.46	13	P	P	21 47 13.2	-0.7	
	baz=205							
RND	Reindeer	96.47	13	P	P	21 47 13.8	0.0	
S34M	Telegraph Cree	96.48	23	IAMs_20	IAMs_20	22 23 01.3		
	comp=Z,3μm,21.0s							
735A	Kenedy	96.50	60	IAMs_20	IAMs_20	22 30 00.2		
	comp=Z,2μm,18.0s							
F15K	North Star Dit	96.52	5	IAMs_20	IAMs_20	22 28 11.1		
	comp=Z,2μm,20.0s							
F15K	North Star Dit	96.52	5	P	P	21 47 13.4	-0.5	
	baz=191							
H17A	Grant Village	96.59	42	P	P	21 47 13.6	-1.5	
	baz=232							
H18K	Honhosa River	96.63	8	P	P	21 47 14.6	+0.2	
	baz=196							
YUK8	Steele Glacier	96.65	17	P	P	21 47 14.5	-0.4	
	baz=212							
YHH	Holmes Hill	96.67	41	P	P	21 47 15.5	0.0	
G17K	Kiwalik Mounta	96.70	7	P	P	21 47 14.9	+0.2	
	baz=194							
BOZ	Bozeman (W)	96.72	40	IAMs_20	IAMs_20	22

MCK	McKinley	96.76	13	P	P	21 47 14.6	-0.4
PAX	Paxson	96.76	14	P	P	21 47 14.5	-0.7
	baz=207						
Q24A	Divide	96.78	49	IAMs_20	IAMs_20	22 29 43.8	
	comp=Z,2µm,19.0s						
Q24A	Divide	96.78	49	P	P	21 47 15.9	-0.2
	baz=235						
I20K	Naaghedeneel	96.81	10	IAMs_20	IAMs_20	22 26 29.1	
	comp=Z,2µm,21.0s						
I20K	Naaghedeneel	96.81	10	P	P	21 47 14.7	-0.4
	baz=200						
M26K	Nabesna, AK	96.81	16	IAMs_20	IAMs_20	22 26 20.5	
	comp=Z,2µm,20.0s						
M26K	Nabesna, AK	96.81	16	P	P	21 47 14.7	-0.6
	baz=209						
HYT	Haines Junctio	96.87	19	IAMs_20	IAMs_20	22 22 46.1	
	comp=Z,3µm,22.0s						
HYT	Haines Junctio	96.87	19	P	P	21 47 14.3	-1.4
	baz=214						
YUK3	Moose Creek	96.89	17	P	P	21 47 14.4	-1.5
	baz=211						
Q32M	Nakina River	96.92	22	IAMs_20	IAMs_20	22 25 20.9	
	comp=Z,3µm,20.0s						
Q32M	Nakina River	96.92	22	P	P	21 47 13.9	-2.3
	baz=218						
ISCO	Idaho Springs	96.94	48	P	P	21 47 14.3	-2.6
	baz=235						
P32M	Atlin	96.97	21	IAMs_20	IAMs_20	22 24 50.8	
	comp=Z,2µm,20.0s						
P32M	Atlin	96.97	21	P	P	21 47 15.1	-1.0
	baz=216						
YUK4	Talbot Arm	96.99	18	P	P	21 47 16.0	-0.4
	baz=213						
RWWY	Rawlins	97.01	45	IAMs_20	IAMs_20	22 25 10.9	
	comp=Z,2µm,20.0s						
M27K	Edge Creek, AK	97.04	16	IAMs_20	IAMs_20	22 26 06.5	
	comp=Z,3µm,20.0s						
M27K	Edge Creek, AK	97.04	16	P	P	21 47 15.2	-1.3
	baz=210,SNR=8.7						
CRIN	San Cristobal	97.09	80	IAMs_20	IAMs_20	22 25 54.0	
	comp=Z,2µm,18.0s						
ABTX	Abilene, Hawle	97.11	56	IAMs_20	IAMs_20	22 29 36.2	
	comp=Z,3µm,18.0s						
ABTX	Abilene, Hawle	97.11	56	P	P	21 47 14.2	-3.2
	baz=238						
MENT	Mentasta	97.12	15	IAMs_20	IAMs_20	22 26 32.5	
	comp=Z,3µm,20.0s						
TNCH	TengChong	97.19	295	⇑P	P	21 47 17.4	-0.7
TNCH				PP	PP	21 51 16.5	+1.5
TNCH				SKS	SKSac	21 57 53.2	+0.5
TNCH				S	S	21 58 38.2	-0.9
TNCH				SS	SS	22 05 20.4	+2.7
TNCH				pmax	pmax		
	comp=Z,11nm,1.0s						
TNCH				pmax	pmax		
	comp=Z,300nm,8.9s						
TNCH				LR	LR		
	comp=Z,620nm,19.2s						
TNCH				LR	LR		
	comp=Z,620nm,21.6s						
TNCH				LR	LR		
	comp=Z,2µm,22.7s						
O30N	Mendenhall	97.22	19	IAMs_20	IAMs_20	22 23 30.4	
	comp=Z,3µm,21.0s						
O30N	Mendenhall	97.22	19	P	P	21 47 15.0	-2.2
	baz=215						
BTO	Baotou	97.23	313	eP	Pdif	21 47 23.0	+5.1
BTO				pP	pP	21 47 27.3	-1.4
BTO				PP	PP	21 51 15.1	+0.1
BTO				SKS	SKSac	21 57 54.4	+2.4
BTO				pmax	pmax		
	comp=Z,12nm,0.6s						
BTO				pmax	pmax		
	comp=Z,450nm,6.1s						
BTO				LR	LR		
	comp=Z,1µm,16.6s						
BTO				LR	LR		
	comp=Z,1µm,17.7s						
BTO				LR	LR		
	comp=Z,2µm,23.5s						
H19K	Roundabout Mou	97.23	9	P	P	21 47 15.9	-1.2
	baz=198						
DLBC	Dease Lake	97.26	23	P	P	21 47 15.1	-2.4
	baz=219						
DLBC	Dease Lake	97.26	23	LR	LR	22 23 26.4	
	comp=Z,3µm,21.7s,baz=228,slow=31						
L26K	Log Cabin Wild	97.28	15	IAMs_20	IAMs_20	22 26 27.7	
	comp=Z,3µm,20.0s						
L26K	Log Cabin Wild	97.28	15	P	P	21 47 16.1	-1.3
	baz=209						
CNGN	Cerro Negro	97.29	80	IAMs_20	IAMs_20	22 20 41.3	
	comp=Z,3µm,21.0s						
G18K	Tagagawik	97.31	8	P	P	21 47 16.7	-0.8
	baz=196						
N23A	Red Feather La	97.35	47	P	P	21 47 14.3	-4.3
	baz=235						
H20K	Anotleneega Mo	97.41	9	P	P	21 47 15.4	-2.6
	baz=199						
K24K	Donnelly Dome	97.44	14	P	P	21 47 15.6	-2.5
	baz=207						
N30M	Aishikik Lake	97.51	18	IAMs_20	IAMs_20	22 23 41.0	
	comp=Z,3µm,21.0s						
N30M	Aishikik Lake	97.51	18	P	P	21 47 17.1	-1.4
	baz=214						
NEA2	Nenana	97.52	12	P	P	21 47 17.2	-1.2
	baz=204						
F17K	Baldwin Pennin	97.55	7	P	P	21 47 17.2	-1.2
	baz=194						
TGUH	Tegucigalpa,Un	97.57	78	IAMs_20	IAMs_20	22 20 52.7	
	comp=Z,4µm,21.0s						
WRH	Wood River Hil	97.59	13	IAMs_20	IAMs_20	22 26 31.7	
	comp=Z,3µm,20.0s						
MLY	Manley	97.62	11	IAMs_20	IAMs_20	22 31 48.6	
	comp=Z,2µm,19.0s						
MLY	Manley	97.62	11	P	P	21 47 17.9	-1.1
	baz=203						
L27K	Beaver Creek,	97.66	16	IAMs_20	IAMs_20	22 32 19.8	
	comp=Z,2µm,20.0s						
L27K	Beaver Creek,	97.66	16	P	P	21 47 17.8	-1.3
	baz=210						
435B	Jarrell	97.66	59	IAMs_20	IAMs_20	22 28 16.8	
	comp=Z,3µm,19.0s						
435B	Jarrell	97.66	59	P	P	21 47 15.4	-4.5
	baz=238						
BCAR	Beaver Creek A	97.67	16	P	Pdif	21 47 19.5	+0.2
R33M	Jennings River	97.69	22	IAMs_20	IAMs_20	22 25 36.0	
	comp=Z,3µm,20.0s						
R33M	Jennings River	97.69	22	P	P	21 47 16.9	-2.6
	baz=219						
JTS	Las Juntas de	97.70	83	IAMs_20	IAMs_20	22 20 53.9	
	comp=Z,2µm,22.0s						
JTS	Las Juntas de	97.70	83	LR	LR	22 21 28.4	
	comp=Z,2µm,20.4s,baz=231,slow=29						
G19K	Purcell Mounta	97.73	8	IAMs_20	IAMs_20	22 26 38.3	
	comp=Z,2µm,22.0s						
G19K	Purcell Mounta	97.73	8	P	P	21 47 18.0	-1.4
	baz=197						
P33M	Teslin, Yukon	97.74	21	IAMs_20	IAMs_20	22 27 27.3	
	comp=Z,2µm,20.0s						
P33M	Teslin, Yukon	97.74	21	P	P	21 47 17.4	-2.2
	baz=217						
HDA	Harding Lake	97.75	13	P	P	21 47 17.9	-1.5
	baz=206						
RLMT	Red Lodge	97.78	42	IAMs_20	IAMs_20	22 23 25.9	
	comp=Z,2µm,22.0s						
RLMT	Red Lodge	97.78	42	P	P	21 47 17.7	-2.7
	baz=233						
CCB	Clear Creek Bu	97.80	13	IAMs_20	IAMs_20	22 26 59.2	
	comp=Z,3µm,20.0s						
F18K	Selawik	97.87	7	P	P	21 47 17.4	-2.5
	baz=195						
H21K	Melozitna Rive	97.87	10	IAMs_20	IAMs_20	22 27 56.1	
	comp=Z,2µm,20.0s						
H21K	Melozitna Rive	97.87	10	P	P	21 47 18.5	-1.5
	baz=201,SNR=6.8						
N31M	Braeburn, Yuko	97.89	19	IAMs_20	IAMs_20	22 27 21.2	
	comp=Z,3µm,20.0s						
M29M	Somme Creek	97.96	17	IAMs_20	IAMs_20	22 27 25.9	
	comp=Z,3µm,20.0s						
M29M	Somme Creek	97.96	17	P	P	21 47 18.4	-2.2
	baz=213						
SCRK	Sand Creek	97.97	14	IAMs_20	IAMs_20	22 27 00.9	
	comp=Z,2µm,20.0s						
SCRK	Sand Creek	97.97	14	P	P	21 47 18.5	-2.1
	baz=208						
K22A	Casper	97.98	45	IAMs_20	IAMs_20	22 25 53.5	
	comp=Z,3µm,20.0s						
K22A	Casper	97.98	45	P	P	21 47 16.8	-4.4
	baz=235						
COLA	College	98.00	12	P	Pdif	21 47 22.9	+2.4
LPAZ	La Paz	98.02	114	P	Pdif	21 47 22.9	+0.1
LPAZ	La Paz	98.02	114	P	Pdif	21 47 23.7	+1.0
	comp=Z,1.9nm,0.6s,baz=213,slow=3.8,SNR=10						
LPAZ				LR	LR	22 23 18.5	
	comp=Z,2µm,21.6s,baz=208,slow=30						
	comp=Z,1.9nm,0.6s						
IMAR	Indian Mountai	98.04	10	P	Pdif	21 47 21.2	+0.5
ILAR	Eielson Array	98.08	13	P	P	21 47 19.7	-1.3
ILAR	Eielson Array	98.08	13	P	P	21 47 19.9	-1.1
	comp=Z,1.0nm,0.6s,baz=220,slow=5.6,SNR=18						
ILAR				PP	PP	21 51 18.8	-2.1
	comp=Z,2.1nm,1.0s,baz=213,slow=7.8,SNR=5.3						
ILAR				PKKPbc	PKKPbc	22 03 51.5	-4.6
	comp=Z,0.9nm,0.5s,baz=348,slow=2.2,SNR=5.1						
ILAR				LR	LR	22 26 27.2	
	comp=Z,838nm,20.1s,baz=200,slow=32						
	comp=Z,1.0nm,0.6s						
E17K	Hotham Inlet	98.12	6	P	P	21 47 19.2	-1.8
	baz=193						
LCR2	La Lucha 2	98.24	84	IAMs_20	IAMs_20	22 21 25.2	
	comp=Z,2µm,22.0s						
J25K	Salcha River,	98.24	14	P	P	21 47 19.3	-2.4
	baz=207,SNR=9.2						
HDC	Heredia	98.27	83	IAMs_20	IAMs_20	22 21 14.2	
	comp=Z,3µm,22.0s						
OTAV	Otavalo	98.29	95	IAMs_20	IAMs_20	22 21 28.0	
	comp=Z,3µm,22.0s						
POKR	Poker Plat Res	98.29	13	IAMs_20	IAMs_20	22 27 04.3	
	comp=Z,3µm,20.0s						
POKR	Poker Plat Res	98.29	13	P	P	21 47 20.2	-1.7
	baz=206						
F19K	Shaleruckik Mo	98.31	8	P	P	21 47 20.7	-1.2
	baz=197						
H22K	Ishtalitna Cre	98.32	11	P	P	21 47 19.8	-2.2
	baz=202,SNR=9.0						
ACON	Acoyapa	98.33	81	IAMs_20	IAMs_20	22 24 45.7	
	comp=Z,2µm,19.0s						
WHTX	Lake Whitney,	98.37	58	P	P	21 47 17.1	-5.9
	baz=238						
N32M	Quiet Lake	98.40	20	IAMs_20	IAMs_20	22 28 24.7	
	comp=Z,3µm,19.0s						
N32M	Quiet Lake	98.40	20	P	P	21 47 19.8	-2.7
	baz=217						
K27K	Chicken	98.44	15	IAMs_20	IAMs_20	22 27 04.2	
	comp=Z,2µm,20.0s						
K27K	Chicken	98.44	15	P	P	21 47 20.3	-2.3
	baz=210						
FW03	Perrin-Whitt E	98.46	57	IAMs_20	IAMs_20	22 30 25.0	
	comp=Z,3µm,18.0s						
M30M	Minto, Yukon	98.50	18	IAMs_20	IAMs_20	22 27 43.3	
	comp=Z,3µm,20.0s						
M30M	Minto, Yukon	98.50	18	P	P	21 47 20.1	-2.9
	baz=214						
J26L	Joseph Creek	98.52	14	IAMs_20	IAMs_20	22 27 29.5	
	comp=Z,3µm,21.0s						
J26L	Joseph Creek	98.52	14	P	P	21 47 21.8	-1.2
	baz=209,SNR=23						
HKT	Hockley	98.54	60	IAMs_20	IAMs_20	22 30 44.2	
	comp=Z,2µm,18.0s						
H23K	Yukon River	98.56	11	IAMs_20	IAMs_20	22 33 46.3	
	comp=Z,3µm,19.0s						
H23K	Yukon River	98.56	11	P	P	21 47 21.6	-1.5
	baz=204						
E18K	Tukpahlearik C	98.57	7	IAMs_20	IAMs_20	22 29 04.2	
	comp=Z,2µm,20.0s						
E18K	Tukpahlearik C	98.57	7	P	P	21 47 22.5	-0.6
	baz=194						
G21K	Allakaket	98.57	10	IAMs_20	IAMs_20	22 27 21.5	
	comp=Z,2µm,22.0s						
G21K	Allakaket	98.57	10	P	P	21 47 22.5	-0.6
	baz=200						
L29M	L29M	98.60	17	IAMs_20	IAMs_20	22 27 55.8	
	comp=Z,3µm,20.0s						
L29M	L29M	98.60	17	P	P	21 47 21.3	-2.1
	baz=213						
D17K	Noatak River	98.61	6	P	P	21 47 22.5	-0.7
	baz=192						
F20K	Avaraart Lake	98.77	9	IAMs_20	IAMs_20	22 32 57.7	
	comp=Z,2µm,20.0s						
F20K	Avaraart Lake	98.77	9	P	P	21 47 23.1	-0.9
	baz=198						
H24K	Noodor Dome	98.86	12	P	P	21 47 23.3	-1.2
	baz=205						
M31M	Drury Creek, Y	98.86	19	IAMs_20	IAMs_20	22 24 32.8	
	comp=Z,3µm,21.0s						
M31M	Drury Creek, Y	98.86	19	P	P	21 47 23.0	-1.5
	baz=216						
LZH	Lanzhou	98.88	307	eP	Pdif	21 47 25.6	+0.2
LZH				sP	sP	21 47 42.4	+1.6
LZH				PP	PP	21 51 26.6	-1.2
LZH				SKS	SKSac	21 58 01.1	+0.3
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				pmax	pmax		
	comp=Z,280nm,4.3s						
LZH				LR	LR		
	comp=Z,620nm,20.3s						
LZH				LR	LR		
	comp=Z,2µm,20.1s						
LZH				LR	LR		
	comp=Z,2µm,20.6s						
WTLY	Watson Lake, Y	98.95	23	IAMs_20	IAMs_20	22 26 28.4	
	comp=Z,3µm,20.0s						
RDOG	Red Dog Mine	98.97	6	IAMs_20	IAMs_20	22 28 57.8	
	comp=Z,3µm,21.0s						
RDOG	Red Dog Mine	98.97	6	P	P	21 47 24.5	-0.4
	baz=192						
E19K	Redstone River	98.97	8	IAMs_20	IAMs_20	22 34 35.0	
	comp=Z,2µm,19.0s						
E19K	Redstone River	98.97	8	P	P	21 47 24.2	-0.7
	baz=197						
C16K	Lisburne Hills	99.00	5	IAMs_20	IAMs_20	22 28 23.5	
	comp=Z,3µm,20.0s						
C16K	Lisburne Hills	99.00	5	P	Pdif	21 47 25.1	+0.1
	baz=190						
PRP	Porcupine Dome	99.02	13	P	Pdif	21 47 25.4	+0.1
	baz=207						
BILL	Bilibino	99.02	354	IAMs_20	IAMs_20	22 31 24.8	
	comp=Z,3µm,20.0s						
BILL	Bilibino	99.02	354⇓	eP	Pdif	21 47 25.3	+0.2
BILL				e		21 51 27.9	
BILL				ePPP	PPP	21 53 37.5	
BILL				eS	SKSac	21 58 02.2	+2.6
BILL				pmax	pmax		
	comp=Z,11nm,1.3s						
BILL				MLR	MLR		
	comp=Z,2µm,19.0s						
DAWY	Dawson	99.09	16	IAMs_20	IAMs_20	22 33 03.6	
	comp=Z,2µm,20.0s						
DAWY	Dawson	99.09	16	P	Pdif	21 47 24.2	-1.3
	baz=212						
BRLDA	Berland Lookou	99.15	31	IAMs_20	IAMs_20	22 23 28.5	
	comp=Z,4µm,22.0s						
FARO	Faro, Yukon	99.18	19	IAMs_20	IAMs_20	22 24 30.3	
	comp=Z,3µm,21.0s						
ESPN	Las Esperanzas	99.19	81	IAMs_20	IAMs_20	22 26 58.4	
	comp=Z,2µm,18.0s						
EGMT	Eagleton	99.20	39	IAMs_20	IAMs_20	22 26 05.5	
	comp=Z,2µm,20.0s						
F21K	Alatna River	99.24	9	IAMs_20	IAMs_20	22 34 32.1	
	comp=Z,2µm,20.0s						
F21K	Alatna River	99.24	9	P	Pdif	21 47 25.3	-0.8
	baz=200						
G22K	Bettles	99.25	10	P	Pdif	21 47 26.2	+0.1
	baz=202						
EGAK	Eagle	99.28	15	IAMs_20	IAMs_20	22 27 29.8	
	comp=Z,2µm,20.0s						
EGAK	Eagle	99.28	15	P	Pdif	21 47 26.1	-0.2
	baz=211						
G23K	Bananza Creek	99.29	11	IAMs_20	IAMs_20	22 29 04.5	
	comp=Z,3µm,21.0s						
G23K	Bananza Creek	99.29	11	P	Pdif	21 47 25.6	-0.8
	baz=203						
I26K	Coal Creek Min	99.31	14	IAMs_20	IAMs_20	22 28 03.2	
	comp=Z,2µm,21.0s						
I26K	Coal Creek Min	99.31	14	P	Pdif	21 47 26.1	-0.3
	baz=209						
K29M	Barlow Dome	99.36	17	IAMs_20	IAMs_20	22 28 20.0	
	comp=Z,3µm,21.0s						
K29M	Barlow Dome	99.36	17	P	Pdif	21 47 26.1	-0.7
	baz=214						
X34A	Smith Ranch, M	99.43	55	IAMs_20	IAMs_20	22 33 48.4	
	comp=Z,3µm,20.0s						
U32A	Winter Ranch,	99.51	53	IAMs_20	IAMs_20	22 31 44.6	
	comp=Z,2µm,19.0s						
MAYO	Mayo, Yukon	99.58	18	IAMs_20	IAMs_20	22 28 35.7	
	comp=Z,3µm,20.0s						
237A	Washetta, Mont	99.58	59	IAMs_20	IAMs_20	22 29 17.7	
	comp=Z,2µm,19.0s						
H25L	Birch Creek	99.62	13	P	Pdif	21 47 27.0	-0.8
	baz=207						
F22K	John River	99.69	10	P	Pdif	21 47 27.8	-0.3
	baz=202						
J29N	Klondike Camp	99.70	16	IAMs_20	IAMs_20	22 31 33.7	
	comp=Z,2µm,20.0s						
C18K	Utukok River	99.70	6	IAMs_20	IAMs_20	22 29 43.2	
	comp=Z,3µm,20.0s						
G24K	Hadweenzic Riv	99.71	12	P	Pdif	21 47 27.4	-0.8
	baz=206						
COLD	Coldfoot	99.73	11	P	Pdif	21 47 25.9	-2.4
	baz=203						
TEIG	Tepich	99.73	72	LR	LR	22 26 05.0	
	comp=Z,582nm,19.2s,baz=212,slow=31						
OK038	West end E0370	99.74	53	IAMs_20	IAMs_20	22 31 13.7	
	comp=Z,2µm,18.0s						
CPUP	Villa Florida	99.83	128	P	Pdif	21 47 31.1	+1.2
	comp=Z,3.8nm,1.0s,baz=319,slow=9.3,SNR=3.7						
CPUP				PKKPbc	PKKPbc	22 03 47.9	-1.3
	comp=Z,2.5nm,0.7s,baz=90,slow=1.0,SNR=5.2						
E20K	Nigu River	99.86	8	P	Pdif	21 47 28.3	-0.6
	baz=198						
OGNE	Ogallala	99.86	48	IAMs_20	IAMs_20	22 25 02.5	
	comp=Z,2µm,21.0s						
OGNE	Ogallala	99.86	48	P	Pdif	21 47 25.9	-3.7
	baz=237						
D19K	Kuna River	99.86	7	IAMs_20	IAMs_20	22 28 11.5	
	comp=Z,2µm,21.0s						
D19K	Kuna River	99.86	7	P	Pdif	21 47 28.7	-0.1
	baz=196						
OK035	E0210 Rd and N	99.88	53	IAMs_20	IAMs_20	22 32 05.4	
	comp=Z,2µm,18.0s						
I27K	Kandik River	99.89	14	P	Pdif	21 47 27.7	-1.4
	baz=210						
FYU	Fort Yukon	100.00	13	IAMs_20	IAMs_20	22 27 46.5	
	comp=Z,2µm,21.0s						
G25K	Bearman Lake	100.02	12	P	Pdif	21 47 30.1	+0.6
	baz=207						
MMPY	Sheldon Lake,	100.09	20	IAMs_20	IAMs_20	22 29 09.4	
	comp=Z,3µm,19.0s						
MMPY	Sheldon Lake,	100.09	20	P	Pdif	21 47 29.9	-0.1
	baz=219						
I28M	Miner Creek	100.13	15	IAMs_20	IAMs_20	22 28 06.1	
	comp=Z,3µm,21.0s						
I28M	Miner Creek	100.13	15	P	Pdif	21 47 30.4	+0.2
	baz=212						
TGTN	Hyland Airport	100.18	22	P	Pdif	21 47 30.2	-0.3
	baz=221						
D20K	Etivluk River	100.24	8	P	Pdif	21 47 30.0	-0.5
	baz=198						
J30M	Hart River	100.26	17	IAMs_20	IAMs_20	22 28 57.8	
	comp=Z,3µm,20.0s						
J30M	Hart River	100.26	17	P	Pdif	21 47 31.2	+0.4
	baz=215						
OK032	Salt Plains WL	100.28	53	IAMs_20	IAMs_20	22 31 42.8	
	comp=Z,2µm,19.0s						
C19K	Lookout Ridge	100.30	7	IAMs_20	IAMs_20	22 38 53.0	
	comp=Z,2µm,19.0s						
RSSD	Black Hills	100.30	45	IAMs_20	IAMs_20	22 27 38.0	
	comp=Z,3µm,19.0s						
RSSD	Black Hills	100.30	45	P	Pdif	21 47 27.3	-4.3
	baz=237						
RSSD	Black Hills	100.30	45	P	Pdif	21 47 32.3	+0.6
NATX	Nacogdoches	100.31	59	IAMs_20	IAMs_20	22 29 53.0	
	comp=Z,2µm,18.0s						
E21K	Killik River	100.31	9	IAMs_20	IAMs_20	22 27 58.4	
	comp=Z,2µm,22.0s						
E21K	Killik River	100.31	9	P	Pdif	21 47 31.8	+0.9
	baz=200						
B18K	Kokolik River	100.35	6	P	Pdif	21 47 30.8	-0.2
	baz=193						
F24K	Squaw Lake	100.38	11	P	Pdif	21 47 31.5	+0.3
	baz=205						
W35A	Tecumseh	100.38	55	IAMs_20	IAMs_20	22 30 34.7	
	comp=Z,2µm,19.0s						
I29M	Ogilvie Camp,	100.43	16	IAMs_20	IAMs_20	22 28 35.1	
	comp=Z,2µm,20.0s						
H27K	Steamboat Moun	100.45	14	P	Pdif	21 47 30.9	-0.6
	baz=211						
E23K	Chandalar	100.59	10	P	Pdif	21 47 30.7	-1.4
	baz=204						
KOTAN	Kotaneelee Air	100.59	24	P	Pdif	21 47 30.1	-2.2
	baz=224						
G26K	Porcupine Rive	100.61	13	P	Pdif	21 47 30.9	-1.3
	baz=209						
IMP	Imphal	100.70	292	ex	x	21 47 33.8	
I30M	Mount Dempster	100.78	17	IAMs_20	IAMs_20	22 32 26.4	
	comp=Z,2µm,19.0s						
I30M	Mount Dempster	100.78	17	P	Pdif	21 47 31.5	-1.7
	baz=215						
E24K	Your Creek	100.78	11	IAMs_20	IAMs_20	22 29 30.0	
	comp=Z,3µm,20.0s						
E24K	Your Creek	100.78	11	P	Pdif	21 47 32.2	-0.8
	baz=205						
OK031	S. Brethren Rd	100.81	55	IAMs_20	IAMs_20	22 24 35.9	
	comp=Z,2µm,22.0s						
F25K	Christian Rive	100.83	12	P	Pdif	21 47 30.9	-2.4
	baz=207						
OK052	Battle Ridge R	100.85	55	IAMs_20	IAMs_20	22 24 24.1	
	comp=Z,2µm,22.0s						
C21K	Knifeblade Rid	100.88	8	P	Pdif	21 47 31.5	-1.9
	baz=200						
D22K	Ayikyak River	100.90	9	IAMs_20	IAMs_20	22 33 57.9	
	comp=Z,2µm,19.0s						
D22K	Ayikyak River	100.90	9	P	Pdif	21 47 32.1	-1.3
	baz=201						
G27K	Doyon Strip	100.92	14	IAMs_20	IAMs_20	22 29 15.9	
	comp=Z,2µm,20.0s						
G27K	Doyon Strip	100.92	14	P	Pdif	21 47 32.1	-1.5
	baz=211						
BLOK	Blackwell	100.95	54	IAMs_20	IAMs_20	22 31 23.5	
	comp=Z,1µm,18.0s						
TOLK	Toolik Lake Re	101.12	10	P	Pdif	21 47 33.4	-1.1
	baz=204						
H29M	Whitestone	101.13	15	IAMs_20	IAMs_20	22 28 47.6	
	comp=Z,2µm,21.0s						
H29M	Whitestone	101.13	15	P	Pdif	21 47 33.5	-1.0
	baz=213						
F26K	Sheenjek River	101.20	12	P	Pdif	21 47 32.8	-2.1
	baz=208						
A19K	Wainwright	101.23	6	P	Pdif	21 47 34.9	+0.1
	baz=194						
D23K	Nanushuk River	101.26	10	P	Pdif	21 47 34.0	-1.0
	baz=203						
E25K	Arctic Village	101.32	12	P	Pdif	21 47 34.3	-1.0
	baz=207						
B21K	Ikpikpuk River	101.34	8	IAMs_20	IAMs_20	22 29 40.6	
	comp=Z,2µm,21.0s						
B21K	Ikpikpuk River	101.34	8	P	Pdif	21 47 34.8	-0.6
	baz=200						
B20K	Meade River	101.42	7	IAMs_20	IAMs_20	22 36 19.6	
	comp=Z,2µm,20.0s						
B20K	Meade River	101.42	7	P	Pdif	21 47 34.9	-0.8
	baz=198						
YAK	Yakutsk	101.43	338	iP	Pdif	21 47 36.1	+0.2
YAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
YAK				MLR	MLR		
	comp=Z,1µm,19.0s						
TUL3	Leonard	101.53	55	IAMs_20	IAMs_20

D25K **Kavik River** 102.25 11 P **Pdif** 21 47 38.8 -0.7
baz=207
G30M **tAoh Zraii Nji** 102.25 16 IAMs_20 IAMs_20 22 29 20.2
comp=Z,2μm,21.0s
G30M **tAoh Zraii Nji** 102.25 16 P **Pdif** 21 47 38.6 -0.9
baz=215
K30B **Basset** 102.30 48 IAMs_20 IAMs_20 22 26 20.0
comp=Z,2μm,22.0s
Z41A **Richland Creek** 102.41 59 IAMs_20 IAMs_20 22 30 51.5
comp=Z,2μm,19.0s
MIAR **Mount Ida** 102.45 57 IAMs_20 IAMs_20 22 25 25.7
comp=Z,2μm,22.0s
DGMT **Dagmar** 102.53 41 IAMs_20 IAMs_20 22 26 15.7
comp=Z,3μm,22.0s
G31M **Satah River** 102.66 16 IAMs_20 IAMs_20 22 26 13.2
comp=Z,3μm,22.0s
G31M **Satah River** 102.66 16 P **Pdif** 21 47 39.8 -1.4
baz=217
SHL **Shillong** 102.70 292 IAMs_20 IAMs_20 22 39 56.9
comp=Z,3μm,22.0s
U38A **Gravette** 102.78 55 IAMs_20 IAMs_20 22 33 16.1
comp=Z,3μm,18.0s
E28M **Babbage River** 102.88 14 IAMs_20 IAMs_20 22 30 34.6
comp=Z,2μm,20.0s
E28M **Babbage River** 102.88 14 P **Pdif** 21 47 40.6 -1.7
baz=213
WRGLY **Wrigley** 102.96 22 IAMs_20 IAMs_20 22 26 53.6
comp=Z,2μm,21.0s
C27K **Jago River** 102.97 12 P **Pdif** 21 47 41.2 -1.4
baz=209
X40A **Basin Creek Fa** 102.97 58 IAMs_20 IAMs_20 22 31 26.2
comp=Z,2μm,19.0s
C26K **Camden Bay** 103.02 11 P **Pdif** 21 47 42.2 -0.6
baz=208
HHAR **Hobbs** 103.02 56 IAMs_20 IAMs_20 22 33 55.5
comp=Z,3μm,18.0s
E29M **Blow River** 103.03 14 P **Pdif** 21 47 41.8 -1.2
baz=214
D27M **Malcolm River** 103.14 13 P **Pdif** 21 47 42.0 -1.5
baz=211
143A **Socs Landing,** 103.19 60 IAMs_20 IAMs_20 22 31 37.1
comp=Z,2μm,19.0s
F31M **Tsiigehtchic** 103.20 16 IAMs_20 IAMs_20 22 34 02.4
comp=Z,2μm,19.0s
F31M **Tsiigehtchic** 103.20 16 P **Pdif** 21 47 41.6 -2.0
baz=217
SONM **Songino Array** 103.31 318 Pdiff **Pdif** 21 47 44.9 +0.1
comp=Z,0.4nm,0.5s,baz=52,slow=2.4,SNR=1.9
SONM PP **PP** 21 52 00.1 -0.9
comp=Z,2.4nm,1.0s,baz=134,slow=8.3,SNR=3.8
SONM PKKPbc **PKKPbc** 22 03 40.3 0.0
comp=Z,0.6nm,0.6s,baz=318,slow=1.9,SNR=3.0
UALR **University of** 103.46 58 IAMs_20 IAMs_20 22 31 58.3
comp=Z,2μm,19.0s
WHAR **Wooly Hollow** 103.74 57 IAMs_20 IAMs_20 22 32 14.6
comp=Z,3μm,19.0s
INK **Inuvik** 103.93 16 IAMs_20 IAMs_20 22 30 33.7
comp=Z,2μm,21.0s
INK **Inuvik** 103.93 16 P **Pdif** 21 47 45.5 -1.4
baz=218
346A **Big Creek Wild** 104.04 62 IAMs_20 IAMs_20 22 28 20.8
comp=Z,2μm,22.0s
S39A **Bolivar** 104.11 55 IAMs_20 IAMs_20 22 34 32.5
comp=Z,2μm,18.0s
MGMO **Mountain Grove** 104.61 55 IAMs_20 IAMs_20 22 33 06.7
comp=Z,3μm,18.0s
ECSD **EROS Data Cent** 104.73 48 IAMs_20 IAMs_20 22 34 46.4
comp=Z,2μm,18.0s
MDND **Maddock** 104.87 43 IAMs_20 IAMs_20 22 34 29.6
comp=Z,2μm,18.0s
R40A **Maddies Statio** 105.13 54 IAMs_20 IAMs_20 22 35 13.3
comp=Z,3μm,18.0s
GOMU **GeErMu** 105.32 303 Pdif **Pdif** 21 47 55.6 +1.2
GOMU PP **PP** 21 52 14.8 -1.7
GOMU SKS **SKSac** 21 58 34.0 +2.2
GOMU SS **SS** 22 07 11.7 +0.9
GOMU LR LR
comp=Z,1μm,22.6s
GOMU LR LR
comp=Z,2μm,24.3s
GOMU LR LR
comp=Z,3μm,23.5s
MET **Memphis--Engin** 105.38 58 IAMs_20 IAMs_20 22 32 42.1
comp=Z,3μm,19.0s
T42A **Van Buren** 105.39 56 IAMs_20 IAMs_20 22 26 56.4
comp=Z,3μm,22.0s
YKA **Yellowknife Ar** 105.58 26 PKiKP **PKiKP** 21 52 08.9 +1.5
comp=Z,0.7nm,0.6s,baz=255,slow=1.6,SNR=2.5
YKA PKKPbc **PKKPbc** 22 03 30.2 -3.6
comp=Z,5.3nm,0.8s,baz=47,slow=3.2,SNR=11
N38A **Joes South For** 105.60 52 IAMs_20 IAMs_20 22 27 42.5
comp=Z,2μm,22.0s
GNAR **Gosnell** 105.69 57 IAMs_20 IAMs_20 22 26 38.4
comp=Z,2μm,22.0s
CCM **Cathedral Cave** 105.75 55 IAMs_20 IAMs_20 22 35 15.6
comp=Z,2μm,18.0s
PEBM **Pemiscott Bayo** 105.87 57 IAMs_20 IAMs_20 22 33 10.1
comp=Z,2μm,19.0s
Z47A **Carrollton** 105.91 61 IAMs_20 IAMs_20 22 34 03.2
comp=Z,2μm,19.0s
F33A **5 Mile Ranch,** 105.92 46 IAMs_20 IAMs_20 22 28 04.6
comp=Z,3μm,22.0s
LNXT **Lenox** 106.14 57 IAMs_20 IAMs_20 22 33 38.1
comp=Z,2μm,19.0s
GLAT **Glass** 106.36 57 IAMs_20 IAMs_20 22 33 34.9
comp=Z,2μm,19.0s
HICK **Hickman** 106.52 57 IAMs_20 IAMs_20 22 33 21.2
comp=Z,2μm,19.0s
LRAL **Lakeview Retre** 106.64 61 P **PKiKP** 21 52 06.1 -4.1
baz=243
SLM **Saint Louis** 106.71 55 IAMs_20 IAMs_20 22 36 04.2
comp=Z,2μm,18.0s
CAMR **Camarioca** 106.73 73 IAMs_20 IAMs_20 22 30 51.4
comp=Z,3μm,19.0s
FFC **Flin Flon** 106.91 36 IAMs_20 IAMs_20 22 28 35.1
comp=Z,2μm,22.0s
I37A **Lemond, Waseca** 106.93 49 IAMs_20 IAMs_20 22 35 20.5
comp=Z,2μm,19.0s
C36M **Paulatuk** 107.03 17 IAMs_20 IAMs_20 22 32 55.5
comp=Z,3μm,21.0s
C36M **Paulatuk** 107.03 17 P **PKiKP** 21 52 08.2 -1.6
baz=226
AGMN **Agassiz Nation** 107.30 44 IAMs_20 IAMs_20 22 37 52.9
comp=Z,2μm,19.0s
WVT **Waverly** 107.36 58 IAMs_20 IAMs_20 22 36 38.5
comp=Z,1μm,18.0s
WVT **Waverly** 107.36 58 P **PKiKP** 21 52 07.9 -3.6
baz=244
Y49A **Blount Mountai** 107.44 61 IAMs_20 IAMs_20 22 29 14.8
comp=Z,2μm,22.0s
L40A **Anamosa** 107.52 51 IAMs_20 IAMs_20 22 33 05.3
comp=Z,2μm,20.0s
P43A **Skaggs, Pawnee** 107.65 54 IAMs_20 IAMs_20 22 36 39.9
comp=Z,2μm,18.0s
SPMN **Marine on St.** 107.84 48 IAMs_20 IAMs_20 22 36 21.6
comp=Z,2μm,19.0s
SPMN **Marine on St.** 107.84 48 P **PKiKP** 21 52 07.6 -4.5
baz=244
V48A **Smith Brothers** 107.93 59 IAMs_20 IAMs_20 22 34 20.8
comp=Z,3μm,19.0s
ULM **Lac du Bonnet** 108.15 42 PKKPbc PKKPbc 22 03 26.0 +0.7
comp=Z,2.0nm,0.6s,baz=315,slow=4.3,SNR=2.2
HDIL **Hopedale** 108.19 53 P **PKiKP** 21 52 08.9 -4.1
baz=244
T47A **Sharon Grove** 108.25 57 IAMs_20 IAMs_20 22 35 01.1
comp=Z,3μm,19.0s
061Z **Ochoppi** 108.34 70 IAMs_20 IAMs_20 22 28 14.9
comp=Z,2μm,22.0s
CLTN **Cedars of Leba** 108.44 59 IAMs_20 IAMs_20 22 34 53.2
comp=Z,2μm,18.0s
TIXI **Tiksi** 108.45 344 IAMs_20 IAMs_20 22 34 19.0
comp=Z,3μm,21.0s
JFWS **Jewell Farm** 108.53 51 IAMs_20 IAMs_20 22 33 29.0
comp=Z,2μm,20.0s
JFWS **Jewell Farm** 108.53 51 P **PKiKP** 21 52 09.7 -3.8
baz=244
L42A **Oliver, Polo** 108.54 52 IAMs_20 IAMs_20 22 29 09.4
comp=Z,2μm,22.0s
A36M **Sachs Harbour** 108.56 15 IAMs_20 IAMs_20 22 34 36.0
comp=Z,2μm,21.0s
I40A **Norwalk** 108.69 50 IAMs_20 IAMs_20 22 34 21.3
comp=Z,2μm,20.0s
W50A **Signal Mountai** 108.83 60 IAMs_20 IAMs_20 22 35 21.5
comp=Z,3μm,18.0s
U49A **Red Boiling Sp** 109.02 58 IAMs_20 IAMs_20 22 32 26.6
comp=Z,2μm,22.0s
E38A **The Farm, Brul** 109.21 47 IAMs_20 IAMs_20 22 32 46.8
comp=Z,2μm,21.0s

M44A **Midewin, Midew** 109.40 53 IAMs_20 IAMs_20 22 35 04.2
comp=Z,2μm,20.0s
GOGA **Godfrey** 109.48 62 IAMs_20 IAMs_20 22 30 46.0
comp=Z,2μm,22.0s
CHIV **Chivirico** 109.50 78 IAMs_20 IAMs_20 22 34 39.8
comp=Z,992nm,21.0s
CPCT **Cooper Cave** 109.52 60 IAMs_20 IAMs_20 22 35 33.8
comp=Z,3μm,19.0s
G40A **Rib Lake** 109.53 48 IAMs_20 IAMs_20 22 37 18.2
comp=Z,2μm,19.0s
SFIN **Lafayette** 109.65 54 IAMs_20 IAMs_20 22 40 31.9
comp=Z,1μm,18.0s
K43A **Burlington** 109.73 52 IAMs_20 IAMs_20 22 30 18.9
comp=Z,2μm,22.0s
EYMN **Ely** 109.80 45 IAMs_20 IAMs_20 22 30 32.1
comp=Z,2μm,22.0s
L44A **Lake County Fo** 109.80 52 IAMs_20 IAMs_20 22 38 13.9
comp=Z,2μm,18.0s
I42A **Draeger Farm,** 109.82 50 IAMs_20 IAMs_20 22 34 39.1
comp=Z,2μm,19.0s
W52A **Murphy** 109.82 60 IAMs_20 IAMs_20 22 36 22.8
comp=Z,2μm,19.0s
BG3 **Lake Jocassee** 110.53 61 IAMs_20 IAMs_20 22 31 03.6
comp=Z,3μm,22.0s
COWI **Conover** 110.54 48 IAMs_20 IAMs_20 22 37 56.1
comp=Z,2μm,19.0s
TZTN **Tazewell** 110.68 59 IAMs_20 IAMs_20 22 36 14.5
comp=Z,2μm,18.0s
N47A **Urbana** 110.83 54 IAMs_20 IAMs_20 22 40 44.0
comp=Z,2μm,18.0s
V53A **Saluda** 110.88 60 IAMs_20 IAMs_20 22 36 10.0
comp=Z,2μm,19.0s
O48B **Farmland** 110.96 55 IAMs_20 IAMs_20 22 30 52.7
comp=Z,3μm,22.0s
S51A **Beattyville** 111.07 58 IAMs_20 IAMs_20 22 34 02.9
comp=Z,2μm,22.0s
D41A **Chassel** 111.28 47 IAMs_20 IAMs_20 22 34 23.5
comp=Z,2μm,20.0s
I45A **Fountain** 111.66 51 IAMs_20 IAMs_20 22 31 28.8
comp=Z,2μm,22.0s
KMSC **Kings Mountain** 111.79 61 IAMs_20 IAMs_20 22 38 23.1
comp=Z,2μm,18.0s
N49A **Columbus Grove** 111.90 55 IAMs_20 IAMs_20 22 41 16.5
comp=Z,2μm,18.0s
U54A **Nelsons Funny** 111.95 60 IAMs_20 IAMs_20 22 37 24.3
comp=Z,2μm,19.0s
E43A **Lone Tree Farm** 112.02 48 IAMs_20 IAMs_20 22 38 52.3
comp=Z,2μm,19.0s
HATO **Hato, Curacao** 112.35 89 IAMs_20 IAMs_20 22 32 18.0
comp=Z,2μm,22.0s
G45A **Suttons Bay** 112.41 50 IAMs_20 IAMs_20 22 33 24.7
comp=Z,2μm,22.0s
VOI **Vohitsoka** 112.41 225 P **PKiKP** 21 52 22.0 +0.3
ACSO **Alum Creek Sta** 112.49 56 P **PKiKP** 21 52 17.5 -3.6
baz=248
Q52A **Bidwell** 112.54 57 IAMs_20 IAMs_20 22 37 07.6
comp=Z,2μm,18.0s
FCC **Fort Churchill** 112.57 34 IAMs_20 IAMs_20 22 31 36.5
comp=Z,3μm,22.0s
AAM **Ann Arbor** 112.77 53 IAMs_20 IAMs_20 22 31 53.5
comp=Z,2μm,21.0s
S54A **Dingess, Beckl** 112.81 59 IAMs_20 IAMs_20 22 39 58.9
comp=Z,2μm,18.0s
M50A **Fremont** 112.88 54 IAMs_20 IAMs_20 22 40 18.4
comp=Z,2μm,18.0s
X58A **Rowland** 113.09 63 IAMs_20 IAMs_20 22 41 24.4
comp=Z,1μm,18.0s
N51A **Ashland** 113.17 55 IAMs_20 IAMs_20 22 38 04.3
comp=Z,2μm,18.0s
BLA **Blacksburg** 113.25 59 IAMs_20 IAMs_20 22 37 19.6
comp=Z,2μm,19.0s
WMQ **Urumqi** 113.38 308 PKP **PKiKP** 21 52 23.6 +0.8
WMQ PP **PP** 21 53 12.9 -1.6
WMQ SS SS 22 09 02.2 +3.9
WMQ AMB AMB
comp=Z,380nm,10.5s
WMQ LR LR
comp=Z,850nm,20.5s
WMQ LR LR
comp=Z,700nm,16.5s
WMQ LR LR
comp=Z,830nm,14.9s
BDFB **Brasilia** 113.42 126 PKKPbc PKKPbc 22 03 01.4 -5.9
comp=Z,0.8nm,0.3s,baz=315,slow=1.4,SNR=1.7
BDFB PKKPab **PKKPbc** 22 03 10.7 +3.4
comp=Z,1.6nm,0.6s,baz=0.0,slow=0.0,SNR=3.1
K50A **Casco** 113.66 53 IAMs_20 IAMs_20 22 32 52.9
comp=Z,2μm,22.0s
LGTI **Lohaghat** 113.69 291 *e*P **PKiKP** 21 52 23.0 -0.6
V58A **Windy Hill, Pi** 113.72 61 IAMs_20 IAMs_20 22 32 28.0
comp=Z,2μm,22.0s
PTH **Pithoragarh** 113.75 291 *e*P **PKiKP** 21 52 23.4 -0.6
E46A **Sault Ste Mari** 113.76 49 IAMs_20 IAMs_20 22 37 19.4
comp=Z,2μm,20.0s
T57A **Hurt** 114.05 60 IAMs_20 IAMs_20 22 38 39.6
comp=Z,2μm,19.0s
M52A **Chesterland** 114.11 55 IAMs_20 IAMs_20 22 32 51.1
comp=Z,2μm,22.0s
CNNC **Cliffs of the** 114.44 62 IAMs_20 IAMs_20 22 41 09.3
comp=Z,2μm,18.0s
S57A **Dark Hollow, R** 114.54 59 IAMs_20 IAMs_20 22 41 22.7
comp=Z,2μm,18.0s
Q56A **Snyder Ridge,** 114.81 58 IAMs_20 IAMs_20 22 38 55.8
comp=Z,2μm,18.0s
SUR **Sutherland** 114.92 197 PKP PKPdf 21 52 27.0 +0.6
comp=Z,15nm,0.9s,baz=132,slow=4.9,SNR=11
SUR PP **PP** 21 53 24.5 +0.4
comp=Z,10.0nm,0.7s,baz=154,slow=7.2,SNR=3.2
SUR **Sutherland** 114.92 197 P PKPdf 21 52 26.9 +0.5
R58B **Mineral** 115.41 59 IAMs_20 IAMs_20 22 41 50.7
comp=Z,2μm,18.0s
POGA **Pongola** 115.82 209 **PKiKP** 21 52 27.8 -0.2
P57A **Homestead Farm** 115.82 58 IAMs_20 IAMs_20 22 39 18.4
comp=Z,2μm,19.0s
CBN **Corbin Frederi** 115.86 59 IAMs_20 IAMs_20 22 41 46.7
comp=Z,2μm,18.0s
HNLY **HANLEY** 115.94 294 *e*P **PKPdf** 21 52 28.1 -0.5
HNLY IAmb IAmb 21 52 30.1
comp=Z,26nm,1.2s
KLP **Kalpa** 116.06 293 *e*P **PKPdf** 21 52 28.0 -0.6
ZSN **Zaisan** 116.43 311 *e*PKP **PKPdf** 21 52 27.6 -0.9
baz=311
ZSN *e*PP **PP** 21 53 33.9 -2.0
baz=311
ZSN **Zaisan** 116.43 311 *e*PKIKP **PKPdf** 21 52 27.5 -0.9
ZSN *e* 21 53 33.8
CRPR **Cabo Rojo, PR** 116.57 84 IAMs_20 IAMs_20 22 32 27.9
comp=Z,2μm,21.0s
J54A **Appleton** 116.58 54 IAMs_20 IAMs_20 22 39 28.3
comp=Z,2μm,19.0s
SADO **Sadowa** 116.69 52 IAMs_20 IAMs_20 22 39 01.0
comp=Z,2μm,21.0s
SMLA **Simla** 116.78 292 *e*P **PKPdf** 21 52 28.8 -0.8
OBIP **Obispado Ponce** 117.01 84 IAMs_20 IAMs_20 22 38 32.7
comp=Z,1μm,19.0s
BOSA **Boshof** 117.12 203 Pdiff **Pdif** 21 48 49.3 +2.4
comp=Z,0.6nm,0.6s,baz=194,slow=12,SNR=1.5
BOSA PKP **PKiKP** 21 52 30.8 +0.1
comp=Z,14nm,0.8s,baz=182,slow=2.7,SNR=16
BOSA PKKPbc **PKKPbc** 22 02 54.6 -0.3
comp=Z,1.6nm,0.9s,baz=315,slow=1.4,SNR=1.7
AJM **Ajmer** 117.13 286 *e*P **PKPdf** 21 52 29.9 -0.5
MVL **Millersville** 117.20 58 IAMs_20 IAMs_20 22 40 29.0
comp=Z,2μm,19.0s
RES **Resolute Bay** 117.40 17 IAMs_20 IAMs_20 22 39 14.6
comp=Z,2μm,20.0s
SJG **San Juan** 117.44 84 IAMs_20 IAMs_20 22 31 59.8
comp=Z,2μm,22.0s
BHK **Bhakra** 117.48 292 *e*P **PKPdf** 21 52 30.3 -0.7
DELO **Deloro Mine** 117.65 53 IAMs_20 IAMs_20 22 35 17.6
comp=Z,2μm,21.0s
DHRM **DHARAMSHALA** 117.87 293 *e*P **PKPdf** 21 52 31.0 -0.9
MK31 **Makanchi Array** 117.93 310 *i* PKIKP **PKPdf** 21 52 29.9 -1.5
MKAR **Makanchi Array** 117.93 310 PKPdf **PKPdf** 21 52 29.9 -1.4
MKAR **Makanchi Array** 117.93 310 Pdiff **Pdif** 21 48 52.0 +2.3
comp=Z,0.6nm,0.7s,baz=94,slow=6.4,SNR=4.6
MKAR PKP **PKPdf** 21 52 30.3 -1.0
comp=Z,5.5nm,0.5s,baz=205,slow=1.3,SNR=46
MKAR PKKPbc **PKKPab** 22 02 52.6 -0.4
comp=Z,1.0nm,0.6s,baz=295,slow=2.5,SNR=8.1
LUPA **Lehigh Univers** 118.09 57 IAMs_20 IAMs_20 22 40 30.6
comp=Z,2μm,19.0s
MAKZ **Makanchi** 118.14 310 **PKPdf** 21 52 30.4 -1.3
MAKZ **Makanchi** 118.14 310 ⇑PKIKP **PKPdf** 21 52 30.7 -1.1
ZAA0 **Zalesovo Array** 118.20 318 PKPdf **PKPdf** 21 52 30.3 -1.3
ZALV **Zalesovo Beam** 118.20 318 PKPdf **PKPdf** 21 52 30.1 -1.4
ZALV **Zalesovo Beam** 118.20 318 PKP **PKPdf** 21 52 30.3 -1.3

comp=Z,4.0nm,0.6s,baz=79,slow=0.8,SNR=18
P61A **Hammonton** 118.24 59 IAMs_20 IAMs_20 22 40 51.6
comp=Z,1μm,19.0s
THN **Thein Dam** 118.39 293 *e*P **PKPdf** 21 52 32.1 -0.6
THN IAmb IAmb 21 52 34.0
comp=Z,24nm,0.9s
VLDQ **Val d'Or** 118.74 49 IAMs_20 IAMs_20 22 38 37.3
comp=Z,2μm,21.0s
SHLS **Shalkode** 118.86 305 *e*PKP **PKPdf** 21 52 32.1 -1.4
baz=306
SHLS *e*PP **PP** 21 53 48.9 -4.1
baz=306
SHLS **Shalkode** 118.86 305 *e*PKIKP **PKPdf** 21 52 32.0 -1.4
SHLS *e* 21 53 48.9
UZB **Uzynbulak** 119.17 305 *e*PKP **PKPdf** 21 52 33.2 -0.8
baz=305
UZB *e*PP **PP** 21 53 52.4 -2.8
baz=305
UZB **Uzynbulak** 119.17 305 *e*PKIKP **PKPdf** 21 52 33.2 -0.8
UZB *e* 21 53 52.4
PRZ **Przheval'sk** 119.43 304 PKPdf **PKPdf** 21 52 33.9 -0.7
PRZ **Przheval'sk** 119.43 304 PKIKP **PKPdf** 21 52 33.9 -0.7
PRZ MLR MLR
comp=Z,2μm,22.0s
KPKS **Kokpek** 119.49 306 *e*PKP **PKPdf** 21 52 33.9 -0.7
baz=306
KPKS **Kokpek** 119.49 306 *e*PKIKP **PKPdf** 21 52 33.8 -0.7
N62A **Caumsett State** 119.57 58 IAMs_20 IAMs_20 22 41 25.8
comp=Z,2μm,19.0s
SATY **Saty** 119.58 305 *e*PKP **PKPdf** 21 52 34.1 -0.7
baz=305
SATY *e*PP **PP** 21 53 55.8 -2.2
baz=305
SATY **Saty** 119.58 305 *e*PKIKP **PKPdf** 21 52 34.1 -0.7
SATY *e* 21 53 55.7
ZHN **Zhinishke** 119.59 305 *e*PKP **PKPdf** 21 52 33.8 -1.0
baz=305
ZHN **Zhinishke** 119.59 305 *e*PKIKP **PKPdf** 21 52 33.8 -1.0
TARG **Taragay, Kyrgy** 119.65 303 **PKPdf** 21 52 34.0 -1.3
TARG **Taragay, Kyrgy** 119.65 303 PKIKP **PKPdf** 21 52 34.0 -1.3
SABA **Saba** 119.72 86 IAMs_20 IAMs_20 22 48 23.4
comp=Z,2μm,20.0s
NRIK **Noril'sk** 119.82 336 PKP **PKPdf** 21 52 33.2 -1.1
comp=Z,20nm,1.0s,baz=136,slow=1.3,SNR=13
NRIK **Noril'sk** 119.82 336 *i* PKIKP **PKPdf** 21 52 32.0 -2.3
NRIK pmax pmax
comp=Z,31nm,1.2s
NRIK MLR MLR
comp=Z,1μm,19.0s
NCB **Newcomb** 119.85 54 IAMs_20 IAMs_20 22 43 58.9
comp=Z,2μm,18.0s
TDK **Taldyqorghan** 120.08 307 *e*PKP **PKPdf** 21 52 34.4 -1.2
baz=307
TDK LR LR 22 46 27.8
comp=Z,872nm,17.2s,baz=307
TDK **Taldyqorghan** 120.08 307 *e*PKIKP **PKPdf** 21 52 34.3 -1.2
SEM **Semipalatinsk** 120.13 314 *e*PKP **PKPdf** 21 52 34.1 -1.6
baz=314
SEM LR LR 22 46 26.5
comp=Z,545nm,21.5s,baz=314
SEM **Semipalatinsk** 120.13 314 *e*PKIKP **PKPdf** 21 52 34.1 -1.6
SEM MLR MLR
comp=Z,545nm,22.0s
BIM **Bigot** 120.23 90 IAMs_20 IAMs_20 22 34 38.8
comp=Z,2μm,22.0s
FDF **Fort de France** 120.26 90 IAMs_20 IAMs_20 22 34 37.6
comp=Z,2μm,21.0s
ARXS **Arharly** 120.29 306 *i* PKIKP **PKPdf** 21 52 34.4 -1.6
MPOM **Morne Pois Mar** 120.38 91 IAMs_20 IAMs_20 22 42 17.7
comp=Z,2μm,18.0s
KSH **Kashi** 120.38 301 PKP **PKiKP** 21 52 37.1 +0.6
KSH sPKP 21 52 52.9
KSH PP **PP** 21 54 04.9 +1.3
KSH SKKS 22 01 00.5
KSH LR LR
comp=Z,2μm,22.7s
KSH LR LR
comp=Z,910nm,24.0s
KSH LR LR
comp=Z,2μm,22.7s
GDHS **Morne Mazeau,** 120.41 88 IAMs_20 IAMs_20 22 42 10.8
comp=Z,2μm,18.0s
ILAM **Ilet Lapin Mar** 120.52 90 IAMs_20 IAMs_20 22 34 14.2
comp=Z,1μm,19.0s
L61B **Northampton** 120.55 56 P **PKPdf** 21 52 32.4 -4.0
baz=254
MDOK **Medeo** 120.57 305 *e*PKP **PKPdf** 21 52 35.6 -1.2
baz=305
MDOK LR LR 22 46 46.0
comp=Z,490nm,23.6s,baz=305
MDOK **Medeo** 120.57 305 *e*PKIKP **PKPdf** 21 52 35.5 -1.2
TNSS **Tian-Shan** 120.61 305 *e*PKP **PKPdf** 21 52 35.9 -1.3
baz=305
TNSS **Tian-Shan** 120.61 305 *e*PKIKP **PKPdf** 21 52 35.8 -1.3
MNTQ **Montreal, Queb** 120.65 52 IAMs_20 IAMs_20 22 37 13.8
comp=Z,2μm,21.0s
AAA **Alma-Ata** 120.67 305 *e*PKP **PKPdf** 21 52 35.7 -1.1
baz=305
AAA **Alma-Ata** 120.67 305 *e*PKIKP **PKPdf** 21 52 35.7 -1.1
ABD **La Joyeuse, An** 120.74 88 IAMs_20 IAMs_20 22 42 45.3
comp=Z,2μm,20.0s
NIL **Nilore** 120.75 293 **PKPdf** 21 52 35.6 -1.6
NIL **Nilore** 120.75 293 PKIKP **PKPdf** 21 52 35.6 -1.6
CHKK **Chushkaly** 120.78 306 *e*PKP **PKPdf** 21 52 35.6 -1.4
baz=306
CHKK **Chushkaly** 120.78 306 *e*PKIKP **PKPdf** 21 52 35.5 -1.4
ULHL **Ulahol** 120.91 304 P **PKiKP** 21 52 37.7 +0.1
SNR=12
VT1 **Waterbury** 120.97 54 IAMs_20 IAMs_20 22 42 17.4
comp=Z,2μm,18.0s
HNH **Hanover** 121.14 55 IAMs_20 IAMs_20 22 44 56.1
comp=Z,2μm,18.0s
BOOM **Boomskoye usch** 121.19 304 PKPdf **PKPdf** 21 52 37.3 -0.7
BOOM **Boomskoye usch** 121.19 304 PKIKP **PKPdf** 21 52 37.3 -0.7
KURK **Kurchatov** 121.21 314 PKPdf **PKPdf** 21 52 36.6 -0.8
KURK **Kurchatov** 121.21 314 P **PKPdf** 21 52 36.9 -0.5
KURK **Kurchatov** 121.21 314 *i* PKIKP **PKPdf** 21 52 37.2 -0.3
KURBB **Kurchatov Arra** 121.25 314 PKP **PKPdf** 21 52 36.6 -0.9
comp=Z,16nm,0.7s,baz=111,slow=1.9,SNR=71
KURBB PKKPbc **PKKPbc** 22 02 40.0 0.0
comp=Z,1.4nm,0.9s,baz=286,slow=4.5,SNR=6.7
HRV **Adam Dziewonsk** 121.37 56 P **PKPdf** 21 52 34.2 -3.9
baz=255
LBNH **Lisbon** 121.52 54 IAMs_20 IAMs_20 22 44 01.1
comp=Z,2μm,18.0s
LBNH **Lisbon** 121.52 54 P **PKPdf** 21 52 34.2 -4.2
baz=256
TKM2 **Tokmak 2** 121.54 304 P **PKPdf** 21 52 38.0 -0.6
SNR=27
KBK **Karagaybulak** 121.94 304 P **PKPdf** 21 52 39.1 -0.3
SNR=12
UCH **Uchtor** 122.15 303 P **PKiKP** 21 52 40.3 0.0
SNR=36
CHMS **Chumysh** 122.16 304 P **PKPdf** 21 52 39.2 -0.4
SNR=22
FRU1 **Bishkek** 122.20 304 IAMs_20 IAMs_20 22 52 57.8
comp=Z,2μm,21.0s
AAK **Ala-Archa** 122.26 304 P **PKiKP** 21 52 40.0 -0.2
SNR=6.6
AAK **Ala-Archa** 122.26 304 PKPdf **PKPdf** 21 52 39.0 -1.0
AAK **Ala-Archa** 122.26 304 IAMs_20 IAMs_20 22 52 31.3
comp=Z,2μm,21.0s
AAK **Ala-Archa** 122.26 304 PKPdf **PKPdf** 21 52 39.6 -0.3
AAK **Ala-Archa** 122.26 304 P **PKPdf** 21 52 39.7 -0.3
AAK **Ala-Archa** 122.26 304 PKIKP **PKPdf** 21 52 39.0 -1.0
AAK MLR MLR
comp=Z,2μm,21.0s
SGDS **Sogindy** 122.35 305 *e*PKP **PKPdf** 21 52 39.2 -0.9
baz=305
SGDS **Sogindy** 122.35 305 *e*PKIKP **PKPdf** 21 52 39.1 -0.9
G62A **West of Eustis** 122.71 53 IAMs_20 IAMs_20 22 43 23.4
comp=Z,2μm,19.0s
EKS2 **Erkin-Say** 122.78 304 P **PKiKP** 21 52 40.9 -0.2
SNR=20
ARSB **Arslanbob** 123.05 302 **PKPdf** 21 52 41.0 -0.6
ARSB **Arslanbob** 123.05 302 PKIKP **PKPdf** 21 52 41.0 -0.6
BTLS **Baital** 123.10 306 *e*PKP **PKPdf** 21 52 40.6 -0.8
baz=306
BTLS **Baital** 123.10 306 *e*PKIKP **PKPdf** 21 52 40.5 -0.8
WVL **Waterville** 123.18 54 IAMs_20 IAMs_20 22 45 51.9
comp=Z,2μm,18.0s
F62A **Pittston Farm,** 123.23 53 IAMs_20 IAMs_20 22 43 44.3
comp=Z,2μm,20.0s
LMQ **La Malbaie** 123.30 51 IAMs_20 IAMs_20 22 41 19.9
comp=Z,2μm,21.0s
DRK **Karamyk** 123.49 299 **PKPdf** 21 52 42.4 -0.2

DRK IAMs_20 IAMs_20 22 49 55.8
comp=Z,2μm,22.0s
DRK Karamyk 123.49 299 PKIKP PKPdf 21 52 42.4 -0.2
DRK MLR MLR
comp=Z,2μm,22.0s
PKME Peaks-Kenny Pk 123.57 53 PKPdf 21 52 41.9 -0.3
E62A Clayton Lake 123.67 52 IAMs_20 IAMs_20 22 41 41.8
comp=Z,2μm,21.0s
F63A Nahmakanta, Br 123.79 53 IAMs_20 IAMs_20 22 46 28.7
comp=Z,1μm,19.0s
D62A Allapoint, All 124.07 51 IAMs_20 IAMs_20 22 43 25.4
comp=Z,2μm,19.0s
F64A Sherman 124.34 53 IAMs_20 IAMs_20 22 46 54.5
comp=Z,2μm,19.0s
KBL Kabul 124.34 293 PKPdf **PKPdf 21 52 44.0 -0.3**
KBL Kabul 124.34 293 P **PKiKP 21 52 44.6 0.0**
KBL Kabul 124.34 293 PKIKP **PKPdf 21 52 44.0 -0.3**
BTK Batken 124.36 300 PKPdf **PKPdf 21 52 43.5 -0.5**
BTK Batken 124.36 300 PKIKP **PKPdf 21 52 43.5 -0.5**
G65A Princeton 124.76 54 PKPdf **PKPdf 21 52 44.0 -0.4**
G65A IAMs_20 IAMs_20 22 44 34.7
comp=Z,2μm,19.0s
ROSB Rosrio 124.81 119 PKPdf 21 52 45.1 -0.5
KK31 Karatay Array 125.22 304 PKPdf **PKPdf 21 52 45.2 -0.3**
KK31 Karatay Array 125.22 304 PKIKP **PKPdf 21 52 45.2 -0.3**
KKAR Karatay Array 125.22 304 PKPdf **PKPdf 21 52 45.0 -0.5**
KKAR Karatay Array 125.22 304 PKIKP **PKPdf 21 52 45.0 -0.5**
WIN Windhoek 125.22 197 PKiKP 21 52 46.6 -0.1
WIN Windhoek 125.22 197 PKIKP **PKiKP 21 52 46.7 -0.1**
WIN MLR MLR
comp=Z,4μm,22.0s
IUG Iuzhnay 125.38 302 *e*PKP **PKPdf 21 52 45.1 -0.9**
baz=302
IUG Iuzhnay 125.38 302 *e*PKIKP **PKPdf 21 52 45.0 -0.9**
SIMJ Simiganj 125.41 298 PKPdf **PKPdf 21 52 45.7 -0.5**
BRLS Borolday 125.69 303 *e*PKP **PKPdf 21 52 45.7 -0.7**
baz=303
BRLS Borolday 125.69 303 *e*PKIKP **PKPdf 21 52 45.7 -0.7**
SCHQ Schefferville 126.33 42 PKP **PKPdf 21 52 47.0 -0.3**
comp=Z,23nm,1.1s,baz=58,slow=4.9,SNR=6.9
BRVK Borovoye 126.64 316 IAMs_20 IAMs_20 22 55 54.9
comp=Z,1μm,20.0s
BRVK Borovoye 126.64 316 P **PKPdf 21 52 47.7 -0.1**
LMN Caledonia Moun 126.78 53 PKPdf 21 52 47.9 -0.5
LMN IAMs_20 IAMs_20 22 44 04.0
comp=Z,2μm,20.0s
NEEM North Greenlan 127.38 13 *i* P **PKPdf 21 52 48.6 -0.4**
NEEM IAmb IAmb 21 52 50.2
comp=Z,14nm,1.0s
LSZ Lusaka 127.94 213 PKPdf **PKiKP 21 52 52.4 +0.2**
LSZ Lusaka 127.94 213 P **PKiKP 21 52 53.2 +0.9**
LSZ Lusaka 127.94 213 PKIKP **PKiKP 21 52 52.4 +0.2**
LSZ MLR MLR
comp=Z,2μm,20.0s
TSUM Tsumeb 128.31 199 PKPdf **PKPdf 21 52 52.0 -0.3**
NOR Nord 128.37 3 *i* P **PKPdf 21 52 49.9 -0.5**
JLN Jalan Bani Buh 128.41 275 P **PKiKP 21 52 52.8 0.0**
MHTO MHTO 129.20 273 P **PKPdf 21 52 53.1 -0.6**
WSAR Wadi Sarin 129.47 276 PKP **PKPdf 21 52 52.1 -2.1**
comp=Z,5.2nm,0.9s,baz=304,slow=3.6,SNR=2.4
JMDO Jabal Madar 129.61 275 P **PKPdf 21 52 53.1 -1.3**
HRA Herat 129.74 291 PKPdf **PKPdf 21 52 54.0 -0.6**
SMDO Samad 129.91 276 P **PKPdf 21 52 54.5 -0.7**
DMTO DMTO 130.48 268 P **PKPdf 21 52 55.5 -0.7**
BSY Bisya 130.52 275 P **PKPdf 21 52 55.6 -0.6**
HOQ Hoqain 130.73 276 P **PKiKP 21 53 00.1 +2.7**
JASK Jask - Hormozg 131.03 279 P **PKiKP 21 52 57.5 -0.4**
ARQ Araqi 131.32 275 P **PKPdf 21 52 57.5 -0.2**
KBS Kingsbay 131.37 357 IAMs_20 IAMs_20 22 41 55.4
comp=Z,2μm,22.0s
DOK Doka 131.57 268 P **PKPdf 21 52 58.0 -0.2**
WHFO Wadi Hawf 131.58 267 P **PKPdf 21 52 57.8 -0.5**
SOHO SOHO 131.59 276 P **PKPdf 21 52 58.0 -0.1**
ABTO Aybut 131.75 266 P **PKiKP 21 52 59.5 -0.2**
SPA0 Spitsbergen Ar 131.88 356 *e*PKPdf **PKPdf 21 52 57.2 0.0**
SPA0 IAmb IAmb 21 52 59.5
comp=Z,120nm,1.3s
SPITS Spitsbergen Ar 131.88 356 PKP **PKPdf 21 52 56.6 -0.6**
comp=Z,12nm,0.6s,baz=84,slow=3.4,SNR=7.6
SPITS Spitsbergen Ar 131.88 356 PKIKP **PKPdf 21 52 57.2 0.0**
SPB2 Spitsbergen Ar 131.89 356 PKiKP 21 52 57.9 -0.2
SVE Sverdlovsk 132.07 321 *d i* PKIKP **PKPdf 21 52 57.5 -0.5**
SVE pmax pmax
comp=Z,34nm,1.3s
SVE MLR MLR
comp=Z,2μm,21.0s
SFJD Kangerlussuaq 132.13 25 IAMs_20 IAMs_20 22 51 50.4
comp=Z,2μm,20.0s
UOSS Minazif 132.14 277 PKPdf **PKPdf 21 52 58.4 -0.8**
UOSS Minazif 132.14 277 IAMs_20 IAMs_20 22 49 15.0
comp=Z,1μm,22.0s
UOSS Minazif 132.14 277 PKPdf **PKPdf 21 52 58.4 -0.8**
UOSS Minazif 132.14 277 P **PKPdf 21 52 58.5 -0.8**
HATD Hatta, Dubai 132.17 277 PKPdf **PKPdf 21 52 58.8 -0.5**
HATD Hatta, Dubai 132.17 277 P **PKPdf 21 52 59.1 -0.2**
SNR=9.8
MDH Madha 132.18 278 P **PKPdf 21 52 58.7 -0.5**
ASHO Ashiyiah 132.18 277 P **PKPdf 21 52 59.1 -0.2**
SNR=11
ALNE Al Ain 132.23 276 PKPdf **PKPdf 21 52 59.3 -0.1**
ALNE Al Ain 132.23 276 P **PKPdf 21 52 59.2 -0.2**
MASF Masafi 132.32 278 P **PKPdf 21 52 59.4 -0.2**
SHME Shamm 132.56 279 PKPdf **PKPdf 21 52 58.0 -1.9**
SHME Shamm 132.56 279 P **PKiKP 21 53 01.1 +0.1**
KIBK Kibwezi 132.60 233 P **PKiKP 21 53 01.4 -0.2**
FAQ Al Faqa, Dubai 132.60 277 PKiKP **PKPdf 21 53 00.3 +0.3**
FAQ Al Faqa, Dubai 132.60 277 P **PKPdf 21 52 59.9 -0.1**
DAG Danmarks Havn 132.71 6 PKP **PKiKP 21 53 00.2 +0.3**
DAG Danmarks Havn 132.71 6 *i* P **PKPdf 21 52 56.8 -1.9**
ASUD Al Ashush, Dub 132.79 276 PKPdf **PKPdf 21 53 00.5 +0.1**
ASUD Al Ashush, Dub 132.79 276 P **PKPdf 21 53 00.7 +0.3**
SUMG Summit 132.86 15 PKPdf **PKiKP 21 53 00.6 -0.2**
SUMG IAMs_20 IAMs_20 22 56 25.7
comp=Z,1μm,20.0s
SUMG Summit 132.86 15 PKP **PKiKP 21 53 00.5 -0.3**
SUMG Summit 132.86 15 PKIKP **PKiKP 21 53 00.6 -0.2**
SUMG MLR MLR
comp=Z,1μm,20.0s
SUMG Summit 132.86 15 *i* P **PKPdf 21 53 00.0 +0.4**
SUMG IAmb IAmb 21 53 02.3
comp=Z,7.1nm,0.9s
ARU Arti 133.26 320 PKPdf 21 53 00.0 -0.3
ARU Arti 133.26 320 *i* PKIKP **PKPdf 21 52 57.9 -2.4**
ARU pmax pmax
comp=Z,29nm,1.0s
GEYT Alibeck 133.69 295 PKP **PKPdf 21 52 59.6 -2.2**
comp=Z,8.1nm,0.9s,baz=254,slow=1.1,SNR=10.0
GEYT SKP 21 56 28.4
comp=Z,13nm,1.0s,baz=236,slow=1.6,SNR=7.6
GYA0B ALIBECK ARRAY 133.69 295 PKPdf **PKPdf 21 53 01.4 -0.4**
MZWR Madinat Zayed 133.74 275 P **PKPdf 21 53 02.6 +0.4**
MZR Muzera 133.82 274 PKIKP **PKPdf 21 53 02.6 +0.2**
MZR Muzera 133.82 274 P **PKPdf 21 53 02.5 +0.1**
SNR=8.6
DY2G Dye2 133.93 25 *i* P **PKiKP 21 53 02.2 -0.7**
KMBO Kilima Mbogo 134.02 233 IAMs_20 IAMs_20 22 45 53.0
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 134.02 233 PKiKP **PKiKP 21 53 05.0 +0.4**
KMBO Kilima Mbogo 134.02 233 P **PKiKP 21 53 05.1 +0.4**
AKTO Aktyubinsk 134.26 312 SKP 21 56 28.0
comp=Z,2.1nm,0.6s,baz=42,slow=5.8,SNR=2.2
GHWR Ruwais 134.67 274 P **PKiKP 21 53 04.8 -0.5**
ICESG Greenland Ices 134.71 20 *i* P **PKPdf 21 53 02.7 -0.4**
DBG Daneborg 134.77 8 *i* P **PKPdf 21 53 00.9 -1.7**
JRN Qarnain Island 135.02 276 P **PKPdf 21 53 05.1 +0.6**
SLWR Sila 135.72 274 P **PKiKP 21 53 06.6 -0.9**
TRNA Turayna 136.36 275 P **PKiKP 21 53 07.8 -1.0**
NRS Narsarsuaq 136.49 31 IAMs_20 IAMs_20 22 48 06.5
comp=Z,2μm,20.0s
SHMA Al-Shehemyia 136.92 276 P **PKPdf 21 53 08.2 +0.1**
KIRV Kirov 137.50 325 *c i* PKIKP **PKPdf 21 53 07.4 -0.7**
SCO Scoresbysund 137.86 12 IAMs_20 IAMs_20 22 52 13.5
comp=Z,2μm,20.0s
LVZ Lovozero 138.03 342 PKPdf **PKPdf 21 53 09.2 +0.3**
LVZ IAMs_20 IAMs_20 22 52 28.8
comp=Z,2μm,21.0s
LVZ Lovozero 138.03 342 PKIKP **PKPdf 21 53 09.2 +0.3**
LVZ MLR MLR
comp=Z,2μm,21.0s
HAMF Hammerfest 138.12 349 *e*PKPdf PKPdf 21 53 01.1 -7.9
KEV Kevo 138.31 347 IAMs_20 IAMs_20 22 49 36.1
comp=Z,2μm,22.0s
LODK Lodwar 138.56 236 PKPdf **PKPdf 21 53 11.6 0.0**
LODK IAMs_20 IAMs_20 22 48 05.6
comp=Z,2μm,22.0s
LODK Lodwar 138.56 236 P **PKPdf 21 53 12.0 +0.4**
APA Apatity 138.60 342 ⇓ *i* PKIKP **PKPdf 21 53 05.9 -4.0**
APA *i* 21 53 15.5
APA pmax pmax
comp=Z,18nm,0.7s
ARCES ARCESS Array B 138.78 348 PKhKP PKPpre 21 53 00.5
comp=Z,4.8nm,0.6s,baz=34,slow=3.0,SNR=24
ARCES PKP **PKPdf 21 53 09.4 -0.8**
comp=Z,14nm,0.6s,baz=70,slow=1.1,SNR=19
ADZR Andozero 139.60 336 *e*PKIKP **PKPdf 21 53 12.8 +1.0**
ADZR pmax pmax
comp=Z,36nm,1.2s
KTK1 Kautokeino 139.63 348 *e*PKPdf **PKPdf 21 53 04.3 -7.4**
TRO Tromso 139.74 351 *e*P **PKPdf 21 53 05.1 -6.8**
BELG Belogornoye 140.36 317 PKhKP PKPpre 21 53 05.1
comp=Z,8.4nm,0.7s,baz=288,slow=2.3,SNR=5.7
BELG PKP **PKPdf 21 53 13.3 -0.2**
comp=Z,126nm,1.0s,baz=330,slow=3.2,SNR=20
RAYN Ar Rayn 140.87 270 PKPdf **PKPdf 21 53 14.1 -1.3**
RAYN Ar Rayn 140.87 270 IAMs_20 IAMs_20 22 56 34.0
comp=Z,2μm,20.0s
RAYN Ar Rayn 140.87 270 PKIKP **PKPdf 21 53 14.1 -1.3**
RAYN MLR MLR
comp=Z,2μm,20.0s
KLMR Klimovskoe 140.94 332 *e*PKIKP **PKPdf 21 53 12.4 -1.9**
KLMR pmax pmax
comp=Z,63nm,1.1s
KLMR MLR MLR
comp=Z,3μm,22.0s
LKRN Lenkeran, Azer 141.07 295 PKIKP **PKPdf 21 53 15.6 +0.3**
LOF Lofoten 141.81 353 *e*PKPdf **PKiKP 21 53 17.6 -1.0**
STEI Steigen 141.81 352 *e*PKPdf **PKPdf 21 53 10.9 -4.8**
MAK Makhachkala 142.00 302 *e*P **Pdif 21 50 37.9 +1.1**
MAK *i* 21 53 16.7
MAK *e* 21 56 18.0
MAK *e* 22 00 23.2
MAK *e*SS SS 22 14 56.4 +2.8
MAK *e*SSS SSS 22 20 12.8
MAK pmax pmax
comp=Z,108nm,1.1s
SEKA Sheki 142.31 299 PKIKP **PKPdf 21 53 17.5 0.0**
FAUS Fauske 142.33 352 *e*PKPdf **PKPdf 21 53 12.2 -4.4**
MNGR Mingechevir, A 142.40 298 PKIKP **PKPdf 21 53 18.0 +0.4**
BORG Borgarnes 142.82 16 IAMs_20 IAMs_20 22 51 15.2
comp=Z,2μm,21.0s
GANJ Ganja 142.99 298 PKIKP **PKPdf 21 53 19.0 +0.3**
GROC Groznyy 143.23 302 *e*PKIKP PKPbc 21 53 17.0 +0.9
KONS Konsvik 143.43 353 *e*PKPdf PKPbc 21 53 15.9 0.0
MOR8 Moi Rana 143.59 352 *e*PKPdf PKPab 21 53 15.2 -0.3
STOK Stokkvaagen 143.60 353 *e*PKPdf PKPbc 21 53 16.9 +0.6
NAX Nakhchivan 143.64 296 PKIKP **PKPdf 21 53 19.6 -0.4**
GNI Garni 144.21 297 IAMs_20 IAMs_20 23 02 54.2
comp=Z,2μm,21.0s
GNI Garni 144.21 297 PKPdf **PKPab 21 53 18.1 -0.8**
GNI Garni 144.21 297 PKP PKPbc 21 53 19.3 0.0
comp=Z,47nm,1.1s,baz=243,slow=6.9,SNR=11
GNI Garni 144.21 297 P PKPbc 21 53 19.7 +0.4
GNI Garni 144.21 297 PKIKP PKPbc 21 53 19.3 0.0
GNI MLR MLR
comp=Z,2μm,21.0s
VRH Novokhopyorsk 144.21 317 *e*PKIKP **PKPab 21 53 17.9 -0.4**
VRH pmax pmax
comp=Z,60nm,0.7s
MOS Moscow 144.51 325 *i* PKIKP **PKPab 21 53 17.8 -1.5**
MOS pmax pmax
comp=Z,191nm,1.3s
VAF Ylistaro 144.93 344 *e*P **PKPdf 21 53 20.8 -0.5**
GOF Gofitskoye 144.94 306 *c i* PKIKP **PKPab 21 53 21.0 -0.2**
ONI Oni 145.00 302 PKPdf **PKPbc 21 53 21.5 -0.1**
ONI IAMs_20 IAMs_20 23 09 07.1
comp=Z,1μm,19.0s
ONI Oni 145.00 302 PKIKP **PKPbc 21 53 21.5 -0.1**
ONI MLR MLR
comp=Z,2μm,19.0s
KEF Keuruu 145.09 341 *e*P **PKPab 21 53 21.1 -0.1**
PUL Pulkovo 145.18 335 *i* PKIKP **PKPbc 21 53 21.0 -0.5**
PUL pmax pmax
comp=Z,267nm,0.8s
KBZ Khabaz 145.26 304 PKPbc **PKPbc 21 53 21.4 -0.8**
comp=Z,30nm,0.8s,baz=61,slow=1.8,SNR=35
LPSR Galich'ya Gora 145.28 320 *e*PKP2 **PKPbc 21 53 19.0 -3.1**
LPSR pmax pmax
comp=Z,100nm,0.8s
LPSR MLR MLR
comp=Z,3μm,24.0s
FIA1 FINESS Array S 145.33 340 PKPbc 21 53 21.0 -0.9
FINES FINESS Array B 145.33 340 PKPbc **PKPbc 21 53 20.9 -1.0**
comp=Z,200nm,0.8s,baz=64,slow=4.4,SNR=520
OBN Obninsk 145.35 325 ⇑P **PKPbc 21 53 20.8 -1.4**
OBN Obninsk 145.35 325 PKPbc 21 53 20.8 -1.4
OBN Obninsk 145.35 325 *c i* PKP2 **PKPbc 21 53 21.1 -1.1**
OBN *e* 21 56 42.9
OBN *e* 22 00 02.2
OBN *e*SSS SSS 22 21 01.8
OBN pmax pmax
comp=Z,204nm,0.9s
OBN Obninsk 145.35 325 PKP **PKPbc 21 53 21.6 -0.6**
KVAR Kislovodsk Arr 145.37 304 PKPbc **PKPab 21 53 23.0 0.0**
comp=Z,13nm,0.9s,baz=90,slow=20,SNR=11
KIV Kislovodsk 145.38 304 ⇑P **PKPbc 21 53 21.8 -0.9**
KIV Kislovodsk 145.38 304 PKPbc 21 53 21.5 -1.3
KIV Kislovodsk 145.38 304 PKPbc **PKPbc 21 53 21.1 -1.7**
KIV Kislovodsk 145.38 304 P **PKPab 21 53 22.8 -0.2**
KIV Kislovodsk 145.38 304 *i* PKP2 **PKPbc 21 53 21.4 -1.4**
KIV *e* 21 56 37.8
KIV *e*SS SS 22 15 24.9 -7.7
KIV *e*SSS SSS 22 20 58.4
KIV pmax pmax
comp=Z,64nm,1.0s
KIV Kislovodsk 145.38 304 PKP **PKPbc 21 53 21.9 -0.9**
SHA1 Shidzhatmaz 145.43 304 *c i* PKIKP **PKPdf 21 53 22.2 -0.9**
KARS Kars 145.45 298 PKPdf 21 53 22.5 -0.6
KARS Kars 145.45 298 PKIKP **PKPdf 21 53 22.5 -0.6**
KARS MLR MLR
comp=Z,4μm,20.0s
NSS Namsos 145.46 352 *e*PKPbc **PKPdf 21 53 21.5 -0.6**
VORR Voronezh 145.50 318 *e*PKIKP **PKPbc 21 53 22.6 -0.2**
VORR pmax pmax
comp=Z,157nm,1.3s
VSR Storozhevoye 145.71 318 *e*PKHKP PKPpre 21 53 19.8
VSR pmax pmax
comp=Z,270nm,1.5s
VSR MLR MLR
comp=Z,2μm,23.0s
VORD Divnogorie 145.73 317 *e*PKP2 **PKPdf 21 53 20.8 -2.2**
VORD pmax pmax
comp=Z,190nm,1.4s
GURO Guroymak-BITLI 146.35 295 IAMs_20 IAMs_20 23 01 27.1
comp=Z,2μm,20.0s
BCA Borcka 146.48 300 ⇓P **PKPbc 21 53 25.9 -0.3**
ERBR Yeremizino-Bor 146.58 308 *e*PKIKP **PKPdf 21 53 23.1 -1.6**
ERBR *i* 21 53 26.1
ERBR pmax pmax
comp=Z,275nm,1.0s
ERBR MLR MLR
comp=Z,2μm,23.0s
LABN Labinsk 146.64 306 *i* PKP2 **PKPbc 21 53 25.9 -0.6**
LABN pmax pmax
comp=Z,66nm,0.9s
LABN MLR MLR
comp=Z,2μm,21.0s
MEF Metsahovi 146.81 340 *e*P **PKPbc 21 53 26.7 +0.3**
RAF Rauma 146.88 343 *e*P **PKPbc 21 53 26.4 -0.1**
ARBE Arbavere 146.93 338 *e*P **PKPbc 21 53 27.2 +0.5**
VSU Vasula 147.41 336 *c i* PKIKP **PKPdf 21 53 25.9 +0.3**
SOC Sochi 147.56 304 *e*PKHKP PKPpre 21 53 24.2
SOC *i* 21 53 29.5
SOC *e* 21 56 50.6
SOC *e*PPP PPP 22 00 14.3
SOC pmax pmax
comp=Z,43nm,1.0s
SOC pmax pmax
comp=Z,62nm,0.9s
MOL Molde 147.80 355 *e*PKPdf **PKPbc 21 53 28.6 -0.5**
KHAM Kharkiv 147.90 317 PKP **PKPdf 21 53 26.8 0.0**
AAL Aland 148.05 343 *e*P **PKPbc 21 53 29.7 -0.1**
MTSE Matsula 148.19 338 *e*P **PKPbc 21 53 30.7 +0.5**
DOMB Dombas 148.20 354 *e*PKPbc **PKPbc 21 53 29.9 -0.3**
ANN Anapa 148.89 307 *e*PKHKP PKPpre 21 53 27.1
ANN pmax pmax
comp=Z,208nm,1.5s
UPP Uppsala 148.90 345 *e*P **PKPbc 21 53 30.4 -1.6**
FOO Floro 148.91 357 *e*PKPbc **PKPbc 21 53 32.3 +0.3**
NB2 NORSAR Subarra 148.94 351 PKP **PKPbc 21 53 31.7 -0.5**
comp=Z,316nm,1.7s,baz=14,slow=2.6
NB2 NORSAR Subarra 148.94 351 PKPab **PKPbc 21 53 31.7 -0.5**
baz=14,slow=2.6
NOA NORSAR Array B 148.94 351 PKP **PKPdf 21 53 28.4 +0.2**
comp=Z,11nm,0.5s,baz=14,slow=4.2,SNR=135
NOA PKPbc **PKPbc 21 53 31.8 -0.5**
comp=Z,25nm,0.7s,baz=13,slow=4.1,SNR=97
PLTM Poltava 149.06 317 PKP **PKPdf 21 53 29.0 +0.4**
NC602 NORSAR Array S 149.19 351 *e*PKPdf **PKPdf 21 53 28.7 +0.2**
NC602 *e*PKPbc **PKPbc 21 53 32.3 -0.5**
ARPR Arapgir-MALATY 149.21 296 PKPdf **PKPdf 21 53 28.7 -0.8**
ARPR PKPbc **PKiKP 21 53 34.6 -0.3**
HYA Hoyanger 149.28 356 *e*PKPbc **PKPbc 21 53 33.3 +0.3**
HFS Hagfors 149.43 349 PKP **PKPdf 21 53 27.6 -1.3**
comp=Z,55nm,0.6s,baz=222,slow=1.9,SNR=145
HFS PKPbc **PKPbc 21 53 32.8 -0.5**
comp=Z,55nm,0.6s,baz=83,slow=4.6,SNR=94
SUE Sulen 149.46 357 *e*PKPbc **PKPbc 21 53 33.2 -0.2**
SKAR Skarslia 149.61 354 *e*PKPbc **PKPbc 21 53 34.1 +0.2**
SKAR IAmb IAmb 21 53 38.8
comp=Z,185nm,1.1s
MNK Minsk 149.77 330 *d i* PKP2 **PKPbc 21 53 34.0 -0.4**
IIGN Ignalina 149.88 332 *e*P **PKiKP 21 53 35.5 0.0**
ASK Åskoy 150.02 357 *e*P **PKiKP 21 53 35.2 -0.4**
OSL Oslo 150.07 351 *e*PKPbc **PKPbc 21 53 34.9 0.0**
OSL IAmb IAmb 21 53 39.2
comp=Z,287nm,1.4s
BER Bergen 150.11 357 *e*PKPbc **PKPbc 21 53 35.2 +0.3**
VSVD Vaisvydziai 150.29 335 *e*P **PKPbc 21 53 35.6 0.0**
ASF Jabal al Asfar 150.30 282 PKPbc **PKiKP 21 53 37.0 -0.3**
comp=Z,27nm,0.9s,baz=61,slow=0.2,SNR=26
VIKU Vikbolandet 150.33 344 *e*P **PKPbc 21 53 33.1 -2.5**
KONO Kongsberg 150.49 352 PKPdf **PKPdf 21 53 30.4 -0.2**
KONO Kongsberg 150.49 352 IAMs_20 IAMs_20 23 00 51.0
comp=Z,2μm,22.0s
KONO Kongsberg 150.49 352 *e*PKPbc **PKPbc 21 53 35.9 -0.1**
KONO Kongsberg 150.49 352 ⇑PKIKP **PKPdf 21 53 31.0 +0.4**
ODD1 Odda 150.50 355 *e*PKPbc **PKiKP 21 53 36.5 -0.3**
PABE Paberze 150.64 334 PKPdf **PKPdf 21 53 30.6 -0.3**
PABE Paberze 150.64 334 *e*P **PKPbc 21 53 36.2 -0.2**
STRU Stroemstad 150.88 350 *i* P **PKiKP 21 53 37.2 -0.3**
PBUR Paburge 150.96 337 *e*P **PKPbc 21 53 36.2 -0.9**
BLS5 Blasjo 151.00 355 *e*PKPbc **PKiKP 21 53 37.7 -0.1**
SIM Simferopol' 151.10 309 *c i* PKIKP **PKiKP 21 53 38.1 -0.3**
SIM *e* 21 53 47.8
SIM *e* 21 57 17.4
SIM pmax pmax
comp=Z,86μm,1.1s
DIKM Dikmen 151.17 302 ⇓P **PKPbc 21 53 38.0 -0.2**
DIKM Dikmen 151.17 302 PKP **PKPdf 21 53 31.9 -0.3**
HWQ Hawqa 151.25 286 *e*P **PKPbc 21 53 38.7 0.0**
KMY Karmoy 151.28 357 *e*PKPbc **PKiKP 21 53 38.1 -0.2**
AK03 Malin Array Si 151.46 323 PKP **PKPdf 21 53 32.1 -0.3**
BHL Bhannes 151.47 286 *e*P **PKiKP 21 53 39.5 -0.2**
AKASG Malin Array Be 151.48 50 PKP **PKPdf 21 53 31.7 -0.7**
comp=Z,6.3nm,1.0s,baz=28,slow=1.0,SNR=13
AKASG PKPbc **PKPbc 21 53 37.4 -1.1**
comp=Z,47nm,0.7s,baz=48,slow=2.8,SNR=58
AKBB Malin Array Si 151.48 323 PKPdf **PKPdf 21 53 31.3 -1.1**
AKBB Malin Array Si 151.48 323 PKIKP **PKPdf 21 53 31.3 -1.1**
AKBB Malin Array Si 151.48 323 PKP **PKPdf 21 53 32.1 -0.3**
AK01 Malin Array Si 151.49 323 PKP **PKPdf 21 53 32.1 -0.3**
KIEV Kiev 151.49 323 ⇑P **PKPdf 21 53 32.2 -0.2**
KIEV Kiev 151.49 323 PKPdf **PKPdf 21 53 31.4 -0.9**
KIEV Kiev 151.49 323 ⇑PKIKP **PKPdf 21 53 32.2 -0.2**
KIEV Kiev 151.49 323 PKP **PKPdf 21 53 32.1 -0.2**
AK09 Malin Array Si 151.49 322 PKP **PKPdf 21 53 32.1 -0.3**
AK23 Malin Array Si 151.49 323 PKP **PKPdf 21 53 32.1 -0.3**
AK04 Malin Array Si 151.50 323 PKP **PKPdf 21 53 32.1 -0.3**
AK05 Malin Array Si 151.53 322 PKP **PKPdf 21 53 32.2 -0.3**
AK12 Malin Array Si 151.55 323 PKP **PKPdf 21 53 32.2 -0.3**
AK18 Malin Array Si 151.55 323 PKP **PKPdf 21 53 32.2 -0.3**
EIL Elat 151.60 277 PKP **PKPdf 21 53 32.5 -0.8**
comp=Z,8.7nm,1.0s,baz=65,slow=2.6,SNR=11
EIL PKPbc **PKiKP 21 53 39.7 -0.3**
comp=Z,58nm,0.7s,baz=9.0,slow=1.0,SNR=34
MMAI Mount Meron Ar 151.63 284 PKPbc **PKiKP 21 53 40.4 +0.4**
comp=Z,41nm,0.5s,baz=71,slow=6.4,SNR=56
TJOU Tjoern 151.77 349 *i* P **PKPbc 21 53 37.8 -1.2**
BORU Boraas 151.95 348 *i* P **PKPbc 21 53 39.0 -0.4**
HOMB Homborsund 151.96 353 *e*PKPbc **PKiKP 21 53 39.7 0.0**
MI30 MI30,Zelenitsa 151.99 323 PKP **PKPdf 21 53 32.2 -1.0**
BZK Bozkurt 152.01 303 ⇑P **PKPdf 21 53 35.9 +2.5**
SNART Snartemo 152.02 354 *e*PKPbc **PKiKP 21 53 39.8 -0.1**
SNART IAmb IAmb 21 53 43.4
comp=Z,804nm,1.8s
SNART Snartemo 152.02 354 *i* P **PKPbc 21 53 38.4 -1.1**
SUW Suwalki 152.06 333 *e*PKPdf **PKPdf 21 53 33.1 -0.1**
SUW *e*PKPbc **PKPbc 21 53 39.6 -0.2**
SUW *e*PP **PP 21 57 19.2 -1.9**
SUW Suwalki 152.06 333 PKPdf **PKPdf 21 53 32.6 -0.6**
SUW PKPbc **PKiKP 21 53 39.8 -0.3**
SUW Suwalki 152.06 333 *e*P **PKPbc 21 53 38.7 -1.1**
SUW Suwalki 152.06 333 PKIKP **PKiKP 21 53 39.8 -0.3**
SUW MLR MLR
comp=Z,3μm,22.0s
MI28 Mi28,Pidlybu 152.14 324 PKP **PKPdf 21 53 32.5 -0.9**
ONAU Onsala 152.33 348 *i* P **PKPbc 21 53 39.0 -1.2**
MI29 MI29, Kamyanyy 152.36 323 PKP **PKPdf 21 53 32.8 -0.9**
FABU Falkenberg 152.56 347 *i* P **PKPbc 21 53 39.6 -1.2**
BR131 Keskin Array S 152.74 298 PKPdf **PKPdf 21 53 33.6 -1.3**
BR131 PKPbc **PKPbc 21 53 40.7 -1.3**
BR131 Keskin Array S 152.74 298 PKIKP **PKPbc 21 53 40.7 -1.3**
BRTR Keskin Array B 152.74 298 PKP **PKPdf 21 53 33.2 -1.7**
comp=Z,5.6nm,1.1s,baz=126,slow=1.7,SNR=16
BRTR PKPbc **PKPbc 21 53 41.0 -1.0**
comp=Z,9.8nm,0.5s,baz=141,slow=6.0,SNR=34
BR104 Keskin Array S 152.74 298 PKP **PKPdf 21 53 33.4 -1.4**
BR106 Keskin Array S 152.75 298 PKP **PKPdf 21 53 33.7 -1.2**
BR105 Keskin Array S 152.75 298 PKP **PKPdf 21 53 33.5 -1.4**
DEL Delary 152.82 346 *e*P **PKPbc 21 53 40.9 -0.5**
DEL Delary 152.82 346 *i* P **PKPbc 21 53 39.6 -1.8**
RNPP5 Staryi Chortor 152.83 326 PKP **PKPdf 21 53 33.6 -0.8**
PURM Purcari 153.24 314 ⇑P **PKPdf 21 53 37.6 +2.5**
ANTO Ankara 153.35 299 ⇑P **PKPdf 21 53 36.1 +0.4**
ANTO Ankara 153.35 299 PKPdf 21 53 34.4 -1.3
ANTO PKPbc **PKPbc 21 53 42.9 -0.3**
ANTO Ankara 153.35 299 IAMs_20 IAMs_20 23 05 06.2
comp=Z,2μm,22.0s
ANTO Ankara 153.35 299 ⇑PKIKP **PKPdf 21 53 36.1 +0.4**
SORM Soroca 153.36 319 ⇑P **PKPdf 21 53 37.9 +2.7**
SORM Soroca 153.36 319 ⇑PKIKP **PKPdf 21 53 37.9 +2.7**
BJUU Bjuv 153.36 346 *i* P **PKPbc 21 53 39.6 -3.0**
BR231 Keskin MP Arra 153.37 299 PKPdf **PKPdf 21 53 34.6 -1.2**
BR231 **PKPbc 21 53 43.2 -0.1**
CSS Mathiatis 153.41 288 PKPbc 21 53 42.7 -0.8
MUD Monsted U'grnd 153.65 351 *i* P **PKPbc 21 53 40.8 -2.4**
MUD *i* P **PKiKP 21 53 43.8 +0.5**
KIS Kishinev 153.66 316 *e*PKP **PKPdf 21 53 34.0 -1.7**
comp=Z,160nm,6.5s
KIS Kishinev 153.66 316 *e*PKIKP **PKPdf 21 53 34.0 -1.7**
KIS *e* 21 57 38.0
KIS pmax pmax
comp=Z,160nm,6.5s
LUNU Lund 153.69 345 *i* P **PKiKP 21 53 43.2 -0.2**
BSD Bornholm Skovb 153.82 343 *e*P **PKiKP 21 53 43.7 +0.1**
BSD Bornholm Skovb 153.82 343 *i* P **PKiKP 21 53 43.8 +0.1**
LVV L'vov 154.65 326 *e*PKIKP **PKPdf 21 53 35.9 -1.2**
LVV *e* 21 57 31.7
BEL Belsk 154.66 332 *e*PKPdf **PKPdf 21 53 36.4 -0.6**
BEL *e*PKPbc **PKiKP 21 53 45.8 +0.3**
GKP Gorka Klasztor 154.78 338 *e*PKPdf **PKPdf 21 53 36.3 -0.8**
GKP Gorka Klasztor 154.78 338 *e*P **PKPdf 21 53 37.7 +0.7**
LIC Lamto 154.87 163 ⇑ *i* PKP1 **PKPdf 21 53 40.3 +1.8**
comp=Z,60nm,1.3s
TPGR Topolog 154.89 312 ⇓P **PKPdf 21 53 37.0 -0.6**
CFR Carcaliu 154.93 313 ⇑P **PKPdf 21 53 37.2 -0.3**
CFR Carcaliu 154.93 313 ⇑PKIKP **PKPdf 21 53 37.2 -0.3**
EKA Eskdalemuir Ar 154.98 7 PKP **PKPdf 21 53 37.4 +0.1**
comp=Z,2.1nm,0.9s,baz=270,slow=1.4,SNR=7.3
ESK Eskdalemuir 154.99 7 PKPbc 21 53 44.6 -1.5
ESK Eskdalemuir 154.99 7 PKIKP **PKPbc 21 53 44.6 -1.5**
ESK MLR MLR
comp=Z,2μm,20.0s
KIC Kosan Boka 155.07 164 ⇑ *i* PKP1 **PKPdf 21 53 39.3 +0.5**
comp=Z,41nm,1.2s
TESR Tescani 155.19 317 ⇑P **PKPdf 21 53 39.1 +1.1**
TIC Toumodi 155.28 163 ⇑ *i* PKP1 **PKPdf 21 53 39.7 +0.

comp=Z,14nm,1.0s,baz=323,slow=3.7,SNR=7.8
DBIC PKPab **PKPab** 21 54 05.5 +1.2
comp=Z,32nm,0.9s,baz=201,slow=5.8,SNR=6.1
BUR08 Bucovina Ar. S 155.40 320 PKPdf **PKPdf** 21 53 37.4 -0.9
BURAR Bucovina Array 155.40 320 ⇓P **PKPdf** 21 53 39.0 +0.7
BURAR Bucovina Array 155.40 320 PKPdf **PKPdf** 21 53 37.3 -1.0
KWP Kalwaria Pacla 155.41 327 *e*PKPdf **PKPdf** 21 53 42.2 +4.1
KWP *e*PKPab **PKPab** 21 54 04.8 +1.1
KWP *e*PP **PP** 21 57 46.6 +6.4
VRI Vrincioaia 155.47 315 ⇑P **PKPdf** 21 53 39.2 +0.9
VRI Vrincioaia 155.47 315 ⇑PKIKP **PKPdf** 21 53 39.2 +0.9
PLOR Plostina 155.53 315 ⇓P **PKPdf** 21 53 38.9 +0.5
PLOR Plostina 155.53 315 ⇓PKIKP **PKPdf** 21 53 38.9 +0.5
COVR Voineasa-Covas 155.80 316 ⇑P **PKPdf** 21 53 41.9 +3.1
TURR Turia 155.80 316 ⇑P **PKPdf** 21 53 40.3 +1.5
BSEG Bad Segeberg 155.91 348 *e*PKPab 21 54 06.1
baz=26,slow=1.1
OZUR 155.92 317 ⇑P **PKPdf** 21 53 40.5 +1.5
ISR Istrita 155.95 314 ⇑P **PKPdf** 21 53 39.1 +0.1
ISR Istrita 155.95 314 ⇑PKIKP **PKPdf** 21 53 39.1 +0.1
KOLS Kolonicke sedl 156.10 326 *e*PKIKP **PKPdf** 21 53 40.8 +1.7
KOLS Kolonicke sedl 156.10 326 *e*PKP **PKPdf** 21 53 40.8 +1.7
KOLS *e* 21 54 11.8
MLR Muntele Rosu 156.14 315 ⇑P **PKPdf** 21 53 39.4 0.0
MLR Muntele Rosu 156.14 315 PKPdf **PKPdf** 21 53 38.1 -1.3
MLR Muntele Rosu 156.14 315 PKP **PKPdf** 21 53 38.7 -0.6
comp=Z,4.7nm,0.8s,baz=237,slow=1.4,SNR=11
MLR PKPab **PKPab** 21 54 05.8 -1.3
comp=Z,12nm,0.7s,baz=346,slow=4.2,SNR=6.0
MLR Muntele Rosu 156.14 315 ⇑PKIKP **PKPdf** 21 53 39.4 0.0
DOPR Dopca 156.22 317 ⇑P **PKPdf** 21 53 39.8 +0.4
OJC Ojcow 156.29 331 *e*PKPdf **PKPdf** 21 53 41.7 +2.5
OJC *e*PP **PP** 21 57 39.2 -5.8
OJC Ojcow 156.29 331 PKPdf **PKPdf** 21 53 38.7 -0.6
OJC Ojcow 156.29 331 PKIKP **PKPdf** 21 53 38.7 -0.6
RUE Ruedersdorf 156.49 342 *e*P **PKPdf** 21 53 43.7 +4.4
RUE Ruedersdorf 156.49 342 *e*PKPdf 21 53 39.7
baz=26,slow=1.1
RUE *e*PKPab 21 54 08.5
baz=26,slow=1.1
CRVS Cervenica-Dubn 156.51 327 *e*PKIKP **PKPdf** 21 53 41.1 +1.5
CRVS Cervenica-Dubn 156.51 327 *e*PKP **PKPdf** 21 53 41.1 +1.5
CRVS *e* 21 54 08.3
DSB Dublin 156.53 13 IAMs_20 IAMs_20 22 59 02.0
comp=Z,1μm,21.0s
DSB Dublin 156.53 13 PKP **PKPdf** 21 53 36.8 -2.6
NIE Niedzica 156.68 329 *e*PKPdf **PKPdf** 21 53 40.8 +0.9
NIE *e*PP **PP** 21 57 45.3 -1.9
VOIR 156.70 316 ⇓P **PKPdf** 21 53 41.5 +1.4
VOIR 156.70 316 ⇓PKIKP **PKPdf** 21 53 41.5 +1.4
VAL Valentia 156.80 20 PKP **PKPdf** 21 53 38.5 -1.3
ARR Arges 156.99 316 ⇑P **PKPdf** 21 53 41.3 +0.8
MARR Marisel-Cluj 157.11 321 ⇑P **PKPdf** 21 53 39.9 -0.6
KSP Ksiaz 157.14 336 *e*PKPdf **PKPdf** 21 53 40.0 -0.4
KSP *e*PP **PP** 21 57 44.3 -5.2
LANS Liptovska Anna 157.24 330 *e*PKIKP **PKPdf** 21 53 42.1 +1.5
LANS Liptovska Anna 157.24 330 *e*PKP **PKPdf** 21 53 42.1 +1.5
LANS *e* 21 54 15.0
FLTG Flechtingen 157.24 345 *e*PKPdf 21 53 40.1
baz=26,slow=1.1
FLTG *e*PKPab 21 54 11.3
baz=26,slow=1.1
KECS Kecovo 157.26 327 *e*PKIKP **PKPdf** 21 53 42.8 +2.2
KECS Kecovo 157.26 327 *e*PKP **PKPdf** 21 53 42.8 +2.2
KECS *e* 21 54 12.1
OKC Ostrava-Krasne 157.27 332 *e*PP **PP** 21 57 47.6 -2.7
OKC AMS AMS 23 09 20.0
comp=Z,2μm,19.6s
ELND Elena 157.38 310 ⇓P **PKPdf** 21 53 40.5 -0.4
OSTC Ostas 157.41 336 *e*PKPAB **PKPab** 21 54 16.1 +3.8
OSTC AMS AMS 23 03 50.0
comp=Z,2μm,23.5s
OSTC Ostas 157.41 336 *e*PKP2 **PKPab** 21 54 16.1 +3.8
OSTC MLR MLR
comp=Z,2μm,23.5s
CHVC Chvalec 157.44 336 *e*PKPDF **PKPdf** 21 53 41.0 +0.2
CHVC AMS AMS 23 01 50.0
comp=Z,2μm,24.5s
CHVC Chvalec 157.44 336 *e*PKIKP **PKPdf** 21 53 41.0 +0.2
CHVC MLR MLR
comp=Z,2μm,24.5s
LOT Lotru 157.46 317 ⇓P **PKPdf** 21 53 43.2 +2.1
UPC Upice 157.52 336 AMS AMS 23 00 50.0
comp=Z,2μm,24.4s
DPC Dobruska-Polom 157.54 336 AMS AMS 23 04 00.0
comp=Z,2μm,24.5s
MORC Moravsky Berou 157.55 333 ⇑P **PKPdf** 21 53 40.2 -0.7
MORC Moravsky Berou 157.55 333 PKPdf **PKPdf** 21 53 40.6 -0.4
MORC Moravsky Berou 157.55 333 *e*PKP **PKPdf** 21 53 40.6 -0.4
MORC *e* 21 54 13.0
MORC *e*PP **PP** 21 57 48.9 -3.0
MORC Moravsky Berou 157.55 333 PKIKP **PKPdf** 21 53 40.6 -0.4
MORC MLR MLR
comp=Z,2μm,20.0s
KRLC Kraliky 157.60 335 *e*PKPDF **PKPdf** 21 53 42.0 +1.0
KRLC *e*PKPAB **PKPab** 21 54 16.7 +3.5
KRLC *e*PP PP 21 57 43.6 -8.5
KRLC AMS AMS 23 04 30.0
comp=Z,2μm,23.5s
KRLC Kraliky 157.60 335 *e*PKIKP **PKPdf** 21 53 42.0 +1.0
KRLC MLR MLR
comp=Z,2μm,23.5s
CLL Collm 157.75 342 PKPdf **PKPdf** 21 53 40.2 -0.8
CLL IAMs_20 IAMs_20 23 19 43.0
comp=Z,1μm,20.0s
CLL Collm 157.75 342 *e*PKIKP **PKPdf** 21 53 40.0 -1.1
CLL *i* 21 53 52.1
CLL *i* 21 54 12.8
CLL pmax pmax
comp=Z,20nm,1.4s
CLL pmax pmax
comp=Z,38nm,1.4s
CLL pmax pmax
comp=Z,65nm,1.3s
CLL Collm 157.75 342 *e*PKPab 21 54 13.8
baz=26,slow=1.1
BRG Berggiesshubel 157.87 340 Amp 21 54 19.3
comp=Z,43nm,1.0s
BRG Berggiesshubel 157.87 340 PP PP 21 57 54.0 +0.6
BRG Berggiesshubel 157.87 340 PKP2 **PKPab** 21 54 14.6 +0.4
BRG 21 57 54.0
BRG S SKSdf 22 01 34.0 +50
BRG pmax pmax
comp=Z,43nm,1.0s
BRG Berggiesshubel 157.87 340 ⇓*e*PKPf 21 53 40.7
BRG Berggiesshubel 157.87 340 Amp 21 53 45.2
comp=Z,24nm,1.2s
BRG Berggiesshubel 157.87 340 ⇑PKP PKPdf 21 53 53.0 +12
BRG Berggiesshubel 157.87 340 Amp 21 53 56.8
comp=Z,11nm,0.8s
BRG Berggiesshubel 157.87 340 PKPab **PKPab** 21 54 14.6 +0.4
BRG Berggiesshubel 157.87 340 *e*PKPdf 21 53 41.0
baz=26,slow=1.1
BRG *e*PKPab 21 54 14.4
baz=26,slow=1.1
CLZ Clausthal 157.88 346 *e*PKPab 21 54 14.7
baz=26,slow=1.1
IBBN Ibbenburen 157.89 351 *e*PKPab 21 54 14.5
baz=26,slow=1.1
PSZ Piszkesteto 157.94 327 ⇑P **PKPdf** 21 53 41.7 +0.2
PSZ Piszkesteto 157.94 327 PKPdf **PKPdf** 21 53 40.6 -1.0
PSZ Piszkesteto 157.94 327 ⇑PKIKP **PKPdf** 21 53 41.7 +0.2
PVCC Panska Ves 157.98 338 AMS AMS 23 02 40.0
comp=Z,2μm,21.9s
VYHS Vyhne 158.01 329 *e*PKIKP **PKPdf** 21 53 43.1 +1.6
VYHS *e* 21 54 15.4
VYHS Vyhne 158.01 329 *e*PKP **PKPdf** 21 53 43.1 +1.6
VYHS *e* 21 54 15.4
GZR Gura Zlata 158.06 318 ⇑P **PKPdf** 21 53 41.1 -0.6
GZR Gura Zlata 158.06 318 ⇑PKIKP **PKPdf** 21 53 41.1 -0.6
RICC Richard 158.12 339 AMS AMS 23 03 50.0
comp=Z,2μm,22.0s
SIRR Siria 158.16 321 ⇓P **PKPdf** 21 53 41.6 -0.1
NEUB Neuenburg 158.16 343 *e*PKPab 21 54 15.5
baz=26,slow=1.1
SURR Surduc 158.22 320 ⇓P **PKPdf** 21 53 41.4 -0.5
JAVC Velka Javorina 158.23 331 *e*PKP **PKPdf** 21 53 40.3 +1.2
GTTG Gottingen 158.25 347 *e*PKPab 21 54 16.0
baz=26,slow=1.1
HSKC Hora Svate Kat 158.26 340 AMS AMS 23 03 00.0
comp=Z,2μm,21.8s
VRAC Vranov 158.30 334 *e*PKP **PKPdf** 21 53 41.4 -0.4
VRAC *e* 21 54 15.2
VRAC *e*PP **PP** 21 57 55.8 -0.1
VRAC Vranov 158.30 334 PKP **PKPdf** 21 53 42.1 +0.3
comp=Z,1.5nm,0.6s,baz=239,slow=5.9,SNR=4.2
VRAC PKPab **PKPab** 21 54 15.5 -0.6
comp=Z,11nm,0.9s,baz=23,slow=5.1,SNR=6.8
RDO Rodhopi 158.31 306 **PKPdf** 21 53 40.7 -1.4
PRA Prague 158.42 338 *ex* x 22 08 11.9
PRA AMS AMS 23 06 40.0
comp=Z,2μm,21.8s
PRU Pruhonice 158.46 338 *e*PKPAB **PKPab** 21 54 21.5 +4.7
PRU AMS AMS 23 03 40.0
comp=Z,2μm,23.6s
PRU Pruhonice 158.46 338 *e*PKP2 **PKPab** 21 54 21.5 +4.7
PRU MLR MLR
comp=Z,2μm,23.6s
HERR Herculane 158.57 317 ⇓P **PKPdf** 21 53 41.7 -0.5
KRUC Moravsky 158.57 334 *e*PKP **PKPdf** 21 53 41.7 -0.5
KRUC *e* 21 54 16.8
KRUC *e*PP **PP** 21 57 53.8 -3.6
BZS Buzias 158.59 320 ⇑P **PKPdf** 21 53 41.9 -0.4
BZS Buzias 158.59 320 ⇑PKIKP **PKPdf** 21 53 41.9 -0.4
TANN Tannenbergstha 158.71 341 *e*PKPab 21 54 17.9
baz=26,slow=1.1
MOX Moxa 158.72 343 *e*PKPdf 21 53 41.8
baz=26,slow=1.1
MOX *e*PKPab 21 54 18.1
baz=26,slow=1.1
MOX *e*L 23 14 03.2
comp=Z,1μm,21.7s
TREC Trest 158.72 335 AMS AMS 23 05 00.0
comp=Z,3μm,23.6s
SRO Srobarova 158.75 329 *e*PKP2 **PKPab** 21 54 19.8 +1.7
SRO Srobarova 158.75 329 *e*PKP **PKPab** 21 54 19.8 +1.7
MODS Modra-Piesok 158.77 331 *e*PKIKP **PKPdf** 21 53 43.5 +1.1
MODS *e* 21 54 17.7
MODS Modra-Piesok 158.77 331 *e*PKP **PKPdf** 21 53 43.5 +1.1
MODS *e* 21 54 17.7
BUG Bochum--Univer 158.80 351 *e*PKPdf 21 53 42.1
baz=26,slow=1.1
BUG *e*PKPab 21 54 18.2
baz=26,slow=1.1
KASTN Kahler Asten 158.86 349 *e*PKPdf 21 53 42.3
baz=26,slow=1.1
KASTN *e*PKPab 21 54 18.3
baz=26,slow=1.1
UBBA Unterbreizbach 158.93 346 *e*PKPdf 21 53 42.2
baz=26,slow=1.1
UBBA *e*PKPab 21 54 18.5
baz=26,slow=1.1
ZST Bratislava 158.98 331 *e*PKIKP **PKPdf** 21 53 44.9 +2.2
ZST *e* 21 54 19.6
ZST Bratislava 158.98 331 *e*PKP **PKPdf** 21 53 44.9 +2.2
ZST *e* 21 54 19.6
MDVR Moldovita 159.03 318 ⇓P **PKPdf** 21 53 42.5 -0.5
ZVC Zvikov 159.05 337 AMS AMS 23 06 20.0
comp=Z,3μm,22.2s
MANZ Manzenberg 159.19 342 *e*PKPdf 21 53 42.5
baz=26,slow=1.1
ROTZ Rotzenmuhle 159.36 341 *e*PKPab 21 54 21.4
baz=26,slow=1.1
KHC Kasperske Hory 159.51 338 PKPdf **PKPdf** 21 53 42.2 -1.1
KHC Kasperske Hory 159.51 338 *e*PKPDF **PKPdf** 21 53 43.1 -0.2
KHC *e*PKPAB **PKPab** 21 54 25.4 +4.0
KHC *e*PP **PP** 21 57 57.1 -5.4
KHC *ex* x 22 08 26.2
KHC AMS AMS 23 04 00.0
comp=Z,3μm,23.9s
KHC Kasperske Hory 159.51 338 *e*PKIKP **PKPdf** 21 53 43.1 -0.2
CKRC Cesky Krumlov 159.54 336 *e*PKPDF **PKPdf** 21 53 43.0 -0.3
CKRC *e*PKPAB **PKPab** 21 54 25.0 +3.5
CKRC *e*PP **PP** 21 57 57.0 -5.6
CKRC AMS AMS 23 02 10.0
comp=Z,2μm,25.6s
CKRC Cesky Krumlov 159.54 336 *e*PKIKP **PKPdf** 21 53 43.0 -0.3
CKRC MLR MLR
comp=Z,2μm,25.6s
BEBN Eben Emael 159.62 353 *d*PKP **PKPab** 21 54 21.5 -0.2
GRA1 Grafenberg Arr 159.69 343 PKPdf **PKPdf** 21 53 42.9 -0.6
GRA1 **PKPab** 21 54 21.5 -0.6
GRF Grafenberg Arr 159.69 343 PKIKP **PKPdf** 21 53 42.9 -0.6
GRF 21 54 21.5
GRF MLR MLR
comp=Z,2μm,21.0s
GRF Grafenberg Arr 159.69 343 *e*PKPab 21 54 22.8
baz=26,slow=1.1
GRF *e*L 23 07 57.6
comp=Z,1μm,20.6s
GRFO Grafenberg 159.70 343 PKPdf **PKPdf** 21 53 43.0 -0.5
GRFO PKPab **PKPab** 21 54 22.5 +0.3
GRFO Grafenberg 159.70 343 PKP2 **PKPab** 21 54 22.5 +0.3
GRFO 22 53 43.0
GRFO MLR MLR
comp=Z,2μm,21.0s
CONA Conrad Observa 159.70 332 *e*PKP **PKPdf** 21 53 42.9 -0.7
comp=Z,11nm,1.5s,SNR=9.2
CONA *e*PKP **PKPab** 21 54 23.0 +0.6
comp=Z,23nm,1.5s
AHRW Bad Neuenahr-A 159.71 351 *e*PKPdf 21 53 43.1
baz=26,slow=1.1
AHRW *e*PKPab 21 54 22.3
baz=26,slow=1.1
RONA Rosalia, Austr 159.71 331 *i* PKP **PKPdf** 21 53 42.9 -0.7
comp=Z,18nm,1.5s,SNR=8.8
RONA *i* PKP **PKPab** 21 54 23.6 +1.3
comp=Z,22nm,1.4s
GEC2 GERESS Array S 159.72 337 PKPdf **PKPdf** 21 53 42.1 -1.6
GEC2 GERESS Array S 159.72 337 *e*PKPdf 21 53 43.1
baz=26,slow=1.1
GERES GERESS Array B 159.72 337 PKP **PKPdf** 21 53 42.3 -1.3
comp=Z,4.2nm,1.0s,baz=156,slow=10,SNR=10.0
GERES PKPab **PKPab** 21 54 21.4 -1.0
comp=Z,5.4nm,0.6s,baz=69,slow=5.4,SNR=8.6
WET Wettzell 159.72 339 *e*PKPdf 21 53 43.0
baz=26,slow=1.1
WET *e*PKPab 21 54 22.5
baz=26,slow=1.1
MORH Mrgy, Hungar 159.75 325 ⇑P **PKPdf** 21 53 43.4 -0.2
MEM Membach 159.77 353 *d*PKPdf **PKPdf** 21 53 43.3 -0.2
MEM *d*PKP **PKPab** 21 54 20.7 -1.7
BTNL Ternell 159.78 352 *d*PKPdf **PKPdf** 21 53 43.3 -0.3
BTNL *d*PKP **PKPab** 21 54 22.0 -0.5
TNS Taunus Mts 159.80 348 *e*PKPab 21 54 22.9
baz=26,slow=1.1
BSTI Sart Tilman 159.84 354 *d*PKPdf **PKPdf** 21 53 42.9 -0.7
BSTI *d*PKP **PKPab** 21 54 22.5 -0.2
BHOU Houvegnez 160.03 353 *d*PKPdf **PKPdf** 21 53 43.8 -0.1
BHOU *d*PKP **PKPab** 21 54 23.6 0.0
BCLA Clavier 160.03 354 *d*PKPdf **PKPdf** 21 53 42.5 -1.2
BCLA *d*PKP **PKPab** 21 54 22.9 -0.7
BGES Gesves 160.08 354 *d*PKPdf **PKPdf** 21 53 42.8 -1.1
BGES *d*PKP **PKPab** 21 54 23.1 -0.7
BMRD Maredsous 160.19 355 *d*PKPdf **PKPdf** 21 53 43.4 -0.6
BMRD *d*PKP **PKPab** 21 54 23.6 -0.7
IDI Anoyia 160.29 290 PKP **PKPdf** 21 53 43.0 -1.6
IDI Anoyia 160.29 290 PKP **PKPdf** 21 53 45.3 +0.6
comp=Z,35nm,1.1s,baz=170,slow=5.1,SNR=7.1
RCHB Rochefort 160.30 354 *d*PKPdf **PKPdf** 21 53 44.0 -0.1
RCHB *d*PKP **PKPab** 21 54 23.8 -0.9
MOA Molln 160.38 335 *i* PKP **PKPdf** 21 53 43.2 -1.1
comp=Z,13nm,1.6s
MOA *e*PKP **PKPab** 21 54 25.6 +0.3
comp=Z,26nm,1.6s
STIP Stip 160.38 310 *e*P **PKPab** 21 54 23.3 -2.2
ARSA Arzberg 160.38 332 *i* PKP **PKPdf** 21 53 43.1 -1.2
comp=Z,9.9nm,1.3s
ARSA *i* PKP **PKPab** 21 54 26.6 +1.3
comp=Z,8.6nm,1.0s
GIVF Givet 160.39 355 *e*PKIKP **PKPdf** 21 53 43.6 -0.6
GIVF pmax pmax
comp=Z,32nm,1.5s
DOU Dourbes 160.41 355 *d*PKPdf **PKPdf** 21 53 43.4 -0.8
DOU *d*PKP **PKPab** 21 54 24.9 -0.3
BAIF Baives 160.47 356 *e*PKIKP **PKPdf** 21 53 43.7 -0.6
BAIF pmax pmax
comp=Z,23nm,1.3s
WLF Walferdange 160.69 352 PKPdf **PKPdf** 21 53 44.2 -0.3
WLF Walferdange 160.69 352 *d*PKPdf **PKPdf** 21 53 44.5 0.0
WLF *d*PKP **PKPab** 21 54 26.4 0.0
WLF Walferdange 160.69 352 PKP **PKPdf** 21 53 43.0 -1.5
WLF Walferdange 160.69 352 PKIKP **PKPdf** 21 53 44.2 -0.3
WLF Walferdange 160.69 352 *e*PKPdf 21 53 43.9
baz=26,slow=1.1
WLF *e*PKPab 21 54 27.1
baz=26,slow=1.1
SKO Skopje 160.73 311 ⇓*i*P **PKPab** 21 54 27.6 +0.5
BIOA Bad Ischl, Aus 160.74 336 *i* PKP **PKPdf** 21 53 43.5 -1.2
comp=Z,13nm,1.5s
BIOA *i* PKP **PKPab** 21 54 27.3 +0.5
comp=Z,37nm,1.5s
RJOB Jochberg 160.99 337 *e*PKPdf 21 53 44.3
baz=26,slow=1.1
RJOB *e*PKPab 21 54 28.7
baz=26,slow=1.1
GROS Grobnik 161.02 330 *i* PKPdf **PKPdf** 21 53 43.6 -1.5
STU Stuttgart 161.03 345 **PKPdf** 21 53 44.2 -0.7
STU **PKPab** 21 54 27.2 -0.8
STU Stuttgart 161.03 345 PKIKP **PKPdf** 21 53 44.2 -0.7
STU 21 54 27.2
STU Stuttgart 161.03 345 *e*PKPdf 21 53 44.7
baz=26,slow=1.1
STU *e*PKPab 21 54 28.2
baz=26,slow=1.1
PERS Pernice 161.04 331 *e*PKPdf **PKPdf** 21 53 43.4 -1.7
SOKA Soboth 161.04 332 *e*PKP **PKPdf** 21 53 43.9 -1.3
comp=Z,19nm,1.4s,SNR=18
SOKA *i* PKP **PKPab** 21 54 27.5 -0.7
comp=Z,23nm,1.4s
FUR Furstenfeldbru 161.07 341 *e*PKPab 21 54 28.8
baz=26,slow=1.1
DOBS Dobrina 161.28 330 *e*PKPdf **PKPdf** 21 53 44.2 -1.1
LESA Schwarzleotal 161.30 337 *i* PKP **PKPdf** 21 53 44.5 -0.9
comp=Z,32nm,1.6s
LESA *e*PKP **PKPab** 21 54 29.2 -0.1
comp=Z,21nm,1.0s
KBA Koelnbreinsper 161.36 335 *i* PKP **PKPdf** 21 53 45.1 -0.5
comp=Z,26nm,1.5s
OBKA Obir 161.38 332 *i* PKP **PKPdf** 21 53 45.3 -0.2
comp=Z,12nm,1.4s
MYKA Terra Mystica 161.63 334 *e*PKP **PKPdf** 21 53 45.3 -0.4
comp=Z,19nm,1.7s,SNR=6.6
MYKA *i* PKP **PKPab** 21 54 29.4 -1.4
comp=Z,9.6nm,1.1s
BFO Black Forest 161.63 347 PKPdf **PKPdf** 21 53 44.8 -0.9
BFO Black Forest 161.63 347 PKIKP **PKPdf** 21 53 44.8 -0.9
BFO Black Forest 161.63 347 *e*PKPdf 21 53 45.1
baz=26,slow=1.1
BFO *e*PKPab 21 54 30.7
baz=26,slow=1.1
WATA Walderalm 161.73 339 *i* PKP **PKPdf** 21 53 45.0 -0.9
comp=Z,17nm,1.8s,SNR=8.9
WATA *i* PKP **PKPab** 21 54 31.0 -0.3
comp=Z,51nm,1.4s
FLN La Foliniere 161.73 5 *e*PKIKP **PKPdf** 21 53 45.1 -0.6
FLN pmax pmax
comp=Z,45nm,1.2s
LJU Ljubljana 161.76 331 *e*PKPdf **PKPdf** 21 53 45.1 -0.7
LJU *i* pPKPdf **pPKPdf** 21 53 57.6 +0.5
LJU *e*PP **PP** 21 58 15.6 +0.9
WTTA Wattenberg 161.78 339 *i* PKP **PKPdf** 21 53 45.5 -0.6
comp=Z,21nm,1.3s,SNR=15
WTTA *e*PKP **PKPab** 21 54 28.4 -3.1
comp=Z,66nm,1.4s
ROSF Rostrenen 161.80 11 *e*PKIKP **PKPdf** 21 53 49.0 +3.2
ROSF pmax pmax
comp=Z,17nm,1.1s
PRED Cave del Predi 161.82 334 **PKPdf** 21 53 44.4 -1.5
RETA Reutte 161.84 341 *i* PKP **PKPdf** 21 53 45.0 -0.9
comp=Z,8.3nm,1.4s
RETA *i* PKP **PKPab** 21 54 31.7 +0.1
comp=Z,40nm,1.2s
UBR Ueberruh 161.84 342 *e*PKPdf 21 53 44.8
baz=26,slow=1.1
UBR *e*PKPab 21 54 31.1
baz=26,slow=1.1
PDG Podgorica 161.85 315 ⇓P **PKPdf** 21 53 44.4 -1.6
LDF La Druitiere 161.93 5 *e*PKIKP **PKPdf** 21 53 45.3 -0.6
LDF pmax pmax
comp=Z,25nm,1.4s
ABTA Abfaltersbach 161.94 336 *i* PKP **PKPdf** 21 53 44.7 -1.4
comp=Z,25nm,1.4s,SNR=13
ABTA *i* PKP **PKPab** 21 54 31.4 -0.8
comp=Z,17nm,1.4s
SQTA Sankt Quirin 161.94 340 *i* PKP **PKPdf** 21 53 45.1 -1.0
comp=Z,18nm,1.7s,SNR=9.4
SQTA *i* PKP **PKPab** 21 54 32.6 +0.4
comp=Z,75nm,1.3s
ECH Echery 161.96 349 PKPdf **PKPdf** 21 53 44.8 -1.2
ECH PKPab **PKPab** 21 54 31.2 -0.9
ECH Echery 161.96 349 PKIKP **PKPdf** 21 53 44.8 -1.2
ECH 21 54 31.2
GRR Gorron 162.07 6 *e*PKIKP **PKPdf** 21 53 45.5 -0.5
GRR pmax pmax
comp=Z,30nm,1.3s
SABO M.te Sabotino 162.19 333 PKPdf **PKPdf** 21 53 45.2 -1.1
QUIF Quistinic 162.22 12 *e*PKIKP **PKPdf** 21 53 45.6 -0.6
QUIF pmax pmax
comp=Z,19nm,1.2s
DAVA Damuels 162.26 342 *e*PKP **PKPdf** 21 53 45.6 -0.9
comp=Z,12nm,1.3s,SNR=6.2
DAVA *i* PKP **PKPab** 21 54 33.7 +0.1
comp=Z,31nm,1.1s
FETA Feichten 162.27 340 *i* PKP **PKPdf** 21 53 45.8 -0.7
comp=Z,16nm,1.3s,SNR=19
FETA *i* PKP **PKPab** 21 54 34.0 +0.4
comp=Z,52nm,1.3s
HAU Haudompre 162.29 351 *e*PKIKP **PKPdf** 21 53 45.5 -0.8
HAU pmax pmax
comp=Z,41nm,1.5s
STAL STALIGIAL 162.29 335 **PKPdf** 21 53 45.2 -1.2
CLF Chambon-Foret 162.57 360 **PKPdf** 21 53 45.8 -0.7
TOA0 Torodi Ar. Sit 162.65 179 **PKPdf** 21 53 47.3 -0.3
TOA0 PKPab **PKPab** 21 54 36.0 +0.1
TORD Torodi Ar. Bea 162.65 179 **PKPdf** 21 53 47.1 -0.5
TORD PKPab **PKPab** 21 54 35.4 -0.5
TORD Torodi Ar. Bea 162.65 179 PKP **PKPdf** 21 53 48.0 +0.4
comp=Z,19nm,1.1s,baz=18,slow=2.8,SNR=29
TORD PKPab **PKPab** 21 54 36.9 +1.0
comp=Z,34nm,0.8s,baz=164,slow=2.0,SNR=12
TORD PP **PP** 21 58 19.1 +0.2
comp=Z,3.7nm,0.8s,baz=131,slow=6.2,SNR=3.1
FUORN Ofenpass-Fuorn 162.77 341 **PKPdf** 21 53 46.1 -1.0
FUORN PKPab **PKPab** 21 54 36.0 0.0
LOR Lormes 163.28 356 *e*PKIKP **PKPdf** 21 53 45.6 -1.7
LOR pmax pmax
comp=Z,33nm,1.4s
PMOZ Porto Moniz, M 163.45 77 *e*PKPdf **PKPdf** 21 53 50.6 +2.6
PMOZ Porto Moniz, M 163.45 77 *e*PP PP 21 58 34.4 +9.2
PMOZ Porto Moniz, M 163.45 77 *e*SS SS 22 18 55.9 +5.9
PMOZ Porto Moniz, M 163.45 77 *e*LQ LQ 22 42 57.9
PMOZ *e*LR LR 22 50 16.6
comp=Z,1μm,20.0s
PMOZ Porto Moniz, M 163.45 77 PKP **PKPdf** 21 53 49.0 +1.0
PMAR Madeira 163.69 78 *e*PKPdf **PKPdf** 21 53 50.4 +2.0
PMAR Madeira 163.69 78 *e*PP **PP** 21 58 32.3 +5.7
FUL Funchal 163.71 78 *e*PKPdf **PKPdf** 21 53 51.4 +3.3
FUL Funchal 163.71 78 *e*PP PP 21 58 43.0 +17
AVF Avril sur Loir 163.78 357 *e*PKIKP **PKPdf** 21 53 47.0 -0.7
AVF pmax pmax
comp=Z,14nm,1.3s
SMF Signal de Mont 163.90 356 *e*PKIKP **PKPdf** 21 53 47.1 -0.8
SMF pmax pmax
comp=Z,23nm,1.4s
MFF Saint Martin d 163.91 6 *e*PKIKP **PKPdf** 21 53 47.8 -0.1
MFF pmax pmax
comp=Z,46nm,1.4s
BGF Bois d'Agland 164.03 358 *e*PKIKP **PKPdf** 21 53 47.6 -0.4
BGF pmax pmax
comp=Z,29nm,1.3s
PMPS Porto Santo 164.16 76 *e*PKPdf **PKPdf** 21 53 52.1 +3.6
PMPS Porto Santo 164.16 76 *e*PP PP 21 58 42.5 +14
TCF Toulx Ste Croi 164.31 360 *e*PKIKP **PKPdf** 21 53 47.7 -0.6
TCF pmax pmax
comp=Z,29nm,1.5s
EOSO Osorio 164.43 95 PKP **PKPdf** 21 53 51.3 +2.2
LPL La Plagne 164.64 348 *e*PKIKP **PKPdf** 21 53 50.0 +1.1
LPL pmax pmax
comp=Z,20nm,1.4s
SSB Saint Sauveur 165.19 353 **PKPdf** 21 53 48.6 -0.5
SSB PKPab **PKPab** 21 54 45.4 -1.0
SSB Saint Sauveur 165.19 353 PKP2 **PKPab** 21 54 45.4 -1.0
SSB 22 53 48.6
TIP Timpagrande 165.22 309 ⇓P **PKPdf** 21 53 50.9 +1.6
RJF Les Rejaudoux 165.29 2 *e*PKIKP **PKPdf** 21 53 48.9 -0.3
RJF pmax pmax
comp=Z,25nm,1.2s
ORIF Oris-en-Rattie 165.37 349 *e*PKIKP **PKPdf** 21 53 51.8 +2.5
ORIF pmax pmax
comp=Z,17nm,1.3s
MBDF Montbardon 165.40 347 *e*PKIKP **PKPdf** 21 53 49.5 0.0

MBDF				pmax	pmax			
	comp=Z,12nm,1.1s							
VIVF	**Saint-Julien-l**	**165.60**	**353**	*e*PKIKP	**PKPdf**	**21 53 49.2**	**-0.3**	
VIVF				pmax	pmax			
	comp=Z,37nm,1.6s							
CAF	**Calviac**	**165.68**	**0**	*e*PKIKP	**PKPdf**	**21 53 49.3**	**-0.2**	
CAF				pmax	pmax			
	comp=Z,14nm,1.0s							
PGAV	**Gavieira, Arco**	**165.92**	**33**	*e*PKPdf	**PKPdf**	**21 53 49.8**	**-0.1**	
PGAV	**Gavieira, Arco**	**165.92**	**33**	*e*PP	**PP**	**21 58 36.5**	**-0.3**	
PGAV	**Gavieira, Arco**	**165.92**	**33**	*e*SS	SS	22 19 24.7	+12	
PGAV	**Gavieira, Arco**	**165.92**	**33**	*e*LR	LR	22 52 02.0		
	comp=Z,1μm,22.0s							
PCAB	**Cabril**	**166.23**	**33**	*e*PKPdf	**PKPdf**	**21 53 51.5**	**+1.4**	
PCAB	**Cabril**	**166.23**	**33**	*e*PKPab	**PKPab**	**21 54 53.5**	**+2.4**	
POLO	**Lamas de Olo**	**166.60**	**34**	*e*PKPdf	**PKPdf**	**21 53 51.7**	**+1.2**	
POLO	**Lamas de Olo**	**166.60**	**34**	*e*PKPab	**PKPab**	**21 54 56.2**	**+3.3**	
POLO	**Lamas de Olo**	**166.60**	**34**	*e*PP	**PP**	**21 58 43.2**	**+2.8**	
POLO	**Lamas de Olo**	**166.60**	**34**	*e*SS	SS	22 19 29.8	+10	
ECAL	**Calabor**	**166.63**	**30**	PKP	**PKPdf**	**21 53 49.3**	**-1.1**	
PVRL	**Vila Real**	**166.71**	**34**	*e*PKPdf	**PKPdf**	**21 53 51.5**	**+1.0**	
PVRL	**Vila Real**	**166.71**	**34**	*e*PP	**PP**	**21 58 43.0**	**+2.1**	
PBRG	**Braganca**	**166.74**	**30**	*e*PKPdf	**PKPdf**	**21 53 52.2**	**+1.7**	
PBRG	**Braganca**	**166.74**	**30**	*e*PKPab	**PKPab**	**21 54 56.8**	**+3.4**	
PBRG	**Braganca**	**166.74**	**30**	*e*PP	**PP**	**21 58 43.0**	**+2.1**	
PBRG	**Braganca**	**166.74**	**30**	*e*SS	SS	22 19 33.3	+12	
PVIS	**Viseu**	**167.05**	**36**	*e*PKPdf	**PKPdf**	**21 53 51.7**	**+0.9**	
PVIS	**Viseu**	**167.05**	**36**	*e*PKPab	**PKPab**	**21 54 57.6**	**+2.8**	
PVIS	**Viseu**	**167.05**	**36**	*e*PP	PP	21 58 52.0	+9.3	
COI	**Coimbra**	**167.15**	**39**	*e*PKPdf	**PKPdf**	**21 53 52.6**	**+1.9**	
COI	**Coimbra**	**167.15**	**39**	*e*PP	**PP**	**21 58 47.4**	**+4.2**	
COI	**Coimbra**	**167.15**	**39**	*e*SS	SS	22 19 32.0	+6.5	
PCAS	**Casmilo, Conde**	**167.21**	**39**	*e*PKPdf	**PKPdf**	**21 53 51.8**	**+1.0**	
PCAS	**Casmilo, Conde**	**167.21**	**39**	*e*PKPab	**PKPab**	**21 54 58.9**	**+3.4**	
PCAS	**Casmilo, Conde**	**167.21**	**39**	*e*PP	**PP**	**21 58 46.6**	**+3.0**	
PCAS	**Casmilo, Conde**	**167.21**	**39**	*e*SS	SS	22 19 23.9	-2.3	
MTLF	**Montolieu**	**167.26**	**360**	*e*PKIKP	**PKPdf**	**21 53 50.4**	**-0.4**	
MTLF				pmax	pmax			
	comp=Z,22nm,1.3s							
PSBE	**So Bento**	**167.41**	**42**	*e*PKPdf	**PKPdf**	**21 53 52.8**	**+1.8**	
PSBE	**So Bento**	**167.41**	**42**	*e*PP	**PP**	**21 58 49.5**	**+4.8**	
PSBE	**So Bento**	**167.41**	**42**	*e*SS	SS	22 19 33.7	+5.2	
MTE	**Manteigas**	**167.46**	**36**	*e*PKPdf	**PKPdf**	**21 53 52.7**	**+1.6**	
MTE	**Manteigas**	**167.46**	**36**	*e*PP	**PP**	**21 58 49.1**	**+4.3**	
MTE	**Manteigas**	**167.46**	**36**	*e*SS	SS	22 19 37.8	+9.1	
MTE	**Manteigas**	**167.46**	**36**	*e*LQ	LQ	22 43 36.1		
MTE				*e*LR	LR	22 53 11.5		
	comp=Z,2μm,22.0s							
PMAFR	**Mafra**	**167.48**	**45**	PKP	**PKPdf**	**21 53 50.7**	**-0.4**	
EPF	**Esparros**	**167.49**	**6**	*e*PKIKP	**PKPdf**	**21 53 51.1**	**+0.1**	
EPF				pmax	pmax			
	comp=Z,17nm,1.1s							
ETSF	**Etsaut**	**167.52**	**9**	*e*PKIKP	**PKPdf**	**21 53 51.8**	**+0.7**	
ETSF				pmax	pmax			
	comp=Z,4.0nm,1.0s							
LIS	**Lisbon**	**167.71**	**46**	*e*PKPdf	**PKPdf**	**21 53 51.6**	**+0.4**	
LIS				*e*PP	**PP**	**21 58 47.5**	**+1.2**	
LIS				IAMs_20	IAMs_20	23 10 45.2		
	comp=N,13μm,75.1s							
LIS	**Lisbon**	**167.71**	**46**	*e*PKIKP	**PKPdf**	**21 53 51.6**	**+0.4**	
LIS				*e*		21 58 47.5		
PACT	**Alcochete**	**167.87**	**45**	*e*PKPdf	**PKPdf**	**21 53 57.2**	**+5.9**	
PACT	**Alcochete**	**167.87**	**45**	*e*PP	PP	21 58 55.4	+8.3	
PCBR	**Castelo Branco**	**167.91**	**38**	*e*PKPdf	**PKPdf**	**21 53 52.4**	**+1.1**	
PCBR	**Castelo Branco**	**167.91**	**38**	*e*PP	PP	21 58 26.8	-20	
CEST	**Esterri de Car**	**167.98**	**3**		**PKPdf**	**21 53 51.5**	**0.0**	
PMTG	**Montargil**	**168.04**	**42**	*e*PKPdf	**PKPdf**	**21 53 53.2**	**+1.8**	
PMTG	**Montargil**	**168.04**	**42**	*e*PP	**PP**	**21 58 52.2**	**+4.3**	
PMTG	**Montargil**	**168.04**	**42**	*e*SS	SS	22 19 40.3	+5.6	
EJON	**La Jonquera**	**168.13**	**357**	PKP	**PKPdf**	**21 53 49.9**	**-1.6**	
PMRV	**Marv??o**	**168.25**	**39**	*e*PKPdf	**PKPdf**	**21 53 52.6**	**+1.0**	
PMRV	**Marv??o**	**168.25**	**39**	*e*PKPab	**PKPab**	**21 55 00.1**	**0.0**	
PMRV	**Marv??o**	**168.25**	**39**	*e*PP	**PP**	**21 58 53.3**	**+4.4**	
PMRV	**Marv??o**	**168.25**	**39**	*e*SS	SS	22 19 36.4	-0.3	
PMRV	**Marv??o**	**168.25**	**39**	*e*LR	LR	22 52 55.3		
	comp=N,3μm,20.0s							
PNCL	**Nicolau / Gran**	**168.47**	**47**	*e*PKPdf	**PKPdf**	**21 53 52.7**	**+1.0**	
PNCL	**Nicolau / Gran**	**168.47**	**47**	*e*PP	**PP**	**21 58 50.3**	**+0.1**	
PNCL	**Nicolau / Gran**	**168.47**	**47**	*e*SS	SS	22 19 53.0	+14	
PNCL	**Nicolau / Gran**	**168.47**	**47**	PKP	**PKPdf**	**21 53 51.6**	**-0.2**	
EVO	**Evora**	**168.51**	**44**	*e*PKPdf	**PKPdf**	**21 53 52.6**	**+0.8**	
EVO	**Evora**	**168.51**	**44**	*e*PP	PP	21 58 58.4	+8.0	
EVO	**Evora**	**168.51**	**44**	PKP	**PKPdf**	**21 53 51.6**	**-0.2**	
PESTR	**Estremoz**	**168.54**	**41**	*e*PKPdf	**PKPdf**	**21 53 52.2**	**+0.4**	
PESTR	**Estremoz**	**168.54**	**41**	*e*PKPab	**PKPab**	**21 55 01.4**	**0.0**	
PESTR	**Estremoz**	**168.54**	**41**	*e*PP	**PP**	**21 58 54.5**	**+4.1**	
PESTR	**Estremoz**	**168.54**	**41**	*e*SS	SS	22 19 45.3	+5.6	
PESTR	**Estremoz**	**168.54**	**41**	PKP	**PKPdf**	**21 53 51.3**	**-0.5**	
PTEO	**Sao Teotonio**	**168.67**	**49**	*e*PKPdf	**PKPdf**	**21 53 51.6**	**-0.3**	
PTEO	**Sao Teotonio**	**168.67**	**49**	*e*PP	**PP**	**21 58 58.6**	**+7.3**	
MESJ	**Messejana**	**168.82**	**47**	*e*PKPdf	**PKPdf**	**21 53 53.1**	**+1.1**	
MESJ	**Messejana**	**168.82**	**47**	*e*PKPab	**PKPab**	**21 55 03.9**	**+1.2**	
MESJ	**Messejana**	**168.82**	**47**	*e*PP	**PP**	**21 58 56.2**	**+4.2**	
MESJ	**Messejana**	**168.82**	**47**	*e*PKPdf	**PKPdf**	**21 53 52.4**	**+0.4**	
MESJ				*e*PP	**PP**	**21 58 53.2**	**+1.2**	
MESJ				*e*SS	SS	22 19 45.5	+2.6	
MESJ				IAMs_20	IAMs_20	23 13 20.6		
	comp=Z,3μm,30.6s							
MESJ	**Messejana**	**168.82**	**47**	*e*PKIKP	**PKPdf**	**21 53 52.4**	**+0.4**	
MESJ				*e*		21 58 53.2		
MESJ				*e*SS	SS	22 19 45.5	+2.6	
PFVI	**Vila Bisbo**	**168.83**	**51**	*e*PKPdf	**PKPdf**	**21 53 54.4**	**+2.4**	
PFVI	**Vila Bisbo**	**168.83**	**51**	*e*PP	**PP**	**21 58 57.9**	**+5.7**	
PFVI	**Vila Bisbo**	**168.83**	**51**	*e*SS	SS	22 19 41.2	-2.0	
PFVI	**Vila Bisbo**	**168.83**	**51**	PKP	**PKPdf**	**21 53 52.1**	**+0.1**	
MORF	**Marmelete**	**168.86**	**50**	*e*PKPdf	**PKPdf**	**21 53 53.2**	**+1.1**	
MORF	**Marmelete**	**168.86**	**50**	*e*PP	**PP**	**21 58 57.1**	**+4.7**	
MORF	**Marmelete**	**168.86**	**50**	*e*SS	SS	22 19 37.1	-6.4	
MORF	**Marmelete**	**168.86**	**50**	*e*PKPdf	**PKPdf**	**21 53 52.4**	**+0.3**	
MORF				*e*PP	**PP**	**21 58 53.3**	**+1.0**	
MORF				*e*SS	SS	22 19 45.9	+2.4	
MORF				IAMs_20	IAMs_20	23 16 02.0		
	comp=Z,2μm,24.1s							
MORF	**Marmelete**	**168.86**	**50**	*e*PKIKP	**PKPdf**	**21 53 52.4**	**+0.3**	
PBEJ	**Beja**	**168.93**	**45**	*e*PKPdf	**PKPdf**	**21 53 56.7**	**+4.6**	
PBEJ	**Beja**	**168.93**	**45**	*e*PP	**PP**	**21 58 49.6**	**-2.9**	
EBAD	**Badajoz**	**168.94**	**40**	PKP	**PKPdf**	**21 53 51.6**	**-0.5**	
PCVE	**Castro Verde**	**169.06**	**47**	*e*PKPdf	**PKPdf**	**21 53 54.0**	**+1.8**	
PCVE	**Castro Verde**	**169.06**	**47**	*e*PKPab	**PKPab**	**21 55 07.0**	**+3.2**	
PCVE	**Castro Verde**	**169.06**	**47**	*e*PP	**PP**	**21 58 56.8**	**+3.5**	
PCVE	**Castro Verde**	**169.06**	**47**	*e*SS	SS	22 19 36.9	-8.4	
PCVE	**Castro Verde**	**169.06**	**47**	PKP	**PKPdf**	**21 53 52.7**	**+0.5**	
PBAR	**Barrancos**	**169.32**	**42**	*e*PKPdf	**PKPdf**	**21 53 53.4**	**+1.1**	
PBAR	**Barrancos**	**169.32**	**42**	*e*PP	**PP**	**21 58 55.0**	**+0.6**	
PBAR	**Barrancos**	**169.32**	**42**	*e*SS	SS	22 19 46.4	-1.2	
PBAR	**Barrancos**	**169.32**	**42**	PKP	**PKPdf**	**21 53 52.4**	**+0.1**	
PBDV	**Barranco-do-Ve**	**169.36**	**49**	*e*PKPdf	**PKPdf**	**21 53 53.6**	**+1.2**	
PBDV	**Barranco-do-Ve**	**169.36**	**49**	*e*PP	**PP**	**21 58 59.4**	**+4.5**	
PBDV	**Barranco-do-Ve**	**169.36**	**49**	*e*SS	SS	22 19 49.6	+1.2	
PBDV	**Barranco-do-Ve**	**169.36**	**49**	PKP	**PKPdf**	**21 53 52.4**	**0.0**	
PVAQ	**Vaqueiros**	**169.41**	**47**	*e*PKPdf	**PKPdf**	**21 53 54.6**	**+2.2**	
PVAQ	**Vaqueiros**	**169.41**	**47**	*e*PKPab	**PKPab**	**21 55 09.4**	**+4.1**	
PVAQ	**Vaqueiros**	**169.41**	**47**	*e*PP	**PP**	**21 58 59.2**	**+4.2**	
PVAQ	**Vaqueiros**	**169.41**	**47**	*e*SS	SS	22 19 51.2	+2.5	
PVAQ	**Vaqueiros**	**169.41**	**47**	*e*LQ	LQ	22 44 14.3		
PVAQ				*e*LR	LR	22 53 00.6		
	comp=Z,2μm,20.0s							
PVAQ	**Vaqueiros**	**169.41**	**47**	PKP	**PKPdf**	**21 53 52.4**	**0.0**	
PAB	**San Pablo**	**169.62**	**29**		**PKPdf**	**21 53 53.0**	**+0.4**	
PAB	**San Pablo**	**169.62**	**29**	‖PKIKP	**PKPdf**	**21 53 53.2**	**+0.6**	
ESDC	**Sonseca Array**	**169.67**	**27**	PKP	**PKPdf**	**21 53 53.2**	**+0.7**	
	comp=Z,19nm,1.2s,baz=342,slow=2.7,SNR=36							
ESDC				PKPab	**PKPab**	**21 55 06.6**	**+0.2**	
	comp=Z,10nm,1.1s,baz=333,slow=3.7,SNR=1.6							
ESDC				PP	**PP**	**21 58 55.8**	**+0.1**	
	comp=Z,5.3nm,1.3s,baz=340,slow=5.9,SNR=5.6							
KEST	**Kesra**	**172.02**	**312**	PKP	**PKPdf**	**21 53 54.2**	**+0.2**	
	comp=Z,10nm,1.1s,baz=182,slow=2.7,SNR=5.6							
KEST				PKPab	**PKPab**	**21 55 17.0**	**-0.1**	
	comp=Z,11nm,0.9s,baz=85,slow=1.5,SNR=4.8							

*TEH **07** 21:39:35.9, 34.°80N×45.°21E, h10km±45km, ML3.6*
*ISN **07** 21:39:37.5±1.1, 34.°79N×45.°25E, h19km±35km, ML3.4*
*DSN **07** 21:39:48.2±1.8, 34.°08N×45.°98E, h30km, Error ellipse:*
s-maj=37.9km s-min=10.2km az=71.0
ISC 07 21:39:36.7±1.3, **34.°78N**±0.°04×**45.°20E**±0.°04, **h16**km±11km,
n31, σ1**9**/**65**/36, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.42**	**130**	Pg	**Pg**	**21 39 44.9**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.89**	**138**	Pg	**Pb**	**21 39 53.5**	**-0.3**
IKRK	**Kirkuk**	**0.94**	**311**	*e*Pg	**Pn**	**21 39 56.0**	**+0.8**
IKRK				*e*Sg	**Sb**	**21 40 08.0**	**+1.3**
IDHR	**Dehrash**	**0.98**	**94**	Pg	**Pb**	**21 39 54.6**	**-0.8**
IDHR				Sg	**Sn**	**21 40 09.0**	**-0.7**
IGHG	**Ghaleghazi**	**1.22**	**111**	Pg	**Pb**	**21 39 59.8**	**+0.4**
IGHG				Sg	**Sg**	**21 40 16.9**	**+0.8**
SDS1	**Sardasht. Az.**	**1.38**	**10**	Pg	**Pb**	**21 40 02.4**	**+0.1**
ILBA	**Ilam Banvizeh**	**1.43**	**144**	Pg	**Pb**	**21 40 02.8**	**-0.1**
ILIN	**Lien**	**1.46**	**84**	Pg	**Pb**	**21 40 03.9**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.60**	**108**	Pg	**Pb**	**21 40 06.1**	**+0.1**
BHD	**Baghdad**	**1.65**	**205**	*e*Pn	**Pb**	**21 40 07.0**	**+0.3**
BHD				*e*Sn	**Sg**	**21 40 30.0**	**0.0**
BHD				AML	AML	21 40 32.9	
	comp=E,1μm,0.4s						
IBDR	**Badra**	**1.77**	**160**	*e*Pn	**Pb**	**21 40 09.0**	**+0.2**
IBDR				*e*Sn	**Sb**	**21 40 32.0**	**+1.2**
IBDR				AML	AML	21 40 39.9	
	comp=N,318nm,0.4s						
IBDR				AML	AML	21 40 46.2	
	comp=E,464nm,0.7s						
SNQR	**Sonqor, Kerman**	**2.00**	**87**	Pn	**Pb**	**21 40 11.9**	**-1.0**
IBZA	**Bozab**	**2.22**	**97**	Pn	**Pb**	**21 40 15.1**	**-1.4**
IKFM	**Kafar-mosalman**	**2.53**	**119**	Pn	**Pn**	**21 40 18.7**	**+1.7**
IDOB	**Doab**	**2.66**	**111**	Pn	**Pn**	**21 40 20.4**	**+1.4**
HSAM	**Samen**	**2.87**	**100**	Pn	**Pn**	**21 40 23.9**	**+1.9**
IAZR	**Azarshahr**	**2.96**	**12**	Pn	**Pn**	**21 40 24.2**	**+1.0**
IHSH	**Hashtrud**	**3.02**	**33**	Pn	**Pn**	**21 40 25.8**	**+1.6**
ISHB	**Shabestar**	**3.51**	**5**	Pn	**Pn**	**21 40 31.7**	**+0.9**
ISRB	**Sarab**	**3.63**	**33**	Pn	**Pn**	**21 40 34.6**	**+2.2**
JHBN	**Jahan bin**	**5.23**	**118**	Pn	**Pn**	**21 40 56.3**	**+1.8**
IKLH	**Kolahrood**	**5.49**	**104**	Pn	**Pn**	**21 41 00.6**	**+2.6**
KRSH	**Karshahi**	**5.79**	**96**	Pn	**Pn**	**21 41 04.3**	**+2.2**
IFIR	**Firoozkooh**	**6.24**	**80**	Pn	**Pn**	**21 41 10.1**	**+1.8**
KLNJ	**Kolanjah**	**6.56**	**123**	Pn	**Pn**	**21 41 14.2**	**+1.4**
ASUD	**Al Ashush, Dub**	**13.40**	**136**	*i* P	**Pn**	**21 42 44.7**	**-1.5**
	SNR=6.8						
FAQ	**Al Faqa, Dubai**	**13.46**	**135**	*i* P	**Pn**	**21 42 45.2**	**-1.8**
	SNR=6.8						
MDH	**Madha**	**13.47**	**132**	P	**Pn**	**21 42 44.0**	**-3.1**
UOSS	**Minazif**	**13.67**	**133**	P	**Pn**	**21 42 47.3**	**-2.6**
ASHO	**Ashiyiah**	**13.78**	**134**	*i* P	**Pn**	**21 42 48.1**	**-3.4**
	SNR=6.8						
MZR	**Muzera**	**13.79**	**146**	P	**Pn**	**21 42 48.9**	**-2.6**
MZR				S	Sn	21 45 12.3	-12

*NEIC **07** 21:50:12.9±0.7, 36.°98N±0.°01×97.°50W±0.°02, h5km±5km,*
Error ellipse: s-maj=2.0km s-min=1.7km az=211.0
*NEIC **07** 21:50:12.6±0.5, 36.°985N±0.°010×97.°50W±0.°01, h6km±5km,*
Error ellipse: s-maj=1.8km s-min=0.7km az=140.0
TUL 07 21:50:12.7±0.6, **36.°99N**±0.°01×**97.°50W**±0.°02, **h5**km±2km,
ML3.4, **mb_Lg3.2**/111(NEIC), **ML3.3**/16(NEIC),
ML3.5/50(NEIC), **Error ellipse: s-maj=2.2km**
s-min=1.2km az=55.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.03**	**28**		Pg	21 50 14.3	+0.5
KAN13				Sg	Sg	21 50 15.1	+0.4
KAN09	**Caldwell North**	**0.18**	**327**	Pg	Pg	21 50 16.9	+0.6
KAN17	**Caldwell West**	**0.22**	**285**		Pg	21 50 17.6	+0.5
KAN17				Sg	Sg	21 50 20.7	+0.7
KAN17				IAML		21 50 21.0	
	comp=E,11μm,0.3s						
KAN17				IAML		21 50 21.0	
	comp=N,9μm,0.3s						
KAN01	**Argonia South**	**0.27**	**309**		Pg	21 50 18.5	+0.6
KAN01				Sg	Sg	21 50 22.2	+0.7
KAN01				IAML		21 50 22.6	
	comp=N,10μm,0.4s						
BLOK	**Blackwell**	**0.32**	**135**	Pg	Pg	21 50 19.2	+0.4
GC02	**Grant County #**	**0.32**	**245**	Pg	Pg	21 50 19.2	+0.3
GC02				Sg	Sg	21 50 23.6	+0.4
KAN05	**Bluff City Nor**	**0.33**	**292**		Pg	21 50 19.4	+0.4
KAN05				IAML		21 50 24.2	
	comp=E,7μm,0.2s						
KAN05				IAML		21 50 28.0	
	comp=N,6μm,0.2s						
KS21	**Milan North St**	**0.33**	**336**		Pg	21 50 19.6	+0.5
KS21					Sg	21 50 24.5	+1.0
KAN14	**Manchester OK**	**0.38**	**266**		Pg	21 50 20.3	+0.3
KAN14					Sg	21 50 25.4	+0.5
KAN06	**Argonia West S**	**0.39**	**312**		Pg	21 50 20.6	+0.4
KAN06					Sg	21 50 26.1	+0.7
KAN06				IAML		21 50 26.5	
	comp=N,5μm,0.3s						
KAN06				IAML		21 50 27.9	
	comp=E,4μm,0.4s						
KAN08	**Anthony NE Sta**	**0.45**	**302**		Pg	21 50 21.6	+0.2
KAN08				IAML		21 50 28.3	
	comp=N,4μm,0.4s						
KAN08				IAML		21 50 29.8	
	comp=E,5μm,0.4s						
KAN10	**Anthony SW Sta**	**0.50**	**286**		Pg	21 50 22.8	+0.5
KAN10					Sg	21 50 29.5	+0.7
KAN12	**Harper NE Stat**	**0.51**	**308**		Pg	21 50 22.9	+0.4
KAN12					Sg	21 50 30.0	+0.8
OK032	**Salt Plains WL**	**0.60**	**253**		Pg	21 50 24.4	+0.1
OK032					Sg	21 50 32.5	+0.4
OK032				IAML		21 50 34.5	
	comp=E,4μm,0.3s						
OK032				IAML		21 50 38.2	
	comp=E,3μm,0.2s						
CROK	**Carrier**	**0.62**	**219**	Pg	Pg	21 50 24.8	+0.1
CROK				Sg	Sg	21 50 33.2	+0.5
OK051	**E0350 and S346**	**0.71**	**132**	Pg	Pg	21 50 26.5	+0.1
OK051				Sg	Sg	21 50 35.9	+0.2
OK051				IAML		21 50 37.7	
	comp=E,2μm,0.2s						
OK051				IAML		21 50 39.5	
	comp=E,2μm,0.1s						
OK048	**Pawnee Station**	**0.72**	**142**		Pg	21 50 26.6	0.0
OK048				IAML		21 50 36.5	
	comp=E,2μm,0.4s						
OK048				IAML		21 50 38.1	
	comp=E,3μm,0.4s						
T35A	**Sooner Cattle**	**0.79**	**95**		Pg	21 50 28.0	+0.2
T35A					Sg	21 50 38.5	+0.4
OK035	**E0210 Rd and N**	**1.01**	**254**	Pg	Pg	21 50 31.6	-0.5
OK035				IAML		21 50 54.7	
	comp=E,2μm,0.2s						
OK035				IAML		21 50 55.5	
	comp=E,2μm,0.4s						
OK038	**West end E0370**	**1.12**	**244**	Pg	Pg	21 50 33.7	-0.5
OK052	**Battle Ridge R**	**1.14**	**150**		Pg	21 50 34.2	-0.3
OK031	**S. Brethren Rd**	**1.16**	**153**	Pg	Pg	21 50 34.5	-0.4
OK031				IAML		21 50 52.2	
	comp=E,2μm,0.2s						
OK029	**Liberty Lake**	**1.19**	**178**	Pg	Pg	21 50 35.1	-0.4
OK029				IAML		21 50 54.8	
	comp=E,1μm,0.4s						
OK029				IAML		21 50 55.2	
	comp=E,907nm,0.3s						
NOKA	**Waynoka**	**1.21**	**254**	Pg	Pg	21 50 35.3	-0.5
NOKA				IAML		21 50 59.3	
	comp=E,1μm,0.3s						
NOKA				IAML		21 51 06.4	
	comp=N,1μm,0.2s						
ADOK	**Arcadia Dam**	**1.33**	**176**		Pn	21 50 37.4	-0.6
U32A	**Winter Ranch,**	**1.35**	**244**		Pn	21 50 37.6	-0.7
DEOK	**Depew**	**1.40**	**145**	Pg	Pn	21 50 38.5	-0.3
CSTR	**Hydro, Custer**	**1.65**	**216**		Pn	21 50 42.9	+0.6
FNO	**Franklin**	**1.73**	**177**		Pn	21 50 43.7	+0.3
R32A	**Long Quarter,**	**1.73**	**326**	Pg	Pn	21 50 43.9	+0.5
TUL3	**Leonard**	**1.74**	**127**	Pn	Pn	21 50 44.0	+0.4
W35A	**Tecumseh**	**1.90**	**164**		Pn	21 50 46.4	+0.7
RLO	**Rose Lookout**	**2.15**	**112**	Pn	Pn	21 50 49.8	+0.6
KSU1	**Kansas State U**	**2.22**	**18**		Pn	21 50 50.4	+0.2
KSU1				IAmb_Lg		21 51 28.8	
	comp=Z,114nm,0.8s						
X34A	**Smith Ranch, M**	**2.40**	**187**		Pn	21 50 53.6	+1.1
WMOK	**Wichita Mounta**	**2.47**	**205**		Pn	21 50 54.1	+0.4
CBKS	**Cedar Bluff**	**2.54**	**317**		Pn	21 50 54.4	-0.3
U38A	**Gravette**	**2.56**	**101**		Pn	21 50 55.6	+0.8
SMWD	**Samnorwood**	**2.91**	**231**	Pn	Pn	21 51 00.2	+0.5
HHAR	**Hobbs**	**2.94**	**103**		Pn	21 51 00.7	+0.6
HHAR				IAmb_Lg		21 51 48.1	
	comp=Z,48nm,0.8s						
X37A	**Clayton**	**2.95**	**144**		Pn	21 51 00.8	+0.6
LOOK	**Love County**	**3.00**	**175**		Pn	21 51 01.4	+0.6
WTFS	**Witchita Falls**	**3.31**	**194**		Pn	21 51 05.9	+0.8
S39A	**Bolivar**	**3.40**	**77**	Pn	Pn	21 51 06.6	+0.2
Z35A	**Perchaven, San**	**3.65**	**177**		Pn	21 51 10.5	+0.7
Z35A				IAmb_Lg		21 52 13.7	
	comp=Z,49nm,0.9s						
FW03	**Perrin-Whitt E**	**3.96**	**187**		Pn	21 51 15.6	+1.5
FW03				IAmb_Lg		21 52 20.6	
	comp=Z,44nm,0.7s						
AMTX	**Amarillo**	**3.99**	**240**	IAmb_Lg		21 52 24.1	
	comp=Z,51nm,0.8s						
P38A	**Dawn**	**4.08**	**49**	IAmb_Lg		21 52 33.7	
	comp=Z,35nm,0.7s						
MGMO	**Mountain Grove**	**4.18**	**86**	IAmb_Lg		21 52 28.6	
	comp=Z,37nm,0.7s						
APMT	**Aspermont**	**4.24**	**211**	IAmb_Lg		21 52 32.2	
	comp=Z,34nm,1.1s						
DKNS	**Dickens**	**4.34**	**221**	IAmb_Lg		21 52 38.6	
	comp=Z,55nm,1.2s						
TREL	**Terrell**	**4.40**	**164**	IAmb_Lg		21 52 43.9	
	comp=Z,40nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.47**	**103**	IAmb_Lg		21 52 42.8	
	comp=Z,35nm,0.8s						
FW16	**Waxahatchie**	**4.52**	**174**	IAmb_Lg		21 52 49.2	
	comp=Z,43nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.53**	**298**	IAmb_Lg		21 52 45.6	
	comp=Z,43nm,0.7s						
WHAR	**Wooly Hollow**	**4.54**	**110**	IAmb_Lg		21 52 39.2	
	comp=Z,66nm,0.9s						
FW14	**Alvarado**	**4.58**	**177**	IAmb_Lg		21 52 49.9	
	comp=Z,27nm,0.8s						
FW13	**Cleburne**	**4.62**	**179**	IAmb_Lg		21 52 40.2	
	comp=Z,30nm,1.0s						
ABTX	**Abilene, Hawle**	**4.70**	**203**	IAmb_Lg		21 52 43.4	
	comp=Z,29nm,0.8s						
UALR	**University of**	**4.73**	**116**	IAmb_Lg		21 52 52.8	
	comp=Z,44nm,0.8s						
WLAR	**White Oak Lake**	**4.87**	**131**	IAmb_Lg		21 52 51.4	
	comp=Z,46nm,0.8s						
SN05	**Snyder 5**	**4.95**	**215**	IAmb_Lg		21 52 56.4	
	comp=Z,27nm,0.8s						
P40A	**Paris**	**4.98**	**58**	IAmb_Lg		21 53 01.6	
	comp=Z,36nm,0.7s						
CCM	**Cathedral Cave**	**5.08**	**76**	IAmb_Lg		21 53 04.5	
	comp=Z,35nm,0.8s						
POST	**Post**	**5.11**	**221**	IAmb_Lg		21 53 02.3	
	comp=Z,28nm,0.8s						
237A	**Washetta, Mont**	**5.16

AU22	Augustine Moun	3.86	322		Pn	22 02 44.3 +1.1
P19K	Oil Pt	4.04	326		Pn	22 02 46.1 +0.4
P19K				IAML		22 04 15.2
	comp=E,95nm,0.6s					
KAHC	Katmai Hardscr	4.05	306		Pn	22 02 47.0 +1.1
ANCK	Angle Creek	4.07	299		Pn	22 02 47.9 +1.8
HIN	Hinchinbrook I	4.19	16		Pn	22 02 47.5 -0.2
SLKM	Skilak Lake	4.20	350		Pn	22 02 47.5 -0.3
KAIM	Kayak Island	4.22	31		Pn	22 02 47.9 -0.3
IVE	Iliamna Volcan	4.27	330		Pn	22 02 48.9 0.0
ILSW	Iliamna Southw	4.28	329		Pn	22 02 49.4 +0.3
ILSW				IAML		22 04 19.6
	comp=E,58nm,0.6s					
ILSW				IAML		22 04 21.8
	comp=N,34nm,0.8s					
PLK4	Peulik 4	4.33	290		Pn	22 02 51.0 +1.2
EYAK	Cordova Ski Ar	4.46	20		Pn	22 02 51.0 -0.4
FID	Port Fidalgo	4.53	14		Pn	22 02 51.9 -0.4
FID				IAML		22 04 25.3
	comp=E,42nm,0.8s					
FID				IAML		22 04 35.9
	comp=N,39nm,1.1s					
SUCK	Suckling Hills	4.53	33		Pn	22 02 52.7 +0.3
SUCK				IAML		22 04 22.2
	comp=N,64nm,1.0s					
SUCK				IAML		22 04 35.7
	comp=E,45nm,1.4s					
RAGM	Ragged Mountai	4.54	27		Pn	22 02 52.8 +0.1
RED	Redoubt Volcan	4.55	334		Pn	22 02 52.3 -0.5
P18K	Big Mountain,	4.57	314		Pn	22 02 52.9 -0.1
GLI	Glacier Island	4.58	10		Pn	22 02 52.9 -0.1
GLI				IAML		22 04 26.0
	comp=E,51nm,0.7s					
GLI				IAML		22 04 53.4
	comp=N,27nm,1.2s					
RSO	Redoubt South	4.58	334		Pn	22 02 51.9 -1.4
HMT	Hamilton	4.61	29		Pn	22 02 53.7 +0.2
DFR	Drift River	4.68	336		Pn	22 02 54.6 +0.1
RDJH	Redoubt Jeurge	4.71	335		Pn	22 02 54.9 -0.1
NCT	North Crescent	4.71	334		Pn	22 02 54.8 -0.2
RC01	Rabbit Creek A	4.74	354		Pn	22 02 55.2 0.0
RC01				IAML		22 04 24.5
	comp=N,32nm,1.2s					
RC01				IAML		22 04 27.1
	comp=E,40nm,0.9s					
FIS	Fire Island	4.82	352		Pn	22 02 54.8 -1.5
GRIN	Grindle Hills	4.84	34		Pn	22 02 56.7 +0.1
O18K	Koktuh Hills	4.87	318		Pn	22 02 57.0 0.0
O18K				IAML		22 04 43.8
	comp=N,28nm,0.8s					
SNH	Sunshine Point	4.92	37		Pn	22 02 57.5 -0.2
SNH				IAML		22 04 46.9
	comp=E,34nm,1.0s					
SNH				IAML		22 04 57.8
	comp=N,32nm,1.1s					
P17K	Kvichak River	4.97	308		Pn	22 02 59.5 +1.1
KHIT	Khitrov Hills	4.99	33		Pn	22 02 59.0 +0.2
DIV	Divide	5.00	17		Pn	22 02 58.1 -0.8
BMRM	Bremner River	5.07	24		Pn	22 03 00.1 +0.2
SPU	Mount Spurr	5.10	342		Pn	22 03 00.4 +0.2
SPU				IAML		22 04 39.6
	comp=E,16nm,0.7s					
SPU				IAML		22 04 41.1
	comp=N,16nm,0.8s					
WAX	Waxell Ridge	5.12	35		Pn	22 03 00.1 -0.4
WAX				IAML		22 04 36.8
	comp=E,43nm,0.6s					
SUA	Susitna One	5.19	349		Pn	22 03 00.9 -0.6
SUA				IAML		22 05 04.2
	comp=E,16nm,1.3s					
SPCG	Spurr Capps Gl	5.19	342		Pn	22 03 01.9 +0.3
MESA	MESA	5.22	41		Pn	22 03 02.4 +0.3
MESA				IAML		22 04 41.1
	comp=N,30nm,0.9s					
MESA				IAML		22 05 31.9
	comp=E,23nm,0.8s					
CRQM	Cirque	5.27	32		Pn	22 03 02.6 -0.1
CRQM				IAML		22 04 37.4
	comp=E,38nm,0.6s					
KLU	Klutina	5.32	15		Pn	22 03 03.5 +0.2
KLU				IAML		22 04 35.9
	comp=N,23nm,0.7s					
KLU				IAML		22 04 43.5
	comp=E,29nm,0.7s					
N19K	Bonanza Creek	5.34	328		Pn	22 03 03.2 -0.4
CHGN	Chignik	5.37	273	Pn	Pn	22 03 04.3 +0.5
CHGN				IAML		22 04 06.8
	comp=N,26nm,0.5s					
CHGN				IAML		22 04 07.8
	comp=E,26nm,0.7s					
SPNN	North Nagishla	5.39	339		Pn	22 03 04.8 +0.5
BAGL	Bagley Icefiel	5.40	38		Pn	22 03 04.8 +0.5
SML	Sawmill	5.43	2		Pn	22 03 04.8 0.0
SCM	Sheep Creek Mo	5.50	7		Pn	22 03 06.4 +0.6
O17K	Koliganek Bris	5.57	311		Pn	22 03 07.7 +1.1
VRDI	Verde Repeater	5.58	27	Pn	Pn	22 03 05.6 -1.3
SAMH	Samovar Hills	5.64	45		Pn	22 03 08.8 +1.1
N25K	Chitina, Valde	5.65	21		Pn	22 03 08.3 +0.5
GLB	Gilahina Butte	5.67	25		Pn	22 03 07.8 -0.3
GRNC	Granite Creek	5.69	37		Pn	22 03 08.3 -0.2
N18K	Kilae Creek	5.69	322		Pn	22 03 08.0 -0.3
TABL	Table Mountain	5.70	41		Pn	22 03 08.7 +0.1
SKT	Skwentna	5.78	347	Pn	Pn	22 03 09.6 +0.1
MCARA	McCarthy VSAT	5.82	28	Pn	Pn	22 03 10.8 +0.8
PCA	Pinnacle	5.83	47		Pn	22 03 10.3 +0.1
M24K	Tolsona, Glenn	5.88	12		Pn	22 03 12.3 +1.4
O16K	Kokwok River B	5.91	307	Pn	Pn	22 03 11.7 +0.5
M20K	Styx River	5.94	340		Pn	22 03 11.8 -0.1
BCPM	Bancas Point	6.00	50		Pn	22 03 12.8 +0.2
N17K	Nushagak Hills	6.05	317		Pn	22 03 12.7 -0.6
M19K	Big River Lodg	6.24	335		Pn	22 03 14.9 -0.8
M18K	Stony River	6.28	327		Pn	22 03 16.7 +0.3
CNBA	Chernabura Isl	6.33	260	Pn	Pn	22 03 16.6 -0.5
O15K	Ungalikthiuk R	6.54	300		Pn	22 03 21.4 +1.4
L19K	White Mountain	6.59	334		Pn	22 03 20.0 -0.6
O29M	Mount Kennedy	6.64	50		Pn	22 03 21.8 +0.4
P29M	Windy Craggy	6.70	56		Pn	22 03 21.6 -0.5
M17K	Holitna River	6.73	322		Pn	22 03 22.5 -0.1
DHY	Denali Highway	6.74	5		Pn	22 03 24.3 +1.5
S31K	Pelican	6.99	72		Pn	22 03 24.6 -1.5
CAST	Castle Rocks	7.24	348	Pn	Pn	22 03 30.8 +1.3
HYT	Haines Junctio	7.37	48	Pn	Pn	22 03 31.5 +0.1

*IDC **07** 22:11:31.2±1.5, 0.°34N×125.°99E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=164.6km s-min=20.4km az=65.0*
*NEIC **07** 22:11:36.0±1.3, 0.°32N±0.°08×125.°96E±0.°04, h30km±9km, mb4.0/7, Error ellipse: s-maj=12.7km s-min=4.2km az=200.0*
ISC 07 22:11:36.7±0.9, **0.°3N**±0.°1×**125.°97E**±0.°07, **h44**km, **n16**, σ0§**86**/17, **mb4.0/8, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.48	71		Pn	22 12 00.5	-0.5
TNTI				Sn	Sn	22 12 18.9	-0.2
LUWI	Luwuk	3.46	248	Pn	Pn	22 12 27.7	-0.4
TOLI2	Tolitoli	5.25	279	Pn	Pn	22 12 52.0	-0.7
KNRA	Kununurra	16.10	170	Pn	Pn	22 15 20.1	0.0
KNRA				IAmb	IAmb	22 15 41.5	
	comp=Z,14nm,1.1s						
WB0	Warramunga Arr	21.57	158	P	P	22 16 22.2	-0.6
WB0				IAmb	IAmb	22 16 42.7	
	comp=Z,14nm,1.4s						
WRA	Warramunga Arr	21.71	158	P	P	22 16 23.3	-1.1
WRA	Warramunga Arr	21.71	158	P	P	22 16 23.9	-0.4
	comp=Z,1.8nm,0.6s,baz=337,slow=12,SNR=21						
	comp=Z,1.8nm,0.6s						
AS31	Alice Springs	25.03	163	P	P	22 16 58.0	+1.1
AS31				IAmb	IAmb	22 17 06.4	
	comp=Z,2.0nm,1.4s						
ASAR	Alice Springs	25.03	163	P	P	22 16 58.4	+1.5
ASAR	Alice Springs	25.03	163	P	P	22 16 58.0	+1.1
	comp=Z,0.4nm,0.3s,baz=342,slow=10,SNR=16						
	comp=Z,0.4nm,0.3s						
KNMB	Chin-men Tao	25.13	344	P	P	22 16 57.9	+0.1
MK31	Makanchi Array	59.96	327	P	P	22 21 38.6	-0.2
MK31				IAmb	IAmb	22 21 42.9	
	comp=Z,1.3nm,1.1s						
MKAR	Makanchi Array	59.96	327	P	P	22 21 38.3	-0.4
MKAR	Makanchi Array	59.96	327	P	P	22 21 38.1	-0.6
	comp=Z,0.7nm,0.6s,baz=121,slow=8.2,SNR=11						
	comp=Z,0.7nm,0.6s						
KURBB	Kurchatov Arra	64.23	329	P	P	22 22 08.7	+1.5
	comp=Z,0.9nm,0.6s,baz=144,slow=6.9,SNR=9.9						
	comp=Z,0.9nm,0.6s						
KURK	Kurchatov	64.24	329	P	P	22 22 07.9	+0.7
KURK				IAmb	IAmb	22 22 11.3	
	comp=Z,2.5nm,0.8s						

*IDC **07** 22:21:11.7±1.3, 0.°44N×126.°25E, h0km, mb3.7/4, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=53.0km s-min=20.6km az=69.0*
*NEIC **07** 22:21:13.4±0.9, 0.°36N±0.°09×126.°04E±0.°06, h10km±1km, mb4.1/8, Error ellipse: s-maj=16.3km s-min=8.6km az=339.0*
ISC 07 22:21:16.7±0.9, **0.°33N**±0.°10×**126.°11E**±0.°08, **h44**km, **n19**, σ1§**31**/21, **mb3.9/7, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.33	71		Pn	22 21 38.7	-0.2
TNTI					Sn	22 21 57.3	+1.9
LUWI	Luwuk	3.60	248	Pn	Pn	22 22 08.9	-1.2
TOLI2	Tolitoli	5.38	278	Pn	Pn	22 22 31.6	-2.9
KAPI	Kappang	8.28	230	Pn	Pn	22 23 14.6	+0.4
KAPI	Kappang	8.28	230	Pn	Pn	22 23 15.9	+1.7
	1.0nm,0.3s,baz=180,slow=7.1,SNR=10						
KAPI				Sn	Sn	22 24 46.4	-0.1
	0.8nm,0.3s,baz=195,slow=20,SNR=1.6						
	3.0nm,0.3s						
KNRA	Kununurra	16.12	171	Pn	Pn	22 24 59.7	-0.6
KNRA				IAmb	IAmb	22 25 09.0	
	comp=Z,40nm,1.4s						
WB0	Warramunga Arr	21.56	158	P	P	22 26 01.5	-1.1
WB0				IAmb	IAmb	22 26 07.8	
	comp=Z,8.7nm,0.8s						
WRA	Warramunga Arr	21.70	159	P	P	22 26 03.8	-0.3
WRA	Warramunga Arr	21.70	159	P	P	22 26 04.1	0.0
	comp=Z,1.3nm,0.5s,baz=336,slow=12,SNR=13						
	comp=Z,1.3nm,0.5s						
COEN	Coen	22.07	131	P	P	22 26 06.0	-2.1
AS31	Alice Springs	25.03	163	P	P	22 26 37.2	+0.4
ASAR	Alice Springs	25.03	163	P	P	22 26 37.5	+0.6
ASAR	Alice Springs	25.03	163	P	P	22 26 38.8	+1.9
	comp=Z,0.5nm,0.3s,baz=342,slow=11,SNR=15						
	comp=Z,0.5nm,0.3s						
STKA	Stephens Creek	35.23	157		P	22 28 07.7	+0.7
STKA				IAmb	IAmb	22 28 23.8	
	comp=Z,2.4nm,1.4s						
MK31	Makanchi Array	60.01	327	P	P	22 31 19.3	+0.4
MK31				IAmb	IAmb	22 31 48.4	
	comp=Z,1.0nm,1.1s						
MKAR	Makanchi Array	60.01	327	P	P	22 31 19.4	+0.5
MKAR	Makanchi Array	60.01	327	P	P	22 31 20.0	+1.1
	comp=Z,0.6nm,0.6s,baz=119,slow=8.1,SNR=8.7						
	comp=Z,0.6nm,0.6s						
KURBB	Kurchatov Arra	64.27	329	P	P	22 31 48.7	+1.3
	comp=Z,0.7nm,0.6s,baz=128,slow=6.1,SNR=7.7						
	comp=Z,0.7nm,0.6s						
KURK	Kurchatov	64.28	329	P	P	22 31 47.8	+0.4

*IDC **07** 22:25:49.5±1.1, 0.°30N×98.°71E, h0km, mb3.9/9, mbtmp3.9/10, ML4.3/1, Error ellipse: s-maj=40.1km s-min=18.8km az=64.0*
*DJA **07** 22:25:55.5±0.6, 0.°N±4.°×9.°9E±.°, h22km±8km, M4.3/10, mb4.5/2, MLv4.2/10*
*NEIC **07** 22:25:57.1±1.6, 0.°39N±0.°10×98.°55E±0.°08, h50km±12km, mb4.2/12, Error ellipse: s-maj=16.8km s-min=8.5km az=217.0*
ISC 07 22:25:55.4±0.6, **0.°32N**±0.°05×**98.°49E**±0.°06, **h43**km, **n42**, σ1§**15**/42, **mb4.1**/12, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	Pulau Batu	0.43	210	P	Pn	22 26 06.6	+1.1
PBSI				S	Sn	22 26 13.0	+0.5
SBSI	Sibolga	1.28	18	P	Pn	22 26 18.0	+1.1
GSI	Gunungsitoli	1.34	317		Pn	22 26 19.3	+1.6
GSI	Gunungsitoli	1.34	317	P	Pn	22 26 19.1	+1.4
GSI				S	Sn	22 26 36.4	+2.1
SISI	Saibi	1.74	160	P	Pn	22 26 24.7	+1.5
PDSI	Padang	2.32	122	P	Pn	22 26 32.6	+1.4
BKNI	Bangkinang	2.55	90		Pn	22 26 35.3	+1.0
BKNI	Bangkinang	2.55	90	P	Pn	22 26 37.9	+3.6
KCSI	Kotacane, Aceh	3.26	347	P	Pn	22 26 45.0	+0.9
MLSI	Meulaboh, Aceh	4.44	332	P	Pn	22 27 00.7	+0.4
LHMI	Lhok Sumawe	5.11	342	Pn	Pn	22 27 09.0	-0.6
LHMI	Lhok Sumawe	5.11	342	P	Pn	22 27 10.6	+1.0
	93nm,0.9s,0.4nm						
KULM	Kulim	5.38	24	Pn	Pn	22 27 13.9	+0.6
MNAI	Manna	6.44	136	Pn	Pn	22 27 28.8	+0.9
SRIT	Nakonsritamara	8.29	8	Pn	Pn	22 27 53.2	0.0
UBPT	Khong Chiam	16.38	25	Pn	Pn	22 29 42.3	-0.2
CMAR	Chiang Mai Arr	18.03	1	P	Pn	22 30 01.9	-1.0
	0.4nm,0.3s,baz=183,slow=11,SNR=7.6						
	1.1nm,0.3s						
TOLI2	Tolitoli	22.30	88	P	P	22 30 48.5	-0.9
SHL	Shillong	25.90	346	P	P	22 31 22.8	-0.9
H08S2	Diego Garcia H	27.11	252	T	T	22 59 29.1	
	baz=74,slow=75,SNR=84						
H08S3	Diego Garcia H	27.11	253	T	T	22 59 29.4	
	baz=74,slow=75,SNR=90						
H08S1	Diego Carcia H	27.12	252	T	T	22 59 30.5	
	baz=74,slow=75,SNR=90						
WRA	Warramunga Arr	40.48	122	P	P	22 33 28.2	-2.2
	0.2nm,0.4s,baz=303,slow=9.6,SNR=2.2						
	0.2nm,0.4s						
ASAR	Alice Springs	41.84	127	P	P	22 33 39.8	-1.8
	0.4nm,0.6s,baz=301,slow=7.9,SNR=9.9						
ASAR				PcP	PcP	22 35 37.8	+0.7
	0.3nm,0.6s,baz=321,slow=2.7,SNR=4.3						
	0.4nm,0.6s						
BJT	Baijiatuau	42.67	20	P	P	22 33 48.0	0.0
KSRS	Korea Array	45.85	33	P	P	22 34 13.0	-0.5
	1.5nm,0.6s,baz=211,slow=7.7,SNR=4.7						
	1.5nm,0.6s						
ARSB	Arslanbob	46.89	334	P	P	22 34 22.6	+0.8
SONM	Songino Array	47.82	7	P	P	22 34 29.4	+0.5
SONM				IAmb	IAmb	22 34 30.6	
	comp=Z,1.9nm,1.0s						
SONM	Songino Array	47.82	7	P	P	22 34 29.5	+0.5
	comp=Z,1.3nm,0.6s,baz=192,slow=9.1,SNR=7.3						
SONM				PcP	PcP	22 35 58.2	+0.9
	comp=Z,1.3nm,0.7s,baz=197,slow=4.0,SNR=3.6						
	comp=Z,1.3nm,0.6s						
MK31	Makanchi Array	48.41	345	P	P	22 34 33.4	+0.1
MK31				IAmb	IAmb	22 34 34.8	
	comp=Z,1.7nm,0.8s						
MKAR	Makanchi Array	48.41	345	P	P	22 34 33.7	+0.3
MKAR	Makanchi Array	48.41	345	P	P	22 34 33.9	+0.5
	comp=Z,3.1nm,0.8s,baz=156,slow=7.6,SNR=25						
	comp=Z,3.1nm,0.8s						
MAKZ	Makanchi	48.50	345	P	P	22 34 34.3	+0.3
MAKZ				IAmb	IAmb	22 34 35.4	
	comp=Z,1.9nm,0.8s						
USRK	Ussuriysk Ar.	52.87	30	P	P	22 35 06.0	-0.9
USRK	Ussuriysk Ar.	52.87	30	P	P	22 35 05.7	-1.2
	comp=Z,2.2nm,0.8s,baz=234,slow=7.6,SNR=6.5						
	comp=Z,2.2nm,0.8s						
KURBB	Kurchatov Arra	52.91	344	P	P	22 35 07.7	+0.6
	comp=Z,0.8nm,0.7s,baz=163,slow=6.3,SNR=5.4						
	comp=Z,0.8nm,0.7s						
ZALV	Zalesovo Beam	54.63	350	P	P	22 35 18.9	-0.7
ZALV	Zalesovo Beam	54.63	350	P	P	22 35 20.3	+0.6
	comp=Z,1.0nm,0.3s,baz=190,slow=6.9,SNR=7.3						
	comp=Z,1.0nm,0.3s						
BRVK	Borovoye	57.56	340	P	P	22 35 40.2	-0.4
BRVK				IAmb	IAmb	22 35 41.1	
	comp=Z,1.5nm,0.7s						
FINES	FINESS Array B	81.37	332	P	P	22 38 07.4	0.0
	comp=Z,1.0nm,0.8s,baz=65,slow=11,SNR=3.7						
	comp=Z,1.0nm,0.8s						
TXAR	Lajitas Array	143.70	34	PKP	PKPbc	22 45 25.2	+1.0
	comp=Z,0.2nm,0.6s,baz=292,slow=2.8,SNR=2.4						
CPUP	Villa Florida	145.20	220	PKPbc	PKPdf	22 45 29.6	+0.4
	comp=Z,1.5nm,0.7s,baz=170,slow=4.7,SNR=5.0						

*IDC **07** 23:05:24.8±12.0, 17.°85S×177.°85W, h451km±115km, mb3.4/3, mbtmp4.2/3, Error ellipse: s-maj=97.9km s-min=39.7km az=125.0*
ISC 07 23:05:24.6±1.9, **17.°8S**±0.°5×**177.°9W**±0.°4, **h450**km, **n19**, σ0§**79**/18, **mb3.6/3, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.30	254	P	P	23 13 01.2	+0.1
	5.2nm,0.6s,baz=86,slow=8.8,SNR=28						
	5.2nm,0.6s						
MJAR	Matsushiro Arr	68.16	323	P	P	23 15 38.8	0.0
	0.8nm,0.5s,baz=150,slow=5.7,SNR=4.5						
	0.8nm,0.5s						
ILAR	Eielson Array	85.71	13	P	P	23 17 14.5	+0.1
	0.4nm,0.4s,baz=218,slow=5.3,SNR=11						
	0.4nm,0.4s						
ARCES	ARCESS Array B	126.34	350	PKP	PKPdf	23 23 33.9	-0.8
	1.4nm,1.1s,baz=46,slow=2.6,SNR=4.6						
EKA	Eskdalemuir Ar	142.36	5	PKhKP	PKPpre	23 24 00.7	
	0.1nm,0.3s,baz=288,slow=2.9,SNR=3.9						
BRTR	Keskin Array B	145.10	315	PKPbc	PKPdf	23 24 10.2	-0.1
	1.6nm,0.5s,baz=124,slow=4.1,SNR=14						
MMAI	Mount Meron Ar	146.53	303	PKPbc	PKPbc	23 24 14.6	-0.6
	2.1nm,0.4s,baz=73,slow=7.1,SNR=18						
GERES	GERESS Array B	147.68	346	PKPbc	PKPbc	23 24 17.5	-0.2
	1.1nm,0.4s,baz=18,slow=5.6,SNR=10.0						
CONA	Conrad Observa	147.96	342	*i* PKP	PKPbc	23 24 18.4	0.0
	1.5nm,0.5s						
RONA	Rosalia, Austr	148.03	342	*e*PKP	PKPbc	23 24 18.9	+0.3
	2.0nm,0.6s						
LESA	Schwarzleotal	149.25	346	*i* PKP	PKPbc	23 24 21.3	-0.4
	1.1nm,0.4s						
SOKA	Soboth	149.33	342	*e*PKiKP	PKiKP	23 24 23.8	+1.0
	2.1nm,1.3s						
WATA	Walderalm	149.57	347	*e*PKP	PKPbc	23 24 21.9	-0.6
	2.0nm,0.6s						
RETA	Reutte	149.59	348	*e*PKiKP	PKiKP	23 24 25.2	+1.9
WTTA	Wattenberg	149.63	347	*i* PKP	PKPbc	23 24 22.4	-0.3
	3.6nm,0.6s						
MYKA	Terra Mystica	149.75	344	*e*PKP	PKPbc	23 24 21.7	-1.2
	2.2nm,0.5s						
SQTA	Sankt Quirin	149.76	348	*i* PKP	PKPbc	23 24 22.5	-0.5
	2.4nm,0.6s						
ABTA	Abfaltersbach	149.92	346	*i* PKP	PKPbc	23 24 22.2	-1.1
	2.0nm,0.6s						
FETA	Feichten	150.05	348	*e*PKP	PKPbc	23 24 23.4	-0.3
	1.8nm,0.8s						

*IDC **07** 23:05:39.4±1.8, 6.°11S×129.°83E, h0km, mb4.0/3, mbtmp4.1/5, ML4.5/2, Error ellipse: s-maj=137.3km s-min=28.0km az=70.0*
*NEIC **07** 23:05:52.7±2.0, 6.°27S±0.°08×130.°1E±0.°1, h131km±9km, mb4.0/4, Error ellipse: s-maj=17.1km s-min=10.1km az=110.0*
ISC 07 23:05:53.2±0.8, **6.°32S**±0.°08×**130.°12E**±0.°09, **h146**km, **n29**, σ1§**82**/30, **mb3.8/5, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.03	145	P	Pn	23 06 29.2	+0.8
SAUI	Saumlaki	2.03	145		Pn	23 06 28.7	+0.3
SAUI					Sn	23 06 54.2	-1.3
FAKI	Fak Fak	3.99	32	P	Pn	23 06 51.7	-1.5
FAKI	Fak Fak	3.99	32		Pn	23 06 51.4	-1.8
DRS	Darwin Rock St	6.12	173	P	Pn	23 07 21.1	-0.5
MTN	Manton Dam	6.56	171	P	Pn	23 07 26.6	-0.8
MTN	Manton Dam	6.56	171		Pn	23 07 26.4	-1.0
SOEI	Soe	6.73	239		Pn	23 07 29.0	-0.7
KDU	Kakadu	6.74	160	P	Pn	23 07 28.6	-1.2
KNRA	Kununurra	9.40	188	Pn	Pn	23 08 03.2	-2.1
FITZ	Fitzroy Crossi	12.50	200	Pn	Pn	23 08 43.2	-2.9
WB0	Warramunga Arr	14.00	163		Pn	23 09 02.4	-2.9
WRA	Warramunga Arr	14.15	164	Pn	Pn	23 09 03.2	-4.1
WRA	Warramunga Arr	14.15	164	Pn	Pn	23 09 04.0	-3.3
	2.8nm,0.3s,baz=345,slow=13,SNR=36						
	4.3nm,0.4s						
WB1	Warramunga Ar.	14.17	164	P	Pn	23 09 05.8	-1.7
COEN	Coen	14.92	122	P	P	23 09 19.7	+0.8
COEN	Coen	14.92	122		Pn	23 09 18.1	+1.2
QIS	Mount Isa	16.89	148	P	Pn	23 09 43.0	+2.0
AS31	Alice Springs	17.63	168	P	Pn	23 09 49.8	-0.2
ASAR	Alice Springs	17.63	168		Pn	23 09 50.0	+0.1
ASAR	Alice Springs	17.63	168	P	Pn	23 09 50.4	+0.4
	1.4nm,0.3s,baz=345,slow=11,SNR=54						
	3.1nm,0.4s						
PSA00	Pilbara Seismi	18.13	212		Pn	23 09 54.2	-1.7
MK31	Makanchi Array	67.72	327	P	P	23 16 36.2	+1.3
MK31				IAmb	IAmb	23 16 37.9	
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	67.72	327	P	P	23 16 36.3	+1.4
MKAR	Makanchi Array	67.72	327	P	P	23 16 37.2	+2.3
	comp=Z,1.6nm,0.6s,baz=124,slow=7.8,SNR=20						
	comp=Z,1.6nm,0.6s						
ZALV	Zalesovo Beam	71.03	334	P	P	23 16 55.8	+0.8
ZALV	Zalesovo Beam	71.03	334	P	P	23 16 56.6	+1.6
	comp=Z,0.5nm,0.4s,baz=131,slow=5.9,SNR=2.4						
	comp=Z,0.5nm,0.4s						
KURBB	Kurchatov Arra	71.99	328	P	P	23 17 02.8	+1.9
	comp=Z,0.5nm,0.5s,baz=123,slow=5.1,SNR=8.3						
	comp=Z,0.5nm,0.5s						
QSPA	South Pole Qui	83.66	180	P	P	23 18 06.2	+0.9
QSPA				IAmb	IAmb	23 18 17.8	
	comp=Z,3.5nm,1.2s						

*NEIC **07** 23:10:47.7, 41.°66S×84.°94E, h24km, Moment Tensor Solution. Duration: 2§4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.04; $M_{\theta\theta}$1.39; $M_{\phi\phi}$-1.43; $M_{r\theta}$-0.45; $M_{\theta\phi}$-0.05; $M_{\phi r}$0.09; Fault plane solution: $M_0$1.48000×10^{17} NP1: ϕ_s317.30000°, δ80.40000°, λ14.63000°. NP2: ϕ_s224.81000°, δ75.58000°, λ170.09000°. Principal axes: T 1.5299, Plg17.0000°, Azm182.0000°; N -0.0923, Plg73.0000°, Azm350.0000°; P -1.4376, Plg3.0000°, Azm91.0000°;*
*NEIC **07** 23:10:47.6±1.2, 41.°90S±0.°07×84.°7E±0.°2, h10km±1km, mb4.9/46, Mww5.4/14 Error ellipse: s-maj=20.8km s-min=10.7km az

baz=164,slow=75,SNR=386
H08S1 Diego Carcia H 35.73 339 T T 23 55 20.4
baz=164,slow=75,SNR=409
H08S3 Diego Garcia H 35.75 339 T T 23 55 22.4
baz=164,slow=75,SNR=555
MBWA Marble Bar 35.90 66 P **P 23 17 48.0 -0.4**
MBWA IAmb IAmb 23 17 56.0
comp=Z,41nm,1.4s
VOI Vohitsoka 37.47 290 P **P 23 18 00.6 -1.4**
ELIB Princess Elisa 42.04 204 *d*P **P 23 18 42.5 +3.1**
comp=Z,3.3nm,1.2s
ASAR Alice Springs 44.48 82 P **P 23 18 60.0 +0.3**
ASAR Alice Springs 44.48 82 P **P 23 18 59.4 -0.3**
comp=Z,3.0nm,0.8s,baz=233,slow=7.6,SNR=11
ASAR PcP **PP 23 20 46.0 +2.7**
comp=Z,1.1nm,1.0s,baz=204,slow=2.0,SNR=2.2
ASAR LR LR 23 35 33.0
comp=Z,2μm,20.1s,baz=242,slow=33
comp=Z,3.0nm,0.8s
AS31 Alice Springs 44.48 82 P **P 23 18 59.1 -0.6**
STKA Stephens Creek 45.81 97 P **P 23 19 11.6 +1.4**
comp=Z,3.6nm,0.9s,baz=185,slow=12,SNR=2.7
STKA LR LR 23 34 34.7
comp=Z,1μm,21.3s,baz=243,slow=31
comp=Z,3.6nm,0.9s
VNDA Vanda 46.79 163 P **P 23 19 16.8 -0.4**
VNDA IAmb IAmb 23 19 37.8
comp=Z,17nm,1.7s
VNDA Vanda 46.79 163 P **P 23 19 18.0 +0.8**
comp=Z,0.6nm,0.8s,baz=295,slow=7.1,SNR=3.6
VNDA LR LR 23 37 03.5
comp=Z,813nm,20.6s,baz=274,slow=34
comp=Z,0.6nm,0.8s
WRA Warramunga Arr 47.07 78 P **P 23 19 20.5 +0.4**
WRA Warramunga Arr 47.07 78 P **P 23 19 20.8 +0.7**
comp=Z,4.5nm,0.8s,baz=231,slow=7.5,SNR=11
WRA LR LR 23 37 16.3
comp=Z,290nm,18.0s,baz=230,slow=34
comp=Z,4.5nm,0.8s
WB2 Warramunga Arr 47.07 78 P **P 23 19 20.2 0.0**
WB2 IAmb IAmb 23 19 39.6
comp=Z,30nm,1.6s
SOEI Soe 47.13 59 P **P 23 19 18.6 -2.2**
WR0 Warramunga Arr 47.20 78 P **P 23 19 20.1 -1.0**
WR0 IAmb IAmb 23 19 28.8
comp=Z,14nm,1.1s
WB0 Warramunga Arr 47.22 78 P **P 23 19 20.2 -1.1**
SBA Scott Base 47.83 164 P **P 23 19 23.7 -1.6**
SBA IAmb IAmb 23 20 11.4
comp=Z,15nm,1.5s
QSPA South Pole Qui 48.33 180 P **P 23 19 28.5 -1.1**
QSPA IAmb IAmb 23 19 47.5
comp=Z,20nm,1.4s
QSPA South Pole Qui 48.33 180 P **P 23 19 29.4 -0.1**
comp=Z,3.6nm,1.0s,baz=358,slow=0.3,SNR=8.2
QSPA LR LR 23 37 54.9
comp=Z,826nm,21.9s,baz=300,slow=34
comp=Z,3.6nm,1.0s
PALK Pallekele 48.99 355 LR LR 23 35 16.6
comp=Z,3μm,21.4s,baz=314,slow=30
BOSA Boshof 49.46 265 LR LR 23 37 02.2
comp=Z,920nm,19.5s,baz=67,slow=32
SUR Sutherland 50.81 259 LR LR 23 36 48.6
comp=Z,393nm,20.1s,baz=34,slow=31
TOLI2 Tolitoli 53.73 47 P **P 23 20 07.0 -3.5**
BELA Belgrano 2 55.13 193 P **P 23 20 19.2 -0.7**
BELA IAmb IAmb 23 21 24.4
comp=Z,16nm,1.9s
LSZ Lusaka 55.15 281 P **P 23 20 19.5 -1.6**
LSZ IAmb IAmb 23 20 56.7
comp=Z,20nm,1.8s
CTA Charters Tower 55.80 87 P **P 23 20 27.1 +1.5**
comp=Z,0.4nm,0.8s,baz=222,slow=5.3,SNR=4.1
CTA LR LR 23 42 51.0
comp=Z,38nm,18.1s,baz=240,slow=34
comp=Z,0.4nm,0.8s
TSUM Tsumeb 60.58 270 LR LR 23 43 30.0
comp=Z,970nm,21.2s,baz=40,slow=32
CM31 Chiang Mai Arr 61.39 15 P **P 23 21 03.9 -0.4**
CM31 IAmb IAmb 23 21 10.7
comp=Z,16nm,1.2s
CMAR Chiang Mai Arr 61.39 15 P **P 23 21 03.8 -0.6**
CMAR Chiang Mai Arr 61.39 15 P **P 23 21 06.0 +1.7**
comp=Z,5.1nm,1.0s,baz=211,slow=7.2,SNR=10
CMAR LR LR 23 43 36.6
comp=Z,288nm,21.4s,baz=270,slow=32
comp=Z,5.1nm,1.0s
PHRA Phrae 61.70 17 P **P 23 21 06.4 0.0**
CHTO Chiang Mai 61.74 15 P **P 23 21 06.2 -0.5**
PMG Port Moresby 63.28 78 LR LR 23 47 42.9
comp=Z,590nm,18.2s,baz=200,slow=35
CRAI Chiangrai 63.41 16 P **P 23 21 17.3 -0.4**
CRAI IAmb IAmb 23 21 24.4
comp=Z,5.6nm,1.0s
ATD Arta Tunnel 65.59 314 LR LR 23 43 26.7
comp=Z,19nm,20.2s,baz=314,slow=30
FURI Furi 65.78 309 LR LR 23 45 09.2
comp=Z,482nm,21.7s,baz=342,slow=31
SHL Shillong 67.37 7 P **P 23 21 42.5 -1.0**
SMAI San Martin Ant 68.35 191 P **P 23 21 47.3 -1.7**
SMAI IAmb IAmb 23 22 21.1
comp=Z,6.4nm,1.0s
WSAR Wadi Sarin 69.11 334 LR LR 23 44 50.7
comp=Z,1μm,21.1s,baz=219,slow=30
DZM Mont Dzumac 69.61 102 *e*SS SS 23 35 33.2 -0.5
comp=Z,453nm,33.2s
DZM *e*LR LR 23 42 59.3
comp=Z,977nm,23.9s
DZM Mont Dzumac 69.61 102 LR LR 23 47 22.9
comp=Z,549nm,21.3s,baz=255,slow=32
PMSA Palmer Station 70.96 194 LR LR 23 52 42.1
comp=Z,676nm,20.1s,baz=130,slow=36
LSA Lhasa 71.41 6 P **P 23 22 08.0 -0.8**
LSA IAmb IAmb 23 22 16.5
comp=Z,12nm,1.1s
HNR Honiara 72.74 87 LR LR 23 51 00.0
comp=Z,4μm,21.1s,baz=244,slow=33
RAYN Ar Rayn 74.48 323 P **P 23 22 27.5 +0.9**
NIL Nilore 75.84 350 P **P 23 22 33.7 -0.5**
RAO Raoul Island 76.13 117 P **P 23 22 34.9 -1.4**
RAO Raoul Island 76.13 117 LR LR 23 50 51.5
comp=Z,151nm,18.7s,baz=3.0,slow=32
KBL Kabul 77.35 347 P **P 23 22 43.2 +0.2**
KBL IAmb IAmb 23 22 51.0
comp=Z,15nm,1.1s
CHGR Chuyangaron 81.35 348 P **P 23 23 04.5 -0.1**
CHGR IAmb IAmb 23 23 10.1
comp=Z,9.3nm,0.9s
SIMJ Simiganj 81.38 348 P **P 23 23 05.1 +0.3**
GAR Garm 81.51 349 P **P 23 23 04.8 -0.7**
GAR IAmb IAmb 23 23 12.8
comp=Z,15nm,1.0s
DRK Karamyk 81.78 350 P **P 23 23 07.2 +0.1**
GTA Gaotai 82.00 12 *e*P P 23 23 14.4 +6.3
GTA pP pwP 23 23 23.5 +8.9
GTA pmax pmax
comp=Z,9.0nm,1.0s
BTK Batken 82.48 349 P **P 23 23 09.7 -0.8**
BTK IAmb IAmb 23 23 19.2
comp=Z,7.1nm,0.9s
GEYT Alibeck 83.01 339 P **P 23 23 11.7 -1.5**
GEYT Alibeck 83.01 339 P **P 23 23 16.2 +2.9**
comp=Z,4.7nm,0.9s,baz=224,slow=4.0,SNR=3.7
GEYT LR LR 23 54 26.3
comp=Z,293nm,20.8s,baz=160,slow=32
comp=Z,4.7nm,0.9s
TARG Taragay, Kyrgy 83.41 355 P **P 23 23 15.5 -0.1**
ARSB Arslanbob 83.45 351 P **P 23 23 15.3 -0.2**
AAK Ala-Archa 84.58 352 LR LR 23 58 14.0
comp=Z,476nm,18.8s,baz=226,slow=34
EIL Elat 84.68 318 LR LR 23 55 31.4
comp=Z,359nm,20.0s,baz=146,slow=32
KK31 Karatay Array 85.51 350 P **P 23 23 25.8 0.0**
KK31 IAmb IAmb 23 23 34.2
comp=Z,7.8nm,1.1s
KKAR Karatay Array 85.51 350 P **P 23 23 25.8 0.0**
KKAR Karatay Array 85.51 350 P **P 23 23 25.1 -0.6**
KKAR IAmb IAmb 23 23 34.2
comp=Z,7.8nm,1.1s
JCJ Chichijima 86.69 49 P **P 23 23 31.6 -0.4**
MMAI Mount Meron Ar 87.20 320 LR LR 23 56 49.7
comp=Z,196nm,21.6s,baz=94,slow=32
KSAR Wonju Array Be 88.16 33 P **P 23 23 38.7 -0.1**
KSRS Korea Array 88.19 33 P **P 23 23 41.2 +2.3**
comp=Z,1.6nm,0.8s,baz=217,slow=5.8,SNR=1.8
comp=Z,1.6nm,0.8s
MK31 Makanchi Array 88.26 358 P **P 23 23 39.0 -0.1**
MKAR Makanchi Array 88.26 358 P **P 23 23 39.1 0.0**
MKAR Makanchi Array 88.26 358 P **P 23 23 40.9 +1.8**
comp=Z,2.1nm,1.0s,baz=152,slow=5.5,SNR=9.0
MKAR LR LR 00 00 45.2
comp=Z,666nm,20.7s,baz=284,slow=34
comp=Z,2.1nm,1.0s
MAKZ Makanchi 88.28 358 P **P 23 23 39.2 0.0**
MAKZ IAmb IAmb 23 23 46.7
comp=Z,5.0nm,1.0s
GNI Garni 89.31 330 LR LR 23 58 43.9
comp=Z,222nm,21.0s,baz=151,slow=32
SONM Songino Array 91.31 14 P **P 23 23 55.4 +1.9**
comp=Z,2.6nm,0.9s,baz=199,slow=4.7,SNR=8.0
comp=Z,2.6nm,0.9s
KURBB Kurchatov Arra 92.22 356 P **P 23 23 59.6 +2.2**
comp=Z,1.9nm,1.0s,baz=188,slow=4.5,SNR=11
KURBB LR LR 00 03 32.8
comp=Z,436nm,19.2s,baz=198,slow=34
comp=Z,1.9nm,1.0s
BR131 Keskin Array S 93.50 323 **P 23 24 05.2 +1.3**
BR131 IAmb IAmb 23 24 10.8
comp=Z,2.5nm,0.7s
BRTR Keskin Array B 93.50 323 **P 23 24 05.6 +1.8**
BRTR Keskin Array B 93.50 323 LR LR 00 02 26.7
comp=Z,185nm,19.9s,baz=153,slow=33
TORD Torodi Ar. Bea 93.57 284 LR LR 00 03 27.2
comp=Z,337nm,20.2s,baz=125,slow=34
DBIC Dimbokro 94.11 275 LR LR 00 00 46.7
comp=Z,404nm,21.6s,baz=126,slow=32
AKTO Aktyubinsk 94.81 343 LR LR 00 06 14.2
comp=Z,166nm,19.4s,baz=180,slow=35
ZALV Zalesovo Beam 95.39 0 LR LR 00 05 02.0
comp=Z,322nm,20.3s,baz=222,slow=34
TBI Tubuai 98.04 131 *e*LQ LQ 23 52 05.0
comp=Z,1μm,25.0s
TBI *e*LR LR 23 56 16.4
comp=Z,869nm,24.5s
TBI *e*LR LR 23 56 16.9
comp=Z,774nm,24.8s
BELG Belogornoye 99.19 338 LR LR 00 07 15.6
comp=Z,104nm,19.6s,baz=118,slow=34
KLR Kul'dur 99.64 29 LR LR 00 06 07.7
comp=Z,234nm,21.9s,baz=328,slow=33
PPT2 Papeete2 102.48 127 *e*LQ LQ 23 54 00.1
comp=Z,740nm,24.8s
PPT2 *e*LR LR 23 58 15.0
comp=Z,436nm,28.0s
PPT2 *e*LR LR 23 58 20.3
comp=Z,300nm,28.5s
FYU Fort Yukon 143.23 31 PKPdf **PKPdf 23 30 22.4 +1.2**
E29M Blow River 145.15 26 PKPbc **PKPdf 23 30 24.4 -0.1**
M26K Nabesna, AK 145.28 37 PKPbc **PKPab 23 30 25.9 +0.9**
MCARA McCarthy VSAT 145.49 39 **PKPab 23 30 25.9 +0.1**
CRQM Cirque 145.57 40 PKPdf **PKPab 23 30 26.0 -0.2**
BCAR Beaver Creek A 145.65 36 PKPdf **PKPab 23 30 26.4 0.0**
G29M Pine Creek 145.77 28 **PKPab 23 30 27.1 +0.4**
ISLE Juniper Island 145.98 40 PKPdf **PKPbc 23 30 27.2 0.0**
I29M Ogilvie Camp, 146.31 31 PKPbc **PKPab 23 30 28.5 -0.3**

NOU 07 23:19:19.7, 16°.20S×167°.02E, h23km, MLv4.0/7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YATNC	Mamie plateau,	5.83	181	P	Pn	23 20 45.0	+0.2
DZM	Mont Dzumac	5.87	185	P	Pn	23 20 45.2	-0.2
NOUC	Port Laguerre	5.91	186	P	Pn	23 20 45.7	-0.2
OUENC	Ouen Island, N	6.19	182	P	Pn	23 20 49.8	+0.1

IDC 07 23:23:55.8±5.5, 30°.10S×177°.83W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=356.3km s-min=71.1km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.27	267	P	P	23 31 59.2	-0.2
	0.3nm,0.5s,baz=105,slow=6.9,SNR=4.6						
	0.3nm,0.5s						
WRA	Warramunga Arr	44.23	272	P	P	23 32 07.1	-0.1
	0.7nm,0.5s,baz=112,slow=7.6,SNR=5.1						
	0.7nm,0.5s						
FINES	FINESS Array B	144.91	340	PKP	PKPbc	23 43 33.6	+0.3
	0.8nm,0.8s,baz=45,slow=4.1,SNR=5.1						

RSNC 07 23:29:31.1±0.0, 11°.N±3°.×7°.7W±°., h20km±6km, M2.6, mb3.7, mB5.5, ML2.5, Mw(mB)4.9, North of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJCC	San Jacinto, C	1.60	120	P	Pn	23 29 56.2	-2.1
SJCC				S	Sn	23 30 17.1	-1.3
CAPC	Capurgana	2.20	200	P	Pn	23 30 06.3	-0.2
CAPC				S	Sn	23 30 32.0	-1.1
ARGC	Ariguani, Magd	2.45	110	P	Pn	23 30 09.4	-0.6
ARGC				S	Sn	23 30 39.2	-0.1
APAC	Apartado, Choc	2.79	180	P	Pn	23 30 14.3	-0.4
APAC				S	Sn	23 30 46.9	-0.9
UREC	San Jos de Ur	3.12	161	P	Pn	23 30 18.4	-0.8
UREC				S	Sn	23 30 50.8	-5.0
BCIP	Isla Barro Col	3.56	245	P	Pn	23 30 23.5	-1.7
BCIP				S	Sn	23 31 01.4	-5.3
ZARC	Zaragoza, Cauc	3.62	152	P	Pn	23 30 24.6	-1.5
ZARC				S	Sn	23 31 04.0	-4.3
CRJC	Cerrejon, Guaj	3.65	85	P	Pn	23 30 22.6	-3.9
CRJC				S	Sn	23 31 04.9	-4.1
OCAC	Ocana	4.05	127	P	Pn	23 30 29.7	-2.4
OCAC				S	Sn	23 31 15.4	-3.6
URIC	Uribia, Colomb	4.61	77	P	Pn	23 30 36.5	-3.2
URIC				S	Sn	23 31 30.2	-2.4
PTBC	PUERTO BERRIO,	4.64	153	P	Pn	23 30 38.0	-2.2
PTBC				S	Sn	23 31 28.5	-5.1
PAMC	Pamplona, Colo	5.09	131	P	Pn	23 30 46.1	-0.6
PAMC				S	Sn	23 31 43.9	-1.3
GUY2C	Guyana, Caldas	5.58	167	P	Pn	23 30 54.6	+1.1

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*CATAC **07** 23:40:21.5±0.7, 10°.55N×86°.09W, h2km±5km, ML3.2*
*UCR **07** 23:40:22.5±0.9, 10°.55N×86°.12W, h34km±3km, MW3.7*
ISC 07 23:40:21.9±1.9, 10°.54N±0°.05×86°.13W±0°.07, h20km±5km, n24, σ0°.63/30, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DELF	Filadelfia	0.57	99	*e*P	Pn	23 40 35.1	+0.2
ELI1	Hacienda Flor	0.57	79	*e*P	Pn	23 40 34.9	0.0
ELI1				*e*S	Sn	23 40 44.6	+0.8
LCRUZ	La Cruz	0.72	42	*e*P	Pn	23 40 37.6	+0.6
LCRUZ				*e*S	Sn	23 40 49.0	+1.5
VRLE	La Escondida,	0.79	72	*e*P	Pg	23 40 37.2	-0.2
GPS2	Hotel Rincn d	0.79	74	*e*P	Pg	23 40 37.3	-0.1
VORI	VORI	0.81	70	*e*P	Pg	23 40 37.7	-0.2
INDI	Punta indio, G	0.91	137	*i* P	Pb	23 40 38.7	-0.3
INDI				*i* S	Sb	23 40 49.8	-0.9
INDI				IAML		23 41 03.4	
comp=Z,360nm,1.0s							
COLC	Colonia	0.91	82	*e*P	Pb	23 40 39.3	+0.1
COLC				*e*S	Sn	23 40 52.0	-0.3
CUI	Cuipilapa	0.95	83	*e*P	Pb	23 40 39.9	+0.1
CUI				*e*S	Sg	23 40 52.9	-0.2
JAPN	AI SSO del Vol	1.07	24	*i* P	Pg	23 40 42.6	-0.2
JAPN				IAML		23 40 42.9	
comp=Z,870nm,1.0s							
OMEN	AI SSO del Vol	1.08	27	*i* P	Pn	23 40 42.1	+0.1
OMEN				IAML		23 41 03.2	
comp=Z,840nm,1.0s							
MORN	AI O del Volca	1.10	25	*i* P	Pn	23 40 42.7	+0.4
MORN				IAML		23 41 04.0	
comp=Z,1μm,1.0s							
JTS	Las Juntas de	1.18	102	*e*P	Pn	23 40 42.8	-0.6
ARE1	Arenal 1	1.39	93	*e*P	Pb	23 40 46.8	-0.4
CEDE	Laguna Cedeo	1.40	92	*e*P	Pn	23 40 46.9	+0.5
VACR	Volcan Arenal	1.43	93	*e*P	Pb	23 40 47.5	-0.3
SOCE	Pocosol	1.49	96	*i* P	Pb	23 40 49.2	+0.2
SOCE				IAML		23 40 57.3	
comp=Z,240nm,1.0s							
SAPS	Ciudad Sandino	1.64	350	*i* P	Pb	23 40 51.3	-0.2
SAPS				IAML		23 41 14.9	
comp=Z,260nm,1.0s							
ACON	Acoyapa	1.70	33	*i* P	Pn	23 40 50.3	-0.1
ACON				IAML		23 41 26.1	
comp=Z,170nm,1.0s							
ACON	Acoyapa	1.70	33	*e*P	Pn	23 40 50.4	-0.1
BOAB	BOACO BROADBAN	.95	13	*i* P	Pn	23 40 53.9	0.0
BOAB				*i* S	Sb	23 41 20.2	-0.5
BOAB				IAML		23 41 33.7	
comp=Z,67nm,1.0s							
CNGA	AI SSO del Vol	2.02	344	*i* P	Pb	23 40 57.0	-1.1
CNGA				IAML		23 41 18.0	
comp=Z,160nm,1.0s							
LCR2	La Lucha 2	2.23	111	*i* P	Pn	23 40 59.3	+1.3
LCR2				IAML		23 41 54.2	
comp=Z,70nm,1.0s							
PKGN	Cerro Pekin	2.27	339	*i* P	Pn	23 40 59.8	+1.4
PKGN				IAML		23 41 27.8	
comp=Z,300nm,1.0s							

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*NNC **07** 23:46:02.7±2.8, 47°.82N×85°.72E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=24.3km s-min=14.9km az=120.0*
*SOME **07** 23:46:07.1, 47°.68N×85°.08E, h0km*
*ASRS **07** 23:46:08.9±0.3, 48°.N±2°.×8°.5E±°., h9km, MLh3.5/10, Error ellipse: s-maj=5.1km s-min=2.8km az=138.8, confirmed*
ISC 07 23:46:07.9±1.2, 47°.98N±0°.03×85°.30E±0°.03, h4km±10km, n28, σ2°.15/65, 4C-7D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	Zaisan	0.60	209	*e*P	Pg	23 46 16.5	-2.9
ZSN	34nm,0.1s						
				*e*S	Sg	23 46 23.8	-3.5
	403nm,0.3s						
DGZ	Jazzator, Alta	2.23	38	Pn	Pn	23 46 45.5	-0.2
DGZ				Pg	Pg	23 46 52.8	+2.2
DGZ				S	Sn	23 47 13.6	-0.1
DGZ				Sg	Sg	23 47 21.3	+1.9
MK31	Makanchi Array	2.36	241	⇑Pn	Pn	23 46 45.1	-2.4
	1.8nm,0.2s,baz=80,slow=15,SNR=291						
MK31				⇑Sn	Sn	23 47 17.7	+0.8
	18nm,0.3s,baz=50,slow=40,SNR=5.2						
MK31				⇓Lg	Lg	23 47 27.4	
	56nm,0.7s,baz=73,slow=29,SNR=6.1						
MKAR	Makanchi Array	2.36	241	Pn	Pn	23 46 47.2	-0.2
MKAR				Pg	Pg	23 46 54.6	+1.5
MKAR				Sg	Sb	23 47 19.4	-1.1
MAKZ	Makanchi	2.54	244	⇓Pn	Pn	23 46 50.3	+0.4
	12nm,0.5s						
MAKZ				⇓Sn	Sn	23 47 23.0	+1.7
	43nm,0.5s						
MAKZ	Makanchi	2.54	244	Pn	Pn	23 46 50.9	+1.0
MAKZ				Pg	Pg	23 46 57.8	+1.2
MAKZ				Sg	Sb	23 47 23.8	-1.9
CHBI	Chibit, Altay	2.75	31	Pn	Pn	23 46 52.8	0.0
CHBI				Pg	Pg	23 47 01.6	+1.0
CHBI				S	Sb	23 47 28.8	-2.9
CHBI				Sg	Sg	23 47 40.1	+3.9
AKAR	Aktash	2.80	32	Pn	Pn	23 46 53.5	0.0
AKAR				Pg	Pg	23 47 02.3	+0.8
AKAR				S	Sn	23 47 29.7	+2.0
AKAR				Sg	Sg	23 47 42.0	+4.2
CUR	Chagan-Uzun	2.92	42	Pn	Pn	23 46 54.4	-0.9
CUR				Pg	Pg	23 47 04.4	+0.5
CUR				S	Sn	23 47 29.9	-1.0
CUR				Sg	Sg	23 47 40.8	-1.0
UKR	Ust'-Kan	2.98	354	Pn	Pn	23 46 56.4	+0.3
UKR				Pg	Pg	23 47 04.9	-0.1
UKR				S	Sb	23 47 34.4	-4.0
UKR				Sg	Sg	23 47 46.1	+2.4
ULGR	Ulagan, Altay	3.17	32	Pn	Pn	23 47 00.6	+1.9
ULGR				Pg	Pg	23 47 08.2	-0.4
ULGR				Sg	Sg	23 47 53.5	+3.8
ELDR	Elanda	3.28	9	Pn	Pn	23 46 60.0	-0.1
ELDR				Pg	Pg	23 47 08.7	-2.1
ELDR				S	Sb	23 47 43.1	-3.9
ELDR				Sg	Sg	23 47 54.9	+1.6
GALT	Gorno-Altaysk,	4.01	6	Pg	Pg	23 47 24.2	-0.4
GALT				Sg	Sg	23 48 18.8	+2.2
ARTR	Artybash	4.03	18	Pg	Pg	23 47 23.3	-1.8
ARTR				Sg	Sg	23 48 19.6	+2.2
YALR	Yailyu, Altay	4.08	21	Pg	Pb	23 47 21.0	+0.7
YALR				Sg	Sg	23 48 17.0	-1.9
SEM	Semipalatinsk	4.11	308	*e*P	Pg	23 47 25.4	-1.1
	10nm,0.4s						
SEM				*e*S	Sg	23 48 22.0	+2.2
	29nm,0.3s						
SEM	Semipalatinsk	4.11	308	Pg	Pg	23 47 25.4	-1.1
	10nm,0.4s						
SEM				Lg	Lg	23 48 22.0	
	31nm,0.4s						
TEL	Teeli	4.41	45	Pn	Pn	23 47 13.9	-1.8
TEL				Pg	Pg	23 47 32.9	+0.5
TEL				Sg	Sg	23 48 26.8	-2.8
KAPS	Kapalarasan	4.90	239	*e*P	Pb	23 47 33.5	-0.7
	2.2nm,0.1s						
KAPS				*e*S	Sb	23 48 35.1	+1.6
	12nm,0.2s						
KAPS	Kapalarasan	4.90	239	Pg	Pb	23 47 35.2	+1.0
	2.4nm,0.1s						
KAPS				Lg	Lg	23 48 39.0	
	23nm,0.3s						
KURK	Kurchatov	5.15	305	⇑Pn	Pn	23 47 24.1	-1.6
	4.3nm,1.0s						
KURK				⇓Lg	Lg	23 48 54.5	
	23nm,0.6s						
KURK	Kurchatov	5.15	305	Pg	Pg	23 47 43.6	-2.9
KURK				Sg	Sg	23 48 55.2	+2.0
KURBB	Kurchatov Arra	5.16	303	⇑Pn	Pn	23 47 23.1	-2.7
	1.5nm,0.5s						
KURBB				⇓Lg	Lg	23 48 59.6	
	61nm,0.7s						
DJR	Jarkent	5.28	228	*e*P	Pb	23 47 40.5	-0.3
	1.7nm,0.2s						
DJR				*e*S	Sb	23 48 47.1	+2.5
	3.0nm,0.2s						
DJR	Jarkent	5.28	228	Pg	Pb	23 47 40.8	0.0
	1.7nm,0.2s						
DJR				Lg	Lg	23 48 48.2	
	9.3nm,0.6s						
BLB	Baldybastay	6.13	233	Pg	Pb	23 47 56.2	+0.9
	9.3nm,0.4s						
BLB				Lg	Lg	23 49 14.6	
	17nm,0.8s						
PDGK	Podgornoye	6.18	223	⇓Pn	Pn	23 47 36.0	-4.0
	1.2nm,0.4s						
PDGK				⇓Lg	Lg	23 49 24.2	
	12nm,0.7s						
ARXS	Arharly	6.41	237	*e*P	Pb	23 48 01.3	+1.2
	1.2nm,0.4s						
ARXS				*e*S	Sb	23 49 23.0	+5.9
	7.3nm,0.5s						

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*IDC **08** 00:08:07.9±6.8, 24°.67S×179°.16W, h466km±64km, mb3.2/3, mbtmp4.1/5, Error ellipse: s-maj=64.4km s-min=41.7km az=52.0*
ISC 08 00:08:06.0±5.6, 24°.6S±0°.3×179°.0W±0°.6, h450km, n6, σ0°.89/6, mb3.7/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.61	278	P	P	00 11 03.3	+0.8
	4.3nm,0.7s,baz=101,slow=18,SNR=2.3						
URZ	Urewera	13.98	193	P	P	00 11 06.6	+0.5
	4.6nm,0.6s,baz=166,slow=3.6,SNR=1.1						
URZ				S	S	00 13 34.4	-0.3
	12nm,0.9s,baz=348,slow=8.4,SNR=2.2						
STKA	Stephens Creek	35.30	249	P	P	00 14 21.8	0.0
	1.1nm,0.3s,baz=69,slow=8.6,SNR=5.4						
	1.1nm,0.3s						
ASAR	Alice Springs	42.82	261	P	P	00 15 22.5	-0.6
	0.6nm,0.4s,baz=96,slow=7.8,SNR=20						
	0.6nm,0.4s						
WRA	Warramunga Arr	43.27	267	P	P	00 15 25.7	-1.0
	1.6nm,0.4s,baz=103,slow=8.0,SNR=10						
	1.6nm,0.4s						
HFS	Hagfors	143.44	349	PKP	PKPbc	00 26 47.8	+1.7
	1.6nm,0.9s,baz=69,slow=4.8,SNR=2.1						

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*HVO **08** 00:43:21.4±0.9, 19°.41N±0°.01×155°.263W±0°.008, h0km±3km, ML3.3/42, ML3.2/38(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=178.0*
*NEIC **08** 00:43:22.0±1.2, 19°.388N±0°.010×155°.253W±0°.009, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.8km az=146.0*

*IDC **08** 00:43:25.6±20.0, 18.°71N×156.°14W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=433.9km s-min=58.2km az=36.0.*

ISC 08 00:43:21.6±1.4,**19.°43N**±0.°04×**155.°25W**±0.°03,**h10**km,**n32**, σ0.°**72**/28,**mb3.8**/3,**Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATHI	**Halema'uma'u T**	**0.01**	**244**	Pg	**Pg**	**00 43 22.1**	**-1.4**
SBLHI	**Steaming Bluff**	**0.02**	**266**		**Pg**	**00 43 22.5**	**-1.0**
BYL	**Byron's Ledge**	**0.02**	**212**	Pg	**Pg**	**00 43 22.0**	**-1.5**
UWB	**Uwekahuna B**	**0.03**	**262**		**Pg**	**00 43 22.9**	**-0.6**
KKO	**Keanakako`i**	**0.03**	**208**		**Pg**	**00 43 22.7**	**-0.9**
OBL	**Observatory Le**	**0.04**	**252**		**Pg**	**00 43 23.0**	**-0.6**
RIM	**Rim**	**0.04**	**215**		**Pg**	**00 43 23.1**	**-0.5**
UWE	**Uwekahuna**	**0.04**	**260**	Pg	**Pg**	**00 43 22.5**	**-1.2**
RSD	**Rainshed**	**0.04**	**322**	Pg	**Pg**	**00 43 23.1**	**-0.7**
RSD				IAML		00 43 24.0	
	comp=N,17μm,0.5s						
WRMHI	**West Rim**	**0.05**	**246**		**Pg**	**00 43 24.1**	**+0.3**
SDHHI	**Sand Hill**	**0.06**	**228**		**Pg**	**00 43 24.2**	**+0.4**
PUH	**Pauahi**	**0.06**	**150**	Pg	**Pg**	**00 43 23.4**	**-0.5**
PUH				IAML		00 43 24.2	
	comp=N,10μm,0.3s						
PUH				IAML		00 43 24.6	
	comp=E,14μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.09**	**123**	Pg	**Pg**	**00 43 24.2**	**+0.1**
STCH	**Steam Cracks**	**0.12**	**110**		**Pg**	**00 43 24.7**	**+0.1**
STCH				IAML		00 43 27.8	
	comp=N,8μm,0.4s						
NPOC	**North of Pu'u**	**0.14**	**105**		**Pg**	**00 43 25.1**	**+0.3**
HLP	**Hilina Pali**	**0.14**	**203**	Pg	**Pg**	**00 43 24.8**	**-0.1**
HLP				IAML		00 43 27.5	
	comp=E,5μm,1.0s						
HLP				IAML		00 43 27.6	
	comp=N,9μm,1.2s						
MLH	**Mauna Loa**	**0.14**	**297**		**Pg**	**00 43 25.1**	**+0.1**
MLH				IAML		00 43 28.6	
	comp=E,9μm,1.1s						
JCUZ	**Jacuzzi**	**0.15**	**108**		**Pg**	**00 43 25.3**	**+0.3**
JOKA	**Jonika Flow**	**0.23**	**89**		**Pg**	**00 43 25.9**	**-0.5**
JOKA				IAML		00 43 34.4	
	comp=N,5μm,0.8s						
JOKA				IAML		00 43 34.4	
	comp=E,4μm,0.9s						
HMH	**Humu'ula Sheep**	**0.28**	**308**		**Pg**	**00 43 27.6**	**+0.2**
HMH				IAML		00 43 35.7	
	comp=N,4μm,1.3s						
HMH				IAML		00 43 36.5	
	comp=E,5μm,0.9s						
PAH	**Pahoa**	**0.29**	**77**		**Pg**	**00 43 28.2**	**+0.7**
MLOA	**Mauna Loa Obse**	**0.33**	**289**	Pg	**Pg**	**00 43 29.0**	**+0.7**
MLOA				IAML		00 43 35.4	
	comp=E,4μm,1.3s						
MLOA				IAML		00 43 37.0	
	comp=N,4μm,1.4s						
MWH	**Moku'aweowe**	**0.33**	**280**	Pg	**Pg**	**00 43 29.1**	**+0.6**
KHU	**Kahuku**	**0.39**	**242**	Pg	**Pg**	**00 43 29.9**	**+0.5**
KHU				IAML		00 43 37.9	
	comp=E,3μm,1.1s						
KHU				IAML		00 43 41.4	
	comp=N,3μm,1.5s						
POHA	**Pohakuloa**	**0.42**	**321**	Pg	**Pg**	**00 43 30.5**	**+0.5**
HPO	**Honuapo**	**0.44**	**221**		**Pg**	**00 43 30.1**	**-0.1**
HUH	**Hualalai**	**0.61**	**295**	Pg	**Pb**	**00 43 34.6**	**+0.1**
I59US	**HAWAII INFRASO**	**0.63**	**285**	Pg	Pn	00 43 44.0	+7.2
	baz=115,slow=47						
HPAH	**Hawaii Prepara**	**0.73**	**325**	Pg	**Pg**	**00 43 34.9**	**-0.9**
PDAR	**Pinedale Array**	**44.83**	**48**	P	P	00 51 50.5	+14
	comp=N,0.4nm,0.7s,baz=224,slow=7.3,SNR=2.9						
	comp=N,0.4nm,0.7s						
ILAR	**Eielson Array**	**45.66**	**5**	P	P	00 51 53.9	+12
	comp=N,0.9nm,0.8s,baz=195,slow=6.5,SNR=8.0						
	comp=N,0.9nm,0.8s						
TXAR	**Lajitas Array**	**47.68**	**68**	P	P	00 52 12.4	+14
	comp=N,0.9nm,0.7s,baz=251,slow=8.4,SNR=8.4						
	comp=N,0.9nm,0.7s						

*IDC **08** 01:08:24.6±0.3, 21.°22S×168.°69E, h0km, mb5.0/21, mbtmp5.0/22, ML5.4/1, MS4.5/44, Error ellipse: s-maj=12.7km s-min=11.8km az=132.0*

*MOS **08** 01:08:26.2±1.2, 21.°18S×168.°50E, h10km, mb5.6/52, MS4.8/17, Error ellipse: s-maj=8.4km s-min=7.7km az=123.7*

*NOU **08** 01:08:28.8, 21.°13S×168.°41E, h0km, mb5.5/92, Loyalty Islands*

*NEIC **08** 01:08:28.6, 21.°28S×168.°46E, h12km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^17^Nm; Mrr=1.67; Mθθ=0.28; Mφφ=1.39; Mrθ=-0.66; Mθφ=-0.68; Mφr=0.62; Fault plane solution: M0=1.91000×10^17^ NP1: φs=144.77000°, δ=58.98000°, λ=-100.54000°. NP2: φs=344.63000°, δ=32.59000°, λ=-73.08000°. Principal axes: T 1.9091, Plg=13.0000°, Azm=242.0000°; N 0.0089, Plg=9.0000°, Azm=150.0000°; P -1.9180, Plg=74.0000°, Azm=27.0000°;*

*NEIC **08** 01:08:28.4±2.0, 21.°28S±0.°08×168.°50E±0.°07, h10km±1km, mb5.4/305, Ms_20 4.9/392, Mwr5.3/15, Mww5.5/18 Error ellipse: s-maj=13.9km s-min=9.8km az=154.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=1.13; Mθθ=0.18; Mφφ=0.95; Mrθ=-0.21; Mθφ=-0.50; Mφr=0.37; Fault plane solution: M0=1.24000×10^17^ NP1: φs=152.70000°, δ=55.03000°, λ=-91.35000°. NP2: φs=335.06000°, δ=34.99000°, λ=-88.07000°. Principal axes: T 1.2655, Plg=10.0000°, Azm=244.0000°; N -0.0626, Plg=1.0000°, Azm=153.0000°; P -1.2029, Plg=80.0000°, Azm=57.0000°;*

*NEIC **08** 01:08:28.6, 21.°28S×168.°46E, h12km*

*NEIC **08** 01:08:28.6, 21.°28S×168.°46E, h10km*

*GCMT **08** 01:08:32.4±0.1, 21.°16S±0.°01×168.°54E±0.°01, h13km, MW5.4/156, Moment Tensor Solution. s126, c212; s156, c290; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; Mrr=1.64±.02; Mθθ=0.20±.02; Mφφ=1.43±.02; Mrθ=-0.20±.04; Mθφ=-0.72±.01; Mφr=0.39±.04; Best double couple: M0=1.75700×10^17^ NP1:φs=155.00000°, δ=52.00000°, λ=-91.00000°. NP2:φs=336.00000°, δ=38.00000°, λ=-89.00000°. Principal axes: T 1.8190, Plg=7.0000°, Azm=245.0000°; N -0.1290, Plg=1.0000°, Azm=155.0000°; P -1.6950, Plg=83.0000°, Azm=60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 01:08:27.0±0.6,**21.°22S**±0.°04×**168.°65E**±0.°04,**h8**km±3km, **n1245**,σ1.**39**/992,**mb5.3**/222,**MS4.9**/255,**52C-41D, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.63**	**246**	P	**Pb**	**01 08 39.9**	**-0.4**
LIFNC	**LIFOU**	**1.39**	**288**	P	**Pn**	**01 08 49.6**	**-3.1**
LIFNC	**LIFOU**	**1.39**	**288**		**Pn**	**01 08 49.2**	**-3.4**
PINNC	**Pines Island,**	**1.78**	**219**	P	**Pb**	**01 08 59.0**	**-0.8**
PINNC	**Pines Island,**	**1.78**	**219**		**Pn**	**01 08 56.6**	**-1.4**
YATNC	**Mamie plateau,**	**1.83**	**243**	P	**Pn**	**01 08 57.5**	**-1.3**
OUENC	**Ouen Island, N**	**2.06**	**234**	P	**Pn**	**01 09 02.2**	**+0.3**
OUENC	**Ouen Island, N**	**2.06**	**234**		**Pn**	**01 09 01.2**	**-0.7**
DZM	**Mont Dzumac**	**2.22**	**247**	P	**Pn**	**01 09 03.7**	**-0.5**
DZM	**Mont Dzumac**	**2.22**	**247**	*e*Pn	**Pn**	**01 09 02.8**	**-1.4**
DZM	6μm,0.8s			*e*Sn	**Sn**	**01 09 32.0**	**+0.1**
	20μm,1.4s						
DZM	**Mont Dzumac**	**2.22**	**247**	Pn	**Pn**	**01 09 02.7**	**-1.5**
DZM	**Mont Dzumac**	**2.22**	**247**	Pn	**Pn**	**01 09 02.5**	**-1.7**
	1μm,0.3s,baz=97,slow=1.4,SNR=2774						
DZM				Sn	**Sn**	**01 09 31.6**	**-0.3**
	581nm,0.3s,baz=90,slow=20,SNR=6.8						
DZM				LR	LR	01 09 32.8	
	comp=Z,19μm,19.3s,baz=162,slow=30						
	3μm,0.4s						
ONTNC	**Ouen Toro**	**2.31**	**242**	P	**Pn**	**01 09 06.3**	**+1.0**
ONTNC	**Ouen Toro**	**2.31**	**242**		**Pn**	**01 09 04.3**	**-1.0**
NOUC	**Port Laguerre**	**2.35**	**248**	P	**Pn**	**01 09 06.4**	**+0.5**
KOUNC	**Koumac, New Ca**	**4.13**	**279**	P	**Pn**	**01 09 30.0**	**-0.5**
KOUNC	**Koumac, New Ca**	**4.13**	**279**	Pn	**Pn**	**01 09 29.4**	**-1.1**
MSVF	**Nonsavu**	**9.52**	**70**	P	Pn	01 10 51.1	+6.5
MSVF	**Nonsavu**	**9.52**	**70**	Pn	Pn	01 10 50.1	+5.5
MSVF	**Nonsavu**	**9.52**	**70**	P	Pn	01 10 50.1	+5.5
HNR	**Honiara**	**14.41**	**323**	LR	LR	01 15 47.1	
	comp=Z,13μm,20.6s,baz=152,slow=31						
RAO	**Raoul Island**	**14.54**	**126**	LR	LR	01 15 48.4	
	comp=Z,1μm,19.3s,baz=322,slow=31						
GC1S	**Gold Coast 1 S**	**15.39**	**240**	P	**Pn**	**01 12 05.9**	**+1.4**
AUWSH	**Wavell State H**	**15.49**	**244**	P	**Pn**	**01 12 07.1**	**+1.2**
EIDS	**Eidsvold**	**16.66**	**252**	P	**P**	**01 12 23.0**	**-0.3**
EIDS	**Eidsvold**	**16.66**	**252**	P	**P**	**01 12 22.8**	**-0.5**
EIDS	**Eidsvold**	**16.66**	**252**	P	**P**	**01 12 22.8**	**-0.5**
	comp=Z,0.0nmcomp=Z,97nm,1.0s						
RK1H	**Rockhampton Ha**	**16.94**	**259**	P	**P**	**01 12 25.9**	**-0.6**
ARMA	**Armidale**	**17.83**	**236**	P	**P**	**01 12 38.5**	**+2.0**
ARMA	**Armidale**	**17.83**	**236**	P	**Pn**	**01 12 35.9**	**+0.1**
ARMA	**Armidale**	**17.83**	**236**	P	**P**	**01 12 39.9**	**+3.4**
URZ	**Urewera**	**18.48**	**159**	P	**Pn**	**01 12 44.5**	**+1.0**
	comp=Z,29nm,1.0s,baz=275,slow=3.3,SNR=5.3						
URZ				S	**Sn**	**01 16 12.1**	**+1.9**
	comp=Z,5.0nm,0.7s,baz=109,slow=18,SNR=1.1						
URZ				LR	LR	01 18 56.8	
	comp=Z,5μm,18.2s,baz=63,slow=34						
BKZ	**Black Stump Fm**	**19.11**	**161**	P	**Pn**	**01 12 54.1**	**+2.9**
RIV	**Riverview**	**19.92**	**227**	P	**Pn**	**01 13 02.1**	**+1.3**
RIV	**Riverview**	**19.92**	**227**	P	**Pn**	**01 13 01.3**	**+0.5**
RIV				pmax	pmax		
	comp=Z,308nm,1.0s						
RIV	**Riverview**	**19.92**	**227**	P	**Pn**	**01 13 00.5**	**-0.4**
	comp=Z,308nm,1.0s						
SYDH	**Sydney Hard Ro**	**20.17**	**228**	P	Pn	01 13 04.6	+0.8
MRZ	**Mangatainoka R**	**20.25**	**165**	P	**P**	**01 13 03.7**	**+0.9**
NNZ	**Nelson**	**20.33**	**170**	IAMs_20	IAMs_20	01 20 32.7	
	comp=Z,4μm,18.0s						
BFZ	**Birch Farm**	**20.45**	**163**	P	Pn	01 13 06.6	-0.4
BFZ				IAMs_20	IAMs_20	01 20 28.4	
	comp=Z,4μm,20.0s						
TCW	**Tory Channel**	**20.49**	**168**	P	Pn	01 13 08.4	+0.9
THZ	**Tophouse**	**20.79**	**171**		Pn	01 13 11.8	+0.7
MSWZ	**Moikai Station**	**20.89**	**166**	P	**P**	**01 13 09.4**	**-0.3**
BSWZ	**Blackbirch Sta**	**20.90**	**169**	P	Pn	01 13 11.8	-0.5
CTA	**Charters Tower**	**20.99**	**269**	P	**P**	**01 13 12.0**	**+1.1**
CTA	**Charters Tower**	**20.99**	**269**	P	**P**	**01 13 11.3**	**+0.4**
	comp=Z,4.5nm,0.8s,baz=99,slow=12,SNR=21						
CTA				S	**S**	**01 17 05.6**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=317,slow=6.0,SNR=2.0						
CTA				LR	LR	01 20 33.9	
	comp=Z,267nm,20.2s,baz=92,slow=35						
CTA	**Charters Tower**	**20.99**	**269**	P	Pn	01 13 12.5	-1.0
	comp=Z,7.8nm,0.9s						
CTAO	**Charters Tower**	**20.99**	**269**	P	**P**	**01 13 12.2**	**+1.3**
CTAO	**Charters Tower**	**20.99**	**269**	P	Pn	01 13 12.5	-1.0
CTAO	**Charters Tower**	**20.99**	**269**	P	Pn	01 13 12.5	-1.0
CTAO				pmax	pmax		
	comp=Z,73nm,0.9s						
CTAO				MLR	MLR		
	comp=Z,3μm,19.0s						
PLWZ	**Palliser**	**21.04**	**166**	P	**P**	**01 13 12.2**	**+0.8**
KHZ	**Kahutara**	**21.53**	**170**	IAMs_20	IAMs_20	01 21 21.0	
	comp=Z,4μm,18.0s						
INZ	**Inchbonnie**	**21.57**	**174**	P	**P**	**01 13 20.1**	**+3.2**
INZ				IAmb	IAmb	01 13 35.2	
	comp=Z,114nm,1.0s						
CNB	**Canberra Magne**	**21.98**	**226**	P	**P**	**01 13 23.9**	**+2.3**
CNB	**Canberra Magne**	**21.98**	**226**	P	**P**	**01 13 24.8**	**+3.2**
GVZ	**Greta Valley S**	**21.99**	**171**	P	**P**	**01 13 23.4**	**+1.9**
YNG	**Young**	**22.10**	**230**	P	**P**	**01 13 25.2**	**+2.4**
YNG	**Young**	**22.10**	**230**	P	**P**	**01 13 25.2**	**+2.4**
	comp=Z,346nm,1.0s						
CAN	**Canberra**	**22.23**	**227**	P	**P**	**01 13 27.0**	**+2.8**
CAN	**Canberra**	**22.23**	**227**	P	**P**	**01 13 24.8**	**+0.6**
CAN				IAmb	IAmb	01 13 43.3	
	comp=Z,226nm,1.9s						
CAN	**Canberra**	**22.23**	**227**	P	**P**	**01 13 24.8**	**+0.6**
CAN				pmax	pmax		
	comp=Z,226nm,1.9s						
CAN	**Canberra**	**22.23**	**227**	P	**P**	**01 13 26.2**	**+2.0**
	comp=Z,59nm,1.7s						
RPZ	**Rata Peaks**	**22.52**	**175**	P	**P**	**01 13 28.5**	**+1.3**
RPZ				IAmb	IAmb	01 13 44.0	
	comp=Z,93nm,1.1s						
RPZ	**Rata Peaks**	**22.52**	**175**	LR	LR	01 21 58.6	
	comp=Z,2μm,18.7s,baz=336,slow=36						
QLP	**Quilpie**	**22.93**	**252**	P	**P**	**01 13 32.5**	**+0.8**
QLP	**Quilpie**	**22.93**	**252**	P	**P**	**01 13 31.2**	**-0.6**
	comp=Z,305nm,1.1s						
CMSA	**Cobar Meteorol**	**22.95**	**239**	P	**P**	**01 13 33.5**	**+1.7**
CMSA	**Cobar Meteorol**	**22.95**	**239**	P	**P**	**01 13 32.4**	**+0.6**
	comp=Z,83nm,1.3s						
MTSU	**Mount Surprise**	**23.11**	**273**	P	**P**	**01 13 34.4**	**+0.8**
LBZ	**Lake Benmore**	**23.14**	**177**	P	**P**	**01 13 34.7**	**+1.1**
LBZ				IAmb	IAmb	01 13 38.9	
	comp=Z,200nm,1.8s						
LBZ				IAMs_20	IAMs_20	01 22 13.6	
	comp=Z,3μm,18.0s						
PMG	**Port Moresby**	**23.79**	**296**	LR	LR	01 21 19.7	
	comp=Z,2μm,19.4s,baz=154,slow=32						
ODZ	**Otahua Downs**	**23.82**	**176**	IAMs_20	IAMs_20	01 23 01.6	
	comp=Z,4μm,18.0s						
SYZ	**Scrubby Hill**	**25.25**	**179**	P	**P**	**01 13 58.4**	**+4.9**
COEN	**Coen**	**25.31**	**282**	P	**P**	**01 13 55.7**	**+1.4**
COEN	**Coen**	**25.31**	**282**	P	**P**	**01 13 55.4**	**+1.0**
COEN				IAmb	IAmb	01 14 07.3	
	comp=Z,87nm,0.9s						
COEN				IAMs_20	IAMs_20	01 23 39.6	
	comp=Z,2μm,18.0s						
COEN	**Coen**	**25.31**	**282**	P	**P**	**01 13 55.8**	**+1.4**
	comp=Z,107nm,0.8s						
KAVG	**Kavieng**	**25.40**	**314**	P	**P**	**01 13 56.3**	**+1.2**
TOO	**Toolangi**	**25.83**	**226**	P	**P**	**01 14 01.7**	**+2.8**
INKA	**Innaminka**	**26.18**	**250**	P	**P**	**01 14 03.8**	**+1.7**
STKA	**Stephens Creek**	**26.36**	**241**	P	**P**	**01 14 05.1**	**+1.4**
STKA	**Stephens Creek**	**26.36**	**241**	P	**P**	**01 14 03.8**	**0.0**
STKA	**Stephens Creek**	**26.36**	**241**	P	**P**	**01 14 03.7**	**0.0**
	comp=Z,18nm,0.7s,baz=83,slow=10,SNR=28						
STKA				LR	LR	01 24 11.0	
	comp=Z,4μm,19.0s,baz=94,slow=36						
	comp=Z,18nm,0.7s						
STKA	**Stephens Creek**	**26.36**	**241**	*i* P	**P**	**01 14 03.0**	**-0.7**
STKA	**Stephens Creek**	**26.36**	**241**	P	**P**	**01 14 04.0**	**+0.3**
QIS	**Mount Isa**	**27.13**	**266**	P	**P**	**01 14 12.3**	**+1.5**
QIS	**Mount Isa**	**27.13**	**266**	P	**P**	**01 14 10.8**	**0.0**
	comp=Z,34nm,0.9s						
LCRK	**Leigh Creek**	**28.82**	**245**	P	**P**	**01 14 26.1**	**+0.3**
HTT	**Hallett**	**28.97**	**239**	P	**P**	**01 14 27.4**	**+0.2**
HTT	**Hallett**	**28.97**	**239**	P	**P**	**01 14 27.1**	**-0.1**
	comp=Z,38nm,1.4s						
RAR	**Rarotonga**	**29.41**	**96**	LR	LR	01 26 10.2	
	comp=Z,256nm,18.1s,baz=264,slow=36						
WHYH	**Whyalla**	**29.94**	**240**	P	**P**	**01 14 37.1**	**+1.4**
OOD	**Oodnadatta**	**30.63**	**251**	P	**P**	**01 14 42.6**	**+0.7**
TABU	**Tabubil**	**30.96**	**297**	P	**P**	**01 14 45.7**	**+0.7**
BBOO	**Buckleboo**	**31.12**	**241**	P	**P**	**01 14 45.8**	**-0.4**
BBOO				IAmb	IAmb	01 15 17.2	
	comp=Z,43nm,1.1s						
BBOO	**Buckleboo**	**31.12**	**241**	P	**P**	**01 14 48.6**	**+2.4**
WR0	**Warramunga Arr**	**31.92**	**266**	P	**P**	**01 14 52.1**	**-1.2**
WR0				IAmb	IAmb	01 15 04.8	
	comp=Z,58nm,0.9s						
WB2	**Warramunga Arr**	**32.10**	**266**	P	**P**	**01 14 54.1**	**-0.8**
WB2				IAmb	IAmb	01 15 06.4	
	comp=Z,70nm,1.1s						
WRAB	**Tennant Creek**	**32.10**	**266**	P	**P**	**01 14 54.0**	**-1.0**
WRAB				IAmb	IAmb	01 15 06.3	
	comp=Z,74nm,1.1s						
WRAB	**Tennant Creek**	**32.10**	**266**	*i* P	**P**	**01 14 54.2**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,16nm,0.9s						
WRA	**Warramunga Arr**	**32.11**	**266**	P	**P**	**01 14 53.9**	**-1.2**
WRA	**Warramunga Arr**	**32.11**	**266**	P	**P**	**01 14 53.4**	**-1.6**
	comp=Z,9.1nm,0.7s,baz=99,slow=8.6,SNR=29						
WRA				PcP	**PcP**	**01 17 43.0**	**-1.4**
	comp=Z,3.2nm,1.0s,baz=88,slow=3.1,SNR=3.1						
WRA				S	**S**	**01 20 05.0**	**-2.9**
	comp=Z,1.4nm,0.8s,baz=86,slow=22,SNR=2.4						
WRA				PKiKP	**PKiKP**	**01 25 10.8**	**-1.9**
	comp=Z,0.9nm,1.0s,baz=20,slow=0.8,SNR=5.2						
WRA				LR	LR	01 27 22.0	
	comp=Z,4μm,19.9s,baz=98,slow=35						
	comp=Z,9.1nm,0.7s						
WRA	**Warramunga Arr**	**32.11**	**266**	P	**P**	**01 14 53.9**	**-1.2**
WRA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
AS01	**Alice Springs**	**32.12**	**259**	P	**P**	**01 14 54.3**	**-0.8**
AS31	**Alice Springs**	**32.16**	**259**	IAmb	IAmb	01 14 57.7	
	comp=Z,21nm,0.7s						
AS31	**Alice Springs**	**32.16**	**259**	P	**P**	**01 14 54.5**	**-1.0**
	comp=Z,29nm,0.7s						
ASAR	**Alice Springs**	**32.16**	**259**	P	**P**	**01 14 54.2**	**-1.2**
ASAR	**Alice Springs**	**32.16**	**259**	P	**P**	**01 14 54.5**	**-0.9**
	comp=Z,49nm,0.7s,baz=83,slow=8.7,SNR=236						
ASAR				PcP	**PcP**	**01 17 44.1**	**-0.4**
	comp=Z,4.6nm,0.8s,baz=98,slow=3.5,SNR=4.3						
ASAR				PKiKP	**PKiKP**	**01 25 10.3**	**-2.4**
	comp=Z,0.6nm,0.7s,baz=79,slow=1.9,SNR=4.8						
ASAR				LR	LR	01 27 40.5	
	comp=Z,3μm,18.2s,baz=96,slow=36						
ASAR				P3KPbc		01 46 25.4	
	comp=Z,0.4nm,0.7s,baz=273,slow=3.6,SNR=7.0						
	comp=Z,49nm,0.7s						
MULG	**Mulgathing**	**32.33**	**247**	P	**P**	**01 14 56.9**	**0.0**
JAY	**Jayapura**	**32.95**	**301**	P	**P**	**01 15 01.1**	**-1.4**
	comp=Z,69nm,0.9s						
JAY	**Jayapura**	**32.95**	**301**	P	**P**	**01 15 01.2**	**-1.3**
JAY				pmax	pmax		
	comp=Z,69nm,0.9s						
GENI	**Genyem**	**33.34**	**300**	P	**P**	**01 15 07.4**	**+1.6**
GENI	**Genyem**	**33.34**	**300**	P	**P**	**01 15 08.4**	**+2.6**
	comp=Z,65nm,1.0s						
KDU	**Kakadu**	**35.56**	**278**	P	P	01 15 33.2	+8.2
MTN	**Manton Dam**	**36.75**	**277**	P	**P**	**01 15 36.6**	**+1.4**
MTN	**Manton Dam**	**36.75**	**277**	P	**P**	**01 15 33.8**	**-1.5**
MTN				IAmb	IAmb	01 15 46.5	
	comp=Z,70nm,0.8s						
MTN	**Manton Dam**	**36.75**	**277**	P	**P**	**01 15 37.2**	**+1.9**
	comp=Z,95nm,1.1s						
DRS	**Darwin Rock St**	**37.10**	**277**	P	**P**	**01 15 39.2**	**+1.0**
WRKA	**Warakurna**	**37.21**	**256**	P	**P**	**01 15 38.9**	**-0.2**
WRKA	**Warakurna**	**37.21**	**256**	P	**P**	**01 15 38.2**	**-1.0**
	comp=Z,58nm,1.0s						
FORT	**Forrest**	**37.53**	**247**	P	**P**	**01 15 41.6**	**-0.2**
FORT	**Forrest**	**37.53**	**247**	P	**P**	**01 15 41.5**	**-0.2**
FORT				IAmb	IAmb	01 15 54.1	
	comp=Z,53nm,0.8s						
FORT	**Forrest**	**37.53**	**247**	P	**P**	**01 15 41.5**	**-0.2**
	comp=Z,88nm,0.9s						
TBI	**Tubuai**	**38.73**	**101**	*e*P	**P**	**01 15 55.9**	**+4.0**
	comp=Z,440nm,29.5s						
TBI				*e*S	**S**	**01 21 56.1**	**+6.7**
	comp=Z,3μm,29.0s						
TBI				*e*LQ	LQ	01 24 52.5	
	comp=Z,18μm,31.0s						
TBI				*e*LR	LR	01 26 31.0	
	comp=Z,9μm,31.0s						
TBI				*e*LR	LR	01 26 32.4	
	comp=Z,2μm,31.5s						
PPT2	**Papeete2**	**39.49**	**92**	*e*P	**P**	**01 15 55.6**	**-2.8**
	comp=Z,186nm,37.0s						
PPT2				*e*S	**S**	**01 22 02.0**	**+0.9**
	comp=Z,911nm,26.0s						
PPT2				*e*LQ	LQ	01 25 06.4	
	comp=Z,5μm,27.2s						
PPT2				*e*LR	LR	01 26 50.8	
	comp=Z,3μm,31.5s						
PPT2				*e*LR	LR	01 26 51.4	
	comp=Z,4μm,28.8s						
PPT	**Papeete**	**39.49**	**92**	P	**P**	**01 15 58.2**	**-0.2**
	comp=Z,44nm,0.9s,baz=127,slow=5.7,SNR=3.3						
PPT				LR	LR	01 28 23.0	
	comp=Z,568nm,22.0s,baz=268,slow=30						
	comp=Z,44nm,0.9s						
FAKI	**Fak Fak**	**39.81**	**292**	P	**P**	**01 15 59.4**	**-1.6**
FAKI				IAmb	IAmb	01 16 44.8	
	comp=Z,106nm,1.4s						
GUMO	**Guam**	**41.74**	**324**	LR	LR	01 31 25.5	
	comp=Z,336nm,18.3s,baz=120,slow=33						
KMBL	**Kambalda**	**42.85**	**246**	P	**P**	**01 16 26.3**	**+0.4**
KMBL	**Kambalda**	**42.85**	**246**	P	**P**	**01 16 25.2**	**-0.7**
	comp=Z,86nm,1.0s						
SOEI	**Soe**	**44.12**	**278**	P	**P**	**01 16 38.9**	**+2.5**
PSA00	**Pilbara Seismi**	**45.29**	**260**	P	**P**	**01 16 45.7**	**+0.1**
PSA00	**Pilbara Seismi**	**45.29**	**260**	P	**P**	**01 16 45.1**	**-0.5**
PSA00	**Pilbara Seismi**	**45.29**	**260**	P	**P**	**01 16 45.1**	**-0.5**
PSA00				IAmb	IAmb	01 16 58.2	
	comp=Z,84nm,1.4s						
PSA00	**Pilbara Seismi**	**45.29**	**260**	P	**P**	**01 16 45.0**	**-0.5**
	comp=Z,174nm,0.9s						
PSAC1	**Pilbara Seismi**	**45.33**	**260**	P	**P**	**01 16 46.1**	**+0.2**
	comp=Z,178nm,0.9s						
MBWA	**Marble Bar**	**45.46**	**261**	P	**P**	**01 16 46.7**	**-0.2**
MBWA	**Marble Bar**	**45.46**	**261**	P	**P**	**01 16 46.0**	**-1.0**
MBWA	**Marble Bar**	**45.46**	**261**	P	**P**	**01 16 46.6**	**-0.3**
	comp=Z,281nm,0.9s						
SANI	**Sanana**	**45.70**	**289**	P	**P**	**01 16 51.2**	**+2.4**
SANI	**Sanana**	**45.70**	**289**	P	**P**	**01 16 47.7**	**-1.1**
SANI	**Sanana**	**45.70**	**289**	P	**P**	**01 16 49.2**	**+0.4**
	comp=Z,76nm,1.0s,comp=Z,1μm						
MEEK	**Meekatharra**	**45.82**	**253**	P	**P**	**01 16 49.4**	**-0.4**
MEEK	**Meekatharra**	**45.82**	**253**	P	**P**	**01 16 48.8**	**-1.0**
	comp=Z,147nm,0.8s						
MMRI	**Maumere**	**46.

INU				IAmb	IAmb	01 19 01.7
	comp=Z,40nm,1.2s					
TWGBT	**Beinan**	**63.77 311**		P	**P**	**01 19 01.9 +2.1**
JGF	**Kuroka**	**63.82 332**		P	**P**	**01 19 00.6 +0.7**
JGF				IAmb	IAmb	01 20 56.9
	comp=Z,22nm,1.1s					
KASI	**Kota Agung**	**63.94 274**		P	**P**	**01 19 01.1 -0.1**
YULB	**Yu-li**	**63.98 311**		P	**P**	**01 19 03.2 +2.0**
YULB	**Yu-li**	**63.98 311**		P	**P**	**01 19 01.2 0.0**
YULB				IAmb	IAmb	01 19 20.8
	comp=Z,25nm,0.9s					
MJAR	**Matsushiro Arr**	**64.25 333**		P	**P**	**01 19 01.1 -1.6**
	comp=Z,18nm,1.0s,baz=164,slow=6.7,SNR=33					
MJAR				LR	LR	01 45 08.2
	comp=Z,136nm,21.0s,baz=150,slow=34					
MJAR				PKP2ab		01 48 02.3
	comp=Z,0.4nm,0.2s,baz=308,slow=4.5,SNR=4.2					
	comp=Z,18nm,1.0s					
MAJO	**Matsushiro**	**64.25 333**		P	**P**	**01 19 03.5 +0.8**
MAJO	**Matsushiro**	**64.25 333**		P	**P**	**01 19 02.7 0.0**
MAJO	**Matsushiro**	**64.25 333**		P	**P**	**01 19 02.7 0.0**
MAJO				pmax	pmax	
	comp=Z,58nm,1.4s					
MJB9	**Matsu-Tunnel**	**64.25 333**		P	**P**	**01 19 03.2 +0.4**
NACB	**Ninganchiao**	**64.28 312**		P	**P**	**01 19 04.1 +1.0**
NACB	**Ninganchiao**	**64.28 312**		P	**P**	**01 19 01.3 -1.8**
JMM	**Marumori**	**64.35 336**		P	**P**	**01 19 05.4 +2.1**
SSLB	**Suanglung**	**64.47 311**		P	**P**	**01 19 04.1 -0.3**
YHNB	**Yeheng**	**64.75 312**		P	**P**	**01 19 05.7 -0.6**
YHNB	**Yeheng**	**64.75 312**		P	**P**	**01 19 05.5 -0.8**
TATO	**Taipei**	**64.87 313**		P	**P**	**01 19 08.4 +1.4**
TATO	**Taipei**	**64.87 313**		P	**P**	**01 19 06.7 -0.3**
JNU	**Nakatsue**	**64.96 325**		P	**P**	**01 19 06.2 -1.3**
	comp=Z,10nm,0.7s,baz=88,slow=17,SNR=3.0					
	comp=Z,10nm,0.7s					
QZH	**Quanzhou**	**66.87 311**		P	**P**	**01 19 22.6 +2.8**
QZH				S	**S**	**01 28 15.0 +1.9**
ERM	**Erimo**	**67.19 340**		IAms_20	IAms_20	01 46 08.1
	comp=Z,735nm,20.0s					
JEM	**Erimo**	**67.19 340**		IAms_20	IAms_20	01 46 08.0
	comp=Z,701nm,20.0s					
BTDF	**Bukit Timah Da**	**67.20 281**		P	**P**	**01 19 24.2 +2.0**
QSPA	**South Pole Qui**	**68.84 180**		P	**P**	**01 19 31.6 -0.3**
QSPA	**South Pole Qui**	**68.84 180**		IAms_20	IAms_20	01 47 16.7
	comp=Z,576nm,18.0s					
QSPA	**South Pole Qui**	**68.84 180**		P	**P**	**01 19 31.5 -0.4**
	comp=Z,44nm,1.0s,baz=11,slow=3.0,SNR=46					
QSPA				S	**S**	**01 28 37.4 +1.5**
	comp=Z,1.1nm,1.1s,baz=307,slow=7.9,SNR=1.2					
QSPA				PKP2bc		01 47 41.3
	comp=Z,4.0nm,1.0s,baz=212,slow=2.1,SNR=6.1					
QSPA				LR	LR	01 48 21.5
	comp=Z,297nm,18.5s,baz=28,slow=35					
	comp=Z,44nm,1.0s					
JKA	**Kamikawa-asahi**	**69.26 340**		IAms_20	IAms_20	01 46 21.0
	comp=Z,690nm,20.0s					
ASAJ	**Asahikawa**	**69.26 340**		P	**P**	**01 19 34.8 +0.3**
	comp=Z,93nm,0.9s,baz=215,slow=7.9,SNR=25					
ASAJ				LR	LR	01 46 42.3
	comp=Z,619nm,20.5s,baz=180,slow=33					
	comp=Z,93nm,0.9s					
BKNI	**Bangkinang**	**69.31 279**		IAms_20	IAms_20	01 46 58.9
	comp=Z,686nm,20.0s					
TJN	**Taejon**	**69.31 325**	*i*	P	**P**	**01 19 36.2 +1.3**
KSRS	**Korea Array**	**69.83 326**		P	**P**	**01 19 37.6 -0.5**
	comp=Z,2.1nm,0.7s,baz=153,slow=4.2,SNR=5.0					
KSRS				PKP2bc		01 47 40.0
	comp=Z,1.4nm,1.0s,baz=316,slow=3.5,SNR=4.4					
KSRS				LR	LR	01 51 12.6
	comp=Z,81nm,18.0s,baz=140,slow=37					
	comp=Z,2.1nm,0.7s					
KSAR	**Wonju Array Be**	**69.84 326**		P	**P**	**01 19 39.2 +1.0**
KSAR	**Wonju Array Be**	**69.84 326**		P	**P**	**01 19 39.2 +1.0**
QIZ	**Qiongzhong**	**70.09 301**		P	**P**	**01 19 42.5 +2.3**
QIZ	**Qiongzhong**	**70.09 301**		P	**P**	**01 19 42.5 +2.3**
QIZ				sP	**pwP**	**01 19 47.9 +0.7**
QIZ				S	**S**	**01 28 51.7 0.0**
QIZ				SS	**SS**	**01 33 20.5 -1.3**
QIZ				pmax	pmax	
	comp=Z,24nm,1.2s					
QIZ				pmax	pmax	
	comp=Z,250nm,5.9s					
QIZ				LR	LR	
	comp=Z,240nm,15.7s					
QIZ				LR	LR	
	comp=Z,190nm,14.7s					
QIZ				LR	LR	
	comp=Z,370nm,30.3s					
NJ2	**Nanjing**	**71.25 317**	*e*	P	**P**	**01 19 49.1 +2.1**
NJ2				pmax	pmax	
	comp=Z,14nm,0.6s					
KULM	**Kulim**	**71.63 283**		P	**P**	**01 19 48.1 -1.6**
YSS	**Yuzh-Sakhalins**	**71.77 342**		P	**P**	**01 19 51.1 +1.4**
YSS	**Yuzh-Sakhalins**	**71.77 342**		P	**P**	**01 19 50.4 +0.7**
YSS				IAms_20	IAms_20	01 48 57.4
	comp=Z,584nm,20.0s					
YSS	**Yuzh-Sakhalins**	**71.77 342**	*e*	P	**P**	**01 19 50.3 +0.6**
YSS			*e*			01 20 10.6
YSS			*e*	S	**S**	**01 29 09.4 -0.7**
YSS				pmax	pmax	
	comp=Z,500nm,3.8s					
YSS				pmax	pmax	
	comp=N,100nm,3.6s					
YSS				pmax	pmax	
	comp=E,100nm,3.4s					
YSS				pmax	pmax	
	comp=Z,90nm,1.1s					
YSS				smax	smax	
	comp=N,300nm,8.5s					
YSS				smax	smax	
	comp=E,200nm,6.4s					
UBPT	**Khong Chiam**	**71.82 295**		P	**P**	**01 19 52.6 +1.9**
UBPT	**Khong Chiam**	**71.82 295**		P	**P**	**01 19 50.4 -0.3**
UBPT				IAmb	IAmb	01 19 53.4
	comp=Z,31nm,1.0s					
MSHR	**Mys Shultsa**	**72.29 332**	*i*	P	**P**	**01 19 54.5 +1.5**
MSHR				pmax	pmax	
	comp=Z,40nm,1.9s					
VLA	**Vladivostok**	**72.41 333**	*i*	P	**P**	**01 19 55.2 +1.6**
VLA				pmax	pmax	
	comp=Z,42nm,1.1s					
SKR	**Severo-Kuril's**	**72.44 352**	*e*	P	**P**	**01 19 52.4 -1.2**
SKR			*e*	S	**S**	**01 29 22.9 +5.3**
SKR				pmax	pmax	
	comp=Z,86nm,1.2s					
SKR				pmax	pmax	
	comp=Z,300nm,7.2s					
SKR				MLR	MLR	
	comp=Z,300nm,17.0s					
GSI	**Gunungsitoli**	**72.88 278**		P	**P**	**01 19 57.7 +0.5**
GSI	**Gunungsitoli**	**72.88 278**		P	**P**	**01 19 55.9 -1.2**
GSI				IAmb	IAmb	01 20 10.8
	comp=Z,36nm,0.8s					
USA0B	**Ussuriysk Arra**	**73.24 333**	*i*	P	**P**	**01 19 59.0 +0.4**
USRK	**Ussuriysk Ar.**	**73.24 333**		P	**P**	**01 19 57.9 -0.7**
USRK	**Ussuriysk Ar.**	**73.24 333**		P	**P**	**01 19 58.4 -0.2**
	comp=Z,54nm,0.9s,baz=149,slow=5.0,SNR=37					
USRK				LR	LR	01 49 47.1
	comp=Z,194nm,20.1s,baz=148,slow=34					
	comp=Z,54nm,0.9s					
WHN	**Wuhan**	**73.28 313**		P	**P**	**01 20 00.3 +1.2**
WHN				S	**SKiKP**	**01 29 31.3 -0.2**
WHN				pmax	pmax	
	comp=Z,64nm,0.8s					
WHN				LR	LR	
	comp=Z,820nm,17.5s					
SHEM	**Shemya Is, Ala**	**73.79 3**		LR	LR	01 46 25.3
	comp=Z,147nm,21.9s,baz=289,slow=31					
RPN	**Rapa Nui**	**73.82 113**		LR	LR	01 44 42.1
	comp=Z,171nm,20.5s,baz=256,slow=30					
SRIT	**Nakonsritamara**	**73.95 286**		P	**P**	**01 20 05.1 +1.7**
DL2	**Dalian**	**74.27 324**		P	**P**	**01 20 06.8 +2.1**
DL2				S	**S**	**01 29 43.0 +4.2**
DL2				pmax	pmax	
	comp=Z,61nm,0.9s					
DL2				pmax	pmax	
	comp=Z,570nm,8.5s					
DL2				LR	LR	
	comp=Z,420nm,18.0s					
DL2				LR	LR	
	comp=Z,310nm,21.8s					
DL2				LR	LR	
	comp=Z,390nm,16.3s					
PET	**Petropavlovsk**	**74.44 354**		P	**P**	**01 20 08.3 +2.9**
PET	**Petropavlovsk**	**74.44 354**		P	**P**	**01 20 04.5 -0.8**
PET				IAmb	IAmb	01 20 08.3
	comp=Z,67nm,1.4s					
PET	**Petropavlovsk**	**74.44 354**	*e*	P	**P**	**01 20 07.2 +1.8**
PET			*e*			01 20 18.4
PET			*e*	S	**S**	**01 29 40.6 +0.4**
PET				pmax	pmax	
	comp=Z,37nm,1.4s					
PET				pmax	pmax	
	comp=Z,300nm,6.6s					
PET				pmax	pmax	
	comp=Z,400nm,5.9s					
PET				pmax	pmax	
	comp=Z,100nm,15.7s					
MDJ	**Mudanjiang**	**74.60 332**		P	**P**	**01 20 08.6 +2.1**
MDJ	**Mudanjiang**	**74.60 332**		P	**P**	**01 20 06.5 0.0**
MDJ				PcP	**PcP**	**01 20 19.1 -1.8**
MDJ				sS	sS	01 29 54.0 +10
MDJ				pmax	pmax	
	comp=Z,58nm,1.1s					
MDJ				pmax	pmax	
	comp=Z,490nm,8.6s					
MDJ				LR	LR	
	comp=Z,400nm,21.3s					
MDJ	**Mudanjiang**	**74.60 332**		P	**P**	**01 20 06.5 0.0**
MDJ				IAmb	IAmb	01 20 09.9
	comp=Z,52nm,1.0s					
TYV	**Tymovskoe**	**75.34 343**	*e*	P	**P**	**01 20 11.5 +0.9**
TYV				pmax	pmax	
	comp=Z,28nm,1.3s					
TYV				pmax	pmax	
	comp=Z,300nm,8.0s					
CN2	**Changchun**	**75.86 329**		P	**P**	**01 20 13.6 -0.2**
CN2				S	**S**	**01 29 55.0 -1.5**
CN2				pmax	pmax	
	comp=Z,40nm,0.9s					
SLVN	**Son La**	**76.06 300**		P	**P**	**01 20 15.5 -0.1**
SLVN				IAmb	IAmb	01 20 19.1
	comp=Z,37nm,1.4s					
MAW	**Mawson**	**76.40 202**		P	**P**	**01 20 15.6 -1.0**
	comp=Z,19nm,1.2s,baz=110,slow=8.4,SNR=16					
MAW				LR	LR	01 51 50.2
	comp=Z,327nm,18.1s,baz=104,slow=34					
	comp=Z,19nm,1.2s					
MAW	**Mawson**	**76.40 202**		P	**P**	**01 20 16.5 -0.1**
	comp=Z,3.3nm,1.1s					
NIKH	**Nikolski High**	**76.42 14**		P	**P**	**01 20 17.8 +1.1**
	baz=202					
BNX	**BinXian**	**76.44 332**	⇑	P	**P**	**01 20 16.2 -0.9**
BNX				pmax	pmax	
	comp=Z,51nm,0.8s					
BNX				pmax	pmax	
	comp=Z,310nm,5.2s					
GYA	**Guiyang**	**76.50 306**		P	**P**	**01 20 20.3 +2.3**
GYA				pmax	pmax	
	comp=Z,18nm,1.0s					
ENH	**Enshi**	**76.51 310**		P	**P**	**01 20 20.9 +3.0**
ENH	**Enshi**	**76.51 310**		P	**P**	**01 20 17.9 0.0**
SRDT	**SRDT**	**76.84 291**		P	**P**	**01 20 21.0 +1.0**
LYN	**LuoYang**	**76.97 315**		P	**P**	**01 20 22.5 +2.2**
LYN				sP	PcP	01 20 31.1 -0.2
LYN				pmax	pmax	
	comp=Z,45nm,1.0s					
GRNR	**Gornyy**	**77.11 340**	⇑	*i* P	**P**	**01 20 21.0 +0.3**
GRNR				pmax	pmax	
	comp=Z,10.0nm,1.1s					
HNS	**HongShan**	**77.31 319**	⇓	P	**P**	**01 20 21.8 -0.3**
HNS				PcP	**PcP**	**01 20 33.4 +0.7**
HNS				S	**S**	**01 30 16.3 +3.8**
HNS				ScS	**SKSac**	**01 30 34.9 -0.6**
HNS				pmax	pmax	
	comp=Z,22nm,1.4s					
HNS				pmax	pmax	
	comp=Z,400nm,5.4s					
HNS				LR	LR	
	comp=Z,190nm,14.3s					
HNS				LR	LR	
	comp=Z,250nm,16.3s					
HNS				LR	LR	
	comp=Z,220nm,17.1s					
KLR	**Kul'dur**	**77.45 336**		P	**P**	**01 20 22.4 -0.2**
	comp=Z,20nm,0.9s,baz=150,slow=1.8,SNR=33					
KLR				LR	LR	01 51 09.5
	comp=Z,213nm,20.5s,baz=160,slow=33					
	comp=Z,20nm,0.9s					
KLR	**Kul'dur**	**77.45 336**	*e*	P	**P**	**01 20 21.2 -1.5**
KLR				pmax	pmax	
	comp=Z,49nm,1.6s					
PHRA	**Phrae**	**77.75 295**		P	**P**	**01 20 25.0 0.0**
BJT	**Baijiatuau**	**78.12 322**		P	**P**	**01 20 28.9 +2.3**
BJT	**Baijiatuau**	**78.12 322**		P	**P**	**01 20 27.7 +1.1**
BJT	**Baijiatuau**	**78.12 322**		P	**P**	**01 20 27.7 +1.1**
BJT				pmax	pmax	
	comp=Z,17nm,1.0s					
BJI	**Beijing**	**78.13 322**		P	**P**	**01 20 26.4 -0.3**
BJI				S	**S**	**01 30 25.0 +3.7**
BJI				pmax	pmax	
	comp=Z,9.0nm,1.2s					
BJI				pmax	pmax	
	comp=Z,140nm,4.5s					
CRAI	**Chiangrai**	**78.43 297**		IAmb	IAmb	01 20 43.4
	comp=Z,34nm,0.9s					
CMAR	**Chiang Mai Arr**	**78.82 295**		P	**P**	**01 20 31.0 +0.1**
CMAR	**Chiang Mai Arr**	**78.82 295**		P	**P**	**01 20 31.4 +0.5**
	comp=Z,24nm,1.1s,baz=132,slow=3.8,SNR=36					
	comp=Z,24nm,1.1s					
KMI	**Kunming**	**78.86 302**	⇑	P	**P**	**01 20 32.3 +1.0**
KMI				PcP	**PcP**	**01 20 43.3 +3.2**
KMI				S	**S**	**01 30 32.6 +2.4**
KMI				pmax	pmax	
	comp=Z,280nm,6.9s					
KMI				LR	LR	
	comp=Z,120nm,12.7s					
KMI				LR	LR	
	comp=Z,240nm,17.8s					
KMI				LR	LR	
	comp=Z,240nm,20.2s					
CHTO	**Chiang Mai**	**78.98 295**		P	**P**	**01 20 32.1 +0.2**
CHTO				IAmb	IAmb	01 20 46.4
	comp=Z,30nm,0.8s					
CHTO	**Chiang Mai**	**78.98 295**		P	**P**	**01 20 32.1 +0.2**
CHTO				pmax	pmax	
	comp=Z,30nm,0.9s					
XAN	**Xi'an**	**79.04 313**	⇓	P	**P**	**01 20 33.7 +1.7**
XAN				pP	PcP	01 20 42.7 +2.3
XAN				S	**S**	**01 30 31.4 -0.1**
XAN				sS	SKSac	01 30 45.2 -3.1
XAN				pmax	pmax	
	comp=Z,25nm,0.9s					
XAN				pmax	pmax	
	comp=Z,530nm,11.2s					
XAN				LR	LR	
	comp=Z,320nm,20.6s					
XAN				LR	LR	
	comp=Z,320nm,17.6s					
XAN				LR	LR	
	comp=Z,340nm,15.1s					
HEH	**HeiHe**	**79.95 335**	*e*	P	**P**	**01 20 35.6 -0.8**
HEH				pmax	pmax	
	comp=Z,45nm,1.3s					
HEH				pmax	pmax	
	comp=Z,440nm,7.0s					
HEH				LR	LR	
	comp=Z,590nm,19.6s					
HEH				LR	LR	
	comp=Z,270nm,17.8s					
HEH				LR	LR	
	comp=Z,320nm,17.1s					
BELA	**Belgrano 2**	**80.18 175**		IAmb	IAmb	01 20 39.2
	comp=Z,30nm,0.9s					
BELA				IAms_20	IAms_20	01 57 44.1
	comp=Z,462nm,18.0s					
PZH	**PanZhiHua**	**80.32 303**		P	**P**	**01 20 41.1 +2.0**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.7s					
PZH				pmax	pmax	
	comp=Z,220nm,6.0s					
XLT	**XiLinHaoTe**	**80.72 324**	*e*	P	**P**	**01 20 42.4 +1.6**
XLT				S	**S**	**01 30 53.3 +4.4**
XLT				pmax	pmax	
	comp=Z,15nm,0.9s					
XLT				pmax	pmax	
	comp=Z,280nm,5.2s					
XLT				LR	LR	
	comp=Z,290nm,19.7s					
XLT				LR	LR	
	comp=Z,150nm,21.6s					
HHC	**Hu-ho-hao-te**	**81.37 320**	*e*	P	**P**	**01 20 44.6 +0.2**
HHC				sP	pwP	01 20 55.8 +4.4
HHC				S	**S**	**01 30 54.7 -1.1**
HHC				sS	SKSac	01 31 02.6 -1.7
HHC				pmax	pmax	
	comp=Z,20nm,0.9s					
HHC				pmax	pmax	
	comp=Z,220nm,5.3s					
HHC				LR	LR	
	comp=Z,180nm,17.1s					
HHC				LR	LR	
	comp=Z,170nm,19.2s					
HHC				LR	LR	
	comp=Z,280nm,17.9s					
MA2	**Magadan**	**81.83 351**		P	**P**	**01 20 48.5 +2.3**
MA2	**Magadan**	**81.83 351**		P	**P**	**01 20 45.0 -1.2**
	comp=Z,5.7nm,0.6s,baz=159,slow=13,SNR=2.9					
MA2				LR	LR	01 51 10.9
	comp=Z,278nm,21.8s,baz=164,slow=31					
	comp=Z,5.7nm,0.6s					
MA2	**Magadan**	**81.83 351**	*ce*	P	**P**	**01 20 46.4 +0.2**
MA2				pmax	pmax	
	comp=Z,18nm,1.2s					
SMAI	**San Martin Ant**	**82.13 162**		P	**P**	**01 20 48.0 +0.1**
BTO	**Baotou**	**82.16 319**	*e*	P	**P**	**01 20 49.4 +0.8**
BTO				pP	**PcP**	**01 20 54.0 +0.1**
BTO				sP	**pwP**	**01 20 56.8 +1.3**
BTO				PP	**PP**	**01 23 56.8 -0.3**
BTO				S	**S**	**01 31 04.6 +0.6**
BTO				SS	**SS**	**01 36 26.0 +1.8**
BTO				pmax	pmax	
	comp=Z,19nm,0.6s					
BTO				pmax	pmax	
	comp=Z,190nm,6.7s					
BTO				LR	LR	
	comp=Z,320nm,11.9s					
BTO				LR	LR	
	comp=Z,290nm,10.0s					
BTO				LR	LR	
	comp=Z,460nm,17.5s					
TNCH	**TengChong**	**82.17 301**		P	**P**	**01 20 46.2 -2.9**
TNCH				pP	pwP	01 20 58.8 +2.7
TNCH				pmax	pmax	
	comp=Z,220nm,5.1s					
CHIR	**Chirikof Islan**	**82.51 19**		IAms_20	IAms_20	01 56 34.9
	comp=Z,557nm,18.0s					
HIA	**Hailar**	**82.54 330**		P	**P**	**01 20 53.2 +2.9**
ZEA	**Zeya**	**82.75 337**	*e*	P	**P**	**01 20 50.9 -0.3**
ZEA				pmax	pmax	
	comp=N,20nm,1.2s					
ZEA				pmax	pmax	
	comp=Z,30nm,1.5s					
ZEA				pmax	pmax	
	comp=Z,200nm,6.8s					
ZEA				MLR	MLR	
	comp=Z,100nm,16.0s					
SII	**Sitkinak Islan**	**83.57 20**		IAms_20	IAms_20	02 00 36.0
	comp=Z,498nm,18.0s					
LZH	**Lanzhou**	**83.64 312**		P	**P**	**01 20 56.2 -0.3**
LZH				S	**S**	**01 31 22.8 +3.3**
LZH				pmax	pmax	
	comp=Z,370nm,4.6s					
LZH				LR	LR	
	comp=Z,170nm,14.3s					
LZH				LR	LR	
	comp=Z,280nm,13.9s					
LZH				LR	LR	
	comp=Z,300nm,17.5s					
R17L	**Mt. Peulik Vol**	**83.81 18**		P	**P**	**01 20 57.2 +0.6**
	baz=213					
O14K	**Tigyukauivet M**	**83.91 15**		P	**P**	**01 20 57.7 +0.7**
	baz=208					
ELIB	**Princess Elisa**	**84.10 190**	*d*	P	**P**	**01 20 56.7 -1.6**
	comp=Z,8.2nm,1.1s					
O15K	**Ungalikthiuk R**	**84.20 16**		P	**P**	**01 20 58.4 -0.1**
	baz=209					
OHAK	**Old Harbor**	**84.40 20**		P	**P**	**01 21 00.7 +1.1**
OHAK	**Old Harbor**	**84.40 20**		P	**P**	**01 20 59.3 -0.3**
	baz=215					
N14K	**Kuskokwak Cree**	**84.41 15**		P	**P**	**01 21 00.3 +0.8**
	baz=208					
Q17K	**Contact Creek**	**84.48 18**		P	**P**	**01 21 00.6 +0.5**
	baz=213					
ACHA	**Angle Creek He**	**84.60 18**		IAmb	IAmb	01 24 09.1
	comp=Z,32nm,0.9s					
SEY	**Seymchan**	**84.85 353**	*e*	P	**P**	**01 20 59.7 -2.0**
SEY				pmax	pmax	
	comp=Z,20nm,1.1s					
N15K	**Kwethluk River**	**85.00 15**		P	**P**	**01 21 02.0 -0.6**
	baz=209					
O16K	**Kokwok River B**	**85.01 16**		P	**P**	**01 21 02.8 +0.2**
	baz=211					
Q18K	**Katmai Hardscr**	**85.06 18**		P	**P**	**01 21 02.7 -0.4**
	baz=214					
KDAK	**Kodiak Island**	**85.08 20**		IAms_20	IAms_20	02 02 15.8
	comp=Z,469nm,18.0s					
KDAK	**Kodiak Island**	**85.08 20**		P	**P**	**01 21 02.9 -0.1**
	baz=216					
M14K	**Bethel**	**85.08 14**		P	**P**	**01 21 04.1 +1.2**
M14K	**Bethel**	**85.08 14**		P	**P**	**01 21 02.9 0.0**
	baz=207					
P17K	**Kvichak River**	**85.11 17**		P	**P**	**01 21 02.7 -0.4**
	baz=212					
PMSA	**Palmer Station**	**85.25 160**		P	**P**	**01 21 04.1 +0.1**
PMSA	**Palmer Station**	**85.25 160**		LR	LR	01 56 17.3
	comp=Z,246nm,18.3s,baz=216,slow=34					
M15K	**Kasigluk River**	**85.32 15**		P	**P**	**01 21 03.7 -0.4**
	baz=209					
O17K	**Koliganek Bris**	**85.43 17**		P	**P**	**01 21 04.7 0.0**
	baz=212					
L14K	**Kuka Creek**	**85.45 13**		IAmb	IAmb	01 21 07.5
	comp=Z,30nm,1.1s					
L14K	**Kuka Creek**	**85.45 13**		P	**P**	**01 21 05.5 +0.7**
	baz=207					
K13K	**Kusilvak Mount**	**85.58 12**		P	**P**	**01 21 05.3 -0.1**
	baz=205					
N16K	**Nishlik Lake**	**85.60 16**		P	**P**	**01 21 06.1 +0.5**
	baz=210					
P18K	**Big Mountain,**	**85.62 18**		P	**P**	**01 21 06.6 +0.9**
P18K	**Big Mountain,**	**85.62 18**		P	**P**	**01 21 05.9 +0.2**
	baz=214					
Q19K	**Cape Douglas,**	**85.69 19**		IAms_20	IAms_20	01 54 17.9
	comp=Z,411nm,20.0s					
Q19K	**Cape Douglas,**	**85.69 19**		P	**P**	**01 21 06.5 +0.4**
	baz=215					
Q20K	**Shuyak Island**	**85.81 19**		P	**P**	**01 21 06.2 -0.4**
	baz=216					
O18K	**Koktuh Hills**	**86.01 17**		P	**P**	**01 21 07.6 0.0**
	baz=214					
L15K	**Ungalak Mounta**	**86.01 14**		P	**P**	**01 21 08.0 +0.5**
	baz=208					
M16K	**Timber Creek**	**86.03 15**		IAmb	IAmb	01 21 23.9
	comp=Z,28nm,0.8s					
M16K	**Timber Creek**	**86.03 15**		P	**P**	**01 21 08.8 +1.1**
	baz=210					
N17K	**Nushagak Hills**	**86.05 16**		P	**P**	**01 21 08.3 +0.6**
	baz=212					
P19K	**Oil Pt**	**86.41 18**		P	**P**	**01 21 10.4 +0.8**
	baz=215					
L16K	**Owhat River**	**86.50 15**		P	**P**	**01 21 10.9 +0.9**
	baz=210					
N18K	**Kilae Creek**	**86.52 17**		P	**P**	**01 21 10.9 +0.8**
	baz=213					
TROLL	**Troll, Antarti**	**86.53 184**	⇓	P	**P**	**01 21 08.8 -1.6**
	comp=Z,2μm,0.8s					
J14K	**Nanvaranak Lak**	**86.53 12**		P	**P**	**01 21 12.6 +2.5**
J14K	**Nanvaranak Lak**	**86.53 12**		P	**P**	**01 21 11.3 +1.2**
	baz=206					
K15K	**Wolf Creek Mou**	**86.55 13**		P	**P**	**01 21 11.4 +1.1**
	baz=208					
ILSW	**Iliamna Southw**	**86.70 18**		IAmb	IAmb	01 21 26.7
	comp=Z,24nm,0.9s					
M17K	**Holitna River**	**86.73 16**		IAmb	IAmb	01 21 27.7
	comp=Z,23nm,1.0s					
M17K	**Holitna River**	**86.73 16**		P	**P**	**01 21 13.1 +2.0**
	baz=212					
NVL	**N'lazarevskaya**	**86.83 188**	*e*	P	**P**	**01 21 12.1 +0.4**
NVL			*e*			01 24 30.4
NVL			*e*	S	**SKSac**	**01 31 39.1 +0.4**
NVL				pmax	pmax	
	comp=Z,20nm,0.9s					
NVL				MLR	MLR	
	comp=Z,660nm,17.0s					
O20K	**Slope Mountain**	**86.94 18**		P	**P**	**01 21 13.0 +0.8**
	baz=216					
N19K	**Bonanza Creek**	**87.01 17**		P	**P**	**01 21 13.0 +0.4**
	baz=214					
L17K	**Donlin**	**87.15 15**		P	**P**	**01 21 14.2 +1.1**

baz=211
SNAA Sanae 87.17 183 P **P 01 21 12.0 -1.4**
SNAA IAmb IAmb 01 21 15.5
comp=Z,26nm,1.0s
SNAA Sanae 87.17 183 ⇓P **P 01 21 11.9 -1.4**
comp=Z,354nm,0.9s
SNAA Sanae 87.17 183 P **P 01 21 12.0 -1.4**
comp=Z,20nm,1.0s,baz=162,slow=5.2,SNR=22
SNAA LR LR 01 58 41.2
comp=Z,319nm,18.0s,baz=191,slow=35
comp=Z,20nm,1.0s
SNAA Sanae 87.17 183 *ce*P **P 01 21 11.8 -1.6**
SNAA pmax pmax
comp=Z,27nm,1.1s
BRLK Bradley Lake 87.20 19 IAMs_20 IAMs_20 02 05 37.5
comp=Z,482nm,18.0s
M18K Stony River 87.22 16 P **P 01 21 14.3 +0.8**
baz=213
BRSE Bradley Lake S 87.23 19 P **P 01 21 14.1 +0.5**
baz=218
CIT Chita 87.31 330 *e*P **P 01 21 13.6 -0.6**
CIT pmax pmax
comp=Z,111nm,1.8s
KMPM Mount Pierce 87.52 45 IAMs_20 IAMs_20 01 51 59.2
comp=Z,620nm,22.0s
SAO San Andreas Ge 87.54 49 IAMs_20 IAMs_20 01 54 18.9
comp=Z,515nm,20.0s
L18K Granite Mounta 87.61 15 IAMs_20 IAMs_20 01 55 33.6
comp=Z,370nm,21.0s
L18K Granite Mounta 87.61 15 P **P 01 21 16.4 +1.0**
baz=212
J16K Anvik River 87.63 13 IAmb IAmb 01 21 32.1
comp=Z,22nm,0.8s
K17K Iditarod 87.65 15 P **P 01 21 16.7 +1.1**
baz=211
VNA3 Neumayer Olymp 87.78 181 ⇓P **P 01 21 14.8 -1.5**
comp=Z,10nm,0.5s
SHL Shillong 87.80 298 IAmb IAmb 01 21 29.9
comp=Z,24nm,0.9s
PKM Mcpherson Peak 87.82 51 P **P 01 21 17.8 +0.5**
baz=242
ANM Nome 87.84 11 P **P 01 21 16.1 -0.3**
baz=204
SEW Seward 87.91 20 P **P 01 21 16.3 -0.5**
baz=219
M19K Big River Lodg 87.94 17 P **P 01 21 16.9 0.0**
baz=214
KHMM Horse Mountain 88.01 45 IAMs_20 IAMs_20 01 50 44.0
comp=Z,505nm,22.0s
L19K White Mountain 88.05 16 P **P 01 21 17.0 -0.5**
baz=214
VNA2 Neumayer--Watz 88.06 181 ⇓P **P 01 21 16.4 -1.2**
comp=Z,16nm,0.5s,baz=180,slow=5.0
J17K VABM Dome 88.06 14 P **P 01 21 17.5 0.0**
baz=210
GTA Gaotai 88.08 314 *e*P **P 01 21 20.1 +1.7**
GTA sP pwP 01 21 26.6 +1.2
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA LR LR
comp=Z,120nm,15.9s
GTA LR LR
comp=Z,160nm,17.5s
GTA LR LR
comp=Z,98nm,16.3s
M20K Styx River 88.26 17 P **P 01 21 18.1 -0.5**
baz=215
VNA1 Neumayer--Stat 88.35 181 ⇓P **P 01 21 17.6 -1.4**
comp=Z,22nm,1.1s
KSXB Camp Six Broad 88.39 44 IAMs_20 IAMs_20 01 52 36.3
comp=Z,466nm,21.0s
SONM Songino Array 88.47 323 P **P 01 21 19.4 -0.6**
SONM Songino Array 88.47 323 P **P 01 21 19.3 -0.7**
comp=Z,14nm,1.0s,baz=147,slow=4.6,SNR=36
SONM PKKPbc **PKKPdf 01 39 02.1 +2.6**
comp=Z,1.4nm,0.7s,baz=251,slow=2.4,SNR=7.4
SONM PKPPKP **P'P'df 01 47 09.2 +2.2**
comp=Z,1.3nm,1.0s,baz=270,slow=1.5,SNR=3.5
SONM LR LR 02 01 03.6
comp=Z,98nm,19.4s,baz=104,slow=36
comp=Z,14nm,1.0s
SONM Songino Array 88.47 323 P **P 01 21 19.4 -0.6**
SONM pmax pmax
comp=Z,89nm,1.7s
G15K Niukluk 88.47 11 P **P 01 21 19.4 0.0**
baz=206
H16K Elim 88.49 12 P **P 01 21 19.7 +0.2**
baz=207
F14K Arctic Creek 88.52 10 P **P 01 21 20.4 +0.8**
baz=203
L20K Farewell, AK 88.55 16 P **P 01 21 19.8 -0.1**
baz=215
YAK Yakutsk 88.59 343 P **P 01 21 20.8 +0.8**
YAK Yakutsk 88.59 343 LR LR 02 01 07.6
comp=Z,265nm,18.2s,baz=136,slow=36
YAK Yakutsk 88.59 343 *e*P **P 01 21 19.3 -0.7**
YAK *e* 01 21 20.9
YAK *e**PP **sP 01 21 23.8 +2.3**
YAK *e* 01 24 49.0
YAK *e*S **SKSac 01 31 52.9 +3.8**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK smax smax
comp=E,69nm,10.5s
YAK smax smax
comp=N,173nm,12.1s
YAK MLR MLR
comp=Z,348nm,21.0s
YAK MLR MLR
comp=N,180nm,19.0s
YAK MLR MLR
comp=E,94nm,17.0s
SUA Susitna One 88.60 18 IAMs_20 IAMs_20 02 04 22.8
comp=Z,313nm,18.0s
SUA Susitna One 88.60 18 P **P 01 21 20.0 -0.2**
baz=218
RC01 Rabbit Creek A 88.60 19 IAMs_20 IAMs_20 02 00 21.9
comp=Z,335nm,19.0s
DECC Green Verdugo 88.62 52 P **P 01 21 20.6 -0.2**
baz=243
ARVC Arvin 88.65 51 P **P 01 21 21.0 +0.1**
baz=243
J18K Innoko River 88.67 15 IAmb IAmb 01 21 35.3
comp=Z,10nm,0.8s
J18K Innoko River 88.67 15 P **P 01 21 20.1 -0.3**
baz=212
PASC Pasadena Art C 88.69 53 IAmb IAmb 01 21 23.7
comp=Z,39nm,1.4s
L02F Cave Junction 88.74 44 IAmb IAmb 01 21 35.5
comp=Z,22nm,1.3s
L02F IAMs_20 IAMs_20 01 52 15.3
comp=Z,543nm,21.0s
SKT Skwentna 88.79 18 P **P 01 21 21.7 +0.7**
baz=217
VES Vestal, Richgr 88.79 51 P **P 01 21 21.9 +0.3**
baz=243
ORV Oroville 88.84 47 IAmb IAmb 01 21 24.5
comp=Z,31nm,1.1s
CMB Columbia Colle 88.88 48 IAmb IAmb 01 21 24.6
comp=Z,30nm,1.1s
CMB IAMs_20 IAMs_20 01 51 23.5
comp=Z,537nm,22.0s
AFDM Forest Hills D 88.91 47 IAmb IAmb 01 21 24.8
comp=Z,40nm,1.2s
AFDM IAMs_20 IAMs_20 02 00 14.2
comp=Z,327nm,18.0s
109C Camp Elliot, M 88.93 54 IAmb IAmb 01 21 25.0
comp=Z,34nm,1.2s
109C Camp Elliot, M 88.93 54 P **P 01 21 22.1 -0.2**
baz=244
K02D Willamette Mer 88.97 43 IAmb IAmb 01 21 25.5
comp=Z,36nm,1.3s
BILL Bilibino 89.02 359 P **P 01 21 22.0 +0.1**
BILL Bilibino 89.02 359 *i* P **P 01 21 20.9 -1.0**
BILL *i* 01 21 27.6
BILL pmax pmax
comp=Z,32nm,1.0s
F15K North Star Dit 89.02 11 P **P 01 21 22.8 +0.9**
baz=205
YBH Yreka Blue Hor 89.10 44 IAmb IAmb 01 21 26.2
comp=Z,35nm,1.3s
YBH IAMs_20 IAMs_20 01 52 38.0
comp=Z,431nm,20.0s
YBH Yreka Blue Hor 89.10 44 LR LR 01 53 22.1
comp=Z,413nm,21.3s,baz=256,slow=30
BFSC Mount Baldy Ra 89.11 53 P **P 01 21 23.4 0.0**
baz=244,SNR=6.5
G16K Koyuk River 89.15 12 IAmb IAmb 01 21 38.9
comp=Z,14nm,0.8s
G16K Koyuk River 89.15 12 P **P 01 21 23.6 +1.0**
baz=207
EDW2 Edwards Air Fo 89.15 52 P **P 01 21 23.3 -0.2**
baz=243,SNR=9.0
ISA Isabella, Lake 89.15 51 P **P 01 21 23.9 +0.5**
baz=243,SNR=13
MURC Murrieta 89.18 53 P **P 01 21 23.4 -0.2**
baz=244
PMR Palmer 89.18 19 P **P 01 21 26.1 +3.3**
PMR Palmer 89.18 19 IAMs_20 IAMs_20 02 07 34.2
comp=Z,355nm,18.0s
PMR Palmer 89.18 19 P **P 01 21 24.1 +1.4**
baz=219
H17K Granite Mounta 89.23 13 IAMs_20 IAMs_20 01 56 22.1
comp=Z,340nm,20.0s
H17K Granite Mounta 89.23 13 P **P 01 21 24.0 +1.0**
baz=209
K20K Telida 89.23 16 P **P 01 21 23.5 +0.4**
baz=214
KNK Knik Glacier 89.24 19 IAMs_20 IAMs_20 02 06 33.9
comp=Z,332nm,18.0s
KNK Knik Glacier 89.24 19 P **P 01 21 23.6 +0.4**
baz=220
GLI Glacier Island 89.26 20 P **P 01 21 24.1 +0.9**
baz=221
VTX Valle De La Tr 89.29 56 IAmb IAmb 01 21 27.3
comp=Z,24nm,1.2s
VTX IAMs_20 IAMs_20 02 08 52.6
comp=Z,475nm,22.0s
HUMO Hull Mountain 89.38 43 IAmb IAmb 01 21 27.5
comp=Z,26nm,1.1s
HUMO IAMs_20 IAMs_20 01 52 45.2
comp=Z,530nm,21.0s
J19K Poorman 89.38 15 P **P 01 21 24.7 +1.0**
baz=213
MONP2 Monument Peak 89.45 54 P **P 01 21 25.4 +0.4**
baz=244,SNR=7.1
HATC Hat Creek Radi 89.48 45 IAMs_20 IAMs_20 02 00 05.0
comp=Z,393nm,19.0s
G17K Kiwalik Mounta 89.57 12 P **P 01 21 25.8 +1.2**
baz=209
IKP In-Ko-Pah, Jac 89.58 55 P **P 01 21 25.9 +0.4**
baz=244,SNR=6.8
SML Sawmill 89.58 19 IAMs_20 IAMs_20 02 07 35.9
comp=Z,314nm,18.0s
RMX La Rumorosa 89.59 55 IAMs_20 IAMs_20 01 51 33.8
comp=Z,395nm,19.0s
L04D Klamath Falls 89.60 44 IAmb IAmb 01 21 41.9
comp=Z,32nm,0.9s
MDPB Devils Postpil 89.61 49 IAMs_20 IAMs_20 01 52 33.8
comp=Z,381nm,20.0s
LRMC Laurel Mtn Rad 89.65 52 P **P 01 21 26.4 +0.5**
baz=244,SNR=15
I03D Drain, OR 89.67 42 IAmb IAmb 01 21 28.4
comp=Z,36nm,1.3s
YUH Yuha Desert 89.72 55 IAmb IAmb 01 21 28.9
comp=Z,26nm,1.2s
PFO Pinyon Flats O 89.73 54 P **P 01 21 26.4 +0.1**
PFO IAmb IAmb 01 21 29.0
comp=Z,23nm,1.1s
PFO Pinyon Flats O 89.73 54 P **P 01 21 26.6 +0.4**
baz=244,SNR=7.5
PFO Pinyon Flats O 89.73 54 LR LR 01 57 53.8
comp=Z,158nm,18.0s,baz=244,slow=33
PFO Pinyon Flats O 89.73 54 P **P 01 21 26.4 +0.1**
PFO pmax pmax
comp=Z,23nm,1.2s
TPFO Pinon Flats 89.73 54 P **P 01 21 26.2 -0.1**
baz=244,SNR=7.9
SUCK Suckling Hills 89.76 22 IAMs_20 IAMs_20 02 03 43.7
comp=Z,483nm,18.0s
WAKR Walker 89.76 48 IAmb IAmb 01 21 29.4
comp=Z,36nm,1.2s
CWC Cottonwood Cre 89.79 51 P **P 01 21 25.5 -1.0**
baz=243
CAST Castle Rocks 89.80 17 P **P 01 21 24.6 -1.1**
baz=216
PMD Palm Desert 89.81 54 IAmb IAmb 01 21 29.1
comp=Z,23nm,1.1s
DIB Dawson Inlet, 89.85 31 IAmb IAmb 01 21 28.8
comp=Z,41nm,1.1s
DIB IAMs_20 IAMs_20 02 10 01.8
comp=Z,428nm,18.0s
RRX Edison Barstow 89.88 52 P **P 01 21 27.0 +0.2**
baz=244
J20K Nowinta River 89.89 15 P **P 01 21 26.1 +0.1**
baz=214
SCM Sheep Creek Mo 89.91 19 P **P 01 21 27.9 +1.5**
baz=220
PNTR Pine Nut 89.92 48 IAmb IAmb 01 21 30.0
comp=Z,31nm,1.1s
PNTR IAMs_20 IAMs_20 01 53 57.9
comp=Z,451nm,20.0s
MG05 Puerto Natales 89.92 147 IAmb IAmb 01 21 47.2
comp=Z,23nm,1.0s
SWSC Sam W. Stewart 89.94 55 P **P 01 21 27.9 +0.8**
baz=245,SNR=12
TIN Tinemaha, Big 89.95 50 P **P 01 21 27.2 0.0**
baz=243
MPMC Manual Prospec 90.04 51 P **P 01 21 27.3 -0.5**
baz=244,SNR=19
GOMU GeErMu 90.08 309 P **P 01 21 27.5 -0.7**
GOMU pP sP 01 21 33.6 +3.9
GOMU PP **PP 01 25 02.8 +1.0**
GOMU S **S 01 32 22.8 +0.5**
GOMU SS **SS 01 38 24.7 +3.3**
GOMU pmax pmax
comp=Z,8.0nm,0.7s
GOMU pmax pmax
comp=Z,230nm,5.0s
KLU Klutina 90.09 20 P **P 01 21 27.8 +0.6**
baz=222
BMRM Bremner River 90.13 21 P **P 01 21 27.8 +0.4**
baz=223
COR Corvallis 90.15 42 IAMs_20 IAMs_20 01 52 18.4
comp=Z,507nm,21.0s
HEBO Mount Hebo 90.19 41 IAMs_20 IAMs_20 01 52 10.4
comp=Z,405nm,21.0s
GSC Goldstone, Bar 90.21 52 IAmb IAmb 01 21 33.1
comp=Z,25nm,1.4s
GSC Goldstone, Bar 90.21 52 P **P 01 21 27.7 -0.7**
baz=244
GO09 Cerro Castillo 90.25 147 P **P 01 21 29.0 +0.7**
BELC Belle Mtn. Jos 90.25 53 P **P 01 21 28.6 -0.1**
baz=244,SNR=20
DSP Deep Springs 90.28 50 IAMs_20 IAMs_20 02 03 38.5
comp=Z,445nm,18.0s
F17K Baldwin Pennin 90.29 12 IAmb IAmb 01 21 45.7
comp=Z,14nm,0.7s
F17K Baldwin Pennin 90.29 12 P **P 01 21 28.5 +0.7**
baz=208
LHV Little Huntoon 90.30 49 IAMs_20 IAMs_20 01 54 30.0
comp=Z,453nm,20.0s
I04A Tendick Farm, 90.31 43 IAmb IAmb 01 21 44.9
comp=Z,24nm,1.2s
I04A IAMs_20 IAMs_20 01 52 52.8
comp=Z,586nm,22.0s
G18K Tagagawik 90.32 13 IAmb IAmb 01 21 30.1
comp=Z,24nm,1.6s
G18K Tagagawik 90.32 13 P **P 01 21 28.6 +0.5**
baz=210
WAX Waxell Ridge 90.35 22 IAMs_20 IAMs_20 02 04 14.3
comp=Z,426nm,18.0s
HEC Hector,Ludlow 90.35 53 P **P 01 21 28.4 -0.7**
baz=244
PAHR Pah Rah Range 90.36 47 IAmb IAmb 01 21 31.7
comp=Z,23nm,1.1s
PAHR IAMs_20 IAMs_20 02 01 18.3
comp=Z,339nm,18.0s
WAT6 Susitna Watana 90.36 19 P **P 01 21 28.5 -0.1**
baz=220
SRIG Santa Rosalia 90.43 61 IAMs_20 IAMs_20 01 54 57.9
comp=Z,483nm,20.0s
RYN Ryan 90.46 48 P **P 01 21 31.3 +1.7**
RYN Ryan 90.46 48 IAmb IAmb 01 21 32.2
comp=Z,18nm,1.1s
RYN IAMs_20 IAMs_20 01 54 03.1
comp=Z,533nm,19.0s
MESA MESA 90.47 22 IAMs_20 IAMs_20 02 09 19.7
comp=Z,381nm,18.0s
M24K Tolsona, Glenn 90.47 19 P **P 01 21 29.2 +0.3**
baz=222
H19K Roundabout Mou 90.48 14 P **P 01 21 29.0 +0.2**
baz=212
G03D McMinnville, O 90.48 41 IAMs_20 IAMs_20 01 53 44.3
comp=Z,373nm,21.0s
BC3 Big Chuckawall 90.51 54 P **P 01 21 29.9 0.0**
baz=245,SNR=11
NVAR Mina Array Bea 90.52 49 P **P 01 21 28.3 -1.6**
comp=Z,9.9nm,0.9s,baz=235,slow=6.3,SNR=33
NVAR LR LR 01 54 52.6
comp=Z,405nm,20.5s,baz=268,slow=31
comp=Z,9.9nm,0.9s
GRAC Grapevine Rang 90.55 50 IAmb IAmb 01 21 52.7
comp=Z,18nm,0.7s
GRAC IAMs_20 IAMs_20 02 03 23.6
comp=Z,437nm,18.0s
GRAC Grapevine Rang 90.55 50 P **P 01 21 30.1 +0.2**
baz=244
HOLB Holberg 90.56 35 IAMs_20 IAMs_20 01 51 44.0
comp=Z,511nm,22.0s
N25K Chitina, Valde 90.60 20 P **P 01 21 30.1 +0.5**
baz=223
BPAW Bear Paw Mtn. 90.64 17 P **P 01 21 30.7 +1.1**
baz=217
F03A Seaside 90.67 40 IAMs_20 IAMs_20 01 51 22.1
comp=Z,423nm,21.0s
RND Reindeer 90.67 18 IAMs_20 IAMs_20 02 01 54.6
comp=Z,378nm,19.0s
FURC Furnace Creek, 90.68 51 P **P 01 21 30.4 0.0**
baz=244,SNR=12
PALK Pallekele 90.69 277 LR LR 02 06 21.6
comp=Z,277nm,18.2s,baz=228,slow=38
GWY Greenwater Val 90.70 51 IAmb IAmb 01 21 33.1
comp=Z,23nm,1.1s
VRDI Verde Repeater 90.71 21 IAmb IAmb 01 21 53.7
comp=Z,20nm,1.6s
GLA Glamis 90.73 55 P **P 01 21 31.0 +0.2**
baz=245,SNR=20
F18K Selawik 90.74 12 P **P 01 21 30.5 +0.5**
baz=210
E17K Hotham Inlet 90.75 11 P **P 01 21 29.9 -0.1**
baz=208
LPIG La Paz 90.77 65 LR LR 01 55 42.0
comp=Z,346nm,18.1s,baz=226,slow=31
H20K Anotleneega Mo 90.81 14 P **P 01 21 30.4 0.0**
baz=214
GMRC Granite Mounta 90.84 53 P **P 01 21 31.0 -0.4**
baz=245,SNR=7.0
DHY Denali Highway 90.85 18 IAMs_20 IAMs_20 02 07 12.3
comp=Z,340nm,18.0s
DHY Denali Highway 90.85 18 P **P 01 21 30.4 -0.3**
baz=220
SHOC Shoshone, Teco 90.86 52 P **P 01 21 30.9 -0.4**
baz=244,SNR=6.6
G19K Purcell Mounta 90.87 13 IAMs_20 IAMs_20 01 57 56.4
comp=Z,350nm,20.0s
G19K Purcell Mounta 90.87 13 P **P 01 21 31.0 +0.4**
baz=212
H04A Detroit Lake 90.89 42 IAMs_20 IAMs_20 01 53 09.1
comp=Z,460nm,21.0s
MCK McKinley 90.91 17 P **P 01 21 31.2 +0.3**
baz=219
CRAG Craig 90.92 29 P **P 01 21 31.1 +0.1**
baz=232
GRNC Granite Creek 90.93 22 IAmb IAmb 01 21 44.3
comp=Z,23nm,1.4s
GRNC IAMs_20 IAMs_20 02 04 08.8
comp=Z,331nm,18.0s
KVN Kaiserville 90.94 48 IAMs_20 IAMs_20 01 54 27.9
comp=Z,536nm,21.0s
TABL Table Mountain 90.94 22 IAMs_20 IAMs_20 02 09 26.1
comp=Z,299nm,18.0s
SIT Sitka 90.95 27 IAMs_20 IAMs_20 01 52 35.6
comp=Z,440nm,22.0s
SIT Sitka 90.95 27 P **P 01 21 31.5 +0.4**
baz=231
IRM Iron Mountain 90.95 54 P **P 01 21 30.9 -0.9**
baz=245,SNR=18
MCARA McCarthy VSAT 90.96 21 P **P 01 21 30.8 -0.4**
baz=224
E03A Lebam 90.97 40 IAMs_20 IAMs_20 01 53 04.2
comp=Z,404nm,20.0s
PNL Peninsula 91.05 24 P **P 01 21 31.6 0.0**
baz=227
F04D Rainier, OR 91.07 40 IAMs_20 IAMs_20 01 52 36.9
comp=Z,439nm,22.0s
D17K Noatak River 91.09 10 P **P 01 21 31.6 0.0**
baz=206
OZB Mount Ozzard 91.10 37 IAMs_20 IAMs_20 02 03 53.2
comp=Z,363nm,22.0s
S31K Pelican 91.15 26 IAmb IAmb 01 21 48.4
comp=Z,22nm,1.0s
S31K IAMs_20 IAMs_20 01 52 30.9
comp=Z,399nm,21.0s
S31K Pelican 91.15 26 P **P 01 21 32.1 +0.1**
baz=230
BCPM Bancas Point 91.15 23 IAMs_20 IAMs_20 02 03 22.7
comp=Z,411nm,19.0s
PIX Pinacate 91.17 57 IAmb IAmb 01 21 35.3
comp=Z,16nm,1.1s
PIX IAMs_20 IAMs_20 02 03 11.3
comp=Z,330nm,20.0s
NLWA Neilton Lookou 91.22 39 IAmb IAmb 01 21 35.8
comp=Z,26nm,1.0s
NLWA IAMs_20 IAMs_20 02 03 34.7
comp=Z,404nm,19.0s
CTG Chitna Glacier 91.24 22 P **P 01 21 32.1 -0.6**
baz=226
CTGM Chitina Glacie 91.24 22 IAmb IAmb 01 23 07.6
comp=Z,8.7nm,0.6s
CTGM IAMs_20 IAMs_20 02 03 37.0
comp=Z,337nm,19.0s
I05D Terrebonne, OR 91.25 42 IAMs_20 IAMs_20 01 53 21.7
comp=Z,509nm,21.0s
BLYC Blythe 91.25 54 IAmb IAmb 01 21 36.2
comp=Z,32nm,1.2s
LOGN Logan Glacier 91.26 22 IAmb IAmb 01 21 34.2
comp=Z,23nm,1.4s
E18K Tukpahlearik C 91.28 11 IAmb IAmb 01 21 35.4
comp=Z,10.0nm,0.8s
E18K Tukpahlearik C 91.28 11 P **P 01 21 32.5 0.0**
baz=209
F19K Shaleruckik Mo 91.32 13 IAmb IAmb 01 21 35.1
comp=Z,12nm,1.0s
F19K Shaleruckik Mo 91.32 13 P **P 01 21 33.0 +0.4**
baz=211
U33K Whale Pass 91.32 28 IAmb IAmb 01 21 48.9
comp=Z,21nm,0.9s
U33K IAMs_20 IAMs_20 01 52 37.5
comp=Z,485nm,22.0s
U33K Whale Pass 91.32 28 P **P 01 21 32.4 -0.4**
baz=233,SNR=7.5
TPNV Topopah Spring 91.33 51 P **P 01 21 32.8 -0.9**
baz=244,SNR=20
PAX Paxson 91.34 19 P **P 01 21 32.1 -0.9**
baz=222
113A Mohawk Valley, 91.42 55 IAmb IAmb 01 21 37.0
comp=Z,34nm,1.5s
BBB Bella Bella 91.43 33 IAmb IAmb 01 21 49.6
comp=Z,17nm,0.9s
BBB Bella Bella 91.43 33 LR LR 01 53 25.2
comp=Z,236nm,21.8s,baz=248,slow=30
H21K Melozitna Rive 91.44 15 P **P 01 21 32.1 -1.2**
baz=216
RDOG Red Dog Mine 91.44 10 P **P 01 21 33.6 +0.3**
baz=206
GRNB Grenville Isla 91.44 31 IAmb IAmb 01 21 50.4
comp=Z,17nm,1.0s
MLY Manley 91.44 16 P **P 01 21 32.3 -1.1**
baz=218
IMAR Indian Mountai 91.48 14 P **P 01 21 32.1 -1.3**
O28M Mount Upton 91.51 22 P **P 01 21 33.3 -0.8**
baz=227
S32K Killisnoo 91.52 27 P **P 01 21 33.9 +0.1**
baz=231
V35K Ketchikan 91.53 30 IAMs_20 IAMs_20 01 52 20.1
comp=Z,466nm,22.0s
V35K Ketchikan 91.53 30 P **P 01 21 33.5 -0.3**
baz=234,SNR=6.6
HOOD Mount Hood Mea 91.53 41 IAmb IAmb 01 21 51.2
comp=Z,29nm,1.1s
HOOD IAMs_20 IAMs_20 02 08 10.0
comp=Z,471nm,18.0s
NEA2 Nenana 91.54 17 P **P 01 21 34.1 +0.3**
baz=219
ZAK Zakamensk 91.58 324 *e*P **P 01 21 33.4 -1.0**
ZAK pmax pmax
comp=Z,34nm,1.4s
RUBB Prince Rupert 91.58 31 IAmb IAmb 01 21 50.4
comp=Z,15nm,1.0s
NEE2 Needles Airpor 91.61 53 P **P 01 21 34.0 -0.7**
baz=245

P29M	Windy Craggy	91.65	24	IAmb	IAmb	01 21 49.7		
	comp=Z,15nm,0.8s							
P29M				IAms_20	IAms_20	01 53 00.9		
	comp=Z,472nm,22.0s							
P29M	Windy Craggy	91.65	24	P	P	01 21 34.6	+0.2	
	baz=229,SNR=7.3							
M26K	Nabesna, AK	91.70	20	P	P	01 21 34.9	+0.2	
	baz=224							
WRH	Wood River Hil	91.71	17	IAms_20	IAms_20	02 06 25.1		
	comp=Z,290nm,18.0s							
GO08	Villa O'Higgin	91.75	144	P	P	01 21 35.8	+0.5	
GO08				IAmb	IAmb	01 21 38.6		
	comp=Z,18nm,1.1s							
PDMCI	Parker Dam,Lak	91.77	54	P	P	01 21 35.4	-0.2	
	baz=246,SNR=6.1							
O29M	Mount Kennedy	91.78	23	IAms_20	IAms_20	02 02 41.3		
	comp=Z,455nm,18.0s							
O29M	Mount Kennedy	91.78	23	P	P	01 21 34.8	-0.4	
	baz=228							
CLRS	Cowichan Lake	91.79	38	IAmb	IAmb	01 21 38.0		
	comp=Z,30nm,1.2s							
CLRS				IAms_20	IAms_20	01 52 30.8		
	comp=Z,450nm,21.0s							
214A	Organ Pipe Nat	91.83	56	IAmb	IAmb	01 21 39.0		
	comp=Z,26nm,1.4s							
214A	Organ Pipe Nat	91.83	56	P	P	01 21 36.0	0.0	
	baz=246,SNR=6.2							
V12A	Nelson	91.83	52	IAmb	IAmb	01 21 38.8		
	comp=Z,15nm,1.2s							
WRAK	Wrangell Islan	91.85	28	IAms_20	IAms_20	01 52 52.5		
	comp=Z,468nm,22.0s							
WRAK	Wrangell Islan	91.85	28	P	P	01 21 36.5	+1.2	
	baz=233							
K24K	Donnelly Dome	91.87	18	P	P	01 21 36.2	+0.9	
	baz=222							
I23K	Minto, Yukon-K	91.90	16	P	P	01 21 35.5	+0.1	
	baz=219							
GNW	Green Mountain	91.92	39	IAmb	IAmb	01 21 52.5		
	comp=Z,18nm,0.8s							
F20K	Avaraart Lake	91.93	13	IAms_20	IAms_20	01 58 07.4		
	comp=Z,387nm,21.0s							
F20K	Avaraart Lake	91.93	13	P	P	01 21 36.0	+0.5	
	baz=213,SNR=5.8							
CCB	Clear Creek Bu	91.93	17	IAms_20	IAms_20	02 06 30.7		
	comp=Z,304nm,19.0s							
E19K	Redstone River	91.96	12	IAmb	IAmb	01 21 38.4		
	comp=Z,17nm,0.9s							
E19K	Redstone River	91.96	12	P	P	01 21 36.6	+0.9	
	baz=212,SNR=6.0							
G21K	Allakaket	91.97	14	IAmb	IAmb	01 21 37.9		
	comp=Z,20nm,1.2s							
G21K	Allakaket	91.97	14	P	P	01 21 35.8	+0.1	
	baz=215							
H22K	Ishtalitna Cre	91.97	15	P	P	01 21 35.6	-0.2	
	baz=217							
HDA	Harding Lake	91.99	18	IAmb	IAmb	01 21 37.6		
	comp=Z,38nm,1.6s							
HDA				IAms_20	IAms_20	02 09 01.4		
	comp=Z,360nm,18.0s							
HDA	Harding Lake	91.99	18	P	P	01 21 35.7	-0.2	
	baz=221							
S11A	Rachel	91.99	50	IAmb	IAmb	01 21 39.2		
	comp=Z,36nm,1.4s							
YUK8	Steele Glacier	92.02	22	P	P	01 21 35.3	-1.1	
	baz=227,SNR=12							
M27K	Edge Creek, AK	92.04	21	IAmb	IAmb	01 21 38.1		
	comp=Z,18nm,1.4s							
M27K	Edge Creek, AK	92.04	21	P	P	01 21 36.5	+0.2	
	baz=225							
IRK	Irkutsk	92.05	326	eP	P	01 21 35.1	-1.3	
IRK				pmax	pmax			
	comp=Z,45nm,1.4s							
PLBC	Pleasant Camp	92.06	25	P	P	01 21 36.0	-0.3	
	baz=230,SNR=11							
PGC	Sidney	92.10	38	IAmb	IAmb	01 21 39.3		
	comp=Z,26nm,1.0s							
PGC				IAms_20	IAms_20	01 52 06.8		
	comp=Z,342nm,21.0s							
WVOR	Wild Horse Val	92.10	45	IAmb	IAmb	01 21 44.9		
	comp=Z,18nm,1.1s							
WVOR				IAms_20	IAms_20	01 55 21.5		
	comp=Z,354nm,20.0s							
WVOR	Wild Horse Val	92.10	45	P	P	01 21 36.6	-0.5	
JIS	Juneau Island	92.11	26	P	P	01 21 39.3	+2.8	
JIS	Juneau Island	92.11	26	IAmb	IAmb	01 21 51.8		
	comp=Z,9.7nm,0.8s							
JIS				IAms_20	IAms_20	01 53 00.3		
	comp=Z,528nm,22.0s							
YUK3	Moose Creek	92.11	22	P	P	01 21 35.7	-1.0	
	baz=226							
G06A	Carlson Farm,	92.12	42	IAmb	IAmb	01 21 39.4		
	comp=Z,43nm,2.0s							
G06A				IAms_20	IAms_20	01 53 45.6		
	comp=Z,430nm,22.0s							
LON	Longmire	92.12	40	IAmb	IAmb	01 21 43.4		
	comp=Z,14nm,1.4s							
LON				IAms_20	IAms_20	01 54 03.7		
	comp=Z,352nm,21.0s							
HSIG		92.15	60	IAmb	IAmb	01 21 40.0		
	comp=Z,15nm,1.2s							
BMN	Battle Mountai	92.16	47	IAms_20	IAms_20	02 05 32.2		
	comp=Z,385nm,18.0s							
C18K	Utukok River	92.26	11	P	P	01 21 36.8	-0.3	
	baz=208							
P30M	Million Dollar	92.27	24	P	P	01 21 37.0	-0.3	
	baz=229							
ILAR	Eielson Array	92.28	17	P	P	01 21 34.4	-2.8	
	comp=Z,2.3nm,0.6s,baz=233,slow=5.0,SNR=26							
ILAR				LR	LR	02 02 37.7		
	comp=Z,216nm,18.1s,baz=236,slow=35							
	comp=Z,2.3nm,0.6s							
YUK6	Outpost Mounta	92.29	23	P	P	01 21 37.2	-0.4	
	baz=228							
W13A	Hualapai Mount	92.29	53	IAmb	IAmb	01 21 41.1		
	comp=Z,19nm,1.4s							
W13A				IAms_20	IAms_20	02 07 20.9		
	comp=Z,465nm,18.0s							
H23K	Yukon River	92.38	16	P	P	01 21 38.0	+0.3	
	baz=219							
POKR	Poker Plat Res	92.39	17	P	P	01 21 36.6	-1.1	
	baz=220							
PRN	Pahroc Range	92.39	51	IAms_20	IAms_20	02 03 23.4		
	comp=Z,356nm,19.0s							
R11B	Troy Canyon, C	92.41	50	IAms_20	IAms_20	01 53 55.8		
	comp=Z,388nm,19.0s							
R11B	Troy Canyon, C	92.41	50	P	P	01 21 38.1	-0.6	
	baz=245							
AY03	Cochrane	92.43	143	IAmb	IAmb	01 21 41.8		
	comp=Z,17nm,1.2s							
YUK4	Talbot Arm	92.45	23	P	P	01 21 38.3	-0.1	
	baz=228							
SKAG	Skagway	92.47	25	IAms_20	IAms_20	01 53 12.8		
	comp=Z,391nm,21.0s							
HYT	Haines Junctio	92.52	23	IAmb	IAmb	01 21 53.1		
	comp=Z,12nm,0.8s							
HYT				IAms_20	IAms_20	02 03 52.0		
	comp=Z,458nm,18.0s							
HYT	Haines Junctio	92.52	23	P	P	01 21 37.4	-1.2	
	baz=229,SNR=10							
SCRK	Sand Creek	92.53	19	P	P	01 21 37.3	-1.2	
	baz=224,SNR=6.4							
L27K	Beaver Creek,	92.55	20	IAmb	IAmb	01 21 40.0		
	comp=Z,21nm,1.6s							
L27K	Beaver Creek,	92.55	20	P	P	01 21 37.6	-0.9	
	baz=225,SNR=7.9							
F21K	Alatna River	92.56	14	IAmb	IAmb	01 21 40.4		
	comp=Z,23nm,1.6s							
F21K	Alatna River	92.56	14	P	P	01 21 37.7	-0.8	
	baz=215							
BCAR	Beaver Creek A	92.57	20	P	P	01 21 36.9	-1.7	
J25K	Salcha River,	92.59	18	IAms_20	IAms_20	02 08 52.4		
	comp=Z,392nm,18.0s							
J25K	Salcha River,	92.59	18	P	P	01 21 38.9	+0.2	
	baz=222,SNR=6.4							
U35K	Hyder	92.60	30	IAms_20	IAms_20	01 53 26.5		
	comp=Z,455nm,22.0s							
J08A	Circle Bar Ran	92.63	44	IAmb	IAmb	01 21 41.9		
	comp=Z,16nm,1.0s							
D19K	Kuna River	92.68	12	P	P	01 21 39.6	+0.6	
	baz=211,SNR=5.2							
G22K	Bettles	92.77	15	P	P	01 21 39.4	0.0	
	baz=217							
E20K	Nigu River	92.85	12	P	P	01 21 39.9	0.0	
	baz=213,SNR=7.9							
F07A	Phinny Hill Vi	92.87	42	IAms_20	IAms_20	02 07 30.4		
	comp=Z,430nm,18.0s							
C19K	Lookout Ridge	92.94	11	P	P	01 21 40.0	-0.3	
	baz=210							
G23K	Bananza Creek	92.96	15	IAms_20	IAms_20	01 58 39.9		
	comp=Z,337nm,21.0s							
G23K	Bananza Creek	92.96	15	P	P	01 21 39.5	-0.8	
	baz=218							
MXC	Moxie City	92.96	41	IAmb	IAmb	01 21 55.2		
	comp=Z,15nm,1.5s							
O30N	Mendenhall	93.02	24	IAms_20	IAms_20	02 03 21.0		
	comp=Z,456nm,18.0s							
O30N	Mendenhall	93.02	24	P	P	01 21 39.3	-1.4	
	baz=230,SNR=12							
J26L	Joseph Creek	93.04	19	P	P	01 21 39.1	-1.8	
	baz=224,SNR=9.5							
LTY	Liberty	93.05	40	IAmb	IAmb	01 23 32.3		
	comp=Z,6.4nm,0.6s							
LTY				IAms_20	IAms_20	02 10 26.2		
	comp=Z,333nm,19.0s							
F22K	John River	93.09	14	P	P	01 21 39.3	-1.6	
	baz=216							
N30M	Aishikik Lake	93.09	23	IAms_20	IAms_20	02 02 60.0		
	comp=Z,368nm,19.0s							
N30M	Aishikik Lake	93.09	23	P	P	01 21 39.8	-1.3	
	baz=229							
T35M	Bob Quinn	93.11	29	IAms_20	IAms_20	01 53 55.0		
	comp=Z,391nm,21.0s							
T35M	Bob Quinn	93.11	29	P	P	01 21 40.0	-1.2	
	baz=235							
D20K	Ettivluk River	93.16	12	P	P	01 21 40.3	-0.9	
	baz=212							
K27K	Chicken	93.16	20	IAmb	IAmb	01 21 43.4		
	comp=Z,12nm,0.9s							
K27K	Chicken	93.16	20	P	P	01 21 40.3	-1.0	
	baz=225							
G08A	Pilot Rock	93.19	42	IAmb	IAmb	01 21 44.3		
	comp=Z,10nm,1.0s							
G08A				IAms_20	IAms_20	01 53 50.1		
	comp=Z,437nm,22.0s							
P32M	Atlin	93.20	25	IAmb	IAmb	01 21 57.1		
	comp=Z,10nm,0.8s							
P32M				IAms_20	IAms_20	02 01 17.0		
	comp=Z,420nm,19.0s							
P32M	Atlin	93.20	25	P	P	01 21 40.7	-0.9	
	baz=232							
PRP	Porcupine Dome	93.22	17	IAms_20	IAms_20	02 09 17.0		
	comp=Z,383nm,18.0s							
PRP	Porcupine Dome	93.22	17	P	P	01 21 39.7	-2.1	
	baz=222							
M29M	Somme Creek	93.25	22	P	P	01 21 40.5	-1.4	
	baz=228,SNR=10							
S34M	Telegraph Cree	93.27	28	IAmb	IAmb	01 21 57.9		
	comp=Z,16nm,0.8s							
S34M				IAms_20	IAms_20	01 54 52.0		
	comp=Z,455nm,21.0s							
S34M	Telegraph Cree	93.27	28	P	P	01 21 41.2	-0.7	
	baz=234,SNR=8.5							
COLD	Coldfoot	93.33	15	P	P	01 21 41.0	-1.0	
	baz=218							
HAWA	Hanford	93.34	41	IAmb	IAmb	01 21 45.1		
	comp=Z,24nm,1.6s							
HAWA				IAms_20	IAms_20	01 54 10.9		
	comp=Z,452nm,21.0s							
Q32M	Nakina River	93.41	26	IAmb	IAmb	01 21 58.5		
	comp=Z,10.0nm,0.8s							
Q32M				IAms_20	IAms_20	01 54 02.5		
	comp=Z,487nm,21.0s							
Q32M	Nakina River	93.41	26	P	P	01 21 41.5	-1.3	
	baz=233,SNR=5.2							
E21K	Killik River	93.46	13	P	P	01 21 41.7	-0.9	
	baz=215							
MOY	Mondy	93.48	325	eP	P	01 21 42.7	-0.5	
MOY				pmax	pmax			
	comp=Z,45nm,2.5s							
TUC	Tucson	93.55	57	P	P	01 21 45.6	+1.6	
TUC				IAmb	IAmb	01 21 47.0		
	comp=Z,13nm,1.1s							
TUC	Tucson	93.55	57	P	P	01 21 42.8	-1.1	
	baz=247							
TUC	Tucson	93.55	57	P	P	01 21 45.6	+1.6	
TUC				pmax	pmax			
	comp=Z,13nm,1.2s							
SPR3	Spring Creek 3	93.57	50	IAms_20	IAms_20	01 55 38.5		
	comp=Z,404nm,21.0s							
N31M	Braeburn, Yuko	93.59	23	IAmb	IAmb	01 21 58.4		
	comp=Z,18nm,0.9s							
N31M				IAms_20	IAms_20	02 06 26.2		
	comp=Z,431nm,18.0s							
N31M	Braeburn, Yuko	93.59	23	P	P	01 21 43.3	0.0	
	baz=230,SNR=9.4							
ELK	Elko	93.66	48	IAms_20	IAms_20	02 05 32.8		
	comp=Z,420nm,19.0s							
CCUT	Cedar City	93.67	51	IAms_20	IAms_20	02 02 20.4		
	comp=Z,353nm,19.0s							
E22K	Anaktuvuk Pass	93.68	14	IAms_20	IAms_20	01 59 17.0		
	comp=Z,377nm,21.0s							
E22K	Anaktuvuk Pass	93.68	14	P	P	01 21 42.5	-1.2	
	baz=217							
COYC	Coyhaique	93.69	142	P	P	01 21 44.9	+0.6	
COYC				IAmb	IAmb	01 21 47.8		
	comp=Z,22nm,1.1s							
I26K	Coal Creek Min	93.75	18	IAmb	IAmb	01 21 45.7		
	comp=Z,14nm,0.9s							
I26K	Coal Creek Min	93.75	18	P	P	01 21 42.5	-1.4	
	baz=224							
L29M	L29M	93.81	21	IAmb	IAmb	01 21 46.9		
	comp=Z,23nm,1.2s							
L29M	L29M	93.81	21	P	P	01 21 43.0	-1.4	
	baz=229,SNR=16							
KNB	Kanab	93.86	52	IAmb	IAmb	01 21 49.4		
	comp=Z,18nm,1.4s							
KNB				IAms_20	IAms_20	01 57 37.2		
	comp=Z,368nm,22.0s							
X16A	Lo Mia Camp, P	93.86	55	IAms_20	IAms_20	02 04 03.6		
	comp=Z,314nm,18.0s							
C21K	Knifeblade Rid	93.89	12	P	P	01 21 43.5	-1.0	
	baz=214							
M30M	Minto, Yukon	93.93	22	IAmb	IAmb	01 21 59.9		
	comp=Z,15nm,0.9s							
M30M				IAms_20	IAms_20	02 09 52.2		
	comp=Z,338nm,18.0s							
M30M	Minto, Yukon	93.93	22	P	P	01 21 43.5	-1.4	
	baz=230							
P33M	Teslin, Yukon	93.94	25	IAms_20	IAms_20	02 07 27.5		
	comp=Z,342nm,19.0s							
P33M	Teslin, Yukon	93.94	25	P	P	01 21 43.6	-1.4	
	baz=233							
EGAK	Eagle	93.97	19	P	P	01 21 43.7	-1.3	
	baz=226,SNR=10							
G25K	Bearman Lake	94.00	16	P	P	01 21 44.0	-1.0	
	baz=222							
U15A	North Rim	94.01	53	IAmb	IAmb	01 21 50.9		
	comp=Z,11nm,1.0s							
U15A				IAms_20	IAms_20	02 01 47.4		
	comp=Z,292nm,19.0s							
DAWY	Dawson	94.04	20	IAmb	IAmb	01 21 46.9		
	comp=Z,23nm,1.4s							
DAWY	Dawson	94.04	20	P	P	01 21 44.9	-0.5	
	baz=228							
BMO	Blue Mountains	94.05	43	IAms_20	IAms_20	01 55 35.7		
	comp=Z,548nm,22.0s							
DLBC	Dease Lake	94.05	28	IAmb	IAmb	01 21 48.0		
	comp=Z,24nm,1.4s							
DLBC	Dease Lake	94.05	28	P	P	01 21 44.5	-1.1	
	baz=235,SNR=9.0							
DLBC	Dease Lake	94.05	28	LR	LR	01 55 06.7		
	comp=Z,427nm,21.6s,baz=278,slow=30							
FYU	Fort Yukon	94.08	17	IAms_20	IAms_20	02 01 17.6		
	comp=Z,324nm,21.0s							
D22K	Ayikyak River	94.09	13	IAmb	IAmb	01 21 47.7		
	comp=Z,16nm,0.9s							
D22K	Ayikyak River	94.09	13	P	P	01 21 44.4	-1.1	
	baz=216							
F24K	Squaw Lake	94.12	15	P	P	01 21 44.7	-0.9	
	baz=220,SNR=5.2							
E23K	Chandalar	94.12	15	P	P	01 21 44.7	-1.0	
	baz=219,SNR=5.6							
B20K	Meade River	94.16	11	P	P	01 21 45.0	-0.7	
	baz=212							
R33M	Jennings River	94.20	26	IAmb	IAmb	01 21 48.8		
	comp=Z,19nm,1.4s							
R33M				IAms_20	IAms_20	01 54 16.6		
	comp=Z,427nm,22.0s							
R33M	Jennings River	94.20	26	P	P	01 21 45.2	-1.1	
	baz=234,SNR=9.1							
E09A	Wood Farm, Sta	94.25	42	IAms_20	IAms_20	02 09 37.0		
	comp=Z,354nm,18.0s							
B21K	Ikpikpuk River	94.31	12	P	P	01 21 46.0	-0.4	
	baz=214							
WUAZ	Wupatki	94.34	54	IAms_20	IAms_20	02 04 17.2		
	comp=Z,380nm,18.0s							
WUAZ	Wupatki	94.34	54	P	P	01 21 46.0	-1.6	
	baz=247							
319A	Douglas	94.38	58	IAmb	IAmb	01 21 50.8		
	comp=Z,9.2nm,0.9s							
319A				IAms_20	IAms_20	02 09 16.4		
	comp=Z,457nm,19.0s							
E24K	Your Creek	94.40	15	IAmb	IAmb	01 23 27.4		
	comp=Z,28nm,2.0s							
E24K	Your Creek	94.40	15	P	P	01 21 45.4	-1.5	
	baz=220							
PKCU	Pink Cliffs	94.40	52	IAmb	IAmb	01 21 53.0		
	comp=Z,23nm,1.4s							
PKCU				IAms_20	IAms_20	01 54 14.6		
	comp=Z,348nm,21.0s							
N32M	Quiet Lake	94.40	24	IAms_20	IAms_20	02 01 23.0		
	comp=Z,448nm,20.0s							
N32M	Quiet Lake	94.40	24	P	P	01 21 46.5	-0.7	
	baz=233							
I27K	Kandik River	94.41	19	P	P	01 21 45.8	-1.3	
	baz=226,SNR=6.4							
K29M	Barlow Dome	94.50	21	IAmb	IAmb	01 21 49.2		
	comp=Z,26nm,1.6s							
K29M	Barlow Dome	94.50	21	P	P	01 21 45.7	-1.9	
	baz=229							
M31M	Drury Creek, Y	94.55	23	IAms_20	IAms_20	02 05 57.7		
	comp=Z,443nm,18.0s							
M31M	Drury Creek, Y	94.55	23	P	P	01 21 47.4	-0.3	
	baz=232							
F10A	Beach Ranch, E	94.58	42	IAms_20	IAms_20	02 12 16.9		
	comp=Z,429nm,18.0s							
TOLK	Toolik Lake Re	94.59	14	IAms_20	IAms_20	01 59 58.8		
	comp=Z,422nm,20.0s							
TOLK	Toolik Lake Re	94.59	14	P	P	01 21 47.5	-0.3	
	baz=219							
D23K	Nanushuk River	94.59	14	P	P	01 21 47.6	-0.2	
	baz=218,SNR=13							
MTPU	Mount Pierson	94.73	51	IAms_20	IAms_20	01 57 33.2		
	comp=Z,407nm,19.0s							
F25K	Christian Rive	94.74	16	P	P	01 21 48.5	-0.1	
	baz=222							
C09A	Chrisman Ranch	94.74	40	IAms_20	IAms_20	02 05 17.0		
	comp=Z,356nm,18.0s							
G26K	Porcupine Rive	94.76	17	P	P	01 21 47.9	-0.6	
	baz=224,SNR=5.6							
TCRU	Three Creeks R	94.76	50	IAms_20	IAms_20	02 05 43.1		
	comp=Z,427nm,18.0s							
I28M	Miner Creek	94.81	19	P	P	01 21 47.1	-1.8	
	baz=227,SNR=9.3							
H27K	Steamboat Moun	94.88	18	P	P	01 21 48.3	-0.9	
	baz=226,SNR=6.9							
BMAR	Burnt Mountain	94.89	16	P	P	01 21 48.1	-1.1	
FARO	Faro, Yukon	94.96	23	IAmb	IAmb	01 21 51.4		
	comp=Z,26nm,1.9s							
FARO	Faro, Yukon	94.96	23	P	P	01 21 49.0	-0.7	
	baz=233							
DUG	Dugway, Tooele	95.12	49	IAms_20	IAms_20	01 57 35.7		
	comp=Z,369nm,20.0s							
B22K	Teshekpuk Lake	95.14	12	P	P	01 21 49.4	-0.8	
	baz=215							
E25K	Arctic Village	95.15	16	IAmb	IAmb	01 21 52.8		
	comp=Z,20nm,1.7s							
E25K	Arctic Village	95.15	16	P	P	01 21 49.5	-0.9	
	baz=222							
D24K	Happy Valley	95.16	14	P	P	01 21 49.5	-0.8	
	baz=219							
F26K	Sheenjek River	95.20	16	P	P	01 21 49.7	-0.9	
	baz=224							
G27K	Doyon Strip	95.25	18	IAmb	IAmb	01 21 52.6		
	comp=Z,18nm,1.8s							
G27K				IAms_20	IAms_20	02 12 17.5		
	comp=Z,289nm,18.0s							
G27K	Doyon Strip	95.25	18	P	P	01 21 49.7	-1.1	
	baz=226							
I29M	Ogilvie Camp,	95.25	20	P	P	01 21 50.0	-0.9	
	baz=229,SNR=12							
BGU	Big Grassy Mou	95.26	48	IAms_20	IAms_20	02 04 34.3		
	comp=Z,349nm,18.0s							
C23K	Itkillik River	95.30	13	P	P	01 21 50.7	-0.3	
	baz=218							
LL01	San Ignacio de	95.33	139	IAmb	IAmb	01 21 54.8		
	comp=Z,18nm,1.4s							
J30M	Hart River	95.38	21	P	P	01 21 51.6	0.0	
	baz=230,SNR=6.2							
HLID	Hailey	95.39	45	P	P	01 21 51.6	-0.6	
	baz=246							
W18A	Petrified Fore	95.43	55	IAms_20	IAms_20	02 07 52.0		
	comp=Z,385nm,18.0s							
WTLY	Watson Lake, Y	95.52	27	IAms_20	IAms_20	01 55 51.4		
	comp=Z,504nm,22.0s							
H03S2	Juan Fernandez	95.55	129	T	T	03 07 46.3		
	baz=238							
H03S1	Juan Fernandez	95.57	129	T	T	03 07 48.3		
	baz=238							
H03S3	Juan Fernandez	95.57	129	T	T	03 07 50.7		
	baz=238							
C24K	Franklin Bluff	95.63	14	P	P	01 21 51.9	-0.5	
	baz=220							
NEW	Newport	95.64	40	P	P	01 21 52.4	-0.7	
	baz=244							
NEW	Newport	95.64	40	LR	LR	01 56 23.2		
	comp=Z,119nm,21.4s,baz=250,slow=30							
HPIG		95.71	63	IAms_20	IAms_20	01 56 24.9		
	comp=Z,454nm,21.0s							
HVU	Hansel Valley	95.78	47	P	P	01 21 54.7	+0.7	
HVU				IAmb	IAmb	01 21 58.2		
	comp=Z,20nm,1.8s							
HVU				IAms_20	IAms_20	02 11 29.9		
	comp=Z,303nm,18.0s							
HVU	Hansel Valley	95.78	47	P	P	01 21 54.7	+0.7	
HVU				pmax	pmax			
	comp=Z,20nm,1.8s							
I30M	Mount Dempster	95.78	20	IAmb	IAmb	01 22 08.2		
	comp=Z,13nm,0.9s							
I30M	Mount Dempster	95.78	20	P	P	01 21 51.8	-1.6	
	baz=230,SNR=16							
Q16A	Castle Valley	95.80	51	P	P	01 21 55.5	+1.3	
Q16A				IAms_20	IAms_20	01 59 44.6		
	comp=Z,383nm,20.0s							
H29M	Whitestone	95.81	19	IAmb	IAmb	01 21 56.4		
	comp=Z,13nm,1.2s							
H29M	Whitestone	95.81	19	P	P	01 21 52.5	-0.9	
	baz=229							
SPUT	South Promonto	95.82	48	P	P	01 21 55.5	+1.2	
SPUT				IAms_20	IAms_20	02 00 43.0		
	comp=Z,302nm,20.0s							
MPU	Maple Canyon	95.89	49	IAms_20	IAms_20	01 57 32.9		
	comp=Z,397nm,20.0s							
TMUT	Trail Mountain	95.92	50	P	P	01 21 55.9	+1.0	
TMUT				IAms_20	IAms_20	01 56 00.7		
	comp=Z,324nm,19.0s							
MMPY	Sheldon Lake,	95.97	24	P	P	01 21 54.5	+0.2	
MMPY				IAmb	IAmb	01 21 56.0		
	comp=Z,16nm,1.4s							
MMPY				IAms_20	IAms_20	01 55 40.1		
	comp=Z,515nm,22.0s							
MMPY	Sheldon Lake,	95.97	24	P	P	01 21 53.0	-1.2	
	baz=234,SNR=6.7							
121A	Cook

TIXI Tiksi 96.56 348 *i* P **P 01 21 58.1 +1.5**
TIXI pmax pmax
comp=Z,4.0nm,1.1s
C26K Camden Bay 96.64 15 P **P 01 21 56.3 -0.7**
baz=223
BSUT Blindstream Ca 96.70 49 P **P 01 21 59.4 +0.8**
BSUT IAMs_20 IAMs_20 01 58 17.5
comp=Z,470nm,21.0s
C27K Jago River 96.72 15 P **P 01 21 56.4 -1.0**
baz=224
EPT El Paso 96.73 59 IAMs_20 IAMs_20 01 57 09.6
comp=Z,442nm,19.0s
G30M tAoh Zraii Nji 96.96 19 P **P 01 21 57.9 -0.8**
baz=231
MSO Missoula 97.01 42 IAMs_20 IAMs_20 01 56 08.1
comp=Z,382nm,20.0s
E28M Babbage River 97.07 17 P **P 01 21 58.5 -0.6**
E28M IAmb IAmb 01 22 13.3
comp=Z,9.8nm,0.9s
E28M IAMs_20 IAMs_20 02 05 55.7
comp=Z,290nm,18.0s
E28M Babbage River 97.07 17 P **P 01 21 58.5 -0.6**
baz=228
D27M Malcolm River 97.13 16 P Pdif 01 22 00.5 +1.0
D27M IAmb IAmb 01 22 01.9
comp=Z,11nm,1.1s
D27M IAMs_20 IAMs_20 02 11 33.2
comp=Z,274nm,18.0s
D27M Malcolm River 97.13 16 P **P 01 21 59.1 -0.3**
baz=226
BPMT Black Pine Rid 97.17 43 P **P 01 21 60.0 -0.4**
E29M Blow River 97.38 17 P **P 01 21 59.5 -0.9**
baz=229
F30M Barrier River 97.49 19 P **P 01 22 00.3 -0.6**
baz=231
GO06 Curarrehue 97.52 137 P Pdif 01 22 02.7 +0.5
G31M Satah River 97.52 19 P **P 01 22 00.0 -1.0**
G31M Satah River 97.52 19 P **P 01 22 01.3 +0.2**
baz=232
RDMU Red Mountain 97.56 50 IAMs_20 IAMs_20 01 58 17.2
comp=Z,414nm,20.0s
FXWY Fox Creek 97.68 46 IAMs_20 IAMs_20 02 08 07.1
comp=Z,284nm,20.0s
REDW Red Top Meadow 97.69 47 P Pdif 01 22 03.8 +1.0
IMW Indian Meadow 97.83 46 IAMs_20 IAMs_20 02 13 55.1
comp=Z,333nm,20.0s
ANMO Albuquerque 97.87 56 P Pdif 01 22 04.9 +1.1
ANMO Albuquerque 97.87 56 IAMs_20 IAMs_20 02 04 44.8
comp=Z,414nm,18.0s
ANMO Albuquerque 97.87 56 LR LR 01 59 15.5
comp=Z,188nm,20.0s,baz=323,slow=31
ANMO Albuquerque 97.87 56 *ce*P Pdif 01 22 04.8 +1.0
ANMO pmax pmax
comp=Z,2.0nm,1.1s
F31M Tsiigehtchic 98.00 19 P **P 01 22 03.0 -0.3**
baz=233
BOZ Bozeman (W) 98.01 44 P **P 01 22 03.8 -0.3**
baz=248
WMQ Urumqi 98.17 314 *e*P **P 01 22 04.9 +0.2**
WMQ LR LR
comp=Z,170nm,17.9s
TX31 Lajitas Ar. Si 98.19 62 P Pdif 01 22 06.6 +1.4
TXAR Lajitas Array 98.19 62 P **P 01 22 04.7 -0.5**
comp=Z,1.2nm,0.9s,baz=245,slow=5.3,SNR=7.4
TXAR PKKPbc **PKKPbc 01 38 36.8 -0.9**
comp=Z,0.3nm,0.6s,baz=90,slow=1.3,SNR=4.9
TXAR LR LR 01 59 34.6
comp=Z,197nm,19.0s,baz=214,slow=31
comp=Z,1.2nm,0.9s
YNR Norris Junctio 98.31 45 IAMs_20 IAMs_20 01 58 14.7
comp=Z,343nm,18.0s
PDAR Pinedale Array 98.36 47 P **P 01 22 03.6 -2.2**
comp=Z,0.1nm,0.3s,baz=204,slow=2.0,SNR=2.0
PDAR LR LR 01 59 40.9
comp=Z,90nm,21.0s,baz=238,slow=31
comp=Z,0.1nm,0.3s
S22A 4UR Ranch, Cre 98.56 53 IAMs_20 IAMs_20 02 06 14.8
comp=Z,375nm,18.0s
INK Inuvik 98.59 19 IAmb IAmb 01 22 07.9
comp=Z,13nm,1.3s
INK IAMs_20 IAMs_20 02 10 16.0
comp=Z,277nm,19.0s
INK Inuvik 98.59 19 P **P 01 22 06.2 +0.4**
baz=233
INK Inuvik 98.59 19 LR LR 02 08 08.9
comp=Z,154nm,18.1s,baz=229,slow=36
SMCO Snowmass 98.94 52 IAmb IAmb 01 24 04.7
comp=Z,6.1nm,0.5s
SDCO Great Sand Dun 99.55 53 IAMs_20 IAMs_20 02 10 39.0
comp=Z,360nm,18.0s
EGMT Eagleton 100.09 42 IAMs_20 IAMs_20 02 08 58.6
comp=Z,344nm,18.0s
K22A Casper 100.42 48 IAMs_20 IAMs_20 01 58 15.8
comp=Z,281nm,20.0s
JCT Junction City 101.74 62 IAMs_20 IAMs_20 01 59 03.4
comp=Z,398nm,21.0s
ABTX Abilene, Hawle 102.51 60 IAMs_20 IAMs_20 02 00 39.7
comp=Z,375nm,20.0s
RSSD Black Hills 102.60 47 IAMs_20 IAMs_20 02 07 10.5
comp=Z,330nm,19.0s
YKA Yellowknife Ar 102.67 28 P **Pdif 01 22 22.3 -1.9**
comp=Z,0.5nm,0.6s,baz=259,slow=6.0,SNR=1.6
MKAR Makanchi Array 102.75 315 P **Pdif 01 22 23.9 -1.1**
comp=Z,0.5nm,0.7s,baz=83,slow=5.0,SNR=4.2
MKAR PP **PP 01 26 36.7 -2.4**
comp=Z,1.4nm,0.9s,baz=102,slow=9.0,SNR=4.9
MKAR PKKPbc **PKKPbc 01 38 22.7 -2.3**
comp=Z,3.3nm,0.9s,baz=308,slow=3.7,SNR=15
OGNE Ogallala 103.09 51 IAMs_20 IAMs_20 02 09 37.7
comp=Z,271nm,18.0s
ZALV Zalesovo Beam 103.36 323 Pdiff **Pdif 01 22 27.5 +0.1**
comp=Z,0.3nm,0.3s,baz=88,slow=3.5,SNR=2.1
ZALV PKIKP **PP 01 26 45.1 +1.8**
comp=Z,1.3nm,0.8s,baz=116,slow=3.4,SNR=3.6
435B Jarrell 103.65 62 IAMs_20 IAMs_20 02 00 10.1
comp=Z,399nm,22.0s
FW03 Perrin-Whitt E 103.90 60 IAMs_20 IAMs_20 02 01 13.5
comp=Z,340nm,20.0s
Z35A Perchaven, San 104.63 60 IAMs_20 IAMs_20 02 01 55.0
comp=Z,405nm,22.0s
R32A Long Quarter, 104.86 54 IAMs_20 IAMs_20 02 08 36.7
comp=Z,343nm,19.0s
KURBB Kurchatov Arra 106.18 318 Pdiff **Pdif 01 22 39.7 -0.4**
comp=Z,0.2nm,0.3s,baz=84,slow=3.8,SNR=4.9
KURBB PKiKP **PKiKP 01 26 50.8 -1.0**
comp=Z,1.9nm,0.9s,baz=100,slow=1.9,SNR=12
KURBB PKKPbc **PKKPbc 01 38 12.6 -2.2**
comp=Z,2.2nm,1.1s,baz=283,slow=3.8,SNR=7.4
NRIK Noril'sk 106.57 339 Pdiff **Pdif 01 22 40.0 -1.4**
comp=Z,3.4nm,0.8s,baz=129,slow=5.6,SNR=6.3
NRIK PKIKP **PKiKP 01 26 50.6 -1.3**
comp=Z,5.6nm,0.9s,baz=95,slow=2.0,SNR=8.7
TGUH Tegucigalpa,Un 107.89 82 IAMs_20 IAMs_20 02 09 19.4
comp=Z,272nm,18.0s
MIAR Mount Ida 107.90 59 P **PKiKP 01 26 55.0 -0.5**
baz=256
TEIG Tepich 108.78 75 IAMs_20 IAMs_20 02 08 09.1
comp=Z,231nm,18.0s
AGMN Agassiz Nation 109.12 45 IAMs_20 IAMs_20 02 04 49.6
comp=Z,429nm,22.0s
143A Socs Landing, 109.23 62 IAMs_20 IAMs_20 02 12 43.8
comp=Z,322nm,18.0s
LCR2 La Lucha 2 109.56 87 IAMs_20 IAMs_20 02 13 02.4
comp=Z,240nm,20.0s
ESPN Las Esperanzas 110.06 84 IAMs_20 IAMs_20 02 01 34.9
comp=Z,290nm,21.0s
CCM Cathedral Cave 110.50 56 P **PKiKP 01 27 00.1 -0.2**
baz=259
OXF Oxford 111.25 60 P **PKiKP 01 27 01.1 -0.6**
baz=258
BRVK Borovoye 111.64 320 *c i*PKIKP **PKiKP 01 27 01.6 -0.4**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
EYMN Ely 111.95 46 P **PKiKP 01 27 02.1 -0.6**
baz=262
TULM Tulcn-Chalpat 112.17 98 IAMs_20 IAMs_20 02 02 22.1
comp=Z,374nm,22.0s
CPUP Villa Florida 115.03 135 PKP **PKiKP 01 27 08.0 -1.4**
comp=Z,2.2nm,1.0s,baz=188,slow=7.1,SNR=2.4
CPUP Villa Florida 115.03 135 PKIKP **PKiKP 01 27 08.0 -1.4**
CAMR Camarioca 115.71 74 IAMs_20 IAMs_20 02 09 24.7
comp=Z,370nm,20.0s
P49A Miami Univ. Ec 115.77 55 P **PKPdf 01 27 09.4 -0.9**
baz=263
061Z Ochoppi 116.73 71 IAMs_20 IAMs_20 02 03 55.7
comp=Z,321nm,22.0s
SVE Sverdlovsk 117.34 324 *e*PKIKP **PKPdf 01 27 11.8 -0.9**
SVE pmax pmax
comp=Z,14nm,1.3s
P52A Corning 117.76 55 P **PKPdf 01 27 12.8 -1.4**
baz=265
KMSC Kings Mountain 117.90 61 P **PKPdf 01 27 13.2 -1.4**
baz=263
ARU Arti 118.51 324 PKPdf **PKPdf 01 27 14.0 -1.0**
ARU Arti 118.51 324 PKP **PKPdf 01 27 12.9 -2.1**
comp=Z,17nm,0.8s,baz=132,slow=1.4,SNR=21
ARU PKKPbc **PKKPab 01 37 31.7 -1.8**
comp=Z,2.0nm,0.5s,baz=317,slow=1.5,SNR=3.9
ARU Arti 118.51 324 *i* PKIKP **PKPdf 01 27 13.7 -1.3**
ARU 01 34 25.7
O53A New Philadelph 118.52 55 P **PKPdf 01 27 14.8 -0.8**
baz=266
GEYT Alibeck 118.62 302 PKP **PKPdf 01 27 13.2 -2.7**
comp=Z,1.1nm,0.6s,baz=252,slow=2.7,SNR=2.6
SIV San Ignacio 118.79 123 PKP **PKPdf 01 27 15.4 -1.5**
comp=Z,2.9nm,0.2s,baz=225,slow=4.3,SNR=2.1
BLA Blacksburg 118.87 58 P **PKPdf 01 27 15.0 -1.4**
baz=264
M53A WI Miller and 119.01 54 P **PKPdf 01 27 15.4 -1.1**
baz=266
AKTO Aktyubinsk 119.14 317 PKP **PKPdf 01 27 14.3 -2.1**
comp=Z,5.1nm,0.6s,baz=133,slow=2.8,SNR=9.4
BOSA Boshof 119.15 217 PKP **PKPdf 01 27 15.6 -1.8**
comp=Z,3.5nm,1.1s,baz=126,slow=1.3,SNR=6.6
MCWV Mont Chateau 119.53 56 P **PKPdf 01 27 16.4 -1.2**
baz=266
SSPA Standing Stone 121.08 55 P **PKPdf 01 27 19.1 -1.4**
baz=268
CBN Corbin Frederi 121.36 57 P **PKPdf 01 27 20.0 -1.1**
baz=267
SPITS Spitsbergen Ar 121.50 354 PKP **PKPdf 01 27 18.0 -2.3**
comp=Z,5.5nm,0.6s,baz=97,slow=6.9,SNR=5.9
SPITS Spitsbergen Ar 121.50 354 PKIKP **PKPdf 01 27 18.0 -2.3**
BINY Binghamton 122.54 53 P **PKPdf 01 27 21.9 -1.4**
baz=270
KIRV Kirov 123.04 327 PKP **PKPdf 01 27 21.0 -2.6**
comp=Z,28nm,1.0s,baz=185,slow=1.9,SNR=15
KIRV Kirov 123.04 327 *c i*PKIKP **PKPdf 01 27 22.1 -1.5**
LONY Lake Ozonia 123.50 50 P **PKPdf 01 27 23.7 -1.3**
baz=273
VAO Valinhos 123.99 140 PKPdf **PKPdf 01 27 26.8 0.0**
PAL Palisades 124.10 54 P **PKPdf 01 27 24.7 -1.5**
baz=271
L61B Northampton 124.98 52 P **PKPdf 01 27 26.4 -1.5**
baz=272
LVZ Lovozero 125.34 341 **PKPdf 01 27 28.3 +0.4**
LVZ Lovozero 125.34 341 *c i*PKIKP **PKPdf 01 27 27.4 -0.5**
LVZ pmax pmax
comp=Z,39nm,2.5s
BELG Belogornoye 125.39 320 PKP **PKPdf 01 27 25.8 -2.6**
comp=Z,104nm,1.0s,baz=120,slow=1.7,SNR=20
BELG Belogornoye 125.39 320 *d i*PKIKP **PKPdf 01 27 27.3 -1.0**
BELG pmax pmax
comp=Z,19nm,1.0s
LBNH Lisbon 125.43 50 P **PKPdf 01 27 26.9 -1.8**
baz=274
HRV Adam Dziewonsk 125.81 52 P **PKPdf 01 27 28.3 -1.2**
baz=273
KEV Kevo 126.30 344 PKPdf **PKPdf 01 27 28.8 -0.8**
KEV Kevo 126.30 344 PKIKP **PKPdf 01 27 28.8 -0.8**
SUMG Summit 126.40 10 PKPdf **PKPdf 01 27 29.8 -0.5**
SUMG Summit 126.40 10 PKIKP **PKPdf 01 27 29.8 -0.5**
SUMG Summit 126.40 10 *i* P **PKPdf 01 27 29.0 -1.3**
M65A Busby, Falmout 126.54 53 P **PKPdf 01 27 29.4 -1.5**
baz=273
MAK Makhachkala 126.77 308 *e*P **Pdif 01 24 04.1 -7.7**
MAK *e* 01 29 23.1
MAK *e*PPP PPP 01 32 11.4
MAK *e* 01 34 28.6
MAK *e*SS SS 01 46 30.8 -4.6
MAK *e*SSS SSS 01 51 19.5
MAK pmax pmax
comp=Z,92nm,0.9s
ARCES ARCESS Array B 126.83 345 PKPdf **PKPdf 01 27 29.9 -0.7**
ARCES ARCESS Array B 126.83 345 PKP **PKPdf 01 27 29.6 -1.0**
comp=Z,15nm,0.8s,baz=79,slow=2.0,SNR=39
ARCES ARCESS Array B 126.83 345 PKIKP **PKPdf 01 27 29.9 -0.7**
E62A Clayton Lake 126.86 47 **PKPdf 01 27 29.4 -2.0**
LSZ Lusaka 126.88 230 PKPdf **PKPdf 01 27 32.0 -0.5**
LSZ Lusaka 126.88 230 PKIKP **PKPdf 01 27 32.0 -0.5**
KLMR Klimovskoe 127.02 332 *e*PKIKP **PKPdf 01 27 28.2 -3.0**
KLMR pmax pmax
comp=Z,59nm,1.2s
PKME Peaks-Kenny Pk 127.19 49 P **PKPdf 01 27 30.8 -1.2**
baz=277
RAYN Ar Rayn 127.67 284 PKPdf **PKPdf 01 27 33.8 +0.1**
RAYN Ar Rayn 127.67 284 PKIKP **PKPdf 01 27 33.8 +0.1**
RAYN MLR MLR
comp=Z,500nm,20.0s
SJG San Juan 128.51 83 **PKPdf 01 27 35.2 -0.1**
SJG San Juan 128.51 83 PKIKP **PKPdf 01 27 35.2 -0.1**
BDFB Brasilia 128.66 133 PKP **PKPdf 01 27 34.4 -1.5**
comp=Z,19nm,1.0s,baz=124,slow=0.4,SNR=18
VRH Novokhopyorsk 129.23 320 *e*PKIKP **PKPdf 01 27 34.5 -1.2**
VRH pmax pmax
comp=Z,31nm,1.6s
JOF Joensuu 129.34 336 *e*P **PKPdf 01 27 35.6 0.0**
NCK Nalchik 129.55 309 *i* PKIKP **PKPdf 01 27 36.3 -0.3**
GOF Gofitskoye 129.71 311 *ce*PKIKP **PKiKP 01 27 38.8 +1.2**
KBZ Khabaz 130.02 310 PKP **PKPdf 01 27 36.4 -1.1**
comp=Z,2.3nm,0.9s,baz=59,slow=5.9,SNR=6.4
KBZ Khabaz 130.02 310 *i* PKIKP **PKPdf 01 27 36.1 -1.3**
MOS Moscow 130.03 326 *i* PKIKP **PKiKP 01 27 38.0 +0.1**
MOS pmax pmax
comp=Z,35nm,0.9s
KIV Kislovodsk 130.14 310 *i* PKIKP **PKiKP 01 27 38.6 0.0**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 130.14 310 PKP **PKPdf 01 27 37.4 -0.4**
SHA1 Shidzhatmaz 130.19 310 *c i*PKIKP **PKPdf 01 27 38.6 +0.5**
LMN Caledonia Moun 130.22 47 PKPdf **PKPdf 01 27 36.5 -1.3**
LPSR Galich'ya Gora 130.45 322 *e*PKIKP **PKPdf 01 27 36.8 -1.2**
LPSR pmax pmax
comp=Z,40nm,1.2s
VORR Voronezh 130.59 321 *e*PKIKP **PKPdf 01 27 37.4 -0.9**
VORR pmax pmax
comp=Z,49nm,1.4s
VSR Storozhevoye 130.76 320 *e*PKIKP **PKPdf 01 27 36.8 -1.8**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 130.76 320 *e*PKIKP **PKPdf 01 27 37.4 -1.2**
VORD pmax pmax
comp=Z,20nm,1.0s
OBN Obninsk 130.83 326 PKP **PKPdf 01 27 36.6 -2.0**
comp=Z,14nm,0.6s,baz=118,slow=5.1,SNR=2.2
OBN Obninsk 130.83 326 *i* PKIKP **PKPdf 01 27 37.6 -1.0**
OBN pmax pmax
comp=Z,30nm,1.5s
OBN Obninsk 130.83 326 PKP **PKPdf 01 27 37.8 -0.8**
GURO Guroymak-BITLI 131.28 303 IAMs_20 IAMs_20 02 35 06.1
comp=Z,229nm,20.0s
ERBR Yeremizino-Bor 131.35 313 *i* PKIKP **PKiKP 01 27 42.2 +1.3**
ERBR *e* 01 27 46.0
ERBR *e* 01 34 52.9
ERBR pmax pmax
comp=Z,68nm,0.4s
LABN Labinsk 131.41 311 *i* PKIKP **PKPdf 01 27 40.5 +0.4**
LABN *e* 01 27 44.8
LABN *e* 01 29 58.1
LABN *e* 01 34 48.8
LABN pmax pmax
comp=Z,19nm,0.6s
KEF Keuruu 132.15 338 *e*P **PKPdf 01 27 40.4 -0.5**
FINES FINESS Array B 132.19 337 PKPdf **PKPdf 01 27 39.8 -1.2**
FINES FINESS Array B 132.19 337 PKhKP PKPpre 01 27 34.8
comp=Z,7.2nm,0.8s,baz=197,slow=6.0,SNR=4.3
FINES PKP **PKPdf 01 27 39.1 -1.9**
comp=Z,14nm,0.9s,baz=68,slow=2.6,SNR=13
FINES SKPbc **SKPbc 01 31 07.2 -0.7**
comp=Z,3.8nm,0.8s,baz=15,slow=5.8,SNR=5.7
FINES SKP 01 31 16.6
comp=Z,2.4nm,0.8s,baz=57,slow=5.1,SNR=4.1
FINES FINESS Array B 132.19 337 PKIKP **PKPdf 01 27 39.8 -1.2**
VAF Ylistaro 132.28 340 *e*P **PKPdf 01 27 41.2 +0.1**
SOC Sochi 132.32 310 *e*PKIKP **PKPdf 01 27 40.6 -1.2**
SOC *e* 01 30 01.1
SOC *e*PPP PPP 01 32 53.6
SOC *e*SSS SSS 01 52 33.6
SOC MLR MLR
comp=Z,70nm,20.0s
ARBE Arbavere 133.51 335 *e*P **PKPdf 01 27 44.4 +0.8**
MEF Metsahovi 133.62 336 *e*P **PKiKP 01 27 44.7 -0.3**
ANN Anapa 133.66 312 *i* PKIKP **PKPdf 01 27 40.1 -4.2**
ANN *e* 01 27 44.3
ANN *e* 01 30 13.4
ANN *e* 01 34 47.4
ANN pmax pmax
comp=Z,19nm,0.8s
VSU Vasula 133.80 333 *c i*PKIKP **PKPdf 01 27 44.5 +0.4**
VSU pmax pmax
comp=Z,33nm,1.0s
RAF Rauma 134.02 338 *e*P **PKPdf 01 27 44.6 +0.1**
MNK Minsk 135.55 328 *i* PKIKP **PKPdf 01 27 48.2 +0.7**
MNK *i* 01 30 25.5
MNK *i* PPP PPP 01 33 21.5
MNK *i* 01 34 59.2
MNK *i* SS SS 01 48 23.5 +2.0
MNK *i* SSS SSS 01 53 20.0
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,32nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK MLR MLR
comp=N,125nm,19.0s
MNK MLR MLR
comp=Z,178nm,20.0s
ISAL Salakas 135.79 330 *e*P **PKiKP 01 27 52.2 +2.6**
IIGN Ignalina 135.87 330 *e*P **PKiKP 01 27 49.9 +0.1**
SIM Simferopol' 135.89 313 *i* PKIKP **PKPdf 01 27 49.5 +1.0**
SIM pmax pmax
comp=Z,16nm,1.0s
UPP Uppsala 136.27 339 *e*P **PKPdf 01 27 48.6 -0.1**
VSVD Vaisvydziai 136.53 332 *e*P **PKiKP 01 27 51.0 0.0**
AKASG Malin Array Be 136.75 323 **PKPdf 01 27 50.2 +0.3**
AKASG Malin Array Be 136.75 323 PKP **PKPdf 01 27 48.8 -1.1**
comp=Z,10nm,0.8s,baz=62,slow=2.0,SNR=10
AKASG Malin Array Be 136.75 323 *c i*PKIKP **PKPdf 01 27 50.2 +0.3**
AKASG pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 136.75 323 *c i*PKIKP **PKPdf 01 27 48.3 -1.6**
AKBB Malin Array Si 136.75 323 PKP **PKPdf 01 27 48.5 -1.4**
AK09 Malin Array Si 136.76 323 PKP **PKPdf 01 27 48.4 -1.5**
KIEV Kiev 136.76 323 ⇑P **PKPdf 01 27 49.5 -0.4**
KIEV Kiev 136.76 323 PKPdf **PKPdf 01 27 49.2 -0.7**
KIEV Kiev 136.76 323 ⇑PKIKP **PKPdf 01 27 49.5 -0.4**
KIEV Kiev 136.76 323 PKP **PKPdf 01 27 48.9 -1.0**
AK02 Malin Array Si 136.78 323 PKP **PKPdf 01 27 49.2 -0.8**
AK10 Malin Array Si 136.78 323 PKP **PKPdf 01 27 49.2 -0.8**
AK11 Malin Array Si 136.79 323 PKP **PKPdf 01 27 49.2 -0.8**
PABE Paberze 136.81 331 *e*P **PKiKP 01 27 51.2 -0.4**
MMAI Mount Meron Ar 137.07 296 PKhKP PKPpre 01 27 40.4
comp=Z,0.5nm,0.3s,baz=270,slow=36,SNR=1.7
MMAI PKP **PKPdf 01 27 49.6 -1.5**
comp=Z,1.5nm,0.6s,baz=90,slow=4.9,SNR=2.0
NB2 NORSAR Subarra 137.20 344 PKPdf PKPdf 01 27 40.9 -10
comp=Z,11nm,1.1s,baz=27,slow=1.8
NB2 NORSAR Subarra 137.20 344 PKPdf PKPpre 01 27 40.9
baz=27,slow=1.8
NOA NORSAR Array B 137.20 344 PKhKP PKPpre 01 27 41.5
comp=Z,1.6nm,0.7s,baz=260,slow=3.2,SNR=10.0
NOA PP **PP 01 30 36.7 +2.1**
comp=Z,0.6nm,0.8s,baz=34,slow=6.0,SNR=3.5
HFS Hagfors 137.28 342 PKP **PKPdf 01 27 47.7 -2.9**
comp=Z,3.6nm,0.7s,baz=191,slow=1.5,SNR=5.4
MI30 MI30,Zelenitsa 137.31 323 PKP **PKPdf 01 27 50.2 -0.7**
MI28 Mi28,Pidlybu 137.51 324 PKP **PKPdf 01 27 50.4 -0.9**
BRTR Keskin Array B 137.56 306 PKPdf **PKiKP 01 27 53.4 -0.5**
BRTR Keskin Array B 137.56 306 PKP **PKPdf 01 27 49.6 -2.4**
comp=Z,2.2nm,0.9s,baz=116,slow=2.9,SNR=8.2
BRTR PP **PP 01 30 39.7 +1.5**
comp=Z,0.2nm,0.3s,baz=101,slow=6.0,SNR=3.6
BRTR Keskin Array B 137.56 306 *c i*PKIKP **PKiKP 01 27 53.4 -0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BR106 Keskin Array S 137.57 306 PKP **PKPdf 01 27 50.9 -1.1**
EIL Elat 137.58 291 PKP **PKPdf 01 27 50.5 -1.6**
comp=Z,8.8nm,1.2s,baz=212,slow=4.0,SNR=4.2
VIKU Vikbolandet 137.61 339 *e*P **PKPdf 01 27 51.5 +0.2**
MI29 MI29, Kamyanyy 137.66 323 PKP **PKPdf 01 27 50.9 -0.7**
LUBAR Lubar, Ukraine 137.95 323 PKP **PKPdf 01 27 50.8 -1.3**
SUW Suwalki 138.09 330 *e*PKP **PKPdf 01 27 51.1 -1.2**
SUW Suwalki 138.09 330 *e*P **PKPdf 01 27 53.4 +1.1**
PURM Purcari 138.15 317 PKP **PKPdf 01 27 51.3 -1.3**
ANTO Ankara 138.16 307 IAMs_20 IAMs_20 02 40 52.3
comp=Z,166nm,18.0s
RNPP9 Sopachiv 138.22 325 PKP **PKPdf 01 27 51.3 -1.3**
RNPP5 Staryi Chortor 138.32 325 PKP **PKPdf 01 27 51.5 -1.3**
SORM Soroca 138.42 320 ⇑P **PKiKP 01 27 55.9 +0.7**
SORM Soroca 138.42 320 ⇑PKIKP **PKiKP 01 27 55.9 +0.7**
KONO Kongsberg 138.81 344 **PKiKP 01 27 56.0 +0.4**
KONO Kongsberg 138.81 344 *c i*PKIKP **PKPdf 01 27 53.6 +0.2**
KONO pmax pmax
comp=Z,15nm,1.3s
CFR Carcaliu 139.79 316 ⇓P **PKPdf 01 27 54.1 -1.5**
CFR Carcaliu 139.79 316 ⇓PKIKP **PKPdf 01 27 54.2 -1.5**
LVV L'vov 140.08 324 *e*PKIKP **PKPdf 01 27 55.2 -0.9**
DTL Delary 140.16 338 *i* P **PKPdf 01 27 49.0 -7.0**
VRI Vrincioaia 140.41 317 ⇓P **PKPdf 01 27 56.9 +0.1**
VRI Vrincioaia 140.41 317 ⇓PKIKP **PKPdf 01 27 56.9 +0.1**
PLOR Plostina 140.47 317 ⇓P **PKPdf 01 27 56.9 0.0**
PLOR Plostina 140.47 317 ⇓PKIKP **PKPdf 01 27 56.9 0.0**
BURAR Bucovina Array 140.53 321 ⇑P **PKPdf 01 27 58.1 +1.0**
BURAR Bucovina Array 140.53 321 PKPdf **PKPdf 01 27 57.1 0.0**
BEL Belsk 140.57 329 *e*PKP **PKPdf 01 27 58.3 +1.4**
KWP Kalwaria Pacla 140.90 325 *e*PKP **PKPdf 01 27 58.4 +0.8**
BOSR Bodos 140.99 318 ⇓P **PKiKP 01 27 60.0 -0.6**
MLR Muntele Rosu 141.07 317 ⇓P **PKPdf 01 27 56.3 -1.8**
MLR Muntele Rosu 141.07 317 PKPdf **PKPdf 01 27 56.4 -1.8**
MLR Muntele Rosu 141.07 317 PKP **PKPdf 01 27 55.2 -2.9**
comp=Z,8.3nm,1.1s,baz=54,slow=5.9,SNR=9.0
MLR Muntele Rosu 141.07 317 PKIKP **PKPdf 01 27 56.4 -1.8**
GKP Gorka Klasztor 141.24 333 *e*PKP **PKPdf 01 27 59.3 +1.3**
KOLS Kolonicke sedl 141.52 324 *e*PKIKP **PKPdf 01 27 59.5 +0.8**
KOLS Kolonicke sedl 141.52 324 *e*PKP **PKPdf 01 27 59.5 +0.8**
VOIR 141.66 318 ⇑P **PKPdf 01 27 57.7 -1.4**
VOIR 141.66 318 ⇑PKIKP **PKPdf 01 27 57.7 -1.4**
CJR Cluj-Napoca 141.94 320 ⇑P **PKPdf 01 27 57.4 -2.2**
CJR Cluj-Napoca 141.94 320 ⇑PKIKP **PKPdf 01 27 57.4 -2.2**
CBBR Cluj-Babes-Bol 141.94 320 ⇑P **PKPdf 01 27 55.1 -4.4**
ARR Arges 141.95 318 ⇓P **PKPdf 01 27 57.3 -2.4**
CRVS Cervenica-Dubn 141.98 325 *e*PKIKP **PKPdf 01 28 00.3 +0.8**
CRVS Cervenica-Dubn 141.98 325 *e*PKP **PKPdf 01 28 00.3 +0.8**
OJC Ojcow 142.07 327 *e*PP PP 01 30 58.1 -6.9
OJC Ojcow 142.07 327 PKP **PKPdf 01 27 58.8 -0.8**
OJC Ojcow 142.07 327 *e*PKP **PKPdf 01 27 56.1 -3.5**
ELND Elena 142.17 314 ⇑P **PKPdf 01 28 00.5 +0.4**
MARR Marisel-Cluj 142.24 320 ⇓P **PKPdf 01 27 55.4 -4.7**
NIE Niedzica 142.30 326 *e*PKP **PKPdf 01 27 58.5 -1.7**
NIE Niedzica 142.30 326 PKP **PKPdf 01 27 59.0 -1.1**
DRGR 142.42 321 ⇓P **PKPdf 01 27 56.2 -4.3**
DRGR 142.42 321 ⇓PKIKP **PKPdf 01 27 56.2 -4.3**
LOT Lotru 142.45 318 ⇑P **PKPdf 01 27 56.6 -4.0**
ALN Alexandroupoli 142.81 310 IAMs_20 IAMs_20 02 39 27.1
comp=Z,185nm,20.0s
LANS Liptovska Anna 142.89 326 *e*PKIKP **PKPdf 01 28 02.4 +1.2**
LANS Liptovska Anna 142.89 326 *e*PKP **PKPdf 01 28 02.4 +1.2**
KDZ Kurdzhali 143.04 312 P **PKPdf 01 28 02.7 +1.1**
RDO Rodhopi 143.08 311 IAMs_20 IAMs_20 02 41 44.2
comp=Z,186nm,20.0s
RDO Rodhopi 143.08 311 P PKPab 01 27 52.4 -4.6
GZR Gura Zlata 143.09 319 ⇓P PKPab 01 27 57.2 +0.1
GZR Gura Zlata 143.09 319 ⇓PKHKP PKPpre 01 27 57.2
PLD Plovdiv 143.25 313 P **PKPdf 01 28 01.6 -0.4**
RUE Ruedersdorf 143.26 334 *e*P PKPbc 01 28 00.3 +1.7
SURR Surduc 143.31 320 ⇓P PKPab 01 27 58.5 +0.7
SIRR Siria 143.32 321 ⇑P PKPab 01 27 58.6 +0.7
KSP Ksiaz 143.35 330 *e*PKP PKPab 01 27 58.1 +0.3
PSZ Piszkesteto 143.40 324 ⇑P PKPbc 01 27 59.2 -0.2
PSZ Piszkesteto 143.40 324 ⇑PKIKP PKPbc 01 27 59.2 -0.1
MPEP Malo Peshtene 143.42 315 P **PKPdf 01 28 02.7 +0.4**
RZN Rozhen 143.43 312 P **PKPdf 01 28 02.4 -0.2**
VALD Valchedram 143.47 316 P **PKPdf 01 28 01.6 -0.7**
MORC Moravsky Berou 143.47 328 ⇑P **PKPdf 01 28 01.2 -1.0**
MORC Moravsky Berou 143.47 328 *e*PKP PKPbc 01 27 59.7 +0.3
MORC Moravsky Berou 143.47 328 ⇑PKIKP **PKPdf 01 28 01.2 -1.0**
KARP Karpathos 143.48 301 IAMs_20 IAMs_20 02 29 05.1
comp=Z,252nm,22.0s
PGB Panagyurishte 143.49 314 P **PKPdf 01 28 02.1 -0.3**
HERR Herculane 143.56 318 ⇑P PKPab 01 27 58.7 -0.2
OSTC Ostas 143.58 330 *e*PKP PKPbc 01 28 00.3 +0.6
OSTC AMS AMS 02 33 20.0
comp=Z,200nm,14.7s
OSTC Ostas 143.58 330 *e*PKIKP PKPbc 01 28 00.3 +0.6

OSTC MLR MLR
comp=Z,200nm,14.7s
VYHS Vyhne 143.63 326 *e*PKIKP **PKPdf 01 28 02.9 +0.4**
VYHS Vyhne 143.63 326 *e*PKP **PKPdf** 01 28 02.9 +0.4
CHVC Chvalec 143.64 330 *e*PKP PKPab 01 27 59.1 +0.1
CHVC AMS AMS 02 33 20.0
comp=Z,300nm,21.5s
CHVC Chvalec 143.64 330 *e*PKIKP PKPab 01 27 59.1 +0.1
CHVC MLR MLR
comp=Z,300nm,21.5s
DPC Dobruska-Polom 143.68 330 *e*PKP PKPab 01 27 59.7 +0.5
DPC AMS AMS 02 32 30.0
comp=Z,300nm,24.5s
DPC Dobruska-Polom 143.68 330 *e*PKIKP PKPab 01 27 59.7 +0.5
DPC MLR MLR
comp=Z,300nm,24.5s
BZS Buzias 143.68 320 ⇓P PKPab 01 27 59.2 -0.1
BZS Buzias 143.68 320 ⇓PKIKP PKPab 01 27 59.2 -0.1
KPL Plockton 143.69 355 *e*P PKPab 01 27 57.8 -1.1
UPC Upice 143.71 330 *e*PKP PKPab 01 27 59.7 +0.4
UPC AMS AMS 02 33 20.0
comp=Z,300nm,22.9s
UPC Upice 143.71 330 *e*PKIKP PKPab 01 27 59.7 +0.4
UPC MLR MLR
comp=Z,300nm,22.9s
RCBR Riachuelo 143.90 135 PKPdf PKPbc 01 28 02.1 +0.4
RCBR Riachuelo 143.90 135 PKP PKPab 01 28 00.1 -1.0
comp=Z,22nm,1.0s,baz=244,slow=1.2,SNR=6.5
MDVR Moldovita 144.05 319 ⇑P **PKPab 01 28 00.9 +0.1**
VTS Vitosha 144.07 314 P **PKPdf 01 28 03.7 +0.1**
MMB Musomishta 144.17 312 P **PKPdf 01 28 03.7 0.0**
NVR Nevrokopi 144.17 312 P **PKPab 01 28 01.1 -0.3**
VRAC Vranov 144.25 328 ⇑P **PKPab 01 28 00.9 -0.5**
VRAC Vranov 144.25 328 *e*PKP **PKPdf 01 28 02.9 -0.6**
VRAC Vranov 144.25 328 PKP **PKPab 01 28 00.5 -0.9**
comp=Z,5.7nm,0.9s,baz=74,slow=4.2,SNR=12
SRO Srobarova 144.32 325 *e*PKIKP **PKPdf 01 28 03.6 -0.1**
SRO Srobarova 144.32 325 *e*PKP **PKPdf 01 28 03.6 -0.1**
SMOL Smolenice 144.34 327 *e*PKIKP **PKPdf 01 28 04.4 +0.7**
PVCC Panska Ves 144.35 331 *e*PKP **PKPab 01 28 01.2 -0.5**
PVCC AMS AMS 02 37 20.0
comp=Z,200nm,21.2s
PVCC Panska Ves 144.35 331 *e*PKIKP **PKPab 01 28 01.2 -0.5**
PVCC MLR MLR
comp=Z,200nm,21.2s
BRG Berggiesshubel 144.38 332 *i* PKP **PKPab 01 28 01.4 -0.4**
BRG Amp 01 28 04.6
comp=Z,86nm,1.0s
BRG Berggiesshubel 144.38 332 P **PKiKP 01 28 14.5 +7.2**
BRG Amp 01 28 15.4
comp=Z,30nm,0.9s
BRG Berggiesshubel 144.38 332 Amp 01 28 23.2
comp=Z,23nm,0.9s
BRG Berggiesshubel 144.38 332 *i* PKIKP **PKPab 01 28 01.3 -0.4**
BRG pmax pmax
comp=Z,86nm,1.0s
BRG MLR MLR
comp=N,103nm,21.7s
BRG MLR MLR
comp=E,85nm,20.7s
BRG MLR MLR
comp=Z,147nm,24.3s
BRG Berggiesshubel 144.38 332 P PKiKP 01 28 22.4 +15
INVG Invergeldie, C 144.43 353 *e*P **PKPab 01 28 01.4 -0.3**
SRS Serrai 144.45 312 P **PKPab 01 28 00.5 -1.9**
CLL Collm 144.46 334 *i* PKPpre PKPpre 01 28 01.5
comp=Z,28nm,0.8s
CLL *i* PKPdf PKPbc 01 28 02.9 +0.6
comp=Z,133nm,1.2s
CLL *e*PKPlp 01 28 05.0
comp=Z,200nm,18.3s
CLL *e*x x 01 28 08.0
CLL *e*x x 01 28 13.0
CLL *e*PP **PP 01 31 22.0 +2.8**
CLL *e*(SS) 01 50 48.0
CLL *e*(SSS) 01 54 54.0
CLL AMS AMS 02 45 00.0
comp=Z,100nm,21.5s
CLL Collm 144.46 334 *i* PKIKP **PKPab 01 28 01.5 -0.5**
CLL *i* 01 28 02.9
CLL pmax pmax
comp=Z,28nm,0.8s
CLL pmax pmax
comp=Z,133nm,1.2s
KKB Krupnik 144.47 313 P **PKPdf 01 28 04.7 +0.5**
KRUC Moravsky 144.51 328 *e*PKP **PKPab 01 28 02.3 0.0**
MODS Modra-Piesok 144.51 327 *e*PKIKP **PKPdf 01 28 04.1 +0.1**
MODS Modra-Piesok 144.51 327 *e*PKP **PKPdf 01 28 04.1 +0.1**
RICC Richard 144.55 332 *e*PKP **PKPdf 01 28 04.3 +0.3**
ZST Bratislava 144.72 327 *e*PKIKP **PKPdf 01 28 05.4 +1.1**
ZST Bratislava 144.72 327 *e*PKP **PKPdf 01 28 05.4 +1.1**
LAWE Loch Awe, Argy 144.73 354 *e*P **PKPab 01 28 01.4 -1.4**
PRU Pruhonice 144.75 331 *e*PKP **PKPab 01 28 02.6 -0.6**
PRU AMS AMS 02 37 50.0
comp=Z,100nm,15.8s
PRU Pruhonice 144.75 331 *e*PKIKP **PKPab 01 28 02.6 -0.6**
PRU MLR MLR
comp=Z,100nm,15.8s
TREC Trest 144.79 329 *e*PKP **PKPab 01 28 02.8 -0.6**
TREC AMS AMS 02 33 00.0
comp=Z,300nm,22.0s
TREC Trest 144.79 329 *e*PKIKP **PKPab 01 28 02.8 -0.6**
TREC MLR MLR
comp=Z,300nm,22.0s
HSKC Hora Svate Kat 144.79 332 *e*PKP **PKPab 01 28 02.9 -0.5**
HSKC AMS AMS 02 35 10.0
comp=Z,200nm,21.9s
PAIG Paliouri 144.84 310 P **PKPab 01 28 01.8 -2.0**
KNT Kendrikon 144.91 312 P **PKPdf 01 28 04.8 -0.1**
FRGS Fruska Gora 145.00 320 ⇑P **PKPab 01 28 02.9 -1.4**
FRGS Fruska Gora 145.00 320 ⇑*i*P **PKPab 01 28 02.1 -2.2**
VAY Valandovo 145.07 313 *i* P **PKPab 01 28 05.1 +0.5**
PGBU Glenifferbraes 145.08 353 *e*P **PKPbc 01 28 01.1 -3.0**
MORH Mrgy, Hungar 145.09 323 ⇑P **PKPbc 01 28 03.7 -0.8**
MPLH Magyarpolny 145.13 325 PKP **PKPbc 01 28 03.8 -0.8**
STIP Stip 145.17 314 ⇓*i*P **PKPbc 01 28 04.2 -0.7**
DION Dionisos Attik 145.29 307 P **PKPbc 01 27 59.4 -6.1**
ZVC Zvikov 145.30 330 *e*PKP **PKPbc 01 28 05.0 -0.1**
IDI Anoyia 145.34 302 PKPbc **PKPbc 01 28 04.0 -1.8**
comp=Z,16nm,0.7s,baz=126,slow=9.2,SNR=11
EKA Eskdalemuir Ar 145.39 352 PKPbc **PKPbc 01 28 03.5 -1.7**
comp=Z,36nm,0.8s,baz=359,slow=2.1,SNR=96
EKA PP **PP 01 31 23.5 -0.8**
comp=Z,2.2nm,1.1s,baz=33,slow=8.7,SNR=3.0
ESK Eskdalemuir 145.41 352 **PKPbc 01 28 03.6 -1.6**
ESK Eskdalemuir 145.41 352 *e*P **PKPbc 01 28 03.1 -2.1**
ESK Eskdalemuir 145.41 352 PKP2 **PKPbc 01 28 03.6 -1.6**
RONA Rosalia, Austr 145.45 326 *e*PKP **PKPbc 01 28 05.3 -0.4**
comp=Z,86nm,1.0s,SNR=75
VLY Voula,Athens 145.47 306 P **PKPbc 01 28 03.2 -2.8**
ATH Athens Observa 145.49 307 P **PKPdf 01 28 00.8 -5.2**
TEKS Tekeris 145.50 320 ⇑*i*P **PKPdf 01 28 04.4 -1.5**
CONA Conrad Observa 145.52 327 *e*PKP **PKPdf 01 28 05.8 -0.1**
comp=Z,181nm,1.5s,SNR=107
SKO Skopje 145.55 314 *i* P **PKPdf 01 28 05.1 -0.9**
LIT Litokhoron 145.62 311 P **PKPdf 01 28 02.3 -3.9**
CKRC Cesky Krumlov 145.68 329 *e*PKP **PKPdf 01 28 05.5 -0.5**
CKRC AMS AMS 02 40 40.0
comp=Z,100nm,16.3s
CKRC Cesky Krumlov 145.68 329 *e*PKIKP **PKPdf 01 28 05.5 -0.5**
CKRC MLR MLR
comp=Z,100nm,16.3s
EDMD Edmundbyers 145.70 350 *e*P **PKPdf 01 28 04.6 -1.3**
NEWG New Galloway 145.73 353 *e*P **PKPdf 01 28 04.2 -1.7**
KHC Kasperske Hory 145.80 330 IAMs_20 IAMs_20 02 34 37.6
comp=Z,150nm,20.0s
KHC Kasperske Hory 145.80 330 *e*PKP **PKPdf 01 28 05.8 -0.5**
KHC AMS AMS 02 52 40.0
comp=Z,200nm,18.2s
KHC Kasperske Hory 145.80 330 *e*PKP2 **PKPdf 01 28 05.8 -0.5**
KHC MLR MLR
comp=Z,200nm,18.2s
KHC Kasperske Hory 145.80 330 PKP **PKPdf 01 28 05.6 -0.7**
SJES Sjenica 145.89 317 ⇑*i*P **PKPdf 01 28 07.1 +0.4**
GDLE Glaisdale, N Y 145.90 349 *e*P **PKPdf 01 28 05.0 -1.2**
BBLS Lazi&#263i 145.94 319 ⇑*i*P **PKPbc 01 28 07.3 -0.1**
GERES GERESS Array B 145.95 330 **PKPdf 01 28 05.3 -1.2**
GERES GERESS Array B 145.95 330 PKPbc **PKPdf 01 28 06.2 -0.4**
comp=Z,77nm,0.9s,baz=90,slow=2.7,SNR=103
CLGH Cloghs, Cushen 145.96 355 *e*P **PKPdf 01 28 05.2 -1.0**
GAL1 Galloway 146.03 353 *e*P **PKPdf 01 28 05.4 -1.0**
LOUT Loutraki 146.04 307 P **PKPdf 01 28 04.7 -2.3**
RUDO Rudo 146.09 318 ⇑*i*P **PKPdf 01 28 06.2 -0.7**
HAPS Han Pijesak,BI 146.10 319 ⇑*i*P **PKPdf 01 28 07.7 +0.7**
KRND KRANIDI 146.10 306 P **PKPdf 01 28 06.0 -1.1**
KESW Keswick, Cumbr 146.10 351 *e*P **PKPdf 01 28 05.8 -0.7**
FNA Florina 146.12 313 P **PKPdf 01 28 03.6 -3.5**
ARSA Arzberg 146.14 326 *e*PKP **PKPdf 01 28 06.8 -0.1**
comp=Z,84nm,1.5s,SNR=54
AGG Agios Georgios 146.14 309 P **PKPdf 01 28 06.9 -0.3**
MAKR Makrakomi, Fth 146.29 309 P **PKPdf 01 28 05.5 -1.9**
KALN Kalnik 146.36 324 *i* P **PKPdf 01 28 07.2 -0.1**
OHR Ohrid 146.37 313 *i* P **PKPab 01 28 09.6 0.0**
MOA Molln 146.37 328 *e*PKP **PKPdf 01 28 07.5 +0.3**
comp=Z,80nm,1.2s,SNR=47
GRFO Grafenberg 146.43 333 **PKPbc 01 28 08.3 -0.3**
GRFO Grafenberg 146.43 333 PKP2 **PKPbc 01 28 08.3 -0.3**
KPRO Kipourio 146.47 311 P **PKPdf 01 28 08.4 +0.7**
HPK Haverah Park 146.49 350 *e*P **PKPdf 01 28 05.8 -1.4**
KALE Kalithea 146.51 308 P **PKPdf 01 28 07.5 -0.3**
GUR Goura 146.52 307 P **PKPdf 01 28 06.2 -1.7**
LOBO Lobor 146.55 324 *i* P **PKPdf 01 28 07.5 -0.1**
ANX Ano Chora 146.60 309 P **PKPdf 01 28 04.6 -3.4**
IOMK Kirk Michael 146.61 353 *e*P **PKPdf 01 28 07.3 -0.1**
KLV Kalavryta, Ach 146.63 308 P **PKPdf 01 28 07.1 -0.9**
EFP Efpalio 146.67 308 P PKPdf 01 27 58.3 -10
WIM Isle of Man 146.74 353 *e*P **PKPdf 01 28 07.7 0.0**
PTJ Puntijarka 146.76 324 P **PKPdf 01 28 08.7 +0.6**
PDG Podgorica 146.76 317 ⇓P **PKPdf 01 28 08.7 +0.7**
PDG Podgorica 146.76 317 ⇑*i*P **PKPdf 01 28 08.1 +0.1**
SOKA Soboth 146.77 326 *e*PKP **PKPdf 01 28 08.4 +0.3**
comp=Z,46nm,1.2s,SNR=35
BLY Banja Luka 146.78 322 *e*P **PKPdf 01 28 09.1 +1.1**
BIOA Bad Ischl, Aus 146.79 329 *e*PKP **PKPdf 01 28 07.9 0.0**
comp=Z,31nm,1.7s,SNR=17
TIR Tirane 146.89 314 ⇓P **PKPbc 01 28 10.9 +0.7**
TIR Tirane 146.89 314 ⇓PKP2 **PKPbc 01 28 10.9 +0.7**
LSK Leskovik 146.92 312 P **PKPdf 01 28 08.3 -0.2**
DRME Dracevica, Mon 146.93 316 *e*P **PKPdf 01 28 09.1 +0.8**
BRY Bratogost 146.98 318 ⇑*i*P **PKPdf 01 28 09.4 +0.8**
ILTH Belurgan, Co L 147.03 355 *e*P **PKPdf 01 28 08.6 +0.6**
MGRS Mrkonjic Grad 147.03 321 *e*P **PKPdf 01 28 08.2 -0.3**
LBWR Ladybower, Pea 147.04 349 *e*P **PKPdf 01 28 08.9 +0.7**
RLS Riolos of Patr 147.13 308 P **PKPab 01 28 12.4 -0.1**
OBKA Obir 147.13 326 *e*PKP **PKPdf 01 28 08.9 +0.2**
comp=Z,28nm,1.0s,SNR=11
OBKA Obir 147.13 326 ⇑*i*P **PKPdf 01 28 09.4 +0.7**
TREB Trebinje 147.19 318 *e*P **PKPdf 01 28 09.8 +1.0**
OZLJ Ozalj 147.22 324 *i* P **PKPbc 01 28 10.5 -0.4**
WACR West Acre 147.22 347 *e*P **PKPdf 01 28 08.5 +0.1**
A050A Klekovaca 147.31 322 ⇑*i*P **PKPdf 01 28 09.8 +0.8**
KBA Koelnbreinsper 147.36 328 *e*PKP **PKPdf 01 28 08.8 -0.3**
comp=Z,57nm,1.0s,SNR=15
BOJS Bojanci 147.41 324 ⇑*i*P **PKPdf 01 28 08.1 -0.9**
STNC Stoke 147.42 350 *e*P **PKPdf 01 28 10.1 +1.4**
WME Myndd Eilian 147.43 352 *e*P **PKPdf 01 28 09.1 +0.3**
LESA Schwarzleotal 147.44 329 *e*PKP **PKPdf 01 28 10.0 +0.8**
comp=Z,60nm,0.7s
LJU Ljubljana 147.45 326 *i* PKPdf **PKPdf 01 28 08.0 -1.1**
LJU *i* PKPbc **PKPbc 01 28 12.3 +0.7**
WPS Cemaes, Angles 147.45 352 *e*P **PKPdf 01 28 07.4 -1.4**
MYKA Terra Mystica 147.52 327 *i* PKP **PKPdf 01 28 09.6 +0.4**
comp=Z,31nm,0.9s,SNR=16
STON Ston 147.52 318 ⇑*i*P **PKPdf 01 28 09.5 +0.3**
RICI Ricice 147.52 320 *i* P **PKPdf 01 28 10.1 +0.8**
WLF1 Llynfaes 147.54 352 *e*P **PKPdf 01 28 09.7 +0.7**
CRNS Crni Vrh 147.56 326 *e*PKPdf **PKPdf 01 28 08.0 -1.3**
CRNS *e*PKPbc **PKPbc 01 28 12.3 +0.3**
BEBN Eben Emael 147.59 340 *d*PKPdf **PKPbc 01 28 11.4 -0.3**
CWF Charnwood Fore 147.60 349 *e*P **PKPdf 01 28 09.8 +0.8**
BTNL Ternell 147.62 339 *d*PKPdf **PKPbc 01 28 11.2 -0.8**
MEM Membach 147.65 339 *d*PKPdf **PKPbc 01 28 10.9 -1.0**
CEY Cerknica 147.70 325 ⇑*i*P **PKPdf 01 28 08.3 -1.2**
ELMS Elmsett, Ipswi 147.73 346 *e*P **PKPdf 01 28 09.7 +0.4**
FOEL Foel Wylfa 147.77 351 *e*P **PKPdf 01 28 08.7 -0.7**
BSTI Sart Tilman 147.81 340 *d*PKPdf **PKPbc 01 28 11.7 -0.7**
IGLA Glengowla, Co 147.82 358 *e*P **PKPdf 01 28 10.3 +0.9**
BHOU Houvegnez 147.87 339 *d*PKPdf **PKPbc 01 28 11.9 -0.7**
RIY Rijeka 147.94 325 P **PKPdf 01 28 09.9 0.0**
ABTA Abfaltersbach 148.00 328 *i* PKP **PKPdf 01 28 07.8 -2.2**
comp=Z,96nm,1.0s,SNR=57
WATA Walderalm 148.02 330 *e*PKP **PKPdf 01 28 08.3 -1.9**
comp=Z,44nm,1.0s,SNR=58
BCLA Clavier 148.04 340 *d*PKPdf **PKPbc 01 28 11.9 -1.1**
WTTA Wattenberg 148.05 330 *e*PKP **PKPdf 01 28 08.7 -1.6**
comp=Z,71nm,0.9s,SNR=68
HLM1 Long Mynd 148.08 350 *e*P **PKPdf 01 28 10.1 +0.2**
BGES Gesves 148.14 340 *d*PKPdf **PKPbc 01 28 12.1 -1.2**
VIRC Vir 148.27 323 *i* P **PKPdf 01 28 11.7 +1.3**
SQTA Sankt Quirin 148.28 330 *e*PKP **PKPdf 01 28 08.1 -2.5**
comp=Z,142nm,1.2s,SNR=95
RETA Reutte 148.29 331 *i* PKP **PKPdf 01 28 09.6 -1.0**
comp=Z,62nm,1.0s,SNR=34
RCHB Rochefort 148.29 340 *d*PKPdf **PKPbc 01 28 12.5 -1.2**
BMRD Maredsous 148.31 340 *d*PKPdf **PKPdf 01 28 11.8 +1.5**
WLF Walferdange 148.40 338 *d*PKPdf **PKPbc 01 28 12.6 -1.4**
DOU Dourbes 148.55 340 *d*PKPdf **PKPdf 01 28 12.4 +1.7**
BRJN Brijuni 148.60 325 *i* P **PKPdf 01 28 11.2 +0.3**
FETA Feichten 148.65 330 *e*PKP **PKPdf 01 28 09.9 -1.4**
comp=Z,136nm,0.9s,SNR=84
BFO Black Forest 148.68 334 PKPdf **PKPdf 01 28 11.2 +0.1**
BFO Black Forest 148.68 334 PKIKP **PKPdf 01 28 11.2 +0.1**
IWEX Carrickbyrne, 148.70 355 *e*P **PKPbc 01 28 13.2 -1.5**
MONM Monmouth 148.72 350 *e*P **PKPdf 01 28 12.0 +1.0**
DAVA Damuels 148.83 332 *e*PKP **PKPdf 01 28 12.0 +0.5**
comp=Z,60nm,0.8s,SNR=37
SWN1 Swindon 148.86 348 *e*P **PKPdf 01 28 13.1 +1.9**
RSBS Rosebush, Pemb 148.90 352 *e*P **PKPdf 01 28 10.7 -0.6**
DAVOX Davos/Dischmat 149.22 331 PKPbc **PKPbc 01 28 15.4 -1.0**
comp=Z,150nm,0.9s,baz=324,slow=0.1,SNR=100
HTL Hartland 149.80 351 *e*P **PKPbc 01 28 17.1 -0.4**
TIP Timpagrande 150.00 313 ⇑P **PKPdf 01 28 14.0 +0.5**
GUMA Gualdo di Mace 150.01 322 IAMs_20 IAMs_20 02 41 20.3
comp=Z,220nm,20.0s
DYA Yadsworthy 150.26 350 *e*P **PKPbc 01 28 16.9 -1.8**
CAMP Campotosto 150.30 321 IAMs_20 IAMs_20 02 40 30.8
comp=Z,251nm,22.0s
PAOL Paolisi 150.48 318 IAMs_20 IAMs_20 02 47 06.8
comp=Z,207nm,20.0s
CCA1 Carnmenellis 150.69 352 *e*P **PKPbc 01 28 18.5 -1.2**
JSA Saint Aubin 151.15 347 *e*P **PKPbc 01 28 19.1 -1.6**
RAFF Raffo Rosso 152.59 311 IAMs_20 IAMs_20 02 16 17.1
comp=Z,188nm,19.0s
CEST Esterri de Car 156.21 336 PKPdf **PKPdf 01 28 21.5 -1.0**
CEST **PKPab 01 28 50.6 +0.5**
KEST Kesra 156.83 313 **PKPdf 01 28 23.1 -0.3**
comp=Z,5.6nm,1.0s,baz=207,slow=2.9,SNR=4.9
PBRG Braganca 159.11 350 *e*PKPab **PKPab 01 29 03.8 +1.2**
PCAB Cabril 159.38 353 *e*PKPab **PKPab 01 29 05.2 +1.4**
POLO Lamas de Olo 159.69 352 *e*PKPab **PKPab 01 29 04.3 -0.9**
PVRL Vila Real 159.77 352 *e*PKPab **PKPab 01 29 04.8 -0.7**
PVIS Viseu 160.35 352 *e*PKPab **PKPab 01 29 09.1 +1.1**
ESDC Sonseca Array 160.55 343 PKPdf **PKPdf 01 28 27.7 0.0**
ESDC PKPab **PKPab 01 29 08.2 -0.8**
ESDC Sonseca Array 160.55 343 PKP **PKPdf 01 28 27.3 -0.5**
comp=Z,1.0nm,0.9s,baz=351,slow=3.7,SNR=6.1
ESDC PKPab **PKPab 01 29 07.8 -1.2**
comp=Z,8.3nm,1.0s,baz=10.0,slow=3.6,SNR=18
ESDC PP **PP 01 32 50.5 +0.1**
comp=Z,2.2nm,1.1s,baz=21,slow=4.6,SNR=6.0
MTE Manteigas 160.61 351 *e*PKPab **PKPab 01 29 09.9 +0.7**
PAB San Pablo 160.78 343 **PKPab 01 29 11.3 +1.4**
PAB San Pablo 160.78 343 PKP2 **PKPab 01 29 11.3 +1.4**
COI Coimbra 160.91 353 *e*PKPab **PKPab 01 29 12.2 +1.8**
PCAS Casmilo, Conde 161.07 353 *e*PKPab **PKPab 01 29 10.4 -0.7**
PMRV Marv??o 161.54 350 *e*PKPab **PKPab 01 29 14.6 +1.4**
PSBE So Bento 161.64 354 *e*PKPab **PKPab 01 29 14.5 +0.9**
PMTG Montargil 162.01 352 *e*PKPab **PKPab 01 29 16.3 +1.1**
EVO Evora 162.51 351 *e*PKPab **PKPab 01 29 19.0 +1.6**
PBAR Barrancos 162.70 349 *e*PKPab **PKPab 01 29 19.1 +0.8**
PBEJ Beja 162.98 351 *e*PKPab **PKPab 01 29 20.7 +1.2**
MESJ Messejana 163.22 351 *e*PKPab **PKPab 01 29 22.3 +1.7**
MESJ Messejana 163.22 351 *e*PKP **PKPdf 01 28 31.3 +0.8**
MESJ IAMs_20 IAMs_20 02 51 02.6
comp=Z,284nm,19.5s
PCVE Castro Verde 163.40 351 *e*PKPab **PKPab 01 29 23.0 +1.7**
MORF Marmelete 163.80 352 *e*PKP **PKPdf 01 28 32.0 +0.9**
MORF Marmelete 163.80 352 *e*PKIKP **PKPdf 01 28 32.0 +0.9**
DBIC Dimbokro 164.23 204 PKP **PKPdf 01 28 30.7 -1.4**
comp=Z,6.7nm,1.0s,baz=239,slow=2.2,SNR=2.4
DBIC PKPab **PKPab 01 29 22.8 -2.8**
comp=Z,9.4nm,1.1s,baz=132,slow=7.5,SNR=3.1
TAM Tamanrasset 164.27 279 **PKPdf 01 28 32.0 -0.1**
TAM **PKPab 01 29 25.8 -0.3**
TOA0 Torodi Ar. Sit 165.18 239 **PKPdf 01 28 32.1 -0.7**
TORD Torodi Ar. Bea 165.18 239 **PKPdf 01 28 32.0 -0.8**
TORD **PKPab 01 29 28.8 -1.2**
TORD Torodi Ar. Bea 165.18 239 PKP **PKPdf 01 28 31.8 -1.1**
comp=Z,6.5nm,1.0s,baz=19,slow=1.4,SNR=21
TORD PKPab **PKPab 01 29 27.9 -2.0**
comp=Z,3.6nm,0.6s,baz=111,slow=4.5,SNR=9.6

ROM 08 01:25:37.6±0.1, 42°.088N±0°.004×13°.300E±0°.005, h9km, Md1.8/5, ML1.3/10, Error ellipse: s-maj=0.4km s-min=0.2km az=33.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PTQR	**Pietraquaria**	**0.10**	**131**	P	Pg		01 25 40.6	+0.4
PTQR				S	Sg		01 25 42.4	+0.4
PTQR				AML	AML			
comp=N,238μm,0.3s								
PTQR				AML	AML			
comp=E,302μm,1.6s								
PTQR				END				
FIAM	**Fiamignano**	**0.23**	**323**	P	Pg		01 25 43.0	+0.7
FIAM				S	Sg		01 25 47.0	+1.5
FIAM				AML	AML			
comp=N,147μm,0.4s								
FIAM				AML	AML			
comp=N,147μm,1.6s								
FIAM				AML	AML			
comp=E,110μm,0.6s								
FIAM				END				
CERT	**Cerreto**	**0.27**	**240**	P	Pg		01 25 43.9	+0.8
CERT				S	Sb		01 25 48.5	-1.0
CERT				AML	AML			
comp=E,78μm,0.4s								
CERT				AML	AML			
comp=N,73μm,1.0s								
CERT				AML	AML			
comp=E,78μm,1.6s								
CERT				END				
FAGN	**Fagnano**	**0.28**	**50**	P	Pg		01 25 43.9	+0.7
FAGN				S	Sb		01 25 48.5	-1.1
FAGN				AML	AML			
comp=E,148μm,0.4s								
FAGN				AML	AML			
comp=N,148μm,1.5s								
FAGN				AML	AML			
comp=N,148μm,0.5s								
FAGN				END				
VVLD	**Villa Vallelon**	**0.32**	**132**	P	Pg		01 25 44.8	+0.7
VVLD				S	Sb		01 25 50.5	-0.4
VVLD				AML	AML			
comp=E,77μm,0.4s								
VVLD				AML	AML			
comp=N,77μm,0.5s								
VVLD				AML	AML			
comp=N,77μm,1.5s								
VVLD				END				

*NOU **08** 01:30:40.8, 40°.89S×175°.78E, h80km, MLv3.8/9, North Island, New Zealand*
*WEL **08** 01:30:42.7±0.2, 41°.5±2°.×17°.5E±°, h23km±2km, M3.5/22, ML3.9/22, MLv3.5/22, Error ellipse: s-maj=0.0km s-min=0.0km az=134.0, confirmed*
ISC 08 01:30:43.4±0.9, 40°.73S±0°.02×175°.46E±0°.02, h32km±5km, n97, σ1s21/123, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
MRZ	**Mangatainoka R**	**0.12**	**53**	P	**Pb**		**01 30 48.6**	**-0.5**
MRZ				S	**Sb**		**01 30 52.8**	**-0.2**
HOWZ	**Holdsworth Sta**	**0.17**	**165**	P	**Pb**		**01 30 49.8**	**+0.1**
HOWZ				S	**Sb**		**01 30 55.4**	**+1.5**
OGWZ	**Otaki Gorge**	**0.23**	**248**	P	**Pn**		**01 30 49.8**	**-0.9**
OGWZ				S	**Sb**		**01 30 54.6**	**-0.3**
TIWZ	**Tintock**	**0.33**	**98**	P	**Pb**		**01 30 51.7**	**+0.3**
TIWZ				S	**Sb**		**01 30 58.6**	**+1.6**
POWZ	**Post Office Ro**	**0.41**	**35**	P	**Pb**		**01 30 51.7**	**-0.9**
POWZ				S	**Sb**		**01 30 59.4**	**+0.5**
PRWZ	**Pori Road**	**0.43**	**66**	P	**Pb**		**01 30 53.0**	**+0.1**
PRWZ				S	**Sn**		**01 31 00.4**	**+0.3**
MTW	**Mount Morrison**	**0.43**	**176**	P	**Pb**		**01 30 53.4**	**+0.5**
MTW				S	**Sn**		**01 31 01.8**	**+1.6**
KIW	**Kapiti Island**	**0.44**	**252**	P	**Pb**		**01 30 52.6**	**-0.4**
KIW				S	**Sb**		**01 30 59.2**	**-0.4**
TMWZ	**Te Maipa**	**0.50**	**139**	P	**Pn**		**01 30 54.7**	**+0.3**
TMWZ				S	**Sn**		**01 31 03.9**	**+2.0**
OHWZ	**Ohakea**	**0.54**	**348**	P	**Pn**		**01 30 53.8**	**-1.0**
CPWZ	**Castlepoint**	**0.59**	**108**	P	**Pb**		**01 30 56.4**	**+1.0**
BFZ	**Birch Farm**	**0.60**	**86**	P	**Pn**		**01 30 55.7**	**-0.1**
BFZ	**Birch Farm**	**0.60**	**86**	P	**Pn**		**01 30 55.5**	**-0.2**
BFZ				S	**Sb**		**01 31 05.6**	**+1.7**
PAWZ	**Paruwai Farm**	**0.65**	**182**	P	**Pn**		**01 30 56.4**	**-0.1**
PAWZ				S	**Sb**		**01 31 07.3**	**+2.0**
TRWZ	**Traveller**	**0.69**	**165**	P	**Pb**		**01 30 57.3**	**+0.2**
TRWZ				S	**Sb**		**01 31 09.2**	**+2.8**
DVHZ	**Dannevirke**	**0.69**	**52**	P	**Pn**		**01 30 56.5**	**-0.5**
DVHZ				S	**Sn**		**01 31 06.6**	**-0.1**
MSWZ	**Moikau Station**	**0.70**	**193**	P	**Pn**		**01 30 57.0**	**-0.2**
MSWZ				S	**Sb**		**01 31 07.5**	**+0.7**
WEL	**Wellington**	**0.76**	**223**	P	**Pn**		**01 30 58.1**	**+0.1**
WEL				S	**Sb**		**01 31 09.2**	**+0.9**
TSZ	**Takapari Road**	**0.77**	**30**	P	**Pn**		**01 30 57.4**	**-0.8**
TSZ				S	**Sn**		**01 31 08.7**	**0.0**
BHW	**Baring Head**	**0.81**	**213**	P	**Pn**		**01 30 58.4**	**-0.2**
BHW				S	**Sb**		**01 31 09.9**	**+0.2**
SNZO	**South Karori**	**0.81**	**224**	P	**Pn**		**01 30 58.6**	**0.0**
ANWZ	**Angora Road**	**0.82**	**71**	P	**Pn**		**01 30 58.5**	**-0.2**
ANWZ				S	**Sb**		**01 31 10.9**	**+1.0**
PLWZ	**Palliser**	**0.85**	**190**	P	**Pn**		**01 30 58.9**	**-0.4**
PLWZ				S	**Sn**		**01 31 10.6**	**-0.1**
PNHZ	**Pukenui**	**0.99**	**35**	P	**Pn**		**01 31 00.1**	**-1.1**
PNHZ				S	**Sn**		**01 31 14.8**	**+0.7**
WPHZ	**Waipukurau**	**1.00**	**49**	P	**Pn**		**01 31 00.9**	**-0.4**
WPHZ				S	**Sb**		**01 31 15.3**	**+0.1**
PRHZ	**Porangahau**	**1.01**	**63**	P	**Pn**		**01 31 00.8**	**-0.6**
PRHZ				S	**Sn**		**01 31 14.9**	**+0.4**
TCW	**Tory Channel**	**1.01**	**241**	P	**Pn**		**01 31 01.3**	**-0.2**
TCW				S	**Sn**		**01 31 14.5**	**-0.1**
WAZ	**Wanganui**	**1.04**	**340**	P	**Pn**		**01 31 02.2**	**+0.5**
WAZ				S	**Sn**		**01 31 16.1**	**+0.8**
DUWZ	**D'Urville Isla**	**1.17**	**266**	P	**Pn**		**01 31 03.8**	**+0.2**
DUWZ				S	**Sn**		**01 31 19.2**	**+0.7**
KRHZ	**Kereru**	**1.29**	**33**	P	**Pn**		**01 31 04.7**	**-0.6**
KRHZ				S	**Sn**		**01 31 22.0**	**+0.5**
MOVZ	**Moawhango**	**1.34**	**10**	P	**Pn**		**01 31 06.0**	**0.0**
TUWZ	**Tuamarina**	**1.34**	**238**	P	**Pn**		**01 31 05.3**	**-0.6**
WNVZ	**Wahianoa**	**1.41**	**4**	P	**Pn**		**01 31 07.4**	**+0.4**
TRVZ	**Turoa**	**1.43**	**3**	P	**Pn**		**01 31 08.0**	**+0.6**
KAHZ	**Kahuranaki**	**1.43**	**50**	P	**Pn**		**01 31 06.4**	**-0.8**
WHVZ	**Whangaehu Hut**	**1.

WATZ	Wairara	2.03	6	P	Pn	01 31 15.2 -0.2
MRHZ	Matea Rd	2.03	22	P	Pn	01 31 16.3 +0.8
MRNZ	Matariki Terra	2.15	251	P	Pn	01 31 17.2 +0.2
THZ	Tophouse	2.18	241	P	Pn	01 31 16.5 -1.1
RAHZ	Arahi	2.20	35	P	Pn	01 31 16.2 -1.6
KHZ	Kahutara	2.22	220	P	Pn	01 31 16.5 -1.4
KHZ	Kahutara	2.22	220	P	Pn	01 31 16.6 -1.4
HIZ	Hauiti	2.26	348	P	Pn	01 31 19.4 +0.8
HIZ	Hauiti	2.26	348	P	Pn	01 31 19.1 +0.5
ALRZ	Allen Road	2.27	18	P	Pb	01 31 23.0 -0.7
PRRZ	Plateau Road	2.34	18	P	Pn	01 31 22.5 +2.8
HRRZ	Handcock Road	2.42	16	P	Pb	01 31 26.3 0.0
MHGZ	Mahia Peninsul	2.46	51	P	Pn	01 31 19.8 -1.5
RIGZ	Rimuhau	2.69	42	P	Pn	01 31 22.1 -2.4
URZ	Urewera	2.78	28	P	Pn	01 31 23.1 -2.6
URZ	Urewera	2.78	28	P	Pn	01 31 23.1 -2.6
GVZ	Greta Valley S	2.88	218	P	Pn	01 31 25.3 -1.7
MWZ	Matawai	2.88	34	P	Pn	01 31 24.5 -2.6
TOZ	Tahuroa Road	3.00	1	P	Pn	01 31 29.5 +0.8
LTZ	Lake Taylor	3.14	228	P	Pn	01 31 28.9 -1.9
TWGZ	Tauwhareparae	3.21	38	P	Pn	01 31 28.9 -2.8
HAZ	Te Kaha	3.48	32	P	Pn	01 31 33.2 -2.0
MKAZ	Moumakai	3.63	356	P	Pn	01 31 37.3 -0.1
MQZ	McQueen's Vall	3.63	214	P	Pn	01 31 34.2 -3.2
AWAZ	Awhitu Peninsu	3.72	350	P	Pn	01 31 40.2 +1.7
RACZ	Rakaia	3.88	218	P	Pn	01 31 38.6 -2.2
RPZ	Rata Peaks	4.42	226	P	Pn	01 31 46.0 -2.3
TMZ	Timaru	4.91	221	P	Pn	01 31 52.8 -2.3
ODZ	Otahua Downs	5.58	218	P	Pn	01 32 02.0 -2.1
ODZ	Otahua Downs	5.58	218	P	Pn	01 32 01.8 -2.3

HLW ***08*** *01:40:51.1, 35°.79N±28°.03E, h31km±54km, Md4.7, Ml4.2*
IDC ***08*** *01:40:52.1±1.2, 35°.83N±27°.92E, h59km±14km, mb3.5/12, mbtmp3.8/20, Error ellipse: s-maj=16.7km s-min=8.5km az=166.0*
NIC ***08*** *01:40:53.8, 35°.54N±28°.13E, h37km±18km, Ml4.1/12*
AFAD ***08*** *01:40:53.2±0.0, 35°.84N±28°.02E, h37km, MW3.6*
ISK ***08*** *01:40:53.1, 35°.81N±27°.94E, h73km±1km, ML3.9/25*
ATH ***08*** *01:40:54.8, 35°.85N±27°.84E, h69km±2km, ML3.7/20, Error ellipse: s-maj=3.3km s-min=1.2km az=110.0*
THE ***08*** *01:40:55.9, 35°.85N±27°.85E, h64km±2km, ML3.7/8, Error ellipse: s-maj=2.1km s-min=0.5km az=117.0*
GII ***08*** *01:40:55.7±0.5, 35°.399N±0°.003×28°.290E±0°.001, h40km, mB4.2/3, Md4.0/4, Mws3.7, confirmed*
ISC 08 01:40:52.1±0.7, 35°.65N±0°.03×28°.04E±0°.03, h66km±7km, n243, σ1§53/303, mb3.6/12, 4D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.57**	**7**	Pg	**Pn**	**01 41 06.2**	**+0.9**
ARG				Sg	**Sn**	**01 41 15.5**	**+0.5**
ARG	**Arkhangelos**	**0.57**	**7**	P	**Pn**	**01 41 06.5**	**+1.2**
ARG				S	**Sn**	**01 41 15.4**	**+0.5**
	10μm,0.2s						
ARG	**Arkhangelos**	**0.57**	**7**	P	**Pn**	**01 41 06.5**	**+1.2**
ARG				S	**Sn**	**01 41 14.9**	**-0.1**
ARG				AML	AML	01 41 16.1	
	comp=N,14704μm,0.2s						
ARG				AML	AML	01 41 16.1	
	comp=E,25428μm,0.2s						
ARG	**Arkhangelos**	**0.57**	**7**	||*iP*	**Pn**	**01 41 06.5**	**+1.2**
ARG				AML	AML	01 41 15.8	
	comp=E,15nm,0.2s						
ARG				AML	AML	01 41 15.8	
	comp=E,25nm,0.2s						
ARG				S	**Sn**	**01 41 16.0**	**+1.1**
KARP	**Karpathos**	**0.72**	**262**	Pg	**Pn**	**01 41 08.9**	**+1.9**
KARP				Sg	**Sn**	**01 41 19.7**	**+1.6**
KARP	**Karpathos**	**0.72**	**262**	P	**Pn**	**01 41 09.0**	**+1.9**
KARP				S	**Sn**	**01 41 19.1**	**+1.0**
	comp=E,20μm,0.2s						
KARP	**Karpathos**	**0.72**	**262**	P	**Pn**	**01 41 09.0**	**+1.9**
KARP	**Karpathos**	**0.72**	**262**	P	**Pn**	**01 41 09.0**	**+1.9**
KARP				S	**Sn**	**01 41 19.1**	**+1.0**
KARP				AML	AML	01 41 20.6	
	comp=N,42853μm,0.2s						
KARP				AML	AML	01 41 20.8	
	comp=E,37838μm,0.2s						
KARP	**Karpathos**	**0.72**	**262**	||*iP*	**Pn**	**01 41 09.0**	**+1.9**
KARP				S	**Sn**	**01 41 19.7**	**+1.6**
KARP				AML	AML	01 41 20.2	
	comp=E,42nm,0.2s						
KARP				AML	AML	01 41 20.4	
	comp=E,37nm,0.2s						
MRSB	**Marmaris-Mugla**	**1.07**	**7**	Pg	**Pn**	**01 41 12.1**	**+0.8**
MRSB				Sg	**Sn**	**01 41 25.3**	**-0.3**
YAZI	**Mula-Dat§a-**	**1.13**	**335**	P	**Pn**	**01 41 12.0**	**-0.2**
YAZI				S	**Sn**	**01 41 25.2**	**-1.8**
YAZI				*i* AML	AML	01 41 26.0	
	comp=E,578nm,0.2s						
YAZI				*i* AML	AML	01 41 26.0	
	comp=E,631nm,0.3s						
TURN	**Turunc**	**1.14**	**8**	Pg	**Pn**	**01 41 12.8**	**+0.7**
TURN				Sg	**Sn**	**01 41 26.7**	**-0.3**
TURN	**Turunc**	**1.14**	**8**	P	**Pn**	**01 41 13.1**	**+0.9**
TURN				S	**Sn**	**01 41 27.6**	**+0.5**
DAT	**Datca**	**1.14**	**341**	Pg	**Pn**	**01 41 12.2**	**-0.1**
DAT	**Datca**	**1.14**	**341**	P	**Pn**	**01 41 12.4**	**+0.1**
DAT				S	**Sn**	**01 41 25.3**	**-2.0**
DAT				*i* AML	AML	01 41 27.0	
	comp=E,1μm,0.2s						
DAT				*i* AML	AML	01 41 30.0	
	comp=E,2μm,0.2s						
DAT	**Datca**	**1.14**	**341**	P	**Pn**	**01 41 12.2**	**-0.1**
DAT				S	**Sn**	**01 41 24.7**	**-2.7**
NISR	**Nisiros**	**1.21**	**323**	P	**Pn**	**01 41 13.1**	**0.0**
NISR				S	**Sn**	**01 41 26.1**	**-2.7**
NISR				AML	AML	01 41 33.1	
	comp=N,1638μm,0.3s						
NISR				AML	AML	01 41 33.8	
	comp=E,2405μm,0.2s						
IZZE	**Mula-Seydike**	**1.24**	**50**	P	**Pn**	**01 41 14.8**	**+1.2**
IZZE				S	**Sn**	**01 41 30.8**	**+1.2**
IZZE				*i* AML	AML	01 41 31.0	
	comp=E,3μm,0.5s						
IZZE				*i* AML	AML	01 41 32.0	
	comp=E,3μm,0.2s						
DALY	**Dalyan (Mula)**	**1.27**	**23**	Pn	**Pn**	**01 41 14.6**	**+0.8**
FETY	**Fethiye**	**1.30**	**40**	Pn	**Pn**	**01 41 15.1**	**+0.8**
FETY	**Fethiye**	**1.30**	**40**	P	**Pn**	**01 41 15.2**	**+0.9**
FETY				S	**Sn**	**01 41 33.0**	**+2.1**
SABU	**Mula-Dalaman**	**1.39**	**32**	P	**Pn**	**01 41 16.6**	**+1.1**
SABU				S	**Sn**	**01 41 33.4**	**+0.3**
SABU				*i* AML	AML	01 41 38.0	
	comp=E,475nm,0.6s						
SABU				*i* AML	AML	01 41 40.0	
	comp=E,649nm,0.3s						
AKAS	**Kas**	**1.40**	**65**	Pn	**Pn**	**01 41 17.8**	**+2.1**
AKAS	**Kas**	**1.40**	**65**	P	**Pn**	**01 41 17.9**	**+2.1**
AKAS				*i* AML	AML	01 41 37.0	
	comp=E,2μm,0.4s						
AKAS				*i* AML	AML	01 41 37.0	
	comp=E,1μm,0.5s						
BDRM	**Kayabasi**	**1.49**	**341**	P	**Pn**	**01 41 16.5**	**-0.4**
BDRM				*i* AML	AML	01 41 33.0	
	comp=E,1μm,0.4s						
BDRM				S	**Sn**	**01 41 33.0**	**-2.5**
YER	**Yerkesik**	**1.49**	**7**	Pn	**Pn**	**01 41 17.7**	**+0.8**
YER	**Yerkesik**	**1.49**	**7**	P	**Pn**	**01 41 17.7**	**+0.8**
YER				S	**Sn**	**01 41 34.4**	**-1.2**
BODT	**Bodrum**	**1.53**	**338**	Pn	**Pn**	**01 41 16.9**	**-0.4**
BODT	**Bodrum**	**1.53**	**338**	P	**Pn**	**01 41 16.9**	**-0.4**
BODT				S	**Sn**	**01 41 33.7**	**-2.6**
KLNA	**Kalymnos**	**1.56**	**327**	P	**Pn**	**01 41 17.1**	**-0.7**
KLNA				S	**Sn**	**01 41 33.4**	**-3.7**
ZKR	**Zakros**	**1.58**	**251**	Pn	**Pn**	**01 41 20.2**	**+2.1**
ZKR	**Zakros**	**1.58**	**251**	P	**Pn**	**01 41 20.2**	**+2.1**
ZKR				S	**Sn**	**01 41 38.9**	**+1.3**
	comp=E,1μm,0.4s						
ZKR	**Zakros**	**1.58**	**251**	P	**Pn**	**01 41 20.1**	**+2.1**
ZKR				S	**Sn**	**01 41 38.1**	**+0.5**
ZKR				AML	AML	01 41 42.0	
	comp=N,1541μm,0.3s						
ZKR				AML	AML	01 41 45.3	
	comp=E,2900μm,0.6s						
ZKR	**Zakros**	**1.58**	**251**	||*iP*	**Pn**	**01 41 20.2**	**+2.1**
ZKR				S	**Sn**	**01 41 39.8**	**+2.2**
ZKR				AML	AML	01 41 40.8	
	comp=E,1.4nm,0.3s						
ZKR				AML	AML	01 41 44.1	
	comp=E,2.7nm,0.5s						
YKAV	**Yalikavak-Bodr**	**1.59**	**338**	Pn	**Pn**	**01 41 17.7**	**-0.5**
MULA	**Mugla, Merkez-**	**1.62**	**8**	P	**Pn**	**01 41 20.2**	**+1.5**
MULA				S	**Sn**	**01 41 39.5**	**+0.9**
MULA				*i* AML	AML	01 41 41.0	
	comp=E,520nm,0.4s						
MULA				*i* AML	AML	01 41 43.0	
	comp=E,274nm,0.2s						
DEMR	**Demre-Antalya**	**1.62**	**68**	Pn	**Pn**	**01 41 21.0**	**+2.4**
CAME	**Cameli-Denizli**	**1.65**	**38**	Pn	**Pn**	**01 41 20.4**	**+1.4**
MLSB	**Milas**	**1.66**	**353**	Pn	**Pn**	**01 41 19.1**	**0.0**
KNIK	**Mula-Seydike**	**1.72**	**46**	P	**Pn**	**01 41 21.8**	**+1.8**
KNIK				S	**Sn**	**01 41 43.0**	**+1.9**
KNIK				*i* AML	AML	01 41 46.0	
	comp=E,222nm,0.3s						
KNIK				*i* AML	AML	01 41 49.0	
	comp=E,187nm,0.2s						
CAEL	**Denizli, Camel**	**1.80**	**35**	P	**Pn**	**01 41 22.6**	**+1.6**
CAEL				S	**Sn**	**01 41 44.5**	**+1.5**
CAEL				*i* AML	AML	01 41 47.0	
	comp=E,686nm,0.4s						
CAEL				*i* AML	AML	01 41 58.0	
	comp=E,703nm,0.5s						
DNZT	**Denizli-Tavas-**	**1.81**	**26**	P	**Pn**	**01 41 22.2**	**+1.0**
DNZT				*i* AML	AML	01 41 44.0	
	comp=E,207nm,0.3s						
DNZT				S	**Sn**	**01 41 44.4**	**+1.2**
DNZT				*i* AML	AML	01 41 46.0	
	comp=E,313nm,0.5s						
ELL	**Elmali**	**1.87**	**54**	Pn	**Pn**	**01 41 24.1**	**+2.1**
ELL	**Elmali**	**1.87**	**54**	||*iP*	**Pn**	**01 41 23.8**	**+1.8**
ELL				S	**Sn**	**01 41 46.8**	**+2.1**
ELL				AML	AML	01 41 49.3	
	comp=E,10nm,0.4s						
ELL				AML	AML	01 41 53.0	
	comp=E,4.4nm,0.6s						
TAVA	**DENIZLI_Tavas**	**1.94**	**21**	P	**Pn**	**01 41 23.7**	**+0.7**
TAVA				*i* AML	AML	01 41 46.0	
	comp=E,451nm,0.3s						
TAVA				S	**Sn**	**01 41 46.2**	**-0.3**
TAVA				*i* AML	AML	01 41 52.0	
	comp=E,299nm,0.5s						
AKUM	**Antalya-Kumluc**	**1.98**	**70**	P	**Pn**	**01 41 25.9**	**+2.4**
AKUM				S	**Sn**	**01 41 49.3**	**+2.0**
AKUM				*i* AML	AML	01 41 52.0	
	comp=E,453nm,0.3s						
AKUM				*i* AML	AML	01 41 53.0	
	comp=E,472nm,0.4s						
GOLH	**Golhisar**	**2.00**	**37**	P	**Pn**	**01 41 25.9**	**+2.0**
GOLH				S	**Sn**	**01 41 50.0**	**+2.1**
GOLH				*i* AML	AML	01 41 51.0	
	comp=E,410nm,0.7s						
GOLH				*i* AML	AML	01 41 52.0	
	comp=E,575nm,0.4s						
APMY	**Acipayam-Deniz**	**2.08**	**29**	Pn	**Pn**	**01 41 25.6**	**+0.7**
DNIZ	**Denizli-Tavas-**	**2.13**	**22**	P	**Pn**	**01 41 26.2**	**+0.7**
DNIZ				S	**Sn**	**01 41 50.7**	**-0.3**
DNIZ				*i* AML	AML	01 41 55.0	
	comp=E,831nm,0.4s						
DNIZ				*i* AML	AML	01 42 00.0	
	comp=E,1μm,0.4s						
GCAM	**G?zelcaml?**	**2.15**	**343**	Pn	**Pn**	**01 41 25.5**	**-0.1**
ESEN	**Aydn-Nazilli**	**2.16**	**6**	P	**Pn**	**01 41 25.9**	**+0.1**
ESEN				*i* AML	AML	01 41 51.0	
	comp=E,328nm,0.3s						
ESEN				S	**S**	**01 41 51.0**	**-0.5**
ESEN				*i* AML	AML	01 41 52.0	
	comp=E,650nm,0.3s						
THR8	**Santorini-Mono**	**2.21**	**291**	P	**Pn**	**01 41 26.6**	**+0.1**
SANT	**Santorini**	**2.21**	**290**	Pn	**Pn**	**01 41 27.6**	**+1.0**
SANT	**Santorini**	**2.21**	**290**	P	**Pn**	**01 41 27.6**	**+1.0**
SANT				S	**Sn**	**01 41 50.7**	**-2.2**
	comp=E,2μm,0.2s						
SANT	**Santorini**	**2.21**	**290**	P	**Pn**	**01 41 27.5**	**+0.9**
SANT				AML	AML	01 41 53.5	
	comp=N,1448μm,0.2s						
SANT				AML	AML	01 41 54.1	
	comp=E,5864μm,0.3s						
KEMT	**Kemer-ANTALYA**	**2.25**	**64**	Pn	**Pn**	**01 41 29.6**	**+2.6**
SNT1	**Gialos, Santor**	**2.25**	**291**	P	**Pn**	**01 41 27.3**	**+0.3**
SNT1				S	**Sn**	**01 41 50.8**	**-2.9**
	comp=E,895nm,0.4s						
THR2	**Thira Island,**	**2.26**	**291**	P	**Pn**	**01 41 27.5**	**+0.4**
THR6	**Thira Island,**	**2.26**	**289**	P	**Pn**	**01 41 27.5**	**+0.4**
THR3	**Thira Island,**	**2.27**	**290**	P	**Pn**	**01 41 27.7**	**+0.4**
SMG	**Samos**	**2.27**	**335**	P	**Pn**	**01 41 26.9**	**-0.4**
SMG				S	**Sn**	**01 41 51.4**	**-2.9**
	comp=E,588nm,0.2s						
SMG	**Samos**	**2.27**	**335**	P	**Pn**	**01 41 26.8**	**-0.6**
SMG				S	**Sn**	**01 41 49.6**	**-4.6**
SMG				AML	AML	01 41 51.8	
	comp=N,978μm,0.4s						
SMG				AML	AML	01 41 55.5	
	comp=E,1465μm,0.3s						
CMBO	**Columbo, Santo**	**2.29**	**292**	P	**Pn**	**01 41 27.8**	**+0.3**
CMBO	**Columbo, Santo**	**2.29**	**292**	P	**Pn**	**01 41 27.7**	**+0.1**
CMBO				AML	AML	01 41 53.8	
	comp=N,9134μm,0.3s						
CMBO				AML	AML	01 41 55.6	
	comp=E,5841μm,0.5s						
THR9	**Santorini-Faro**	**2.29**	**289**	P	**Pn**	**01 41 28.0**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.29**	**357**	Pn	**Pn**	**01 41 27.5**	**-0.3**
KORT	**Korkueli**	**2.30**	**53**	Pn	**Pn**	**01 41 30.3**	**+2.4**
KORT	**Korkueli**	**2.30**	**53**	P	**Pn**	**01 41 30.4**	**+2.6**
KORT				S	**Sn**	**01 41 58.9**	**+3.7**
KORT				*i* AML	AML	01 42 00.0	
	comp=E,455nm,0.4s						
KORT				*i* AML	AML	01 42 02.0	
	comp=E,285nm,0.4s						
THR5	**Thira Island,**	**2.31**	**290**	P	**Pn**	**01 41 27.9**	**0.0**
NAZL	**Nazilli-Aydin**	**2.32**	**5**	Pn	**Pn**	**01 41 28.1**	**+0.1**
SAP3	**Santorini-Thir**	**2.32**	**291**	P	**Pn**	**01 41 28.5**	**+0.5**
SAP3				S	**Sn**	**01 41 53.4**	**-2.1**
	comp=E,2μm,0.4s						
INCE	**Denizli-Bozkur**	**2.40**	**31**	P	**Pn**	**01 41 29.8**	**+0.7**
INCE				S	**Sn**	**01 41 57.8**	**+0.3**
INCE				*i* AML	AML	01 41 58.0	
	comp=E,419nm,0.3s						
INCE				*i* AML	AML	01 41 58.0	
	comp=E,347nm,0.5s						
KSTL	**Kastelli Herak**	**2.45**	**263**	P	**Pn**	**01 41 29.3**	**-0.4**
KSTL				S	**Sn**	**01 41 52.5**	**-6.1**
KSTL				AML	AML	01 41 56.5	
	comp=N,1678μm,0.6s						
KSTL				AML	AML	01 41 58.1	
	comp=E,828μm,0.5s						
ANTB	**Antalya**	**2.45**	**59**	Pn	**Pn**	**01 41 32.4**	**+2.6**
APE	**Apeiranthos**	**2.47**	**306**	P	**Pn**	**01 41 29.9**	**-0.2**
APE				AML	AML	01 41 57.8	
	comp=E,856μm,0.5s						
APE				AML	AML	01 41 58.6	
	comp=N,1065μm,0.5s						
IDI	**Anoyia**	**2.60**	**263**	P	**Pn**	**01 41 32.7**	**+0.8**
IDI				S	**Sn**	**01 42 01.1**	**-1.2**
	comp=N,445nm,0.3s						
IDI	**Anoyia**	**2.60**	**263**	P	**Pn**	**01 41 32.6**	**+0.8**
	comp=N,27nm,0.3s,baz=7.7,slow=4.9,SNR=69						
IDI				S	**Sn**	**01 42 00.7**	**-1.6**
	comp=N,119nm,0.2s,baz=263,slow=1.8,SNR=6.9						
IDI	**Anoyia**	**2.60**	**263**	P	**Pn**	**01 41 32.6**	**+0.8**
IDI				S	**Sn**	**01 41 59.8**	**-2.5**
IDI				AML	AML	01 42 03.4	
	comp=N,828μm,0.3s						
IDI				AML	AML	01 42 03.6	
	comp=E,1314μm,0.4s						
BRDR	**BURDUR-Merkez**	**2.61**	**38**	P	**Pn**	**01 41 33.3**	**+1.3**
BRDR				S	**Sn**	**01 42 04.5**	**+1.9**
BRDR				*i* AML	AML	01 42 07.0	
	comp=E,99nm,0.4s						
BRDR				*i* AML	AML	01 42 07.0	
	comp=E,116nm,0.3s						
ODEM	**Odemis-Izmir**	**2.62**	**1**	Pn	**Pn**	**01 41 31.9**	**-0.3**
BUCA	**Burdur, Bucak-**	**2.63**	**50**	P	**Pn**	**01 41 34.3**	**+2.0**
BUCA				S	**Sn**	**01 42 03.8**	**+0.6**
BUCA				*i* AML	AML	01 42 07.0	
	comp=E,207nm,0.6s						
BUCA				*i* AML	AML	01 42 13.0	
	comp=E,131nm,0.4s						
TMBK	**Timbaki Herakl**	**2.74**	**259**	P	**Pn**	**01 41 36.2**	**+2.5**
KULA	**Kula-Manisa**	**2.90**	**10**	P	**Pn**	**01 41 35.6**	**-0.4**
KZIL	**AFYON_Kizioren**	**3.10**	**32**	P	**Pn**	**01 41 39.0**	**+0.2**
KZIL				S	**Sn**	**01 42 13.9**	**-0.7**
MHLO	**Agia Marina, M**	**3.12**	**290**	P	**Pn**	**01 41 39.8**	**+0.9**
MHLO	**Agia Marina, M**	**3.12**	**290**	P	**Pn**	**01 41 39.3**	**+0.4**
MHLO				AML	AML	01 42 22.2	
	comp=E,1382μm,0.3s						
MHLO				AML	AML	01 42 24.5	
	comp=N,1547μm,0.4s						
CHOS	**Chios island**	**3.16**	**330**	P	**Pn**	**01 41 39.0**	**-0.5**
CHOS				AML	AML	01 42 17.4	
	comp=N,164μm,0.5s						
CHOS				AML	AML	01 42 31.1	
	comp=E,173μm,0.7s						
CHAN	**Chania**	**3.26**	**269**	P	**Pn**	**01 41 41.4**	**+0.6**
CHAN				AML	AML	01 42 20.7	
	comp=E,1176μm,0.4s						
CHAN				AML	AML	01 42 22.7	
	comp=N,1224μm,0.5s						
IMMV	**Iera Moni Meta**	**3.31**	**268**	P	**Pn**	**01 41 42.4**	**+0.8**
IMMV	**Iera Moni Meta**	**3.31**	**268**	P	**Pn**	**01 41 42.2**	**+0.7**
IMMV				AML	AML	01 42 22.1	
	comp=N,1594μm,0.6s						
IMMV				AML	AML	01 42 23.5	
	comp=E,1122μm,0.3s						
GVD	**Gavdhos**	**3.33**	**257**	P	**Pn**	**01 41 43.6**	**+1.8**
GVD	**Gavdhos**	**3.33**	**257**	P	**Pn**	**01 41 43.4**	**+1.6**
GVD				AML	AML	01 42 24.4	
	comp=E,1264μm,0.5s						
GVD				AML	AML	01 42 25.5	
	comp=N,1322μm,0.4s						
SEDI	**Konya, Seydise**	**3.49**	**58**	P	**Pn**	**01 41 46.9**	**+2.9**
SEDI				S	**Sn**	**01 42 27.6**	**+3.4**
SEDI				*i* AML	AML	01 42 28.0	
	comp=N,179nm,0.8s						
SEDI				*i* AML	AML	01 42 29.0	
	comp=N,241nm,0.4s						
AKMS	**Akamas**	**3.57**	**99**	P	**Pn**	**01 41 46.1**	**+1.1**
AKMS				S	**Sn**	**01 42 25.4**	**-0.5**
AKMS				AML	AML	01 42 28.1	
	comp=N,1.8nm,0.3s						
AKMS				AML	AML	01 42 28.4	
	comp=N,2.4nm,0.3s						
KNDR	**Palaiochora Ch**	**3.58**	**265**	P	**Pn**	**01 41 46.9**	**+1.8**
KNDR				AML	AML	01 42 28.5	
	comp=E,1102μm,0.4s						
KNDR				AML	AML	01 42 30.2	
	comp=N,853μm,0.3s						
ALFC	**Alefka**	**3.76**	**96**	P	**Pn**	**01 41 48.5**	**+0.9**
ALFC				S	**Sn**	**01 42 31.7**	**+1.1**
ALFC				AML	AML	01 42 33.1	
	comp=N,2.2nm,0.3s						
ALFC				AML	AML	01 42 34.0	
	comp=N,1.4nm,0.2s						
NATA	**Nata**	**3.81**	**102**	P	**Pn**	**01 41 49.4**	**+1.1**
NATA				S	**Sn**	**01 42 33.1**	**+1.2**
NATA				AML	AML	01 42 38.2	
	comp=N,3.5nm,0.3s						
NATA				AML	AML	01 42 40.8	
	comp=N,2.1nm,0.4s						
PRK	**Paraskevi**	**3.85**	**339**	P	**Pn**	**01 41 49.0**	**+0.1**
PRK	**Paraskevi**	**3.85**	**339**	P	**Pn**	**01 41 48.2**	**-0.7**
PRK				AML	AML	01 42 30.2	
	comp=N,448μm,0.8s						
PRK				AML	AML	01 42 31.8	
	comp=E,409μm,0.7s						
SIGR	**SIGRI**	**3.96**	**335**	P	**Pn**	**01 41 50.1**	**-0.2**
SIGR				AML	AML	01 42 32.4	
	comp=N,212μm,0.5s						
SIGR				AML	AML	01 42 32.5	
	comp=E,140μm,0.5s						
TROD	**Troodos**	**4.01**	**99**	P	**Pn**	**01 41 51.8**	**+0.6**
TROD				S	**Sn**	**01 42 37.8**	**+0.8**
TROD				AML	AML	01 42 42.6	
	comp=E,0.8nm,0.6s						
TROD				AML	AML	01 42 44.8	
	comp=E,0.6nm,0.4s						
VLY	**Voula,Athens**	**4.06**	**304**	P	**Pn**	**01 41 52.6**	**+0.9**
DION	**Dionisos Attik**	**4.09**	**308**	P	**Pn**	**01 41 53.2**	**+1.1**
PTL	**Penteli**	**4.12**	**307**	P	**Pn**	**01 41 53.6**	**+1.1**
ATHU	**Athens Univers**	**4.12**	**305**	P	**Pn**	**01 41 53.7**	**+1.1**
ATH	**Athens Observa**	**4.17**	**305**	P	**Pn**	**01 41 53.9**	**+0.7**
VLI	**Veliai**	**4.26**	**286**	P	**Pn**	**01 41 55.0**	**+0.5**
VLI	**Veliai**	**4.26**	**286**	P	**Pn**	**01 41 54.6**	**+0.1**
VLI				AML	AML	01 42 41.2	
	comp=E,338μm,0.2s						
VLI				AML	AML	01 42 41.4	
	comp=N,539μm,0.4s						
KRND	**KRANIDI**	**4.30**	**295**	P	**Pn**	**01 41 56.3**	**+1.3**
KRND	**KRANIDI**	**4.30**	**295**	P	**Pn**	**01 41 56.2**	**+1.2**
KRND				AML	AML	01 42 48.0	
	comp=E,176μm,0.4s						
KRND				AML	AML	01 42 53.2	
	comp=N,232μm,0.3s						
KYMI	**Kymi, Euboea I**	**4.33**	**315**	P	**Pn**	**01 41 55.7**	**+0.3**
MATC	**Matruh**	**4.35**	**189**	P	**Pn**	**01 41 57.9**	**+2.2**
	baz=189						
ASGA	**Asgata**	**4.35**	**100**	P	**Pn**	**01 41 56.6**	**+0.9**
ASGA				AML	AML	01 42 52.3	
	comp=N,0.8nm,0.4s						
ASGA				AML	AML	01 42 52.9	
	comp=N,0.7nm,0.3s						
CSS	**Mathiatis**	**4.38**	**97**	P	**Pn**	**01 41 58.4**	**+2.3**
CSS	**Mathiatis**	**4.38**	**97**	P	**Pn**	**01 41 57.2**	**+1.1**
CSS				AML	AML	01 42 49.9	
	comp=N,0.3nm,0.4s						
CSS				AML	AML	01 42 58.1	
	comp=N,0.3nm,0.4s						
ATHAL	**Athalassa**	**4.40**	**95**	P	**Pn**	**01 41 58.7**	**+2.3**
ATHAL				S	**Sn**	**01 42 47.5**	**+1.1**
ATHAL				AML	AML	01 42 51.0	
	comp=N,1.0nm,0.4s						
ATHAL				AML	AML	01 42 53.4	
	comp=N,0.8nm,0.3s						
VILL	**Villia**	**4.54**	**305**	P	**Pn**	**01 41 59.6**	**+1.2**
MVOU	**Mavrovouni**	**4.62**	**96**	P	**Pn**	**01 42 00.9**	**+1.6**
MVOU				S	**Sn**	**01 42 51.2**	**-0.4**
MVOU				AML	AML	01 42 54.4	
	comp=N,0.5nm,0.7s						
MVOU				AML	AML	01 43 01.7	
	comp=N,0.3nm,0.3s						
DB3	**El Dabaa**	**4.62**	**175**	P	**Pn**	**01 42 01.5**	**+2.1**
	baz=175						
DB3				S	**

GEM	Giv'at Ha'Em	6.75	109	P	Pn	01 42 29.2 +0.6
BEIL	Beino	6.77	97	eP	Pn	01 42 29.9 +1.1
RCY	Rachaya	6.78	106	eP	Pn	01 42 29.7 +0.6
NATI	Neve Ativ	6.79	108	P	Pn	01 42 31.5 +2.5
NATI	Neve Ativ	6.79	108	P	Pn	01 42 28.7 -0.3
NATI	Neve Ativ	6.79	108	S	Sn	01 43 42.6 -2.3
RYAN	Fayoum	6.82	163	P	Pn	01 42 30.5 +1.1
	baz=163					
MMLI	Mount Malkishu	6.91	116	P	Pn	01 42 31.2 +0.3
KSHT	Keshet	6.96	110	P	Pn	01 42 32.3 +0.8
SHMJ	Saham	7.03	112	P	Pn	01 42 34.5 +2.1
AMAZ	Amatzia	7.05	124	S	Sn	01 43 49.4 -2.0
AMAZ	Amatzia	7.05	124	P	Pn	01 42 32.7 0.0
SUZ	Suez	7.06	144	P	Pn	01 42 34.2 +1.4
	baz=144					
QRNJ	Al-Qirein	7.08	116	P	Pn	01 42 34.7 +1.7
HMDT	Nahal Hemdat	7.08	116	P	Pn	01 42 34.8 +1.7
HMDT	Nahal Hemdat	7.08	116	P	Pn	01 42 33.5 +0.5
HMDT	Nahal Hemdat	7.08	116	S	Sn	01 43 50.1 -2.1
KZIT	Kziot	7.12	130	P	Pn	01 42 34.6 +1.0
KZIT	Kziot	7.12	130	P	Pn	01 42 33.8 +0.2
KZIT	Kziot	7.12	130	S	Sn	01 43 49.7 -3.4
YTIR	Yattir	7.29	124	P	Pn	01 42 36.9 +0.8
YTIR	Yattir	7.29	124	S	Sn	01 43 54.8 -2.6
YTIR	Yattir	7.29	124	P	Pn	01 42 35.9 -0.1
DSI	Dead Sea	7.35	122	P	Pn	01 42 38.0 +1.2
DSI	Dead Sea	7.35	122	S	Sn	01 43 55.7 -3.0
DSI	Dead Sea	7.35	122	P	Pn	01 42 36.1 -0.7
MSBI	Mazada	7.49	123	P	Pn	01 42 40.2 +1.6
MSBI	Mazada	7.49	123	P	Pn	01 42 38.5 -0.1
MSBI	Mazada	7.49	123	S	Sn	01 43 59.6 -2.4
LISJ	El Lisan	7.62	123	P	Pn	01 42 42.4 +2.1
ZFRI	Zfri	7.85	128	P	Pn	01 42 44.7 +1.1
ZFRI	Zfri	7.85	128	P	Pn	01 42 43.8 +0.2
KRMI	Paran Flat	7.88	133	P	Pn	01 42 43.6 -0.4
PRNI	Paran	7.88	130	P	Pn	01 42 44.8 +0.8
PRNI	Paran	7.88	130	P	Pn	01 42 44.1 +0.1
PRNI	Paran	7.88	130	S	Sn	01 44 07.9 -3.9
HRFI	Mount Harif	8.12	132	P	Pn	01 42 47.5 +0.2
HRFI	Mount Harif	8.12	132	S	Sn	01 44 16.0 -1.6
HRFI	Mount Harif	8.12	132	P	Pn	01 42 47.1 -0.2
ASF	Jabal al Asfar	8.14	113	P	Pn	01 42 50.9 +3.3
	comp=N,2.0nm,0.3s,baz=214,slow=0.1,SNR=7.1					
MBRI	Mt Berech	8.22	133	P	Pn	01 42 50.0 +1.2
MBRI	Mt Berech	8.22	133	P	Pn	01 42 49.0 +0.2
MBRI	Mt Berech	8.22	133	S	Sn	01 44 17.0 -3.2
TAMRE	El Minia	8.31	162	P	Pn	01 42 51.5 +1.6
	baz=162					
EIL	Elat	8.34	134	P	Pn	01 42 51.3 +1.1
	comp=N,7.2nm,0.4s,baz=316,slow=3.9,SNR=24					
EIL				S	Sn	01 44 18.1 -4.8
	comp=N,20nm,0.3s,baz=71,slow=12,SNR=12					
EIL	Elat	8.34	134	P	Pn	01 42 51.2 +1.0
EIL	Elat	8.34	134	P	Pn	01 42 50.3 0.0
EIL	Elat	8.34	134	S	Sn	01 44 18.4 -4.4
AQBJ	Aqaba	8.35	133	P	Pn	01 42 51.2 +0.7
GRB	Gharib	8.39	150	P	Pn	01 42 52.2 +1.2
	baz=150					
HFRF	Wahat Farafira	8.48	178	P	Pn	01 42 54.0 +1.8
	baz=178					
HBST	Basata	8.55	137	P	Pn	01 42 54.4 +1.2
	baz=137					
HBST				S	Sn	01 44 25.7 -2.4
	baz=137					
NUB	Nuweibaa	8.65	138	P	Pn	01 42 56.3 +1.8
	baz=138					
HKAT	Jabal Katrina	8.71	143	P	Pn	01 42 56.9 +1.2
	baz=143					
DRME	Dracevica, Mon	9.49	316	ePn	Pn	01 43 06.0 0.0
PDG	Podgorica	9.62	317	ePn	Pn	01 43 07.9 +0.3
SJES	Sjenica	9.83	323	ePn	Pn	01 43 12.4 +1.7
MLR	Muntele Rosu	9.96	351	P	Pn	01 43 11.1 -1.3
	comp=N,1.5nm,0.9s					
MLR				S	Sn	01 44 50.9 -12
	comp=N,0.3nm,0.4s,baz=275,slow=17,SNR=0.9					
TREB	Trebinje	10.31	316	ePn	Pn	01 43 16.1 -1.0
BRY	Bratogost	10.32	317	ePn	Pn	01 43 17.2 -0.3
RUDO	Rudo	10.39	323	ePn	Pn	01 43 18.6 +0.4
BBLS	Lazi&#263i	10.55	324	ePn	Pn	01 43 21.4 +0.9
STON	Ston	10.78	315	ePn	Pn	01 43 21.7 -1.8
TEKS	Tekeris	11.02	326	ePn	Pn	01 43 24.9 -1.9
VAE	Valguarnera	11.11	283	P	Pn	01 43 27.5 -0.7
	comp=N,3.6nm,0.3s,baz=187,slow=22,SNR=2.3					
VAE				S	Sn	01 45 18.6 -12
	comp=N,9.6nm,0.4s,baz=316,slow=5.9,SNR=3.0					
MGRS	Mrkonjic Grad	12.12	320	ePn	Pn	01 43 25.6 -16
BLY	Banja Luka	12.30	321	ePn	Pn	01 43 42.9 -1.3
A050A	Klekovaca	12.46	319	ePn	Pn	01 43 45.6 -0.9
BOJS	Bojanci	13.81	319	ePn	Pn	01 44 02.7 -2.0
CEY	Cerknica	14.41	319	ePn	Pn	01 44 10.7 -1.9
SOKA	Soboth	14.72	322	ePn	Pn	01 44 16.7 0.0
	comp=N,1.3nm,0.6s					
KEST	Kesra	15.20	276	P	Pn	01 44 24.4 +1.6
	comp=N,10.0nm,0.6s,baz=65,slow=3.4,SNR=31					
KEST				S	Sn	01 46 59.5 -11
	comp=N,1.1nm,0.6s,baz=286,slow=23,SNR=1.6					
ABTA	Abfaltersbach	16.08	318	ePn	Pn	01 44 33.2 -0.8
	comp=N,2.1nm,0.6s					
LESA	Schwarzleotal	16.42	320	eP	P	01 44 40.6 +0.7
	comp=N,1.2nm,0.4s					
KRLC	Kraliky	16.58	334	eP	P	01 44 42.5 +0.8
WTTA	Wattenberg	16.87	318	eP	P	01 44 46.2 +1.2
	comp=N,0.9nm,0.3s					
GERES	GERESS Array B	16.89	326	P	Pn	01 44 43.7 -0.4
	comp=N,1.4nm,0.8s,baz=133,slow=11,SNR=7.8					
WATA	Walderalm	16.94	319	eP	P	01 44 47.3 +1.4
	comp=N,0.6nm,0.3s					
SQTA	Sankt Quirin	17.07	318	eP	P	01 44 47.5 +0.2
	comp=N,1.0nm,0.3s					
KHC	Kasperske Hory	17.15	326	eP	Pn	01 44 47.6 +0.3
FETA	Feichten	17.22	317	eP	P	01 44 49.5 +0.5
	comp=N,2.3nm,0.6s					
RETA	Reutte	17.48	318	eP	P	01 44 53.3 +1.6
	comp=N,0.4nm,0.2s					
DAVOX	Davos/Dischmat	17.57	315	P	P	01 44 53.2 +0.4
	comp=N,1.0nm,0.5s,baz=153,slow=18,SNR=3.0					
GEYT	Alibeck	24.15	76	P	P	01 46 03.7 +1.7
	comp=N,1.2nm,0.5s,baz=282,slow=7.4,SNR=2.5					
	comp=N,1.2nm,0.5s					
ESDC	Sonseca Array	25.58	289	P	P	01 46 14.3 -0.7
	comp=N,1.9nm,0.5s,baz=84,slow=9.7,SNR=38					
	comp=N,1.9nm,0.5s					
FINES	FINESS Array B	25.84	358	P	P	01 46 15.5 -1.6
	comp=N,2.2nm,1.0s,baz=180,slow=11,SNR=2.3					
	comp=N,2.2nm,1.0s					
AKTO	Aktyubinsk	26.20	46	P	P	01 46 20.9 +0.4
	comp=N,1.7nm,0.7s,baz=265,slow=5.2,SNR=5.7					
	comp=N,1.7nm,0.7s					
HFS	Hagfors	26.20	344	P	P	01 46 18.8 -1.5
	comp=N,0.7nm,0.4s,baz=154,slow=9.9,SNR=10					
	comp=N,0.7nm,0.4s					
NOA	NORSAR Array B	27.59	342	P	P	01 46 30.1 -2.7
	comp=N,0.4nm,0.7s,baz=160,slow=10,SNR=1.7					
	comp=N,0.4nm,0.7s					
EKA	Eskdalemuir Ar	29.04	322	P	P	01 46 44.8 -1.0
	comp=N,0.3nm,0.4s,baz=115,slow=9.3,SNR=2.7					
	comp=N,0.3nm,0.4s					
TORD	Torodi Ar. Bea	32.64	233	P	P	01 47 18.5 +0.7
	comp=N,0.5nm,0.6s,baz=37,slow=8.9,SNR=13					
	comp=N,0.5nm,0.6s					
ARCES	ARCESS Array B	33.97	358	P	P	01 47 27.6 -1.3
	comp=N,0.2nm,0.3s,baz=177,slow=7.2,SNR=4.6					
	comp=N,0.2nm,0.3s					
KURBB	Kurchatov Arra	38.98	51	P	P	01 48 11.9 +0.2
	comp=N,0.7nm,0.4s,baz=275,slow=8.6,SNR=7.9					
	comp=N,0.7nm,0.4s					
MKAR	Makanchi Array	41.54	57	P	P	01 48 34.1 +1.1
	comp=N,0.7nm,0.5s,baz=278,slow=7.2,SNR=9.0					
	comp=N,0.7nm,0.5s					
ZALV	Zalesovo Beam	42.96	47	P	P	01 48 44.7 +0.3
	comp=N,0.9nm,0.6s,baz=266,slow=9.7,SNR=3.6					
	comp=N,0.9nm,0.6s					

*KRNET **08** 01:48:20.3±0.1, 39°.24N×77°.89E, mb2.3*
SOME 08 01:48:18.1, 42°.30N×80°.78E, h5km, 8C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	1.30	312	eP	Pg	01 48 38.7	-4.3
	3.2nm,0.1s						
SHLS				eS	Sg	01 48 53.7	-6.1
	8.4nm,0.2s						
UZB	Uzynbulak	1.55	304	eP	Pb	01 48 47.2	-0.2
	2.4nm,0.1s						
UZB				eS	Sg	01 49 08.2	+0.3
	5.4nm,0.2s						
PRZ	Przheval'sk	1.77	277	⇑eP	Pg	01 49 12.6	+20
	baz=7.0						
PRZ				⇑eS	Sg	01 49 51.1	+36
	baz=7.0						
SATY	Saty	1.91	294	eP	Pg	01 48 54.4	-0.3
	1.3nm,0.1s						
SATY				eS	Sg	01 49 20.4	+1.0
	7.0nm,0.1s						
KPKS	Kokpek	1.93	308	eP	Pb	01 48 54.3	+0.4
	4.0nm,0.1s						
KPKS				eS	Sg	01 49 20.4	+0.2
	8.1nm,0.2s						
DJR	Jarkent	2.16	341	eP	Pb	01 48 58.2	+0.6
	0.6nm,0.0s						
DJR				eS	Sg	01 49 27.0	-0.4
	2.4nm,0.1s						
TARG	Taragay, Kyrgy	2.29	257	⇑iP	Pg	01 49 02.1	+0.1
	baz=58						
TARG				⇑iS	Sg	01 49 32.3	+0.6
	baz=58						
KDJ	Kajisay	2.68	268	⇓iP	Pb	01 49 07.9	+1.2
	baz=50						
KDJ				⇓iS	Sg	01 49 43.0	-1.2
	baz=50						
KOTS	Kotyrbulak	2.86	290	eP	Pb	01 49 11.2	+1.5
	1.7nm,0.3s						
KOTS				eS	Sg	01 49 49.5	-0.5
	12nm,0.2s						
ARXS	Arharly	2.88	313	eP	Pb	01 49 10.8	+0.8
	0.9nm,0.2s						
ARXS				eS	Sg	01 49 48.9	-1.9
	3.0nm,0.3s						
KTBS	Karatobe	3.32	297	eP	Pb	01 49 18.8	+1.2
	0.3nm,0.2s						
KTBS				eS	Sg	01 50 02.3	-2.5
	3.2nm,0.2s						
ULHL	Ulahol	3.37	271	⇑iP	Pn	01 49 12.4	+0.8
	baz=38						
ULHL				⇑iS	Sn	01 49 50.8	-1.3
	baz=38						
BOOM	Boomskoye usch	3.59	275	⇓iP	Pn	01 49 16.8	+2.2
	baz=36						
BOOM				⇓iS	Sn	01 49 58.2	+0.7
	baz=36						
DGS	Degeres	3.81	286	eP	Pb	01 49 27.6	+1.8
	0.8nm,0.2s						
DGS				eS	Sg	01 50 17.7	-2.7
	2.2nm,0.4s						
ARLS	Aral	4.83	267	⇑iP	Pn	01 49 19.9	-12
	baz=15						
ARLS				⇑iS	Sn	01 50 03.3	-25
	baz=15						

*IDC **08** 01:51:01.7±2.8, 35°.08N×140°.75E, h40km±25km, mb3.4/6, mbtmp3.7/9, ML3.7/3, MS3.3/1, Error ellipse: s-maj=32.8km s-min=16.0km az=84.0*
*JMA **08** 01:51:02.8±0.2, 35°.1N±0°.6×140°.6E±0°.9, h58km±1km, MV3.4/38, SE OFF BOSO PENINSULA*
JMA Felt I J1 at SE OFF BOSO PENINSULA .
ISC 08 01:51:03.0±0.9, 35°.09N±0°.05×140°.67E±0°.06, h56km±6km, n36, σ1°.54/39, mb3.6/6, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO4	Boso 4	0.29	250	⇓P	Pn	01 51 12.5	0.0
BSO4				⇓eX		01 51 20.4	
KTR	Katsuura	0.29	281	⇓P	Pn	01 51 12.4	-0.3
KTR				⇓eS	Sn	01 51 19.3	-0.3
BSO3	Boso 3	0.32	204	iP	Pn	01 51 12.6	0.0
JKUC	kamogawauchiur	0.39	280	⇓iP	Pn	01 51 13.3	-0.2
JKUC				⇓eS	Sn	01 51 20.6	-0.6
JCN	Nagara	0.50	311	⇓P	Pn	01 51 15.2	+0.4
JCN				⇓eS	Sn	01 51 24.8	+1.6
BSO1	Boso 1	0.51	150	eP	Pn	01 51 14.6	+0.4
JSMT	Sammumatsuo	0.58	342	eP	Pn	01 51 16.1	+0.4
JSMT				eS	Sn	01 51 26.3	+1.6
JIM2	Oshima 3	1.08	250	⇓P	Pn	01 51 20.9	-1.1
JIM2				⇓eS	Sn	01 51 34.6	-1.5
JOD2	Odawara 2	1.30	278	P	Pn	01 51 24.3	-0.7
JOD2				eS	Sn	01 51 40.1	-1.3
JMYK	Miyake Tsubota	1.38	222	eP	Pn	01 51 25.8	-0.2
JMKN	Mikurajimanish	1.49	217	eP	Pn	01 51 26.7	-0.8
JIZS	Izushimoda	1.52	256	eP	Pn	01 51 27.0	-0.9
JIZS				eS	Sn	01 51 44.8	-1.7
JSG	Sagara	2.08	259	P	Pn	01 51 36.6	+1.1
JHJ2	Mitsune	2.10	200	P	Pn	01 51 35.1	-0.6
JHJ	Hachijo jima 2	2.10	201	Pn	Pn	01 51 35.0	-0.8
	61nm,0.3s,baz=314,slow=20,SNR=50						
JHJ				Sn	Sn	01 51 58.1	-2.6
	81nm,0.3s,baz=67,slow=22,SNR=6.8						
	147nm,0.4s						
MJAR	Matsushiro Arr	2.47	307	Pn	Pn	01 51 40.1	-0.7
	2.0nm,0.3s,baz=131,slow=15,SNR=56						
MJAR				Sn	Sn	01 52 10.1	+0.3
	2.0nm,0.3s,baz=141,slow=33,SNR=2.7						
	11nm,0.3s						
MAJO	Matsushiro	2.47	307	P	Pn	01 51 41.9	+1.1
JGF	Kuroka	2.75	282	P	Pn	01 51 46.4	+1.6
JMM	Marumori	2.77	2	P	Pn	01 51 45.4	+0.4
INU	Inuyama	3.00	276	P	Pn	01 51 49.1	+1.0
JTM	Tenmabayashi	5.70	3	P	Pn	01 52 25.3	+0.3
JEM	Erimo	7.18	15	P	Pn	01 52 44.5	-0.9
JCJ	Chichijima	8.07	170	Pn	Pn	01 52 49.4	-8.3
	8.4nm,0.3s,baz=268,slow=19,SNR=2.0						
JCJ				LR	LR	01 55 21.7	
	comp=Z,210nm,19.6s,baz=127,slow=32						
ASAJ	Asahikawa	9.14	9	Pn	Pn	01 53 09.3	-2.8
	2.1nm,0.3s,baz=234,slow=9.6,SNR=13						
ASAJ				Sn	Sn	01 54 47.0	-6.4
	0.2nm,0.3s,baz=310,slow=32,SNR=1.5						
	3.8nm,0.3s						
H11N2	WAKE ISLAND Hy	27.75	117	T	T	02 26 00.5	
	baz=309,slow=75						
H11N1	WAKE ISLAND Hy	27.75	117	T	T	02 26 04.4	
	baz=309,slow=75						
H11N3	WAKE ISLAND Hy	27.77	117	T	T	02 26 03.2	
	baz=309,slow=75						
H11S1	WAKE ISLAND Hy	28.38	119	T	T	02 26 48.5	
	baz=311,slow=76						
H11S3	WAKE ISLAND Hy	28.38	119	T	T	02 26 47.1	
	baz=311,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	28.40	119	T	T	02 26 48.4	
	baz=311,slow=76,SNR=21						
MKAR	Makanchi Array	44.66	304	P	P	01 59 10.8	+0.7
	0.4nm,0.6s,baz=90,slow=11,SNR=4.2						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	46.74	309	P	P	01 59 27.0	+0.6
	0.7nm,0.4s,baz=85,slow=8.3,SNR=5.9						
	0.7nm,0.4s						
ILAR	Eielson Array	51.46	31	P	P	02 00 03.0	+0.8
	0.3nm,0.7s,baz=277,slow=7.2,SNR=2.8						
	0.3nm,0.7s						
WRA	Warramunga Arr	55.06	187	P	P	02 00 29.2	+0.1
	0.6nm,0.3s,baz=1.3,slow=7.6,SNR=10						
	0.6nm,0.3s						
ASAR	Alice Springs	58.79	187	P	P	02 00 56.0	+0.5
	0.2nm,0.5s,baz=20,slow=11,SNR=2.0						
	0.2nm,0.5s						
FINES	FINESS Array B	70.25	332	P	P	02 02 10.2	+0.4
	1.1nm,0.9s,baz=50,slow=6.0,SNR=5.8						
	1.1nm,0.9s						

*SOME **08** 01:57:49.1, 40°.25N×78°.85E, h0km*
KRNET 08 01:57:55.4±0.1, 39°.66N×74°.30E, h13km, mb2.2, 20C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.71	301	⇑iP	Pg	01 58 08.9	-0.3
	baz=1.0						
SFK				⇑iS	Sg	01 58 19.0	+0.4
	baz=1.0						
OHH	Osh	1.45	307	⇑iP	Pb	01 58 22.5	+0.2
	baz=7.0						
OHH				⇑iS	Sg	01 58 42.3	+0.3
	baz=7.0						
DRK	Karamyk	1.94	266	⇑eP	Pb	01 58 31.4	+0.7
	baz=66						
DRK				⇑eS	Sg	01 58 58.1	+0.3
	baz=66						
ARSB	Arslanbob	1.94	329	⇑iP	Pb	01 58 31.0	+0.2
	baz=29						
ARSB				⇑iS	Sg	01 58 57.4	-0.6
	baz=29						
NRN	Naryn	2.20	36	⇑eP	Pb	01 58 34.3	-0.9
	baz=35						
NRN				⇑eS	Sb	01 59 02.8	+0.3
	baz=35						
ARLS	Aral	2.20	1	⇑iP	Pb	01 58 34.9	-0.3
	baz=1.0						
ARLS				⇑iS	Sb	01 59 03.9	+1.4
	baz=1.0						
UCH	Uchtor	2.57	4	⇑iP	Pb	01 58 40.4	-1.3
	baz=4.0						
UCH				⇑iS	Sb	01 59 13.1	-0.3
	baz=4.0						
BTK	Batken	2.71	280	⇑eP	Pb	01 58 41.6	-2.1
	baz=80						
BTK				⇑eS	Sb	01 59 15.2	-1.7
	baz=80						
ULHL	Ulahol	2.98	29	⇑iP	Pb	01 58 45.7	-2.7
	baz=29						
ULHL				⇑iS	Sb	01 59 22.6	-2.2
	baz=29						
BOOM	Boomskoye usch	3.09	23	⇓iP	Pb	01 58 47.5	-2.9
	baz=23						
BOOM				⇓iS	Sb	01 59 25.8	-2.2
	baz=23						
MNAS	Manas	3.14	335	⇑iP	Pb	01 58 47.9	-3.2
	baz=35						
MNAS				⇑iS	Sb	01 59 26.2	-3.1
	baz=35						
KST	Kastek	3.61	20	eP	Pn	01 58 54.6	+3.4
	1.3nm,1.2s						
KST				eS	Sb	01 59 41.7	-1.2
	6.4nm,0.4s						
DGS	Degeres	3.75	17	eP	Pb	01 58 59.7	-1.8
	1.5nm,0.3s						
DGS				eS	Sb	01 59 50.5	+3.6
	3.4nm,0.2s						
KRBS	Karabastau	4.17	14	eP	Pb	01 59 06.8	-1.8
	0.3nm,0.2s						
KRBS				eS	Sb	02 00 02.7	+3.8
	1.8nm,0.4s						

SJA 08 02:22:43.5±0.6, 24°.15S×66°.92W, h195km±12km, ML3.2, MW3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.41	114	eP	Pn	02 23 12.1	-4.1
AZAP	Zapla	1.70	93	eP	Pn	02 23 19.6	+0.7
FSA	Cafayete	2.14	157	eP	Pn	02 23 26.0	+2.7
LVC	Limon Verde	2.38	310	eP	Pn	02 23 27.0	+0.8
PB15	IPOC Station P	2.52	291	eP	Pn	02 23 28.2	+0.7
PB15				IAML		02 24 03.9	
	comp=Z,112nm,0.1s						
PB06	IPOC Station P	2.82	300	eP	Pn	02 23 31.6	+0.6
AHML	Horco Molle	3.00	152	eP	Pn	02 23 46.1	+13
PB09	IPOC Station P	3.17	317	eP	Pn	02 23 36.0	+0.9
PB09				IAML		02 24 57.4	
	comp=Z,29nm,3.6s						
PB14	IPOC Station P	3.21	261	eP	Pn	02 23 36.2	+0.5
PB14				eS	Sn	02 24 15.6	-1.0
PB14				IAML		02 24 44.7	
	comp=Z,19nm,2.6s						
PB10	IPOC Station P	3.38	280	eP	Pn	02 23 38.1	+0.5
PB10				IAML		02 24 54.4	
	comp=Z,40nm,4.9s						
PB04	IPOC Station P	3.47	301	eP	Pn	02 23 40.2	+1.4
PB04				eS	Sn	02 24 20.5	-1.5
PB04				IAML		02 25 04.0	
	comp=Z,34nm,3.2s						
AC01	Pan de Azucar	3.88	238	eP	Pn	02 23 43.3	-0.3
AC01				eS	Sn	02 24 29.6	-1.3
AC01				IAML		02 24 34.8	
	comp=Z,30nm,3.1s						
HMBC	Humberstone	4.73	324	eP	Pn	02 23 53.8	-0.7
HMBC				eS	Sn	02 24 47.5	-2.9
HMBC				IAML		02 25 27.4	
	comp=Z,15nm,2.7s						
PB11	IPOC Station P	5.05	329	eP	Pn	02 23 57.7	-0.9
PB11				eS	Sn	02 24 54.1	-3.6
PB11				IAML		02 25 01.1	
	comp=Z,15nm,4.5s						
ACLC	CERRO LA CRUZ	5.26	180	eP	Pn	02 24 02.0	+0.7
ACLC				IAML		02 25 27.6	
	comp=Z,6.5nm,3.0s						

NNC 08 02:27:31.6±4.0, 36°.92N×70°.12E, h0km, mb3.9, mpv3.8, 2C, Error ellipse: s-maj=35.5km s-min=30.3km az=42.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.18	3	P	Pn	02 29 05.0	+0.8
	1.8nm,0.3s,baz=185,slow=12,SNR=75						
KK31				⇑S	Sn	02 30 16.6	+1.1
	7.7nm,0.6s,baz=184,slow=24						
TKM2	Tokmak 2	7.32	33	⇑P	Pn	02 29 19.0	-0.9
	5.0nm,0.6s						
AB31	Akbulak array	14.38	332	P	Pn	02 30 56.4	+0.1
	0.2nm,0.3s,baz=143,slow=12						

VAO 08 02:36:20.7±1.1, 8°.14S×77°.10W, h10km, mb4.3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	Cruzeiro do Su	4.37	85	eP	Pn	02 37 28.5	+1.3
OTAV	Otavalo	8.43	351	eP	Pn	02 38 23.0	-0.4
ETMB	Extrema	10.88	100	eP	Pn	02 38 57.1	+0.4
TEFE	Tefe	13.22	70	eP	Pn	02 39 28.5	-0.2
SAML	Samuel	13.79	94	eP	Pn	02 39 34.4	-1.9
MACA	Manacapuru-AM	17.07	74	eP	Pn	02 40 19.9	+0.3
BBSD	Serra de San D	18.42	121	eP	P	02 40 36.1	-0.2
PTLB	Pontes e Lacer	19.01	114	eP	P	02 40 42.6	-0.3

*IDC **08** 02:41:56.1±0.9, 4°.34S×143°.73E, h82km±7km, mb3.7/13, mbtmp4.1/15, MS3.2/1, Error ellipse: s-maj=25.8km s-min=11.2km az=77.0*
*NEIC **08** 02:42:01.8±1.4, 4°.50S±0°.09×143°.3E±0°.1, h112km±8km, mb4.2/17, Error ellipse: s-maj=20.4km s-min=12.7km az=76.0*
ISC 08 02:41:58.2±0.6, 4°.41S±0°.06×143°.54E±0°.08, h103km, n43, σ1°.93/48, mb4.1/17, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.13	144	P	Pn	02 43 24.3	-2.0
	20nm,0.4s,baz=287,slow=12,SNR=2.1						
PMG				S	Sn	02 44 32.8	-2.2
	24nm,0.6s,baz=274,slow=14,SNR=1.1						
PMG				LR	LR	02 46 37.

comp=Z,0.5nm,0.5s,baz=30,slow=12,SNR=10.0
ASAR pP **pP** **02 46 53.8 -3.0**
comp=Z,5.0nm,0.7s,baz=31,slow=9.9,SNR=8.2
ASAR S **S** **02 50 21.9 -5.5**
comp=Z,0.2nm,0.4s,baz=17,slow=29,SNR=1.3
comp=Z,0.5nm,0.5s
FITZ Fitzroy Crossi 22.17 231 P **P** **02 46 45.5 -0.5**
TOLI2 Tolitoli 23.39 283 P **P** **02 46 56.0 -2.1**
TOLI2 IAmb IAmb 02 47 20.8
comp=Z,8.8nm,1.0s
DZM Mont Dzumac 28.30 130 P **P** **02 47 45.8 +3.5**
DZM IAmb IAmb 02 48 21.3
comp=Z,19nm,1.4s
MBWA Marble Bar 28.49 232 P **P** **02 47 44.9 +1.0**
MORW Morawa 35.79 224 P **P** **02 48 47.9 +0.2**
MJAR Matsushiro Arr 41.04 353 P **P** **02 49 30.1 -1.4**
comp=Z,1.5nm,0.7s,baz=157,slow=7.9,SNR=3.6
comp=Z,1.5nm,0.7s
KSRS Korea Array 44.12 342 P **P** **02 49 56.8 +0.5**
comp=Z,3.1nm,0.7s,baz=163,slow=9.0,SNR=12
comp=Z,3.1nm,0.7s
KSAR Wonju Array Be 44.12 342 P **P** **02 49 59.0 +2.6**
CMAR Chiang Mai Arr 49.47 299 P **P** **02 50 39.8 +1.4**
comp=Z,0.9nm,0.3s,baz=125,slow=6.4,SNR=5.2
comp=Z,0.9nm,0.3s
USRK Ussuriysk Ar. 49.49 349 P **P** **02 50 36.7 -1.4**
comp=Z,1.6nm,0.6s,baz=163,slow=10,SNR=3.8
comp=Z,1.6nm,0.6s
SONM Songino Array 61.38 332 P **P** **02 52 04.1 +0.7**
comp=Z,0.3nm,0.3s,baz=131,slow=5.9,SNR=2.4
comp=Z,0.3nm,0.3s
VNDA Vanda 73.71 176 P **P** **02 53 20.8 +0.4**
comp=Z,0.6nm,0.7s,baz=330,slow=6.7,SNR=6.0
comp=Z,0.6nm,0.7s
MK31 Makanchi Array 74.10 321 **P** **02 53 25.1 +1.9**
MKAR Makanchi Array 74.10 321 P **P** **02 53 24.4 +1.2**
MKAR Makanchi Array 74.10 321 P **P** **02 53 24.5 +1.3**
comp=Z,2.1nm,0.8s,baz=112,slow=7.6,SNR=14
comp=Z,2.1nm,0.8s
MAKZ Makanchi 74.30 321 P **P** **02 53 26.5 +2.1**
MAKZ IAmb IAmb 02 53 27.7
comp=Z,3.0nm,0.9s
SBA Scott Base 74.41 175 P **P** **02 53 26.3 +1.9**
ZALV Zalesovo Beam 75.85 329 P **P** **02 53 35.2 +2.1**
ZALV Zalesovo Beam 75.85 329 P **P** **02 53 33.5 +0.4**
comp=Z,3.6nm,0.7s,baz=95,slow=4.0,SNR=13
ZALV pP **pP** **02 53 55.1 -4.4**
comp=Z,1.2nm,0.6s,baz=104,slow=6.1,SNR=2.4
comp=Z,3.6nm,0.7s
BOOM Boomskoye usch 76.72 315 P **P** **02 53 40.3 +1.7**
BOOM IAmb IAmb 02 53 42.8
comp=Z,2.5nm,0.5s
KURBB Kurchatov Arra 77.91 324 P **P** **02 53 45.6 +0.9**
comp=Z,0.7nm,0.2s,baz=111,slow=5.4,SNR=5.7
KURBB pP **pP** **02 54 07.1 -4.1**
comp=Z,0.9nm,0.4s,baz=101,slow=4.8,SNR=2.2
comp=Z,0.7nm,0.2s
MAW Mawson 82.38 202 P **P** **02 54 09.1 +0.7**
comp=Z,1.5nm,0.9s,baz=69,slow=6.1,SNR=2.3
comp=Z,1.5nm,0.9s
ILAR Eielson Array 85.41 24 P **P** **02 54 23.2 -0.7**
comp=Z,0.6nm,0.8s,baz=250,slow=5.5,SNR=5.2
comp=Z,0.6nm,0.8s
QSPA South Pole Qui 85.55 180 P **P** **02 54 26.7 +1.9**
QSPA IAmb IAmb 02 54 32.1
comp=Z,6.2nm,1.2s
QSPA South Pole Qui 85.55 180 P **P** **02 54 25.5 +0.8**
comp=Z,1.2nm,0.6s,baz=271,slow=1.1,SNR=16
comp=Z,1.2nm,0.6s
TORD Torodi Ar. Bea 141.35 285 PKhKP PKPpre 03 01 12.0
comp=Z,0.3nm,0.8s,baz=128,slow=2.0,SNR=1.7
LPAZ La Paz 142.53 124 PKP **PKPdf** **03 01 20.9 -0.1**
comp=Z,0.6nm,0.7s,baz=239,slow=1.7,SNR=4.1
DBIC Dimbokro 148.47 276 PKPbc **PKiKP** **03 01 35.7 +0.2**
comp=Z,4.4nm,0.8s,baz=105,slow=4.9,SNR=3.9

AUST 08 02:46:20.3±0.7, 43°S±5°×14°E±°, h10km, mb4.3/1, Mjma5.6/1, ML3.5/5, Error ellipse: s-maj=10.7km s-min=5.5km az=8.0, Tasmania region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**1.29**	**67**	P	Pn	02 46 43.5	-0.8
TAU				S	Sb	02 47 00.0	-1.2
AUTAR	**Taroona High S**	**1.31**	**69**	P	Pn	02 46 43.9	-0.7
AUTAR	**Taroona High S**	**1.31**	**69**	S	Sb	02 47 00.4	-1.3
MOO	**Moorlands**	**1.47**	**49**	P	Pn	02 46 46.9	+0.1
MOO	**Moorlands**	**1.47**	**49**	S	Sg	02 47 08.0	+0.6
CORO	**Coronation Par**	**2.24**	**29**	S	Sn	02 47 26.6	+1.6
AUBRN	**Burnie High Sc**	**2.38**	**3**	P	Pn	02 46 59.9	+0.7
AUBRN	**Burnie High Sc**	**2.38**	**3**	S	Sn	02 47 28.7	+0.3
AULHS	**Lilydale High**	**2.44**	**28**	P	Pn	02 47 01.1	+0.9
TOO	**Toolangi**	**5.84**	**358**	P	Pn	02 47 47.8	+0.8
TOO	**Toolangi**	**5.84**	**358**	S	Sn	02 48 53.4	-0.6
ARPS	**Mount Arapiles**	**7.27**	**335**	P	Pn	02 48 06.4	-0.1
KELC	**Kelly Hill Cav**	**10.05**	**315**	P	Pn	02 48 44.3	-0.3
BBOO	**Buckleboo**	**13.02**	**321**	P	Pn	02 49 24.9	-0.4

comp=Z,20nm,1.6s,comp=Z,3μm

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*IDC **08** 03:10:18.0±1.4, 17°.75S×174°.36W, h0km, mb4.0/6, mbtmp4.0/7, ML3.3/1, Error ellipse: s-maj=35.2km s-min=31.3km az=95.0*

ISC 08 03:10:34.7±1.2, 17°.9S±0°.2×174°.6W±0°.2, h132km, n8, σ1§04/9, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.26**	**254**	P	**P**	**03 14 38.1**	**-0.1**
	0.1nm,0.3s,baz=340,slow=22,SNR=1.5						
	2.5nm,0.8s						
URZ	**Urewera**	**21.51**	**198**	P	**P**	**03 15 11.1**	**-1.9**
	4.7nm,0.6s,baz=249,slow=23,SNR=1.1						
	4.7nm,0.6s						
WRA	**Warramunga Arr**	**48.16**	**259**	P	**P**	**03 19 02.1**	**+0.1**
	2.0nm,0.7s,baz=98,slow=7.0,SNR=20						
	2.0nm,0.7s						
ASAR	**Alice Springs**	**48.25**	**254**	P	**P**	**03 19 03.0**	**+0.4**
	9.6nm,0.6s,baz=89,slow=8.3,SNR=129						
ASAR				PcP	**PcP**	**03 20 28.2**	**+0.4**
	0.2nm,0.5s,baz=97,slow=3.8,SNR=1.4						
	9.6nm,0.6s						
VNDA	**Vanda**	**60.76**	**186**	P	**P**	**03 20 32.5**	**+0.5**
	0.2nm,0.6s,baz=22,slow=4.5,SNR=1.6						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**72.13**	**180**	P	**P**	**03 21 45.6**	**+0.9**
	0.9nm,0.7s,baz=305,slow=2.0,SNR=5.1						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**85.14**	**12**	P	**P**	**03 22 54.5**	**-1.0**
	0.2nm,0.6s,baz=207,slow=5.8,SNR=1.9						
	0.2nm,0.6s						
BRTR	**Keskin Array B**	**147.29**	**317**	PKPbc	**PKPbc**	**03 30 03.8**	**+0.6**
	0.3nm,0.5s,baz=67,slow=4.8,SNR=2.4						

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*SJA **08** 03:49:00.2±0.8, 28°.34S×71°.85W, h16km±19km, ML3.5, MW3.7*
*GUC **08** 03:49:08.3±0.7, 28°.64S×71°.38W, h24km±12km, ML3.2*

ISC 08 03:49:05.4±2.3, 28°.55S±0°.03×71°.50W±0°.08, h15km±14km, n21, σ1§79/35, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.51**	**47**	⇓*i* P	**Pn**	**03 49 18.2**	**0.0**
AC04				*i* S	**Sn**	**03 49 25.2**	**-1.4**
LCO	**Las Campanas**	**0.83**	**123**	⇑*e* P	**Pb**	**03 49 21.5**	**-0.3**
LCO				*i* S	**Sb**	**03 49 31.3**	**-1.6**
AC05	**El Transito**	**1.11**	**105**	⇓*i* P	**Pb**	**03 49 26.3**	**-0.1**
AC05				*i* S	**Sb**	**03 49 39.0**	**-1.8**
AC05				IAML		03 49 40.4	
	comp=E,980nm,0.1s						
CO05	**La Serena**	**1.38**	**171**	*e* P	**Pn**	**03 49 30.6**	**+0.4**
CO05				*i* S	**Sn**	**03 49 47.1**	**-1.1**
CO05				IAML		03 49 52.0	
	comp=N,806nm,0.4s						
GO03	**Copiap**	**1.47**	**50**	*i* P	**Pn**	**03 49 30.5**	**-1.0**
GO03				*i* S	**Sg**	**03 49 52.4**	**-0.4**
GO03				IAML		03 49 54.8	
	comp=Z,605nm,0.3s						
GO03	**Copiap**	**1.47**	**50**	*e* P	**Pb**	**03 49 33.2**	**+0.7**
GO03				*i* S	**Sb**	**03 49 51.8**	**+0.8**
GO03				IAML		03 49 54.6	
	comp=E,1μm,0.6s						
AC06	**Mina Casimiro**	**1.56**	**41**	⇑*i* P	**Pb**	**03 49 34.9**	**+0.8**
AC06				*i* S	**Sg**	**03 49 55.2**	**-0.5**
AC06				IAML		03 50 00.8	
	comp=E,532nm,0.3s						
GO04	**Tololo Observa**	**1.72**	**159**	*e* P	**Pn**	**03 49 35.9**	**+0.8**
GO04				*i* S	**Sn**	**03 49 56.1**	**-0.9**
CO03	**El Pedregal**	**2.38**	**163**	*e* P	**Pn**	**03 49 44.9**	**+0.8**
AROD	**Rodeo**	**2.39**	**133**	*i* P	**Pb**	**03 49 47.5**	**-0.8**
AROD				*i* S	**Sg**	**03 50 22.1**	**-0.2**
AC01	**Pan de Azucar**	**2.53**	**19**	*e* P	**Pn**	**03 49 46.8**	**+0.9**
ACDV	**Cuesta del Vie**	**2.63**	**128**	*i* P	**Pn**	**03 49 50.5**	**+3.0**
ACDV				*i* S	**Sb**	**03 50 27.0**	**+2.5**
ACDV				IAML		03 50 27.5	
	comp=Z,122nm,0.5s						
CO02	**Combarbal**	**2.68**	**171**	⇓*i* P	**Pn**	**03 49 48.7**	**+0.6**
VCA	**Vinchina**	**2.90**	**94**	*i* P	**Pb**	**03 49 56.3**	**-0.6**
VCA				*i* S	**Sb**	**03 50 32.4**	**+0.2**
VCA				IAML		03 50 41.2	
	comp=Z,190nm,0.2s						
VCA	**Vinchina**	**2.90**	**94**	⇓*i* Pg	**Pb**	**03 49 56.5**	**-0.4**
ACCO	**Cerro Coronel**	**2.93**	**134**	*i* P	**Pb**	**03 49 55.4**	**-2.2**
ACCO				*i* S	**Sb**	**03 50 35.8**	**+2.4**
ACLC	**CERRO LA CRUZ**	**4.08**	**103**	*i* P	**Pn**	**03 50 10.3**	**+2.9**
ACLC				*i* S	**Sb**	**03 51 02.9**	**-3.3**
ACLC				IAML		03 51 05.4	
	comp=Z,51nm,0.3s						
AUSP	**Uspallata**	**4.09**	**154**	*i* P	**Pn**	**03 50 10.6**	**+3.0**
AVFE	**Valle Fertil**	**4.10**	**122**	*i* P	**Pn**	**03 50 10.6**	**+3.1**
AVFE				*i* S	**Sb**	**03 51 04.1**	**-2.6**
AVFE				IAML		03 51 07.6	
	comp=Z,86nm,0.6s						
CYA	**Choya**	**5.01**	**90**	*i* P	**Pn**	**03 50 22.4**	**+2.2**
CYA				IAML		03 51 57.4	
	comp=Z,10nm,2.6s						
CYA	**Choya**	**5.01**	**90**	*e* P	**Pn**	**03 50 22.7**	**+2.5**

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*IDC **08** 04:12:25.9±2.5, 18°.96N×145°.41E, h228km±24km, mb3.5/11, mbtmp4.1/14, Error ellipse: s-maj=22.9km s-min=11.7km az=81.0*
*NEIC **08** 04:12:27.4±1.8, 18°.85N±0°.09×145°.50E±0°.05, h232km±9km, mb4.4/27, Error ellipse: s-maj=13.3km s-min=5.8km az=200.0*

ISC 08 04:12:24.3±0.5, 18°.98N±0°.05×145°.4E±0°.1, h214km, n49, σ1§52/52, mb4.3/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.38**	**185**	Pn	**Pn**	**04 13 44.8**	**+0.8**
GUMO	**Guam**	**5.38**	**185**	P	**Pn**	**04 13 45.3**	**+1.3**
	64nm,1.0s,baz=318,slow=9.9,SNR=9.0						
GUMO				S	**S**	**04 14 43.1**	**-3.7**
	28nm,0.4s,baz=44,slow=21,SNR=1.7						
JCJ	**Chichijima**	**8.60**	**341**	P	**Pn**	**04 14 22.4**	**-2.9**
	64nm,0.7s,baz=304,slow=23,SNR=1.7						
JCJ				S	**S**	**04 15 56.4**	**-5.8**
	67nm,0.7s,baz=289,slow=21,SNR=1.6						
JOW	**Kunigami**	**17.58**	**300**	P	**Pn**	**04 16 18.2**	**+1.5**
JOW				IAmb	IAmb	04 16 20.7	
	comp=Z,22nm,1.0s						
JOW	**Kunigami**	**17.58**	**300**	P	**P**	**04 16 15.7**	**+1.1**
	comp=Z,11nm,0.4s,baz=176,slow=8.3,SNR=6.5						
MJAR	**Matsushiro Arr**	**18.60**	**342**	P	**P**	**04 16 27.3**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=169,slow=10,SNR=1.9						
MJB9	**Matsu-Tunnel**	**18.61**	**342**	P	**Pn**	**04 16 30.1**	**+1.4**
MJB9				IAmb	IAmb	04 16 49.0	
	comp=Z,13nm,1.5s						
JMM	**Marumori**	**19.24**	**349**	P	**Pn**	**04 16 36.1**	**0.0**
JMM				IAmb	IAmb	04 16 44.1	
	comp=Z,40nm,1.4s						
MANU	**Manus Island**	**20.98**	**174**	P	**P**	**04 16 50.3**	**-0.9**
JTM	**Tenmabayashi**	**22.05**	**351**	P	**P**	**04 17 04.1**	**+2.5**
TOLI2	**Tolitoli**	**29.94**	**236**	P	**P**	**04 18 12.6**	**-0.1**
TOLI2				IAmb	IAmb	04 18 14.9	
	comp=Z,4.2nm,0.6s						
KLR	**Kul'dur**	**32.12**	**343**	P	**P**	**04 18 31.6**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=157,slow=15,SNR=2.5						
	comp=Z,0.5nm,0.3s						
COEN	**Coen**	**32.80**	**184**	P	**P**	**04 18 36.6**	**-1.1**
COEN				IAmb	IAmb	04 19 08.8	
	comp=Z,21nm,1.2s						
MTN	**Manton Dam**	**34.60**	**205**	P	**P**	**04 18 53.2**	**0.0**
SBUM	**Sibu**	**36.37**	**247**	P	**P**	**04 19 10.6**	**+2.3**
CTAO	**Charters Tower**	**38.83**	**179**	P	**P**	**04 19 29.6**	**+0.8**
CTAO				IAmb	IAmb	04 19 58.4	
	comp=Z,19nm,1.2s						
WB0	**Warramunga Arr**	**39.98**	**196**	P	**P**	**04 19 38.6**	**+0.3**
WB0				IAmb	IAmb	04 19 57.1	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**40.13**	**196**	P	**P**	**04 19 39.9**	**+0.4**
WR0				IAmb	IAmb	04 19 41.5	
	comp=Z,17nm,1.3s						
WRAB	**Tennant Creek**	**40.15**	**196**	P	**P**	**04 19 40.7**	**+0.9**
WRAB				IAmb	IAmb	04 19 47.2	
	comp=Z,17nm,0.8s						
WB2	**Warramunga Arr**	**40.16**	**196**	P	**P**	**04 19 40.1**	**+0.3**
WB2				IAmb	IAmb	04 19 41.1	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**40.16**	**196**	P	**P**	**04 19 39.3**	**-0.6**
WRA	**Warramunga Arr**	**40.16**	**196**	P	**P**	**04 19 40.4**	**+0.5**
	comp=Z,8.5nm,0.7s,baz=12,slow=8.8,SNR=81						
WRA				PcP	**PcP**	**04 21 39.1**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=13,slow=3.3,SNR=1.6						
	comp=Z,8.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.64**	**209**	P	**P**	**04 19 52.4**	**+0.5**
AS31	**Alice Springs**	**43.84**	**195**	P	**P**	**04 20 09.7**	**+0.2**
ASAR	**Alice Springs**	**43.84**	**195**	P	**P**	**04 20 08.7**	**-0.8**
ASAR	**Alice Springs**	**43.84**	**195**	P	**P**	**04 20 09.9**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=18,slow=6.7,SNR=21						
	comp=Z,1.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**43.88**	**277**	P	**P**	**04 20 10.0**	**0.0**
	comp=Z,0.6nm,0.3s,baz=64,slow=7.1,SNR=4.5						
	comp=Z,0.6nm,0.3s						
DZM	**Mont Dzumac**	**45.70**	**152**	P	**P**	**04 20 23.7**	**-0.6**
DZM				IAmb	IAmb	04 20 33.9	
	comp=Z,26nm,1.4s						
STKA	**Stephens Creek**	**50.69**	**184**	P	**P**	**04 21 00.9**	**-1.3**
STKA	**Stephens Creek**	**50.69**	**184**	P	**P**	**04 21 00.9**	**-1.3**
	comp=Z,3.8nm,1.0s,baz=31,slow=6.4,SNR=3.8						
	comp=Z,3.8nm,1.0s						
LVA	**Lava Point**	**50.98**	**35**	P	**P**	**04 21 03.7**	**-0.4**
FORT	**Forrest**	**52.20**	**199**	P	**P**	**04 21 13.8**	**+0.5**
FORT				IAmb	IAmb	04 21 40.7	
	comp=Z,42nm,1.5s						
HUH	**Hualalai**	**55.23**	**79**	P	**P**	**04 21 35.8**	**-0.1**
MKAR	**Makanchi Array**	**58.05**	**314**	P	**P**	**04 21 57.1**	**+2.0**
MKAR	**Makanchi Array**	**58.05**	**314**	P	**P**	**04 21 55.7**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=96,slow=11,SNR=5.5						
	comp=Z,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**60.91**	**318**	P	**P**	**04 22 14.9**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=93,slow=7.6,SNR=10						
	comp=Z,0.9nm,0.5s						
TOLK	**Toolik Lake Re**	**63.45**	**22**	P	**P**	**04 22 32.7**	**+1.7**
TOLK				IAmb	IAmb	04 22 42.9	
	comp=Z,10nm,1.5s						
C23K	**Itkillik River**	**63.45**	**20**	P	**P**	**04 22 32.7**	**+1.8**
IL31		**63.53**	**26**	P	**P**	**04 22 31.4**	**-0.1**
IL31				IAmb	IAmb	04 22 32.3	
	comp=Z,2.7nm,1.2s						
ILAR	**Eielson Array**	**63.53**	**26**	P	**P**	**04 22 30.2**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=254,slow=4.9,SNR=3.8						
	comp=Z,0.3nm,0.6s						
BMAR	**Burnt Mountain**	**64.98**	**24**	P	**P**	**04 22 42.7**	**+1.6**
G31M	**Satah River**	**68.92**	**25**	P	**P**	**04 23 06.5**	**+0.8**
G31M				IAmb	IAmb	04 23 49.7	
	comp=Z,10nm,1.4s						
ABKAR	**Akbulak array**	**72.93**	**317**	P	**P**	**04 23 29.6**	**-0.6**
ARCES	**ARCESS Array B**	**82.14**	**342**	P	**P**	**04 24 22.0**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=83,slow=7.4,SNR=1.7						
	comp=Z,0.6nm,0.6s						
NVAR	**Mina Array Bea**	**83.21**	**52**	P	**P**	**04 24 28.8**	**+1.6**
NVAR	**Mina Array Bea**	**83.21**	**52**	P	**P**	**04 24 28.7**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=274,slow=5.8,SNR=10.0						
	comp=Z,0.9nm,0.6s						
FINES	**FINESS Array B**	**86.51**	**335**	P	**P**	**04 24 41.6**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=57,slow=4.5,SNR=12						
	comp=Z,0.7nm,0.4s						
TORD	**Torodi Ar. Bea**	**132.04**	**309**	PKP	**PKPdf**	**04 31 12.3**	**-1.0**
	comp=Z,0.3nm,0.9s,baz=19,slow=3.0,SNR=1.6						
LPAZ	**La Paz**	**147.98**	**91**	PKPbc	**PKPbc**	**04 31 45.4**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=288,slow=3.2,SNR=2.4						

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*IDC **08** 04:13:20.0±1.0, 27°.29N×75°.62E, h0km, mb3.5/11, mbtmp3.6/11, Error ellipse: s-maj=31.9km s-min=19.2km az=47.0*
*NDI **08** 04:13:23.4±3.8, 27°.42N×75°.80E, h10km, ML3.9, MW3.6, mb3.6(NEIC)*
*NEIC **08** 04:13:25.2±2.0, 27°.8N±0°.1×76°.21E±0°.09, h10km±2km, mb3.6/5, Error ellipse: s-maj=27.1km s-min=8.9km az=202.0*

ISC 08 04:13:22.5±0.5, 27°.42N±0°.03×75°.87E±0°.04, h12km, n45, σ1§95/52, mb3.6/12, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUDL	**Kundal**	**0.91**	**37**	*e* Pg	**Pg**	**04 13 40.0**	**-0.1**
KUDL				*i* Sg	**Sb**	**04 13 52.2**	**0.0**
AJM	**Ajmer**	**1.44**	**230**	*i* Pg	**Pb**	**04 13 49.4**	**0.0**
AJM				*i* x	x	04 14 07.9	
AJM				*e* S	**Sb**	**04 14 08.1**	**+0.4**
AJM				IAML		04 14 09.2	
	comp=E,3μm,0.8s						
AJM				IAML		04 14 09.5	
	comp=N,2μm,0.3s						
AYAN	**Aya Nagar**	**1.54**	**46**	*e* P	**Pb**	**04 13 51.1**	**+0.2**
BHGR	**Bahadurgarh**	**1.58**	**37**	*e* x	**Pn**	**04 13 53.9**	**+3.6**
BKNR	**BIKANER**	**2.38**	**285**	*e* x	**Pn**	**04 14 02.6**	**+1.2**
BKNR				*e* x	x	04 14 25.7	
BKNR				IAML		04 14 39.2	
	comp=E,1μm,0.1s						
BKNR				IAML		04 14 39.8	
	comp=N,2μm,0.6s						
SRGN	**SRI GANGA NAGA**	**3.04**	**325**	*e* x	Pg	04 14 32.8	+12
SRGN				IAML		04 14 35.0	
	comp=N,867nm,0.2s						
SRGN				IAML		04 14 38.1	
	comp=N,759nm,0.3s						
SRGN				IAML		04 14 45.9	
	comp=E,641nm,0.2s						
GUNA	**GUNA**	**3.06**	**154**	*e* S	**Sn**	**04 14 47.2**	**0.0**
DDI	**Dehra Dun**	**3.47**	**33**	*e* x	Pb	04 14 29.0	+5.0
DDI				*e* S	**Sn**	**04 15 00.4**	**+2.9**
DDI				IAML		04 15 19.8	
	comp=E,752nm,1.2s						
DDI				IAML		04 15 20.4	
	comp=N,777nm,0.8s						
SMLA	**Simla**	**3.87**	**17**	*e* P	**Pn**	**04 14 23.0**	**+1.2**
SMLA				*i* x	**Pb**	**04 14 34.1**	**+3.4**
SMLA				*e* S	**Sn**	**04 15 09.5**	**+2.4**
SMLA				IAML		04 15 16.8	
	comp=E,330nm,0.2s						
SMLA				IAML		04 15 18.5	
	comp=E,308nm,0.6s						
BHK	**Bhakra**	**4.01**	**7**	*e* x	Pn	04 14 29.1	+5.2
BHK				*e* S	**Sn**	**04 15 11.1**	**+0.3**
BHPL	**Bhopal**	**4.39**	**161**	*e* P	**Pn**	**04 14 29.4**	**+0.3**
BHPL				*i* x	**Pb**	**04 14 43.9**	**+4.2**
BHPL				*e* S	**Sn**	**04 15 22.2**	**+2.0**
BHPL				*e* x	x	04 15 39.5	
BHPL				IAML		04 15 40.9	
	comp=E,239nm,0.1s						
BHPL				IAML		04 15 44.5	
	comp=E,155nm,0.2s						
JASL	**Jaisalmer**	**4.45**	**265**	*e* x	**Sb**	**04 15 37.7**	**+3.3**
JASL				IAML		04 15 43.1	
	comp=E,456nm,0.3s						
JASL				IAML		04 15 43.7	
	comp=N,440nm,0.4s						
DHRM	**DHARAMSHALA**	**4.83**	**4**	*e* P	**Pn**	**04 14 37.1**	**+1.8**
DHRM				*i* x	**Pg**	**04 14 55.8**	**+0.7**
DHRM				*e* x	x	04 15 35.2	
DHRM				IAML		04 16 01.9	
	comp=E,568nm,0.2s						
DHRM				IAML		04 16 02.7	
	comp=E,572nm,0.6s						
ALBI	**Allahabad**	**5.73**	**110**	*e* P	**Pn**	**04 14 49.6**	**+2.2**
ALBI				*e* S	**Sn**	**04 15 49.6**	**-3.5**
ALBI				*e* S	**Sn**	**04 15 50.3**	**-2.8**
ALBI				IAML		04 15 53.9	
	comp=N,57nm,0.3s						
NIL	**Nilore**	**6.61**	**341**	Pn	**Pn**	**04 14 58.2**	**-1.3**
AKL	**Akola**	**6.77**	**171**	*e* S	**Sn**	**04 16 17.0**	**-1.8**
BLSP	**Bilaspur**	**7.75**	**131**	*e* S	**Sn**	**04 16 40.6**	**-2.4**
POO	**Poona**	**9.04**	**192**	*e* x	x	04 18 00.7	
KBL	**Kabul**	**9.20**	**322**	Pn	**Pn**	**04 15 36.1**	**+0.8**
BOK	**Bokaro**	**9.73**	**110**	*e* P	**Pn**	**04 15 43.7**	**+1.3**
CHGR	**Chuyangaron**	**12.54**	**335**	Pn	**Pn**	**04 16 21.5**	**+0.7**
SIMJ	**Simiganj**	**12.59**	**335**	Pn	**Pn**	**04 16 19.7**	**-1.9**
BTK	**Batken**	**13.28**	**343**	Pn	**Pn**	**04 16 29.0**	**-2.1**
TARG	**Taragay, Kyrgy**	**14.36**	**6**	Pn	**Pn**	**04 16 44.1**	**-2.0**
SHL	**Shillong**	**14.46**	**94**	Pn	**Pn**	**04 16 45.5**	**-1.7**
BOOM	**Boomskoye usch**	**15.04**	**0**	Pn	**Pn**	**04 16 52.4**	**-2.6**
PRZ	**Przheval'sk**	**15.17**	**7**	Pn	**Pn**	**04 16 53.4**	**-3.4**
KK31	**Karatay Array**	**16.24**	**346**	Pn	**Pn**	**04 17 07.8**	**-2.7**
KK31				IAmb	IAmb	04 17 14.5	
	comp=Z,3.5nm,0.9s						
KKAR	**Karatay Array**	**16.24**	**346**	Pn	**Pn**	**04 17 08.9**	**-1.7**
MKAR	**Makanchi Array**	**19.99**	**13**	P	**P**	**04 17 52.7**	**-2.2**
MKAR	**Makanchi Array**	**19.99**	**13**	P	**Pn**	**04 17 56.1**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=200,slow=14,SNR=5.7						
	comp=Z,0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**23.01**	**108**	P	**P**	**04 18 30.4**	**+2.8**
	comp=Z,1.4nm,0.5s,baz=296,slow=11,SNR=7.4						
	comp=Z,1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**23.26**	**4**	P	**P**	**04 18 30.5**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=193,slow=11,SNR=5.2						
	comp=Z,0.5nm,0.4s						
KURK	**Kurchatov**	**23.36**	**4**	P	**P**	**04 18 29.8**	**-1.0**
KURK				IAmb	IAmb	04 18 36.7	
	comp=Z,2.9nm,1.1s						
ABKAR	**Akbulak array**	**25.03**	**335**		**P**	**04 18 47.5**	**+1.2**
ABKAR				IAmb	IAmb	04 19 31.6	
	comp=Z,1.5nm,0.8s						
ZAA0	**Zalesovo Array**	**27.31**	**12**	P	**P**	**04 19 07.0**	**0.0**
ZALV	**Zalesov

ORD	**Ordubad**	**2.02 292**	Pn	**Pb**	**05 12 43.7**	**+0.5**
ORD			Sn	**Sg**	**05 13 12.0**	**+1.0**
AGDM	**Agdam**	**2.15 333**	Pn	**Pb**	**05 12 43.7**	**-1.7**
AGDM			Sn	**Sg**	**05 13 15.2**	**0.0**
IMRD	**Marand**	**2.17 284**	Pn	**Pb**	**05 12 45.4**	**-0.5**
KDMR	**Kurdemir**	**2.17 356**	Sn	**Sg**	**05 13 16.7**	**+0.7**
ISHB	**Shabestar**	**2.19 273**	Pn	**Pn**	**05 12 44.5**	**+1.3**
BRDA	**Brd**	**2.26 336**	Sn	**Sg**	**05 13 19.9**	**+1.1**
GBS	**Qobustan**	**2.37 10**	Sn	**Sg**	**05 13 22.2**	**0.0**
NAX	**Nakhchivan**	**2.47 294**	Pg	**Pb**	**05 12 51.0**	**+0.2**
NAX			Sg	**Sg**	**05 13 25.6**	**+0.2**
SBZ	**Shahbuz**	**2.52 299**	Pg	**Pb**	**05 12 52.1**	**+0.4**
SBZ			Sg	**Sg**	**05 13 27.2**	**+0.1**
QABG	**Abgarm-Qazvin**	**2.67 159**	Pn	**Pn**	**05 12 50.9**	**+1.2**
GANJ	**Ganja**	**2.92 327**	Pg	**Pb**	**05 12 56.8**	**-1.7**
GANJ			Sg	**Sb**	**05 13 36.7**	**+2.4**
XNQ	**Khinaliq**	**2.97 356**	Pg	**Pb**	**05 12 56.9**	**-2.6**
XNQ			Sn	**Sb**	**05 13 35.4**	**-0.6**
SEKA	**Sheki**	**3.14 343**	Pg	**Pg**	**05 13 06.5**	**+0.2**
SEKA			Sg	**Sb**	**05 13 40.2**	**-0.6**
GDB	**GEDABAY**	**3.24 322**	Pg	**Pb**	**05 13 01.8**	**-2.3**
GDB			Sg	**Sg**	**05 13 46.9**	**-3.3**
QZX	**Qazax, Azerbai**	**3.68 322**	Pg	**Pb**	**05 13 11.7**	**+0.1**
QZX			Sg	**Sg**	**05 14 00.3**	**-4.1**

RSNC 08 05:45:04.2±0.0, 7°N±1°×7°3W±°, h141km±4km, M3.3, mb3.6, mB4.8, ML2.9, MLv3.6, Mw(mB)4.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.67**	**37**	P	Pn	05 45 25.4	-0.7
PAMC				S	Sn	05 45 42.3	-0.5
TAMC	**Tame, Arauca**	**1.36**	**105**	P	Pn	05 45 30.6	-1.0
TAMC				S	Sn	05 45 52.2	-0.4
PTBC	**PUERTO BERRIO,**	**1.36**	**259**	P	Pn	05 45 28.9	-2.7
PTBC				S	Sn	05 45 50.2	-2.4
OCAC	**Ocana**	**1.45**	**352**	P	Pn	05 45 30.6	-2.1
OCAC				S	Sn	05 45 52.6	-1.8
SPBC	**San Pablo de B**	**1.49**	**220**	P	Pn	05 45 31.3	-1.8
SPBC				S	Sn	05 45 53.3	-1.8
ZARC	**Zaragoza, Cauc**	**1.87**	**292**	P	Pn	05 45 35.1	-2.1
ZARC				S	Sn	05 46 01.0	-1.5
NORC	**Norcasia**	**2.14**	**235**	P	Pn	05 45 38.4	-2.1
NORC				S	Sn	05 46 06.8	-1.6
CHIC	**Chingaza**	**2.24**	**196**	P	Pn	05 45 40.6	-1.6
CHIC				S	Sn	05 46 09.5	-1.8
ROSC	**El Rosal**	**2.29**	**212**	P	Pn	05 45 42.1	-0.6
ROSC				S	Sn	05 46 13.5	+1.3
CVER	**Cruz Verde, Cu**	**2.46**	**203**	P	Pn	05 45 43.8	-1.1
CVER				S	Sn	05 46 15.5	-0.6
UREC	**San Jos de Ur**	**2.58**	**292**	P	Pn	05 45 42.6	-3.4
UREC				S	Sn	05 46 14.0	-4.1
VILC	**Villavicencio,**	**2.73**	**192**	P	Pn	05 45 46.3	-1.7
VILC				S	Sn	05 46 21.7	0.0
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	05 45 46.8	-1.5
GUY2C				S	Sn	05 46 20.8	-1.4
PTGC	**Puerto Gaitan,**	**2.76**	**159**	P	Pn	05 45 45.4	-2.8
PTGC				S	Sn	05 46 18.4	-3.8
RECRC	**Villamaria, Ca**	**2.88**	**231**	P	Pn	05 45 51.0	+0.7
RECRC				S	Sn	05 46 25.8	+0.1
NIZA	**Niza - Manizal**	**2.92**	**234**	P	Pn	05 45 51.0	+0.5
NIZA				S	Sn	05 46 30.4	+4.3
DBBC	**Dabeiba**	**3.08**	**274**	P	Pn	05 45 50.4	-2.0
DBBC				S	Sn	05 46 26.3	-3.3
SDV	**Santo Domingo**	**3.21**	**50**	P	Pn	05 45 52.0	-2.1
ANIL	**Santa Ana**	**3.24**	**225**	P	Pn	05 45 53.5	-1.1
ANIL				S	Sn	05 46 35.3	+1.9
ARGC	**Ariguani, Magd**	**3.24**	**340**	P	Pn	05 45 53.1	-1.2
ARGC				S	Sn	05 46 32.3	-0.8
PRAC	**Prado**	**3.54**	**210**	P	Pn	05 45 56.1	-2.2
PRAC				S	Sn	05 46 38.1	-2.1
ORTC	**Ortega, Tolima**	**3.57**	**217**	P	Pn	05 45 56.9	-1.8
ORTC				S	Sn	05 46 40.4	-0.5
APAC	**Apartado, Choc**	**3.61**	**288**	P	Pn	05 45 56.7	-2.4
APAC				S	Sn	05 46 39.4	-2.3
PLMC	**San Jos del P**	**3.67**	**239**	P	Pn	05 45 58.3	-1.8
PLMC				S	Sn	05 46 42.3	-1.0
SJCC	**San Jacinto, C**	**3.70**	**326**	P	Pn	05 45 56.4	-3.9
SJCC				S	Sn	05 46 38.5	-5.3
GUVC	**San Jose del G**	**4.25**	**173**	P	Pn	05 46 06.9	-0.7
GUVC				S	Sn	05 46 52.6	-4.4
YOTC	**Yotoco, Valle**	**4.27**	**229**	P	Pn	05 46 05.3	-2.6
PIZC	**Pizarro, Choco**	**4.60**	**247**	P	Pn	05 46 11.7	-0.5
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	05 46 12.9	-4.5
URIC				S	Sn	05 47 08.9	-5.6
JAMC	**Jamundi, Valle**	**5.03**	**225**	P	Pn	05 46 16.1	-2.0
	4.8nm,0.5s,449nm0.2nm						
MALC	**Bahia Malaga**	**5.04**	**237**	P	Pn	05 46 17.4	-0.6
MALC				S	Sn	05 47 15.4	-0.1
GARC	**Garzon, Huila**	**5.16**	**208**	P	Pn	05 46 16.7	-3.2
POPC	**Popayan, Colom**	**5.53**	**220**	P	Pn	05 46 22.6	-2.1
	5.1nm,1.5s						
POPC				S	Sn	05 47 26.3	-1.3
	5.1nm,1.5s						
BBAC	**Balboa, Cauca**	**6.29**	**221**	P	Pn	05 46 33.7	-1.2
GR1C	**Gorgona, Isla**	**6.29**	**233**	P	Pn	05 46 30.9	-3.9
GCUF	**Volcan Galeras**	**6.96**	**218**	P	Pn	05 46 43.7	-0.6

*IDC **08** 05:53:08.7±1.2, 8°.51S×110°.64E, h0km, mb4.0/10, mbtmp4.0/10, Error ellipse: s-maj=48.1km s-min=18.9km az=49.0*
*DJA **08** 05:53:19.5±0.3, 9°S±4°×11°1E±°, h70km±11km, M4.2/16, mb4.4/3, mB5.6/1, MLv4.2/16, Mw(mB)5.1/1*
ISC 08 05:53:19.0±0.9, 8°.85S±0°.07×110°.67E±0°.05, h93km±8km, n39, σ1°31/41, mb4.0/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.94**	**351**	P	**Pn**	**05 53 38.4**	**+0.1**
UGM	**Wanagama**	**0.94**	**351**	Pn	**Pn**	**05 53 38.3**	**0.0**
UGM				S	**Sn**	**05 53 52.2**	**-0.6**
YOGI	**Yogyakarta**	**1.09**	**340**	P	**Pn**	**05 53 39.7**	**-0.3**
YOGI				S	**Sn**	**05 53 54.7**	**-1.0**
PWJI	**Pagerwojo**	**1.39**	**54**	P	**Pn**	**05 53 43.9**	**+0.4**
PWJI				S	**Sn**	**05 54 01.6**	**-0.5**
SMRI	**Semarang**	**1.80**	**353**	P	**Pn**	**05 53 50.4**	**+1.6**
SMRI	**Semarang**	**1.80**	**353**	P	**Pn**	**05 53 50.1**	**+1.3**
SMRI				S	**Sn**	**05 54 13.0**	**+1.5**
KPJI	**Karang Pucung**	**2.29**	**311**	P	**Pn**	**05 53 55.5**	**+0.4**
KPJI				S	**Sn**	**05 54 23.9**	**+1.2**
UWJI	**Ujung Watu**	**2.43**	**7**	P	**Pn**	**05 53 58.7**	**+1.7**
UWJI				S	**Sn**	**05 54 24.9**	**-1.2**
CMJI	**Cimerak**	**2.44**	**296**	P	**Pn**	**05 53 56.3**	**-0.8**
CMJI				S	**Sn**	**05 54 24.9**	**-1.4**
GRJI	**Gresik**	**2.63**	**43**	P	**Pn**	**05 53 59.8**	**+0.2**
BBJI	**Bungbulang**	**3.29**	**295**	P	**Pn**	**05 54 08.9**	**+0.3**
JAGI	**Jajag, Banyuwa**	**3.46**	**84**	P	**Pn**	**05 54 11.7**	**+0.8**
JAGI	**Jajag, Banyuwa**	**3.46**	**84**	P	**Pn**	**05 54 11.6**	**+0.7**
ABJI	**Asem Bagus**	**3.68**	**74**	P	**Pn**	**05 54 09.9**	**-3.9**
CNJI	**Cibinong**	**3.83**	**293**	P	**Pn**	**05 54 15.0**	**-0.7**
IGBI	**Denpasar**	**4.42**	**90**	P	**Pn**	**05 54 23.6**	**-0.2**
SRBI	**Singaraja**	**4.56**	**81**	P	**Pn**	**05 54 26.6**	**+0.9**
XMIS	**Christmas Isla**	**5.21**	**251**	P	**Pn**	**05 54 34.2**	**-0.3**
TWSI	**Taliwang, Sumb**	**6.14**	**89**	P	**Pn**	**05 54 47.9**	**+0.7**
	22nm,0.7s,0.2nm						
PLAI	**Plampang**	**7.02**	**90**	P	**Pn**	**05 55 01.1**	**+1.8**
	49nm,0.9s						
PLAI	**Plampang**	**7.02**	**90**	P	**Pn**	**05 55 00.6**	**+1.3**
GIRL	**Giralia**	**14.13**	**166**	P	**Pn**	**05 56 35.1**	**+0.1**
	83nm,1.7s						
MBWA	**Marble Bar**	**15.04**	**145**	P	**Pn**	**05 56 47.7**	**+1.1**
	9.0nm,2.2s						
WRA	**Warramunga Arr**	**25.40**	**118**	P	**P**	**05 58 40.1**	**+2.1**
	0.4nm,0.5s,baz=291,slow=12,SNR=7.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**26.67**	**126**	P	**P**	**05 58 51.6**	**+2.2**
	1.2nm,0.7s,baz=302,slow=8.6,SNR=18						
ASAR				PcP	**PcP**	**06 02 13.1**	**+2.0**
	0.2nm,0.6s,baz=318,slow=2.6,SNR=1.7						
	1.2nm,0.7s						
H08S2	**Diego Garcia H**	**37.79**	**269**	T	T	06 40 26.9	
	baz=92						
H08S3	**Diego Garcia H**	**37.80**	**269**	T	T	06 40 45.5	
	baz=92						
H08S1	**Diego Carcia H**	**37.81**	**269**	T	T	06 40 42.6	
	baz=92						
MJAR	**Matsushiro Arr**	**52.04**	**28**	P	**P**	**06 02 17.4**	**-1.9**
	0.4nm,0.3s,baz=231,slow=7.7,SNR=4.9						
	0.4nm,0.3s						
USRK	**Ussuriysk Ar.**	**56.22**	**18**	P	**P**	**06 02 49.1**	**-0.4**
	2.1nm,0.8s,baz=108,slow=2.3,SNR=3.6						
	2.1nm,0.8s						
SONM	**Songino Array**	**56.56**	**357**	P	**P**	**06 02 50.8**	**-1.1**
	0.8nm,0.5s,baz=173,slow=7.0,SNR=3.9						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**60.90**	**338**	P	**P**	**06 03 21.1**	**-0.9**
	0.9nm,0.4s,baz=153,slow=7.6,SNR=10						
	0.9nm,0.4s						
H04N2	**CROZET ISLANDS**	**62.29**	**222**	T	T	07 10 53.5	
	baz=76						
H04N1	**CROZET ISLANDS**	**62.30**	**222**	T	T	07 10 54.6	
	baz=76						
H04N3	**CROZET ISLANDS**	**62.30**	**222**	T	T	07 10 57.5	
	baz=76						
KURBB	**Kurchatov Arra**	**65.47**	**338**	P	**P**	**06 03 51.4**	**-0.6**
	1.4nm,0.2s,baz=156,slow=5.1,SNR=1.9						
	1.4nm,0.2s						
ZALV	**Zalesovo Beam**	**66.27**	**344**	P	**P**	**06 03 55.7**	**-1.4**
	0.6nm,0.3s,baz=134,slow=4.3,SNR=4.6						
	0.6nm,0.3s						
GEYT	**Alibeck**	**67.57**	**317**	P	**P**	**06 04 06.3**	**+0.5**
	1.5nm,0.6s,baz=111,slow=8.2,SNR=2.0						
	1.5nm,0.6s						
BRTR	**Keskin Array B**	**85.77**	**311**	P	**P**	**06 05 48.8**	**+0.4**
	0.3nm,0.5s,baz=115,slow=5.4,SNR=2.6						
	0.3nm,0.5s						

*NEIC **08** 06:04:20.1±1.1, 19°.417N±0°.008×155°.270W±0°.006, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.4km az=172.0*
HVO 08 06:04:19.6±0.7, 19°.419N±0°.008×155°.262W±0°.006, h1km±3km, ML3.7/35, ML3.2/30(NEIC), Error ellipse: s-maj=1.2km s-min=0.7km az=179.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATHI	**Halema'uma'u T**	**0.00**	**12**	Pg	Pg	06 04 20.1	+0.1
BYL	**Byron's Ledge**	**0.01**	**167**	Pg	Pg	06 04 20.1	+0.1
SBLHI	**Steaming Bluff**	**0.01**	**323**		Pg	06 04 20.2	+0.1
UWB	**Uwekahuna B**	**0.02**	**289**		Pg	06 04 20.4	+0.3
OBL	**Observatory Le**	**0.02**	**265**		Pg	06 04 20.4	+0.2
KKO	**Keanakako'i**	**0.02**	**191**		Pg	06 04 20.4	+0.3
RIM	**Rim**	**0.03**	**206**		Pg	06 04 20.6	+0.4
UWE	**Uwekahuna**	**0.03**	**274**	Pg	Pg	06 04 20.7	+0.5
WRMHI	**West Rim**	**0.04**	**251**		Pg	06 04 20.9	+0.5
SDHHI	**Sand Hill**	**0.04**	**226**		Pg	06 04 21.3	+0.9
RSD	**Rainshed**	**0.05**	**341**	Pg	Pg	06 04 21.0	+0.5
RSD				IAML		06 04 21.8	
	comp=N,13μm,0.4s						
PUH	**Pauahi**	**0.06**	**136**	Pg	Pg	06 04 21.5	+0.6
PUH				IAML		06 04 22.4	
	comp=N,10μm,0.6s						
PUH				IAML		06 04 22.6	
	comp=E,12μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.10**	**114**	Pg	Pg	06 04 22.2	+0.8
HLP	**Hilina Pali**	**0.13**	**200**		Pg	06 04 22.9	+0.8
HLP				IAML		06 04 25.6	
	comp=E,7μm,0.9s						
STCH	**Steam Cracks**	**0.13**	**105**	Pg	Pg	06 04 22.7	+0.5
STCH				IAML		06 04 25.8	
	comp=N,7μm,0.4s						
MLH	**Mauna Loa**	**0.14**	**302**	Pg	Pg	06 04 23.2	+0.9
MLH				IAML		06 04 26.5	
	comp=E,8μm,1.0s						
NPOC	**North of Pu'u**	**0.15**	**100**		Pg	06 04 23.1	+0.7
JCUZ	**Jacuzzi**	**0.15**	**103**		Pg	06 04 23.3	+0.7
HTC	**Hot Caves**	**0.22**	**215**		Pg	06 04 24.7	+0.8
JOKA	**Jonika Flow**	**0.24**	**87**		Pg	06 04 24.5	+0.2
JOKA				IAML		06 04 32.4	
	comp=E,4μm,1.1s						
JOKA				IAML		06 04 32.4	
	comp=N,4μm,0.8s						
HMH	**Humu'ula Sheep**	**0.28**	**311**		Pg	06 04 25.7	+0.8
HMH				IAML		06 04 34.5	
	comp=E,5μm,1.2s						
HMH				IAML		06 04 34.6	
	comp=N,4μm,1.2s						
PAH	**Pahoa**	**0.31**	**76**	Pg	Pg	06 04 26.0	+0.5
MLOA	**Mauna Loa Obse**	**0.32**	**291**	Pg	Pg	06 04 26.6	+0.9
MLOA				IAML		06 04 33.3	
	comp=E,4μm,1.2s						
MWH	**Moku'aweowe**	**0.32**	**282**		Pg	06 04 26.7	+0.9
KHU	**Kahuku**	**0.38**	**243**	Pg	Pg	06 04 27.5	+0.7
ALEP	**Alea Permanent**	**0.38**	**289**		Pg	06 04 27.6	+0.7
ALEP					Sg	06 04 32.3	+0.4
POHA	**Pohakuloa**	**0.42**	**323**	Pg	Pg	06 04 28.7	+1.0
POHA				IAML		06 04 36.0	
	comp=E,3μm,0.6s						
HPO	**Honuapo**	**0.43**	**220**		Pg	06 04 27.7	-0.1
HUH	**Hualalai**	**0.60**	**296**		Pg	06 04 32.0	+0.8
CPH	**Captain Cook**	**0.62**	**276**		Pg	06 04 31.7	+0.1
HPAH	**Hawaii Prepara**	**0.73**	**326**	Pg	Pg	06 04 33.0	-0.7

IDC 08 06:10:04.3±8.5, 23°.74S×147°.98E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=94.5km s-min=64.1km az=4.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**12.89**	**268**	Pn	Pn	06 13 09.4	+0.5
	baz=91,slow=15,SNR=1.2						
ASAR				Lg	Lg	06 16 55.2	
	baz=84,slow=27,SNR=2.6						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**13.22**	**284**	Pn	Pn	06 13 12.8	-0.5
	baz=110,slow=14,SNR=1.2						
WRA				Lg	Lg	06 17 03.0	
	0.1nm,0.3s,baz=110,slow=30,SNR=4.7						
	0.5nm,1.0s						
I22FR	**PORTLAGUERRE I**	**17.45**	**89**	I	I	07 53 45.0	
	0.1nm,1.0s,baz=266,slow=314,SNR=2.5						

*NIED **08** 06:45:39.9, 34°.83N×135°.62E, h10km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.07; $M_{\theta\theta}$2.68; $M_{\phi\phi}$-2.75; $M_{r\theta}$0.84; $M_{\theta\phi}$-0.26; $M_{\phi r}$-0.52; Fault plane solution: $M_0$2.90000×10^{14} NP1: ϕ_s138.00000°, δ85.00000°, λ19.00000°. NP2:ϕ_s47.00000°, δ71.00000°, λ175.00000°.*
*JMA **08** 06:45:39.9±0.0, 34°.83N±0°.08×135°.62E±0°.09, h10km, MV3.9/20, KYOTO OSAKA BORDER REG*
JMA Felt II J1 at KYOTO OSAKA BORDER REG .
*NEIC **08** 06:45:40.8±0.8, 34°.96N±0°.07×135°.56E±0°.04, h10km±2km, ML3.8/16, Error ellipse: s-maj=12.3km s-min=4.5km az=161.0*
ISC 08 06:45:39.5±1.1, 34°.85N±0°.04×135°.62E±0°.02, h6km±11km, n20, σ0°69/33, 10D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHE	**Heguri**	**0.21**	**166**	*i* P	**Pg**	**06 45 43.9**	**+0.3**
JHE				*e*S	**Sg**	**06 45 46.8**	**+0.4**
JWT	**Wachi**	**0.47**	**337**	*i* P	**Pb**	**06 45 49.5**	**-0.6**
JWT				*e*S	**Sb**	**06 45 55.8**	**-1.5**
JWY	**Kouya**	**0.64**	**182**	*i* P	**Pg**	**06 45 51.6**	**-0.1**
JWY				*e*S	**Sg**	**06 45 59.8**	**-0.2**
JKS	**Kasai**	**0.65**	**282**	⇓*i* P	**Pg**	**06 45 52.5**	**+0.4**
JKS				⇓S	**Sg**	**06 46 01.2**	**+0.6**
TSUJ	**Tsu 2**	**0.67**	**102**	⇓*i* P	**Pg**	**06 45 52.5**	**+0.1**
TSUJ				⇓*e*S	**Sg**	**06 46 01.6**	**+0.4**
JAWN	**Awajishima-nag**	**0.70**	**238**	⇓*i* P	**Pg**	**06 45 52.8**	**-0.1**
JAWN				⇓S	**Sg**	**06 46 02.2**	**+0.1**
JKN2	**Miekihoku**	**0.81**	**139**	⇓*i* P	**Pg**	**06 45 54.9**	**-0.3**
JKN2				⇓S	**Sg**	**06 46 05.1**	**-0.7**
JKY	**Yasaka**	**0.88**	**331**	P	**Pb**	**06 45 57.0**	**-0.2**
JKY				S	**Sb**	**06 46 08.6**	**-0.6**
JIE	**Ise**	**1.00**	**117**	⇓P	**Pg**	**06 45 57.8**	**-1.0**
JIE				⇓*e*S	**Sg**	**06 46 10.9**	**-1.0**
JWM	**Minabe**	**1.03**	**193**	P	**Pg**	**06 45 58.8**	**-0.5**
JTNC	**Tanabenakahech**	**1.03**	**181**	*i* P	**Pg**	**06 45 58.7**	**-0.7**
INU	**Inuyama**	**1.24**	**66**	Pn	**Pn**	**06 46 03.1**	**-0.3**
INU				Sn	**Sb**	**06 46 19.6**	**-0.1**
INU				IAML		06 46 20.4	
	comp=N,2μm,0.4s						
INU				IAML		06 46 23.1	
	comp=E,2μm,0.6s						
JGF	**Kuroka**	**1.60**	**62**	Pn	**Pn**	**06 46 09.1**	**+0.7**
JGF				Sn	**Sn**	**06 46 30.0**	**+0.6**
JMN	**Monobe**	**1.83**	**233**	Pn	**Pn**	**06 46 11.8**	**+0.3**
JMN				Sn	**Sb**	**06 46 36.5**	**-0.1**
JMN				IAML		06 46 40.8	
	comp=N,628nm,0.6s						
JMN				IAML		06 46 41.0	
	comp=E,739nm,0.6s						
JSG	**Sagara**	**2.12**	**94**	Pn	**Pn**	**06 46 16.9**	**+1.5**
JSG				Sn	**Sg**	**06 46 48.6**	**+1.0**
MAJO	**Matsushiro**	**2.69**	**51**	Pn	**Pn**	**06 46 23.8**	**+0.4**
MAJO				IAML		06 47 05.2	
	comp=E,312nm,0.5s						
MJB9	**Matsu-Tunnel**	**2.69**	**50**	Pn	**Pn**	**06 46 23.7**	**+0.3**
JHJ2	**Mitsune**	**3.89**	**115**	Pn	**Pn**	**06 46 41.1**	**+1.2**
JHJ2				IAML		06 48 53.1	
	comp=E,276nm,3.5s						
JHJ2				IAML		06 48 55.2	
	comp=N,219nm,3.0s						
JNU	**Nakatsue**	**4.30**	**248**	Pn	**Pn**	**06 46 45.9**	**+0.4**
JMM	**Marumori**	**5.14**	**53**	Pn	**Pn**	**06 46 57.4**	**+0.4**
JMM				IAML		06 47 41.4	
	comp=E,44nm,3.0s						

*IDC **08** 06:55:52.0±0.9, 6°.64S×131°.15E, h0km, mb4.1/6, mbtmp4.2/8, ML4.7/2, MS3.2/3, Error ellipse: s-maj=46.3km s-min=12.8km az=56.0*
*NEIC **08** 06:55:54.5±1.3, 6°.45S±0°.06×131°.94E±0°.05, h39km±10km, mb4.2/13, Error ellipse: s-maj=9.6km s-min=6.1km az=215.0*
*DJA **08** 06:55:57.0±0.3, 6°S±3°×13°2E±°, h108km±14km, M4.7/9, mb4.6/6, mB5.0/4, MLv4.8/9, Mw(mB)4.4/4*
ISC 08 06:55:55.8±0.5, 6°.50S±0°.05×131°.79E±0°.07, h46km, n65, σ2°07/62, mb4.1/11, MS3.3/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.56**	**198**	P	Pn	06 56 27.3	+6.3
SAUI	**Saumlaki**	**1.56**	**198**		**Pn**	**06 56 21.2**	**+0.2**
SAUI	**Saumlaki**	**1.56**	**198**	P	Pn	06 56 29.3	+8.3
BNDI	**Bandanaira**	**2.71**	**316**	P	**Pn**	**06 56 37.4**	**+0.5**
BNDI	**Bandanaira**	**2.71**	**316**	P	**Pn**	**06 56 36.4**	**-0.5**
KMPI	**Kaimana, Papua**	**3.40**	**34**	P	**Pn**	**06 56 45.3**	**-1.1**
FAKI	**Fak Fak**	**3.58**	**7**	P	**Pn**	**06 56 47.4**	**-1.5**
FAKI	**Fak Fak**	**3.58**	**7**		**Pn**	**06 56 46.5**	**-2.4**
FAKI	**Fak Fak**	**3.58**	**7**	P	**Pn**	**06 56 46.7**	**-2.2**
SWI	**Sorong**	**5.62**	**355**	P	**Pn**	**06 57 14.5**	**-2.3**
	49nm,0.6s,3μm1.0nm						
DRS	**Darwin Rock St**	**5.96**	**188**	P	**Pn**	**06 57 24.4**	**+2.8**
KDU	**Kakadu**	**6.19**	**174**	P	**Pn**	**06 57 27.5**	**+2.8**
MTN	**Manton Dam**	**6.34**	**186**	P	**Pn**	**06 57 29.7**	**+2.9**
MTN	**Manton Dam**	**6.34**	**186**		**Pn**	**06 57 26.8**	**0.0**
SANI	**Sanana**	**7.27**	**307**	P	**Pn**	**06 57 40.2**	**+0.6**
SANI	**Sanana**	**7.27**	**307**	P	**Pn**	**06 57 38.0**	**-1.6**
	59nm,0.9s,900nm0.2nm						
SOEI	**Soe**	**8.12**	**246**	P	**Pn**	**06 57 55.3**	**+4.1**
SOEI	**Soe**	**8.12**	**246**		**Pn**	**06 57 52.3**	**+1.1**
SOEI	**Soe**	**8.12**	**246**	P	**Pn**	**06 57 54.6**	**+3.4**
BATI	**Baumata**	**8.84**	**245**	P	**Pn**	**06 58 05.5**	**+4.4**
TABU	**Tabubil**	**9.47**	**83**	P	**Pn**	**06 58 11.6**	**+1.9**
KNRA	**Kununurra**	**9.60**	**198**	Pn	**Pn**	**06 58 13.1**	**+1.7**
KAPI	**Kappang**	**12.06**	**276**	LR	LR	07 02 58.1	
	comp=Z,113nm,21.1s,baz=84,slow=37						
FITZ	**Fitzroy Crossi**	**13.00**	**207**		**Pn**	**06 58 56.2**	**-1.7**
COEN	**Coen**	**13.44**	**124**	P	**Pn**	**06 59 05.7**	**+1.8**
COEN	**Coen**	**13.44**	**124**		**Pn**	**06 59 02.5**	**-1.5**
WB0	**Warramunga Arr**	**13.44**	**169**		**Pn**	**06 59 02.9**	**-1.0**
WRAB	**Tennant Creek**	**13.59**	**170**	Pn	**Pn**	**06 59 03.7**	**-2.3**
WRA	**Warramunga Arr**	**13.60**	**170**		**Pn**	**06 59 02.7**	**-3.4**
WRA	**Warramunga Arr**	**13.60**	**170**	Pn	**Pn**	**06 59 04.5**	**-1.6**
	4.7nm,0.3s,baz=356,slow=13,SNR=78						
WRA				Sn	**Sn**	**07 01 32.4**	**-3.4**
	5.5nm,0.3s,baz=354,slow=22,SNR=7.3						
	11nm,0.5s						
WB2	**Warramunga Arr**	**13.60**	**170**		**Pn**	**06 59 04.9**	**-1.3**
WR0	**Warramunga Arr**	**13.65**	**169**		**Pn**	**06 59 05.4**	**-1.4**
PLAI	**Plampang**	**14.08**	**260**	P	**Pn**	**06 59 12.4**	**-0.2**
QIS	**Mount Isa**	**15.90**	**152**	P	**Pn**	**06 59 37.4**	**+0.8**
AS31	**Alice Springs**	**17.19**	**173**	P	**Pn**	**06 59 53.0**	**+0.2**
ASAR	**Alice Springs**	**17.20**	**173**	P	**Pn**	**06 59 52.5**	**-0.4**
ASAR	**Alice Springs**	**17.20**	**173**	P	**Pn**	**06 59 51.9**	**-0.9**
	2.1nm,0.3s,baz=12,slow=13,SNR=86						
ASAR				S	**Sn**	**07 02 59.2**	**-4.0**
	3.8nm,0.5s,baz=359,slow=27,SNR=5.2						
	4.1nm,0.5s						
AS01	**Alice Springs**	**17.20**	**173**	P	**Pn**	**06 59 53.1**	**+0.2**
MBWA	**Marble Bar**	**18.67**	**218**	P	**P**	**07 00 09.9**	**-0.3**
MBWA				IAmb	IAmb

SDHHI	Sand Hill	0.04 243		Pg		06 57 17.9 +0.4
WRMHI	West Rim	0.04 268		Pg		06 57 17.8 +0.4
PUH	Pauahi	0.05 131		Pg		06 57 18.5 +0.9
PUH			IAML			06 57 19.5
	comp=E,7μm,0.9s					
RSD	Rainshed	0.06 340		Pg		06 57 18.1 +0.3
RSD			IAML			06 57 19.4
	comp=N,15μm,0.6s					
KNHH	Kane Nui o Ham	0.09 109		Pg		06 57 19.2 +0.9
HLP	Hilina Pali	0.12 204		Pg		06 57 20.0 +1.1
HLP			IAML			06 57 22.7
	comp=E,5μm,1.1s					
HLP			IAML			06 57 22.8
	comp=N,6μm,1.0s					
STCH	Steam Cracks	0.13 100		Pg		06 57 19.8 +0.8
STCH			IAML			06 57 22.3
	comp=N,3μm,0.6s					
STCH			IAML			06 57 22.7
	comp=E,7μm,1.3s					
NPOC	North of Pu'u	0.14 96		Pg		06 57 19.9 +0.6
JCUZ	Jacuzzi	0.15 99		Pg		06 57 20.2 +0.8
MLH	Mauna Loa	0.15 305		Pg		06 57 20.3 +0.8
MLH			IAML			06 57 23.6
	comp=E,5μm,1.1s					
HTC	Hot Caves	0.22 218		Pg		06 57 21.8 +1.0
JOKA	Jonika Flow	0.24 84		Pg		06 57 22.0 +0.8
JOKA			IAML			06 57 28.2
	comp=N,2μm,1.0s					
JOKA			IAML			06 57 28.7
	comp=E,2μm,1.2s					
HMH	Humu'ula Sheep	0.29 312		Pg		06 57 23.0 +0.8
HMH			IAML			06 57 31.5
	comp=E,2μm,1.4s					
HMH			IAML			06 57 31.6
	comp=N,3μm,1.3s					
PAH	Pahoa	0.30 73	Pg	Pg		06 57 23.4 +0.9
MLOA	Mauna Loa Obse	0.33 293	Pg	Pg		06 57 23.7 +0.8
MLOA			IAML			06 57 30.3
	comp=E,2μm,1.3s					
MWH	Moku'aweowe	0.33 284		Pg		06 57 23.9 +0.9
KHU	Kahuku	0.38 245	Pg	Pg		06 57 24.4 +0.6
KHU			IAML			06 57 32.2
	comp=E,1μm,1.2s					
ALEP	Alea Permanent	0.39 290		Pg		06 57 24.6 +0.6
ALEP				Sg		06 57 30.2 +1.0
HPO	Honuapo	0.42 222	Pg	Pg		06 57 24.5 -0.2
POHA	Pohakuloa	0.43 323	Pg	Pg		06 57 25.9 +0.9
HUH	Hualalai	0.61 297		Pg		06 57 29.3 +0.9
CPH	Captain Cook	0.63 277		Pg		06 57 28.7 0.0
HPAH	Hawaii Prepara	0.75 326	Pg	Pg		06 57 30.1 -0.9

*IDC **08** 07:19:46.6±1.0, 7°.19N×94°.16E, h0km, mb3.8/14, mbtmp3.8/14, MS3.3/10, Error ellipse: s-maj=45.0km s-min=21.8km az=54.0*
*NEIC **08** 07:19:47.9±1.0, 7°.27N±0°.03×94°.4E±0°.1, h10km±1km, mb4.2/14, Error ellipse: s-maj=18.7km s-min=5.3km az=275.0*
ISC 08 07:19:50.0±0.6, 7°.22N±0°.10×94°.4E±0°.1, h26km, n51, σ0°93/37, mb4.0/21, MS3.3/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	3.21	128	Pn	Pn	07 20 38.3	-0.4
SRIT	Nakonsritamara	5.32	75	P	Pn	07 21 07.3	-0.5
RPSI	Rantau Prapat	6.36	135	Pn	Pn	07 21 21.3	-0.7
KULM	Kulim	6.49	107		Pn	07 21 22.9	-1.0
BKNI	Bangkinang	9.52	136	Pn	Pn	07 22 05.7	+0.2
CMAR	Chiang Mai Arr	12.01	21	LR	LR	07 27 23.5	
	comp=Z,134nm,18.0s,baz=175,slow=38						
PALK	Pallekele	13.60	271	LR	LR	07 27 50.3	
	comp=Z,127nm,20.4s,baz=207,slow=36						
H08S3	Diego Garcia H	26.37	236	T	T	07 52 05.8	
	baz=55,slow=75,SNR=88						
H08S2	Diego Garcia H	26.37	236	T	T	07 52 14.5	
	baz=55,slow=75,SNR=86						
H08S1	Diego Garcia H	26.39	236	T	T	07 52 07.1	
	baz=55,slow=75,SNR=73						
KAPI	Kappang	28.06	115	LR	LR	07 37 20.3	
	comp=Z,70nm,18.0s,baz=76,slow=37						
DAV	Davao City (W)	30.93	88	LR	LR	07 39 28.6	
	comp=Z,25nm,18.2s,baz=180,slow=38						
JOW	Kunigami	37.61	55	LR	LR	07 43 35.8	
	comp=Z,46nm,18.2s,baz=161,slow=38						
CHGR	Chuyangaron	38.72	328	P	P	07 27 11.5	-0.6
SIMJ	Simiganj	38.80	328	P	P	07 27 10.8	-2.0
SIMJ				IAmb	IAmb	07 27 15.1	
	comp=Z,4.3nm,0.8s						
BTK	Batken	38.93	331	P	P	07 27 12.7	-1.2
BTK				IAmb	IAmb	07 27 18.7	
	comp=Z,3.2nm,0.6s						
ARSB	Arslanbob	38.95	334	P	P	07 27 13.0	-1.0
MK31	Makanchi Array	40.78	347	P	P	07 27 28.3	-0.7
MK31				IAmb	IAmb	07 27 31.2	
	comp=Z,2.2nm,1.1s						
MKAR	Makanchi Array	40.78	347	P	P	07 27 28.8	-0.2
	comp=Z,2.0nm,0.8s,baz=167,slow=7.5,SNR=15						
	comp=Z,2.0nm,0.8s						
MAKZ	Makanchi	40.87	347	P	P	07 27 29.4	-0.3
KK31	Karatay Array	41.47	333	P	P	07 27 34.1	-0.6
KKAR	Karatay Array	41.47	333	P	P	07 27 34.5	-0.2
SONM	Songino Array	41.74	12	P	P	07 27 38.9	+1.9
	comp=Z,0.7nm,0.8s,baz=214,slow=7.0,SNR=2.7						
	comp=Z,0.7nm,0.8s						
JNU	Nakatsue	42.49	48	LR	LR	07 48 43.7	
	comp=Z,58nm,18.6s,baz=240,slow=41						
GEYT	Alibeck	44.86	318	P	P	07 28 02.1	-0.2
GEYT	Alibeck	44.86	318	P	P	07 28 02.4	0.0
	comp=Z,2.4nm,0.7s,baz=153,slow=7.6,SNR=4.0						
	comp=Z,2.4nm,0.7s						
KURBB	Kurchatov Arra	45.24	346	P	P	07 28 05.4	+0.3
	comp=Z,2.4nm,0.9s,baz=166,slow=7.0,SNR=19						
	comp=Z,2.4nm,0.9s						
KURK	Kurchatov	45.31	346	P	P	07 28 05.2	-0.3
KURK				IAmb	IAmb	07 28 09.5	
	comp=Z,4.0nm,1.1s						
NWAO	Narrogin (SRO)	45.45	153	P	P	07 28 06.4	-0.5
NWAO	Narrogin (SRO)	45.45	153	LR	LR	07 44 03.8	
	comp=Z,47nm,21.9s,baz=192,slow=32						
ZAA0	Zalesovo Array	47.24	352	P	P	07 28 20.2	-0.5
ZAA0				IAmb	IAmb	07 28 30.3	
	comp=Z,4.0nm,1.1s						
ZALV	Zalesovo Beam	47.24	352	P	P	07 28 19.6	-1.1
ZALV	Zalesovo Beam	47.24	352	P	P	07 28 21.9	+1.2
	comp=Z,0.7nm,0.5s,baz=173,slow=13,SNR=4.5						
ZALV				LR	LR	07 53 18.6	
	comp=Z,27nm,18.5s,baz=206,slow=43						
	comp=Z,0.7nm,0.5s						
WB0	Warramunga Arr	47.62	125	P	P	07 28 22.9	-1.3
WB0				IAmb	IAmb	07 28 26.4	
	comp=Z,4.8nm,1.1s						
WRA	Warramunga Arr	47.67	125	P	P	07 28 26.3	+1.7
	comp=Z,0.3nm,0.5s,baz=306,slow=8.7,SNR=1.4						
	comp=Z,0.3nm,0.5s						
WR0	Warramunga Arr	47.84	125	P	P	07 28 24.9	-1.0
ASAR	Alice Springs	49.29	130	P	P	07 28 39.2	+2.1
	comp=Z,0.4nm,0.8s,baz=303,slow=5.8,SNR=2.6						
	comp=Z,0.4nm,0.8s						
RAYN	Ar Rayn	49.60	295	P	P	07 28 38.6	-0.9
RAYN				IAmb	IAmb	07 28 42.3	
	comp=Z,4.0nm,1.0s						
FURI	Furi	55.16	276	LR	LR	07 49 40.3	
	comp=Z,51nm,20.8s,baz=124,slow=33						
H04N2	CROZET ISLANDS	65.30	211	T	T	08 41 07.9	
	baz=48,slow=75,SNR=6.6						
H04N1	CROZET ISLANDS	65.31	211	T	T	08 41 07.0	
	baz=48,slow=75,SNR=6.2						
H04N3	CROZET ISLANDS	65.32	211	T	T	08 41 01.1	
	baz=48,slow=75,SNR=7.5						
FINES	FINESS Array B	73.41	332	P	P	07 31 19.7	+0.1
FINES	FINESS Array B	73.41	332	P	P	07 31 19.4	-0.3
	comp=Z,14nm,0.8s,baz=119,slow=11,SNR=2.6						
	comp=Z,1.4nm,0.8s						
GERES	GERESS Array B	78.49	318	P	P	07 31 49.2	+0.2
	comp=Z,0.5nm,0.8s,baz=57,slow=3.6,SNR=2.2						
	comp=Z,0.5nm,0.8s						
CLL	Collm	79.03	321	eP	P	07 31 52.0	+0.2
HFS	Hagfors	79.15	330	P	P	07 31 52.2	-0.1
	comp=Z,1.1nm,0.5s,baz=94,slow=12,SNR=6.3						
	comp=Z,1.1nm,0.5s						
NOA	NORSAR Array B	80.43	331	P	P	07 31 59.0	-0.3
	comp=Z,0.4nm,0.7s,baz=99,slow=5.3,SNR=2.4						
NOA				LR	LR	08 11 08.8	
	comp=Z,11nm,18.3s,baz=250,slow=38						
	comp=Z,0.4nm,0.7s						

EKA	Eskdalemuir Ar	88.41	325	P	P	07 32 39.8 +0.1
	comp=Z,1.1nm,0.8s,baz=96,slow=5.9,SNR=4.8					
	comp=Z,1.1nm,0.8s					
TORD	Torodi Ar. Bea	91.00	283	P	P	07 32 52.9 +0.2
	comp=Z,0.4nm,0.7s,baz=111,slow=3.2,SNR=2.5					
	comp=Z,0.4nm,0.7s					
ESDC	Sonseca Array	91.84	310	P	P	07 32 57.2 +1.0
	comp=Z,0.3nm,0.7s,baz=64,slow=3.0,SNR=2.3					
	comp=Z,0.3nm,0.7s					

*IDC **08** 07:55:03.8±2.0, 25°.07S×179°.73E, h498km±20km, mb3.5/13, mbtmp4.4/16, Error ellipse: s-maj=16.6km s-min=12.9km az=69.0*
*NOU **08** 07:55:05.2, 24°.87S×179°.79W, h562km, ML4.0/21, South of Fiji Islands*
*NEIC **08** 07:55:07.0±1.3, 25°.2S±0°.1×179°.7E±0°.1, h523km±7km, mb4.5/54, Error ellipse: s-maj=17.9km s-min=16.5km az=81.0*
ISC 08 07:55:05.3±0.5, 25°.05S±0°.07×179°.69E±0°.08, h507km, n123, σ1°33/116, mb4.3/44, 3C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.70	154	P	P	07 56 33.6	+3.8
RAO	Raoul Island	4.70	154	P	P	07 56 31.5	+1.7
MSVF	Nonsavu	7.44	348	P	P	07 56 57.0	+0.7
MSVF	Nonsavu	7.44	348	P	P	07 56 57.1	+0.7
OUZ	Omhuta	11.42	206	P	P	07 57 40.1	+2.6
PINNC	Pines Island,	11.47	280	P	P	07 57 39.4	+1.2
DZM	Mont Dzumac	12.51	281	P	P	07 57 51.8	+2.4
DZM	Mont Dzumac	12.51	281	P	P	07 57 50.1	+0.7
	6.8nm,0.6s,baz=90,slow=15,SNR=13						
DZM				S	S	08 00 05.5	+1.0
	3.5nm,0.9s,baz=117,slow=24,SNR=6.1						
URZ	Urewera	13.35	189	P	P	07 57 54.7	-3.2
	12nm,0.6s,baz=353,slow=1.7,SNR=5.3						
URZ				S	S	08 00 20.4	+0.3
	11nm,0.5s,baz=201,slow=22,SNR=7.9						
RIGZ	Rimuhau	13.71	186	P	P	07 58 21.1	+19
HIZ	Hauiti	14.04	196	P	P	07 58 08.1	+3.0
BKZ	Black Stump Fm	14.33	190	P	P	07 58 11.2	+3.0
SNVZ	South Ngauruho	14.50	193	P	P	07 58 01.8	-8.4
VRZ	Vera Road	14.64	195	P	P	07 58 14.9	+3.5
PNHZ	Pukenui	15.11	190	P	P	07 58 18.9	+2.6
PXZ	Pawanui	15.13	188	P	P	07 58 16.8	+0.4
DVHZ	Dannevirke	15.49	190	P	P	07 58 20.3	0.0
ANWZ	Angora Road	15.60	189	P	P	07 58 21.1	-0.3
BFZ	Birch Farm	15.85	190	P	P	07 58 23.8	-0.2
BFZ	Birch Farm	15.85	190	P	P	07 58 19.8	-4.2
MRZ	Mangatainoka R	15.94	191	P	P	07 58 21.6	-3.3
OGWZ	Otaki Gorge	16.17	192	P	P	07 58 25.6	-1.8
TCW	Tory Channel	16.74	194	P	P	07 58 31.3	-1.8
SNZO	South Karori	16.74	193	P	P	07 58 32.8	-0.4
BHW	Baring Head	16.80	193	P	P	07 58 32.3	-1.5
QRZ	Quartz Range	16.83	199	P	P	07 58 34.4	+0.3
NNZ	Nelson	16.96	197	P	P	07 58 34.4	-1.0
NNZ	Nelson	16.96	197	P	P	07 58 34.0	-1.4
KHZ	Kahutara	18.05	195	P	P	07 58 44.6	-0.9
RPZ	Rata Peaks	19.91	199	P	P	07 59 02.7	+0.1
RPZ	Rata Peaks	19.91	199	P	P	07 59 00.5	-2.1
	13nm,0.5s,baz=32,slow=2.0,SNR=10.0						
ODZ	Otahua Downs	21.25	198	P	P	07 59 15.2	+0.6
ARMA	Armidale	25.37	252	P	P	07 59 53.4	+1.6
ARMA	Armidale	25.37	252	P	P	07 59 51.7	-0.1
ARMA				IAmb	IAmb	08 00 00.1	
	comp=Z,31nm,1.5s						
EIDS	Eidsvold	25.87	263	P	P	07 59 56.3	+0.2
EIDS				IAmb	IAmb	07 59 57.4	
	comp=Z,9.1nm,0.9s						
CNB	Canberra Magne	28.04	241	P	P	08 00 17.3	+2.1
CAN	Canberra	28.34	242	P	P	08 00 18.2	+0.4
	comp=Z,58nm,2.4s						
CAN	Canberra	28.34	242	P	P	08 00 17.5	-0.3
MILA	Mila	28.64	238	P	P	08 00 21.4	+1.0
CMSA	Cobar Meteorol	30.54	250	P	P	08 00 37.4	+0.5
CTAO	Charters Tower	31.22	272	P	P	08 00 43.5	+0.6
CTAO	Charters Tower	31.22	272	P	P	08 00 43.3	+0.4
TOO	Toolangi	31.60	238	P	P	08 00 47.1	+1.1
TOO	Toolangi	31.60	238	P	P	08 00 46.2	+0.2
TOO				IAmb	IAmb	08 00 48.1	
	comp=Z,28nm,1.1s						
QLP	Quilpie	31.89	259	P	P	08 00 49.2	+0.6
TAU	Tasmania Unive	31.95	228	P	P	08 00 49.3	+0.5
MTSU	Mount Surprise	33.53	275	P	P	08 01 03.5	+0.9
STKA	Stephens Creek	34.05	250	P	P	08 01 07.1	+0.3
STKA	Stephens Creek	34.05	250	P	P	08 01 06.8	0.0
STKA	Stephens Creek	34.05	250	P	P	08 01 06.2	-0.5
	comp=Z,6.1nm,0.4s,baz=96,slow=11,SNR=22						
	comp=Z,6.1nm,0.4s						
PMG	Port Moresby	34.62	291	P	P	08 01 12.0	+0.2
PMG				IAmb	IAmb	08 01 25.3	
	comp=Z,19nm,1.0s						
COEN	Coen	36.04	281	P	P	08 01 24.1	+0.5
COEN				IAmb	IAmb	08 01 39.0	
	comp=Z,26nm,1.4s						
BBOO	Buckleboo	38.75	248	P	P	08 01 44.6	-1.1
BBOO				IAmb	IAmb	08 01 53.9	
	comp=Z,21nm,1.2s						
AS31	Alice Springs	41.58	262	P	P	08 02 08.1	-0.4
AS31				IAmb	IAmb	08 02 08.8	
	comp=Z,4.2nm,0.4s						
ASAR	Alice Springs	41.58	262	P	P	08 02 07.7	-0.8
ASAR	Alice Springs	41.58	262	P	P	08 02 08.0	-0.6
	comp=Z,4.9nm,0.3s,baz=94,slow=7.1,SNR=150						
ASAR				ScP	ScP	08 06 55.4	-0.3
	comp=Z,0.6nm,0.8s,baz=103,slow=3.8,SNR=2.4						
	comp=Z,4.9nm,0.3s						
WR0	Warramunga Arr	41.88	268	P	P	08 02 10.0	-0.9
WR0				IAmb	IAmb	08 02 10.1	
	comp=Z,10nm,0.5s						
WB2	Warramunga Arr	42.05	268	P	P	08 02 11.5	-0.8
WB2				IAmb	IAmb	08 02 11.9	
	comp=Z,18nm,0.7s						
WRAB	Tennant Creek	42.05	268	P	P	08 02 11.3	-1.0
WRAB				IAmb	IAmb	08 02 25.1	
	comp=Z,22nm,1.0s						
WB0	Warramunga Arr	42.06	268	P	P	08 02 11.4	-0.9
WRA	Warramunga Arr	42.06	268	P	P	08 02 11.4	-0.9
WRA	Warramunga Arr	42.06	268	P	P	08 02 11.2	-1.1
	comp=Z,20nm,0.6s,baz=100,slow=7.0,SNR=213						
WRA				ScP	ScP	08 06 58.4	+0.7
	comp=Z,1.6nm,0.8s,baz=103,slow=3.9,SNR=6.3						
	comp=Z,20nm,0.6s						
FORT	Forrest	45.66	251	P	P	08 02 38.7	-1.4
MTN	Manton Dam	47.27	276	P	P	08 02 51.2	-1.4
KNRA	Kununurra	48.41	271	P	P	08 03 00.6	-0.5
FITZ	Fitzroy Crossi	50.47	267	P	P	08 03 16.1	-0.2
VNDA	Vanda	53.22	185	P	P	08 03 35.8	+0.6
VNDA	Vanda	53.22	185	P	P	08 03 35.1	-0.1
	comp=Z,1.1nm,0.6s,baz=4.3,slow=7.4,SNR=10						
	comp=Z,1.1nm,0.6s						
SBA	Scott Base	53.22	183	P	P	08 03 36.7	+1.5
PSA00	Pilbara Seismi	54.69	260	P	P	08 03 45.2	-1.3
MBWA	Marble Bar	54.91	261	P	P	08 03 46.7	-1.3
MORW	Morawa	56.22	251	P	P	08 03 56.0	-1.1
MORW				IAmb	IAmb	08 03 56.2	
	comp=Z,10.0nm,0.6s						
CASY	Casey	58.96	206	P	P	08 04 14.0	-1.1
CASY				IAmb	IAmb	08 04 14.3	
	comp=Z,7.3nm,0.7s						
GIRL	Giralia	59.39	258	P	P	08 04 18.9	+0.1
JAGI	Jajag, Banyuwa	64.33	273	P	P	08 04 49.7	-1.5
QSPA	South Pole Qui	65.04	180	P	P	08 04 55.2	+0.3
QSPA	South Pole Qui	65.04	180	P	P	08 04 54.0	-0.8
	comp=Z,2.0nm,0.6s,baz=21,slow=1.1,SNR=27						
	comp=Z,2.0nm,0.6s						
MJAR	Matsushiro Arr	72.69	326	P	P	08 05 39.7	-1.5
	comp=Z,2.0nm,0.7s,baz=163,slow=5.4,SNR=4.4						
	comp=Z,2.0nm,0.7s						
YOJ	Yonaguni jima	73.70	307	P	P	08 05 48.2	+0.9
JNU	Nakatsue	74.20	319	P	P	08 05 49.6	-0.4
JNU				IAmb	IAmb	08 06 10.3	
	comp=Z,39nm,1.4s						
MAW	Mawson	76.58	201	P	P	08 06 02.3	-0.4
	comp=Z,4.4nm,0.6s,baz=132,slow=5.4,SNR=24						
	comp=Z,4.4nm,0.6s						
KSRS	Korea Array	78.95	320	P	P	08 06 15.9	-0.1
	comp=Z,1.7nm,0.7s,baz=132,slow=6.1,SNR=5.5						
	comp=Z,1.7nm,0.7s						
USRK	Ussuriysk Ar.	81.58	327	P	P	08 06 30.1	+0.6
CBX	Cerro Bola	83.28	50	P	P	08 06 39.4	+0.8
CBX				IAmb	IAmb	08 06 50.4	
	comp=Z,26nm,1.4s						

SNAA	Sanae	83.53	179	P	P	08 06 38.0 -1.2
SNAA	Sanae	83.53	179	⇑P	P	08 06 36.3 -2.8
	comp=Z,17nm,0.7s					
SNAA	Sanae	83.53	179	P	P	08 06 37.4 -1.7
	comp=Z,0.4nm,0.4s,baz=190,slow=13,SNR=8.5					
	comp=Z,0.4nm,0.4s					
SLBS	Sierra La Lagu	83.61	60	P	P	08 06 41.4 +1.0
SLBS				IAmb	IAmb	08 06 42.0
	comp=Z,4.9nm,0.7s					
VNA3	Neumayer Olymp	83.75	177	⇑P	P	08 06 39.0 -1.3
	comp=Z,2.8nm,0.7s					
ISA	Isabella, Lake	84.02	46	P	P	08 06 42.5 +0.3
VNA2	Neumayer--Watz	84.16	178	⇑P	P	08 06 41.0 -1.2
	comp=Z,1.5nm,0.5s,baz=182,slow=5.5					
GSC	Goldstone, Bar	84.91	47	P	P	08 06 46.6 0.0
NVAR	Mina Array Bea	85.77	44	P	P	08 06 51.3 +0.4
NVAR	Mina Array Bea	85.77	44	P	P	08 06 51.0 +0.1
	comp=Z,1.4nm,0.8s,baz=221,slow=8.4,SNR=13					
	comp=Z,1.4nm,0.8s					
NV11	Mina Array Sit	85.87	44	P	P	08 06 51.3 +0.1
I03D	Drain, OR	86.05	38	P	P	08 06 52.6 +0.9
I03D				IAmb	IAmb	08 07 17.0
	comp=Z,24nm,1.5s					
TPH	Tonopah	86.25	45	P	P	08 06 53.3 +0.2
TPH				IAmb	IAmb	08 06 53.9
	comp=Z,11nm,0.8s					
KVN	Kaiserville	86.27	44	P	P	08 06 53.2 +0.1
J05D	Fort Rock, OR	86.98	39	P	P	08 06 57.1 +0.8
J05D				IAmb	IAmb	08 06 57.9
	comp=Z,5.7nm,1.1s					
PINE	Pine Mountain	87.46	39	P	P	08 06 59.5 +0.8
PINE				IAmb	IAmb	08 07 00.3
	comp=Z,6.3nm,1.1s					
HG4B	Hotspring	88.14	28	P	P	08 07 02.1 +0.8
HG4B				IAmb	IAmb	08 07 07.8
	comp=Z,6.5nm,1.2s					
I07A	Izee	88.46	39	P	P	08 07 03.9 +0.7
I07A				IAmb	IAmb	08 07 04.1
	comp=Z,4.0nm,0.9s					
U15A	North Rim	88.58	48	IAmb	IAmb	08 07 06.3
	comp=Z,7.0nm,1.4s					
J08A	Circle Bar Ran	88.61	40	IAmb	IAmb	08 07 05.1
	comp=Z,5.8nm,1.2s					
CMAR	Chiang Mai Arr	89.66	290	P	P	08 07 10.3 +1.1
	comp=Z,1.0nm,0.5s,baz=146,slow=3.4,SNR=8.8					
	comp=Z,1.0nm,0.5s					
TMUT	Trail Mountain	90.83	46	IAmb	IAmb	08 07 16.0
	comp=Z,4.8nm,0.7s					
HVU	Hansel Valley	91.16	44	IAmb	IAmb	08 07 16.4
	comp=Z,2.4nm,0.8s					
SRU	San Rafael Swe	91.19	47	IAmb	IAmb	08 07 16.9
	comp=Z,2.7nm,0.7s					
TX31	Lajitas Ar. Si	91.27	58	IAmb	IAmb	08 07 17.8
	comp=Z,2.2nm,0.9s					
TXAR	Lajitas Array	91.28	58	P	P	08 07 17.1 +0.6
	comp=Z,1.4nm,0.8s,baz=214,slow=6.4,SNR=17					
	comp=Z,1.4nm,0.8s					
BSUT	Blindstream Ca	91.78	46	IAmb	IAmb	08 07 20.0
	comp=Z,4.4nm,0.9s					
PDAR	Pinedale Array	93.71	44	P	P	08 07 26.7 -0.9
	comp=Z,0.2nm,0.5s,baz=248,slow=4.8,SNR=2.2					
	comp=Z,0.2nm,0.5s					
MKAR	Makanchi Array	112.72	312	SKP	SKPdf	08 15 29.4 -1.6
	comp=Z,0.3nm,0.4s,baz=129,slow=1.3,SNR=4.3					
ARCES	ARCESS Array B	132.95	348	SKPbc	SKPbc	08 16 00.9 -1.0
	comp=Z,1.0nm,0.6s,baz=15,slow=3.5,SNR=14					
FINES	FINESS Array B	139.44	341	SKPbc	SKPbc	08 16 20.3 -1.2
	comp=Z,1.3nm,0.5s,baz=38,slow=2.9,SNR=10					
NB2	NORSAR Subarra	143.17	351	PKP	PKPab	08 13 37.7 -0.7
	comp=Z,0.6nm,0.9s,baz=16,slow=3.2					
NOA	NORSAR Array B	143.17	351	PKP	PKPab	08 13 38.0 -0.4
	comp=Z,1.8nm,1.1s,baz=16,slow=4.6,SNR=4.1					
HFS	Hagfors	143.61	348	PKP	PKPab	08 13 38.8 -1.3
	comp=Z,1.8nm,0.4s,baz=56,slow=3.7,SNR=23					
AKASG	Malin Array Be	145.77	326	PKPbc	PKPdf	08 13 44.7 -0.8
	comp=Z,1.8nm,0.5s,baz=45,slow=4.4,SNR=8.6					
MMAI	Mount Meron Ar	147.90	293	PKPbc	PKPbc	08 13 52.9 -0.6
	comp=Z,2.7nm,0.4s,baz=72,slow=5.4,SNR=7.8					
BRTR	Keskin Array B	148.03	306		PKPbc	08 13 52.8 -0.9
BRTR				PKPab	PKPab	08 13 58.1 -0.2
BRTR	Keskin Array B	148.03	306	PKPbc	PKPbc	08 13 52.5 -1.2
	comp=Z,0.7nm,0.4s,baz=151,slow=3.7,SNR=4.9					
EKA	Eskdalemuir Ar	149.68	3	PKPbc	PKPbc	08 13 55.5 -1.6
	comp=Z,0.1nm,0.3s,baz=2.8,slow=3.8,SNR=4.9					

*SJA **08** 07:59:16.5±0.5, 28°.56S×72°.51W, h27km±20km, ML3.0, MW3.5*
*GUC **08** 07:59:28.8±0.9, 28°.75S×71°.44W, h40km±3km, ML2.8*
ISC 08 07:59:28.3±2.6, 28°.73S±0°.04×71°.49W±0°.08, h14km±17km, n13, σ1°62/26, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	Llanos de Chal	0.64	35	⇓iP	Pb	07 59 41.0	-0.3
AC04				eS	Sb	07 59 49.1	-1.0
AC04				IAML		07 59 50.2	
	comp=E,1μm,0.1s						
LCO	Las Campanas	0.75	112	⇑iP	Pb	07 59 42.4	-1.0
LCO				eS	Sb	07 59 52.8	-0.9
LCO				IAML		07 59 53.3	
	comp=E,2μm,0.2s						
AC05	El Transito	1.08	96	⇓iP	Pn	07 59 48.3	-0.9
AC05				eS	Sb	08 00 02.0

0.4nm,0.8s
MKAR Makanchi Array 46.24 296 P **P** 08 17 42.6 -0.4
0.4nm,0.7s,baz=42,slow=6.6,SNR=2.9
0.4nm,0.7s
KURBB Kurchatov Arra 46.64 302 P **P** 08 17 46.5 +0.4
0.8nm,0.7s,baz=65,slow=8.6,SNR=5.5
0.8nm,0.7s
FINES FINESS Array B 62.78 334 P **P** 08 19 42.2 +0.1
1.2nm,0.8s,baz=29,slow=7.7,SNR=10
1.2nm,0.8s
NOA NORSAR Array B 66.92 341 P **P** 08 20 09.7 +0.7
0.5nm,0.8s,baz=27,slow=6.5,SNR=3.9
0.5nm,0.8s
HFS Hagfors 67.16 339 P **P** 08 20 10.8 +0.3
0.9nm,0.4s,baz=47,slow=4.7,SNR=17
0.9nm,0.4s
EKA Eskdalemuir Ar 75.01 346 P **P** 08 20 57.2 -0.6
0.3nm,0.4s,baz=18,slow=5.0,SNR=5.9
0.3nm,0.4s
TXAR Lajitas Array 76.92 61 P **P** 08 21 09.4 +0.2
0.2nm,0.6s,baz=277,slow=3.5,SNR=5.5
0.2nm,0.6s

*IDC **08** 08:10:19.4±0.5, 37.°85S×176.°45E, h152km±5km, mb3.8/8, mbtmp4.3/8, MS3.1/1, Error ellipse: s-maj=20.6km s-min=14.9km az=69.0*
*NEIC **08** 08:10:20.3±1.5, 38.°21S±0.°07×176.°38E±0.°08, h171km±6km, mb4.3/26, Error ellipse: s-maj=9.7km s-min=8.7km az=169.0*
*NOU **08** 08:10:20.1, 38.°18S×176.°52E, h175km, MLv4.7/9, North Island, New Zealand*
*WEL **08** 08:10:22.6±0.7, 38.°S±4.°×17.°6E±.°, h147km±5km, M4.3/58, ML3.5/8, MLv4.3/58, Error ellipse: s-maj=0.0km s-min=0.0km az=138.5, confirmed*
ISC 08 08:10:20.8±0.4, 38.°17S±0.°04×176.°40E±0.°04, h172km±3km, n287, σ1$29/308, mb4.3/21, 10C-1D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKRZ	**Makatiti**	**0.06**	**58**	P	**Pn**	**08 10 44.0**	**+0.3**
OMRZ	**Omania**	**0.07**	**340**	P	**Pn**	**08 10 43.3**	**-0.4**
HLRZ	**Highlands Stat**	**0.09**	**206**	P	**Pn**	**08 10 43.7**	**+0.1**
TARZ	**Mount Tarawera**	**0.10**	**129**	P	**Pn**	**08 10 43.6**	**-0.1**
UTU	**Utuhina**	**0.16**	**268**	P	**Pn**	**08 10 43.8**	**+0.1**
LIRZ	**Lichensteins R**	**0.17**	**355**	P	**Pn**	**08 10 43.3**	**-0.4**
NGRZ	**Ngongotaha**	**0.18**	**292**	P	**Pn**	**08 10 43.8**	**0.0**
HSRZ	**Hossack Road**	**0.19**	**221**	P	**Pn**	**08 10 43.8**	**+0.1**
RRRZ	**Republican Roa**	**0.19**	**152**	P	**Pn**	**08 10 43.4**	**-0.3**
KARZ	**Kaharoa**	**0.20**	**320**	P	**Pn**	**08 10 43.4**	**-0.3**
HRRZ	**Handcock Road**	**0.24**	**203**	P	**Pn**	**08 10 43.8**	**0.0**
EDRZ	**Edgecumbe**	**0.27**	**77**	P	**Pn**	**08 10 43.3**	**-0.7**
MARZ	**Manawahe**	**0.28**	**49**	P	**Pn**	**08 10 43.5**	**-0.5**
GRRZ	**Galatos Road**	**0.29**	**232**	P	**Pn**	**08 10 44.2**	**+0.2**
PRRZ	**Plateau Road**	**0.33**	**181**	P	**Pn**	**08 10 43.9**	**-0.1**
OPRZ	**Ohinepanea**	**0.35**	**20**	P	**Pn**	**08 10 43.2**	**-0.9**
ALRZ	**Allen Road**	**0.39**	**187**	P	**Pn**	**08 10 43.9**	**-0.3**
WPRZ	**Whakapapatarin**	**0.40**	**208**	P	**Pn**	**08 10 44.5**	**+0.2**
MUGZ	**Murupara**	**0.42**	**137**	P	**Pn**	**08 10 43.9**	**-0.4**
MUGZ				S	**Sn**	**08 11 00.6**	**-1.9**
TGRZ	**Tauranga**	**0.46**	**346**	P	**Pn**	**08 10 43.9**	**-0.6**
TGRZ				S	**Sn**	**08 11 01.4**	**-1.2**
KMRZ	**Kaimai**	**0.49**	**312**	P	**Pn**	**08 10 44.5**	**-0.2**
WHRZ	**Whale Island**	**0.55**	**55**	P	**Pn**	**08 10 44.3**	**-0.6**
KUTZ	**Kaahu Road**	**0.56**	**235**	P	**Pn**	**08 10 45.4**	**+0.5**
URZ	**Urewera**	**0.57**	**99**	P	**Pn**	**08 10 44.0**	**-0.9**
URZ	**Urewera**	**0.57**	**99**	P	**Pn**	**08 10 43.8**	**-1.1**
	7μm,0.4s,baz=336,slow=4.9,SNR=4933						
URZ				LR	LR	08 11 00.1	
	comp=Z,977nm,18.4s,baz=268,slow=61						
URZ				S	**Sn**	**08 11 00.3**	**-3.1**
	4μm,0.3s,baz=75,slow=23,SNR=7.7						
URZ	**Urewera**	**0.57**	**99**	P	**Pn**	**08 10 44.0**	**-0.9**
URZ				S	**Sn**	**08 11 00.8**	**-2.6**
WHTZ	**Whakaora**	**0.61**	**215**	P	**Pn**	**08 10 46.1**	**+0.9**
RTZ	**Ruatahuna**	**0.64**	**135**	Pn	**Pn**	**08 10 45.1**	**-0.2**
RTZ				Sn	**Sn**	**08 11 02.7**	**-1.6**
RTZ	**Ruatahuna**	**0.64**	**135**	P	**Pn**	**08 10 45.2**	**-0.1**
RTZ				S	**Sn**	**08 11 03.2**	**-1.2**
MRHZ	**Matea Rd**	**0.66**	**179**	P	**Pn**	**08 10 45.7**	**+0.2**
MRHZ				S	**Sn**	**08 11 03.4**	**-1.3**
TLZ	**Tolley Road**	**0.70**	**257**	P	**Pn**	**08 10 46.3**	**+0.6**
WATZ	**Wairara**	**0.75**	**224**	P	**Pn**	**08 10 46.6**	**+0.6**
HATZ	**Hinemaiaia**	**0.76**	**199**	P	**Pn**	**08 10 46.4**	**+0.4**
HATZ				S	**Sn**	**08 11 05.1**	**-0.6**
MTHZ	**Maungataniwha**	**0.76**	**153**	P	**Pn**	**08 10 46.2**	**+0.1**
MTHZ				S	**Sn**	**08 11 04.5**	**-1.2**
TOZ	**Tahuroa Road**	**0.84**	**301**	Pn	**Pn**	**08 10 46.8**	**+0.4**
TOZ				Sn	**Sn**	**08 11 05.5**	**-0.7**
TOZ	**Tahuroa Road**	**0.84**	**301**	P	**Pn**	**08 10 46.7**	**+0.2**
RATZ	**Rangitukua**	**0.85**	**215**	P	**Pn**	**08 10 47.3**	**+0.6**
RAGZ	**Rawiri**	**0.86**	**112**	P	**Pn**	**08 10 46.7**	**0.0**
RAGZ				S	**Sn**	**08 11 06.1**	**-0.7**
WIZ	**White Island**	**0.90**	**44**	P	**Pn**	**08 10 45.5**	**-1.4**
WSRZ	**White Island S**	**0.90**	**44**	P	**Pn**	**08 10 45.8**	**-1.1**
MWZ	**Matawai**	**0.90**	**101**	P	**Pn**	**08 10 46.4**	**-0.6**
MWZ				S	**Sn**	**08 11 05.0**	**-2.2**
RITZ	**Rihia Road**	**0.91**	**208**	P	**Pn**	**08 10 48.0**	**+1.0**
RAHZ	**Arahi**	**0.92**	**144**	P	**Pn**	**08 10 47.7**	**+0.6**
RAHZ				S	**Sn**	**08 11 07.3**	**-0.1**
SNGZ	**Shannon Statio**	**0.96**	**130**	P	**Pn**	**08 10 47.8**	**+0.4**
SNGZ				S	**Sn**	**08 11 07.7**	**-0.2**
KATZ	**Kakaramea**	**0.98**	**214**	P	**Pn**	**08 10 48.8**	**+1.1**
NMHZ	**Naumai**	**0.98**	**161**	P	**Pn**	**08 10 48.7**	**+1.2**
NMHZ				S	**Sn**	**08 11 09.0**	**+0.6**
BKZ	**Black Stump Fm**	**1.00**	**176**	P	**Pn**	**08 10 48.0**	**+0.3**
BKZ	**Black Stump Fm**	**1.00**	**176**	Pn	**Pn**	**08 10 48.0**	**+0.3**
BKZ	**Black Stump Fm**	**1.00**	**176**	P	**Pn**	**08 10 48.1**	**+0.3**
BKZ				S	**Sn**	**08 11 07.3**	**-1.3**
RUGZ	**Raukumara Rang**	**1.03**	**79**	P	**Pn**	**08 10 46.3**	**-1.7**
RUGZ				S	**Sn**	**08 11 04.4**	**-4.6**
NTVZ	**North Tongarir**	**1.09**	**211**	P	**Pn**	**08 10 49.2**	**+0.7**
TMVZ	**Te Maari**	**1.09**	**210**	P	**Pn**	**08 10 49.2**	**+0.7**
KRVZ	**Karewarewa**	**1.10**	**213**	P	**Pn**	**08 10 49.3**	**+0.7**
ETVZ	**East Tongariro**	**1.11**	**209**	P	**Pn**	**08 10 49.4**	**+0.8**
WHHZ	**Waihua**	**1.12**	**144**	P	**Pn**	**08 10 49.3**	**+0.8**
WTVZ	**West Tongariro**	**1.14**	**214**	P	**Pn**	**08 10 49.6**	**+0.7**
NNVZ	**North Ngauruho**	**1.14**	**212**	P	**Pn**	**08 10 49.8**	**+0.8**
OTVZ	**Oturere**	**1.15**	**210**	P	**Pn**	**08 10 48.5**	**-0.5**
HAZ	**Te Kaha**	**1.17**	**70**	P	**Pn**	**08 10 47.4**	**-1.5**
TKGZ	**Te Karaka**	**1.17**	**104**	P	**Pn**	**08 10 48.9**	**-0.1**
TWVZ	**Taurewa**	**1.17**	**220**	P	**Pn**	**08 10 50.1**	**+0.9**
SNVZ	**South Ngauruho**	**1.18**	**210**	P	**Pn**	**08 10 50.3**	**+1.0**
NGZ	**Ngauruhoe**	**1.18**	**212**	P	**Pn**	**08 10 50.5**	**+1.2**
ARHZ	**Aropaoanui**	**1.19**	**157**	P	**Pn**	**08 10 50.2**	**+1.0**
RIGZ	**Rimuhau**	**1.20**	**117**	P	**Pn**	**08 10 49.6**	**+0.3**
COVZ	**Chateau Observ**	**1.23**	**213**	P	**Pn**	**08 10 50.4**	**+0.7**
TUVZ	**Tukino**	**1.24**	**208**	P	**Pn**	**08 10 50.8**	**+1.0**
TWGZ	**Tauwhareparae**	**1.24**	**91**	P	**Pn**	**08 10 49.4**	**-0.3**
KWHZ	**Kaweka Forest**	**1.25**	**179**	P	**Pn**	**08 10 50.7**	**+0.9**
HIZ	**Hauiti**	**1.26**	**254**	P	**Pn**	**08 10 50.9**	**+1.1**
HIZ	**Hauiti**	**1.26**	**254**		**Pn**	**08 10 50.9**	**+1.1**
HIZ	**Hauiti**	**1.26**	**254**	P	**Pn**	**08 10 50.9**	**+1.1**
FWVZ	**Far West T-bar**	**1.27**	**211**	P	**Pn**	**08 10 50.7**	**+0.6**
MAVZ	**Matarangi**	**1.28**	**211**	P	**Pn**	**08 10 51.2**	**+0.9**
WHVZ	**Whangaehu Hut**	**1.28**	**210**	P	**Pn**	**08 10 50.9**	**+0.6**
MCHZ	**McNeill Hill**	**1.29**	**170**	P	**Pn**	**08 10 51.4**	**+1.3**
KNZ	**Kokohu**	**1.31**	**131**	P	**Pn**	**08 10 50.6**	**+0.4**
TRVZ	**Turoa**	**1.31**	**210**	P	**Pn**	**08 10 51.5**	**+1.0**
WNVZ	**Wahianoa**	**1.31**	**208**	P	**Pn**	**08 10 51.3**	**+0.8**
MOVZ	**Moawhango**	**1.33**	**202**	P	**Pn**	**08 10 51.0**	**+0.4**
PKGZ	**Pakihiroa**	**1.35**	**78**	P	**Pn**	**08 10 49.9**	**-0.8**
PRGZ	**Paritu Road**	**1.38**	**123**	P	**Pn**	**08 10 51.2**	**+0.2**
PKVZ	**Pokaka**	**1.39**	**216**	P	**Pn**	**08 10 52.1**	**+1.1**
MTVZ	**Mangateitei**	**1.41**	**211**	P	**Pn**	**08 10 52.4**	**+1.1**
MKAZ	**Moumakai**	**1.45**	**317**	P	**Pn**	**08 10 51.8**	**+0.2**
CNGZ	**Carnagh Statio**	**1.45**	**103**	P	**Pn**	**08 10 52.0**	**+0.4**
PUZ	**Puketiti**	**1.47**	**87**	P	**Pn**	**08 10 50.8**	**-0.9**
KRHZ	**Kereru**	**1.47**	**181**	P	**Pn**	**08 10 52.5**	**+0.7**
KUZ	**Kuaotunu**	**1.52**	**339**	P	**Pn**	**08 10 51.7**	**-0.6**
KUZ	**Kuaotunu**	**1.52**	**339**	P	**Pn**	**08 10 51.7**	**-0.6**
MHGZ	**Mahia Peninsul**	**1.53**	**130**	P	**Pn**	**08 10 53.0**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.58**	**161**	P	**Pn**	**08 10 53.9**	**+1.1**
VRZ	**Vera Road**	**1.60**	**233**	P	**Pn**	**08 10 54.3**	**+1.3**
KBAZ	**Karaka Road Bo**	**1.61**	**311**	P	**Pn**	**08 10 53.6**	**+0.4**
MXZ	**Matakaoa Point**	**1.62**	**69**	P	**Pn**	**08 10 52.6**	**-0.7**
MXZ	**Matakaoa Point**	**1.62**	**69**	Pn	**Pn**	**08 10 52.2**	**-1.1**
MXZ	**Matakaoa Point**	**1.62**	**69**	P	**Pn**	**08 10 52.4**	**-0.8**
WMGZ	**Waiomatatini S**	**1.63**	**78**	P	**Pn**	**08 10 52.6**	**-0.7**
KAHZ	**Kahuranaki**	**1.66**	**167**	P	**Pn**	**08 10 54.8**	**+1.1**
ETAZ	**East Tamaki Re**	**1.69**	**316**	P	**Pn**	**08 10 54.2**	**+0.3**
WIAZ	**Waiheke Island**	**1.71**	**323**	P	**Pn**	**08 10 54.3**	**+0.1**
PNHZ	**Pukenui**	**1.75**	**185**	P	**Pn**	**08 10 55.1**	**+0.5**
AWAZ	**Awhitu Peninsu**	**1.78**	**308**	P	**Pn**	**08 10 55.2**	**+0.3**
MBAZ	**Motutapu North**	**1.84**	**319**	P	**Pn**	**08 10 55.9**	**+0.3**
EPAZ	**Eden Park BICE**	**1.85**	**314**	P	**Pn**	**08 10 55.7**	**+0.1**
MHEZ	**Mangahewa**	**1.86**	**240**	P	**Pn**	**08 10 58.3**	**+2.6**
HBAZ	**Herne Bay Bore**	**1.87**	**314**	P	**Pn**	**08 10 56.1**	**+0.2**
PXZ	**Pawanui**	**1.89**	**169**	P	**Pn**	**08 10 56.8**	**+0.7**
WPHZ	**Waipukurau**	**1.89**	**179**	P	**Pn**	**08 10 56.7**	**+0.6**
WTAZ	**Waiatarua**	**1.91**	**310**	P	**Pn**	**08 10 56.7**	**+0.4**
TSZ	**Takapari Road**	**1.92**	**190**	P	**Pn**	**08 10 56.9**	**+0.6**
WAZ	**Wanganui**	**1.93**	**214**	P	**Pn**	**08 10 57.5**	**+1.1**
DREZ	**Durham Road**	**2.00**	**239**	P	**Pn**	**08 10 59.3**	**+2.0**
ABAZ	**Army Bay**	**2.00**	**321**	P	**Pn**	**08 10 57.9**	**+0.5**
RVAZ	**Riverhead Bore**	**2.01**	**313**	P	**Pn**	**08 10 57.5**	**+0.1**
LREZ	**Lake Rotokare**	**2.02**	**230**	P	**Pn**	**08 10 59.2**	**+1.7**
GRZ	**Great Barrier**	**2.06**	**338**	P	**Pn**	**08 10 57.7**	**-0.3**
PRHZ	**Porangahau**	**2.10**	**175**	P	**Pn**	**08 10 58.9**	**+0.5**
PREZ	**Palmer Road**	**2.11**	**236**	P	**Pn**	**08 11 00.8**	**+2.3**
NEZ	**North Egmont**	**2.11**	**238**	P	**Pn**	**08 11 00.6**	**+2.0**
DVHZ	**Dannevirke**	**2.13**	**185**	P	**Pn**	**08 10 59.0**	**+0.2**
PKE	**Pukeiti**	**2.15**	**241**	P	**Pn**	**08 11 00.8**	**+1.9**
KHEZ	**Kahui Hut**	**2.18**	**238**	P	**Pn**	**08 11 01.3**	**+2.0**
OHWZ	**Ohakea**	**2.20**	**202**	P	**Pn**	**08 11 00.5**	**+1.0**
NBEZ	**Newall Road No**	**2.27**	**240**	P	**Pn**	**08 11 02.2**	**+2.0**
POWZ	**Post Office Ro**	**2.27**	**192**	P	**Pn**	**08 11 00.7**	**+0.3**
ANWZ	**Angora Road**	**2.29**	**179**	P	**Pn**	**08 11 00.9**	**+0.5**
PRWZ	**Pori Road**	**2.41**	**188**	P	**Pn**	**08 11 02.3**	**+0.4**
BFZ	**Birch Farm**	**2.51**	**183**	P	**Pn**	**08 11 03.2**	**+0.1**
BFZ	**Birch Farm**	**2.51**	**183**		**Pn**	**08 11 02.9**	**-0.2**
BFZ	**Birch Farm**	**2.51**	**183**	P	**Pn**	**08 11 03.1**	**+0.1**
MRZ	**Mangatainoka R**	**2.57**	**194**	Pn	**Pn**	**08 11 03.8**	**0.0**
MRZ	**Mangatainoka R**	**2.57**	**194**	P	**Pn**	**08 11 03.7**	**0.0**
TIWZ	**Tintock**	**2.63**	**189**	P	**Pn**	**08 11 04.7**	**+0.1**
CPWZ	**Castlepoint**	**2.74**	**183**	P	**Pn**	**08 11 06.3**	**+0.5**
WCZ	**Waipu Caves**	**2.77**	**323**	P	**Pn**	**08 11 06.5**	**+0.3**
HOWZ	**Holdsworth Sta**	**2.81**	**194**	P	**Pn**	**08 11 06.3**	**-0.4**
OGWZ	**Otaki Gorge**	**2.81**	**199**	P	**Pn**	**08 11 06.6**	**0.0**
KIW	**Kapiti Island**	**2.92**	**203**	P	**Pn**	**08 11 07.8**	**-0.3**
TMWZ	**Te Maipa**	**2.96**	**188**	P	**Pn**	**08 11 08.1**	**-0.4**
MTW	**Mount Morrison**	**3.06**	**193**	P	**Pn**	**08 11 09.0**	**-0.7**
DUWZ	**D'Urville Isla**	**3.25**	**215**	P	**Pn**	**08 11 11.7**	**-0.5**
TRWZ	**Traveller**	**3.27**	**189**	P	**Pn**	**08 11 11.6**	**-0.8**
WEL	**Wellington**	**3.35**	**202**	P	**Pn**	**08 11 12.7**	**-0.7**
MSWZ	**Moikau Station**	**3.36**	**195**		**Pn**	**08 11 12.5**	**-1.0**
MSWZ	**Moikau Station**	**3.36**	**195**	P	**Pn**	**08 11 12.4**	**-1.0**
SNZO	**South Karori**	**3.40**	**202**	P	**Pn**	**08 11 13.2**	**-0.7**
SNZO	**South Karori**	**3.40**	**202**		**Pn**	**08 11 13.1**	**-0.8**
BHW	**Baring Head**	**3.44**	**200**	Pn	**Pn**	**08 11 13.3**	**-1.2**
BHW	**Baring Head**	**3.44**	**200**	P	**Pn**	**08 11 13.5**	**-1.0**
TCW	**Tory Channel**	**3.45**	**208**		**Pn**	**08 11 13.6**	**-1.0**
TCW	**Tory Channel**	**3.45**	**208**	P	**Pn**	**08 11 13.9**	**-0.7**
PLWZ	**Palliser**	**3.51**	**194**		**Pn**	**08 11 14.3**	**-1.1**
PLWZ	**Palliser**	**3.51**	**194**	P	**Pn**	**08 11 14.1**	**-1.2**
OUZ	**Omahuta**	**3.71**	**322**	P	**Pn**	**08 11 18.5**	**+0.6**
OUZ	**Omahuta**	**3.71**	**322**	P	**Pn**	**08 11 18.6**	**+0.6**
TUWZ	**Tuamarina**	**3.77**	**209**		**Pn**	**08 11 17.9**	**-0.7**
TUWZ	**Tuamarina**	**3.77**	**209**	P	**Pn**	**08 11 17.8**	**-0.8**
NNZ	**Nelson**	**3.83**	**217**		**Pn**	**08 11 18.5**	**-1.0**
NNZ	**Nelson**	**3.83**	**217**	P	**Pn**	**08 11 18.8**	**-0.7**
TKNZ	**Takaka Hill**	**3.90**	**222**		**Pn**	**08 11 19.7**	**-0.6**
TKNZ	**Takaka Hill**	**3.90**	**222**	P	**Pn**	**08 11 19.6**	**-0.7**
QRZ	**Quartz Range**	**4.00**	**227**	P	**Pn**	**08 11 21.3**	**-0.3**
QRZ	**Quartz Range**	**4.00**	**227**	Pn	**Pn**	**08 11 20.4**	**-1.2**
QRZ	**Quartz Range**	**4.00**	**227**	P	**Pn**	**08 11 20.7**	**-0.9**
BSWZ	**Blackbirch Sta**	**4.04**	**208**		**Pn**	**08 11 21.0**	**-1.1**
BSWZ	**Blackbirch Sta**	**4.04**	**208**	P	**Pn**	**08 11 21.2**	**-0.8**
MRNZ	**Mataiki Terra**	**4.28**	**220**	Pn	**Pn**	**08 11 24.3**	**-0.8**
MRNZ	**Mataiki Terra**	**4.28**	**220**	P	**Pn**	**08 11 23.8**	**-1.3**
THZ	**Tophouse**	**4.48**	**216**	Pn	**Pn**	**08 11 27.4**	**-0.5**
THZ	**Tophouse**	**4.48**	**216**	P	**Pn**	**08 11 27.0**	**-0.9**
KHZ	**Kahutara**	**4.77**	**206**	Pn	**Pn**	**08 11 30.6**	**-0.9**
KHZ	**Kahutara**	**4.77**	**206**	P	**Pn**	**08 11 30.3**	**-1.1**
DSZ	**Denniston Nort**	**5.02**	**223**	Pn	**Pn**	**08 11 33.4**	**-1.4**
DSZ	**Denniston Nort**	**5.02**	**223**	P	**Pn**	**08 11 33.8**	**-1.0**
GVZ	**Greta Valley S**	**5.43**	**207**		**Pn**	**08 11 38.6**	**-1.5**
GVZ	**Greta Valley S**	**5.43**	**207**	P	**Pn**	**08 11 38.7**	**-1.5**
LTZ	**Lake Taylor**	**5.58**	**213**	Pn	**Pn**	**08 11 40.8**	**-1.3**
LTZ	**Lake Taylor**	**5.58**	**213**	P	**Pn**	**08 11 40.2**	**-1.9**
AMCZ	**Amberley**	**5.76**	**208**		**Pn**	**08 11 42.6**	**-1.8**
AMCZ	**Amberley**	**5.76**	**208**	P	**Pn**	**08 11 42.6**	**-1.8**
INZ	**Inchbonnie**	**5.92**	**218**	P	**Pn**	**08 11 44.4**	**-2.1**
OKCZ	**Okains Bay**	**6.10**	**203**	P	**Pn**	**08 11 47.1**	**-1.8**
OXZ	**Oxford**	**6.12**	**211**		**Pn**	**08 11 47.0**	**-2.2**
OXZ	**Oxford**	**6.12**	**211**	P	**Pn**	**08 11 46.6**	**-2.6**
MQZ	**McQueen's Vall**	**6.21**	**206**		**Pn**	**08 11 47.7**	**-2.7**
MQZ	**McQueen's Vall**	**6.21**	**206**	P	**Pn**	**08 11 47.7**	**-2.7**
AKCZ	**Akaroa Harbour**	**6.28**	**204**	P	**Pn**	**08 11 49.1**	**-2.2**
RACZ	**Rakaia**	**6.42**	**209**	P	**Pn**	**08 11 50.4**	**-2.7**
MHCZ	**Mount Hutt**	**6.49**	**213**	P	**Pn**	**08 11 52.5**	**-1.6**
WVZ	**Waitaha Valley**	**6.52**	**220**	P	**Pn**	**08 11 53.6**	**-0.9**
WACZ	**Wakanui South**	**6.72**	**209**	P	**Pn**	**08 11 54.7**	**-2.3**
RPZ	**Rata Peaks**	**6.86**	**214**		**Pn**	**08 11 57.3**	**-1.7**
RPZ	**Rata Peaks**	**6.86**	**214**	P	**Pn**	**08 11 57.9**	**-1.0**
	44nm,0.4s,baz=49,slow=0.1,SNR=78						
RPZ				S	**Sn**	**08 13 10.8**	**-5.5**
	126nm,0.3s,baz=54,slow=15,SNR=27						
RPZ	**Rata Peaks**	**6.86**	**214**	P	**Pn**	**08 11 57.4**	**-1.5**
GCSZ	**Gaunt Creek Bo**	**6.91**	**220**	P	**Pn**	**08 11 58.7**	**-0.8**
ARCZ	**Arundel**	**6.99**	**213**	P	**Pn**	**08 11 59.2**	**-1.4**
FOZ	**Fox Glacier**	**7.32**	**221**	Pn	**Pn**	**08 12 03.2**	**-1.8**
FOZ	**Fox Glacier**	**7.32**	**221**	P	**Pn**	**08 12 03.7**	**-1.3**
TMZ	**Timaru**	**7.42**	**211**	P	**Pn**	**08 12 04.0**	**-2.3**
CTZ	**Chatham Island**	**7.67**	**139**	P	**Pn**	**08 12 12.2**	**+2.6**
LBZ	**Lake Benmore**	**7.77**	**215**	Pn	**Pn**	**08 12 08.6**	**-2.4**
LBZ	**Lake Benmore**	**7.77**	**215**	P	**Pn**	**08 12 09.0**	**-2.0**
ODZ	**Otahua Downs**	**8.11**	**210**	Pn	**Pn**	**08 12 13.6**	**-1.8**
ODZ	**Otahua Downs**	**8.11**	**210**	P	**Pn**	**08 12 13.3**	**-2.1**
WKZ	**Wanaka**	**8.65**	**217**	Pn	**Pn**	**08 12 20.7**	**-1.9**
WKZ	**Wanaka**	**8.65**	**217**	P	**Pn**	**08 12 20.8**	**-1.9**
EAZ	**Earnscleugh**	**8.82**	**215**	P	**Pn**	**08 12 22.8**	**-2.0**
HHSZ	**Highcliff Hill**	**8.83**	**207**	P	**Pn**	**08 12 23.7**	**-1.3**
TUZ	**Tuapeka**	**9.26**	**211**	P	**Pn**	**08 12 30.0**	**-0.6**
MLZ	**Mavora Lakes**	**9.48**	**218**	Pn	**Pn**	**08 12 31.3**	**-2.2**
MLZ	**Mavora Lakes**	**9.48**	**218**	P	**Pn**	**08 12 32.8**	**-0.7**
SYZ	**Scrubby Hill**	**9.94**	**210**	P	**Pn**	**08 12 38.8**	**-0.6**
WHZ	**Wether Hill Ro**	**9.95**	**216**	Pn	**Pn**	**08 12 37.1**	**-2.6**
WHZ	**Wether Hill Ro**	**9.95**	**216**	P	**Pn**	**08 12 37.0**	**-2.6**
DCZ	**Deep Cove**	**10.03**	**220**	Pn	**Pn**	**08 12 39.1**	**-1.6**
RAO	**Raoul Island**	**10.07**	**30**	S	Sn	08 14 23.6	-10
	301nm,0.3s,baz=35,slow=23,SNR=7.8						
DZM	**Mont Dzumac**	**18.19**	**329**	P	**P**	**08 14 21.1**	**+0.4**
DZM				IAmb	IAmb	08 14 24.4	
	comp=Z,11nm,0.7s						
DZM	**Mont Dzumac**	**18.19**	**329**	P	**P**	**08 14 22.5**	**+1.8**
	comp=Z,8.1nm,0.5s,baz=183,slow=9.9,SNR=24						
MSVF	**Nonsavu**	**20.41**	**5**		**P**	**08 14 43.9**	**-0.8**
MSVF				IAmb	IAmb	08 15 08.1	
	comp=Z,17nm,0.9s						
KOUNC	**Koumac, New Ca**	**20.45**	**326**	P	**P**	**08 14 44.4**	**-0.5**
KOUNC				IAmb	IAmb	08 14 54.8	
	comp=Z,6.7nm,0.7s						
EIDS	**Eidsvold**	**24.93**	**293**	P	**P**	**08 15 26.6**	**-1.6**
EIDS				IAmb	IAmb	08 15 32.3	
	comp=Z,8.2nm,1.1s						
STKA	**Stephens Creek**	**29.07**	**272**	P	**P**	**08 16 04.8**	**-0.2**
STKA	**Stephens Creek**	**29.07**	**272**	P	**P**	**08 16 07.4**	**+2.3**
	comp=Z,2.2nm,0.5s,baz=116,slow=11,SNR=8.2						
	comp=Z,2.2nm,0.5s						
CTAO	**Charters Tower**	**31.71**	**296**	P	**P**	**08 16 26.9**	**-1.4**
CTAO				IAmb	IAmb	08 16 54.0	
	comp=Z,8.1nm,1.1s						
BBOO	**Buckleboo**	**33.09**	**267**	P	**P**	**08 16 39.5**	**-0.8**
BBOO				IAmb	IAmb	08 16 40.3	
	comp=Z,9.4nm,1.1s						
COEN	**Coen**	**38.04**	**300**	P	**P**	**08 17 21.4**	**-1.2**
AS31	**Alice Springs**	**38.88**	**279**	P	**P**	**08 17 29.4**	**-0.2**
ASAR	**Alice Springs**	**38.88**	**279**	P	**P**	**08 17 28.9**	**-0.7**
ASAR	**Alice Springs**	**38.88**	**279**	P	**P**	**08 17 30.9**	**+1.4**
	comp=Z,4.0nm,0.7s,baz=122,slow=8.4,SNR=46						
	comp=Z,4.0nm,0.7s						
VNDA	**Vanda**	**39.95**	**185**	P	**P**	**08 17 41.5**	**+3.8**
	comp=Z,0.3nm,0.5s,baz=12,slow=8.4,SNR=5.1						
	comp=Z,0.3nm,0.5s						
FORT	**Forrest**	**40.16**	**266**	P	**P**	**08 17 38.0**	**-2.0**
FORT				IAmb	IAmb	08 18 01.0	
	comp=Z,18nm,1.0s						
WR0	**Warramunga Arr**	**40.45**	**285**	P	**P**	**08 17 40.8**	**-1.8**
WB2	**Warramunga Arr**	**40.60**	**284**	P	**P**	**08 17 43.0**	**-0.8**
WB2				IAmb	IAmb	08 17 46.3	
	comp=Z,5.3nm,0.7s						
WRA	**Warramunga Arr**	**40.61**	**284**	P	**P**	**08 17 41.7**	**-2.2**
WRA	**Warramunga Arr**	**40.61**	**284**	P	**P**	**08 17 45.2**	**+1.3**
	comp=Z,3.2nm,0.6s,baz=124,slow=7.1,SNR=30						
	comp=Z,3.2nm,0.6s						
WB0	**Warramunga Arr**	**40.67**	**285**	P	**P**	**08 17 42.6**	**-1.8**
WB0				IAmb	IAmb	08 17 46.7	
	comp=Z,8.0nm,0.8s						
CASY	**Casey**	**46.12**	**211**	P	**P**	**08 18 26.7**	**-0.6**
MTN	**Manton Dam**	**47.40**	**290**	P	P	08 18 33.2	-4.6
MTN				IAmb	IAmb	08 18 45.8	
	comp=Z,8.4nm,0.9s						
KNRA	**Kununurra**	**47.40**	**285**	P	**P**	**08 18 37.3**	**-0.6**
KNRA				IAmb	IAmb	08 18 40.5	
	comp=Z,9.1nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.73**	**257**	P	**P**	**08 18 38.2**	**-2.0**
NWAO				IAmb	IAmb	08 18 40.8	
	comp=Z,9.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**48.38**	**280**	P	**P**	**08 18 43.6**	**-1.7**
MORW	**Morawa**	**50.30**	**261**	P	**P**	**08 19 01.6**	**+1.7**
SAUI	**Saumlaki**	**50.51**	**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
	160nm,0.1s							
ARKR				eSg		Sb	08 25 35.1	+1.1
	320nm,0.1s							
BUJR	**Buynaksk**	**0.56**	**89**	ePg		Pn	08 25 28.0	-1.1
BUJR				eSg		Sn	08 25 37.8	-0.9
BUJR	**Buynaksk**	**0.56**	**89**	ePg		Pn	08 25 28.0	-1.1
	400nm,0.1s							
BUJR				eSg		Sb	08 25 36.7	+1.7
	440nm,0.1s							
GROC	**Groznyy**	**0.56**	**314**	ePg		Pb	08 25 27.9	+1.1
GROC				eSg		Sn	08 25 37.6	-1.1
GNBR	**Gunib**	**0.62**	**133**	ePg		Pn	08 25 30.2	+0.2
GNBR				eSg		Sn	08 25 39.7	-0.6
GNBR	**Gunib**	**0.62**	**133**	ePg		Pn	08 25 29.7	-0.4
	200nm,0.0s							
GNBR				eSg		Sn	08 25 38.9	-1.4
	250nm,0.2s							
KMKR	**Kumukh**	**0.88**	**141**	ePg		Pn	08 25 33.9	+0.2
	80nm,0.0s							
KMKR				eSg		Sn	08 25 46.6	-0.3
	520nm,0.2s							
KMGR	**Komgaron**	**1.12**	**283**	ePg		Pn	08 25 38.8	+2.0
KMGR				eSg		Sn	08 25 55.6	+3.1
VLKR	**Vladikavkaz**	**1.25**	**281**	ePg		Pn	08 25 41.7	+3.1
VLKR				eSg		Sn	08 26 00.1	+4.3
BTKR	**Batakoyurt**	**1.44**	**293**	ePg		Pg	08 25 45.0	+2.9
BTKR				eSg		Sg	08 26 05.7	+5.0
LACR	**Lac**	**1.51**	**271**	ePg		Pg	08 25 43.8	+0.2
LACR				eSg		Sg	08 26 06.0	+2.9
AKT	**Akhty**	**1.68**	**142**	ePg		Pg	08 25 48.3	+1.4
AKT				eSg		Sg	08 26 12.0	+3.3
DIGR	**Digorskoe uzhe**	**2.04**	**273**	ePg		Pg	08 25 53.5	-0.2
DIGR				eSg		Sg	08 26 20.4	+0.4
ONI	**Oni**	**2.15**	**265**	ePg		Pg	08 25 54.9	-0.8
ONI				eSg		Sg	08 26 23.6	0.0
KBZ	**Khabaz**	**2.68**	**291**	ePn		Pb	08 26 01.7	-1.3
KBZ				eSn		Sb	08 26 37.4	+1.4
SHA1	**Shidzhatmaz**	**2.85**	**290**	ePn		Pb	08 26 03.7	-2.3
SHA1				eSn		Sn	08 26 38.0	+2.5
KIV	**Kislovodsk**	**2.90**	**294**	eSn		Sb	08 26 42.4	-0.2

*IDC **08** 08:25:08.3±0.4, 58°.47N×163°.48E, h0km, mb4.5/33, mbtmp4.5/39, ML5.1/4, MS3.9/65, Error ellipse: s-maj=10.0km s-min=7.7km az=5.0*

*KRSC **08** 08:25:08.6±1.4, 58°.44N×163°.54E, h16km±32km, Ml5.2, Felt [IV-V] at lighthouse Karaginskiy; [III-IV] at Ivashka; felt at Karaga.*

*MOS **08** 08:25:09.7±0.9, 58°.55N×163°.38E, h18km, mb4.9/93, MS4.1/12, Error ellipse: s-maj=6.8km s-min=2.7km az=83.4*

*BJI **08** 08:25:10.7±0.0, 58°.72N×163°.70E, h39km, mb4.7/44, mB5.1/20, Ms4.8/38, Ms7 4.5/38*

*GCMT **08** 08:25:11.0±0.2, 58°.54N±0°.03×163°.57E±0°.03, h17km, MW4.9/88, Moment Tensor Solution. s42,c59; s88,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.98±.12; $M_{\theta\theta}$0.17±.10; $M_{\phi\phi}$-2.14±.09; $M_{r\theta}$-0.07±.28; $M_{\theta\phi}$0.80±.06; $M_{\phi r}$-1.33±.20; Best double couple: $M_0$2.56900×10^{16} NP1:ϕ_s175.00000°, δ61.00000°, λ103.00000°. NP2: ϕ_s329.00000°, δ32.00000°, λ67.00000°. Principal axes: T 2.4120, Plg71.0000°, Azm114.0000°; N 0.3210, Plg12.0000°, Azm348.0000°; P -2.7260, Plg15.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 08:25:16.0±1.2, 58°.51N±0°.06×163°.31E±0°.09, h57km±5km, mb4.7/425 Error ellipse: s-maj=10.2km s-min=3.3km az=219.0*

*BGR **08** 08:25:23.1, 59°.63N×162°.44E, h33km, mb4.7, Ms3.8, Hypocentre not reviewed by the ISC*

ISC 08 08:25:14.4±0.4, 58°.53N±0°.03×163°.42E±0°.03, h41km±3km, h41km:pP-P, n1095, σ1s17/945, mb4.7/320, MS4.0/81, 22C-20D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
OSSR	**Ossora**	**0.74**	**346**	eP		Pn	08 25 24.6	-3.8
OSSR				eS		Sn	08 25 36.2	-2.3
OSSR	**Ossora**	**0.74**	**346**	PN		Pn	08 25 24.6	-3.8
OSSR				S		Sn	08 25 36.2	-2.3
PALN	**Palana**	**1.88**	**289**	eP		Pn	08 25 42.3	-1.7
PALN				eS		Sn	08 26 06.8	+0.4
PALN	**Palana**	**1.88**	**289**	PN		Pn	08 25 42.3	-1.7
PALN				S		Sn	08 26 06.8	+0.4
SMKR	**Semkarok**	**2.22**	**209**	eP		Pn	08 25 46.8	-1.9
SMKR	**Semkarok**	**2.22**	**209**	PN		Pn	08 25 46.8	-1.9
SRKR	**Sorokina**	**2.24**	**214**	eP		Pn	08 25 46.9	-2.1
SRKR	**Sorokina**	**2.24**	**214**	PN		Pn	08 25 46.9	-2.1
KBG	**Krutoberegovo**	**2.31**	**190**	eP		Pn	08 25 46.2	-3.6
KBG	**Krutoberegovo**	**2.31**	**190**	PN		Pn	08 25 46.3	-3.6
KBTR	**Krutoberegovo**	**2.35**	**188**	eP		Pn	08 25 46.5	-4.0
KBTR	**Krutoberegovo**	**2.35**	**188**	PN		Pn	08 25 46.5	-4.0
TILK	**Tilichiki**	**2.37**	**35**	eP		Pn	08 25 50.5	-0.2
TILK				eS		Sn	08 26 21.0	+2.5
TILK	**Tilichiki**	**2.37**	**35**	PN		Pn	08 25 50.5	-0.2
TILK				S		Sn	08 26 21.0	+2.5
TIGL	**Tigil**	**2.63**	**255**	eP		Pn	08 25 51.8	-2.4
KLY	**Klyuchi**	**2.68**	**215**	eP		Pn	08 25 52.0	-3.0
KLY	**Klyuchi**	**2.68**	**215**	PN		Pn	08 25 52.0	-3.0
KRSR	**Krestovskiy**	**2.79**	**215**	eP		Pn	08 25 54.0	-2.6
KRSR	**Krestovskiy**	**2.79**	**215**	PN		Pn	08 25 54.0	-2.6
CIRR	**Tsirk**	**2.82**	**212**	eP		Pn	08 25 55.3	-1.7
CIRR	**Tsirk**	**2.82**	**212**	PN		Pn	08 25 55.3	-1.7
LGNR	**Loginova**	**2.87**	**212**	eP		Pn	08 25 56.3	-1.5
LGNR	**Loginova**	**2.87**	**212**	PN		Pn	08 25 56.3	-1.5
ZLN	**Zelenaya**	**2.89**	**210**	eP		Pn	08 25 56.0	-2.0
ZLN	**Zelenaya**	**2.89**	**210**	PN		Pn	08 25 56.0	-2.0
SRDR	**Sredinnyy**	**2.99**	**224**	eP		Pn	08 25 57.5	-1.7
SRDR	**Sredinnyy**	**2.99**	**224**	PN		Pn	08 25 57.5	-1.7
BZGR	**Bezymyannyi-Gr**	**2.99**	**211**	eP		Pn	08 25 57.8	-1.5
BZGR	**Bezymyannyi-Gr**	**2.99**	**211**	PN		Pn	08 25 57.8	-1.5
BZWR	**Bezymyannyi-We**	**3.02**	**213**	eP		Pn	08 25 58.6	-1.2
BZWR	**Bezymyannyi-We**	**3.02**	**213**	PN		Pn	08 25 58.6	-1.2
BZMR	**Bezymyannaya**	**3.05**	**213**	eP		Pn	08 25 58.8	-1.4
BZMR	**Bezymyannaya**	**3.05**	**213**	PN		Pn	08 25 58.8	-1.4
BZP	**Bezymyannyi-Pe**	**3.06**	**212**	eP		Pn	08 25 58.8	-1.5
KIRR	**Kirishev**	**3.08**	**214**	eP		Pn	08 25 58.9	-1.7
KIRR	**Kirishev**	**3.08**	**214**	PN		Pn	08 25 58.9	-1.7
KPT	**Kopyto**	**3.10**	**215**	eP		Pn	08 25 59.0	-1.9
KPT	**Kopyto**	**3.10**	**215**	PN		Pn	08 25 59.0	-1.9
KOZ	**Kozyrevsk**	**3.14**	**219**	eP		Pn	08 25 59.8	-1.5
KOZ	**Kozyrevsk**	**3.14**	**219**	PN		Pn	08 25 59.8	-1.5
KMNR	**Kamenistaya**	**3.28**	**213**	eP		Pn	08 26 02.4	-0.9
KMNR	**Kamenistaya**	**3.28**	**213**	PN		Pn	08 26 02.4	-0.9
BKI	**Bering**	**3.62**	**156**	eP		Pn	08 26 03.8	-4.0
BKI	**Bering**	**3.62**	**156**	PN		Pn	08 26 03.8	-4.0
ESO	**Esso**	**3.66**	**226**	eP		Pn	08 26 06.5	-1.9
ESO	**Esso**	**3.66**	**226**	PN		Pn	08 26 06.5	-1.9
TUMR	**Tumrok**	**3.72**	**210**	eP		Pn	08 26 09.1	-0.2
TUMR	**Tumrok**	**3.72**	**210**	PN		Pn	08 26 08.3	-1.0
TUMD	**Tumrok D**	**3.72**	**208**	eP		Pn	08 26 08.3	-1.1
MKZ	**Mys Kozlova**	**4.09**	**194**	eP		Pn	08 26 12.3	-2.0
MKZ	**Mys Kozlova**	**4.09**	**194**	PN		Pn	08 26 12.3	-2.0
KMSK	**Kamenskaya**	**4.18**	**18**	eP		Pn	08 26 14.4	-1.2
KMSK	**Kamenskaya**	**4.18**	**18**	PN		Pn	08 26 14.4	-1.2
KII	**Karymskiy**	**5.02**	**208**	eP		Pn	08 26 27.7	+0.6
KII	**Karymskiy**	**5.02**	**208**	PN		Pn	08 26 27.7	+0.6
GNL	**Ganaly**	**5.73**	**215**	eP		Pn	08 26 36.3	-0.7
GNL	**Ganaly**	**5.73**	**215**	PN		Pn	08 26 36.3	-0.7
SPN	**Mys Shipunski**	**5.77**	**201**	eP		Pn	08 26 34.8	-2.6
SPN	**Mys Shipunski**	**5.77**	**201**	PN		Pn	08 26 34.8	-2.6
KRX	**Arik**	**5.83**	**209**	eP		Pn	08 26 39.3	+0.9
KRX	**Arik**	**5.83**	**209**	PN		Pn	08 26 39.3	+0.9
NLC	**Nalytchevo**	**5.84**	**205**	eP		Pn	08 26 38.2	-0.1
NLC	**Nalytchevo**	**5.84**	**205**	PN		Pn	08 26 38.2	-0.1
KRER	**Koryakskii**	**5.86**	**209**	eP		Pn	08 26 40.2	+1.4
KRER	**Koryakskii**	**5.86**	**209**	PN		Pn	08 26 40.2	+1.4
SMAR	**Somma**	**5.88**	**208**	eP		Pn	08 26 38.9	-0.2
SMAR	**Somma**	**5.88**	**208**	PN		Pn	08 26 38.9	-0.2
AVH	**Avacha**	**5.90**	**208**	eP		Pn	08 26 40.1	+0.9
AVH	**Avacha**	**5.90**	**208**	PN		Pn	08 26 40.1	+0.9
KOK	**Koryaka**	**5.90**	**209**	eP		Pn	08 26 40.7	+1.5
KOK	**Koryaka**	**5.90**	**209**	PN		Pn	08 26 40.7	+1.5
UGLR	**Uglovaya**	**5.93**	**208**	eP		Pn	08 26 40.1	+0.5
UGLR	**Uglovaya**	**5.93**	**208**	PN		Pn	08 26 40.1	+0.5
DALK	**Dalny**	**6.11**	**207**	eP		Pn	08 26 42.8	+0.8
DALK	**Dalny**	**6.11**	**207**	PN		Pn	08 26 42.8	+0.8
PET	**Petropavlovsk**	**6.14**	**208**	Pn		Pn	08 26 42.5	+0.1
PET	**Petropavlovsk**	**6.14**	**208**	ePN		Pn	08 26 46.7	+4.3
PET				eS		Sn	08 27 54.3	+3.1
PET				pmax	pmax			
	comp=Z,87nm,0.6s							
PET				MLR	MLR			
	comp=Z,4μm,9.0s							
PET				MLR	MLR			
	comp=Z,5μm,10.0s							
KRMR	**Karymshinskiy**	**6.45**	**210**	eP		Pn	08 26 48.1	+1.4
KRMR	**Karymshinskiy**	**6.45**	**210**	PN		Pn	08 26 48.1	+1.4
MA2	**Magadan**	**6.61**	**284**	Pn		Pn	08 26 48.0	-0.9
MA2	**Magadan**	**6.61**	**284**	Pn		Pn	08 26 48.1	-0.8
	comp=Z,7.0nm,0.3s,baz=104,slow=11,SNR=24							
MA2				Sn		Sn	08 28 02.2	-0.6
	baz=353,slow=18							
MA2				Lg	Lg		08 28 35.8	
	baz=39,slow=9.7							
MA2				LR	LR		08 29 22.5	
	comp=Z,1μm,20.9s,baz=99,slow=38							
	comp=Z,52nm,0.7s							
MA2	**Magadan**	**6.61**	**284**	*i* PN		Pn	08 26 47.7	-1.2
APC	**Apacha**	**6.63**	**215**	eP		Pn	08 26 50.6	+1.4
APC	**Apacha**	**6.63**	**215**	PN		Pn	08 26 50.6	+1.4
GRL	**Gorelyy**	**6.71**	**209**	eP		Pn	08 26 50.2	-0.2
GRL	**Gorelyy**	**6.71**	**209**	PN		Pn	08 26 50.2	-0.2
MTVR	**Mutnovka**	**6.75**	**208**	eP		Pn	08 26 50.7	-0.2
MTVR	**Mutnovka**	**6.75**	**208**	PN		Pn	08 26 50.7	-0.2
ASAK	**Asacha**	**6.91**	**209**	eP		Pn	08 26 53.0	-0.1
ASAK	**Asacha**	**6.91**	**209**	PN		Pn	08 26 53.0	-0.1
SEY	**Seymchan**	**6.98**	**314**	Pn		Pn	08 26 52.7	-1.2
	comp=Z,4.4nm,0.3s,baz=125,slow=14,SNR=13							
SEY				Sn		Sn	08 28 13.4	+1.6
	comp=Z,1.2nm,0.3s,baz=140,slow=3.7,SNR=4.7							
SEY				Lg	Lg		08 28 51.2	
	comp=Z,1.7nm,0.3s,baz=14,slow=19,SNR=2.7							
SEY	**Seymchan**	**6.98**	**314**	ePN		Pn	08 26 51.0	-2.9
SEY				pmax	pmax			
	comp=Z,41nm,1.3s							
KDTR	**Khodutka, Kamc**	**7.39**	**207**	eP		Pn	08 26 57.1	-2.5
KDTR	**Khodutka, Kamc**	**7.39**	**207**	PN		Pn	08 26 57.1	-2.5
SHEM	**Shemya Is, Ala**	**8.38**	**129**	Pn		Pn	08 27 09.3	-3.8
	comp=Z,9.8nm,0.3s,baz=39,slow=8.1,SNR=10							
SHEM				LR	LR		08 29 38.0	
	comp=Z,844nm,19.8s,baz=304,slow=32							
	comp=Z,45nm,0.6s							
SKR	**Severo-Kuril's**	**8.93**	**211**	ePN		Pn	08 27 22.1	+1.5
BILL	**Bilibino**	**9.63**	**6**	Pn		Pn	08 27 32.8	+2.6
BILL	**Bilibino**	**9.63**	**6**	*i* Pn		Pn	08 27 28.6	-1.6
BILL				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,72nm,1.0s							
AMKA	**Amchitka**	**11.59**	**121**	Pn		Pn	08 27 58.0	+1.1
OKH	**Okha**	**12.47**	**255**	*c i* PN		Pn	08 28 05.0	-4.0
OKH				pmax	pmax			
	comp=Z,100nm,12.5s							
OKH				MLR	MLR			
	comp=E,2μm,13.0s							
OKH				MLR	MLR			
	comp=Z,700nm,12.0s							
OKH				MLR	MLR			
	comp=N,1μm,13.0s							
ADK	**Adak**	**13.14**	**112**	Pn		Pn	08 28 19.1	+1.0
ADK	**Adak**	**13.14**	**112**	PN		Pn	08 28 19.1	+1.0
SPIA	**Saint Paul Isl**	**14.05**	**84**	P		Pn	08 28 32.6	+2.0
	baz=287							
TYV	**Tymovskoe**	**14.20**	**246**	eP		P	08 28 41.9	+2.7
TYV				pmax	pmax			
	comp=Z,13nm,1.1s							
TYV				pmax	pmax			
	comp=Z,100nm,2.4s							
TYV				MLR	MLR			
	comp=Z,500nm,13.0s							
P08K	**Saint George I**	**14.60**	**86**	P		Pn	08 28 39.2	+1.4
	baz=289							
TNA	**Tin City**	**15.05**	**50**	P		Pn	08 28 45.1	+1.3
	baz=256							
M11K	**Mekoryuk**	**15.49**	**70**	P		P	08 28 51.5	-1.9
	baz=277							
F14K	**Arctic Creek**	**15.68**	**51**	P		Pn	08 28 53.6	+1.5
	baz=258							
UGL	**Uglegorsk**	**15.70**	**242**	eP		P	08 29 00.4	+4.6
UGL				pmax	pmax			
	comp=Z,68nm,1.2s							
ANM	**Nome**	**15.92**	**55**	Pn		Pn	08 28 56.3	+1.1
ANM	**Nome**	**15.92**	**55**	P		Pn	08 28 56.5	+1.4
	baz=262							
ANM	**Nome**	**15.92**	**55**	P		Pn	08 28 56.3	+1.1
ANM				pmax	pmax			
	comp=Z,32nm,1.2s							
F15K	**North Star Dit**	**16.41**	**51**	Pn		Pn	08 29 02.1	+0.8
F15K	**North Star Dit**	**16.41**	**51**	P		Pn	08 29 02.3	+0.9
	baz=259							
NIKH	**Nikolski High**	**16.50**	**98**	P		P	08 29 03.5	-1.2
	baz=301							
G15K	**Niukluk**	**16.55**	**53**	P		P	08 29 04.3	-0.8
	baz=262,SNR=6.4							
J14K	**Nanvaranak Lak**	**16.62**	**61**			P	08 29 05.3	-0.6
J14K				IAmb	IAmb		08 29 08.6	
	comp=Z,50nm,1.1s							
J14K	**Nanvaranak Lak**	**16.62**	**61**	P		P	08 29 05.0	-0.9
	baz=270							
C16K	**Lisburne Hills**	**16.84**	**42**			P	08 29 08.4	+0.1
C16K	**Lisburne Hills**	**16.84**	**42**	P		P	08 29 07.7	-0.6
	baz=250							
M13K	**Dall Lake**	**16.89**	**69**	P		P	08 29 08.7	-0.2
	baz=278							
YAK	**Yakutsk**	**16.97**	**296**	P		P	08 29 09.8	0.0
YAK				IAmb	IAmb		08 29 28.7	
	comp=Z,50nm,0.7s							
YAK	**Yakutsk**	**16.97**	**296**	P		Pn	08 29 07.9	-0.4
	comp=Z,3.6nm,0.3s,baz=93,slow=15,SNR=12							
YAK				S		Sn	08 32 18.6	+3.1
	comp=Z,13nm,0.3s,baz=102,slow=9.3,SNR=1.6							
YAK				Lg	Lg		08 34 08.2	
	comp=Z,0.9nm,0.3s,baz=164,slow=22,SNR=1.6							
YAK				LR	LR		08 35 26.5	
	comp=Z,461nm,19.9s,baz=88,slow=36							
	comp=Z,30nm,0.5s							
YAK	**Yakutsk**	**16.97**	**296**	eP		P	08 29 09.7	0.0
YAK				eS		S	08 32 22.1	-2.1
YAK				pmax	pmax			
	comp=Z,32nm,0.8s							
YAK				pmax	pmax			
	comp=N,3.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,23nm,1.3s							
YAK				smax	smax			
	comp=N,303nm,5.3s							
YAK				smax	smax			
	comp=E,122nm,3.1s							
YAK				MLR	MLR			
	comp=Z,1μm,10.0s							
YAK				MLR	MLR			
	comp=E,834nm,9.0s							
YAK				MLR	MLR			
	comp=N,339nm,10.0s							
YSS	**Yuzh-Sakhalins**	**16.97**	**236**	P		P	08 29 09.5	-0.4
YSS	**Yuzh-Sakhalins**	**16.97**	**236**	*ke* P		P	08 29 10.7	+0.8
YSS				eS		Sn	08 32 18.4	+2.7
YSS				pmax	pmax			
	comp=Z,200nm,3.6s							
YSS				pmax	pmax			
	comp=N,200nm,3.1s							
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
YSS				smax	smax			
	comp=N,700nm,8.7s							
YSS				smax	smax			
	comp=E,200nm,6.9s							
YSS				MLR	MLR			
	comp=Z,2μm,13.0s							
YSS				MLR	MLR			
	comp=N,400nm,11.0s							
YSS				MLR	MLR			
	comp=E,1μm,12.0s							
L14K	**Kuka Creek**	**17.10**	**66**			P	08 29 11.6	+0.3
L14K	**Kuka Creek**	**17.10**	**66**	P		P	08 29 11.4	+0.2
	baz=276,SNR=28							
H16K	**Elim**	**17.27**	**55**	P		P	08 29 13.6	+0.4
	baz=265							
UNV	**Unalaska Valle**	**17.30**	**93**	P		P	08 29 14.2	+0.7
	baz=298							
G16K	**Koyuk River**	**17.30**	**52**	P		P	08 29 13.5	0.0
G16K	**Koyuk River**	**17.30**	**52**	P		P	08 29 14.2	+0.7
	baz=263							
GRNR	**Gornyy**	**17.35**	**255**	eP		Pn	08 29 09.1	-4.1
GRNR				MLR	MLR			
	comp=E,560nm,14.0s							
GRNR				MLR	MLR			
	comp=N,260nm,11.0s							
GRNR				MLR	MLR			
	comp=Z,590nm,11.0s							
LVA	**Lava Point**	**17.40**	**91**	P		P	08 29 15.1	+0.5
D17K	**Noatak River**	**17.47**	**45**	P		P	08 29 15.7	+0.4
	baz=255							
M14K	**Bethel**	**17.52**	**68**	P		P	08 29 16.8	+0.9
M14K				IAmb	IAmb		08 29 19.4	
	comp=Z,49nm,0.8s							
M14K	**Bethel**	**17.52**	**68**	P		P	08 29 16.8	+0.9
	baz=278							
K15K	**Wolf Creek Mou**	**17.57**	**63**	P		P	08 29 17.3	+0.8
K15K				IAmb	IAmb		08 29 19.9	
	comp=Z,29nm,0.8s							
K15K	**Wolf Creek Mou**	**17.57**	**63**	P		P	08 29 17.3	+0.8
	baz=274,SNR=6.5							
RDOG	**Red Dog Mine**	**17.63**	**43**	P		P	08 29 18.3	+1.1
RDOG	**Red Dog Mine**	**17.63**	**43**	P		P	08 29 17.7	+0.5
	baz=254							
L15K	**Ungalak Mounta**	**17.64**	**65**	P		P	08 29 18.1	+0.9
	baz=276							
C17K	**DeLong Mountai**	**17.66**	**42**	P		P	08 29 18.3	+0.9
	baz=252							
N14K	**Kuskokwak Cree**	**17.79**	**71**	P		P	08 29 20.0	+1.1
	baz=281							
E17K	**Hotham Inlet**	**17.80**	**47**	P		P	08 29 20.0	+1.0
	baz=258							
F17K	**Baldwin Pennin**	**17.91**	**49**	P		P	08 29 21.1	+1.0
F17K	**Baldwin Pennin**	**17.91**	**49**	P		P	08 29 20.7	+0.6
	baz=261,SNR=7.2							
I17K	**Unalakleet**	**17.91**	**58**	P		P	08 29 21.1	+0.9
I17K				IAmb	IAmb		08 29 30.8	
	comp=Z,40nm,1.0s							
I17K	**Unalakleet**	**17.91**	**58**	P		P	08 29 21.0	+0.8
	baz=269							
J16K	**Anvik River**	**17.96**	**59**	P		P	08 29 21.1	+0.4
J16K	**Anvik River**	**17.96**	**59**	P		P	08 29 21.6	+0.9
	baz=271							
G17K	**Kiwalik Mounta**	**18.02**	**52**	P		P	08 29 22.6	+1.1
	baz=264							
O14K	**Tigyukauivet M**	**18.14**	**73**	P		Pn	08 29 24.1	+1.4
	baz=283							
M15K	**Kasigluk River**	**18.15**	**68**	P		Pn	08 29 23.7	+0.9
	baz=279							
H17K	**Granite Mounta**	**18.29**	**54**			Pn	08 29 25.1	+0.5
H17K	**Granite Mounta**	**18.29**	**54**	P		Pn	08 29 25.5	+0.9
	baz=267,SNR=7.1							
E18K	**Tukpahlearik C**	**18.33**	**46**	P		Pn	08 29 25.7	+0.6
E18K	**Tukpahlearik C**	**18.33**	**46**	P		Pn	08 29 26.2	+1.1
	baz=259							
C18K	**Utukok River**	**18.41**	**42**	P		Pn	08 29 27.0	+0.9
	baz=254							
B18K	**Kokolik River**	**18.41**	**40**	P		Pn	08 29 26.9	+0.9
	baz=252							
FALS	**False Pass**	**18.47**	**87**	P		Pn	08 29 28.0	+1.2
	baz=295							
N15K	**Kwethluk River**	**18.53**	**69**			Pn	08 29 27.8	+0.2
N15K				IAmb	IAmb		08 29 36.2	
	comp=Z,36nm,1.1s							
N15K	**Kwethluk River**	**18.53**	**69**	P		Pn	08 29 27.9	+0.4
	baz=281							
F18K	**Selawik**	**18.56**	**49**	P		Pn	08 29 28.6	+0.8
	baz=262							
L16K	**Owhat River**	**18.59**	**64**	P		Pn	08 29 28.8	+0.6
L16K				IAmb	IAmb		08 29 35.4	
	comp=Z,42nm,0.6s							
L16K	**Owhat River**	**18.59**	**64**	P		Pn	08 29 28.4	+0.2
	baz=277,SNR=15							
J17K	**VABM Dome**	**18.64**	**59**			Pn	08 29 29.9	+1.1
J17K	**VABM Dome**	**18.64**	**59**	P		Pn	08 29 29.4	+0.6
	baz=272							
S12K	**Black Hills**	**18.83**	**84**	P		Pn	08 29 31.9	+0.8
S12K				IAmb	IAmb		08 30 00.5	
	comp=Z,59nm,1.1s							
S12K	**Black Hills**	**18.83**	**84**	P		Pn	08 29 31.4	+0.2
	baz=293							
O15K	**Ungalikthiuk R**	**18.88**	**72**	P		Pn	08 29 32.1	+0.3
	baz=284							
G18K	**Tagagawik**	**18.88**	**51**	P		Pn	08 29 31.7	-0.1
G18K	**Tagagawik**	**18.88**	**51**	P		Pn	08 29 32.1	+0.3
	baz=265,SNR=7.1							
M16K	**Timber Creek**	**18.93**	**66**	P		Pn	08 29 32.2	-0.2
	baz=279							
A19K	**Wainwright**	**18.93**	**38**	P		P	08 29 31.5	+0.2
	baz=250							
H18K	**Honhosa River**	**18.96**	**54**	P		Pn	08 29 32.5	-0.2
H18K	**Honhosa River**	**18.96**	**54**	P		Pn	08 29 32.3	-0.3
	baz=268,SNR=7.9							
K17K	**Iditarod**	**19.03**	**61**	P		Pn	08 29 33.9	+0.3
K17K				IAmb	IAmb		08 29 39.2	
	comp=Z,36nm,1.1s							
K17K	**Iditarod**	**19.03**	**61**	P		P	08 29 32.9	+0.3
	baz=275							
L17K	**Donlin**	**19.09**	**63**	P		Pn	08 29 33.9	-0.4
	baz=276,SNR=7.2							
C19K	**Lookout Ridge**	**19.09**	**41**	P		Pn	08 29 34.5	+0.2
C19K				IAmb	IAmb		08 30 01.0	
	comp=Z,35nm

baz=278,SNR=9.2
N17K Nushagak Hills 19.88 67 IAmb IAmb 08 29 49.2
comp=Z,42nm,1.1s
N17K Nushagak Hills 19.88 67 P **P** **08 29 42.3 +0.5**
baz=282
S14K Fog Glacier 19.91 80 P **P** **08 29 42.7 +0.4**
baz=292
D20K Ettivluk River 20.05 43 P **P** **08 29 44.5 +0.8**
baz=260,SNR=8.9
O17K Koliganek Bris 20.09 70 P **P** **08 29 44.9 +0.9**
baz=284
E20K Nigu River 20.13 45 P **P** **08 29 45.1 +0.6**
baz=261,SNR=14
J19K Poorman 20.15 57 P **P** **08 29 45.5 +0.8**
J19K IAmb IAmb 08 29 53.1
comp=Z,30nm,1.1s
J19K Poorman 20.15 57 P **P** **08 29 45.2 +0.5**
baz=273,SNR=16
B20K Meade River 20.15 39 P **P** **08 29 45.4 +0.7**
baz=255
F20K Avaraart Lake 20.16 48 P **P** **08 29 45.7 +1.0**
baz=265
M18K Stony River 20.35 64 P **P** **08 29 47.4 +0.6**
baz=280,SNR=11
H20K Anotleneega Mo 20.43 53 P **P** **08 29 48.5 +0.7**
baz=270,SNR=25
N18K Kilae Creek 20.47 67 P **P** **08 29 49.3 +1.1**
N18K IAmb IAmb 08 29 49.6
comp=Z,20nm,0.8s
N18K Kilae Creek 20.47 67 P **P** **08 29 48.6 +0.4**
baz=282,SNR=5.8
CHNA Chernabura Isl 20.48 84 P **P** **08 29 49.3 +1.0**
baz=296
CHGN Chignik 20.49 80 P **P** **08 29 48.4 -0.1**
CHGN Chignik 20.49 80 P **P** **08 29 49.3 +0.9**
baz=292
ZEA Zeya 20.54 272 *e*P **P** **08 29 48.9 -0.1**
ZEA *e*S S 08 33 24.6 -12
ZEA pmax pmax
comp=E,100nm,1.9s
ZEA pmax pmax
comp=Z,100nm,2.3s
ZEA pmax pmax
comp=Z,40nm,1.0s
ZEA smax smax
comp=E,200nm,7.7s
ZEA smax smax
comp=N,400nm,12.1s
ZEA MLR MLR
comp=Z,300nm,13.0s
P17K Kvichak River 20.56 71 P **P** **08 29 49.8 +0.7**
baz=286
Q16K King Salmon 20.59 72 P **P** **08 29 50.5 +1.0**
baz=287
I20K Naaghedeneel 20.61 55 P **P** **08 29 50.2 +0.5**
I20K IAmb IAmb 08 29 51.8
comp=Z,38nm,0.7s
I20K Naaghedeneel 20.61 55 P **P** **08 29 50.4 +0.8**
baz=272
KLR Kul'dur 20.67 257 P **P** **08 29 50.3 -0.2**
comp=Z,5.5nm,0.8s,baz=63,slow=8.8,SNR=13
KLR S Sn 08 33 42.4 -2.7
comp=Z,0.6nm,0.8s,baz=301,slow=22,SNR=1.6
KLR LR LR 08 38 26.9
comp=Z,422nm,19.8s,baz=50,slow=39
comp=Z,5.5nm,0.8s
KLR Kul'dur 20.67 257 *e*P **P** **08 29 49.7 -0.8**
KLR pmax pmax
comp=Z,22nm,1.1s
L19K White Mountain 20.69 62 IAmb IAmb 08 30 03.7
comp=Z,35nm,1.1s
L19K White Mountain 20.69 62 P **P** **08 29 51.3 +0.7**
baz=279,SNR=8.8
A21K Barrow 20.69 36 P **P** **08 29 51.1 +0.6**
baz=253,SNR=5.8
C21K Knifeblade Rid 20.79 42 P **P** **08 29 52.2 +0.7**
baz=260,SNR=16
J20K Nowinta River 20.79 56 IAmb IAmb 08 29 55.8
comp=Z,32nm,0.8s
J20K Nowinta River 20.79 56 P **P** **08 29 52.0 +0.5**
baz=274,SNR=30
K20K Telida 20.89 59 IAmb IAmb 08 29 54.4
comp=Z,28nm,0.8s
K20K Telida 20.89 59 P **P** **08 29 53.2 +0.4**
baz=276,SNR=24
IMAR Indian Mountai 20.90 51 P **P** **08 29 53.6 +0.9**
B21K Ikpikpuk River 20.93 41 IAmb IAmb 08 29 60.0
comp=Z,28nm,0.8s
B21K Ikpikpuk River 20.93 41 P **P** **08 29 53.2 +0.1**
baz=259
M19K Big River Lodg 20.95 63 P **P** **08 29 54.0 +0.6**
baz=280
E21K Killik River 20.97 44 P **P** **08 29 53.9 +0.3**
baz=263
O18K Koktuh Hills 20.99 69 IAmb IAmb 08 29 55.3
comp=Z,28nm,0.8s
O18K Koktuh Hills 20.99 69 P **P** **08 29 54.2 +0.3**
baz=285
G21K Allakaket 21.00 50 IAmb IAmb 08 30 05.9
comp=Z,42nm,1.1s
G21K Allakaket 21.00 50 P **P** **08 29 54.5 +0.6**
baz=268,SNR=25
F21K Alatna River 21.05 48 IAmb IAmb 08 30 03.6
comp=Z,42nm,1.0s
F21K Alatna River 21.05 48 P **P** **08 29 54.9 +0.5**
baz=267,SNR=28
R17L Mt. Peulik Vol 21.07 75 P **P** **08 29 55.1 +0.4**
baz=290
L20K Farewell, AK 21.09 61 P **P** **08 29 54.8 -0.1**
baz=279
P18K Big Mountain, 21.10 70 P **P** **08 29 55.3 +0.2**
baz=286
Q17K Contact Creek 21.10 73 P **P** **08 29 55.0 -0.2**
baz=288
A22K Sinclair Lake 21.12 37 P **P** **08 29 55.2 +0.1**
baz=255
N19K Bonanza Creek 21.12 66 IAmb IAmb 08 29 57.0
comp=Z,29nm,0.9s
N19K Bonanza Creek 21.12 66 P **P** **08 29 55.6 +0.3**
baz=283,SNR=6.5
TEY Ternei 21.20 242 *e*P **P** **08 29 56.3 +0.2**
TEY *e* 08 33 49.9
H21K Melozitna Rive 21.29 52 P **P** **08 29 57.3 +0.3**
H21K Melozitna Rive 21.29 52 P **P** **08 29 57.0 0.0**
baz=271,SNR=13
O19K Port Alsworth 21.34 67 P **P** **08 29 57.6 +0.2**
baz=284
Q18K Katmai Hardscr 21.43 72 P **P** **08 29 58.7 +0.1**
baz=288
B22K Teshekpuk Lake 21.47 39 P **P** **08 29 59.2 +0.4**
B22K IAmb IAmb 08 30 08.1
comp=Z,37nm,0.9s
B22K Teshekpuk Lake 21.47 39 P **P** **08 29 58.7 -0.2**
baz=259
D22K Ayikyak River 21.49 43 IAmb IAmb 08 30 06.0
comp=Z,40nm,1.1s
D22K Ayikyak River 21.49 43 P **P** **08 29 59.7 +0.5**
baz=263,SNR=20
M20K Styx River 21.54 63 P **P** **08 30 00.3 +0.5**
baz=281
F22K John River 21.56 47 P **P** **08 30 00.7 +0.8**
baz=267
CHUM Lake Minchumin 21.61 57 P **P** **08 30 00.8 +0.4**
baz=276
I21K Tanana 21.65 53 P **P** **08 30 01.2 +0.4**
baz=273
E22K Anaktuvuk Pass 21.74 45 P **P** **08 30 02.2 +0.4**
baz=266
CAST Castle Rocks 21.77 58 P **P** **08 30 03.1 +0.9**
CAST IAmb IAmb 08 30 12.8
comp=Z,24nm,0.9s
CAST Castle Rocks 21.77 58 P **P** **08 30 02.5 +0.3**
baz=278,SNR=22
PPLA Purkeypile 21.80 60 P **P** **08 30 03.2 +0.6**
baz=279
G22K Bettles 21.81 49 P **P** **08 30 02.4 -0.1**
baz=269
H22K Ishtalitna Cre 21.87 51 P **P** **08 30 03.8 +0.6**
baz=272,SNR=35
P19K Oil Pt 22.01 68 P **P** **08 30 05.2 +0.5**
baz=286
Q19K Cape Douglas, 22.02 70 P **P** **08 30 05.5 +0.6**
baz=288
R18K Karluk 22.06 74 P **P** **08 30 05.9 +0.7**
baz=291
N20K Mount Spurr 22.11 64 P **P** **08 30 06.2 +0.3**
baz=283
SPCR Spurr Chakacha 22.11 64 P **P** **08 30 06.2 +0.3**
baz=283
CHIR Chirikof Islan 22.12 79 P **P** **08 30 05.6 -0.3**
baz=294
BPAW Bear Paw Mtn. 22.17 56 P **P** **08 30 06.9 +0.4**
baz=277,SNR=24
MLY Manley 22.19 54 P **P** **08 30 07.5 +0.9**
MLY Manley 22.19 54 P **P** **08 30 07.0 +0.4**
baz=275,SNR=16
O20K Slope Mountain 22.19 67 P **P** **08 30 07.0 +0.3**
baz=286
SPU Mount Spurr 22.19 64 P **P** **08 30 07.7 +1.0**
SPU IAmb IAmb 08 30 13.8
comp=Z,35nm,1.2s
D23K Nanushuk River 22.22 43 P **P** **08 30 07.1 +0.2**
baz=265
SKT Skwentna 22.26 62 P **P** **08 30 07.8 +0.3**
baz=282
KTH Kantishna Hill 22.27 58 P **P** **08 30 08.2 +0.6**
KTH IAmb IAmb 08 30 15.4
comp=Z,48nm,1.2s
HEH HeiHe 22.30 264 *e*P **P** **08 30 06.4 -1.5**
HEH pP **pP** **08 30 18.6 +0.5**
HEH S **S** **08 34 11.6 +1.2**
HEH pmax pmax
comp=Z,11nm,0.6s
HEH pmax pmax
comp=Z,180nm,5.5s
HEH LR LR
comp=Z,970nm,18.6s
HEH LR LR
comp=Z,930nm,18.2s
HEH LR LR
comp=Z,1μm,15.7s
COLD Coldfoot 22.32 48 P **P** **08 30 08.4 +0.4**
baz=270,SNR=28
C23K Itkillik River 22.34 41 IAmb IAmb 08 30 15.0
comp=Z,42nm,0.8s
C23K Itkillik River 22.34 41 P **P** **08 30 08.4 +0.2**
baz=263,SNR=21
G23K Bananza Creek 22.39 49 P **P** **08 30 09.0 +0.1**
baz=271,SNR=19
E23K Chandalar 22.56 46 P **P** **08 30 10.9 +0.2**
baz=268,SNR=40
SII Sitkinak Islan 22.57 77 P **P** **08 30 11.2 +0.4**
baz=293
TOLK Toolik Lake Re 22.60 44 P **P** **08 30 11.1 0.0**
TOLK Toolik Lake Re 22.60 44 P **P** **08 30 11.1 0.0**
baz=267,SNR=45
H23K Yukon River 22.63 52 P **P** **08 30 11.8 +0.5**
baz=274,SNR=85
CAPN Captain Cook N 22.71 65 P **P** **08 30 12.8 +0.6**
baz=285
Q20K Shuyak Island 22.74 71 P **P** **08 30 12.6 +0.1**
baz=289
SUA Susitna One 22.74 63 P **P** **08 30 12.7 +0.1**
baz=283
I23K Minto, Yukon-K 22.76 53 IAmb IAmb 08 30 20.7
comp=Z,25nm,1.1s
I23K Minto, Yukon-K 22.76 53 P **P** **08 30 13.2 +0.6**
baz=276,SNR=33
CUT Chulitna 22.76 61 IAmb IAmb 08 30 19.1
comp=Z,29nm,1.0s
CUT Chulitna 22.76 61 P **P** **08 30 12.6 -0.1**
baz=281
OHAK Old Harbor 22.77 75 P **P** **08 30 13.0 +0.2**
baz=292
HOM Homer 22.78 68 P **P** **08 30 13.0 +0.1**
baz=287
D24K Happy Valley 22.90 43 P **P** **08 30 14.4 +0.3**
D24K IAmb IAmb 08 30 15.6
comp=Z,16nm,0.8s
D24K Happy Valley 22.90 43 P **P** **08 30 14.1 -0.1**
baz=266,SNR=11
KDAK Kodiak Island 22.92 73 P **P** **08 30 14.4 0.0**
baz=291
KDAK Kodiak Island 22.92 73 LR LR 08 40 28.2
comp=Z,510nm,18.4s,baz=304,slow=40
NEA2 Nenana 22.94 55 P **P** **08 30 14.7 +0.1**
NEA2 IAmb IAmb 08 30 16.2
comp=Z,45nm,1.2s
NEA2 Nenana 22.94 55 P **P** **08 30 14.3 -0.3**
baz=277,SNR=38
M22K Willow 22.96 62 P **P** **08 30 14.5 -0.3**
baz=283
E24K Your Creek 22.98 46 P **P** **08 30 15.2 +0.2**
baz=269
C24K Franklin Bluff 22.99 41 P **P** **08 30 14.5 -0.4**
baz=265
MCK McKinley 23.12 57 P **P** **08 30 16.4 -0.1**
baz=279,SNR=13
MCK McKinley 23.12 57 P **P** **08 30 15.9 -0.5**
BRSE Bradley Lake S 23.19 67 P **P** **08 30 17.0 -0.2**
baz=287
RND Reindeer 23.21 58 IAmb IAmb 08 30 18.9
comp=Z,22nm,0.9s
RND Reindeer 23.21 58 P **P** **08 30 16.6 -0.8**
F24K Squaw Lake 23.21 47 P **P** **08 30 17.4 +0.1**
baz=271,SNR=14
MDM Murphy Dome 23.25 54 P **P** **08 30 17.9 +0.2**
MDM IAmb IAmb 08 30 23.9
comp=Z,23nm,0.9s
RC01 Rabbit Creek A 23.30 64 P **P** **08 30 18.1 -0.1**
baz=285
H24K Noodor Dome 23.31 51 P **P** **08 30 18.8 +0.5**
H24K IAmb IAmb 08 30 22.1
comp=Z,22nm,1.1s
H24K Noodor Dome 23.31 51 P **P** **08 30 18.8 +0.5**
baz=275,SNR=20
WRH Wood River Hil 23.38 55 P **P** **08 30 19.2 +0.3**
G24K Hadweenzic Riv 23.41 49 P **P** **08 30 19.8 +0.6**
baz=274,SNR=34
COLA College 23.43 54 P **P** **08 30 19.7 +0.4**
COLA IAmb IAmb 08 30 27.9
comp=Z,30nm,0.9s
COLA College 23.43 54 P **P** **08 30 19.3 0.0**
baz=277
COLA College 23.43 54*c i*P **P** **08 30 18.6 -0.7**
COLA pmax pmax
comp=Z,22nm,1.0s
WAT1 Susitna Watana 23.45 59 P **P** **08 30 18.9 -0.8**
baz=282
O22K Cooper Landing 23.47 65 P **P** **08 30 19.9 +0.1**
baz=286
CCB Clear Creek Bu 23.48 54 IAmb IAmb 08 30 22.1
comp=Z,53nm,1.2s
POKR Poker Plat Res 23.57 53 IAmb IAmb 08 30 26.5
comp=Z,35nm,1.1s
POKR Poker Plat Res 23.57 53 P **P** **08 30 21.2 +0.4**
baz=277,SNR=9.5
SEW Seward 23.71 66 P **P** **08 30 21.0 -1.0**
baz=287
SML Sawmill 23.78 61 IAmb IAmb 08 30 42.9
comp=Z,28nm,1.1s
SML Sawmill 23.78 61 P **P** **08 30 22.2 -0.6**
baz=284
D25K Kavik River 23.78 43 IAmb IAmb 08 30 27.0
comp=Z,27nm,0.8s
D25K Kavik River 23.78 43 P **P** **08 30 22.6 -0.1**
baz=268,SNR=17
KNK Knik Glacier 23.82 62 P **P** **08 30 22.4 -0.7**
baz=285
ILAR Eielson Array 23.85 54 P **P** **08 30 23.2 -0.2**
ILAR Eielson Array 23.85 54 P **P** **08 30 22.9 -0.5**
comp=Z,27nm,0.7s,baz=270,slow=7.8,SNR=216
ILAR LR LR 08 40 51.8
comp=Z,252nm,18.6s,baz=284,slow=40
comp=Z,27nm,0.7s
WAT6 Susitna Watana 23.87 59 P **P** **08 30 22.9 -0.8**
baz=283
HDA Harding Lake 23.88 55 IAmb IAmb 08 30 30.4
comp=Z,28nm,0.8s
HDA Harding Lake 23.88 55 P **P** **08 30 23.4 -0.2**
baz=279,SNR=19
DHY Denali Highway 23.93 58 IAmb IAmb 08 30 51.8
comp=Z,17nm,1.0s
DHY Denali Highway 23.93 58 P **P** **08 30 23.8 -0.5**
baz=282,SNR=11
G25K Bearman Lake 23.95 49 P **P** **08 30 24.1 -0.1**
baz=274,SNR=8.8
USA0B Ussuriysk Arra 24.01 247⇑*e*P **P** **08 30 23.8 -1.2**
USRK Ussuriysk Ar. 24.01 247 P **P** **08 30 24.0 -1.0**
USRK Ussuriysk Ar. 24.01 247 P **P** **08 30 23.9 -1.1**
comp=Z,4.0nm,0.7s,baz=57,slow=14,SNR=8.4
USRK LR LR 08 40 40.3
comp=Z,361nm,19.2s,baz=16,slow=39
comp=Z,4.0nm,0.7s
M23K Glacier View 24.06 61 P **P** **08 30 24.9 -0.5**
baz=284
F25K Christian Rive 24.07 47 P **P** **08 30 25.8 +0.3**
baz=273,SNR=36
E25K Arctic Village 24.08 46 P **P** **08 30 26.1 +0.6**
baz=272,SNR=52
H25L Birch Creek 24.11 50 P **P** **08 30 26.0 +0.3**
baz=276,SNR=12
SCM Sheep Creek Mo 24.23 61 P **P** **08 30 26.7 -0.3**
baz=285,SNR=13
C26K Camden Bay 24.31 41 P **P** **08 30 27.8 +0.2**
baz=268
PRP Porcupine Dome 24.31 52 P **P** **08 30 28.2 +0.4**
baz=278,SNR=26
K24K Donnelly Dome 24.49 56 P **P** **08 30 29.1 -0.2**
baz=281
BMAR Burnt Mountain 24.49 47 P **P** **08 30 29.5 +0.2**
J25K Salcha River, 24.52 54 P **P** **08 30 29.3 -0.3**
baz=280,SNR=30
GLI Glacier Island 24.60 63 P **P** **08 30 30.0 -0.3**
baz=287
F26K Sheenjek River 24.64 47 P **P** **08 30 30.8 +0.2**
baz=274,SNR=25
M24K Tolsona, Glenn 24.69 60 P **P** **08 30 31.5 +0.3**
baz=285,SNR=9.3
P23K Montague Islan 24.72 65 P **P** **08 30 31.6 +0.2**
baz=288
C27K Jago River 24.73 42 P **P** **08 30 31.5 +0.2**
baz=270,SNR=25
PAX Paxson 24.80 58 P **P** **08 30 31.5 -0.7**
baz=283,SNR=16
G26K Porcupine Rive 24.84 48 P **P** **08 30 32.1 -0.2**
baz=276,SNR=34
MDJ Mudanjiang 24.88 251 P **P** **08 30 35.4 +2.4**
MDJ PP **PnPn** **08 31 14.0 +7.3**
MDJ pmax pmax
comp=Z,11nm,1.3s
MDJ LR LR
comp=Z,750nm,14.1s
MDJ LR LR
comp=Z,600nm,13.4s
MDJ LR LR
comp=Z,890nm,13.1s
KLU Klutina 24.97 62 P **P** **08 30 33.1 -0.6**
baz=286
HARP HAARP 25.08 59 P **P** **08 30 34.4 -0.3**
baz=285
BNX BinXian 25.19 255 ⇓P **P** **08 30 39.1 +3.4**
BNX pP **pP** **08 30 47.6 +0.8**
BNX sP **sP** **08 30 51.7 0.0**
BNX pmax pmax
comp=Z,5.0nm,0.9s
BNX LR LR
comp=Z,600nm,16.3s
BNX LR LR
comp=Z,660nm,12.5s
BNX LR LR
comp=Z,430nm,17.3s
SCRK Sand Creek 25.23 55 IAmb IAmb 08 30 42.1
comp=Z,38nm,1.1s
SCRK Sand Creek 25.23 55 P **P** **08 30 34.8 -1.3**
baz=282,SNR=38
J26L Joseph Creek 25.30 54 P **P** **08 30 36.2 -0.5**
baz=281,SNR=11
I26K Coal Creek Min 25.33 52 P **P** **08 30 36.3 -0.5**
baz=280
EYAK Cordova Ski Ar 25.33 64 P **P** **08 30 36.3 -0.5**
baz=288
Q23K Middleton Isla 25.41 66 P **P** **08 30 37.1 -0.4**
baz=290
N25K Chitina, Valde 25.55 61 P **P** **08 30 38.6 -0.3**
baz=287
E27K Coleen River 25.56 45 P **P** **08 30 38.8 -0.1**
baz=275,SNR=16
BOD Bodaibo 25.60 290 *e*P **P** **08 30 39.4 +0.1**
BOD pmax pmax
comp=Z,43nm,1.5s
G27K Doyon Strip 25.70 48 P **P** **08 30 40.0 -0.1**
baz=278,SNR=70
D27M Malcolm River 25.71 43 P **P** **08 30 40.1 -0.2**
baz=274
L26K Log Cabin Wild 25.73 57 P **P** **08 30 40.5 0.0**
baz=285,SNR=7.5
BMRM Bremner River 25.74 62 P **P** **08 30 40.3 -0.3**
BMRM IAmb IAmb 08 30 46.7
comp=Z,16nm,0.9s
BMRM Bremner River 25.74 62 P **P** **08 30 40.1 -0.5**
baz=288
H27K Steamboat Moun 25.83 50 P **P** **08 30 41.4 0.0**
baz=279,SNR=22
I27K Kandik River 25.91 51 P **P** **08 30 41.9 -0.2**
baz=281
K27K Chicken 26.04 55 P **P** **08 30 42.9 -0.4**
baz=284,SNR=18
M26K Nabesna, AK 26.05 59 IAmb IAmb 08 30 54.2
comp=Z,17nm,1.1s
M26K Nabesna, AK 26.05 59 P **P** **08 30 43.7 +0.2**
baz=286,SNR=8.6
KAIM Kayak Island 26.16 64 P **P** **08 30 44.6 +0.2**
baz=290
EGAK Eagle 26.26 53 IAmb IAmb 08 30 53.1
comp=Z,18nm,0.9s
EGAK Eagle 26.26 53 P **P** **08 30 44.3 -0.9**
baz=283,SNR=20
F28M Old Crow 26.27 46 P **P** **08 30 45.4 0.0**
baz=278,SNR=17
E28M Babbage River 26.28 44 P **P** **08 30 45.6 +0.2**
baz=276,SNR=12
MCARA McCarthy VSAT 26.34 61 IAmb IAmb 08 30 57.8
comp=Z,18nm,0.8s
MCARA McCarthy VSAT 26.34 61 P **P** **08 30 46.1 +0.1**
baz=288
L27K Beaver Creek, 26.39 57 P **P** **08 30 46.4 -0.1**
baz=286,SNR=18
BCAR Beaver Creek A 26.41 57 P **P** **08 30 46.7 0.0**
CRQM Cirque 26.48 62 IAmb IAmb 08 31 01.0
comp=Z,14nm,0.9s
D28M Stokes Point 26.49 42 P **P** **08 30 47.3 0.0**
baz=275
CRQE Cirque 26.51 62 P **P** **08 30 47.6 -0.1**
baz=289
M27K Edge Creek, AK 26.56 58 IAmb IAmb 08 31 12.7
comp=Z,15nm,0.9s
M27K Edge Creek, AK 26.56 58 P **P** **08 30 48.3 +0.1**
baz=287,SNR=8.1
I28M Miner Creek 26.62 51 P **P** **08 30 48.7 +0.1**
baz=282,SNR=8.3
E29M Blow River 26.90 44 P **P** **08 30 51.5 +0.4**
baz=278,SNR=5.6
H29M Whitestone 27.09 49 IAmb IAmb 08 31 01.3
comp=Z,14nm,0.9s
H29M Whitestone 27.09 49 P **P** **08 30 53.0 +0.2**
baz=282,SNR=11
G29M Pine Creek 27.09 48 IAmb IAmb 08 31 00.8
comp=Z,15nm,0.8s
G29M Pine Creek 27.09 48 P **P** **08 30 53.2 +0.4**
baz=281,SNR=10
DAWY Dawson 27.18 54 P **P** **08 30 53.6 +0.1**
baz=285
MESA MESA 27.23 63 P **P** **08 30 54.0 -0.3**
baz=291
CTG Chitna Glacier 27.24 61 P **P** **08 30 54.0 -0.3**
baz=290
CTGM Chitina Glacie 27.25 61 IAmb IAmb 08 31 08.8
comp=Z,15nm,1.1s
I29M Ogilvie Camp, 27.31 51 P **P** **08 30 54.8 +0.1**
baz=284,SNR=15
MAJO Matsushiro 27.51 228 *i* P **P** **08 30 58.6 +1.9**
MAJO pmax pmax
comp=Z,7.0nm,0.9s
MJAR Matsushiro Arr 27.51 228 P **P** **08 30 56.4 -0.3**
comp=Z,1.7nm,0.8s,baz=13,slow=9.3,SNR=7.7
MJAR LR LR 08 42 09.4
comp=Z,292nm,19.8s,baz=46,slow=37
comp=Z,1.7nm,0.8s
J29N Klondike Camp 27.57 53 P **P** **08 30 56.8 -0.3**
baz=285
EPYK Eagle Plains 27.71 49 P **P** **08 30 58.0 -0.3**
baz=283,SNR=10
G30M tAoh Zraii Nji 27.78 47 P **P** **08 30 58.8 -0.1**
baz=282,SNR=11
F30M Barrier River 27.82 46 P **P** **08 31 00.1 +0.9**
baz=281,SNR=31
O28M Mount Upton 27.84 61 P **P** **08 30 59.6 -0.2**
baz=291
YUK8 Steele Glacier 27.86 60 P **P** **08 30 59.8 -0.1**
baz=290
L29M L29M 27.99 56 P **P** **08 31 01.1 +0.3**
baz=288,SNR=5.5
K29M Barlow Dome 28.03 54 P **P** **08 31 01.0 -0.3**

	baz=287						
M29M	**Somme Creek**	**28.05**	**57**	P	**P**	**08 31 01.8**	**+0.3**
	baz=289,SNR=8.1						
PINM	**Pinnacle**	**28.06**	**62**	P	**P**	**08 31 01.2**	**-0.3**
	baz=292						
I30M	**Mount Dempster**	**28.13**	**51**	P	**P**	**08 31 02.1**	**0.0**
	baz=285,SNR=8.7						
J30M	**Hart River**	**28.32**	**52**	P	**P**	**08 31 03.4**	**-0.4**
	baz=286						
YUK4	**Talbot Arm**	**28.34**	**59**	P	**P**	**08 31 04.1**	**0.0**
	baz=290						
INK	**Inuvik**	**28.52**	**44**	IAmb	IAmb	08 31 12.1	
	comp=Z,17nm,1.1s						
INK	**Inuvik**	**28.52**	**44**	P	**P**	**08 31 05.6**	**+0.2**
	baz=282,SNR=9.9						
INK	**Inuvik**	**28.52**	**44**	LR	LR	08 43 10.2	
	comp=Z,477nm,21.4s,baz=348,slow=38						
INK	**Inuvik**	**28.52**	**44**	P	**P**	**08 31 05.9**	**+0.5**
INK				pmax	pmax		
	comp=Z,16nm,1.4s						
G31M	**Satah River**	**28.54**	**47**	P	**P**	**08 31 05.7**	**+0.1**
	baz=284,SNR=6.0						
YUK6	**Outpost Mounta**	**28.61**	**60**	P	**P**	**08 31 06.2**	**-0.4**
	baz=292						
PNL	**Peninsula**	**28.62**	**63**	P	**P**	**08 31 06.0**	**-0.4**
	baz=293						
F31M	**Tsiigehtchic**	**28.62**	**46**	IAmb	IAmb	08 31 07.1	
	comp=Z,17nm,0.6s						
F31M	**Tsiigehtchic**	**28.62**	**46**	P	**P**	**08 31 06.5**	**+0.2**
	baz=283,SNR=6.6						
M30M	**Minto, Yukon**	**28.74**	**56**	P	**P**	**08 31 07.7**	**+0.2**
	baz=290,SNR=8.0						
O29M	**Mount Kennedy**	**28.75**	**61**	P	**P**	**08 31 07.9**	**+0.1**
	baz=292						
N30M	**Aishikik Lake**	**29.00**	**59**	P	**P**	**08 31 09.9**	**+0.1**
	baz=291						
HYT	**Haines Junctio**	**29.05**	**60**	P	**P**	**08 31 10.6**	**+0.2**
HYT	**Haines Junctio**	**29.05**	**60**	P	**P**	**08 31 10.4**	**+0.1**
	baz=292						
P29M	**Windy Craggy**	**29.41**	**62**	P	**P**	**08 31 13.9**	**+0.4**
	baz=294						
P30M	**Million Dollar**	**29.57**	**61**	P	**P**	**08 31 15.4**	**+0.5**
	baz=294						
N31M	**Braeburn, Yuko**	**29.57**	**58**	P	**P**	**08 31 15.0**	**+0.1**
	baz=292						
O30N	**Mendenhall**	**29.71**	**60**	P	**P**	**08 31 16.6**	**+0.5**
O30N	**Mendenhall**	**29.71**	**60**	P	**P**	**08 31 16.5**	**+0.4**
	baz=293						
M31M	**Drury Creek, Y**	**29.92**	**56**	P	**P**	**08 31 19.3**	**+1.4**
M31M	**Drury Creek, Y**	**29.92**	**56**	P	**P**	**08 31 18.4**	**+0.5**
	baz=292,SNR=6.0						
JHJ	**Hachijo jima 2**	**29.97**	**222**	LR	LR	08 43 54.1	
	comp=Z,115nm,20.3s,baz=83,slow=38						
PLBC	**Pleasant Camp**	**30.12**	**62**	P	**P**	**08 31 20.0**	**+0.3**
	baz=295						
WHY	**Whitehorse**	**30.30**	**59**	P	**P**	**08 31 22.5**	**+1.1**
FARO	**Faro, Yukon**	**30.36**	**56**	P	**P**	**08 31 22.8**	**+0.9**
FARO	**Faro, Yukon**	**30.36**	**56**	P	**P**	**08 31 22.3**	**+0.4**
	baz=292,SNR=5.5						
A36M	**Sachs Harbour**	**30.54**	**35**	P	**P**	**08 31 23.7**	**+0.6**
	baz=282						
SKAG	**Skagway**	**30.59**	**62**	P	**P**	**08 31 24.7**	**+0.9**
	baz=296						
N32M	**Quiet Lake**	**30.90**	**58**	P	**P**	**08 31 26.9**	**+0.3**
	baz=294						
KSRS	**Korea Array**	**31.19**	**243**	P	**P**	**08 31 29.6**	**+0.3**
	comp=Z,2.9nm,0.9s,baz=32,slow=8.9,SNR=7.0						
KSRS				LR	LR	08 43 54.7	
	comp=Z,309nm,19.5s,baz=40,slow=36						
	comp=Z,2.9nm,0.9s						
P32M	**Atlin**	**31.28**	**61**	P	**P**	**08 31 30.2**	**+0.3**
	baz=296						
P33M	**Teslin, Yukon**	**31.42**	**59**	P	**P**	**08 31 31.5**	**+0.3**
	baz=296						
R32K	**Eaglecrest**	**31.50**	**63**	P	**P**	**08 31 32.3**	**+0.4**
	baz=298						
JIS	**Juneau Island**	**31.56**	**63**	P	**P**	**08 31 33.8**	**+1.4**
JIS				IAmb	IAmb	08 31 45.0	
	comp=Z,10nm,1.1s						
C36M	**Paulatuk**	**31.58**	**40**	P	**P**	**08 31 32.9**	**+0.5**
C36M				IAmb	IAmb	08 31 33.2	
	comp=Z,12nm,0.7s						
C36M	**Paulatuk**	**31.58**	**40**	P	**P**	**08 31 32.6**	**+0.2**
	baz=287						
SIT	**Sitka**	**31.70**	**66**	P	**P**	**08 31 35.0**	**+1.5**
SIT				IAmb	IAmb	08 31 54.6	
	comp=Z,10nm,1.0s						
SIT	**Sitka**	**31.70**	**66**	P	**P**	**08 31 34.2**	**+0.7**
	baz=299						
SIT	**Sitka**	**31.70**	**66**	P	**P**	**08 31 35.0**	**+1.5**
SIT				pmax	pmax		
	comp=Z,10.0nm,1.0s						
S32K	**Killisnoo**	**31.85**	**65**	P	**P**	**08 31 35.6**	**+0.6**
	baz=299						
Q32M	**Nakina River**	**32.23**	**61**	P	**P**	**08 31 40.0**	**+1.6**
Q32M	**Nakina River**	**32.23**	**61**	P	**P**	**08 31 38.9**	**+0.4**
	baz=298						
R33M	**Jennings River**	**32.62**	**60**	P	**P**	**08 31 43.2**	**+1.4**
R33M	**Jennings River**	**32.62**	**60**	P	**P**	**08 31 42.6**	**+0.8**
	baz=298,SNR=5.7						
NRIK	**Noril'sk**	**32.71**	**320**	P	**P**	**08 31 42.1**	**-0.3**
NRIK	**Noril'sk**	**32.71**	**320**	P	**P**	**08 31 42.8**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=78,slow=12,SNR=8.7						
NRIK				LR	LR	08 46 14.1	
	comp=Z,348nm,18.9s,baz=84,slow=39						
	comp=Z,3.4nm,0.6s						
NRIK	**Noril'sk**	**32.71**	**320**	*c iP*	**P**	**08 31 42.9**	**+0.5**
NRIK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
S34M	**Telegraph Cree**	**33.25**	**62**	P	**P**	**08 31 48.5**	**+1.3**
	baz=300						
WTLY	**Watson Lake, Y**	**33.26**	**58**	P	**P**	**08 31 48.2**	**+0.9**
	baz=298						
WRAK	**Wrangell Islan**	**33.44**	**65**	P	**P**	**08 31 50.2**	**+1.4**
	baz=301						
JNU	**Nakatsue**	**33.47**	**235**	LR	LR	08 46 01.5	
	comp=Z,312nm,18.4s,baz=16,slow=37						
DLBC	**Dease Lake**	**33.51**	**61**	IAmb	IAmb	08 31 51.8	
	comp=Z,5.7nm,0.7s						
DLBC	**Dease Lake**	**33.51**	**61**	P	**P**	**08 31 50.5**	**+1.0**
	baz=299,SNR=9.2						
DLBC	**Dease Lake**	**33.51**	**61**	LR	LR	08 45 07.3	
	comp=Z,273nm,21.9s,baz=308,slow=36						
CRAG	**Craig**	**33.56**	**67**	P	**P**	**08 31 51.2**	**+1.3**
	baz=302						
WRGLY	**Wrigley**	**34.11**	**51**	P	**P**	**08 31 55.7**	**+1.1**
	baz=297						
T35M	**Bob Quinn**	**34.14**	**63**	IAmb	IAmb	08 32 05.6	
	comp=Z,8.8nm,1.1s						
T35M	**Bob Quinn**	**34.14**	**63**	P	**P**	**08 31 55.8**	**+0.8**
	baz=301						
SONM	**Songino Array**	**34.76**	**278**	P	**P**	**08 32 00.0**	**-0.6**
SONM	**Songino Array**	**34.76**	**278**	P	**P**	**08 32 01.2**	**+0.6**
	comp=Z,2.9nm,0.6s,baz=63,slow=7.4,SNR=15						
SONM				PcP	**PcP**	**08 34 33.0**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=54,slow=1.6,SNR=4.0						
SONM				LR	LR	08 46 48.8	
	comp=Z,501nm,18.4s,baz=51,slow=37						
	comp=Z,2.9nm,0.6s						
SONM	**Songino Array**	**34.76**	**278**	P	**P**	**08 32 00.0**	**-0.6**
SONM				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZAK	**Zakamensk**	**34.79**	**283**	*e*P	**P**	**08 32 01.1**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BJI	**Beijing**	**35.02**	**259**	P	**P**	**08 32 03.2**	**+0.5**
BJI				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BJI				pmax	pmax		
	comp=Z,52nm,4.1s						
BJI				LR	LR		
	comp=Z,340nm,17.5s						
BJI				LR	LR		
	comp=Z,150nm,13.7s						
BJI				LR	LR		
	comp=Z,140nm,18.0s						
DIB	**Dawson Inlet,**	**35.13**	**70**	P	**P**	**08 32 03.3**	**-0.1**
TOAD	**Toad River Com**	**35.46**	**58**	P	**P**	**08 32 07.2**	**+0.8**
	baz=301,SNR=9.9						
GRNB	**Grenville Isla**	**35.99**	**68**	P	**P**	**08 32 11.9**	**+1.0**
HG4B	**Hotspring**	**36.29**	**71**	P	**P**	**08 32 13.8**	**+0.3**
HHC	**Hu-ho-hao-te**	**36.82**	**265**	*e*P	**P**	**08 32 17.4**	**-0.8**
HHC				S	**S**	**08 37 58.2**	**-1.3**
HHC				SS	**SnSn**	**08 40 30.8**	**-2.5**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,63nm,4.5s						
HHC				LR	LR		
	comp=Z,490nm,17.7s						
HHC				LR	LR		
	comp=Z,340nm,16.7s						
HHC				LR	LR		
	comp=Z,690nm,17.1s						
RES	**Resolute Bay**	**37.58**	**25**	LR	LR	08 49 39.4	
	comp=Z,147nm,20.4s,baz=351,slow=39						
HNS	**HongShan**	**37.76**	**258**	*e*P	**P**	**08 32 27.4**	**+1.3**
HNS				LR	LR		
	comp=Z,590nm,17.5s						
HNS				LR	LR		
	comp=Z,890nm,18.3s						
HNS				LR	LR		
	comp=Z,480nm,16.7s						
BTO	**Baotou**	**37.80**	**266**	*e*P	**P**	**08 32 26.0**	**-0.6**
BTO				pP	**pP**	**08 32 35.1**	**-2.8**
BTO				sP	**sP**	**08 32 41.4**	**-1.4**
BTO				PP	**PnPn**	**08 33 55.9**	**+1.3**
BTO				S	**S**	**08 38 14.9**	**+0.5**
BTO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BTO				pmax	pmax		
	comp=Z,150nm,4.1s						
BTO				LR	LR		
	comp=Z,570nm,14.3s						
BTO				LR	LR		
	comp=Z,450nm,7.8s						
BTO				LR	LR		
	comp=Z,410nm,8.2s						
BBB	**Bella Bella**	**37.87**	**69**	P	**P**	**08 32 27.6**	**+0.8**
BBB				IAmb	IAmb	08 32 47.0	
	comp=Z,7.7nm,1.1s						
BBB	**Bella Bella**	**37.87**	**69**	LR	LR	08 47 21.3	
	comp=Z,230nm,19.7s,baz=310,slow=35						
YKA	**Yellowknife Ar**	**38.00**	**48**	P	**P**	**08 32 28.0**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=306,slow=8.3,SNR=4.7						
YKA				LR	LR	08 50 07.9	
	comp=Z,101nm,20.7s,baz=278,slow=39						
	comp=Z,0.9nm,0.5s						
YKA	**Yellowknife Ar**	**38.00**	**48**	*i* P	**P**	**08 32 28.0**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**38.83**	**175**	T	T	09 14 01.2	
	baz=358,slow=76,SNR=2142						
H11N3	**WAKE ISLAND Hy**	**38.85**	**175**	T	T	09 14 08.9	
	baz=358,slow=76,SNR=2217						
H11N1	**WAKE ISLAND Hy**	**38.85**	**175**	T	T	09 14 02.5	
	baz=358,slow=76,SNR=2180						
NJ2	**Nanjing**	**39.91**	**248**	*e*P	**P**	**08 32 44.1**	**0.0**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				LR	LR		
	comp=Z,430nm,13.3s						
NJ2				LR	LR		
	comp=Z,640nm,11.8s						
NJ2				LR	LR		
	comp=Z,580nm,12.3s						
H11S1	**WAKE ISLAND Hy**	**40.04**	**175**	T	T	09 15 34.8	
	baz=359,slow=76,SNR=42						
JOW	**Kunigami**	**40.04**	**233**	LR	LR	08 50 37.3	
	comp=Z,205nm,18.6s,baz=22,slow=38						
H11S3	**WAKE ISLAND Hy**	**40.05**	**175**	T	T	09 15 36.4	
	baz=359,slow=76,SNR=51						
H11S2	**WAKE ISLAND Hy**	**40.06**	**175**	T	T	09 15 35.3	
	baz=359,slow=76,SNR=52						
ZAA0	**Zalesovo Array**	**41.58**	**299**	P	**P**	**08 32 57.5**	**-0.1**
ZALV	**Zalesovo Beam**	**41.58**	**299**	P	**P**	**08 32 57.5**	**-0.1**
ZALV	**Zalesovo Beam**	**41.58**	**299**	P	**P**	**08 32 57.4**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=46,slow=7.1,SNR=6.7						
ZALV				PcP	**PcP**	**08 34 54.2**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=54,slow=2.2,SNR=5.5						
ZALV				LR	LR	08 53 43.7	
	comp=Z,78nm,19.5s,baz=53,slow=41						
	comp=Z,1.7nm,0.5s						
BRLDA	**Berland Lookou**	**41.76**	**60**	P	**P**	**08 32 59.9**	**+0.7**
BRLDA				IAmb	IAmb	08 33 00.4	
	comp=Z,7.1nm,0.6s						
SPB1	**Spitsbergen Ar**	**42.07**	**350**	P	**P**	**08 33 02.3**	**+0.9**
SPITS	**Spitsbergen Ar**	**42.07**	**350**	P	**P**	**08 33 02.5**	**+1.1**
	comp=Z,30nm,0.5s,baz=66,slow=8.3,SNR=102						
	comp=Z,30nm,0.5s						
SPITS	**Spitsbergen Ar**	**42.07**	**350**	P	**P**	**08 33 02.1**	**+0.7**
SPITS				pmax	pmax		
	comp=Z,41nm,0.5s						
SPB2	**Spitsbergen Ar**	**42.08**	**350**	P	**P**	**08 33 02.2**	**+0.8**
E03A	**Lebam**	**43.80**	**73**	P	**P**	**08 33 16.6**	**+0.9**
E03A				IAmb	IAmb	08 33 25.5	
	comp=Z,19nm,1.0s						
LZH	**Lanzhou**	**44.40**	**267**	*e*P	**P**	**08 33 18.0**	**-2.9**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				LR	LR		
	comp=Z,230nm,14.4s						
LZH				LR	LR		
	comp=Z,530nm,15.8s						
LZH				LR	LR		
	comp=Z,650nm,16.0s						
HEBO	**Mount Hebo**	**44.63**	**74**	P	**P**	**08 33 21.9**	**-0.6**
LTY	**Liberty**	**44.74**	**70**	P	**P**	**08 33 22.6**	**-0.8**
DAG	**Danmarks Havn**	**44.95**	**1**	P	**P**	**08 33 24.9**	**+0.4**
DAG				pmax	pmax		
	comp=Z,16nm,1.2s						
DAG	**Danmarks Havn**	**44.95**	**1**	*i* P	**P**	**08 33 23.0**	**-1.5**
NEW	**Newport**	**45.77**	**66**	P	**P**	**08 33 31.9**	**+0.4**
	baz=314						
NEW	**Newport**	**45.77**	**66**	LR	LR	08 52 15.0	
	comp=Z,118nm,20.9s,baz=322,slow=36						
ZSN	**Zaisan**	**45.90**	**292**	*e*P	**P**	**08 33 32.5**	**+0.1**
	comp=Z,5.2nm,0.6s,baz=292						
ZSN	**Zaisan**	**45.90**	**292**	*e*P	**P**	**08 33 32.5**	**+0.1**
ZSN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
J01E	**Myrtle Point**	**45.99**	**76**	P	**P**	**08 33 32.4**	**-0.8**
SEM	**Semipalatinsk**	**46.04**	**298**	*e*P	**P**	**08 33 33.1**	**-0.6**
	baz=298						
SEM	**Semipalatinsk**	**46.04**	**298**	*e*P	**P**	**08 33 33.1**	**-0.6**
I04A	**Tendick Farm,**	**46.31**	**74**	P	**P**	**08 33 36.2**	**+0.4**
E09A	**Wood Farm, Sta**	**46.50**	**69**	IAmb	IAmb	08 33 37.8	
	comp=Z,6.9nm,0.7s						
KURK	**Kurchatov**	**46.57**	**299**	P	**P**	**08 33 37.6**	**0.0**
KURK	**Kurchatov**	**46.57**	**299**	*c iP*	**P**	**08 33 37.8**	**+0.1**
KURK				pmax	pmax		
	comp=Z,64nm,1.7s						
KURBB	**Kurchatov Arra**	**46.68**	**299**	P	**P**	**08 33 38.6**	**+0.1**
	comp=Z,17nm,0.7s,baz=51,slow=7.9,SNR=111						
KURBB				LR	LR	08 53 14.9	
	comp=Z,179nm,20.2s,baz=178,slow=36						
	comp=Z,17nm,0.7s						
GUMO	**Guam**	**46.97**	**205**	LR	LR	08 51 28.5	
	comp=Z,91nm,21.0s,baz=40,slow=34						
PINE	**Pine Mountain**	**47.05**	**73**	IAmb	IAmb	08 33 43.2	
	comp=Z,10nm,0.9s						
WMQ	**Urumqi**	**47.07**	**287**	*e*P	**P**	**08 33 43.9**	**+2.1**
WMQ				LR	LR		
	comp=Z,510nm,12.5s						
WMQ				LR	LR		
	comp=Z,300nm,10.5s						
WMQ				LR	LR		
	comp=Z,130nm,16.3s						
J05D	**Fort Rock, OR**	**47.27**	**74**	IAmb	IAmb	08 33 45.0	
	comp=Z,10nm,1.0s						
F10A	**Beach Ranch, E**	**47.34**	**69**	P	**P**	**08 33 44.1**	**+0.3**
L04D	**Klamath Falls**	**47.50**	**76**	IAmb	IAmb	08 33 46.4	
	comp=Z,8.7nm,0.7s						
MK31	**Makanchi Array**	**47.61**	**293**	P	**P**	**08 33 45.0**	**-0.8**
MK31	**Makanchi Array**	**47.61**	**293**	*c iP*	**P**	**08 33 44.9**	**-0.9**
MKAR	**Makanchi Array**	**47.61**	**293**	P	**P**	**08 33 45.1**	**-0.7**
MKAR	**Makanchi Array**	**47.61**	**293**	P	**P**	**08 33 45.4**	**-0.5**
	comp=Z,3.3nm,0.5s,baz=55,slow=7.3,SNR=41						
MKAR				LR	LR	08 52 57.9	
	comp=Z,38nm,19.0s,baz=38,slow=35						
	comp=Z,3.3nm,0.5s						
MKAR	**Makanchi Array**	**47.61**	**293**	P	**P**	**08 33 45.1**	**-0.7**
YBH	**Yreka Blue Hor**	**47.65**	**77**	IAmb	IAmb	08 33 47.9	
	comp=Z,5.1nm,0.8s						
YBH	**Yreka Blue Hor**	**47.65**	**77**	LR	LR	08 51 00.8	
	comp=Z,119nm,22.0s,baz=314,slow=33						
MAKZ	**Makanchi**	**47.75**	**293**	P	**P**	**08 33 46.0**	**-0.9**
MAKZ				IAmb	IAmb	08 33 46.6	
	comp=Z,4.7nm,0.7s						
MAKZ	**Makanchi**	**47.75**	**293**	P	**P**	**08 33 46.0**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FFC	**Flin Flon**	**48.01**	**51**	P	**P**	**08 33 49.0**	**+0.2**
FFC				IAmb	IAmb	08 34 12.8	
	comp=Z,7.5nm,1.1s						
FFC	**Flin Flon**	**48.01**	**51**	P	**P**	**08 33 49.0**	**+0.2**
FFC				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BMO	**Blue Mountains**	**48.10**	**70**	IAmb	IAmb	08 33 50.6	
	comp=Z,4.7nm,0.9s						
KEV	**Kevo**	**48.25**	**341**	P	**P**	**08 33 49.2**	**-1.2**
KEV				IAmb	IAmb	08 34 02.8	
	comp=Z,8.5nm,1.1s						
KEV	**Kevo**	**48.25**	**341**	P	**P**	**08 33 49.3**	**-1.2**
KEV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
SUMG	**Summit**	**48.31**	**9**	P	**P**	**08 33 51.7**	**+0.3**
SUMG	**Summit**	**48.31**	**9**	P	**P**	**08 33 51.7**	**+0.3**
SUMG				pmax	pmax		
	comp=Z,28nm,0.9s						
MSO	**Missoula**	**48.31**	**66**	P	**P**	**08 33 51.7**	**+0.3**
	baz=316						
PLID	**Pearl Lake**	**48.57**	**69**	P	**P**	**08 33 54.3**	**+0.7**
BRVK	**Borovoye**	**48.59**	**307**	P	**P**	**08 33 53.6**	**+0.3**
BRVK	**Borovoye**	**48.59**	**307**	*c iP*	**P**	**08 33 53.3**	**0.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
OVMT	**Ovando**	**48.59**	**65**	P	**P**	**08 33 53.6**	**0.0**
J08A	**Circle Bar Ran**	**48.60**	**72**	IAmb	IAmb	08 33 54.8	
	comp=Z,7.5nm,1.1s						
ARCES	**ARCESS Array B**	**48.70**	**342**	P	**P**	**08 33 53.8**	**-0.1**
ARCES				IAmb	IAmb	08 33 55.9	
	comp=Z,4.7nm,0.8s						
ARCES	**ARCESS Array B**	**48.70**	**342**	P	**P**	**08 33 53.9**	**-0.1**
	comp=Z,4.1nm,0.7s,baz=26,slow=9.5,SNR=15						
ARCES				LR	LR	08 58 58.6	
	comp=Z,90nm,18.7s,baz=39,slow=42						
	comp=Z,4.1nm,0.7s						
ARCES	**ARCESS Array B**	**48.70**	**342**	P	**P**	**08 33 53.8**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GOMU	**GeErMu**	**49.05**	**274**	P	**P**	**08 33 56.4**	**-1.1**
GOMU				pP	sP	08 34 13.4	-0.6
GOMU				pmax	pmax		
	comp=Z,14nm,0.7s						
GOMU				LR	LR		
	comp=Z,650nm,13.6s						
GOMU				LR	LR		
	comp=Z,640nm,18.8s						
GOMU				LR	LR		
	comp=Z,1μm,18.7s						
WVOR	**Wild Horse Val**	**49.20**	**73**	IAmb	IAmb	08 33 59.4	
	comp=Z,5.2nm,0.9s						
WVOR	**Wild Horse Val**	**49.20**	**73**	P	**P**	**08 33 58.9**	**+0.6**
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.5s						
EGMT	**Eagleton**	**49.42**	**62**	IAmb	IAmb	08 34 00.3	
	comp=Z,7.7nm,0.9s						
EGMT	**Eagleton**	**49.42**	**62**	P	**P**	**08 34 00.1**	**+0.2**
	baz=316						
MFID	**Camas Ranch**	**49.88**	**70**	IAmb	IAmb	08 34 04.2	
	comp=Z,5.0nm,0.8s						
BOZ	**Bozeman (W)**	**50.31**	**65**	P	**P**	**08 34 06.9**	**+0.2**
	baz=317						
HLID	**Hailey**	**50.46**	**69**	P	**P**	**08 34 08.0**	**+0.1**
	baz=318						
GYA	**Guiyang**	**50.57**	**256**	P	**P**	**08 34 11.8**	**+3.0**
GYA				pmax	pmax		
	comp=Z,23nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,4.4s						
GYA				LR	LR		
	comp=Z,460nm,15.7s						
GYA				LR	LR		
	comp=Z,470nm,15.8s						
GYA				LR	LR		
	comp=Z,210nm,21.5s						
JMIC	**Jan Mayen**	**50.65**	**357**	LR	LR	08 54 40.8	
	comp=Z,37nm,18.6s,baz=60,slow=35						
ARU	**Arti**	**50.72**	**316**	P	**P**	**08 34 09.9**	**+0.6**
ARU	**Arti**	**50.72**	**316**	LR	LR	08 57 36.9	
	comp=Z,131nm,18.5s,baz=42,slow=38						
ARU	**Arti**	**50.72**	**316**	*c iP*	**P**	**08 34 09.6**	**+0.2**
ARU						08 35 24.8	
ARU				S	**S**	**08 41 24.2**	**+2.9**
ARU				pmax	pmax		
	comp=Z,11nm,0.6s						
ARU	**Arti**	**50.72**	**316**	P	**P**	**08 34 09.2**	**-0.2**
	comp=Z,21nm,1.3s,comp=Z,254nm						
TDK	**Taldyqorghan**	**50.77**	**294**	*e*P	**P**	**08 34 09.9**	**-0.1**
	baz=294						
TDK	**Taldyqorghan**	**50.77**	**294**	*e*P	**P**	**08 34 09.9**	**-0.1**
MPK	**Martis Peak**	**50.83**	**77**	IAmb	IAmb	08 34 12.1	
	comp=Z,7.0nm,0.8s						
PAHR	**Pah Rah Range**	**50.85**	**76**	IAmb	IAmb	08 34 11.8	
	comp=Z,4.2nm,0.9s						
PNTR	**Pine Nut**	**51.20**	**77**	IAmb	IAmb	08 34 20.3	
	comp=Z,7.8nm,0.9s						
DGMT	**Dagmar**	**51.62**	**58**	P	**P**	**08 34 16.8**	**+0.5**
	baz=318						
SHLS	**Shalkode**	**51.63**	**292**	*e*P	**P**	**08 34 15.2**	**-1.5**
	comp=Z,6.3nm,0.6s,baz=291						
SHLS	**Shalkode**	**51.63**	**292**	*e*P	**P**	**08 34 15.1**	**-1.5**
SHLS				pmax	pmax		
	comp=Z,6.0nm,0.6s						
H17A	**Grant Village**	**51.70**	**66**	P	**P**	**08 34 17.7**	**+0.4**
	baz=318						
WAKR	**Walker**	**51.73**	**77**	IAmb	IAmb	08 34 19.1	
	comp=Z,4.3nm,0.8s						
FRB	**Frobisher Bay**	**51.77**	**26**	LR	LR	08 58 39.9	
	comp=Z,265nm,21.2s,baz=307,slow=39						
KPKS	**Kokpek**	**51.78**	**293**	*e*P	**P**	**08 34 17.8**	**+0.1**
	baz=292						
KPKS	**Kokpek**	**51.78**	**293**	*e*P	**P**	**08 34 17.8**	**+0.1**
RLMT	**Red Lodge**	**51.78**	**64**	IAmb	IAmb	08 34 25.4	
	comp=Z,9.1nm,1.1s						
RLMT	**Red Lodge**	**51.78**	**64**	P	**P**	**08 34 18.2**	**+0.3**
	baz=318,SNR=5.2						
FLWY	**Flagg Ranch**	**51.88**	**66**	IAmb	IAmb	08 34 34.7	
	comp=Z,8.4nm,1.1s						
KVN	**Kaiserville**	**51.99**	**76**	IAmb	IAmb	08 34 20.9	
	comp=Z,4.8nm,0.8s						
RYN	**Ryan**	**52.10**	**76**	IAmb	IAmb	08 34 21.5	
	comp=Z,4.3nm,0.7s						
ELK	**Elko**	**52.16**	**72**	P	**P**	**08 34 21.5**	**+0.8**
KIRV	**Kirov**	**52.16**	**323**	LR	LR	08 57 16.4	
	comp=Z,116nm,18.2s,baz=39,slow=37						
KIRV	**Kirov**	**52.16**	**323**	*e*P	**P**	**08 34 20.1**	**0.0**
TPAW	**Teton Pass**	**52.20**	**67**	IAmb	IAmb	08 34 22.6	
	comp=Z,4.2nm,0.8s					

comp=Z,60nm,4.3s
PZH LR LR
comp=Z,230nm,17.8s
PZH LR LR
comp=Z,310nm,18.2s
PZH LR LR
comp=Z,180nm,14.2s
KLMR Klimovskoe 53.19 330 *e*P **P 08 34 26.3 -1.4**
KLMR pmax pmax
comp=Z,23nm,1.7s
HWUT Hardware Ranch 53.32 69 IAmb IAmb 08 34 30.7
comp=Z,5.4nm,0.8s
BW06 Boulder Array 53.41 66 P **P 08 34 30.3 +0.3**
baz=319,SNR=8.2
PDAR Pinedale Array 53.41 66 P **P 08 34 30.3 +0.3**
comp=Z,2.4nm,0.6s,baz=337,slow=3.0,SNR=29
PDAR LR LR 08 59 07.7
comp=Z,92nm,18.5s,baz=333,slow=38
comp=Z,2.4nm,0.6s
VOG Valley Oaks Go 53.42 79 P **P 08 34 30.8 +1.1**
baz=321
TIN Tinemaha, Big 53.45 77 P **P 08 34 31.2 +1.1**
baz=320
KMI Kunming 53.67 259 ⇓P **P 08 34 32.5 +0.5**
KMI pP sP 08 34 48.8 +0.2
KMI S **S 08 42 01.9 -1.1**
KMI pmax pmax
comp=Z,15nm,1.6s
KMI LR LR
comp=Z,300nm,14.8s
KMI LR LR
comp=Z,300nm,14.9s
KMI LR LR
comp=Z,320nm,14.7s
SGDS Sogindy 53.73 295 *e*P **P 08 34 32.3 +0.2**
baz=295
SGDS Sogindy 53.73 295 *e*P **P 08 34 32.3 +0.2**
GMN Gold Mountain 53.76 76 IAmb IAmb 08 34 34.3
comp=Z,5.8nm,0.9s
TCUT Toone Canyon 53.77 69 IAmb IAmb 08 34 37.8
comp=Z,5.5nm,1.0s
DUG Dugway, Tooele 53.78 71 P **P 08 34 33.2 +0.6**
baz=320,SNR=5.2
DUG Dugway, Tooele 53.78 71 P **P 08 34 33.5 +1.0**
DUG pmax pmax
comp=Z,6.0nm,1.3s
R11B Troy Canyon, C 53.80 74 P **P 08 34 33.6 +0.8**
baz=320
ULM Lac du Bonnet 53.83 51 P **P 08 34 33.1 +0.5**
ULM Lac du Bonnet 53.83 51 P **P 08 34 32.8 +0.2**
comp=Z,2.1nm,0.5s,baz=304,slow=6.2,SNR=7.1
ULM LR LR 08 59 41.5
comp=Z,188nm,18.8s,baz=310,slow=38
comp=Z,2.1nm,0.5s
ULM Lac du Bonnet 53.83 51⇓*e*P **P 08 34 31.8 -0.8**
BOOM Boomskoye usch 53.84 294 IAmb IAmb 08 34 34.2
comp=Z,5.8nm,0.7s
BOOM Boomskoye usch 53.84 294 P **P 08 34 32.6 -0.4**
SMMC Simmler 53.88 80 P **P 08 34 34.1 +0.9**
baz=321
SPR3 Spring Creek 3 53.94 73 IAmb IAmb 08 34 37.0
comp=Z,13nm,1.2s
GRAC Grapevine Rang 53.94 77 IAmb IAmb 08 34 35.7
comp=Z,6.8nm,0.8s
GRAC Grapevine Rang 53.94 77 P **P 08 34 34.8 +1.2**
baz=321
VES Vestal, Richgr 53.95 79 P **P 08 34 34.3 +0.7**
baz=321,SNR=7.1
CWC Cottonwood Cre 54.00 78 P **P 08 34 35.2 +1.0**
baz=321
PKM Mcpherson Peak 54.31 80 P **P 08 34 37.4 +0.9**
baz=321
NLU North Lily Min 54.33 70 IAmb IAmb 08 34 38.0
comp=Z,5.4nm,1.0s
ISA Isabella, Lake 54.40 79 IAmb IAmb 08 34 38.5
comp=Z,9.0nm,1.1s
ISA Isabella, Lake 54.40 79 P **P 08 34 37.3 +0.3**
baz=321,SNR=5.9
AAK Ala-Archa 54.42 295 P **P 08 34 37.8 +0.6**
AAK Ala-Archa 54.42 295 LR LR 08 57 39.8
comp=Z,151nm,18.8s,baz=37,slow=36
AAK Ala-Archa 54.42 295*c i*P **P 08 34 37.6 +0.4**
AAK pmax pmax
comp=Z,29nm,1.7s
WCT Wildcat Mounta 54.47 76 IAmb IAmb 08 34 39.1
comp=Z,4.4nm,0.8s
MPU Maple Canyon 54.50 70 IAmb IAmb 08 34 39.2
comp=Z,4.4nm,0.8s
BSUT Blindstream Ca 54.53 69 IAmb IAmb 08 34 39.9
comp=Z,6.6nm,0.8s
PSUT Pine Spring 54.53 73 IAmb IAmb 08 34 39.7
comp=Z,7.4nm,1.1s
TPNV Topopah Spring 54.54 76 P **P 08 34 38.8 +0.6**
baz=321,SNR=9.8
MPMC Manual Prospec 54.60 77 P **P 08 34 39.2 +0.6**
baz=321,SNR=11
FURC Furnace Creek, 54.60 77 P **P 08 34 39.5 +1.2**
baz=321,SNR=11
SBC Santa Barbara 54.71 80 P **P 08 34 39.8 +0.7**
baz=321
PRN Pahroc Range 54.80 75 IAmb IAmb 08 34 41.8
comp=Z,10nm,0.8s
VALR Valaam 54.89 334*c i*P **P 08 34 39.8 -0.3**
VALR pmax pmax
comp=Z,11nm,0.9s
LRMC Laurel Mtn Rad 54.95 78 P **P 08 34 41.4 +0.3**
baz=321,SNR=7.8
K22A Casper 54.95 64 IAmb IAmb 08 34 41.8
comp=Z,4.5nm,0.9s
K22A Casper 54.95 64 P **P 08 34 41.6 +0.5**
baz=320
RSSD Black Hills 54.98 61 P **P 08 34 40.7 -0.6**
RSSD IAmb IAmb 08 34 42.2
comp=Z,9.0nm,1.1s
RSSD Black Hills 54.98 61 P **P 08 34 41.8 +0.5**
baz=320
RSSD Black Hills 54.98 61 P **P 08 34 40.7 -0.6**
RSSD pmax pmax
comp=Z,9.0nm,1.1s
OSI Osito Audit: C 55.08 80 P **P 08 34 42.8 +0.9**
baz=321
TCRU Three Creeks R 55.18 72 IAmb IAmb 08 34 44.9
comp=Z,6.6nm,1.0s
QIZ Qiongzhong 55.21 248 P **P 08 34 41.5 -1.4**
QIZ S **S 08 42 23.7 +0.4**
QIZ pmax pmax
comp=Z,180nm,6.4s
QIZ LR LR
comp=Z,150nm,11.8s
QIZ LR LR
comp=Z,250nm,16.2s
QIZ LR LR
comp=Z,290nm,15.1s
EDW2 Edwards Air Fo 55.25 79 P **P 08 34 43.6 +0.4**
baz=321,SNR=7.6
TMUT Trail Mountain 55.26 70 IAmb IAmb 08 34 45.7
comp=Z,4.5nm,0.7s
SHOC Shoshone, Teco 55.34 77 P **P 08 34 44.5 +0.8**
baz=321
AGMN Agassiz Nation 55.35 53 IAmb IAmb 08 34 44.4
comp=Z,7.6nm,1.0s
AGMN Agassiz Nation 55.35 53 P **P 08 34 43.5 -0.1**
baz=321
P18A Preston Nutter 55.48 69 IAmb IAmb 08 34 57.0
comp=Z,6.1nm,1.2s
GSC Goldstone, Bar 55.53 78 P **P 08 34 45.9 +0.7**
baz=321,SNR=16
CCUT Cedar City 55.54 73 IAmb IAmb 08 34 47.1
comp=Z,6.6nm,0.8s
DECC Green Verdugo 55.56 79 P **P 08 34 46.3 +0.9**
baz=322
AKTO Aktyubinsk 55.57 312 LR LR 08 59 18.2
comp=Z,141nm,18.1s,baz=38,slow=37
Q16A Castle Valley 55.57 71 IAmb IAmb 08 34 47.4
comp=Z,6.0nm,1.0s
SZCU Shurtz Canyon 55.64 73 IAmb IAmb 08 34 47.7
comp=Z,6.0nm,0.8s
ABKAR Akbulak array 55.73 310 P **P 08 34 46.8 +0.4**
ABKAR IAmb IAmb 08 34 47.1
comp=Z,4.9nm,0.7s
SRU San Rafael Swe 55.74 70 P **P 08 34 47.5 +0.7**
SRU San Rafael Swe 55.74 70 P **P 08 34 47.5 +0.7**
SRU pmax pmax
comp=Z,12nm,0.9s
MTPU Mount Pierson 55.75 72 IAmb IAmb 08 34 49.2
comp=Z,9.3nm,1.2s
FINES FINESS Array B 55.86 337 P **P 08 34 46.9 -0.1**
comp=Z,3.8nm,0.6s,baz=24,slow=8.4,SNR=22
FINES LR LR 09 01 58.3
comp=Z,82nm,18.3s,baz=24,slow=40
comp=Z,3.8nm,0.6s
TUQ Turquoise Moun 55.88 77 P **P 08 34 48.7 +1.0**
baz=322,SNR=7.2
BFSC Mount Baldy Ra 55.92 79 P **P 08 34 48.9 +0.7**
baz=322
KK31 Karatay Array 55.93 298 P **P 08 34 48.0 +0.1**
KK31 Karatay Array 55.93 298 P **P 08 34 48.0 +0.1**
KK31 pmax pmax
comp=Z,15nm,0.7s
KKAR Karatay Array 55.93 298 P **P 08 34 48.3 +0.4**
KKAR Karatay Array 55.93 298 P **P 08 34 48.3 +0.4**
LCMT Little Creek M 56.01 74 IAmb IAmb 08 34 50.6
comp=Z,5.9nm,0.9s
O20A White River Ci 56.07 67 P **P 08 34 49.9 +0.8**
O20A White River Ci 56.07 67 P **P 08 34 49.7 +0.5**
baz=321,SNR=6.0
KSH Kashi 56.11 291 P **P 08 34 53.5 +4.2**
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH LR LR
comp=Z,1μm,17.9s
KSH LR LR
comp=Z,1μm,14.1s
KSH LR LR
comp=Z,350nm,14.8s
HEC Hector,Ludlow 56.14 78 P **P 08 34 50.9 +1.3**
baz=322,SNR=9.4
PKCU Pink Cliffs 56.15 72 IAmb IAmb 08 34 57.6
comp=Z,12nm,1.2s
CIS Catalina Islan 56.19 80 P **P 08 34 50.5 +0.6**
baz=322
V12A Nelson 56.20 76 IAmb IAmb 08 34 52.0
comp=Z,8.6nm,0.7s
KNB Kanab 56.22 73 IAmb IAmb 08 34 52.3
comp=Z,8.5nm,0.8s
ARK Arkit 56.26 296 P **P 08 34 51.3 +0.9**
ARK pmax pmax
comp=Z,9.0nm,0.8s
BBRC Big Bear Solar 56.29 78 P **P 08 34 51.8 +1.0**
baz=322
BRLS Borolday 56.30 298 *e*P **P 08 34 52.3 +1.8**
baz=298
BRLS Borolday 56.30 298 *e*P **P 08 34 52.3 +1.8**
SCI2 San Clemente I 56.45 81 P **P 08 34 53.0 +1.2**
baz=322
ELS Elsinore Mount 56.51 79 IAmb IAmb 08 34 53.3
comp=Z,6.2nm,0.8s
GMRC Granite Mounta 56.52 77 P **P 08 34 53.2 +0.8**
baz=322,SNR=10.0
N23A Red Feather La 56.58 65 IAmb IAmb 08 34 54.7
comp=Z,5.6nm,1.1s
N23A Red Feather La 56.58 65 P **P 08 34 53.3 +0.4**
baz=321
MURC Murrieta 56.66 79 P **P 08 34 53.9 +0.7**
baz=322
U15A North Rim 56.95 73 IAmb IAmb 08 34 57.4
comp=Z,9.4nm,1.0s
BELC Belle Mtn. Jos 56.97 78 P **P 08 34 56.2 +0.7**
baz=322,SNR=6.7
BORG Borgarnes 56.99 2 LR LR 08 59 36.9
comp=Z,89nm,19.3s,baz=340,slow=36
SUSD Miller 57.03 58 P **P 08 34 55.8 +0.1**
baz=322
PFO Pinyon Flats O 57.03 79 P **P 08 34 56.7 +0.7**
PFO Pinyon Flats O 57.03 79 P **P 08 34 56.5 +0.5**
baz=322,SNR=5.8
PFO Pinyon Flats O 57.03 79*ce*P **P 08 34 56.2 +0.2**
PFO pmax pmax
comp=Z,10.0nm,0.6s
TPFO Pinon Flats 57.04 79 P **P 08 34 56.6 +0.5**
baz=322
F33A 5 Mile Ranch, 57.10 55 IAmb IAmb 08 34 57.0
comp=Z,9.4nm,0.9s
W13A Hualapai Mount 57.18 75 IAmb IAmb 08 34 58.7
comp=Z,4.1nm,0.8s
109C Camp Elliot, M 57.27 80 P **P 08 34 58.7 +1.2**
baz=322
IRM Iron Mountain 57.28 77 P **P 08 34 58.8 +1.2**
baz=322,SNR=13
EYMN Ely 57.42 50 P **P 08 34 58.8 +0.3**
baz=323
SMCO Snowmass 57.42 67 IAmb IAmb 08 35 00.5
comp=Z,6.1nm,0.8s
BC3 Big Chokawall 57.52 78 P **P 08 34 60.0 +0.6**
baz=322,SNR=8.4
ISCO Idaho Springs 57.59 66 IAmb IAmb 08 35 02.0
comp=Z,5.7nm,1.0s
ISCO Idaho Springs 57.59 66 P **P 08 35 01.1 +1.0**
baz=322,SNR=7.4
ISCO Idaho Springs 57.59 66 P **P 08 35 01.5 +1.4**
ISCO pmax pmax
comp=Z,8.0nm,1.6s
MONP2 Monument Peak 57.62 79 P **P 08 35 01.0 +0.8**
baz=322
PDMCI Parker Dam,Lak 57.68 76 P **P 08 35 01.4 +1.1**
baz=322
BELG Belogornoye 57.80 319 LR LR 09 02 55.9
comp=Z,239nm,18.2s,baz=42,slow=39
BELG Belogornoye 57.80 319⇑*e*P **P 08 35 00.4 -0.5**
BELG pmax pmax
comp=Z,5.0nm,1.4s
SWSC Sam W. Stewart 57.90 78 P **P 08 35 02.8 +0.9**
baz=322
IKP In-Ko-Pah, Jac 57.97 79 P **P 08 35 03.4 +0.9**
baz=323
WUAZ Wupatki 58.12 73 IAmb IAmb 08 35 05.7
comp=Z,8.2nm,0.9s
WUAZ Wupatki 58.12 73 P **P 08 35 04.6 +0.9**
baz=322,SNR=8.9
DRK Karamyk 58.15 294 P **P 08 35 05.3 +1.3**
BTK Batken 58.16 296 P **P 08 35 04.5 +0.7**
BTK pmax pmax
comp=Z,48nm,0.9s
MVCO Mesa Verde 58.22 70 IAmb IAmb 08 35 05.8
comp=Z,6.1nm,1.1s
MVCO Mesa Verde 58.22 70 P **P 08 35 04.9 +0.4**
baz=322
GLA Glamis 58.31 78 P **P 08 35 05.6 +0.8**
baz=323,SNR=8.0
OGNE Ogallala 58.38 62 P **P 08 35 06.1 +0.8**
baz=322
Q24A Divide 58.47 66 P **P 08 35 06.6 +0.3**
baz=322
Y14A Wickenburg 58.54 76 IAmb IAmb 08 35 08.2
comp=Z,6.6nm,0.8s
NC303 NORSAR Array S 58.61 345 P **P 08 35 06.6 +0.1**
NC303 IAmb IAmb 08 35 07.1
comp=Z,7.3nm,0.7s
S22A 4UR Ranch, Cre 58.62 68 P **P 08 35 08.7 +1.4**
baz=322
ECSD EROS Data Cent 58.62 57 IAmb IAmb 08 35 10.6
comp=Z,7.6nm,1.1s
ECSD EROS Data Cent 58.62 57 P **P 08 35 07.3 +0.4**
baz=323,SNR=6.2
NB2 NORSAR Subarra 58.81 345 P **P 08 35 07.7 -0.2**
comp=Z,7.9nm,0.7s,baz=17,slow=7.4
NB2 NORSAR Subarra 58.81 345 P P 08 35 03.2 -4.7
NB2 pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 58.81 345 P **P 08 35 07.9 -0.1**
comp=Z,4.8nm,0.6s,baz=17,slow=7.0,SNR=29
NOA LR LR 09 04 10.6
comp=Z,44nm,18.1s,baz=20,slow=40
comp=Z,4.8nm,0.6s
OBN Obninsk 58.93 328 LR LR 09 05 16.5
comp=Z,112nm,18.4s,baz=334,slow=41
OBN Obninsk 58.93 328 *i* P **P 08 35 08.5 -0.3**
OBN pmax pmax
comp=Z,8.0nm,1.3s
CRAI Chiangrai 58.94 258 P **P 08 35 08.1 -1.3**
CRAI IAmb IAmb 08 35 13.8
comp=Z,7.9nm,0.9s
X16A Lo Mia Camp, P 58.95 74 IAmb IAmb 08 35 11.7
comp=Z,5.6nm,0.8s
DAV Davao City (W) 58.98 225 LR LR 09 02 31.7
comp=Z,101nm,18.0s,baz=17,slow=38
NORES NORESS Array B 59.06 344 P **P 08 35 09.3 -0.3**
SPMN Marine on St. 59.07 53 P **P 08 35 10.5 +0.6**
baz=324
113A Mohawk Valley, 59.08 77 IAmb IAmb 08 35 11.6
comp=Z,7.2nm,0.8s
VTX Valle De La Tr 59.14 80 IAmb IAmb 08 35 12.2
comp=Z,6.5nm,0.9s
SDCO Great Sand Dun 59.26 67 IAmb IAmb 08 35 13.4
comp=Z,6.6nm,1.0s
SDCO Great Sand Dun 59.26 67 P **P 08 35 12.5 +0.8**
baz=323,SNR=9.8
HFS Hagfors 59.32 343 P **P 08 35 10.8 -0.6**
comp=Z,6.3nm,0.5s,baz=29,slow=3.4,SNR=41
HFS LR LR 09 03 36.2
comp=Z,72nm,18.7s,baz=20,slow=39
comp=Z,6.3nm,0.5s
KSCO Kaye Shedlock' 59.63 64 P **P 08 35 14.9 +0.8**
baz=323
BGNE Belgrade 59.80 59 P **P 08 35 15.7 +0.7**
baz=323
SCHQ Schefferville 59.98 31 P **P 08 35 15.3 -0.8**
comp=Z,6.7nm,0.8s,baz=342,slow=6.3,SNR=6.8
SCHQ LR LR 09 04 32.7
comp=Z,80nm,18.9s,baz=356,slow=39
comp=Z,6.7nm,0.8s
CHGR Chuyangaron 60.06 296 P **P 08 35 17.1 +0.2**
CHGR pmax pmax
comp=Z,111nm,0.7s
G40A Rib Lake 60.11 51 IAmb IAmb 08 35 18.3
comp=Z,10nm,1.1s
SIMJ Simiganj 60.13 296 P **P 08 35 17.1 -0.4**
214A Organ Pipe Nat 60.21 77 P **P 08 35 19.2 +1.2**
baz=323,SNR=9.6
T25A Trinidad 60.27 67 IAmb IAmb 08 35 21.6
comp=Z,8.2nm,1.1s
T25A Trinidad 60.27 67 P **P 08 35 19.1 +0.5**
baz=323
KONO Kongsberg 60.37 345*de*P **P 08 35 19.1 +0.5**
KONO pmax pmax
comp=Z,9.0nm,1.2s
PHRA Phrae 60.46 257 P **P 08 35 20.1 +0.3**
CHTO Chiang Mai 60.85 258 P **P 08 35 22.2 -0.3**
CHTO Chiang Mai 60.85 258 P **P 08 35 22.2 -0.3**
CHTO pmax pmax
comp=Z,15nm,1.0s
TUC Tucson 60.96 75 P **P 08 35 23.6 +0.4**
TUC IAmb IAmb 08 35 24.9
comp=Z,5.1nm,0.8s
TUC Tucson 60.96 75 P **P 08 35 23.6 +0.4**
baz=323
TUC Tucson 60.96 75 P **P 08 35 23.6 +0.4**
TUC pmax pmax
comp=Z,5.0nm,0.8s
ANMO Albuquerque 61.02 70 P **P 08 35 24.1 +0.4**
ANMO IAmb IAmb 08 35 25.2
comp=Z,5.1nm,0.8s
ANMO Albuquerque 61.02 70 P **P 08 35 24.0 +0.3**
baz=323
ANMO Albuquerque 61.02 70 LR LR 09 02 36.1
comp=Z,95nm,19.1s,baz=70,slow=37
ANMO Albuquerque 61.02 70*c i*P **P 08 35 24.6 +0.9**
ANMO pmax pmax
comp=Z,11nm,1.7s
CBKS Cedar Bluff 61.15 62 P **P 08 35 24.4 +0.1**
CBKS Cedar Bluff 61.15 62 P **P 08 35 24.3 +0.1**
baz=324
CBKS Cedar Bluff 61.15 62 P **P 08 35 24.4 +0.1**
CBKS pmax pmax
comp=Z,21nm,0.9s
CMAR Chiang Mai Arr 61.15 258 P **P 08 35 24.7 +0.2**
CMAR Chiang Mai Arr 61.15 258 P **P 08 35 25.1 +0.6**
comp=Z,5.0nm,0.8s,baz=12,slow=6.7,SNR=18
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 61.15 258 P **P 08 35 24.7 +0.2**
Y22D IRIS PASSCAL I 61.49 71 P **P 08 35 27.4 +0.6**
baz=324
MNK Minsk 61.76 332 *i* P **P 08 35 29.0 +0.9**
MNK *i* 08 36 10.0
MNK *i* 08 37 45.1
MNK *i* PPP PPP 08 39 10.2
MNK *i* S **S 08 43 49.7 +2.0**
MNK *i* SS **SS 08 47 52.7 +3.9**
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=N,17nm,0.6s
MNK MLR MLR
comp=N,427nm,18.0s
MNK MLR MLR
comp=E,147nm,15.0s
MNK MLR MLR
comp=Z,208nm,14.0s
NIL Nilore 62.08 289 P **P 08 35 29.7 -0.9**
NIL Nilore 62.08 289 P **P 08 35 29.7 -0.9**
NIL pmax pmax
comp=Z,22nm,0.8s
121A Cookes Peak, D 62.29 73 IAmb IAmb 08 35 34.4
comp=Z,8.2nm,0.8s
121A Cookes Peak, D 62.29 73 P **P 08 35 33.3 +1.0**
baz=324,SNR=7.5
KSU1 Kansas State U 62.35 60 P **P 08 35 31.8 -0.5**
baz=324
GLMI Grayling 62.71 48 P **P 08 35 34.4 -0.2**
baz=327
P38A Dawn 63.30 57 IAmb IAmb 08 35 45.4
comp=Z,5.4nm,0.8s
AMTX Amarillo 63.40 66 P **P 08 35 39.4 0.0**
AMTX Amarillo 63.40 66 P **P 08 35 39.6 +0.1**
baz=324
KBL Kabul 63.42 293 P **P 08 35 38.4 -1.3**
KBL Kabul 63.42 293 P **P 08 35 38.4 -1.3**
KBL pmax pmax
comp=Z,13nm,0.7s
HSIG 63.52 77 IAmb IAmb 08 35 41.7
comp=Z,7.5nm,0.9s
EPT El Paso 63.55 72 IAmb IAmb 08 35 41.9
comp=Z,9.7nm,1.0s
L44A Lake County Fo 63.60 52 P **P 08 35 39.7 -0.8**
baz=326
MSTX Muleshoe 63.61 68 P **P 08 35 40.8 -0.1**
MSTX Muleshoe 63.61 68 P **P 08 35 41.0 +0.1**
baz=324,SNR=11
SMWD Samnorwood 63.91 65 IAmb IAmb 08 35 43.9
comp=Z,10nm,0.8s
P40A Paris 64.03 56 IAmb IAmb 08 35 44.1
comp=Z,11nm,0.8s
MNTX Cornudas Mount 64.17 71 P **P 08 35 45.6 +1.1**
baz=324,SNR=18
HDIL Hopedale 64.37 54 P **P 08 35 45.4 -0.3**
baz=326
DKNS Dickens 64.75 67 IAmb IAmb 08 35 49.3
comp=Z,8.3nm,0.8s
SADO Sadowa 64.83 44 LR LR 09 07 22.1
comp=Z,93nm,18.2s,baz=249,slow=39
AK03 Malin Array Si 64.86 330 P **P 08 35 48.5 -0.2**
AK21 Malin Array Si 64.86 330 P **P 08 35 48.5 -0.2**
AK21 pP **sP 08 36 08.1 +2.6**
AKASG Malin Array Be 64.88 330 P **P 08 35 48.0 -0.8**
comp=Z,1.3nm,0.5s,baz=29,slow=6.3,SNR=7.0
AKASG LR LR 09 07 54.7
comp=Z,162nm,18.9s,baz=48,slow=40
comp=Z,1.3nm,0.5s
AKBB Malin Array Si 64.88 330 IAmb IAmb 08 35 49.1
comp=Z,4.8nm,0.9s
AKBB Malin Array Si 64.88 330⇓*e*P **P 08 35 48.1 -0.7**
AKBB Malin Array Si 64.88 330 P **P 08 35 48.5 -0.3**
KIEV Kiev 64.89 330 P **P 08 35 48.2 -0.7**
KIEV Kiev 64.89 330 P **P 08 35 48.2 -0.7**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
KIEV Kiev 64.89 330 P **P 08 35 48.4 -0.5**
comp=Z,23nm,2.5s
AK01 Malin Array Si 64.89 330 P **P 08 35 48.5 -0.4**
WMOK Wichita Mounta 64.90 64 P **P 08 35 49.5 +0.3**
WMOK Wichita Mounta 64.90 64 P **P 08 35 49.1 -0.2**
baz=325,SNR=17
WMOK Wichita Mounta 64.90 64 P **P 08 35 49.5 +0.3**
WMOK pmax pmax
comp=Z,14nm,0.9s
POST Post 64.96 67 IAmb IAmb 08 35 50.4
comp=Z,8.9nm,0.8s
R40A Maddies Statio 64.96 57 IAmb IAmb 08 35 56.6
comp=Z,3.4nm,0.7s
S39A Bolivar 64.98 58 IAmb IAmb 08 35 49.1
comp=Z,5.7nm,0.7s
RNPP9 Sopachiv 65.08 332 P **P 08 35 50.1 0.0**
RNPP9 pP **sP 08 36 08.1 +1.2**
VHRN Van Horn 65.10 72 IAmb IAmb 08 35 52.8
comp=Z,12nm,1.0s
MI30 MI30,Zelenitsa 65.11 330 P **P 08 35 49.9 -0.4**
PECS Pecos 65.18 70 IAmb IAmb 08 35 52.2
comp=Z,5.8nm,0.8s
TUL3 Leonard 65.33 61 IAmb IAmb 08 35 53.5

comp=Z,8.2nm,1.1s
TUL3 Leonard 65.33 61 P **P 08 35 52.0 0.0**
baz=326
SN05 Snyder 5 65.41 67 IAmb IAmb 08 35 58.5
comp=Z,7.5nm,1.1s
SFIN Lafayette 65.44 52 P **P 08 35 52.1 -0.5**
baz=327
CCM Cathedral Cave 65.60 57 P **P 08 35 53.0 -0.7**
CCM IAmb IAmb 08 35 59.2
comp=Z,6.4nm,1.1s
CCM Cathedral Cave 65.60 57 P **P 08 35 53.3 -0.4**
baz=326
CCM Cathedral Cave 65.60 57 P **P 08 35 53.0 -0.7**
CCM pmax pmax
comp=Z,6.0nm,1.2s
GEYT Alibeck 65.69 303 P **P 08 35 54.2 -0.1**
GEYT Alibeck 65.69 303 P **P 08 35 55.0 +0.6**
comp=Z,3.9nm,0.6s,baz=20,slow=2.2,SNR=7.7
GEYT LR LR 09 08 14.3
comp=Z,211nm,20.3s,baz=37,slow=39
comp=Z,3.9nm,0.6s
GEYT Alibeck 65.69 303 P **P 08 35 54.2 -0.1**
GYA0B ALIBECK ARRAY 65.69 303 IAmb IAmb 08 35 58.8
comp=Z,5.8nm,0.8s
BSEG Bad Segeberg 65.80 343 *e*P 08 35 56.0
comp=Z,3.9nm,0.7s,baz=15,slow=6.3
MAK Makhachkala 65.81 314 *e*P **P 08 35 53.6 -1.3**
MAK *e* 08 38 17.6
MAK *e*PPP PPP 08 39 53.4
MAK *e*S **S 08 44 37.5 -0.7**
MAK *e*SS **SS 08 48 51.4 -0.9**
MAK pmax pmax
comp=Z,130nm,1.6s
MAK MLR MLR
comp=Z,230nm,16.0s
WTFS Witchita Falls 65.84 65 IAmb IAmb 08 35 57.3
comp=Z,5.8nm,0.9s
EKA Eskdalemuir Ar 65.98 352 P **P 08 35 56.4 +0.5**
comp=Z,6.5nm,0.6s,baz=12,slow=5.5,SNR=64
comp=Z,6.5nm,0.6s
LUBAR Lubar, Ukraine 65.98 330 P **P 08 35 55.1 -0.8**
ESK Eskdalemuir 66.00 352 P **P 08 35 56.7 +0.7**
ESK IAmb IAmb 08 35 57.1
comp=Z,9.7nm,0.7s
ESK Eskdalemuir 66.00 352 P **P 08 35 56.7 +0.7**
ESK pmax pmax
comp=Z,10.0nm,0.7s
FVM French Village 66.02 56 IAmb IAmb 08 35 56.3
comp=Z,9.4nm,0.7s
SGCY Sterling City 66.08 68 IAmb IAmb 08 35 58.1
comp=Z,7.7nm,0.8s
ALPN Alpine 66.11 71 IAmb IAmb 08 35 58.2
comp=Z,5.7nm,0.7s
ABTX Abilene, Hawle 66.22 66 P **P 08 35 57.7 0.0**
baz=326,SNR=15
GROC Groznyy 66.24 315 *e*P **P 08 35 59.7 +2.0**
GROC *e* 08 36 30.2
GROC pmax pmax
comp=Z,2.0nm,0.6s
O48B Farmland 66.34 51 P **P 08 35 57.5 -0.9**
baz=328
T42A Van Buren 66.52 57 IAmb IAmb 08 35 59.4
comp=Z,4.9nm,0.8s
LONY Lake Ozonia 66.58 41 P **P 08 35 59.0 -0.9**
baz=331
PLPT Palo Pinto 66.70 65 IAmb IAmb 08 36 01.1
comp=Z,8.7nm,0.7s
KIV Kislovodsk 66.72 317 *e*P **P 08 36 01.9 +1.0**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,83nm,17.0s
HRA Herat 66.76 298 IAmb IAmb 08 36 02.7
comp=Z,9.5nm,1.1s
Z35A Perchaven, San 66.77 64 IAmb IAmb 08 36 06.8
comp=Z,9.1nm,0.8s
ERPA Erie 66.79 46 P **P 08 36 00.4 -0.8**
baz=329
KBZ Khabaz 66.84 317 P **P 08 36 02.7 +1.2**
comp=Z,2.7nm,0.7s,baz=65,slow=8.3,SNR=6.4
KBZ LR LR 09 10 24.8
comp=Z,152nm,18.1s,baz=36,slow=41
comp=Z,2.7nm,0.7s
KBZ Khabaz 66.84 317*c i*P **P 08 36 02.4 +0.9**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
OZNA Ozona 66.89 68 IAmb IAmb 08 36 02.5
comp=Z,3.5nm,0.7s
SHA1 Shidzhatmaz 66.92 317⇑*e*P **P 08 36 02.0 -0.3**
TX31 Lajitas Ar. Si 66.94 71 IAmb IAmb 08 36 03.9
comp=Z,9.0nm,0.8s
TXAR Lajitas Array 66.94 71 P **P 08 36 03.8 +1.2**
TXAR Lajitas Array 66.94 71 P **P 08 36 03.2 +0.7**
comp=Z,6.9nm,0.7s,baz=309,slow=5.0,SNR=111
TXAR LR LR 09 05 14.2
comp=Z,48nm,18.2s,baz=330,slow=36
comp=Z,6.9nm,0.7s
LVV L'vov 67.00 333 *e*P **P 08 36 03.1 +0.6**
FCAR Ozark Folk Cen 67.01 59 P **P 08 36 01.9 -0.9**
FCAR IAmb IAmb 08 36 02.3
comp=Z,6.8nm,0.7s
M53A WI Miller and 67.11 47 P **P 08 36 02.5 -0.8**
baz=329
P49A Miami Univ. Ec 67.13 51 P **P 08 36 02.7 -0.7**
baz=328
SAND Sanderson 67.20 70 IAmb IAmb 08 36 04.9
comp=Z,10nm,1.2s
FLTG Flechtingen 67.20 342 *e*P 08 36 04.0
comp=Z,2.7nm,0.6s,baz=15,slow=6.3
ACSO Alum Creek Sta 67.24 50 P **P 08 36 03.6 -0.5**
baz=329
WHAR Wooly Hollow 67.44 59 IAmb IAmb 08 36 07.0
comp=Z,14nm,1.1s
SORM Soroca 67.46 329 P **P 08 36 05.2 -0.2**
SORM Soroca 67.46 329 P **P 08 36 05.2 -0.2**
MIAR Mount Ida 67.47 61 IAmb IAmb 08 36 11.9
comp=Z,9.5nm,1.1s
MIAR Mount Ida 67.47 61 P **P 08 36 05.7 +0.1**
baz=327,SNR=6.0
MIAR Mount Ida 67.47 61 P **P 08 36 05.8 +0.1**
MIAR pmax pmax
comp=Z,14nm,1.8s
KWP Kalwaria Pacla 67.49 334 P **P 08 36 06.3 +0.7**
KWP Kalwaria Pacla 67.49 334 P **P 08 36 06.3 +0.7**
comp=Z,130nm,0.5s
KMPD K-Podol'skiy 67.56 331 P **P 08 36 05.7 -0.3**
WCI Wyandotte Cave 67.58 53 P **P 08 36 06.0 -0.3**
baz=328
OJC Ojcow 67.59 336 P **P 08 36 07.4 +1.2**
OJC pmax pmax
comp=Z,22nm,1.0s
OJC Ojcow 67.59 336 P **P 08 36 06.6 +0.4**
comp=Z,22nm,1.0s
KSP Ksiaz 67.72 338 P **P 08 36 07.8 +0.8**
KSP pmax pmax
comp=Z,9.0nm,1.3s
IBBN Ibbenburen 67.76 344 *e*P 08 36 08.4
comp=Z,7.3nm,0.7s,baz=15,slow=6.3
PKME Peaks-Kenny Pk 67.77 37 P **P 08 36 07.0 -0.3**
baz=333
WHTX Lake Whitney, 67.78 65 P **P 08 36 07.2 -0.4**
baz=326
HNR Honiara 67.79 184 LR LR 09 00 23.5
comp=Z,536nm,19.9s,baz=353,slow=31
CLZ Clausthal 67.82 342 *e*P 08 36 08.9
comp=Z,6.1nm,0.9s,baz=15,slow=6.3
LBNH Lisbon 67.82 40 P **P 08 36 07.3 -0.5**
baz=332
X40A Basin Creek Fa 67.86 60 IAmb IAmb 08 36 07.9
comp=Z,7.9nm,1.1s
LPIG La Paz 67.86 80 LR LR 09 03 45.9
comp=Z,28nm,18.0s,baz=330,slow=34
CLL Collm 67.89 340 IAmb IAmb 08 36 08.8
comp=Z,8.2nm,0.9s
CLL Collm 67.89 340⇑ *i*P **P 08 36 08.0 0.0**
CLL *e**PP **pP 08 36 16.0 -4.2**
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 67.89 340 P **P 08 36 07.4 -0.6**
comp=Z,12nm,1.4s
CLL Collm 67.89 340 *e*P 08 36 08.4
comp=Z,5.5nm,0.8s,baz=15,slow=6.3
JCT Junction City 67.90 68 IAmb IAmb 08 36 08.9
comp=Z,9.8nm,0.7s
JCT Junction City 67.90 68 P **P 08 36 08.2 -0.3**
baz=326,SNR=8.1
O53A New Philadelph 67.92 48 P **P 08 36 07.5 -0.9**
baz=329
SOC Sochi 68.08 319 *e*P P 08 36 04.4 -4.9
SOC *e* 08 38 37.9
SOC *e*PPP PPP 08 40 18.4
SOC *e*S **S 08 45 00.2 -5.4**
SOC *e*SS **SS 08 49 36.2 +8.8**
SOC *e*SSS SSS 08 52 33.2
SOC MLR MLR
comp=Z,115nm,15.0s
P52A Corning 68.09 49 P **P 08 36 08.7 -0.8**
baz=329
UPC Upice 68.10 338 P **P 08 36 10.3 +0.9**
UPC pmax pmax
comp=Z,8.0nm,1.6s
BRG Berggiesshubel 68.14 340 *i*P **P 08 36 10.2 +0.6**
BRG Amp 08 36 12.2
comp=Z,4.1nm,0.7s
BRG Amp 09 11 41.0
comp=N,0.1nm,14.1s
BRG Amp 09 12 02.0
comp=Z,0.2nm,16.6s
BRG Amp 09 12 18.0
comp=E,0.1nm,13.6s
BRG Berggiesshubel 68.14 340 *i*P **P 08 36 10.2 +0.6**
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG Berggiesshubel 68.14 340 *e*P 08 36 10.0
comp=Z,2.6nm,0.8s,baz=15,slow=6.3
DPC Dobruska-Polom 68.19 338 *e*P **P 08 36 11.1 +1.1**
DPC Dobruska-Polom 68.19 338 *e*P **P 08 36 11.1 +1.1**
DPC Dobruska-Polom 68.19 338 P **P 08 36 10.9 +0.9**
comp=Z,11nm,1.3s
BINY Binghamton 68.20 44 P **P 08 36 09.5 -0.7**
baz=331
NIE Niedzica 68.24 335 P **P 08 36 12.6 +2.3**
NIE pmax pmax
comp=Z,3.0nm,1.7s
KOLS Kolonicke sedl 68.25 334 *e*P **P 08 36 11.3 +0.9**
KOLS pmax pmax
comp=Z,8.0nm,0.6s
KOLS Kolonicke sedl 68.25 334 *e*P **P 08 36 11.2 +0.9**
DSB Dublin 68.27 353 IAmb IAmb 08 36 11.5
comp=Z,8.2nm,0.7s
KRLC Kraliky 68.36 338 P **P 08 36 12.2 +1.1**
WLAR White Oak Lake 68.40 61 IAmb IAmb 08 36 13.1
comp=Z,11nm,0.8s
CRVS Cervenica-Dubn 68.46 334 *e*P **P 08 36 12.7 +1.0**
CRVS pmax pmax
comp=Z,11nm,0.8s
CRVS Cervenica-Dubn 68.46 334 *e*P **P 08 36 12.7 +1.0**
HSKC Hora Svate Kat 68.49 340 *e*P **P 08 36 12.6 +0.8**
MORC Moravsky Berou 68.49 337 IAmb IAmb 08 36 13.4
comp=Z,6.3nm,0.7s
MORC Moravsky Berou 68.49 337 *e*P **P 08 36 12.6 +0.7**
MORC Moravsky Berou 68.49 337 P **P 08 36 13.1 +1.2**
SBUM Sibu 68.62 237 P **P 08 36 13.8 +0.8**
SBUM IAmb IAmb 08 36 14.3
comp=Z,4.2nm,0.7s
GGN Saint George 68.67 36 P **P 08 36 12.7 -0.3**
GGN IAmb IAmb 08 36 13.3
comp=Z,12nm,1.1s
BUG Bochum--Univer 68.67 344 *e*P 08 36 13.8
comp=Z,7.4nm,0.7s,baz=15,slow=6.3
LANS Liptovska Anna 68.67 335 *e*P **P 08 36 15.1 +2.0**
LANS pmax pmax
comp=Z,14nm,0.6s
LANS Liptovska Anna 68.67 335 *e*P **P 08 36 15.1 +2.0**
WVT Waverly 68.70 55 P **P 08 36 13.1 -0.3**
WVT IAmb IAmb 08 36 13.6
comp=Z,4.6nm,0.7s
WVT Waverly 68.70 55 P **P 08 36 13.0 -0.4**
baz=328
WVT Waverly 68.70 55 P **P 08 36 13.1 -0.3**
WVT pmax pmax
comp=Z,5.0nm,0.7s
435B Jarrell 68.72 66 P **P 08 36 13.2 -0.3**
baz=326
BUR08 Bucovina Ar. S 68.73 331 IAmb IAmb 08 36 14.7
comp=Z,3.8nm,0.6s
KASTN Kahler Asten 68.74 343 *e*P 08 36 13.8
comp=Z,2.7nm,0.8s,baz=15,slow=6.3
BURAR Bucovina Array 68.76 331 P **P 08 36 14.3 +0.6**
BURAR IAmb IAmb 08 36 15.1
comp=Z,6.8nm,0.6s
BURAR Bucovina Array 68.76 331 P **P 08 36 14.3 +0.6**
BURAR pmax pmax
comp=Z,7.0nm,0.6s
MOX Moxa 68.77 341 P **P 08 36 14.2 +0.6**
MOX pmax pmax
comp=Z,11nm,1.9s
MOX Moxa 68.77 341 *e*P 08 36 14.2
comp=Z,5.2nm,0.7s,baz=15,slow=6.3
MOX *e*L 09 08 00.6
comp=Z,64nm,18.1s
TANN Tannenbergstha 68.84 341 *e*P 08 36 14.8
comp=Z,2.9nm,0.7s,baz=15,slow=6.3
SSPA Standing Stone 68.86 46 P **P 08 36 13.2 -1.1**
baz=331
UBBA Unterbreizbach 68.87 342 *e*P 08 36 14.5
comp=Z,2.2nm,0.7s,baz=15,slow=6.3
PRU Pruhonice 68.88 339 *e*P **P 08 36 14.9 +0.7**
PRU Pruhonice 68.88 339 *e*P **P 08 36 14.9 +0.7**
MCWV Mont Chateau 68.96 48 P **P 08 36 14.2 -0.8**
baz=330
PMG Port Moresby 68.98 197 LR LR 09 03 25.4
comp=Z,46nm,19.7s,baz=84,slow=33
KECS Kecovo 69.08 335 *e*P **P 08 36 16.9 +1.4**
KECS pmax pmax
comp=Z,7.0nm,0.7s
KECS Kecovo 69.08 335 *e*P **P 08 36 16.9 +1.4**
VRAC Vranov 69.13 337 *e*P **P 08 36 16.7 +0.9**
VRAC Vranov 69.13 337 LR LR 09 10 27.3
comp=Z,106nm,18.5s,baz=28,slow=39
VRAC Vranov 69.13 337 P **P 08 36 17.1 +1.3**
VRAC pmax pmax
comp=Z,11nm,1.3s
L61B Northampton 69.15 41 P **P 08 36 15.5 -0.6**
baz=332
NATX Nacogdoches 69.29 63 P **P 08 36 17.4 +0.3**
baz=327
MANZ Manzenberg 69.32 341 *e*P 08 36 17.9
comp=Z,0.7nm,0.8s,baz=15,slow=6.3
JAVC Velka Javorina 69.33 337 *e*P **P 08 36 19.0 +1.8**
CLTN Cedars of Leba 69.38 54 IAmb IAmb 08 36 17.5
comp=Z,4.9nm,0.7s
OXF Oxford 69.38 57 P **P 08 36 17.6 0.0**
baz=328
KRUC Moravsky 69.40 338 *e*P **P 08 36 18.1 +0.6**
KRUC Moravsky 69.40 338 P **P 08 36 18.8 +1.3**
VYHS Vyhne 69.43 336 *e*P **P 08 36 18.9 +1.2**
VYHS pmax pmax
comp=Z,11nm,0.6s
VYHS Vyhne 69.43 336 *e*P **P 08 36 18.9 +1.2**
ZVC Zvikov 69.47 339 *e*P **P 08 36 18.9 +1.0**
HRV Adam Dziewonsk 69.48 40 P **P 08 36 18.0 -0.1**
baz=333
ROTZ Rotzenmuhle 69.51 341 *e*P 08 36 19.2
comp=Z,0.8nm,0.7s,baz=15,slow=6.3
AHRW Bad Neuenahr-A 69.58 344 *e*P 08 36 19.1
comp=Z,7.4nm,1.2s,baz=15,slow=6.3
MEM Membach 69.66 345 *d*P **P 08 36 18.9 -0.2**
comp=Z,13nm,0.8s
MEM Membach 69.66 345 P **P 08 36 19.8 +0.7**
MEM pmax pmax
comp=Z,24nm,0.9s
BTNL Ternell 69.67 345 *d*P **P 08 36 19.5 +0.3**
comp=Z,15nm,0.8s
TNS Taunus Mts 69.69 343 *e*P 08 36 19.9
comp=Z,4.9nm,0.9s,baz=15,slow=6.3
PSZ Piszkesteto 69.74 335 IAmb IAmb 08 36 25.2
comp=Z,13nm,1.1s
BSTI Sart Tilman 69.75 345 *d*P **P 08 36 20.7 +1.1**
comp=Z,2.2nm,1.0s
GRA1 Grafenberg Arr 69.75 341 IAmb IAmb 08 36 21.3
comp=Z,12nm,0.9s
GRF Grafenberg Arr 69.75 341 P **P 08 36 20.9 +1.2**
GRF pmax pmax
comp=Z,18nm,1.2s
GRF Grafenberg Arr 69.76 341 *e*P 08 36 20.7
comp=Z,7.3nm,0.8s,baz=15,slow=6.3
GRF *e*L 09 05 16.7
comp=Z,56nm,20.2s
GRFO Grafenberg 69.76 341 P **P 08 36 20.3 +0.6**
GRFO IAmb IAmb 08 36 21.2
comp=Z,9.9nm,0.8s
GRFO Grafenberg 69.76 341 P **P 08 36 20.3 +0.6**
GRFO pmax pmax
comp=Z,10.0nm,0.8s
MODS Modra-Piesok 69.88 337 *e*P **P 08 36 22.1 +1.6**
MODS pmax pmax
comp=Z,22nm,1.0s
MODS Modra-Piesok 69.88 337 *e*P **P 08 36 22.1 +1.6**
KHC Kasperske Hory 69.88 339 *e*P **P 08 36 21.4 +0.9**
KHC Kasperske Hory 69.88 339*c e*P **P 08 36 21.3 +0.8**
KHC pmax pmax
comp=Z,30nm,1.7s
KHC Kasperske Hory 69.88 339 P **P 08 36 21.0 +0.5**
comp=Z,7.8nm,1.0s
833A Chaparral WMA, 69.88 69 P **P 08 36 20.9 +0.1**
baz=326
BHOU Houvegnez 69.91 345 *d*P **P 08 36 21.7 +1.0**
BCLA Clavier 69.94 345 *d*P **P 08 36 20.8 0.0**
comp=Z,4.1nm,1.2s
BCLA *d*PcP **PcP 08 36 41.3 -1.7**
WET Wettzell 70.00 340 *e*P 08 36 22.3
comp=Z,4.0nm,0.8s,baz=15,slow=6.3
BGES Gesves 70.00 345 *d*P **P 08 36 21.5 +0.3**
ZST Bratislava 70.08 337 *e*P **P 08 36 23.5 +1.8**
ZST pmax pmax
comp=Z,71nm,1.6s
ZST Bratislava 70.08 337 *e*P **P 08 36 23.5 +1.8**
BMRD Maredsous 70.13 346 *d*P **P 08 36 22.4 +0.5**
comp=Z,5.5nm,0.9s
GEC2 GERESS Array S 70.13 339 IAmb IAmb 08 36 23.3
comp=Z,5.2nm,0.7s
GERES GERESS Array B 70.13 339 P **P 08 36 21.4 -0.7**
GERES GERESS Array B 70.13 339 P **P 08 36 22.3 +0.2**
comp=Z,3.7nm,0.6s,baz=46,slow=3.9,SNR=20
GERES LR LR 09 11 42.9
comp=Z,152nm,18.1s,baz=40,slow=40
comp=Z,3.7nm,0.6s
GERES GERESS Array B 70.13 339 P **P 08 36 21.4 -0.7**
GEC2 GERESS Array S 70.13 339 *e*P 08 36 22.8
comp=Z,4.2nm,0.6s,baz=15,slow=6.3
TZTN Tazewell 70.16 52 P **P 08 36 21.5 -0.8**
baz=329
RCHB Rochefort 70.21 345 *d*P **P 08 36 22.9 +0.4**
DOU Dourbes 70.35 346 *d*P **P 08 36 23.5 +0.2**
BAIF Baives 70.44 346 *e*P **P 08 36 24.1 +0.3**
BAIF pmax pmax
comp=Z,4.0nm,0.7s
MLR Muntele Rosu 70.54 330 P **P 08 36 25.6 +0.9**
comp=Z,5.7nm,0.9s
CONA Conrad Observa 70.59 338 *e*P **P 08 36 26.2 +1.2**
comp=Z,4.2nm,0.7s,SNR=11
RONA Rosalia, Austr 70.72 337 *e*P **P 08 36 27.1 +1.4**
comp=Z,7.2nm,0.9s,SNR=6.2
VOIR 70.82 330 P **P 08 36 27.3 +0.9**
VOIR 70.82 330 P **P 08 36 27.3 +0.9**
comp=Z,3.8nm,1.4s
TKL Tuckaleechee C 70.83 53 LR LR 09 09 08.8
comp=Z,171nm,18.2s,baz=342,slow=37
BLA Blacksburg 70.85 49 P **P 08 36 26.1 -0.6**
baz=330
MOA Molln 70.98 339 *e*P **P 08 36 28.1 +0.8**
comp=Z,9.6nm,1.6s,SNR=5.1
CBN Corbin Frederi 71.18 47 P **P 08 36 28.0 -0.5**
baz=331
FUR Furstenfeldbru 71.22 341 *e*P 08 36 29.6
comp=Z,7.7nm,0.7s,baz=15,slow=6.3
BIOA Bad Ischl, Aus 71.25 339 *e*P **P 08 36 30.5 +1.7**
comp=Z,2.5nm,0.6s
ARSA Arzberg 71.31 338 *e*P **P 08 36 30.6 +1.4**
comp=Z,3.5nm,0.7s
RJOB Jochberg 71.36 340 *e*P 08 36 31.0
comp=Z,6.5nm,0.8s,baz=15,slow=6.3
BZS Buzias 71.51 333 P **P 08 36 31.2 +0.8**
BZS pmax pmax
comp=Z,9.0nm,1.7s
BFO Black Forest 71.55 343 P **P 08 36 30.2 -0.4**
BFO Black Forest 71.55 343 P **P 08 36 30.2 -0.4**
BFO pmax pmax
comp=Z,4.0nm,1.0s
BFO Black Forest 71.55 343 *e*P 08 36 31.4
comp=Z,2.8nm,0.9s,baz=15,slow=6.3
CDF Champ du Feu 71.63 344 *e*P **P 08 36 31.0 -0.2**
CDF pmax pmax
comp=Z,11nm,1.2s
MORH Mrgy, Hungar 71.63 335 P **P 08 36 31.5 +0.4**
comp=Z,4.5nm,1.3s
LESA Schwarzleotal 71.69 340 *e*P **P 08 36 32.4 +0.8**
comp=Z,5.0nm,0.9s
LRAL Lakeview Retre 71.69 56 P **P 08 36 30.9 -0.7**
baz=329
ECH Echery 71.83 344 P **P 08 36 33.2 +0.8**
ECH pmax pmax
comp=Z,7.0nm,1.5s
UBR Ueberruh 71.89 341 *e*P 08 36 34.1
comp=Z,4.8nm,0.9s,baz=15,slow=6.3
KBA Koelnbreinsper 71.89 339 *e*P **P 08 36 34.4 +1.5**
comp=Z,7.2nm,0.7s
KBA Koelnbreinsper 71.89 339 P **P 08 36 35.0 +2.1**
KBA pmax pmax
comp=Z,18nm,1.4s
SOKA Soboth 71.95 338 *e*P **P 08 36 34.2 +1.0**
comp=Z,4.3nm,0.9s,SNR=5.7
RETA Reutte 71.97 341 *e*P **P 08 36 33.8 +0.5**
comp=Z,2.9nm,0.7s
WATA Walderalm 71.97 340 *e*P **P 08 36 34.2 +0.8**
comp=Z,8.8nm,1.2s
WTTA Wattenberg 72.03 340 *e*P **P 08 36 34.7 +0.9**
comp=Z,4.6nm,0.7s
WTTA Wattenberg 72.03 340 P **P 08 36 34.5 +0.8**
WTTA pmax pmax
comp=Z,8.0nm,0.9s
SQTA Sankt Quirin 72.15 340 *e*P **P 08 36 35.3 +0.9**
comp=Z,11nm,0.9s,SNR=6.7
OBKA Obir 72.21 338 *e*P **P 08 36 35.6 +0.9**
comp=Z,19nm,0.8s,SNR=11
FLN La Foliniere 72.25 349 *e*P **P 08 36 34.3 -0.5**
FLN pmax pmax
comp=Z,5.0nm,0.6s
MYKA Terra Mystica 72.27 339 *e*P **P 08 36 35.9 +0.8**
comp=Z,7.0nm,1.1s
KMSC Kings Mountain 72.28 51 P **P 08 36 34.4 -0.8**
baz=330
ABTA Abfaltersbach 72.37 339 *e*P **P 08 36 36.5 +0.8**
comp=Z,8.4nm,1.0s,SNR=5.8
FRGS Fruska Gora 72.37 334 P **P 08 36 36.5 +0.9**
comp=Z,15nm,1.4s,comp=Z,243nm
LDF La Druitiere 72.38 349 *e*P **P 08 36 35.1 -0.5**
LDF pmax pmax
comp=Z,10.0nm,1.2s
FETA Feichten 72.42 341 *e*P **P 08 36 36.9 +0.8**
comp=Z,9.0nm,0.9s,SNR=6.2
PRED Cave del Predi 72.46 339 IAmb IAmb 08 36 37.8
comp=Z,8.5nm,0.9s
GRR Gorron 72.66 349 *e*P **P 08 36 37.0 -0.2**
GRR pmax pmax
comp=Z,23nm,1.2s
CLF Chambon-Foret 72.68 347 IAmb IAmb 08 36 39.5
comp=Z,17nm,1.1s
DAVOX Davos/Dischmat 72.80 341 LR LR 09 12 57.0
comp=Z,62nm,18.8s,baz=82,slow=39
SGMF Saint Gilles 72.95 350 *e*P **P 08 36 38.9 -0.1**
SGMF pmax pmax
comp=Z,6.0nm,1.0s
TUE Stuetta 73.19 342 P **P 08 36 41.3 +0.6**
comp=Z,35nm,1.6s
CTI Castel Tesino 73.20 340 IAmb IAmb 08 36 41.2
comp=Z,6.6nm,1.0s
LOR Lormes 73.22 346 *e*P **P 08 36 40.3 -0.3**
LOR pmax pmax
comp=Z,9.0nm,0.9s
SSF Saint Saulge 73.47 346 *e*P **P 08 36 42.7 +0.6**
SSF pmax pmax
comp=Z,4.0nm,0.9s
BR106 Keskin Array S 73.55 322 P **P 08 36 43.5 +0.6**
comp=Z,2.6nm,1.5s
BRTR Keskin Array B 73.56 322 P **P 08 36 43.2 +0.3**
BRTR Keskin Array B 73.56 322 P **P 08 36 43.8 +0.9**
comp=Z,1.3nm,0.6s,baz=42,slow=2.9,SNR=7.9
BRTR LR LR 09 11 02.8
comp=Z,74nm,20.9s,baz=61,slow=37
comp=Z,1.3nm,0.6s
BR105 Keskin Array S 73.57 322 P **P 08 36 43.8 +0.8**
comp=Z,3.9nm,1.4s
BR104 Keskin Array S 73.57 322 P **P 08 36 43.8 +0.8**
comp=Z,3.4nm,1.5s
CNNC Cliffs of the 73.57 48 P **P 08 36 42.2 -0.6**
baz=332
CTYL Yalikoy Yolu 73.60 326 P **P 08 36 43.6 +0.7**
comp=Z,30nm,1.3s,comp=Z,2μm

AVF Avril sur Loir 73.76 346 *e*P **P 08 36 43.6 -0.1**
AVF pmax pmax
comp=Z,18nm,1.5s
SMF Signal de Mont 73.84 346 *e*P **P 08 36 43.9 -0.3**
SMF pmax pmax
comp=Z,7.0nm,1.2s
MFF Saint Martin d 74.35 348 *e*P **P 08 36 47.3 +0.1**
MFF pmax pmax
comp=Z,10.0nm,1.1s
TCF Toulx Ste Croi 74.39 347 *e*P **P 08 36 47.4 -0.1**
TCF pmax pmax
comp=Z,13nm,1.6s
NHSC New Hope 74.52 51 P **P 08 36 47.8 -0.6**
baz=331
TIGA Tifton 74.53 55 P **P 08 36 48.0 -0.5**
baz=330
LPL La Plagne 74.53 343 *e*P **P 08 36 49.3 +0.7**
LPL pmax pmax
comp=Z,15nm,1.2s
LPG La Plagne 74.55 343 *e*P **P 08 36 47.5 -1.3**
LPG pmax pmax
comp=Z,17nm,1.2s
BNI Bardonecchia 75.00 343 P **P 08 36 51.4 +0.2**
SSB Saint Sauveur 75.08 345 P **P 08 36 51.9 +0.4**
MBDF Montbardon 75.30 343 *e*P **P 08 36 53.8 +0.9**
MBDF pmax pmax
comp=Z,9.0nm,1.1s
OSSC Osservatorio P 75.72 339 IAmb IAmb 08 36 56.9
comp=Z,14nm,1.2s
SBF Sospel 76.04 342 *e*P **P 08 36 57.3 +0.2**
SBF pmax pmax
comp=Z,17nm,1.1s
INTR Introdacqua 76.66 337 IAmb IAmb 08 37 12.6
comp=Z,16nm,1.1s
PGF Pioggiola 77.06 341 *e*P **P 08 37 06.3 +3.4**
PGF pmax pmax
comp=Z,21nm,1.4s
ETSF Etsaut 78.06 348 *e*P **P 08 37 10.8 +2.4**
ETSF pmax pmax
comp=Z,2.0nm,0.7s
CMIG Matias Romero 81.55 71 LR LR 09 15 22.4
comp=Z,22nm,18.4s,baz=1.5,slow=37
ESDC Sonseca Array 81.59 350 P **P 08 37 26.8 -0.8**
comp=Z,1.4nm,0.9s,baz=2.0,slow=4.8,SNR=8.2
comp=Z,1.4nm,0.9s
WB0 Warramunga Arr 81.61 208 P **P 08 37 27.1 -0.5**
WB0 IAmb IAmb 08 37 29.2
comp=Z,13nm,1.0s
WR0 Warramunga Arr 81.77 207 P **P 08 37 27.8 -0.7**
WR0 IAmb IAmb 08 37 48.3
comp=Z,8.5nm,1.1s
WB2 Warramunga Arr 81.79 207 IAmb IAmb 08 37 33.3
comp=Z,13nm,1.1s
WRA Warramunga Arr 81.80 208 P **P 08 37 28.5 -0.2**
WRA Warramunga Arr 81.80 208 P **P 08 37 28.1 -0.5**
comp=Z,6.5nm,0.9s,baz=13,slow=5.6,SNR=24
comp=Z,6.5nm,0.9s
WRA Warramunga Arr 81.80 208 *i*P **P 08 37 28.2 -0.5**
WRA pmax pmax
comp=Z,6.0nm,0.9s
TEIG Tepich 82.08 64 LR LR 09 18 55.8
comp=Z,71nm,20.0s,baz=31,slow=39
EIL Elat 82.22 317 LR LR 09 20 30.3
comp=Z,106nm,18.8s,baz=65,slow=40
RAYN Ar Rayn 83.54 305 P **P 08 37 37.3 -0.7**
RAYN IAmb IAmb 08 37 38.1
comp=Z,6.1nm,0.7s
RAYN Ar Rayn 83.54 305 P **P 08 37 37.3 -0.7**
RAYN pmax pmax
comp=Z,6.0nm,0.7s
CCIG Comitan 83.60 69 IAmb IAmb 08 37 42.3
comp=Z,13nm,1.1s
KEST Kesra 83.62 339 IAmb IAmb 08 37 40.9
comp=Z,9.6nm,1.1s
KEST Kesra 83.62 339 P **P 08 37 37.9 -0.3**
comp=Z,7.0nm,1.1s,baz=27,slow=1.1,SNR=4.6
comp=Z,7.0nm,1.1s
PPT Papeete 85.08 136 LR LR 09 10 13.0
comp=Z,42nm,19.9s,baz=9.0,slow=32
PPT2 Papeete2 85.09 136 *e*LR LR 09 04 20.7
comp=Z,123nm,28.0s
PPT2 *e*LR LR 09 04 40.4
comp=Z,98nm,24.2s
ASAR Alice Springs 85.48 207 P **P 08 37 46.8 -0.7**
ASAR Alice Springs 85.48 207 P **P 08 37 47.2 -0.3**
comp=Z,1.8nm,0.6s,baz=17,slow=4.9,SNR=27
comp=Z,1.8nm,0.6s
ASAR Alice Springs 85.48 207 P **P 08 37 46.8 -0.7**
STKA Stephens Creek 91.89 198 P **P 08 38 17.1 -0.5**
comp=Z,2.5nm,0.8s,baz=17,slow=8.1,SNR=4.0
comp=Z,2.5nm,0.8s
JTS Las Juntas de 92.25 66 LR LR 09 25 23.1
comp=Z,22nm,18.7s,baz=334,slow=39
TORD Torodi Ar. Bea 107.03 341 PP **PP 08 43 48.0 -4.0**
comp=Z,0.9nm,1.0s,baz=3.8,slow=9.1,SNR=3.9
MAW Mawson 145.40 222 PKPbc **PKPab 08 44 46.1 -0.2**
comp=Z,12nm,1.1s,baz=49,slow=4.6,SNR=15
QSPA South Pole Qui 148.29 180 PKPbc **PKPbc 08 44 53.6 -0.8**
comp=Z,5.1nm,0.7s,baz=317,slow=0.1,SNR=37
ELIB Princess Elisa 159.12 214 *d*PKP **PKPab 08 45 42.3 -1.2**
SNAA Sanae 165.66 198 ⇑PKPab **PKPab 08 46 07.1 -5.0**
comp=Z,20nm,0.6s
SNAA Sanae 165.66 198 PKPab **PKPab 08 46 10.0 -2.0**
comp=Z,1.8nm,1.0s,baz=176,slow=11,SNR=5.3
VNA3 Neumayer Olymp 166.92 190 ⇑PKPab **PKPab 08 46 14.8 -2.8**
comp=Z,1.9nm,0.8s
VNA2 Neumayer--Watz 166.98 193 ⇑PKPab **PKPab 08 46 14.4 -3.4**
comp=Z,1.6nm,0.8s,baz=184,slow=1.4

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*IDC **08** 09:04:16.0±0.8, 7°.25N×94°.26E, h0km, mb4.0/13, mbtmp4.0/14, MS3.4/11, Error ellipse: s-maj=38.0km s-min=16.6km az=55.0*
*NEIC **08** 09:04:19.5±1.1, 7°.3N±0°.1×94°.33E±0°.08, h17km±5km, mb4.5/16, Error ellipse: s-maj=16.7km s-min=7.3km az=211.0*
*DJA **08** 09:04:20.3±0.5, 7°N±7°×9°4E±°, h10km, M4.5/6, mB5.3/1, mb4.7/6, MLv4.5/3, Mw(mB)4.8/1*
ISC 08 09:04:20.1±0.5, **7°.36N**±0°.08×**94°.33E**±0°.09, **h24**km, **n57**, σ1§**42**/45, **mb4.3**/22, **MS3.4**/10, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.35**	**129**	Pn	**Pn**	**09 05 10.4**	**-0.6**
LHMI	**Lhok Sumawe**	**3.35**	**129**	P	**Pn**	**09 05 11.7**	**+0.6**
MLSI	**Meulaboh, Aceh**	**3.70**	**146**	P	**Pn**	**09 05 18.1**	**+2.3**
KCSI	**Kotacane, Aceh**	**5.13**	**138**	P	**Pn**	**09 05 39.9**	**+4.4**
SRIT	**Nakonsritamara**	**5.37**	**76**	Pn	**Pn**	**09 05 39.0**	**+0.2**
RPSI	**Rantau Prapat**	**6.51**	**135**		**Pn**	**09 05 55.0**	**+0.5**
KULM	**Kulim**	**6.61**	**108**	Pn	**Pn**	**09 05 54.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**11.91**	**22**	Pn	**Pn**	**09 07 10.1**	**+1.5**
	0.7nm,0.5s,baz=212,slow=14,SNR=1.8						
PALK	**Pallekele**	**13.51**	**271**	LR	LR	09 12 09.7	
	comp=Z,230nm,20.9s,baz=175,slow=35						
HYB	**Hyderabad**	**18.35**	**304**	*e*P	**P**	**09 08 32.4**	**-0.7**
SBUM	**Sibu**	**18.48**	**104**		**P**	**09 08 35.2**	**+0.7**
COCO	**West Island**	**19.58**	**173**	P	**P**	**09 08 41.6**	**-4.9**
H08S3	**Diego Garcia H**	**26.38**	**236**	T	T	09 36 47.4	
	baz=54,slow=75,SNR=35						
H08S2	**Diego Garcia H**	**26.38**	**236**	T	T	09 36 43.0	
	baz=54,slow=75,SNR=15						
H08S1	**Diego Garcia H**	**26.40**	**236**	T	T	09 36 50.0	
	baz=54,slow=75,SNR=23						
MPSI	**Mapaga**	**26.43**	**104**	P	**P**	**09 09 58.2**	**+2.8**
	16nm,1.1s						
SIMJ	**Simiganj**	**38.64**	**328**	P	**P**	**09 11 41.3**	**-0.6**
SIMJ				IAmb	IAmb	09 11 42.8	
	comp=Z,6.3nm,1.0s						
MK31	**Makanchi Array**	**40.63**	**347**	P	**P**	**09 11 58.2**	**0.0**
MKAR	**Makanchi Array**	**40.63**	**347**	P	**P**	**09 11 58.5**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=161,slow=7.7,SNR=15						
MKAR				LR	LR	09 30 24.6	
	comp=Z,26nm,20.4s,baz=233,slow=38						
	comp=Z,1.5nm,0.7s						
MAKZ	**Makanchi**	**40.71**	**347**	P	**P**	**09 11 58.0**	**-0.9**
MAKZ				IAmb	IAmb	09 12 05.7	
	comp=Z,2.8nm,0.6s						
KK31	**Karatay Array**	**41.30**	**333**	P	**P**	**09 12 04.3**	**+0.4**
KKAR	**Karatay Array**	**41.30**	**333**	P	**P**	**09 12 04.3**	**+0.4**
SONM	**Songino Array**	**41.62**	**12**	P	**P**	**09 12 07.0**	**+0.5**
SONM	**Songino Array**	**41.62**	**12**	P	**P**	**09 12 06.8**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=192,slow=9.0,SNR=4.8						
	comp=Z,0.7nm,0.7s						
JNU	**Nakatsue**	**42.45**	**48**	LR	LR	09 30 30.1	
	comp=Z,78nm,18.4s,baz=180,slow=37						
GEYT	**Alibeck**	**44.71**	**318**	P	**P**	**09 12 31.8**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=156,slow=7.6,SNR=5.1						
GEYT				LR	LR	09 34 20.6	
	comp=Z,52nm,18.1s,baz=154,slow=40						
	comp=Z,1.9nm,0.5s						
KURBB	**Kurchatov Arra**	**45.09**	**346**	P	**P**	**09 12 35.0**	**+0.8**
	comp=Z,4.8nm,1.0s,baz=165,slow=7.1,SNR=17						
	comp=Z,4.8nm,1.0s						
KURK	**Kurchatov**	**45.15**	**346**	P	**P**	**09 12 34.6**	**-0.1**
KURK				IAmb	IAmb	09 12 37.9	
	comp=Z,5.9nm,1.0s						
ZAA0	**Zalesovo Array**	**47.09**	**352**	P	**P**	**09 12 50.3**	**+0.3**
ZAA0				IAmb	IAmb	09 12 57.9	
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**47.09**	**352**	P	**P**	**09 12 50.2**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=169,slow=8.5,SNR=7.1						
ZALV				LR	LR	09 33 25.2	
	comp=Z,37nm,21.0s,baz=308,slow=37						
	comp=Z,1.3nm,0.6s						
WB0	**Warramunga Arr**	**47.77**	**125**	P	**P**	**09 12 54.6**	**-1.2**
WB0				IAmb	IAmb	09 13 27.3	
	comp=Z,9.2nm,1.3s						
WRA	**Warramunga Arr**	**47.81**	**125**	P	**P**	**09 12 54.7**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=305,slow=8.6,SNR=9.3						
WRA				PcP	**PcP**	**09 14 24.8**	**0.0**
	comp=Z,0.4nm,0.6s,baz=315,slow=2.7,SNR=1.5						
	comp=Z,0.9nm,0.7s						
WB2	**Warramunga Arr**	**47.82**	**125**	P	**P**	**09 12 53.9**	**-2.3**
WB2				IAmb	IAmb	09 13 24.9	
	comp=Z,7.1nm,1.0s						
WR0	**Warramunga Arr**	**47.98**	**125**	P	**P**	**09 12 56.3**	**-1.2**
WR0				IAmb	IAmb	09 12 57.4	
	comp=Z,11nm,1.2s						
USRK	**Ussuriysk Ar.**	**49.22**	**35**	LR	LR	09 35 03.2	
	comp=Z,36nm,20.6s,baz=208,slow=37						
MJAR	**Matsushiro Arr**	**49.37**	**47**	LR	LR	09 34 51.8	
	comp=Z,23nm,20.2s,baz=252,slow=37						
ASAR	**Alice Springs**	**49.45**	**130**	P	**P**	**09 13 08.0**	**-0.7**
ASAR	**Alice Springs**	**49.45**	**130**	P	**P**	**09 13 08.3**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=302,slow=7.9,SNR=10						
ASAR				PcP	**PcP**	**09 14 31.1**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=318,slow=4.1,SNR=5.0						
	comp=Z,1.5nm,0.9s						
RAYN	**Ar Rayn**	**49.47**	**295**	P	**P**	**09 13 10.2**	**+1.3**
RAYN				IAmb	IAmb	09 13 12.2	
	comp=Z,6.0nm,1.0s						
FORT	**Forrest**	**49.82**	**141**	P	**P**	**09 13 11.8**	**+0.4**
GUMO	**Guam**	**50.01**	**78**	LR	LR	09 31 51.9	
	comp=Z,19nm,21.9s,baz=219,slow=33						
MMAI	**Mount Meron Ar**	**60.06**	**304**	LR	LR	09 45 12.6	
	comp=Z,34nm,18.1s,baz=74,slow=41						
BRTR	**Keskin Array B**	**62.90**	**311**	LR	LR	09 44 16.3	
	comp=Z,28nm,19.4s,baz=108,slow=38						
ANTO	**Ankara**	**63.57**	**311**	P	**P**	**09 14 48.6**	**-0.5**
BR231	**Keskin MP Arra**	**63.58**	**311**	P	**P**	**09 14 47.1**	**-2.1**
H04N2	**CROZET ISLANDS**	**65.38**	**211**	T	T	10 26 01.5	
	baz=49						
H04N1	**CROZET ISLANDS**	**65.39**	**211**	T	T	10 26 02.1	
	baz=49						
H04N3	**CROZET ISLANDS**	**65.40**	**211**	T	T	10 25 54.6	
	baz=49						
FINES	**FINESS Array B**	**73.25**	**332**	P	**P**	**09 15 49.0**	**-0.1**
FINES	**FINESS Array B**	**73.25**	**332**	P	**P**	**09 15 49.0**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=139,slow=7.0,SNR=8.1						
	comp=Z,2.3nm,0.7s						
BOSA	**Boshof**	**75.47**	**238**	LR	LR	09 47 36.5	
	comp=Z,70nm,18.1s,baz=185,slow=34						
GERES	**GERESS Array B**	**78.33**	**318**	P	**P**	**09 16 18.2**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=161,slow=9.3,SNR=2.8						
	comp=Z,0.9nm,0.7s						
HFS	**Hagfors**	**78.99**	**330**	P	**P**	**09 16 21.3**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=101,slow=7.7,SNR=6.4						
	comp=Z,1.3nm,0.7s						
NB2	**NORSAR Subarra**	**80.27**	**331**	P	**P**	**09 16 28.3**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=91,slow=5.9						
NOA	**NORSAR Array B**	**80.27**	**331**	P	**P**	**09 16 28.1**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=92,slow=5.5,SNR=4.5						
	comp=Z,0.8nm,0.8s						
EKA	**Eskdalemuir Ar**	**88.25**	**325**	P	**P**	**09 17 09.9**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=97,slow=5.1,SNR=5.9						
	comp=Z,1.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**90.89**	**283**	P	**P**	**09 17 23.1**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=45,slow=4.7,SNR=3.3						
	comp=Z,0.9nm,1.0s						

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*IDC **08** 09:09:39.7±13.0, 19°.54N×155°.60W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=273.4km s-min=53.7km az=34.0*
*HVO **08** 09:09:39.9±0.9, 19°.416N±0°.005×155°.275W±0°.007, h1km±3km, ML3.8/11, ML3.5/35(NEIC), Error ellipse: s-maj=1.0km s-min=0.5km az=130.0*
*NEIC **08** 09:09:40.6±1.2, 19°.41N±0°.01×155°.276W±0°.007, h5km±1km, Error ellipse: s-maj=1.9km s-min=1.8km az=195.0*
ISC 08 09:09:41.2±0.9, **19°.44N**±0°.04×**155°.28W**±0°.03, **h10**km, **n45**, σ1§**56**/38, **mb3.5**/4, **Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.01**	**176**		**Pg**	**09 09 40.6**	**-2.5**
SBLHI	**Steaming Bluff**	**0.01**	**136**		**Pg**	**09 09 40.7**	**-2.4**
OBL	**Observatory Le**	**0.02**	**193**		**Pg**	**09 09 40.9**	**-2.2**
UWE	**Uwekahuna**	**0.02**	**219**	Pg	**Pg**	**09 09 40.9**	**-2.2**
HATHI	**Halema'uma'u T**	**0.02**	**131**	Pg	**Pg**	**09 09 40.9**	**-2.2**
RSD	**Rainshed**	**0.03**	**2**		**Pg**	**09 09 41.4**	**-1.8**
RSD				IAML		09 09 42.2	
	comp=N,58μm,0.4s						
BYL	**Byron's Ledge**	**0.03**	**145**	Pg	**Pg**	**09 09 40.9**	**-2.3**
WRMHI	**West Rim**	**0.04**	**213**		**Pg**	**09 09 42.0**	**-1.3**
KKO	**Keanakako`i**	**0.04**	**163**		**Pg**	**09 09 41.5**	**-1.8**
RIM	**Rim**	**0.04**	**174**		**Pg**	**09 09 41.0**	**-2.2**
SDHHI	**Sand Hill**	**0.05**	**196**		**Pg**	**09 09 42.3**	**-1.0**
PUH	**Pauahi**	**0.09**	**137**		**Pg**	**09 09 42.6**	**-1.1**
PUH				IAML		09 09 43.6	
	comp=E,24μm,0.7s						
PUH				IAML		09 09 43.9	
	comp=N,23μm,0.3s						
MLH	**Mauna Loa**	**0.12**	**299**		**Pg**	**09 09 43.6**	**-0.6**
KNHH	**Kane Nui o Ham**	**0.12**	**119**		**Pg**	**09 09 43.1**	**-1.1**
HLP	**Hilina Pali**	**0.14**	**191**		**Pg**	**09 09 43.2**	**-1.2**
HLP				IAML		09 09 46.5	
	comp=N,33μm,0.7s						
HLP				IAML		09 09 46.5	
	comp=E,15μm,0.4s						
STCH	**Steam Cracks**	**0.15**	**110**		**Pg**	**09 09 43.6**	**-1.1**
STCH	**Steam Cracks**	**0.15**	**110**	IAML		09 09 47.0	
	comp=N,24μm,0.8s						
STCH				IAML		09 09 47.4	
	comp=E,18μm,0.5s						
NPOC	**North of Pu'u**	**0.17**	**106**		**Pg**	**09 09 43.8**	**-1.0**
NPOC					**Sg**	**09 09 46.7**	**-0.7**
JCUZ	**Jacuzzi**	**0.18**	**108**		**Pg**	**09 09 44.0**	**-1.0**
HTC	**Hot Caves**	**0.23**	**209**		**Pg**	**09 09 44.9**	**-1.0**
HMH	**Humu'ula Sheep**	**0.25**	**310**		**Pg**	**09 09 46.0**	**-0.4**
HMH					**Sg**	**09 09 48.4**	**-1.6**
HMH	**Humu'ula Sheep**	**0.25**	**310**	IAML		09 09 52.9	
	comp=N,11μm,0.6s						
HMH				IAML		09 09 54.5	
	comp=E,10μm,0.8s						
JOKA	**Jonika Flow**	**0.26**	**91**		**Pg**	**09 09 45.2**	**-1.2**
JOKA				IAML		09 09 54.1	
	comp=N,13μm,0.7s						
MLOA	**Mauna Loa Obse**	**0.30**	**289**	Pg	**Pg**	**09 09 46.6**	**-0.7**
MLOA				IAML		09 09 55.4	
	comp=E,9μm,1.0s						
MWH	**Moku'aweowe**	**0.30**	**279**		**Pg**	**09 09 46.7**	**-0.8**
ALEP	**Alea Permanent**	**0.36**	**287**		**Pg**	**09 09 47.6**	**-0.9**
KHU	**Kahuku**	**0.37**	**239**	Pg	**Pg**	**09 09 47.6**	**-1.0**
KHU				IAML		09 09 54.6	
	comp=E,7μm,0.5s						
KHU				IAML		09 09 58.9	
	comp=N,7μm,0.8s						
POHA	**Pohakuloa**	**0.40**	**323**		**Sg**	**09 09 54.9**	**+0.5**
POHA	**Pohakuloa**	**0.40**	**323**	Pg	**Pg**	**09 09 48.1**	**-1.0**
POHA	**Pohakuloa**	**0.40**	**323**	IAML		09 09 56.7	
	comp=N,11μm,0.8s						
POHA				IAML		09 10 02.4	
	comp=N,10μm,0.7s						
HPO	**Honuapo**	**0.43**	**217**		**Pg**	**09 09 48.5**	**-1.2**
HUH	**Hualalai**	**0.58**	**295**	Pg	**Pg**	**09 09 51.5**	**-1.0**
CPH	**Captain Cook**	**0.60**	**275**		**Pg**	**09 09 51.2**	**-1.7**
HPAH	**Hawaii Prepara**	**0.71**	**326**	Pg	**Pg**	**09 09 52.7**	**-2.2**
HPAH	**Hawaii Prepara**	**0.71**	**326**		**Sg**	**09 10 02.6**	**-1.6**
H11N3	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	09 53 41.7	
	baz=84,slow=74						
H11N2	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	09 53 42.2	
	baz=84,slow=74						
H11N1	**WAKE ISLAND Hy**	**35.60**	**277**	T	T	09 53 43.2	
	baz=84,slow=74						
H11S2	**WAKE ISLAND Hy**	**35.92**	**275**	T	T	09 54 07.1	
	baz=82						
H11S1	**WAKE ISLAND Hy**	**35.92**	**275**	T	T	09 54 06.7	
	baz=82						
H11S3	**WAKE ISLAND Hy**	**35.93**	**275**	T	T	09 54 09.9	
	baz=82						
NVAR	**Mina Array Bea**	**37.17**	**51**	P	**P**	**09 16 54.1**	**+1.4**
	comp=N,0.6nm,0.9s,baz=248,slow=8.8,SNR=3.6						
	comp=N,0.6nm,0.9s						
PDAR	**Pinedale Array**	**44.85**	**48**	P	**P**	**09 17 57.6**	**+1.6**
	comp=N,0.1nm,0.3s,baz=237,slow=8.2,SNR=2.5						
	comp=N,0.1nm,0.3s						
ILAR	**Eielson Array**	**45.65**	**5**	P	**P**	**09 18 01.1**	**-0.6**
	comp=N,0.9nm,0.8s,baz=199,slow=7.7,SNR=9.4						
	comp=N,0.9nm,0.8s						
TXAR	**Lajitas Array**	**47.71**	**68**	P	**P**	**09 18 20.2**	**+1.7**
	comp=N,1.2nm,0.8s,baz=263,slow=8.4,SNR=14						
	comp=N,1.2nm,0.8s						

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*MOS **08** 09:38:35.6±0.7, 42°.84N×143°.45E, h132km, mb4.4/1, Error ellipse: s-maj=17.8km s-min=15.0km az=71.8*
*NEIC **08** 09:38:36.8±1.2, 42°.85N±0°.07×143°.2E±0°.2, h133km±9km, mb4.0/10, Error ellipse: s-maj=24.3km s-min=9.7km az=89.0*
*SKHL **08** 09:38:37.1±0.5, 42°.90N×143°.50E, h126km±4km, mb4.5/2, msha5.5/2*
*JMA **08** 09:38:37.2±0.1, 42°.9N±0°.5×143°.4E±0°.6, h117km±1km, MV3.5/40, TOKACHI REGION*
JMA Felt I J1 at TOKACHI REGION .
*IDC **08** 09:38:38.4±4.9, 42°.99N×143°.41E, h134km±20km, mb3.4/8, mbtmp3.8/8, Error ellipse: s-maj=69.8km s-min=24.7km az=169.0*
ISC 08 09:38:35.9±0.7, **42°.81N**±0°.05×**143°.47E**±0°.03, **h127**km±5km, **n60**, σ1§**20**/81, **mb3.9**/15, **2D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.21**	**203**	*i*P	**Pn**	**09 38 53.5**	**0.0**
JCH				S	**Sn**	**09 39 05.5**	**-1.2**
JOB	**Onbets**	**0.28**	**70**	*i*P	**Pn**	**09 38 54.4**	**+0.7**
JOB				S	**Sn**	**09 39 07.4**	**+0.4**
JAR	**Ashorobuto**	**0.53**	**24**	*i*P	**Pn**	**09 38 54.9**	**0.0**
JAR				S	**Sn**	**09 39 08.3**	**-1.0**
JFR	**Furan**	**0.74**	**299**	*i*P	**Pn**	**09 38 55.6**	**-0.7**
JFR				*e*S	**Sn**	**09 39 10.2**	**-1.5**
JNBK	**Urakawa-nobuka**	**0.75**	**225**	*i*P	**Pn**	**09 38 57.1**	**+0.7**
JNBK				S	**Sn**	**09 39 11.8**	**-0.1**
JBT2	**Biratori 2**	**0.82**	**268**	*i*P	**Pn**	**09 38 56.8**	**-0.2**
JBT2				S	**Sn**	**09 39 11.8**	**-1.0**
JEM	**Erimo**	**0.83**	**197**	*i*P	**Pn**	**09 38 58.0**	**+1.0**
ERM	**Erimo**	**0.83**	**197**		**Pn**	**09 38 58.4**	**+1.4**
ERM	**Erimo**	**0.83**	**197**	PN	**Pn**	**09 38 58.4**	**+1.4**
JAK	**Akkeshi**	**0.92**	**78**	P	**Pn**	**09 38 58.3**	**+0.5**
JAK				S	**Sn**	**09 39 14.1**	**-0.3**
AKK	**Akkeshi**	**1.03**	**78**	*e*P	**Pn**	**09 38 59.4**	**+0.6**
JAB	**Ashibetsu**	**1.15**	**308**	*i*P	**Pn**	**09 38 59.9**	**-0.1**
JIAM	**Iburiatsuma**	**1.16**	**261**	*i*P	**Pn**	**09 39 01.8**	**+1.7**
JIAM				S	**Sn**	**09 39 20.2**	**+1.7**
JKK2	**Kamakawa 2**	**1.19**	**334**	*i*P	**Pn**	**09 39 00.2**	**-0.2**
JTKR	**Abashiri--Toko**	**1.20**	**15**	*i*P	**Pn**	**09 39 00.6**	**+0.1**
JTKR				S	**Sn**	**09 39 18.4**	**-0.9**
JKA	**Kamikawa-asahi**	**1.45**	**334**		**Pn**	**09 39 03.3**	**+0.1**
JKA	**Kamikawa-asahi**	**1.45**	**334**	*e*P	**Pn**	**09 39 03.5**	**+0.2**
ASAJ	**Asahikawa**	**1.45**	**334**	P	**Pn**	**09 39 03.5**	**+0.3**
	86nm,0.4s,baz=196,slow=9.0,SNR=366						
ASAJ				S	**Sn**	**09 39 24.2**	**+0.1**
	23nm,0.4s,baz=185,slow=25,SNR=4.3						
JEW	**Eniwo**	**1.49**	**272**	*i*P	**Pn**	**09 39 03.8**	**+0.2**
JEW				S	**Sn**	**09 39 24.1**	**-0.7**
JHR	**Hokuryu**	**1.58**	**307**	P	**Pn**	**09 39 04.9**	**+0.2**
JRA	**Rausu**	**1.65**	**46**	P	**Pn**	**09 39 06.5**	**+1.1**
JRA				S	**Sn**	**09 39 30.8**	**+2.7**
NMR	**Nemuro--Hokkai**	**1.74**	**71**	*i*P	**Pn**	**09 39 06.9**	**+0.3**
NMR				*e*S	**Sn**	**09 39 28.8**	**-1.3**
NMR	**Nemuro--Hokkai**	**1.74**	**71**	⇓*i*PN	**Pn**	**09 39 06.9**	**+0.3**
NMR				*e*S	**Sn**	**09 39 28.7**	**-1.3**
NEM2	**Nemuro 2**	**1.75**	**71**	P	**Pn**	**09 39 06.9**	**+0.2**
NEM2				S	**Sn**	**09 39 29.0**	**-1.2**
RUSJ	**Misakicho**	**1.83**	**44**	⇓*i*PN	**Pn**	**09 39 08.8**	**+1.2**
RUSJ				*e*S	**Sn**	**09 39 33.4**	**+1.6**
JSS	**Shosan**	**1.98**	**324**	*i*P	**Pn**	**09 39 10.2**	**+0.8**
JSS				*e*S	**Sn**	**09 39 34.8**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**2.13**	**54**	*e*P	**Pn**	**09 39 12.6**	**+1.4**
YUK				AMB	AMB	09 39 13.7	
	120nm,0.4s						
YUK				*e*S	**Sn**	**09 39 38.4**	**+0.1**
YUK				A	A	09 39 40.6	
	440nm,0.4s						
YUK				A	A	09 39 40.6	
	130nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.13**	**54**	*e*PN	**Pn**	**09 39 12.6**	**+1.4**
YUK				*e*S	**Sn**	**09 39 38.8**	**+0.5**
YUK				pmax	pmax		
	comp=Z,122nm,0.4s						
YUK				pmax	pmax		
	comp=N,32nm,0.2s						
YUK				pmax	pmax		
	comp=E,43nm,0.1s						
YUK				smax	smax		
	comp=E,131nm,0.1s						
YUK				smax	smax		
	comp=N,465nm,0.3s						
SHO	**Shikotan**	**2.67**	**65**	*e*P	**Pn**	**09 39 18.6**	**+0.5**
SHO				AMB	AMB	09 39 18.9	
	comp=N,20nm,0.2s						
SHO				*e*S	**Sn**	**09 39 48.7**	**-1.8**
SHO				A	A	09 39 50.1	
	comp=N,220nm,0.3s						
SHO				A	A	09 39 50.1	
	comp=N,250nm,0.3s						
SHO	**Shikotan**	**2.67**	**65**	*e*PN	**Pn**	**09 39 18.6**	**+0.5**
SHO				*e*S	**Sn**	**09 39 48.7**	**-1.8**
SHO				pmax	pmax		
	comp=Z,15nm,0.2s						
SHO				smax	smax		
	comp=N,219nm,0.2s						
SHO				smax	smax

YKA	**Yellowknife Ar**	**58.05**	**32**	P	**P**	**09 48 11.1**	**-4.0**
YKA	**Yellowknife Ar**	**58.05**	**32**	P	**P**	**09 48 11.1**	**-4.0**
KEV	**Kevo**	**58.63**	**339**	P	**P**	**09 48 19.0**	**0.0**
KEV	**Kevo**	**58.63**	**339**	P	**P**	**09 48 19.0**	**0.0**
KEV				pmax	pmax		
comp=Z,17nm,1.4s							
FIA1	**FINESS Array S**	**64.46**	**332**	P	**P**	**09 48 57.6**	**-0.6**
FINES	**FINESS Array B**	**64.46**	**332**	P	**P**	**09 48 58.3**	**0.0**
FINES	**FINESS Array B**	**64.46**	**332**	P	**P**	**09 48 58.5**	**+0.2**
comp=Z,1.0nm,0.4s,baz=38,slow=9.0,SNR=15							
comp=Z,1.0nm,0.4s							
NB201	**NORSAR Array S**	**69.44**	**337**	P	**P**	**09 49 29.5**	**-0.3**
NB201				IAmb	IAmb	09 49 43.9	
comp=Z,11nm,1.2s							
NB2	**NORSAR Subarra**	**69.47**	**337**	P	**P**	**09 49 30.5**	**+0.4**
comp=Z,0.3nm,0.5s,baz=35,slow=6.5							
NOA	**NORSAR Array B**	**69.47**	**337**	P	**P**	**09 49 29.8**	**-0.3**
comp=Z,0.7nm,0.7s,baz=35,slow=6.4,SNR=4.0							
comp=Z,0.7nm,0.7s							
HFS	**Hagfors**	**69.48**	**336**	P	**P**	**09 49 30.5**	**+0.4**
comp=Z,1.0nm,0.5s,baz=60,slow=8.8,SNR=6.6							
comp=Z,1.0nm,0.5s							

*IDC **08** 09:54:24.4±0.6, 7°.29N×94°.23E, h0km, mb4.2/22, mbtmp4.1/23, MS3.4/21, Error ellipse: s-maj=22.6km s-min=16.2km az=55.0*

*NEIC **08** 09:54:26.0±1.4, 7°.22N±0°.09×94°.32E±0°.08, h10km±5km, mb4.7/24, Error ellipse: s-maj=14.9km s-min=8.8km az=214.0*

*DJA **08** 09:54:33.4±1.1, 8°N±7°×9°5E±°, h54km±14km, M4.7/6, mb4.8/6, mB5.2/1, MLv4.7/4, Mw(mB)4.6/1*

ISC 08 09:54:25.6±0.5, 7°.10N±0°.06×94°.15E±0°.06, h10km, n95, σ1°33/76, mb4.5/38, MS3.5/22, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.35**	**124**		**Pn**	**09 55 17.5**	**-0.6**
LHMI	**Lhok Sumawe**	**3.35**	**124**	P	**Pn**	**09 55 19.1**	**+1.1**
LHMI				S	**Sn**	**09 56 00.2**	**+2.3**
MLSI	**Meulaboh, Aceh**	**3.60**	**141**	P	**Pb**	**09 55 27.5**	**-2.0**
KCSI	**Kotacane, Aceh**	**5.07**	**134**	P	Pn	09 55 48.2	+6.5
72nm,0.8s,0.3nm							
SRIT	**Nakonsritamara**	**5.60**	**74**		**Pn**	**09 55 46.4**	**-2.6**
GSI	**Gunungsitoli**	**6.70**	**149**	P	Pn	09 56 13.3	+9.2
KULM	**Kulim**	**6.71**	**105**		**Pn**	**09 56 02.1**	**-2.2**
CMAR	**Chiang Mai Arr**	**12.21**	**22**	Pn	**Pn**	**09 57 18.8**	**-1.0**
0.8nm,0.6s,baz=215,slow=14,SNR=6.7							
CMAR				LR	LR	10 01 52.5	
comp=Z,164nm,18.6s,baz=195,slow=37							
QIZ	**Qiongzhong**	**19.32**	**51**	P	**P**	**09 58 49.4**	**-1.8**
QIZ				S	**Sn**	**10 02 29.0**	**-0.1**
QIZ				LR	LR		
comp=N,540nm,10.9s							
QIZ				LR	LR		
comp=E,230nm,10.9s							
QIZ				LR	LR		
comp=Z,210nm,11.5s							
PZH	**PanZhiHua**	**20.60**	**20**	P	**P**	**09 59 07.3**	**+2.1**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,60nm,4.1s							
GYA	**Guiyang**	**22.64**	**30**	P	**P**	**09 59 26.6**	**-0.5**
GYA				S	**S**	**10 03 35.5**	**+0.2**
GYA				pmax	pmax		
comp=Z,13nm,0.6s							
GYA				pmax	pmax		
comp=Z,89nm,4.0s							
GYA				LR	LR		
comp=Z,190nm,15.8s							
H08S3	**Diego Garcia H**	**26.09**	**236**	T	T	10 26 39.2	
baz=56,slow=75,SNR=323							
H08S2	**Diego Garcia H**	**26.09**	**236**	T	T	10 26 39.3	
baz=56,slow=75,SNR=337							
H08S1	**Diego Carcia H**	**26.11**	**236**	T	T	10 26 40.5	
baz=56,slow=75,SNR=216							
MPSI	**Mapaga**	**26.55**	**104**	P	P	10 00 11.8	+7.9
KAPI	**Kappang**	**28.25**	**115**	LR	LR	10 11 41.4	
comp=Z,102nm,18.7s,baz=286,slow=37							
LZH	**Lanzhou**	**30.18**	**16**	*e*P	**P**	**10 00 36.9**	**+0.5**
LZH				sP	pwP	10 00 43.8	+2.8
LZH				pmax	pmax		
comp=Z,17nm,1.0s							
LZH				LR	LR		
comp=N,160nm,12.2s							
LZH				LR	LR		
comp=E,170nm,12.0s							
NIL	**Nilore**	**32.74**	**327**	P	**P**	**10 00 58.2**	**-0.5**
NJ2	**Nanjing**	**33.85**	**40**	*e*P	**P**	**10 01 09.3**	**+0.9**
NJ2				pmax	pmax		
comp=Z,7.0nm,0.5s							
HNS	**HongShan**	**35.48**	**29**	⇑P	**P**	**10 01 23.7**	**+1.3**
KBL	**Kabul**	**35.79**	**323**	P	**P**	**10 01 25.2**	**-0.2**
KBL				IAmb	IAmb	10 01 26.0	
comp=Z,4.8nm,0.7s							
KSH	**Kashi**	**36.17**	**336**	P	P	10 01 36.0	+7.5
KSH				pmax	pmax		
comp=Z,5.0nm,0.6s							
BTO	**Baotou**	**36.25**	**21**	*e*P	**P**	**10 01 30.5**	**+1.3**
BTO				pP	**pwP**	**10 01 35.0**	**+1.2**
BTO				sP	**sP**	**10 01 36.7**	**+3.9**
BTO				PP	**PnPn**	**10 02 48.9**	**-2.0**
BTO				S	**S**	**10 07 13.1**	**+3.4**
BTO				SS	**SnSn**	**10 09 39.4**	**+3.1**
BTO				pmax	pmax		
comp=Z,12nm,0.8s							
BTO				pmax	pmax		
comp=Z,95nm,5.0s							
BTO				LR	LR		
comp=N,200nm,6.5s							
BTO				LR	LR		
comp=E,250nm,7.5s							
HHC	**Hu-ho-hao-te**	**37.02**	**22**	*e*P	**P**	**10 01 35.4**	**-0.4**
HHC				pmax	pmax		
comp=Z,5.0nm,0.5s							
HHC				pmax	pmax		
comp=Z,65nm,6.6s							
WSAR	**Wadi Sarin**	**37.70**	**299**	LR	LR	10 17 50.8	
comp=Z,63nm,18.3s,baz=110,slow=37							
JOW	**Kunigami**	**37.89**	**55**	LR	LR	10 20 04.2	
comp=Z,56nm,18.2s,baz=160,slow=41							
DRK	**Karamyk**	**37.98**	**331**	P	**P**	**10 01 44.4**	**+0.3**
GAR	**Garm**	**38.34**	**329**	P	**P**	**10 01 46.2**	**-0.7**
GAR				IAmb	IAmb	10 01 47.5	
comp=Z,14nm,1.0s							
CHGR	**Chuyangaron**	**38.68**	**328**	P	**P**	**10 01 48.5**	**-1.2**
SIMJ	**Simiganj**	**38.76**	**328**	P	**P**	**10 01 49.2**	**-1.3**
BTK	**Batken**	**38.91**	**331**	P	**P**	**10 01 52.6**	**+0.9**
AAK	**Ala-Archa**	**39.41**	**337**	LR	LR	10 19 45.3	
comp=Z,51nm,19.2s,baz=163,slow=39							
MK31	**Makanchi Array**	**40.84**	**348**	P	**P**	**10 02 05.8**	**-1.8**
MKAR	**Makanchi Array**	**40.84**	**348**	P	**P**	**10 02 06.3**	**-1.2**
MKAR	**Makanchi Array**	**40.84**	**348**	P	**P**	**10 02 06.5**	**-1.0**
comp=Z,3.5nm,0.7s,baz=169,slow=7.7,SNR=28							
MKAR				LR	LR	10 22 23.8	
comp=Z,22nm,18.9s,baz=173,slow=41							
comp=Z,3.5nm,0.7s							
MAKZ	**Makanchi**	**40.92**	**347**	P	**P**	**10 02 06.8**	**-1.4**
KKAR	**Karatay Array**	**41.45**	**334**	P	**P**	**10 02 12.2**	**-0.4**
SONM	**Songino Array**	**41.91**	**12**	P	**P**	**10 02 15.9**	**-0.5**
comp=Z,0.7nm,0.5s,baz=198,slow=8.7,SNR=5.2							
SONM				LR	LR	10 20 03.4	
comp=Z,67nm,19.9s,baz=112,slow=37							
comp=Z,0.7nm,0.5s							
JNU	**Nakatsue**	**42.75**	**48**	LR	LR	10 20 39.2	
comp=Z,98nm,18.9s,baz=232,slow=37							
KSRS	**Korea Array**	**43.04**	**40**	LR	LR	10 20 27.3	
comp=Z,37nm,18.1s,baz=225,slow=36							
GEYT	**Alibeck**	**44.78**	**319**	P	**P**	**10 02 40.2**	**+0.5**
GEYT				IAmb	IAmb	10 02 41.9	
comp=Z,6.9nm,0.8s							
GEYT	**Alibeck**	**44.78**	**319**	P	**P**	**10 02 40.5**	**+0.8**
comp=Z,6.3nm,0.7s,baz=141,slow=9.6,SNR=9.1							
GEYT				LR	LR	10 24 47.8	
comp=Z,50nm,18.1s,baz=168,slow=41							
comp=Z,6.3nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**44.78**	**319**	P	**P**	**10 02 39.3**	**-0.4**
GYA0B				IAmb	IAmb	10 02 44.0	
comp=Z,6.2nm,0.8s							
KURBB	**Kurchatov Arra**	**45.29**	**346**	P	**P**	**10 02 43.0**	**-0.5**
comp=Z,5.4nm,0.8s,baz=167,slow=7.1,SNR=35							
comp=Z,5.4nm,0.8s							
KURK	**Kurchatov**	**45.36**	**346**	P	**P**	**10 02 43.6**	**-0.4**
KURK				IAmb	IAmb	10 02 45.7	
comp=Z,7.9nm,0.9s							
RER	**Riviere de l'E**	**47.01**	**232**	P	**P**	**10 02 55.6**	**-1.9**
ZAA0	**Zalesovo Array**	**47.32**	**353**	P	**P**	**10 02 58.9**	**-0.5**
ZAA0				IAmb	IAmb	10 03 05.8	
comp=Z,6.5nm,1.0s							
ZALV	**Zalesovo Beam**	**47.32**	**353**	P	**P**	**10 02 58.4**	**-0.9**
ZALV	**Zalesovo Beam**	**47.32**	**353**	P	**P**	**10 02 58.3**	**-1.0**
comp=Z,1.2nm,0.4s,baz=167,slow=7.3,SNR=8.4							
comp=Z,1.2nm,0.4s							
WB0	**Warramunga Arr**	**47.77**	**125**	P	**P**	**10 03 03.3**	**-0.1**
WB0				IAmb	IAmb	10 03 33.7	
comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**47.81**	**125**	P	**P**	**10 03 03.6**	**-0.1**
comp=Z,0.9nm,0.7s,baz=307,slow=8.9,SNR=10							
comp=Z,0.9nm,0.7s							
WR0	**Warramunga Arr**	**47.99**	**125**	P	**P**	**10 03 05.4**	**+0.3**
MDJ	**Mudanjiang**	**48.44**	**34**	P	**P**	**10 03 09.0**	**+0.8**
MDJ				pmax	pmax		
comp=Z,11nm,2.1s							
RAYN	**Ar Rayn**	**49.41**	**295**	P	**P**	**10 03 17.1**	**+1.0**
RAYN				IAmb	IAmb	10 03 26.0	
comp=Z,6.4nm,0.7s							
ASAR	**Alice Springs**	**49.42**	**129**	P	**P**	**10 03 16.3**	**+0.2**
comp=Z,2.1nm,0.9s,baz=306,slow=7.9,SNR=11							
ASAR				LR	LR	10 26 16.3	
comp=Z,75nm,18.9s,baz=340,slow=39							
comp=Z,2.1nm,0.9s							
JHJ	**Hachijo jima 2**	**49.52**	**52**	LR	LR	10 24 00.8	
comp=Z,35nm,19.8s,baz=264,slow=36							
MJAR	**Matsushiro Arr**	**49.67**	**47**	P	**P**	**10 03 17.4**	**-0.4**
comp=Z,0.7nm,0.7s,baz=226,slow=10,SNR=2.8							
MJAR				LR	LR	10 26 17.8	
comp=Z,40nm,18.2s,baz=229,slow=39							
comp=Z,0.7nm,0.7s							
BRVK	**Borovoye**	**49.78**	**341**	P	**P**	**10 03 16.9**	**-1.4**
GUMO	**Guam**	**50.24**	**78**	LR	LR	10 27 15.4	
comp=Z,17nm,18.1s,baz=224,slow=39							
FURI	**Furi**	**54.92**	**276**	LR	LR	10 24 39.4	
comp=Z,70nm,21.6s,baz=198,slow=33							
ASAJ	**Asahikawa**	**55.99**	**41**	LR	LR	10 28 25.0	
comp=Z,32nm,18.0s,baz=343,slow=37							
ARU	**Arti**	**56.60**	**337**	P	**P**	**10 04 07.9**	**-0.6**
ARU				IAmb	IAmb	10 04 15.4	
comp=Z,12nm,1.3s							
ARU	**Arti**	**56.60**	**337**	LR	LR	10 30 34.8	
comp=Z,42nm,18.1s,baz=153,slow=38							
EIL	**Elat**	**59.81**	**300**	LR	LR	10 31 57.1	
comp=Z,30nm,19.8s,baz=246,slow=38							
MMAI	**Mount Meron Ar**	**60.05**	**304**	LR	LR	10 33 47.6	
comp=Z,41nm,19.0s,baz=117,slow=39							
KIRV	**Kirov**	**61.71**	**335**	LR	LR	10 32 11.3	
comp=Z,30nm,20.7s,baz=299,slow=37							
BRTR	**Keskin Array B**	**62.94**	**311**	P	**P**	**10 04 51.5**	**-1.2**
comp=Z,1.1nm,0.6s,baz=116,slow=8.9,SNR=8.1							
BRTR				LR	LR	10 35 39.8	
comp=Z,20nm,18.4s,baz=112,slow=39							
comp=Z,1.1nm,0.6s							
H04N2	**CROZET ISLANDS**	**65.07**	**211**	T	T	11 15 33.8	
baz=48,slow=75,SNR=20							
H04N1	**CROZET ISLANDS**	**65.08**	**211**	T	T	11 15 34.7	
baz=48,slow=75,SNR=19							
H04N3	**CROZET ISLANDS**	**65.09**	**211**	T	T	11 15 33.1	
baz=48,slow=75,SNR=22							
H04S1	**CROZET ISLANDS**	**65.47**	**210**	T	T	11 15 58.0	
baz=45							
H04S3	**CROZET ISLANDS**	**65.48**	**210**	T	T	11 16 08.3	
baz=45							
H04S2	**CROZET ISLANDS**	**65.49**	**210**	T	T	11 16 11.4	
baz=45							
AKASG	**Malin Array Be**	**68.76**	**322**	P	**P**	**10 05 28.2**	**-1.6**
comp=Z,0.7nm,0.6s,baz=91,slow=5.0,SNR=4.3							
comp=Z,0.7nm,0.6s							
MLR	**Muntele Rosu**	**69.72**	**316**	P	**P**	**10 05 35.7**	**-0.4**
comp=Z,3.2nm,0.8s,baz=123,slow=6.0,SNR=7.6							
comp=Z,3.2nm,0.8s							
FINES	**FINESS Array B**	**73.39**	**332**	P	**P**	**10 05 56.8**	**-0.9**
comp=Z,5.1nm,0.7s,baz=103,slow=8.2,SNR=16							
comp=Z,5.1nm,0.7s							
BOSA	**Boshof**	**75.18**	**238**	P	**P**	**10 06 11.9**	**+3.0**
comp=Z,2.4nm,0.6s,baz=108,slow=5.3,SNR=8.8							
comp=Z,2.4nm,0.6s							
ARCES	**ARCESS Array B**	**75.99**	**340**	P	**P**	**10 06 12.4**	**-0.2**
comp=Z,1.8nm,0.9s,baz=99,slow=7.5,SNR=4.1							
comp=Z,1.8nm,0.9s							
GEC2	**GERESS Array S**	**78.40**	**318**	P	**P**	**10 06 26.0**	**-0.7**
GERES	**GERESS Array B**	**78.40**	**318**	P	**P**	**10 06 26.7**	**0.0**
comp=Z,1.5nm,0.8s,baz=80,slow=8.3,SNR=8.4							
comp=Z,1.5nm,0.8s							
CLL	**Collm**	**78.96**	**321**	*i* P	**P**	**10 06 30.0**	**+0.4**
HFS	**Hagfors**	**79.12**	**330**	P	**P**	**10 06 30.1**	**-0.2**
comp=Z,1.2nm,0.5s,baz=115,slow=4.5,SNR=9.3							
comp=Z,1.2nm,0.5s							
NB2	**NORSAR Subarra**	**80.40**	**331**	P	**P**	**10 06 36.5**	**-0.8**
comp=Z,1.9nm,0.8s,baz=92,slow=5.3							
NOA	**NORSAR Array B**	**80.40**	**331**	P	**P**	**10 06 36.6**	**-0.8**
comp=Z,1.5nm,0.8s,baz=93,slow=5.6,SNR=10							
comp=Z,1.5nm,0.8s							
DAVOX	**Davos/Dischmat**	**80.95**	**316**	P	**P**	**10 06 40.1**	**-0.6**
comp=Z,1.9nm,0.7s,baz=118,slow=12,SNR=4.6							
comp=Z,1.9nm,0.7s							
EKA	**Eskdalemuir Ar**	**88.36**	**325**	P	**P**	**10 07 18.1**	**+0.5**
comp=Z,2.3nm,0.7s,baz=97,slow=5.4,SNR=13							
comp=Z,2.3nm,0.7s							
TOA0	**Torodi Ar. Sit**	**90.78**	**283**	P	**P**	**10 07 29.2**	**-0.6**
TOA0				IAmb	IAmb	10 07 39.7	
comp=Z,5.9nm,1.4s							
TORD	**Torodi Ar. Bea**	**90.78**	**283**	P	**P**	**10 07 28.8**	**-1.1**
TORD				IAmb	IAmb	10 07 39.8	
comp=Z,3.5nm,1.3s							
TORD	**Torodi Ar. Bea**	**90.78**	**283**	P	**P**	**10 07 30.8**	**+0.9**
comp=Z,1.0nm,0.9s,baz=81,slow=7.3,SNR=4.9							
comp=Z,1.0nm,0.9s							
ESDC	**Sonseca Array**	**91.72**	**310**	P	**P**	**10 07 34.3**	**+0.5**
comp=Z,0.7nm,0.7s,baz=56,slow=4.5,SNR=8.8							
comp=Z,0.7nm,0.7s							
ILAR	**Eielson Array**	**95.45**	**22**	P	**P**	**10 07 49.8**	**-0.5**
comp=Z,0.3nm,0.9s,baz=292,slow=4.8,SNR=2.8							
comp=Z,0.3nm,0.9s							
NVAR	**Mina Array Bea**	**125.57**	**31**	PKP	**PKPdf**	**10 13 28.0**	**-0.1**
comp=Z,0.5nm,0.7s,baz=5.2,slow=1.6,SNR=5.7							
PDAR	**Pinedale Array**	**125.88**	**21**	PKP	**PKPdf**	**10 13 28.8**	**+0.3**
comp=Z,0.2nm,0.5s,baz=108,slow=2.9,SNR=3.9							
TXAR	**Lajitas Array**	**139.92**	**25**	PKP	**PKPdf**	**10 13 56.8**	**+1.7**
comp=Z,0.2nm,0.6s,baz=327,slow=1.5,SNR=2.2							
CPUP	**Villa Florida**	**146.79**	**231**	PKPbc	**PKPdf**	**10 14 09.2**	**+2.1**
comp=Z,2.6nm,0.8s,baz=146,slow=2.3,SNR=4.8							

KRSC 08 09:57:07.6±1.4, 49°.80N×156°.75E, h7km±21km, Ml3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.97**	**336**	*e*P	Pg	09 57 25.5	-0.8
SKR				*e*S	Sg	09 57 39.4	+0.5
KDTR	**Khodutka, Kamc**	**2.18**	**22**	*e*P	Pn	09 57 45.2	+0.9
KDTR				*e*S	Sb	09 58 14.0	-0.6
MTVR	**Mutnovka**	**2.83**	**18**	*e*P	Pn	09 57 55.5	+2.0
MTVR				*e*S	Sb	09 58 31.3	-2.3
GRL	**Gorelyy**	**2.88**	**16**	*e*P	Pb	09 57 57.8	-1.6
DALK	**Dalny**	**3.47**	**20**	*e*P	Pn	09 58 04.4	+2.4
DALK				*e*S	Sn	09 58 46.8	+3.5
UGLR	**Uglovaya**	**3.65**	**20**	*e*P	Pn	09 58 08.0	+3.4
AVH	**Avacha**	**3.69**	**19**	*e*P	Pb	09 58 09.3	-3.8
KOK	**Koryaka**	**3.69**	**18**	*e*P	Pn	09 58 09.1	+3.9
SMAR	**Somma**	**3.70**	**19**	*e*P	Pn	09 58 08.3	+2.9
KRX	**Arik**	**3.76**	**18**	*e*P	Pn	09 58 09.8	+3.7
GNL	**Ganaly**	**3.97**	**10**	*e*P	Pb	09 58 13.8	-4.2

NDI 08 09:57:08.7±0.6, 28°.16N×87°.72E, h71km±10km, ML3.3, MW3.5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**1.14**	**137**	*e*P	Pn	09 57 29.1	-0.1
GTK				*e*S	Sn	09 57 44.3	-0.1
GTK				IAML		09 57 46.0	
comp=E,537nm,0.2s							
GTK				IAML		09 57 53.9	
comp=E,414nm,0.2s							
SHL	**Shillong**	**4.52**	**124**	*e*P	Pn	09 58 14.1	-0.8
SHL				IAML		09 59 05.2	
comp=N,81nm,0.2s							
SHL				IAML		09 59 08.7	
comp=E,41nm,0.1s							
BOK	**Bokaro**	**4.65**	**201**	*e*P	Pn	09 58 16.5	0.0
BOK				*e*S	Sn	09 59 05.2	-3.9
BOK				IAML		09 59 08.7	
comp=E,47nm,0.2s							
BOK				IAML		09 59 09.3	
comp=N,64nm,0.2s							
TEZP	**TEZPUR**	**4.77**	**108**	*ex*	Pn	09 58 22.4	+4.4
TEZP				*ex*	x	09 58 59.1	
KOHI	**KOHIMA**	**6.19**	**112**	*e*P	Pn	09 58 37.3	-0.3
KOHI				IAML		09 59 43.1	
comp=E,29nm,0.4s							
KOHI				IAML		09 59 48.2	
comp=E,42nm,0.3s							
SAIH	**SAIHA**	**7.38**	**139**	*e*S	Sn	10 00 09.7	-6.6

*NEIC **08** 10:20:17.0±1.2, 19°.382N±0°.010×155°.279W±0°.009, h4km±1km, Error ellipse: s-maj=1.5km s-min=1.1km az=153.0*

HVO 08 10:20:16.7±1.4, 19°.396N±0°.008×155°.265W±0°.008, h0km±3km, ML3.5/37, ML2.9/29(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=148.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.00**	**344**		Pg	10 20 17.1	+0.1
RIM	**Rim**	**0.01**	**269**		Pg	10 20 17.1	+0.1
BYL	**Byron's Ledge**	**0.02**	**17**		Pg	10 20 17.2	0.0
HATHI	**Halema'uma'u T**	**0.03**	**8**		Pg	10 20 17.5	+0.2
OBL	**Observatory Le**	**0.03**	**321**		Pg	10 20 17.9	+0.6
SDHHI	**Sand Hill**	**0.03**	**258**		Pg	10 20 17.8	+0.5
SBLHI	**Steaming Bluff**	**0.03**	**355**		Pg	10 20 17.8	+0.4
UWB	**Uwekahuna B**	**0.03**	**338**		Pg	10 20 17.8	+0.4
WRMHI	**West Rim**	**0.04**	**288**		Pg	10 20 18.0	+0.5
UWE	**Uwekahuna**	**0.04**	**314**		Pg	10 20 17.8	+0.3
PUH	**Pauahi**	**0.05**	**115**		Pg	10 20 18.6	+0.8
PUH	**Pauahi**	**0.05**	**115**	IAML		10 20 19.1	
comp=E,10μm,0.8s							
PUH				IAML		10 20 19.2	
comp=N,8μm,0.2s							
RSD	**Rainshed**	**0.07**	**350**		Pg	10 20 18.5	+0.4
KNHH	**Kane Nui o Ham**	**0.09**	**100**		Pg	10 20 19.5	+1.0
HLP	**Hilina Pali**	**0.11**	**202**		Pg	10 20 19.7	+0.9
HLP				IAML		10 20 20.9	
comp=N,5μm,1.1s							
HLP				IAML		10 20 21.8	
comp=E,7μm,0.9s							
STCH	**Steam Cracks**	**0.13**	**94**		Pg	10 20 19.8	+0.5
STCH				IAML		10 20 23.1	
comp=N,7μm,0.8s							
NPOC	**North of Pu'u**	**0.15**	**91**		Pg	10 20 20.2	+0.7
MLH	**Mauna Loa**	**0.15**	**311**		Pg	10 20 20.6	+0.9
MLH				IAML		10 20 23.9	
comp=E,6μm,1.3s							
MLH				IAML		10 20 24.5	
comp=N,4μm,1.1s							
JCUZ	**Jacuzzi**	**0.15**	**94**		Pg	10 20 20.4	+0.7
HTC	**Hot Caves**	**0.20**	**219**		Pg	10 20 21.6	+1.0
JOKA	**Jonika Flow**	**0.25**	**81**		Pg	10 20 21.4	-0.1
JOKA				IAML		10 20 25.9	
comp=E,2μm,1.0s							
JOKA				IAML		10 20 26.1	
comp=N,2μm,1.0s							
HMH	**Humu'ula Sheep**	**0.29**	**315**		Pg	10 20 23.2	+0.9
HMH					Sg	10 20 27.9	+1.8
HMH	**Humu'ula Sheep**	**0.29**	**315**	IAML		10 20 28.4	
comp=N,2μm,1.1s							
HMH				IAML		10 20 32.2	
comp=E,2μm,1.0s							
PAH	**Pahoa**	**0.32**	**72**	Pg	Pb	10 20 25.2	0.0
MLOA	**Mauna Loa Obse**	**0.33**	**296**	Pg	Pg	10 20 22.9	-0.1
MLOA				IAML		10 20 31.0	
comp=N,2μm,1.6s							
MLOA				IAML		10 20 32.5	
comp=E,2μm,0.9s							
MLOA	**Mauna Loa Obse**	**0.33**	**296**		Sg	10 20 28.3	+1.1
MWH	**Moku'aweowe**	**0.33**	**286**		Pg	10 20 22.7	-0.3
KHU	**Kahuku**	**0.36**	**246**	Pg	Pg	10 20 23.8	+0.1
ALEP	**Alea Permanent**	**0.39**	**292**		Pg	10 20 24.8	+0.7
ALEP					Sg	10 20 30.8	+1.6
HPO	**Honuapo**	**0.41**	**222**		Pg	10 20 24.5	-0.1
POHA	**Pohakuloa**	**0.44**	**325**		Pg	10 20 25.5	+0.3
POHA				IAML		10 20 39.8	
comp=E,2μm,1.3s							
POHA	**Pohakuloa**	**0.44**	**325**		Sg	10 20 32.6	+1.7
HUH	**Hualalai**	**0.61**	**298**		Pb	10 20 29.6	-0.8
CPH	**Captain Cook**	**0.62**	**279**		Pg	10 20 28.4	-0.3
HPAH	**Hawaii Prepara**	**0.75**	**327**		Pg	10 20 30.4	-0.7

*NEIC **08** 10:24:11.0±1.1, 19°.427N±0°.007×155°.280W±0°.008, h1km±3km, Error ellipse: s-maj=1.1km s-min=1.1km az=203.0*

HVO 08 10:24:10.5±1.1, 19°.420N±0°.010×155°.257W±0°.006, h1km±5km, ML3.7/36, ML3.1/31(NEIC), Error ellipse: s-maj=1.4km s-min=0.8km az=185.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATHI	**Halema'uma'u T**	**0.01**	**308**		Pg	10 24 10.9	0.0
BYL	**Byron's Ledge**	**0.01**	**200**	Pg	Pg	10 24 10.6	-0.3
SBLHI	**Steaming Bluff**	**0.01**	**304**		Pg	10 24 11.1	+0.1
UWB	**Uwekahuna B**	**0.02**	**283**		Pg	10 24 11.2	+0.2
KKO	**Keanakako`i**	**0.02**	**201**		Pg	10 24 11.3	+0.2
OBL	**Observatory Le**	**0.03**	**264**		Pg	10 24 11.3	+0.2
RIM	**Rim**	**0.03**	**213**		Pg	10 24 11.7	+0.5

IDC 08 10:28:35.1±4.8, 28°.00S×176°.80W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=101.3km s-min=33.6km az=109.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.59**	**218**	Pn	Pb	10 29 05.2	-0.1
	60nm,0.3s,baz=64,slow=14,SNR=8.2						
RAO				Sn	Sb	10 29 25.9	-0.1
	247nm,0.3s,baz=122,slow=21,SNR=9.3						
ASAR	**Alice Springs**	**44.34**	**264**	P	P	10 36 46.5	-0.8
	0.4nm,0.7s,baz=103,slow=7.7,SNR=6.3						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**45.12**	**269**	P	P	10 36 53.9	+0.4
	1.1nm,0.9s,baz=111,slow=7.8,SNR=7.6						
	1.1nm,0.9s						
FINES	**FINESS Array B**	**143.23**	**342**	PKP	PKPdf	10 48 09.4	-1.2
	1.0nm,0.6s,baz=27,slow=3.7,SNR=8.5						

IDC 08 10:39:08.9±51.0, 20°.68S×178°.48W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=924.7km s-min=160.6km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.31**	**244**	P	P	10 46 23.0	0.0
	1.4nm,0.5s,baz=58,slow=10,SNR=3.5						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**44.04**	**257**	P	P	10 47 18.6	-0.3
	2.2nm,0.7s,baz=102,slow=7.9,SNR=23						
	2.2nm,0.7s						
WRA	**Warramunga Arr**	**44.13**	**262**	P	P	10 47 19.5	-0.1
	0.6nm,0.3s,baz=95,slow=8.0,SNR=58						
	0.6nm,0.3s						

*NIED **08** 10:46:25.3, 25°.65N×128°.46E, h70km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr=1.42; Mθθ=0.95; Mφφ=0.47; Mrθ=2.11; Mθφ=0.87; Mφr=0.35; Fault plane solution: M0=2.62000×1014 NP1: φs=255.00000°, δ=73.00000°, λ=-75.00000°. NP2: φs=32.00000°, δ=22.00000°, λ=-130.00000°.*

JMA 08 10:46:25.3±0.3, 26°N±1°, 12°8E±°, h70km±3km, MV3.7/22, NEAR OKINAWAJIMA ISLAND, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.78**	**309**	*i* P	Pn	10 46 41.4	+0.2
JJT3				S	Sn	10 46 53.5	+0.6
JNTH	**Nagotoyohara**	**0.95**	**336**	*i* P	Pn	10 46 43.2	-0.1
JOW	**Kunigami**	**1.19**	**352**	*i* P	Pn	10 46 46.7	+0.4
JOW				S	Sn	10 47 02.0	+0.1
JYRO	**Yoronjima**	**1.37**	**360**	*i* P	Pn	10 46 48.9	+0.2
JYRO				*e*S	Sn	10 47 06.3	+0.2
JAGN	**Aguni-jima**	**1.44**	**311**	*i* P	Pn	10 46 50.3	+0.8
JAGN				*e*S	Sn	10 47 09.0	+1.3
JIH	**Iheya**	**1.45**	**343**	*i* P	Pn	10 46 50.7	+1.1
JIH				S	Sn	10 47 08.8	+0.8
JKE	**Kume jima 2**	**1.65**	**295**	*i* P	Pn	10 46 52.7	+0.4
JKE				S	Sn	10 47 12.5	-0.1
JOKE	**Okinoerabujima**	**1.71**	**3**	*i* P	Pn	10 46 53.7	+0.6
JTK	**Tokunoshima**	**2.18**	**12**	*i* P	Pn	10 47 00.0	+0.7
JTK				*e*S	Sn	10 47 24.5	-0.9
JMZ	**Minamidaito 2**	**2.50**	**85**	P	Pn	10 47 00.9	-2.8
JMZ				*e*S	Sn	10 47 27.1	-6.1
JKDJ	**Kitadaitoujima**	**2.58**	**83**	*i* P	Pn	10 47 02.2	-2.6
JKDJ				S	Sn	10 47 29.8	-5.2
JAMN	**Amaminishikomi**	**2.67**	**14**	P	Pn	10 47 06.8	+0.8
JOGS	**Gusukube**	**2.90**	**253**	P	Pn	10 47 09.4	+0.3
JOGS				*e*S	Sn	10 47 42.8	-0.1
JAM	**Amami Oshima**	**2.94**	**20**	P	Pn	10 47 11.0	+1.3
JAM				*e*S	Sn	10 47 43.4	-0.5
JMJ2	**Miyako jima3**	**2.97**	**253**	P	Pn	10 47 10.2	+0.1
JMJ2				*e*S	Sn	10 47 44.2	-0.5
JZK	**Kikaishima**	**2.98**	**27**	P	Pn	10 47 11.6	+1.4
JZK				S	Sn	10 47 45.9	+1.0
JIKM	**Ikemajima**	**2.99**	**257**	P	Pn	10 47 10.5	+0.2
JTAJ	**Takarajima**	**3.56**	**11**	P	Pn	10 47 18.9	+0.9
JTAJ				S	Sn	10 47 57.7	-1.2

*IDC **08** 10:58:17.5±0.8, 20°.17S×169°.18E, h0km, mb4.0/8, mbtmp4.1/9, ML4.1/1, MS3.6/1, Error ellipse: s-maj=27.5km s-min=21.8km az=139.0*
*NEIC **08** 10:58:18.4±2.6, 20°.13S±0°.09×169°.31E±0°.07, h10km±2km, mb4.7/12, Error ellipse: s-maj=19.1km s-min=4.5km az=326.0*
*NOU **08** 10:58:26.7, 20°.46S×168°.63E, h0km, MLv3.9/9, Loyalty Islands*

ISC 08 10:58:19.4±0.6, 20°.21S±0°.08×169°.08E±0°.08, h10km, n61, σ1§49/57, mb4.5/15, 4C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.60**	**218**	P	**Pn**	**10 58 48.6**	**+0.8**
LIFNC	**LIFOU**	**1.81**	**252**	P	**Pn**	**10 58 51.2**	**+0.5**
LIFNC	**LIFOU**	**1.81**	**252**	Pn	**Pn**	**10 58 51.1**	**+0.3**
LIFNC				Sn	**Sn**	**10 59 10.2**	**-3.6**
YATNC	**Mamie plateau,**	**2.75**	**228**	P	**Pn**	**10 59 05.1**	**+1.5**
PINNC	**Pines Island,**	**2.83**	**212**	P	**Pn**	**10 59 07.0**	**+2.2**
PINNC	**Pines Island,**	**2.83**	**212**		**Pn**	**10 59 06.3**	**+1.6**
PINNC				Sn	**Sn**	**10 59 38.3**	**-0.7**
OUENC	**Ouen Island, N**	**3.03**	**223**	P	**Pn**	**10 59 09.4**	**+1.9**
OUENC	**Ouen Island, N**	**3.03**	**223**		**Pn**	**10 59 10.0**	**+2.5**
DZM	**Mont Dzumac**	**3.08**	**233**	P	**Pn**	**10 59 09.4**	**+1.2**
DZM	**Mont Dzumac**	**3.08**	**233**	Pn	**Pn**	**10 59 09.2**	**+1.0**
	23nm,0.3s,baz=84,slow=9.8,SNR=545						
DZM				Sn	**Sn**	**10 59 44.2**	**-1.0**
	66nm,0.3s,baz=122,slow=22,SNR=8.1						
	58nm,0.3s						
NOUC	**Port Laguerre**	**3.20**	**234**	P	**Pn**	**10 59 12.3**	**+2.5**
ONTNC	**Ouen Toro**	**3.22**	**229**	P	**Pn**	**10 59 12.2**	**+2.2**
ONTNC	**Ouen Toro**	**3.22**	**229**		**Pn**	**10 59 11.8**	**+1.7**
KOUNC	**Koumac, New Ca**	**4.51**	**265**	P	**Pn**	**10 59 30.2**	**+2.4**
KOUNC	**Koumac, New Ca**	**4.51**	**265**	Pn	**Pn**	**10 59 30.1**	**+2.3**
CTA	**Charters Tower**	**21.43**	**266**	P	**P**	**11 03 10.4**	**+2.5**
	0.4nm,0.9s,baz=92,slow=11,SNR=5.9						
CTAO	**Charters Tower**	**21.43**	**266**	P	**P**	**11 03 10.8**	**+2.9**
CTAO				IAmb	IAmb	11 03 44.7	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**27.21**	**239**	LR	LR	11 13 43.3	
	comp=Z,110nm,18.9s,baz=209,slow=34						
WR0	**Warramunga Arr**	**32.41**	**264**	P	P	11 04 48.1	-1.6
WB2	**Warramunga Arr**	**32.58**	**264**	P	**P**	**11 04 51.2**	**-0.1**
WB2				IAmb	IAmb	11 05 25.6	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**32.59**	**264**	P	P	11 04 46.8	-4.6
WRA	**Warramunga Arr**	**32.59**	**264**	P	**P**	**11 04 51.0**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=94,slow=8.5,SNR=19						
WRA				PcP	**PcP**	**11 07 36.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=94,slow=3.5,SNR=2.4						
	comp=Z,0.5nm,0.4s						
AS31	**Alice Springs**	**32.76**	**257**	P	**P**	**11 04 53.4**	**+0.6**
ASAR	**Alice Springs**	**32.76**	**257**	P	**P**	**11 04 53.9**	**+1.0**
ASAR	**Alice Springs**	**32.76**	**257**	P	**P**	**11 04 53.5**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=84,slow=9.0,SNR=68						
ASAR				PcP	**PcP**	**11 07 37.6**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=102,slow=3.9,SNR=2.9						
	comp=Z,2.0nm,0.5s						
FORT	**Forrest**	**38.30**	**246**	P	P	11 05 38.7	-1.7
FORT				IAmb	IAmb	11 06 06.7	
	comp=Z,23nm,1.2s						
FITZ	**Fitzroy Crossi**	**41.00**	**265**	P	**P**	**11 06 03.4**	**+0.4**
NWAO	**Narrogin (SRO)**	**47.64**	**244**	P	**P**	**11 06 54.9**	**-1.1**
VNDA	**Vanda**	**57.46**	**182**	P	**P**	**11 08 07.5**	**-0.6**
CASY	**Casey**	**59.18**	**204**	P	**P**	**11 08 19.1**	**-1.1**
CASY				IAmb	IAmb	11 08 43.9	
	comp=Z,14nm,1.4s						
MJAR	**Matsushiro Arr**	**63.54**	**333**	P	**P**	**11 08 49.1**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=166,slow=7.1,SNR=3.1						
	comp=Z,0.8nm,0.6s						
QSPA	**South Pole Qui**	**69.85**	**180**	P	**P**	**11 09 30.0**	**-0.2**
QSPA				IAmb	IAmb	11 09 34.1	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**69.85**	**180**	P	**P**	**11 09 30.7**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=1.0,slow=2.6,SNR=9.4						
	comp=Z,2.6nm,0.9s						
ELIB	**Princess Elisa**	**85.16**	**190**	*d*P	P	11 10 49.7	-6.0
SONM	**Songino Array**	**87.90**	**323**	P	**P**	**11 11 09.5**	**0.0**
	comp=Z,1.7nm,0.8s,baz=137,slow=5.8,SNR=5.7						
	comp=Z,1.7nm,0.8s						
SNAA	**Sanae**	**88.19**	**183**	P	**P**	**11 11 09.5**	**-0.9**
SNAA				IAmb	IAmb	11 11 10.8	
	comp=Z,6.4nm,1.3s						
SNAA	**Sanae**	**88.19**	**183**	⇑P	**P**	**11 11 09.8**	**-0.6**
	comp=Z,31nm,0.7s						
SNAA	**Sanae**	**88.19**	**183**	P	**P**	**11 11 10.1**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=194,slow=12,SNR=13						
	comp=Z,1.0nm,0.6s						
VNA3	**Neumayer Olymp**	**88.78**	**180**	⇑P	**P**	**11 11 12.6**	**-0.6**
	comp=Z,5.6nm,0.7s						
VNA2	**Neumayer--Watz**	**89.07**	**181**	⇑P	**P**	**11 11 13.7**	**-0.8**
	comp=Z,4.1nm,0.6s,baz=178,slow=4.7						
VNA1	**Neumayer--Stat**	**89.36**	**181**	⇑P	P	11 11 13.7	-2.2
	comp=Z,2.2nm,0.3s						
NVAR	**Mina Array Bea**	**89.56**	**49**	P	**P**	**11 11 17.2**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=228,slow=7.7,SNR=4.8						
	comp=Z,0.8nm,0.9s						
ILAR	**Eielson Array**	**91.20**	**17**	P	**P**	**11 11 24.2**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=229,slow=4.1,SNR=5.5						
	comp=Z,0.3nm,0.8s						
H03S2	**Juan Fernandez**	**95.88**	**129**	T	T	12 59 24.6	
	baz=245,slow=74,SNR=5.2						
H03S1	**Juan Fernandez**	**95.89**	**129**	T	T	12 59 24.7	
	baz=245,slow=74,SNR=6.1						
H03S3	**Juan Fernandez**	**95.90**	**129**	T	T	12 59 25.3	
	baz=245,slow=74,SNR=6.5						
ARCES	**ARCESS Array B**	**125.96**	**345**	PKP	**PKPdf**	**11 17 20.1**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=59,slow=3.5,SNR=4.3						
EKA	**Eskdalemuir Ar**	**144.45**	**352**	PKP	**PKPab**	**11 17 53.5**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=357,slow=2.2,SNR=4.7						
RONA	**Rosalia, Austr**	**144.82**	**328**	*i* PKP	**PKPab**	**11 17 56.1**	**+0.4**
	comp=Z,3.4nm,0.7s						
CONA	**Conrad Observa**	**144.89**	**328**	*e*PKP	**PKPab**	**11 17 56.3**	**+0.3**
	comp=Z,2.4nm,0.6s						
GERES	**GERESS Array B**	**145.27**	**331**	PKPbc	**PKPbc**	**11 17 57.0**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=52,slow=2.2,SNR=13						
MOA	**Molln**	**145.72**	**329**	*e*PKP	**PKPdf**	**11 17 58.7**	**+0.5**
	comp=Z,5.1nm,0.8s						
LESA	**Schwarzleotal**	**146.77**	**330**	*e*PKP	**PKPdf**	**11 18 00.7**	**+0.6**
	comp=Z,1.8nm,0.6s						
MEM	**Membach**	**146.84**	**340**	*d*PKP	**PKPdf**	**11 18 01.0**	**+1.0**
ABTA	**Abfaltersbach**	**147.34**	**330**	*e*PKP	**PKPdf**	**11 18 02.2**	**+1.1**
	comp=Z,3.2nm,0.6s						
WTTA	**Wattenberg**	**147.37**	**331**	*e*PKP	**PKPdf**	**11 18 03.2**	**+1.9**
	comp=Z,4.5nm,1.1s						
RCHB	**Rochefort**	**147.48**	**341**	*d*PKP	**PKPdf**	**11 18 03.3**	**+2.2**
SQTA	**Sankt Quirin**	**147.60**	**331**	*e*PKP	**PKPdf**	**11 18 03.7**	**+2.1**
	comp=Z,4.3nm,0.6s						
WLF	**Walferdange**	**147.61**	**339**	*d*PKP	**PKPdf**	**11 18 04.2**	**+2.9**
DOU	**Dourbes**	**147.73**	**341**	*d*PKP	**PKPdf**	**11 18 03.0**	**+1.5**
FETA	**Feichten**	**147.96**	**332**	*e*PKP	**PKPdf**	**11 18 04.6**	**+2.4**
	comp=Z,2.4nm,0.6s						

*SOME **08** 11:03:14.8, 45°.30N×80°.33E, h20km*
*NNC **08** 11:03:14.4±5.6, 45°.26N×80°.42E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=118.3km s-min=36.5km az=124.0*

ISC 08 11:03:13.6±1.3, 45°.27N±0°.04×80°.58E±0°.08, h6km±16km, n36, σ1§03/45, 8C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.09**	**211**	*e*P	**Pb**	**11 03 33.9**	**-1.1**
	18nm,0.1s						
DJR				*e*S	**Sb**	**11 03 47.5**	**-2.1**
	43nm,0.2s						
KNOS	**Konyrlen**	**1.35**	**228**	S	**Sn**	**11 03 54.3**	**-3.3**
MAKZ	**Makanchi**	**1.82**	**32**	⇓Pn	**Pg**	**11 03 48.1**	**-0.4**
	3.3nm,0.3s,baz=51,slow=30						
MAKZ				⇑Sn	**Sg**	**11 04 12.3**	**+0.2**
	44nm,0.3s,baz=51,slow=30						
KTMS	**Ketmen**	**1.83**	**185**	*e*P	**Pg**	**11 03 48.7**	**0.0**
	7.2nm,0.1s						
KTMS				*e*S	**Sg**	**11 04 13.2**	**+0.7**
	34nm,0.2s						
KTMS	**Ketmen**	**1.83**	**185**	S	**Sg**	**11 04 12.4**	**-0.1**
	32nm,0.3s						
MK31	**Makanchi Array**	**1.93**	**37**	⇑Pn	**Pg**	**11 03 50.2**	**-0.4**
	1.6nm,0.2s,baz=220,slow=16,SNR=188						
MK31				⇑Sn	**Sg**	**11 04 16.1**	**+0.4**
	35nm,0.3s,baz=218,slow=25						
PDGK	**Podgornoye**	**2.09**	**202**	Pg	**Pb**	**11 03 51.9**	**-0.2**
	13nm,0.2s						
PDGK				Lg	Lg	11 04 18.7	
	24nm,0.6s						
PDGK	**Podgornoye**	**2.09**	**202**	Pn	**Pb**	**11 03 51.9**	**-0.2**
	6.2nm,0.2s,baz=51,slow=30						
PDGK				⇓Sn	**Sb**	**11 04 18.1**	**-0.2**
	35nm,0.6s,baz=51,slow=30						
ARXS	**Arharly**	**2.23**	**243**	*e*P	**Pb**	**11 03 53.1**	**-1.2**
	24nm,0.1s						
ARXS				*e*S	**Sb**	**11 04 20.9**	**-1.4**
	71nm,0.1s						
ARXS	**Arharly**	**2.23**	**243**	Pg	**Pb**	**11 03 52.7**	**-1.6**
	24nm,0.4s						
ARXS				Lg	Lg	11 04 20.1	
	71nm,0.4s						
KPKS	**Kokpek**	**2.26**	**218**	*e*P	**Pb**	**11 03 54.5**	**-0.4**
	29nm,0.1s						
KPKS				*e*S	**Sb**	**11 04 23.3**	**+0.2**
	83nm,0.2s						
KPKS	**Kokpek**	**2.26**	**218**	Pg	**Pb**	**11 03 54.5**	**-0.4**
	29nm,0.1s						
KPKS				Lg	Lg	11 04 23.1	
	82nm,0.3s						
UZB	**Uzynbulak**	**2.40**	**208**	*e*P	**Pb**	**11 03 56.8**	**-0.6**
	48nm,0.1s						
UZB				*e*S	**Sb**	**11 04 26.9**	**-0.3**
	36nm,0.1s						
UZB	**Uzynbulak**	**2.40**	**208**	Lg	Lg	11 04 27.1	
	36nm,0.3s						
KURS	**Kuram**	**2.48**	**225**	*e*P	**Pb**	**11 03 57.3**	**-1.4**
	8.9nm,0.2s						
KURS				*e*S	**Sb**	**11 04 28.0**	**-1.6**
	49nm,0.2s						
KURS	**Kuram**	**2.48**	**225**	Pg	**Pb**	**11 03 58.1**	**-0.6**
	8.9nm,0.3s						
KURS				Lg	Lg	11 04 29.0	
	49nm,0.6s						
SATY	**Saty**	**2.71**	**216**	*e*P	**Pb**	**11 04 01.9**	**-0.6**
	11nm,0.1s						
SATY				*e*S	**Sb**	**11 04 35.9**	**-0.2**
	108nm,0.1s						
SATY	**Saty**	**2.71**	**216**	Lg	Lg	11 04 35.1	
	108nm,0.3s						
KTBS	**Karatobe**	**3.19**	**242**	*e*P	**Pb**	**11 04 10.2**	**-0.6**
	2.8nm,0.2s						
KTBS				*e*S	**Sb**	**11 04 49.9**	**-0.1**
	66nm,0.2s						
KTBS	**Karatobe**	**3.19**	**242**	Lg	Lg	11 04 48.9	
	67nm,0.4s						
KOTS	**Kotyrbulak**	**3.22**	**232**	*e*P	**Pb**	**11 04 11.3**	**0.0**
	4.5nm,0.1s						
KOTS				*e*S	**Sb**	**11 04 52.1**	**+1.4**
	44nm,0.2s						
KOTS	**Kotyrbulak**	**3.22**	**232**	Lg	Lg	11 04 51.3	
	44nm,0.6s						
MDOK	**Medeo**	**3.30**	**232**	*e*P	**Pb**	**11 04 11.6**	**-1.0**
	2.9nm,0.2s						
MDOK				*e*S	**Sb**	**11 04 52.5**	**-0.6**
	26nm,0.4s						
MDOK	**Medeo**	**3.30**	**232**	Pn	**Pn**	**11 04 07.6**	**+1.6**
	3.1nm,0.4s,baz=51,slow=30						
MDOK				Sn	**Sn**	**11 04 47.0**	**+1.4**
	39nm,0.9s,baz=51,slow=30						
MDOK				Lg	Lg	11 04 51.7	
	26nm,0.7s						
MTBS	**Maitube**	**3.67**	**236**	*e*P	**Pb**	**11 04 18.4**	**-0.6**
	4.2nm,0.1s						
MTBS				*e*S	**Sb**	**11 05 04.1**	**+0.3**
	52nm,0.2s						
MTBS	**Maitube**	**3.67**	**236**	Lg	Lg	11 05 04.0	
	52nm,0.5s						
KRBS	**Karabastau**	**3.85**	**248**	*e*P	**Pb**	**11 04 21.5**	**-0.4**
	1.6nm,0.2s						
KRBS				*e*S	**Sb**	**11 05 09.2**	**+0.4**
	4.6nm,0.2s						
KRBS	**Karabastau**	**3.85**	**248**	Lg	Lg	11 05 09.6	
	4.6nm,0.4s						
KST	**Kastek**	**4.00**	**238**	*e*P	**Pb**	**11 04 24.0**	**-0.6**
	7.7nm,0.4s						
KST				*e*S	**Sb**	**11 05 13.6**	**+0.3**
	9.4nm,0.2s						
KST	**Kastek**	**4.00**	**238**	Pg	**Pb**	**11 04 25.8**	**+1.2**
	7.8nm,0.7s						
DGS	**Degeres**	**4.00**	**241**	*e*P	**Pb**	**11 04 23.9**	**-0.7**
	1.6nm,0.2s						
DGS				*e*S	**Sb**	**11 05 13.7**	**+0.3**
	14nm,0.3s						
DGS	**Degeres**	**4.00**	**241**	Lg	Lg	11 05 14.3	
	15nm,0.8s						
TKM2	**Tokmak 2**	**4.29**	**239**	⇑Pn	**Pn**	**11 04 21.4**	**+1.7**
	5.0nm,1.0s,baz=51,slow=30						
TKM2				⇑Sn	**Sn**	**11 05 10.2**	**+0.1**
	2.1nm,0.7s,baz=51,slow=30						
TKM2				⇑Lg	Lg	11 05 29.8	
	5.6nm,0.6s,baz=51,slow=30						
KURBB	**Kurchatov Arra**	**5.53**	**346**	⇓Lg	Lg	11 06 08.6	
	33nm,0.7s,baz=301,slow=24						
KURK	**Kurchatov**	**5.60**	**347**	⇑Lg	Lg	11 06 11.5	
	12nm,0.7s,baz=51,slow=30						
KK31	**Karatay Array**	**7.55**	**257**	⇑Lg	Lg	11 07 12.6	
	1.8nm,0.6s,baz=212,slow=36						

*GII **08** 11:04:01.6±0.2, 32°.852N±0°.001×35°.579E±0°.001, h5km, Md3.1/7, Mws3.0/8, confirmed*
*JSO **08** 11:04:02, 32°.86N×35°.56E, h2km, ML3.4/16*
*GRAL **08** 11:04:03.1±0.3, 32°.86N×35°.52E, h0km±2km, MD3.6*

ISC 08 11:04:01.8±0.8, 32°.85N±0°.02×35°.59E±0°.03, h17km±7km, n44, σ0§45/46, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHMJ	**Saham**	**0.19**	**131**	P	**Pg**	**11 04 06.1**	**-0.3**
KSHT	**Keshet**	**0.22**	**55**	S	**Sg**	**11 04 11.3**	**+0.8**
KSHT	**Keshet**	**0.22**	**55**	P	**Pg**	**11 04 06.8**	**-0.2**
MMB1	**Mount Meron ar**	**0.22**	**316**	P	**Pg**	**11 04 06.5**	**-0.5**
MMA0B	**Mount Meron ar**	**0.23**	**315**	S	**Sg**	**11 04 10.6**	**0.0**
MMA0B	**Mount Meron ar**	**0.23**	**315**	P	**Pg**	**11 04 06.4**	**-0.7**
BLGI	**Bet Lehem HaGe**	**0.36**	**251**	P	**Pg**	**11 04 09.3**	**+0.1**
BLGI	**Bet Lehem HaGe**	**0.36**	**251**	S	**Sg**	**11 04 14.6**	**+0.3**
BLGI	**Bet Lehem HaGe**	**0.36**	**251**	P	**Pg**	**11 04 09.0**	**-0.2**
GEM	**Giv'at Ha'Em**	**0.36**	**9**	P	**Pb**	**11 04 09.2**	**-0.5**
GEM	**Giv'at Ha'Em**	**0.36**	**9**	S	**Sb**	**11 04 15.5**	**+0.2**
GEM	**Giv'at Ha'Em**	**0.36**	**9**	P	**Pb**	**11 04 09.3**	**-0.5**
HNTI	**Hanita**	**0.42**	**303**	P	**Pb**	**11 04 10.5**	**-0.3**
HNTI	**Hanita**	**0.42**	**303**	S	**Sg**	**11 04 16.7**	**+0.5**
HNTI	**Hanita**	**0.42**	**303**	P	**Pg**	**11 04 09.9**	**-0.4**
NATI	**Neve Ativ**	**0.42**	**16**	S	**Sb**	**11 04 17.6**	**+0.6**
NATI	**Neve Ativ**	**0.42**	**16**	P	**Pb**	**11 04 10.3**	**-0.5**
MMLI	**Mount Malkishu**	**0.44**	**199**	S	**Sb**	**11 04 17.7**	**+0.3**
MMLI	**Mount Malkishu**	**0.44**	**199**	P	**Pg**	**11 04 10.5**	**-0.2**
QRNJ	**Al-Qirein**	**0.52**	**182**	P	**Pb**	**11 04 12.5**	**+0.1**
OFRI	**`Ofer**	**0.56**	**246**	P	**Pb**	**11 04 13.1**	**-0.1**
OFRI	**`Ofer**	**0.56**	**246**	S	**Sb**	**11 04 21.5**	**+0.5**
OFRI	**`Ofer**	**0.56**	**246**	P	**Pg**	**11 04 12.6**	**-0.3**
HMDT	**Nahal Hemdat**	**0.60**	**186**	P	**Pb**	**11 04 13.9**	**+0.1**
HMDT	**Nahal Hemdat**	**0.60**	**186**	S	**Sb**	**11 04 22.6**	**+0.5**
HMDT	**Nahal Hemdat**	**0.60**	**186**	P	**Pb**	**11 04 13.5**	**-0.4**
RCY	**Rachaya**	**0.67**	**17**	*e*P	**Pb**	**11 04 15.5**	**+0.3**
RCY				*e*S	**Sb**	**11 04 24.8**	**+0.5**
QRWL	**Qaraoun**	**0.70**	**6**	*e*P	**Pb**	**11 04 15.8**	**+0.3**
SLTI	**Sal'it**	**0.77**	**218**	P	**Pb**	**11 04 17.0**	**+0.3**
SLTI	**Sal'it**	**0.77**	**218**	P	**Pg**	**11 04 16.4**	**-0.4**
SLTI	**Sal'it**	**0.77**	**218**	S	**Sb**	**11 04 28.0**	**+1.1**
DQRL	**Deir Qamar**	**0.85**	**359**	*e*P	**Pb**	**11 04 18.4**	**+0.2**
DQRL				*e*S	**Sb**	**11 04 29.6**	**+0.2**
HSUJ	**Al Zarqa**	**0.90**	**146**	P	**Pn**	**11 04 19.6**	**-0.2**
ZAHL	**Zahle**	**1.03**	**14**	*e*P	**Pn**	**11 04 21.9**	**+0.2**
BHL	**Bhannes**	**1.05**	**3**	*e*P	**Pn**	**11 04 22.0**	**+0.1**
DSI	**Dead Sea**	**1.29**	**188**	P	**Pn**	**11 04 25.2**	**+0.1**
DSI	**Dead Sea**	**1.29**	**188**	S	**Sg**	**11 04 42.8**	**-0.8**
DSI	**Dead Sea**	**1.29**	**188**	P	**Pn**	**11 04 25.1**	**+0.1**
ASF	**Jabal al Asfar**	**1.29**	**121**	P	**Pg**	**11 04 26.5**	**-0.2**
HWQ	**Hawqa**	**1.45**	**12**	*e*P	**Pg**	**11 04 28.9**	**-0.8**
YTIR	**Yattir**	**1.54**	**195**	P	**Pb**	**11 04 29.5**	**-0.4**
YTIR	**Yattir**	**1.54**	**195**	S	**Sg**	**11 04 50.6**	**-0.8**
MDBI	**Mazsada**	**1.55**	**187**	P	**Pb**	**11 04 30.0**	**0.0**
BEIL	**Beino**	**1.75**	**16**	*e*P	**Pb**	**11 04 33.8**	**+0.2**

*NNC **08** 11:20:02.1±0.4, 42°.91N×77°.38E, h0km, mb3.1, mpv3.7, Error ellipse: s-maj=3.7km s-min=1.8km az=4.0*
*KRNET **08** 11:20:03.3±0.1, 42°.92N×77°.32E, h16km, mb2.8*
*SOME **08** 11:20:03.4, 42°.92N×77°.30E, h20km*
*KNET **08** 11:20:05.2±0.4, 42°.89N×77°.19E, h18km±2km, ml2.7, Error ellipse: s-maj=3.3km s-min=2.8km az=67.0*

ISC 08 11:20:03.3±1.0, 42°.94N±0°.02×77°.36E±0°.01, h8km±8km, n67, σ0§86/123, 39C-21D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**0.28**	**125**	⇓*i*P	**Pg**	**11 20 09.0**	**+0.2**
	baz=17						
ANVS				⇓*i*S	**Sg**	**11 20 13.2**	**+0.7**
	baz=17						
MDOK	**Medeo**	**0.32**	**314**	*e*P	**Pg**	**11 20 09.7**	**0.0**
	657nm,0.1s						
MDOK				*e*S	**Sg**	**11 20 14.2**	**+0.3**
	375nm,0.2s						
MDOK	**Medeo**	**0.32**	**314**	⇓P	**Pg**	**11

	703nm,0.2s								
KST	**Kastek**	**1.03**	**276**	*e*P		**Pg**	**11 20 22.3**	**-0.8**	
	20nm,0.1s								
KST				*e*S		**Sg**	**11 20 35.7**	**-0.8**	
	141nm,0.1s								
KST	**Kastek**	**1.03**	**276**	P		**Pg**	**11 20 22.1**	**-1.0**	
	18nm,0.1s								
KST				S		**Sg**	**11 20 36.0**	**-0.5**	
	187nm,0.3s								
ULHL	**Ulahol**	**1.08**	**230**	⇑P		**Pg**	**11 20 23.2**	**-0.9**	
	14nm,0.1s,SNR=14								
ULHL				⇓S		**Sg**	**11 20 37.3**	**-0.8**	
	74nm,0.1s								
ULHL	**Ulahol**	**1.08**	**230**	⇑*i*P		**Pg**	**11 20 23.0**	**-1.0**	
	baz=30								
ULHL				⇑*i*S		**Sg**	**11 20 37.2**	**-0.9**	
	baz=30								
KPKS	**Kokpek**	**1.10**	**61**	*e*P		**Pg**	**11 20 23.6**	**-0.8**	
	36nm,0.0s								
KPKS				*e*S		**Sg**	**11 20 38.1**	**-0.6**	
	94nm,0.1s								
KPKS	**Kokpek**	**1.10**	**61**	P		**Pg**	**11 20 23.6**	**-0.8**	
	58nm,0.2s								
KPKS				S		**Sg**	**11 20 38.1**	**-0.6**	
	94nm,0.2s								
BOOM	**Boomskoye usch**	**1.14**	**247**	⇓*e*P		**Pg**	**11 20 23.6**	**-1.6**	
	baz=48								
BOOM				⇓*e*S		**Sg**	**11 20 38.7**	**-1.3**	
	baz=48								
DGS	**Degeres**	**1.20**	**285**	*e*P		**Pg**	**11 20 25.2**	**-1.2**	
	26nm,0.1s								
DGS				*e*S		**Sg**	**11 20 40.7**	**-1.3**	
	158nm,0.3s								
DGS	**Degeres**	**1.20**	**285**	P		**Pg**	**11 20 25.1**	**-1.2**	
	17nm,0.1s								
DGS				S		**Sg**	**11 20 40.7**	**-1.3**	
	158nm,0.3s								
UZB	**Uzynbulak**	**1.23**	**80**	*e*P		**Pb**	**11 20 26.1**	**-0.8**	
	35nm,0.1s								
UZB				*e*S		**Sg**	**11 20 42.1**	**-0.9**	
	124nm,0.1s								
UZB	**Uzynbulak**	**1.23**	**80**	P		**Pb**	**11 20 26.1**	**-0.8**	
	35nm,0.1s								
UZB				S		**Sg**	**11 20 42.1**	**-0.9**	
	124nm,0.2s								
TARG	**Taragay, Kyrgy**	**1.26**	**165**	⇑*i*P		**Pg**	**11 20 26.5**	**-0.9**	
	baz=63								
TARG				⇑*i*S		**Sg**	**11 20 43.2**	**-0.5**	
	baz=63								
TKM2	**Tokmak 2**	**1.30**	**270**	⇑P		**Pn**	**11 20 27.0**	**-0.9**	
	9.5nm,0.1s,SNR=7.4								
TKM2				⇑S		**Sb**	**11 20 44.2**	**-0.7**	
	167nm,0.1s								
TKM2	**Tokmak 2**	**1.30**	**270**	⇑P		**Pn**	**11 20 26.7**	**-1.1**	
	1.5nm,0.2s								
TKM2				⇓S		**Sb**	**11 20 43.9**	**-0.9**	
	16nm,0.2s								
TKM2	**Tokmak 2**	**1.30**	**270**	⇓*i*P		**Pn**	**11 20 26.9**	**-0.9**	
	baz=71								
TKM2				⇓*i*S		**Sb**	**11 20 44.2**	**-0.7**	
	baz=71								
ARXS	**Arharly**	**1.31**	**15**	*e*P		**Pn**	**11 20 27.5**	**-0.4**	
	18nm,0.1s								
ARXS				*e*S		**Sb**	**11 20 44.6**	**-0.6**	
	545nm,0.1s								
ARXS	**Arharly**	**1.31**	**15**	P		**Pn**	**11 20 27.3**	**-0.6**	
	18nm,0.1s								
ARXS				S		**Sb**	**11 20 44.6**	**-0.6**	
	545nm,0.2s								
BLB	**Baldybastay**	**1.41**	**35**	P		**Pn**	**11 20 28.9**	**-0.4**	
	166nm,0.2s								
BLB				S		**Sb**	**11 20 47.4**	**-0.7**	
	328nm,0.1s								
KRBS	**Karabastau**	**1.44**	**302**	*e*P		**Pn**	**11 20 29.4**	**-0.3**	
	117nm,0.1s								
KRBS				*e*S		**Sn**	**11 20 48.0**	**-0.9**	
	278nm,0.1s								
KRBS	**Karabastau**	**1.44**	**302**	P		**Pn**	**11 20 29.4**	**-0.3**	
	117nm,0.2s								
PDGK	**Podgornoye**	**1.60**	**75**	P		**Pn**	**11 20 32.3**	**+0.3**	
	13nm,0.3s								
PDGK				S		**Sn**	**11 20 52.9**	**0.0**	
	31nm,0.4s								
PDGK	**Podgornoye**	**1.60**	**75**	⇑P		**Pn**	**11 20 31.8**	**-0.2**	
	5.9nm,0.3s								
PDGK				⇑S		**Sn**	**11 20 52.8**	**-0.1**	
	50nm,0.5s								
KBK	**Karagaybulak**	**1.80**	**262**	⇓P		**Pb**	**11 20 36.1**	**-0.4**	
	13nm,0.1s,SNR=6.9								
KBK				⇑S		**Sb**	**11 20 59.6**	**+0.3**	
	155nm,0.2s								
KBK	**Karagaybulak**	**1.80**	**262**	⇑*i*P		**Pb**	**11 20 35.8**	**-0.7**	
	baz=62								
KBK				⇑*i*S		**Sb**	**11 20 59.5**	**+0.2**	
	baz=62								
NRN	**Naryn**	**1.82**	**214**	⇑*e*P		**Pb**	**11 20 36.5**	**-0.4**	
	baz=14								
NRN				⇑*e*S		**Sb**	**11 21 00.5**	**+0.6**	
	baz=14								
CHMS	**Chumysh**	**1.92**	**273**	⇑P		**Pb**	**11 20 37.6**	**-0.9**	
	6.4nm,0.1s,SNR=12								
CHMS				⇑S		**Sb**	**11 21 02.9**	**+0.3**	
	53nm,0.2s								
CHMS	**Chumysh**	**1.92**	**273**	⇑Pn		**Pb**	**11 20 37.6**	**-0.9**	
	6.9nm,0.7s								
CHMS				⇓Sn		**Sb**	**11 21 02.8**	**+0.3**	
	17nm,0.2s								
CHMS	**Chumysh**	**1.92**	**273**	⇑*i*P		**Pb**	**11 20 37.6**	**-0.9**	
	baz=73								
CHMS				⇑*i*S		**Sb**	**11 21 02.7**	**+0.2**	
	baz=73								
KNOS	**Konyrlen**	**1.94**	**42**	S		**Sb**	**11 21 03.3**	**+0.1**	
	65nm,0.5s								
FRU1	**Bishkek**	**2.01**	**267**	⇑*i*P		**Pb**	**11 20 39.2**	**-0.9**	
	baz=68								
FRU1				⇑*i*S		**Sb**	**11 21 05.3**	**0.0**	
	baz=68								
SGDS	**Sogindy**	**2.06**	**285**	Lg		Lg	11 21 06.5		
	62nm,0.2s								
USP	**Ospenovka**	**2.12**	**280**	⇓P		**Pb**	**11 20 40.7**	**-1.2**	
	17nm,0.2s,SNR=8.4								
USP				⇓S		**Sb**	**11 21 08.9**	**+0.5**	
	38nm,0.2s								
USP	**Ospenovka**	**2.12**	**280**	⇓*i*P		**Pb**	**11 20 40.6**	**-1.3**	
	baz=81								
USP				⇓*i*S		**Sb**	**11 21 07.7**	**-0.7**	
	baz=81								
TDK	**Taldyqorghan**	**2.19**	**20**	*e*P		**Pb**	**11 20 42.6**	**-0.6**	
	29nm,0.1s								
TDK				*e*S		**Sb**	**11 21 10.6**	**+0.1**	
	530nm,0.2s								
UCH	**Uchtor**	**2.22**	**252**	⇑P		**Pb**	**11 20 42.9**	**-1.0**	
	3.2nm,0.1s,SNR=11								
UCH				⇓S		**Sb**	**11 21 11.4**	**-0.3**	
	18nm,0.2s								
UCH	**Uchtor**	**2.22**	**252**	⇑*i*P		**Pn**	**11 20 42.0**	**+1.2**	
	baz=53								
UCH				⇑*i*S		**Sb**	**11 21 10.3**	**-1.4**	
	baz=53								
KTMS	**Ketmen**	**2.24**	**76**	*e*P		**Pb**	**11 20 43.9**	**-0.2**	
	5.2nm,0.1s								
KTMS				*e*S		**Sb**	**11 21 12.8**	**+0.8**	
	61nm,0.2s								
KTMS	**Ketmen**	**2.24**	**76**	Lg		Lg	11 21 12.1		
	60nm,0.4s								
DJR	**Jarkent**	**2.24**	**51**	*e*P		**Pb**	**11 20 43.5**	**-0.5**	
	9.2nm,0.1s								
DJR				*e*S		**Sb**	**11 21 12.4**	**+0.4**	
	42nm,0.1s								
DJR	**Jarkent**	**2.24**	**51**	Lg		Lg	11 21 12.4		
	42nm,0.3s								
ARLS	**Aral**	**2.50**	**245**	⇑*i*P		**Pn**	**11 20 45.8**	**+1.5**	
	baz=45								
ARLS				⇑*i*S		**Sn**	**11 21 16.5**	**+1.5**	
	baz=45								
EKS2	**Erkin-Say**	**2.65**	**265**	⇑*i*P		**Pn**	**11 20 48.1**	**+1.7**	
	baz=66								
EKS2				⇑*i*S		**Sn**	**11 21 20.4**	**+1.6**	
	baz=66								
MRKS	**Merke**	**3.05**	**268**	*e*P		**Pb**	**11 20 58.4**	**+0.6**	
	3.7nm,0.2s								
MRKS				*e*S		**Sb**	**11 21 37.8**	**+2.6**	
	29nm,0.3s								
MRKS	**Merke**	**3.05**	**268**	Lg		Lg	11 21 36.6		
	29nm,0.3s								
MNAS	**Manas**	**3.61**	**264**	⇓*i*P		**Pn**	**11 21 01.3**	**+1.7**	
	baz=65								
MNAS				⇓*i*S		**Sn**	**11 21 43.4**	**+1.0**	
	baz=65								
KK31	**Karatay Array**	**5.03**	**274**	⇓Pg		**Pb**	**11 21 34.5**	**+3.0**	
	0.5nm,0.4s,baz=91,slow=15,SNR=12								
KK31				⇓Lg		Lg	11 22 41.5		
	2.3nm,0.3s,baz=97,slow=30								
MK31	**Makanchi Array**	**5.20**	**41**	Pn		**Pn**	**11 21 22.5**	**+1.1**	
	0.1nm,0.1s,baz=219,slow=15,SNR=13								
MK31				⇑Sn		**Sn**	**11 22 23.5**	**+2.0**	
	0.5nm,0.3s,baz=214,slow=26								
MK31				⇑Lg		Lg	11 22 48.0		
	1.3nm,0.4s,baz=220,slow=27								

*IDC **08** 11:24:03.8±1.9, 5°.99S×130°.59E, h0km, mb4.1/3, mbtmp4.0/5, ML4.1/2, Error ellipse: s-maj=141.4km s-min=28.2km az=72.0*

ISC 08 11:24:20.6±0.9, 6°.75S±0°.08×129°.3E±0°.1, h150km, n15, σ2°45/16, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.34**	**122**	P	**Pn**	**11 25 02.4**	**+2.6**
FAKI	**Fak Fak**	**4.81**	**38**	P	**Pn**	**11 25 32.1**	**+0.5**
DRS	**Darwin Rock St**	**5.87**	**164**	P	**Pn**	**11 25 46.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**11.83**	**197**	P	**Pn**	**11 27 05.4**	**+0.7**
BKB	**Balikpapan**	**13.51**	**293**	P	**Pn**	**11 27 23.9**	**-2.5**
WRA	**Warramunga Arr**	**14.00**	**160**	Pn	**Pn**	**11 27 28.1**	**-4.5**
	0.7nm,0.3s,baz=349,slow=14,SNR=15						
WRA				Sn	Sn	11 29 56.6	-11
	0.7nm,0.3s,baz=330,slow=22,SNR=6.1						
	1.2nm,0.7s						
QIS	**Mount Isa**	**16.98**	**145**	P	**Pn**	**11 28 08.5**	**-0.9**
ASAR	**Alice Springs**	**17.40**	**166**	P	**Pn**	**11 28 13.8**	**-0.5**
	1.1nm,0.3s,baz=346,slow=10,SNR=98						
ASAR				S	**S**	**11 31 21.3**	**-5.7**
	0.6nm,0.5s,baz=346,slow=26,SNR=5.4						
	3.8nm,0.5s						
AS01	**Alice Springs**	**17.41**	**166**	P	**Pn**	**11 28 14.0**	**-0.4**
WRKA	**Warakurna**	**18.21**	**183**	P	**P**	**11 28 22.8**	**+0.5**
OOD	**Oodnadatta**	**21.79**	**165**	P	**P**	**11 28 59.9**	**-0.8**
MULG	**Mulgathing**	**23.84**	**170**	P	**P**	**11 29 20.3**	**+0.3**
MKAR	**Makanchi Array**	**67.63**	**327**	P	**P**	**11 35 03.5**	**+2.2**
	1.2nm,0.4s,baz=124,slow=7.5,SNR=16						
	1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**71.05**	**334**	P	**P**	**11 35 22.9**	**+0.8**
	0.5nm,0.3s,baz=145,slow=5.3,SNR=2.6						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**71.93**	**329**	P	**P**	**11 35 29.0**	**+1.6**
	0.9nm,0.5s,baz=125,slow=4.9,SNR=7.3						
	0.9nm,0.5s						

*NNC **08** 11:34:35.9±3.2, 37°.45N×71°.29E, h0km, mb4.9, mpv4.6, Error ellipse: s-maj=31.9km s-min=17.1km az=39.0*
*IDC **08** 11:34:39.0±0.7, 37°.71N×71°.79E, h0km, mb4.1/23, mbtmp4.2/29, ML3.9/6, MS3.2/21, Error ellipse: s-maj=13.5km s-min=11.5km az=172.0*
*MOS **08** 11:34:39.6±1.4, 37°.75N×71°.73E, h18km, mb4.6/42, Error ellipse: s-maj=5.1km s-min=3.4km az=90.8*
*NEIC **08** 11:34:41.2±2.8, 37°.72N±0°.04×71°.75E±0°.06, h10km±1km, mb4.4/21, Error ellipse: s-maj=8.6km s-min=5.9km az=113.0*

ISC 08 11:34:41.0±0.3, 37°.76N±0°.03×71°.75E±0°.03, h10km, n238, σ1°90/241, mb4.4/75, MS3.2/17, 18C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**1.68**	**318**		**Pn**	**11 35 09.7**	**-0.8**
DRK	**Karamyk**	**1.72**	**1**		**Pn**	**11 35 09.8**	**-1.5**
DRK	**Karamyk**	**1.72**	**1**	PN	**Pn**	**11 35 09.8**	**-1.5**
CHGR	**Chuyangaron**	**2.23**	**294**		**Pb**	**11 35 19.4**	**-2.1**
CHGR	**Chuyangaron**	**2.23**	**294**	PN	**Pb**	**11 35 19.4**	**-2.1**
SIMJ	**Simiganj**	**2.34**	**293**		**Pb**	**11 35 20.7**	**-2.6**
BTK	**Batken**	**2.41**	**343**	Pn	**Pb**	**11 35 22.1**	**-2.4**
BTK	**Batken**	**2.41**	**343**	PN	**Pb**	**11 35 22.1**	**-2.4**
OHH	**Osh**	**2.88**	**16**	*e*PN	**Pb**	**11 35 30.9**	**-1.5**
ARSB	**Arslanbob**	**3.69**	**15**		**Pn**	**11 35 39.5**	**+1.4**
ARSB	**Arslanbob**	**3.69**	**15**	PN	**Pn**	**11 35 39.5**	**+1.4**
KSH	**Kashi**	**3.74**	**61**	Pn	**Pn**	**11 35 38.9**	**0.0**
KSH				Sn	**Sn**	**11 36 23.6**	**+0.5**
KSH				smax	smax		
	comp=N,620nm,0.7s						
KSH				smax	smax		
	comp=E,770nm,0.8s						
TRKS	**Terek-Say**	**3.80**	**353**	PN	**Pn**	**11 35 41.1**	**+1.4**
KBL	**Kabul**	**3.89**	**215**		**Pb**	**11 35 46.1**	**-3.7**
KBL	**Kabul**	**3.89**	**215**	PN	**Pb**	**11 35 46.1**	**-3.7**
ARK	**Arkit**	**4.04**	**2**	PN	**Pn**	**11 35 44.7**	**+1.7**
NIL	**Nilore**	**4.28**	**163**		Pb	11 35 50.7	-5.6
NIL	**Nilore**	**4.28**	**163**	PN	Pb	11 35 50.7	-5.6
IUG	**Iuzhnay**	**4.58**	**344**	*e*Pn	Pn	11 35 54.5	+4.1
	baz=342						
IUG				*e*Pg	**Pg**	**11 36 07.9**	**-0.7**
	baz=342						
IUG				*e*Sn	**Sn**	**11 36 44.2**	**+0.6**
	baz=342						
IUG				*e*Lg	Lg	11 37 11.4	
	baz=342						
IUG	**Iuzhnay**	**4.58**	**344**	*e*PN	Pn	11 35 54.4	+4.0
IUG				*e*		11 36 07.9	
IUG				*e*		11 36 44.2	
IUG				*e*		11 37 11.3	
CHM	**Chimkent**	**4.84**	**341**	*e*Pn	**Pn**	**11 35 56.1**	**+2.2**
	baz=340						
CHM				*e*Pg	**Pg**	**11 36 13.4**	**-0.3**
	baz=340						
CHM	**Chimkent**	**4.84**	**341**	*e*PN	**Pn**	**11 35 56.1**	**+2.2**
UCH	**Uchtor**	**4.94**	**25**	P	**Pn**	**11 35 58.5**	**+2.8**
	SNR=44						
EKS2	**Erkin-Say**	**5.14**	**17**	P	**Pn**	**11 36 00.9**	**+2.8**
	SNR=34						
AAK	**Ala-Archa**	**5.30**	**22**		**Pn**	**11 36 03.1**	**+2.7**
AAK	**Ala-Archa**	**5.30**	**22**	Pn	**Pn**	**11 36 03.6**	**+3.2**
	comp=E,4.0nm,0.3s,baz=211,slow=14,SNR=18						
AAK				Sn	**Sn**	**11 37 05.5**	**+3.9**
	baz=296,slow=19						
AAK				LR	LR	11 37 49.7	
	comp=E,42nm,19.9s,baz=198,slow=36						
	comp=E,20nm,0.6s						
AAK	**Ala-Archa**	**5.30**	**22**	*c i*PN	**Pn**	**11 36 03.4**	**+3.0**
AAK				pmax	pmax		
	comp=Z,56nm,1.7s						
KK31	**Karatay Array**	**5.42**	**350**		**Pn**	**11 36 03.5**	**+1.6**
KK31	**Karatay Array**	**5.42**	**350**	Pn	**Pn**	**11 36 03.0**	**+1.1**
	comp=Z,24nm,0.6s,baz=179,slow=14,SNR=282						
KK31				⇑Sn	**Sn**	**11 37 08.1**	**+3.7**
	comp=Z,33nm,0.6s,baz=174,slow=24						
KK31	**Karatay Array**	**5.42**	**350**	PN	**Pn**	**11 36 03.5**	**+1.6**
KKAR	**Karatay Array**	**5.42**	**350**	Pn	**Pn**	**11 36 03.2**	**+1.4**
KKAR	**Karatay Array**	**5.42**	**350**	Pn	**Pn**	**11 36 03.7**	**+1.8**
KKAR	**Karatay Array**	**5.42**	**350**	PN	**Pn**	**11 36 03.3**	**+1.4**
BRLS	**Borolday**	**5.46**	**345**	*e*Pn	**Pn**	**11 36 00.8**	**-1.7**
	baz=342						
BRLS				*e*Pg	**Pg**	**11 36 20.8**	**-4.8**
	baz=342						
BRLS	**Borolday**	**5.46**	**345**	Lg	Lg	11 37 01.5	
	comp=Z,39nm,0.8s						
BRLS	**Borolday**	**5.46**	**345**	*e*PN	**Pn**	**11 36 00.8**	**-1.7**
BRLS				*e*		11 36 20.8	
FRU1	**Bishkek**	**5.50**	**23**		**Pn**	**11 36 06.6**	**+3.6**
FRU1	**Bishkek**	**5.50**	**23**	PN	**Pn**	**11 36 06.6**	**+3.6**
JMU	**Jammu**	**5.65**	**152**	*e*P	**Pn**	**11 36 07.5**	**+2.5**
JMU				*e*S	**Sn**	**11 37 13.4**	**+3.5**
ULHL	**Ulahol**	**5.65**	**36**	P	**Pn**	**11 36 08.6**	**+3.4**
	SNR=16						
BOOM	**Boomskoye usch**	**5.71**	**33**	Pn	**Pn**	**11 36 09.2**	**+3.2**
BOOM	**Boomskoye usch**	**5.71**	**33**	PN	**Pn**	**11 36 09.2**	**+3.2**
CHMS	**Chumysh**	**5.71**	**23**	P	**Pn**	**11 36 08.9**	**+3.0**
	SNR=44						
CHMS	**Chumysh**	**5.71**	**23**	⇑P	**Pn**	**11 36 08.5**	**+2.7**
	comp=Z,45nm,0.7s						
USP	**Ospenovka**	**5.89**	**20**	P	**Pn**	**11 36 10.8**	**+2.5**
	SNR=19						
TKM2	**Tokmak 2**	**5.93**	**28**	P	**Pn**	**11 36 12.0**	**+2.9**
	SNR=56						
TKM2	**Tokmak 2**	**5.93**	**28**	⇑Pn	**Pn**	**11 36 11.9**	**+2.8**
	comp=Z,37nm,0.8s						
TKM2				Lg	Lg	11 37 58.3	
SGDS	**Sogindy**	**6.09**	**20**	*e*Pn	**Pn**	**11 36 13.2**	**+2.1**
	baz=19						
SGDS				*e*Pg	**Pg**	**11 36 34.1**	**-3.5**
	baz=19						
SGDS	**Sogindy**	**6.09**	**20**	*e*PN	**Pn**	**11 36 13.2**	**+2.1**
SGDS				*e*		11 36 34.1	
TARG	**Taragay, Kyrgy**	**6.12**	**48**		**Pn**	**11 36 15.3**	**+3.5**
TARG	**Taragay, Kyrgy**	**6.12**	**48**	PN	**Pn**	**11 36 15.3**	**+3.5**
THN	**Thein Dam**	**6.23**	**147**	*e*P	**Pn**	**11 36 15.7**	**+2.8**
THN				*e*S	**Sn**	**11 37 25.7**	**+1.6**
THN				IAML		11 37 31.7	
	comp=E,319nm,1.0s						
THN				*ex*	x	11 37 39.6	
THN				IAML		11 37 51.2	
	comp=E,168nm,0.8s						
DHRM	**DHARAMSHALA**	**6.64**	**144**	*e*P	**Pn**	**11 36 21.5**	**+2.6**
DHRM				*e*S	**Sn**	**11 37 37.4**	**+2.7**
DHRM				IAML		11 37 44.1	
	comp=E,404nm,0.4s						
DHRM				IAML		11 37 45.7	
	comp=E,204nm,1.2s						
AAA	**Alma-Ata**	**6.72**	**34**	*e*Pn	**Pn**	**11 36 23.1**	**+3.4**
	baz=33						
AAA				*e*Pg	**Pg**	**11 36 44.9**	**-4.7**
	baz=33						
AAA	**Alma-Ata**	**6.72**	**34**	*e*PN	**Pn**	**11 36 23.1**	**+3.4**
AAA				*e*		11 36 44.8	
MDOK	**Medeo**	**6.74**	**35**	*e*Pn	**Pn**	**11 36 22.1**	**+2.0**
	baz=34						
MDOK				*e*Pg	**Pg**	**11 36 45.4**	**-4.6**
	baz=34						
MDOK				*e*Sn	**Sn**	**11 37 35.0**	**-2.0**
	baz=34						
MDOK				*e*Lg	Lg	11 38 16.0	
	baz=34						
MDOK	**Medeo**	**6.74**	**35**	⇑Pn	**Pn**	**11 36 23.1**	**+3.0**
	comp=E,73nm,1.7s						
MDOK	**Medeo**	**6.74**	**35**	*e*PN	**Pn**	**11 36 23.0**	**+2.9**
MDOK				*e*		11 36 45.3	
ANVS	**Anan'yevo**	**6.75**	**40**	PN	**Pn**	**11 36 24.0**	**+3.7**
ANVS				pmax	pmax		
	comp=Z,52nm,1.2s						
PRZ	**Przheval'sk**	**6.94**	**45**		**Pn**	**11 36 26.2**	**+3.3**
PRZ	**Przheval'sk**	**6.94**	**45**	PN	**Pn**	**11 36 26.2**	**+3.3**
SATY	**Saty**	**7.33**	**42**	*e*Pn	**Pn**	**11 36 30.4**	**+2.1**
	baz=41						
SATY				*e*Pg	Pg	11 36 55.8	-5.5
	baz=41						
SATY				*e*Lg	Lg	11 38 34.5	
	baz=41						
SATY	**Saty**	**7.33**	**42**	P	**Pn**	**11 36 30.1**	**+1.9**
SATY	**Saty**	**7.33**	**42**	*e*P	**Pn**	**11 36 30.3**	**+2.1**
BHK	**Bhakra**	**7.40**	**147**	*e*P	**Pn**	**11 36 32.2**	**+3.1**
BHK				*e*S	**Sn**	**11 37 53.6**	**+0.5**
BHK				*ex*	x	11 38 07.8	
BTLS	**Baital**	**7.48**	**13**	*e*Pn	**Pn**	**11 36 31.7**	**+1.6**
	baz=12						
BTLS				*e*Pg	**Pg**	**11 36 59.8**	**-4.3**
	baz=12						
BTLS	**Baital**	**7.48**	**13**	*e*P	**Pn**	**11 36 31.6**	**+1.6**
UZB	**Uzynbulak**	**7.72**	**44**	*e*Pn	**Pn**	**11 36 35.7**	**+2.1**
	baz=43						
UZB				*e*Pg	Pg	11 37 02.7	-6.1
	baz=43						
UZB	**Uzynbulak**	**7.72**	**44**	*e*P	**Pn**	**11 36 35.7**	**+2.1**
KPKS	**Kokpek**	**7.76**	**41**	*e*Pn	**Pn**	**11 36 36.5**	**+2.4**
	baz=40						
KPKS	**Kokpek**	**7.76**	**41**	P	**Pn**	**11 36 35.9**	**+1.8**
KPKS	**Kokpek**	**7.76**	**41**	*e*P	**Pn**	**11 36 36.5**	**+2.4**
ARXS	**Arharly**	**7.91**	**34**	*e*P	**Pn**	**11 36 37.9**	**+1.8**
SHLS	**Shalkode**	**7.97**	**45**	*e*Pn	Pn	11 36 42.7	+5.7
	baz=46						
SHLS				*e*Pg	**Pg**	**11 37 11.9**	**-1.7**
	baz=46						
SHLS	**Shalkode**	**7.97**	**45**	*e*P	Pn	11 36 42.6	+5.6
SMLA	**Simla**	**7.98**	**144**	*e*P	**Pn**	**11 36 38.4**	**+1.4**
SMLA				*e*S	**Sn**	**11 38 05.1**	**-2.2**
SMLA				*ex*	x	11 38 06.7	
SMLA				IAML		11 38 10.1	
	comp=E,126nm,0.4s						
SMLA				IAML		11 38 12.5	
	comp=E,179nm,0.6s						
PDGK	**Podgornoye**	**8.10**	**44**	P	**Pn**	**11 36 40.9**	**+2.1**
BLB	**Baldybastay**	**8.12**	**37**	P	**Pn**	**11 36 40.3**	**+1.2**
TDK	**Taldyqorghan**	**8.79**	**33**	*e*Pn	**Pn**	**11 36 51.1**	**+2.9**
	baz=32						
TDK				*e*Pg	Pg	11 37 23.0	-6.2
	baz=32						
TDK	**Taldyqorghan**	**8.79**	**33**	*e*P	**Pn**	**11 36 51.0**	**+2.9**
DJR	**Jarkent**	**8.94**	**40**	P	**Pn**	**11 36 51.7**	**+1.5**
GEYT	**Alibeck**	**10.79**	**275**	Pn	**Pn**	**11 37 14.3**	**-1.2**
GEYT	**Alibeck**	**10.79**	**275**	Pn	**Pn**	**11 37 15.3**	**-0.2**
	comp=E,3.4nm,0.3s,baz=100,slow=11,SNR=22						
GEYT				Sn	**Sn**	**11 39 18.0**	**+1.7**
	comp=E,1.4nm,0.3s,baz=340,slow=39,SNR=2.8						
GEYT				LR	LR	11 42 53.2	
	comp=E,64nm,19.8s,baz=10,slow=46						
	comp=E,7.5nm,0.4s						
GYA0B	**ALIBECK ARRAY**	**10.79**	**275**	Pn	**Pn**	**11 37 14.1**	**-1.4**
PTH	**Pithoragarh**	**10.80**	**137**	*e*P	**Pn**	**11 37 18.4**	**+2.6**
PTH				*e*S	**Sn**	**11 39 12.9**	**-4.0**
AJM	**Ajmer**	**11.51**	**167**	*e*P	**Pn**	**11 37 26.5**	**+1.1**
MAKZ	**Makanchi**	**11.78**	**37**	Pn	**Pn**	**11 37 30.5**	**+1.4**
MAKZ	**Makanchi**	**11.78**	**37**	P	**Pn**	**11 37 30.5**	**+1.4**
MK31	**Makanchi Array**	**11.92**	**37**		**Pn**	**11 37 32.6**	**+1.6**
MK31	**Makanchi Array**	**11.92**	**37**	*d i*P	**Pn**	**11 37 32.7**	**+1.7**
MKAR	**Makanchi Array**	**11.92**	**37**	Pn	**Pn**	**11 37 32.7**	**+1.7**
**MKA

ARU	**Arti**	**20.66 339***d i*	P	Pn	11 39 20.6	-2.3
ARU					11 39 38.9	
ARU			S	Sn	11 43 12.5	-3.3
ARU			SS	**SnSn**	**11 43 32.0**	**+1.5**
ARU			pmax	pmax		
	comp=Z,50nm,1.9s					
SHL	**Shillong**	**20.96 120**	P	**P**	**11 39 23.9**	**-0.4**
SHL			pmax	pmax		
	comp=Z,11nm,0.6s					
GNI	**Garni**	**21.11 285**	P	**P**	**11 39 28.1**	**+2.1**
GNI	**Garni**	**21.11 285**	P	**P**	**11 39 26.6**	**+0.7**
	comp=Z,19nm,0.6s,baz=120,slow=3.1,SNR=12					
	comp=Z,19nm,0.6s					
GNI	**Garni**	**21.11 285***ce*	P	**P**	**11 39 28.3**	**+2.4**
GNI			pmax	pmax		
	comp=Z,25nm,0.7s					
GTA	**Gaotai**	**21.97 77**	*e*P	**P**	**11 39 38.2**	**+3.2**
GTA			sP	sP	11 39 47.0	+6.0
GTA			pmax	pmax		
	comp=Z,9.0nm,0.8s					
NCK	**Nalchik**	**22.07 294**⇑ *i*	P	**P**	**11 39 38.0**	**+2.0**
NCK			pmax	pmax		
	comp=Z,15nm,0.7s					
ONI	**Oni**	**22.11 292**	P	**P**	**11 39 38.4**	**+2.0**
ONI			IAmb	IAmb	11 39 42.0	
	comp=Z,16nm,1.0s					
ONI	**Oni**	**22.11 292**	P	**P**	**11 39 38.4**	**+2.0**
ONI			pmax	pmax		
	comp=Z,16nm,1.0s					
BELG	**Belogornoye**	**22.31 319***c i*	P	**P**	**11 39 37.3**	**-1.2**
BELG			pmax	pmax		
	comp=Z,4.0nm,0.9s					
KBZ	**Khabaz**	**22.59 294**	P	**P**	**11 39 41.6**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=118,slow=3.5,SNR=13					
KBZ			LR	LR	11 49 28.8	
	comp=Z,31nm,19.4s,baz=130,slow=39					
	comp=Z,4.6nm,0.8s					
KBZ	**Khabaz**	**22.59 294***ce*	P	**P**	**11 39 42.6**	**+1.1**
KBZ			pmax	pmax		
	comp=Z,5.0nm,0.9s					
GOF	**Gofitskoye**	**22.65 298***ce*	P	**P**	**11 39 43.3**	**+1.1**
KIV	**Kislovodsk**	**22.77 295**	P	**P**	**11 39 44.0**	**+0.4**
KIV			IAmb	IAmb	11 40 03.9	
	comp=Z,14nm,0.9s					
KIV	**Kislovodsk**	**22.77 295**	*e*P	**P**	**11 39 45.5**	**+2.0**
KIV			*e*S	**S**	**11 43 53.9**	**+1.5**
KIV			pmax	pmax		
	comp=Z,11nm,1.1s					
KIV			MLR	MLR		
	comp=Z,15nm,14.0s					
SHA1	**Shidzhatmaz**	**22.77 294**⇑ *e*P		**P**	**11 39 45.7**	**+2.0**
LABN	**Labinsk**	**24.24 296**	*e*P	**P**	**11 40 00.2**	**+2.2**
LABN			pmax	pmax		
	comp=Z,40nm,0.5s					
KIRV	**Kirov**	**25.39 332**	LR	LR	11 50 18.1	
	comp=Z,19nm,20.1s,baz=183,slow=37					
KIRV	**Kirov**	**25.39 332***c i*	P	**P**	**11 40 08.1**	**-0.1**
LZH	**Lanzhou**	**25.65 84**	*e*P	P	11 39 58.6	-12
LZH			pP	pP	11 40 07.3	-8.0
LZH			pmax	pmax		
	comp=Z,19nm,1.6s					
ZAK	**Zakamensk**	**25.72 50**	*e*P	**P**	**11 40 11.4**	**0.0**
ZAK			pmax	pmax		
	comp=Z,7.0nm,1.4s					
ANN	**Anapa**	**26.59 296**	*e*P	**P**	**11 40 19.2**	**0.0**
ANN			pmax	pmax		
	comp=Z,21nm,0.8s					
SONM	**Songino Array**	**27.14 57**	P	**P**	**11 40 25.1**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=254,slow=10,SNR=7.9					
SONM			LR	LR	11 52 03.1	
	comp=Z,72nm,19.9s,baz=247,slow=38					
	comp=Z,0.7nm,0.4s					
OBN	**Obninsk**	**29.40 318**⇓ *i*	P	**P**	**11 40 41.6**	**-2.5**
OBN			pmax	pmax		
	comp=Z,7.0nm,0.7s					
BR131	**Keskin Array S**	**29.65 286**⇑ *e*P		**P**	**11 40 48.6**	**+1.8**
BRTR	**Keskin Array B**	**29.65 286**	P	**P**	**11 40 47.2**	**+0.4**
BRTR	**Keskin Array B**	**29.65 286**	P	**P**	**11 40 47.8**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=80,slow=9.5,SNR=4.5					
	comp=Z,0.8nm,0.7s					
CMAR	**Chiang Mai Arr**	**30.56 121**	P	**P**	**11 40 55.5**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=319,slow=9.2,SNR=4.8					
CMAR			LR	LR	11 54 54.3	
	comp=Z,24nm,19.8s,baz=265,slow=40					
	comp=Z,0.4nm,0.3s					
KLMR	**Klimovskoe**	**30.70 329**	*e*P	**P**	**11 40 53.9**	**-1.7**
KLMR			pmax	pmax		
	comp=Z,5.0nm,0.9s					
PALK	**Pallekele**	**31.42 163**	LR	LR	11 54 02.6	
	comp=Z,122nm,19.6s,baz=45,slow=37					
AKASG	**Malin Array Be**	**32.65 307**	P	**P**	**11 41 12.9**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=83,slow=7.1,SNR=4.9					
	comp=Z,1.1nm,0.7s					
AKASG	**Malin Array Be**	**32.65 307** *i*	P	**P**	**11 41 14.6**	**+1.7**
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.5s					
AKBB	**Malin Array Si**	**32.65 307***ce*	P	**P**	**11 41 12.6**	**-0.3**
NRIK	**Noril'sk**	**32.78 10**	P	**P**	**11 41 13.9**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=163,slow=9.2,SNR=4.3					
	comp=Z,2.2nm,0.5s					
NRIK	**Noril'sk**	**32.78 10**⇑ *e*P		**P**	**11 41 12.4**	**-1.5**
NRIK			pmax	pmax		
	comp=Z,6.0nm,1.4s					
MLR	**Muntele Rosu**	**34.71 298**	P	**P**	**11 41 32.6**	**+1.5**
MLR	**Muntele Rosu**	**34.71 298**	P	**P**	**11 41 32.6**	**+1.5**
MLR			pmax	pmax		
	comp=Z,13nm,1.0s					
BURAR	**Bucovina Array**	**35.13 301**	P	**P**	**11 41 35.2**	**+0.6**
BUR08	**Bucovina Ar. S**	**35.14 301**	P	**P**	**11 41 35.4**	**+0.6**
BUR08			IAmb	IAmb	11 41 37.4	
	comp=Z,4.2nm,0.9s					
VSU	**Vasula**	**35.59 320**⇑ *e*P		**P**	**11 41 38.7**	**+0.4**
VSU			pmax	pmax		
	comp=Z,12nm,1.3s					
FINES	**FINESS Array B**	**36.79 325**	P	**P**	**11 41 48.6**	**+0.1**
	comp=Z,5.3nm,0.6s,baz=112,slow=8.3,SNR=38					
	comp=Z,5.3nm,0.6s					
DRGR		**36.87 300**	P	**P**	**11 41 51.2**	**+1.7**
BZS	**Buzias**	**37.73 298**	P	**P**	**11 41 59.3**	**+2.6**
NIE	**Niedzica**	**38.34 305**	*e*P	**P**	**11 42 04.0**	**+2.1**
NIE	**Niedzica**	**38.34 305**	P	**P**	**11 42 04.4**	**+2.5**
OJC	**Ojcow**	**38.64 306**	*e*P	**P**	**11 42 03.3**	**-1.0**
OJC	**Ojcow**	**38.64 306**	P	**P**	**11 42 04.3**	**-0.1**
OJC			IAmb	IAmb	11 42 07.2	
	comp=Z,8.8nm,1.1s					
OJC	**Ojcow**	**38.64 306**	P	**P**	**11 42 04.3**	**-0.1**
OJC			pmax	pmax		
	comp=Z,9.0nm,1.1s					
ARCES	**ARCESS Array B**	**40.22 337**	P	**P**	**11 42 17.2**	**-0.1**
ARCES			IAmb	IAmb	11 42 18.2	
	comp=Z,6.1nm,0.7s					
ARCES	**ARCESS Array B**	**40.22 337**	P	**P**	**11 42 17.4**	**+0.1**
	comp=Z,6.8nm,0.6s,baz=112,slow=8.4,SNR=47					
ARCES			LR	LR	12 00 15.4	
	comp=Z,54nm,20.3s,baz=200,slow=38					
	comp=Z,6.8nm,0.6s					
ZEA	**Zeya**	**40.78 49**⇑ *e*P		**P**	**11 42 23.5**	**+1.4**
HEH	**HeiHe**	**41.01 54**	*e*P	**P**	**11 42 24.0**	**-0.1**
HEH			pmax	pmax		
	comp=Z,12nm,0.8s					
CONA	**Conrad Observa**	**41.40 303**	*e*P	**P**	**11 42 27.9**	**+0.5**
	comp=Z,4.7nm,0.9s					
ARSA	**Arzberg**	**41.71 302**	*e*P	**P**	**11 42 30.1**	**+0.2**
	comp=Z,1.2nm,0.5s					
SOKA	**Soboth**	**42.13 301**	*i* P	**P**	**11 42 34.2**	**+0.8**
	comp=Z,2.3nm,0.6s					
BRG	**Berggiesshubel**	**42.33 307**	*e*P	**P**	**11 42 35.9**	**+1.0**
BRG			Amp		11 42 37.6	
	comp=Z,2.5nm,1.0s					
BRG	**Berggiesshubel**	**42.33 307**	*e*P	**P**	**11 42 35.8**	**+1.0**
BRG			pmax	pmax		
	comp=Z,3.0nm,1.0s					
HFS	**Hagfors**	**42.46 321**	P	**P**	**11 42 35.7**	**-0.1**
	comp=Z,7.1nm,0.6s,baz=95,slow=11,SNR=44					
HFS			LR	LR	12 01 28.7	
	comp=Z,22nm,18.5s,baz=144,slow=38					
	comp=Z,7.1nm,0.6s					
MOA	**Molln**	**42.47 303**	*e*P	**P**	**11 42 36.4**	**+0.3**
	comp=Z,3.1nm,0.8s					
YAK	**Yakutsk**	**42.59 36**	LR	LR	12 01 20.5	
	comp=Z,37nm,18.9s,baz=227,slow=38					
YAK	**Yakutsk**	**42.59 36***d i*	P	**P**	**11 42 36.2**	**-0.6**
YAK			pmax	pmax		
	comp=Z,10.0nm,0.9s					
GERES	**GERESS Array B**	**42.71 304**	P	**P**	**11 42 38.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=119,slow=8.1,SNR=2.2					
	comp=Z,0.3nm,0.3s					
KHC	**Kasperske Hory**	**42.75 305**	P	**P**	**11 42 38.4**	**0.0**
KHC	**Kasperske Hory**	**42.75 305**⇓ *e*P		**P**	**11 42 40.9**	**+2.5**
KHC			pmax	pmax		
	comp=Z,10.0nm,2.5s					
CLL	**Collm**	**42.88 308** *i* P		**P**	**11 42 39.6**	**+0.3**
	comp=Z,17nm,2.0s					
CLL	**Collm**	**42.88 308** *i* P		**P**	**11 42 39.6**	**+0.3**
CLL			pmax	pmax		
	comp=Z,17nm,2.0s					
MYKA	**Terra Mystica**	**43.08 301** *e*P		**P**	**11 42 42.0**	**+0.8**
	comp=Z,3.0nm,0.8s					
PRED	**Cave del Predi**	**43.17 301**	P	**P**	**11 42 42.3**	**+0.5**
PRED			IAmb	IAmb	11 42 45.0	
	comp=Z,6.6nm,1.2s					
SABO	**M.te Sabotino**	**43.23 300**	P	**P**	**11 42 42.4**	**+0.2**
SABO			IAmb	IAmb	11 42 44.7	
	comp=Z,12nm,0.8s					
NC405	**NORSAR Array S**	**43.51 322**	P	**P**	**11 42 44.1**	**-0.2**
NC405			IAmb	IAmb	11 43 13.4	
	comp=Z,12nm,1.4s					
NORES	**NORESS Array B**	**43.57 322**	P	**P**	**11 42 44.8**	**0.0**
LESA	**Schwarzleotal**	**43.60 302**	*e*P	**P**	**11 42 45.2**	**-0.1**
	comp=Z,2.6nm,0.6s					
NC303	**NORSAR Array S**	**43.69 322**	P	**P**	**11 42 45.1**	**-0.6**
NC303			IAmb	IAmb	11 42 47.2	
	comp=Z,6.4nm,0.8s					
NB2	**NORSAR Subarra**	**43.75 322**	P	**P**	**11 42 45.2**	**-1.1**
	comp=Z,3.5nm,0.7s,baz=94,slow=8.6					
NB2	**NORSAR Subarra**	**43.75 322**	P	**P**	**11 42 43.4**	**-2.9**
NOA	**NORSAR Array B**	**43.75 322**	P	**P**	**11 42 45.5**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=94,slow=7.9,SNR=23					
NOA			LR	LR	12 01 59.2	
	comp=Z,38nm,18.8s,baz=95,slow=37					
	comp=Z,2.9nm,0.7s					
ABTA	**Abfaltersbach**	**43.83 301**	P	**P**	**11 42 46.5**	**-0.7**
	comp=Z,2.8nm,1.0s					
KLR	**Kul'dur**	**43.92 55**	LR	LR	12 02 34.5	
	comp=Z,48nm,18.5s,baz=234,slow=38					
KLR	**Kul'dur**	**43.92 55** *e*P		**P**	**11 42 46.5**	**-1.3**
KLR			pmax	pmax		
	comp=Z,5.0nm,1.5s					
WTTA	**Wattenberg**	**44.32 302** *e*P		**P**	**11 42 51.0**	**-0.3**
	comp=Z,2.1nm,0.6s					
WATA	**Walderalm**	**44.35 302** *e*P		**P**	**11 42 51.4**	**0.0**
	comp=Z,4.9nm,0.8s					
TIXI	**Tiksi**	**44.38 22**	LR	LR	12 01 14.9	
	comp=Z,31nm,18.7s,baz=215,slow=36					
CTI	**Castel Tesino**	**44.55 301**	P	**P**	**11 42 52.6**	**-0.3**
CTI			IAmb	IAmb	11 42 54.9	
	comp=Z,4.3nm,0.7s					
CTI	**Castel Tesino**	**44.55 301**	P	**P**	**11 42 52.6**	**-0.3**
CTI			pmax	pmax		
	comp=Z,4.0nm,0.7s					
FETA	**Feichten**	**44.98 302** *e*P		**P**	**11 42 55.7**	**-0.8**
	comp=Z,3.6nm,1.1s					
FUORN	**Ofenpass-Fuorn**	**45.37 302**	P	**P**	**11 42 59.6**	**-0.1**
DAVA	**Damuels**	**45.49 303** *e*P		**P**	**11 43 00.4**	**-0.1**
	comp=Z,5.9nm,0.5s					
SPITS	**Spitsbergen Ar**	**46.41 346**	P	**P**	**11 43 07.7**	**+0.5**
	comp=Z,6.0nm,0.7s,baz=133,slow=10,SNR=1.7					
	comp=Z,6.0nm,0.7s					
HAU	**Haudompre**	**47.67 304** *e*P		**P**	**11 43 17.3**	**-0.2**
HAU			pmax	pmax		
	comp=Z,2.0nm,0.6s					
SBF	**Sospel**	**47.97 299** *e*P		**P**	**11 43 21.5**	**+1.6**
SBF			pmax	pmax		
	comp=Z,12nm,0.8s					
LPG	**La Plagne**	**48.01 301** *e*P		**P**	**11 43 23.5**	**+3.1**
LPG			pmax	pmax		
	comp=Z,4.0nm,0.6s					
LPL	**La Plagne**	**48.02 301** *e*P		**P**	**11 43 20.5**	**+0.1**
LPL			pmax	pmax		
	comp=Z,2.0nm,0.4s					
MBDF	**Montbardon**	**48.20 300** *e*P		**P**	**11 43 23.8**	**+2.1**
MBDF			pmax	pmax		
	comp=Z,4.0nm,0.8s					
ORIF	**Oris-en-Rattie**	**48.76 300** *e*P		P	11 43 29.5	+3.6
ORIF			pmax	pmax		
	comp=Z,4.0nm,0.9s					
VIVF	**Saint-Julien-l**	**49.60 301** *e*P		**P**	**11 43 32.5**	**+0.2**
VIVF			pmax	pmax		
	comp=Z,2.0nm,0.6s					
SMF	**Signal de Mont**	**49.66 303** *e*P		**P**	**11 43 33.2**	**+0.4**
SMF			pmax	pmax		
	comp=Z,4.0nm,0.8s					
TCF	**Toulx Ste Croi**	**50.84 303** *e*P		**P**	**11 43 41.9**	**+0.2**
TCF			pmax	pmax		
	comp=Z,4.0nm,0.8s					
RJF	**Les Rejaudoux**	**51.60 302** *e*P		**P**	**11 43 47.8**	**+0.4**
RJF			pmax	pmax		
	comp=Z,6.0nm,1.0s					
YSS	**Yuzh-Sakhalins**	**51.61 56** *e*P		**P**	**11 43 46.4**	**-1.0**
YSS			pmax	pmax		
	comp=Z,10.0nm,1.1s					
JMIC	**Jan Mayen**	**51.68 336**	LR	LR	12 05 37.3	
	comp=Z,26nm,20.6s,baz=233,slow=36					
LDF	**La Druitiere**	**51.71 306** *e*P		**P**	**11 43 48.4**	**+0.3**
LDF			pmax	pmax		
	comp=Z,3.0nm,0.9s					
MTLF	**Montolieu**	**51.74 299** *e*P		**P**	**11 43 49.3**	**+0.8**
MTLF			pmax	pmax		
	comp=Z,4.0nm,0.8s					
EKA	**Eskdalemuir Ar**	**51.81 315**	P	**P**	**11 43 48.3**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=96,slow=7.7,SNR=5.8					
	comp=Z,0.9nm,0.7s					
MJAR	**Matsushiro Arr**	**51.94 70**	P	**P**	**11 43 50.0**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=293,slow=10,SNR=5.2					
	comp=Z,1.3nm,0.8s					
MJAR	**Matsushiro Arr**	**51.94 70**	P	**P**	**11 43 50.0**	**-0.1**
LFF	**La Frestale**	**52.24 302** *e*P		**P**	**11 43 52.3**	**+0.2**
LFF			pmax	pmax		
	comp=Z,22nm,1.6s					
MFF	**Saint Martin d**	**52.31 304** *e*P		**P**	**11 43 52.9**	**+0.3**
MFF			pmax	pmax		
	comp=Z,15nm,1.6s					
ASAJ	**Asahikawa**	**52.39 59**	LR	LR	12 07 08.2	
	comp=Z,34nm,18.4s,baz=54,slow=37					
DAG	**Danmarks Havn**	**53.70 343** *i* P		**P**	**11 44 02.0**	**-0.4**
ROSF	**Rostrenen**	**53.79 307** *e*P		**P**	**11 44 04.4**	**+0.9**
ROSF			pmax	pmax		
	comp=Z,9.0nm,1.2s					
ETSF	**Etsaut**	**53.81 300** *e*P		**P**	**11 44 04.5**	**+0.7**
ETSF			pmax	pmax		
	comp=Z,1.0nm,0.5s					
ESDC	**Sonseca Array**	**57.41 297**	P	**P**	**11 44 29.2**	**-0.6**
ESDC	**Sonseca Array**	**57.41 297**	P	**P**	**11 44 29.6**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=59,slow=7.2,SNR=23					
	comp=Z,1.7nm,0.7s					
SUMG	**Summit**	**60.07 341**	P	**P**	**11 44 48.9**	**+0.7**
SUMG	**Summit**	**60.07 341**	P	**P**	**11 44 48.9**	**+0.7**
SUMG			pmax	pmax		
	comp=Z,6.0nm,0.6s					
SUMG	**Summit**	**60.07 341** *i* P		**P**	**11 44 48.0**	**-0.2**
TOA0	**Torodi Ar. Sit**	**66.35 269**	P	**P**	**11 45 30.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**66.35 269**	P	**P**	**11 45 30.0**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=46,slow=5.2,SNR=18					
	comp=Z,2.4nm,0.7s					
RES	**Resolute Bay**	**67.49 356**	LR	LR	12 17 29.9	
	comp=Z,22nm,18.6s,baz=15,slow=38					
COLA	**College**	**73.10 17***d i*	P	**P**	**11 46 10.9**	**-0.1**
COLA			pmax	pmax		
	comp=Z,3.0nm,0.8s					
ILAR	**Eielson Array**	**73.41 16**	P	**P**	**11 46 12.1**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=333,slow=4.0,SNR=7.1					
	comp=Z,0.6nm,0.7s					
DBIC	**Dimbokro**	**75.36 267**	P	**P**	**11 46 24.4**	**-0.6**
	comp=Z,3.9nm,0.9s,baz=40,slow=8.4,SNR=3.7					
	comp=Z,3.9nm,0.9s					
BOSA	**Boshof**	**79.09 221**	P	**P**	**11 46 45.1**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=19,slow=7.1,SNR=4.0					
	comp=Z,1.2nm,0.7s					
WRA	**Warramunga Arr**	**82.15 123**	P	**P**	**11 47 00.4**	**-1.8**
	comp=Z,0.6nm,0.9s,baz=321,slow=5.1,SNR=5.4					
	comp=Z,0.6nm,0.9s					
ASAR	**Alice Springs**	**84.48 125**	P	**P**	**11 47 12.1**	**-2.1**
	comp=Z,0.3nm,0.8s,baz=316,slow=4.3,SNR=1.5					
	comp=Z,0.3nm,0.8s					
ULM	**Lac du Bonnet**	**91.69 352**	LR	LR	12 33 33.4	
	comp=Z,19nm,18.1s,baz=116,slow=38					

SKHL ***08*** *11:46:33.0±0.5, 47°.20N×146°.70E, h384km±6km, mb4.7/9, msh4.2/2, msha5.0/4*
MOS ***08*** *11:46:33.1±1.5, 47°.19N×146°.45E, h396km, mb4.0/9, Error ellipse: s-maj=12.0km s-min=7.6km az=98.8*

IDC ***08*** *11:46:36.8±1.6, 47°.30N×146°.08E, h401km±18km, mb3.2/20, mbtmp3.9/24, Error ellipse: s-maj=14.9km s-min=12.7km az=13.0*
JMA ***08*** *11:46:36.7±0.5, 47°.7N±3°.3×14°.7E±°, h411km, MV3.2/25, SOUTHERN SEA OF OKHOTSK*
ISC 08 11:46:35.0±0.5, 47.07N±0.05×146°.24E±0°.07, h400km, n92,
σ1§93/112, mb3.7/29, 10C-6D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**2.38 268**		*e*P	**Pn**	**11 47 33.7**	**+0.2**
YSS				AMB	AMB	11 47 36.1	
	110nm,0.5s						
YSS				*e*S	**S**	**11 48 21.4**	**+0.6**
YSS				A	A	11 48 22.6	
	70nm,1.5s						
YSS				A	A	11 48 22.6	
	70nm,1.5s						
YSS				A	A	11 48 22.8	
	30nm,0.7s						
YSS				A	A	11 48 22.8	
	50nm,0.7s						
YSS	**Yuzh-Sakhalins**	**2.38 268**		*ce*PN	**Pn**	**11 47 35.2**	**+1.7**
YSS				*e*S	**S**	**11 48 20.8**	**0.0**
YSS				pmax	pmax		
	comp=Z,110nm,0.5s						
YSS				pmax	pmax		
	comp=Z,100nm,2.1s						
YSS				smax	smax		
	comp=N,20μm,0.9s						
YSS				smax	smax		
	comp=E,50μm,0.8s						
RUSJ	**Misakicho**	**3.05 194**		*e*PN	Pn	11 47 33.8	-4.9
RUSJ				*e*S	**S**	**11 48 27.2**	**-3.0**
YUK	**Yuzh-Kuril'sk**	**3.05 185**		*e*P	**Pn**	**11 47 38.4**	**-0.3**
YUK				AMB	AMB	11 47 42.6	
	comp=E,50nm,0.3s						
YUK				*e*S	**S**	**11 48 30.3**	**+0.1**
YUK				A	A	11 48 34.2	
	comp=E,960nm,3.0s						
YUK				A	A	11 48 34.2	
	comp=E,600nm,3.0s						
YUK				A	A	11 48 36.3	
	comp=E,300nm,0.5s						
YUK				A	A	11 48 36.3	
	comp=E,240nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.05 185**		PN	**Pn**	**11 47 35.0**	**-3.7**
YUK				pmax	pmax		
	comp=Z,50nm,0.3s						
YUK				pmax	pmax		
	comp=E,14nm,0.2s						
SHO	**Shikotan**	**3.23 172**		*e*P	**Pn**	**11 47 39.6**	**-0.6**
SHO				AMB	AMB	11 47 39.8	
	comp=E,40nm,0.3s						
SHO				*e*S	**S**	**11 48 30.2**	**-2.8**
SHO				A	A	11 48 32.6	
	comp=E,170nm,0.5s						
SHO				A	A	11 48 32.6	
	comp=E,430nm,0.5s						
SHO	**Shikotan**	**3.23 172**		*e*PN	**Pn**	**11 47 39.3**	**-0.9**
SHO				*e*S	**S**	**11 48 29.7**	**-3.2**
SHO				pmax	pmax		
	comp=Z,42nm,0.3s						
SHO				pmax	pmax		
	comp=N,20nm,0.2s						
SHO				pmax	pmax		
	comp=E,11nm,0.2s						
SHO				smax	smax		
	comp=N,168nm,0.2s						
SHO				smax	smax		
	comp=E,426nm,0.5s						
JRA	**Rausu**	**3.23 194**		*e*S	**S**	**11 48 30.6**	**-2.4**
JSE	**Soyaes**	**3.31 232**		*e*P	**Pn**	**11 47 43.0**	**+2.1**
UGL	**Uglegorsk**	**3.44 307**		*e*P	**Pn**	**11 47 42.5**	**+0.7**
UGL				AMB	AMB	11 48 02.0	
	comp=E,60nm,0.6s						
UGL	**Uglegorsk**	**3.44 307**		*e*PN	**Pn**	**11 47 42.5**	**+0.7**
UGL				pmax	pmax		
	comp=Z,60nm,0.6s						
JWK2	**Keihoku**	**3.49 241**		P	**Pn**	**11 47 45.0**	**+2.6**
JTKR	**Abashiri--Toko**	**3.51 209**		P	**Pn**	**11 47 44.4**	**+1.8**
JTKR				S	**S**	**11 48 37.4**	**0.0**
JNK	**Nakash**	**3.65 198**		*e*P	**Pn**	**11 47 44.8**	**+0.8**
JNK				*e*S	**S**	**11 48 38.1**	**-1.6**
JMP	**Maruseppu**	**3.67 214**		*e*P	**Pn**	**11 47 45.8**	**+1.7**
NMR	**Nemuro--Hokkai**	**3.72 186**		*e*P	**Pn**	**11 47 43.7**	**-0.9**
NMR				*e*S	**S**	**11 48 37.9**	**-3.0**
NMR	**Nemuro--Hokkai**	**3.72 186**		*e*PN	**Pn**	**11 47 43.4**	**-1.2**
NMR				*e*S	**S**	**11 48 36.5**	**-4.4**
NEM2	**Nemuro 2**	**3.73 186**		P	**Pn**	**11 47 43.7**	**-0.9**
NEM2				*e*S	**S**	**11 48 37.1**	**-3.8**
JKA	**Kamikawa-asahi**	**3.91 222**		*e*P	**Pn**	**11 47 48.4**	**+2.1**
ASAJ	**Asahikawa**	**3.91 222**		P	**Pn**	**11 47 48.4**	**+2.1**
	comp=Z,2.7nm,0.4s,baz=156,slow=0.5,SNR=6.7						
JRBN	**Rebuntou**	**3.95 247**		P	**Pn**	**11 47 48.0**	**+1.4**
JRBN				*e*S	**S**	**11 48 45.7**	**+1.1**
JSS	**Shosan**	**4.07 231**		*e*P	**Pn**	**11 47 50.5**	**+2.7**
JAR	**Ashorobuto**	**4.16 206**		*e*S	**S**	**11 48 43.9**	**-4.6**
AKK	**Akkeshi**	**4.17 194**		*e*P	**Pn**	**11 47 48.6**	**-0.2**
JAK	**Akkeshi**	**4.22 196**		P	**Pn**	**11 47 48.9**	**-0.4**
JAK				S	**S**	**11 48 46.3**	**-3.2**
TYV	**Tymovskoe**	**4.47 329**		*e*P	**Pn**	**11 47 51.9**	**+0.5**
TYV				AMB	AMB	11 47 54.0	
	comp=Z,40nm,0.6s						
TYV				*e*S	**S**	**11 48 54.3**	**+0.7**
TYV	**Tymovskoe**	**4.47 329**		*e*PN	**Pn**	**11 47 51.2**	**-0.2**
TYV				*e*S	**S**	**11 48 51.8**	**-1.8**
TYV				pmax	pmax		
	comp=Z,28nm,0.9s						
TYV				pmax	pmax		
	comp=Z,100nm,2.2s						
TYV				smax	smax		
	comp=N,7.0nm,1.2s						
TYV				smax	smax		
	comp=E,7.0nm,1.2s						
TYV				smax	smax		
	comp=N,100nm,2.9s						
JFR	**Furan**	**4.68 215**		*e*P	**Pn**	**11 47 55.8**	**+2.0**
JCH	**Churui**	**4.90 206**		P	**Pn**	**11 47 55.8**	**-0.3**
JCH				*e*S	**S**	**11 48 57.8**	**-4.1**
JBT2	**Biratori 2**	**5.10 214**		P	**Pn**	**11 47 59.3**	**+1.2**
JBT2				*e*S	**S**	**11 49 05.1**	**-0.5**
JNBK	**Urakawa-nobuka**	**5.40 209**		P	**Pn**	**11 48 00.9**	**-0.4**
JNBK				*e*S	**S**	**11 49 06.9**	**-4.4**
ERM	**Erimo**	**5.51 205**		*d i* PN	**Pn**	**11 48 03.5**	**+1.0**
JOT	**Ohata**	**6.80 215**		P	**Pn**	**11 48 16.7**	**+

comp=Z,0.9nm,0.7s,baz=80,slow=8.9,SNR=2.1
comp=Z,0.9nm,0.7s
ZALV Zalesovo Beam 38.55 304 P P 11 53 19.3 -1.5
comp=Z,0.9nm,0.5s,baz=73,slow=6.5,SNR=3.6
comp=Z,0.9nm,0.5s
ZALV Zalesovo Beam 38.55 304 *i* P **P 11 53 23.1 +2.3**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ILAR Eielson Array 39.24 39 P P 11 53 26.9 +0.5
comp=Z,0.6nm,0.7s,baz=255,slow=6.1,SNR=9.9
comp=Z,0.6nm,0.7s
GOMU GeErMu 39.29 273 P P 11 53 28.8 +1.2
GOMU pmax pmax
comp=Z,19nm,0.8s
MK31 Makanchi Array 42.55 294 *d i* P **P 11 53 53.4 +0.1**
MKAR Makanchi Array 42.55 294 P P 11 53 53.6 +0.4
comp=Z,2.6nm,0.5s,baz=70,slow=7.7,SNR=29
comp=Z,2.6nm,0.5s
KURK Kurchatov 43.20 301 *e* P **P 11 53 57.8 -0.5**
KURK Kurchatov 43.20 301 *d i* P **P 11 53 57.8 -0.5**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURBB Kurchatov Arra 43.29 301 P P 11 53 59.0 0.0
comp=Z,4.6nm,0.7s,baz=70,slow=8.8,SNR=20
comp=Z,4.6nm,0.7s
BRVK Borovoye 46.99 307 *e* P **P 11 54 27.6 0.0**
BRVK Borovoye 46.99 307 *c e* P **P 11 54 27.6 0.0**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 49.41 293⇑ *e* P **P 11 54 44.2 -2.0**
AAK pmax pmax
comp=Z,3.0nm,0.7s
ARU Arti 51.51 315 *d i* P **P 11 54 59.2 -2.1**
ARU 11 56 05.2
ARU SS **SS 12 05 27.8 -3.7**
ARU pmax pmax
comp=Z,5.0nm,1.3s
ARCES ARCESS Array B 55.91 339 P P 11 55 32.0 -0.5
comp=Z,0.4nm,0.3s,baz=52,slow=7.5,SNR=8.5
comp=Z,0.4nm,0.3s
FINES FINESS Array B 61.63 332 P P 11 56 11.3 -0.2
comp=Z,2.8nm,0.5s,baz=40,slow=8.0,SNR=32
comp=Z,2.8nm,0.5s
GEYT Alibeck 62.32 297 P P 11 56 17.0 +0.5
comp=Z,2.6nm,0.6s,baz=25,slow=4.3,SNR=5.0
comp=Z,2.6nm,0.6s
NB2 NORSAR Subarra 66.28 338 P P 11 56 41.2 -0.2
comp=Z,0.7nm,0.5s,baz=30,slow=6.5
NB2 NORSAR Subarra 66.28 338 P P 11 56 41.2 -0.2
NOA NORSAR Array B 66.28 338 P P 11 56 41.2 -0.2
comp=Z,1.0nm,0.6s,baz=32,slow=6.6,SNR=12
comp=Z,1.0nm,0.6s
NVAR Mina Array Bea 66.38 59 P P 11 56 44.1 +1.5
comp=Z,0.5nm,0.7s,baz=306,slow=6.3,SNR=5.9
comp=Z,0.5nm,0.7s
HFS Hagfors 66.38 336 P P 11 56 41.5 -0.5
comp=Z,2.4nm,0.5s,baz=53,slow=5.7,SNR=20
comp=Z,2.4nm,0.5s
KIV Kislovodsk 67.09 310 *e* P **P 11 56 47.9 +1.0**
KIV Kislovodsk 67.09 310 *e* P **P 11 56 47.9 +1.0**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 67.14 310 P P 11 56 48.8 +1.7
comp=Z,4.2nm,0.8s,baz=66,slow=5.7,SNR=9.1
comp=Z,4.2nm,0.8s
KBZ Khabaz 67.14 310 *e* P **P 11 56 48.1 +1.1**
KBZ Khabaz 67.14 310⇓ *e* P **P 11 56 48.1 +1.1**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
SHA1 Shidzhatmaz 67.26 310⇑ *e* P **P 11 56 47.2 -0.9**
WRA Warramunga Arr 67.56 192 P P 11 56 51.9 +2.0
comp=Z,0.5nm,0.6s,baz=7.7,slow=6.4,SNR=5.8
comp=Z,0.5nm,0.6s
PDAR Pinedale Array 68.27 50 P P 11 56 56.2 +1.9
comp=Z,0.6nm,0.5s,baz=321,slow=2.1,SNR=5.1
comp=Z,0.6nm,0.5s
AKASG Malin Array Be 68.53 322 P P 11 56 55.3 -0.2
comp=Z,1.4nm,0.5s,baz=40,slow=6.3,SNR=4.9
comp=Z,1.4nm,0.5s
AKASG Malin Array Be 68.53 322 *i* P **P 11 56 55.2 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
ASAR Alice Springs 71.28 192 P P 11 57 15.3 +3.0
comp=Z,0.4nm,0.7s,baz=7.5,slow=5.6,SNR=4.3
comp=Z,0.4nm,0.7s
CLL Collm 74.08 332 *i* P **P 11 57 28.0 -0.2**
comp=Z,3.0nm,0.6s
CLL Collm 74.08 332 *i* P **P 11 57 28.0 -0.2**
CLL pmax pmax
comp=Z,3.0nm,0.6s
EKA Eskdalemuir Ar 74.76 342 P P 11 57 32.2 +0.2
comp=Z,0.1nm,0.3s,baz=21,slow=6.1,SNR=1.8
comp=Z,0.1nm,0.3s
BRTR Keskin Array B 74.81 312 P P 11 57 33.7 +0.9
comp=Z,0.7nm,0.7s,baz=51,slow=4.0,SNR=3.6
comp=Z,0.7nm,0.7s
KHC Kasperske Hory 75.75 330⇑ *e* P **P 11 57 33.6 -4.2**
KHC pmax pmax
comp=Z,12nm,2.4s
GERES GERESS Array B 75.95 330 P P 11 57 39.4 +0.4
comp=Z,0.3nm,0.4s,baz=108,slow=6.5,SNR=2.5
comp=Z,0.3nm,0.4s
TXAR Lajitas Array 81.33 56 P P 11 58 10.4 +2.0
comp=Z,0.4nm,0.5s,baz=290,slow=3.9,SNR=14
comp=Z,0.4nm,0.5s

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*IDC **08** 12:06:47.1±1.0, 6°.83S×130°.28E, h0km, mb3.8/5, mbtmp3.8/7, ML4.1/2, Error ellipse: s-maj=67.6km s-min=19.9km az=74.0*
*NEIC **08** 12:06:58.2±2.9, 6°.95S±0°.06×130°.4E±0°.1, h115km±8km, mb4.2/10, Error ellipse: s-maj=20.3km s-min=8.5km az=87.0*
ISC 08 12:06:56.6±0.7, 7°.02S±0°.07×130°.2E±0°.1, h100km, n41, σ2°.23/39, mb3.9/10, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.45**	**132**	P	**Pn**	**12 07 24.7**	**+2.5**
SAUI	**Saumlaki**	**1.45**	**132**		**Pn**	**12 07 24.2**	**+1.9**
FAKI	**Fak Fak**	**4.55**	**27**	P	**Pn**	**12 08 02.1**	**-1.2**
FAKI	**Fak Fak**	**4.55**	**27**	Pn	**Pn**	**12 08 01.9**	**-1.4**
DRS	**Darwin Rock St**	**5.42**	**173**	P	**Pn**	**12 08 17.4**	**+2.3**
MTN	**Manton Dam**	**5.86**	**171**	P	**Pn**	**12 08 23.1**	**+2.0**
MTN	**Manton Dam**	**5.86**	**171**		**Pn**	**12 08 22.9**	**+1.8**
KDU	**Kakadu**	**6.06**	**159**	P	**Pn**	**12 08 24.6**	**+0.9**
KNRA	**Kununurra**	**8.72**	**189**	Pn	**Pn**	**12 09 00.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**11.88**	**202**	P	**Pn**	**12 09 41.5**	**-1.2**
FITZ	**Fitzroy Crossi**	**11.88**	**202**	Pn	Pn	12 09 39.9	-2.8
WB0	**Warramunga Arr**	**13.31**	**163**	Pn	**Pn**	**12 09 59.4**	**-2.2**
WRAB	**Tennant Creek**	**13.46**	**163**	Pn	Pn	12 10 00.1	-3.4
WRA	**Warramunga Arr**	**13.46**	**163**	Pn	Pn	12 10 00.7	-3.0
WRA	**Warramunga Arr**	**13.46**	**163**	Pn	**Pn**	**12 10 01.4**	**-2.2**
1.1nm,0.3s,baz=348,slow=14,SNR=46
WRA Sn **Sn 12 12 25.0 -6.8**
2.7nm,0.3s,baz=338,slow=22,SNR=15
1.7nm,0.4s
WB2 Warramunga Arr 13.46 163 Pn Pn 12 10 01.1 -2.6
WR0 Warramunga Arr 13.54 162 Pn Pn 12 10 03.5 -1.1
COEN Coen 14.49 119 P P 12 10 19.9 -0.9
COEN Coen 14.49 119 Pn Pn 12 10 16.1 -0.9
QIS Mount Isa 16.25 147 P Pn 12 10 40.7 +1.6
AS31 Alice Springs 16.93 168 P Pn 12 10 47.2 -0.3
ASAR Alice Springs 16.93 168 Pn 12 10 47.8 +0.3
ASAR Alice Springs 16.93 168 P Pn 12 10 48.1 +0.7
0.6nm,0.3s,baz=341,slow=9.2,SNR=27
ASAR S Sn 12 13 44.8 -11
1.2nm,0.5s,baz=349,slow=25,SNR=4.0
1.0nm,0.6s
AS01 Alice Springs 16.94 168 P Pn 12 10 48.5 +0.9
MTSU Mount Surprise 17.64 130 P Pn 12 10 59.9 +3.8
WRKA Warakurna 18.01 186 P P 12 11 00.9 +1.2
FORT Forrest 23.73 185 P P 12 11 58.4 -1.2
FORT IAmb IAmb 12 12 33.6
comp=Z,35nm,1.4s
MORW Morawa 25.69 210 P P 12 12 18.4 +1.0
MORW IAmb IAmb 12 12 24.7
comp=Z,19nm,1.4s
STKA Stephens Creek 26.92 158 P 12 12 28.8 +0.3
STKA Stephens Creek 26.92 158 P P 12 12 32.2 +3.7
comp=Z,1.1nm,0.6s,baz=332,slow=9.8,SNR=4.4
comp=Z,1.1nm,0.6s
MJAR Matsushiro Arr 43.97 9 P P 12 14 54.6 +0.7
comp=Z,0.7nm,0.7s,baz=199,slow=9.9,SNR=4.1
comp=Z,0.7nm,0.7s
RAO Raoul Island 53.52 121 P P 12 16 06.5 -0.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**68.35**	**327**	P	**P**	**12 17 47.5**	**+0.1**
MK31 IAmb IAmb 12 18 15.9
comp=Z,0.9nm,1.1s
MKAR Makanchi Array 68.35 327 P P 12 17 47.3 0.0
MKAR Makanchi Array 68.35 327 P P 12 17 49.8 +2.5
comp=Z,0.6nm,0.3s,baz=119,slow=7.4,SNR=15
comp=Z,0.6nm,0.3s
MAKZ Makanchi 68.53 327 P P 12 17 49.3 +0.9
MAKZ IAmb IAmb 12 17 52.5
comp=Z,1.4nm,0.9s
KURBB Kurchatov Arra 72.63 328 P P 12 18 15.8 +2.6
comp=Z,0.2nm,0.4s,baz=123,slow=5.0,SNR=4.7
comp=Z,0.2nm,0.4s
VOI Vohitsoka 81.33 249 P P 12 19 00.6 -2.2
QSPA South Pole Qui 82.96 180 P P 12 19 13.4 +3.0
QSPA IAmb IAmb 12 19 51.8
comp=Z,6.1nm,1.3s
QSPA South Pole Qui 82.96 180 P P 12 19 14.3 +3.8
comp=Z,0.7nm,0.7s,baz=327,slow=1.4,SNR=5.8
comp=Z,0.7nm,0.7s
SNAA Sanae 95.69 193 P P 12 20 08.5 -2.4
SNAA IAmb IAmb 12 20 50.9
comp=Z,3.3nm,1.4s

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*IDC **08** 12:09:46.2±0.9, 29°.16S×178°.14W, h0km, mb4.1/4, mbtmp4.1/4, MS3.3/3, Error ellipse: s-maj=36.3km s-min=9.0km az=19.0*
ISC 08 12:09:52.0±1.0, 29°.2S±0°.2×178°.1W±0°.1, h35km, n21, σ1°.29/11, mb4.2/7, 3C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.18**	**102**	Pn	**Pn**	**12 09 56.4**	**-2.4**
598nm,0.3s,baz=270,slow=20,SNR=22
RAO Sn **Sn 12 10 04.2 +0.9**
2μm,0.3s,baz=96,slow=23,SNR=18
DZM Mont Dzumac 15.62 294 LR LR 12 17 45.2
comp=Z,122nm,19.9s,baz=206,slow=31
ASAR Alice Springs 43.08 266 P **P 12 17 48.3 -0.6**
2.7nm,0.8s,baz=108,slow=8.2,SNR=12
2.7nm,0.8s
WRA Warramunga Arr 43.96 271 P P 12 17 54.8 -1.2
2.1nm,0.6s,baz=110,slow=7.5,SNR=9.1
2.1nm,0.6s
VNDA Vanda 49.26 186 LR LR 12 36 23.0
comp=Z,43nm,19.4s,baz=308,slow=32
GUMO Guam 55.57 315 LR LR 12 40 00.4
comp=Z,19nm,22.0s,baz=158,slow=33
QSPA South Pole Qui 60.89 180 P P 12 20 01.4 +0.3
1.8nm,0.9s,baz=31,slow=8.4,SNR=9.7
1.8nm,0.9s
VNA3 Neumayer Olymp 79.49 176⇑P **P 12 21 55.5 +0.9**
comp=Z,5.1nm,0.8s
VNA2 Neumayer--Watz 79.93 177⇑P **P 12 21 57.9 +0.9**
comp=Z,2.5nm,0.6s,baz=180,slow=4.8
VNA1 Neumayer--Stat 80.16 177⇑P **P 12 21 59.1 +1.0**
comp=Z,3.3nm,1.0s
H03S2 Juan Fernandez 81.21 124 T T 13 51 49.1
baz=239,slow=74,SNR=28
H03S1 Juan Fernandez 81.22 124 T T 13 51 51.3
baz=239,slow=74,SNR=23
H03S3 Juan Fernandez 81.23 124 T T 13 51 40.4
baz=239,slow=74,SNR=33
NVAR Mina Array Bea 87.44 43 P P 12 22 37.3 +1.2
comp=Z,0.6nm,0.8s,baz=217,slow=7.4,SNR=4.7
comp=Z,0.6nm,0.8s
H10S3 ASCENSION HYDR 138.84 155 T T 15 04 53.6
baz=16,slow=74,SNR=14
H10S2 ASCENSION HYDR 138.84 155 T T 15 04 50.1
baz=204,slow=74,SNR=15
H10N3 ASCENSION HYDR 139.93 154 T T 15 06 12.3
baz=206,slow=75,SNR=14
H10N1 ASCENSION HYDR 139.93 154 T T 15 06 10.9
baz=206,slow=75,SNR=32
H10N2 ASCENSION HYDR 139.94 154 T T 15 06 14.8
baz=206,slow=75,SNR=21
NOA NORSAR Array B 147.56 352 PKPbc **PKPdf 12 29 30.1 +0.8**
comp=Z,0.9nm,0.9s,baz=16,slow=4.5,SNR=3.5
TORD Torodi Ar. Bea 164.01 179 PKPab **PKPab 12 30 44.6 -0.5**
comp=Z,0.8nm,0.7s,baz=158,slow=3.7,SNR=4.1

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*NEIC **08** 12:18:56.3±0.3, 36°.273N±0°.010×97°.51W±0°.01, h1km±1km, Error ellipse: s-maj=1.4km s-min=1.1km az=153.0*
TUL 08 12:18:56.9±0.3, 36°.28N±0°.01×97°.50W±0°.01, h7km±2km, ML2.5, mb_Lg2.3/16(NEIC), ML2.5/62(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=170.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.45**	**300**		Pg	12 19 05.7	+0.1
CROK Sg Sg 12 19 11.9 +0.5
CROK IAML 12 19 18.3
comp=E,483nm,0.3s
OK048 Pawnee Station 0.47 73 Pg Pg 12 19 06.3 +0.3
OK029 Liberty Lake 0.48 175 Pg Pg 12 19 06.4 +0.1
BLOK Blackwell 0.53 26 Pg 12 19 07.5 +0.2
BLOK IAML 12 19 15.2
comp=E,496nm,0.6s
OK051 E0350 and S346 0.58 67 Pg Pg 12 19 08.3 +0.1
OK051 IAML 12 19 25.8
comp=E,251nm,0.2s
OK051 IAML 12 19 28.2
comp=E,314nm,0.2s
OK031 S. Brethren Rd 0.63 121 Pg Pg 12 19 09.0 0.0
OK031 IAML 12 19 18.1
comp=E,295nm,0.3s
OK031 IAML 12 19 18.1
comp=E,308nm,0.2s
ADOK Arcadia Dam 0.64 170 Pg Pg 12 19 09.1 -0.1
OK052 Battle Ridge R 0.64 116 Pg Pg 12 19 09.3 +0.2
OK052 IAML 12 19 18.2
comp=E,215nm,0.2s
OK052 IAML 12 19 18.2
comp=E,326nm,0.4s
GC02 Grant County # 0.64 334 Pg Pg 12 19 09.2 -0.1
KAN13 South Haven SW 0.73 2 Pg 12 19 11.1 +0.1
KAN13 IAML 12 19 28.9
comp=N,261nm,0.3s
KAN13 IAML 12 19 29.8
comp=E,305nm,0.2s
KAN14 Manchester OK 0.77 332 Pg 12 19 11.6 -0.1
KAN14 IAML 12 19 26.3
comp=N,297nm,0.1s
OK032 Salt Plains WL 0.77 313 Pg 12 19 11.7 -0.1
KAN17 Caldwell West 0.79 345 Pg 12 19 11.9 -0.2
KAN17 IAML 12 19 29.4
comp=E,216nm,0.2s
KAN17 IAML 12 19 32.0
comp=N,253nm,0.3s
KAN09 Caldwell North 0.86 354 Pg 12 19 13.2 -0.2
OKCSW OKLAHOMA CITY 0.87 176 Pg Pg 12 19 13.5 -0.2
OKCSW IAML 12 19 28.3
comp=N,162nm,0.2s
OKCSW IAML 12 19 31.4
comp=E,138nm,0.2s
KAN01 Argonia South 0.90 347 Pg 12 19 13.8 -0.3
KAN01 IAML 12 19 27.2
comp=N,162nm,0.1s
KAN01 IAML 12 19 32.7
comp=E,180nm,0.1s
DEOK Depew 0.92 118 Pg 12 19 14.3 -0.4
DEOK IAML 12 19 27.5
comp=E,129nm,0.2s
DEOK IAML 12 19 29.8
comp=N,199nm,0.3s
KAN06 Argonia West S 1.01 344 Pg 12 19 16.0 -0.3
KAN06 IAML 12 19 30.4
comp=N,212nm,0.2s
OK038 West end E0370 1.02 282 Pg 12 19 15.9 -0.5
T35A Sooner Cattle 1.02 51 Pg Pg 12 19 16.5 0.0
T35A IAML 12 19 30.8
comp=N,114nm,0.3s
T35A IAML 12 19 31.3
comp=E,92nm,0.3s
FNO Franklin 1.02 175 Pg Pg 12 19 16.0 -0.5
FNO IAML 12 19 34.6
comp=E,120nm,0.1s
OK035 E0210 Rd and N 1.06 294 Pg 12 19 16.6 -0.7
CSTR Hydro, Custer 1.15 237 Pg 12 19 18.0 -0.9
NOKA Waynoka 1.20 288 Pg Pg 12 19 19.5 -0.5
U32A Winter Ranch, 1.21 275 Pg 12 19 19.2 -0.9
U32A IAML 12 19 36.8
comp=N,88nm,0.1s
U32A IAML 12 19 50.8
comp=E,79nm,0.1s
W35A Tecumseh 1.24 155 Pb 12 19 19.3 -1.3
W35A IAML 12 19 37.7
comp=N,97nm,0.2s
TUL3 Leonard 1.44 104 Pn 12 19 22.8 -0.6
X34A Smith Ranch, M 1.70 189 Pg Pb 12 19 27.9 -0.5
WMOK Wichita Mounta 1.86 214 Pn 12 19 29.5 +0.3
RLO Rose Lookout 2.01 93 Pb 12 19 32.6 -1.2
R32A Long Quarter, 2.34 336 Pn 12 19 35.2 -0.8
X37A Clayton 2.42 133 Sb 12 20 09.3 -1.6
X37A IAmb_Lg 12 20 20.0
comp=Z,14nm,0.8s
SMWD Samnorwood 2.52 243 Pn 12 19 38.6 +0.3
DKNS Dickens 3.83 228 IAmb_Lg 12 21 03.3
comp=Z,7.1nm,1.1s
ABTX Abilene, Hawle 4.05 206 IAmb_Lg 12 21 07.6
comp=Z,6.1nm,0.7s
SN07 Snyder 07 4.23 222 IAmb_Lg 12 21 12.0
comp=Z,5.5nm,0.7s
MGMO Mountain Grove 4.30 77 IAmb_Lg 12 21 12.5
comp=Z,6.0nm,0.7s
SN05 Snyder 5 4.39 220 IAmb_Lg 12 21 16.8
comp=Z,5.9nm,0.8s
PBMO Poplar Bluff 5.72 83 IAmb_Lg 12 22 07.2
comp=Z,6.3nm,0.7s
PLAL Pickwick Lake 7.79 97 IAmb_Lg 12 23 06.7
comp=Z,3.0nm,0.8s

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*IDC **08** 12:33:34.7±7.8, 34°.95N×135°.62E, h238km±136km, mb2.9/2, mbtmp3.6/4, Error ellipse: s-maj=230.0km s-min=29.7km az=62.0*
*JMA **08** 12:33:38.3±0.4, 35°.N±2°.×13°.7E±°, h307km±3km, MV2.5/24, SE GIFU PREF*
ISC 08 12:33:38.5±1.2, 35°.44N±0°.09×137°.01E±0°.09, h300km, n15, σ1°.41/17, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**0.27**	**304**	P	**Pn**	**12 34 17.5**	**+0.9**
JAO	**Obara**	**0.27**	**131**	*e* P	**Pn**	**12 34 17.5**	**+0.7**
JKG	**Kaga**	**1.00**	**327**	P	**Pn**	**12 34 19.7**	**+1.0**
JIE	**Ise**	**1.08**	**193**	P	**Pn**	**12 34 19.8**	**+0.5**
JYN	**Shimob**	**1.25**	**87**	P	**Pn**	**12 34 21.1**	**+0.8**
JWT	**Wachi**	**1.32**	**263**	P	**Pn**	**12 34 21.2**	**+0.7**
MAT	**Matsushiro**	**1.47**	**41**	P	**Pn**	**12 34 22.6**	**+1.2**
MJAR	**Matsushiro Arr**	**1.47**	**41**	P	**Pn**	**12 34 22.6**	**+1.2**
5.9nm,0.5s,baz=203,slow=8.7,SNR=82
JRY Ryogami san 1.64 69 P **Pn 12 34 23.7 +1.1**
JSZ Suzu 2.02 8 P **Pn 12 34 26.7 +1.4**
JAG Ashikaga 2.21 63 *e* P **Pn 12 34 27.0 0.0**
JAG *e* S **S 12 35 04.5 -1.1**
JHJ Hachijo jima 2 3.26 134 P **Pn 12 34 37.8 +0.9**
65nm,0.7s,baz=248,slow=14,SNR=1.6
JHJ S **S 12 35 26.9 +3.2**
99nm,1.0s,baz=112,slow=11,SNR=1.5
BSO1 Boso 1 3.35 102 *e* P **Pn 12 34 36.8 -0.4**
WRA Warramunga Arr 55.14 183 P **P 12 42 38.6 -1.8**
0.4nm,0.3s,baz=0.3,slow=7.6,SNR=7.8
0.4nm,0.3s
ASAR Alice Springs 58.86 183 P **P 12 43 04.8 -1.5**
0.1nm,0.5s,baz=359,slow=5.9,SNR=5.2
0.1nm,0.5s

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*JSO **08** 12:39:10, 32°.88N×35°.45E, h4km, ML2.9/15*
*GII **08** 12:39:10.2±0.5, 32°.875N±0°.004×35°.592E±0°.001, h1km, Md2.7/4, Mws2.7/8, confirmed*
*GRAL **08** 12:39:12.5±0.3, 32°.88N×35°.63E, h0km±2km, MD3.3*
ISC 08 12:39:10.9±0.9, 32°.88N±0°.02×35°.57E±0°.03, h12km±7km, n42, σ0°.65/45, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	**Mount Meron ar**	**0.19**	**315**	P	**Pg**	**12 39 14.7**	**-0.5**
MMA0B	**Mount Meron ar**	**0.20**	**314**	P	**Pg**	**12 39 14.8**	**-0.5**
MMA0B	**Mount Meron ar**	**0.20**	**314**	S	**Sg**	**12 39 19.4**	**+1.1**
MMC7	**Mount Meron ar**	**0.21**	**313**	P	**Pg**	**12 39 15.1**	**-0.4**
KSHT	**Keshet**	**0.23**	**62**	S	**Sg**	**12 39 19.7**	**+0.6**
KSHT	**Keshet**	**0.23**	**62**	P	**Pg**	**12 39 14.7**	**-1.0**
GEM	**Giv'at Ha'Em**	**0.34**	**13**	P	**Pb**	**12 39 18.6**	**-0.3**
GEM	**Giv'at Ha'Em**	**0.34**	**13**	S	**Sb**	**12 39 24.2**	**0.0**
GEM	**Giv'at Ha'Em**	**0.34**	**13**	P	**Pg**	**12 39 17.4**	**-0.4**
BLGI	**Bet Lehem HaGe**	**0.35**	**246**	P	**Pg**	**12 39 16.6**	**-1.4**
BLGI	**Bet Lehem HaGe**	**0.35**	**246**	P	**Pg**	**12 39 18.3**	**+0.3**
BLGI	**Bet Lehem HaGe**	**0.35**	**246**	S	**Sb**	**12 39 24.8**	**+0.2**
HNTI	**Hanita**	**0.39**	**301**	P	**Pg**	**12 39 18.3**	**-0.4**
HNTI	**Hanita**	**0.39**	**301**	S	**Sb**	**12 39 26.3**	**+0.5**
HNTI	**Hanita**	**0.39**	**301**	P	**Pg**	**12 39 18.4**	**-0.4**
NATI	**Neve Ativ**	**0.41**	**20**	S	**Sb**	**12 39 26.0**	**-0.1**
NATI	**Neve Ativ**	**0.41**	**20**	P	**Pb**	**12 39 19.7**	**-0.3**
MMLI	**Mount Malkishu**	**0.46**	**196**	S	**Sb**	**12 39 28.3**	**+0.7**
MMLI	**Mount Malkishu**	**0.46**	**196**	P	**Pg**	**12 39 19.7**	**-0.2**
QRNJ	**Al-Qirein**	**0.54**	**180**	P	**Pg**	**12 39 21.3**	**-0.2**
OFRI	**`Ofer**	**0.56**	**243**	S	**Sb**	**12 39 31.1**	**+0.6**
OFRI	**`Ofer**	**0.56**	**243**	P	**Pb**	**12 39 22.4**	**-0.2**
HMDT	**Nahal Hemdat**	**0.62**	**184**	P	**Pg**	**12 39 22.9**	**-0.1**
HMDT	**Nahal Hemdat**	**0.62**	**184**	S	**Sb**	**12 39 33.1**	**+0.7**
HMDT	**Nahal Hemdat**	**0.62**	**184**	P	**Pg**	**12 39 23.0**	**-0.1**
RCY	**Rachaya**	**0.66**	**20**	*e* P	**Pg**	**12 39 23.8**	**+0.1**
RCY *e* S **Sg 12 39 32.3 0.0**
QRWL Qaraoun 0.67 8 *e* P **Pg 12 39 24.4 +0.4**
SLTI Sal'it 0.78 215 P **Pg 12 39 25.0 -1.0**
SLTI Sal'it 0.78 215 P **Pg 12 39 24.9 -1.1**
SLTI Sal'it 0.78 215 S **Sn 12 39 38.2 -1.0**
DQRL Deir Qamar 0.82 360 *e* P **Pg 12 39 27.2 +0.3**
DQRL *e* S **Sg 12 39 38.1 +0.4**
ZAHL Zahle 1.01 15 *e* P **Pb 12 39 30.3 -0.1**
BHL Bhannes 1.03 4 *e* P **Pb 12 39 30.8 +0.1**
DSI Dead Sea 1.31 187 P **Pn 12 39 34.5 -0.5**
ASF Jabal al Asfar 1.32 122 P **Pn 12 39 35.1 -0.1**
HWQ Hawqa 1.43 12 *e* P **Pb 12 39 37.6 0.0**
YTIR Yattir 1.56 195 P **Pg 12 39 40.7 -0.1**
YTIR Yattir 1.56 195 P **Pb 12 39 39.9 +0.2**
YTIR S **Sg 12 40 01.6 +0.5**
MDBI Mazsada 1.57 187 P **Pb 12 39 39.9 +0.1**
BEIL Beino 1.74 17 *e* P **Pb 12 39 42.3 -0.4**
PRNI Paran 2.56 191 P **Pn 12 39 54.3 +2.0**
MBRI Mt Berech 3.13 191 P **Pn 12 39 59.0 -1.0**

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*GII **08** 12:52:17.4±0.4, 32°.846N±0°.002×35°.578E±0°.001, h0km, Md2.3/6, Mws2.3/4, confirmed*
*JSO **08** 12:52:18, 32°.89N×35°.54E, h4km, ML2.5/15*
*GRAL **08** 12:52:20.0±0.3, 32°.84N×35°.66E, h0km±3km, MD3.2*
ISC 08 12:52:18.8±0.8, 32°.85N±0°.02×35°.59E±0°.03, h13km, n45, σ0°.63/47, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	**Mount Meron ar**	**0.22**	**318**	P	**Pg**	**12 52 23.2**	**-0.5**
MMA0B	**Mount Meron ar**	**0.23**	**317**	P	**Pg**	**12 52 22.9**	**-0.8**
MMA0B	**Mount Meron ar**	**0.23**	**317**	S	**Sg**	**12 52 27.1**	**0.0**
KSHT	**Keshet**	**0.23**	**55**	S	**Sg**	**12 52 27.7**	**+0.6**
KSHT	**Keshet**	**0.23**	**55**	P	**Pg**	**12 52 23.2**	**-0.6**
MMC7	**Mount Meron ar**	**0.24**	**316**	P	**Pg**	**12 52 23.5**	**-0.5**
BLGI	**Bet Lehem HaGe**	**0.35**	**251**	P	**Pg**	**12 52 25.9**	**0.0**
BLGI	**Bet Lehem HaGe**	**0.35**	**251**	S	**Sg**	**12 52 31.0**	**+0.3**
BLGI	**Bet Lehem HaGe**	**0.35**	**251**	P	**Pg**	**12 52 25.3**	**-0.7**
GEM	**Giv'at Ha'Em**	**0.36**	**10**	P	**Pg**	**12 52 26.1**	**-0.1**
GEM	**Giv'at Ha'Em**	**0.36**	**10**	S	**Sb**	**12 52 32.3**	**-0.5**
GEM	**Giv'at Ha'Em**	**0.36**	**10**	P	**Pg**	**12 52 25.4**	**-0.7**
HNTI	**Hanita**	**0.42**	**304**	P	**Pg**	**12 52 26.7**	**-0.4**
HNTI	**Hanita**	**0.42**	**304**	S	**Sg**	**12 52 33.6**	**+0.8**
HNTI	**Hanita**	**0.42**	**304**	P	**Pg**	**12 52 26.8**	**-0.4**
NATI	**Neve Ativ**	**0.43**	**17**	S	**Sg**	**12 52 33.5**	**+0.4**
NATI	**Neve Ativ**	**0.43**	**17**	P	**Pg**	**12 52 26.7**	**-0.6**
MMLI	**Mount Malkishu**	**0.43**	**199**	S	**Sb**	**12 52 34.1**	**-0.7**
MMLI	**Mount Malkishu**	**0.43**	**199**	P	**Pg**	**12 52 26.7**	**-0.8**
QRNJ	**Al-Qirein**	**0.51**	**181**	P	**Pg**	**12 52 29.0**	**+0.1**
OFRI	**`Ofer**	**0.56**	**246**	P	**Pg**	**12 52 29.0**	**-0.8**
OFRI	**`Ofer**	**0.56**	**246**	S	**Sg**	**12 52 37.8**	**+0.6**
HMDT	**Nahal Hemdat**	**0.60**	**185**	P	**Pg**	**12 52 29.9**	**-0.6**
HMDT	**Nahal Hemdat**	**0.60**	**185**	P	**Pg**	**12 52 30.3**	**-0.1**
HMDT	**Nahal Hemdat**	**0.60**	**185**	S	**Sb**	**12 52 39.3**	**-0.2**
RCY	**Rachaya**	**0.68**	**18**	*e* P	**Pg**	**12 52 32.0**	**0.0**
RCY *e* S **Sg 12 52 41.0 0.0**
SLTI Sal'it 0.77 217 P **Pg 12 52 33.1 -0.5**
SLTI Sal'it 0.77 217 P **Pg 12 52 32.8 -0.8**
SLTI Sal'it 0.77 217 S **Sb 12 52 44.4 +0.2**
DQRL Deir Qamar 0.85 359 *e* P **Pg 12 52 35.6 +0.2**

DQRL				*e*S	Sb	12 52 47.1	+0.1
HSUJ	Al Zarqa	0.90	145	P	Pg	12 52 35.7	-0.5
ZAHL	Zahle	1.03	14	*e*P	Pb	12 52 38.5	-0.1
BHL	Bhannes	1.05	3	*e*P	Pb	12 52 39.0	+0.1
DSI	Dead Sea	1.29	188	P	Pn	12 52 41.6	-0.9
DSI	Dead Sea	1.29	188	P	Pn	12 52 41.3	-1.2
DSI	Dead Sea	1.29	188	S	Sg	12 53 01.1	+0.8
ASF	Jabal al Asfar	1.30	121	P	Pn	12 52 42.7	0.0
AMAZ	Amatzia	1.43	204	P	Pn	12 52 44.3	-0.2
HWQ	Hawqa	1.46	12	*e*P	Pb	12 52 45.8	0.0
YTIR	Yattir	1.54	195	P	Pb	12 52 47.1	-0.1
YTIR	Yattir	1.54	195	P	Pn	12 52 46.6	+0.6
MDBI	Mazsada	1.55	187	P	Pn	12 52 46.5	+0.5
BEIL	Beino	1.76	16	*e*P	Pb	12 52 50.3	-0.6
PRNI	Paran	2.54	191	P	Pn	12 52 01.6	+1.9
PRNI	Paran	2.54	191	P	Pn	12 53 01.0	+1.3

HVO ***08*** *12:54:43.1±0.6, 19°.410N±0°.008×155°.263W±0°.007, h0km±3km, ML3.9/44, ML3.4/29(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=209.0*
NEIC ***08*** *12:54:44±1.0, 19°.398N±0°.010×155°.239W±0°.008, h2km±2km, Error ellipse: s-maj=1.4km s-min=1.0km az=201.0*
IDC ***08*** *12:54:46.8±1.4, 19°.77N×155°.25W, h0km, mb3.5/9, mbtmp3.5/9, MS4.2/44, Error ellipse: s-maj=48.3km s-min=23.6km az=155.0*
ISC 08 12:54:46.3±0.7, 19°.42N±0°.04×155°.24W±0°.03, h10km, n80, σ2§92/34, mb3.6/9, MS4.4/45, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATHI	**Halema'uma'u T**	**0.02**	**270**	Pg	**Pg**	**12 54 44.2**	**-4.1**
BYL	**Byron's Ledge**	**0.02**	**237**	Pg	**Pg**	**12 54 43.8**	**-4.5**
SBLHI	**Steaming Bluff**	**0.03**	**279**		**Pg**	**12 54 44.8**	**-3.4**
KKO	**Keanakako'i**	**0.03**	**222**		**Pg**	**12 54 44.4**	**-3.9**
UWB	**Uwekahuna B**	**0.03**	**273**		**Pg**	**12 54 44.7**	**-3.6**
OBL	**Observatory Le**	**0.04**	**262**		**Pg**	**12 54 45.0**	**-3.3**
RIM	**Rim**	**0.04**	**228**		**Pg**	**12 54 44.7**	**-3.6**
UWE	**Uwekahuna**	**0.05**	**268**	Pg	**Pg**	**12 54 44.8**	**-3.7**
RSD	**Rainshed**	**0.05**	**320**	Pg	**Pg**	**12 54 45.7**	**-2.8**
PUH	**Pauahi**	**0.06**	**153**	Pg	**Pg**	**12 54 45.3**	**-3.2**
WRMHI	**West Rim**	**0.06**	**253**		**Pg**	**12 54 44.6**	**-3.9**
SDHHI	**Sand Hill**	**0.06**	**236**		**Pg**	**12 54 44.6**	**-4.0**
KNHH	**Kane Nui o Ham**	**0.08**	**122**	Pg	**Pg**	**12 54 46.0**	**-2.7**
STCH	**Steam Cracks**	**0.12**	**109**	Pg	**Pg**	**12 54 46.7**	**-2.5**
STCH				IAML		12 54 50.0	
	comp=E,15μm,0.9s						
STCH				IAML		12 54 50.2	
	comp=N,9μm,0.7s						
HLP	**Hilina Pali**	**0.14**	**206**		**Pg**	**12 54 46.7**	**-2.9**
HLP				IAML		12 54 49.5	
	comp=N,10μm,0.9s						
HLP				IAML		12 54 49.9	
	comp=E,18μm,0.9s						
JOKA	**Jonika Flow**	**0.22**	**87**	Pg	**Pg**	**12 54 48.3**	**-2.7**
JOKA				IAML		12 54 56.6	
	comp=E,4μm,0.7s						
JOKA				IAML		12 54 56.8	
	comp=N,10μm,0.9s						
HMH	**Humu'ula Sheep**	**0.29**	**308**	Pg	**Pg**	**12 54 50.4**	**-1.8**
HMH				IAML		12 54 58.5	
	comp=N,12μm,0.9s						
MLOA	**Mauna Loa Obse**	**0.34**	**290**	Pg	**Pg**	**12 54 50.9**	**-2.2**
MWH	**Moku'aweowe**	**0.34**	**280**	Pg	**Pg**	**12 54 51.2**	**-2.0**
KHU	**Kahuku**	**0.39**	**244**	Pg	**Pg**	**12 54 52.1**	**-2.0**
KHU				IAML		12 55 01.3	
	comp=N,7μm,1.8s						
POHA	**Pohakuloa**	**0.43**	**321**	Pg	**Pg**	**12 54 52.4**	**-2.5**
HPO	**Honuapo**	**0.44**	**222**	Pg	**Pg**	**12 54 52.2**	**-2.8**
HUH	**Hualalai**	**0.62**	**295**	Pg	**Pg**	**12 54 56.0**	**-2.4**
I59US	**HAWAII INFRASO**	**0.64**	**285**	Pg	**Pg**	**12 54 56.8**	**-1.9**
	baz=145,slow=5.6						
I59US				Lg	Lg	12 55 08.8	
	baz=112,slow=34						
I59US				I	I	12 58 05.0	
	comp=N,0.1nm,1.3s,baz=106,slow=322,SNR=3.0						
HPAH	**Hawaii Prepara**	**0.74**	**325**	Pg	**Pg**	**12 54 56.2**	**-4.4**
YBH	**Yreka Blue Hor**	**35.44**	**44**	LR	LR	13 12 17.4	
	comp=N,256nm,21.6s,baz=258,slow=30						
H11N3	**WAKE ISLAND Hy**	**35.62**	**277**	T	T	13 38 53.5	
	baz=84,slow=74,SNR=47						
H11N2	**WAKE ISLAND Hy**	**35.63**	**277**	T	T	13 38 55.7	
	baz=84,slow=74,SNR=35						
H11N1	**WAKE ISLAND Hy**	**35.63**	**277**	T	T	13 38 54.9	
	baz=84,slow=74,SNR=39						
H11S2	**WAKE ISLAND Hy**	**35.95**	**275**	T	T	13 39 19.3	
	baz=82,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy**	**35.96**	**275**	T	T	13 39 18.8	
	baz=82,slow=74,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**35.97**	**275**	T	T	13 39 20.5	
	baz=82,slow=74,SNR=11						
NVAR	**Mina Array Bea**	**37.15**	**51**	P	**P**	**13 01 57.9**	**+0.2**
	comp=N,0.1nm,0.5s,baz=241,slow=12,SNR=2.1						
NVAR				LR	LR	13 13 14.6	
	comp=N,338nm,20.1s,baz=242,slow=30						
	comp=N,0.1nm,0.5s						
PFO	**Pinyon Flats O**	**37.24**	**60**	LR	LR	13 13 03.9	
	comp=N,262nm,18.6s,baz=268,slow=30						
BBB	**Bella Bella**	**38.96**	**27**	LR	LR	13 14 22.7	
	comp=N,300nm,20.7s,baz=234,slow=30						
LPIG	**La Paz**	**41.86**	**75**	LR	LR	13 15 09.5	
	comp=N,463nm,21.6s,baz=268,slow=29						
NEW	**Newport**	**42.09**	**38**	LR	LR	13 16 03.0	
	comp=N,202nm,20.9s,baz=234,slow=30						
DLBC	**Dease Lake**	**43.09**	**19**	LR	LR	13 16 48.0	
	comp=N,539nm,20.3s,baz=231,slow=31						
PDAR	**Pinedale Array**	**44.83**	**48**	P	**P**	**13 03 01.5**	**+0.6**
	comp=N,0.1nm,0.3s,baz=257,slow=7.3,SNR=1.5						
PDAR				LR	LR	13 21 30.3	
	comp=N,58nm,18.3s,baz=264,slow=36						
	comp=N,0.1nm,0.3s						
ANMO	**Albuquerque**	**45.63**	**60**	LR	LR	13 19 30.0	
	comp=N,195nm,18.9s,baz=358,slow=33						
ILAR	**Eielson Array**	**45.66**	**5**	P	**P**	**13 03 06.0**	**-0.9**
	comp=N,0.5nm,0.8s,baz=203,slow=5.7,SNR=3.6						
ILAR				LR	LR	13 19 11.8	
	comp=N,477nm,19.5s,baz=184,slow=32						
	comp=N,0.5nm,0.8s						
TXAR	**Lajitas Array**	**47.68**	**68**	P	**P**	**13 03 24.2**	**+0.9**
	comp=N,0.6nm,0.7s,baz=250,slow=8.0,SNR=7.6						
TXAR				LR	LR	13 19 37.9	
	comp=N,69nm,21.3s,baz=252,slow=31						
	comp=N,0.6nm,0.7s						
YKA	**Yellowknife Ar**	**51.30**	**23**	P	**P**	**13 03 50.2**	**-0.1**
	comp=N,0.6nm,0.8s,baz=233,slow=7.1,SNR=3.3						
YKA				LR	LR	13 21 34.7	
	comp=N,232nm,21.9s,baz=214,slow=32						
	comp=N,0.6nm,0.8s						
DZM	**Mont Dzumac**	**55.71**	**224**	LR	LR	13 22 38.0	
	comp=N,156nm,21.4s,baz=84,slow=30						
ULM	**Lac du Bonnet**	**55.79**	**42**	P	**P**	**13 04 23.2**	**-0.3**
	comp=N,2.2nm,0.8s,baz=233,slow=5.1,SNR=2.1						
ULM				LR	LR	13 24 26.5	
	comp=N,141nm,21.9s,baz=234,slow=32						
	comp=N,2.2nm,0.8s						
CMIG	**Matias Romero**	**57.11**	**82**	LR	LR	13 23 14.7	
	comp=N,272nm,21.6s,baz=290,slow=30						
GUMO	**Guam**	**57.48**	**274**	LR	LR	13 24 04.2	
	comp=N,353nm,21.8s,baz=64,slow=31						
JCJ	**Chichijima**	**57.50**	**290**	LR	LR	13 23 53.3	
	comp=N,458nm,21.9s,baz=110,slow=30						
JHJ	**Hachijo jima 2**	**59.02**	**298**	LR	LR	13 26 45.8	
	comp=N,357nm,20.1s,baz=94,slow=33						
MJAR	**Matsushiro Arr**	**60.10**	**302**	P	**P**	**13 04 54.4**	**+0.3**
	comp=N,0.3nm,0.6s,baz=83,slow=4.9,SNR=1.7						
MJAR				LR	LR	13 26 38.6	
	comp=N,287nm,21.4s,baz=72,slow=32						
	comp=N,0.3nm,0.6s						
TEIG	**Tepich**	**62.59**	**77**	LR	LR	13 28 44.8	
	comp=N,149nm,20.1s,baz=232,slow=33						
URZ	**Urewera**	**62.98**	**204**	LR	LR	13 28 11.6	
	comp=N,303nm,20.1s,baz=127,slow=32						
PMG	**Port Moresby**	**63.55**	**249**	LR	LR	13 28 20.2	
	comp=N,196nm,20.5s,baz=54,slow=32						
TKL	**Tuckaleechee C**	**64.14**	**59**	LR	LR	13 28 48.8	
	comp=N,99nm,21.3s,baz=275,slow=32						
KLR	**Kul'dur**	**64.50**	**316**	LR	LR	13 28 45.2	
	comp=N,405nm,20.7s,baz=146,slow=32						
JNU	**Nakatsue**	**66.44**	**298**	LR	LR	13 33 47.5	
	comp=N,337nm,18.3s,baz=96,slow=35						
SADO	**Sadowa**	**66.83**	**49**	LR	LR	13 35 36.9	
	comp=N,62nm,18.1s,baz=298,slow=37						
TIXI	**Tiksi**	**67.27**	**341**	LR	LR	13 34 37.2	
	comp=N,334nm,19.5s,baz=132,slow=36						
JTS	**Las Juntas de**	**68.17**	**86**	LR	LR	13 28 13.9	
	comp=N,352nm,20.7s,baz=286,slow=30						
KSRS	**Korea Array**	**68.21**	**303**	LR	LR	13 34 12.3	
	comp=N,268nm,18.8s,baz=80,slow=35						
CTA	**Charters Tower**	**69.48**	**239**	LR	LR	13 32 45.9	
	comp=N,12nm,19.5s,baz=83,slow=33						
JOW	**Kunigami**	**69.79**	**292**	LR	LR	13 30 05.8	
	comp=N,207nm,21.9s,baz=118,slow=30						
RPZ	**Rata Peaks**	**70.02**	**205**	LR	LR	13 31 30.5	
	comp=N,322nm,21.8s,baz=80,slow=31						
FRB	**Frobisher Bay**	**71.32**	**28**	LR	LR	13 34 02.3	
	comp=N,119nm,21.4s,baz=331,slow=33						
SCHQ	**Schefferville**	**73.45**	**37**	LR	LR	13 35 03.2	
	comp=N,65nm,20.5s,baz=270,slow=33						
DAV	**Davao City (W)**	**77.51**	**273**	LR	LR	13 34 21.0	
	comp=N,309nm,21.0s,baz=98,slow=31						
SFJD	**Kangerlussuaq**	**77.86**	**23**	LR	LR	13 37 06.5	
	comp=N,305nm,21.9s,baz=295,slow=33						
STKA	**Stephens Creek**	**79.12**	**231**	LR	LR	13 35 45.9	
	comp=N,210nm,20.3s,baz=31,slow=31						
WRA	**Warramunga Arr**	**79.31**	**244**	LR	LR	13 36 52.9	
	comp=N,299nm,21.5s,baz=81,slow=32						
ROSC	**El Rosal**	**79.86**	**88**	LR	LR	13 34 00.6	
	comp=N,218nm,21.4s,baz=274,slow=30						
NRIK	**Noril'sk**	**81.03**	**341**	LR	LR	13 43 17.9	
	comp=N,284nm,20.1s,baz=55,slow=36						
ASAR	**Alice Springs**	**81.27**	**241**	P	**P**	**13 07 06.2**	**+3.1**
	comp=N,0.7nm,0.8s,baz=69,slow=5.2,SNR=8.3						
ASAR				LR	LR	13 37 41.4	
	comp=N,175nm,21.6s,baz=54,slow=32						
	comp=N,0.7nm,0.8s						
SDV	**Santo Domingo**	**82.05**	**83**	LR	LR	13 36 47.8	
	comp=N,113nm,21.9s,baz=246,slow=31						
SPITS	**Spitsbergen Ar**	**82.48**	**2**	LR	LR	13 40 17.4	
	comp=N,203nm,21.4s,baz=324,slow=33						
H03N2	**Juan Fernandez**	**89.69**	**126**	T	T	14 46 52.1	
	baz=298,slow=76,SNR=5.6						
H03N3	**Juan Fernandez**	**89.70**	**126**	T	T	14 46 51.6	
	baz=298,slow=76,SNR=6.1						
H03N1	**Juan Fernandez**	**89.70**	**126**	T	T	14 46 53.9	
	baz=298,slow=76,SNR=6.2						
ZALV	**Zalesovo Beam**	**90.68**	**329**	P	**P**	**13 07 50.5**	**+1.3**
	comp=N,0.2nm,0.3s,baz=72,slow=4.7,SNR=1.3						
	comp=N,0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**98.06**	**293**	LR	LR	13 52 10.8	
	comp=N,155nm,19.2s,baz=70,slow=35						
NOA	**NORSAR Array B**	**99.08**	**7**	LR	LR	13 50 48.8	
	comp=N,124nm,20.6s,baz=350,slow=34						

BJI ***08*** *12:54:48.4±0.0, 19°.05N×154°.84W, h19km, mb4.9/18, mB5.7/33, Ms5.1/36, Ms7 4.9/37*
HVO ***08*** *12:54:50.5±2.1, 19°.406N±0°.010×155°.297W±0°.008, h-0km±5km, ML4.6/5, mb4.8/60(NEIC), ML4.3/26(NEIC), Mww5.3/20(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=171.0*
NEIC ***08*** *12:54:50.8±1.5, 19°.440N±0°.009×155°.341W±0°.007, h2km±6km, Error ellipse: s-maj=1.3km s-min=0.9km az=188.0*
NEIC ***08*** *12:54:50.5, 19°.41N×155°.30W, h12km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.97; $M_{\theta\theta}$0.50; $M_{\phi\phi}$0.47; $M_{r\theta}$-0.56; $M_{\theta\phi}$0.41; $M_{r\phi}$0.10; Fault plane solution: $M_0$1.07000×10^{17} NP1:ϕ_s67.46000°, δ58.58000°, λ-68.59000°. NP2:ϕ_s210.51000°, δ37.39000°, λ-120.86000°. Principal axes: T 0.9595, Plg11.0000°, Azm142.0000°; N 0.2292, Plg18.0000°, Azm236.0000°; P -1.1887, Plg68.0000°, Azm22.0000°;*
NEIC ***08*** *12:54:50.5, 19°.41N×155°.30W, h12km*
ISC 08 12:54:50.6±1.0, 19°.45N±0°.03×155°.35W±0°.03, h2km±5km, n525, σ1§21/527, mb4.8/38, MS4.7/29, 2C-1D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.06**	**324**	Pg	**Pg**	**12 54 48.5**	**-3.3**
MLH				IAML		12 54 56.2	
	comp=E,85μm,1.1s						
UWE	**Uwekahuna**	**0.06**	**116**		**Pg**	**12 54 51.2**	**-0.6**
UWE	**Uwekahuna**	**0.06**	**116**	IAML		12 54 50.9	
	comp=E,177μm,0.5s						
UWE				IAML		12 54 51.1	
	comp=N,417μm,1.1s						
WRMHI	**West Rim**	**0.06**	**130**		**Pg**	**12 54 50.8**	**-1.0**
OBL	**Observatory Le**	**0.07**	**115**		**Pg**	**12 54 50.8**	**-1.3**
RSD	**Rainshed**	**0.07**	**77**		**Pg**	**12 54 54.0**	**+2.0**
RSD	**Rainshed**	**0.07**	**77**	IAML		12 54 52.2	
	comp=E,239μm,0.8s						
RSD				IAML		12 54 53.0	
	comp=N,473μm,1.4s						
UWB	**Uwekahuna B**	**0.07**	**108**		**Pg**	**12 54 51.5**	**-0.5**
SDHHI	**Sand Hill**	**0.08**	**137**		**Pg**	**12 54 51.6**	**-0.5**
SBLHI	**Steaming Bluff**	**0.08**	**105**		**Pg**	**12 54 51.8**	**-0.4**
HATHI	**Halema'uma'u T**	**0.09**	**106**		**Pg**	**12 54 52.2**	**-0.1**
RIM	**Rim**	**0.09**	**126**		**Pg**	**12 54 51.7**	**-0.6**
BYL	**Byron's Ledge**	**0.09**	**112**		**Pg**	**12 54 51.7**	**-0.7**
BYL	**Byron's Ledge**	**0.09**	**112**	IAML		12 54 51.3	
	comp=E,1128μm,0.8s						
BYL				IAML		12 54 51.5	
	comp=N,1270μm,0.7s						
PUH	**Pauahi**	**0.15**	**120**		**Pg**	**12 54 53.6**	**+0.1**
PUH	**Pauahi**	**0.15**	**120**		**Sg**	**12 54 56.1**	**+0.7**
PUH	**Pauahi**	**0.15**	**120**	IAML		12 54 53.6	
	comp=E,224μm,0.8s						
PUH				IAML		12 54 54.8	
	comp=N,314μm,1.1s						
HLP	**Hilina Pali**	**0.16**	**165**		**Pg**	**12 54 54.0**	**+0.4**
HLP	**Hilina Pali**	**0.16**	**165**	IAML		12 54 55.9	
	comp=E,150μm,0.8s						
HLP				IAML		12 54 56.0	
	comp=N,173μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.18**	**112**		**Pg**	**12 54 53.8**	**-0.4**
HMH	**Humu'ula Sheep**	**0.20**	**321**		**Pg**	**12 54 57.0**	**+2.5**
HMH	**Humu'ula Sheep**	**0.20**	**321**	IAML		12 55 03.0	
	comp=N,58μm,2.2s						
HMH				IAML		12 55 03.6	
	comp=E,40μm,1.2s						
HTC	**Hot Caves**	**0.21**	**192**		**Pg**	**12 54 54.9**	**+0.2**
STCH	**Steam Cracks**	**0.22**	**106**		**Pg**	**12 54 54.8**	**0.0**
STCH					**Sg**	**12 54 58.1**	**+0.4**
STCH	**Steam Cracks**	**0.22**	**106**	IAML		12 54 58.5	
	comp=N,101μm,0.9s						
MLOA	**Mauna Loa Obse**	**0.23**	**293**	Pg	**Pg**	**12 54 51.6**	**-3.5**
MWH	**Moku'aweowe**	**0.24**	**279**	Pg	**Pg**	**12 54 53.9**	**-1.2**
KHU	**Kahuku**	**0.32**	**231**	Pg	**Pg**	**12 54 57.3**	**+0.5**
KHU				IAML		12 55 05.9	
	comp=E,20μm,0.7s						
KHU				IAML		12 55 07.1	
	comp=N,21μm,1.3s						
POHA	**Pohakuloa**	**0.35**	**331**	Pg	**Pg**	**12 54 57.9**	**+0.5**
POHA	**Pohakuloa**	**0.35**	**331**	IAML		12 55 11.5	
	comp=N,40μm,3.7s						
POHA				IAML		12 55 11.9	
	comp=N,31μm,2.1s						
HPO	**Honuapo**	**0.41**	**208**		**Pg**	**12 54 58.9**	**+0.5**
HUH	**Hualalai**	**0.52**	**297**	Pg	**Pb**	**12 55 02.2**	**-0.3**
SNCC	**San Nicolas Is**	**34.74**	**59**	P	**P**	**13 01 42.5**	**+0.1**
	baz=256						
SCZ2	**Santa Cruz Isl**	**34.84**	**58**	P	**P**	**13 01 42.3**	**-0.9**
	baz=254						
SBC	**Santa Barbara**	**34.90**	**57**	P	**P**	**13 01 43.9**	**+0.2**
	baz=254						
SMMC	**Simmler**	**34.93**	**56**	P	**P**	**13 01 44.5**	**+0.5**
	baz=252						
PKM	**Mcpherson Peak**	**34.95**	**57**	P	**P**	**13 01 43.2**	**-1.1**
	baz=253						
NIKH	**Nikolski High**	**35.07**	**346**	P	**P**	**13 01 46.0**	**+1.2**
	baz=157						
UNV	**Unalaska Valle**	**35.39**	**349**	P	**P**	**13 01 46.1**	**-1.5**
	baz=162						
CHNA	**Chernabura Isl**	**35.47**	**356**	P	**P**	**13 01 47.0**	**-1.2**
	baz=173						
SCI2	**San Clemente I**	**35.47**	**60**	P	**P**	**13 01 47.7**	**-1.0**
	baz=257						
CIS	**Catalina Islan**	**35.68**	**60**	P	**P**	**13 01 49.7**	**-0.7**
	baz=256						
VOG	**Valley Oaks Go**	**35.71**	**54**	P	**P**	**13 01 49.3**	**-1.3**
	baz=252						
OSI	**Osito Audit: C**	**35.73**	**57**	P	**P**	**13 01 50.0**	**-1.0**
	baz=254						
ARVC	**Arvin**	**35.79**	**57**	P	**P**	**13 01 49.1**	**-2.2**
	baz=254						
VES	**Vestal, Richgr**	**35.79**	**55**	P	**P**	**13 01 51.6**	**+0.3**
	baz=252						
FMP	**Fort Macarthur**	**35.85**	**59**	P	**P**	**13 01 50.9**	**-0.9**
	baz=256						
FALS	**False Pass**	**35.88**	**352**	P	**P**	**13 01 51.9**	**+0.1**
	baz=167						
DECC	**Green Verdugo**	**35.95**	**58**	P	**P**	**13 01 52.9**	**+0.1**
	baz=255						
SDPT	**Sand Point**	**36.05**	**355**	P	**P**	**13 01 54.2**	**+0.9**
	baz=172						
ISA	**Isabella, Lake**	**36.22**	**56**	P	**P**	**13 01 54.2**	**-1.0**
	baz=253						
EDW2	**Edwards Air Fo**	**36.38**	**57**	P	**P**	**13 01 54.7**	**-1.8**
	baz=255						
BFSC	**Mount Baldy Ra**	**36.49**	**58**	P	**P**	**13 01 56.4**	**-1.1**
	baz=256						
MLAC	**Mammoth, Mammo**	**36.55**	**52**	P	**P**	**13 01 57.3**	**-0.8**
	baz=250						
S12K	**Black Hills**	**36.55**	**354**	P	**P**	**13 01 58.2**	**+0.6**
	baz=169						
109C	**Camp Elliot, M**	**36.64**	**61**	P	**P**	**13 01 57.1**	**-1.6**
	baz=258						
MURC	**Murrieta**	**36.72**	**60**	P	**P**	**13 01 58.3**	**-1.0**
	baz=257						
CWC	**Cottonwood Cre**	**36.75**	**55**	P	**P**	**13 01 59.2**	**-0.5**
	baz=253						
LRMC	**Laurel Mtn Rad**	**36.79**	**56**	P	**P**	**13 01 59.8**	**-0.3**
	baz=254						
TIN	**Tinemaha, Big**	**36.82**	**54**	P	**P**	**13 02 00.1**	**-0.2**
	baz=252						
CHGN	**Chignik**	**36.87**	**357**	P	**P**	**13 02 01.7**	**+1.4**
	baz=175						
S14K	**Fog Glacier**	**36.91**	**356**	P	**P**	**13 02 01.8**	**+1.0**
	baz=173						
SII	**Sitkinak Islan**	**37.07**	**1**	P	**P**	**13 02 02.8**	**+0.8**
	baz=182						
BBRC	**Big Bear Solar**	**37.09**	**59**	P	**P**	**13 02 01.5**	**-1.3**
	baz=256						
MPMC	**Manual Prospec**	**37.10**	**56**	P	**P**	**13 02 01.9**	**-0.9**
	baz=254						
RYN	**Ryan**	**37.12**	**51**	P	**P**	**13 02 02.4**	**-0.5**
RRX	**Edison Barstow**	**37.17**	**58**	P	**P**	**13 02 02.5**	**-0.7**
	baz=256						
MONP2	**Monument Peak**	**37.20**	**61**	P	**P**	**13 02 02.4**	**-1.3**
	baz=259						
PPT2	**Papeete2**	**37.24**	**171**	*e*P	**P**	**13 02 01.8**	**-2.1**
	comp=N,107nm,25.2s						
PPT2	**Papeete2**	**37.24**	**171**	*e*PP	**PP**	**13 03 23.7**	**-5.1**
	comp=N,58nm,20.8s						
PPT2				*e*S	**S**	**13 07 48.4**	**-3.6**
	comp=N,398nm,25.0s						
PPT2				*e*LQ	LQ	13 10 16.2	
	comp=N,527nm,22.8s						
PPT2				*e*LR	LR	13 12 03.5	
	comp=N,4μm,25.2s						
PPT2				*e*LR	LR	13 12 05.4	
	comp=N,3μm,27.0s						
PFO	**Pinyon Flats O**	**37.32**	**60**	P	**P**	**13 02 02.9**	**-1.7**
	baz=258						
TPFO	**Pinon Flats**	**37.32**	**60**	P	**P**	**13 02 02.6**	**-2.0**
	baz=258						
IKP	**In-Ko-Pah, Jac**	**37.41**	**61**	P	**P**	**13 02 03.4**	**-2.0**
	baz=259						
GSC	**Goldstone, Bar**	**37.43**	**57**	P	**P**	**13 02 04.4**	**-1.1**
	baz=255						
GRAC	**Grapevine Rang**	**37.46**	**54**	P	**P**	**13 02 04.2**	**-1.5**
	baz=252						
KVN	**Kaiserville**	**37.58**	**51**	P	**P**	**13 02 07.2**	**+0.4**
HEC	**Hector,Ludlow**	**37.69**	**58**	P	**P**	**13 02 05.3**	**-2.4**
	baz=256						
FURC	**Furnace Creek,**	**37.70**	**55**	P	**P**	**13 02 05.6**	**-1.9**
	baz=254						
SWSC	**Sam W. Stewart**	**37.73**	**61**	P	**P**	**13 02 06.3**	**-1.6**
	baz=259						
OHAK	**Old Harbor**	**37.75**	**2**	P	**P**	**13 02 08.6**	**+0.8**
	baz=183						
BELC	**Belle Mtn. Jos**	**37.78**	**59**	P	**P**	**13 02 07.3**	**-1.2**
	baz=258						
SHOC	**Shoshone, Teco**	**38.00**	**56**	P	**P**	**13 02 09.8**	**-0.4**
	baz=255						
R18K	**Karluk**	**38.07**	**1**	P	**P**	**13 02 10.6**	**+0.2**
	baz=181						
R17L	**Mt. Peulik Vol**	**38.14**	**359**	P	**P**	**13 02 10.5**	**-0.6**
	baz=178						
BC3	**Big Chuckawall**	**38.15**	**60**	P	**P**	**13 02 09.9**	**-1.7**
	baz=258						
TUQ	**Turquoise Moun**	**38.16**	**57**	P	**P**	**13 02 10.0**	**-1.7**
	baz=256						
GMRC	**Granite Mounta**	**38.22**	**58**	P	**P**	**13 02 10.3**	**-2.0**
	baz=257						
TPNV	**Topopah Spring**	**38.30**	**55**	P	**P**	**13 02 12.1**	**-0.8**
	baz=254						
KDAK	**Kodiak Island**	**38.34**	**2**	P	**P**	**13 02 13.5**	**+0.8**
	baz=184						
IRM	**Iron Mountain**	**38.50**	**59**	P	**P**	**13 02 13.1**	**-1.4**
	baz=258						
GLA	**Glamis**	**38.55**	**61**	P	**P**	**13 02 13.0**	**-2.0**
	baz=260						
Q17K	**Contact Creek**	**38.77**	**360**	P	**P**	**13 02 16.8**	**+0.4**
	baz=179						
NEE2	**Needles Airpor**	**39.05**	**58**	P	**P**	**13 02 17.8**	**-1.3**
	baz=258						
Q18K	**Katmai Hardscr**	**39.15**	**0**	P	**P**	**13 02 19.5**	**-0.2**
	baz=180						
Q20K	**Shuyak Island**	**39.17**	**2**	P	**P**	**13 02 19.1**	**-0.6**
	baz=184						
Q16K	**King Salmon**	**39.19**	**359**	P	**P**	**13 02 19.3**	**-0.5**
	baz=178						
R11B	**Troy Canyon, C**	**39.21**	**53**	P	**P**	**13 02 18.7

	baz=177							
U35K	Hyder	41.09	21	P		P	13 02 36.0	+0.4
	baz=218							
O22K	Cooper Landing	41.19	4	P		P	13 02 37.1	+0.7
	baz=188							
KAIM	Kayak Island	41.19	8	P		P	13 02 37.1	+0.7
	baz=196							
N18K	Kilae Creek	41.19	360	P		P	13 02 37.1	+0.7
	baz=179							
M13K	Dall Lake	41.32	354	P		P	13 02 38.2	+0.8
	baz=168							
N19K	Bonanza Creek	41.33	1	P		P	13 02 37.8	+0.2
	baz=181,SNR=5.9							
M15K	Kasigluk River	41.38	356	P		P	13 02 37.9	-0.1
	baz=172							
CAPN	Captain Cook N	41.38	3	P		P	13 02 38.4	+0.5
	baz=186							
R31K	City Hall, Gus	41.47	15	P		P	13 02 39.5	+0.8
	baz=208							
M14K	Bethel	41.53	355	P		P	13 02 39.6	+0.5
	baz=170							
BGLC	Bering Glacier	41.54	9	P		P	13 02 39.9	+0.7
	baz=197							
M16K	Timber Creek	41.61	357	P		P	13 02 40.6	+0.7
	baz=175							
M11K	Mekoryuk	41.62	352	P		P	13 02 40.1	+0.2
	baz=164							
EYAK	Cordova Ski Ar	41.62	7	P		P	13 02 40.3	+0.4
	baz=194							
R32K	Eaglecrest	41.67	16	P		P	13 02 41.4	+1.0
	baz=210							
N20K	Mount Spurr	41.77	2	P		P	13 02 41.3	0.0
	baz=184							
SPCR	Spurr Chakacha	41.77	2	P		P	13 02 40.8	-0.5
	baz=184							
PNL	Peninsula	41.78	12	P		P	13 02 40.8	-0.6
	baz=203							
RC01	Rabbit Creek A	41.79	4	P		P	13 02 40.8	-0.5
	baz=188							
HLID	Hailey	41.80	46	P		P	13 02 40.7	-1.2
	baz=248							
GLI	Glacier Island	41.80	6	P		P	13 02 41.6	+0.1
	baz=192							
MESA	MESA	41.80	10	P		P	13 02 42.0	+0.3
	baz=199							
WUAZ	Wupatki	41.81	58	P		P	13 02 40.8	-1.3
	baz=259							
DUG	Dugway, Tooele	41.81	51	P		P	13 02 41.2	-0.8
	baz=253							
TUC	Tucson	41.81	63	P		P	13 02 41.0	-1.0
	baz=263							
T35M	Bob Quinn	41.86	20	P		P	13 02 42.9	+0.9
	baz=217							
M17K	Holitna River	41.94	358	P		P	13 02 42.4	-0.1
	baz=177							
M18K	Stony River	42.00	360	P		P	13 02 43.2	+0.2
	baz=179							
PINM	Pinnacle	42.02	11	P		P	13 02 43.8	+0.5
	baz=201							
P29M	Windy Craggy	42.09	13	P		P	13 02 44.9	+1.0
	baz=205							
SUA	Susitna One	42.10	3	P		P	13 02 44.4	+0.4
	baz=186							
NEW	Newport	42.14	38	P		P	13 02 43.6	-0.8
	baz=240							
BMRM	Bremner River	42.17	8	P		P	13 02 45.6	+1.1
	baz=195							
CRQE	Cirque	42.17	9	P		P	13 02 44.5	-0.1
	baz=197							
L14K	Kuka Creek	42.17	355	P		P	13 02 44.6	+0.2
	baz=170							
KNK	Knik Glacier	42.20	5	P		P	13 02 45.4	+0.6
	baz=190							
PLBC	Pleasant Camp	42.25	14	P		P	13 02 45.3	+0.2
	baz=207							
L16K	Owhat River	42.32	357	P		P	13 02 46.4	+0.7
	baz=174							
PMR	Palmer	42.33	4	P		P	13 02 45.6	-0.1
	baz=189							
S34M	Telegraph Cree	42.34	19	P		P	13 02 46.5	+0.7
	baz=215							
L15K	Ungalak Mounta	42.41	356	P		P	13 02 45.7	-0.6
	baz=171							
M19K	Big River Lodg	42.42	1	P		P	13 02 47.2	+0.7
	baz=181							
M20K	Styx River	42.42	2	P		P	13 02 46.6	0.0
	baz=183							
M22K	Willow	42.42	4	P		P	13 02 46.6	+0.2
	baz=187							
SKAG	Skagway	42.50	15	P		P	13 02 48.7	+1.6
	baz=208							
KLU	Klutina	42.52	7	P		P	13 02 47.9	+0.5
	baz=193							
O29M	Mount Kennedy	42.53	12	P		P	13 02 48.4	+0.9
	baz=204							
SKT	Skwentna	42.58	3	P		P	13 02 47.3	-0.4
	baz=185							
SML	Sawmill	42.60	5	P		P	13 02 48.6	+0.6
	baz=190							
M23K	Glacier View	42.64	5	P		P	13 02 48.1	-0.2
	baz=191							
CTG	Chitna Glacier	42.65	10	P		P	13 02 48.9	+0.4
	baz=200							
O28M	Mount Upton	42.66	11	P		P	13 02 49.3	+0.5
	baz=201							
L19K	White Mountain	42.70	0	P		P	13 02 48.9	+0.1
L19K	White Mountain	42.70	0	P		P	13 02 48.9	+0.1
	baz=181							
L17K	Donlin	42.70	358	P		P	13 02 49.1	+0.4
	baz=176							
P30M	Million Dollar	42.71	13	P		P	13 02 49.6	+0.7
	baz=206							
SCM	Sheep Creek Mo	42.72	6	P		P	13 02 48.7	-0.3
	baz=191							
L18K	Granite Mounta	42.74	359	P		P	13 02 49.5	+0.4
	baz=178							
MCARA	McCarthy VSAT	42.79	9	P		P	13 02 49.2	-0.2
	baz=197							
N25K	Chitina, Valde	42.79	8	P		P	13 02 49.0	-0.6
	baz=195							
Q32M	Nakina River	42.87	17	P		P	13 02 50.9	+0.4
	baz=213							
TBI	Tubuai	42.92	172	*e*P		P	13 02 53.1	+2.2
	comp=N,535nm,30.2s							
TBI				*e*S		S	13 09 20.1	+3.3
	comp=N,1µm,26.2s							
TBI				*e*LQ		LQ	13 12 44.9	
	comp=N,3µm,27.0s							
TBI				*e*LR		LR	13 14 42.1	
	comp=N,13µm,28.5s							
TBI				*e*LR		LR	13 14 44.0	
	comp=N,3µm,28.0s							
L20K	Farewell, AK	43.01	1	P		P	13 02 50.6	-0.7
	baz=182							
P32M	Atlin	43.02	16	P		P	13 02 52.1	+0.6
	baz=210							
K15K	Wolf Creek Mou	43.02	356	P		P	13 02 51.8	+0.4
	baz=171							
W18A	Petrified Fore	43.06	59	P		P	13 02 51.2	-1.1
	baz=261							
CUT	Chulitna	43.06	3	P		P	13 02 52.9	+1.2
	baz=187							
M24K	Tolsona, Glenn	43.10	6	P		P	13 02 52.3	+0.3
	baz=193							
DLBC	Dease Lake	43.10	19	P		P	13 02 52.7	+0.5
	baz=216							
YUK6	Outpost Mounta	43.16	12	P		P	13 02 53.3	+0.5
	baz=204							
YUK8	Steele Glacier	43.22	11	P		P	13 02 53.2	-0.1
	baz=202							
HYT	Haines Junctio	43.23	13	P		P	13 02 53.8	+0.6
	baz=205							
K17K	Iditarod	43.28	358	P		P	13 02 54.7	+1.2
	baz=176							
MSO	Missoula	43.40	41	P		P	13 02 53.5	-1.3
	baz=245							
BSUT	Blindstream Ca	43.41	51	P		P	13 02 53.0	-2.3
WAT6	Susitna Watana	43.42	5	P		P	13 02 55.6	+0.8
	baz=190,SNR=7.1							
PPLA	Purkeypile	43.47	2	P		P	13 02 55.0	-0.2
	baz=184							
YUK4	Talbot Arm	43.48	12	P		P	13 02 56.9	+1.6
	baz=203							
O30N	Mendenhall	43.48	14	P		P	13 02 55.6	+0.4
	baz=207							
HARP	HAARP	43.49	7	P		P	13 02 55.7	+0.5
	baz=194							
BPMT	Black Pine Rid	43.55	42	P		P	13 02 55.5	-0.7
YUK3	Moose Creek	43.56	10	P		P	13 02 55.9	0.0
	baz=200							
WAT1	Susitna Watana	43.60	5	P		P	13 02 55.8	-0.2
	baz=189							
R33M	Jennings River	43.60	18	P		P	13 02 55.9	-0.3
	baz=214							
J14K	Nanvaranak Lak	43.64	355	P		P	13 02 56.2	-0.1
	baz=169							
M26K	Nabesna, AK	43.77	8	P		P	13 02 56.8	-0.7
M26K				IAmb		IAmb	13 03 02.6	
	comp=Z,11nm,0.9s							
M26K	Nabesna, AK	43.77	8	P		P	13 02 57.3	-0.1
	baz=197,SNR=8.3							
P33M	Teslin, Yukon	43.78	16	P		P	13 02 57.4	-0.2
	baz=211							
M27K	Edge Creek, AK	43.88	9	P		P	13 02 58.8	+0.3
	baz=198							
K20K	Telida	43.88	1	P		P	13 02 58.3	0.0
	baz=182							
N30M	Aishikik Lake	43.89	13	P		P	13 02 59.1	+0.7
	baz=205							
DHY	Denali Highway	43.94	5	P		P	13 03 00.0	+1.1
DHY	Denali Highway	43.94	5	P		P	13 02 59.1	+0.2
	baz=191,SNR=6.2							
J16K	Anvik River	43.95	357	P		P	13 02 59.0	+0.2
	baz=173							
J17K	VABM Dome	43.99	358	P		P	13 02 59.5	+0.4
	baz=175							
J18K	Innoko River	43.99	359	P		P	13 02 59.5	+0.4
	baz=178							
CAST	Castle Rocks	43.99	2	P		P	13 02 59.8	+0.6
CAST	Castle Rocks	43.99	2	P		P	13 02 59.1	-0.1
	baz=184							
PAX	Paxson	44.02	6	P		P	13 02 59.9	+0.4
	baz=193,SNR=7.1							
OVMT	Ovando	44.09	41	P		P	13 02 59.2	-1.1
FXWY	Fox Creek	44.13	47	P		P	13 03 01.1	+0.2
FXWY				IAmb		IAmb	13 03 08.8	
	comp=Z,23nm,1.9s							
TPAW	Teton Pass	44.14	47	P		P	13 03 00.5	-0.5
TPAW				IAmb		IAmb	13 03 04.8	
	comp=Z,22nm,1.4s							
REDW	Red Top Meadow	44.17	47	P		P	13 03 01.2	0.0
KTH	Kantishna Hill	44.18	3	P		P	13 03 00.9	+0.2
N31M	Braeburn, Yuko	44.19	13	P		P	13 03 01.8	+1.0
	baz=207							
L26K	Log Cabin Wild	44.32	8	P		P	13 03 02.9	+1.1
	baz=196							
121A	Cookes Peak, D	44.36	63	P		P	13 03 01.0	-1.8
	baz=265							
MVCO	Mesa Verde	44.40	56	P		P	13 03 02.3	-0.8
	baz=260							
BOZ	Bozeman (W)	44.40	44	P		P	13 03 03.1	+0.2
	baz=249							
CHUM	Lake Minchumin	44.45	2	P		P	13 03 02.6	-0.2
	baz=184							
MCK	McKinley	44.47	4	P		P	13 03 02.7	-0.3
	baz=189							
J19K	Poorman	44.52	360	P		P	13 03 03.4	+0.1
	baz=180							
N32M	Quiet Lake	44.52	15	P		P	13 03 04.4	+0.9
	baz=210							
M29M	Somme Creek	44.53	11	P		P	13 03 04.1	+0.5
	baz=203,SNR=9.5							
I17K	Unalakleet	44.56	357	P		P	13 03 04.6	+1.0
	baz=173							
L27K	Beaver Creek,	44.56	9	P		P	13 03 04.4	+0.7
	baz=198,SNR=8.1							
BCAR	Beaver Creek A	44.57	9	P		P	13 03 03.2	-0.7
J20K	Nowinta River	44.71	1	P		P	13 03 05.0	+0.1
	baz=182							
BPAW	Bear Paw Mtn.	44.72	3	P		P	13 03 04.6	-0.4
BPAW				IAmb		IAmb	13 03 08.8	
	comp=Z,8.3nm,1.0s							
BPAW	Bear Paw Mtn.	44.72	3	P		P	13 03 04.8	-0.2
	baz=186							
K24K	Donnelly Dome	44.80	6	P		P	13 03 05.4	-0.3
	baz=193							
WTLY	Watson Lake, Y	44.83	19	P		P	13 03 07.3	+1.4
	baz=217							
BW06	Boulder Array	44.89	48	P		P	13 03 06.1	-0.9
	baz=253							
PDAR	Pinedale Array	44.89	48	P		P	13 03 04.4	-2.6
M30M	Minto, Yukon	44.97	12	P		P	13 03 07.7	+0.7
M30M	Minto, Yukon	44.97	12	P		P	13 03 07.9	+0.9
	baz=205,SNR=6.1							
TOAD	Toad River Com	45.01	22	P		P	13 03 08.7	+1.3
	baz=222							
LIRD	Liard River Hi	45.13	21	P		P	13 03 08.9	+0.5
	baz=220							
M31M	Drury Creek, Y	45.13	14	P		P	13 03 08.2	-0.1
	baz=208							
SCRK	Sand Creek	45.16	7	P		P	13 03 07.9	-0.7
	baz=195							
O20A	White River Ci	45.18	52	P		P	13 03 07.2	-2.0
	baz=257							
L29M	L29M	45.20	11	P		P	13 03 09.3	+0.4
	baz=203							
Y22D	IRIS PASSCAL I	45.23	61	P		P	13 03 07.7	-1.9
	baz=264							
GCSA	Galena City Sc	45.28	359	P		P	13 03 09.8	+0.4
	baz=178							
HDA	Harding Lake	45.29	5	P		P	13 03 09.5	0.0
	baz=191							
NEA2	Nenana	45.31	4	P		P	13 03 09.7	-0.1
	baz=188							
I20K	Naaghedeneel	45.33	1	P		P	13 03 10.6	+0.8
	baz=181							
FARO	Faro, Yukon	45.40	14	P		P	13 03 10.9	+0.4
	baz=210,SNR=8.8							
H16K	Elim	45.40	356	P		P	13 03 11.3	+0.9
	baz=171							
K27K	Chicken	45.45	8	P		P	13 03 11.3	+0.5
	baz=198							
H17K	Granite Mounta	45.56	357	P		P	13 03 11.5	-0.2
	baz=174							
ANM	Nome	45.59	354	P		P	13 03 11.9	0.0
	baz=167							
J25K	Salcha River,	45.63	6	P		P	13 03 12.0	-0.3
	baz=193,SNR=6.7							
IL31		45.65	5	P		P	13 03 12.8	+0.5
MLY	Manley	45.66	3	P		P	13 03 12.4	-0.1
MLY	Manley	45.66	3	P		P	13 03 11.9	-0.6
	baz=186							
COLA	College	45.67	4	P		P	13 03 11.9	-0.6
	baz=190							
ANMO	Albuquerque	45.70	60	P		P	13 03 10.9	-2.6
	baz=263							
J26L	Joseph Creek	45.72	7	P		P	13 03 12.6	-0.4
J26L	Joseph Creek	45.72	7	P		P	13 03 14.0	+1.0
	baz=196							
H18K	Honhosa River	45.72	358	P		P	13 03 13.8	+0.9
	baz=176							
MDM	Murphy Dome	45.73	4	P		P	13 03 13.0	-0.1
MDM				IAmb		IAmb	13 03 16.1	
	comp=Z,19nm,1.2s							
I21K	Tanana	45.76	2	P		P	13 03 12.5	-0.7
	baz=184							
S22A	4UR Ranch, Cre	45.80	56	P		P	13 03 13.1	-1.2
	baz=260							
RLMT	Red Lodge	45.80	45	P		P	13 03 14.3	-0.8
	baz=251							
I23K	Minto, Yukon-K	45.85	4	P		P	13 03 13.9	0.0
I23K	Minto, Yukon-K	45.85	4	P		P	13 03 12.9	-1.0
	baz=188							
DAWY	Dawson	45.88	10	P		P	13 03 14.3	0.0
	baz=201,SNR=6.4							
G15K	Niukluk	45.89	355	P		P	13 03 14.1	-0.1
	baz=168							
POKR	Poker Plat Res	45.95	5	P		P	13 03 14.2	-0.5
	baz=190							
K29M	Barlow Dome	45.99	11	P		P	13 03 15.8	+0.6
K29M				IAmb		IAmb	13 04 09.5	
	comp=Z,13nm,1.6s							
K29M	Barlow Dome	45.99	11	P		P	13 03 15.8	+0.6
	baz=204							
H20K	Anotleneega Mo	46.02	0	P		P	13 03 15.6	+0.3
	baz=180							
H19K	Roundabout Mou	46.06	359	P		P	13 03 15.5	-0.1
	baz=178							
MAYO	Mayo, Yukon	46.06	12	P		P	13 03 16.3	+0.6
	baz=206							
TGTN	Hyland Airport	46.12	18	P		P	13 03 16.5	+0.3
	baz=216							
G16K	Koyuk River	46.16	356	P		P	13 03 16.7	+0.4
	baz=171							
G17K	Kiwalik Mounta	46.16	357	P		P	13 03 17.1	+0.7
	baz=173							
H21K	Melozitna Rive	46.22	1	P		P	13 03 17.1	+0.3
	baz=183							
EGAK	Eagle	46.29	8	P		P	13 03 18.0	+0.6
EGAK				IAmb		IAmb	13 03 22.7	
	comp=Z,9.2nm,0.9s							
EGAK	Eagle	46.29	8	P		P	13 03 18.8	+1.4
	baz=199,SNR=7.0							
MNTX	Cornudas Mount	46.34	64	P		P	13 03 17.3	-1.0
	baz=267							
KOTAN	Kotaneelee Air	46.36	21	P		P	13 03 18.5	+0.5
	baz=222							
G18K	Tagagawik	46.48	358	P		P	13 03 19.2	+0.3
	baz=176							
EGMT	Eagleton	46.48	41	P		P	13 03 18.0	-1.3
	baz=248							
H22K	Ishtalitna Cre	46.50	2	P		P	13 03 19.0	0.0
	baz=185							
PRP	Porcupine Dome	46.50	6	P		P	13 03 18.8	-0.5
	baz=193							
H23K	Yukon River	46.51	3	P		P	13 03 19.6	+0.4
H23K				IAmb		IAmb	13 03 22.0	
	comp=Z,16nm,1.4s							
H23K	Yukon River	46.51	3	P		P	13 03 18.3	-0.9
	baz=188							
I26K	Coal Creek Min	46.54	7	P		P	13 03 20.4	+1.0
I26K	Coal Creek Min	46.54	7	P		P	13 03 19.1	-0.3
	baz=196,SNR=8.0							
F14K	Arctic Creek	46.57	354	P		P	13 03 19.7	+0.1
	baz=166							
H24K	Noodor Dome	46.63	4	P		P	13 03 19.4	-0.7
H24K				IAmb		IAmb	13 03 22.9	
	comp=Z,19nm,1.4s							
H24K	Noodor Dome	46.63	4	P		P	13 03 20.6	+0.5
	baz=190							
VHRN	Van Horn	46.64	66	P		P	13 03 20.2	-0.6
VHRN				IAmb		IAmb	13 03 33.0	
	comp=Z,14nm,1.4s							
F15K	North Star Dit	46.64	355	P		P	13 03 20.5	+0.3
	baz=168							
G19K	Purcell Mounta	46.69	359	P		P	13 03 20.8	+0.3
	baz=178							
SDCO	Great Sand Dun	46.84	56	P		P	13 03 21.6	-0.9
	baz=261							
J30M	Hart River	46.87	11	P		P	13 03 22.9	+0.8
J30M				IAmb		IAmb	13 03 25.9	
	comp=Z,7.4nm,1.2s							
J30M	Hart River	46.87	11	P		P	13 03 21.9	-0.3
	baz=205,SNR=6.1							
I27K	Kandik River	47.02	8	P		P	13 03 23.3	+0.1
	baz=198							
K22A	Casper	47.02	49	P		P	13 03 22.3	-1.4
	baz=256							
N23A	Red Feather La	47.05	52	P		P	13 03 22.5	-1.6
	baz=258							
G21K	Allakaket	47.06	1	P		P	13 03 22.9	-0.5
	baz=182							
ISCO	Idaho Springs	47.09	53	P		P	13 03 22.5	-1.9
	baz=259							
I28M	Miner Creek	47.09	9	P		P	13 03 23.4	-0.4
I28M				IAmb		IAmb	13 03 28.6	
	comp=Z,12nm,1.4s							
I28M	Miner Creek	47.09	9	P		P	13 03 23.4	-0.4
	baz=200							
F17K	Baldwin Pennin	47.13	357	P		P	13 03 24.0	+0.1
	baz=172							
H25L	Birch Creek	47.21	5	P		P	13 03 24.3	-0.3
	baz=192,SNR=6.4							
F18K	Selawik	47.22	358	P		P	13 03 24.4	-0.2
	baz=174							
I29M	Ogilvie Camp,	47.26	10	P		P	13 03 24.9	-0.1
	baz=202							
Q24A	Divide	47.30	55	P		P	13 03 24.4	-1.7
	baz=260							
G23K	Bananza Creek	47.37	3	P		P	13 03 26.4	+0.5
G23K				IAmb		IAmb	13 03 30.0	
	comp=Z,9.8nm,1.4s							
G23K	Bananza Creek	47.37	3	P		P	13 03 25.8	-0.1
	baz=187							
F19K	Shaleruckik Mo	47.39	359	P		P	13 03 26.3	+0.3
	baz=177							
I30M	Mount Dempster	47.45	11	P		P	13 03 28.0	+1.4
I30M				IAmb		IAmb	13 03 29.9	
	comp=Z,8.5nm,1.1s							
I30M	Mount Dempster	47.45	11	P		P	13 03 26.4	-0.2
	baz=204,SNR=8.2							
G24K	Hadweenzic Riv	47.51	4	P		P	13 03 27.4	+0.5
	baz=190							
G22K	Bettles	47.52	2	P		P	13 03 26.7	-0.2
	baz=185							
FYU	Fort Yukon	47.56	5	P		P	13 03 27.9	+0.7
F20K	Avaraart Lake	47.58	360	P		P	13 03 28.3	+0.9
	baz=179							
T25A	Trinidad	47.61	57	P		P	13 03 27.3	-1.1
	baz=263							
H27K	Steamboat Moun	47.63	8	P		P	13 03 27.9	0.0
	baz=198,SNR=8.2							
G25K	Bearman Lake	47.68	5	P		P	13 03 27.9	-0.3
	baz=192							
F21K	Alatna River	47.77	1	P		P	13 03 30.1	+1.1
F21K	Alatna River	47.77	1	P		P	13 03 30.1	+1.1
	baz=182							
ALPN	Alpine	47.79	66	P		P	13 03 28.3	-1.6
E17K	Hotham Inlet	47.80	357	P		P	13 03 30.0	+0.9
	baz=172							
COLD	Coldfoot	47.88	3	P		P	13 03 29.3	-0.4
	baz=186							
E19K	Redstone River	48.01	359	P		P	13 03 31.1	+0.3
	baz=178							
H29M	Whitestone	48.05	9	P		P	13 03 30.7	-0.4
H29M	Whitestone	48.05	9	P		P	13 03 31.3	+0.1
	baz=202,SNR=6.1							
G26K	Porcupine Rive	48.07	6	P		P	13 03 31.6	+0.4
	baz=195,SNR=7.2							
E18K	Tukpahlearik C	48.08	357	P		P	13 03 31.3	0.0
	baz=173							
F22K	John River	48.09	2	P		P	13 03 31.4	0.0
	baz=184							
G27K	Doyon Strip	48.16	7	P		P	13 03 32.0	-0.1
G27K				IAmb		IAmb	13 04 52.0	
	comp=Z,17nm,2.0s							
G27K	Doyon Strip	48.16	7	P		P	13 03 31.4	-0.7
	baz=197							
F24K	Squaw Lake	48.29	4	P		P	13 03 33.2	+0.2
	baz=189							
EPYK	Eagle Plains	48.45	10	P		P	13 03 34.1	-0.1
EPYK				IAmb		IAmb	13 03 40.4	
	comp=Z,17nm,1.4s							
EPYK	Eagle Plains	48.45	10	P		P	13 03 34.4	+0.2
	baz=204							
BMAR	Burnt Mountain	48.46	6	P		P	13 03 30.2	-4.1
D17K	Noatak River	48.49	356	P		P	13 03 34.4	0.0
	baz=170							
F25K	Christian Rive	48.53	5	P		P	13 03 34.7	-0.1
	baz=192							
MSTX	Muleshoe	48.65	62	P		P	13 03 36.0	-0.5
MSTX	Muleshoe	48.65	62	P		P	13 03 35.2	-1.2
	baz=267							
E22K	Anaktuvuk Pass	48.73	2	P		P	13 03 36.5	+0.2
	baz=184							
E23K	Chandalar	48.73	3	P		P	13 03 36.1	-0.4
	baz=187							
G29M	Pine Creek	48.75	9	P		P	13 03 37.4	+0.9
G29M				IAmb		IAmb	13 03 43.6	
	comp=Z,10nm,1.1s							
G29M	Pine Creek	48.75	9	P		P	13 03 36.4	-0.1
	baz=202							
F26K	Sheenjek River	48.76	6	P		P	13 03 36.4	-0.2
	baz=194,SNR=6.1							
E20K	Nigu River	48.80	360	P		P	13 03 36.1	-0.9
	baz=179							
E24K	Your Creek	48.81	3	P		P	13 03 37.4	+0.4
E24K	Your Creek	48.81	3	P		P	13 03 36.6	-0.4
	baz=188							
RDOG	Red Dog Mine	48.83	356	P		P	13 03 37.9	+0.8
	baz=170							
WRGLY	Wrigley	48.86	19	P		P	13 03 37.7	+0.3
	baz=221							
E21K	Killik River	48.99	1	P		P	13 03 37.8	-0.6
	baz=182							
E25K	Arctic Village	49.05	5	P		P	13 03 38.6	-0.3
E25K	Arctic Village	49.05	5	P		P	13 03 39.3	+0.4
	baz=192							
D19K	Kuna River	49.07	359	P		P	13 03 39.4	+0.4
	baz=176							
G30M	tAoh Zraii Nji	49.09	10	P		P	13 03 38.6	-0.6
G30M				IAmb		IAmb	13 03 41.3

	comp=Z,7.4nm,1.1s							
G30M	tAoh Zraii Nji	49.09	10	P		P	13 03 38.8	-0.4
	baz=204							
RSSD	Black Hills	49.13	48	P		P	13 03 39.0	-1.1
	baz=257							
F28M	Old Crow	49.15	8	P		P	13 03 40.2	+0.6
F28M				IAmb		IAmb	13 03 42.4	
	comp=Z,14nm,1.4s							
F28M	Old Crow	49.15	8	P		P	13 03 38.9	-0.7
	baz=199,SNR=6.5							
C16K	Lisburne Hills	49.22	355	P		P	13 03 39.6	-0.5
	baz=168							
KSCO	Kaye Shedlock'	49.25	55	P		P	13 03 40.1	-0.8
	baz=262							
D20K	Etivluk River	49.26	359	P		P	13 03 40.2	-0.2
	baz=178							
C17K	DeLong Mountai	49.26	356	P		P	13 03 40.2	-0.3
	baz=170							
TOLK	Toolik Lake Re	49.32	3	P		P	13 03 41.1	+0.2
	baz=187							
C18K	Utukok River	49.33	357	P		P	13 03 40.6	-0.3
	baz=173							
G31M	Satah River	49.36	11	P		P	13 03 41.3	+0.2
G31M	Satah River	49.36	11	P		P	13 03 40.5	-0.6
	baz=206							
D22K	Ayikyak River	49.45	1	P		P	13 03 41.8	-0.1
	baz=183							
E27K	Coleen River	49.49	7	P		P	13 03 42.6	+0.4
E27K	Coleen River	49.49	7	P		P	13 03 42.8	+0.6
	baz=197,SNR=5.9							
D23K	Nanushuk River	49.59	2	P		P	13 03 43.2	+0.2
	baz=186							
AMTX	Amarillo	49.61	60	P		P	13 03 42.6	-1.1
	baz=266							
POST	Post	49.67	63	P		P	13 03 43.7	-0.5
POST				IAmb		IAmb	13 03 48.1	
	comp=Z,6.6nm,0.6s							
C21K	Knifeblade Rid	49.70	0	P		P	13 03 44.0	+0.2
	baz=181							
C19K	Lookout Ridge	49.72	358	P		P	13 03 44.4	+0.5
	baz=175							
F30M	Barrier River	49.73	10	P		P	13 03 43.6	-0.4
	baz=204							
D24K	Happy Valley	49.86	3	P		P	13 03 44.9	0.0
	baz=188							
F31M	Tsiigehtchic	49.92	11	P		P	13 03 44.8	-0.7
	baz=207							
OZNA	Ozona	49.96	66	P		P	13 03 46.5	+0.1
OZNA				IAmb		IAmb	13 03 51.0	
	comp=Z,9.0nm,1.0s							
OGNE	Ogallala	49.98	52	P		P	13 03 45.0	-1.4
	baz=261							
B18K	Kokolik River	50.07	357	P		P	13 03 47.1	+0.5
	baz=172							
E28M	Babbage River	50.13	7	P		P	13 03 47.9	+0.8
E28M	Babbage River	50.13	7	P		P	13 03 47.6	+0.6
	baz=200,SNR=6.3							
DGMT	Dagmar	50.14	42	P		P	13 03 45.9	-1.6
	baz=253							
E29M	Blow River	50.14	8	P		P	13 03 47.5	+0.4
E29M	Blow River	50.14	8	P		P	13 03 47.5	+0.4
	baz=202,SNR=6.9							
B21K	Ikpikpuk River	50.17	0	P		P	13 03 47.7	+0.4
	baz=181							
D25K	Kavik River	50.17	4	P		P	13 03 47.6	+0.1
D25K				IAmb		IAmb	13 04 03.0	
	comp=Z,19nm,1.6s							
D25K	Kavik River	50.17	4	P		P	13 03 47.5	+0.1
	baz=191,SNR=7.1							
DKNS	Dickens	50.17	62	P		P	13 03 49.0	+1.0
DKNS				IAmb		IAmb	13 03 55.0	
	comp=Z,26nm,1.5s							
C24K	Franklin Bluff	50.43	3	P		P	13 03 48.7	-0.6
	baz=188							
C23K	Itkillik River	50.47	2	P		P	13 03 50.0	+0.5
C23K				IAmb		IAmb	13 03 57.4	
	comp=Z,21nm,1.2s							
C23K	Itkillik River	50.47	2	P		P	13 03 49.1	-0.5
	baz=186							
B20K	Meade River	50.57	359	P		P	13 03 50.6	+0.3
	baz=178							
D27M	Malcolm River	50.58	7	P		P	13 03 49.7	-0.7
	baz=198							
C27K	Jago River	50.68	5	P		P	13 03 50.5	-0.6
	baz=194							
INK	Inuvik	50.73	10	P		P	13 03 51.1	-0.4
INK				IAmb		IAmb	13 03 54.0	
	comp=Z,16nm,1.2s							
INK	Inuvik	50.73	10	P		P	13 03 51.1	-0.4
	baz=207,SNR=7.5							
C26K	Camden Bay	50.87	5	P		P	13 03 52.8	+0.2
	baz=193							
A19K	Wainwright	50.87	357	P		P	13 03 52.6	0.0
	baz=173							
B22K	Teshekpuk Lake	50.90	1	P		P	13 03 53.1	+0.3
	baz=182							
D28M	Stokes Point	50.91	8	P		P	13 03 53.1	+0.2
	baz=200							
JCT	Junction City	51.11	66	P		P	13 03 53.4	-1.7
	baz=271							
ABTX	Abilene, Hawle	51.23	63	P		P	13 03 55.7	-0.2
ABTX				IAmb		IAmb	13 03 58.3	
	comp=Z,20nm,1.4s							
ABTX	Abilene, Hawle	51.23	63	P		P	13 03 55.1	-0.8
	baz=270							
CBKS	Cedar Bluff	51.47	56	P		P	13 03 56.7	-0.9
	baz=264							
833A	Chaparral WMA,	51.54	69	P		P	13 03 57.2	-1.1
	baz=273							
A22K	Sinclair Lake	51.56	0	P		P	13 03 57.4	-0.3
	baz=180							
BRDY	Brady	51.78	65	P		P	13 03 59.0	-1.1
A21K	Barrow	51.88	359	P		P	13 04 00.4	+0.3
	baz=178							
WMOK	Wichita Mounta	51.98	61	P		P	13 03 59.7	-1.8
	baz=268							
SUSD	Miller	52.77	49	P		P	13 04 06.5	-0.7
	baz=261							
BGNE	Belgrade	52.95	52	P		P	13 04 07.3	-1.2
	baz=264							
MDND	Maddock	52.96	44	P		P	13 04 07.2	-1.4
	baz=258							
435B	Jarrell	53.01	66	P		P	13 04 07.3	-1.9
	baz=272							
WHTX	Lake Whitney,	53.08	64	P		P	13 04 08.1	-1.6
	baz=271							
C36M	Paulatuk	53.45	13	P		P	13 04 10.4	-1.3
	baz=218							
KSU1	Kansas State U	53.92	55	P		P	13 04 14.3	-1.4
	baz=266							
ECSD	EROS Data Cent	54.34	50	P		P	13 04 17.1	-1.7
ECSD	EROS Data Cent	54.34	50	P		P	13 04 17.7	-1.0
	baz=263							
TUL3	Leonard	54.45	59	P		P	13 04 19.0	-0.7
	baz=269							
A36M	Sachs Harbour	55.35	11	P		P	13 04 25.9	+0.3
	baz=215							
NATX	Nacogdoches	55.47	64	P		P	13 04 26.3	-0.8
	baz=273							
AGMN	Agassiz Nation	55.51	44	P		P	13 04 25.7	-1.4
	baz=260							
U38A	Gravette	55.59	59	P		P	13 04 27.3	-0.7
U38A				IAmb		IAmb	13 04 29.2	
	comp=Z,12nm,1.4s							
DZM	Mont Dzumac	55.65	224	*e*P		P	13 04 30.2	+1.6
	comp=Z,93nm,23.4s							
DZM				*e*S		S	13 12 13.5	-2.4
	comp=Z,237nm,24.2s							
DZM				*e*SS		SS	13 16 02.1	+0.7
	comp=Z,156nm,26.9s							
DZM				*e*LR		LR	13 20 36.5	
	comp=Z,498nm,31.6s							
ULM	Lac du Bonnet	55.84	42	P		P	13 04 28.7	-0.8
ULM				IAmb		IAmb	13 04 33.5	
	comp=Z,17nm,1.4s							
MIAR	Mount Ida	56.27	61	P		P	13 04 31.3	-1.6
	baz=271							
SCIA	State Center	56.67	52	P		P	13 04 33.9	-1.7
	baz=267							
SPMN	Marine on St.	57.21	48	P		P	13 04 37.8	-1.6
	baz=265							
R40A	Maddies Statio	57.29	56	P		P	13 04 38.8	-1.2
R40A				IAmb		IAmb	13 04 44.3	
	comp=Z,8.0nm,1.1s							
CCM	Cathedral Cave	58.10	57	P		P	13 04 44.2	-1.5
	baz=270							
T42A	Van Buren	58.23	58	P		P	13 04 46.3	-0.4
T42A				IAmb		IAmb	13 04 52.4	
	comp=Z,7.4nm,1.1s							
EYMN	Ely	58.36	45	P		P	13 04 46.7	-0.7
	baz=264							
JFWS	Jewell Farm	58.91	51	P		P	13 04 49.4	-1.9
	baz=268							
VBMS	Vicksburg	58.95	64	P		P	13 04 50.7	-1.1
	baz=274							
G40A	Rib Lake	59.05	48	P		P	13 04 51.7	-0.5
HDIL	Hopedale	59.59	54	P		P	13 04 54.3	-1.7
	baz=270							
OXF	Oxford	59.71	61	P		P	13 04 55.7	-1.3
	baz=274							
L44A	Lake County Fo	60.63	52	P		P	13 05 01.4	-1.7
	baz=270							
WVT	Waverly	60.90	59	P		P	13 05 02.7	-2.4
	baz=274							
SFIN	Lafayette	61.27	54	P		P	13 05 06.1	-1.4
	baz=272							
LRAL	Lakeview Retre	61.84	62	P		P	13 05 09.6	-1.9
	baz=276							
WCI	Wyandotte Cave	61.99	56	P		P	13 05 11.8	-0.7
	baz=273							
BRAL	Brewton	62.00	64	P		P	13 05 11.5	-1.1
	baz=277							
O48B	Farmland	62.76	54	P		P	13 05 16.6	-0.9
	baz=273							
P49A	Miami Univ. Ec	63.14	55	P		P	13 05 18.8	-1.3
	baz=274							
AAM	Ann Arbor	63.78	52	P		P	13 05 23.1	-1.1
	baz=273							
TZTN	Tazewell	64.31	58	P		P	13 05 27.4	-0.5
	baz=276							
ACSO	Alum Creek Sta	64.42	54	P		P	13 05 27.3	-1.2
	baz=274							
GOGA	Godfrey	64.73	62	P		P	13 05 29.6	-1.1
	baz=277							
TIGA	Tifton	64.90	64	P		P	13 05 30.4	-1.4
	baz=278							
P52A	Corning	65.12	55	P		P	13 05 31.9	-1.2
	baz=275							
O53A	New Philadelph	65.77	54	P		P	13 05 36.6	-0.7
	baz=275							
M53A	Wl Miller and	66.06	52	P		P	13 05 38.5	-0.7
	baz=275							
MDJ	Mudanjiang	66.08	311	P		P	13 05 40.0	+0.8
MDJ				PP		PP	13 08 12.6	+8.2
MDJ				pmax		pmax		
	comp=Z,11nm,2.1s							
MDJ				pmax		pmax		
	comp=Z,570nm,8.6s							
MDJ				LR		LR		
	comp=Z,460nm,21.3s							
MDJ				LR		LR		
	comp=Z,530nm,23.4s							
MDJ				LR		LR		
	comp=Z,1μm,24.9s							
KMSC	Kings Mountain	66.26	59	P		P	13 05 40.1	-0.5
	baz=278							
ERPA	Erie	66.51	52	P		P	13 05 42.2	+0.2
	baz=275							
DWPF	Disney Wildern	67.29	67	P		P	13 05 46.9	-0.3
	baz=281							
NHSC	New Hope	67.50	61	P		P	13 05 47.5	-1.0
	baz=279							
SSPA	Standing Stone	68.25	53	P		P	13 05 51.9	-1.2
	baz=277							
CBN	Corbin Frederi	68.98	56	P		P	13 05 56.7	-1.0
	baz=279							
CN2	Changchun	69.13	310	P		P	13 05 59.6	+1.1
CN2				S		S	13 15 05.3	+0.3
CN2				pmax		pmax		
	comp=Z,400nm,6.0s							
CN2				LR		LR		
	comp=Z,400nm,19.0s							
CN2				LR		LR		
	comp=Z,900nm,19.0s							
CN2				LR		LR		
	comp=Z,900nm,20.0s							
BINY	Binghamton	69.46	51	P		P	13 05 59.7	-1.0
	baz=278							
LONY	Lake Ozonia	70.14	49	P		P	13 06 03.6	-1.2
	baz=278							
PAL	Palisades	71.18	52	P		P	13 06 09.4	-1.7
	baz=280							
L61B	Northampton	71.84	51	P		P	13 06 12.5	-2.6
	baz=280							
LBNH	Lisbon	72.08	49	P		P	13 06 14.2	-2.3
	baz=280							
HRV	Adam Dziewonsk	72.65	50	P		P	13 06 20.1	+0.2
	baz=281							
DL2	Dalian	72.75	306	P		P	13 06 23.8	+3.2
DL2				pmax		pmax		
	comp=Z,43nm,1.2s							
DL2				pmax		pmax		
	comp=Z,830nm,4.6s							
DL2				LR		LR		
	comp=Z,440nm,22.5s							
DL2				LR		LR		
	comp=Z,500nm,19.4s							
DL2				LR		LR		
	comp=Z,930nm,25.3s							
M65A	Busby, Falmout	73.50	51	P		P	13 06 24.8	-0.1
	baz=281							
PKME	Peaks-Kenny Pk	73.73	47	P		P	13 06 26.0	-0.3
XLT	XiLinHaoTe	75.78	312	*e*P		P	13 06 39.8	+1.5
XLT				SS		SS	13 21 16.3	+3.7
XLT				pmax		pmax		
	comp=Z,400nm,7.2s							
XLT				LR		LR		
	comp=Z,470nm,20.2s							
XLT				LR		LR		
	comp=Z,710nm,26.2s							
BJI	Beijing	76.62	308	P		P	13 06 44.4	+1.4
BJI				pmax		pmax		
	comp=Z,2.0nm,0.5s							
BJI				pmax		pmax		
	comp=Z,210nm,5.5s							
BJI				LR		LR		
	comp=Z,110nm,17.5s							
BJI				LR		LR		
	comp=Z,96nm,14.2s							
BJI				LR		LR		
	comp=Z,140nm,19.7s							
TIA	Tai'an	76.84	304	P		P	13 06 46.8	+2.4
TIA				pmax		pmax		
	comp=Z,330nm,6.1s							
TIA				LR		LR		
	comp=Z,110nm,15.3s							
TIA				LR		LR		
	comp=Z,230nm,23.1s							
TIA				LR		LR		
	comp=Z,330nm,23.7s							
HNS	HongShan	78.41	306	⇑P		P	13 06 55.5	+2.4
HNS				PP		PP	13 09 51.0	+0.9
HNS				*e*S		S	13 16 53.5	+3.5
HNS				pmax		pmax		
	comp=Z,650nm,8.0s							
HNS				LR		LR		
	comp=Z,310nm,12.7s							
HNS				LR		LR		
	comp=Z,180nm,15.9s							
HNS				LR		LR		
	comp=Z,510nm,23.9s							
QZH	Quanzhou	78.60	292	*e*P		P	13 06 56.3	+1.9
SUMG	Summit	79.22	16	P		P	13 06 58.0	+0.5
HHC	Hu-ho-hao-te	79.80	310	*e*P		P	13 07 02.5	+1.7
HHC				S		S	13 17 04.7	-0.3
HHC				SS		SS	13 22 17.4	+4.0
HHC				pmax		pmax		
	comp=Z,16nm,0.5s							
HHC				pmax		pmax		
	comp=Z,300nm,5.2s							
HHC				LR		LR		
	comp=Z,210nm,17.8s							
HHC				LR		LR		
	comp=Z,410nm,22.4s							
HHC				LR		LR		
	comp=Z,540nm,23.7s							
TIY	Taiyuan	80.06	306	*e*P		P	13 07 02.7	+0.5
TIY				SS		SS	13 22 27.0	+10
TIY				pmax		pmax		
	comp=Z,290nm,7.3s							
TIY				LR		LR		
	comp=Z,200nm,22.5s							
TIY				LR		LR		
	comp=Z,230nm,25.0s							
TIY				LR		LR		
	comp=Z,380nm,36.8s							
LYN	LuoYang	80.96	303	P		P	13 07 05.4	-1.6
LYN				pmax		pmax		
	comp=Z,640nm,7.1s							
LYN				LR		LR		
	comp=Z,390nm,16.1s							
LYN				LR		LR		
	comp=Z,340nm,14.8s							
LYN				LR		LR		
	comp=Z,380nm,14.4s							
BTO	Baotou	80.99	310	*e*P		P	13 07 08.4	+1.2
BTO				PP		PP	13 10 16.6	+5.0
BTO				pmax		pmax		
	comp=Z,9.0nm,0.5s							
BTO				LR		LR		
	comp=Z,570nm,13.8s							
BTO				LR		LR		
	comp=Z,900nm,20.0s							
BTO				LR		LR		
	comp=Z,890nm,20.8s							
XAN	Xi'an	83.90	304	⇑P		P	13 07 24.0	+1.5
XAN				pmax		pmax		
	comp=Z,560nm,8.4s							
XAN				LR		LR		
	comp=Z,400nm,23.4s							
XAN				LR		LR		
	comp=Z,560nm,16.5s							
XAN				LR		LR		
	comp=Z,830nm,23.4s							
LZH	Lanzhou	87.09	307	*e*P		P	13 07 38.8	+0.3
LZH				S		S	13 18 17.1	-2.0
LZH				pmax		pmax		
	comp=Z,530nm,5.8s							
LZH				LR		LR		
	comp=Z,120nm,14.1s							
LZH				LR		LR		
	comp=Z,360nm,15.1s							
LZH				LR		LR		
	comp=Z,600nm,17.7s							
QIZ	Qiongzhong	88.14	289	P		P	13 07 41.1	-2.5
QIZ				S		S	13 18 27.0	-2.3
QIZ				SS		SS	13 24 16.9	-0.6
QIZ				pmax		pmax		
	comp=Z,340nm,8.4s							
QIZ				LR		LR		
	comp=Z,180nm,12.7s							
QIZ				LR		LR		
	comp=Z,250nm,16.2s							
QIZ				LR		LR		
	comp=Z,310nm,18.6s							
GYA	Guiyang	88.33	297	P		P	13 07 46.1	+1.5
GYA				SKS		SKSac	13 18 10.5	-4.6
GYA				SS		SS	13 24 28.6	+8.4
GYA				pmax		pmax		
	comp=Z,8.0nm,0.6s							
GYA				pmax		pmax		
	comp=Z,340nm,6.8s							
GYA				LR		LR		
	comp=Z,500nm,22.0s							
GYA				LR		LR		
	comp=Z,410nm,23.7s							
GYA				LR		LR		
	comp=Z,630nm,21.4s							
CD2	Chengdu	89.09	302	*e*P		P	13 07 46.0	-2.0
KMI	Kunming	92.11	297	⇓P		P	13 08 00.9	-1.5
KMI				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KMI				pmax		pmax		
	comp=Z,190nm,7.0s							
KMI				LR		LR		
	comp=Z,420nm,28.2s							
PZH	PanZhiHua	92.41	299	P		P	13 07 59.9	-3.7
PZH				PP		PP	13 11 50.3	+6.1
PZH				S		S	13 19 06.1	-2.7
PZH				SS		SS	13 25 20.8	+1.7
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,200nm,4.9s							
PZH				LR		LR		
	comp=Z,170nm,18.2s							
PZH				LR		LR		
	comp=Z,250nm,17.0s							
PZH				LR		LR		
	comp=Z,380nm,23.5s							
WMQ	Urumqi	94.66	320	*e*P		P	13 08 14.3	+0.7
WMQ				LR		LR		
	comp=Z,530nm,15.5s							
WMQ				LR		LR		
	comp=Z,230nm,15.5s							
WMQ				LR		LR		
	comp=Z,280nm,24.5s							
CLL	Collm	108.81	8	*e*PP		PP	13 13 49.0	+2.2
CLL				*e*PS		PS	13 23 15.0	+2.5
CLL				*e*PPS		PPS	13 24 12.0	
CLL				*e*SS		SS	13 29 06.0	+1.4
CLL				*ex*		x	13 36 18.0	
HSKC	Hora Svate Kat	109.56	8	*e*PKP		PP	13 13 50.3	-2.0
HSKC				AMS		AMS	14 10 50.0	
	comp=Z,200nm,19.0s							
PVCC	Panska Ves	109.77	7	AMS		AMS	14 05 50.0	
	comp=Z,100nm,19.5s							
OSTC	Ostas	109.91	6	AMS		AMS	14 02 10.0	
	comp=Z,200nm,22.4s							
DPC	Dobruska-Polom	110.12	6	AMS		AMS	14 05 10.0	
	comp=Z,200nm,17.4s							
PRU	Pruhonice	110.30	7	AMS		AMS	14 06 20.0	
	comp=Z,200nm,21.0s							
KRLC	Kraliky	110.44	5	*e*PKP		PP	13 13 49.8	-8.9
KRLC				AMS		AMS	14 07 00.0	
	comp=Z,100nm,16.7s							
OKC	Ostrava-Krasne	110.78	4	AMS		AMS	14 02 30.0	
	comp=Z,200nm,21.1s							
ZVC	Zvikov	110.80	7	AMS		AMS	14 01 30.0	
	comp=Z,200nm,20.0s							
KHC	Kasperske Hory	111.02	8	*e*PKP		PP	13 13 52.3	-11
KHC				AMS		AMS	14 05 40.0	
	comp=Z,200nm,20.8s							
TREC	Trest	111.08	6	AMS		AMS	14 03 10.0	
	comp=Z,200nm,20.4s							
CKRC	Cesky Krumlov	111.42	7	AMS		AMS	14 05 20.0	
	comp=Z,200nm,19.7s							

NOU 08 13:09:44.1, 20°.23S×169°.69E, h0km, ML3.7/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.99	231	P	Pn	13 10 18.7	-0.3
PINNC	Pines Island,	3.16	221	P	Pn	13 10 35.2	+0.1
YATNC	Mamie plateau,	3.18	235	P	Pn	13 10 34.8	-0.7
OUENC	Ouen Island, N	3.43	230	P	Pn	13 10 39.1	+0.2
DZM	Mont Dzumac	3.54	238	P	Pn	13 10 39.8	-0.7
ONTNC	Ouen Toro	3.66	235	P	Pn	13 10 42.3	+0.3
NOUC	Port Laguerre	3.67	239	P	Pn	13 10 42.5	+0.4
KOUNC	Koumac, New Ca	5.08	265	P	Pn	13 11 01.6	+0.1

MOS ***08*** *13:15:54.8±1.5, 35°.48N×27°.88E, h17km, mb4.3/25, Error ellipse: s-maj=5.5km s-min=3.1km az=105.5*
IDC ***08*** *13:15:54.2±0.6, 35°.61N×27°.87E, h0km, mb4.1/22, mbtmp4.0/37, ML3.8/11, MS3.3/8, Error ellipse: s-maj=12.7km s-min=10.0km az=176.0*
AFAD ***08*** *13:15:55.7±0.0, 35°.58N×27°.75E, h21km±1km, MW4.1*
MCSM ***08*** *13:15:55.4±0.4, 35°N±2°×2°8E±°, h9km±3km, mb4.1, mB4.6, MLv4.4, Mw(mB)3.8*
ISK ***08*** *13:15:56.7, 35°.63N×27°.82E, h8km, ML4.1/37*
NEIC ***08*** *13:15:56±1.9, 35°.58N±0°.07×27°.90E±0°.06, h10km±1km, mb4.2/41, Error ellipse: s-maj=11.7km s-min=7.7km az=202.0*
NIC ***08*** *13:15:56.5, 35°.67N×27°.77E, h42km±6km, Ml3.9/10*
GII ***08*** *13:15:57.7±0.5, 35°.269N±0°.001×28°.070E±0°.002, h12km, mB4.1/2, Md3.9/4, Mws4.0, confirmed*
ATH ***08*** *13:15:57.3, 35°.63N×27°.84E, h8km±1km, ML3.7/8, Error ellipse: s-maj=2.1km s-min=0.7km az=133.0*
THE ***08*** *13:15:58.0, 35°.69N×27°.78E, h3km±1km, ML3.9/5, Error ellipse: s-maj=2.9km s-min=0.7km az=135.0*
ISC 08 13:15:56.4±1.0, 35°.58N±0°.02×27°.86E±0°.02, h14km±6km, n519,σ1§43/580, mb4.2/54, MS3.9/6, 21C-20D,

Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.57**	**267**	Pg	**Pg**	**13 16 07.5**	**-0.1**
KARP				Sg	**Sb**	**13 16 15.7**	**-0.4**
KARP	**Karpathos**	**0.57**	**267**	Pg	**Pg**	**13 16 07.2**	**-0.3**
KARP	**Karpathos**	**0.57**	**267**	P	**Pg**	**13 16 07.4**	**-0.1**
KARP				S	**Sb**	**13 16 16.3**	**+0.2**
	14μm,0.5s						
KARP	**Karpathos**	**0.57**	**267**	P	**Pg**	**13 16 07.4**	**-0.1**
KARP	**Karpathos**	**0.57**	**267**	P	**Pg**	**13 16 07.4**	**-0.1**
KARP				S	**Sb**	**13 16 16.2**	**+0.2**
KARP				AML	AML	13 16 19.3	
	comp=E,27923μm,0.3s						
KARP				AML	AML	13 16 21.3	
	comp=N,27350μm,0.4s						
KARP	**Karpathos**	**0.57**	**267**	P	**Pg**	**13 16 07.3**	**-0.3**
KARP	**Karpathos**	**0.57**	**267**	⇑*i*P	**Pg**	**13 16 07.4**	**-0.1**
KARP				S	**Sb**	**13 16 16.1**	**+0.1**
KARP				AML	AML	13 16 18.9	
	comp=N,28nm,0.3s						
KARP				AML	AML	13 16 20.9	
	comp=N,27nm,0.4s						
ARG	**Arkhangelos**	**0.67**	**19**	Pg	**Pg**	**13 16 09.4**	**-0.1**
ARG				Sg	**Sb**	**13 16 18.9**	**-0.1**
ARG	**Arkhangelos**	**0.67**	**19**		**Pg**	**13 16 09.2**	**-0.3**
ARG	**Arkhangelos**	**0.67**	**19**	P	**Pg**	**13 16 09.3**	**-0.3**
ARG				S	**Sb**	**13 16 19.2**	**+0.2**
	comp=N,8μm,0.4s						
ARG	**Arkhangelos**	**0.67**	**19**	P	**Pg**	**13 16 09.2**	**-0.3**
ARG	**Arkhangelos**	**0.67**	**19**	P	**Pg**	**13 16 09.2**	**-0.3**
ARG				S	**Sg**	**13 16 18.1**	**-0.2**
ARG				AML	AML	13 16 22.0	
	comp=E,16165μm,0.6s						
ARG				AML	AML	13 16 22.1	
	comp=N,14556μm,0.6s						
ARG	**Arkhangelos**	**0.67**	**19**	⇓*i*P	**Pg**	**13 16 09.2**	**-0.3**
ARG				S	**Sg**	**13 16 18.2**	**-0.2**
ARG				AML	AML	13 16 24.4	
	comp=N,14nm,0.5s						
ARG				AML	AML	13 16 28.2	
	comp=N,18nm,0.8s						
YAZI	**Mula-Dat§a-**	**1.15**	**344**	P	**Pb**	**13 16 17.8**	**-0.1**
YAZI				S	**Sb**	**13 16 32.6**	**-0.1**
MRSB	**Marmaris-Mugla**	**1.17**	**14**	Pn	**Pn**	**13 16 18.9**	**+0.6**
MRSB				Sn	**Sn**	**13 16 35.0**	**+1.0**
DAT	**Datca**	**1.17**	**349**	Pn	**Pn**	**13 16 18.6**	**+0.2**
DAT				Sn	**Sn**	**13 16 34.5**	**+0.3**
DAT	**Datca**	**1.17**	**349**	P	**Pb**	**13 16 18.1**	**-0.3**
DAT				S	**Sg**	**13 16 32.9**	**-1.2**
DAT	**Datca**	**1.17**	**349**	P	**Pb**	**13 16 17.9**	**-0.5**
DAT				S	**Sg**	**13 16 33.0**	**-1.2**
NISR	**Nisiros**	**1.19**	**330**	P	**Pb**	**13 16 18.1**	**-0.5**
NISR				S	**Sb**	**13 16 33.3**	**-0.5**
	comp=N,5μm,0.7s						
NISR	**Nisiros**	**1.19**	**330**	P	**Pb**	**13 16 18.3**	**-0.3**
NISR				AML	AML	13 16 43.4	
	comp=E,10449μm,0.6s						
NISR				AML	AML	13 16 47.4	
	comp=N,9348μm,0.8s						
TURN	**Turunc**	**1.23**	**15**	Pn	**Pg**	**13 16 19.6**	**-0.5**
TURN				Sn	**Sn**	**13 16 37.0**	**+1.4**
TURN	**Turunc**	**1.23**	**15**	P	**Pb**	**13 16 19.4**	**0.0**
TURN				S	**Sn**	**13 16 36.9**	**+1.3**
DALY	**Dalyan (Mula)**	**1.39**	**27**	Pn	**Pn**	**13 16 21.9**	**+0.6**
IZZE	**Mula-Seydike**	**1.40**	**52**	P	**Pb**	**13 16 22.8**	**+0.5**
IZZE				S	**Sg**	**13 16 41.7**	**+0.2**
ZKR	**Zakros**	**1.42**	**251**	Pn	**Pb**	**13 16 23.1**	**+0.5**
ZKR				Sn	**Sg**	**13 16 42.7**	**+0.6**
ZKR	**Zakros**	**1.42**	**251**	P	**Pn**	**13 16 22.4**	**+0.7**
ZKR				S	**Sg**	**13 16 42.2**	**+0.1**
	comp=N,7μm,0.7s						
ZKR	**Zakros**	**1.42**	**251**	P	**Pb**	**13 16 22.7**	**+0.1**
ZKR				S	**Sn**	**13 16 40.7**	**+0.6**
ZKR				AML	AML	13 16 48.8	
	comp=N,5691μm,0.5s						
ZKR				AML	AML	13 16 50.8	
	comp=E,21524μm,0.9s						
FETY	**Fethiye**	**1.45**	**43**	Pn	**Pb**	**13 16 23.3**	**+0.2**
FETY	**Fethiye**	**1.45**	**43**	P	**Pg**	**13 16 25.0**	**+0.8**
FETY				S	**Sg**	**13 16 47.2**	**+4.2**
BDRM	**Kayabasi**	**1.52**	**347**	P	**Pn**	**13 16 23.2**	**+0.1**
BDRM				S	**Sn**	**13 16 41.9**	**-0.8**
SABU	**Mula-Dalaman**	**1.53**	**36**	P	**Pb**	**13 16 24.6**	**+0.1**
SABU				S	**Sg**	**13 16 48.5**	**+2.8**
BODT	**Bodrum**	**1.54**	**344**	Pn	**Pn**	**13 16 23.8**	**+0.3**
BODT	**Bodrum**	**1.54**	**344**	P	**Pn**	**13 16 23.7**	**+0.3**
BODT				S	**Sn**	**13 16 42.3**	**-1.0**
KLNA	**Kalymnos**	**1.55**	**333**	P	**Pn**	**13 16 23.2**	**-0.3**
KLNA				AML	AML	13 16 48.2	
	comp=E,2796μm,0.4s						
KLNA				AML	AML	13 16 49.7	
	comp=N,4069μm,0.4s						
AKAS	**Kas**	**1.56**	**65**	Pn	**Pb**	**13 16 25.4**	**+0.3**
AKAS	**Kas**	**1.56**	**65**	P	**Pn**	**13 16 25.0**	**+1.2**
AKAS				S	**Sg**	**13 16 46.5**	**-0.2**
YER	**Yerkesik**	**1.59**	**12**	Pn	**Pb**	**13 16 25.4**	**-0.1**
YER	**Yerkesik**	**1.59**	**12**	P	**Pn**	**13 16 24.3**	**+0.2**
YER				S	**Sn**	**13 16 43.7**	**-0.8**
YER	**Yerkesik**	**1.59**	**12**	P	**Pn**	**13 16 24.3**	**+0.2**
YKAV	**Yalikavak-Bodr**	**1.61**	**343**	Pn	**Pb**	**13 16 25.2**	**-0.6**
MLSB	**Milas**	**1.71**	**358**	Pn	**Pb**	**13 16 26.9**	**-0.7**
MULA	**Mugla, Merkez-**	**1.71**	**12**	P	**Pb**	**13 16 28.0**	**+0.3**
MULA				S	**Sg**	**13 16 52.3**	**+0.7**
DEMR	**Demre-Antalya**	**1.79**	**68**	Pn	**Pb**	**13 16 29.1**	**+0.2**
CAME	**Cameli-Denizli**	**1.79**	**40**	Pn	**Pn**	**13 16 28.3**	**+1.3**
KNIK	**Mula-Seydike**	**1.88**	**47**	P	**Pb**	**13 16 29.9**	**-0.5**
KNIK				S	**Sg**	**13 16 55.8**	**-0.9**
DDIM	**Aydin, Didim**	**1.94**	**345**	P	**Pn**	**13 16 29.6**	**+0.8**
DDIM				S	**Sn**	**13 16 53.1**	**+0.1**
DNZT	**Denizli-Tavas-**	**1.94**	**29**	P	**Pb**	**13 16 31.2**	**-0.3**
DNZT				P	**Pb**	**13 16 31.2**	**-0.3**
DNZT				S	**Sb**	**13 16 56.9**	**+1.3**
DNZT				S	**Sg**	**13 16 57.2**	**-1.6**
CAEL	**Denizli, Camel**	**1.94**	**37**	P	**Pb**	**13 16 31.1**	**-0.5**
CAEL				S	**Sg**	**13 16 57.9**	**-0.9**
ELL	**Elmali**	**2.03**	**54**	Pn	**Pb**	**13 16 32.4**	**-0.7**
ELL	**Elmali**	**2.03**	**54**	Pn	**Pn**	**13 16 31.8**	**+1.6**
ELL	**Elmali**	**2.03**	**54**	P	**Pn**	**13 16 31.8**	**+1.6**
TAVA	**DENIZLI_Tavas**	**2.06**	**24**	P	**Pb**	**13 16 32.4**	**-1.2**
TAVA				S	**Sb**	**13 17 00.2**	**+1.0**
THR8	**Santorini-Mono**	**2.10**	**294**	P	**Pn**	**13 16 31.4**	**+0.3**
SANT	**Santorini**	**2.10**	**293**	Pn	**Pn**	**13 16 32.5**	**+1.3**
SANT	**Santorini**	**2.10**	**293**	Pn	**Pn**	**13 16 32.2**	**+1.1**
SANT	**Santorini**	**2.10**	**293**	P	**Pn**	**13 16 32.4**	**+1.3**
SANT	**Santorini**	**2.10**	**293**	P	**Pn**	**13 16 32.3**	**+1.2**
SNT1	**Gialos, Santor**	**2.14**	**294**	P	**Pn**	**13 16 32.0**	**+0.5**
SNT1				S	**Sn**	**13 16 56.4**	**-1.5**
	comp=N,2μm,0.6s						
SNT1	**Gialos, Santor**	**2.14**	**294**	P	**Pn**	**13 16 32.1**	**+0.5**
SNT1				S	**Sn**	**13 16 57.7**	**-0.2**
THR6	**Thira Island,**	**2.14**	**292**	P	**Pn**	**13 16 32.5**	**+0.9**
GOLH	**Golhisar**	**2.15**	**39**	P	**Pb**	**13 16 34.2**	**-0.9**
GOLH				S	**Sb**	**13 17 01.1**	**-0.6**
THR3	**Thira Island,**	**2.16**	**293**	P	**Pn**	**13 16 31.2**	**-0.6**
THR3	**Thira Island,**	**2.16**	**293**	P	**Pn**	**13 16 32.4**	**+0.5**
SNT5	**Nea Kammeni, S**	**2.16**	**293**	P	**Pn**	**13 16 32.2**	**+0.4**
SNT5				S	**Sn**	**13 16 58.1**	**-0.3**
THR9	**Santorini-Faro**	**2.17**	**292**	P	**Pn**	**13 16 32.9**	**+0.9**
THR9	**Santorini-Faro**	**2.17**	**292**	P	**Pn**	**13 16 32.3**	**+0.3**
GCAM	**G?zelcaml?**	**2.17**	**347**	Pn	**Pn**	**13 16 33.5**	**+1.4**
GCAM	**G?zelcaml?**	**2.17**	**347**	P	**Pb**	**13 16 33.9**	**-1.6**
GCAM				S	**Sn**	**13 16 57.9**	**-0.9**
CMBO	**Columbo, Santo**	**2.18**	**295**	P	**Pn**	**13 16 32.3**	**+0.2**
CMBO	**Columbo, Santo**	**2.18**	**295**	P	**Pn**	**13 16 32.4**	**+0.2**
CMBO				S	**Sn**	**13 16 59.1**	**+0.2**
SAP3	**Santorini-Thir**	**2.21**	**293**	P	**Pn**	**13 16 33.4**	**+0.8**
SAP3	**Santorini-Thir**	**2.21**	**293**	P	**Pn**	**13 16 32.9**	**+0.3**
APMY	**Acipayam-Deniz**	**2.22**	**31**	Pn	**Pn**	**13 16 34.6**	**+1.8**
ESEN	**Aydn-Nazilli**	**2.25**	**10**	P	**Pb**	**13 16 35.1**	**-1.6**
ESEN				S	**Sb**	**13 17 02.7**	**-1.7**
DNIZ	**Denizli-Tavas-**	**2.25**	**25**	P	**Pn**	**13 16 34.8**	**+1.6**
DNIZ				S	**Sg**	**13 17 06.5**	**-2.3**
SMG	**Samos**	**2.28**	**339**	P	**Pn**	**13 16 34.2**	**+0.7**
SMG	**Samos**	**2.28**	**339**	P	**Pn**	**13 16 34.0**	**+0.5**
SMG				S	**Sn**	**13 17 01.4**	**0.0**
SMG				AML	AML	13 17 16.0	
	comp=E,2384μm,0.6s						
SMG				AML	AML	13 17 20.3	
	comp=N,1774μm,0.5s						
KSTL	**Kastelli Herak**	**2.29**	**264**	P	**Pn**	**13 16 32.3**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**2.36**	**1**	Pn	**Pn**	**13 16 36.1**	**+1.3**
APE	**Apeiranthos**	**2.40**	**309**	Pn	**Pn**	**13 16 36.7**	**+1.5**
APE	**Apeiranthos**	**2.40**	**309**	P	**Pn**	**13 16 35.3**	**+0.1**
APE	**Apeiranthos**	**2.40**	**309**	*ce*P	**Pn**	**13 16 35.2**	**+0.1**
APE	**Apeiranthos**	**2.40**	**309**	P	**Pn**	**13 16 35.2**	**0.0**
APE				S	**Sn**	**13 17 04.7**	**+0.3**
APE				AML	AML	13 17 08.6	
	comp=N,1202μm,0.5s						
APE				AML	AML	13 17 09.4	
	comp=E,1360μm,0.4s						
NAZL	**Nazilli-Aydin**	**2.41**	**8**	Pn	**Pn**	**13 16 37.1**	**+1.8**
IDI	**Anoyia**	**2.44**	**264**	Pn	**Pn**	**13 16 37.5**	**+1.7**
IDI	**Anoyia**	**2.44**	**264**	Pn	**Pn**	**13 16 37.0**	**+1.2**
IDI	**Anoyia**	**2.44**	**264**	P	**Pn**	**13 16 37.0**	**+1.2**
IDI	**Anoyia**	**2.44**	**264**	Pn	**Pn**	**13 16 37.3**	**+1.5**
	comp=E,69nm,0.3s,baz=66,slow=16,SNR=92						
IDI				Sn	**Sn**	**13 17 08.0**	**+2.5**
	comp=E,101nm,0.3s,baz=115,slow=19,SNR=7.6						
IDI				LR	LR	13 17 47.6	
	comp=E,316nm,21.8s,baz=98,slow=46						
IDI	**Anoyia**	**2.44**	**264**	P	**Pn**	**13 16 37.4**	**+1.5**
IDI				S	**Sn**	**13 17 05.8**	**+0.3**
IDI				AML	AML	13 17 14.0	
	comp=N,1775μm,0.4s						
IDI				AML	AML	13 17 17.8	
	comp=E,1835μm,0.6s						
KORT	**Korkueli**	**2.46**	**54**	Pn	**Pn**	**13 16 38.7**	**+2.5**
INCE	**Denizli-Bozkur**	**2.54**	**33**	P	**Pn**	**13 16 38.8**	**+1.6**
INCE				S	**Sg**	**13 17 18.5**	**+0.6**
IZMR	**zmir-demi**	**2.55**	**2**	P	**Pn**	**13 16 38.3**	**+1.0**
IZMR				S	**Sn**	**13 17 07.7**	**-0.4**
TMBK	**Timbaki Herakl**	**2.58**	**260**	P	**Pn**	**13 16 38.8**	**+1.2**
DGB	**zmir**	**2.59**	**343**	P	**Pn**	**13 16 38.6**	**+0.8**
DGB				S	**Sb**	**13 17 14.9**	**+0.7**
GMLD	**Gumuldur**	**2.60**	**343**	Pn	**Pn**	**13 16 39.5**	**+1.5**
ANTB	**Antalya**	**2.62**	**59**	Pn	**Pb**	**13 16 41.1**	**-1.9**
KIRA	**zmir-Kiraz**	**2.65**	**9**	P	**Pn**	**13 16 40.6**	**+1.9**
KIRA				S	**Sb**	**13 17 14.0**	**-2.0**
ODEM	**Odemis-Izmir**	**2.70**	**4**	Pn	**Pn**	**13 16 40.4**	**+1.0**
ZEYE	**Izmir, Urla-Ze**	**2.87**	**338**	P	**Pn**	**13 16 42.8**	**+1.2**
ZEYE				S	**Sn**	**13 17 18.0**	**+2.1**
BCK	**Bucak**	**2.89**	**49**	Pn	**Pn**	**13 16 44.5**	**+2.4**
BCK	**Bucak**	**2.89**	**49**	P	**Pn**	**13 16 44.4**	**+2.4**
TNSA	**Tinos**	**2.92**	**313**	P	**Pn**	**13 16 42.6**	**+0.3**
BASM	**Basmaki-Afyon**	**2.92**	**36**	Pn	**Pn**	**13 16 44.6**	**+2.1**
URLA	**Izmir**	**2.95**	**340**	Pn	**Pn**	**13 16 43.6**	**+0.8**
URLA	**Izmir**	**2.95**	**340**	P	**Pn**	**13 16 42.6**	**-0.2**
URLA				S	**Sg**	**13 17 28.7**	**-2.6**
MANT	**Manisa**	**2.96**	**11**	P	**Pn**	**13 16 43.8**	**+0.7**
KULA	**Kula-Manisa**	**3.00**	**12**	Pn	**Pn**	**13 16 45.3**	**+1.8**
KULA	**Kula-Manisa**	**3.00**	**12**	P	**Pn**	**13 16 44.9**	**+1.4**
MHLO	**Agia Marina, M**	**3.01**	**293**	P	**Pn**	**13 16 45.1**	**+1.5**
KHL	**Karahalli**	**3.05**	**26**	Pn	**Pn**	**13 16 46.5**	**+2.3**
CHAN	**Chania**	**3.11**	**270**	P	**Pn**	**13 16 47.5**	**+2.6**
GOMA	**Golmarmara-Man**	**3.12**	**1**	Pn	**Pn**	**13 16 47.1**	**+2.0**
CHOS	**Chios island**	**3.15**	**333**	P	**Pn**	**13 16 45.7**	**+0.1**
CHOS	**Chios island**	**3.15**	**333**	P	**Pn**	**13 16 45.4**	**-0.2**
IMMV	**Iera Moni Meta**	**3.16**	**269**	Pn	**Pn**	**13 16 48.0**	**+2.3**
IMMV	**Iera Moni Meta**	**3.16**	**269**	P	**Pn**	**13 16 47.2**	**+1.5**
IMMV	**Iera Moni Meta**	**3.16**	**269**	P	**Pn**	**13 16 47.2**	**+1.5**
GVD	**Gavdhos**	**3.17**	**258**	Pn	**Pn**	**13 16 48.3**	**+2.5**
GVD	**Gavdhos**	**3.17**	**258**	P	**Pn**	**13 16 46.1**	**+0.3**
GVD	**Gavdhos**	**3.17**	**258**	P	**Pn**	**13 16 48.2**	**+2.3**
FOCM	**Foa**	**3.25**	**344**	Pn	**Pn**	**13 16 48.8**	**+1.9**
KARB	**zmir-Karabur**	**3.29**	**340**	P	**Pn**	**13 16 48.1**	**+0.7**
KARB				S	**Sn**	**13 17 25.7**	**-0.6**
AKHS	**Akhisar**	**3.29**	**359**	P	**Pn**	**13 16 48.5**	**+0.9**
RODP	**Rodopos**	**3.34**	**271**	Pn	**Pn**	**13 16 50.4**	**+2.2**
KNDR	**Palaiochora Ch**	**3.42**	**265**	Pn	**Pn**	**13 16 52.5**	**+3.2**
KNDR	**Palaiochora Ch**	**3.42**	**265**	P	**Pn**	**13 16 51.9**	**+2.6**
ZEDA	**zmir-Bergama**	**3.44**	**350**	P	**Pn**	**13 16 50.8**	**+1.3**
AKMS	**Akamas**	**3.71**	**97**	⇑*i*P	**Pn**	**13 16 53.4**	**+0.2**
AKMS				AML	AML	13 17 40.9	
	comp=E,0.8nm,0.3s						
AKMS				AML	AML	13 17 48.1	
	comp=E,0.5nm,0.6s						
ANKY	**Antikythira Is**	**3.72**	**276**	P	**Pn**	**13 16 54.5**	**+1.2**
ANKY	**Antikythira Is**	**3.72**	**276**	P	**Pn**	**13 16 54.7**	**+1.4**
PRK	**Paraskevi**	**3.87**	**341**	P	**Pn**	**13 16 55.4**	**0.0**
PRK	**Paraskevi**	**3.87**	**341**	P	**Pn**	**13 16 55.4**	**0.0**
PRK	**Paraskevi**	**3.87**	**341**	P	**Pn**	**13 16 56.4**	**+1.0**
ALFC	**Alefka**	**3.90**	**95**	P	**Pn**	**13 16 55.8**	**0.0**
ALFC				S	**Sn**	**13 17 42.3**	**+0.8**
ALFC				AML	AML	13 17 45.9	
	comp=E,0.7nm,0.6s						
ALFC				AML	AML	13 17 52.7	
	comp=E,0.5nm,0.6s						
NATA	**Nata**	**3.94**	**100**	⇑*i*P	**Pn**	**13 16 56.8**	**+0.4**
NATA				AML	AML	13 17 47.0	
	comp=E,2.1nm,0.5s						
NATA				AML	AML	13 17 50.3	
	comp=E,1.4nm,0.6s						
SIGR	**SIGRI**	**3.96**	**337**	P	**Pn**	**13 16 57.8**	**+1.2**
SIGR	**SIGRI**	**3.96**	**337**	P	**Pn**	**13 16 57.5**	**+0.9**
VLY	**Voula,Athens**	**3.97**	**306**	P	**Pn**	**13 16 58.1**	**+1.2**
VLY	**Voula,Athens**	**3.97**	**306**	P	**Pn**	**13 16 58.0**	**+1.2**
DION	**Dionisos Attik**	**4.01**	**310**	P	**Pn**	**13 16 58.1**	**+0.7**
DION	**Dionisos Attik**	**4.01**	**310**	P	**Pn**	**13 16 59.7**	**+2.2**
PTL	**Penteli**	**4.04**	**309**	P	**Pn**	**13 16 58.0**	**+0.2**
ATHU	**Athens Univers**	**4.04**	**307**	P	**Pn**	**13 16 59.1**	**+1.3**
ATH	**Athens Observa**	**4.09**	**307**	P	**Pn**	**13 17 00.3**	**+1.8**
VLI	**Veliai**	**4.14**	**287**	P	**Pn**	**13 17 00.5**	**+1.4**
VLI	**Veliai**	**4.14**	**287**	P	**Pn**	**13 17 00.6**	**+1.4**
TROD	**Troodos**	**4.15**	**97**	⇑*i*P	**Pn**	**13 16 59.0**	**-0.4**
TROD				S	**Sn**	**13 17 47.3**	**-0.6**
TROD				AML	AML	13 17 55.6	
	comp=E,0.6nm,0.4s						
TROD				AML	AML	13 17 57.9	
	comp=E,0.4nm,0.4s						
KRND	**KRANIDI**	**4.20**	**297**	P	**Pn**	**13 17 01.6**	**+1.7**
KRND	**KRANIDI**	**4.20**	**297**	P	**Pn**	**13 17 01.6**	**+1.7**
KYMI	**Kymi, Euboea I**	**4.28**	**317**	P	**Pn**	**13 17 01.4**	**+0.4**
VILL	**Villia**	**4.46**	**307**	P	**Pn**	**13 17 04.1**	**+0.5**
ASGA	**Asgata**	**4.49**	**99**	P	**Pn**	**13 17 03.8**	**-0.1**
ASGA				S	**Sn**	**13 17 57.1**	**+1.2**
ASGA				AML	AML	13 18 03.2	
	comp=E,0.6nm,0.6s						
ASGA				AML	AML	13 18 08.4	
	comp=E,0.4nm,0.8s						
VIL2	**Platees**	**4.52**	**307**	P	**Pn**	**13 17 05.1**	**+0.7**
CSS	**Mathiatis**	**4.52**	**96**	Pn	**Pn**	**13 17 04.1**	**-0.2**
CSS	**Mathiatis**	**4.52**	**96**	P	**Pn**	**13 17 04.5**	**+0.1**
CSS	**Mathiatis**	**4.52**	**96**	P	**Pn**	**13 17 04.2**	**-0.2**
CSS	**Mathiatis**	**4.52**	**96**	P	**Pn**	**13 17 04.2**	**-0.1**
CSS				S	**Sn**	**13 17 57.4**	**+0.6**
CSS				AML	AML	13 18 03.4	
	comp=E,0.2nm,0.7s						
CSS				AML	AML	13 18 04.0	
	comp=E,0.3nm,0.5s						
ATHAL	**Athalassa**	**4.55**	**94**	P	**Pn**	**13 17 05.1**	**+0.3**
ATHAL				AML	AML	13 18 06.9	
	comp=E,0.7nm,1.1s						
ATHAL				AML	AML	13 18 08.7	
	comp=E,0.7nm,0.5s						
MVOU	**Mavrovouni**	**4.76**	**95**	P	**Pn**	**13 17 07.7**	**+0.1**
MVOU				AML	AML	13 18 08.4	
	comp=E,0.2nm,0.5s						
MVOU				AML	AML	13 18 11.0	
	comp=E,0.2nm,0.8s						
LIA	**Limnos Island**	**4.80**	**335**	P	**Pn**	**13 17 09.7**	**+1.5**
LIA	**Limnos Island**	**4.80**	**335**	P	**Pn**	**13 17 09.6**	**+1.4**
GUR	**Goura**	**5.01**	**300**	P	**Pn**	**13 17 12.3**	**+1.1**
GUR	**Goura**	**5.01**	**300**	P	**Pn**	**13 17 13.4**	**+2.2**
ITM	**Ithomi**	**5.04**	**290**	Pn	**Pn**	**13 17 12.7**	**+1.1**
ITM	**Ithomi**	**5.04**	**290**	P	**Pn**	**13 17 12.1**	**+0.5**
ITM	**Ithomi**	**5.04**	**290**	P	**Pn**	**13 17 14.3**	**+2.7**
PYL	**PYLOS**	**5.11**	**287**	P	**Pn**	**13 17 15.1**	**+2.6**
YLV	**Yalova**	**5.12**	**13**	P	**Pn**	**13 17 16.4**	**+3.7**
	comp=E,89nm,1.1s,comp=E,694nmcomp=E,0.3nm						
KLV	**Kalavryta, Ach**	**5.20**	**300**	P	**Pn**	**13 17 15.7**	**+2.0**
KLV	**Kalavryta, Ach**	**5.20**	**300**	P	**Pn**	**13 17 16.1**	**+2.4**
SMTH	**Samothraki Isl**	**5.22**	**340**	P	**Pn**	**13 17 14.7**	**+0.8**
ENEZ	**Enez**	**5.32**	**346**	P	**Pn**	**13 17 15.2**	**-0.1**
ALN	**Alexandroupoli**	**5.50**	**346**		**Pn**	**13 17 19.1**	**+1.4**
ALN	**Alexandroupoli**	**5.50**	**346**	P	**Pn**	**13 17 18.9**	**+1.2**
ALN	**Alexandroupoli**	**5.50**	**346**	P	**Pn**	**13 17 19.1**	**+1.4**
ALN	**Alexandroupoli**	**5.50**	**346**	P	**Pn**	**13 17 18.6**	**+0.9**
ANX	**Ano Chora**	**5.62**	**304**	P	**Pn**	**13 17 21.9**	**+2.4**
ANX	**Ano Chora**	**5.62**	**304**	P	**Pn**	**13 17 22.3**	**+2.7**
MAKR	**Makrakomi, Fth**	**5.71**	**309**	P	**Pn**	**13 17 20.5**	**-0.2**
KLYT	**Kilyos**	**5.74**	**9**	P	**Pn**	**13 17 24.0**	**+2.9**
	comp=E,49nm,0.9s,comp=E,0.3nm						
ANTO	**Ankara**	**5.80**	**41**		**Pn**	**13 17 23.2**	**+1.2**
ANTO	**Ankara**	**5.80**	**41**	P	**Pn**	**13 17 23.2**	**+1.2**
RDO	**Rodhopi**	**5.85**	**343**		**Pn**	**13 17 23.9**	**+1.4**
RDO	**Rodhopi**	**5.85**	**343**	P	**Pn**	**13 17 24.1**	**+1.5**
PVO	**Paravola**	**5.90**	**303**	P	**Pn**	**13 17 23.7**	**+0.4**
BR105	**Keskin Array S**	**6.16**	**46**	P	**Pn**	**13 17 29.1**	**+2.1**
	comp=E,25nm,0.7s,comp=E,312nmcomp=E,0.1nm						
BR131	**Keskin Array S**	**6.18**	**46**	Pn	**Pn**	**13 17 28.7**	**+1.4**
BR131	**Keskin Array S**	**6.18**	**46**	*ce*P	**Pn**	**13 17 27.1**	**-0.2**
BRTR	**Keskin Array B**	**6.18**	**46**	Pn	**Pn**	**13 17 28.6**	**+1.4**
BRTR	**Keskin Array B**	**6.18**	**46**	Pn	**Pn**	**13 17 29.1**	**+1.9**
	comp=E,0.5nm,0.3s,baz=220,slow=15,SNR=14						
BRTR				Sn	**Sn**	**13 18 37.1**	**-0.6**
	baz=218,slow=25						
BRTR				LR	LR	13 20 39.8	
	comp=E,313nm,18.2s,baz=235,slow=46						
	comp=E,2.1nm,0.5s						
LIT	**Litokhoron**	**6.20**	**318**	Pn	**Pn**	**13 17 28.9**	**+1.5**
LIT	**Litokhoron**	**6.20**	**318**	P	**Pn**	**13 17 28.9**	**+1.5**
HNTI	**Hanita**	**6.55**	**110**	P	**Pn**	**13 17 31.0**	**-1.2**
DQRL	**Deir Qamar**	**6.63**	**104**	*e*P	**Pn**	**13 17 32.4**	**-1.0**
BHL	**Bhannes**	**6.63**	**102**	*e*P	**Pn**	**13 17 32.2**	**-1.3**
MMA0	**Mount Meron ar**	**6.75**	**110**	P	**Pn**	**13 17 34.2**	**-0.9**
MMA0B	**Mount Meron ar**	**6.75**	**110**	P	**Pn**	**13 17 33.9**	**-1.2**
MMAI	**Mount Meron Ar**	**6.75**	**110**	Pn	**Pn**	**13 17 34.1**	**-0.9**
	comp=E,10nm,0.2s,baz=310,slow=13,SNR=44						
MMAI				Sn	**Sn**	**13 18 51.1**	**-0.6**
	comp=E,12nm,0.3s,baz=304,slow=25,SNR=3.3						
MMAI				LR	LR	13 21 40.1	
	comp=E,121nm,18.8s,baz=240,slow=51						
HWQ	**Hawqa**	**6.77**	**99**	*e*P	**Pn**	**13 17 34.7**	**-0.7**
ZAHL	**Zahle**	**6.83**	**102**	*e*P	**Pn**	**13 17 35.4**	**-0.8**
GEM	**Giv'at Ha'Em**	**6.87**	**108**	P	**Pn**	**13 17 35.9**	**-0.8**
GEM	**Giv'at Ha'Em**	**6.87**	**108**	S	**Sn**	**13 18 52.4**	**-2.3**
GEM	**Giv'at Ha'Em**	**6.87**	**108**	P	**Pn**	**13 17 35.6**	**-1.1**
RCY	**Rachaya**	**6.91**	**105**	*e*P	**Pn**	**13 17 36.8**	**-0.5**
BEIL	**Beino**	**6.91**	**96**	*e*P	**Pn**	**13 17 36.4**	**-0.8**
NATI	**Neve Ativ**	**6.91**	**107**	P	**Pn**	**13 17 36.4**	**-0.8**
NATI	**Neve Ativ**	**6.91**	**107**	P	**Pn**	**13 17 35.8**	**-1.4**
NATI	**Neve Ativ**	**6.91**	**107**	S	**Sn**	**13 18 53.7**	**-1.9**
MMLI	**Mount Malkishu**	**7.02**	**114**	P	**Pn**	**13 17 37.4**	**-1.4**
KSHT	**Keshet**	**7.08**	**109**	P	**Pn**	**13 17 38.9**	**-0.6**
AMAZ	**Amatzia**	**7.14**	**122**	P	**Pn**	**13 17 39.4**	**-1.0**
QRNJ	**Al-Qirein**	**7.18**	**115**	P	**Pn**	**13 17 40.9**	**0.0**

comp=Z,11nm,1.1s
KIV MLR MLR
KVAR Kislovodsk Arr 14.13 49 Pn **P 13 19 21.1 -2.6**
baz=264,slow=21
comp=Z,0.9nm,0.4s
KBZ Khabaz 14.14 50 Pn **Pn 13 19 20.4 +4.2**
comp=Z,0.7nm,0.8s,baz=246,slow=10,SNR=1.6
KBZ LR LR 13 25 54.0
comp=Z,126nm,19.1s,baz=171,slow=42
KBZ Khabaz 14.14 50⇑ *e*P **Pn 13 19 17.0 +0.8**
LUBAR Lubar, Ukraine 14.33 360 P **P 13 19 23.5 -2.3**
NCK Nalchik 14.47 52⇓ *e*P **Pn 13 19 19.9 -0.9**
NCK pmax pmax
comp=Z,3.0nm,0.5s
VYHS Vyhne 14.53 335 *e*P **P 13 19 29.1 +1.1**
VYHS Vyhne 14.53 335 *e*P **P 13 19 29.1 +1.1**
KWP Kalwaria Pacla 14.54 347 P **Pn 13 19 24.8 +3.2**
comp=Z,5.7nm,2.0s
SOKA Soboth 14.69 323 *e*P **Pn 13 19 26.7 +3.0**
comp=Z,1.5nm,0.6s
OBKA Obir 14.81 322 *e*P **P 13 19 28.8 -2.4**
comp=Z,3.8nm,0.7s
RONA Rosalia, Austr 14.86 328 *i* P **Pn 13 19 28.6 +2.7**
comp=Z,3.0nm,0.7s
ARSA Arzberg 14.86 325 *e*P **P 13 19 30.2 -1.6**
comp=Z,2.6nm,0.8s
LANS Liptovska Anna 14.90 338 *e*P **P 13 19 32.4 +0.3**
LANS Liptovska Anna 14.90 338 *e*P **P 13 19 32.4 +0.3**
NIE Niedzica 14.90 340 P **P 13 19 31.1 -1.0**
NIE Niedzica 14.90 340 P **P 13 19 31.1 -1.0**
comp=Z,2.6nm,0.8s
SABO M.te Sabotino 14.96 318 **Pn 13 19 28.4 +1.0**
MODS Modra-Piesok 14.99 332 *e*P Pn 13 19 22.6 -5.1
MODS Modra-Piesok 14.99 332 *e*PN Pn 13 19 22.6 -5.1
MODS Modra-Piesok 14.99 332 *e*P **P 13 19 34.6 +1.5**
AK07 Malin Array Si 14.99 3 P **P 13 19 32.6 -0.5**
AK10 Malin Array Si 15.05 3 P **P 13 19 34.2 +0.5**
KEST Kesra 15.05 276 P **P 13 19 35.3 +1.3**
KEST IAmb IAmb 13 19 43.5
comp=Z,12nm,0.8s
KEST Kesra 15.05 276 Pn **Pn 13 19 30.4 +1.7**
comp=Z,0.2nm,0.3s,baz=34,slow=12,SNR=2.6
KEST Sn **Sn 13 22 13.8 -1.4**
comp=Z,0.1nm,0.3s,baz=329,slow=21,SNR=1.0
comp=Z,1.8nm,0.8s
AK05 Malin Array Si 15.06 3 P **P 13 19 34.0 +0.1**
AK09 Malin Array Si 15.06 4 P **P 13 19 34.4 +0.5**
AK14 Malin Array Si 15.07 3 P **P 13 19 33.6 -0.4**
AK08 Malin Array Si 15.08 3 P **P 13 19 33.8 -0.3**
AK12 Malin Array Si 15.09 3 P **P 13 19 33.6 -0.6**
AK02 Malin Array Si 15.10 3 P **P 13 19 34.1 -0.2**
AK11 Malin Array Si 15.12 3 P **P 13 19 33.7 -0.8**
AK01 Malin Array Si 15.14 3 P **P 13 19 34.3 -0.4**
KIEV Kiev 15.14 3 P **P 13 19 34.4 -0.3**
KIEV pmax pmax
comp=Z,7.0nm,0.8s
KIEV Kiev 15.14 3 P **P 13 19 34.1 -0.6**
comp=Z,28nm,0.8s
AKASG Malin Array Be 15.15 3 Pn **Pn 13 19 30.5 +0.8**
comp=Z,0.7nm,0.3s,baz=192,slow=10,SNR=1.4
comp=Z,0.4nm,0.4s
AKBB Malin Array Si 15.15 3⇑ *e*P **Pn 13 19 28.0 -1.7**
AKBB Malin Array Si 15.15 3 P **P 13 19 34.1 -0.7**
AK18 Malin Array Si 15.16 3 P **P 13 19 34.2 -0.8**
MI30 MI30,Zelenitsa 15.16 1 P **P 13 19 33.5 -1.5**
AK04 Malin Array Si 15.16 3 P **P 13 19 34.2 -0.8**
JAVC Velka Javorina 15.24 334 *e*P **P 13 19 37.0 +1.0**
MI28 Mi28,Pidlybu 15.34 360 P **P 13 19 36.9 -0.1**
STAL STALIGIAL 15.62 318 Pn **Pn 13 19 36.3 +0.3**
TEOL Teolo 15.70 313 P **P 13 19 41.1 +0.1**
TEOL IAmb IAmb 13 19 42.4
comp=Z,23nm,1.2s
OJC Ojcow 15.76 341 P **P 13 19 42.1 +0.4**
OJC Ojcow 15.76 341 P **P 13 19 42.1 +0.4**
OJC pmax pmax
comp=Z,5.0nm,0.8s
OJC Ojcow 15.76 341 P **P 13 19 41.6 -0.1**
comp=Z,6.7nm,1.2s
KBA Koelnbreinsper 15.81 321 *e*P **P 13 19 43.0 +0.6**
comp=Z,5.3nm,0.6s
KBA Koelnbreinsper 15.81 321 P **P 13 19 43.3 +0.9**
KBA pmax pmax
comp=Z,22nm,1.3s
MOA Molln 15.88 325 *e*Pn **P 13 19 41.6 -1.5**
comp=Z,2.9nm,1.1s
RNPP9 Sopachiv 15.89 355 P **P 13 19 42.7 -0.4**
KRUC Moravsky 15.89 331 *e*P **P 13 19 43.8 +0.7**
KRUC Moravsky 15.89 331 P **P 13 19 43.3 +0.2**
KRUC pmax pmax
comp=Z,7.0nm,0.8s
OKC Ostrava-Krasne 15.91 337 P **P 13 19 46.0 +2.6**
OKC pmax pmax
comp=Z,12nm,0.9s
VRAC Vranov 16.01 332 *e*P **P 13 19 45.1 +0.6**
VRAC Vranov 16.01 332 Pn **Pn 13 19 42.1 +1.1**
comp=Z,0.2nm,0.3s,baz=130,slow=8.5,SNR=1.6
VRAC LR LR 13 25 36.8
comp=Z,79nm,19.5s,baz=78,slow=36
comp=Z,1.2nm,0.5s
ABTA Abfaltersbach 16.03 319 *e*Pn **Pn 13 19 41.9 +0.6**
comp=Z,3.2nm,0.8s
MORC Moravsky Berou 16.06 335 ⇑P **Pn 13 19 41.9 +0.2**
MORC Moravsky Berou 16.06 335 Pn **Pn 13 19 43.1 +1.4**
MORC IAmb IAmb 13 19 51.6
comp=Z,10nm,1.1s
MORC Moravsky Berou 16.06 335 *e*P **P 13 19 45.3 +0.2**
MORC Moravsky Berou 16.06 335 P **Pn 13 19 43.1 +1.4**
MORC pmax pmax
comp=Z,10.0nm,1.1s
BIOA Bad Ischl, Aus 16.07 323 *e*P **P 13 19 45.1 0.0**
comp=Z,5.4nm,1.0s
CTI Castel Tesino 16.09 315 Pn **Pn 13 19 43.2 +1.1**
CTI IAmb IAmb 13 19 49.0
comp=Z,17nm,1.2s
CTI Castel Tesino 16.09 315 P **Pn 13 19 43.2 +1.1**
CTI pmax pmax
comp=Z,17nm,1.2s
LESA Schwarzleotal 16.38 321 *e*Pn **P 13 19 48.3 -0.3**
comp=Z,2.6nm,0.5s
CKRC Cesky Krumlov 16.57 327 *e*P **P 13 19 52.1 +1.4**
CKRC Cesky Krumlov 16.57 327 *e*P **P 13 19 52.1 +1.4**
KRLC Kraliky 16.58 334 *e*P **P 13 19 52.4 +1.6**
KRLC Kraliky 16.58 334 *e*P **P 13 19 52.4 +1.6**
WTTA Wattenberg 16.82 319 *e*P **P 13 19 54.5 +0.8**
comp=Z,6.0nm,0.7s
WTTA Wattenberg 16.82 319 P **P 13 19 54.7 +1.1**
WTTA pmax pmax
comp=Z,12nm,1.1s
GEC2 GERESS Array S 16.86 326 **P 13 19 53.4 -0.6**
GERES GERESS Array B 16.86 326 P **P 13 19 53.4 -0.6**
GERES GERESS Array B 16.86 326 Pn **P 13 19 53.7 -0.3**
comp=Z,0.2nm,0.3s,baz=139,slow=12,SNR=6.2
comp=Z,1.3nm,0.6s
WATA Walderalm 16.90 319 *e*P **P 13 19 55.3 +0.9**
comp=Z,9.9nm,1.0s
DPC Dobruska-Polom 16.97 334 *e*P **P 13 19 57.0 +1.8**
DPC Dobruska-Polom 16.97 334 *e*P **P 13 19 57.0 +1.8**
DPC Dobruska-Polom 16.97 334 P **P 13 19 56.7 +1.5**
comp=Z,4.8nm,1.7s
SQTA Sankt Quirin 17.02 318 *i* Pn **P 13 19 56.4 +0.5**
comp=Z,3.9nm,0.5s
KHC Kasperske Hory 17.13 327 **P 13 19 56.6 -0.3**
KHC Kasperske Hory 17.13 327 *e*P **P 13 19 58.1 +1.2**
KHC AMS AMS 13 28 10.0
comp=Z,100nm,19.3s
KHC Kasperske Hory 17.13 327 *de*P **P 13 19 56.9 0.0**
KHC pmax pmax
comp=Z,12nm,0.8s
KHC Kasperske Hory 17.13 327 P **P 13 19 57.4 +0.5**
comp=Z,6.6nm,1.1s
MOTA Moosalm 17.16 318 *e*Pn **Pn 13 19 56.0 +0.3**
comp=Z,4.7nm,0.8s
FETA Feichten 17.17 317 *e*P **P 13 19 58.8 +1.3**
comp=Z,17nm,1.5s
FUORN Ofenpass-Fuorn 17.21 315 **P 13 19 57.5 -0.4**
CHVC Chvalec 17.27 334 *e*P **P 13 19 59.9 +1.5**
CHVC Chvalec 17.27 334 *e*P **P 13 19 59.9 +1.5**
KSP Ksiaz 17.39 335 P **P 13 20 02.5 +2.7**
KSP pmax pmax
comp=Z,8.0nm,1.7s
RETA Reutte 17.43 318 *e*Pn **Pn 13 19 59.2 +0.2**
comp=Z,2.0nm,0.5s
WET Wettzell 17.45 326 P **Pn 13 19 59.9 +0.6**
WET pmax pmax

comp=Z,6.0nm,1.2s
DAVOX Davos/Dischmat 17.52 315 P **P 13 20 01.6 +0.3**
comp=Z,0.1nm,0.3s,baz=135,slow=14,SNR=2.8
comp=Z,1.9nm,0.5s
TUE Stuetta 17.66 314 P **P 13 20 03.6 +0.7**
comp=Z,21nm,0.7s
PVCC Panska Ves 17.77 331 P **P 13 20 07.3 +3.3**
PVCC pmax pmax
comp=Z,6.0nm,0.7s
DAVA Damuels 17.80 317 *e*Pn **Pn 13 20 04.3 +0.6**
comp=Z,4.9nm,0.6s
BRG Berggiesshubel 18.29 331 *e*P **P 13 20 13.1 +3.4**
BRG Amp 13 20 17.4
comp=Z,2.5nm,0.7s
BRG Amp 13 55 37.0
comp=N,0.1nm,21.8s
BRG Amp 13 55 40.0
comp=E,0.1nm,18.2s
BRG Amp 13 55 43.0
comp=Z,0.2nm,22.8s
BRG Berggiesshubel 18.29 331 *e*P **P 13 20 13.1 +3.4**
BRG pmax pmax
comp=Z,3.0nm,0.7s
MBDF Montbardon 18.48 306 *e*P **P 13 20 11.1 -0.9**
MBDF pmax pmax
comp=Z,3.0nm,0.7s
GRA1 Grafenberg Arr 18.61 324 P **Pn 13 20 14.1 +0.6**
GRA1 IAmb IAmb 13 20 20.3
comp=Z,25nm,1.5s
GRF Grafenberg Arr 18.61 324 P **Pn 13 20 14.1 +0.6**
GRF pmax pmax
comp=Z,25nm,1.5s
GRFO Grafenberg 18.61 324 P **Pn 13 20 14.0 +0.5**
GRFO IAmb IAmb 13 20 20.2
comp=Z,23nm,1.5s
GRFO Grafenberg 18.61 324 P **Pn 13 20 14.0 +0.5**
GRFO pmax pmax
comp=Z,23nm,1.5s
BNI Bardonecchia 18.67 307 P **Pn 13 20 14.9 +0.5**
LPG La Plagne 18.80 308 *e*P **P 13 20 15.3 -0.3**
LPG pmax pmax
comp=Z,5.0nm,0.7s
MNK Minsk 18.92 0 *i* P **P 13 20 15.2 -1.4**
comp=E,11nm,0.9s
MNK *i* P **P 13 20 15.2 -1.4**
comp=N,13nm,0.8s
MNK *i* P **P 13 20 15.2 -1.4**
comp=Z,5.0nm,0.8s,baz=180
MNK *i* PP **PnPn 13 20 27.7 -1.8**
MNK *i* S **Sn 13 23 48.9 +0.2**
MNK *i* SS **SnSn 13 24 03.5 +0.9**
MNK *i* LR LR 13 27 29.5
MNK *i* LRM MLR 13 28 55.6
comp=Z,98nm,13.2s
MNK *i* LRM MLR 13 29 25.8
comp=N,802nm,17.2s
MNK *i* LRM MLR 13 29 34.0
comp=E,421nm,17.2s
MNK Minsk 18.92 0 *i* P **P 13 20 15.1 -1.4**
MNK *i* S **Sn 13 23 48.8 +0.2**
MNK pmax pmax
comp=N,13nm,0.8s
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=E,11nm,0.9s
MNK MLR MLR
comp=Z,98nm,13.0s
MNK MLR MLR
comp=N,802nm,17.0s
MNK MLR MLR
comp=E,421nm,17.0s
CLL Collm 19.00 330 P **P 13 20 17.1 -0.3**
CLL Collm 19.00 330 P **P 13 20 17.1 -0.3**
CLL pmax pmax
comp=Z,7.0nm,1.0s
MOX Moxa 19.10 327 P **Pn 13 20 20.9 +1.5**
MOX pmax pmax
comp=Z,7.0nm,1.1s
BFO Black Forest 19.25 317 P **Pn 13 20 21.6 +0.4**
BFO IAmb IAmb 13 20 28.2
comp=Z,6.7nm,1.0s
BFO Black Forest 19.25 317 P **Pn 13 20 21.6 +0.4**
BFO pmax pmax
comp=Z,7.0nm,1.0s
RAYN Ar Rayn 19.46 123 Pn **P 13 20 24.0 +1.3**
RAYN IAmb IAmb 13 20 26.3
comp=Z,9.4nm,1.1s
RAYN Ar Rayn 19.46 123 P **P 13 20 24.0 +1.3**
RAYN pmax pmax
comp=Z,9.0nm,1.1s
CABF La Chapelle 19.70 311 *e*P **P 13 20 25.5 +0.3**
CABF pmax pmax
comp=Z,4.0nm,0.5s
ECH Echery 19.84 316 P **Pn 13 20 27.9 -0.4**
ECH Echery 19.84 316 P **Pn 13 20 27.9 -0.4**
ECH pmax pmax
comp=Z,5.0nm,1.1s
CDF Champ du Feu 19.88 316 *e*P **P 13 20 27.6 +0.4**
CDF pmax pmax
comp=Z,3.0nm,0.7s
VIVF Saint-Julien-l 19.93 305 *e*P **P 13 20 26.7 -1.0**
VIVF pmax pmax
comp=Z,5.0nm,0.8s
HAU Haudompre 20.20 315 *e*P **P 13 20 31.2 +0.6**
HAU pmax pmax
comp=Z,3.0nm,0.6s
TNS Taunus Mts 20.32 322 P Pn 13 20 35.4 +1.5
TNS pmax pmax
comp=Z,10.0nm,1.2s
OBN Obninsk 20.44 14 *i* P Pn 13 20 35.4 +0.2
OBN *i* 13 20 49.3
OBN pmax pmax
comp=Z,8.0nm,0.8s
OBN MLR MLR
comp=Z,90nm,20.0s
SMF Signal de Mont 21.12 309 *e*P **P 13 20 39.1 -1.5**
SMF pmax pmax
comp=Z,5.0nm,0.6s
LOR Lormes 21.36 310 *e*P **P 13 20 45.1 +2.0**
LOR pmax pmax
comp=Z,3.0nm,0.7s
AVF Avril sur Loir 21.49 309 *e*P **P 13 20 43.9 -0.6**
AVF pmax pmax
comp=Z,4.0nm,0.8s
SSF Saint Saulge 21.50 310 *e*P **P 13 20 43.2 -1.4**
SSF pmax pmax
comp=Z,7.0nm,0.6s
CAF Calviac 21.71 303 *e*P **P 13 20 46.6 -0.3**
CAF pmax pmax
comp=Z,4.0nm,0.9s
BGF Bois d'Agland 21.72 308 *e*P **P 13 20 46.6 -0.4**
BGF pmax pmax
comp=Z,6.0nm,0.6s
CEST Esterri de Car 21.75 297 P **P 13 20 48.4 +0.9**
CEST IAmb IAmb 13 20 57.6
comp=Z,5.5nm,1.1s
BELG Belogornoye 21.90 34 P **P 13 20 48.2 -0.6**
comp=Z,27nm,0.9s,baz=273,slow=3.9,SNR=3.8
comp=Z,27nm,0.9s
BELG Belogornoye 21.90 34⇓ *e*P **P 13 20 49.0 +0.2**
BELG pmax pmax
comp=Z,4.0nm,0.8s
GIVF Givet 22.14 318 *e*P **P 13 20 51.5 0.0**
GIVF pmax pmax
comp=Z,3.0nm,0.6s
RJF Les Rejaudoux 22.19 304 *e*P **P 13 20 52.3 +0.2**
RJF pmax pmax
comp=Z,5.0nm,0.8s
LUNU Lund 22.36 338 *i* P **P 13 20 52.0 -1.7**
VSU Vasula 22.90 358⇓ *e*P **P 13 20 59.5 +0.1**
VSU pmax pmax
comp=Z,15nm,1.1s
DEL Delary 22.95 340 *i* P **P 13 20 57.0 -3.0**
SJPF Ste Jean 23.63 297 *e*P **P 13 21 08.6 +1.6**
SJPF pmax pmax
comp=Z,8.0nm,1.0s
GEYT Alibeck 24.31 75 P **P 13 21 13.8 +0.4**
GEYT IAmb IAmb 13 21 21.4
comp=Z,3.5nm,0.7s
GEYT Alibeck 24.31 75 P **P 13 21 13.7 +0.2**
comp=Z,1.1nm,0.3s,baz=266,slow=10,SNR=3.0
comp=Z,1.1nm,0.3s
GEYT Alibeck 24.31 75 P **P 13 21 13.9 +0.4**
GEYT pmax pmax
comp=Z,3.0nm,0.7s

LDF La Druitiere 24.34 311 *e*P **P 13 21 12.6 -1.0**
LDF pmax pmax
comp=Z,5.0nm,0.8s
FLN La Foliniere 24.63 311 *e*P **P 13 21 17.8 +1.6**
FLN pmax pmax
comp=Z,4.0nm,0.5s
GRR Gorron 24.72 310 *e*P **P 13 21 18.2 +1.1**
GRR pmax pmax
comp=Z,5.0nm,0.5s
ESBB Sonseca Array 25.46 289 P **P 13 21 23.9 0.0**
ESBB IAmb IAmb 13 21 27.7
comp=Z,4.7nm,0.8s
ESDC Sonseca Array 25.46 289 P **P 13 21 23.8 -0.1**
ESDC Sonseca Array 25.46 289 P **P 13 21 23.9 0.0**
comp=Z,4.2nm,0.8s,baz=81,slow=9.2,SNR=34
comp=Z,4.2nm,0.8s
PAB San Pablo 25.76 289 P **P 13 21 26.5 -0.2**
PAB IAmb IAmb 13 21 34.5
comp=Z,6.5nm,0.9s
PAB San Pablo 25.76 289 P **P 13 21 26.5 -0.2**
PAB pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 25.91 358 P **P 13 21 26.2 -1.4**
FINES FINESS Array B 25.91 358 P **P 13 21 26.1 -1.6**
comp=Z,1.0nm,0.5s,baz=158,slow=12,SNR=9.7
comp=Z,1.0nm,0.5s
FINES FINESS Array B 25.91 358 P **P 13 21 26.2 -1.4**
QUIF Quistinic 26.04 308 *e*P **P 13 21 29.2 +0.3**
QUIF pmax pmax
comp=Z,37nm,1.8s
HFS Hagfors 26.23 344 P **P 13 21 28.8 -1.8**
comp=Z,1.6nm,0.6s,baz=153,slow=10.0,SNR=7.9
HFS PcP **PcP 13 24 58.6 +1.8**
comp=Z,0.5nm,0.5s,baz=201,slow=7.7,SNR=1.3
comp=Z,1.6nm,0.6s
KLMR Klimovskoe 26.38 13 *e*P **P 13 21 30.0 -1.9**
KLMR pmax pmax
comp=Z,5.0nm,0.7s
KIRV Kirov 27.06 25⇓ *e*P **P 13 21 37.3 -0.7**
PBRG Braganca 27.58 294 *e*P **P 13 21 45.6 +2.6**
NB2 NORSAR Subarra 27.61 342 P **P 13 21 41.1 -1.9**
comp=Z,1.9nm,0.9s,baz=124,slow=6.9
NOA NORSAR Array B 27.61 342 P **P 13 21 41.3 -1.8**
comp=Z,0.4nm,0.6s,baz=143,slow=8.0,SNR=2.4
comp=Z,0.4nm,0.6s
PBAR Barrancos 27.94 286 *e*P **P 13 21 48.2 +2.0**
PMRV Marv??o 28.11 288 *e*P **P 13 21 48.9 +1.1**
PESTR Estremoz 28.31 287 P **P 13 21 49.2 -0.3**
PESTR IAmb IAmb 13 21 56.1
comp=Z,5.1nm,0.9s
POLO Lamas de Olo 28.37 293 *e*P **P 13 21 52.5 +2.4**
PVIS Viseu 28.45 291 *e*P **P 13 21 53.0 +2.2**
PVAQ Vaqueiros 28.56 284 P **P 13 21 51.5 -0.2**
PVAQ Vaqueiros 28.56 284 *e*P **P 13 21 49.9 -1.8**
PBDV Barranco-do-Ve 28.75 284 *e*P **P 13 21 54.1 +0.7**
MESJ Messejana 28.90 285 P **P 13 21 54.4 -0.3**
MESJ IAmb IAmb 13 21 58.4
comp=Z,6.0nm,0.9s
MESJ Messejana 28.90 285 P **P 13 21 54.4 -0.3**
MESJ pmax pmax
comp=Z,6.0nm,0.9s
EKA Eskdalemuir Ar 29.01 323 P **P 13 21 55.7 +0.2**
comp=Z,0.8nm,0.7s,baz=102,slow=7.9,SNR=4.9
comp=Z,0.8nm,0.7s
PTEO Sao Teotonio 29.33 285 *e*P **P 13 22 01.7 +3.1**
ARU Arti 29.42 35⇓ *e*P **P 13 21 59.0 -0.2**
ARU pmax pmax
comp=Z,2.0nm,0.9s
TOA0 Torodi Ar. Sit 32.48 233 P **P 13 22 27.3 +0.8**
TORD Torodi Ar. Bea 32.48 233 P **P 13 22 27.1 +0.6**
comp=Z,3.1nm,0.6s,baz=34,slow=9.1,SNR=29
comp=Z,3.1nm,0.6s
ARCES ARCESS Array B 34.03 359 P **P 13 22 38.1 -1.4**
comp=Z,1.1nm,0.8s,baz=170,slow=8.2,SNR=7.9
comp=Z,1.1nm,0.8s
NIL Nilore 37.16 79 P **P 13 23 08.3 +1.4**
KURBB Kurchatov Arra 39.14 51 P **P 13 23 23.3 0.0**
comp=Z,4.4nm,0.2s,baz=272,slow=8.7,SNR=5.0
comp=Z,4.4nm,0.2s
KURK Kurchatov 39.20 51 P **P 13 23 23.3 -0.5**
JMIC Jan Mayen 40.32 343 LR LR 13 40 10.3
comp=Z,26nm,20.6s,baz=312,slow=36
DBIC Dimbokro 41.57 234 P **P 13 23 43.0 -0.8**
DBIC Dimbokro 41.57 234 P **P 13 23 44.3 +0.5**
comp=Z,1.7nm,0.5s,baz=32,slow=8.0,SNR=4.2
comp=Z,1.7nm,0.5s
MK31 Makanchi Array 41.70 57 P **P 13 23 44.1 -0.5**
MK31 Makanchi Array 41.70 57 *de*P **P 13 23 44.9 +0.3**
MKAR Makanchi Array 41.70 57 P **P 13 23 44.3 -0.3**
MKAR Makanchi Array 41.70 57 P **P 13 23 44.8 +0.2**
comp=Z,0.8nm,0.5s,baz=275,slow=7.7,SNR=11
comp=Z,0.8nm,0.5s
MKAR Makanchi Array 41.70 57 P **P 13 23 44.3 -0.3**
SPITS Spitsbergen Ar 42.99 357 P **P 13 23 55.9 +1.3**
comp=Z,2.7nm,0.6s,baz=147,slow=7.8,SNR=4.3
comp=Z,2.7nm,0.6s
ZAA0 Zalesovo Array 43.12 46 P **P 13 23 55.8 -0.2**
ZALV Zalesovo Beam 43.12 46 P **P 13 23 55.8 -0.2**
comp=Z,1.8nm,0.6s,baz=268,slow=9.3,SNR=8.8
ZALV LR LR 13 46 22.1
comp=Z,559nm,19.7s,baz=68,slow=42
comp=Z,1.8nm,0.6s
ZALV Zalesovo Beam 43.12 46 *i* P **P 13 23 56.0 0.0**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
WMQ Urumqi 45.88 61 *e*P **P 13 24 19.7 +1.4**
WMQ LR LR
comp=N,500nm,15.9s
WMQ LR LR
comp=E,210nm,18.7s
WMQ LR LR
comp=Z,260nm,21.7s
NRIK Noril'sk 46.57 25⇑ *e*P **P 13 24 21.7 -1.5**
NRIK pmax pmax
comp=Z,4.0nm,1.2s
ZAK Zakamensk 54.81 49 *e*P **P 13 25 26.6 +0.8**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 57.51 52 P **P 13 25 45.3 +0.1**
comp=Z,1.8nm,0.7s,baz=284,slow=8.6,SNR=9.8
comp=Z,1.8nm,0.7s
PZH PanZhiHua 62.62 76 P **P 13 26 21.8 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
HHC Hu-ho-hao-te 63.56 57 *e*P **P 13 26 31.2 +4.6**
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,130nm,5.3s
BOSA Boshof 63.90 183 P **P 13 26 28.6 -0.2**
comp=Z,1.1nm,0.9s,baz=13,slow=8.8,SNR=1.2
comp=Z,1.1nm,0.9s
SCHQ Schefferville 64.28 320 P **P 13 26 30.1 -0.9**
comp=Z,2.4nm,0.6s,baz=53,slow=8.4,SNR=3.8
comp=Z,2.4nm,0.6s
CMAR Chiang Mai Arr 64.34 85 P **P 13 26 32.0 +0.2**
comp=Z,1.2nm,0.8s,baz=296,slow=8.5,SNR=8.1
comp=Z,1.2nm,0.8s
RCBR Riachuelo 72.53 249 LR LR 13 59 12.1
comp=Z,93nm,20.1s,baz=331,slow=36
MA2 Magadan 74.14 26 P **P 13 27 33.6 +1.6**
comp=Z,16nm,2.2s
USRK Ussuriysk Ar. 74.97 46 P **P 13 27 37.1 +0.1**
comp=Z,1.7nm,0.6s,baz=282,slow=4.9,SNR=5.1
comp=Z,1.7nm,0.6s
KSRS Korea Array 76.27 54 P **P 13 27 45.1 +0.5**
comp=Z,0.9nm,0.7s,baz=298,slow=5.1,SNR=4.3
KSRS LR LR 14 04 32.6
comp=Z,36nm,20.6s,baz=190,slow=38
comp=Z,0.9nm,0.7s
E25K Arctic Village 76.50 357 P **P 13 27 45.2 -0.2**
E25K IAmb IAmb 13 28 07.7
comp=Z,5.0nm,1.4s
BMAR Burnt Mountain 77.15 357 P **P 13 27 49.5 +0.4**
F24K Squaw Lake 77.17 358 P **P 13 27 48.9 -0.3**
G27K Doyon Strip 77.62 356 P **P 13 27 51.7 0.0**
G27K IAmb IAmb 13 28 00.1
comp=Z,1.2nm,0.7s
F19K Shaleruckik Mo 77.82 2 P **P 13 27 51.9 -0.9**
H29M Whitestone 77.97 354 P **P 13 27 52.8 -0.9**
H29M IAmb IAmb 13 28 00.5
comp=Z,2.2nm,0.9s
G23K Bananza Creek 78.02 359 P **P 13 27 53.9 -0.1**
G23K IAmb IAmb 13 28 04.1
comp=Z,3.7nm,1.4s

IMAR	Indian Mountai	78.75	1	P	P	13 27 57.1	-0.9
I28M	Miner Creek	78.85	355	P	P	13 27 57.5	-1.2
I28M				IAmb	IAmb	13 27 59.5	
	comp=Z,3.5nm,1.4s						
J30M	Hart River	79.40	353	P	P	13 28 01.3	-0.5
ILAR	Eielson Array	79.89	358	P	P	13 28 03.3	-0.9
ILAR	Eielson Array	79.89	358	P	P	13 28 03.7	-0.5
	comp=Z,0.4nm,0.8s,baz=342,slow=3.3,SNR=5.8						
	comp=Z,0.4nm,0.8s						
DAWY	Dawson	80.17	354	P	P	13 28 05.2	-0.7
DAWY				IAmb	IAmb	13 28 14.2	
	comp=Z,2.7nm,1.0s						
ASAJ	Asahikawa	81.02	41	P	P	13 28 10.6	-0.1
ASAJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
JKA	Kamikawa-asahi	81.02	41	P	P	13 28 10.6	0.0
ULM	Lac du Bonnet	81.17	327	P	P	13 28 09.8	-1.5
ULM	Lac du Bonnet	81.17	327	P	P	13 28 10.1	-1.2
	comp=Z,1.2nm,0.4s,baz=44,slow=4.5,SNR=5.1						
	comp=Z,1.2nm,0.4s						
CAST	Castle Rocks	81.34	360	P	P	13 28 11.3	-0.7
BCAR	Beaver Creek A	81.34	355	P	P	13 28 11.8	-0.3
M29M	Somme Creek	81.69	354	P	P	13 28 14.0	-0.1
WVT	Waverly	86.90	313	P	P	13 28 40.7	-0.2
HKT	Hockley	96.01	313	P	P	13 29 24.3	+1.0
ASAR	Alice Springs	115.97	101	PKP	PKPdf	13 34 38.5	-0.6
	comp=Z,0.7nm,1.1s,baz=303,slow=1.3,SNR=4.5						
QSPA	South Pole Qui	125.43	180	PKP	PKPdf	13 34 55.7	-0.3
	comp=Z,2.0nm,1.2s,baz=252,slow=3.0,SNR=2.0						

*ISK **08** 13:30:46.9, 32°.89N×35°.28E, h2km, ML3.9/16*
*IDC **08** 13:30:47.9±0.7, 32°.85N×35°.66E, h0km, mb3.5/7, mbtmp3.6/10, ML3.0/3, MS3.1/1, Error ellipse: s-maj=14.3km s-min=5.2km az=39.0*
*GII **08** 13:30:47.8±0.3, 32°.849N±0°.001×35°.593E±0°.001, h4km, Md3.9/6, Mws3.9/10, confirmed*
*JSO **08** 13:30:48, 32°.85N×35°.58E, h5km, ML4.1/33*
*GRAL **08** 13:30:48.6±0.3, 32°.81N×35°.51E, h0km±2km, MD4.0*
ISC 08 13:30:48.8±0.9, 32°.85N±0°.02×35°.57E±0°.03, h10km±6km, n102, σ0°95/108, mb3.4/7, 9C-7D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHMJ	Saham	0.21	126	P	Pg	13 30 52.3	-0.8
MMB1	Mount Meron ar	0.21	322	P	Pg	13 30 52.8	-0.4
MMA0B	Mount Meron ar	0.22	321	↑iP	Pg	13 30 53.1	-0.2
MMA0B	Mount Meron ar	0.22	321	S	Sg	13 30 57.2	+0.8
MMAI	Mount Meron Ar	0.22	321	Pg	Pg	13 30 52.9	-0.4
	849nm,0.3s,baz=137,slow=17,SNR=769						
MMAI				Lg	Lg	13 30 57.5	
	5μm,0.3s,baz=139,slow=34,SNR=70						
KSHT	Keshet	0.25	57	S	Sg	13 30 57.3	0.0
KSHT	Keshet	0.25	57	↑iP	Pg	13 30 53.3	-0.5
BLGI	Bet Lehem HaGe	0.34	250	P	Pg	13 30 55.4	-0.1
BLGI	Bet Lehem HaGe	0.34	250	S	Sb	13 31 01.4	-0.9
BLGI	Bet Lehem HaGe	0.34	250	↑iP	Pg	13 30 55.4	-0.1
GEM	Giv'at Ha'Em	0.37	13	P	Pg	13 30 55.5	-0.6
GEM	Giv'at Ha'Em	0.37	13	↑iP	Pg	13 30 55.6	-0.6
GEM	Giv'at Ha'Em	0.37	13	S	Sg	13 31 01.8	+0.7
HNTI	Hanita	0.40	306	P	Pg	13 30 56.8	+0.1
HNTI	Hanita	0.40	306	S	Sb	13 31 03.7	-0.6
HNTI	Hanita	0.40	306	↑iP	Pg	13 30 56.6	-0.1
MMLI	Mount Malkishu	0.43	197	Pg	Pg	13 30 56.9	-0.3
MMLI				Sg	Sb	13 31 04.3	-0.6
MMLI	Mount Malkishu	0.43	197	S	Sb	13 31 03.8	-1.1
MMLI	Mount Malkishu	0.43	197	↑iP	Pg	13 30 56.8	-0.3
NATI	Neve Ativ	0.44	19	P	Pg	13 30 56.7	-0.6
NATI	Neve Ativ	0.44	19	S	Sg	13 31 03.7	+0.5
NATI	Neve Ativ	0.44	19	↑iP	Pg	13 30 56.7	-0.6
QRNJ	Al-Qirein	0.51	179	P	Pg	13 30 58.6	-0.1
OFRI	`Ofer	0.54	245	P	Pg	13 30 59.1	-0.2
OFRI	`Ofer	0.54	245	S	Sb	13 31 07.8	-0.3
OFRI	`Ofer	0.54	245	↑iP	Pg	13 30 59.0	-0.2
HMDT	Nahal Hemdat	0.59	183	P	Pg	13 30 59.7	-0.6
HMDT	Nahal Hemdat	0.59	183	S	Sb	13 31 08.9	-0.8
HMDT	Nahal Hemdat	0.59	183	↓iP	Pg	13 30 59.7	-0.6
RCY	Rachaya	0.69	19	eP	Pg	13 31 01.8	-0.3
RCY				eS	Sb	13 31 11.7	-0.8
QRWL	Qaraoun	0.70	8	eP	Pg	13 31 02.0	-0.4
SLTI	Sal'it	0.75	216	P	Pg	13 31 02.9	-0.4
SLTI	Sal'it	0.75	216	↑iP	Pg	13 31 02.8	-0.5
SLTI	Sal'it	0.75	216	S	Sb	13 31 14.2	0.0
DQRL	Deir Qamar	0.86	0	eP	Pg	13 31 04.7	-0.6
DQRL				eS	Sg	13 31 16.4	0.0
HSUJ	Al Zarqa	0.91	144	P	Pg	13 31 05.7	-0.6
ZAHL	Zahle	1.04	15	eP	Pg	13 31 08.1	-0.7
BHL	Bhannes	1.06	4	eP	Pg	13 31 08.3	-0.7
DSI	Dead Sea	1.28	187	P	Pn	13 31 11.2	-1.5
DSI	Dead Sea	1.28	187	↓iP	Pn	13 31 11.3	-1.4
DSI	Dead Sea	1.28	187	S	Sb	13 31 28.8	-0.7
ASF	Jabal al Asfar	1.31	121	Pn	Pn	13 31 12.8	-0.5
	111nm,0.3s,SNR=120						
ASF				Lg	Lg	13 31 30.8	
	461nm,0.3s,SNR=21						
ASF	Jabal al Asfar	1.31	121	P	Pn	13 31 12.7	-0.5
AMAZ	Amatzia	1.42	203	S	Sg	13 31 34.9	+0.3
AMAZ	Amatzia	1.42	203	P	Pn	13 31 14.3	-0.4
HWQ	Hawqa	1.46	12	eP	Pn	13 31 15.3	-0.1
YTIR	Yattir	1.53	195	P	Pn	13 31 16.0	-0.2
YTIR	Yattir	1.53	195	S	Sb	13 31 37.0	+0.3
YTIR	Yattir	1.53	195	↓iP	Pn	13 31 15.8	-0.4
MDBI	Mazsada	1.54	187	P	Pn	13 31 15.8	-0.4
MSBI	Mazada	1.54	187	↓iP	Pn	13 31 15.7	-0.5
MSBI	Mazada	1.54	187	S	Sb	13 31 37.0	+0.1
FKH	Fakeheh	1.56	27	eP	Pn	13 31 16.9	+0.2
LISJ	El Lisan	1.60	183	P	Pb	13 31 18.2	-0.2
SWQJ	Swaqa	1.65	165	P	Pn	13 31 16.1	-1.8
BEIL	Beino	1.77	17	eP	Pn	13 31 19.8	+0.4
KZIT	Kziot	2.18	207	S	Sb	13 31 54.8	-0.5
KZIT	Kziot	2.18	207	P	Pn	13 31 24.9	-0.2
ZFRI	Zfri	2.31	188	P	Pn	13 31 27.5	+0.7
ZFRI	Zfri	2.31	188	S	Sn	13 31 56.6	+1.2
ZFRI	Zfri	2.31	188	↓iP	Pn	13 31 26.9	0.0
PRNI	Paran	2.53	191	P	Pn	13 31 30.5	+0.5
PRNI	Paran	2.53	191	↓iP	Pn	13 31 30.2	+0.3
PRNI	Paran	2.53	191	S	Sn	13 32 02.7	+1.8
HSNJ	Maan	2.59	178	P	Pn	13 31 32.2	+1.4
AKIN	Akıncılar- Kıb	2.78	322	Pn	Pn	13 31 31.3	-2.0
CSS	Mathiatis	2.81	319	Pn	Pn	13 31 31.7	-2.1
KRMI	Paran Flat	2.81	195	P	Pn	13 31 35.0	+1.2
KRMI	Paran Flat	2.81	195	P	Pn	13 31 34.1	+0.3
HRFI	Mount Harif	2.84	189	P	Pn	13 31 35.3	+1.1
HRFI	Mount Harif	2.84	189	P	Pn	13 31 34.1	-0.1
EREN	Erenkoy	2.92	337	Pn	Pn	13 31 34.1	-1.1
MBRI	Mt Berech	3.10	191	P	Pn	13 31 38.2	+0.5
MBRI	Mt Berech	3.10	191	P	Pn	13 31 37.5	-0.2
AQBJ	Aqaba	3.14	188	P	Pn	13 31 40.1	+1.8
LEF	Lefka	3.17	316	Pn	Pn	13 31 37.0	-1.7
EIL	Elat	3.21	190	Pn	Pn	13 31 39.2	0.0
	8.7nm,0.3s,baz=31,slow=5.5,SNR=43						
EIL				Pg	Pb	13 31 46.9	+1.0
	18nm,0.3s,baz=8.1,slow=10,SNR=22						
EIL				Sn	Sn	13 32 18.6	+1.0
	11nm,0.3s,baz=35,slow=18,SNR=4.5						
EIL				Lg	Lg	13 32 29.3	
	27nm,0.3s,baz=3.2,slow=18,SNR=9.2						
	17nm,0.3s						
EIL	Elat	3.21	190	↓iP	Pn	13 31 39.0	-0.3
AKDN	Akdeniz- Kıbrı	3.26	319	Pn	Pn	13 31 38.1	-1.8
TAHT	Tahtakopru-Hat	3.56	8	Pn	Pn	13 31 44.9	+0.9
TISA	Tisan-Mersin	3.66	335	Pn	Pn	13 31 44.8	-0.5
AKKU	Akkuyu-Mersin	3.70	334	Pn	Pn	13 31 45.3	-0.6
IKL	Isikli	3.72	336	Pn	Pn	13 31 45.4	-0.9
SILI	Silifke-Mersin	3.76	339	Pn	Pn	13 31 46.4	-0.4
KIZK	Mersin	3.81	342	Pn	Pn	13 31 46.9	-0.6
KEBE	Keben-Mersin	3.90	337	Pn	Pn	13 31 48.6	-0.2
BERE	Bereket-Mersin	3.99	332	Pn	Pn	13 31 48.9	-1.2
GAZI	Gazipasa	4.31	322	Pn	Pn	13 31 53.0	-1.4
KOZT	Kozan	4.63	3	Pn	Pn	13 32 00.1	+1.4
HDMB	Hadim	4.82	329	Pn	Pn	13 32 01.0	-0.6
CMRD	Camardi-Nigde	4.83	355	Pn	Pn	13 32 02.2	+0.6
SEYD	Seydisehir-KON	5.48	327	Pn	Pn	13 32 10.2	-0.3
BRTR	Keskin Array B	7.04	348	Pn	Pn	13 32 33.8	+1.8
	0.4nm,0.3s,baz=167,slow=16,SNR=8.1						
BRTR				Sn	Sn	13 33 51.8	-0.3
	0.1nm,0.3s,baz=175,slow=23,SNR=1.7						
	1.5nm,0.7s						
IDI	Anoyia	9.19	288	Pn	Pn	13 33 00.7	-0.6
	1.4nm,0.3s,baz=77,slow=15,SNR=11						
IDI				Sn	Sn	13 34 40.0	-4.8
	1.7nm,0.3s,baz=18,slow=20,SNR=3.2						
	3.9nm,0.3s						
KBZ	Khabaz	12.29	26	LR	LR	13 39 09.2	
	comp=Z,88nm,20.3s,baz=182,slow=41						
GERES	GERESS Array B	22.88	321	P	P	13 35 52.4	0.0
	0.4nm,0.3s,baz=147,slow=16,SNR=5.1						
	0.4nm,0.3s						
FINES	FINESS Array B	29.26	351	P	P	13 36 49.9	-0.8
	3.0nm,1.1s,baz=177,slow=12,SNR=3.5						
	3.0nm,1.1s						
ESDC	Sonseca Array	32.40	294	P	P	13 37 19.9	+1.2
	1.0nm,0.9s,baz=82,slow=8.0,SNR=9.4						
	1.0nm,0.9s						
EKA	Eskdalemuir Ar	35.09	322	P	P	13 37 42.1	+0.2
	0.2nm,0.4s,baz=97,slow=10.0,SNR=4.9						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	36.05	48	P	P	13 37 50.0	-0.1
	0.1nm,0.5s,baz=262,slow=8.7,SNR=2.8						
	0.1nm,0.5s						
TORD	Torodi Ar. Bea	36.60	246	P	P	13 37 56.8	+1.6
	0.3nm,0.7s,baz=72,slow=5.7,SNR=2.4						
	0.3nm,0.7s						
MKAR	Makanchi Array	37.94	54	P	P	13 38 06.6	+0.3
	0.3nm,0.4s,baz=243,slow=6.3,SNR=1.7						
	0.3nm,0.4s						

*JMA **08** 13:36:47.8±0.2, 32°.3N±0°.6×140°.7E±0°.7, h33km, MV3.6/25, E OFF HACHIJOJIMA ISLAND*
*IDC **08** 13:36:49.2±3.7, 32°.02N×140°.36E, h102km±50km, mb3.0/4, mbtmp3.2/5, Error ellipse: s-maj=124.7km s-min=23.9km az=67.0*
ISC 08 13:36:44.9±2.0, 32°.1N±0°.1×140°.6E±0°.1, h65km±18km, n16, σ1°41/22, mb3.4/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	0.85	299	P	Pn	13 37 02.4	+1.1
JHCJ	Hachijojimakas	1.24	325	eP	Pn	13 37 07.1	+0.8
JHCJ				eS	Sn	13 37 20.4	-1.7
JHJ2	Mitsune	1.26	327	P	Pn	13 37 07.3	+0.7
JHJ2				S	Sn	13 37 21.4	-1.3
JMKN	Mikurajimanish	2.03	335	eP	Pn	13 37 18.4	+1.6
JMKN				eS	Sn	13 37 39.6	-1.6
JMYK	Miyake Tsubota	2.20	336	S	Sn	13 37 45.1	-0.1
BSO1	Boso 1	2.60	6	eP	Pn	13 37 25.4	+1.2
BSO1				eS	Sn	13 37 53.6	-0.7
BSO3	Boso 3	2.74	358	P	Pn	13 37 27.6	+1.4
BSO3				S	Sn	13 37 57.3	-0.8
JIM2	Oshima 3	2.84	339	eP	Pn	13 37 29.4	+1.5
JIM2				eS	Sn	13 37 59.1	-1.8
JIE	Ise	4.04	306	eP	Pn	13 37 45.8	+1.6
JAG	Ashikaga	4.46	348	S	Sn	13 38 39.1	-1.6
JTNC	Tanabenakahech	4.58	294	P	Pn	13 37 53.0	+1.3
MJAR	Matsushiro Arr	4.90	336	P	Pn	13 38 00.7	+4.6
	0.7nm,0.4s,baz=156,slow=12,SNR=8.7						
MJAR				S	Sn	13 38 53.9	+2.4
	1.5nm,0.6s,baz=158,slow=22,SNR=4.7						
MKAR	Makanchi Array	46.38	306	P	P	13 45 04.2	-0.4
	0.2nm,0.4s,baz=99,slow=9.5,SNR=1.6						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	48.69	311	P	P	13 45 21.6	-0.7
	0.3nm,0.6s,baz=90,slow=7.6,SNR=4.7						
	0.3nm,0.6s						
WRA	Warramunga Arr	52.06	188	P	P	13 45 47.8	-0.3
	0.2nm,0.4s,baz=2.9,slow=7.9,SNR=5.2						
	0.2nm,0.4s						
ASAR	Alice Springs	55.78	187	P	P	13 46 15.0	-0.3
	0.3nm,0.8s,baz=5.9,slow=7.3,SNR=5.6						
	0.3nm,0.8s						

*GII **08** 13:53:54.9±0.3, 32°.842N±0°.001×35°.587E±0°.001, h1km, Md2.2/5, Mws2.4/6, confirmed*
*JSO **08** 13:53:55, 32°.83N×35°.55E, h2km, ML2.4/9*
*GRAL **08** 13:53:57.4±0.3, 32°.85N×35°.55E, h0km±3km, MD3.1*
ISC 08 13:53:56.3±0.8, 32°.85N±0°.02×35°.58E±0°.03, h13km, n35, σ0°76/38, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	Mount Meron ar	0.22	319	P	Pg	13 54 00.0	-1.1
MMA0B	Mount Meron ar	0.22	318	S	Sg	13 54 04.3	-0.3
MMA0B	Mount Meron ar	0.22	318	P	Pg	13 54 00.0	-1.2
KSHT	Keshet	0.23	55	S	Sg	13 54 04.7	-0.1
KSHT	Keshet	0.23	55	P	Pg	13 54 00.3	-1.0
MMC7	Mount Meron ar	0.23	317	P	Pg	13 54 00.1	-1.3
BLGI	Bet Lehem HaGe	0.35	251	P	Pg	13 54 03.3	0.0
BLGI	Bet Lehem HaGe	0.35	251	S	Sg	13 54 08.4	+0.4
BLGI	Bet Lehem HaGe	0.35	251	P	Pg	13 54 02.4	-0.9
GEM	Giv'at Ha'Em	0.37	11	S	Sg	13 54 09.0	+0.3
GEM	Giv'at Ha'Em	0.37	11	P	Pg	13 54 02.8	-0.9
HNTI	Hanita	0.41	304	S	Sg	13 54 11.1	+0.9
HNTI	Hanita	0.41	304	P	Pg	13 54 04.0	-0.6
MMLI	Mount Malkishu	0.43	198	P	Pg	13 54 04.0	-0.8
MMLI	Mount Malkishu	0.43	198	S	Sg	13 54 11.4	+0.8
NATI	Neve Ativ	0.43	17	S	Sg	13 54 11.3	+0.7
NATI	Neve Ativ	0.43	17	P	Pg	13 54 04.5	-0.4
QRNJ	Al-Qirein	0.51	181	P	Pg	13 54 06.5	+0.2
OFRI	`Ofer	0.55	246	S	Sb	13 54 15.5	-0.1
OFRI	`Ofer	0.55	246	P	Pg	13 54 06.7	-0.4
HMDT	Nahal Hemdat	0.59	185	P	Pg	13 54 07.2	-0.7
HMDT	Nahal Hemdat	0.59	185	P	Pg	13 54 07.1	-0.8
HMDT	Nahal Hemdat	0.59	185	S	Sb	13 54 16.6	-0.3
RCY	Rachaya	0.68	18	eP	Pg	13 54 09.6	0.0
RCY				eS	Sg	13 54 18.8	+0.2
SLTI	Sal'it	0.76	217	P	Pb	13 54 12.1	+0.8
DQRL	Deir Qamar	0.85	359	eP	Pg	13 54 12.7	-0.2
DQRL				eS	Sg	13 54 23.9	-0.2
ZAHL	Zahle	1.04	14	eP	Pb	13 54 16.0	-0.2
BHL	Bhannes	1.05	3	eP	Pb	13 54 16.2	-0.2
DSI	Dead Sea	1.29	188	P	Pn	13 54 18.0	-1.9
ASF	Jabal al Asfar	1.30	121	P	Pn	13 54 20.6	+0.4
HWQ	Hawqa	1.46	12	eP	Pn	13 54 23.2	+0.8
YTIR	Yattir	1.53	195	P	Pb	13 54 24.4	-0.2
YTIR	Yattir	1.53	195	P	Pn	13 54 23.5	+0.1
YTIR				S	Sb	13 54 43.9	-0.1
BEIL	Beino	1.76	16	eP	Pn	13 54 27.8	+1.2
PRNI	Paran	2.54	191	P	Pn	13 54 38.5	+1.3

IDC 08 14:13:41.4±1.2, 29°.08S×178°.13W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=30.1km s-min=10.4km az=31.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.25	133	Pn	Pg	14 13 52.5	+6.3
	475nm,0.3s,baz=306,slow=19,SNR=18						
RAO				Sn	Sg	14 13 59.3	+10
	1μm,0.3s,baz=287,slow=20,SNR=17						
ASAR	Alice Springs	43.08	266	P	P	14 21 42.9	-0.6
	0.5nm,0.8s,baz=102,slow=6.4,SNR=9.3						
	0.5nm,0.8s						
WRA	Warramunga Arr	43.95	271	P	P	14 21 50.0	-0.5
	0.5nm,0.5s,baz=111,slow=7.4,SNR=4.7						
	0.5nm,0.5s						
QSPA	South Pole Qui	61.02	180	P	P	14 23 58.2	+1.6
	0.5nm,0.6s,baz=0.0,slow=4.0,SNR=1.4						
	0.5nm,0.6s						
H03S2	Juan Fernandez	81.28	124	T	T	15 55 33.6	
	baz=239,slow=74,SNR=6.7						
H03S1	Juan Fernandez	81.30	124	T	T	15 55 35.4	
	baz=239,slow=74,SNR=9.6						
H03S3	Juan Fernandez	81.30	124	T	T	15 55 47.4	
	baz=239,slow=74,SNR=9.9						
AKASG	Malin Array Be	150.18	324	PKPbc	PKPbc	14 33 33.2	-0.8
	1.0nm,0.6s,baz=62,slow=1.0,SNR=2.0						

*GII **08** 14:22:01.5±0.3, 32°.84N±0°.01×35°.580E±0°.009, h0km, Md2.4/5, Mws2.4/8, confirmed*
*GRAL **08** 14:22:02.4±0.3, 32°.76N×35°.65E, h2km, 2km, MD3.2*
*JSO **08** 14:22:03, 32°.88N×35°.53E, h2km, ML2.5/15*
ISC 08 14:22:03.2±0.9, 32°.85N±0°.02×35°.58E±0°.03, h10km±8km, n49, σ0°88/51, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHMJ	Saham	0.19	127	P	Pg	14 22 06.7	-0.5
MMB1	Mount Meron ar	0.22	320	P	Pg	14 22 07.2	-0.6
MMA0B	Mount Meron ar	0.23	319	S	Sg	14 22 11.5	+0.5
MMA0B	Mount Meron ar	0.23	319	P	Pg	14 22 07.1	-0.8
KSHT	Keshet	0.24	55	S	Sg	14 22 12.1	+0.8
KSHT	Keshet	0.24	55	P	Pg	14 22 07.4	-0.7
MMC7	Mount Meron ar	0.24	318	P	Pg	14 22 07.4	-0.7
BLGI	Bet Lehem HaGe	0.35	251	S	Sb	14 22 15.9	-1.2
BLGI	Bet Lehem HaGe	0.35	251	P	Pg	14 22 09.5	-0.6
GEM	Giv'at Ha'Em	0.37	11	P	Pg	14 22 10.2	-0.3
GEM	Giv'at Ha'Em	0.37	11	S	Sg	14 22 16.6	+1.2
GEM	Giv'at Ha'Em	0.37	11	P	Pg	14 22 10.0	-0.6
HNTI	Hanita	0.42	305	S	Sg	14 22 17.7	+0.8
HNTI	Hanita	0.42	305	P	Pg	14 22 10.5	-0.9
MMLI	Mount Malkishu	0.43	199	S	Sg	14 22 18.2	+1.0
MMLI	Mount Malkishu	0.43	199	P	Pg	14 22 10.8	-0.8
NATI	Neve Ativ	0.44	17	S	Sg	14 22 18.4	+0.9
NATI	Neve Ativ	0.44	17	P	Pg	14 22 11.0	-0.7
QRNJ	Al-Qirein	0.51	181	P	Pg	14 22 13.2	+0.1
OFRI	`Ofer	0.55	246	S	Sb	14 22 22.3	-0.7
OFRI	`Ofer	0.55	246	P	Pg	14 22 13.5	-0.4
HMDT	Nahal Hemdat	0.59	185	P	Pg	14 22 14.2	-0.5
HMDT	Nahal Hemdat	0.59	185	P	Pg	14 22 13.8	-0.8
HMDT	Nahal Hemdat	0.59	185	S	Sb	14 22 23.4	-0.7
RCY	Rachaya	0.68	18	eP	Pg	14 22 15.9	-0.6
RCY				eS	Sg	14 22 25.8	+0.3
QRWL	Qaraoun	0.71	7	eP	Pg	14 22 16.4	-0.5
SLTI	Sal'it	0.76	217	P	Pg	14 22 17.5	-0.3
SLTI	Sal'it	0.76	217	P	Pg	14 22 17.2	-0.6
SLTI	Sal'it	0.76	217	S	Sb	14 22 28.5	-0.3
DQRL	Deir Qamar	0.86	359	eP	Pg	14 22 19.3	-0.4
DQRL				eS	Sb	14 22 31.8	-0.1
HSUJ	Al Zarqa	0.90	145	P	Pb	14 22 20.8	-0.1
ZAHL	Zahle	1.04	14	eP	Pg	14 22 22.3	-0.9
BHL	Bhannes	1.06	3	eP	Pg	14 22 22.9	-0.7
DSI	Dead Sea	1.28	188	P	Pg	14 22 25.6	-2.2
DSI	Dead Sea	1.28	188	P	Pg	14 22 25.6	-2.2
AMAZ	Amatzia	1.43	204	P	Pn	14 22 29.1	-0.1
HWQ	Hawqa	1.46	12	eP	Pn	14 22 29.2	-0.6
YTIR	Yattir	1.53	195	P	Pn	14 22 31.4	+0.7
YTIR	Yattir	1.53	195	P	Pn	14 22 30.2	-0.4
YTIR	Yattir	1.53	195	S	Sb	14 22 51.5	+0.3
MSBI	Mazada	1.54	187	P	Pn	14 22 29.4	-1.3
BEIL	Beino	1.77	16	eP	Pn	14 22 33.5	-0.4
KZIT	Kziot	2.18	208	P	Pn	14 22 39.6	+0.1
KZIT	Kziot	2.18	208	S	Sn	14 23 08.3	+1.7
PRNI	Paran	2.53	191	P	Pn	14 22 45.6	+1.2
PRNI	Paran	2.53	191	P	Pn	14 22 44.7	+0.2
KRMI	Paran Flat	2.82	195	P	Pn	14 22 50.0	+1.7
KRMI	Paran Flat	2.82	195	P	Pn	14 22 48.3	0.0
MBRI	Mt Berech	3.09	191	P	Pn	14 22 53.3	+1.1

*GII **08** 14:51:40.8±0.3, 32°.841N±0°.001×35°.577E±0°.001, h0km, Md2.1/6, Mws2.1/6, confirmed*
*JSO **08** 14:51:42, 32°.85N×35°.58E, h1km, ML2.5/12*
*GRAL **08** 14:51:43.3±0.3, 32°.83N×35°.60E, h1km±3km, MD3.0*
ISC 08 14:51:41.8±0.9, 32°.87N±0°.02×35°.59E±0°.04, h14km±8km, n44, σ0°63/46, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	Mount Meron ar	0.21	313	P	Pg	14 51 46.3	-0.4
KSHT	Keshet	0.21	58	S	Sb	14 51 51.1	-0.3
KSHT	Keshet	0.21	58	P	Pb	14 51 46.6	-0.9
MMA0B	Mount Meron ar	0.22	312	P	Pg	14 51 46.4	-0.3
MMA0B	Mount Meron ar	0.22	312	S	Sb	14 51 50.8	-0.6
MMC7	Mount Meron ar	0.23	312	P	Pg	14 51 46.5	-0.5
MMC7	Mount Meron ar	0.23	312	S	Sg	14 51 50.7	+0.3
GEM	Giv'at Ha'Em	0.34	10	P	Pb	14 51 49.0	-0.8
GEM	Giv'at Ha'Em	0.34	10	S	Sb	14 51 55.6	+0.5
GEM	Giv'at Ha'Em	0.34	10	P	Pb	14 51 49.6	-0.1
BLGI	Bet Lehem HaGe	0.36	248	P	Pg	14 51 49.0	-0.2
BLGI	Bet Lehem HaGe	0.36	248	S	Sg	14 51 54.4	+0.1
BLGI	Bet Lehem HaGe	0.36	248	P	Pg	14 51 48.4	-0.9
NATI	Neve Ativ	0.41	17	S	Sb	14 51 57.7	+0.8
NATI	Neve Ativ	0.41	17	P

1.3nm,0.5s
PDAR Pinedale Array 60.31 58 P P 15 06 09.0 -0.2
0.3nm,0.7s,baz=286,slow=3.3,SNR=3.6
0.3nm,0.7s
WRA Warramunga Arr 73.20 202 P P 15 07 29.8 -0.9
0.1nm,0.4s,baz=24,slow=6.6,SNR=1.2
0.1nm,0.4s
TXAR Lajitas Array 73.30 64 P P 15 07 32.1 +0.6
0.3nm,0.6s,baz=304,slow=5.6,SNR=5.8
0.3nm,0.6s
ASAR Alice Springs 76.89 202 P P 15 07 51.5 -0.3
0.2nm,0.6s,baz=12,slow=5.3,SNR=5.7
0.2nm,0.6s

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*IDC **08** 15:12:44.1±1.7, 18°.26S×177°.19W, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=72.4km s-min=25.1km az=146.0*
*NEIC **08** 15:13:39.5±1.7, 19°.4S±0°.3×177°.4W±0°.1, h563km±16km, mb4.2/10, Error ellipse: s-maj=47.1km s-min=11.1km az=167.0*
ISC 08 15:13:41.2±1.4, 19°.2S±0°.3×177°.7W±0°.2, h570km, n20, σ0°78/20, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.30**	**289**		**P**	**15 15 07.7**	**+0.8**
PINNC	**Pines Island,**	**14.29**	**254**		**P**	**15 16 42.5**	**-0.7**
OUENC	**Ouen Island, N**	**14.81**	**255**	P	**P**	**15 16 47.6**	**-0.8**
OUENC				IAmb	IAmb	15 17 06.9	
	comp=Z,22nm,1.4s						
KOUNC	**Koumac, New Ca**	**17.00**	**262**	P	**P**	**15 17 10.8**	**+1.7**
KOUNC				IAmb	IAmb	15 17 36.1	
	comp=Z,15nm,1.1s						
CTAO	**Charters Tower**	**33.92**	**262**	P	**P**	**15 19 38.4**	**+0.3**
COEN	**Coen**	**37.81**	**272**	P	**P**	**15 20 10.7**	**+0.6**
STKA	**Stephens Creek**	**38.62**	**243**	P	**P**	**15 20 17.0**	**+0.5**
STKA	**Stephens Creek**	**38.62**	**243**	P	**P**	**15 20 16.9**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=93,slow=8.5,SNR=5.4						
	comp=Z,1.0nm,0.4s						
BBOO	**Buckleboo**	**43.39**	**242**	P	**P**	**15 20 54.1**	**-0.1**
BBOO				IAmb	IAmb	15 21 38.3	
	comp=Z,6.6nm,1.2s						
WB0	**Warramunga Arr**	**45.05**	**261**	P	**P**	**15 21 06.7**	**-0.6**
WB0				IAmb	IAmb	15 21 41.0	
	comp=Z,16nm,1.5s						
WB2	**Warramunga Arr**	**45.06**	**261**	P	**P**	**15 21 06.7**	**-0.7**
WB2				IAmb	IAmb	15 21 10.0	
	comp=Z,15nm,1.3s						
WRA	**Warramunga Arr**	**45.08**	**261**	P	**P**	**15 21 06.8**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=97,slow=7.6,SNR=14						
	comp=Z,0.6nm,0.3s						
AS31	**Alice Springs**	**45.10**	**255**	P	**P**	**15 21 07.3**	**-0.3**
ASAR	**Alice Springs**	**45.10**	**255**	P	**P**	**15 21 07.6**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=94,slow=8.7,SNR=27						
	comp=Z,1.7nm,0.7s						
MJAR	**Matsushiro Arr**	**69.35**	**323**	P	**P**	**15 23 51.8**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=128,slow=7.8,SNR=2.1						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**86.12**	**57**	P	**P**	**15 25 23.6**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=211,slow=4.4,SNR=4.9						
	comp=Z,0.3nm,0.7s						
CCB	**Clear Creek Bu**	**86.70**	**12**	P	**P**	**15 25 23.7**	**-0.9**
CCB				IAmb	IAmb	15 25 25.8	
	comp=Z,1.5nm,1.0s						
IMAR	**Indian Mountai**	**86.84**	**10**	P	**P**	**15 25 25.1**	**-0.1**
ILAR	**Eielson Array**	**87.00**	**13**	P	**P**	**15 25 25.9**	**-0.1**
ILAR	**Eielson Array**	**87.00**	**13**	P	**P**	**15 25 24.7**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=217,slow=4.7,SNR=7.4						
	comp=Z,0.3nm,0.6s						

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*TEH **08** 15:14:49.1, 34°.50N×45°.92E, h8km±38km, ML2.6*
*ISN **08** 15:14:50.7±1.9, 34°.55N×45°.98E, h34km±64km, ML2.5*
ISC 08 15:14:50.3±1.1, 34°.54N±0°.05×45°.90E±0°.04, h10km, n13, σ1°14/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.26**	**262**	Pg	**Pg**	**15 14 54.6**	**-0.9**
GLG1	**Gilan-e-Gharb**	**0.43**	**178**	Pg	**Pg**	**15 14 57.1**	**-1.7**
IDHR	**Dehrash**	**0.43**	**69**	Pg	**Pg**	**15 14 58.1**	**-0.8**
IGHG	**Ghaleghazi**	**0.60**	**111**	Pg	**Pg**	**15 15 00.9**	**-1.1**
ILBA	**Ilam Banvizeh**	**0.95**	**164**	Pg	Pg	15 15 06.4	-2.2
ILIN	**Lien**	**0.96**	**67**	Pg	**Pg**	**15 15 07.5**	**-1.2**
IBDR	**Badra**	**1.43**	**179**	*e*Pg	**Pn**	**15 15 18.0**	**+1.7**
IBDR				*e*Sg	**Sn**	**15 15 35.0**	**-0.1**
IBDR				AML	AML	15 15 46.8	
	comp=N,118nm,0.7s						
IBDR				AML	AML	15 15 50.3	
	comp=E,108nm,0.6s						
SNQR	**Sonqor, Kerman**	**1.46**	**77**	Pg	**Pn**	**15 15 17.1**	**+0.1**
IKRK	**Kirkuk**	**1.54**	**304**	*e*Pn	**Pn**	**15 15 18.0**	**+0.2**
IKRK				*e*Sn	**Sn**	**15 15 39.0**	**+1.1**
IBZA	**Bozab**	**1.62**	**92**	Pg	**Pn**	**15 15 19.5**	**+0.3**
BHD	**Baghdad**	**1.79**	**225**	*e*Pn	**Pn**	**15 15 21.0**	**-0.2**
BHD				*e*Sn	**Sn**	**15 15 45.0**	**+1.0**
BHD				AML	AML	15 15 57.1	
	comp=E,33nm,0.8s						
IKFM	**Kafar-mosalman**	**1.91**	**122**	Pn	**Pn**	**15 15 24.1**	**+1.2**
HSAM	**Samen**	**2.26**	**98**	Pn	**Pn**	**15 15 29.4**	**+1.3**

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*SJA **08** 15:29:36.9±0.8, 33°.72S×71°.35W, h55km±3km, ML4.0, MW3.9*
*NEIC **08** 15:29:38.5±0.5, 33°.71S±0°.03×71°.29W±0°.04, h50km±5km, mb4.0/2, ML4.0(GUC), Error ellipse: s-maj=5.9km s-min=3.8km az=58.0*
*GUC **08** 15:29:38.3±0.5, 33°.72S×71°.29W, h55km±1km, ML4.0*
ISC 08 15:29:38.6±1.0, 33°.74S±0°.02×71°.32W±0°.03, h45km±5km, n73, σ1°19/112, 14C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MT01	**Popeta**	**0.14**	**157**		**Pn**	**15 29 46.5**	**+0.3**
MT01				Sn	**Sn**	**15 29 52.0**	**+0.7**
MT01	**Popeta**	**0.14**	**157**	*e*P	**Pn**	**15 29 46.1**	**0.0**
MT01				IAML		15 29 52.9	
	comp=Z,9μm,0.1s						
MT01	**Popeta**	**0.14**	**157**	*e*P	**Pn**	**15 29 46.4**	**+0.3**
MT01				*i* S	**Sn**	**15 29 52.6**	**+1.3**
MT01				IAML		15 29 52.8	
	comp=E,41μm,0.2s						
VA05	**Santo Domingo**	**0.26**	**288**		**Pn**	**15 29 47.2**	**+0.3**
VA05	**Santo Domingo**	**0.26**	**288**	⇓*i*P	**Pn**	**15 29 47.2**	**+0.3**
VA05				*i* S	**Sn**	**15 29 53.7**	**+0.9**
VA05				IAML		15 29 54.5	
	comp=E,24μm,0.2s						
MT09	**Talagante**	**0.28**	**98**		**Pn**	**15 29 47.3**	**+0.1**
MT09				Sn	**Sn**	**15 29 54.1**	**+0.7**
MT09	**Talagante**	**0.28**	**98**	*e*P	**Pn**	**15 29 47.4**	**+0.1**
MT09				*i* S	**Sn**	**15 29 54.1**	**+0.7**
MT09				IAML		15 29 54.7	
	comp=E,36μm,0.2s						
MT02	**Curacav**	**0.50**	**17**		**Pn**	**15 29 49.4**	**-0.3**
MT02	**Curacav**	**0.50**	**17**	*e*P	**Pn**	**15 29 49.1**	**-0.5**
MT02				*e*S	**Sn**	**15 29 57.8**	**+0.3**
MT02	**Curacav**	**0.50**	**17**	⇑*i*P	**Pn**	**15 29 49.4**	**-0.3**
MT02				*i* S	**Sn**	**15 29 57.3**	**-0.2**
MT05	**Renca**	**0.59**	**55**		**Pn**	**15 29 51.9**	**+0.9**
MT05	**Renca**	**0.59**	**55**	*e*P	**Pn**	**15 29 51.1**	**+0.2**
MT05				*e*S	**Sn**	**15 30 01.2**	**+1.6**
MT05				IAML		15 30 01.5	
	comp=Z,10μm,0.4s						
MT05	**Renca**	**0.59**	**55**	⇑*i*P	**Pn**	**15 29 51.8**	**+0.9**
MT05				*i* S	**Sn**	**15 30 00.7**	**+1.0**
MT12	**Pirque**	**0.64**	**90**	⇑*i*P	**Pn**	**15 29 51.2**	**-0.2**
MT12				*i* S	**Sn**	**15 30 00.6**	**-0.1**
MT12				IAML		15 30 01.4	
	comp=E,8μm,0.4s						
BO01	**Tunca**	**0.68**	**164**		**Pn**	**15 29 52.2**	**+0.3**
BO01	**Tunca**	**0.68**	**164**	*e*P	**Pn**	**15 29 51.9**	**0.0**
BO01				*e*S	**Sn**	**15 30 02.9**	**+1.3**
BO01	**Tunca**	**0.68**	**164**	*e*P	**Pn**	**15 29 51.7**	**-0.3**
BO01				*e*S	**Sn**	**15 30 02.6**	**+1.1**
MT03	**Universidad Ad**	**0.72**	**70**		**Pn**	**15 29 51.8**	**-0.7**
MT03	**Universidad Ad**	**0.72**	**70**	*e*P	**Pn**	**15 29 52.0**	**-0.5**
MT03				*e*S	**Sn**	**15 30 02.4**	**-0.1**
MT03				IAML		15 30 03.0	
	comp=Z,5μm,0.2s						
MT03	**Universidad Ad**	**0.72**	**70**	⇑*i*P	**Pn**	**15 29 52.0**	**-0.5**
MT03				*i* S	**Sn**	**15 30 02.5**	**-0.1**
MT03				IAML		15 30 02.8	
	comp=E,9μm,0.2s						
MT16	**CCHEN**	**0.73**	**65**		**Pn**	**15 29 52.2**	**-0.5**
MT16	**CCHEN**	**0.73**	**65**	⇑*i*P	**Pn**	**15 29 52.4**	**-0.3**
MT16				*i* S	**Sn**	**15 30 02.9**	**+0.1**
MT14	**Cerro Cal¡n**	**0.73**	**63**	⇑*i*P	**Pn**	**15 29 52.5**	**-0.3**
MT14				*i* S	**Sn**	**15 30 03.1**	**+0.2**
MT14				IAML		15 30 05.6	
	comp=E,7μm,0.2s						
VA01	**Torpederas**	**0.77**	**339**		**Pn**	**15 29 53.0**	**0.0**
VA01				Sn	**Sn**	**15 30 02.8**	**-0.7**
VA01	**Torpederas**	**0.77**	**339**	*e*P	**Pn**	**15 29 52.6**	**-0.4**
VA01				IAML		15 30 05.8	
	comp=Z,2μm,0.4s						
VA01	**Torpederas**	**0.77**	**339**	*e*P	**Pn**	**15 29 53.2**	**+0.1**
VA01				*i* S	**Sn**	**15 30 04.5**	**+1.0**
VA01				IAML		15 30 05.1	
	comp=N,8μm,0.1s						
PEL	**Peldehue**	**0.79**	**42**		**Pn**	**15 29 52.9**	**-0.6**
PEL	**Peldehue**	**0.79**	**42**	⇑*i*P	**Pn**	**15 29 53.1**	**-0.5**
PEL				*i* S	**Sn**	**15 30 04.5**	**+0.1**
PEL				IAML		15 30 05.8	
	comp=N,6μm,0.2s						
MT10	**Hacienda Santa**	**0.80**	**55**	⇑*i*P	**Pn**	**15 29 53.4**	**-0.3**
MT10				*i* S	**Sn**	**15 30 04.8**	**+0.2**
ROCH	**El Roble**	**0.81**	**19**	⇑*i*P	**Pn**	**15 29 53.5**	**-0.4**
ROCH				*i* S	**Sn**	**15 30 04.9**	**+0.1**
ROCH				IAML		15 30 07.2	
	comp=N,10μm,0.4s						
MT13	**San Alfonso**	**0.86**	**91**		**Pn**	**15 29 53.9**	**-0.5**
MT13	**San Alfonso**	**0.86**	**91**	⇑*i*P	**Pn**	**15 29 54.2**	**-0.3**
MT13				*i* S	**Sn**	**15 30 06.2**	**+0.2**
MT13				IAML		15 30 07.0	
	comp=E,11μm,0.3s						
LMEL	**Las Melosas**	**0.93**	**97**		**Pn**	**15 29 55.2**	**-0.4**
LMEL	**Las Melosas**	**0.93**	**97**	⇑*i*P	**Pn**	**15 29 55.4**	**-0.1**
LMEL				*i* S	**Sn**	**15 30 08.1**	**+0.2**
LMEL				IAML		15 30 08.8	
	comp=N,8μm,0.2s						
FCH	**Farellones**	**0.95**	**65**	⇑*i*P	**Pn**	**15 29 55.4**	**-0.5**
FCH				*i* S	**Sn**	**15 30 07.8**	**-0.6**
FCH				IAML		15 30 09.3	
	comp=E,13μm,0.1s						
BO02	**Sierra Bellavi**	**1.14**	**157**		**Pn**	**15 29 58.3**	**0.0**
BO02	**Sierra Bellavi**	**1.14**	**157**	*e*P	**Pn**	**15 29 58.4**	**+0.1**
BO02				*e*S	**Sn**	**15 30 15.0**	**+2.2**
BO02				IAML		15 30 17.5	
	comp=Z,2μm,0.2s						
BO02	**Sierra Bellavi**	**1.14**	**157**	⇑*i*P	**Pn**	**15 29 58.6**	**+0.3**
BO02				*e*S	**Sn**	**15 30 14.0**	**+1.1**
BO02				IAML		15 30 16.8	
	comp=E,4μm,0.3s						
VA03	**San Esteban**	**1.16**	**34**		**Pn**	**15 29 58.0**	**-0.6**
VA03	**San Esteban**	**1.16**	**34**	*e*P	**Pn**	**15 29 58.1**	**-0.5**
VA03				*e*S	**Sn**	**15 30 13.8**	**+0.4**
VA03				IAML		15 30 15.8	
	comp=Z,3μm,0.1s						
VA03	**San Esteban**	**1.16**	**34**	⇑*i*P	**Pn**	**15 29 58.0**	**-0.6**
VA03				*i* S	**Sn**	**15 30 13.4**	**0.0**
VA03				IAML		15 30 16.9	
	comp=E,7μm,0.2s						
VA06	**Catapilco**	**1.17**	**1**		**Pn**	**15 29 58.3**	**-0.3**
VA06	**Catapilco**	**1.17**	**1**	*e*P	**Pn**	**15 29 58.5**	**-0.2**
VA06				*i* S	**Sn**	**15 30 13.9**	**+0.5**
VA06				IAML		15 30 15.9	
	comp=E,4μm,0.3s						
GO05	**Huala**	**1.37**	**202**		**Pn**	**15 30 01.8**	**+0.5**
GO05	**Huala**	**1.37**	**202**	*e*P	**Pn**	**15 30 00.9**	**-0.4**
GO05				*e*S	Sn	15 30 07.7	-11
GO05	**Huala**	**1.37**	**202**	*e*P	**Pn**	**15 30 01.5**	**+0.2**
GO05				*i* S	**Sn**	**15 30 19.9**	**+1.6**
ML02	**Panimavida**	**2.02**	**182**		**Pn**	**15 30 10.5**	**+0.2**
CO02	**Combarbal**	**2.54**	**6**		**Pn**	**15 30 16.7**	**-0.8**
CO02	**Combarbal**	**2.54**	**6**	*e*P	**Pn**	**15 30 16.8**	**-0.8**
CO02				*e*S	**Sn**	**15 30 52.1**	**+4.8**
CO02				IAML		15 30 54.1	
	comp=Z,759nm,0.1s						
RTLS	**Leoncito**	**2.58**	**42**	*e*P	**Pn**	**15 30 20.6**	**+2.4**
RTLS				*e*S	**Sn**	**15 30 50.2**	**+1.8**
RTLS				IAML		15 31 00.5	
	comp=Z,664nm,0.9s						
RFA	**San Rafael**	**2.58**	**114**	*e*P	**Pn**	**15 30 19.0**	**+1.1**
RFA				*e*S	Sn	15 30 37.8	-10
CO03	**El Pedregal**	**2.94**	**11**		**Pn**	**15 30 22.2**	**-0.7**
CO03	**El Pedregal**	**2.94**	**11**	*e*P	**Pn**	**15 30 23.0**	**+0.1**
CO03				*e*S	**Sn**	**15 30 59.1**	**+2.0**
CO03				IAML		15 31 07.0	
	comp=Z,495nm,0.7s						
CO06	**Fray Jorge**	**3.07**	**355**		**Pn**	**15 30 23.3**	**-1.3**
ZON	**Zonda**	**3.12**	**46**	*e*P	**Pn**	**15 30 27.3**	**+1.9**
ZON				*e*P		15 30 27.7	
ZON				*e*S	Sn	15 31 14.4	+13
DOCA	**Reserva Natura**	**3.36**	**35**	*e*P	**Pn**	**15 30 30.0**	**+1.0**
DOCA				*e*S	**Sn**	**15 31 11.7**	**+3.8**
GO04	**Tololo Observa**	**3.58**	**7**		**Pn**	**15 30 30.9**	**-1.1**
GO04	**Tololo Observa**	**3.58**	**7**	*e*P	**Pn**	**15 30 32.6**	**+0.6**
GO04				*e*S	**Sn**	**15 31 13.9**	**+0.8**
GO04				IAML		15 31 34.5	
	comp=Z,851nm,0.5s						
ACCO	**Cerro Coronel**	**3.67**	**32**	*e*P	**Pn**	**15 30 34.5**	**+1.2**
ACCO				*e*S	Sn	15 31 27.7	+12
CO05	**La Serena**	**3.81**	**1**		**Pn**	**15 30 34.3**	**-0.5**
AROD	**Rodeo**	**3.89**	**24**	*e*P	**Pn**	**15 30 37.8**	**+1.6**
AROD				*e*S	**Sn**	**15 31 23.7**	**+2.9**
ACDV	**Cuesta del Vie**	**4.02**	**28**	*e*P	**Pn**	**15 30 38.9**	**+1.1**
ACDV				*e*S	**Sn**	**15 31 29.2**	**+5.5**
ACDV				IAML		15 31 36.0	
	comp=Z,94nm,0.6s						
AVFE	**Valle Fertil**	**4.49**	**48**	*e*P	**Pn**	**15 30 44.7**	**+0.5**
AVFE				*e*S	**Sn**	**15 31 34.7**	**-0.5**
AVFE				IAML		15 31 40.3	
	comp=Z,62nm,0.4s						
ACHE	**Chepes**	**4.70**	**58**	*e*P	**Pn**	**15 30 48.1**	**+1.0**
ACHE				*e*S	**Sn**	**15 31 43.3**	**+2.8**
LCO	**Las Campanas**	**4.74**	**7**		**Pn**	**15 30 47.0**	**-0.8**
LCO	**Las Campanas**	**4.74**	**7**	*e*P	**Pn**	**15 30 47.6**	**-0.3**
LCO				IAML		15 31 59.1	
	comp=Z,164nm,0.8s						
MRA	**San Martin**	**4.88**	**76**	*e*P	**Pn**	**15 30 50.7**	**+1.1**
AC05	**El Transito**	**4.97**	**11**		**Pn**	**15 30 50.1**	**-0.8**
GO06	**Curarrehue**	**5.84**	**181**	Pn	**Pn**	**15 31 02.9**	**+0.2**
PLCA	**Paso Flores**	**7.01**	**175**	Pn	**Pn**	**15 31 19.1**	**+0.4**
TRQA	**Tornquist**	**8.71**	**122**	Pn	**Pn**	**15 31 42.0**	**-0.1**
ETMB	**Extrema**	**24.27**	**12**	P	**P**	**15 34 50.7**	**-1.0**
ETMB				IAmb	IAmb	15 35 12.7	
	comp=Z,2.5nm,0.9s						
SNAA	**Sanae**	**51.60**	**158**	P	**P**	**15 38 37.8**	**-2.3**
SNAA				IAmb	IAmb	15 38 38.1	
	comp=Z,3.9nm,1.3s						

TAP 08 15:37:51.6, 24°.39N×121°.76E, h8km, ML1.1, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.04**	**338**	⇑*i*P	Pg	15 37 53.9	+0.7
	baz=347						
ENA				*i* S	Sg	15 37 54.9	+0.5
	baz=347						
EWUT	**Wuta**	**0.06**	**20**	P	Pg	15 37 54.0	+0.5
	baz=20						
EWUT				S	Sg	15 37 55.2	+0.4
	baz=20						
EAHA	**Aohua**	**0.06**	**195**	*e*P	Pg	15 37 54.2	+0.7
	baz=194						
EAHA				S	Sg	15 37 55.5	+0.7
	baz=194						
TWC	**Suao**	**0.23**	**21**	*i* P	Pg	15 37 57.3	+1.0
	baz=23						
TWC				S	Sg	15 37 59.8	+0.3
	baz=23						
NDS	**Dongshan**	**0.24**	**351**	*e*S	Sg	15 38 01.1	+1.3
	baz=351						
LATG	**Datong**	**0.25**	**304**	P	Pb	15 37 58.3	-0.2
	baz=304						
LATG				S	Sb	15 38 02.4	-0.7
	baz=304						
ETL	**Fush Village**	**0.26**	**208**	*e*S	Sb	15 38 02.3	-0.9
	baz=207						
NACB	**Ninganchiao**	**0.26**	**214**	*e*P	Pg	15 37 57.6	+0.8
	baz=214						
NACB				*e*S	Sg	15 38 01.6	+1.2
	baz=214						
ENTT	**Nioudou**	**0.30**	**325**	*i* P	Pb	15 37 59.0	-0.3
	baz=325						
ENTT				*i* S	Sb	15 38 03.2	-1.2
	baz=325						
NDT	**Datong Townshi**	**0.31**	**313**	P	Pb	15 37 59.1	-0.2
	baz=313						
NDT				S	Sb	15 38 04.1	-0.3
	baz=313						
TWE	**Neicheng**	**0.34**	**346**	*e*S	Sb	15 38 04.4	-1.0
	baz=348						
NNSB	**Datong**	**0.34**	**276**	P	Pb	15 37 59.7	-0.2
	baz=276						
NNSB				S	Sb	15 38 04.6	-1.1
	baz=276						
NNS	**Nan Shan**	**0.35**	**278**	*i* P	Pb	15 38 00.2	+0.1
	baz=277						
NNS				*i* S	Sb	15 38 05.0	-0.9
	baz=277						
FUSB	**Fushanzhiwuyua**	**0.40**	**337**	*e*P	Pb	15 38 00.9	0.0
	baz=337						
FUSB				*e*S	Sb	15 38 06.4	-0.8
	baz=337						
YHNB	**Yeheng**	**0.44**	**309**	*i* P	Pb	15 38 01.9	+0.3
	baz=308						
YHNB				S	Sb	15 38 08.0	-0.5
	baz=308						
NWLT	**Wulai**	**0.45**	**329**	*e*P	Pb	15 38 01.6	-0.2
	baz=328						
NWLT				*e*S	Sb	15 38 07.8	-0.8
	baz=328						
NSK	**Sanguang**	**0.46**	**308**	*e*P	Pb	15 38 01.3	-0.7
	baz=308						
NSK				*e*S	Sb	15 38 08.7	-0.3
	baz=308						
FUSS	**Fushou**	**0.49**	**253**	*i* S	Sb	15 38 09.3	-0.7
	baz=252						
WHF	**Hehuan Shan**	**0.51**	**241**	*e*S	Sb	15 38 10.2	-0.6
	baz=240						
TDCB	**Techi**	**0.56**	**256**	*e*P	Pb	15 38 04.6	+0.9
	baz=255						
TDCB				S	Sb	15 38 12.1	+0.1
	baz=255						
TIPB	**Shuangxi**	**0.58**	**6**	*e*S	Sb	15 38 11.8	-0.6
	baz=6.0						

JMA 08 15:38:46.4±0.1, 24°.2N±0°.4×123°.8E±0°.3, h17km±1km, MV1.2/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.11**	**331**	P	Pg	15 38 50.0	-0.1
IRIF				S	Sb	15 38 52.7	0.0
HATJ	**Hateruma jima**	**0.18**	**175**	*i* P	Pg	15 38 50.7	-0.2
HATJ				*e*S	Sg	15 38 53.9	-0.1
JKRS	**Kuro-shima**	**0.20**	**89**	*i* P	Pg	15 38 51.4	+0.1
JKRS				*e*S	Sb	15 38 55.4	+0.1
JIJ	**Ishigaki jima**	**0.35**	**68**	*i* P	Pg	15 38 53.4	-0.3
JIJ				*e*S	Sg	15 38 58.5	-0.1
JISG	**Ishigakijimahi**	**0.59**	**54**	P	Pg	15 38 57.9	-0.2
YOJ	**Yonaguni jima**	**0.74**	**288**	P	Pg	15 39 01.2	+0.2
JYNG	**Yonagunijimaku**	**0.80**	**286**	*e*P	Pb	15 39 01.6	-0.3
JYNG				*e*S	Sg	15 39 12.8	+0.2
JTJ	**Tarama**	**0.93**	**64**	*e*S	Sg	15 39 17.0	+0.4

IDC 08 15:48:42.9±3.6, 50°.32N×29°.72W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=120.0km s-min=42.9km az=83.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**32.11**	**33**	P	P	15 55 11.4	0.0
	1.0nm,0.7s,baz=249,slow=7.6,SNR=4.5						
	1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**45.06**	**134**	P	P	15 57 00.4	-0.1
	0.2nm,0.5s,baz=348,slow=7.9,SNR=1.9						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**150.49**	**32**	PKPbc	PKPbc	16 08 36.0	-0.4
	0.2nm,0.8s,baz=350,slow=3.0,SNR=4.5						

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*TEH **08** 15:52:32.7, 34°.50N×45°.91E, h8km±39km, ML2.5*
*ISN **08** 15:52:33.6±0.9, 34°.52N×45°.93E, h8km±13km, ML2.7*
ISC 08 15:52:34.0±1.1, 34°.50N±0°.04×45°.89E±0°.04, h10km, n11, σ1°21/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.25**	**271**	Pg	**Pg**	**15 52 38.2**	**-0.9**
GLG1	**Gilan-e-Gharb**	**0.39**	**178**	Pg	**Pg**	**15 52 40.6**	**-1.1**
IDHR	**Dehrash**	**0.45**	**64**	Pg	**Pg**	**15 52 41.6**	**-1.3**
IGHG	**Ghaleghazi**	**0.58**	**107**	Pg	**Pg**	**15 52 44.5**	**-0.9**
ILBA	**Ilam Banvizeh**	**0.91**	**163**	Pg	**Pg**	**15 52 50.1**	**-1.5**
ILIN	**Lien**	**0.97**	**64**	Pg	**Pg**	**15 52 51.4**	**-1.3**
IBDR	**Badra**	**1.39**	**179**	*e*Pn	**Pn**	**15 52 59.0**	**-0.4**
	baz=360						
IBDR				*e*Sn	**Sb**	**15 53 19.0**	**+1.2**
IBDR				AML	AML	15 53 28.2	
	comp=E,49nm,0.5s						
IBDR				AML	AML	15 53 32.1	
	comp=N,59nm,0.5s						
SNQR	**Sonqor, Kerman**	**1.47**	**76**	Pg	**Pn**	**15 53 00.9**	**0.0**
IKRK	**Kirkuk**	**1.56**	**305**	*e*Pn	**Pn**	**15 53 02.0**	**+0.2**
IKRK				*e*Sn	**Sn**	**15 53 23.0**	**+0.9**
IKRK				AML	AML	15 53 27.1	
	comp=E,358nm,0.1s						
IKRK				AML	AML	15 53 27.6	
	comp=N,234nm,0.1s						
IBZA	**Bozab**	**1.62**	**91**	Pg	**Pn**	**15 53 03.9**	**+1.0**
IKFM	**Kafar-mosalman**	**1.89**	**120**	Pn	**Pn**	**15 53 07.9**	**+1.6**

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*ISK **08** 15:56:07.6, 39°.60N×25°.94E, h9km, ML2.7/21*
*ATH **08** 15:56:08.6, 39°.56N×25°.94E, h14km±1km, ML2.2/8, Error ellipse: s-maj=1.6km s-min=0.8km az=232.0*
*THE **08** 15:56:08.2, 39°.59N×25°.95E, h12km±1km, ML2.3/9, Error ellipse: s-maj=1.2km s-min=0.6km az=134.0*
*AFAD **08** 15:56:08.4±0.0, 39°.60N×25°.99E, h9km±1km, ML2.5*
**ISC 08 15:56:08.0±0.8, 39°.59N±0°.01×25°.95E±

comp=N,286nm,0.1s
ECEA Canakkale, Ece 0.49 21 P Pg 15 56 17.9 +0.3
ECEA S Sg 15 56 24.3 +0.1
GOAD anakkale-G¶ 0.58 357 P Pg 15 56 19.2 -0.1
GOAD S Sg 15 56 26.6 -0.3
CNKL anakkale-Mer 0.59 35 P Pg 15 56 19.3 -0.2
GADA Gvkgeada 0.61 357 Pg Pg 15 56 19.6 -0.3
GADA Sg Sg 15 56 28.1 +0.2
AYVA Ayvalik 0.64 115 P Pb 15 56 21.6 +0.6
COMU Canakkale 0.65 38 Pg Pg 15 56 20.9 +0.1
COMU Sg Sb 15 56 30.5 +0.2
LIA Limnos Island 0.67 298 P Pg 15 56 21.5 +0.5
LIA S Sg 15 56 30.3 +0.5
comp=N,312nm,0.2s
LIA Limnos Island 0.67 298 P Pg 15 56 21.5 +0.5
LIA S Sb 15 56 30.9 +0.3
LIA AML AML 15 56 31.6
comp=E,714μm,0.3s
LIA AML AML 15 56 34.8
comp=N,570μm,0.3s
EFSA Agios Efstrati 0.74 267 P Pg 15 56 22.1 -0.3
EFSA S Sg 15 56 33.0 +0.8
BUHA Balikesir, Bur 0.88 95 P Pg 15 56 24.5 -0.5
BUHA S Sg 15 56 36.0 -0.5
BUHA *i* AML AML 15 56 39.0
comp=N,126nm,0.5s
DKL Dikili 0.90 124 Pg Pg 15 56 25.6 +0.2
GELI Tayfur-Gelibol 0.91 26 Pg Pg 15 56 25.1 -0.4
GELI Sg Sb 15 56 38.1 +0.5
CAND Candarli 0.92 133 Pg Pg 15 56 25.8 +0.1
SMTH Samothraki Isl 0.94 340 P Pg 15 56 26.1 -0.1
SMTH S Sb 15 56 38.9 +0.3
comp=N,105nm,0.2s
SMTH Samothraki Isl 0.94 340 P Pg 15 56 26.2 0.0
SMTH S Sn 15 56 39.9 -0.4
SMTH AML AML 15 56 41.0
comp=E,194μm,0.3s
SMTH AML AML 15 56 43.5
comp=N,230μm,0.2s
IZMD zmir-Dikili- 0.97 128 P Pg 15 56 26.7 0.0
IZMD S Sg 15 56 39.3 0.0
KARB zmir-Karabur 0.99 158 P Pb 15 56 27.2 +0.2
KARB S Sg 15 56 39.8 -0.2
KARB *i* AML AML 15 56 42.0
comp=N,126nm,0.2s
KARB *i* AML AML 15 56 42.0
comp=N,157nm,0.3s
LPK Lapseki 1.00 38 Pg Pb 15 56 27.1 -0.1
YENI Yenice-Canakka 1.06 70 Pg Pb 15 56 28.4 +0.2
FOCM Foa 1.06 145 Pg Pb 15 56 28.5 +0.3
ZEDA zmir-Bergama 1.07 125 P Pb 15 56 28.5 +0.2
ZEDA *i* AML AML 15 56 45.0
comp=N,128nm,0.4s
PSRA Psara 1.08 196 P Pb 15 56 28.5 -0.1
CAVK Edirne/Enez-Ca 1.12 9 P Pb 15 56 29.2 0.0
CAVK *i* AML AML 15 56 46.0
comp=N,82nm,0.4s
ENEZ Enez 1.16 8 Pn Pn 15 56 30.3 +0.4
ENEZ Enez 1.16 8 P Pb 15 56 29.6 -0.3
ENEZ S Sn 15 56 46.0 +0.4
comp=N,175nm,0.2s
ERIK Erikli-Kesan 1.17 22 Pn Pb 15 56 30.3 +0.3
CHOS Chios island 1.20 176 P Pn 15 56 29.4 -1.1
CHOS S Sb 15 56 46.3 +0.3
comp=N,245nm,0.2s
CHOS Chios island 1.20 176 P Pn 15 56 29.6 -0.9
CHOS S Sb 15 56 45.3 -0.7
CHOS AML AML 15 56 50.3
comp=N,361μm,0.2s
CHOS AML AML 15 56 50.5
comp=E,621μm,0.2s
SKY Skiros Island 1.29 237 P Pn 15 56 31.0 -0.7
SKY S Sb 15 56 47.5 -1.2
BALY Balya 1.30 83 P Pn 15 56 32.2 +0.3
BALY S Sb 15 56 48.7 -0.2
BALY *i* AML AML 15 56 50.0
comp=E,68nm,0.4s
ALN Alexandroupoli 1.31 3 Pn Pn 15 56 32.4 +0.4
ALN Alexandroupoli 1.31 3 P Pn 15 56 31.3 -0.7
ALN S Sb 15 56 48.9 -0.3
comp=E,40nm,0.5s
ALN Alexandroupoli 1.31 3 P Pn 15 56 32.1 +0.1
ALN S Sb 15 56 49.4 +0.1
ALN AML AML 15 56 51.4
comp=E,90μm,0.6s
ALN AML AML 15 56 51.5
comp=N,74μm,0.4s
KRBG Karabiga-Canak 1.31 52 Pn Pn 15 56 32.2 +0.2
URLA Izmir 1.32 157 Pn Pn 15 56 32.1 -0.1
URLA Izmir 1.32 157 P Pn 15 56 32.1 -0.1
URLA S Sb 15 56 48.4 -1.1
STEP BALIKESIR_Sava 1.39 98 P Pb 15 56 34.2 +0.5
STEP S Sn 15 56 51.0 -0.2
THAS Thassos island 1.39 318 P Pn 15 56 33.1 0.0
THAS S Sn 15 56 50.7 -0.5
comp=N,35nm,0.3s
THAS Thassos island 1.39 318 P Pn 15 56 33.0 0.0
THAS AML AML 15 56 51.8
comp=N,72μm,0.3s
THAS AML AML 15 56 54.2
comp=E,70μm,0.4s
GONE Gonen-Balikesi 1.42 70 Pn Pn 15 56 33.8 +0.4
SART Tekirdag 1.45 40 P Pn 15 56 34.4 +0.4
SART S Sb 15 56 53.9 +0.5
SART *i* AML AML 15 56 55.0
comp=E,79nm,0.3s
SART *i* AML AML 15 56 56.0
comp=E,77nm,0.2s
BKES Balkesir-Mer 1.54 84 P Pb 15 56 36.2 -0.1
BKES S Sn 15 56 55.5 +0.6
BLKS Balkesir-Sus 1.59 79 P Pn 15 56 35.1 -0.7
RDO Rodhopi 1.59 349 Pn Pn 15 56 36.4 +0.6
RDO Rodhopi 1.59 349 P Pn 15 56 35.0 -0.8
RDO Rodhopi 1.59 349 P Pn 15 56 35.8 0.0
RDO AML AML 15 56 60.0
comp=N,64μm,0.4s
RDO AML AML 15 57 01.1
comp=E,52μm,0.4s
MRMT Marmara Adasi 1.62 51 Pn Pn 15 56 36.9 +0.6
UKOP Uzunkopru-Edir 1.63 19 Pn Pn 15 56 36.8 +0.5
EDC Edincik 1.66 62 Pn Pn 15 56 37.2 +0.4
OUR Ouranopolis 1.69 297 P Pn 15 56 37.6 +0.4
SUSR Susurluk-Balik 1.69 76 Pn Pn 15 56 37.7 +0.5
KAVA Kavala 1.79 323 P Pn 15 56 39.0 +0.4
KOKK Kokkinochori, 1.93 310 P Pn 15 56 40.2 -0.3
SMG Samos 2.00 159 P Pn 15 56 41.4 -0.1

*IDC **08** 16:00:27.6±0.7,35°.10N×140°.56E,h0km,mb3.9/16, mbtmp3.9/21,ML3.3/4,MS2.8/4,Error ellipse: s-maj=19.9km s-min=14.3km az=82.0*
*NIED **08** 16:00:35.0,35°.20N×140°.54E,h57km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=0.18; Mθθ6.87; Mφφ-6.69; Mrθ-0.29; Mθφ-5.94; Mφr2.52; Fault plane solution: M0 9.36000×10^14^ NP1: φs155.00000°,δ85.00000°,λ-15.00000°. NP2: φs246.00000°,δ75.00000°,λ-175.00000°.*
*NEIC **08** 16:00:34.2±1.1,35°.17N±0°.05×140°.73E±0°.09,h39km±8km, mb4.5/17 Error ellipse: s-maj=11.1km s-min=7.7km az=99.0*
*JMA **08** 16:00:35.0±0.2,35°.2N±0°.5×140°.5E±1°.0,h57km±1km, MV3.7/35,KUJUKURI COAST BOSO PEN*
JMA Felt II J1 at KUJUKURI COAST BOSO PEN .
ISC 08 16:00:34.8±0.7,35°.16N±0°.04×140°.62E±0°.05,h54km±6km, n86,σ1°41/84,mb4.0/25,9D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.25**	**268**	⇓*i*P		**Pn**	**16 00 44.0**	**0.0**
KTR				⇓S		**Sn**	16 00 50.4	-0.1
BSO4	**Boso 4**	**0.29**	**235**	*i* P		**Pn**	**16 00 44.8**	**+0.7**
JKUC	**kamogawauchiur**	**0.35**	**270**	⇓*i*P		**Pn**	**16 00 44.6**	**-0.2**
JKUC				⇓S		**Sn**	**16 00 51.7**	**-0.2**
BSO3	**Boso 3**	**0.37**	**195**	*i* P		**Pn**	**16 00 45.6**	**+0.9**
JCN	**Nagara**	**0.43**	**307**	⇓P		**Pn**	**16 00 45.7**	**+0.1**
JCN				⇓*e*S		**Sn**	**16 00 52.8**	**-0.6**
JSMT	**Sammumatsuo**	**0.51**	**344**	*i* P		**Pn**	**16 00 46.5**	**+0.1**
JSMT				*e*S		**Sn**	**16 00 54.3**	**-0.4**
BSO1	**Boso 1**	**0.58**	**150**	*i* P		**Pn**	**16 00 48.1**	**+1.4**
JIM2	**Oshima 3**	**1.07**	**246**	P		**Pn**	**16 00 52.7**	**-1.0**
JIM2				*e*S		**Sn**	**16 01 05.5**	**-2.1**
JOD2	**Odawara 2**	**1.26**	**275**	⇓P		**Pn**	**16 00 55.2**	**-1.0**
JOD2				⇓*e*S		**Sn**	**16 01 09.2**	**-2.9**
JMYK	**Miyake Tsubota**	**1.41**	**219**	*e*P		**Pn**	**16 00 57.9**	**-0.2**
JIZS	**Izushimoda**	**1.50**	**253**	⇓P		**Pn**	**16 00 58.5**	**-0.8**
JSG	**Sagara**	**2.06**	**257**	P		**Pn**	**16 01 08.5**	**+1.5**
JSG	**Sagara**	**2.06**	**257**	Pn		**Pn**	**16 01 07.6**	**+0.6**
JHJ2	**Mitsune**	**2.15**	**198**	P		**Pn**	**16 01 08.7**	**+0.5**
JHJ2	**Mitsune**	**2.15**	**198**			**Pn**	**16 01 08.1**	**-0.1**
JHJ	**Hachijo jima 2**	**2.15**	**199**	Pn		**Pn**	**16 01 08.4**	**+0.2**
	158nm,0.3s,baz=337,slow=18,SNR=97							
JHJ				Sn		**Sn**	**16 01 33.0**	**-0.8**
	114nm,0.3s,baz=284,slow=21,SNR=6.7							
MJAR	**Matsushiro Arr**	**2.40**	**306**	Pn		**Pn**	**16 01 11.9**	**+0.2**
	5.5nm,0.3s,baz=150,slow=11,SNR=166							
MJAR				Sn		**Sn**	**16 01 41.7**	**+1.8**
	5.8nm,0.3s,baz=42,slow=18,SNR=3.9							
MJAR				LR		LR	16 02 18.1	
	comp=Z,120nm,19.7s,baz=52,slow=46							
MAJO	**Matsushiro**	**2.40**	**306**	P		**Pn**	**16 01 12.0**	**+0.3**
MAJO	**Matsushiro**	**2.40**	**306**			**Pn**	**16 01 11.4**	**-0.3**
MJB9	**Matsu-Tunnel**	**2.40**	**306**			**Pn**	**16 01 12.4**	**+0.6**
JGF	**Kuroka**	**2.71**	**280**	P		**Pn**	**16 01 17.0**	**+1.1**
JGF	**Kuroka**	**2.71**	**280**			**Pn**	**16 01 16.5**	**+0.6**
JMM	**Marumori**	**2.71**	**3**	P		**Pn**	**16 01 16.0**	**+0.1**
JMM	**Marumori**	**2.71**	**3**			**Pn**	**16 01 15.1**	**-0.7**
INU	**Inuyama**	**2.96**	**275**	P		**Pn**	**16 01 19.7**	**+0.4**
INU	**Inuyama**	**2.96**	**275**			**Pn**	**16 01 19.4**	**+0.1**
JSD	**Sado**	**3.45**	**327**	Pn		**Pn**	**16 01 25.2**	**-0.7**
JTM	**Tenmabayashi**	**5.63**	**3**	P		**Pn**	**16 01 55.6**	**-0.3**
JTM	**Tenmabayashi**	**5.63**	**3**	Pn		**Pn**	**16 01 55.6**	**-0.3**
ERM	**Erimo**	**7.13**	**15**	P		**Pn**	**16 02 15.1**	**-1.3**
ERM	**Erimo**	**7.13**	**15**	Pn		**Pn**	**16 02 14.7**	**-1.7**
JEM	**Erimo**	**7.13**	**15**	P		**Pn**	**16 02 15.8**	**-0.6**
JCJ	**Chichijima**	**8.15**	**170**	P		**Pn**	**16 02 29.4**	**-1.1**
JCJ	**Chichijima**	**8.15**	**170**	Pn		**Pn**	**16 02 29.6**	**-0.9**
JCJ	**Chichijima**	**8.15**	**170**	Pn		Pn	16 02 24.6	-5.9
	87nm,0.3s,baz=276,slow=14,SNR=9.5							
JCJ				Sn		**Sn**	**16 03 53.8**	**-7.3**
	13nm,0.3s,baz=278,slow=23,SNR=2.2							
JNU	**Nakatsue**	**8.33**	**259**	Pn		**Pn**	**16 02 33.6**	**+0.6**
	0.3nm,0.3s,baz=158,slow=21,SNR=1.6							
ASAJ	**Asahikawa**	**9.08**	**9**	Pn		**Pn**	**16 02 39.9**	**-3.2**
	0.7nm,0.3s,baz=204,slow=15,SNR=11							
ASAJ				Sn		**Sn**	**16 04 18.7**	**-5.0**
	0.4nm,0.3s,baz=161,slow=18,SNR=1.6							
	2.8nm,0.3s							
JKA	**Kamikawa-asahi**	**9.08**	**9**	Pn		**Pn**	**16 02 40.8**	**-2.2**
KSRS	**Korea Array**	**10.50**	**286**	Pn		Pn	16 02 58.5	-4.2
	0.1nm,0.3s,baz=103,slow=14,SNR=1.2							
KSRS				LR		LR	16 06 57.0	
	comp=Z,39nm,18.5s,baz=110,slow=37							
	0.4nm,0.6s							
USRK	**Ussuriysk Ar.**	**11.21**	**326**	Pn		**Pn**	**16 03 09.9**	**-2.3**
	0.1nm,0.3s,baz=115,slow=13,SNR=2.9							
	1.6nm,0.8s							
KLR	**Kul'dur**	**15.51**	**338**	Pn		**Pn**	**16 04 09.0**	**-0.9**
	0.2nm,0.3s,baz=140,slow=16,SNR=2.4							
	0.5nm,0.4s							
MA2	**Magadan**	**25.32**	**12**	P		**P**	**16 05 56.7**	**+0.5**
MA2				IAmb		IAmb	16 05 59.3	
	comp=Z,9.1nm,1.0s							
MA2	**Magadan**	**25.32**	**12**	LR		LR	16 15 47.8	
	comp=Z,20nm,19.1s,baz=227,slow=36							
H11N2	**WAKE ISLAND Hy**	**27.81**	**117**	T		T	16 35 54.3	
	baz=309,slow=75,SNR=67							
H11N1	**WAKE ISLAND Hy**	**27.82**	**117**	T		T	16 35 54.9	
	baz=309,slow=75,SNR=73							
H11N3	**WAKE ISLAND Hy**	**27.83**	**117**	T		T	16 35 33.8	
	baz=309,slow=75,SNR=64							
SONM	**Songino Array**	**28.35**	**307**	P		**P**	**16 06 24.5**	**+0.7**
SONM	**Songino Array**	**28.35**	**307**	P		**P**	**16 06 24.3**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=129,slow=10,SNR=4.7							
	comp=Z,0.7nm,0.4s							
H11S3	**WAKE ISLAND Hy**	**28.45**	**119**	T		T	16 36 23.3	
	baz=312,slow=76,SNR=32							
H11S1	**WAKE ISLAND Hy**	**28.45**	**119**	T		T	16 36 18.4	
	baz=312,slow=76,SNR=68							
H11S2	**WAKE ISLAND Hy**	**28.46**	**119**	T		T	16 36 18.8	
	baz=312,slow=76,SNR=42							
CMAR	**Chiang Mai Arr**	**40.42**	**257**	P		**P**	**16 08 07.6**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=49,slow=9.7,SNR=4.3							
	comp=Z,0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**42.73**	**314**	P		**P**	**16 08 24.8**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=87,slow=8.3,SNR=5.4							
	comp=Z,0.8nm,0.3s							
MK31	**Makanchi Array**	**44.60**	**304**	P		**P**	**16 08 42.8**	**+1.2**
MKAR	**Makanchi Array**	**44.60**	**304**	P		**P**	**16 08 42.5**	**+0.9**
MKAR	**Makanchi Array**	**44.60**	**304**	P		**P**	**16 08 41.7**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=84,slow=9.6,SNR=11							
MKAR				LR		LR	16 25 52.0	
	comp=Z,16nm,20.6s,baz=248,slow=34							
	comp=Z,1.1nm,0.7s							
MAKZ	**Makanchi**	**44.81**	**304**	P		**P**	**16 08 44.3**	**+1.0**
MAKZ				IAmb		IAmb	16 08 48.5	
	comp=Z,1.5nm,0.7s							
H17K	**Granite Mounta**	**45.90**	**31**	P		**P**	**16 08 52.2**	**+0.6**
KURK	**Kurchatov**	**46.60**	**309**	P		**P**	**16 08 58.5**	**+1.2**
KURK				IAmb		IAmb	16 09 04.8	
	comp=Z,5.5nm,0.9s							
KURBB	**Kurchatov Arra**	**46.67**	**309**	P		**P**	**16 08 57.5**	**-0.4**
	comp=Z,1.9nm,0.4s,baz=82,slow=7.5,SNR=20							
	comp=Z,1.9nm,0.4s							
ILAR	**Eielson Array**	**51.42**	**32**	P		**P**	**16 09 34.8**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=274,slow=7.4,SNR=8.7							
	comp=Z,0.7nm,0.8s							
FITZ	**Fitzroy Crossi**	**54.84**	**198**	P		**P**	**16 10 01.2**	**+1.6**
WB0	**Warramunga Arr**	**54.94**	**187**	P		**P**	**16 10 00.3**	**0.0**
WB0				IAmb		IAmb	16 10 43.0	
	comp=Z,12nm,1.2s							
WR0	**Warramunga Arr**	**55.12**	**187**	P		**P**	**16 10 01.4**	**-0.1**
WR0				IAmb		IAmb	16 10 13.7	
	comp=Z,8.5nm,1.3s							
WB2	**Warramunga Arr**	**55.12**	**187**	P		**P**	**16 10 01.4**	**-0.2**
WB2				IAmb		IAmb	16 10 03.2	
	comp=Z,17nm,1.4s							
WRA	**Warramunga Arr**	**55.12**	**187**	P		**P**	**16 10 01.3**	**-0.3**
WRA	**Warramunga Arr**	**55.12**	**187**	P		**P**	**16 10 01.2**	**-0.3**
	comp=Z,3.1nm,1.0s,baz=0.8,slow=7.5,SNR=16							
	comp=Z,3.1nm,1.0s							
INK	**Inuvik**	**56.34**	**26**	P		**P**	**16 10 10.5**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=319,slow=11,SNR=1.5							
	comp=Z,0.6nm,0.5s							
AS31	**Alice Springs**	**58.85**	**187**	P		**P**	**16 10 28.0**	**0.0**
AS31				IAmb		IAmb	16 10 39.9	
	comp=Z,2.2nm,1.4s							
ASAR	**Alice Springs**	**58.85**	**187**	P		**P**	**16 10 27.9**	**0.0**
ASAR	**Alice Springs**	**58.85**	**187**	P		**P**	**16 10 27.7**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=353,slow=5.6,SNR=20							
	comp=Z,0.8nm,0.7s							
MBWA	**Marble Bar**	**59.41**	**203**	P		**P**	**16 10 32.1**	**+0.3**
MBWA				IAmb		IAmb	16 11 15.0	
	comp=Z,13nm,1.3s							
PSA00	**Pilbara Seismi**	**59.77**	**202**	P		**P**	**16 10 35.0**	**+0.7**
PSA00				IAmb		IAmb	16 10 37.4	
	comp=Z,9.8nm,1.5s							
GEYT	**Alibeck**	**64.19**	**299**	P		**P**	**16 11 03.5**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=97,slow=12,SNR=2.2							
	comp=Z,1.5nm,0.6s							
ARCES	**ARCESS Array B**	**65.53**	**340**	P		**P**	**16 11 11.6**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=42,slow=9.8,SNR=2.3							
	comp=Z,1.7nm,0.9s							
YKA	**Yellowknife Ar**	**65.75**	**29**	P		**P**	**16 11 13.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=260,slow=9.2,SNR=4.5							
	comp=Z,0.7nm,0.7s							
FORT	**Forrest**	**66.64**	**192**	P		**P**	**16 11 20.7**	**+1.1**
STKA	**Stephens Creek**	**66.69**	**179**	P		**P**	**16 11 20.3**	**+0.4**
STKA	**Stephens Creek**	**66.69**	**179**	P		**P**	**16 11 20.0**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=33,slow=15,SNR=1.2							
	comp=Z,1.0nm,0.9s							
FINES	**FINESS Array B**	**70.17**	**332**	P		**P**	**16 11 41.7**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=76,slow=8.0,SNR=1.9							
	comp=Z,1.2nm,0.8s							
NWAO	**Narrogin (SRO)**	**71.19**	**201**	P		**P**	**16 11 49.2**	**+1.4**
NOA	**NORSAR Array B**	**75.67**	**337**	P		**P**	**16 12 15.0**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=15,slow=5.0,SNR=1.7							
	comp=Z,0.3nm,0.6s							
NVAR	**Mina Array Bea**	**76.63**	**52**	P		**P**	**16 12 21.7**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=295,slow=5.9,SNR=2.7							
	comp=Z,0.4nm,0.7s							
H03N2	**Juan Fernandez**	**147.42**	**99**	T		T	19 05 03.5	
	baz=289							
H03N3	**Juan Fernandez**	**147.43**	**99**	T		T	19 05 05.2	
	baz=289							
H03N1	**Juan Fernandez**	**147.44**	**99**	T		T	19 05 06.6	
	baz=289							

*IDC **08** 16:11:14.8±1.5,44°.62N×105°.93W,h0km,mbtmp2.9/4, ML2.6/4,Error ellipse: s-maj=30.2km s-min=11.0km az=138.0*
*NEIC **08** 16:11:19.4±1.1,44°.03N±0°.10×105°.2W±0°.1,h0km±1km, ML2.3/8,Error ellipse: s-maj=22.3km s-min=6.1km az=314.0*
ISC 08 16:11:14.9±1.1,44°.5N±0°.1×105°.53W±0°.08,h0km,n9, σ0°.80/10,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.12**	**106**			**Pg**	**16 11 36.3**	**-0.1**
K22A	**Casper**	**1.94**	**202**			**Pn**	**16 11 50.0**	**+0.7**
K22A						**Sn**	**16 12 13.9**	**-0.5**
K22A				IAML			16 12 17.5	
	comp=E,41nm,0.5s							
K22A				IAML			16 12 20.5	
	comp=N,42nm,0.6s							
BW06	**Boulder Array**	**3.38**	**242**	Pn		**Pb**	**16 12 15.5**	**-0.2**
BW06				IAML			16 13 20.6	
	comp=N,5.5nm,3.8s							
BW06				IAML			16 13 53.4	
	comp=N,6.1nm,3.9s							
PDAR	**Pinedale Array**	**3.38**	**242**	Pn		**Pb**	**16 12 15.2**	**-0.5**
PDAR	**Pinedale Array**	**3.38**	**242**	Pn		**Pn**	**16 12 10.3**	**+1.2**
	comp=N,0.2nm,0.3s,baz=62,slow=13,SNR=3.3							
PDAR				Pg		**Pb**	**16 12 15.0**	**-0.7**
	comp=N,0.8nm,0.3s,baz=65,slow=17,SNR=12							
PDAR				Lg		Lg	16 12 57.5	
	comp=N,1.2nm,0.3s,baz=61,slow=31,SNR=3.0							
	comp=N,0.2nm,0.3s							
N23A	**Red Feather La**	**3.56**	**185**	Pn		**Pn**	**16 12 12.8**	**+1.1**
ULM	**Lac du Bonnet**	**8.75**	**45**	Pn		**Pn**	**16 13 22.4**	**-0.2**
	comp=N,0.2nm,0.3s,baz=233,slow=11,SNR=1.8							
	comp=N,0.9nm,0.5s							
NEW	**Newport**	**8.88**	**300**	Pn		Pn	16 13 18.4	-6.1
	comp=N,0.1nm,0.3s,baz=108,slow=20,SNR=2.3							
	comp=N,1.1nm,0.8s							
NVAR	**Mina Array Bea**	**11.31**	**242**	Pn		**Pn**	**16 13 58.1**	**+0.1**
	comp=N,0.1nm,0.3s,baz=69,slow=13,SNR=1.8							
	comp=N,0.2nm,0.5s							

TAP 08 16:26:26.0,24°.46N×121°.89E,h20km,ML1.7,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.10**	**264**	*i* P		Pb	16 26 30.4	+0.5
	baz=263							
EWUT				*i* S		Sb	16 26 33.6	+0.9
	baz=263							
ESAO	**Su ao**	**0.12**	**342**	P		Pb	16 26 30.8	-0.1
	baz=342							
ESAO				S		Sb	16 26 33.8	-0.5
	baz=342							
ENA	**Nanau**	**0.14**	**258**	*i* P		Pb	16 26 30.7	-0.2
	baz=256							
ENA				S		Sb	16 26 34.0	-0.4
	baz=256							
TWC	**Suao**	**0.16**	**348**	*i* P		Pb	16 26 31.1	+0.1
	baz=351							
TWC				S		Sb	16 26 34.4	-0.1
	baz=351							
NDS	**Dongshan**	**0.23**	**319**	*i* P		Pb	16 26 32.4	+0.7
	baz=319							
NDS				S		Sb	16 26 36.6	+0.9
	baz=319							
EOS2	**EOS2**	**0.32**	**97**	*e*P		Pb	16 26 33.4	+0.6
	baz=96							
EOS2				*e*S		Sb	16 26 39.1	+1.7
	baz=96							
TWE	**Neicheng**	**0.33**	**323**	P		Pb	16 26 33.7	+0.5
	baz=324							
TWE				S		Sb	16 26 39.1	+1.1
	baz=324							
LATG	**Datong**	**0.34**	**284**	P		Pb	16 26 33.8	+0.5
	baz=283							
LATG				*e*S		Sb	16 26 39.2	+0.9
	baz=283							
ENTT	**Nioudou**	**0.34**	**302**	P		Pb	16 26 34.1	+0.7
	baz=302							
ENTT				*e*S		Sb	16 26 39.2	+0.8
	baz=302							
NDT	**Datong Townshi**	**0.37**	**293**	P		Pb	16 26 34.6	+0.8
	baz=293							
NDT				*e*S		Sb	16 26 40.2	+1.1
	baz=293							
NACB	**Ninganchiao**	**0.39**	**223**	P		Pb	16 26 34.0	-0.1
	baz=223							
NACB				*e*S		Sb	16 26 40.2	+0.6
	baz=223							
FUSB	**Fushanzhiwuyua**	**0.41**	**318**	P		Pb	16 26 35.2	+0.7
	baz=318							
FUSB				*e*S		Sb	16 26 41.0	+0.7
	baz=318							
EOS3	**EOS3**	**0.43**	**113**	P		Pb	16 26 35.1	+0.4
	baz=113							
EOS3				S		Sb	16 26 42.0	+1.4
	baz=113							
NNSB	**Datong**	**0.46**	**267**	P		Pb	16 26 35.8	+0.4
	baz=266							
NNSB				*e*S		Sb	16 26 42.7	+0.8
	baz=266							
NNS	**Nan Shan**	**0.47**	**268**	P		Pb	16 26 36.1	+0.5
	baz=267							
NNS				*e*S		Sb	16 26 42.8	+0.7
	baz=267							
NWLT	**Wulai**	**0.47**	**313**	*e*P		Pb	16 26 36.0	+0.4
	baz=312							
NWLT				*e*S		Sb	16 26 42.7	+0.5
	baz=312							
YHNB	**Yeheng**	**0.51**	**295**	P		Pb	16 26 36.9	+0.6
	baz=294							
YHNB				*e*S		Sb	16 26 43.9	+0.5
	baz=294							
TIPB	**Shuangxi**	**0.52**	**354**	P		Pb	16 26 36.8	+0.4
	baz=353							
TIPB				*e*S		Sb	16 26 43.7	+0.2
	baz=353							
NSK	**Sanguang**	**0.53**	**295**	P		Pb	16 26 37.0	+0.4
	baz=294							
NSK				*e*S		Sb	16 26 44.2	+0.3
	baz=294							
FUSS	**Fushou**	**0.62**	**251**	*e*P		Pb	16 26 39.0	+0.7
	baz=250							
WHF	**Hehuan Shan**	**0.65**	**241**	*e*P		Pn	16 26 39.7	-0.7
	baz=240							
WHF				*e*S		Sb	16 26 48.8	+1.2
	baz=240							
TDCB	**Techi**	**0.69**	**253**	*e*P		Pn	16 26 40.6	-0.2
	baz=252							
TDCB				*e*S		Sn	16 26 51.7	+0.7
	baz=252							
YM01	**YM01**	**0.74**	**337**	*e*P		Pn	16 26 41.3	-0.1
	baz=337							
YM01				*e*S		Sn	16 26 52.2	0.0
	baz=337							
CHGB	**Renai**	**0.76**	**239**	*e*P		Pn	16 26 42.2	+0.4
	baz=238							
LIOB	**Emei**	**0.81**	**284**	*e*P		Pn	16 26 43.3	+1.0

*ISN **08** 16:46:35.2±0.8, 34.°57N×45.°97E, h29km±7km, ML3.1*
ISC 08 16:46:35.4±1.0, **34.°52N**±0.°03×**45.°93E**±0.°03, **h13**km±9km, **n21**, σ1§**35**/28, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.28**	**268**	Pg	**Pg**	**16 46 40.7**	**-0.7**
KGS1				Sg	**Sg**	**16 46 45.6**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.40**	**183**	Pg	**Pg**	**16 46 43.0**	**-0.5**
GLG1				Sg	**Sg**	**16 46 49.8**	**+0.9**
IDHR	**Dehrash**	**0.42**	**64**	Pg	**Pb**	**16 46 44.1**	**-0.7**
IGHG	**Ghaleghazi**	**0.56**	**109**	Pg	**Pg**	**16 46 46.7**	**+0.4**
IGHG				Sg	**Sn**	**16 46 56.1**	**-2.3**
ILBA	**Ilam Banvizeh**	**0.92**	**166**	Pg	**Pb**	**16 46 52.5**	**-0.7**
ILIN	**Lien**	**0.94**	**64**	Pg	**Pn**	**16 46 53.7**	**-0.8**
KCHF	**Cheshme Sefid,**	**0.95**	**104**	Pg	**Pn**	**16 46 54.2**	**-0.3**
KCHF				Sg	**Sn**	**16 47 08.2**	**+0.2**
IBDR	**Badra**	**1.40**	**180**	*e*Pg	**Pb**	**16 47 01.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**16 47 21.0**	**+0.4**
IBDR				AML	AML	16 47 25.4	
	comp=E,203nm,0.8s						
IBDR				AML	AML	16 47 34.5	
	comp=N,298nm,0.8s						
SNQR	**Sonqor, Kerman**	**1.44**	**76**	Pg	**Pg**	**16 47 03.5**	**+0.5**
IKRK	**Kirkuk**	**1.58**	**304**	*e*Pg	**Pb**	**16 47 04.0**	**-0.4**
IKRK				*e*Sg	**Sb**	**16 47 24.0**	**-0.3**
IBZA	**Bozab**	**1.59**	**91**	Pg	**Pg**	**16 47 05.6**	**-0.5**
SDS1	**Sardasht. Az.**	**1.67**	**347**	Pg	**Pg**	**16 47 07.3**	**-0.2**
BHD	**Baghdad**	**1.79**	**227**	*e*Pn	**Pb**	**16 47 07.0**	**-1.1**
BHD				*e*Sn	**Sb**	**16 47 30.0**	**-0.4**
BHD				AML	AML	16 47 41.4	
	comp=E,483nm,0.2s						
IKFM	**Kafar-mosalman**	**1.87**	**121**	Pn	**Pb**	**16 47 10.0**	**+0.6**
IDOB	**Doab**	**2.00**	**111**	Pn	**Pb**	**16 47 11.6**	**-0.1**
HSAM	**Samen**	**2.23**	**97**	Pn	**Pb**	**16 47 15.1**	**-0.6**
MAHB	**Mahabad**	**2.25**	**355**	Pn	**Pb**	**16 47 15.4**	**-0.6**
QABG	**Abgarm-Qazvin**	**3.22**	**67**	Pn	**Pb**	**16 47 29.3**	**-3.3**
ISRB	**Sarab**	**3.59**	**22**	Pn	**Pn**	**16 47 33.3**	**+2.4**
ISHB	**Shabestar**	**3.77**	**356**	Pn	**Pn**	**16 47 35.9**	**+2.5**
QAMS	**Qamsar**	**4.60**	**98**	Pn	**Pn**	**16 47 47.8**	**+3.0**

*TEH **08** 16:50:10.1, 34.°50N×45.°93E, h8km±35km, ML2.6*
*ISN **08** 16:50:10.4±1.1, 34.°45N×45.°93E, h13km±12km, ML2.5*
ISC 08 16:50:10.2±1.0, **34.°50N**±0.°04×**45.°94E**±0.°03, **h10**km, **n14**, σ0§**57**/17, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.29**	**271**	Pg	**Pg**	**16 50 15.4**	**-0.7**
KGS1				Sg	**Sg**	**16 50 20.8**	**+0.8**
GLG1	**Gilan-e-Gharb**	**0.39**	**184**	Pg	**Pg**	**16 50 17.8**	**-0.1**
IDHR	**Dehrash**	**0.42**	**62**	Pg	**Pg**	**16 50 18.6**	**+0.1**
IGHG	**Ghaleghazi**	**0.55**	**108**	Pg	**Pb**	**16 50 21.6**	**-0.5**
ILBA	**Ilam Banvizeh**	**0.90**	**166**	Pg	**Pg**	**16 50 27.3**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.94**	**104**	Pg	**Pn**	**16 50 29.2**	**-0.4**
ILIN	**Lien**	**0.94**	**63**	Pg	**Pg**	**16 50 28.0**	**-0.3**
IBDR	**Badra**	**1.39**	**180**	*e*Pn	**Pb**	**16 50 36.0**	**-0.2**
	baz=360						
IBDR				*e*Sn	**Sg**	**16 50 56.0**	**+1.1**
IBDR				AML	AML	16 51 01.3	
	comp=N,94nm,0.4s						
IBDR				AML	AML	16 51 07.5	
	comp=E,84nm,0.7s						
SNQR	**Sonqor, Kerman**	**1.44**	**75**	Pg	**Pg**	**16 50 38.2**	**+0.4**
IBZA	**Bozab**	**1.59**	**91**	Pg	**Pg**	**16 50 40.6**	**-0.1**
IKRK	**Kirkuk**	**1.59**	**305**	*e*Pn	**Pg**	**16 50 41.0**	**+0.3**
IKRK				*e*Sn	**Sg**	**16 51 02.0**	**+0.6**
IKFM	**Kafar-mosalman**	**1.86**	**121**	Pn	**Pb**	**16 50 44.8**	**+0.5**
IDOB	**Doab**	**1.99**	**110**	Pn	**Pb**	**16 50 46.7**	**0.0**
HSAM	**Samen**	**2.22**	**97**	Pn	**Pb**	**16 50 49.8**	**-0.8**

*IDC **08** 17:27:06.6±1.2, 6.°00S×150.°87E, h0km, mb3.8/6, mbtmp3.8/7, ML2.0/1, MS3.0/3, Error ellipse: s-maj=55.2km s-min=21.1km az=120.0*
ISC 08 17:27:12.1±1.1, **6.°0S**±0.°2×**150.°7E**±0.°3, **h35**km, **n9**, σ1§**09**/9, **mb3.7**/6, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.89**	**226**	Pn	**Pn**	**17 28 24.7**	**+1.5**
	3.7nm,0.3s,baz=33,slow=16,SNR=15						
PMG				Sn	**Sn**	**17 29 17.3**	**-1.4**
	5.2nm,0.3s,baz=97,slow=16,SNR=6.8						
PMG				LR	LR	17 30 20.0	
	comp=Z,148nm,18.9s,baz=332,slow=39						
	17nm,0.6s						
GUMO	**Guam**	**20.34**	**343**	LR	LR	17 38 04.5	
	comp=Z,31nm,20.7s,baz=196,slow=32						
WRA	**Warramunga Arr**	**21.11**	**228**	P	**P**	**17 31 53.6**	**-0.4**
	1.8nm,0.5s,baz=53,slow=11,SNR=18						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**23.88**	**221**	P	**P**	**17 32 23.1**	**+0.4**
	0.8nm,0.7s,baz=55,slow=9.1,SNR=23						
ASAR				LR	LR	17 41 19.8	
	comp=Z,62nm,18.8s,baz=172,slow=36						
	0.8nm,0.7s						
STKA	**Stephens Creek**	**27.11**	**197**	P	**P**	**17 32 51.4**	**-0.5**
	3.5nm,0.8s,baz=23,slow=14,SNR=5.4						
	3.5nm,0.8s						
SONM	**Songino Array**	**66.28**	**329**	P	**P**	**17 37 57.5**	**+0.4**
	0.2nm,0.4s,baz=132,slow=6.0,SNR=1.9						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**84.06**	**22**	P	**P**	**17 39 37.6**	**-1.3**
	0.4nm,0.7s,baz=235,slow=4.3,SNR=4.4						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**94.44**	**52**	P	**P**	**17 40 30.0**	**+0.7**
	0.5nm,0.7s,baz=252,slow=7.3,SNR=4.8						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.70**	**285**	PKPbc	**PKPbc**	**17 46 56.4**	**-0.4**
	3.3nm,0.7s,baz=95,slow=2.9,SNR=15						

*KRNET **08** 17:39:05.5±0.1, 39.°31N×78.°90E, mb2.4*
SOME 08 17:39:06.6, 42.°35N×80.°90E, h0km, **6C-4D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.33**	**308**	*e*P	Pg	17 39 28.6	-3.5
	2.1nm,0.2s						
SHLS				*e*S	Sg	17 39 44.5	-4.8
	7.5nm,0.6s						
PRZ	**Przheval'sk**	**1.86**	**275**	⇑*e*P	Pg	17 39 58.8	+17
	baz=53						
PRZ				⇑*e*S	Sg	17 40 37.8	+32
	baz=53						
SATY	**Saty**	**1.97**	**292**	*e*P	Pg	17 39 44.4	0.0
	1.5nm,0.2s						
SATY				*e*S	Sg	17 40 11.8	+1.9
	6.0nm,0.2s						
KPKS	**Kokpek**	**1.97**	**305**	*e*P	Pb	17 39 43.7	+0.2
	3.0nm,0.3s						
KPKS				*e*S	Sg	17 40 10.5	+0.5
	6.9nm,0.4s						
DJR	**Jarkent**	**2.14**	**338**	*e*P	Pg	17 39 47.8	+0.1
	0.5nm,0.1s						
DJR				*e*S	Sg	17 40 17.3	+2.0
	1.5nm,0.1s						
TARG	**Taragay, Kyrgy**	**2.39**	**256**	⇑*i*P	Pb	17 39 49.8	-0.9
	baz=41						
TARG				⇑*i*S	Sg	17 40 22.2	-1.1
	baz=41						
KDJ	**Kajisay**	**2.77**	**267**	⇑*i*P	Pb	17 39 57.3	+0.2
	baz=36						
KDJ				⇑*i*S	Sg	17 40 35.0	-0.6
	baz=36						
KTBS	**Karatobe**	**3.38**	**295**	*e*P	Pb	17 40 09.0	+1.7
	0.4nm,0.1s						
KTBS				*e*S	Sg	17 40 53.9	-1.2
	3.1nm,0.4s						
ULHL	**Ulahol**	**3.46**	**270**	⇓*i*P	Pn	17 40 03.7	+1.8
	baz=26						
ULHL				⇓*i*S	Sn	17 40 46.5	+2.9
	baz=26						
BOOM	**Boomskoye usch**	**3.67**	**274**	⇓*e*P	Pn	17 40 07.9	+3.1
	baz=26						
BOOM				⇓*e*S	Sn	17 40 53.0	+4.0
	baz=26						

*IDC **08** 17:44:00.7±2.5, 10.°85N×62.°45W, h96km±24km, mb3.5/8, mbtmp3.9/10, Error ellipse: s-maj=26.6km s-min=18.6km az=58.0*

*NEIC **08** 17:44:01.7±1.4, 10.°65N±0.°05×62.°6W±0.°1, h101km±12km, mb4.5/12, Error ellipse: s-maj=16.0km s-min=6.8km az=106.0*
*FUNV **08** 17:44:01.7, 10.°60N×62.°49W, h16km, MW4.0*
*TRN **08** 17:44:03.6, 10.°77N×62.°62W, h81km, MD3.6, North of the Paria peninsula.*
ISC 08 17:44:01.2±0.7, **10.°69N**±0.°04×**62.°57W**±0.°03, **h107**km±7km, **n59**, σ1§**45**/84, **mb4.2**/14, **2C-2D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.80**	**90**	*e*P	**Pn**	**17 44 22.1**	**+1.9**
TRN	**Trinidad (W)**	**1.15**	**92**	*e*P	**Pn**	**17 44 24.6**	**+0.8**
TRN				*e*S	**Sn**	**17 44 40.3**	**-0.5**
TPP	**Pointe-a-Pierr**	**1.16**	**109**	*e*P	**Pn**	**17 44 26.4**	**+2.4**
TPP				*e*S	**Sn**	**17 44 42.7**	**+1.6**
TBH	**Brigand Hill**	**1.49**	**98**	*e*P	**Pn**	**17 44 30.0**	**+2.2**
TBH				*e*S	**Sn**	**17 44 48.6**	**+0.6**
GRFF	**Grenada Fort F**	**1.58**	**31**	*e*P	**Pn**	**17 44 28.9**	**0.0**
GRFF				*e*S	**Sn**	**17 44 48.6**	**-1.2**
CUMV	**Cumana_UDO**	**1.62**	**261**	⇓*e*P	**Pn**	**17 44 31.4**	**+2.1**
CUMV				*e*S	**Sn**	**17 44 52.1**	**+1.4**
GRGR	**Grenville**	**1.69**	**32**	Pn	**Pn**	**17 44 30.8**	**+0.5**
GRGR				Sn	**Sn**	**17 44 52.8**	**+0.5**
GRGR	**Grenville**	**1.69**	**32**	*e*P	**Pn**	**17 44 30.7**	**+0.5**
GRGR				*e*S	**Sn**	**17 44 51.6**	**-0.7**
GRW	**Mount Saint Ca**	**1.71**	**31**	*e*P	**Pn**	**17 44 31.0**	**+0.5**
GRW				*e*S	**Sn**	**17 44 52.5**	**-0.3**
GRHS	**Sauteurs**	**1.77**	**31**	*e*P	**Pn**	**17 44 31.9**	**+0.6**
GRHS				*e*S	**Sn**	**17 44 53.3**	**-0.8**
TPR	**Prospect**	**1.83**	**74**	*e*P	**Pn**	**17 44 33.9**	**+1.9**
TPR				*e*S	**Sn**	**17 44 56.7**	**+1.3**
GRSS	**Sisters**	**1.85**	**30**	*e*P	**Pn**	**17 44 32.9**	**+0.7**
GRSS				*e*S	**Sn**	**17 44 56.2**	**+0.3**
PCRV	**Puerto La Cruz**	**2.10**	**256**	⇑*i*P	**Pn**	**17 44 36.7**	**+1.4**
PCRV				*e*S	**Sn**	**17 45 01.1**	**-0.4**
PCRV	**Puerto La Cruz**	**2.10**	**256**	P	**Pn**	**17 44 36.9**	**+1.4**
	27nm,0.2s,baz=41,slow=4.4,SNR=81						
PCRV				S	**Sn**	**17 45 00.7**	**-0.7**
	65nm,0.5s,baz=43,slow=19,SNR=16						
PCRV	**Puerto La Cruz**	**2.10**	**256**	*e*P	**Pn**	**17 44 36.8**	**+1.4**
PCRV				*e*S	**Sn**	**17 45 01.0**	**-0.4**
GCMP	**Grenada, Carri**	**2.11**	**32**	*e*P	**Pn**	**17 44 36.1**	**+0.6**
GCMP				*e*S	**Sn**	**17 45 01.1**	**-0.5**
SVOC	**Richmond Hill,**	**2.78**	**28**	*e*P	**Pn**	**17 44 46.7**	**+2.5**
SVOC				*e*S	**Sn**	**17 45 18.2**	**+0.9**
SVT	**Saint Vincent**	**2.79**	**28**	*e*P	**Pn**	**17 44 45.6**	**+1.3**
SVT				*e*S	**Sn**	**17 45 16.1**	**-1.3**
SVB	**Belmont**	**2.87**	**27**	*e*P	**Pn**	**17 44 46.4**	**+0.9**
SVB				*e*S	**Sn**	**17 45 19.3**	**-0.2**
SLBI	**Saint Lucia, B**	**3.66**	**25**	*e*P	**Pn**	**17 44 58.0**	**+2.1**
SLBI				*e*S	**Sn**	**17 45 37.0**	**-1.3**
BBGH	**Gun Hill**	**3.82**	**50**	*e*S	**Sn**	**17 45 42.4**	**+0.1**
MERV	**Las Mercedes**	**3.94**	**249**	*e*P	**Pn**	**17 45 00.5**	**+0.7**
MERV				*e*S	**Sn**	**17 45 44.6**	**-0.4**
BIM	**Bigot**	**4.07**	**21**	Pn	**Pn**	**17 45 02.7**	**+1.1**
BIM	**Bigot**	**4.07**	**21**	*e*P	**Pn**	**17 45 02.3**	**+0.7**
BIM				*e*S	**Sn**	**17 45 45.7**	**-2.6**
FDF	**Fort de France**	**4.25**	**19**	Pn	**Pn**	**17 45 04.7**	**+0.7**
LUEV	**Lugo**	**4.94**	**167**	*e*P	**Pn**	**17 45 12.8**	**-0.7**
LUEV				*e*S	**Sn**	**17 46 04.9**	**-4.7**
BENV	**Beln**	**5.00**	**262**	⇑*e*P	**Pn**	**17 45 15.4**	**+1.3**
BENV				*e*S	**Sn**	**17 46 10.4**	**-0.5**
CACV	**CAICARA DEL OR**	**5.00**	**232**	⇓*e*P	Pn	17 45 09.3	-4.7
CACV				*e*S	Sn	17 45 59.7	-11
TURV	**Turiamo**	**5.19**	**268**	*e*P	**Pn**	**17 45 17.6**	**+1.0**
TURV				*e*S	**Sn**	**17 46 14.5**	**-0.7**
TBG	**Guadaloupe-3**	**5.21**	**10**	*e*P	**Pn**	**17 45 18.1**	**+1.3**
BAUV	**El Baul**	**5.66**	**253**		**Pn**	**17 45 23.2**	**+0.1**
BAUV	**El Baul**	**5.66**	**253**	*e*P	**Pn**	**17 45 22.8**	**-0.2**
BAUV				*e*S	**Sn**	**17 46 23.9**	**-3.0**
ANBD	**Bethesda, Anti**	**6.37**	**7**	*e*P	**Pn**	**17 45 34.6**	**+2.1**
ANBD				*e*S	**Sn**	**17 46 41.4**	**-2.4**
HUMP	**Col San Antoni**	**8.06**	**337**	Pn	**Pn**	**17 45 57.2**	**+1.7**
SJG	**San Juan**	**8.15**	**335**	Pn	**Pn**	**17 46 00.9**	**+4.2**
BOAV	**Boa Vista**	**8.49**	**166**	Pn	**Pn**	**17 46 00.5**	**-1.0**
AOPR	**Arecibo Observ**	**8.62**	**332**	*e*P	**Pn**	**17 46 04.8**	**+1.7**
MDP	**Montagnes des**	**11.29**	**119**	P	**Pn**	**17 46 36.9**	**-2.6**
	2.7nm,0.4s,baz=303,slow=16,SNR=17						
MDP				S	Sn	17 48 33.9	-10
	16nm,0.3s,baz=253,slow=11,SNR=17						
SDDR	**Presa de Saban**	**11.78**	**315**	Pn	**Pn**	**17 46 43.5**	**-2.4**
SAML	**Samuel**	**19.52**	**182**	P	**P**	**17 48 20.9**	**+0.6**
ETMB	**Extrema**	**20.70**	**190**	P	**P**	**17 48 33.7**	**+0.7**
SIV	**San Ignacio**	**26.55**	**177**	P	**P**	**17 49 32.2**	**+2.9**
	1.8nm,0.5s,baz=1.6,slow=8.5,SNR=11						
	1.8nm,0.5s						
NNA	**Nana**	**26.62**	**213**	P	**P**	**17 49 30.9**	**+0.9**
	9.8nm,0.8s,baz=330,slow=15,SNR=4.8						
	9.8nm,0.8s						
S39A	**Bolivar**	**38.53**	**319**	P	**P**	**17 51 13.8**	**+0.5**
WHTX	**Lake Whitney,**	**38.53**	**309**	P	**P**	**17 51 13.8**	**+0.4**
WHTX				IAmb	IAmb	17 51 15.0	
	comp=Z,4.3nm,0.7s						
P40A	**Paris**	**38.87**	**323**	P	**P**	**17 51 16.8**	**+0.7**
P40A				IAmb	IAmb	17 51 17.7	
	comp=Z,4.5nm,0.7s						
BRDY	**Brady**	**39.44**	**307**	P	**P**	**17 51 22.0**	**+1.0**
BRDY				IAmb	IAmb	17 51 22.4	
	comp=Z,3.9nm,0.6s						
L40A	**Anamosa**	**40.06**	**326**	P	**P**	**17 51 25.9**	**-0.2**
L40A				IAmb	IAmb	17 51 27.4	
	comp=Z,5.7nm,0.6s						
I42A	**Draeger Farm,**	**40.17**	**330**	P	**P**	**17 51 27.7**	**+0.8**
I42A				IAmb	IAmb	17 51 47.8	
	comp=Z,6.7nm,0.8s						
SAND	**Sanderson**	**41.47**	**303**	P	**P**	**17 51 38.2**	**+0.4**
POST	**Post**	**42.09**	**308**	P	**P**	**17 51 42.9**	**0.0**
POST				IAmb	IAmb	17 51 44.4	
	comp=Z,4.8nm,0.8s						
TXAR	**Lajitas Array**	**42.56**	**302**	P	**P**	**17 51 47.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=112,slow=8.0,SNR=5.2						
	comp=Z,0.1nm,0.3s						
I37A	**Lemond, Waseca**	**42.56**	**327**	P	**P**	**17 51 47.4**	**+0.9**
SLBS	**Sierra La Lagu**	**46.85**	**292**	P	**P**	**17 52 20.3**	**-0.6**
ULM	**Lac du Bonnet**	**48.03**	**332**	P	**P**	**17 52 29.1**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=156,slow=10.0,SNR=2.3						
	comp=Z,0.8nm,0.3s						
PDAR	**Pinedale Array**	**51.80**	**317**	P	**P**	**17 52 58.5**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=117,slow=9.1,SNR=9.8						
	comp=Z,0.6nm,0.5s						
NVAR	**Mina Array Bea**	**56.72**	**309**	P	**P**	**17 53 34.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=91,slow=7.3,SNR=2.1						
	comp=Z,0.2nm,0.5s						
ILAR	**Eielson Array**	**77.98**	**334**	P	**P**	**17 55 47.2**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=87,slow=5.0,SNR=5.9						
	comp=Z,0.3nm,0.5s						
FINES	**FINESS Array B**	**80.05**	**29**	P	**P**	**17 55 59.6**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=285,slow=3.7,SNR=4.9						
	comp=Z,0.6nm,0.6s						

*IDC **08** 17:52:11.6±2.3, 2.°02N×126.°43E, h0km, mb3.4/3, mbtmp3.4/3, MS2.7/1, Error ellipse: s-maj=187.9km s-min=28.3km az=66.0*
*DJA **08** 17:52:14.1±0.4, 2.°N±5.°×12.°7E±.°, h10km, M3.6/7, mb3.7/1, MLv3.6/7*
ISC 08 17:52:12.6±1.7, **2.°4N**±0.°2×**127.°0E**±0.°2, **h10**km, **n7**, σ1§**21**/6, **mb3.4**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.61**	**167**	P	**Pn**	**17 52 42.3**	**+1.2**
KMSI	**Cibinong**	**3.49**	**240**	P	**Pn**	**17 53 07.7**	**+0.6**
SANI	**Sanana**	**4.48**	**193**	P	**Pn**	**17 53 20.7**	**0.0**
GUMO	**Guam**	**20.90**	**57**	LR	LR	18 04 49.5	
	comp=Z,19nm,18.7s,baz=193,slow=35						
WRA	**Warramunga Arr**	**23.29**	**162**	P	**P**	**17 57 19.3**	**-1.5**
	0.8nm,0.6s,baz=339,slow=11,SNR=5.7						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**26.71**	**166**	P	**P**	**17 57 52.0**	**-0.4**
	0.3nm,0.7s,baz=348,slow=7.2,SNR=6.0						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**58.84**	**326**	P	**P**	**18 02 11.6**	**+0.1**
	0.2nm,0.6s,baz=133,slow=8.1,SNR=2.8						
	0.2nm,0.6s						

*DJA **08** 18:04:27.4±0.3, 10.°S±4.°×11.°9E±.°, h51km±23km, M4.3/17, mb4.4/6, MLv4.2/17*
*IDC **08** 18:04:32.2±6.1, 9.°68S×119.°01E, h97km±54km, mb3.4/5, mbtmp3.6/8, Error ellipse: s-maj=76.8km s-min=17.7km az=63.0*
ISC 08 18:04:27.0±0.7, **9.°92S**±0.°06×**119.°00E**±0.°05, **h50**km, **n36**, σ1§**35**/38, **mb3.6**/5, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.58**	**101**	P	**Pn**	**18 04 53.2**	**+0.6**
PLAI	**Plampang**	**1.62**	**312**	P	**Pn**	**18 04 53.7**	**+0.6**
PLAI	**Plampang**	**1.62**	**312**	P	**Pn**	**18 04 53.6**	**+0.5**
PLAI				S	**Sn**	**18 05 13.7**	**+0.8**
TWSI	**Taliwang, Sumb**	**2.40**	**299**	P	**Pn**	**18 05 04.7**	**+1.0**
TWSI				S	**Sn**	**18 05 33.4**	**+1.5**
EDFI	**Ende, Flores**	**2.90**	**67**	P	**Pn**	**18 05 11.1**	**+0.3**
EDFI				S	**Sn**	**18 05 43.4**	**-1.1**
MMRI	**Maumere**	**3.44**	**69**	P	**Pn**	**18 05 19.6**	**+1.5**
MMRI	**Maumere**	**3.44**	**69**	P	**Pn**	**18 05 19.1**	**+1.0**
DNP	**Denpasar**	**3.94**	**288**	P	**Pn**	**18 05 26.6**	**+1.7**
DNP				S	**Sn**	**18 06 11.1**	**+1.2**
SRBI	**Singaraja**	**4.16**	**296**	P	**Pn**	**18 05 27.9**	**-0.1**
BATI	**Baumata**	**4.60**	**94**	P	**Pn**	**18 05 34.6**	**+0.5**
BKSI	**Bulukumba**	**4.70**	**14**	P	**Pn**	**18 05 37.3**	**+1.9**
KAPI	**Kappang**	**4.93**	**9**	P	**Pn**	**18 05 40.8**	**+2.3**
KAPI	**Kappang**	**4.93**	**9**	P	**Pn**	**18 05 40.5**	**+1.9**
	19nm,0.5s,baz=207,slow=11,SNR=10						
KAPI				S	**Sn**	**18 06 34.8**	**+0.5**
	21nm,0.3s,baz=221,slow=20,SNR=8.9						
JAGI	**Jajag, Banyuwa**	**5.00**	**286**	P	**Pn**	**18 05 38.2**	**-1.3**
JAGI	**Jajag, Banyuwa**	**5.00**	**286**	P	**Pn**	**18 05 37.4**	**-2.1**
	50nm,0.6s,0.4nm						
ABJI	**Asem Bagus**	**5.16**	**294**	P	**Pn**	**18 05 42.1**	**+0.4**
	100nm,1.1s,0.3nm						
SOEI	**Soe**	**5.20**	**89**	P	**Pn**	**18 05 43.6**	**+1.3**
SOEI	**Soe**	**5.20**	**89**	P	**Pn**	**18 05 42.5**	**+0.2**
	30nm,0.9s,0.3nm						
BBSI	**Bau Bau**	**5.65**	**39**	P	**Pn**	**18 05 49.5**	**+1.1**
	45nm,1.2s,0.2nm						
PWJI	**Pagerwojo**	**7.35**	**284**	P	**Pn**	**18 06 12.1**	**+0.3**
UGM	**Wanagama**	**8.61**	**283**	P	**Pn**	**18 06 28.3**	**-0.7**
MBWA	**Marble Bar**	**11.20**	**176**	P	**Pn**	**18 07 04.1**	**-0.4**
PSA00	**Pilbara Seismi**	**11.62**	**176**	P	**Pn**	**18 07 08.7**	**-1.5**
GIRL	**Giralia**	**13.45**	**199**	P	**Pn**	**18 07 35.5**	**+0.2**
KDU	**Kakadu**	**13.50**	**103**	P	**Pn**	**18 07 37.4**	**+1.5**
	16nm,1.6s						
MEEK	**Meekatharra**	**16.64**	**181**	P	**Pn**	**18 08 17.6**	**+0.8**
WRA	**Warramunga Arr**	**17.85**	**126**	P	**P**	**18 08 34.6**	**+2.6**
	0.4nm,0.7s,baz=302,slow=11,SNR=1.7						
WRA				S	Sn	18 11 37.9	-12
	0.3nm,0.5s,baz=287,slow=25,SNR=1.5						
ASAR	**Alice Springs**	**19.74**	**136**	P	**Pn**	**18 08 56.6**	**+2.1**
	1.0nm,1.0s,baz=310,slow=9.8,SNR=10						
ASAR				S	S	18 12 18.2	-14
	0.2nm,0.7s,baz=304,slow=21,SNR=1.1						
CMAR	**Chiang Mai Arr**	**34.45**	**325**	P	**P**	**18 11 08.8**	**-1.4**
	0.4nm,0.5s,baz=156,slow=7.3,SNR=5.0						
	0.4nm,0.5s						
H08S2	**Diego Garcia H**	**45.99**	**269**	T	T	19 02 03.8	
	baz=96,slow=75,SNR=29						
H08S3	**Diego Garcia H**	**46.00**	**269**	T	T	19 02 05.4	
	baz=96,slow=75,SNR=30						
H08S1	**Diego Carcia H**	**46.01**	**269**	T	T	19 02 05.9	
	baz=96,slow=75,SNR=25						
SONM	**Songino Array**	**58.58**	**350**	P	**P**	**18 14 16.9**	**-1.8**
	0.3nm,0.6s,baz=168,slow=8.7,SNR=2.5						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**65.27**	**333**	P	**P**	**18 15 02.9**	**-0.7**
	1.3nm,0.7s,baz=145,slow=7.5,SNR=15						
	1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**69.78**	**334**	P	**P**	**18 15 30.8**	**-1.1**
	0.4nm,0.6s,baz=141,slow=5.6,SNR=6.0						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**69.89**	**339**	P	**P**	**18 15 30.4**	**-2.1**
	0.6nm,0.4s,baz=108,slow=4.7,SNR=3.6						
	0.6nm,0.4s						

*IDC **08** 18:06:28.8±1.7, 30.°10S×177.°92W, h58km±14km, mb3.9/6, mbtmp4.2/6, MS3.4/2, Error ellipse: s-maj=24.9km s-min=20.1km az=124.0*
*NEIC **08** 18:06:28.7±1.6, 30.°12S±0.°04×178.°0W±0.°2, h48km±10km, mb4.5/15, Error ellipse: s-maj=28.0km s-min=5.6km az=92.0*
ISC 08 18:06:28.1±0.6, **30.°14S**±0.°08×**178.°1W**±0.°1, **h50**km, **n44**, σ1§**08**/37, **mb4.5**/13, **Kermadec Islands**

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

comp=Z,0.9nm,0.7s,baz=107,slow=2.2,SNR=12
ARCES ARCESS Array B 138.32 348 PKP PKPdf 18 25 46.5 -0.4
comp=Z,2.1nm,1.0s,baz=335,slow=1.5,SNR=1.8
FINES FINESS Array B 144.88 340 PKP PKPab 18 25 57.4 -0.6
comp=Z,5.7nm,0.5s,baz=55,slow=3.9,SNR=56
NB2 NORSAR Subarra148.49 351 PKP PKPbc 18 26 08.1 -0.5
comp=Z,1.1nm,0.6s,baz=15,slow=2.8
NOA NORSAR Array B 148.49 351 PKPbc PKPbc 18 26 08.0 -0.5
comp=Z,1.5nm,0.6s,baz=14,slow=4.1,SNR=5.9
HFS Hagfors 148.98 349 PKPbc PKPbc 18 26 09.0 -0.8
comp=Z,2.9nm,0.7s,baz=57,slow=5.3,SNR=8.6
AKASG Malin Array Be 151.06 323 PKPbc PKPbc 18 26 13.8 -1.3
comp=Z,2.3nm,0.5s,baz=50,slow=2.5,SNR=6.1
MMAI Mount Meron Ar 151.40 284 PKPbc PKPbc 18 26 17.2 +0.6
comp=Z,3.3nm,0.6s,baz=90,slow=2.8,SNR=7.7
BRTR Keskin Array B 152.42 299 PKPbc PKiKP 18 26 19.8 +0.7
comp=Z,1.2nm,0.8s,baz=73,slow=3.4,SNR=6.0
TORD Torodi Ar. Bea 163.09 179 PKPab PKPab 18 27 14.7 -0.7
comp=Z,0.5nm,0.6s,baz=180,slow=3.6,SNR=4.6

*IDC **08** 18:14:50.1±6.3,4°.77S×153°.40E,h82km±51km,mb3.4/7, mbtmp3.8/8,ML2.2/1,MS2.7/2,Error ellipse: s-maj=44.8km s-min=24.4km az=87.0*

ISC 08 18:14:52.2±1.0,4°.8S±0°.2×153°.3E±0°.2,h100km,n10, σ0§89/11,mb3.6/7,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.62	233	P	Pn	18 16 40.7	+0.2
	2.0nm,0.3s,baz=44,slow=12,SNR=7.6						
PMG				S	Sn	18 18 04.2	-1.1
	20nm,0.9s,baz=77,slow=14,SNR=2.7						
PMG				LR	LR	18 19 13.0	
	comp=Z,74nm,18.5s,baz=85,slow=34 16nm,0.7s						
GUMO	Guam	20.07	336	LR	LR	18 28 08.6	
	comp=Z,14nm,18.1s,baz=198,slow=40						
WRA	Warramunga Arr	23.82	229	P	P	18 19 57.5	+1.3
	1.0nm,0.6s,baz=53,slow=10.0,SNR=8.4 1.0nm,0.6s						
ASAR	Alice Springs	26.49	223	P	P	18 20 21.3	+0.9
	0.4nm,0.7s,baz=53,slow=8.9,SNR=6.7						
ASAR				PcP	PcP	18 23 43.1	0.0
	0.4nm,0.8s,baz=52,slow=5.1,SNR=3.3 0.4nm,0.7s						
VNDA	Vanda	72.83	178	P	P	18 26 09.8	+0.2
	1.2nm,0.8s,baz=360,slow=4.8,SNR=6.0 1.2nm,0.8s						
MKAR	Makanchi Array	80.63	319	P	P	18 26 55.1	+1.1
	0.5nm,0.5s,baz=98,slow=7.3,SNR=9.6 0.5nm,0.5s						
ILAR	Eielson Array	81.96	22	P	P	18 27 00.2	-0.5
	0.2nm,0.6s,baz=232,slow=6.1,SNR=1.6 0.2nm,0.6s						
KURBB	Kurchatov Arra	84.08	322	P	P	18 27 11.6	-0.3
	0.7nm,0.9s,baz=102,slow=4.9,SNR=5.8 0.7nm,0.9s						
QSPA	South Pole Qui	85.18	180	P	P	18 27 16.9	-0.4
	2.7nm,0.8s,baz=337,slow=2.6,SNR=18 2.7nm,0.8s						
TORD	Torodi Ar. Bea	150.76	288	PKPbc	PKiKP	18 34 33.6	-1.0
	1.5nm,0.8s,baz=76,slow=3.2,SNR=8.2						

*IDC **08** 18:19:24.6±3.6,16°.97S×177°.25W,h355km±33km,mb3.2/7, mbtmp3.9/8,Error ellipse: s-maj=26.2km s-min=22.3km az=148.0*
*NEIC **08** 18:19:27.0±1.5,16°.9S±0°.2×177°.2W±0°.1,h391km±10km, mb4.3/21,Error ellipse: s-maj=23.6km s-min=14.6km az=200.0*

ISC 08 18:19:28.7±0.8,17°.0S±0°.1×177°.3W±0°.1,h400km,n33, σ1§24/34,mb4.0/16,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.53	261	Pn	Pn	18 20 46.3	+0.3
LIFNC	LIFOU	15.13	253	P	P	18 22 41.5	-1.0
PINNC	Pines Island,	15.42	246	P	P	18 22 45.0	-0.7
OUENC	Ouen Island, N	15.89	248	P	P	18 22 49.9	-0.9
OUENC				IAmb	IAmb	18 22 50.5	
	comp=Z,12nm,1.1s						
DZM	Mont Dzumac	16.15	249	P	P	18 22 53.6	-0.1
DZM				IAmb	IAmb	18 23 00.3	
	comp=Z,11nm,0.9s						
DZM	Mont Dzumac	16.15	249	P	P	18 22 52.7	-1.0
	comp=Z,3.4nm,0.7s,baz=86,slow=19,SNR=5.2						
MLZ	Mavora Lakes	30.78	200	P	P	18 25 09.4	+0.3
MLZ				IAmb	IAmb	18 25 15.3	
	comp=Z,15nm,1.2s						
WHZ	Wether Hill Ro	31.30	200	P	P	18 25 13.7	+0.1
ARMA	Armidale	31.32	239	P	P	18 25 14.2	+0.1
ARMA				IAmb	IAmb	18 25 25.0	
	comp=Z,23nm,1.2s						
CTA	Charters Tower	34.68	259	P	P	18 25 42.6	-0.2
	comp=Z,0.2nm,0.8s,baz=9.4,slow=14,SNR=1.5						
CTAO	Charters Tower	34.68	259	P	P	18 25 41.7	-1.1
CTAO				IAmb	IAmb	18 26 08.4	
	comp=Z,32nm,1.5s						
TOO	Toolangi	38.56	230	P	P	18 26 13.4	-1.6
TOO				IAmb	IAmb	18 26 22.4	
	comp=Z,26nm,1.2s						
STKA	Stephens Creek	40.01	241	P	P	18 26 26.6	-0.2
STKA	Stephens Creek	40.01	241	P	P	18 26 26.7	-0.2
	comp=Z,2.6nm,0.7s,baz=88,slow=14,SNR=7.6						
	comp=Z,2.6nm,0.7s						
BBOO	Buckleboo	44.78	240	P	P	18 27 04.0	-0.8
BBOO				IAmb	IAmb	18 27 36.6	
	comp=Z,27nm,1.4s						
WR0	Warramunga Arr	45.68	259	P	P	18 27 12.3	+0.4
WB0	Warramunga Arr	45.84	259	P	P	18 27 12.4	-0.8
WB0				IAmb	IAmb	18 27 20.7	
	comp=Z,13nm,1.2s						
WRA	Warramunga Arr	45.87	259	P	P	18 27 12.9	-0.5
WRA	Warramunga Arr	45.87	259	P	P	18 27 12.2	-1.2
	comp=Z,0.3nm,0.4s,baz=91,slow=7.4,SNR=9.1						
	comp=Z,0.3nm,0.4s						
AS31	Alice Springs	46.08	253	P	P	18 27 14.4	-0.7
ASAR	Alice Springs	46.08	253	P	P	18 27 13.9	-1.2
ASAR	Alice Springs	46.08	253	P	P	18 27 14.2	-0.8
	comp=Z,3.6nm,0.6s,baz=87,slow=8.2,SNR=98						
ASAR				PcP	PcP	18 28 46.9	+3.2
	comp=Z,0.5nm,0.6s,baz=103,slow=4.2,SNR=2.2						
ASAR				ScP	ScP	18 32 01.9	+3.8
	comp=Z,0.4nm,1.0s,baz=105,slow=5.4,SNR=0.9						
	comp=Z,3.6nm,0.6s						
KNRA	Kununurra	51.67	263	P	P	18 27 56.6	-0.4
KNRA				IAmb	IAmb	18 27 58.0	
	comp=Z,7.8nm,0.8s						
SBA	Scott Base	61.35	184	P	P	18 29 04.9	+1.6
CASY	Casey	67.38	205	P	P	18 29 45.8	+3.8
QSPA	South Pole Qui	73.01	180	P	P	18 30 15.7	-0.2
QSPA	South Pole Qui	73.01	180	P	P	18 30 16.8	+0.9
	comp=Z,1.7nm,0.6s,baz=42,slow=4.6,SNR=16						
	comp=Z,1.7nm,0.6s						
USRK	Ussuriysk Ar.	76.53	325	P	P	18 30 37.3	+1.3
	comp=Z,2.3nm,0.8s,baz=113,slow=6.9,SNR=3.4						
	comp=Z,2.3nm,0.8s						
SMAI	San Martin Ant	81.57	159	P	P	18 31 01.8	-0.9
SMAI				IAmb	IAmb	18 31 05.3	
	comp=Z,6.4nm,0.8s						
TXAR	Lajitas Array	84.61	57	P	P	18 31 17.8	-1.0
	comp=Z,0.2nm,0.8s,baz=242,slow=9.1,SNR=2.9						
	comp=Z,0.2nm,0.8s						
ILAR	Eielson Array	84.80	13	P	P	18 31 18.4	-0.4
	comp=Z,0.2nm,0.5s,baz=227,slow=5.2,SNR=4.4						
	comp=Z,0.2nm,0.5s						
SNAA	Sanae	91.43	178	P	P	18 31 49.4	-0.9
SNAA				IAmb	IAmb	18 32 14.9	
	comp=Z,3.1nm,1.2s						
SPB2	Spitsbergen Ar	118.47	357		PKiKP	18 37 27.6	-1.1

*GII **08** 18:36:51.1±0.3,32°.854N±0°.001×35°.572E±0°.001,h1km, Md2.2/5,Mws2.4/4,confirmed*
*GRAL **08** 18:36:52.4±0.3,32°.84N×35°.50E,h0km±2km,MD3.1*
*JSO **08** 18:36:52,32°.87N×35°.57E,h5km,ML2.6/15*

ISC 08 18:36:52.0±0.9,32°.87N±0°.02×35°.57E±0°.03,h11km±8km, n47, σ0§49/49,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	Mount Meron ar	0.19	318	P	Pg	18 36 55.7	-0.5
MMA0B	Mount Meron ar	0.20	316	S	Sg	18 36 59.6	+0.4
MMA0B	Mount Meron ar	0.20	316	P	Pg	18 36 55.8	-0.5
KSHT	Keshet	0.23	62	S	Sg	18 37 01.0	+0.8
KSHT	Keshet	0.23	62	P	Pg	18 36 56.3	-0.6
BLGI	Bet Lehem HaGe	0.34	246	P	Pb	18 36 59.6	-0.5
BLGI	Bet Lehem HaGe	0.34	246	S	Sg	18 37 04.3	+0.8
BLGI	Bet Lehem HaGe	0.34	246	P	Pg	18 36 58.7	-0.2
GEM	Giv'at Ha'Em	0.35	14	P	Pg	18 36 59.0	0.0
GEM	Giv'at Ha'Em	0.35	14	S	Sb	18 37 05.3	-0.4
GEM	Giv'at Ha'Em	0.35	14	P	Pg	18 36 58.8	-0.2
HNTI	Hanita	0.39	303	S	Sb	18 37 06.6	-0.3
HNTI	Hanita	0.39	303	P	Pg	18 36 60.0	+0.3
NATI	Neve Ativ	0.41	20	S	Sb	18 37 07.4	-0.2
NATI	Neve Ativ	0.41	20	P	Pg	18 37 00.2	0.0
MMLI	Mount Malkishu	0.45	196	S	Sg	18 37 07.6	+0.8
MMLI	Mount Malkishu	0.45	196	P	Pg	18 37 00.4	-0.4
SHBL	Chebaa	0.50	17	eP	Pg	18 37 02.2	+0.4
QRNJ	Al-Qirein	0.54	179	P	Pg	18 37 02.3	-0.1
OFRI	`Ofer	0.55	243	S	Sg	18 37 10.6	+0.7
OFRI	`Ofer	0.55	243	P	Pg	18 37 02.4	-0.3
HMDT	Nahal Hemdat	0.62	183	P	Pg	18 37 03.4	-0.6
HMDT	Nahal Hemdat	0.62	183	S	Sb	18 37 13.3	-0.2
HMDT	Nahal Hemdat	0.62	183	P	Pg	18 37 03.4	-0.6
RCY	Rachaya	0.66	20	eP	Pg	18 37 05.1	+0.2
RCY				eS	Sb	18 37 14.7	-0.2
QRWL	Qaraoun	0.68	8	eP	Pg	18 37 05.3	+0.1
SLTI	Sal'it	0.77	215	P	Pg	18 37 06.7	-0.1
SLTI	Sal'it	0.77	215	P	Pg	18 37 06.4	-0.4
SLTI	Sal'it	0.77	215	S	Sb	18 37 18.1	+0.3
DQRL	Deir Qamar	0.83	0	eP	Pg	18 37 07.9	-0.1
DQRL				eS	Sb	18 37 19.4	-0.3
HSUJ	Al Zarqa	0.93	145	P	Pg	18 37 09.7	-0.2
ZAHL	Zahle	1.02	15	eP	Pb	18 37 11.6	-0.2
BHL	Bhannes	1.03	4	eP	Pb	18 37 11.6	-0.3
DSI	Dead Sea	1.31	187	P	Pn	18 37 15.2	-0.9
DSI	Dead Sea	1.31	187	P	Pn	18 37 15.2	-0.9
DSI	Dead Sea	1.31	187	S	Sn	18 37 33.6	0.0
ASF	Jabal al Asfar	1.32	121	P	Pb	18 37 16.8	-0.1
HWQ	Hawqa	1.44	13	eP	Pb	18 37 18.6	-0.3
AMAZ	Amatzia	1.44	203	P	Pb	18 37 18.7	-0.2
AMAZ	Amatzia	1.44	203	S	Sg	18 37 38.9	+0.5
YTIR	Yattir	1.55	194	P	Pb	18 37 20.3	-0.4
YTIR	Yattir	1.55	194	P	Pn	18 37 19.7	+0.1
YTIR	Yattir	1.55	194	S	Sb	18 37 41.0	+0.6
MSBI	Mazada	1.56	187	P	Pn	18 37 20.0	+0.4
BEIL	Beino	1.74	17	eP	Pb	18 37 23.3	-0.7
PRNI	Paran	2.56	191	P	Pn	18 37 34.5	+1.1
PRNI	Paran	2.56	191	P	Pn	18 37 33.8	+0.5

SJA 08 18:41:48.0±0.7,27°.91S×66°.61W,h182km±4km,ML3.5, MW3.2,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	Choya	0.89	127	eP	Pn	18 42 16.2	+1.0
CYA				eS	Sn	18 42 35.8	-0.5
ACLC	CERRO LA CRUZ	1.54	191	eP	Pn	18 42 21.5	+0.7
ACLC				eS	Sn	18 42 45.4	-0.9
GUSE	Guasayan	1.56	90	eP	Pn	18 42 21.9	+1.2
AHML	Horco Molle	1.59	46	eP	Pn	18 42 21.9	+0.7
AHML				eS	Sn	18 42 46.1	-0.6
VCA	Vinchina	1.64	239	eP	Pn	18 42 22.7	+1.0
VCA				eS	Sn	18 42 47.5	-0.2
FSA	Cafayete	1.87	18	eP	Pn	18 42 24.8	+0.6
FSA				eS	Sn	18 42 52.0	-0.2
AVFE	Valle Fertil	2.84	195	eP	Pn	18 42 35.3	+0.4
AVFE				eS	Sn	18 43 10.3	-1.3
ACDV	Cuesta del Vie	3.15	224	eP	Pn	18 42 39.8	+1.0
ACDV				IAML		18 43 57.5	
	comp=Z,40nm,4.7s						
GO03	Copiap	3.23	275	eP	Pn	18 42 40.6	+1.0
GO03				eS	Sn	18 43 18.3	-1.6
ACHE	Chepes	3.25	181	eP	Pn	18 42 40.0	+0.1
ACHE				eS	Sn	18 43 18.8	-1.7
AROD	Rodeo	3.37	227	eP	Pn	18 42 42.7	+1.0
AROD				eS	Sn	18 43 24.2	+0.7
ACCO	Cerro Coronel	3.43	218	eP	Pn	18 42 42.8	+0.4
ACCO				eS	Sn	18 43 24.7	-0.1
DOCA	Reserva Natura	3.72	215	eP	Pn	18 42 46.1	0.0
DOCA				eS	Sn	18 43 30.4	-1.1
LCO	Las Campanas	3.77	252	eP	Pn	18 42 46.6	+0.1
LCO				IAML		18 43 30.8	
	comp=Z,199nm,2.1s						
LCO				eS	Sn	18 43 31.1	-1.1
TCA	Tanti	3.84	153	eP	Pn	18 42 48.0	+0.7
TCA				eS	Sn	18 43 31.7	-2.1
AC01	Pan de Azucar	3.97	295	eP	Pn	18 42 48.9	+0.1
AC01				IAML		18 44 00.1	
	comp=Z,48nm,4.7s						
RTLS	Leoncito	4.53	210	eS	Sn	18 43 49.3	-0.4
RTLS				IAML		18 44 17.3	
	comp=Z,35nm,2.7s						
CO03	El Pedregal	4.61	230	eP	Pn	18 42 57.7	+0.7
CO03				eS	Sn	18 43 51.2	0.0
CO03				IAML		18 44 09.3	
	comp=Z,24nm,3.0s						
CO02	Combarbal	5.04	228	eP	Pn	18 43 02.3	-0.4
CO02				eS	Sn	18 44 00.8	-0.6
CO02				IAML		18 44 36.1	
	comp=Z,33nm,4.1s						

*IDC **08** 18:53:05.7±0.7,33°.44N×130°.27E,h0km,mb3.7/12, mbtmp3.8/15,ML3.4/3,MS3.1/10,Error ellipse: s-maj=23.3km s-min=6.8km az=38.0*
*NEIC **08** 18:53:06.6±2.1,33°.18N±0°.05×130°.17E±0°.05,h10km±1km, mb4.4/7,Error ellipse: s-maj=9.5km s-min=6.4km az=157.0*
*NIED **08** 18:53:08.2,33°.43N×130°.38E,h14km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.07; $M_{\theta\theta}$1.01; $M_{\phi\phi}$-1.08; $M_{r\theta}$0.37; $M_{\theta\phi}$-0.02; $M_{\phi r}$0.37; Fault plane solution: $M_0$1.17000×10^{15} NP1:ϕ_s45.00000°, δ88.00000°,λ153.00000°. NP2:ϕ_s136.00000°,δ63.00000°, λ2.00000°.*
*JMA **08** 18:53:08.2±0.0,33°.4N±0°.1×130°.4E±0°.1,h14km,MD4.2/20, MV4.4/20,CENTRAL FUKUOKA PREF*
JMA Felt III J1 at CENTRAL FUKUOKA PREF.

ISC 08 18:53:07.7±1.1,33°.34N±0°.05×130°.27E±0°.05,h12km±7km, n82,σ1§22/58,mb3.9/18,MS3.2/6,4D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	Itaya	0.14	48	∥P	Pg	18 53 10.8	-0.3
JFI				∥S	Sg	18 53 12.6	-1.1
JFI	Itaya	0.14	48	A	A	18 53 10.8	
	comp=E,358nm,0.4s,comp=N,388nm,0.3s						
JUR	Ureshino	0.36	228	A	A	18 53 17.9	
	comp=E,16nm,1.0s,comp=N,22nm,0.6s						
JTA	Tamana	0.43	149	P	Pg	18 53 17.7	+1.4
JTA	Tamana	0.43	149	A	A	18 53 17.7	
	comp=E,22nm,0.5s,comp=N,21nm,0.5s						
JNU	Nakatsue	0.56	113	P	Pg	18 53 18.4	-0.2
JNU	Nakatsue	0.56	113	Pg	Pg	18 53 18.3	-0.3
JNU	Nakatsue	0.56	113	Pg	Pg	18 53 18.4	-0.2
	comp=N,571nm,0.3s,baz=290,slow=10,SNR=4034						
JNU				Lg	Lg	18 53 24.3	
	comp=N,5μm,0.3s,baz=253,slow=19,SNR=89						
JNU	Nakatsue	0.56	113	A	A	18 53 18.4	
	comp=E,34nm,0.7s,comp=N,24nm,1.1s						
JFA	Akaike	0.58	50	A	A	18 53 17.1	
	comp=E,21nm,0.8s,comp=N,28nm,0.7s						
JII	Iki	0.64	316	∥iP	Pg	18 53 20.9	+0.7
JII				∥iS	Sb	18 53 29.6	-0.1
JII	Iki	0.64	316	A	A	18 53 20.9	
	comp=E,25nm,1.3s,comp=N,19nm,2.4s						
JHD	Hondo	0.88	187	A	A	18 53 26.5	
	comp=E,5.0nm,0.9s,comp=N,6.0nm,0.8s						
JIU3	Izumi3	0.91	150	iP	Pb	18 53 25.9	+0.5
JIU3				S	Sb	18 53 38.6	+1.1
JIU3	Izumi3	0.91	150	A	A	18 53 25.9	
	comp=E,13nm,1.0s,comp=N,10.0nm,1.8s						
JBEP	Beppuamama	0.95	90	A	A	18 53 24.5	
	comp=E,15nm,1.1s,comp=N,17nm,2.6s						
JKI	Kunimi	1.13	74	A	A	18 53 27.0	
	comp=E,9.0nm,0.5s,comp=N,8.0nm,1.1s						
JTY	Toyota	1.14	35	A	A	18 53 26.9	
	comp=E,11nm,0.6s,comp=N,18nm,0.6s						
JKIT	Kitakata	1.22	125	A	A	18 53 30.4	
	comp=E,5.0nm,2.5s,comp=N,10.0nm,0.9s						
JZO	Okuchi	1.23	167	A	A	18 53 31.8	
	comp=E,5.0nm,0.4s,comp=N,7.0nm,0.4s						
JTSM	Tsushimamitsus	1.24	324	A	A	18 53 30.6	
	comp=E,18nm,1.0s,comp=N,13nm,1.2s						
JUS	Usuki	1.27	102	A	A	18 53 30.2	
	comp=E,5.0nm,0.6s,comp=N,9.0nm,1.8s						
JTU	Tsushima	1.39	329	P	Pn	18 53 32.5	-0.4
JTU	Tsushima	1.39	329	A	A	18 53 32.9	
	comp=E,12nm,1.2s,comp=N,12nm,1.1s						
JHHC	Hyugahichiya	1.46	127	A	A	18 53 34.0	
	comp=E,8.0nm,0.6s,comp=N,8.0nm,1.1s						
JSKE	Saikikamae	1.47	111	A	A	18 53 33.8	
	comp=E,5.0nm,3.6s,comp=N,6.0nm,0.5s						
JTSN	Tsuno	1.51	136	A	A	18 53 35.1	
	comp=E,5.0nm,2.7s,comp=N,5.0nm,1.5s						
JKD	Kudamatsu	1.52	61	A	A	18 53 33.2	
	comp=E,9.0nm,2.9s,comp=N,12nm,0.8s						
JHGM	Hagimishima	1.61	26	A	A	18 53 34.8	
	comp=E,14nm,1.3s,comp=N,13nm,1.0s						
JHIK	Hikimi	1.82	49	A	A	18 53 37.9	
	comp=E,5.0nm,0.9s,comp=N,5.0nm,2.1s						
JNKG	Nichinankitago	1.92	150	A	A	18 53 41.8	
	comp=E,5.0nm,2.9s,comp=N,3.0nm,3.0s						
JHT	Toyohira	2.22	53	A	A	18 53 43.6	
	comp=E,3.0nm,2.9s,comp=N,4.0nm,2.2s						
JGT2	ShimaneMisato	2.53	47	A	A	18 53 48.0	
	comp=E,4.0nm,3.1s,comp=N,4.0nm,1.5s						
JMN	Monobe	3.04	82	P	Pn	18 53 55.7	0.0
JMN	Monobe	3.04	82	Pn	Pn	18 53 55.1	-0.6
TJN	Taejon	3.86	323	Pn	Pn	18 54 07.7	+0.8
KSRS	Korea Array	4.53	336	Pn	Pn	18 54 16.1	0.0
	comp=N,2.1nm,0.3s,baz=152,slow=14,SNR=32						
KSRS				Pg	Pb	18 54 28.4	+1.3
	comp=N,5.7nm,0.3s,baz=151,slow=17,SNR=27						
KSRS				Lg	Lg	18 55 26.2	
	comp=N,15nm,0.3s,baz=154,slow=31,SNR=9.6 comp=N,5.5nm,0.4s						
KSAR	Wonju Array Be	4.54	335	Pn	Pn	18 54 16.4	+0.2
KS19	Wonju Array Si	4.59	335	Pn	Pn	18 54 15.9	-1.1
INU	Inuyama	5.93	68	P	Pn	18 54 36.1	+0.7
INU	Inuyama	5.93	68	Pn	Pn	18 54 35.4	0.0
JGF	Kuroka	6.28	67	P	Pn	18 54 40.5	+0.4
JGF	Kuroka	6.28	67	Pn	Pn	18 54 39.8	-0.4
JOW	Kunigami	6.71	195	Pn	Pn	18 54 44.6	-1.5
MJB9	Matsu-Tunnel	7.26	62	Pn	Pn	18 54 55.0	+1.4
MAJO	Matsushiro	7.26	62	P	Pn	18 54 55.7	+2.0
MAJO	Matsushiro	7.26	62	Pn	Pn	18 54 54.9	+1.3
MJAR	Matsushiro Arr	7.26	62	Pn	Pn	18 54 54.7	+1.0
	comp=N,0.1nm,0.3s,baz=242,slow=13,SNR=17						
MJAR				Lg	Lg	18 56 52.6	
	baz=235,slow=29,SNR=5.8						
MJAR				LR	LR	18 57 25.2	
	comp=N,70nm,21.9s,baz=240,slow=36 comp=N,2.0nm,0.5s						
JHJ	Hachijo jima 2	7.98	89	Pn	Pn	18 55 02.9	-0.5
	comp=N,10nm,0.3s,baz=238,slow=21,SNR=5.7						
JHJ				LR	LR	18 58 12.7	
	comp=N,135nm,18.7s,baz=130,slow=38 comp=N,92nm,0.9s						
JHJ2	Mitsune	8.01	89	P	Pn	18 55 03.4	-0.4
JHJ2	Mitsune	8.01	89	Pn	Pn	18 55 02.3	-1.5
USA0B	Ussuriysk Arra	10.93	7	Pn	Pn	18 55 46.1	+2.2
USRK	Ussuriysk Ar.	10.93	7	Pn	Pn	18 55 45.1	+1.2
USRK	Ussuriysk Ar.	10.93	7	Pn	Pn	18 55 46.0	+2.1
	comp=N,0.6nm,0.3s,baz=186,slow=12,SNR=14						
USRK				LR	LR	18 59 52.3	
	comp=N,72nm,18.6s,baz=191,slow=38						
JTM	Tenmabayashi	11.38	46	Pn	Pn	18 55 54.0	+3.9
KLR	Kul'dur	15.92	4	Pn	P	18 56 56.4	+1.3
	comp=N,0.3nm,0.3s,baz=190,slow=11,SNR=6.9						
KLR				LR	LR	19 02 32.4	
	comp=N,49nm,18.3s,baz=192,slow=36						
HEH	HeiHe	17.03	354	eP	P	18 57 08.9	+1.5
HEH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SONM	Songino Array	23.08	316	P	P	18 58 13.2	-0.1
	comp=Z,1.5nm,0.8s,baz=128,slow=9.8,SNR=11						
SONM				LR	LR	19 06 19.5	
	comp=Z,33nm,20.1s,baz=111,slow=34 comp=Z,1.5nm,0.8s						
GUMO	Guam	23.73	142	LR	LR	19 06 21.4	
	comp=Z,25nm,18.1s,baz=258,slow=33						
DAV	Davao City (W)	26.50	190	P	P	18 58 42.5	-2.5
DAV	Davao City (W)	26.50	190	LR	LR	19 11 41.9	
	comp=Z,37nm,18.0s,baz=358,slow=42						
MKAR	Makanchi Array	38.51	305	P	P	19 00 28.7	-1.1
MKAR	Makanchi Array	38.51	305	P	P	19 00 29.6	-0.2
	comp=Z,0.8nm,0.7s,baz=96,slow=9.5,SNR=9.9						
	comp=Z,0.8nm,0.7s						
MAKZ	Makanchi	38.73	305	P	P	19 00 30.4	-1.3
KURBB	Kurchatov Arra	41.25	311	P	P	19 00 52.1	-0.3
	comp=Z,0.9nm,0.8s,baz=98,slow=9.1,SNR=6.5						
	comp=Z,0.9nm,0.8s						
AAK	Ala-Archa	44.22	299	LR	LR	19 19 54.8	
	comp=Z,48nm,18.5s,baz=114,slow=36						
KK31	Karatay Array	47.06	300	P	P	19 01 39.3	+0.1
KK31				IAmb	IAmb	19 01 40.0	
	comp=Z,1.1nm,0.7s						
KKAR	Karatay Array	47.06	300	P	P	19 01 39.7	+0.5
D19K	Kuna River	52.71	26	P	P	19 02 21.9	+0.1
D19K				IAmb	IAmb	19 03 01.1	
	comp=Z,14nm,1.2s						
WRA	Warramunga Arr	53.12	175	P	P	19 02 27.0	+1.7
	comp=Z,1.1nm,0.9s,baz=352,slow=7.9,SNR=2.9						
	comp=Z,1.1nm,0.9s						
J20K	Nowinta River	54.34	31	P	P	19 02 35.0	+1.2
J20K				IAmb	IAmb	19 02 44.8	
	comp=Z,6.5nm,1.2s						
CAST	Castle Rocks	55.31	32	P	P	19 02 42.3	+1.4

MMLI	**Mount Malkishu**	**0.43**	**197**	P	**Pg**	**19 00 57.4**	**-0.4**
MMLI	**Mount Malkishu**	**0.43**	**197**	S	**Sg**	**19 01 04.0**	**+0.5**
NATI	**Neve Ativ**	**0.43**	**19**	S	**Sg**	**19 01 04.1**	**+0.5**
NATI	**Neve Ativ**	**0.43**	**19**	P	**Pg**	**19 00 57.0**	**-0.8**
QRNJ	**Al-Qirein**	**0.51**	**180**	P	**Pg**	**19 00 58.9**	**-0.4**
SHBL	**Chebaa**	**0.52**	**16**	*eP*	**Pg**	**19 00 59.4**	**-0.1**
OFRI	**`Ofer**	**0.54**	**245**	P	**Pg**	**19 00 59.7**	**-0.1**
OFRI	**`Ofer**	**0.54**	**245**	P	**Pg**	**19 00 59.3**	**-0.5**
OFRI	**`Ofer**	**0.54**	**245**	S	**Sb**	**19 01 08.4**	**0.0**
HMDT	**Nahal Hemdat**	**0.60**	**184**	P	**Pg**	**19 01 00.4**	**-0.4**
HMDT	**Nahal Hemdat**	**0.60**	**184**	S	**Sg**	**19 01 09.1**	**+0.4**
HMDT	**Nahal Hemdat**	**0.60**	**184**	P	**Pg**	**19 01 00.3**	**-0.6**
RCY	**Rachaya**	**0.68**	**19**	*eP*	**Pg**	**19 01 02.5**	**0.0**
RCY				*eS*	**Sg**	**19 01 11.6**	**+0.1**
QRWL	**Qaraoun**	**0.70**	**8**	*eP*	**Pg**	**19 01 02.8**	**0.0**
SLTI	**Sal'it**	**0.76**	**216**	P	**Pg**	**19 01 03.3**	**-0.6**
SLTI	**Sal'it**	**0.76**	**216**	S	**Sb**	**19 01 14.8**	**+0.4**
SLTI	**Sal'it**	**0.76**	**216**	P	**Pg**	**19 01 03.2**	**-0.6**
DQRL	**Deir Qamar**	**0.85**	**0**	*eP*	**Pg**	**19 01 05.5**	**-0.2**
DQRL				*eS*	**Sg**	**19 01 17.1**	**+0.1**
HSUJ	**Al Zarqa**	**0.91**	**145**	P	**Pg**	**19 01 06.0**	**-0.8**
ZAHL	**Zahle**	**1.04**	**15**	*eP*	**Pb**	**19 01 08.9**	**-0.2**
BHL	**Bhannes**	**1.05**	**4**	*eP*	**Pb**	**19 01 09.1**	**-0.2**
DSI	**Dead Sea**	**1.29**	**187**	P	**Pn**	**19 01 11.8**	**-1.1**
DSI	**Dead Sea**	**1.29**	**187**	P	**Pn**	**19 01 11.5**	**-1.3**
DSI	**Dead Sea**	**1.29**	**187**	S	**Sn**	**19 01 30.1**	**+0.1**
ASF	**Jabal al Asfar**	**1.31**	**121**	P	**Pn**	**19 01 13.3**	**0.0**
AMAZ	**Amatzia**	**1.43**	**203**	P	**Pn**	**19 01 15.0**	**+0.2**
HWQ	**Hawqa**	**1.46**	**12**	*eP*	**Pb**	**19 01 15.9**	**-0.4**
YTIR	**Yattir**	**1.53**	**195**	P	**Pn**	**19 01 16.4**	**+0.1**
YTIR	**Yattir**	**1.53**	**195**	P	**Pn**	**19 01 16.4**	**+0.1**
YTIR	**Yattir**	**1.53**	**195**	S	**Sb**	**19 01 37.3**	**+0.5**
MSBI	**Mazada**	**1.54**	**187**	P	**Pn**	**19 01 16.2**	**-0.1**
FKH	**Fakeheh**	**1.56**	**27**	*eP*	**Pn**	**19 01 17.4**	**+0.7**
LISJ	**El Lisan**	**1.61**	**183**	P	**Pb**	**19 01 18.2**	**-0.5**
SWQJ	**Swaqa**	**1.66**	**165**	P	**Pn**	**19 01 18.4**	**+0.4**
BEIL	**Beino**	**1.76**	**17**	*eP*	**Pn**	**19 01 20.5**	**+1.0**
ZFRI	**Zfri**	**2.31**	**188**	P	**Pn**	**19 01 27.8**	**+0.8**
ZFRI	**Zfri**	**2.31**	**188**	P	**Pn**	**19 01 27.0**	**+0.1**
PRNI	**Paran**	**2.54**	**191**	P	**Pn**	**19 01 30.9**	**+0.8**
PRNI	**Paran**	**2.54**	**191**	P	**Pn**	**19 01 30.6**	**+0.5**
KRMI	**Paran Flat**	**2.82**	**195**	P	**Pn**	**19 01 35.2**	**+1.2**
MBRI	**Mt Berech**	**3.10**	**191**	P	**Pn**	**19 01 38.7**	**+0.8**

*UCR **08** 19:06:17.4±0.6, 9.°04N×84.°18W, h0km±4km, MW3.4*
*UPA **08** 19:06:19.5±3.2, 8.°33N×84.°07W, h10km±999km, ML3.6*
*CATAC **08** 19:06:20.1±0.5, 9.°13N×84.°06W, h8km±4km, ML3.2*
ISC 08 19:06:20.0±1.3, **9.°13N**±0.°05×**84.°05W**±0.°05, **h18**km±7km, **n46**, σ0°**66**/53, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLNJ	**Naranjito**	**0.35**	**352**	*eP*	**Pg**	**19 06 27.3**	**-0.1**
OCHAL	**Ojochal**	**0.40**	**94**	*i P*	**Pg**	**19 06 28.4**	**0.0**
OCHAL				*i* S	**Sn**	**19 06 37.3**	**-0.9**
OCHAL				IAML		19 06 38.2	
	comp=Z,550nm,1.0s						
RAZU	**San Marcos de**	**0.53**	**3**	*eP*	**Pb**	**19 06 31.0**	**+0.1**
ABE2	**San Pablo**	**0.57**	**360**	*eP*	**Pg**	**19 06 31.4**	**-0.2**
LCR2	**La Lucha 2**	**0.61**	**4**	*i P*	**Pg**	**19 06 32.0**	**-0.3**
LCR2				IAML		19 06 45.2	
	comp=Z,680nm,1.0s						
LCR2	**La Lucha 2**	**0.61**	**4**	*eP*	**Pg**	**19 06 32.2**	**-0.1**
EDPN	**Palmar Norte**	**0.61**	**106**	*eP*	**Pg**	**19 06 31.7**	**-0.5**
ACOS	**Acosta**	**0.67**	**351**	*eP*	**Pg**	**19 06 32.6**	**-0.8**
BURE	**Buenos Aires**	**0.71**	**86**	*eP*	**Pg**	**19 06 34.5**	**+0.5**
TRIO	**Tres Rios**	**0.77**	**4**	*eP*	**Pb**	**19 06 34.6**	**-0.5**
SANTA	**Santa Ana**	**0.81**	**351**	*eP*	**Pb**	**19 06 34.2**	**-1.5**
PCAYA	**Pacayas**	**0.82**	**17**	*eP*	**Pg**	**19 06 36.3**	**+0.2**
VINA	**Juan Vinas**	**0.82**	**22**	*eP*	**Pg**	**19 06 36.3**	**+0.2**
BELE	**Belen**	**0.85**	**351**	*eP*	**Pb**	**19 06 35.6**	**-0.8**
TURIB	**Turrialba**	**0.85**	**25**	*eP*	**Pg**	**19 06 36.9**	**+0.1**
RAFA	**San Farael, Vo**	**0.86**	**16**	*i P*	**Pb**	**19 06 36.6**	**-0.1**
RAFA				IAML		19 07 35.3	
	comp=Z,8μm,1.0s						
RAFA	**San Farael, Vo**	**0.86**	**16**	*eP*	**Pg**	**19 06 37.0**	**+0.1**
HDC	**Heredia**	**0.87**	**356**	*i P*	**Pb**	**19 06 36.4**	**-0.3**
HDC				*i* S	**Sn**	**19 06 49.2**	**-0.7**
HDC				IAML		19 06 54.9	
	comp=Z,400nm,1.0s						
HDC	**Heredia**	**0.87**	**356**	*eP*	**Pb**	**19 06 36.7**	**0.0**
HDC3	**Heredia 3**	**0.87**	**356**	*i P*	**Pb**	**19 06 36.5**	**-0.2**
HDC3				IAML		19 06 54.9	
	comp=Z,440nm,1.0s						
TRB2	**Turrubares**	**0.87**	**334**	*eP*	**Pb**	**19 06 34.9**	**-1.8**
EDP2	**Potrero Grande**	**0.87**	**97**	*eP*	**Pb**	**19 06 37.0**	**+0.3**
VICA	**Volcano Irazu**	**0.88**	**14**	*eP*	**Pb**	**19 06 37.0**	**0.0**
CVIMO	**Finca Echandi**	**0.90**	**7**	*eP*	**Pb**	**19 06 37.4**	**+0.1**
VTCV	**VTCV, Calle Va**	**0.91**	**21**	*eP*	**Pn**	**19 06 38.0**	**-0.2**
VTLA	**Turrialba Volc**	**0.91**	**18**	*eP*	**Pg**	**19 06 37.9**	**0.0**
CVTQ	**Turrialba Volc**	**0.92**	**18**	*eP*	**Pg**	**19 06 38.1**	**+0.1**
VTR0	**Volcan Turrial**	**0.93**	**18**	*eP*	**Pg**	**19 06 38.3**	**+0.1**
CVTR	**Volcan Turrial**	**0.93**	**18**	*eP*	**Pg**	**19 06 38.3**	**0.0**
RVSTA	**Santa Teresita**	**0.93**	**25**	*eP*	**Pn**	**19 06 38.3**	**-0.1**
TCS1	**Tacares**	**0.94**	**345**	*i P*	**Pb**	**19 06 37.2**	**-0.7**
TCS1				IAML		19 06 55.6	
	comp=Z,3μm,1.0s						
TCS1	**Tacares**	**0.94**	**345**	*eP*	**Pb**	**19 06 37.2**	**-0.7**
PTJ1	**Puerto Jimnez**	**0.95**	**128**	*i P*	**Pb**	**19 06 38.0**	**0.0**
PTJ1				IAML		19 06 56.2	
	comp=Z,2μm,1.0s						
EDAD	**Golfito**	**1.00**	**118**	*eP*	**Pb**	**19 06 37.2**	**-1.6**
LCOCO	**El Coco**	**1.07**	**27**	*eP*	**Pg**	**19 06 40.8**	**0.0**
RVLA	**Villa Bonita**	**1.08**	**25**	*eP*	**Pg**	**19 06 41.1**	**+0.1**
CDITO	**Canoas**	**1.29**	**115**	*i P*	**Pn**	**19 06 42.5**	**-0.7**
CDITO				IAML		19 07 47.6	
	comp=Z,670nm,1.0s						
SOCE	**Pocosol**	**1.36**	**336**	*i P*	**Pn**	**19 06 44.1**	**-0.2**
SOCE				IAML		19 06 44.8	
	comp=Z,740nm,1.0s						
SOCE				*i* S	**Sg**	**19 07 04.7**	**+0.4**
SOCE	**Pocosol**	**1.36**	**336**	*eP*	**Pn**	**19 06 44.3**	**0.0**
BRU2	**Volcan**	**1.39**	**104**	*eP*	**Pg**	**19 06 47.4**	**+0.6**
BRU2				*eS*	**Sg**	**19 07 06.0**	**+1.0**
BRU2	**Volcan**	**1.39**	**104**	*i P*	**Pn**	**19 06 45.2**	**+0.5**
BRU2				*i* S	**Sg**	**19 07 04.8**	**-0.2**
BRU2				IAML		19 07 09.1	
	comp=Z,180nm,1.0s						
BCO2	**Palmira**	**1.56**	**105**	*eP*	**Pn**	**19 06 46.9**	**-0.2**
BCO2				AMP		19 06 47.2	
	comp=Z,811nm,0.2s						
BCO2				*eS*	**Sn**	**19 07 06.6**	**-0.4**
CNI2	**El Empalme, Bo**	**1.59**	**79**	*eP*	**Pg**	**19 06 50.0**	**-0.6**
INDI	**Punta indio, G**	**1.61**	**297**	*i P*	**Pn**	**19 06 48.8**	**+1.2**
INDI				*i* S	**Sb**	**19 07 11.1**	**+1.9**
INDI				IAML		19 07 27.1	
	comp=Z,44nm,1.0s						
COVE	**Coope Vega, Sa**	**1.62**	**348**	*i P*	**Pn**	**19 06 47.8**	**+0.1**
COVE				IAML		19 07 20.9	
	comp=Z,200nm,1.0s						
CHGR2	**Aguacate**	**1.90**	**96**	*eP*	**Pn**	**19 06 51.8**	**+0.2**

*ATH **08** 19:15:26.9, 38.°41N×20.°43E, h13km, ML2.9/22, Manual Solution by N.Liadopoulou This location: 2020/06/16 06:53:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **08** 19:15:27.6, 38.°40N×20.°47E, h1km±1km, ML2.9/10, Error ellipse: s-maj=1.7km s-min=0.4km az=279.0*
ISC 08 19:15:26.9±0.9, **38.°40N**±0.°02×**20.°42E**±0.°03, **h14**km±5km, **n58**, σ0°**71**/86, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.13**	**64**	P	**Pg**	**19 15 29.8**	**-0.6**
FSK				S	**Sg**	**19 15 31.1**	**-1.6**
	14μm,0.3s						
FSK	**Fiskardo**	**0.13**	**64**	P	**Pg**	**19 15 29.7**	**-0.6**
FSK				S	**Sg**	**19 15 32.2**	**-0.6**
DMLN	**Damoulianata-K**	**0.17**	**192**	P	**Pg**	**19 15 31.1**	**+0.1**
DMLN				S	**Sg**	**19 15 33.4**	**-0.3**
	11μm,0.5s						
DMLN	**Damoulianata-K**	**0.17**	**192**	P	**Pg**	**19 15 31.1**	**+0.1**
DMLN				S	**Sg**	**19 15 34.5**	**+0.8**
LXRA	**Lixouri, Kepha**	**0.20**	**175**	P	**Pg**	**19 15 31.8**	**+0.3**
LXRA				S	**Sg**	**19 15 35.0**	**+0.5**
SMHA	**Samh**	**0.24**	**130**	P	**Pg**	**19 15 31.8**	**-0.2**
SMHA				S	**Sg**	**19 15 35.9**	**+0.4**
VLS	**Valsamata**	**0.26**	**149**	P	**Pg**	**19 15 32.5**	**0.0**
VLS				S	**Sg**	**19 15 35.4**	**-0.9**
	4μm,0.3s						
VLS	**Valsamata**	**0.26**	**149**	P	**Pg**	**19 15 32.3**	**-0.2**
VLS				S	**Sg**	**19 15 36.6**	**+0.3**
EVGI	**Lefkada island**	**0.29**	**41**	P	**Pg**	**19 15 32.9**	**0.0**
EVGI				S	**Sg**	**19 15 36.6**	**-0.4**
	5μm,0.2s						
EVGI	**Lefkada island**	**0.29**	**41**	P	**Pg**	**19 15 32.9**	**0.0**
EVGI				S	**Sg**	**19 15 37.6**	**+0.6**
PSDA	**Pessada-Kefalo**	**0.32**	**155**	P	**Pg**	**19 15 33.5**	**0.0**
PSDA				S	**Sg**	**19 15 38.1**	**+0.2**
	4μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.32**	**155**	P	**Pg**	**19 15 33.4**	**0.0**
PSDA				S	**Sg**	**19 15 38.7**	**+0.8**
NYDR	**Nydri-Lefkada**	**0.38**	**35**	P	**Pg**	**19 15 34.3**	**-0.3**
NYDR				S	**Sg**	**19 15 40.6**	**+0.8**
	2μm,0.5s						
NYDR	**Nydri-Lefkada**	**0.38**	**35**	P	**Pg**	**19 15 34.2**	**-0.4**
NYDR				S	**Sg**	**19 15 40.2**	**+0.4**
LKD2	**Lefkada island**	**0.43**	**26**	P	**Pg**	**19 15 35.2**	**-0.3**
LKD2				S	**Sg**	**19 15 41.6**	**+0.3**
	2μm,0.5s						
LKD2	**Lefkada island**	**0.43**	**26**	P	**Pg**	**19 15 35.2**	**-0.3**
LKD2				S	**Sg**	**19 15 41.0**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.43**	**139**	P	**Pg**	**19 15 35.4**	**-0.1**
RTZL				S	**Sg**	**19 15 40.6**	**-0.7**
	1μm,0.3s						
TSLK	**Tsoukalades, L**	**0.46**	**24**	P	**Pg**	**19 15 36.0**	**-0.1**
TSLK				S	**Sg**	**19 15 42.9**	**+0.6**
	2μm,0.5s						
TSLK	**Tsoukalades, L**	**0.46**	**24**	P	**Pg**	**19 15 36.0**	**-0.1**
TSLK				S	**Sg**	**19 15 42.5**	**+0.2**
LTHK	**Lithakia**	**0.77**	**154**	P	**Pg**	**19 15 41.2**	**-0.6**
LTHK				S	**Sb**	**19 15 52.6**	**+0.3**
	1μm,0.3s						
LTHK	**Lithakia**	**0.77**	**154**	P	**Pg**	**19 15 41.2**	**-0.6**
LTHK				S	**Sb**	**19 15 52.4**	**+0.1**
PVO	**Paravola**	**0.90**	**76**	P	**Pg**	**19 15 44.1**	**-0.1**
PVO	**Paravola**	**0.90**	**76**	P	**Pg**	**19 15 44.1**	**-0.1**
RLS	**Riolos of Patr**	**0.90**	**112**	P	**Pg**	**19 15 43.5**	**-0.7**
EFP	**Efpalio**	**1.17**	**88**	P	**Pg**	**19 15 48.2**	**-1.2**
EFP	**Efpalio**	**1.17**	**88**	P	**Pg**	**19 15 48.7**	**-0.8**
EFP				S	**Sb**	**19 16 04.6**	**+0.7**
ANX	**Ano Chora**	**1.20**	**80**	P	**Pg**	**19 15 49.0**	**-0.9**
ANX	**Ano Chora**	**1.20**	**80**	P	**Pg**	**19 15 49.1**	**-0.9**
ANX				S	**Sb**	**19 16 05.2**	**+0.4**
EVR	**Evrytania**	**1.20**	**64**	P	**Pb**	**19 15 50.0**	**+0.5**
EVR	**Evrytania**	**1.20**	**64**	P	**Pb**	**19 15 50.1**	**+0.5**
JAN	**Janina**	**1.30**	**15**	P	**Pn**	**19 15 50.0**	**-0.7**
JAN				S	**Sb**	**19 16 08.4**	**+0.8**
ALIK	**Aliki, Aigiali**	**1.34**	**96**	P	**Pn**	**19 15 51.6**	**+0.4**
KALE	**Kalithea**	**1.35**	**90**	P	**Pn**	**19 15 51.6**	**+0.1**
KALE	**Kalithea**	**1.35**	**90**	P	**Pn**	**19 15 51.3**	**-0.2**
KLV	**Kalavryta, Ach**	**1.41**	**104**	P	**Pn**	**19 15 52.6**	**+0.3**
KLV	**Kalavryta, Ach**	**1.41**	**104**	P	**Pn**	**19 15 52.1**	**-0.2**
KLV				S	**Sb**	**19 16 10.9**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.47**	**65**	P	**Pb**	**19 15 54.3**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.47**	**65**	P	**Pn**	**19 15 53.6**	**+0.5**
MAKR				S	**Sn**	**19 16 12.9**	**+0.7**
GUR	**Goura**	**1.59**	**107**	P	**Pn**	**19 15 55.5**	**+0.8**
GUR	**Goura**	**1.59**	**107**	P	**Pn**	**19 15 55.0**	**+0.3**
AGG	**Agios Georgios**	**1.62**	**67**	P	**Pn**	**19 15 56.4**	**+1.3**
AGG	**Agios Georgios**	**1.62**	**67**	P	**Pn**	**19 15 55.8**	**+0.7**
THL	**Klokotos Trika**	**1.70**	**47**	P	**Pn**	**19 15 57.2**	**+1.0**
THL	**Klokotos Trika**	**1.70**	**47**	P	**Pn**	**19 15 56.7**	**+0.6**
ITM	**Ithomi**	**1.71**	**135**	P	**Pn**	**19 15 56.3**	**0.0**
KPRO	**Kipourio**	**1.71**	**25**	P	**Pn**	**19 15 57.1**	**+0.6**
LSK	**Leskovik**	**1.75**	**5**	P	**Pn**	**19 15 58.2**	**+1.3**
AXAR	**Agios Charalam**	**1.79**	**78**	P	**Pn**	**19 15 57.7**	**+0.2**
AXAR				S	**Sn**	**19 16 20.2**	**+0.1**
PYL	**PYLOS**	**1.84**	**145**	P	**Pn**	**19 15 58.0**	**-0.1**
PENT	**Pentalofos**	**1.88**	**17**	P	**Pn**	**19 15 59.4**	**+0.7**
TYRN	**Tyrnavos**	**1.92**	**47**	P	**Pn**	**19 16 00.5**	**+1.3**
TYRN	**Tyrnavos**	**1.92**	**47**	P	**Pn**	**19 16 00.2**	**+1.0**
NEST	**Nestorio**	**2.07**	**14**	P	**Pn**	**19 16 01.9**	**+0.5**
SCTE	**Santa Cesarea**	**2.25**	**318**	P	**Pn**	**19 16 04.2**	**+0.5**
NEO	**Neokhori**	**2.37**	**67**	P	**Pn**	**19 16 05.8**	**+0.4**
FNA	**Florina**	**2.49**	**17**	P	**Pn**	**19 16 07.7**	**+0.6**
RICI	**Ricice**	**5.66**	**335**	Sn	**Sn**	**19 17 53.3**	**-2.1**
MORI	**Morici**	**6.51**	**328**	*e*Pn	**Pn**	**19 17 02.4**	**+0.1**
MORI				Sn	**Sn**	**19 18 13.5**	**-2.8**

*TEH **08** 19:17:22.1, 34.°52N×45.°91E, h10km, ML2.5*
*ISN **08** 19:17:23.1±0.5, 34.°55N×45.°93E, h10km±11km, ML2.5*
ISC 08 19:17:23.0±1.2, **34.°52N**±0.°05×**45.°91E**±0.°05, **h10**km, **n5**, σ0°**64**/8, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.27**	**266**	Pg	**Pg**	**19 17 27.8**	**-0.6**
GLG1	**Gilan-e-Gharb**	**0.41**	**180**	Pg	**Pg**	**19 17 30.2**	**-0.8**
GLG1				Sg	**Sg**	**19 17 36.7**	**+0.2**
IDHR	**Dehrash**	**0.43**	**66**	Pg	**Pg**	**19 17 31.0**	**-0.5**
IBDR	**Badra**	**1.41**	**179**	*e*Pg	**Pn**	**19 17 49.0**	**+0.3**
	baz=360						
IBDR				*e*Sg	**Sn**	**19 18 08.0**	**+0.7**
IBDR				AML	AML	19 18 21.5	
	comp=N,26nm,0.4s						
IBDR				AML	AML	19 18 23.6	
	comp=E,27nm,0.3s						
IKRK	**Kirkuk**	**1.56**	**305**	*e*Pn	**Pn**	**19 17 51.0**	**+0.2**
IKRK				*e*Sn	**Sb**	**19 18 12.0**	**+0.3**

IDC 08 19:31:22.8±5.5, **33.°71N**×**110.°51E**, **h0**km, **mb3.5**/3, **mbtmp3.5**/3, **Error ellipse: s-maj=463.6km s-min=29.2km az=50.0, Southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.04**	**310**	P	P	19 36 48.5	-0.1
	0.2nm,0.5s,baz=117,slow=10,SNR=4.4						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**57.99**	**153**	P	P	19 41 17.7	+0.3
	0.7nm,0.6s,baz=338,slow=8.1,SNR=4.6						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**61.25**	**155**	P	P	19 41 39.5	-0.3
	0.2nm,0.4s,baz=335,slow=6.9,SNR=7.1						
	0.2nm,0.4s						

AFAD 08 19:42:54.9±0.0, **37.°15N**×**29.°13E**, **h7**km±3km, **ML1.2**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZT	**Denizli-Tavas-**	**0.15**	**327**	P	Pg	19 42 58.6	+0.6
DNZT				P		19 42 58.7	
DNZT				S	Sg	19 43 00.9	+0.7
DNZT				*i* AML	AML	19 43 01.0	
	comp=N,57nm,0.2s						
DNZT				*i* AML	AML	19 43 01.0	
	comp=N,56nm,0.2s						
DNZT				S	S	19 43 01.0	+0.8
CAEL	**Denizli, Camel**	**0.16**	**101**	P	Pg	19 42 59.8	+1.6
CAEL				*i* AML	AML	19 43 09.0	
	comp=E,60nm,0.6s						
SABU	**Mula-Dalaman**	**0.35**	**201**	P	Pg	19 43 02.7	+0.9
SABU				S	Sg	19 43 07.5	+1.0
SABU				*i* AML	AML	19 43 11.0	
	comp=N,21nm,0.2s						
TAVA	**DENIZLI_Tavas**	**0.35**	**332**	P	Pg	19 43 02.1	+0.3
TAVA				S	Sg	19 43 06.8	+0.3
TAVA				*i* AML	AML	19 43 07.0	
	comp=N,28nm,0.2s						
TAVA				*i* AML	AML	19 43 07.0	
	comp=E,26nm,0.2s						
GOLH	**Golhisar**	**0.36**	**77**	P	Pg	19 43 02.2	+0.2
GOLH				S	Sg	19 43 07.7	+1.0
GOLH				*i* AML	AML	19 43 09.0	
	comp=N,23nm,0.2s						
DNIZ	**Denizli-Tavas-**	**0.48**	**352**	P	Pg	19 43 03.8	-0.4
DNIZ				S	Sg	19 43 09.8	-0.6
DNIZ				*i* AML	AML	19 43 11.0	
	comp=N,38nm,0.2s						
DNIZ				*i* AML	AML	19 43 13.0	
	comp=E,41nm,0.2s						
INCE	**Denizli-Bozkur**	**0.66**	**33**	P	Pg	19 43 07.4	-0.3
INCE				*i* AML	AML	19 43 20.0	
	comp=N,11nm,0.5s						

*IDC **08** 19:43:29.1±0.8, 35.°63N×28.°27E, h0km, mb3.8/13, mbtmp3.8/25, ML3.6/11, MS3.2/23, Error ellipse: s-maj=16.2km s-min=12.3km az=5.0*
*HLW **08** 19:43:31.0, 35.°75N×28.°28E, h10km±18km, Md4.4, Ml4.1*
*NIC **08** 19:43:30.6, 35.°82N×28.°32E, h3km±2km, Ml3.7/11*
*ISK **08** 19:43:30.6, 35.°78N×28.°19E, h7km, ML3.9/27*
*NEIC **08** 19:43:31.4±1.7, 35.°60N±0.°06×28.°25E±0.°06, h10km±1km, mb4.0/17, Error ellipse: s-maj=12.5km s-min=3.9km az=145.0*
*AFAD **08** 19:43:31.0±0.0, 35.°70N×28.°15E, h6km±1km, MW4.1*
*ATH **08** 19:43:32.5, 35.°85N×28.°23E, h10km±3km, ML3.8/10, Manual Solution by M.Kolligri This location: 2020/06/16 06:36:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 4 km*
*GII **08** 19:43:32.4±0.4, 35.°518N±0.°001×28.°406E±0.°001, h10km, Mws4.0, confirmed*
*MCSM **08** 19:43:32.8±0.6, 35°N±5"×2"8E±", h59km±5km, mb4.0, mB4.3, MLv4.1, Mw(mB)3.4*
*THE **08** 19:43:33.1, 35.°86N×28.°13E, h0km±1km, ML3.6/4, Error ellipse: s-maj=4.3km s-min=1.0km az=123.0*
ISC 08 19:43:31.4±1.1, **35.°75N**±0.°02×**28.°23E**±0.°02, **h9**km±7km, **n298**, σ1°**36**/330, **mb3.8**/18, **MS3.2**/13, **1C**, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.47**	**350**	Pg	**Pg**	**19 43 39.5**	**-1.1**
ARG				Sg	**Sg**	**19 43 46.5**	**-0.2**
ARG	**Arkhangelos**	**0.47**	**350**	P	**Pg**	**19 43 39.4**	**-1.1**
ARG				S	**Sg**	**19 43 46.6**	**-0.2**
	9μm,0.7s						
ARG	**Arkhangelos**	**0.47**	**350**	P	**Pg**	**19 43 39.2**	**-1.3**
ARG				S	**Sg**	**19 43 45.2**	**-1.5**
ARG	**Arkhangelos**	**0.47**	**350**	⇑P	**Pg**	**19 43 39.3**	**-1.2**
ARG				S	**Sg**	**19 43 46.8**	**+0.1**
ARG				AML	AML	19 43 52.0	
	19nm,0.7s						
ARG				AML	AML	19 43 52.4	
	17nm,0.8s						
KARP	**Karpathos**	**0.89**	**257**	Pg	**Pg**	**19 43 48.2**	**-0.3**
KARP				Sg	**Sg**	**19 44 00.3**	**+0.1**
KARP	**Karpathos**	**0.89**	**257**	Pg	**Pg**	**19 43 48.0**	**-0.5**
KARP	**Karpathos**	**0.89**	**257**	P	**Pg**	**19 43 48.1**	**-0.4**
KARP				S	**Sn**	**19 44 03.0**	**-0.1**
	6μm,0.8s						
KARP	**Karpathos**	**0.89**	**257**	P	**Pg**	**19 43 48.6**	**+0.1**
KARP	**Karpathos**	**0.89**	**257**	P	**Pg**	**19 43 48.3**	**-0.3**
KARP				S	**Sb**	**19 44 01.6**	**+0.6**
KARP	**Karpathos**	**0.89**	**257**	P	**Pb**	**19 43 49.5**	**+0.5**
KARP	**Karpathos**	**0.89**	**257**	P	**Pg**	**19 43 48.3**	**-0.2**
KARP				S	**Sn**	**19 44 04.4**	**+1.2**
KARP				AML	AML	19 44 07.5	
	12nm,0.8s						
KARP				AML	AML	19 44 13.7	
	13nm,0.9s						
MRSB	**Marmaris-Mugla**	**0.96**	**359**	Pg	**Pg**	**19 43 48.9**	**-1.0**
TURN	**Turunc**	**1.02**	**1**	Pg	**Pg**	**19 43 49.9**	**-1.1**
TURN				Sg	**Sb**	**19 44 04.7**	**0.0**
TURN	**Turunc**	**1.02**	**1**	P	**Pg**	**19 43 48.5**	**-2.4**
IZZE	**Mula-Seydike**	**1.06**	**50**	Pg	**Pg**	**19 43 51.4**	**-0.3**
IZZE				S	**Sn**	**19 44 06.8**	**-0.4**
DATC	**Datca-Mugla**	**1.10**	**336**	Pg	**Pb**	**19 43 51.5**	**-1.1**
DAT	**Datca**	**1.11**	**332**	Pg	**Pg**	**19 43 51.2**	**-1.4**
DAT				Sg	**Sg**	**19 44 06.9**	**-0.1**
DAT	**Datca**	**1.11**	**332**	P	**Pg**	**19 43 50.7**	**-1.9**
DAT	**Datca**	**1.11**	**332**	P	**Pg**	**19 43 51.0**	**-1.6**
DAT				S	**Sb**	**19 44 07.2**	**-0.1**
DALY	**Dalyan (Mula)**	**1.12**	**18**	Pn	**Pb**	**19 43 51.3**	**-1.5**
DALY				Sn	**Sb**	**19 44 07.8**	**+0.4**
YAZI	**Mula-Dat§a-**	**1.12**	**326**	P	**Pb**	**19 43 51.3**	**-1.5**
YAZI				S	**Sg**	**19 44 06.7**	**-0.7**
FETY	**Fethiye**	**1.12**	**38**	Pn	**Pb**	**19 43 52.1**	**-0.8**
FETY				Sn	**Sn**	**19 44 08.3**	**-0.5**
AKAS	**Kas**	**1.22

ODEM	**Odemis-Izmir**	**2.52 357**	Pn	**Pn**	**19 44 12.9**	**+0.4**
DGB	**zmir**	**2.54 335**	P	**Pn**	**19 44 11.6**	**-1.0**
APE	**Apeiranthos**	**2.54 302**	Pn	**Pn**	**19 44 12.7**	**-0.1**
APE	**Apeiranthos**	**2.54 302**	P	**Pn**	**19 44 12.8**	**-0.1**
APE	**Apeiranthos**	**2.54 302**	P	**Pn**	**19 44 12.7**	**-0.1**
APE			S	**Sn**	**19 44 42.9**	**-0.9**
BCK	**Bucak**	**2.55 47**	Pn	**Pn**	**19 44 14.0**	**+1.0**
MANT	**Manisa**	**2.75 5**	P	**Pn**	**19 44 18.2**	**+2.4**
IDI	**Anoyia**	**2.76 261**	Pn	**Pn**	**19 44 17.7**	**+1.8**
IDI	**Anoyia**	**2.76 261**	P	**Pn**	**19 44 17.6**	**+1.8**
IDI	**Anoyia**	**2.76 261**	Pn	**Pn**	**19 44 16.2**	**+0.4**
	15nm,0.3s,baz=34,slow=5.9,SNR=29					
IDI			Sn	**Sn**	**19 44 49.9**	**+0.6**
	11nm,0.3s,baz=182,slow=23,SNR=7.6					
IDI	**Anoyia**	**2.76 261**	P	**Pn**	**19 44 17.6**	**+1.7**
KULA	**Kula-Manisa**	**2.78 7**	Pn	**Pn**	**19 44 16.4**	**+0.3**
KULA	**Kula-Manisa**	**2.78 7**	P	**Pn**	**19 44 16.7**	**+0.6**
PASA	**Karahalli, USA**	**2.78 21**	P	**Pn**	**19 44 15.7**	**-0.4**
ZEYE	**Izmir, Urla-Ze**	**2.84 331**	P	**Pn**	**19 44 15.7**	**-1.1**
URLA	**Izmir**	**2.91 334**	Pn	**Pn**	**19 44 18.1**	**+0.2**
URLA	**Izmir**	**2.91 334**	P	**Pn**	**19 44 17.4**	**-0.4**
KZIL	**AFYON_Kizioren**	**2.93 31**	P	**Pn**	**19 44 19.5**	**+1.3**
USAK	**Uak-Merkez**	**3.02 12**	P	**Pn**	**19 44 19.2**	**-0.2**
AKHS	**Akhisar**	**3.14 354**	P	**Pn**	**19 44 21.1**	**+0.1**
KARB	**zmir-Karabur**	**3.25 334**	P	**Pn**	**19 44 22.3**	**-0.2**
AKMS	**Akamas**	**3.44 101**	P	**Pn**	**19 44 24.8**	**-0.3**
AKMS			S	**Sn**	**19 45 06.1**	**+0.2**
AKMS			AML	AML	19 45 08.0	
	0.5nm,0.5s					
AKMS			AML	AML	19 45 08.2	
	0.6nm,0.4s					
IMMV	**Iera Moni Meta**	**3.47 266**	P	**Pn**	**19 44 27.3**	**+1.8**
IMMV	**Iera Moni Meta**	**3.47 266**	P	**Pn**	**19 44 28.5**	**+2.9**
ALFC	**Alefka**	**3.62 98**	P	**Pn**	**19 44 26.9**	**-0.7**
ALFC			S	**Sn**	**19 45 10.6**	**+0.2**
ALFC			AML	AML	19 45 11.8	
	0.8nm,0.7s					
ALFC			AML	AML	19 45 17.3	
	0.5nm,0.7s					
NATA	**Nata**	**3.68 104**	P	**Pn**	**19 44 28.2**	**-0.2**
NATA			S	**Sn**	**19 45 13.5**	**+1.5**
NATA			AML	AML	19 45 18.6	
	1.2nm,0.5s					
NATA			AML	AML	19 45 21.3	
	1.7nm,0.5s					
PRK	**Paraskevi**	**3.82 337**	P	**Pn**	**19 44 30.3**	**0.0**
PRK	**Paraskevi**	**3.82 337**	P	**Pn**	**19 44 30.0**	**-0.3**
TROD	**Troodos**	**3.88 101**	P	**Pn**	**19 44 30.3**	**-1.0**
TROD			S	**Sn**	**19 45 17.8**	**+0.8**
TROD			AML	AML	19 45 27.7	
	0.4nm,0.8s					
TROD			AML	AML	19 45 34.3	
	0.4nm,0.6s					
SIGR	**SIGRI**	**3.93 332**	P	**Pn**	**19 44 32.1**	**+0.2**
VLY	**Voula,Athens**	**4.13 302**	P	**Pn**	**19 44 34.2**	**-0.4**
ASGA	**Asgata**	**4.22 102**	P	**Pn**	**19 44 35.4**	**-0.4**
ASGA			S	**Sn**	**19 45 26.3**	**+1.1**
ASGA			AML	AML	19 45 32.6	
	0.5nm,0.7s					
ASGA			AML	AML	19 45 34.8	
	0.4nm,0.7s					
CSS	**Mathiatis**	**4.25 99**	Pn	**Pn**	**19 44 35.4**	**-0.8**
CSS	**Mathiatis**	**4.25 99**	P	**Pn**	**19 44 35.7**	**-0.5**
CSS	**Mathiatis**	**4.25 99**	P	**Pn**	**19 44 35.7**	**-0.5**
CSS	**Mathiatis**	**4.25 99**	P	**Pn**	**19 44 35.5**	**-0.7**
CSS			S	**Sn**	**19 45 26.5**	**+0.7**
CSS			AML	AML	19 45 28.1	
	0.4nm,0.8s					
CSS			AML	AML	19 45 38.5	
	0.3nm,0.6s					
ATHAL	**Athalassa**	**4.26 97**	P	**Pn**	**19 44 37.1**	**+0.7**
ATHAL			AML	AML	19 45 31.9	
	0.9nm,0.8s					
ATHAL			AML	AML	19 45 36.9	
	0.8nm,1.2s					
VLI	**Veliai**	**4.38 284**	P	**Pn**	**19 44 38.4**	**+0.3**
VLI	**Veliai**	**4.38 284**	P	**Pn**	**19 44 39.5**	**+1.5**
MVOU	**Mavrovouni**	**4.48 98**	P	**Pn**	**19 44 39.1**	**-0.2**
MVOU			S	**Sn**	**19 45 33.6**	**+2.1**
MVOU			AML	AML	19 45 35.5	
	0.3nm,1.2s					
MVOU			AML	AML	19 45 44.7	
	0.3nm,0.7s					
SLUM	**Salum**	**4.94 211**	S	**Sn**	**19 45 41.1**	**-1.8**
	baz=212					
GUR	**Goura**	**5.20 297**	P	**Pn**	**19 44 49.5**	**+0.1**
ITM	**Ithomi**	**5.27 288**	Pn	Pn	19 44 55.8	+5.5
ALN	**Alexandroupoli**	**5.41 342**	Pn	**Pn**	**19 44 53.3**	**+1.1**
ALN	**Alexandroupoli**	**5.41 342**	P	**Pn**	**19 44 52.6**	**+0.4**
BR231	**Keskin MP Arra**	**5.44 40**		**Sb**	**19 46 14.7**	**+2.6**
ANTO	**Ankara**	**5.47 40**	P	Pb	19 45 01.1	-6.0
	13nm,0.8s,0.0nm					
AGG	**Agios Georgios**	**5.72 307**		**Pn**	**19 45 00.3**	**+3.9**
AGG	**Agios Georgios**	**5.72 307**	P	**Pn**	**19 44 56.8**	**+0.4**
ANX	**Ano Chora**	**5.78 301**	P	**Pn**	**19 44 57.8**	**+0.5**
RDO	**Rodhopi**	**5.78 339**		**Pn**	**19 44 58.3**	**+1.0**
RDO	**Rodhopi**	**5.78 339**	P	**Pn**	**19 44 56.2**	**-1.1**
BR131	**Keskin Array S**	**5.84 46**	Pn	**Pn**	**19 45 00.3**	**+2.1**
BRTR	**Keskin Array B**	**5.84 46**	Pn	**Pn**	**19 45 00.2**	**+2.0**
BRTR	**Keskin Array B**	**5.84 46**	Pn	**Pn**	**19 44 58.0**	**-0.2**
	0.3nm,0.3s,baz=215,slow=14,SNR=10					
BRTR			Sn	**Sn**	**19 46 04.0**	**-1.3**
	baz=210,slow=17					
BRTR			LR	LR	19 47 57.7	
	comp=Z,301nm,21.9s,baz=223,slow=46					
	1.7nm,0.8s					
HNTI	**Hanita**	**6.33 113**	P	**Pn**	**19 45 02.7**	**-2.1**
BHL	**Bhannes**	**6.38 105**	*e*P	**Pn**	**19 45 03.2**	**-2.4**
DQRL	**Deir Qamar**	**6.38 107**	*e*P	**Pn**	**19 45 03.5**	**-2.1**
HNAT	**Natroun**	**6.43 161**	P	**Pn**	**19 45 05.0**	**-1.2**
	baz=161					
HWQ	**Hawqa**	**6.50 101**	*e*P	**Pn**	**19 45 06.1**	**-1.2**
MMC7	**Mount Meron ar**	**6.52 113**	P	**Pn**	**19 45 05.7**	**-1.8**
MMA0B	**Mount Meron ar**	**6.53 113**	P	**Pn**	**19 45 06.0**	**-1.6**
MMAI	**Mount Meron Ar**	**6.53 113**	Pn	**Pn**	**19 45 04.7**	**-2.9**
	6.2nm,0.3s,baz=308,slow=12,SNR=25					
MMAI			Sn	**Sn**	**19 46 17.3**	**-5.0**
	4.4nm,0.3s,baz=288,slow=24,SNR=2.8					
MMAI			LR	LR	19 49 05.0	
	comp=Z,138nm,19.6s,baz=275,slow=52					
	6.8nm,0.4s					
BEIL	**Beino**	**6.63 98**	*e*P	**Pn**	**19 45 07.6**	**-1.3**
GEM	**Giv'at Ha'Em**	**6.64 110**	P	**Pn**	**19 45 08.2**	**-0.9**
GEM	**Giv'at Ha'Em**	**6.64 110**	S	**Sn**	**19 46 22.7**	**-2.3**
GEM	**Giv'at Ha'Em**	**6.64 110**	P	**Pn**	**19 45 07.7**	**-1.4**
SLTI	**Sal'it**	**6.65 120**	P	**Pn**	**19 45 07.7**	**-1.6**
SLTI	**Sal'it**	**6.65 120**	P	**Pn**	**19 45 07.5**	**-1.8**
RCY	**Rachaya**	**6.66 108**	*e*P	**Pn**	**19 45 08.5**	**-1.0**
NATI	**Neve Ativ**	**6.68 110**	P	**Pn**	**19 45 08.6**	**-1.0**
NATI	**Neve Ativ**	**6.68 110**	P	**Pn**	**19 45 08.2**	**-1.3**
MMLI	**Mount Malkishu**	**6.82 117**	P	**Pn**	**19 45 10.2**	**-1.4**
KSHT	**Keshet**	**6.85 112**	P	**Pn**	**19 45 10.7**	**-1.4**
RYAN	**Fayoum**	**6.87 165**	P	**Pn**	**19 45 12.0**	**-0.3**
	baz=165					
RYAN			S	**Sn**	**19 46 25.1**	**-5.5**
	baz=165					
AMAZ	**Amatzia**	**6.99 125**	P	**Pn**	**19 45 13.1**	**-0.7**
QRNJ	**Al-Qirein**	**6.99 117**	P	**Pn**	**19 45 13.2**	**-0.6**
HMDT	**Nahal Hemdat**	**6.99 118**	P	**Pn**	**19 45 13.3**	**-0.6**
HMDT	**Nahal Hemdat**	**6.99 118**	P	**Pn**	**19 45 13.1**	**-0.8**
KZIT	**Kziot**	**7.07 131**	P	**Pn**	**19 45 14.1**	**-0.9**
KZIT	**Kziot**	**7.07 131**	P	**Pn**	**19 45 13.1**	**-1.9**
KZIT	**Kziot**	**7.07 131**	S	**Sn**	**19 46 31.7**	**-3.8**
UJAP	**Al Uja**	**7.11 120**	P	**Pn**	**19 45 15.7**	**+0.2**
YTIR	**Yattir**	**7.23 125**	P	**Pn**	**19 45 16.1**	**-1.1**
YTIR	**Yattir**	**7.23 125**	P	**Pn**	**19 45 15.7**	**-1.6**
DSI	**Dead Sea**	**7.28 123**	P	**Pn**	**19 45 17.5**	**-0.3**
DSI	**Dead Sea**	**7.28 123**	S	**Sn**	**19 46 37.9**	**-2.6**
DSI	**Dead Sea**	**7.28 123**	P	**Pn**	**19 45 17.1**	**-0.7**
FNA	**Florina**	**7.37 315**	Pn	**Pn**	**19 45 22.8**	**+3.7**
MSBI	**Mazada**	**7.42 125**	P	**Pn**	**19 45 18.5**	**-1.2**
MSBI	**Mazada**	**7.42 125**	P	**Pn**	**19 45 18.3**	**-1.4**
MSBI	**Mazada**	**7.42 125**	S	**Sn**	**19 46 41.5**	**-2.5**
LISJ	**El Lisan**	**7.55 125**	P	**Pn**	**19 45 20.2**	**-1.3**
ZFRI	**Zfri**	**7.80 130**	P	**Pn**	**19 45 23.5**	**-1.5**
ZFRI	**Zfri**	**7.80 130**	P	**Pn**	**19 45 22.9**	**-2.1**
PRNI	**Paran**	**7.83 132**	P	**Pn**	**19 45 24.1**	**-1.3**
PRNI	**Paran**	**7.83 132**	P	**Pn**	**19 45 24.2**	**-1.3**
KRMI	**Paran Flat**	**7.83 134**	P	**Pn**	**19 45 23.3**	**-2.2**
ASF	**Jabal al Asfar**	**8.04 114**	Pn	**Pn**	**19 45 26.3**	**-2.1**
	0.5nm,0.3s,baz=228,slow=0.5,SNR=3.9					
ASF			Sn	**Sn**	**19 46 58.7**	**-0.7**
	0.6nm,0.3s,baz=52,slow=0.1,SNR=8.5					
	1.8nm,0.4s					
ASF	**Jabal al Asfar**	**8.04 114**	P	**Pn**	**19 45 28.0**	**-0.4**
HRFI	**Mount Harif**	**8.08 133**	P	**Pn**	**19 45 27.6**	**-1.2**
HRFI	**Mount Harif**	**8.08 133**	S	**Sn**	**19 46 57.3**	**-3.0**
HRFI	**Mount Harif**	**8.08 133**	P	**Pn**	**19 45 27.4**	**-1.5**
MBRI	**Mt Berech**	**8.18 135**	P	**Pn**	**19 45 30.3**	**0.0**
MBRI	**Mt Berech**	**8.18 135**	P	**Pn**	**19 45 29.3**	**-1.0**
HRDS	**Abu Rudays**	**8.23 147**	P	**Pn**	**19 45 31.0**	**+0.1**
	baz=147					
EIL	**Elat**	**8.30 135**	Pn	**Pn**	**19 45 29.8**	**-2.1**
	1.4nm,0.3s,baz=315,slow=4.9,SNR=12					
EIL			Sn	**Sn**	**19 47 01.3**	**-4.3**
	2.6nm,0.3s,baz=12,slow=18,SNR=6.2					
EIL			LR	LR	19 50 26.7	
	comp=Z,75nm,21.9s,baz=332,slow=51					
	5.6nm,0.5s					
EIL	**Elat**	**8.30 135**	P	**Pn**	**19 45 30.7**	**-1.1**
EIL	**Elat**	**8.30 135**	P	**Pn**	**19 45 30.1**	**-1.8**
EIL	**Elat**	**8.30 135**	S	**Sn**	**19 47 01.7**	**-3.9**
AQBJ	**Aqaba**	**8.31 134**	P	**Pn**	**19 45 30.9**	**-1.1**
HBST	**Basata**	**8.52 138**	P	**Pn**	**19 45 34.1**	**-0.8**
	baz=138					
HBST			S	**Sn**	**19 47 04.9**	**-6.3**
	baz=138					
HFRF	**Wahat Farafira**	**8.58 180**	P	**Pn**	**19 45 35.7**	**0.0**
	baz=179					
NUB	**Nuweibaa**	**8.62 139**	P	**Pn**	**19 45 36.3**	**0.0**
	baz=139					
HKAT	**Jabal Katrina**	**8.71 144**	P	**Pn**	**19 45 37.0**	**-0.7**
	baz=144					
HDHB	**Dhahab**	**8.85 141**	P	**Pn**	**19 45 39.5**	**0.0**
	baz=140					
PUK	**Puka**	**9.03 317**		**Pn**	**19 45 46.2**	**+4.2**
HHRG	**Al Ghardaqah**	**9.65 150**	P	**Pn**	**19 45 52.1**	**+1.7**
	baz=150					
TIP	**Timpagrande**	**9.74 294**		**Pn**	**19 45 52.9**	**+1.3**
TIP	**Timpagrande**	**9.74 294**	P	**Pn**	**19 45 52.1**	**+0.5**
	11nm,1.1s					
MLR	**Muntele Rosu**	**9.88 351**	Pn	**Pn**	**19 45 54.8**	**+1.2**
	0.1nm,0.3s,baz=165,slow=12,SNR=3.7					
MLR			LR	LR	19 50 13.6	
	comp=Z,155nm,18.7s,baz=170,slow=40					
	6.9nm,1.2s					
CEL	**Celeste**	**10.18 288**	P	**Pn**	**19 45 57.7**	**+0.1**
	19nm,0.9s					
GTR	**Jabal at Tayr**	**10.40 168**	P	**Pn**	**19 45 59.5**	**-1.2**
	baz=168					
CUC	**Castrocucco**	**10.68 297**	Pn	**Pn**	**19 46 05.8**	**+1.2**
TESR	**Tescani**	**10.81 354**	P	Pn	19 46 13.7	+7.4
	6.0nm,0.8s					
SORM	**Soroca**	**12.37 0**	P	Pn	19 46 36.9	+9.4
	9.2nm,1.3s					
PSZ	**Piszkesteto**	**13.64 336**	Pn	**P**	**19 46 53.3**	**-0.6**
GNI	**Garni**	**13.75 66**	LR	LR	19 53 24.9	
	comp=Z,106nm,21.3s,baz=263,slow=43					
KVAR	**Kislovodsk Arr**	**13.79 49**	LR	LR	19 52 01.8	
	comp=Z,62nm,19.4s,baz=57,slow=37					
KBZ	**Khabaz**	**13.80 50**	Pn	**Pn**	**19 46 50.7**	**+3.6**
	0.1nm,0.3s,baz=273,slow=12,SNR=1.5					
KBZ			LR	LR	19 52 58.1	
	comp=Z,57nm,20.3s,baz=206,slow=41					
	0.5nm,0.3s					
LUBAR	**Lubar, Ukraine**	**14.16 359**	P	**P**	**19 46 59.1**	**-0.5**
VYHS	**Vyhne**	**14.50 334**	*e*P	**P**	**19 47 04.4**	**+1.1**
MI29	**MI29, Kamyanyy**	**14.66 359**	P	**P**	**19 47 05.7**	**+0.6**
SOKA	**Soboth**	**14.73 322**	*e*P	**Pn**	**19 47 02.8**	**+2.9**
	3.4nm,0.9s,SNR=4.6					
AK07	**Malin Array Si**	**14.81 2**	P	**P**	**19 47 07.2**	**+0.5**
AK10	**Malin Array Si**	**14.86 3**	P	**P**	**19 47 07.9**	**+0.6**
OBKA	**Obir**	**14.87 320**	*e*P	**Pn**	**19 47 04.6**	**+2.9**
	1.8nm,0.7s					
RONA	**Rosalia, Austr**	**14.87 327**	*e*P	**P**	**19 47 04.9**	**-2.7**
	1.5nm,0.7s					
AK09	**Malin Array Si**	**14.88 3**	P	**P**	**19 47 08.4**	**+0.9**
AK05	**Malin Array Si**	**14.88 2**	P	**P**	**19 47 08.0**	**+0.5**
AK14	**Malin Array Si**	**14.88 2**	P	**P**	**19 47 08.2**	**+0.6**
AK08	**Malin Array Si**	**14.89 3**	P	**P**	**19 47 08.4**	**+0.7**
ARSA	**Arzberg**	**14.89 324**	*e*P	**Pn**	**19 47 04.3**	**+2.3**
	6.5nm,1.3s					
AK11	**Malin Array Si**	**14.93 2**	P	**P**	**19 47 09.9**	**+1.8**
AK01	**Malin Array Si**	**14.95 2**	P	**P**	**19 47 10.1**	**+1.8**
KIEV	**Kiev**	**14.95 2**	P	**P**	**19 47 10.9**	**+2.6**
KIEV			IAmb	IAmb	19 47 21.7	
	comp=Z,5.4nm,1.1s					
AKASG	**Malin Array Be**	**14.96 2**	Pn	**Pn**	**19 47 04.6**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=193,slow=12,SNR=1.5					
AKASG			LR	LR	19 53 12.9	
	comp=Z,46nm,18.2s,baz=186,slow=39					
	comp=Z,0.2nm,0.3s					
AKBB	**Malin Array Si**	**14.96 2**	P	**P**	**19 47 11.0**	**+2.6**
AKBB			IAmb	IAmb	19 47 21.7	
	comp=Z,5.5nm,1.1s					
AKBB	**Malin Array Si**	**14.96 2**	P	**P**	**19 47 08.9**	**+0.5**
AK19	**Malin Array Si**	**14.97 2**	P	**P**	**19 47 09.1**	**+0.5**
AK18	**Malin Array Si**	**14.97 2**	P	**P**	**19 47 09.9**	**+1.3**
AK04	**Malin Array Si**	**14.98 2**	P	**P**	**19 47 10.0**	**+1.4**
MI30	**MI30,Zelenitsa**	**14.99 360**	P	**P**	**19 47 09.4**	**+0.7**
TATN	**Tataouine**	**14.99 263**	P	**P**	**19 47 08.4**	**-0.5**
KEST	**Kesra**	**15.34 275**		**P**	**19 47 14.2**	**+1.4**
KEST	**Kesra**	**15.34 275**	Pn	**Pn**	**19 47 08.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=49,slow=1.2,SNR=2.6					
	comp=Z,1.9nm,0.7s					
KBA	**Koelnbreinsper**	**15.86 320**	*e*P	**P**	**19 47 19.4**	**+0.7**
	comp=Z,3.9nm,0.7s,SNR=6.3					
OKC	**Ostrava-Krasne**	**15.88 336**	AMS	AMS	19 54 50.0	
	comp=Z,100nm,9.2s					
KRUC	**Moravsky**	**15.89 330**	*e*P	**P**	**19 47 18.6**	**-0.1**
VRAC	**Vranov**	**16.00 331**	*e*P	**P**	**19 47 20.4**	**+0.3**
VRAC	**Vranov**	**16.00 331**	Pn	**P**	**19 47 19.0**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=124,slow=12,SNR=8.9					
VRAC			LR	LR	19 53 29.1	
	comp=Z,62nm,20.0s,baz=150,slow=37					
	comp=Z,4.9nm,0.7s					
ABTA	**Abfaltersbach**	**16.10 318**	*e*P	**P**	**19 47 20.2**	**-1.1**
	comp=Z,5.1nm,0.7s					
BIOA	**Bad Ischl, Aus**	**16.12 322**	*e*P	**P**	**19 47 21.8**	**+0.4**
	comp=Z,6.0nm,1.1s					
CTI	**Castel Tesino**	**16.18 315**	Pn	**Pn**	**19 47 19.8**	**+0.8**
CTI			IAmb	IAmb	19 47 39.1	
	comp=Z,7.7nm,0.9s					
LESA	**Schwarzleotal**	**16.43 320**	*e*Pn	**Pn**	**19 47 23.5**	**+1.4**
	comp=Z,5.1nm,0.6s					
TREC	**Trest**	**16.44 329**	AMS	AMS	19 54 30.0	
	comp=Z,100nm,11.1s					
KRLC	**Kraliky**	**16.56 333**	*e*P	**P**	**19 47 26.6**	**+0.4**
CKRC	**Cesky Krumlov**	**16.59 326**	*e*P	**P**	**19 47 27.6**	**+1.0**
CKRC			AMS	AMS	19 55 50.0	
	comp=Z,100nm,13.1s					
GERES	**GERESS Array B**	**16.89 325**	P	**P**	**19 47 29.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=112,slow=7.5,SNR=5.6					
	comp=Z,0.9nm,0.7s					
WTTA	**Wattenberg**	**16.89 318**	*e*P	**P**	**19 47 30.8**	**+0.7**
	comp=Z,2.8nm,0.6s					
DPC	**Dobruska-Polom**	**16.95 333**	*e*P	**P**	**19 47 32.8**	**+2.2**
DPC			*ex*	x	19 47 39.7	
WATA	**Walderalm**	**16.97 318**	*e*Pn	**P**	**19 47 31.3**	**+0.4**
	comp=Z,2.6nm,0.6s					
SQTA	**Sankt Quirin**	**17.10 317**	*e*P	**P**	**19 47 33.8**	**+1.5**
	comp=Z,1.9nm,0.5s					
KHC	**Kasperske Hory**	**17.15 326**	P	**P**	**19 47 33.4**	**+0.6**
KHC	**Kasperske Hory**	**17.15 326**	*e*P	**P**	**19 47 33.5**	**+0.7**
KHC			AMS	AMS	19 55 00.0	
	comp=Z,100nm,11.0s					
UPC	**Upice**	**17.20 333**	AMS	AMS	19 55 50.0	
	comp=Z,100nm,13.2s					
FETA	**Feichten**	**17.25 316**	*e*Pn	**P**	**19 47 35.3**	**+1.2**
	comp=Z,10nm,0.8s,SNR=14					
FUORN	**Ofenpass-Fuorn**	**17.30 314**	P	**P**	**19 47 35.1**	**+0.4**
PRU	**Pruhonice**	**17.37 329**	AMS	AMS	19 55 20.0	
	comp=Z,100nm,9.5s					
RETA	**Reutte**	**17.50 317**	*e*Pn	**Pn**	**19 47 36.1**	**+0.6**
	comp=Z,1.3nm,0.4s					
DAVOX	**Davos/Dischmat**	**17.61 314**	P	**P**	**19 47 38.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=156,slow=17,SNR=6.6					
DAVOX			LR	LR	19 56 01.7	
	comp=Z,62nm,19.1s,baz=86,slow=42					
	comp=Z,2.1nm,0.7s					
PVCC	**Panska Ves**	**17.77 330**	AMS	AMS	19 55 50.0	
	comp=Z,100nm,12.6s					
DAVA	**Damuels**	**17.88 316**	*e*Pn	**Pn**	**19 47 40.5**	**+0.2**
	comp=Z,4.4nm,0.6s,SNR=4.0					
BRG	**Berggiesshubel**	**18.29 330**	*e*P	**P**	**19 47 46.0**	**+0.7**
BRG			Amp		19 47 50.2	
	comp=Z,3.0nm,0.9s					
BRG			Amp		19 56 08.0	
	comp=Z,0.1nm,14.9s					
BRG			Amp		19 56 15.0	
	comp=E,0.1nm,14.0s					
BRG			Amp		19 56 19.0	
	comp=N,0.1nm,12.9s					
HSKC	**Hora Svate Kat**	**18.30 329**	AMS	AMS	19 56 30.0	
	comp=N,100nm,9.8s					
CLL	**Collm**	**19.01 330**	P	**Pn**	**19 47 53.5**	**-0.3**
CLL	**Collm**	**19.01 330**	P	**Pn**	**19 47 54.0**	**+0.1**
	comp=N,6.6nm,0.9s					
BFO	**Black Forest**	**19.33 317**	P	**Pn**	**19 47 59.0**	**+1.1**
BFO			IAmb	IAmb	19 48 04.3	
	comp=Z,4.7nm,0.7s					
ECH	**Echery**	**19.93 315**	P	**P**	**19 48 03.9**	**+0.5**
ECH			IAmb	IAmb	19 48 15.7	
	comp=Z,5.3nm,0.9s					
BELG	**Belogornoye**	**21.59 34**	P	**P**	**19 48 21.9**	**+0.7**
	comp=Z,5.0nm,0.7s,baz=96,slow=4.0,SNR=5.0					
BELG			LR	LR	19 58 07.9	
	comp=Z,67nm,21.1s,baz=315,slow=40					
	comp=Z,5.0nm,0.7s					
CEST	**Esterri de Car**	**21.94 296**	P	**P**	**19 48 26.4**	**+1.1**
CEST			IAmb	IAmb	19 48 31.9	
	comp=Z,9.9nm,1.1s					
ESBB	**Sonseca Array**	**25.69 288**	IAmb	IAmb	19 49 04.5	
	comp=Z,4.4nm,0.7s					
ESDC	**Sonseca Array**	**25.69 288**	P	**P**	**19 49 01.4**	**-0.3**
ESDC	**Sonseca Array**	**25.69 288**	P	**P**	**19 49 01.1**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=80,slow=9.5,SNR=28					
ESDC			LR	LR	19 58 07.7	
	comp=Z,47nm,21.7s,baz=165,slow=34					
	comp=Z,2.5nm,0.5s					
FINES	**FINESS Array B**	**25.75 358**	P	**P**	**19 49 01.6**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=168,slow=10.0,SNR=6.9					
FINES			LR	LR	19 59 16.8	
	comp=Z,62nm,19.4s,baz=184,slow=37					
	comp=Z,1.8nm,0.9s					
PAB	**San Pablo**	**25.99 288**	P	**P**	**19 49 05.0**	**+0.5**
PAB			IAmb	IAmb	19 49 20.7	
	comp=Z,7.0nm,1.1s					
HFS	**Hagfors**	**26.14 343**	P	**P**	**19 49 04.9**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=187,slow=8.7,SNR=1.7					
HFS			LR	LR	20 01 54.5	
	comp=Z,46nm,18.7s,baz=158,slow=42					
	comp=Z,1.2nm,0.8s					
KIRV	**Kirov**	**26.78 25**	LR	LR	20 00 51.0	
	comp=Z,46nm,18.2s,baz=212,slow=39					
MDT	**Midelt**	**27.22 273**	LR	LR	20 00 39.8	
	comp=Z,64nm,18.9s,baz=194,slow=38					
NOA	**NORSAR Array B**	**27.54 342**	P	**P**	**19 49 18.1**	**0.0**
	comp=Z,0.6nm,0.8s,baz=161,slow=8.4,SNR=2.0					
NOA			LR	LR	20 01 28.2	
	comp=Z,60nm,18.3s,baz=160,slow=39					
	comp=Z,0.6nm,0.8s					
FURI	**Furi**	**28.38 158**	LR	LR	20 01 26.3	
	comp=Z,55nm,19.0s,baz=208,slow=38					
EKA	**Eskdalemuir Ar**	**29.05 322**	P	**P**	**19 49 30.6**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=114,slow=8.6,SNR=1.7					
	comp=Z,0.9nm,0.9s					
ARU	**Arti**	**29.11 35**	LR	LR	20 02 54.0	
	comp=Z,53nm,19.1s,baz=230,slow=40					
TOA0	**Torodi Ar. Sit**	**32.82 233**	P	**P**	**19 50 01.9**	**-3.3**
TORD	**Torodi Ar. Bea**	**32.82 233**	P	**P**	**19 50 02.5**	**-2.8**
TORD	**Torodi Ar. Bea**	**32.82 233**	P	**P**	**19 50 03.8**	**-1.4**
	comp=Z,3.6nm,0.8s,baz=37,slow=9.3,SNR=17					
TORD			LR	LR	20 06 11.8	
	comp=Z,63nm,18.6s,baz=96,slow=42					
	comp=Z,3.6nm,0.8s					
ARCES	**ARCESS Array B**	**33.87 358**	P	**P**	**19 50 14.7**	**+0.8**
	comp=Z,4.4nm,1.2s,baz=159,slow=5.4,SNR=2.5					
	comp=Z,4.4nm,1.2s					
BVAR	**Borovoye Array**	**34.13 46**	LR	LR	20 06 32.6	
	comp=Z,62nm,19.2s,baz=266,slow=40					
KSH	**Kashi**	**37.65 70**	P	**P**	**19 50 46.8**	**0.0**
KSH			pmax	pmax		
	comp=Z,2.0nm,0.9s					
KURBB	**Kurchatov Arra**	**38.80 51**	P	**P**	**19 50 56.0**	**-0.1**
	comp=Z,0.7nm,0.5

177nm,0.6s,2.1nm
BKNI Bangkinang 6.49 338 P Pn 19 48 16.5 +4.3
277nm,1.1s,3μm2.5nm
TPRI Tanjung Pinang 6.72 9 P Pn 19 48 17.6 +2.3
230nm,0.9s,2μm0.7nm
BTDF Bukit Timah Da 7.08 3 P Pn 19 48 21.2 +1.0
SMRI Semarang 7.09 101 P Pn 19 48 24.4 +4.1
SMRI Semarang 7.09 101 P Pn 19 48 23.7 +3.4
230nm,1.0s,1.0nm
UGM Wanagama 7.37 107 P Pn 19 48 25.5 +1.4
UGM Wanagama 7.37 107 Pn **Pn 19 48 25.2 +1.1**
UGM Wanagama 7.37 107 P Pn 19 48 25.5 +1.4
MYKOM Kota Tinggi 7.51 3 Pn **Pn 19 48 27.1 +1.0**
PBSI Pulau Batu 7.65 318 P Pn 19 48 26.2 -1.8
195nm,1.0s
PWJI Pagerwojo 8.62 106 P Pn 19 48 41.7 +0.5
319nm,0.8s,4μm
GRJI Gresik 9.07 98 P Pn 19 48 50.8 +3.3
COCO West Island 9.12 225 P Pn 19 48 47.3 -0.9
COCO West Island 9.12 225 Pn **Pn 19 48 46.3 -1.9**
COCO West Island 9.12 225 P Pn 19 48 46.3 -1.9
GSI Gunungsitoli 9.13 320 P Pn 19 48 45.9 -2.3
GSI Gunungsitoli 9.13 320 Pn **Pn 19 48 45.6 -2.7**
GSI Gunungsitoli 9.13 320 P Pn 19 48 46.0 -2.3
62nm,0.6s
STKI Sintang 9.90 55 P Pn 19 49 01.9 +3.1
221nm,0.8s
ABJI Asem Bagus 10.92 101 P Pn 19 49 14.2 +1.4
JAGI Jajag, Banyuwa 10.98 105 P Pn 19 49 13.9 +0.3
JAGI Jajag, Banyuwa 10.98 105 Pn **Pn 19 49 12.0 -1.6**
JAGI Jajag, Banyuwa 10.98 105 P Pn 19 49 13.5 -0.1
SRBI Singaraja 11.93 102 P Pn 19 49 27.1 +0.6
SBUM Sibu 11.98 47 Pn 19 49 24.7 -2.6
DNP Denpasar 12.04 105 P Pn 19 49 27.5 -0.6
DNP Denpasar 12.04 105 P Pn 19 49 26.8 -1.3
DNP pmax pmax
comp=Z,637nm,0.6s
MLSI Meulaboh, Aceh 12.18 325 P Pn 19 49 24.7 -5.3
comp=Z,52nm,0.8s
MTKI Muara Teweh, K 12.40 68 P Pn 19 49 35.6 +2.5
comp=Z,63nm,0.6s
TWSI Taliwang, Sumb 13.67 103 P Pn 19 49 46.6 -3.7
comp=Z,130nm,0.6s,comp=Z,2μm
PLAI Plampang 14.56 103 P Pn 19 49 58.7 -3.4
KAPI Kappang 16.27 88 P P 19 50 26.0 -0.2
KAPI Kappang 16.27 88 P Pn 19 50 23.2 -0.9
comp=Z,5.4nm,0.3s,baz=263,slow=13,SNR=7.4
KAPI LR LR 19 57 09.8
comp=Z,529nm,21.4s,baz=258,slow=39
comp=Z,31nm,0.6s
KAPI Kappang 16.27 88⇓ *e*P **Pn 19 50 23.1 -1.0**
KAPI pmax pmax
comp=Z,36nm,0.8s
MPSI Mapaga 17.52 70 P P 19 50 41.8 +1.7
comp=Z,122nm,1.3s,comp=Z,1μm
BASI Baing, Sumba 17.55 106 P Pn 19 50 35.8 -4.2
comp=Z,394nm,0.6s,comp=Z,6μm
EDFI Ende, Flores 18.36 100 P P 19 50 44.3 -5.1
comp=Z,90nm,0.5s,comp=Z,1μm
MYLDM Lahad Datu 18.56 54 P P 19 50 50.4 -1.2
TOLI2 Tolitoli 18.62 69 P Pn 19 50 53.6 +0.5
TOLI2 Tolitoli 18.62 69 Pn 19 50 54.0 +0.9
TOLI2 IAmb IAmb 19 50 55.8
comp=Z,91nm,0.6s
MMRI Maumere 18.88 100 P P 19 50 55.2 +0.1
MMRI Maumere 18.88 100 P P 19 50 52.9 -2.2
MMRI IAmb IAmb 19 51 06.3
comp=Z,115nm,0.6s
MMRI Maumere 18.88 100 P P 19 50 53.4 -1.7
comp=Z,160nm,0.5s,comp=Z,2μm
BBSI Bau Bau 19.05 90 P Pn 19 50 57.4 -0.8
comp=Z,59nm,0.8s
MRSI Marisa 19.49 72 P Pn 19 51 02.5 -1.0
LUWI Luwuk 19.86 77 P Pn 19 51 07.3 -0.6
LUWI Luwuk 19.86 77 P P 19 51 06.0 +0.2
LUWI IAmb IAmb 19 51 14.0
comp=Z,125nm,0.7s
LUWI Luwuk 19.86 77 P P 19 51 06.0 +0.2
comp=Z,208nm,1.2s,comp=Z,2μm
SRDT SRDT 20.43 348 P P 19 51 11.7 -0.1
BATI Baumata 20.52 104 P P 19 51 12.7 -0.2
comp=Z,297nm,0.5s,comp=Z,4μm
GTOI Gorontalo 20.56 73 P P 19 51 12.5 -0.8
UBPT Khong Chiam 21.00 6 P P 19 51 16.9 -1.1
UBPT Khong Chiam 21.00 6 P P 19 51 16.6 -1.3
SOEI Soe 21.02 102 P P 19 51 18.8 +0.3
SOEI Soe 21.02 102 P P 19 51 16.6 -1.9
SOEI Soe 21.02 102 P P 19 51 18.8 +0.3
comp=Z,286nm,0.7s,comp=Z,4μm
MBWA Marble Bar 22.01 136 P P 19 51 29.2 +0.4
MBWA Marble Bar 22.01 136 P P 19 51 28.0 -0.8
MBWA Marble Bar 22.01 136 P P 19 51 29.4 +0.6
comp=Z,43nm,1.2s
PSAC1 Pilbara Seismi 22.31 136 P P 19 51 32.8 +0.7
comp=Z,37nm,1.2s
PSA00 Pilbara Seismi 22.36 136 P P 19 51 33.5 +0.8
PSA00 Pilbara Seismi 22.36 136 P P 19 51 30.6 -2.1
PSA00 Pilbara Seismi 22.36 136 P P 19 51 33.3 +0.6
comp=Z,42nm,1.0s
CMAR Chiang Mai Arr 24.46 350 P P 19 51 51.2 -1.7
CMAR Chiang Mai Arr 24.46 350 P P 19 51 51.8 -1.1
comp=Z,17nm,0.9s,baz=185,slow=8.8,SNR=148
CMAR PcP **PcP 19 55 32.5 +1.8**
comp=Z,4.4nm,0.8s,baz=206,slow=3.4,SNR=12
CMAR LR LR 20 03 39.0
comp=Z,222nm,18.2s,baz=170,slow=42
comp=Z,17nm,0.9s
LBMI Labuha 24.56 79 P P 19 51 52.1 -1.8
comp=Z,252nm,0.9s,comp=Z,4μm
TNTI Ternate 24.77 76 P P 19 51 57.8 +2.0
TNTI Ternate 24.77 76 P P 19 51 55.2 -0.6
TNTI Ternate 24.77 76 P P 19 51 52.7 -3.1
comp=Z,62nm,0.9s
CHTO Chiang Mai 24.81 350 P P 19 51 53.9 -2.2
CHTO Chiang Mai 24.81 350 P P 19 51 53.9 -2.2
CHTO pmax pmax
comp=Z,36nm,1.1s
FITZ Fitzroy Crossi 24.92 121 P P 19 51 56.7 -0.4
QIZ Qiongzhong 25.43 14 P P 19 52 02.7 +1.0
QIZ Qiongzhong 25.43 14 P P 19 52 03.4 +1.7
QIZ pmax pmax
comp=Z,32nm,0.8s
QIZ LR LR
comp=Z,400nm,18.8s
QIZ LR LR
comp=Z,160nm,12.8s
QIZ LR LR
comp=Z,540nm,18.2s
DAV Davao City (W) 25.51 60 LR LR 20 02 43.0
comp=Z,231nm,21.5s,baz=220,slow=38
PALK Pallekele 26.11 299 LR LR 20 01 20.4
comp=Z,313nm,20.1s,baz=229,slow=34
PALK Pallekele 26.11 299⇑ *e*P **P 19 52 07.1 -0.9**
PALK pmax pmax
comp=Z,12nm,0.9s
KNRA Kununurra 26.74 114 P P 19 52 13.4 -0.3
KNRA IAmb IAmb 19 52 21.8
comp=Z,46nm,0.9s
DRS Darwin Rock St 27.91 106 P P 19 52 24.3 +0.2
MTN Manton Dam 28.21 106 P P 19 52 26.1 -0.7
MTN IAmb IAmb 19 52 53.1
comp=Z,41nm,0.6s
MTN Manton Dam 28.21 106 P P 19 52 26.5 -0.4
comp=Z,60nm,0.9s
FAKI Fak Fak 28.87 86 P P 19 52 30.8 -2.0
FAKI IAmb IAmb 19 52 49.1
comp=Z,80nm,1.3s
KDU Kakadu 29.46 106 P P 19 52 37.0 -1.0
comp=Z,30nm,0.7s
NWAO Narrogin (SRO) 29.94 156 LR LR 20 03 16.2
comp=Z,314nm,21.6s,baz=333,slow=33
H01W3 Cape Leeuwin H 30.63 163 T T 20 25 03.7
baz=342,slow=76,SNR=189
H01W2 Cape Leeuwin H 30.64 163 T T 20 25 11.3
baz=342,slow=76,SNR=175
H01W1 Cape Leeuwin H 30.64 163 T T 20 25 07.6
baz=342,slow=76,SNR=98
KMI Kunming 30.70 359 ⇑P P 19 52 49.6 +0.6
KMI sP pwP 19 53 06.5 +1.5
KMI S **S 19 57 50.5 +2.4**
KMI pmax pmax
comp=Z,17nm,0.9s
KMI pmax pmax
comp=Z,68nm,4.9s
KMI LR LR
comp=Z,710nm,18.2s
KMI LR LR
comp=Z,230nm,9.0s
KMI LR LR
comp=Z,870nm,15.2s
H08S2 Diego Garcia H 30.78 265 T T 20 26 47.9
baz=88
H08S3 Diego Garcia H 30.79 265 T T 20 26 49.2
baz=88,slow=74
H08S1 Diego Garcia H 30.80 265 T T 20 26 45.5
baz=88,slow=74
KMBL Kambalda 30.80 148 P P 19 52 50.3 +0.6
comp=Z,24nm,1.5s
TNCH TengChong 30.97 351 P P 19 52 50.7 -0.6
TNCH pP pP 19 53 04.0 -1.0
TNCH sP pwP 19 53 08.2 +0.6
TNCH PP **PnPn 19 53 51.6 -2.6**
TNCH sS sS 19 58 16.4 +1.1
TNCH SS **SnSn 19 59 42.1 +4.8**
TNCH pmax pmax
comp=Z,8.0nm,0.8s
TNCH pmax pmax
comp=Z,89nm,4.5s
TNCH LR LR
comp=Z,240nm,11.9s
TNCH LR LR
comp=Z,240nm,13.3s
TNCH LR LR
comp=Z,400nm,16.4s
PZH PanZhiHua 32.11 357 P P 19 53 00.7 -0.6
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,130nm,4.7s
PZH LR LR
comp=Z,550nm,15.0s
PZH LR LR
comp=Z,240nm,15.5s
PZH LR LR
comp=Z,610nm,15.7s
GYA Guiyang 32.17 5 P P 19 53 06.6 +4.7
GYA pmax pmax
comp=Z,22nm,0.5s
GYA LR LR
comp=Z,410nm,14.1s
GYA LR LR
comp=Z,300nm,17.6s
GYA LR LR
comp=Z,480nm,15.1s
SHL Shillong 33.09 341 P P 19 53 08.6 -1.4
SHL IAmb IAmb 19 53 10.0
comp=Z,22nm,0.5s
SHL Shillong 33.09 341 P P 19 53 08.6 -1.4
SHL pmax pmax
comp=Z,22nm,0.5s
WB0 Warramunga Arr 33.17 118 P P 19 53 10.6 0.0
WB0 IAmb IAmb 19 53 11.6
comp=Z,14nm,0.7s
WRA Warramunga Arr 33.19 118 P P 19 53 10.8 0.0
WRA PcP **PcP 19 55 53.9 +1.2**
WRA Warramunga Arr 33.19 118 P P 19 53 11.1 +0.4
comp=Z,15nm,0.7s,baz=286,slow=12,SNR=76
WRA PcP **PcP 19 55 53.8 +1.1**
comp=Z,5.7nm,0.6s,baz=296,slow=2.0,SNR=7.2
WRA LR LR 20 08 05.6
comp=Z,207nm,20.9s,baz=296,slow=39
comp=Z,15nm,0.7s
WRA Warramunga Arr 33.19 118 *e*P **P 19 53 10.8 0.0**
WRAB Tennant Creek 33.19 118⇑ *e*P **P 19 53 09.8 -1.0**
WRAB pmax pmax
comp=Z,18nm,0.8s
WB2 Warramunga Arr 33.20 118 P P 19 53 09.3 -1.5
WB2 IAmb IAmb 19 53 11.8
comp=Z,20nm,0.7s
TWG Pinlang 33.23 31 P P 19 53 10.4 -0.6
TWG IAmb IAmb 19 53 18.1
comp=Z,41nm,1.2s
WR0 Warramunga Arr 33.37 118 P P 19 53 11.4 -0.9
WR0 IAmb IAmb 19 53 13.5
comp=Z,24nm,0.7s
HYB Hyderabad 33.67 314 *e*P **P 19 53 14.9 -0.1**
YULB Yu-li 33.82 30 P P 19 53 17.3 +1.1
YULB Yu-li 33.82 30 P P 19 53 16.2 +0.1
YULB IAmb IAmb 19 53 21.7
comp=Z,17nm,0.6s
SSLB Suanglung 33.98 30 P P 19 53 18.3 +0.7
SSLB Suanglung 33.98 30 P P 19 53 17.2 -0.3
SSLB IAmb IAmb 19 53 19.6
comp=Z,15nm,0.5s
FORT Forrest 33.99 140 P P 19 53 18.4 +0.9
FORT IAmb IAmb 19 53 40.8
comp=Z,60nm,1.5s
ASAR Alice Springs 34.31 124 P P 19 53 20.1 -0.4
ASAR PcP **PcP 19 55 57.5 +1.7**
ASAR Alice Springs 34.31 124 P P 19 53 21.1 +0.7
comp=Z,14nm,0.6s,baz=297,slow=7.5,SNR=278
ASAR PcP **PcP 19 55 57.4 +1.6**
comp=Z,4.1nm,0.7s,baz=301,slow=2.1,SNR=8.6
ASAR LR LR 20 09 53.7
comp=Z,135nm,18.6s,baz=310,slow=41
comp=Z,14nm,0.6s
AS31 Alice Springs 34.31 124 P P 19 53 18.9 -1.6
AS31 Alice Springs 34.31 124 P P 19 53 21.2 +0.7
comp=Z,11nm,0.6s
AS01 Alice Springs 34.34 124 P P 19 53 21.4 +0.6
NACB Ninganchiao 34.62 30 P P 19 53 22.3 -0.8
YHNB Yeheng 34.93 29 P P 19 53 26.2 +0.4
YHNB Yeheng 34.93 29 P P 19 53 25.2 -0.6
YHNB IAmb IAmb 19 53 30.7
comp=Z,19nm,0.9s
CNSH ChangSha 34.96 15 P P 19 53 26.5 +0.6
CNSH pmax pmax
comp=Z,19nm,0.9s
ENH Enshi 36.29 9 P P 19 53 37.1 -0.2
CD2 Chengdu 36.46 0 P P 19 53 37.9 -0.9
CD2 S **S 19 59 19.9 +3.1**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=Z,680nm,13.5s
CD2 LR LR
comp=Z,520nm,19.6s
CD2 LR LR
comp=Z,800nm,14.9s
GENI Genyem 36.77 87 P P 19 53 42.4 +0.7
comp=Z,30nm,1.1s
GENI Genyem 36.77 87 P P 19 53 37.2 -4.5
LSA Lhasa 37.17 342 P P 19 53 45.0 -0.4
LSA pmax pmax
comp=Z,7.0nm,1.4s
LSA Lhasa 37.17 342 P P 19 53 45.7 +0.3
LSA pmax pmax
comp=Z,14nm,1.2s
JAY Jayapura 37.31 87 P P 19 53 43.4 -2.9
comp=Z,19nm,0.8s
JAY Jayapura 37.31 87 P P 19 53 45.1 -1.2
JAY pmax pmax
comp=Z,19nm,0.8s
WHN Wuhan 37.58 16 P P 19 53 48.9 +0.7
WHN LR LR
comp=Z,950nm,17.2s
OOD Oodnadatta 37.66 129 P P 19 53 49.9 +0.9
MULG Mulgathing 37.76 134 P P 19 53 51.2 +1.4
QIS Mount Isa 38.06 116 P P 19 53 53.3 +0.8
QIS Mount Isa 38.06 116 P P 19 53 53.0 +0.5
comp=Z,24nm,0.8s
COEN Coen 39.95 105 P P 19 54 08.2 -0.2
COEN Coen 39.95 105 P P 19 54 07.9 -0.5
COEN IAmb IAmb 19 54 08.9
comp=Z,54nm,0.7s
COEN Coen 39.95 105 P P 19 54 08.1 -0.2
comp=Z,77nm,0.7s
JOW Kunigami 40.35 35 P P 19 54 12.3 +0.8
JOW Kunigami 40.35 35 LR LR 20 10 20.1
comp=Z,101nm,20.9s,baz=192,slow=35
NJ2 Nanjing 40.37 20 ⇑P P 19 54 12.6 +1.1
NJ2 pmax pmax
comp=Z,24nm,0.7s
BBOO Buckleboo 40.59 136 P P 19 54 13.4 0.0
BBOO IAmb IAmb 19 54 50.2
comp=Z,56nm,1.5s
LCRK Leigh Creek 40.90 131 P P 19 54 17.4 +1.4
LYN LuoYang 40.99 11 P P 19 54 17.0 +0.4
LYN S **S 20 00 22.3 -2.5**
LYN pmax pmax
comp=Z,50nm,0.7s
LYN LR LR
comp=Z,510nm,19.2s
LYN LR LR
comp=Z,260nm,15.1s
LYN LR LR
comp=Z,610nm,19.6s
LZH Lanzhou 41.62 1 P P 19 54 22.1 +0.1
LZH pmax pmax
comp=Z,32nm,1.1s
LZH LR LR
comp=Z,530nm,13.9s
LZH LR LR
comp=Z,290nm,13.4s
LZH LR LR
comp=Z,590nm,15.6s
INKA Innaminka 41.63 126 P P 19 54 24.0 +2.0
MTSU Mount Surprise 41.74 111 P P 19 54 24.5 +1.3
GOMU GeErMu 42.51 350 P P 19 54 29.7 +0.2
GOMU pP pP 19 54 41.9 -1.6
GOMU PcP **PcP 19 56 22.7 +1.3**
GOMU pmax pmax
comp=Z,13nm,0.8s
GOMU LR LR
comp=Z,230nm,15.0s
GOMU LR LR
comp=Z,250nm,17.9s
GOMU LR LR
comp=Z,400nm,15.5s
HTT Hallett 42.94 135 P P 19 54 34.3 +1.6
HTT Hallett 42.94 135 P P 19 54 34.1 +1.4
comp=Z,41nm,1.1s
PMG Port Moresby 43.48 98 P P 19 54 36.8 -0.5
PMG Port Moresby 43.48 98 LR LR 20 15 46.9
comp=Z,51nm,19.4s,baz=334,slow=40
PMG Port Moresby 43.48 98 P P 19 54 36.8 -0.5
PMG pmax pmax
comp=Z,88nm,0.6s
CTA Charters Tower 43.95 113 P P 19 54 42.0 +1.0
CTA Charters Tower 43.95 113 LR LR 20 12 58.2
comp=Z,9.2nm,21.9s,baz=287,slow=36
CTA Charters Tower 43.95 113 P P 19 54 42.6 +1.6
CTA pmax pmax
comp=Z,3.0nm,1.1s
CTAO Charters Tower 43.95 113 P P 19 54 42.4 +1.4
CTAO Charters Tower 43.95 113 P P 19 54 40.2 -0.8
CTAO IAmb IAmb 19 54 43.1
comp=Z,28nm,0.9s
CTAO Charters Tower 43.95 113 P P 19 54 40.2 -0.8
CTAO pmax pmax
comp=Z,28nm,1.0s
QLP Quilpie 44.05 123 P P 19 54 43.4 +1.7
QLP Quilpie 44.05 123 P P 19 54 43.4 +1.7
comp=Z,45nm,0.9s
STKA Stephens Creek 44.12 131 P P 19 54 43.5 +1.4
STKA Stephens Creek 44.12 131 P P 19 54 42.5 +0.4
STKA Stephens Creek 44.12 131 P P 19 54 43.6 +1.4
comp=Z,69nm,0.6s,baz=305,slow=7.9,SNR=179
comp=Z,69nm,0.6s
STKA Stephens Creek 44.12 131 *c i*P **P 19 54 43.3 +1.1**
STKA Stephens Creek 44.12 131 P P 19 54 43.6 +1.4
comp=Z,22nm,0.8s
HNS HongShan 44.20 13 ⇑P P 19 54 42.2 -0.4
HNS pP **pP 19 54 53.4 -3.3**
HNS sP **pwP 19 54 59.9 +0.4**
HNS PP **PcP 19 56 27.8 +1.2**
HNS pmax pmax
comp=Z,28nm,0.6s
HNS LR LR
comp=Z,250nm,19.1s
HNS LR LR
comp=Z,260nm,13.5s
HNS LR LR
comp=Z,300nm,23.9s
GTA Gaotai 45.06 356 ⇓P P 19 54 50.1 +0.5
GTA sP pwP 19 55 07.6 +1.0
GTA PcP **PcP 19 56 31.0 +1.3**
GTA pmax pmax
comp=Z,15nm,0.8s
GTA LR LR
comp=Z,330nm,18.3s
GTA LR LR
comp=Z,220nm,17.1s
GTA LR LR
comp=Z,410nm,18.3s
GUMO Guam 45.41 65 LR LR 20 13 11.1
comp=Z,48nm,21.7s,baz=240,slow=35
BTO Baotou 46.53 7 *e*P **P 19 55 02.8 +1.6**
BTO pP **pP 19 55 17.1 +1.7**
BTO sP **sP 19 55 25.2 +3.5**
BTO S **S 20 01 47.7 +2.0**
BTO pmax pmax
comp=Z,20nm,1.0s
BTO pmax pmax
comp=Z,240nm,5.5s
BTO LR LR
comp=Z,240nm,5.9s
BTO LR LR
comp=Z,630nm,13.5s
BTO LR LR
comp=Z,320nm,17.7s
JNU Nakatsue 46.62 32 P P 19 55 02.1 +0.2
JNU Nakatsue 46.62 32 P P 19 55 01.4 -0.6
JNU Nakatsue 46.62 32 LR LR 20 16 53.3
comp=Z,73nm,18.0s,baz=174,slow=39
ARPS Mount Arapiles 46.73 137 P P 19 55 04.7 +1.9
comp=Z,36nm,0.7s
HHC Hu-ho-hao-te 46.97 8 *e*P **P 19 55 08.2 +3.6**
HHC pmax pmax
comp=Z,23nm,0.6s
HHC pmax pmax
comp=Z,71nm,5.0s
HHC LR LR
comp=Z,400nm,18.8s
HHC LR LR
comp=Z,200nm,18.6s
HHC LR LR
comp=Z,450nm,18.0s
BJT Baijiatuau 47.04 13 P P 19 55 05.1 +0.1
BJT Baijiatuau 47.04 13 P P 19 55 05.2 +0.2
BJT pmax pmax
comp=Z,25nm,1.0s
BJI Beijing 47.06 13 P P 19 55 03.8 -1.3
BJI PcP **PcP 19 56 37.5 +1.0**
BJI pmax pmax
comp=Z,11nm,0.6s
BJI pmax pmax
comp=Z,60nm,5.4s
BJI LR LR
comp=Z,130nm,18.9s
BJI LR LR
comp=Z,91nm,17.3s
BJI LR LR
comp=Z,130nm,20.7s
CMSA Cobar Meteorol 47.11 128 P P 19 55 06.9 +1.1
CMSA Cobar Meteorol 47.11 128 P P 19 55 07.5 +1.7
comp=Z,89nm,0.9s
DL2 Dalian 47.53 19 P P 19 55 07.8 -1.0
DL2 S **S 20 01 58.1 -1.7**
DL2 pmax pmax
comp=Z,32nm,1.2s
DL2 pmax pmax
comp=Z,330nm,4.5s
DL2 LR LR
comp=Z,280nm,22.7s
DL2 LR LR
comp=Z,320nm,12.7s
DL2 LR LR
comp=Z,320nm,21.8s
TJN Taejon 47.54 26⇑ *e*P **P 19 55 08.3 -0.6**
AULRC Lightning Ridg 48.15 125 P P 19 55 15.3 +1.4
INCN Inchon 48.15 25 P P 19 55 13.6 -0.1
KSAR Wonju Array Be 48.65 26 P P 19 55 18.1 +0.6
KSAR Wonju Array Be 48.65 26 P P 19 55 18.1 +0.6
KSRS Korea Array 48.68 26 P P 19 55 18.0 +0.3
comp=Z,30nm,0.6s,baz=222,slow=7.5,SNR=149
comp=Z,30nm,0.6s
KS19 Wonju Array Si 48.70 26 P P 19 55 17.9 +0.1
JMN Monobe 48.72 34 P P 19 55 19.1 +0.9
EIDS Eidsvold 49.55 119 P P 19 55 26.7 +2.0
EIDS Eidsvold 49.55 119 P P 19 55 26.0 +1.3
EIDS Eidsvold 49.55 119 P P 19 55 26.3 +1.6
comp=Z,15nm,1.1s
YNG Young 50.31 131 P P 19 55 32.4 +2.1
YNG Young 50.31 131 P P 19 55 32.3 +1.9
comp=Z,175nm,1.1s
XLT XiLinHaoTe 50.73 12 *e*P **P 19 55 32.7 -0.6**

XLT pmax pmax
comp=Z,21nm,0.8s
XLT pmax pmax
comp=Z,46nm,3.9s
XLT LR LR
comp=Z,140nm,16.3s
XLT LR LR
comp=Z,190nm,17.6s
AUPHS Peel High Scho 51.08 126 P **P 19 55 38.1 +1.9**
CAN Canberra 51.18 131 P **P 19 55 39.1 +2.2**
CAN Canberra 51.18 131 P **P 19 55 39.1 +2.2**
CAN pmax pmax
comp=Z,174nm,1.9s
WMQ Urumqi 51.35 345 ⇑P **P 19 55 38.5 +0.5**
WMQ sP pP 19 55 54.2 +1.8
WMQ pmax pmax
comp=Z,67nm,1.1s
WMQ pmax pmax
comp=Z,97nm,3.7s
WMQ LR LR
comp=Z,98nm,21.3s
ARMA Armidale 51.46 125 P **P 19 55 41.0 +1.8**
ARMA IAmb IAmb 19 55 42.9
comp=Z,24nm,1.0s
ARMA Armidale 51.46 125 P **P 19 55 42.5 +3.3**
KBL Kabul 51.56 323 P **P 19 55 39.7 -0.2**
KBL pmax pmax
comp=Z,15nm,1.2s
INU Inuyama 51.67 35 P **P 19 55 41.6 +1.2**
INU Inuyama 51.67 35 P **P 19 55 39.2 -1.3**
INU IAmb IAmb 19 55 42.6
comp=Z,18nm,0.8s
KSH Kashi 51.69 333 P **P 19 55 39.6 -1.1**
KSH pP pP 19 55 54.5 -0.6
KSH pmax pmax
comp=Z,53nm,0.8s
JHJ Hachijo jima 2 51.81 39 LR LR 20 16 42.3
comp=Z,56nm,21.8s,baz=294,slow=35
JGF Kuroka 52.04 35 P **P 19 55 41.6 -1.7**
JGF IAmb IAmb 19 55 43.2
comp=Z,42nm,1.5s
WSAR Wadi Sarin 52.38 305 LR LR 20 16 34.2
comp=Z,158nm,19.3s,baz=143,slow=34
PRZ Przheval'sk 53.14 337 IAmb IAmb 19 55 53.8
comp=Z,45nm,1.1s
PRZ Przheval'sk 53.14 337 P **P 19 55 52.8 +1.4**
PRZ pmax pmax
comp=Z,42nm,1.0s
CN2 Changchun 53.19 20 P **P 19 55 50.7 -0.8**
CN2 PcP **PcP 19 56 58.5 -0.4**
CN2 pmax pmax
comp=Z,50nm,0.9s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,300nm,20.0s
MAJO Matsushiro 53.19 35 P **P 19 55 50.6 -1.1**
MAJO Matsushiro 53.19 35 P **P 19 55 50.4 -1.4**
MAJO IAmb IAmb 19 55 51.2
comp=Z,17nm,0.8s
MAJO Matsushiro 53.19 35*d iP* **P 19 55 50.6 -1.1**
MAJO pmax pmax
comp=Z,19nm,1.0s
MJAR Matsushiro Arr 53.19 35 P **P 19 55 50.1 -1.7**
comp=Z,16nm,0.8s,baz=213,slow=7.2,SNR=62
MJAR LR LR 20 20 20.8
comp=Z,68nm,19.7s,baz=204,slow=38
comp=Z,16nm,0.8s
SHLS Shalkode 53.31 338 *eP* **P 19 55 51.6 -1.0**
comp=Z,16nm,0.7s,baz=339
SHLS Shalkode 53.31 338 *eP* **P 19 55 51.6 -1.0**
SHLS pmax pmax
comp=Z,16nm,0.7s
SONM Songino Array 53.42 2 P **P 19 55 53.8 +0.5**
SONM IAmb IAmb 19 55 55.0
comp=Z,33nm,0.8s
SONM PcP **PcP 19 57 01.0 +1.1**
SONM Songino Array 53.42 2 P **P 19 55 53.8 +0.5**
comp=Z,22nm,0.6s,baz=181,slow=8.2,SNR=158
SONM PcP **PcP 19 57 00.8 +0.8**
comp=Z,11nm,0.5s,baz=182,slow=4.0,SNR=16
comp=Z,22nm,0.6s
UZB Uzynbulak 53.47 338 *eP* **P 19 55 53.9 +0.1**
comp=Z,14nm,0.7s,baz=338
UZB Uzynbulak 53.47 338 *eP* **P 19 55 53.8 +0.1**
UZB pmax pmax
comp=Z,14nm,0.7s
SATY Saty 53.62 337 *eP* **P 19 55 55.0 0.0**
comp=Z,9.1nm,0.7s,baz=337
SATY Saty 53.62 337 *eP* **P 19 55 54.9 0.0**
SATY pmax pmax
comp=Z,9.0nm,0.7s
ZHN Zhinishke 53.70 337 *eP* **P 19 55 55.6 +0.1**
comp=Z,7.5nm,0.7s,baz=338
ZHN Zhinishke 53.70 337 *eP* **P 19 55 55.6 +0.1**
ZHN pmax pmax
comp=Z,7.0nm,0.7s
ULHL Ulahol 53.81 335 P **P 19 55 56.9 +0.5**
SNR=14
KPKS Kokpek 53.87 338 *eP* **P 19 55 56.7 +0.1**
comp=Z,9.9nm,0.7s,baz=338
KPKS Kokpek 53.87 338 *eP* **P 19 55 56.7 +0.1**
KPKS pmax pmax
comp=Z,10.0nm,0.7s
OHH Osh 53.98 331 P **P 19 55 58.0 +0.5**
OHH pmax pmax
comp=Z,63nm,1.1s
GAR Garm 54.05 328 P **P 19 55 57.0 -1.1**
BOOM Boomskoye usch 54.14 335 P **P 19 55 57.6 -1.1**
BOOM IAmb IAmb 19 55 59.8
comp=Z,30nm,0.8s
BOOM Boomskoye usch 54.14 335 P **P 19 55 57.6 -1.1**
BOOM pmax pmax
comp=Z,30nm,0.8s
TNSS Tian-Shan 54.18 336 *eP* **P 19 55 58.8 -0.5**
baz=336
TNSS Tian-Shan 54.18 336 *eP* **P 19 55 58.7 -0.5**
PSTR Posyet 54.22 25⇑*eP* **P 19 55 58.6 -0.5**
MDOK Medeo 54.24 336 *eP* **P 19 55 59.5 0.0**
baz=336
MDOK Medeo 54.24 336 *eP* **P 19 55 59.4 0.0**
JSD Sado 54.28 34 P **P 19 55 58.6 -1.1**
MSHR Mys Shultsa 54.31 25⇑*eP* **P 19 55 58.1 -1.6**
MSHR pmax pmax
comp=Z,17nm,0.9s
ARLS Aral 54.32 333 P **P 19 56 00.7 +0.6**
ARLS pmax pmax
comp=Z,66nm,1.1s
AAA Alma-Ata 54.33 336 *eP* **P 19 56 00.2 +0.2**
comp=Z,18nm,0.8s,baz=336
AAA Alma-Ata 54.33 336 *eP* **P 19 56 00.2 +0.2**
AAA pmax pmax
comp=Z,18nm,0.8s
CHGR Chuyangaron 54.42 327 P **P 19 55 59.5 -1.3**
CHGR pmax pmax
comp=Z,46nm,0.8s
UCH Uchtor 54.53 334 P **P 19 56 02.3 +0.3**
SNR=29
BTK Batken 54.59 330 P **P 19 56 01.9 -0.1**
BTK Batken 54.59 330 P **P 19 56 01.9 -0.1**
BTK pmax pmax
comp=Z,73nm,0.3s
TKM2 Tokmak 2 54.63 335 P **P 19 56 02.5 +0.1**
SNR=79
KBK Karagaybulak 54.69 334 P **P 19 56 03.5 +0.7**
SNR=20
AAK Ala-Archa 54.87 334 P **P 19 56 04.6 +0.5**
SNR=6.5
AAK Ala-Archa 54.87 334 P **P 19 56 04.9 +0.9**
comp=Z,7.8nm,0.6s,baz=163,slow=5.3,SNR=20
AAK LR LR 20 23 53.4
comp=Z,112nm,18.9s,baz=148,slow=41
comp=Z,7.8nm,0.6s
AAK Ala-Archa 54.87 334*c iP* **P 19 56 04.3 +0.2**
AAK pmax pmax
comp=Z,21nm,1.0s
FRU1 Bishkek 54.95 334 P **P 19 56 05.1 +0.6**
FRU1 pmax pmax
comp=Z,59nm,0.9s
CHMS Chumysh 55.05 335 P **P 19 56 05.1 -0.1**
SNR=15
VLA Vladivostok 55.06 25⇑*eP* **P 19 56 04.4 -0.8**
VLA pmax pmax
comp=Z,52nm,1.3s

EKS2 Erkin-Say 55.21 334 P **P 19 56 06.9 +0.5**
SNR=71
TDK Taldyqorghan 55.29 339 *eP* **P 19 56 06.6 -0.3**
comp=Z,9.9nm,0.6s,baz=339
TDK Taldyqorghan 55.29 339 *eP* **P 19 56 06.5 -0.3**
TDK pmax pmax
comp=Z,10.0nm,0.6s
MDJ Mudanjiang 55.38 22 P **P 19 56 07.8 +0.3**
MDJ Mudanjiang 55.38 22 P **P 19 56 07.8 +0.3**
MDJ pmax pmax
comp=Z,17nm,1.1s
ZSN Zaisan 55.46 345 *eP* **P 19 56 08.4 +0.4**
comp=Z,12nm,0.5s,baz=345
ZSN Zaisan 55.46 345 *eP* **P 19 56 08.4 +0.4**
ZSN pmax pmax
comp=Z,12nm,0.5s
SGDS Sogindy 55.48 335 *eP* **P 19 56 08.0 -0.3**
baz=335
SGDS Sogindy 55.48 335 *eP* **P 19 56 07.9 -0.3**
TRKS Terek-Say 55.54 331 P **P 19 56 08.5 -0.4**
TRKS pmax pmax
comp=Z,52nm,1.0s
BNX BinXian 55.56 20 ⇑P **P 19 56 08.0 -0.7**
BNX pmax pmax
comp=Z,120nm,1.0s
MK31 Makanchi Array 55.58 343 P **P 19 56 08.7 -0.2**
MK31 Makanchi Array 55.58 343*c iP* **P 19 56 08.4 -0.5**
MKAR Makanchi Array 55.58 343 P **P 19 56 08.6 -0.3**
comp=Z,43nm,0.6s,baz=148,slow=8.0,SNR=508
MKAR LR LR 20 24 20.7
comp=Z,71nm,18.4s,baz=129,slow=41
comp=Z,43nm,0.6s
MKAR Makanchi Array 55.58 343 P **P 19 56 08.7 -0.2**
JMM Marumori 55.60 36 P **P 19 56 08.0 -1.1**
JMM Marumori 55.60 36 P **P 19 56 07.8 -1.4**
JMM IAmb IAmb 19 56 11.3
comp=Z,64nm,1.4s
MAKZ Makanchi 55.69 342 P **P 19 56 09.1 -0.6**
MAKZ Makanchi 55.69 342 P **P 19 56 09.1 -0.6**
MAKZ pmax pmax
comp=Z,15nm,1.0s
ZAK Zakamensk 55.91 360 *eP* **P 19 56 10.8 -0.5**
ZAK pmax pmax
comp=Z,14nm,1.1s
USRK Ussuriysk Ar. 55.99 25 P **P 19 56 11.9 +0.1**
comp=Z,45nm,0.8s,baz=208,slow=5.1,SNR=68
comp=Z,45nm,0.8s
USA0B Ussuriysk Arra 55.99 25 P **P 19 56 12.1 +0.2**
USA0B Ussuriysk Arra 55.99 25*c iP* **P 19 56 11.4 -0.4**
HNR Honiara 56.10 97 P **P 19 56 13.7 +0.5**
HNR Honiara 56.10 97 P **P 19 56 12.8 -0.3**
HNR Honiara 56.10 97 LR LR 20 25 03.8
comp=Z,680nm,18.3s,baz=88,slow=41
HNR Honiara 56.10 97 P **P 19 56 12.9 -0.3**
HNR pmax pmax
comp=Z,259nm,0.8s
HIA Hailar 56.61 13 P **P 19 56 16.0 -0.2**
BTLS Baital 57.01 336 *eP* **P 19 56 18.4 -0.7**
comp=Z,6.5nm,0.7s,baz=336
BTLS Baital 57.01 336 *eP* **P 19 56 18.4 -0.7**
BTLS pmax pmax
comp=Z,7.0nm,0.7s
KK31 Karatay Array 57.05 332 P **P 19 56 18.7 -0.7**
KK31 Karatay Array 57.05 332 P **P 19 56 18.7 -0.7**
KK31 pmax pmax
comp=Z,9.0nm,1.0s
KKAR Karatay Array 57.05 332 P **P 19 56 18.9 -0.5**
KKAR Karatay Array 57.05 332 P **P 19 56 18.9 -0.5**
MOY Mondy 57.23 358 *eP* **P 19 56 21.2 +0.5**
MOY pmax pmax
comp=Z,28nm,2.2s
BRLS Borolday 57.31 331 *eP* **P 19 56 19.8 -1.6**
comp=Z,8.4nm,0.8s,baz=331
BRLS Borolday 57.31 331 *eP* **P 19 56 19.7 -1.6**
BRLS pmax pmax
comp=Z,8.0nm,0.8s
JTM Tenmabayashi 57.76 33 P **P 19 56 23.2 -1.2**
IRK Irkutsk 57.78 1 *eP* **P 19 56 21.7 -2.7**
IRK pmax pmax
comp=Z,31nm,1.5s
SEM Semipalatinsk 59.42 343 *eP* **P 19 56 35.5 -0.7**
comp=Z,10nm,0.7s,baz=343
SEM Semipalatinsk 59.42 343 *eP* **P 19 56 35.4 -0.7**
SEM pmax pmax
comp=Z,10.0nm,0.7s
HEH HeiHe 59.52 18 *eP* **P 19 56 36.0 -0.5**
HEH pmax pmax
comp=Z,47nm,1.0s
ERM Erimo 59.75 33 P **P 19 56 36.8 -1.4**
ERM Erimo 59.75 33 P **P 19 56 36.8 -1.4**
ERM pmax pmax
comp=Z,70nm,1.6s
H04N2 CROZET ISLANDS 59.94 219 T T 21 02 57.3
baz=64,slow=75,SNR=34
H04N1 CROZET ISLANDS 59.95 219 T T 21 02 58.4
baz=64,slow=75,SNR=604
H04N3 CROZET ISLANDS 59.95 219 T T 21 02 57.4
baz=64,slow=75,SNR=55
KLR Kul'dur 60.07 21 LR LR 20 23 55.4
comp=Z,116nm,18.6s,baz=216,slow=37
KLR Kul'dur 60.07 21*ceP* **P 19 56 39.6 -0.7**
KLR pmax pmax
comp=Z,35nm,1.7s
KURBB Kurchatov Arra 60.12 342 P **P 19 56 40.4 -0.2**
comp=Z,25nm,0.8s,baz=157,slow=6.5,SNR=166
KURBB LR LR 20 26 30.1
comp=Z,116nm,18.7s,baz=158,slow=40
comp=Z,25nm,0.8s
H04S1 CROZET ISLANDS 60.16 218 T T 21 03 12.9
baz=64,slow=75,SNR=190
H04S3 CROZET ISLANDS 60.18 218 T T 21 03 12.2
baz=64,slow=75,SNR=353
KURK Kurchatov 60.18 342 P **P 19 56 40.9 -0.1**
KURK Kurchatov 60.18 342*c iP* **P 19 56 40.7 -0.3**
KURK pmax pmax
comp=Z,42nm,0.9s
H04S2 CROZET ISLANDS 60.18 218 T T 21 03 13.6
baz=64,slow=75,SNR=28
KOUNC Koumac, New Ca 60.74 110 P **P 19 56 47.2 +1.8**
ASAJ Asahikawa 60.89 31 LR LR 20 24 01.7
comp=Z,42nm,19.4s,baz=232,slow=37
ASAJ Asahikawa 60.89 31 P **P 19 56 45.2 -0.8**
ASAJ pmax pmax
comp=Z,19nm,0.7s
JKA Kamikawa-asahi 60.89 31 P **P 19 56 45.2 -0.8**
JKA IAmb IAmb 19 56 46.9
comp=Z,19nm,0.7s
ZAA0 Zalesovo Array 61.51 348 P **P 19 56 49.3 -0.7**
ZALV Zalesovo Beam 61.51 348 P **P 19 56 49.5 -0.5**
comp=Z,59nm,0.5s,baz=159,slow=4.5,SNR=234
ZALV LR LR 20 26 24.0
comp=Z,350nm,19.4s,baz=160,slow=39
comp=Z,59nm,0.5s
ZEA Zeya 62.57 16 *eP* **P 19 56 57.4 +0.3**
ZEA pmax pmax
comp=Z,20nm,1.2s
NOUC Port Laguerre 62.74 112 P **P 19 57 00.4 +1.5**
DZM Mont Dzumac 62.87 112 *e*LR LR 20 15 41.5
comp=Z,201nm,25.6s
DZM Mont Dzumac 62.87 112 LR LR 20 27 26.3
comp=Z,80nm,18.3s,baz=302,slow=39
YSS Yuzh-Sakhalins 62.95 29 P **P 19 56 59.7 -0.1**
YSS Yuzh-Sakhalins 62.95 29*oeP* **P 19 56 59.3 -0.5**
YSS *e**PP **pP 19 57 13.8 -0.8**
YSS *e**SP **sP 19 57 21.9 +1.2**
YSS *eS* **S 20 05 28.0 +2.4**
YSS pmax pmax
comp=Z,20nm,0.8s
OUENC Ouen Island, N 63.27 112 P **P 19 57 04.4 +2.0**
OUENC Ouen Island, N 63.27 112 P **P 19 57 02.1 -0.3**
OUENC IAmb IAmb 19 57 04.9
comp=Z,18nm,0.8s
YATNC Mamie plateau, 63.28 112 P **P 19 57 04.6 +2.1**
RAYN Ar Rayn 63.55 300 P **P 19 57 05.3 +1.0**
BVAR Borovoye Array 64.88 339 LR LR 20 30 24.3
comp=Z,128nm,18.6s,baz=142,slow=40
BRVK Borovoye 64.95 339 P **P 19 57 12.6 -0.2**
BRVK IAmb IAmb 19 57 13.4
comp=Z,24nm,0.8s
BRVK Borovoye 64.95 339*c iP* **P 19 57 12.2 -0.6**
BRVK pmax pmax
comp=Z,24nm,1.0s
FURI Furi 66.16 282 LR LR 20 22 25.1
comp=Z,152nm,20.2s,baz=152,slow=32
MAW Mawson 67.56 196 P **P 19 57 30.9 +1.7**
comp=Z,2.0nm,0.6s,baz=44,slow=7.7,SNR=12

MAW LR LR 20 21 24.1
comp=Z,256nm,19.3s,baz=23,slow=31
comp=Z,2.0nm,0.6s
MAW Mawson 67.56 196 P **P 19 57 31.2 +2.0**
comp=Z,3.0nm,1.2s
AKTO Aktyubinsk 68.28 331 P **P 19 57 33.9 -0.2**
comp=Z,6.9nm,0.6s,baz=134,slow=6.7,SNR=29
comp=Z,6.9nm,0.6s
YAK Yakutsk 70.56 13 LR LR 20 32 06.6
comp=Z,111nm,18.0s,baz=226,slow=39
YAK Yakutsk 70.56 13 *eP* **P 19 57 46.2 -1.6**
YAK *e**PP **PcP 19 58 07.8 -0.9**
YAK *eS* **S 20 06 52.0 -4.9**
YAK *e**SS **SKiKP 20 07 24.6 -2.1**
YAK *e* 20 07 38.3
YAK *eSS* **SS 20 11 33.5 +4.1**
YAK pmax pmax
comp=Z,49nm,0.9s
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK smax smax
comp=N,27nm,3.8s
YAK smax smax
comp=E,43nm,2.9s
GROC Groznyy 71.24 319 *eP* **P 19 57 49.8 -2.6**
SVE Sverdlovsk 71.44 337 *eP* **P 19 57 53.8 +0.4**
SVE pmax pmax
comp=Z,52nm,1.1s
ARU Arti 72.00 336 P **P 19 57 56.6 -0.2**
ARU IAmb IAmb 19 57 57.9
comp=Z,45nm,1.2s
ARU Arti 72.00 336 LR LR 20 35 15.5
comp=Z,59nm,18.8s,baz=132,slow=41
ARU Arti 72.00 336*c iP* **P 19 57 56.8 +0.1**
ARU pmax pmax
comp=Z,35nm,1.0s
ARU Arti 72.00 336 P **P 19 57 56.5 -0.2**
comp=Z,39nm,1.0s,comp=Z,302nm
NCK Nalchik 72.81 319⇓*eP* **P 19 58 03.0 +1.1**
NCK pmax pmax
comp=Z,11nm,0.7s
BKZ Black Stump Fm 73.26 129 P **P 19 58 06.1 +1.3**
KBZ Khabaz 73.36 319 P **P 19 58 05.6 +0.5**
comp=Z,4.6nm,0.8s,baz=118,slow=4.8,SNR=11
comp=Z,4.6nm,0.8s
SHA1 Shidzhatmaz 73.53 319*deP* **P 19 58 07.3 +0.9**
ASF Jabal al Asfar 73.54 306 P **P 19 58 07.3 +0.7**
comp=Z,14nm,0.9s,baz=43,slow=0.0,SNR=15
comp=Z,14nm,0.9s
KIV Kislovodsk 73.60 319 *eP* **P 19 58 07.4 +0.8**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 73.60 319 P **P 19 58 07.2 +0.6**
comp=Z,9.0nm,0.9s
URZ Urewera 73.65 128 LR LR 20 32 59.1
comp=Z,134nm,19.2s,baz=26,slow=38
EIL Elat 74.42 303 P **P 19 58 12.2 +0.7**
comp=Z,8.1nm,0.7s,baz=164,slow=2.7,SNR=9.6
EIL LR LR 20 28 59.4
comp=Z,79nm,21.1s,baz=67,slow=34
comp=Z,8.1nm,0.7s
BELG Belogornoye 74.69 328 P **P 19 58 11.8 -0.8**
comp=Z,24nm,1.0s,baz=13,slow=4.9,SNR=6.6
comp=Z,24nm,1.0s
BELG Belogornoye 74.69 328*d iP* **P 19 58 12.6 0.0**
BELG pmax pmax
comp=Z,4.0nm,0.9s
PET Petropavlovsk 74.73 31 P **P 19 58 12.8 0.0**
PET Petropavlovsk 74.73 31 P **P 19 58 11.2 -1.6**
PET IAmb IAmb 19 58 13.0
comp=Z,25nm,0.7s
PET Petropavlovsk 74.73 31 *eP* **P 19 58 12.2 -0.6**
PET *e**PP **PcP 19 58 27.5 +0.8**
PET *eS* **S 20 07 45.0 +0.3**
PET pmax pmax
comp=Z,42nm,0.6s
PET Petropavlovsk 74.73 31 P **P 19 58 12.3 -0.6**
comp=Z,39nm,0.9s
MMAI Mount Meron Ar 75.00 306 P **P 19 58 16.7 +1.8**
comp=Z,9.3nm,0.7s,baz=99,slow=7.8,SNR=24
MMAI LR LR 20 31 13.4
comp=Z,97nm,20.7s,baz=98,slow=36
comp=Z,9.3nm,0.7s
MA2 Magadan 75.08 23 P **P 19 58 15.1 +0.3**
MA2 Magadan 75.08 23 P **P 19 58 13.7 -1.0**
MA2 IAmb IAmb 19 58 15.8
comp=Z,24nm,0.7s
MA2 Magadan 75.08 23*ceP* **P 19 58 14.6 -0.2**
MA2 pmax pmax
comp=Z,17nm,0.8s
SOC Sochi 75.41 318 *eP* **P 19 58 14.0 -3.0**
SOC *e*PPP PPP 20 02 49.4
SOC *eS* **S 20 07 51.1 -1.7**
SOC *eSS* **SS 20 12 39.2 -5.2**
SOC MLR MLR
comp=Z,40nm,18.0s
NRIK Noril'sk 75.73 354 P **P 19 58 17.7 -0.5**
comp=Z,10.0nm,0.5s,baz=162,slow=4.3,SNR=17
NRIK LR LR 20 34 52.9
comp=Z,147nm,20.3s,baz=156,slow=38
comp=Z,10.0nm,0.5s
NRIK Noril'sk 75.73 354*c iP* **P 19 58 17.6 -0.6**
NRIK pmax pmax
comp=Z,23nm,1.0s
BOSA Boshof 76.89 242 LR LR 20 27 59.7
comp=Z,118nm,18.8s,baz=128,slow=32
CSS Mathiatis 77.21 308 P **P 19 58 27.3 -0.1**
comp=Z,42nm,0.9s,comp=Z,394nm
KIRV Kirov 77.21 334 LR LR 20 36 21.3
comp=Z,30nm,18.4s,baz=141,slow=39
KIRV Kirov 77.21 334*c iP* **P 19 58 27.2 +0.4**
VRH Novokhopyorsk 77.33 325 *eP* **P 19 58 27.3 -0.4**
VRH pmax pmax
comp=Z,16nm,1.6s
VNDA Vanda 77.84 169 P **P 19 58 30.5 +0.4**
VNDA Vanda 77.84 169 P **P 19 58 31.6 +1.4**
comp=Z,5.6nm,1.0s,baz=347,slow=6.1,SNR=16
VNDA LR LR 20 28 45.6
comp=Z,81nm,21.6s,baz=299,slow=32
comp=Z,5.6nm,1.0s
VNDA Vanda 77.84 169 P **P 19 58 30.5 +0.4**
VNDA pmax pmax
comp=Z,8.0nm,1.2s
SEY Seymchan 77.86 21 *eP* **P 19 58 29.7 -0.7**
SEY pmax pmax
comp=Z,18nm,1.2s
BR104 Keskin Array S 78.36 312 P **P 19 58 33.8 0.0**
comp=Z,16nm,0.9s,comp=Z,112nm
BR131 Keskin Array S 78.36 312 P **P 19 58 34.5 +0.6**
BR131 IAmb IAmb 19 58 35.1
comp=Z,15nm,0.8s
BR131 Keskin Array S 78.36 312*c iP* **P 19 58 33.8 -0.1**
BRTR Keskin Array B 78.36 312 P **P 19 58 34.3 +0.4**
BRTR Keskin Array B 78.36 312 P **P 19 58 34.0 +0.1**
comp=Z,10nm,0.8s,baz=133,slow=7.3,SNR=66
comp=Z,10nm,0.8s
BRTR Keskin Array B 78.36 312 *i* P **P 19 58 34.0 +0.1**
BRTR pmax pmax
comp=Z,10.0nm,0.8s
BR105 Keskin Array S 78.38 312 P **P 19 58 33.9 -0.1**
comp=Z,17nm,0.9s,comp=Z,128nm
BR106 Keskin Array S 78.38 312 P **P 19 58 34.0 0.0**
comp=Z,15nm,0.9s,comp=Z,113nm
VORD Divnogorie 78.62 325 *eP* **P 19 58 35.2 +0.4**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 78.79 325 *eP* **P 19 58 33.2 -2.6**
VSR pmax pmax
comp=Z,10.0nm,0.9s
SBA Scott Base 78.93 169 P **P 19 58 37.6 +1.5**
SBA IAmb IAmb 19 59 12.4
comp=Z,30nm,1.6s
SBA Scott Base 78.93 169 P **P 19 58 37.6 +1.5**
SBA pmax pmax
comp=Z,30nm,1.7s
VORR Voronezh 78.96 325 *eP* **P 19 58 35.8 -0.9**
VORR pmax pmax
comp=Z,10.0nm,0.9s
ANTO Ankara 79.03 312 P **P 19 58 38.2 +0.7**
ANTO pmax pmax
comp=Z,20nm,1.1s
ANTO Ankara 79.03 312 P **P 19 58 38.0 +0.5**
comp=Z,10nm,1.1s
TIXI Tiksi 79.04 8 P **P 19 58 35.4 -1.3**

TIXI IAmb IAmb 19 58 36.3
comp=Z,17nm,0.8s
TIXI Tiksi 79.04 8 LR LR 20 38 06.2
comp=Z,187nm,18.6s,baz=230,slow=39
TIXI Tiksi 79.04 8 *i* P **P 19 58 34.8 -1.9**
LPSR Galich'ya Gora 79.49 326 *e*P **P 19 58 37.3 -2.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SIM Simferopol' 79.66 318 *e*P **P 19 58 39.6 -1.1**
SIM *e*S **S 20 08 34.0 -4.7**
SIM pmax pmax
comp=Z,12nm,0.7s
SUR Sutherland 80.72 238 LR LR 20 29 03.0
comp=Z,110nm,18.2s,baz=111,slow=32
MOS Moscow 81.46 329 *e*P **P 19 58 50.0 0.0**
MOS *e* 19 59 08.5
ELIB Princess Elisa 81.48 198 *d*P **P 19 58 52.5 +2.4**
comp=Z,8.2nm,1.0s
OBN Obninsk 81.77 328 P **P 19 58 52.2 +0.5**
comp=Z,14nm,0.5s,baz=160,slow=5.5,SNR=3.9
comp=Z,14nm,0.5s
OBN Obninsk 81.77 328 *i* P **P 19 58 51.4 -0.3**
OBN *i* 19 59 04.8
OBN *i* 20 02 00.7
OBN pmax pmax
comp=Z,10.0nm,0.9s
KARP Karpathos 82.24 307 P **P 19 58 55.5 +0.8**
comp=Z,101nm,1.0s
CTYL Yalikoy Yolu 82.76 313 P **P 19 58 58.0 +0.8**
comp=Z,33nm,1.4s
TIRR Tirgusor 83.41 316 ⇑P **P 19 59 00.9 +0.4**
TIRR Tirgusor 83.41 316 P **P 19 59 00.8 +0.4**
TIRR Tirgusor 83.41 316 P **P 19 59 00.9 +0.4**
comp=Z,2μm,0.6s,comp=Z,29μm
ICOR Ion Corvin 83.75 315 ⇑P **P 19 59 03.7 +1.4**
CFR Carcaliu 83.78 317 ⇓P **P 19 59 03.6 +1.2**
CFR Carcaliu 83.78 317 P **P 19 59 03.6 +1.2**
PRD Provadia 83.80 314 *i* P **P 19 59 03.8 +1.3**
NEF NEVSHA 83.92 314 *i* P **P 19 59 04.4 +1.2**
IDI Anoyia 84.00 306 P **P 19 59 04.4 +0.6**
comp=Z,7.8nm,0.6s,baz=76,slow=9.3,SNR=9.1
comp=Z,7.8nm,0.6s
QSPA South Pole Qui 84.23 180 P **P 19 59 05.2 +0.7**
QSPA IAmb IAmb 19 59 22.2
comp=Z,14nm,1.1s
QSPA South Pole Qui 84.23 180 P **P 19 59 05.3 +0.9**
comp=Z,3.6nm,0.7s,baz=138,slow=1.1,SNR=21
QSPA LR LR 20 32 10.7
comp=Z,120nm,20.0s,baz=331,slow=32
comp=Z,3.6nm,0.7s
JMB Yambol 84.27 314 *i* P **P 19 59 05.7 +0.7**
SORM Soroca 84.39 319 ⇑P **P 19 59 06.3 +0.8**
SORM Soroca 84.39 319 P **P 19 59 06.2 +0.8**
SORM Soroca 84.39 319 P **P 19 59 05.8 +0.4**
comp=Z,13nm,0.9s,comp=Z,8μm
AK09 Malin Array Si 84.47 322 P **P 19 59 06.0 +0.3**
AK10 Malin Array Si 84.48 322 P **P 19 59 06.0 +0.2**
AK07 Malin Array Si 84.50 322 P **P 19 59 06.1 +0.2**
AK02 Malin Array Si 84.53 322 pP pP 19 59 20.1 -1.3
AKASG Malin Array Be 84.53 322 P **P 19 59 06.2 +0.1**
comp=Z,1.9nm,0.6s,baz=90,slow=4.6,SNR=7.0
comp=Z,1.9nm,0.6s
AKBB Malin Array Si 84.53 322 *c*e**P P 19 59 06.0 0.0**
AKBB Malin Array Si 84.53 322 P **P 19 59 05.8 -0.2**
KIEV Kiev 84.53 322 ⇓P **P 19 59 06.5 +0.4**
KIEV Kiev 84.53 322 P **P 19 59 05.9 -0.2**
KIEV Kiev 84.53 322 P **P 19 59 06.4 +0.4**
KIEV Kiev 84.53 322 P **P 19 59 05.6 -0.5**
comp=Z,34nm,0.9s
ELND Elena 84.84 314 ⇑P **P 19 59 09.0 +1.1**
SZH Strazhitsa 84.84 314 *i* P **P 19 59 08.7 +0.9**
DIM Dimitrovgrad 84.86 313 *i* P **P 19 59 09.0 +1.1**
ISR Istrita 84.86 316 P **P 19 59 09.1 +1.1**
ISR Istrita 84.86 316 P **P 19 59 09.1 +1.1**
comp=Z,22nm,0.8s
VRI Vrincioaia 84.91 317 ⇑P **P 19 59 09.9 +1.8**
VRI Vrincioaia 84.91 317 P **P 19 59 09.9 +1.8**
VRI Vrincioaia 84.91 317 P **P 19 59 09.6 +1.5**
comp=Z,25nm,1.0s
PLOR5 Plostina Array 84.95 317 P **P 19 59 08.8 +0.4**
comp=Z,15nm,1.0s
PLOR Plostina 84.96 317 ⇑P **P 19 59 09.8 +1.4**
PLOR Plostina 84.96 317 P **P 19 59 09.8 +1.4**
PLOR3 Plostina Array 84.96 317 P **P 19 59 10.0 +1.6**
comp=Z,8.7nm,1.1s
TESR Tescani 85.12 318 ⇓P **P 19 59 10.2 +1.0**
TESR Tescani 85.12 318 P **P 19 59 10.3 +1.2**
comp=Z,32nm,1.1s,comp=Z,370nm
NVL N'lazarevskaya 85.14 199 *e*P P 19 59 00.2 -8.5
NVL pmax pmax
comp=Z,5.0nm,0.6s
LUBAR Lubar, Ukraine 85.23 321 P **P 19 59 10.1 +0.5**
COVR Voineasa-Covas 85.26 317 ⇑P **P 19 59 11.5 +1.6**
MLR Muntele Rosu 85.36 316 ⇑P **P 19 59 11.9 +1.3**
MLR Muntele Rosu 85.36 316 IAmb IAmb 19 59 13.2
comp=Z,29nm,1.1s
MLR Muntele Rosu 85.36 316 P **P 19 59 11.3 +0.8**
comp=Z,16nm,0.9s,baz=69,slow=6.7
comp=Z,16nm,0.9s
MLR Muntele Rosu 85.36 316 P **P 19 59 12.0 +1.5**
comp=Z,26nm,1.2s
PVL Pavlikeni 85.38 314 *i* P **P 19 59 11.6 +1.1**
RZN Rozhen 85.40 313 *i* P **P 19 59 11.9 +1.0**
PLD Plovdiv 85.49 313 *i* P **P 19 59 12.0 +0.9**
BILL Bilibino 85.50 20 *i* P **P 19 59 09.0 -1.5**
BILL pmax pmax
comp=Z,5.0nm,1.0s
PRAR RASCA 85.59 318 ⇓P **P 19 59 13.1 +1.6**
KMPD K-Podol'skiy 85.72 320 P **P 19 59 12.7 +0.6**
HUMR Humele 85.82 315 ⇑P **P 19 59 13.7 +1.1**
DOPR Dopca 85.84 317 ⇓P **P 19 59 14.5 +1.7**
VOIR 85.96 316 P **P 19 59 14.1 +0.6**
VOIR pmax pmax
comp=Z,3.0nm,0.9s
VOIR 85.96 316 P **P 19 59 14.0 +0.6**
comp=Z,3.3nm,0.8s
PGB Panagyurishte 85.98 313 *i* P **P 19 59 14.2 +0.6**
MMB Musomishta 86.10 312 *i* P **P 19 59 14.3 +0.1**
BURAR Bucovina Array 86.32 318 ⇑P **P 19 59 15.8 +0.6**
BURAR Bucovina Array 86.32 318 P **P 19 59 16.4 +1.2**
BURAR IAmb IAmb 19 59 18.7
comp=Z,12nm,0.9s
BUR08 Bucovina Ar. S 86.34 318 IAmb IAmb 19 59 18.5
comp=Z,13nm,1.0s
MPEP Malo Peshtene 86.46 314 *i* P **P 19 59 17.1 +1.2**
KKB Krupnik 86.61 312 *i* P **P 19 59 17.2 +0.5**
VTS Vitosha 86.68 313 *i* P **P 19 59 17.8 +0.6**
RNPP5 Staryi Chortor 86.70 322 P **P 19 59 17.4 +0.6**
VALD Valchedram 86.74 314 *i* P **P 19 59 18.5 +1.3**
ARCR ARCALIA 86.78 318 ⇑P **P 19 59 18.6 +1.3**
LOT Lotru 86.85 316 ⇓P **P 19 59 19.3 +1.4**
JOF Joensuu 87.06 334 *e*P **P 19 59 19.5 +1.2**
CJR Cluj-Napoca 87.21 317 ⇓P **P 19 59 20.3 +0.8**
CJR Cluj-Napoca 87.21 317 P **P 19 59 20.3 +0.8**
CBBR Cluj-Babes-Bol 87.26 317 ⇑P **P 19 59 19.0 -0.6**
BMR Baia Mare 87.47 318 ⇑P **P 19 59 23.0 +2.3**
BMR Baia Mare 87.47 318 P **P 19 59 22.9 +2.3**
LVZ Lovozero 87.47 339 P **P 19 59 20.2 -0.1**
IIGN Ignalina 87.47 326 *e*P **P 19 59 21.6 +1.1**
GZR Gura Zlata 87.52 316 ⇓P **P 19 59 22.7 +1.6**
GZR Gura Zlata 87.52 316 P **P 19 59 22.7 +1.6**
DEV Deva 87.53 316 ⇓P **P 19 59 22.0 +1.1**
DEV Deva 87.53 316 P **P 19 59 22.0 +1.1**
MARR Marisel-Cluj 87.53 317 ⇑P **P 19 59 22.9 +1.8**
LVV L'vov 87.55 320 *e*P **P 19 59 22.5 +1.5**
HERR Herculane 87.68 315 ⇑P **P 19 59 23.3 +1.6**
MESR Meseseni 87.73 318 ⇑P **P 19 59 23.9 +2.0**
DRGR 87.83 317 ⇑P **P 19 59 24.1 +1.6**
DRGR 87.83 317 P **P 19 59 24.0 +1.6**
TROLL Troll, Antarti 87.92 198 ⇑P **P 19 59 25.6 +3.1**
comp=Z,114nm,0.4s
VSU Vasula 87.96 329 *c* *i*P **P 19 59 23.3 +0.6**
VSU pmax pmax
comp=Z,9.0nm,0.8s
SURR Surduc 88.04 316 ⇑P **P 19 59 25.1 +1.7**
MDVR Moldovita 88.16 315 ⇓P **P 19 59 25.0 +1.0**
KWP Kalwaria Pacla 88.36 320 *e*P **P 19 59 27.9 +3.0**
KWP Kalwaria Pacla 88.36 320 P **P 19 59 27.6 +2.7**
KWP pmax pmax
comp=Z,19nm,1.3s
KWP Kalwaria Pacla 88.36 320 P **P 19 59 26.6 +1.7**
comp=Z,18nm,1.3s
BZS Buzias 88.36 316 ⇑P **P 19 59 26.0 +1.0**
BZS Buzias 88.36 316 P **P 19 59 26.0 +1.0**

SIRR Siria 88.45 317 ⇓P **P 19 59 27.1 +1.7**
BORR Bors 88.50 317 ⇑P **P 19 59 27.1 +1.5**
KOLS Kolonicke sedl 88.51 319 *e*P **P 19 59 27.7 +2.1**
KOLS pmax pmax
comp=Z,29nm,0.8s
KOLS Kolonicke sedl 88.51 319 *e*P **P 19 59 27.7 +2.1**
PABE Paberze 88.76 326 *e*P **P 19 59 27.6 +1.1**
SUW Suwalki 88.91 324 *e*P **P 19 59 27.8 +0.5**
SUW Suwalki 88.91 324 *e*P **P 19 59 28.1 +0.9**
SUW Suwalki 88.91 324 P **P 19 59 28.2 +0.9**
SUW pmax pmax
comp=Z,36nm,1.1s
FIA1 FINESS Array S 89.00 332 P **P 19 59 28.2 +0.6**
FIA1 IAmb IAmb 19 59 47.9
comp=Z,8.1nm,0.7s
FINES FINESS Array B 89.01 332 P **P 19 59 28.3 +0.7**
comp=Z,4.9nm,0.7s,baz=108,slow=6.1,SNR=35
FINES PKiKP **PKiKP 20 04 27.6 +1.1**
comp=Z,0.5nm,0.5s,baz=110,slow=4.5,SNR=3.5
comp=Z,4.9nm,0.7s
CRVS Cervenica-Dubn 89.03 319 *e*P **P 19 59 29.6 +1.6**
CRVS pmax pmax
comp=Z,8.0nm,1.0s
CRVS Cervenica-Dubn 89.03 319 *e*P **P 19 59 29.6 +1.6**
MEF Metsahovi 89.53 331 *e*P **P 19 59 30.9 +0.9**
FRGS Fruska Gora 89.55 315 ⇓P **P 19 59 31.9 +1.4**
FRGS Fruska Gora 89.55 315 P **P 19 59 31.5 +0.9**
comp=Z,19nm,0.9s,comp=Z,218nm
KECS Kecovo 89.60 319 *e*P **P 19 59 33.7 +3.0**
KECS Kecovo 89.60 319 *e*P **P 19 59 33.7 +3.0**
SNAA Sanae 89.64 198 P **P 19 59 31.8 +1.2**
SNAA IAmb IAmb 19 59 49.9
comp=Z,25nm,1.3s
SNAA Sanae 89.64 198 ⇑P **P 19 59 33.0 +2.5**
comp=Z,154nm,1.1s
SNAA Sanae 89.64 198 P **P 19 59 32.8 +2.2**
comp=Z,5.0nm,0.8s,baz=130,slow=5.2,SNR=13
SNAA LR LR 20 34 10.4
comp=Z,157nm,19.8s,baz=88,slow=32
comp=Z,5.0nm,0.8s
SNAA Sanae 89.64 198 ⇑*e*P **P 19 59 33.1 +2.5**
SNAA pmax pmax
comp=Z,17nm,2.5s
KEF Keuruu 89.73 333 *e*P **P 19 59 31.9 +1.0**
NIE Niedzica 89.87 320 *e*P **P 19 59 34.2 +2.2**
NIE Niedzica 89.87 320 P **P 19 59 34.4 +2.4**
NIE pmax pmax
comp=Z,5.0nm,1.1s
PSZ Piszkesteto 89.90 318 ⇓P **P 19 59 33.3 +1.0**
PSZ Piszkesteto 89.90 318 P **P 19 59 33.2 +1.0**
BEL Belsk 89.94 322 *e*P **P 19 59 33.1 +0.9**
OJC Ojcow 90.31 320 *e*P **P 19 59 35.3 +1.3**
OJC Ojcow 90.31 320 P **P 19 59 35.8 +1.8**
OJC pmax pmax
comp=Z,8.0nm,1.4s
OJC Ojcow 90.31 320 P **P 19 59 34.8 +0.8**
comp=Z,7.9nm,1.4s
LANS Liptovska Anna 90.36 319 *e*P **P 19 59 36.5 +2.2**
LANS pmax pmax
comp=Z,2.0nm,0.9s
LANS Liptovska Anna 90.36 319 *e*P **P 19 59 36.5 +2.2**
MORH Mrgy, Hungar 90.51 316 ⇑P **P 19 59 36.1 +1.1**
MORH Mrgy, Hungar 90.51 316 P **P 19 59 35.9 +0.9**
comp=Z,15nm,1.1s
VYHS Vyhne 90.69 319 *e*P **P 19 59 37.3 +1.5**
VYHS pmax pmax
comp=Z,9.0nm,1.3s
VYHS Vyhne 90.69 319 *e*P **P 19 59 37.3 +1.5**
VAF Ylistaro 90.91 333 *e*P **P 19 59 37.8 +1.4**
ARCES ARCESS Array B 91.15 340 P **P 19 59 37.4 0.0**
comp=Z,2.9nm,0.7s,baz=90,slow=5.5,SNR=13
comp=Z,2.9nm,0.7s
MPLH Magyarpolny 91.38 317 P **P 19 59 40.2 +1.2**
comp=Z,58nm,1.0s
JAVC Velka Javorina 91.50 319 *e*P **P 19 59 41.8 +2.2**
VNA1 Neumayer--Stat 91.64 198 ⇑P **P 19 59 42.2 +2.5**
comp=Z,3.2nm,0.7s
MORC Moravsky Berou 91.69 320 *e*P **P 19 59 42.2 +1.7**
MORC Moravsky Berou 91.69 320 P **P 19 59 41.0 +0.5**
MORC pmax pmax
comp=Z,8.0nm,1.0s
MODS Modra-Piesok 91.70 318 *e*P **P 19 59 41.9 +1.4**
MODS pmax pmax
comp=Z,24nm,1.3s
MODS Modra-Piesok 91.70 318 *e*P **P 19 59 41.9 +1.4**
KRLC Kraliky 92.22 320 *e*P **P 19 59 44.6 +1.7**
KRLC Kraliky 92.22 320 *e*P **P 19 59 44.6 +1.7**
DPC Dobruska-Polom 92.54 320 P **P 19 59 46.3 +1.9**
DPC pmax pmax
comp=Z,5.0nm,1.1s
DPC Dobruska-Polom 92.54 320 P **P 19 59 45.2 +0.8**
comp=Z,5.5nm,1.1s
CONA Conrad Observa 92.59 318 *e*PcP **PcP 19 59 45.6 +0.2**
comp=Z,1.2nm,0.6s
KSP Ksiaz 92.61 321 *e*P **P 19 59 46.1 +1.5**
KSP Ksiaz 92.61 321 P **P 19 59 46.1 +1.5**
KSP pmax pmax
comp=Z,5.0nm,1.0s
OSTC Ostas 92.63 320 *e*P **P 19 59 46.7 +2.0**
OSTC Ostas 92.63 320 *e*P **P 19 59 46.7 +2.0**
ARSA Arzberg 92.76 317 *e*PcP **PcP 19 59 46.5 +0.4**
comp=Z,3.2nm,1.1s
SOKA Soboth 93.04 316 *e*PcP **PcP 19 59 47.7 +0.3**
comp=Z,6.2nm,1.3s
OBKA Obir 93.36 316 *e*PcP **PcP 19 59 49.2 +0.3**
comp=Z,7.0nm,1.3s
PRU Pruhonice 93.64 320 *e*P **P 19 59 51.2 +1.8**
PRU Pruhonice 93.64 320 *e*P **P 19 59 51.2 +1.8**
MOA Molln 93.66 318 *e*PcP **PcP 19 59 50.1 0.0**
comp=Z,3.2nm,0.9s
CKRC Cesky Krumlov 93.70 319 *e*P **P 19 59 51.6 +1.8**
CKRC Cesky Krumlov 93.70 319 *e*P **P 19 59 51.6 +1.8**
ZVC Zvikov 93.83 319 *e*P **P 19 59 51.8 +1.5**
BIOA Bad Ischl, Aus 94.07 317 *e*PcP **P 19 59 51.5 +0.1**
comp=Z,3.3nm,0.9s
BRG Berggiesshubel 94.09 321 *e*P **P 19 59 53.1 +1.6**
BRG Amp 19 59 53.8
comp=Z,2.5nm,0.7s
BRG Berggiesshubel 94.09 321 *e*P **P 19 59 53.0 +1.6**
BRG pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 94.11 319 P **P 19 59 52.2 +0.5**
comp=Z,1.7nm,0.8s,baz=40,slow=7.7,SNR=9.2
comp=Z,1.7nm,0.8s
KHC Kasperske Hory 94.21 319 *e*P **P 19 59 53.0 +0.9**
KHC Kasperske Hory 94.21 319 *e*P **P 19 59 53.0 +0.9**
WET Wettzell 94.67 319 P **P 19 59 53.3 -0.9**
WET pmax pmax
comp=Z,5.0nm,1.3s
CLL Collm 94.71 321 *e*P **P 19 59 55.0 +0.7**
CLL pmax pmax
comp=Z,4.0nm,1.1s
HFS Hagfors 94.81 330 P **P 19 59 54.6 +0.1**
comp=Z,3.2nm,0.8s,baz=228,slow=16,SNR=5.1
comp=Z,3.2nm,0.8s
SPITS Spitsbergen Ar 94.99 348 P **P 19 59 54.2 -0.8**
comp=Z,6.2nm,0.8s,baz=67,slow=4.8,SNR=4.5
SPITS LR LR 20 50 31.3
comp=Z,133nm,18.9s,baz=76,slow=40
comp=Z,6.2nm,0.8s
WTTA Wattenberg 95.40 317 *e*PcP **PcP 19 59 58.3 +0.2**
comp=Z,3.7nm,0.9s
SQTA Sankt Quirin 95.69 317 *e*PcP **PcP 19 59 59.3 +0.1**
comp=Z,2.0nm,0.9s
RETA Reutte 96.00 317 *e*PcP **PcP 20 00 01.1 +0.5**
comp=Z,2.8nm,0.9s
FETA Feichten 96.01 317 *e*PcP **PcP 20 00 01.4 +0.7**
comp=Z,1.9nm,0.9s
NOA NORSAR Array B 96.07 331 P **P 20 00 00.9 +0.6**
comp=Z,0.3nm,0.6s,baz=113,slow=5.7,SNR=2.3
NOA PP **PP 20 03 53.3 -0.2**
comp=Z,0.3nm,0.7s,baz=82,slow=10,SNR=3.3
NOA LR LR 20 47 12.0
comp=Z,45nm,21.7s,baz=105,slow=38
comp=Z,0.3nm,0.6s
DAVOX Davos/Dischmat 96.58 316 P **P 20 00 03.5 +0.3**
comp=Z,1.5nm,0.7s,baz=39,slow=14,SNR=4.0
comp=Z,1.5nm,0.7s
DAVA Damuels 96.60 317 *e*PcP **PcP 20 00 03.9 +0.6**
comp=Z,3.3nm,0.8s
ILAR Eielson Array 103.51 25 PP **PP 20 04 48.5 -1.3**
comp=Z,0.8nm,0.9s,baz=286,slow=6.5,SNR=4.7
ILAR PKKPbc **PKKPbc 20 16 27.9 -1.2**
comp=Z,0.6nm,0.7s,baz=133,slow=1.9,SNR=6.6
PPT2 Papeete2 104.33 110 *e*LR LR 20 34 55.4
comp=Z,115nm,24.0s

PPT2 *e*LR LR 20 34 58.1
comp=Z,113nm,22.2s
ESDC Sonseca Array 107.03 310 PKKPab PKKPab 20 16 33.3 +1.7
comp=Z,0.4nm,0.6s,baz=268,slow=4.2,SNR=5.4
NVAR Mina Array Bea 130.16 43 PKP **PKiKP 20 05 43.8 -0.6**
comp=Z,0.9nm,0.7s,baz=291,slow=2.7,SNR=4.6
SCHQ Schefferville 130.44 353 PKP **PKPdf 20 05 42.8 -0.5**
comp=Z,4.9nm,0.9s,baz=62,slow=2.6,SNR=3.7
ULM Lac du Bonnet 132.78 17 PKP **PKPdf 20 05 47.6 -0.3**
comp=Z,1.4nm,0.5s,baz=338,slow=3.8,SNR=5.0
PDAR Pinedale Array 133.00 33 PKP **PKPdf 20 05 49.1 +0.2**
comp=Z,0.3nm,0.4s,baz=126,slow=1.6,SNR=4.0
PDAR SKPbc **SKPbc 20 09 11.7 -0.3**
comp=Z,0.3nm,0.5s,baz=264,slow=0.9,SNR=1.6
RSSD Black Hills 134.83 28 PKIKP **PKPdf 20 05 52.2 0.0**
CPUP Villa Florida 143.05 209 PKhKP PKPpre 20 06 03.4
comp=Z,3.7nm,1.1s,baz=62,slow=4.5,SNR=4.3
VHRN Van Horn 143.50 44 PKPdf **PKPdf 20 06 07.7 -0.6**
WMOK Wichita Mounta 144.60 33 PKIKP PKPbc 20 06 08.7 -0.1
BDFB Brasilia 144.62 233 PKP **PKPdf 20 06 11.0 +0.4**
comp=Z,6.5nm,0.6s,baz=161,slow=3.9,SNR=12
BDFB Brasilia 144.62 233 PKIKP **PKPdf 20 06 11.0 +0.4**
APMT Aspermont 144.90 36 PKPdf **PKPdf 20 06 10.7 +0.1**
CCM Cathedral Cave 145.19 21 PKIKP **PKPab 20 06 10.4 -0.2**
TXAR Lajitas Array 145.29 44 PKPbc **PKPdf 20 06 12.4 +1.0**
comp=Z,35nm,0.7s,baz=279,slow=1.1,SNR=113
SGCY Sterling City 145.29 38 **PKPdf 20 06 11.7 +0.4**
OLIL Olney 145.55 16 PKPdf **PKPab 20 06 12.3 +0.4**
PLPT Palo Pinto 146.31 34 **PKPab 20 06 15.2 +0.2**
AQDB Aquidauana 146.83 218 *e*P **PKPdf 20 06 14.9 +0.8**
MIAR Mount Ida 147.32 27 PKP2 **PKPbc 20 06 17.5 +0.6**
ARAG Araguaiana, MT 147.50 229 *e*P **PKPdf 20 06 16.0 +0.6**
SNDB Serra Nova Dou 149.30 235 *e*P **PKPdf 20 06 19.3 +0.9**
LVC Limon Verde 150.83 195 *e*P **PKPdf 20 06 21.4 +0.3**
BBSD Serra de San D 152.28 214 *e*P **PKPdf 20 06 23.5 +0.6**
LPAZ La Paz 156.56 201 PKP **PKPdf 20 06 30.9 +1.2**
comp=Z,2.0nm,1.0s,baz=140,slow=2.1,SNR=5.8
LPAZ PKPab **PKPab 20 07 00.6 +2.2**
comp=Z,1.9nm,0.7s,baz=118,slow=3.5,SNR=5.1

*IDC **08** 19:56:35.5±6.4, 36°.16N×70°.43E, h143km±58km, mb3.4/5, mbtmp3.7/9, Error ellipse: s-maj=59.7km s-min=42.6km az=136.0*
*NNC **08** 19:56:46.6±2.4, 36°.93N×70°.81E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=19.8km s-min=17.2km az=135.0*
ISC 08 19:56:42.5±1.8, 36°.5N±0°.2×70°.6E±0°.2, h204km, n13, σ1§43/18, mb3.5/4, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.61**	**359**	⇓P	**Pn**	**19 58 19.5**	**+2.0**
	1.2nm,0.2s,baz=178,slow=12,SNR=34						
KK31				⇓S	**S**	**19 59 31.2**	**-1.6**
	15nm,0.6s,baz=180,slow=16						
AAK	**Ala-Archa**	**6.83**	**25**	P	**Pn**	**19 58 19.0**	**-1.6**
	3.1nm,0.4s,baz=270,slow=3.0,SNR=1.8						
AAK				S	**S**	**19 59 37.8**	**-0.5**
	9.7nm,0.5s,baz=334,slow=21,SNR=12						
AAK	**Ala-Archa**	**6.83**	**25**	⇑P	**Pn**	**19 58 22.1**	**+1.5**
	4.8nm,0.8s						
AAK				⇑S	**S**	**19 59 37.2**	**-1.1**
	14nm,0.6s						
CHMS	**Chumysh**	**7.24**	**25**	⇓P	**Pn**	**19 58 27.0**	**+1.3**
	3.1nm,0.7s						
CHMS				⇑S	**S**	**19 59 46.7**	**-1.2**
	5.5nm,0.6s						
TKM2	**Tokmak 2**	**7.48**	**29**	⇓P	**Pn**	**19 58 30.3**	**+1.2**
	2.1nm,0.5s						
TKM2				⇓S	**S**	**19 59 51.3**	**-2.5**
	4.7nm,0.8s						
MKAR	**Makanchi Array**	**13.48**	**37**	P	**Pn**	**19 59 45.9**	**+0.1**
	0.4nm,0.6s,baz=210,slow=10,SNR=2.5						
KURBB	**Kurchatov Arra**	**15.23**	**20**	P	**Pn**	**20 00 07.1**	**0.0**
	0.4nm,0.5s,baz=211,slow=11,SNR=2.3						
AKTO	**Aktyubinsk**	**16.63**	**331**	P	**P**	**20 00 23.2**	**+0.4**
	1.4nm,0.3s,baz=142,slow=8.9,SNR=2.5						
ZALV	**Zalesovo Beam**	**20.05**	**25**	P	**P**	**20 01 01.5**	**+1.6**
	1.8nm,0.3s,baz=213,slow=11,SNR=10						
	1.8nm,0.3s						
FINES	**FINESS Array B**	**37.31**	**326**	P	**P**	**20 03 35.1**	**+0.4**
	0.7nm,0.6s,baz=117,slow=12,SNR=1.4						
	0.7nm,0.6s						
ARCES	**ARCESS Array B**	**41.03**	**338**	P	**P**	**20 04 06.1**	**+0.8**
	2.5nm,0.9s,baz=116,slow=8.2,SNR=6.2						
	2.5nm,0.9s						
HFS	**Hagfors**	**42.88**	**322**	P	**P**	**20 04 20.6**	**+0.2**
	1.3nm,0.8s,baz=108,slow=9.3,SNR=1.8						
	1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.40**	**268**	P	**P**	**20 07 01.6**	**-1.9**
	0.3nm,0.6s,baz=44,slow=5.7,SNR=1.8						
	0.3nm,0.6s						

JMA 08 20:03:23.3±0.2, 24°.2N±0°.4×123°.8E±0°.4, h16km±1km, MV0.8/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**322**	P	Pg	20 03 27.1	-0.1
HATJ	**Hateruma jima**	**0.17**	**187**	P	Pg	20 03 27.4	-0.1
HATJ				*e*S	Sg	20 03 30.0	-0.3
JKRS	**Kuro-shima**	**0.17**	**85**	*i* P	Pg	20 03 27.6	+0.1
JKRS				*e*S	Sb	20 03 31.0	-0.2
JIJ	**Ishigaki jima**	**0.32**	**64**	*i* P	Pg	20 03 29.8	-0.2
JIJ				*e*S	Sg	20 03 34.5	-0.2
JISG	**Ishigakijimahi**	**0.57**	**50**	P	Pg	20 03 34.6	-0.1

*IDC **08** 20:03:20.0±10.0, 6°.28S×130°.29E, h76km±114km, mb3.6/6, mbtmp3.9/8, ML4.1/2, Error ellipse: s-maj=57.4km s-min=49.2km az=102.0*
*DJA **08** 20:03:28.1±0.4, 6°.5S±4°.×13°.0E±°, h164km±13km, M4.7/9, mb4.4/6, mB4.9/1, MLv4.8/9, Mw(mB)4.2/1*
ISC 08 20:03:27.0±0.6, 6°.44S±0°.05×130°.24E±0°.07, h150km, n29, σ2§01/33, mb3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.86**	**146**	P	**Pn**	**20 04 03.2**	**+2.6**
SAUI	**Saumlaki**	**1.86**	**146**	P	**Pn**	**20 04 02.8**	**+2.2**
SAUI				S	**Sn**	**20 04 29.3**	**+2.9**
BNDI	**Bandanaira**	**1.93**	**350**	P	**Pn**	**20 04 03.9**	**+2.6**
FAKI	**Fak Fak**	**4.03**	**30**	P	**Pn**	**20 04 28.9**	**+1.2**
FAKI	**Fak Fak**	**4.03**	**30**	P	**Pn**	**20 04 28.5**	**+0.8**
FAKI				S	**Sn**	**20 05 13.2**	**-1.6**
KMPI	**Kaimana, Papua**	**4.42**	**52**	P	**Pn**	**20 04 35.0**	**+2.2**
KMPI				S	**Sn**	**20 05 23.4**	**-0.6**
SWI	**Sorong**	**5.63**	**10**	P	**Pn**	**20 04 49.3**	**+0.5**
	20nm,0.6s,2μm1.1nm						
DRS	**Darwin Rock St**	**5.99**	**174**	P	**Pn**	**20 04 54.5**	**+0.8**
SANI	**Sanana**	**6.08**	**316**	P	**Pn**	**20 04 57.8**	**+3.0**
MTN	**Manton Dam**	**6.43**	**172**	P	**Pn**	**20 04 59.9**	**+0.4**
KDU	**Kakadu**	**6.59**	**161**	P	**Pn**	**20 05 00.9**	**-0.7**
SOEI	**Soe**	**6.77**	**240**	P	**Pn**	**20 05 05.4**	**+1.3**
SOEI	**Soe**	**6.77**	**240**	P	**Pn**	**20 05 04.7**	**+0.6**
	48nm,1.3s,0.3nm						
BATI	**Baumata**	**7.51**	**240**	P	**Pn**	**20 05 13.6**	**-0.3**
EDFI	**Ende, Flores**	**8.78**	**254**	P	**Pn**	**20 05 31.9**	**+0.9**
BASI	**Baing, Sumba**	**10.27**	**248**	P	**Pn**	**20 05 51.6**	**+0.9**
PLAI	**Plampang**	**12.58**	**258**	P	**Pn**	**20 06 22.8**	**+1.9**
WRA	**Warramunga Arr**	**14.01**	**164**	P	**Pn**	**20 06 36.0**	**-3.1**
	1.0nm,0.3s,baz=338,slow=14,SNR=24						
WRA				S	Sn	20 09 03.2	-11
	3.2nm,0.4s,baz=337,slow=22,SNR=10						
	1.7nm,0.5s						
COEN	**Coen**	**14.76**	**121**	P	**P**	**20 06 52.1**	**+1.4**
QIS	**Mount Isa**	**16.72**	**148**	P	**Pn**	**20 07 14.2**	**+1.6**
ASAR	**Alice Springs**	**17.49**	**169**	P	**P**	**20 07 21.2**	**+0.4**
	0.4nm,0.3s,baz=347,slow=9.9,SNR=17						
ASAR				S	**S**	**20 10 28.4**	**-6.9**
	0.3nm,0.3s,baz=324,slow=17,SNR=2.4						
	0.6nm,0.5s						
PSA00	**Pilbara Seismi**	**18.10**	**213**	P	**Pn**	**20 07 28.3**	**-0.7**
	18nm,1.9s						
WRKA	**Warakurna**	**18.59**	**186**	P	**Pn**	**20 07 34.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**39.55**	**309**	P	**P**	**20 10 43.7**	**0.0**
	0.4nm,0.5s,baz=138,slow=7.5,SNR=5.6						
	0.4nm,0.5s						
MJAR	**Matsushiro Arr**	**43.40**	**9**	P	**P**	**20 11 14.4**	**-0.3**
	0.8nm,0.7s,baz=175,slow=7.9,SNR=4.2						
	0.8nm,0.7s						
SONM	**Songino Array**	**57.98**	**341**	P	**P**	**20 13 02.9**	**-

0.7nm,0.7s
MKAR Makanchi Array 67.89 327 P **P** **20 14 10.6 +1.3**
3.7nm,0.6s,baz=122,slow=8.1,SNR=28
3.7nm,0.6s
ZALV Zalesovo Beam 71.19 334 P **P** **20 14 29.1 -0.2**
0.5nm,0.4s,baz=134,slow=4.3,SNR=3.7
0.5nm,0.4s
KURBB Kurchatov Arra 72.16 328 P **P** **20 14 35.4 +0.1**
0.8nm,0.5s,baz=131,slow=5.2,SNR=11
0.8nm,0.5s

TAP 08 20:03:33.6,24.°52N×122.°04E,h72km±1km,ML1.8,B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao** baz=288	**0.18**	**289**	*eP*	Pn	20 03 44.6	+0.3
TWC	**Suao** baz=299	**0.19**	**299**	P	Pn	20 03 44.6	+0.2
EOS2	**EOS2** baz=118	**0.20**	**118**	*eP*	Pn	20 03 44.6	+0.3
EOS2	baz=118			S	Sn	20 03 53.0	+0.9
EWUT	**Wuta** baz=253	**0.24**	**254**	P	Pn	20 03 45.0	+0.3
EWUT	baz=253			S	Sn	20 03 54.0	+1.2
ENA	**Nanau** baz=251	**0.28**	**252**	*i* P	Pn	20 03 45.2	+0.3
ENA	baz=251			*i* S	Sn	20 03 53.4	+0.3
EAHA	**Aohua** baz=235	**0.33**	**236**	*eP*	Pn	20 03 45.8	+0.6
EOS3	**EOS3** baz=131	**0.34**	**132**	P	Pn	20 03 45.3	+0.2
EOS3	baz=131			*e*S	Sn	20 03 54.8	+1.3
ENTT	**Nioudou** baz=286	**0.45**	**286**	*i* P	Pn	20 03 46.5	+0.4
LATG	**Datong** baz=272	**0.47**	**273**	*i* P	Pn	20 03 46.8	+0.4
LATG	baz=272			*i* S	Sn	20 03 55.5	-0.3
EOS4	**EOS4** baz=146	**0.47**	**147**	*eP*	Pn	20 03 46.9	+1.0
EOS4	baz=146			S	Sn	20 03 56.0	+1.1
FUSB	**Fushanzhiwuyua** baz=300	**0.47**	**301**	P	Pn	20 03 46.8	+0.3
FUSB	baz=300			*e*S	Sn	20 03 56.2	+0.3
NDT	**Datong Townshi** baz=280	**0.48**	**280**	P	Pn	20 03 46.9	+0.5
NDT	baz=280			*e*S	Sn	20 03 56.8	+0.9
TIPB	**Shuangxi** baz=337	**0.49**	**337**	*eP*	Pn	20 03 48.0	+1.4
NACB	**Ninganchiao** baz=229	**0.53**	**230**	*eP*	Pn	20 03 47.3	+0.4
NWLT	**Wulai** baz=298	**0.55**	**298**	*eP*	Pn	20 03 47.2	+0.1
NWLT	baz=298			*e*S	Sn	20 03 57.4	+0.3
NNSB	**Datong** baz=261	**0.60**	**262**	P	Pn	20 03 47.9	+0.2
NNSB	baz=261			*e*S	Sn	20 03 59.1	+0.9
NNS	**Nan Shan** baz=262	**0.61**	**263**	*i* P	Pn	20 03 48.1	+0.3
NNS	baz=262			*i* S	Sn	20 03 59.2	+0.9
YHNB	**Yeheng** baz=284	**0.62**	**285**	*eP*	Pn	20 03 48.3	+0.5
YHNB	baz=284			*e*S	Sn	20 03 58.5	+0.1
NSK	**Sanguang** baz=284	**0.64**	**285**	P	Pn	20 03 48.5	+0.4
NSK	baz=284			S	Sn	20 03 58.9	+0.2
TDCB	**Techi** baz=251	**0.84**	**252**	*eP*	Pn	20 03 50.8	+0.4
TDCB	baz=251			*e*S	Sn	20 04 03.5	+0.6
YOJ	**Yonaguni jima** baz=92	**0.89**	**93**	*eP*	Pn	20 03 51.1	+0.2
CHGB	**Renai** baz=240	**0.91**	**240**	*eP*	Pn	20 03 51.9	+0.6
WARBT	**Fenglin Townsh** baz=216	**0.99**	**217**	*eP*	Pn	20 03 52.0	-0.1

TAP 08 20:03:39.4,24.°01N×120.°42E,h25km,ML1.7,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRL	**Guolierlin Hig** baz=197	**0.11**	**198**	*i* P	Pb	20 03 43.9	-0.3
WRL	baz=197			*i* S	Sb	20 03 48.2	+0.9
WYL	**Yuanlin Townsh** baz=107	**0.16**	**108**	P	Pb	20 03 44.8	+0.2
WTCT	**Ta-ch'eng** baz=218	**0.19**	**220**	*i* P	Pb	20 03 45.3	+0.4
WTCT	baz=218			*i* S	Sb	20 03 49.8	+1.2
WWF	**Wufeng** baz=82	**0.26**	**83**	P	Pb	20 03 46.4	+0.5
WWF	baz=82			S	Sb	20 03 51.3	+1.1
WNT1	**Nantou City** baz=112	**0.26**	**113**	P	Pb	20 03 46.5	+0.6
WNT1	baz=112			S	Sb	20 03 51.3	+1.0
WNT	**Mingjian** baz=117	**0.28**	**118**	*i* P	Pb	20 03 46.8	+0.7
WNT	baz=117			*i* S	Sb	20 03 52.0	+1.3
WTK	**Tuku** baz=184	**0.32**	**184**	*eP*	Pb	20 03 47.0	+0.2
WDLH	**Douliu** baz=160	**0.34**	**161**	*eP*	Pn	20 03 48.2	-0.5
WDLH	baz=160			*e*S	Sn	20 03 53.7	-1.1
WGK	**Gukeng** baz=156	**0.35**	**157**	P	Pn	20 03 48.2	-0.7
WDJ	**Dajia District** baz=31	**0.40**	**31**	*eP*	Pb	20 03 48.2	+0.2
WDJ	baz=31			*e*S	Sn	20 03 55.9	-0.4
WSF	**Szhu** baz=204	**0.41**	**206**	P	Pb	20 03 48.5	+0.4
WSF	baz=204			S	Sn	20 03 55.4	-1.1
WCS	**Beigang Elemen** baz=84	**0.46**	**84**	*eP*	Pb	20 03 49.1	+0.2
WCS	baz=84			*e*S	Sn	20 03 56.8	-1.0
SMLT	**Sun Moon Lake** baz=105	**0.46**	**106**	*i* P	Pn	20 03 49.9	-0.7
SMLT	baz=105			S	Sb	20 03 56.5	+0.9
TWQ1	**Liyutan** baz=44	**0.47**	**44**	*eP*	Pb	20 03 49.2	0.0
TWQ1	baz=44			*e*S	Sn	20 03 57.5	-0.7
CHN5	**Tsauling** baz=149	**0.48**	**150**	P	Pn	20 03 51.2	+0.4
CHN5	baz=149			S	Sn	20 03 57.6	-0.8
WHYT	**Xinyi Township** baz=127	**0.51**	**128**	P	Pn	20 03 50.5	-0.6
WHYT	baz=127			S	Sb	20 03 57.9	+1.1
NSY	**Sanyi** baz=38	**0.51**	**38**	P	Pn	20 03 50.8	-0.4
NSY	baz=38			*e*S	Sn	20 03 58.3	-0.9
SSLB	**Suanglung** baz=114	**0.54**	**114**	P	Pn	20 03 51.1	-0.5
SSLB	baz=114			S	Sb	20 03 58.7	+1.0
WHP	**Taichung City** baz=61	**0.55**	**61**	*eP*	Pb	20 03 51.1	+0.4
WHP	baz=61			*e*S	Sn	20 03 59.5	-0.8
WCKO	**Fanlu** baz=162	**0.59**	**163**	*eP*	Pb	20 03 51.4	+0.2
WCKO	baz=162			*e*S	Sn	20 04 00.4	-0.8
WUSB	**Renai** baz=238	**0.64**	**91**	*eP*	Pb	20 03 52.5	+0.4
WUSB	**Renai** baz=91	**0.64**	**91**	*eP*	Pb	20 03 52.4	+0.3
WUSB	baz=91			*e*S	Sb	20 04 00.9	+0.2
CHGB	**Renai** baz=85	**0.70**	**86**	*eP*	Pb	20 03 52.7	-0.4
OWD	**Renai** baz=94	**0.70**	**94**	*eP*	Pn	20 03 53.6	-0.2
YUS	**Yu-Shan** baz=136	**0.71**	**136**	*eP*	Pb	20 03 53.2	-0.4
YUS	baz=136			*e*S	Sn	20 04 04.3	-0.5
TDCB	**Techi** baz=70	**0.72**	**70**	P	Pb	20 03 53.6	+0.2
TDCB	baz=70			S	Sn	20 04 04.0	-0.5
TPUB	**Ta-pu** baz=164	**0.73**	**164**	*eP*	Pb	20 03 53.7	+0.1
TPUB	baz=164			*e*S	Sn	20 04 04.0	-0.6
TWK	**Hsinying** baz=173	**0.74**	**175**	*eP*	Pb	20 03 53.7	0.0
TWK	baz=173			*e*S	Sn	20 04 06.5	+1.6
WTP	**Ta-pu** baz=165	**0.78**	**166**	*eP*	Pn	20 03 54.8	-0.1
WTP	baz=165			S	Sb	20 04 04.8	+0.2
LIOB	**Emei** baz=40	**0.84**	**41**	*eP*	Pb	20 03 55.5	+0.1
LIOB	baz=40			*e*S	Sb	20 04 06.2	-0.1
NFF	**Wufeng Townshi** baz=45	**0.89**	**46**	*eP*	Pn	20 03 56.6	+0.2
PNG	**Penghu** baz=240	**0.90**	**241**	P	Pb	20 03 56.3	-0.1
PNG	baz=240			S	Sn	20 04 08.7	-0.1
PHUB	**P'eng-hu** baz=237	**0.92**	**238**	*eP*	Pb	20 03 56.3	-0.4
PHUB	baz=237			*e*S	Sn	20 04 09.2	+0.1
WARBT	**Fenglin Townsh** baz=108	**0.94**	**108**	*eP*	Pn	20 03 57.9	+0.9
WARBT	baz=108			*e*S	Sn	20 04 11.3	+1.6
NNS	**Nan Shan** baz=64	**0.97**	**64**	*e*S	Sb	20 04 10.3	+0.1
NNSB	**Datong** baz=64	**0.98**	**65**	*eP*	Pb	20 03 58.3	+0.5
NNSB	baz=64			*e*S	Sn	20 04 10.8	0.0
YULB	**Yu-li** baz=127	**1.01**	**127**	*e*S	Sn	20 04 13.6	+2.0

GII ***08*** *20:04:54.5±0.3,32.°835N±0.°007×35.°580E±0.°003,h0km, Md3.0/5,Mwes2.9/6,confirmed*
JSO ***08*** *20:04:55,32.°85N×35.°57E,h5km,ML3.1/24*
GRAL ***08*** *20:04:56.4±0.2,32.°82N×35.°49E,h0km±2km,MD3.3*
ISC 08 20:04:55.8±0.8,32.°83N±0.°02×35.°58E±0.°03,h13km,n59, σ0.°070/61,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	**Mount Meron ar**	**0.23**	**322**	P	**Pg**	**20 05 00.1**	**-0.7**
MMA0B	**Mount Meron ar**	**0.23**	**321**	S	**Sg**	**20 05 04.5**	**+0.2**
MMA0B	**Mount Meron ar**	**0.23**	**321**	P	**Pg**	**20 05 00.1**	**-0.8**
MMC7	**Mount Meron ar**	**0.24**	**321**	P	**Pg**	**20 05 00.2**	**-0.8**
KSHT	**Keshet**	**0.25**	**53**	S	**Sg**	**20 05 05.1**	**+0.4**
KSHT	**Keshet**	**0.25**	**53**	P	**Pg**	**20 05 00.3**	**-0.8**
BLGI	**Bet Lehem HaGe**	**0.34**	**253**	P	**Pg**	**20 05 02.7**	**0.0**
BLGI	**Bet Lehem HaGe**	**0.34**	**253**	S	**Sg**	**20 05 08.2**	**+0.8**
BLGI	**Bet Lehem HaGe**	**0.34**	**253**	P	**Pg**	**20 05 02.1**	**-0.6**
GEM	**Giv'at Ha'Em**	**0.38**	**11**	P	**Pg**	**20 05 03.0**	**-0.5**
GEM	**Giv'at Ha'Em**	**0.38**	**11**	S	**Sb**	**20 05 10.0**	**-0.4**
GEM	**Giv'at Ha'Em**	**0.38**	**11**	P	**Pg**	**20 05 02.7**	**-0.8**
MMLI	**Mount Malkishu**	**0.42**	**198**	S	**Sb**	**20 05 11.4**	**+0.1**
MMLI	**Mount Malkishu**	**0.42**	**198**	P	**Pg**	**20 05 03.8**	**-0.3**
HNTI	**Hanita**	**0.42**	**306**	P	**Pg**	**20 05 03.9**	**-0.3**
HNTI	**Hanita**	**0.42**	**306**	S	**Sb**	**20 05 10.9**	**-0.5**
HNTI	**Hanita**	**0.42**	**306**	P	**Pg**	**20 05 03.6**	**-0.6**
NATI	**Neve Ativ**	**0.45**	**18**	P	**Pg**	**20 05 04.6**	**-0.1**
NATI	**Neve Ativ**	**0.45**	**18**	P	**Pg**	**20 05 03.9**	**-0.8**
NATI	**Neve Ativ**	**0.45**	**18**	S	**Sb**	**20 05 12.1**	**-0.1**
QRNJ	**Al-Qirein**	**0.50**	**180**	P	**Pg**	**20 05 05.5**	**-0.1**
SHBL	**Chebaa**	**0.53**	**15**	*eP*	**Pg**	**20 05 06.7**	**+0.3**
OFRI	**`Ofer**	**0.54**	**247**	P	**Pg**	**20 05 06.0**	**-0.5**
OFRI	**`Ofer**	**0.54**	**247**	S	**Sb**	**20 05 14.8**	**-0.1**
HMDT	**Nahal Hemdat**	**0.58**	**184**	P	**Pg**	**20 05 06.8**	**-0.4**
HMDT	**Nahal Hemdat**	**0.58**	**184**	P	**Pg**	**20 05 06.7**	**-0.4**
HMDT	**Nahal Hemdat**	**0.58**	**184**	S	**Sb**	**20 05 16.8**	**+0.8**
RCY	**Rachaya**	**0.70**	**18**	*eP*	**Pg**	**20 05 09.6**	**+0.2**
RCY				*e*S	**Sb**	**20 05 19.4**	**-0.1**
QRWL	**Qaraoun**	**0.72**	**7**	*eP*	**Pg**	**20 05 09.8**	**0.0**
SLTI	**Sal'it**	**0.74**	**218**	P	**Pg**	**20 05 10.2**	**-0.1**
SLTI	**Sal'it**	**0.74**	**218**	S	**Sn**	**20 05 22.2**	**-1.0**
SLTI	**Sal'it**	**0.74**	**218**	P	**Pg**	**20 05 10.0**	**-0.3**
DQRL	**Deir Qamar**	**0.87**	**360**	*eP*	**Pg**	**20 05 12.5**	**-0.2**
DQRL				*e*S	**Sg**	**20 05 24.2**	**+0.1**
HSUJ	**Al Zarqa**	**0.90**	**144**	P	**Pg**	**20 05 12.7**	**-0.4**
ZAHL	**Zahle**	**1.05**	**14**	*eP*	**Pb**	**20 05 16.0**	**-0.1**
BHL	**Bhannes**	**1.07**	**3**	*eP*	**Pb**	**20 05 15.9**	**-0.3**
DSI	**Dead Sea**	**1.27**	**188**	P	**Pn**	**20 05 18.4**	**-0.9**
DSI	**Dead Sea**	**1.27**	**188**	P	**Pn**	**20 05 18.2**	**-1.1**
DSI	**Dead Sea**	**1.27**	**188**	S	**Sg**	**20 05 37.1**	**+0.3**
AMAZ	**Amatzia**	**1.41**	**204**	P	**Pb**	**20 05 21.8**	**-0.2**
HWQ	**Hawqa**	**1.47**	**12**	*eP*	**Pb**	**20 05 23.0**	**-0.2**
YTIR	**Yattir**	**1.52**	**195**	P	**Pn**	**20 05 22.9**	**+0.1**
YTIR	**Yattir**	**1.52**	**195**	P	**Pn**	**20 05 23.1**	**+0.3**
YTIR	**Yattir**	**1.52**	**195**	S	**Sg**	**20 05 45.0**	**+0.3**
MSBI	**Mazada**	**1.53**	**187**	P	**Pn**	**20 05 22.7**	**-0.1**
MSBI	**Mazada**	**1.53**	**187**	S	**Sg**	**20 05 44.4**	**-0.6**
FKH	**Fakeheh**	**1.57**	**26**	*eP*	**Pb**	**20 05 24.8**	**0.0**
LISJ	**El Lisan**	**1.59**	**183**	P	**Pb**	**20 05 24.9**	**-0.2**
SWQJ	**Swaqa**	**1.64**	**165**	P	**Pn**	**20 05 23.5**	**-0.9**
BEIL	**Beino**	**1.78**	**16**	*eP*	**Pn**	**20 05 27.5**	**+1.2**
KZIT	**Kziot**	**2.17**	**208**	P	**Pn**	**20 05 32.5**	**+0.9**
ZFRI	**Zfri**	**2.30**	**189**	P	**Pn**	**20 05 35.0**	**+1.6**
ZFRI	**Zfri**	**2.30**	**189**	P	**Pn**	**20 05 34.2**	**+0.8**
PRNI	**Paran**	**2.52**	**191**	P	**Pn**	**20 05 37.6**	**+1.1**
PRNI	**Paran**	**2.52**	**191**	P	**Pn**	**20 05 37.7**	**+1.2**
KRMI	**Paran Flat**	**2.80**	**195**	P	**Pn**	**20 05 41.4**	**+1.0**
HRFI	**Mount Harif**	**2.83**	**190**	P	**Pn**	**20 05 42.4**	**+1.7**
MBRI	**Mt Berech**	**3.08**	**191**	P	**Pn**	**20 05 46.1**	**+1.8**
MBRI	**Mt Berech**	**3.08**	**191**	P	**Pn**	**20 05 45.3**	**+1.0**

ISK ***08*** *20:32:02.7,35.°31N×22.°34E,h5km,ML4.4/6*
ATH ***08*** *20:32:11.8,35.°38N×22.°93E,h6km,ML4.2/25,Manual Solution by M.Kolligri This location: 2020/06/16 06:38:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
MCSM ***08*** *20:32:12.5±0.5,35.°N±4.°×2.°3E±.°,h38km±4km,mb4.5, mB4.6,MLv4.7,Mw(mB)3.8*
THE ***08*** *20:32:12.4,35.°35N×22.°92E,h2km±1km,ML4.1/10,Error ellipse: s-maj=2.1km s-min=0.8km az=196.0*
MED_RC ***08*** *20:32:14.0±0.5,35.°33N×22.°83E,h60km±6km,MW4.5/16, Moment Tensor Solution.Mantle waves: s16,c21; Duration: 1s0 Moment tensor: Scale 1015Nm; Mrr~4.68±.58; Mθθ~1.78±.50; Mφφ6.46±.37; Mrθ 1.60±.26; Mrφ~0.40±.66; Mθφ~0.46±.32; Best double couple: M∘5.95000×1015 NP1:φs336.00000°,δ52.00000°, λ-120.00000°. NP2:φs199.00000°,δ47.00000°, λ-57.00000°. Principal axes: T 6.5100, Plg3.0000°, Azm87.0000°; N -1.1100, Plg24.0000°, Azm355.0000°; P -5.3900, Plg66.0000°, Azm183.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***08*** *20:32:15.9±2.2,35.°46N±0.°09×22.°94E±0.°08,h56km±6km, mb4.5/69 Error ellipse: s-maj=14.7km s-min=7.0km az=208.0*
MOS ***08*** *20:32:15.3±1.3,35.°51N×22.°93E,h62km,mb4.9/22,Error ellipse: s-maj=4.9km s-min=2.6km az=84.1*
IDC ***08*** *20:32:15.6±1.2,35.°45N×22.°83E,h53km±11km,mb4.2/25, mbtmp4.4/35,MS3.5/20,Error ellipse: s-maj=12.3km s-min=7.9km az=10.0*
NAO ***08*** *20:32:45.9,38.°81N×21.°98E,h33km,mb4.1*
ISC 08 20:32:11.6±0.5,35.°35N±0.°03×22.°86E±0.°03,h20km±4km, n602,σ2.°00/625,mb4.5/77,MS3.4/16,44C-44D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.63**	**34**	P	**Pb**	**20 32 22.8**	**-1.2**
ANKY	39μm,0.4s			S	**Sb**	**20 32 31.9**	**-0.5**
ANKY	**Antikythira Is**	**0.63**	**34**	P	**Pb**	**20 32 22.9**	**-1.0**
ANKY				S	**Sb**	**20 32 30.7**	**-1.6**
KNDR	**Palaiochora Ch**	**0.68**	**99**	Pg	**Pb**	**20 32 24.1**	**-0.7**
KNDR				Sg	**Sn**	**20 32 39.5**	**+3.4**
KNDR	**Palaiochora Ch**	**0.68**	**99**	P	**Pb**	**20 32 23.1**	**-1.7**
KNDR				S	**Sb**	**20 32 31.3**	**-2.6**
RODP	**Rodopos**	**0.76**	**74**	Pn	**Pb**	**20 32 26.3**	**+0.2**
RODP	**Rodopos**	**0.76**	**74**	P	**Pb**	**20 32 25.5**	**-0.6**
RODP				S	**Sb**	**20 32 35.3**	**-0.7**
IMMV	**Iera Moni Meta**	**0.92**	**83**	Pn	**Pn**	**20 32 29.5**	**+0.1**
IMMV				Sn	**Sn**	**20 32 49.7**	**+7.7**
IMMV	**Iera Moni Meta**	**0.92**	**83**	P	**Pn**	**20 32 28.3**	**-1.1**
IMMV	13μm,0.8s			S	**Sn**	**20 32 42.2**	**+0.2**
IMMV	**Iera Moni Meta**	**0.92**	**83**	P	**Pn**	**20 32 28.4**	**-0.9**
IMMV				S	**Sb**	**20 32 40.5**	**-0.1**
CH01	**Chania**	**0.96**	**80**	P	**Pn**	**20 32 29.3**	**-0.6**
CH01				S	**Sb**	**20 32 41.3**	**-0.4**
CHAN	**Chania**	**0.98**	**80**	P	**Pn**	**20 32 29.9**	**-0.2**
CHAN				S	**Sb**	**20 32 42.1**	**-0.2**
GVD	**Gavdhos**	**1.12**	**116**	Pn	**Pn**	**20 32 31.8**	**-0.4**
GVD				Sn	**Sb**	**20 32 53.6**	**+7.1**
GVD	**Gavdhos**	**1.12**	**116**	P	**Pn**	**20 32 31.7**	**-0.4**
GVD	7μm,0.5s			S	**Sb**	**20 32 47.6**	**+1.1**
GVD	**Gavdhos**	**1.12**	**116**	P	**Pn**	**20 32 31.9**	**-0.4**
GVD				S	**Sb**	**20 32 47.8**	**+1.3**
NPS1	**Neapolis Lacon**	**1.17**	**8**	P	**Pn**	**20 32 32.4**	**-0.4**
NPS1				S	**Sn**	**20 32 48.6**	**+0.4**
PRNS	**Prines Rethymn**	**1.34**	**89**	P	**Pn**	**20 32 35.1**	**0.0**
MNVA	**Monemvasia**	**1.34**	**6**	P	**Pb**	**20 32 36.7**	**+0.7**
MNVA				S	**Sb**	**20 32 54.0**	**+1.1**
VLI	**Veliai**	**1.37**	**2**	P	**Pn**	**20 32 35.9**	**+0.4**
VLI				S	**Sb**	**20 32 55.9**	**+2.3**
VLI	**Veliai**	**1.37**	**2**	P	**Pn**	**20 32 36.3**	**+0.8**
VLI				S	**Sb**	**20 32 55.1**	**+1.5**
TMBK	**Timbaki Herakl**	**1.58**	**99**	P	**Pn**	**20 32 39.6**	**+1.2**
IDI	**Anoyia**	**1.66**	**91**	Pn	**Pn**	**20 32 40.2**	**+0.6**
IDI	**Anoyia**	**1.66**	**91**	Pn	**Pb**	**20 32 42.4**	**+1.0**
IDI	**Anoyia**	**1.66**	**91**	P	**Pn**	**20 32 41.0**	**+1.4**
IDI				S	**Sb**	**20 33 03.5**	**+1.5**
IDI	**Anoyia**	**1.66**	**91**	P	**Pb**	**20 32 41.7**	**+0.2**
IDI	340nm,0.5s,baz=273,slow=14,SNR=287 228nm,0.4s,baz=282,slow=20,SNR=6.0			S	**Sb**	**20 33 04.0**	**+2.0**
IDI	**Anoyia**	**1.66**	**91**	P	**Pn**	**20 32 40.6**	**+1.0**
PYL	**PYLOS**	**1.79**	**330**	P	**Pn**	**20 32 42.8**	**+1.4**
PYL				S	**Sb**	**20 33 07.8**	**+2.1**
PYL	**PYLOS**	**1.79**	**330**	P	**Pn**	**20 32 43.4**	**+2.0**
PYL				S	**Sb**	**20 33 07.5**	**+1.7**
MHLO	**Agia Marina, M**	**1.83**	**43**	P	**Pn**	**20 32 43.1**	**+1.2**
MHLO				S	**Sb**	**20 33 08.8**	**+2.0**
MHLO	**Agia Marina, M**	**1.83**	**43**	P	**Pn**	**20 32 43.4**	**+1.5**
MHLO				S	**Sb**	**20 33 07.0**	**+0.1**
ITM	**Ithomi**	**1.98**	**338**		**Pb**	**20 32 47.3**	**+0.4**
ITM	**Ithomi**	**1.98**	**338**	P	**Pn**	**20 32 46.3**	**+2.4**
ITM				S	**Sb**	**20 33 12.9**	**+1.8**
ITM	**Ithomi**	**1.98**	**338**	P	**Pn**	**20 32 45.8**	**+1.9**
ITM				S	**Sb**	**20 33 11.9**	**+0.8**
KRND	**KRANIDI**	**2.04**	**6**	P	**Pb**	**20 32 47.4**	**-0.6**
KRND				S	**Sb**	**20 33 13.4**	**+0.4**
KRND	**KRANIDI**	**2.04**	**6**	P	**Pb**	**20 32 47.5**	**-0.6**
KRND				S	**Sb**	**20 33 13.3**	**+0.4**
THR9	**Santorini-Faro**	**2.26**	**63**	P	**Pn**	**20 32 49.5**	**+1.7**
THR9	**Santorini-Faro**	**2.26**	**63**	P	**Pn**	**20 32 49.2**	**+1.4**
THR5	**Thira Island,**	**2.28**	**61**	P	**Pn**	**20 32 49.5**	**+1.4**
SAP3	**Santorini-Thir**	**2.29**	**61**	P	**Pn**	**20 32 50.6**	**+2.4**
SAP3	9μm,0.8s			S	**Sb**	**20 33 18.6**	**-1.5**
SAP3	**Santorini-Thir**	**2.29**	**61**	P	**Pn**	**20 32 50.0**	**+1.8**
THR6	**Thira Island,**	**2.29**	**63**	P	**Pn**	**20 32 49.8**	**+1.6**
SNT5	**Nea Kammeni, S**	**2.31**	**62**	P	**Pn**	**20 32 50.2**	**+1.7**
THR3	**Thira Island,**	**2.32**	**62**	P	**Pn**	**20 32 51.0**	**+2.4**
THR3	**Thira Island,**	**2.32**	**62**	P	**Pn**	**20 32 50.7**	**+2.1**
SANT	**Santorini**	**2.34**	**63**	⇑P	**Pb**	**20 32 52.5**	**-0.6**
SANT	**Santorini**	**2.34**	**63**	Pn	**Pn**	**20 32 49.9**	**+0.9**
SANT	**Santorini**	**2.34**	**63**		**Pn**	**20 32 51.7**	**+2.8**
SANT	**Santorini**	**2.34**	**63**	P	**Pn**	**20 32 50.8**	**+1.8**
SANT	**Santorini**	**2.34**	**63**	P	**Pn**	**20 32 51.5**	**+2.6**
SANT				S	**Sb**	**20 33 20.1**	**-1.6**
CMBO	**Columbo, Santo**	**2.35**	**61**	P	**Pn**	**20 32 50.8**	**+1.8**
CMBO	**Columbo, Santo**	**2.35**	**61**	P	**Pn**	**20 32 51.6**	**+2.6**
VLY	**Voula,Athens**	**2.61**	**16**	P	**Pn**	**20 32 54.3**	**+1.7**
VLY	**Voula,Athens**	**2.61**	**16**	P	**Pn**	**20 32 54.3**	**+1.7**
GUR	**Goura**	**2.62**	**351**	P	**Pn**	**20 32 55.2**	**+2.4**
GUR	**Goura**	**2.62**	**351**	P	**Pb**	**20 32 56.2**	**-1.6**
LOUT	**Loutraki**	**2.64**	**2**	P	**Pn**	**20 32 56.0**	**+3.0**
LOUT	**Loutraki**	**2.64**	**2**	P	**Pn**	**20 32 55.9**	**+3.0**
ATH	**Athens Observa**	**2.71**	**14**	P	**Pn**	**20 32 56.9**	**+3.0**
ATH	**Athens Observa**	**2.71**	**14**	P	**Pn**	**20 32 56.9**	**+3.0**
ATHU	**Athens Univers**	**2.72**	**16**	P	**Pn**	**20 32 56.2**	**+2.1**
ATHU	**Athens Univers**	**2.72**	**16**	P	**Pn**	**20 32 56.6**	**+2.6**
KLV	**Kalavryta, Ach**	**2.75**	**348**	P	**Pn**	**20 32 57.0**	**+2.4**
ZKR	**Zakros**	**2.75**	**94**	Pn	**Pn**	**20 32 55.6**	**+1.0**
ZKR	**Zakros**	**2.75**	**94**	P	**Pn**	**20 32 57.1**	**+2.5**
APE	**Apeiranthos**	**2.76**	**51**	⇑P	**Pn**	**20 32 56.6**	**+2.0**
APE	**Apeiranthos**	**2.76**	**51**	P	**Pn**	**20 32 56.6**	**+2.0**
APE	**Apeiranthos**	**2.76**	**51**	c *i*P	**Pn**	**20 32 56.4**	**+1.7**
APE	**Apeiranthos**	**2.76**	**51**	P	**Pn**	**20 32 56.7**	**+2.0**
PTL	**Penteli**	**2.81**	**16**	P	**Pn**	**20 32 57.6**	**+2.2**
VILL	**Villia**	**2.83**	**7**	P	**Pn**	**20 32 58.0**	**+2.3**
DION	**Dionisos Attik**	**2.86**	**17**	P	**Pn**	**20 32 58.6**	**+2.6**
DION	**Dionisos Attik**	**2.86**	**17**	P	**Pn**	**20 32 58.6**	**+2.6**
VIL2	**Platees**	**2.88**	**6**	P	**Pn**	**20 32 58.3**	**+2.0**
RLS	**Riolos of Patr**	**2.93**	**338**	P	**Pn**	**20 32 59.6**	**+2.6**
RLS	**Riolos of Patr**	**2.93**	**338**	P	**Pn**	**20 32 59.7**	**+2.7**
ALIK	**Aliki, Aigiali**	**2.97**	**348**	P	**Pn**	**20 33 01.2**	**+3.7**
KALE	**Kalithea**	**3.09**	**349**	P	**Pn**	**20 33 02.3**	**+3.0**
KALE	**Kalithea**	**3.09**	**349**	P	**Pn**	**20 33 02.2**	**+3.0**
EFP	**Efpalio**	**3.17**	**346**	P	**Pn**	**20 33 03.1**	**+2.8**
PSDA	**Pessada-Kefalo**	**3.31**	**327**	P	**Pn**	**20 33 03.8**	**+1.6**
ANX	**Ano Chora**	**3.33**	**347**	P	**Pn**	**20 33 06.0**	**+3.5**
ANX	**Ano Chora**	**3.33**	**347**	P	**Pn**	**20 33 05.6**	**+3.0**
VLS	**Valsamata**	**3.36**	**328**	P	**Pn**	**20 33 04.1**	**+1.1**
VLS	**Valsamata**	**3.36**	**328**	P	**Pn**	**20 33 04.1**	**+1.1**
AXAR	**Agios Charalam**	**3.42**	**357**	P	**Pn**	**20 33 06.6**	**+2.9**
KYMI	**Kymi, Euboea I**	**3.42**	**16**	P	**Pn**	**20 33 06.0**	**+2.2**
KYMI	**Kymi, Euboea I**	**3.42**	**16**	P	**Pn**	**20 33 05.7**	**+1.9**
PVO	**Paravola**	**3.43**	**342**	P	**Pn**	**20 33 08.0**	**+4.1**
KARP	**Karpathos**	**3.52**	**86**	Pn	**Pn**	**20 33 07.7**	**+2.7**
KARP	**Karpathos**	**3.52**	**86**	P	**Pn**	**20 33 07.2**	**+2.1

PRK Paraskevi 4.75 34 P Pn 20 33 23.7 +1.8
KPRO Kipourio 4.75 346 P Pn 20 33 24.9 +2.8
LIT Litokhoron 4.75 357 Pn Pn 20 33 24.6 +2.5
LIT Litokhoron 4.75 357 P Pn 20 33 24.8 +2.7
LIT Litokhoron 4.75 357 P Pn 20 33 24.6 +2.5
OUR Ouranopolis 5.06 10 P Pn 20 33 28.8 +2.6
OUR Ouranopolis 5.06 10 P Pn 20 33 28.8 +2.6
KTI Kastanea 5.07 354 P Pn 20 33 28.5 +1.9
LSK Leskovik 5.12 340 P Pn 20 33 29.4 +2.2
HORT Hortiatis 5.25 2 P Pn 20 33 30.9 +2.0
EZN Ezine 5.25 31 P Pn 20 33 31.0 +2.2
EZN Ezine 5.25 31 P Pn 20 33 31.0 +2.2
38nm,0.8s,0.2nm
NEST Nestorio 5.26 345 P Pn 20 33 32.0 +2.9
KBN Korca 5.52 343 Pn 20 33 35.8 +3.2
KBN Korca 5.52 343 P Pn 20 33 35.8 +3.2
FNA Florina 5.55 348 Pn Pn 20 33 35.0 +1.9
FNA Florina 5.55 348 P Pn 20 33 34.5 +1.4
FNA Florina 5.55 348 P Pn 20 33 35.0 +1.9
SRS Serrai 5.79 5 P Pn 20 33 38.3 +2.0
SRS pmax pmax
comp=Z,66nm,0.7s
SCTE Santa Cesarea 5.86 325 Pn Pn 20 33 37.5 +0.2
ELL Elmali 5.88 74 Pn 20 33 39.5 +1.9
ELL Elmali 5.88 74 P Pn 20 33 39.5 +1.9
VAY Valandovo 5.97 358 *i* Pn **Pn 20 33 41.3 +2.6**
OHR Ohrid 5.98 345 *i* Pn **Pn 20 33 41.6 +2.6**
ALN Alexandroupoli 6.08 23 Pn 20 33 42.5 +2.2
ALN Alexandroupoli 6.08 23 P Pn 20 33 42.5 +2.2
RDO Rodhopi 6.16 19 Pn 20 33 42.4 +1.1
TIP Timpagrande 6.19 310 ⇑P **Pn 20 33 38.8 -3.1**
TIP Timpagrande 6.19 310 Pn **Pn 20 33 42.0 +0.2**
CEL Celeste 6.30 300 Pn 20 33 43.6 +0.3
STIP Stip 6.36 355 *i* Pn **Pn 20 33 46.8 +2.7**
TIR Tirane 6.44 339 ⇑P **Pn 20 33 46.1 +0.9**
TIR Tirane 6.44 339 Pn 20 33 46.4 +1.2
TIR Tirane 6.44 339 P Pn 20 33 47.6 +2.4
TIR pmax pmax
comp=Z,104nm,0.6s
TIR Tirane 6.44 339 P Pn 20 33 47.2 +2.0
comp=Z,104nm,0.6s,comp=Z,0.6nm
BCK Bucak 6.58 69 P Pn 20 33 49.9 +2.7
SKO Skopje 6.71 351 *i* Pn **Pn 20 33 51.0 +2.1**
PLD Plovdiv 6.95 12 P Pn 20 33 54.7 +2.5
PLD pmax pmax
comp=Z,340nm,1.3s
RAFF Raffo Rosso 7.12 288 Pn Pn 20 33 54.7 +0.2
VAE Valguarnera 7.14 290 P Pn 20 33 57.8 +3.0
comp=Z,13nm,0.7s,baz=344,slow=19,SNR=5.6
VAE S **Sn 20 35 17.2 +1.8**
comp=Z,20nm,0.4s,baz=17,slow=20,SNR=2.0
CUC Castrocucco 7.26 312 Pn 20 33 58.9 +2.3
DRME Dracevica, Mon 7.41 338 *e*Pn **Pn 20 33 58.2 -0.3**
PDG Podgorica 7.61 339 ⇑P **Pn 20 34 01.2 0.0**
PDG Podgorica 7.61 339 Pn 20 34 01.3 0.0
PDG Podgorica 7.61 339 *e*Pn **Pn 20 34 00.8 -0.5**
ELND Elena 7.92 16 ⇑P **Pn 20 34 08.0 +2.4**
TREB Trebinje 8.15 336 *e*Pn **Pn 20 34 07.9 -0.8**
DBRK Dubrovnik 8.18 335 *e*Pn **Pn 20 34 07.2 -1.9**
SJES Sjenica 8.21 345 *e*Pn **Pn 20 34 09.7 0.0**
BRY Bratogost 8.26 337 *e*Pn **Pn 20 34 11.3 +1.0**
UPM Unac-Piva 8.42 340 *e*Pn **Pn 20 34 13.3 +0.7**
SGRT San Giovanni R 8.48 321 Pn Pn 20 34 12.7 -0.7
STON Ston 8.52 333 *e*Pn **Pn 20 34 11.9 -1.8**
STON Ston 8.52 333 *e*Pn **Pn 20 34 11.9 -1.8**
CSS Mathiatis 8.58 90 Pn 20 34 13.4 -1.2
CSS Mathiatis 8.58 90 P Pn 20 34 14.4 -0.3
PAOL Paolisi 8.65 313 Pn 20 34 18.2 +2.6
RUDO Rudo 8.69 343 *e*Pn **Pn 20 34 14.7 -1.4**
BBLS Lazi&#263i 8.91 344 *e*Pn **Pn 20 34 18.3 -0.9**
ANTO Ankara 9.08 57 ⇑P **Pn 20 34 26.2 +4.7**
ANTO Ankara 9.08 57 Pn 20 34 24.5 +3.0
ANTO Ankara 9.08 57 P Pn 20 34 26.0 +4.5
ANTO pmax pmax
comp=Z,74nm,1.2s
ANTO Ankara 9.08 57 P Pn 20 34 25.1 +3.6
comp=Z,37nm,1.2s,comp=Z,277nm
RICI Ricice 9.26 333 *e*Pn **Pn 20 34 22.2 -1.7**
HVAR Hvar 9.26 329 *e*Pn **Pn 20 34 22.2 -1.8**
HUMR Humele 9.31 9 ⇓P **Pn 20 34 25.2 +0.6**
MDVR Moldovita 9.46 355 ⇑P **Pn 20 34 26.6 -0.1**
HERR Herculane 9.53 358 ⇑P **Pn 20 34 28.2 +0.7**
TEKS Tekeris 9.54 345 *e*Pn **Pn 20 34 26.0 -1.7**
BR105 Keskin Array S 9.59 60 P Pn 20 34 31.8 +3.2
comp=Z,33nm,0.9s,comp=Z,219nm
BR106 Keskin Array S 9.60 60 P Pn 20 34 32.0 +3.3
comp=Z,21nm,0.9s,comp=Z,173nm
BR104 Keskin Array S 9.60 60 P Pn 20 34 32.1 +3.4
comp=Z,38nm,0.9s,comp=Z,256nm
BR131 Keskin Array S 9.61 60 Pn Pn 20 34 32.0 +3.1
BRTR Keskin Array B 9.61 60 Pn 20 34 31.8 +2.9
BRTR Keskin Array B 9.61 60 P Pn 20 34 31.9 +3.1
comp=Z,24nm,0.9s,baz=235,slow=13,SNR=122
ZIRJ Zirje 9.99 328 *e*Pn **Pn 20 34 32.9 -1.0**
TLBR Topalu 10.01 22 ⇓P **Pn 20 34 36.0 +1.9**
GZR Gura Zlata 10.04 360 ⇓P **Pn 20 34 35.4 +0.8**
GZR Gura Zlata 10.04 360 ⇓P **Pn 20 34 35.4 +0.8**
FRGS Fruska Gora 10.07 348 ⇓P **Pn 20 34 32.5 -2.6**
FRGS Fruska Gora 10.07 348 *e*Pn **Pn 20 34 33.0 -2.0**
HARR Harsova 10.11 21 ⇓P **Pn 20 34 36.1 +0.6**
HARR Harsova 10.11 21 ⇓P **Pn 20 34 36.1 +0.6**
LOT Lotru 10.11 4 ⇓P **Pn 20 34 37.2 +1.5**
MORI Morici 10.14 329 *e*Pn **Pn 20 34 34.9 -1.0**
VOIR 10.21 9 ⇓P **Pn 20 34 39.2 +2.1**
VOIR 10.21 9 ⇓P **Pn 20 34 39.2 +2.1**
CAMP Campotosto 10.28 317 Pn 20 34 41.1 +3.2
BZS Buzias 10.30 355 ⇑P **Pn 20 34 36.9 -1.2**
BZS Buzias 10.30 355 ⇑P **Pn 20 34 36.9 -1.2**
A050A Klekovaca 10.33 334 *e*Pn **Pn 20 34 38.5 -0.2**
BLY Banja Luka 10.35 337 *e*Pn **Pn 20 34 38.1 -0.7**
MLR Muntele Rosu 10.40 12 ⇑P **Pn 20 34 41.7 +2.1**
MLR Muntele Rosu 10.40 12 Pn 20 34 41.7 +2.1
MLR Muntele Rosu 10.40 12 P Pn 20 34 41.3 +1.6
comp=Z,7.8nm,0.7s,baz=182,slow=12
MLR Muntele Rosu 10.40 12 P Pn 20 34 41.7 +2.1
NEHR Nehoiu 10.40 14 ⇓P **Pn 20 34 41.7 +2.1**
TPGR Topolog 10.40 22 ⇑P Pn 20 34 49.1 +9.5
SURR Surduc 10.41 357 ⇑P **Pn 20 34 39.0 -0.6**
DUGI Dugi Otok 10.52 328 *e*Pn **Pn 20 34 40.4 -0.7**
DEV Deva 10.53 0 ⇑P **Pn 20 34 43.1 +1.9**
DEV Deva 10.53 0 ⇑P **Pn 20 34 43.1 +1.9**
SLTI Sal'it 10.60 104 P Pn 20 34 42.5 +0.2
CFR Carcaliu 10.61 21 ⇓P **Pn 20 34 43.3 +0.9**
CFR Carcaliu 10.61 21 ⇓P **Pn 20 34 43.3 +0.9**
KZIT Kziot 10.63 111 P Pn 20 34 41.5 -1.3
NRCA Norcia 10.64 318 Pn 20 34 45.7 +2.9
MMAI Mount Meron Ar 10.64 99 P Pn 20 34 41.0 -1.9
comp=Z,4.0nm,0.4s,baz=295,slow=12,SNR=14
MMAI S **Sn 20 36 35.3 -6.3**
comp=Z,3.5nm,0.6s,baz=293,slow=18,SNR=2.3
UDBI Udbina 10.66 331 *e*Pn **Pn 20 34 43.3 +0.2**
PRIJ Prijedor 10.70 336 *e*Pn **Pn 20 34 42.5 -1.1**
VIRC Vir 10.76 328 *e*Pn **Pn 20 34 44.4 0.0**
DOPR Dopca 10.78 9 ⇓P **Pn 20 34 46.4 +1.6**
COVR Voineasa-Covas 10.79 13 ⇓P Pn 20 34 49.6 +4.8
PLOR Plostina 10.88 14 ⇑P **Pn 20 34 46.1 0.0**
PLOR Plostina 10.88 14 ⇑P **Pn 20 34 46.1 0.0**
ODBI Odobesti 10.88 16 ⇑P Pn 20 34 54.8 +8.7
VRI Vrincioaia 10.91 14 ⇓P **Pn 20 34 48.5 +2.0**
VRI Vrincioaia 10.91 14 ⇓P **Pn 20 34 48.5 +2.0**
VRI Vrincioaia 10.91 14 P Pn 20 34 48.9 +2.4
comp=Z,27nm,1.1s
BOSR Bodos 10.92 10 ⇓P **Pn 20 34 49.6 +2.9**
SIRR Siria 10.95 356 ⇓P **Pn 20 34 46.7 -0.4**
TURR Turia 10.96 12 ⇓P **Pn 20 34 50.3 +3.1**
OZUR 10.96 11 ⇓P **Pn 20 34 49.9 +2.7**
YTIR Yattir 10.99 108 P Pn 20 34 45.1 -2.6
QRNJ Al-Qirein 10.99 102 P Pn 20 34 46.2 -1.4
PLIT Plitvice 11.01 332 *e*Pn **Pn 20 34 47.3 -0.6**
PLIT Sn **Sn 20 36 43.1 -7.3**
KEST Kesra 11.02 276 P Pn 20 34 48.3 +0.2
comp=Z,1.3nm,0.6s,baz=24,slow=6.1,SNR=4.3
KEST S **Sn 20 36 45.6 -5.2**
comp=Z,0.7nm,0.5s,baz=246,slow=20,SNR=1.0
UJAP Al Uja 11.03 104 P Pn 20 34 47.1 -1.1
NVLJ Novalja 11.05 329 *e*Pn **Pn 20 34 47.8 -0.6**
NVLJ Sn **Sn 20 36 42.7 -8.7**
DSI Dead Sea 11.11 106 P Pn 20 34 47.0 -2.3
MSBI Mazada 11.20 108 P Pn 20 34 48.8 -1.6
GHRR 11.24 16 ⇑P Pn 20 34 57.5 +6.5
GHRR 11.24 16 P Pn 20 34 54.6 +3.6

RABC Rab 11.24 329 *e*Pn **Pn 20 34 50.2 -0.8**
MOSL Moslavina 11.26 338 *e*Pn **Pn 20 34 49.8 -1.5**
MORH Mrgy, Hungar 11.31 345 ⇑P **Pn 20 34 50.1 -1.9**
MARR Marisel-Cluj 11.32 1 ⇓P **Pn 20 34 53.6 +1.4**
LISJ El Lisan 11.32 108 P Pn 20 34 51.3 -0.9
PRNI Paran 11.36 113 P Pn 20 34 50.8 -1.9
GHAJ Ghor Haditha 11.36 107 Pn **Pn 20 34 51.5 -1.3**
ZFRI Zfri 11.39 111 P Pn 20 34 50.9 -2.2
DRGR 11.43 359 ⇑P **Pn 20 34 54.6 +0.9**
DRGR 11.43 359 ⇑P **Pn 20 34 54.6 +0.9**
TESR Tescani 11.51 13 ⇓P Pn 20 35 00.7 +5.9
HRFI Mount Harif 11.54 114 P Pn 20 34 54.1 -1.1
MBRI Mt Berech 11.57 115 P Pn 20 34 54.6 -1.1
EIL Elat 11.66 116 P Pn 20 34 55.8 -1.1
comp=Z,7.6nm,0.6s,baz=192,slow=2.8,SNR=14
EIL S **Sn 20 36 58.0 -8.5**
comp=Z,6.8nm,0.6s,baz=261,slow=21,SNR=2.6
EIL Elat 11.66 116 P Pn 20 34 55.8 -1.1
BOJS Bojanci 11.68 333 *e*Pn **Pn 20 34 55.6 -1.4**
OZLJ Ozalj 11.69 334 *e*Pn **Pn 20 34 56.4 -0.7**
AQBJ Aqaba 11.71 115 P Pn 20 34 58.0 +0.5
GAZ Gaziantep 11.73 77 Pn 20 34 55.7 -2.1
MESR Meseseni 11.79 0 ⇑P Pn 20 35 07.4 +8.9
BRJN Brijuni 11.81 327 *e*Pn **Pn 20 34 58.2 -0.7**
ASF Jabal al Asfar 12.10 101 P Pn 20 35 02.3 -0.7
comp=Z,3.0nm,0.6s,baz=344,slow=0.1,SNR=8.9
ASF S **Sn 20 37 12.0 -5.3**
comp=Z,3.8nm,0.8s,baz=54,slow=0.2,SNR=8.2
CEY Cerknica 12.19 331 *e*Pn **Pn 20 35 03.3 -0.8**
BMR Baia Mare 12.32 2 P Pn 20 35 08.1 +2.3
BMR pmax pmax
comp=Z,21nm,1.6s
BURAR Bucovina Array 12.38 7 ⇑P **Pn 20 35 07.8 +1.1**
BUD Budapest 12.46 348 P Pn 20 35 09.9 +2.2
BUD pmax pmax
comp=Z,21nm,0.6s
SABO M.te Sabotino 12.73 329 Pn 20 35 11.7 +0.3
PSZ Piszkesteto 12.75 351 ⇓P **Pn 20 35 11.0 -0.7**
PSZ Piszkesteto 12.75 351 Pn 20 35 11.6 -0.2
PSZ Piszkesteto 12.75 351 P Pn 20 35 11.5 -0.2
SOKA Soboth 12.76 335 *e*Pn **Pn 20 35 10.2 -1.6**
comp=Z,1.8nm,0.3s,SNR=12
OBKA Obir 12.79 333 *e*Pn **Pn 20 35 11.2 -1.0**
comp=Z,1.4nm,0.4s
OBKA Obir 12.79 333 *e*Pn **Pn 20 35 11.0 -1.3**
NE56 Odesa 12.83 26 P Pn 20 35 16.4 +3.7
SRO Srobarova 12.91 346 P Pn 20 35 15.5 +1.7
SRO pmax pmax
comp=Z,39nm,0.9s
ARSA Arzberg 13.10 337 *e*Pn **Pn 20 35 14.9 -1.5**
comp=Z,1.6nm,0.4s
KECS Kecovo 13.24 353 *e*P **Pn 20 35 18.8 +0.4**
KECS Kecovo 13.24 353 *e*P **Pn 20 35 18.8 +0.4**
RONA Rosalia, Austr 13.28 340 *e*Pn **Pn 20 35 18.4 -0.5**
comp=Z,3.5nm,0.6s
UZHM Uzhgorod 13.28 358 P Pn 20 35 21.3 +2.5
KMPD K-Podol'skiy 13.47 10 P Pn 20 35 24.8 +3.4
VYHS Vyhne 13.47 348 *e*P **Pn 20 35 22.9 +1.4**
VYHS Vyhne 13.47 348 *e*P **Pn 20 35 22.9 +1.4**
KOLS Kolonicke sedl 13.58 358 *e*P **Pn 20 35 23.7 +0.7**
KOLS Kolonicke sedl 13.58 358 *e*P **Pn 20 35 23.7 +0.7**
CRVS Cervenica-Dubn 13.58 356 *e*P **Pn 20 35 21.6 -1.4**
CRVS Cervenica-Dubn 13.58 356 *e*P **Pn 20 35 21.6 -1.4**
CONA Conrad Observa 13.61 340 *e*Pn **Pn 20 35 21.6 -1.8**
comp=Z,1.8nm,0.9s
MODS Modra-Piesok 13.66 344 *e*P **Pn 20 35 23.9 -0.1**
MODS Modra-Piesok 13.66 344 *e*P **Pn 20 35 23.8 -0.2**
KBA Koelnbreinsper 13.72 332 *e*Pn **Pn 20 35 26.3 +1.3**
comp=Z,0.4nm,0.3s
ABTA Abfaltersbach 13.79 329 *e*Pn **Pn 20 35 26.4 +0.4**
comp=Z,1.6nm,0.5s
LANS Liptovska Anna 14.02 351 *e*P **Pn 20 35 31.2 +2.2**
LANS Liptovska Anna 14.02 351 *e*P **Pn 20 35 31.2 +2.2**
JAVC Velka Javorina 14.04 346 *e*P **Pn 20 35 29.2 0.0**
MOA Molln 14.04 335 *e*Pn **Pn 20 35 28.8 -0.4**
comp=Z,6.6nm,0.5s,SNR=9.8
BIOA Bad Ischl, Aus 14.12 334 *e*Pn **Pn 20 35 29.5 -0.9**
comp=Z,17nm,1.3s,SNR=7.0
NIE Niedzica 14.19 353 *e*P **Pn 20 35 34.9 +3.6**
NIE Niedzica 14.19 353 P Pn 20 35 35.2 +3.9
NIE pmax pmax
comp=Z,8.0nm,0.9s
NIE Niedzica 14.19 353 P Pn 20 35 33.9 +2.6
comp=Z,7.9nm,0.9s
LESA Schwarzleotal 14.27 331 *i* Pn **Pn 20 35 33.4 +0.9**
comp=Z,2.2nm,0.5s
KWP Kalwaria Pacla 14.28 360 *e*P **Pn 20 35 36.3 +3.8**
KWP Kalwaria Pacla 14.28 360 P Pn 20 35 36.3 +3.8
KWP pmax pmax
comp=Z,14nm,1.1s
KWP Kalwaria Pacla 14.28 360 P Pn 20 35 35.2 +2.7
comp=Z,15nm,1.1s
KRUC Moravsky 14.51 343 *e*P **Pn 20 35 34.4 -1.3**
WTTA Wattenberg 14.57 328 *i* Pn **Pn 20 35 37.0 +0.3**
comp=Z,0.9nm,0.3s
WTTA Wattenberg 14.57 328 P Pn 20 35 40.1 +3.4
WTTA pmax pmax
comp=Z,12nm,0.9s
WATA Walderalm 14.65 328 *e*Pn **Pn 20 35 38.8 +1.1**
comp=Z,6.3nm,0.8s,SNR=8.1
VRAC Vranov 14.69 344 ⇑P **Pn 20 35 36.8 -1.3**
VRAC Vranov 14.69 344 *e*P **Pn 20 35 37.1 -1.1**
VRAC Vranov 14.69 344 P Pn 20 35 37.4 -0.8
comp=Z,5.7nm,0.9s,baz=178,slow=12,SNR=8.8
VRAC LR LR 20 41 52.9
comp=Z,126nm,21.4s,baz=167,slow=40
FUORN Ofenpass-Fuorn 14.72 324 Pn 20 35 41.5 +2.7
SQTA Sankt Quirin 14.72 327 *i* Pn **Pn 20 35 40.3 +1.5**
comp=Z,0.8nm,0.3s
FETA Feichten 14.79 326 *e*Pn **Pn 20 35 41.7 +2.1**
comp=Z,8.3nm,0.9s,SNR=6.8
CKRC Cesky Krumlov 14.87 337 *e*P **Pn 20 35 41.7 +1.1**
CKRC Cesky Krumlov 14.87 337 *e*P **Pn 20 35 41.7 +1.1**
MORC Moravsky Berou 14.94 347 ⇑P **Pn 20 35 39.0 -2.5**
MORC Moravsky Berou 14.94 347 *e*P **Pn 20 35 44.5 +3.0**
MORC Moravsky Berou 14.94 347 ⇑P **Pn 20 35 39.0 -2.5**
DAVOX Davos/Dischmat 15.02 323 P Pn 20 35 44.8 +2.0
comp=Z,8.4nm,1.1s,baz=156,slow=19
DAVOX S **Sn 20 38 21.7 -6.8**
comp=Z,3.5nm,1.0s,baz=319,slow=20,SNR=2.1
DAVOX LR LR 20 42 44.9
comp=Z,81nm,21.7s,baz=96,slow=42
OJC Ojcow 15.03 352 *e*P **Pn 20 35 43.0 +0.3**
OJC Ojcow 15.03 352 Pn Pn 20 35 41.0 -1.7
OJC Ojcow 15.03 352 P Pn 20 35 41.0 -1.7
TUE Stuetta 15.07 322 Pn 20 35 43.9 +0.4
GERES GERESS Array B 15.09 336 Pn Pn 20 35 44.4 +0.8
GERES GERESS Array B 15.09 336 P Pn 20 35 44.1 +0.5
comp=Z,1.5nm,0.7s,baz=149,slow=16,SNR=4.4
GERES S **Sn 20 38 21.5 -8.5**
comp=Z,0.9nm,0.5s,baz=156,slow=31,SNR=2.1
GERES LR LR 20 42 17.0
comp=Z,145nm,19.4s,baz=143,slow=40
GERES GERESS Array B 15.09 336 P Pn 20 35 44.4 +0.8
RETA Reutte 15.12 327 *i* Pn **Pn 20 35 45.7 +1.7**
comp=Z,0.7nm,0.2s
KRLC Kraliky 15.37 345 *e*P **P 20 35 52.8 +1.0**
KRLC Kraliky 15.37 345 *e*P **P 20 35 52.8 +1.0**
KHC Kasperske Hory 15.38 336 P P 20 35 50.1 -1.8
KHC IAmb IAmb 20 35 55.8
comp=Z,19nm,1.0s
KHC Kasperske Hory 15.38 336 *e*P **Pn 20 35 49.3 +2.0**
KHC *e*S **Sn 20 38 35.0 -2.0**
KHC Kasperske Hory 15.38 336 *e*P **Pn 20 35 49.3 +2.0**
KHC *e* 20 38 35.0
SOC Sochi 15.38 53 *e*P **Pn 20 35 45.7 -1.6**
SOC *e* 20 38 38.7
SOC pmax pmax
comp=Z,8.0nm,0.6s
SOC MLR MLR
comp=Z,72nm,16.0s
DAVA Damuels 15.38 325 *e*Pn **Pn 20 35 49.0 +1.5**
comp=Z,3.2nm,0.6s
ZVC Zvikov 15.45 338 *e*P **Pn 20 35 48.1 -0.2**
VSLR Vesyoloye 15.53 53 ⇓*e*P **Pn 20 35 50.3 +1.0**
VSLR pmax pmax
comp=Z,8.0nm,0.8s
WET Wettzell 15.62 335 P P 20 35 56.3 +1.7
WET pmax pmax
comp=Z,20nm,1.3s
GURO Guroymak-BITLI 15.65 73 Pn Pn 20 35 50.8 -0.3
DPC Dobruska-Polom 15.73 344 *e*P **Pn 20 35 52.3 +0.4**
DPC Dobruska-Polom 15.73 344 *e*P **Pn 20 35 52.3 +0.4**
PRU Pruhonice 15.84 340 *e*P **P 20 35 58.4 +1.4**

PRU Pruhonice 15.84 340 *e*P **P 20 35 58.4 +1.4**
BCA Borcka 15.91 62 ⇑P **Pn 20 35 55.1 +0.9**
PRA Prague 15.95 340 *e*P **P 20 36 00.3 +2.2**
PRA Prague 15.95 340 *e*P **P 20 36 00.3 +2.2**
UPC Upice 15.95 344 *e*P **Pn 20 35 55.5 +0.8**
UPC Upice 15.95 344 *e*P **Pn 20 35 55.5 +0.8**
CHVC Chvalec 16.02 344 *e*P **P 20 35 59.8 +0.9**
CHVC Chvalec 16.02 344 *e*P **P 20 35 59.8 +0.9**
KIEV Kiev 16.02 15 ⇑P **Pn 20 35 53.4 -2.1**
KIEV Kiev 16.02 15 Pn 20 35 53.2 -2.2
KIEV IAmb IAmb 20 35 56.3
comp=Z,31nm,1.0s
KIEV Kiev 16.02 15 ⇑P **Pn 20 35 53.4 -2.1**
AKASG Malin Array Be 16.02 15 P Pn 20 35 52.5 -3.1
comp=Z,11nm,0.7s,baz=208,slow=12,SNR=15
AKBB Malin Array Si 16.02 15 Pn 20 35 53.3 -2.3
AKBB IAmb IAmb 20 35 56.3
comp=Z,35nm,1.0s
AKBB Malin Array Si 16.02 15 P Pn 20 35 53.3 -2.3
AKBB pmax pmax
comp=Z,35nm,1.0s
RNPP5 Staryi Chortor 16.02 7 P Pn 20 35 55.8 +0.2
RNPP8 Varash 16.13 7 P Pn 20 35 57.9 +1.0
KSP Ksiaz 16.20 345 *e*P **P 20 36 01.8 +0.8**
SLE Schleitheim 16.38 324 P P 20 36 02.5 -0.5
SLE pmax pmax
comp=Z,18nm,1.2s
LABN Labinsk 16.51 50 *e*P **Pn 20 36 02.8 +1.0**
LABN *e*S **Sn 20 39 07.6 +3.1**
LABN pmax pmax
comp=Z,23nm,0.7s
BEL Belsk 16.55 355 *e*P **P 20 36 08.6 +3.8**
GRA1 Grafenberg Arr 16.68 333 Pn 20 36 04.0 0.0
GRA1 IAmb IAmb 20 36 10.7
comp=Z,56nm,1.3s
GRF Grafenberg Arr 16.68 333 P Pn 20 36 04.0 0.0
GRF pmax pmax
comp=Z,56nm,1.3s
GRFO Grafenberg 16.68 333 Pn 20 36 03.0 -0.9
GRFO IAmb IAmb 20 36 10.7
comp=Z,51nm,1.3s
GRFO Grafenberg 16.68 333 P Pn 20 36 03.0 -0.9
GRFO pmax pmax
comp=Z,51nm,1.3s
KARS Kars 16.78 66 Pn 20 36 04.0 -1.4
KARS Kars 16.78 66 P Pn 20 36 04.0 -1.4
KARS pmax pmax
comp=Z,130nm,1.2s
BRG Berggiesshubel 16.81 340 *e*P **Pn 20 36 06.6 +1.0**
BRG Amp 20 36 14.1
comp=Z,13nm,0.9s
BRG Amp 20 43 53.0
comp=N,0.2nm,10.6s
BRG Amp 20 43 56.0
comp=Z,0.3nm,12.0s
BRG Amp 20 44 19.0
comp=E,0.1nm,11.2s
BRG Berggiesshubel 16.81 340 *e*P **Pn 20 36 06.5 +1.0**
BRG pmax pmax
comp=Z,13nm,0.9s
BRG MLR MLR
comp=N,153nm,10.6s
BRG MLR MLR
comp=Z,275nm,12.0s
BRG MLR MLR
comp=E,68nm,11.2s
BFO Black Forest 16.86 325 Pn 20 36 04.1 -2.2
BFO Black Forest 16.86 325 P Pn 20 36 04.1 -2.2
BFO pmax pmax
comp=Z,5.0nm,0.8s
ERBR Yeremizino-Bor 16.89 47 *e*P **P 20 36 08.8 +0.2**
ERBR pmax pmax
comp=Z,23nm,0.6s
SSB Saint Sauveur 17.10 311 Pn **Pn 20 36 08.2 -1.1**
SSB Saint Sauveur 17.10 311 P Pn 20 36 08.2 -1.1
SSB pmax pmax
comp=Z,11nm,1.5s
MOX Moxa 17.33 335 P P 20 36 15.6 +2.2
MOX pmax pmax
comp=Z,8.0nm,1.3s
ECH Echery 17.35 323 P P 20 36 14.2 +0.5
ECH pmax pmax
comp=Z,8.0nm,1.3s
SHA1 Shidzhatmaz 17.39 55*c i*P **P 20 36 15.2 +0.9**
CLL Collm 17.46 339 *e*Px Px 20 36 17.0
comp=Z,31nm,1.5s
CLL *e*Pmax 20 36 19.0
CLL *e*pP sP 20 36 24.0 +1.9
CLL *e*sPP 20 36 40.0
CLL *e*x x 20 37 41.0
CLL *e*S **S 20 39 32.0 -3.4**
CLL AMS AMS 20 43 00.0
CLL AMS AMS 20 44 00.0
comp=Z,100nm,18.8s
CLL Collm 17.46 339 *e*P **P 20 36 17.0 +2.1**
CLL pmax pmax
comp=Z,31nm,1.5s
KIV Kislovodsk 17.49 55 ⇑P **P 20 36 16.2 +0.9**
KIV Kislovodsk 17.49 55 P Pn 20 36 14.5 +0.2
KIV IAmb IAmb 20 36 17.7
comp=Z,26nm,0.7s
KIV Kislovodsk 17.49 55 *i* P **P 20 36 16.0 +0.6**
SNR=18
KIV Kislovodsk 17.49 55 *e*P **P 20 36 16.2 +0.9**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,47nm,14.0s
KIV Kislovodsk 17.49 55 P P 20 36 15.9 +0.6
comp=Z,29nm,0.7s,comp=Z,287nm
KVAR Kislovodsk Arr 17.49 55 P P 20 36 15.8 +0.4
comp=Z,6.4nm,0.7s,baz=270,slow=20,SNR=8.9
KVAR LR LR 20 45 38.8
comp=Z,51nm,18.8s,baz=38,slow=46
KBZ Khabaz 17.54 55 P P 20 36 16.5 +0.7
comp=Z,23nm,0.8s,baz=239,slow=7.3,SNR=56
KBZ LR LR 20 44 48.2
comp=Z,89nm,18.8s,baz=260,slow=43
KBZ Khabaz 17.54 55*d i*P **P 20 36 17.2 +1.4**
KBZ pmax pmax
comp=Z,25nm,0.9s
NCK Nalchik 17.93 57 ⇓*e*P **P 20 36 21.2 +1.0**
NCK pmax pmax
comp=Z,25nm,0.8s
GNI Garni 17.94 68 P Pn 20 36 19.9 -0.1
GNI Garni 17.94 68 P P 20 36 21.0 +0.6
comp=Z,8.1nm,0.7s,baz=14,slow=2.3,SNR=5.4
GNI LR LR 20 44 19.5
comp=Z,124nm,19.1s,baz=274,slow=40
TNS Taunus Mts 18.20 329 P P 20 36 26.0 +3.0
TNS pmax pmax
comp=Z,15nm,1.1s
CEST Esterri de Car 18.27 300 P P 20 36 23.1 -0.9
CEST IAmb IAmb 20 36 38.3
comp=Z,15nm,1.3s
NAX Nakhchivan 18.41 71 P Pn 20 36 26.7 +1.1
SUW Suwalki 18.66 1 *e*P **P 20 36 27.8 -0.3**
SUW Suwalki 18.66 1 P P 20 36 26.5 -1.5
SUW Suwalki 18.66 1 *e*P **P 20 36 28.1 0.0**
SUW Suwalki 18.66 1 P P 20 36 26.5 -1.5
SUW pmax pmax
comp=Z,48nm,0.6s
WLF Walferdange 18.82 325 P Pn 20 36 31.2 +0.8
WLF Walferdange 18.82 325 *d*P **Pn 20 36 33.7 +3.4**
WLF Walferdange 18.82 325 P Pn 20 36 31.2 +0.8
WLF pmax pmax
comp=Z,12nm,0.9s
CART Cartagena 19.31 284 P P 20 36 33.7 -1.6
CART IAmb IAmb 20 36 55.1
comp=Z,37nm,1.1s
GROC Groznyy 19.37 59 *e*P **P 20 36 36.5 +0.6**
GROC *e*S **Sn 20 40 15.5 +1.8**
GROC pmax pmax
comp=Z,1.0nm,0.4s
MNK Minsk 19.47 9 *i* P **Pn 20 36 39.4 +1.3**
comp=E,8.0nm,0.8s
MNK *i* P **Pn 20 36 39.4 +1.3**
comp=N,31nm,0.9s
MNK *i* P **Pn 20 36 39.4 +1.3**
comp=Z,32nm,0.8s,baz=193
MNK *i* PP **PnPn 20 36 53.4 +1.9**
MNK *i* S **Sn 20 40 20.1 +4.1**
MNK *i* SS **SnSn 20 40 33.0 +2.8**
MNK *i* LR LR 20 43 04.5
MNK *i* LRM MLR 20 44 51.9

comp=E,53nm,13.6s
MNK *i* LRM MLR 20 45 14.2
comp=Z,135nm,11.9s
MNK *i* LRM MLR 20 45 22.5
comp=N,100nm,10.8s
MNK Minsk 19.47 9 *i* P **Pn 20 36 39.4 +1.3**
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK pmax pmax
comp=Z,32nm,0.8s
MNK pmax pmax
comp=N,31nm,0.9s
MNK MLR MLR
comp=E,53nm,14.0s
MNK MLR MLR
comp=Z,135nm,12.0s
MNK MLR MLR
comp=N,100nm,11.0s
BTNL Ternell 19.47 327 *d*P **Pn 20 36 42.5 +4.3**
MEM Membach 19.54 326 *d*P **Pn 20 36 40.7 +1.6**
MEM Membach 19.54 326 P **Pn 20 36 40.0 +0.9**
MEM pmax pmax
comp=Z,9.0nm,0.9s
RCHB Rochefort 19.59 324 *d*P **Pn 20 36 41.8 +2.1**
VORD Divnogorie 19.61 32 *e*P **P 20 36 37.5 -0.9**
VORD pmax pmax
comp=Z,20nm,0.9s
TAM Tamanrasset 19.61 235 P **Pn 20 36 40.8 +0.5**
TAM Tamanrasset 19.61 235 P **Pn 20 36 40.8 +0.5**
TAM pmax pmax
comp=Z,9.0nm,1.5s
BSTI Sart Tilman 19.73 326 *d*P **Pn 20 36 42.9 +1.6**
BCLA Clavier 19.73 325 *d*P **Pn 20 36 44.0 +2.7**
VSR Storozhevoye 19.74 32 *e*P **P 20 36 37.2 -2.6**
VSR pmax pmax
comp=Z,10.0nm,0.4s
NACGM Naroch 19.74 7⇑ *i*P **P 20 36 39.4 -0.5**
comp=Z,61nm,0.9s,baz=190
MNGR Mingechevir, A 19.80 67 P **Pn 20 36 42.1 -0.1**
BGES Gesves 19.81 325 *d*P **Pn 20 36 45.8 +3.5**
DOU Dourbes 19.86 324 *d*P **Pn 20 36 42.4 -0.4**
SMRD Maredsous 19.91 324 *d*P **P 20 36 41.8 0.0**
SEKA Sheki 19.95 66 P **Pn 20 36 44.5 +0.4**
VORR Voronezh 20.09 31 *e*P **P 20 36 38.1 -5.6**
VORR pmax pmax
comp=Z,20nm,1.5s
IIGN Ignalina 20.14 6 *e*P Pn 20 36 45.6 -0.5
PABE Paberze 20.17 2 P **P 20 36 43.6 -0.9**
PABE Paberze 20.17 2 *e*P **P 20 36 44.4 -0.2**
ISAL Salakas 20.35 5 *e*P **P 20 36 47.2 +0.7**
BSD Bornholm Skovb 20.52 347 *e*P **P 20 36 47.2 -1.1**
BSD Bornholm Skovb 20.52 347 *i* P **P 20 36 46.0 -2.3**
BSD *i* P **P 20 36 46.0 -2.3**
MAK Makhachkala 20.52 61 *e*P **P 20 36 49.7 +1.3**
MAK *e*S **S 20 40 37.4 +0.4**
MAK pmax pmax
comp=Z,43nm,0.4s
MAK MLR MLR
comp=Z,86nm,19.0s
BSEG Bad Segeberg 20.56 339 P **P 20 36 49.4 +0.7**
BSEG pmax pmax
comp=Z,49nm,1.3s
MFF Saint Martin d 20.61 310 P Pn 20 36 52.8 +1.0
VSVD Vaisvydziai 20.65 2 *e*P **P 20 36 49.6 -0.1**
LPSR Galich'ya Gora 20.68 29 *e*P **P 20 36 47.8 -2.3**
LPSR pmax pmax
comp=Z,60nm,0.6s
PBUR Paburge 20.69 359 *e*P **P 20 36 49.8 -0.3**
VRH Novokhopyorsk 20.87 35 *e*P **P 20 36 49.9 -2.2**
VRH pmax pmax
comp=Z,30nm,0.7s
LKRN Lenkeran, Azer 20.94 73 P **P 20 36 54.3 +1.3**
LUNU Lund 21.29 345 *i* P **P 20 36 56.0 -0.7**
ESDC Sonseca Array 21.68 289 P **P 20 37 01.9 +0.8**
comp=Z,2.1nm,0.8s,baz=89,slow=11,SNR=15
comp=Z,2.1nm,0.8s
OBN Obninsk 21.92 21 P **P 20 37 01.2 -2.2**
OBN Obninsk 21.92 21 P **P 20 37 02.9 -0.4**
comp=Z,31nm,0.4s,baz=209,slow=17,SNR=12
comp=Z,31nm,0.4s
OBN Obninsk 21.92 21 *i* P **P 20 37 01.4 -2.0**
OBN *i* 20 37 32.2
OBN *i* 20 40 59.2
OBN pmax pmax
comp=Z,44nm,1.1s
OBN MLR MLR
comp=Z,68nm,16.0s
OBN Obninsk 21.92 21 P **P 20 37 03.3 -0.1**
comp=Z,63nm,0.6s,comp=Z,630nm
PAB San Pablo 21.97 289 P **P 20 37 05.6 +1.4**
PAB San Pablo 21.97 289 P **P 20 37 05.6 +1.4**
PAB pmax pmax
comp=Z,11nm,1.3s
DEL Delary 22.00 347 *e*P **P 20 37 06.4 +2.2**
DEL Delary 22.00 347 *i* P **P 20 37 03.0 -1.2**
FABU Falkenberg 22.72 346 *e*P **P 20 37 07.7 -4.2**
MOS Moscow 22.77 22 *e*P **P 20 37 11.8 -0.7**
MOS *e* 20 37 25.4
MOS *e* 20 37 35.6
MOS *e*S **S 20 41 19.1 -1.0**
MOS *e*SS **SnSn 20 41 49.1 -1.9**
MOS pmax pmax
comp=Z,82nm,0.7s
RAYN Ar Rayn 22.91 115 P **P 20 37 15.2 +0.9**
RAYN Ar Rayn 22.91 115 P **P 20 37 16.1 +1.8**
RAYN Ar Rayn 22.91 115 P **P 20 37 15.2 +0.9**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
VSU Vasula 23.27 5*de*P **P 20 37 15.7 -1.8**
VSU pmax pmax
comp=Z,29nm,1.3s
VIKU Vikbolandet 23.52 352 *e*P **P 20 37 19.9 -0.2**
PBAR Barrancos 24.07 286 *e*P **P 20 37 28.3 +2.7**
comp=Z,12nm,1.5s
ARBE Arbavere 24.19 4 *e*P **P 20 37 26.2 -0.1**
PMRV Marv??o 24.32 289 *e*P **P 20 37 29.2 +1.3**
comp=Z,10nm,1.1s
PESTR Estremoz 24.48 287 P **P 20 37 30.0 +0.6**
PESTR Estremoz 24.48 287 *e*P **P 20 37 35.2 +5.9**
comp=Z,9.8nm,2.6s
BELG Belogornoye 24.49 38 P **P 20 37 28.8 -0.4**
comp=Z,53nm,0.7s,baz=356,slow=2.0,SNR=19
comp=Z,53nm,0.7s
PVIS Viseu 24.74 292 *e*P **P 20 37 32.5 +0.8**
UPP Uppsala 24.76 354 *e*P **P 20 37 30.9 -0.7**
EVO Evora 24.82 287 *e*P **P 20 37 38.4 +6.0**
comp=Z,15nm,1.7s
PBDV Barranco-do-Ve 24.84 283 *e*P **P 20 37 38.9 +6.3**
comp=Z,20nm,1.3s
MEF Metsahovi 24.90 2 *e*P **P 20 37 32.4 -0.4**
AAL Aland 24.91 357 *e*P **P 20 37 33.0 0.0**
PUL Pulkovo 24.92 9*de*P **P 20 37 33.7 +0.7**
PUL pmax pmax
comp=Z,60nm,0.7s
SNART Snartemo 25.24 341 *e*P **P 20 37 38.3 +2.4**
HFS Hagfors 25.50 349 P **P 20 37 38.7 -0.5**
comp=Z,8.0nm,0.5s,baz=155,slow=11,SNR=50
HFS LR LR 20 50 36.6
comp=Z,26nm,19.6s,baz=125,slow=43
comp=Z,8.0nm,0.5s
RAF Rauma 25.70 359 *e*P **P 20 37 40.6 +0.6**
KONO Kongsberg 25.81 344 *e*P **P 20 37 40.7 -0.4**
OSL Oslo 25.84 346 *e*P **P 20 37 41.5 +0.1**
FINES FINESS Array B 26.20 3 P **P 20 37 43.7 -0.9**
comp=Z,2.4nm,0.5s,baz=158,slow=12,SNR=35
FINES LR LR 20 48 46.6
comp=Z,126nm,19.9s,baz=176,slow=38
comp=Z,2.4nm,0.5s
BLS5 Blasjo 26.38 341 *e*P **P 20 37 48.4 +2.2**
NC602 NORSAR Array S 26.43 347 IAmb IAmb 20 37 58.7
comp=Z,34nm,1.4s
NC602 NORSAR Array S 26.43 347 *e*P **P 20 37 46.6 -0.1**
NORES NORESS Array B 26.43 347 P **P 20 37 46.2 -0.5**
VALR Valaam 26.53 9*de*P **P 20 37 46.5 -1.0**
VALR pmax pmax
comp=Z,13nm,0.6s
NAO01 NORSAR Array S 26.65 347 IAmb IAmb 20 37 50.5
comp=Z,13nm,0.5s
NC405 NORSAR Array S 26.75 348 P **P 20 37 48.4 -1.2**
NC405 IAmb IAmb 20 38 00.8
comp=Z,7.6nm,0.8s
NB201 NORSAR Array S 26.77 347 P **P 20 37 48.8 -0.9**
NB201 IAmb IAmb 20 37 53.1
comp=Z,13nm,0.8s
NB2 NORSAR Subarra 26.77 347 P **P 20 37 49.2 -0.6**
comp=Z,8.6nm,1.0s,baz=158,slow=10
NB2 NORSAR Subarra 26.77 347 P **P 20 37 49.2 -0.6**
baz=158,slow=10
NB2 NORSAR Subarra 26.77 347 P **P 20 37 46.7 -3.1**
NOA NORSAR Array B 26.77 347 P **P 20 37 49.0 -0.8**
comp=Z,1.8nm,0.7s,baz=151,slow=9.1,SNR=20
comp=Z,1.8nm,0.7s
EKA Eskdalemuir Ar 26.82 326 P **P 20 37 50.4 +0.1**
comp=Z,2.8nm,0.5s,baz=126,slow=8.5,SNR=25
comp=Z,2.8nm,0.5s
NBO00 NORSAR Array S 26.84 347 P **P 20 37 50.3 -0.1**
NBO00 IAmb IAmb 20 37 53.9
comp=Z,16nm,1.1s
KEF Keuruu 26.87 2 *e*P **P 20 37 51.6 +1.0**
NC204 NORSAR Array S 27.07 347 P **P 20 37 51.3 -1.2**
NC204 IAmb IAmb 20 38 14.8
comp=Z,7.7nm,0.8s
VAF Ylistaro 27.72 360 *e*P **P 20 37 58.9 +0.7**
KIRV Kirov 29.11 29 LR LR 20 51 13.7
comp=Z,53nm,18.2s,baz=192,slow=39
KIRV Kirov 29.11 29*de*P **P 20 38 09.3 -1.4**
TOA0 Torodi Ar. Sit 29.22 226 P **P 20 38 12.9 +0.9**
TORD Torodi Ar. Bea 29.22 226 P **P 20 38 12.8 +0.7**
comp=Z,2.8nm,0.5s,baz=34,slow=9.9,SNR=26
TORD PcP **PcP 20 41 18.8 -0.3**
comp=Z,0.4nm,0.8s,baz=357,slow=2.9,SNR=2.4
comp=Z,2.8nm,0.5s
MZR Muzera 29.30 107 P **P 20 38 13.5 +0.7**
AKTO Aktyubinsk 29.52 48 LR LR 20 53 55.1
comp=Z,50nm,20.1s,baz=48,slow=44
NSS Namsos 29.95 351 *e*P **P 20 38 18.7 +0.6**
ASUD Al Ashush, Dub 29.96 102 P **P 20 38 20.1 +1.6**
FURI Furi 30.04 147 LR LR 20 51 12.6
comp=Z,110nm,18.8s,baz=242,slow=38
NAZ Nazwa, Dubai 30.06 101 P **P 20 38 20.8 +1.4**
FAQ Al Faqa, Dubai 30.11 102 P **P 20 38 20.8 +0.9**
MSFE Esma-Masafi 30.29 100 P **P 20 38 22.2 +0.8**
HATD Hatta, Dubai 30.51 101 P **P 20 38 24.4 +1.0**
UOSS Minazif 30.51 101 P **P 20 38 22.3 -1.1**
UOSS IAmb IAmb 20 38 24.7
comp=Z,16nm,1.1s
UOSS Minazif 30.51 101 P **P 20 38 24.0 +0.5**
ASHO Ashiyiah 30.52 101 P **P 20 38 24.2 +0.6**
ALNE Al Ain 30.57 103 *i* P **P 20 38 25.1 +1.1**
SNR=7.4
SOHO SOHO 31.16 102 *i* P **P 20 38 30.1 +0.9**
SNR=7.0
MOR8 Moi Rana 31.26 353 *e*P **P 20 38 30.5 +0.8**
STOK Stokkvaagen 31.56 352 *e*P **P 20 38 32.5 +0.3**
KONS Konsvik 31.71 353 *e*P **P 20 38 33.9 +0.4**
ARU Arti 32.04 38 P **P 20 38 33.4 -3.1**
ARU IAmb IAmb 20 38 36.8
comp=Z,9.7nm,0.8s
ARU Arti 32.04 38 LR LR 20 51 56.5
comp=Z,44nm,19.3s,baz=201,slow=37
ARU Arti 32.04 38*d i*P **P 20 38 34.8 -1.7**
ARU 20 39 38.7
ARU 20 41 21.6
ARU S **S 20 43 50.4 +3.3**
ARU pmax pmax
comp=Z,12nm,0.8s
FAUS Fauske 32.38 355 *e*P **P 20 38 39.5 +0.1**
STEI Steigen 32.92 355 *e*P **P 20 38 44.5 +0.4**
SVE Sverdlovsk 33.24 38 *e*P **P 20 38 46.3 -0.8**
SVE pmax pmax
comp=Z,25nm,0.7s
WSAR Wadi Sarin 33.27 101 LR LR 20 55 17.7
comp=Z,63nm,21.8s,baz=66,slow=42
KTK1 Kautokeino 33.72 0 *e*P **P 20 38 50.9 -0.2**
ARCES ARCESS Array B 34.27 2 P **P 20 38 54.9 -1.1**
ARCES IAmb IAmb 20 38 59.9
comp=Z,8.0nm,1.1s
ARCES ARCESS Array B 34.27 2 P **P 20 38 54.8 -1.1**
comp=Z,4.5nm,0.7s,baz=185,slow=7.7,SNR=21
comp=Z,4.5nm,0.7s
ARCES ARCESS Array B 34.27 2 P **P 20 38 54.9 -1.1**
ARCES pmax pmax
comp=Z,8.0nm,1.1s
TRO Tromso 34.41 358 *e*P **P 20 38 58.0 +1.0**
VADS Vadso 35.01 4 *e*P **P 20 39 02.3 +0.1**
SIMJ Simiganj 36.70 71 P **P 20 39 14.5 -2.8**
KK31 Karatay Array 37.30 63 IAmb IAmb 20 39 23.3
comp=Z,10nm,1.3s
KKAR Karatay Array 37.30 63 P **P 20 39 21.2 -1.0**
KKAR Karatay Array 37.30 63 IAmb IAmb 20 39 23.3
comp=Z,10nm,1.3s
KKAR Karatay Array 37.30 63 P **P 20 39 21.2 -1.0**
BRVK Borovoye 37.53 47 P **P 20 39 23.5 -0.5**
BRVK IAmb IAmb 20 39 25.6
comp=Z,6.0nm,0.7s
BRVK Borovoye 37.53 47*d i*P **P 20 39 24.0 0.0**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BVAR Borovoye Array 37.59 47 LR LR 20 56 30.1
comp=Z,26nm,18.9s,baz=248,slow=39
KBL Kabul 37.60 77 P **P 20 39 24.7 -0.4**
KBL IAmb IAmb 20 39 28.8
comp=Z,5.1nm,0.8s
KBL Kabul 37.60 77 P **P 20 39 24.7 -0.4**
KBL pmax pmax
comp=Z,5.0nm,0.8s
DBIC Dimbokro 38.25 228 P **P 20 39 31.1 +0.7**
comp=Z,3.3nm,0.7s,baz=21,slow=9.2,SNR=4.8
comp=Z,3.3nm,0.7s
TIC Toumodi 38.37 228⇑ *e*PKP2 **P 20 39 32.0 +0.5**
comp=Z,8.4nm,0.6s
KIC Kosan Boka 38.43 228⇑ *e*PKP2 **P 20 39 32.5 +0.5**
comp=Z,9.7nm,0.9s
LIC Lamto 38.71 228⇓ *e*PKP2 **P 20 39 33.5 -0.8**
comp=Z,14nm,0.7s
ARSB Arslanbob 39.32 66 P **P 20 39 39.2 -0.2**
ARSB Arslanbob 39.32 66 P **P 20 39 39.2 -0.2**
ARSB pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 40.26 64 P **P 20 39 46.0 -1.2**
AAK IAmb IAmb 20 39 49.6
comp=Z,6.0nm,1.0s
AAK Ala-Archa 40.26 64*ce*P **P 20 39 47.8 +0.6**
AAK pmax pmax
comp=Z,6.0nm,1.0s
NIL Nilore 41.20 77 P **P 20 39 55.5 +0.6**
NIL Nilore 41.20 77 P **P 20 39 55.5 +0.6**
NIL pmax pmax
comp=Z,33nm,0.8s
BOOM Boomskoye usch 41.34 64 P **P 20 39 55.1 -1.0**
BOOM IAmb IAmb 20 39 59.1
comp=Z,4.4nm,0.6s
BOOM Boomskoye usch 41.34 64 P **P 20 39 55.1 -1.0**
BOOM pmax pmax
comp=Z,4.0nm,0.6s
KSH Kashi 41.88 68 P **P 20 39 59.7 -0.8**
KSH pP pP 20 40 04.8 -1.0
KSH pmax pmax
comp=Z,9.0nm,0.9s
KURBB Kurchatov Arra 42.47 51 P **P 20 40 04.5 -0.6**
comp=Z,7.8nm,0.4s,baz=278,slow=8.5,SNR=39
KURBB LR LR 21 01 58.6
comp=Z,50nm,18.5s,baz=174,slow=42
comp=Z,7.8nm,0.4s
KURK Kurchatov 42.52 51 P **P 20 40 04.5 -0.9**
KURK IAmb IAmb 20 40 07.0
comp=Z,7.3nm,0.7s
KURK Kurchatov 42.52 51*ce*P **P 20 40 04.6 -0.9**
KURK pmax pmax
comp=Z,7.0nm,0.7s
SPITS Spitsbergen Ar 43.02 358 P **P 20 40 08.5 -0.7**
comp=Z,36nm,1.2s,baz=157,slow=8.6,SNR=9.2
comp=Z,36nm,1.2s
MAKZ Makanchi 45.02 56 P **P 20 40 24.8 -0.9**
MAKZ IAmb IAmb 20 40 27.4
comp=Z,3.2nm,0.5s
MAKZ Makanchi 45.02 56 P **P 20 40 24.8 -0.9**
MAKZ pmax pmax
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 45.24 56 IAmb IAmb 20 40 29.4
comp=Z,6.2nm,0.6s
MK31 Makanchi Array 45.24 56*c i*P **P 20 40 26.8 -0.6**
MKAR Makanchi Array 45.24 56 P **P 20 40 26.4 -1.0**
MKAR Makanchi Array 45.24 56 P **P 20 40 27.0 -0.4**
comp=Z,6.3nm,0.5s,baz=267,slow=8.0,SNR=95
comp=Z,6.3nm,0.5s
DAG Danmarks Havn 45.46 348 *i* P **P 20 40 28.0 -0.7**
ZAA0 Zalesovo Array 46.23 46 P **P 20 40 33.1 -2.0**
ZAA0 IAmb IAmb 20 40 34.8
comp=Z,8.9nm,1.0s
ZALV Zalesovo Beam 46.23 46 P **P 20 40 33.5 -1.6**
ZALV Zalesovo Beam 46.23 46 P **P 20 40 34.0 -1.0**
comp=Z,5.5nm,0.4s,baz=273,slow=8.6,SNR=34
comp=Z,5.5nm,0.4s
NRIK Noril'sk 48.51 25 P **P 20 40 51.3 -1.3**
comp=Z,4.4nm,0.8s,baz=253,slow=2.4,SNR=4.0
comp=Z,4.4nm,0.8s
NRIK Noril'sk 48.51 25⇑ *e*P **P 20 40 52.8 +0.2**
NRIK pmax pmax
comp=Z,4.0nm,0.8s
TSUM Tsumeb 54.48 186 LR LR 21 05 33.2
comp=Z,107nm,18.8s,baz=341,slow=37
LSA Lhasa 56.84 75 P **P 20 41 56.3 +1.0**
ZAK Zakamensk 58.02 48 *e*P **P 20 42 01.0 -2.0**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
GTA Gaotai 59.52 61 *e*P **P 20 42 13.5 -0.1**
GTA pP pP 20 42 18.2 -0.9
GTA pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 60.81 50 P **P 20 42 20.9 -1.4**
SONM IAmb IAmb 20 42 23.3
comp=Z,4.0nm,1.0s
SONM Songino Array 60.81 50 P **P 20 42 21.7 -0.6**
comp=Z,2.8nm,0.8s,baz=284,slow=9.5,SNR=19
comp=Z,2.8nm,0.8s
BOSA Boshof 63.66 178 P **P 20 42 41.7 +0.3**
comp=Z,2.1nm,0.8s,baz=2.6,slow=9.0,SNR=3.9
BOSA LR LR 21 11 53.8
comp=Z,47nm,21.8s,baz=346,slow=37
comp=Z,2.1nm,0.8s
LZH Lanzhou 63.80 63 *e*P **P 20 42 43.3 +0.8**
LZH pmax pmax
comp=Z,19nm,1.5s
YAK Yakutsk 66.65 29*c i*P **P 20 42 59.3 -1.0**
YAK pmax pmax
comp=Z,15nm,0.7s
SUR Sutherland 67.40 182 LR LR 21 16 11.0
comp=Z,136nm,19.5s,baz=345,slow=39
KMI Kunming 68.07 74 ⇑P **P 20 43 10.5 +0.2**
KMI pmax pmax
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 68.41 82 P **P 20 43 12.3 +0.1**
comp=Z,1.8nm,0.8s,baz=298,slow=7.5,SNR=17
comp=Z,1.8nm,0.8s
ZEA Zeya 69.96 38 *e*P **P 20 43 21.8 +0.5**
HEH HeiHe 71.95 41 *e*P **P 20 43 33.5 +0.1**
HEH pmax pmax
comp=Z,18nm,0.9s
HEH pmax pmax
comp=Z,120nm,3.8s
BNX BinXian 74.49 45 ⇓P **P 20 43 48.5 0.0**
BNX pmax pmax
comp=Z,16nm,0.9s
KLR Kul'dur 74.84 40*c i*P **P 20 43 50.4 -0.1**
KLR pmax pmax
comp=Z,8.0nm,0.7s
E29M Blow River 75.58 353 P **P 20 43 55.4 +1.0**
E29M IAmb IAmb 20 43 56.5
comp=Z,9.0nm,0.9s
YKA Yellowknife Ar 76.68 341 P **P 20 44 00.9 +0.2**
comp=Z,1.8nm,0.7s,baz=35,slow=5.0,SNR=9.5
comp=Z,1.8nm,0.7s
H29M Whitestone 77.72 352 IAmb IAmb 20 44 11.3
comp=Z,6.0nm,0.8s
USRK Ussuriysk Ar. 78.02 44 P **P 20 44 08.2 -0.4**
comp=Z,8.9nm,0.8s,baz=282,slow=5.9,SNR=21
comp=Z,8.9nm,0.8s
I28M Miner Creek 78.64 353 P **P 20 44 12.7 +1.0**
I28M IAmb IAmb 20 44 18.8
comp=Z,2.8nm,0.7s
ULM Lac du Bonnet 79.09 325 P **P 20 44 14.0 -0.4**
comp=Z,2.5nm,0.6s,baz=38,slow=7.1,SNR=5.1
comp=Z,2.5nm,0.6s
KSRS Korea Array 79.65 51 P **P 20 44 17.4 -0.2**
comp=Z,2.7nm,0.7s,baz=312,slow=4.6,SNR=17
comp=Z,2.7nm,0.7s
MDM Murphy Dome 79.78 356 IAmb IAmb 20 44 20.0
comp=Z,4.2nm,0.9s
ILAR Eielson Array 79.89 356 P **P 20 44 18.3 -0.1**
comp=Z,1.1nm,0.9s,baz=343,slow=3.9,SNR=14
comp=Z,1.1nm,0.9s
J26L Joseph Creek 79.91 354 IAmb IAmb 20 44 23.2
comp=Z,4.6nm,0.7s
MCK McKinley 81.04 356 P **P 20 44 24.3 -0.4**
BCAR Beaver Creek A 81.15 353 P **P 20 44 26.8 +1.5**
L27K Beaver Creek, 81.16 353 IAmb IAmb 20 44 28.1
comp=Z,4.3nm,0.8s
DHY Denali Highway 81.60 356 IAmb IAmb 20 44 32.1
comp=Z,6.4nm,0.7s
YSS Yuzh-Sakhalins 81.92 37 *e*P **P 20 44 29.9 +0.3**
YSS pmax pmax
comp=Z,10.0nm,0.7s
MJAR Matsushiro Arr 86.58 47 P **P 20 44 53.7 +0.1**
comp=Z,1.7nm,0.7s,baz=317,slow=5.3,SNR=11
comp=Z,1.7nm,0.7s
PDAR Pinedale Array 90.94 327 P **P 20 45 13.2 -1.1**
comp=Z,0.3nm,0.3s,baz=74,slow=6.7,SNR=2.8
comp=Z,0.3nm,0.3s
JCJ Chichijima 95.51 51 LR LR 21 34 04.9
comp=Z,155nm,18.2s,baz=94,slow=39
DAV Davao City (W) 96.21 77 LR LR 21 32 58.8
comp=Z,117nm,21.3s,baz=110,slow=38
QSPA South Pole Qui 125.20 180 PKP **PKPdf 20 51 09.1 -0.6**
comp=Z,0.8nm,0.5s,baz=276,slow=1.0,SNR=9.0

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*IDC **08** 20:41:44.5±0.6, 1°.93S×129°.12E, h0km, mb4.2/14, mbtmp4.2/15, ML5.0/2, MS3.3/6, Error ellipse: s-maj=29.4km s-min=12.7km az=79.0*
*NEIC **08** 20:41:48.4±1.2, 2°.03S±0°.08×128°.90E±0°.08, h23km±6km, mb4.7/24, Error ellipse: s-maj=13.2km s-min=8.5km az=46.0*
*DJA **08** 20:41:50.5±0.2, 2°.S±2°.×12°.9E±°, h41km±12km, M4.7/16, mB5.1/8, mb4.9/16, MLv4.9/15, Mw(mB)4.4/8*
ISC 08 20:41:48.2±0.4, **2°.04S**±0°.04×**128°.91E**±0°.04, **h24**km, **n106,**
σ1§**59**/109, **mb4.4**/25, **MS3.2**/4, **1D, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.98**	**315**	P	**Pn**	**20 42 20.8**	**+0.6**
LBMI				S	**Sn**	**20 42 44.2**	**0.0**
NLAI	**Namlea**	**2.16**	**236**	P	**Pn**	**20 42 24.5**	**+1.7**
NLAI				S	**Sn**	**20 42 49.2**	**+0.4**
SWI	**Sorong**	**2.63**	**64**	P	**Pn**	**20 42 29.9**	**+0.7**
SWI				S	**Sn**	**20 43 00.1**	**-0.2**
BNDI	**Bandanaira**	**2.66**	**158**	P	**Pb**	**20 42 33.1**	**-2.1**
SANI	**Sanana**	**2.92**	**270**	P	**Pn**	**20 42 31.8**	**-1.3**
SANI	**Sanana**	**2.92**	**270**	P	**Pn**	**20 42 31.6**	**-1.5**
TNTI	**Ternate**	**3.19**	**331**	P	**Pn**	**20 42 38.1**	**+1.3**
TNTI	**Ternate**	**3.19**	**331**	Pn	**Pn**	**20 42 36.0**	**-0.9**
TNTI	**Ternate**	**3.19**	**331**	P	**Pn**	**20 42 36.6**	**-0.2**
FAKI	**Fak Fak**	**3.45**	**105**	P	**Pn**	**20 42 42.2**	**+1.6**
FAKI	**Fak Fak**	**3.45**	**105**	Pn	**Pn**	**20 42 40.6**	**+0.1**
FAKI	**Fak Fak**	**3.45**	**105**	P	**Pn**	**20 42 41.8**	**+1.2**
FAKI				S	**Sn**	**20 43 21.8**	**+1.0**
KMPI	**Kaimana, Papua**	**5.06**	**109**	P	**Pn**	**20 43 03.4**	**+0.8**
	354nm,0.7s,5μm4.4nm						
KMPI				S	**Sn**	**20 43 59.3**	**-1.0**
	354nm,0.7s,5μm4.4nm						
KMSI	**Cibinong**	**5.56**	**298**	P	**Pn**	**20 43 09.8**	**+0.2**
	201nm,0.9s,3μm						
LUWI	**Luwuk**	**6.21**	**279**	P	**Pn**	**20 43 19.3**	**+0.8**
LUWI	**Luwuk**	**6.21**	**279**	Pn	**Pn**	**20 43 18.2**	**-0.3**
LUWI	**Luwuk**	**6.21**	**279**	P	**Pn**	**20 43 17.8**	**-0.7**
	134nm,0.6s,2μm1.3nm						
GTOI	**Gorontalo**	**6.46**	**294**	P	**Pn**	**20 43 25.0**	**+3.1**
BBSI	**Bau Bau**	**7.19**	**241**	P	**Pn**	**20 43 35.5**	**+3.6**
	58nm,1.0s,0.2nm						
MRSI	**Marisa**	**7.40**	**290**	P	**Pn**	**20 43 34.8**	**0.0**
	92nm,0.7s,1μm0.4nm						
TOLI2	**Tolitoli**	**8.70**	**291**	P	**Pn**	**20 43 53.4**	**+0.7**
TOLI2	**Tolitoli**	**8.70**	**291**	Pn	**Pn**	**20 43 52.8**	**+0.1**
MPSI	**Mapaga**	**9.31**	**285**	P	**Pn**	**20 44 01.0**	**0.0**
	49nm,0.8s,517nm						
KAPI	**Kappang**	**9.60**	**252**	Pn	**Pn**	**20 44 08.2**	**+3.2**
KAPI	**Kappang**	**9.60**	**252**	Pn	**Pn**	**20 44 08.9**	**+3.9**
	27nm,0.3s,baz=84,slow=6.5,SNR=126						
KAPI				LR	LR	20 48 32.3	
	comp=Z,154nm,18.3s,baz=80,slow=42						
EDFI	**Ende, Flores**	**9.80**	**227**	P	**Pn**	**20 44 12.2**	**+4.4**
	21nm,0.7s						
DRS	**Darwin Rock St**	**10.52**	**169**	P	**Pn**	**20 44 19.7**	**+2.2**
MTN	**Manton Dam**	**10.96**	**168**	P	**Pn**	**20 44 24.1**	**+0.4**
MTN	**Manton Dam**	**10.96**	**168**	Pn	**Pn**	**20 44 23.7**	**0.0**
KDU	**Kakadu**	**11.16**	**162**	P	**Pn**	**20 44 24.7**	**-1.6**

JAY	Jayapura	11.80	93	P	Pn	20 44 38.2	+3.0
PLAI	Plampang	12.97	238	P	Pn	20 44 52.8	+1.7
PLAI	Plampang	12.97	238	P	P	20 45 00.5	-1.0
KNRA	Kununurra	13.55	181	Pn	Pn	20 44 58.9	-0.3
TWSI	Taliwang, Sumb	13.69	240	P	P	20 45 06.6	-2.9
	32nm,0.9s						
JAGI	Jajag, Banyuwa	16.01	246	P	Pn	20 45 32.9	+0.8
FITZ	Fitzroy Crossi	16.28	191		Pn	20 45 35.4	-0.1
PWJI	Pagerwojo	18.04	250	P	P	20 45 58.3	+0.5
	62nm,0.7s						
COEN	Coen	18.42	131	P	Pn	20 46 04.4	+2.3
COEN	Coen	18.42	131	P	P	20 46 01.4	-0.5
COEN				IAmb	IAmb	20 46 18.5	
	comp=Z,43nm,1.0s						
WB0	Warramunga Arr	18.42	163		P	20 45 58.9	-3.1
WRA	Warramunga Arr	18.57	164	P	P	20 46 00.2	-3.5
WRA	Warramunga Arr	18.57	164	P	P	20 46 01.8	-1.9
	comp=Z,3.5nm,0.3s,baz=344,slow=11,SNR=46						
WRA				S	Sn	20 49 18.4	-13
	comp=Z,2.4nm,0.8s,baz=337,slow=20,SNR=2.6						
	comp=Z,22nm,0.6s						
WB2	Warramunga Arr	18.58	164		P	20 46 01.2	-2.5
WB2				IAmb	IAmb	20 46 05.9	
	comp=Z,31nm,0.8s						
WR0	Warramunga Arr	18.65	163	P	P	20 46 04.2	-0.2
PMG	Port Moresby	19.57	113	LR	LR	20 55 31.3	
	comp=Z,136nm,18.5s,baz=290,slow=43						
MBWA	Marble Bar	21.00	205	P	P	20 46 29.9	-0.3
MBWA	Marble Bar	21.00	205	P	P	20 46 29.1	-1.1
MBWA				IAmb	IAmb	20 46 43.6	
	comp=Z,21nm,1.1s						
QIS	Mount Isa	21.16	151	P	P	20 46 32.6	+0.7
PSA00	Pilbara Seismi	21.33	204	P	P	20 46 32.9	-0.7
PSA00	Pilbara Seismi	21.33	204		P	20 46 32.5	-1.1
PSA00				IAmb	IAmb	20 46 48.4	
	comp=Z,16nm,0.8s						
BBJI	Bungbulang	21.85	255	P	P	20 46 39.8	+0.4
AS31	Alice Springs	22.04	168	P	P	20 46 41.4	+0.1
AS31				IAmb	IAmb	20 46 43.0	
	comp=Z,23nm,0.6s						
ASAR	Alice Springs	22.04	168	P	P	20 46 41.3	0.0
ASAR	Alice Springs	22.04	168	P	P	20 46 41.0	-0.3
	comp=Z,60nm,0.7s,baz=347,slow=10,SNR=459						
ASAR				S	S	20 50 36.6	-6.8
	comp=Z,7.5nm,0.7s,baz=348,slow=23,SNR=11						
ASAR				LR	LR	20 55 43.6	
	comp=Z,169nm,18.4s,baz=360,slow=38						
	comp=Z,60nm,0.7s						
AS01	Alice Springs	22.05	168	P	P	20 46 41.5	+0.1
GUMO	Guam	22.17	45	LR	LR	20 56 13.0	
	comp=Z,40nm,18.7s,baz=221,slow=40						
WRKA	Warakurna	22.87	181	P	P	20 46 49.4	-0.8
CTA	Charters Tower	24.68	138	LR	LR	20 59 15.2	
	comp=Z,11nm,19.6s,baz=318,slow=43						
GIRL	Giralia	24.95	214	P	P	20 47 08.3	-1.6
MEEK	Meekatharra	26.38	201	P	P	20 47 22.1	-0.8
OOD	Oodnadatta	26.42	166	P	P	20 47 24.8	+1.6
INKA	Innaminka	27.96	157	P	P	20 47 38.8	+1.8
MULG	Mulgathing	28.51	171	P	P	20 47 42.3	+0.4
FORT	Forrest	28.60	182	P	P	20 47 42.9	+0.2
FORT	Forrest	28.60	182	P	P	20 47 42.4	-0.3
LCRK	Leigh Creek	29.60	164	P	P	20 47 52.5	+0.9
KMBL	Kambalda	29.92	192	P	P	20 47 53.5	-0.9
BLDU	Ballidu	30.68	201	P	P	20 48 01.6	+0.4
	comp=Z,14nm,2.3s						
BBOO	Buckleboo	31.34	168	P	P	20 48 06.8	-0.2
BBOO	Buckleboo	31.34	168	P	P	20 48 06.8	-0.2
BBOO				IAmb	IAmb	20 48 16.6	
	comp=Z,9.1nm,0.9s						
STKA	Stephens Creek	32.00	159	P	P	20 48 13.4	+0.6
STKA	Stephens Creek	32.00	159	P	P	20 48 12.1	-0.7
STKA	Stephens Creek	32.00	159	P	P	20 48 13.6	+0.8
	comp=Z,2.7nm,0.5s,baz=334,slow=9.9,SNR=12						
STKA				LR	LR	21 02 03.3	
	comp=Z,173nm,18.2s,baz=358,slow=38						
	comp=Z,2.7nm,0.5s						
STKA	Stephens Creek	32.00	159	P	P	20 48 13.6	+0.8
HTT	Hallett	32.61	164	P	P	20 48 19.5	+1.3
NWAO	Narrogin (SRO)	32.62	198	P	P	20 48 17.9	-0.4
NWAO				IAmb	IAmb	20 48 27.2	
	comp=Z,22nm,1.1s						
CMSA	Cobar Meteorol	33.35	153	P	P	20 48 26.2	+1.6
CMAR	Chiang Mai Arr	35.83	306	P	P	20 48 47.1	+0.9
	comp=Z,0.7nm,0.8s,baz=130,slow=8.4,SNR=5.4						
	comp=Z,0.7nm,0.8s						
ARPS	Mount Arapiles	36.57	162	P	P	20 48 53.7	+1.4
KMI	Kunming	37.04	318	⇓P	P	20 49 01.1	+4.3
KMI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CAN	Canberra	38.02	153	P	P	20 49 05.8	+1.2
PBA	Port Blair	38.43	292	P	P	20 49 08.4	+0.1
KSRS	Korea Array	39.30	359	P	P	20 49 14.7	-0.7
	comp=Z,1.2nm,0.6s,baz=177,slow=9.8,SNR=5.9						
	comp=Z,1.2nm,0.6s						
MJAR	Matsushiro Arr	39.35	12	P	P	20 49 15.0	-0.8
	comp=Z,4.5nm,0.8s,baz=185,slow=9.2,SNR=25						
	comp=Z,4.5nm,0.8s						
JMM	Marumori	41.20	14	P	P	20 49 29.8	-1.2
JMM				IAmb	IAmb	20 49 34.3	
	comp=Z,16nm,0.9s						
USA0B	Ussuriysk Arra	46.11	3	P	P	20 50 11.2	+0.6
USA0B				IAmb	IAmb	20 50 12.4	
	comp=Z,6.9nm,0.9s						
USRK	Ussuriysk Ar.	46.11	3	P	P	20 50 10.5	0.0
USRK	Ussuriysk Ar.	46.11	3	P	P	20 50 10.9	+0.3
	comp=Z,3.4nm,0.8s,baz=184,slow=9.2,SNR=6.6						
	comp=Z,3.4nm,0.8s						
SONM	Songino Array	53.42	341	P	P	20 51 06.2	-0.1
	comp=Z,1.4nm,0.7s,baz=152,slow=8.3,SNR=5.9						
	comp=Z,1.4nm,0.7s						
LBZ	Lake Benmore	55.73	145	P	P	20 51 23.9	+0.9
MKAR	Makanchi Array	63.51	326	P	P	20 52 15.9	-0.7
MKAR	Makanchi Array	63.51	326	P	P	20 52 16.4	-0.2
	comp=Z,1.1nm,0.7s,baz=124,slow=7.6,SNR=11						
	comp=Z,1.1nm,0.7s						
MAKZ	Makanchi	63.70	326	P	P	20 52 17.8	0.0
CASY	Casey	65.42	188	P	P	20 52 27.9	-0.7
CASY				IAmb	IAmb	20 52 30.9	
	comp=Z,8.3nm,1.1s						
ZALV	Zalesovo Beam	66.68	333	P	P	20 52 36.2	-0.8
	comp=Z,1.3nm,0.7s,baz=128,slow=4.5,SNR=5.7						
	comp=Z,1.3nm,0.7s						
KURBB	Kurchatov Arra	67.74	328	P	P	20 52 43.4	-0.4
	comp=Z,1.4nm,0.7s,baz=127,slow=6.2,SNR=10						
	comp=Z,1.4nm,0.7s						
KURK	Kurchatov	67.75	328	P	P	20 52 45.0	+1.2
KURK				IAmb	IAmb	20 52 56.5	
	comp=Z,4.8nm,1.0s						
VNDA	Vanda	77.47	173	P	P	20 53 42.1	+0.9
VNDA	Vanda	77.47	173	P	P	20 53 42.0	+0.8
	comp=Z,1.6nm,0.5s,baz=320,slow=6.2,SNR=13						
	comp=Z,1.6nm,0.5s						
MAW	Mawson	79.16	201	P	P	20 53 52.1	+1.5
	comp=Z,1.7nm,0.6s,baz=96,slow=5.2,SNR=8.2						
	comp=Z,1.7nm,0.6s						
QSPA	South Pole Qui	87.91	180	P	P	20 54 36.2	+0.4
QSPA				IAmb	IAmb	20 54 50.1	
	comp=Z,7.2nm,1.1s						
QSPA	South Pole Qui	87.91	180	P	P	20 54 36.0	+0.2
	comp=Z,1.6nm,0.7s,baz=274,slow=1.4,SNR=9.7						
	comp=Z,1.6nm,0.7s						
ILAR	Eielson Array	89.35	25	P	P	20 54 40.6	-1.8
	comp=Z,0.3nm,0.6s,baz=234,slow=6.7,SNR=4.5						
	comp=Z,0.3nm,0.6s						
TXAR	Lajitas Array	123.20	56	PKP	PKPdf	21 00 42.1	-1.8
	comp=Z,0.3nm,0.8s,baz=189,slow=2.3,SNR=4.1						
CPUP	Villa Florida	151.16	168	PKPbc	PKiKP	21 01 42.2	+1.4
	comp=Z,2.1nm,0.8s,baz=315,slow=1.4,SNR=3.9						

CATAC 08 20:46:32.8±0.3, 10°.97N×86°.73W, h29km, ML4.0, 16C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	Granada	1.03	41	*i* S	Sb	20 47 05.3	+0.1
MASN	Masaya	1.16	29	*i* P	Pn	20 46 52.7	-0.4
MASN				IAML		20 47 15.4	
	comp=Z,1μm,1.0s						
JAPN	AI SSO del Vol	1.17	62	⇓*i* P	Pn	20 46 53.3	+0.1
JAPN				IAML		20 46 54.3	
	comp=Z,3μm,1.0s						
MAS3	AI N del Volca	1.18	27	⇑*i* P	Pn	20 46 52.7	-0.7
MAS3				*i* S	Sn	20 47 08.1	-0.4
MAS3				IAML		20 47 14.0	
	comp=Z,4μm,1.0s						
MORN	AI O del Volca	1.20	62	⇑*i* P	Pn	20 46 53.3	-0.4
MORN				IAML		20 47 00.3	
	comp=Z,5μm,1.0s						
OMEN	AI SSO del Vol	1.20	64	⇑*i* P	Pn	20 46 52.6	-1.1
OMEN				IAML		20 47 05.4	
	comp=Z,2μm,1.0s						
OMEN				*i* S	Sb	20 47 09.8	-0.4
COPN	Copaltepe	1.21	6	⇑*i* P	Pn	20 46 53.7	-0.1
COPN				*i* S	Sb	20 47 10.0	-0.3
COPN				IAML		20 47 13.7	
	comp=Z,2μm,1.0s						
MAFN	Magfor	1.21	23	*i* P	Pn	20 46 53.5	-0.4
MAFN				IAML		20 47 32.8	
	comp=Z,9μm,1.0s						
USIM	UNAN	1.22	21	*i* P	Pn	20 46 54.3	+0.3
USIM				*i* S	Sb	20 47 10.8	+0.1
USIM				IAML		20 47 41.4	
	comp=Z,7μm,1.0s						
ENAN	Enatrel Managu	1.22	22	*i* P	Pn	20 46 53.9	-0.1
ENAN				IAML		20 46 54.6	
	comp=Z,11μm,1.0s						
ENAN				*i* S	Sb	20 47 10.3	-0.5
SAPS	Ciudad Sandino	1.23	15	⇑*i* P	Pn	20 46 53.8	-0.3
SAPS				*i* S	Sn	20 47 10.3	+0.5
SAPS				IAML		20 47 16.3	
	comp=Z,5μm,1.0s						
R0529	La Mascota	1.24	23	⇓*i* P	Pn	20 46 54.2	0.0
R0529				IAML		20 46 55.0	
	comp=Z,3μm,1.0s						
TISN	Laguna Tiscapa	1.25	21	⇑*i* P	Pn	20 46 54.1	-0.2
TISN				*i* S	Sn	20 47 09.9	-0.3
TISN				IAML		20 47 11.5	
	comp=Z,260nm,1.0s						
MGA1	Managua	1.26	22	*i* P	Pn	20 46 54.4	-0.1
MGA1				*i* S	Sb	20 47 11.5	-0.3
MGA1				IAML		20 47 42.6	
	comp=Z,5μm,1.0s						
APQ2	Apoyeque	1.28	18	⇑*i* P	Pn	20 46 54.5	-0.3
APQ2				*i* S	Sb	20 47 12.0	-0.4
APQ2				IAML		20 47 13.7	
	comp=Z,5μm,1.0s						
AERN	Aeropuerto Man	1.29	25	*i* P	Pn	20 46 54.4	-0.5
AERN				*i* S	Sb	20 47 12.7	+0.1
AERN				IAML		20 47 56.2	
	comp=Z,5μm,1.0s						
AMTN	Mateare	1.29	13	*i* P	Pn	20 46 55.2	+0.3
AMTN				*i* S	Sn	20 47 11.7	+0.5
AMTN				IAML		20 47 17.4	
	comp=Z,10μm,1.0s						
BC86	Nagarote	1.29	7	*i* P	Pn	20 46 54.2	-0.8
BC86				IAML		20 48 03.9	
	comp=Z,5μm,1.0s						
WILN	Americas 2	1.29	24	⇑*i* P	Pn	20 46 54.6	-0.3
WILN				*i* S	Sn	20 47 11.8	+0.5
WILN				IAML		20 47 19.5	
	comp=Z,3μm,1.0s						
LEVN	Ruinas Leon Vi	1.43	4	⇑*i* P	Pn	20 46 56.7	0.0
LEVN				*i* S	Sn	20 47 14.9	+0.4
LEVN				IAML		20 47 17.5	
	comp=Z,2μm,1.0s						
MOM2	El Cardon	1.48	9	⇑*i* P	Pn	20 46 57.1	-0.3
MOM2				*i* S	Sn	20 47 15.9	+0.1
MOM2				IAML		20 47 17.8	
	comp=Z,1μm,1.0s						
CNGA	AI SSO del Vol	1.51	1	⇑*i* P	Pn	20 46 57.1	-0.9
CNGA				*i* S	Sn	20 47 15.8	-1.0
CNGA				IAML		20 47 18.8	
	comp=Z,2μm,1.0s						
CNGN	Cerro Negro	1.52	1	⇑*i* P	Pn	20 46 58.0	-0.1
CNGN				*i* S	Sn	20 47 17.7	+0.8
CNGN				IAML		20 47 20.7	
	comp=Z,2μm,1.0s						
ROCN	Rota Cerro Neg	1.54	359	⇑*i* P	Pn	20 46 58.3	0.0
ROCN				*i* S	Sn	20 47 17.0	-0.4
ROCN				IAML		20 47 27.7	
	comp=Z,770nm,1.0s						
QUEN	AI S del Volca	1.61	356	*i* P	Pn	20 46 58.8	-0.6
QUEN				IAML		20 47 22.8	
	comp=Z,2μm,1.0s						
INDI	Punta indio, G	1.63	132	*i* P	Pn	20 46 59.5	-0.1
INDI				*i* S	Sn	20 47 17.6	-2.0
INDI				IAML		20 47 37.5	
	comp=Z,480nm,1.0s						
PKGN	Cerro Pekin	1.71	352	⇑*i* P	Pn	20 47 00.8	+0.2
PKGN				*i* S	Sn	20 47 21.4	-0.1
PKGN				IAML		20 47 27.1	
	comp=Z,3μm,1.0s						
CRIN	San Cristobal	1.75	350	⇑*i* P	Pn	20 47 01.5	+0.2
CRIN				*i* S	Sn	20 47 22.6	0.0
CRIN				IAML		20 47 35.0	
	comp=Z,3μm,1.0s						
BRAN	Las Pilas	1.78	12	*i* P	Pn	20 46 53.9	-7.7
BRAN				IAML		20 46 54.4	
	comp=Z,6μm,1.0s						
BRAN				*i* S	Sn	20 47 10.8	-12
BOAB	BOACO BROADBAN	.80	35	⇑*i* P	Pn	20 47 01.0	-0.9
BOAB				*i* S	Sn	20 47 24.3	+0.5
BOAB				IAML		20 47 26.7	
	comp=Z,760nm,1.0s						
ACON	Acoyapa	1.81	57	*i* P	Pn	20 47 01.9	-0.2
ACON				*i* S	Sn	20 47 23.4	-0.8
ACON				IAML		20 47 30.7	
	comp=Z,450nm,1.0s						
LIMN	Finca el Limon	2.11	10	*i* P	Pn	20 47 05.9	-0.3
LIMN				IAML		20 47 34.2	
	comp=Z,590nm,1.0s						
SOCE	Pocosol	2.15	106	*i* P	Pn	20 47 07.8	+1.0
SOCE				IAML		20 48 26.9	
	comp=Z,420nm,1.0s						
COVE	Coope Vega, Sa	2.30	96	*i* P	Pn	20 47 10.6	+1.9
COVE				IAML		20 48 11.9	
	comp=Z,260nm,1.0s						
SOMN	Somoto	2.44	3	*i* P	Pn	20 47 12.8	+2.0
SOMN				IAML		20 47 20.1	
	comp=Z,130nm,1.0s						
AMPH	Amapala	2.47	338	*i* P	Pn	20 47 12.1	+0.9
AMPH				*i* S	Sn	20 47 41.9	+1.5
CNCH	Conchagua	2.53	335	*i* P	Pn	20 47 13.2	+1.1
CNCH				*i* S	Sn	20 47 42.7	+0.6
CNCH				IAML		20 47 49.6	
	comp=Z,560nm,1.0s						
LCND	La Caada	2.59	334	*i* P	Pn	20 47 13.5	+0.7
LCND				IAML		20 47 52.9	
	comp=Z,360nm,1.0s						
RCPN	Sur Rio San Ju	2.61	14	*i* P	Pn	20 47 12.7	-0.5
RCPN				IAML		20 47 47.2	
	comp=Z,2.0nm,1.0s						
JUCU	Jucuarın	2.71	327	*i* P	Pn	20 47 14.6	+0.1
JUCU				*i* S	Sn	20 47 45.9	-0.6
JUCU				IAML		20 47 58.3	
	comp=Z,170nm,1.0s						
PACA	Pacayal	2.93	328	*i* S	Sn	20 47 52.0	0.0
YUSH	Yuscaran	2.97	358	*i* P	Pn	20 47 19.0	+0.9
TGUH	Tegucigalpa,Un	3.11	350	*i* P	Pn	20 47 21.1	+1.0
TGUH				IAML		20 47 22.1	
	comp=Z,140nm,1.0s						
SCLA	Alcaldia de Sa	3.34	324	*i* P	Pn	20 47 25.1	+1.9
SCLA				IAML		20 49 29.0	
	comp=Z,150nm,1.0s						
NUBE	Las Nubes	4.17	315	*i* P	Pn	20 47 36.7	+2.0
NUBE				IAML		20 48 25.0	
	comp=Z,140nm,1.0s						

BJI ***08*** *21:04:34.9±0.0, 18°.61S×169°.61E, h255km, mb5.6/89, mB5.4/41*
MOS ***08*** *21:04:35.1±0.9, 18°.98S×169°.44E, h262km, mb5.8/34, Error ellipse: s-maj=7.8km s-min=6.2km az=12.0*
IDC ***08*** *21:04:35.6±0.8, 19°.01S×169°.43E, h257km±7km, mb5.1/24, mbtmp5.6/26, Error ellipse: s-maj=8.1km s-min=7.3km az=87.0*
NOU ***08*** *21:04:35.9, 18°.97S×169°.54E, h250km, ML5.3/154, Vanuatu Islands*
NEIC ***08*** *21:04:35.8, 18°.99S×169°.52E, h249km*
BGR ***08*** *21:04:36.5, 18°.73S×170°.84E, h263km, Hypocentre not reviewed by the ISC*
NEIC ***08*** *21:04:36.4, 19°.01S×169°.30E, h260km, Moment Tensor Solution. Duration: 2s9 Moment tensor: Scale 10^17Nm; Mrr2.12; Mθθ-0.87; Mφφ-1.25; Mrθ0.90; Mθφ-1.03; Mφr-0.64; Fault plane solution: M0 2.35000×10^17 NP1:φs61.43000°, δ50.56000°, λ120.28000°. NP2:φs198.84000°, δ48.17000°, λ58.49000°. Principal axes: T 2.5902, Plg67.0000°, Azm38.0000°; N -0.4821, Plg23.0000°, Azm221.0000°; P -2.1081, Plg1.0000°, Azm131.0000°;*
NEIC ***08*** *21:04:36.2±1.3, 19°.02S±0°.08×169°.49E±0°.08, h255km±1km, mb5.8/545, Mwb5.6/42, Mww5.5/43 Error ellipse: s-maj=14.3km s-min=12.2km az=136.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr2.33; Mθθ-1.33; Mφφ-1.00; Mrθ1.42; Mθφ-0.85; Mφr-1.09; Fault plane solution: M0 2.83000×10^17 NP1:φs79.79000°, δ58.09000°, λ119.84000°. NP2:φs212.45000°, δ42.58000°, λ51.37000°. Principal axes: T 3.2266, Plg63.0000°, Azm42.0000°; N -1.1358, Plg25.0000°, Azm243.0000°; P -2.0908, Plg8.0000°, Azm149.0000°;*
NEIC ***08*** *21:04:36.4, 19°.01S×169°.51E, h260km*
GCMT ***08*** *21:04:38.2±0.1, 18°.97S±0°.01×169°.37E±0°.01, h264km, MW5.5/159, Moment Tensor Solution. s135, c258; s159, c287; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr1.99±.03; Mθθ-0.67±.03; Mφφ-1.32±.03; Mrθ1.41±.03; Mθφ-1.13±.03; Mφr-0.96±.03; Best double couple: M0 2.59400×10^17 NP1:φs65.00000°, δ54.00000°, λ129.00000°. NP2:φs190.00000°, δ51.00000°, λ49.00000°. Principal axes: T 3.0170, Plg59.0000°, Azm35.0000°; N -0.8410, Plg31.0000°, Azm219.0000°; P -2.1710, Plg2.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 21:04:35.5±0.3, 19°.04S±0°.03×169°.57E±0°.03, h261km±2km, h262km: pP-P, n1835, σ1s26/1612, mb5.7/384, 118C-76D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	2.79	231	P	Pn	21 05 25.3	-1.1
LIFNC	LIFOU	2.79	231	Pn	Pn	21 05 25.4	-1.0
MARNC	Mare, Loyalty	2.82	210	P	Pn	21 05 26.0	-0.8
YATNC	Mamie plateau,	3.91	219	P	Pn	21 05 37.6	-1.1
PINNC	Pines Island,	4.07	209	P	Pn	21 05 40.7	+0.2
PINNC	Pines Island,	4.07	209		Pn	21 05 40.5	0.0
DZM	Mont Dzumac	4.20	224	P	Pn	21 05 42.6	+0.4
DZM	Mont Dzumac	4.20	224	*e*Pn	Pn	21 05 42.1	-0.1
	5μm,1.4s						
DZM				*e*Sn	S	21 06 34.8	-0.6
	4μm,1.3s						
DZM	Mont Dzumac	4.20	224	P	Pn	21 05 42.4	+0.3
	977nm,0.8s,baz=57,slow=15,SNR=835						
DZM				S	S	21 06 34.6	-0.7
	666nm,0.6s,baz=330,slow=23,SNR=5.3						
OUENC	Ouen Island, N	4.22	217	P	Pn	21 05 42.7	+0.4
OUENC	Ouen Island, N	4.22	217		Pn	21 05 42.5	+0.2
NOUC	Port Laguerre	4.32	225	P	Pn	21 05 44.0	+0.6
ONTNC	Ouen Toro	4.37	221	P	Pn	21 05 44.6	+0.6
ONTNC	Ouen Toro	4.37	221		Pn	21 05 44.2	+0.2
KOUNC	Koumac, New Ca	5.19	252	P	Pn	21 05 55.1	+1.2
KOUNC	Koumac, New Ca	5.19	252		Pn	21 05 54.7	+0.8
MSVF	Nonsavu	8.16	82	P	Pn	21 06 33.2	+2.2
MSVF	Nonsavu	8.16	82		Pn	21 06 34.1	+3.2
MSVF	Nonsavu	8.16	82	*d* iP	Pn	21 06 34.3	+3.3
MSVF				pmax	pmax		
	comp=Z,1μm,1.0s						
NFK	Norfolk Island	10.07	188	P	Pn	21 06 56.2	+1.4
	comp=Z,702nm,1.2s						
FUTU	Fugatoga	12.70	70	P	Pn	21 07 27.5	0.0
HNR	Honiara	13.34	314	P	Pn	21 07 35.0	-0.4
HNR	Honiara	13.34	314		Pn	21 07 34.8	-0.5
HNR	Honiara	13.34	314	P	Pn	21 07 34.8	-0.5
RAO	Raoul Island	15.28	134	P	Pn	21 08 00.2	+1.6
	comp=Z,206nm,0.3s,baz=184,slow=10,SNR=5.7						
GC1S	Gold Coast 1 S	17.27	235	P	Pn	21 08 22.1	+0.1
AUWSH	Wavell State H	17.30	238	P	Pn	21 08 22.3	-0.1
MISM	Misima Island	18.16	295	P	P	21 08 30.1	+0.8
EIDS	Eidsvold	18.23	246	P	P	21 08 31.5	+1.6
EIDS	Eidsvold	18.23	246	P	P	21 08 30.6	+0.7
EIDS	Eidsvold	18.23	246	P	P	21 08 31.4	+1.5
	comp=Z,140nm,0.9s						
RK1H	Rockhampton Ha	18.30	253	P	P	21 08 31.8	+1.1
KUZ	Kuaotunu	18.45	164	P	Pn	21 08 34.9	-0.8
TOZ	Tahuroa Road	19.33	166	P	P	21 08 43.4	+1.9
ARMA	Armidale	19.81	232	P	P	21 08 49.1	+2.2
ARMA	Armidale	19.81	232	P	P	21 08 47.7	+0.8
ARMA	Armidale	19.81	232	P	P	21 08 48.6	+1.6
	comp=Z,214nm,0.9s						
HIZ	Hauiti	19.94	168	P	P	21 08 48.7	+0.6
URZ	Urewera	20.25	163	P	P	21 08 53.9	+2.6
URZ	Urewera	20.25	163	P	P	21 08 53.3	+2.0
	comp=Z,146nm,0.9s,baz=54,slow=3.3,SNR=24						
URZ				S	S	21 12 26.6	+3.4
	comp=Z,20nm,0.7s,baz=197,slow=14,SNR=2.0						
	comp=Z,146nm,0.9s						
TARA	Tarawa	20.53	10	P	P	21 08 54.4	-0.2
TARA	Tarawa	20.53	10		P	21 08 54.0	-0.6
RTZ	Ruatahuna	20.54	163	P	P	21 08 56.0	+1.5
RMQ	Roma	20.55	245	P	P	21 08 56.6	+1.9
RMQ	Roma	20.55	245	P	P	21 08 55.6	+0.8
	comp=Z,108nm,1.2s						
AUPHS	Peel High Scho	20.71	231	P	P	21 08 57.5	+1.2
AUAYR	Ayr State High	20.92	265	P	P	21 08 59.0	+0.5
BKZ	Black Stump Fm	20.93	165	P	P	21 09 00.9	+2.3
BKZ	Black Stump Fm	20.93	165	P	P	21 08 58.1	-0.5
NTLH	Newcastle Hard	21.13	226	P	P	21 09 02.4	+1.9
CTA	Charters Tower	21.99	263	P	P	21 09 08.8	+0.2
	comp=Z,7.3nm,0.8s,baz=90,slow=11,SNR=54						
CTA				S	S	21 12 53.0	+0.7
	comp=Z,5.3nm,1.1s,baz=283,slow=15,SNR=17						
CTA				ScP	ScP	21 16 11.5	+2.0
	comp=Z,1.5nm,0.8s,baz=90,slow=4.2,SNR=8.9						
CTAO	Charters Tower	21.99	263	P	P	21 09 10.4	+1.8
CTAO	Charters Tower	21.99	263	P	P	21 09 08.8	+0.2
CTAO	Charters Tower	21.99	263	P	P	21 09 08.8	+0.2
RIV	Riverview	22.05	224	P	P	21 09 11.1	+2.1
RIV	Riverview	22.05	224	P	P	21 09 11.4	+2.4
RIV				pmax	pmax		
	comp=Z,350nm,1.

LBZ	Lake Benmore	25.28 179	P	P	21 09 39.5 +1.4
COEN	Coen	25.79 277	P	P	21 09 44.5 +1.4
COEN	Coen	25.79 277	P	P	21 09 43.4 +0.3
COEN	Coen	25.79 277	P	P	21 09 43.4 +0.3
DCZ	Deep Cove	26.43 184	P	P	21 09 49.8 +1.4
INKA	Innaminka	27.78 246	P	P	21 10 02.0 +1.4
TOO	Toolangi	27.98 224	P	P	21 10 03.3 +1.0
TOO	Toolangi	27.98 224	P	P	21 10 03.1 +0.8
TOO	Toolangi	27.98 224	P	P	21 10 03.1 +0.8
TOO			pmax	pmax	
	comp=Z,40nm,1.0s				
TOO	Toolangi	27.98 224	P	P	21 10 03.1 +0.8
	comp=Z,38nm,1.2s				
STKA	Stephens Creek	28.21 238	P	P	21 10 05.5 +1.1
STKA	Stephens Creek	28.21 238	P	P	21 10 05.2 +0.8
STKA	Stephens Creek	28.21 238	P	P	21 10 04.9 +0.5
	comp=Z,68nm,0.7s,baz=69,slow=8.8,SNR=164				
STKA			PcP	PcP	21 13 11.6 +0.6
	comp=Z,37nm,0.7s,baz=82,slow=1.0,SNR=9.3				
STKA			ScP	ScP	21 16 29.7 +2.7
	comp=Z,29nm,0.9s,baz=38,slow=4.2,SNR=14				
STKA			PKiKP	PKiKP	21 20 45.0 -1.2
	comp=Z,2.9nm,0.7s,baz=58,slow=3.3,SNR=5.9				
	comp=Z,68nm,0.7s				
STKA	Stephens Creek	28.21 238*d*	*i*P	P	21 10 05.2 +0.8
STKA	Stephens Creek	28.21 238	P	P	21 10 05.3 +0.8
	comp=Z,27nm,0.8s				
QIS	Mount Isa	28.21 262	P	P	21 10 05.4 +0.8
QIS	Mount Isa	28.21 262	P	P	21 10 04.4 -0.2
	comp=Z,66nm,1.1s				
GLAD	Gladstone	28.61 216	P	P	21 10 09.4 +1.6
ARPS	Mount Arapiles	30.05 228	P	P	21 10 22.1 +1.6
ARPS	Mount Arapiles	30.05 228	P	P	21 10 21.7 +1.2
	comp=Z,117nm,1.0s				
MOO	Moorlands	30.06 214	P	P	21 10 22.1 +1.5
	comp=Z,154nm,1.1s				
LCRK	Leigh Creek	30.55 242	P	P	21 10 26.0 +0.9
TABU	Tabubil	30.83 293	P	P	21 10 30.0 +2.3
HTT	Hallett	30.86 236	P	P	21 10 30.6 +2.8
HTT	Hallett	30.86 236	P	P	21 10 28.3 +0.5
	comp=Z,86nm,1.1s				
WHYH	Whyalla	31.80 238	P	P	21 10 37.0 +1.1
OOD	Oodnadatta	32.20 248	P	P	21 10 41.6 +2.1
JAY	Jayapura	32.67 297	P	P	21 10 43.0 -0.7
JAY	Jayapura	32.67 297	P	P	21 10 43.5 -0.2
JAY			pmax	pmax	
	comp=Z,29nm,0.9s				
BBOO	Buckleboo	32.95 239	P	P	21 10 47.0 +1.0
BBOO	Buckleboo	32.95 239	P	P	21 10 46.5 +0.5
BBOO	Buckleboo	32.95 239	P	P	21 10 46.4 +0.5
	comp=Z,91nm,1.1s				
WR0	Warramunga Arr	32.99 262	P	P	21 10 45.9 -0.6
GENI	Genyem	33.08 296	P	P	21 10 48.6 +1.4
GENI	Genyem	33.08 296	P	P	21 10 47.3 +0.1
WB0	Warramunga Arr	33.15 263	P	P	21 10 46.8 -1.0
WB0			IAmb	IAmb	21 10 48.0
	comp=Z,112nm,0.8s				
WB2	Warramunga Arr	33.17 262	P	P	21 10 46.9 -1.1
WRAB	Tennant Creek	33.17 263	P	P	21 10 46.8 -1.3
WRAB	Tennant Creek	33.17 263*d*	*i*P	P	21 10 46.7 -1.3
WRAB			pmax	pmax	
	comp=Z,93nm,1.0s				
WRA	Warramunga Arr	33.18 262	P	P	21 10 46.4 -1.8
WRA	Warramunga Arr	33.18 262	P	P	21 10 46.9 -1.3
	comp=Z,81nm,0.9s,baz=82,slow=6.0,SNR=200				
WRA			PcP	PcP	21 13 24.6 +0.1
	comp=Z,27nm,0.9s,baz=92,slow=3.2,SNR=10.0				
WRA			S	S	21 15 43.9 -4.4
	comp=Z,50nm,1.1s,baz=91,slow=14,SNR=26				
WRA			ScP	ScP	21 16 45.3 +1.6
	comp=Z,18nm,1.0s,baz=91,slow=3.4,SNR=7.1				
WRA			PKiKP	PKiKP	21 20 48.0 -1.9
	comp=Z,5.6nm,0.7s,baz=29,slow=0.2,SNR=23				
WRA			P3KPbc		21 41 59.0
	comp=Z,4.0nm,0.9s,baz=298,slow=2.9,SNR=14				
	comp=Z,81nm,0.9s				
AS01	Alice Springs	33.43 256	P	P	21 10 50.5 +0.2
AS31	Alice Springs	33.47 256	P	P	21 10 50.5 -0.1
AS31	Alice Springs	33.47 256	P	P	21 10 50.2 -0.4
	comp=Z,142nm,0.8s				
ASAR	Alice Springs	33.48 256	P	P	21 10 50.2 -0.4
ASAR	Alice Springs	33.48 256	P	P	21 10 50.5 -0.2
	comp=Z,203nm,0.7s,baz=83,slow=9.0,SNR=1389				
ASAR			PcP	PcP	21 13 25.1 -0.2
	comp=Z,15nm,0.7s,baz=95,slow=2.3,SNR=7.6				
ASAR			S	S	21 15 50.2 -2.6
	comp=Z,30nm,0.7s,baz=82,slow=17,SNR=28				
ASAR			ScP	ScP	21 16 46.8 +2.1
	comp=Z,23nm,0.8s,baz=99,slow=3.9,SNR=16				
ASAR			PKiKP	PKiKP	21 20 48.9 -1.2
	comp=Z,3.7nm,0.6s,baz=80,slow=1.4,SNR=21				
ASAR			P3KPbc		21 41 57.5
	comp=Z,3.2nm,0.9s,baz=273,slow=4.2,SNR=17				
	comp=Z,203nm,0.7s				
MULG	Mulgathing	34.02 244	P	P	21 10 55.7 +0.5
KDU	Kakadu	36.18 274	P	P	21 11 15.4 +1.7
KDU	Kakadu	36.18 274	P	P	21 11 13.1 -0.6
	comp=Z,89nm,1.1s				
MTN	Manton Dam	37.41 274	P	P	21 11 24.1 +0.1
MTN	Manton Dam	37.41 274	P	P	21 11 23.9 -0.1
MTN			IAmb	IAmb	21 11 24.7
	comp=Z,156nm,0.7s				
MTN	Manton Dam	37.41 274	P	P	21 11 23.5 -0.5
	comp=Z,232nm,0.8s				
DRS	Darwin Rock St	37.73 274	P	P	21 11 27.2 +0.5
WAKE	Wake Island	38.19 356	P	P	21 11 30.6 +0.2
WAKE	Wake Island	38.19 356	P	P	21 11 30.0 -0.4
WAKE			IAmb	IAmb	21 11 30.9
	comp=Z,407nm,1.0s				
WAKE	Wake Island	38.19 356	P	P	21 11 30.2 -0.1
TBI	Tubuai	38.35 104	*e*S	S	21 17 06.1 -0.6
	comp=Z,2μm,41.2s				
TBI			*es*S	sS	21 18 39.9 -0.9
	comp=Z,3μm,43.5s				
TBI			*e*SS	SS	21 20 04.4 -3.0
	comp=Z,5μm,26.0s				
XMAS	Kiritimati	38.61 61	P	P	21 11 35.7 +1.7
XMAS	Kiritimati	38.61 61	P	P	21 11 34.9 +0.9
WRKA	Warakurna	38.61 254	P	P	21 11 34.6 +0.6
WRKA	Warakurna	38.61 254	P	P	21 11 33.7 -0.3
	comp=Z,132nm,1.0s				
PPT2	Papeete2	38.76 95	*e*P	P	21 11 29.5 -5.8
	comp=Z,112nm,26.8s				
PPT2			*ep*P	pwP	21 12 30.4 -1.2
	comp=Z,205nm,27.8s				
PPT2			*e*S	S	21 17 06.3 -6.7
	comp=Z,256nm,27.8s				
PPT2			*es*S	sS	21 18 41.8 -5.5
	comp=Z,198nm,23.8s				
PPT2			*e*SS	SS	21 20 15.8 +0.1
	comp=Z,1μm,23.5s				
PPT2			*e*SS	SS	21 20 20.6 +4.9
	comp=Z,796nm,26.8s				
TVO	Taravao	39.03 95	*e*P	P	21 11 36.8 -0.8
	comp=Z,19nm,0.7s				
FORT	Forrest	39.21 244	P	P	21 11 39.6 +0.8
FORT	Forrest	39.21 244	P	P	21 11 39.0 +0.2
FORT	Forrest	39.21 244	P	P	21 11 38.5 -0.3
	comp=Z,73nm,1.1s				
FAKI	Fak Fak	39.85 289	P	P	21 11 43.5 -0.7
FAKI	Fak Fak	39.85 289	P	P	21 11 43.7 -0.6
	comp=Z,69nm,1.0s				
GUMO	Guam	40.54 321	P	P	21 11 48.7 -1.1
	comp=Z,77nm,0.8s,baz=150,slow=16,SNR=2.9				
	comp=Z,77nm,0.8s				
PMOR	Pomariorio Ree	40.80 91	*e*P	P	21 11 51.7 -0.3
	comp=Z,172nm,1.3s				
VAH	Vaihoa	41.01 92	*e*P	P	21 11 52.2 -1.5
	comp=Z,86nm,1.2s				
JOHN	Johnston Islan	41.07 31	P	P	21 11 55.5 +1.5
JOHN	Johnston Islan	41.07 31	P	P	21 11 54.8 +0.8
JOHN			IAmb	IAmb	21 11 55.7
	comp=Z,546nm,0.9s				
JOHN	Johnston Islan	41.07 31	P	P	21 11 54.5 +0.4
JOHN			ScP	ScP	21 17 12.1 -1.0
SWI	Sorong	41.66 291	P	P	21 11 59.0 0.0
	comp=Z,82nm,0.7s				
SWI	Sorong	41.66 291	P	P	21 11 59.2 +0.2
SWI			pmax	pmax	
	comp=Z,82nm,0.7s				
KMBL	Kambalda	44.54 244	P	P	21 12 22.7 +0.9
KMBL	Kambalda	44.54 244	P	P	21 12 21.2 -0.6
	comp=Z,58nm,1.0s				
SOEI	Soe	44.72 275	P	P	21 12 24.8 +1.2
SOEI	Soe	44.72 275	P	P	21 12 24.4 +0.9
SOEI	Soe	44.72 275	P	P	21 12 24.2 +0.6
	comp=Z,121nm,0.8s				
BATI	Baumata	45.16 274	P	P	21 12 28.3 +1.4
	comp=Z,203nm,0.8s				
PSA00	Pilbara Seismi	46.54 258	P	P	21 12 38.6 +1.0
PSA00	Pilbara Seismi	46.54 258	P	P	21 12 38.1 +0.5
PSA00	Pilbara Seismi	46.54 258	P	P	21 12 37.4 -0.2
PSA00			IAmb	IAmb	21 12 39.1
	comp=Z,39nm,0.8s				
PSA00	Pilbara Seismi	46.54 258	P	P	21 12 37.5 -0.1
	comp=Z,182nm,0.8s				
PSAC1	Pilbara Seismi	46.58 258	P	P	21 12 38.3 +0.4
	comp=Z,159nm,0.9s				
MBWA	Marble Bar	46.70 259	P	P	21 12 39.5 +0.8
MBWA	Marble Bar	46.70 259	P	P	21 12 39.2 +0.5
MBWA	Marble Bar	46.70 259	P	P	21 12 39.2 +0.5
MBWA	Marble Bar	46.70 259	P	P	21 12 39.1 +0.3
	comp=Z,168nm,0.9s				
MBWA	Marble Bar	46.70 259	P	P	21 12 39.0 +0.2
MBWA			pP	pP	21 13 34.2 +2.2
MBWA			ScP	ScP	21 17 37.7 +1.4
MMRI	Maumere	46.97 276	P	P	21 12 41.0 +0.1
MMRI	Maumere	46.97 276	P	P	21 12 40.9 -0.1
MMRI	Maumere	46.97 276	P	P	21 12 40.4 -0.5
	comp=Z,111nm,0.8s				
MEEK	Meekatharra	47.31 251	P	P	21 12 44.0 +0.5
MEEK	Meekatharra	47.31 251	P	P	21 12 43.2 -0.3
	comp=Z,243nm,0.8s				
EDFI	Ende, Flores	47.45 276	P	P	21 12 44.9 +0.1
	comp=Z,46nm,0.7s				
BBSI	Bau Bau	47.69 280	P	P	21 12 47.3 +0.8
	comp=Z,56nm,0.9s				
NWAO	Narrogin (SRO)	48.58 243	P	P	21 12 53.5 +0.5
NWAO	Narrogin (SRO)	48.58 243	P	P	21 12 53.0 0.0
NWAO	Narrogin (SRO)	48.58 243	P	P	21 12 53.1 +0.1
NWAO	Narrogin (SRO)	48.58 243	P	P	21 12 53.0 0.0
NWAO			pmax	pmax	
	comp=Z,66nm,1.0s				
NWAO	Narrogin (SRO)	48.58 243	P	P	21 12 53.0 0.0
NWAO			pP	pP	21 13 48.4 +1.5
NWAO			PcP	PcP	21 14 13.6 -0.9
NWAO			ScP	ScP	21 17 46.2 +2.2
RKGY	Rocky Gully	48.90 240	P	P	21 12 56.2 +0.8
RKGY	Rocky Gully	48.90 240	P	P	21 12 55.7 +0.3
	comp=Z,155nm,0.6s				
BLDU	Ballidu	48.95 246	P	P	21 12 56.1 +0.2
BLDU	Ballidu	48.95 246	P	P	21 12 55.3 -0.6
	comp=Z,66nm,0.9s				
LUWI	Luwuk	49.20 286	P	P	21 12 59.9 +1.9
LUWI	Luwuk	49.20 286	P	P	21 12 58.4 +0.4
LUWI	Luwuk	49.20 286	P	P	21 12 58.1 +0.1
	comp=Z,79nm,1.0s,comp=Z,1μm				
MORW	Morawa	49.53 248	P	P	21 13 01.9 +1.6
MORW	Morawa	49.53 248	P	P	21 13 00.4 +0.1
MORW	Morawa	49.53 248	P	P	21 12 59.7 -0.6
	comp=Z,72nm,0.9s				
GTOI	Gorontalo	49.69 288	P	P	21 13 02.7 +1.1
	comp=Z,46nm,0.6s				
KAPI	Kappang	50.49 279	P	P	21 13 10.1 +2.5
KAPI	Kappang	50.49 279	P	P	21 13 08.1 +0.5
KAPI	Kappang	50.49 279	P	P	21 13 08.3 +0.7
KAPI	Kappang	50.49 279*ce*	P	P	21 13 07.9 +0.3
KAPI			pmax	pmax	
	comp=Z,37nm,0.9s				
MRSI	Marisa	50.59 287	P	P	21 13 07.1 -1.3
	comp=Z,74nm,0.8s				
KEKH	Kekaha	50.65 38	P	P	21 13 09.3 +0.8
KEKH			IAmb	IAmb	21 13 10.3
	comp=Z,599nm,1.0s				
KHU	Kahuku	51.14 44	P	P	21 13 12.9 +0.3
KHU			IAmb	IAmb	21 13 14.2
	comp=Z,505nm,1.0s				
KHU	Kahuku	51.14 44	P	P	21 13 12.9 +0.3
KHU			pmax	pmax	
	comp=Z,505nm,1.0s				
KIP	Kipapa	51.23 40	P	P	21 13 14.0 +1.1
KIP	Kipapa	51.23 40	P	P	21 13 13.8 +0.9
KIP	Kipapa	51.23 40	P	P	21 13 13.0 +0.1
KIP			IAmb	IAmb	21 13 14.4
	comp=Z,258nm,1.0s				
KIP	Kipapa	51.23 40*c*	*i*P	P	21 13 13.0 +0.1
KIP			pmax	pmax	
	comp=Z,108nm,1.3s				
KIP	Kipapa	51.23 40	P	P	21 13 13.3 +0.4
DHH	Diamond Head	51.23 40	P	P	21 13 13.6 +0.7
DHH	Diamond Head	51.23 40	P	P	21 13 13.6 +0.7
DRV	Dumont d'Urvil	51.30 195	P	P	21 13 13.3 +0.5
DRV			pP	pP	21 14 07.6 -0.5
HUH	Hualalai	51.31 43	P	P	21 13 14.3 +0.4
HUH			IAmb	IAmb	21 13 15.7
	comp=Z,209nm,0.9s				
MWH	Moku'aweowe	51.32 44	P	P	21 13 14.2 0.0
MWH			IAmb	IAmb	21 13 16.3
	comp=Z,422nm,1.0s				
MLOA	Mauna Loa Obse	51.37 44		P	21 13 14.8 +0.3
MLOA			IAmb	IAmb	21 13 16.2
	comp=Z,422nm,0.9s				
MLH	Mauna Loa	51.46 44	P	P	21 13 14.9 0.0
MLH			IAmb	IAmb	21 13 16.8
	comp=Z,350nm,0.9s				
HMH	Humu'ula Sheep	51.48 44	P	P	21 13 15.9 +0.8
PUH	Pauahi	51.49 44	P	P	21 13 15.0 0.0
PUH			IAmb	IAmb	21 13 16.8
	comp=Z,274nm,0.9s				
KNHH	Kane Nui o Ham	51.52 44	P	P	21 13 16.0 +0.7
POHA	Pohakuloa	51.56 43	P	P	21 13 16.1 +0.5
POHA	Pohakuloa	51.56 43	P	P	21 13 15.9 +0.3
POHA			IAmb	IAmb	21 13 33.8
	comp=Z,274nm,1.0s				
POHA	Pohakuloa	51.56 43	P	P	21 13 16.2 +0.5
POHA			PcP	PcP	21 14 26.9 +1.1
STCH	Steam Cracks	51.56 44	P	P	21 13 15.9 +0.5
STCH			IAmb	IAmb	21 13 17.2
	comp=Z,357nm,0.9s				
GIRL	Giralia	51.59 256	P	P	21 13 17.3 +1.6
GIRL	Giralia	51.59 256	P	P	21 13 17.1 +1.4
	comp=Z,159nm,1.1s				
HPAH	Hawaii Prepara	51.65 43	P	P	21 13 16.9 +0.7
PAH	Pahoa	51.75 44		P	21 13 17.7 +0.9
KHLH	Kahului Airpor	51.81 42	P	P	21 13 17.6 +0.4
KHLH			IAmb	IAmb	21 13 19.6
	comp=Z,630nm,1.1s				
HLK	Haleakala	51.83 42	P	P	21 13 17.8 +0.2
HLK			IAmb	IAmb	21 13 19.4
	comp=Z,448nm,1.0s				
TOLI2	Tolitoli	51.91 287	P	P	21 13 18.0 -0.1
TOLI2	Tolitoli	51.91 287	P	P	21 13 17.6 -0.5
TWSI	Taliwang, Sumb	51.99 274	P	P	21 13 19.6 +0.9
MPSI	Mapaga	52.38 286	P	P	21 13 21.2 -0.4
	comp=Z,126nm,0.8s,comp=Z,1μm				
JCJ	Chichijima	52.99 329	P	P	21 13 25.3 -0.5
JCJ			IAmb	IAmb	21 13 25.8
	comp=Z,289nm,0.7s				
JAGI	Jajag, Banyuwa	54.64 273	P	P	21 13 38.1 +0.1
JAGI	Jajag, Banyuwa	54.64 273	P	P	21 13 37.5 -0.5
JAGI	Jajag, Banyuwa	54.64 273	P	P	21 13 37.1 -0.9
	comp=Z,79nm,1.2s				
MYLDM	Lahad Datu	55.74 290	P	P	21 13 45.2 -0.5
MTKI	Muara Teweh, K	56.48 282	P	P	21 13 50.7 -0.3
	comp=Z,50nm,0.9s				
PWJI	Pagerwojo	56.99 273	P	P	21 13 54.4 -0.2
	comp=Z,70nm,0.8s				
UGM	Wanagama	58.24 272	P	P	21 14 03.9 +0.6
UGM	Wanagama	58.24 272	P	P	21 14 03.2 -0.1
UGM			IAmb	IAmb	21 14 04.8
	comp=Z,171nm,0.9s				
VNDA	Vanda	58.64 182	P	P	21 14 06.0 +1.0
VNDA	Vanda	58.64 182	P	P	21 14 06.1 +1.0
	comp=Z,5.9nm,0.5s,baz=358,slow=8.0,SNR=66				
	comp=Z,5.9nm,0.5s				
VNDA	Vanda	58.64 182	P	P	21 14 06.1 +1.0
VNDA			ScP	ScP	21 18 30.0 +3.0
SBA	Scott Base	58.87 181	P	P	21 14 08.3 +1.8
SBA	Scott Base	58.87 181	P	P	21 14 08.3 +1.8
SBA			pmax	pmax	
	comp=Z,38nm,0.8s				
SBA	Scott Base	58.87 181	P	P	21 14 08.7 +2.1
SBA			pP	pP	21 15 03.2 -0.8
JHJ2	Mitsune	59.14 331	P	P	21 14 09.3 +0.3
JHJ2			IAmb	IAmb	21 16 19.4
	comp=Z,422nm,1.4s				
STKI	Sintang	60.02 281	P	P	21 14 16.4 +0.9
	comp=Z,81nm,1.1s,comp=Z,5μm				
CASY	Casey	60.43 204	P	P	21 14 17.9 +0.6
CASY	Casey	60.43 204	P	P	21 14 17.8 +0.4
CASY			pP	pP	21 15 15.1 +0.9
JOW	Kunigami	60.69 317	P	P	21 14 21.5 +1.8
JOW	Kunigami	60.69 317	P	P	21 14 20.3 +0.6
JOW			IAmb	IAmb	21 14 21.6
	comp=Z,128nm,0.8s				
JOW	Kunigami	60.69 317	P	P	21 14 19.6 -0.1
	comp=Z,108nm,0.8s,baz=138,slow=5.7,SNR=23				
	comp=Z,108nm,0.8s				
BBJI	Bungbulang	61.09 272	P	P	21 14 23.1 +0.4
CCD	Concordia, Ant	61.16 192	P	P	21 14 23.1 +0.5
CCD			pP	pP	21 15 19.8 -0.6
JSG	Sagara	61.19 331	P	P	21 14 23.7 +0.9
JSG	Sagara	61.19 331	P	P	21 14 23.7 +0.9
JSG			IAmb	IAmb	21 14 25.6
	comp=Z,405nm,1.3s				
CNJI	Cibinong	61.63 272	P	P	21 14 25.9 -0.3
	comp=Z,213nm,0.8s,comp=Z,1μm				
CBJI	Citeko	62.16 273	P	P	21 14 28.8 -1.0
DBJI	Dramaga	62.22 273	P	P	21 14 30.3 +0.1
SKJI	Sukabumi	62.26 272	P	P	21 14 30.3 -0.2
INU	Inuyama	62.28 330	P	P	21 14 30.7 +0.6
INU	Inuyama	62.28 330	P	P	21 14 30.1 0.0
INU			IAmb	IAmb	21 14 31.8
	comp=Z,173nm,1.3s				
INU	Inuyama	62.28 330	P	P	21 14 30.5 +0.4
JGF	Kuroka	62.33 331	P	P	21 14 30.9 +0.4
JGF	Kuroka	62.33 331	P	P	21 14 30.8 +0.3
JMN	Monobe	62.54 327	P	P	21 14 34.1 +2.2
JMN	Monobe	62.54 327	P	P	21 14 32.9 +1.0
JMN			IAmb	IAmb	21 14 33.9
	comp=Z,260nm,1.3s				
YOJ	Yonaguni jima	62.66 312	P	P	21 14 34.8 +2.0
YOJ	Yonaguni jima	62.66 312	P	P	21 14 33.1 +0.3
YOJ			IAmb	IAmb	21 14 34.0
	comp=Z,172nm,0.8s				
YOJ	Yonaguni jima	62.66 312	P	P	21 14 33.1 +0.3
YOJ			pmax	pmax	
	comp=Z,172nm,0.8s				
MJAR	Matsushiro Arr	62.72 332	P	P	21 14 32.8 -0.2
	comp=Z,110nm,0.9s,baz=162,slow=6.4,SNR=214				
MJAR			PKP2bc		21 43 36.7
	comp=Z,1.3nm,0.9s,baz=318,slow=3.5,SNR=5.6				
	comp=Z,110nm,0.9s				
MAJO	Matsushiro	62.72 332	P	P	21 14 32.9 -0.1
MAJO	Matsushiro	62.72 332	P	P	21 14 33.4 +0.4
MAJO			IAmb	IAmb	21 14 34.3
	comp=Z,249nm,1.2s				
MAJO	Matsushiro	62.72 332*c*	*i*P	P	21 14 32.8 -0.2
MAJO			pmax	pmax	
	comp=Z,163nm,1.0s				
MAJO	Matsushiro	62.72 332	P	P	21 14 33.1 +0.1
MJB9	Matsu-Tunnel	62.73 332	P	P	21 14 34.4 +1.3
MJB9			IAmb	IAmb	21 14 35.2
	comp=Z,241nm,1.2s				
JMM	Marumori	62.74 335	P	P	21 14 34.0 +0.9
JMM	Marumori	62.74 335	P	P	21 14 33.9 +0.9
JMM			IAmb	IAmb	21 14 35.0
	comp=Z,216nm,0.9s				
SBJI	Serang	62.93 273	P	P	21 14 35.0 +0.1
TWGBT	Beinan	63.03 309	P	P	21 14 35.7 +0.4
YULB	Yu-li	63.22 310	P	P	21 14 37.2 +0.6
YULB	Yu-li	63.22 310	P	P	21 14 35.9 -0.7
NACB	Ninganchiao	63.49 311	P	P	21 14 38.7 +0.5
NACB	Ninganchiao	63.49 311	P	P	21 14 38.3 +0.1
NACB			IAmb	IAmb	21 14 39.1
	comp=Z,141nm,0.9s				
TPUB	Ta-pu	63.65 309	P	P	21 14 39.2 -0.2
TPUB	Ta-pu	63.65 309	P	P	21 14 38.6 -0.8
TPUB			IAmb	IAmb	21 14 39.5
	comp=Z,193nm,0.8s				
JNU	Nakatsue	63.69 324	P	P	21 14 40.5 +1.1
JNU	Nakatsue	63.69 324	P	P	21 14 39.4 0.0
JNU			IAmb	IAmb	21 14 40.6
	comp=Z,98nm,0.9s				
JNU	Nakatsue	63.69 324	P	P	21 14 39.5 +0.1
	comp=Z,75nm,0.8s,baz=109,slow=2.4,SNR=39				
	comp=Z,75nm,0.8s				
SSLB	Suanglung	63.71 310	P	P	21 14 39.6 -0.2
SSLB	Suanglung	63.71 310	P	P	21 14 39.3 -0.4
SSLB			IAmb	IAmb	21 14 39.9
	comp=Z,138nm,0.7s				
JSD	Sado	63.95 333	P	P	21 14 42.1 +1.2
JSD	Sado	63.95 333	P	P	21 14 41.9 +1.0
JSD			IAmb	IAmb	21 14 42.7
	comp=Z,251nm,0.9s				
YHNB	Yeheng	63.95 311	P	P	21 14 41.9 +0.5
YHNB	Yeheng	63.95 311	P	P	21 14 41.8 +0.4
YHNB			IAmb	IAmb	21 14 42.4
	comp=Z,142nm,0.8s				
BLSI	Bandar Lampung	64.00 273	P	P	21 14 41.5 -0.4
TATO	Taipei	64.06 311	P	P	21 14 42.4 +0.5
TATO	Taipei	64.06 311	P	P	21 14 42.1 +0.1
TATO			IAmb	IAmb	21 14 42.9
	comp=Z,422nm,1.4s				
TATO	Taipei	64.06 311	P	P	21 14 41.9 0.0
TATO	Taipei	64.06 311	P	P	21 14 41.8 -0.1
PPBI	Pangkal Pinang	64.22 277	P	P	21 14 43.9 +0.7
	comp=Z,94nm,0.8s				
KASI	Kota Agung	64.66 273	P	P	21 14 45.1 -1.0
JTM	Tenmabayashi	65.15 336	P	P	21 14 49.6 +1.0
JTM	Tenmabayashi	65.15 336	P	P	21 14 49.3 +0.7
JTM			IAmb	IAmb	21 14 50.0
	comp=Z,233nm,0.9s				
LWLI	Liwa	65.24 273	P	P	21 14 49.0 -1.0
PMBI	Palembang	65.24 276	P	P	21 14 51.4 +1.5
ERM	Erimo	65.47 339	P	P	21 14 52.2 +1.6
ERM	Erimo	65.47 339	P	P	21 14 51.5 +0.8
ERM	Erimo	65.47 339*de*	P	P	21 14 52.3 +1.6
ERM			pmax	pmax	
	comp=Z,31nm,0.7s				
ERM	Erimo	65.47 339	P	P	21 14 51.3 +0.7
ERM			pP	pP	21 15 50.1 +0.8
JEM	Erimo	65.47 339	P	P	21 14 52.5 +1.8
KNMB	Chin-men Tao	65.99 309	P	P	21 14 54.8 +0.4
QZH	Quanzhou	66.12 310⇑	*i*P	P	21 14 55.5 +0.3
QZH			PcP	PcP	21 15 24.0 +0.6
QZH			S	S	21 23 23.1 +0.6
QZH			pmax	pmax	
	comp=Z,80nm,0.9s				
YUK	Yuzh-Kuril'sk	66.42 342*ce*	P	P	21 14 57.2 +0.6
TPRI	Tanjung Pinang	66.80 280	P	P	21 15 00.6 +0.9
	comp=Z,103nm,0.9s,comp=Z,1μm				
KUR	Kuril'sk	66.95 344*c*	*i*P	P	21 15 01.5 +1.6
KUR			pmax	pmax	
	comp=Z,580nm,1.0s				
JKA	Kamikawa-asahi	67.52 339	P	P	21 15 04.9 +1.3
JKA			IAmb	IAmb	21 15 06.4
	comp=Z,244nm,0.9s				
ASAJ	Asahikawa	67.52 339	P	P	21 15 04.5 +0.9
	comp=Z,174nm,0.8s,baz=216,slow=6.5,SNR=111				
	comp=Z,174nm,0.8s				
ASAJ	Asahikawa	67.52 339	P	P	21 15 04.9 +1.3
ASAJ			pmax	pmax	
	comp=Z,244nm,0.9s				
BTDF	Bukit Timah Da	67.66 280	P	P	21 15 06.0 +0.9
MYKOM	Kota Tinggi	67.74 280	P	P	21 15 06.1 +0.5
HKPS	Hong Kong Po S	67.97 305	P	P	21 15 08.0 +1.1
HKPS	Hong Kong Po S	67.97 305	P	P	21 15 06.5 -0.4
HKPS			IAmb	IAmb	21 15 09.0
	comp=Z,124nm,1.

QIZ				S	**S**	**21 24 08.8 +3.2**
QIZ				SKS	**SKSac**	**21 24 51.7 -1.7**
QIZ				sS	**sS**	**21 25 49.7 +1.1**
QIZ				pmax	pmax	
	comp=Z,73nm,0.8s					
QIZ				pmax	pmax	
	comp=Z,170nm,6.5s					
QIZ	**Qiongzhong**	**69.75 299**		P	**P**	**21 15 18.8 +1.0**
QIZ	**Qiongzhong**	**69.75 299**		P	**P**	**21 15 18.9 +1.0**
BKNI	**Bangkinang**	**69.85 278**		P	**P**	**21 15 20.7 +2.1**
BKNI	**Bangkinang**	**69.85 278**		P	**P**	**21 15 18.0 -0.6**
BKNI				IAmb	IAmb	21 15 20.1
	comp=Z,164nm,0.8s					
BKNI	**Bangkinang**	**69.85 278**		P	**P**	**21 15 19.3 +0.7**
	comp=Z,229nm,1.1s,comp=Z,2μm					
COCO	**West Island**	**69.96 264**		P	**P**	**21 15 20.6 +1.3**
PDSI	**Padang**	**69.97 276**		P	**P**	**21 15 17.9 -1.5**
	comp=Z,41nm,0.6s					
YSS	**Yuzh-Sakhalins**	**69.99 341**		P	**P**	**21 15 20.1 +1.4**
YSS	**Yuzh-Sakhalins**	**69.99 341**		P	**P**	**21 15 19.7 +1.0**
YSS				IAmb	IAmb	21 15 21.5
	comp=Z,217nm,1.0s					
YSS	**Yuzh-Sakhalins**	**69.99 341**	α	*i*P	**P**	**21 15 20.3 +1.6**
YSS				*e*		21 15 39.0
YSS				*e**PP	**pwP**	**21 16 21.6 +1.0**
YSS				*e**SP	**sP**	**21 16 46.4 +0.6**
YSS				*e*		21 17 54.7
YSS				*e*S	**S**	**21 24 08.8 +1.5**
YSS				*e*SS	**SS**	**21 28 42.7 -0.2**
YSS				pmax	pmax	
	comp=Z,1μm,3.5s					
YSS				pmax	pmax	
	comp=N,400nm,3.8s					
YSS				pmax	pmax	
	comp=Z,200nm,1.0s					
YSS				smax	smax	
	comp=N,600nm,7.1s					
YSS				smax	smax	
	comp=E,300nm,8.7s					
YSS	**Yuzh-Sakhalins**	**69.99 341**		P	**P**	**21 15 20.3 +1.6**
NJ2	**Nanjing**	**70.28 316**	⇑	P	**P**	**21 15 21.2 +0.4**
NJ2				pmax	pmax	
	comp=E,65nm,1.0s					
SKR	**Severo-Kuril's**	**70.42 351**		*e*P	**P**	**21 15 21.9 +0.7**
SKR				*e**PP	**pwP**	**21 16 24.6 +0.7**
SKR				*e*S	**S**	**21 24 13.7 +1.7**
SKR				pmax	pmax	
	comp=Z,1μm,5.2s					
SKR				pmax	pmax	
	comp=Z,540nm,1.1s					
AMKA	**Amchitka**	**70.63 6**		P	**P**	**21 15 23.2 +0.7**
MSHR	**Mys Shultsa**	**70.80 331**	*c*	*i*P	**P**	**21 15 24.5 +0.8**
MSHR				pmax	pmax	
	comp=Z,95nm,1.0s					
VLA	**Vladivostok**	**70.89 332**		*i*P	**P**	**21 15 25.4 +1.2**
VLA				pmax	pmax	
	comp=Z,74nm,0.8s					
QSPA	**South Pole Qui**	**71.01 180**		P	**P**	**21 15 25.6 +0.8**
QSPA	**South Pole Qui**	**71.01 180**		P	**P**	**21 15 25.5 +0.6**
	comp=Z,42nm,0.8s,baz=220,slow=0.8,SNR=254					
	comp=Z,42nm,0.8s					
QSPA	**South Pole Qui**	**71.01 180**	⇑	P	**P**	**21 15 25.7 +0.8**
QSPA				pP	**pP**	**21 16 23.1 -1.5**
PSTR	**Posyet**	**71.02 331**	*c*	*i*P	**P**	**21 15 26.0 +1.0**
KIWB	**Kanaga Island**	**71.54 9**		P	**P**	**21 15 28.8 +0.9**
ADK	**Adak**	**71.64 9**		P	**P**	**21 15 29.2 +0.8**
ADK	**Adak**	**71.64 9**		P	**P**	**21 15 28.6 +0.2**
ADK	**Adak**	**71.64 9**		P	**P**	**21 15 28.7 +0.2**
ADK				pmax	pmax	
	comp=Z,394nm,1.2s					
ADK	**Adak**	**71.64 9**		P	**P**	**21 15 28.6 +0.2**
USA0B	**Ussuriysk Arra**	**71.70 332**		IAmb	IAmb	21 15 31.3
	comp=Z,194nm,1.1s					
USA0B	**Ussuriysk Arra**	**71.70 332**	*c*	*i*P	**P**	**21 15 29.8 +0.8**
USRK	**Ussuriysk Ar.**	**71.70 332**		P	**P**	**21 15 30.2 +1.2**
USRK	**Ussuriysk Ar.**	**71.70 332**		P	**P**	**21 15 29.9 +0.9**
	comp=Z,92nm,0.9s,baz=144,slow=4.3,SNR=125					
	comp=Z,92nm,0.9s					
USRK	**Ussuriysk Ar.**	**71.70 332**		P	**P**	**21 15 30.3 +1.2**
UBPT	**Khong Chiam**	**71.70 294**		P	**P**	**21 15 31.4 +1.8**
UBPT	**Khong Chiam**	**71.70 294**		P	**P**	**21 15 29.0 -0.6**
KULM	**Kulim**	**71.99 282**		P	**P**	**21 15 31.4 -0.1**
UGL	**Uglegorsk**	**72.10 341**		*e*P	**P**	**21 15 32.5 +1.3**
UGL				*e*S	**S**	**21 24 32.5 +1.2**
UGL				pmax	pmax	
	comp=Z,600nm,4.0s					
UGL				pmax	pmax	
	comp=Z,80nm,1.0s					
UGL				smax	smax	
	comp=N,660nm,7.5s					
UGL				smax	smax	
	comp=E,670nm,7.5s					
CNSH	**ChangSha**	**72.13 309**		P	**P**	**21 15 32.2 +0.3**
CNSH				pmax	pmax	
	comp=E,59nm,0.9s					
ATKA	**Atka Island**	**72.34 10**		P	**P**	**21 15 33.8 +1.2**
PET	**Petropavlovsk**	**72.38 353**		P	**P**	**21 15 33.6 +0.8**
PET	**Petropavlovsk**	**72.38 353**		P	**P**	**21 15 33.6 +0.8**
PET	**Petropavlovsk**	**72.38 353**	α	*i*P	**P**	**21 15 33.5 +0.8**
PET				*e**SP	**sP**	**21 17 01.7 +1.5**
PET				*e*S	**S**	**21 24 37.2 +2.8**
PET				pmax	pmax	
	comp=Z,226nm,0.7s					
PET				pmax	pmax	
	comp=Z,300nm,12.5s					
WHN	**Wuhan**	**72.44 312**	⇑	*i*P	**P**	**21 15 33.8 +0.1**
WHN				S	**S**	**21 24 34.8 -1.2**
WHN				pmax	pmax	
	comp=Z,210nm,0.9s					
DL2	**Dalian**	**73.04 323**		P	**P**	**21 15 37.9 +0.9**
DL2				S	**S**	**21 24 45.3 +2.9**
DL2				pmax	pmax	
	comp=Z,430nm,0.9s					
DL2				pmax	pmax	
	comp=Z,1μm,4.8s					
MDJ	**Mudanjiang**	**73.10 331**		P	**P**	**21 15 38.3 +1.1**
MDJ	**Mudanjiang**	**73.10 331**		P	**P**	**21 15 38.4 +1.2**
MDJ				sP	sP	21 17 04.8 -0.3
MDJ				PP	**PP**	**21 18 19.0 -5.2**
MDJ				pmax	pmax	
	comp=Z,190nm,0.9s					
MDJ				pmax	pmax	
	comp=Z,350nm,8.9s					
MDJ	**Mudanjiang**	**73.10 331**		IAmb	IAmb	21 15 39.4
	comp=Z,144nm,0.9s					
GSI	**Gunungsitoli**	**73.44 277**		P	**P**	**21 15 41.0 +1.1**
GSI	**Gunungsitoli**	**73.44 277**		P	**P**	**21 15 40.3 +0.3**
GSI				IAmb	IAmb	21 15 41.4
	comp=Z,130nm,0.8s					
GSI	**Gunungsitoli**	**73.44 277**		P	**P**	**21 15 40.2 +0.3**
	comp=Z,184nm,0.9s					
TYV	**Tymovskoe**	**73.52 343**		*e*P	**P**	**21 15 41.1 +1.6**
TYV				*e*S	**S**	**21 24 45.7 -1.5**
TYV				pmax	pmax	
	comp=Z,64nm,1.3s					
TYV				pmax	pmax	
	comp=Z,500nm,4.3s					
TYV				smax	smax	
	comp=N,300nm,6.8s					
TYV				smax	smax	
	comp=E,200nm,6.8s					
SNY	**Shenyang**	**73.99 326**	⇑	P	**P**	**21 15 42.8 +0.3**
SNY				pmax	pmax	
	comp=E,61nm,1.0s					
TIA	**Tai'an**	**74.00 318**		P	**P**	**21 15 42.8 +0.1**
TIA				pmax	pmax	
	comp=E,63nm,0.8s					
KCSI	**Kotacane, Aceh**	**74.03 280**		P	**P**	**21 15 42.4 -1.0**
	comp=E,52nm,1.3s					
NIKH	**Nikolski High**	**74.11 13**		P	**P**	**21 15 43.7 +0.8**
NIKH	**Nikolski High**	**74.11 13**		P	**P**	**21 15 42.9 0.0**
	baz=201,SNR=18					
CN2	**Changchun**	**74.45 328**	⇑	*i*P	**P**	**21 15 45.7 +0.6**
CN2				S	**S**	**21 24 58.2 +0.2**
CN2				pmax	pmax	
	comp=E,270nm,0.7s					
BNX	**BinXian**	**74.95 331**	⇑	P	**P**	**21 15 47.6 -0.3**
BNX				pP	**pP**	**21 16 49.6 +1.2**
BNX				S	**S**	**21 25 05.2 +1.8**
BNX				pmax	pmax	
	comp=E,140nm,0.9s					
GRNR	**Gornyy**	**75.38 339**	⇑	*i*P	**P**	**21 15 52.1 +1.9**
GRNR				pmax	pmax	
	comp=E,30nm,1.2s					
GRNR				pmax	pmax	
	comp=N,40nm,1.3s					
GRNR				pmax	pmax	
	comp=Z,140nm,1.2s					
UNV	**Unalaska Valle**	**75.45 14**		P	**P**	**21 15 50.7 +0.2**
UNV	**Unalaska Valle**	**75.45 14**		P	**P**	**21 15 50.0 -0.6**
	baz=203,SNR=11					
MLSI	**Meulaboh, Aceh**	**75.56 280**		P	**P**	**21 15 52.3 +0.2**
	comp=Z,148nm,1.0s					
ENH	**Enshi**	**75.78 309**		P	**P**	**21 15 53.9 +0.8**
ENH	**Enshi**	**75.78 309**		IAmb	IAmb	21 15 54.3
	comp=Z,372nm,1.9s					
KLR	**Kul'dur**	**75.82 336**		P	**P**	**21 15 54.0 +1.2**
	comp=Z,101nm,0.9s,baz=132,slow=3.8,SNR=270					
	comp=Z,101nm,0.9s					
KLR	**Kul'dur**	**75.82 336**		*e*P	**P**	**21 15 53.9 +1.2**
KLR				pmax	pmax	
	comp=Z,233nm,1.6s					
GYA	**Guiyang**	**75.96 305**	⇑	P	**P**	**21 15 54.6 +0.4**
GYA				pP	pP	21 16 57.2 +2.3
GYA				S	**S**	**21 25 17.6 +2.1**
GYA				SKS	**SKSac**	**21 25 36.4 -3.6**
GYA				ScS	**ScS**	**21 25 43.5 -0.9**
GYA				pmax	pmax	
	comp=Z,81nm,1.0s					
GYA				pmax	pmax	
	comp=Z,340nm,5.3s					
LYN	**LuoYang**	**76.05 314**	⇑	P	**P**	**21 15 55.4 +1.0**
LYN				S	**S**	**21 25 18.2 +2.3**
LYN				sS	sS	21 27 04.0 +3.1
LYN				pmax	pmax	
	comp=Z,290nm,0.8s					
HNS	**HongShan**	**76.26 318**	⇑	P	**P**	**21 15 56.4 +0.9**
HNS				PcP	**PcP**	**21 16 11.9 +5.7**
HNS				pP	**pP**	**21 16 57.3 +1.1**
HNS				sP	**sP**	**21 17 23.4 -0.4**
HNS				S	**S**	**21 25 20.8 +2.8**
HNS				ScS	**ScS**	**21 25 46.6 +0.6**
HNS				pmax	pmax	
	comp=Z,78nm,1.6s					
HNS				pmax	pmax	
	comp=Z,580nm,5.4s					
SRDT	**SRDT**	**76.88 290**		P	**P**	**21 16 01.1 +1.7**
BJT	**Baijiatuau**	**76.97 321**		P	**P**	**21 16 00.5 +1.1**
BJT	**Baijiatuau**	**76.97 321**		IAmb	IAmb	21 16 01.4
	comp=Z,108nm,0.9s					
BJT	**Baijiatuau**	**76.97 321**		P	**P**	**21 16 00.2 +0.8**
BJI	**Beijing**	**76.98 321**		P	**P**	**21 16 00.2 +0.8**
BJI				S	**S**	**21 25 27.4 +1.7**
BJI				pmax	pmax	
	comp=Z,64nm,0.9s					
BJI				pmax	pmax	
	comp=Z,300nm,4.4s					
P08K	**Saint George I**	**77.37 12**		P	**P**	**21 16 01.7 +0.5**
	baz=200					
SPIA	**Saint Paul Isl**	**77.78 11**		P	**P**	**21 16 04.0 +0.5**
	baz=200					
TIY	**Taiyuan**	**77.90 317**		*e*P	**P**	**21 16 05.6 +0.9**
TIY				pP	**pP**	**21 17 04.9 -0.8**
TIY				S	**S**	**21 25 38.7 +2.8**
TIY				pmax	pmax	
	comp=Z,62nm,1.2s					
CNBA	**Chernabura Isl**	**78.14 18**		P	**P**	**21 16 05.2 -0.2**
CNBA				IAmb	IAmb	21 16 06.7
	comp=Z,205nm,1.2s					
CHNA	**Chernabura Isl**	**78.15 18**		P	**P**	**21 16 05.3 -0.2**
	baz=210,SNR=7.0					
XAN	**Xi'an**	**78.20 312**	⇑	P	**P**	**21 16 07.0 +0.6**
XAN				S	**S**	**21 25 38.8 -0.4**
XAN				pmax	pmax	
	comp=Z,200nm,1.0s					
XAN				pmax	pmax	
	comp=Z,420nm,6.0s					
XAN				LR	LR	
	comp=Z,780nm,10.8s					
XAN				LR	LR	
	comp=Z,380nm,18.9s					
XAN				LR	LR	
	comp=Z,280nm,16.5s					
CRAI	**Chiangrai**	**78.22 296**		IAmb	IAmb	21 16 09.2
	comp=Z,97nm,1.0s					
S12K	**Black Hills**	**78.24 16**		P	**P**	**21 16 05.8 -0.2**
	baz=207,SNR=7.9					
SDPT	**Sand Point**	**78.35 17**		P	**P**	**21 16 06.3 -0.3**
	baz=209					
HEH	**HeiHe**	**78.37 334**		*e*P	**P**	**21 16 07.2 +0.3**
HEH				sP	**sP**	**21 17 35.5 +0.3**
HEH				PP	**PP**	**21 19 06.9 -1.5**
HEH				S	**S**	**21 25 39.7 -0.5**
HEH				pmax	pmax	
	comp=Z,150nm,0.9s					
HEH				pmax	pmax	
	comp=Z,590nm,6.0s					
KMI	**Kunming**	**78.43 302**	⇑	P	**P**	**21 16 09.3 +1.2**
KMI				pP	pP	21 17 06.7 -2.5
KMI				sS	sS	21 27 29.0 +1.4
KMI				pmax	pmax	
	comp=Z,260nm,0.8s					
CM31	**Chiang Mai Arr**	**78.70 294**		IAmb	IAmb	21 16 12.0
	comp=Z,96nm,0.8s					
CMAR	**Chiang Mai Arr**	**78.70 294**		P	**P**	**21 16 10.8 +1.4**
	comp=Z,52nm,0.8s,baz=134,slow=4.3,SNR=352					
CMAR				PKPPKP	**P'P'df**	**21 43 00.3 -5.5**
	comp=Z,0.3nm,0.4s,baz=290,slow=4.1,SNR=4.0					
	comp=Z,52nm,0.8s					
MAW	**Mawson**	**78.73 202**		P	**P**	**21 16 10.0 +1.4**
	comp=Z,26nm,0.9s,baz=110,slow=6.0,SNR=52					
	comp=Z,26nm,0.9s					
MAW	**Mawson**	**78.73 202**		P	**P**	**21 16 10.1 +1.4**
	comp=Z,8.9nm,1.0s					
CHTO	**Chiang Mai**	**78.85 294**		P	**P**	**21 16 11.5 +1.3**
CHTO				IAmb	IAmb	21 16 12.5
	comp=Z,86nm,0.8s					
CHTO	**Chiang Mai**	**78.85 294**		P	**P**	**21 16 11.5 +1.3**
CHTO				pmax	pmax	
	comp=Z,86nm,0.8s					
S14K	**Fog Glacier**	**79.42 17**		P	**P**	**21 16 12.8 +0.2**
	baz=210					
XLT	**XiLinHaoTe**	**79.47 324**		*e*P	**P**	**21 16 13.7 +0.6**
XLT				sP	sP	21 17 38.1 -3.7
XLT				S	**S**	**21 25 54.9 +2.7**
XLT				pmax	pmax	
	comp=Z,120nm,0.8s					
CHGN	**Chignik**	**79.76 17**		IAmb	IAmb	21 16 15.3
	comp=Z,250nm,1.4s					
CHGN	**Chignik**	**79.76 17**		P	**P**	**21 16 14.0 -0.2**
	baz=211,SNR=10					
MA2	**Magadan**	**79.83 350**		P	**P**	**21 16 15.3 +0.8**
MA2	**Magadan**	**79.83 350**		P	**P**	**21 16 14.1 -0.4**
MA2				IAmb	IAmb	21 16 15.6
	comp=Z,176nm,1.4s					
MA2	**Magadan**	**79.83 350**	*c*	*i*P	**P**	**21 16 13.9 -0.6**
MA2				pmax	pmax	
	comp=Z,75nm,1.2s					
MA2	**Magadan**	**79.83 350**		P	**P**	**21 16 14.4 -0.1**
	comp=Z,92nm,1.1s,comp=Z,1μm					
PZH	**PanZhiHua**	**79.86 303**		P	**P**	**21 16 15.7 0.0**
PZH				S	**S**	**21 25 57.0 -0.1**
PZH				sS	**sS**	**21 27 39.4 -3.3**
PZH				pmax	pmax	
	comp=Z,100nm,0.9s					
PZH				pmax	pmax	
	comp=Z,260nm,4.9s					
CHIR	**Chirikof Islan**	**80.18 19**		P	**P**	**21 16 17.2 +0.8**
	baz=213					
HHC	**Hu-ho-hao-te**	**80.27 319**	⇑	*i*P	**P**	**21 16 18.5 +1.0**
HHC				pP	pP	21 17 18.0 -0.8
HHC				sP	sP	21 17 44.7 -1.5
HHC				sS	sS	21 27 48.8 +0.5
HHC				pmax	pmax	
	comp=Z,96nm,1.1s					
HHC				pmax	pmax	
	comp=Z,130nm,3.5s					
CD2	**Chengdu**	**80.36 307**		P	**P**	**21 16 18.8 +0.7**
CD2				pmax	pmax	
	comp=Z,50nm,0.8s					
CD2				pmax	pmax	
	comp=Z,240nm,4.7s					
BTO	**Baotou**	**81.09 318**		*e*P	**P**	**21 16 23.7 +1.8**
BTO				pP	**pP**	**21 17 17.8 -5.5**
BTO				PP	**PP**	**21 19 30.4 -0.8**
BTO				S	**S**	**21 26 07.6 -1.7**
BTO				pmax	pmax	
	comp=Z,95nm,0.9s					
BTO				pmax	pmax	
	comp=Z,210nm,5.1s					
BTO				LR	LR	
	comp=Z,180nm,7.1s					
BTO				LR	LR	
	comp=Z,260nm,8.0s					
BTO				LR	LR	
	comp=Z,170nm,10.7s					
HIA	**Hailar**	**81.10 330**		P	**P**	**21 16 22.6 +1.0**
ZEA	**Zeya**	**81.10 336**		*e*P	**P**	**21 16 22.4 +1.0**
ZEA				pmax	pmax	
	comp=N,200nm,5.7s					
ZEA				pmax	pmax	
	comp=Z,300nm,7.2s					
ZEA				pmax	pmax	
	comp=E,20nm,1.1s					
ZEA				pmax	pmax	
	comp=N,50nm,0.9s					
ZEA				pmax	pmax	
	comp=Z,80nm,0.8s					
SII	**Sitkinak Islan**	**81.24 19**		P	**P**	**21 16 23.5 +1.4**
SII	**Sitkinak Islan**	**81.24 19**		P	**P**	**21 16 23.1 +0.9**
	baz=214,SNR=12					
R17L	**Mt. Peulik Vol**	**81.48 18**		P	**P**	**21 16 24.1 +0.7**
	baz=212,SNR=30					
M11K	**Mekoryuk**	**81.55 12**		P	**P**	**21 16 25.3 +1.8**
	baz=203,SNR=11					
O14K	**Tigyukauivet M**	**81.59 15**		IAmb	IAmb	21 16 26.4
	comp=Z,145nm,0.8s					
O14K	**Tigyukauivet M**	**81.59 15**		P	**P**	**21 16 24.5 +0.6**
	baz=208,SNR=14					
PBA	**Port Blair**	**81.59 285**		P	**P**	**21 16 26.3 +1.4**
PAF	**Port-aux-Franc**	**81.67 221**		P	**P**	**21 16 25.6 +0.9**
PAF	**Port-aux-Franc**	**81.67 221**		P	**P**	**21 16 25.6 +0.9**
PAF				pmax	pmax	
	comp=Z,305nm,1.0s					
TNCH	**TengChong**	**81.82 300**	⇑	P	**P**	**21 16 26.9 +0.8**
TNCH				pP	pP	21 17 27.1 -0.7
TNCH				sP	sP	21 17 50.8 -4.5
TNCH				S	**S**	**21 26 18.3 +0.8**
TNCH				sS	sS	21 28 05.6 +2.0
TNCH				pmax	pmax	
	comp=Z,94nm,0.8s					
TNCH				pmax	pmax	
	comp=Z,280nm,2.7s					
O15K	**Ungalikthiuk R**	**81.88 15**		P	**P**	**21 16 25.8 +0.4**
	baz=209,SNR=7.8					
R18K	**Karluk**	**81.99 19**		P	**P**	**21 16 26.6 +0.7**
	baz=214					
OHAK	**Old Harbor**	**82.06 19**		P	**P**	**21 16 27.8 +1.5**
OHAK	**Old Harbor**	**82.06 19**		P	**P**	**21 16 27.2 +0.9**
	baz=215,SNR=42					
N14K	**Kuskokwak Cree**	**82.09 14**		P	**P**	**21 16 27.3 +0.9**
	baz=207,SNR=18					
Q17K	**Contact Creek**	**82.15 18**		P	**P**	**21 16 27.3 +0.3**
	baz=213,SNR=118					
M13K	**Dall Lake**	**82.16 13**		P	**P**	**21 16 28.4 +1.7**
M13K				IAmb	IAmb	21 16 30.5
	comp=Z,159nm,0.8s					
M13K	**Dall Lake**	**82.16 13**		P	**P**	**21 16 28.2 +1.4**
	baz=206,SNR=7.5					
P16K	**Nushagak River**	**82.23 16**		P	**P**	**21 16 27.4 +0.3**
	baz=211,SNR=9.6					
ACHA	**Angle Creek He**	**82.27 18**		IAmb	IAmb	21 16 31.6
	comp=Z,410nm,1.8s					
BELA	**Belgrano 2**	**82.27 175**		P	**P**	**21 16 27.3 0.0**
BELA				IAmb	IAmb	21 16 28.1
	comp=Z,189nm,1.5s					
Q16K	**King Salmon**	**82.28 17**		P	**P**	**21 16 28.0 +0.6**
	baz=212					
O16K	**Kokwok River B**	**82.68 16**		IAmb	IAmb	21 16 31.3
	comp=Z,156nm,1.1s					
O16K	**Kokwok River B**	**82.68 16**		P	**P**	**21 16 29.2 -0.3**
	baz=211,SNR=23					
N15K	**Kwethluk River**	**82.69 15**		P	**P**	**21 16 31.1 +1.5**
	baz=209,SNR=42					
Q18K	**Katmai Hardscr**	**82.73 18**		P	**P**	**21 16 30.4 +0.5**
	baz=214,SNR=161					
KDAK	**Kodiak Island**	**82.74 19**		P	**P**	**21 16 30.8 +0.9**
KDAK	**Kodiak Island**	**82.74 19**		P	**P**	**21 16 30.9 +1.1**
	baz=216					
KDAK	**Kodiak Island**	**82.74 19**	*c*	*i*P	**P**	**21 16 30.6 +0.8**
KDAK				pmax	pmax	
	comp=Z,468nm,1.1s					
M14K	**Bethel**	**82.77 14**		P	**P**	**21 16 31.0 +1.2**
	baz=207,SNR=12					
P17K	**Kvichak River**	**82.78 17**		P	**P**	**21 16 30.4 +0.4**
	baz=212					
SEY	**Seymchan**	**82.81 352**		*e*P	**P**	**21 16 27.8 -2.3**
SEY				pmax	pmax	
	comp=Z,100nm,1.4s					
LZH	**Lanzhou**	**82.83 312**	⇑	*i*P	**P**	**21 16 32.6 +1.6**
LZH				pP	pP	21 17 34.6 +1.9
LZH				sP	sP	21 17 59.9 -0.1
LZH				S	**SKSac**	**21 26 29.3 +1.8**
LZH				sS	sS	21 28 16.7 +3.4
LZH				pmax	pmax	
	comp=Z,210nm,1.0s					
LZH				pmax	pmax	
	comp=Z,520nm,4.9s					
M15K	**Kasigluk River**	**83.01 14**		P	**P**	**21 16 32.3 +1.1**
	baz=208,SNR=42					
O17K	**Koliganek Bris**	**83.10 16**		P	**P**	**21 16 32.0 +0.4**
	baz=212					
L14K	**Kuka Creek**	**83.14 13**		P	**P**	**21 16 33.1 +1.3**
	baz=206					
N16K	**Nishlik Lake**	**83.28 15**		P	**P**	**21 16 34.5 +2.0**
	baz=210,SNR=44					
P18K	**Big Mountain,**	**83.29 17**		P	**P**	**21 16 33.0 +0.3**
	baz=213,SNR=175					
Q19K	**Cape Douglas,**	**83.36 18**		P	**P**	**21 16 33.6 +0.6**
	baz=215					
Q20K	**Shuyak Island**	**83.47 19**		P	**P**	**21 16 34.4 +0.9**
	baz=216,SNR=27					
O18K	**Koktuh Hills**	**83.68 17**		P	**P**	**21 16 34.9 +0.3**
	baz=213,SNR=66					
L15K	**Ungalak Mounta**	**83.70 13**		P	**P**	**21 16 35.7 +1.0**
	baz=208,SNR=62					
M16K	**Timber Creek**	**83.70 15**		P	**P**	**21 16 36.6 +1.9**
	baz=210,SNR=156					
N17K	**Nushagak Hills**	**83.72 16**		P	**P**	**21 16 36.0 +1.2**
	baz=212,SNR=56					
SMAI	**San Martin Ant**	**83.92 162**		P	**P**	**21 16 37.0 +1.2**
SMAI				IAmb	IAmb	21 16 37.5
	comp=Z,64nm,0.7s					
P19K	**Oil Pt**	**84.08 18**		P	**P**	**21 16 36.9 +0.2**
	baz=215,SNR=30					
L16K	**Owhat River**	**84.18 14**		P	**P**	**21 16 38.5 +1.4**
	baz=209,SNR=120					
N18K	**Kilae Creek**	**84.19 16**		IAmb	IAmb	21 16 39.2
	comp=Z,190nm,1.0s					
N18K	**Kilae Creek**	**84.19 16**		P	**P**	**21 16 38.0 +0.9**
	baz=213,SNR=40					
O19K	**Port Alsworth**	**84.21 17**		P	**P**	**21 16 37.5 +0.3**
	baz=214					
J14K	**Nanvaranak Lak**	**84.23 12**		P	**P**	**21 16 38.8 +1.6**
	baz=206,SNR=38					
K15K	**Wolf Creek Mou**	**84.24 13**		P	**P**	**21 16 39.1 +1.7**
	baz=207,SNR=134					
M17K	**Holitna River**	**84.41 15**		P	**P**	**21 16 40.0 +1.8**
	baz=211,SNR=83					
HOM	**Homer**	**84.55 19**		P	**P**	**21 16 39.6 +0.7**
	baz=217,SNR=9.1					
O20K	**Slope Mountain**	**84.60 18**		P	**P**	**21 16 39.9 +0.6**
	baz=216,SNR=17					
SVW2	**Sparrevohn**	**84.62 16**		P	**P**	**21 16 41.9 +2.6**
SVW2	**Sparrevohn**	**84.62 16**		IAmb	IAmb	21 16 42.5
	comp=Z,378nm,1.6s					
N19K	**Bonanza Creek**	**84.68 17**		IAmb	IAmb	21 16 41.2
	comp=Z,124nm,0.9s					
N19K	**Bonanza Creek**	**84.68 17**		P	**P**	**21 16 40.1 +0.4**
	baz=214,SNR=27					
L17K	**Donlin**	**84.83 15**		P	**P**	**21 16 42.0 +1.8**
	baz=210,SNR=95					
BRLK	**Bradley Lake**	**84.87 19**		IAmb	IAmb	21 16 43.1
	comp=Z,239nm,1.1s					
M18K	**Stony River**	**84.89 16**		P	**P**	**21 16 41.7 +1.1**
	baz=213,SNR=220					
BRSE	**Bradley Lake S**	**84.89 19**		P	**P**	**21 16 41.1 +0.4**
	baz=217,SNR=16					
MCCM	**Marconi Confer**	**85.11 47**		IAmb	IAmb	21 16 44.3
	comp=Z,165nm,0.9s					
SNCC	**San Nicolas Is**	**85.28 53**		P	**P**	**21 16 44.6 +1.3**
	baz=244,SNR=11					
L18K	**Granite Mounta**	**85.29 15**		IAmb	IAmb	21 16 45.5
	comp=Z,86nm,0.7s					
L18K	**Granite Mounta**	**85.29 15**		P	**P**	**21 16 43.8 +1.3**
	baz=212,SNR=33					

J16K	Anvik River	85.32	13	P	P	21 16 43.9	+1.2
	baz=208,SNR=90						
K17K	Iditarod	85.33	14	P	P	21 16 44.5	+1.7
	baz=210,SNR=51						
KCPM	Cahto Peak	85.37	45	P	P	21 16 45.5	+1.8
KMPM	Mount Pierce	85.37	45	P	P	21 16 45.7	+2.1
HOPS	Hopland Field	85.38	46	IAmb	IAmb	21 16 46.6	
	comp=Z,276nm,1.1s						
SAO	San Andreas Ge	85.46	49	IAmb	IAmb	21 16 47.0	
	comp=Z,193nm,1.1s						
SCZ2	Santa Cruz Isl	85.53	52	P	P	21 16 46.0	+1.6
	baz=244,SNR=13						
KMRM	Mail Ridge	85.55	45	P	P	21 16 46.5	+2.0
ANM	Nome	85.55	11	P	P	21 16 45.4	+1.6
	baz=204						
SEW	Seward	85.58	19	P	P	21 16 44.7	+0.7
	baz=218						
CAPN	Captain Cook N	85.59	18	P	P	21 16 44.9	+0.9
	baz=217						
M19K	Big River Lodg	85.61	16	IAmb	IAmb	21 16 47.8	
	comp=Z,86nm,1.0s						
M19K	Big River Lodg	85.61	16	P	P	21 16 44.4	+0.2
	baz=214						
JCC	Jacoby Creek,	85.63	44	IAmb	IAmb	21 16 48.0	
	comp=Z,208nm,1.1s						
N20K	Mount Spurr	85.63	17	P	P	21 16 43.1	-1.3
	baz=216						
SPCR	Spurr Chakacha	85.63	17	P	P	21 16 44.8	+0.4
	baz=216						
BBGB	Big Mountain B	85.67	49	IAmb	IAmb	21 16 48.8	
	comp=Z,263nm,1.1s						
SBC	Santa Barbara	85.67	51	P	P	21 16 46.8	+1.7
	baz=244						
PMPB	Monarch Peak	85.67	49	IAmb	IAmb	21 16 48.4	
	comp=Z,232nm,1.1s						
L19K	White Mountain	85.72	16	IAmb	IAmb	21 16 48.8	
	comp=Z,214nm,0.9s						
L19K	White Mountain	85.72	16	P	P	21 16 45.5	+0.8
	baz=214,SNR=103						
J17K	VABM Dome	85.75	14	P	P	21 16 46.1	+1.3
	baz=210,SNR=53						
PKM	Mcpherson Peak	85.79	51	P	P	21 16 47.2	+1.2
	baz=243,SNR=32						
O22K	Cooper Landing	85.79	19	P	P	21 16 45.0	-0.1
	baz=218						
I17K	Unalakleet	85.83	13	IAmb	IAmb	21 16 49.1	
	comp=Z,161nm,1.2s						
I17K	Unalakleet	85.83	13	P	P	21 16 46.6	+1.5
	baz=208,SNR=9.6						
SMMC	Simmler	85.85	51	P	P	21 16 47.8	+1.8
	baz=243,SNR=8.9						
CIT	Chita	85.88	329	*e*P	P	21 16 46.0	+0.2
CIT				pmax	pmax		
	comp=Z,234nm,2.6s						
SCI2	San Clemente I	85.90	53	P	P	21 16 47.7	+1.5
	baz=244,SNR=11						
M20K	Styx River	85.93	17	P	P	21 16 47.1	+1.2
	baz=215,SNR=11						
KRMB	Red Mountain	86.06	44	IAmb	IAmb	21 16 50.4	
	comp=Z,302nm,1.3s						
TNA	Tin City	86.06	9	P	P	21 16 47.5	+1.3
	baz=201,SNR=5.5						
P23K	Montague Islan	86.15	20	P	P	21 16 47.3	+0.5
	baz=220,SNR=7.4						
G15K	Niukluk	86.18	11	P	P	21 16 47.8	+0.9
	baz=205,SNR=13						
CIS	Catalina Islan	86.18	53	P	P	21 16 48.8	+1.1
	baz=244,SNR=6.7						
KBO	Bosley Butte	86.19	43	IAmb	IAmb	21 16 51.0	
	comp=Z,270nm,1.3s						
H16K	Elim	86.19	12	P	P	21 16 48.0	+1.1
	baz=207,SNR=14						
L20K	Farewell, AK	86.23	16	P	P	21 16 47.6	+0.4
	baz=214,SNR=102						
KSXB	Camp Six Broad	86.23	43	IAmb	IAmb	21 16 51.1	
	comp=Z,178nm,1.1s						
F14K	Arctic Creek	86.23	10	P	P	21 16 47.2	0.0
	baz=203						
SUA	Susitna One	86.27	18	P	P	21 16 46.8	-0.7
	baz=217,SNR=15						
RC01	Rabbit Creek A	86.27	19	IAmb	IAmb	21 16 51.1	
	comp=Z,156nm,1.3s						
RC01	Rabbit Creek A	86.27	19	P	P	21 16 46.8	-0.6
	baz=218,SNR=8.4						
J18K	Innoko River	86.35	14	IAmb	IAmb	21 16 49.8	
	comp=Z,159nm,0.8s						
J18K	Innoko River	86.35	14	P	P	21 16 48.5	+0.7
	baz=212,SNR=56						
ELIB	Princess Elisa	86.39	190	*d*P	P	21 16 48.2	0.0
	comp=Z,23nm,1.0s						
ELIB				*d*pP	pP	21 17 48.5	-1.8
FMP	Fort Macarthur	86.41	53	P	P	21 16 49.0	+0.3
	baz=244,SNR=7.7						
SKT	Skwentna	86.46	17	P	P	21 16 46.4	-1.9
	baz=217,SNR=11						
OSI	Osito Audit: C	86.48	52	P	P	21 16 50.0	+0.9
	baz=244						
L02F	Cave Junction	86.57	43	IAmb	IAmb	21 16 52.6	
	comp=Z,281nm,1.6s						
DECC	Green Verdugo	86.61	52	P	P	21 16 50.8	+1.0
	baz=244,SNR=23						
ARVC	Arvin	86.62	51	P	P	21 16 51.4	+1.6
	baz=244,SNR=32						
M22K	Willow	86.68	18	P	P	21 16 48.4	-0.9
	baz=218,SNR=24						
PASC	Pasadena Art C	86.69	52	IAmb	IAmb	21 16 52.4	
	comp=Z,156nm,1.0s						
ORV	Oroville	86.72	46	IAmb	IAmb	21 16 52.8	
	comp=Z,202nm,1.1s						
F15K	North Star Dit	86.72	10	IAmb	IAmb	21 16 51.0	
	comp=Z,221nm,1.7s						
F15K	North Star Dit	86.72	10	P	P	21 16 50.7	+1.2
	baz=204,SNR=6.1						
VOG	Valley Oaks Go	86.74	50	P	P	21 16 51.4	+1.2
	baz=244,SNR=6.4						
VES	Vestal, Richgr	86.75	50	P	P	21 16 51.4	+1.1
	baz=244,SNR=40						
YAK	Yakutsk	86.78	342	IAmb	IAmb	21 16 50.8	
	comp=Z,137nm,0.8s						
YAK				P	P	21 16 50.9	+1.1
YAK	Yakutsk	86.78	342	*e*P	P	21 16 49.4	-0.4
YAK				*e*PP	pwP	21 17 55.2	+1.0
YAK				*e*		21 20 21.0	
YAK				*e*S	SKSac	21 26 47.8	-3.1
YAK				*e*SS	SS	21 33 01.4	+8.0
YAK				pmax	pmax		
	comp=Z,159nm,1.0s						
YAK				pmax	pmax		
	comp=E,20nm,1.3s						
YAK				pmax	pmax		
	comp=N,30nm,1.3s						
YAK				pmax	pmax		
	comp=Z,50nm,1.4s						
YAK				pmax	pmax		
	comp=N,27nm,1.3s						
YAK				pmax	pmax		
	comp=E,28nm,1.6s						
YAK				smax	smax		
	comp=E,116nm,12.5s						
YAK				smax	smax		
	comp=N,196nm,12.1s						
CMB	Columbia Colle	86.79	48	IAmb	IAmb	21 16 53.2	
	comp=Z,185nm,1.0s						
AFDM	Forest Hills D	86.80	47	IAmb	IAmb	21 16 53.3	
	comp=Z,258nm,1.1s						
PMR	Palmer	86.84	18	P	P	21 16 51.5	+1.4
PMR	Palmer	86.84	18	P	P	21 16 49.4	-0.7
	baz=219,SNR=14						
G16K	Koyuk River	86.85	11	IAmb	IAmb	21 16 52.8	
	comp=Z,182nm,0.8s						
G16K	Koyuk River	86.85	11	P	P	21 16 51.0	+0.9
	baz=206,SNR=25						
J01E	Myrtle Point	86.85	42	IAmb	IAmb	21 16 53.6	
	comp=Z,208nm,1.0s						
BILL	Bilibino	86.86	359	P	P	21 16 50.9	+0.7
BILL				IAmb	IAmb	21 16 51.7	
	comp=Z,213nm,0.9s						
BILL	Bilibino	86.86	359	*c i*P	P	21 16 50.0	-0.1
BILL				pmax	pmax		
	comp=Z,202nm,1.0s						
CCX	Cicese	86.87	55	IAmb	IAmb	21 16 53.8	
	comp=Z,162nm,1.0s						
K20K	Telida	86.91	16	IAmb	IAmb	21 16 53.8	
	comp=Z,81nm,1.1s						
K20K	Telida	86.91	16	P	P	21 16 50.7	+0.2
	baz=214,SNR=34						
KNK	Knik Glacier	86.91	19	P	P	21 16 50.1	-0.4
	baz=219,SNR=12						
GLI	Glacier Island	86.92	20	IAmb	IAmb	21 16 52.2	
	comp=Z,132nm,1.1s						
GLI	Glacier Island	86.92	20	P	P	21 16 49.6	-0.9
	baz=221,SNR=7.3						
H17K	Granite Mounta	86.92	13	IAmb	IAmb	21 16 53.0	
	comp=Z,144nm,0.8s						
H17K	Granite Mounta	86.92	13	P	P	21 16 51.3	+0.8
	baz=209,SNR=43						
YBH	Yreka Blue Hor	86.94	44	IAmb	IAmb	21 16 54.5	
	comp=Z,233nm,1.1s						
109C	Camp Elliot, M	86.96	54	IAmb	IAmb	21 16 54.0	
	comp=Z,187nm,1.1s						
109C	Camp Elliot, M	86.96	54	P	P	21 16 52.7	+1.3
	baz=245,SNR=29						
PPLA	Purkeypile	87.02	16	P	P	21 16 49.7	-1.4
	baz=216						
FID	Port Fidalgo	87.02	20	IAmb	IAmb	21 16 52.6	
	comp=Z,138nm,1.1s						
ELS	Elsinore Mount	87.03	53	IAmb	IAmb	21 16 54.5	
	comp=Z,120nm,1.1s						
GHO	Glory Hole Cre	87.05	18	IAmb	IAmb	21 16 52.0	
	comp=Z,74nm,0.9s						
J19K	Poorman	87.06	15	P	P	21 16 52.0	+0.9
	baz=213,SNR=24						
KAIM	Kayak Island	87.09	21	IAmb	IAmb	21 16 53.8	
	comp=Z,218nm,1.2s						
KAIM	Kayak Island	87.09	21	P	P	21 16 51.7	+0.3
	baz=223,SNR=6.7						
EYAK	Cordova Ski Ar	87.11	20	P	P	21 16 52.3	+0.9
EYAK	Cordova Ski Ar	87.11	20	P	P	21 16 50.9	-0.6
	baz=222,SNR=8.2						
BFSC	Mount Baldy Ra	87.11	52	P	P	21 16 53.5	+1.2
	baz=245,SNR=63						
ISA	Isabella, Lake	87.12	51	IAmb	IAmb	21 16 55.1	
	comp=Z,209nm,1.0s						
ISA	Isabella, Lake	87.12	51	P	P	21 16 53.9	+1.7
	baz=244,SNR=62						
EDW2	Edwards Air Fo	87.13	52	P	P	21 16 53.8	+1.5
	baz=244,SNR=85						
CUT	Chulitna	87.15	18	IAmb	IAmb	21 16 51.8	
	comp=Z,120nm,0.9s						
CUT	Chulitna	87.15	18	P	P	21 16 50.7	-0.9
	baz=218,SNR=6.4						
MURC	Murrieta	87.19	53	P	P	21 16 53.6	+1.0
	baz=245,SNR=27						
HUMO	Hut Mountain	87.20	43	IAmb	IAmb	21 16 55.7	
	comp=Z,188nm,0.9s						
TKX	Tecate	87.21	54	IAmb	IAmb	21 16 55.3	
	comp=Z,151nm,1.2s						
GTA	Gaotai	87.21	313	⇑P	P	21 16 53.4	+0.7
GTA				SKS	SKSac	21 26 54.5	-0.5
GTA				S	S	21 27 09.6	-0.4
GTA				pmax	pmax		
	comp=Z,120nm,1.1s						
GTA				pmax	pmax		
	comp=Z,290nm,8.4s						
CCAC	Calif City Air	87.23	51	IAmb	IAmb	21 16 55.6	
	comp=Z,106nm,1.0s						
SONM	Songino Array	87.25	323	P	P	21 16 53.2	+0.6
SONM				IAmb	IAmb	21 16 54.3	
	comp=Z,176nm,1.0s						
SONM	Songino Array	87.25	323	P	P	21 16 52.8	+0.2
	comp=Z,110nm,0.8s,baz=142,slow=5.3,SNR=360						
SONM				PKKPbc	PKKPbc	21 34 41.7	-2.7
	comp=Z,2.3nm,0.9s,baz=259,slow=2.5,SNR=8.4						
SONM				PKPPKP	P'P'df	21 42 46.5	-3.2
	comp=Z,1.2nm,1.1s,baz=222,slow=1.9,SNR=4.5						
	comp=Z,110nm,0.8s						
SONM	Songino Array	87.25	323	P	P	21 16 53.2	+0.6
SONM				pmax	pmax		
	comp=Z,176nm,1.0s						
SML	Sawmill	87.25	19	P	P	21 16 51.5	-0.6
	baz=219,SNR=18						
G17K	Kiwalik Mounta	87.27	12	P	P	21 16 52.9	+0.8
	baz=208,SNR=22						
VTX	Valle De La Tr	87.36	56	IAmb	IAmb	21 16 56.6	
	comp=Z,145nm,1.1s						
GCSA	Galena City Sc	87.41	14	P	P	21 16 53.1	+0.4
	baz=212,SNR=6.9						
EMB	Emerald Bay	87.42	47	IAmb	IAmb	21 16 56.6	
	comp=Z,242nm,1.3s						
M23K	Glacier View	87.42	19	P	P	21 16 52.2	-0.8
	baz=220,SNR=9.1						
H18K	Honhosa River	87.43	13	P	P	21 16 52.8	-0.1
	baz=210,SNR=9.5						
CAST	Castle Rocks	87.47	16	IAmb	IAmb	21 16 55.2	
	comp=Z,127nm,0.8s						
CAST	Castle Rocks	87.47	16	P	P	21 16 52.1	-1.1
	baz=216						
MONP2	Monument Peak	87.48	54	P	P	21 16 55.7	+1.5
	baz=246,SNR=131						
ESJX	Sierra Juarez	87.48	55	IAmb	IAmb	21 16 57.4	
	comp=Z,120nm,1.3s						
SHL	Shillong	87.53	298	P	P	21 16 54.5	0.0
	SNR=11						
MDPB	Devils Postpil	87.54	49	IAmb	IAmb	21 16 57.3	
	comp=Z,251nm,1.3s						
DIB	Dawson Inlet,	87.54	31	IAmb	IAmb	21 16 56.2	
	comp=Z,166nm,1.1s						
J20K	Nowinta River	87.57	15	P	P	21 16 53.9	+0.3
	baz=214,SNR=37						
SCM	Sheep Creek Mo	87.58	19	P	P	21 16 53.3	-0.5
	baz=220,SNR=18						
LRMC	Laurel Mtn Rad	87.62	51	P	P	21 16 56.3	+1.7
	baz=245,SNR=48						
IKP	In-Ko-Pah, Jac	87.62	54	P	P	21 16 56.5	+1.9
	baz=246,SNR=53						
RMX	La Rumorosa	87.63	54	IAmb	IAmb	21 16 57.9	
	comp=Z,196nm,1.0s						
BGLC	Bering Glacier	87.63	22	P	P	21 16 57.1	+3.2
	baz=224						
HG4B	Hotspring	87.64	32	IAmb	IAmb	21 16 57.1	
	comp=Z,300nm,1.4s						
BBRC	Big Bear Solar	87.67	53	P	P	21 16 56.1	+1.1
	baz=245						
MLAC	Mammoth, Mammo	87.71	49	P	P	21 16 57.0	+1.8
	baz=244,SNR=5.9						
CWC	Cottonwood Cre	87.74	50	P	P	21 16 56.9	+1.7
	baz=244						
PFO	Pinyon Flats O	87.75	53	P	P	21 16 56.7	+1.5
PFO				IAmb	IAmb	21 16 58.1	
	comp=Z,113nm,1.1s						
PFO	Pinyon Flats O	87.75	53	P	P	21 16 56.8	+1.5
	baz=245,SNR=49						
PFO	Pinyon Flats O	87.75	53	*c i*P	P	21 16 56.6	+1.3
PFO				pmax	pmax		
	comp=Z,147nm,1.0s						
TPFO	Pinon Flats	87.75	53	P	P	21 16 56.8	+1.5
	baz=245,SNR=56						
KLU	Klutina	87.76	20	IAmb	IAmb	21 16 56.6	
	comp=Z,109nm,1.3s						
KLU	Klutina	87.76	20	P	P	21 16 54.5	-0.1
	baz=222,SNR=23						
YUH	Yuha Desert	87.76	54	IAmb	IAmb	21 16 58.2	
	comp=Z,153nm,1.1s						
CHUM	Lake Minchumin	87.79	16	P	P	21 16 54.0	-0.6
	baz=216						
BMRM	Bremner River	87.80	20	P	P	21 16 54.5	-0.3
	baz=223,SNR=15						
SNH	Sunshine Point	87.83	22	IAmb	IAmb	21 16 56.4	
	comp=Z,105nm,0.9s						
PMD	Palm Desert	87.83	53	IAmb	IAmb	21 16 58.3	
	comp=Z,139nm,1.1s						
RRX	Edison Barstow	87.87	52	P	P	21 16 57.2	+1.4
	baz=245,SNR=5.6						
KTH	Kantishna Hill	87.89	17	IAmb	IAmb	21 16 56.7	
	comp=Z,119nm,1.0s						
TIN	Tinemaha, Big	87.89	50	P	P	21 16 57.9	+2.0
	baz=244,SNR=19						
COR	Corvallis	87.95	41	P	P	21 16 57.2	+1.4
COR				IAmb	IAmb	21 16 59.1	
	comp=Z,266nm,1.3s						
COR	Corvallis	87.95	41	P	P	21 16 57.2	+1.4
COR				pmax	pmax		
	comp=Z,266nm,1.3s						
SFX	San Felipe	87.95	56	IAmb	IAmb	21 16 58.9	
	comp=Z,133nm,1.4s						
SWSC	Sam W. Stewart	87.98	54	P	P	21 16 57.8	+1.6
	baz=246,SNR=83						
WAT1	Susitna Watana	87.98	18	P	P	21 16 54.8	-0.8
	baz=219						
F17K	Baldwin Pennin	87.99	11	P	P	21 16 56.4	+0.9
	baz=208,SNR=16						
I20K	Naaghedeneel	88.00	15	IAmb	IAmb	21 16 58.6	
	comp=Z,172nm,0.9s						
I20K	Naaghedeneel	88.00	15	P	P	21 16 56.2	+0.7
	baz=214,SNR=12						
MPMC	Manual Prospec	88.01	51	P	P	21 16 58.0	+1.5
	baz=245,SNR=127						
WAX	Waxell Ridge	88.01	21	IAmb	IAmb	21 16 57.0	
	comp=Z,96nm,0.8s						
G18K	Tagagawik	88.02	12	IAmb	IAmb	21 16 58.9	
	comp=Z,241nm,1.2s						
G18K	Tagagawik	88.02	12	P	P	21 16 55.9	+0.2
	baz=210,SNR=52						
YERR	Yerington	88.02	48	IAmb	IAmb	21 16 59.4	
	comp=Z,182nm,1.2s						
WAT6	Susitna Watana	88.03	18	P	P	21 16 55.2	-0.7
	baz=220,SNR=38						
CRQM	Cirque	88.14	21	IAmb	IAmb	21 16 57.5	
	comp=Z,74nm,1.0s						
MESA	MESA	88.14	22	IAmb	IAmb	21 16 59.6	
	comp=Z,112nm,1.1s						
MESA	MESA	88.14	22	P	P	21 16 57.0	+0.4
	baz=225,SNR=14						
M24K	Tolsona, Glenn	88.14	19	IAmb	IAmb	21 17 07.4	
	comp=Z,91nm,1.0s						
M24K	Tolsona, Glenn	88.14	19	P	P	21 16 56.6	+0.2
	baz=221,SNR=7.5						
CRQE	Cirque	88.15	21	P	P	21 16 56.2	-0.3
	baz=224,SNR=19						
H19K	Roundabout Mou	88.17	13	IAmb	IAmb	21 16 59.3	
	comp=Z,135nm,1.1s						
H19K	Roundabout Mou	88.17	13	P	P	21 16 57.0	+0.7
	baz=212,SNR=33						
GSC	Goldstone, Bar	88.19	52	IAmb	IAmb	21 17 00.2	
	comp=Z,192nm,1.4s						
GSC	Goldstone, Bar	88.19	52	P	P	21 16 58.8	+1.5
	baz=245,SNR=58						
DSP	Deep Springs	88.22	49	IAmb	IAmb	21 17 00.5	
	comp=Z,275nm,1.3s						
BELC	Belle Mtn. Jos	88.26	53	P	P	21 16 59.5	+1.7
	baz=246,SNR=148						
N25K	Chitina, Valde	88.27	20	P	P	21 16 56.9	-0.1
	baz=223,SNR=25						
ISLE	Juniper Island	88.30	22	IAmb	IAmb	21 16 58.1	
	comp=Z,69nm,0.8s						
BPAW	Bear Paw Mtn.	88.31	16	P	P	21 16 55.8	-1.3
	baz=217,SNR=22						
RND	Reindeer	88.34	17	IAmb	IAmb	21 16 59.1	
	comp=Z,125nm,1.1s						
RND	Reindeer	88.34	17	P	P	21 16 56.5	-0.8
HEC	Hector,Ludlow	88.35	52	P	P	21 16 59.6	+1.5
	baz=246,SNR=26						
RYN	Ryan	88.37	48	IAmb	IAmb	21 17 01.0	
	comp=Z,260nm,1.4s						
F18K	Selawik	88.44	12	P	P	21 16 58.0	+0.4
	baz=209,SNR=24						
NVAR	Mina Array Bea	88.44	48	P	P	21 16 59.9	+1.4
NVAR	Mina Array Bea	88.44	48	P	P	21 17 00.0	+1.4
	comp=Z,88nm,1.1s,baz=228,slow=7.0,SNR=223						
NVAR				PP	PP	21 20 26.8	-4.0
	comp=Z,1.8nm,1.0s,baz=221,slow=8.0,SNR=4.0						
NVAR				PKKPbc	PKKPbc	21 34 41.6	+0.6
	comp=Z,0.5nm,0.5s,baz=35,slow=3.7,SNR=3.7						
NVAR				PKPPKP	P'P'df	21 42 46.2	-1.6
	comp=Z,0.2nm,0.4s,baz=79,slow=4.9,SNR=3.0						
	comp=Z,88nm,1.1s						
E17K	Hotham Inlet	88.46	11	P	P	21 16 59.0	+1.4
	baz=207,SNR=25						
H20K	Anotleneega Mo	88.49	14	P	P	21 16 58.7	+0.8
	baz=213,SNR=36						
GRAC	Grapevine Rang	88.50	50	P	P	21 17 00.2	+1.6
	baz=245,SNR=15						
DHY	Denali Highway	88.51	18	P	P	21 16 57.7	-0.5
	baz=220,SNR=22						
BC3	Big Chuckawall	88.53	54	P	P	21 17 00.9	+1.9
	baz=246,SNR=99						
NV11	Mina Array Sit	88.55	48	IAmb	IAmb	21 17 01.9	
	comp=Z,236nm,1.2s						
G19K	Purcell Mounta	88.56	13	IAmb	IAmb	21 17 01.8	
	comp=Z,183nm,1.1s						
G19K	Purcell Mounta	88.56	13	P	P	21 16 58.9	+0.7
	baz=211,SNR=55						
MCK	McKinley	88.58	17	P	P	21 16 57.5	-0.8
	baz=219,SNR=22						
MCK	McKinley	88.58	17	P	P	21 16 57.5	-0.8
CRAG	Craig	88.60	29	P	P	21 17 00.1	+1.5
CRAG	Craig	88.60	29	IAmb	IAmb	21 17 01.4	
	comp=Z,245nm,1.7s						
CRAG	Craig	88.60	29	P	P	21 16 59.9	+1.4
	baz=233,SNR=35						
TABL	Table Mountain	88.61	22	IAmb	IAmb	21 16 59.9	
	comp=Z,82nm,0.8s						
SIT	Sitka	88.62	27	P	P	21 16 59.3	+0.7
SIT	Sitka	88.62	27	P	P	21 16 59.5	+0.9
	baz=231,SNR=13						
MCARA	McCarthy VSAT	88.63	21	P	P	21 16 58.4	-0.2
	baz=224,SNR=16						
FURC	Furnace Creek,	88.64	51	P	P	21 17 01.0	+1.8
	baz=245,SNR=68						
GWY	Greenwater Val	88.66	51	IAmb	IAmb	21 17 02.8	
	comp=Z,198nm,1.0s						
HARP	HAARP	88.68	19	P	P	21 16 58.7	-0.1
	baz=222,SNR=8.7						
PINM	Pinnacle	88.69	23	P	P	21 16 58.6	-0.4
	baz=227,SNR=19						
GMN	Gold Mountain	88.70	50	IAmb	IAmb	21 17 02.4	
	comp=Z,97nm,1.2s						
PNL	Peninsula	88.71	23	P	P	21 16 59.9	+0.8
PNL	Peninsula	88.71	23	P	P	21 16 58.9	-0.1
	baz=227,SNR=9.9						
TROLL	Troll, Antarti	88.75	184	⇑P	P	21 16 59.6	+0.2
TROLL				⇓pP	pP	21 18 00.3	-1.5
	comp=Z,1μm,0.8s						
GLA	Glamis	88.77	54	P	P	21 17 02.2	+2.2
	baz=246,SNR=58						
D17K	Noatak River	88.80	10	P	P	21 17 00.5	+1.3
	baz=206,SNR=18						
S31K	Pelican	88.82	26	IAmb	IAmb	21 17 01.7	
	comp=Z,180nm,1.1s						
S31K	Pelican	88.82	26	P	P	21 17 00.5	+1.0
	baz=230,SNR=43						
SHOC	Shoshone, Teco	88.83	51	P	P	21 17 01.6	+1.4
	baz=246,SNR=65						
GMRC	Granite Mounta	88.84	53	P	P	21 17 02.0	+1.6
	baz=246,SNR=86						
OZB	Mount Ozzard	88.84	37	IAmb	IAmb	21 17 02.7	
	comp=Z,165nm,1.1s						
KVN	Kaiserville	88.85	48	IAmb	IAmb	21 17 03.2	
	comp=Z,220nm,1.3s						
TUQ	Turquoise Moun	88.90	52	P	P	21 17 02.3	+1.6
	baz=246,SNR=19						
CTG	Chitna Glacier	88.91	22	P	P	21 17 00.1	0.0
	baz=226,SNR=29						
CTGM	Chitina Glacie	88.91	22	IAmb	IAmb	21 17 01.2	
	comp=Z,74nm,0.8s						
C16K	Lisburne Hills	88.97	9	IAmb	IAmb	21 17 02.9	
	comp=Z,112nm,1.1s						
C16K	Lisburne Hills	88.97	9	P	P	21 17 00.7	+0.7
	baz=204						
IRM	Iron Mountain	88.97	53	P	P	21 17 02.8	+1.9
	baz=246,SNR=157						
E18K	Tukpahlearik C	88.98	11	IAmb	IAmb	21 17 03.1	
	comp=Z,113nm,0.9s						
E18K	Tukpahlearik C	88.98	11	P	P	21 17 01.3	+1.2
	baz=208,SNR=30						
U33K	Whale Pass	89.00	28	IAmb	IAmb	21 17 02.9	
	comp=Z,187nm,1.1s						
U33K	Whale Pass	89.00	28	P	P	21 17 01.7	+1.3
	baz=233,SNR=69						
PAX	Paxson	89.01	19	P	P	21 16 59.7	-0.8
	baz=222,SNR=14						
F19K	Shaleruckik Mo	89.01	12	IAmb	IAmb	21 17 02.0	
	comp=

comp=Z,161nm,1.3s
S32K Killisnoo 89.20 27 P P 21 17 02.1 +0.8
baz=232,SNR=25
V35K Ketchikan 89.21 29 P P 21 17 02.9 +1.4
baz=234,SNR=82
NEA2 Nenana 89.21 17 P P 21 17 00.1 -1.2
baz=219,SNR=19
PIX Pinacate 89.25 56 IAmb IAmb 21 17 04.9
comp=Z,122nm,1.0s
RUBB Prince Rupert 89.27 31 IAmb IAmb 21 17 04.7
comp=Z,159nm,1.1s
TPNV Topopah Spring 89.29 50 P P 21 17 04.2 +1.7
baz=246,SNR=205
BOD Bodaibo 89.29 334⇑*i*P P 21 17 01.6 -0.2
BOD pmax pmax
comp=Z,143nm,1.2s
R31K City Hall, Gus 89.31 25 P P 21 17 02.6 +0.8
baz=231
P29M Windy Craggy 89.31 24 IAmb IAmb 21 17 03.6
comp=Z,195nm,1.1s
P29M Windy Craggy 89.31 24 P P 21 17 02.4 +0.5
baz=229,SNR=62
M26K Nabesna, AK 89.37 20 P P 21 17 02.0 -0.1
baz=224,SNR=35
SNAA Sanae 89.37 182 P P 21 17 02.2 0.0
SNAA Sanae 89.37 182 ⇑P P 21 17 02.0 -0.2
comp=Z,571nm,0.7s
SNAA ⇓pP **pP 21 18 03.0 -1.7**
comp=Z,355nm,1.0s
SNAA ⇑SKSac **SKSac 21 27 04.7 -2.1**
comp=Z,34nm,1.0s
SNAA ⇑S **S 21 27 27.2 -1.9**
comp=Z,0.2nm,0.1s
SNAA Sanae 89.37 182 P P 21 17 01.5 -0.7
comp=Z,29nm,0.8s,baz=200,slow=5.5,SNR=180
SNAA PKKP **PKKPdf 21 34 32.6 +0.4**
comp=Z,0.9nm,0.7s,baz=193,slow=4.5,SNR=6.2
comp=Z,29nm,0.8s
SNAA Sanae 89.37 182*c i*P P 21 17 01.7 -0.5
SNAA pmax pmax
comp=Z,44nm,1.2s
GOMU GeErMu 89.39 309 P P 21 17 04.1 +0.8
GOMU pP pP 21 18 07.0 +1.1
GOMU sP sP 21 18 31.9 -1.1
GOMU S **S 21 27 32.2 +1.1**
GOMU SS **SS 21 33 34.1 +0.8**
GOMU pmax pmax
comp=Z,44nm,2.0s
O29M Mount Kennedy 89.44 23 P P 21 17 02.8 +0.1
baz=228,SNR=14
C17K DeLong Mountai 89.49 10 P P 21 17 03.4 +0.9
baz=206,SNR=8.3
T33K Petersburg 89.50 28 P P 21 17 04.1 +1.4
baz=233
G05A Wamic 89.50 41 IAmb IAmb 21 17 11.4
comp=Z,193nm,1.1s
MENT Mentasta 89.53 19 P P 21 17 04.0 +1.2
WRAK Wrangell Islan 89.53 28 IAmb IAmb 21 17 05.2
comp=Z,187nm,1.0s
WRAK Wrangell Islan 89.53 28 P P 21 17 04.1 +1.3
baz=233
K24K Donnelly Dome 89.54 18 P P 21 17 02.5 -0.3
baz=222,SNR=13
I23K Minto, Yukon-K 89.57 16 P P 21 17 02.0 -0.9
baz=218,SNR=12
CCB Clear Creek Bu 89.60 17 IAmb IAmb 21 17 04.4
comp=Z,54nm,0.8s
NEE2 Needles Airpor 89.61 53 P P 21 17 05.6 +1.8
baz=246,SNR=17
F20K Avaraart Lake 89.62 13 IAmb IAmb 21 17 05.2
comp=Z,79nm,1.1s
F20K Avaraart Lake 89.62 13 P P 21 17 03.9 +0.9
baz=213,SNR=33
H22K Ishtalitna Cre 89.65 15 P P 21 17 03.5 +0.1
baz=217,SNR=21
E19K Redstone River 89.66 12 IAmb IAmb 21 17 05.5
comp=Z,93nm,0.9s
E19K Redstone River 89.66 12 P P 21 17 04.3 +1.0
baz=211,SNR=39
HDA Harding Lake 89.66 17 IAmb IAmb 21 17 05.2
comp=Z,88nm,0.8s
HDA Harding Lake 89.66 17 P P 21 17 02.7 -0.6
baz=221,SNR=78
G21K Allakaket 89.66 14 P P 21 17 03.6 +0.2
baz=215,SNR=23
YUK8 Steele Glacier 89.68 22 P P 21 17 04.2 +0.4
baz=227,SNR=19
LSA Lhasa 89.69 302 *i*P P 21 17 05.5 +0.5
SNR=16
LSA Lhasa 89.69 302 P P 21 17 05.6 +0.7
M27K Edge Creek, AK 89.70 20 P P 21 17 04.0 +0.2
baz=225,SNR=19
L26K Log Cabin Wild 89.71 20 P P 21 17 03.8 +0.1
baz=224,SNR=12
R32K Eaglecrest 89.72 26 IAmb IAmb 21 17 06.0
comp=Z,146nm,1.4s
R32K Eaglecrest 89.72 26 P P 21 17 04.8 +1.1
baz=232,SNR=10
MDM Murphy Dome 89.72 17 IAmb IAmb 21 17 03.8
comp=Z,75nm,0.9s
PLBC Pleasant Camp 89.73 24 P P 21 17 04.3 +0.5
baz=230,SNR=64
COLA College 89.76 17 P P 21 17 04.7 +0.9
COLA College 89.76 17 P P 21 17 02.9 -0.9
COLA IAmb IAmb 21 17 04.8
comp=Z,138nm,0.8s
COLA College 89.76 17 P P 21 17 02.9 -0.9
baz=220
COLA College 89.76 17*c i*P P 21 17 02.6 -1.2
COLA pmax pmax
comp=Z,128nm,0.9s
YUK3 Moose Creek 89.78 21 P P 21 17 04.3 +0.1
baz=226,SNR=18
JIS Juneau Island 89.78 26 P P 21 17 05.3 +1.3
JIS Juneau Island 89.78 26 IAmb IAmb 21 17 06.2
comp=Z,171nm,1.2s
PDMCI Parker Dam,Lak 89.79 54 P P 21 17 06.6 +1.9
baz=247,SNR=115
V12A Nelson 89.82 52 IAmb IAmb 21 17 07.9
comp=Z,217nm,1.3s
SHPR Sheep Range 89.91 51 IAmb IAmb 21 17 08.6
comp=Z,142nm,1.3s
LON Longmire 89.91 40 IAmb IAmb 21 17 07.3
comp=Z,185nm,1.4s
214A Organ Pipe Nat 89.91 56 P P 21 17 07.4 +2.1
baz=248,SNR=77
G06A Carlson Farm, 89.92 42 IAmb IAmb 21 17 07.7
comp=Z,153nm,1.1s
P30M Million Dollar 89.93 24 P P 21 17 05.3 +0.5
baz=230
IL31 89.95 17 IAmb IAmb 21 17 04.8
comp=Z,59nm,0.8s
ILAR Eielson Array 89.95 17 P P 21 17 03.8 -0.9
ILAR Eielson Array 89.95 17 P P 21 17 03.6 -1.1
comp=Z,52nm,0.8s,baz=236,slow=5.6,SNR=198
comp=Z,52nm,0.8s
ILAR Eielson Array 89.95 17 P P 21 17 03.8 -0.9
VNA3 Neumayer Olymp 89.95 180 ⇑P P 21 17 04.6 -0.3
comp=Z,84nm,0.8s
VNA3 ⇓pP **pP 21 18 05.6 -1.9**
comp=Z,39nm,0.7s
VNA3 ⇑SKSac **SKSac 21 27 08.9 -1.1**
comp=Z,1.4nm,0.8s
VNA3 ⇑S **S 21 27 32.2 -2.1**
comp=Z,2.6nm,0.8s
YUK6 Outpost Mounta 89.95 23 P P 21 17 05.3 +0.2
baz=228,SNR=27
C18K Utukok River 89.97 10 IAmb IAmb 21 17 06.7
comp=Z,62nm,0.8s
C18K Utukok River 89.97 10 P P 21 17 05.3 +0.5
baz=208,SNR=10
H23K Yukon River 90.06 16 P P 21 17 04.5 -0.7
baz=218,SNR=29
POKR Poker Plat Res 90.06 17 IAmb IAmb 21 17 06.5
comp=Z,65nm,0.9s
POKR Poker Plat Res 90.06 17 P P 21 17 04.0 -1.3
baz=220,SNR=30
YUK4 Talbot Arm 90.12 22 P P 21 17 06.4 +0.6
baz=228,SNR=22
SKAG Skagway 90.14 25 P P 21 17 07.1 +1.4
SKAG Skagway 90.14 25 P P 21 17 06.7 +1.1
baz=231,SNR=26
HYT Haines Junctio 90.19 23 IAmb IAmb 21 17 07.4
comp=Z,99nm,1.0s
HYT Haines Junctio 90.19 23 P P 21 17 06.3 +0.2
baz=229,SNR=66
SCRK Sand Creek 90.20 19 IAmb IAmb 21 17 07.7
comp=Z,80nm,0.9s
SCRK Sand Creek 90.20 19 P P 21 17 05.7 -0.4
baz=223,SNR=57
L27K Beaver Creek, 90.22 20 P P 21 17 05.8 -0.2
baz=225,SNR=32
BCAR Beaver Creek A 90.23 20 P P 21 17 05.9 -0.2
F21K Alatna River 90.25 14 IAmb IAmb 21 17 07.7
comp=Z,77nm,0.9s
F21K Alatna River 90.25 14 P P 21 17 06.6 +0.5
baz=215,SNR=59
VNA2 Neumayer--Watz 90.25 181 ⇑P P 21 17 06.2 0.0
comp=Z,46nm,0.6s,baz=179,slow=4.7
VNA2 ⇓pP **pP 21 18 07.3 -1.5**
comp=Z,27nm,0.8s,baz=177,slow=3.3
VNA2 ⇑SKSac **SKSac 21 27 10.4 -1.3**
comp=Z,0.8nm,0.7s,baz=196,slow=0.3
VNA2 ⇑S **S 21 27 34.4 -2.6**
comp=Z,3.0nm,0.8s,baz=89,slow=0.6
J25K Salcha River, 90.26 18 IAmb IAmb 21 17 09.4
comp=Z,64nm,1.0s
J25K Salcha River, 90.26 18 P P 21 17 05.8 -0.4
baz=222,SNR=62
U35K Hyder 90.29 29 P P 21 17 07.7 +1.3
baz=235
W13A Hualapai Mount 90.30 53 IAmb IAmb 21 17 10.4
comp=Z,183nm,1.1s
ZAK Zakamensk 90.32 324 *e*P P 21 17 06.5 -0.4
ZAK *e* 21 27 33.3
ZAK pmax pmax
comp=Z,87nm,1.4s
R11B Troy Canyon, C 90.34 49 P P 21 17 08.7 +1.2
baz=246,SNR=130
D19K Kuna River 90.38 11 IAmb IAmb 21 17 09.6
comp=Z,115nm,0.9s
D19K Kuna River 90.38 11 P P 21 17 07.7 +1.0
baz=210,SNR=28
G22K Bettles 90.45 14 P P 21 17 07.7 +0.8
baz=216,SNR=57
H24K Noodor Dome 90.50 16 P P 21 17 06.2 -1.1
baz=220,SNR=11
B18K Kokolik River 90.51 10 P P 21 17 06.7 -0.4
baz=207
Y14A Wickenburg 90.52 54 IAmb IAmb 21 17 11.0
comp=Z,150nm,1.3s
VNA1 Neumayer--Stat 90.54 181 ⇑P P 21 17 07.5 0.0
comp=Z,53nm,1.0s
VNA1 ⇓x x 21 18 07.8
comp=Z,38nm,1.0s
E20K Nigu River 90.55 12 P P 21 17 08.6 +1.1
baz=212
G23K Bananza Creek 90.64 15 P P 21 17 08.2 +0.3
baz=218,SNR=33
C19K Lookout Ridge 90.65 11 IAmb IAmb 21 17 11.2
comp=Z,116nm,0.9s
C19K Lookout Ridge 90.65 11 P P 21 17 08.8 +0.8
baz=209,SNR=22
F07A Phinny Hill Vi 90.67 41 IAmb IAmb 21 17 11.2
comp=Z,155nm,1.0s
O30N Mendenhall 90.68 24 IAmb IAmb 21 17 09.6
comp=Z,144nm,1.1s
O30N Mendenhall 90.68 24 P P 21 17 08.4 +0.2
baz=230,SNR=77
J26L Joseph Creek 90.71 18 IAmb IAmb 21 17 10.9
comp=Z,63nm,0.8s
J26L Joseph Creek 90.71 18 P P 21 17 08.6 +0.3
baz=224,SNR=51
IRK Irkutsk 90.72 326 *e*P P 21 17 07.2 -1.4
IRK *e*S **S 21 27 40.5 -1.2**
IRK pmax pmax
comp=Z,122nm,1.4s
MXC Moxie City 90.75 40 IAmb IAmb 21 17 11.6
comp=Z,163nm,1.1s
N30M Aishikik Lake 90.76 23 IAmb IAmb 21 17 09.8
comp=Z,253nm,1.9s
N30M Aishikik Lake 90.76 23 P P 21 17 08.7 +0.1
baz=229,SNR=27
F22K John River 90.77 14 P P 21 17 09.3 +0.9
baz=216,SNR=75
T35M Bob Quinn 90.79 28 IAmb IAmb 21 17 11.5
comp=Z,117nm,1.1s
T35M Bob Quinn 90.79 28 P P 21 17 10.2 +1.4
baz=235,SNR=49
K27K Chicken 90.83 19 IAmb IAmb 21 17 11.6
comp=Z,65nm,0.9s
K27K Chicken 90.83 19 P P 21 17 09.3 +0.5
baz=225
LTY Liberty 90.83 40 IAmb IAmb 21 17 11.7
comp=Z,154nm,1.1s
D20K Etivluk River 90.85 12 P P 21 17 09.9 +1.0
baz=212,SNR=48
P32M Atlin 90.87 25 IAmb IAmb 21 17 11.1
comp=Z,154nm,0.9s
P32M Atlin 90.87 25 P P 21 17 09.9 +0.7
baz=232,SNR=51
PRP Porcupine Dome 90.89 17 P P 21 17 07.6 -1.6
baz=222
M29M Somme Creek 90.92 21 P P 21 17 09.5 +0.1
baz=228,SNR=25
S34M Telegraph Cree 90.94 27 P P 21 17 10.8 +1.4
baz=234,SNR=86
COLD Coldfoot 91.01 15 P P 21 17 10.6 +1.1
baz=218,SNR=55
WHY Whitehorse 91.07 24 IAmb IAmb 21 17 11.5
comp=Z,112nm,1.0s
MG03 Isla Dawson 91.08 149 P P 21 17 11.0 +0.7
MG03 IAmb IAmb 21 17 13.2
comp=Z,121nm,1.5s
Q32M Nakina River 91.08 26 IAmb IAmb 21 17 12.6
comp=Z,177nm,1.1s
Q32M Nakina River 91.08 26 P P 21 17 11.4 +1.1
baz=234,SNR=104
E21K Killik River 91.15 13 IAmb IAmb 21 17 12.0
comp=Z,142nm,0.9s
E21K Killik River 91.15 13 P P 21 17 11.1 +0.8
baz=214,SNR=66
N31M Braeburn, Yuko 91.25 23 P P 21 17 11.2 +0.3
baz=231,SNR=78
G24K Hadweenzic Riv 91.27 16 P P 21 17 10.7 -0.1
baz=220,SNR=22
MG05 Puerto Natales 91.27 147 P P 21 17 12.6 +1.3
PALK Pallekele 91.27 277 P P 21 17 13.2 +1.1
H25L Birch Creek 91.37 17 P P 21 17 10.7 -0.5
baz=222
A19K Wainwright 91.38 10 P P 21 17 11.9 +0.7
baz=208,SNR=6.5
I26K Coal Creek Min 91.41 18 IAmb IAmb 21 17 13.9
comp=Z,115nm,1.0s
I26K Coal Creek Min 91.41 18 P P 21 17 11.6 +0.2
baz=224
L29M L29M 91.48 21 P P 21 17 12.0 +0.1
baz=228,SNR=26
SPR3 Spring Creek 3 91.50 49 IAmb IAmb 21 17 15.4
comp=Z,144nm,1.5s
LCMT Little Creek M 91.52 51 IAmb IAmb 21 17 15.8
comp=Z,179nm,1.1s
ELK Elko 91.56 47 IAmb IAmb 21 17 15.7
comp=Z,93nm,1.3s
ELK Elko 91.56 47 P P 21 17 14.0 +0.9
GO09 Cerro Castillo 91.58 146 IAmb IAmb 21 17 15.4
comp=Z,95nm,1.4s
C21K Knifeblade Rid 91.59 12 P P 21 17 13.4 +1.2
baz=214,SNR=49
M30M Minto, Yukon 91.59 22 P P 21 17 12.6 +0.2
baz=230
P33M Teslin, Yukon 91.60 25 IAmb IAmb 21 17 14.0
comp=Z,97nm,1.0s
P33M Teslin, Yukon 91.60 25 P P 21 17 12.9 +0.3
baz=233,SNR=49
EGAK Eagle 91.64 19 IAmb IAmb 21 17 14.5
comp=Z,93nm,0.8s
EGAK Eagle 91.64 19 P P 21 17 12.3 -0.1
baz=226,SNR=48
CCUT Cedar City 91.64 51 IAmb IAmb 21 17 16.8
comp=Z,190nm,1.3s
TUC Tucson 91.64 56 P P 21 17 15.4 +2.0
baz=249
TUC Tucson 91.64 56 P P 21 17 15.1 +1.7
PSUT Pine Spring 91.66 50 IAmb IAmb 21 17 16.4
comp=Z,241nm,2.0s
G25K Bearman Lake 91.67 16 P P 21 17 12.8 +0.2
baz=221,SNR=11
DAWY Dawson 91.70 20 IAmb IAmb 21 17 14.2
comp=Z,204nm,1.9s
DAWY Dawson 91.70 20 P P 21 17 12.9 0.0
baz=227,SNR=23
DLBC Dease Lake 91.72 27 P P 21 17 14.2 +1.1
baz=235,SNR=158
D22K Ayikyak River 91.78 13 P P 21 17 14.4 +1.3
baz=216,SNR=61
F24K Squaw Lake 91.80 15 P P 21 17 14.2 +0.9
baz=220,SNR=35
E23K Chandalar 91.80 14 P P 21 17 14.1 +0.8
baz=218,SNR=61
SZCU Shurtz Canyon 91.86 51 IAmb IAmb 21 17 17.6
comp=Z,185nm,1.4s
B20K Meade River 91.86 11 IAmb IAmb 21 17 15.7
comp=Z,215nm,1.6s
B20K Meade River 91.86 11 P P 21 17 14.2 +0.8
baz=211,SNR=14
BMO Blue Mountains 91.87 43 IAmb IAmb 21 17 16.5
comp=Z,126nm,1.7s
R33M Jennings River 91.88 26 P P 21 17 14.9 +1.0
baz=235,SNR=170
U15A North Rim 92.00 52 IAmb IAmb 21 17 18.5
comp=Z,152nm,1.0s
B21K Ikpikpuk River 92.01 12 IAmb IAmb 21 17 16.4
comp=Z,117nm,0.8s
B21K Ikpikpuk River 92.01 12 P P 21 17 15.3 +1.2
baz=214,SNR=42
E09A Wood Farm, Sta 92.05 41 IAmb IAmb 21 17 17.3
comp=Z,148nm,1.5s
N32M Quiet Lake 92.07 24 P P 21 17 15.1 +0.5
baz=233
I27K Kandik River 92.08 18 P P 21 17 14.7 +0.1
baz=226,SNR=42
E24K Your Creek 92.08 15 P P 21 17 15.1 +0.5
baz=219,SNR=28
B08A Colville Reser 92.14 39 IAmb IAmb 21 17 17.3
comp=Z,66nm,1.1s
K29M Barlow Dome 92.17 21 IAmb IAmb 21 17 16.6
comp=Z,82nm,1.2s
K29M Barlow Dome 92.17 21 P P 21 17 15.3 +0.2
baz=229,SNR=35
MOY Mondy 92.20 325 *e*P P 21 17 15.8 +0.2
MOY pmax pmax
comp=Z,105nm,2.2s
M31M Drury Creek, Y 92.22 23 IAmb IAmb 21 17 16.0
comp=Z,86nm,0.9s
M31M Drury Creek, Y 92.22 23 P P 21 17 14.7 -0.6
baz=232,SNR=36
MFID Camas Ranch 92.24 45 IAmb IAmb 21 17 18.4
comp=Z,68nm,1.0s
TOLK Toolik Lake Re 92.27 14 IAmb IAmb 21 17 17.4
comp=Z,96nm,1.2s
TOLK Toolik Lake Re 92.27 14 P P 21 17 16.3 +0.9
baz=218,SNR=27
D23K Nanushuk River 92.28 13 P P 21 17 16.8 +1.3
baz=217
J29N Klondike Camp 92.34 20 IAmb IAmb 21 17 17.8
comp=Z,62nm,0.8s
J29N Klondike Camp 92.34 20 P P 21 17 16.4 +0.5
baz=228
WUAZ Wupatki 92.36 53 P P 21 17 18.6 +1.8
baz=248,SNR=119
F10A Beach Ranch, E 92.40 42 IAmb IAmb 21 17 19.8
comp=Z,85nm,1.2s
F25K Christian Rive 92.41 16 P P 21 17 16.9 +0.7
baz=222,SNR=19
G26K Porcupine Rive 92.43 17 P P 21 17 16.7 +0.6
baz=224,SNR=55
I28M Miner Creek 92.48 19 IAmb IAmb 21 17 17.8
comp=Z,51nm,0.8s
I28M Miner Creek 92.48 19 P P 21 17 16.3 -0.2
baz=227,SNR=41
H27K Steamboat Moun 92.55 18 P P 21 17 17.5 +0.7
baz=226,SNR=26
MAYO Mayo, Yukon 92.56 21 P P 21 17 17.0 +0.2
baz=230,SNR=5.9
BMAR Burnt Mountain 92.57 16 P P 21 17 17.8 +1.0
FARO Faro, Yukon 92.62 23 IAmb IAmb 21 17 18.1
comp=Z,188nm,1.6s
FARO Faro, Yukon 92.62 23 P P 21 17 16.9 -0.3
baz=233,SNR=22
MTPU Mount Pierson 92.69 51 IAmb IAmb 21 17 22.0
comp=Z,133nm,1.3s
TCRU Three Creeks R 92.71 50 IAmb IAmb 21 17 21.6
comp=Z,47nm,0.9s
E25K Arctic Village 92.83 15 P P 21 17 18.9 +0.9
baz=222,SNR=7.9
B22K Teshekpuk Lake 92.84 12 IAmb IAmb 21 17 20.0
comp=Z,120nm,1.1s
B22K Teshekpuk Lake 92.84 12 P P 21 17 18.7 +0.8
baz=215,SNR=48
D24K Happy Valley 92.84 14 IAmb IAmb 21 17 20.2
comp=Z,93nm,0.9s
D24K Happy Valley 92.84 14 P P 21 17 19.0 +1.0
baz=219,SNR=28
F26K Sheenjek River 92.88 16 P P 21 17 19.2 +1.0
baz=223,SNR=13
G27K Doyon Strip 92.92 17 P P 21 17 18.6 +0.1
baz=226,SNR=38
I29M Ogilvie Camp, 92.92 19 IAmb IAmb 21 17 20.2
comp=Z,100nm,1.1s
I29M Ogilvie Camp, 92.92 19 P P 21 17 18.1 -0.3
baz=228,SNR=61
C23K Itkillik River 92.99 13 P P 21 17 19.9 +1.3
baz=217,SNR=65
J30M Hart River 93.04 20 P P 21 17 19.2 0.0
baz=230,SNR=22
DUG Dugway, Tooele 93.05 49 IAmb IAmb 21 17 22.3
comp=Z,68nm,1.4s
DUG Dugway, Tooele 93.05 49 P P 21 17 20.9 +1.1
baz=248,SNR=31
DUG Dugway, Tooele 93.05 49 P P 21 17 20.7 +0.9
A21K Barrow 93.08 10 P P 21 17 19.8 +0.8
baz=212,SNR=25
X18A Snowflake 93.09 55 IAmb IAmb 21 17 23.2
comp=Z,112nm,1.1s
A22K Sinclair Lake 93.10 11 P P 21 17 20.0 +0.9
baz=213,SNR=37
WTLY Watson Lake, Y 93.19 26 IAmb IAmb 21 17 21.9
comp=Z,146nm,1.1s
WTLY Watson Lake, Y 93.19 26 P P 21 17 20.6 +0.8
baz=236,SNR=5.2
HLID Hailey 93.24 45 P P 21 17 22.0 +1.3
baz=247,SNR=73
C24K Franklin Bluff 93.31 13 P P 21 17 21.2 +1.1
baz=219
NEW Newport 93.43 40 P P 21 17 21.8 +0.6
baz=245,SNR=24
NEW Newport 93.43 40 P P 21 17 21.8 +0.6
I30M Mount Dempster 93.44 20 IAmb IAmb 21 17 22.6
comp=Z,84nm,0.9s
I30M Mount Dempster 93.44 20 P P 21 17 20.8 -0.2
baz=230,SNR=53
W18A Petrified Fore 93.46 54 IAmb IAmb 21 17 24.8
comp=Z,115nm,1.2s
W18A Petrified Fore 93.46 54 P P 21 17 23.4 +1.5
baz=249,SNR=24
H29M Whitestone 93.47 19 IAmb IAmb 21 17 22.4
comp=Z,84nm,1.1s
H29M Whitestone 93.47 19 P P 21 17 21.0 +0.1
baz=228,SNR=26
D25K Kavik River 93.54 14 IAmb IAmb 21 17 22.6
comp=Z,74nm,1.1s
D25K Kavik River 93.54 14 P P 21 17 21.5 +0.3
baz=221,SNR=44
MMPY Sheldon Lake, 93.64 23 IAmb IAmb 21 17 23.4
comp=Z,142nm,1.1s
MMPY Sheldon Lake, 93.64 23 P P 21 17 22.0 +0.2
baz=234,SNR=92
HVU Hansel Valley 93.67 47 IAmb IAmb 21 17 27.0
comp=Z,84nm,1.4s
HMU Henry Mountain 93.71 51 IAmb IAmb 21 17 25.4
comp=Z,194nm,1.9s
Q16A Castle Valley 93.75 50 IAmb IAmb 21 17 26.3
comp=Z,105nm,1.2s
MPU Maple Canyon 93.82 49 IAmb IAmb 21 17 26.0
comp=Z,51nm,1.2s
TMUT Trail Mountain 93.86 50 IAmb IAmb 21 17 31.1
comp=Z,44nm,1.0s
E27K Coleen River 93.90 16 IAmb IAmb 21 17 25.1
comp=Z,71nm,0.9s
E27K Coleen River 93.90 16 P P 21 17 23.7 +0.8
baz=226,SNR=34
HPIG 93.96 63 IAmb IAmb 21 17 27.3
comp=Z,84nm,1.9s
LIRD Liard River Hi 93.96 28 P P 21 17 24.1 +0.7
baz=239,SNR=18
F28M Old Crow 93.98 17 IAmb IAmb 21 17 25.6
comp=Z,51nm,1.1s
F28M Old Crow 93.98 17 P P 21 17 23.6 +0.3
baz=227,SNR=27
CTU Camp Tracy 93.98 48 IAmb IAmb 21 17 26.4
comp=Z,85nm,1.5s
G29M Pine Creek 94.04 18 IAmb IAmb 21 17 25.0
comp=Z,94nm,1.0s

G29M	Pine Creek	94.04	18	P		P	21 17 23.5	-0.1
	baz=229,SNR=21							
TOAD	Toad River Com	94.06	28	P		P	21 17 24.4	+0.6
	baz=239,SNR=130							
EPYK	Eagle Plains	94.08	19	P		P	21 17 23.8	0.0
	baz=230,SNR=35							
121A	Cookes Peak, D	94.09	57	IAmb		IAmb	21 17 28.0	
	comp=Z,100nm,1.3s							
121A	Cookes Peak, D	94.09	57	P		P	21 17 26.6	+1.8
	baz=250,SNR=32							
TGTN	Hyland Airport	94.18	25	P		P	21 17 25.1	+0.8
	baz=237,SNR=15							
SRU	San Rafael Swe	94.29	50	IAmb		IAmb	21 17 27.9	
	comp=Z,46nm,1.1s							
C26K	Camden Bay	94.32	14	P		P	21 17 26.2	+1.5
	baz=223,SNR=153							
TCUT	Toone Canyon	94.38	48	IAmb		IAmb	21 17 30.0	
	comp=Z,76nm,1.1s							
C27K	Jago River	94.39	15	P		P	21 17 26.0	+0.9
	baz=224,SNR=116							
TIXI	Tiksi	94.61	348	P		P	21 17 24.9	-1.1
TIXI	Tiksi	94.61	348⇑	*e*P		P	21 17 24.8	-1.2
TIXI				pmax		pmax		
	comp=Z,16nm,1.0s							
G30M	tAoh Zraii Nji	94.62	19	P		P	21 17 26.5	+0.3
	baz=230,SNR=82							
BSUT	Blindstream Ca	94.63	49	IAmb		IAmb	21 17 29.7	
	comp=Z,42nm,1.1s							
E28M	Babbage River	94.75	17	P		P	21 17 27.3	+0.5
	baz=228,SNR=69							
D27M	Malcolm River	94.81	16	P		P	21 17 28.0	+0.9
	baz=226,SNR=29							
MSO	Missoula	94.82	42	P		P	21 17 27.6	-0.1
	baz=247							
EPT	El Paso	94.86	58	IAmb		IAmb	21 17 30.9	
	comp=Z,103nm,1.2s							
COYC	Coyhaique	94.86	142	P		P	21 17 29.3	+1.3
E29M	Blow River	95.05	17	IAmb		IAmb	21 17 29.3	
	comp=Z,57nm,1.1s							
E29M	Blow River	95.05	17	P		P	21 17 28.1	0.0
	baz=229,SNR=22							
MVCO	Mesa Verde	95.12	53	P		P	21 17 30.6	+1.0
	baz=250							
F30M	Barrier River	95.16	18	P		P	21 17 28.8	+0.1
	baz=231,SNR=37							
G31M	Satah River	95.19	19	P		P	21 17 28.6	-0.1
	baz=232,SNR=49							
KOTAN	Kotaneelee Air	95.22	27	P		P	21 17 29.8	+0.8
	baz=240,SNR=11							
Y22D	IRIS PASSCAL I	95.29	56	P		P	21 17 31.8	+1.6
	baz=251							
D28M	Stokes Point	95.45	16	P		P	21 17 30.6	+0.7
	baz=228							
RDMU	Red Mountain	95.49	49	IAmb		IAmb	21 17 34.2	
	comp=Z,60nm,1.5s							
F31M	Tsiigehtchic	95.67	19	P		P	21 17 31.1	+0.2
	baz=233,SNR=17							
BRLDA	Berland Lookou	95.70	34	IAmb		IAmb	21 17 33.7	
	comp=Z,45nm,0.9s							
MNTX	Cornudas Mount	95.74	59	P		P	21 17 33.4	+1.3
	baz=251,SNR=38							
VHRN	Van Horn	95.77	60	IAmb		IAmb	21 17 36.1	
	comp=Z,126nm,1.4s							
BOZ	Bozeman (W)	95.85	44	P		P	21 17 33.5	+0.9
	baz=249,SNR=36							
ANMO	Albuquerque	95.93	55	P		P	21 17 33.9	+0.7
ANMO				IAmb		IAmb	21 17 35.5	
	comp=Z,48nm,1.4s							
ANMO	Albuquerque	95.93	55	P		P	21 17 34.4	+1.2
	baz=251							
ANMO	Albuquerque	95.93	55	*c i*P		P	21 17 33.9	+0.7
ANMO				pmax		pmax		
	comp=Z,26nm,1.1s							
H17A	Grant Village	96.12	45	P		P	21 17 35.8	+1.9
	baz=250							
BW06	Boulder Array	96.25	47	P		P	21 17 34.7	+0.2
	baz=250,SNR=17							
PDAR	Pinedale Array	96.25	47	P		P	21 17 34.8	+0.3
PDAR	Pinedale Array	96.25	47	P		P	21 17 34.7	+0.2
	comp=Z,27nm,1.2s,baz=222,slow=2.0,SNR=40							
PDAR				PP		PP	21 21 30.2	-1.6
	comp=Z,4.8nm,1.1s,baz=243,slow=6.5,SNR=8.1							
PDAR				PKKP		PKKPbc	21 34 19.6	-1.5
	comp=Z,1.5nm,0.8s,baz=72,slow=4.8,SNR=9.1							
	comp=Z,27nm,1.2s							
INK	Inuvik	96.26	18	P		P	21 17 33.4	-0.2
	baz=233,SNR=64							
INK	Inuvik	96.26	18	P		P	21 17 33.1	-0.5
O20A	White River Ci	96.30	50	IAmb		IAmb	21 17 37.1	
	comp=Z,44nm,1.2s							
O20A	White River Ci	96.30	50	P		P	21 17 35.7	+1.0
	baz=250,SNR=17							
TX31	Lajitas Ar. Si	96.40	61	IAmb		IAmb	21 17 38.5	
	comp=Z,122nm,1.9s							
TXAR	Lajitas Array	96.40	61	P		P	21 17 36.0	+0.7
TXAR	Lajitas Array	96.40	61	P		P	21 17 36.8	+1.4
	comp=Z,6.4nm,0.9s,baz=225,slow=5.1,SNR=57							
TXAR				PP		PP	21 21 32.5	-0.6
	comp=Z,1.2nm,1.0s,baz=238,slow=7.2,SNR=3.4							
TXAR				PKKP		PKKPdf	21 34 20.7	-0.3
	comp=Z,3.7nm,0.8s,baz=98,slow=3.6,SNR=29							
	comp=Z,6.4nm,0.9s							
HYB	Hyderabad	96.45	286	*e*P		P	21 17 35.6	-0.2
S22A	4UR Ranch, Cre	96.56	52	IAmb		IAmb	21 17 38.9	
	comp=Z,46nm,1.6s							
S22A	4UR Ranch, Cre	96.56	52	P		P	21 17 37.3	+1.2
	baz=251,SNR=11							
ALPN	Alpine	96.75	60	IAmb		IAmb	21 17 39.5	
	comp=Z,67nm,1.6s							
PECS	Pecos	96.87	59	IAmb		IAmb	21 17 39.6	
	comp=Z,38nm,1.4s							
WRGLY	Wrigley	96.98	25	P		P	21 17 37.3	+0.4
	baz=241							
RLMT	Red Lodge	97.25	45	P		Pdif	21 17 39.5	+0.5
	baz=250,SNR=8.7							
WMQ	Urumqi	97.29	314	⇑P		Pdif	21 17 39.4	+0.4
WMQ				S		S	21 28 35.9	-3.7
WMQ				SS		SS	21 35 20.0	-4.8
WMQ				pmax		pmax		
	comp=Z,47nm,1.5s							
WMQ				pmax		pmax		
	comp=Z,170nm,5.1s							
RWWY	Rawlins	97.54	49	IAmb		IAmb	21 17 41.1	
	comp=Z,48nm,1.3s							
SDCO	Great Sand Dun	97.55	53	P		Pdif	21 17 41.5	+0.9
	baz=252,SNR=15							
EGMT	Eagleton	97.90	42	P		Pdif	21 17 42.2	+0.6
	baz=250,SNR=6.6							
ISCO	Idaho Springs	98.10	51	P		P	21 17 42.7	-0.3
	baz=252							
ISCO	Idaho Springs	98.10	51	P		Pdif	21 17 44.0	+1.0
ODSA	Odessa	98.16	59	IAmb		IAmb	21 17 45.2	
	comp=Z,60nm,1.3s							
Q24A	Divide	98.19	52	P		Pdif	21 17 43.5	+0.1
	baz=252,SNR=5.9							
T25A	Trinidad	98.19	54	P		Pdif	21 17 43.7	+0.4
	baz=252,SNR=5.7							
N23A	Red Feather La	98.20	50	P		Pdif	21 17 44.4	+1.1
	baz=252,SNR=12							
K22A	Casper	98.33	48	IAmb		IAmb	21 21 47.0	
	comp=Z,53nm,1.4s							
K22A	Casper	98.33	48	P		P	21 17 44.5	+0.7
	baz=252,SNR=5.8							
PLCA	Paso Flores	98.48	138	P		P	21 17 45.2	+0.7
	comp=Z,3.4nm,0.9s,baz=175,slow=4.0,SNR=7.4							
PLCA				PKKPbc		PKKPbc	21 34 13.2	-1.0
	comp=Z,3.9nm,0.9s,baz=75,slow=2.4,SNR=11							
	comp=Z,3.4nm,0.9s							
PLCA	Paso Flores	98.48	138	*e*P		Pdif	21 17 43.5	-1.0
MSTX	Muleshoe	98.53	57	IAmb		IAmb	21 17 46.6	
	comp=Z,38nm,1.1s							
MSTX	Muleshoe	98.53	57	P		P	21 17 45.5	+0.7
	baz=253,SNR=14							
PHWY	Pilot Hill	98.67	49	IAmb		IAmb	21 21 50.2	
	comp=Z,32nm,1.2s							
AMTX	Amarillo	99.66	56	P		Pdif	21 17 50.3	+0.6
	baz=254							
833A	Chaparral WMA,	99.68	63	P		Pdif	21 17 50.8	+0.9
	baz=254							
C36M	Paulatuk	99.71	19	P		Pdif	21 17 49.1	+0.1
	baz=242							
JCT	Junction City	99.94	61	P		Pdif	21 17 51.5	+0.4
	baz=254							
KSCO	Kaye Shedlock'	100.08	52	P		Pdif	21 17 52.0	+0.4
	baz=254							
ZSN	Zaisan	100.30	317	*e*P		Pdif	21 17 52.0	-0.3
	comp=Z,11nm,0.7s,baz=317							
ZSN				*e*S		SKSac	21 28 02.7	-2.8
	baz=317							
ZSN	Zaisan	100.30	317	*e*P		Pdif	21 17 51.9	-0.3
ZSN				*e*S		SKSac	21 28 02.6	-2.8
ZSN				pmax		pmax		
	comp=Z,11nm,0.7s							
YKA	Yellowknife Ar	100.35	27	P		Pdif	21 17 52.2	+0.2
	comp=Z,25nm,0.9s,baz=253,slow=4.6,SNR=66							
YKA				PP		PP	21 22 01.0	-1.1
	comp=Z,0.3nm,0.3s,baz=198,slow=29,SNR=2.0							
RSSD	Black Hills	100.50	47	P		Pdif	21 17 53.8	+0.4
	baz=254							
A36M	Sachs Harbour	100.64	17	P		Pdif	21 17 53.8	+0.7
	baz=241							
ABTX	Abilene, Hawle	100.66	59	P		Pdif	21 17 54.5	+0.3
	baz=254							
OGNE	Ogallala	101.05	50	P		Pdif	21 17 55.5	-0.3
	baz=254							
MKAR	Makanchi Array	101.81	315	P		Pdif	21 17 59.1	+0.2
	comp=Z,20nm,0.7s,baz=104,slow=5.0,SNR=66							
MKAR				PKiKP		PKiKP	21 22 19.9	-0.8
	comp=Z,4.7nm,0.8s,baz=78,slow=1.2,SNR=11							
MKAR	Makanchi Array	101.81	315	*i* P		Pdif	21 17 59.0	0.0
MKAR				pmax		pmax		
	comp=Z,20nm,0.7s							
WMOK	Wichita Mounta	101.91	57	P		Pdif	21 17 59.8	+0.1
	baz=255							
ZALV	Zalesovo Beam	102.14	323	P		Pdif	21 17 59.6	-0.6
	comp=Z,7.2nm,0.6s,baz=117,slow=4.6,SNR=24							
ZALV				PKiKP		PKiKP	21 22 20.3	-0.7
	comp=Z,2.3nm,0.7s,baz=84,slow=2.6,SNR=7.1							
SHLS	Shalkode	102.84	311	*e*P		Pdif	21 18 02.1	-1.7
	baz=312							
SHLS	Shalkode	102.84	311	*e*P		Pdif	21 18 02.0	-1.7
UZB	Uzynbulak	103.15	311	*e*Pdif		Pdif	21 18 04.7	-0.5
	baz=311							
UZB	Uzynbulak	103.15	311	*i* P		Pdif	21 18 04.7	-0.5
KPKS	Kokpek	103.47	312	*e*Pdif		Pdif	21 18 06.2	-0.4
	baz=312							
KPKS	Kokpek	103.47	312	*i* P		Pdif	21 18 06.1	-0.4
SATY	Saty	103.57	311	*e*Pdif		Pdif	21 18 06.5	-0.6
	baz=311							
SATY	Saty	103.57	311	*i* P		Pdif	21 18 06.4	-0.6
SEM	Semipalatinsk	104.00	319	*e*Pdif		Pdif	21 18 07.8	-1.1
	baz=319							
SEM	Semipalatinsk	104.00	319	*i* P		Pdif	21 18 07.7	-1.1
BGNE	Belgrade	104.01	51	P		Pdif	21 18 09.5	+0.6
	baz=257							
TDK	Taldyqorghan	104.01	313	*e*Pdif		Pdif	21 18 08.4	-0.4
	comp=Z,4.0nm,0.6s,baz=313							
TDK	Taldyqorghan	104.01	313	*i* P		Pdif	21 18 08.4	-0.4
TDK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
MDOK	Medeo	104.56	311	*e*Pdif		Pdif	21 18 10.3	-1.1
	baz=311							
MDOK	Medeo	104.56	311	*i* P		Pdif	21 18 10.3	-1.1
TNSS	Tian-Shan	104.61	311	*e*Pdif		Pdif	21 18 11.3	-0.7
	baz=311							
TNSS	Tian-Shan	104.61	311	*i* P		Pdif	21 18 11.3	-0.7
NRIK	Noril'sk	104.86	339	Pdiff		Pdif	21 18 11.1	-0.8
	comp=Z,10nm,0.9s,baz=85,slow=5.7,SNR=10.0							
KURBB	Kurchatov Arra	105.12	319	Pdiff		Pdif	21 18 12.9	-0.6
	comp=Z,3.8nm,0.7s,baz=107,slow=3.4,SNR=19							
KURBB				PKiKP		PKiKP	21 22 26.2	-0.3
	comp=Z,4.1nm,0.8s,baz=99,slow=1.8,SNR=12							
KURBB				PKKPbc		PKKPbc	21 33 53.6	-1.9
	comp=Z,1.9nm,0.8s,baz=284,slow=3.3,SNR=9.6							
KURBB				PKKPab		PKKPab	21 34 11.6	+0.5
	comp=Z,1.5nm,0.8s,baz=283,slow=5.0,SNR=5.8							
ECSD	EROS Data Cent	105.61	49	P		PKiKP	21 22 27.5	-0.2
	baz=259							
SGDS	Sogindy	106.35	311	*e*Pdif		Pdif	21 18 18.3	-1.0
	baz=311							
SGDS	Sogindy	106.35	311	*i* P		Pdif	21 18 18.3	-1.0
BTLS	Baital	107.05	312	*e*Pdif		Pdif	21 18 21.1	-1.2
	baz=312							
BTLS	Baital	107.05	312	*i* P		Pdif	21 18 21.0	-1.2
ULM	Lac du Bonnet	107.27	42	PKiKP		PKiKP	21 22 29.1	-1.5
	comp=Z,4.6nm,0.7s,baz=194,slow=5.3,SNR=5.2							
CCM	Cathedral Cave	108.56	55	P		PKiKP	21 22 32.8	-0.6
	baz=260							
BRLS	Boroldoy	109.74	310	*e*Pdif		Pdif	21 18 33.9	-0.4
	baz=310							
BRLS	Boroldoy	109.74	310	*i* P		Pdif	21 18 33.9	-0.4
EYMN	Ely	109.81	45	P		PKiKP	21 22 34.9	-0.5
	baz=263							
JFWS	Jewell Farm	110.05	50	P		PKiKP	21 22 35.4	-0.7
	baz=262							
HDIL	Hopedale	110.44	53	P		PKiKP	21 22 36.7	-0.1
	baz=262							
BRVK	Borovoye	110.53	321	P		PKiKP	21 22 36.1	-0.5
BRVK	Borovoye	110.53	321	*d i* PKiKP		PKiKP	21 22 36.1	-0.5
BRVK				pmax		pmax		
	comp=Z,12nm,1.3s							
BRAL	Brewton	110.78	63	P		PKiKP	21 22 36.8	-0.9
	baz=260							
WVT	Waverly	110.95	58	P		PKiKP	21 22 37.3	-0.6
	baz=261							
LRAL	Lakeview Retre	111.14	61	P		PKiKP	21 22 37.9	-0.4
	baz=261							
SFIN	Lafayette	112.08	53	P		PKiKP	21 22 39.4	-0.6
	baz=263							
WCI	Wyandotte Cave	112.45	56	P		PKiKP	21 22 40.0	-0.7
	baz=263							
LPAZ	La Paz	113.27	118	PKiKP		PKiKP	21 22 43.0	-0.7
	comp=Z,2.4nm,0.9s,baz=331,slow=3.4,SNR=6.9							
LPAZ				PKKPbc		PKKPbc	21 33 27.5	-1.7
	comp=Z,0.8nm,0.9s,baz=285,slow=0.4,SNR=3.5							
O48B	Farmland	113.55	54	P		PKiKP	21 22 42.1	-0.7
	baz=265							
TIGA	Tifton	113.74	63	P		PKiKP	21 22 42.5	-0.9
	baz=262							
P49A	Miami Univ. Ec	113.81	54	P		PKiKP	21 22 42.5	-0.8
	baz=264							
GOGA	Godfrey	114.12	61	P		PKPdf	21 22 43.3	-0.7
	baz=262							
GLMI	Grayling	114.29	49	P		PKPdf	21 22 43.8	-0.3
	baz=267							
TZTN	Tazewell	114.43	58	P		PKPdf	21 22 44.0	-0.5
	baz=264							
AAM	Ann Arbor	114.84	52	P		PKPdf	21 22 45.0	-0.2
	baz=266							
DWPF	Disney Wildern	115.09	67			PKPdf	21 22 45.9	-0.1
DWPF	Disney Wildern	115.09	67	P		PKPdf	21 22 45.6	-0.5
	baz=261							
ACSO	Alum Creek Sta	115.20	54	P		PKPdf	21 22 45.2	-0.7
	baz=266							
WBK	Wadi Bani Khal	115.56	286	P		PKPdf	21 22 46.3	-0.9
P52A	Corning	115.81	55	P		PKPdf	21 22 45.9	-1.2
	baz=266							
CPUP	Villa Florida	115.92	133	PKP		PKPdf	21 22 47.0	-0.8
	comp=Z,4.0nm,1.0s,baz=285,slow=3.1,SNR=5.1							
CPUP				PKKPbc		PKKPbc	21 33 18.8	-1.0
	comp=Z,5.1nm,1.0s,baz=106,slow=1.6,SNR=6.6							
CPUP	Villa Florida	115.92	133	PKiKP		PKPdf	21 22 47.0	-0.8
WSAR	Wadi Sarin	115.98	287	P		PKiKP	21 22 48.1	+0.1
KMSC	Kings Mountain	116.07	60	P		PKPdf	21 22 46.9	-0.9
	baz=264							
SVE	Sverdlovsk	116.08	325	*e*PKiKP		PKPdf	21 22 46.5	-0.6
SVE				pmax		pmax		
	comp=Z,26nm,1.2s							
MHTO	MHTO	116.16	285	P		PKPdf	21 22 48.2	-0.1
JMDO	Jabal Madar	116.30	286	P		PKPdf	21 22 48.0	-0.5
DQM	DQM	116.34	283	P		PKiKP	21 22 49.2	+0.5
SMDO	Samad	116.48	287	P		PKiKP	21 22 49.0	0.0
BIDO	Bidbid	116.49	287	P		PKPdf	21 22 48.7	-0.1
O53A	New Philadelph	116.56	54	P		PKPdf	21 22 47.7	-0.8
	baz=267							
NHSC	New Hope	116.82	62	P		PKPdf	21 22 48.4	-0.8
	baz=264							
BLA	Blacksburg	116.98	57	P		PKPdf	21 22 48.7	-0.8
	baz=266							
M53A	WI Miller and	117.02	53	P		PKPdf	21 22 48.2	-1.2
	baz=268							
BSY	Bisya	117.19	286	P		PKPdf	21 22 50.0	-0.3
HOQ	Hoqain	117.24	287	P		PKPdf	21 22 50.0	-0.4
ARU	Arti	117.26	324			PKPdf	21 22 48.5	-0.9
ARU	Arti	117.26	324	*i* PKiKP		PKPdf	21 22 48.5	-0.9
ARU							21 24 02.7	
ARU							21 29 33.2	
ARU				SP		SP	21 33 26.7	+6.0
ARU				SS		SS	21 39 44.8	-8.1
ERPA	Erie	117.55	52	P		PKPdf	21 22 49.3	-1.1
	baz=269							
MCWV	Mont Chateau	117.58	55	P		PKPdf	21 22 49.4	-1.1
	baz=268							
SHAO	Shalim	117.71	281	P		PKPdf	21 22 51.3	-0.1
SHAO	Shalim	117.71	281	P		PKiKP	21 22 51.5	+0.1
ARQ	Araqi	117.91	287	P		PKPdf	21 22 50.9	-0.8
SOHO	SOHO	118.03	288	*i* P		PKPdf	21 22 51.1	-0.7
	SNR=30							
SOHO	SOHO	118.03	288	P		PKPdf	21 22 51.5	-0.3
DMTO	DMTO	118.27	280	P		PKPdf	21 22 51.7	-0.8
MDH	Madha	118.43	289	P		PKPdf	21 22 51.7	-0.9
MDH	Madha	118.43	289	P		PKPdf	21 22 51.8	-0.8
UOSS	Minazif	118.46	289			PKPdf	21 22 50.5	-2.2
UOSS	Minazif	118.46	289	*i* P		PKPdf	21 22 51.6	-1.0
	SNR=9.8							
UOSS	Minazif	118.46	289	P		PKPdf	21 22 51.9	-0.8
HATD	Hatta, Dubai	118.50	288	*i* P		PKPdf	21 22 52.3	-0.5
	SNR=16							
HATD	Hatta, Dubai	118.50	288	P		PKPdf	21 22 52.6	-0.2
	SNR=6.0							
ASHO	Ashiyiah	118.55	288	*i* P		PKPdf	21 22 52.3	-0.6
	SNR=14							
ASHO	Ashiyiah	118.55	288	P		PKPdf	21 22 52.5	-0.4
	SNR=6.0							
MSFE	Esma-Masafi	118.56	289	*i* P		PKPdf	21 22 52.7	-0.2
	SNR=6.5							
MASF	Masafi	118.56	289	P		PKPdf	21 22 52.5	-0.4
SHME	Shamm	118.68	290	P		PKPdf	21 22 52.6	-0.5
SHME	Shamm	118.68	290	P		PKPdf	21 22 52.7	-0.3
ALNE	Al Ain	118.72	288	*i* P		PKPdf	21 22 52.8	-0.4
	SNR=18							
ALNE	Al Ain	118.72	288	P		PKPdf	21 22 53.1	-0.1
CNNC	Cliffs of the	118.89	60	P		PKPdf	21 22 52.1	-1.1
	baz=266							
RBK	Rabkut	118.92	280	P		PKiKP	21 22 54.0	+0.2
BBSD	Serra de San D	118.94	123	*e*P		PKPdf	21 22 53.3	-0.5
NAZ	Nazwa, Dubai	118.95	289	P		PKPdf	21 22 53.2	-0.3
NAZ	Nazwa, Dubai	118.95	289	P		PKPdf	21 22 53.4	-0.2
FAQ	Al Faqa, Dubai	118.98	288	P		PKPdf	21 22 53.1	-0.5
FAQ	Al Faqa, Dubai	118.98	288	P		PKPdf	21 22 53.2	-0.5
UMZA	Um Al Zommool	119.04	286	P		PKPdf	21 22 53.6	-0.1
SSPA	Standing Stone	119.11	54			PKPdf	21 22 52.4	-1.0
SSPA	Standing Stone	119.11	54	P		PKPdf	21 22 52.4	-1.0
	baz=269							
ASUD	Al Ashush, Dub	119.19	288	*i* P		PKiKP	21 22 54.1	0.0
	SNR=7.5							
ASUD	Al Ashush, Dub	119.19	288	P		PKiKP	21 22 54.1	0.0
DOK	Doka	119.22	281	P		PKPdf	21 22 54.2	-0.1
WHFO	Wadi Hawf	119.41	280	P		PKPdf	21 22 54.6	-0.1
SPA0	Spitsbergen Ar	119.43	354	*e*PKPdf		PKPdf	21 22 52.4	-0.6
SPA0				IAmb		IAmb	21 22 53.0	
	comp=Z,37nm,0.9s							
SPITS	Spitsbergen Ar	119.43	354	PKP		PKPdf	21 22 52.2	-0.8
	comp=Z,22nm,0.7s,baz=96,slow=6.3,SNR=19							
SPITS	Spitsbergen Ar	119.43	354	PKiKP		PKiKP	21 22 53.1	0.0
CBN	Corbin Frederi	119.45	56	P		PKPdf	21 22 52.9	-1.2
	baz=268							
AJN	Ajban	119.49	288	P		PKPdf	21 22 54.3	-0.3
ABTO	Aybut	119.73	280	P		PKiKP	21 22 55.8	+0.3
MZWR	Madinat Zayed	120.37	287	P		PKiKP	21 22 56.5	+0.1
BINY	Binghamton	120.53	52	P		PKPdf	21 22 55.7	-0.5
	baz=272							
MZR	Muzera	120.61	286	*i* P		PKiKP	21 22 57.3	+0.3
	SNR=79							
MZR	Muzera	120.61	286	P		PKiKP	21 22 57.6	+0.6
	SNR=12							
SUR	Sutherland	120.76	211			PKiKP	21 22 57.4	+0.1
SUR	Sutherland	120.76	211	P		PKiKP	21 22 58.0	+0.6
SDV	Santo Domingo	120.95	91	*e*P		PKPdf	21 22 57.3	-0.7
SAML	Samuel	121.04	113			PKPdf	21 22 57.4	-0.5
SAML	Samuel	121.04	113	PKIKP		PKPdf	21 22 57.4	-0.5
PTLB	Pontes e Lacer	121.08	122			PKPdf	21 22 57.7	-0.2
PTLB	Pontes e Lacer	121.08	122	*e*P		PKPdf	21 22 56.6	-1.3
GHWR	Ruwais	121.31	287	P		PKiKP	21 22 58.4	+0.1
BOSA	Boshof	121.40	217	PKP		PKiKP	21 22 58.7	+0.1
	comp=Z,8.8nm,0.4s,baz=154,slow=1.2,SNR=52							
BOSA				PKKPbc		PKKPbc	21 32 59.4	-1.1
	comp=Z,6.5nm,1.0s,baz=330,slow=3.9,SNR=10							
LONY	Lake Ozonia	121.44	49	P		PKPdf	21 22 56.9	-0.9
	baz=274							
JRN	Qarnain Island	121.47	288	P		PKPdf	21 22 58.4	0.0
VILB	Vilhena	121.56	119	*e*P		PKPdf	21 22 55.1	-3.9
KIRV	Kirov	121.67	328	*c i*PKIKP		PKPdf	21 22 57.1	-0.6
DAG	Danmarks Havn	122.08	2	*i* P		PKPdf	21 22 56.0	-2.1
PAL	Palisades	122.12	53	P		PKPdf	21 22 58.7	-0.5
	baz=272							
SLWR	Sila	122.40	287	P		PKiKP	21 23 00.4	0.0
TRNA	Turayna	122.92	288	P		PKiKP	21 23 01.3	-0.1
L61B	Northampton	122.96	51	P		PKPdf	21 23 00.1	-0.7
	baz=274							
SMRA	Abu-Samra	123.27	288	P		PKiKP	21 23 02.0	-0.1
	SNR=7.7							
SHMA	Al-Shehemyia	123.28	289	P		PKiKP	21 23 02.3	+0.2
LBNH	Lisbon	123.36	49	P		PK

BOAV Boa Vista 128.31 102 *eP* **PKPdf 21 23 11.2 -0.6**
GNI Garni 128.49 307 **PKiKP 21 23 12.1 -0.2**
GNI Garni 128.49 307 P **PKiKP 21 23 12.8 +0.5**
GNI Garni 128.49 307 P **PKiKP 21 23 12.7 +0.5**
GNI Garni 128.49 307 *d i* PKIKP **PKiKP 21 23 12.5 +0.2**
GNI pmax pmax
comp=Z,92nm,1.7s
STEI Steigen 128.49 348 *e*PKPdf **PKPdf 21 23 09.4 -1.1**
STEI IAmb IAmb 21 23 10.7
comp=Z,28nm,0.8s
MOS Moscow 128.68 327 *i* PKIKP **PKPdf 21 23 10.0 -1.3**
MOS *e* 21 24 17.1
MOS *e* 21 29 48.3
MOS pmax pmax
comp=Z,65nm,1.2s
NPGB Novo Progresso 128.70 116 *eP* PKPpre 21 23 06.6
NPGB Novo Progresso 128.70 116 *eP* **PKPdf 21 23 10.3 -2.3**
GOF Gofitskoye 128.89 313 *ce*PKIKP **PKPdf 21 23 12.1 +0.1**
LSZ Lusaka 128.93 231 **PKPdf 21 23 12.8 -0.3**
LSZ Lusaka 128.93 231 P **PKiKP 21 23 13.8 0.0**
LSZ Lusaka 128.93 231 PKIKP **PKPdf 21 23 12.8 -0.3**
FAUS Fauske 128.95 348 *e*PKPdf **PKPdf 21 23 10.6 -0.9**
KMBO Kilima Mbogo 129.08 252 **PKPdf 21 23 13.9 +0.2**
KMBO Kilima Mbogo 129.08 252 *i P* **PKiKP 21 23 14.8 +0.4**
SNR=9.8
KMBO Kilima Mbogo 129.08 252 P **PKiKP 21 23 15.2 +0.8**
KMBO Kilima Mbogo 129.08 252 PKIKP **PKPdf 21 23 13.9 +0.2**
LPSR Galich'ya Gora 129.25 323 *e*PKIKP **PKPdf 21 23 09.7 -2.8**
LPSR pmax pmax
comp=Z,120nm,1.2s
KBZ Khabaz 129.26 311 PKP **PKPdf 21 23 12.4 -0.3**
comp=Z,8.1nm,0.9s,baz=72,slow=4.2,SNR=15
KIV Kislovodsk 129.37 312 ⇑P **PKiKP 21 23 13.9 0.0**
KIV Kislovodsk 129.37 312 **PKiKP 21 23 13.5 -0.4**
KIV Kislovodsk 129.37 312 *i P* **PKiKP 21 23 13.5 -0.4**
SNR=11
KIV Kislovodsk 129.37 312 P **PKiKP 21 23 13.8 0.0**
KIV Kislovodsk 129.37 312 *i* PKIKP **PKPdf 21 23 12.6 -0.5**
KIV *e* 21 25 24.5
KIV *e*SS SS 21 42 23.6 -2.8
KIV pmax pmax
comp=Z,29nm,1.1s
SHA1 Shidzhatmaz 129.43 311 *c i* PKIKP **PKPdf 21 23 13.2 -0.2**
VORR Voronezh 129.43 322 *e*PKIKP **PKPdf 21 23 12.2 -0.6**
VORR pmax pmax
comp=Z,124nm,1.4s
BDFB Brasilia 129.45 130 PKP **PKPdf 21 23 13.1 -1.0**
comp=Z,14nm,0.9s,baz=215,slow=3.2,SNR=4.8
BDFB SKPbc SKPab 21 26 10.8 0.0
comp=Z,5.8nm,0.8s,baz=222,slow=4.4,SNR=7.6
OBN Obninsk 129.50 327 **PKPdf 21 23 12.7 -0.1**
OBN Obninsk 129.50 327 *i* PKIKP **PKPdf 21 23 11.2 -1.6**
OBN *i* 21 24 19.0
OBN pmax pmax
comp=Z,49nm,1.2s
VSR Storozhevoye 129.62 322 *e*PKIKP **PKPdf 21 23 10.0 -3.2**
VSR pmax pmax
comp=Z,70nm,1.6s
VORD Divnogorie 129.63 321 *e*PKIKP **PKPdf 21 23 11.0 -2.2**
VORD pmax pmax
comp=Z,40nm,1.3s
ITTB Itaituba 129.71 113 *eP* PKPpre 21 23 02.2
KONS Konsvik 130.15 348 *e*PKPdf **PKPdf 21 23 13.2 -0.6**
MOR8 Moi Rana 130.16 347 *e*PKPdf **PKPdf 21 23 12.4 -1.4**
MOR8 IAmb IAmb 21 23 13.4
comp=Z,13nm,0.6s
STOK Stokkvaagen 130.32 348 *e*PKPdf **PKPdf 21 23 13.0 -1.1**
STOK IAmb IAmb 21 23 14.8
comp=Z,20nm,0.7s
KEF Keuruu 130.44 339 *eP* **PKPdf 21 23 13.9 -0.5**
ERBR Yeremizino-Bor 130.48 314 *i* PKIKP **PKPdf 21 23 15.3 +0.3**
ERBR *e* 21 24 23.3
ERBR *e* 21 25 33.3
ERBR pmax pmax
comp=Z,93nm,1.4s
FINES FINESS Array B 130.52 338 PKhKP PKPpre 21 22 59.8
comp=Z,2.4nm,0.7s,baz=46,slow=5.5,SNR=8.3
FINES PKP **PKPdf 21 23 13.2 -1.4**
comp=Z,17nm,0.9s,baz=106,slow=6.2,SNR=21
FINES PP **PP 21 25 31.3 -1.1**
comp=Z,4.8nm,0.9s,baz=53,slow=10,SNR=5.2
FINES SKPbc **SKPab 21 26 13.5 -0.1**
comp=Z,9.5nm,0.8s,baz=55,slow=3.3,SNR=8.3
VAF Ylistaro 130.52 341 *eP* **PKPdf 21 23 14.6 0.0**
DIAM Diamantina, MG 130.58 137 *eP* **PKPdf 21 23 14.1 -2.2**
LABN Labinsk 130.59 313 *i* PKIKP **PKPdf 21 23 15.2 -0.1**
LABN *e* 21 25 31.4
LABN pmax pmax
comp=Z,11nm,0.4s
BCA Borcka 130.62 309 ⇓P **PKPdf 21 23 15.9 +0.4**
SOC Sochi 131.55 312 *e*PKIKP **PKPdf 21 23 15.8 -1.3**
SOC *e* 21 25 39.3
SOC *e*PPP PPP 21 28 35.1
SOC *e*SS SS 21 42 45.7 -7.0
SOC pmax pmax
comp=Z,3.0nm,0.7s
SJMB Sao Joao De Ma 131.85 139 *eP* **PKPdf 21 23 16.4 -2.1**
RIB01 Linhares ES 131.87 141 *eP* **PKPdf 21 23 16.8 -1.7**
ARBE Arbavere 131.89 336 *eP* **PKPdf 21 23 17.3 +0.1**
MEF Metsahovi 131.96 337 *eP* **PKPdf 21 23 17.4 +0.1**
NSS Namsos 132.11 347 *e*PKPdf **PKPdf 21 23 16.8 -0.7**
NSS IAmb IAmb 21 23 18.0
comp=Z,25nm,1.0s
VSU Vasula 132.23 335 *d i* PKIKP **PKPdf 21 23 18.1 +0.2**
VSU pmax pmax
comp=Z,54nm,1.7s
RAF Rauma 132.30 339 *eP* **PKPdf 21 23 17.6 -0.4**
JANB Januaria 132.46 133 *eP* **PKPdf 21 23 17.8 -2.0**
LODK Lodwar 132.66 257 P **PKiKP 21 23 20.8 -0.5**
ANN Anapa 132.81 314 *i* PKIKP **PKPdf 21 23 18.8 -0.6**
ANN *e* 21 25 45.3
ANN *e*SS SS 21 43 06.8 -1.0
ANN pmax pmax
comp=Z,36nm,1.0s
ANN pmax pmax
comp=N,17nm,1.2s
ANN pmax pmax
comp=E,8.0nm,1.0s
NAN01 Guarapari, ES 133.15 140 *eP* **PKPdf 21 23 19.2 -1.8**
MTSE Matsula 133.21 336 *eP* **PKPdf 21 23 19.1 -0.6**
AAL Aland 133.51 340 *eP* **PKPdf 21 23 20.1 -0.1**
PRPB Paraupebas 133.82 119 *eP* **PKPdf 21 23 22.4 +0.1**
SDBA SAO DESIDERIO 133.84 130 *eP* **PKPdf 21 23 20.7 -1.7**
SMTB Santa Maria do 134.06 124 *eP* **PKPdf 21 23 21.8 -0.9**
MNK Minsk 134.13 330 *i* PKIKP **PKPdf 21 23 22.0 +0.4**
MNK *i* 21 25 56.9
MNK *i* PPP PPP 21 28 51.5
MNK *i* 21 29 59.4
MNK *i* SS SS 21 43 17.9 -4.8
MNK *i* SSS SSS 21 48 28.9
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=Z,33nm,0.9s
ISAL Salakas 134.30 332 *eP* **PKiKP 21 23 24.1 +0.7**
GUA01 Guaratinga, BA 134.31 139 *eP* **PKPdf 21 23 23.2 0.0**
IIGN Ignalina 134.40 331 *eP* **PKiKP 21 23 23.9 +0.4**
UPP Uppsala 134.53 341 *eP* **PKPdf 21 23 21.4 -0.8**
MOL Molde 134.75 348 *e*PKPdf **PKiKP 21 23 23.8 -0.2**
MCPB Macapa, AP 134.84 110 *eP* **PKPdf 21 23 24.2 0.0**
DOMB Dombas 134.93 347 *e*PKPdf **PKPdf 21 23 22.5 -0.4**
DOMB IAmb IAmb 21 23 24.2
comp=Z,20nm,1.0s
SIM Simferopol' 134.99 315 *i* PKIKP **PKPdf 21 23 23.1 -0.5**
SIM pmax pmax
comp=Z,36nm,1.0s
VSVD Vaisvydziai 135.00 333 *eP* **PKPdf 21 23 23.3 +0.1**
MBAR Mbarara 135.12 249 **PKPdf 21 23 25.4 +0.4**
MBAR Mbarara 135.12 249 P **PKiKP 21 23 25.8 -0.7**
MBAR Mbarara 135.12 249 PKIKP **PKPdf 21 23 25.4 +0.4**
PABE Paberze 135.29 333 *eP* **PKPdf 21 23 24.3 +0.5**
NB2 NORSAR Subarra 135.33 345 PKPdf PKPpre 21 23 13.1
comp=Z,34nm,1.7s,baz=31,slow=1.9
NB2 NORSAR Subarra 135.33 345 PKPdf PKPpre 21 23 13.1
baz=31,slow=1.9
NOA NORSAR Array B 135.33 345 PKhKP PKPpre 21 23 10.3
comp=Z,1.0nm,0.7s,baz=49,slow=1.8,SNR=3.9
NOA PKP **PKPdf 21 23 23.6 -0.1**
comp=Z,5.4nm,0.6s,baz=36,slow=2.1,SNR=18
NOA PP **PP 21 26 03.5 +0.6**
comp=Z,5.3nm,1.1s,baz=38,slow=5.6,SNR=4.6

CMC01 Camacan, BA 135.41 138 *eP* **PKPdf 21 23 25.0 -0.2**
HFS Hagfors 135.47 343 PKhKP PKPpre 21 23 09.3
comp=Z,2.3nm,0.8s,baz=193,slow=27,SNR=2.4
HFS PKP **PKPdf 21 23 22.5 -1.4**
comp=Z,9.0nm,0.7s,baz=113,slow=2.0,SNR=15
AKASG Malin Array Be 135.51 325 **PKPdf 21 23 24.0 -0.3**
AKASG Malin Array Be 135.51 325 PKhKP PKPpre 21 23 11.3
comp=Z,2.5nm,0.7s,baz=76,slow=2.5,SNR=5.6
AKASG PKP **PKPdf 21 23 23.3 -1.0**
comp=Z,8.1nm,0.6s,baz=60,slow=1.9,SNR=17
AKASG SKPbc **SKPbc 21 26 30.9 +0.3**
comp=Z,5.9nm,0.6s,baz=46,slow=3.7,SNR=10
AKASG Malin Array Be 135.51 325 PKIKP **PKPdf 21 23 24.0 -0.3**
AKBB Malin Array Si 135.51 325 *de*PKIKP **PKPdf 21 23 23.8 -0.5**
KIEV Kiev 135.52 325 ⇓P PKPpre 21 23 14.4
KIEV Kiev 135.52 325 *i P* **PKPdf 21 23 23.7 -0.6**
SNR=8.9
KIEV Kiev 135.52 325 ⇓PKHKP PKPpre 21 23 14.4
NBIT Itapeh - BA 135.79 138 *eP* **PKPdf 21 23 24.2 -1.7**
VIKU Vikbolandet 135.89 340 *eP* **PKPdf 21 23 22.6 -2.2**
FOO Floro 136.11 349 *e*PKPdf **PKPdf 21 23 25.2 +0.1**
FOO IAmb IAmb 21 23 27.1
comp=Z,29nm,0.9s
SKAR Skarslia 136.32 347 *e*PKPdf **PKPdf 21 23 25.6 0.0**
SKAR IAmb IAmb 21 23 27.4
comp=Z,22nm,0.9s
GDU01 Guandu, BA 136.60 136 *eP* **PKPdf 21 23 27.6 +0.1**
SUW Suwalki 136.61 332 *e*PKP **PKPdf 21 23 25.8 -0.4**
SUW *e*PP **PP 21 26 11.9 +0.8**
SUW Suwalki 136.61 332 *eP* **PKPdf 21 23 27.1 +0.8**
MMAI Mount Meron Ar 136.85 298 PKhKP PKPpre 21 23 16.0
comp=Z,3.7nm,0.8s,baz=76,slow=7.1,SNR=7.6
MMAI PKP **PKPdf 21 23 27.0 -0.5**
comp=Z,40nm,0.9s,baz=78,slow=5.2,SNR=29
MMAI SKPbc **SKiKP 21 26 37.9 -2.4**
comp=Z,44nm,0.9s,baz=68,slow=4.6,SNR=32
BR131 Keskin Array S 136.93 308 P **PKPdf 21 23 27.0 -0.5**
SNR=6.3
BRTR Keskin Array B 136.93 308 PKhKP PKPpre 21 23 16.1
comp=Z,2.7nm,0.8s,baz=132,slow=3.3,SNR=11
BRTR PKP **PKPdf 21 23 27.2 -0.3**
comp=Z,8.7nm,0.7s,baz=106,slow=1.2,SNR=16
BRTR PP **PP 21 26 12.2 -2.0**
comp=Z,4.0nm,1.0s,baz=101,slow=6.4,SNR=6.4
BRTR SKPbc **SKPbc 21 26 37.0 +1.5**
comp=Z,9.2nm,1.1s,baz=147,slow=2.5,SNR=7.8
PURM Purcari 137.11 319 ⇓P PKPpre 21 23 20.1
ASK Askoy 137.12 349 *e*PKPdf **PKiKP 21 23 28.5 -0.4**
SORM Soroca 137.28 322 ⇑P PKPpre 21 23 16.6
SORM Soroca 137.28 322 ⇑PKHKP PKPpre 21 23 16.6
TMAB Tom-Au,PA,Br 137.30 116 *eP* **PKPdf 21 23 28.3 -0.5**
ANTO Ankara 137.52 309 ⇓P **PKPdf 21 23 28.7 +0.2**
ANTO Ankara 137.52 309 P **PKPdf 21 23 29.2 +0.7**
ANTO Ankara 137.52 309 ⇓PKIKP **PKPdf 21 23 28.7 +0.2**
NBPN Ponto Novo - B 138.25 133 *eP* **PKPdf 21 23 29.3 -1.3**
TLCR 138.36 318 ⇑P PKPpre 21 23 20.3
TLCR 138.36 318 ⇑PKHKP PKPpre 21 23 20.3
DEL Delary 138.43 340 *eP* **PKPdf 21 23 28.9 -0.7**
DEL Delary 138.43 340 *i P* PKPpre 21 23 19.0
VLDR Vladesti 138.53 319 ⇓P **PKPdf 21 23 28.0 -2.1**
VARL Varlezi 138.65 319 ⇑P **PKPdf 21 23 31.0 +0.7**
SCTR Scanteiesti 138.66 319 ⇑P PKPpre 21 23 24.0
SNART Snartemo 138.68 346 *e*PKPdf **PKiKP 21 23 31.1 -1.0**
TPGR Topolog 138.75 317 ⇑P PKPpre 21 23 22.9
LVV L'vov 138.78 326 *e*PKIKP **PKPdf 21 23 30.1 -0.3**
CFR Carcaliu 138.79 318 ⇑P PKPpre 21 23 22.6
CFR Carcaliu 138.79 318 ⇑PKHKP PKPpre 21 23 22.6
PRAR RASCA 138.91 322 ⇓P PKPpre 21 23 23.8
MFTR Murfatlar 139.04 316 ⇑P **PKPdf 21 23 31.4 +0.4**
TESR Tescani 139.09 321 ⇑P PKPpre 21 23 23.2
TLBR Topalu 139.13 317 ⇓P PKPpre 21 23 25.0
HARR Harsova 139.14 317 ⇑P **PKiKP 21 23 32.7 -0.8**
HARR Harsova 139.14 317 ⇓PKIKP **PKiKP 21 23 32.7 -0.8**
BSD Bornholm Skovb 139.16 338 *eP* **PKPdf 21 23 31.6 +0.7**
BSD Bornholm Skovb 139.16 338 *i P* PKPpre 21 23 21.0
VRI Vrincioaia 139.35 320 ⇑P PKPpre 21 23 24.1
VRI Vrincioaia 139.35 320 ⇑PKHKP PKPpre 21 23 24.1
BURAR Bucovina Array 139.36 323 ⇑P PKPpre 21 23 23.5
PLOR Plostina 139.41 320 ⇑P PKPpre 21 23 23.9
PLOR Plostina 139.41 320 ⇑PKHKP PKPpre 21 23 23.9
PSN Preselentsi 139.46 316 *i P* **PKPdf 21 23 31.8 0.0**
KWP Kalwaria Pacla 139.59 327 *e*PKP PKPpre 21 23 26.6
KWP *e*PP **PP 21 26 29.0 -0.7**
GKP Gorka Klasztor 139.68 334 *e*PKP PKPpre 21 23 24.1
GKP Gorka Klasztor 139.68 334 *eP* **PKPdf 21 23 32.6 +0.7**
COVR Voineasa-Covas 139.68 320 ⇓P PKPpre 21 23 24.4
TURR Turia 139.69 320 ⇑P PKPpre 21 23 24.9
BOSR Bodos 139.90 320 ⇑P PKPpre 21 23 26.3
MLR Muntele Rosu 140.01 320 ⇑P PKPpre 21 23 26.0
MLR Muntele Rosu 140.01 320 ⇑PKHKP PKPpre 21 23 26.0
DOPR Dopca 140.12 320 ⇑P PKPpre 21 23 26.0
PRD Provadia 140.14 316 *i P* **PKPdf 21 23 33.0 -0.1**
ARCR ARCALIA 140.14 323 ⇓P PKPpre 21 23 26.9
NEF NEVSHA 140.19 316 *i P* PKPpre 21 23 27.0
KOLS Kolonicke sedl 140.23 326 *e*PHKKP PKPpre 21 23 27.2
KOLS Kolonicke sedl 140.23 326 *e*PKP PKPpre 21 23 27.2
BMR Baia Mare 140.30 324 ⇓P PKPpre 21 23 28.1
BMR Baia Mare 140.30 324 ⇓PKHKP PKPpre 21 23 28.1
ROSB Rosrio 140.34 120 *eP* **PKPdf 21 23 34.2 -0.1**
VOIR 140.59 320 ⇓P PKPpre 21 23 26.8
VOIR 140.59 320 ⇓PKHKP PKPpre 21 23 26.8
SGRR Singureni 140.60 318 ⇓P PKPpre 21 23 22.0
CRVS Cervenica-Dubn 140.68 327 *e*PHKKP PKPpre 21 23 29.2
CRVS Cervenica-Dubn 140.68 327 *e*PKP PKPpre 21 23 29.2
CBBR Cluj-Babes-Bol 140.78 323 ⇓P PKPpre 21 23 24.5
CJR Cluj-Napoca 140.78 322 ⇓P PKPpre 21 23 28.8
CJR Cluj-Napoca 140.78 322 ⇓PKHKP PKPpre 21 23 28.8
ARR Arges 140.88 320 ⇓P PKPpre 21 23 28.5
NIE Niedzica 140.95 328 *e*PKP PKPpre 21 23 29.1
NIE *e*PP **PP 21 26 38.8 +0.9**
NBTA Tacaratu-PE 140.95 133 *eP* **PKPdf 21 23 35.0 -0.5**
TNR Turnu Rosu 140.95 321 ⇓P PKPpre 21 23 30.1
TNR Turnu Rosu 140.95 321 ⇓PKHKP PKPpre 21 23 30.1
SZH Strazhitsa 141.04 316 *i P* PKPpre 21 23 29.5
MARR Marisel-Cluj 141.07 323 ⇑P PKPpre 21 23 29.2
HUMR Humele 141.08 319 ⇓P PKPpre 21 23 28.8
DRGR 141.24 323 ⇑P PKPpre 21 23 29.9
DRGR 141.24 323 ⇑PKHKP PKPpre 21 23 29.9
ZIMR 141.25 317 ⇓P **PKPdf 21 23 31.3 -3.8**
ZIMR 141.25 317 ⇓PKIKP **PKPdf 21 23 31.3 -3.8**
ELND Elena 141.25 316 ⇑P PKPpre 21 23 30.1
KECS Kecovo 141.45 327 *e*PKIKP **PKPdf 21 23 32.1 -3.2**
KECS Kecovo 141.45 327 *e*PKP **PKPdf 21 23 32.1 -3.2**
LANS Liptovska Anna 141.54 328 *e*PKIKP **PKPdf 21 23 31.6 -3.9**
LANS Liptovska Anna 141.54 328 *e*PKP **PKPdf 21 23 31.6 -3.9**
PVL Pavlikeni 141.63 317 *i P* **PKPdf 21 23 35.9 +0.1**
DEV Deva 141.64 322 ⇓P PKPpre 21 23 31.0
DEV Deva 141.64 322 ⇓PKHKP PKPpre 21 23 31.0
BSEG Bad Segeberg 141.68 340 *e*PKPbc 21 23 30.4
baz=35,slow=3.2
VLAD Vladila 141.70 318 ⇓P PKPpre 21 23 27.2
DIM Dimitrovgrad 141.84 315 *i P* **PKPdf 21 23 32.1 -4.1**
KSP Ksiaz 141.85 333 *e*PKP PKPpre 21 23 31.2
KSP *e*PP **PP 21 26 48.1 +4.8**
GZR Gura Zlata 141.98 321 ⇓P PKPpre 21 23 31.8
GZR Gura Zlata 141.98 321 ⇓PKHKP PKPpre 21 23 31.8
ALN Alexandroupoli 142.01 313 P PKPpre 21 23 31.4
MORC Moravsky Berou 142.04 330 ⇑P PKPpre 21 23 32.3
MORC Moravsky Berou 142.04 330 *e*PKP PKPpre 21 23 31.1
MORC Moravsky Berou 142.04 330 ⇑PKHKP PKPpre 21 23 32.3
OSTC Ostas 142.09 332 *e*PKP PKPpre 21 23 32.0
OSTC *e*SKKP 21 35 09.0
OSTC Ostas 142.09 332 *e*PHKKP PKPpre 21 23 32.0
PSZ Piszkesteto 142.11 326 ⇓P PKPpre 21 23 32.0
PSZ Piszkesteto 142.11 326 ⇓PKHKP PKPpre 21 23 32.0
GORT1 Trebel 142.14 339 *e*PKPbc 21 23 33.4
baz=35,slow=3.2
SIRR Siria 142.14 323 ⇓P **PKPdf 21 23 33.2 -3.4**
CHVC Chvalec 142.14 332 *e*PKP PKPpre 21 23 32.1
CHVC Chvalec 142.14 332 *e*PHKKP PKPpre 21 23 32.1
SURR Surduc 142.16 322 ⇑P **PKPdf 21 23 32.7 -4.0**
KRLC Kraliky 142.19 331 *e*PKP PKPpre 21 23 32.0
KRLC *e*SKKP 21 35 09.8
KRLC Kraliky 142.19 331 *e*PKHKP PKPpre 21 23 32.0
DPC Dobruska-Polom 142.20 332 *e*PKP PKPpre 21 23 32.5
DPC *e*SKP 21 26 46.3
DPC Dobruska-Polom 142.20 332 *e*PHKKP PKPpre 21 23 32.5
DPC *e* 21 26 46.3
UPC Upice 142.22 332 *e*PKP PKPpre 21 23 32.3
UPC Upice 142.22 332 *e*PHKKP PKPpre 21 23 32.3
RDO Rodhopi 142.25 314 P PKPpre 21 23 31.5

VYHS Vyhne 142.28 328 *e*PKHKP PKPpre 21 23 33.0
VYHS Vyhne 142.28 328 *e*PKP PKPpre 21 23 33.0
NBPB Pedra_Branca-C 142.30 128 *eP* **PKPdf 21 23 37.9 0.0**
PLD Plovdiv 142.35 315 *i P* PKPpre 21 23 32.7
BAIL Bailesti 142.35 319 ⇑P **PKPdf 21 23 34.0 -3.0**
MPEP Malo Peshtene 142.44 318 *i P* **PKPdf 21 23 33.8 -3.4**
VALD Valchedram 142.46 318 *i P* **PKPdf 21 23 34.2 -3.0**
HERR Herculane 142.47 321 ⇓P **PKPdf 21 23 33.4 -3.8**
PUNG Punghina 142.47 320 ⇓P PKPpre 21 23 32.3
PRK Paraskevi 142.49 310 P **PKPdf 21 23 33.7 -3.7**
BZS Buzias 142.53 322 ⇓P **PKPdf 21 23 33.9 -3.4**
BZS Buzias 142.53 322 ⇓PKIKP **PKPdf 21 23 33.9 -3.4**
SMTH Samothraki Isl 142.54 313 P PKPpre 21 23 32.4
RZN Rozhen 142.56 315 *i P* PKPpre 21 23 33.6
PGB Panagyurishte 142.56 316 *i P* **PKPdf 21 23 34.1 -3.4**
JAVC Velka Javorina 142.61 329 *e*PKP **PKPdf 21 23 35.0 -2.4**
LAWE Loch Awe, Argy 142.65 355 *eP* PKPpre 21 23 32.4
FLTG Flechtingen 142.70 338 *e*PKPbc 21 23 33.4
baz=35,slow=3.2
SIGR SIGRI 142.80 310 P PKPpre 21 23 33.9
VRAC Vranov 142.81 331 ⇑P **PKPdf 21 23 34.5 -3.2**
VRAC Vranov 142.81 331 *e*PKP **PKPdf 21 23 34.1 -3.6**
VRAC *e* 21 35 06.0
VRAC Vranov 142.81 331 ⇑PKIKP **PKPdf 21 23 34.5 -3.2**
BRG Berggiesshubel 142.82 334 *i* PKP **PKPdf 21 23 34.6 -3.1**
BRG Amp 21 23 36.1
comp=Z,36nm,1.0s
BRG Berggiesshubel 142.82 334 P **PKiKP 21 23 44.5 +3.6**
BRG Amp 21 23 45.2
comp=Z,15nm,0.8s
BRG SKP 21 26 52.6
BRG Amp 21 26 55.3
comp=Z,15nm,1.1s
BRG Berggiesshubel 142.82 334 *i* PKIKP **PKPdf 21 23 34.5 -3.1**
BRG 21 26 52.6
BRG SS SS 21 45 06.0 +1.5
BRG pmax pmax
comp=Z,36nm,1.0s
BRG pmax pmax
comp=Z,15nm,1.1s
BRG MLR MLR
comp=E,63nm,21.3s
BRG MLR MLR
comp=Z,115nm,22.6s
BRG MLR MLR
comp=N,79nm,21.5s
BRG Berggiesshubel 142.82 334 *e*PKPbc 21 23 34.2
baz=35,slow=3.2
PVCC Panska Ves 142.83 333 *e*PKP **PKPdf 21 23 34.6 -3.1**
PVCC Panska Ves 142.83 333 *e*PKIKP **PKPdf 21 23 34.6 -3.1**
CLL Collm 142.87 336 ⇓*i*PKIKP **PKPdf 21 23 34.5 -3.2**
CLL *e* 21 24 36.0
CLL *e* 21 26 49.0
CLL pmax pmax
comp=Z,53nm,0.9s
CLL Collm 142.87 336 *e*PKPbc 21 23 34.2
baz=35,slow=3.2
MDVR Moldovita 142.94 321 ⇓P **PKPdf 21 23 35.4 -2.7**
BANR Banloc 142.94 322 ⇓P **PKPdf 21 23 36.2 -1.8**
NRDL Niedersach Rie 142.96 339 *e*PKPbc 21 23 34.4
baz=35,slow=3.2
SMOL Smolenice 142.97 329 *e*PKIKP **PKPdf 21 23 37.0 -1.0**
NBCA Caruaru-PE 142.99 135 *eP* **PKPdf 21 23 39.3 +0.1**
NBLV Livramento - P 142.99 133 *eP* **PKPdf 21 23 38.7 -0.5**
SRO Srobarova 142.99 327 *e*PKIKP **PKPdf 21 23 35.8 -2.2**
SRO Srobarova 142.99 327 *e*PKP **PKPdf 21 23 35.8 -2.2**
RETH Rethem/Aller, 143.00 340 *e*PKPbc 21 23 34.6
baz=35,slow=3.2
LIA Limnos Island 143.01 312 P PKPab 21 23 33.5 -0.7
RICC Richard 143.01 334 *e*PKP PKPbc 21 23 35.2 -0.4
KAVA Kavala 143.02 314 P PKPbc 21 23 35.3 -0.6
KARP Karpathos 143.03 304 P PKPbc 21 23 35.6 -0.6
KRUC Moravsky 143.08 330 *e*PKP PKPab 21 23 34.7 +0.5
KRUC *e* 21 35 04.2
VTS Vitosha 143.12 317 *i P* PKPbc 21 23 36.0 -0.4
MODS Modra-Piesok 143.13 329 *e*PKIKP PKPbc 21 23 36.9 +0.9
MODS Modra-Piesok 143.13 329 *e*PKP PKPbc 21 23 36.8 +0.8
GOPC GO Pecny, Ondr 143.19 333 *e*PKP PKPbc 21 23 35.5 -0.6
GOPC GO Pecny, Ondr 143.19 333 *e*PKIKP PKPbc 21 23 35.5 -0.6
HSKC Hora Svate Kat 143.24 334 *e*PKP PKPbc 21 23 35.6 -0.6
PRU Pruhonice 143.24 333 *e*PKP PKPbc 21 23 35.6 -0.6
PRU Pruhonice 143.24 333 *e*PKIKP PKPbc 21 23 35.6 -0.6
MMB Musomishta 143.29 315 *i P* PKPbc 21 23 36.3 -0.4
NVR Nevrokopi 143.30 315 P PKPbc 21 23 37.5 +0.8
TREC Trest 143.33 331 *e*PKP PKPbc 21 23 36.1 -0.4
TREC Trest 143.33 331 *e*PKIKP PKPbc 21 23 36.1 -0.4
ZST Bratislava 143.34 329 *e*PKIKP PKPbc 21 23 37.5 +0.9
ZST Bratislava 143.34 329 *e*PKP PKPbc 21 23 37.5 +0.9
EKA Eskdalemuir Ar 143.35 353 PKhKP PKPpre 21 23 35.2
comp=Z,9.7nm,0.6s,baz=354,slow=2.5,SNR=63
EKA PP **PP 21 26 50.8 -0.9**
comp=Z,7.0nm,1.1s,baz=12,slow=4.3,SNR=4.
EKA SKKPbc SKKPbc 21 35 03.6 -1.7
comp=Z,3.4nm,0.9s,baz=201,slow=6.3,SNR=6.1
ESK Eskdalemuir 143.37 353 *eP* PKPab 21 23 34.5 -0.7
NBMO Morrinhos-CE 143.37 124 *eP* PKPbc 21 23 37.1 -0.6
CLZ Clausthal 143.41 338 *e*PKPbc 21 23 36.4
baz=35,slow=3.2
NEUB Neuenburg 143.42 336 *e*PKPbc 21 23 36.2
baz=35,slow=3.2
KOKK Kokkinochori, 143.44 314 P PKPbc 21 23 36.7 -0.4
KKB Krupnik 143.56 316 *i P* PKPbc 21 23 37.5 +0.1
SRS Serrai 143.59 315 P PKPab 21 23 36.9 +0.3
OUR Duranopolis 143.67 313 P PKPab 21 23 37.3 -0.4
NEWG New Galloway 143.68 354 *eP* PKPab 21 23 36.1 -0.3
EDMD Edmundbyers 143.69 352 *eP* PKPab 21 23 36.0 -0.5
TANN Tannenbergstha 143.78 335 *e*PKPbc 21 23 37.7
baz=35,slow=3.2
GTTG Gottingen 143.80 338 *e*PKPbc 21 23 37.7
baz=35,slow=3.2
APE Apeiranthos 143.81 307 ⇓P PKPab 21 23 36.9 -0.7
APE Apeiranthos 143.81 307 ⇓PKIKP PKPab 21 23 36.9 -0.7
FRGS Fruska Gora 143.84 323 ⇑P PKPbc 21 23 38.5 +0.4
FRGS Fruska Gora 143.84 323 ⇑*i* P PKPbc 21 23 38.2 +0.1
PLN Plauen 143.84 335 *e*PKPbc 21 23 37.9
baz=35,slow=3.2
MORH Mrgy, Hungar 143.84 325 ⇑P PKPbc 21 23 38.2 +0.2
SKY Skiros Island 143.87 311 P PKPab 21 23 38.0 +0.3
CLGH Cloghs, Cushen 143.87 356 *eP* PKPab 21 23 36.7 -0.5
IBBN Ibbenburen 143.88 341 *e*PKPbc 21 23 37.7
baz=35,slow=3.2
SOH Sokhos 143.88 314 P PKPab 21 23 37.6 -0.2
ZKR Zakros 143.89 304 P PKPbc 21 23 38.7 +0.1
GDLE Glaisdale, N Y 143.92 350 *eP* PKPab 21 23 37.0 -0.3
MOX Moxa 143.93 336 *e*PKPbc 21 23 38.0
baz=35,slow=3.2
IDGL Inch Island, C 143.96 357 *eP* PKPab 21 23 37.5 +0.1
GAL1 Galloway 143.97 354 *eP* PKPab 21 23 36.9 -0.6
NBPA Parau_RN 143.98 131 *eP* PKPab 21 23 38.9 +0.1
KNT Kendrikon 144.03 315 P **PKPab 21 23 38.2 -0.1**
PAIG Paliouri 144.05 313 P **PKPab 21 23 38.1 -0.3**
KESW Keswick, Cumbr 144.07 353 *eP* **PKPab 21 23 37.5 -0.5**
RONA Rosalia, Austr 144.08 329 *e*PKP PKPbc 21 23 38.9 +0.2
comp=Z,111nm,0.7s,SNR=145
RONA *e*SKP 21 26 55.2
comp=Z,5.0nm,0.7s
RONA *e*SKKP 21 35 01.8
comp=Z,9.5nm,1.5s
SANT Santorini 144.09 306 ⇑P PKPbc 21 23 39.2 +0.1
SANT Santorini 144.09 306 **PKPab 21 23 38.9 +0.2**
SANT Santorini 144.09 306 P PKPbc 21 23 39.0 -0.2
THR3 Thira Island, 144.12 306 P **PKPab 21 23 38.5 -0.3**
CONA Conrad Observa 144.13 329 *e*PKP PKPbc 21 23 39.2 +0.3
comp=Z,22nm,0.6s,SNR=88
CONA *e*SKP 21 26 55.1
comp=Z,2.2nm,0.5s
CONA *e*SKKP 21 35 01.0
comp=Z,4.0nm,0.9s
NBCL Cascavel-CE 144.13 127 *eP* **PKPab 21 23 39.3 -0.1**
THR6 Thira Island, 144.14 306 P **PKPab 21 23 38.2 -0.6**
HORT Hortiatis 144.16 314 P **PKPab 21 23 38.4 -0.5**
SAP3 Santorini-Thir 144.16 306 P **PKPab 21 23 38.6 -0.3**
THR5 Thira Island, 144.16 306 P **PKPab 21 23 38.2 -0.7**
VAY Valandovo 144.18 315 *i P* **PKPab 21 23 38.7 -0.1**
CKRC Cesky Krumlov 144.21 332 *e*PKP PKPbc 21 23 39.1 0.0
CKRC *e*SKP 21 26 54.1
CKRC Cesky Krumlov 144.21 332 *e*PKIKP PKPbc 21 23 39.1 0.0
CKRC *e* 21 26 54.1
AOS Alonnisos 144.23 311 P **PKPab 21 23 38.6 -0.5**
THE Thessaloniki 144.23 314 P **PKPab 21 23 38.5 -0.5**
STIP Stip 144.25 316 *i P* **PKPab 21 23 38.3 -0.8**
MANZ Manzenberg 144.26 335 *e*PKPbc 21 23 39.4
baz=35,slow=3.2

KYMI Kymi, Euboea I 144.29 310 P PKPab 21 23 38.4 -0.9
KHC Kasperske Hory 144.30 333 PKPbc 21 23 39.7 +0.3
KHC Kasperske Hory 144.30 333 *e*PKP PKPbc 21 23 39.3 -0.1
KHC *e*SKP 21 26 56.4
KHC *e*SKKP 21 35 00.4
KHC Kasperske Hory 144.30 333*c* *i* PKIKP PKPbc 21 23 39.4 0.0
TEKS Tekeris 144.36 322⇑ *i* P PKPbc 21 23 39.8 +0.1
ROTZ Rotzenmuhle 144.39 335 *e*PKPbc 21 23 39.9
baz=35,slow=3.2
UBBA Unterbreizbach 144.39 338 *e*PKPbc 21 23 39.5
baz=35,slow=3.2
GEC2 GERESS Array S 144.46 332 *e*PKPbc 21 23 39.9
baz=35,slow=3.2
GERES GERESS Array B 144.46 332 PKP PKPbc 21 23 39.9 0.0
comp=Z,72nm,0.8s,baz=64,slow=3.1,SNR=306
GERES SKKPab SKKPab 21 34 59.7 +1.0
comp=Z,0.9nm,0.8s,baz=171,slow=9.1,SNR=4.5
HPK Haverah Park 144.49 351 *e*P PKPab 21 23 39.1 -0.5
IOMK Kirk Michael 144.56 354 *e*P PKPab 21 23 39.2 -0.6
WET Wettzell 144.59 333 *e*PKPbc 21 23 40.5
baz=35,slow=3.2
SKO Skopje 144.60 317 *i* P PKPdf 21 23 41.1 +0.1
KASTN Kahler Asten 144.61 339 *e*PKPbc 21 23 40.2
baz=35,slow=3.2
DION Dionisos Attik 144.62 310 P PKPbc 21 23 40.7 0.0
NEO Neokhori 144.63 312 P PKPab 21 23 39.4 -1.3
WIM Isle of Man 144.68 354 *e*P PKPbc 21 23 39.2 -1.1
PTL Penteli 144.68 310 P PKPbc 21 23 39.7 -1.2
ARSA Arzberg 144.77 329 *e*PKP PKPab 21 23 41.0 +0.1
comp=Z,66nm,0.8s,SNR=101
ARSA *e*SKP 21 26 52.2
comp=Z,0.6nm,0.3s
ARSA *e*SKKP 21 34 58.6
comp=Z,4.7nm,1.2s
LMK Market Rasen 144.77 350 *e*P PKPbc 21 23 40.0 -0.5
ATHU Athens Univers 144.78 310 P PKPbc 21 23 40.5 -0.6
BUG Bochum--Univer 144.78 341 *e*PKPbc 21 23 40.4
baz=35,slow=3.2
RCBR Riachuelo 144.78 132 PKPbc 21 23 41.5 -0.4
RCBR Riachuelo 144.78 132 PKIKP PKPbc 21 23 41.5 -0.4
RCBR Riachuelo 144.78 132 *e*P PKPbc 21 23 41.8 0.0
MHLO Agia Marina, M 144.79 307 P PKPbc 21 23 39.8 -1.4
NBPV Pedro Velho 144.79 134 *e*P PKPbc 21 23 41.7 -0.1
LIT Litokhoron 144.80 314 P PKPbc 21 23 40.5 -0.7
VLY Voula,Athens 144.81 309 P PKPbc 21 23 40.2 -1.0
ATH Athens Observa 144.82 310 P PKPbc 21 23 40.6 -0.6
BBLS Lazi&#263i 144.83 321⇑ *i* P PKPdf 21 23 41.9 +0.4
SJES Sjenica 144.83 320⇑ *i* P PKPbc 21 23 41.3 0.0
GRF Grafenberg Arr 144.84 335 *e*PKPbc 21 23 41.4
baz=35,slow=3.2
GRFO Grafenberg 144.84 335 PKPdf 21 23 41.4 +0.2
GRFO Grafenberg 144.84 335 PKIKP PKPdf 21 23 41.4 +0.2
IDI Anoyia 144.87 305 P PKPbc 21 23 41.3 -0.3
KTI Kastanea 144.92 314 P PKPbc 21 23 41.4 -0.3
ILTH Belurgan, Co L 144.93 356 *e*P PKPbc 21 23 39.7 -1.3
MOA Molln 144.94 331 *e*PKP PKPbc 21 23 40.6 -0.7
comp=Z,205nm,0.9s,SNR=295
MOA *e*SKP 21 26 50.6
comp=Z,2.6nm,0.8s
RUDO Rudo 144.99 321⇑ *i* P PKPbc 21 23 40.9 -0.7
VILL Villia 145.04 310 P PKPdf 21 23 40.9 -1.1
LBWR Ladybower, Pea 145.04 351 *e*P PKPdf 21 23 40.9 -0.5
KALN Kalnik 145.06 327 *i* P PKPdf 21 23 41.4 -0.3
DOB Doboj 145.06 324 *e*P PKPbc 21 23 41.8 0.0
TYRN Tyrnavos 145.15 313 P PKPdf 21 23 40.6 -1.4
FNA Florina 145.23 315 P PKPdf 21 23 41.5 -0.7
LOBO Lobor 145.24 327 *i* P PKPdf 21 23 41.3 -0.7
MOSL Moslavina 145.24 326 *i* P PKPdf 21 23 41.9 -0.2
AXAR Agios Charalam 145.26 311 P PKPdf 21 23 41.7 -0.6
WACR West Acre 145.29 348 *e*P PKPdf 21 23 41.3 -0.5
GROS Grobnik 145.32 328 *e*PKPdf PKPdf 21 23 41.4 -0.9
BIOA Bad Ischl, Aus 145.34 331 *e*PKP PKPdf 21 23 40.9 -1.3
comp=Z,47nm,0.8s,SNR=64
BIOA *e*SKKP 21 34 55.5
comp=Z,4.5nm,1.0s
LOUT Loutraki 145.35 310 P PKPdf 21 23 41.4 -1.1
THL Klokotos Trika 145.36 313 P PKPdf 21 23 41.0 -1.4
WME Myndd Eilian 145.38 354 *e*P PKPdf 21 23 41.3 -0.7
AGG Agios Georgios 145.38 312 P PKPdf 21 23 41.8 -0.7
WPS Cemaes, Angles 145.40 354 *e*P PKPdf 21 23 41.5 -0.5
SOKA Soboth 145.41 329 *e*PKP PKPdf 21 23 41.7 -0.7
comp=Z,166nm,1.4s,SNR=93
SOKA *i* SKP 21 26 57.6
comp=Z,9.3nm,1.3s
SOKA *e*SKKP 21 34 56.2
comp=Z,6.6nm,1.3s
STNC Stoke 145.42 351 *e*P PKPdf 21 23 42.0 0.0
TNS Taunus Mts 145.43 339 *e*PKPbc 21 23 42.9
baz=35,slow=3.2
OHR Ohrid 145.44 316 *i* P PKPbc 21 23 43.4 +0.2
PTJ Puntijarka 145.46 327 P PKPbc 21 23 43.2 +0.1
KRND KRANIDI 145.46 309 P PKPdf 21 23 42.4 -0.3
WLF1 Llynfaes 145.50 354 *e*P PKPdf 21 23 41.6 -0.6
UPM Unac-Piva 145.50 321⇑ *i* P PKPdf 21 23 42.9 +0.1
ZAG Zagreb 145.50 327 P PKPab 21 23 43.7 0.0
IMMV Iera Moni Meta 145.52 305 P PKPab 21 23 44.0 -0.1
MAKR Makrakomi, Fth 145.53 312 P PKPdf 21 23 42.4 -0.4
YRC Rhoscolyn 145.55 354 *e*P PKPdf 21 23 42.4 +0.2
BLY Banja Luka 145.56 324⇑ *i* P PKPab 21 23 43.9 -0.1
AHRW Bad Neuenahr-A 145.62 340 *e*PKPbc 21 23 43.2
baz=35,slow=3.2
YLL Llanberis 145.62 353 *e*P PKPdf 21 23 42.0 -0.5
CWF Charnwood Fore 145.62 350 *e*P PKPdf 21 23 42.3 -0.1
NEST Nestorio 145.62 315 P PKPdf 21 23 42.7 -0.3
KPRO Kipourio 145.63 314 P PKPdf 21 23 42.0 -1.0
GVD Gavdhos 145.64 304 P PKPdf 21 23 41.8 -1.2
IGLA Glengowla, Co 145.68 359 *e*P PKPdf 21 23 41.7 -0.8
PRIJ Prijedor 145.68 325⇑ *i* P PKPab 21 23 44.3 -0.1
RJOB Jochberg 145.69 332 *e*PKPbc 21 23 43.7
baz=35,slow=3.2
KBN Korca 145.69 316 P PKPdf 21 23 43.4 +0.3
PDG Podgorica 145.73 319 ⇑P PKPbc 21 23 44.0 +0.1
PDG Podgorica 145.73 319⇑ *i* P PKPbc 21 23 43.9 +0.1
FOEL Foel Wylfa 145.75 352 *e*P PKPdf 21 23 42.2 -0.4
OBKA Obir 145.76 329 *e*PKP PKPdf 21 23 42.0 -1.0
comp=Z,47nm,1.1s,SNR=38
OBKA *e*SKKP 21 34 54.1
comp=Z,4.6nm,1.3s
OBKA Obir 145.76 329⇑ *i* P PKPdf 21 23 41.8 -1.2
KALE Kalithea 145.79 311 P PKPdf 21 23 42.9 -0.4
EVR Evrytania 145.79 312 P PKPbc 21 23 44.0 -0.3
ELMS Elmsett, Ipswi 145.82 347 *e*P PKPdf 21 23 42.3 -0.4
BEBN Eben Emael 145.83 342 *d*PKPdf PKPbc 21 23 43.9 0.0
MGRS Mrkonjic Grad 145.83 324⇑ *i* P PKPab 21 23 44.7 -0.4
GUR Goura 145.83 310 P PKPdf 21 23 42.6 -0.8
ANX Ano Chora 145.86 312 P PKPdf 21 23 42.4 -1.0
ALIK Aliki, Aigiali 145.86 311 P PKPab 21 23 45.1 -0.2
VLI Veliai 145.87 308 P PKPdf 21 23 43.6 +0.2
BTNL Ternell 145.88 341 *d*PKP PKPbc 21 23 44.0 -0.1
MEM Membach 145.89 341 *d*PKP PKPbc 21 23 44.1 0.0
BRY Bratogost 145.90 321⇑ *i* P PKPbc 21 23 44.3 -0.3
ANKY Antikythira Is 145.91 306 P PKPbc 21 23 45.0 +0.4
DRME Dracevica, Mon 145.91 319⇑ *i* P PKPbc 21 23 44.5 +0.1
OZLJ Ozalj 145.92 327 *i* P PKPdf 21 23 43.3 +0.1
KLV Kalavryta, Ach 145.93 311 P PKPdf 21 23 43.2 -0.3
KBA Koelnbreinsper 145.93 331 *e*PKP PKPdf 21 23 42.2 -1.2
comp=Z,116nm,1.1s,SNR=54
KBA *e*SKP 21 26 59.9
comp=Z,8.4nm,0.9s
KBA *e*SKKP 21 34 52.8
comp=Z,7.0nm,1.2s
TIR Tirane 145.93 317 ⇑P PKPab 21 23 45.1 -0.4
TIR Tirane 145.93 317 P PKPdf 21 23 43.4 +0.1
TIR Tirane 145.93 317 ⇑PKP2 PKPab 21 23 45.1 -0.4
EFP Efpalio 145.94 311 P PKPdf 21 23 43.9 +0.5
LESA Schwarzleotal 145.98 332 *e*PKP PKPdf 21 23 42.1 -1.3
comp=Z,127nm,0.6s
LESA *e*SKP 21 26 58.6
comp=Z,3.1nm,0.6s
LESA *e*SKKP 21 34 52.9
comp=Z,3.6nm,1.0s
FUR Furstenfeldbru 146.02 334 *e*PKPbc 21 23 45.0
baz=35,slow=3.2
BSTI Sart Tilman 146.05 342 *d*PKP PKPbc 21 23 44.8 +0.2
LSK Leskovik 146.05 315 P PKPdf 21 23 42.6 -1.1
HLM1 Long Mynd 146.07 352 *e*P PKPdf 21 23 42.9 -0.3
UPR University Cam 146.09 311 P PKPab 21 23 46.3 +0.1
A050A Klekovaca 146.09 324⇑ *i* P PKPdf 21 23 42.6 -1.0
LJU Ljubljana 146.10 328 *i* PKPdf PKPdf 21 23 43.2 -0.3
LJU *i* PKPbc PKPbc 21 23 45.0 +0.2
LJU *i* PKPab PKPab 21 23 46.3 +0.3
BOJS Bojanci 146.10 327⇑ *i* P PKPbc 21 23 45.1 +0.2
VISS Visnje 146.11 328 *e*PKPdf PKPdf 21 23 43.2 -0.3
MYKA Terra Mystica 146.12 330 *e*PKP PKPdf 21 23 42.1 -1.5
comp=Z,43nm,0.6s,SNR=30
MYKA *e*SKKP 21 34 52.5
comp=Z,3.1nm,0.6s
TREB Trebinje 146.12 320⇑ *i* P PKPbc 21 23 44.4 -0.6
BHOU Houvegnez 146.12 341 *d*PKPdf PKPbc 21 23 45.1 +0.3
JAN Janina 146.12 314 P PKPab 21 23 45.8 -0.5
PVO Paravola 146.12 312 P PKPdf 21 23 44.2 +0.5
CRNS Crni Vrh 146.21 328 *i* PKPdf PKPdf 21 23 43.0 -0.8
CRNS *i* PKPbc PKPbc 21 23 45.1 -0.1
BCLA Clavier 146.27 342 *d*PKPdf PKPbc 21 23 44.9 -0.3
PLIT Plitvice 146.33 326 *i* P PKPbc 21 23 45.3 -0.4
CEY Cerknica 146.36 328⇑ *i* P PKPdf 21 23 43.1 -0.9
BGES Gesves 146.37 342 *d*PKPdf PKPdf 21 23 43.1 -0.7
STU Stuttgart 146.37 336 *e*PKPbc 21 23 45.9
baz=35,slow=3.2
STU *e*pPKPbc 21 24 50.8
RICI Ricice 146.37 323 *i* P PKPbc 21 23 45.4 -0.3
RLS Riolos of Patr 146.41 311 P PKPdf 21 23 45.0 +0.8
STON Ston 146.42 321 *i* P PKPbc 21 23 45.1 -0.7
STON Ston 146.42 321⇑ *i* P PKPdf 21 23 44.8 +0.7
ITM Ithomi 146.44 309 P PKPdf 21 23 44.3 -0.1
UDBI Udbina 146.48 325 *i* P PKPbc 21 23 46.1 0.0
RCHB Rochefort 146.53 342 *d*PKP PKPbc 21 23 45.9 0.0
BMRD Maredsous 146.53 342 *d*PKP PKPbc 21 23 45.7 -0.2
WATA Walderalm 146.53 332 *i* PKP PKPdf 21 23 43.2 -1.2
comp=Z,138nm,1.1s,SNR=109
WATA *e*PP PP 21 27 12.1 +0.9
comp=Z,24nm,1.4s
WATA *e*SKKP 21 34 51.4
comp=Z,3.2nm,0.8s
ABTA Abfaltersbach 146.56 331 *e*PKP PKPdf 21 23 43.1 -1.2
comp=Z,66nm,0.7s,SNR=134
ABTA *e*SKP 21 26 52.4
comp=Z,4.6nm,0.8s
ABTA *e*SKKP 21 34 51.1
comp=Z,6.6nm,1.1s
WTTA Wattenberg 146.56 332 *e*PKP PKPdf 21 23 43.6 -0.8
comp=Z,181nm,1.1s,SNR=85
WTTA *e*PP PP 21 27 12.4 +1.0
comp=Z,18nm,1.2s
MAKA Makarska 146.56 322 *i* P PKPbc 21 23 45.7 -0.5
SRN Sarande 146.59 315 P PKPbc 21 23 46.3 -0.1
MCH1 Michaelchurch 146.59 352 *e*P PKPdf 21 23 44.1 0.0
IWEX Carrickbyrne, 146.61 356 *e*P PKPdf 21 23 43.4 -0.7
RIY Rijeka 146.62 327 P PKPbc 21 23 46.1 -0.2
TSLK Tsoukalades, L 146.64 313 P PKPbc 21 23 46.6 -0.1
LKD2 Lefkada island 146.66 313 P PKPbc 21 23 47.1 +0.4
NYDR Nydri-Lefkada 146.66 313 P PKPdf 21 23 44.6 0.0
WLF Walferdange 146.68 340 *d*PKP PKPbc 21 23 46.6 +0.2
WLF Walferdange 146.68 340 *e*PKPbc 21 23 47.2
baz=35,slow=3.2
WLF *e*pPKPbc 21 24 53.3
ELSH Elham, Standar 146.68 347 *e*P PKPbc 21 23 45.9 -0.4
STRD Stroud 146.69 351 *e*P PKPdf 21 23 43.4 -0.9
PYL PYLOS 146.69 309 P PKPbc 21 23 46.2 -0.7
GIVF Givet 146.70 342 *e*PKP2 PKPbc 21 23 45.8 -0.6
GIVF pmax pmax
comp=Z,238nm,1.0s
MONM Monmouth 146.72 351 *e*P PKPdf 21 23 43.6 -0.7
EVGI Lefkada island 146.73 312 P PKPbc 21 23 47.1 +0.2
DOU Dourbes 146.77 342 *d*PKPdf PKPdf 21 23 44.5 +0.1
DOU *d*PKP PKPbc 21 23 46.9 +0.2
RETA Reutte 146.77 333 *i* PKP PKPdf 21 23 43.5 -1.2
comp=Z,46nm,0.6s,SNR=36
RETA *e*PP PP 21 27 13.8 +1.3
comp=Z,19nm,1.5s
RETA *e*SKKP 21 34 49.5
comp=Z,4.6nm,1.1s
SQTA Sankt Quirin 146.78 333 *i* PKP PKPdf 21 23 44.0 -0.8
comp=Z,210nm,0.7s,SNR=140
SQTA *e*PP PP 21 27 13.6 +0.9
comp=Z,19nm,1.5s
SQTA *e*SKKP 21 34 49.6
comp=Z,1.7nm,0.7s
RSBS Rosebush, Pemb 146.85 354 *e*P PKPdf 21 23 43.8 -0.8
RABC Rab 146.86 326 *i* P PKPbc 21 23 46.6 -0.5
SWN1 Swindon 146.89 350 *e*P PKPdf 21 23 44.2 -0.4
UBR Ueberruh 146.89 334 *e*PKPbc 21 23 47.1
baz=35,slow=3.2
BAIF Baives 146.91 343 *e*PKP2 PKPbc 21 23 46.5 -0.5
BAIF pmax pmax
comp=Z,206nm,1.0s
NVLJ Novalja 146.94 326 *i* P PKPbc 21 23 46.5 -0.8
MORI Morici 146.94 324 *i* P PKPbc 21 23 47.0 -0.4
HVAR Hvar 146.96 323 *i* P PKPbc 21 23 46.8 -0.6
VLS Valsamata 146.98 312 P PKPbc 21 23 47.9 +0.3
WOL Wolverton 146.98 349 *e*P PKPbc 21 23 46.7 -0.4
SMRN Sveta Marina 146.99 327 *i* P PKPbc 21 23 47.0 -0.4
LTHK Lithakia 147.01 311 P PKPbc 21 23 47.5 -0.2
VIRC Vir 147.02 325 *i* P PKPbc 21 23 47.2 -0.3
BFO Black Forest 147.06 337 PKPbc 21 23 47.4 -0.2
BFO Black Forest 147.06 337 PKP2 PKPbc 21 23 47.4 -0.2
BFO Black Forest 147.06 337 *e*PKPbc 21 23 47.5
baz=35,slow=3.2
ZIRJ Zirje 147.12 324 *i* P PKPbc 21 23 47.4 -0.4
FETA Feichten 147.15 333 *i* PKP PKPdf 21 23 44.7 -0.7
comp=Z,169nm,0.7s,SNR=106
FETA *e*SKP 21 27 01.7
comp=Z,10nm,1.3s
DUGI Dugi Otok 147.22 325 *i* P PKPbc 21 23 47.4 -0.7
BRJN Brijuni 147.28 327 *i* P PKPdf 21 23 44.8 -0.7
DAVA Damuels 147.29 334 *e*PKP PKPdf 21 23 44.6 -1.1
comp=Z,112nm,0.7s,SNR=102
DAVA PP PP 21 27 15.8 +0.1
comp=Z,26nm,1.4s
HTL Hartland 147.77 353 *e*P PKPbc 21 23 48.6 -0.6
HINF Hinteralfeld 148.03 338 *e*PKHKP PKPpre 21 23 45.2
HINF pmax pmax
comp=Z,104nm,1.2s
HAU Haudompre 148.04 339 *e*PKIKP PKPdf 21 23 46.4 -0.3
HAU pmax pmax
comp=Z,135nm,0.8s
MATE Matera 148.31 319 ⇓P PKPbc 21 23 50.8 -0.2
CCA1 Carnmenellis 148.65 354 *e*P PKPbc 21 23 50.3 -1.3
TIP Timpagrande 149.09 316 ⇑P PKiKP 21 23 53.9 -0.4
TIP Timpagrande 149.09 316 PKPdf 21 23 48.5 -0.2
JSA Saint Aubin 149.19 349 *e*P PKPdf 21 23 48.2 -0.2
FLN La Foliniere 149.28 347 *e*PKIKP PKPdf 21 23 47.4 -1.2
FLN pmax pmax
comp=Z,275nm,1.1s
CABF La Chapelle 149.33 337 *e*PKIKP PKPdf 21 23 48.1 -0.8
CABF pmax pmax
comp=Z,196nm,0.9s
LDF La Druitiere 149.36 347 *e*PKIKP PKPdf 21 23 47.4 -1.4
LDF pmax pmax
comp=Z,138nm,1.1s
LOR Lormes 149.51 341 *e*PKIKP PKPdf 21 23 48.5 -0.6
LOR pmax pmax
comp=Z,160nm,0.9s
GRR Gorron 149.71 347 *e*PKIKP PKPdf 21 23 48.2 -1.1
GRR pmax pmax
comp=Z,234nm,1.1s
SSF Saint Saulge 149.81 341 *e*PKHKP PKPpre 21 23 49.5
SSF pmax pmax
comp=Z,183nm,1.0s
LPL La Plagne 150.00 335 *e*PKHKP PKPpre 21 23 50.5
LPL pmax pmax
comp=Z,111nm,0.9s
LPG La Plagne 150.01 335 *e*PKHKP PKPpre 21 23 50.5
LPG pmax pmax
comp=Z,122nm,0.9s
SMF Signal de Mont 150.07 340 *e*PKHKP PKPpre 21 23 50.4
SMF pmax pmax
comp=Z,119nm,1.2s
SGMF Saint Gilles 150.16 349 *e*PKIKP PKPdf 21 23 48.7 -1.3
SGMF pmax pmax
comp=Z,149nm,1.0s
BGF Bois d'Agland 150.46 341 *e*PKIKP PKPdf 21 23 49.5 -1.1
BGF pmax pmax
comp=Z,98nm,0.8s
MBDF Montbardon 150.64 335 *e*PKIKP PKPdf 21 23 49.6 -1.5
MBDF pmax pmax
comp=Z,44nm,0.7s
TCF Toulx Ste Croi 150.89 342 *e*PKIKP PKPdf 21 23 50.1 -1.2
TCF pmax pmax
comp=Z,88nm,0.9s
SBF Sospel 151.06 333 *e*PKIKP PKPdf 21 23 52.9 +1.2
SBF pmax pmax
comp=Z,181nm,1.1s
MFF Saint Martin d 151.24 345 *e*PKIKP PKPdf 21 23 50.7 -1.0
MFF pmax pmax
comp=Z,83nm,0.9s
VIVF Saint-Julien-l 151.34 337 *e*PKIKP PKPdf 21 23 52.2 +0.2
VIVF pmax pmax
comp=Z,81nm,1.0s
PGF Pioggiola 151.36 329 *e*PKIKP PKPdf 21 23 50.8 -1.4
PGF pmax pmax
comp=Z,267nm,0.8s
LMR La Mourre 151.89 333 *e*PKIKP PKPdf 21 23 51.3 -1.5
LMR pmax pmax
comp=Z,90nm,1.0s
RJF Les Rejaudoux 151.99 342 *e*PKIKP PKPdf 21 23 51.8 -1.1
RJF pmax pmax
comp=Z,53nm,0.9s
CAF Calviac 152.16 341 *e*PKIKP PKPdf 21 23 52.9 -0.3
CAF pmax pmax
comp=Z,32nm,1.2s
LFF La Frestale 152.55 343 *e*PKIKP PKPdf 21 23 52.8 -0.9
LFF pmax pmax
comp=Z,44nm,0.7s
MTLF Montolieu 153.53 339 *e*PKIKP PKPdf 21 23 54.2 -1.0
MTLF pmax pmax
comp=Z,22nm,0.8s
EPF Esparros 154.41 341 *e*PKIKP PKPdf 21 23 55.8 -0.8
EPF pmax pmax
comp=Z,20nm,1.2s
SJPF Ste Jean 154.77 344 *e*PKIKP PKPdf 21 23 57.2 +0.2
SJPF pmax pmax
comp=Z,20nm,1.4s
ETSF Etsaut 154.79 343 *e*PKIKP PKPdf 21 23 56.6 -0.5
ETSF pmax pmax
comp=Z,4.0nm,0.8s
PPNO Prainha do Nor 155.20 35 *e*PKP PKPab 21 24 23.8 -0.2
PSBA Serra de Santa 155.48 33 *e*PKP PKPab 21 24 25.1 0.0
PAGU Agualva, Azore 155.55 33 *e*PKP PKPab 21 24 26.2 +0.8
PSCM Serra do Cume 155.64 33 *e*PKP PKPab 21 24 26.2 +0.4
KEST Kesra 155.89 318 PKP PKPdf 21 23 58.1 -0.7
comp=Z,4.8nm,1.0s,baz=183,slow=2.2,SNR=7.2
KEST PKPab PKPab 21 24 27.6 +0.5
comp=Z,69nm,0.9s,baz=308,slow=4.3,SNR=25
PSET Sete Cidades 157.02 32 *e*PKP PKPab 21 24 31.4 -0.4
PGAV Gavieira, Arco 157.07 356 *e*PKPdf PKPdf 21 23 59.9 -0.3
PGAV Gavieira, Arco 157.07 356 *e*PKPab PKPab 21 24 31.7 -0.2
PBRG Braganca 157.09 353 *e*PKPab PKPab 21 24 31.2 -0.7
PBRG Braganca 157.09 353 *e*PP PP 21 28 15.0 +4.5
PCALD Caldeiras da R 157.16 32 *e*PKP PKPab 21 24 33.2 +0.9
CMLA Cha da Macela 157.16 32 PKPab 21 24 33.0 +0.6
CMLA Cha da Macela 157.16 32 PKP2 PKPab 21 24 33.0 +0.6
PGRON Lagoa das Cont 157.23 32 *e*PKP PKPab 21 24 33.3 +0.6
PCAB Cabril 157.31 355 *e*PKPbc PKPdf 21 24 02.0 +1.6
PCAB Cabril 157.31 355 *e*PKPab PKPab 21 24 33.1 +0.3
BART Pico Bartolome 157.33 32 *e*PKP PKPab 21 24 33.3 +0.1
POLO Lamas de Olo 157.62 355 *e*PKPdf PKPdf 21 24 01.8 +0.9
POLO Lamas de Olo 157.62 355 *e*PKPab PKPab 21 24 34.8 +0.5
POLO Lamas de Olo 157.62 355 *e*PP PP 21 28 17.3 +3.8
PVRL Vila Real 157.72 355 *e*PKPab PKPab 21 24 35.3 +0.7
PVIS Viseu 158.29 355 *e*PKPbc PKPdf 21 24 01.4 -0.2
PVIS Viseu 158.29 355 *e*PKPab PKPab 21 24 36.9 -0.2
PVIS Viseu 158.29 355 *e*PP PP 21 28 18.2 +1.2
MTE Manteigas 158.57 354 *e*PKPbc PKPdf 21 24 02.3 +0.3
MTE Manteigas 158.57 354 *e*PKPab PKPab 21 24 38.4 0.0
MTE Manteigas 158.57 354 *e*PP PP 21 28 25.9 +7.3
ESDC Sonseca Array 158.69 346 PKPdf 21 24 01.4 -0.8
ESDC Sonseca Array 158.69 346 PKP PKPdf 21 24 01.2 -1.0
comp=Z,1.0nm,0.9s,baz=10,slow=2.4,SNR=8.4
ESDC PKPab PKPab 21 24 38.4 -0.5
comp=Z,13nm,0.9s,baz=13,slow=3.4,SNR=25
ESDC PP PP 21 28 20.3 +1.0
comp=Z,7.5nm,1.2s,baz=22,slow=4.6,SNR=4.3
COI Coimbra 158.83 356 *e*PKPab PKPab 21 24 40.1 +0.7
PAB San Pablo 158.90 347 PKPdf 21 24 02.3 -0.2
PAB PKPab 21 24 40.0 +0.1
PAB San Pablo 158.90 347 PKIKP PKPdf 21 24 02.3 -0.2
PAB 21 24 40.0
PCAS Casmilo, Conde 158.99 356 *e*PKPbc PKPdf 21 24 02.2 -0.2
PCAS Casmilo, Conde 158.99 356 *e*PKPab PKPab 21 24 40.5 +0.4
PCAS Casmilo, Conde 158.99 356 *e*PP PP 21 28 23.8 +3.0
PCBR Castelo Branco 159.11 354 *e*PKPdf PKPdf 21 24 03.0 +0.4
PCBR Castelo Branco 159.11 354 *e*PKPab PKPab 21 24 40.9 +0.3
PCBR Castelo Branco 159.11 354 *e*PP PP 21 28 20.7 -0.7
PMRV Marv??o 159.51 353 *e*PKP PKPdf 21 24 02.8 -0.3
PMRV Marv??o 159.51 353 *e*PKPab PKPab 21 24 42.8 +0.4
PMRV Marv??o 159.51 353 *e*PP PP 21 28 27.5 +3.9
PSBE So Bento 159.55 356 *e*PKPab PKPab 21 24 41.8 -0.8
PMTG Montargil 159.95 355 *e*PKPbc PKPdf 21 24 03.1 -0.4
PMTG Montargil 159.95 355 *e*PKPab PKPab 21 24 44.4 +0.1
PMTG Montargil 159.95 355 *e*PP PP 21 28 25.8 -0.1
PESTR Estremoz 160.09 353 *e*PKP PKPdf 21 24 06.1 +2.4
PESTR Estremoz 160.09 353 *e*PKPab PKPab 21 24 44.9 -0.1
PESTR Estremoz 160.09 353 *e*PP PP 21 28 28.6 +1.9
EVO Evora 160.46 354 *e*PKPbc PKPdf 21 24 02.8 -1.3
EVO Evora 160.46 354 *e*PKPab PKPab 21 24 47.1 +0.5
PBAR Barrancos 160.71 352 *e*PKPdf PKPdf 21 24 04.8 +0.4
PBAR Barrancos 160.71 352 *e*PKPab PKPab 21 24 48.0 +0.4
PBAR Barrancos 160.71 352 *e*PP PP 21 28 30.9 +0.9
PNCL Nicolau / Gran 160.92 355 *e*PKPbc PKPdf 21 24 03.3 -1.3
PNCL Nicolau / Gran 160.92 355 *e*PKPab PKPab 21 24 48.7 +0.1
PBEJ Beja 160.95 354 *e*PKP PKPdf 21 24 06.1 +1.4
PBEJ Beja 160.95 354 *e*PKPab PKPab 21 24 49.2 +0.5
MESJ Messejana 161.17 355 *e*PKPdf PKPdf 21 24 05.0 +0.1
MESJ Messejana 161.17 355 *e*PKPab PKPab 21 24 50.6 +0.9
MESJ Messejana 161.17 355 *e*PKPdf PKPdf 21 24 04.7 -0.2
PCVE Castro Verde 161.36 354 *e*PKP PKPdf 21 24 07.0 +1.9
PCVE Castro Verde 161.36 354 *e*PKPab PKPab 21 24 50.9 +0.4
PTEO Sao Teotonio 161.50 356 *e*PKPab PKPab 21 24 51.3 +0.2
PTEO Sao Teotonio 161.50 356 *e*PP PP 21 28 39.9 +5.7
PVAQ Vaqueiros 161.55 353 *e*PKPab PKPab 21 24 52.3 +1.0
PVAQ Vaqueiros 161.55 353 *e*PP PP 21 28 36.5 +2.0
PBDV Barranco-do-Ve 161.73 354 *e*PKP PKPdf 21 24 04.3 -1.3
PBDV Barranco-do-Ve 161.73 354 *e*PKPab PKPab 21 24 53.1 +0.9
PBDV Barranco-do-Ve 161.73 354 *e*PP PP 21 28 35.7 +0.2
MORF Marmelete 161.74 355 *e*PKPab PKPab 21 24 52.3 +0.1
MORF Marmelete 161.74 355 *e*PP PP 21 28 37.2 +1.7
MORF Marmelete 161.74 355 *e*PKPdf PKPdf 21 24 05.5 -0.1
PFVI Vila Bisbo 161.92 356 *e*PKPab PKPab 21 24 53.9 +0.9
PFVI Vila Bisbo 161.92 356 *e*PP PP 21 28 37.9 +1.5
PMAR Madeira 165.19 22 *e*PKPab PKPab 21 25 09.1 +1.4
LIC Lamto 166.22 203⇑ *e*PKIKP PKPdf 21 24 09.4 -0.9
comp=Z,63nm,0.9s
KIC Kosan Boka 166.23 204⇑ *e*PKIKP PKPdf 21 24 09.6 -0.7
comp=Z,41nm,0.9s
DBIC Dimbokro 166.56 205 PKP PKPdf 21 24 10.1 -0.4
comp=Z,21nm,1.0s,baz=110,slow=1.9,SNR=12
DBIC PKPab PKPab 21 25 13.9 -0.1
comp=Z,12nm,0.9s,baz=134,slow=4.9,SNR=5.9
DBIC Dimbokro 166.56 205 ⇑PKIKP PKPdf 21 24 10.4 -0.1
TIC Toumodi 166.60 204⇑ *e*PKIKP PKPdf 21 24 09.8 -0.8
comp=Z,36nm,0.9s
TOA0 Torodi Ar. Sit 166.96 245 PKPdf 21 24 10.5 -0.3
TOA0 Torodi Ar. Sit 166.96 245 P PKPdf 21 24 10.8 0.0
SNR=16
TORD Torodi Ar. Bea 166.96 245 PKPdf 21 24 10.5 -0.3
TORD Torodi Ar. Bea 166.96 245 PKP PKPdf 21 24 10.1 -0.7
comp=Z,35nm,0.9s,baz=29,slow=2.4,SNR=130
TORD PKPab PKPab 21 25 15.5 -0.5
comp=Z,9.6nm,0.7s,baz=95,slow=3.5,SNR=11

IDC ***08*** *21:07:00.1±0.9, 32°.28N×141°.99E, h0km, mb4.2/12, mbtmp4.1/18, ML3.8/6, MS3.6/7, Error ellipse: s-maj=26.1km s-min=18.0km az=64.0*
JMA ***08*** *21:07:01.2±0.3, 32°.3N±0°.9×14°.2E±°, h17km, MV4.1/58, FAR E OFF IZU ISLANDS*
NIED ***08*** *21:07:01.2, 32°.27N×142°.03E, h17km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.12; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-2.07; $M_{r\theta}$1.74; $M_{\phi\theta}$0.15; $M_{\phi r}$-0.14; Fault plane solution: $M_0$2.60000×10^{15} NP1: ϕ_s147.00000°, δ57.00000°, λ55.00000°. NP2: ϕ_s19.00000°, δ47.00000°, λ131.00000°.*
NEIC ***08*** *21:07:02.1±1.6, 32°.26N±0°.06×141°.95E±0°.09, h10km±1km, mb4.7/30 Error ellipse: s-maj=16.5km s-min=4.1km az=53.0*
ISC 08 21:07:02.5±4.2,**32°.30N**±0°.05×**142°.04E**±0°.06,**h17**km±26km, **n95**,σ1°**31**/108,**mb4.5**/28,**MS4.0**/3,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.93	275	P	Pn	21 07 34.0	-0.6
JAOM				*e*S	Sn	21 07 57.4	-1.1
JHCJ	Hachijojimakas	2.04	293	P	Pn	21 07 35.1	-1.0
JHJ2	Mitsune	2.04	294	Pn	Pn	21 07 35.2	-0.9
JHJ2	Mitsune	2.04	294	P	Pn	21 07 35.7	-0.4
JHJ2				*e*S	Sb	21 08 02.5	-1.7
JHJ	Hachijo jima 2	2.07	294	Pn	Pn	21 07 35.5	-1.0

60nm,0.3s,baz=336,slow=18,SNR=52
JHJ Sn **Sn** **21 08 02.2 +0.4**
107nm,0.3s,baz=88,slow=23,SNR=6.8
JHJ LR LR 21 08 35.7
comp=Z,659nm,20.0s,baz=106,slow=48
162nm,0.3s
BSO1 Boso 1 2.51 340 P **Pn** **21 07 43.0 +1.0**
BSO1 S **Sn** **21 08 12.7 +0.8**
JMKN Mikurajimanish 2.60 308 *e*P **Pn** **21 07 44.0 +0.3**
JMKN *e*S **Sn** **21 08 15.0 +0.1**
BSO2 Boso 2 2.67 337 S **Sn** **21 08 16.7 +0.4**
JMYK Miyake Tsubota 2.73 311 S **Sn** **21 08 16.1 -2.0**
BSO4 Boso 4 3.03 333 P **Pn** **21 07 50.6 +0.9**
BSO4 S **Sn** **21 08 27.6 +2.1**
JOD2 Odawara 2 3.84 321 S **Sn** **21 08 44.5 -1.2**
JYT Yasato 4.20 339 P **Pn** **21 08 07.5 +1.7**
JHU Hanno 4.22 328 P **Pn** **21 08 06.5 +0.4**
JHU S **Sn** **21 08 53.5 -1.4**
JYN Shimob 4.31 319 P **Pn** **21 08 09.4 +2.0**
HMMJ Hamamatsu 2 4.41 306 P **Pn** **21 08 09.6 +0.9**
JHO Hitachi 4.47 345 P **Pn** **21 08 09.9 +0.5**
JHO S **Sn** **21 09 00.6 -0.5**
JRY Ryogami san 4.53 326 *e*P **Pn** **21 08 11.3 +1.0**
JRY *e*S **Sn** **21 09 02.6 0.0**
JNY Yasuok 4.62 312 P **Pn** **21 08 15.0 +3.3**
JAG Ashikaga 4.63 333 P **Pn** **21 08 12.4 +0.6**
JAG S **Sn** **21 09 04.7 -0.5**
JIE Ise 4.92 296 P **Pn** **21 08 16.8 +1.1**
JIE S **Sn** **21 09 12.3 0.0**
JAO Obara 4.96 308 P **Pn** **21 08 18.1 +1.8**
JGF Kuroka 5.09 312 Pn **Pn** **21 08 19.0 +0.9**
JFK Kawauchi 5.14 350 *e*P **Pn** **21 08 19.5 +0.7**
JFK S **Sn** **21 09 13.9 -3.8**
INU Inuyama 5.17 307 Pn **Pn** **21 08 18.8 -0.2**
CBIJ Chichi jima 5.19 179 P **Pn** **21 08 19.1 -0.3**
JCJ Chichijima 5.19 179 Pn **Pn** **21 08 18.8 -0.6**
JCJ Chichijima 5.19 179 Pn **Pn** **21 08 19.2 -0.2**
15nm,0.3s,baz=299,slow=19,SNR=1.3
JCJ Sn Sn 21 09 09.3 -10
9.6nm,0.3s,baz=287,slow=19,SNR=2.0
50nm,0.3s
MJAR Matsushiro Arr 5.28 324 Pn **Pn** **21 08 21.2 +0.5**
0.6nm,0.3s,baz=150,slow=11,SNR=25
MJAR Sn **Sn** **21 09 23.1 +1.9**
0.5nm,0.3s,baz=109,slow=28,SNR=4.9
MJAR LR LR 21 10 40.5
comp=Z,338nm,18.4s,baz=162,slow=42
4.2nm,0.5s
MAJO Matsushiro 5.28 324 Pn **Pn** **21 08 21.9 +1.2**
MAT Matsushiro 5.28 324 *e*P **Pn** **21 08 22.1 +1.4**
MAT *e*S **Sn** **21 09 21.1 -0.1**
MJB9 Matsu-Tunnel 5.29 324 Pn **Pn** **21 08 20.6 -0.2**
JOTO OTAMA OYAMA 5.43 346 P **Pn** **21 08 23.2 +0.5**
JOTO S **Sn** **21 09 24.1 -0.8**
JMM Marumori 5.64 350 Pn **Pn** **21 08 26.1 +0.4**
JMK Ichinoseki 6.67 354 P **Pn** **21 08 40.0 +0.4**
JMK S **Sn** **21 09 51.1 -4.2**
JTM Tenmabayashi 8.50 355 Pn **Pn** **21 09 06.3 +1.4**
ERM Erimo 9.74 5 Pn **Pn** **21 09 19.7 -2.0**
ASAJ Asahikawa 11.80 2 Pn **Pn** **21 09 48.5 -1.5**
1.1nm,0.3s,baz=261,slow=11,SNR=7.1
ASAJ Sn **Sn** **21 11 54.8 -6.6**
0.3nm,0.3s,baz=30,slow=20,SNR=2.0
2.0nm,0.3s
JKA Kamikawa-asahi 11.80 2 Pn **Pn** **21 09 49.3 -0.7**
KSRS Korea Array 12.68 298 Pn **Pn** **21 10 00.8 -1.2**
0.2nm,0.3s,baz=112,slow=13,SNR=2.1
KSRS LR LR 21 14 52.7
comp=Z,104nm,18.9s,baz=95,slow=37
0.7nm,0.6s
USRK Ussuriysk Ar. 14.25 329 LR LR 21 15 56.6
comp=Z,148nm,19.8s,baz=197,slow=38
YSS Yuzh-Sakhalins 14.64 2 Pn **Pn** **21 10 30.9 +2.0**
KLR Kul'dur 18.59 338 P **P** **21 11 18.5 -0.3**
0.4nm,0.3s,baz=125,slow=4.1,SNR=8.9
1.8nm,0.5s
SONM Songino Array 31.05 310 P **P** **21 13 20.2 +0.5**
SONM Songino Array 31.05 310 P **P** **21 13 19.9 +0.3**
1.0nm,0.7s,baz=110,slow=9.4,SNR=7.5
1.0nm,0.7s
GOMU GeErMu 38.93 289 P **P** **21 14 26.3 -1.7**
GOMU pmax pmax
comp=Z,12nm,0.8s
ZAA0 Zalesovo Array 45.57 316 P **P** **21 15 21.4 +0.1**
ZALV Zalesovo Beam 45.57 316 P **P** **21 15 21.4 +0.1**
ZALV Zalesovo Beam 45.57 316 P **P** **21 15 21.1 -0.3**
comp=Z,0.9nm,0.4s,baz=71,slow=5.5,SNR=5.6
comp=Z,0.9nm,0.4s
MK31 Makanchi Array 47.19 306 P **P** **21 15 33.5 -0.8**
MK31 IAmb IAmb 21 15 35.6
comp=Z,3.1nm,0.8s
MKAR Makanchi Array 47.19 306 P **P** **21 15 34.1 -0.2**
MKAR Makanchi Array 47.19 306 P **P** **21 15 34.2 -0.1**
comp=Z,3.0nm,0.8s,baz=91,slow=9.5,SNR=29
comp=Z,3.0nm,0.8s
MAKZ Makanchi 47.41 306 P **P** **21 15 35.7 -0.2**
KURK Kurchatov 49.35 311 P **P** **21 15 51.0 +0.2**
KURK IAmb IAmb 21 15 55.4
comp=Z,13nm,1.2s
KURBB Kurchatov Arra 49.41 311 P **P** **21 15 51.2 0.0**
comp=Z,3.0nm,0.5s,baz=86,slow=7.7,SNR=15
comp=Z,3.0nm,0.5s
CTAO Charters Tower 52.25 175 P **P** **21 16 11.8 -1.1**
WB0 Warramunga Arr 52.29 189 P **P** **21 16 13.4 +0.2**
WR0 Warramunga Arr 52.46 189 P **P** **21 16 14.9 +0.4**
WRA Warramunga Arr 52.47 189 P **P** **21 16 14.7 +0.1**
WRA Warramunga Arr 52.47 189 P **P** **21 16 14.4 -0.1**
comp=Z,5.4nm,0.5s,baz=4.2,slow=7.5,SNR=9.1
comp=Z,5.4nm,0.5s
ILAR Eielson Array 53.26 30 P **P** **21 16 20.6 +0.7**
comp=Z,1.2nm,0.9s,baz=276,slow=6.5,SNR=6.9
comp=Z,1.2nm,0.9s
ARSB Arslanbob 54.70 300 P **P** **21 16 32.2 +1.2**
KK31 Karatay Array 56.04 303 P **P** **21 16 40.5 +0.1**
KK31 IAmb IAmb 21 16 41.4
comp=Z,3.7nm,0.8s
KKAR Karatay Array 56.04 303 P **P** **21 16 40.0 -0.5**
KKAR Karatay Array 56.04 303 P **P** **21 16 40.6 +0.2**
KKAR IAmb IAmb 21 16 41.4
comp=Z,3.7nm,0.8s
DRK Karamyk 56.06 299 P **P** **21 16 39.7 -1.3**
DRK IAmb IAmb 21 16 47.2
comp=Z,5.4nm,0.6s
CHGR Chuyangaron 58.26 298 P **P** **21 16 56.0 -0.4**
KBS Kingsbay 65.40 351 P **P** **21 17 44.2 +0.6**
MORW Morawa 65.84 205 P **P** **21 17 46.7 -0.4**
JCC Jacoby Creek, 72.41 53 P **P** **21 18 28.9 +1.1**
FINES FINESS Array B 73.25 333 P **P** **21 18 33.0 +0.6**
FINES FINESS Array B 73.25 333 P **P** **21 18 32.7 +0.3**
comp=Z,1.4nm,0.7s,baz=54,slow=3.6,SNR=9.2
comp=Z,1.4nm,0.7s
KBZ Khabaz 74.41 312 P **P** **21 18 39.8 +0.3**
comp=Z,3.0nm,0.8s,baz=74,slow=4.0,SNR=7.6
comp=Z,3.0nm,0.8s
KIV Kislovodsk 74.43 312 P **P** **21 18 41.6 +1.7**
KIV IAmb IAmb 21 18 42.4
comp=Z,5.9nm,0.8s
AKASG Malin Array Be 78.37 323 P **P** **21 19 02.0 +0.1**
comp=Z,0.8nm,0.4s,baz=50,slow=5.6,SNR=4.1
comp=Z,0.8nm,0.4s
AKBB Malin Array Si 78.37 323 P **P** **21 19 01.9 0.0**
AKBB IAmb IAmb 21 19 22.3
comp=Z,6.4nm,1.4s
KIEV Kiev 78.38 323 P **P** **21 19 01.7 -0.2**
KIEV IAmb IAmb 21 19 22.3
comp=Z,5.7nm,1.4s
HFS Hagfors 78.61 336 P **P** **21 19 03.9 +0.8**
comp=Z,1.0nm,0.6s,baz=64,slow=6.8,SNR=6.3
comp=Z,1.0nm,0.6s
NC204 NORSAR Array S 78.71 338 P **P** **21 19 04.2 +0.6**
NC204 IAmb IAmb 21 19 25.3
comp=Z,7.1nm,1.1s
NB2 NORSAR Subarra 78.75 338 P **P** **21 19 04.5 +0.6**
comp=Z,2.2nm,0.7s,baz=42,slow=5.3
NOA NORSAR Array B 78.75 338 P **P** **21 19 04.7 +0.8**
comp=Z,2.1nm,0.8s,baz=41,slow=5.5,SNR=6.8
comp=Z,2.1nm,0.8s
ARPR Arapgir-MALATY 79.75 310 P **P** **21 19 10.8 +0.8**
ARPR IAmb IAmb 21 19 13.1
comp=Z,11nm,1.4s
KWP Kalwaria Pacla 82.28 325 P **P** **21 19 26.0 +3.0**
KWP IAmb IAmb 21 19 27.0
comp=Z,18nm,1.3s
BUR08 Bucovina Ar. S 82.34 322 P **P** **21 19 22.9 -0.6**
BURAR Bucovina Array 82.35 322 P **P** **21 19 23.9 +0.3**

BR131 Keskin Array S 82.39 312 P **P** **21 19 24.0 +0.1**
BR131 IAmb IAmb 21 19 42.2
comp=Z,4.7nm,1.3s
BRTR Keskin Array B 82.39 312 P **P** **21 19 24.7 +0.7**
BRTR Keskin Array B 82.39 312 P **P** **21 19 24.2 +0.3**
comp=Z,1.3nm,0.8s,baz=94,slow=3.7,SNR=7.0
comp=Z,1.3nm,0.8s
ANTO Ankara 82.83 313 P **P** **21 19 27.1 +0.9**
ANTO IAmb IAmb 21 19 42.6
comp=Z,5.1nm,0.6s
RAYN Ar Rayn 82.96 293 P **P** **21 19 27.7 +0.6**
RAYN IAmb IAmb 21 19 29.1
comp=Z,3.2nm,0.6s
OJC Ojcow 83.26 327 P **P** **21 19 28.8 +0.8**
OJC IAmb IAmb 21 19 30.4
comp=Z,5.0nm,0.9s
CLL Collm 85.46 331 P **P** **21 19 39.1 -0.1**
CLL IAmb IAmb 21 19 40.9
comp=Z,4.6nm,0.8s
CLL Collm 85.46 331 *i* P **P** **21 19 39.8 +0.6**
comp=Z,6.0nm,0.9s
ANMO Albuquerque 87.23 50 LR LR 21 58 38.5
comp=Z,74nm,18.2s,baz=20,slow=36
KEST Kesra 99.09 323 LR LR 22 09 51.9
comp=Z,52nm,19.0s,baz=304,slow=38
TKL Tuckaleechee C 99.91 36 LR LR 22 08 13.5
comp=Z,30nm,19.1s,baz=339,slow=37

*TIR **08** 21:11:31.8, 41.˚48N×19.˚58E, h19km±1km, Md2.8, Ml1.9*
*BEO **08** 21:11:33.8±0.5, 41.˚49N×19.˚63E, h12km±3km, ML1.9/6*
ISC 08 21:11:32.7±1.0, 41.˚48N±0.˚02×19.˚59E±0.˚04, h13km±9km, n21, σ0°76/35, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.24**	**124**	P	**Pg**	**21 11 37.9**	**0.0**
TIR	baz=121			S	**Sb**	**21 11 42.5**	**-0.7**
TIR	baz=121			AMP			
	comp=E,6.2nm,0.1s,baz=121						
TIR	**Tirane**	**0.24**	**124**	*e*Pg	**Pg**	**21 11 38.0**	**0.0**
TIR				*e*Sg	**Sb**	**21 11 42.6**	**-0.6**
PUK	**Puka**	**0.60**	**22**	P	**Pg**	**21 11 43.9**	**-0.6**
PUK	baz=22			S	**Sb**	**21 11 54.0**	**+0.4**
PUK	baz=22			AMP			
	comp=E,0.3nm,0.2s,baz=22						
DRME	**Dracevica, Mon**	**0.77**	**337**	*e*Pg	**Pg**	**21 11 47.5**	**-0.1**
DRME				*e*Sg	**Sn**	**21 11 59.9**	**-0.8**
BCI	**Bajram Curri**	**0.95**	**22**	P	**Pb**	**21 11 50.2**	**-0.8**
BCI	baz=22			S	**Sn**	**21 12 05.9**	**+0.6**
BCI	baz=22			AMP			
	comp=E,0.1nm,0.2s,baz=22						
PDG	**Podgorica**	**0.98**	**345**	*e*Pg	**Pb**	**21 11 51.1**	**-0.4**
PDG				*e*Sg	**Sn**	**21 12 05.3**	**-0.6**
KOME	**Kolasin**	**1.37**	**358**	*e*Pg	**Pg**	**21 11 59.6**	**+0.6**
KOME				*e*Sg	**Sg**	**21 12 16.4**	**-0.4**
FNA	**Florina**	**1.52**	**117**	P	**Pn**	**21 11 59.9**	**+0.3**
FNA	baz=116			S	**Sg**	**21 12 22.2**	**+0.7**
FNA	baz=116			AMP			
	comp=E,0.0nm,0.3s,baz=116						
FNA	**Florina**	**1.52**	**117**	*e*Pg	**Pg**	**21 12 02.2**	**+0.3**
FNA				*e*Sg	**Sg**	**21 12 21.7**	**+0.1**
LSK	**Leskovik**	**1.54**	**150**	P	**Pb**	**21 12 01.4**	**+0.3**
LSK	baz=149			S	**Sg**	**21 12 22.6**	**+0.5**
LSK	baz=149			AMP			
	comp=E,0.1nm,0.7s,baz=168						
TREB	**Trebinje**	**1.54**	**324**	*e*Pg	**Pb**	**21 12 01.4**	**+0.3**
TREB				*e*Sg	**Sg**	**21 12 22.7**	**+0.4**
DBRK	**Dubrovnik**	**1.60**	**318**	*e*Pn	**Pb**	**21 12 01.6**	**-0.5**
SRN	**Sarande**	**1.63**	**169**	P	**Pn**	**21 12 00.6**	**-0.5**
SRN	baz=168			S	**Sg**	**21 12 25.1**	**-0.1**
SRN	baz=168			AMP			
	comp=E,0.1nm,0.7s,baz=168						
SCTE	**Santa Cesarea**	**1.65**	**212**	P	**Pb**	**21 12 02.5**	**-0.4**
SCTE	baz=212			S	**Sg**	**21 12 25.5**	**-0.3**
SCTE	baz=212			AMP			
	comp=E,0.1nm,0.7s,baz=212						
SJES	**Sjenica**	**1.80**	**9**	*e*Pg	**Pg**	**21 12 06.8**	**-0.4**
SJES				*e*Sg	**Sg**	**21 12 30.3**	**-0.3**
STON	**Ston**	**1.98**	**315**	*e*Pn	**Pn**	**21 12 06.8**	**+1.0**
IVAS	**Ivanjica**	**2.13**	**11**	*e*Pn	**Pn**	**21 12 06.7**	**-1.4**
DIVS	**Divibare**	**2.63**	**6**	*e*Pn	**Pn**	**21 12 16.6**	**+1.7**
SVIS	**Svilajnac**	**3.02**	**23**	*e*Pn	**Pn**	**21 12 22.4**	**+2.1**
KUBS	**Kucevo**	**3.30**	**27**	*e*Pn	**Pn**	**21 12 24.2**	**+0.1**
MORI	**Morici**	**3.73**	**311**	*e*Pn	**Pn**	**21 12 30.9**	**+1.0**

AFAD 08 21:20:54.2±0.0, 36.˚03N×28.˚17E, h8km±2km, ML1.3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.74**	**5**	P	Pb	21 21 10.2	+0.8
TURN				S	Sn	21 21 22.8	+0.2
DAT	**Datca**	**0.84**	**326**	P	Pg	21 21 10.6	+0.2
DAT				S	Sb	21 21 23.1	+0.4
DAT				*i* AML	AML	21 21 27.0
	comp=E,8.5nm,0.5s						
YAZI	**Mula-Dat§a-**	**0.87**	**318**	P	Pg	21 21 10.9	0.0
YAZI				S	Sb	21 21 22.9	-0.5
IZZE	**Mula-Seydike**	**0.94**	**64**	P	Pg	21 21 10.2	-2.1
IZZE				S	Sb	21 21 25.9	+0.4
IZZE				*i* AML	AML	21 21 29.0
	comp=E,8.8nm,0.5s						
IZZE				*i* AML	AML	21 21 33.0
	comp=N,12nm,0.5s						
SABU	**Mula-Dalaman**	**1.02**	**39**	P	Pg	21 21 11.7	-2.0
SABU				S	Sb	21 21 28.0	+0.3
SABU				*i* AML	AML	21 21 30.0
	comp=E,8.2nm,1.7s						
SABU				*i* AML	AML	21 21 35.0
	comp=N,6.2nm,0.9s						
BDRM	**Kayabasi**	**1.18**	**331**	P	Pg	21 21 16.4	-0.5
BDRM				S	Sg	21 21 31.4	-0.9
BDRM				*i* AML	AML	21 21 40.0
	comp=E,10nm,1.1s						
TAVA	**DENIZLI_Tavas**	**1.55**	**22**	P	Pb	21 21 23.0	-0.2
TAVA				*i* AML	AML	21 21 52.0
	comp=E,3.3nm,0.8s						
TAVA				*i* AML	AML	21 21 57.0
	comp=N,4.1nm,1.5s						

DJA 08 21:27:36.0±0.4, 1.˚N±4.˚×12.˚3E±.˚, h15km±3km, M3.9/8, mb4.0/1, MLv3.9/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.54**	**147**	Pg	Pg	21 27 44.3	-2.3
GTOI				Sg	Sg	21 27 50.4	-3.4
MRSI	**Marisa**	**0.99**	**232**	P	Pb	21 27 54.2	-0.7
MRSI				S	Sb	21 28 07.2	-0.5
KMSI	**Cibinong**	**1.36**	**112**	P	Pn	21 27 59.4	-1.1
KMSI				S	Sn	21 28 17.7	-0.6
LUWI	**Luwuk**	**2.12**	**179**	P	Pn	21 28 10.1	-0.8
MPSI	**Mapaga**	**2.92**	**255**	P	Pn	21 28 23.7	+1.8

*GII **08** 21:42:45.3±0.3, 32.˚832N±0.˚001×35.˚590E±0.˚001, h0km, Md3.4/4, Mws3.2/8, confirmed*
*JSO **08** 21:42:46, 32.˚85N×35.˚59E, h3km, ML3.5/25*
*GRAL **08** 21:42:48.1±0.2, 32.˚89N×35.˚51E, h0km±2km, MD3.6*
ISC 08 21:42:46.5±0.9, 32.˚85N±0.˚02×35.˚59E±0.˚03, h13km±7km, n61, σ0°69/63, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHMJ	**Saham**	**0.19**	**130**	P	**Pg**	**21 42 50.4**	**-0.4**
KSHT	**Keshet**	**0.23**	**54**	S	**Sg**	**21 42 55.9**	**+1.0**
KSHT	**Keshet**	**0.23**	**54**	P	**Pg**	**21 42 51.2**	**-0.3**
MMB1	**Mount Meron ar**	**0.23**	**318**	P	**Pg**	**21 42 51.1**	**-0.4**
MMA0B	**Mount Meron ar**	**0.23**	**317**	S	**Sg**	**21 42 55.4**	**+0.3**
MMA0B	**Mount Meron ar**	**0.23**	**317**	P	**Pg**	**21 42 51.0**	**-0.6**
MMC7	**Mount Meron ar**	**0.24**	**316**	P	**Pg**	**21 42 51.5**	**-0.3**
BLGI	**Bet Lehem HaGe**	**0.36**	**252**	P	**Pg**	**21 42 53.7**	**0.0**
BLGI	**Bet Lehem HaGe**	**0.36**	**252**	S	**Sb**	**21 42 59.5**	**-0.7**
BLGI	**Bet Lehem HaGe**	**0.36**	**252**	P	**Pg**	**21 42 52.8**	**-1.0**
GEM	**Giv'at Ha'Em**	**0.37**	**9**	S	**Sg**	**21 42 59.9**	**+0.9**
GEM	**Giv'at Ha'Em**	**0.37**	**9**	P	**Pg**	**21 42 53.7**	**-0.3**
HNTI	**Hanita**	**0.42**	**304**	P	**Pg**	**21 42 55.0**	**0.0**
HNTI	**Hanita**	**0.42**	**304**	S	**Sb**	**21 43 02.2**	**0.0**
HNTI	**Hanita**	**0.42**	**304**	P	**Pg**	**21 42 55.1**	**+0.1**
MMLI	**Mount Malkishu**	**0.43**	**200**	S	**Sb**	**21 43 01.9**	**-0.5**
MMLI	**Mount Malkishu**	**0.43**	**200**	P	**Pg**	**21 42 54.9**	**-0.2**
NATI	**Neve Ativ**	**0.43**	**16**	P	**Pg**	**21 42 54.8**	**-0.4**
NATI	**Neve Ativ**	**0.43**	**16**	S	**Sb**	**21 43 02.3**	**-0.1**
NATI	**Neve Ativ**	**0.43**	**16**	P	**Pg**	**21 42 54.7**	**-0.4**
SHBL	**Chebaa**	**0.52**	**14**	*e*P	**Pg**	**21 42 57.0**	**+0.2**
OFRI	**`Ofer**	**0.56**	**246**	P	**Pg**	**21 42 57.2**	**-0.3**
OFRI	**`Ofer**	**0.56**	**246**	S	**Sb**	**21 43 06.1**	**0.0**
OFRI	**`Ofer**	**0.56**	**246**	P	**Pg**	**21 42 57.2**	**-0.3**
HMDT	**Nahal Hemdat**	**0.59**	**185**	S	**Sb**	**21 43 07.1**	**+0.1**
HMDT	**Nahal Hemdat**	**0.59**	**185**	P	**Pg**	**21 42 57.8**	**-0.4**
RCY	**Rachaya**	**0.68**	**17**	*e*P	**Pg**	**21 42 59.9**	**+0.1**
RCY				*e*S	**Sg**	**21 43 08.8**	**0.0**
QRWL	**Qaraoun**	**0.70**	**6**	*e*P	**Pg**	**21 43 00.1**	**-0.1**
SLTI	**Sal'it**	**0.76**	**218**	P	**Pg**	**21 43 00.8**	**-0.5**
SLTI	**Sal'it**	**0.76**	**218**	S	**Sb**	**21 43 11.8**	**-0.1**
DQRL	**Deir Qamar**	**0.86**	**359**	*e*P	**Pg**	**21 43 02.6**	**-0.5**
DQRL				*e*S	**Sg**	**21 43 13.4**	**-1.0**
HSUJ	**Al Zarqa**	**0.90**	**145**	P	**Pg**	**21 43 03.6**	**-0.3**
ZAHL	**Zahle**	**1.04**	**14**	*e*P	**Pb**	**21 43 06.3**	**-0.1**
BHL	**Bhannes**	**1.06**	**3**	*e*P	**Pb**	**21 43 06.3**	**-0.4**
DSI	**Dead Sea**	**1.28**	**188**	P	**Pn**	**21 43 09.5**	**-0.6**
DSI	**Dead Sea**	**1.28**	**188**	P	**Pn**	**21 43 09.3**	**-0.9**
DSI	**Dead Sea**	**1.28**	**188**	S	**Sg**	**21 43 28.1**	**+0.2**
ASF	**Jabal al Asfar**	**1.29**	**121**	P	**Pb**	**21 43 10.8**	**+0.1**
AMAZ	**Amatzia**	**1.43**	**204**	P	**Pn**	**21 43 12.4**	**+0.2**
AMAZ	**Amatzia**	**1.43**	**204**	S	**Sg**	**21 43 33.6**	**+1.0**
HWQ	**Hawqa**	**1.46**	**12**	*e*P	**Pb**	**21 43 13.4**	**-0.2**
YTIR	**Yattir**	**1.53**	**195**	P	**Pn**	**21 43 14.0**	**+0.4**
YTIR	**Yattir**	**1.53**	**195**	P	**Pb**	**21 43 14.4**	**-0.4**
YTIR	**Yattir**	**1.53**	**195**	S	**Sb**	**21 43 34.9**	**+0.7**
GHAJ	**Ghor Haditha**	**1.54**	**181**	P	**Pb**	**21 43 14.5**	**-0.3**
GHAJ	**Ghor Haditha**	**1.54**	**181**	P	**Pn**	**21 43 13.6**	**0.0**
GHAJ	**Ghor Haditha**	**1.54**	**181**	S	**Sg**	**21 43 35.8**	**-0.3**
MSBI	**Mazada**	**1.54**	**187**	P	**Pn**	**21 43 13.5**	**-0.1**
FKH	**Fakeheh**	**1.55**	**26**	*e*P	**Pb**	**21 43 15.3**	**+0.1**
LISJ	**El Lisan**	**1.60**	**183**	P	**Pb**	**21 43 16.0**	**+0.1**
SWQJ	**Swaqa**	**1.65**	**166**	P	**Pn**	**21 43 13.8**	**-1.4**
BEIL	**Beino**	**1.76**	**16**	*e*P	**Pb**	**21 43 18.2**	**-0.5**
ZFRI	**Zfri**	**2.31**	**189**	P	**Pn**	**21 43 25.6**	**+1.3**
ZFRI	**Zfri**	**2.31**	**189**	P	**Pn**	**21 43 24.7**	**+0.5**
PRNI	**Paran**	**2.54**	**192**	P	**Pn**	**21 43 28.5**	**+1.2**
PRNI	**Paran**	**2.54**	**192**	P	**Pn**	**21 43 28.6**	**+1.2**
HSNJ	**Maan**	**2.58**	**178**	P	**Pn**	**21 43 26.9**	**-1.2**
KRMI	**Paran Flat**	**2.82**	**195**	P	**Pn**	**21 43 33.1**	**+1.8**
KRMI	**Paran Flat**	**2.82**	**195**	P	**Pn**	**21 43 32.9**	**+1.6**
HRFI	**Mount Harif**	**2.84**	**190**	P	**Pn**	**21 43 32.8**	**+1.2**
MBRI	**Mt Berech**	**3.10**	**191**	P	**Pn**	**21 43 36.5**	**+1.3**

*KRSC **08** 21:47:25.3±1.5, 55.˚64N×166.˚24E, h37km±14km, Ml3.7*
*IDC **08** 21:47:27.8±3.0, 55.˚92N×165.˚72E, h0km, mb3.4/5, mbtmp3.4/5, MS3.1/1, Error ellipse: s-maj=112.6km s-min=24.4km az=17.4*
ISC 08 21:47:30.9±1.0, 55.˚57N±0.˚07×166.˚13E±0.˚08, h35km, n35, σ1°56/36, mb3.4/5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.38**	**194**	*e*P	**Pn**	**21 47 36.6**	**-3.3**
BKI				*e*S	**Sn**	**21 47 42.9**	**-3.1**
KBTR	**Krutoberegovo**	**1.97**	**290**	*e*P	**Pn**	**21 47 58.3**	**-3.5**
KBG	**Krutoberegovo**	**2.05**	**291**	*e*S	**Sn**	**21 48 24.6**	**-2.5**
ZLN	**Zelenaya**	**3.04**	**281**	*e*P	**Pn**	**21 48 15.9**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**3.10**	**279**	*e*P	**Pn**	**21 48 16.0**	**-1.3**
BZP	**Bezymyannyi-Pe**	**3.18**	**278**	*e*P	**Pn**	**21 48 17.1**	**-1.4**
KRSR	**Krestovskiy**	**3.20**	**284**	*e*P	**Pn**	**21 48 17.4**	**-1.3**
KRSR				*e*S	**Sn**	**21 48 55.7**	**0.0**
BZWR	**Bezymyannyi-We**	**3.21**	**279**	*e*P	**Pn**	**21 48 17.7**	**-1.2**
BZMR	**Bezymyannaya**	**3.21**	**279**	*e*P	**Pn**	**21 48 18.0**	**-1.0**
TUMD	**Tumrok D**	**3.29**	**266**	*e*P	**Pn**	**21 48 19.3**	**-0.7**
TUMD				*e*S	**Sn**	**21 48 59.9**	**+2.1**
KIRR	**Kirishev**	**3.29**	**279**	*e*P	**Pn**	**21 48 19.1**	**-1.0**
KIRR				*e*S	**Sn**	**21 48 57.4**	**-0.7**
KMNR	**Kamenistaya**	**3.34**	**276**	*e*P	**Pn**	**21 48 20.1**	**-0.7**
KPT	**Kopyto**	**3.36**	**279**	*e*P	**Pn**	**21 48 20.3**	**-0.6**
TUMR	**Tumrok**	**3.42**	**268**	*e*P	**Pn**	**21 48 21.3**	**-0.5**
SRDR	**Sredinnyy**	**3.69**	**284**	*e*P	**Pn**	**21 48 24.1**	**-1.2**
SRDR				*e*S	**Sn**	**21 49 06.5**	**-1.1**
SMAR	**Somma**	**4.87**	**245**	*e*P	**Pn**	**21 48 41.4**	**-0.3**
KRER	**Koryakskii**	**4.87**	**245**	*e*P	**Pn**	**21 48 41.9**	**0.0**
UGLR	**Uglovaya**	**4.88**	**244**	*e*P	**Pn**	**21 48 41.7**	**-0.2**
KRX	**Arik**	**4.90**	**246**	*e*P	**Pn**	**21 48 42.3**	**+0.2**
AVH	**Avacha**	**4.90**	**245**	*e*P	**Pn**	**21 48 42.1**	**0.0**
KOK	**Koryaka**	**4.94**	**246**	*e*P	**Pn**	**21 48 41.7**	**-0.9**
KRMR	**Karymshinskiy**	**5.44**	**243**	*e*S	**Sn**	**21 49 52.8**	**+2.0**
MTVR	**Mutnovka**	**5.62**	**240**	*e*P	**Pn**	**21 48 52.2**	**+0.2**
GRL	**Gorelyy**	**5.63**	**241**	*e*P	**Pn**	**21 48 53.3**	**+1.2**
ASAK	**Asacha**	**5.81**	**240**	*e*P	**Pn**	**21 48 55.0**	**+0.4**
KDTR	**Khodutka, Kamc**	**6.09**	**235**	*e*P	**Pn**	**21 48 57.7**	**-0.6**
KLR	**Kul'dur**	**21.75**	**267**	LR	LR	22 01 12.5
	comp=Z,44nm,19.3s,baz=204,slow=38						
ILAR	**Eielson Array**	**24.54**	**49**	P	**P**	**21 52 48.8**	**+2.0**
	0.9nm,0.8s,baz=254,slow=8.5,SNR=8.8						
	0.9nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.79**	**179**	T	T	22 32 14.9
	baz=359,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.80**	**179**	T	T	22 32 15.8
	baz=359,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.81**	**179**	T	T	22 32 17.3
	baz=359,slow=76						
SONM	**Songino Array**	**36.77**	**284**	P	**P**	**21 54 35.5**	**+0.6**
	0.3nm,0.5s,baz=73,slow=10,SNR=2.7						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**49.49**	**303**	P	**P**	**21 56 15.4**	**-2.0**
	1.1nm,0.9s,baz=52,slow=7.3,SNR=6.0						
	1.1nm,0.9s						
MKAR	**Makanchi Array**	**50.22**	**297**	P	**P**	**21 56 22.0**	**-1.0**
	0.2nm,0.6s,baz=67,slow=8.8,SNR=2.3						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**66.46**	**72**	P	**P**	**21 58 19.3**	**+2.

comp=Z,0.2nm,0.4s
WRA Warramunga Arr 12.55 341 Pn Pn 21 56 07.8 -1.7
comp=Z,0.1nm,0.3s,baz=157,slow=13,SNR=2.0
comp=Z,0.4nm,0.7s

*IDC **08** 21:58:38.8±14.0, 11°.98S×161°.99E, h195km±162km, mb3.1/3, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=100.6km s-min=40.1km az=157.0*
ISC 08 21:58:25.0±1.9, 11°.4S±0°.2×161°.7E±0°.2, h35km, n5, σ2°78/6, mb3.4/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.54**	**158**	P	**Pn**	**22 01 09.7**	**+2.3**
	0.3nm,0.3s,baz=24,slow=20,SNR=2.4						
DZM				S	**Sn**	**22 03 12.3**	**-2.8**
	6.4nm,1.1s,baz=49,slow=20,SNR=1.5						
	1.2nm,0.6s						
CTA	**Charters Tower**	**17.21**	**238**	P	**P**	**22 02 26.4**	**+2.3**
	baz=69,slow=15,SNR=2.1						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**27.67**	**249**	P	**P**	**22 04 09.3**	**-0.7**
	0.7nm,0.8s,baz=77,slow=9.9,SNR=3.2						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**29.14**	**242**	P	**P**	**22 04 20.9**	**-2.0**
	0.7nm,1.0s,baz=71,slow=9.5,SNR=3.2						
	0.7nm,1.0s						
SONM	**Songino Array**	**76.66**	**325**	P	**P**	**22 10 11.9**	**-0.6**
	0.3nm,0.4s,baz=133,slow=5.4,SNR=2.2						
	0.3nm,0.4s						

IDC 08 22:00:51.6±2.6, 3°.82S×128°.84E, h0km, mb3.2/2, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=195.3km s-min=31.0km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.90**	**162**	Pn	Pn	22 04 50.4	+0.6
	0.1nm,0.3s,baz=344,slow=13,SNR=2.0						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**20.33**	**167**	P	P	22 05 29.3	-0.3
	0.5nm,0.4s,baz=348,slow=11,SNR=7.4						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**64.95**	**327**	P	P	22 11 33.2	0.0
	0.1nm,0.5s,baz=116,slow=5.3,SNR=1.5						
	0.1nm,0.5s						

ROM 08 22:28:26.3±0.1, 37°.834N±0°.006×13°.950E±0°.008, h4km±1km, ML2.0/22, 4C, Error ellipse: s-maj=0.8km s-min=0.2km az=314.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETRA	**Petralia Sopra**	**0.13**	**90**	⇑P	Pg	22 28 28.9	-0.1
PETRA				S	Sg	22 28 31.4	+0.6
PETRA				AML	AML		
	comp=E,3170μm,0.5s						
PETRA				AML	AML		
	comp=N,2065μm,0.6s						
PETRA				AML	AML		
	comp=N,2065μm,1.4s						
PETRA				AML	AML		
	comp=E,3170μm,1.5s						
CSLB	**Castelbuono**	**0.13**	**40**	⇑P	Pg	22 28 29.2	+0.2
CSLB				S	Sg	22 28 32.1	+1.2
CSLB				AML	AML		
	comp=E,683μm,0.9s						
CSLB				AML	AML		
	comp=N,630μm,1.2s						
CSLB				AML	AML		
	comp=E,683μm,1.1s						
GIB	**Gibilmanna**	**0.17**	**21**	⇑P	Pg	22 28 30.3	+0.6
GIB				S	Sg	22 28 33.4	+1.6
GIB				AML	AML		
	comp=E,757μm,0.3s						
GIB				AML	AML		
	comp=N,900μm,1.3s						
GIB				AML	AML		
	comp=E,757μm,1.7s						
GIB				AML	AML		
	comp=N,900μm,0.7s						
ALJA	**Alia**	**0.18**	**241**	P	Pg	22 28 30.1	+0.3
ALJA				S	Sg	22 28 34.5	+2.4
ALJA				AML	AML		
	comp=N,1304μm,0.3s						
ALJA				AML	AML		
	comp=E,1065μm,1.1s						
ALJA				AML	AML		
	comp=E,1065μm,0.9s						
RESU	**Resuttano**	**0.20**	**156**	⇑P	Pg	22 28 30.5	+0.2
RESU				S	Sg	22 28 34.5	+1.5
RESU				AML	AML		
	comp=E,998μm,0.4s						
RESU				AML	AML		
	comp=N,1100μm,0.3s						
RESU				AML	AML		
	comp=E,998μm,1.6s						
RESU				AML	AML		
	comp=N,1100μm,1.7s						
PLLN	**Pollina**	**0.22**	**44**	P	Pg	22 28 30.9	+0.3
PLLN				S	Sg	22 28 35.3	+1.8
PLLN				AML	AML		
	comp=N,785μm,0.6s						
PLLN				AML	AML		
	comp=E,635μm,0.6s						
CMDO	**Montedoro**	**0.38**	**195**	P	Pb	22 28 35.4	-0.3
SOLUN	**Solunto**	**0.42**	**308**	P	Pg	22 28 35.2	+0.9
SOLUN				AML	AML		
	comp=N,109μm,0.8s						
SOLUN				AML	AML		
	comp=N,109μm,1.2s						
SOLUN				AML	AML		
	comp=E,112μm,0.4s						
CAGR	**Agira**	**0.48**	**116**	P	Pb	22 28 38.2	+0.8
GALF	**Gagliano Caste**	**0.50**	**104**	P	Pb	22 28 37.5	-0.3
GALF				AML	AML		
	comp=E,181μm,0.6s						
GALF				AML	AML		
	comp=N,220μm,0.6s						
GALF				AML	AML		
	comp=E,181μm,1.4s						
CORL	**Corleone**	**0.52**	**277**	P	Pb	22 28 37.2	-0.8
CORL				AML	AML		
	comp=E,165μm,1.3s						
CORL				AML	AML		
	comp=N,176μm,0.3s						
MPG	**Monte Pellegri**	**0.57**	**305**	P	Pb	22 28 38.4	-0.5
MNO	**Monte Soro**	**0.60**	**80**	P	Pb	22 28 39.2	-0.3
MUCR	**Ucria**	**0.76**	**74**	P	Pg	22 28 41.2	+0.3
MUCR				AML	AML		
	comp=E,106μm,0.4s						
MUCR				AML	AML		
	comp=N,130μm,0.3s						
MUCR				AML	AML		
	comp=E,106μm,1.6s						
IACL	**Alicudi**	**0.77**	**25**	P	Pg	22 28 41.7	+0.6
IACL				AML	AML		
	comp=N,190μm,1.2s						
IACL				AML	AML		
	comp=N,190μm,0.8s						
IACL				AML	AML		
	comp=E,208μm,1.0s						
IFIL	**Filicudi I Eol**	**0.88**	**33**	P	Pg	22 28 43.0	-0.1

ROM 08 22:29:07.4±0.1, 37°.823N±0°.009×13°.97E±0°.01, h5km, ML1.2/10, 1C, Error ellipse: s-maj=1.1km s-min=0.7km az=323.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETRA	**Petralia Sopra**	**0.11**	**85**	⇑P	Pg	22 29 10.1	+0.2
PETRA				S	Sg	22 29 12.5	+1.0
PETRA				AML	AML		
	comp=E,394μm,0.4s						
PETRA				AML	AML		
	comp=N,268μm,0.3s						
PETRA				AML	AML		
	comp=E,394μm,1.6s						
CSLB	**Castelbuono**	**0.13**	**30**	P	Pg	22 29 10.3	+0.1
CSLB				S	Sg	22 29 13.1	+1.1
CSLB				AML	AML		
	comp=N,70μm,0.2s						
CSLB				AML	AML		
	comp=E,101μm,0.2s						
GIB	**Gibilmanna**	**0.17**	**14**	P	Pg	22 29 11.4	+0.6
GIB				AML	AML		
	comp=N,102μm,0.9s						
GIB				AML	AML		
	comp=E,138μm,2.3s						
GIB				AML	AML		
	comp=N,102μm,1.1s						
GIB				AML	AML		
	comp=E,138μm,0.3s						
RESU	**Resuttano**	**0.19**	**159**	P	Pg	22 29 11.7	+0.5
RESU				AML	AML		
	comp=N,177μm,1.6s						
RESU				AML	AML		
	comp=E,148μm,0.5s						
RESU				AML	AML		
	comp=N,177μm,0.4s						
RESU				AML	AML		
	comp=E,148μm,1.5s						
ALJA	**Alia**	**0.19**	**247**	P	Pg	22 29 11.4	+0.2
ALJA				S	Sg	22 29 15.6	+1.9
ALJA				AML	AML		
	comp=N,117μm,1.1s						
ALJA				AML	AML		
	comp=E,103μm,0.7s						

*TIR **08** 22:49:49.7, 41°.50N×19°.67E, h18km, Md2.6, Ml1.8*
*BEO **08** 22:49:51.0±0.6, 41°.46N×19°.61E, h6km±4km, ML1.6/4*
ISC 08 22:49:50.5±1.0, 41°.51N±0°.03×19°.65E±0°.05, h12km±9km, n12, σ0°73/22, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.23**	**134**	P	**Pg**	**22 49 55.0**	**-0.3**
	baz=135						
TIR				S	**Sg**	**22 49 59.0**	**+0.3**
	baz=135						
TIR				AMP			
	comp=N,2.4nm,0.1s,baz=135						
TIR	**Tirane**	**0.23**	**134**	*e*Pg	**Pg**	**22 49 55.1**	**-0.3**
TIR				*e*Sg	**Sg**	**22 49 59.7**	**+1.0**
PUK	**Puka**	**0.57**	**19**	P	**Pg**	**22 50 01.1**	**-0.6**
	baz=17						
PUK				S	**Sg**	**22 50 10.2**	**+1.0**
	baz=17						
PUK				AMP			
	comp=E,0.2nm,0.3s,baz=17						
DRME	**Dracevica, Mom**	**0.76**	**333**	*e*Pg	**Pg**	**22 50 04.6**	**-0.7**
DRME				*e*Sg	**Sb**	**22 50 17.2**	**+1.1**
BCI	**Bajram Curri**	**0.91**	**20**	P	**Pg**	**22 50 07.0**	**-1.2**
	baz=18						
BCI				S	**Sb**	**22 50 21.1**	**+0.6**
	baz=18						
BCI				AMP			
	comp=E,0.1nm,0.4s,baz=18						
PDG	**Podgorica**	**0.97**	**343**	*e*Pg	**Pb**	**22 50 09.6**	**+0.4**
PDG				*e*Sg	**Sn**	**22 50 23.9**	**+0.3**
FNA	**Florina**	**1.49**	**118**	P	**Pn**	**22 50 17.2**	**0.0**
	baz=118						
FNA				S	**Sg**	**22 50 38.6**	**+0.1**
	baz=118						
FNA				AMP			
	comp=E,0.0nm,0.5s,baz=118						
FNA	**Florina**	**1.49**	**118**	*e*Pg	**Pb**	**22 50 18.0**	**-0.2**
FNA				*e*Sg	**Sg**	**22 50 38.3**	**-0.3**
TREB	**Trebinje**	**1.55**	**322**	*e*Pg	**Pb**	**22 50 19.1**	**0.0**
TREB				*e*Sg	**Sb**	**22 50 39.0**	**+0.3**
SJES	**Sjenica**	**1.77**	**8**	*e*Pg	**Pg**	**22 50 24.9**	**+0.4**
SJES				*e*Sg	**Sg**	**22 50 47.3**	**-0.2**
NOCI	**Noci**	**2.08**	**251**	P	**Pb**	**22 50 27.6**	**-0.6**
	baz=251						
BBLS	**Lazi&#263i**	**2.36**	**356**	*e*Pn	**Pb**	**22 50 31.6**	**-1.5**

IDC 08 22:52:52.1±4.0, 24°.89S×177°.42W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=253.1km s-min=45.1km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.84**	**271**	P	P	22 59 37.5	+1.0
	0.4nm,0.5s,baz=72,slow=8.4,SNR=2.6						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**44.20**	**261**	P	P	23 01 02.4	-0.9
	0.6nm,0.4s,baz=82,slow=6.6,SNR=8.5						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**140.10**	**343**	PKhKP	PKPpre	23 12 15.3	
	2.8nm,1.1s,baz=64,slow=6.3,SNR=5.5						
NB2	**NORSAR Subarra**	**143.38**	**353**	PKP	PKPdf	23 12 27.1	-1.0
	comp=Z,0.7nm,0.6s,baz=14,slow=3.4						
NOA	**NORSAR Array B**	**143.38**	**353**	PKP	PKPdf	23 12 26.7	-1.4
	comp=Z,0.3nm,0.6s,baz=15,slow=5.0,SNR=6.2						
HFS	**Hagfors**	**143.93**	**351**	PKP	PKPdf	23 12 28.5	-0.5
	comp=Z,3.9nm,0.4s,baz=35,slow=1.0,SNR=48						
AKASG	**Malin Array Be**	**147.05**	**328**	PKPbc	PKPbc	23 12 36.5	-0.2
	comp=Z,0.6nm,0.3s,baz=46,slow=3.9,SNR=4.9						
BRTR	**Keskin Array B**	**150.04**	**307**	PKPbc	PKPbc	23 12 44.0	-1.1
	comp=Z,0.4nm,0.4s,baz=125,slow=1.5,SNR=4.7						
MMAI	**Mount Meron Ar**	**150.25**	**293**	PKPbc	PKPbc	23 12 45.5	-0.1
	comp=Z,1.0nm,0.4s,baz=76,slow=7.0,SNR=11						

*NEIC **08** 22:57:05.5±1.7, 4°.34S±0°.10×142°.6E±0°.1, h169km±6km, mb4.3/18, Error ellipse: s-maj=19.3km s-min=12.0km az=62.0*
*IDC **08** 22:57:07.3±4.4, 4°.42S×142°.76E, h192km±51km, mb3.4/5, mbtmp4.1/7, Error ellipse: s-maj=45.2km s-min=18.8km az=114.0*
ISC 08 22:57:03.1±0.7, 4°.30S±0°.08×142°.42E±0°.09, h150km, n46, σ1°67/38, mb4.1/14, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.54**	**231**	P	**Pn**	**22 57 32.6**	**-0.5**
GENI	**Genyem**	**2.82**	**307**	P	**Pn**	**22 57 45.8**	**-2.4**
PMG	**Port Moresby**	**6.92**	**137**	Pn	**Pn**	**22 58 41.8**	**-0.3**
PMG	**Port Moresby**	**6.92**	**137**	P	**Pn**	**22 58 42.0**	**-0.1**
	41nm,0.6s,baz=335,slow=8.6,SNR=9.6						
PMG				S	**Sn**	**22 59 57.4**	**-2.3**
	11nm,0.4s,baz=273,slow=14,SNR=1.4						
COEN	**Coen**	**9.63**	**176**	Pn	Pn	22 59 22.0	+3.8
FAKI	**Fak Fak**	**10.25**	**277**	Pn	Pn	22 59 35.1	+8.7
KDU	**Kakadu**	**12.89**	**229**	P	**Pn**	**23 00 00.8**	**-0.2**
MTSU	**Mount Surprise**	**13.88**	**172**	P	**P**	**23 00 16.8**	**-0.1**
DRS	**Darwin Rock St**	**13.97**	**234**	P	**P**	**23 00 16.0**	**-2.0**
	48nm,0.5s						
MTN	**Manton Dam**	**14.02**	**232**	P	**P**	**23 00 15.9**	**-2.6**
MTN	**Manton Dam**	**14.02**	**232**		**P**	**23 00 15.7**	**-2.9**
QIS	**Mount Isa**	**16.39**	**189**	P	**Pn**	**23 00 47.5**	**+2.7**
WB0	**Warramunga Arr**	**17.25**	**206**	P	**Pn**	**23 00 55.8**	**+0.7**
WR0	**Warramunga Arr**	**17.36**	**206**	P	**Pn**	**23 00 57.2**	**+0.8**
WB2	**Warramunga Arr**	**17.43**	**206**	P	**Pn**	**23 00 58.0**	**+0.7**
WB2				IAmb	IAmb	23 01 13.3	
	comp=Z,22nm,0.7s						
WRA	**Warramunga Arr**	**17.43**	**206**	P	**Pn**	**23 00 57.1**	**-0.2**
WRA	**Warramunga Arr**	**17.43**	**206**	P	**Pn**	**23 00 58.4**	**+1.1**
	comp=Z,11nm,0.6s,baz=22,slow=12,SNR=61						
WRA				S	**S**	**23 04 08.6**	**-1.7**
	comp=Z,1.1nm,0.9s,baz=24,slow=17,SNR=1.8						
KNRA	**Kununurra**	**17.56**	**229**	P	**Pn**	**23 00 59.5**	**+0.7**
KNRA				IAmb	IAmb	23 01 02.1	
	comp=Z,19nm,0.7s						
LUWI	**Luwuk**	**19.89**	**279**	P	Pn	23 01 24.9	-1.4
AS01	**Alice Springs**	**20.92**	**202**	P	**P**	**23 01 38.0**	**+4.0**
	comp=Z,11nm,0.9s						
AS31	**Alice Springs**	**20.94**	**202**		**P**	**23 01 35.6**	**+1.4**
AS31				IAmb	IAmb	23 01 44.5	
	comp=Z,2.5nm,0.6s						
ASAR	**Alice Springs**	**20.94**	**202**		**P**	**23 01 34.7**	**+0.5**
ASAR	**Alice Springs**	**20.94**	**202**	P	**P**	**23 01 36.4**	**+2.2**
	comp=Z,2.7nm,0.7s,baz=31,slow=10.0,SNR=18						
	comp=Z,2.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.40**	**229**	P	**P**	**23 01 40.9**	**+1.7**
TOLI2	**Tolitoli**	**22.28**	**283**	P	**P**	**23 01 49.8**	**+1.5**
TOLI2	**Tolitoli**	**22.28**	**283**	P	**P**	**23 01 49.9**	**+1.5**
TOLI2				IAmb	IAmb	23 01 58.1	
	comp=Z,6.9nm,0.8s						
OOD	**Oodnadatta**	**24.23**	**195**	P	**P**	**23 02 09.2**	**+3.1**
	comp=Z,16nm,0.8s						
WRKA	**Warakurna**	**24.69**	**212**	P	**P**	**23 02 13.4**	**+3.0**
	comp=Z,13nm,2.1s						
JAGI	**Jajag, Banyuwa**	**28.39**	**260**	P	P	23 02 46.7	+3.0
	comp=Z,28nm,1.7s						
FORT	**Forrest**	**29.62**	**206**	P	P	23 02 58.2	+3.9
	comp=Z,18nm,1.6s						
FORT	**Forrest**	**29.62**	**206**	P	P	23 02 58.4	+4.1
MKAR	**Makanchi Array**	**73.31**	**322**	P	**P**	**23 08 18.5**	**+0.2**
MKAR	**Makanchi Array**	**73.31**	**322**	P	P	23 08 19.9	+1.6
	comp=Z,0.9nm,0.7s,baz=103,slow=7.6,SNR=11						
	comp=Z,0.9nm,0.7s						
MAKZ	**Makanchi**	**73.52**	**321**	P	**P**	**23 08 19.9**	**+0.4**
VNDA	**Vanda**	**73.91**	**176**	P	**P**	**23 08 20.2**	**-1.0**
ZALV	**Zalesovo Beam**	**75.18**	**329**	P	**P**	**23 08 29.2**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=102,slow=6.1,SNR=4.5						
	comp=Z,0.9nm,0.6s						
BOOM	**Boomskoye usch**	**75.86**	**316**	P	**P**	**23 08 33.7**	**+0.4**
BOOM				IAmb	IAmb	23 08 34.8	
	comp=Z,3.1nm,1.3s						
KURBB	**Kurchatov Arra**	**77.17**	**324**	P	P	23 08 41.3	+1.1
	comp=Z,0.5nm,0.8s,baz=115,slow=6.4,SNR=4.1						
	comp=Z,0.5nm,0.8s						
KKAR	**Karatay Array**	**79.86**	**315**	P	**P**	**23 08 56.4**	**+1.2**
SVW2	**Sparrevohn**	**80.65**	**26**	P	P	23 09 01.9	+2.9
SVW2				IAmb	IAmb	23 09 04.5	
	comp=Z,17nm,1.2s						
L19K	**White Mountain**	**81.45**	**25**	P	**P**	**23 09 02.1**	**-1.2**
L19K				IAmb	IAmb	23 09 04.1	
	comp=Z,20nm,1.5s						
I20K	**Naaghedeneel**	**82.77**	**23**	P	**P**	**23 09 10.0**	**0.0**
BRVK	**Borovoye**	**82.81**	**325**	P	**P**	**23 09 10.4**	**0.0**
BRVK				IAmb	IAmb	23 09 13.1	
	comp=Z,4.0nm,1.2s						
E19K	**Redstone River**	**83.02**	**20**	P	P	23 09 12.6	+1.4
E19K				IAmb	IAmb	23 09 14.9	
	comp=Z,6.2nm,1.1s						
QSPA	**South Pole Qui**	**85.66**	**180**	P	**P**	**23 09 25.0**	**+0.2**
ILAR	**Eielson Array**	**85.75**	**24**	P	**P**	**23 09 25.0**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=262,slow=4.6,SNR=4.4						
	comp=Z,0.9nm,0.6s						

IDC 08 23:00:39.3±17.0, 6°.58S×112°.50E, h666km±180km, mb2.7/3, mbtmp4.0/4, Error ellipse: s-maj=305.8km s-min=224.6km az=133.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.38**	**78**	P	P	23 02 35.4	-0.2
	7.8nm,0.2s,baz=257,slow=6.6,SNR=1.9						
WRA	**Warramunga Arr**	**25.02**	**124**	P	P	23 05 14.8	-0.2
	0.7nm,0.5s,baz=304,slow=8.7,SNR=2.9						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**26.68**	**132**	P	P	23 05 29.6	+0.1
	0.9nm,0.4s,baz=304,slow=8.4,SNR=6.7						
	0.9nm,0.4s						
STKA	**Stephens Creek**	**37.02**	**137**	P	P	23 06 56.7	+0.5
	0.7nm,0.3s,baz=329,slow=13,SNR=3.6						
	0.7nm,0.3s						

*IDC **08** 23:16:42.2±1.5, 22°.95S×66°.01W, h234km±21km, mb3.5/1, mbtmp3.8/6, Error ellipse: s-maj=33.7km s-min=19.2km az=134.0*
*SJA **08** 23:16:43.1±0.7, 22°.65S×66°.18W, h268km±4km, ML3.9, MW3.8*
ISC 08 23:16:43.1±0.9, 22°.74S±0°.05×66°.31W±0°.05, h268km±8km, n34, σ1°40/56, 2C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.93**	**53**	*e*P	**Pn**	**23 17 20.3**	**0.0**
YJA				*e*S	S	23 17 47.1	-2.5
AZAP	**Zapla**	**1.86**	**143**	*e*P	**Pn**	**23 17 26.6**	**+0.4**
AZAP				*e*S	**S**	**23 17 58.9**	**-1.5**
SLA	**San Lorenzo**	**2.10**	**160**	*e*P	**Pn**	**23 17 29.4**	**+1.2**
SLA				*e*S	**S**	**23 18 04.4**	**+0.4**
ALOL	**LOMAS DE OLMED**	**2.39**	**117**	*e*P	Pn	23 17 30.5	-0.2
LVC	**Limon Verde**	**2.41**	**273**	*e*P	**Pn**	**23 17 32.5**	**+1.3**
LVC				*e*S	**S**	**23 18 09.4**	**+0.1**
LVC	**Limon Verde**	**2.41**	**273**	P	**Pn**	**23 17 32.5**	**+1.3**
	33nm,0.3s,baz=96,slow=5.5,SNR=93						
LVC				S	**S**	**23 18 08.8**	**-0.5**
	18nm,0.3s,baz=174,slow=15,SNR=21						
LVC	**Limon Verde**	**2.41**	**273**	⇑*i*P	**Pn**	**23 17 32.5**	**+1.3**
LVC				*i* S	**S**	**23 18 08.5**	**-0.8**
LVC				IAML		23 18 11.1	
	comp=Z,238nm,0.3s						
PB09	**IPOC Station P**	**2.88**	**289**	*e*P	**Pn**	**23 17 36.8**	**+1.1**
PB09				*e*S	**S**	**23 18 18.0**	**+0.7**
PB09				IAML		23 18 22.3	
	comp=Z,83nm,0.2s						
PB09	**IPOC Station P**	**2.88**	**289**	⇑*i*P	**Pn**	**23 17 37.4**	**+1.7**
PB09				*i* S	**S**	**23 18 17.1**	**-0.3**
PB09				IAML		23 18 21.8	
	comp=E,77nm,0.3s						
PB15	**IPOC Station P**	**2.95**	**260**	*e*P	**Pn**	**23 17 38.0**	**+1.5**
PB15				*e*S	**S**	**23 18 18.9**	**+0.1**
PB15	**IPOC Station P**	**2.95**	**260**	*e*P	**Pn**	**23 17 37.8**	**+1.3**
PB15				*i* S	**S**	**23 18 17.9**	**-0.9**
PB06	**IPOC Station P**	**3.01**	**270**	*e*P	**Pn**	**23 17 38.9**	**+1.8**
PB06				*e*S	**S**	**23 18 20.0**	**+0.1**
PB06				IAML		23 18 24.0	
	comp=Z,183nm,0.1s						
PB06	**IPOC Station P**	**3.01**	**270**	*e*P	**Pn**	**23 17 38.6**	**+1.5**
PB06				*i* S	**S**	**23 18 18.9**	**-1.1**
PB06				IAML		23 18 22.1	
	comp=E,268nm,0.2s						
FSA	**Cafayete**	**3.37**	**175**	*e*P	**Pn**	**23 17 42.2**	**+1.4**
FSA				*e*S	**S**	**23 18 24.3**	**-2.5**
PB04	**IPOC Station P**	**3.57**	**276**	*e*P	**Pn**	**23 17 44.5**	**+1.3**
PB04				*e*S	**S**	**23 18 29.8**	**-1.1**
PB04				IAML		23 18 32.1	
	comp=Z,192nm,0.3s						
PB04	**IPOC Station P**	**3.57**	**276**	*e*P	**Pn**	**23 17 44.4**	**+1.3**
PB04				*i* S	**S**	**23 18 28.9**	**-2.0**
PB10	**IPOC Station P**	**3.98**	**258**	*e*P	**Pn**	**23 17 49.2**	**+1.6**
PB10				*e*S	**S**	**23 18 36.9**	**-2.1**
PB10				IAML		23 18 40.1	
	comp=Z,104nm,0.4s						
PB10	**IPOC Station P**	**3.98**	**258**	*e*P	**Pn**	**23 17 48.9**	**+1.4**
PB10				*i* S	**S**	**23 18 36.7**	**-2.2**
PATCX	**Punta Patache**	**4.05**	**297**	*e*P	**Pn**	**23 17 49.3**	**+0.8**
PATCX				*e*S	**S**	**23 18 39.2**	**-1.4**
PATCX				IAML		23 18 43.4	
	comp=Z,74nm,0.5s						
PATCX	**Punta Patache**	**4.05**	**297**	*e*P	**Pn**	**23 17 49.5**	**+1.0**
GO01	**Chusmiza**	**4.07**	**318**	*e*P	**Pn**	**23 17 50.4**	**+1.2**
GO01				*e*S	**S**	**23 18 43.0**	**+1.2**
GO01	**Chusmiza**	**4.07**	**318**	*e*P	**Pn**	**23 17 50.7**	**+1.5**
GO01				*i* S	**S**	**23 18 41.5**	**-0.3**
HMBC	**Humberstone**	**4.14**	**306**	*e*P	**Pn**	**23 17 49.5**	**0.0**
PB14	**IPOC Station P**	**4.20**	**243**	*e*P	**Pn**	**23 17 51.7**	**+1.4**
PB14				*e*S	**S**	**23 18 41.3**	**-2.6**
PB14				IAML		23 18 45.0	
	comp=Z,216nm,0.3s						
TA01	**Diego Aracena**	**4.20**	**300**	*e*P	**Pn**	**23 17 51.0**	**+0.9**
TA01				*e*S	**S**	**23 18 40.8**	**-2.8**
TA01				IAML		23 18 42.2	
	comp=Z,70nm,0.3s						
PB11	**IPOC Station P**	**4.31**	**313**	*e*P	**Pn**	**23 17 51.5**	**0.0**
PB11				*e*S	**S**	**23 18 43.8**	**-2.3**
PB11				IAML		23 18 45.9	
	comp=Z,68nm,0.3s						
PB11	**IPOC Station P**	**4.31**	**313**	*e*P	**Pn**	**23 17 51.5**	**0.0**
AC01	**Pan de Azucar**	**5.17**	**228**	*e*P	**Pn**	**23 18 02.3**	**+0.7**
AC01				*e*S	**S**	**23 19 03.0**	**-1.4**
AC01				IAML		23 19 03.8	
	comp=Z,62nm,0.2s						
LPAZ	**La Paz**	**6.65**	**345**	P	**Pn**	**23 18 21.9**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=162,slow=9.0,SNR=8.4						
LPAZ				S	**S**	**23 19 35.6**	**-2.8**
	comp=Z,1.3nm,0.7s,baz=165,slow=17,SNR=3.9						
SIV	**San Ignacio**	**8.34**	**37**	P	Pn	23 18 39.1	-1.7
	comp=Z,4.9nm,0.6s,baz=229,slow=6.9,SNR=21						
PLCA	**Paso Flores**	**18.29**	**190**	P	**P**	**23 20 36.9**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=15,slow=12,SN

*BEO **08** 23:40:30.3±0.3, 42°.36N×18°.94E, h5km±1km, ML2.2/13*
ISC 08 23:40:29.8±0.8, 42°.36N±0°.02×18°.95E±0°.02, h16km±5km, n48, σ1§02/81, 6C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUM	**Brajici-Budva**	**0.07**	**217**	⇑*i*Pg	**Pg**	**23 40 32.7**	**-0.2**
BUM				*i* Sg	**Sg**	**23 40 35.2**	**+0.2**
CEME	**Cevo**	**0.19**	**353**	⇓*i*Pg	**Pb**	**23 40 34.1**	**-0.9**
CEME				*i* Sg	**Sg**	**23 40 37.9**	**+0.3**
PDG	**Podgorica**	**0.24**	**72**	*e*Pg	**Pg**	**23 40 34.7**	**-0.4**
PDG				*e*Sg	**Sg**	**23 40 38.5**	**-0.2**
PDG	**Podgorica**	**0.24**	**72**	⇑*i*Pg	**Pg**	**23 40 34.7**	**-0.4**
PDG				*i* Sg	**Sg**	**23 40 39.0**	**+0.3**
DRME	**Dracevica, Mon**	**0.24**	**134**	*e*Pg	**Pg**	**23 40 34.9**	**-0.3**
DRME				*e*Sg	**Sg**	**23 40 38.7**	**-0.1**
DRME	**Dracevica, Mon**	**0.24**	**134**	⇑*i*Pg	**Pg**	**23 40 34.7**	**-0.5**
DRME				*i* Sg	**Sg**	**23 40 39.1**	**+0.3**
NKME	**Niksic**	**0.41**	**0**	⇑*i*Pg	**Pb**	**23 40 37.8**	**-0.9**
NKME				*i* Sg	**Sb**	**23 40 44.5**	**-0.3**
TREB	**Trebinje**	**0.57**	**309**	*e*Pg	**Pb**	**23 40 40.6**	**-0.8**
TREB				*e*Sg	**Sb**	**23 40 50.0**	**+0.7**
BRY	**Bratogost**	**0.62**	**331**	⇓*i*Pg	**Pb**	**23 40 41.5**	**-0.9**
BRY				*i* Sg	**Sb**	**23 40 51.8**	**+0.8**
KOME	**Kolasin**	**0.65**	**40**	*e*Pg	**Pb**	**23 40 42.1**	**-0.7**
KOME				*e*Sg	**Sb**	**23 40 52.1**	**+0.5**
KOME	**Kolasin**	**0.65**	**40**	⇑*i*Pg	**Pg**	**23 40 41.8**	**-0.7**
KOME				*i* Sg	**Sb**	**23 40 52.1**	**+0.5**
DBRK	**Dubrovnik**	**0.67**	**298**	*e*Pg	**Pg**	**23 40 42.0**	**-0.9**
DBRK				Sg	**Sn**	**23 40 53.8**	**-1.0**
PUK	**Puka**	**0.77**	**114**	P	**Pg**	**23 40 43.9**	**-0.8**
	baz=117						
PUK				S	**Sb**	**23 40 56.0**	**+1.0**
	baz=117						
PUK				AMP			
	comp=N,0.9nm,0.1s,baz=117						
PVY	**Plav**	**0.78**	**72**	⇑*i*Pg	**Pg**	**23 40 44.2**	**-0.8**
PVY				*i* Sg	**Sb**	**23 40 56.4**	**+0.9**
BCI	**Bajram Curri**	**0.83**	**89**	P	**Pg**	**23 40 45.0**	**-0.9**
	baz=93						
BCI				S	**Sb**	**23 40 57.0**	**+0.2**
	baz=93						
BCI				AMP			
	comp=E,0.7nm,0.2s,baz=93						
UPM	**Unac-Piva**	**0.85**	**358**	⇓*i*Pg	**Pg**	**23 40 45.1**	**-1.2**
UPM				*i* Sg	**Sn**	**23 40 58.3**	**-1.2**
IVA	**Berane**	**0.87**	**53**	⇓*i*Pg	**Pb**	**23 40 46.5**	**0.0**
IVA				*i* Sg	**Sn**	**23 40 58.8**	**-1.0**
PLE	**Pljevlja**	**1.02**	**18**	⇓*i*Pg	**Pb**	**23 40 48.7**	**-0.5**
PLE				*i* Sg	**Sn**	**23 41 03.6**	**-0.2**
STON	**Ston**	**1.06**	**300**	*e*Pg	**Pb**	**23 40 48.5**	**-1.2**
STON				*e*Sg	**Sg**	**23 41 03.0**	**-1.0**
STON	**Ston**	**1.06**	**300**	*e*Pg	**Pb**	**23 40 48.4**	**-1.2**
STON				Sg	**Sn**	**23 41 05.7**	**+1.4**
SJES	**Sjenica**	**1.18**	**39**	*e*Pg	**Pg**	**23 40 52.4**	**-0.1**
SJES				*e*Sg	**Sn**	**23 41 08.2**	**+0.7**
TIR	**Tirane**	**1.22**	**146**	P	**Pg**	**23 40 52.6**	**-0.6**
	baz=146						
TIR				S	**Sg**	**23 41 10.4**	**+1.3**
	baz=146						
TIR				AMP			
	comp=E,0.3nm,0.7s,baz=146						
IVAS	**Ivanjica**	**1.50**	**35**	*e*Pn	**Pg**	**23 40 57.6**	**-1.1**
IVAS				*e*Sn	**Sg**	**23 41 17.9**	**-0.4**
BBLS	**Lazi&#263i**	**1.54**	**12**	*e*Pg	**Pg**	**23 40 59.3**	**-0.2**
BBLS				*e*Sg	**Sg**	**23 41 19.4**	**-0.2**
MAKA	**Makarska**	**1.70**	**304**	*e*Pn	**Pb**	**23 40 59.9**	**-0.7**
HAPS	**Han Pijesak,BI**	**1.73**	**0**	*e*Pn	**Pg**	**23 41 02.1**	**-0.9**
HAPS				*e*Sn	**Sg**	**23 41 24.4**	**-1.1**
RICI	**Ricice**	**1.75**	**311**	*e*Pn	**Pb**	**23 41 00.9**	**-0.7**
DIVS	**Divibare**	**1.90**	**23**	*e*Pn	**Pb**	**23 41 03.2**	**-0.9**
DIVS				*e*Sn	**Sb**	**23 41 27.7**	**0.0**
GRUS	**Gruza**	**2.00**	**40**	*e*Pn	**Pb**	**23 41 05.0**	**-0.8**
GRUS				*e*Sn	**Sb**	**23 41 30.6**	**+0.1**
HVAR	**Hvar**	**2.02**	**295**	*e*Pn	**Pn**	**23 41 03.9**	**+0.7**
NOCI	**Noci**	**2.11**	**223**	P	**Pn**	**23 41 03.6**	**-0.9**
	baz=222						
TRUS	**Trudelj**	**2.15**	**29**	*e*Pn	**Pb**	**23 41 07.1**	**-1.2**
KBN	**Korca**	**2.21**	**141**	P	**Pb**	**23 41 08.5**	**-0.9**
	baz=141						
KBN				S	**Sb**	**23 41 36.8**	**+0.1**
	baz=141						
KBN				AMP			
	comp=N,0.1nm,0.7s,baz=141						
TEKS	**Tekeris**	**2.23**	**11**	*e*Pn	**Pn**	**23 41 06.7**	**+0.6**
TEKS				*e*Sn	**Sn**	**23 41 34.8**	**+1.4**
PRVS	**Prvonek**	**2.32**	**85**	*e*Pn	**Pb**	**23 41 09.6**	**-1.6**
PRVS				*e*Sn	**Sb**	**23 41 38.2**	**-1.4**
FNA	**Florina**	**2.40**	**130**	P	**Pn**	**23 41 10.5**	**+2.0**
	baz=130						
FNA				S	**Sb**	**23 41 42.2**	**+0.1**
	baz=130						
FNA				AMP			
	comp=N,0.0nm,0.5s,baz=130						
FNA	**Florina**	**2.40**	**130**	*e*Pn	**Pb**	**23 41 11.1**	**-1.6**
FNA				*e*Sn	**Sb**	**23 41 41.6**	**-0.5**
SGRT	**San Giovanni R**	**2.46**	**257**	P	**Pn**	**23 41 10.2**	**+0.8**
	baz=256						
ZIRJ	**Zirje**	**2.75**	**299**	*i* Pn	**Pn**	**23 41 14.8**	**+1.5**
ZAGS	**Zajecar**	**2.81**	**58**	*e*Pn	**Pn**	**23 41 15.0**	**+1.0**
MORI	**Morici**	**2.81**	**304**	*e*Pn	**Pn**	**23 41 16.2**	**+2.2**
KUBS	**Kucevo**	**2.86**	**43**	*e*Pn	**Pn**	**23 41 16.0**	**+1.3**
FRGS	**Fruska Gora**	**2.87**	**12**	*e*Pn	**Pn**	**23 41 16.3**	**+1.4**
UDBI	**Udbina**	**3.18**	**314**	*e*Pn	**Pn**	**23 41 21.7**	**+2.5**
DUGI	**Dugi Otok**	**3.28**	**301**	*e*Pn	**Pn**	**23 41 22.0**	**+1.5**
VIRC	**Vir**	**3.44**	**306**	*e*Pn	**Pn**	**23 41 23.8**	**+1.2**
VIRC				Sn	**Sn**	**23 42 05.6**	**+2.5**
NVLJ	**Novalja**	**3.70**	**308**	*e*Pn	**Pn**	**23 41 27.4**	**+1.2**
BZS	**Buzias**	**3.79**	**30**	*e*Pn	**Pn**	**23 41 28.8**	**+1.4**

*IDC **08** 23:43:35.1±0.9, 42°.37S×173°.29E, h0km, mb3.6/4, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=30.3km s-min=24.8km az=94.0*
*NOU **08** 23:43:36.6, 42°.68S×173°.50E, h3km, MLv4.6/10, South Island, New Zealand*
*WEL **08** 23:43:38.8±0.5, 43°.2±4°.×17°.3E±°, h8km±3km, M4.3/11, ML4.5/11, MLv4.3/11, Error ellipse: s-maj=0.0km s-min=0.0km az=136.3, confirmed*
*NEIC **08** 23:43:38.2±1.1, 42°.60S±0°.02×173°.44E±0°.03, h20km±6km, Mwr4.0/25, Error ellipse: s-maj=3.5km s-min=2.0km az=46.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.34; $M_{\theta\theta}$-1.06; $M_{\phi\phi}$-0.28; $M_{r\theta}$-0.14; $M_{\theta\phi}$-0.62; $M_{\phi r}$-0.23; Fault plane solution: $M_0$1.40000×10^{15} NP1:ϕ_s235.29000°, δ50.10000°, λ82.18000°. NP2: ϕ_s67.37000°, δ40.53000°, λ99.24000°. Principal axes: T 1.3733, Plg82.0000°, Azm99.0000°; N 0.0488, Plg6.0000°, Azm240.0000°; P -1.4221, Plg5.0000°, Azm331.0000°;*
*NEIC **08** 23:43:38.8, 42°.51S×173°.33E, h14km*
*WEL **08** 23:43:39.1, 42°.51S×173°.30E, h15km, ML4.4, Mw3.9, Moment Tensor Solution. s5 Moment tensor: M_{rr}14.53; $M_{\theta\theta}$77.91; $M_{\phi\phi}$-92.44; $M_{r\theta}$4.27; $M_{\theta\phi}$2.78; $M_{\phi r}$-40.33; Fault plane solution: NP1:ϕ_s134.00000°, δ74.00000°, λ-11.00000°. NP2:ϕ_s227.00000°, δ80.00000°, λ-164.00000°. Principal axes: T -106.0300, Plg4.0000°, Azm360.0000°; N 78.2000, Plg71.0000°, Azm257.0000°; P 27.8400, Plg19.0000°, Azm91.0000°; SOUTH ISLAND*
ISC 08 23:43:38.0±0.8, 42°.57S±0°.02×173°.38E±0°.02, h18km±5km, n178, σ1§57/200, mb3.6/4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.20**	**37**	P	**Pb**	**23 43 42.0**	**-1.1**
KHZ	**Kahutara**	**0.20**	**37**		**Pg**	**23 43 42.9**	**0.0**
KHZ				Sg	**Sg**	**23 43 46.0**	**0.0**
KHZ	**Kahutara**	**0.20**	**37**	P	**Pg**	**23 43 42.8**	**0.0**
KHZ				S	**Sg**	**23 43 46.1**	**0.0**
WTMC	**Te Mara Farm W**	**0.25**	**259**	P	**Pg**	**23 43 43.8**	**+0.2**
WTMC				S	**Sb**	**23 43 48.2**	**+0.3**
CECS	**Cheviot Emerge**	**0.25**	**198**	P	**Pn**	**23 43 45.5**	**-1.4**
KIKS	**Kaikoura**	**0.27**	**57**	P	**Pb**	**23 43 45.1**	**+0.8**
KIKS				S	**Sb**	**23 43 50.3**	**+1.7**
HSES	**Hanmer Springs**	**0.41**	**277**	P	**Pg**	**23 43 46.2**	**-0.3**
HSES				S	**Sg**	**23 43 52.0**	**-0.2**
WIGC	**Waiau Gorge**	**0.45**	**253**	P	**Pg**	**23 43 46.3**	**-0.8**
WIGC				S	**Sg**	**23 43 53.1**	**-0.2**
CULC	**Culverden Airl**	**0.47**	**246**	P	**Pg**	**23 43 47.2**	**-0.3**
CULC				S	**Sb**	**23 43 54.6**	**+0.3**
GVZ	**Greta Valley S**	**0.47**	**213**	Sg	**Sn**	**23 43 56.6**	**-1.3**
GVZ	**Greta Valley S**	**0.47**	**213**	P	**Pn**	**23 43 49.2**	**-0.7**
GVZ				S	**Sn**	**23 43 57.6**	**-0.2**
MOLW	**Molesworth Sta**	**0.49**	**349**	P	**Pg**	**23 43 47.0**	**-1.0**
MOLW				S	**Sg**	**23 43 53.9**	**-0.8**
SCAC	**Scargill**	**0.50**	**223**	P	**Pg**	**23 43 47.9**	**-0.1**
SCAC				S	**Sb**	**23 43 56.7**	**+1.5**
WAKC	**Waikari**	**0.63**	**232**	P	**Pn**	**23 43 51.6**	**-0.6**
WAKC				S	**Sn**	**23 44 01.3**	**-0.5**
KEKS	**Kekerengu Vall**	**0.76**	**36**	P	**Pn**	**23 43 54.2**	**+0.2**
KEKS				S	**Sn**	**23 44 05.7**	**+0.7**
AMCZ	**Amberley**	**0.81**	**221**		**Pn**	**23 43 54.8**	**+0.2**
AMCZ					**Sn**	**23 44 07.0**	**+0.9**
AMCZ	**Amberley**	**0.81**	**221**	P	**Pn**	**23 43 54.8**	**+0.2**
LTZ	**Lake Taylor**	**0.84**	**255**	Pg	**Pb**	**23 43 54.4**	**+0.2**
LTZ				Sg	**Sb**	**23 44 05.6**	**+0.3**
LTZ	**Lake Taylor**	**0.84**	**255**	P	**Pb**	**23 43 54.5**	**+0.2**
LTZ				S	**Sg**	**23 44 06.1**	**+0.4**
THZ	**Tophouse**	**0.88**	**336**	Pg	**Pb**	**23 43 54.2**	**-0.7**
THZ	**Tophouse**	**0.88**	**336**	P	**Pb**	**23 43 54.3**	**-0.7**
THZ				S	**Sb**	**23 44 05.5**	**-0.9**
BSWZ	**Blackbirch Sta**	**0.93**	**23**		**Pb**	**23 43 55.7**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.93**	**23**	P	**Pb**	**23 43 55.8**	**+0.1**
BSWZ				S	**Sn**	**23 44 10.8**	**+1.6**
CMWZ	**Cape Campbell**	**1.03**	**37**		**Pg**	**23 43 58.1**	**+0.1**
CMWZ	**Cape Campbell**	**1.03**	**37**	P	**Pg**	**23 43 58.7**	**+0.7**
OKCZ	**Okains Bay**	**1.17**	**191**	P	**Pb**	**23 44 00.1**	**+0.3**
TUWZ	**Tuamarina**	**1.22**	**20**		**Pb**	**23 44 00.5**	**-0.1**
TUWZ	**Tuamarina**	**1.22**	**20**	P	**Pb**	**23 44 00.7**	**+0.1**
TUWZ				S	**Sg**	**23 44 18.2**	**+0.8**
OXZ	**Oxford**	**1.24**	**232**		**Pn**	**23 44 00.3**	**-0.2**
OXZ	**Oxford**	**1.24**	**232**	P	**Pn**	**23 44 00.3**	**-0.2**
MQZ	**McQueen's Vall**	**1.25**	**205**		**Pn**	**23 44 00.3**	**-0.3**
MQZ	**McQueen's Vall**	**1.25**	**205**	P	**Pn**	**23 43 60.0**	**-0.7**
MRNZ	**Matariki Terra**	**1.26**	**338**		**Pn**	**23 44 00.7**	**-0.1**
MRNZ	**Matariki Terra**	**1.26**	**338**	P	**Pn**	**23 44 00.9**	**+0.1**
MRNZ				S	**Sg**	**23 44 19.5**	**+0.6**
AKCZ	**Akaroa Harbour**	**1.34**	**195**	P	**Pn**	**23 44 01.8**	**-0.1**
NNZ	**Nelson**	**1.36**	**360**		**Pb**	**23 44 02.7**	**-0.2**
NNZ	**Nelson**	**1.36**	**360**	P	**Pn**	**23 44 02.3**	**+0.3**
DSZ	**Denniston Nort**	**1.44**	**305**		**Pn**	**23 44 03.4**	**+0.1**
DSZ	**Denniston Nort**	**1.44**	**305**	P	**Pn**	**23 44 03.5**	**+0.3**
INZ	**Inchbonnie**	**1.44**	**263**	Pn	**Pn**	**23 44 03.8**	**+0.6**
INZ	**Inchbonnie**	**1.44**	**263**	P	**Pn**	**23 44 03.8**	**+0.6**
RACZ	**Rakaia**	**1.47**	**218**	P	**Pn**	**23 44 03.2**	**-0.4**
TCW	**Tory Channel**	**1.52**	**26**		**Pn**	**23 44 04.3**	**0.0**
TCW	**Tory Channel**	**1.52**	**26**	P	**Pn**	**23 44 04.4**	**+0.1**
TKNZ	**Takaka Hill**	**1.57**	**348**		**Pn**	**23 44 05.4**	**+0.3**
TKNZ	**Takaka Hill**	**1.57**	**348**	P	**Pb**	**23 44 05.9**	**-0.7**
SNZO	**South Karori**	**1.60**	**38**	P	**Pn**	**23 44 05.7**	**+0.2**
SNZO	**South Karori**	**1.60**	**38**		**Pn**	**23 44 05.5**	**+0.1**
BHW	**Baring Head**	**1.61**	**44**		**Pn**	**23 44 05.3**	**-0.3**
BHW	**Baring Head**	**1.61**	**44**	P	**Pn**	**23 44 05.5**	**-0.1**
MHCZ	**Mount Hutt**	**1.64**	**234**	P	**Pn**	**23 44 05.7**	**-0.3**
WEL	**Wellington**	**1.65**	**39**	P	**Pn**	**23 44 06.6**	**+0.5**
PLWZ	**Palliser**	**1.72**	**55**		**Pn**	**23 44 06.7**	**-0.5**
PLWZ	**Palliser**	**1.72**	**55**	P	**Pn**	**23 44 06.5**	**-0.6**
WACZ	**Wakanui South**	**1.77**	**219**	P	**Pn**	**23 44 07.6**	**-0.2**
MSWZ	**Moikau Station**	**1.81**	**51**		**Pn**	**23 44 07.7**	**-0.6**
MSWZ	**Moikau Station**	**1.81**	**51**	P	**Pn**	**23 44 07.8**	**-0.6**
DUWZ	**D'Urville Isla**	**1.82**	**13**	P	**Pn**	**23 44 09.4**	**+1.0**
QRZ	**Quartz Range**	**1.86**	**340**	P	**Pb**	**23 44 10.3**	**-1.2**
QRZ	**Quartz Range**	**1.86**	**340**		**Pn**	**23 44 09.2**	**+0.2**
QRZ	**Quartz Range**	**1.86**	**340**	P	**Pn**	**23 44 10.2**	**+1.2**
PAWZ	**Paruwai Farm**	**1.94**	**53**	P	**Pn**	**23 44 09.3**	**-0.8**
RPZ	**Rata Peaks**	**2.05**	**235**	P	**Pn**	**23 44 11.9**	**+0.2**
RPZ	**Rata Peaks**	**2.05**	**235**	Pn	**Pn**	**23 44 11.4**	**-0.3**
RPZ	**Rata Peaks**	**2.05**	**235**	Pn	**Pn**	**23 44 11.5**	**-0.2**
	96nm,0.3s,baz=105,slow=20,SNR=60						
RPZ				Sn	**Sn**	**23 44 36.0**	**-0.9**
	38nm,0.3s,baz=338,slow=22,SNR=15						
	627nm,0.4s						
RPZ	**Rata Peaks**	**2.05**	**235**	P	**Pn**	**23 44 11.4**	**-0.3**
KIW	**Kapiti Island**	**2.06**	**34**	P	**Pn**	**23 44 12.0**	**+0.2**
TRWZ	**Traveller**	**2.08**	**56**	P	**Pn**	**23 44 12.0**	**-0.1**
ARCZ	**Arundel**	**2.12**	**229**	P	**Pn**	**23 44 12.4**	**-0.2**
MTW	**Mount Morrison**	**2.12**	**49**	P	**Pn**	**23 44 11.8**	**-0.9**
OGWZ	**Otaki Gorge**	**2.21**	**38**	P	**Pn**	**23 44 13.6**	**-0.2**
HOWZ	**Holdsworth Sta**	**2.31**	**44**	P	**Pn**	**23 44 14.5**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.36**	**251**	P	**Pn**	**23 44 17.2**	**+1.2**
TMWZ	**Te Maipa**	**2.38**	**53**	P	**Pn**	**23 44 15.0**	**-1.3**
TMZ	**Timaru**	**2.50**	**223**	P	**Pn**	**23 44 17.7**	**-0.2**
MRZ	**Mangatainoka R**	**2.52**	**41**	Pn	**Pn**	**23 44 17.4**	**-0.7**
MRZ	**Mangatainoka R**	**2.52**	**41**	P	**Pn**	**23 44 17.5**	**-0.7**
OHWZ	**Ohakea**	**2.78**	**32**	P	**Pb**	**23 44 26.5**	**-0.6**
FOZ	**Fox Glacier**	**2.78**	**249**	Pn	**Pn**	**23 44 23.0**	**+1.3**
FOZ	**Fox Glacier**	**2.78**	**249**	P	**Pn**	**23 44 23.3**	**+1.6**
PRWZ	**Pori Road**	**2.80**	**45**	P	**Pb**	**23 44 25.0**	**-2.5**
POWZ	**Post Office Ro**	**2.82**	**40**	P	**Pn**	**23 44 21.9**	**-0.4**
BFZ	**Birch Farm**	**2.86**	**50**		**Pn**	**23 44 23.1**	**+0.3**
LBZ	**Lake Benmore**	**2.95**	**231**		**Pn**	**23 44 24.1**	**+0.1**
LBZ	**Lake Benmore**	**2.95**	**231**	P	**Pn**	**23 44 24.2**	**+0.2**
WAZ	**Wanganui**	**3.07**	**24**	P	**Pb**	**23 44 29.7**	**-2.3**
DVHZ	**Dannevirke**	**3.09**	**44**	P	**Pn**	**23 44 28.3**	**+2.3**
ANWZ	**Angora Road**	**3.14**	**49**	P	**Pn**	**23 44 26.1**	**-0.5**
ANWZ	**Angora Road**	**3.14**	**49**	P	**Sn**	**23 45 02.5**	**-1.1**
ODZ	**Otahua Downs**	**3.17**	**218**	P	**Pn**	**23 44 26.6**	**-0.4**
ODZ	**Otahua Downs**	**3.17**	**218**		**Pn**	**23 44 27.3**	**+0.3**
ODZ	**Otahua Downs**	**3.17**	**218**	P	**Pn**	**23 44 26.5**	**-0.5**
TSZ	**Takapari Road**	**3.18**	**39**	P	**Pn**	**23 44 26.7**	**-0.4**
NMEZ	**Namu Road**	**3.18**	**7**	P	**Pb**	**23 44 31.5**	**-2.5**
PREZ	**Palmer Road**	**3.28**	**11**	P	**Pb**	**23 44 32.8**	**-3.0**
KHEZ	**Kahui Hut**	**3.31**	**9**	P	**Pb**	**23 44 33.3**	**-3.0**
NBEZ	**Newall Road No**	**3.32**	**7**	P	**Pn**	**23 44 32.5**	**+3.3**
NEZ	**North Egmont**	**3.34**	**10**	P	**Pb**	**23 44 35.0**	**-1.8**
PNHZ	**Pukenui**	**3.40**	**40**	P	**Pn**	**23 44 29.0**	**-1.2**
WPHZ	**Waipukurau**	**3.41**	**44**	P	**Pn**	**23 44 32.0**	**+1.7**
PKE	**Pukeiti**	**3.41**	**8**	P	**Pn**	**23 44 32.6**	**+2.3**
DREZ	**Durham Road**	**3.44**	**11**	P	**Pb**	**23 44 35.2**	**-3.2**
MTVZ	**Mangateitei**	**3.56**	**27**	P	**Pb**	**23 44 42.1**	**+1.6**
VRZ	**Vera Road**	**3.60**	**17**	P	**Pn**	**23 44 35.3**	**+2.3**
MOVZ	**Moawhango**	**3.64**	**30**	P	**Pn**	**23 44 34.0**	**+0.4**
PXZ	**Pawanui**	**3.65**	**47**	P	**Pn**	**23 44 33.6**	**-0.1**
WNVZ	**Wahianoa**	**3.65**	**28**	P	**Pn**	**23 44 35.0**	**+1.1**
TRVZ	**Turoa**	**3.66**	**27**	P	**Pn**	**23 44 36.9**	**+2.9**
WHVZ	**Whangaehu Hut**	**3.69**	**28**	P	**Pb**	**23 44 39.2**	**-3.6**
MAVZ	**Matarangi**	**3.69**	**27**	P	**Pb**	**23 44 41.2**	**-1.8**
KRHZ	**Kereru**	**3.70**	**39**	P	**Pn**	**23 44 32.9**	**-1.5**
FWVZ	**Far West T-bar**	**3.70**	**27**	P	**Pn**	**23 44 37.8**	**+3.2**
TUVZ	**Tukino**	**3.73**	**28**	P	**Pb**	**23 44 39.2**	**-4.2**
COVZ	**Chateau Observ**	**3.75**	**27**	P	**Pb**	**23 44 43.9**	**+0.2**
NGZ	**Ngauruhoe**	**3.79**	**27**	P	**Pb**	**23 44 42.8**	**-1.6**
SNVZ	**South Ngauruho**	**3.79**	**28**	P	**Pb**	**23 44 44.6**	**+0.1**
OTVZ	**Oturere**	**3.82**	**28**	P	**Pn**	**23 44 39.9**	**+3.7**
KAHZ	**Kahuranaki**	**3.83**	**45**	P	**Pn**	**23 44 37.8**	**+1.6**
NNVZ	**North Ngauruho**	**3.83**	**27**	P	**Pb**	**23 44 44.4**	**-0.8**
WTVZ	**West Tongariro**	**3.84**	**27**	P	**Pb**	**23 44 41.5**	**-3.8**
ETVZ	**East Tongariro**	**3.86**	**28**	P	**Pn**	**23 44 41.0**	**+4.3**
HHSZ	**Highcliff Hill**	**3.87**	**210**	P	**Pn**	**23 44 36.2**	**-0.4**
KRVZ	**Karewarewa**	**3.88**	**27**	P	**Pb**	**23 44 42.2**	**-3.7**
TMVZ	**Te Maari**	**3.88**	**28**	P	**Pn**	**23 44 41.3**	**+4.4**
NTVZ	**North Tongarir**	**3.88**	**27**	P	**Pb**	**23 44 45.7**	**-0.4**
WKZ	**Waraka**	**3.88**	**233**	Pn	**Pn**	**23 44 36.8**	**-0.1**
WKZ	**Waraka**	**3.88**	**233**	P	**Pn**	**23 44 40.3**	**+3.4**
KWHZ	**Kaweka Forest**	**3.90**	**37**	P	**Pb**	**23 44 47.9**	**+1.6**
EAZ	**Earnscleugh**	**3.96**	**227**	P	**Pn**	**23 44 37.7**	**-0.2**
KATZ	**Kakaramea**	**4.00**	**27**	P	**Pb**	**23 44 49.2**	**+1.1**
RITZ	**Rihia Road**	**4.05**	**28**	P	**Pb**	**23 44 51.9**	**+2.9**
RATZ	**Rangitukua**	**4.12**	**27**	P	**Pb**	**23 44 51.9**	**+1.8**
BKZ	**Black Stump Fm**	**4.14**	**36**	P	**Pn**	**23 44 40.6**	**+0.1**
BKZ	**Black Stump Fm**	**4.14**	**36**	Pn	**Pn**	**23 44 39.1**	**-1.4**
BKZ	**Black Stump Fm**	**4.14**	**36**	P	**Pn**	**23 44 39.0**	**-1.5**
HIZ	**Hauiti**	**4.21**	**16**	P	**Pn**	**23 44 43.2**	**+1.9**
HIZ	**Hauiti**	**4.21**	**16**	Pn	**Pn**	**23 44 41.2**	**-0.1**
HIZ	**Hauiti**	**4.21**	**16**	P	**Pn**	**23 44 42.8**	**+1.5**
HATZ	**Hinemaiaia**	**4.22**	**30**	P	**Pb**	**23 44 54.7**	**+3.0**
WATZ	**Wairara**	**4.26**	**26**	P	**Pb**	**23 44 53.9**	**+1.5**
TUZ	**Tuapeka**	**4.32**	**217**	P	**Pn**	**23 44 42.6**	**-0.2**
NMHZ	**Naumai**	**4.34**	**38**	P	**Pb**	**23 44 56.6**	**+2.8**
KUTZ	**Kaahu Road**	**4.48**	**25**	P	**Pb**	**23 44 59.2**	**+3.0**
MTHZ	**Maungataniwha**	**4.55**	**36**	P	**Pn**	**23 44 50.0**	**+3.9**
MLZ	**Mavora Lakes**	**4.71**	**232**		**Pn**	**23 44 48.0**	**-0.3**
MLZ	**Mavora Lakes**	**4.71**	**232**	P	**Pn**	**23 44 52.6**	**+4.3**
RTZ	**Ruatahuna**	**4.81**	**36**		**Pn**	**23 44 49.5**	**-0.1**
KNZ	**Kokohu**	**4.82**	**44**	P	**Pn**	**23 44 48.1**	**-1.6**
SYZ	**Scrubby Hill**	**4.99**	**216**	P	**Pn**	**23 44 52.3**	**+0.3**
SYZ	**Scrubby Hill**	**4.99**	**216**	P	**Pn**	**23 44 52.1**	**+0.1**
PRGZ	**Paritu Road**	**5.00**	**45**	P	**Pn**	**23 44 51.0**	**-1.3**
WHZ	**Wether Hill Ro**	**5.12**	**228**	Pn	**Pn**	**23 44 53.9**	**0.0**
URZ	**Urewera**	**5.16**	**35**	P	**Pn**	**23 44 54.7**	**+0.3**
URZ	**Urewera**	**5.16**	**35**	Pn	**Pn**	**23 44 52.7**	**-1.7**
	1.3nm,0.3s,baz=242,slow=20,SNR=1.7						
URZ				Sn	**Sn**	**23 45 48.4**	**-5.2**
	17nm,0.3s,baz=170,slow=17,SNR=11						
	17nm,0.7s						
URZ	**Urewera**	**5.16**	**35**	P	**Pn**	**23 44 57.4**	**+3.0**
MWZ	**Matawai**	**5.29**	**38**	P	**Pn**	**23 44 53.9**	**-2.2**
MWZ				S	**Sn**	**23 45 53.6**	**-3.1**
DCZ	**Deep Cove**	**5.34**	**235**	Pn	**Pn**	**23 44 58.0**	**+1.2**
AWAZ	**Awhitu Peninsu**	**5.59**	**10**	P	**Pn**	**23 45 01.8**	**+1.6**
TWGZ	**Tauwhareparae**	**5.62**	**40**	P	**Pn**	**23 45 01.4**	**+0.6**
MKAZ	**Moumakai**	**5.63**	**15**	P	**Pn**	**23 45 01.7**	**+0.8**
WTAZ	**Waiatarua**	**5.71**	**10**	P	**Pn**	**23 45 03.9**	**+1.9**
ETAZ	**East Tamaki Re**	**5.74**	**12**	P	**Pn**	**23 45 03.9**	**+1.5**
MBAZ	**Motutapu North**	**5.91**	**12**	P	**Pn**	**23 45 06.3**	**+1.6**
WCZ	**Waipu Caves**	**6.67**	**7**	P	**Pn**	**23 45 17.5**	**+2.4**
OUZ	**Omahuta**	**7.34**	**1**	P	**Pn**	**23 45 27.0**	**+2.6**
OUZ	**Omahuta**	**7.34**	**1**	P	**Pn**	**23 45 27.1**	**+2.6**
ASAR	**Alice Springs**	**37.64**	**287**	P	**P**	**23 50 51.1**	**-1.0**
	0.4nm,0.5s,baz=125,slow=7.3,SNR=5.7						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**39.80**	**292**	P	**P**	**23 51 08.7**	**-1.5**
	0.5nm,0.7s,baz=128,slow=8.2,SNR=1.7						
	0.5nm,0.7s						
QSPA	**South Pole Qui**	**47.55**	**180**	P	**P**	**23 52 14.8**	**+2.6**
	0.6nm,0.8s,baz=2.7,slow=12,SNR=1.4						
	0.6nm,0.8s						
SNAA	**Sanae**	**66.03**	**181**	P	**P**	**

CADE				S	Sn	23 54 36.9	-1.5
CRAJ	**Montana Rajada**	**3.26**	**134**	P	Pn	**23 54 03.3**	**+3.4**
CRAJ				⇑*i*Vmb_V		23 54 03.8	
	564nm,SNR=0.9						
CRAJ				S	Sn	23 54 36.6	-2.5
CDIE	**La Orotava (Te**	**3.27**	**133**	P	Pn	**23 54 03.0**	**+2.9**
CDIE				S	Sn	23 54 36.5	-2.7
CCAN	**Las Canadas**	**3.29**	**134**	P	Pn	**23 54 02.9**	**+2.6**
CCAN				⇑*i*Vmb_V		23 54 04.8	
	386nm,SNR=1.1						
CCAN				S	Sn	23 54 36.1	-3.5
CVIL	**Vilaflor**	**3.31**	**135**	P	Pn	**23 54 03.4**	**+2.9**
CVIL				S	Sn	23 54 36.5	-3.5
CGUI	**Guimar, Teneri**	**3.32**	**131**	P	Pn	**23 54 03.6**	**+3.0**
CGUI				⇑*i*Vmb_V		23 54 03.9	
	498nm,SNR=1.1						
CGUI				S	Sn	23 54 38.5	-1.7
MACI	**Morro de la Ar**	**3.33**	**133**	P	Pn	**23 54 03.9**	**+3.1**
MACI				⇑*i*Vmb_V		23 54 04.7	
	451nm,SNR=0.8						
MACI				S	Sn	23 54 38.8	-1.7
CTFS	**San Miguel de**	**3.37**	**136**	P	Pn	**23 54 04.2**	**+2.9**
CTFS				⇑*i*Vmb_V		23 54 04.8	
	500nm,SNR=1.1						
CTFS				S	Sn	23 54 37.9	-3.4
CGRA	**Granadilla de**	**3.42**	**135**	P	Pn	**23 54 04.9**	**+3.0**
CGRA				⇑*i*Vmb_V		23 54 06.5	
	912nm,SNR=1.7						
CGRA				S	Sn	23 54 40.6	-1.9
PMPS	**Porto Santo**	**3.53**	**44**	*e*S	Sn	**23 54 43.0**	**-2.3**
EOSO	**Osorio**	**4.08**	**126**	P	Pn	**23 54 14.0**	**+2.9**
EOSO				⇑*i*Vmb_V		23 54 16.0	
	236nm,SNR=0.8						
EOSO				S	Sn	23 54 57.3	-1.6
CFUE	**Fuerteventura**	**5.02**	**111**	P	Pn	**23 54 28.1**	**+4.2**
CFUE				⇑*i*Vmb_V		23 54 28.4	
	221nm,SNR=1.2						
CFUE				S	Sn	23 55 19.0	-3.0
EFAM	**Famara**	**5.19**	**104**	⇑*i*Vmb_V		23 54 32.2	
	356nm,SNR=0.6						
EFAM				S	Sn	23 55 22.5	-3.5

IDC 09 00:14:12.4±2.6, 5°.84S×148°.17E, h0km, mb3.6/1, mbtmp3.6/3, ML3.7/1, MS3.1/1, Error ellipse: s-maj=78.7km s-min=26.3km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.69**	**196**	Pn	Pn	00 15 11.4	+0.7
	7.8nm,0.3s,baz=17,slow=20,SNR=1.4						
PMG				Sn	Sn	00 15 52.2	-2.7
	3.1nm,0.3s,baz=354,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**19.43**	**223**	P	P	00 18 38.7	-1.9
	0.2nm,0.3s,baz=47,slow=11,SNR=5.5						
WRA				S	S	00 22 22.1	+0.8
	0.2nm,0.4s,baz=36,slow=16,SNR=1.6						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**22.42**	**216**	P	P	00 19 11.8	-1.2
	1.2nm,0.5s,baz=50,slow=9.2,SNR=29						
	1.2nm,0.5s						
KAPI	**Kappang**	**28.30**	**270**	LR	LR	00 32 52.4	
	comp=Z,31nm,18.1s,baz=66,slow=40						
TORD	**Torodi Ar. Bea**	**146.17**	**285**	PKPbc	PKPab	00 33 56.2	-0.3
	0.3nm,0.8s,baz=74,slow=4.6,SNR=2.1						

*AEIC **09** 00:14:40.5±2.0, 51°.37N±0°.06×174°.71W±0°.07, h12km±6km, Error ellipse: s-maj=9.3km s-min=4.5km az=150.0*

NEIC 09 00:14:38.1±1.3, 51°.29N±0°.05×174°.63W±0°.06, h10km±2km, mb3.5/19, ML3.1(AEIC), Error ellipse: s-maj=9.2km s-min=5.7km az=147.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.95**	**16**		Pn	00 14 57.5	-0.1
ATKA					Sn	00 15 10.4	-0.8
KOFP	**Korovin Flat P**	**1.04**	**18**		Pn	00 14 59.1	+0.3
KOKL	**Mount Kliuchef**	**1.07**	**14**		Pn	00 14 59.3	+0.1
KOKL					Sn	00 15 14.4	+0.3
KOSE	**Korovin Southe**	**1.12**	**18**		Pn	00 15 00.4	+0.5
GSMY	**Great Sitkin M**	**1.17**	**311**		Pg	00 15 00.7	+0.2
GSMY					Sn	00 15 16.2	-0.3
GSTR	**Great Sitkin T**	**1.20**	**313**		Pg	00 15 01.6	+0.4
GSTD	**Great Sitkin T**	**1.22**	**310**		Pg	00 15 01.6	+0.1
GSTD					Sb	00 15 16.8	-0.3
ADK	**Adak**	**1.42**	**296**		Pn	00 15 03.9	0.0
ADK	**Adak**	**1.42**	**296**		Sn	00 15 21.7	-0.8
KIWB	**Kanaga Island**	**1.68**	**291**		Pn	00 15 07.8	+0.3
KIKV	**Kanaga Island**	**1.69**	**291**		Pn	00 15 08.1	+0.4
TAFP	**Tanaga Falls P**	**2.18**	**288**		Pn	00 15 15.5	+1.0
TASE	**Tanaga Southea**	**2.20**	**286**		Pn	00 15 15.9	+1.2
AMKA	**Amchitka**	**3.81**	**274**	Pn	Pn	00 15 36.9	+0.1
KDAK	**Kodiak Island**	**14.31**	**54**	P	P	00 18 07.8	+0.1
J17K	**VABM Dome**	**14.70**	**28**	P	P	00 18 12.4	+0.4
G18K	**Tagagawik**	**16.76**	**23**	Pn	Pn	00 18 31.9	-0.7
J20K	**Nowinta River**	**16.81**	**32**	Pn	Pn	00 18 33.1	-0.2
E19K	**Redstone River**	**18.36**	**21**	P	Pn	00 18 51.8	-0.6
MLY	**Manley**	**18.49**	**33**	P	P	00 18 53.3	-0.7
CCB	**Clear Creek Bu**	**19.32**	**36**	P	P	00 19 03.2	+0.2
CCB				IAmb	IAmb	00 19 13.0	
	comp=Z,3.3nm,1.2s						
HDA	**Harding Lake**	**19.52**	**37**	P	P	00 19 04.8	-0.4
HDA				IAmb	IAmb	00 19 16.7	
	comp=Z,2.0nm,0.7s						
IL31		**19.72**	**36**	P	P	00 19 06.4	-1.0
IL31				IAmb	IAmb	00 19 18.2	
	comp=Z,1.3nm,0.6s						
ILAR	**Eielson Array**	**19.72**	**36**	P	P	00 19 06.7	-0.8
E22K	**Anaktuvuk Pass**	**20.21**	**25**	P	P	00 19 12.9	+0.1
J25K	**Salcha River,**	**20.22**	**38**	P	P	00 19 11.9	-1.0
J25K				IAmb	IAmb	00 19 24.7	
	comp=Z,1.8nm,0.8s						
SCRK	**Sand Creek**	**20.48**	**40**		P	00 19 15.2	-0.6
SCRK				IAmb	IAmb	00 19 23.1	
	comp=Z,3.5nm,1.0s						
J26L	**Joseph Creek**	**20.87**	**39**		P	00 19 19.2	-0.8
K27K	**Chicken**	**21.28**	**41**	P	P	00 19 24.2	-0.1
K27K				IAmb	IAmb	00 19 31.7	
	comp=Z,1.7nm,0.9s						
C23K	**Itkillik River**	**21.74**	**22**	P	P	00 19 28.9	-0.3
D25K	**Kavik River**	**22.49**	**26**	P	P	00 19 37.0	-0.3
D25K				IAmb	IAmb	00 19 48.8	
	comp=Z,2.1nm,1.1s						
HYT	**Haines Junctio**	**22.52**	**51**	P	P	00 19 38.1	+0.3
HYT				IAmb	IAmb	00 19 42.1	
	comp=Z,2.0nm,0.8s						
I28M	**Miner Creek**	**22.66**	**38**	P	P	00 19 38.7	-0.5
I28M				IAmb	IAmb	00 19 54.9	
	comp=Z,1.6nm,1.1s						
K29M	**Barlow Dome**	**23.13**	**43**	P	P	00 19 41.9	-2.3
K29M				IAmb	IAmb	00 19 55.3	
	comp=Z,1.3nm,0.9s						
H29M	**Whitestone**	**23.55**	**37**	P	P	00 19 47.4	-0.8
I30M	**Mount Dempster**	**23.99**	**40**	P	P	00 19 51.4	-1.2
I30M				IAmb	IAmb	00 20 10.7	
	comp=Z,0.9nm,0.8s						
E29M	**Blow River**	**24.59**	**32**	P	P	00 19 58.1	+0.2

*WEL **09** 00:20:15.1±0.3, 40°.5S±2°.×17°.5E±°, h12km, M3.9/18, ML4.2/18, MLv3.9/18, Error ellipse: s-maj=0.0km s-min=0.0km az=65.3, confirmed*
*NOU **09** 00:20:16.6, 40°.16S×174°.97E, h60km, MLv3.8/8, Cook Strait, New Zealand*

ISC 09 00:20:15.6±0.9, 40°.16S±0°.02×174°.96E±0°.02, h27km±7km, n133, σ0°.90/155, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCDS	**Wanganui Civil**	**0.24**	**16**	P	Pb	**00 20 21.6**	**-0.3**
WCDS				S	Sb	**00 20 26.7**	**+0.5**
OHWZ	**Ohakea**	**0.27**	**99**	P	Pb	**00 20 22.3**	**-0.1**
OHWZ				S	Sb	**00 20 27.8**	**+0.8**
FXBS	**Foxton Beach S**	**0.36**	**146**	P	Pb	**00 20 23.0**	**-0.7**
FXBS				S	Sb	**00 20 29.1**	**-0.1**
WAZ	**Wanganui**	**0.41**	**2**	P	Pb	**00 20 24.0**	**-0.4**
WAZ				S	Sb	**00 20 30.5**	**+0.1**
FAHS	**Feilding Agric**	**0.47**	**97**	P	Pb	**00 20 24.3**	**-1.0**
FAHS				S	Sb	**00 20 32.0**	**0.0**
HOCS	**Levin Horowhen**	**0.52**	**152**	P	Pb	**00 20 24.8**	**-1.4**
HOCS				S	Sb	**00 20 32.4**	**-1.0**
PNMS	**Monrad Interme**	**0.52**	**113**	P	Pb	**00 20 25.2**	**-1.0**
PNMS				S	Sb	**00 20 33.6**	**+0.2**
POWZ	**Post Office Ro**	**0.66**	**111**	P	Pn	**00 20 28.7**	**-0.4**
POWZ				S	Sn	**00 20 38.3**	**-0.3**
OGWZ	**Otaki Gorge**	**0.67**	**167**	P	Pb	**00 20 28.6**	**-0.1**
OGWZ				S	Sb	**00 20 37.9**	**+0.1**
MRZ	**Mangatainoka R**	**0.69**	**137**	P	Pn	**00 20 29.2**	**-0.3**
MRZ				S	Sn	**00 20 39.0**	**-0.2**
KIW	**Kapiti Island**	**0.70**	**183**	P	Pb	**00 20 28.5**	**-0.7**
KIW				S	Sb	**00 20 37.9**	**-0.7**
MNGS	**Mangaweka Scho**	**0.73**	**61**	P	Pn	**00 20 29.6**	**-0.5**
PAPS	**Paraparaumu Pr**	**0.75**	**178**	P	Pb	**00 20 29.7**	**-0.4**
PAPS				S	Sb	**00 20 40.0**	**0.0**
TSZ	**Takapari Road**	**0.77**	**83**	P	Pn	**00 20 30.4**	**-0.3**
TSZ				S	Sn	**00 20 40.8**	**-0.6**
THHS	**Taihape Hospit**	**0.80**	**53**	P	Pb	**00 20 29.1**	**-1.8**
THHS				S	Sb	**00 20 40.6**	**-0.7**
LREZ	**Lake Rotokare**	**0.82**	**328**	P	Pb	**00 20 31.3**	**0.0**
LREZ				S	Sn	**00 20 43.9**	**+1.3**
HOWZ	**Holdsworth Sta**	**0.85**	**150**	P	Pn	**00 20 32.1**	**+0.3**
HOWZ				S	Sn	**00 20 43.6**	**+0.3**
PRWZ	**Pori Road**	**0.86**	**117**	P	Pn	**00 20 32.8**	**+0.9**
PRWZ				S	Sn	**00 20 45.5**	**+1.8**
MTVZ	**Mangateitei**	**0.87**	**27**	P	Pb	**00 20 31.1**	**-1.0**
PKVZ	**Pokaka**	**0.92**	**19**	P	Pb	**00 20 31.9**	**-1.0**
PKVZ				S	Sn	**00 20 45.9**	**+0.8**
DVHZ	**Dannevirke**	**0.93**	**99**	P	Pn	**00 20 33.8**	**+0.9**
DVHZ				S	Sn	**00 20 46.6**	**+1.2**
TIWZ	**Tintock**	**0.93**	**131**	P	Pn	**00 20 33.9**	**+1.0**
TIWZ				S	Sn	**00 20 47.6**	**+2.1**
WNVZ	**Wahianoa**	**0.97**	**31**	P	Pb	**00 20 32.7**	**-1.1**
MOVZ	**Moawhango**	**0.97**	**39**	P	Pb	**00 20 32.3**	**-1.5**
MOVZ				S	Sb	**00 20 45.7**	**-0.5**
TRVZ	**Turoa**	**0.97**	**28**	P	Pb	**00 20 32.7**	**-1.2**
PNHZ	**Pukenui**	**0.98**	**76**	P	Pn	**00 20 33.7**	**+0.1**
WHVZ	**Whangaehu Hut**	**1.00**	**29**	P	Pb	**00 20 33.2**	**-1.2**
MAVZ	**Matarangi**	**1.00**	**27**	P	Pb	**00 20 33.3**	**-1.2**
FWVZ	**Far West T-bar**	**1.01**	**27**	P	Pb	**00 20 33.3**	**-1.3**
DUWZ	**D'Urville Isla**	**1.02**	**231**	P	Pb	**00 20 33.5**	**-1.2**
PREZ	**Palmer Road**	**1.03**	**323**	P	Pn	**00 20 34.7**	**+0.5**
TUVZ	**Tukino**	**1.04**	**31**	P	Pb	**00 20 34.2**	**-0.8**
VRZ	**Vera Road**	**1.05**	**351**	P	Pb	**00 20 34.5**	**-0.6**
COVZ	**Chateau Observ**	**1.06**	**25**	P	Pb	**00 20 34.1**	**-1.2**
MTW	**Mount Morrison**	**1.08**	**158**	P	Pn	**00 20 35.8**	**+0.9**
NGZ	**Ngauruhoe**	**1.10**	**27**	P	Pb	**00 20 34.9**	**-1.1**
SNVZ	**South Ngauruho**	**1.10**	**28**	P	Pb	**00 20 35.3**	**-0.9**
BFZ	**Birch Farm**	**1.11**	**118**	P	Pb	**00 20 36.2**	**+0.1**
BFZ	**Birch Farm**	**1.11**	**118**	P	Pb	**00 20 36.1**	**+0.1**
NEZ	**North Egmont**	**1.11**	**323**	P	Pn	**00 20 36.0**	**+0.5**
NMEZ	**Namu Road**	**1.12**	**311**	P	Pn	**00 20 36.2**	**+0.7**
WEL	**Wellington**	**1.13**	**188**	P	Pn	**00 20 35.9**	**+0.3**
KHEZ	**Kahui Hut**	**1.13**	**319**	P	Pb	**00 20 36.6**	**0.0**
KHEZ	**Kahui Hut**	**1.13**	**319**	P	Pb	**00 20 36.6**	**0.0**
OTVZ	**Oturere**	**1.13**	**29**	P	Pn	**00 20 35.5**	**-0.3**
DREZ	**Durham Road**	**1.14**	**329**	P	Pb	**00 20 36.4**	**-0.2**
WPHZ	**Waipukurau**	**1.14**	**86**	P	Pb	**00 20 37.4**	**+0.9**
NNVZ	**North Ngauruho**	**1.15**	**26**	P	Pn	**00 20 35.5**	**-0.4**
TWVZ	**Taurewa**	**1.15**	**19**	P	Pn	**00 20 35.2**	**-0.8**
WTVZ	**West Tongariro**	**1.15**	**25**	P	Pn	**00 20 35.5**	**-0.6**
SNZO	**South Karori**	**1.17**	**190**	P	Pn	**00 20 36.4**	**+0.3**
TCW	**Tory Channel**	**1.17**	**206**	P	Pn	**00 20 35.9**	**-0.3**
TCW				S	Sb	**00 20 51.4**	**-0.6**
ETVZ	**East Tongariro**	**1.18**	**30**	P	Pn	**00 20 36.1**	**-0.2**
TMWZ	**Te Maipa**	**1.18**	**144**	P	Pb	**00 20 37.2**	**-0.1**
KRVZ	**Karewarewa**	**1.19**	**26**	P	Pn	**00 20 36.0**	**-0.5**
TMVZ	**Te Maari**	**1.19**	**29**	P	Pn	**00 20 36.5**	**-0.1**
ANWZ	**Angora Road**	**1.19**	**105**	P	Pb	**00 20 38.0**	**+0.5**
NTVZ	**North Tongarir**	**1.20**	**28**	P	Pn	**00 20 36.5**	**-0.2**
KRHZ	**Kereru**	**1.20**	**65**	P	Pb	**00 20 37.0**	**-0.6**
CPWZ	**Castlepoint**	**1.20**	**129**	P	Pb	**00 20 38.3**	**+0.6**
PKE	**Pukeiti**	**1.23**	**322**	P	Pb	**00 20 37.9**	**-0.2**
NBEZ	**Newall Road No**	**1.23**	**316**	P	Pb	**00 20 38.0**	**-0.2**
BHW	**Baring Head**	**1.25**	**183**	P	Pb	**00 20 38.1**	**-0.3**
MSWZ	**Moikau Station**	**1.27**	**170**	P	Pb	**00 20 38.8**	**-0.1**
PRHZ	**Porangahau**	**1.28**	**95**	P	Pb	**00 20 39.4**	**+0.3**
KATZ	**Kakaramea**	**1.31**	**26**	P	Pn	**00 20 38.3**	**0.0**
KWHZ	**Kaweka Forest**	**1.34**	**57**	P	Pb	**00 20 39.1**	**-1.1**
TRWZ	**Traveller**	**1.35**	**156**	P	Pb	**00 20 40.1**	**-0.1**
RITZ	**Rihia Road**	**1.37**	**31**	P	Pb	**00 20 39.6**	**-1.0**
PLWZ	**Palliser**	**1.42**	**171**	P	Pb	**00 20 40.9**	**-0.6**
RATZ	**Rangitukua**	**1.44**	**26**	P	Pb	**00 20 41.0**	**-0.7**
PXZ	**Pawanui**	**1.46**	**85**	P	Pb	**00 20 41.3**	**-0.8**
TUWZ	**Tuamarina**	**1.48**	**211**	P	Pn	**00 20 40.8**	**+0.3**
KAHZ	**Kahuranaki**	**1.51**	**77**	P	Pb	**00 20 42.4**	**-0.7**
MCHZ	**McNeill Hill**	**1.52**	**62**	P	Pb	**00 20 43.1**	**+0.1**
HATZ	**Hinemaiaia**	**1.54**	**65**	P	Pb	**00 20 41.7**	**+0.4**
BKZ	**Black Stump Fm**	**1.54**	**50**	P	Pb	**00 20 42.4**	**-1.1**
BKZ	**Black Stump Fm**	**1.54**	**50**	P	Pn	**00 20 42.1**	**+0.7**
WATZ	**Wairara**	**1.57**	**23**	P	Pn	**00 20 42.0**	**+0.3**
NNZ	**Nelson**	**1.60**	**228**	P	Pn	**00 20 42.9**	**+0.8**
HIZ	**Hauiti**	**1.65**	**357**	P	Pn	**00 20 43.1**	**+0.3**
HIZ	**Hauiti**	**1.65**	**357**	P	Pn	**00 20 42.9**	**+0.2**
CMWZ	**Cape Campbell**	**1.69**	**199**	P	Pb	**00 20 46.3**	**+0.4**
CKHZ	**Cape Kidnapper**	**1.70**	**73**	P	Pb	**00 20 45.0**	**-1.2**
MRHZ	**Matea Rd**	**1.74**	**41**	P	Pn	**00 20 44.8**	**+0.8**
TKNZ	**Takaka Hill**	**1.76**	**240**	P	Pn	**00 20 45.7**	**+1.4**
BSWZ	**Blackbirch Sta**	**1.76**	**208**	P	Pn	**00 20 45.9**	**+1.7**
NMHZ	**Naumai**	**1.78**	**54**	P	Pb	**00 20 46.9**	**-0.6**
KUTZ	**Kaahu Road**	**1.80**	**22**	P	Pb	**00 20 47.3**	**-0.6**
ARHZ	**Aropaoanui**	**1.81**	**61**	P	Pb	**00 20 47.0**	**-0.9**
TLZ	**Tolley Road**	**1.88**	**14**	P	Pn	**00 20 46.1**	**0.0**
WPRZ	**Whakapapatarin**	**1.88**	**30**	P	Pb	**00 20 49.3**	**0.0**
ALRZ	**Allen Road**	**1.92**	**34**	P	Pn	**00 20 47.1**	**+0.6**
MTRZ	**Maungataniwha**	**1.95**	**49**	P	Pn	**00 20 48.1**	**+1.1**
QRZ	**Quartz Range**	**1.97**	**250**	P	Pn	**00 20 48.1**	**+0.9**
QRZ	**Quartz Range**	**1.97**	**250**	P	Pn	**00 20 47.9**	**+0.7**
PRRZ	**Plateau Road**	**2.00**	**34**	P	Pn	**00 20 48.2**	**+0.6**
GRRZ	**Galatos Road**	**2.02**	**27**	P	Pb	**00 20 51.4**	**-0.2**
HRRZ	**Handcock Road**	**2.04**	**30**	P	Pb	**00 20 52.2**	**+0.1**
RAHZ	**Arahi**	**2.06**	**54**	P	Pn	**00 20 49.9**	**+1.5**
WHHZ	**Waihua**	**2.06**	**59**	P	Pb	**00 20 54.1**	**+1.8**
MRNZ	**Matariki Terra**	**2.08**	**233**	P	Pn	**00 20 50.3**	**+1.6**
RRRZ	**Republican Roa**	**2.18**	**34**	P	Pn	**00 20 50.8**	**+0.7**
MUGZ	**Murupara**	**2.19**	**40**	P	Pn	**00 20 52.1**	**+1.9**
THZ	**Tophouse**	**2.23**	**224**	P	Pn	**00 20 52.5**	**+1.7**
SNGZ	**Shannon Statio**	**2.30**	**54**	P	Pb	**00 20 57.8**	**+1.4**
KNZ	**Kokohu**	**2.38**	**62**	P	Pn	**00 20 53.0**	**+0.2**
TOZ	**Tahuroa Road**	**2.46**	**10**	P	Pn	**00 20 53.7**	**-0.2**
MHGZ	**Mahia Peninsul**	**2.48**	**67**	P	Pn	**00 20 54.3**	**0.0**
KHZ	**Kahutara**	**2.50**	**205**	P	Pn	**00 20 55.0**	**+0.7**
KHZ	**Kahutara**	**2.50**	**205**	P	Pn	**00 20 55.1**	**+0.7**
URZ	**Urewera**	**2.53**	**42**	P	Pn	**00 20 54.8**	**0.0**
URZ	**Urewera**	**2.53**	**42**	P	Pn	**00 20 54.9**	**+0.1**
PRGZ	**Paritu Road**	**2.57**	**62**	P	Pn	**00 20 55.6**	**+0.1**
OPRZ	**Ohinepanea**	**2.62**	**29**	P	Pb	**00 20 58.9**	**-3.0**
MWZ	**Matawai**	**2.70**	**48**	P	Pn	**00 20 58.0**	**+0.8**
TKGZ	**Te Karaka**	**2.82**	**53**	P	Pn	**00 20 59.4**	**+0.6**
DSZ	**Denniston Nort**	**2.87**	**236**	P	Pn	**00 21 01.0**	**+1.4**
MKAZ	**Moumakai**	**3.06**	**3**	P	Pn	**00 21 02.0**	**-0.1**
TWGZ	**Tauwhareparae**	**3.07**	**51**	P	Pn	**00 21 03.2**	**+0.9**
AWAZ	**Awhitu Peninsu**	**3.10**	**355**	P	Pn	**00 21 03.4**	**+0.6**
GVZ	**Greta Valley S**	**3.15**	**207**	P	Pn	**00 21 03.7**	**+0.2**
WTAZ	**Waiatarua**	**3.24**	**354**	P	Pn	**00 21 05.7**	**+1.0**
PUZ	**Puketiti**	**3.30**	**52**	P	Pn	**00 21 05.4**	**-0.2**
LTZ	**Lake Taylor**	**3.31**	**217**	P	Pn	**00 21 05.9**	**+0.3**
PKGZ	**Pakihiroa**	**3.32**	**48**	P	Pn	**00 21 06.2**	**+0.4**
WMGZ	**Waiomatatini S**	**3.56**	**50**	P	Pn	**00 21 08.8**	**-0.2**
INZ	**Inchbonnie**	**3.68**	**225**	P	Pn	**00 21 11.3**	**+0.6**
OXZ	**Oxford**	**3.85**	**214**	P	Pb	**00 21 18.6**	**-4.1**
AKCZ	**Akaroa Harbour**	**4.01**	**202**	P	Pn	**00 21 14.3**	**-0.9**
RACZ	**Rakaia**	**4.14**	**210**	P	Pn	**00 21 16.1**	**-0.8**
WCZ	**Waipu Caves**	**4.24**	**353**	P	Pn	**00 21 19.0**	**+0.6**
TMZ	**Timaru**	**5.14**	**214**	P	Pn	**00 21 30.4**	**-0.3**

ATH 09 00:41:21.5, 41°.19N×23°.18E, h12km±1km, ML2.4/10, Manual Solution by I.Dede This location: 2020/07/03 23:00:31 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.32**	**102**	P	Pg	00 41 27.8	-0.2
SRS				S	Sg	00 41 33.0	+0.6
SOH	**Sokhos**	**0.39**	**160**	P	Pg	00 41 29.4	+0.1
SOH				S	Sg	00 41 35.3	+0.8
NVR	**Nevrokopi**	**0.54**	**72**	P	Pb	00 41 32.7	-0.3
NVR				S	Sg	00 41 39.6	+0.3
THE	**Thessaloniki**	**0.58**	**196**	P	Pg	00 41 32.6	-0.1
THE				S	Sb	00 41 41.2	-0.4
HORT	**Hortiatis**	**0.59**	**186**	P	Pg	00 41 33.0	0.0
HORT				S	Sg	00 41 41.5	+0.6
KOKK	**Kokkinochori,**	**0.72**	**120**	P	Pg	00 41 35.3	-0.2
KOKK				S	Sg	00 41 44.9	-0.1
PLG	**Polygyros**	**0.84**	**166**	P	Pg	00 41 37.4	-0.3
PLG				S	Sb	00 41 49.3	0.0
KVLA	**Kavala**	**0.95**	**105**	P	Pb	00 41 40.1	+0.2
KVLA				S	Sb	00 41 52.4	0.0
KAVA	**Kavala**	**1.03**	**100**	P	Pg	00 41 41.3	0.0
KAVA				S	Sg	00 41 54.9	+0.2
OUR	**Ouranopolis**	**1.05**	**144**	P	Pb	00 41 41.6	0.0
OUR				S	Sb	00 41 55.1	-0.1
THAS	**Thassos island**	**1.30**	**116**	P	Pn	00 41 45.4	-0.1
FNA	**Florina**	**1.42**	**254**	P	Pb	00 41 47.7	-0.3
TYRN	**Tyrnavos**	**1.64**	**206**	P	Pn	00 41 50.2	+0.1
AGG	**Agios Georgios**	**2.26**	**197**	P	Pn	00 41 58.9	+0.2

*SOF **09** 00:42:01.2, 41°.23N×23°.12E±0°.01, h10km±1km, MD2.8/5*
*SKO **09** 00:42:01.0, 41°.22N×23°.13E, h15km, ML2.2*
*THE **09** 00:42:02.2, 41°.19N×23°.15E, h11km, ML2.4/12, Error ellipse: s-maj=0.8km s-min=0.5km az=207.0*

ATH 09 00:42:02.8, 41°.19N×23°.18E, h7km±2km, ML2.3/11, 3C-1D, Error ellipse: s-maj=2.8km s-min=0.8km az=141.0, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.21**	**262**	P	Pg	00 42 06.0	-1.0
KNT				S	Sg	00 42 08.5	-1.4
	7μm,0.2s						
KNT	**Kendrikon**	**0.21**	**262**	⇓*i*Pg	Pg	00 42 06.0	-1.0
KNT				*i* Sg	Sg	00 42 08.7	-1.1
SRS	**Serrai**	**0.32**	**103**	P	Pg	00 42 08.9	-0.2
SRS				S	Sg	00 42 14.0	+0.6
	430nm,0.2s						
SRS	**Serrai**	**0.32**	**103**	*i* Pg	Pg	00 42 08.8	-0.3
SRS				*i* Sg	Sg	00 42 14.1	+0.7
SRS	**Serrai**	**0.32**	**103**	P	Pg	00 42 08.8	-0.3
SRS				S	Sg	00 42 14.0	+0.7
SRS				AML	AML	00 42 14.4	
	comp=N,875μm,0.2s						
SRS				AML	AML	00 42 14.5	
	comp=E,812μm,0.2s						
SOH	**Sokhos**	**0.39**	**160**	P	Pg	00 42 10.4	0.0
SOH				S	Sg	00 42 16.2	+0.6
	comp=E,1μm,0.5s						
SOH	**Sokhos**	**0.39**	**160**	*i* Pg	Pg	00 42 10.5	+0.1
SOH				*i* Sg	Sg	00 42 16.5	+0.9
SOH	**Sokhos**	**0.39**	**160**	P	Pg	00 42 10.4	-0.1
SOH				S	Sg	00 42 16.1	+0.5
SOH				AML	AML	00 42 16.8	
	comp=E,2564μm,0.1s						
SOH				AML	AML	00 42 17.1	
	comp=N,2106μm,0.2s						
VAY	**Valandovo**	**0.47**	**286**	⇑*i*Pg	Pg	00 42 10.4	-1.6
VAY				*i* Sg	Sg	00 42 15.4	-2.8
VAY				*e*Lg	Lg	00 42 16.1	
	comp=N,170nm,0.5s						
VAY				*e*Lg	Lg	00 42 16.6	
	comp=E,56nm,0.2s						
NVR	**Nevrokopi**	**0.54**	**73**	P	Pg	00 42 13.4	+0.2
NVR				S	Sb	00 42 21.8	-0.9
	comp=E,205nm,0.2s						
NVR	**Nevrokopi**	**0.54**	**73**	P	Pg	00 42 13.5	+0.2
NVR				S	Sg	00 42 20.6	+0.3
NVR				AML	AML	00 42 22.8	
	comp=N,310μm,0.2s						
NVR				AML	AML	00 42 24.2	
	comp=E,332μm,0.2s						
MMB	**Musomishta**	**0.56**	**50**	*i* P	Pg

PLD	**Plovdiv**	**1.52 50**	*i* P	Pn	00 42 29.8	-0.6
PLD			*i* S	Sb	00 42 51.0	+0.3
TYRN	**Tyrnavos**	**1.65 206**	P	Pn	00 42 31.7	-0.4
TYRN			AML	AML	00 42 55.0	
	comp=N,106μm,0.6s					
TYRN			AML	AML	00 42 59.7	
	comp=E,98μm,0.4s					
NEST	**Nestorio**	**1.79 245**	P	Pn	00 42 33.1	-1.1
THL	**Klokotos Trika**	**1.85 209**	P	Pn	00 42 34.5	-0.5
NEO	**Neokhori**	**1.88 179**	P	Pn	00 42 34.4	-1.0
SMTH	**Samothraki Isl**	**1.93 111**	P	Pn	00 42 34.7	-1.3
ALN	**Alexandroupoli**	**2.19 97**	P	Pn	00 42 38.2	-1.4
ALN	**Alexandroupoli**	**2.19 97**	P	Pn	00 42 38.9	-0.8
MPEP	**Malo Peshtene**	**2.20 11**	*i* P	Pb	00 42 43.6	+0.6
AGG	**Agios Georgios**	**2.26 197**	P	Pn	00 42 39.9	-0.8
VALD	**Valchedram**	**2.50 4**	*i* P	Pg	00 42 49.8	-1.0
ANX	**Ano Chora**	**2.77 201**	P	Pn	00 42 47.1	-0.6

*IDC **09** 00:58:46.9±2.0, 38°.31N×22°.72E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=280.5km s-min=22.1km az=137.0*
*ISK **09** 00:58:57.8, 38°.20N×23°.16E, h14km, ML3.1/13*
*NEIC **09** 00:58:59.8±1.1, 38°.30N±0°.03×22°.74E±0°.09, h109km±9km, mb3.9/5, Error ellipse: s-maj=9.9km s-min=3.8km az=97.0*
*ATH **09** 00:58:59.2, 38°.26N×22°.77E, h110km±1km, ML3.0/27, Error ellipse: s-maj=1.9km s-min=0.9km az=220.0*
*THE **09** 00:58:59.5, 38°.26N×22°.77E, h105km±1km, ML3.0/20, Error ellipse: s-maj=1.3km s-min=0.7km az=181.0*
ISC 09 00:58:59.0±0.8, 38°.25N±0°.03×22°.77E±0°.03, h112km±5km, n212, σ1$09/258, mb3.9/8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLFA	**Delphi**	**0.31**	**317**	P	**Pn**	**00 59 14.8**	**-0.3**
DLFA				S	**Sn**	**00 59 25.7**	**-1.5**
DLFA				AML	AML	00 59 25.9	
	comp=N,4889μm,0.2s						
DLFA				AML	AML	00 59 26.0	
	comp=E,7940μm,0.3s						
LOUT	**Loutraki**	**0.31**	**148**	P	**Pn**	**00 59 14.8**	**-0.3**
LOUT				S	**Sn**	**00 59 26.0**	**-1.1**
	comp=E,530nm,0.4s						
VILL	**Villia**	**0.44**	**101**	P	**Pn**	**00 59 15.8**	**+0.1**
VILL				S	**Sn**	**00 59 27.4**	**-0.9**
	comp=E,445nm,0.6s						
GUR	**Goura**	**0.46**	**227**	P	**Pn**	**00 59 16.0**	**+0.1**
GUR				S	**Sn**	**00 59 27.6**	**-1.0**
	comp=E,2μm,0.5s						
GUR	**Goura**	**0.46**	**227**	P	**Pn**	**00 59 16.0**	**+0.1**
GUR				S	**Sn**	**00 59 27.2**	**-1.4**
GUR				AML	AML	00 59 28.0	
	comp=N,2874μm,0.3s						
GUR				AML	AML	00 59 28.7	
	comp=E,3689μm,0.4s						
KALE	**Kalithea**	**0.51**	**286**	P	**Pn**	**00 59 16.2**	**0.0**
KALE				S	**Sn**	**00 59 27.9**	**-1.2**
	comp=E,2μm,0.2s						
ALIK	**Aliki, Aigiali**	**0.51**	**271**	P	**Pn**	**00 59 16.8**	**+0.7**
ALIK				S	**Sn**	**00 59 28.6**	**-0.4**
AXAR	**Agios Charalam**	**0.52**	**351**	P	**Pn**	**00 59 16.2**	**0.0**
AXAR				S	**Sn**	**00 59 28.4**	**-0.8**
	comp=E,3μm,0.2s						
KLV	**Kalavryta, Ach**	**0.53**	**247**	P	**Pn**	**00 59 16.2**	**-0.1**
KLV				S	**Sn**	**00 59 28.5**	**-0.8**
	comp=E,338nm,0.3s						
KLV	**Kalavryta, Ach**	**0.53**	**247**	P	**Pn**	**00 59 16.4**	**+0.1**
KLV				S	**Sn**	**00 59 28.2**	**-1.1**
KLV				AML	AML	00 59 29.1	
	comp=E,749μm,0.2s						
KLV				AML	AML	00 59 30.3	
	comp=N,586μm,0.4s						
EFP	**Efpalio**	**0.70**	**285**	P	**Pn**	**00 59 17.7**	**+0.2**
EFP				S	**Sn**	**00 59 31.0**	**-0.4**
	comp=N,1μm,0.3s						
EFP	**Efpalio**	**0.70**	**285**	P	**Pn**	**00 59 17.9**	**+0.5**
EFP				S	**Sn**	**00 59 31.1**	**-0.4**
EFP				AML	AML	00 59 31.9	
	comp=E,2135μm,0.3s						
EFP				AML	AML	00 59 32.0	
	comp=N,2792μm,0.4s						
ANX	**Ano Chora**	**0.74**	**297**	P	**Pn**	**00 59 18.5**	**+0.5**
ANX				S	**Sn**	**00 59 31.8**	**-0.5**
	comp=N,4μm,0.3s						
ANX	**Ano Chora**	**0.74**	**297**	P	**Pn**	**00 59 18.6**	**+0.6**
ANX				S	**Sn**	**00 59 31.9**	**-0.5**
ANX				AML	AML	00 59 32.3	
	comp=E,7730μm,0.3s						
ANX				AML	AML	00 59 32.8	
	comp=N,6901μm,0.4s						
UPR	**University Cam**	**0.77**	**273**	P	**Pn**	**00 59 18.6**	**+0.5**
UPR				S	**Sn**	**00 59 32.4**	**-0.1**
ATH	**Athens Observa**	**0.80**	**110**	P	**Pn**	**00 59 19.1**	**+0.7**
ATH				S	**Sn**	**00 59 32.7**	**-0.3**
	comp=N,240nm,0.6s						
ATH	**Athens Observa**	**0.80**	**110**	P	**Pn**	**00 59 19.2**	**+0.7**
ATH				S	**Sn**	**00 59 31.7**	**-1.3**
ATH				AML	AML	00 59 33.0	
	comp=N,495μm,0.5s						
ATH				AML	AML	00 59 33.9	
	comp=E,376μm,0.4s						
AGG	**Agios Georgios**	**0.84**	**336**	Pg	**Pn**	**00 59 18.6**	**-0.2**
AGG				Sg	**Sn**	**00 59 32.9**	**-0.9**
AGG	**Agios Georgios**	**0.84**	**336**		**Pn**	**00 59 19.1**	**+0.3**
AGG				Sn	**Sn**	**00 59 32.9**	**-0.9**
AGG	**Agios Georgios**	**0.84**	**336**	P	**Pn**	**00 59 18.9**	**+0.1**
AGG				S	**Sn**	**00 59 33.1**	**-0.7**
	comp=E,1μm,0.4s						
AGG	**Agios Georgios**	**0.84**	**336**	P	**Pn**	**00 59 19.1**	**+0.3**
AGG				S	**Sn**	**00 59 32.2**	**-1.6**
AGG				AML	AML	00 59 33.0	
	comp=N,3292μm,0.2s						
AGG				AML	AML	00 59 33.4	
	comp=E,3793μm,0.2s						
ATHU	**Athens Univers**	**0.85**	**109**	P	**Pn**	**00 59 19.4**	**+0.5**
ATHU				S	**Sn**	**00 59 33.3**	**-0.6**
	comp=E,148nm,0.5s						
PTL	**Penteli**	**0.89**	**103**	P	**Pn**	**00 59 19.9**	**+0.6**
PTL				S	**Sn**	**00 59 33.8**	**-0.8**
	comp=E,112nm,0.7s						
PTL	**Penteli**	**0.89**	**103**	P	**Pn**	**00 59 20.0**	**+0.6**
PTL				S	**Sn**	**00 59 33.8**	**-0.8**
PTL				AML	AML	00 59 34.6	
	comp=E,290μm,0.6s						
PTL				AML	AML	00 59 34.8	
	comp=N,150μm,0.3s						
VLY	**Voula,Athens**	**0.91**	**116**	P	**Pn**	**00 59 19.9**	**+0.5**
VLY				S	**Sn**	**00 59 34.1**	**-0.7**
	comp=N,368nm,0.3s						
VLY	**Voula,Athens**	**0.91**	**116**	P	**Pn**	**00 59 20.0**	**+0.5**
VLY				S	**Sn**	**00 59 34.1**	**-0.7**
VLY				AML	AML	00 59 34.4	
	comp=N,805μm,0.4s						
VLY				AML	AML	00 59 34.8	
	comp=E,656μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.91**	**327**	P	**Pn**	**00 59 20.1**	**+0.7**
MAKR				S	**Sn**	**00 59 34.5**	**-0.4**
	comp=E,2μm,0.3s						
KRND	**KRANIDI**	**0.92**	**161**	P	**Pn**	**00 59 19.7**	**+0.2**
KRND				S	**Sn**	**00 59 35.1**	**+0.1**
	comp=E,832nm,0.4s						
KRND	**KRANIDI**	**0.92**	**161**	P	**Pn**	**00 59 19.8**	**+0.2**
KRND				S	**Sn**	**00 59 34.6**	**-0.4**
KRND				AML	AML	00 59 36.1	
	comp=E,1466μm,0.4s						
KRND				AML	AML	00 59 36.8	
	comp=N,1846μm,0.4s						
DION	**Dionisos Attik**	**0.94**	**100**	P	**Pn**	**00 59 21.2**	**+1.5**
DION				S	**Sn**	**00 59 35.2**	**-0.2**
	comp=N,288nm,0.5s						
DION	**Dionisos Attik**	**0.94**	**100**	P	**Pn**	**00 59 21.5**	**+1.8**
DION				S	**Sn**	**00 59 34.6**	**-0.8**
DION				AML	AML	00 59 36.3	
	comp=N,323μm,0.5s						
DION				AML	AML	00 59 36.5	
	comp=E,429μm,0.4s						
EVR	**Evrytania**	**1.00**	**312**	P	**Pn**	**00 59 21.4**	**+1.0**
EVR				S	**Sn**	**00 59 36.5**	**-0.1**
	comp=E,598nm,0.4s						
EVR	**Evrytania**	**1.00**	**312**	P	**Pn**	**00 59 22.0**	**+1.6**
EVR				S	**Sn**	**00 59 37.1**	**+0.4**
EVR				AML	AML	00 59 38.4	
	comp=E,1214μm,0.3s						
EVR				AML	AML	00 59 39.1	
	comp=N,957μm,0.2s						
PVO	**Paravola**	**1.04**	**291**	P	**Pn**	**00 59 21.5**	**+0.8**
PVO				S	**Sn**	**00 59 37.8**	**+0.7**
PVO	**Paravola**	**1.04**	**291**	P	**Pn**	**00 59 21.6**	**+0.9**
PVO				S	**Sn**	**00 59 36.7**	**-0.4**
RLS	**Riolos of Patr**	**1.04**	**260**	P	**Pn**	**00 59 21.8**	**+1.1**
RLS				S	**Sn**	**00 59 37.5**	**+0.3**
	comp=N,318nm,0.3s						
RLS	**Riolos of Patr**	**1.04**	**260**	P	**Pn**	**00 59 21.8**	**+1.1**
RLS				AML	AML	00 59 41.4	
	comp=N,502μm,0.4s						
RLS				AML	AML	00 59 41.8	
	comp=E,740μm,0.3s						
YDRA	**Hydra**	**1.06**	**148**	P	**Pn**	**00 59 21.3**	**+0.4**
NEO	**Neokhori**	**1.11**	**19**	P	**Pn**	**00 59 21.7**	**+0.2**
NEO				S	**Sn**	**00 59 37.8**	**-0.8**
	comp=E,452nm,0.4s						
NEO	**Neokhori**	**1.11**	**19**	P	**Pn**	**00 59 21.8**	**+0.3**
NEO				AML	AML	00 59 38.4	
	comp=E,893μm,0.4s						
NEO				AML	AML	00 59 39.2	
	comp=N,908μm,0.4s						
KYMI	**Kymi, Euboea I**	**1.11**	**70**	P	**Pn**	**00 59 22.1**	**+0.6**
KYMI				S	**Sn**	**00 59 38.6**	**0.0**
	comp=N,90nm,0.5s						
KYMI	**Kymi, Euboea I**	**1.11**	**70**	P	**Pn**	**00 59 22.1**	**+0.6**
KYMI				AML	AML	00 59 38.7	
	comp=N,186μm,0.5s						
KYMI				AML	AML	00 59 39.1	
	comp=E,173μm,0.5s						
ITM	**Ithomi**	**1.26**	**212**	Pn	**Pn**	**00 59 24.1**	**+0.9**
ITM	**Ithomi**	**1.26**	**212**		**Pn**	**00 59 24.4**	**+1.2**
ITM				Sn	**Sn**	**00 59 41.7**	**+0.2**
ITM	**Ithomi**	**1.26**	**212**	P	**Pn**	**00 59 24.0**	**+0.9**
ITM	**Ithomi**	**1.26**	**212**	P	**Pn**	**00 59 24.3**	**+1.1**
ITM				S	**Sn**	**00 59 41.9**	**+0.4**
ITM				AML	AML	00 59 45.4	
	comp=N,752μm,0.3s						
ITM				AML	AML	00 59 45.9	
	comp=E,701μm,0.5s						
AOS	**Alonnisos**	**1.27**	**43**	P	**Pn**	**00 59 23.1**	**-0.1**
AOS				S	**Sn**	**00 59 40.6**	**-0.9**
THL	**Klokotos Trika**	**1.44**	**336**	P	**Pn**	**00 59 25.2**	**+0.1**
THL	**Klokotos Trika**	**1.44**	**336**	P	**Pn**	**00 59 25.3**	**+0.1**
THL				AML	AML	00 59 44.5	
	comp=N,249μm,0.2s						
THL				AML	AML	00 59 44.8	
	comp=E,216μm,0.2s						
LRSO	**Larissa Observ**	**1.45**	**349**	P	**Pn**	**00 59 25.2**	**0.0**
LRSO	**Larissa Observ**	**1.45**	**349**	P	**Pn**	**00 59 25.7**	**+0.5**
LRSO				AML	AML	00 59 46.3	
	comp=E,759μm,0.3s						
LRSO				AML	AML	00 59 47.2	
	comp=N,655μm,0.3s						
TYRN	**Tyrnavos**	**1.51**	**344**	P	**Pn**	**00 59 26.2**	**+0.1**
TYRN	**Tyrnavos**	**1.51**	**344**	P	**Pn**	**00 59 26.2**	**+0.1**
TYRN				AML	AML	00 59 46.5	
	comp=E,483μm,0.7s						
TYRN				AML	AML	00 59 47.2	
	comp=N,328μm,0.7s						
VLI	**Veliai**	**1.54**	**175**	P	**Pn**	**00 59 26.1**	**-0.3**
VLI	**Veliai**	**1.54**	**175**	P	**Pn**	**00 59 26.1**	**-0.3**
VLI				AML	AML	00 59 46.8	
	comp=N,398μm,0.2s						
VLI				AML	AML	00 59 47.0	
	comp=E,532μm,0.2s						
MNVA	**Monemvasia**	**1.58**	**172**	P	**Pn**	**00 59 28.2**	**+1.3**
PYL	**PYLOS**	**1.58**	**211**	P	**Pn**	**00 59 26.7**	**-0.2**
PYL	**PYLOS**	**1.58**	**211**	P	**Pn**	**00 59 26.7**	**-0.2**
PYL				S	**Sn**	**00 59 47.0**	**-1.0**
PYL				AML	AML	00 59 48.1	
	comp=E,718μm,0.3s						
PYL				AML	AML	00 59 48.2	
	comp=N,767μm,0.2s						
RTZL	**Ratzakli, Kefa**	**1.58**	**264**	P	**Pn**	**00 59 27.0**	**+0.2**
LTHK	**Lithakia**	**1.62**	**251**	P	**Pn**	**00 59 27.2**	**-0.1**
LTHK	**Lithakia**	**1.62**	**251**	P	**Pn**	**00 59 27.1**	**-0.1**
LTHK				AML	AML	00 59 49.5	
	comp=E,1121μm,0.2s						
LTHK				AML	AML	00 59 50.6	
	comp=N,566μm,0.2s						
NYDR	**Nydri-Lefkada**	**1.69**	**286**	P	**Pn**	**00 59 28.5**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.69**	**286**	P	**Pn**	**00 59 28.6**	**+0.4**
EVGI	**Lefkada island**	**1.70**	**283**	P	**Pn**	**00 59 28.7**	**+0.5**
EVGI	**Lefkada island**	**1.70**	**283**	P	**Pn**	**00 59 28.7**	**+0.5**
VLS	**Valsamata**	**1.71**	**268**	P	**Pn**	**00 59 28.1**	**-0.4**
VLS	**Valsamata**	**1.71**	**268**	P	**Pn**	**00 59 28.3**	**-0.2**
VLS				AML	AML	00 59 51.3	
	comp=E,691μm,0.2s						
VLS				AML	AML	00 59 53.4	
	comp=N,654μm,0.5s						
PSDA	**Pessada-Kefalo**	**1.72**	**266**	P	**Pn**	**00 59 28.2**	**-0.4**
PSDA	**Pessada-Kefalo**	**1.72**	**266**	P	**Pn**	**00 59 28.4**	**-0.2**
LKD2	**Lefkada island**	**1.74**	**289**	P	**Pn**	**00 59 29.4**	**+0.7**
LKD2	**Lefkada island**	**1.74**	**289**	P	**Pn**	**00 59 29.5**	**+0.7**
LKD2				AML	AML	00 59 52.6	
	comp=E,910μm,0.3s						
LKD2				AML	AML	00 59 53.3	
	comp=N,796μm,0.2s						
TSLK	**Tsoukalades, L**	**1.75**	**290**	P	**Pn**	**00 59 29.5**	**+0.6**
TSLK	**Tsoukalades, L**	**1.75**	**290**	P	**Pn**	**00 59 29.7**	**+0.8**
TSLK				AML	AML	00 59 53.0	
	comp=E,729μm,0.3s						
TSLK				AML	AML	00 59 55.2	
	comp=N,917μm,0.5s						
PAIG	**Paliouri**	**1.82**	**23**	Pn	**Pn**	**00 59 29.4**	**-0.3**
PAIG	**Paliouri**	**1.82**	**23**	P	**Pn**	**00 59 29.7**	**0.0**
LXRA	**Lixouri, Kepha**	**1.83**	**269**	P	**Pn**	**00 59 29.6**	**-0.3**
LIT	**Litokhoron**	**1.86**	**353**		**Pn**	**00 59 30.3**	**0.0**
LIT	**Litokhoron**	**1.86**	**353**	P	**Pn**	**00 59 30.3**	**0.0**
DMLN	**Damoulianata-K**	**1.88**	**270**	P	**Pn**	**00 59 30.3**	**-0.3**
DMLN	**Damoulianata-K**	**1.88**	**270**	P	**Pn**	**00 59 30.3**	**-0.3**
KPRO	**Kipourio**	**2.02**	**328**	P	**Pn**	**00 59 32.9**	**+0.6**
KPRO	**Kipourio**	**2.02**	**328**	P	**Pn**	**00 59 32.9**	**+0.6**
KPRO				AML	AML	01 00 00.8	
	comp=E,236μm,0.3s						
KPRO				AML	AML	01 00 01.2	
	comp=N,212μm,0.2s						
MHLO	**Agia Marina, M**	**2.03**	**140**	P	**Pn**	**00 59 33.4**	**+0.9**
MHLO	**Agia Marina, M**	**2.03**	**140**	P	**Pn**	**00 59 33.5**	**+1.0**
JAN	**Janina**	**2.05**	**314**	P	**Pn**	**00 59 33.6**	**+0.9**
JAN	**Janina**	**2.05**	**314**	P	**Pn**	**00 59 33.8**	**+1.1**
JAN				AML	AML	01 00 00.6	
	comp=N,422μm,0.3s						
JAN				AML	AML	01 00 02.9	
	comp=E,597μm,0.3s						
PLG	**Polygyros**	**2.18**	**14**	P	**Pn**	**00 59 34.1**	**-0.3**
PLG	**Polygyros**	**2.18**	**14**	P	**Pn**	**00 59 34.4**	**0.0**
KTI	**Kastanea**	**2.19**	**347**	P	**Pn**	**00 59 34.4**	**-0.3**
OUR	**Ouranopolis**	**2.28**	**24**	Pn	**Pn**	**00 59 35.5**	**-0.1**
OUR	**Ouranopolis**	**2.28**	**24**	P	**Pn**	**00 59 35.8**	**+0.2**
OUR	**Ouranopolis**	**2.28**	**24**	P	**Pn**	**00 59 35.9**	**+0.3**
PENT	**Pentalofos**	**2.31**	**327**	P	**Pn**	**00 59 36.8**	**+0.6**
PENT	**Pentalofos**	**2.31**	**327**	P	**Pn**	**00 59 37.1**	**+1.0**
HORT	**Hortiatis**	**2.36**	**6**	Pn	**Pn**	**00 59 36.8**	**+0.1**
HORT	**Hortiatis**	**2.36**	**6**	P	**Pn**	**00 59 36.8**	**+0.1**
HORT	**Hortiatis**	**2.36**	**6**	P	**Pn**	**00 59 36.8**	**+0.1**
THE	**Thessaloniki**	**2.38**	**4**	P	**Pn**	**00 59 36.7**	**-0.2**
THE	**Thessaloniki**	**2.38**	**4**	P	**Pn**	**00 59 36.7**	**-0.2**
ANKY	**Antikythira Is**	**2.42**	**170**	P	**Pn**	**00 59 37.0**	**-0.4**
ANKY	**Antikythira Is**	**2.42**	**170**	P	**Pn**	**00 59 37.2**	**-0.3**
APE	**Apeiranthos**	**2.49**	**117**	P	**Pn**	**00 59 39.1**	**+0.7**
LIA	**Limnos Island**	**2.50**	**48**	P	**Pn**	**00 59 39.1**	**+0.7**
LSK	**Leskovik**	**2.53**	**319**	P	**Pn**	**00 59 40.1**	**+1.1**
NEST	**Nestorio**	**2.54**	**329**	P	**Pn**	**00 59 39.8**	**+0.8**
NEST	**Nestorio**	**2.54**	**329**	P	**Pn**	**00 59 39.9**	**+0.8**
CHOS	**Chios island**	**2.59**	**86**	P	**Pn**	**00 59 40.2**	**+0.5**
SOH	**Sokhos**	**2.60**	**10**	P	**Pn**	**00 59 40.3**	**+0.4**
SOH	**Sokhos**	**2.60**	**10**	P	**Pn**	**00 59 40.6**	**+0.7**
KASA	**Kassiopi**	**2.66**	**305**	P	**Pn**	**00 59 40.7**	**+0.2**
SRN	**Sarande**	**2.70**	**308**	P	**Pn**	**00 59 41.0**	**0.0**
KOKK	**Kokkinochori,**	**2.73**	**20**	P	**Pn**	**00 59 41.4**	**-0.1**
KOKK	**Kokkinochori,**	**2.73**	**20**	P	**Pn**	**00 59 41.7**	**+0.2**
SAP3	**Santorini-Thir**	**2.74**	**131**	P	**Pn**	**00 59 42.9**	**+1.2**
FNA	**Florina**	**2.75**	**337**		**Pn**	**00 59 41.8**	**+0.1**
FNA	**Florina**	**2.75**	**337**	P	**Pn**	**00 59 41.5**	**-0.2**
FNA	**Florina**	**2.75**	**337**	P	**Pn**	**00 59 42.1**	**+0.4**
THR5	**Thira Island,**	**2.76**	**131**	P	**Pn**	**00 59 42.9**	**+1.1**
THR2	**Thira island,**	**2.79**	**129**	P	**Pn**	**00 59 42.6**	**+0.3**
SNT5	**Nea Kammeni, S**	**2.79**	**131**	P	**Pn**	**00 59 43.4**	**+1.1**
THR3	**Thira Island,**	**2.79**	**130**	P	**Pn**	**00 59 44.2**	**+1.9**
THAS	**Thassos island**	**2.79**	**32**	P	**Pn**	**00 59 42.4**	**+0.1**
RODP	**Rodopos**	**2.80**	**163**	Pn	**Pn**	**00 59 41.9**	**-0.6**
RODP				Sn	**Sn**	**01 00 13.9**	**-2.0**
KBN	**Korca**	**2.82**	**328**		**Pn**	**00 59 43.3**	**+0.6**
THR6	**Thira Island,**	**2.83**	**131**	P	**Pn**	**00 59 44.2**	**+1.4**
SANT	**Santorini**	**2.85**	**130**	Pn	**Pn**	**00 59 40.6**	**-2.5**
SANT	**Santorini**	**2.85**	**130**		**Pn**	**00 59 44.7**	**+1.6**
KNT	**Kendrikon**	**2.91**	**2**	P	**Pn**	**00 59 44.0**	**+0.2**
CHAN	**Chania**	**2.92**	**159**	P	**Pn**	**00 59 43.4**	**-0.5**
SRS	**Serrai**	**2.93**	**12**	P	**Pn**	**00 59 44.3**	**+0.2**
SRS	**Serrai**	**2.93**	**12**	P	**Pn**	**00 59 44.3**	**+0.2**
IMMV	**Iera Moni Meta**	**2.95**	**160**	Pn	**Pn**	**00 59 43.7**	**-0.7**
IMMV				Sn	**Sn**	**01 00 17.5**	**-1.9**
IMMV	**Iera Moni Meta**	**2.95**	**160**	P	**Pn**	**00 59 43.8**	**-0.7**
IMMV	**Iera Moni Meta**	**2.95**	**160**	P	**Pn**	**00 59 44.0**	**-0.4**
KAVA	**Kavala**	**3.06**	**26**	P	**Pn**	**00 59 45.7**	**0.0**
SMTH	**Samothraki Isl**	**3.08**	**43**	P	**Pn**	**00 59 46.3**	**+0.2**
KNDR	**Palaiochora Ch**	**3.10**	**166**	Pn	**Pn**	**00 59 46.0**	**-0.4**
KNDR				Sn	**Sn**	**01 00 21.5**	**-1.4**
KNDR	**Palaiochora Ch**	**3.10**	**166**	P	**Pn**	**00 59 46.2**	**-0.2**
NVR	**Nevrokopi**	**3.21**	**15**	P	**Pn**	**00 59 48.5**	**+0.7**
NVR	**Nevrokopi**	**3.21**	**15**	P	**Pn**	**00 59 49.0**	**+1.2**
OHR	**Ohrid**	**3.23**	**333**	*i* Pn	**Pn**	**00 59 48.6**	**+0.5**
VLO	**Vlora**	**3.36**	**312**	Pn	**Pn**	**00 59 50.2**	**+0.4**
IDI	**Anoyia**	**3.42**	**149**	Pn	**Pn**	**00 59 49.5**	**-1.1**
IDI	**Anoyia**	**3.42**	**149**		**Pn**	**00 59 50.5**	**-0.1**
IDI	**Anoyia**	**3.42**	**149**	P	**Pn**	**00 59 51.0**	**+0.3**
STIP	**Stip**	**3.47**	**353**	*i* Pn	**Pn**	**00 59 51.4**	**+0.2**
KSTL	**Kastelli Herak**	**3.48**	**147**	P	**Pn**	**00 59 54.7**	**+3.3**
GVD	**Gavdhos**	**3.57**	**162**	Pn	**Pn**	**00 59 52.2**	**-0.4**
GVD				Sn	**Sn**	**01 00 32.7**	**-1.4**
GVD	**Gavdhos**	**3.57**	**162**	P	**Pn**	**00 59 52.8**	**+0.2**
RDO	**Rodhopi**	**3.59**	**36**	Pn	**Pn**	**00 59 52.9**	**0.0**
RDO	**Rodhopi**	**3.59**	**36**		**Pn**	**00 59 53.5**	**+0.6**
RDO	**Rodhopi**	**3.59**	**36**	P	**Pn**	**00 59 53.5**	**+0.6**
ALN	**Alexandroupoli**	**3.66**	**43**	Pn	**Pn**	**00 59 53.9**	**+0.1**
ALN	**Alexandroupoli**	**3.66**	**43**	P	**Pn**	**00 59 54.3**	**+0.5**
SCTE	**Santa Cesarea**	**3.80**	**300**	Pn	**Pn**	**00 59 55.1**	**-0.5**
TIR	**Tirane**	**3.81**	**325**	Pn	**Pn**	**00 59 56.0**	**+0.2**
KDZ	**Kurdzhali**	**3.91**	**30**	Pn	**Pn**	**00 59 57.6**	**+0.5**
PUK	**Puka**	**4.38**	**331**		**Pn**	**01 00 03.6**	**+0.2**
KARP	**Karpathos**	**4.44**	**126**	Pn	**Pn**	**01 00 05.1**	**+0.8**
TIP	**Timpagrande**	**4.79**	**283**		**Pn**	**01 00 09.2**	**+0.2**
DRME	**Dracevica, Mon**	**4.79**	**326**	*e*Pn	**Pn**	**01 00 07.9**	**-1.0**
PDG	**Podgorica**	**4.96**	**328**		**Pn**	**01 00 10.2**	**-1.1**
PDG	**Podgorica**	**4.96**	**328**	*e*Pn	**Pn**	**01 00 10.1**	**-1.1**
CEL	**Celeste**	**5.41**	**272**	Pn	**Pn**	**01 00 16.8**	**-0.6**
SJES	**Sjenica**	**5.43**	**338**	*e*Pn	**Pn**	**01 00 16.7**	**-1.0**
TREB	**Trebinje**	**5.59**	**324**	*e*Pn	**Pn**	**01 00 17.2**	**-2.5**
DBRK	**Dubrovnik**	**5.64**	**323**	*e*Pn	**Pn**	**01 00 17.9**	**-2.6**
BRY	**Bratogost**	**5.65**	**327**	*e*Pn	**Pn**	**01 00 18.6**	**-2.1**
CUC	**Castrocucco**	**5.68**	**290**	Pn	**Pn**	**01 00 21.8**	**+0.9**
UPM	**Unac-Piva**	**5.75**	**331**	*e*Pn	**Pn**	**01 00 21.4**	**-0.7**
RUDO	**Rudo**	**5.94**	**335**	*e*Pn	**Pn**	**01 00 21.7**	**-2.8**
STON	**Ston**	**6.01**	**322**	*e*Pn	**Pn**	**01 00 22.4**	**-3.0**
STON	**Ston**	**6.01**	**322**	*e*Pn	**Pn**	**01 00 22.0**	**-3.4**
BBLS	**Lazi&#263i**	**6.16**	**337**	*e*Pn	**Pn**	**01 00 26.0**	**-1.4**
SGRT	**San Giovanni R**	**6.42**	**305**	Pn	**Pn**	**01 00 29.6**	**-1.5**
MAKA	**Makarska**	**6.66**	**321**	*e*Pn	**Pn**	**01 00 31.6**	**-2.6**
RAFF	**Raffo Rosso**	**6.74**	**264**	Pn	**Pn**	**01 00 34.5**	**-0.9**
TEKS	**Tekeris**	**6.74**	**340**	*e*Pn	**Pn**	**01 00 32.4**	**-3.0**
RICI	**Ricice**	**6.75**	**323**	*e*Pn	**Pn**	**01 00 33.0**	**-2.5**
HVAR	**Hvar**	**6.87**	**318**	*e*Pn	**Pn**	**01 00 34.2**	**-2.9**
PAOL	**Paolisi**	**6.91**	**296**	Pn	**Pn**	**01 00 37.9**	**+0.2**
MGRS	**Mrkonjic Grad**	**7.49**	**327**	*e*Pn	**Pn**	**01 00 43.8**	**-1.7**
ZIRJ	**Zirje**	**7.62**	**317**	*i* Pn	**Pn**	**01 00 44.2**	**-3.1**
BLY	**Banja Luka**	**7.72**	**329**	*e*Pn	**Pn**	**01 00 45.9**	**-2.7**
MORI	**Morici**	**7.74**	**319**	*e*Pn	**Pn**	**01 00 46.5**	**-2.2**
INTR	**Introdacqua**	**7.76**	**302**	Pn	**Pn**	**01 00 49.6**	**+0.4**
A050A	**Klekovaca**	**7.79**	**325**	*e*Pn	**Pn**	**01 00 47.3**	**-2.3**
DUGI	**Dugi Otok**	**8.16**	**317**	*e*Pn	**Pn**	**01 00 52.2**	**-2.4**
**

*NNC **09** 01:24:22.8±2.1,50.°76N×87.°98E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=23.2km s-min=8.2km az=94.0*
ISC 09 01:24:18.3±1.1,50.°73N±0.°02×88.°35E±0.°03,h3km±11km, n29,σ2≈03/53,11C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULGR	**Ulagan, Altay**	**0.27**	**247**	⇑Pg	**Pn**	**01 24 27.8**	**-1.4**
ULGR				Sg	**Sb**	**01 24 31.9**	**+1.0**
AKAR	**Aktash**	**0.62**	**229**	Pg	**Pb**	**01 24 31.8**	**-0.1**
AKAR				Sg	**Sg**	**01 24 40.1**	**+1.8**
CUR	**Chagan-Uzun**	**0.63**	**180**	⇓Pg	**Pg**	**01 24 31.8**	**+1.4**
CUR				Sg	**Sg**	**01 24 39.8**	**+1.1**
CHBI	**Chibit, Altay**	**0.68**	**233**	Pg	**Pb**	**01 24 33.0**	**+0.1**
CHBI				Sg	**Sg**	**01 24 41.6**	**+1.4**
YALR	**Yailyu, Altay**	**1.14**	**336**	⇓Pg	**Pn**	**01 24 41.3**	**+0.2**
YALR				Sg	**Sn**	**01 24 57.4**	**+0.2**
DGZ	**Jazzator, Alta**	**1.19**	**210**	Pg	**Pb**	**01 24 41.8**	**+0.3**
DGZ				Sg	**Sg**	**01 24 57.1**	**+0.6**
TEL	**Teeli**	**1.21**	**75**	⇑Pg	**Pn**	**01 24 41.8**	**-0.3**
TEL				Sg	**Sn**	**01 24 58.2**	**-0.8**
ARTR	**Artybash**	**1.26**	**328**	Pg	**Pg**	**01 24 43.4**	**+0.9**
ARTR				Sg	**Sn**	**01 25 00.5**	**+0.3**
ELDR	**Elanda**	**1.51**	**290**	Pg	**Pg**	**01 24 47.8**	**+0.6**
ELDR				Sg	**Sg**	**01 25 07.4**	**+0.6**
UKR	**Ust'-Kan**	**2.28**	**277**	Pg	**Pg**	**01 25 02.0**	**+0.1**
UKR				Sg	**Sg**	**01 25 31.5**	**+0.1**
DJO	**Djoy, Khakassi**	**2.72**	**40**	Pg	**Pg**	**01 25 10.2**	**-0.2**
DJO				Sg	**Sg**	**01 25 46.0**	**+0.4**
VEH	**Verkhnyaya Baz**	**2.80**	**25**	Pg	**Pg**	**01 25 11.5**	**-0.4**
VEH				Sg	**Sg**	**01 25 46.9**	**-1.4**
ELT	**Eltsovka**	**2.85**	**334**	Pn	**Pb**	**01 25 08.2**	**-1.5**
ELT				Pg	**Pg**	**01 25 11.3**	**-1.6**
ELT				Sg	**Sg**	**01 25 50.1**	**+0.3**
CERR	**Cheremushki**	**2.85**	**41**	Pg	**Pg**	**01 25 14.1**	**+1.2**
CERR				Sg	**Sg**	**01 25 49.3**	**-0.6**
LUZB	**Luzhba, Kemero**	**2.95**	**6**	Pn	**Pb**	**01 25 10.0**	**-1.5**
LUZB				Pg	**Pg**	**01 25 14.7**	**-0.2**
LUZB				Sg	**Sg**	**01 25 54.0**	**+0.8**
KOTO	**Kotino, Kuzbas**	**3.57**	**346**	Pg	**Pg**	**01 25 25.7**	**-1.0**
KOTO				Sg	**Sg**	**01 26 15.1**	**+2.2**
BJR3	**Bachatsky-3 (S**	**3.75**	**340**	Pg	**Pg**	**01 25 27.6**	**-2.4**
BJR2	**Bachatsky-2, K**	**3.81**	**340**	Pg	**Pg**	**01 25 28.7**	**-2.5**
ZAA0	**Zalesovo Array**	**3.88**	**327**	⇑Pn	**Pn**	**01 25 20.7**	**+2.0**
	1.0nm,0.5s						
ZAA0				⇑Sn	**Sn**	**01 26 07.6**	**+2.9**
	6.6nm,0.6s						
ZSN	**Zaisan**	**4.00**	**216**	*e*P	**Pn**	**01 25 16.5**	**-4.0**
	0.9nm,0.1s						
ZSN				*e*S	**Sb**	**01 26 13.4**	**-4.8**
	10nm,0.5s						
SALR	**Pechorkino, Sa**	**4.03**	**337**	Pn	**Pn**	**01 25 24.4**	**+3.6**
SALR				Pg	**Pg**	**01 25 34.4**	**-1.1**
SALR				Sg	**Sg**	**01 26 28.9**	**+1.2**
NVS	**Novosibirsk**	**5.16**	**325**	Pn	**Pn**	**01 25 39.3**	**+3.1**
NVS				Pg	**Pg**	**01 25 58.0**	**+1.0**
NVS				Sg	**Sg**	**01 27 04.6**	**+0.8**
SEM	**Semipalatinsk**	**5.17**	**270**	*e*P	Pb	01 25 43.5	-6.0
	7.2nm,0.2s						
SEM				*e*S	**Sg**	**01 27 00.1**	**-4.3**
	40nm,0.5s						
MK31	**Makanchi Array**	**5.62**	**228**	⇓Pn	**Pn**	**01 25 45.5**	**+2.9**
	3.8nm,0.5s,baz=56,slow=29,SNR=4.0						
MK31				⇑Lg	Lg	01 27 15.7	
	16nm,0.6s,baz=56,slow=25,SNR=7.7						
MAKZ	**Makanchi**	**5.76**	**229**	⇑Pn	**Pn**	**01 25 47.4**	**+2.8**
	5.1nm,0.6s						
MAKZ				⇑Lg	Lg	01 27 18.1	
	16nm,0.8s						
MAKZ	**Makanchi**	**5.76**	**229**	Pn	**Pn**	**01 25 47.7**	**+3.1**
MAKZ				Sg	**Sg**	**01 27 22.4**	**-0.8**
KURK	**Kurchatov**	**6.18**	**274**	⇑Pn	**Pn**	**01 25 52.7**	**+2.4**
	4.4nm,0.7s						
KURK				⇑Pn	Pb	01 25 53.3	-13
	4.9nm,0.6s						
KURK				⇑Lg	Lg	01 27 29.2	
	42nm,0.9s						
KURK	**Kurchatov**	**6.18**	**274**	Pn	Pn	01 25 56.6	+6.3
KURK				Sg	**Sg**	**01 27 31.2**	**-5.4**
KURBB	**Kurchatov Arra**	**6.25**	**273**	⇑Lg	Lg	01 27 33.0	
	48nm,0.8s						

*AEIC **09** 01:28:27.4±1.0,51.°41N±0.°06×174.°75W±0.°07,h13km±7km, Error ellipse: s-maj=10.4km s-min=3.1km az=143.0*
NEIC 09 01:28:26.8±1.6,51.°39N±0.°10×174.°7W±0.°1,h19km±14km, mb3.8/15,ML3.2(AEIC),Error ellipse: s-maj=16.2km s-min=4.8km az=147.0,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.87**	**20**	Pg	Pb	01 28 43.3	0.0
ATKA					Sb	01 28 54.0	-0.5
KOFP	**Korovin Flat P**	**0.96**	**22**		Pg	01 28 45.5	0.0
KOKL	**Mount Kliuchef**	**0.98**	**18**		Pn	01 28 45.7	0.0
KOKL					Sg	01 28 59.0	+0.1
KOSE	**Korovin Southe**	**1.03**	**22**		Pg	01 28 47.0	+0.1
KOSE					Sg	01 29 02.4	+1.8
GSMY	**Great Sitkin M**	**1.07**	**308**		Pb	01 28 46.6	-0.2
GSTR	**Great Sitkin T**	**1.11**	**310**		Pn	01 28 46.8	-0.6
GSCK	**Great Sitkin C**	**1.11**	**305**		Pn	01 28 47.2	-0.2
ADK	**Adak**	**1.34**	**292**		Pn	01 28 49.7	-0.7
ADK					Sn	01 29 07.7	-0.1
KIWB	**Kanaga Island**	**1.60**	**288**	Pn	Pn	01 28 53.7	-0.5
KIMD	**Kanaga Island**	**1.63**	**284**		Pn	01 28 54.3	-0.2
TAFP	**Tanaga Falls P**	**2.12**	**285**		Pn	01 29 01.6	+0.4
TASE	**Tanaga Southea**	**2.13**	**283**		Pn	01 29 02.1	+0.6
AMKA	**Amchitka**	**3.77**	**272**	Pn	Pn	01 29 22.4	-1.4
L16K	**Owhat River**	**13.28**	**33**	Pn	Pn	01 31 34.4	+0.4
OHAK	**Old Harbor**	**13.76**	**57**	Pn	Pn	01 31 38.0	-2.7
KDAK	**Kodiak Island**	**14.28**	**55**		P	01 31 54.1	-0.9
J17K	**VABM Dome**	**14.62**	**29**	P	P	01 31 59.3	+0.6
L19K	**White Mountain**	**15.25**	**37**	P	P	01 32 06.4	+0.7
L19K				IAmb	IAmb	01 32 44.3	
	comp=Z,12nm,1.4s						
BPAW	**Bear Paw Mtn.**	**17.80**	**35**		Pn	01 32 32.6	-0.5
SCM	**Sheep Creek Mo**	**18.18**	**44**	Pn	Pn	01 32 35.8	-2.1
E19K	**Redstone River**	**18.27**	**22**		P	01 32 39.9	+0.8
E19K				IAmb	IAmb	01 33 14.5	
	comp=Z,6.6nm,1.1s						
MLY	**Manley**	**18.43**	**33**	P	Pn	01 32 41.1	+0.2
I23K	**Minto, Yukon-K**	**18.97**	**34**	P	P	01 32 46.7	0.0
CCB	**Clear Creek Bu**	**19.26**	**36**	P	P	01 32 50.0	+0.2
CCB				IAmb	IAmb	01 33 06.4	
	comp=Z,6.0nm,1.5s						
HDA	**Harding Lake**	**19.46**	**37**	P	P	01 32 52.1	0.0
HDA				IAmb	IAmb	01 33 02.7	
	comp=Z,10nm,1.4s						
IL31		**19.66**	**36**	P	P	01 32 54.4	+0.2
IL31				IAmb	IAmb	01 33 09.7	
	comp=Z,5.1nm,1.2s						
ILAR	**Eielson Array**	**19.66**	**36**	P	P	01 32 53.1	-1.2
J25K	**Salcha River,**	**20.16**	**38**	P	P	01 32 57.8	-2.0
J25K				IAmb	IAmb	01 33 17.8	
	comp=Z,3.1nm,0.7s						
SCRK	**Sand Creek**	**20.43**	**40**	P	P	01 33 00.9	-1.9
J26L	**Joseph Creek**	**20.81**	**39**	P	P	01 33 05.0	-1.9
E24K	**Your Creek**	**21.02**	**28**	P	P	01 33 09.5	+0.4
E24K				IAmb	IAmb	01 33 41.5	
	comp=Z,4.8nm,1.4s						
BCAR	**Beaver Creek A**	**21.02**	**44**	P	P	01 33 09.3	+0.2
I26K	**Coal Creek Min**	**21.31**	**37**	P	P	01 33 10.8	-1.3
I26K				IAmb	IAmb	01 33 53.5	
	comp=Z,5.5nm,1.4s						
C23K	**Itkillik River**	**21.66**	**23**	P	P	01 33 15.0	-0.9
C23K				IAmb	IAmb	01 33 30.6	
	comp=Z,6.7nm,1.3s						

IGQ 09 02:22:36.5±0.4,4.°S±3.°×8.°0W±.°,h39km,M4.0/27, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAMO	**ALAMOR**	**0.20**	**97**	P	Pn	02 22 46.0	+1.3
LAMO				S	Sn	02 22 53.1	+2.0
AMCR	**Ecuador-Macara**	**0.46**	**145**	P	Pn	02 22 47.8	+1.1
AMCR				S	Sn	02 22 56.5	+2.5
MCRA	**Macar, Loja**	**0.46**	**145**	P	Pn	02 22 47.8	+1.1
MCRA				S	Sn	02 22 56.5	+2.6
ARNL	**Arenillas**	**0.47**	**19**	S	Sn	02 22 55.1	+1.1
ARNL				P	Pn	02 22 47.2	+0.4
ACH1	**Ecuador-Univer**	**0.76**	**24**	P	Pn	02 22 49.9	-1.0
ACH2	**Ecuador-Machal**	**0.83**	**30**	P	Pn	02 22 52.3	+0.6
GONZ	**Gonzanam**	**0.86**	**107**	P	Pn	02 22 52.1	-0.4
GONZ				S	Sn	02 23 03.5	-0.6
ISPG	**Isla Puna-Puer**	**1.02**	**3**	P	Pn	02 22 56.4	+2.0
ALJ1	**Ecuador-Loja-U**	**1.02**	**90**	P	Pn	02 22 53.6	-1.0
PCRA	**Pucara 2**	**1.06**	**43**	P	Pn	02 22 54.8	-0.5
MORR	**Playas El Morr**	**1.35**	**355**	P	Pn	02 22 59.2	+0.3
ZUMB	**Zumba**	**1.38**	**129**	P	Pn	02 23 00.1	+0.6
ACUE	**Ecuador-Cuenca**	**1.65**	**50**	P	Pn	02 23 03.7	+0.3
MILO	**Milagro-Astudi**	**1.82**	**21**	P	Pn	02 23 05.9	+0.4
AZOG	**Ecuador-Azogue**	**1.84**	**48**	P	Pn	02 23 04.3	-1.6
GYE3	**Ecuador-Guayaq**	**1.85**	**10**	P	Pn	02 23 03.8	-2.0
BOSC	**San Juan Bosco**	**1.91**	**64**	P	Pn	02 23 06.9	+0.1
AGUAY	**Guayaquil**	**1.94**	**8**	P	Pn	02 23 05.9	-1.1
SALI	**Salinas**	**1.95**	**337**	P	Pn	02 23 07.6	+0.4
ABAB	**Ecuador-Univer**	**2.29**	**18**	P	Pn	02 23 11.5	-0.3
PPLP	**Puerto Lpez**	**2.49**	**347**	P	Pn	02 23 15.4	+0.8
CHSH	**Refugio Sur-Vo**	**2.82**	**29**	P	Pn	02 23 17.7	-2.0
TAMH	**Tambohuasha Ch**	**2.83**	**31**	P	Pn	02 23 18.9	-0.8
PORT	**Chimborazo Vol**	**2.90**	**30**	P	Pn	02 23 20.0	-0.7
IGUA	**Igualata**	**2.94**	**32**	P	Pn	02 23 20.7	-0.6
BMAS	**Trigal station**	**3.02**	**35**	P	Pn	02 23 21.9	-0.3
ARRY	**Arrayan**	**3.03**	**36**	P	Pn	02 23 22.3	-0.1
TUYU	**Q. Yuibug Volc**	**3.04**	**35**	P	Pn	02 23 22.7	+0.1
BPAT	**Tungurahua Vol**	**3.05**	**36**	P	Pn	02 23 22.8	+0.1
JUI6	**Juive**	**3.09**	**35**	P	Pn	02 23 23.0	-0.1
BULB	**Ulba Tungurahu**	**3.12**	**36**	P	Pn	02 23 23.7	+0.2
TAIS	**Taisha**	**3.15**	**60**	P	Pn	02 23 23.3	-0.5
PECV	**Mancha de Ca P**	**3.20**	**3**	P	Pn	02 23 24.2	-0.2
PUYO	**Puyo, Santa Ro**	**3.31**	**42**	P	Pn	02 23 25.3	-0.7
ILLI	**Illinizas Sur**	**3.58**	**25**	P	Pn	02 23 30.8	+0.8
SRAM	**San Ramn-Vol**	**3.62**	**27**	P	Pn	02 23 31.4	+0.9
FLF1	**Flavio Alfaro-**	**3.63**	**6**	P	Pn	02 23 29.3	-1.0
BRRN	**Barrancas-Volc**	**3.63**	**29**	P	Pn	02 23 30.7	-0.1
VCES	**Cotopaxi**	**3.66**	**30**	P	Pn	02 23 31.0	-0.2
SLOR	**San Lorenzo -**	**3.67**	**28**	P	Pn	02 23 31.0	-0.2
CAMI	**Rancho Maria**	**3.71**	**28**	P	Pn	02 23 32.5	+0.7
BNAS	**Cotopaxi Volca**	**3.73**	**28**	P	Pn	02 23 33.3	+1.2
BREF	**Cotopaxi Volca**	**3.75**	**28**	P	Pn	02 23 32.0	-0.5
TAMB	**Tambo**	**3.76**	**30**	P	Pn	02 23 33.2	+0.6
BTAM	**Cotopaxi Volca**	**3.76**	**29**	P	Pn	02 23 34.1	+1.5
BVC2	**Cotopaxi Volca**	**3.77**	**29**	P	Pn	02 23 32.8	+0.1
VC1	**Cotopaxi 1**	**3.79**	**29**	P	Pn	02 23 32.9	-0.1
ARDO	**Archidona, Ten**	**3.83**	**39**	P	Pn	02 23 31.1	-2.1
PITA	**Cotopaxi Volc**	**3.85**	**28**	P	Pn	02 23 31.5	-2.2
ANTS	**Antisana-Sarah**	**4.03**	**31**	P	Pn	02 23 36.3	0.0
GGPT	**Toaza - Volcan**	**4.07**	**23**	P	Pn	02 23 36.3	-0.4
ANTI	**Antisana**	**4.08**	**30**	P	Pn	02 23 37.2	+0.3
JUA2	**San Juan 2**	**4.08**	**23**	P	Pn	02 23 37.5	+0.5
TERV	**Terraza Guagua**	**4.12**	**23**	P	Pn	02 23 36.1	-1.4
PINO	**Pino**	**4.13**	**23**	P	Pn	02 23 36.4	-1.4
YANA	**Yana**	**4.18**	**23**	P	Pn	02 23 37.7	-0.6
PULU	**Pululahua**	**4.34**	**23**	P	Pn	02 23 39.9	-0.5
PAC1	**Pacto, Paraso**	**4.46**	**19**	P	Pn	02 23 40.4	-1.5
OTAV	**Otavalo**	**4.56**	**23**	P	Pn	02 23 42.5	-0.9
CUSE	**Cuicocha Este**	**4.64**	**23**	P	Pn	02 23 45.0	+0.4
CUIC	**Cuicocha-Domo**	**4.65**	**24**	P	Pn	02 23 44.1	-0.6
URCU	**Urcuqui**	**4.82**	**24**	P	Pn	02 23 46.7	-0.3
YAHU	**Yahuarcocha**	**4.83**	**26**	P	Pn	02 23 47.2	0.0

*IDC **09** 02:42:21.9±0.4,51.°44N×174.°75W,h0km,mb4.7/40, mbtmp4.7/42,ML4.6/2,MS4.6/78,Error ellipse: s-maj=13.8km s-min=9.3km az=172.0*
*NEIC **09** 02:42:23.6,50.°61N×174.°61W,h26km,Moment Tensor Solution. Duration:1s8 Moment tensor: Scale 10^{16}Nm; M_{rr}5.27; $M_{\theta\theta}$-5.91; $M_{\phi\phi}$0.64; $M_{r\theta}$5.30; $M_{\theta\phi}$-3.02; $M_{r\phi}$2.94; Fault plane solution: $M_0$8.67000×10^{16} NP1:ϕ_s61.98000°, δ67.42000°,λ83.46000°. NP2:ϕ_s258.61000°,δ23.46000°, λ105.32000°. Principal axes: T 7.8061, Plg67.0000°, Azm320.0000°; N 1.7339, Plg6.0000°, Azm65.0000°; P -9.5400, Plg22.0000°, Azm157.0000°;*
*NEIC **09** 02:42:23.6,51.°31N×174.°77W,h26km*
*MOS **09** 02:42:25.9±0.9,51.°45N×174.°72W,h34km,mb5.3/97, MS4.5/17,Error ellipse: s-maj=7.3km s-min=4.0km az=101.6*
*NEIC **09** 02:42:25.2±2.7,51.°37N±0.°06×174.°65W±0.°07,h18km±3km, mb5.2/562,ML5.1/6,Mww5.2/24,ML5.0(AEIC),Error ellipse: s-maj=9.2km s-min=6.3km az=163.0*
*AEIC **09** 02:42:26.3±2.2,51.°32N±0.°04×174.°65W±0.°06,h28km±3km, Error ellipse: s-maj=5.9km s-min=5.6km az=71.0*
*BJI **09** 02:42:26.6±0.0,51.°64N×174.°94W,h38km,mb5.3/82, mB5.3/50,Ms5.0/64,Ms7 4.9/63*
*GCMT **09** 02:42:28.2±0.2,51.°37N±0.°01×174.°69W±0.°02,h18km, MW5.2/131,Moment Tensor Solution. s103,c165; s131,c224; Duration:1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}6.02±.15; $M_{\theta\theta}$-5.36±.12; $M_{\phi\phi}$-0.65±.10; $M_{r\theta}$4.18±.26; $M_{\theta\phi}$-2.17±.07; $M_{r\phi}$2.32±.27; Best double couple: $M_0$7.76200×10^{16} NP1:ϕ_s64.00000°,δ64.00000°, λ86.00000°. NP2:ϕ_s254.00000°,δ26.00000°,λ99.00000°. Principal axes: T 7.6890, Plg71.0000°, Azm325.0000°; N 0.1460, Plg4.0000°, Azm66.0000°; P -7.8350, Plg19.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **09** 02:42:34.0,52.°24N×176.°78W,h33km,mb5.2,Ms4.5, Hypocentre not reviewed by the ISC*
ISC 09 02:42:26.4±0.6,51.°38N±0.°04×174.°71W±0.°03,h28km±3km, h27km:pP-P,n1395,σ1922/1225,mb5.2/447,MS4.7/124, 95C-41D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.88**	**21**		**Pb**	**02 42 42.5**	**-0.6**
ATKA					**Sb**	**02 42 52.6**	**-1.8**
ATKA				IAML		02 42 59.3	
	comp=N,41μm,1.0s						
KOFP	**Korovin Flat P**	**0.97**	**23**		**Pb**	**02 42 44.6**	**0.0**
KOKL	**Mount Kliuchef**	**0.99**	**18**		**Pb**	**02 42 45.0**	**0.0**
GSMY	**Great Sitkin M**	**1.07**	**309**		**Pb**	**02 42 46.0**	**-0.3**
GSTR	**Great Sitkin T**	**1.10**	**311**	Pn	**Pn**	**02 42 46.1**	**0.0**
GSCK	**Great Sitkin C**	**1.10**	**305**		**Pb**	**02 42 46.5**	**-0.3**
GSTD	**Great Sitkin T**	**1.12**	**308**		**Pb**	**02 42 47.0**	**-0.2**
GSTD					**Sb**	**02 43 03.3**	**+1.9**
ADK	**Adak**	**1.33**	**293**	Sn	**Sn**	**02 43 05.8**	**-0.1**
ADK	**Adak**	**1.33**	**293**	Pn	**Pn**	**02 42 49.3**	**+0.2**
ADK				IAML		02 43 08.4	
	comp=N,55μm,0.5s						
ADK	**Adak**	**1.33**	**293**	P	**Pn**	**02 42 49.3**	**+0.2**
ADK						02 43 05.8	
KIRH	**Kanaga Island**	**1.58**	**290**		**Pn**	**02 42 53.4**	**+0.9**
KIWB	**Kanaga Island**	**1.60**	**288**	Pn	**Pn**	**02 42 52.8**	**+0.1**
KINC	**Kanaga Island**	**1.61**	**291**		**Pn**	**02 42 53.7**	**+0.8**
KICM	**Kanaga Island**	**1.64**	**290**		**Pn**	**02 42 54.4**	**+1.0**
TASE	**Tanaga Southea**	**2.13**	**284**		**Pn**	**02 43 01.4**	**+1.3**
TANO	**Tanaga North**	**2.19**	**285**		**Pn**	**02 43 02.8**	**+1.8**
GAEA	**Gareloi East**	**2.55**	**281**		**Pn**	**02 43 07.5**	**+1.6**
CLES	**Cleveland East**	**3.30**	**62**	Pn	**Pn**	**02 43 16.4**	**+0.3**
CLES				IAML		02 44 16.1	
	comp=E,3μm,1.0s						
CLES				IAML		02 44 26.6	
	comp=N,5μm,0.9s						
AMKA	**Amchitka**	**3.75**	**272**	Pn	**Pn**	**02 43 22.1**	**-0.3**
AMKA				Sn	**Sn**	**02 44 04.5**	**-1.1**
NIKH	**Nikolski High**	**3.94**	**64**	P	**Pn**	**02 43 27.6**	**+2.7**
	baz=247						
LSPA	**Little Sitkin**	**4.22**	**280**		**Pn**	**02 43 30.3**	**+1.4**
LSNW	**Little Sitkin**	**4.26**	**281**		**Pn**	**02 43 30.6**	**+1.2**
MSW	**Makushin Switc**	**5.45**	**59**		**Pn**	**02 43 47.2**	**+1.5**
UNV	**Unalaska Valle**	**5.57**	**61**		**Pn**	**02 43 48.9**	**+1.5**
UNV	**Unalaska Valle**	**5.57**	**61**	P	**Pn**	**02 43 50.6**	**+3.2**
	baz=246						
LVA	**Lava Point**	**5.95**	**59**	Pn	**Pn**	**02 43 54.6**	**+2.0**
P08K	**Saint George I**	**6.05**	**28**		**Pn**	**02 43 56.9**	**+3.0**
P08K	**Saint George I**	**6.05**	**28**	P	**Pn**	**02 43 55.8**	**+1.9**
	baz=212						
SPIA	**Saint Paul Isl**	**6.37**	**22**		**Pn**	**02 44 02.1**	**+3.9**
SPIA	**Saint Paul Isl**	**6.37**	**22**	P	**Pn**	**02 44 00.2**	**+2.0**
	baz=206						
SHEM	**Shemya Is, Ala**	**7.04**	**285**	Pn	**Pn**	**02 44 07.1**	**-0.3**
	comp=N,7.8nm,0.3s,baz=74,slow=15,SNR=1.7						
SHEM				Sn	**Sn**	**02 45 35.1**	**+8.7**
	comp=N,2.4nm,0.3s,baz=108,slow=20,SNR=1.3						
SHEM				LR	LR	02 47 09.8	
	comp=N,6μm,18.8s,baz=104,slow=41						
	comp=N,27nm,0.3s						
FALS	**False Pass**	**7.63**	**58**	P	**Pn**	**02 44 17.5**	**+1.9**
	baz=247						
S12K	**Black Hills**	**8.68**	**55**	Pn	**Pn**	**02 44 30.2**	**+0.2**
S12K	**Black Hills**	**8.68**	**55**	P	**Pn**	**02 44 31.9**	**+1.9**
	baz=245						
PS1A	**Pavlof South-1**	**8.74**	**57**		**Pn**	**02 44 33.6**	**+2.9**
SDPT	**Sand Point**	**9.39**	**59**	P	**Pn**	**02 44 41.5**	**+1.8**
	baz=250						
CNBA	**Chernabura Isl**	**9.72**	**63**	Pn	**Pn**	**02 44 43.7**	**-0.5**
CHNA	**Chernabura Isl**	**9.72**	**63**	P	**Pn**	**02 44 44.9**	**+0.6**
	baz=255						
M11K	**Mekoryuk**	**10.20**	**25**	P	**Pn**	**02 44 52.8**	**+2.1**
	baz=211,SNR=7.5						
S14K	**Fog Glacier**	**10.21**	**55**	P	**Pn**	**02 44 51.8**	**+0.9**
	baz=247						
CHGN	**Chignik**	**10.80**	**57**	P	**Pn**	**02 44 59.9**	**+0.9**
	baz=249						
O14K	**Tigyukauivet M**	**10.97**	**39**	P	**Pn**	**02 45 02.0**	**+0.7**
	baz=230						
M13K	**Dall Lake**	**11.05**	**31**	P	**Pn**	**02 45 02.9**	**+0.5**
	baz=220						
N14K	**Kuskokwak Cree**	**11.26**	**36**	P	**Pn**	**02 45 06.6**	**+1.3**
	baz=226						
O15K	**Ungalikthiuk R**	**11.51**	**42**	P	**Pn**	**02 45 09.8**	**+1.1**
	baz=233						
M14K	**Bethel**	**11.76**	**32**	Pn	**Pn**	**02 45 14.1**	**+2.0**
M14K	**Bethel**	**11.76**	**32**	P	**Pn**	**02 45 12.5**	**+0.5**
	baz=222						
L14K	**Kuka Creek**	**11.98**	**29**	Pn	**Pn**	**02 45 18.6**	**+3.6**
L14K	**Kuka Creek**	**11.98**	**29**	P	**Pn**	**02 45 17.1**	**+2.1**
	baz=219						
N15K	**Kwethluk River**	**12.02**	**37**	Pn	**Pn**	**02 45 19.5**	**+3.8**
N15K	**Kwethluk River**	**12.02**	**37**	P	**Pn**	**02 45 16.9**	**+1.2**
	baz=229,SNR=13						
M15K	**Kasigluk River**	**12.16**	**34**	P	**Pn**	**02 45 18.8**	**+1.3**
	baz=226,SNR=14						
CHIR	**Chirikof Islan**	**12.16**	**61**	Pn	**Pn**	**02 45 16.7**	**-0.9**
CHIR	**Chirikof Islan**	**12.16**	**61**	P	**Pn**	**02 45 17.5**	**-0.1**
	baz=256						
P16K	**Nushagak River**	**12.21**	**45**	P	**Pn**	**02 45 19.7**	**+1.4**
	baz=236						
R17L	**Mt. Peulik Vol**	**12.34**	**52**	P	**Pn**	**02 45 20.8**	**+0.8**
	baz=247						
O16K	**Kokwok River B**	**12.47**	**42**	Pn	**Pn**	**02 45 25.3**	**+3.5**
O16K	**Kokwok River B**	**12.47**	**42**	P	**Pn**	**02 45 22.9**	**+1.1**
	baz=236,SNR=9.8						
L15K	**Ungalak Mounta**	**12.61**	**30**	P	**Pn**	**02 45 25.6**	**+2.0**
	baz=221						
N16K	**Nishlik Lake**	**12.72**	**38**	P	**Pn**	**02 45 26.9**	**+1.6**
	baz=231						
Q17K	**Contact Creek**	**12.82**	**50**	P	**Pn**	**02 45 27.5**	**+0.7**
	baz=245,SNR=5.4						
J14K	**Nanvaranak Lak**	**12.88**	**24**	P	**Pn**	**02 45 28.8**	**+1.4**
	baz=213						
P17K	**Kvichak River**	**12.99**	**46**	P	**Pn**	**02 45 29.9**	**+1.0**
	baz=241						
O17K	**Koliganek Bris**	**13.00**	**43**	P	**Pn**	**02 45 30.4**	**+1.4**
	baz=237						
M16K	**Timber Creek**	**13.01**	**36**	Pn	**Pn**	**02 45 33.7**	**+4.6**
M16K	**Timber Creek**	**13.01**	**36**	P	**Pn**	**02 45 30.2**	**+1.1**
	baz=229						
K15K	**Wolf Creek Mou**	**13.07**	**28**	Pn	**Pn**	**02 45 34.5**	**+4.6**
K15K	**Wolf Creek Mou**	**13.07**	**28**	P	**Pn**	**02 45 31.4**	**+1.5**
	baz=219,SNR=9.6						
SII	**Sitkinak Islan**	**13.12**	**59**	Pn	**Pn**	**02 45 29.7**	**-1.0**
SII	**Sitkinak Islan**	**13.12**	**59**	P	**Pn**	**02 45 31.5**	**+0.7**
	baz=255						
R18K	**Karluk**	**13.28**	**54**	P	**Pn**	**02 45 33.6**	**+0.8**
	baz=250						
L16K	**Owhat River**	**13.29**	**33**	Pn	**Pn**	**02 45 36.6**	**+3.7**
L16K	**Owhat River**	**13.29**	**33**	P	**Pn**	**02 45 34.4**	**+1.5**
	baz=225						
N17K	**Nushagak Hills**	**13.38**	**40**	Pn	**Pn**	**02 45 38.3**	**+4.1**
N17K	**Nushagak Hills

BRLK	Bradley Lake	15.79	49	Pn	Pn	02 46 06.8	+0.2
N20K	Mount Spurr	15.81	43	P	Pn	02 46 08.1	+1.2
	baz=241						
SPCR	Spurr Chakacha	15.81	43	P	Pn	02 46 06.9	+0.1
	baz=241						
L20K	Farewell, AK	15.81	37	P	Pn	02 46 07.8	+1.0
	baz=235,SNR=17						
BRSE	Bradley Lake S	15.85	49	P	Pn	02 46 08.6	+1.2
	baz=246						
G17K	Kiwalik Mounta	15.89	22	P	Pn	02 46 09.5	+1.7
	baz=214						
CAPN	Captain Cook N	16.07	45	P	Pn	02 46 10.4	+0.3
	baz=244						
J19K	Poorman	16.15	31		P	02 46 13.8	-0.3
J19K	Poorman	16.15	31	P	Pn	02 46 12.6	+1.5
	baz=227,SNR=19						
H18K	Honhosa River	16.18	25	P	Pn	02 46 12.3	+0.8
	baz=219						
K20K	Telida	16.26	35		Pn	02 46 13.8	+1.2
K20K	Telida	16.26	35	P	Pn	02 46 13.5	+1.0
	baz=232,SNR=32						
GCSA	Galena City Sc	16.29	28	P	Pn	02 46 14.1	+1.2
	baz=223						
PET	Petropavlovsk	16.38	286	Pn	Pn	02 46 14.9	+0.8
PET	Petropavlovsk	16.38	286	*e*P	P	02 46 18.3	+1.6
PET				pmax	pmax		
	comp=Z,500nm,13.5s						
PET				pmax	pmax		
	comp=Z,73nm,0.7s						
PET				pmax	pmax		
	comp=Z,200nm,11.0s						
PET				MLR	MLR		
	comp=Z,900nm,16.0s						
PET	Petropavlovsk	16.38	286	P	P	02 46 16.3	-0.4
SKT	Skwentna	16.47	41		P	02 46 17.1	-0.6
SKT	Skwentna	16.47	41	P	Pn	02 46 16.3	+1.1
	baz=240,SNR=12						
SUA	Susitna One	16.55	43		P	02 46 18.8	0.0
SUA	Susitna One	16.55	43	P	Pn	02 46 17.3	+0.9
	baz=243						
F17K	Baldwin Pennin	16.56	19		Pn	02 46 17.3	+1.1
F17K	Baldwin Pennin	16.56	19	P	P	02 46 17.7	-0.9
	baz=211						
SEW	Seward	16.59	48	P	Pn	02 46 16.7	0.0
	baz=249						
PPLA	Purkeypile	16.69	38	P	Pn	02 46 19.2	+1.1
	baz=236						
G18K	Tagagawik	16.69	23	P	P	02 46 19.8	-0.3
	baz=217						
J20K	Nowinta River	16.76	32		Pn	02 46 20.0	+1.2
J20K	Nowinta River	16.76	32	P	Pn	02 46 20.0	+1.2
	baz=230,SNR=16						
RC01	Rabbit Creek A	16.84	45	P	Pn	02 46 20.9	+1.1
	baz=246						
M22K	Willow	16.95	43		P	02 46 23.3	+0.3
M22K	Willow	16.95	43	P	Pn	02 46 22.2	+0.9
	baz=243						
H19K	Roundabout Mou	16.99	27		P	02 46 23.4	0.0
H19K	Roundabout Mou	16.99	27	P	P	02 46 22.9	-0.5
	baz=222,SNR=18						
E17K	Hotham Inlet	17.00	17	P	Pn	02 46 22.9	+1.0
	baz=208						
CAST	Castle Rocks	17.02	36	P	Pn	02 46 23.0	+0.9
	baz=235						
F18K	Selawik	17.04	21	P	P	02 46 23.6	-0.3
	baz=214,SNR=10						
I20K	Naaghedeneel	17.06	30		P	02 46 24.4	+0.3
I20K	Naaghedeneel	17.06	30	P	P	02 46 24.1	0.0
	baz=227						
CUT	Chulitna	17.19	41		P	02 46 25.8	+0.2
CUT	Chulitna	17.19	41	P	P	02 46 25.7	0.0
	baz=241						
CHUM	Lake Minchumin	17.21	35	P	P	02 46 25.9	+0.2
	baz=234						
G19K	Purcell Mounta	17.29	24	P	P	02 46 26.7	+0.1
	baz=219						
PMR	Palmer	17.31	44	P	P	02 46 27.4	+0.5
	baz=245						
D17K	Noatak River	17.34	15	P	P	02 46 27.5	+0.3
	baz=205						
H20K	Anotleneega Mo	17.42	28	P	P	02 46 28.4	+0.3
	baz=225,SNR=7.4						
P23K	Montague Islan	17.53	50	P	Pn	02 46 28.8	+0.3
	baz=252						
KNK	Knik Glacier	17.53	45	P	Pn	02 46 28.4	-0.1
	baz=247						
E18K	Tukpahlearik C	17.54	18		P	02 46 30.3	+0.9
E18K	Tukpahlearik C	17.54	18	P	P	02 46 29.6	+0.1
	baz=210						
C16K	Lisburne Hills	17.55	12	IAmb	IAmb	02 46 38.4	
	comp=Z,141nm,1.1s						
C16K	Lisburne Hills	17.55	12	P	P	02 46 29.7	+0.1
	baz=200,SNR=5.6						
F19K	Shaleruckik Mo	17.66	22	P	Pn	02 46 30.4	+0.5
	baz=217,SNR=16						
SML	Sawmill	17.74	44	P	Pn	02 46 31.2	0.0
	baz=246,SNR=6.9						
BPAW	Bear Paw Mtn.	17.81	35	IAmb	IAmb	02 46 42.4	
	comp=Z,265nm,2.0s						
BPAW	Bear Paw Mtn.	17.81	35	P	P	02 46 32.6	+0.1
	baz=235,SNR=24						
M23K	Glacier View	18.00	44	P	Pn	02 46 34.3	0.0
	baz=247,SNR=9.7						
C17K	DeLong Mountai	18.04	14	P	P	02 46 35.5	+0.6
	baz=204						
WAT1	Susitna Watana	18.10	41	P	P	02 46 36.2	+0.6
	baz=242						
I21K	Tanana	18.11	32	P	P	02 46 36.6	+0.8
	baz=231						
H21K	Melozitna Rive	18.16	30	P	P	02 46 37.4	+1.1
	baz=228,SNR=32						
SCM	Sheep Creek Mo	18.19	44		Pn	02 46 34.9	-1.8
SCM	Sheep Creek Mo	18.19	44	P	P	02 46 37.5	+0.7
	baz=247,SNR=6.9						
SCM	Sheep Creek Mo	18.19	44	P	Pn	02 46 34.9	-1.8
SCM				pmax	pmax		
	comp=Z,30nm,0.7s						
RND	Reindeer	18.25	39	P	P	02 46 37.6	+0.2
E19K	Redstone River	18.29	22	P	Pn	02 46 38.9	+1.2
	baz=217,SNR=17						
SKR	Severo-Kuril's	18.32	279	*e*P	P	02 46 37.7	-0.4
SKR				*e*S	Sn	02 50 00.4	-1.3
SKR				pmax	pmax		
	comp=Z,800nm,4.2s						
SKR				pmax	pmax		
	comp=Z,239nm,1.1s						
WAT6	Susitna Watana	18.32	42	P	P	02 46 38.4	+0.1
	baz=244						
F20K	Avaraart Lake	18.33	24	P	Pn	02 46 39.1	+0.8
	baz=220						
MCK	McKinley	18.38	38	P	P	02 46 38.1	-0.7
	baz=240,SNR=16						
MCK	McKinley	18.38	38	P	P	02 46 37.4	-1.4
BWN	Browne	18.41	36	IAmb	IAmb	02 46 42.5	
	comp=Z,110nm,1.1s						
MLY	Manley	18.44	33	P	P	02 46 39.8	+0.3
	baz=235,SNR=31						
C18K	Utukok River	18.51	16	P	Pn	02 46 40.9	+0.5
	baz=207,SNR=9.2						
G21K	Allakaket	18.54	27	IAmb	IAmb	02 46 48.7	
	comp=Z,103nm,1.1s						
G21K	Allakaket	18.54	27	P	Pn	02 46 41.4	+0.6
	baz=225,SNR=32						
DHY	Denali Highway	18.69	41	P	P	02 46 41.3	-1.0
DHY	Denali Highway	18.69	41	P	P	02 46 42.5	+0.2
	baz=244,SNR=8.4						
KLU	Klutina	18.69	46	P	P	02 46 42.3	0.0
	baz=250						
H22K	Ishtalitna Cre	18.76	30	P	Pn	02 46 43.7	+0.2
	baz=230,SNR=25						
NEA2	Nenana	18.78	35	P	Pn	02 46 43.8	+0.1
	baz=237,SNR=5.9						
M24K	Tolsona, Glenn	18.80	44	P	P	02 46 43.6	+0.1
	baz=248						
D19K	Kuna River	18.95	19	IAmb	IAmb	02 46 54.0	
	comp=Z,101nm,1.1s						
D19K	Kuna River	18.95	19	P	Pn	02 46 45.6	-0.1
	baz=213,SNR=23						
I23K	Minto, Yukon-K	18.98	34	IAmb	IAmb	02 46 56.0	
	comp=Z,104nm,1.1s						
I23K	Minto, Yukon-K	18.98	34	P	P	02 46 45.7	+0.4
	baz=235,SNR=60						
F21K	Alatna River	19.05	26	IAmb	IAmb	02 46 54.3	
	comp=Z,256nm,1.9s						
F21K	Alatna River	19.05	26	P	Pn	02 46 47.6	+0.6
	baz=224,SNR=41						
B18K	Kokolik River	19.05	14	P	Pn	02 46 47.3	+0.4
	baz=205						
BILL	Bilibino	19.11	338	P	Pn	02 46 47.5	-0.2
BILL				IAmb	IAmb	02 46 54.9	
	comp=Z,256nm,1.0s						
BILL	Bilibino	19.11	338	*c iP*	Pn	02 46 48.1	+0.4
BILL				*e*S	Sn	02 50 18.1	-2.6
BILL				pmax	pmax		
	comp=Z,113nm,1.0s						
BILL				MLR	MLR		
	comp=Z,2μm,20.0s						
BMRM	Bremner River	19.14	48	P	P	02 46 47.3	+0.2
	baz=253,SNR=6.1						
E20K	Nigu River	19.17	21	P	Pn	02 46 48.3	-0.1
	baz=217,SNR=57						
C19K	Lookout Ridge	19.19	17	IAmb	IAmb	02 46 57.5	
	comp=Z,255nm,1.4s						
C19K	Lookout Ridge	19.19	17	P	Pn	02 46 48.6	-0.1
	baz=210,SNR=15						
H23K	Yukon River	19.32	32	P	P	02 46 49.4	+0.4
H23K	Yukon River	19.32	32	P	P	02 46 49.8	+0.8
	baz=233,SNR=16						
N25K	Chitina, Valde	19.33	46	P	Pn	02 46 50.4	-0.1
	baz=252						
HARP	HAARP	19.35	44	P	P	02 46 50.0	+0.6
	baz=249,SNR=9.5						
COLA	College	19.37	36	P	P	02 46 49.3	-0.3
COLA	College	19.37	36	P	Pn	02 46 50.5	-0.3
	baz=238						
COLA	College	19.37	36⇑	*e*P	Pn	02 46 50.5	-0.3
COLA				pmax	pmax		
	comp=Z,14nm,1.1s						
G22K	Bettles	19.40	28	P	Pn	02 46 51.1	0.0
	baz=228,SNR=24						
PAX	Paxson	19.43	42	P	Pn	02 46 51.3	-0.4
	baz=247,SNR=8.6						
D20K	Etivluk River	19.44	20	P	Pn	02 46 51.9	+0.3
	baz=216						
HDA	Harding Lake	19.47	37	IAmb	IAmb	02 46 58.6	
	comp=Z,84nm,0.5s						
HDA	Harding Lake	19.47	37	P	P	02 46 51.2	+0.5
	baz=241,SNR=41						
F22K	John River	19.61	26	P	P	02 46 52.9	+0.7
	baz=226						
POKR	Poker Plat Res	19.65	35	P	P	02 46 53.3	+0.6
	baz=238						
K24K	Donnelly Dome	19.65	40	P	P	02 46 53.1	+0.4
	baz=244						
ILAR	Eielson Array	19.68	36	P	P	02 46 50.6	-2.3
ILAR	Eielson Array	19.68	36	P	P	02 46 50.0	-2.9
	comp=Z,2.5nm,0.3s,baz=235,slow=7.9,SNR=102						
ILAR				S	S	02 50 28.6	-4.5
	comp=Z,1.4nm,0.9s,baz=246,slow=13,SNR=2.7						
ILAR				PcP	PcP	02 51 10.7	-0.1
	comp=Z,0.7nm,0.3s,baz=237,slow=2.7,SNR=4.2						
ILAR				ScP	ScP	02 54 48.6	+3.9
	comp=Z,1.4nm,1.2s,baz=260,slow=4.0,SNR=4.7						
ILAR				LR	LR	02 55 06.7	
	comp=Z,2μm,18.3s,baz=226,slow=39						
	comp=Z,2.3nm,0.4s						
ILAR	Eielson Array	19.68	36	P	P	02 46 50.6	-2.3
G23K	Bananza Creek	19.71	29	P	Pn	02 46 54.5	-0.3
	baz=231,SNR=26						
CRQE	Cirque	19.79	49	P	P	02 46 55.0	+0.6
	baz=256						
E21K	Killik River	19.83	23	P	P	02 46 55.6	+1.0
	baz=221						
H24K	Noodor Dome	19.88	33	P	P	02 46 56.1	+0.8
	baz=236,SNR=41						
A19K	Wainwright	19.93	14	P	Pn	02 46 57.1	-0.2
	baz=206						
COLD	Coldfoot	19.98	28	P	P	02 46 57.0	+0.7
	baz=229,SNR=30						
MCARA	McCarthy VSAT	19.99	48	P	P	02 46 56.7	+0.3
MCARA	McCarthy VSAT	19.99	48	P	P	02 46 55.9	-0.5
	baz=254						
E22K	Anaktuvuk Pass	20.15	25	P	P	02 46 58.7	+0.6
	baz=225						
J25K	Salcha River,	20.17	38	IAmb	IAmb	02 47 13.7	
	comp=Z,74nm,0.7s						
J25K	Salcha River,	20.17	38	P	P	02 46 57.0	-1.4
	baz=243,SNR=86						
C21K	Knifeblade Rid	20.20	21	P	P	02 46 59.2	+0.6
	baz=218,SNR=18						
MESA	MESA	20.22	51		P	02 46 58.9	-0.2
MESA	MESA	20.22	51	P	P	02 46 58.7	-0.4
	baz=259						
M26K	Nabesna, AK	20.30	45	IAmb	IAmb	02 47 14.9	
	comp=Z,38nm,0.5s						
M26K	Nabesna, AK	20.30	45	P	P	02 46 59.9	+0.1
	baz=252,SNR=9.5						
L26K	Log Cabin Wild	20.35	43	P	P	02 47 01.2	+0.8
	baz=249,SNR=15						
B20K	Meade River	20.41	17	P	P	02 47 02.0	+1.2
	baz=213						
SCRK	Sand Creek	20.45	40	P	P	02 46 60.0	-1.5
SCRK				IAmb	IAmb	02 47 08.1	
	comp=Z,98nm,0.8s						
SCRK	Sand Creek	20.45	40	P	P	02 47 00.3	-1.2
	baz=246,SNR=101						
D22K	Ayikyak River	20.47	23	IAmb	IAmb	02 47 13.9	
	comp=Z,114nm,1.1s						
D22K	Ayikyak River	20.47	23	P	P	02 47 02.0	+0.4
	baz=222,SNR=26						
G24K	Hadweenzic Riv	20.51	31	P	P	02 47 02.8	+0.8
	baz=235,SNR=16						
PRP	Porcupine Dome	20.55	35	P	P	02 47 02.7	+0.2
	baz=240,SNR=8.6						
B21K	Ikpikpuk River	20.60	20	P	P	02 47 03.6	+0.7
B21K				IAmb	IAmb	02 47 15.9	
	comp=Z,72nm,0.9s						
B21K	Ikpikpuk River	20.60	20	P	P	02 47 03.7	+0.8
	baz=218,SNR=30						
CTG	Chitna Glacier	20.68	49	P	P	02 47 04.1	+0.1
	baz=257						
E23K	Chandalar	20.70	27	P	P	02 47 05.2	+1.1
	baz=228,SNR=13						
M27K	Edge Creek, AK	20.78	45	P	P	02 47 05.4	+0.3
	baz=253,SNR=9.5						
H25L	Birch Creek	20.82	33	P	P	02 47 05.8	+0.5
	baz=238,SNR=27						
J26L	Joseph Creek	20.83	39	IAmb	IAmb	02 47 12.4	
	comp=Z,84nm,0.7s						
J26L	Joseph Creek	20.83	39	P	P	02 47 04.1	-1.4
	baz=246,SNR=121						
F24K	Squaw Lake	20.86	29	IAmb	IAmb	02 47 15.2	
	comp=Z,61nm,0.8s						
F24K	Squaw Lake	20.86	29	P	P	02 47 07.1	+1.2
	baz=232,SNR=59						
SEY	Seymchan	20.99	316	P	P	02 47 07.4	+0.2
	comp=Z,10nm,0.8s,baz=103,slow=12,SNR=21						
SEY				ScP	ScP	02 54 48.0	+0.1
	comp=Z,2.2nm,0.8s,baz=37,slow=20,SNR=3.1						
SEY				LR	LR	02 55 33.6	
	comp=Z,4μm,19.2s,baz=122,slow=38						
	comp=Z,10nm,0.8s						
SEY	Seymchan	20.99	316	*ce*P	P	02 47 07.9	+0.7
SEY				pmax	pmax		
	comp=Z,43nm,1.3s						
G25K	Bearman Lake	21.00	32	P	P	02 47 07.8	+0.6
	baz=237						
MA2	Magadan	21.00	306	P	P	02 47 07.5	+0.1
MA2				IAmb	IAmb	02 47 21.4	
	comp=Z,106nm,1.1s						
MA2	Magadan	21.00	306	P	P	02 47 05.1	-2.2
	comp=Z,6.5nm,0.6s,baz=92,slow=10.0,SNR=2.9						
MA2				LR	LR	02 55 09.3	
	comp=Z,2μm,19.1s,baz=105,slow=37						
	comp=Z,6.5nm,0.6s						
MA2	Magadan	21.00	306	*de*P	P	02 47 08.5	+1.2
MA2				pmax	pmax		
	comp=Z,52nm,1.7s						
MA2	Magadan	21.00	306	P	P	02 47 07.6	+0.3
	comp=Z,100nm,1.1s,comp=Z,983nm						
L27K	Beaver Creek,	21.02	44	P	P	02 47 08.1	+0.5
	baz=251,SNR=9.8						
E24K	Your Creek	21.03	28	P	P	02 47 08.2	+0.5
	baz=230						
D23K	Nanushuk River	21.04	24	P	P	02 47 08.4	+0.8
	baz=225,SNR=45						
BCAR	Beaver Creek A	21.04	44	P	P	02 47 09.2	+1.4
PINM	Pinnacle	21.04	52	P	P	02 47 08.0	+0.1
	baz=261						
TOLK	Toolik Lake Re	21.10	26	IAmb	IAmb	02 47 10.5	
	comp=Z,88nm,1.1s						
TOLK	Toolik Lake Re	21.10	26	P	P	02 47 09.3	+0.9
	baz=228,SNR=38						
O28M	Mount Upton	21.19	50	P	P	02 47 09.9	+0.3
	baz=259,SNR=9.8						
K27K	Chicken	21.24	41	P	P	02 47 10.3	+0.4
	baz=249						
I26K	Coal Creek Min	21.33	37	P	P	02 47 10.0	-0.8
	baz=244						
PNL	Peninsula	21.41	53	P	P	02 47 11.4	-0.3
	baz=263,SNR=8.1						
B22K	Teshekpuk Lake	21.42	20	P	P	02 47 11.3	-0.4
B22K				IAmb	IAmb	02 47 30.2	
	comp=Z,58nm,1.1s						
B22K	Teshekpuk Lake	21.42	20	P	P	02 47 12.5	+0.8
	baz=218,SNR=16						
YUK8	Steele Glacier	21.49	49	P	P	02 47 13.0	+0.1
	baz=258						
F25K	Christian Rive	21.61	30	P	P	02 47 13.9	0.0
	baz=236,SNR=21						
A21K	Barrow	21.62	16	P	P	02 47 14.4	+0.6
	baz=212,SNR=19						
A22K	Sinclair Lake	21.65	17	P	P	02 47 15.3	+1.2
	baz=215						
D24K	Happy Valley	21.65	25	IAmb	IAmb	02 47 21.8	
	comp=Z,68nm,0.9s						
D24K	Happy Valley	21.65	25	P	P	02 47 14.8	+0.6
	baz=228,SNR=26						
C23K	Itkillik River	21.68	23	IAmb	IAmb	02 47 24.9	
	comp=Z,162nm,1.0s						
C23K	Itkillik River	21.68	23	P	P	02 47 15.0	+0.6
	baz=224,SNR=63						
BMAR	Burnt Mountain	21.86	31	P	P	02 47 16.5	0.0
G26K	Porcupine Rive	21.87	33	P	P	02 47 17.0	+0.4
	baz=240,SNR=15						
EGAK	Eagle	21.89	39	IAmb	IAmb	02 47 31.1	
	comp=Z,191nm,1.4s						
EGAK	Eagle	21.89	39	P	P	02 47 16.1	-0.8
	baz=248,SNR=65						
O29M	Mount Kennedy	21.90	52	P	P	02 47 17.2	+0.1
	baz=262,SNR=6.5						
E25K	Arctic Village	21.93	29	IAmb	IAmb	02 47 20.6	
	comp=Z,74nm,1.2s						
E25K	Arctic Village	21.93	29	P	P	02 47 17.5	+0.2
	baz=235,SNR=42						
I27K	Kandik River	22.04	37	P	P	02 47 19.1	+0.7
	baz=246,SNR=23						
C24K	Franklin Bluff	22.07	24	P	P	02 47 19.2	+0.5
	baz=227						
F26K	Sheenjek River	22.14	31	P	P	02 47 19.4	-0.1
	baz=238,SNR=30						
P29M	Windy Craggy	22.24	54	P	P	02 47 20.6	-0.1
	baz=264,SNR=8.2						
H27K	Steamboat Moun	22.33	36	P	P	02 47 21.8	+0.1
	baz=244,SNR=16						
M29M	Somme Creek	22.34	46	P	P	02 47 21.8	0.0
	baz=257,SNR=8.5						
DAWY	Dawson	22.37	42	P	P	02 47 21.9	-0.1
	baz=252,SNR=16						
D25K	Kavik River	22.42	26	IAmb	IAmb	02 47 24.6	
	comp=Z,59nm,1.1s						
D25K	Kavik River	22.42	26	P	P	02 47 22.7	+0.1
	baz=231,SNR=56						
HYT	Haines Junctio	22.50	51	P	P	02 47 22.7	-0.8
	baz=262						
G27K	Doyon Strip	22.55	34	P	P	02 47 24.6	+0.7
G27K	Doyon Strip	22.55	34	P	P	02 47 24.0	+0.1
	baz=243,SNR=7.4						
I28M	Miner Creek	22.62	38	P	P	02 47 24.5	-0.2
	baz=248,SNR=49						
L29M	L29M	22.65	45	P	P	02 47 24.8	-0.2
	baz=256,SNR=16						
P30M	Million Dollar	22.68	53	P	P	02 47 25.0	-0.4
	baz=264						
N30M	Aishikik Lake	22.79	49	P	P	02 47 26.8	+0.2
	baz=261						
PLBC	Pleasant Camp	22.93	54	P	P	02 47 28.0	+0.1
	baz=266						
S31K	Pelican	22.95	58	IAmb	IAmb	02 47 46.3	
	comp=Z,34nm,0.8s						
S31K	Pelican	22.95	58	P	P	02 47 27.7	-0.3
	baz=270,SNR=13						
J29N	Klondike Camp	22.98	41	P	P	02 47 28.7	+0.2
	baz=252						
K29M	Barlow Dome	23.10	43	P	P	02 47 29.6	-0.1
	baz=255,SNR=20						
M30M	Minto, Yukon	23.13	46	P	P	02 47 30.2	+0.2
	baz=258						
O30N	Mendenhall	23.18	51	P	P	02 47 32.2	+1.7
O30N	Mendenhall	23.18	51	P	P	02 47 30.6	+0.1
	baz=263						
C26K	Camden Bay	23.20	26	P	P	02 47 30.6	+0.1
	baz=232,SNR=46						
E27K	Coleen River	23.22	31	IAmb	IAmb	02 47 32.4	
	comp=Z,67nm,1.6s						
E27K	Coleen River	23.22	31	P	P	02 47 30.9	0.0
	baz=240,SNR=22						
I29M	Ogilvie Camp,	23.23	39	IAmb	IAmb	02 47 37.6	
	comp=Z,59nm,1.1s						
I29M	Ogilvie Camp,	23.23	39	P	P	02 47 29.9	-1.0
	baz=250,SNR=56						
C27K	Jago River	23.36	27	P	P	02 47 31.6	-0.5
	baz=234,SNR=14						
N31M	Braeburn, Yuko	23.42	49	P	P	02 47 32.8	-0.1
	baz=262						
SIT	Sitka	23.46	61	IAmb	IAmb	02 47 41.4	
	comp=Z,44nm,1.2s						
SIT	Sitka	23.46	61	P	P	02 47 33.1	-0.1
	baz=273,SNR=11						
H29M	Whitestone	23.50	37	IAmb	IAmb	02 47 57.5	
	comp=Z,69nm,1.2s						
H29M	Whitestone	23.50	37	P	P	02 47 32.8	-0.8
	baz=248,SNR=24						
F28M	Old Crow	23.53	33	P	P	02 47 34.3	+0.4
F28M	Old Crow	23.53	33	P	P	02 47 33.3	-0.6
	baz=244,SNR=15						
J30M	Hart River	23.79	42	IAmb	IAmb	02 48 02.7	
	comp=Z,45nm,1.1s						
J30M	Hart River	23.79	42	P	P	02 47 35.8	-0.7
	baz=254,SNR=28						
S32K	Killisnoo	23.85	59	IAmb	IAmb	02 47 55.7	
	comp=Z,101nm,1.7s						
S32K	Killisnoo	23.85	59	P	P	02 47 36.7	-0.2
	baz=272						
R32K	Eaglecrest	23.86	57	P	P	02 47 39.5	+2.5
R32K	Eaglecrest	23.86	57	P	P	02 47 36.4	-0.6
	baz=271						
G29M	Pine Creek	23.89	36	IAmb	IAmb	02 47 38.3	
	comp=Z,80nm,1.4s						
G29M	Pine Creek	23.89	36	P	P	02 47 36.8	-0.5
	baz=247,SNR=12						
I30M	Mount Dempster	23.95	40	IAmb	IAmb	02 47 43.6	
	comp=Z,31nm,0.7s						
I30M	Mount Dempster	23.95	40	P	P	02 47 37.0	-1.1
	baz=253,SNR=50						
D27M	Malcolm River	23.96	29	IAmb	IAmb	02 47 39.8	
	comp=Z,58nm,1.3s						
D27M	Malcolm River	23.96	29	P	P	02 47 38.2	+0.3
	baz=239,SNR=41						
E28M	Babbage River	24.09	31	IAmb	IAmb	02 47 41.9	
	comp=Z,68nm,1.2s						
E28M	Babbage River	24.09	31	P	P	02 47 39.2	0.0
	baz=242,SNR=23						
M31M	Drury Creek, Y	24.17	48	P	P	02 47 40.2	+0.2
	baz=262						
EPYK	Eagle Plains	24.18	37	IAmb	IAmb	02 47 54.8	
	comp=Z,32nm,0.9s						
EPYK	Eagle Plains	24.18	37	P	P	02 47 39.2	-0.8
	baz=250,SNR=24						
P32M	Atlin	24.28	54	P	P	02 47 40.9	-0.1
	baz=268						
E29M	Blow River	24.54	32	P	P	02 47 43.0	-0.2
E29M				IAmb	IAmb	02 48 09.6	
	comp=Z,108nm,1.4s						
E29M	Blow River	24.54	32	P	P	02 47 43.5	+0.3
	baz=244,SNR=43						
G30M	tAoh Zraii Nji	24.58	36	P	P	02 47 43.1	-0.5
	baz=250,SNR=16						
N32M	Quiet Lake	24.68	51

CRAG	Craig	24.84	64	P	P	02 47 45.7	-0.2
	baz=278,SNR=10.0						
F30M	Barrier River	24.96	35	P	P	02 47 47.2	+0.1
	baz=249,SNR=19						
Q32M	Nakina River	25.02	56	IAmb	IAmb	02 48 20.1	
	comp=Z,83nm,1.4s						
Q32M	Nakina River	25.02	56	P	P	02 47 48.0	0.0
	baz=271,SNR=19						
WRAK	Wrangell Islan	25.15	62	P	P	02 47 51.2	+2.4
WRAK				IAmb	IAmb	02 47 52.6	
	comp=Z,98nm,1.1s						
WRAK	Wrangell Islan	25.15	62	P	P	02 47 48.6	-0.2
	baz=276,SNR=21						
G31M	Satah River	25.28	37	IAmb	IAmb	02 48 25.3	
	comp=Z,74nm,1.8s						
G31M	Satah River	25.28	37	P	P	02 47 50.0	+0.1
	baz=252						
DIB	Dawson Inlet,	25.62	69	P	P	02 47 54.3	+1.2
DIB				IAmb	IAmb	02 48 03.6	
	comp=Z,35nm,1.0s						
F31M	Tsiigehtchic	25.64	36	IAmb	IAmb	02 48 20.2	
	comp=Z,41nm,1.2s						
F31M	Tsiigehtchic	25.64	36	P	P	02 47 54.1	+0.9
	baz=252						
MMPY	Sheldon Lake,	25.66	47	P	P	02 47 53.6	+0.1
	baz=264,SNR=7.5						
S34M	Telegraph Cree	25.67	58	P	P	02 47 53.9	+0.4
	baz=274,SNR=11						
R33M	Jennings River	25.68	55	P	P	02 47 54.1	+0.2
	baz=271,SNR=12						
V35K	Ketchikan	25.71	64	IAmb	IAmb	02 48 12.1	
	comp=Z,40nm,0.9s						
V35K	Ketchikan	25.71	64	P	P	02 47 53.9	0.0
	baz=279,SNR=24						
INK	Inuvik	26.00	34	P	P	02 47 56.9	+0.4
	baz=250,SNR=14						
INK	Inuvik	26.00	34	P	P	02 47 54.6	-1.9
	comp=Z,12nm,0.9s,baz=259,slow=5.2,SNR=18						
INK				PcP	PcP	02 51 24.1	+0.4
	comp=Z,2.0nm,0.4s,baz=307,slow=1.5,SNR=6.4						
INK				LR	LR	02 59 30.9	
	comp=Z,2μm,18.2s,baz=210,slow=40						
	comp=Z,12nm,0.9s						
INK	Inuvik	26.00	34	P	P	02 47 56.3	-0.1
INK				pmax	pmax		
	comp=Z,28nm,0.9s						
DLBC	Dease Lake	26.21	57	IAmb	IAmb	02 48 04.3	
	comp=Z,52nm,1.2s						
DLBC	Dease Lake	26.21	57	P	P	02 47 59.1	+0.5
	baz=274,SNR=33						
DLBC	Dease Lake	26.21	57	P	P	02 47 59.2	+0.6
	comp=Z,44nm,1.2s,baz=276,slow=8.7,SNR=22						
	comp=Z,44nm,1.2s						
T35M	Bob Quinn	26.23	60	IAmb	IAmb	02 48 03.4	
	comp=Z,74nm,1.2s						
T35M	Bob Quinn	26.23	60	P	P	02 47 58.9	+0.1
	baz=277,SNR=28						
TYV	Tymovskoe	26.50	286	*e*P	P	02 48 01.4	+0.3
TYV				*e*S	S	02 52 34.8	+1.6
TYV				pmax	pmax		
	comp=Z,100nm,3.2s						
TYV				pmax	pmax		
	comp=Z,21nm,1.0s						
TYV				smax	smax		
	comp=N,100nm,6.2s						
TYV				smax	smax		
	comp=E,200nm,6.2s						
HG4B	Hotspring	26.60	71	IAmb	IAmb	02 48 20.0	
	comp=Z,30nm,1.0s						
RUBB	Prince Rupert	26.67	66	P	P	02 48 03.7	+1.1
RUBB				IAmb	IAmb	02 48 20.7	
	comp=Z,26nm,0.8s						
GRNB	Grenville Isla	26.94	67	IAmb	IAmb	02 48 26.1	
	comp=Z,32nm,1.0s						
YUK	Yuzh-Kuril'sk	27.27	270⇑	*e*P	P	02 48 07.1	-1.0
YSS	Yuzh-Sakhalins	27.87	278	P	P	02 48 13.8	+0.4
YSS				IAmb	IAmb	02 48 16.4	
	comp=Z,75nm,1.2s						
YSS	Yuzh-Sakhalins	27.87	278	*αe*P	P	02 48 14.5	+1.1
YSS				*e*S	S	02 52 53.1	-1.8
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS				pmax	pmax		
	comp=Z,200nm,3.9s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
BBB	Bella Bella	28.45	70	P	P	02 48 20.0	+1.4
	comp=E,4.2nm,0.8s,baz=278,slow=19,SNR=1.4						
BBB				LR	LR	02 59 13.7	
	comp=E,758nm,18.3s,baz=294,slow=36						
	comp=E,4.2nm,0.8s						
TOAD	Toad River Com	28.67	55	P	P	02 48 20.8	+0.2
	baz=277,SNR=7.5						
WRGLY	Wrigley	29.26	46	P	P	02 48 25.8	+0.2
	baz=270						
JKA	Kamikawa-asahi	29.27	273	P	P	02 48 25.1	-0.9
JKA				IAmb	IAmb	02 48 31.1	
	comp=Z,64nm,1.1s						
ASAJ	Asahikawa	29.27	273	LR	LR	02 59 07.8	
	comp=Z,639nm,21.4s,baz=59,slow=34						
ASAJ	Asahikawa	29.27	273	P	P	02 48 25.1	-0.8
ASAJ				pmax	pmax		
	comp=Z,64nm,1.1s						
C36M	Paulatuk	29.59	34	P	P	02 48 27.7	-0.7
C36M	Paulatuk	29.59	34	P	P	02 48 27.6	-0.9
	baz=259						
A36M	Sachs Harbour	29.85	28	P	P	02 48 31.1	+0.3
	baz=253						
ERM	Erimo	30.01	269⇓	*e*P	P	02 48 33.7	+1.2
ERM				pmax	pmax		
	comp=Z,48nm,1.2s						
GRNR	Gornyy	30.26	288⇓	*i*P	P	02 48 35.2	+0.5
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GRNR				MLR	MLR		
	comp=N,450nm,16.0s						
CBB	Campbell River	30.81	73	P	P	02 48 40.3	+0.9
YAK	Yakutsk	31.34	312	LR	LR	03 01 47.6	
	comp=N,2μm,18.6s,baz=94,slow=37						
YAK	Yakutsk	31.34	312⇓	*e*P	P	02 48 45.2	+1.2
YAK				pmax	pmax		
	comp=Z,23nm,1.0s						
TIXI	Tiksi	31.91	330	P	P	02 48 47.9	-1.0
TIXI	Tiksi	31.91	330	LR	LR	03 02 40.8	
	comp=Z,762nm,18.1s,baz=132,slow=38						
TIXI	Tiksi	31.91	330⇓	*e*P	P	02 48 48.7	-0.2
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
TEY	Ternei	32.56	278⇑	*e*P	P	02 48 54.8	-0.1
TEY				*e*		02 55 59.6	
TEY				pmax	pmax		
	comp=N,16nm,1.6s						
TEY				pmax	pmax		
	comp=Z,10.0nm,1.6s						
TEY				pmax	pmax		
	comp=E,10.0nm,1.4s						
NLWA	Neilton Lookou	32.79	77	P	P	02 48 58.9	+1.9
NLWA				IAmb	IAmb	02 49 27.3	
	comp=Z,16nm,0.9s						
GNW	Green Mountain	33.35	76	P	P	02 49 02.7	+0.9
GNW				IAmb	IAmb	02 49 31.5	
	comp=Z,17nm,1.0s						
YKA	Yellowknife Ar	33.36	47	P	P	02 49 00.6	-1.1
	comp=Z,1.9nm,1.0s,baz=282,slow=8.8,SNR=7.1						
YKA				PcP	PcP	02 51 43.3	+0.6
	comp=Z,0.3nm,0.4s,baz=286,slow=3.4,SNR=5.7						
YKA				LR	LR	03 04 13.2	
	comp=Z,2μm,19.2s,baz=276,slow=39						
	comp=Z,1.9nm,1.0s						
KLR	Kul'dur	33.64	288	LR	LR	03 02 02.6	
	comp=Z,2μm,21.9s,baz=70,slow=35						
KLR	Kul'dur	33.64	288	*c i*P	P	02 49 03.6	-0.7
KLR				pmax	pmax		
	comp=Z,41nm,1.3s						
BRLDA	Berland Lookou	33.99	62	IAmb	IAmb	02 49 25.0	
	comp=Z,47nm,1.0s						
ZEA	Zeya	34.52	297	*e*P	P	02 49 10.9	-1.0
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA				MLR	MLR		
	comp=E,500nm,16.0s						
ZEA				MLR	MLR		
	comp=N,300nm,15.0s						
H11N2	WAKE ISLAND Hy	34.74	211	T	T	03 26 19.6	
	baz=19,slow=76,SNR=406						
H11N3	WAKE ISLAND Hy	34.75	211	T	T	03 26 20.1	
	baz=19,slow=76,SNR=372						
H11N1	WAKE ISLAND Hy	34.76	211	T	T	03 26 20.9	
	baz=19,slow=76,SNR=316						
H04D	Lebanon	34.84	80	P	P	02 49 15.6	+0.8
H04D				IAmb	IAmb	02 49 45.6	
	comp=Z,14nm,0.8s						
B08A	Colville Reser	35.10	73	IAmb	IAmb	02 49 35.4	
	comp=Z,41nm,1.1s						
H04A	Detroit Lake	35.10	80	IAmb	IAmb	02 49 52.0	
	comp=Z,19nm,0.9s						
I04A	Tendick Farm,	35.41	81	IAmb	IAmb	02 49 47.1	
	comp=Z,15nm,0.8s						
HEH	HeiHe	35.77	292	*e*P	P	02 49 20.8	-1.9
HEH				pmax	pmax		
	comp=Z,41nm,1.0s						
HEH				pmax	pmax		
	comp=Z,190nm,7.2s						
HEH				LR	LR		
	comp=Z,410nm,19.0s						
HEH				LR	LR		
	comp=Z,750nm,19.5s						
HEH				LR	LR		
	comp=Z,1μm,21.5s						
I05D	Terrebonne, OR	35.80	80	IAmb	IAmb	02 49 49.7	
	comp=Z,32nm,1.2s						
USA0B	Ussuriysk Arra	35.83	280	IAmb	IAmb	02 49 24.4	
	comp=Z,49nm,1.1s						
USA0B	Ussuriysk Arra	35.83	280	*c i*P	P	02 49 23.0	-0.3
USRK	Ussuriysk Ar.	35.83	280	P	P	02 49 22.4	-0.8
USRK	Ussuriysk Ar.	35.83	280	P	P	02 49 22.8	-0.5
	comp=Z,24nm,0.7s,baz=56,slow=7.7,SNR=39						
USRK				PcP	PcP	02 51 50.8	+0.6
	comp=Z,5.4nm,1.0s,baz=58,slow=5.4,SNR=3.8						
USRK				LR	LR	03 03 27.6	
	comp=Z,759nm,21.0s,baz=52,slow=35						
	comp=Z,24nm,0.7s						
HAWA	Hanford	35.89	76	IAmb	IAmb	02 50 00.3	
	comp=Z,18nm,0.9s						
H11S1	WAKE ISLAND Hy	35.95	211	T	T	03 27 50.3	
	baz=20,slow=76,SNR=754						
H11S2	WAKE ISLAND Hy	35.97	211	T	T	03 27 51.4	
	baz=20,slow=76,SNR=316						
H11S3	WAKE ISLAND Hy	35.97	211	T	T	03 27 52.0	
	baz=20,slow=76,SNR=171						
C09A	Chrisman Ranch	35.99	73	IAmb	IAmb	02 49 42.6	
	comp=Z,30nm,1.0s						
L04D	Klamath Falls	36.32	84	IAmb	IAmb	02 50 00.2	
	comp=Z,19nm,1.1s						
PINE	Pine Mountain	36.33	80	IAmb	IAmb	02 50 00.5	
	comp=Z,24nm,1.2s						
MJAR	Matsushiro Arr	36.33	265	P	P	02 49 27.4	-0.3
	comp=Z,9.1nm,0.7s,baz=50,slow=7.6,SNR=39						
MJAR				LR	LR	03 02 34.7	
	comp=Z,894nm,21.3s,baz=59,slow=33						
	comp=Z,9.1nm,0.7s						
MAJO	Matsushiro	36.33	265	P	P	02 49 28.1	+0.4
MAJO				IAmb	IAmb	02 49 30.0	
	comp=Z,69nm,1.1s						
MAJO	Matsushiro	36.33	265	*c i*P	P	02 49 28.4	+0.7
MAJO				pmax	pmax		
	comp=Z,48nm,1.1s						
MJB9	Matsu-Tunnel	36.33	265	IAmb	IAmb	02 49 31.0	
	comp=Z,71nm,1.2s						
YBH	Yreka Blue Hor	36.33	85	LR	LR	03 00 43.0	
	comp=Z,460nm,21.9s,baz=316,slow=30						
J05D	Fort Rock, OR	36.41	81	P	P	02 49 29.3	+0.9
J05D				IAmb	IAmb	02 49 52.4	
	comp=Z,14nm,0.8s						
VLA	Vladivostok	36.46	278	*i* P	P	02 49 30.3	+1.7
VLA				pmax	pmax		
	comp=Z,176nm,1.3s						
NEW	Newport	36.46	72	IAmb	IAmb	02 49 46.6	
	comp=Z,42nm,1.1s						
NEW	Newport	36.46	72	P	P	02 49 28.4	-0.3
	baz=297,SNR=21						
NEW	Newport	36.46	72	P	P	02 49 29.1	+0.4
	comp=Z,13nm,0.8s,baz=302,slow=9.4,SNR=14						
NEW				ScP	ScP	02 55 37.2	+0.7
	comp=Z,3.4nm,1.0s,baz=254,slow=7.1,SNR=4.1						
NEW				LR	LR	03 03 59.4	
	comp=Z,521nm,18.6s,baz=300,slow=36						
	comp=Z,13nm,0.8s						
MDJ	Mudanjiang	37.09	282	P	P	02 49 33.4	-0.6
MDJ				pP	sP	02 49 42.2	-1.4
MDJ				sP	pwP	02 49 46.2	-0.6
MDJ				PP	PnPn	02 51 02.1	+3.0
MDJ				pmax	pmax		
	comp=Z,46nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,230nm,8.9s						
MDJ				LR	LR		
	comp=Z,690nm,17.4s						
MDJ				LR	LR		
	comp=Z,2μm,20.2s						
MDJ				LR	LR		
	comp=Z,2μm,20.4s						
MSHR	Mys Shultsa	37.20	278	*de*P	P	02 49 37.1	+2.1
MSHR				pmax	pmax		
	comp=Z,125nm,1.3s						
PSTR	Posyet	37.38	278	*c i*P	P	02 49 37.4	+0.9
JHJ	Hachijo jima 2	37.60	259	LR	LR	03 03 00.9	
	comp=Z,411nm,20.6s,baz=320,slow=33						
INU	Inuyama	37.84	264	IAmb	IAmb	02 49 42.0	
	comp=Z,28nm,1.1s						
BNX	BinXian	37.86	285	⇑P	P	02 49 39.7	-0.8
BNX				pmax	pmax		
	comp=Z,110nm,1.1s						
BMO	Blue Mountains	38.01	77	IAmb	IAmb	02 50 00.2	
	comp=Z,46nm,1.9s						
J08A	Circle Bar Ran	38.08	79		P	02 49 42.3	-0.2
RES	Resolute Bay	38.67	25	P	P	02 49 47.4	+0.4
	comp=Z,4.3nm,0.6s,baz=269,slow=8.4,SNR=2.3						
RES				LR	LR	03 09 00.3	
	comp=Z,821nm,18.8s,baz=288,slow=41						
	comp=Z,4.3nm,0.6s						
MSO	Missoula	39.04	72	IAmb	IAmb	02 50 07.0	
	comp=Z,29nm,1.1s						
MSO	Missoula	39.04	72	P	P	02 49 50.0	-0.6
	baz=300,SNR=10.0						
BOD	Bodaibo	40.02	308	*e*P	P	02 49 57.2	-1.2
BOD				pmax	pmax		
	comp=Z,29nm,1.9s						
CN2	Changchun	40.06	283	P	P	02 49 58.4	-0.5
CN2				S	S	02 55 59.4	-3.5
CN2				pmax	pmax		
	comp=Z,50nm,1.1s						
CN2				pmax	pmax		
	comp=Z,400nm,3.0s						
CN2				LR	LR		
	comp=Z,2μm,20.0s						
CN2				LR	LR		
	comp=Z,2μm,20.0s						
CN2				LR	LR		
	comp=Z,2μm,21.0s						
JCJ	Chichijima	40.45	250	LR	LR	03 04 01.7	
	comp=Z,208nm,19.9s,baz=91,slow=32						
HLID	Hailey	40.46	77	P	P	02 50 02.2	-0.3
	baz=303,SNR=19						
HIA	Hailar	40.65	294	⇑*e*P	P	02 50 03.8	0.0
HIA				pmax	pmax		
	comp=Z,13nm,1.1s						
JMN	Monobe	40.85	265	IAmb	IAmb	02 50 08.4	
	comp=Z,105nm,1.4s						
EGMT	Eagleton	40.91	68	IAmb	IAmb	02 50 22.9	
	comp=Z,34nm,0.9s						
EGMT	Eagleton	40.91	68	P	P	02 50 05.9	-0.2
	baz=300						
NVAR	Mina Array Bea	41.00	86	P	P	02 50 07.6	+0.6
	comp=Z,1.5nm,0.9s,baz=299,slow=9.2,SNR=7.8						
NVAR				ScP	ScP	02 55 54.7	+0.4
	comp=Z,2.7nm,1.0s,baz=290,slow=2.6,SNR=7.4						
NVAR				LR	LR	03 04 25.2	
	comp=Z,382nm,19.7s,baz=296,slow=32						
	comp=Z,1.5nm,0.9s						
BOZ	Bozeman (W)	41.05	72	IAmb	IAmb	02 50 23.7	
	comp=Z,28nm,1.1s						
BOZ	Bozeman (W)	41.05	72	P	P	02 50 07.7	+0.4
	baz=302,SNR=31						
ELK	Elko	41.53	81	P	P	02 50 12.2	+0.8
TPH	Tonopah	41.89	85	IAmb	IAmb	02 50 42.8	
	comp=Z,59nm,1.1s						
FFC	Flin Flon	42.04	56	P	P	02 50 14.2	-0.9
FFC	Flin Flon	42.04	56	P	P	02 50 14.2	-0.9
FFC				pmax	pmax		
	comp=Z,24nm,1.2s						
VES	Vestal, Richgr	42.12	89	P	P	02 50 16.3	+0.4
	baz=310						
KSRS	Korea Array	42.20	274	P	P	02 50 17.0	+0.5
	comp=Z,27nm,0.9s,baz=55,slow=7.4,SNR=55						
KSRS				LR	LR	03 07 29.3	
	comp=Z,394nm,20.4s,baz=55,slow=36						
	comp=Z,27nm,0.9s						
KS19	Wonju Array Si	42.21	274	IAmb	IAmb	02 50 20.6	
	comp=Z,52nm,1.1s						
KSAR	Wonju Array Be	42.23	274	P	P	02 50 17.1	+0.2
KSAR	Wonju Array Be	42.23	274	P	P	02 50 17.1	+0.2
PKM	Mcpherson Peak	42.27	91	P	P	02 50 16.8	-0.6
	baz=310						
H17A	Grant Village	42.33	73	IAmb	IAmb	02 50 26.0	
	comp=Z,34nm,1.1s						
H17A	Grant Village	42.33	73	P	P	02 50 17.3	-0.6
	baz=303,SNR=17						
CWC	Cottonwood Cre	42.37	88	P	P	02 50 17.5	-0.7
	baz=309						
FLWY	Flagg Ranch	42.42	74	IAmb	IAmb	02 50 37.2	
	comp=Z,24nm,1.0s						
GRAC	Grapevine Rang	42.47	87	P	P	02 50 18.7	-0.2
	baz=309						
ISA	Isabella, Lake	42.61	89	P	P	02 50 20.0	-0.1
	baz=310						
SBC	Santa Barbara	42.62	91	P	P	02 50 20.3	+0.3
	baz=311						
RLMT	Red Lodge	42.71	72	IAmb	IAmb	02 50 39.2	
	comp=Z,57nm,1.0s						
RLMT	Red Lodge	42.71	72	P	P	02 50 20.6	-0.3
	baz=303,SNR=16						
ARVC	Arvin	42.73	90	P	P	02 50 21.0	0.0
	baz=310						
R11B	Troy Canyon, C	42.74	84	P	P	02 50 21.0	-0.3
	baz=308,SNR=13						
MPMC	Manual Prospec	42.98	88	P	P	02 50 23.2	0.0
	baz=309						
INCN	Inchon	42.99	275	P	P	02 50 22.7	-0.3
INCN				IAmb	IAmb	02 50 26.5	
	comp=Z,65nm,1.0s						
INCN	Inchon	42.99	275	P	P	02 50 22.7	-0.3
INCN				pmax	pmax		
	comp=Z,65nm,1.0s						
FURC	Furnace Creek,	43.11	87	P	P	02 50 23.8	-0.2
	baz=309						
JNU	Nakatsue	43.13	267	P	P	02 50 24.9	+0.6
JNU				IAmb	IAmb	02 50 26.7	
	comp=Z,84nm,1.1s						
JNU	Nakatsue	43.13	267	LR	LR	03 07 13.1	
	comp=Z,718nm,21.5s,baz=65,slow=35						
TPNV	Topopah Spring	43.19	86	P	P	02 50 24.6	-0.3
	baz=309,SNR=6.9						
TJN	Taejon	43.22	273⇑	*e*P	P	02 50 27.4	+2.5
DUG	Dugway, Tooele	43.35	80	IAmb	IAmb	02 50 45.4	
	comp=Z,42nm,1.2s						
DUG	Dugway, Tooele	43.35	80	P	P	02 50 25.9	-0.2
	baz=306,SNR=6.5						
DUG	Dugway, Tooele	43.35	80	P	P	02 50 27.0	+0.9
DECC	Green Verdugo	43.61	91	P	P	02 50 27.6	-0.5
	baz=311						
PRN	Pahroc Range	43.66	85	IAmb	IAmb	02 50 47.7	
	comp=Z,35nm,0.9s						
CTU	Camp Tracy	43.72	79	P	P	02 50 27.3	-1.8
BW06	Boulder Array	43.85	75	P	P	02 50 29.4	-0.8
	baz=305,SNR=6.0						
PD31	Pinedale Array	43.85	75	IAmb	IAmb	02 50 46.7	
	comp=Z,22nm,1.1s						
PDAR	Pinedale Array	43.85	75	P	P	02 50 29.5	-0.7
PDAR	Pinedale Array	43.85	75	P	P	02 50 30.3	+0.1
	comp=Z,11nm,0.8s,baz=308,slow=4.4,SNR=29						
PDAR				LR	LR	03 08 53.7	
	comp=Z,394nm,18.1s,baz=306,slow=36						
	comp=Z,11nm,0.8s						
DGMT	Dagmar	43.88	65	P	P	02 50 29.8	-0.3
	baz=302						
GSC	Goldstone, Bar	43.89	88	IAmb	IAmb	02 50 59.0	
	comp=Z,36nm,1.5s						
GSC	Goldstone, Bar	43.89	88	P	P	02 50 30.2	-0.2
	baz=310						
BFSC	Mount Baldy Ra	44.04	90	P	P	02 50 31.1	-0.6
	baz=311						
TUQ	Turquoise Moun	44.35	87	P	P	02 50 33.7	-0.5
	baz=310						
HEC	Hector,Ludlow	44.49	88	P	P	02 50 35.1	-0.1
	baz=310						
MVU	Marysvale	44.74	81	IAmb	IAmb	02 50 56.8	
	comp=Z,57nm,1.0s						
V12A	Nelson	44.84	86	P	P	02 50 37.5	-0.6
TMUT	Trail Mountain	44.88	80	IAmb	IAmb	02 50 57.3	
	comp=Z,23nm,0.9s						
GMRC	Granite Mounta	44.94	88	P	P	02 50 39.1	+0.2
	baz=310						
RDMU	Red Mountain	45.12	77	IAmb	IAmb	02 50 57.4	
	comp=Z,32nm,1.1s						
Q16A	Castle Valley	45.14	80	IAmb	IAmb	02 50 59.9	
	comp=Z,27nm,1.1s						
PFO	Pinyon Flats O	45.20	90	P	P	02 50 41.2	+0.3
	baz=311						
PFO	Pinyon Flats O	45.20	90	LR	LR	03 05 44.3	
	comp=Z,681nm,21.3s,baz=294,slow=31						
PFO	Pinyon Flats O	45.20	90	⇓*e*P	P	02 50 41.4	+0.4
PFO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TPFO	Pinon Flats	45.21	90	P	P	02 50 42.1	+1.1
	baz=311						
DL2	Dalian	45.23	280	P	P	02 50 42.3	+1.4
DL2				pP	pwP	02 50 53.6	-0.2
DL2				pmax	pmax		
	comp=Z,120nm,1.2s						
DL2				pmax	pmax		
	comp=Z,390nm,7.2s						
DL2				LR	LR		
	comp=Z,830nm,19.6s						
DL2				LR	LR		
	comp=Z,610nm,19.5s						
DL2				LR	LR		
	comp=Z,630nm,14.9s						
BELC	Belle Mtn. Jos	45.24	89	P	P	02 50 41.9	+0.6
	baz=311						
P18A	Preston Nutter	45.27	79	IAmb	IAmb	02 51 02.5	
	comp=Z,33nm,1.1s						
SRU	San Rafael Swe	45.42	80	IAmb	IAmb	02 51 02.1	
	comp=Z,20nm,0.9s						
XLT	XiLinHaoTe	45.64	289	*e*P	P	02 50 44.7	+0.5
XLT				sP	pwP	02 51 02.2	+5.2
XLT				pmax	pmax		
	comp=Z,25nm,1.1s						
XLT				pmax	pmax		
	comp=Z,160nm,9.8s						
XLT				LR	LR		
	comp=Z,730nm,20.6s						
XLT				LR	LR		
	comp=Z,760nm,22.0s						
IRM	Iron Mountain	45.67	88	P	P	02 50 45.3	+0.8
	baz=311						
NRIK	Noril'sk	45.69	331	P	P	02 50 42.4	-1.8
NRIK				IAmb	IAmb	02 52 23.8	
	comp=Z,28nm,1.1s						
NRIK	Noril'sk	45.69	331	P	P	02 50 43.3	-0.9
	comp=Z,8.9nm,1.0s,baz=71,slow=8.3,SNR=12						
NRIK				PcP	PcP	02 52 22.0	+0.3
	comp=Z,15nm,1.0s,baz=68,slow=4.1,SNR=7.1						
NRIK				ScP	ScP	02 56 14.9	+2.5
	comp=Z,1.8nm,0.5s,baz=61,slow=3.2,SNR=2.0						
	comp=Z,8.9nm,1.0s						
NRIK	Noril'sk	45.69	331	*ce*P	P	02 50 43.6	-0.6
NRIK				pmax	pmax		
	comp=Z,15nm,1.1s						
MONP2	Monument Peak	45.70	90	P	P	02 50 45.6	+0.6
	baz=312						
K22A	Casper	45.74	73	IAmb	IAmb	02 51 02.5	
	comp=Z,20nm,0.9s						
K22A	Casper	45.74	73	P	P	02 50 45.6	+0.4
	baz=306,SNR=5.5						
RWWY	Rawlins	45.89	75	IAmb	IAmb	02 51 04.3	
	comp=Z,21nm,1.0s						
U15A	North Rim	45.99	84	IAmb	IAmb	02 51 07.8	
	comp=Z,14nm,1.0s						
HMU	Henry Mountain	46.01	81	IAmb	IAmb	02 51 06.5	
	comp=Z,25nm,0.8s						
IKP	In-Ko-Pah, Jac	46.06	90	P	P	02 50 47.9	+0.2
	baz=312						
O20A	White River Ci	46.20	77	IAmb	IAmb	02 51 05.3	
	comp=Z,32nm,0.8s						
O20A	White River

RSSD	**Black Hills**	**46.37**	**70**	P	**P**	**02 50 50.5**	**+0.3**
RSSD				pmax	pmax		
	comp=Z,19nm,1.1s						
GLA	**Glamis**	**46.60**	**89**	P	**P**	**02 50 51.3**	**-0.6**
	baz=312						
NOR	**Nord**	**46.74**	**4**	P	**P**	**02 50 51.5**	**-0.8**
NOR				pmax	pmax		
	comp=Z,10.0nm,1.4s						
MDND	**Maddock**	**46.80**	**63**	P	**P**	**02 50 53.4**	**+0.1**
	baz=304						
NEEM	**North Greenlan**	**46.81**	**14**	*i* P	**P**	**02 50 52.9**	**-0.4**
NEEM				IAmb	IAmb	02 50 53.7	
	comp=Z,39nm,1.1s						
N23A	**Red Feather La**	**47.13**	**75**	IAmb	IAmb	02 51 15.9	
	comp=Z,34nm,1.1s						
N23A	**Red Feather La**	**47.13**	**75**	P	**P**	**02 50 56.2**	**-0.1**
	baz=307,SNR=14						
WUAZ	**Wupatki**	**47.14**	**84**	P	**P**	**02 50 55.8**	**-0.5**
	baz=310						
ULM	**Lac du Bonnet**	**47.51**	**59**	IAmb	IAmb	02 50 60.0	
	comp=Z,54nm,1.4s						
ULM	**Lac du Bonnet**	**47.51**	**59**	P	**P**	**02 50 58.2**	**-0.5**
	comp=Z,5.2nm,0.4s,baz=311,slow=6.1,SNR=20						
ULM				LR	LR	03 11 56.7	
	comp=Z,789nm,19.5s,baz=314,slow=37						
	comp=Z,5.2nm,0.4s						
ULM	**Lac du Bonnet**	**47.51**	**59**	*c i* P	**P**	**02 50 58.1**	**-0.6**
KULLO	**Kullorsuaq**	**47.66**	**19**	*eP*	**P**	**02 50 59.8**	**+0.2**
MVCO	**Mesa Verde**	**47.85**	**80**	IAmb	IAmb	02 51 22.1	
	comp=Z,24nm,1.2s						
MVCO	**Mesa Verde**	**47.85**	**80**	P	**P**	**02 51 01.9**	**+0.1**
	baz=309						
BJI	**Beijing**	**47.87**	**285**	P	**P**	**02 51 02.2**	**+0.6**
BJI				sP	**pwP**	**02 51 15.8**	**+1.2**
BJI				PcP	**PcP**	**02 52 32.6**	**+2.7**
BJI				pmax	pmax		
	comp=Z,25nm,1.1s						
BJI				pmax	pmax		
	comp=Z,140nm,4.0s						
BJI				LR	LR		
	comp=Z,570nm,18.8s						
BJI				LR	LR		
	comp=Z,400nm,21.3s						
BJI				LR	LR		
	comp=Z,780nm,18.7s						
BJT	**Baijiatuau**	**47.89**	**285**	P	**P**	**02 51 02.3**	**+0.5**
ISCO	**Idaho Springs**	**48.00**	**76**	P	**P**	**02 51 03.0**	**-0.1**
	baz=308						
S22A	**4UR Ranch, Cre**	**48.54**	**79**	IAmb	IAmb	02 51 29.0	
	comp=Z,31nm,1.4s						
S22A	**4UR Ranch, Cre**	**48.54**	**79**	P	**P**	**02 51 07.1**	**-0.1**
	baz=309						
214A	**Organ Pipe Nat**	**48.59**	**89**	P	**P**	**02 51 07.5**	**+0.1**
	baz=313						
AGMN	**Agassiz Nation**	**48.62**	**61**	IAmb	IAmb	02 51 23.7	
	comp=Z,26nm,0.8s						
AGMN	**Agassiz Nation**	**48.62**	**61**	P	**P**	**02 51 06.6**	**-0.7**
	baz=305,SNR=13						
Q24A	**Divide**	**48.80**	**76**	P	**P**	**02 51 09.0**	**-0.2**
	baz=309						
SONM	**Songino Array**	**48.92**	**299**	P	**P**	**02 51 09.2**	**-0.5**
SONM				IAmb	IAmb	02 51 11.1	
	comp=Z,17nm,1.0s						
SONM	**Songino Array**	**48.92**	**299**	P	**P**	**02 51 09.3**	**-0.5**
	comp=Z,11nm,1.0s,baz=55,slow=8.4,SNR=64						
SONM				PcP	**PcP**	**02 52 32.6**	**-1.2**
	comp=Z,10nm,1.0s,baz=60,slow=2.7,SNR=9.9						
SONM				ScP	**ScP**	**02 56 29.0**	**+2.4**
	comp=Z,5.3nm,0.8s,baz=96,slow=3.0,SNR=4.0						
SONM				LR	LR	03 13 07.8	
	comp=Z,1μm,19.6s,baz=60,slow=38						
	comp=Z,11nm,1.0s						
ZAK	**Zakamensk**	**49.13**	**303**	*eP*	**P**	**02 51 10.3**	**-1.0**
ZAK				*e*		02 52 35.1	
ZAK				pmax	pmax		
	comp=Z,43nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,19nm,1.0s						
SUSD	**Miller**	**49.14**	**67**	P	**P**	**02 51 11.6**	**+0.2**
	baz=307						
SDCO	**Great Sand Dun**	**49.35**	**78**	IAmb	IAmb	02 51 34.1	
	comp=Z,25nm,1.3s						
SDCO	**Great Sand Dun**	**49.35**	**78**	P	**P**	**02 51 12.8**	**-0.7**
	baz=310,SNR=15						
OGNE	**Ogallala**	**49.45**	**72**	P	**P**	**02 51 13.8**	**-0.1**
	baz=308						
MOY	**Mondy**	**49.58**	**306**	*eP*	**P**	**02 51 15.3**	**+0.6**
MOY				pmax	pmax		
	comp=Z,46nm,2.3s						
TUC	**Tucson**	**49.62**	**87**	P	**P**	**02 51 15.7**	**+0.4**
	baz=312						
TUC	**Tucson**	**49.62**	**87**	P	**P**	**02 51 15.7**	**+0.4**
TIA	**Tai'an**	**49.70**	**280**	P	**P**	**02 51 16.3**	**+0.6**
TIA				pmax	pmax		
	comp=Z,37nm,1.2s						
TIA				pmax	pmax		
	comp=Z,240nm,4.3s						
F33A	**5 Mile Ranch,**	**49.82**	**64**	IAmb	IAmb	02 51 30.0	
	comp=Z,18nm,1.1s						
KBS	**Kingsbay**	**49.89**	**358⇑**	*eP*	**P**	**02 51 16.8**	**+0.2**
KBS				pmax	pmax		
	comp=Z,31nm,1.0s						
KBS	**Kingsbay**	**49.89**	**358**	*eP*	**P**	**02 51 16.9**	**+0.3**
KBS				*e*		02 52 18.4	
HHC	**Hu-ho-hao-te**	**50.14**	**288**	*eP*	**P**	**02 51 20.0**	**+0.8**
HHC				pP	sP	02 51 29.2	+0.3
HHC				sP	pwP	02 51 35.4	+3.2
HHC				PcP	**PcP**	**02 52 40.3**	**+2.0**
HHC				S	**S**	**02 58 26.4**	**-2.6**
HHC				sS	sS	02 58 44.0	+3.5
HHC				pmax	pmax		
	comp=Z,30nm,1.0s						
HHC				pmax	pmax		
	comp=Z,170nm,5.2s						
HHC				LR	LR		
	comp=Z,420nm,17.3s						
HHC				LR	LR		
	comp=Z,370nm,18.4s						
HHC				LR	LR		
	comp=Z,760nm,18.2s						
KSCO	**Kaye Shedlock'**	**50.30**	**74**	P	**P**	**02 51 20.9**	**+0.4**
	baz=309						
T25A	**Trinidad**	**50.41**	**78**	P	**P**	**02 51 20.8**	**-0.6**
	baz=310,SNR=16						
HNS	**HongShan**	**50.42**	**283**	⇑P	**P**	**02 51 22.5**	**+1.4**
HNS				sP	**pwP**	**02 51 35.5**	**+1.4**
HNS				PcP	**PcP**	**02 52 41.1**	**+1.9**
HNS				pmax	pmax		
	comp=Z,200nm,1.2s						
HNS				LR	LR		
	comp=Z,460nm,19.2s						
HNS				LR	LR		
	comp=Z,830nm,19.6s						
HNS				LR	LR		
	comp=Z,770nm,19.4s						
SPA0	**Spitsbergen Ar**	**50.53**	**357**	*eP*	**P**	**02 51 21.2**	**-0.3**
SPITS	**Spitsbergen Ar**	**50.53**	**357**	P	**P**	**02 51 20.9**	**-0.6**
	comp=Z,58nm,1.0s,baz=38,slow=7.3,SNR=11						
SPITS				PcP	**PcP**	**02 52 38.9**	**-0.1**
	comp=Z,2.3nm,0.4s,baz=48,slow=2.1,SNR=7.4						
SPITS				LR	LR	03 12 52.4	
	comp=Z,872nm,20.4s,baz=336,slow=36						
	comp=Z,58nm,1.0s						
SPB2	**Spitsbergen Ar**	**50.53**	**357**	P	**P**	**02 51 20.5**	**-1.0**
ANMO	**Albuquerque**	**50.57**	**81**	P	**P**	**02 51 21.9**	**-0.7**
ANMO	**Albuquerque**	**50.57**	**81**	P	**P**	**02 51 22.3**	**-0.3**
	baz=311						
ANMO	**Albuquerque**	**50.57**	**81**	LR	LR	03 10 34.8	
	comp=Z,286nm,21.9s,baz=42,slow=34						
ANMO	**Albuquerque**	**50.57**	**81**	*deP*	**P**	**02 51 23.2**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.3s						
Y22D	**IRIS PASSCAL I**	**50.86**	**82**	P	**P**	**02 51 24.5**	**-0.2**
	baz=312						
ECSD	**EROS Data Cent**	**50.91**	**66**	IAmb	IAmb	02 51 38.3	
	comp=Z,25nm,1.3s						
ECSD	**EROS Data Cent**	**50.91**	**66**	P	**P**	**02 51 24.4**	**-0.4**
	baz=308						
EYMN	**Ely**	**51.19**	**59**	IAmb	IAmb	02 51 33.8	
	comp=Z,22nm,0.9s						
EYMN	**Ely**	**51.19**	**59**	P	**P**	**02 51 27.0**	**+0.1**
	baz=307,SNR=8.4						
BTO	**Baotou**	**51.21**	**289**	*eP*	**P**	**02 51 28.1**	**+0.9**
BTO				pP	**pwP**	**02 51 41.9**	**+1.9**
BTO				sP	sP	02 51 45.8	+8.9
BTO				S	**S**	**02 58 43.9**	**+0.1**
BTO				pmax	pmax		
	comp=Z,65nm,0.5s						
BTO				pmax	pmax		
	comp=Z,120nm,4.3s						
BTO				LR	LR		
	comp=Z,2μm,17.9s						
BTO				LR	LR		
	comp=Z,1μm,20.8s						
BTO				LR	LR		
	comp=Z,2μm,23.5s						
DAG	**Danmarks Havn**	**51.21**	**7**	P	**P**	**02 51 24.8**	**-1.8**
DAG				pmax	pmax		
	comp=Z,16nm,2.3s						
DAG	**Danmarks Havn**	**51.21**	**7**	*i* P	**P**	**02 51 24.0**	**-2.6**
DAG				*e*		02 52 41.5	
121A	**Cookes Peak, D**	**51.35**	**84**	P	**P**	**02 51 27.7**	**-0.8**
	baz=312						
NJ2	**Nanjing**	**51.37**	**275**	*eP*	**P**	**02 51 29.0**	**+0.6**
NJ2				sP	**pwP**	**02 51 41.8**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,17nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,360nm,3.5s						
NJ2				LR	LR		
	comp=Z,500nm,20.8s						
NJ2				LR	LR		
	comp=Z,740nm,17.1s						
NJ2				LR	LR		
	comp=Z,830nm,21.8s						
BGNE	**Belgrade**	**51.46**	**69**	P	**P**	**02 51 28.4**	**-0.6**
	baz=309						
TIY	**Taiyuan**	**51.60**	**285**	⇑P	**P**	**02 51 31.5**	**+1.4**
TIY				pmax	pmax		
	comp=Z,89nm,0.9s						
TIY				pmax	pmax		
	comp=Z,350nm,5.5s						
TIY				LR	LR		
	comp=Z,500nm,17.2s						
TIY				LR	LR		
	comp=Z,690nm,18.5s						
TIY				LR	LR		
	comp=Z,790nm,19.9s						
FRB	**Frobisher Bay**	**51.66**	**33**	P	**P**	**02 51 30.2**	**+0.1**
	comp=Z,7.3nm,0.3s,baz=304,slow=10,SNR=12						
FRB				LR	LR	03 16 38.6	
	comp=Z,891nm,19.3s,baz=311,slow=40						
	comp=Z,7.3nm,0.3s						
RTBA	**Rita Blanca**	**51.88**	**77**	IAmb	IAmb	02 51 54.6	
	comp=Z,19nm,1.0s						
E38A	**The Farm, Brul**	**51.98**	**60**	IAmb	IAmb	02 51 48.2	
	comp=Z,40nm,1.1s						
SPMN	**Marine on St.**	**52.14**	**62**	IAmb	IAmb	02 51 46.5	
	comp=Z,20nm,1.1s						
SPMN	**Marine on St.**	**52.14**	**62**	P	**P**	**02 51 34.2**	**+0.2**
	baz=308						
L34A	**Svendsen Farm,**	**52.14**	**68**	IAmb	IAmb	02 51 56.1	
	comp=Z,50nm,0.9s						
CBKS	**Cedar Bluff**	**52.16**	**73**	IAmb	IAmb	02 51 40.1	
	comp=Z,38nm,0.9s						
CBKS	**Cedar Bluff**	**52.16**	**73**	P	**P**	**02 51 34.0**	**-0.3**
	baz=310						
I37A	**Lemond, Waseca**	**52.56**	**64**	IAmb	IAmb	02 51 52.1	
	comp=Z,37nm,0.8s						
SUMG	**Summit**	**52.65**	**15**	P	**P**	**02 51 37.1**	**-0.8**
SUMG				IAmb	IAmb	02 51 38.9	
	comp=Z,36nm,1.3s						
SUMG	**Summit**	**52.65**	**15**	P	**P**	**02 51 37.1**	**-0.8**
SUMG				pmax	pmax		
	comp=Z,36nm,1.3s						
SUMG	**Summit**	**52.65**	**15**	*i* P	**P**	**02 51 36.0**	**-1.9**
R32A	**Long Quarter,**	**53.03**	**73**	IAmb	IAmb	02 51 46.0	
	comp=Z,25nm,1.1s						
D41A	**Chassel**	**53.31**	**58**	P	**P**	**02 51 43.6**	**+1.0**
D41A				IAmb	IAmb	02 51 44.3	
	comp=Z,59nm,1.2s						
DBG	**Daneborg**	**53.42**	**8**	*i* P	**P**	**02 51 41.8**	**-1.3**
MSTX	**Muleshoe**	**53.49**	**79**	IAmb	IAmb	02 52 04.9	
	comp=Z,51nm,1.2s						
G40A	**Rib Lake**	**53.55**	**61**	IAmb	IAmb	02 51 49.3	
	comp=Z,27nm,1.1s						
COWI	**Conover**	**53.60**	**60**	IAmb	IAmb	02 51 51.0	
	comp=Z,12nm,0.8s						
LYN	**LuoYang**	**53.65**	**282**	⇑P	**P**	**02 51 46.1**	**+0.8**
LYN				sP	pwP	02 52 03.6	+5.3
LYN				sS	sS	02 59 37.3	+8.6
LYN				pmax	pmax		
	comp=Z,120nm,1.0s						
LYN				pmax	pmax		
	comp=Z,470nm,3.7s						
LYN				LR	LR		
	comp=Z,790nm,19.3s						
LYN				LR	LR		
	comp=Z,1μm,16.1s						
LYN				LR	LR		
	comp=Z,560nm,17.7s						
KSU1	**Kansas State U**	**53.84**	**71**	IAmb	IAmb	02 52 03.8	
	comp=Z,30nm,0.9s						
KSU1	**Kansas State U**	**53.84**	**71**	P	**P**	**02 51 46.4**	**-0.1**
	baz=311						
SCIA	**State Center**	**54.00**	**66**	P	**P**	**02 51 48.0**	**+0.2**
	baz=310						
I40A	**Norwalk**	**54.19**	**62**	P	**P**	**02 51 48.6**	**-0.5**
I40A				IAmb	IAmb	02 52 04.9	
	comp=Z,17nm,0.9s						
VHRN	**Van Horn**	**54.28**	**84**	P	**P**	**02 51 50.1**	**+0.1**
VHRN				IAmb	IAmb	02 52 13.3	
	comp=Z,26nm,1.3s						
SMWD	**Samnorwood**	**54.28**	**77**	IAmb	IAmb	02 52 05.5	
	comp=Z,14nm,0.9s						
F42A	**Maple Grove Fa**	**54.36**	**59**	IAmb	IAmb	02 51 57.5	
	comp=Z,24nm,0.7s						
KAN17	**Caldwell West**	**54.50**	**73**	P	**P**	**02 51 50.5**	**-1.0**
KAN17				IAmb	IAmb	02 51 56.9	
	comp=Z,60nm,1.6s						
KAN09	**Caldwell North**	**54.52**	**73**	IAmb	IAmb	02 51 56.5	
	comp=Z,33nm,1.1s						
E43A	**Lone Tree Farm**	**54.58**	**58**	IAmb	IAmb	02 51 58.4	
	comp=Z,31nm,0.7s						
SFJD	**Kangerlussuaq**	**54.65**	**24**	LR	LR	03 17 02.5	
	comp=Z,602nm,21.1s,baz=317,slow=38						
N38A	**Joes South For**	**54.71**	**67**	IAmb	IAmb	02 52 14.5	
	comp=Z,26nm,0.7s						
DKNS	**Dickens**	**54.83**	**78**	IAmb	IAmb	02 52 14.0	
	comp=Z,44nm,1.4s						
BLOK	**Blackwell**	**55.01**	**73**	P	**P**	**02 51 54.2**	**-1.0**
BLOK				IAmb	IAmb	02 52 00.9	
	comp=Z,42nm,1.4s						
JFWS	**Jewell Farm**	**55.03**	**63**	IAmb	IAmb	02 52 09.2	
	comp=Z,30nm,0.9s						
JFWS	**Jewell Farm**	**55.03**	**63**	P	**P**	**02 51 55.0**	**-0.1**
	baz=310						
I42A	**Draeger Farm,**	**55.14**	**61**	IAmb	IAmb	02 52 12.4	
	comp=Z,30nm,1.1s						
WHN	**Wuhan**	**55.21**	**277**	P	**P**	**02 51 57.1**	**+0.5**
WHN				pP	**pwP**	**02 52 08.2**	**-1.5**
WHN				S	**S**	**02 59 35.9**	**-2.3**
WHN				pmax	pmax		
	comp=Z,110nm,1.2s						
WHN				LR	LR		
	comp=Z,1μm,15.7s						
P38A	**Dawn**	**55.30**	**68**	IAmb	IAmb	02 52 14.0	
	comp=Z,29nm,0.8s						
T35A	**Sooner Cattle**	**55.33**	**73**	P	**P**	**02 51 56.5**	**-1.0**
T35A				IAmb	IAmb	02 52 02.3	
	comp=Z,14nm,0.9s						
ICESG	**Greenland Ices**	**55.38**	**18**	*eP*	**P**	**02 51 56.4**	**-1.4**
ICESG				*e*		02 52 57.5	
OK048	**Pawnee Station**	**55.41**	**73**	IAmb	IAmb	02 52 03.1	
	comp=Z,22nm,1.0s						
OK051	**E0350 and S346**	**55.41**	**73**	P	**P**	**02 51 57.1**	**-1.0**
OK051				IAmb	IAmb	02 52 04.3	
	comp=Z,32nm,1.3s						
WMOK	**Wichita Mounta**	**55.42**	**76**	IAmb	IAmb	02 52 14.6	
	comp=Z,13nm,1.0s						
WMOK	**Wichita Mounta**	**55.42**	**76**	P	**P**	**02 51 58.1**	**-0.1**
	baz=312,SNR=5.2						
WMOK	**Wichita Mounta**	**55.42**	**76**	P	**P**	**02 51 58.3**	**+0.1**
WMOK				pmax	pmax		
	comp=Z,18nm,1.0s						
LPIG	**La Paz**	**55.67**	**94**	LR	LR	03 13 22.2	
	comp=Z,221nm,18.2s,baz=296,slow=33						
OK052	**Battle Ridge R**	**55.77**	**74**	IAmb	IAmb	02 52 06.5	
	comp=Z,32nm,1.1s						
OK031	**S. Brethren Rd**	**55.78**	**74**	IAmb	IAmb	02 52 07.2	
	comp=Z,25nm,0.9s						
ZALV	**Zalesovo Beam**	**55.86**	**315**	P	**P**	**02 52 00.2**	**-0.8**
ZALV	**Zalesovo Beam**	**55.86**	**315**	P	**P**	**02 52 00.1**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=50,slow=6.3,SNR=9.7						
ZALV				PcP	**PcP**	**02 52 59.9**	**+0.4**
	comp=Z,3.1nm,0.4s,baz=46,slow=4.2,SNR=15						
ZALV				ScP	**ScP**	**02 57 00.8**	**+4.4**
	comp=Z,1.4nm,0.7s,baz=33,slow=5.5,SNR=3.6						
ZALV				LR	LR	03 17 43.4	
	comp=Z,942nm,18.4s,baz=56,slow=38						
	comp=Z,1.5nm,0.3s						
ZALV	**Zalesovo Beam**	**55.86**	**315**	*i* P	**P**	**02 52 01.3**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SGCY	**Sterling City**	**55.90**	**80**	IAmb	IAmb	02 52 21.3	
	comp=Z,38nm,1.2s						
L42A	**Oliver, Polo**	**55.95**	**64**	P	**P**	**02 52 00.3**	**-1.5**
L42A				IAmb	IAmb	02 52 13.6	
	comp=Z,34nm,1.2s						
DEOK	**Depew**	**56.06**	**73**	P	**P**	**02 52 02.4**	**-0.3**
DEOK				IAmb	IAmb	02 52 09.8	
	comp=Z,36nm,1.3s						
TX31	**Lajitas Ar. Si**	**56.11**	**84**	IAmb	IAmb	02 52 23.5	
	comp=Z,14nm,1.1s						
TXAR	**Lajitas Array**	**56.11**	**84**	P	**P**	**02 52 02.6**	**-0.6**
TXAR	**Lajitas Array**	**56.11**	**84**	P	**P**	**02 52 02.8**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=304,slow=5.4,SNR=17						
TXAR				LR	LR	03 15 29.4	
	comp=Z,156nm,18.2s,baz=304,slow=35						
	comp=Z,0.9nm,0.7s						
XAN	**Xi'an**	**56.17**	**284**	⇑P	**P**	**02 52 03.8**	**+0.3**
XAN				pP	pwP	02 52 15.4	-1.2
XAN				pmax	pmax		
	comp=Z,110nm,1.4s						
XAN				pmax	pmax		
	comp=Z,630nm,4.9s						
XAN				LR	LR		
	comp=Z,810nm,16.5s						
XAN				LR	LR		
	comp=Z,750nm,18.4s						
XAN				LR	LR		
	comp=Z,1μm,20.6s						
K43A	**Burlington**	**56.23**	**62**	IAmb	IAmb	02 52 17.1	
	comp=Z,35nm,1.1s						
W35A	**Tecumseh**	**56.30**	**74**	IAmb	IAmb	02 52 10.9	
	comp=Z,39nm,1.2s						
ABTX	**Abilene, Hawle**	**56.33**	**78**	P	**P**	**02 52 04.9**	**+0.2**
	baz=313						
TUL3	**Leonard**	**56.44**	**73**	IAmb	IAmb	02 52 19.7	
	comp=Z,12nm,0.8s						
TUL3	**Leonard**	**56.44**	**73**	P	**P**	**02 52 05.3**	**-0.1**
	baz=312						
QZH	**Quanzhou**	**56.51**	**269⇑**	*i* P	**P**	**02 52 06.6**	**+0.6**
S39A	**Bolivar**	**56.71**	**70**	IAmb	IAmb	02 52 22.6	
	comp=Z,17nm,1.1s						
L44A	**Lake County Fo**	**56.81**	**62**	P	**P**	**02 52 08.1**	**+0.1**
	baz=312						
GLMI	**Grayling**	**56.85**	**58**	P	**P**	**02 52 07.6**	**-0.6**
	baz=312						
U38A	**Gravette**	**56.92**	**72**	IAmb	IAmb	02 52 25.2	
	comp=Z,21nm,1.1s						
R40A	**Maddies Statio**	**56.92**	**69**	IAmb	IAmb	02 52 25.8	
	comp=Z,13nm,0.6s						
FW03	**Perrin-Whitt E**	**57.01**	**77**	IAmb	IAmb	02 52 29.9	
	comp=Z,48nm,1.3s						
HDIL	**Hopedale**	**57.12**	**65**	P	**P**	**02 52 09.6**	**-0.6**
	baz=312						
HHAR	**Hobbs**	**57.29**	**71**	IAmb	IAmb	02 52 27.6	
	comp=Z,11nm,0.9s						
JMIC	**Jan Mayen**	**57.54**	**5**	LR	LR	03 18 45.8	
	comp=Z,296nm,18.1s,baz=0.5,slow=38						
HAMF	**Hammerfest**	**57.56**	**353**	*eP*	**P**	**02 52 11.5**	**-1.3**
X37A	**Clayton**	**57.58**	**74**	IAmb	IAmb	02 52 31.3	
	comp=Z,35nm,1.3s						
BRDY	**Brady**	**57.65**	**79**	IAmb	IAmb	02 52 43.0	
	comp=Z,17nm,1.2s						
CCM	**Cathedral Cave**	**57.68**	**68**	P	**P**	**02 52 12.4**	**-1.7**
CCM				IAmb	IAmb	02 52 29.9	
	comp=Z,14nm,0.9s						
CCM	**Cathedral Cave**	**57.68**	**68**	P	**P**	**02 52 14.0**	**-0.1**
	baz=313						
CCM	**Cathedral Cave**	**57.68**	**68**	P	**P**	**02 52 12.4**	**-1.7**
CCM				pmax	pmax		
	comp=Z,14nm,0.9s						
MGMO	**Mountain Grove**	**57.69**	**70**	IAmb	IAmb	02 52 29.8	
	comp=Z,18nm,0.9s						
J47A	**Sunmer**	**57.80**	**60**	IAmb	IAmb	02 52 22.1	
	comp=Z,20nm,0.9s						
LZH	**Lanzhou**	**57.83**	**289**	P	**P**	**02 52 16.0**	**+0.6**
LZH				sP	pwP	02 52 31.3	+2.8
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
LZH				LR	LR		
	comp=Z,830nm,15.1s						
LZH				LR	LR		
	comp=Z,1μm,16.5s						
LZH				LR	LR		
	comp=Z,2μm,17.5s						
GTA	**Gaotai**	**57.93**	**294**	*eP*	**P**	**02 52 16.3**	**+0.3**
GTA				pmax	pmax		
	comp=Z,17nm,1.1s						
GTA				LR	LR		
	comp=Z,450nm,17.8s						
GTA				LR	LR		
	comp=Z,860nm,19.6s						
GTA				LR	LR		
	comp=Z,700nm,21.1s						
WHTX	**Lake Whitney,**	**58.10**	**77**	P	**P**	**02 52 16.3**	**-0.8**
	baz=314						
KEV	**Kevo**	**58.14**	**351**	P	**P**	**02 52 16.2**	**-0.7**
KEV				IAmb	IAmb	02 52 17.1	
	comp=Z,21nm,0.9s						
KEV	**Kevo**	**58.14**	**351**	P	**P**	**02 52 16.2**	**-0.7**
KEV				pmax	pmax		
	comp=Z,21nm,0.9s						
FVM	**French Village**	**58.20**	**68**	IAmb	IAmb	02 52 34.1	
	comp=Z,24nm,0.9s						
SCHQ	**Schefferville**	**58.38**	**40**	P	**P**	**02 52 19.0**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=315,slow=13,SNR=6.7						
SCHQ				LR	LR	03 20 01.3	
	comp=Z,1μm,18.2s,baz=314,slow=39						
	comp=Z,2.9nm,0.7s						
Q44A	**Meyer Farm, Va**	**58.39**	**66**	IAmb	IAmb	02 52 35.5	
	comp=Z,25nm,1.0s						
T42A	**Van Buren**	**58.46**	**69**	IAmb	IAmb	02 52 34.9	
	comp=Z,15nm,1.1s						
SFIN	**Lafayette**	**58.48**	**64**	P	**P**	**02 52 18.9**	**-0.8**
	baz=313,SNR=7.2						
ARCES	**ARCESS Array B**	**58.49**	**352**	P	**P**	**02 52 17.7**	**-1.6**
ARCES	**ARCESS Array B**	**58.49**	**352**	P	**P**	**02 52 18.3**	**-1.1**
	comp=Z,13nm,0.8s,baz=9.9,slow=7.3,SNR=22						
ARCES				PcP	**PcP**	**02 53 09.1**	**-0.5**
	comp=Z,16nm,1.0s,baz=15,slow=4.7,SNR=9.4						
ARCES				LR	LR	03 19 57.1	
	comp=Z,302nm,18.1s,baz=3.5,slow=39						
	comp=Z,13nm,0.8s						
FCAR	**Ozark Folk Cen**	**58.63**	**71**	IAmb	IAmb	02 52 36.9	
	comp=Z,28nm,1.0s						
MIAR	**Mount Ida**	**58.69**	**73**	IAmb	IAmb	02 52 28.0	
	comp=Z,30nm,1.0s						
MIAR	**Mount Ida**	**58.69**	**73**	P	**P**	**02 52 20.5**	**-0.7**
	baz=314,SNR=20						
MIAR	**Mount Ida**	**58.69**	**73**	P	**P**	**02 52 22.1**	**+0.8**
435B	**Jarrell**	**58.87**	**79**	P	**P**	**02 52 22.5**	**0.0**
	baz=314						
TRO	**Tromso**	**58.89**	**354**	*eP*	**P**	**02 52 21.3**	**-0.8**
L48A	**N Adams**	**58.89**	**61**	IAmb	IAmb	02 52 38.5	
	comp=Z,17nm,0.8s						
N47A	**Urbana**	**58.92**	**62**

833A	Chaparral WMA,	59.48	82	P	P	02 52 26.7	-0.1
	baz=315						
O48B	Farmland	59.64	62	IAmb	IAmb	02 52 35.2	
	comp=Z,26nm,0.8s						
O48B	Farmland	59.64	62	P	P	02 52 27.1	-0.7
	baz=313,SNR=8.4						
N49A	Columbus Grove	59.73	61	IAmb	IAmb	02 52 44.8	
	comp=Z,18nm,0.8s						
SADO	Sadowa	59.76	55	LR	LR	03 19 53.6	
	comp=Z,970nm,18.3s,baz=345,slow=38						
NATX	Nacogdoches	59.97	76	P	P	02 52 29.1	-1.0
	baz=315						
ZSN	Zaisan	60.31	310	*e*P	P	02 52 32.4	+0.1
	comp=Z,15nm,0.9s,baz=310						
ZSN	Zaisan	60.31	310	*e*P	P	02 52 32.3	+0.1
ZSN				pmax	pmax		
	comp=Z,15nm,0.9s						
SEM	Semipalatinsk	60.35	315	*e*P	P	02 52 31.9	-0.8
	baz=315						
SEM	Semipalatinsk	60.35	315	*e*P	P	02 52 31.9	-0.8
P49A	Miami Univ. Ec	60.39	63	IAmb	IAmb	02 52 49.1	
	comp=Z,49nm,1.6s						
P49A	Miami Univ. Ec	60.39	63	P	P	02 52 32.0	-0.9
	baz=314						
WCI	Wyandotte Cave	60.40	65	P	P	02 52 32.2	-0.8
WCI				IAmb	IAmb	02 52 46.0	
	comp=Z,20nm,0.9s						
WCI	Wyandotte Cave	60.40	65	P	P	02 52 32.5	-0.5
	baz=314						
WCI	Wyandotte Cave	60.40	65	P	P	02 52 32.2	-0.8
WCI				pmax	pmax		
	comp=Z,20nm,0.9s						
HKT	Hockley	60.52	78	P	P	02 52 34.5	+0.6
HKT				IAmb	IAmb	02 52 55.1	
	comp=Z,31nm,1.3s						
HKT	Hockley	60.52	78⇑	*e*P	P	02 52 35.0	+1.2
HKT				pmax	pmax		
	comp=Z,5.0nm,1.3s						
STEI	Steigen	60.78	356	*e*P	P	02 52 33.5	-1.6
T47A	Sharon Grove	60.80	66	IAmb	IAmb	02 52 40.7	
	comp=Z,32nm,1.0s						
KURK	Kurchatov	60.84	316	P	P	02 52 34.4	-1.4
KURK	Kurchatov	60.84	316	P	P	02 52 36.0	+0.2
KURK				P	P	02 52 36.0	+0.2
KURK	Kurchatov	60.84	316	*ce*P	P	02 52 35.5	-0.3
KURK				pmax	pmax		
	comp=Z,56nm,1.3s						
ACSO	Alum Creek Sta	60.86	61	P	P	02 52 35.5	-0.6
	baz=314						
KURBB	Kurchatov Arra	60.95	316	P	P	02 52 35.6	-0.9
	comp=Z,15nm,0.4s,baz=44,slow=6.3,SNR=73						
KURBB				PcP	PcP	02 53 19.6	-0.1
	comp=Z,19nm,1.0s,baz=47,slow=4.4,SNR=16						
KURBB				ScP	ScP	02 57 20.9	+1.9
	comp=Z,1.4nm,0.8s,baz=49,slow=5.4,SNR=4.4						
KURBB				LR	LR	03 20 46.5	
	comp=Z,1μm,18.6s,baz=72,slow=38						
	comp=Z,15nm,0.4s						
WVT	Waverly	60.98	68	P	P	02 52 36.4	-0.6
WVT				IAmb	IAmb	02 52 53.9	
	comp=Z,19nm,1.1s						
WVT	Waverly	60.98	68	P	P	02 52 35.6	-1.3
	baz=314						
WVT	Waverly	60.98	68	P	P	02 52 36.4	-0.6
WVT				pmax	pmax		
	comp=Z,19nm,1.2s						
ERPA	Erie	61.16	58	P	P	02 52 37.4	-0.7
	baz=314,SNR=8.2						
OXF	Oxford	61.19	70	P	P	02 52 37.7	-0.7
	baz=315,SNR=11						
MEDO	Medina	61.23	56	IAmb	IAmb	02 52 41.4	
	comp=Z,32nm,1.2s						
M53A	WI Miller and	61.27	59	P	P	02 52 38.2	-0.7
	baz=315,SNR=9.4						
FAUS	Fauske	61.32	356	*e*P	P	02 52 38.3	-0.4
FAUS				IAmb	IAmb	02 52 39.0	
	comp=Z,44nm,1.1s						
LDAQ	Lac Daran	61.38	48	IAmb	IAmb	02 52 40.5	
	comp=Z,42nm,1.3s						
GULI	GuiLin	61.41	275	P	P	02 52 40.9	+0.9
GULI				pmax	pmax		
	comp=Z,30nm,1.2s						
WMQ	Urumqi	61.47	305	⇑P	P	02 52 40.9	+0.7
WMQ				sP	pwP	02 53 00.3	+6.9
WMQ				pmax	pmax		
	comp=Z,50nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,210nm,4.7s						
WMQ				LR	LR		
	comp=Z,940nm,20.9s						
WMQ				LR	LR		
	comp=Z,1μm,20.9s						
WMQ				LR	LR		
	comp=Z,520nm,19.3s						
CD2	Chengdu	61.47	285	P	P	02 52 39.8	-0.6
CD2				S	S	03 00 57.5	-2.4
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				LR	LR		
	comp=Z,740nm,15.2s						
CD2				LR	LR		
	comp=Z,740nm,17.2s						
WBO	Williamsburg	61.55	53	P	P	02 52 40.0	-0.7
PLAL	Pickwick Lake	61.64	69	IAmb	IAmb	02 52 58.1	
	comp=Z,14nm,0.8s						
P52A	Corning	61.75	61	P	P	02 52 41.3	-0.8
	baz=315						
O53A	New Philadelph	61.82	60	P	P	02 52 42.1	-0.5
	baz=315						
MMNY	Mt. Morris Dam	61.82	56	IAmb	IAmb	02 52 44.5	
	comp=Z,21nm,1.2s						
V48A	Smith Brothers	61.84	67	IAmb	IAmb	02 52 59.6	
	comp=Z,9.1nm,0.9s						
CLTN	Cedars of Leba	61.87	67	IAmb	IAmb	02 52 48.7	
	comp=Z,18nm,0.9s						
U49A	Red Boiling Sp	61.89	66	IAmb	IAmb	02 52 48.1	
	comp=Z,16nm,1.1s						
MK31	Makanchi Array	62.01	311	*ce*P	P	02 52 43.1	-0.7
MKAR	Makanchi Array	62.01	311	P	P	02 52 42.9	-0.9
	comp=Z,8.4nm,0.3s,baz=44,slow=6.7,SNR=326						
MKAR				LR	LR	03 21 58.8	
	comp=Z,754nm,18.3s,baz=46,slow=38						
	comp=Z,8.4nm,0.3s						
MKAR	Makanchi Array	62.01	311	*ce*P	P	02 52 43.2	-0.6
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
MAKZ	Makanchi	62.15	311	P	P	02 52 43.7	-1.0
MAKZ				IAmb	IAmb	02 52 45.2	
	comp=Z,33nm,1.3s						
MAKZ	Makanchi	62.15	311	P	P	02 52 43.7	-1.0
MAKZ				pmax	pmax		
	comp=Z,33nm,1.3s						
LONY	Lake Ozonia	62.17	53	IAmb	IAmb	02 52 45.6	
	comp=Z,38nm,1.1s						
LONY	Lake Ozonia	62.17	53	P	P	02 52 44.4	-0.5
	baz=316,SNR=13						
KONS	Konsvik	62.30	356	*e*P	P	02 52 45.1	-0.2
KONS				IAmb	IAmb	02 52 45.5	
	comp=Z,24nm,1.0s						
STOK	Stokkvaagen	62.47	356	*e*P	P	02 52 46.3	-0.1
BVAR	Borovoye Array	62.51	322	P	P	02 52 47.2	+0.2
	comp=Z,17nm,0.4s,baz=54,slow=6.3,SNR=109						
BVAR				PcP	PcP	02 53 24.6	-1.4
	comp=Z,25nm,0.9s,baz=49,slow=2.9,SNR=12						
BVAR				LR	LR	03 22 34.0	
	comp=Z,2μm,18.9s,baz=46,slow=39						
	comp=Z,17nm,0.4s						
BRVK	Borovoye	62.52	322	P	P	02 52 46.8	-0.4
BRVK				IAmb	IAmb	02 53 27.7	
	comp=Z,20nm,0.9s						
BRVK	Borovoye	62.52	322	P	P	02 52 47.3	+0.2
BRVK				P	P	02 52 47.3	+0.2
BRVK	Borovoye	62.52	322	*ce*P	P	02 52 46.7	-0.4
BRVK				pmax	pmax		
	comp=Z,28nm,2.5s						
MOR8	Moi Rana	62.57	356	*e*P	P	02 52 45.4	-1.8
SWET	Sewanee	62.72	67	IAmb	IAmb	02 53 05.1	
	comp=Z,48nm,1.6s						
J58A	Remsen	62.72	54	P	P	02 52 48.6	0.0
GYA	Guiyang	62.87	279	⇓P	P	02 52 50.7	+0.8
GYA				pmax	pmax		
	comp=Z,25nm,1.0s						
Z47A	Carrollton	62.90	70	IAmb	IAmb	02 53 06.4	
	comp=Z,22nm,0.7s						
SVE	Sverdlovsk	62.93	329	*e*P	P	02 52 49.9	+0.1
SVE				pmax	pmax		
	comp=Z,24nm,1.3s						
MCWV	Mont Chateau	62.98	60	P	P	02 52 49.8	-0.6
	baz=316						
GOMU	GeErMu	63.00	295	P	P	02 52 50.7	-0.3
GOMU				pP	sP	02 52 59.2	-1.7
GOMU				sP	pwP	02 53 03.1	-0.8
GOMU				PcP	PcP	02 53 30.6	+1.8
GOMU				S	S	03 01 17.4	-2.4
GOMU				SS	SS	03 05 23.9	-0.9
GOMU				pmax	pmax		
	comp=Z,44nm,1.0s						
GOMU				LR	LR		
	comp=Z,1μm,17.7s						
GOMU				LR	LR		
	comp=Z,1μm,18.8s						
GOMU				LR	LR		
	comp=Z,2μm,18.6s						
W50A	Signal Mountai	63.09	67	IAmb	IAmb	02 52 56.5	
	comp=Z,24nm,1.1s						
TZTN	Tazewell	63.14	64	P	P	02 52 51.1	-0.4
	baz=315						
E62A	Clayton Lake	63.16	48	IAmb	IAmb	02 52 52.2	
	comp=Z,43nm,1.3s						
BINY	Binghamton	63.20	55	P	P	02 52 51.3	-0.5
	baz=316,SNR=25						
SSPA	Standing Stone	63.33	58	P	P	02 52 52.3	-0.4
SSPA	Standing Stone	63.33	58	P	P	02 52 52.5	-0.1
	baz=316						
CPCT	Cooper Cave	63.37	66	IAmb	IAmb	02 52 57.7	
	comp=Z,22nm,1.3s						
FPAL	Fort Paine	63.38	67	IAmb	IAmb	02 53 11.1	
	comp=Z,20nm,0.8s						
F62A	Pittston Farm,	63.49	49	IAmb	IAmb	02 52 54.5	
	comp=Z,33nm,1.1s						
ACCN	Adirondack Com	63.52	53	P	P	02 52 53.3	-0.5
V52A	Sevierville	63.61	65	IAmb	IAmb	02 53 23.2	
	comp=Z,22nm,0.9s						
TKL	Tuckaleechee C	63.64	65	IAmb	IAmb	02 53 19.4	
	comp=Z,24nm,1.1s						
TKL	Tuckaleechee C	63.64	65	LR	LR	03 19 22.6	
	comp=Z,625nm,21.7s,baz=338,slow=35						
LRAL	Lakeview Retre	63.65	69	P	P	02 52 54.3	-0.6
	baz=316						
LBNH	Lisbon	63.76	51	P	P	02 52 54.3	-1.2
	baz=317,SNR=6.9						
ARU	Arti	63.91	330	P	P	02 52 55.2	-1.0
ARU				IAmb	IAmb	02 53 32.9	
	comp=Z,26nm,1.3s						
ARU	Arti	63.91	330	LR	LR	03 24 19.5	
	comp=Z,753nm,19.4s,baz=44,slow=39						
ARU	Arti	63.91	330	*c i*P	P	02 52 55.6	-0.6
ARU						02 53 30.3	
ARU				S	S	03 01 29.0	-0.7
ARU				SS	SS	03 05 33.7	-3.6
ARU	Arti	63.91	330	P	P	02 52 55.3	-1.0
	comp=Z,13nm,1.2s						
HNH	Hanover	63.97	52	IAmb	IAmb	02 52 58.3	
	comp=Z,33nm,1.2s						
F63A	Nahmakanta, Br	64.04	49	IAmb	IAmb	02 52 58.2	
	comp=Z,35nm,1.1s						
V53A	Saluda	64.18	65	IAmb	IAmb	02 53 12.9	
	comp=Z,14nm,0.8s						
JOF	Joensuu	64.21	347	*e*P	P	02 52 57.4	-0.7
BATG	Bathurst New B	64.26	46	IAmb	IAmb	02 52 59.9	
	comp=Z,28nm,1.2s						
F64A	Sherman	64.27	48	P	P	02 52 57.8	-1.0
PKME	Peaks-Kenny Pk	64.27	49	IAmb	IAmb	02 52 59.8	
	comp=Z,24nm,1.1s						
PKME	Peaks-Kenny Pk	64.27	49	P	P	02 52 57.5	-1.2
	baz=318,SNR=6.5						
NSS	Namsos	64.31	357	*e*P	P	02 52 58.4	-0.3
HNR	Honiara	64.41	208	LR	LR	03 16 05.6	
	comp=Z,5μm,20.9s,baz=2.0,slow=31						
BLA	Blacksburg	64.41	62	P	P	02 52 59.3	-0.6
	baz=316						
MVL	Millersville	64.60	57	IAmb	IAmb	02 53 02.9	
	comp=Z,40nm,1.3s						
BG3	Lake Jocassee	64.60	65	IAmb	IAmb	02 53 05.7	
	comp=Z,34nm,1.3s						
WVL	Waterville	64.62	50	IAmb	IAmb	02 53 01.9	
	comp=Z,24nm,1.0s						
KIRV	Kirov	64.65	336	LR	LR	03 25 13.1	
	comp=Z,331nm,18.7s,baz=24,slow=40						
KIRV	Kirov	64.65	336	*ce*P	P	02 53 00.5	-0.5
L61B	Northampton	64.70	53	P	P	02 53 01.8	+0.1
L61B				IAmb	IAmb	02 53 02.9	
	comp=Z,24nm,1.1s						
L61B	Northampton	64.70	53	P	P	02 53 00.6	-1.0
	baz=317,SNR=5.3						
SDMD	Soldier's Deli	64.77	58	IAmb	IAmb	02 53 09.4	
	comp=Z,16nm,0.9s						
S57A	Dark Hollow, R	64.82	61	IAmb	IAmb	02 53 20.2	
	comp=Z,26nm,1.0s						
250A	Grady	64.83	70	IAmb	IAmb	02 53 22.3	
	comp=Z,25nm,0.9s						
V55A	Taylorsville	64.95	64	IAmb	IAmb	02 54 10.2	
	comp=Z,19nm,1.0s						
BRAL	Brewton	64.96	71	P	P	02 53 02.7	-0.7
	baz=316						
WUPA	West Chester U	65.04	57	IAmb	IAmb	02 53 21.0	
	comp=Z,15nm,1.1s						
VAF	Ylistaro	65.10	351	*e*P	P	02 53 03.2	-0.7
PAL	Palisades	65.14	55	P	P	02 53 02.8	-1.7
	baz=317,SNR=8.9						
TDK	Taldyqorghan	65.16	312	*e*P	P	02 53 04.8	+0.1
	comp=Z,6.0nm,0.5s,baz=312						
TDK	Taldyqorghan	65.16	312	*e*P	P	02 53 04.7	+0.1
TDK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
T57A	Hurt	65.21	61	IAmb	IAmb	02 53 37.7	
	comp=Z,35nm,1.2s						
HRV	Adam Dziewonsk	65.22	52	P	P	02 53 04.5	-0.5
HRV				IAmb	IAmb	02 53 06.5	
	comp=Z,38nm,1.2s						
HRV	Adam Dziewonsk	65.22	52	P	P	02 53 03.6	-1.4
	baz=318						
HRV	Adam Dziewonsk	65.22	52	P	P	02 53 04.5	-0.5
HRV				pmax	pmax		
	comp=Z,38nm,1.2s						
152A	Waverly Hall	65.24	68	IAmb	IAmb	02 53 21.4	
	comp=Z,23nm,1.3s						
R58B	Mineral	65.26	60	IAmb	IAmb	02 53 21.0	
	comp=Z,18nm,0.8s						
CBN	Corbin Frederi	65.36	59	IAmb	IAmb	02 53 20.9	
	comp=Z,30nm,0.9s						
CBN	Corbin Frederi	65.36	59	P	P	02 53 05.2	-0.7
	baz=317						
KMSC	Kings Mountain	65.40	64	IAmb	IAmb	02 53 24.6	
	comp=Z,27nm,0.8s						
KMSC	Kings Mountain	65.40	64	P	P	02 53 06.6	+0.3
	baz=317						
GOGA	Godfrey	65.43	67	IAmb	IAmb	02 53 11.1	
	comp=Z,18nm,1.0s						
GOGA	Godfrey	65.43	67	P	P	02 53 06.9	+0.4
	baz=316						
GOGA	Godfrey	65.43	67	P	P	02 53 06.1	-0.4
HODGE	Hodges	65.53	65	IAmb	IAmb	02 53 12.2	
	comp=Z,28nm,1.0s						
BCX	Boston College	65.54	52	IAmb	IAmb	02 53 08.4	
	comp=Z,31nm,1.2s						
EMMW	East Machias	65.55	48	P	P	02 53 06.1	-1.0
KEF	Keuruu	65.73	350	*e*P	P	02 53 07.2	-0.8
DAV	Davao City (W)	65.86	250	LR	LR	03 16 44.9	
	comp=Z,188nm,22.0s,baz=358,slow=31						
PZH	PanZhiHua	65.86	283	P	P	02 53 10.0	+0.5
PZH				S	S	03 01 52.0	-2.8
PZH				pmax	pmax		
	comp=Z,80nm,1.5s						
PZH				pmax	pmax		
	comp=Z,390nm,3.7s						
PZH				LR	LR		
	comp=Z,360nm,21.6s						
PZH				LR	LR		
	comp=Z,370nm,20.6s						
PZH				LR	LR		
	comp=Z,280nm,21.1s						
ARXS	Arharly	66.03	311	*e*P	P	02 53 10.7	+0.4
SHLS	Shalkode	66.05	310	*e*P	P	02 53 09.6	-1.0
	comp=Z,17nm,1.1s,baz=309						
SHLS	Shalkode	66.05	310	*e*P	P	02 53 09.5	-1.0
SHLS				pmax	pmax		
	comp=Z,17nm,1.1s						
KPKS	Kokpek	66.19	310	*e*P	P	02 53 11.8	+0.4
	comp=Z,18nm,1.1s,baz=310						
KPKS	Kokpek	66.19	310	*e*P	P	02 53 11.7	+0.4
KPKS				pmax	pmax		
	comp=Z,18nm,1.1s						
KMI	Kunming	66.26	281	⇑P	P	02 53 12.8	+0.6
KMI				pmax	pmax		
	comp=Z,32nm,1.1s						
KMI				pmax	pmax		
	comp=Z,300nm,4.3s						
KMI				LR	LR		
	comp=Z,380nm,20.9s						
KMI				LR	LR		
	comp=Z,400nm,20.5s						
KMI				LR	LR		
	comp=Z,340nm,17.9s						
UZB	Uzynbulak	66.27	310	*e*P	P	02 53 12.1	+0.2
	comp=Z,12nm,1.1s,baz=310						
UZB	Uzynbulak	66.27	310	*e*P	P	02 53 12.1	+0.2
UZB				pmax	pmax		
	comp=Z,12nm,1.1s						
FIA1	FINESS Array S	66.30	349	IAmb	IAmb	02 53 11.7	
	comp=Z,20nm,1.1s						
FINES	FINESS Array B	66.31	349	P	P	02 53 10.1	-1.6
FINES	FINESS Array B	66.31	349	P	P	02 53 10.4	-1.3
	comp=Z,7.2nm,0.7s,baz=13,slow=6.9,SNR=42						
FINES				PcP	PcP	02 53 40.0	-1.5
	comp=Z,3.2nm,0.6s,baz=15,slow=5.9,SNR=4.4						
FINES				LR	LR	03 25 29.5	
	comp=Z,375nm,19.5s,baz=28,slow=39						
	comp=Z,7.2nm,0.7s						
FINES	FINESS Array B	66.31	349	*i* P	P	02 53 10.8	-0.9
FINES				pmax	pmax		
	comp=Z,7.0nm,0.7s						
QIZ	Qiongzhong	66.33	271	P	P	02 53 12.5	0.0
QIZ				S	S	03 02 01.5	+1.1
QIZ				SS	SS	03 06 18.4	+1.8
QIZ				LR	LR		
	comp=Z,270nm,16.1s						
QIZ				LR	LR		
	comp=Z,290nm,16.7s						
QIZ				LR	LR		
	comp=Z,260nm,20.2s						
DRLN	Deer Lake	66.36	40	IAmb	IAmb	02 53 13.7	
	comp=Z,36nm,1.1s						
MOL	Molde	66.38	359	*e*P	P	02 53 11.7	-0.4
MOL				IAmb	IAmb	02 53 12.7	
	comp=Z,29nm,0.9s						
ZHN	Zhinishke	66.53	310	*e*P	P	02 53 13.8	+0.2
	comp=Z,8.5nm,1.1s,baz=310						
ZHN	Zhinishke	66.53	310	*e*P	P	02 53 13.8	+0.2
ZHN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SATY	Saty	66.63	310	*e*P	P	02 53 14.3	0.0
	comp=Z,12nm,1.1s,baz=310						
SATY	Saty	66.63	310	*e*P	P	02 53 14.2	0.0
SATY				pmax	pmax		
	comp=Z,12nm,1.1s						
CHKK	Chushkaly	66.70	312	*e*P	P	02 53 14.6	+0.1
	baz=312						
CHKK	Chushkaly	66.70	312	*e*P	P	02 53 14.6	+0.1
Y57A	Sumter	66.75	64	IAmb	IAmb	02 53 33.5	
	comp=Z,22nm,0.8s						
DOMB	Dombas	66.89	358	*e*P	P	02 53 15.2	-0.2
DOMB				IAmb	IAmb	02 53 15.8	
	comp=Z,34nm,1.1s						
RAF	Rauma	67.17	351	*e*P	P	02 53 16.6	-0.6
MDOK	Medeo	67.20	311	*e*P	P	02 53 17.7	-0.2
	baz=311						
MDOK	Medeo	67.20	311	*e*P	P	02 53 17.6	-0.2
AAA	Alma-Ata	67.22	311	*e*P	P	02 53 18.0	+0.1
	baz=311						
AAA	Alma-Ata	67.22	311	*e*P	P	02 53 18.0	+0.1
FOO	Floro	67.37	0	*e*P	P	02 53 18.6	+0.2
NHSC	New Hope	67.54	65	P	P	02 53 19.3	-0.6
	baz=318						
MEF	Metsahovi	67.69	350	*e*P	P	02 53 19.9	-0.6
NB2	NORSAR Subarra	67.83	357	P	P	02 53 20.7	-0.7
	comp=Z,35nm,1.1s,baz=3.3,slow=6.2						
NB2	NORSAR Subarra	67.83	357	P	P	02 53 20.7	-0.7
	baz=3.3,slow=6.2						
NB2	NORSAR Subarra	67.83	357	P	P	02 53 17.3	-4.1
NB2				pmax	pmax		
	comp=Z,11nm,1.1s						
NOA	NORSAR Array B	67.83	357	P	P	02 53 20.8	-0.7
	comp=Z,16nm,0.9s,baz=3.4,slow=6.4,SNR=37						
NOA				LR	LR	03 23 20.7	
	comp=Z,193nm,20.1s,baz=355,slow=36						
	comp=Z,16nm,0.9s						
NBO00	NORSAR Array S	67.85	357	IAmb	IAmb	02 53 24.8	
	comp=Z,11nm,0.9s						
TKM2	Tokmak 2	68.06	312	P	P	02 53 24.4	+1.0
	SNR=18						
SGDS	Sogindy	68.10	313	*e*P	P	02 53 23.4	-0.1
	baz=313						
SGDS	Sogindy	68.10	313	*e*P	P	02 53 23.3	-0.1
NC602	NORSAR Array S	68.12	357	IAmb	IAmb	02 53 23.8	
	comp=Z,25nm,1.1s						
NC602	NORSAR Array S	68.12	357	*e*P	P	02 53 22.6	-0.6
NORES	NORESS Array B	68.12	357	P	P	02 53 23.7	+0.5
AAL	Aland	68.16	352	*e*P	P	02 53 22.6	-0.9
SKAR	Skarslia	68.27	358	*e*P	P	02 53 24.0	-0.2
ARBE	Arbavere	68.27	349	*e*P	P	02 53 24.0	-0.1
ULHL	Ulahol	68.28	311	P	P	02 53 25.9	+1.1
	SNR=16						
SLVN	Son La	68.33	277	IAmb	IAmb	02 53 28.0	
	comp=Z,18nm,0.9s						
KBK	Karagaybulak	68.57	312	P	P	02 53 27.7	+1.1
	SNR=8.3						
HFS	Hagfors	68.63	355	P	P	02 53 25.5	-0.9
	comp=Z,16nm,0.7s,baz=8.1,slow=2.0,SNR=86						
HFS				LR	LR	03 22 55.4	
	comp=Z,220nm,20.8s,baz=4.0,slow=36						
	comp=Z,16nm,0.7s						
UPP	Uppsala	68.67	353	*e*P	P	02 53 26.6	0.0
AAK	Ala-Archa	68.80	312	P	P	02 53 29.2	+1.3
	SNR=7.1						
AAK	Ala-Archa	68.80	312	P	P	02 53 28.1	+0.2
AAK	Ala-Archa	68.80	312	LR	LR	03 26 22.4	
	comp=Z,690nm,19.1s,baz=40,slow=38						
AAK	Ala-Archa	68.80	312	P	P	02 53 29.0	+1.1
AAK				P	P	02 53 29.0	+1.1
AAK	Ala-Archa	68.80	312	*c i*P	P	02 53 28.5	+0.6
AAK				pmax	pmax		
	comp=Z,56nm,1.7s						
PMG	Port Moresby	68.91	221	LR	LR	03 18 23.6	
	comp=Z,297nm,21.9s,baz=354,slow=31						
TNCH	TengChong	68.91	284	⇑P	P	02 53 30.1	+1.2
TNCH				pP	sP	02 53 38.5	-0.3
TNCH				sP	pwP	02 53 42.9	+0.8
TNCH				S	S	03 02 26.6	-5.0
TNCH				pmax	pmax		
	comp=Z,110nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,390nm,3.0s						
TNCH				LR	LR		
	comp=Z,300nm,15.3s						
TNCH				LR	LR		
	comp=Z,510nm,22.0s						
TNCH				LR	LR		
	comp=Z,290nm,24.3s						
OSL	Oslo	68.95	357	*e*P	P	02 53 29.0	+0.6
ODD1	Odda	69.06	359	*e*P	P	02 53 29.4	+0.3
UCH	Uchtor	69.11	312	P	P	02 53 31.5	+1.3
	SNR=10						
EKS2	Erkin-Say	69.11	313	P	P	02 53 31.2	+1.4
	SNR=20						
AKTO	Aktyubinsk	69.12	327	LR	LR	03 27 16.6	
	comp=Z,750nm,19.1s,baz=45,slow=39						
VSU	Vasula	69.13	348	*de*P	P	02 53 29.0	-0.5
VSU				pmax	pmax		
	comp=Z,51nm,1.0s						
MTSE	Matsula	69.23	350	*e*P	P	02 53 30.0	-0.1
KONO	Kongsberg	69.27	358	P	P	02 53 30.0	-0.4
KONO				IAmb	IAmb	02 53 31.5	
	comp=Z,31nm,1.1s						
KONO	Kongsberg	69.27	358	*e*P	P	02 53 29.6	-0.8
KONO	Kongsberg	69.27	358	*ce*P	P	02 53 30.2	-0.2
KONO				pmax	pmax	

KSH	**Kashi**	**70.52 309**	P	**P**	**02 53 42.4 +3.8**
KSH			pP	PcP	02 53 55.8 -3.9
KSH			PcP	pwP	02 54 04.2 +12
KSH			pmax	pmax	
	comp=Z,57nm,1.0s				
KSH			pmax	pmax	
	comp=Z,89nm,8.0s				
KSH			LR	LR	
	comp=Z,600nm,20.6s				
KSH			LR	LR	
	comp=Z,960nm,19.2s				
KSH			LR	LR	
	comp=Z,760nm,21.6s				
ARSB	**Arslanbob**	**70.53 312**	IAmb	IAmb	02 53 40.6
	comp=Z,11nm,1.1s				
BRLS	**Borolday**	**70.59 315**	*e*P	**P**	**02 53 40.3 +1.5**
	baz=315				
BRLS	**Borolday**	**70.59 315**	*e*P	**P**	**02 53 40.3 +1.5**
BELG	**Belogornoye**	**70.62 334**	LR	LR	03 28 56.9
	comp=Z,539nm,18.1s,baz=41,slow=40				
BELG	**Belogornoye**	**70.62 334**	*c*e*P*	**P**	**02 53 38.4 -0.3**
BELG			pmax	pmax	
	comp=Z,7.0nm,1.1s				
HOMB	**Homborsund**	**70.68 358**	*e*P	**P**	**02 53 39.2 +0.2**
HOMB			IAmb	IAmb	02 53 39.8
	comp=Z,40nm,1.0s				
HOMB	**Homborsund**	**70.68 358**	*i* P	**P**	**02 53 37.0 -2.0**
OBN	**Obninsk**	**70.73 342**	LR	LR	03 27 31.4
	comp=Z,315nm,22.0s,baz=2.0,slow=38				
OBN	**Obninsk**	**70.73 342**	*c i*P	**P**	**02 53 38.7 -0.6**
OBN			*i*		02 54 00.2
OBN			*e*S	**S**	**03 02 55.0 +3.4**
OBN			pmax	pmax	
	comp=Z,32nm,1.7s				
OBN			MLR	MLR	
	comp=Z,302nm,19.0s				
OBN	**Obninsk**	**70.73 342**	P	**P**	**02 53 38.4 -0.9**
	comp=Z,21nm,1.2s				
UBPT	**Khong Chiam**	**71.89 272**	IAmb	IAmb	02 54 03.2
	comp=Z,32nm,1.1s				
VSVD	**Vaisvydziai**	**71.89 349**	*e*P	**P**	**02 53 46.9 +0.5**
ISAL	**Salakas**	**72.02 348**	*e*P	**P**	**02 53 48.7 +1.5**
PPT	**Papeete**	**72.09 155**	LR	LR	03 20 43.8
	comp=Z,526nm,18.7s,baz=324,slow=32				
PPT2	**Papeete2**	**72.11 155**	*e*S	**S**	**03 03 08.3 -0.1**
	comp=Z,294nm,28.8s				
PPT2			*e*SS	**SS**	**03 07 47.5 +0.9**
	comp=Z,97nm,22.5s				
PPT2			*e*LR	LR	03 15 52.1
	comp=Z,568nm,21.8s				
PPT2			*e*LR	LR	03 15 52.4
	comp=Z,602nm,20.8s				
IIGN	**Ignalina**	**72.22 348**	*e*P	**P**	**02 53 49.8 +1.4**
DEL	**Delary**	**72.28 355**	*e*P	**P**	**02 53 48.9 +0.1**
PABE	**Paberze**	**72.36 349**	*e*P	**P**	**02 53 48.9 -0.3**
SHL	**Shillong**	**72.50 289**	P	**P**	**02 53 50.9 +0.2**
	SNR=45				
BTK	**Batken**	**72.53 313**	P	**P**	**02 53 50.6 0.0**
DRK	**Karamyk**	**72.54 312**	IAmb	IAmb	02 53 53.1
	comp=Z,42nm,1.1s				
NACGM	**Naroch**	**72.58 347**	*e*P	**P**	**02 53 50.2 -0.3**
	comp=N,786nm,1.0s				
LPSR	**Galich'ya Gora**	**72.59 339**	*e*P	**P**	**02 53 48.8 -1.8**
LPSR			pmax	pmax	
	comp=Z,20nm,1.0s				
MNK	**Minsk**	**72.81 346**	*i* P	**P**	**02 53 51.3 -0.6**
	comp=E,8.0nm,1.0s				
MNK			*i* P	**P**	**02 53 51.3 -0.6**
	comp=N,12nm,0.9s				
MNK			*i* P	**P**	**02 53 51.3 -0.6**
	comp=Z,28nm,0.9s,baz=14				
MNK			*i* PP	**PP**	**02 56 33.1 -0.2**
MNK			*i* PPP	PPP	02 58 33.9
MNK			*i* S	**SKiKP**	**03 03 20.8 -2.1**
MNK			*i* SS	**SS**	**03 07 55.0 +0.6**
MNK			*i* SSS	SSS	03 11 51.2
MNK			*i* LQ	LQ	03 19 56.5
MNK			*i* LR	LR	03 24 04.0
MNK			*i* LRM	MLR	03 32 04.8
	comp=Z,400nm,17.4s				
MNK			*i* LRM	MLR	03 32 10.0
	comp=N,302nm,17.7s				
MNK			*i* LRM	MLR	03 33 06.7
	comp=E,98nm,16.6s				
MNK	**Minsk**	**72.81 346**	*i* P	**P**	**02 53 51.3 -0.6**
MNK			*i*		02 56 33.0
MNK			*i* S	**SKiKP**	**03 03 20.8 -2.1**
MNK			*i* SS	**SS**	**03 07 55.0 +0.6**
MNK			pmax	pmax	
	comp=Z,28nm,0.9s				
MNK			pmax	pmax	
	comp=E,8.0nm,1.0s				
MNK			pmax	pmax	
	comp=N,12nm,0.9s				
VRH	**Novokhopyorsk**	**73.23 337**	*e*P	**P**	**02 53 53.5 -0.9**
VRH			pmax	pmax	
	comp=Z,28nm,1.0s				
CHTO	**Chiang Mai**	**73.29 279**	P	**P**	**02 53 53.8 -1.5**
CHTO	**Chiang Mai**	**73.29 279**	P	**P**	**02 53 53.8 -1.5**
CHTO			pmax	pmax	
	comp=Z,10.0nm,1.1s				
MRSI	**Marisa**	**73.29 249**	P	**P**	**02 53 55.1 -0.2**
	comp=Z,57nm,1.1s,comp=Z,916nm				
VORR	**Voronezh**	**73.39 339**	*e*P	**P**	**02 53 55.5 +0.1**
VORR			pmax	pmax	
	comp=Z,32nm,0.4s				
EKA	**Eskdalemuir Ar**	**73.42 5**	P	**P**	**02 53 55.4 -0.1**
	comp=Z,18nm,0.9s,baz=356,slow=4.6,SNR=31				
	comp=Z,18nm,0.9s				
ESK	**Eskdalemuir**	**73.44 5**	P	**P**	**02 53 55.6 0.0**
ESK			IAmb	IAmb	02 53 56.9
	comp=Z,38nm,1.1s				
ESK	**Eskdalemuir**	**73.44 5**	*e*P	**P**	**02 53 55.4 -0.2**
ESK			IAmb	IAmb	02 53 56.6
	comp=Z,39nm,1.1s				
ESK	**Eskdalemuir**	**73.44 5**	P	**P**	**02 53 55.6 0.0**
ESK			pmax	pmax	
	comp=Z,38nm,1.2s				
RAR	**Rarotonga**	**73.46 165**	LR	LR	03 22 06.8
	comp=Z,505nm,18.2s,baz=329,slow=32				
CMAR	**Chiang Mai Arr**	**73.56 279**	P	**P**	**02 53 56.7 -0.2**
CMAR	**Chiang Mai Arr**	**73.56 279**	P	**P**	**02 53 57.9 +1.0**
	comp=Z,6.3nm,0.9s,baz=28,slow=6.6,SNR=25				
CMAR			LR	LR	03 29 23.3
	comp=Z,190nm,19.5s,baz=50,slow=38				
	comp=Z,6.3nm,0.9s				
CMAR	**Chiang Mai Arr**	**73.56 279**	P	**P**	**02 53 56.7 -0.2**
VSR	**Storozhevoye**	**73.83 339**	*e*P	**P**	**02 53 54.6 -3.3**
VSR			pmax	pmax	
	comp=Z,50nm,1.1s				
SUW	**Suwalki**	**73.92 349**	*e*P	**P**	**02 53 57.1 -1.3**
SUW	**Suwalki**	**73.92 349**	*e*P	**P**	**02 53 57.4 -1.0**
EDMD	**Edmundbyers**	**73.98 4**	*e*P	**P**	**02 53 58.7 -0.1**
VORD	**Divnogorie**	**74.03 338**	*e*P	**P**	**02 53 56.7 -2.4**
VORD			pmax	pmax	
	comp=Z,30nm,0.9s				
KESW	**Keswick, Cumbr**	**74.17 5**	*e*P	**P**	**02 53 59.8 -0.1**
RGN	**Rugen**	**74.23 355**	*e*P		02 54 00.3
	comp=Z,87nm,0.8s,baz=5,0,slow=5.6				
IOMK	**Kirk Michael**	**74.41 6⇑**	*e*P	**P**	**02 54 01.1 -0.2**
IOMK			IAmb	IAmb	02 54 02.2
	comp=Z,108nm,1.2s				
CHGR	**Chuyangaron**	**74.42 313**	P	**P**	**02 54 01.8 0.0**
SIMJ	**Simiganj**	**74.48 313**	P	**P**	**02 54 02.5 +0.3**
HPK	**Haverah Park**	**74.87 4⇑**	*e*P	**P**	**02 54 04.1 +0.1**
HPK			IAmb	IAmb	02 54 05.8
	comp=Z,65nm,1.1s				
BSEG	**Bad Segeberg**	**74.97 357**	*e*P		02 54 05.0
	comp=Z,39nm,1.0s,baz=5.0,slow=5.6				
DZM	**Mont Dzumac**	**74.99 198**	*e*P	**P**	**02 54 06.8 +1.8**
	comp=Z,48nm,22.6s				
DZM			*e*S	**S**	**03 03 44.7 +3.9**
	comp=Z,129nm,23.1s				
DZM			*e*SS	**SS**	**03 08 31.6 +1.2**
	comp=Z,96nm,25.8s				
DZM			*e*LR	LR	03 17 13.1
	comp=Z,478nm,21.8s				
DZM	**Mont Dzumac**	**74.99 198**	LR	LR	03 24 47.6
	comp=Z,525nm,18.4s,baz=5.0,slow=34				
GKP	**Gorka Klasztor**	**75.24 353**	*e*P	**P**	**02 54 05.3 -0.8**
GKP	**Gorka Klasztor**	**75.24 353**	*e*P	**P**	**02 54 06.1 0.0**
WME	**Myndd Eilian**	**75.28 6⇑**	*e*P	**P**	**02 54 06.1 -0.3**
DSB	**Dublin**	**75.29 7**	P	**P**	**02 54 06.1 -0.3**
DSB			IAmb	IAmb	02 54 07.7
	comp=Z,22nm,1.1s				
LBWR	**Ladybower, Pea**	**75.42 4⇑**	*e*P	**P**	**02 54 07.2 0.0**
LBWR			IAmb	IAmb	02 54 08.7
	comp=Z,68nm,1.0s				
LMK	**Market Rasen**	**75.43 3**	*e*P	**P**	**02 54 07.9 +0.7**
STNC	**Stoke**	**75.71 5**	*e*P	**P**	**02 54 09.1 +0.3**
FOEL	**Foel Wylfa**	**75.86 5⇑**	*e*P	**P**	**02 54 10.0 +0.3**
FOEL			IAmb	IAmb	02 54 10.9
	comp=Z,74nm,1.1s				
GORT1	**Trebel**	**75.88 356**	*e*P		02 54 10.2
	comp=Z,50nm,1.2s,baz=5.0,slow=5.6				
CWF	**Charnwood Fore**	**76.11 4⇑**	*e*P	**P**	**02 54 11.0 -0.1**
CWF			IAmb	IAmb	02 54 12.1
	comp=Z,40nm,1.1s				
RNPP9	**Sopachiv**	**76.11 347**	P	**P**	**02 54 10.0 -1.1**
RNPP8	**Varash**	**76.19 347**	P	**P**	**02 54 10.3 -1.2**
WACR	**West Acre**	**76.19 3⇑**	*e*P	**P**	**02 54 11.2 -0.3**
WACR			IAmb	IAmb	02 54 12.9
	comp=Z,163nm,1.0s				
RETH	**Rethem/Aller,**	**76.20 357**	*e*P		02 54 11.8
	comp=Z,29nm,1.1s,baz=5.0,slow=5.6				
AK21	**Malin Array Si**	**76.24 345**	P	**P**	**02 54 10.4 -1.5**
AK23	**Malin Array Si**	**76.24 345**	P	**P**	**02 54 10.4 -1.5**
HLM1	**Long Mynd**	**76.25 5**	*e*P	**P**	**02 54 11.7 -0.2**
HLM1			IAmb	IAmb	02 54 13.0
	comp=Z,25nm,1.1s				
AK22	**Malin Array Si**	**76.25 345**	P	**P**	**02 54 10.5 -1.4**
AK03	**Malin Array Si**	**76.26 345**	P	**P**	**02 54 10.5 -1.5**
RUE	**Ruedersdorf**	**76.27 355**	*e*P	**P**	**02 54 12.4 +0.5**
RUE	**Ruedersdorf**	**76.27 355**	*e*P		02 54 12.1
	comp=Z,44nm,1.0s,baz=5.0,slow=5.6				
AK04	**Malin Array Si**	**76.27 345**	P	**P**	**02 54 10.6 -1.4**
AK20	**Malin Array Si**	**76.28 345**	P	**P**	**02 54 10.6 -1.5**
AKASG	**Malin Array Be**	**76.28 345**	P	**P**	**02 54 10.6 -1.5**
	comp=Z,2.4nm,0.3s,baz=17,slow=5.7,SNR=19				
AKASG			LR	LR	03 32 08.4
	comp=Z,349nm,18.5s,baz=26,slow=39				
	comp=Z,2.4nm,0.3s				
AKASG	**Malin Array Be**	**76.28 345**	*c*e*P*	**P**	**02 54 11.0 -1.1**
AKASG			pmax	pmax	
	comp=Z,2.0nm,0.3s				
AKBB	**Malin Array Si**	**76.28 345**	IAmb	IAmb	02 54 12.1
	comp=Z,21nm,1.1s				
AKBB	**Malin Array Si**	**76.28 345**	*c i*P	**P**	**02 54 10.9 -1.2**
AKBB	**Malin Array Si**	**76.28 345**	P	**P**	**02 54 11.0 -1.2**
AKBB			pP	**PcP**	**02 54 23.4 -0.6**
RNPP5	**Staryi Chortor**	**76.29 347**	P	**P**	**02 54 11.0 -1.1**
RNPP5			pP	**PcP**	**02 54 23.9 -0.1**
AK18	**Malin Array Si**	**76.29 345**	P	**P**	**02 54 11.1 -1.0**
KIEV	**Kiev**	**76.29 345**	⇓P	**P**	**02 54 10.9 -1.3**
KIEV	**Kiev**	**76.29 345**	P	**P**	**02 54 11.2 -1.0**
KIEV			IAmb	IAmb	02 54 12.1
	comp=Z,17nm,1.0s				
KIEV	**Kiev**	**76.29 345**	P	**P**	**02 54 11.2 -1.0**
KIEV			pmax	pmax	
	comp=Z,17nm,1.0s				
KIEV	**Kiev**	**76.29 345**	P	**P**	**02 54 11.0 -1.2**
	comp=Z,79nm,1.1s				
AK01	**Malin Array Si**	**76.29 345**	P	**P**	**02 54 10.7 -1.5**
AK19	**Malin Array Si**	**76.30 345**	P	**P**	**02 54 10.7 -1.5**
AK11	**Malin Array Si**	**76.31 345**	P	**P**	**02 54 10.8 -1.5**
BEL	**Belsk**	**76.33 350**	*e*P	**P**	**02 54 12.4 0.0**
AK02	**Malin Array Si**	**76.33 345**	P	**P**	**02 54 10.9 -1.5**
AK08	**Malin Array Si**	**76.34 345**	P	**P**	**02 54 10.9 -1.5**
AK12	**Malin Array Si**	**76.35 345**	P	**P**	**02 54 11.1 -1.4**
AK09	**Malin Array Si**	**76.36 345**	P	**P**	**02 54 11.2 -1.3**
AK05	**Malin Array Si**	**76.36 345**	P	**P**	**02 54 11.3 -1.3**
AK14	**Malin Array Si**	**76.37 345**	P	**P**	**02 54 11.3 -1.3**
AK10	**Malin Array Si**	**76.38 345**	P	**P**	**02 54 11.4 -1.2**
AK13	**Malin Array Si**	**76.40 345**	P	**P**	**02 54 11.5 -1.3**
MI30	**MI30,Zelenitsa**	**76.41 345**	P	**P**	**02 54 11.5 -1.3**
NRDL	**Niedersach Rie**	**76.42 357**	*e*P		02 54 12.8
	comp=Z,24nm,1.1s,baz=5.0,slow=5.6				
AK07	**Malin Array Si**	**76.43 345**	P	**P**	**02 54 11.7 -1.3**
NIL	**Nilore**	**76.49 307**	P	**P**	**02 54 14.0 +0.3**
NIL	**Nilore**	**76.49 307**	P	**P**	**02 54 14.8 +1.1**
NIL			P	**P**	**02 54 14.8 +1.1**
NIL	**Nilore**	**76.49 307**	P	**P**	**02 54 14.0 +0.3**
NIL			pmax	pmax	
	comp=Z,168nm,1.2s				
FLTG	**Flechtingen**	**76.54 356**	*e*P		02 54 13.1
	comp=Z,33nm,1.1s,baz=5.0,slow=5.6				
IBBN	**Ibbenburen**	**76.67 358**	*e*P		02 54 14.5
	comp=Z,72nm,1.0s,baz=5.0,slow=5.6				
RSBS	**Rosebush, Pemb**	**76.69 6⇑**	*e*P	**P**	**02 54 14.3 -0.1**
RSBS			IAmb	IAmb	02 54 15.4
	comp=Z,51nm,1.1s				
MONM	**Monmouth**	**76.93 5**	*e*P	**P**	**02 54 15.9 +0.2**
CLZ	**Clausthal**	**77.06 357**	*e*P		02 54 16.9
	comp=Z,46nm,1.0s,baz=5.0,slow=5.6				
LUBAR	**Lubar, Ukraine**	**77.28 345**	P	**P**	**02 54 15.7 -2.0**
GTTG	**Gottingen**	**77.38 357**	*e*P		02 54 18.6
	comp=Z,48nm,1.1s,baz=5.0,slow=5.6				
CLL	**Collm**	**77.48 355**	IAmb	IAmb	02 54 19.7
	comp=Z,18nm,0.9s				
CLL	**Collm**	**77.48 355⇑**	*i*P	**P**	**02 54 18.5 -0.3**
	comp=Z,21nm,1.0s				
CLL			*e*PcP	**PcP**	**02 54 29.0 -0.2**
CLL			*e*S	**S**	**03 04 06.0 -1.6**
CLL			*e*SP	**ScS**	**03 04 44.0 +9.2**
CLL			*e*x	x	03 06 05.0
CLL			*e*SS	**SS**	**03 09 12.0 +6.8**
CLL			*e*SSS	SSS	03 12 36.0
CLL			*e*x	x	03 14 30.0
CLL			*e*SSSS		03 14 54.0
CLL			AMS	AMS	03 34 00.0
	comp=N,200nm,18.5s				
CLL			AMS	AMS	03 34 00.0
	comp=E,200nm,19.2s				
CLL			AMS	AMS	03 34 00.0
	comp=Z,200nm,18.5s				
CLL	**Collm**	**77.48 355⇑**	*i*P	**P**	**02 54 18.5 -0.3**
CLL			*e**PP	**pwP**	**02 54 32.0 -0.2**
CLL			*e*S	**S**	**03 04 06.0 -1.6**
CLL			pmax	pmax	
	comp=Z,21nm,1.0s				
CLL	**Collm**	**77.48 355**	P	**P**	**02 54 18.3 -0.5**
	comp=Z,26nm,1.1s,comp=Z,371nm				
CLL	**Collm**	**77.48 355**	*e*P		02 54 18.2
	comp=Z,20nm,1.0s,baz=5.0,slow=5.6				
BUG	**Bochum--Univer**	**77.54 359**	*e*P		02 54 19.0
	comp=Z,30nm,1.1s,baz=5.0,slow=5.6				
SBUM	**Sibu**	**77.56 258**	P	**P**	**02 54 19.6 -0.2**
NEUB	**Neuenburg**	**77.64 356**	*e*P		02 54 19.7
	comp=Z,45nm,0.9s,baz=5.0,slow=5.6				
TBI	**Tubuai**	**77.65 156**	*e*S	**S**	**03 04 07.6 -2.2**
	comp=Z,2μm,31.0s				
TBI	**Tubuai**	**77.65 156**	*e*LR	LR	03 18 25.8
	comp=Z,2μm,28.2s				
TBI			*e*LR	LR	03 18 30.7
	comp=Z,1μm,28.5s				
KSP	**Ksiaz**	**77.72 353**	*e*P	**P**	**02 54 19.1 -1.2**
KASTN	**Kahler Asten**	**77.76 358**	*e*P		02 54 20.6
	comp=Z,23nm,1.2s,baz=5.0,slow=5.6				
KBL	**Kabul**	**77.82 311**	P	**P**	**02 54 20.5 -0.8**
KBL	**Kabul**	**77.82 311**	P	**P**	**02 54 20.5 -0.8**
	SNR=28				
KBL			P	**P**	**02 54 20.5 -0.8**
	SNR=28				
KBL	**Kabul**	**77.82 311**	P	**P**	**02 54 20.5 -0.8**
KBL			pmax	pmax	
	comp=Z,98nm,1.2s				
BRG	**Berggiesshubel**	**77.86 354**	*i* P	**P**	**02 54 21.2 +0.2**
BRG			Amp		02 54 22.1
	comp=Z,25nm,1.0s				
BRG	**Berggiesshubel**	**77.86 354**	P	P	02 54 33.6 +13
BRG			Amp		02 54 36.1
	comp=Z,7.0nm,1.0s				
BRG	**Berggiesshubel**	**77.86 354**	*i* P	**P**	**02 54 21.1 +0.2**
BRG					02 54 33.6
BRG			S	**SKSac**	**03 04 28.0 -4.6**
BRG			pmax	pmax	
	comp=Z,25nm,1.0s				
BRG	**Berggiesshubel**	**77.86 354**	*e*P		02 54 20.5
	comp=Z,25nm,1.0s,baz=5.0,slow=5.6				
LVV	**L'vov**	**77.92 348**	*e*P	**P**	**02 54 20.7 -0.6**
LVV			MLR	MLR	
	comp=Z,400nm,21.0s				
CHVC	**Chvalec**	**78.00 353**	*e*P	**P**	**02 54 21.9 +0.1**
CHVC			*e*SS	SS	03 09 40.4 +27
CHVC			AMS	AMS	03 33 00.0
	comp=Z,300nm,19.5s				
CHVC	**Chvalec**	**78.00 353**	*e*P	**P**	**02 54 21.9 +0.1**
CHVC			MLR	MLR	
	comp=Z,300nm,19.5s				
OSTC	**Ostas**	**78.02 353**	*e*P	**P**	**02 54 22.2 +0.3**
OSTC			*e*SS	SS	03 09 39.1 +26
OSTC			AMS	AMS	03 32 50.0
	comp=Z,300nm,17.0s				
OSTC	**Ostas**	**78.02 353**	*e*P	**P**	**02 54 22.2 +0.3**
OSTC			MLR	MLR	
	comp=Z,300nm,17.0s				
OJC	**Ojcow**	**78.03 351**	*e*P	**P**	**02 54 21.6 -0.4**
OJC	**Ojcow**	**78.03 351**	P	**P**	**02 54 21.3 -0.6**
	comp=Z,9.3nm,1.1s				
UPC	**Upice**	**78.08 353**	*e*P	**P**	**02 54 22.8 +0.6**
UPC			*e*SS	SS	03 09 39.7 +25
UPC			AMS	AMS	03 31 00.0
	comp=Z,300nm,21.1s				
UPC	**Upice**	**78.08 353**	*e*P	**P**	**02 54 22.8 +0.6**
UPC			MLR	MLR	
	comp=Z,300nm,21.1s				
UBBA	**Unterbreizbach**	**78.10 357**	*e*P		02 54 22.2
	comp=Z,36nm,1.6s,baz=5.0,slow=5.6				
HSKC	**Hora Svate Kat**	**78.15 355**	*e*P	**P**	**02 54 23.2 +0.5**
HSKC			*e*SS	SS	03 09 40.7 +25
HSKC			AMS	AMS	03 33 50.0
	comp=Z,200nm,16.9s				
PVCC	**Panska Ves**	**78.16 354**	AMS	AMS	03 30 10.0
	comp=Z,300nm,18.3s				
RICC	**Richard**	**78.18 354**	*e*P	**P**	**02 54 23.4 +0.7**
RICC			AMS	AMS	03 24 50.0
	comp=Z,1μm,49.8s				
MOX	**Moxa**	**78.21 356**	*e*P		02 54 22.9
	comp=Z,24nm,1.1s,baz=5.0,slow=5.6				
MOX			*e*L		03 34 25.0
	comp=Z,216nm,19.6s				
DPC	**Dobruska-Polom**	**78.21 353**	*e*P	**P**	**02 54 23.3 +0.3**
DPC			*e*SS	SS	03 09 41.9 +25
DPC			AMS	AMS	03 26 40.0
	comp=Z,300nm,22.9s				
DPC	**Dobruska-Polom**	**78.21 353**	*e*P	**P**	**02 54 23.3 +0.3**
DPC			MLR	MLR	
	comp=Z,300nm,22.9s				
DPC	**Dobruska-Polom**	**78.21 353**	P	**P**	**02 54 22.4 -0.6**
	comp=Z,23nm,1.1s,comp=Z,261nm				
DYA	**Yadsworthy**	**78.26 6**	*e*P	**P**	**02 54 23.0 -0.2**
KWP	**Kalwaria Pacla**	**78.28 349**	*e*P	**P**	**02 54 24.1 +0.8**
KWP	**Kalwaria Pacla**	**78.28 349**	IAmb	IAmb	02 54 25.8
	comp=Z,39nm,1.1s				
PLN	**Plauen**	**78.34 356**	*e*P		02 54 23.5
	comp=Z,14nm,1.1s,baz=5.0,slow=5.6				
MEM	**Membach**	**78.39 360**	*d*P	**P**	**02 54 24.2 +0.3**
	comp=Z,21nm,1.1s				
TANN	**Tannenbergstha**	**78.40 355**	*e*P		02 54 24.0
	comp=Z,16nm,1.1s,baz=5.0,slow=5.6				
BTNL	**Ternell**	**78.41 359**	*d*P	**P**	**02 54 24.2 +0.1**
	comp=Z,18nm,1.1s				
BSTI	**Sart Tilman**	**78.41 360**	*d*P	**P**	**02 54 24.7 +0.6**
CCA1	**Carnmenellis**	**78.41 7⇑**	*e*P	**P**	**02 54 24.0 -0.1**
CCA1			IAmb	IAmb	02 54 25.2
	comp=Z,67nm,1.1s				
AHRW	**Bad Neuenahr-A**	**78.44 359**	*e*P		02 54 24.6
	comp=Z,36nm,1.0s,baz=5.0,slow=5.6				
KRLC	**Kraliky**	**78.45 352**	*e*P	**P**	**02 54 24.5 +0.2**
KRLC			AMS	AMS	03 39 00.0
	comp=Z,300nm,19.1s				
KRLC	**Kraliky**	**78.45 352**	*e*P	**P**	**02 54 24.5 +0.2**
KRLC			MLR	MLR	
	comp=Z,300nm,19.1s				
GOF	**Gofitskoye**	**78.55 334**	*c*e*P*	**P**	**02 54 24.7 -0.2**
OKC	**Ostrava-Krasne**	**78.57 352**	AMS	AMS	03 28 10.0
	comp=Z,400nm,19.2s				
BCLA	**Clavier**	**78.58 360**	*d*P	**P**	**02 54 24.9 0.0**
	comp=Z,14nm,1.1s				
BGES	**Gesves**	**78.61 0**	*d*P	**P**	**02 54 24.2 -1.0**
	comp=Z,15nm,1.1s				
PRA	**Prague**	**78.63 354**	*e*SS	SS	03 09 50.6 +28
PRA			AMS	AMS	03 30 40.0
	comp=Z,300nm,19.4s				
ERBR	**Yeremizino-Bor**	**78.63 336**	*e*P	**P**	**02 54 26.1 +0.8**
ERBR			pmax	pmax	
	comp=Z,38nm,1.0s				
BHOU	**Houvegnez**	**78.64 360**	*d*P	**P**	**02 54 25.5 +0.2**
	comp=Z,7.5nm,1.0s				
MORC	**Moravsky Berou**	**78.68 352**	*e*P	**P**	**02 54 24.3 -1.3**
BMRD	**Maredsous**	**78.69 0**	*d*P	**P**	**02 54 25.7 +0.1**
	comp=Z,25nm,1.0s				
PRU	**Pruhonice**	**78.70 354**	*e*SS	SS	03 09 48.3 +25
PRU			AMS	AMS	03 30 30.0
	comp=Z,300nm,22.6s				
TNS	**Taunus Mts**	**78.74 358**	*e*P		02 54 25.9
	comp=Z,30nm,1.0s,baz=5.0,slow=5.6				
GOPC	**GO Pecny, Ondr**	**78.76 354**	AMS	AMS	03 30 50.0
	comp=Z,300nm,21.3s				
NIE	**Niedzica**	**78.77 350**	*e*P	**P**	**02 54 26.6 +0.5**
NIE	**Niedzica**	**78.77 350**	P	**P**	**02 54 27.6 +1.5**
KMPD	**K-Podol'skiy**	**78.80 346**	P	**P**	**02 54 25.0 -1.2**
RCHB	**Rochefort**	**78.84 0**	*d*P	**P**	**02 54 26.5 +0.1**
	comp=Z,16nm,1.0s				
MANZ	**Manzenberg**	**78.84 356**	*e*P		02 54 26.3
	comp=Z,3.6nm,1.1s,baz=5.0,slow=5.6				
GIVF	**Givet**	**78.89 0**	*e*P	**P**	**02 54 26.7 0.0**
GIVF			pmax	pmax	
	comp=Z,44nm,1.2s				
DOU	**Dourbes**	**78.90 0**	*d*P	**P**	**02 54 26.6 -0.1**
	comp=Z,18nm,1.1s				
SORM	**Soroca**	**78.91 344**	⇑P	**P**	**02 54 25.8 -1.0**
SORM	**Soroca**	**78.91 344**	⇑P	**P**	**02 54 25.8 -1.0**
SORM	**Soroca**	**78.91 344**	P	**P**	**02 54 25.5 -1.3**
BAIF	**Baives**	**78.93 1**	*e*P	**P**	**02 54 27.1 +0.2**
BAIF			pmax	pmax	
	comp=Z,45nm,1.2s				
KAPI	**Kappang**	**79.00 247**	LR	LR	03 25 30.6
	comp=Z,54nm,20.9s,baz=83,slow=33				
KOLS	**Kolonicke sedl**	**79.02 349**	*e*P	**P**	**02 54 27.9 +0.5**
KOLS			pmax	pmax	
	comp=Z,12nm,1.1s				
KOLS	**Kolonicke sedl**	**79.02 349**	*e*P	**P**	**02 54 27.9 +0.5**
ROTZ	**Rotzenmuhle**	**79.06 355**	*e*P		02 54 27.6
	comp=Z,4.6nm,1.2s,baz=5.0,slow=5.6				
LANS	**Liptovska Anna**	**79.12 351**	*e*P	**P**	**02 54 28.7 +0.7**
LANS			pmax	pmax	
	comp=Z,10.0nm,1.2s				
LANS	**Liptovska Anna**	**79.12 351**	*e*P	**P**	**02 54 28.7 +0.7**
MAK	**Makhachkala**	**79.14 330**	*e*P	**P**	**02 54 28.9 +0.7**
MAK			*e*		02 57 30.4
MAK			*e*PPP	PPP	02 59 19.8
MAK			*e*S	**S**	**03 04 26.0 +0.3**
MAK			*e*SS	**SS**	**03 09 34.1 +3.5**
MAK			*e*SSS	SSS	03 12 55.7
MAK			pmax	pmax	
	comp=Z,20nm,0.2s				
GRA1	**Grafenberg Arr**	**79.18 356**	IAmb	IAmb	02 54 30.1
	comp=Z,40nm,1.0s				
GRFO	**Grafenberg**	**79.18 356**	P	**P**	**02 54 28.0 -0.3**

LABN pmax pmax
comp=Z,17nm,0.5s
JAVC Velka Javorina 79.58 352 *eP* **P 02 54 31.2 +0.6**
JSA Saint Aubin 79.61 5⇑ *eP* **P 02 54 30.6 0.0**
JSA IAmb IAmb 02 54 31.7
comp=Z,56nm,1.0s
KHC Kasperske Hory 79.62 354 IAmb IAmb 02 54 32.4
comp=Z,26nm,1.1s
KHC Kasperske Hory 79.62 354 *eP* **P 02 54 31.4 +0.7**
KHC *e*SS SS 03 10 02.8 +25
KHC AMS AMS 03 34 30.0
comp=Z,300nm,18.8s
KHC Kasperske Hory 79.62 354 *ceP* **P 02 54 30.7 0.0**
KHC pmax pmax
comp=Z,64nm,1.3s
KHC Kasperske Hory 79.62 354 P **P 02 54 30.7 0.0**
comp=Z,22nm,1.1s,comp=Z,263nm
WET Wettzell 79.65 355 *eP* 02 54 30.9
comp=Z,15nm,1.2s,baz=5.0,slow=5.6
KVAR Kislovodsk Arr 79.66 334 LR LR 03 35 57.6
comp=Z,235nm,18.0s,baz=265,slow=40
KIV Kislovodsk 79.67 334 P **P 02 54 30.2 -1.0**
KIV Kislovodsk 79.67 334 *eP* **P 02 54 31.4 +0.2**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 79.81 333 P **P 02 54 31.1 -0.7**
comp=Z,5.3nm,0.9s,baz=45,slow=1.4,SNR=12
KBZ LR LR 03 36 17.4
comp=Z,507nm,18.0s,baz=32,slow=41
comp=Z,5.3nm,0.9s
KBZ Khabaz 79.81 333 *deP* **P 02 54 32.5 +0.7**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
VYHS Vyhne 79.83 351 *eP* **P 02 54 31.9 0.0**
VYHS pmax pmax
comp=Z,10.0nm,1.1s
VYHS Vyhne 79.83 351 *eP* **P 02 54 31.9 0.0**
NE56 Odesa 79.87 342 P **P 02 54 30.8 -1.2**
SHA1 Shidzhatmaz 79.87 333⇑ *eP* **P 02 54 32.1 -0.4**
CKRC Cesky Krumlov 79.88 354 *e*SS SS 03 10 06.5 +25
CKRC AMS AMS 03 34 20.0
comp=Z,200nm,17.4s
BUR08 Bucovina Ar. S 79.88 346 IAmb IAmb 02 54 33.3
comp=Z,15nm,1.0s
GEC2 GERESS Array S 79.89 354 IAmb IAmb 02 54 33.4
comp=Z,15nm,1.0s
GERES GERESS Array B 79.89 354 P **P 02 54 31.7 -0.6**
GERES GERESS Array B 79.89 354 P **P 02 54 32.1 -0.2**
comp=Z,5.2nm,0.8s,baz=6.9,slow=9.0,SNR=7.7
comp=Z,5.2nm,0.8s
GERES GERESS Array B 79.89 354 P **P 02 54 31.7 -0.6**
GEC2 GERESS Array S 79.90 354 *eP* 02 54 31.9
comp=Z,15nm,1.0s,baz=5.0,slow=5.6
BURAR Bucovina Array 79.91 346 ⇑P **P 02 54 32.3 -0.1**
BURAR Bucovina Array 79.91 346 P **P 02 54 32.0 -0.5**
BURAR IAmb IAmb 02 54 33.7
comp=Z,16nm,0.9s
BURAR Bucovina Array 79.91 346 ⇑P **P 02 54 32.3 -0.1**
KIS Kishinev 79.93 344 *eP* **P 02 54 32.0 -0.4**
KIS *e*L L 03 29 11.0
KIS LRM MLR 03 39 06.0
comp=Z,200nm,17.0s
KIS Kishinev 79.93 344 *eP* **P 02 54 32.0 -0.4**
SMOL Smolenice 79.94 352 *eP* **P 02 54 33.3 +0.8**
MODS Modra-Piesok 80.10 352 *eP* **P 02 54 33.9 +0.6**
MODS pmax pmax
comp=Z,32nm,1.2s
MODS Modra-Piesok 80.10 352 *eP* **P 02 54 33.8 +0.5**
FLN La Foliniere 80.11 4 *eP* **P 02 54 33.1 -0.3**
FLN pmax pmax
comp=Z,52nm,1.2s
STU Stuttgart 80.17 357 *eP* 02 54 33.8
comp=Z,49nm,0.8s,baz=5.0,slow=5.6
PURM Purcari 80.20 343 P **P 02 54 33.4 -0.4**
comp=Z,17nm,0.7s,comp=Z,2um
ANN Anapa 80.25 337 *eP* **P 02 54 32.2 -1.9**
ANN *e*S **S 03 04 32.8 -4.5**
ANN pmax pmax
comp=Z,18nm,1.3s
ZST Bratislava 80.29 352 *eP* **P 02 54 35.3 +1.0**
ZST pmax pmax
comp=Z,67nm,1.2s
ZST Bratislava 80.29 352 *eP* **P 02 54 35.3 +1.0**
PSZ Piszkesteto 80.29 350 P **P 02 54 35.3 +0.9**
LDF La Druitiere 80.30 4 *eP* **P 02 54 34.0 -0.4**
LDF pmax pmax
comp=Z,48nm,1.2s
RAO Raoul Island 80.33 183 LR LR 03 26 39.0
comp=Z,624nm,18.6s,baz=344,slow=33
GRR Gorron 80.47 4 *eP* **P 02 54 35.2 -0.1**
GRR pmax pmax
comp=Z,54nm,1.2s
ARCR ARCALIA 80.55 347 ⇑P **P 02 54 36.5 +0.7**
SRO Srobarova 80.56 351 *eP* **P 02 54 36.8 +1.1**
SRO Srobarova 80.56 351 *eP* **P 02 54 36.8 +1.1**
BFO Black Forest 80.63 358 P **P 02 54 35.9 -0.3**
BFO IAmb IAmb 02 54 37.6
comp=Z,18nm,1.1s
BFO Black Forest 80.63 358 P **P 02 54 35.9 -0.3**
BFO pmax pmax
comp=Z,18nm,1.1s
BFO Black Forest 80.64 358 *eP* 02 54 36.1
comp=Z,16nm,1.1s,baz=5.0,slow=5.6
CONA Conrad Observa 80.66 353 *eP* **P 02 54 36.6 +0.2**
comp=Z,11nm,1.0s,SNR=9.9
FUR Furstenfeldbru 80.70 356 *eP* 02 54 36.8
comp=Z,18nm,1.0s,baz=5.0,slow=5.6
TESR Tescani 80.77 345 P **P 02 54 36.3 -0.6**
comp=Z,12nm,0.9s
ECH Echery 80.77 359 IAmb IAmb 02 54 38.4
comp=Z,26nm,1.0s
SOC Sochi 80.81 335 *eP* **P 02 54 36.2 -1.0**
SOC *e* 02 57 37.5
SOC *e*PPP PPP 02 59 27.8
SOC *e*S **S 03 04 41.5 -1.8**
SOC *e*SS **SS 03 09 56.4 +0.8**
SOC *e*SSS SSS 03 13 19.6
SOC pmax pmax
comp=Z,7.0nm,0.7s
QUIF Quistinic 80.82 6 *eP* **P 02 54 37.2 +0.1**
QUIF pmax pmax
comp=Z,42nm,1.4s
SEKA Sheki 80.82 329 P **P 02 54 35.4 -2.0**
VSLR Vesyoloye 80.84 335 *d iP* **P 02 54 37.8 +0.4**
VSLR pmax pmax
comp=Z,16nm,1.0s
RONA Rosalia, Austr 80.85 352 *eP* **P 02 54 37.7 +0.3**
comp=Z,7.1nm,1.0s
MOA Molln 80.85 354 *eP* **P 02 54 37.2 -0.2**
comp=Z,7.1nm,1.1s
SIM Simferopol' 80.86 340 *eP* **P 02 54 37.9 +0.4**
SIM *e*S **S 03 04 40.1 -3.7**
SIM *e*SS **SS 03 09 58.0 +1.7**
SIM pmax pmax
comp=Z,16nm,1.0s
SIM smax smax
comp=E,35nm,16.8s
ONER Baraj Valea Uz 80.98 345 ⇑P **P 02 54 38.5 +0.4**
HAU Haudompre 80.99 359 *eP* **P 02 54 38.1 0.0**
HAU pmax pmax
comp=Z,36nm,1.1s
BIOA Bad Ischl, Aus 81.05 354 *eP* **P 02 54 38.5 0.0**
comp=Z,13nm,1.1s,SNR=11
RJOB Jochberg 81.05 355 *eP* 02 54 38.4
comp=Z,7.1nm,1.0s,baz=5.0,slow=5.6
DRGR 81.06 348 ⇑P **P 02 54 38.1 -0.5**
DRGR 81.06 348 ⇑P **P 02 54 38.1 -0.5**
GHRR 81.08 345 P **P 02 54 39.1 +0.5**
MARR Marisel-Cluj 81.12 348 ⇑P **P 02 54 38.9 0.0**
HINF Hinteralfeld 81.17 359 *eP* **P 02 54 38.8 -0.3**
HINF pmax pmax
comp=Z,26nm,1.4s
SLE Schleitheim 81.20 358 P **P 02 54 39.2 0.0**
UBR Ueberruh 81.23 357 *eP* 02 54 39.5
comp=Z,14nm,1.2s,baz=5.0,slow=5.6
MNGR Mingechevir, A 81.25 329 P **P 02 54 37.9 -1.7**
MPLH Magyarpolny 81.27 352 P **P 02 54 39.8 +0.2**
comp=Z,50nm,1.3s
OZUR 81.31 346 ⇑P **P 02 54 40.6 +0.8**
TURR Turia 81.31 346 ⇑P **P 02 54 40.1 +0.2**
ARSA Arzberg 81.36 353 *eP* **P 02 54 40.4 +0.3**
comp=Z,8.8nm,0.9s,SNR=5.9
LESA Schwarzleotal 81.37 355 *i P* **P 02 54 40.4 +0.2**
comp=Z,7.2nm,1.2s
VRI Vrincioaia 81.38 345 ⇑P **P 02 54 38.7 -1.5**
VRI Vrincioaia 81.38 345 P **P 02 54 40.4 +0.2**
comp=Z,10nm,1.1s
RETA Reutte 81.40 356 *eP* **P 02 54 40.5 +0.1**
comp=Z,7.5nm,1.1s,SNR=6.5
PLOR3 Plostina Array 81.41 345 P **P 02 54 40.5 +0.1**
comp=Z,9.6nm,1.1s,comp=Z,656nm
PLOR Plostina 81.41 345 ⇓P **P 02 54 41.2 +0.8**
PLOR Plostina 81.41 345 ⇓P **P 02 54 41.2 +0.8**
PLOR5 Plostina Array 81.41 345 P **P 02 54 40.2 -0.2**
comp=Z,12nm,1.0s
ODBI Odobesti 81.43 345 ⇑P **P 02 54 42.3 +1.8**
COVR Voineasa-Covas 81.49 345 ⇓P **P 02 54 41.8 +0.9**
DOPR Dopca 81.49 346 ⇑P **P 02 54 41.6 +0.8**
WATA Walderalm 81.52 356 *eP* **P 02 54 41.3 +0.2**
comp=Z,18nm,1.3s,SNR=9.1
WTTA Wattenberg 81.58 356 *eP* **P 02 54 41.7 +0.2**
comp=Z,18nm,1.1s,SNR=9.2
GANJ Ganja 81.61 330 P **P 02 54 39.7 -1.9**
DAVA Damuels 81.63 357 *eP* **P 02 54 41.8 +0.1**
comp=Z,6.9nm,1.1s
SQTA Sankt Quirin 81.65 356 *eP* **P 02 54 42.0 +0.3**
comp=Z,15nm,1.2s,SNR=7.3
KBA Koelnbreinsper 81.68 354 *eP* **P 02 54 42.5 +0.5**
comp=Z,29nm,0.9s,SNR=13
TLCR 81.69 343 ⇑P **P 02 54 42.7 +0.9**
TLCR 81.69 343 ⇑P **P 02 54 42.7 +0.9**
SIRR Siria 81.71 349 ⇓P **P 02 54 42.2 +0.2**
LOR Lormes 81.72 1 *eP* **P 02 54 42.0 0.0**
LOR pmax pmax
comp=Z,53nm,1.2s
CFR Carcaliu 81.81 344 ⇑P **P 02 54 42.7 +0.2**
CFR Carcaliu 81.81 344 ⇑P **P 02 54 42.7 +0.2**
FETA Feichten 81.87 356 *eP* **P 02 54 43.2 +0.2**
comp=Z,14nm,1.1s,SNR=11
MLR Muntele Rosu 81.87 345 ⇑P **P 02 54 44.5 +1.6**
MLR Muntele Rosu 81.87 345 IAmb IAmb 02 54 46.4
comp=Z,19nm,1.0s
MLR Muntele Rosu 81.87 345 LR LR 03 37 28.2
comp=Z,277nm,18.1s,baz=26,slow=40
MLR Muntele Rosu 81.87 345 ⇑P **P 02 54 44.6 +1.6**
NEHR Nehoiu 81.88 345 ⇑P **P 02 54 42.7 -0.2**
JTS Las Juntas de 81.90 84 LR LR 03 28 32.3
comp=Z,90nm,21.5s,baz=296,slow=34
SSF Saint Saulge 81.93 1 *eP* **P 02 54 43.2 +0.1**
SSF pmax pmax
comp=Z,68nm,1.4s
SOKA Soboth 81.96 353 *eP* **P 02 54 43.4 +0.1**
comp=Z,19nm,1.0s,SNR=15
PERS Pernice 82.00 353 *eP* **P 02 54 43.6 +0.1**
ABTA Abfaltersbach 82.05 355 *i P* **P 02 54 43.7 -0.2**
comp=Z,16nm,1.2s,SNR=7.6
QIS Mount Isa 82.06 223 P **P 02 54 43.2 -0.7**
comp=Z,8.4nm,1.4s
VOIR 82.06 346 ⇑P **P 02 54 45.6 +1.7**
VOIR 82.06 346 ⇑P **P 02 54 45.6 +1.7**
TPGR Topolog 82.08 344 ⇑P **P 02 54 44.2 +0.3**
DAVOX Davos/Dischmat 82.14 357 LR LR 03 30 12.0
comp=Z,174nm,21.9s,baz=16,slow=35
GROS Grobnik 82.14 353 *i P* **P 02 54 43.8 -0.5**
SURR Surduc 82.16 348 ⇑P **P 02 54 44.2 -0.1**
OBKA Obir 82.16 354 *i P* **P 02 54 44.2 -0.2**
comp=Z,8.4nm,0.9s
ARR Arges 82.19 346 ⇓P **P 02 54 45.4 +0.8**
AVF Avril sur Loir 82.19 1 *eP* **P 02 54 44.5 0.0**
AVF pmax pmax
comp=Z,43nm,1.2s
FUORN Ofenpass-Fuorn 82.28 357 IAmb IAmb 02 54 47.2
comp=Z,17nm,1.4s
MFF Saint Martin d 82.28 4 *eP* **P 02 54 45.1 +0.2**
MFF pmax pmax
comp=Z,45nm,1.2s
PRED Cave del Predi 82.30 354 IAmb IAmb 02 54 44.4
comp=Z,11nm,1.0s
HARR Harsova 82.32 344 ⇓P **P 02 54 45.4 +0.2**
HARR Harsova 82.32 344 ⇓P **P 02 54 45.4 +0.2**
BZS Buzias 82.36 349 ⇓P **P 02 54 45.4 0.0**
BZS Buzias 82.36 349 ⇓P **P 02 54 45.4 0.0**
BGF Bois d'Agland 82.42 2 *eP* **P 02 54 45.7 0.0**
BGF pmax pmax
comp=Z,41nm,1.2s
GZR Gura Zlata 82.43 348 ⇓P **P 02 54 46.1 +0.3**
GZR Gura Zlata 82.43 348 ⇓P **P 02 54 46.1 +0.3**
TUE Stuetta 82.47 357 IAmb IAmb 02 54 48.0
comp=Z,15nm,1.1s
CADS Cadrg 82.50 354 *eP* **P 02 54 45.0 -1.1**
LKRN Lenkeran, Azer 82.55 327 P **P 02 54 44.8 -1.7**
GNI Garni 82.56 331 LR LR 03 38 11.1
comp=Z,350nm,18.1s,baz=38,slow=41
GNI Garni 82.56 331 *ceP* **P 02 54 47.5 +0.8**
GNI pmax pmax
comp=Z,25nm,1.7s
ICOR Ion Corvin 82.90 344 ⇑P **P 02 54 48.5 +0.4**
HERR Herculane 82.98 348 ⇑P **P 02 54 48.1 -0.4**
FRGS Fruska Gora 83.03 350 ⇑P **P 02 54 48.6 -0.3**
MDVR Moldovita 83.17 348 ⇑P **P 02 54 49.6 0.0**
NAX Nakhchivan 83.21 330 P **P 02 54 48.2 -1.8**
LPL La Plagne 83.47 359 *eP* **P 02 54 53.2 +1.8**
LPL pmax pmax
comp=Z,21nm,1.5s
LPG La Plagne 83.49 359 *eP* **P 02 54 52.7 +1.1**
LPG pmax pmax
comp=Z,27nm,1.6s
RJF Les Rejaudoux 83.64 3 *eP* **P 02 54 51.9 -0.1**
RJF pmax pmax
comp=Z,70nm,1.5s
SSB Saint Sauveur 83.72 1 IAmb IAmb 02 54 54.5
comp=Z,33nm,1.4s
SSB Saint Sauveur 83.72 1 P **P 02 54 53.0 +0.5**
WRA Warramunga Arr 83.85 227 P **P 02 54 52.3 -1.0**
WRA Warramunga Arr 83.85 227 P **P 02 54 52.2 -1.0**
comp=Z,2.4nm,0.6s,baz=33,slow=5.8,SNR=20
WRA LR LR 03 29 42.2
comp=Z,291nm,19.8s,baz=12,slow=34
comp=Z,2.4nm,0.6s
WRA Warramunga Arr 83.85 227 *i P* **P 02 54 52.7 -0.5**
WRA pmax pmax
comp=Z,3.0nm,0.6s
BNI Bardonecchia 83.94 359 IAmb IAmb 02 54 56.6
comp=Z,23nm,1.1s
CAF Calviac 84.03 2 *eP* **P 02 54 54.5 +0.4**
CAF pmax pmax
comp=Z,66nm,1.4s
ORIF Oris-en-Rattie 84.08 360 *eP* **P 02 54 55.2 +0.8**
ORIF pmax pmax
comp=Z,67nm,1.8s
VIVF Saint-Julien-l 84.14 0 *eP* **P 02 54 55.3 +0.7**
VIVF pmax pmax
comp=Z,47nm,1.5s
MBDF Montbardon 84.26 359 *eP* **P 02 54 56.2 +0.8**
MBDF pmax pmax
comp=Z,26nm,1.5s
ELND Elena 84.38 345 ⇑P **P 02 54 55.6 -0.2**
ZCCA Zocca 84.52 356 IAmb IAmb 02 55 00.4
comp=Z,38nm,1.4s
GURO Guroymak-BITLI 84.84 332 IAmb IAmb 02 55 01.4
comp=Z,12nm,1.0s
OSSC Osservatorio P 85.33 356 IAmb IAmb 02 55 01.4
comp=Z,31nm,1.2s
ARPR Arapgir-MALATY 85.38 335 IAmb IAmb 02 55 03.2
comp=Z,30nm,1.1s
QLP Quilpie 85.62 216 P **P 02 55 02.4 +0.4**
comp=Z,28nm,1.8s
PDG Podgorica 85.78 350 ⇑P **P 02 55 02.2 -0.6**
EPF Esparros 85.87 4 *eP* **P 02 55 02.9 -0.4**
EPF pmax pmax
comp=Z,16nm,1.3s
NRCA Norcia 85.92 354 IAmb IAmb 02 55 05.3
comp=Z,22nm,1.1s
BR131 Keskin Array S 85.95 338 IAmb IAmb 02 55 05.2
comp=Z,19nm,1.2s
BR131 Keskin Array S 85.95 338 P **P 02 55 04.3 +0.4**
SNR=11
BR131 P **P 02 55 04.3 +0.4**
SNR=11
BR131 Keskin Array S 85.95 338 *d iP* **P 02 55 04.1 +0.2**
BRTR Keskin Array B 85.95 338 P **P 02 55 02.9 -1.0**
BRTR Keskin Array B 85.95 338 P **P 02 55 03.0 -0.9**
comp=Z,5.3nm,0.9s,baz=9.1,slow=2.2,SNR=30
BRTR PP **PP 02 58 23.6 +0.7**
comp=Z,2.0nm,1.0s,baz=18,slow=6.1,SNR=5.1
comp=Z,5.3nm,0.9s
BRTR Keskin Array B 85.95 338 *ceP* **P 02 55 03.9 0.0**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
ETSF Etsaut 85.96 4 *eP* **P 02 55 04.4 +0.6**
ETSF pmax pmax
comp=Z,12nm,1.2s
BR104 Keskin Array S 85.96 338 P **P 02 55 03.7 -0.3**
comp=Z,9.1nm,1.1s,comp=Z,82nm
ANTO Ankara 86.00 339 P **P 02 55 04.4 +0.4**
ANTO IAmb IAmb 02 55 06.0
comp=Z,38nm,1.4s
ANTO Ankara 86.00 339 P **P 02 55 04.6 +0.5**
ANTO P **P 02 55 04.6 +0.5**
ANTO Ankara 86.00 339 P **P 02 55 04.4 +0.4**
ANTO pmax pmax
comp=Z,38nm,1.4s
ANTO Ankara 86.00 339 P **P 02 55 04.5 +0.4**
YLV Yalova 86.05 342 P **P 02 55 04.2 -0.1**
CESX Cesi 86.17 355 IAmb IAmb 02 55 05.6
comp=Z,19nm,1.1s
RDO Rodhopi 86.17 345 IAmb IAmb 02 55 06.5
comp=Z,37nm,1.3s
PGAV Gavieira, Arco 86.28 10 *e*LR LR 04 05 30.8
comp=Z,325nm,16.0s
CEST Esterri de Car 86.33 3 IAmb IAmb 02 55 08.6
comp=Z,46nm,1.4s
PGF Pioggiola 86.39 357 *eP* **P 02 55 05.8 -0.2**
PGF pmax pmax
comp=Z,48nm,1.3s
FITZ Fitzroy Crossi 86.53 235 P **P 02 55 07.1 +0.4**
comp=Z,520nm,2.0s
PCAB Cabril 86.56 10 *eP* **P 02 55 07.2 +0.4**
HYB Hyderabad 86.59 294 *eP* **P 02 55 07.3 0.0**
PBRG Braganca 86.60 9 *eP* **P 02 55 06.9 -0.1**
INTR Introdacqua 86.69 354 IAmb IAmb 02 55 09.2
comp=Z,17nm,1.0s
POLO Lamas de Olo 86.92 10 *eP* **P 02 55 09.2 +0.6**
PVRL Vila Real 87.03 10 *eP* **P 02 55 08.9 -0.1**
FNA Florina 87.15 348 IAmb IAmb 02 55 10.5
comp=Z,25nm,1.2s
AS31 Alice Springs 87.28 226 P **P 02 55 10.0 -0.2**
ASAR Alice Springs 87.28 226 P **P 02 55 09.7 -0.6**
ASAR Alice Springs 87.28 226 P **P 02 55 09.9 -0.3**
comp=Z,2.0nm,0.4s,baz=27,slow=4.7,SNR=22
ASAR LR LR 03 30 53.0
comp=Z,313nm,20.1s,baz=29,slow=33
comp=Z,2.0nm,0.4s
ASAR Alice Springs 87.28 226 P **P 02 55 09.7 -0.6**
PVIS Viseu 87.56 10 *eP* **P 02 55 11.4 -0.2**
MTE Manteigas 87.91 10 IAmb IAmb 02 55 14.4
comp=Z,17nm,1.0s
MTE Manteigas 87.91 10 *eP* **P 02 55 13.0 -0.3**
MTE Manteigas 87.91 10 *e*LR LR 04 06 23.7
comp=Z,392nm,16.0s
COI Coimbra 88.00 10 *eP* **P 02 55 14.1 +0.4**
PCAS Casmilo, Conde 88.15 11 *eP* **P 02 55 14.2 -0.2**
PCBR Castelo Branco 88.47 10 *eP* **P 02 55 16.2 +0.3**
PSBE So Bento 88.65 11 *eP* **P 02 55 17.2 +0.4**
PMRV Marv??o 88.89 10 *eP* **P 02 55 18.1 +0.2**
PMRV Marv??o 88.89 10 *e*LR LR 04 07 11.7
comp=Z,273nm,18.0s
ESBB Sonseca Array 88.96 7 IAmb IAmb 02 55 19.3
comp=Z,18nm,1.2s
ESDC Sonseca Array 88.96 7 P **P 02 55 17.0 -1.3**
ESDC IAmb IAmb 02 55 19.3
comp=Z,15nm,1.2s
ESDC Sonseca Array 88.96 7 P **P 02 55 17.2 -1.1**
comp=Z,8.1nm,1.1s,baz=348,slow=4.1,SNR=38
ESDC LR LR 03 36 40.9
comp=Z,102nm,18.7s,baz=344,slow=37
comp=Z,8.1nm,1.1s
PAB San Pablo 89.06 7 P **P 02 55 18.8 0.0**
PAB IAmb IAmb 02 55 19.7
comp=Z,10nm,1.3s
PAB San Pablo 89.06 7 P **P 02 55 18.8 0.0**
PAB pmax pmax
comp=Z,11nm,1.3s
PMTG Montargil 89.15 10 *eP* **P 02 55 18.2 -0.9**
TIP Timpagande 89.26 351 P **P 02 55 19.5 -0.2**
comp=Z,11nm,1.3s
PESTR Estremoz 89.42 10 IAmb IAmb 02 55 21.0
comp=Z,27nm,1.3s
PESTR Estremoz 89.42 10 *eP* **P 02 55 20.0 -0.4**
URZ Urewera 89.55 186 LR LR 03 31 59.9
comp=Z,282nm,18.5s,baz=92,slow=33
CMSA Cobar Meteorol 89.62 213 P **P 02 55 21.8 +0.7**
comp=Z,14nm,1.3s
PBAR Barrancos 90.17 10 *eP* **P 02 55 23.7 -0.2**
JASK Jask - Hormozg 90.29 314 P **P 02 55 25.7 +1.0**
CSS Mathiatis 90.56 337 P **P 02 55 26.0 +0.2**
comp=Z,24nm,1.3s
PVAQ Vaqueiros 90.86 10 *e*LR LR 04 05 15.7
comp=Z,296nm,20.0s
SHME Shamm 90.89 316 P **P 02 55 26.7 -0.7**
SHME P **P 02 55 26.7 -0.7**
BANOM Banah 90.94 316 P **P 02 55 29.5 +1.8**
BANOM P **P 02 55 29.5 +1.8**
KARP Karpathos 91.33 342 P **P 02 55 29.5 +0.1**
comp=Z,32nm,1.2s
STKA Stephens Creek 91.38 216 P **P 02 55 28.5 -0.8**
comp=Z,4.2nm,0.7s,baz=0.0,slow=16,SNR=6.6
STKA LR LR 03 33 40.5
comp=Z,324nm,21.8s,baz=25,slow=34
comp=Z,4.2nm,0.7s
MASF Masafi 91.48 315 P **P 02 55 28.4 -1.8**
MASF P **P 02 55 28.4 -1.8**
MDH Madha 91.48 315 P **P 02 55 29.8 -0.4**
UOSS Minazif 91.83 315 P **P 02 55 30.0 -1.8**
UOSS Minazif 91.83 315 P **P 02 55 30.6 -1.3**
UOSS P **P 02 55 30.6 -1.3**
MMAI Mount Meron Ar 91.89 335 P **P 02 55 31.1 -1.0**
comp=Z,11nm,1.0s,baz=29,slow=3.3,SNR=13
MMAI LR LR 03 39 23.4
comp=Z,120nm,21.7s,baz=330,slow=37
comp=Z,11nm,1.0s
HATD Hatta, Dubai 91.96 315 P **P 02 55 32.0 -0.5**
HATD P **P 02 55 32.0 -0.5**
NAZ Nazwa, Dubai 92.03 316 P **P 02 55 32.1 -0.6**
ASHO Ashiyiah 92.12 315 P **P 02 55 32.4 -0.8**
ASHO P **P 02 55 32.4 -0.8**
BIDO Bidbid 92.19 313 P **P 02 55 36.0 +2.5**
BIDO P **P 02 55 36.0 +2.5**
WSAR Wadi Sarin 92.21 312 LR LR 03 42 07.8
comp=Z,180nm,18.6s,baz=74,slow=39
WSAR Wadi Sarin 92.21 312 P **P 02 55 35.1 +1.5**
SNR=5.7
FAQ Al Faqa, Dubai 92.27 316 P **P 02 55 33.4 -0.4**
FAQ P **P 02 55 33.4 -0.4**
SOHO SOHO 92.39 315 P **P 02 55 33.8 -0.6**
SOHO P **P 02 55 33.8 -0.6**
ASUD Al Ashush, Dub 92.49 316 P **P 02 55 34.8 -0.1**
ASUD P **P 02 55 34.8 -0.1**
HOQ Hoqain 92.51 314 P **P 02 55 34.7 -0.3**
HOQ P **P 02 55 34.7 -0.3**
WBK Wadi Bani Khal 92.59 312 P **P 02 55 36.0 +0.6**
WBK P **P 02 55 36.0 +0.6**
SMDO Samad 92.63 313 P **P 02 55 35.3 -0.3**
SMDO P **P 02 55 35.3 -0.3**
AJN Ajban 92.69 316 P **P 02 55 35.1 -0.7**
ROSC El Rosal 92.71 79 LR LR 03 38 29.4
comp=Z,58nm,21.6s,baz=61,slow=36
JLN Jalan Bani Buh 92.78 311 P **P 02 55 36.3 +0.1**
JLN P **P 02 55 36.3 +0.1**
ALNE Al Ain 92.80 315 P **P 02 55 36.0 -0.4**
ALNE P **P 02 55 36.0 -0.4**
ARQ Araqi 93.08 314 P **P 02 55 37.4 -0.3**
SNR=7.8
ARQ P **P 02 55 37.4 -0.3**
SNR=7.8
KEST Kesra 93.18 357 P **P 02 55 37.2 -0.8**
comp=Z,5.6nm,1.2s,baz=7.6,slow=15,SNR=3.7
comp=Z,5.6nm,1.2s
JMDO Jabal Madar 93.20 312 P **P 02 55 38.2 0.0**
JMDO P **P 02 55 38.2 0.0**
JRN Qarnain Island 93.28 318 P **P 02 55 37.6 -0.8**
JRN P **P 02 55 37.6 -0.8**
BSY Bisya 93.29 313 P **P 02 55 38.4 -0.2**
SNR=9.5
SAKB Bahrain 93.31 320 P **P 02 55 38.0 -0.6**
PALK Pallekele 93.36 286 LR LR 03 40 23.4
comp=Z,132nm,21.1s,baz=136,slow=37
SMRA Abu-Samra 94.29 319 P **P 02 55 42.3 -0.8**
MHTO MHTO 94.45 312 P **P 02 55 43.9 -0.1**
SNR=6.2
MHTO P **P 02 55 43.9 -0.1**
SNR=6.2
SLWR Sila 94.53 318 P **P 02 55 43.8 -0.5**
MZR Muzera 94.72 316 P **P 02 55 45.0 -0.1**

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MZR                                     P          P          02 55 45.0 -0.1
EIL   Elat                95.17 334     LR         LR         03 44 25.8
      comp=Z,210nm,19.3s,baz=62,slow=39
RPZ   Rata Peaks          95.52 190     LR         LR         03 34 58.2
      comp=Z,636nm,19.3s,baz=332,slow=33
RPN   Rapa Nui            96.93 125     LR         LR         03 34 39.1
      comp=Z,153nm,18.1s,baz=312,slow=32
RAYN  Ar Rayn             97.47 323     P          P          02 55 57.2 -0.5
RAYN  Ar Rayn             97.47 323     P          P          02 55 57.8 +0.1
RAYN  Ar Rayn             97.47 323     P          P          02 55 57.3 -0.5
RAYN                                    pmax       pmax
      comp=Z,16nm,1.0s
WHFO  Wadi Hawf           99.05 314     P          Pdif       02 56 04.3 -0.5
TORD  Torodi Ar. Bea      115.67  4     PKP        PKiKP      03 01 05.1 -1.1
      comp=Z,0.6nm,0.4s,baz=356,slow=2.6,SNR=23
TORD                                    PKKPbc     PKKPbc     03 11 35.9 -0.6
      comp=Z,0.3nm,0.4s,baz=186,slow=2.2,SNR=7.5
TORD                                    PKKP       PKKPdf     03 11 57.8 -2.1
      comp=Z,1.0nm,0.9s,baz=189,slow=2.0,SNR=4.2
H03N2 Juan Fernandez      118.69 108    T          T          05 11 38.0
      baz=317,slow=77,SNR=18
H03N1 Juan Fernandez      118.71 108    T          T          05 11 37.4
      baz=317,slow=77,SNR=25
H03N3 Juan Fernandez      118.71 108    T          T          05 11 38.0
      baz=317,slow=77,SNR=23
DBIC  Dimbokro            121.52  12    PKP        PKPdf      03 01 17.1 -0.3
      comp=Z,1.8nm,0.4s,baz=357,slow=4.2,SNR=11
CPUP  Villa Florida       127.04  87    PKP        PKPdf      03 01 27.5  0.0
      comp=Z,1.9nm,0.9s,baz=243,slow=2.3,SNR=2.4
PLCA  Paso Flores         128.53 110    PKP        PKPdf      03 01 30.1  0.0
PLCA  Paso Flores         128.53 110    PKP        PKPdf      03 01 30.4 +0.3
      comp=Z,3.0nm,0.9s,baz=303,slow=1.3,SNR=7.5
PLCA                                    SKP                   03 05 05.5
      comp=Z,1.1nm,0.8s,baz=296,slow=1.9,SNR=3.5
PLCA  Paso Flores         128.53 110    PKIKP      PKPdf      03 01 30.1  0.0
PLCA  Paso Flores         128.53 110    eP         PKiKP      03 01 36.8 +6.1
VNDA  Vanda               129.46 186    SKP                   03 05 06.4
      comp=Z,6.3nm,1.4s,baz=359,slow=4.4,SNR=3.9
QSPA  South Pole Qui      141.14 180    PKhKP      PKPpre     03 01 46.4
      comp=Z,1.8nm,0.7s,baz=65,slow=5.3,SNR=12
MAW   Mawson              148.05 218    PKPbc      PKPbc      03 02 07.3 -0.4
      comp=Z,10nm,0.8s,baz=98,slow=4.4,SNR=31
POGA  Pongola             148.80 310                PKPbc      03 02 10.7 -0.3
LBTB  Lobatse             149.43 322                PKPbc      03 02 12.7  0.0
LBTB  Lobatse             149.43 322    PKP2       PKPbc      03 02 12.7  0.0
WIN   Windhoek            149.81 338    PKPdf      PKPdf      03 02 08.7 -0.4
WIN                                     PKPbc      PKPbc      03 02 14.4 +0.5
WIN   Windhoek            149.81 338    PKHKP      PKPpre     03 02 08.7
WIN                                                            03 02 14.4
BOSA  Boshof              152.77 319    PKPbc      PKPbc      03 02 20.0 -0.5
BOSA  Boshof              152.77 319    PKPbc      PKPbc      03 02 20.5  0.0
      comp=Z,3.1nm,0.4s,baz=13,slow=4.3,SNR=14
ELIB  Princess Elisa      157.85 195    ePKPdf     PKPdf      03 02 24.8 +5.9
VNA3  Neumayer Olymp      158.94 167    ⇑PKPab     PKPab      03 02 56.1 -0.5
      comp=Z,2.4nm,0.8s
VNA3                                    ⇑PKPdf     PKPdf      03 02 18.0 -2.0
TROLL Troll, Antarti      159.26 178    ⇑PKPab     PKPab      03 02 52.2 -5.9
      comp=Z,240nm,0.9s
TROLL                                   ⇑PKPdf     PKPdf      03 02 18.6 -1.9
SNAA  Sanae               159.31 173    ⇑PKPab     PKPab      03 02 57.2 -1.1
      comp=Z,50nm,0.8s
SNAA                                    ⇓PKPdf     PKPdf      03 02 18.3 -2.3
SNAA  Sanae               159.31 173    PKPab      PKPab      03 02 57.8 -0.5
      comp=Z,2.2nm,1.0s,baz=217,slow=5.1,SNR=10
VNA2  Neumayer--Watz      159.54 168    ⇑PKPab     PKPab      03 02 58.3 -0.8
      comp=Z,2.7nm,0.9s,baz=200,slow=2.0
VNA2                                    ⇓PKPdf     PKPdf      03 02 13.7 -7.0
      baz=200,slow=2.0
VNA1  Neumayer--Stat      159.68 167    ⇑PKPab     PKPab      03 02 57.6 -2.1
      comp=Z,3.6nm,0.9s
NVL   N'lazarevskaya      160.31 186    ePKIKP     PKPdf      03 02 19.6 -2.0
NVL                                     pmax       pmax
      comp=Z,8.0nm,0.7s
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NEIC 09 02:53:46.4±0.5, 31°.69N±0°.02×104°.49W±0°.01, h5km±1km, mb_Lg2.8/48, ML2.9/60, Error ellipse: s-maj=3.0km s-min=2.9km az=194.0, Western Texas

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Code  Station Name        Δ°   AZ°  Phase ID          Time       Res
                                    Op    ISC         h m s      ISC
PECS  Pecos               0.62 120   Pg    Pg          02 53 58.8 +0.4
PECS                                 Sg    Sg          02 54 07.3 +0.9
VHRN  Van Horn            0.99 205   Pg    Pg          02 54 05.1 -0.3
VHRN                                 Sg    Sg          02 54 18.5 +0.2
VHRN                                 IAML              02 54 24.7
      290nm,0.4s
VHRN                                 IAML              02 54 24.7
      208nm,0.3s
ALPN  Alpine              1.50 150          Pn         02 54 13.7 -0.4
MNHN  Monahans            1.52 103          Pn         02 54 14.4 +0.1
ODSA  Odessa              1.71  75          Pb         02 54 17.8 -0.5
EPT   El Paso             1.72 273          Pn         02 54 17.7 +0.6
EPT                                  IAML              02 54 44.3
      comp=E,110nm,0.5s
EPT                                  IAML              02 54 45.3
      comp=N,122nm,0.3s
TX31  Lajitas Ar. Si      2.45 163   Pn    Pn          02 54 28.2 +1.1
TXAR  Lajitas Array       2.45 163   Pn    Pn          02 54 28.3 +1.1
SAND  Sanderson           2.67 130   Pn    Pn          02 54 31.4 +1.2
MSTX  Muleshoe            2.70  32   Pn    Pn          02 54 32.5 +1.9
SGCY  Sterling City       2.88  85   Pn    Pn          02 54 34.5 +1.6
SGCY                                 IAmb_Lg           02 55 18.7
      comp=Z,26nm,0.9s
POST  Post                2.88  61   Pn    Pn          02 54 34.9 +1.9
POST                                 IAmb_Lg           02 55 25.8
      comp=Z,25nm,0.7s
121A  Cookes Peak, D      2.92 288   Pn    Pn          02 54 35.1 +1.4
121A                                 IAML              02 55 24.7
      comp=N,38nm,0.6s
121A                                 IAML              02 55 31.4
      comp=E,39nm,0.6s
OZNA  Ozona               2.98 104   Pn    Pn          02 54 35.8 +1.3
SN05  Snyder 5            3.28  68   IAmb_Lg           02 55 28.4
      comp=Z,25nm,0.7s
SN07  Snyder 07           3.35  64   IAmb_Lg           02 55 41.4
      comp=Z,22nm,0.8s
DKNS  Dickens             3.60  56   Pn    Pn          02 54 45.4 +2.4
DKNS                                 IAmb_Lg           02 55 44.6
      comp=Z,17nm,0.7s
ANMO  Albuquerque         3.64 334   Pn    Pn          02 54 46.0 +2.3
ANMO                                 IAML              02 55 41.6
      comp=Z,28nm,0.9s
AMTX  Amarillo            3.96  36   Pn    Pn          02 54 49.5 +1.5
DRIO  Del Rio             4.03 123   Pn    Pn          02 54 47.7 -1.1
DRIO                                 IAmb_Lg           02 55 57.0
      comp=Z,26nm,0.7s
APMT  Aspermont           4.04  65   Pn    Pn          02 54 48.7 -0.2
APMT                                 IAmb_Lg           02 55 56.9
      comp=Z,30nm,0.9s
319A  Douglas             4.10 267   Pn    Pn          02 54 48.8 -1.0
JCT   Junction City       4.20 105   Pn    Pn          02 54 51.3 +0.2
JCT                                  IAmb_Lg           02 56 03.7
      comp=Z,29nm,0.8s
ABTX  Abilene, Hawle      4.22  76   Pn    Pn          02 54 52.7 +1.3
ABTX                                 IAmb_Lg           02 56 04.1
      comp=Z,24nm,0.9s
BRDY  Brady               4.71  93   Pn    Pn          02 54 58.5 +0.3
BRDY                                 IAmb_Lg           02 56 21.2
      comp=Z,15nm,0.7s
SMWD  Samnorwood          4.92  45   Pn    Pn          02 55 03.8 +2.7
RTBA  Rita Blanca         4.96  17   Pn    Pn          02 54 59.0 -2.7
RTBA                                 IAmb_Lg           02 56 33.8
      comp=Z,20nm,1.0s
HNDO  Hondo               4.98 114   Pn    Pn          02 55 03.9 +2.0
PLPT  Palo Pinto          5.35  76   Pn    Pn          02 55 06.3 -0.6
PLPT                                 IAmb_Lg           02 56 42.8
      comp=Z,13nm,0.9s
X18A  Snowflake           5.39 303   Pn    Pn          02 55 09.0 +1.4
X18A                                 IAML              02 56 40.0
      comp=E,7.1nm,0.8s
X18A                                 IAML              02 56 40.7
      comp=N,7.5nm,1.0s
WMOK  Wichita Mounta      5.67  56   Pn    Pn          02 55 12.0 +0.6
FW07  Weatherford         5.77  78   IAmb_Lg           02 56 57.8
      comp=Z,12nm,0.9s
435B  Jarrell             5.98  97   IAmb_Lg           02 57 07.5
      comp=Z,12nm,0.8s
FW06  Azle                6.01  76   IAmb_Lg           02 57 05.3
      comp=Z,20nm,1.2s
HSIG                      6.18 246   Pn    Pn          02 55 19.9 +1.5
Z35A  Perchaven, San      6.33  73   IAmb_Lg           02 57 13.4
      comp=Z,15nm,0.9s
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*IDC **09** 03:12:42.7±0.7, 23°.20N×143°.20E, h0km, mb4.2/20, mbtmp4.2/23, ML3.7/3, Error ellipse: s-maj=26.5km s-min=14.2km az=76.0*

*NEIC **09** 03:12:48.5±1.6, 23°.18N±0°.03×143°.5E±0°.2, h38km±6km, mb4.6/21, Error ellipse: s-maj=26.4km s-min=4.5km az=84.0*

ISC 09 03:12:48.2±0.6, 23°.23N±0°.07×143°.1E±0°.2, h35km, n65, σ1§34/58, mb4.4/31, Volcano Islands region

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Code  Station Name        Δ°   AZ°  Phase ID          Time       Res
                                    Op    ISC         h m s      ISC
JCJ   Chichijima          3.94 348   Pn    Pn          03 13 47.8 +1.5
JCJ   Chichijima          3.94 348   Pn    Pn          03 13 43.8 -2.5
      12nm,0.3s,baz=155,slow=16,SNR=6.6
JCJ                                  Sn    Sn          03 14 30.6 -0.7
      32nm,0.3s,baz=119,slow=23,SNR=6.7
      54nm,0.3s
MJAR  Matsushiro Arr      13.93 343  Pn    Pn          03 16 02.0 -1.1
      0.1nm,0.3s,baz=162,slow=10,SNR=6.5
      0.7nm,0.3s
MAJO  Matsushiro          13.94 343  Pn    Pn          03 16 01.2 -2.0
MJB9  Matsu-Tunnel        13.94 343  Pn    Pn          03 16 02.4 -0.8
JMM   Marumori            14.73 353  Pn    Pn          03 16 11.9 -2.0
JTM   Tenmabayashi        17.59 355  Pn    Pn          03 16 51.6 +1.0
JTM                                  IAmb  IAmb        03 16 59.7
      comp=Z,38nm,1.2s
KSRS  Korea Array         19.28 321  P     P           03 17 10.4 +0.5
      comp=Z,0.3nm,0.3s,baz=134,slow=9.7,SNR=2.3
      comp=Z,0.8nm,0.5s
ASAJ  Asahikawa           20.84 359  P     Pn          03 17 30.5 +1.1
      comp=Z,6.8nm,0.6s,baz=191,slow=9.0,SNR=8.7
JKA   Kamikawa-asahi      20.84 359  Pn    Pn          03 17 29.4  0.0
H11N1 WAKE ISLAND Hy      22.38  94  T     T           03 41 46.7
      baz=278,slow=74
H11N2 WAKE ISLAND Hy      22.38  94  T     T           03 41 54.0
      baz=278,slow=74
H11N3 WAKE ISLAND Hy      22.40  94  T     T           03 41 39.0
      baz=278,slow=74
H11S3 WAKE ISLAND Hy      22.50  98  T     T           03 41 22.2
      baz=284,slow=75,SNR=11
H11S1 WAKE ISLAND Hy      22.51  98  T     T           03 41 03.2
      baz=284,slow=75,SNR=6.4
H11S2 WAKE ISLAND Hy      22.52  98  T     T           03 41 05.4
      baz=284,slow=75,SNR=5.0
USA0B Ussuriysk Arra      22.84 339  P     P           03 17 50.8 +2.6
USRK  Ussuriysk Ar.       22.84 339  P     P           03 17 50.8 +2.6
USRK  Ussuriysk Ar.       22.84 339  P     P           03 17 49.4 +1.2
      comp=Z,5.8nm,0.8s,baz=130,slow=12,SNR=13
      comp=Z,5.8nm,0.8s
HEH   HeiHe               29.64 339  eP    P           03 18 52.2 +2.0
HEH                                  pmax  pmax
      comp=Z,8.0nm,0.8s
SONM  Songino Array       38.14 319  P     P           03 20 02.4 -1.8
      comp=Z,0.4nm,0.4s,baz=133,slow=10,SNR=2.7
      comp=Z,0.4nm,0.4s
CMAR  Chiang Mai Arr      41.45 272  P     P           03 20 31.2 -0.6
      comp=Z,2.0nm,0.3s,baz=76,slow=7.5,SNR=1.2
      comp=Z,2.0nm,0.3s
WB0   Warramunga Arr      43.58 192  P     P           03 20 48.7 -0.3
WR0   Warramunga Arr      43.73 192  P     P           03 20 48.9 -1.4
WR0                                  IAmb  IAmb        03 21 18.8
      comp=Z,13nm,1.3s
WB2   Warramunga Arr      43.76 192  P     P           03 20 49.6 -0.9
WB2                                  IAmb  IAmb        03 21 20.9
      comp=Z,9.0nm,1.2s
WRA   Warramunga Arr      43.76 192  P     P           03 20 49.2 -1.3
WRA   Warramunga Arr      43.76 192  P     P           03 20 50.4 -0.1
      comp=Z,0.8nm,0.3s,baz=13,slow=9.1,SNR=15
WRA                                  PcP   PcP         03 22 36.3 -0.6
      comp=Z,0.2nm,0.5s,baz=11,slow=3.1,SNR=1.3
      comp=Z,0.8nm,0.3s
FITZ  Fitzroy Crossi      44.49 204  P     P           03 20 58.4 +2.1
ASAR  Alice Springs       47.47 192  P     P           03 21 18.3 -1.5
      comp=Z,0.4nm,0.4s,baz=16,slow=11,SNR=2.6
      comp=Z,0.4nm,0.4s
ZAA0  Zalesovo Array      52.99 321  P     P           03 22 02.1 +0.9
ZAA0                                 IAmb  IAmb        03 22 02.9
      comp=Z,2.0nm,0.5s
ZALV  Zalesovo Beam       52.99 321  P     P           03 22 01.7 +0.4
ZALV  Zalesovo Beam       52.99 321  P     P           03 22 01.8 +0.6
      comp=Z,1.8nm,0.4s,baz=117,slow=8.7,SNR=6.7
      comp=Z,1.8nm,0.4s
MK31  Makanchi Array      53.64 312  P     P           03 22 07.6 +1.4
MK31                                 IAmb  IAmb        03 22 09.4
      comp=Z,5.7nm,1.1s
MKAR  Makanchi Array      53.64 312  P     P           03 22 08.0 +1.8
MKAR  Makanchi Array      53.64 312  P     P           03 22 07.5 +1.3
      comp=Z,2.5nm,0.4s,baz=87,slow=9.4,SNR=33
      comp=Z,2.5nm,0.4s
MAKZ  Makanchi            53.85 312  P     P           03 22 09.3 +1.5
MAKZ                                 IAmb  IAmb        03 22 11.1
      comp=Z,6.3nm,0.8s
STKA  Stephens Creek      54.81 182  P     P           03 22 15.3 +0.6
STKA  Stephens Creek      54.81 182  P     P           03 22 14.8 +0.1
      comp=Z,1.0nm,0.5s,baz=0.5,slow=7.7,SNR=5.0
      comp=Z,1.0nm,0.5s
KURBB Kurchatov Arra      56.38 316  P     P           03 22 27.1 +1.2
      comp=Z,11nm,0.8s,baz=94,slow=7.9,SNR=83
      comp=Z,11nm,0.8s
NRIK  Noril'sk            56.55 339  P     P           03 22 26.6 -0.2
      comp=Z,1.4nm,0.3s,baz=59,slow=5.9,SNR=1.8
      comp=Z,1.4nm,0.3s
BOOM  Boomskoye usch      58.15 307  P     P           03 22 40.6 +1.9
C23K  Itkillik River      60.25  21  P     P           03 22 54.4 +1.8
ILAR  Eielson Array       60.71  27  P     P           03 22 56.0 +0.2
      comp=Z,1.1nm,0.8s,baz=250,slow=5.4,SNR=4.6
      comp=Z,1.1nm,0.8s
BVA0  Borovoye Array      61.48 319  P     P           03 23 02.7 +1.4
      comp=Z,0.4nm,0.3s,baz=94,slow=8.4,SNR=26
BVAR  Borovoye Array      61.48 319  P     P           03 23 02.6 +1.3
      comp=Z,4.9nm,0.4s,baz=91,slow=8.2,SNR=32
      comp=Z,4.9nm,0.4s
BRVK  Borovoye            61.55 319  P     P           03 23 03.1 +1.4
BRVK                                 IAmb  IAmb        03 23 04.9
      comp=Z,7.2nm,0.8s
D25K  Kavik River         61.60  22  P     P           03 23 03.5 +1.7
D25K                                 IAmb  IAmb        03 23 16.8
      comp=Z,10nm,1.2s
KK31  Karatay Array       62.08 308          P           03 23 07.3 +1.8
KK31                                 IAmb  IAmb        03 23 08.1
      comp=Z,6.4nm,0.9s
KKAR  Karatay Array       62.08 308          P           03 23 06.9 +1.4
GAR   Garm                62.77 303          P           03 23 12.0 +1.6
GAR                                  IAmb  IAmb        03 23 12.8
      comp=Z,5.8nm,0.7s
CHGR  Chuyangaron         63.72 303          P           03 23 18.1 +1.5
SPITS Spitsbergen Ar      74.32 350  P     P           03 24 21.8 +0.2
      comp=Z,2.9nm,0.6s,baz=32,slow=9.4,SNR=4.2
      comp=Z,2.9nm,0.6s
ARCES ARCESS Array B      77.46 341          P           03 24 39.3 -0.4
ARCES                                IAmb  IAmb        03 25 21.5
      comp=Z,14nm,1.4s
ARCES ARCESS Array B      77.46 341  P     P           03 24 39.4 -0.2
      comp=Z,1.4nm,0.7s,baz=64,slow=8.1,SNR=6.9
      comp=Z,1.4nm,0.7s
B08A  Colville Reser      77.78  43          sP          03 24 54.6 -0.4
KBZ   Khabaz              81.28 314  P     P           03 25 02.0 +1.2
      comp=Z,3.2nm,0.8s,baz=114,slow=4.0,SNR=9.9
      comp=Z,3.2nm,0.8s
FINES FINESS Array B      81.78 334          P           03 25 02.6 -0.6
FINES FINESS Array B      81.78 334  P     P           03 25 02.5 -0.7
      comp=Z,0.8nm,0.4s,baz=67,slow=5.0,SNR=20
      comp=Z,0.8nm,0.4s
NVAR  Mina Array Bea      82.23  52  P     P           03 25 06.6 +0.2
      comp=Z,0.5nm,0.6s,baz=256,slow=6.0,SNR=1.6
      comp=Z,0.5nm,0.6s
AKASG Malin Array Be      86.24 324  P     P           03 25 24.9 -1.3
      comp=Z,0.5nm,0.4s,baz=64,slow=3.0,SNR=1.6
      comp=Z,0.5nm,0.4s
HFS   Hagfors             87.30 337  P     P           03 25 29.9 -1.3
      comp=Z,0.8nm,0.5s,baz=72,slow=4.7,SNR=8.7
      comp=Z,0.8nm,0.5s
BRTR  Keskin Array B      89.26 313  P     P           03 25 40.4 -0.7
      comp=Z,1.0nm,1.0s,baz=100,slow=3.6,SNR=4.5
      comp=Z,1.0nm,1.0s
TORD  Torodi Ar. Bea      127.73 310 PKP   PKPdf       03 31 50.3 -0.5
      comp=Z,0.6nm,0.8s,baz=23,slow=3.4,SNR=3.0
PLCA  Paso Flores         146.78 130 PKPbc PKPbc       03 32 26.6 -0.2
      comp=Z,0.8nm,0.5s,baz=270,slow=6.1,SNR=4.5
LPAZ  La Paz              149.82  83 PKPbc PKiKP       03 32 36.4 -0.7
      comp=Z,0.8nm,0.7s,baz=297,slow=4.1,SNR=2.6
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*BJI **09** 03:16:07.0±0.0, 52°.60N×166°.50W, h10km, mb4.8/52, mB5.2/14, Ms5.1/36, Ms7 4.8/37*

*IDC **09** 03:16:08.8±0.6, 52°.69N×166°.57W, h0km, mb4.5/38, mbtmp4.5/39, ML2.9/1, MS4.4/68, Error ellipse: s-maj=17.0km s-min=10.7km az=180.0*

*AEIC **09** 03:16:10.9±3.0, 52°.53N±0°.06×166°.34W±0°.07, h26km±4km, Error ellipse: s-maj=9.2km s-min=5.9km az=163.0*

*NEIC **09** 03:16:13.6±1.9, 52°.66N±0°.03×166°.48W±0°.08, h32km±5km, mb4.6/206, ML4.2/12, ML4.1(AEIC), Error ellipse: s-maj=6.6km s-min=4.7km az=90.0*

*MOS **09** 03:16:13.1±1.0, 52°.64N×166°.58W, h39km, mb5.0/59, MS4.7/20, Error ellipse: s-maj=10.4km s-min=4.9km az=98.7*

*GCMT **09** 03:16:15.6±0.2, 52°.62N±0°.01×166°.41W±0°.03, h12km, MW5.0/100, Moment Tension Solution. s48,c64; s100,c154; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}2.54±.12; $M_{\theta\theta}$-2.75±.09; $M_{\phi\phi}$0.21±.08; $M_{r\theta}$3.08±.34; $M_{\theta\phi}$-0.12±.05; $M_{r\phi}$0.10±.24; Best double couple: $M_0$4.06300×10^16 NP1:ϕ_s88.00000°, δ70.00000°, λ90.00000°. NP2:ϕ_s267.00000°, δ20.00000°, λ89.00000°. Principal axes: T 3.9550, Plg65.0000°, Azm359.0000°; N 0.2190, Plg0.0000°, Azm268.0000°; P -4.1700, Plg25.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 03:16:12.3±0.5, 52°.64N±0°.05×166°.48W±0°.03, h24km±3km, h24km:pP-P, n821, σ1§40/742, mb4.7/177, MS4.5/105, 12C-21D, Fox Islands

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Code  Station Name        Δ°   AZ°  Phase ID          Time       Res
                                    Op    ISC         h m s      ISC
UNV   Unalaska Valle      1.21 359   P     Pn          03 16 33.8 +0.2
UNV   Unalaska Valle      1.21 359         Sb          03 16 50.3 +0.8
UNV   Unalaska Valle      1.21 359         Pn          03 16 32.8 -0.8
UNV   Unalaska Valle      1.21 359   P     Pn          03 16 32.9 -0.6
      baz=176
OKNC  Okmok New Cone      1.28 310         Pn          03 16 35.1 +0.4
OKNC                                       Sb          03 16 53.0 +1.2
OKCE  Okmok Cone E        1.28 308         Pn          03 16 35.2 +0.6
MSW   Makushin Switc      1.29 352         Pn          03 16 34.7  0.0
MSW                                        Sb          03 16 52.5 +0.6
MTBL  Makushin Table      1.33 355         Pn          03 16 35.8 +0.4
MTBL                                       Sb          03 16 54.9 +1.6
OKWE  Okmok W'ng Wal      1.35 309         Pn          03 16 36.0 +0.5
NIKH  Nikolski High       1.48 284   P     Pn          03 16 37.4 +0.1
NIKH  Nikolski High       1.48 284   Pn    Pn          03 16 35.6 -1.7
NIKH  Nikolski High       1.48 284   P     Pn          03 16 37.7 +0.4
      baz=105
NIKH                                 S     Sn          03 16 55.4 -0.4
      baz=105
ZRO   Akutan Zero         1.48  12         Pn          03 16 37.2 -0.2
AKBBA Akutan Broad B      1.50  13         Pn          03 16 37.2 -0.3
AKRB  Akutan Reef Bi      1.51   9         Pn          03 16 37.9 +0.1
AKRB                                       Sb          03 16 58.5 +0.2
AKV   Akutan Volcano      1.52  12         Pn          03 16 37.9  0.0
AHB   Akutan Harbor       1.53  15         Pn          03 16 37.8 -0.2
LVA   Lava Point          1.54  10         Pn          03 16 37.7 -0.6
LVA                                  IAML              03 17 15.6
      comp=E,3μm,1.1s
AKLV  Akutan Long Va      1.56  11         Pn          03 16 37.9 -0.5
AKSA  Akutan Strait       1.57  17         Pn          03 16 37.6 -1.0
AKGG  Akutan Green G      1.59  10         Pn          03 16 38.4 -0.5
CLCO  Concord Point,      1.98 275         Pn          03 16 44.1  0.0
CLES  Cleveland East      2.08 276   Pn    Pn          03 16 45.6  0.0
SSLS  Shishaldin Sou      2.55  34         Pn          03 16 52.3 +0.3
ISLZ  Isanotski Laza      2.66  37         Pn          03 16 54.2 +0.6
FALS  False Pass          2.87  38   P     Pn          03 16 57.1 +0.7
      baz=218
S12K  Black Hills         4.02  39   Pn    Pn          03 17 13.0 +0.7
S12K                                 IAML              03 18 46.6
      comp=E,216nm,1.4s
S12K  Black Hills         4.02  39   P     Pn          03 17 13.8 +1.5
      baz=220
SDPT  Sand Point          4.46  50   Pn    Pn          03 17 17.9 -0.3
SDPT                                 IAML              03 18 48.0
      comp=N,277nm,1.3s
SDPT                                 IAML              03 18 51.5
      comp=E,392nm,1.4s
SDPT  Sand Point          4.46  50   P     Pn          03 17 18.8 +0.5
      baz=233
SDPT                                 S     Sn          03 18 07.8 -1.6
      baz=233
CNBA  Chernabura Isl      4.64  59   Pn    Pn          03 17 19.2 -1.5
CHNA  Chernabura Isl      4.64  59   P     Pn          03 17 20.7  0.0
      baz=243
CHNA                                 S     Sn          03 18 11.3 -2.5
      baz=243
ATKA  Atka Island         4.74 268   P     Pn          03 17 23.4 +1.3
ATKA  Atka Island         4.74 268   Pn    Pn          03 17 21.5 -0.7
ATKA                                 IAML              03 18 24.1
      comp=E,121nm,0.8s
ATKA                                 IAML              03 18 39.8
      comp=N,114nm,1.4s
SPIA  Saint Paul Isl      5.04 336   P     Pn          03 17 28.6 +2.4
S14K  Fog Glacier         5.44  45   P     Pn          03 17 32.4 +0.5
      baz=229
CHGN  Chignik             5.96  49   Pn    Pn          03 17 38.3 -0.6
CHGN  Chignik             5.96  49   P     Pn          03 17 40.1 +1.2
      baz=234
ADK   Adak                6.31 267   P     Pn          03 17 45.0 +1.3
ADK   Adak                6.31 267   Pn    Pn          03 17 44.9 +1.3
ADK   Adak                6.31 267   P     Pn          03 17 44.9 +1.3
KIWB  Kanaga Island       6.60 267   Pn    Pn          03 17 48.5 +0.8
CHIR  Chirikof Islan      7.12  59   Pn    Pn          03 17 52.9 -1.8
CHIR  Chirikof Islan      7.12  59   P     Pn          03 17 55.6 +0.9
      baz=247
O15K  Ungalikthiuk R      7.54  27   P     Pn          03 18 01.7 +1.2
      baz=212
R17L  Mt. Peulik Vol      7.65  45   P     Pn          03 18 01.7 -0.4
      baz=232
M11K  Mekoryuk            7.76   1   P     Pn          03 18 03.6 +0.1
      baz=181
N14K  Kuskokwak Cree      7.77  18   P     Pn          03 18 04.2 +0.5
      baz=201
M13K  Dall Lake           7.98  11   P     Pn          03 18 07.7 +1.2
      baz=193
P16K  Nushagak River      7.99  33   P     Pn          03 18 07.9 +1.3
      baz=219
SII   Sitkinak Islan      8.14  56   P     Pn          03 18 08.2 -0.7
      comp=N,180nm,1.4s
SII   Sitkinak Islan      8.14  56   Pn    Pn          03 18 07.5 -1.3
SII   Sitkinak Islan      8.14  56   P     Pn          03 18 10.4 +1.5
      baz=245
Q17K  Contact Creek       8.24  43   P     Pn          03 18 11.6 +1.4
      baz=230
N15K  Kwethluk River      8.33  23   Pn    Pn          03 18 12.8 +1.4
N15K  Kwethluk River      8.33  23   P     Pn          03 18 12.5 +1.1
      baz=207
O16K  Kokwok River B      8.39  31   Pn    Pn          03 18 13.3 +1.2
O16K  Kokwok River B      8.39  31   P     Pn          03 18 13.5 +1.3
      baz=217
R18K  Karluk              8.47  50   P     Pn          03 18 14.0 +0.7
      baz=238
M14K  Bethel              8.50  15   Pn    Pn          03 18 15.3 +1.7
M14K  Bethel              8.50  15   P     Pn          03 18 14.2 +0.6
      baz=198
P17K  Kvichak River       8.65  37   P     Pn          03 18 17.0 +1.3
      baz=224
M15K  Kasigluk River      8.68  19   P     Pn          03 18 16.8 +0.7
      baz=203
Q18K  Katmai Hardscr      8.84  43   P     Pn          03 18 19.2 +0.8
      baz=231
O17K  Koliganek Bris      8.85  32   P     Pn          03 18 19.3 +0.9
      baz=219
AMKA  Amchitka            8.86 267   Pn    Pn          03 18 19.1 +0.4
OHAK  Old Harbor          8.87  54   P     Pn          03 18 17.9 -0.8
OHAK  Old Harbor          8.87  54   Pn    Pn          03 18 17.6 -1.2
OHAK  Old Harbor          8.87  54   P     Pn          03 18 19.2 +0.5
      baz=243
N16K  Nishlik Lake        8.92  25   P     Pn          03 18 20.4 +0.9
      baz=211
L14K  Kuka Creek          8.96  12   Pn    Pn          03 18 20.0  0.0
L14K  Kuka Creek          8.96  12   P     Pn          03 18 21.4 +1.4
      baz=194
P18K  Big Mountain,       9.23  38   P     Pn          03 18 25.0 +1.2
      baz=227
M16K  Timber Creek        9.35  23   Pn    Pn          03 18 26.1 +0.7
M16K  Timber Creek        9.35  23   P     Pn          03 18 25.7 +0.3
      baz=209
N17K  Nushagak Hills      9.41  29   Pn    Pn          03 18 27.8 +1.6
N17K  Nushagak Hills      9.41  29   P     Pn          03 18 26.6 +0.5
      baz=216
L15K  Ungalak Mounta      9.45  15   P     Pn          03 18 26.5 -0.2
      baz=198
KDAK  Kodiak Island       9.46  52   Pn    Pn          03 18 24.7 -2.1
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KDAK	Kodiak Island	9.46	52	P	Pn	03 18 26.7 -0.1
	baz=242					
KDAK	Kodiak Island	9.46	52	Pn	Pn	03 18 24.1 -2.7
	comp=N,1.4nm,0.3s,baz=242,slow=4.8,SNR=31					
KDAK				Sn	Sn	03 20 05.5 -6.7
	comp=N,0.4nm,0.3s,baz=172,slow=18,SNR=1.5					
KDAK	Kodiak Island	9.46	52⇓	eP	Pn	03 18 25.5 -1.3
O18K	Koktuh Hills	9.56	36	P	Pn	03 18 29.6 +1.4
	baz=225					
Q19K	Cape Douglas,	9.58	44	P	Pn	03 18 29.0 +0.5
	baz=234					
L16K	Owhat River	9.85	20	Pn	Pn	03 18 33.7 +1.6
L16K	Owhat River	9.85	20	P	Pn	03 18 35.1 +2.9
	baz=205					
N18K	Kilae Creek	9.93	32	P	Pn	03 18 36.0 +2.7
	baz=220					
Q20K	Shuyak Island	9.95	48	P	Pn	03 18 34.1 +0.6
	baz=238					
SYI	Shuyak Island	9.95	48	Pn	Pn	03 18 32.9 -0.7
K15K	Wolf Creek Mou	10.03	13		Pn	03 18 35.4 +0.8
K15K	Wolf Creek Mou	10.03	13	P	Pn	03 18 36.1 +1.4
	baz=197					
M17K	Holitna River	10.06	26	Pn	Pn	03 18 35.5 +0.5
M17K	Holitna River	10.06	26	P	Pn	03 18 35.3 +0.3
	baz=212					
J14K	Nanvaranak Lak	10.25	8	P	Pn	03 18 41.1 +3.5
	baz=190					
L17K	Donlin	10.48	22	P	Pn	03 18 42.0 +1.2
	baz=208					
N19K	Bonanza Creek	10.49	34	Pn	Pn	03 18 40.8 -0.3
N19K	Bonanza Creek	10.49	34	P	Pn	03 18 43.5 +2.4
	baz=223					
M18K	Stony River	10.58	29	P	Pn	03 18 44.3 +2.1
	baz=217					
O20K	Slope Mountain	10.69	40	P	Pn	03 18 45.9 +2.2
	baz=231					
K17K	Iditarod	11.00	20	Pn	Pn	03 18 48.9 +1.0
J16K	Anvik River	11.11	14	Pn	Pn	03 18 53.7 +4.3
M19K	Big River Lodg	11.34	30	P	Pn	03 18 55.2 +2.7
	baz=220					
L19K	White Mountain	11.41	29	Pn	Pn	03 18 55.0 +1.5
L19K	White Mountain	11.41	29	P	Pn	03 18 55.6 +2.0
	baz=218					
J17K	VABM Dome	11.46	17	Pn	Pn	03 18 55.2 +1.0
J17K	VABM Dome	11.46	17	P	Pn	03 18 56.8 +2.6
	baz=203					
M20K	Styx River	11.72	33	P	Pn	03 18 59.5 +1.7
	baz=223					
L20K	Farewell, AK	11.93	29	P	Pn	03 19 04.1 +3.5
	baz=219					
ANM	Nome	11.97	2	P	Pn	03 19 02.7 +1.6
	baz=183					
J18K	Innoko River	12.00	21	P	Pn	03 19 06.2 +4.6
	baz=209					
SUA	Susitna One	12.27	38	Pn	Pn	03 19 04.7 -0.7
SUA	Susitna One	12.27	38	P	Pn	03 19 05.4 0.0
	baz=230					
SKT	Skwentna	12.33	35	Pn	Pn	03 19 07.2 +1.2
SKT	Skwentna	12.33	35	P	Pn	03 19 07.3 +1.2
	baz=227					
K20K	Telida	12.57	26	Pn	Pn	03 19 10.6 +1.3
K20K	Telida	12.57	26	P	Pn	03 19 11.6 +2.3
	baz=216,SNR=8.5					
J19K	Poorman	12.71	22	Pn	Pn	03 19 12.7 +1.5
J19K	Poorman	12.71	22	P	Pn	03 19 12.9 +1.7
	baz=211,SNR=5.0					
H17K	Granite Mounta	12.78	13	P	Pn	03 19 14.7 +2.5
	baz=198					
GCSA	Galena City Sc	13.10	18	P	Pn	03 19 18.8 +2.3
	baz=206					
CAST	Castle Rocks	13.18	29	P	Pn	03 19 19.1 +1.4
	baz=221					
H18K	Honhosa River	13.21	15	P	Pn	03 19 22.0 +3.9
	baz=202,SNR=12					
J20K	Nowinta River	13.21	24	Pn	Pn	03 19 18.7 +0.6
J20K	Nowinta River	13.21	24	P	Pn	03 19 20.1 +2.0
	baz=214					
SML	Sawmill	13.40	40	P	Pn	03 19 23.7 +3.0
	baz=234					
CHUM	Lake Minchumin	13.47	28	P	Pn	03 19 24.1 +2.6
	baz=219					
M23K	Glacier View	13.63	40	P	Pn	03 19 23.6 -0.2
	baz=236					
SCM	Sheep Creek Mo	13.81	41	Pn	Pn	03 19 24.8 -1.6
SCM	Sheep Creek Mo	13.81	41	P	Pn	03 19 28.4 +2.0
	baz=236					
G18K	Tagagawik	13.86	14	P	Pn	03 19 28.8 +1.9
	baz=200,SNR=8.4					
H19K	Roundabout Mou	13.88	18	P	P	03 19 35.5 +0.3
H19K	Roundabout Mou	13.88	18	P	Pn	03 19 29.4 +2.2
	baz=206,SNR=9.4					
BPAW	Bear Paw Mtn.	14.02	29	Pn	Pn	03 19 30.0 +0.9
BPAW	Bear Paw Mtn.	14.02	29	P	Pn	03 19 30.6 +1.5
	baz=222,SNR=7.5					
WAT6	Susitna Watana	14.08	38	P	Pn	03 19 30.8 +0.7
	baz=233					
H20K	Anotleneega Mo	14.16	20	P	Pn	03 19 31.8 +0.7
	baz=210,SNR=6.6					
KLU	Klutina	14.21	43	Pn	Pn	03 19 28.9 -2.8
KLU	Klutina	14.21	43	P	Pn	03 19 28.8 -3.0
	baz=240,SNR=12					
G19K	Purcell Mounta	14.33	16	P	P	03 19 40.0 -0.2
G19K	Purcell Mounta	14.33	16	P	Pn	03 19 34.9 +1.6
	baz=203,SNR=13					
MCK	McKinley	14.40	33	P	Pn	03 19 33.9 -0.4
	baz=227					
F18K	Selawik	14.41	11	P	Pn	03 19 35.9 +1.6
	baz=196,SNR=9.1					
M24K	Tolsona, Glenn	14.42	41	Pn	Pn	03 19 32.3 -2.3
M24K	Tolsona, Glenn	14.42	41	P	Pn	03 19 32.8 -1.8
	baz=238					
DHY	Denali Highway	14.51	36	Pn	Pn	03 19 35.1 -0.8
DHY	Denali Highway	14.51	36	P	Pn	03 19 36.7 +0.7
	baz=232					
BMRM	Bremner River	14.53	46	P	Pn	03 19 37.1 +0.9
	baz=244					
I21K	Tanana	14.58	25	P	Pn	03 19 38.6 +1.9
	baz=217					
H21K	Melozitna Rive	14.76	23	Pn	Pn	03 19 41.0 +1.8
H21K	Melozitna Rive	14.76	23	P	Pn	03 19 39.9 +0.7
	baz=214,SNR=13					
MLY	Manley	14.79	27	Pn	Pn	03 19 40.6 +1.0
MLY	Manley	14.79	27	P	Pn	03 19 40.6 +1.0
	baz=220,SNR=11					
N25K	Chitina, Valde	14.82	44	Pn	Pn	03 19 37.2 -2.8
N25K	Chitina, Valde	14.82	44	P	Pn	03 19 37.5 -2.6
	baz=242					
IMAR	Indian Mountai	14.82	21	Pn	Pn	03 19 41.7 +1.6
F19K	Shaleruckik Mo	14.87	14	P	P	03 19 47.0 +0.8
F19K	Shaleruckik Mo	14.87	14	P	Pn	03 19 40.9 +0.3
	baz=201,SNR=7.9					
NEA2	Nenana	14.95	30	P	Pn	03 19 42.7 +1.0
	baz=224					
HARP	HAARP	14.98	41	P	Pn	03 19 40.0 -2.1
	baz=238					
GLB	Gilahina Butte	15.09	45	Pn	Pn	03 19 41.0 -2.6
GLB				IAmb	IAmb	03 19 52.5
	comp=Z,60nm,1.0s					
E18K	Tukpahlearik C	15.10	9	P	Pn	03 19 43.6 -0.1
	baz=193					
CRQE	Cirque	15.12	48	P	Pn	03 19 43.4 -0.8
	baz=247,SNR=9.1					
WAX	Waxell Ridge	15.13	50	Pn	Pn	03 19 42.7 -1.4
WAX				IAmb	IAmb	03 20 11.2
	comp=Z,45nm,0.7s					
VRDI	Verde Repeater	15.15	46	P	P	03 19 50.6 +1.0
VRDI				IAmb	IAmb	03 19 52.9
	comp=Z,48nm,0.9s					
PAX	Paxson	15.16	39	P	Pn	03 19 44.0 -0.6
	baz=236					
WRH	Wood River Hil	15.17	31	Pn	Pn	03 19 43.6 -1.0
D17K	Noatak River	15.20	5	P	Pn	03 19 45.1 +0.2
	baz=188					
I23K	Minto, Yukon-K	15.27	28	IAmb	IAmb	03 19 59.3
	comp=Z,55nm,1.4s					
I23K	Minto, Yukon-K	15.27	28	P	Pn	03 19 45.5 -0.3
	baz=222,SNR=9.6					
H22K	Ishtalitna Cre	15.30	24	P	Pn	03 19 46.7 +0.3
	baz=216,SNR=23					
G21K	Allakaket	15.33	20	P	Pn	03 19 47.4 +0.6
	baz=211,SNR=17					
F20K	Avaraart Lake	15.39	16	P	Pn	03 19 48.2 +0.8
	baz=205					
MCARA	McCarthy VSAT	15.40	46	P	Pn	03 19 48.3 +0.5
	baz=245,SNR=10					
ISLE	Juniper Island	15.42	49	IAmb	IAmb	03 20 36.8
	comp=Z,42nm,1.0s					
HDA	Harding Lake	15.50	33	P	Pn	03 19 48.7 -0.3
	baz=229					
COLA	College	15.52	31	Pn	Pn	03 19 49.9 +0.6
COLA	College	15.52	31	P	Pn	03 19 49.8 +0.6
	baz=226					
COLA	College	15.52	31⇓	eP	Pn	03 19 49.6 +0.4
COLA				pmax	pmax	
	comp=Z,16nm,1.1s					
E19K	Redstone River	15.53	13	P	Pn	03 19 48.7 -0.7
	baz=201,SNR=7.6					
H23K	Yukon River	15.72	26	IAmb	IAmb	03 20 25.2
	comp=Z,43nm,1.2s					
H23K	Yukon River	15.72	26	P	Pn	03 19 51.9 +0.1
	baz=220,SNR=11					
GRNC	Granite Creek	15.73	49	IAmb	IAmb	03 20 12.0
	comp=Z,106nm,1.4s					
ILAR	Eielson Array	15.76	32	Pn	Pn	03 19 49.8 -2.5
	baz=221,slow=12,SNR=7.3					
ILAR				LR	LR	03 26 30.6
	comp=Z,2μm,19.3s,baz=222,slow=40					
ILAR				ScP	ScP	03 28 25.1 +1.9
	comp=Z,1.0nm,1.0s,baz=298,slow=1.9,SNR=6.8					
	comp=Z,1.8nm,0.8s					
POKR	Poker Plat Res	15.82	30	P	Pn	03 19 53.4 +0.3
	baz=226,SNR=5.3					
M26K	Nabesna, AK	15.86	43	P	Pn	03 19 53.1 -0.6
	baz=242					
TABL	Table Mountain	15.92	51	IAmb	IAmb	03 20 16.6
	comp=Z,48nm,1.0s					
F21K	Alatna River	15.95	19	IAmb	IAmb	03 20 12.5
	comp=Z,42nm,1.1s					
F21K	Alatna River	15.95	19	P	Pn	03 19 56.2 +1.4
	baz=210,SNR=12					
CTG	Chitna Glacier	16.00	49	P	Pn	03 19 56.0 +0.4
	baz=249					
L26K	Log Cabin Wild	16.02	40	P	Pn	03 19 56.9 +1.2
	baz=240,SNR=10					
G22K	Bettles	16.11	22	P	Pn	03 19 57.6 +0.9
	baz=214,SNR=7.4					
LOGN	Logan Glacier	16.11	49	IAmb	IAmb	03 20 22.4
	comp=Z,76nm,1.2s					
J25K	Salcha River,	16.16	34	Pn	Pn	03 19 58.2 +0.7
J25K	Salcha River,	16.16	34	P	Pn	03 19 55.2 -2.3
	baz=232,SNR=11					
H24K	Noodor Dome	16.19	28	P	Pn	03 19 56.8 -1.2
	baz=224					
PINM	Pinnacle	16.25	52	P	Pn	03 19 58.3 -0.3
	baz=254,SNR=6.9					
SCRK	Sand Creek	16.27	37	P	Pn	03 19 58.5 -0.6
	baz=236,SNR=17					
G23K	Bananza Creek	16.28	24	IAmb	IAmb	03 20 04.3
	comp=Z,54nm,1.1s					
G23K	Bananza Creek	16.28	24	P	Pn	03 19 58.7 -0.4
	baz=218,SNR=50					
M27K	Edge Creek, AK	16.31	44	IAmb	IAmb	03 20 06.8
	comp=Z,55nm,1.1s					
M27K	Edge Creek, AK	16.31	44	P	Pn	03 19 59.5 0.0
	baz=244,SNR=12					
D19K	Kuna River	16.40	11	P	Pn	03 20 00.7 +0.2
	baz=198					
E20K	Nigu River	16.43	14	P	Pn	03 20 02.1 +1.2
	baz=202,SNR=5.5					
F22K	John River	16.45	20	P	Pn	03 20 02.8 +1.5
	baz=212					
O28M	Mount Upton	16.47	50	P	Pn	03 20 01.6 -0.1
	baz=252,SNR=7.0					
BCPM	Bancas Point	16.51	53	Pn	Pn	03 20 01.8 -0.1
BCPM				IAmb	IAmb	03 20 17.1
	comp=Z,58nm,1.1s					
PNL	Peninsula	16.56	54	P	Pn	03 20 02.4 -0.2
PNL	Peninsula	16.56	54	P	Pn	03 20 02.7 +0.1
	baz=256					
L27K	Beaver Creek,	16.64	42	P	Pn	03 20 03.6 -0.1
	baz=242,SNR=8.8					
COLD	Coldfoot	16.65	22	P	Pn	03 20 05.5 +1.8
	baz=216,SNR=25					
BCAR	Beaver Creek A	16.66	42	Pn	Pn	03 20 02.5 -1.4
PRP	Porcupine Dome	16.68	31	P	Pn	03 20 04.3 +0.1
	baz=229					
YUK3	Moose Creek	16.69	47	P	Pn	03 20 04.2 -0.2
	baz=248,SNR=14					
J26L	Joseph Creek	16.72	36	P	Pn	03 20 05.9 +1.2
	baz=235,SNR=20					
D20K	Ettivluk River	16.79	13	P	Pn	03 20 06.5 +1.0
	baz=201					
YUK8	Steele Glacier	16.83	49	P	Pn	03 20 07.5 +1.2
	baz=251,SNR=18					
C19K	Lookout Ridge	16.84	9	P	P	03 20 07.7 -0.3
	baz=194					
G24K	Hadweenzic Riv	16.93	26	P	Pn	03 20 08.0 +0.8
	baz=222					
E21K	Killik River	16.94	16	P	Pn	03 20 08.5 +1.2
	baz=206					
K27K	Chicken	17.02	38	P	Pn	03 20 09.6 +1.3
	baz=239					
E22K	Anaktuvuk Pass	17.06	19	P	Pn	03 20 10.3 +1.4
	baz=211					
H25L	Birch Creek	17.10	29	P	Pn	03 20 10.6 +1.3
	baz=226					
O29M	Mount Kennedy	17.11	52	P	P	03 20 11.1 0.0
	baz=255,SNR=6.0					
I26K	Coal Creek Min	17.33	34	P	Pn	03 20 13.0 +0.8
	baz=234					
G25K	Bearman Lake	17.36	28	P	Pn	03 20 13.7 +1.2
	baz=225					
YUK4	Talbot Arm	17.36	49	P	P	03 20 16.5 +2.4
	baz=252,SNR=5.7					
P29M	Windy Craggy	17.37	55	P	P	03 20 15.2 +1.2
	baz=258					
YUK6	Outpost Mounta	17.38	50	P	P	03 20 14.9 +0.7
	baz=254					
F24K	Squaw Lake	17.44	24	P	P	03 20 15.7 +1.0
	baz=220,SNR=9.8					
C21K	Knifeblade Rid	17.46	14	P	P	03 20 15.7 +0.9
	baz=204,SNR=11					
E23K	Chandalar	17.46	21	P	P	03 20 15.8 +0.8
	baz=216					
D22K	Ayikyak River	17.55	17	P	P	03 20 17.9 +2.0
	baz=208,SNR=8.8					
E24K	Your Creek	17.73	22	P	P	03 20 19.1 +1.2
	baz=218					
EGAK	Eagle	17.74	37	P	Pn	03 20 18.2 +0.9
	baz=238					
HYT	Haines Junctio	17.75	51		P	03 20 18.7 +0.5
HYT				IAmb	IAmb	03 20 38.8
	comp=Z,40nm,0.8s					
HYT	Haines Junctio	17.75	51	P	P	03 20 19.8 +1.5
	baz=255,SNR=23					
M29M	Somme Creek	17.80	46	IAmb	IAmb	03 20 22.8
	comp=Z,36nm,1.0s					
M29M	Somme Creek	17.80	46	P	Pn	03 20 18.5 +0.3
	baz=249,SNR=18					
P30M	Million Dollar	17.86	54	P	P	03 20 20.2 +0.9
	baz=258					
B21K	Ikpikpuk River	17.91	14	P	P	03 20 21.1 +1.3
	baz=204,SNR=11					
S31K	Pelican	17.93	61	IAmb	IAmb	03 20 43.5
	comp=Z,72nm,1.4s					
S31K	Pelican	17.93	61	P	P	03 20 22.0 +2.0
	baz=265					
TOLK	Toolik Lake Re	17.95	20		P	03 20 20.9 +0.7
TOLK	Toolik Lake Re	17.95	20	P	P	03 20 21.2 +0.9
	baz=215,SNR=16					
B20K	Meade River	17.95	10	P	P	03 20 21.4 +1.2
	baz=198					
D23K	Nanushuk River	17.99	19	P	P	03 20 21.4 +0.7
	baz=212					
I27K	Kandik River	18.03	34	P	Pn	03 20 21.3 +0.4
	baz=235					
PLBC	Pleasant Camp	18.03	56	P	P	03 20 23.3 +2.1
	baz=261,SNR=9.9					
DAWY	Dawson	18.07	40	IAmb	IAmb	03 20 36.2
	comp=Z,78nm,1.3s					
DAWY	Dawson	18.07	40	P	P	03 20 22.9 +1.2
	baz=243,SNR=27					
F25K	Christian Rive	18.08	26	P	Pn	03 20 20.9 -0.5
	baz=224,SNR=8.2					
N30M	Aishikik Lake	18.11	49	IAmb	IAmb	03 20 26.6
	comp=Z,47nm,0.8s					
N30M	Aishikik Lake	18.11	49	P	P	03 20 23.3 +1.1
	baz=254,SNR=25					
G26K	Porcupine Rive	18.16	29	P	P	03 20 23.4 +0.9
	baz=228					
L29M	L29M	18.19	44	IAmb	IAmb	03 20 41.4
	comp=Z,33nm,0.9s					
L29M	L29M	18.19	44	P	P	03 20 24.0 +1.1
	baz=248,SNR=21					
SIT	Sitka	18.38	64	IAmb	IAmb	03 20 36.9
	comp=Z,56nm,1.4s					
SIT	Sitka	18.38	64	P	Pn	03 20 26.3 +1.2
	baz=269					
O30N	Mendenhall	18.41	52	IAmb	IAmb	03 20 48.3
	comp=Z,57nm,0.9s					
O30N	Mendenhall	18.41	52	P	Pn	03 20 26.9 +1.3
	baz=257,SNR=35					
H27K	Steamboat Moun	18.42	33	P	P	03 20 25.3 -0.2
	baz=234,SNR=10					
E25K	Arctic Village	18.48	25	P	P	03 20 26.3 +0.2
	baz=223,SNR=8.6					
D24K	Happy Valley	18.52	20	P	P	03 20 25.9 -0.6
D24K				IAmb	IAmb	03 21 08.3
	comp=Z,40nm,1.2s					
D24K	Happy Valley	18.52	20	P	P	03 20 27.3 +0.7
	baz=215,SNR=10					
I28M	Miner Creek	18.54	36	P	Pn	03 20 27.8 +0.7
	baz=238,SNR=14					
SKAG	Skagway	18.55	56	IAmb	IAmb	03 21 02.5
	comp=Z,39nm,1.1s					
SKAG	Skagway	18.55	56	P	Pn	03 20 28.7 +1.4
	baz=262,SNR=6.6					
F26K	Sheenjek River	18.56	27	P	P	03 20 27.4 +0.4
	baz=226,SNR=7.4					
M30M	Minto, Yukon	18.58	46	P	Pn	03 20 29.5 +1.9
	baz=251					
G27K	Doyon Strip	18.72	31	P	P	03 20 29.1 +0.4
	baz=232,SNR=11					
K29M	Barlow Dome	18.73	42	IAmb	IAmb	03 20 45.5
	comp=Z,28nm,0.8s					
K29M	Barlow Dome	18.73	42	P	P	03 20 29.8 +0.8
	baz=246,SNR=47					
N31M	Braeburn, Yuko	18.73	50	P	Pn	03 20 30.6 +1.2
N31M				IAmb	IAmb	03 20 59.3
	comp=Z,33nm,0.8s					
N31M	Braeburn, Yuko	18.73	50	P	Pn	03 20 31.3 +1.9
	baz=255,SNR=13					
B22K	Teshekpuk Lake	18.74	14	IAmb	IAmb	03 20 45.5
	comp=Z,49nm,1.1s					
B22K	Teshekpuk Lake	18.74	14	P	P	03 20 29.3 +0.5
	baz=205					
C23K	Itkillik River	18.75	17	IAmb	IAmb	03 20 30.9
	comp=Z,37nm,0.6s					
C23K	Itkillik River	18.75	17	P	Pn	03 20 29.9 +0.4
	baz=211,SNR=41					
S32K	Killisnoo	18.79	62	P	Pn	03 20 32.2 +2.1
	baz=268,SNR=11					
R32K	Eaglecrest	18.86	60	P	Pn	03 20 32.3 +1.3
	baz=266					
JIS	Juneau Island	18.93	60	P	P	03 20 31.8 +0.8
JIS	Juneau Island	18.93	60	IAmb	IAmb	03 20 44.2
	comp=Z,46nm,1.1s					
C24K	Franklin Bluff	19.01	19	P	Pn	03 20 33.2 +0.5
	baz=214					
A22K	Sinclair Lake	19.14	11	P	P	03 20 34.2 +0.9
	baz=201					
D25K	Kavik River	19.19	22	P	Pn	03 20 35.1 +0.2
	baz=219,SNR=14					
A21K	Barrow	19.26	10	P	P	03 20 34.6 +0.1
	baz=198					
MAYO	Mayo, Yukon	19.31	43	P	P	03 20 36.0 +0.8
	baz=249					
P32M	Atlin	19.39	56	IAmb	IAmb	03 20 48.6
	comp=Z,42nm,0.8s					
P32M	Atlin	19.39	56	P	Pn	03 20 38.3 +0.9
	baz=263,SNR=9.2					
H29M	Whitestone	19.49	35	IAmb	IAmb	03 21 17.7
	comp=Z,44nm,1.4s					
H29M	Whitestone	19.49	35	P	P	03 20 36.7 -0.4
	baz=239,SNR=12					
J30M	Hart River	19.50	41	P	P	03 20 38.2 +0.9
	baz=246,SNR=14					
M31M	Drury Creek, Y	19.54	48	P	Pn	03 20 39.6 +0.4
M31M	Drury Creek, Y	19.54	48	P	Pn	03 20 39.6 +0.4
	baz=255,SNR=85					
E27K	Coleen River	19.60	28	P	P	03 20 39.2 +0.7
E27K	Coleen River	19.60	28	P	P	03 20 39.6 +1.2
	baz=229					
U33K	Whale Pass	19.62	67	IAmb	IAmb	03 21 08.7
	comp=Z,30nm,1.1s					
U33K	Whale Pass	19.62	67	P	P	03 20 39.8 +1.2
	baz=273					
CRAG	Craig	19.68	68	IAmb	IAmb	03 21 15.1
	comp=Z,27nm,1.1s					
CRAG	Craig	19.68	68	P	P	03 20 40.3 +1.1
	baz=275					
I30M	Mount Dempster	19.75	39	P	P	03 20 39.8 -0.3
	baz=244,SNR=12					
F28M	Old Crow	19.76	30	P	P	03 20 39.8 -0.4
	baz=233					
P33M	Teslin, Yukon	19.91	54	IAmb	IAmb	03 21 06.2
	comp=Z,39nm,1.0s					
P33M	Teslin, Yukon	19.91	54	P	Pn	03 20 43.5 -0.2
	baz=262,SNR=10					
N32M	Quiet Lake	19.93	52	P	P	03 20 43.1 +1.1
	baz=259					
G29M	Pine Creek	19.96	33	IAmb	IAmb	03 20 58.8
	comp=Z,26nm,0.9s					
G29M	Pine Creek	19.96	33	P	P	03 20 41.9 -0.5
	baz=238,SNR=14					
C26K	Camden Bay	19.98	22	P	P	03 20 42.4 0.0
	baz=221,SNR=47					
FARO	Faro, Yukon	20.02	48	P	P	03 20 44.2 +1.1
FARO				IAmb	IAmb	03 20 47.5
	comp=Z,58nm,1.0s					
FARO	Faro, Yukon	20.02	48	P	P	03 20 44.1 +1.1
	baz=256,SNR=21					
WRAK	Wrangell Islan	20.04	66	IAmb	IAmb	03 21 17.8
	comp=Z,36nm,1.1s					
WRAK	Wrangell Islan	20.04	66	P	Pn	03 20 44.7 -0.2
	baz=273					
C27K	Jago River	20.04	23	P	P	03 20 43.2 +0.1
	baz=223,SNR=33					
Q32M	Nakina River	20.07	58	IAmb	IAmb	03 20 59.7
	comp=Z,73nm,1.3s					
Q32M	Nakina River	20.07	58	P	Pn	03 20 45.9 +0.2
	baz=266,SNR=23					
EPYK	Eagle Plains	20.14	36	IAmb	IAmb	03 21 00.1
	comp=Z,27nm,0.9s					
EPYK	Eagle Plains	20.14	36	P	P	03 20 43.6 -0.7
	baz=241,SNR=20					
BILL	Bilibino	20.21	330⇑	eP	P	03 20 44.9 -0.1
BILL				e		03 20 56.3
BILL				e		03 21 01.0
BILL				eS	S	03 24 22.3 -8.0
BILL				pmax	pmax	
	comp=Z,11nm,1.1s					
BILL				MLR	MLR	
	comp=Z,3μm,16.0s					
E28M	Babbage River	20.46	28	P	P	03 20 48.1 +0.3
	baz=232					
D27M	Malcolm River	20.47	26	P	P	03 20 48.4 +0.5
	baz=228					
V35K	Ketchikan	20.55	69	IAmb	IAmb	03 21 02.8
	comp=Z,37nm,1.0s					
V35K	Ketchikan	20.55	69	P	Pn	03 20 50.7 -0.3
	baz=277,SNR=15					
G30M	tAoh Zraii Nji	20.61	34	IAmb	IAmb	03 20 49.4
	comp=Z,34nm,1.1s					
G30M	tAoh Zraii Nji	20.61	34	P	P	03 20 47.3 -2.0
	baz=240,SNR=21					
S34M	Telegraph Cree	20.64	61	IAmb	IAmb	03 21 07.0
	comp=Z,38nm,1.1s					
S34M	Telegraph Cree	20.64	61	P	P	03 20 51.5 +1.7
	baz=270,SNR=8.2					
R33M	Jennings River	20.77	57	P	P	03 20 52.7 +1.5
R33M	Jennings River	20.77	57	P	P	03 20 53.1 +1.9
	baz=266,SNR=65					
E29M	Blow River	20.82	30	P	P	03 20 50.3 -1.3
E29M	Blow River	20.82	30	P	P	03 20 51.0 -0.6
	baz=235,SNR=13					
PET	Petropavlovsk	20.95	285	P	P	03 20 52.6 -0.5
PET				IAmb	IAmb	03 21 02.5
	comp=Z,45nm,1.3s					
PET	Petropavlovsk	20.95	285	eP	Pn	03 20 57.3 +1.6
PET				eS	Sn	03 24 58.9 +7.5
PET				pmax	pmax	
	comp=Z,28nm,1.3s					
PET				MLR	MLR	
	comp=Z,700nm,15.0s					

DLBC	**Dease Lake**	21.23	60	P		**P**	03 20 57.9 +1.7
	baz=270,SNR=6.4						
DLBC	**Dease Lake**	21.23	60	P		**P**	03 20 58.1 +2.0
	comp=Z,6.2nm,1.0s,baz=269,slow=8.9,SNR=9.2						
	comp=Z,6.2nm,1.0s						
G31M	**Satah River**	21.26	35	IAmb		IAmb	03 21 20.0
	comp=Z,16nm,0.8s						
G31M	**Satah River**	21.26	35	P		**P**	03 20 55.7 -0.6
	baz=243,SNR=6.8						
HG4B	**Hotspring**	21.37	77	IAmb		IAmb	03 21 10.4
	comp=Z,21nm,1.1s						
RUBB	**Prince Rupert**	21.48	71	P		**P**	03 20 59.9 +1.1
RUBB				IAmb		IAmb	03 21 27.5
	comp=Z,42nm,1.4s						
GRNB	**Grenville Isla**	21.74	72	P		**P**	03 21 01.9 +0.2
GRNB				IAmb		IAmb	03 21 35.0
	comp=Z,26nm,1.1s						
INK	**Inuvik**	22.16	32	P		**P**	03 21 03.6 -2.3
INK				IAmb		IAmb	03 21 19.3
	comp=Z,43nm,1.4s						
INK	**Inuvik**	22.16	32	P		**P**	03 21 04.1 -1.8
	baz=241,SNR=12						
INK	**Inuvik**	22.16	32	LR		LR	03 30 41.2
	comp=Z,2µm,18.7s,baz=218,slow=39						
INK	**Inuvik**	22.16	32	P		**P**	03 21 03.6 -2.3
INK				pmax		pmax	
	comp=Z,43nm,1.4s						
TGTN	**Hyland Airport**	22.27	51	P		**P**	03 21 07.0 -0.3
	baz=264,SNR=5.6						
BBB	**Bella Bella**	23.23	76	LR		LR	03 28 10.9
	comp=Z,709nm,20.2s,baz=284,slow=31						
TOAD	**Toad River Com**	23.72	58	P		**P**	03 21 23.9 +1.8
	baz=273						
SEY	**Seymchan**	23.79	312	P		**P**	03 21 21.6 -1.1
	comp=Z,16nm,1.0s,baz=101,slow=9.5,SNR=16						
	comp=Z,16nm,1.0s						
SEY	**Seymchan**	23.79	312	*de*P		**P**	03 21 22.4 -0.3
SEY				pmax		pmax	
	comp=Z,36nm,1.3s						
MA2	**Magadan**	24.46	303	P		**P**	03 21 28.5 -0.4
	comp=Z,7.7nm,0.6s,baz=83,slow=7.9,SNR=5.2						
MA2				LR		LR	03 30 53.5
	comp=Z,497nm,18.7s,baz=108,slow=36						
	comp=Z,7.7nm,0.6s						
MA2	**Magadan**	24.46	303	*de*P		**P**	03 21 29.5 +0.6
MA2				pmax		pmax	
	comp=Z,31nm,1.7s						
MA2	**Magadan**	24.46	303	P		**P**	03 21 29.2 +0.3
	comp=Z,24nm,1.8s						
WRGLY	**Wrigley**	24.68	48	P		**P**	03 21 32.4 +1.6
WRGLY	**Wrigley**	24.68	48	P		**P**	03 21 32.6 +1.8
	baz=264,SNR=11						
C36M	**Paulatuk**	25.72	33	P		**P**	03 21 40.4 +0.3
C36M				IAmb		IAmb	03 22 02.3
	comp=Z,13nm,0.8s						
C36M	**Paulatuk**	25.72	33	P		**P**	03 21 41.5 +1.4
	baz=251,SNR=7.6						
YKA	**Yellowknife Ar**	28.73	49	P		**P**	03 22 06.8 -0.4
YKA	**Yellowknife Ar**	28.73	49	P		**P**	03 22 08.6 +1.4
	comp=Z,2.6nm,0.9s,baz=275,slow=8.0,SNR=9.9						
YKA				PcP		**PcP**	03 25 17.5 +0.7
	comp=Z,1.8nm,0.9s,baz=292,slow=3.0,SNR=3.9						
YKA				LR		LR	03 35 25.0
	comp=Z,2µm,18.3s,baz=271,slow=40						
	comp=Z,2.6nm,0.9s						
YKA	**Yellowknife Ar**	28.73	49	*i* P		**P**	03 22 09.6 +2.4
YKA				pmax		pmax	
	comp=Z,3.0nm,0.9s						
BRLDA	**Berland Lookou**	28.86	67	IAmb		IAmb	03 22 10.9
	comp=Z,10nm,1.0s						
H04A	**Detroit Lake**	29.91	87	IAmb		IAmb	03 22 45.6
	comp=Z,24nm,1.2s						
I04A	**Tendick Farm,**	30.25	89	IAmb		IAmb	03 22 53.6
	comp=Z,17nm,1.1s						
I05D	**Terrebonne, OR**	30.61	87	P		**P**	03 22 25.5 +1.3
I05D				IAmb		IAmb	03 22 51.9
	comp=Z,11nm,0.9s						
PINE	**Pine Mountain**	31.14	88	IAmb		IAmb	03 22 57.5
	comp=Z,15nm,1.4s						
YBH	**Yreka Blue Hor**	31.22	93	LR		LR	03 32 37.9
	comp=Z,319nm,20.0s,baz=305,slow=32						
NEW	**Newport**	31.23	78	P		**P**	03 22 29.9 +0.3
	baz=297						
NEW	**Newport**	31.23	78	LR		LR	03 34 11.7
	comp=Z,613nm,19.2s,baz=288,slow=35						
NEW	**Newport**	31.23	78	P		**P**	03 22 31.1 +1.5
J05D	**Fort Rock, OR**	31.24	89	P		**P**	03 22 30.9 +1.0
J05D				IAmb		IAmb	03 23 07.9
	comp=Z,9.1nm,1.1s						
G08A	**Pilot Rock**	31.56	84	P		**P**	03 22 32.3 -0.3
I07A	**Izee**	31.86	86	IAmb		IAmb	03 22 53.1
	comp=Z,6.4nm,0.8s						
YSS	**Yuzh-Sakhalins**	32.68	281	P		**P**	03 22 42.5 +0.2
YSS	**Yuzh-Sakhalins**	32.68	281	*e*P		**P**	03 22 43.8 +1.5
YSS				pmax		pmax	
	comp=Z,20nm,0.7s						
YSS				MLR		MLR	
	comp=Z,400nm,14.0s						
J08A	**Circle Bar Ran**	32.88	87	IAmb		IAmb	03 23 01.4
	comp=Z,6.6nm,1.0s						
WVOR	**Wild Horse Val**	33.30	88	P		**P**	03 22 48.7 +0.8
WVOR				IAmb		IAmb	03 23 24.4
	comp=Z,12nm,1.2s						
WVOR	**Wild Horse Val**	33.30	88	P		**P**	03 22 48.7 +0.8
WVOR				pmax		pmax	
	comp=Z,12nm,1.2s						
TIXI	**Tiksi**	33.41	329	LR		LR	03 37 33.1
	comp=Z,574nm,18.6s,baz=120,slow=38						
TIXI	**Tiksi**	33.41	329	*e*P		**P**	03 22 47.6 -0.8
TIXI				pmax		pmax	
	comp=Z,10.0nm,1.3s						
MSO	**Missoula**	33.81	78	P		**P**	03 22 52.3 +0.1
MSO				IAmb		IAmb	03 23 31.2
	comp=Z,11nm,1.4s						
MSO	**Missoula**	33.81	78	P		**P**	03 22 53.0 +0.7
	baz=300						
JKA	**Kamikawa-asahi**	34.24	276	P		**P**	03 22 56.0 +0.2
ASAJ	**Asahikawa**	34.24	276	P		**P**	03 22 56.0 +0.2
	comp=Z,20nm,1.0s,baz=1.6,slow=10,SNR=13						
ASAJ				LR		LR	03 36 19.9
	comp=Z,628nm,20.5s,baz=76,slow=35						
	comp=Z,20nm,1.0s						
BPMT	**Black Pine Rid**	34.30	79	P		**P**	03 22 56.9 +0.2
YAK	**Yakutsk**	34.32	311	*e*P		**P**	03 22 54.3 -2.0
YAK				*e**PP		**pP**	03 23 01.4 -1.0
YAK				*e*			03 24 08.0
YAK				*e*SS		**S**	03 28 19.8 -2.1
YAK				*e*SS		**SnSn**	03 30 25.0 -6.8
YAK				pmax		pmax	
	comp=Z,14nm,0.9s						
YAK				pmax		pmax	
	comp=N,2.0nm,0.9s						
YAK				pmax		pmax	
	comp=E,6.0nm,1.1s						
YAK				pmax		pmax	
	comp=Z,28nm,1.9s						
YAK				smax		smax	
	comp=N,56nm,3.0s						
YAK				MLR		MLR	
	comp=Z,2µm,20.0s						
YAK				MLR		MLR	
	comp=N,495nm,17.0s						
YAK				MLR		MLR	
	comp=E,1µm,16.0s						
PAHR	**Pah Rah Range**	34.46	93	P		**P**	03 22 58.2 +0.2
PAHR				IAmb		IAmb	03 23 18.2
	comp=Z,10nm,1.2s						
MFID	**Camas Ranch**	34.46	85	P		**P**	03 22 57.1 -0.9
LYMT	**Lyon Mountain**	34.72	77	P		**P**	03 23 00.5 +0.2
WAKR	**Walker**	35.18	95	IAmb		IAmb	03 23 29.7
	comp=Z,6.6nm,1.0s						
HLID	**Hailey**	35.24	84	P		**P**	03 23 05.3 +0.6
HLID	**Hailey**	35.24	84	P		**P**	03 23 05.0 +0.2
	baz=304						
RES	**Resolute Bay**	35.36	26	LR		LR	03 39 25.6
	comp=Z,904nm,18.4s,baz=250,slow=40						
EGMT	**Eagleton**	35.70	74	P		**P**	03 23 08.4 -0.1
	baz=299						
BOZ	**Bozeman (W)**	35.82	79	IAmb		IAmb	03 23 35.7
	comp=Z,9.4nm,1.4s						
BOZ	**Bozeman (W)**	35.82	79	P		**P**	03 23 10.0 +0.4
	baz=302						
NVAR	**Mina Array Bea**	35.91	94	P		**P**	03 23 11.2 +0.5
NVAR	**Mina Array Bea**	35.91	94	P		**P**	03 23 12.5 +1.9
	comp=Z,1.5nm,0.7s,baz=306,slow=8.8,SNR=13						
NVAR				PcP		**PcP**	03 25 38.4 +1.2
	comp=Z,1.0nm,0.8s,baz=285,slow=3.5,SNR=3.2						
NVAR				LR		LR	03 36 51.3
	comp=Z,325nm,18.3s,baz=299,slow=34						
	comp=Z,1.5nm,0.7s						
ELK	**Elko**	36.36	88	P		**P**	03 23 15.5 +1.1
ELK	**Elko**	36.36	88	P		**P**	03 23 15.5 +1.1
ELK				pmax		pmax	
	comp=Z,3.0nm,0.9s						
H17A	**Grant Village**	37.09	80	P		**P**	03 23 21.8 +1.1
H17A				IAmb		IAmb	03 23 48.3
	comp=Z,10nm,1.2s						
H17A	**Grant Village**	37.09	80	P		**P**	03 23 21.8 +1.1
	baz=303						
VES	**Vestal, Richgr**	37.12	98	P		**P**	03 23 23.2 +2.5
	baz=312						
CWC	**Cottonwood Cre**	37.33	96	P		**P**	03 23 25.3 +2.6
	baz=311						
GRAC	**Grapevine Rang**	37.40	95	P		**P**	03 23 24.9 +1.8
	baz=311						
RLMT	**Red Lodge**	37.48	78	P		**P**	03 23 24.5 +0.6
RLMT				IAmb		IAmb	03 23 57.5
	comp=Z,12nm,1.2s						
RLMT	**Red Lodge**	37.48	78	P		**P**	03 23 24.3 +0.4
	baz=302						
R11B	**Troy Canyon, C**	37.62	92	P		**P**	03 23 26.0 +0.9
	baz=309						
ARVC	**Arvin**	37.76	98	P		**P**	03 23 28.1 +2.1
	baz=313						
KLR	**Kul'dur**	38.03	290	LR		LR	03 40 21.3
	comp=Z,733nm,18.3s,baz=54,slow=38						
KLR	**Kul'dur**	38.03	290	*de*P		**P**	03 23 27.6 -0.6
KLR				pmax		pmax	
	comp=Z,8.0nm,1.3s						
FURC	**Furnace Creek,**	38.05	95	P		**P**	03 23 30.2 +1.7
	baz=311						
TPNV	**Topopah Spring**	38.11	94	P		**P**	03 23 30.7 +1.4
	baz=311,SNR=6.2						
DUG	**Dugway, Tooele**	38.16	87	P		**P**	03 23 30.5 +0.8
	baz=307						
GWY	**Greenwater Val**	38.35	95	P		**P**	03 23 31.4 0.0
GWY				IAmb		IAmb	03 23 51.7
	comp=Z,10nm,1.3s						
PRN	**Pahroc Range**	38.54	92	IAmb		IAmb	03 23 52.9
	comp=Z,10.0nm,1.1s						
BW06	**Boulder Array**	38.62	81	P		**P**	03 23 34.0 +0.4
	baz=305						
PDAR	**Pinedale Array**	38.62	81	P		**P**	03 23 33.4 -0.1
PDAR	**Pinedale Array**	38.62	81	P		**P**	03 23 34.1 +0.5
	comp=Z,3.1nm,0.9s,baz=312,slow=5.8,SNR=14						
PDAR				LR		LR	03 38 50.5
	comp=Z,187nm,18.9s,baz=309,slow=35						
	comp=Z,3.1nm,0.9s						
H11N2	**WAKE ISLAND Hy**	38.81	222	T		T	04 05 19.6
	baz=24,slow=76,SNR=133						
H11N3	**WAKE ISLAND Hy**	38.81	222	T		T	04 05 11.9
	baz=24,slow=76,SNR=110						
H11N1	**WAKE ISLAND Hy**	38.83	222	T		T	04 05 18.7
	baz=24,slow=76,SNR=48						
GSC	**Goldstone, Bar**	38.86	96	P		**P**	03 23 36.4 +0.9
	baz=312						
BFSC	**Mount Baldy Ra**	39.06	98	P		**P**	03 23 38.2 +0.9
	baz=313						
MSU	**Marysvale**	39.59	89	P		**P**	03 23 41.9 +0.2
MSU	**Marysvale**	39.59	89	P		**P**	03 23 41.9 +0.2
MURC	**Murrieta**	39.78	99	P		**P**	03 23 44.5 +1.3
	baz=314						
GMRC	**Granite Mounta**	39.90	96	P		**P**	03 23 45.5 +1.2
	baz=312						
HEH	**HeiHe**	39.97	294	*e*P		**P**	03 23 43.0 -1.4
HEH				pmax		pmax	
	comp=Z,6.0nm,1.0s						
H11S1	**WAKE ISLAND Hy**	39.98	222	T		T	04 06 37.4
	baz=24,slow=76,SNR=67						
H11S2	**WAKE ISLAND Hy**	40.00	222	T		T	04 06 39.4
	baz=24,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	40.00	222	T		T	04 06 38.3
	baz=24,slow=76,SNR=18						
PFO	**Pinyon Flats O**	40.22	98	P		**P**	03 23 48.4 +1.5
	baz=314						
PFO	**Pinyon Flats O**	40.22	98	LR		LR	03 39 28.0
	comp=Z,558nm,18.2s,baz=296,slow=35						
SRU	**San Rafael Swe**	40.22	87	P		**P**	03 23 47.7 +0.8
SRU	**San Rafael Swe**	40.22	87	P		**P**	03 23 47.7 +0.8
SRU				pmax		pmax	
	comp=Z,9.0nm,1.2s						
TPFO	**Pinon Flats**	40.23	98	P		**P**	03 23 48.2 +1.3
	baz=314						
K22A	**Casper**	40.51	79	P		**P**	03 23 49.8 +0.6
	baz=306						
USRK	**Ussuriysk Ar.**	40.55	283	P		**P**	03 23 48.9 -0.5
USRK	**Ussuriysk Ar.**	40.55	283	P		**P**	03 23 47.9 -1.4
	comp=Z,1.6nm,0.6s,baz=56,slow=8.8,SNR=5.8						
USRK				LR		LR	03 42 22.2
	comp=Z,495nm,19.0s,baz=61,slow=39						
	comp=Z,1.6nm,0.6s						
IRM	**Iron Mountain**	40.64	96	P		**P**	03 23 51.7 +1.5
	baz=313						
MONP2	**Monument Peak**	40.74	99	P		**P**	03 23 53.1 +1.8
	baz=314						
HMU	**Henry Mountain**	40.83	88	P		**P**	03 23 51.5 -0.6
HMU				IAmb		IAmb	03 24 24.3
	comp=Z,15nm,1.4s						
O20A	**White River Ci**	40.98	84	P		**P**	03 23 53.8 +0.7
O20A				IAmb		IAmb	03 24 09.7
	comp=Z,15nm,0.9s						
O20A	**White River Ci**	40.98	84	P		**P**	03 23 53.9 +0.7
	baz=308,SNR=6.0						
RSSD	**Black Hills**	41.14	76	P		**P**	03 23 55.0 +0.6
	baz=305						
BLYC	**Blythe**	41.29	96	P		**P**	03 23 55.1 -0.5
MJAR	**Matsushiro Arr**	41.47	270	P		**P**	03 23 57.1 +0.2
	comp=Z,2.2nm,0.9s,baz=38,slow=7.2,SNR=9.7						
MJAR				LR		LR	03 41 33.5
	comp=Z,381nm,19.3s,baz=64,slow=37						
	comp=Z,2.2nm,0.9s						
MAJO	**Matsushiro**	41.47	270	P		**P**	03 23 56.4 -0.6
MAJO	**Matsushiro**	41.47	270	*de*P		**P**	03 23 57.8 +0.8
MAJO				pmax		pmax	
	comp=Z,20nm,1.6s						
MJB9	**Matsu-Tunnel**	41.47	270	P		**P**	03 23 57.5 +0.5
MDND	**Maddock**	41.65	69	P		**P**	03 23 59.0 +0.7
MDND	**Maddock**	41.65	69	P		**P**	03 23 59.4 +1.1
	baz=302						
N23A	**Red Feather La**	41.90	81	IAmb		IAmb	03 24 27.8
	comp=Z,14nm,1.4s						
N23A	**Red Feather La**	41.90	81	P		**P**	03 24 01.9 +1.1
	baz=307						
MSHR	**Mys Shultsa**	41.98	282	*de*P		**P**	03 24 02.0 +0.9
MSHR				pmax		pmax	
	comp=Z,20nm,1.3s						
WUAZ	**Wupatki**	42.02	92	P		**P**	03 24 03.4 +1.7
	baz=312						
BNX	**BinXian**	42.37	288	||P		**P**	03 24 03.4 -0.8
BNX				pmax		pmax	
	comp=Z,7.0nm,1.1s						
ULM	**Lac du Bonnet**	42.45	64	P		**P**	03 24 04.7 -0.1
	comp=Z,3.4nm,0.9s,baz=333,slow=8.3,SNR=4.3						
ULM				LR		LR	03 42 58.8
	comp=Z,726nm,18.3s,baz=291,slow=38						
	comp=Z,3.4nm,0.9s						
MVCO	**Mesa Verde**	42.66	87	P		**P**	03 24 08.3 +1.3
	baz=310						
W18A	**Petrified Fore**	43.28	91	P		**P**	03 24 13.0 +1.0
	baz=312						
S22A	**4UR Ranch, Cre**	43.33	85	P		**P**	03 24 14.2 +1.7
	baz=310						
AGMN	**Agassiz Nation**	43.51	66	P		**P**	03 24 13.1 -0.3
AGMN	**Agassiz Nation**	43.51	66	P		**P**	03 24 14.0 +0.6
	baz=303						
214A	**Organ Pipe Nat**	43.57	97	P		**P**	03 24 15.3 +1.2
	baz=315						
Q24A	**Divide**	43.58	83	P		**P**	03 24 15.2 +0.7
	baz=309						
SDCO	**Great Sand Dun**	44.14	85	P		**P**	03 24 20.0 +1.0
	baz=310						
NEEM	**North Greenlan**	44.24	16	*i* P		**P**	03 24 19.6 +0.3
TUC	**Tucson**	44.56	94	P		**P**	03 24 23.7 +1.6
	baz=314						
TUC	**Tucson**	44.56	94	P		**P**	03 24 23.6 +1.5
CN2	**Changchun**	44.63	287	P		**P**	03 24 22.1 -0.3
CN2				pmax		pmax	
	comp=Z,20nm,0.9s						
CN2				LR		LR	
	comp=Z,500nm,16.0s						
CN2				LR		LR	
	comp=Z,500nm,16.0s						
CN2				LR		LR	
	comp=Z,600nm,18.0s						
NOR	**Nord**	45.02	6	*e*P		**P**	03 24 25.0 -0.2
NOR				IAmb		IAmb	03 24 26.0
	comp=Z,12nm,1.0s						
KSCO	**Kaye Shedlock'**	45.07	81	P		**P**	03 24 26.3 +0.1
KSCO				IAmb		IAmb	03 24 54.0
	comp=Z,14nm,1.0s						
T25A	**Trinidad**	45.19	84	IAmb		IAmb	03 25 00.5
	comp=Z,20nm,1.4s						
T25A	**Trinidad**	45.19	84	P		**P**	03 24 28.7 +1.4
	baz=311,SNR=5.0						
ANMO	**Albuquerque**	45.39	88	P		**P**	03 24 30.1 +1.2
	baz=312						
ANMO	**Albuquerque**	45.39	88	LR		LR	03 42 45.4
	comp=Z,373nm,18.4s,baz=38,slow=35						
ECSD	**EROS Data Cent**	45.71	72	P		**P**	03 24 30.6 -0.4
	baz=307						
EYMN	**Ely**	46.13	64	P		**P**	03 24 34.3 +0.1
	baz=305						
RTBA	**Rita Blanca**	46.66	84	IAmb		IAmb	03 24 49.0
	comp=Z,10nm,1.1s						
CBKS	**Cedar Bluff**	46.93	79	P		**P**	03 24 41.9 +1.2
	baz=310						
NRIK	**Noril'sk**	47.02	332	P		**P**	03 24 40.2 -0.7
NRIK	**Noril'sk**	47.02	332	P		**P**	03 24 40.4 -0.6
	comp=Z,5.1nm,0.6s,baz=68,slow=6.7,SNR=12						
NRIK				LR		LR	03 46 53.1
	comp=Z,268nm,18.6s,baz=75,slow=39						
	comp=Z,5.1nm,0.6s						
NRIK	**Noril'sk**	47.02	332	*de*P		**P**	03 24 41.2 +0.3
NRIK				pmax		pmax	
	comp=Z,17nm,1.1s						
KSRS	**Korea Array**	47.12	278	P		**P**	03 24 42.9 +0.8
	comp=Z,5.5nm,1.0s,baz=53,slow=7.3,SNR=12						
KSRS				LR		LR	03 45 16.8
	comp=Z,159nm,19.5s,baz=45,slow=37						
	comp=Z,5.5nm,1.0s						
KSAR	**Wonju Array Be**	47.15	279	P		**P**	03 24 42.5 +0.2
FRB	**Frobisher Bay**	47.72	37	LR		LR	03 47 03.1
	comp=Z,1µm,19.3s,baz=294,slow=39						
JNU	**Nakatsue**	48.22	272	LR		LR	03 45 12.2
	comp=Z,342nm,20.2s,baz=53,slow=36						
MSTX	**Muleshoe**	48.30	86	P		**P**	03 24 51.6 +0.1
MSTX				IAmb		IAmb	03 25 20.3
	comp=Z,9.6nm,1.2s						
MSTX	**Muleshoe**	48.30	86	P		**P**	03 24 52.0 +0.6
	baz=313						
VHRN	**Van Horn**	49.15	91	IAmb		IAmb	03 25 29.7
	comp=Z,12nm,1.2s						
DAG	**Danmarks Havn**	49.25	9	P		**P**	03 24 58.4 +0.3
DAG				pmax		pmax	
	comp=Z,30nm,1.4s						
DAG	**Danmarks Havn**	49.25	9	*i* P		**P**	03 24 58.0 -0.1
SPITS	**Spitsbergen Ar**	49.43	359	P		**P**	03 24 58.3 -1.2
	comp=Z,11nm,0.9s,baz=18,slow=8.9,SNR=3.0						
SPITS				LR		LR	03 47 08.0
	comp=Z,231nm,18.1s,baz=312,slow=38						
	comp=Z,11nm,0.9s						
DKNS	**Dickens**	49.63	85	IAmb		IAmb	03 25 03.0
	comp=Z,4.8nm,0.8s						
POST	**Post**	49.69	86	IAmb		IAmb	03 25 03.1
	comp=Z,6.6nm,0.8s						
JFWS	**Jewell Farm**	49.88	69	P		**P**	03 25 03.0 -0.4
	baz=309						
XLT	**XiLinHaoTe**	49.93	293	*e*P		**P**	03 25 04.7 +0.8
XLT				pmax		pmax	
	comp=Z,13nm,0.9s						
XLT				LR		LR	
	comp=Z,410nm,16.9s						
XLT				LR		LR	
	comp=Z,360nm,19.0s						
SUMG	**Summit**	49.99	18	P		**P**	03 25 04.8 +0.5
SUMG	**Summit**	49.99	18	P		**P**	03 25 04.8 +0.5
SUMG				pmax		pmax	
	comp=Z,16nm,1.0s						
SUMG	**Summit**	49.99	18	*i* P		**P**	03 25 04.0 -0.2
WMOK	**Wichita Mounta**	50.20	83	P		**P**	03 25 05.8 -0.1
WMOK				IAmb		IAmb	03 25 06.8
	comp=Z,4.1nm,0.7s						
WMOK	**Wichita Mounta**	50.20	83	P		**P**	03 25 06.3 +0.4
	baz=313,SNR=6.7						
WMOK	**Wichita Mounta**	50.20	83	P		**P**	03 25 05.8 -0.1
WMOK				pmax		pmax	
	comp=Z,4.0nm,0.7s						
APMT	**Aspermont**	50.35	85	P		**P**	03 25 06.0 -1.1
APMT				IAmb		IAmb	03 25 37.6
	comp=Z,8.2nm,1.3s						
OK031	**S. Brethren Rd**	50.55	80	P		**P**	03 25 07.0 -1.5
OK031				IAmb		IAmb	03 25 08.8
	comp=Z,12nm,1.1s						
LPIG	**La Paz**	50.80	102	LR		LR	03 43 38.7
	comp=Z,159nm,19.0s,baz=356,slow=32						
TX31	**Lajitas Ar. Si**	50.98	91	P		**P**	03 25 11.8 -0.2
TX31				IAmb		IAmb	03 25 31.7
	comp=Z,9.5nm,1.2s						
TXAR	**Lajitas Array**	50.98	91	P		**P**	03 25 11.1 -0.9
TXAR	**Lajitas Array**	50.98	91	P		**P**	03 25 12.3 +0.3
	comp=Z,1.2nm,0.7s,baz=304,slow=4.1,SNR=19						
TXAR				ScP		**ScP**	03 30 23.4 +1.0
	comp=Z,0.6nm,0.9s,baz=321,slow=1.3,SNR=4.0						
	comp=Z,1.2nm,0.7s						
P40A	**Paris**	51.02	73	P		**P**	03 25 10.5 -1.4
ABTX	**Abilene, Hawle**	51.12	85	P		**P**	03 25 13.7 +0.8
	baz=314						
DBG	**Daneborg**	51.31	11	*e*P		**P**	03 25 14.3 +0.5
DBG				IAmb		IAmb	03 25 14.5
	comp=Z,21nm,1.1s						
SFJD	**Kangerlussuaq**	51.34	27	LR		LR	03 48 56.5
	comp=Z,291nm,18.1s,baz=314,slow=38						
R40A	**Maddies Statio**	51.70	75	IAmb		IAmb	03 25 47.7
	comp=Z,4.5nm,0.8s						
HDIL	**Hopedale**	51.94	71	P		**P**	03 25 18.6 -0.3
	baz=311						
BJI	**Beijing**	52.37	289	P		**P**	03 25 22.9 +0.9
BJI				pmax		pmax	
	comp=Z,5.0nm,0.9s						
BJI				LR		LR	
	comp=Z,320nm,16.1s						
BJI				LR		LR	
	comp=Z,120nm,13.5s						
BJI				LR		LR	
	comp=Z,260nm,21.7s						
BRDY	**Brady**	52.45	86	IAmb		IAmb	03 25 23.3
	comp=Z,4.0nm,0.6s						
CCM	**Cathedral Cave**	52.46	74	P		**P**	03 25 22.4 -0.4
	baz=312						
JCT	**Junction City**	52.52	87	IAmb		IAmb	03 25 34.8
	comp=Z,7.9nm,1.0s						
JCT	**Junction City**	52.52	87	P		**P**	03 25 23.3 -0.1
	baz=315						
ZAK	**Zakamensk**	52.59	306	*e*P		**P**	03 25 23.2 -0.5
ZAK				*e*			03 26

HHC pmax pmax
comp=Z,130nm,4.5s
HHC LR LR
comp=Z,360nm,15.9s
HHC LR LR
comp=Z,480nm,14.3s
HHC LR LR
comp=Z,840nm,16.9s
O48B Farmland 54.50 68 P **P 03 25 36.5 -1.2**
baz=312
SADO Sadowa 54.78 61 LR LR 03 50 20.9
comp=Z,514nm,19.0s,baz=324,slow=37
GUMO Guam 54.79 243 LR LR 03 43 49.0
comp=Z,126nm,22.0s,baz=68,slow=30
HNS HongShan 54.99 287 ⇑P **P 03 25 42.5 +1.2**
HNS S **S 03 33 29.8 +8.1**
HNS pmax pmax
comp=Z,54nm,1.1s
HNS LR LR
comp=Z,520nm,21.5s
HNS LR LR
comp=Z,530nm,15.7s
BTO Baotou 55.49 293 *e*P **P 03 25 43.8 -1.2**
BTO pP **pP 03 25 48.3 -2.9**
BTO sP **sP 03 25 50.9 -2.8**
BTO PP **PP 03 27 48.2 -0.5**
BTO S **S 03 33 29.3 +0.8**
BTO pmax pmax
comp=Z,43nm,1.0s
BTO pmax pmax
comp=Z,350nm,4.7s
BTO LR LR
comp=Z,650nm,19.2s
BTO LR LR
comp=Z,1μm,15.9s
BTO LR LR
comp=Z,1μm,18.0s
JMIC Jan Mayen 55.67 9 LR LR 03 51 46.5
comp=Z,411nm,18.3s,baz=328,slow=38
WVT Waverly 55.77 74 P **P 03 25 46.4 -0.5**
baz=314
OXF Oxford 55.96 76 P **P 03 25 47.6 -0.7**
baz=314
ERPA Erie 56.12 63 P **P 03 25 50.0 +0.7**
baz=313
M53A WI Miller and 56.20 64 P **P 03 25 50.4 +0.5**
baz=313
NJ2 Nanjing 56.25 280 *e*P **P 03 25 51.2 +0.8**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
P52A Corning 56.63 67 P **P 03 25 53.3 +0.3**
baz=313
LONY Lake Ozonia 57.27 58 P **P 03 25 57.2 -0.3**
baz=314
ARCES ARCESS Array B 57.82 355 P **P 03 26 00.5 -0.5**
comp=Z,6.9nm,0.9s,baz=6.7,slow=10.0,SNR=17
ARCES LR LR 03 52 38.1
comp=Z,318nm,18.2s,baz=354,slow=38
comp=Z,6.9nm,0.9s
MCWV Mont Chateau 57.89 65 P **P 03 26 00.8 -1.0**
baz=314
BINY Binghamton 58.22 61 P **P 03 26 03.0 -1.2**
baz=314
LYN LuoYang 58.27 287 P **P 03 26 05.8 +1.1**
LYN sP pP 03 26 10.4 -0.5
LYN pmax pmax
comp=Z,31nm,1.1s
LYN pmax pmax
comp=Z,340nm,7.2s
LYN LR LR
comp=Z,590nm,13.1s
LYN LR LR
comp=Z,740nm,13.7s
LYN LR LR
comp=Z,960nm,16.3s
ZAA0 Zalesovo Array 58.39 319 P **P 03 26 04.9 -0.3**
ZAA0 IAmb IAmb 03 26 06.1
comp=Z,4.1nm,1.0s
ZALV Zalesovo Beam 58.39 319 P **P 03 26 05.0 -0.2**
comp=Z,2.4nm,0.8s,baz=46,slow=6.2,SNR=9.2
ZALV LR LR 03 52 42.5
comp=Z,238nm,19.1s,baz=36,slow=38
comp=Z,2.4nm,0.8s
ZALV Zalesovo Beam 58.39 319 *i* P **P 03 26 05.4 +0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
LRAL Lakeview Retre 58.42 76 P **P 03 26 05.1 -0.6**
baz=315
TKL Tuckaleechee C 58.46 71 LR LR 03 51 26.7
comp=Z,693nm,19.2s,baz=320,slow=36
LVZ Lovozero 58.75 351 P **P 03 26 07.2 -0.3**
LVZ Lovozero 58.75 351 *de*P **P 03 26 07.4 -0.1**
LVZ pmax pmax
comp=Z,19nm,1.0s
LVZ Lovozero 58.75 351 P **P 03 26 07.6 +0.1**
comp=Z,32nm,1.1s
BLA Blacksburg 59.28 68 P **P 03 26 11.1 -0.6**
baz=315
PKME Peaks-Kenny Pk 59.50 54 P **P 03 26 12.9 -0.1**
baz=315
L61B Northampton 59.78 59 P **P 03 26 15.3 +0.3**
baz=315
SGF Sodankyl 59.84 354 P **P 03 26 15.7 +0.7**
SGF pmax pmax
comp=Z,22nm,1.9s
BORG Borgarnes 59.89 16 LR LR 03 54 37.5
comp=Z,319nm,18.1s,baz=326,slow=39
SSLB Suanglung 60.97 272 P **P 03 26 22.7 -0.8**
GTA Gaotai 61.91 299 *e*P **P 03 26 30.0 +0.3**
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA LR LR
comp=Z,560nm,16.7s
GTA LR LR
comp=Z,930nm,17.8s
GTA LR LR
comp=Z,1μm,17.1s
LZH Lanzhou 62.11 294 *e*P **P 03 26 32.6 +1.5**
LZH pmax pmax
comp=Z,31nm,1.5s
LZH LR LR
comp=Z,680nm,13.4s
LZH LR LR
comp=Z,530nm,14.1s
LZH LR LR
comp=Z,710nm,14.4s
OUL Oulu 62.22 354 P **P 03 26 31.1 0.0**
OUL pmax pmax
comp=Z,15nm,1.1s
NHSC New Hope 62.35 71 P **P 03 26 33.5 +0.9**
baz=317
KURK Kurchatov 63.32 320 P **P 03 26 38.1 -0.6**
KURK Kurchatov 63.32 320 *ce*P **P 03 26 38.6 -0.2**
KURK pmax pmax
comp=Z,14nm,1.3s
KURBB Kurchatov Arra 63.43 320 P **P 03 26 39.4 -0.1**
comp=Z,5.3nm,1.0s,baz=48,slow=7.4,SNR=27
KURBB LR LR 03 55 53.5
comp=Z,713nm,18.6s,baz=132,slow=38
comp=Z,5.3nm,1.0s
JOF Joensuu 63.93 351 *e*P **P 03 26 42.8 +0.2**
SVE Sverdlovsk 64.25 333 *e*P **P 03 26 45.6 +0.8**
SVE pmax pmax
comp=Z,46nm,1.2s
VAF Ylistaro 64.43 355 *e*P **P 03 26 45.6 -0.3**
BVAR Borovoye Array 64.49 326 P **P 03 26 46.8 +0.4**
comp=Z,11nm,0.9s,baz=48,slow=6.6,SNR=38
BVAR LR LR 03 57 51.8
comp=Z,252nm,20.0s,baz=47,slow=39
comp=Z,11nm,0.9s
BRVK Borovoye 64.49 326 P **P 03 26 46.6 +0.2**
BRVK Borovoye 64.49 326 *ce*P **P 03 26 46.7 +0.2**
BRVK pmax pmax
comp=Z,16nm,1.1s
WMQ Urumqi 64.73 310 *e*P **P 03 26 50.6 +2.3**
WMQ LR LR
comp=Z,850nm,15.9s
WMQ LR LR
comp=Z,560nm,19.3s
WMQ LR LR
comp=Z,420nm,19.3s
MK31 Makanchi Array 64.88 315 P **P 03 26 48.2 -0.8**
MK31 IAmb IAmb 03 26 49.7
comp=Z,4.5nm,1.0s
MK31 Makanchi Array 64.88 315 *c i* P **P 03 26 48.3 -0.8**
MKAR Makanchi Array 64.88 315 P **P 03 26 47.9 -1.2**
MKAR Makanchi Array 64.88 315 P **P 03 26 48.2 -0.9**
comp=Z,3.0nm,0.8s,baz=54,slow=7.3,SNR=21
MKAR LR LR 03 56 04.9
comp=Z,599nm,18.4s,baz=38,slow=37
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 64.88 315 *i* P **P 03 26 48.9 -0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 65.00 315 P **P 03 26 49.2 -0.7**
MAKZ IAmb IAmb 03 26 50.6
comp=Z,7.6nm,1.1s
ARU Arti 65.16 334 P **P 03 26 50.3 -0.4**
ARU Arti 65.16 334 *c i* P **P 03 26 50.9 +0.2**
ARU pmax pmax
comp=Z,26nm,1.0s
ARU Arti 65.16 334 P **P 03 26 50.6 -0.1**
comp=Z,29nm,1.1s
KEF Keuruu 65.18 354 *e*P **P 03 26 50.4 -0.3**
KIRV Kirov 65.36 340 *de*P **P 03 26 52.5 +0.6**
FINES FINESS Array B 65.82 353 P **P 03 26 54.9 0.0**
FINES FINESS Array B 65.82 353 P **P 03 26 54.7 -0.2**
comp=Z,6.6nm,0.8s,baz=26,slow=6.8,SNR=19
FINES LR LR 03 58 37.8
comp=Z,293nm,18.1s,baz=26,slow=39
comp=Z,6.6nm,0.8s
FINES FINESS Array B 65.82 353 *i* P **P 03 26 55.0 +0.1**
FINES pmax pmax
comp=Z,7.0nm,0.8s
GULI GuiLin 66.25 281 P **P 03 26 59.6 +1.3**
GULI pmax pmax
comp=Z,10.0nm,1.1s
RAF Rauma 66.49 356 *e*P **P 03 26 59.4 +0.2**
NB2 NORSAR Subarra 66.65 1 P **P 03 27 00.4 +0.1**
comp=Z,13nm,1.1s,baz=360,slow=6.5
NB2 NORSAR Subarra 66.65 1 P **P 03 27 00.3 0.0**
NB2 pmax pmax
comp=Z,5.0nm,1.1s
NOA NORSAR Array B 66.65 1 P **P 03 26 59.9 -0.4**
comp=Z,4.6nm,1.0s,baz=5.3,slow=7.1,SNR=8.0
NOA LR LR 03 58 02.6
comp=Z,209nm,18.2s,baz=350,slow=38
comp=Z,4.6nm,1.0s
GOMU GeErMu 66.94 300 P **P 03 27 03.3 +0.3**
GOMU pP pP 03 27 07.8 -1.6
GOMU sP sP 03 27 12.2 +0.5
GOMU pmax pmax
comp=Z,29nm,0.9s
GOMU LR LR
comp=Z,1μm,16.4s
GOMU LR LR
comp=Z,1μm,17.5s
GOMU LR LR
comp=Z,2μm,17.4s
MEF Metsahovi 67.15 354 *e*P **P 03 27 03.9 +0.5**
AAL Aland 67.41 356 *e*P **P 03 27 05.0 0.0**
HFS Hagfors 67.58 360 P **P 03 27 05.8 -0.3**
comp=Z,4.1nm,0.4s,baz=23,slow=4.7,SNR=45
HFS LR LR 03 57 60.0
comp=Z,185nm,18.9s,baz=8.5,slow=37
comp=Z,4.1nm,0.4s
UPP Uppsala 67.80 358 *e*P **P 03 27 07.2 -0.3**
ARBE Arbavere 67.82 353 *e*P **P 03 27 06.9 -0.7**
KONO Kongsberg 68.02 2 *de*P **P 03 27 10.0 +1.1**
KONO pmax pmax
comp=Z,22nm,1.7s
HNR Honiara 68.17 216 LR LR 03 54 28.9
comp=Z,1μm,18.4s,baz=133,slow=34
MTSE Matsula 68.69 354 *e*P **P 03 27 13.8 +0.7**
VSU Vasula 68.73 353 *de*P **P 03 27 14.2 +0.8**
VSU pmax pmax
comp=Z,26nm,1.3s
PRZ Przheval'sk 69.99 315 P **P 03 27 22.9 +1.2**
PRZ Przheval'sk 69.99 315 P **P 03 27 22.9 +1.2**
PRZ pmax pmax
comp=Z,14nm,0.4s
MOS Moscow 70.16 346 *e*P **P 03 27 21.6 -0.6**
PZH PanZhiHua 70.43 288 P **P 03 27 24.5 0.0**
PZH S **S 03 36 39.1 +3.2**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH LR LR
comp=Z,260nm,18.0s
PZH LR LR
comp=Z,290nm,16.8s
PZH LR LR
comp=Z,210nm,17.1s
AKTO Aktyubinsk 70.63 332 LR LR 04 02 42.8
comp=Z,382nm,18.3s,baz=35,slow=40
KMI Kunming 70.89 286 ⇑P **P 03 27 29.7 +2.2**
KMI pmax pmax
comp=Z,15nm,0.7s
KMI LR LR
comp=Z,320nm,16.5s
OBN Obninsk 70.92 346 P **P 03 27 26.9 0.0**
comp=Z,9.3nm,0.4s,baz=2.0,slow=6.8,SNR=7.9
comp=Z,9.3nm,0.4s
OBN Obninsk 70.92 346 ⇓*i*P **P 03 27 27.2 +0.3**
OBN *e* 03 27 46.6
OBN pmax pmax
comp=Z,43nm,1.7s
OBN MLR MLR
comp=Z,589nm,16.0s
BOOM Boomskoye usch 71.04 316 P **P 03 27 29.0 +0.9**
BOOM IAmb IAmb 03 27 30.3
comp=Z,12nm,1.3s
BOOM Boomskoye usch 71.04 316 P **P 03 27 28.0 -0.1**
BOOM pmax pmax
comp=Z,12nm,1.3s
DAV Davao City (W) 71.09 256 LR LR 03 54 60.0
comp=Z,472nm,21.3s,baz=3.5,slow=33
DEL Delary 71.25 360 *e*P **P 03 27 30.0 +1.2**
PPT2 Papeete2 71.46 163 *e*S **S 03 36 48.9 +1.3**
comp=Z,113nm,23.0s
PPT2 *e*SS **SS 03 41 20.7 -2.4**
comp=Z,80nm,21.2s
PPT2 *e*LR LR 03 49 12.6
comp=Z,310nm,24.5s
PPT2 *e*LR LR 03 49 18.7
comp=Z,375nm,22.2s
BELG Belogornoye 71.50 339 P **P 03 27 30.6 +0.2**
comp=Z,35nm,1.0s,baz=135,slow=1.3,SNR=13
comp=Z,35nm,1.0s
EKA Eskdalemuir Ar 71.51 10 P **P 03 27 31.0 +0.6**
comp=Z,8.1nm,1.1s,baz=338,slow=5.7,SNR=9.6
comp=Z,8.1nm,1.1s
AAK Ala-Archa 71.52 317 LR LR 04 02 18.9
comp=Z,364nm,18.2s,baz=24,slow=39
AAK Ala-Archa 71.52 317 *de*P **P 03 27 32.3 +1.3**
AAK pmax pmax
comp=Z,14nm,1.7s
PABE Paberze 71.87 354 P **P 03 27 32.6 +0.1**
PABE Paberze 71.87 354 *e*P **P 03 27 33.2 +0.6**
MNK Minsk 72.56 351 *i* P **P 03 27 37.4 +0.7**
MNK *i* 03 30 18.5
MNK *i* PPP PPP 03 32 02.9
MNK *i* S **S 03 37 00.9 +1.5**
MNK *i* SS **SS 03 41 39.5 +2.4**
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=N,18nm,1.2s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK MLR MLR
comp=E,150nm,17.0s
MNK MLR MLR
comp=N,536nm,18.0s
MNK MLR MLR
comp=Z,613nm,17.0s
KKAR Karatay Array 72.74 320 P **P 03 27 38.3 +0.3**
LPSR Galich'ya Gora 72.98 344 *e*P **P 03 27 37.0 -2.3**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
PMG Port Moresby 73.37 228 LR LR 03 53 52.6
comp=Z,198nm,21.5s,baz=14,slow=31
SUW Suwalki 73.41 354 *e*P **P 03 27 42.0 +0.2**
SUW Suwalki 73.41 354 *e*P **P 03 27 42.6 +0.8**
KSH Kashi 73.47 314 P **P 03 27 46.6 +4.0**
KSH pmax pmax
comp=Z,20nm,1.4s
KSH LR LR
comp=Z,770nm,16.5s
KSH LR LR
comp=Z,660nm,16.1s
KSH LR LR
comp=Z,810nm,16.5s
RAR Rarotonga 73.77 173 LR LR 03 51 32.8
comp=Z,152nm,20.4s,baz=318,slow=29
VRH Novokhopyorsk 73.83 342 *e*P **P 03 27 43.7 -0.6**
VRH pmax pmax
comp=Z,8.0nm,0.5s
VORR Voronezh 73.83 344 *e*P **P 03 27 45.2 +0.9**
VORR pmax pmax
comp=Z,65nm,0.4s
VSR Storozhevoye 74.28 344 *e*P **P 03 27 43.4 -3.5**
VSR pmax pmax
comp=Z,10.0nm,1.1s
RNPP9 Sopachiv 75.80 352 P **P 03 27 56.1 +0.4**
RNPP8 Varash 75.87 352 P **P 03 27 56.3 +0.2**
RNPP5 Staryi Chortor 75.98 352 P **P 03 27 56.9 +0.2**
AK21 Malin Array Si 76.12 350 P **P 03 27 57.7 +0.2**
AK23 Malin Array Si 76.13 350 P **P 03 27 57.7 +0.1**
AK22 Malin Array Si 76.14 350 P **P 03 27 57.5 -0.1**
BUG Bochum--Üniver 76.16 4 P **P 03 27 58.6 +0.9**
BUG pmax pmax
comp=Z,11nm,1.0s
AKASG Malin Array Be 76.18 350 P **P 03 27 57.5 -0.4**
comp=Z,16nm,1.0s,baz=13,slow=5.6,SNR=32
comp=Z,16nm,1.0s
AKASG Malin Array Be 76.18 350 *i* P **P 03 27 57.7 -0.2**
AKASG pmax pmax
comp=Z,16nm,1.0s
AKBB Malin Array Si 76.18 350 P **P 03 27 56.9 -1.0**
AKBB Malin Array Si 76.18 350 P **P 03 27 57.6 -0.3**
KIEV Kiev 76.19 350 P **P 03 27 57.3 -0.6**
KIEV Kiev 76.19 350 P **P 03 27 57.3 -0.6**
KIEV pmax pmax
comp=Z,21nm,1.0s
KIEV Kiev 76.19 350 P **P 03 27 57.6 -0.3**
comp=Z,80nm,1.2s
MI30 MI30,Zelenitsa 76.24 350 P **P 03 27 58.0 -0.2**
CLL Collm 76.42 0 IAmb IAmb 03 28 01.3
comp=Z,17nm,1.5s
CLL Collm 76.42 0 *i* P **P 03 28 00.0 +0.8**
comp=Z,13nm,1.4s
CLL *es*P **pwP 03 28 14.0 +2.9**
CLL *e*SS SS 03 42 42.0 +6.1
CLL AMS AMS 04 06 00.0
comp=N,300nm,18.4s
CLL AMS AMS 04 06 00.0
comp=E,200nm,18.2s
CLL AMS AMS 04 06 00.0
comp=Z,400nm,18.1s
CLL Collm 76.42 0 *i* P **P 03 28 00.0 +0.8**
CLL *e* 03 28 14.0
CLL pmax pmax
comp=Z,13nm,1.4s
CLL MLR MLR
comp=Z,400nm,18.1s
CLL Collm 76.42 0 P **P 03 27 59.4 +0.2**
comp=Z,7.6nm,2.1s
BRG Berggiesshubel 76.86 360 *e*P **P 03 28 03.1 +1.4**
BRG Amp 03 28 04.1
comp=Z,9.2nm,1.2s
BRG Berggiesshubel 76.86 360 *e*P **P 03 28 03.1 +1.4**
BRG 03 28 12.5
BRG pmax pmax
comp=Z,9.0nm,1.2s
KSP Ksiaz 76.86 358 *e*P **P 03 28 02.8 +1.1**
MEM Membach 76.93 5 P **P 03 28 00.3 -1.8**
MEM pmax pmax
comp=Z,9.0nm,1.3s
MOX Moxa 77.07 1 P **P 03 28 04.1 +1.1**
MOX pmax pmax
comp=Z,5.0nm,1.4s
BCLA Clavier 77.08 5 *d*P **P 03 28 03.5 +0.6**
LUBAR Lubar, Ukraine 77.10 351 P **P 03 28 02.7 -0.4**
LUBAR pP **sP 03 28 13.1 +1.2**
TBI Tubuai 77.11 164 *e*LR LR 03 51 56.6
comp=Z,2μm,26.0s
SIMJ Simiganj 77.11 319 P **P 03 28 03.4 -0.2**
CHVC Chvalec 77.12 358 *e*P **P 03 28 04.7 +1.4**
CHVC AMS AMS 04 12 10.0
comp=Z,300nm,16.3s
CHVC Chvalec 77.12 358 *e*P **P 03 28 04.7 +1.4**
CHVC MLR MLR
comp=Z,300nm,16.3s
HSKC Hora Svate Kat 77.12 0 *e*P **P 03 28 04.2 +0.9**
HSKC *ep*P **sP 03 28 13.4 +1.3**
HSKC AMS AMS 04 05 50.0
comp=Z,200nm,14.9s
OSTC Ostas 77.15 358 *e*P **P 03 28 04.4 +1.0**
OSTC AMS AMS 04 12 20.0
comp=Z,300nm,18.0s
OSTC Ostas 77.15 358 *e*P **P 03 28 04.4 +1.0**
OSTC MLR MLR
comp=Z,300nm,18.0s
BMRD Maredsous 77.16 6 *d*P **P 03 28 04.6 +1.2**
RICC Richard 77.19 360 *e*P **P 03 28 05.4 +1.8**
PVCC Panska Ves 77.20 359 *e*P **P 03 28 04.6 +0.9**
PVCC *ep*P **PcP 03 28 14.8 +0.5**
PVCC AMS AMS 04 10 40.0
comp=Z,300nm,18.2s
PVCC Panska Ves 77.20 359 *e*P **P 03 28 04.6 +0.9**
PVCC *e* 03 28 14.8
PVCC MLR MLR
comp=Z,300nm,18.2s
UPC Upice 77.20 358 *e*P **P 03 28 04.5 +0.8**
UPC AMS AMS 04 12 30.0
comp=Z,400nm,15.8s
UPC Upice 77.20 358 *e*P **P 03 28 04.5 +0.8**
UPC MLR MLR
comp=Z,400nm,15.8s
DPC Dobruska-Polom 77.35 358 *e*P **P 03 28 05.8 +1.2**
DPC *ep*P **PcP 03 28 15.6 +0.5**
DPC AMS AMS 04 12 30.0
comp=Z,300nm,18.4s
DPC Dobruska-Polom 77.35 358 *e*P **P 03 28 05.8 +1.2**
DPC *e* 03 28 15.6
DPC MLR MLR
comp=Z,300nm,18.4s
DPC Dobruska-Polom 77.35 358 P **P 03 28 05.8 +1.2**
comp=Z,11nm,1.3s
DOU Dourbes 77.36 6 *d*P **P 03 28 05.0 +0.5**
OJC Ojcow 77.38 356 *e*P **P 03 28 05.5 +0.9**
OJC Ojcow 77.38 356 P **P 03 28 05.7 +1.0**
OJC pmax pmax
comp=Z,12nm,1.4s
OJC Ojcow 77.38 356 P **P 03 28 05.5 +0.9**
comp=Z,12nm,1.4s
LVV L'vov 77.53 353 *e*P **P 03 28 06.2 +0.7**
LVV MLR MLR
comp=Z,300nm,18.0s
KRLC Kraliky 77.62 358 *e*P **P 03 28 07.1 +1.0**
KRLC *ex* x 03 28 16.7
KRLC AMS AMS 04 08 20.0
comp=Z,300nm,19.4s
KRLC Kraliky 77.62 358 *e*P **P 03 28 07.1 +1.0**
KRLC *e* 03 28 16.7
KRLC MLR MLR
comp=Z,300nm,19.4s
PRA Prague 77.66 359 *e*P **P 03 28 07.4 +1.2**
PRA AMS AMS 04 11 10.0
comp=Z,300nm,15.7s
PRA Prague 77.66 359 *e*P **P 03 28 07.4 +1.2**
PRA MLR MLR
comp=Z,300nm,15.7s
PRU Pruhonice 77.74 359 *e*P **P 03 28 07.8 +1.1**
PRU AMS AMS 04 11 20.0
comp=Z,300nm,18.1s
PRU Pruhonice 77.74 359 *e*P **P 03 28 07.8 +1.1**
PRU MLR MLR
comp=Z,300nm,18.1s
KWP Kalwaria Pacla 77.80 354 *e*P **P 03 28 09.7 +2.6**
KWP Kalwaria Pacla 77.80 354 P **P 03 28 06.9 -0.2**
KWP Kalwaria Pacla 77.80 354 P **P 03 28 09.3 +2.2**
KWP pmax pmax
comp=Z,51nm,1.3s
GOPC GO Pecny, Ondr 77.81 359 *e*P **P 03 28 08.8 +1.7**
GOPC AMS AMS 04 13 00.0
comp=Z,300nm,16.6s
GOPC GO Pecny, Ondr 77.81 359 *e*P **P 03 28 08.8 +1.7**
GOPC MLR MLR
comp=Z,300nm,16.6s
OKC Ostrava-Krasne 77.82 357 *e*P **P 03 28 08.3 +1.2**
OKC AMS AMS 04 11 00.0
comp=Z,300nm,16.6s
OKC Ostrava-Krasne 77.82 357 *e*P **P 03 28 08.3 +1.2**
OKC MLR MLR
comp=Z,300nm,16.6s
WLF Walferdange 77.88 5 *d*P **P 03 28 08.9 +1.5**
MORC Moravsky Berou 77.90 357 *e*P **P 03 28 08.3 +0.7**

MORC	Moravsky Berou	77.90	357	P	P	03 28 09.3 +1.7
MORC				pmax	pmax	
	comp=Z,10.0nm,1.5s					
GRFO	Grafenberg	78.02	2	P	P	03 28 08.4 +0.1
GRFO	Grafenberg	78.02	2	P	P	03 28 08.4 +0.1
GRFO				pmax	pmax	
	comp=Z,22nm,1.4s					
DZM	Mont Dzumac	78.05	206	*e*LR	LR	03 52 21.5
	comp=Z,387nm,23.1s					
DZM	Mont Dzumac	78.05	206	LR	LR	03 57 03.3
	comp=Z,226nm,18.9s,baz=32,slow=31					
NIE	Niedzica	78.15	355	*e*P	P	03 28 11.0 +2.0
NIE	Niedzica	78.15	355	P	P	03 28 11.1 +2.0
NIE	Niedzica	78.15	355	P	P	03 28 11.1 +2.0
	comp=Z,5.5nm,1.3s					
CMAR	Chiang Mai Arr	78.27	285	P	P	03 28 09.8 -0.3
CMAR	Chiang Mai Arr	78.27	285	LR	LR	04 07 05.1
	comp=Z,140nm,18.1s,baz=20,slow=39					
CMAR	Chiang Mai Arr	78.27	285	P	P	03 28 09.8 -0.3
ZVC	Zvikov	78.29	360	*e*P	P	03 28 10.9 +1.1
ZVC				*e*pP	PcP	03 28 18.8 -0.3
ZVC				AMS	AMS	04 11 30.0
	comp=Z,300nm,13.2s					
VRAC	Vranov	78.39	358	*e*P	P	03 28 11.4 +1.1
VRAC	Vranov	78.39	358	P	P	03 28 10.4 +0.1
	comp=Z,12nm,1.2s,baz=3.6,slow=5.4,SNR=14					
VRAC				LR	LR	04 03 19.8
	comp=Z,156nm,19.9s,baz=14,slow=36					
	comp=Z,12nm,1.2s					
TREC	Trest	78.42	359	*e*P	P	03 28 11.5 +1.0
TREC				AMS	AMS	04 13 00.0
	comp=Z,300nm,16.4s					
TREC	Trest	78.42	359	*e*P	P	03 28 11.5 +1.0
TREC				MLR	MLR	
	comp=Z,300nm,16.4s					
LANS	Liptovska Anna	78.46	356	*e*P	P	03 28 09.4 -1.3
LANS				pmax	pmax	
	comp=Z,20nm,1.1s					
LANS	Liptovska Anna	78.46	356	*e*P	P	03 28 09.4 -1.3
KOLS	Kolonicke sedl	78.53	354	*e*P	P	03 28 12.5 +1.4
KOLS				pmax	pmax	
	comp=Z,9.0nm,1.1s					
KOLS	Kolonicke sedl	78.53	354	*e*P	P	03 28 12.5 +1.4
KMPD	K-Podol'skiy	78.57	351	P	P	03 28 10.8 -0.5
KMPD				pP	PcP	03 28 20.6 +0.3
KHC	Kasperske Hory	78.60	360	*e*P	P	03 28 12.9 +1.4
KHC				*ex*	x	03 28 22.5
KHC				AMS	AMS	04 08 00.0
	comp=Z,300nm,17.8s					
KHC	Kasperske Hory	78.60	360	*e*P	P	03 28 12.9 +1.4
KHC				*e*		03 28 22.5
KHC				MLR	MLR	
	comp=Z,300nm,17.8s					
KHC	Kasperske Hory	78.60	360	P	P	03 28 12.7 +1.2
	comp=Z,9.2nm,1.4s					
CRVS	Cervenica-Dubn	78.61	355	*e*P	P	03 28 13.2 +1.7
CRVS				pmax	pmax	
	comp=Z,30nm,1.5s					
CRVS	Cervenica-Dubn	78.61	355	*e*P	P	03 28 13.2 +1.7
KRUC	Moravsky	78.64	358	*e*P	P	03 28 12.4 +0.7
SORM	Soroca	78.81	350	P	P	03 28 12.2 -0.4
SORM	Soroca	78.81	350	P	P	03 28 12.2 -0.4
	comp=Z,14nm,1.2s					
JAVC	Velka Javorina	78.81	357	*e*P	P	03 28 14.7 +2.0
GEC2	GERESS Array S	78.89	360	IAmb	IAmb	03 28 25.2
	comp=Z,8.3nm,1.4s					
GERES	GERESS Array B	78.89	360	P	P	03 28 13.3 +0.2
GERES	GERESS Array B	78.89	360	P	P	03 28 12.9 -0.3
	comp=Z,0.6nm,0.6s,baz=25,slow=7.5,SNR=6.9					
	comp=Z,0.6nm,0.6s					
CKRC	Cesky Krumlov	78.91	359	*e*P	P	03 28 14.0 +0.8
CKRC				*e*pP	sP	03 28 22.9 +0.8
CKRC				AMS	AMS	04 13 40.0
	comp=Z,300nm,16.4s					
CKRC	Cesky Krumlov	78.91	359	*e*P	P	03 28 14.0 +0.8
CKRC				*e*		03 28 22.9
CKRC				MLR	MLR	
	comp=Z,300nm,16.4s					
KECS	Kecovo	79.08	355	*e*P	P	03 28 16.0 +1.9
KECS	Kecovo	79.08	355	*e*P	P	03 28 16.0 +1.9
VYHS	Vyhne	79.14	356	*e*P	P	03 28 16.1 +1.6
VYHS				pmax	pmax	
	comp=Z,24nm,1.3s					
VYHS	Vyhne	79.14	356	*e*P	P	03 28 16.1 +1.6
SMOL	Smolenice	79.17	357	*e*P	P	03 28 16.5 +1.9
BFO	Black Forest	79.31	4	P	P	03 28 15.6 +0.2
BFO				IAmb	IAmb	03 28 17.1
	comp=Z,6.9nm,1.2s					
BFO	Black Forest	79.31	4	P	P	03 28 15.6 +0.2
BFO				pmax	pmax	
	comp=Z,7.0nm,1.2s					
MODS	Modra-Piesok	79.31	357	*e*P	P	03 28 17.4 +2.0
MODS				pmax	pmax	
	comp=Z,51nm,1.3s					
MODS	Modra-Piesok	79.31	357	*e*P	P	03 28 17.4 +2.0
ECH	Echery	79.37	4	IAmb	IAmb	03 28 18.2
	comp=Z,10nm,1.5s					
ECH	Echery	79.37	4	P	P	03 28 16.5 +0.7
GOF	Gofitskoye	79.42	339	*e*P	P	03 28 17.5 +1.4
ZST	Bratislava	79.49	358	*e*P	P	03 28 18.6 +2.2
ZST	Bratislava	79.49	358	*e*P	P	03 28 18.6 +2.2
NIL	Nilore	79.56	313	P	P	03 28 17.8 +0.7
NIL	Nilore	79.56	313	P	P	03 28 17.8 +0.7
NIL				pmax	pmax	
	comp=Z,29nm,1.0s					
BUR08	Bucovina Ar. S	79.59	352	IAmb	IAmb	03 28 19.1
	comp=Z,9.2nm,1.2s					
BURAR	Bucovina Array	79.62	352	P	P	03 28 16.8 -0.4
BURAR				IAmb	IAmb	03 28 19.5
	comp=Z,6.5nm,1.1s					
BURAR	Bucovina Array	79.62	352	P	P	03 28 16.8 -0.4
BURAR				pmax	pmax	
	comp=Z,6.0nm,1.1s					
CONA	Conrad Observa	79.79	358	*i* pP	P	03 28 20.3 +2.2
	comp=Z,11nm,1.3s,SNR=9.3					
SRO	Srobarova	79.84	357	*e*P	P	03 28 20.5 +2.3
SRO				pmax	pmax	
	comp=Z,12nm,1.1s					
SRO	Srobarova	79.84	357	*e*P	P	03 28 20.5 +2.3
MAK	Makhachkala	80.36	335	*e*P	P	03 28 18.4 -2.7
MAK				*e*		03 31 20.2
MAK				*e*PPP	PPP	03 33 13.2
MAK				*e*S	S	03 38 20.1 -5.0
MAK				*e*SS	SS	03 43 36.3 +1.0
MAK				*e*SSS	SSS	03 47 00.7
MAK				pmax	pmax	
	comp=Z,62nm,1.3s					
SQTA	Sankt Quirin	80.50	2	*i* pP	P	03 28 23.9 +2.0
	comp=Z,20nm,1.6s,SNR=6.3					
MPLH	Magyarpolny	80.50	357	P	P	03 28 23.6 +1.7
	comp=Z,43nm,1.6s					
KVAR	Kislovodsk Arr	80.55	339	P	P	03 28 24.2 +1.9
	comp=Z,4.3nm,0.9s,baz=261,slow=23,SNR=9.5					
KVAR				LR	LR	04 09 16.5
	comp=Z,155nm,18.8s,baz=275,slow=40					
	comp=Z,4.3nm,0.9s					
KIV	Kislovodsk	80.55	339	P	P	03 28 23.3 +1.0
KIV	Kislovodsk	80.55	339	*e*P	P	03 28 22.8 +0.5
KIV				pmax	pmax	
	comp=Z,22nm,1.1s					
KIV	Kislovodsk	80.55	339	P	P	03 28 23.1 +0.8
	comp=Z,19nm,1.2s,comp=Z,283nm					
KBL	Kabul	80.63	316	P	P	03 28 22.0 -1.1
KBL	Kabul	80.63	316	P	P	03 28 21.0 -2.0
KBL				pmax	pmax	
	comp=Z,18nm,1.1s					
KBA	Koelnbreinsper	80.66	0	*i* pP	P	03 28 25.4 +2.5
	comp=Z,18nm,1.0s,SNR=6.2					
KBA	Koelnbreinsper	80.66	0	P	P	03 28 24.4 +1.5
KBZ	Khabaz	80.72	339	P	P	03 28 24.7 +1.7
	comp=Z,14nm,0.9s,baz=334,slow=3.8,SNR=16					
KBZ				LR	LR	04 08 59.9
	comp=Z,222nm,18.8s,baz=34,slow=39					
	comp=Z,14nm,0.9s					
SOKA	Soboth	81.05	359	*i* pP	P	03 28 27.0 +2.1
	comp=Z,13nm,1.2s,SNR=11					
FUORN	Ofenpass-Fuorn	81.08	2	P	P	03 28 26.0 +0.7
FUORN				IAmb	IAmb	03 28 54.8
	comp=Z,8.8nm,1.2s					
TUE	Stuetta	81.20	3	P	P	03 28 27.5 +1.7
	comp=Z,27nm,1.2s					
PRED	Cave del Predi	81.29	360	IAmb	IAmb	03 28 37.4
	comp=Z,11nm,1.0s					
MORH	Mrgy, Hungar	81.42	356	P	P	03 28 28.4 +1.7
	comp=Z,4.1nm,1.5s					
SOC	Sochi	81.52	341	*e*P	P	03 28 28.1 +0.8
SOC				*e*		03 31 31.3
SOC				*e*PPP	PPP	03 33 27.0
SOC				*e*S	SKSac	03 38 39.7 -5.5
SOC				*e*SSS	SSS	03 47 20.8
SOC				pmax	pmax	
	comp=Z,13nm,0.8s					
MLR	Muntele Rosu	81.66	351	LR	LR	04 10 11.1
	comp=Z,478nm,18.1s,baz=31,slow=40					
CTI	Castel Tesino	81.67	1	IAmb	IAmb	03 28 31.1
	comp=Z,5.9nm,1.0s					
ONI	Oni	81.68	338	P	P	03 28 28.4 +0.2
ONI				IAmb	IAmb	03 28 42.8
	comp=Z,10nm,1.2s					
ONI	Oni	81.68	338	P	P	03 28 28.5 +0.2
ONI				pmax	pmax	
	comp=Z,10.0nm,1.2s					
VOIR		81.80	352	P	P	03 28 30.5 +1.6
VOIR		81.80	352	P	P	03 28 30.5 +1.6
	comp=Z,3.7nm,1.5s					
SEKA	Sheki	82.08	335	P	P	03 28 29.5 -0.9
RAO	Raoul Island	82.16	190	LR	LR	03 59 09.4
	comp=Z,152nm,19.8s,baz=340,slow=31					
BNI	Bardonecchia	82.51	5	IAmb	IAmb	03 28 46.8
	comp=Z,11nm,1.1s					
MNGR	Mingechevir, A	82.52	335	P	P	03 28 32.0 -0.6
GANJ	Ganja	82.83	335	P	P	03 28 33.7 -0.6
CTA	Charters Tower	83.23	224	LR	LR	03 59 02.9
	comp=Z,8.5nm,21.3s,baz=68,slow=31					
HRA	Herat	83.49	321	P	P	03 28 37.8 -0.3
GNI	Garni	83.69	336	P	P	03 28 39.9 +1.0
	comp=Z,4.3nm,0.5s,baz=76,slow=12,SNR=3.6					
GNI				LR	LR	04 11 51.9
	comp=Z,222nm,18.6s,baz=28,slow=40					
	comp=Z,4.3nm,0.5s					
LKRN	Lenkeran, Azer	84.00	333	P	P	03 28 39.8 -0.5
OSSC	Osservatorio P	84.19	2	IAmb	IAmb	03 28 44.6
	comp=Z,7.4nm,0.9s					
KAPI	Kappang	84.21	254	LR	LR	04 01 09.4
	comp=Z,71nm,21.4s,baz=56,slow=32					
NAX	Nakhchivan	84.43	336	P	P	03 28 41.9 -0.7
CEST	Esterri de Car	84.55	9	IAmb	IAmb	03 28 56.7
	comp=Z,12nm,1.1s					
ANTO	Ankara	86.36	345	P	P	03 28 53.6 +1.4
ANTO	Ankara	86.36	345	P	P	03 28 53.6 +1.4
ANTO				pmax	pmax	
	comp=Z,10.0nm,0.9s					
BR106	Keskin Array S	86.36	345	P	P	03 28 53.6 +1.3
	comp=Z,5.3nm,1.0s,comp=Z,48nm					
BR131	Keskin Array S	86.36	345	IAmb	IAmb	03 28 54.9
	comp=Z,7.2nm,1.0s					
BR131	Keskin Array S	86.36	345	*c*e*P	P	03 28 53.4 +1.1
BRTR	Keskin Array B	86.36	345	P	P	03 28 53.2 +0.9
	comp=Z,3.9nm,0.9s,baz=347,slow=1.5,SNR=23					
	comp=Z,3.9nm,0.9s					
BR105	Keskin Array S	86.37	345	P	P	03 28 53.7 +1.3
	comp=Z,5.3nm,1.1s,comp=Z,51nm					
BR104	Keskin Array S	86.38	345	P	P	03 28 53.8 +1.4
ESDC	Sonseca Array	86.81	13	P	P	03 28 54.4 0.0
	comp=Z,1.1nm,1.1s,baz=3.8,slow=3.9,SNR=5.4					
ESDC				pP	PP	03 32 15.8 -0.2
	comp=Z,1.2nm,1.2s,baz=354,slow=10,SNR=4.5					
ESDC				LR	LR	04 10 13.6
	comp=Z,286nm,18.0s,baz=1.0,slow=37					
	comp=Z,1.1nm,1.1s					
WRAB	Tennant Creek	88.56	234‖	*e*P	P	03 29 02.4 -0.4
WRAB				pmax	pmax	
	comp=Z,11nm,0.9s					
WRA	Warramunga Arr	88.57	234	P	P	03 29 02.1 -0.7
	comp=Z,1.0nm,1.0s,baz=40,slow=5.4,SNR=3.4					
WRA				LR	LR	04 02 44.0
	comp=Z,115nm,21.2s,baz=316,slow=32					
	comp=Z,1.0nm,1.0s					
PCRV	Puerto La Cruz	89.08	74	LR	LR	04 07 39.7
	comp=Z,308nm,20.9s,slow=35					
URZ	Urewera	91.65	193	LR	LR	04 08 12.5
	comp=Z,90nm,18.0s,baz=112,slow=34					
ASAR	Alice Springs	91.94	232	P	P	03 29 18.5 0.0
	comp=Z,1.3nm,0.9s,baz=40,slow=4.8,SNR=6.6					
ASAR				LR	LR	04 04 50.8
	comp=Z,172nm,21.7s,baz=33,slow=32					
	comp=Z,1.3nm,0.9s					
MMAI	Mount Meron Ar	92.58	342	P	P	03 29 22.1 +0.5
	comp=Z,1.9nm,0.8s,baz=314,slow=8.7,SNR=4.2					
MMAI				LR	LR	04 19 20.3
	comp=Z,110nm,18.3s,baz=338,slow=41					
	comp=Z,1.9nm,0.8s					
MDT	Midelt	93.44	15	LR	LR	04 18 20.0
	comp=Z,118nm,18.1s,baz=344,slow=40					
RPN	Rapa Nui	93.73	131	LR	LR	04 06 39.8
	comp=Z,76nm,18.2s,baz=338,slow=32					
WSAR	Wadi Sarin	94.84	319	LR	LR	04 17 23.9
	comp=Z,162nm,18.2s,baz=46,slow=39					
STKA	Stephens Creek	95.56	222	LR	LR	04 07 25.6
	comp=Z,123nm,20.9s,baz=25,slow=32					
EIL	Elat	95.92	341	LR	LR	04 21 15.7
	comp=Z,133nm,18.1s,baz=61,slow=41					
PALK	Pallekele	97.74	293	LR	LR	04 18 36.8
	comp=Z,96nm,20.4s,baz=124,slow=38					
RPZ	Rata Peaks	97.92	196	LR	LR	04 13 29.4
	comp=Z,135nm,18.1s,baz=132,slow=35					
PLCA	Paso Flores	124.28	114	PKP	PKPdf	03 35 07.5 -0.8
	comp=Z,1.7nm,1.0s,baz=297,slow=6.8,SNR=3.4					
MAW	Mawson	152.19	219	PKPbc	PKPbc	03 36 04.0 -0.1
	comp=Z,4.9nm,0.9s,baz=95,slow=3.6,SNR=14					
BOSA	Boshof	154.46	335	PKPab	PKPab	03 36 25.9 +1.0
	comp=Z,3.1nm,0.9s,baz=349,slow=6.2,SNR=4.2					
VNA3	Neumayer Olymp	158.66	160	⇑PKPdf	PKPdf	03 36 01.9 -4.2
	comp=Z,1.3nm,0.8s					
VNA2	Neumayer--Watz	159.38	161	⇑PKPdf	PKPdf	03 36 04.6 -2.3
	comp=Z,1.9nm,0.8s,baz=266,slow=3.7					
ELIB	Princess Elisa	160.15	189	*d*PKP	PKPab	03 36 41.4 -6.9

*ISK **09** 03:29:54.6, 38.71N×26.71E, h16km, ML3.4/28*
*ATH **09** 03:29:55.4, 38.19N×26.75E, h8km±2km, ML3.6/6, Error ellipse: s-maj=3.3km s-min=0.8km az=239.0*
*AFAD **09** 03:29:55.8±0.0, 38.18N×26.73E, h8km, MW3.5*
*THE **09** 03:29:55.2, 38.16N×26.69E, h3km±1km, ML3.4/8, Error ellipse: s-maj=1.0km s-min=0.3km az=229.0*

ISC 09 03:29:55.4±0.8, 38.18N±0.02×26.73E±0.02, h13km±5km, n102, σ0.60/132, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	zmir	0.17	135	P	Pg	03 29 59.3	0.0
DGB				S	Sg	03 30 01.6	-0.5
GMLD	Gumuldur	0.18	124	Pg	Pg	03 29 59.5	+0.1
GMLD				Sg	Sg	03 30 02.5	+0.3
ZEYE	Izmir, Urla-Ze	0.19	289	P	Pg	03 29 59.5	-0.1
ZEYE				S	Sg	03 30 02.4	-0.1
URLA	Izmir	0.21	330	Pg	Pg	03 29 59.8	-0.2
URLA				Sg	Sg	03 30 03.4	+0.2
URLA	Izmir	0.21	330	P	Pg	03 29 59.9	-0.2
URLA				S	Sg	03 30 02.9	-0.3
CESE	eme	0.37	295	Pg	Pg	03 30 02.1	-0.7
SMG	Samos	0.47	170	P	Pg	03 30 04.7	0.0
SMG				S	Sg	03 30 11.6	+0.5
	12μm,0.2s						
SMG	Samos	0.47	170	P	Pg	03 30 04.7	0.0
SMG				S	Sg	03 30 11.6	+0.5
SMG				AML	AML	03 30 12.3	
	comp=N,27541μm,0.2s						
SMG				AML	AML	03 30 12.5	
	comp=E,21033μm,0.3s						
FOCM	Foa	0.54	0	Pg	Pg	03 30 05.2	-0.7
KARB	zmir-Karabur	0.55	333	P	Pg	03 30 05.6	-0.5
KARB				S	Sg	03 30 13.3	0.0
CHOS	Chios island	0.57	292	Pg	Pg	03 30 05.7	-0.8
CHOS				Sg	Sg	03 30 14.7	+0.6
CHOS	Chios island	0.57	292	P	Pg	03 30 05.7	-0.8
CHOS				S	Sg	03 30 14.2	+0.1
	comp=E,5μm,0.3s						
CHOS	Chios island	0.57	292	P	Pg	03 30 05.7	-0.8
CHOS				S	Sg	03 30 14.3	+0.2
CHOS				AML	AML	03 30 14.9	
	comp=E,11250μm,0.4s						
CHOS				AML	AML	03 30 15.3	
	comp=N,9910μm,0.3s						
EAG2	Marmaro, Chios	0.61	307	P	Pg	03 30 07.1	-0.2
EAG2				S	Sg	03 30 15.7	+0.3
EAG2				AML	AML	03 30 17.2	
	comp=E,54525μm,0.4s						
EAG2				AML	AML	03 30 20.7	
	comp=N,53152μm,0.3s						
GCAM	G?zelcaml?	0.62	140	Pg	Pg	03 30 07.6	+0.1
GCAM	G?zelcaml?	0.62	140	P	Pg	03 30 07.6	+0.1
CAND	Candarli	0.78	4	Pg	Pg	03 30 09.9	-0.6
IZMD	zmir-Dikili-	0.82	11	P	Pg	03 30 10.6	-0.7
IZMD				S	Sg	03 30 22.3	+0.2
DDIM	Aydin, Didim	0.82	150	P	Pg	03 30 11.3	0.0
ZEDA	zmir-Bergama	0.83	19	P	Pg	03 30 10.6	-0.9
DKL	Dikili	0.90	9	Pg	Pg	03 30 12.5	-0.4
AYDB	Zeytinkoy-Aydi	0.95	104	Pg	Pg	03 30 13.5	-0.2
IZMR	zmir-demi	0.97	92	P	Pg	03 30 13.4	-0.6
IZMR				S	Sg	03 30 24.9	-1.7
PSRA	Psara	0.98	292	P	Pb	03 30 14.9	+0.6
PSRA				S	Sb	03 30 28.1	+0.8
PSRA				AML	AML	03 30 30.8	
	comp=N,4772μm,0.2s						
PSRA				AML	AML	03 30 30.9	
	comp=E,4908μm,0.2s						
ODEM	Odemis-Izmir	1.06	84	Pn	Pg	03 30 15.7	-0.2
GOMA	Golmarmara-Man	1.07	60	Pn	Pg	03 30 15.5	-0.6
AKHS	Akhisar	1.10	50	P	Pg	03 30 16.4	-0.3
AKHS				S	Sg	03 30 30.7	-0.3
AKS	Akhisar	1.10	50	Pn	Pg	03 30 15.9	-0.7
PRK	Paraskevi	1.13	342	P	Pg	03 30 16.1	-0.9
PRK				S	Sn	03 30 32.6	+0.3
	comp=E,3μm,0.6s						
PRK	Paraskevi	1.13	342	P	Pg	03 30 16.2	-0.9
PRK				S	Sn	03 30 32.5	+0.3
PRK				AML	AML	03 30 34.0	
	comp=N,5791μm,0.4s						
PRK				AML	AML	03 30 36.2	
	comp=E,4215μm,0.5s						
AYVA	Ayvalik	1.13	359	P	Pg	03 30 15.9	-1.2
YKAV	Yalikavak-Bodr	1.14	157	Pn	Pg	03 30 16.9	-0.4
SOMA	Soma-Manisa	1.16	33	Pn	Pb	03 30 17.1	-0.3
BODT	Bodrum	1.21	157	Pn	Pb	03 30 17.5	-0.6
BODT	Bodrum	1.21	157	P	Pb	03 30 17.4	-0.6
BODT				S	Sn	03 30 34.9	+0.7
MLSB	Milas	1.21	136	Pn	Pb	03 30 17.6	-0.6
KLNA	Kalymnos	1.23	171	P	Pn	03 30 17.8	-0.5
KLNA				S	Sb	03 30 35.0	+0.7
SIGR	SIGRI	1.24	327	Pn	Pn	03 30 17.9	-0.5
SIGR	SIGRI	1.24	327	P	Pn	03 30 17.9	-0.5
SIGR				S	Sn	03 30 35.8	+0.8
	comp=E,2μm,0.5s						
SIGR	SIGRI	1.24	327	P	Pn	03 30 17.9	-0.5
SIGR				S	Sb	03 30 34.4	-0.1
SIGR				AML	AML	03 30 38.8	
	comp=E,4091μm,0.5s						
SIGR				AML	AML	03 30 39.3	
	comp=N,4898μm,0.6s						
BDRM	Kayabasi	1.25	153	P	Pn	03 30 17.9	-0.7
NAZL	Nazilli-Aydin	1.25	99	Pn	Pn	03 30 18.5	-0.1
KIRA	zmir-Kiraz	1.32	89	P	Pn	03 30 19.4	-0.2
ESEN	Aydn-Nazilli	1.33	106	P	Pn	03 30 19.3	-0.4
BUHA	Balikesir, Bur	1.35	12	P	Pn	03 30 19.4	-0.5
GPNR	Gulpinar-Canak	1.36	340	Pn	Pn	03 30 19.6	-0.5
KOCA	Canakkale, Ayv	1.40	341	P	Pn	03 30 20.2	-0.5
STEP	BALIKESIR_Sava	1.43	33	P	Pn	03 30 21.2	+0.2
APE	Apeiranthos	1.46	221	Pn	Pn	03 30 19.9	-1.6
APE	Apeiranthos	1.46	221	P	Pn	03 30 20.2	-1.3
APE				S	Sn	03 30 40.4	-0.1
	comp=N,538nm,0.2s						
APE	Apeiranthos	1.46	221	P	Pn	03 30 19.5	-2.0
MANT	Manisa	1.47	77	P	Pb	03 30 23.0	+0.2
MANT				S	Sn	03 30 40.5	-0.6
KULA	Kula-Manisa	1.56	77	Pn	Pn	03 30 22.7	-0.2
KULA				Sn	Sn	03 30 43.4	+0.4
KULA	Kula-Manisa	1.56	77	P	Pn	03 30 23.6	+0.7
KULA				S	Sb	03 30 44.4	+0.6
BAYC	CANAKKALE_Bayr	1.57	355	P	Pn	03 30 22.1	-0.8
DAT	Datca	1.59	155	Pn	Pn	03 30 22.8	-0.6
DAT	Datca	1.59	155	P	Pn	03 30 22.8	-0.6
DAT	Datca	1.59	155	P	Pn	03 30 22.8	-0.6
YAZI	Mula-Dat§a-	1.60	159	P	Pn	03 30 22.9	-0.5
EZNE	Ezine-Canakkal	1.60	350	Pn	Pn	03 30 23.1	-0.3
YER	Yerkesik	1.61	130	Pn	Pn	03 30 23.5	-0.1
YER	Yerkesik	1.61	130	P	Pn	03 30 23.5	-0.1
EZN	Ezine	1.68	349	Pn	Pn	03 30 24.5	+0.1
EZN	Ezine	1.68	349	P	Pn	03 30 24.3	-0.1
BALY	Balya	1.71	24	P	Pn	03 30 24.3	-0.6
BOZC	Bozcaada	1.74	343	P	Pn	03 30 24.9	-0.5
BKES	Balkesir-Mer	1.81	31	P	Pn	03 30 26.6	+0.2
SKY	Skiros Island	1.85	293	P	Pn	03 30 26.5	-0.3
TURN	Turunc	1.85	139	Pn	Pn	03 30 26.4	-0.3
TURN	Turunc	1.85	139	P	Pn	03 30 26.5	-0.3
TAVA	DENIZLI_Tavas	1.87	112	P	Pn	03 30 27.1	-0.1
USAK	Uak-Merkez	1.88	73	P	Pn	03 30 27.2	0.0
USAK				S	Sn	03 30 52.3	+1.5
CNKL	anakkale-Mer	1.91	352	P	Pn	03 30 27.3	-0.3
DNIZ	Denizli-Tavas-	1.91	106	P	Pn	03 30 27.3	-0.5
ECEA	Canakkale, Ece	1.92	347	P	Pn	03 30 28.6	+0.9
BLKS	Balkesir-Sus	1.95	29	P	Pn	03 30 28.3	+0.1
DURS	Dursunbey	1.97	43	P	Pn	03 30 27.9	-0.6
SIMA	Simav-Kutahya	1.98	62	Pn	Pn	03 30 28.7	-0.1
DALY	Dalyan (Mula)	2.05	131	Pn	Pn	03 30 29.5	0.0
SUSR	Susurluk-Balik	2.07	30	Pn	Pn	03 30 30.5	+0.6
GOAD	anakkale-G¶	2.08	342	P	Pn	03 30 29.9	-0.2
LIA	Limnos Island	2.10	325	P	Pn	03 30 30.3	+0.1
LIA				S	Sn	03 30 57.5	+1.3
	comp=N,790nm,0.6s						
LIA	Limnos Island	2.10	325	P	Pn	03 30 29.9	-0.4
THR6	Thira Island,	2.10	211	P	Pn	03 30 29.0	-1.3
GADA	Gvkgeada	2.11	342	Pn	Pn	03 30 30.4	0.0
KYMI	Kymi, Euboea I	2.12	283	P	Pn	03 30 30.7	+0.2
KYMI				S	Sn	03 30 57.5	+0.9
	comp=N,110nm,0.8s						
KYMI	Kymi, Euboea I	2.12	283	P	Pn	03 30 30.6	+0.2
ARG	Arkhangelos	2.25	150	Pn	Pn	03 30 32.9	+0.5
ARG	Arkhangelos	2.25	150	P	Pn	03 30 32.2	-0.2

CHIC	**Chingaza**	**2.27 196**	P	Pn	03 48 21.2	-1.5
CHIC			S	Sn	03 48 50.4	-1.8
ROSC	**El Rosal**	**2.31 211**	P	Pn	03 48 22.8	-0.3
ROSC			S	Sn	03 48 53.6	+0.5
CVER	**Cruz Verde, Cu**	**2.48 203**	P	Pn	03 48 25.1	-0.2
UREC	**San Jos de Ur**	**2.56 291**	P	Pn	03 48 23.0	-2.8
UREC			S	Sn	03 48 54.4	-3.6
GUY2C	**Guyana, Caldas**	**2.74 235**	P	Pn	03 48 26.9	-1.7
GUY2C			S	Sn	03 49 06.6	+3.8
VILC	**Villavicencio,**	**2.76 192**	P	Pn	03 48 26.7	-1.7
VILC			S	Sn	03 49 01.0	-1.7
PTGC	**Puerto Gaitan,**	**2.79 159**	P	Pn	03 48 26.0	-2.7
PTGC			S	Sn	03 48 59.7	-3.5
RECRC	**Villamaria, Ca**	**2.90 230**	P	Pn	03 48 30.5	0.0
RECRC			S	Sn	03 49 08.1	+1.8
NIZA	**Niza - Manizal**	**2.93 233**	P	Pn	03 48 33.5	+2.8
NIZA			S	Sn	03 49 08.8	+2.2
CBOC	**Ciudad Bolivar**	**3.03 252**	P	Pn	03 48 29.5	-2.4
CBOC			S	Sn	03 49 08.5	-0.3
DBBC	**Dabeiba**	**3.07 274**	P	Pn	03 48 31.0	-1.3
DBBC			S	Sn	03 49 07.1	-2.5
SDV	**Santo Domingo**	**3.20 50**	P	Pn	03 48 32.6	-1.5
ARGC	**Ariguani, Magd**	**3.21 340**	P	Pn	03 48 33.1	-0.9
ARGC			S	Sn	03 49 12.1	-0.6
ANIL	**Santa Ana**	**3.25 224**	P	Pn	03 48 34.4	-0.4
ANIL			S	Sn	03 49 15.5	+1.5
PRAC	**Prado**	**3.56 210**	P	Pn	03 48 36.6	-2.0
PRAC			S	Sn	03 49 19.2	-1.6
ORTC	**Ortega, Tolima**	**3.59 216**	P	Pn	03 48 37.1	-1.9
ORTC			S	Sn	03 49 20.2	-1.4
APAC	**Apartado, Choc**	**3.59 287**	P	Pn	03 48 38.0	-1.0
APAC			S	Sn	03 49 19.0	-2.5
SJCC	**San Jacinto, C**	**3.67 326**	P	Pn	03 48 36.6	-3.4
SJCC			S	Sn	03 49 18.6	-4.7
PLMC	**San Jos del P**	**3.68 239**	P	Pn	03 48 38.7	-1.5
CRJC	**Cerrejon, Guaj**	**4.17 3**	P	Pn	03 48 43.3	-3.3
CRJC			S	Sn	03 49 31.9	-3.3
YOTC	**Yotoco, Valle**	**4.28 229**	P	Pn	03 48 45.5	-2.6
YOTC			S	Sn	03 49 41.0	+3.2
CAPC	**Capurgana**	**4.56 293**	P	Pn	03 48 49.3	-2.4
CAPC			S	Sn	03 49 37.9	-6.3
URIC	**Uribia, Colomb**	**4.97 13**	P	Pn	03 48 53.4	-3.6
URIC			S	Sn	03 49 50.2	-3.7
MALC	**Bahia Malaga**	**5.04 237**	P	Pn	03 48 57.1	-1.0
GARC	**Garzon, Huila**	**5.18 207**	P	Pn	03 48 56.7	-3.5
GARC			S	Sn	03 49 54.6	-4.9
POPC	**Popayan, Colom**	**5.54 220**	P	Pn	03 49 03.1	-1.8
	4.6nm,0.5s					
POPC			S	Sn	03 50 06.2	-1.8
	4.6nm,0.5s					
BBAC	**Balboa, Cauca**	**6.30 221**	P	Pn	03 49 11.8	-3.3
BBAC			S	Sn	03 50 22.9	-3.3

*CATAC **09** 04:11:56.4±0.7, 13°.98N×91°.21W, h9km±4km, ML3.2*
*GCG **09** 04:11:59.3±0.5, 14°.27N×91°.22W, h62km±13km, MD3.5*
ISC 09 04:11:56.4±2.0,**13°.98N**±0°.09×**91°.20W**±0°.06,**h9**km±13km,
n12,σ0s**86/18,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.48**	**313**	*eP*	**Pn**	**04 12 10.0**	**+0.5**
FUG	**Fuego 3**	**0.58**	**37**	*eP*	**Pn**	**04 12 11.3**	**+0.2**
PCG	**Pacaya**	**0.71**	**55**	*eP*	**Pn**	**04 12 13.2**	**+0.2**
RTAL	**Retalhuleu**	**0.72**	**319**	*i P*	**Pg**	**04 12 10.7**	**+0.3**
RTAL				*i S*	**Sb**	**04 12 21.4**	**+0.2**
RTAL				IAML		04 12 42.9	
	comp=Z,650nm,1.0s						
STG3	**Santiaguito 3,**	**0.81**	**334**	*eP*	**Pb**	**04 12 12.6**	**-0.2**
STG3				*eS*	**Sb**	**04 12 23.2**	**-0.7**
SOKI	**Kika Raxquin**	**0.86**	**347**	*i P*	**Pg**	**04 12 12.8**	**-0.2**
SOKI				*i S*	**Sg**	**04 12 24.7**	**+0.5**
SOKI				IAML		04 12 28.7	
	comp=Z,960nm,1.0s						
NBG	**Las Nubes**	**1.03**	**54**	*eP*	**Pn**	**04 12 17.4**	**+0.1**
NUBE	**Las Nubes**	**1.39**	**93**	*i P*	**Pn**	**04 12 21.6**	**-0.5**
NUBE				*i S*	**Sb**	**04 12 40.0**	**-0.5**
NUBE				IAML		04 12 41.7	
	comp=Z,280nm,1.0s						
JAYA	**Jayaque - finc**	**1.74**	**101**	*i P*	**Pn**	**04 12 26.2**	**-0.8**
JAYA				IAML		04 12 56.0	
	comp=Z,530nm,1.0s						
PMON	**Piamonte**	**1.85**	**98**	*i P*	**Pn**	**04 12 28.3**	**-0.3**
PMON				IAML		04 12 58.0	
	comp=Z,210nm,1.0s						
COEG	**Centro de Oper**	**2.29**	**99**	*i P*	**Pn**	**04 12 35.3**	**+0.8**
COEG				*i S*	**Sn**	**04 13 03.0**	**+0.2**
COEG				IAML		04 13 19.3	
	comp=Z,59nm,1.0s						
CCIG	**Comitan**	**2.46**	**339**	*i P*	**Pn**	**04 12 34.7**	**-2.2**
CCIG				*i S*	**Sn**	**04 13 08.7**	**+1.5**

*SJA **09** 04:14:10.4±0.7, 20°.75S×69°.24W, h125km±5km, ML3.6, MW3.7*
*GUC **09** 04:14:12.7±0.6, 20°.76S×69°.16W, h109km±3km, ML3.6*
*IDC **09** 04:14:13.3±1.8, 20°.78S×68°.82W, h116km±17km, mb3.2/2, mbtmp3.6/4, Error ellipse: s-maj=44.9km s-min=16.3km az=103.0*
ISC 09 04:14:11.3±0.9,**20°.77S**±0°.03×**69°.20W**±0°.06,**h118**km±7km,
n38,σ1s**23/56,6C-1D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.81**	**307**	*eP*	**Pn**	**04 14 30.9**	**-0.5**
HMBC				*eS*	**Sn**	**04 14 46.9**	**+0.3**
HMBC				IAML		04 14 47.7	
	comp=Z,2μm,0.2s						
HMBC	**Humberstone**	**0.81**	**307**	⇑*iP*	**Pn**	**04 14 31.6**	**+0.2**
HMBC				*eS*	**Sn**	**04 14 46.3**	**-0.3**
PATCX	**Punta Patache**	**0.89**	**266**	*eP*	**Pn**	**04 14 32.2**	**+0.1**
PATCX				*eS*	**Sn**	**04 14 49.4**	**+1.4**
PATCX				IAML		04 14 50.4	
	comp=Z,1μm,0.4s						
PATCX	**Punta Patache**	**0.89**	**266**	⇑*iP*	**Pn**	**04 14 32.8**	**+0.6**
PATCX				*eS*	**Sn**	**04 14 48.4**	**+0.4**
TA01	**Diego Aracena**	**0.94**	**282**	*eP*	**Pn**	**04 14 32.8**	**+0.3**
TA01				*eS*	**Sn**	**04 14 48.8**	**+0.2**
TA01				IAML		04 14 51.9	
	comp=Z,452nm,0.1s						
TA01	**Diego Aracena**	**0.94**	**282**	⇑*iP*	**Pn**	**04 14 32.8**	**+0.3**
TA01				*eS*	**Sn**	**04 14 48.5**	**0.0**
TA01				IAML		04 14 49.5	
	comp=E,1μm,0.2s						
TA02	**Huaiquique**	**1.00**	**299**	*eP*	**Pn**	**04 14 33.6**	**+0.5**
TA02				*eS*	**Sn**	**04 14 49.4**	**-0.2**
PB09	**IPOC Station P**	**1.03**	**182**	*eP*	**Pn**	**04 14 34.1**	**+0.6**
PB09				*eS*	**Sn**	**04 14 51.8**	**+1.3**
PB09				IAML		04 14 52.2	
	comp=Z,2μm,0.7s						
PB09	**IPOC Station P**	**1.03**	**182**	⇓*eP*	**Pn**	**04 14 34.1**	**+0.6**
PB09				*eS*	**Sn**	**04 14 50.7**	**+0.3**
PB09				IAML		04 14 52.9	
	comp=N,2μm,0.6s						
PB11	**IPOC Station P**	**1.09**	**337**	*eP*	**Pn**	**04 14 34.3**	**+0.1**
PB11				*eS*	**Sn**	**04 14 52.2**	**+0.7**
PB11				IAML		04 14 52.4	
	comp=Z,955nm,0.2s						
PB11	**IPOC Station P**	**1.09**	**337**	⇑*iP*	**Pn**	**04 14 34.5**	**+0.3**
PB11				*eS*	**Sn**	**04 14 51.4**	**-0.2**
PB11				IAML		04 14 52.4	
	comp=E,3μm,0.2s						
GO01	**Chusmiza**	**1.09**	**0**	*eP*	**Pn**	**04 14 35.0**	**+0.4**
GO01				*eS*	**Sn**	**04 14 52.9**	**+0.7**
GO01	**Chusmiza**	**1.09**	**0**	⇑*eP*	**Pn**	**04 14 35.0**	**+0.4**
GO01				*eS*	**Sn**	**04 14 52.0**	**-0.2**
PB04	**IPOC Station P**	**1.79**	**209**	*eP*	**Pn**	**04 14 42.9**	**+0.7**
PB04				*eS*	**Sn**	**04 15 06.9**	**+1.0**
PB04				IAML		04 15 08.6	
	comp=Z,591nm,0.2s						
PB04	**IPOC Station P**	**1.79**	**209**	*eP*	**Pn**	**04 14 42.9**	**+0.7**
PB04				*eS*	**Sn**	**04 15 06.3**	**+0.5**
PB04				IAML		04 15 07.2	
	comp=E,530nm,0.3s						
LVC	**Limon Verde**	**1.85**	**172**	*eP*	**Pn**	**04 14 39.3**	**-3.9**
LVC				*eS*	**Sn**	**04 15 09.9**	**+2.3**
LVC				IAML		04 15 14.5	
	comp=Z,174nm,0.6s						
LVC	**Limon Verde**	**1.85**	**172**	P	**Pn**	**04 14 44.0**	**+0.8**
	comp=Z,24nm,0.4s,baz=356,slow=9.8,SNR=97						
LVC				S	**Sn**	**04 15 09.0**	**+1.5**
	comp=Z,267nm,0.3s,baz=53,slow=20,SNR=27						
LVC	**Limon Verde**	**1.85**	**172**	*eP*	**Pn**	**04 14 44.2**	**+1.0**
LVC				*eS*	**Sn**	**04 15 09.0**	**+1.5**
PB06	**IPOC Station P**	**1.96**	**190**	*eP*	**Pn**	**04 14 43.5**	**-0.8**
PB06				*eS*	**Sn**	**04 15 09.7**	**+0.1**
PB06				IAML		04 15 12.5	
	comp=Z,230nm,0.4s						
PB06	**IPOC Station P**	**1.96**	**190**	⇑*eP*	**Pn**	**04 14 45.0**	**+0.7**
PB06				*eS*	**Sn**	**04 15 09.0**	**-0.6**
PB06				IAML		04 15 11.3	
	comp=N,506nm,0.5s						
PB15	**IPOC Station P**	**2.44**	**186**	*eP*	**Pn**	**04 14 50.9**	**+0.4**
PB15				*eS*	**Sn**	**04 15 17.6**	**-2.9**
PB15	**IPOC Station P**	**2.44**	**186**	*eP*	**Pn**	**04 14 51.3**	**+0.8**
PB15				*eS*	**Sn**	**04 15 21.5**	**+1.0**
PB10	**IPOC Station P**	**3.01**	**204**	*eP*	**Pn**	**04 14 57.3**	**-0.3**
PB10				*eS*	**Sn**	**04 15 32.5**	**-0.9**
PB10	**IPOC Station P**	**3.01**	**204**	*eP*	**Pn**	**04 14 57.3**	**-0.3**
PB10				IAML		04 15 37.1	
	comp=N,79nm,0.4s						
YJA	**Yavi**	**3.71**	**113**	*eP*	**Pn**	**04 15 09.0**	**+1.7**
PB14	**IPOC Station P**	**4.00**	**196**	*eP*	**Pn**	**04 15 10.1**	**-0.9**
PB14				*eS*	Sn	04 15 41.4	-16
PB14				IAML		04 15 57.9	
	comp=Z,76nm,0.2s						
LPAZ	**La Paz**	**4.57**	**13**	*eP*	**Pn**	**04 15 21.8**	**+2.7**
LPAZ	**La Paz**	**4.57**	**13**	P	**Pn**	**04 15 20.7**	**+1.7**
	comp=Z,2.6nm,0.4s,baz=193,slow=8.1,SNR=36						
LPAZ				S	Sn	04 16 00.6	-11
	comp=Z,3.3nm,0.6s,baz=163,slow=16,SNR=4.8						
SIV	**San Ignacio**	**9.06**	**60**	P	**Pn**	**04 16 15.8**	**-3.4**
	comp=Z,2.8nm,0.5s,baz=250,slow=11,SNR=16						
BDFB	**Brasilia**	**20.76**	**79**	P	**P**	**04 18 42.2**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=240,slow=10,SNR=3.4						
	comp=Z,1.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**77.37**	**71**	P	**P**	**04 25 53.4**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=252,slow=4.7,SNR=4.0						
TORD				pP	**pP**	**04 26 23.6**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=255,slow=4.9,SNR=4.6						
	comp=Z,0.5nm,0.7s						
H11S2	**WAKE ISLAND Hyl**	**27.51**	**278**	T	T	06 53 00.1	
	baz=103,slow=75,SNR=5.6						
H11S1	**WAKE ISLAND Hyl**	**27.52**	**278**	T	T	06 52 59.2	
	baz=103,slow=75,SNR=7.6						
H11S3	**WAKE ISLAND Hyl**	**27.53**	**278**	T	T	06 52 59.9	
	baz=103,slow=75,SNR=5.2						
H11N3	**WAKE ISLAND Hyl**	**27.57**	**279**	T	T	06 53 03.9	
	baz=101,slow=75,SNR=77						
H11N2	**WAKE ISLAND Hyl**	**27.59**	**279**	T	T	06 53 03.3	
	baz=101,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hyl**	**27.59**	**279**	T	T	06 53 01.6	
	baz=101,slow=75,SNR=56						
MKAR	**Makanchi Array**	**145.20**	**35**	PKPbc	**PKPdf**	**04 33 36.4**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=321,slow=3.9,SNR=5.5						

*GCG **09** 04:15:15.6±0.5, 15°.79N×93°.46W, h41km±477km, MD4.6*
*NEIC **09** 04:15:21.6±1.8, 15°.24N±0°.07×93°.04W±0°.07, h96km±7km, mb4.7/239, Error ellipse: s-maj=11.6km s-min=7.2km az=46.0*
*MEX **09** 04:15:21.1±0.5, 15°.21N×93°.11W, h107km±5km, MD4.8*
*IDC **09** 04:15:21.2±0.8, 15°.35N×92°.79W, h101km±6km, mb4.0/15, mbtmp4.4/18, MS3.3/14, Error ellipse: s-maj=17.9km s-min=10.1km az=57.0*
*UPA **09** 04:15:22.5±2.8, 15°.24N×93°.14W, h76km, MW5.2*
*CATAC **09** 04:15:25.9±0.3, 15°.36N×92°.62W, h139km±3km, MB5.4, mb5.0, ML5.1*
*SNET **09** 04:15:25.9±0.7, 15°.63N×92°.22W, h157km±49km, ML5.1*
ISC 09 04:15:20.7±0.5,**15°.23N**±0°.04×**93°.08W**±0°.04,**h100**km±4km,
n691,σ2s**11/715,mb4.7/97,1D,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.49**	**344**	*eP*	**Pn**	**04 15 36.3**	**-0.1**
PCIG				*eS*	**Sn**	**04 15 48.5**	**+0.3**
THIG		**0.85**	**112**	*eP*	**Pn**	**04 15 39.4**	**-0.2**
THIG				*eS*	**Sn**	**04 15 53.8**	**+0.1**
PAVE	**Pavencul**	**0.87**	**92**	*eP*	**Pn**	**04 15 40.3**	**+0.3**
PAVE				*eS*	**Sn**	**04 15 54.9**	**+0.4**
CHUJ	**Union Juarez**	**0.95**	**98**	*eP*	**Pn**	**04 15 40.5**	**-0.3**
CHUJ				*eS*	**Sn**	**04 15 55.8**	**-0.2**
CARR	**Arriaga**	**1.29**	**322**	*eP*	**Pn**	**04 15 45.4**	**+0.9**
CARR				*eS*	**Sn**	**04 16 03.0**	**+0.6**
CCIG	**Comitan**	**1.38**	**41**	Pn	**Pn**	**04 15 46.5**	**+0.7**
CCIG				Sn	**Sn**	**04 16 04.8**	**+0.1**
CCIG	**Comitan**	**1.38**	**41**	*i P*	**Pn**	**04 15 45.4**	**-0.4**
CCIG	**Comitan**	**1.38**	**41**	*i P*	**Pn**	**04 15 46.9**	**+1.1**
CCIG				*i S*	**Sn**	**04 16 05.5**	**+0.8**
CCIG				IAML		04 16 09.3	
	comp=Z,10μm,1.0s						
RTAL	**Retalhuleu**	**1.51**	**118**	Pn	**Pn**	**04 15 47.5**	**+0.3**
RTAL				Sn	**Sn**	**04 16 05.9**	**-1.3**
RTAL	**Retalhuleu**	**1.51**	**118**	*eP*	**Pn**	**04 15 47.8**	**+0.6**
RTAL				*eS*	**Sn**	**04 16 06.5**	**-0.7**
RTAL	**Retalhuleu**	**1.51**	**118**	*i P*	**Pn**	**04 15 47.8**	**+0.6**
RTAL				*i S*	**Sn**	**04 16 06.0**	**-1.2**
RTAL				IAML		04 16 12.0	
	comp=Z,18μm,1.0s						
HUEH	**Huehuetenango**	**1.52**	**87**	Pn	**Pn**	**04 15 47.4**	**-0.1**
HUEH				Sn	**Sn**	**04 16 08.3**	**+0.5**
HUEH	**Huehuetenango**	**1.52**	**87**	*i P*	**Pn**	**04 15 48.0**	**+0.5**
HUEH				*eS*	**Sn**	**04 16 08.2**	**+0.5**
HUEH	**Huehuetenango**	**1.52**	**87**	*i P*	**Pn**	**04 15 48.6**	**+1.1**
HUEH				*i S*	**Sn**	**04 16 09.6**	**+1.8**
TGBT	**Tuxtla Gutierr**	**1.54**	**360**	*i P*	**Pn**	**04 15 47.1**	**-0.4**
TGBT				*i S*	**Sn**	**04 16 06.1**	**-1.6**
TGIG		**1.54**	**358**	*eP*	**Pn**	**04 15 47.2**	**-0.4**
TGIG				*eS*	**Sn**	**04 16 05.7**	**-2.2**
STG3	**Santiaguito 3,**	**1.55**	**109**	*eP*	**Pn**	**04 15 49.2**	**+1.5**
SOKI	**Kika Raxquin**	**1.67**	**104**	*i P*	**Pn**	**04 15 50.6**	**+1.1**
SOKI				IAML		04 16 26.3	
	comp=Z,10μm,1.0s						
SULM	**Suchitepequez,**	**1.73**	**122**	*eP*	**Pn**	**04 15 51.8**	**+2.0**
NILT	**Santiago Nilte**	**1.99**	**312**	*eP*	**Pn**	**04 15 54.1**	**+1.0**
NILT				*eS*	**Sn**	**04 16 18.2**	**+0.3**
FUG	**Fuego 3**	**2.30**	**110**	*eP*	**Pn**	**04 15 59.2**	**+1.8**
UXUV	**UXUV**	**2.31**	**334**	*eP*	**Pn**	**04 15 57.5**	**+0.1**
UXUV				*eS*	**Sn**	**04 16 21.8**	**-3.7**
PCG	**Pacaya**	**2.53**	**109**	*eP*	**Pn**	**04 16 03.0**	**+2.5**
CMIG	**Matias Romero**	**2.54**	**317**	P	**Pn**	**04 16 00.6**	**+0.3**
	comp=Z,474nm,0.5s,baz=144,slow=12,SNR=464						
CMIG				S	**Sn**	**04 16 25.3**	**-5.5**
	comp=Z,2μm,0.7s,baz=122,slow=16,SNR=35						
CMIG				LR	LR	04 16 37.6	
	comp=Z,400nm,18.9s,baz=130,slow=29						
CMIG	**Matias Romero**	**2.54**	**317**	*eP*	**Pn**	**04 16 00.5**	**+0.1**
CMIG				*eS*	**Sn**	**04 16 25.7**	**-5.1**
GCG4	**OSOP**	**2.54**	**104**	*i P*	**Pn**	**04 16 01.7**	**+1.1**
GCG4				*i S*	**Sn**	**04 16 36.1**	**+4.9**
GCG4				IAML		04 16 39.7	
	comp=Z,4μm,1.0s						
NBG	**Las Nubes**	**2.72**	**103**	*eP*	**Pn**	**04 16 05.3**	**+2.3**
HUIG	**Huatulco**	**2.97**	**281**	*i P*	**Pn**	**04 16 05.0**	**-1.1**
HUIG				*eS*	**Sn**	**04 16 35.8**	**-5.3**
TUIG	**Tuzandepetl**	**3.07**	**335**	*eP*	**Pn**	**04 16 04.8**	**-2.6**
TUIG				*eS*	**Sn**	**04 16 40.7**	**-2.7**
MRL	**Marmol**	**3.28**	**92**	*eP*	**Pn**	**04 16 11.5**	**+1.0**
PANG	**Puerto Angel**	**3.30**	**278**	*i P*	**Pn**	**04 16 09.6**	**-0.9**
PANG				*eS*	**Sn**	**04 16 43.4**	**-5.6**
SLOZ	**Alcaldia de Sa**	**3.41**	**110**	*eP*	**Pn**	**04 16 12.5**	**+0.5**
SLOZ				*eS*	**Sn**	**04 16 47.5**	**-4.2**
LOAL	**Lomas de Alarc**	**3.42**	**111**	*i P*	**Pn**	**04 16 13.7**	**+1.5**
LOAL				*i S*	**Sn**	**04 16 54.6**	**+2.7**
LOAL				IAML		04 17 03.7	
	comp=Z,3μm,1.0s						
NUBE	**Las Nubes**	**3.46**	**112**	*eP*	**Pn**	**04 16 13.5**	**+0.7**
NUBE				*eS*	**Sn**	**04 16 48.0**	**-5.0**
NUBE	**Las Nubes**	**3.46**	**112**	*i P*	**Pn**	**04 16 13.4**	**+0.7**
NUBE				*i S*	**Sn**	**04 16 53.8**	**+0.8**
NUBE				IAML		04 16 58.2	
	comp=Z,2μm,1.0s						
PETF	**Flores**	**3.51**	**61**	Pn	**Pn**	**04 16 13.0**	**-0.4**
PETF	**Flores**	**3.51**	**61**	*eP*	**Pn**	**04 16 13.1**	**-0.3**
PETF				*eS*	**Sn**	**04 16 50.6**	**-3.5**
PETF	**Flores**	**3.51**	**61**	*i P*	**Pn**	**04 16 14.3**	**+0.9**
PETF				*i S*	**Sn**	**04 16 52.0**	**-2.1**
RTR	**El Retiro**	**3.58**	**111**	*eP*	**Pn**	**04 16 15.3**	**+0.9**
NEUV	**Arroyo Zacate**	**3.59**	**314**	*eP*	**Pn**	**04 16 13.9**	**-0.6**
SBLS	**San Blas**	**3.62**	**112**	*eP*	**Pn**	**04 16 15.8**	**+0.8**
CEVE	**Cerro Verde**	**3.62**	**112**	*eP*	**Pn**	**04 16 16.5**	**+1.3**
CEVE				IAML		04 17 08.5	
	comp=Z,4μm,0.3s						
CEVE	**Cerro Verde**	**3.62**	**112**	*i P*	**Pn**	**04 16 17.0**	**+1.9**
CEVE				*i S*	**Sn**	**04 16 58.1**	**+0.9**
CEVE				IAML		04 17 08.2	
	comp=Z,4μm,1.0s						
SNJE	**San Jose**	**3.62**	**111**	*eP*	**Pn**	**04 16 15.8**	**+0.7**
SNJE				*eS*	**Sn**	**04 16 54.0**	**-3.1**
UNIC	**Universidad Ca**	**3.64**	**110**	*i P*	**Pn**	**04 16 16.0**	**+0.9**
UNIC				IAML		04 17 06.9	
	comp=Z,370nm,1.0s						
ESQI	**Esquipulas**	**3.67**	**100**	Pn	**Pn**	**04 16 15.6**	**0.0**
ESQI	**Esquipulas**	**3.67**	**100**	*i P*	**Pn**	**04 16 16.4**	**+0.7**
MTO3	**Montecristo**	**3.69**	**102**	Pn	**Pn**	**04 16 15.8**	**-0.2**
MTO3	**Montecristo**	**3.69**	**102**	*i P*	**Pn**	**04 16 16.5**	**+0.5**
MTO3				IAML		04 16 17.3	
	comp=Z,910nm,1.0s						
PMUV	**Sontecomapan**	**3.83**	**330**	*eP*	**Pn**	**04 16 14.9**	**-2.9**
PMUV				*eS*	**Sn**	**04 16 57.2**	**-4.7**
CEDA	**San Andres**	**3.84**	**111**	*eP*	**Pn**	**04 16 18.2**	**+0.4**
CEDA	**San Andres**	**3.84**	**111**	*i P*	**Pn**	**04 16 20.0**	**+2.2**
CEDA				*i S*	**Sn**	**04 17 05.7**	**+3.7**
CEDA				IAML		04 17 25.4	
	comp=Z,3μm,1.0s						
JAYA	**Jayaque - finc**	**3.85**	**114**	*eP*	**Pn**	**04 16 18.7**	**+0.7**
JAYA	**Jayaque - finc**	**3.85**	**114**	*i P*	**Pn**	**04 16 18.8**	**+0.7**
JAYA				*i S*	**Sn**	**04 17 02.1**	**-0.4**
JAYA				IAML		04 17 04.6	
	comp=Z,4μm,1.0s						
OXLC	**Oaxaca**	**3.93**	**298**	*eP*	**Pn**	**04 16 20.2**	**+1.0**
OXLC				*eS*	**Sn**	**04 17 01.2**	**-3.3**
QUEZ	**Alcaldia de Qu**	**3.94**	**110**	*i P*	**Pn**	**04 16 22.7**	**+3.5**
QUEZ				*i S*	**Sn**	**04 17 05.7**	**+1.3**
QUEZ				IAML		04 17 35.4	
	comp=Z,4μm,1.0s						
PMON	**Piamonte**	**3.95**	**112**	*i P*	**Pn**	**04 16 21.6**	**+2.3**
PMON				*i S*	**Sn**	**04 17 06.0**	**+1.3**
PMON				IAML		04 17 13.9	
	comp=Z,2μm,1.0s						
OXBJ	**Oaxaca**	**3.95**	**298**	*eP*	**Pn**	**04 16 20.6**	**+1.1**
OXBJ				*eS*	**Sn**	**04 17 03.0**	**-2.0**
VHO	**Vista Hermosa**	**3.96**	**298**	*eP*	**Pn**	**04 16 20.8**	**+1.2**
VHO				*eS*	**Sn**	**04 17 03.0**	**-2.2**
BOQS	**Boqueron**	**3.97**	**112**	*eP*	**Pn**	**04 16 20.5**	**+0.7**
ITCA	**Escuela Especi**	**3.99**	**112**	*i P*	**Pn**	**04 16 23.6**	**+3.6**
ITCA				*i S*	**Sn**	**04 17 06.0**	**+0.1**
ITCA				IAML		04 17 49.8	
	comp=Z,3μm,1.0s						
PEIG	**Puerto Escondi**	**3.99**	**282**	*eP*	**Pn**	**04 16 19.1**	**-0.8**
PEIG				*eP*		04 16 19.4	
PEIG				*eS*	**Sn**	**04 16 59.7**	**-6.1**
UEES	**Universidad Ev**	**4.01**	**112**	*eP*	**Pn**	**04 16 20.0**	**-0.2**
UEES	**Universidad Ev**	**4.01**	**112**	*i P*	**Pn**	**04 16 22.4**	**+2.2**
UEES				*i S*	**Sn**	**04 17 06.8**	**+0.5**
UEES				IAML		04 17 16.3	
	comp=Z,790nm,1.0s						
SNET	**Serv Nac Est T**	**4.03**	**112**	Pn	**Pn**	**04 16 20.5**	**+0.1**
SNET	**Serv Nac Est T**	**4.03**	**112**	*eP*	**Pn**	**04 16 20.7**	**+0.3**
SNET	**Serv Nac Est T**	**4.03**	**112**	*i P*	**Pn**	**04 16 21.8**	**+1.4**
SNET				*i S*	**Sn**	**04 17 06.0**	**-0.7**
SNET				IAML		04 17 12.1	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**4.03**	**115**	*eP*	**Pn**	**04 16 21.1**	**+0.8**
LALI	**Alcalda de L**	**4.03**	**115**	*i P*	**Pn**	**04 16 21.0**	**+0.6**
LALI				*i S*	**Sn**	**04 17 05.8**	**-0.8**
LALI				IAML		04 17 15.7	
	comp=Z,450nm,1.0s						
IGN	**Direccin Gen**	**4.08**	**111**	*i P*	**Pn**	**04 16 22.1**	**+1.1**
IGN				*i S*	**Sn**	**04 17 09.2**	**+1.4**
IGN				IAML		04 18 39.5	
	comp=Z,8μm,1.0s						
UDBS	**Universidad Do**	**4.09**	**111**	*i P*	**Pn**	**04 16 23.9**	**+2.7**
UDBS				*i S*	**Sn**	**04 17 10.7**	**+2.6**
UDBS				IAML		04 17 21.8	
	comp=Z,1μm,1.0s						
LOMA	**Loma Larga**	**4.10**	**112**	*eP*	**Pn**	**04 16 22.2**	**+0.7**
LOMA	**Loma Larga**	**4.10**	**112**	*i P*	**Pn**	**04 16 22.4**	**+1.0**
LOMA				*i S*	**Sn**	**04 17 10.1**	**+1.6**
LOMA				IAML		04 17 15.8	
	comp=Z,1μm,1.0s						
PANCS

AMPH Amapala 5.60 110 *i* P **Pn 04 16 42.9 +1.3**
MGIG Malinaltepec 5.70 291 *e*P **Pn 04 16 42.5 -0.6**
MGIG *e*S **Sn 04 17 42.6 -4.7**
TGUH Tegucigalpa,Un 5.74 101 Pn **Pn 04 16 43.1 -0.5**
TGUH Tegucigalpa,Un 5.74 101 *i* P **Pn 04 16 44.4 +0.7**
TGUH IAML 04 16 45.7
comp=Z,340nm,1.0s
TGUH IVmB_BB 04 16 45.7
comp=Z,3μm,1.0s
TGUH IAmb IAmb 04 16 56.5
comp=Z,190nm,0.8s
TLIG Tlapa 5.75 295 Pn **Pn 04 16 45.2 +1.4**
TLIG Tlapa 5.75 295 *e*P **Pn 04 16 43.8 -0.1**
TLIG *e*S **Sn 04 17 45.7 -2.9**
HMTT Tlapaneco 5.84 297 *e*P **Pn 04 16 48.6 +3.6**
CRIG Cruz Grande 6.01 285 *e*P **Pn 04 16 46.5 -0.7**
CRIG *e*S **Sn 04 17 46.7 -8.0**
PHPU Puebla 6.17 309 *e*P **Pn 04 16 49.0 -0.6**
PHPU *e*S **Sn 04 17 55.0 -3.9**
YUSH Yuscaran 6.17 101 *i* P **Pn 04 16 50.9 +1.4**
CRIN San Cristobal 6.37 113 Pn **Pn 04 16 53.0 +0.9**
CRIN San Cristobal 6.37 113 *i* P **Pn 04 16 53.8 +1.6**
CRIN IAmb IAmb 04 17 21.9
comp=Z,360nm,0.6s
CRIN IVmB_BB 04 17 33.4
comp=Z,9μm,1.0s
CRIN *i* S **Sn 04 17 58.1 -5.5**
CRIN IAML 04 18 07.2
comp=Z,1μm,1.0s
PBCV Popocatepetl 6.43 306 *e*P **Pn 04 16 56.1 +2.9**
PBCV *e*S **Sn 04 18 03.8 -1.6**
PKGN Cerro Pekin 6.45 113 *i* P **Pn 04 16 54.1 +0.9**
PKGN IAmb IAmb 04 16 59.3
comp=Z,250nm,0.5s
PKGN IVmB_BB 04 17 01.2
comp=Z,12μm,1.0s
PKGN *i* S **Sn 04 17 57.8 -7.5**
PKGN IAML 04 18 03.1
comp=Z,2μm,1.0s
PBPN Popocatepetl 6.52 306 *e*P **Pn 04 16 54.6 0.0**
PBPN *e*S **Sn 04 18 06.1 -1.8**
SOMN Somoto 6.52 105 *i* P **Pn 04 16 57.1 +2.8**
MYIG Mrida 6.52 29 *e*P Pn 04 16 48.0 -6.2
PBXN Popocatepetl 6.52 306 *e*P **Pn 04 16 54.8 +0.2**
PBXN *e*P 04 16 55.0
PBXN *e*S **Sn 04 18 01.3 -6.6**
PBXN *e*S 04 18 03.8
PPM Popocatepetl 6.53 307 *e*P **Pn 04 16 57.2 +2.4**
PPM *e*S **Sn 04 18 08.8 +0.6**
DAIG Los Arroyos 6.56 287 *e*P **Pn 04 16 55.0 +0.3**
DAIG *e*S **Sn 04 18 01.3 -6.9**
QUEN Al S del Volca 6.59 113 *i* P Pn 04 16 59.5 +4.3
QUEN *i* S **Sn 04 18 01.9 -7.0**
QUEN IAML 04 18 05.6
comp=Z,980nm,1.0s
JUTIH Juticalpa Olan 6.65 94 *i* P **Pn 04 16 58.3 +2.3**
ACP2 Acapulco 6.75 285 *e*P **Pn 04 16 56.6 -0.7**
TEIG Tepich 6.75 42 Pn **Pn 04 16 55.9 -1.4**
TEIG Tepich 6.75 42 P **Pn 04 16 55.8 -1.5**
comp=Z,172nm,0.3s,baz=245,slow=8.7,SNR=181
TEIG S **Sn 04 18 07.4 -5.3**
comp=Z,233nm,0.3s,baz=319,slow=19,SNR=14
CNGA Al SSO del Vol 6.76 113 *i* P **Pn 04 16 57.4 -0.1**
CNGA IVmB_BB 04 17 03.1
comp=Z,3μm,1.0s
CNGA *i* S **Sn 04 18 05.5 -7.6**
CNGA IAML 04 18 16.3
comp=Z,650nm,1.0s
CNGN Cerro Negro 6.76 113 Pn **Pn 04 16 57.6 +0.1**
CNGN Cerro Negro 6.76 113 *i* P **Pn 04 16 58.3 +0.8**
CNGN IAmb IAmb 04 16 59.2
comp=Z,130nm,0.6s
CNGN IVmB_BB 04 17 21.9
comp=Z,2μm,1.0s
CNGN *i* S **Sn 04 18 07.3 -5.8**
CNGN IAML 04 18 18.7
comp=Z,590nm,1.0s
YAIG Yautepec 6.77 303 *e*P **Pn 04 16 58.1 +0.4**
YAIG *e*S **Sn 04 18 08.2 -5.2**
MEIG Mezcala 6.82 294 *e*P **Pn 04 16 58.2 -0.1**
MEIG *e*S **Sn 04 18 10.8 -3.7**
LIMN Finca el Limon 6.86 107 *i* P **Pn 04 17 00.0 +1.2**
LIMN IAML 04 17 00.6
comp=Z,150nm,1.0s
LIMN IVmB_BB 04 17 00.6
comp=Z,2μm,1.0s
LIMN IAmb IAmb 04 17 00.9
comp=Z,120nm,1.3s
LEVN Ruinas Leon Vi 6.88 113 *i* P **Pn 04 17 00.0 +1.0**
LEVN IAmb IAmb 04 17 05.8
comp=Z,93nm,0.7s
LEVN *i* S **Sn 04 18 08.8 -7.0**
LEVN IAML 04 18 18.8
comp=Z,630nm,1.0s
MPVM San Francisco 6.91 306 *e*P **Pn 04 17 00.8 +1.1**
MPVM *e*S **Sn 04 18 16.1 -0.8**
PLIG Platanillo 6.91 298 *e*P **Pn 04 17 02.0 +2.5**
PLIG *e*S **Sn 04 18 12.2 -4.5**
THVM De Xico 6.94 307 *e*P **Pn 04 16 58.3 -1.8**
THVM *e*S **Sn 04 18 16.6 -1.2**
MOM2 El Cardon 6.98 113 *i* P **Pn 04 17 00.6 +0.2**
MOM2 IAmb IAmb 04 17 02.3
comp=Z,85nm,0.6s
MOM2 IVmB_BB 04 17 13.7
comp=Z,2μm,1.0s
MOM2 *i* S **Sn 04 18 12.0 -6.3**
MOM2 IAML 04 18 17.9
comp=Z,260nm,1.0s
BRAN Las Pilas 6.99 110 *i* P **Pn 04 17 03.3 +2.7**
BRAN IAML 04 17 04.7
comp=Z,390nm,1.0s
BRAN IAmb IAmb 04 17 04.7
comp=Z,220nm,0.4s
BRAN *i* S **Sn 04 18 16.5 -2.1**
COPN Copaltepe 7.00 115 *i* P **Pn 04 17 00.9 +0.3**
COPN IVmB_BB 04 17 01.7
comp=Z,2μm,1.0s
COPN IAmb IAmb 04 17 01.8
comp=Z,190nm,0.7s
COPN IAML 04 18 13.5
comp=Z,400nm,1.0s
XCVM Xochimilco 7.02 306 *e*P **Pn 04 17 02.2 +1.0**
XCVM *e*S **Sn 04 18 17.5 -2.1**
TLVM San Miguel Top 7.03 305 *e*P **Pn 04 17 01.3 0.0**
TLVM *e*S **Sn 04 18 16.3 -3.6**
VTVM Tizayuca 7.07 311 *e*P **Pn 04 16 59.7 -2.1**
VTVM *e*S **Sn 04 18 14.4 -6.4**
MZVM 7.07 305 *e*P **Pn 04 17 02.3 +0.6**
MZVM *e*S **Sn 04 18 21.3 +0.8**
BJVM Benito Juarez 7.13 306 *e*P **Pn 04 17 04.8 +2.1**
BJVM *e*S **Sn 04 18 18.7 -3.6**
CAIG El Cayaco 7.14 286 *e*P **Pn 04 17 03.5 +0.9**
CAIG *e*S Sn 04 18 13.8 -8.4
SAPS Ciudad Sandino 7.16 114 *i* P **Pn 04 17 02.7 -0.2**
SAPS IAmb IAmb 04 17 07.1
comp=Z,240nm,0.5s
SAPS IVmB_BB 04 17 11.1
comp=Z,3μm,1.0s
SAPS *i* S **Sn 04 18 14.4 -8.4**
SAPS IAML 04 18 25.5
comp=Z,450nm,1.0s
MAVM Malinalco, Edo 7.17 302 *e*P **Pn 04 17 02.8 -0.4**
MAVM *e*S **Sn 04 18 18.6 -4.5**
AOVM Tlapan 7.19 305 *e*P **Pn 04 17 03.0 -0.7**
AOVM *e*S **Sn 04 18 21.9 -2.2**
CJVM Cuajimalpa 7.21 306 *e*P **Pn 04 17 07.0 +3.2**
CJVM *e*S **Sn 04 18 17.6 -6.7**
APQ2 Apoyeque 7.22 114 *i* P **Pn 04 17 03.6 -0.1**
APQ2 IAmb IAmb 04 17 05.1
comp=Z,170nm,0.5s
APQ2 *i* S **Sn 04 18 15.9 -8.3**
APQ2 IAML 04 18 25.9
comp=Z,280nm,1.0s
APVM Azcapotzalco 7.22 307 *e*P **Pn 04 17 04.2 +0.2**
APVM *e*S **Sn 04 18 21.7 -2.9**
INVM La Marquesa 7.25 305 *e*P **Pn 04 17 05.2 +0.8**
INVM *e*S **Sn 04 18 22.3 -3.1**
RE6B4 Centro civico 7.28 114 *i* P **Pn 04 17 03.6 -0.9**
RE6B4 IAML 04 17 05.6
comp=Z,410nm,1.0s
RE6B4 IAmb IAmb 04 17 05.7
comp=Z,250nm,0.6s
TISN Laguna Tiscapa 7.29 114 IVmB_BB 04 17 05.8
comp=Z,330nm,1.0s
TISN IAML 04 17 05.9
comp=Z,38nm,1.0s
TISN IAmb IAmb 04 17 05.9
comp=Z,24nm,0.5s
TISN *i* P **Pn 04 17 06.0 +1.3**
RB28C Hialeah 7.30 114 *i* P **Pn 04 17 05.4 +0.7**
RB28C IAML 04 17 05.9
comp=Z,510nm,1.0s
RB28C IAmb IAmb 04 17 06.0
comp=Z,270nm,0.5s
R4DEC Barrio San Lui 7.31 114 *i* P Pn 04 16 59.5 -5.4
R4DEC IAmb IAmb 04 17 00.8
comp=Z,100nm,0.5s
R4DEC *i* P 04 17 05.4
R4DEC IAmb IAmb 04 17 09.1
comp=Z,81nm,0.5s
R4DEC *i* S **Sn 04 18 17.9 -8.5**
R4DEC IAML 04 18 19.8
comp=Z,270nm,1.0s
R4DEC IAML 04 18 20.1
comp=Z,240nm,1.0s
RA5A7 El Crucero 7.32 115 *i* P **Pn 04 17 05.7 +0.5**
RA5A7 IAmb IAmb 04 17 07.9
comp=Z,650nm,0.5s
RA5A7 IVmB_BB 04 17 19.4
comp=Z,31μm,1.0s
RA5A7 IAML 04 18 34.7
comp=Z,2μm,1.0s
R0529 La Mascota 7.33 114 *i* P **Pn 04 17 05.1 -0.1**
R0529 IAmb IAmb 04 17 06.5
comp=Z,170nm,0.7s
R0529 IAML 04 18 23.8
comp=Z,380nm,1.0s
WILN Americas 2 7.36 114 *i* P **Pn 04 17 07.7 +2.1**
WILN IAmb IAmb 04 17 07.7
comp=Z,52nm,1.2s
WILN *i* S **Sn 04 18 20.9 -6.6**
WILN IAML 04 18 22.6
comp=Z,180nm,1.0s
TOVM TOLUCA 7.48 304 *e*P **Pn 04 17 07.9 +0.3**
TOVM *e*S **Sn 04 18 27.0 -4.0**
DEIG Demacu 7.59 312 *e*P **Pn 04 17 08.4 -0.5**
ARIG Puente Sto Nin 7.59 295 *e*P **Pn 04 17 11.1 +2.3**
ARIG *e*S **Sn 04 18 32.2 -1.1**
NADN Granada 7.68 116 *i* P **Pn 04 17 08.9 -1.0**
NADN IVmB_BB 04 17 44.2
comp=Z,9μm,1.0s
NADN IAML 04 18 34.1
comp=Z,420nm,1.0s
BOAB BOACO BROADBAN 7.71 110 Pn **Pn 04 17 10.4 0.0**
BOAB BOACO BROADBAN 7.71 110 *i* P **Pn 04 17 10.1 -0.3**
BOAB IAML 04 17 17.4
comp=Z,57nm,1.0s
BOAB IAmb IAmb 04 17 17.7
comp=Z,38nm,0.6s
CTUV Llano Grande 7.98 322 *e*P **Pn 04 17 11.6 -2.3**
CTUV *e*S **Sn 04 18 37.4 -5.1**
ACIG Acambay 8.02 307 *e*P **Pn 04 17 14.4 -0.3**
ACIG *e*S **Sn 04 18 38.0 -5.9**
MORN Al O del Volca 8.10 116 *i* P **Pn 04 17 15.4 -0.3**
MORN IAmb IAmb 04 17 18.2
comp=Z,140nm,0.4s
MORN IVmB_BB 04 17 19.9
comp=Z,5μm,1.0s
MORN IAML 04 18 48.9
comp=Z,300nm,1.0s
ACON Acoyapa 8.34 112 Pn **Pn 04 17 17.8 -1.2**
ACON Acoyapa 8.34 112 *i* P **Pn 04 17 19.0 +0.1**
ACON IAmb IAmb 04 17 19.9
comp=Z,48nm,0.7s
ACON IAML 04 17 20.3
comp=Z,97nm,1.0s
LCRUZ La Cruz 8.35 119 *e*P **Pn 04 17 20.4 +1.3**
ZIIG Zihuatanejo 8.39 288 *e*P **Pn 04 17 20.6 +1.1**
ZIIG *e*S **Sn 04 18 47.4 -5.2**
JRQG Juriquilla Cam 8.88 309 *e*P **Pn 04 17 28.8 +2.4**
JUD3 Juan Diaz 3 8.91 124 Pn **Pn 04 17 27.8 +1.0**
MOIG Morelia 8.91 301 Pn **Pn 04 17 30.3 +3.4**
MOIG Morelia 8.91 301 *e*P **Pn 04 17 30.1 +3.1**
COLC Colonia 8.92 120 *e*P **Pn 04 17 27.6 +0.8**
BAGA Bagaces 8.94 121 *e*P **Pn 04 17 28.6 +1.5**
CUI Cuipilapa 8.95 120 *e*P **Pn 04 17 28.2 +0.9**
ESPN Las Esperanzas 9.05 108 Pn **Pn 04 17 28.9 +0.4**
ESPN Las Esperanzas 9.05 108 *i* P **Pn 04 17 27.9 -0.7**
ESPN IAmb IAmb 04 17 30.1
comp=Z,34nm,1.0s
INDI Punta indio, G 9.12 125 *i* P **Pn 04 17 30.8 +1.3**
INDI IAmb IAmb 04 17 32.4
comp=Z,120nm,1.1s
INDI IVmB_BB 04 17 35.2
comp=Z,2μm,1.0s
LCHIL Los Chiles 9.15 116 *e*P **Pn 04 17 30.2 +0.3**
RPIG Rio Verde 9.31 316 *e*P **Pn 04 17 34.0 +1.8**
RPIG *e*S **Sn 04 19 10.9 -4.2**
JTS Las Juntas de 9.32 121 Pn **Pn 04 17 33.0 +0.7**
JTS Las Juntas de 9.32 121 P **Pn 04 17 33.1 +0.8**
comp=Z,27nm,0.3s,baz=97,slow=22,SNR=47
JTS S Sn 04 19 06.2 -9.3
comp=Z,5.7nm,0.3s,baz=72,slow=20,SNR=2.0
JTS Las Juntas de 9.32 121 *e*P **Pn 04 17 33.0 +0.7**
ARE1 Arenal 1 9.43 119 *e*P **Pn 04 17 34.9 +1.1**
SOCE Pocosol 9.55 119 Pn **Pn 04 17 35.4 -0.1**
SOCE Pocosol 9.55 119 *i* P **Pn 04 17 37.4 +1.9**
SOCE IAmb IAmb 04 17 45.2
comp=Z,37nm,0.4s
SOCE IVmB_BB 04 17 45.4
comp=Z,1μm,1.0s
COVE Coope Vega, Sa 9.57 117 *i* P **Pn 04 17 35.9 +0.2**
COVE IAmb IAmb 04 17 36.7
comp=Z,55nm,0.7s
GTIG Gomez Farias 9.69 324 *e*P **Pn 04 17 33.8 -3.4**
ZARE Zarcero 9.85 120 *e*P **Pn 04 17 41.2 +1.5**
HDC Heredia 10.18 120 Pn **Pn 04 17 44.5 +0.4**
ACOS Acosta 10.24 121 *e*P **Pn 04 17 46.0 +1.0**
MMIG Aquila 10.29 289 *e*P **Pn 04 17 46.7 +1.2**
MMIG *e*S **Sn 04 19 32.3 -6.7**
ABE2 San Pablo 10.38 121 *e*P **Pn 04 17 47.9 +1.0**
LCR2 La Lucha 2 10.40 121 Pn **Pn 04 17 47.8 +0.6**
LCR2 La Lucha 2 10.40 121 *i* P **Pn 04 17 48.6 +1.4**
LCR2 IVmB_BB 04 17 50.7
comp=Z,1μm,1.0s
LCR2 IAmb IAmb 04 17 50.8
comp=Z,160nm,0.7s
LCR2 La Lucha 2 10.40 121 *e*P **Pn 04 17 47.7 +0.5**
RAFA San Farael, Vo 10.45 119 *i* P **Pn 04 17 50.7 +2.7**
RAFA IAmb IAmb 04 17 52.9
comp=Z,320nm,0.7s
RAFA IVmB_BB 04 18 38.1
comp=Z,110μm,1.0s
VTCV VTCV, Calle Va 10.51 119 *e*P **Pn 04 17 49.1 +0.4**
VINA Juan Vinas 10.54 119 *e*P **Pn 04 17 51.9 +2.9**
COIG Colima 10.87 293 *e*P **Pn 04 17 53.2 -0.2**
COIG *e*S **Sn 04 19 49.7 -3.5**
JUBC Volcan de Coli 10.88 295 *e*P **Pn 04 17 55.1 +1.3**
JUBC *e*S **Sn 04 19 49.4 -4.4**
MNGA Volcan de Coli 10.91 294 *e*P **Pn 04 17 55.9 +1.8**
MNGA *e*S **Sn 04 19 49.8 -4.5**
INCO Volcan de Coli 10.92 295 *e*P **Pn 04 17 55.3 +1.0**
INCO *e*S **Sn 04 19 52.0 -2.7**
SOMAC Volcano de Col 10.94 294 *e*P **Pn 04 17 54.8 +0.1**
SOMAC *e*S **Sn 04 19 54.1 -1.2**
OCHAL Ojochal 11.05 122 *i* P **Pn 04 17 57.5 +1.7**
OCHAL IVmB_BB 04 18 00.0
comp=Z,3μm,1.0s
AAIG Aguscalientes 11.07 309 *e*P **Pn 04 17 52.1 -4.1**
CDAR Ciudad de Arme 11.08 291 *e*P **Pn 04 17 55.1 -1.1**
CDAR *e*S **Sn 04 19 55.2 -3.0**
CEGR Campo Tres 11.09 293 *e*P **Pn 04 17 58.0 +1.5**
CEGR *e*S **Sn 04 19 53.7 -5.0**
EDPN Palmar Norte 11.28 122 *e*P **Pn 04 18 00.9 +1.9**
ICC1 Isla del Coco 11.30 148 *i* P 04 18 05.2
ICC1 IVmB_BB 04 18 06.7
comp=Z,31μm,1.0s
ICC1 IAmb IAmb 04 18 06.9
comp=Z,2μm,0.6s
EDP2 Potrero Grande 11.48 121 *e*P **Pn 04 18 02.9 +1.2**
ZAIG Zacatecas 11.69 311 Pn **Pn 04 18 06.8 +2.1**
CIHU Emiliano Zapat 11.84 291 *e*P **Pn 04 18 05.0 -1.4**
CNI2 El Empalme, Bo 11.86 118 *e*P **Pn 04 18 07.2 +0.5**
MLIR3 Monte Lirio, C 11.89 121 *e*P **Pn 04 18 08.6 +1.4**
CDITO Canoas 11.98 122 *i* P **Pn 04 18 10.2 +2.0**
CDITO IAmb IAmb 04 18 19.8
comp=Z,54nm,0.9s
BRU2 Volcan 12.00 121 Pn **Pn 04 18 08.7 0.0**
BRU2 Volcan 12.00 121 *e*P **Pn 04 18 09.8 +1.1**
BRU2 Volcan 12.00 121 *i* P **Pn 04 18 08.2 -0.5**
BRU2 IAmb IAmb 04 18 18.8
comp=Z,65nm,0.6s
BCO2 Palmira 12.18 121 *i* P **Pn 04 18 11.7 +0.6**
baz=334,slow=7.9
PTPM Petroterminale 12.18 124 *e*P **Pn 04 18 12.6 +1.7**
CJM Chamela 12.19 292 *e*P **Pn 04 18 12.8 +1.9**
LNBQ3 Los Naranjos, 12.21 120 *e*P **Pn 04 18 10.3 -1.2**
ANIG Ahuacatlan 12.32 300 *e*P **Pn 04 18 13.7 +0.9**
MNIG Monterrey 12.34 328 *e*P **Pn 04 18 14.2 +1.2**
CHGR2 Aguacate 12.38 119 *e*P **Pn 04 18 13.3 -0.3**
DVD David 12.40 122 *e*P **Pn 04 18 14.9 +1.1**
HBVL Hebbronville 12.88 337 Pn **Pn 04 18 21.5 +1.5**
GMAL Guarumal, Vera 13.77 121 *e*P **Pn 04 18 33.1 +1.3**
735A Kenedy 14.25 343 Pn **Pn 04 18 38.0 +0.1**
833A Chaparral WMA, 14.28 337 Pn **Pn 04 18 37.9 -0.4**
833A Chaparral WMA, 14.28 337 P **Pn 04 18 39.5 +1.2**
baz=154,SNR=24
MCIG Muzquiz 14.81 330 *e*P **Pn 04 18 44.9 -0.1**
MLDN Muldoon 14.94 346 Pn **Pn 04 18 47.2 +0.4**
PDIG Papasquiaro 15.12 312 *e*P **Pn 04 18 48.6 -0.7**
HNDO Hondo 15.34 339 Pn **Pn 04 18 52.2 +0.5**
HNDO IAmb IAmb 04 18 57.9
comp=Z,36nm,0.8s
441A DeRidder 15.45 360 Pn **Pn 04 18 52.5 -0.7**
HNVL Huntsville, TX 15.61 352 IAmb IAmb 04 18 56.8
comp=Z,36nm,0.9s
435B Jarrell 16.02 346 IAmb IAmb 04 19 18.2
comp=Z,32nm,0.9s
435B Jarrell 16.02 346 P **Pn 04 19 00.9 +0.6**
baz=164
JCT Junction City 16.39 339 IAmb IAmb 04 19 43.9
comp=Z,25nm,0.8s
JCT Junction City 16.39 339 P **Pn 04 19 05.2 +0.3**
baz=156,SNR=11
346A Big Creek Wild 16.42 11 IAmb IAmb 04 19 22.3
comp=Z,36nm,0.8s
NATX Nacogdoches 16.52 355 P **Pn 04 19 06.5 +0.1**
baz=175,SNR=5.1
HPIG 16.52 317 P **P 04 19 09.3 +1.7**
HPIG 16.52 317 *e*P **P 04 19 09.7 +2.0**
HPIG 16.52 317 *i* P **P 04 19 10.6 +2.9**
HPIG IAmb IAmb 04 19 13.9
comp=Z,25nm,0.9s
DWPF Disney Wildern 16.76 38 P **P 04 19 10.7 +0.7**
baz=222
BCIG La Boquilla 16.78 319 *e*P **P 04 19 10.8 +0.4**
BRAL Brewton 16.80 18 IAmb IAmb 04 19 22.9
comp=Z,32nm,0.8s
BRAL Brewton 16.80 18 P **P 04 19 11.6 +1.2**
baz=200
VBMS Vicksburg 17.07 7 P **P 04 19 15.2 +1.8**
baz=188
TXAR Lajitas Array 17.10 327 Pn **P 04 19 14.9 +1.0**
TXAR **Pn 04 19 15.0 +1.3**
TXAR Lajitas Array 17.10 327 P **P 04 19 15.8 +1.9**
comp=Z,25nm,1.0s,baz=150,slow=14,SNR=110
TXAR LR LR 04 26 51.8
comp=Z,76nm,18.4s,baz=132,slow=40
TX31 Lajitas Ar. Si 17.10 327 IAmb IAmb 04 19 19.4
comp=Z,54nm,1.2s
WHTX Lake Whitney, 17.16 347 IAmb IAmb 04 19 23.3
comp=Z,31nm,0.6s
WHTX Lake Whitney, 17.16 347 P **P 04 19 16.1 +1.7**
baz=166
OZNA Ozona 17.27 336 IAmb IAmb 04 19 19.8
comp=Z,31nm,0.7s
FW14 Alvarado 17.50 348 IAmb IAmb 04 19 24.6
comp=Z,52nm,1.0s
250A Grady 17.79 19 P **Pn 04 19 21.8 -0.2**
352A Blakely 17.81 23 IAmb IAmb 04 19 43.0
comp=Z,36nm,1.1s
FW07 Weatherford 17.91 347 IAmb IAmb 04 19 50.4
comp=Z,27nm,0.9s
ALPN Alpine 17.93 329 IAmb IAmb 04 19 27.4
comp=Z,74nm,1.1s
SGCY Sterling City 18.16 338 P **Pn 04 19 26.2 -0.2**
FW03 Perrin-Whitt E 18.30 347 IAmb IAmb 04 20 05.0
comp=Z,32nm,0.8s
ABTX Abilene, Hawle 18.32 342 P **P 04 19 27.4 +0.3**
ABTX IAmb IAmb 04 19 35.5
comp=Z,21nm,0.6s
ABTX Abilene, Hawle 18.32 342 P **Pn 04 19 28.1 -0.2**
baz=159,SNR=11
TIGA Tifton 18.32 27 P **Pn 04 19 28.1 -0.2**
baz=210
WLAR White Oak Lake 18.38 360 IAmb IAmb 04 19 43.6
comp=Z,47nm,0.9s
Z35A Perchaven, San 18.41 349 IAmb IAmb 04 20 05.3
comp=Z,36nm,1.0s
LRAL Lakeview Retre 18.57 16 P **Pn 04 19 31.7 +0.5**
baz=199
Y45A Yeager Farm, C 18.83 9 IAmb IAmb 04 20 08.3
comp=Z,60nm,1.1s
WTFS Witchita Falls 19.09 346 IAmb IAmb 04 19 43.8
comp=Z,22nm,0.8s
MIAR Mount Ida 19.24 359 P **P 04 19 36.5 -0.6**
MIAR Mount Ida 19.24 359 P **P 04 19 36.7 -0.5**
baz=178,SNR=14
X37A Clayton 19.39 354 IAmb IAmb 04 20 01.8
comp=Z,40nm,1.1s
UALR University of 19.47 2 P **P 04 19 39.8 +0.1**
UALR IAmb IAmb 04 20 14.8
comp=Z,39nm,0.8s
OXF Oxford 19.48 9 Pn **Pn 04 19 43.2 +1.2**
OXF IAmb IAmb 04 20 04.7
comp=Z,51nm,1.1s
OXF Oxford 19.48 9 P **P 04 19 39.9 +0.1**
baz=191
CLNB Carlsbad 19.60 332 Pn **Pn 04 19 43.4 -0.2**
X34A Smith Ranch, M 19.76 348 IAmb IAmb 04 19 48.8
comp=Z,36nm,1.0s
WHAR Wooly Hollow 19.99 2 P **Pn 04 19 47.2 -0.7**
WHAR IAmb IAmb 04 20 20.0
comp=Z,27nm,0.9s
GOGA Godfrey 20.09 24 P **P 04 19 45.5 -0.9**
GOGA Godfrey 20.09 24 P **P 04 19 46.7 +0.4**
baz=208
WMOK Wichita Mounta 20.09 346 P **P 04 19 46.4 -0.1**
baz=164,SNR=11
PAPH Port-au-Prince 20.15 78 P **P 04 19 47.0 -0.2**
PLAL Pickwick Lake 20.18 12 P **P 04 19 47.6 +0.3**
FNO Franklin 20.32 350 P **P 04 19 48.2 -0.7**
FNO IAmb IAmb 04 20 25.8
comp=Z,41nm,0.9s
FCAR Ozark Folk Cen 20.59 2 IAmb IAmb 04 20 26.2
comp=Z,28nm,0.8s
MSTX Muleshoe 20.61 337 P **P 04 19 51.7 -0.5**
MSTX Muleshoe 20.61 337 P **P 04 19 52.1 -0.1**
baz=152,SNR=38
TUL3 Leonard 20.74 354 P **P 04 19 52.9 -0.5**
TUL3 IAmb IAmb 04 20 20.6
comp=Z,22nm,0.8s
TUL3 Leonard 20.74 354 P **P 04 19 54.2 +0.9**
baz=173,SNR=6.0
DEOK Depew 20.75 352 P **P 04 19 54.6 +1.0**
DEOK IAmb IAmb 04 20 31.1
comp=Z,38nm,1.0s
OTAV Otavalo 20.76 135 P **P 04 19 55.4 +1.2**
OTAV Otavalo 20.76 135 *i* P **P 04 19 54.5 +0.3**
OTAV IAmb IAmb 04 20 09.9
comp=Z,7.7nm,1.3s
OTAV Otavalo 20.76 135 *e*P Pn 04 19 56.6 -0.9
LCAR Lake Charles 20.82 4 IAmb IAmb 04 20 09.1
comp=Z,23nm,0.7s
PULU Pululahua 20.88 135 P **P 04 19 57.0 +1.5**
OK031 S. Brethren Rd 20.91 351 IAmb IAmb 04 20 31.8
comp=Z,58nm,1.1s
RLO Rose Lookout 20.92 356 IAmb IAmb 04 20 32.8
comp=Z,22nm,0.9s
AMTX Amarillo 21.04 340 P **P 04 19 57.1 +0.3**
baz=156
ROSC El Rosal 21.14 117 P **P 04 19 57.6 -0.7**
ROSC IAmb IAmb 04 20 03.8
comp=Z,20nm,0.6s
ROSC El Rosal 21.14 117 P **P 04 19 57.3 -1.0**
comp=Z,11nm,0.7s,baz=315,slow=5.7,SNR=8.4
comp=Z,11nm,0.7s
SDDR Presa de Saban 21.16 77 P **P 04 19 59.1 +1.0**
WVT Waverly 21.34 12 P **P 04 20 01.4 +1.7**
baz=194
OK048 Pawnee Station 21.38 351 IAmb IAmb 04 20 01.9
comp=Z,28nm,0.7s
OK051 E0350 and S346 21.45 352 IAmb IAmb 04 20 02.5

comp=Z,36nm,0.7s
HSIG 21.46 313 P P 04 20 02.3 +1.1
PBMO Poplar Bluff 21.59 6 IAmb IAmb 04 20 35.8
comp=Z,41nm,1.1s
OK038 West end E0370 21.76 348 P P 04 20 05.3 +1.0
OK038 IAmb IAmb 04 20 05.9
comp=Z,18nm,0.6s
BLOK Blackwell 21.76 351 IAmb IAmb 04 20 39.6
comp=Z,33nm,1.0s
121A Cookes Peak, D 21.81 325 IAmb IAmb 04 20 09.7
comp=Z,48nm,1.1s
121A Cookes Peak, D 21.81 325 P P 04 20 07.1 +2.1
baz=139,SNR=18
T35A Sooner Cattle 21.81 353 IAmb IAmb 04 20 26.0
comp=Z,40nm,1.0s
MGMO Mountain Grove 21.85 2 P P 04 20 04.7 -0.5
319A Douglas 21.86 320 P P 04 20 07.8 +2.4
OK032 Salt Plains WL 21.97 349 IAmb IAmb 04 20 26.1
comp=Z,21nm,0.7s
OK035 E0210 Rd and N 21.97 348 IAmb IAmb 04 20 08.7
comp=Z,26nm,0.9s
TKL Tuckaleechee C 21.98 21 P P 04 20 06.1 -0.5
comp=Z,1.6nm,0.5s,baz=202,slow=11,SNR=4.7
comp=Z,1.6nm,0.5s
KAN13 South Haven SW 22.05 351 IAmb IAmb 04 20 18.8
comp=Z,55nm,1.2s
KAN14 Manchester OK 22.07 350 IAmb IAmb 04 20 08.5
comp=Z,48nm,1.4s
KAN17 Caldwell West 22.12 350 P P 04 20 08.1 0.0
KAN17 IAmb IAmb 04 20 43.1
comp=Z,67nm,1.5s
KAN09 Caldwell North 22.19 350 IAmb IAmb 04 20 09.4
comp=Z,23nm,0.5s
KAN01 Argonia South 22.23 350 IAmb IAmb 04 20 09.8
comp=Z,20nm,0.5s
KAN06 Argonia West S 22.34 350 IAmb IAmb 04 20 11.7
comp=Z,28nm,0.9s
Y22D IRIS PASSCAL I 22.54 329 P P 04 20 14.6 +1.9
Y22D IAmb IAmb 04 20 37.6
comp=Z,47nm,1.0s
Y22D IRIS PASSCAL I 22.54 329 P P 04 20 15.0 +2.3
baz=143
S44A Carbondale 22.63 8 IAmb IAmb 04 20 50.7
comp=Z,33nm,0.9s
CCM Cathedral Cave 22.79 4 P P 04 20 12.8 -2.2
CCM Cathedral Cave 22.79 4 P P 04 20 13.1 -1.9
baz=184
SDV Santo Domingo 22.83 103 LR LR 04 31 30.2
comp=Z,82nm,18.4s,baz=238,slow=43
TZTN Tazewell 22.86 20 P P 04 20 18.1 +2.3
baz=204
R40A Maddies Statio 22.98 2 P P 04 20 14.4 -2.4
ANMO Albuquerque 23.02 331 P P 04 20 18.4 +0.9
ANMO Albuquerque 23.02 331 P P 04 20 18.8 +1.2
baz=145
TUC Tucson 23.43 320 P P 04 20 23.4 +2.2
baz=132
R32A Long Quarter, 23.63 349 IAmb IAmb 04 21 00.9
comp=Z,35nm,1.2s
WCI Wyandotte Cave 23.68 13 P P 04 20 25.5 +2.2
baz=196
KSU1 Kansas State U 23.98 353 IAmb IAmb 04 21 02.9
comp=Z,15nm,0.8s
KSU1 Kansas State U 23.98 353 P P 04 20 24.4 -1.6
baz=172,SNR=6.7
T25A Trinidad 24.03 337 P P 04 20 29.1 +2.4
baz=152,SNR=43
P40A Paris 24.23 2 P P 04 20 26.4 -1.8
P40A IAmb IAmb 04 21 02.6
comp=Z,27nm,0.9s
P38A Dawn 24.31 359 IAmb IAmb 04 20 52.2
comp=Z,21nm,1.1s
SDCO Great Sand Dun 24.98 336 IAmb IAmb 04 20 38.4
comp=Z,36nm,1.4s
SDCO Great Sand Dun 24.98 336 P P 04 20 37.5 +2.0
baz=151,SNR=32
KSCO Kaye Shedlock' 25.14 342 P P 04 20 37.3 +0.7
baz=158
X16A Lo Mia Camp, P 25.27 322 P P 04 20 39.8 +1.7
P49A Miami Univ. Ec 25.30 15 P P 04 20 40.4 +2.4
baz=199
HDIL Hopedale 25.45 7 P P 04 20 42.3 +3.0
baz=188
S22A 4UR Ranch, Cre 25.52 334 IAmb IAmb 04 20 43.7
comp=Z,29nm,0.9s
S22A 4UR Ranch, Cre 25.52 334 P P 04 20 42.7 +2.3
baz=148,SNR=50
SFIN Lafayette 25.59 11 P P 04 20 42.8 +2.2
baz=193
113A Mohawk Valley, 25.65 317 P P 04 20 42.6 +1.4
113A IAmb IAmb 04 21 09.6
comp=Z,26nm,1.3s
MVCO Mesa Verde 25.82 331 P P 04 20 45.0 +2.0
MVCO Mesa Verde 25.82 331 P P 04 20 44.8 +1.8
baz=144,SNR=40
Q24A Divide 25.92 338 P P 04 20 46.0 +2.1
baz=152
WUAZ Wupatki 26.02 324 P P 04 20 46.4 +1.7
WUAZ Wupatki 26.02 324 P P 04 20 46.9 +2.2
baz=136
ATAH Atahualpa 26.56 146 P P 04 20 49.9 -0.2
comp=Z,5.2nm,0.8s,baz=322,slow=12,SNR=4.0
comp=Z,5.2nm,0.8s
SCIA State Center 26.58 360 P P 04 20 52.7 +3.1
baz=180
OGNE Ogallala 26.78 345 P P 04 20 52.1 +0.7
baz=160
SMCO Snowmass 26.80 336 P P 04 20 52.2 +0.3
ISCO Idaho Springs 26.82 338 P P 04 20 53.1 +1.1
baz=152
PDMCI Parker Dam,Lak 26.85 319 P P 04 20 53.5 +1.4
baz=130
O53A New Philadelph 26.99 20 P P 04 20 55.1 +1.8
baz=206
W13A Hualapai Mount 27.21 320 P P 04 20 56.9 +1.4
BC3 Big Chuckawall 27.31 316 P P 04 20 58.3 +2.0
baz=127,SNR=6.0
IRM Iron Mountain 27.41 317 P P 04 20 59.9 +2.8
baz=128
MONP2 Monument Peak 27.53 314 P P 04 21 00.7 +2.4
baz=124
BELC Belle Mtn. Jos 27.88 316 P P 04 21 03.0 +1.6
baz=127
N23A Red Feather La 27.91 339 P P 04 21 03.9 +2.2
baz=153
TPFO Pinon Flats 27.95 315 P P 04 21 03.0 +0.9
baz=125
PFO Pinyon Flats O 27.96 315 P P 04 21 03.0 +0.9
baz=125
PFO Pinyon Flats O 27.96 315 LR LR 04 32 07.3
comp=Z,71nm,18.0s,baz=63,slow=36
O20A White River Ci 28.12 335 IAmb IAmb 04 21 06.6
comp=Z,12nm,0.9s
O20A White River Ci 28.12 335 P P 04 21 05.2 +1.7
baz=148,SNR=7.2
GMRC Granite Mounta 28.13 318 P P 04 21 05.3 +1.7
baz=128
M53A Wl Miller and 28.24 20 P P 04 21 07.1 +2.8
baz=206
Q16A Castle Valley 28.46 329 P P 04 21 08.4 +1.9
P18A Preston Nutter 28.58 332 P P 04 21 08.6 +0.9
P18A IAmb IAmb 04 21 11.2
comp=Z,18nm,1.4s
CCUT Cedar City 28.59 325 P P 04 21 10.3 +2.6
HEC Hector,Ludlow 28.59 317 P P 04 21 09.5 +1.9
baz=127
SMRT St. Maarten 28.87 80 P P 04 21 11.8 +1.6
RDMU Red Mountain 29.05 334 IAmb IAmb 04 21 14.6
comp=Z,13nm,0.8s
MPU Maple Canyon 29.54 330 IAmb IAmb 04 21 19.5
comp=Z,9.8nm,0.8s
K22A Casper 29.67 340 P P 04 21 17.7 +0.5
K22A IAmb IAmb 04 21 19.2
comp=Z,14nm,0.9s
TPNV Topopah Spring 29.86 321 P P 04 21 21.2 +2.2
baz=130
SPMN Marine on St. 29.90 0 IAmb IAmb 04 21 42.5
comp=Z,9.3nm,0.7s
SNCC San Nicolas Is 29.92 312 P P 04 21 20.9 +1.6
baz=120
FURC Furnace Creek, 29.94 319 P P 04 21 21.5 +2.1
baz=129
MPMC Manual Prospec 30.09 318 P P 04 21 22.9 +1.9
baz=127
CTU Camp Tracy 30.12 331 IAmb IAmb 04 21 24.7
comp=Z,10nm,1.0s
DUG Dugway, Tooele 30.25 329 P P 04 21 24.9 +2.6
baz=140
RSSD Black Hills 30.27 344 P P 04 21 22.9 +0.4
RSSD Black Hills 30.27 344 P P 04 21 22.9 +0.4
baz=159
R11B Troy Canyon, C 30.40 324 P P 04 21 25.1 +1.4
baz=133
CZSB Cruzeiro do Su 30.46 137 IAmb IAmb 04 21 27.4
comp=Z,13nm,0.9s
CZSB Cruzeiro do Su 30.46 137 eP P 04 21 24.8 +0.5
HWUT Hardware Ranch 30.77 332 IAmb IAmb 04 21 30.6
comp=Z,14nm,1.1s
BW06 Boulder Array 30.88 336 P P 04 21 29.0 +1.1
baz=148,SNR=9.4
PDAR Pinedale Array 30.88 336 P P 04 21 28.0 0.0
PDAR Pinedale Array 30.88 336 P P 04 21 28.8 +0.8
comp=Z,3.1nm,0.8s,baz=138,slow=9.8,SNR=23
PDAR LR LR 04 37 33.3
comp=Z,40nm,20.2s,baz=84,slow=43
comp=Z,3.1nm,0.8s
VES Vestal, Richgr 31.01 316 P P 04 21 31.0 +2.1
baz=125
TPH Tonopah 31.18 321 IAmb IAmb 04 21 38.2
comp=Z,10nm,0.8s
NNA Nana 31.46 148 LR LR 04 33 36.0
comp=Z,48nm,18.1s,baz=324,slow=35
AHID Auburn Hatcher 31.50 334 IAmb IAmb 04 21 35.9
comp=Z,13nm,0.8s
E28A Huff 31.89 350 IAmb IAmb 04 21 37.0
comp=Z,18nm,1.1s
NVAR Mina Array Bea 32.06 321 P P 04 21 40.3 +1.9
NVAR Mina Array Bea 32.06 321 P P 04 21 41.4 +3.0
comp=Z,6.3nm,0.8s,baz=134,slow=8.7,SNR=47
NVAR pP pP 04 22 03.1 +2.2
comp=Z,10nm,0.8s,baz=134,slow=8.9,SNR=16
NVAR PcP PcP 04 24 26.2 +0.4
comp=Z,0.5nm,0.7s,baz=145,slow=3.3,SNR=2.0
NVAR LR LR 04 35 38.7
comp=Z,53nm,21.1s,baz=109,slow=38
comp=Z,6.3nm,0.8s
MOOW Moose Ponds 32.17 336 IAmb IAmb 04 21 41.8
comp=Z,16nm,0.9s
FXWY Fox Creek 32.19 335 IAmb IAmb 04 21 42.1
comp=Z,12nm,0.8s
L61B Northampton 32.30 29 P P 04 21 42.2 +2.0
baz=219
IMW Indian Meadow 32.37 336 IAmb IAmb 04 21 44.4
comp=Z,14nm,0.7s
FLWY Flagg Ranch 32.43 336 IAmb IAmb 04 21 44.3
comp=Z,14nm,0.8s
EYMN Ely 32.65 2 P P 04 21 44.8 +1.7
baz=183
RLMT Red Lodge 32.79 339 P P 04 21 45.6 +1.0
RLMT IAmb IAmb 04 21 46.5
comp=Z,5.9nm,0.7s
RLMT Red Lodge 32.79 339 P P 04 21 46.0 +1.4
baz=150,SNR=5.9
MDND Maddock 32.97 352 P P 04 21 46.8 +0.9
baz=168
AGMN Agassiz Nation 33.05 357 IAmb IAmb 04 22 24.3
comp=Z,7.7nm,1.0s
LONY Lake Ozonia 33.23 24 P P 04 21 50.0 +1.8
baz=214
HLID Hailey 33.60 331 IAmb IAmb 04 21 54.9
comp=Z,10nm,1.1s
HLID Hailey 33.60 331 P P 04 21 53.6 +1.9
baz=141,SNR=12
TEFE Tefe 33.76 121 eP P 04 21 52.5 -0.7
LBNH Lisbon 34.05 28 P P 04 21 56.8 +1.5
baz=218
BOZ Bozeman (W) 34.06 336 P P 04 21 57.4 +1.8
baz=147,SNR=8.9
MFID Camas Ranch 34.16 330 IAmb IAmb 04 22 01.0
comp=Z,7.8nm,1.1s
DGMT Dagmar 34.39 347 P P 04 21 59.6 +1.4
baz=161
ULM Lac du Bonnet 35.00 357 P P 04 22 01.1 -2.3
comp=Z,1.8nm,0.4s,baz=176,slow=9.2,SNR=4.4
ULM pP pP 04 22 25.0 -1.5
comp=Z,2.3nm,0.6s,baz=140,slow=9.2,SNR=3.3
ULM LR LR 04 38 43.0
comp=Z,32nm,19.6s,baz=119,slow=40
comp=Z,1.8nm,0.4s
EGMT Eagleton 35.49 341 P P 04 22 09.1 +1.4
baz=152
PLID Pearl Lake 35.50 332 P P 04 22 08.8 +0.7
BMO Blue Mountains 35.94 330 IAmb IAmb 04 22 13.9
comp=Z,7.5nm,1.1s
MSO Missoula 35.99 335 P P 04 22 13.7 +1.6
baz=144,SNR=9.7
ETMB Extrema 36.44 131 P P 04 22 14.7 -1.5
ETMB IAmb IAmb 04 22 18.6
comp=Z,8.0nm,0.6s
ETMB Extrema 36.44 131 eP P 04 22 15.5 -0.7
YBH Yreka Blue Hor 36.76 322 LR LR 04 38 23.9
comp=Z,34nm,19.7s,baz=139,slow=38
MACA Manacapuru-AM 36.91 117 P P 04 22 19.2 -1.0
MACA Manacapuru-AM 36.91 117 eP P 04 22 19.6 -0.6
E09A Wood Farm, Sta 37.56 331 IAmb IAmb 04 22 27.1
comp=Z,8.1nm,1.1s
SAML Samuel 38.14 127 P P 04 22 28.3 -2.3
SAML Samuel 38.14 127 eP P 04 22 28.9 -1.7
H04A Detroit Lake 38.32 326 IAmb IAmb 04 22 35.5
comp=Z,7.5nm,0.6s
NEW Newport 38.44 334 P P 04 22 33.5 +0.8
baz=141
C09A Chrisman Ranch 38.58 333 IAmb IAmb 04 22 36.2
comp=Z,12nm,0.8s
LTY Liberty 39.30 330 IAmb IAmb 04 22 42.8
comp=Z,14nm,1.2s
LPAZ La Paz 39.84 141 P P 04 22 45.4 0.0
LPAZ La Paz 39.84 141 P P 04 22 45.3 -0.1
comp=Z,2.9nm,0.6s,baz=319,slow=7.7,SNR=9.4
LPAZ PcP PcP 04 24 49.8 +0.1
comp=Z,0.6nm,0.5s,baz=352,slow=2.9,SNR=1.9
comp=Z,2.9nm,0.6s
LPAZ La Paz 39.84 141 eP P 04 22 44.9 -0.5
ITTB Itaituba 41.80 115 eP P 04 22 58.8 -2.1
VILB Vilhena 42.93 129 P P 04 23 09.0 -1.0
VILB IAmb IAmb 04 23 09.9
comp=Z,8.8nm,0.7s
VILB Vilhena 42.93 129 eP P 04 23 09.1 -1.0
BRLDA Berland Lookou 43.19 339 P P 04 23 11.7 0.0
BRLDA IAmb IAmb 04 23 13.1
comp=Z,15nm,0.9s
NPGB Novo Progresso 43.44 118 eP P 04 23 10.6 -3.5
CBB Campbell River 43.47 330 P P 04 23 15.7 +1.9
CBB IAmb IAmb 04 23 17.2
comp=Z,6.0nm,0.7s
SIV San Ignacio 44.29 133 P P 04 23 20.4 -0.5
comp=Z,11nm,0.8s,baz=301,slow=10,SNR=38
SIV PcP PcP 04 25 04.4 +0.7
comp=Z,3.8nm,0.6s,baz=291,slow=3.6,SNR=7.4
comp=Z,11nm,0.8s
SCHQ Schefferville 44.45 21 LR LR 04 41 58.0
comp=Z,59nm,18.0s,baz=204,slow=36
PDRB Porto dos Gac 44.80 124 eP P 04 23 22.9 -2.1
RPN Rapa Nui 44.97 201 LR LR 04 37 47.0
comp=Z,45nm,18.0s,baz=132,slow=30
PTLB Pontes e Lacer 45.32 131 P P 04 23 28.2 -0.8
PTLB IAmb IAmb 04 23 30.5
comp=Z,18nm,1.4s
PTLB Pontes e Lacer 45.32 131 eP P 04 23 28.3 -0.8
BBSD Serra de San D 45.42 134 eP P 04 23 29.2 -0.7
PRPB Parauapebas 47.85 113 eP P 04 23 46.4 -2.5
SALV Santo Antonio 48.17 128 eP P 04 23 50.4 -0.9
SNDB Serra Nova Dou 49.42 121 eP P 04 23 59.9 -1.0
YKA Yellowknife Ar 49.60 347 P P 04 24 00.9 -0.6
comp=Z,4.0nm,0.7s,baz=151,slow=7.4,SNR=18
YKA pP pP 04 24 24.4 -1.3
comp=Z,1.9nm,0.6s,baz=153,slow=7.3,SNR=5.6
comp=Z,4.0nm,0.7s
TOAD Toad River Com 49.62 339 P P 04 24 02.8 +0.9
baz=138,SNR=7.4
V35K Ketchikan 49.78 332 P P 04 24 04.8 +1.8
baz=128
KOTAN Kotaneelee Air 50.19 340 P P 04 24 08.1 +2.0
baz=140
T35M Bob Quinn 50.24 335 IAmb IAmb 04 24 10.5
comp=Z,6.8nm,0.8s
T35M Bob Quinn 50.24 335 P P 04 24 08.5 +1.9
baz=131
CRAG Craig 50.55 332 P P 04 24 10.4 +1.6
baz=126
RVDE Rio Verde (Bra 50.68 131 eP P 04 24 09.6 -0.8
U33K Whale Pass 50.94 332 P P 04 24 13.7 +2.0
baz=127
SMTB Santa Maria do 51.04 115 eP P 04 24 12.6 -0.6
ARAG Araguaiana, MT 51.05 125 eP P 04 24 12.0 -1.2
DLBC Dease Lake 51.11 336 P P 04 24 16.1 +3.0
baz=132,SNR=15
S34M Telegraph Cree 51.21 335 IAmb IAmb 04 24 17.6
comp=Z,7.4nm,0.8s
S34M Telegraph Cree 51.21 335 P P 04 24 17.0 +3.2
baz=130,SNR=6.1
FRB Frobisher Bay 51.36 14 LR LR 04 47 14.2
comp=Z,51nm,19.5s,baz=172,slow=37
WTLY Watson Lake, Y 51.80 338 P P 04 24 19.0 +0.8
WTLY Watson Lake, Y 51.80 338 P P 04 24 20.7 +2.6
baz=134
R33M Jennings River 52.11 337 IAmb IAmb 04 24 23.6
comp=Z,7.5nm,0.9s
R33M Jennings River 52.11 337 P P 04 24 23.4 +2.7
baz=131,SNR=9.5
Q32M Nakina River 52.34 336 P P 04 24 25.2 +2.7
baz=130,SNR=9.6
S32K Killisnoo 52.39 333 P P 04 24 24.2 +1.7
baz=126
WRGLY Wrigley 52.42 343 IAmb IAmb 04 24 25.1
comp=Z,12nm,1.1s
WRGLY Wrigley 52.42 343 P P 04 24 24.1 +1.4
baz=142
SIT Sitka 52.48 332 P P 04 24 24.3 +1.1
baz=125
TGTN Hyland Airport 52.61 340 P P 04 24 26.5 +2.2
baz=136
R32K Eaglecrest 52.84 334 P P 04 24 27.8 +1.9
baz=127
P32M Atlin 53.31 336 P P 04 24 31.5 +2.1
baz=128
P33M Teslin, Yukon 53.36 337 IAmb IAmb 04 24 32.7
comp=Z,14nm,1.4s
P33M Teslin, Yukon 53.36 337 P P 04 24 31.7 +2.0
baz=130
CPUP Villa Florida 53.99 140 P P 04 24 33.3 -1.4
comp=Z,5.0nm,1.0s,baz=343,slow=6.5,SNR=7.6
CPUP PcP PcP 04 25 38.7 0.0
comp=Z,2.9nm,1.0s,baz=2.7,slow=6.4,SNR=3.2
comp=Z,5.0nm,1.0s
BDFB Brasilia 54.06 123 P P 04 24 34.9 -0.6
comp=Z,8.5nm,0.5s,baz=295,slow=9.2,SNR=28
comp=Z,8.5nm,0.5s
PLBC Pleasant Camp 54.31 334 P P 04 24 38.4 +1.8
baz=125
MMPY Sheldon Lake, 54.39 339 P P 04 24 39.2 +2.0
baz=133,SNR=13
FARO Faro, Yukon 54.85 338 P P 04 24 42.5 +2.0
baz=130
P30M Million Dollar 54.95 335 P P 04 24 43.1 +1.8
baz=125
O30N Mendenhall 54.98 336 P P 04 24 42.8 +1.3
O30N IAmb IAmb 04 24 44.5
comp=Z,5.6nm,0.9s
O30N Mendenhall 54.98 336 P P 04 24 43.6 +2.1
baz=126
P29M Windy Craggy 54.99 334 P P 04 24 43.4 +1.8
baz=124
SDBA SAO DESIDERIO 55.03 117 eP P 04 24 41.4 -1.1
IPMB Ipameri, GO 55.18 125 eP P 04 24 42.4 -1.1
M31M Drury Creek, Y 55.21 338 IAmb IAmb 04 24 46.4
comp=Z,9.4nm,1.3s
M31M Drury Creek, Y 55.21 338 P P 04 24 45.2 +2.1
baz=129
N31M Braeburn, Yuko 55.29 337 P P 04 24 45.7 +2.0
baz=127
HYT Haines Junctio 55.57 335 P P 04 24 47.7 +1.9
baz=125
O29M Mount Kennedy 55.71 335 P P 04 24 48.8 +1.9
baz=124
PNL Peninsula 55.72 334 P P 04 24 48.6 +1.8
baz=122
N30M Aishikik Lake 55.78 336 P P 04 24 49.4 +2.2
baz=126
M30M Minto, Yukon 56.33 337 P P 04 24 53.1 +2.0
baz=127
MAYO Mayo, Yukon 56.62 339 P P 04 24 55.5 +2.3
baz=128
O28M Mount Upton 56.64 334 P P 04 24 55.4 +1.7
baz=122
YUK8 Steele Glacier 56.74 335 P P 04 24 56.0 +1.7
baz=123
JANB Januaria 56.82 120 eP P 04 24 54.3 -1.0
M29M Somme Creek 56.88 337 P P 04 24 57.1 +2.0
baz=125,SNR=18
L29M L29M 57.14 337 IAmb IAmb 04 24 59.3
comp=Z,9.0nm,1.0s
L29M L29M 57.14 337 P P 04 24 58.8 +1.9
baz=126,SNR=7.0
K29M Barlow Dome 57.35 338 P P 04 24 59.9 +1.5
baz=127,SNR=5.9
J30M Hart River 57.38 339 IAmb IAmb 04 25 01.8
comp=Z,4.0nm,0.7s
J30M Hart River 57.38 339 P P 04 25 00.3 +1.7
baz=128,SNR=7.0
I30M Mount Dempster 57.80 340 IAmb IAmb 04 25 03.5
comp=Z,8.8nm,0.9s
I30M Mount Dempster 57.80 340 P P 04 25 02.5 +1.0
baz=128,SNR=12
KAIM Kayak Island 58.05 332 P P 04 25 05.6 +2.5
baz=117
MCARA McCarthy VSAT 58.14 334 P P 04 25 06.1 +2.3
baz=120
DAWY Dawson 58.15 338 P P 04 25 05.2 +1.3
baz=125
M27K Edge Creek, AK 58.16 336 P P 04 25 04.8 +0.7
baz=121
G31M Satah River 58.25 342 P P 04 25 04.5 +0.1
G31M Satah River 58.25 342 P P 04 25 05.3 +0.9
baz=132,SNR=8.4
F31M Tsiigehtchic 58.44 343 P P 04 25 07.0 +1.2
baz=132
BCAR Beaver Creek A 58.50 336 P P 04 25 06.7 +0.3
L27K Beaver Creek, 58.51 336 IAmb IAmb 04 25 09.1
comp=Z,6.7nm,0.9s
L27K Beaver Creek, 58.51 336 P P 04 25 08.6 +2.1
baz=122,SNR=7.4
I29M Ogilvie Camp, 58.53 340 IAmb IAmb 04 25 08.0
comp=Z,6.8nm,1.0s
I29M Ogilvie Camp, 58.53 340 P P 04 25 07.4 +0.9
baz=126,SNR=7.2
EPYK Eagle Plains 58.63 341 IAmb IAmb 04 25 09.0
comp=Z,7.0nm,1.0s
EPYK Eagle Plains 58.63 341 P P 04 25 08.7 +1.5
baz=129
M26K Nabesna, AK 58.63 335 P P 04 25 08.3 +1.0
baz=120
Q23K Middleton Isla 58.70 331 P P 04 25 09.6 +1.9
baz=115
G30M tAoh Zraii Nji 58.87 342 IAmb IAmb 04 25 12.7
comp=Z,5.2nm,1.1s
G30M tAoh Zraii Nji 58.87 342 P P 04 25 09.6 +0.8
baz=130
N25K Chitina, Valde 58.91 334 P P 04 25 11.5 +2.3
baz=118
INK Inuvik 58.97 344 P P 04 25 09.2 -0.2
INK Inuvik 58.97 344 P P 04 25 10.2 +0.8
baz=133,SNR=20
INK Inuvik 58.97 344 LR LR 04 55 59.7
comp=Z,36nm,18.1s,baz=185,slow=41
DIAM Diamantina, MG 58.98 123 eP P 04 25 10.0 -0.5
VAO Valinhos 58.99 129 P P 04 25 10.0 -0.4
VAO Valinhos 58.99 129 eP P 04 25 10.3 -0.1
H29M Whitestone 59.07 340 IAmb IAmb 04 25 12.0
comp=Z,7.5nm,0.8s
H29M Whitestone 59.07 340 P P 04 25 11.6 +1.4
baz=127,SNR=5.2
L26K Log Cabin Wild 59.09 336 P P 04 25 12.2 +1.9
baz=120
K27K Chicken 59.12 337 P P 04 25 12.6 +2.0
baz=122
I28M Miner Creek 59.14 339 P P 04 25 11.7 +1.0
baz=125
F30M Barrier River 59.14 342 P P 04 25 11.8 +1.1
baz=130,SNR=8.2
EGAK Eagle 59.19 338 IAmb IAmb 04 25 12.5
comp=Z,4.9nm,0.9s
EGAK Eagle 59.19 338 P P 04 25 12.1 +1.1
baz=123
G29M Pine Creek 59.38 341 P P 04 25 13.4 +1.1
baz=128
KLU Klutina 59.42 334 P P 04 25 14.6 +1.8
baz=117
BSCB Bom Sucesso 59.54 126 eP P 04 25 13.3 -0.8
I27K Kandik River 59.80 339 P P 04 25 16.5 +1.2
baz=123,SNR=9.4
SCRK Sand Creek 59.81 337 IAmb IAmb 04 25 18.8

comp=Z,5.9nm,1.2s
SCRK Sand Creek 59.81 337 P P 04 25 17.4 +1.9
baz=120
PAX Paxson 59.91 335 P P 04 25 17.5 +1.4
baz=118
J26L Joseph Creek 59.92 337 IAmb IAmb 04 25 18.9
comp=Z,7.5nm,1.0s
J26L Joseph Creek 59.92 337 P P 04 25 18.2 +2.0
baz=121,SNR=7.6
H27K Steamboat Moun 60.12 340 P P 04 25 18.7 +1.3
baz=124,SNR=5.6
I26K Coal Creek Min 60.19 338 P P 04 25 19.0 +1.2
baz=121
GDU01 Guandu, BA 60.23 116 *eP* **P 04 25 18.8 -0.2**
E29M Blow River 60.25 342 P P 04 25 19.6 +1.4
baz=128,SNR=10
F28M Old Crow 60.38 341 P P 04 25 20.5 +1.3
baz=126,SNR=18
G27K Doyon Strip 60.48 340 IAmb IAmb 04 25 21.8
comp=Z,6.1nm,1.2s
G27K Doyon Strip 60.48 340 P P 04 25 21.1 +1.2
baz=124,SNR=5.5
SML Sawmill 60.59 333 P P 04 25 21.8 +1.0
baz=114
J25K Salcha River, 60.65 337 P P 04 25 22.4 +1.3
baz=119
WAT6 Susitna Watana 60.67 334 P P 04 25 22.9 +1.5
baz=115
PMR Palmer 60.85 333 P P 04 25 23.8 +1.4
baz=114
E28M Babbage River 60.87 342 IAmb IAmb 04 25 24.1
comp=Z,7.5nm,0.9s
E28M Babbage River 60.87 342 P P 04 25 23.5 +1.1
baz=127,SNR=5.4
CMC01 Camacan, BA 61.02 117 *eP* **P 04 25 23.0 -1.3**
D28M Stokes Point 61.08 343 P P 04 25 25.1 +1.3
baz=128
PRP Porcupine Dome 61.15 338 IAmb IAmb 04 25 26.7
comp=Z,9.8nm,1.0s
PRP Porcupine Dome 61.15 338 P P 04 25 26.0 +1.4
baz=119,SNR=7.0
HDA Harding Lake 61.16 336 P P 04 25 26.0 +1.5
baz=117
SJMB Sao Joao De Ma 61.22 122 *eP* **P 04 25 25.9 +0.3**
E27K Coleen River 61.24 341 P P 04 25 26.4 +1.4
baz=124,SNR=13
G26K Porcupine Rive 61.27 340 P P 04 25 26.5 +1.3
baz=122
Q20K Shuyak Island 61.30 329 P P 04 25 26.6 +1.1
baz=109
ILAR Eielson Array 61.30 337 P P 04 25 26.1 +0.7
ILAR Eielson Array 61.30 337 P P 04 25 25.9 +0.5
comp=Z,3.0nm,0.9s,baz=124,slow=4.9,SNR=25
ILAR pP **pP 04 25 51.2 +1.1**
comp=Z,2.1nm,0.8s,baz=127,slow=5.7,SNR=6.4
comp=Z,3.0nm,0.9s
GUA01 Guaratinga, BA 61.35 119 *eP* **P 04 25 26.5 0.0**
SUA Susitna One 61.52 333 P P 04 25 28.6 +1.5
baz=112
H25L Birch Creek 61.62 339 P P 04 25 29.3 +1.8
baz=119
D27M Malcolm River 61.66 343 P P 04 25 29.1 +1.3
baz=126
CUT Chulitna 61.67 334 P P 04 25 29.2 +1.4
baz=113
F26K Sheenjek River 61.78 340 P P 04 25 30.6 +1.9
baz=122,SNR=5.3
BMAR Burnt Mountain 61.78 340 P P 04 25 29.7 +1.0
G25K Bearman Lake 61.97 339 P P 04 25 31.8 +2.0
baz=119
SKT Skwentna 62.05 333 P P 04 25 31.8 +1.3
baz=111
NEA2 Nenana 62.07 336 P P 04 25 32.0 +1.4
baz=115
N20K Mount Spurr 62.08 332 P P 04 25 31.6 +0.8
baz=110
H24K Noodor Dome 62.16 338 P P 04 25 32.0 +0.7
H24K IAmb IAmb 04 25 33.4
comp=Z,7.5nm,0.8s
H24K Noodor Dome 62.16 338 P P 04 25 32.7 +1.5
baz=117,SNR=6.6
RIB01 Linhares ES 62.17 122 *eP* **P 04 25 31.6 -0.4**
F25K Christian Rive 62.22 340 P P 04 25 32.8 +1.2
baz=120,SNR=8.5
G24K Hadweenzic Riv 62.41 339 P P 04 25 34.1 +1.2
baz=118
I23K Minto, Yukon-K 62.41 337 IAmb IAmb 04 25 35.2
comp=Z,8.3nm,1.0s
I23K Minto, Yukon-K 62.41 337 P P 04 25 34.3 +1.5
baz=115,SNR=5.3
CAM01 Campos-RJ 62.43 125 *eP* **P 04 25 34.0 +0.4**
E25K Arctic Village 62.46 340 IAmb IAmb 04 25 37.1
comp=Z,16nm,1.4s
E25K Arctic Village 62.46 340 P P 04 25 34.7 +1.5
baz=120
BPAW Bear Paw Mtn. 62.63 335 P P 04 25 35.3 +1.0
baz=113
C27K Jago River 62.68 342 P P 04 25 36.3 +1.7
baz=123
H23K Yukon River 62.77 337 P P 04 25 37.1 +1.9
baz=115
CAST Castle Rocks 62.82 334 P P 04 25 36.7 +1.1
baz=112
MLY Manley 62.90 336 IAmb IAmb 04 25 38.9
comp=Z,18nm,1.5s
MLY Manley 62.90 336 P P 04 25 37.0 +0.9
baz=114,SNR=5.8
P18K Big Mountain, 62.93 329 P P 04 25 37.5 +1.0
baz=107
F24K Squaw Lake 62.94 339 P P 04 25 38.5 +2.1
baz=118
Q17K Contact Creek 62.95 328 P P 04 25 37.4 +0.7
baz=105
N19K Bonanza Creek 63.00 331 P P 04 25 38.5 +1.6
baz=108
C26K Camden Bay 63.19 342 P P 04 25 40.1 +2.2
baz=122,SNR=5.5
M19K Big River Lodg 63.30 332 P P 04 25 40.3 +1.5
baz=109
D25K Kavik River 63.32 341 P P 04 25 40.0 +1.1
baz=120
G23K Bananza Creek 63.33 338 P P 04 25 40.6 +1.6
baz=115
E24K Your Creek 63.40 340 P P 04 25 41.2 +1.8
baz=117
I21K Tanana 63.44 336 P P 04 25 41.4 +1.8
baz=112
P17K Kvichak River 63.48 329 P P 04 25 41.2 +1.2
baz=105
H22K Ishtalitna Cre 63.49 337 P P 04 25 42.2 +2.2
baz=113
L19K White Mountain 63.59 333 P P 04 25 41.9 +1.1
baz=108
COLD Coldfoot 63.61 339 P P 04 25 42.3 +1.6
baz=115
N18K Kilae Creek 63.62 331 P P 04 25 42.1 +1.2
baz=107
K20K Telida 63.64 334 P P 04 25 41.5 +0.5
baz=110
E23K Chandalar 63.77 340 P P 04 25 42.7 +0.8
baz=116
J20K Nowinta River 63.95 335 P P 04 25 44.8 +1.8
baz=110
G22K Bettles 63.95 338 P P 04 25 45.0 +2.0
baz=114
O17K Koliganek Bris 63.95 330 P P 04 25 44.3 +1.2
baz=105
D24K Happy Valley 64.01 341 P P 04 25 44.8 +1.5
baz=117
TOLK Toolik Lake Re 64.02 340 P P 04 25 44.9 +1.4
baz=116
C24K Franklin Bluff 64.23 341 P P 04 25 47.0 +2.3
baz=118
F22K John River 64.42 339 P P 04 25 48.1 +2.0
baz=113
J19K Poorman 64.50 334 P P 04 25 48.6 +2.0
baz=108
D23K Nanushuk River 64.52 340 P P 04 25 48.4 +1.7
baz=116
G21K Allakaket 64.53 337 P P 04 25 48.6 +1.9
baz=112
M17K Holitna River 64.54 331 P P 04 25 47.8 +0.9
baz=106
E22K Anaktuvuk Pass 64.55 339 P P 04 25 48.4 +1.4
baz=114
H20K Anotleneega Mo 64.69 336 P P 04 25 49.3 +1.5
baz=110
F21K Alatna River 64.78 338 IAmb IAmb 04 25 51.9
comp=Z,17nm,1.4s
F21K Alatna River 64.78 338 P P 04 25 49.6 +1.2
baz=112,SNR=7.4
C23K Itkillik River 64.88 341 P P 04 25 50.2 +1.3
C23K Itkillik River 64.88 341 P P 04 25 50.7 +1.7
baz=116,SNR=8.1
D22K Ayikyak River 65.14 340 P P 04 25 52.4 +1.7
baz=113
E21K Killik River 65.41 339 P P 04 25 53.6 +1.1
baz=112
F20K Avaraart Lake 65.54 338 P P 04 25 54.7 +1.4
baz=110
L16K Owhat River 65.56 331 P P 04 25 54.7 +1.1
baz=104
S12K Black Hills 65.72 325 P P 04 25 55.9 +1.2
baz=99
J17K VABM Dome 65.80 333 P P 04 25 56.3 +1.3
baz=105
B22K Teshekpuk Lake 65.96 341 P P 04 25 57.7 +1.8
baz=113
B21K Ikpikpuk River 66.07 340 P P 04 25 58.1 +1.5
baz=112
E20K Nigu River 66.11 339 P P 04 25 58.9 +1.8
baz=110
E19K Redstone River 66.22 338 P P 04 25 59.2 +1.5
baz=108
F19K Shaleruckik Mo 66.23 337 P P 04 25 59.3 +1.5
baz=108
D20K Etivluk River 66.41 339 P P 04 26 00.8 +1.9
baz=109
J16K Anvik River 66.44 333 P P 04 26 01.2 +2.1
baz=103
L15K Ungalak Mounta 66.49 331 P P 04 26 01.6 +2.1
baz=102
K15K Wolf Creek Mou 66.64 332 P P 04 26 02.8 +2.4
baz=102
D19K Kuna River 66.87 339 P P 04 26 04.0 +2.2
baz=108
B20K Meade River 67.03 340 P P 04 26 04.3 +1.6
baz=109
A21K Barrow 67.31 342 P P 04 26 05.5 +1.0
baz=110
C19K Lookout Ridge 67.56 339 P P 04 26 08.1 +1.9
baz=107
E17K Hotham Inlet 67.84 337 P P 04 26 09.6 +1.7
baz=104
D17K Noatak River 68.45 337 P P 04 26 13.9 +2.2
baz=103
C17K DeLong Mountai 68.66 338 P P 04 26 15.3 +2.3
baz=103
EKA Eskdalemuir Ar 77.58 36 P P 04 27 03.2 -2.5
comp=Z,0.3nm,0.4s,baz=276,slow=6.4,SNR=2.1
comp=Z,0.3nm,0.4s
NOA NORSAR Array B 83.56 28 LR LR 05 05 31.0
comp=Z,9.5nm,18.0s,baz=200,slow=36
ARCES ARCESS Array B 85.30 18 P P 04 27 45.2 -1.0
comp=Z,1.2nm,0.8s,baz=338,slow=4.2,SNR=9.2
comp=Z,1.2nm,0.8s
CLL Collm 87.97 37 *eP* **P 04 28 02.0 +2.4**
comp=Z,3.0nm,0.7s
FINES FINESS Array B 89.83 25 P P 04 28 07.3 -0.8
comp=Z,0.5nm,0.6s,baz=298,slow=3.0,SNR=4.7
comp=Z,0.5nm,0.6s
TORD Torodi Ar. Bea 91.10 76 P P 04 28 11.4 -3.6
comp=Z,0.2nm,0.5s,baz=290,slow=3.9,SNR=1.3
ELIB Princess Elisa 112.46 162 *d*PKiKP **PKiKP 04 33 45.0 +0.3**
HHC Hu-ho-hao-te 119.70 339 *eP* **PKPdf 04 33 58.3 -1.3**
NJ2 Nanjing 123.90 327 *eP* **PKiKP 04 34 09.6 +1.6**
NJ2 pmax pmax
comp=Z,13nm,0.5s
WRA Warramunga Arr 134.67 257 PKP PKPdf 04 34 27.6 -0.9
comp=Z,0.5nm,0.7s,baz=96,slow=4.0,SNR=2.4
PZH PanZhiHua 136.09 341 PKP PKPdf 04 34 31.2 0.0
CMAR Chiang Mai Arr 144.49 340 PKP PKPbc 04 34 45.2 +0.1
comp=Z,0.9nm,0.3s,baz=339,slow=3.7,SNR=5.7

IDC 09 04:26:47.0±3.9, 5°.81S×143°.00E, h0km, mb3.3/1, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=115.6km s-min=36.6km az=93.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.38**	**210**	Pn	Pn	04 30 38.4	-0.2
	0.2nm,0.3s,baz=31,slow=11,SNR=9.7						
	1.3nm,0.9s						
ASAR	**Alice Springs**	**19.80**	**205**	P	P	04 31 19.3	+0.1
	0.1nm,0.3s,baz=33,slow=12,SNR=14						
	2.1nm,0.8s						
MKAR	**Makanchi Array**	**74.85**	**322**	P	P	04 38 29.6	0.0
	0.2nm,0.6s,baz=107,slow=7.7,SNR=2.3						
	0.2nm,0.6s						

*SOME **09** 05:13:11.7, 41°.63N×82°.08E, h15km*
*NNC **09** 05:13:12.9±1.0, 41°.69N×82°.02E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=8.0km s-min=6.3km az=41.0*
ISC 09 05:13:16.7±5.0, 41°.8N±0°.1×81°.9E±0°.1, h10km±21km, n26, σ1§01/36, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.98**	**326**	*eP*	**Pb**	**05 13 52.8**	**-0.1**
	4.7nm,0.2s						
KTMS				*eS*	**Sg**	**05 14 22.5**	**+2.0**
	23nm,0.3s						
KTMS	**Ketmen**	**1.98**	**326**	Pg	**Pb**	**05 13 52.8**	**-0.1**
	4.7nm,0.2s						
KTMS				Lg	Lg	05 14 22.5	
	23nm,0.3s						
SHLS	**Shalkode**	**2.24**	**308**	*eP*	**Pn**	**05 13 52.9**	**-0.9**
	13nm,0.2s						
SHLS				*eS*	**Sn**	**05 14 22.4**	**+0.8**
	76nm,0.3s						
SHLS	**Shalkode**	**2.24**	**308**	Pg	**Pn**	**05 13 52.9**	**-0.9**
	13nm,0.2s						
SHLS				Lg	Lg	05 14 22.4	
	76nm,0.3s						
PDGK	**Podgornoye**	**2.33**	**311**	Pg	**Pb**	**05 13 58.8**	**0.0**
	1.8nm,0.1s						
PDGK				Lg	Lg	05 14 32.5	
	7.5nm,0.3s						
PDGK	**Podgornoye**	**2.33**	**311**	⇑Pg	**Pb**	**05 13 57.3**	**-1.5**
	4.0nm,0.7s						
PDGK				⇓Lg	Lg	05 14 32.5	
	7.3nm,0.4s						
UZB	**Uzynbulak**	**2.50**	**303**	*eP*	**Pb**	**05 14 01.7**	**0.0**
	4.0nm,0.1s						
UZB				*eS*	**Sg**	**05 14 38.1**	**+1.1**
	26nm,0.4s						
UZB	**Uzynbulak**	**2.50**	**303**	Pg	**Pb**	**05 14 01.7**	**0.0**
	4.0nm,0.1s						
UZB				Lg	Lg	05 14 38.1	
	26nm,0.4s						
SATY	**Saty**	**2.86**	**297**	*eP*	**Pb**	**05 14 07.8**	**0.0**
	2.1nm,0.2s						
SATY				*eS*	**Sg**	**05 14 48.4**	**-0.1**
	16nm,0.4s						
SATY	**Saty**	**2.86**	**297**	Pg	**Pb**	**05 14 07.8**	**0.0**
	2.1nm,0.2s						
SATY				Lg	Lg	05 14 48.4	
	16nm,0.4s						
KPKS	**Kokpek**	**2.88**	**306**	*eP*	**Pb**	**05 14 08.2**	**0.0**
	3.5nm,0.2s						
KPKS				*eS*	**Sg**	**05 14 48.9**	**-0.2**
	27nm,0.3s						
KPKS	**Kokpek**	**2.88**	**306**	Pg	**Pb**	**05 14 08.2**	**0.0**
	3.5nm,0.2s						
KPKS				Lg	Lg	05 14 48.9	
	27nm,0.3s						
DJR	**Jarkent**	**2.95**	**329**	*eP*	**Pb**	**05 14 09.6**	**+0.3**
	1.3nm,0.2s						
DJR				*eS*	**Sg**	**05 14 51.0**	**-0.3**
	4.6nm,0.3s						
DJR	**Jarkent**	**2.95**	**329**	Pg	**Pb**	**05 14 09.5**	**+0.3**
	1.3nm,0.2s						
DJR				Lg	Lg	05 14 51.0	
	4.6nm,0.3s						
KURS	**Kuram**	**3.21**	**303**	*eP*	**Pb**	**05 14 13.8**	**0.0**
	2.7nm,0.6s						
KURS				*eS*	**Sg**	**05 14 58.5**	**-1.2**
	5.0nm,0.6s						
KURS	**Kuram**	**3.21**	**303**	Pg	**Pb**	**05 14 13.8**	**0.0**
	2.7nm,0.6s						
KURS				Lg	Lg	05 14 58.5	
	5.0nm,0.6s						
KNOS	**Konyrlen**	**3.22**	**323**	Pg	**Pb**	**05 14 14.8**	**+0.7**
	1.0nm,0.2s						
KNOS				Lg	Lg	05 15 00.2	
	5.8nm,0.4s						
ARXS	**Arharly**	**3.82**	**310**	*eP*	**Pb**	**05 14 25.6**	**+1.4**
	1.0nm,0.5s						
ARXS				*eS*	**Sg**	**05 15 18.7**	**-0.6**
	3.2nm,0.4s						
ARXS	**Arharly**	**3.82**	**310**	Pg	**Pb**	**05 14 25.6**	**+1.4**
	1.0nm,0.5s						
ARXS				Lg	Lg	05 15 18.7	
	3.2nm,0.4s						
MDOK	**Medeo**	**3.82**	**292**	*eP*	**Pb**	**05 14 25.2**	**+1.0**
	2.4nm,0.2s						
MDOK				*eS*	**Sg**	**05 15 18.0**	**-1.4**
	3.3nm,0.2s						
MDOK	**Medeo**	**3.82**	**292**	Pg	**Pb**	**05 14 25.2**	**+1.0**
	2.4nm,0.2s						
MDOK				Lg	Lg	05 15 18.0	
	3.3nm,0.2s						
TNSS	**Tian-Shan**	**3.85**	**290**	*eP*	**Pb**	**05 14 26.3**	**+1.4**
	8.2nm,0.5s						
TNSS				*eS*	**Sg**	**05 15 20.0**	**-0.4**
	3.2nm,0.3s						
TNSS	**Tian-Shan**	**3.85**	**290**	Pg	**Pb**	**05 14 26.3**	**+1.4**
	8.2nm,0.5s						
TNSS				Lg	Lg	05 15 20.0	
	3.2nm,0.3s						
KTBS	**Karatobe**	**4.27**	**298**	*eP*	**Pb**	**05 14 33.8**	**+1.9**
	1.4nm,0.3s						
KTBS				*eS*	**Sg**	**05 15 32.8**	**-1.0**
	3.6nm,0.3s						
KTBS	**Karatobe**	**4.27**	**298**	Pg	**Pb**	**05 14 33.8**	**+1.9**
	1.4nm,0.3s						
KTBS				Lg	Lg	05 15 32.8	
	3.6nm,0.3s						
MK31	**Makanchi Array**	**4.99**	**3**	Lg	Lg	05 15 52.6	
	baz=168,slow=27						

*BJI **09** 05:40:20.5±0.0, 1°.94N×99°.10E, h158km, mb4.7/34, mB4.9/17*
*IDC **09** 05:40:25.5±0.6, 2°.45N×99°.14E, h158km±5km, mb4.1/24, mbtmp4.6/26, MS3.3/3, Error ellipse: s-maj=12.5km s-min=8.4km az=63.0*
*DJA **09** 05:40:25.6±0.1, 2°.N±2°.×9°9E±°, h156km±2km, M5.0/29, mB5.5/10, mb5.0/29, MLv5.1/15, Mw(mB)4.9/10*
*NEIC **09** 05:40:26.3±1.7, 2°.40N±0°.05×99°.06E±0°.06, h160km±4km, mb4.8/71, Error ellipse: s-maj=8.4km s-min=7.2km az=102.0*
ISC 09 05:40:25.3±0.4, 2°.37N±0°.03×99°.07E±0°.04, h158km±4km, h158km:pP-P, n228, σ1§21/258, mb4.7/87, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**1.73**	**311**	P	**Pn**	**05 40 57.9**	**-0.1**
KCSI				S	**Sn**	**05 41 20.9**	**-2.2**
GSI	**Gunungsitoli**	**1.83**	**235**	P	**Pn**	**05 41 00.0**	**+0.9**
GSI	**Gunungsitoli**	**1.83**	**235**		**Pn**	**05 40 59.5**	**+0.4**
GSI				Sn	**Sn**	**05 41 24.9**	**-0.1**
GSI	**Gunungsitoli**	**1.83**	**235**	P	**Pn**	**05 40 59.8**	**+0.7**
GSI				S	**Sn**	**05 41 24.8**	**-0.2**
PBSI	**Pulau Batu**	**2.54**	**198**	P	**Pn**	**05 41 08.4**	**+1.1**
PBSI				S	**Sn**	**05 41 40.3**	**+0.5**
SNSI	**Sinabang, Aceh**	**2.74**	**271**	P	**Pn**	**05 41 10.7**	**+0.9**
SNSI				S	**Sn**	**05 41 41.9**	**-2.3**
BKNI	**Bangkinang**	**2.83**	**136**		**Pn**	**05 41 13.0**	**+2.1**
BKNI	**Bangkinang**	**2.83**	**136**	P	**Pn**	**05 41 12.9**	**+2.1**
MLSI	**Meulaboh, Aceh**	**3.26**	**305**	P	**Pn**	**05 41 16.4**	**+0.1**
KULM	**Kulim**	**3.30**	**28**	Pn	**Pn**	**05 41 16.9**	**+0.1**
KULM				Sn	**Sn**	**05 41 54.1**	**-2.8**
LHMI	**Lhok Sumawe**	**3.54**	**323**	P	**Pn**	**05 41 20.5**	**+0.6**
LHMI	**Lhok Sumawe**	**3.54**	**323**		**Pn**	**05 41 20.2**	**+0.2**
LHMI				Sn	**Sn**	**05 42 00.8**	**-1.6**
LHMI	**Lhok Sumawe**	**3.54**	**323**	P	**Pn**	**05 41 20.0**	**+0.1**
PDSI	**Padang**	**3.54**	**157**	P	**Pn**	**05 41 21.2**	**+1.2**
SISI	**Saibi**	**3.67**	**180**	P	**Pn**	**05 41 20.8**	**-0.8**
MYKOM	**Kota Tinggi**	**4.81**	**97**	Pn	**Pn**	**05 41 37.3**	**+0.9**
PPSI	**Pulau Pagai**	**5.18**	**170**	P	**Pn**	**05 41 39.3**	**-2.1**
	231nm,0.8s,5μm2.8nm						
MNAI	**Manna**	**7.73**	**150**	P	**Pn**	**05 42 14.6**	**-0.6**
MNAI	**Manna**	**7.73**	**150**	Pn	**Pn**	**05 42 13.8**	**-1.4**
MNAI	**Manna**	**7.73**	**150**	P	**Pn**	**05 42 14.4**	**-0.8**
	293nm,1.1s,1.4nm						
KASI	**Kota Agung**	**9.53**	**145**	P	**Pn**	**05 42 36.5**	**-2.6**
	62nm,0.5s,1μm						
SRDT	**SRDT**	**11.90**	**0**	P	**Pn**	**05 43 11.8**	**+1.6**
SBUM	**Sibu**	**13.14**	**89**	Pn	**Pn**	**05 43 25.3**	**-0.8**
UBPT	**Khong Chiam**	**14.29**	**26**	Pn	**Pn**	**05 43 41.1**	**+0.4**
XMIS	**Christmas Isla**	**14.35**	**153**	Pn	**Pn**	**05 43 41.1**	**-0.3**
COCO	**West Island**	**14.63**	**189**	Pn	**Pn**	**05 43 43.4**	**-1.5**
UGM	**Wanagama**	**15.32**	**132**	P	**Pn**	**05 43 52.6**	**-1.0**
CM31	**Chiang Mai Arr**	**15.99**	**360**	P	**P**	**05 44 02.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**15.99**	**360**	P	**P**	**05 44 02.8**	**+0.7**
	34nm,0.8s,baz=192,slow=11,SNR=101						
CMAR				LR	LR	05 50 29.9	
	comp=Z,44nm,19.5s,baz=195,slow=38						
CMAR				ScP	**ScP**	**05 52 07.7**	**-1.0**
	1.3nm,0.3s,baz=224,slow=3.8,SNR=5.0						
PHRA	**Phrae**	**16.07**	**4**	P	**P**	**05 44 04.2**	**+1.3**
CHTO	**Chiang Mai**	**16.34**	**360**		**Pn**	**05 44 06.3**	**+0.3**
CRAI	**Chiangrai**	**17.80**	**4**	P	**Pn**	**05 44 22.8**	**-0.6**
PALK	**Pallekele**	**18.94**	**286**	P	**Pn**	**05 44 37.1**	**+0.2**
	51nm,0.9s,baz=7.6,slow=9.5,SNR=17						
PALK				S	**S**	**05 47 58.2**	**-3.2**
	14nm,0.4s,baz=149,slow=12,SNR=4.2						
PALK				LR	LR	05 51 11.7	
	comp=Z,49nm,18.5s,baz=170,slow=34						
SLVN	**Son La**	**19.43**	**14**	P	**P**	**05 44 40.2**	**+0.5**
MYLDM	**Lahad Datu**	**19.58**	**81**	P	**Pn**	**05 44 44.3**	**-0.2**
MPSI	**Mapaga**	**20.92**	**95**	P	**P**	**05 44 56.7**	**+1.0**
	36nm,1.1s						
PLAI	**Plampang**	**21.71**	**121**	P	**P**	**05 45 04.6**	**+0.4**
PLAI	**Plampang**	**21.71**	**121**	P	**P**	**05 45 03.7**	**-0.5**
	46nm,0.8s,1μm						
TOLI2	**Tolitoli**	**21.73**	**93**	P	**P**	**05 45 05.1**	**+0.7**
TOLI2	**Tolitoli**	**21.73**	**93**	P	**P**	**05 45 04.9**	**+0.5**
TOLI2				IAmb	IAmb	05 45 06.4	
	comp=Z,51nm,0.8s						
KAPI	**Kappang**	**21.92**	**110**	P	**P**	**05 45 08.1**	**+1.7**
KAPI	**Kappang**	**21.92**	**110**	P	**P**	**05 45 08.3**	**+2.0**
KAPI	**Kappang**	**21.92**	**110**	P	**P**	**05 45 07.7**	**+1.3**
	comp=Z,95nm,0.6s,baz=293,slow=5.9,SNR=35						
	comp=Z,95nm,0.6s						
BKSI	**Bulukumba**	**22.37**	**110**	P	**P**	**05 45 11.1**	**+0.3**
	comp=Z,125nm,0.8s						
SALM	**Salem**	**22.65**	**295**	*eP*	**P**	**05 45 16.3**	**+2.9**
KOD	**Kodaikanal**	**22.84**	**291**	*eP*	**P**	**05 45 17.7**	**+2.3**
KOD				IAmb	IAmb	05 45 19.9	
	comp=Z,47nm,0.9s						
MRSI	**Marisa**	**22.94**	**94**	P	**P**	**05 45 16.5**	**+0.5**
	comp=Z,111nm,0.8s						
LUWI	**Luwuk**	**23.94**	**98**	P	**P**	**05 45 26.4**	**+1.2**
SHL	**Shillong**	**24.08**	**344**	P	**P**	**05 45 25.8**	**-0.7**
SHL				IAmb	IAmb	05 45 27.2	
	comp=Z,35nm,0.8s						
SHL	**Shillong**	**24.08**	**344**	*eP*	**P**	**05 45 25.5**	**-1.0**
SHL				IAmb	IAmb	05 45 28.9	
	comp=Z,24nm,0.5s						
PZH	**PanZhiHua**	**24.13**	**6**	P	**P**	**05 45 29.6**	**+2.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,5.1s						
BOK	**Bokaro**	**24.83**	**330**	*eP*	**P**	**05 45 34.0**	**+0.9**
BOK				IAmb	IAmb	05 45 34.7	
	comp=Z,23nm,0.5s						
SOEI	**Soe**	**27.84**	**116**	P	**P**	**05 45 59.9**	**-0.5**
SOEI				IAmb	IAmb	05 46 24.4	
	comp=Z,31nm,0.9s						
TNTI	**Ternate**	**28.33**	**93**	P	**P**	**05 46 04.2**	**-0.4**
TNTI				IAmb	IAmb	05 46 05.7	
	comp=Z,29nm,0.8s						
ENH	**Enshi**	**29.45**	**19**	P	**P**	**05 46 13.3**	**-1.2**
ENH				IAmb	IAmb	05 46 13.7	
	comp=Z,19nm,0.8s						
BHPL	**Bhopal**	**29.50**	**316**	*eP*	**P**	**05 46 15.4**	**+0.4**
BHPL				IAmb	IAmb	05 46 17.1	
	comp=Z,13nm,0.6s						
YULB	**Yu-li**	**30.00**	**44**	P	**P**	**05 46 19.5**	**+0.1**
YULB				IAmb	IAmb	05 46 48.7	
	comp=Z,23nm,1.2s						
JHNI	**Jhansi**	**30.30**	**321**	*eP*	**P**	**05 46 21.5**	**-0.4**
JHNI				IAmb	IAmb	05 46 22.9	
	comp=Z,47nm,0.7s						

PSA00 Pilbara Seismi 31.29 141 P P 05 46 30.0 -0.7
PSA00 IAmb IAmb 05 47 33.1
comp=Z,45nm,1.7s
YOJ Yonaguni jima 31.89 44 P P 05 46 34.5 -1.3
LGTI Lohaghat 32.34 328 *eP* **P 05 46 40.5 +0.8**
LGTI IAmb IAmb 05 46 41.5
comp=Z,22nm,0.8s
XAN Xi'an 32.82 15 ⇑P **P 05 46 42.6 -1.4**
XAN pmax pmax
comp=Z,26nm,0.6s
FITZ Fitzroy Crossi 33.14 129 P P 05 46 46.6 -0.3
NDI New Delhi 33.45 324 *eP* **P 05 46 49.1 -0.3**
FAKI Fak Fak 33.58 99 P P 05 46 50.5 -0.3
LYN LuoYang 34.37 20 ⇓P **P 05 46 57.2 0.0**
LYN pmax pmax
comp=Z,40nm,0.6s
LYN pmax pmax
comp=Z,360nm,5.0s
MEEK Meekatharra 34.47 148 P P 05 46 58.8 +0.5
NJ2 Nanjing 34.91 30 *eP* **P 05 47 04.6 +2.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MTN Manton Dam 35.24 116 P P 05 47 05.2 +0.2
MORW Morawa 35.24 154 P P 05 47 06.1 +1.3
MORW Morawa 35.24 154 P P 05 47 06.0 +1.1
MORW IAmb IAmb 05 48 24.1
comp=Z,71nm,2.0s
SMLA Simla 35.30 326 *eP* **P 05 47 05.6 +0.2**
SMLA IAmb IAmb 05 47 07.5
comp=Z,14nm,0.5s
DHRM DHARAMSHALA 36.63 327 *eP* **P 05 47 16.9 0.0**
DHRM IAmb IAmb 05 47 18.8
comp=Z,41nm,0.9s
BLDU Ballidu 36.86 154 P P 05 47 19.3 +0.7
NWAO Narrogin (SRO) 39.08 155 P P 05 47 37.6 +0.4
NWAO Narrogin (SRO) 39.08 155 P P 05 47 35.9 -1.3
NWAO IAmb IAmb 05 49 05.4
comp=Z,20nm,0.8s
WRKA Warakurna 39.31 136 P P 05 47 38.7 -0.6
WRKA Warakurna 39.31 136 P P 05 47 38.7 -0.6
comp=Z,9.8nm,0.6s
BTO Baotou 39.33 13 *eP* **P 05 47 43.0 +3.7**
BTO pP **pP 05 48 13.5 -0.1**
BTO PP **PnPn 05 49 16.9 -0.4**
BTO S **S 05 53 35.8 +7.2**
BTO pmax pmax
comp=Z,15nm,0.8s
BTO LR LR
comp=Z,240nm,5.5s
BTO LR LR
comp=Z,250nm,6.1s
BTO LR LR
comp=Z,110nm,6.5s
NIL Nilore 39.38 325 P P 05 47 39.4 -0.3
NIL IAmb IAmb 05 47 40.3
comp=Z,32nm,0.8s
NIL Nilore 39.38 325 P P 05 47 39.5 -0.3
HHC Hu-ho-hao-te 39.93 15 *eP* **P 05 47 48.7 +4.4**
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,97nm,4.8s
BJT Baijiatuau 40.56 20 P P 05 47 49.9 +0.5
BJT IAmb IAmb 05 47 51.2
comp=Z,12nm,0.7s
BJT Baijiatuau 40.56 20 P P 05 47 49.8 +0.5
BJI Beijing 40.58 20 P P 05 47 49.8 +0.4
BJI pmax pmax
comp=Z,9.0nm,0.6s
BJI pmax pmax
comp=Z,52nm,4.3s
WB0 Warramunga Arr 41.06 124 P P 05 47 53.6 -0.1
WB0 IAmb IAmb 05 47 54.2
comp=Z,11nm,0.7s
WRA Warramunga Arr 41.10 124 P P 05 47 53.1 -0.9
WRA Warramunga Arr 41.10 124 P P 05 47 53.8 -0.3
comp=Z,12nm,0.7s,baz=302,slow=9.2,SNR=92
WRA PcP **PcP 05 49 50.4 -0.3**
comp=Z,2.4nm,0.4s,baz=314,slow=2.6,SNR=12
WRA ScP **ScP 05 53 24.9 -0.9**
comp=Z,0.6nm,0.7s,baz=316,slow=3.1,SNR=5.2
WRA S **S 05 53 49.4 -6.0**
comp=Z,1.3nm,0.9s,baz=296,slow=17,SNR=5.0
comp=Z,12nm,0.7s
WRAB Tennant Creek 41.11 124 P P 05 47 53.6 -0.5
WRAB IAmb IAmb 05 47 54.7
comp=Z,18nm,0.7s
WB2 Warramunga Arr 41.11 124 P P 05 47 53.9 -0.3
WB2 IAmb IAmb 05 47 54.7
comp=Z,13nm,0.7s
WR0 Warramunga Arr 41.28 124 P P 05 47 54.7 -0.8
WR0 IAmb IAmb 05 47 56.2
comp=Z,22nm,0.8s
KBL Kabul 42.50 322 P P 05 48 05.6 +0.2
KBL IAmb IAmb 05 48 07.4
comp=Z,18nm,0.8s
KSH Kashi 42.53 333 P P 05 48 04.3 -1.2
KSH pmax pmax
comp=Z,23nm,0.7s
ASAR Alice Springs 42.64 129 P P 05 48 06.4 -0.2
ASAR Alice Springs 42.64 129 P P 05 48 06.1 -0.5
comp=Z,5.1nm,0.8s,baz=301,slow=7.6,SNR=33
ASAR PcP **PcP 05 49 55.5 -0.2**
comp=Z,2.8nm,0.8s,baz=300,slow=3.2,SNR=7.9
ASAR ScP **ScP 05 53 30.4 -1.6**
comp=Z,0.3nm,0.5s,baz=309,slow=4.6,SNR=5.8
ASAR S **S 05 54 12.8 -5.3**
comp=Z,0.4nm,0.6s,baz=303,slow=14,SNR=2.8
comp=Z,5.1nm,0.8s
AS31 Alice Springs 42.65 129 P P 05 48 06.4 -0.1
AS31 Alice Springs 42.65 129 P P 05 48 06.3 -0.3
comp=Z,2.3nm,0.6s
AS01 Alice Springs 42.68 129 P P 05 48 06.8 0.0
FORT Forrest 43.01 142 P P 05 48 09.6 +0.3
FORT Forrest 43.01 142 P P 05 48 09.7 +0.5
FORT Forrest 43.01 142 P P 05 48 09.6 +0.3
comp=Z,83nm,0.6s
TARG Taragay, Kyrgy 43.60 337 P P 05 48 15.4 +1.1
TARG IAmb IAmb 05 48 16.2
comp=Z,10nm,0.7s
KSAR Wonju Array Be 43.81 34 P P 05 48 15.2 -0.3
KSRS Korea Array 43.84 34 P P 05 48 14.8 -1.0
comp=Z,6.9nm,0.8s,baz=222,slow=8.6,SNR=21
comp=Z,6.9nm,0.8s
SHLS Shalkode 44.21 339 *eP* **P 05 48 17.2 -1.8**
baz=340
UZB Uzynbulak 44.36 339 *eP* **P 05 48 20.0 -0.1**
baz=339
SATY Saty 44.51 338 *eP* **P 05 48 21.1 -0.2**
baz=338
ZHN Zhinishke 44.59 338 *eP* **P 05 48 21.9 -0.1**
baz=338
KPKS Kokpek 44.76 339 *eP* **P 05 48 22.9 -0.3**
baz=339
GAR Garm 44.90 328 P P 05 48 24.3 -0.2
GAR IAmb IAmb 05 48 26.5
comp=Z,46nm,1.3s
BOOM Boomskoye usch 44.99 336 P P 05 48 25.6 +0.5
MDOK Medeo 45.11 337 *eP* **P 05 48 26.0 0.0**
baz=337
CHGR Chuyangaron 45.28 327 P P 05 48 26.5 -0.9
CHGR IAmb IAmb 05 48 27.4
comp=Z,22nm,0.8s
ARSB Arslanbob 45.34 332 P P 05 48 28.5 +0.6
SIMJ Simiganj 45.37 327 P P 05 48 27.5 -0.6
SIMJ IAmb IAmb 05 48 28.3
comp=Z,14nm,0.7s
SIMJ Simiganj 45.37 327 P P 05 48 27.8 -0.3
UCH Uchtor 45.37 334 P P 05 48 29.4 +0.9
SNR=18
BTK Batken 45.42 329 P P 05 48 29.4 +0.9
BTK IAmb IAmb 05 48 30.3
comp=Z,24nm,1.1s
TKM2 Tokmak 2 45.49 336 P P 05 48 29.9 +0.8
SNR=13
KBK Karagaybulak 45.54 335 P P 05 48 31.3 +1.8
SNR=10
AAK Ala-Archa 45.72 335 P P 05 48 31.5 +0.6
CHKK Chushkaly 45.72 338 *eP* **P 05 48 30.7 0.0**
baz=338
SONM Songino Array 45.73 7 P P 05 48 31.4 +0.6
SONM Songino Array 45.73 7 P P 05 48 31.0 +0.1
comp=Z,4.2nm,0.5s,baz=192,slow=9.6,SNR=22
SONM PcP **PcP 05 50 05.3 -0.7**
comp=Z,2.0nm,0.7s,baz=195,slow=4.4,SNR=5.2
comp=Z,4.2nm,0.5s

QIS Mount Isa 45.79 122 P P 05 48 32.1 +0.5
QIS Mount Isa 45.79 122 P P 05 48 31.5 -0.1
comp=Z,16nm,0.5s
EKS2 Erkin-Say 46.05 334 P P 05 48 34.6 +1.2
SNR=16
TDK Taldyqorghan 46.20 340 *eP* **P 05 48 34.1 -0.3**
comp=Z,24nm,0.5s,baz=340
USP Ospenovka 46.23 335 P P 05 48 35.4 +0.7
SNR=13
SGDS Sogindy 46.32 335 *eP* **P 05 48 35.0 -0.4**
baz=335
ZSN Zaisan 46.56 347 *eP* **P 05 48 37.3 +0.1**
baz=347
MULG Mulgathing 46.57 137 P P 05 48 37.1 -0.4
MK31 Makanchi Array 46.60 344 P P 05 48 37.6 +0.1
MKAR Makanchi Array 46.60 344 P P 05 48 37.6 +0.1
MKAR Makanchi Array 46.60 344 P P 05 48 37.3 -0.2
comp=Z,6.2nm,0.4s,baz=156,slow=8.5,SNR=117
MKAR S **S 05 55 12.5 -1.9**
comp=Z,0.8nm,0.9s,baz=178,slow=16,SNR=3.7
comp=Z,6.2nm,0.4s
COEN Coen 46.63 112 P P 05 48 38.7 +0.5
MAKZ Makanchi 46.70 344 P P 05 48 37.9 -0.3
HRA Herat 46.80 317 P P 05 48 39.5 0.0
BTLS Baital 47.87 336 *eP* **P 05 48 47.1 -0.2**
baz=336
KK31 Karatay Array 47.88 332 P P 05 48 48.0 +0.6
KKAR Karatay Array 47.88 332 P P 05 48 48.0 +0.6
BRLS Borolday 48.14 331 *eP* **P 05 48 48.4 -1.1**
baz=331
PMG Port Moresby 49.31 104 P P 05 48 59.3 +0.5
BBOO Buckleboo 49.46 138 P P 05 48 59.3 -0.4
BBOO Buckleboo 49.46 138 P P 05 48 59.3 -0.4
MAJO Matsushiro 49.57 42 P P 05 49 00.7 +0.2
MJAR Matsushiro Arr 49.57 42 P P 05 48 60.0 -0.5
comp=Z,2.1nm,0.5s,baz=225,slow=6.4,SNR=8.5
MJAR PcP **PcP 05 50 19.5 -0.4**
comp=Z,2.4nm,0.8s,baz=238,slow=4.0,SNR=6.3
comp=Z,2.1nm,0.5s
HIA Hailar 49.95 18 P P 05 49 03.7 +0.6
HIA IAmb IAmb 05 49 16.9
comp=Z,6.6nm,0.6s
SEM Semipalatinsk 50.45 344 *eP* **P 05 49 06.6 -0.5**
baz=344
USA0B Ussuriysk Arra 50.82 30 P P 05 49 09.7 +0.1
USA0B IAmb IAmb 05 49 11.5
comp=Z,27nm,1.5s
USRK Ussuriysk Ar. 50.82 30 P P 05 49 09.4 -0.3
comp=Z,4.9nm,0.6s,baz=229,slow=5.6,SNR=14
comp=Z,4.9nm,0.6s
KURBB Kurchatov Arra 51.12 343 P P 05 49 11.6 -0.2
comp=Z,4.0nm,0.5s,baz=159,slow=7.0,SNR=30
KURBB S **S 05 56 15.6 -1.9**
comp=Z,1.4nm,0.8s,baz=158,slow=13,SNR=9.6
comp=Z,4.0nm,0.5s
KURK Kurchatov 51.18 343 P P 05 49 12.5 +0.2
KURK Kurchatov 51.18 343 P P 05 49 12.3 0.0
HTT Hallett 51.76 137 P P 05 49 17.4 +0.4
JMM Marumori 52.02 42 P P 05 49 18.7 -0.1
QLP Quilpie 52.22 127 P P 05 49 21.4 +1.0
QLP Quilpie 52.22 127 P P 05 49 21.2 +0.8
comp=Z,40nm,0.5s
ZAA0 Zalesovo Array 52.73 349 P P 05 49 23.8 +0.1
ZAA0 IAmb IAmb 05 49 25.1
comp=Z,8.5nm,0.6s
ZALV Zalesovo Beam 52.73 349 P P 05 49 23.7 0.0
ZALV Zalesovo Beam 52.73 349 P P 05 49 23.6 -0.1
comp=Z,7.5nm,0.4s,baz=166,slow=7.1,SNR=41
ZALV S **S 05 56 37.5 -1.9**
comp=Z,0.7nm,0.4s,baz=167,slow=13,SNR=3.9
comp=Z,7.5nm,0.4s
STKA Stephens Creek 52.78 134 P P 05 49 24.3 -0.1
STKA Stephens Creek 52.78 134 P P 05 49 24.3 -0.1
comp=Z,7.9nm,0.6s,baz=315,slow=7.7,SNR=11
comp=Z,7.9nm,0.6s
STKA Stephens Creek 52.78 134 P P 05 49 24.4 -0.1
comp=Z,2.9nm,1.0s
BVAR Borovoye Array 55.79 339 P P 05 49 45.4 -0.5
comp=Z,5.4nm,0.4s,baz=140,slow=8.6,SNR=30
BVAR S **S 05 57 17.2 -3.2**
comp=Z,2.3nm,0.9s,baz=142,slow=17,SNR=6.2
comp=Z,5.4nm,0.4s
BRVK Borovoye 55.85 339 P P 05 49 46.0 -0.4
BRVK IAmb IAmb 05 49 47.3
comp=Z,5.1nm,0.6s
BRVK Borovoye 55.85 339 P P 05 49 45.9 -0.4
RAYN Ar Rayn 55.88 297 P P 05 49 47.2 +0.1
RAYN IAmb IAmb 05 50 23.9
comp=Z,7.4nm,1.1s
RAYN Ar Rayn 55.88 297 P P 05 49 47.0 -0.1
RAYN pP **pP 05 53 23.3 -0.5**
EIDS Eidsvold 57.39 122 P P 05 49 58.0 +0.3
EIDS IAmb IAmb 05 49 58.4
comp=Z,7.9nm,0.8s
ABKAR Akbulak array 57.39 331 P P 05 49 57.0 -0.3
ARMA Armidale 59.73 127 P P 05 50 13.2 -0.7
CAN Canberra 59.84 134 P P 05 50 14.8 +0.3
KBZ Khabaz 64.44 318 P P 05 50 45.0 +0.1
comp=Z,5.8nm,0.8s,baz=119,slow=5.9,SNR=16
comp=Z,5.8nm,0.8s
MMAI Mount Meron Ar 66.76 305 P P 05 51 00.5 +0.4
comp=Z,1.6nm,0.5s,baz=82,slow=11,SNR=4.8
comp=Z,1.6nm,0.5s
NRIK Noril'sk 67.30 356 P P 05 51 02.4 -0.3
NRIK IAmb IAmb 05 51 03.7
comp=Z,14nm,1.2s
NRIK Noril'sk 67.30 356 P P 05 51 01.9 -0.7
comp=Z,4.0nm,0.5s,baz=152,slow=6.9,SNR=7.0
comp=Z,4.0nm,0.5s
CASY Casey 68.99 175 P P 05 51 15.2 +2.0
MA2 Magadan 69.48 25 P P 05 51 17.0 +0.6
MA2 IAmb IAmb 05 51 17.9
comp=Z,24nm,0.8s
MA2 Magadan 69.48 25 P P 05 51 17.2 +0.8
comp=Z,35nm,0.9s
MA2 Magadan 69.48 25 P P 05 51 17.1 +0.6
BR104 Keskin Array S 69.72 312 P P 05 51 18.2 -0.3
comp=Z,3.2nm,0.8s
BR131 Keskin Array S 69.72 312 P P 05 51 18.6 +0.1
BRTR Keskin Array B 69.72 312 P P 05 51 17.4 -1.1
BRTR Keskin Array B 69.72 312 P P 05 51 17.9 -0.6
comp=Z,2.5nm,0.7s,baz=130,slow=6.4,SNR=13
comp=Z,2.5nm,0.7s
BR105 Keskin Array S 69.74 312 P P 05 51 18.3 -0.3
comp=Z,3.9nm,0.8s
BR106 Keskin Array S 69.74 312 P P 05 51 18.2 -0.4
comp=Z,4.2nm,0.7s
BZK Bozkurt 70.03 314 P P 05 51 20.8 +0.6
PET Petropavlovsk 70.22 34 P P 05 51 21.5 +0.4
comp=Z,54nm,1.2s
PET Petropavlovsk 70.22 34 P P 05 51 21.4 +0.3
TIXI Tiksi 71.72 10 P P 05 51 29.4 -0.3
TIXI IAmb IAmb 05 51 30.3
comp=Z,20nm,0.6s
TIXI Tiksi 71.72 10 P P 05 51 29.3 -0.5
SEY Seymchan 71.96 23 LR LR 06 27 39.3
comp=Z,76nm,20.2s,baz=330,slow=39
MAW Mawson 74.28 194 P P 05 51 45.8 +1.1
comp=Z,3.2nm,0.7s,baz=46,slow=4.7,SNR=11
comp=Z,3.2nm,0.7s
SORM Soroca 75.43 319 P P 05 51 51.4 -0.5
comp=Z,8.0nm,0.7s
AK10 Malin Array Si 75.44 322 P P 05 51 51.5 -0.4
VRI Vrincioaia 76.05 317 P P 05 51 56.4 +0.9
comp=Z,8.0nm,0.8s
LUBAR Lubar, Ukraine 76.22 321 P P 05 51 55.7 -0.6
TESR Tescani 76.23 317 P P 05 51 56.9 +0.4
comp=Z,9.8nm,0.6s
BOSA Boshof 76.98 240 P P 05 52 02.4 +1.2
comp=Z,1.0nm,0.5s,baz=93,slow=2.8,SNR=4.9
BOSA pP **pP 05 52 40.2 +0.2**
comp=Z,3.4nm,0.7s,baz=99,slow=4.7,SNR=5.0
comp=Z,1.0nm,0.5s
BUR08 Bucovina Ar. S 77.41 318 P P 05 52 04.1 +0.9
KOLS Kolonicke sedl 79.55 319 *eP* **P 05 52 16.9 +2.1**
FINES FINESS Array B 79.84 332 P P 05 52 15.4 -0.6
comp=Z,1.7nm,0.3s,baz=102,slow=5.3,SNR=20
FINES pP **pP 05 52 54.3 -1.1**
comp=Z,3.5nm,0.8s,baz=91,slow=7.8,SNR=3.8
comp=Z,1.7nm,0.3s
CRVS Cervenica-Dubn 80.08 319 *eP* **P 05 52 17.7 +0.1**
ARCES ARCESS Array B 82.08 340 P P 05 52 27.3 -0.5
comp=Z,0.6nm,0.4s,baz=96,slow=6.5,SNR=13
comp=Z,0.6nm,0.4s
PRED Cave del Predi 85.19 316 P P 05 52 42.5 -1.7
HFS Hagfors 85.65 330 P P 05 52 45.6 -0.4
comp=Z,2.0nm,0.4s,baz=123,slow=5.3,SNR=22

HFS pP **pP 05 53 24.4 -1.5**
comp=Z,2.9nm,0.7s,baz=86,slow=2.0,SNR=2.8
comp=Z,2.0nm,0.4s
VNDA Vanda 86.60 169 P P 05 52 51.3 +0.9
VNDA Vanda 86.60 169 P P 05 52 50.6 +0.3
comp=Z,1.1nm,0.5s,baz=308,slow=5.6,SNR=10
comp=Z,1.1nm,0.5s
NC405 NORSAR Array S 86.66 331 P P 05 52 51.2 +0.2
NC405 IAmb IAmb 05 55 35.9
comp=Z,28nm,1.5s
NOA NORSAR Array B 86.90 331 P P 05 52 51.7 -0.5
comp=Z,0.8nm,0.8s,baz=95,slow=5.1,SNR=1.8
comp=Z,0.8nm,0.8s
SBA Scott Base 87.69 169 P P 05 52 57.1 +1.5
SBA IAmb IAmb 05 52 58.3
comp=Z,6.4nm,0.8s
KEST Kesra 88.41 306 P P 05 52 59.1 -0.9
KEST IAmb IAmb 05 53 42.1
comp=Z,14nm,1.0s
QSPA South Pole Qui 92.30 180 P P 05 53 18.4 +0.9
QSPA IAmb IAmb 05 53 23.6
comp=Z,8.6nm,1.3s
QSPA South Pole Qui 92.30 180 P P 05 53 18.3 +0.9
comp=Z,3.1nm,0.6s,baz=284,slow=0.7,SNR=40
comp=Z,3.1nm,0.6s
G19K Purcell Mounta 93.42 23 P P 05 53 23.0 +0.5
G21K Allakaket 94.72 23 P P 05 53 28.9 +0.5
IMAR Indian Mountai 94.78 23 P P 05 53 29.1 +0.4
H21K Melozitna Rive 95.25 23 P P 05 53 31.5 +0.6
K20K Telida 95.39 26 P P 05 53 32.7 +1.1
ULM Lac du Bonnet 126.03 12 PKP PKPdf 05 59 08.4 -0.5
comp=Z,1.6nm,0.4s,baz=335,slow=1.7,SNR=4.9
NVAR Mina Array Bea 126.74 37 PKP PKiKP 05 59 11.2 -0.2
comp=Z,2.0nm,0.8s,baz=246,slow=1.1,SNR=14
NVAR SKPbc SKPbc 06 02 15.8
comp=Z,0.4nm,0.6s,baz=321,slow=4.2,SNR=3.8
PDAR Pinedale Array 128.17 27 PKP PKPdf 05 59 13.1 -0.4
comp=Z,0.8nm,0.8s,baz=264,slow=1.8,SNR=6.5
PLCA Paso Flores 140.68 192 SKPbc SKPbc 06 02 58.2 -0.4
comp=Z,2.5nm,0.9s,baz=175,slow=2.8,SNR=4.9
TXAR Lajitas Array 141.68 33 PKhKP PKPpre 05 59 34.3
comp=Z,0.8nm,0.6s,baz=237,slow=1.5,SNR=14
TXAR SKPbc **SKPbc 06 03 00.9 -0.7**
comp=Z,1.2nm,0.5s,baz=223,slow=0.4,SNR=16
BDFB Brasilia 145.00 246 PKPbc PKPdf 05 59 45.5 +0.4
comp=Z,6.3nm,0.8s,baz=128,slow=3.7,SNR=11
BDFB pPKPbc **pPKPdf 06 00 25.9 -1.3**
comp=Z,5.7nm,0.8s,baz=123,slow=4.9,SNR=4.6
CPUP Villa Florida 147.12 221 PKPbc PKPdf 05 59 48.8 +0.6
comp=Z,3.0nm,0.7s,baz=89,slow=2.1,SNR=6.8
CPUP pPKPbc **pPKPbc 06 00 31.6 -0.6**
comp=Z,3.9nm,0.9s,baz=80,slow=2.2,SNR=4.1
LPAZ La Paz 161.29 222 PKP PKPdf 06 00 09.5 +0.6
comp=Z,1.8nm,0.8s,baz=214,slow=7.3,SNR=8.2
LPAZ PKPab **PKPab 06 00 54.5 +1.1**
comp=Z,0.4nm,0.5s,baz=93,slow=1.6,SNR=4.6

IDC 09 05:51:31.3±3.5, 54°.19N×87°.21E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=31.8km s-min=20.3km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**261**	I		I	I	06 00 10.0	
	baz=78,slow=311,SNR=2.3								
ZALV	**Zalesovo Beam**	**1.43**	**261**	Pg		Pn	Pn	05 51 57.2	-1.2
	2.0nm,0.3s,baz=82,slow=16,SNR=17								
ZALV				Lg		Lg	Lg	05 52 17.1	
	1.2nm,0.3s,baz=83,slow=24,SNR=5.2								
KURBB	**Kurchatov Arra**	**6.40**	**240**	Pn		Pn	Pn	05 53 07.0	+0.3
	0.1nm,0.3s,baz=54,slow=13,SNR=3.6								
	0.4nm,0.3s								
MKAR	**Makanchi Array**	**8.04**	**205**	Pn		Pn	Pn	05 53 30.8	+1.5
	0.1nm,0.3s,baz=25,slow=10,SNR=2.7								
	0.2nm,0.5s								

IDC 09 05:59:35.4±2.7, 53°.91N×86°.60E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=21.3km s-min=13.0km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**273**	I		I	I	06 05 16.5	
	baz=90,slow=320,SNR=7.5								
ZALV	**Zalesovo Beam**	**1.05**	**273**	Pg		Pg	Pg	05 59 54.7	-0.9
	1.2nm,0.3s,baz=88,slow=14,SNR=8.0								
ZALV				Lg		Lg	Lg	06 00 10.4	
	2.8nm,0.3s,baz=93,slow=30,SNR=14								
KURBB	**Kurchatov Arra**	**5.95**	**240**	Pn		Pn	Pn	06 01 05.8	+1.1
	0.1nm,0.3s,baz=58,slow=13,SNR=6.0								
KURBB				Lg		Lg	Lg	06 02 44.7	
	baz=50,slow=29,SNR=2.6								
	0.5nm,0.3s								
MKAR	**Makanchi Array**	**7.64**	**203**	Pn		Pn	Pn	06 01 28.9	+0.9
	0.1nm,0.3s,baz=24,slow=13,SNR=3.7								
MKAR				Lg		Lg	Lg	06 03 35.8	
	0.1nm,0.3s,baz=24,slow=28,SNR=2.0								
	0.2nm,0.3s								

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*IDC **09** 06:04:40.3±0.7, 17°.27N×122°.00E, h0km, mb4.3/14, mbtmp4.3/14, MS3.4/19, Error ellipse: s-maj=43.3km s-min=13.8km az=69.0*
*NEIC **09** 06:04:43.0±2.2, 17°.34N±0°.07×121°.91E±0°.10, h10km±1km, mb4.6/78, Error ellipse: s-maj=15.9km s-min=12.1km az=268.0*
*BJI **09** 06:04:48.0±0.0, 17°.38N×121°.71E, h40km, mb4.4/21, mB4.8/8, Ms4.5/1, Ms7 4.3/1*
ISC 09 06:04:45.9±0.4, 17°.26N±0°.05×121°.94E±0°.07, h35km, n144, σ1§31/123, mb4.5/50, MS3.4/16, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**5.59**	**352**	Pn		**Pn**	**Pn**	**06 06 05.5**	**-1.1**
YULB	**Yu-li**	**6.13**	**354**	Pn		**Pn**	**Pn**	**06 06 11.7**	**-2.2**
TPUB	**Ta-pu**	**6.13**	**349**	Pn		**Pn**	**Pn**	**06 06 11.5**	**-2.5**
SSLB	**Suanglung**	**6.56**	**352**			**Pn**	**Pn**	**06 06 18.0**	**-1.8**
NACB	**Ninganchiao**	**6.88**	**357**	Pn		**Pn**	**Pn**	**06 06 21.2**	**-3.1**
YOJ	**Yonaguni jima**	**7.23**	**8**	Pn		**Pn**	**Pn**	**06 06 27.3**	**-1.7**
YHNB	**Yeheng**	**7.39**	**356**	Pn		**Pn**	**Pn**	**06 06 29.7**	**-1.6**
DAV	**Davao City (W)**	**10.74**	**160**	LR		LR	LR	06 12 04.4	
	comp=Z,233nm,19.5s,baz=9.5,slow=41								
JOW	**Kunigami**	**11.18**	**31**	Pn		**Pn**	**Pn**	**06 07 21.1**	**-2.2**
JOW	**Kunigami**	**11.18**	**31**	LR		LR	LR	06 11 17.7	
	comp=Z,145nm,21.0s,baz=324,slow=36								
NJ2	**Nanjing**	**14.99**	**350**	*eP*		**Pn**	**Pn**	**06 08 16.4**	**+1.3**
NJ2				pmax		pmax			
	comp=Z,6.0nm,0.5s								
TOLI2	**Tolitoli**	**16.09**	**184**	Pn		**Pn**	**Pn**	**06 08 30.3**	**+0.7**
GYA	**Guiyang**	**16.86**	**305**	⇓P		**P**	**P**	**06 08 41.8**	**+0.6**
GYA				pmax		pmax			
	comp=Z,11nm,0.7s								
TNTI	**Ternate**	**17.24**	**161**			**P**	**P**	**06 08 45.6**	**+0.4**
TNTI				IAmb		IAmb	IAmb	06 09 01.2	
	comp=Z,36nm,0.9s								
SBUM	**Sibu**	**17.55**	**214**			**Pn**	**Pn**	**06 08 47.9**	**0.0**
JNU	**Nakatsue**	**17.73**	**25**			**Pn**	**Pn**	**06 08 49.8**	**-0.2**
JNU				IAmb		IAmb	IAmb	06 09 24.8	
	comp=Z,37nm,1.4s								
JNU	**Nakatsue**	**17.73**	**25**	LR		LR	LR	06 15 47.4	
	comp=Z,22nm,20.4s,baz=163,slow=38								
LUWI	**Luwuk**	**18.21**	**177**	P		**Pn**	**Pn**	**06 08 56.5**	**+0.5**
BKB	**Balikpapan**	**19.07**	**196**	P		**P**	**P**	**06 09 04.5**	**-0.9**
LYN	**LuoYang**	**19.19**	**336**	*eP*		**Pn**	**Pn**	**06 09 07.8**	**+0.1**
LYN				pmax		pmax			
	comp=Z,23nm,0.6s								
TJN	**Taejon**	**19.64**	**13**	P		**P**	**P**	**06 09 10.7**	**-0.7**
CRAI	**Chiangrai**	**20.64**	**282**	P		**P**	**P**	**06 09 20.4**	**-2.1**
CRAI				IAmb		IAmb	IAmb	06 09 27.8	
	comp=Z,21nm,0.8s								
PHRA	**Phrae**	**20.70**	**277**	P		**P**	**P**	**06 09 24.2**	**+0.9**
KSAR	**Wonju Array Be**	**20.77**	**13**	P		**P**	**P**	**06 09 24.2**	**+0.4**
KSRS	**Korea Array**	**20.79**	**14**	P		**P**	**P**	**06 09 23.9**	**-0.1**
	comp=Z,28nm,0.7s,baz=196,slow=11,SNR=87								
KSRS				LR		LR	LR	06 18 30.1	
	comp=Z,91nm,18.8s,baz=195,slow=40								
	comp=Z,28nm,0.7s								
KS19	**Wonju Array Si**	**20.83**	**13**	P		**P**	**P**	**06 09 24.3**	**-0.1**
KS19				IAmb		IAmb	IAmb	06 09 25.1	
	comp=Z,34nm,0.8s								
PZH	**PanZhiHua**	**20.86**	**300**	P		Pn	Pn	06 09 26.5	-1.1
PZH				pmax		pmax			
	comp=Z,20nm,0.8s								
PZH				pmax		pmax			

comp=Z,150nm,5.7s
CHTO Chiang Mai 21.92 278 P P 06 09 37.0 +0.6
CMAR Chiang Mai Arr 21.92 277 P P 06 09 36.8 +0.4
CMAR Chiang Mai Arr 21.92 277 LR LR 06 18 19.6
comp=Z,50nm,18.9s,baz=100,slow=37
KAPI Kappang 22.24 186 P P 06 09 39.2 -0.5
KAPI IAmb IAmb 06 09 47.2
comp=Z,32nm,1.4s
KAPI Kappang 22.24 186 LR LR 06 18 45.5
comp=Z,45nm,18.2s,baz=90,slow=38
GUMO Guam 22.40 96 P P 06 09 40.6 -0.8
FAKI Fak Fak 22.49 152 P P 06 09 44.1 +1.7
BJT Baijiatuau 23.22 349 P P 06 09 48.9 -0.9
BJI Beijing 23.24 349 P P 06 09 48.7 -1.3
BJI pmax pmax
comp=Z,3.0nm,0.8s
BJI pmax pmax
comp=Z,75nm,6.4s
MJAR Matsushiro Arr 24.00 34 LR LR 06 18 57.8
comp=Z,37nm,20.5s,baz=192,slow=36
HHC Hu-ho-hao-te 25.15 341 *e*P **P 06 10 03.0 -4.9**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,79nm,5.1s
BTO Baotou 25.44 339 *e*P **P 06 10 14.0 +3.5**
BTO pP **sP 06 10 25.8 +1.0**
BTO sP pP 06 10 30.9 +10
BTO S **S 06 14 41.3 +6.1**
BTO pmax pmax
comp=Z,11nm,0.9s
BTO pmax pmax
comp=Z,200nm,4.8s
BTO LR LR
comp=Z,220nm,8.3s
BTO LR LR
comp=Z,300nm,5.0s
BTO LR LR
comp=Z,300nm,7.3s
MDJ Mudanjiang 28.02 12 P P 06 10 40.2 +6.6
MDJ pmax pmax
comp=Z,8.0nm,1.4s
MDJ pmax pmax
comp=Z,140nm,5.6s
USRK Ussuriysk Ar. 28.16 15 P P 06 10 35.2 +0.4
USRK Ussuriysk Ar. 28.16 15 LR LR 06 22 24.2
comp=Z,51nm,19.4s,baz=195,slow=38
PBA Port Blair 28.80 263 P P 06 10 39.0 -1.8
MTN Manton Dam 31.26 163 P P 06 11 03.1 +0.6
XMIS Christmas Isla 31.93 211 P P 06 11 08.5 +0.1
ASAJ Asahikawa 31.94 29 LR LR 06 25 47.7
comp=Z,33nm,18.5s,baz=200,slow=40
KLR Kul'dur 32.87 12 LR LR 06 26 15.7
comp=Z,89nm,18.3s,baz=186,slow=39
SONM Songino Array 33.05 341 P P 06 11 18.6 +0.5
SONM IAmb IAmb 06 11 19.3
comp=Z,5.3nm,1.0s
SONM Songino Array 33.05 341 P P 06 11 17.8 -0.3
comp=Z,4.3nm,0.8s,baz=161,slow=9.4,SNR=18
SONM LR LR 06 26 19.1
comp=Z,66nm,18.9s,baz=113,slow=39
comp=Z,4.3nm,0.8s
FITZ Fitzroy Crossi 35.33 174 P P 06 11 37.6 -0.3
MBWA Marble Bar 38.25 183 P P 06 12 02.5 -0.2
MBWA IAmb IAmb 06 12 38.7
comp=Z,19nm,1.4s
PSA00 Pilbara Seismi 38.65 183 P P 06 12 05.4 -0.8
PSA00 IAmb IAmb 06 12 48.8
comp=Z,23nm,1.4s
WB0 Warramunga Arr 38.78 161 P P 06 12 07.4 +0.1
WB0 IAmb IAmb 06 12 08.9
comp=Z,8.8nm,0.8s
WRAB Tennant Creek 38.92 161 P P 06 12 08.6 +0.1
WRAB IAmb IAmb 06 12 36.9
comp=Z,16nm,1.1s
WRA Warramunga Arr 38.93 161 P P 06 12 07.8 -0.7
WRA Warramunga Arr 38.93 161 P P 06 12 08.0 -0.5
comp=Z,7.6nm,1.0s,baz=342,slow=9.2,SNR=29
comp=Z,7.6nm,1.0s
WB2 Warramunga Arr 38.93 161 P P 06 12 08.2 -0.3
WB2 IAmb IAmb 06 12 10.3
comp=Z,9.0nm,0.8s
WR0 Warramunga Arr 39.01 161 P P 06 12 08.9 -0.2
WR0 IAmb IAmb 06 12 10.4
comp=Z,9.2nm,1.0s
PALK Pallekele 41.42 261 P P 06 12 29.0 -0.4
AS31 Alice Springs 42.32 164 P P 06 12 36.4 -0.2
ASAR Alice Springs 42.33 164 P P 06 12 37.6 +1.0
ASAR Alice Springs 42.33 164 P P 06 12 36.1 -0.4
comp=Z,2.6nm,0.8s,baz=345,slow=7.0,SNR=20
comp=Z,2.6nm,0.8s
H11S3 WAKE ISLAND Hy 42.52 81 T T 06 57 48.9
baz=277,slow=74,SNR=422
H11S1 WAKE ISLAND Hy 42.53 81 T T 06 57 48.7
baz=277,slow=74,SNR=267
H11S2 WAKE ISLAND Hy 42.54 81 T T 06 57 50.6
baz=277,slow=74,SNR=314
H11N1 WAKE ISLAND Hy 42.61 79 T T 06 57 57.8
baz=274,slow=74,SNR=123
H11N2 WAKE ISLAND Hy 42.61 79 T T 06 57 55.4
baz=274,slow=74,SNR=134
H11N3 WAKE ISLAND Hy 42.62 79 T T 06 58 13.8
baz=274,slow=74,SNR=355
MK31 Makanchi Array 43.96 321 P P 06 12 50.0 +0.3
MKAR Makanchi Array 43.96 321 P P 06 12 49.7 +0.1
MKAR Makanchi Array 43.96 321 P P 06 12 49.9 +0.3
comp=Z,1.8nm,0.4s,baz=112,slow=9.8,SNR=29
MKAR PcP **PcP 06 14 35.2 +0.2**
comp=Z,1.2nm,0.6s,baz=101,slow=3.8,SNR=6.1
MKAR LR LR 06 31 59.5
comp=Z,44nm,19.5s,baz=168,slow=37
comp=Z,1.8nm,0.4s
CTAO Charters Tower 44.13 146 P P 06 12 50.7 -0.5
CTAO IAmb IAmb 06 12 54.2
comp=Z,13nm,0.9s
YAK Yakutsk 45.05 5 LR LR 06 33 03.3
ZAA0 Zalesovo Array 46.51 331 P P 06 13 07.9 -1.7
ZAA0 IAmb IAmb 06 13 12.7
comp=Z,4.1nm,1.2s
ZALV Zalesovo Beam 46.51 331 P P 06 13 09.2 -0.5
ZALV Zalesovo Beam 46.51 331 P P 06 13 08.7 -1.0
comp=Z,1.3nm,0.5s,baz=110,slow=8.5,SNR=5.6
comp=Z,1.3nm,0.5s
MA2 Magadan 47.16 20 LR LR 06 34 44.6
comp=Z,32nm,19.5s,baz=266,slow=38
AAK Ala-Archa 47.48 312 LR LR 06 34 19.0
comp=Z,65nm,21.3s,baz=116,slow=37
KURK Kurchatov 47.96 324 P P 06 13 21.3 +0.3
KURK IAmb IAmb 06 13 30.3
comp=Z,5.8nm,0.9s
KURBB Kurchatov Arra 47.97 324 P P 06 13 20.7 -0.4
comp=Z,5.4nm,0.6s,baz=120,slow=8.2,SNR=35
comp=Z,5.4nm,0.6s
STKA Stephens Creek 52.37 159 P P 06 13 54.7 +0.2
STKA Stephens Creek 52.37 159 P P 06 13 53.9 -0.7
comp=Z,6.8nm,0.8s,baz=318,slow=7.8,SNR=9.8
comp=Z,6.8nm,0.8s
TARA Tarawa 52.53 102 P P 06 13 56.1 0.0
BRVK Borovoye 53.63 324 P P 06 14 04.4 +0.7
BRVK IAmb IAmb 06 14 12.7
comp=Z,4.2nm,1.1s
TIXI Tiksi 54.53 3 P P 06 14 07.9 -2.1
TIXI IAmb IAmb 06 14 09.5
comp=Z,4.5nm,0.8s
TIXI Tiksi 54.53 3 LR LR 06 39 27.2
comp=Z,70nm,19.7s,baz=198,slow=38
DGAR Diego Garcia 54.71 247 P P 06 14 11.8 -0.3
NRIK Noril'sk 56.25 346 P P 06 14 22.3 -0.1
NRIK IAmb IAmb 06 14 23.3
comp=Z,5.2nm,0.8s
NRIK Noril'sk 56.25 346 P P 06 14 21.6 -0.7
comp=Z,5.9nm,0.8s,baz=132,slow=6.3,SNR=7.5
comp=Z,5.9nm,0.8s
AMKA Amchitka 56.44 39 P P 06 14 24.3 +0.3
ONTNC Ouen Toro 58.69 131 P P 06 14 40.1 -0.1
ABKAR Akbulak array 58.89 317 P P 06 14 40.3 -1.0
GSTR Great Sitkin T 59.41 39 P P 06 14 45.6 +0.7
ARU Arti 61.11 325 P P 06 14 56.0 -0.4
ARU IAmb IAmb 06 15 04.4
comp=Z,5.0nm,0.6s
ARU Arti 61.11 325 P P 06 14 56.0 -0.4
comp=Z,4.5nm,0.5s,baz=124,slow=3.3,SNR=7.4
comp=Z,4.5nm,0.5s
J16K Anvik River 69.09 28 P P 06 15 50.2 +2.1
J17K VABM Dome 69.78 28 P P 06 15 54.7 +2.3
J17K IAmb IAmb 06 15 56.1
comp=Z,9.5nm,1.3s
C19K Lookout Ridge 69.89 22 P P 06 15 55.0 +2.1
K17K Iditarod 70.12 29 P P 06 15 54.7 +0.3
D19K Kuna River 70.39 23 P P 06 15 56.7 +0.7
D19K IAmb IAmb 06 15 58.1
comp=Z,12nm,1.4s
F19K Shaleruckik Mo 70.45 24 P P 06 15 57.1 +0.8
F19K IAmb IAmb 06 16 23.4
comp=Z,7.1nm,1.4s
E19K Redstone River 70.68 24 P P 06 15 57.7 -0.1
E19K IAmb IAmb 06 16 01.0
comp=Z,13nm,1.4s
G19K Purcell Mounta 70.70 25 P P 06 15 59.3 +1.3
G19K IAmb IAmb 06 16 14.6
comp=Z,9.7nm,1.3s
L18K Granite Mounta 70.87 29 P P 06 15 59.9 +0.9
L18K IAmb IAmb 06 16 15.4
comp=Z,11nm,1.4s
H19K Roundabout Mou 70.96 26 P P 06 16 01.1 +1.6
H19K IAmb IAmb 06 16 39.1
comp=Z,8.9nm,1.3s
N18K Kilae Creek 71.29 31 P P 06 16 01.6 0.0
N18K IAmb IAmb 06 16 36.7
comp=Z,12nm,1.2s
J19K Poorman 71.33 27 P P 06 16 02.8 +1.0
J19K IAmb IAmb 06 16 29.6
comp=Z,8.8nm,1.4s
CAST Castle Rocks 72.93 28 P P 06 16 12.8 +1.5
CAST IAmb IAmb 06 16 13.5
comp=Z,3.9nm,0.7s
C23K Itkillik River 73.06 21 P P 06 16 13.3 +1.4
C23K IAmb IAmb 06 16 35.5
comp=Z,6.2nm,1.2s
BPAW Bear Paw Mtn. 73.36 27 P P 06 16 14.1 +0.2
BPAW IAmb IAmb 06 16 16.2
comp=Z,2.9nm,0.9s
MLY Manley 73.38 26 P P 06 16 13.4 -0.7
G23K Bananza Creek 73.52 24 P P 06 16 15.0 +0.2
G23K IAmb IAmb 06 16 27.7
comp=Z,4.3nm,1.4s
H23K Yukon River 73.80 25 P P 06 16 18.3 +1.8
H23K IAmb IAmb 06 16 19.2
comp=Z,4.0nm,1.0s
I23K Minto, Yukon-K 73.95 26 P P 06 16 19.3 +2.0
I23K IAmb IAmb 06 16 48.8
comp=Z,5.2nm,1.2s
NEA2 Nenana 74.14 27 P P 06 16 19.4 +0.9
RAO Raoul Island 74.20 128 P P 06 16 19.9 +0.6
F24K Squaw Lake 74.27 24 P P 06 16 20.6 +1.5
MDM Murphy Dome 74.45 26 P P 06 16 20.8 +0.5
H24K Noodor Dome 74.48 25 P P 06 16 20.9 +0.4
WRH Wood River Hil 74.57 27 P P 06 16 21.7 +0.8
WRH IAmb IAmb 06 16 52.4
comp=Z,6.9nm,1.3s
CCB Clear Creek Bu 74.67 27 P P 06 16 22.5 +1.0
ILAR Eielson Array 75.04 26 P P 06 16 22.5 -1.2
ILAR Eielson Array 75.04 26 P P 06 16 22.7 -1.0
comp=Z,0.3nm,0.6s,baz=269,slow=5.0,SNR=5.4
comp=Z,0.3nm,0.6s
BMAR Burnt Mountain 75.54 23 P P 06 16 28.5 +2.0
ARCES ARCESS Array B 76.21 339 P P 06 16 31.4 +1.2
comp=Z,1.3nm,0.8s,baz=54,slow=7.9,SNR=2.1
comp=Z,1.3nm,0.8s
SPITS Spitsbergen Ar 76.37 348 LR LR 06 54 35.5
comp=Z,49nm,18.9s,baz=129,slow=39
EGAK Eagle 77.45 26 P P 06 16 37.6 +0.3
BCAR Beaver Creek A 77.58 28 P P 06 16 37.7 -0.5
FINES FINESS Array B 77.78 331 P P 06 16 39.1 0.0
FINES FINESS Array B 77.78 331 P P 06 16 39.8 +0.6
comp=Z,0.7nm,0.6s,baz=46,slow=5.5,SNR=4.2
comp=Z,0.7nm,0.6s
I28M Miner Creek 77.79 25 P P 06 16 39.0 -0.3
I28M IAmb IAmb 06 16 42.2
comp=Z,2.9nm,0.9s
H29M Whitestone 78.21 24 P P 06 16 43.0 +1.4
H29M IAmb IAmb 06 16 55.0
comp=Z,4.0nm,1.0s
DAWY Dawson 78.37 26 P P 06 16 43.9 +1.4
DAWY IAmb IAmb 06 17 16.1
comp=Z,5.2nm,1.5s
L29M L29M 79.18 27 P P 06 16 48.4 +1.4
L29M IAmb IAmb 06 16 58.7
comp=Z,5.6nm,1.2s
K29M Barlow Dome 79.22 26 P P 06 16 48.6 +1.2
I30M Mount Dempster 79.28 25 P P 06 16 49.0 +1.3
INK Inuvik 79.36 21 P P 06 16 48.6 +0.8
INK IAmb IAmb 06 17 14.0
comp=Z,6.8nm,1.5s
J30M Hart River 79.50 25 P P 06 16 48.4 -0.4
C36M Paulatuk 82.07 19 P P 06 17 02.6 +0.4
HFS Hagfors 83.94 331 P P 06 17 11.2 -1.0
comp=Z,0.6nm,0.4s,baz=95,slow=7.2,SNR=5.8
comp=Z,0.6nm,0.4s
NC405 NORSAR Array S 84.41 333 P P 06 17 15.4 +0.9
NOA NORSAR Array B 84.66 333 LR LR 06 58 53.7
comp=Z,62nm,18.2s,baz=55,slow=38
CLL Collm 88.00 324 *e*P **P 06 17 33.0 +0.6**
CLL *i* x x 06 17 39.8
CLL *e*x x 06 17 45.0
BORG Borgarnes 93.56 345 LR LR 07 03 09.8
comp=Z,38nm,19.9s,baz=174,slow=38

PDG ***09*** *06:06:03.9±0.1, 42°.65N×18°.26E, h10km, MD3.3/9, ML3.2/11, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*
RHSSO ***09*** *06:06:04.4±0.3, 42°.65N×18°.25E, h4km±1km, ML3.2/16*
BEO ***09*** *06:06:04.9±0.3, 42°.65N×18°.24E, h3km±1km, ML3.0/16*
NEIC ***09*** *06:06:04.1±1.5, 42°.68N±0°.06×18°.23E±0°.04, h10km±2km, ML2.9/26, Error ellipse: s-maj=11.0km s-min=3.1km az=20.0*
TIR ***09*** *06:06:04.7, 42°.40N×18°.13E, h24km±7km, Ml3.3*
ISC 09 06:06:04.1±0.8, 42°.66N±0°.02×18°.25E±0°.01, h8km±5km, n120, σ1§13/181, 27C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res s	Res ISC
DBRK	**Dubrovnik**	**0.07**	**280**	*i* Pg		**Pg**	**06 06 06.3**	**+0.1**	
DBRK					Sg	**Sg**	**06 06 07.8**	**+0.2**	
TREB	**Trebinje**	**0.10**	**51**	*e*Pg		**Pg**	**06 06 06.2**	**-0.3**	
TREB					*e*Sg	**Sg**	**06 06 08.1**	**0.0**	
TREB	**Trebinje**	**0.10**	**51**	⇓*i*Pg		**Pg**	**06 06 06.4**	**-0.1**	
TREB					*e*Sg	**Sg**	**06 06 08.1**	**0.0**	
BRY	**Bratogost**	**0.33**	**41**	⇓*i*Pg		**Pg**	**06 06 10.3**	**-0.3**	
BRY					*e*Sg	**Sg**	**06 06 15.6**	**+0.6**	
BRY	**Bratogost**	**0.33**	**41**	⇓*i*Pg		**Pg**	**06 06 10.0**	**-0.6**	
BRY					*i* Sg	**Sg**	**06 06 14.9**	**-0.1**	
STON	**Ston**	**0.46**	**298**	*e*Pg		**Pg**	**06 06 12.9**	**-0.1**	
STON					*e*Sg	**Sg**	**06 06 20.3**	**+1.3**	
STON	**Ston**	**0.46**	**298**	*e*Pg		**Pg**	**06 06 12.7**	**-0.3**	
STON					Sg	**Sg**	**06 06 19.9**	**+1.0**	
STON	**Ston**	**0.46**	**298**	⇑*i*Pg		**Pg**	**06 06 12.4**	**-0.6**	
STON					*e*Sg	**Sg**	**06 06 20.0**	**+1.0**	
CEME	**Cevo**	**0.51**	**102**	⇓*i*Pg		**Pg**	**06 06 13.1**	**-0.9**	
CEME					*i* Sg	**Sg**	**06 06 21.0**	**+0.4**	
NKME	**Niksic**	**0.53**	**78**	⇑*i*Pg		**Pg**	**06 06 13.7**	**-0.7**	
NKME					*i* Sg	**Sg**	**06 06 21.8**	**+0.4**	
KLINJ	**Klinje**	**0.57**	**26**	⇑*i*Pg		**Pg**	**06 06 14.2**	**-1.0**	
KLINJ					*e*Sg	**Sg**	**06 06 23.7**	**+1.0**	
BUM	**Brajici-Budva**	**0.59**	**126**	⇑*i*Pg		**Pg**	**06 06 15.0**	**-0.6**	
BUM					*i* Sg	**Sg**	**06 06 24.3**	**+0.9**	
UPM	**Unac-Piva**	**0.73**	**41**	⇓*i*Pg		**Pg**	**06 06 17.0**	**-1.2**	
UPM					*e*Sg	**Sg**	**06 06 28.6**	**+0.8**	
UPM	**Unac-Piva**	**0.73**	**41**	⇑*i*Pg		**Pg**	**06 06 17.1**	**-1.2**	
UPM					*i* Sg	**Sg**	**06 06 28.6**	**+0.8**	
PDG	**Podgorica**	**0.78**	**106**	⇑P		**Pg**	**06 06 17.9**	**-1.2**	
PDG	**Podgorica**	**0.78**	**106**	Pg		**Pg**	**06 06 18.2**	**-0.9**	
PDG					Sg	**Sg**	**06 06 29.8**	**+0.6**	
PDG					IAML		06 06 32.9		
	comp=N,500nm,0.3s								
PDG					IAML		06 06 33.1		
	comp=E,593nm,0.3s								
PDG	**Podgorica**	**0.78**	**106**	*e*Pg		**Pg**	**06 06 18.4**	**-0.7**	
PDG					*e*Sg	**Sb**	**06 06 31.4**	**+0.8**	
PDG	**Podgorica**	**0.78**	**106**	⇑*i*Pg		**Pg**	**06 06 17.9**	**-1.2**	
PDG					*e*Sg	**Sg**	**06 06 29.5**	**+0.3**	
PDG	**Podgorica**	**0.78**	**106**	⇑*i*Pg		**Pg**	**06 06 18.4**	**-0.7**	
PDG					*i* Sg	**Sb**	**06 06 30.2**	**-0.4**	
DRME	**Dracevica, Mon**	**0.84**	**124**	*e*Pg		**Pg**	**06 06 19.7**	**-0.5**	
DRME					*e*Sg	**Sg**	**06 06 30.6**	**-0.5**	
DRME	**Dracevica, Mon**	**0.84**	**124**	⇓*i*Pg		**Pg**	**06 06 19.2**	**-1.0**	
DRME					*e*Sg	**Sg**	**06 06 31.7**	**+0.6**	
DRME	**Dracevica, Mon**	**0.84**	**124**	⇑*i*Pg		**Pg**	**06 06 19.4**	**-0.8**	
DRME					*i* Sg	**Sb**	**06 06 32.4**	**+0.1**	
KOME	**Kolasin**	**0.95**	**78**	*e*Pg		**Pg**	**06 06 21.3**	**-1.2**	
KOME					*e*Sg	**Sb**	**06 06 36.8**	**+1.0**	
KOME	**Kolasin**	**0.95**	**78**	⇑*i*Pg		**Pg**	**06 06 21.3**	**-1.2**	
KOME					*i* Sg	**Sb**	**06 06 35.9**	**+0.1**	
PLE	**Pljevlja**	**1.07**	**51**	⇑*i*Pg		**Pg**	**06 06 23.6**	**-1.2**	
PLE					*i* Sg	**Sn**	**06 06 40.3**	**-0.5**	
MAKA	**Makarska**	**1.10**	**305**	*e*Pn		**Pb**	**06 06 24.3**	**-1.1**	
MAKA					Sn	**Sn**	**06 06 41.3**	**+0.1**	
RICI	**Ricice**	**1.17**	**316**	*e*Pg		**Pb**	**06 06 25.5**	**-1.1**	
RICI					Sg	**Sn**	**06 06 42.6**	**-0.4**	
IVA	**Berane**	**1.23**	**79**	⇑*i*Pg		**Pn**	**06 06 26.4**	**-1.3**	
IVA					*i* Sg	**Sn**	**06 06 45.6**	**+1.0**	
PVY	**Plav**	**1.27**	**92**	*e*Pg		**Pn**	**06 06 27.9**	**-0.3**	
PVY					*e*Sg	**Sb**	**06 06 44.7**	**-0.1**	
PVY	**Plav**	**1.27**	**92**	⇑*i*Pg		**Pn**	**06 06 27.1**	**-1.1**	
PVY					*i* Sg	**Sn**	**06 06 46.7**	**+1.2**	
RUDO	**Rudo**	**1.27**	**40**	⇑*i*Pg		**Pn**	**06 06 26.5**	**-1.6**	
RUDO					*e*Sg	**Sb**	**06 06 45.0**	**+0.3**	
PUK	**Puka**	**1.36**	**116**	P		**Pn**	**06 06 29.5**	**0.0**	
	baz=104								
PUK					S	**Sg**	**06 06 50.2**	**+2.2**	
	baz=104								
PUK					AMP				
	comp=E,3.0nm,0.3s,baz=104								
PUK	**Puka**	**1.36**	**116**	Pn		**Pn**	**06 06 29.7**	**+0.2**	
BCI	**Bajram Curri**	**1.38**	**102**	P		**Pn**	**06 06 29.6**	**-0.1**	
	baz=90								
BCI					S	**Sg**	**06 06 52.7**	**+4.3**	
	baz=90								
BCI					AMP				
	comp=N,3.2nm,0.3s,baz=90								
SJES	**Sjenica**	**1.40**	**64**	*e*Pg		**Pn**	**06 06 30.3**	**+0.2**	
SJES					*e*Sg	**Sg**	**06 06 50.8**	**+1.5**	
SJES	**Sjenica**	**1.40**	**64**	*e*Pg		**Pn**	**06 06 30.0**	**-0.1**	
SJES					*e*Sg	**Sg**	**06 06 49.7**	**+0.4**	
HVAR	**Hvar**	**1.42**	**292**	*e*Pn		**Pb**	**06 06 31.1**	**+0.2**	
HVAR					Sn	**Sg**	**06 06 50.7**	**+0.9**	
BBLS	**Lazi&#263i**	**1.48**	**35**	*e*Pg		**Pb**	**06 06 32.0**	**+0.1**	
BBLS					*e*Sg	**Sg**	**06 06 52.6**	**+1.0**	
BBLS	**Lazi&#263i**	**1.48**	**35**	*e*Pg		**Pn**	**06 06 31.5**	**+0.4**	
BBLS					*e*Sg	**Sg**	**06 06 51.9**	**+0.3**	
HAPS	**Han Pijesak,Bl**	**1.52**	**19**	*e*Pg		**Pb**	**06 06 33.1**	**+0.5**	
HAPS					*e*Sg	**Sg**	**06 06 54.9**	**+1.9**	
HAPS	**Han Pijesak,Bl**	**1.52**	**19**	⇑*i*Pn		**Pn**	**06 06 31.9**	**+0.2**	
HAPS					*e*Sn	**Sg**	**06 06 53.0**	**0.0**	
IVAS	**Ivanjica**	**1.67**	**56**	*e*Pg		**Pn**	**06 06 34.4**	**+0.6**	
IVAS					*e*Sg	**Sg**	**06 06 58.5**	**+0.7**	
TIR	**Tirane**	**1.78**	**137**	⇑P		**Pn**	**06 06 35.7**	**+0.6**	
TIR	**Tirane**	**1.78**	**137**	P		**Pb**	**06 06 36.3**	**-0.6**	
	baz=128								
TIR					S	**Sb**	**06 07 00.3**	**+0.9**	
	baz=128								
TIR					AMP				
	comp=N,0.7nm,0.4s,baz=128								
TIR	**Tirane**	**1.78**	**137**	Pn		**Pn**	**06 06 35.9**	**+0.8**	
TIR	**Tirane**	**1.78**	**137**	*e*Pn		**Pb**	**06 06 37.7**	**+0.7**	
TIR					*e*Sn	**Sg**	**06 07 00.8**	**-0.5**	
DIVS	**Divibare**	**1.92**	**41**	*e*Pn		**Pb**	**06 06 38.6**	**-0.9**	
DIVS					*e*Sn	**Sn**	**06 07 02.1**	**+0.4**	
MGRS	**Mrkonjic Grad**	**1.95**	**335**	*e*Pn		**Pn**	**06 06 38.9**	**+1.3**	
MGRS					*e*Sn	**Sb**	**06 07 03.6**	**-0.9**	
NOCI	**Noci**	**2.06**	**206**	P		**Pn**	**06 06 37.4**	**-1.7**	
	baz=207								
NOCI					S	**Sn**	**06 07 03.3**	**-1.8**	
	baz=207								
SGRT	**San Giovanni R**	**2.07**	**245**	P		**Pn**	**06 06 38.3**	**-0.9**	
	baz=251								
SGRT					S	**Sn**	**06 07 04.8**	**-0.4**	
	baz=251								
SGRT	**San Giovanni R**	**2.07**	**245**	Pn		**Pn**	**06 06 38.5**	**-0.7**	
SGRT					IAML		06 07 24.4		
	comp=E,87nm,0.7s								
ZIRJ	**Zirje**	**2.15**	**299**	*e*Pn		**Pb**	**06 06 42.1**	**-1.2**	
GRUS	**Gruza**	**2.18**	**55**	*e*Pn		**Pn**	**06 06 42.4**	**+1.7**	
GRUS					*e*Sn	**Sb**	**06 07 10.6**	**-0.5**	
A050A	**Klekovaca**	**2.21**	**326**	*e*Pn		**Pn**	**06 06 42.2**	**+1.0**	
A050A					*e*Sn	**Sn**	**06 07 09.8**	**+1.1**	
MORI	**Morici**	**2.21**	**304**	*e*Pn		**Pb**	**06 06 43.0**	**-1.4**	
TRUS	**Trudelj**	**2.22**	**44**	*e*Pn		**Pn**	**06 06 42.6**	**+1.4**	
TRUS					*e*Sn	**Sb**	**06 07 11.1**	**-1.0**	
BLY	**Banja Luka**	**2.23**	**340**	*e*Pn		**Pb**	**06 06 44.1**	**-0.6**	
BLY	**Banja Luka**	**2.23**	**340**	*e*Pn		**Pn**	**06 06 42.6**	**+1.2**	
BLY					*e*Sn	**Sn**	**06 07 10.5**	**+1.4**	
MATE	**Matera**	**2.31**	**210**	⇑P		**Pg**	**06 06 48.2**	**-0.3**	
SCTE	**Santa Cesarea**	**2.59**	**176**	Pn		**Pn**	**06 06 46.8**	**+0.6**	
UDBI	**Udbina**	**2.60**	**317**	*e*Pn		**Pb**	**06 06 50.6**	**-0.4**	
AVAS	**Avala Beograd**	**2.62**	**38**	*e*Pn		**Pn**	**06 06 47.5**	**+0.8**	
DUGI	**Dugi Otok**	**2.68**	**301**	*e*Pn		**Pn**	**06 06 49.4**	**+1.8**	
BOVS	**Bovan**	**2.71**	**68**	*e*Pn		**Pn**	**06 06 49.2**	**+1.2**	
FRGS	**Fruska Gora**	**2.74**	**24**	⇑P		**Pn**	**06 06 47.3**	**-1.1**	
FRGS	**Fruska Gora**	**2.74**	**24**	*e*Pn		**Pn**	**06 06 49.1**	**+0.6**	
FRGS	**Fruska Gora**	**2.74**	**24**	⇑*i*Pn		**Pn**	**06 06 49.0**	**+0.6**	
FRGS					*e*Sn	**Sn**	**06 07 22.3**	**+0.5**	
PRVS	**Prvonek**	**2.83**	**92**	*e*Pn		**Pn**	**06 06 51.5**	**+1.8**	
PRVS					*e*Sn	**Sn**	**06 07 26.6**	**+2.6**	
FNA	**Florina**	**3.00**	**128**	P		**Pn**	**06 06 53.4**	**+1.4**	
	baz=122								
FNA	**Florina**	**3.00**	**128**	Pn		**Pn**	**06 06 53.1**	**+1.1**	
FNA					IAML		06 07 50.7		
	comp=N,51nm,0.6s								
FNA					IAML		06 07 56.0		
	comp=E,51nm,0.5s								
FNA	**Florina**	**3.00**	**128**	*e*Pn		**Pn**	**06 06 53.8**	**+1.8**	
KUBS	**Kucevo**	**3.05**	**54**	*e*Pn		**Pn**	**06 06 52.2**	**-0.4**	
LSK	**Leskovik**	**3.07**	**144**	P		**Pn**	**06 06 54.3**	**+1.4**	
	baz=139								
LSK					S	**Sn**	**06 07 30.8**	**+1.0**	
	baz=139								
SRN	**Sarande**	**3.07**	**154**	P		**Pn**	**06 06 52.7**	**-0.2**	
	baz=150								
SRN					S	**Sn**	**06 07 28.1**	**-1.7**	
	baz=150								
SRN					AMP				
	comp=N,0.1nm,0.2s,baz=150								
NVLJ	**Novalja**	**3.11**	**309**	*e*Pn		**Pn**	**06 06 54.4**	**+1.0**	
NVLJ					Sn	**Sn**	**06 07 33.5**	**+2.9**	
ZAGS	**Zajecar**	**3.13**	**67**	*e*Pn		**Pn**	**06 06 55.2**	**+1.4**	
MOSL	**Moslavina**	**3.15**	**341**	*e*Pn		**Pn**	**06 06 55.5**	**+1.5**	
PAOL	**Paolisi**	**3.19**	**241**	Pn		**Pn**	**06 06 54.1**	**-0.5**	
PAOL					IAML		06 08 04.4		
	comp=N,30nm,0.0s								
PAOL					IAML		06 08 04.5		
	comp=E,31nm,0.0s								
CUC	**Castrocucco**	**3.23**	**215**	Pn		**Pn**	**06 06 55.3**	**+0.2**	
INTR	**Introdacqua**	**3.28**	**260**	Pn		**Pn**	**06 06 55.7**	**-0.2**	
INTR					IAML		06 07 55.1		
	comp=N,40nm,0.7s								
MDVR	**Moldovita**	**3.29**	**49**	⇑P		**Pn**	**06 06 54.0**	**-2.0**	
MDVR	**Moldovita**	**3.29**	**49**	*e*Pn		**Pn**	**06 06 57.1**	**+1.1**	
MORH	**Mrgy, Hungar**	**3.57**	**4**	⇑*i*Pn		**Pn**	**06 07 00.6**	**+0.8**	
MORH					*e*Sn	**Sn**	**06 07 42.5**	**+0.4**	
BOJS	**Bojanci**	**3.57**	**324**	*e*Pn		**Pn**	**06 07 00.3**	**+0.5**	
BOJS					*e*Sn	**Sn**	**06 07 42.3**	**+0.1**	
CAMP	**Campotosto**	**3.57**	**270**	Pn		**Pn**	**06 06 59.2**	**-0.8**	
CAMP					IAML		06 07 26.5		
	comp=E,17nm,2.6s								
CAMP					IAML		06 07 50.5		
	comp=N,19nm,0.6s								
TIP	**Timpagrande**	**3.65**	**198**	Pn		**Pn**	**06 07 00.3**	**-0.7**	
HERR	**Herculane**	**3.75**	**52**	⇓P		**Pn**	**06 06 59.5**	**-2.8**	
NRCA	**Norcia**	**3.79**	**274**	Pn		**Pn**	**06

comp=E,1.9nm,0.2s
OBKA Obir 4.67 327 *e*Pn **Pn 06 07 15.1 +0.1**
comp=E,0.6nm,0.2s
OBKA Obir 4.67 327 *e*Pn **Pn 06 07 14.9 -0.1**
OBKA *e*Sn **Sn 06 08 08.7 -0.7**
SABO M.te Sabotino 4.71 316 Pn **Pn 06 07 14.1 -1.4**
CEL Celeste 4.74 203 Pn **Pn 06 07 14.8 -1.2**
AGG Agios Georgios 4.77 138 Pn **Pn 06 07 16.9 +0.6**
LOT Lotru 4.86 53 ⇓P **Pn 06 07 14.4 -3.2**
ARSA Arzberg 4.98 338 *e*Pn **Pn 06 07 18.6 -0.6**
comp=E,5.5nm,0.4s
ARSA Arzberg 4.98 338 *e*Pn **Pn 06 07 20.2 +0.9**
ARSA *e*Sn **Sn 06 08 15.9 -1.2**
PRED Cave del Predi 5.05 320 Pn **Pn 06 07 19.9 -0.4**
RONA Rosalia, Austr 5.23 345 *e*Pn **Pn 06 07 21.5 -1.1**
comp=E,1.7nm,0.3s
MARR Marisel-Cluj 5.31 39 ⇑P **Pn 06 07 22.5 -1.4**
STAL STALIGIAL 5.36 314 Pn **Pn 06 07 23.6 -0.8**
PSZ Piszkesteto 5.39 12 ⇑P **Pn 06 07 24.9 0.0**
PSZ Piszkesteto 5.39 12 Pn **Pn 06 07 25.8 +0.9**
PSZ IAML 06 08 32.1
comp=E,5.6nm,0.8s
PSZ IAML 06 08 32.2
comp=N,5.7nm,1.1s
TEOL Teolo 5.46 302 Pn **Pn 06 07 23.8 -1.9**
ZCCA Zocca 5.55 290 Pn **Pn 06 07 26.4 -0.7**
VOIR 5.64 58 ⇑P **Pn 06 07 24.7 -3.5**
VYHS Vyhne 5.85 4 *e*SN **Sn 06 08 39.6 +1.2**
MOA Molln 5.91 333 *e*Pn **Pn 06 07 33.7 +1.8**
comp=N,1.7nm,0.3s
ALN Alexandroupoli 6.09 104 Pn **Pn 06 07 33.8 -0.6**
BUR08 Bucovina Ar. S 7.00 42 Pn **Pn 06 07 45.8 -1.3**

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*IDC **09** 06:09:43.8±4.2, 6°.60S×146°.51E, h131km±36km, mb3.3/3, mbtmp3.7/5, Error ellipse: s-maj=53.9km s-min=30.0km az=120.0*

ISC 09 06:09:41.8±1.3, 6°.4S±0°.1×146°.4E±0°.2, h110km, n7, σ1§29/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.08**	**166**	P	**Pn**	**06 10 29.7**	**+0.8**
	110nm,0.3s,baz=53,slow=6.0,SNR=33						
PMG				S	**Sn**	**06 11 03.5**	**-1.7**
	67nm,0.4s,baz=78,slow=20,SNR=6.8						
CTA	**Charters Tower**	**13.60**	**180**	P	**Pn**	**06 12 51.9**	**+1.6**
	0.3nm,0.3s,baz=329,slow=12,SNR=6.3						
WRA	**Warramunga Arr**	**17.83**	**220**	P	**P**	**06 13 41.7**	**-0.5**
	0.6nm,0.8s,baz=40,slow=11,SNR=1.8						
ASAR	**Alice Springs**	**20.94**	**214**	P	**P**	**06 14 15.2**	**-0.7**
	0.3nm,0.6s,baz=50,slow=8.7,SNR=2.4						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**83.56**	**180**	P	**P**	**06 21 56.5**	**-1.1**
	0.7nm,0.7s,baz=283,slow=1.8,SNR=7.6						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**86.09**	**23**	P	**P**	**06 22 09.9**	**-0.1**
	1.0nm,0.6s,baz=256,slow=5.2,SNR=14						
	1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**144.59**	**284**	PKP	**PKPab**	**06 29 05.7**	**+0.5**
	0.3nm,0.5s,baz=60,slow=3.2,SNR=3.7						

IDC 09 06:25:20.6±3.6, 53°.40N×87°.57E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=37.0km s-min=18.5km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**290**	I	I	06 35 57.5	
	baz=108,slow=306,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.73**	**290**	Pn	Pn	06 25 51.7	-0.1
	1.0nm,0.3s,baz=108,slow=15,SNR=7.7						
ZALV				Lg	Lg	06 26 15.8	
	0.9nm,0.3s,baz=118,slow=39,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.23**	**247**	Pn	Pn	06 26 53.4	-0.4
	0.1nm,0.3s,baz=64,slow=14,SNR=3.1						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.43**	**209**	Pn	Pn	06 27 12.1	+1.9
	0.1nm,0.3s,baz=32,slow=13,SNR=2.6						
	0.1nm,0.3s						

IDC 09 06:39:20.5±3.2, 53°.64N×88°.12E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=28.0km s-min=17.4km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.98**	**280**	I	I	06 51 35.2	
	0.1nm,0.8s,baz=96,slow=312,SNR=3.7						
ZALV	**Zalesovo Beam**	**1.98**	**280**	Pn	Pn	06 39 55.6	+0.4
	1.4nm,0.3s,baz=104,slow=12,SNR=17						
ZALV				Lg	Lg	06 40 23.2	
	3.3nm,0.3s,baz=99,slow=25,SNR=21						
KURBB	**Kurchatov Arra**	**6.63**	**247**	Pn	Pn	06 40 59.6	+0.5
	0.1nm,0.3s,baz=59,slow=14,SNR=6.0						
KURBB				Lg	Lg	06 42 50.1	
	baz=63,slow=32,SNR=4.1						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.80**	**211**	Pn	Pn	06 41 16.2	+0.9
	0.1nm,0.3s,baz=26,slow=12,SNR=4.8						
MKAR				Sn	Sn	06 42 44.4	0.0
	baz=29,slow=27,SNR=3.8						
	0.1nm,0.4s						

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*IDC **09** 07:11:48.2±1.2, 13°.63N×88°.18W, h192km±13km, mb3.6/14, mbtmp4.2/17, Error ellipse: s-maj=23.7km s-min=10.2km az=51.0*

*NEIC **09** 07:11:48.8±1.7, 13°.47N±0°.08×88°.39W±0°.06, h196km±6km, mb4.7/219, Error ellipse: s-maj=12.8km s-min=7.4km az=210.0*

*SNET **09** 07:11:49.0±0.8, 13°.42N×88°.50W, h185km±2km, ML4.0*

*CATAC **09** 07:11:49.6±0.2, 13°.53N×88°.39W, h182km±2km, ML4.2*

*GCG **09** 07:12:17.0±0.3, 14°.77N×90°.00W, h51km±999km, MD4.1*

ISC 09 07:11:47.9±0.5, 13°.51N±0°.05×88°.41W±0°.03, h196km±4km, n511, σ0§98/560, mb4.7/100, 30C-22D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACA	**Pacayal**	**0.09**	**117**	*e*P	**Pn**	**07 12 14.2**	**+0.3**
PACA				*e*S	**Sn**	**07 12 33.5**	**-0.2**
PACA	**Pacayal**	**0.09**	**117**	⇓*i*P	**Pn**	**07 12 14.1**	**+0.3**
PACA				*i* S	**Sn**	**07 12 34.3**	**+0.6**
PACA				IAML		07 12 46.5	
	comp=Z,19μm,1.0s						
TECA	**Tecapa**	**0.09**	**260**	*e*P	**Pn**	**07 12 14.1**	**+0.2**
RANC	**El Ranchito**	**0.14**	**124**	*e*P	**Pn**	**07 12 14.0**	**+0.1**
RANC	**El Ranchito**	**0.14**	**124**	⇓*i*P	**Pn**	**07 12 13.8**	**-0.1**
RANC				IAML		07 12 44.2	
	comp=Z,2μm,1.0s						
LCY	**Lacayo**	**0.14**	**129**	*e*P	**Pn**	**07 12 14.0**	**+0.2**
VSM	**San Miguel**	**0.15**	**123**	*e*P	**Pn**	**07 12 14.1**	**0.0**
BLLM	**Bellamira**	**0.18**	**112**	*e*P	**Pn**	**07 12 13.8**	**0.0**
PQSS	**Presa 15 de Se**	**0.19**	**307**	*e*P	**Pn**	**07 12 13.9**	**+0.2**
PQSS	**Presa 15 de Se**	**0.19**	**307**	⇓*i*P	**Pn**	**07 12 13.9**	**+0.2**
PQSS				IAML		07 12 14.2	
	comp=Z,3μm,1.0s						
PQSS				*i* S	**Sn**	**07 12 33.9**	**+0.2**
CNRM	**Centro Naciona**	**0.23**	**99**	*e*P	**Pn**	**07 12 14.0**	**+0.2**
CNRM	**Centro Naciona**	**0.23**	**99**	*i* P	**Pn**	**07 12 14.0**	**+0.2**
CNRM				*i* S	**Sn**	**07 12 33.6**	**-0.1**
CNRM				IAML		07 12 36.1	
	comp=Z,18μm,1.0s						
JUCU	**Jucuarın**	**0.30**	**149**	⇑*e*P	**Pn**	**07 12 13.8**	**-0.3**
JUCU				*e*S	**Sn**	**07 12 33.6**	**-0.7**
JUCU	**Jucuarın**	**0.30**	**149**	⇑*i*P	**Pn**	**07 12 13.7**	**-0.3**
JUCU				*i* S	**Sn**	**07 12 34.3**	**0.0**
JUCU				IAML		07 12 40.2	
	comp=Z,4μm,1.0s						
TECO	**Alcaldia de Te**	**0.36**	**274**	*e*P	**Pn**	**07 12 14.2**	**0.0**
TECO				*e*S	**Sn**	**07 12 33.7**	**-0.6**
TECO	**Alcaldia de Te**	**0.36**	**274**	⇑*i*P	**Pn**	**07 12 14.1**	**0.0**
TECO				IAML		07 12 14.5	
	comp=Z,7μm,1.0s						
TECO				*i* S	**Sn**	**07 12 34.3**	**0.0**
SCLA	**Alcaldia de Sa**	**0.36**	**301**	*e*P	**Pn**	**07 12 14.7**	**+0.5**
SCLA				*e*S	**Sn**	**07 12 34.7**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.36**	**301**	⇑*i*P	**Pn**	**07 12 14.7**	**+0.5**
SCLA				IAML		07 12 15.1	
	comp=Z,4μm,1.0s						
SCLA				*i* S	**Sn**	**07 12 35.7**	**+1.3**
UESV	**Universidad de**	**0.39**	**289**	*e*P	**Pn**	**07 12 14.4**	**+0.1**
UESV	**Universidad de**	**0.39**	**289**	⇑*i*P	**Pn**	**07 12 14.3**	**+0.1**
UESV				IAML		07 12 15.4	
	comp=Z,3μm,1.0s						
SNVI	**San Vicente**	**0.43**	**284**	*e*P	**Pn**	**07 12 14.7**	**+0.2**
INTP	**Intipuca**	**0.46**	**132**	⇑*e*P	**Pn**	**07 12 14.5**	**0.0**
INTP				*e*S	**Sn**	**07 12 34.7**	**-0.2**
COEG	**Centro de Oper**	**0.47**	**283**	*e*P	**Pn**	**07 12 14.5**	**0.0**
COEG	**Centro de Oper**	**0.47**	**283**	⇑*i*P	**Pn**	**07 12 14.4**	**-0.1**
COEG				IAML		07 12 17.1	
	comp=Z,2μm,1.0s						
COEG				*i* S	**Sn**	**07 12 35.7**	**+0.7**
LCND	**La Caada**	**0.54**	**112**	⇓*e*P	**Pn**	**07 12 15.1**	**+0.3**
LCND				*e*S	**Sn**	**07 12 35.6**	**+0.2**
LCND				IAML		07 12 37.2	
	comp=Z,2μm,0.5s						
LCND	**La Caada**	**0.54**	**112**	*i* P	**Pn**	**07 12 15.0**	**+0.3**
LCND				⇓*i*P	**Pn**	**07 12 15.0**	**+0.3**
LCND				IAML		07 12 17.9	
	comp=Z,49μm,1.0s						
LCND				*i* S	**Sn**	**07 12 35.1**	**-0.3**
LCND				IAML		07 12 51.7	
	comp=Z,2μm,1.0s						
PAVA	**Las Pavas**	**0.55**	**291**	⇑*e*P	**Pn**	**07 12 15.3**	**+0.3**
PAVA				*e*S	**Sn**	**07 12 35.9**	**+0.2**
PAVA	**Las Pavas**	**0.55**	**291**	⇑*i*P	**Pn**	**07 12 15.2**	**+0.3**
PAVA				IAML		07 12 15.6	
	comp=Z,32μm,1.0s						
PAVA				*i* S	**Sn**	**07 12 36.1**	**+0.4**
CNCH	**Conchagua**	**0.60**	**113**	*e*P	**Pn**	**07 12 15.2**	**+0.1**
CNCH	**Conchagua**	**0.60**	**113**	⇓*i*P	**Pn**	**07 12 15.2**	**+0.1**
CNCH				*i* S	**Sn**	**07 12 36.5**	**+0.4**
CNCH				IAML		07 12 48.4	
	comp=Z,4μm,1.0s						
LFRS	**El Faro**	**0.65**	**280**	*e*P	**Pn**	**07 12 15.5**	**+0.2**
LBRS	**Las Brisas**	**0.66**	**290**	*e*P	**Pn**	**07 12 15.8**	**+0.5**
LFU	**La Fuente**	**0.73**	**289**	*e*P	**Pn**	**07 12 15.9**	**+0.2**
MARCA	**Marcala la Paz**	**0.74**	**29**	⇓*i*P	**Pn**	**07 12 16.0**	**+0.2**
MARCA				*i* S	**Sn**	**07 12 36.9**	**-0.6**
LOMA	**Loma Larga**	**0.76**	**280**	⇑*e*P	**Pn**	**07 12 16.0**	**+0.1**
LOMA				*e*S	**Sn**	**07 12 37.1**	**-0.3**
LOMA	**Loma Larga**	**0.76**	**280**	⇑*i*P	**Pn**	**07 12 16.0**	**+0.1**
LOMA				IAML		07 12 16.6	
	comp=Z,12μm,1.0s						
LOMA				*i* S	**Sn**	**07 12 37.8**	**+0.3**
UDBS	**Universidad Do**	**0.76**	**286**	*e*P	**Pn**	**07 12 16.0**	**+0.2**
UDBS				*e*S	**Sn**	**07 12 37.2**	**-0.2**
UDBS	**Universidad Do**	**0.76**	**286**	⇑*i*P	**Pn**	**07 12 16.0**	**+0.2**
UDBS				IAML		07 12 16.5	
	comp=Z,6μm,1.0s						
PANCS	**Alcalda de**	**0.76**	**278**	⇑*e*P	**Pn**	**07 12 15.7**	**-0.1**
PANCS	**Alcalda de**	**0.76**	**278**	⇑*i*P	**Pn**	**07 12 15.7**	**-0.1**
PANCS				IAML		07 12 16.1	
	comp=Z,24μm,1.0s						
PANCS				*i* S	**Sn**	**07 12 37.4**	**+0.1**
AMPH	**Amapala**	**0.76**	**107**	⇓*e*P	**Pn**	**07 12 16.1**	**+0.3**
AMPH				*e*S	**Sn**	**07 12 37.1**	**-0.1**
AMPH	**Amapala**	**0.76**	**107**	⇓*i*P	**Pn**	**07 12 16.0**	**+0.3**
AMPH				*i* S	**Sn**	**07 12 37.2**	**0.0**
IGN	**Direccin Gen**	**0.77**	**285**	*e*P	**Pn**	**07 12 16.1**	**+0.2**
IGN	**Direccin Gen**	**0.77**	**285**	⇑*i*P	**Pn**	**07 12 16.1**	**+0.2**
IGN				IAML		07 12 16.5	
	comp=Z,24μm,1.0s						
UESS	**Universidad de**	**0.80**	**285**	*e*P	**Pn**	**07 12 16.3**	**+0.2**
SNET	**Serv Nac Est T**	**0.82**	**282**	Pn	**Pn**	**07 12 16.1**	**-0.2**
SNET	**Serv Nac Est T**	**0.82**	**282**	*e*P	**Pn**	**07 12 15.8**	**-0.3**
SNET				*e*S	**Sn**	**07 12 36.6**	**-1.5**
SNET				IAML		07 12 48.0	
	comp=Z,1μm,0.2s						
SNET	**Serv Nac Est T**	**0.82**	**282**	⇑*i*P	**Pn**	**07 12 15.9**	**-0.3**
SNET				IAML		07 12 16.8	
	comp=Z,6μm,1.0s						
SNET				*i* S	**Sn**	**07 12 38.8**	**+0.8**
LLGN	**La Laguna**	**0.83**	**321**	*e*P	**Pn**	**07 12 16.7**	**+0.5**
LLGN	**La Laguna**	**0.83**	**321**	*i* P	**Pn**	**07 12 16.8**	**+0.5**
LLGN				IAML		07 12 40.4	
	comp=Z,2μm,1.0s						
UEES	**Universidad Ev**	**0.83**	**284**	*e*P	**Pn**	**07 12 16.3**	**0.0**
UEES	**Universidad Ev**	**0.83**	**284**	⇑*i*P	**Pn**	**07 12 16.2**	**-0.1**
UEES				IAML		07 12 17.1	
	comp=Z,2μm,1.0s						
UEES				*i* S	**Sn**	**07 12 39.4**	**+1.2**
INTHN	**La Esperanza I**	**0.85**	**20**	⇓*i*P	**Pn**	**07 12 16.8**	**+0.2**
INTHN				*i* S	**Sn**	**07 12 37.9**	**-1.0**
PIC2	**El Picacho**	**0.86**	**286**	*e*P	**Pn**	**07 12 16.8**	**+0.2**
ITCA	**Escuela Especi**	**0.86**	**281**	*e*P	**Pn**	**07 12 16.4**	**-0.1**
ITCA				*e*S	**Sn**	**07 12 37.6**	**-0.9**
ITCA	**Escuela Especi**	**0.86**	**281**	*i* P	**Pn**	**07 12 16.2**	**-0.3**
ITCA				IAML		07 12 43.9	
	comp=Z,10μm,1.0s						
MAGS	**Ministerio de**	**0.87**	**281**	*e*P	**Pn**	**07 12 16.4**	**-0.2**
MAGS				*e*S	**Sn**	**07 12 37.8**	**-0.9**
BOQS	**Boqueron**	**0.88**	**285**	*e*P	**Pn**	**07 12 16.8**	**+0.1**
BOQS				*e*S	**Sn**	**07 12 38.2**	**-0.7**
LALI	**Alcalda de L**	**0.89**	**269**	⇑*i*P	**Pn**	**07 12 16.2**	**-0.3**
LALI				IAML		07 12 17.0	
	comp=Z,1μm,1.0s						
LALI				*i* S	**Sn**	**07 12 39.0**	**+0.4**
QUEZ	**Alcaldia de Qu**	**0.90**	**291**	*e*P	**Pn**	**07 12 17.0**	**+0.4**
QUEZ	**Alcaldia de Qu**	**0.90**	**291**	*i* P	**Pn**	**07 12 16.9**	**+0.3**
QUEZ				IAML		07 12 17.4	
	comp=Z,22μm,1.0s						
QUEZ				*i* S	**Sn**	**07 12 39.3**	**+0.5**
PMON	**Piamonte**	**0.90**	**283**	*e*P	**Pn**	**07 12 16.5**	**-0.2**
PMON	**Piamonte**	**0.90**	**283**	⇑*i*P	**Pn**	**07 12 16.4**	**-0.4**
PMON				*i* S	**Sn**	**07 12 41.1**	**+2.1**
PMON				IAML		07 12 45.0	
	comp=Z,4μm,1.0s						
CEDA	**San Andres**	**1.00**	**287**	*e*P	**Pn**	**07 12 17.2**	**-0.2**
CEDA				*e*S	**Sn**	**07 12 39.2**	**-0.8**
CEDA	**San Andres**	**1.00**	**287**	⇑*i*P	**Pn**	**07 12 17.1**	**-0.2**
CEDA				IAML		07 13 00.4	
	comp=Z,5μm,1.0s						
JAYA	**Jayaquе - finc**	**1.02**	**278**	*e*P	**Pn**	**07 12 17.5**	**-0.2**
JAYA				*e*S	**Sn**	**07 12 39.2**	**-1.3**
JAYA	**Jayaquе - finc**	**1.02**	**278**	⇑*i*P	**Pn**	**07 12 17.4**	**-0.2**
JAYA				*i* S	**Sn**	**07 12 40.6**	**+0.1**
JAYA				IAML		07 12 46.5	
	comp=Z,8μm,1.0s						
UNIC	**Universidad Ca**	**1.20**	**293**	*e*P	**Pn**	**07 12 18.9**	**+0.1**
UNIC	**Universidad Ca**	**1.20**	**293**	⇑*i*P	**Pn**	**07 12 18.9**	**+0.1**
UNIC				IAML		07 12 19.1	
	comp=Z,2μm,1.0s						
UNIC				*i* S	**Sn**	**07 12 42.6**	**-0.2**
SNJE	**San Jose**	**1.22**	**287**	*e*P	**Pn**	**07 12 19.3**	**+0.2**
CEVE	**Cerro Verde**	**1.22**	**285**	*e*P	**Pn**	**07 12 19.2**	**+0.1**
CEVE	**Cerro Verde**	**1.22**	**285**	⇑*i*P	**Pn**	**07 12 19.3**	**+0.1**
CEVE				*i* S	**Sn**	**07 12 43.8**	**+0.4**
CEVE				IAML		07 13 07.3	
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	**1.23**	**286**	*e*P	**Pn**	**07 12 19.3**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.23**	**64**		**Pn**	**07 12 19.3**	**+0.2**
TGUH				Sn	**Sn**	**07 12 43.6**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.23**	**64**	⇓*i*P	**Pn**	**07 12 19.2**	**+0.1**
TGUH				IAML		07 12 19.8	
	comp=Z,11μm,1.0s						
TGUH				*i* S	**Sn**	**07 12 43.4**	**+0.1**
RTR	**El Retiro**	**1.26**	**288**	*e*P	**Pn**	**07 12 19.9**	**+0.4**
MTO3	**Montecristo**	**1.28**	**314**		**Pn**	**07 12 20.2**	**+0.6**
MTO3				Sn	**Sn**	**07 12 44.1**	**-0.1**
MTO3	**Montecristo**	**1.28**	**314**	⇑*e*P	**Pn**	**07 12 20.2**	**+0.6**
MTO3	**Montecristo**	**1.28**	**314**	⇑*i*P	**Pn**	**07 12 20.2**	**+0.6**
MTO3				IAML		07 12 20.5	
	comp=Z,2μm,1.0s						
MTO3				*i* S	**Sn**	**07 12 43.6**	**-0.6**
ESQI	**Esquipulas**	**1.38**	**319**		**Pn**	**07 12 21.5**	**+1.2**
ESQI				Sn	**Sn**	**07 12 46.2**	**+0.7**
ESQI	**Esquipulas**	**1.38**	**319**	*i* P	**Pn**	**07 12 21.3**	**+1.0**
ESQI				*i* S	**Sn**	**07 12 46.3**	**+0.7**
ESQI				IAML		07 12 50.5	
	comp=Z,2μm,1.0s						
NUBE	**Las Nubes**	**1.39**	**286**	⇑*e*P	**Pn**	**07 12 20.6**	**+0.1**
NUBE	**Las Nubes**	**1.39**	**286**	⇑*i*P	**Pn**	**07 12 20.5**	**+0.1**
NUBE				*i* S	**Sn**	**07 12 46.3**	**+0.7**
NUBE				IAML		07 12 55.3	
	comp=Z,3μm,1.0s						
LOAL	**Lomas de Alarc**	**1.42**	**290**	*e*P	**Pn**	**07 12 21.0**	**+0.4**
LOAL	**Lomas de Alarc**	**1.42**	**290**	⇑*i*P	**Pn**	**07 12 21.0**	**+0.4**
LOAL				IAML		07 12 21.5	
	comp=Z,9μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.43**	**291**	*e*P	**Pn**	**07 12 21.1**	**+0.4**
CRIN	**San Cristobal**	**1.55**	**121**		**Pn**	**07 12 22.6**	**+0.8**
CRIN	**San Cristobal**	**1.55**	**121**	⇓*i*P	**Pn**	**07 12 22.5**	**+0.7**
CRIN				IAML		07 13 01.6	
	comp=Z,8μm,1.0s						
YUSH	**Yuscaran**	**1.58**	**74**	⇓*i*P	**Pn**	**07 12 22.2**	**+0.1**
YUSH				*i* S	**Sn**	**07 12 48.3**	**-0.3**
PKGN	**Cerro Pekin**	**1.62**	**121**	⇓*i*P	**Pn**	**07 12 22.9**	**+0.5**
PKGN				IAML		07 12 55.9	
	comp=Z,13μm,1.0s						
PACN	**Al O del Volca**	**1.87**	**122**	⇓*i*P	**Pn**	**07 12 25.2**	**+0.4**
PACN				*i* S	**Sn**	**07 12 54.6**	**+1.2**
PACN				IAML		07 13 04.5	
	comp=Z,3μm,1.0s						
CNGA	**Al SSO del Vol**	**1.94**	**121**	*i* P	**Pn**	**07 12 25.1**	**-0.5**
CNGA				*i* S	**Sn**	**07 12 56.2**	**+1.3**
CNGA				IAML		07 13 02.3	
	comp=Z,4μm,1.0s						
CNGN	**Cerro Negro**	**1.94**	**121**		**Pn**	**07 12 25.7**	**+0.1**
CNGN	**Cerro Negro**	**1.94**	**121**	⇓*i*P	**Pn**	**07 12 25.7**	**+0.1**
CNGN				*i* S	**Sn**	**07 12 56.9**	**+2.0**
CNGN				IAML		07 13 05.7	
	comp=Z,2μm,1.0s						
MRL	**Marmol**	**1.99**	**322**	*e*P	**Pn**	**07 12 28.3**	**+2.0**
LIMN	**Finca el Limon**	**2.04**	**102**	⇓*i*P	**Pn**	**07 12 27.0**	**+0.4**
LIMN				IAML		07 12 27.6	
	comp=Z,2μm,1.0s						
LEVN	**Ruinas Leon Vi**	**2.06**	**122**	*i* P	**Pn**	**07 12 27.3**	**+0.5**
LEVN				*i* S	**Sn**	**07 12 57.5**	**+0.5**
LEVN				IAML		07 13 11.7	
	comp=Z,2μm,1.0s						
BRAN	**Las Pilas**	**2.15**	**111**	*i* P	**Pn**	**07 12 31.5**	**+3.8**
BRAN				*i* S	**Sn**	**07 13 05.6**	**+6.9**
BRAN				IAML		07 13 10.4	
	comp=Z,2μm,1.0s						
MOM2	**El Cardon**	**2.16**	**119**	*i* P	**Pn**	**07 12 28.4**	**+0.6**
MOM2				*i* S	**Sn**	**07 12 59.2**	**+0.4**
MOM2				IAML		07 13 05.6	
	comp=Z,1μm,1.0s						
NBG	**Las Nubes**	**2.17**	**300**	*e*P	**Pn**	**07 12 30.2**	**+2.1**
COPN	**Copaltepe**	**2.21**	**127**	*i* P	**Pn**	**07 12 29.1**	**+0.7**
COPN				IAML		07 13 04.4	
	comp=Z,1μm,1.0s						
IZABA	**Izabal, Puerto**	**2.21**	**356**	*i* P	**Pn**	**07 12 29.4**	**+1.0**
IZABA				IAML		07 12 30.3	
	comp=Z,12nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.25**	**89**	⇓*i*P	**Pn**	**07 12 28.0**	**-0.9**
RCPN				IAML		07 12 28.4	
	comp=Z,2.6nm,1.0s						
PCG	**Pacaya**	**2.31**	**293**	*e*P	**Pn**	**07 12 31.6**	**+1.9**
GCG4	**OSOP**	**2.32**	**298**	*i* P	**Pn**	**07 12 30.8**	**+1.0**
GCG4				IAML		07 12 31.2	
	comp=Z,3μm,1.0s						
SAPS	**Ciudad Sandino**	**2.37**	**124**	⇓*i*P	**Pn**	**07 12 30.6**	**+0.5**
SAPS				*i* S	**Sn**	**07 13 05.6**	**+2.7**
SAPS				IAML		07 13 10.4	
	comp=Z,2μm,1.0s						
JUTIH	**Juticalpa Olan**	**2.42**	**61**	⇓*i*P	**Pn**	**07 12 30.8**	**+0.1**
TISN	**Laguna Tiscapa**	**2.49**	**123**	*i* P	**Pn**	**07 12 32.6**	**+1.1**
TISN				IAML		07 13 11.9	
	comp=Z,120nm,1.0s						
R0529	**La Mascota**	**2.53**	**123**	*i* P	**Pn**	**07 12 33.3**	**+1.4**
R0529				IAML		07 13 15.9	
	comp=Z,1μm,1.0s						
FUG	**Fuego 3**	**2.54**	**292**	*e*P	**Pn**	**07 12 33.6**	**+1.4**
MAS3	**Al N del Volca**	**2.63**	**124**	⇓*i*P	**Pn**	**07 12 35.5**	**+2.4**
MAS3				IAML		07 13 11.6	
	comp=Z,2μm,1.0s						
BOAB	**BOACO BROADBAN**	**2.87**	**111**		**Pn**	**07 12 36.7**	**+0.8**
BOAB	**BOACO BROADBAN**	**2.87**	**111**	⇓*i*P	**Pn**	**07 12 36.6**	**+0.7**
BOAB				IAML		07 13 19.9	
	comp=Z,200nm,1.0s						
NADN	**Granada**	**2.91**	**127**	*i* P	**Pn**	**07 12 37.4**	**+1.1**
NADN				*i* S	**Sn**	**07 13 13.1**	**-0.9**
NADN				IAML		07 13 20.6	
	comp=Z,2μm,1.0s						
SULM	**Suchitepequez,**	**3.17**	**285**	*e*P	**Pn**	**07 12 41.2**	**+1.9**
SOKI	**Kika Raxquin**	**3.18**	**294**	*i* P	**Pn**	**07 12 41.0**	**+1.0**
SOKI				*i* S	**Sn**	**07 13 24.6**	**+4.0**
SOKI				IAML		07 13 31.6	
	comp=Z,2μm,1.0s						
STG3	**Santiaguito 3,**	**3.29**	**292**	*e*P	**Pn**	**07 12 42.5**	**+1.4**
RTAL	**Retalhuleu**	**3.35**	**288**		**Pn**	**07 12 42.2**	**+0.7**
RTAL	**Retalhuleu**	**3.35**	**288**	*i* P	**Pn**	**07 12 42.2**	**+0.7**
RTAL				IAML		07 13 35.2	
	comp=Z,1μm,1.0s						
HUEH	**Huehuetenango**	**3.50**	**301**		**Pn**	**07 12 45.2**	**+1.7**
ACON	**Acoyapa**	**3.51**	**116**		**Pn**	**07 12 44.1**	**+0.6**
PETF	**Flores**	**3.67**	**338**		**Pn**	**07 12 47.1**	**+1.7**
PETF	**Flores**	**3.67**	**338**	⇑*i*P	**Pn**	**07 12 47.2**	**+1.7**
PETF				IAML

baz=152
143A Socs Landing, 19.30 352 P Pn 07 15 59.7 -1.7
143A IAmb IAmb 07 16 04.9
comp=Z,31nm,0.9s
152A Waverly Hall 19.37 9 P Pn 07 16 00.8 -1.4
DRIO Del Rio 19.46 326 Pn 07 16 02.1 -1.4
LRAL Lakeview Retre 19.48 4 Pn 07 16 02.0 -1.5
LRAL IAmb IAmb 07 16 05.1
comp=Z,14nm,0.9s
LRAL Lakeview Retre 19.48 4 P Pn 07 16 01.9 -1.6
baz=184,SNR=9.4
Z47A Carrollton 19.60 1 P P 07 16 02.9 +1.6
Z47A IAmb IAmb 07 16 05.8
comp=Z,18nm,0.7s
154A Montrose 19.62 13 P P 07 16 02.8 +1.3
JCT Junction City 19.89 330 P P 07 16 05.3 +0.8
JCT Junction City 19.89 330 P P 07 16 06.0 +1.5
baz=146
Z41A Richland Creek 20.06 349 P P 07 16 08.0 +1.8
WHTX Lake Whitney, 20.18 337 P P 07 16 07.4 -0.1
WHTX IAmb IAmb 07 16 51.0
comp=Z,11nm,0.8s
WHTX Lake Whitney, 20.18 337 P P 07 16 09.7 +2.2
baz=154
BRDY Brady 20.20 333 P P 07 16 08.6 +0.8
GOGA Godfrey 20.32 12 P P 07 16 10.2 +1.3
GOGA IAmb IAmb 07 16 12.5
comp=Z,25nm,0.8s
GOGA Godfrey 20.32 12 P P 07 16 10.4 +1.5
baz=194,SNR=12
Y49A Blount Mountai 20.34 5 P P 07 16 10.4 +1.2
Y49A IAmb IAmb 07 16 12.6
comp=Z,17nm,0.8s
TREL Terrell 20.38 341 P P 07 16 10.2 +0.6
TREL IAmb IAmb 07 16 14.2
comp=Z,30nm,1.1s
BAUV El Baul 20.48 101 P P 07 16 08.8 -2.1
FW13 Cleburne 20.49 338 P P 07 16 12.6 +1.7
WLAR White Oak Lake 20.54 349 P P 07 16 12.9 +1.6
CCAR Cane Creek 20.54 352 P P 07 16 12.7 +1.4
Z38A Mt. Pleasant 20.55 344 P P 07 16 12.7 +1.2
Z38A IAmb IAmb 07 16 50.4
comp=Z,27nm,1.3s
Y52A Lilburn 20.64 10 P P 07 16 13.9 +1.4
Y52A IAmb IAmb 07 16 14.6
comp=Z,24nm,0.7s
SAND Sanderson 20.70 324 P P 07 16 14.1 +0.9
X48A Hartselle 20.89 3 P P 07 16 15.1 +0.1
NHSC New Hope 20.90 20 P P 07 16 16.7 +1.6
NHSC New Hope 20.90 20 P P 07 16 16.4 +1.3
baz=203
OZNA Ozona 20.92 328 P P 07 16 16.6 +1.2
OXF Oxford 20.93 358 P P 07 16 15.9 +0.6
OXF Oxford 20.93 358 P P 07 16 16.0 +0.6
baz=177,SNR=7.5
FPAL Fort Paine 21.09 6 P P 07 16 17.6 +0.5
TXAR Lajitas Array 21.17 320 P P 07 16 19.3 +1.2
TXAR Lajitas Array 21.17 320 P P 07 16 19.5 +1.4
comp=Z,2.6nm,0.5s,baz=138,slow=9.6,SNR=82
comp=Z,2.6nm,0.5s
TX31 Lajitas Ar. Si 21.17 320 P P 07 16 19.5 +1.3
X40A Basin Creek Fa 21.27 350 P P 07 16 20.6 +1.6
Z35A Perchaven, San 21.31 339 P P 07 16 19.3 -0.2
Z35A IAmb IAmb 07 16 23.2
comp=Z,36nm,1.1s
HODGE Hodges 21.37 14 P P 07 16 21.0 +0.9
HODGE IAmb IAmb 07 16 22.8
comp=Z,38nm,1.0s
PLAL Pickwick Lake 21.38 1 P P 07 16 20.7 +0.5
MIAR Mount Ida 21.46 348 P P 07 16 22.1 +1.1
MIAR IAmb IAmb 07 16 24.4
comp=Z,32nm,0.8s
MIAR Mount Ida 21.46 348 P P 07 16 22.1 +1.1
baz=166,SNR=34
UALR University of 21.47 351 P P 07 16 22.2 +1.1
ABTX Abilene, Hawle 21.62 333 P P 07 16 22.9 +0.2
ABTX Abilene, Hawle 21.62 333 P P 07 16 23.6 +0.9
baz=149
JSC Jenkinsville 21.67 16 P P 07 16 24.3 +1.1
Y57A Sumter 21.67 18 P P 07 16 24.6 +1.4
SGCY Sterling City 21.72 330 P P 07 16 24.4 +0.6
SWET Sewanee 21.73 5 P P 07 16 24.3 +0.5
SWET IAmb IAmb 07 16 24.4
comp=Z,13nm,0.6s
W50A Signal Mountai 21.77 7 P P 07 16 24.4 +0.2
W50A IAmb IAmb 07 16 25.3
comp=Z,39nm,1.4s
Y58A Scranton 21.80 20 P P 07 16 25.8 +1.3
W52A Murphy 21.87 10 P P 07 16 25.9 +0.7
LOOK Love County 21.89 340 P 07 16 27.2 +1.8
LOOK IAmb IAmb 07 16 29.0
comp=Z,29nm,0.9s
X37A Clayton 21.91 344 P P 07 16 27.4 +1.8
BG3 Lake Jocassee 21.95 12 P P 07 16 27.2 +1.2
BG3 IAmb IAmb 07 16 29.7
comp=Z,15nm,0.7s
WHAR Wooly Hollow 21.97 351 P P 07 16 26.9 +0.9
WHAR IAmb IAmb 07 16 27.9
comp=Z,31nm,0.8s
PAULI Pauline 22.04 15 P P 07 16 28.2 +1.4
PAULI IAmb IAmb 07 16 28.6
comp=Z,23nm,0.6s
HBAR Harrisburg 22.04 355 P P 07 16 27.5 +0.7
MNHN Monahans 22.11 326 P P 07 16 29.4 +1.7
MNHN IAmb IAmb 07 16 30.1
comp=Z,18nm,0.9s
CPCT Cooper Cave 22.12 8 P P 07 16 28.4 +0.7
WTFS Witchita Falls 22.14 337 P P 07 16 29.6 +1.8
WTFS IAmb IAmb 07 16 30.9
comp=Z,18nm,1.2s
HUMP Col San Antoni 22.18 75 P P 07 16 27.5 -0.8
HUMP IAmb IAmb 07 16 59.3
comp=Z,36nm,1.5s
V48A Smith Brothers 22.18 3 P P 07 16 28.1 -0.1
BIRD Birdtown, Kers 22.24 18 P P 07 16 29.9 +1.3
SN05 Snyder 5 22.39 331 P P 07 16 32.2 +2.0
APMT Aspermont 22.43 334 P P 07 16 30.9 +0.4
TKL Tuckaleechee C 22.44 10 P P 07 16 31.6 +1.0
KMSC Kings Mountain 22.46 15 P P 07 16 31.9 +1.1
KMSC IAmb IAmb 07 16 32.5
comp=Z,15nm,0.5s
KMSC Kings Mountain 22.46 15 P P 07 16 31.7 +0.9
baz=198,SNR=5.7
X58A Rowland 22.50 20 P P 07 16 32.3 +1.2
WVT Waverly 22.53 1 P P 07 16 31.0 -0.4
WVT IAmb IAmb 07 16 32.8
comp=Z,32nm,1.5s
WVT Waverly 22.53 1 P P 07 16 31.6 +0.2
baz=182
FCAR Ozark Folk Cen 22.53 352 P P 07 16 31.4 +0.1
CLTN Cedars of Leba 22.56 4 P P 07 16 31.7 0.0
CLTN IAmb IAmb 07 16 33.3
comp=Z,13nm,0.9s
SN07 Snyder 07 22.57 332 P P 07 16 32.5 +0.6
LCAR Lake Charles 22.60 354 P P 07 16 32.2 +0.2
LCAR IAmb IAmb 07 16 32.5
comp=Z,8.7nm,0.5s
ODSA Odessa 22.60 327 P P 07 16 32.6 +0.4
V53A Saluda 22.63 12 P P 07 16 33.7 +1.4
V52A Sevierville 22.65 10 P P 07 16 33.6 +1.1
V52A IAmb IAmb 07 16 35.2
comp=Z,26nm,0.9s
X34A Smith Ranch, M 22.67 339 P 07 16 34.7 +2.1
POST Post 22.84 331 P P 07 16 35.7 +1.4
W57A Gilead 22.85 18 P P 07 16 35.5 +1.3
W57A IAmb IAmb 07 16 35.6
comp=Z,13nm,0.8s
W35A Tecumseh 22.86 342 P P 07 16 35.8 +1.4
W35A IAmb IAmb 07 16 36.6
comp=Z,10nm,0.7s
U49A Red Boiling Sp 23.03 5 P P 07 16 36.0 +0.2
U49A IAmb IAmb 07 16 37.5
comp=Z,15nm,0.6s
PARMO Parma 23.09 357 P P 07 16 35.4 -0.9
FNO Franklin 23.12 341 P 07 16 37.6 +0.9
WMOK Wichita Mounta 23.13 338 P 07 16 37.5 +0.7
WMOK Wichita Mounta 23.13 338 P P 07 16 37.2 +0.4
baz=154,SNR=11
V55A Taylorsville 23.17 15 P P 07 16 38.6 +1.5
HHAR Hobbs 23.21 349 P P 07 16 38.5 +1.0
HHAR IAmb IAmb 07 16 40.3
comp=Z,22nm,0.7s
PBMO Poplar Bluff 23.24 356 P P 07 16 38.1 +0.4
PBMO IAmb IAmb 07 16 38.7
comp=Z,14nm,0.7s
TUL3 Leonard 23.27 345 P P 07 16 38.6 +0.5
TUL3 IAmb IAmb 07 16 41.2
comp=Z,23nm,1.0s
TUL3 Leonard 23.27 345 P P 07 16 38.5 +0.4
baz=162,SNR=12
RLO Rose Lookout 23.33 346 P P 07 16 38.0 -0.5
RLO IAmb IAmb 07 16 42.2
comp=Z,11nm,0.8s
TZTN Tazewell 23.35 10 P P 07 16 39.2 +0.5
TZTN IAmb IAmb 07 16 41.9
comp=Z,21nm,1.1s
TZTN Tazewell 23.35 10 P P 07 16 39.5 +0.7
baz=192
T47A Sharon Grove 23.41 3 P P 07 16 39.5 +0.2
T45A Paducah 23.41 360 P P 07 16 39.7 +0.4
U38A Gravette 23.45 348 P P 07 16 39.3 -0.4
U38A IAmb IAmb 07 16 42.5
comp=Z,16nm,0.8s
T42A Van Buren 23.54 355 P P 07 16 40.4 -0.1
OK031 S. Brethren Rd 23.60 343 P 07 16 41.3 +0.2
OK031 IAmb IAmb 07 16 41.9
comp=Z,18nm,0.7s
CNNC Cliffs of the 23.63 22 P P 07 16 42.1 +0.9
baz=206
OK052 Battle Ridge R 23.63 343 P 07 16 41.5 +0.3
OK052 IAmb IAmb 07 16 42.2
comp=Z,18nm,0.6s
T50A Nancy 23.63 7 P P 07 16 41.5 +0.3
U54A Nelsons Funny 23.66 13 P P 07 16 42.8 +1.1
V58A Windy Hill, Pi 23.71 19 P P 07 16 42.7 +0.7
CGM3 Cape Girardeau 23.71 358 P P 07 16 42.3 +0.3
CGM3 IAmb IAmb 07 16 43.0
comp=Z,10nm,0.7s
MGMO Mountain Grove 23.80 352 P P 07 16 43.6 +0.8
MGMO IAmb IAmb 07 16 45.0
comp=Z,14nm,1.0s
U56A King 23.85 16 P P 07 16 45.2 +1.8
CSTR Hydro, Custer 23.91 339 P 07 16 44.7 +0.8
SMWD Samnorwood 24.01 336 P P 07 16 46.1 +1.2
SMWD IAmb IAmb 07 16 46.9
comp=Z,21nm,0.7s
S44A Carbondale 24.09 358 P P 07 16 45.9 +0.4
S44A IAmb IAmb 07 16 46.3
comp=Z,17nm,0.6s
MSTX Muleshoe 24.19 330 P P 07 16 47.7 +1.2
MSTX IAmb IAmb 07 16 48.3
comp=Z,14nm,0.7s
MSTX Muleshoe 24.19 330 P P 07 16 47.2 +0.6
baz=144,SNR=9.2
USIN University of 24.36 1 P P 07 16 47.9 0.0
USIN IAmb IAmb 07 16 48.7
comp=Z,14nm,0.6s
S51A Beattyville 24.41 9 P P 07 16 49.0 +0.6
S51A IAmb IAmb 07 16 49.6
comp=Z,27nm,1.4s
AMTX Amarillo 24.43 333 P P 07 16 50.2 +1.5
AMTX IAmb IAmb 07 16 51.2
comp=Z,7.5nm,0.6s
AMTX Amarillo 24.43 333 P P 07 16 49.3 +0.6
baz=148
FVM French Village 24.44 356 P P 07 16 48.9 +0.2
CROK Carrier 24.45 341 P P 07 16 49.0 +0.2
CROK IAmb IAmb 07 16 51.3
comp=Z,9.5nm,0.6s
S39A Bolivar 24.48 351 P P 07 16 49.6 +0.7
CCM Cathedral Cave 24.57 355 P P 07 16 50.1 +0.3
CCM IAmb IAmb 07 16 50.9
comp=Z,17nm,0.7s
CCM Cathedral Cave 24.57 355 P P 07 16 50.3 +0.4
baz=173
BLA Blacksburg 24.66 15 P P 07 16 50.7 0.0
BLA IAmb IAmb 07 16 52.8
comp=Z,11nm,0.8s
BLA Blacksburg 24.66 15 P P 07 16 51.5 +0.8
baz=199
U32A Winter Ranch, 24.68 339 P 07 16 51.3 +0.5
U32A IAmb IAmb 07 16 52.5
comp=Z,19nm,1.1s
OK038 West end E0370 24.68 340 P 07 16 51.1 +0.2
OK038 IAmb IAmb 07 16 53.8
comp=Z,16nm,0.8s
WCI Wyandotte Cave 24.69 4 P P 07 16 50.9 0.0
WCI Wyandotte Cave 24.69 4 P P 07 16 50.6 -0.3
baz=185
T57A Hurt 24.78 18 P P 07 16 52.5 +0.8
T57A IAmb IAmb 07 16 54.8
comp=Z,18nm,0.9s
OK032 Salt Plains WL 24.80 341 P P 07 16 52.3 +0.4
OK032 IAmb IAmb 07 16 54.8
comp=Z,15nm,0.7s
R49A Shelbyville 24.85 6 P P 07 16 52.2 -0.2
R49A IAmb IAmb 07 16 52.6
comp=Z,9.1nm,0.6s
KAN14 Manchester OK 24.86 342 P P 07 16 53.1 +0.6
KAN14 IAmb IAmb 07 16 55.3
comp=Z,13nm,1.1s
OK035 E0210 Rd and N 24.88 340 P 07 16 53.6 +0.9
OK035 IAmb IAmb 07 16 54.7
comp=Z,9.7nm,0.7s
NOKA Waynoka 24.88 340 P 07 16 53.7 +1.0
KAN17 Caldwell West 24.89 342 P P 07 16 52.5 -0.2
KAN17 IAmb IAmb 07 16 55.6
comp=Z,15nm,0.7s
R40A Maddies Statio 24.92 353 P P 07 16 53.2 +0.3
KAN09 Caldwell North 24.93 342 P P 07 16 53.0 -0.1
KAN09 IAmb IAmb 07 16 56.1
comp=Z,12nm,0.7s
KAN01 Argonia South 24.98 342 P P 07 16 53.7 +0.1
KAN01 IAmb IAmb 07 16 56.7
comp=Z,17nm,0.8s
S54A Dingess, Beckl 25.00 13 P P 07 16 55.0 +1.2
KAN06 Argonia West S 25.10 342 P P 07 16 54.8 +0.1
KAN06 IAmb IAmb 07 16 57.9
comp=Z,14nm,0.7s
KAN08 Anthony NE Sta 25.12 342 P P 07 16 55.0 +0.3
OLIL Olney 25.12 1 P P 07 16 55.1 +0.3
OLIL IAmb IAmb 07 16 55.8
comp=Z,12nm,0.8s
Q44A Meyer Farm, Va 25.30 359 P P 07 16 56.5 +0.2
T59A Double "B" Far 25.30 21 P P 07 16 57.3 +0.9
T59A IAmb IAmb 07 16 59.4
comp=Z,15nm,0.8s
R55A Marlinton 25.75 15 P P 07 17 02.0 +1.5
R55A IAmb IAmb 07 17 11.1
comp=Z,14nm,0.9s
Q52A Bidwell 25.93 11 P P 07 17 02.8 +0.8
Q52A IAmb IAmb 07 17 03.1
comp=Z,11nm,0.6s
P48A Milroy 25.98 5 P P 07 17 02.0 -0.6
P48A IAmb IAmb 07 17 02.4
comp=Z,8.2nm,0.6s
P46A Rosedale 26.03 2 P P 07 17 03.2 +0.2
P46A IAmb IAmb 07 17 28.2
comp=Z,8.7nm,0.9s
P49A Miami Univ. Ec 26.12 6 P P 07 17 03.6 -0.2
baz=188
Q54A Coxs Mills 26.24 13 P P 07 17 05.7 +0.8
P51A Williamsport 26.30 9 P P 07 17 05.9 +0.6
P51A IAmb IAmb 07 17 49.4
comp=Z,14nm,0.8s
P38A Dawn 26.40 351 P P 07 17 06.6 +0.3
P38A IAmb IAmb 07 17 07.4
comp=Z,18nm,0.8s
CBN Corbin Frederi 26.48 20 P P 07 17 07.3 +0.3
baz=205
KSU1 Kansas State U 26.50 346 P P 07 17 07.1 -0.1
KSU1 IAmb IAmb 07 17 49.8
comp=Z,11nm,1.0s
KSU1 Kansas State U 26.50 346 P P 07 17 07.6 +0.4
baz=162
P52A Corning 26.60 11 P P 07 17 08.3 +0.2
P52A IAmb IAmb 07 17 11.9
comp=Z,13nm,0.6s
P52A Corning 26.60 11 P P 07 17 08.3 +0.2
baz=194
P53A Whipple 26.61 12 P P 07 17 08.6 +0.5
P53A IAmb IAmb 07 17 09.9
comp=Z,32nm,1.2s
Q56A Snyder Ridge, 26.70 16 P P 07 17 10.7 +1.7
Q56A IAmb IAmb 07 17 11.0
comp=Z,9.7nm,0.8s
SFIN Lafayette 26.79 2 P P 07 17 09.6 -0.1
SFIN IAmb IAmb 07 17 09.6
comp=Z,5.8nm,0.6s
SFIN Lafayette 26.79 2 P P 07 17 09.2 -0.5
baz=183
O48B Farmland 26.80 6 P P 07 17 09.6 -0.2
baz=187
ANMO Albuquerque 26.86 326 P P 07 17 11.4 +0.6
baz=138
HDIL Hopedale 26.95 359 P P 07 17 11.6 +0.4
baz=178
ACSO Alum Creek Sta 27.04 9 IAmb IAmb 07 17 13.1
comp=Z,21nm,0.9s
ACSO Alum Creek Sta 27.04 9 P P 07 17 12.6 +0.6
baz=192,SNR=5.1
MCWV Mont Chateau 27.12 15 P P 07 17 12.7 +0.1
baz=198
O52A Adamsville 27.12 11 IAmb IAmb 07 17 14.0
comp=Z,26nm,1.1s
CBKS Cedar Bluff 27.13 340 P P 07 17 12.5 -0.3
baz=155
N41A Harden Midland 27.18 356 P P 07 17 12.6 -0.6
N41A IAmb IAmb 07 17 13.9
comp=Z,12nm,0.6s
N47A Urbana 27.37 4 P P 07 17 13.8 -1.1
O53A New Philadelph 27.38 12 P P 07 17 15.4 +0.4
baz=195
P57A Homestead Farm 27.45 18 IAmb IAmb 07 17 18.0
comp=Z,18nm,0.8s
T25A Trinidad 27.54 332 P P 07 17 16.6 -0.1
baz=145
N49A Columbus Grove 27.56 7 P P 07 17 16.7 +0.1
N49A IAmb IAmb 07 17 17.6
comp=Z,12nm,0.6s
SDMD Soldier's Deli 27.74 19 IAmb IAmb 07 17 20.0
comp=Z,7.3nm,0.7s
N53A Lisbon 27.99 12 P P 07 17 20.1 -0.4
N53A IAmb IAmb 07 17 23.3
comp=Z,11nm,0.5s
M50A Fremont 28.18 9 P P 07 17 22.2 +0.1
SDCO Great Sand Dun 28.54 331 P P 07 17 25.0 -0.7
SDCO Great Sand Dun 28.54 331 P P 07 17 26.0 +0.3
baz=143
L48A N Adams 28.54 6 P P 07 17 24.9 -0.4
L48A IAmb IAmb 07 17 59.3
comp=Z,12nm,1.2s
SSPA Standing Stone 28.55 17 P P 07 17 26.3 +0.9
SSPA IAmb IAmb 07 17 27.9
comp=Z,5.8nm,0.6s
SSPA Standing Stone 28.55 17 P P 07 17 26.8 +1.4
baz=202
L40A Anamosa 28.55 356 P P 07 17 25.2 -0.1
L40A IAmb IAmb 07 17 26.0
comp=Z,8.9nm,0.7s
L44A Lake County Fo 28.57 1 P P 07 17 25.0 -0.5
L44A IAmb IAmb 07 17 25.5
comp=Z,12nm,0.8s
M53A WI Miller and 28.63 12 P P 07 17 27.6 +1.5
baz=196
214A Organ Pipe Nat 28.93 313 P P 07 17 29.9 +0.9
baz=124
AAM Ann Arbor 28.98 7 P P 07 17 30.2 +1.0
AAM Ann Arbor 28.98 7 P P 07 17 30.0 +0.8
baz=190
S22A 4UR Ranch, Cre 29.18 329 P P 07 17 31.8 +0.4
baz=141
JFWS Jewell Farm 29.34 357 IAmb IAmb 07 17 33.8
comp=Z,7.3nm,0.5s
JFWS Jewell Farm 29.34 357 P P 07 17 32.9 +0.5
baz=176
MVCO Mesa Verde 29.65 326 P P 07 17 35.9 +0.5
baz=138
OGNE Ogallala 29.82 339 P P 07 17 37.9 +1.2
baz=153
PAL Palisades 30.18 22 P P 07 17 40.4 +0.7
baz=209
I42A Draeger Farm, 30.28 359 P P 07 17 40.2 -0.4
BINY Binghamton 30.55 18 IAmb IAmb 07 17 45.5
comp=Z,6.6nm,0.6s
BINY Binghamton 30.55 18 P P 07 17 43.8 +0.8
baz=204
I37A Lemond, Waseca 30.70 353 P P 07 17 43.8 -0.5
I37A IAmb IAmb 07 17 45.3
comp=Z,21nm,1.1s
L59A Walton 30.84 20 IAmb IAmb 07 17 47.2
comp=Z,7.2nm,0.7s
ECSD EROS Data Cent 30.93 348 P P 07 17 46.4 +0.1
baz=164
KSCT Kent School, K 30.96 22 P P 07 17 46.5 -0.2
GLMI Grayling 31.38 5 P P 07 17 50.0 -0.2
baz=187
UCCT U. Connecticut 31.50 24 P P 07 17 51.5 +0.2
UCCT IAmb IAmb 07 17 53.4
comp=Z,16nm,0.8s
G40A Rib Lake 31.69 358 P P 07 17 52.4 -0.6
G40A IAmb IAmb 07 17 53.8
comp=Z,7.8nm,0.6s
O20A White River Ci 31.73 330 P P 07 17 54.6 +0.9
baz=141,SNR=6.2
SPMN Marine on St. 31.83 354 IAmb IAmb 07 17 54.1
comp=Z,13nm,0.6s
SPMN Marine on St. 31.83 354 P P 07 17 53.9 -0.3
baz=172,SNR=8.4
L61B Northampton 31.89 22 P P 07 17 54.7 -0.1
baz=210
ETMB Extrema 31.98 135 P P 07 17 56.1 +0.3
SADO Sadowa 32.14 12 IAmb IAmb 07 17 57.5
comp=Z,10nm,0.8s
SADO Sadowa 32.14 12 P P 07 17 56.2 -0.7
comp=Z,7.9nm,0.4s,baz=213,slow=8.8,SNR=10
comp=Z,7.9nm,0.4s
COWI Conover 32.49 359 P P 07 17 59.1 -0.8
COWI IAmb IAmb 07 17 59.9
comp=Z,13nm,0.5s
K22A Casper 32.99 335 P P 07 18 04.6 0.0
baz=146
E38A The Farm, Brul 33.10 356 P P 07 18 04.8 -0.4
LONY Lake Ozonia 33.17 18 P P 07 18 06.3 +0.4
baz=205
RSSD Black Hills 33.31 339 P P 07 18 08.9 +1.6
RSSD Black Hills 33.31 339 P P 07 18 07.7 +0.3
baz=152
SAML Samuel 33.54 130 P P 07 18 08.4 -1.0
PDAR Pinedale Array 34.40 332 P P 07 18 17.9 +1.0
comp=Z,0.7nm,0.7s,baz=119,slow=9.2,SNR=7.0
comp=Z,0.7nm,0.7s
EYMN Ely 34.43 356 P P 07 18 15.8 -0.8
baz=175
AHID Auburn Hatcher 35.12 330 P P 07 18 22.8 -0.1
AGMN Agassiz Nation 35.23 351 P P 07 18 23.3 -0.2
AGMN IAmb IAmb 07 18 24.8
comp=Z,15nm,1.0s
AGMN Agassiz Nation 35.23 351 P P 07 18 23.0 -0.5
baz=167,SNR=14
MDND Maddock 35.48 347 P P 07 18 26.2 +0.5
MDND IAmb IAmb 07 18 27.1
comp=Z,29nm,0.9s
MDND Maddock 35.48 347 P P 07 18 26.2 +0.5
baz=161
LPAZ La Paz 35.75 145 P P 07 18 30.5 +1.5
comp=Z,0.7nm,0.5s,baz=329,slow=6.5,SNR=9.7
comp=Z,0.7nm,0.5s
RLMT Red Lodge 36.15 335 P P 07 18 32.0 +0.3
baz=144
NVAR Mina Array Bea 36.30 319 P P 07 18 34.8 +1.7
comp=Z,0.4nm,0.6s,baz=118,slow=11,SNR=4.1
comp=Z,0.4nm,0.6s
ULM Lac du Bonnet 37.14 352 IAmb IAmb 07 18 39.7
comp=Z,16nm,1.1s
ULM Lac du Bonnet 37.14 352 P P 07 18 38.9 -0.8
comp=Z,8.1nm,0.5s,baz=167,slow=9.4,SNR=31
comp=Z,8.1nm,0.5s
DGMT Dagmar 37.23 343 P P 07 18 41.8 +1.2
DGMT IAmb IAmb 07 18 42.5
comp=Z,20nm,0.7s
DGMT Dagmar 37.23 343 P P 07 18 41.0 +0.4
baz=154,SNR=6.5
HLID Hailey 37.35 328 P P 07 18 43.1 +1.3
baz=136
BOZ Bozeman (W) 37.54 333 P P 07 18 44.6 +1.2
BOZ Bozeman (W) 37.54 333 P P 07 18 44.5 +1.2
baz=141,SNR=5.4
VILB Vilhena 38.38 132 P P 07 18 50.0 -0.5
VILB IAmb IAmb 07 18 50.6
comp=Z,14nm,0.5s
MSO Missoula 39.52 332 P P 07 19 00.7 +1.0
baz=139
NEW Newport 42.04 331 P P 07 19 20.9 +0.8
baz=136
FFC Flin Flon 42.47 348 P P 07 19 23.4 -0.1

SCHQ	Schefferville	44.55	18	P	P	07 19 39.4	-0.7
	comp=Z,9.9nm,0.8s,baz=216,slow=7.4,SNR=8.4						
	comp=Z,9.9nm,0.8s						
BRLDA	Berland Lookou	46.47	337	P	P	07 19 55.9	+0.6
FRB	Frobisher Bay	52.06	11	P	P	07 20 36.1	-1.2
	comp=Z,5.9nm,0.5s,baz=232,slow=8.2,SNR=5.0						
	comp=Z,5.9nm,0.5s						
YKA	Yellowknife Ar	52.35	345	P	P	07 20 39.4	0.0
	comp=Z,1.5nm,0.6s,baz=141,slow=8.1,SNR=7.6						
	comp=Z,1.5nm,0.6s						
V35K	Ketchikan	53.44	331	P	P	07 20 48.3	+0.8
	baz=124						
T35M	Bob Quinn	53.77	333	P	P	07 20 50.9	+0.9
	baz=126						
WRAK	Wrangell Islan	54.39	332	P	P	07 20 54.9	+0.4
	baz=124						
DLBC	Dease Lake	54.56	335	P	P	07 20 56.4	+0.7
	baz=128						
S34M	Telegraph Cree	54.71	334	P	P	07 20 57.9	+1.3
	baz=126						
R33M	Jennings River	55.53	335	P	P	07 21 03.8	+1.1
	baz=127						
Q32M	Nakina River	55.81	334	P	P	07 21 05.9	+1.1
	baz=126						
TGTN	Hyland Airport	55.84	338	P	P	07 21 06.0	+1.2
	baz=131						
S32K	Killisnoo	55.99	332	P	P	07 21 06.6	+0.8
	baz=122						
SIT	Sitka	56.12	331	P	P	07 21 07.3	+0.5
	baz=121						
N32M	Quiet Lake	57.42	336	P	P	07 21 16.1	+0.2
	baz=126						
M29M	Somme Creek	60.27	336	P	P	07 21 36.4	+0.8
	baz=121						
L29M	L29M	60.48	337	P	P	07 21 37.4	+0.5
	baz=122						
J30M	Hart River	60.61	338	P	P	07 21 38.7	+0.8
	baz=124						
K29M	Barlow Dome	60.64	337	P	P	07 21 38.7	+0.6
	baz=122						
G31M	Satah River	61.29	341	P	P	07 21 42.5	+0.3
	baz=127						
CRQE	Cirque	61.42	333	P	P	07 21 43.7	+0.3
	baz=115						
M27K	Edge Creek, AK	61.62	335	P	P	07 21 45.0	+0.3
	baz=117						
MCARA	McCarthy VSAT	61.66	334	P	P	07 21 45.0	+0.2
	baz=116						
KAIM	Kayak Island	61.68	332	P	P	07 21 44.8	-0.2
	baz=114						
I29M	Ogilvie Camp,	61.74	339	P	P	07 21 45.6	+0.3
	baz=122						
EPYK	Eagle Plains	61.76	340	P	P	07 21 45.6	+0.2
	baz=124						
INK	Inuvik	61.92	343	P	P	07 21 46.9	+0.6
	baz=129						
L27K	Beaver Creek,	61.92	336	P	P	07 21 46.9	+0.3
	baz=118						
G30M	tAoh Zraii Nji	61.95	341	P	P	07 21 47.5	+0.9
	baz=125						
F30M	Barrier River	62.18	341	P	P	07 21 48.7	+0.6
	baz=126						
H29M	Whitestone	62.23	339	P	P	07 21 49.6	+1.1
	baz=123						
I28M	Miner Creek	62.37	338	P	P	07 21 50.2	+0.6
	baz=121						
Q23K	Middleton Isla	62.39	331	P	P	07 21 50.5	+0.8
	baz=112						
N25K	Chitina, Valde	62.44	333	P	P	07 21 50.5	+0.4
	baz=114						
K27K	Chicken	62.47	336	P	P	07 21 50.5	+0.4
	baz=118						
EGAK	Eagle	62.48	337	P	P	07 21 51.0	+0.7
	baz=119						
G29M	Pine Creek	62.49	340	P	P	07 21 50.5	+0.2
	baz=123						
EYAK	Cordova Ski Ar	62.53	332	P	P	07 21 50.9	+0.3
	baz=113						
KLU	Klutina	62.98	333	P	P	07 21 53.7	+0.1
	baz=113						
HARP	HAARP	63.01	334	P	P	07 21 54.2	+0.4
	baz=114						
I27K	Kandik River	63.05	338	P	P	07 21 54.0	0.0
	baz=119						
P23K	Montague Islan	63.10	331	P	P	07 21 54.4	0.0
	baz=111						
J26L	Joseph Creek	63.27	337	P	P	07 21 55.5	0.0
	baz=117						
E29M	Blow River	63.28	342	P	P	07 21 55.9	+0.5
	baz=124						
M24K	Tolsona, Glenn	63.33	334	P	P	07 21 56.3	+0.3
	baz=113						
H27K	Steamboat Moun	63.33	339	P	P	07 21 56.3	+0.5
	baz=120						
F28M	Old Crow	63.48	340	P	P	07 21 57.1	+0.4
F28M	Old Crow	63.48	340	P	P	07 21 57.6	+0.9
	baz=122,SNR=5.1						
I26K	Coal Creek Min	63.48	337	P	P	07 21 57.6	+0.8
	baz=118						
G27K	Doyon Strip	63.66	339	P	P	07 21 58.8	+0.8
G27K	Doyon Strip	63.66	339	P	P	07 21 58.6	+0.6
	baz=120						
M23K	Glacier View	63.89	333	P	P	07 21 59.8	+0.2
	baz=111						
E28M	Babbage River	63.90	341	P	P	07 22 00.0	+0.5
	baz=122						
KNK	Knik Glacier	64.08	332	P	P	07 22 01.0	+0.2
	baz=110						
SEW	Seward	64.10	331	P	P	07 22 01.6	+0.7
	baz=109						
DHY	Denali Highway	64.22	334	P	P	07 22 01.8	0.0
	baz=112						
E27K	Coleen River	64.33	341	P	P	07 22 03.2	+0.8
	baz=120						
PMR	Palmer	64.45	332	P	P	07 22 03.6	+0.5
	baz=110						
G26K	Porcupine Rive	64.47	339	P	P	07 22 03.7	+0.5
	baz=118						
HDA	Harding Lake	64.56	336	P	P	07 22 04.4	+0.5
	baz=113						
ILAR	Eielson Array	64.68	336	P	P	07 22 04.6	0.0
	comp=Z,0.6nm,0.7s,baz=174,slow=5.2,SNR=9.1						
	comp=Z,0.6nm,0.7s						
H25L	Birch Creek	64.89	338	P	P	07 22 06.6	+0.7
	baz=115						
F26K	Sheenjek River	64.94	340	P	P	07 22 07.2	+0.9
	baz=118						
POKR	Poker Plat Res	65.03	336	P	P	07 22 07.9	+1.0
	baz=113						
SUA	Susitna One	65.14	332	P	P	07 22 08.4	+0.6
	baz=108						
G25K	Bearman Lake	65.21	338	P	P	07 22 09.1	+1.2
	baz=115						
F25K	Christian Rive	65.40	339	P	P	07 22 10.1	+0.9
	baz=116						
H24K	Noodoo Dome	65.48	337	P	P	07 22 10.6	+0.8
	baz=113						
E25K	Arctic Village	65.61	340	P	P	07 22 11.7	+1.1
	baz=116						
G24K	Hadweenzic Riv	65.68	338	P	P	07 22 11.5	+0.5
	baz=114						
C27K	Jago River	65.71	342	P	P	07 22 12.0	+0.9
	baz=119						
P19K	Oil Pt	65.79	330	P	P	07 22 11.4	-0.5
	baz=105						
I23K	Minto, Yukon-K	65.80	336	P	P	07 22 12.1	+0.3
	baz=111						
Q19K	Cape Douglas,	65.81	329	P	P	07 22 11.9	-0.1
	baz=104						
R18K	Karluk	65.90	327	P	P	07 22 12.8	+0.3
	baz=103						
BPAW	Bear Paw Mtn.	66.09	335	P	P	07 22 13.8	+0.1
	baz=109						
F24K	Squaw Lake	66.16	339	P	P	07 22 14.8	+0.7
	baz=114						
C26K	Camden Bay	66.22	342	P	P	07 22 15.3	+1.0
	baz=118						
PPLA	Purkeypile	66.22	333	P	P	07 22 15.7	+1.0
	baz=108						
MLY	Manley	66.30	336	P	P	07 22 15.3	+0.2
	baz=110						
CAST	Castle Rocks	66.34	334	P	P	07 22 15.5	+0.2
	baz=108						
M20K	Styx River	66.35	332	P	P	07 22 16.2	+0.8
	baz=106						
D25K	Kavik River	66.41	341	P	P	07 22 16.4	+0.8
	baz=116						
G23K	Bananza Creek	66.62	338	P	P	07 22 17.7	+0.7
	baz=111						
E23K	Chandalar	66.97	339	P	P	07 22 19.6	+0.3
	baz=112						
TOLK	Toolik Lake Re	67.18	340	P	P	07 22 21.0	+0.5
	baz=112						
G22K	Bettles	67.24	338	P	P	07 22 21.5	+0.7
	baz=110						
C24K	Franklin Bluff	67.32	341	P	P	07 22 21.4	+0.2
	baz=114						
H21K	Melozitna Rive	67.33	336	P	P	07 22 20.9	-0.6
	baz=108						
J20K	Nowinta River	67.43	334	P	P	07 22 22.1	0.0
	baz=106						
O17K	Koliganek Bris	67.72	329	P	P	07 22 23.9	-0.1
	baz=102						
G21K	Allakaket	67.86	337	P	P	07 22 25.2	+0.4
	baz=108						
N17K	Nushagak Hills	67.92	330	P	P	07 22 25.0	-0.2
	baz=102						
C23K	Itkillik River	67.97	341	P	P	07 22 25.5	+0.1
	baz=112						
F21K	Alatna River	68.07	338	P	P	07 22 26.1	0.0
	baz=108						
B21K	Ikpikpuk River	69.21	340	P	P	07 22 33.7	+0.7
	baz=108						
EKA	Eskdalemuir Ar	76.32	36	P	P	07 23 14.4	-0.7
	comp=Z,1.3nm,0.6s,baz=268,slow=5.0,SNR=5.8						
	comp=Z,1.3nm,0.6s						
ESDC	Sonseca Array	77.27	52	P	P	07 23 21.1	+0.2
	comp=Z,0.7nm,0.5s,baz=286,slow=6.8,SNR=6.1						
	comp=Z,0.7nm,0.5s						
ARCES	ARCESS Array B	85.49	19	P	P	07 24 03.4	0.0
	comp=Z,1.2nm,0.8s,baz=303,slow=5.3,SNR=3.9						
	comp=Z,1.2nm,0.8s						
TORD	Torodi Ar. Bea	87.09	77	P	P	07 24 10.0	-2.2
	comp=Z,0.7nm,1.0s,baz=295,slow=3.8,SNR=1.7						
	comp=Z,0.7nm,1.0s						
PUK	Puka	94.16	45	P	P	07 24 42.9	-1.8
WRA	Warramunga Arr	138.65	255	PKhKP	PKPpre	07 30 43.0	
	comp=Z,0.4nm,0.6s,baz=92,slow=3.3,SNR=5.3						
WRA				PKP	**PKPdf**	**07 30 51.7**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=89,slow=2.3,SNR=27						
ASAR	Alice Springs	138.78	249	PKhKP	PKPpre	07 30 43.2	
	comp=Z,0.5nm,0.6s,baz=113,slow=3.0,SNR=5.7						
ASAR				PKP	**PKPdf**	**07 30 50.5**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=99,slow=1.9,SNR=8.5						

*ATH **09** 07:14:15.3, 37.°68N×19.°67E, h5km±2km, ML3.1/11, Error ellipse: s-maj=3.3km s-min=1.6km az=82.0*
*THE **09** 07:14:16.8, 37.°73N×19.°79E, h6km, ML3.2/9, Error ellipse: s-maj=1.6km s-min=0.8km az=94.0*
ISC 09 07:14:12.9±2.0, 37.°66N±0.°06×19.°57E±0.°06, h12km±11km, n60, σ1.°64/77, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
DMLN	**Damoulianata-K**	**0.86**	**47**	P	**Pg**	**07 14 30.0**		**+0.5**
DMLN				S	**Sg**	**07 14 39.9**		**-0.9**
	3μm,0.4s							
DMLN	**Damoulianata-K**	**0.86**	**47**	P	**Pg**	**07 14 30.1**		**+0.5**
DMLN				S	**Sb**	**07 14 41.3**		**+0.1**
LXRA	**Lixouri, Kepha**	**0.87**	**51**	P	**Pg**	**07 14 30.5**		**+0.8**
LXRA				S	**Sb**	**07 14 41.3**		**-0.3**
PSDA	**Pessada-Kefalo**	**0.92**	**60**	P	**Pg**	**07 14 30.7**		**0.0**
PSDA				S	**Sg**	**07 14 41.4**		**-1.3**
	3μm,0.5s							
PSDA	**Pessada-Kefalo**	**0.92**	**60**	P	**Pg**	**07 14 30.7**		**0.0**
VLS	**Valsamata**	**0.96**	**57**	P	**Pg**	**07 14 31.2**		**-0.2**
VLS				S	**Sg**	**07 14 42.6**		**-1.3**
	3μm,0.4s							
VLS	**Valsamata**	**0.96**	**57**	P	**Pg**	**07 14 31.2**		**-0.2**
VLS				S	**Sb**	**07 14 44.1**		**0.0**
LTHK	**Lithakia**	**1.00**	**87**	P	**Pg**	**07 14 32.4**		**+0.2**
LTHK				S	**Sg**	**07 14 44.7**		**-0.6**
	2μm,0.6s							
LTHK	**Lithakia**	**1.00**	**87**	P	**Pg**	**07 14 32.0**		**-0.2**
LTHK				S	**Sb**	**07 14 45.5**		**+0.2**
LTHK				AML	AML	07 14 51.2		
	comp=E,3454μm,0.5s							
LTHK				AML	AML	07 14 52.0		
	comp=N,3989μm,0.5s							
RTZL	**Ratzakli, Kefa**	**1.04**	**66**	P	**Pg**	**07 14 32.4**		**-0.5**
RTZL				S	**Sg**	**07 14 45.0**		**-1.4**
	comp=N,2μm,0.6s							
SMHA	**Samh**	**1.04**	**55**	P	**Pg**	**07 14 32.8**		**-0.1**
EVGI	**Lefkada island**	**1.29**	**41**	P	**Pg**	**07 14 37.7**		**+0.1**
EVGI				S	**Sb**	**07 14 54.2**		**+0.7**
	comp=N,1μm,0.3s							
EVGI	**Lefkada island**	**1.29**	**41**	P	**Pg**	**07 14 37.8**		**+0.2**
EVGI				S	**Sb**	**07 14 54.7**		**+1.2**
NYDR	**Nydri-Lefkada**	**1.38**	**40**	P	**Pn**	**07 14 38.7**		**+0.8**
NYDR				S	**Sb**	**07 14 57.1**		**+1.0**
	comp=N,738nm,0.3s							
NYDR	**Nydri-Lefkada**	**1.38**	**40**	P	**Pn**	**07 14 39.0**		**+1.1**
LKD2	**Lefkada island**	**1.42**	**37**	P	**Pn**	**07 14 39.6**		**+1.1**
LKD2				S	**Sg**	**07 14 58.0**		**-0.6**
	comp=N,650nm,0.3s							
LKD2	**Lefkada island**	**1.42**	**37**	P	**Pn**	**07 14 39.6**		**+1.1**
LKD2				S	**Sg**	**07 14 57.2**		**-1.3**
LKD2				AML	AML	07 15 05.8		
	comp=N,1410μm,0.4s							
LKD2				AML	AML	07 15 06.6		
	comp=E,1182μm,0.3s							
TSLK	**Tsoukalades, L**	**1.45**	**36**	P	**Pn**	**07 14 40.5**		**+1.6**
TSLK				S	**Sb**	**07 14 58.6**		**+0.5**
	comp=E,950nm,0.5s							
TSLK	**Tsoukalades, L**	**1.45**	**36**	P	**Pn**	**07 14 40.5**		**+1.6**
TSLK				AML	AML	07 15 08.2		
	comp=N,2002μm,0.6s							
TSLK				AML	AML	07 15 10.5		
	comp=E,1435μm,0.4s							
RLS	**Riolos of Patr**	**1.55**	**74**	P	**Pn**	**07 14 41.2**		**+0.9**
RLS	**Riolos of Patr**	**1.55**	**74**	P	**Pn**	**07 14 41.3**		**+1.0**
PVO	**Paravola**	**1.81**	**57**	P	**Pn**	**07 14 46.0**		**+2.1**
PVO	**Paravola**	**1.81**	**57**	P	**Pn**	**07 14 45.8**		**+1.9**
UPR	**University Cam**	**1.86**	**70**	P	**Pn**	**07 14 46.9**		**+2.4**
PYL	**PYLOS**	**1.89**	**113**	P	**Pn**	**07 14 46.5**		**+1.5**
PYL	**PYLOS**	**1.89**	**113**	P	**Pn**	**07 14 46.4**		**+1.5**
ITM	**Ithomi**	**1.93**	**103**	P	**Pn**	**07 14 46.6**		**+1.0**
ITM	**Ithomi**	**1.93**	**103**	P	**Pn**	**07 14 47.0**		**+1.5**
EFP	**Efpalio**	**2.00**	**67**	P	**Pn**	**07 14 48.0**		**+1.6**
EFP	**Efpalio**	**2.00**	**67**	P	**Pn**	**07 14 47.9**		**+1.6**
EFP				AML	AML	07 15 22.8		
	comp=N,633μm,0.4s							
EFP				AML	AML	07 15 27.9		
	comp=E,676μm,0.6s							
ANX	**Ano Chora**	**2.08**	**62**	P	**Pn**	**07 14 49.6**		**+2.0**
ANX	**Ano Chora**	**2.08**	**62**	P	**Pn**	**07 14 49.4**		**+1.8**
ANX				AML	AML	07 15 30.0		
	comp=N,791μm,0.6s							
ANX				AML	AML	07 15 30.9		
	comp=E,681μm,0.9s							
KLV	**Kalavryta, Ach**	**2.08**	**78**	P	**Pn**	**07 14 49.1**		**+1.5**
KLV	**Kalavryta, Ach**	**2.08**	**78**	P	**Pn**	**07 14 48.8**		**+1.2**
KLV				AML	AML	07 15 32.9		
	comp=E,366μm,0.9s							
KLV				AML	AML	07 15 35.4		
	comp=N,386μm,1.0s							
ALIK	**Aliki, Aigiali**	**2.10**	**72**	P	**Pn**	**07 14 50.1**		**+2.4**
KALE	**Kalithea**	**2.16**	**69**	P	**Pn**	**07 14 50.4**		**+1.7**
KALE	**Kalithea**	**2.16**	**69**	P	**Pn**	**07 14 50.4**		**+1.7**
KALE				AML	AML	07 15 33.7		
	comp=N,607μm,0.5s							
KALE				AML	AML	07 15 35.3		
	comp=E,387μm,0.7s							
EVR	**Evrytania**	**2.16**	**54**	P	**Pn**	**07 14 50.9**		**+2.1**
EVR	**Evrytania**	**2.16**	**54**	P	**Pn**	**07 14 51.1**		**+2.3**
EVR				AML	AML	07 15 38.8		
	comp=N,338μm,0.5s							
EVR				AML	AML	07 15 39.1		
	comp=E,353μm,1.2s							
GUR	**Goura**	**2.21**	**82**	P	**Pn**	**07 14 50.7**		**+1.2**
GUR	**Goura**	**2.21**	**82**	P	**Pn**	**07 14 50.7**		**+1.2**
GUR				AML	AML	07 15 35.2		
	comp=E,718μm,0.7s							
GUR				AML	AML	07 15 41.8		
	comp=N,640μm,0.9s							
SRN	**Sarande**	**2.25**	**8**	P	**Pn**	**07 14 52.7**		**+2.9**
MAKR	**Makrakomi, Fth**	**2.43**	**55**	P	**Pn**	**07 14 54.9**		**+2.5**
MAKR	**Makrakomi, Fth**	**2.43**	**55**	P	**Pn**	**07 14 54.4**		**+2.0**
MAKR				AML	AML	07 15 46.4		
	comp=N,617μm,0.6s							
MAKR				AML	AML	07 15 46.5		
	comp=E,459μm,0.5s							
AGG	**Agios Georgios**	**2.56**	**57**	P	**Pn**	**07 14 55.9**		**+1.7**
AGG	**Agios Georgios**	**2.56**	**57**	P	**Pn**	**07 14 55.9**		**+1.7**
AGG				AML	AML	07 15 39.5		
	comp=N,339μm,0.6s							
AGG				AML	AML	07 15 51.4		
	comp=E,388μm,0.6s							
LSK	**Leskovik**	**2.62**	**18**	P	**Pn**	**07 14 57.8**		**+2.8**
AXAR	**Agios Charalam**	**2.67**	**65**	P	**Pn**	**07 14 57.4**		**+1.7**
KPRO	**Kipourio**	**2.69**	**31**	P	**Pn**	**07 14 57.9**		**+1.9**
KPRO	**Kipourio**	**2.69**	**31**	P	**Pn**	**07 14 58.5**		**+2.5**
THL	**Klokotos Trika**	**2.70**	**44**	P	**Pn**	**07 14 58.1**		**+2.0**
VLI	**Veliai**	**2.84**	**108**	P	**Pn**	**07 15 00.8**		**+2.7**
NEST	**Nestorio**	**2.99**	**22**	P	**Pn**	**07 15 02.9**		**+2.8**
LIT	**Litokhoron**	**3.34**	**42**	P	**Pn**	**07 15 07.6**		**+2.7**
FNA	**Florina**	**3.42**	**24**	P	**Pn**	**07 15 08.4**		**+2.3**
DBRK	**Dubrovnik**	**5.13**	**348**	*e*Pn	**Pn**	**07 15 30.5**		**+1.1**
STON	**Ston**	**5.40**	**345**	*e*Pn	**Pn**	**07 15 33.7**		**+0.5**
STON				Sn	**Sn**	**07 16 32.9**		**-2.4**
ZIRJ	**Zirje**	**6.70**	**335**	*e*Pn	**Pn**	**07 15 53.9**		**+2.9**
MORI	**Morici**	**6.86**	**336**	*e*Pn	**Pn**	**07 15 54.2**		**+1.0**
DUGI	**Dugi Otok**	**7.20**	**333**	*e*Pn	**Pn**	**07 15 58.6**		**+0.7**
DUGI				Sn	**Sn**	**07 17 15.4**		**-4.1**

*NEIC **09** 07:16:41.5±1.7, 43.°0N±0.°1×55.°8W±0.°1, h10km±2km, mb4.2/8, Error ellipse: s-maj=22.4km s-min=17.7km az=195.0*
*IDC **09** 07:16:43.1±1.0, 43.°25N×55.°73W, h0km, mb3.5/7, mbtmp3.6/8, ML3.2/1, MS2.8/1, Error ellipse: s-maj=27.4km s-min=18.7km az=17.0*
*OTT **09** 07:16:47.2±0.3, 43.°31N×55.°88W, h18km, ML4.1/20, Atlantic Ocean. 421km south from Grand Bank, NI*
ISC 09 07:16:44.2±0.8, 43.°38N±0.°08×55.°99W±0.°06, h10km, n71, σ2.°18/94, mb3.6/10, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
GBN	**Guysborough**	**4.45**	**299**	Pn	**Pn**	**07 17 54.8**		**+3.2**
GBN	**Guysborough**	**4.45**	**299**	PN	**Pn**	**07 17 55.0**		**+3.3**
GBN				SN	**Sn**	**07 18 44.7**		**+1.2**
GBN				Trac		07 18 48.6		
	comp=Z,24nm,0.1s							
CHEG	**Cheticamp, Nov**	**4.77**	**318**	PN	**Pn**	**07 17 59.2**		**+3.1**
CHEG				SN	**Sn**	**07 18 52.2**		**+0.7**
CHEG				Trac		07 19 01.8		
	comp=Z,14nm,0.1s							
HAL	**Halifax**	**5.62**	**286**	Pn	**Pn**	**07 18 10.3**		**+2.5**
HAL	**Halifax**	**5.62**	**286**	PN	**Pn**	**07 18 10.6**		**+2.7**
HAL				SN	**Sn**	**07 19 11.6**		**-0.8**
HAL				Trac		07 19 16.5		
	comp=Z,9.0nm,0.0s							
DRLN	**Deer Lake**	**5.97**	**350**	Pn	**Pn**	**07 18 14.6**		**+2.0**
DRLN	**Deer Lake**	**5.97**	**350**	PN	**Pn**	**07 18 14.9**		**+2.3**
DRLN				SN	**Sn**	**07 19 19.6**		**-1.4**
DRLN				Trac		07 19 24.4		
	comp=Z,38nm,0.3s							
LMN	**Caledonia Moun**	**6.76**	**295**	Pn	**Pn**	**07 18 26.7**		**+3.3**
LMN				Sn	**Sn**	**07 19 39.2**		**-1.2**
LMN	**Caledonia Moun**	**6.76**	**295**	PN	**Pn**	**07 18 26.4**		**+3.0**
LMN				SN	**Sn**	**07 19 39.5**		**-0.9**
LMN				Trac		07 19 43.8		
	comp=Z,24nm,0.2s							
SVNB	**Stilesville Qu**	**6.91**	**297**	PN	**Pn**	**07 18 28.5**		**+3.0**
SVNB				SN	**Sn**	**07 19 43.5**		**-0.6**
SVNB				Trac		07 19 49.1		
	comp=Z,20nm,0.1s							
ELNB	**Elgin, New Bru**	**6.99**	**294**	PN	**Pn**	**07 18 29.5**		**+3.0**
ELNB				SN	**Sn**	**07 19 45.0**		**-1.1**
ELNB				Trac		07 19 51.5		
	comp=Z,7.4nm,0.2s							
WCNB	**Wards Creek**	**7.17**	**292**	PN	**Pn**	**07 18 31.8**		**+2.7**
WCNB				SN	**Sn**	**07 19 49.0**		**-1.6**
WCNB				Trac		07 19 54.2		
	comp=Z,64nm,0.3s							
HKNB	**Havelock Quarr**	**7.18**	**294**	PN	**Pn**	**07 18 32.1**		**+2.9**
HKNB				SN	**Sn**	**07 19 50.3**		**-0.4**
HKNB				Trac		07 19 56.2		
	comp=Z,59nm,0.2s							
GAAQ	**Galiote**	**7.75**	**322**	PN	**Pn**	**07 18 39.9**		**+3.0**
GAAQ				SN	**Sn**	**07 20 03.2**		**-1.3**
GAAQ				Trac		07 20 09.7		
	comp=Z,13nm,0.2s							
PCAQ	**Pointe Carleto**	**7.96**	**325**	PN	**Pn**	**07 18 42.4**		**+2.6**
PCAQ				SN	**Sn**	**07 20 07.6**		**-2.1**
PCAQ				Trac		07 20 16.5		
	comp=Z,14nm,0.2s							
GGN	**Saint George**	**7.98**	**286**	Pn	**Pn**	**07 18 42.1**		**+1.9**
GGN	**Saint George**	**7.98**	**286**	PN	**Pn**	**07 18 42.2**		**+2.0**
GGN				SN	**Sn**	**07 20 07.2**		**-3.3**
GGN				Trac		07 20 09.9		
	comp=Z,32nm,0.3s							
BATG	**Bathurst New B**	**8.09**	**302**	Pn	**Pn**	**07 18 44.2**		**+2.5**
HSNB	**Heath Steele M**	**8.09**	**302**	PN	**Pn**	**07 18 44.2**		**+2.4**
HSNB				SN	**Sn**	**07 20 10.2**		**-3.1**
HSNB				Trac		07 20 15.7		
	comp=Z,9.9nm,0.1s							
BJBQ	**Baie Johan-Bee**	**8.34**	**328**	PN	**Pn**	**07 18 47.5**		**+2.4**
BJBQ				SN	**Sn**	**07 20 16.8**		**-2.5**
BJBQ				Trac		07 20 21.9		
	comp=Z,11nm,0.2s							
EMMW	**East Machias**	**8.37**	**283**	Pn	**Pn**	**07 18 46.0**		**+0.5**
MCNB	**McAdam**	**8.40**	**289**	PN	**Pn**	**07 18 47.6**		**+1.7**
MCNB				SN	**Sn**	**07 20 17.6**		**-3.1**
MCNB				Trac		07 20 21.6		
	comp=Z,5.6nm,0.2s							
G65A	**Princeton**	**8.50**	**286**	Pn	**Pn**	**07 18 47.4**		**+0.1**
F64A	**Sherman**	**9.16**	**290**	Pn	**Pn**	**07 18 57.4**		**+1.1**
F63A	**Nahmakanta, Br**	**9.65**	**288**	Pn	**Pn**	**07 19 03.0**		**-0.1**
PKME	**Peaks-Kenny Pk**	**9.72**	**286**	Pn	**Pn**	**07 19 04.1**		**+0.1**
PKME	**Peaks-Kenny Pk**	**9.72**	**286**	PN	**Pn**	**07 19 05.3**		**+1.3**
PKME				SN	**Sn**	**07 20 48.9**		**-4.2**
PKME				Trac		07 20 55.0		
	comp=Z,13nm,0.3s							
WVL	**Waterville**	**9.93**	**282**	Pn	**Pn**	**07 19 07.3**		**+0.5**
D62A	**Allapoint, All**	**9.93**	**296**	Pn	**Pn**	**07 19 07.2**		**+0.3**
SMQ	**Clarke City**	**10.03**	**317**	PN	**Pn**	**07 19 09.1**		**+0.8**
SMQ				SN	**Sn**	**07 20 56.2**		**-4.7**
SMQ				Trac		07 21 04.3		
	comp=Z,8.9nm,0.2s							
E62A	**Clayton Lake**	**10.12**	**293**	Pn	**Pn**	**07 19 10.6**		**+1.1**
CNQ	**Baie Comeau**	**10.24**	**310**	PN	**Pn**	**07 19 12.5**		**+1.4**
CNQ

W50A Signal Mountai 24.02 260 P **P** **07 21 60.0 +0.7**
W50A IAmb IAmb 07 22 07.8
comp=Z,16nm,1.5s
JFWS Jewell Farm 24.90 281 P **P** **07 22 05.3 -1.8**
U38A Gravette 30.05 270 P **P** **07 22 53.3 -0.1**
U38A IAmb IAmb 07 22 56.3
comp=Z,2.4nm,0.6s
WMOK Wichita Mounta 34.02 270 P **P** **07 23 30.6 +2.4**
PD31 Pinedale Array 38.57 288 P **P** **07 24 09.0 +1.7**
PDAR Pinedale Array 38.57 288 P **P** **07 24 09.2 +1.9**
comp=Z,0.5nm,0.4s,baz=87,slow=8.1,SNR=11
comp=Z,0.5nm,0.4s
ESDC Sonseca Array 38.61 77 P **P** **07 24 08.1 +0.6**
comp=Z,0.5nm,0.6s,baz=282,slow=6.6,SNR=4.3
comp=Z,0.5nm,0.6s
TXAR Lajitas Array 40.34 266 P **P** **07 24 24.1 +2.0**
comp=Z,0.4nm,0.8s,baz=81,slow=7.7,SNR=5.1
TXAR PcP **PcP** **07 26 25.9 +0.6**
comp=Z,0.2nm,0.7s,baz=90,slow=4.0,SNR=3.8
comp=Z,0.4nm,0.8s
NOA NORSAR Array B 42.67 41 LR LR 07 41 03.5
comp=Z,11nm,18.6s,baz=200,slow=34
CLL Collm 45.83 55 *e*P **P** **07 25 03.0 -3.1**
CLL *i* x x 07 25 08.0
NVAR Mina Array Bea 46.39 286 P **P** **07 25 13.1 +2.1**
comp=Z,0.3nm,0.6s,baz=65,slow=6.5,SNR=3.5
NVAR PcP **PcP** **07 26 47.4 +1.5**
comp=Z,0.4nm,0.6s,baz=73,slow=4.1,SNR=4.3
comp=Z,0.3nm,0.6s
ARCES ARCESS Array B 47.27 28 P **P** **07 25 16.8 -0.4**
comp=Z,0.8nm,0.5s,baz=272,slow=5.7,SNR=7.6
comp=Z,0.8nm,0.5s
ILAR Eielson Array 52.16 327 P **P** **07 25 57.4 +2.9**
comp=Z,0.4nm,0.7s,baz=56,slow=6.6,SNR=4.9
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 57.70 103 P **P** **07 26 32.8 -2.3**
comp=Z,0.6nm,0.8s,baz=324,slow=5.7,SNR=3.6
comp=Z,0.6nm,0.8s

KRSC 09 07:28:35.6±1.9, 54.°61N×164.°93E, h46km±25km, Ml3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.85**	**45**	*e*P	Pn	07 28 50.6	-0.6
BKI				*e*S	Sn	07 29 00.4	-2.1
MKZ	**Mys Kozlova**	**1.86**	**270**	*e*P	Pn	07 29 08.5	+3.5
MKZ				*e*S	Sn	07 29 30.5	+3.1
KBTR	**Krutoberegovo**	**2.01**	**324**	*e*P	Pn	07 29 08.0	+1.0
KBTR				*e*S	Sn	07 29 31.1	+0.2
KBG	**Krutoberegovo**	**2.08**	**323**	*e*P	Pn	07 29 09.9	+1.8
KBG				*e*S	Sn	07 29 33.7	+1.0
TUMD	**Tumrok D**	**2.69**	**285**	*e*P	Pn	07 29 20.4	+4.0
TUMD				*e*S	Sn	07 29 50.6	+3.0
ZLN	**Zelenaya**	**2.75**	**303**	*e*S	Sn	07 29 54.8	+5.5
BZGR	**Bezymyannyi-Gr**	**2.77**	**301**	*e*P	Pn	07 29 21.6	+4.1
BZP	**Bezymyannyi-Pe**	**2.83**	**299**	*e*P	Pn	07 29 22.3	+3.8
TUMR	**Tumrok**	**2.84**	**286**	*e*P	Pn	07 29 22.9	+4.3
BZMR	**Bezymyannaya**	**2.87**	**299**	*e*P	Pn	07 29 22.9	+3.9
BZWR	**Bezymyannyi-We**	**2.88**	**300**	*e*P	Pn	07 29 23.4	+4.2
BZWR				*e*S	Sn	07 29 57.5	+4.9
BDR	**Baidarnaya**	**2.89**	**314**	*e*S	Sn	07 29 58.0	+5.4
KMNR	**Kamenistaya**	**2.93**	**295**	*e*P	Pn	07 29 23.5	+3.8
KIRR	**Kirishev**	**2.95**	**299**	*e*P	Pn	07 29 24.9	+4.8
KIRR				*e*S	Sn	07 30 00.1	+5.7
SRKR	**Sorokina**	**2.96**	**315**	*e*S	Sn	07 29 57.7	+3.3
KRSR	**Krestovskiy**	**2.97**	**305**	*e*P	Pn	07 29 23.8	+3.5
KRSR				*e*S	Sn	07 29 58.8	+4.1
KLY	**Klyuchi**	**2.98**	**307**	*e*P	Pn	07 29 22.2	+1.9
KPT	**Kopyto**	**3.02**	**299**	*e*P	Pn	07 29 25.9	+5.0
KPT				*e*S	Sn	07 30 01.4	+5.5
KOZ	**Kozyrevsk**	**3.24**	**299**	*e*P	Pn	07 29 28.5	+4.6
KII	**Karymskiy**	**3.26**	**262**	*e*P	Pn	07 29 29.0	+4.7
SPN	**Mys Shipunski**	**3.28**	**245**	*e*P	Pn	07 29 28.4	+4.0
SPN				*e*S	Sn	07 30 03.7	+1.6
SRDR	**Sredinnyy**	**3.43**	**302**	*e*P	Pn	07 29 30.9	+4.3
SRDR				*e*S	Sn	07 30 11.1	+5.2
NLC	**Nalytchevo**	**3.60**	**249**	*e*P	Pn	07 29 32.5	+3.6
NLC				*e*S	Sn	07 30 12.1	+1.9
ESO	**Esso**	**3.80**	**293**	*e*P	Pn	07 29 35.4	+3.7
SMAR	**Somma**	**3.87**	**252**	*e*P	Pn	07 29 38.0	+5.3
SMAR				*e*S	Sn	07 30 20.6	+3.7
UGLR	**Uglovaya**	**3.87**	**251**	*e*P	Pn	07 29 37.6	+4.9
UGLR				*e*S	Sn	07 30 18.9	+1.9
KRER	**Koryakskii**	**3.88**	**253**	*e*P	Pn	07 29 37.7	+4.8
KRER				*e*S	Sn	07 30 20.2	+3.0
AVH	**Avacha**	**3.90**	**252**	*e*P	Pn	07 29 38.0	+5.0
AVH				*e*S	Sn	07 30 21.6	+4.0
KRX	**Arik**	**3.91**	**254**	*e*P	Pn	07 29 38.0	+4.7
KRX				*e*S	Sn	07 30 21.2	+3.2
KOK	**Koryaka**	**3.95**	**253**	*e*P	Pn	07 29 38.7	+4.9
KOK				*e*S	Sn	07 30 22.1	+3.4
DALK	**Dalny**	**3.99**	**249**	*e*P	Pn	07 29 39.3	+5.2
DALK				*e*S	Sn	07 30 22.6	+3.0
PET	**Petropavlovsk**	**4.04**	**249**	*e*P	Pn	07 29 40.3	+5.4
PET				*e*S	Sn	07 30 23.7	+2.7
GNL	**Ganaly**	**4.21**	**260**	*e*P	Pn	07 29 42.8	+5.4
GNL				*e*S	Sn	07 30 30.2	+4.9
KRMR	**Karymshinskiy**	**4.42**	**249**	*e*P	Pn	07 29 45.9	+5.8
KRMR				*e*S	Sn	07 30 33.5	+3.4
MTVR	**Mutnovka**	**4.55**	**245**	*e*P	Pn	07 29 46.8	+4.7
MTVR				*e*S	Sn	07 30 36.1	+2.4
GRL	**Gorelyy**	**4.58**	**246**	*e*P	Pn	07 29 47.3	+4.9
ASAK	**Asacha**	**4.75**	**245**	*e*P	Pn	07 29 49.9	+5.1
ASAK				*e*S	Sn	07 30 41.8	+3.2
APC	**Apacha**	**4.91**	**253**	*e*P	Pn	07 29 53.0	+6.2
KDTR	**Khodutka, Kamc**	**4.98**	**239**	*e*P	Pn	07 29 51.4	+3.6

*IDC **09** 08:31:13.1±0.8, 13.°45N×145.°48E, h0km, mb3.9/10, mbtmp3.9/10, MS3.4/4, Error ellipse: s-maj=19.8km s-min=14.6km az=7.0*
*NEIC **09** 08:31:15.5±2.1, 13.°22N±0.°08×145.°53E±0.°07, h10km±1km, mb4.4/67, Error ellipse: s-maj=15.4km s-min=8.7km az=221.0*

ISC 09 08:31:19.4±0.6, 13.°29N±0.°09×145.°37E±0.°09, h45km, n93, σ1§18/89, mb4.2/47, MS3.3/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.57**	**301**	Pn	**Pn**	**08 31 31.4**	**+0.1**
GUMO				Sg	**Sn**	**08 31 39.4**	**-0.4**
GUMO	**Guam**	**0.57**	**301**	LR	LR	08 31 22.5	
comp=Z,69nm,21.0s,baz=266,slow=15
GUMO Pn **Pn** **08 31 31.2** **-0.1**
1μm,0.3s,baz=119,slow=5.3,SNR=455
GUMO Sn **Sn** **08 31 39.5** **-0.3**
4μm,0.3s,baz=80,slow=21,SNR=29
RABL Rabaul 18.64 158 P **P** **08 35 30.2** **-3.3**
H11N1 WAKE ISLAND Hy 21.59 70 T T 08 59 05.0
baz=253,slow=74
H11N2 WAKE ISLAND Hy 21.60 70 T T 08 59 09.5
baz=253,slow=74
H11N3 WAKE ISLAND Hy 21.61 70 T T 08 59 10.5
baz=253
MJAR Matsushiro Arr 24.03 346 P **P** **08 36 26.9** **-3.3**
0.8nm,0.2s,baz=168,slow=13,SNR=1.8
MJAR LR LR 08 45 26.4
comp=Z,32nm,20.6s,baz=204,slow=36
0.8nm,0.2s
HNR Honiara 26.82 147 LR LR 08 47 25.6
comp=Z,418nm,18.9s,baz=252,slow=36
ASAJ Asahikawa 30.81 356 LR LR 08 48 36.3
comp=Z,35nm,21.0s,baz=196,slow=34
WB0 Warramunga Arr 34.58 198 P **P** **08 38 04.6** **+0.4**
WR0 Warramunga Arr 34.72 198 P **P** **08 38 05.3** **0.0**
WR0 IAmb IAmb 08 38 33.3
comp=Z,3.9nm,1.1s
WB2 Warramunga Arr 34.76 198 P **P** **08 38 05.3** **-0.4**
WB2 IAmb IAmb 08 38 21.6
comp=Z,4.8nm,1.0s
WRA Warramunga Arr 34.77 198 P **P** **08 38 05.5** **-0.3**
WRA Warramunga Arr 34.77 198 P **P** **08 38 05.8** **+0.1**
comp=Z,0.6nm,0.7s,baz=20,slow=9.3,SNR=5.0
comp=Z,0.6nm,0.7s
AS31 Alice Springs 38.41 197 P **P** **08 38 36.3** **-0.4**
ASAR Alice Springs 38.41 197 P **P** **08 38 36.3** **-0.5**
ASAR Alice Springs 38.41 197 P **P** **08 38 37.5** **+0.7**
comp=Z,0.4nm,0.6s,baz=24,slow=10.0,SNR=9.1
comp=Z,0.4nm,0.6s
HHC Hu-ho-hao-te 40.31 319 *e*P **P** **08 38 52.7** **+0.1**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,63nm,4.1s
KULM Kulim 44.78 264 P **P** **08 39 30.6** **+1.4**
KULM IAmb IAmb 08 39 43.7
comp=Z,8.6nm,1.0s
BBOO Buckleboo 46.70 191 P **P** **08 39 45.0** **+1.1**
BBOO IAmb IAmb 08 40 08.4
comp=Z,6.4nm,1.1s
SONM Songino Array 47.25 325 P **P** **08 39 47.8** **-0.5**
comp=Z,0.5nm,0.6s,baz=146,slow=8.0,SNR=2.1
comp=Z,0.5nm,0.6s
S12K Black Hills 58.45 32 P **P** **08 41 10.1** **-0.5**
K15K Wolf Creek Mou 61.63 25 P **P** **08 41 33.8** **+1.5**
K15K IAmb IAmb 08 41 46.0
comp=Z,4.9nm,1.1s
MK31 Makanchi Array 62.04 316 P **P** **08 41 34.4** **-1.0**
MKAR Makanchi Array 62.04 316 P **P** **08 41 34.3** **-1.1**
MKAR Makanchi Array 62.04 316 P **P** **08 41 33.7** **-1.7**
comp=Z,0.3nm,0.5s,baz=95,slow=9.2,SNR=4.4
comp=Z,0.3nm,0.5s
L16K Owhat River 62.23 26 P **P** **08 41 37.2** **+0.9**
L16K IAmb IAmb 08 41 50.8
comp=Z,4.9nm,1.1s
N17K Nushagak Hills 62.76 28 P **P** **08 41 41.5** **+1.6**
N17K IAmb IAmb 08 41 49.4
comp=Z,5.6nm,1.1s
M17K Holitna River 62.99 27 P **P** **08 41 42.7** **+1.3**
K17K Iditarod 63.16 25 P **P** **08 41 43.6** **+1.1**
N18K Kilae Creek 63.41 28 P **P** **08 41 44.5** **+0.2**
O18K Koktuh Hills 63.44 29 P **P** **08 41 45.6** **+1.2**
L18K Granite Mounta 63.64 26 P **P** **08 41 46.1** **+0.4**
L18K IAmb IAmb 08 41 51.0
comp=Z,2.9nm,1.1s
KDAK Kodiak Island 64.06 32 P **P** **08 41 49.7** **+1.2**
N19K Bonanza Creek 64.11 28 P **P** **08 41 50.3** **+1.3**
H18K Honhosa River 64.18 23 P **P** **08 41 48.7** **-0.5**
H18K IAmb IAmb 08 42 01.1
comp=Z,5.1nm,1.1s
SYI Shuyak Island 64.40 31 P **P** **08 41 51.3** **+0.6**
J19K Poorman 64.78 25 P **P** **08 41 53.1** **-0.1**
H19K Roundabout Mou 65.07 23 P **P** **08 41 55.1** **+0.2**
H19K IAmb IAmb 08 42 16.5
comp=Z,2.6nm,1.1s
KURK Kurchatov 65.12 320 P **P** **08 41 55.0** **-0.6**
KURK IAmb IAmb 08 42 08.7
comp=Z,1.5nm,0.9s
KURBB Kurchatov Arra 65.16 320 P **P** **08 41 54.7** **-1.1**
comp=Z,1.2nm,0.5s,baz=102,slow=6.7,SNR=9.5
comp=Z,1.2nm,0.5s
K20K Telida 65.19 26 P **P** **08 41 56.9** **+1.1**
K20K IAmb IAmb 08 41 58.5
comp=Z,3.0nm,0.9s
CNPM China Poot 65.24 30 P **P** **08 41 57.9** **+1.6**
J20K Nowinta River 65.45 25 P **P** **08 41 57.9** **+0.4**
J20K IAmb IAmb 08 41 59.5
comp=Z,4.1nm,0.9s
D19K Kuna River 65.77 20 P **P** **08 41 59.5** **0.0**
D19K IAmb IAmb 08 42 04.6
comp=Z,6.5nm,1.1s
KSH Kashi 65.81 307 P **P** **08 42 04.8** **+4.4**
KSH pmax pmax
comp=Z,3.0nm,0.7s
F20K Avaraart Lake 65.96 22 P **P** **08 42 02.7** **+2.0**
F20K IAmb IAmb 08 42 06.2
comp=Z,4.4nm,1.1s
CAST Castle Rocks 66.05 26 P **P** **08 42 01.8** **+0.4**
CAST IAmb IAmb 08 42 04.3
comp=Z,2.4nm,0.9s
IMAR Indian Mountai 66.27 23 P **P** **08 42 03.6** **+0.8**
H21K Melozitna Rive 66.52 23 P **P** **08 42 05.7** **+1.4**
H21K IAmb IAmb 08 42 28.8
comp=Z,2.8nm,1.1s
BPAW Bear Paw Mtn. 66.73 25 P **P** **08 42 06.0** **+0.3**
F21K Alatna River 66.84 22 P **P** **08 42 06.5** **+0.1**
F21K IAmb IAmb 08 42 07.2
comp=Z,2.4nm,1.1s
MLY Manley 67.12 24 P **P** **08 42 08.6** **+0.4**
MLY IAmb IAmb 08 42 09.9
comp=Z,1.5nm,0.8s
I23K Minto, Yukon-K 67.72 25 P **P** **08 42 12.1** **+0.2**
H23K Yukon River 67.85 24 P **P** **08 42 14.0** **+1.3**
G23K Bananza Creek 67.94 23 P **P** **08 42 14.3** **+0.9**
G23K IAmb IAmb 08 42 15.2
comp=Z,1.4nm,0.8s
WRH Wood River Hil 68.05 25 P **P** **08 42 14.1** **+0.1**
IL31 68.63 25 P **P** **08 42 16.7** **-0.9**
IL31 IAmb IAmb 08 42 17.8
comp=Z,1.5nm,0.8s
ILAR Eielson Array 68.63 25 P **P** **08 42 16.6** **-1.1**
comp=Z,0.9nm,0.6s,baz=248,slow=6.3,SNR=19
comp=Z,0.9nm,0.6s
TOLK Toolik Lake Re 68.72 21 P **P** **08 42 18.7** **+0.5**
TOLK IAmb IAmb 08 42 36.0
comp=Z,2.5nm,1.1s
C23K Itkillik River 68.77 20 P **P** **08 42 18.1** **-0.3**
PAX Paxson 68.81 27 P **P** **08 42 19.9** **+1.0**
PAX IAmb IAmb 08 42 34.3
comp=Z,2.8nm,0.9s
G24K Hadweenzic Riv 68.90 23 P **P** **08 42 20.3** **+0.9**
G24K IAmb IAmb 08 42 23.4
comp=Z,1.7nm,0.9s
J25K Salcha River, 69.22 26 P **P** **08 42 20.4** **-1.0**
GLB Gilahina Butte 69.26 29 P **P** **08 42 21.3** **-0.5**
GLB IAmb IAmb 08 42 47.4
comp=Z,5.9nm,1.2s
SCRK Sand Creek 69.67 26 P **P** **08 42 24.5** **+0.2**
SCRK IAmb IAmb 08 42 50.2
comp=Z,2.9nm,1.1s
MESA MESA 69.95 31 P **P** **08 42 27.5** **+1.3**
J26L Joseph Creek 69.96 26 P **P** **08 42 26.0** **0.0**
J26L IAmb IAmb 08 42 27.1
comp=Z,2.0nm,0.6s
D25K Kavik River 70.02 21 P **P** **08 42 27.1** **+0.9**
BMAR Burnt Mountain 70.18 23 P **P** **08 42 28.6** **+1.4**
I26K Coal Creek Min 70.29 25 P **P** **08 42 27.2** **-0.7**
BRVK Borovoye 70.53 322 P **P** **08 42 29.7** **+0.1**
BRVK IAmb IAmb 08 42 36.6
comp=Z,2.1nm,0.7s
I28M Miner Creek 71.64 25 P **P** **08 42 36.8** **+0.5**
H29M Whitestone 72.39 24 P **P** **08 42 40.9** **+0.4**
H29M IAmb IAmb 08 43 03.5
comp=Z,2.8nm,1.1s
J30M Hart River 73.06 26 P **P** **08 42 44.8** **0.0**
EPYK Eagle Plains 73.07 24 P **P** **08 42 45.2** **+0.6**
EPYK IAmb IAmb 08 42 45.6
comp=Z,1.6nm,0.6s
G31M Satah River 74.08 24 P **P** **08 42 50.1** **-0.4**
G31M IAmb IAmb 08 42 51.7
comp=Z,2.2nm,0.7s
DIB Dawson Inlet, 74.78 38 P **P** **08 42 54.4** **-0.4**
DIB IAmb IAmb 08 42 56.8
comp=Z,2.4nm,0.7s
R33M Jennings River 75.45 32 P **P** **08 42 59.8** **+1.1**
R33M IAmb IAmb 08 43 02.0
comp=Z,4.2nm,1.1s
ABKAR Akbulak array 77.09 318 P **P** **08 43 07.1** **-1.0**
BBB Bella Bella 77.50 39 LR LR 09 14 11.7
comp=Z,24nm,20.1s,baz=74,slow=33
HOLB Holberg 77.64 41 P **P** **08 43 12.2** **+1.0**
HEBO Mount Hebo 81.31 46 P **P** **08 43 32.0** **+0.7**
K02D Willamette Mer 81.82 48 P **P** **08 43 33.0** **-1.1**
K02D IAmb IAmb 08 43 38.4
comp=Z,2.5nm,1.1s
I03D Drain, OR 81.87 47 P **P** **08 43 36.4** **+2.3**
I03D IAmb IAmb 08 43 36.9
comp=Z,2.6nm,0.7s
J05D Fort Rock, OR 83.45 47 P **P** **08 43 45.2** **+2.5**
BRLDA Berland Lookou 83.54 36 P **P** **08 43 44.0** **+1.2**
PINE Pine Mountain 83.56 47 P **P** **08 43 45.5** **+2.2**
NVAR Mina Array Bea 86.72 51 P **P** **08 44 00.6** **+1.3**
comp=Z,1.3nm,0.7s,baz=266,slow=5.7,SNR=10
comp=Z,1.3nm,0.7s
ARCES ARCESS Array B 87.51 342 P **P** **08 44 00.3** **-1.9**
comp=Z,1.5nm,0.7s,baz=35,slow=4.4,SNR=4.5
comp=Z,1.5nm,0.7s
PDAR Pinedale Array 91.83 45 P **P** **08 44 24.2** **+1.0**
comp=Z,0.3nm,0.5s,baz=222,slow=2.0,SNR=5.6
comp=Z,0.3nm,0.5s
DBIC Dimbokro 144.39 302 PKP **PKPab** **08 50 49.8** **-0.2**
comp=Z,6.1nm,0.6s,baz=51,slow=4.9,SNR=9.0
LPAZ La Paz 147.50 99 PKPbc **PKiKP** **08 51 01.8** **-0.7**
comp=Z,1.1nm,0.8s,baz=290,slow=2.5,SNR=4.4

*NEIC **09** 08:33:57.5±2.1, 38.°07N±0.°02×112.°42W±0.°05, h5km±1km,*
Error ellipse: s-maj=7.9km s-min=2.9km az=117.0

UUSS 09 08:33:58.1±2.3, 38.°066N±0.°004×112.°40W±0.°02, h0km±2km, ML2.7/16, ML2.9/131(NEIC), Error ellipse: s-maj=2.2km s-min=0.7km az=86.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTPU	**Mount Pierson**	**0.17**	**98**	Pg	Pg	08 34 01.6	+0.2
MVU	**Marysvale**	**0.46**	**19**		Pg	08 34 07.4	+0.4
MVU				Sg	Sg	08 34 14.8	+1.7
DWU	**Dry Willow Pea**	**0.47**	**275**		Pg	08 34 07.7	+0.5
MSU	**Marysvale**	**0.48**	**22**	Pg	Pg	08 34 07.5	+0.1
BTU	**Barney Top**	**0.52**	**126**		Pg	08 34 08.6	+0.4
TCRU	**Three Creeks R**	**0.54**	**356**		Pg	08 34 08.7	+0.1
TCRU				Sg	Sg	08 34 16.4	+0.7
NMUT	**North Mineral**	**0.57**	**322**		Pg	08 34 09.3	+0.2
PKCU	**Pink Cliffs**	**0.62**	**173**	Pg	Pg	08 34 10.3	+0.2
PKCU				Sg	Sg	08 34 18.6	+0.4
SZCU	**Shurtz Canyon**	**0.72**	**229**		Pg	08 34 11.8	-0.1
SZCU				Sg	Sg	08 34 21.5	+0.3
IMU	**Iron Mountain**	**0.82**	**314**		Pg	08 34 14.5	+0.6
ARUT	**Antelope Range**	**0.87**	**252**		Pg	08 34 15.1	+0.3
CCUT	**Cedar City**	**0.92**	**236**	Pg	Pg	08 34 15.7	-0.1
CCUT				Sg	Sg	08 34 27.5	-0.2
CCUT				IAML		08 34 28.8	
comp=N,205nm,0.7s
CCUT IAML 08 34 34.4
comp=E,226nm,0.8s
WCU Willow Creek 0.93 15 Pg 08 34 16.1 +0.1
EKU East Kanab 0.99 184 Pg 08 34 16.9 -0.3
KNB Kanab 1.10 198 Pg 08 34 18.5 -0.7
KNB IAML 08 34 37.2
comp=E,144nm,0.2s
PSUT Pine Spring 1.23 293 Pg 08 34 21.5 -0.3
PSUT IAML 08 34 41.3
comp=N,159nm,0.9s
PSUT IAML 08 34 46.2
comp=E,220nm,0.9s
LCMT Little Creek M 1.25 213 Pg 08 34 20.9 -1.2
Q16A Castle Valley 1.29 48 Pg 08 34 22.2 -0.6
HMU Henry Mountain 1.32 95 Pg 08 34 22.4 -1.0
HMU IAML 08 34 45.9
comp=E,337nm,0.8s
PGAZ Page 1.38 147 Pg 08 34 23.6 -1.0
TMUT Trail Mountain 1.54 37 Pn 08 34 26.4 -0.8
TMUT IAML 08 34 48.9
comp=E,115nm,0.8s
TMUT IAML 08 34 49.4
comp=N,142nm,0.6s
U15A North Rim 1.64 177 Pg Pn 08 34 28.1 -0.4
U15A IAML 08 34 55.0
comp=N,181nm,0.4s
U15A IAML 08 34 56.1
comp=E,169nm,0.6s
SPR3 Spring Creek 3 1.78 302 Pn 08 34 29.4 -1.0
SPR3 IAML 08 34 54.2
comp=N,99nm,0.8s
SPR3 IAML 08 34 55.1
comp=E,96nm,0.7s
SRU San Rafael Swe 1.80 54 Pn 08 34 31.2 +0.5
SRU IAML 08 34 58.0
comp=E,141nm,0.7s
SRU IAML 08 35 00.4
comp=N,68nm,0.9s
NLU North Lily Min 1.90 8 Pb 08 34 33.6 -0.3
MPU Maple Canyon 2.04 17 Pn 08 34 34.1 +0.2
DUG Dugway, Tooele 2.15 352 Pn 08 34 34.3 -1.1
PRN Pahroc Range 2.20 253 Pn Pn 08 34 36.0 -0.1
P18A Preston Nutter 2.29 47 Pn 08 34 39.0 +1.5
P18A IAML 08 35 10.9
comp=N,47nm,0.8s
P18A IAML 08 35 11.0
comp=E,78nm,0.8s
R11B Troy Canyon, C 2.52 277 Pn Pn 08 34 40.1 -0.5
R11B IAML 08 35 21.5
comp=E,32nm,0.3s
R11B IAML 08 35 22.1
comp=N,39nm,1.1s
JLU Jordanelle 2.64 16 Pn Pn 08 34 43.8 +1.6
CTU Camp Tracy 2.67 11 Pn Pn 08 34 43.4 +0.7
WUAZ Wupatki 2.67 162 Pn 08 34 43.4 +0.8
S11A Rachel 2.68 262 Pn 08 34 43.1 +0.4
SHPR Sheep Range 2.70 236 Pn 08 34 43.2 +0.3
BSUT Blindstream Ca 2.78 27 Pn Pn 08 34 44.0 -0.2
BGU Big Grassy Mou 2.90 351 Pn Pn 08 34 44.0 -1.7
V12A Nelson 3.05 221 Pn Pn 08 34 46.8 -0.9
V12A IAML 08 35 34.0
comp=N,24nm,0.4s
V12A IAML 08 35 37.7
comp=E,28nm,0.7s
TCUT Toone Canyon 3.14 14 Pn Pn 08 34 48.1 -1.1
TCUT IAML 08 35 39.5
comp=N,32nm,0.7s
TCUT IAML 08 35 57.1
comp=E,22nm,0.7s
W13A Hualapai Mount 3.19 202 Pn Pn 08 34 50.2 +0.4
W13A IAML 08 35 40.7
comp=N,21nm,0.5s
W13A IAML 08 35 41.8
comp=E,17nm,0.5s
MVCO Mesa Verde 3.21 104 Pn 08 34 51.1 +1.0
MVCO IAML 08 35 46.4
comp=E,49nm,0.7s
RDMU Red Mountain 3.33 40 Pn Pn 08 34 52.9 +1.2
ELK Elko 3.46 321 Pn Pn 08 34 52.4 -1.1
HWUT Hardware Ranch 3.59 10 Pn 08 34 55.8 +0.4
WCT Wildcat Mounta 3.59 251 Pn Pn 08 34 54.7 -0.5
WCT IAML 08 35 56.6
comp=N,14nm,0.7s
WCT IAML 08 35 59.8
comp=E,19nm,1.3s
W18A Petrified Fore 3.64 143 Pn Pn 08 34 55.5 -0.4
HVU Hansel Valley 3.72 356 Pn Pn 08 34 57.1 +0.1
HVU IAML 08 36 00.6
comp=N,11nm,0.8s
HVU IAML 08 36 01.0
comp=E,11nm,0.9s
X16A Lo Mia Camp, P 3.72 168 Pn Pn 08 34 58.0 +1.0
X16A IAML 08 35 59.5
comp=N,26nm,0.7s
X16A IAML 08 36 00.9
comp=E,27nm,0.8s
TPH Tonopah 3.80 272 Pn 08 34 58.6 +0.4
O20A White River Ci 3.84 56 Pn 08 34 58.6 -0.1
GWY Greenwater Val 3.89 242 Pn Pn 08 34 57.7 -1.7
GWY IAML 08 36 12.3
comp=E,14nm,1.2s
GWY IAML 08 36 15.9
comp=N,16nm,0.8s
GMN Gold Mountain 3.93 260 Pn 08 35 00.1 +0.2
GMN IAML 08 36 10.8
comp=E,13nm,0.5s
GMN IAML 08 36 13.1
comp=N,18nm,0.7s
GRAC Grapevine Rang 4.09 256 Pn Pn 08 35 01.0 -1.0
GRAC IAML 08 36 19.9
comp=N,25nm,0.9s
Y14A Wickenburg 4.15 187 Pn Pn 08 35 02.3 -0.5
Y14A IAML 08 36 12.2
comp=N,16nm,1.1s
Y14A IAML 08 36 17.4
comp=E,14nm,0.7s
SMCO Snowmass 4.39 74 Pn 08 35 05.5 -1.0
SMCO IAML 08 36 17.7
comp=E,22nm,0.7s
S22A 4UR Ranch, Cre 4.42 92 Pn 08 35 06.2 -0.5
S22A IAML 08 36 27.1
comp=N,8.7nm,1.7s
S22A IAML 08 36 44.8
comp=E,6.9nm,2.8s
DSP Deep Springs 4.47 263 Pn Pn 08 35 07.2 +0.1
DSP IAML 08 36 24.8
comp=E,6.8nm,0.6s
DSP IAML 08 36 25.6
comp=N,10.0nm,1.0s
GSC Goldstone, Bar 4.49 233 Pn 08 35 07.2 -0.3
GSC IAML 08 36 27.4
comp=N,8.3nm,0.9s
GSC IAML 08 37 00.6
comp=E,13nm,4.1s
NV11 Mina Array Sit 4.54 276 Pn Pn 08 35 06.4 -1.9
NV11 IAML 08 36 24.1
comp=E,6.8nm,0.8s
NV11 IAML 08 36 25.9
comp=N,6.7nm,1.4s

KVN	**Kaiserville**	**4.57 284**	Pn	Pn	08 35 06.5	-2.2
KVN			IAML		08 36 25.1	
	comp=N,16nm,0.7s					
KVN			IAML		08 36 28.0	
	comp=E,12nm,0.7s					
NVAR	**Mina Array Bea**	**4.66 276**	Pn	Pn	08 35 08.1	-1.9
AHID	**Auburn Hatcher**	**4.80 12**	Pn	Pn	08 35 09.9	-2.0
AHID			IAML		08 36 30.2	
	comp=E,6.9nm,1.1s					
AHID			IAML		08 36 36.2	
	comp=E,8.9nm,0.9s					
LHV	**Little Huntoon**	**4.81 274**	Pn	Pn	08 35 10.0	-1.8
LHV			IAML		08 36 40.6	
	comp=E,15nm,1.7s					
RYN	**Ryan**	**4.84 279**	Pn	Pn	08 35 11.1	-1.4
RYN			IAML		08 36 34.7	
	comp=N,12nm,0.7s					
RYN			IAML		08 36 34.9	
	comp=E,15nm,0.7s					
PD31	**Pinedale Array**	**5.17 24**	Pn	Pn	08 35 15.7	-1.4
PDAR	**Pinedale Array**	**5.17 24**	Pn	Pn	08 35 17.0	0.0
YERR	**Yerington**	**5.44 282**	Pn	Pn	08 35 19.2	-1.4
SDCO	**Great Sand Dun**	**5.47 91**	Pn	Pn	08 35 21.2	+0.1
FXWY	**Fox Creek**	**5.66 10**	Pn	Pn	08 35 23.9	+0.1
PAHR	**Pah Rah Range**	**5.69 289**	Pn	Pn	08 35 22.2	-1.9
LOHW	**Long Hollow**	**5.71 13**	Pn	Pn	08 35 24.5	+0.1
ANMO	**Albuquerque**	**5.71 121**	Pn	Pn	08 35 23.9	-0.5
PNTR	**Pine Nut**	**5.73 282**	Pn	Pn	08 35 22.7	-2.0
N23A	**Red Feather La**	**5.74 59**	Pn	Pn	08 35 26.3	+1.4
Y22D	**IRIS PASSCAL I**	**5.96 130**	Pn	Pn	08 35 26.1	-1.7
EMB	**Emerald Bay**	**6.11 281**	Pn	Pn	08 35 28.4	-1.4
CPBX	**Cerro Prieto**	**6.11 204**	Pn	Pn	08 35 28.2	-1.5

NNC 09 08:34:41.3±1.3, 51°.47N×75°.28E, h0km, mb3.6, mpv3.5, 4C-3D, Error ellipse: s-maj=21.4km s-min=9.4km az=25.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.22**	**111**	⇓Pn	Pn	08 35 20.4	+1.0
	4.6nm,0.8s						
KURBB				⇑Lg	Lg	08 35 49.8	
	43nm,0.9s						
KURK	**Kurchatov**	**2.24**	**108**	⇓Pn	Pn	08 35 20.0	+0.4
	2.6nm,0.8s						
KURK				⇓Lg	Lg	08 35 50.3	
	22nm,0.9s						
BVA0	**Borovoye Array**	**3.38**	**299**	⇑Lg	Lg	08 36 27.8	
	16nm,0.8s,baz=109,slow=27,SNR=5.5						
BRVK	**Borovoye**	**3.46**	**299**	⇑Lg	Lg	08 36 29.4	
	16nm,0.9s						
MAKZ	**Makanchi**	**6.41**	**134**	⇑Lg	Lg	08 38 07.8	
	6.9nm,0.8s						
MK31	**Makanchi Array**	**6.56**	**133**	Lg	Lg	08 38 11.7	
	6.6nm,1.0s,baz=316,slow=26,SNR=11						
KRBS	**Karabastau**	**7.79**	**178**	Pg	Pb	08 36 58.7	+1.6
	1.2nm,0.3s						
KRBS				Lg	Lg	08 38 44.2	
	2.8nm,0.7s						
KTBS	**Karatobe**	**7.82**	**173**	Pg	Pb	08 37 04.0	+6.2
	0.8nm,0.4s						
KTBS				Lg	Lg	08 38 53.7	
	6.0nm,1.0s						
KURS	**Kuram**	**8.22**	**165**	Pg	Pb	08 37 11.3	+6.7
	3.2nm,0.4s						
KURS				Lg	Lg	08 39 06.3	
	4.5nm,1.1s						
DGS	**Degeres**	**8.24**	**177**	Pg	Pb	08 36 54.4	-10
	1.4nm,0.2s						
DGS				Lg	Lg	08 38 36.4	
	4.7nm,0.9s						
MRKS	**Merke**	**8.84**	**190**	Pg	Pn	08 36 36.4	-14
	2.1nm,0.1s						
MRKS				Lg	Lg	08 38 03.8	
	14nm,0.5s						
KK31	**Karatay Array**	**8.98**	**203**	Pn	Pn	08 36 53.9	+1.7
	0.5nm,0.3s,baz=181,slow=12,SNR=12						
KK31				Sn	Sn	08 38 03.2	-31
	1.5nm,0.4s,baz=187,slow=17,SNR=9.0						
BRLS	**Borolday**	**9.22**	**206**	Pg	Pn	08 36 32.2	-23
	0.9nm,0.3s						
BRLS				Lg	Lg	08 37 56.4	
	3.9nm,0.8s						

IDC 09 08:40:11.6±3.0, 53°.58N×87°.99E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=26.1km s-min=16.1km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**282**	I	I	08 51 50.1	
	baz=99,slow=310,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.92**	**282**	Pn	Pn	08 40 45.5	0.0
	2.4nm,0.3s,baz=100,slow=15,SNR=20						
ZALV				Lg	Lg	08 41 12.8	
	5.0nm,0.3s,baz=102,slow=29,SNR=19						
KURBB	**Kurchatov Arra**	**6.54**	**247**	Pn	Pn	08 41 48.1	-0.8
	0.1nm,0.3s,baz=60,slow=14,SNR=4.6						
KURBB				Lg	Lg	08 43 41.2	
	baz=63,slow=31,SNR=5.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.71**	**211**	Pn	Pn	08 42 07.2	+2.1
	0.2nm,0.3s,baz=27,slow=13,SNR=6.5						
MKAR				Sn	Sn	08 43 32.5	-0.6
	baz=30,slow=22						
MKAR				Lg	Lg	08 44 16.1	
	0.1nm,0.3s,baz=32,slow=27,SNR=2.5						
	0.3nm,0.3s						

IDC 09 08:45:49.9±3.1, 54°.27N×87°.26E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=25.8km s-min=16.8km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**258**	I	I	08 54 22.1	
	baz=78,slow=311,SNR=5.1						
ZALV	**Zalesovo Beam**	**1.47**	**258**	Pg	Pn	08 46 15.5	-2.2
	1.0nm,0.3s,baz=73,slow=17,SNR=7.9						
ZALV				Lg	Lg	08 46 37.0	
	1.3nm,0.3s,baz=80,slow=28,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.46**	**239**	Pn	Pn	08 47 26.8	+0.6
	0.1nm,0.3s,baz=55,slow=13,SNR=5.3						
KURBB				Lg	Lg	08 49 16.1	
	baz=46,slow=27,SNR=4.2						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**8.12**	**205**	Pn	Pn	08 47 50.4	+1.4
	0.1nm,0.3s,baz=23,slow=14,SNR=4.2						
MKAR				Sn	Sn	08 49 21.6	+0.1
	0.1nm,0.3s,baz=23,slow=26,SNR=2.2						
MKAR				Lg	Lg	08 50 05.6	
	0.1nm,0.3s,baz=24,slow=25,SNR=1.8						
	0.2nm,0.3s						

*IDC **09** 09:00:05.1±1.5, 3°.37S×67°.97E, h0km, mb3.9/5, mbtmp3.9/5, MS3.7/19, Error ellipse: s-maj=63.7km s-min=27.2km az=41.0*

ISC 09 09:00:07.5±1.5, 3°.4S±0°.4×68°.0E±0°.3, h15km, n31, σ0§52/7, mb4.0/5, MS3.7/18, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**6.16**	**134**	T	T	09 08 12.3	
	baz=310						
H08S1	**Diego Garcia H**	**6.17**	**134**	T	T	09 08 13.9	
	baz=310						
H08S2	**Diego Garcia H**	**6.18**	**134**	T	T	09 08 13.7	
	baz=310						
PALK	**Pallekele**	**16.51**	**50**	LR	LR	09 08 52.3	
	comp=Z,320nm,20.1s,baz=345,slow=32						
FURI	**Furi**	**31.66**	**293**	LR	LR	09 18 06.4	
	comp=Z,76nm,18.1s,baz=212,slow=34						
CMAR	**Chiang Mai Arr**	**37.41**	**53**	LR	LR	09 22 07.9	
	comp=Z,64nm,18.1s,baz=245,slow=35						
H04N2	**CROZET ISLANDS**	**44.91**	**196**	T	T	09 56 36.9	
	baz=22						
H04N1	**CROZET ISLANDS**	**44.91**	**196**	T	T	09 56 33.0	
	baz=22						
H04N3	**CROZET ISLANDS**	**44.93**	**196**	T	T	09 56 35.2	
	baz=22						
BOSA	**Boshof**	**47.74**	**234**	LR	LR	09 25 31.3	
	comp=Z,67nm,18.5s,baz=24,slow=32						

KBZ	**Khabaz**	**52.03**	**337**	P	**P**	**09 09 16.7**	**+0.2**
	1.7nm,0.9s,baz=144,slow=8.6,SNR=3.9					
	1.7nm,0.9s					
SUR	**Sutherland**	**52.76**	**231**	LR	LR	09 28 46.3	
	comp=Z,115nm,19.0s,baz=70,slow=33					
KURBB	**Kurchatov Arra**	**54.53**	**8**	LR	LR	09 30 49.1	
	comp=Z,44nm,18.8s,baz=166,slow=34					
SONM	**Songino Array**	**61.05**	**29**	P	**P**	**09 10 20.9**	**0.0**
	1.5nm,0.9s,baz=222,slow=5.8,SNR=6.4					
SONM				LR	LR	09 36 34.8	
	comp=Z,155nm,18.4s,baz=240,slow=36					
	1.5nm,0.9s					
MAW	**Mawson**	**64.22**	**182**	LR	LR	09 31 32.5	
	comp=Z,87nm,21.2s,baz=328,slow=29					
ASAR	**Alice Springs**	**66.62**	**114**	P	**P**	**09 10 58.4**	**+0.4**
	0.6nm,0.9s,baz=284,slow=6.1,SNR=4.9					
	0.6nm,0.9s					
WRA	**Warramunga Arr**	**66.64**	**110**	P	**P**	**09 10 58.1**	**0.0**
	1.0nm,0.7s,baz=283,slow=6.2,SNR=5.7					
	1.0nm,0.7s					
KSRS	**Korea Array**	**68.73**	**48**	LR	LR	09 42 10.9	
	comp=Z,28nm,18.3s,baz=210,slow=37					
FINES	**FINESS Array B**	**72.19**	**340**	LR	LR	09 46 09.6	
	comp=Z,31nm,18.3s,slow=38					
KLR	**Kul'dur**	**75.80**	**37**	LR	LR	09 47 41.4	
	comp=Z,59nm,18.2s,baz=225,slow=38					
HFS	**Hagfors**	**76.05**	**335**	LR	LR	09 47 07.4	
	comp=Z,48nm,19.4s,baz=172,slow=37					
MJAR	**Matsushiro Arr**	**76.26**	**51**	LR	LR	09 45 00.0	
	comp=Z,34nm,20.6s,baz=204,slow=35					
GUMO	**Guam**	**78.07**	**75**	LR	LR	09 43 27.0	
	comp=Z,15nm,21.3s,baz=30,slow=33					
ESDC	**Sonseca Array**	**78.37**	**311**	P	**P**	**09 12 08.0**	**+0.2**
	1.0nm,1.1s,baz=72,slow=4.2,SNR=4.1					
	1.0nm,1.1s					
YAK	**Yakutsk**	**80.11**	**25**	LR	LR	09 47 29.9	
	comp=Z,63nm,20.5s,baz=244,slow=36					
ASAJ	**Asahikawa**	**81.35**	**45**	LR	LR	09 49 45.5	
	comp=Z,30nm,19.2s,baz=234,slow=37					
TIXI	**Tiksi**	**84.34**	**16**	LR	LR	09 49 59.7	
	comp=Z,46nm,21.0s,baz=252,slow=36					
QSPA	**South Pole Qui**	**86.64**	**180**	LR	LR	09 45 42.7	
	comp=Z,52nm,21.6s,baz=233,slow=32					
MA2	**Magadan**	**89.22**	**30**	LR	LR	09 54 32.1	
	comp=Z,40nm,18.4s,baz=277,slow=37					
PDAR	**Pinedale Array**	**140.71**	**357**	PKP	**PKPdf**	**09 19 37.3**	**-0.1**
	0.4nm,0.7s,baz=42,slow=1.5,SNR=3.9					
TXAR	**Lajitas Array**	**152.98**	**344**	PKPbc	**PKiKP**	**09 20 04.5**	**-0.9**
	0.6nm,0.9s,baz=87,slow=1.1,SNR=4.9					

*HEL **09** 09:06:40.9±0.2, 64°.25N×23°.88E, h0km, ML1.1, Explosion*
*IDC **09** 09:06:42.7±1.4, 64°.35N×25°.00E, h0km, mbtmp2.3/2, ML1.8/2, Error ellipse: s-maj=60.7km s-min=7.4km az=85.0*

ISC 09 09:06:39.4±0.8, 64°.23N±0°.02×23°.93E±0°.03, h0km, n29, σ1§58/41, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBF8	**Ulkokalla**	**0.24**	**297**	PG	**Pg**	**09 06 44.5**	**+0.5**
OBF8				SG	**Sg**	**09 06 47.5**	**+0.5**
OBF0	**Syolatti, Pyha**	**0.30**	**26**	PG	**Pb**	**09 06 46.5**	**-1.2**
OBF0				SG	**Sg**	**09 06 50.8**	**+1.7**
OUF	**Merijarvi**	**0.38**	**67**	PG	**Pb**	**09 06 48.4**	**-0.5**
	baz=255						
OUF				SG	**Sg**	**09 06 52.0**	**+0.6**
OBF4	**Vikkela, Lumij**	**0.78**	**40**	PG	**Pb**	**09 06 55.5**	**-0.2**
OBF4				MSG		09 07 05.0	
	comp=Z,1.2nm,0.2s						
BURU	**Burvik**	**1.17**	**289**	PG	**Pg**	**09 07 01.6**	**-0.1**
	baz=108						
BURU				SB	**Sg**	**09 07 17.2**	**+0.4**
OUL	**Oulu**	**1.21**	**43**	SN	**Sn**	**09 07 24.3**	**+3.8**
VAF	**Ylistaro**	**1.31**	**206**	PN	**Pn**	**09 07 05.9**	**+0.9**
VAF				MSG		09 07 20.8	
	comp=Z,1.1nm,0.2s						
VAF				SG	**Sb**	**09 07 22.5**	**+0.2**
UMAU	**Umeaa**	**1.47**	**258**	PN	**Pn**	**09 07 07.0**	**-0.2**
UMAU				SB	**Sg**	**09 07 25.8**	**-0.8**
KALU	**Kalix**	**1.66**	**352**	PG	**Pn**	**09 07 10.2**	**+0.5**
	baz=171						
KALU				SN	**Sb**	**09 07 32.4**	**+0.2**
TOF	**Tornio**	**1.87**	**5**	PG	**Pb**	**09 07 14.2**	**-0.1**
TOF				MSG		09 07 35.9	
	comp=Z,0.5nm,0.2s						
TOF				SG	**Sb**	**09 07 38.3**	**+0.1**
KEF	**Keuruu**	**2.11**	**168**	MSG		09 07 44.1	
	comp=Z,0.9nm,0.2s						
KEF				SG	**Sg**	**09 07 47.0**	**0.0**
RANF	**Ranua**	**2.17**	**33**	PG	**Pb**	**09 07 19.4**	**0.0**
	baz=216						
RANF				SG	**Sg**	**09 07 47.7**	**-1.2**
HUSU	**Husum**	**2.27**	**249**	SG	**Sb**	**09 07 49.4**	**-0.5**
KAF	**Kangasniemi**	**2.38**	**152**	MSG		09 07 52.2	
	comp=Z,1.1nm,0.2s						
KAF				SG	**Sg**	**09 07 54.9**	**-0.8**
ERTU	**Ertsjaerv**	**2.45**	**343**	PG	**Pb**	**09 07 23.7**	**-0.6**
ERTU				SG	**Sg**	**09 07 56.7**	**-1.3**
RNF	**Rovaniemi**	**2.55**	**19**	SG	**Sb**	**09 07 57.6**	**-0.1**
RMF	**Romuvaara**	**2.62**	**87**	MSG		09 07 58.9	
	comp=Z,0.7nm,0.2s						
RMF				SG	**Sg**	**09 08 02.7**	**-0.9**
MSF	**Maaselka**	**2.75**	**50**	PG	**Pb**	**09 07 29.8**	**+0.5**
MSF				SB	**Sb**	**09 08 01.9**	**-1.6**
FINES	**FINESS Array B**	**2.96**	**160**	Pn	**Pb**	**09 07 32.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=349,slow=14,SNR=3.0						
FINES				Sn	**Sb**	**09 08 07.9**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=343,slow=23,SNR=1.6						
FINES				Lg	Lg	09 08 15.3	
	comp=Z,0.4nm,0.3s,baz=343,slow=28,SNR=3.6						
	comp=Z,0.8nm,0.5s						
KLF	**Kolari**	**3.02**	**0**	MSG		09 08 09.3	
	comp=Z,0.4nm,0.2s						
KLF				SG	**Sb**	**09 08 12.7**	**+1.3**
HEMU	**Hemsoen**	**3.07**	**242**	SB	**Sn**	**09 08 08.9**	**+2.4**
KU6	**Riekki**	**3.10**	**52**	SN	**Sb**	**09 08 10.2**	**-3.4**
KU6				MSG		09 08 12.1	
	comp=Z,0.4nm,0.2s						
OLKF	**Oulanka, Finla**	**3.12**	**45**	MSG		09 08 12.4	
	comp=Z,0.5nm,0.2s						
OLKF				SG	**Sb**	**09 08 15.6**	**+1.5**
RAF	**Rauma**	**3.37**	**198**	SG	**Sb**	**09 08 21.3**	**0.0**
HEF	**Hetta**	**4.20**	**359**	PB	**Pb**	**09 07 50.0**	**-4.1**
VRF	**Varrio**	**4.23**	**31**	SG	**Sg**	**09 08 53.5**	**-1.6**
RAJF	**Raja-Jooseppi**	**4.62**	**20**	SG	**Sb**	**09 09 00.8**	**+3.6**
I37NO	**I37NO**	**5.31**	**339**	I	I	09 44 27.2	
	baz=150,slow=321,SNR=0.8						
ARCES	**ARCESS Array B**	**5.37**	**6**	Pn	**Pn**	**09 08 01.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=180,slow=12,SNR=6.7						
ARCES				Sn	**Sn**	**09 09 00.1**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=185,slow=23,SNR=5.2						
ARCES				Lg	Lg	09 09 24.0	
	comp=Z,0.2nm,0.3s,baz=183,slow=32,SNR=3.9						
	comp=Z,0.4nm,0.5s						

*IDC **09** 09:32:58.2±1.8, 9°.26S×125°.67E, h0km, mb3.9/5, mbtmp4.0/7, ML4.3/2, MS3.2/3, Error ellipse: s-maj=75.0km s-min=28.9km az=67.0*
*DJA **09** 09:33:03.8±1.4, 9°.5±6°.×12°.6E±°., h14km±10km, M4.6/10, mb5.0/3, mB5.3/1, MLv4.4/10, Mw(mB)4.7/1*

ISC 09 09:33:05.9±0.6, 9°.09S±0°.07×125°.72E±0°.07, h35km, n34, σ1§75/30, mb4.0/5, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.58**	**245**	P	**Pn**	**09 33 34.3**	**+2.7**
SOEI	**Soe**	**1.58**	**245**	P	**Pn**	**09 33 31.5**	**-0.1**
BATI	**Baumata**	**2.31**	**241**	P	**Pn**	**09 33 43.1**	**+1.5**
MMRI	**Maumere**	**3.47**	**277**	P	**Pn**	**09 34 01.2**	**+3.7**
EDFI	**Ende, Flores**	**4.00**	**274**	P	**Pn**	**09 34 06.4**	**+1.6**
BBSI	**Bau Bau**	**4.75**	**319**	P	**Pn**	**09 34 15.5**	**+0.4**
BASI	**Baing, Sumba**	**5.19**	**257**	P	**Pn**	**09 34 22.2**	**+1.0**
	306nm,1.1s,1.0nm						
DRS	**Darwin Rock St**	**6.08**	**124**	P	**Pn**	**09 34 34.3**	**+0.9**
KAPI	**Kappang**	**7.17**	**304**	LR	LR	09 37 44.5	
	comp=Z,261nm,18.1s,baz=92,slow=40						
KDU	**Kakadu**	**7.54**	**119**	P	**Pn**	**09 34 53.5**	**+0.1**
PLAI	**Plampang**	**7.85**	**271**	P	**Pn**	**09 34 59.4**	**+1.7**
PLAI	**Plampang**	**7.85**	**271**	P	**Pn**	**09 34 58.1**	**+0.4**
FAKI	**Fak Fak**	**8.93**	**47**	P	**Pn**	**09 35 14.2**	**+1.7**
FITZ	**Fitzroy Crossi**	**8.96**	**180**	P	**Pn**	**09 35 11.4**	**-1.5**
MBWA	**Marble Bar**	**13.32**	**205**	P	**Pn**	**09 36 12.0**	**-0.6**
WRA	**Warramunga Arr**	**13.64**	**143**	Pn	Pn	09 36 11.7	-5.3
	1.8nm,0.3s,baz=314,slow=15,SNR=83						
WRA				Sn	Sn	09 38 35.0	-12
	2.1nm,0.3s,baz=339,slow=6.1,SNR=7.9						
	7.0nm,0.9s						
PSA00	**Pilbara Seismi**	**13.64**	**204**	P	**Pn**	**09 36 16.9**	**-0.1**
DAV	**Davao City (W)**	**16.05**	**359**	LR	LR	09 44 39.0	
	comp=Z,71nm,18.1s,baz=155,slow=43						
ASAR	**Alice Springs**	**16.48**	**153**	Pn	**Pn**	**09 36 49.5**	**-5.1**
	1.1nm,0.3s,baz=318,slow=11,SNR=74						
ASAR				Sn	Sn	09 39 45.9	-11
	0.5nm,0.3s,baz=315,slow=21,SNR=5.0						
	3.7nm,0.6s						
QIS	**Mount Isa**	**17.60**	**132**	P	**Pn**	**09 37 07.8**	**-0.8**
COEN	**Coen**	**17.77**	**107**	P	**P**	**09 37 12.3**	**+1.0**
MEEK	**Meekatharra**	**18.71**	**200**	P	**P**	**09 37 22.1**	**+0.5**
OOD	**Oodnadatta**	**20.85**	**154**	P	**P**	**09 37 46.1**	**+1.2**
FORT	**Forrest**	**21.70**	**175**	P	**P**	**09 37 55.0**	**+1.1**
KMBL	**Kambalda**	**22.46**	**189**	P	**P**	**09 38 00.9**	**-1.2**
MULG	**Mulgathing**	**22.48**	**161**	P	**P**	**09 38 03.7**	**+1.3**
BLDU	**Ballidu**	**23.01**	**200**	P	**P**	**09 38 09.3**	**+1.4**
LCRK	**Leigh Creek**	**24.25**	**153**	P	**P**	**09 38 20.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**38.04**	**316**	LR	LR	09 58 09.4	
	comp=Z,28nm,19.5s,baz=120,slow=40						
KSRS	**Korea Array**	**46.34**	**2**	P	**P**	**09 41 27.5**	**-1.0**
	2.4nm,0.9s,baz=186,slow=9.3,SNR=7.2						
	2.4nm,0.9s						
MJAR	**Matsushiro Arr**	**46.88**	**14**	P	**P**	**09 41 31.3**	**-1.6**
	1.1nm,0.5s,baz=193,slow=9.1,SNR=3.0						
	1.1nm,0.5s						
USRK	**Ussurivsk Ar.**	**53.34**	**6**	P	**P**	**09 42 20.5**	**-1.2**
	0.8nm,0.5s,baz=152,slow=6.5,SNR=2.7						
	0.8nm,0.5s						
SONM	**Songino Array**	**59.20**	**345**	P	**P**	**09 43 02.6**	**-1.0**
	0.4nm,0.6s,baz=165,slow=7.4,SNR=2.5						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**67.74**	**329**	P	**P**	**09 43 58.3**	**-1.7**
	0.5nm,0.5s,baz=124,slow=7.9,SNR=7.1						
	0.5nm,0.5s						

KRSC 09 09:33:13.5±1.6, 48°.66N×156°.49E, h8km±20km, MI3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.04**	**353**	*e*S	Sn	09 34 14.1	+0.4
KDTR	**Khodutka, Kamc**	**3.32**	**17**	*e*P	Pn	09 34 08.4	+2.8
KDTR				*e*S	Sb	09 34 49.1	-3.8
ASAK	**Asacha**	**3.84**	**13**	*e*P	Pn	09 34 16.7	+3.9
ASAK				*e*S	Sb	09 35 03.6	-4.4
MTVR	**Mutnovka**	**3.98**	**15**	*e*P	Pn	09 34 17.9	+3.0
MTVR				*e*S	Sn	09 35 05.9	+4.2
GRL	**Gorelyy**	**4.03**	**14**	*e*P	Pn	09 34 18.2	+2.7
GRL				*e*S	Sn	09 35 07.7	+4.8
UGLR	**Uglovaya**	**4.79**	**17**	*e*P	Pn	09 34 29.9	+3.9
AVH	**Avacha**	**4.83**	**16**	*e*P	Pn	09 34 31.1	+4.7
KOK	**Koryaka**	**4.83**	**15**	*e*P	Pn	09 34 30.4	+3.8
SMAR	**Somma**	**4.84**	**17**	*e*P	Pn	09 34 32.1	+5.4

*NNC **09** 09:39:08.9±2.4, 54°.24N×87°.38E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=14.7km s-min=11.2km az=75.0, Suspected Mining explosion.*

IDC 09 09:39:13.1±2.8, 54°.32N×87°.07E, h0km, mbtmp3.0/2, ML2.7/2, 4C-2D, Error ellipse: s-maj=23.5km s-min=18.3km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**255**	I	I	09 47 00.0	
	baz=74,slow=313,SNR=9.2						
ZAA0	**Zalesovo Array**	**1.37**	**255**	⇑P	Pg	09 39 36.8	-2.6
	0.3nm,0.2s,baz=76,slow=17						
ZAA0				⇓S	Sb	09 39 58.0	+0.3
	1.4nm,0.8s,baz=80,slow=26						
ZALV	**Zalesovo Beam**	**1.37**	**255**	Pg	Pg	09 39 36.9	-2.5
	2.3nm,0.3s,baz=75,slow=17,SNR=16						
ZALV				Lg	Lg	09 39 55.9	
	1.8nm,0.3s,baz=76,slow=30,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.39**	**238**	Pn	Pn	09 40 49.3	+0.9
	0.1nm,0.3s,baz=55,slow=14,SNR=12						
KURBB				Sn	Sn	09 42 02.8	+0.7
	baz=61,slow=27,SNR=1.2						
KURBB				Lg	Lg	09 42 38.5	
	baz=58,slow=32,SNR=5.4						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**6.39**	**238**	⇑Pn	Pn	09 40 47.1	-1.4
	1.9nm,0.7s						
KURBB				⇑Sn	Sn	09 42 02.4	+0.3
	2.8nm,0.9s						
KURBB				⇑Lg	Lg	09 42 33.5	
	4.0nm,0.8s						
MK31	**Makanchi Array**	**8.12**	**204**	⇓Lg	Lg	09 43 29.7	
	2.9nm,1.2s						
MKAR	**Makanchi Array**	**8.12**	**204**	Pn	Pn	09 41 13.6	+1.3
	0.1nm,0.3s,baz=26,slow=14,SNR=7.1						
MKAR				Lg	Lg	09 43 29.2	
	0.1nm,0.3s,baz=19,slow=24,SNR=3.8						
	0.2nm,0.2s						

IDC 09 09:46:49.2±3.2, 53°.68N×88°.08E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=28.3km s-min=19.2km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.95**	**279**	I	I	09 59 10.0	
	0.1nm,0.8s,baz=93,slow=303,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.95**	**279**	Pn	Pn	09 47 23.8	+0.2
	1.5nm,0.3s,baz=100,slow=14,SNR=16						
ZALV				Lg	Lg	09 47 50.6	
	1.8nm,0.3s,baz=99,slow=25,SNR=15						
KURBB	**Kurchatov Arra**	**6.63**	**246**	Pn	Pn	09 48 28.4	+0.7
	0.1nm,0.3s,baz=62,slow=14,SNR=5.3						
KURBB				Lg	Lg	09 50 21.5	
	baz=50,slow=34,SNR=3

*SJA **09** 10:14:54.9±0.6,24°.15S×67°.16W,h200km±4km,ML3.8, MW3.7*
*IDC **09** 10:14:56.1±2.0,23°.99S×67°.00W,h181km±24km,mb3.3/2, mbtmp4.0/6,Error ellipse: s-maj=34.2km s-min=15.7km az=140.0*
*GUC **09** 10:14:56.5±0.6,24°.16S×67°.45W,h213km±6km,ML3.8*
*NEIC **09** 10:14:56±1.5,24°.15S±0°.07×67°.31W±0°.08,h21km±12km, mb4.0/4,ML3.8(GUC),Error ellipse: s-maj=11.4km s-min=10.1km az=134.0*
ISC 09 10:14:55.3±0.7,24°.13S±0°.04×67°.20W±0°.03,h195km±7km, n65,σ1°57/93,2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.48**	**322**		**Pn**	**10 15 30.2**	**+1.5**
AF01	**San Pedro de A**	**1.48**	**322**	*eP*	**Pn**	**10 15 29.9**	**+1.2**
AF01				*eS*	**Sn**	**10 15 55.9**	**+1.2**
AF01				IAML		10 15 57.8	
	comp=E,425nm,0.5s						
SLA	**San Lorenzo**	**1.65**	**111**	*eP*	**Pn**	**10 15 30.4**	**+0.2**
SLA				*eS*	**Sn**	**10 15 56.7**	**-0.6**
SLA	**San Lorenzo**	**1.65**	**111**	*eP*	**Pn**	**10 15 30.4**	**+0.2**
AZAP	**Zapla**	**1.95**	**93**	*eP*	**Pn**	**10 15 33.0**	**-0.2**
AZAP				*eS*	**Sn**	**10 16 00.1**	**-2.5**
LVC	**Limon Verde**	**2.18**	**314**	*eP*	**Pn**	**10 15 36.8**	**+1.0**
LVC				*eS*	**Sn**	**10 16 07.3**	**0.0**
LVC				IAML		10 16 08.9	
	comp=Z,142nm,0.2s						
LVC	**Limon Verde**	**2.18**	**314**	P	**Pn**	**10 15 37.0**	**+1.1**
	comp=Z,40nm,0.4s,baz=194,slow=9.7,SNR=180						
LVC				S	**Sn**	**10 16 07.1**	**-0.1**
	comp=Z,230nm,0.4s,baz=217,slow=6.1,SNR=68						
LVC	**Limon Verde**	**2.18**	**314**	*eP*	**Pn**	**10 15 37.0**	**+1.1**
LVC				*eS*	**Sn**	**10 16 07.1**	**-0.1**
FSA	**Cafayete**	**2.26**	**151**	*eP*	**Pn**	**10 15 36.4**	**0.0**
PB15	**IPOC Station P**	**2.28**	**293**		**Pn**	**10 15 37.1**	**+0.4**
PB15	**IPOC Station P**	**2.28**	**293**	*eP*	**Pn**	**10 15 37.9**	**+1.2**
PB15				*eS*	**Sn**	**10 16 09.1**	**+0.3**
PB15				IAML		10 16 11.8	
	comp=Z,1μm,0.3s						
PB15	**IPOC Station P**	**2.28**	**293**	*eP*	**Pn**	**10 15 37.6**	**+0.9**
PB15				*eS*	**Sn**	**10 16 08.0**	**-0.8**
GO02	**Mina Guanaco**	**2.41**	**244**		**Pn**	**10 15 38.9**	**+0.8**
YJA	**Yavi**	**2.49**	**39**	*eP*	**Pn**	**10 15 40.2**	**+0.9**
YJA				*eS*	**Sn**	**10 16 13.7**	**+0.3**
PB06	**IPOC Station P**	**2.60**	**303**		**Pn**	**10 15 41.0**	**+0.8**
PB06	**IPOC Station P**	**2.60**	**303**	*eP*	**Pn**	**10 15 41.3**	**+1.1**
PB06				*eS*	**Sn**	**10 16 15.2**	**0.0**
PB06				IAML		10 16 22.6	
	comp=Z,260nm,0.2s						
PB06	**IPOC Station P**	**2.60**	**303**	*eP*	**Pn**	**10 15 40.4**	**+0.2**
PB06				*eS*	**Sn**	**10 16 14.1**	**-1.1**
PB06				IAML		10 16 16.3	
	comp=N,528nm,0.6s						
ALOL	**LOMAS DE OLMED**	**2.96**	**85**	*eP*	Pn	10 15 52.8	+8.5
PB14	**IPOC Station P**	**2.96**	**260**		**Pn**	**10 15 44.9**	**+0.4**
PB14	**IPOC Station P**	**2.96**	**260**	*eP*	**Pn**	**10 15 44.8**	**+0.3**
PB14				*eS*	**Sn**	**10 16 23.9**	**+0.9**
PB14				IAML		10 16 24.6	
	comp=Z,69nm,0.5s						
PB14	**IPOC Station P**	**2.96**	**260⇑**	*iP*	**Pn**	**10 15 45.0**	**+0.4**
PB14				*eS*	**Sn**	**10 16 21.0**	**-2.0**
PB14				IAML		10 16 22.3	
	comp=E,56nm,0.4s						
PB09	**IPOC Station P**	**2.99**	**321**		**Pn**	**10 15 46.2**	**+1.4**
PB09	**IPOC Station P**	**2.99**	**321**	*eP*	**Pn**	**10 15 46.4**	**+1.6**
PB09				*eS*	**Sn**	**10 16 23.9**	**+0.5**
PB09				IAML		10 16 28.9	
	comp=Z,238nm,0.4s						
PB09	**IPOC Station P**	**2.99**	**321**	*eP*	**Pn**	**10 15 45.8**	**+1.0**
PB09				*eS*	**Sn**	**10 16 23.3**	**-0.1**
PB09				IAML		10 16 24.6	
	comp=E,269nm,0.3s						
PB10	**IPOC Station P**	**3.13**	**281**		**Pn**	**10 15 46.9**	**+0.7**
PB10	**IPOC Station P**	**3.13**	**281**	*eP*	**Pn**	**10 15 47.4**	**+1.1**
PB10				*eS*	**Sn**	**10 16 25.7**	**-0.4**
PB10				IAML		10 16 32.5	
	comp=Z,76nm,0.3s						
PB10	**IPOC Station P**	**3.13**	**281**	*eP*	**Pn**	**10 15 45.8**	**-0.5**
PB10				*eS*	**Sn**	**10 16 23.4**	**-2.7**
PB10				IAML		10 16 30.1	
	comp=E,121nm,0.4s						
AHML	**Horco Molle**	**3.13**	**148**	*eP*	**Pn**	**10 15 46.9**	**+0.6**
AHML				*eS*	**Sn**	**10 16 24.4**	**-2.0**
PB04	**IPOC Station P**	**3.25**	**303**		**Pn**	**10 15 48.2**	**+0.3**
PB04	**IPOC Station P**	**3.25**	**303**	*eP*	**Pn**	**10 15 48.8**	**+0.9**
PB04				*eS*	**Sn**	**10 16 28.6**	**-0.3**
PB04				IAML		10 16 30.8	
	comp=Z,238nm,0.5s						
PB04	**IPOC Station P**	**3.25**	**303**	*eP*	**Pn**	**10 15 48.3**	**+0.5**
PB04				*eS*	**Sn**	**10 16 26.9**	**-2.0**
AC01	**Pan de Azucar**	**3.68**	**236**		**Pn**	**10 15 52.4**	**-0.5**
AC01	**Pan de Azucar**	**3.68**	**236**	*eP*	**Pn**	**10 15 52.5**	**-0.4**
AC01				*eS*	**Sn**	**10 16 36.3**	**-1.8**
AC01				IAML		10 16 39.9	
	comp=Z,70nm,0.3s						
AC01	**Pan de Azucar**	**3.68**	**236⇑**	*eP*	**Pn**	**10 15 52.5**	**-0.4**
AC01				*eS*	**Sn**	**10 16 35.2**	**-2.9**
PATCX	**Punta Patache**	**4.28**	**320**	Pn	**Pn**	**10 16 01.1**	**+0.5**
PATCX	**Punta Patache**	**4.28**	**320**	*eP*	**Pn**	**10 16 01.5**	**+0.9**
PATCX				*eS*	**Sn**	**10 16 46.2**	**-5.6**
PATCX				IAML		10 17 07.7	
	comp=Z,43nm,1.2s						
AC06	**Mina Casimiro**	**4.29**	**221**		**Pn**	**10 15 59.8**	**-0.8**
AC06	**Mina Casimiro**	**4.29**	**221**	*eP*	**Pn**	**10 16 00.1**	**-0.5**
AC06				*eS*	**Sn**	**10 16 50.1**	**-1.8**
AC06				IAML		10 16 51.8	
	comp=E,63nm,0.5s						
GO03	**Copiap**	**4.40**	**218**	Pn	**Pn**	**10 16 01.5**	**-0.5**
GO03	**Copiap**	**4.40**	**218**	*eP*	**Pn**	**10 16 01.5**	**-0.5**
GO03				*eS*	**Sn**	**10 16 52.4**	**-2.1**
CYA	**Choya**	**4.47**	**164**	*eP*	**Pn**	**10 16 03.9**	**+1.1**
HMBC	**Humberstone**	**4.57**	**326**		**Pn**	**10 16 04.1**	**-0.2**
HMBC	**Humberstone**	**4.57**	**326**	*eP*	**Pn**	**10 16 04.1**	**-0.2**
HMBC				*eS*	**Sn**	**10 16 53.8**	**-4.8**
HMBC				IAML		10 16 59.8	
	comp=Z,89nm,0.4s						
HMBC	**Humberstone**	**4.57**	**326**	*eP*	**Pn**	**10 16 05.1**	**+0.8**
GO01	**Chusmiza**	**4.81**	**337**		**Pn**	**10 16 08.2**	**+0.5**
GO01	**Chusmiza**	**4.81**	**337**	*eP*	**Pn**	**10 16 08.5**	**+0.8**
GO01				*eS*	**Sn**	**10 17 05.2**	**+0.6**
PB11	**IPOC Station P**	**4.91**	**332**		**Pn**	**10 16 08.8**	**+0.2**
PB11	**IPOC Station P**	**4.91**	**332**	*eS*	**Sn**	**10 17 03.1**	**-3.3**
PB11				IAML		10 17 05.2	
	comp=Z,50nm,0.6s						
ACLC	**CERRO LA CRUZ**	**5.28**	**178**	*eP*	**Pn**	**10 16 13.6**	**+0.3**
AC04	**Llanos de Chal**	**5.34**	**220**	Pn	**Pn**	**10 16 12.9**	**-1.1**
AC04	**Llanos de Chal**	**5.34**	**220**	*eP*	**Pn**	**10 16 12.6**	**-1.4**
AC04				*eS*	Sn	10 17 03.0	-13
AC04				IAML		10 17 13.8	
	comp=Z,47nm,0.5s						
AC05	**El Transito**	**5.44**	**210**		**Pn**	**10 16 14.7**	**-0.6**
LPAZ	**La Paz**	**7.85**	**353**	P	**Pn**	**10 16 48.4**	**+1.1**
	comp=Z,5.8nm,0.4s,baz=159,slow=7.0,SNR=71						
LPAZ				S	**Sn**	**10 18 14.2**	**-2.0**
	comp=Z,1.1nm,0.8s,baz=207,slow=24,SNR=2.0						
SIV	**San Ignacio**	**9.93**	**37**	P	**Pn**	**10 17 12.6**	**-1.2**
	comp=Z,2.2nm,0.5s,baz=244,slow=9.6,SNR=8.1						
SIV				S	**Sn**	**10 18 58.6**	**-6.3**
	comp=Z,1.0nm,0.8s,baz=119,slow=23,SNR=2.3						
TRCB	**Terra Rica**	**13.44**	**87**	P	**P**	**10 18 02.4**	**+1.2**
TRQA	**Tornquist**	**14.58**	**163**		**Pn**	**10 18 11.7**	**-0.8**
GO06	**Curarrehue**	**15.82**	**192**		**Pn**	**10 18 27.4**	**-0.4**
GO06				IAmb	IAmb	10 18 31.1	
	comp=Z,3.8nm,0.8s						
LL04	**Puerto Octay**	**17.29**	**193**		**P**	**10 18 42.5**	**-1.0**
LL04				IAmb	IAmb	10 19 17.9	
	comp=Z,9.9nm,1.3s						
BDFB	**Brasilia**	**19.90**	**68**	P	**P**	**10 19 12.8**	**+0.6**
BDFB	**Brasilia**	**19.90**	**68**	P	**P**	**10 19 12.0**	**-0.2**
	comp=Z,7.5nm,0.6s,baz=250,slow=9.9,SNR=12						
OTAV	**Otavalo**	**26.57**	**334**	P	**P**	**10 20 14.3**	**-1.7**
QSPA	**South Pole Qui**	**66.07**	**180**	P	**P**	**10 25 24.3**	**+3.2**
	comp=Z,1.0nm,0.7s,baz=188,slow=10,SNR=11						
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.79**	**69**	P	**P**	**10 26 25.8**	**0.0**
	comp=Z,0.3nm,0.6s,baz=260,slow=6.4,SNR=2.3						
	comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**128.26**	**205**	PKP	**PKiKP**	**10 33 41.9**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=157,slow=1.7,SNR=2.0						
WRA	**Warramunga Arr**	**131.43**	**207**	PKP	**PKiKP**	**10 33 48.4**	**+2.2**

comp=Z,0.4nm,0.9s,baz=154,slow=2.0,SNR=5.2

*SJA **09** 10:28:23.1±0.7,21°.83S×68°.59W,h134km±6km,ML4.1, MW3.9*
*IDC **09** 10:28:24.2±0.7,21°.95S×68°.08W,h105km±10km,mb3.7/4, mbtmp4.2/8,Error ellipse: s-maj=29.2km s-min=13.2km az=123.0*
*VAO **09** 10:28:24.2±0.4,21°.79S×68°.60W,h126km±4km,mb4.3*
*NEIC **09** 10:28:24.1±1.6,21°.85S±0°.05×68°.64W±0°.09,h135km±5km, mb4.3/5,ML4.1(GUC),Error ellipse: s-maj=11.7km s-min=6.5km az=76.0*
*GUC **09** 10:28:25.9±0.8,21°.80S×68°.56W,h110km±7km,ML4.1*
ISC 09 10:28:24.3±0.6,21°.87S±0°.03×68°.64W±0°.04,h135km±5km, n98,σ1°31/133,mb4.0/5,5C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.57**	**277**		**Pn**	**10 28 44.7**	**+0.2**
PB09				Sn	**Sn**	**10 28 58.7**	**-1.2**
LVC	**Limon Verde**	**0.78**	**199**	Pn	**Pn**	**10 28 46.2**	**-0.1**
LVC				Sn	**Sn**	**10 29 01.6**	**-1.4**
LVC	**Limon Verde**	**0.78**	**199**	*eP*	**Pn**	**10 28 45.9**	**-0.4**
LVC				*eS*	**Sn**	**10 29 02.5**	**-0.5**
LVC				IAML		10 29 02.9	
	comp=Z,2μm,0.5s						
LVC	**Limon Verde**	**0.78**	**199**	P	**Pn**	**10 28 45.9**	**-0.4**
	comp=Z,769nm,0.3s,baz=26,slow=8.3,SNR=4632						
LVC				S	**Sn**	**10 29 01.8**	**-1.2**
	comp=Z,1μm,0.4s,baz=212,slow=8.6,SNR=31						
LVC	**Limon Verde**	**0.78**	**199**	*iP*	**Pn**	**10 28 45.7**	**-0.6**
LVC				*iS*	**Sn**	**10 29 01.6**	**-1.4**
LVC	**Limon Verde**	**0.78**	**199**	*eP*	**Pn**	**10 28 46.0**	**-0.4**
LVC				*eS*	**Sn**	**10 29 02.3**	**-0.7**
AF01	**San Pedro de A**	**1.16**	**159**		**Pn**	**10 28 49.8**	**+0.3**
AF01				Sn	**Sn**	**10 29 08.6**	**-0.1**
AF01	**San Pedro de A**	**1.16**	**159**	*eP*	**Pn**	**10 28 49.5**	**0.0**
AF01				*eS*	**Sn**	**10 29 09.0**	**+0.2**
AF01				IAML		10 29 23.9	
	comp=E,2μm,0.5s						
PB06	**IPOC Station P**	**1.20**	**226**		**Pn**	**10 28 50.4**	**+0.6**
PB06				Sn	**Sn**	**10 29 09.3**	**+0.1**
PB06	**IPOC Station P**	**1.20**	**226**	*eP*	**Pn**	**10 28 50.2**	**+0.3**
PB06				*eS*	**Sn**	**10 29 10.1**	**+0.9**
PB06				IAML		10 29 12.1	
	comp=Z,2μm,0.3s						
PB06	**IPOC Station P**	**1.20**	**226⇑**	*eP*	**Pn**	**10 28 50.1**	**+0.3**
PB06				*eS*	**Sn**	**10 29 09.3**	**+0.1**
PB06				IAML		10 29 10.7	
	comp=E,4μm,0.1s						
PB04	**IPOC Station P**	**1.48**	**251**	Pn	**Pn**	**10 28 53.2**	**+0.5**
PB04				Sn	**Sn**	**10 29 13.7**	**-0.7**
PB04	**IPOC Station P**	**1.48**	**251**	*eP*	**Pn**	**10 28 52.8**	**+0.1**
PB04				*eS*	**Sn**	**10 29 14.6**	**+0.3**
PB04				IAML		10 29 16.3	
	comp=Z,2μm,0.2s						
PB04	**IPOC Station P**	**1.48**	**251⇑**	*eP*	**Pn**	**10 28 52.8**	**+0.1**
PB04				*eS*	**Sn**	**10 29 13.5**	**-0.8**
PB04				IAML		10 29 21.6	
	comp=N,2μm,0.3s						
PB15	**IPOC Station P**	**1.54**	**210**		**Pn**	**10 28 54.2**	**+0.8**
PB15	**IPOC Station P**	**1.54**	**210**	*eP*	**Pn**	**10 28 54.0**	**+0.5**
PB15				*eS*	**Sn**	**10 29 16.7**	**+1.0**
PB15	**IPOC Station P**	**1.54**	**210⇑**	*eP*	**Pn**	**10 28 54.0**	**+0.5**
PB15				*eS*	**Sn**	**10 29 16.7**	**+1.0**
PATCX	**Punta Patache**	**1.75**	**306**		**Pn**	**10 28 56.0**	**+0.2**
PATCX				Sn	**Sn**	**10 29 19.0**	**-0.8**
PATCX	**Punta Patache**	**1.75**	**306**	*eP*	**Pn**	**10 28 55.7**	**-0.1**
PATCX				*eS*	**Sn**	**10 29 19.8**	**0.0**
PATCX				IAML		10 29 21.6	
	comp=Z,2μm,0.4s						
PATCX	**Punta Patache**	**1.75**	**306**	*eP*	**Pn**	**10 28 55.7**	**-0.1**
PATCX				*eS*	**Sn**	**10 29 18.9**	**-0.8**
PATCX				IAML		10 29 22.2	
	comp=E,3μm,0.2s						
TA01	**Diego Aracena**	**1.94**	**312**	Pn	**Pn**	**10 28 57.5**	**-0.3**
TA01	**Diego Aracena**	**1.94**	**312**	*eP*	**Pn**	**10 28 56.8**	**-1.0**
TA01				*eS*	**Sn**	**10 29 23.0**	**-0.4**
TA01				IAML		10 29 26.4	
	comp=Z,823nm,0.2s						
TA01	**Diego Aracena**	**1.94**	**312**	*eP*	**Pn**	**10 28 57.1**	**-0.7**
TA01				*eS*	**Sn**	**10 29 21.9**	**-1.6**
TA01				IAML		10 29 23.9	
	comp=E,2μm,0.3s						
HMBC	**Humberstone**	**1.96**	**323**		**Pn**	**10 28 57.4**	**-0.9**
HMBC	**Humberstone**	**1.96**	**323**	*eP*	**Pn**	**10 28 57.4**	**-0.9**
HMBC				*eS*	**Sn**	**10 29 23.3**	**-1.0**
HMBC				IAML		10 29 24.9	
	comp=Z,2μm,0.2s						
HMBC	**Humberstone**	**1.96**	**323⇓**	*eP*	**Pn**	**10 28 57.5**	**-0.9**
HMBC				*eS*	**Sn**	**10 29 22.1**	**-2.1**
HMBC				IAML		10 29 28.7	
	comp=N,2μm,0.4s						
GO01	**Chusmiza**	**2.25**	**346**		**Pn**	**10 29 02.1**	**0.0**
GO01				Sn	**Sn**	**10 29 30.6**	**-0.4**
GO01	**Chusmiza**	**2.25**	**346**	*eP*	**Pn**	**10 29 01.5**	**-0.6**
GO01				*eS*	**Sn**	**10 29 31.9**	**+0.8**
GO01	**Chusmiza**	**2.25**	**346⇓**	*eP*	**Pn**	**10 29 01.9**	**-0.2**
GO01				*eS*	**Sn**	**10 29 30.3**	**-0.8**
GO01				IAML		10 29 32.0	
	comp=N,976nm,0.2s						
PB11	**IPOC Station P**	**2.30**	**335**	Pn	**Pn**	**10 29 01.8**	**-0.7**
PB11	**IPOC Station P**	**2.30**	**335**	*eP*	**Pn**	**10 29 01.7**	**-0.7**
PB11				*eS*	**Sn**	**10 29 30.5**	**-1.2**
PB11				IAML		10 29 31.8	
	comp=Z,868nm,0.3s						
PB11	**IPOC Station P**	**2.30**	**335⇓**	*eP*	**Pn**	**10 29 01.8**	**-0.7**
PB11				*eS*	**Sn**	**10 29 30.3**	**-1.4**
PB11				IAML		10 29 32.1	
	comp=N,1μm,0.3s						
PB10	**IPOC Station P**	**2.41**	**227**		**Pn**	**10 29 03.8**	**+0.2**
PB10	**IPOC Station P**	**2.41**	**227**	*eP*	**Pn**	**10 29 03.6**	**0.0**
PB10				*eS*	**Sn**	**10 29 33.7**	**-0.2**
PB10				IAML		10 29 35.1	
	comp=Z,363nm,0.7s						
PB10	**IPOC Station P**	**2.41**	**227⇑**	*eP*	**Pn**	**10 29 03.2**	**-0.4**
PB10				*eS*	**Sn**	**10 29 33.0**	**-0.9**
YJA	**Yavi**	**2.91**	**97**	*eP*	**Pn**	**10 29 11.0**	**+0.5**
YJA				*eS*	**Sn**	**10 29 46.9**	**+1.0**
PB14	**IPOC Station P**	**3.19**	**210**	Pn	**Pn**	**10 29 13.8**	**-0.1**
PB14	**IPOC Station P**	**3.19**	**210**	*eP*	**Pn**	**10 29 13.2**	**-0.7**
PB14				*eS*	**Sn**	**10 29 51.4**	**-0.8**
PB14				IAML		10 29 56.1	
	comp=Z,247nm,0.2s						
PB14	**IPOC Station P**	**3.19**	**210⇑**	*iP*	**Pn**	**10 29 13.7**	**-0.1**
PB14				*iS*	**Sn**	**10 29 50.0**	**-2.2**
PB14				IAML		10 29 52.0	
	comp=E,186nm,0.3s						
GO02	**Mina Guanaco**	**3.40**	**195**		**Pn**	**10 29 16.6**	**0.0**
AZAP	**Zapla**	**4.04**	**126**	*eP*	**Pn**	**10 29 24.8**	**-0.1**
SLA	**San Lorenzo**	**4.05**	**135**	*eP*	**Pn**	**10 29 20.7**	**-4.2**
AC01	**Pan de Azucar**	**4.62**	**202**		**Pn**	**10 29 31.1**	**-1.4**
AC01	**Pan de Azucar**	**4.62**	**202**	*eP*	**Pn**	**10 29 30.9**	**-1.6**
AC01				*eS*	**Sn**	**10 30 22.6**	**-3.0**
AC01				IAML		10 30 23.4	
	comp=Z,136nm,0.2s						
AC01	**Pan de Azucar**	**4.62**	**202**	*eP*	**Pn**	**10 29 30.9**	**-1.6**
AC01				*eS*	**Sn**	**10 30 21.7**	**-3.8**
LPAZ	**La Paz**	**5.57**	**5**	Pn	**Pn**	**10 29 46.4**	**+0.7**
LPAZ	**La Paz**	**5.57**	**5**	P	**Pn**	**10 29 47.3**	**+1.5**
	comp=Z,3.8nm,0.3s,baz=260,slow=2.0,SNR=66						
AC06	**Mina Casimiro**	**5.69**	**196**		**Pn**	**10 29 44.5**	**-2.2**
GO03	**Copiap**	**5.88**	**194**	Pn	**Pn**	**10 29 47.5**	**-1.9**
AC04	**Llanos de Chal**	**6.69**	**199**	Pn	**Pn**	**10 29 56.5**	**-3.6**
LCO	**Las Campanas**	**7.36**	**194**		**Pn**	**10 30 06.0**	**-3.4**
CO01	**Juntas del Tor**	**8.18**	**189**	Pn	**Pn**	**10 30 19.3**	**-1.2**
SIV	**San Ignacio**	**9.24**	**52**	P	**Pn**	**10 30 30.3**	**-4.2**
	comp=Z,11nm,0.4s,baz=233,slow=10,SNR=64						
SIV				S	Sn	10 32 05.8	-11
	comp=Z,4.3nm,0.8s,baz=325,slow=23,SNR=2.2						
CO02	**Combarbal**	**9.54**	**192**	Pn	**Pn**	**10 30 34.7**	**-3.7**
PAPY	**Pozo Azul**	**9.84**	**105**	*eP*	**Pn**	**10 30 42.8**	**+0.3**
VILB	**Vilhena**	**11.97**	**44**		**Pn**	**10 31 07.9**	**-2.9**
VILB	**Vilhena**	**11.97**	**44**	*eP*	**Pn**	**10 31 08.3**	**-2.5**
AQDB	**Aquidauana**	**12.15**	**86**	*eP*	**Pn**	**10 31 14.0**	**+0.9**
NNA	**Nana**	**12.57**	**320**	P	**P**	**10 31 26.2**	**+1.4**
	comp=Z,4.0nm,0.3s,baz=150,slow=8.1,SNR=2.1						
SALV	**Santo Antonio**	**13.61**	**66**	*eP*	**Pn**	**10 31 31.7**	**-0.3**
TRCB	**Terra Rica**	**14.84**	**97**	*eP*	**Pn**	**10 31 48.2**	**+0.7**
PDRB	**Porto dos Gac**	**15.29**	**50**	*eP*	**P**	**10 31 53.7**	**-1.2**
PTGB	**Pitanga**	**15.49**	**104**	*eP*	**P**	**10 31 57.1**	**0.0**
ALGR	**Alto Alegre (B**	**15.70**	**119**	*eP*	**P**	**10 31 59.4**	**-0.1**
ITAB	**Concordia**	**15.94**	**113**		**P**	**10 32 01.7**	**-0.3**
ITAB				IAmb	IAmb	10 32 02.4	
	comp=Z,18nm,0.9s						
ITAB	**Concordia**	**15.94**	**113**	*eP*	**P**	**10 32 02.0**	**+0.1**
CPSB	**Cacapava Do Su**	**16.07**	**125**	*eP*	**Pn**	**10 32 02.9**	**+0.3**
PCMB	**Pacaembu**	**16.15**	**92**	*eP*	**Pn**	**10 32 03.5**	**-0.3**
LDASE	**Londrina, Braz**	**16.25**	**99**	*eP*	**P**	**10 32 05.7**	**+0.2**
CLDB	**Colider**	**16.46**	**50**	*eP*	**P**	**10 32 08.2**	**+0.4**
ARAG	**Araguaiana, MT**	**17.06**	**72**	*eP*	**Pn**	**10 32 15.2**	**+0.3**
TRQA	**Tornquist**	**17.13**	**162**	Pn	**Pn**	**10 32 16.2**	**+0.7**
TRQA	**Tornquist**	**17.13**	**162**	*eP*	**Pn**	**10 32 17.1**	**+1.7**
ITRB	**Iturama**	**17.23**	**86**	*eP*	**P**	**10 32 16.1**	**-0.2**
FRTB	**Fartura**	**17.67**	**98**	*eP*	**P**	**10 32 20.9**	**-0.3**
SNDB	**Serra Nova Dou**	**19.27**	**62**	*eP*	**P**	**10 32 36.7**	**-1.9**
NPGB	**Novo Progresso**	**19.53**	**43**	*eP*	**P**	**10 32 39.3**	**-2.1**
IPMB	**Ipameri, GO**	**19.59**	**82**	*eP*	**P**	**10 32 40.6**	**-1.5**
PET01	**Itanhaem-SP**	**19.80**	**101**	*eP*	**P**	**10 32 43.2**	**-1.1**
VAO	**Valinhos**	**20.07**	**97**	P	**P**	**10 32 46.5**	**-0.8**
VAO				IAmb	IAmb	10 32 47.4	
	comp=Z,14nm,0.8s						
VAO	**Valinhos**	**20.07**	**97**	*eP*	**P**	**10 32 46.0**	**-1.3**
MACA	**Manacapuru-AM**	**20.14**	**24**	P	**P**	**10 32 45.8**	**-2.1**
MACA	**Manacapuru-AM**	**20.14**	**24**	*eP*	**P**	**10 32 48.5**	**+0.6**
BDFB	**Brasilia**	**20.48**	**76**	P	**P**	**10 32 50.6**	**-1.1**
	comp=Z,2.9nm,0.5s,baz=232,slow=13,SNR=5.4						
BSCB	**Bom Sucesso**	**22.23**	**92**	*eP*	**P**	**10 33 10.9**	**+0.6**
DIAM	**Diamantina, MG**	**23.71**	**86**	*eP*	**P**	**10 33 24.8**	**+0.6**
PRPB	**Parauapebas**	**23.97**	**52**	*eP*	**P**	**10 33 25.5**	**-0.9**
SMTB	**Santa Maria do**	**24.02**	**61**	*eP*	**P**	**10 33 26.9**	**-0.1**
SDBA	**SAO DESIDERIO**	**24.52**	**71**	*eP*	**P**	**10 33 30.8**	**-0.8**
BOAV	**Boa Vista**	**25.39**	**19**	P	**P**	**10 33 38.0**	**-1.3**
BOAV				IAmb	IAmb	10 33 40.8	
	comp=Z,5.3nm,0.6s						
BOAV	**Boa Vista**	**25.39**	**19**	*eP*	**P**	**10 33 40.2**	**+0.9**
MCPB	**Macapa, AP**	**26.80**	**39**	*eP*	**P**	**10 33 52.9**	**+0.8**
GUA01	**Guaratinga, BA**	**27.70**	**84**	*eP*	**P**	**10 34 00.3**	**+0.2**
SNAA	**Sanae**	**61.85**	**161**	P	**P**	**10 38 30.3**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=272,slow=9.8,SNR=7.2						
	comp=Z,0.5nm,0.6s						
QSPA	**South Pole Qui**	**68.33**	**180**	P	**P**	**10 39 13.6**	**+2.8**
	comp=Z,0.4nm,0.6s,baz=177,slow=1.6,SNR=6.3						
	comp=Z,0.4nm,0.6s						
DBIC	**Dimbokro**	**68.60**	**73**	P	**P**	**10 39 13.3**	**+0.1**
	comp=Z,5.5nm,0.7s,baz=234,slow=8.7,SNR=5.4						
	comp=Z,5.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.24**	**70**	P	**P**	**10 40 04.1**	**0.0**
	comp=Z,1.1nm,0.4s,baz=259,slow=5.5,SNR=12						
	comp=Z,1.1nm,0.4s						
MKAR	**Makanchi Array**	**145.78**	**36**	PKPbc	**PKPab**	**10 47 49.8**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=316,slow=3.1,SNR=6.7						

IDC 09 10:55:46.0±3.9,0°.58N×127°.41E,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=231.2km s-min=31.5km az=87.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.50**	**162**	P	P	11 00 34.9	-1.8
	0.4nm,0.3s,baz=342,slow=12,SNR=21						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**24.92**	**166**	P	P	11 01 12.3	+1.3
	1.7nm,0.6s,baz=345,slow=11,SNR=30						
	1.7nm,0.6s						
ILAR	**Eielson Array**	**87.64**	**25**	P	P	11 08 36.0	-0.2
	0.3nm,0.6s,baz

TECO IAML 11 13 12.9
comp=Z,6μm,1.0s
TECO 11 13 21.1
comp=Z,20nm,1.0s
SNVI San Vicente 0.67 39 *e*P **Pn 11 13 02.3 0.0**
LFU La Fuente 0.67 14 *e*P **Pn 11 13 02.5 +0.2**
PAVA Las Pavas 0.70 28 *e*P **Pn 11 13 02.8 +0.1**
PAVA Las Pavas 0.70 28 ⇓*i*P **Pn 11 13 02.8 +0.1**
PAVA *i*S **Sn 11 13 13.0 -0.1**
PAVA IAML 11 13 13.8
comp=Z,11μm,1.0s
CEDA San Andres 0.71 351 *e*P **Pn 11 13 02.8 -0.1**
CEDA San Andres 0.71 351 ⇓*i*P **Pn 11 13 02.8 -0.1**
CEDA *i*S **Sn 11 13 13.5 +0.1**
CEDA 11 13 14.6
comp=Z,91nm,1.0s
CEDA IAML 11 13 22.2
comp=Z,15μm,1.0s
UESV Universidad de 0.72 41 *e*P **Pn 11 13 02.8 -0.2**
UESV Universidad de 0.72 41 ⇓*i*P **Pn 11 13 02.8 -0.2**
UESV *i*S **Sn 11 13 13.3 -0.2**
UESV 11 13 15.1
comp=Z,25nm,1.0s
UESV IAML 11 13 15.9
comp=Z,4μm,1.0s
QUEZ Alcaldia de Qu 0.74 0 *i*P **Pn 11 13 03.6 +0.4**
QUEZ *i*S **Sn 11 13 14.8 +0.8**
QUEZ IAML 11 13 17.9
comp=Z,11μm,1.0s
QUEZ 11 13 24.5
comp=Z,55nm,1.0s
CEVE Cerro Verde 0.81 335 *e*P **Pn 11 13 04.2 -0.1**
CEVE Cerro Verde 0.81 335 ⇓*i*P **Pn 11 13 04.2 -0.1**
CEVE *i*S **Sn 11 13 15.8 -0.2**
CEVE IAML 11 13 18.9
comp=Z,5μm,1.0s
CEVE 11 13 30.6
comp=Z,290nm,1.0s
SCLA Alcaldia de Sa 0.81 41 *e*P **Pn 11 13 04.3 +0.2**
SCLA Alcaldia de Sa 0.81 41 ⇓*i*P **Pn 11 13 04.3 +0.2**
SCLA IAML 11 13 05.1
comp=Z,1μm,1.0s
SCLA *i*S **Sn 11 13 15.5 -0.2**
SCLA 11 13 17.7
comp=Z,4.9nm,1.0s
SNJE San Jose 0.83 337 *e*P **Pn 11 13 04.4 -0.3**
TECA Tecapa 0.85 62 *e*P **Pb 11 13 04.7 +0.7**
PQSS Presa 15 de Se 0.87 53 *e*P **Pb 11 13 05.0 +0.7**
PQSS Presa 15 de Se 0.87 53 ⇑*i*P **Pb 11 13 04.9 +0.7**
PQSS *i*S **Sn 11 13 17.3 0.0**
PQSS IAML 11 13 18.5
comp=Z,4μm,1.0s
PQSS 11 13 19.1
comp=Z,46nm,1.0s
RTR El Retiro 0.88 336 *e*P **Pn 11 13 05.2 -0.1**
UNIC Universidad Ca 0.92 343 *i*P **Pn 11 13 05.9 +0.1**
UNIC *i*S **Sn 11 13 18.7 +0.1**
UNIC IAML 11 13 19.8
comp=Z,870nm,1.0s
UNIC 11 13 20.4
comp=Z,7.7nm,1.0s
NUBE Las Nubes 0.94 329 *e*P **Pb 11 13 05.7 +0.2**
NUBE Las Nubes 0.94 329 ⇓*i*P **Pb 11 13 05.7 +0.2**
NUBE *i*S **Sn 11 13 18.3 -0.9**
NUBE IAML 11 13 18.6
comp=Z,4μm,1.0s
NUBE 11 13 19.4
comp=Z,22nm,1.0s
PACA Pacayal 1.00 68 *e*P **Pg 11 13 07.3 +0.2**
PACA Pacayal 1.00 68 ⇓*i*P **Pg 11 13 07.2 +0.2**
PACA *i*S **Sn 11 13 21.0 +0.4**
PACA IAML 11 13 22.3
comp=Z,99μm,1.0s
PACA 11 13 24.9
comp=Z,200nm,1.0s
LCY Lacayo 1.01 71 *e*P **Pb 11 13 07.3 +0.7**
JUCU Jucuarˌn 1.01 81 *e*P **Pb 11 13 06.6 0.0**
JUCU Jucuarˌn 1.01 81 ⇓*i*P **Pb 11 13 06.7 0.0**
JUCU *i*S **Sb 11 13 20.7 +1.0**
JUCU IAML 11 13 23.9
comp=Z,4μm,1.0s
JUCU 11 13 24.2
comp=Z,26nm,1.0s
RANC El Ranchito 1.02 70 ⇓*i*P **Pb 11 13 07.1 +0.3**
RANC *i*S **Sn 11 13 21.6 +0.5**
RANC 11 13 23.0
comp=Z,75nm,1.0s
RANC IAML 11 13 25.7
comp=Z,13μm,1.0s
LOAL Lomas de Alarc 1.02 331 *e*P **Pn 11 13 07.3 +0.1**
LOAL Lomas de Alarc 1.02 331 ⇓*i*P **Pn 11 13 07.3 +0.1**
LOAL *i*S **Sn 11 13 21.8 +0.7**
LOAL IAML 11 13 25.0
comp=Z,5μm,1.0s
LOAL 11 13 25.2
comp=Z,29nm,1.0s
SLOZ Alcaldia de Sa 1.05 332 *e*P **Pg 11 13 07.5 -0.6**
LLGN La Laguna 1.11 17 *e*P **Pb 11 13 08.2 -0.2**
LLGN La Laguna 1.11 17 *i*P **Pb 11 13 08.2 -0.2**
LLGN IAML 11 13 08.3
comp=Z,1μm,1.0s
LLGN *i*S **Sn 11 13 23.0 -0.3**
CNRM Centro Naciona 1.14 70 *i*P **Pb 11 13 09.1 +0.3**
CNRM *i*S **Sn 11 13 25.2 +1.3**
CNRM 11 13 30.7
comp=Z,58nm,1.0s
CNRM IAML 11 13 41.6
comp=Z,17μm,1.0s
INTP Intipuca 1.19 85 *e*P **Pn 11 13 09.7 +0.2**
MTO3 Montecristo 1.30 356 *e*P **Pn 11 13 10.9 -0.2**
MTO3 Montecristo 1.30 356 ⇓*i*P **Pn 11 13 10.9 -0.2**
MTO3 IAML 11 13 11.2
comp=Z,820nm,1.0s
MTO3 *i*S **Sn 11 13 27.5 -0.7**
MTO3 11 13 29.5
comp=Z,3.6nm,1.0s
LCND La Caada 1.37 81 *e*P **Pn 11 13 12.1 +0.3**
LCND *e*P **Pb 11 13 12.2 -0.4**
LCND La Caada 1.37 81 ⇓*i*P **Pn 11 13 12.1 +0.3**
LCND *i*S **Sn 11 13 29.9 +0.4**
LCND IAML 11 13 32.3
comp=Z,4μm,1.0s
LCND 11 13 58.2
comp=Z,8.1nm,1.0s
CNCH Conchagua 1.42 82 *e*P **Pn 11 13 12.7 +0.1**
CNCH Conchagua 1.42 82 ⇓*i*P **Pn 11 13 12.7 +0.1**
CNCH *i*S **Sn 11 13 30.6 -0.3**
CNCH IAML 11 13 35.4
comp=Z,6μm,1.0s
CNCH 11 13 36.6
comp=Z,82nm,1.0s
ESQI Esquipulas 1.46 357 ⇓*i*P **Pn 11 13 13.3 +0.1**
ESQI *i*S **Sb 11 13 31.6 -1.0**
ESQI IAML 11 13 33.8
comp=Z,1μm,1.0s
AMPH Amapala 1.59 83 *e*P **Pn 11 13 15.0 +0.2**
AMPH Amapala 1.59 83 *i*P **Pn 11 13 15.2 +0.4**
AMPH *i*S **Sn 11 13 35.3 +0.4**
MARCA Marcala la Paz 1.60 49 ⇓*i*P **Pn 11 13 15.2 0.0**
INTHN La Esperanza I 1.66 43 ⇓*i*P **Pn 11 13 16.1 0.0**
NBG Las Nubes 1.81 325 *e*P **Pb 11 13 19.6 -0.9**
MRL Marmol 2.02 349 *e*P **Pn 11 13 22.0 +1.1**
FUG Fuego 3 2.03 312 *e*P **Pn 11 13 22.5 +1.3**
COMHN El Horno 2.14 51 ⇓*i*P **Pn 11 13 21.9 -0.8**
TGUH Tegucigalpa,Un 2.17 64 ⇓*i*P **Pn 11 13 22.9 -0.1**
TGUH IAML 11 13 40.2
comp=Z,450nm,1.0s
TGUH 11 13 40.2
comp=Z,0.0nm,0.5s
CRIN San Cristobal 2.21 100 *i*P **Pn 11 13 23.3 -0.1**
CRIN *i*S **Sn 11 13 49.5 -0.8**
CRIN 11 14 00.4
comp=Z,17nm,1.0s
CRIN IAML 11 14 05.9
comp=Z,3μm,1.0s
CRIN 11 14 06.8
comp=Z,0.0nm,0.2s
PKGN Cerro Pekin 2.28 100 ⇑*i*P **Pn 11 13 24.3 -0.1**
PKGN *i*S **Sn 11 13 51.5 -0.6**
PKGN 11 13 56.6
comp=Z,0.0nm,0.2s
PKGN IAML 11 13 58.4
comp=Z,2μm,1.0s
PKGN 11 13 59.1
comp=Z,15nm,1.0s
PACN Al O del Volca 2.49 103 *i*P **Pn 11 13 27.5 +0.2**
PACN *i*S **Sn 11 13 56.1 -1.2**
PACN IAML 11 14 00.7
comp=Z,780nm,1.0s
PACN 11 14 03.4
comp=Z,0.0nm,0.2s
PACN 11 14 09.1
comp=Z,4.3nm,1.0s
YUSH Yuscaran 2.52 70 ⇓*i*P **Pn 11 13 27.7 0.0**
YUSH *i*S **Sn 11 13 58.5 +0.5**
CNGN Cerro Negro 2.58 103 *i*P **Pn 11 13 28.6 0.0**
CNGN *i*S **Sn 11 13 58.6 -1.0**
CNGN IAML 11 14 08.9
comp=Z,560nm,1.0s
CNGN 11 14 09.1
comp=Z,5.0nm,1.0s
CNGN 11 14 15.7
comp=Z,0.0nm,0.2s
LEVN Ruinas Leon Vi 2.68 105 *i*P **Pn 11 13 31.0 +1.1**
LEVN *i*S **Sn 11 14 01.7 -0.3**
LEVN 11 14 09.9
comp=Z,2.8nm,1.0s
LEVN IAML 11 14 15.4
comp=Z,600nm,1.0s
LEVN 11 14 16.9
comp=Z,0.0nm,0.3s
SOKI Kika Raxquin 2.69 310 *i*S **Sn 11 14 02.6 -0.1**
RTAL Retalhuleu 2.75 301 *i*S **Sn 11 14 03.3 -0.3**
STG3 Santiaguito 3, 2.75 306 *e*P **Pn 11 13 32.9 +1.9**
COPN Copaltepe 2.77 109 *i*P **Pn 11 13 30.9 -0.3**
COPN IAML 11 14 13.8
comp=Z,260nm,1.0s
COPN 11 14 13.9
comp=Z,0.0nm,0.0s
MOM2 El Cardon 2.80 103 ⇑*i*P **Pn 11 13 31.7 +0.2**
MOM2 IAML 11 14 13.0
comp=Z,260nm,1.0s
MOM2 11 14 13.0
comp=Z,0.0nm,0.4s
MOM2 11 14 14.7
comp=Z,0.9nm,1.0s
LIMN Finca el Limon 2.83 90 Pn 11 13 26.9 -5.2
comp=Z,0.0nm,1.0s
LIMN ⇓*i*P Pb 11 13 31.9 -5.9
LIMN 11 14 09.4
comp=Z,0.0nm,0.6s
LIMN IAML 11 14 09.6
comp=Z,180nm,1.0s
SAPS Ciudad Sandino 2.95 108 *i*P **Pn 11 13 33.9 +0.3**
SAPS *i*S **Sn 11 14 07.6 -1.0**
SAPS IAML 11 14 20.9
comp=Z,630nm,1.0s
SAPS 11 14 21.0
comp=Z,0.0nm,0.3s
SAPS 11 14 23.0
comp=Z,3.2nm,1.0s
APQ2 Apoyeque 3.01 107 *i*S **Sn 11 14 08.5 -1.7**
TISN Laguna Tiscapa 3.08 108 *i*P **Pn 11 13 36.2 +0.8**
TISN 11 14 14.3
comp=Z,0.0nm,0.3s
TISN IAML 11 14 14.4
comp=Z,27nm,1.0s
RCPN Sur Rio San Ju 3.13 82 *i*P **Pn 11 13 36.0 -0.2**
RCPN 11 14 27.2
comp=Z,0.0nm,1.0s
RCPN IAML 11 14 27.2
comp=Z,0.9nm,1.0s
RCPN 11 14 27.3
comp=Z,0.0nm,0.0s
JUTIH Juticalpa Olan 3.36 62 ⇓*i*P **Pn 11 13 39.6 +0.3**
BOAB BOACO BROADBAN 3.58 100 ⇓*i*P **Pn 11 13 41.6 -0.7**
BOAB 11 13 48.4
comp=Z,0.0nm,0.3s
BOAB 11 14 35.3
comp=Z,0.2nm,1.0s
BOAB IAML 11 14 42.8
comp=Z,62nm,1.0s

*SOME **09** 11:51:05.8, 44.72N×81.92E, h20km*
*NNC **09** 11:51:08.3±1.1, 44.81N×81.60E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=17.9km s-min=3.5km az=121.0
ISC 09 11:51:04.5±2.2, 44.71N±0.06×82.03E±0.10, h9km±17km, n20, σ0.96/32, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.65**	**257**	*e*P	**Pb**	**11 51 35.3**	**+0.2**
DJR	13nm,0.2s			*e*S	**Sb**	**11 51 56.7**	**+0.7**
	16nm,0.2s						
KTMS	**Ketmen**	**1.75**	**224**	*e*P	**Pb**	**11 51 37.3**	**+0.4**
KTMS	5.2nm,0.1s			*e*S	**Sg**	**11 52 00.4**	**-0.3**
	13nm,0.3s						
MK31	**Makanchi Array**	**2.09**	**5**	Pn	**Pb**	**11 51 43.2**	**+0.5**
	5.1nm,0.3s,baz=192,slow=13,SNR=165						
MK31				⇓Sn	**Sg**	**11 52 11.2**	**-0.6**
	5.1nm,0.3s						
MAKZ	**Makanchi**	**2.10**	**359**	⇓Pn	**Pb**	**11 51 43.3**	**+0.5**
MAKZ	2.9nm,0.3s			⇑Sn	**Sg**	**11 52 11.0**	**-1.0**
	2.8nm,0.3s						
PDGK	**Podgornoye**	**2.29**	**234**	Pg	**Pb**	**11 51 45.9**	**-0.3**
PDGK	5.1nm,0.2s			Lg	Lg	11 52 14.6	
	5.9nm,0.3s						
PDGK	**Podgornoye**	**2.29**	**234**	⇓Pn	**Pb**	**11 51 45.6**	**-0.5**
PDGK	4.8nm,0.5s			⇑Sn	**Sb**	**11 52 15.3**	**+0.6**
	9.2nm,0.6s						
SHLS	**Shalkode**	**2.42**	**231**	*e*P	**Pn**	**11 51 44.4**	**0.0**
SHLS	20nm,0.2s			*e*S	**Sn**	**11 52 12.0**	**-2.2**
	24nm,0.4s						
SHLS	**Shalkode**	**2.42**	**231**	Pg	**Pn**	**11 51 44.4**	**0.0**
SHLS	20nm,0.2s			Lg	Lg	11 52 12.0	
	24nm,0.4s						
BLB	**Baldybastay**	**2.62**	**258**	Pg	**Pb**	**11 51 50.9**	**-0.8**
BLB	41nm,0.2s			Lg	Lg	11 52 23.2	
	18nm,0.2s						
UZB	**Uzynbulak**	**2.68**	**235**	*e*P	**Pb**	**11 51 52.6**	**-0.1**
UZB	7.0nm,0.2s			*e*S	**Sb**	**11 52 26.3**	**+0.6**
	5.2nm,0.5s						
UZB	**Uzynbulak**	**2.68**	**235**	Pg	**Pb**	**11 51 52.6**	**-0.1**
UZB	7.0nm,0.2s			Lg	Lg	11 52 26.3	
	5.2nm,0.5s						
KPKS	**Kokpek**	**2.71**	**244**	*e*P	**Pb**	**11 51 53.1**	**-0.2**
KPKS	16nm,0.3s			*e*S	**Sb**	**11 52 27.1**	**+0.4**
	18nm,0.3s						
KPKS	**Kokpek**	**2.71**	**244**	Pg	**Pb**	**11 51 53.1**	**-0.2**
KPKS	16nm,0.3s			Lg	Lg	11 52 27.1	
	18nm,0.3s						
ARXS	**Arharly**	**3.05**	**262**	*e*P	**Pb**	**11 51 58.7**	**-0.3**
ARXS	4.2nm,0.3s			*e*S	**Sb**	**11 52 36.7**	**+0.3**
	9.2nm,0.5s						
ARXS	**Arharly**	**3.05**	**262**	Pg	**Pb**	**11 51 58.7**	**-0.3**
ARXS	4.2nm,0.3s			Lg	Lg	11 52 36.7	
	9.2nm,0.5s						
SATY	**Saty**	**3.10**	**239**	*e*P	**Pb**	**11 52 00.2**	**+0.4**
SATY	3.3nm,0.1s			*e*S	**Sb**	**11 52 39.0**	**+1.2**
	22nm,0.2s						
CHKK	**Chushkaly**	**3.72**	**258**	*e*P	**Pb**	**11 52 10.6**	**+0.1**
CHKK	2.3nm,0.3s			*e*S	**Sb**	**11 52 57.0**	**+1.4**
	10.0nm,0.2s						
CHKK	**Chushkaly**	**3.72**	**258**	Pg	**Pb**	**11 52 10.6**	**+0.1**
CHKK	2.3nm,0.3s			Lg	Lg	11 52 57.0	
	10.0nm,0.2s						
TNSS	**Tian-Shan**	**4.04**	**247**	*e*P	**Pb**	**11 52 17.1**	**+1.0**
TNSS	3.3nm,0.4s			*e*S	**Sb**	**11 53 08.4**	**+3.2**
	1.6nm,0.3s						
TNSS	**Tian-Shan**	**4.04**	**247**	Pg	**Pb**	**11 52 17.1**	**+1.0**
TNSS	3.3nm,0.4s			Lg	Lg	11 53 08.4	
	1.6nm,0.3s						

*AEIC **09** 12:02:07.9±1.3, 51.33N±0.06×174.70W±0.05, h18km±4km,*
Error ellipse: s-maj=9.3km s-min=4.3km az=169.0
*NEIC **09** 12:02:09.6±1.3, 51.39N±0.04×174.66W±0.07, h35km±2km,*
ML3.7(AEIC), Error ellipse: s-maj=7.8km s-min=4.8km
az=305.0
*IDC **09** 12:02:12.2±3.7, 51.55N×174.67W, h60km±32km, mb3.5/13,*
mbtmp3.9/16, ML3.7/3, MS3.1/1, Error ellipse:
s-maj=31.4km s-min=16.3km az=174.0
ISC 09 12:02:08.7±0.8, 51.35N±0.10×174.59W±0.05, h38km, n46,
σ1.12/40, mb3.8/13, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.89**	**16**		**Sn**	**12 02 37.8**	**+1.5**
ATKA	**Atka Island**	**0.89**	**16**	Pn	**Pn**	**12 02 24.4**	**-0.2**
KOFP	**Korovin Flat P**	**0.97**	**18**		**Pn**	**12 02 26.9**	**+1.0**
KOKL	**Mount Kliuchef**	**1.00**	**14**		**Pn**	**12 02 26.9**	**+0.6**
GSMY	**Great Sitkin M**	**1.15**	**308**		**Pn**	**12 02 27.6**	**-0.7**
GSMY					**Sn**	**12 02 43.8**	**+1.0**
GSTR	**Great Sitkin T**	**1.18**	**310**		**Pn**	**12 02 28.3**	**-0.4**
GSTD	**Great Sitkin T**	**1.20**	**307**		**Pn**	**12 02 28.6**	**-0.4**
ADK	**Adak**	**1.41**	**293**	Pn	**Pn**	**12 02 31.1**	**-0.8**
ADK	**Adak**	**1.41**	**293**		**Sn**	**12 02 49.1**	**-0.1**
KIRH	**Kanaga Island**	**1.66**	**290**		**Pn**	**12 02 34.9**	**-0.3**
KIWB	**Kanaga Island**	**1.68**	**288**		**Pn**	**12 02 35.1**	**-0.4**
KINC	**Kanaga Island**	**1.69**	**291**		**Pn**	**12 02 35.5**	**-0.1**
KINC					**Sn**	**12 02 57.2**	**+1.2**
KIKV	**Kanaga Island**	**1.69**	**289**		**Pn**	**12 02 35.4**	**-0.3**
TAFP	**Tanaga Falls P**	**2.19**	**286**		**Pn**	**12 02 42.7**	**+0.1**
TAFP					**Sn**	**12 03 10.1**	**+1.7**
TASE	**Tanaga Southea**	**2.21**	**284**		**Pn**	**12 02 43.1**	**+0.3**
GAEA	**Gareloi East**	**2.63**	**281**		**Pn**	**12 02 48.7**	**+0.1**
GANE	**Gareloi Northe**	**2.66**	**282**		**Pn**	**12 02 49.1**	**+0.2**
CEPE	**Semis` Perret**	**3.64**	**282**		**Pn**	**12 03 02.6**	**+0.1**
AMKA	**Amchitka**	**3.83**	**273**	Pn	**Pn**	**12 03 03.3**	**-1.8**
SHEM	**Shemya Is, Ala**	**7.12**	**286**	P	**Pn**	**12 03 51.3**	**+1.2**
	1.4nm,0.3s,baz=117,slow=22,SNR=1.5						
	42nm,1.0s						
CNBA	**Chernabura Isl**	**9.67**	**63**	Pn	**Pn**	**12 04 26.0**	**+1.0**
KDAK	**Kodiak Island**	**14.25**	**55**	P	**P**	**12 05 30.2**	**-4.2**
	0.2nm,0.3s,baz=254,slow=1.1,SNR=19						
	4.4nm,0.4s						
ILAR	**Eielson Array**	**19.66**	**36**	P	**Pn**	**12 06 34.7**	**-0.8**
	0.4nm,0.3s,baz=219,slow=8.0,SNR=30						
	0.6nm,0.4s						
SEY	**Seymchan**	**21.07**	**316**	P	**P**	**12 06 48.3**	**-0.9**
	1.2nm,0.9s,baz=344,slow=21,SNR=1.9						
	1.2nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**34.76**	**212**	T	T	12 46 20.6	
	baz=20,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**34.77**	**212**	T	T	12 46 20.7	
	baz=20,slow=76,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**34.78**	**212**	T	T	12 46 22.2	
	baz=20,slow=76,SNR=7.8						
USRK	**Ussuriysk Ar.**	**35.91**	**280**	P	**P**	**12 09 04.9**	**-0.2**
	1.2nm,0.6s,baz=56,slow=9.4,SNR=3.2						
	1.2nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**35.97**	**211**	T	T	12 48 00.6	
	baz=17,slow=74						
H11S2	**WAKE ISLAND Hy**	**35.98**	**211**	T	T	12 47 59.5	
	baz=17,slow=74						
H11S3	**WAKE ISLAND Hy**	**35.98**	**211**	T	T	12 47 57.7	
	baz=17						
KSRS	**Korea Array**	**42.28**	**274**	P	**P**	**12 10 00.6**	**+2.3**
	1.0nm,0.5s,baz=56,slow=7.8,SNR=4.6						
	1.0nm,0.5s						
PDAR	**Pinedale Array**	**43.78**	**75**	P	**P**	**12 10 12.1**	**+1.4**
	0.6nm,0.6s,baz=311,slow=4.5,SNR=4.5						
	0.6nm,0.6s						
SONM	**Songino Array**	**49.00**	**299**	P	**P**	**12 10 52.0**	**+0.6**
	0.3nm,0.4s,baz=56,slow=8.8,SNR=1.9						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**56.04**	**84**	P	**P**	**12 11 44.7**	**+1.0**
	0.1nm,0.4s,baz=319,slow=4.9,SNR=2.1						
TXAR				LR	LR	12 34 46.8	
	comp=Z,15nm,19.1s,baz=101,slow=35						
	0.1nm,0.4s						
ARCES	**ARCESS Array B**	**58.53**	**352**	P	**P**	**12 11 59.7**	**-0.9**
	0.9nm,0.6s,baz=20,slow=8.1,SNR=1.9						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**61.02**	**316**	P	**P**	**12 12 18.2**	**+0.2**
	1.6nm,0.4s,baz=44,slow=6.9,SNR=24						
	1.6nm,0.4s						
MKAR	**Makanchi Array**	**62.09**	**311**	P	**P**	**12 12 25.1**	**-0.2**
	1.4nm,0.3s,baz=44,slow=6.4,SNR=14						
	1.4nm,0.3s						
NOA	**NORSAR Array B**	**67.86**	**357**	P	**P**	**12 13 02.0**	**-0.5**
	0.5nm,0.6s,baz=346,slow=5.0,SNR=2.2						
	0.5nm,0.6s						
HFS	**Hagfors**	**68.67**	**356**	P	**P**	**12 13 07.3**	**-0.3**
	1.8nm,0.5s,baz=310,slow=3.3,SNR=10						
	1.8nm,0.5s						
AKASG	**Malin Array Be**	**76.33**	**345**	P	**P**	**12 13 52.8**	**-0.5**
	0.6nm,0.3s,baz=19,slow=6.4,SNR=1.7						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**87.31**	**226**	P	**P**	**12 14 51.9**	**+0.6**
	0.4nm,0.9s,baz=14,slow=5.7,SNR=2.4						
	0.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**115.69**	**4**	PKP	**PKPdf**	**12 20 47.0**	**-0.1**
	0.2nm,0.4s,baz=336,slow=3.2,SNR=2.4						
H03N2	**Juan Fernandez**	**118.61**	**109**	T	T	14 31 07.8	
	baz=316						
H03N1	**Juan Fernandez**	**118.63**	**109**	T	T	14 31 08.6	
	baz=316						
H03N3	**Juan Fernandez**	**118.63**	**109**	T	T	14 31 07.5	
	baz=316						

*IDC **09** 12:05:12.8±11.0, 19.03N×155.36W, h0km, mb3.4/4,*
mbtmp3.4/4, Error ellipse: s-maj=247.4km s-min=20.5km
az=27.0
*HVO **09** 12:05:13.1±1.0, 19.409N±0.007×155.264W±0.006,*
h0km±5km, ML3.9/10, ML3.3/36(NEIC), Error ellipse:
s-maj=1.2km s-min=0.8km az=206.0
*NEIC **09** 12:05:13.9±0.9, 19.404N±0.004×155.262W±0.008,*
h5km±1km, Error ellipse: s-maj=2.2km s-min=1.3km
az=149.0
ISC 09 12:05:14.4±0.8, 19.42N±0.04×155.28W±0.03, h10km, n36,
σ1.60/38, mb3.4/4, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.01**	**338**		**Pg**	**12 05 15.2**	**-1.2**
OBL	**Observatory Le**	**0.01**	**254**		**Pg**	**12 05 15.4**	**-0.9**
HATHI	**Halema'uma'u T**	**0.01**	**77**	Pg	**Pg**	**12 05 14.0**	**-2.3**
UWE	**Uwekahuna**	**0.02**	**275**	Pg	**Pg**	**12 05 14.4**	**-1.9**
UWE					**Sg**	**12 05 15.6**	**-2.1**
BYL	**Byron's Ledge**	**0.02**	**117**	Pg	**Pg**	**12 05 13.6**	**-2.7**
KKO	**Keanakako`i**	**0.02**	**157**		**Pg**	**12 05 14.5**	**-1.9**
RIM	**Rim**	**0.02**	**176**		**Pg**	**12 05 14.7**	**-1.7**
WRMHI	**West Rim**	**0.03**	**240**		**Pg**	**12 05 15.8**	**-0.6**
SDHHI	**Sand Hill**	**0.04**	**210**		**Pg**	**12 05 15.7**	**-0.7**
RSD	**Rainshed**	**0.04**	**357**	Pg	**Pg**	**12 05 15.1**	**-1.4**
RSD					**Sg**	**12 05 16.7**	**-1.3**
PUH	**Pauahi**	**0.07**	**129**		**Pg**	**12 05 15.1**	**-1.6**
PUH				IAML		12 05 16.0	
	comp=E,12μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.11**	**112**		**Pg**	**12 05 15.8**	**-1.4**
HLP	**Hilina Pali**	**0.13**	**194**		**Pg**	**12 05 16.6**	**-0.8**
HLP				IAML		12 05 18.8	
	comp=E,3μm,0.6s						
HLP				IAML		12 05 19.0	
	comp=N,4μm,0.9s						
MLH	**Mauna Loa**	**0.13**	**305**		**Pg**	**12 05 17.4**	**-0.2**
MLH				IAML		12 05 20.4	
	comp=N,6μm,0.5s						
MLH				IAML		12 05 20.5	
	comp=E,14μm,0.6s						
STCH	**Steam Cracks**	**0.15**	**103**		**Pg**	**12 05 16.5**	**-1.2**
STCH				IAML		12 05 19.7	
	comp=N,7μm,0.5s						
STCH				IAML		12 05 19.8	
	comp=E,19μm,0.8s						
NPOC	**North of Pu'u**	**0.16**	**100**		**Pg**	**12 05 16.8**	**-1.1**
JCUZ	**Jacuzzi**	**0.17**	**102**		**Pg**	**12 05 17.0**	**-1.1**
HTC	**Hot Caves**	**0.21**	**212**		**Pg**	**12 05 18.1**	**-0.7**
JOKA	**Jonika Flow**	**0.26**	**87**		**Pg**	**12 05 18.4**	**-1.2**
JOKA				IAML		12 05 26.6	
	comp=E,8μm,1.3s						
JOKA				IAML		12 05 27.0	
	comp=N,8μm,0.8s						

HMH	**Humu'ula Sheep**	**0.27 313**		**Pb**	**12 05 20.0**	**-1.5**
HMH			IAML		12 05 26.2	
	comp=N,8μm,0.8s					
HMH			IAML		12 05 28.5	
	comp=E,6μm,0.5s					
MLOA	**Mauna Loa Obse**	**0.31 292**	Pg	**Pg**	**12 05 20.4**	**-0.3**
MLOA			IAML		12 05 28.4	
	comp=N,6μm,0.8s					
MWH	**Moku'aweowe**	**0.31 282**		**Pg**	**12 05 20.3**	**-0.5**
PAH	**Pahoa**	**0.32 76**	Pg	**Pb**	**12 05 21.2**	**-0.9**
KHU	**Kahuku**	**0.36 242**	Pg	**Pg**	**12 05 20.9**	**-0.7**
KHU			IAML		12 05 32.1	
	comp=N,6μm,0.7s					
POHA	**Pohakuloa**	**0.41 324**		**Pb**	**12 05 22.5**	**-1.4**
POHA	**Pohakuloa**	**0.41 324**		**Sb**	**12 05 28.8**	**-1.6**
HPO	**Honuapo**	**0.42 219**		**Pb**	**12 05 22.2**	**-1.7**
HUH	**Hualalai**	**0.59 297**		**Pb**	**12 05 26.1**	**-0.8**
I59US	**HAWAII INFRASO**	**0.61 286**	Pg	**Pn**	**12 05 27.3**	**-1.8**
	baz=114,slow=75					
CPH	**Captain Cook**	**0.61 277**		**Pg**	**12 05 25.1**	**-1.1**
HPAH	**Hawaii Prepara**	**0.73 327**	Pg	**Pg**	**12 05 27.0**	**-1.4**
HPAH	**Hawaii Prepara**	**0.73 327**		**Sg**	**12 05 36.6**	**-1.3**
NVAR	**Mina Array Bea**	**37.17 51**	P	**P**	**12 12 27.9**	**+1.9**
	comp=N,0.2nm,0.6s,baz=214,slow=9.3,SNR=2.1					
	comp=N,0.2nm,0.6s					
PDAR	**Pinedale Array**	**44.86 48**	P	**P**	**12 13 32.4**	**+3.2**
	comp=N,0.1nm,0.4s,baz=255,slow=5.5,SNR=2.1					
	comp=N,0.1nm,0.4s					
ILAR	**Eielson Array**	**45.67 5**	P	**P**	**12 13 38.0**	**+2.9**
	comp=N,0.8nm,0.9s,baz=190,slow=8.0,SNR=5.3					
	comp=N,0.8nm,0.9s					
TXAR	**Lajitas Array**	**47.71 68**	P	**P**	**12 13 53.2**	**+1.5**
	comp=N,0.6nm,0.6s,baz=251,slow=8.5,SNR=8.8					
	comp=N,0.6nm,0.6s					

*JMA **09** 12:24:27.5±0.6,45°N±4°×15°1E±°, h30km, MV4.1/8, KURILE ISLANDS REGION*

SKHL 09 12:24:29.4±0.3,44°70N×151°50E, h33km±4km, mb4.4/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.63**	**283**	*e*P	Pn	12 25 09.5	0.0
KUR				AMB	AMB	12 25 10.1	
	40nm,0.4s						
KUR				*i* S	Sn	12 25 39.8	-0.5
KUR				A	A	12 25 47.9	
	230nm,0.5s						
KUR				A	A	12 25 47.9	
	140nm,0.5s						
SHO	**Shikotan**	**3.46**	**258**	*e*P	Pn	12 25 21.6	+0.8
SHO				*e*S	Sn	12 26 00.4	-0.2
SHO				A	A	12 26 04.5	
	40nm,0.3s						
SHO				A	A	12 26 04.5	
	30nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.10**	**263**	*i* P	Pn	12 25 30.9	+1.2
YUK				AMB	AMB	12 25 32.4	
	50nm,0.6s						
YUK				*e*S	Sn	12 26 16.2	-0.2
YUK				A	A	12 26 18.9	
	60nm,0.4s						
YUK				A	A	12 26 18.9	
	50nm,0.4s						
NEM2	**Nemuro 2**	**4.36**	**254**	P	Pn	12 25 34.3	+1.0
NEM2				*e*S	Sn	12 26 24.0	+1.1
NMR	**Nemuro--Hokkai**	**4.37**	**254**	*e*P	Pn	12 25 34.2	+0.8
NMR				*e*S	Sn	12 26 23.0	-0.1
JRA	**Rausu**	**4.64**	**263**	P	Pn	12 25 39.6	+2.5
JNK	**Nakash**	**5.01**	**260**	P	Pn	12 25 43.8	+1.6
AKK	**Akkeshi**	**5.10**	**253**	*e*P	Pn	12 25 44.4	+1.0
JAK	**Akkeshi**	**5.21**	**253**	P	Pn	12 25 45.9	+1.0
JAK				S	Sn	12 26 43.6	-0.2
JTKR	**Abashiri--Toko**	**5.49**	**265**	P	Pn	12 25 51.2	+2.3
JAR	**Ashorobuto**	**5.75**	**259**	*e*P	Pn	12 25 54.7	+2.3
JCH	**Churui**	**6.26**	**253**	P	Pn	12 26 00.7	+1.4
JCH				*e*S	Sn	12 27 10.2	+0.4
JNBK	**Urakawa-nobuka**	**6.81**	**252**	*e*P	Pn	12 26 07.8	+0.9

*NEIC **09** 12:45:32.6±2.6,33°13S±0°09×138°56E±0°08, h9km±7km, ML3.3/2, Error ellipse: s-maj=13.0km s-min=9.1km az=192.0*
*AUST **09** 12:45:35.9±0.2,33°S±2°×13°8E±°, h10km, mb4.3/6, Mjma4.1/18, ML3.3/15, MLv3.8/15, Error ellipse: s-maj=4.8km s-min=3.0km az=41.9*
*NOU **09** 12:45:35.7,33°23S×138°38E, h0km, MLv3.9/13, Near Coast of South Australia*

ISC 09 12:45:35.6±1.0,33°26S±0°04×138°34E±0°03, h14km±8km, n52, σ1§64/54, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPS	**Port Pirie**	**0.30**	**286**	P	**Pg**	**12 45 42.5**	**+0.6**
PTPS	**Port Pirie**	**0.30**	**286**	P	**Pg**	**12 45 42.0**	**+0.1**
PTPS				S	**Sg**	**12 45 45.6**	**-0.6**
HTT	**Hallett**	**0.52**	**110**	P	**Pg**	**12 45 45.8**	**0.0**
HTT	**Hallett**	**0.52**	**110**	P	**Pg**	**12 45 45.8**	**0.0**
HTT				S	**Sg**	**12 45 52.7**	**+0.1**
WHYH	**Whyalla**	**0.68**	**289**	P	**Pg**	**12 45 49.0**	**+0.1**
YAPP	**Yappala Statio**	**1.39**	**359**	P	**Pb**	**12 46 01.4**	**+0.1**
YAPP				S	**Sg**	**12 46 20.8**	**+0.5**
SDAN	**Sedan**	**1.50**	**147**	P	**Pn**	**12 46 03.1**	**+1.1**
SDAN				S	**Sb**	**12 46 23.3**	**+1.2**
AUMAR	**Marden Senior**	**1.65**	**171**	P	**Pn**	**12 46 05.3**	**+1.2**
GHSS	**Government Hou**	**1.67**	**173**	P	**Pb**	**12 46 06.9**	**+0.7**
GHSS	**Government Hou**	**1.67**	**173**	P	**Pn**	**12 46 05.8**	**+1.3**
BBOO	**Buckleboo**	**1.97**	**282**	P	**Pn**	**12 46 09.9**	**+1.3**
BBOO	**Buckleboo**	**1.97**	**282**	Pn	**Pn**	**12 46 09.5**	**+1.0**
BBOO				Sn	**Sn**	**12 46 32.1**	**-1.0**
BBOO				IAML		12 46 36.7	
	comp=N,377nm,0.5s						
BBOO				IAML		12 46 38.7	
	comp=E,129nm,0.2s						
BBOO	**Buckleboo**	**1.97**	**282**	P	**Pn**	**12 46 09.8**	**+1.3**
BBOO	**Buckleboo**	**1.97**	**282**	S	**Sn**	**12 46 34.6**	**+1.6**
LCRK	**Leigh Creek**	**2.80**	**358**	P	**Pn**	**12 46 21.5**	**+1.5**
LCRK	**Leigh Creek**	**2.80**	**358**	P	**Pn**	**12 46 21.4**	**+1.4**
LCRK	**Leigh Creek**	**2.80**	**358**	S	**Sn**	**12 46 56.1**	**+2.5**
KELC	**Kelly Hill Cav**	**2.96**	**203**	P	**Pn**	**12 46 23.6**	**+1.4**
ARPS	**Mount Arapiles**	**4.53**	**142**	P	**Pn**	**12 46 45.0**	**+1.3**
ARPS	**Mount Arapiles**	**4.53**	**142**	P	**Pn**	**12 46 44.5**	**+0.7**
ARPS	**Mount Arapiles**	**4.53**	**142**	S	**Sn**	**12 47 35.1**	**-1.1**
MULG	**Mulgathing**	**4.70**	**308**	P	**Pn**	**12 46 47.0**	**+0.9**
MULG	**Mulgathing**	**4.70**	**308**	P	**Pn**	**12 46 46.7**	**+0.5**
MGBR	**Mount Gambier**	**4.82**	**158**	P	**Pn**	**12 46 49.0**	**+1.3**
INKA	**Innaminka**	**5.88**	**21**	P	**Pn**	**12 47 04.0**	**+1.7**
INKA	**Innaminka**	**5.88**	**21**	P	**Pn**	**12 47 04.2**	**+1.9**
OOD	**Oodnadatta**	**5.91**	**336**	P	**Pn**	**12 47 04.6**	**+1.9**
OOD	**Oodnadatta**	**5.91**	**336**	P	**Pn**	**12 47 03.5**	**+0.8**
CMSA	**Cobar Meteorol**	**6.45**	**77**	P	**Pn**	**12 47 10.5**	**+0.4**
CMSA	**Cobar Meteorol**	**6.45**	**77**	P	**Pn**	**12 47 10.6**	**+0.4**
TOO	**Toolangi**	**7.25**	**128**	P	**Pn**	**12 47 22.1**	**+0.9**
TOO	**Toolangi**	**7.25**	**128**	Pn	**Pn**	**12 47 18.6**	**-2.5**
TOO	**Toolangi**	**7.25**	**128**	P	**Pn**	**12 47 22.0**	**+0.9**
	comp=Z,2μmcomp=Z,156μmcomp=Z,17nm,2.5s,comp=Z,0.1nm						
YNG	**Young**	**8.44**	**100**	P	**Pn**	**12 47 38.9**	**+1.5**
YNG	**Young**	**8.44**	**100**	P	**Pn**	**12 47 38.6**	**+1.2**
	comp=Z,7μmcomp=Z,73nm,1.5s,comp=Z,0.4nm						
CAN	**Canberra**	**9.05**	**106**	Pn	**Pn**	**12 47 41.7**	**-4.3**
CAN	**Canberra**	**9.05**	**106**	P	**Pn**	**12 47 45.5**	**-0.5**
	comp=Z,2μmcomp=Z,21nm,1.6s,comp=Z,0.1nm						
AUMTS	**Mt Stromlo**	**9.06**	**106**		**Pn**	**12 47 45.2**	**-0.8**
FORT	**Forrest**	**9.07**	**283**	Pn	**Pn**	**12 47 44.9**	**-1.2**
FORT	**Forrest**	**9.07**	**283**	P	**Pn**	**12 47 45.8**	**-0.3**
	comp=Z,27nm,1.1s,comp=Z,1μmcomp=Z,0.1nm						
ASAR	**Alice Springs**	**10.32**	**337**	Pn	**Pn**	**12 48 00.8**	**-2.5**
AS31	**Alice Springs**	**10.32**	**337**	Pn	**Pn**	**12 48 01.8**	**-1.6**
AS31	**Alice Springs**	**10.32**	**337**	P	**Pn**	**12 48 04.3**	**+1.0**
	comp=Z,0.9nm,2.0s,comp=Z,44nmcomp=Z,0.0nm						
ARMA	**Armidale**	**11.65**	**80**	Pn	Pn	12 48 15.6	-5.9
WRKA	**Warakurna**	**12.00**	**310**	P	**Pn**	**12 48 24.5**	**-1.8**
WR0	**Warramunga Arr**	**13.67**	**345**	Pn	**Pn**	**12 48 44.9**	**-4.3**
WB2	**Warramunga Arr**	**13.73**	**344**	Pn	Pn	12 48 44.4	-5.6
WB2	**Warramunga Arr**	**13.73**	**344**	P	**Pn**	**12 48 48.1**	**-1.9**
WRA	**Warramunga Arr**	**13.73**	**344**	Pn	**Pn**	**12 48 46.7**	**-3.2**
WB0	**Warramunga Arr**	**13.89**	**344**	Pn	Pn	12 48 46.3	-5.8
WB10	**Warramunga Arr**	**13.89**	**344**	P	**Pn**	**12 48 48.8**	**-3.3**
FITZ	**Fitzroy Crossi**	**18.92**	**320**	P	**P**	**12 49 57.0**	**+1.0**
	comp=Z,121nm,1.2s						

IDC 09 12:53:57.8±1.9,7°03N×122°19E, h0km, mb3.5/4, mbtmp3.5/4, MS2.7/1, Error ellipse: s-maj=269.0km s-min=22.6km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.36**	**89**	LR	LR	12 56 45.1	
	comp=Z,112nm,20.6s,baz=344,slow=50						
WRA	**Warramunga Arr**	**29.35**	**156**	P	P	13 00 01.7	-1.0
	0.4nm,1.0s,baz=331,slow=11,SNR=1.5						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**32.59**	**160**	P	P	13 00 32.0	+0.7
	0.2nm,0.7s,baz=348,slow=7.1,SNR=8.1						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**52.30**	**326**	P	P	13 03 11.8	+0.5
	0.7nm,0.6s,baz=132,slow=8.2,SNR=8.2						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**56.55**	**328**	P	P	13 03 41.3	-0.8
	0.6nm,0.5s,baz=124,slow=7.0,SNR=4.7						
	0.6nm,0.5s						

*IDC **09** 13:01:32.4±0.8,6°28S×153°64E, h0km, mb4.1/11, mbtmp4.1/13, ML2.9/2, MS3.4/8, Error ellipse: s-maj=27.9km s-min=19.4km az=105.0*
*NEIC **09** 13:01:38.9±1.1,6°3S±0°1×153°4E±0°1, h35km±2km, mb4.5/13, Error ellipse: s-maj=24.4km s-min=5.8km az=227.0*

ISC 09 13:01:37.5±0.6,6°26S±0°08×153°48E±0°08, h29km, n44, σ1§12/34, mb4.4/16, MS3.5/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.44**	**327**	Pn	**Pn**	**13 02 16.4**	**+1.0**
PMG	**Port Moresby**	**7.00**	**243**	Pn	**Pn**	**13 03 19.4**	**+1.2**
	3.3nm,0.3s,baz=206,slow=1.6,SNR=9.0						
PMG				Sn	**Sn**	**13 04 37.7**	**+0.8**
	2.9nm,0.3s,baz=177,slow=20,SNR=2.3						
PMG				LR	LR	13 06 04.1	
	comp=Z,128nm,21.4s,baz=62,slow=38						
	34nm,0.9s						
HNR	**Honiara**	**7.14**	**117**	Pn	**Pn**	**13 03 21.0**	**+0.9**
CTA	**Charters Tower**	**15.44**	**206**	LR	LR	13 10 14.2	
	comp=Z,8.2nm,19.8s,baz=54,slow=34						
CTAO	**Charters Tower**	**15.44**	**206**	P	**P**	**13 05 18.3**	**+0.7**
DZM	**Mont Dzumac**	**20.10**	**143**	P	**P**	**13 06 08.7**	**-0.5**
	0.2nm,0.3s,baz=329,slow=19,SNR=0.9						
	1.5nm,0.6s						
OUENC	**Ouen Island, N**	**20.60**	**143**	P	**P**	**13 06 16.0**	**+1.5**
OUENC				IAmb	IAmb	13 06 33.2	
	comp=Z,16nm,1.1s						
WR0	**Warramunga Arr**	**22.89**	**232**	P	**P**	**13 06 38.5**	**-0.6**
WB0	**Warramunga Arr**	**22.90**	**232**	P	**P**	**13 06 37.8**	**-1.4**
WRA	**Warramunga Arr**	**23.04**	**232**	P	**P**	**13 06 40.4**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=54,slow=11,SNR=7.1						
	comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**25.57**	**225**	P	**P**	**13 07 01.2**	**-3.1**
ASAR	**Alice Springs**	**25.57**	**225**	P	**P**	**13 07 03.6**	**-0.7**
	comp=Z,3.7nm,1.0s,baz=59,slow=8.7,SNR=18						
	comp=Z,3.7nm,1.0s						
FITZ	**Fitzroy Crossi**	**29.60**	**244**	P	**P**	**13 07 39.7**	**-0.7**
FORT	**Forrest**	**34.12**	**221**	P	**P**	**13 08 19.0**	**-0.9**
NWAO	**Narrogin (SRO)**	**42.87**	**227**	LR	LR	13 27 05.6	
	comp=Z,81nm,19.2s,baz=166,slow=36						
MJB9	**Matsu-Tunnel**	**44.92**	**343**	P	**P**	**13 09 50.1**	**+0.2**
MJB9				IAmb	IAmb	13 09 53.4	
	comp=Z,3.0nm,0.6s						
KSRS	**Korea Array**	**49.60**	**333**	P	**P**	**13 10 26.7**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=128,slow=8.0,SNR=4.4						
	comp=Z,1.0nm,0.8s						
SHEM	**Shemya Is, Ala**	**61.32**	**14**	LR	LR	13 35 09.6	
	comp=Z,27nm,19.1s,baz=306,slow=33						
SONM	**Songino Array**	**67.91**	**328**	P	**P**	**13 12 35.1**	**+1.5**
	comp=Z,3.6nm,1.1s,baz=131,slow=6.2,SNR=11						
	comp=Z,3.6nm,1.1s						
YAK	**Yakutsk**	**70.53**	**348**	LR	LR	13 44 32.8	
	comp=Z,17nm,19.1s,baz=220,slow=37						
KDAK	**Kodiak Island**	**77.17**	**26**	LR	LR	13 40 54.4	
	comp=Z,22nm,20.7s,baz=232,slow=31						
E19K	**Redstone River**	**81.37**	**17**	P	**P**	**13 13 51.8**	**+0.6**
E19K				IAmb	IAmb	13 13 52.1	
	comp=Z,7.1nm,1.0s						
IMAR	**Indian Mountai**	**81.53**	**19**	P	**P**	**13 13 52.1**	**+0.2**
C19K	**Lookout Ridge**	**81.81**	**15**	P	**P**	**13 13 54.1**	**+0.6**
MKAR	**Makanchi Array**	**81.86**	**319**	P	**P**	**13 13 51.7**	**-2.5**
MKAR	**Makanchi Array**	**81.86**	**319**	P	**P**	**13 13 54.9**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=104,slow=5.1,SNR=8.6						
	comp=Z,1.5nm,0.9s						
ZALV	**Zalesovo Beam**	**82.73**	**326**	P	**P**	**13 13 57.9**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=128,slow=4.1,SNR=4.2						
	comp=Z,0.7nm,0.4s						
ILAR	**Eielson Array**	**83.25**	**22**	P	**P**	**13 13 59.1**	**-1.9**
	comp=Z,0.8nm,0.8s,baz=246,slow=5.2,SNR=8.1						
	comp=Z,0.8nm,0.8s						
QSPA	**South Pole Qui**	**83.71**	**180**	P	**P**	**13 14 03.2**	**-0.4**
QSPA				IAmb	IAmb	13 14 40.0	
	comp=Z,10.0nm,1.4s						
QSPA	**South Pole Qui**	**83.71**	**180**	P	**P**	**13 14 02.9**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=251,slow=0.9,SNR=6.5						
	comp=Z,2.6nm,0.9s						
J26L	**Joseph Creek**	**84.37**	**23**	P	**P**	**13 14 07.7**	**+0.8**
J26L				IAmb	IAmb	13 14 20.7	
	comp=Z,4.6nm,1.4s						
KURBB	**Kurchatov Arra**	**85.36**	**322**	P	**P**	**13 14 11.2**	**-0.8**
	comp=Z,1.5nm,0.2s,baz=104,slow=3.6,SNR=5.1						
	comp=Z,1.5nm,0.2s						
BMAR	**Burnt Mountain**	**85.38**	**20**	P	**P**	**13 14 12.4**	**+0.6**
J30M	**Hart River**	**87.26**	**24**	P	**P**	**13 14 21.9**	**+0.6**
J30M				IAmb	IAmb	13 14 25.1	
	comp=Z,2.0nm,0.8s						
G29M	**Pine Creek**	**87.47**	**22**	P	**P**	**13 14 22.2**	**+0.1**
G29M				IAmb	IAmb	13 14 24.5	
	comp=Z,4.4nm,1.2s						
NRIK	**Noril'sk**	**87.55**	**341**	P	**P**	**13 14 21.6**	**-0.8**
	comp=Z,2.3nm,0.5s,baz=121,slow=7.3,SNR=2.6						
	comp=Z,2.3nm,0.5s						
YBH	**Yreka Blue Hor**	**89.52**	**48**	LR	LR	13 46 49.0	
	comp=Z,24nm,21.8s,baz=310,slow=30						
NVAR	**Mina Array Bea**	**92.45**	**52**	P	**P**	**13 14 45.7**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=247,slow=5.0,SNR=4.1						
	comp=Z,0.3nm,0.7s						
PFO	**Pinyon Flats O**	**93.47**	**57**	LR	LR	13 54 42.2	
	comp=Z,23nm,18.1s,baz=59,slow=34						
PDAR	**Pinedale Array**	**99.32**	**48**	LR	LR	13 52 46.2	
	comp=Z,12nm,21.4s,baz=52,slow=31						
H03S2	**Juan Fernandez**	**116.41**	**133**	T	T	15 27 14.5	
	baz=242,slow=75,SNR=9.7						
H03S1	**Juan Fernandez**	**116.42**	**133**	T	T	15 27 15.7	
	baz=242,slow=75,SNR=9.4						
H03S3	**Juan Fernandez**	**116.42**	**133**	T	T	15 27 14.4	
	baz=242,slow=75,SNR=9.8						
TORD	**Torodi Ar. Bea**	**151.38**	**286**	PKPbc	**PKPbc**	**13 21 29.0**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=54,slow=3.4,SNR=8.1						

*NEIC **09** 13:20:53.6±0.5,36°52N±0°02×98°93W±0°04, h5km±1km, Error ellipse: s-maj=5.9km s-min=3.3km az=283.0*

TUL 09 13:20:53.7±0.5,36°54N±0°02×98°96W±0°05, h6km±5km, ML2.6, mb_Lg2.3/29(NEIC), ML2.6/10(NEIC), Error ellipse: s-maj=5.4km s-min=2.8km az=93.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	**Waynoka**	**0.10**	**14**	Pg	Pg	13 20 56.4	+0.5
NOKA				IAML		13 20 58.6	
	comp=N,3μm,0.3s						
U32A	**Winter Ranch,**	**0.16**	**192**	Pg	Pg	13 20 57.3	+0.3
U32A				IAML		13 21 01.5	
	comp=N,1μm,0.1s						
OK038	**West end E0370**	**0.19**	**109**	Pg	Pg	13 20 57.2	-0.2
OK038				IAML		13 21 01.2	
	comp=N,2μm,0.3s						
OK038				IAML		13 21 03.5	
	comp=N,2μm,0.4s						
OK035	**E0210 Rd and N**	**0.26**	**50**		Pg	13 20 59.3	+0.4
OK032	**Salt Plains WL**	**0.66**	**66**	Pg	Pg	13 21 05.9	-0.5
OK032				IAML		13 21 17.3	
	comp=N,243nm,0.2s						
OK032				IAML		13 21 18.9	
	comp=N,213nm,0.2s						
CROK	**Carrier**	**0.79**	**92**	Pg	Pg	13 21 08.5	-0.4
KAN14	**Manchester OK**	**0.90**	**62**	Pg	Pg	13 21 10.8	-0.3
CSTR	**Hydro, Custer**	**0.92**	**166**		Pg	13 21 11.0	-0.4
GC02	**Grant County #**	**0.94**	**70**	Pg	Pg	13 21 11.3	-0.4
KAN05	**Bluff City Nor**	**1.04**	**57**	Pg	Pg	13 21 13.5	-0.2
KAN08	**Anthony NE Sta**	**1.05**	**49**	Pg	Pg	13 21 13.4	-0.4
KAN12	**Harper NE Stat**	**1.08**	**45**	Pg	Pg	13 21 14.0	-0.5
KAN17	**Caldwell West**	**1.08**	**62**		Pg	13 21 14.0	-0.6
KAN06	**Argonia West S**	**1.13**	**51**	Pg	Pg	13 21 14.8	-0.6
KAN01	**Argonia South**	**1.14**	**57**	Pg	Pg	13 21 14.9	-0.8
KAN09	**Caldwell North**	**1.23**	**61**		Pg	13 21 16.5	-0.8
KAN13	**South Haven SW**	**1.28**	**68**		Pn	13 21 17.4	-0.8
BLOK	**Blackwell**	**1.42**	**81**	Pg	Pn	13 21 19.8	-0.2
OK029	**Liberty Lake**	**1.43**	**121**		Pn	13 21 19.9	-0.2
OK048	**Pawnee Station**	**1.63**	**94**		Pn	13 21 23.1	+0.2
OK051	**E0350 and S346**	**1.71**	**91**		Pn	13 21 23.4	-0.6
SMWD	**Samnorwood**	**1.77**	**216**	Pn	Pb	13 21 25.8	-0.8
FNO	**Franklin**	**1.80**	**135**	Pn	Pn	13 21 25.8	+0.6
WMOK	**Wichita Mounta**	**1.80**	**175**	Pn	Pn	13 21 25.3	0.0
OK031	**S. Brethren Rd**	**1.81**	**108**		Pn	13 21 25.2	-0.2
OK052	**Battle Ridge R**	**1.83**	**107**	Pn	Pn	13 21 25.5	-0.1
R32A	**Long Quarter,**	**1.89**	**6**		Pb	13 21 28.0	-0.6
T35A	**Sooner Cattle**	**2.00**	**78**	Pn	Pn	13 21 27.7	-0.3
DEOK	**Depew**	**2.11**	**109**	Pn	Pn	13 21 28.0	-1.5
X34A	**Smith Ranch, M**	**2.14**	**154**	Pn	Pb	13 21 32.2	-0.6
X34A				IAmb_Lg		13 22 05.1	
W35A	**Tecumseh**	**2.19**	**129**	Pn	Pn	13 21 30.1	-0.5
CBKS	**Cedar Bluff**	**2.35**	**345**	IAmb_Lg		13 22 09.4	
	comp=Z,16nm,0.9s						
AMTX	**Amarillo**	**2.76**	**234**	Pn	Pn	13 21 38.0	-0.5
AMTX				IAmb_Lg		13 22 27.7	
	comp=Z,11nm,0.8s						
LOOK	**Love County**	**2.93**	**150**	IAmb_Lg		13 22 32.7	
	comp=Z,9.5nm,1.0s						
RTBA	**Rita Blanca**	**3.04**	**269**	IAmb_Lg		13 22 37.5	
	comp=Z,6.6nm,0.8s						
U38A	**Gravette**	**3.69**	**90**	IAmb_Lg		13 22 52.9	
	comp=Z,7.0nm,0.9s						
SN07	**Snyder 07**	**3.79**	**205**	IAmb_Lg		13 22 50.8	
	comp=Z,5.0nm,1.0s						
KSCO	**Kaye Shedlock'**	**3.81**	**311**	IAmb_Lg		13 22 52.3	
	comp=Z,5.5nm,0.8s						
SN05	**Snyder 5**	**3.98**	**204**	IAmb_Lg		13 23 02.5	
	comp=Z,6.0nm,0.7s						
S39A	**Bolivar**	**4.65**	**74**	IAmb_Lg		13 23 19.9	
	comp=Z,7.9nm,0.8s						
BRDY	**Brady**	**5.24**	**180**	IAmb_Lg		13 23 47.5	
	comp=Z,3.2nm,0.9s						
Q24A	**Divide**	**5.47**	**298**	IAmb_Lg		13 23 54.5	
	comp=Z,3.9nm,0.8s						
R40A	**Maddies Statio**	**5.61**	**70**	IAmb_Lg		13 23 53.7	
	comp=Z,5.7nm,0.8s						
S22A	**4UR Ranch, Cre**	**6.40**	**283**	IAmb_Lg		13 24 32.3	
	comp=Z,3.3nm,1.3s						
PBMO	**Poplar Bluff**	**6.86**	**85**	IAmb_Lg		13 24 42.0	
	comp=Z,5.1nm,0.7s						

*NNC **09** 13:23:34.4±0.7,51°74N×75°45E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=25.5km s-min=4.0km az=29.0, Suspected Mining explosion.*
*IDC **09** 13:23:37.8±3.3,51°73N×75°64E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=38.1km s-min=25.6km az=62.0*

ISC 09 13:23:35.6±1.2,51°6N±0°1×75°39E±0°08, h0km, n10, σ1§00/11, 7C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.22**	**116**	Pn	**Pn**	**13 24 14.4**	**+0.7**
	0.2nm,0.3s,baz=302,slow=15,SNR=15						
KURBB				Lg	Lg	13 24 44.7	
	0.4nm,0.3s,baz=303,slow=31,SNR=5.7						
	2.1nm,0.7s						
KURBB	**Kurchatov Arra**	**2.22**	**116**	⇑Pg	**Pb**	**13 24 15.3**	**-1.3**
	2.6nm,0.5s						
KURBB				⇑Lg	Lg	13 24 47.7	
	22nm,0.6s						
KURK	**Kurchatov**	**2.23**	**113**	⇓Pg	**Pn**	**13 24 14.4**	**+0.6**
	3.8nm,0.6s						
KURK				⇓Lg	Lg	13 24 47.7	
	14nm,1.0s						
BVA0	**Borovoye Array**	**3.37**	**296**	⇓Pg	**Pb**	**13 24 35.6**	**-0.6**
	3.5nm,0.9s,baz=101,slow=15,SNR=6.8						
BVA0				⇑Lg	Lg	13 25 20.9	
	11nm,0.8s,baz=108,slow=27,SNR=12						
BRVK	**Borovoye**	**3.44**	**297**	⇓Pg	**Pb**	**13 24 36.9**	**-0.5**
	2.5nm,0.6s						
BRVK				⇑Lg	Lg	13 25 25.3	
	18nm,0.8s						
ZALV	**Zalesovo Beam**	**6.17**	**64**	Pn	**Pn**	**13 25 08.2**	**+0.3**
	0.2nm,0.3s,ba

MAJO	Matsushiro	2.38	304	P		Pn	13 55 14.8 +0.7
MJB9	Matsu-Tunnel	2.38	304			Pn	13 55 15.8 +1.6
JMM	Marumori	2.64	3			Pn	13 55 18.1 +0.4
JGF	Kuroka	2.71	279	P		Pn	13 55 20.4 +1.7
JGF	Kuroka	2.71	279			Pn	13 55 19.5 +0.8
JSD	Sado	3.40	326	P		Pn	13 55 30.9 +2.8
JSD	Sado	3.40	326	Pn		Pn	13 55 29.2 +1.2
JTM	Tenmabayashi	5.56	3	P		Pn	13 55 59.2 +1.5
JTM	Tenmabayashi	5.56	3			Pn	13 55 58.5 +0.7
ERM	Erimo	7.06	15	P		Pn	13 56 19.0 +0.8
ERM	Erimo	7.06	15	Pn		Pn	13 56 17.2 -1.0
ERM	Erimo	7.06	15	P		Pn	13 56 17.2 -1.0
JEM	Erimo	7.06	15	P		Pn	13 56 18.6 +0.4
JCJ	Chichijima	8.21	170	P		Pn	13 56 33.1 -0.9
	193nm,1.1s						
JCJ	Chichijima	8.21	170	P		Pn	13 56 28.0 -6.0
	102nm,0.3s,baz=72,slow=19,SNR=11						
JCJ				S		Sn	13 57 52.1 -13
	38nm,0.3s,baz=277,slow=14,SNR=2.1						
JNU	Nakatsue	8.36	258	Pn		Pn	13 56 33.9 -2.3
JNU	Nakatsue	8.36	258	P		Pn	13 56 34.2 -2.0
	6.5nm,1.1s,baz=221,slow=22,SNR=1.7						
ASAJ	Asahikawa	9.01	9	P		Pn	13 56 42.9 -2.0
	2.7nm,0.3s,baz=217,slow=9.8,SNR=13						
ASAJ	Asahikawa	9.01	9	P		Pn	13 56 43.4 -1.5
JKA	Kamikawa-asahi	9.01	9			Pn	13 56 43.4 -1.5
NMR	Nemuro--Hokkai	9.04	24	eP		Pn	13 56 42.6 -2.7
NMR				eS		Sn	13 58 17.1 -8.4
RUSJ	Misakicho	9.55	20	eP		Pn	13 56 51.6 -0.7
RUSJ				eS		Sn	13 58 31.2 -6.9
YUK	Yuzh-Kuril'sk	9.67	23	eP		Pn	13 56 52.2 -1.8
YUK				eS		Sn	13 58 34.2 -6.9
YUK				pmax		pmax	
	comp=Z,30nm,0.3s						
SHO	Shikotan	9.86	27	eP		Pn	13 56 53.8 -2.8
SHO				eS		Sn	13 58 36.8 -9.0
KSRS	Korea Array	10.50	286	P		Pn	13 57 06.9 +1.6
	comp=Z,4.3nm,1.0s,baz=104,slow=14,SNR=1.8						
KSRS				LR		LR	14 01 02.1
	comp=Z,56nm,20.1s,baz=210,slow=37						
USRK	Ussuriysk Ar.	11.17	326	P		Pn	13 57 17.9 +3.6
	comp=Z,1.0nm,0.6s,baz=124,slow=13,SNR=2.8						
YSS	Yuzh-Sakhalins	11.83	7	eP		Pn	13 57 21.6 -1.8
YSS				pmax		pmax	
	comp=Z,10.0nm,0.9s						
KLR	Kul'dur	15.45	338	P		Pn	13 58 12.9 +0.9
	comp=Z,0.6nm,0.4s,baz=144,slow=17,SNR=2.6						
KLR	Kul'dur	15.45	338	P		Pn	13 58 13.0 +0.9
MA2	Magadan	25.25	12	LR		LR	14 10 12.5
	comp=Z,20nm,18.2s,baz=184,slow=37						
YAK	Yakutsk	27.71	349	LR		LR	14 12 02.1
	comp=Z,23nm,20.1s,baz=224,slow=38						
H11N2	WAKE ISLAND Hy	27.82	117	T		T	14 29 39.9
	baz=309,slow=75,SNR=60						
H11N1	WAKE ISLAND Hy	27.83	117	T		T	14 29 44.5
	baz=309,slow=75,SNR=58						
H11N3	WAKE ISLAND Hy	27.84	117	T		T	14 29 40.4
	baz=309,slow=75,SNR=51						
SONM	Songino Array	28.33	307	P		P	14 00 25.2 -1.4
	comp=Z,0.8nm,0.5s,baz=103,slow=9.9,SNR=3.8						
	comp=Z,0.8nm,0.5s						
H11S1	WAKE ISLAND Hy	28.46	119	T		T	14 30 21.6
	baz=312,slow=75,SNR=55						
H11S3	WAKE ISLAND Hy	28.46	119	T		T	14 30 22.6
	baz=312,slow=75,SNR=39						
H11S2	WAKE ISLAND Hy	28.48	119	T		T	14 30 22.7
	baz=312,slow=75,SNR=40						
BILL	Bilibino	35.94	16	P		P	14 01 34.5 +1.8
BILL				IAmb		IAmb	14 02 07.3
	comp=Z,11nm,1.4s						
CRAI	Chiangrai	38.37	258	P		P	14 01 54.3 +0.2
CRAI				IAmb		IAmb	14 02 33.9
	comp=Z,4.4nm,1.2s						
PHRA	Phrae	39.41	256	P		P	14 02 02.0 -0.7
ZAA0	Zalesovo Array	42.70	314	P		P	14 02 30.4 +1.1
ZALV	Zalesovo Beam	42.70	314	P		P	14 02 30.4 +1.1
ZALV	Zalesovo Beam	42.70	314	P		P	14 02 29.6 +0.3
	comp=Z,0.7nm,0.3s,baz=93,slow=7.4,SNR=5.1						
	comp=Z,0.7nm,0.3s						
ZALV	Zalesovo Beam	42.70	314	P		P	14 02 30.4 +1.1
MK31	Makanchi Array	44.58	304	P		P	14 02 45.6 +1.0
MK31	Makanchi Array	44.58	304	P		P	14 02 45.6 +1.0
MK31				pmax		pmax	
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	44.58	304	P		P	14 02 45.3 +0.7
MKAR	Makanchi Array	44.58	304	P		P	14 02 44.7 +0.1
	comp=Z,1.4nm,0.7s,baz=85,slow=9.9,SNR=11						
	comp=Z,1.4nm,0.7s						
MKAR	Makanchi Array	44.58	304	P		P	14 02 45.3 +0.7
KURK	Kurchatov	46.58	309	P		P	14 03 01.6 +1.3
KURK				IAmb		IAmb	14 03 08.2
	comp=Z,6.0nm,0.9s						
KURK	Kurchatov	46.58	309	P		P	14 03 01.6 +1.3
KURK				pmax		pmax	
	comp=Z,6.0nm,1.0s						
KURBB	Kurchatov Arra	46.64	309	P		P	14 03 00.8 0.0
	comp=Z,2.9nm,0.2s,baz=86,slow=7.6,SNR=9.1						
	comp=Z,2.9nm,0.2s						
KDAK	Kodiak Island	48.87	41	LR		LR	14 23 28.5
	comp=Z,22nm,20.6s,baz=207,slow=35						
ILAR	Eielson Array	51.36	32	P		P	14 03 38.4 +1.7
	comp=Z,0.7nm,0.8s,baz=266,slow=5.7,SNR=9.0						
	comp=Z,0.7nm,0.8s						
FITZ	Fitzroy Crossi	54.91	198	P		P	14 04 02.9 -0.3
WB0	Warramunga Arr	55.01	187	P		P	14 04 03.3 -0.6
WB0				IAmb		IAmb	14 04 07.8
	comp=Z,5.8nm,0.8s						
WR0	Warramunga Arr	55.18	187	P		P	14 04 04.4 -0.8
WR0				IAmb		IAmb	14 04 34.5
	comp=Z,14nm,1.4s						
WB2	Warramunga Arr	55.19	187	P		P	14 04 04.7 -0.5
WB2				IAmb		IAmb	14 04 30.7
	comp=Z,6.0nm,1.0s						
WRA	Warramunga Arr	55.19	187	P		P	14 04 04.6 -0.7
WRA	Warramunga Arr	55.19	187	P		P	14 04 04.7 -0.6
	comp=Z,1.8nm,0.4s,baz=1.0,slow=7.6,SNR=29						
	comp=Z,1.8nm,0.4s						
ABKAR	Akbulak array	58.64	311	P		P	14 04 30.7 +1.2
ABKAR				IAmb		IAmb	14 04 46.9
	comp=Z,1.8nm,0.8s						
AS31	Alice Springs	58.91	187	P		P	14 04 31.5 -0.1
AS31				IAmb		IAmb	14 04 41.5
	comp=Z,0.8nm,0.6s						
ASAR	Alice Springs	58.91	187	P		P	14 04 31.2 -0.4
	comp=Z,1.1nm,0.7s,baz=20,slow=11,SNR=27						
	comp=Z,1.1nm,0.7s						
FORT	Forrest	66.71	192	P		P	14 05 23.1 -0.2
KBZ	Khabaz	71.61	311	P		P	14 05 53.2 -0.4
	comp=Z,1.4nm,0.6s,baz=23,slow=4.8,SNR=2.7						
	comp=Z,1.4nm,0.6s						
AKASG	Malin Array Be	75.35	322	P		P	14 06 15.5 0.0
	comp=Z,0.3nm,0.3s,baz=46,slow=6.9,SNR=1.8						
	comp=Z,0.3nm,0.3s						
HFS	Hagfors	75.48	336	P		P	14 06 16.7 +0.7
	comp=Z,1.1nm,0.6s,baz=96,slow=11,SNR=2.0						
	comp=Z,1.1nm,0.6s						
NOA	NORSAR Array B	75.61	337	P		P	14 06 17.5 +0.6
	comp=Z,0.9nm,0.8s,baz=41,slow=5.8,SNR=3.0						
	comp=Z,0.9nm,0.8s						
NVAR	Mina Array Bea	76.58	52	P		P	14 06 25.2 +2.2
	comp=Z,0.7nm,0.7s,baz=282,slow=4.4,SNR=4.7						
	comp=Z,0.7nm,0.7s						
PDAR	Pinedale Array	79.38	45	P		P	14 06 39.6 +1.1
	comp=Z,0.3nm,0.5s,baz=284,slow=5.3,SNR=2.9						
	comp=Z,0.3nm,0.5s						

TAP ***09*** *14:43:55.0,24°.10N×122°.43E,h28*^{km}*,ML2.8,C*
JMA ***09*** *14:43:54.9±0.2,24°.N±1°.×122°.4E±0°.5,h21*^{km}*±3*^{km}*,*
MV2.6/12,NW OFF ISHIGAKIJIMA IS
ISC 09 14:43:53.1±1.0**,23°.96N**±0°.02×**122°.42E**±0°.02**,h17**^{km}±8^{km}**,**
n84,σ**0**°**.77**/167**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EOS4	EOS4	0.19	331	P		Pb	14 43 60.0	+2.1
	baz=280							
EOS4				S		Sb	14 44 03.8	+2.7
	baz=280							
EOS3	EOS3	0.34	344	P		Pb	14 44 01.5	+0.9
	baz=321							
EOS3				S		Sb	14 44 06.5	+0.7
	baz=321							
EOS2	EOS2	0.49	340	P		Pb	14 44 04.0	+0.8
	baz=318							
EOS2				S		Sb	14 44 10.5	+0.5
	baz=318							
JYNG	Yonagunijimaku	0.69	44	eP		Pb	14 44 06.9	+0.3
JYNG				eS		Sg	14 44 15.3	-0.5
EAHA	Aohua	0.72	301	eP		Pn	14 44 08.2	-0.3
	baz=298							
EAHA				S		Sn	14 44 19.8	+0.6
	baz=298							
YOJ	Yonaguni jima	0.74	47	P		Pg	14 44 07.6	0.0
	baz=62							
YOJ				S		Sg	14 44 17.4	0.0
	baz=62							
YOJ	Yonaguni jima	0.74	47	eP		Pb	14 44 08.1	+0.6
YOJ				eS		Sg	14 44 16.8	-0.5
ETL	Fush Village	0.76	286	eP		Pn	14 44 08.8	-0.3
	baz=258							
ETL				S		Sn	14 44 20.0	0.0
	baz=258							
EWUT	Wuta	0.76	310	i P		Pg	14 44 07.7	-0.3
	baz=300							
EWUT				S		Sg	14 44 18.0	0.0
	baz=300							
TWD	Chiawan	0.76	279	P		Pn	14 44 09.1	+0.1
	baz=268							
TWD				S		Sn	14 44 20.2	0.0
	baz=268							
ENA	Nanau	0.78	307	i P		Pn	14 44 09.1	-0.2
	baz=297							
ENA				S		Sb	14 44 18.8	+0.4
	baz=297							
NACB	Ninganchiao	0.78	286	P		Pn	14 44 09.4	+0.1
	baz=260							
NACB				eS		Sn	14 44 20.8	0.0
	baz=260							
ESAO	Su ao	0.81	320	P		Pb	14 44 08.1	-0.7
	baz=311							
ESAO				S		Sb	14 44 19.0	-0.3
	baz=311							
TWC	Suao	0.83	321	i P		Pb	14 44 08.7	-0.4
	baz=314							
TWC				i S		Sb	14 44 18.5	-1.5
	baz=314							
ETM	Tongmen	0.85	271	P		Pn	14 44 10.4	+0.2
	baz=250							
ETM				eS		Sn	14 44 22.2	0.0
	baz=250							
ESL	Shilin	0.91	261	i P		Pn	14 44 11.7	+0.6
	baz=244							
ESL				eS		Sn	14 44 24.6	+0.7
	baz=244							
LXIB	Xiulin Townshi	0.92	274	P		Pg	14 44 10.9	-0.1
	baz=265							
LXIB				eS		Sn	14 44 25.7	+1.4
	baz=265							
NDS	Dongshan	0.93	317	i P		Pn	14 44 11.5	+0.1
	baz=309							
NDS				eS		Sb	14 44 23.2	+0.4
	baz=309							
WARBT	Fenglin Townsh	0.97	256	P		Pb	14 44 10.9	-0.6
	baz=238							
WARBT				S		Sn	14 44 26.1	+0.6
	baz=238							
EGS		0.99	333	eP		Pb	14 44 08.6	-3.1
	baz=316							
EGS				S		Sb	14 44 23.8	-0.7
	baz=316							
LATG	Datong	1.00	305	P		Pn	14 44 12.6	+0.2
	baz=297							
LATG				eS		Sn	14 44 26.8	+0.6
	baz=297							
ILA	Ilan	1.01	323	eP		Pg	14 44 14.1	+1.4
	baz=308							
ILA				eS		Sb	14 44 25.2	+0.1
	baz=308							
HGSD	Ruisui	1.02	243	P		Pg	14 44 13.2	+0.3
	baz=236							
HGSD				eS		Sn	14 44 28.4	+1.8
	baz=236							
TWE	Neicheng	1.02	318	i P		Pg	14 44 12.8	-0.1
	baz=311							
TWE				S		Sg	14 44 26.5	+0.1
	baz=311							
ENTT	Nioudou	1.03	311	i P		Pn	14 44 12.8	0.0
	baz=304							
ENTT				i S		Sn	14 44 26.9	0.0
	baz=304							
NDT	Datong Townshi	1.05	308	i P		Pg	14 44 13.3	0.0
	baz=300							
NDT				i S		Sg	14 44 27.1	0.0
	baz=300							
NNSB	Datong	1.06	297	P		Pg	14 44 13.3	-0.3
	baz=288							
NNSB				S		Sb	14 44 26.8	+0.2
	baz=288							
NNS	Nan Shan	1.07	297	i P		Pg	14 44 14.0	+0.2
	baz=289							
NNS				i S		Sg	14 44 27.7	-0.2
	baz=289							
WHF	Hehuan Shan	1.07	280	i P		Pg	14 44 14.0	+0.1
	baz=272							
WHF				S		Sn	14 44 28.8	+0.4
	baz=272							
EHY	Hungye	1.10	246	i P		Pg	14 44 14.9	+0.5
	baz=254							
EHY				S		Sn	14 44 30.0	+1.4
	baz=254							
FUSB	Fushanzhiwuyua	1.10	317	P		Pg	14 44 14.3	-0.1
	baz=310							
FUSB				S		Sn	14 44 28.7	0.0
	baz=310							
FUSS	Fushou	1.11	285	P		Pg	14 44 14.4	-0.2
	baz=277							
FUSS				S		Sn	14 44 29.4	+0.2
	baz=277							
TWB1	Santiao Chiao	1.12	340	P		Pn	14 44 12.4	-1.5
	baz=353							
TWB1				i S		Sb	14 44 27.0	-1.2
	baz=353							
OWD	Renai	1.14	270	P		Pg	14 44 14.6	-0.5
	baz=262							
OWD				eS		Sg	14 44 30.3	+0.3
	baz=262							
CHGB	Renai	1.14	275	i P		Pn	14 44 14.5	0.0
	baz=255							
CHGB				S		Sg	14 44 30.4	+0.2
	baz=255							
TIPB	Shuangxi	1.15	332	P		Pn	14 44 14.5	+0.1
	baz=327							
TIPB				S		Sb	14 44 27.6	-1.5
	baz=327							
NWLT	Wulai	1.17	315	P		Pb	14 44 15.0	+0.1
	baz=308							
NWLT				S		Sb	14 44 30.0	+0.2
	baz=308							
YULB	Yu-li	1.17	242	P		Pg	14 44 15.6	-0.1
	baz=251							
YULB				S		Sg	14 44 32.4	+1.3
	baz=251							
EYUL	Yuli	1.18	239	P		Pg	14 44 15.6	-0.2
	baz=233							
EYUL				S		Sg	14 44 32.8	+1.5
	baz=233							
VWDT	VWDT	1.19	260	P		Pg	14 44 16.5	+0.5
	baz=253							
VWDT				eS		Sg	14 44 31.8	+0.2
	baz=253							
YHNB	Yeheng	1.19	307	i P		Pb	14 44 15.5	+0.3
	baz=287							
YHNB				S		Sg	14 44 32.1	+0.5
	baz=287							
TDCB	Techi	1.19	285	P		Pg	14 44 16.2	+0.1
	baz=264							
TDCB				eS		Sg	14 44 31.8	+0.1
	baz=264							
WUSB	Renai	1.19	272	P		Pg	14 44 16.1	0.0
	baz=264							
WUSB				S		Sg	14 44 32.8	+1.1
	baz=264							
TWF1	Yuli	1.19	240	i P		Pg	14 44 16.0	-0.1
	baz=222							
TWF1				i S		Sg	14 44 32.3	+0.6
	baz=222							
NSK	Sanguang	1.20	307	i P		Pn	14 44 15.3	+0.1
	baz=287							
NSK				S		Sn	14 44 31.3	+0.1
	baz=287							
NWF	Wu-fen Shan	1.25	332	eP		Pn	14 44 15.7	-0.2
	baz=328							
NWF				S		Sb	14 44 31.6	-0.6
	baz=328							
WFSB	Wu-fen Shan	1.25	332	eP		Pn	14 44 15.4	-0.4
	baz=328							
WFSB				S		Sb	14 44 32.4	+0.3
	baz=328							
IRIF	Iriomote-Funau	1.26	72	eP		Pg	14 44 17.6	+0.2
IRIF				eS		Sg	14 44 33.6	-0.1
HATJ	Hateruma jima	1.27	85	eS		Sn	14 44 33.0	+0.3
TWA	Mucha	1.27	323	i P		Pg	14 44 17.2	-0.5
	baz=318							
TWA				i S		Sg	14 44 33.9	-0.4
	baz=318							
FULB	Fuli	1.28	234	P		Pg	14 44 17.3	-0.5
	baz=228							
FULB				S		Sg	14 44 37.0	+2.6
	baz=228							
NHDH	Xindian Distri	1.29	321	P		Pb	14 44 17.3	+0.4
	baz=315							
NHDH				S		Sg	14 44 34.9	0.0
	baz=315							
TNOU	National Taiwa	1.33	334	eP		Pb	14 44 17.4	-0.1
	baz=330							
TNOU				S		Sn	14 44 33.2	-0.9
	baz=330							
SSLB	Suanglung	1.35	263	P		Pg	14 44 18.7	-0.5
	baz=257							
SSLB				eS		Sg	14 44 36.0	-0.8
	baz=257							
NFF	Wufeng Townshi	1.36	300	P		Pg	14 44 19.6	+0.2
	baz=293							
NFF				S		Sb	14 44 36.1	+0.7
	baz=293							
WCS	Beigang Elemen	1.38	274	P		Pb	14 44 18.6	+0.1
	baz=268							
WCS				eS		Sg	14 44 37.1	-0.6
	baz=268							
WHP	Taichung City	1.38	284	i P		Pg	14 44 20.4	+0.6
	baz=265							
WHP				S		Sg	14 44 37.7	-0.1
	baz=265							
SMLT	Sun Moon Lake	1.39	267	P		Pg	14 44 20.3	+0.3
	baz=261							
SMLT				eS		Sg	14 44 37.5	-0.6
	baz=261							
YM01	YM01	1.41	327	eP		Pb	14 44 18.7	-0.4
	baz=323							
YM01				eS		Sn	14 44 35.8	-0.6
	baz=323							
YUS	Yu-Shan	1.42	251	i P		Pg	14 44 20.3	-0.3
	baz=245							
YUS				S		Sg	14 44 39.3	+0.1
	baz=245							
TYC	Yuchr	1.43	268	i P		Pg	14 44 19.7	-1.0
	baz=262							
TYC				eS		Sg	14 44 38.0	-1.3
	baz=262							
YM08	YM08	1.44	329	P		Pb	14 44 19.1	-0.4
	baz=324							
YM08				eS		Sn	14 44 36.0	-0.9
	baz=324							
LIOB	Emei	1.45	298	i P		Pg	14 44 20.5	-0.6
	baz=292							
LIOB				S		Sb	14 44 38.7	+0.8
	baz=292							
NSTT	Nanjuang	1.46	298	i P		Pg	14 44 20.5	-0.7
	baz=291							
NSTT				S		Sg	14 44 39.6	-0.6
	baz=291							
WHYT	Xinyi Township	1.46	260	P		Pg	14 44 20.7	-0.5
	baz=246							
WHYT				eS		Sg	14 44 40.5	+0.4
	baz=246							
ELDTW	Lidau	1.50	240	i P		Pb	14 44 20.7	+0.2
	baz=234							
ELDTW				S		Sb	14 44 39.3	+0.1
	baz=234							
TWY	Chenhua	1.51	331	P		Pn	14 44 19.8	+0.4
	baz=327							
TWY				eS		Sn	14 44 38.3	-0.3
	baz=327							
LDUT	Ludao	1.55	215	P		Pn	14 44 20.1	+0.2
	baz=211							
LDUT				S		Sb	14 44 40.0	-0.6
	baz=211							
TWQ1	Liyutan	1.55	285	eP		Pg	14 44 23.4	+0.5
	baz=279							
TWQ1				S		Sg	14 44 43.1	-0.1
	baz=279							
LONT	Longtian	1.58	229	eP		Pb	14 44 21.3	-0.6
	baz=238							
LONT				S		Sg	14 44 43.0	-1.1
	baz=238							
JIJ	Ishigaki jima	1.63	75	eP		Pb	14 44 22.3	-0.3
JIJ				eS		Sn	14 44 41.8	+0.3
TWGBT	Beinan	1.67	228	eP		Pb	14 44 23.7	+0.3
	baz=236							
TWGBT				eS		Sb	14 44 44.7	+0.5
	baz=236							
TWG	Pinlang	1.68	228	eP		Pg	14 44 24.9	-0.4
	baz=236							
TWG				eS		Sg	14 44 45.8	-1.4
	baz=236							
WCKO	Fanlu	1.74	253	P		Pg	14 44 26.0	-0.5
	baz=238							
WCKO				S		Sg	14 44 49.1	-0.2
	baz=238							
WDLH	Douliu	1.74	262	eP		Pg	14 44 26.3	-0.3
	baz=257							
WDLH				S		Sg	14 44 50.1	+0.9
	baz=257							
TPUB	Ta-pu	1.77	249	P		Pg	14 44 26.1	-0.9
	baz=244							
TPUB				S		Sg	14 44 50.1	+0.1
	baz=244							
WTP	Ta-pu	1.80	247	i P		Pg	14 44 27.3	-0.4
	baz=243							
WTP				i S		Sg	14 44 51.9	+0.8
	baz=243							
JISG	Ishigakijimahi	1.84	70	eP		Pn	14 44 24.9	+1.0
JISG				eS		Sn	14 44 46.7	0.0
SLGT	Liugui	1.89	240	i P		Pg	14 44 27.8	-1.6
	baz=227							
SLGT				S		Sg	14 44 52.4	-1.5
	baz=227							
TWK	Hsinying	1.90	249	i P		Pg	14 44 28.4	-1.2
	baz=245							
TWK				i S		Sg	14 44 53.6	-0.7
	baz=245							
SNST	Tainan City	1.91	248	eP		Pb	14 44 28.1	+0.6
	baz=244							
SNST				S		Sg	14 44 52.6	-2.0
	baz=244							
MASBT	Mashibuluo	2.12	231	P		Pg	14 44 32.4	-1.4
	baz=222							
MASBT				eS		Sb	14 44 56.3	-0.8
	baz=222							
EAST	Anshuo	2.13	223	eP		Pb	14 44 30.9	-0.4
	baz=220							
EAST				eS		Sb	14 44 56.3	-1.2
	baz=220							
SLIU	Shizi	2.29	221	P		Pb	14 44 34.6	+0.7
	baz=218							
SLIU				eS		Sb	14 45 01.9	0.0
	baz=218							

IDC 09 15:10:33.6±1.6**,6°.15S**×**143°.49E,h0**^{km}**,mb3.8**/2**,**
mbtmp3.7/5**,ML3.0**/1**,Error ellipse: s-maj=44.4km**
s-min=28.0km az=59.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.87	132	Pn		Pn	15 11 48.6	+0.5
	11nm,0.7s,baz=307,slow=15,SNR=2.2							
PMG				Sn		Sn	15 12 46.3	+1.1
	0.8nm,0.3s,baz=231,slow=15,SNR=2.3							
WRA	Warramunga Arr	16.34	212	Pn		Pn	15 14 24.3	-0.4
	0.1nm,0.3s,baz=32,slow=13,SNR=4.4							
WRA				Sn		Sn	15 17 07.9	-19
	0.1nm,0.3s,baz=34,slow=22,SNR=1.4							
WRA				Lg		Lg	15 18 58.2	
	baz=31,slow=28,SNR=2.1							
	1.2nm,0.9s							
ASAR	Alice Springs	19.71	207	P		Pn	15 15 05.6	-0.6
	2.0nm,0.7s,baz=33,slow=10,SNR=27							
MKAR	Makanchi Array	75.42	322	P		P	15 22 19.8	+0.3
	0.6nm,0.8s,baz=101,slow=7.5,SNR=5.5							
	0.6nm,0.8s							

QSPA	**South Pole Qui**	**83.82**	**180**	P		P	15 23 04.1	-0.9
	0.9nm,0.8s,baz=72,slow=5.3,SNR=2.3							
	0.9nm,0.8s							

*CATAC **09** 16:01:04.8±0.3, 12°.22N×86°.83W, h114km±3km, ML3.6*
*SNET **09** 16:01:06.3±1.3, 12°.33N×86°.95W, h126km±23km, ML3.7*
ISC 09 16:01:05.2±1.5,**12°.25N**±0°.06×**86°.83W**±0°.04,**h122**km±7km, **n69**,σ0**s73**/102,**Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.25**	**107**	*i* P	**Pn**	**16 01 21.5**	**-0.8**
COPN				IAML		16 01 22.9	
	comp=Z,1μm,1.0s						
PACN	**Al O del Volca**	**0.25**	**9**	*i* P	**Pn**	**16 01 22.2**	**-0.1**
PACN				IAML		16 01 22.5	
	comp=Z,5μm,1.0s						
LEVN	**Ruinas Leon Vi**	**0.26**	**55**	*i* P	**Pn**	**16 01 21.7**	**-0.6**
BC86	**Nagarote**	**0.26**	**87**	*i* P	**Pn**	**16 01 21.8**	**-0.5**
BC86				IAML		16 01 22.8	
	comp=Z,7μm,1.0s						
CNGA	**Al SSO del Vol**	**0.27**	**28**	*i* P	**Pn**	**16 01 20.8**	**-1.6**
CNGA				IAML		16 01 21.5	
	comp=Z,4μm,1.0s						
CNGN	**Cerro Negro**	**0.28**	**28**	*i* P	**Pn**	**16 01 21.7**	**-0.8**
CNGN				IAML		16 01 22.3	
	comp=Z,2μm,1.0s						
ROCN	**Rota Cerro Neg**	**0.28**	**18**	*i* P	**Pn**	**16 01 22.0**	**-0.4**
ROCN				IAML		16 01 22.4	
	comp=Z,5μm,1.0s						
ROCN				*i* S	**Sn**	**16 01 35.8**	**+0.4**
BC84	**Volcan Momotom**	**0.32**	**64**	*i* P	**Pn**	**16 01 22.0**	**-0.5**
BC84				IAML		16 01 22.8	
	comp=Z,6μm,1.0s						
PLRN	**Geotermica Pol**	**0.34**	**11**	*i* P	**Pn**	**16 01 22.1**	**-0.5**
PLRN				IAML		16 01 23.8	
	comp=Z,3μm,1.0s						
PLRN				*i* S	**Sn**	**16 01 36.2**	**+0.4**
QUEN	**Al S del Volca**	**0.34**	**357**	*i* P	**Pn**	**16 01 22.3**	**-0.4**
QUEN				IAML		16 01 23.5	
	comp=Z,6μm,1.0s						
ILCN	**San Idelfonso**	**0.35**	**22**	*i* P	**Pn**	**16 01 22.1**	**-0.6**
ILCN				IAML		16 01 22.2	
	comp=Z,960nm,1.0s						
MOM2	**El Cardon**	**0.39**	**62**	*i* P	**Pn**	**16 01 22.5**	**-0.3**
MOM2				IAML		16 01 22.9	
	comp=Z,2μm,1.0s						
MOM2				*i* S	**Sn**	**16 01 36.8**	**+0.8**
AMTN	**Mateare**	**0.39**	**92**	*i* P	**Pn**	**16 01 22.6**	**-0.2**
AMTN				IAML		16 01 22.8	
	comp=Z,6μm,1.0s						
SAPS	**Ciudad Sandino**	**0.43**	**101**	*i* P	**Pn**	**16 01 22.5**	**-0.5**
SAPS				IAML		16 01 23.0	
	comp=Z,2μm,1.0s						
PKGN	**Cerro Pekin**	**0.44**	**341**	*i* P	**Pn**	**16 01 22.5**	**-0.6**
PKGN				IAML		16 01 25.0	
	comp=Z,6μm,1.0s						
PKGN				*i* S	**Sn**	**16 01 37.5**	**+0.9**
APYN	**Apoyeque**	**0.47**	**92**	*i* P	**Pn**	**16 01 23.0**	**-0.3**
APYN				IAML		16 01 41.1	
	comp=Z,26nm,1.0s						
CRIN	**San Cristobal**	**0.49**	**335**	*i* P	**Pn**	**16 01 23.3**	**-0.2**
CRIN				IAML		16 01 23.4	
	comp=Z,4μm,1.0s						
CRIN				*i* S	**Sn**	**16 01 37.8**	**+0.5**
APQ2	**Apoyeque**	**0.50**	**96**	*i* P	**Pn**	**16 01 22.6**	**-0.8**
APQ2				*i* S	**Sn**	**16 01 38.9**	**+1.8**
APQ2				IAML		16 01 42.4	
	comp=Z,760nm,1.0s						
ABCN	**Banco Central**	**0.53**	**104**	*i* P	**Pn**	**16 01 23.3**	**-0.3**
ABCN				*i* S	**Sn**	**16 01 37.7**	**+0.3**
ABCN				IAML		16 01 45.0	
	comp=Z,5μm,1.0s						
RE6B4	**Centro civico**	**0.54**	**103**	*i* P	**Pn**	**16 01 23.1**	**-0.6**
RE6B4				IAML		16 01 23.6	
	comp=Z,3μm,1.0s						
ALLN	**Telcor Managua**	**0.56**	**100**	*i* P	**Pn**	**16 01 23.2**	**-0.6**
ALLN				*i* S	**Sn**	**16 01 38.7**	**+1.0**
ALLN				IAML		16 02 01.8	
	comp=Z,5μm,1.0s						
RB28C	**Hialeah**	**0.56**	**103**	*i* P	**Pn**	**16 01 23.1**	**-0.7**
RB28C				IAML		16 01 23.7	
	comp=Z,4μm,1.0s						
TISN	**Laguna Tiscapa**	**0.56**	**101**	*i* P	**Pn**	**16 01 23.1**	**-0.7**
TISN				IAML		16 01 23.7	
	comp=Z,300nm,1.0s						
USIM	**UNAN**	**0.56**	**104**	*i* P	**Pn**	**16 01 23.4**	**-0.4**
USIM				*i* S	**Sn**	**16 01 38.9**	**+1.1**
USIM				IAML		16 02 08.2	
	comp=Z,7μm,1.0s						
RA5A7	**El Crucero**	**0.57**	**117**	*i* P	**Pn**	**16 01 23.0**	**-1.0**
RA5A7				IAML		16 01 42.6	
	comp=Z,5μm,1.0s						
ENAN	**Enatrel Managu**	**0.58**	**104**	*i* P	**Pn**	**16 01 23.7**	**-0.2**
ENAN				*i* S	**Sn**	**16 01 39.2**	**+1.2**
ENAN				IAML		16 01 45.7	
	comp=Z,12μm,1.0s						
MGA1	**Managua**	**0.58**	**100**	*i* P	**Pn**	**16 01 23.3**	**-0.6**
MGA1				IAML		16 01 34.5	
	comp=Z,7μm,1.0s						
MGA1				*i* S	**Sn**	**16 01 39.2**	**+1.2**
R4DEC	**Barrio San Lui**	**0.58**	**100**	*i* P	**Pn**	**16 01 23.6**	**-0.3**
R4DEC				IAML		16 01 23.6	
	comp=Z,2μm,1.0s						
R4DEC				*i* S	**Sn**	**16 01 37.8**	**-0.2**
CRUN	**El Crucero**	**0.59**	**117**	*i* P	**Pn**	**16 01 22.0**	**-2.1**
CRUN				IAML		16 01 48.9	
	comp=Z,19μm,1.0s						
BC87	**San Francisco**	**0.59**	**64**	*i* P	**Pn**	**16 01 23.3**	**-0.7**
BC87				IAML		16 01 23.9	
	comp=Z,5μm,1.0s						
R0529	**La Mascota**	**0.60**	**102**	*i* P	**Pn**	**16 01 23.4**	**-0.6**
R0529				IAML		16 01 23.9	
	comp=Z,2μm,1.0s						
R0529				*i* S	**Sn**	**16 01 40.0**	**+1.8**
MAFN	**Magfor**	**0.60**	**105**	*i* P	**Pn**	**16 01 23.9**	**-0.2**
MAFN				*i* S	**Sn**	**16 01 39.5**	**+1.2**
MAFN				IAML		16 01 49.0	
	comp=Z,6μm,1.0s						
WILN	**Americas 2**	**0.64**	**98**	*i* P	**Pn**	**16 01 23.8**	**-0.5**
WILN				IAML		16 01 24.2	
	comp=Z,960nm,1.0s						
WILN				*i* S	**Sn**	**16 01 38.9**	**+0.2**
AERN	**Aeropuerto Man**	**0.66**	**99**	*i* P	**Pn**	**16 01 24.3**	**-0.2**
AERN				*i* S	**Sn**	**16 01 39.3**	**+0.3**
AERN				IAML		16 01 54.3	
	comp=Z,6μm,1.0s						
BRAN	**Las Pilas**	**0.66**	**45**	*i* P	**Pn**	**16 01 22.6**	**-1.9**
BRAN				IAML		16 01 23.1	
	comp=Z,4μm,1.0s						
MAS3	**Al N del Volca**	**0.68**	**109**	*i* P	**Pn**	**16 01 23.9**	**-0.8**
MAS3				*i* S	**Sn**	**16 01 39.2**	**-0.2**
MAS3				IAML		16 01 43.4	
	comp=Z,2μm,1.0s						
MASN	**Masaya**	**0.72**	**111**	*i* S	**Sn**	**16 01 39.8**	**-0.1**
SBEN	**San Benito**	**0.76**	**86**	*i* P	**Pn**	**16 01 24.9**	**-0.4**
SBEN				IAML		16 01 25.3	
	comp=Z,6μm,1.0s						
SBEN				*i* S	**Sn**	**16 01 40.6**	**+0.2**
LIMN	**Finca el Limon**	**0.93**	**29**	*i* P	**Pn**	**16 01 26.5**	**-0.4**
LIMN				IAML		16 01 44.1	
	comp=Z,380nm,1.0s						
BOAB	**BOACO BROADBAN**	**1.16**	**80**	*i* P	**Pn**	**16 01 28.7**	**-0.3**
BOAB				IAML		16 01 28.8	
	comp=Z,180nm,1.0s						
BOAB				*i* S	**Sn**	**16 01 46.6**	**-0.5**
SOMN	**Somoto**	**1.18**	**10**	*i* P	**Pn**	**16 01 30.5**	**+1.0**
SOMN				IAML		16 01 30.6	
	comp=Z,200nm,1.0s						
SOMN				*i* S	**Sn**	**16 01 49.0**	**+1.2**
AMPH	**Amapala**	**1.30**	**322**	*i* P	**Pn**	**16 01 30.5**	**-0.1**
AMPH				*e*S	**Sn**	**16 01 49.7**	**-0.2**
AMPH	**Amapala**	**1.30**	**322**	*i* P	**Pn**	**16 01 30.5**	**-0.1**
AMPH				*i* S	**Sn**	**16 01 49.5**	**-0.4**
CNCH	**Conchagua**	**1.41**	**316**	*e*P	**Pn**	**16 01 31.4**	**-0.5**
CNCH				*e*S	**Sn**	**16 01 52.9**	**+0.7**
CNCH	**Conchagua**	**1.41**	**316**	*i* P	**Pn**	**16 01 31.7**	**-0.2**
CNCH				*i* S	**Sn**	**16 01 52.8**	**+0.6**
CNCH				IAML		16 01 59.5	
	comp=Z,2μm,1.0s						
LCND	**La Caada**	**1.47**	**316**	*e*P	**Pn**	**16 01 32.2**	**-0.3**
LCND				*e*S	**Sn**	**16 01 53.0**	**-0.3**
LCND				IAML		16 01 57.9	
	comp=Z,432nm,0.4s						
LCND	**La Caada**	**1.47**	**316**	*i* P	**Pn**	**16 01 31.8**	**-0.7**
LCND				*i* S	**Sn**	**16 01 52.8**	**-0.4**
LCND				IAML		16 01 55.4	
	comp=Z,470nm,1.0s						
INTP	**Intipuca**	**1.52**	**308**	*e*P	**Pn**	**16 01 32.8**	**-0.2**
INTP				*e*S	**Sn**	**16 01 53.9**	**-0.3**
ACON	**Acoyapa**	**1.65**	**100**	*i* P	**Pn**	**16 01 33.9**	**-0.6**
ACON				IAML		16 01 45.9	
	comp=Z,110nm,1.0s						
ACON				*i* S	**Sn**	**16 01 56.3**	**-0.5**
YUSH	**Yuscaran**	**1.69**	**360**	*i* P	**Pn**	**16 01 35.0**	**-0.2**
YUSH				*i* S	**Sn**	**16 01 57.8**	**-0.2**
JUCU	**Jucuarın**	**1.70**	**306**	*e*P	**Pn**	**16 01 35.5**	**+0.2**
JUCU	**Jucuarın**	**1.70**	**306**	*i* P	**Pn**	**16 01 34.8**	**-0.5**
JUCU				*i* S	**Sn**	**16 01 57.3**	**-0.8**
JUCU				IAML		16 02 02.7	
	comp=Z,990nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.84**	**347**	*i* P	**Pn**	**16 01 37.0**	**0.0**
TGUH				IAML		16 01 37.5	
	comp=Z,540nm,1.0s						
TGUH				*i* S	**Sn**	**16 02 00.2**	**-1.1**
PACA	**Pacayal**	**1.89**	**310**	*e*P	**Pn**	**16 01 39.1**	**+1.5**
PACA	**Pacayal**	**1.89**	**310**	*i* P	**Pn**	**16 01 38.7**	**+1.1**
PACA				IAML		16 02 13.8	
	comp=Z,3μm,1.0s						
MARCA	**Marcala la Paz**	**2.23**	**328**	*i* P	**Pn**	**16 01 41.8**	**0.0**
SCLA	**Alcaldia de Sa**	**2.34**	**308**	*e*P	**Pn**	**16 01 43.5**	**+0.3**
SCLA	**Alcaldia de Sa**	**2.34**	**308**	*i* P	**Pn**	**16 01 43.4**	**+0.3**
SCLA				IAML		16 01 43.6	
	comp=Z,110nm,1.0s						
ESPN	**Las Esperanzas**	**2.48**	**91**	*i* P	**Pn**	**16 01 44.5**	**-0.3**
ESPN				*i* S	**Sn**	**16 02 15.7**	**+0.5**
ESPN				IAML		16 03 26.4	
	comp=Z,230nm,1.0s						
JUTIH	**Juticalpa Olan**	**2.48**	**14**	*i* P	**Pn**	**16 01 44.9**	**0.0**
PAVA	**Las Pavas**	**2.51**	**306**	*i* P	**Pn**	**16 01 45.2**	**-0.2**
PAVA				IAML		16 02 23.4	
	comp=Z,400nm,1.0s						
LFRS	**El Faro**	**2.56**	**302**	*e*P	**Pn**	**16 01 45.5**	**-0.6**
LOMA	**Loma Larga**	**2.67**	**302**	*i* P	**Pn**	**16 01 48.0**	**+0.6**
LOMA				IAML		16 02 22.6	
	comp=Z,550nm,1.0s						
INDI	**Punta indio, G**	**2.71**	**151**	*i* P	**Pn**	**16 01 48.1**	**+0.3**
INDI				IAML		16 01 48.1	
	comp=Z,340nm,1.0s						
PMON	**Piamonte**	**2.82**	**301**	*e*P	**Pn**	**16 01 50.0**	**+0.6**
JAYA	**Jayaque - finc**	**2.91**	**299**	*e*P	**Pn**	**16 01 50.6**	**+0.1**
JAYA				*e*S	**Sn**	**16 02 23.9**	**-1.6**
JAYA				IAML		16 02 25.9	
	comp=Z,484nm,0.2s						
SNJE	**San Jose**	**3.14**	**301**	*e*P	**Pn**	**16 01 54.2**	**+0.5**
MTO3	**Montecristo**	**3.26**	**311**	*e*P	**Pn**	**16 01 55.5**	**+0.3**
NUBE	**Las Nubes**	**3.31**	**300**	*e*P	**Pn**	**16 01 55.9**	**+0.1**

*ATH **09** 16:25:43.4, 36°.59N×21°.51E, h13km±3km, ML2.5/4, Error ellipse: s-maj=6.3km s-min=1.9km az=42.0*
*THE **09** 16:25:45.4, 36°.70N×21°.59E, h22km±2km, ML2.5/2, Error ellipse: s-maj=5.3km s-min=1.5km az=80.0*
ISC 09 16:25:44.0±1.9,**36°.64N**±0°.07×**21°.57E**±0°.09,**h15**km,**n21**, σ0**s67**/25,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.29**	**28**	P	**Pg**	**16 25 50.5**	**+0.4**
PYL				S	**Sb**	**16 25 56.1**	**+0.6**
	1μm,0.2s						
PYL	**PYLOS**	**0.29**	**28**	P	**Pg**	**16 25 50.6**	**+0.4**
PYL				S	**Sb**	**16 25 55.7**	**+0.1**
PYL				AML	AML	16 25 59.4	
	comp=E,2294μm,0.2s						
PYL				AML	AML	16 25 59.5	
	comp=N,2302μm,0.3s						
ITM	**Ithomi**	**0.61**	**28**	P	**Pg**	**16 25 55.6**	**-0.4**
ITM				S	**Sg**	**16 26 03.9**	**-0.2**
	comp=N,612nm,0.6s						
ITM	**Ithomi**	**0.61**	**28**	P	**Pg**	**16 25 55.6**	**-0.4**
ITM				S	**Sb**	**16 26 06.0**	**+1.2**
ITM				AML	AML	16 26 07.1	
	comp=N,983μm,0.3s						
ITM				AML	AML	16 26 07.6	
	comp=E,1347μm,0.4s						
VLI	**Veliai**	**1.10**	**86**	P	**Pb**	**16 26 04.9**	**+0.2**
VLI	**Veliai**	**1.10**	**86**	P	**Pb**	**16 26 04.8**	**+0.2**
VLI				AML	AML	16 26 28.6	
	comp=E,240μm,0.4s						
VLI				AML	AML	16 26 32.3	
	comp=N,236μm,0.7s						
LTHK	**Lithakia**	**1.22**	**331**	P	**Pn**	**16 26 05.6**	**-0.9**
RLS	**Riolos of Patr**	**1.42**	**357**	P	**Pn**	**16 26 09.2**	**0.0**
GUR	**Goura**	**1.43**	**25**	P	**Pn**	**16 26 09.2**	**-0.3**
GUR	**Goura**	**1.43**	**25**	P	**Pn**	**16 26 09.3**	**-0.3**
GUR				AML	AML	16 26 42.5	
	comp=E,307μm,0.6s						
GUR				AML	AML	16 26 49.5	
	comp=N,346μm,0.5s						
KRND	**KRANIDI**	**1.46**	**59**	P	**Pn**	**16 26 09.4**	**-0.4**
KLV	**Kalavryta, Ach**	**1.47**	**18**	P	**Pn**	**16 26 09.6**	**-0.5**
KLV	**Kalavryta, Ach**	**1.47**	**18**	P	**Pn**	**16 26 09.6**	**-0.5**
ANKY	**Antikythira Is**	**1.59**	**118**	P	**Pn**	**16 26 11.8**	**+0.1**
LOUT	**Loutraki**	**1.75**	**39**	P	**Pn**	**16 26 13.8**	**0.0**
EFP	**Efpalio**	**1.80**	**8**	P	**Pn**	**16 26 15.1**	**+0.6**
ANX	**Ano Chora**	**1.97**	**8**	P	**Pn**	**16 26 17.1**	**+0.1**
VLY	**Voula,Athens**	**2.15**	**55**	P	**Pn**	**16 26 17.9**	**-1.4**
VLY	**Voula,Athens**	**2.15**	**55**	P	**Pn**	**16 26 17.8**	**-1.4**
AGG	**Agios Georgios**	**2.45**	**14**	P	**Pn**	**16 26 22.3**	**-1.2**
AGG	**Agios Georgios**	**2.45**	**14**	P	**Pn**	**16 26 23.3**	**-0.2**

*IDC **09** 16:49:58.0±9.9, 34°.83N×75°.59E, h0km, mb3.7/3, mbtmp3.6/4, ML2.7/1, Error ellipse: s-maj=182.4km s-min=45.0km az=142.0*
*SOME **09** 16:50:37.1, 39°.37N×73°.67E, h15km*
*KRNET **09** 16:50:37.1±0.1, 39°.48N×73°.83E, h15km, mb3.6*
*NNC **09** 16:50:45.3±1.0, 39°.76N×73°.56E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=8.2km s-min=5.0km az=172.0*
ISC 09 16:50:39.0±1.4,**39°.58N**±0°.05×**73°.68E**±0°.03,**h2**km±10km, **n58**,σ1**s98**/91,**30C-18D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.45**	**343**	⇓*e*P	**Pb**	**16 50 48.7**	**-1.2**
	baz=35						
SFK				⇓*e*S	**Sb**	**16 50 56.8**	**-0.4**
	baz=35						
OHH	**Osh**	**1.16**	**324**	⇓*i*P	**Pb**	**16 51 01.3**	**-0.6**
	baz=23						
OHH				⇓*i*S	**Sn**	**16 51 19.5**	**+0.5**
	baz=23						
DRK	**Karamyk**	**1.45**	**267**	⇑*i*P	**Pg**	**16 51 06.5**	**-0.4**
	baz=71						
DRK				⇑*i*S	**Sg**	**16 51 28.3**	**+2.6**
	baz=71						
ARSB	**Arslanbob**	**1.82**	**343**	⇑*e*P	**Pb**	**16 51 12.9**	**-0.3**
	baz=41						
ARSB				⇑*e*S	**Sg**	**16 51 39.0**	**+1.5**
	baz=41						
BTK	**Batken**	**2.25**	**283**	⇑*e*P	**Pb**	**16 51 18.6**	**-1.9**
	baz=85						
BTK				⇑*e*S	**Sg**	**16 51 49.8**	**-1.6**
	baz=85						
ARLS	**Aral**	**2.33**	**12**	⇑*e*P	**Pb**	**16 51 20.0**	**-1.9**
	baz=9.0						
ARLS				⇑*e*S	**Sb**	**16 51 50.1**	**-1.1**
	baz=9.0						
ARK	**Arkit**	**2.57**	**330**	⇑*e*P	**Pb**	**16 51 23.6**	**-2.3**
	baz=29						
ARK				⇑*e*S	**Sb**	**16 51 57.3**	**-0.7**
	baz=29						
GAR	**Garm**	**2.67**	**258**	⇑*i*P	**Pn**	**16 51 24.1**	**+0.9**
	baz=61						
GAR				⇑*i*S	**Sb**	**16 51 58.7**	**-2.3**
	baz=61						
UCH	**Uchtor**	**2.72**	**13**	⇑*i*P	**Pn**	**16 51 24.7**	**+0.5**
	baz=10.0						
UCH				⇑*e*S	**Sb**	**16 52 00.0**	**-2.6**
	baz=10.0						
TRKS	**Terek-Say**	**2.74**	**316**	⇑*i*P	**Pn**	**16 51 25.4**	**+1.2**
	baz=15						
TRKS				⇑*i*S	**Sb**	**16 52 00.5**	**-2.6**
	baz=15						
MNAS	**Manas**	**3.04**	**343**	⇓*e*P	**Pb**	**16 51 30.4**	**-3.5**
	baz=42						
MNAS				⇓*i*S	**Sb**	**16 52 08.6**	**-2.9**
	baz=42						
EKS2	**Erkin-Say**	**3.08**	**1**	⇑*e*P	**Pn**	**16 51 29.9**	**+1.1**
	baz=59						
EKS2				⇑*i*S	**Sb**	**16 52 08.9**	**-3.8**
	baz=59						
AAK	**Ala-Archa**	**3.12**	**11**	Pn	**Pb**	**16 51 34.5**	**-0.8**
	8.4nm,0.5s						
AAK				Pg	**Pg**	**16 51 40.1**	**+1.4**
	16nm,0.6s						
AAK				⇑Lg	Lg	16 52 19.1	
	112nm,0.8s						
AAK	**Ala-Archa**	**3.12**	**11**	⇑*e*P	**Pn**	**16 51 30.2**	**+0.8**
	baz=9.0						
AAK				⇑*i*S	**Sn**	**16 52 09.2**	**+1.9**
	baz=9.0						
MRKS	**Merke**	**3.18**	**354**	*e*P	**Pg**	**16 51 38.1**	**-1.8**
	20nm,0.5s						
MRKS				*e*S	**Sg**	**16 52 22.4**	**+1.3**
	167nm,0.6s						
MRKS	**Merke**	**3.18**	**354**	Pg	**Pg**	**16 51 38.4**	**-1.5**
	20nm,0.6s						
MRKS				Lg	Lg	16 52 20.4	
	167nm,0.3s						
BOOM	**Boomskoye usch**	**3.37**	**30**	⇑*e*P	**Pn**	**16 51 32.9**	**0.0**
	baz=27						
BOOM				⇑*i*S	**Sn**	**16 52 13.4**	**-0.2**
	baz=27						
CHMS	**Chumysh**	**3.51**	**13**	⇑Pn	**Pb**	**16 51 39.2**	**-2.7**
	10nm,0.6s						
CHMS				⇑Lg	Lg	16 52 31.1	
	159nm,1.1s						
CHMS	**Chumysh**	**3.51**	**13**	⇓*e*P	**Pn**	**16 51 35.4**	**+0.7**
	baz=11						
CHMS				⇓*i*S	**Sn**	**16 52 18.4**	**+1.6**
	baz=11						
TKM2	**Tokmak 2**	**3.64**	**23**	⇓Pn	**Pb**	**16 51 42.3**	**-1.9**
	2.8nm,0.6s						
TKM2				⇑Pg	**Pg**	**16 51 49.8**	**+1.1**
	6.5nm,0.7s						
TKM2				⇓Lg	Lg	16 52 36.5	
	52nm,0.6s						
KDJ	**Kajisay**	**3.68**	**45**	⇓*e*P	**Pn**	**16 51 37.2**	**+0.1**
	baz=43						
KDJ				⇓*e*S	**Sn**	**16 52 20.5**	**-0.7**
	baz=43						
IUG	**Iuzhnay**	**3.77**	**314**	*e*P	**Pg**	**16 51 49.5**	**-1.8**
	32nm,0.7s						
IUG				*e*S	**Sg**	**16 52 42.6**	**+2.6**
	92nm,0.6s						
IUG	**Iuzhnay**	**3.77**	**314**	Pg	**Pg**	**16 51 51.0**	**-0.2**
	55nm,0.5s						
IUG				Lg	Lg	16 52 42.0	
	214nm,0.7s						
KST	**Kastek**	**3.86**	**26**	*e*P	**Pg**	**16 51 51.5**	**-1.6**
	3.6nm,0.4s						
KST				*e*S	**Sg**	**16 52 45.2**	**+2.1**
	84nm,0.8s						
KST	**Kastek**	**3.86**	**26**	Pg	**Pg**	**16 51 53.6**	**+0.5**
	10.0nm,0.4s						
KST				Lg	Lg	16 52 46.3	
	93nm,0.7s						
SGDS	**Sogindy**	**3.93**	**10**	Pg	**Pg**	**16 51 53.8**	**-0.5**
	5.4nm,0.1s						
SGDS				Lg	Lg	16 52 46.8	
	27nm,0.1s						
MTBS	**Maitube**	**4.11**	**29**	*e*P	**Pg**	**16 51 55.9**	**-1.8**
	15nm,0.3s						
MTBS				*e*S	**Sg**	**16 52 52.8**	**+1.9**
	32nm,0.5s						
MTBS	**Maitube**	**4.11**	**29**	Pg	**Pg**	**16 51 57.4**	**-0.3**
	15nm,0.3s						
MTBS				Lg	Lg	16 52 52.8	
	32nm,0.5s						
CHM	**Chimkent**	**4.12**	**313**	*e*P	**Pg**	**16 51 57.1**	**-0.9**
	48nm,0.1s						
CHM				*e*S	**Sg**	**16 52 54.4**	**+3.0**
	161nm,0.7s						
TNSS	**Tian-Shan**	**4.24**	**34**	*e*P	**Pg**	**16 51 58.5**	**-1.7**
	6.4nm,0.4s						
TNSS				*e*S	**Sg**	**16 52 57.0**	**+1.8**
	14nm,1.2s						
TNSS	**Tian-Shan**	**4.24**	**34**	Pg	**Pg**	**16 52 00.0**	**-0.2**
	14nm,0.5s						
TNSS				Lg	Lg	16 52 57.0	
	14nm,1.2s						
KK31	**Karatay Array**	**4.25**	**327**	⇓Pn	**Pn**	**16 51 47.9**	**+3.0**
	1.7nm,0.3s,baz=141,slow=13,SNR=29						
KK31				⇑Pg	**Pb**	**16 51 56.9**	**+2.4**
	3.3nm,0.4s,baz=150,slow=16,SNR=10						
KK31				⇓Lg	Lg	16 52 50.4	
	28nm,0.7s						
AAA	**Alma-Ata**	**4.37**	**33**	*e*P	**Pg**	**16 52 00.2**	**-2.5**
	22nm,0.1s						
AAA				*e*S	**Sg**	**16 52 59.9**	**+0.7**
	112nm,1.1s						
AAA	**Alma-Ata**	**4.37**	**33**	Pg	**Pg**	**16 52 01.6**	**-1.0**
	19nm,0.2s						
AAA				Lg	Lg	16 52 59.9	
	112nm,1.1s						
KRBS	**Karabastau**	**4.38**	**19**	*e*P	**Pg**	**16 52 01.4**	**-1.5**
	9.9nm,1.2s						
KRBS				*e*S	**Sg**	**16 53 01.8**	**+2.3**
	63nm,1.2s						
KRBS	**Karabastau**	**4.38**	**19**	Pg	**Pg**	**16 52 02.6**	**-0.2**
	9.9nm,1.2s						
KRBS				Lg	Lg	16 53 01.8	
	63nm,1.2s						
MDOK	**Medeo**	**4.39**	**34**	*e*P	**Pg**	**16 52 01.5**	**-1.5**
	7.9nm,0.7s						
MDOK				*e*S	**Sg**	**16 53 02.2**	**+2.3**
	31nm,1.2s						
MDOK	**Medeo**	**4.39**	**34**	⇑Pn	**Pb**	**16 51 52.9**	**-4.0**
	3.7nm,0.6s						
MDOK				Pg	**Pg**	**16 52 02.9**	**-0.1**
	7.9nm,0.7s						
MDOK				⇓Pg	Pn	16 52 05.0	+18
	9.9nm,0.6s						
MDOK				Lg	Lg	16 53 02.2	
	31nm,1.2s						
MDOK				⇑Lg	Lg	16 53 02.7	
	68nm,1.1s						
KOTS	**Kotyrbulak**	**4.47**	**34**	*e*P	**Pg**	**16 52 01.9**	**-2.8**
	4.7nm,0.5s						
KOTS				*e*S	**Sg**	**16 53 02.4**	**-0.2**
	86nm,0.6s						
KOTS	**Kotyrbulak**	**4.47**	**34**	Pg	**Pg**	**16 52 04.7**	**0.0**
	13nm,1.1s						
KOTS		

BTLS					Lg	Lg	16 53 35.2
	16nm,1.1s						
SHLS	**Shalkode**	**5.63**	**49**	*e*P		**Pg**	**16 52 31.3 +4.4**
	11nm,0.6s						
SHLS				*e*S		Sg	16 53 53.5 +14
	24nm,0.8s						
SHLS	**Shalkode**	**5.63**	**49**	Pg		**Pg**	**16 52 30.8 +3.9**
	11nm,0.6s						
SHLS					Lg	Lg	16 53 49.7
	24nm,0.8s						
PDGK	**Podgornoye**	**5.75**	**48**	⇓Pn		Pn	16 52 11.6 +6.0
	2.7nm,0.6s						
PDGK				⇓Pg		**Pg**	**16 52 30.9 +1.7**
	5.3nm,0.6s						
PDGK				⇓Lg		Lg	16 53 48.3
	28nm,0.9s						
MAKZ	**Makanchi**	**9.42**	**37**	⇑Lg		Lg	16 55 42.6
	4.7nm,1.1s						
MKAR	**Makanchi Array**	**9.56**	**38**	Pn		Pn	16 53 03.9 +6.2
	baz=209,slow=11,SNR=2.8						
MKAR					Sn	Sn	16 55 29.2 +43
	baz=212,slow=27,SNR=1.9						
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**16.24**	**24**	P		**P**	**16 54 34.2 +2.8**
	1.1nm,0.6s,baz=200,slow=11,SNR=4.9						
	1.1nm,0.6s						
FINES	**FINESS Array B**	**36.20**	**323**	P		**P**	**16 57 42.2 -0.6**
	0.4nm,0.4s,baz=110,slow=12,SNR=1.3						
	0.4nm,0.4s						
ARCES	**ARCESS Array B**	**39.16**	**335**	P		**P**	**16 58 07.5 -0.3**
	2.7nm,1.1s,baz=124,slow=7.0,SNR=3.6						
	2.7nm,1.1s						

IDC 09 16:50:44.8±4.4, 6.76S×155.16E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=131.7km s-min=40.6km az=115.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.09**	**235**	P	P	16 56 03.6	+1.3
	1.0nm,0.7s,baz=61,slow=9.7,SNR=5.0						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**26.45**	**228**	P	P	16 56 22.9	-0.9
	0.4nm,0.8s,baz=58,slow=10,SNR=2.8						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**83.33**	**319**	P	P	17 03 13.5	-0.3
	0.5nm,0.7s,baz=89,slow=5.9,SNR=5.0						
	0.5nm,0.7s						

*JMA **09** 17:17:38.0±0.5, 32°N±2°×14°2E±°, h3km, MV3.5/17, FAR E OFF IZU ISLANDS*
*IDC **09** 17:17:41.4±4.7, 31.93N×140.88E, h0km, mb3.4/2, mbtmp3.2/3, ML1.9/1, Error ellipse: s-maj=234.6km s-min=35.2km az=77.0*
ISC 09 17:17:39.4±1.5, 32.27N±0.09×142.1E±0.1, h10km, n12, σ0.68/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.06**	**295**	*e*P	**Pn**	**17 18 13.8**	**-0.3**
BSO1	**Boso 1**	**2.54**	**340**	*e*P	**Pn**	**17 18 19.8**	**-0.4**
BSO1				*e*S	**Sn**	**17 18 50.4**	**-0.5**
JMKN	**Mikurajimanish**	**2.62**	**309**	*e*S	**Sn**	**17 18 53.6**	**0.0**
BSO3	**Boso 3**	**2.83**	**334**	*e*P	**Pn**	**17 18 24.8**	**+0.3**
BSO3				*e*S	**Sn**	**17 18 59.1**	**+0.6**
BSO4	**Boso 4**	**3.07**	**333**	*e*S	**Sn**	**17 19 03.5**	**-0.9**
JHO	**Hitachi**	**4.50**	**345**	*e*P	**Pn**	**17 18 47.7**	**+0.1**
JRY	**Ryogami san**	**4.56**	**326**	*e*P	**Pn**	**17 18 50.2**	**+1.7**
JAG	**Ashikaga**	**4.67**	**333**	*e*P	**Pn**	**17 18 49.9**	**-0.1**
MJAR	**Matsushiro Arr**	**5.31**	**324**	Pn	**Pn**	**17 18 58.7**	**-0.1**
	baz=160,slow=11,SNR=2.1						
	0.5nm,0.4s						
JOTO	**OTAMA OYAMA**	**5.46**	**346**	*e*P	**Pn**	**17 19 01.1**	**+0.2**
WRA	**Warramunga Arr**	**52.44**	**189**	P	**P**	**17 26 52.0**	**-0.3**
	0.5nm,0.5s,baz=7.2,slow=7.7,SNR=8.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**56.16**	**189**	P	**P**	**17 27 19.6**	**+0.2**
	0.2nm,0.7s,baz=12,slow=6.9,SNR=4.7						
	0.2nm,0.7s						

*NAO **09** 17:18:00.6, 35.43N×24.66E, h33km, mb3.7*
*THE **09** 17:18:17.6, 36.65N×21.45E, h14km±1km, ML3.4/4, Error ellipse: s-maj=2.7km s-min=1.0km az=39.0*
*ATH **09** 17:18:17.2, 36.65N×21.40E, h15km±2km, ML3.3/9, Error ellipse: s-maj=3.7km s-min=1.8km az=51.0*
*IDC **09** 17:18:19.0±2.6, 36.53N×21.50E, h68km±24km, mb3.5/11, mbtmp3.6/14, Error ellipse: s-maj=36.7km s-min=16.5km az=31.0*
ISC 09 17:18:17.0±1.0, 36.68N±0.05×21.44E±0.04, h34km±2km, n47, σ1.35/57, mb3.8/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.32**	**48**	P	**Pb**	**17 18 24.9**	**-0.3**
PYL				S	**Sn**	**17 18 30.0**	**-0.2**
	10μm,0.5s						
PYL	**PYLOS**	**0.32**	**48**	P	**Pb**	**17 18 24.9**	**-0.3**
PYL				S	**Sn**	**17 18 30.2**	**-0.1**
PYL				AML	AML	17 18 31.6	
	comp=N,17063μm,0.5s						
PYL				AML	AML	17 18 32.8	
	comp=E,22140μm,0.4s						
ITM	**Ithomi**	**0.63**	**38**	P	**Pn**	**17 18 29.9**	**+0.4**
ITM				S	**Sn**	**17 18 39.1**	**+0.7**
	comp=E,6μm,0.7s						
ITM	**Ithomi**	**0.63**	**38**	P	**Pn**	**17 18 29.9**	**+0.4**
ITM				S	**Sb**	**17 18 39.6**	**+1.0**
ITM				AML	AML	17 18 41.4	
	comp=N,12271μm,0.7s						
ITM				AML	AML	17 18 41.7	
	comp=E,10784μm,0.6s						
LTHK	**Lithakia**	**1.13**	**335**	P	**Pb**	**17 18 37.9**	**-0.3**
LTHK				S	**Sb**	**17 18 55.0**	**+2.4**
	comp=E,1μm,0.5s						
LTHK	**Lithakia**	**1.13**	**335**	P	**Pn**	**17 18 37.7**	**+1.2**
VLI	**Veliai**	**1.20**	**88**	P	**Pn**	**17 18 39.2**	**+1.8**
VLI				S	**Sb**	**17 18 56.0**	**+1.4**
	comp=E,1μm,0.5s						
VLI	**Veliai**	**1.20**	**88**	P	**Pn**	**17 18 39.0**	**+1.6**
VLI				S	**Sb**	**17 18 55.9**	**+1.3**
VLI				AML	AML	17 19 05.5	
	comp=E,2586μm,0.5s						
VLI				AML	AML	17 19 06.5	
	comp=N,2209μm,0.5s						
MNVA	**Monemvasia**	**1.28**	**89**	P	**Pb**	**17 18 41.3**	**+0.7**
RLS	**Riolos of Patr**	**1.37**	**1**	P	**Pb**	**17 18 42.6**	**+0.4**
RLS	**Riolos of Patr**	**1.37**	**1**	P	**Pb**	**17 18 42.2**	**0.0**
RLS				AML	AML	17 19 14.5	
	comp=N,1067μm,0.7s						
RLS				AML	AML	17 19 16.1	
	comp=E,937μm,0.7s						
GUR	**Goura**	**1.44**	**30**	P	**Pb**	**17 18 43.1**	**-0.4**
GUR	**Goura**	**1.44**	**30**	P	**Pn**	**17 18 42.1**	**+1.3**
GUR				AML	AML	17 19 14.8	
	comp=E,2535μm,0.5s						
GUR				AML	AML	17 19 20.6	
	comp=N,4184μm,0.6s						
KLV	**Kalavryta, Ach**	**1.47**	**22**	P	**Pb**	**17 18 43.9**	**0.0**
KLV	**Kalavryta, Ach**	**1.47**	**22**	P	**Pb**	**17 18 43.6**	**-0.3**
KLV				AML	AML	17 19 18.9	
	comp=N,918μm,0.8s						
KLV				AML	AML	17 19 22.5	
	comp=E,1224μm,0.7s						
KRND	**KRANIDI**	**1.54**	**62**	P	**Pn**	**17 18 43.3**	**+1.3**
ANKY	**Antikythira Is**	**1.71**	**118**	P	**Pn**	**17 18 45.8**	**+1.4**
ANKY	**Antikythira Is**	**1.71**	**118**	P	**Pn**	**17 18 45.7**	**+1.3**
ANKY				AML	AML	17 19 27.1	
	comp=E,1297μm,0.6s						
ANKY				AML	AML	17 19 32.9	
	comp=N,1039μm,0.9s						
EFP	**Efpalio**	**1.78**	**12**	P	**Pb**	**17 18 48.4**	**-0.7**
EFP				AML	AML	17 19 40.0	
	comp=N,805μm,0.7s						
EFP				AML	AML	17 19 47.4	
	comp=E,633μm,0.7s						
LOUT	**Loutraki**	**1.79**	**43**	P	**Pn**	**17 18 47.0**	**+1.5**
KALE	**Kalithea**	**1.79**	**18**	P	**Pb**	**17 18 48.6**	**-0.8**
KALE				S	**Sn**	**17 19 09.4**	**+2.2**
KALE				AML	AML	17 19 27.9	
	comp=E,1114μm,0.6s						
KALE				AML	AML	17 19 30.0	
	comp=N,1079μm,0.7s						
IMMV	**Iera Moni Meta**	**2.39**	**120**	P	**Pn**	**17 18 54.6**	**+0.8**
DION	**Dionisos Attik**	**2.42**	**54**	P	**Pn**	**17 18 56.0**	**+1.7**
IDI	**Anoyia**	**3.12**	**115**	P	**Pn**	**17 19 04.8**	**+0.9**
	comp=N,4.1nm,0.5s,baz=306,slow=14,SNR=9.8						
IDI				S	**Sn**	**17 19 39.9**	**-0.1**
	comp=N,15nm,0.3s,baz=352,slow=19,SNR=4.5						
VAE	**Valguarnera**	**5.68**	**280**	S	**Sn**	**17 20 45.7**	**+2.7**
	comp=N,34nm,0.5s,baz=336,slow=16,SNR=5.2						
DBRK	**Dubrovnik**	**6.50**	**338**	*e*Pn	**Pn**	**17 19 49.9**	**-0.3**
STON	**Ston**	**6.82**	**336**	*e*Pn	**Pn**	**17 19 53.6**	**-1.0**
HVAR	**Hvar**	**7.54**	**331**	*e*Pn	**Pn**	**17 20 04.2**	**-0.3**
ZIRJ	**Zirje**	**8.26**	**329**	*e*Pn	**Pn**	**17 20 13.9**	**-0.3**
KIJV	**Kijevo**	**8.26**	**334**	*e*Pn	**Pn**	**17 20 14.7**	**+0.3**
KIJV				Sn	**Sn**	**17 21 42.0**	**-4.5**
MORI	**Morici**	**8.41**	**330**	*e*Pn	**Pn**	**17 20 15.8**	**-0.6**
DUGI	**Dugi Otok**	**8.78**	**328**	*e*Pn	**Pn**	**17 20 22.5**	**+1.0**
VIRC	**Vir**	**9.02**	**329**	*e*Pn	**Pn**	**17 20 26.0**	**+1.2**
BRTR	**Keskin Array B**	**10.07**	**69**	P	**Pn**	**17 20 42.0**	**+2.7**
	comp=N,0.3nm,0.4s,baz=248,slow=14,SNR=2.3						
AKASG	**Malin Array Be**	**15.09**	**19**	P	**Pn**	**17 21 49.6**	**+2.1**
	comp=N,0.2nm,0.3s,baz=214,slow=9.5,SNR=4.3						
ESDC	**Sonseca Array**	**20.18**	**286**	P	**P**	**17 22 49.2**	**+0.6**
	comp=N,0.2nm,0.4s,baz=99,slow=11,SNR=1.9						
	comp=N,0.2nm,0.4s						
HFS	**Hagfors**	**23.99**	**350**	P	**P**	**17 23 27.7**	**-0.5**
	comp=N,0.9nm,0.4s,baz=159,slow=13,SNR=9.8						
	comp=N,0.9nm,0.4s						
FINES	**FINESS Array B**	**24.96**	**5**	P	**P**	**17 23 36.6**	**-0.3**
	comp=N,1.5nm,0.5s,baz=163,slow=12,SNR=16						
	comp=N,1.5nm,0.5s						
NB2	**NORSAR Subarra**	**25.23**	**348**	P	**P**	**17 23 39.1**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=155,slow=9.3						
NOA	**NORSAR Array B**	**25.23**	**348**	P	**P**	**17 23 39.4**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=158,slow=9.2,SNR=4.3						
	comp=Z,1.1nm,0.8s						
AKTO	**Aktyubinsk**	**29.53**	**51**	P	**P**	**17 24 16.9**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=249,slow=8.6,SNR=2.1						
	comp=Z,0.5nm,0.3s						
ARCES	**ARCESS Array B**	**32.99**	**3**	P	**P**	**17 24 49.0**	**+0.7**
	comp=Z,1.3nm,1.0s,baz=185,slow=9.1,SNR=1.4						
	comp=Z,1.3nm,1.0s						
KURBB	**Kurchatov Arra**	**42.55**	**52**	P	**P**	**17 26 08.1**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=278,slow=8.7,SNR=7.6						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**45.48**	**57**	P	**P**	**17 26 31.9**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=270,slow=7.4,SNR=16						
	comp=Z,0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**46.16**	**47**	P	**P**	**17 26 37.1**	**-0.9**
	comp=Z,1.7nm,0.3s,baz=272,slow=8.5,SNR=8.2						
	comp=Z,1.7nm,0.3s						
CMAR	**Chiang Mai Arr**	**69.37**	**82**	P	**P**	**17 29 19.0**	**-2.6**
	comp=Z,0.4nm,0.7s,baz=309,slow=6.9,SNR=4.3						
	comp=Z,0.4nm,0.7s						
KSRS	**Korea Array**	**79.71**	**51**	P	**P**	**17 30 20.6**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=302,slow=4.9,SNR=2.3						
	comp=Z,0.7nm,0.6s						

*IDC **09** 17:26:36.7±5.5, 22.25S×68.41W, h0km, mb3.7/1, mbtmp3.7/2, ML3.7/1, Error ellipse: s-maj=170.2km s-min=56.4km az=71.0*
*GUC **09** 17:26:54.4±0.6, 21.14S×68.69W, h127km±3km, ML3.6*
ISC 09 17:26:54.0±1.1, 21.17S±0.04×68.82W±0.10, h135km±9km, n16, σ0.79/25, 4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.74**	**212**	*e*P	**Pn**	**17 27 15.6**	**+0.2**
PB09				*i* S	**Sn**	**17 27 31.7**	**0.0**
PATCX	**Punta Patache**	**1.29**	**285**	*e*P	**Pn**	**17 27 20.5**	**+0.2**
PATCX				*i* S	**Sn**	**17 27 41.2**	**+0.9**
PATCX				IAML		17 27 42.9	
	comp=N,751nm,0.3s						
HMBC	**Humberstone**	**1.33**	**311**	⇓*e*P	**Pn**	**17 27 20.6**	**-0.2**
HMBC				*i* S	**Sn**	**17 27 40.8**	**-0.4**
HMBC				IAML		17 27 41.5	
	comp=N,886nm,0.1s						
TA01	**Diego Aracena**	**1.41**	**295**	*e*P	**Pn**	**17 27 21.6**	**+0.2**
TA01				*i* S	**Sn**	**17 27 42.4**	**+0.2**
TA01				IAML		17 27 44.2	
	comp=E,505nm,0.4s						
LVC	**Limon Verde**	**1.44**	**183**	*e*P	**Pn**	**17 27 22.1**	**-0.1**
LVC				*e*S	**Sn**	**17 27 43.0**	**-0.7**
LVC				IAML		17 27 44.1	
	comp=E,1μm,0.4s						
TA02	**Huaiquique**	**1.52**	**306**	*i* S	**Sn**	**17 27 44.1**	**-0.4**
TA02				IAML		17 27 47.9	
	comp=N,1μm,0.2s						
GO01	**Chusmiza**	**1.53**	**347**	⇓*i* P	**Pn**	**17 27 22.8**	**-0.5**
GO01				*i* S	**Sn**	**17 27 46.3**	**+0.7**
GO01				IAML		17 27 47.3	
	comp=N,577nm,0.2s						
PB11	**IPOC Station P**	**1.60**	**331**	⇓*e*P	**Pn**	**17 27 23.2**	**-0.6**
PB11				*i* S	**Sn**	**17 27 46.2**	**-0.3**
PB11				IAML		17 27 48.0	
	comp=E,473nm,0.3s						
PB06	**IPOC Station P**	**1.68**	**204**	*e*P	**Pn**	**17 27 25.2**	**+0.5**
PB06				*i* S	**Sn**	**17 27 48.5**	**+0.3**
PB06				IAML		17 27 50.0	
	comp=E,489nm,0.3s						
PB04	**IPOC Station P**	**1.70**	**227**	*e*P	**Pn**	**17 27 24.8**	**0.0**
PB15	**IPOC Station P**	**2.12**	**196**	⇓*e*P	**Pn**	**17 27 30.7**	**+0.8**
PB10	**IPOC Station P**	**2.83**	**214**	*e*P	**Pn**	**17 27 39.1**	**+0.4**
PB10				*i* S	**Sn**	**17 28 10.4**	**-2.7**
PB14	**IPOC Station P**	**3.74**	**203**	*e*P	**Pn**	**17 27 51.0**	**+0.2**
LPAZ	**La Paz**	**4.90**	**8**	Pn	**Pn**	**17 28 06.5**	**0.0**
	comp=E,1.0nm,0.3s,baz=177,slow=5.0,SNR=19						
	comp=E,3.9nm,0.4s						
TORD	**Torodi Ar. Bea**	**77.17**	**70**	P	**P**	**17 38 33.0**	**-0.5**
	comp=E,0.5nm,0.7s,baz=258,slow=5.9,SNR=3.5						
	comp=E,0.5nm,0.7s						
MKAR	**Makanchi Array**	**145.32**	**36**	PKPbc	**PKPab**	**17 46 17.4**	**+1.2**
	comp=E,0.2nm,0.4s,baz=295,slow=3.9,SNR=3.7						

GUC 09 17:27:16.4±0.7, 20.55S×69.07W, h106km±4km, ML3.2, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.82**	**289**	*e*P	Pn	17 27 35.0	-0.6
HMBC				*i* S	Sn	17 27 49.0	-1.0
HMBC				IAML		17 27 50.4	
	comp=E,955nm,0.1s						
GO01	**Chusmiza**	**0.89**	**352**	*e*P	Pn	17 27 36.7	-0.1
GO01				*i* S	Sn	17 27 51.7	-0.2
PB11	**IPOC Station P**	**0.96**	**325**	*e*P	Pn	17 27 36.8	-0.3
PB11				*i* S	Sn	17 27 51.9	-0.8
PB11				IAML		17 27 53.4	
	comp=N,1μm,0.4s						
TA02	**Huaiquique**	**1.04**	**286**	*e*P	Pn	17 27 37.0	-0.7
TA02				*i* S	Sn	17 27 53.1	-0.7
TA01	**Diego Aracena**	**1.04**	**269**	*e*P	Pn	17 27 36.8	-1.0
TA01				*i* S	Sn	17 27 52.7	-1.1
TA01				IAML		17 27 53.6	
	comp=E,331nm,0.5s						
PATCX	**Punta Patache**	**1.05**	**255**	*e*P	Pn	17 27 37.6	-0.3
PATCX				*i* S	Sn	17 27 54.0	-0.2
PATCX				IAML		17 27 57.7	
	comp=N,921nm,0.2s						
PB09	**IPOC Station P**	**1.25**	**188**	*i* S	Sn	17 27 59.0	+0.8
PB09				IAML		17 28 01.4	
	comp=E,313nm,0.2s						
PB04	**IPOC Station P**	**2.04**	**209**	*i* P	Pn	17 27 48.8	-1.1
PB04				*e*P	Pn	17 27 48.8	-1.1
PB04				IAML		17 28 22.2	
PB04	**IPOC Station P**	**2.04**	**209**	*i* S	Pn	17 27 48.8	-1.1
LVC	**Limon Verde**	**2.05**	**176**	*i* S	Sn	17 28 19.6	+3.5
PB06	**IPOC Station P**	**2.19**	**192**	*i* S	Sn	17 28 18.6	-0.4
PB06				IAML		17 28 25.8	
	comp=N,211nm,0.4s						
PB15	**IPOC Station P**	**2.67**	**188**	*e*P	Pn	17 27 57.8	-0.3
PB15	**IPOC Station P**	**2.67**	**188**	*i* S	Pn	17 27 57.9	-0.3

*IDC **09** 18:14:09.0±0.6, 2.43S×79.45W, h0km, mb4.2/12, mbtmp4.3/17, ML3.4/4, MS3.8/36, Error ellipse: s-maj=22.0km s-min=13.0km az=68.0*
*VAO **09** 18:14:13.7±0.8, 2.80S×79.87W, h49km±6km, mb4.9*
*IGQ **09** 18:14:14.2±0.1, 3°S±1°×8°0W±°, h15km, M5.1/52*
*RSNC **09** 18:14:15.4±2.4, 3°S±10°×8°0W±1°0, h47km±31km, M4.6, mb5.0, mB5.3, ML4.3, Mw(mB)4.7*
*NEIC **09** 18:14:15.6±1.5, 2.69S±0.05×79.85W±0.10, h50km±8km, mb4.6/152, Error ellipse: s-maj=14.4km s-min=6.9km az=103.0*
ISC 09 18:14:13.5±0.4, 2.69S±0.03×79.83W±0.03, h36km, n502, σ1.65/446, mb4.6/69, MS3.7/31, 3C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PU03	**PU03**	**0.22**	**173**	P	**Pn**	**18 14 22.4**	**+0.2**
PU04	**PU04**	**0.24**	**90**	P	**Pn**	**18 14 20.7**	**-1.1**
PU04				S	**Sn**	**18 14 26.0**	**-3.5**
PU02	**PU02**	**0.26**	**238**	P	**Pn**	**18 14 23.5**	**+1.8**
PU06	**PU06**	**0.33**	**38**	S	**Sn**	**18 14 27.7**	**-0.8**
PU06				P	**Pn**	**18 14 21.6**	**-0.2**
PU05	**PU05**	**0.37**	**65**	P	**Pn**	**18 14 21.9**	**-0.1**
PU01	**PU01**	**0.41**	**254**	P	**Pn**	**18 14 24.9**	**+2.2**
ISPG	**Isla Puna-Puer**	**0.44**	**230**	P	**Pn**	**18 14 26.6**	**+3.5**
MILO	**Milagro-Astudi**	**0.49**	**34**	P	**Pn**	**18 14 24.6**	**+0.7**
MILO				S	**Sn**	**18 14 32.8**	**+1.6**
MORR	**Playas El Morr**	**0.51**	**275**	P	**Pn**	**18 14 26.3**	**+2.1**
MORR				S	**Sn**	**18 14 35.4**	**+3.8**
PU07	**PU07**	**0.52**	**49**	P	**Pn**	**18 14 22.6**	**-1.8**
GYE3	**Ecuador-Guayaq**	**0.53**	**353**	P	**Pn**	**18 14 24.2**	**-0.4**
GYE3				S	**Sn**	**18 14 31.8**	**-0.5**
ACH2	**Ecuador-Machal**	**0.57**	**178**	P	**Pn**	**18 14 26.3**	**+1.1**
ACH2				S	**Sn**	**18 14 35.8**	**+2.3**
ACH1	**Ecuador-Univer**	**0.60**	**187**	P	**Pn**	**18 14 26.0**	**+0.3**
PCRA	**Pucara 2**	**0.61**	**148**	P	**Pn**	**18 14 27.0**	**+0.7**
AGUAY	**Guayaquil**	**0.64**	**349**	P	**Pn**	**18 14 25.5**	**-0.7**
ARNL	**Arenillas**	**0.89**	**195**		**Pn**	**18 14 31.2**	**+1.7**
ARNL				Sn	**Sn**	**18 14 43.7**	**+2.6**
ARNL	**Arenillas**	**0.89**	**195**	P	**Pn**	**18 14 31.1**	**+1.7**
ACUE	**Ecuador-Cuenca**	**0.90**	**104**	P	**Pn**	**18 14 30.8**	**+0.9**
ACUE				S	**Sn**	**18 14 43.7**	**+1.8**
ABAB	**Ecuador-Univer**	**0.94**	**20**	P	**Pn**	**18 14 28.9**	**-1.2**
AZOG	**Ecuador-Azogue**	**0.99**	**94**	P	**Pn**	**18 14 30.8**	**-0.3**
AZOG				S	**Sn**	**18 14 43.1**	**-0.8**
ALAU	**Alaus, Posada**	**1.09**	**64**	P	**Pn**	**18 14 31.5**	**-1.0**
SALI	**Salinas**	**1.26**	**293**	P	**Pn**	**18 14 36.7**	**+2.2**
LAMO	**ALAMOR**	**1.33**	**188**	P	**Pn**	**18 14 38.2**	**+2.5**
BOSC	**San Juan Bosco**	**1.41**	**109**	P	**Pn**	**18 14 39.4**	**+2.6**
ALJ1	**Ecuador-Loja-U**	**1.44**	**154**	P	**Pn**	**18 14 38.9**	**+1.6**
PPLP	**Puerto Lpez**	**1.47**	**320**	P	**Pn**	**18 14 40.8**	**+3.3**
PPLP	**Puerto Lpez**	**1.47**	**320**	P	Pn	18 14 36.3	-1.2
CHSH	**Refugio Sur-Vo**	**1.53**	**39**	P	**Pn**	**18 14 37.8**	**-0.9**
TAMH	**Tambohuasha Ch**	**1.55**	**43**	P	**Pn**	**18 14 38.4**	**-0.5**
SANGA	**Volcan Sangay**	**1.59**	**67**	P	**Pn**	**18 14 41.0**	**+1.5**
GONZ	**Gonzanam**	**1.60**	**164**	P	**Pn**	**18 14 42.0**	**+2.4**
GONZ				S	**Sn**	**18 15 02.5**	**+3.3**
PORT	**Chimborazo Vol**	**1.61**	**41**	P	**Pn**	**18 14 39.5**	**-0.4**
AQUE	**Quevedo**	**1.66**	**12**	P	**Pn**	**18 14 39.8**	**-0.3**
AMCR	**Ecuador-Macara**	**1.68**	**184**	P	**Pn**	**18 14 43.1**	**+2.7**
MCRA	**Macar, Loja**	**1.68**	**184**	P	**Pn**	**18 14 42.9**	**+2.6**
IGUA	**Igualata**	**1.68**	**45**	P	**Pn**	**18 14 40.7**	**-0.2**
BMAS	**Trigal station**	**1.79**	**49**	P	**Pn**	**18 14 42.1**	**-0.1**
ARRY	**Arrayan**	**1.81**	**50**	P	**Pn**	**18 14 42.2**	**-0.2**
TUYU	**Q. Yuibug Volc**	**1.81**	**49**	P	**Pn**	**18 14 42.4**	**-0.1**
BBIL	**Ulba Tungurahu**	**1.82**	**48**	P	**Pn**	**18 14 43.3**	**+0.7**
BPAT	**Tungurahua Vol**	**1.83**	**50**	P	**Pn**	**18 14 42.8**	**+0.1**
JUI6	**Juive**	**1.85**	**47**	P	**Pn**	**18 14 43.1**	**+0.2**
ISPT	**Isla de la Pla**	**1.88**	**319**	P	**Pn**	**18 14 45.4**	**+2.3**
BULB	**Ulba Tungurahu**	**1.89**	**49**	P	**Pn**	**18 14 43.8**	**+0.3**
PECV	**Mancha de Ca P**	**1.91**	**353**	P	**Pn**	**18 14 44.5**	**+1.0**
PUYO	**Puyo, Santa Ro**	**2.16**	**57**	P	**Pn**	**18 14 49.4**	**+2.3**
PIS1	**Pisayambo**	**2.17**	**42**	P	**Pn**	**18 14 49.1**	**+1.6**
ILLI	**Illinizas Sur**	**2.25**	**29**	P	**Pn**	**18 14 50.1**	**+1.5**
ZUMB	**Zumba**	**2.27**	**162**	P	**Pn**	**18 14 52.4**	**+3.8**
PIAT	**Ana Tenorio**	**2.30**	**43**	P	**Pn**	**18 14 50.9**	**+1.7**
SRAM	**San Ramn-Vol**	**2.30**	**33**	P	**Pn**	**18 14 51.3**	**+2.1**
PAST	**Pastocalle**	**2.31**	**31**	P	**Pn**	**18 14 51.9**	**+2.5**
APSY	**Ecuador-Napo A**	**2.31**	**43**	P	**Pn**	**18 14 52.2**	**+2.9**
FLF1	**Flavio Alfaro-**	**2.31**	**360**	P	**Pn**	**18 14 49.5**	**+0.4**
BRRN	**Barrancas-Volc**	**2.33**	**36**	P	**Pn**	**18 14 51.6**	**+2.0**
TAIS	**Taisha**	**2.35**	**83**	P	**Pn**	**18 14 52.3**	**+2.7**
TAIS				S	**Sn**	**18 15 24.1**	**+6.9**
SLOR	**San Lorenzo -**	**2.36**	**35**		**Pn**	**18 14 52.1**	**+2.0**
SLOR	**San Lorenzo -**	**2.36**	**35**	P	**Pn**	**18 14 52.4**	**+2.3**
VCES	**Cotopaxi**	**2.36**	**38**	P	**Pn**	**18 14 52.2**	**+2.0**
BMOR	**Cotopaxi Volca**	**2.38**	**35**	P	**Pn**	**18 14 52.7**	**+2.2**
CAMI	**Rancho Maria**	**2.40**	**34**	P	**Pn**	**18 14 53.1**	**+2.5**
BNAS	**Cotopaxi Volca**	**2.42**	**34**	P	**Pn**	**18 14 54.4**	**+3.5**
SUCR	**Mariscal Sucre**	**2.43**	**33**	P	**Pn**	**18 14 53.9**	**+2.8**
BREF	**Cotopaxi Volca**	**2.44**	**35**	P	**Pn**	**18 14 53.9**	**+2.5**
BTAM	**Cotopaxi Volca**	**2.46**	**36**	P	**Pn**	**18 14 54.1**	**+2.5**
TAMB	**Tambo**	**2.46**	**37**	P

NNA Sn **Sn** **18 18 18.5 0.0**
11nm,0.3s,baz=178,slow=12,SNR=4.6
NNA LR LR 18 20 10.8
comp=Z,291nm,19.6s,baz=338,slow=37
TBTG Tabatinga, AM 10.02 99 Pn 18 16 33.3 -1.7
TBTG Tabatinga, AM 10.02 99 *e*P **Pn 18 16 34.3 -0.6**
PTGC Puerto Gaitan, 10.29 48 P **Pn 18 16 41.1 +2.4**
71nm,0.7s
LCR2 La Lucha 2 13.03 341 Pn 18 17 15.6 -0.7
HDC Heredia 13.30 341 *e*P **Pn 18 17 20.1 +0.1**
JTS Las Juntas de 13.86 338 Pn 18 17 30.5 +2.9
JTS Las Juntas de 13.86 338 Pn **Pn 18 17 31.9 +4.3**
1.9nm,0.3s,baz=208,slow=5.5,SNR=6.2
JTS LR LR 18 22 07.6
comp=Z,260nm,18.3s,baz=160,slow=35
SDV Santo Domingo 14.71 38 Pn **Pn 18 17 40.4 +1.3**
SDV Santo Domingo 14.71 38 *e*P **Pn 18 17 42.3 +3.1**
TEFE Tefe 15.20 93 *e*P **P 18 17 47.3 -2.8**
ETMB Extrema 15.27 118 Pn **Pn 18 17 41.3 -5.2**
ETMB IAmb IAmb 18 18 06.8
comp=Z,28nm,0.7s
ESPN Las Esperanzas 15.44 343 Pn 18 17 44.6 -4.0
ESPN IAmb IAmb 18 17 57.5
comp=Z,42nm,1.0s
ACON Acoyapa 15.50 340 Pn **Pn 18 17 51.0 +1.5**
ACON IAmb IAmb 18 17 57.5
comp=Z,45nm,1.3s
BOAB BOACO BROADBAN 16.11 339 P **Pn 18 18 00.6 +3.3**
BAUV El Baul 16.48 45 Pn 18 17 58.2 -3.8
BAUV IAmb IAmb 18 18 34.4
comp=Z,59nm,1.2s
CRIN San Cristobal 16.88 335 Pn **Pn 18 18 05.2 -1.9**
SAML Samuel 17.69 111 Pn **Pn 18 18 11.8 -5.3**
SAML IAmb IAmb 18 18 50.8
comp=Z,36nm,0.9s
LPAZ La Paz 17.76 140 Pn 18 18 13.4 -5.2
LPAZ La Paz 17.76 140 P **Pn 18 18 18.0 -0.6**
comp=Z,0.1nm,0.3s,baz=339,slow=9.2,SNR=3.0
comp=Z,1.7nm,0.5s
LPAZ La Paz 17.76 140 *e*P **Pn 18 18 16.1 -2.4**
PB18 Visviri 17.96 146 Pn 18 18 18.0 -3.0
PB18 IAmb IAmb 18 18 47.0
comp=Z,105nm,1.5s
TGUH Tegucigalpa,Un 18.20 336 P 18 18 20.4 -3.1
TGUH IAmb IAmb 18 18 29.3
comp=Z,51nm,1.0s
MACA Manacapuru-AM 19.13 92 P 18 18 30.3 -3.4
MACA Manacapuru-AM 19.13 92 *e*P **P 18 18 31.6 -2.0**
MTO3 Montecristo 19.42 331 P **P 18 18 38.6 +1.6**
MTO3 IAmb IAmb 18 18 60.0
comp=Z,56nm,1.4s
ESQI Esquipulas 19.55 331 P **P 18 18 38.9 +0.5**
PB11 IPOC Station P 19.67 150 P **Pn 18 18 40.5 -0.8**
PB11 IAmb IAmb 18 19 08.7
comp=Z,22nm,0.8s
PCRV Puerto La Cruz 19.80 50 P **P 18 18 38.5 -2.5**
comp=Z,0.3nm,0.3s,baz=84,slow=14,SNR=1.5
PCRV LR LR 18 27 46.0
comp=Z,87nm,20.6s,slow=42
comp=Z,4.7nm,0.6s
GO01 Chusmiza 19.82 149 P **P 18 18 40.8 -0.8**
GO01 IAmb IAmb 18 19 00.1
comp=Z,25nm,0.8s
BOAV Boa Vista 19.95 76 P 18 18 42.6 0.0
PB09 IPOC Station P 21.61 152 P **P 18 18 57.1 -3.5**
PB09 IAmb IAmb 18 19 35.0
comp=Z,38nm,1.1s
VILB Vilhena 21.94 119 P **P 18 19 03.4 -0.7**
VILB Vilhena 21.94 119 *e*P **P 18 19 04.4 +0.3**
LVC Limon Verde 22.46 153 P 18 19 08.5 -1.5
LVC Limon Verde 22.46 153 LR LR 18 29 19.8
comp=Z,196nm,19.4s,baz=324,slow=40
LVC Limon Verde 22.46 153 *e*P **P 18 19 07.5 -2.5**
SIV San Ignacio 22.71 127 LR LR 18 29 26.3
comp=Z,184nm,18.3s,baz=295,slow=41
BBSD Serra de San D 23.75 129 *e*P **P 18 19 22.0 -0.7**
PTLB Pontes e Lacer 24.02 123 P **P 18 19 25.4 +0.3**
PTLB IAmb IAmb 18 19 45.5
comp=Z,15nm,0.9s
PTLB Pontes e Lacer 24.02 123 *e*P **P 18 19 25.0 -0.1**
ITTB Itaituba 24.11 95 *e*P **P 18 19 24.7 -1.3**
TEIG Tepich 24.23 340 LR LR 18 28 23.2
comp=Z,161nm,19.7s,baz=81,slow=35
GO02 Mina Guanaco 24.43 157 P **P 18 19 27.0 -2.2**
PDRB Porto dos Gac 24.56 112 *e*P **P 18 19 29.6 -0.6**
IGPR InterUniversit 24.58 33 P **P 18 19 30.5 +0.3**
NPGB Novo Progresso 24.76 101 *e*P **P 18 19 30.4 -1.6**
HUMP Col San Antoni 24.86 33 P **P 18 19 31.7 -1.1**
BBRB Robore, Bolivi 25.00 130 *e*P **P 18 19 32.9 -1.2**
CLDB Colider 25.20 110 *e*P **P 18 19 35.4 -0.5**
MCPB Macapa, AP 27.86 86 *e*P **P 18 19 57.9 -2.1**
MDP Montagnes des 28.24 74 LR LR 18 31 39.5
comp=Z,795nm,18.8s,baz=255,slow=38
MURT Porto Murtinho 28.68 133 *e*P **P 18 20 06.5 -0.8**
AQDB Aquidauana 29.44 129 P 18 20 13.0 -0.9
AQDB IAmb IAmb 18 20 25.8
comp=Z,9.6nm,0.9s
SNDB Serra Nova Dou 29.74 110 *e*P **P 18 20 15.0 -1.7**
PRPB Parauapebas 30.12 98 *e*P **P 18 20 18.1 -2.0**
ARAG Araguaiana, MT 30.48 117 *e*P **P 18 20 22.8 -0.4**
CPUP Villa Florida 31.93 139 LR LR 18 35 34.4
comp=Z,147nm,18.1s,baz=326,slow=40
SMTB Santa Maria do 32.64 102 *e*P **P 18 20 41.1 -1.3**
ZAIG Zacatecas 33.65 320 P **P 18 20 53.3 +2.0**
BDFB Brasilia 33.88 114 P **P 18 20 52.1 -1.1**
comp=Z,4.5nm,0.7s,baz=262,slow=7.0,SNR=4.5
BDFB LR LR 18 36 11.7
comp=Z,444nm,19.2s,baz=319,slow=39
comp=Z,4.5nm,0.7s
IPMB Ipameri, GO 34.53 118 *e*P **P 18 20 57.7 -1.0**
LDASE Londrina, Braz 34.59 129 *e*P **P 18 20 58.0 -1.2**
ITQB Itaqui 34.72 143 P **P 18 20 59.8 -0.4**
SDBA SAO DESIDERIO 35.90 107 *e*P **P 18 21 09.6 -1.1**
833A Chaparral WMA, 36.11 330 P **P 18 21 13.5 +1.3**
baz=146
JANB Januaria 37.11 112 *e*P **P 18 21 20.6 -0.3**
RPN Rapa Nui 37.26 226 LR LR 18 32 52.7
comp=Z,125nm,21.6s,baz=12,slow=30
DRIO Del Rio 37.63 330 P **P 18 21 26.5 +1.5**
KMSC Kings Mountain 37.66 358 P **P 18 21 27.6 +2.4**
baz=178
JCT Junction City 38.09 331 P **P 18 21 30.5 +1.5**
baz=147
TKL Tuckaleechee C 38.32 355 LR LR 18 37 23.3
comp=Z,76nm,21.1s,baz=181,slow=37
WHTX Lake Whitney, 38.33 335 P **P 18 21 32.3 +1.4**
baz=151
BRDY Brady 38.40 333 P **P 18 21 31.5 0.0**
OZNA Ozona 39.10 330 P **P 18 21 38.5 +1.0**
OZNA IAmb IAmb 18 21 42.3
comp=Z,7.0nm,0.9s
TXAR Lajitas Array 39.18 326 P **P 18 21 39.8 +1.6**
comp=Z,1.1nm,0.9s,baz=152,slow=8.5,SNR=10.0
TXAR PcP **PcP** **18 23 48.8 +1.6**
comp=Z,1.4nm,0.8s,baz=147,slow=5.3,SNR=8.2
TXAR LR LR 18 37 22.2
comp=Z,34nm,18.8s,baz=134,slow=36
comp=Z,1.1nm,0.9s
MIAR Mount Ida 39.23 342 P **P 18 21 39.4 +1.1**
baz=158
LPIG La Paz 39.84 314 LR LR 18 34 09.1
comp=Z,44nm,21.4s,baz=65,slow=30
ALPN Alpine 39.97 327 IAmb IAmb 18 21 47.6
comp=Z,12nm,1.0s
MNHN Monahans 40.26 329 IAmb IAmb 18 21 49.8
comp=Z,11nm,0.8s
WTFS Witchita Falls 40.29 336 P **P 18 21 47.9 +0.7**
APMT Aspermont 40.62 334 IAmb IAmb 18 21 52.6
comp=Z,10nm,0.8s
X34A Smith Ranch, M 40.77 337 P **P 18 21 52.8 +1.6**
POST Post 41.04 332 IAmb IAmb 18 21 55.8
comp=Z,15nm,0.8s
TUL3 Leonard 41.19 340 P **P 18 21 56.0 +1.4**
baz=156
WMOK Wichita Mounta 41.26 336 P **P 18 21 56.3 +1.0**
baz=151,SNR=6.6
DKNS Dickens 41.27 333 IAmb IAmb 18 21 58.1
comp=Z,12nm,0.9s
CCM Cathedral Cave 41.89 346 P **P 18 22 01.4 +1.0**
baz=163
RIB01 Linhares ES 41.94 116 *e*P **P 18 21 59.1 -1.9**
T35A Sooner Cattle 42.35 340 P **P 18 22 03.6 -0.5**
T35A IAmb IAmb 18 22 06.1
comp=Z,14nm,0.9s
MSTX Muleshoe 42.39 331 P **P 18 22 05.7 +1.1**
baz=145,SNR=7.7
NBLA Lagarto - SE 42.51 103 *e*P **P 18 22 04.1 -1.7**
AMTX Amarillo 42.63 333 P **P 18 22 08.0 +1.5**
baz=147
SSPA Standing Stone 43.15 2 P **P 18 22 12.1 +1.6**
baz=183
121A Cookes Peak, D 43.91 325 P **P 18 22 18.9 +1.9**
baz=138
RCBR Riachuelo 43.91 96 LR LR 18 42 10.0
comp=Z,615nm,18.4s,baz=316,slow=39
KSU1 Kansas State U 44.36 341 P **P 18 22 20.8 +0.4**
baz=156
RTBA Rita Blanca 44.40 333 IAmb IAmb 18 22 23.3
comp=Z,12nm,1.1s
BINY Binghamton 44.81 4 P **P 18 22 26.0 +2.1**
baz=186
ANMO Albuquerque 45.01 329 P **P 18 22 27.5 +1.8**
ANMO Albuquerque 45.01 329 P **P 18 22 27.5 +1.8**
baz=141
CBKS Cedar Bluff 45.19 338 P **P 18 22 27.4 +0.4**
CBKS IAmb IAmb 18 22 29.4
comp=Z,12nm,0.9s
CBKS Cedar Bluff 45.19 338 P **P 18 22 28.1 +1.1**
baz=152
TUC Tucson 45.52 322 P **P 18 22 31.1 +1.3**
baz=134
T25A Trinidad 45.74 332 IAmb IAmb 18 22 50.0
comp=Z,6.7nm,0.9s
T25A Trinidad 45.74 332 P **P 18 22 33.5 +2.0**
baz=145
KSCO Kaye Shedlock' 46.51 335 P **P 18 22 39.0 +1.5**
baz=148
214A Organ Pipe Nat 46.55 320 P **P 18 22 39.2 +1.4**
baz=132
SDCO Great Sand Dun 46.74 332 IAmb IAmb 18 22 42.3
comp=Z,7.4nm,1.0s
SDCO Great Sand Dun 46.74 332 P **P 18 22 40.9 +1.4**
baz=144,SNR=10
W18A Petrified Fore 46.91 326 P **P 18 22 42.6 +1.9**
baz=137,SNR=5.8
SADO Sadowa 47.25 1 LR LR 18 43 00.7
comp=Z,81nm,19.5s,baz=140,slow=37
LBNH Lisbon 47.25 8 P **P 18 22 45.8 +2.7**
baz=191
LONY Lake Ozonia 47.33 5 P **P 18 22 46.3 +2.6**
baz=187
S22A 4UR Ranch, Cre 47.38 331 P **P 18 22 45.8 +1.3**
baz=142
X16A Lo Mia Camp, P 47.38 324 IAmb IAmb 18 22 47.7
comp=Z,7.5nm,0.9s
MVCO Mesa Verde 47.80 329 IAmb IAmb 18 23 06.8
comp=Z,5.6nm,0.9s
MVCO Mesa Verde 47.80 329 P **P 18 22 49.5 +1.8**
baz=140
Y14A Wickenburg 47.99 322 IAmb IAmb 18 22 51.9
comp=Z,5.0nm,1.0s
WUAZ Wupatki 48.12 325 P **P 18 22 52.0 +1.8**
baz=136,SNR=12
ISCO Idaho Springs 48.45 333 P **P 18 22 54.6 +1.9**
baz=145
GLA Glamis 48.55 320 P **P 18 22 54.5 +1.1**
GLA IAmb IAmb 18 22 56.5
comp=Z,8.2nm,1.1s
GLA Glamis 48.55 320 P **P 18 22 55.2 +1.9**
baz=130
ECSD EROS Data Cent 48.61 344 IAmb IAmb 18 22 54.0
comp=Z,4.5nm,0.8s
ECSD EROS Data Cent 48.61 344 P **P 18 22 53.8 +0.2**
baz=158
YUH Yuha Desert 49.00 319 P **P 18 22 55.0 -1.7**
YUH IAmb IAmb 18 23 00.1
comp=Z,5.7nm,1.1s
SWSC Sam W. Stewart 49.11 319 P **P 18 22 59.2 +1.6**
baz=129
IKP In-Ko-Pah, Jac 49.13 319 P **P 18 22 59.2 +1.3**
baz=129
U15A North Rim 49.29 325 IAmb IAmb 18 23 02.5
comp=Z,4.8nm,1.0s
W13A Hualapai Mount 49.31 323 IAmb IAmb 18 23 02.6
comp=Z,4.1nm,0.8s
BC3 Big Chuckawall 49.34 320 P **P 18 23 00.8 +1.4**
baz=130,SNR=6.8
IRM Iron Mountain 49.46 321 P **P 18 23 02.2 +1.8**
baz=131
MONP2 Monument Peak 49.48 319 P **P 18 23 02.1 +1.4**
baz=129
N23A Red Feather La 49.49 334 P **P 18 23 02.7 +2.0**
baz=145
BELC Belle Mtn. Jos 49.91 320 P **P 18 23 05.6 +1.8**
baz=130
E62A Clayton Lake 49.93 9 **P 18 23 04.0 +0.4**
SUSD Miller 49.94 342 P **P 18 23 05.1 +1.3**
baz=155
TPFO Pinon Flats 49.95 319 P **P 18 23 05.9 +1.8**
baz=129
PFO Pinyon Flats O 49.96 319 P **P 18 23 06.2 +2.0**
baz=129
PFO Pinyon Flats O 49.96 319 LR LR 18 42 19.1
comp=Z,46nm,21.7s,baz=126,slow=34
KNB Kanab 50.01 325 IAmb IAmb 18 23 25.7
comp=Z,4.3nm,0.9s
GMRC Granite Mounta 50.19 321 P **P 18 23 08.0 +2.0**
baz=131
SRU San Rafael Swe 50.28 329 P **P 18 23 06.5 -0.1**
SRU IAmb IAmb 18 23 09.1
comp=Z,11nm,1.2s
V12A Nelson 50.31 323 IAmb IAmb 18 23 09.8
comp=Z,7.3nm,1.1s
P18A Preston Nutter 50.52 330 IAmb IAmb 18 23 40.8
comp=Z,5.9nm,1.1s
HEC Hector,Ludlow 50.65 321 P **P 18 23 11.3 +2.0**
baz=130
CCUT Cedar City 50.69 325 IAmb IAmb 18 23 13.2
comp=Z,7.1nm,1.0s
TUQ Turquoise Moun 50.78 322 P **P 18 23 12.4 +1.9**
baz=131
SCI2 San Clemente I 50.96 317 P **P 18 23 12.9 +1.3**
baz=127
BFSC Mount Baldy Ra 51.13 319 P **P 18 23 14.3 +1.3**
baz=128
GSC Goldstone, Bar 51.25 321 P **P 18 23 15.3 +1.4**
baz=130,SNR=5.4
SHOC Shoshone, Teco 51.30 322 P **P 18 23 16.0 +1.9**
baz=131
RSSD Black Hills 51.40 338 P **P 18 23 16.6 +1.6**
baz=148
BSUT Blindstream Ca 51.47 330 IAmb IAmb 18 23 33.8
comp=Z,6.1nm,0.9s
PSUT Pine Spring 51.65 326 IAmb IAmb 18 24 00.3
comp=Z,4.7nm,0.9s
EDW2 Edwards Air Fo 51.74 320 P **P 18 23 19.1 +1.6**
baz=128,SNR=6.1
LRMC Laurel Mtn Rad 51.91 320 P **P 18 23 20.4 +1.5**
baz=129,SNR=5.8
TPNV Topopah Spring 51.97 323 P **P 18 23 21.3 +1.9**
baz=131,SNR=5.1
FURC Furnace Creek, 52.03 322 P **P 18 23 20.9 +1.4**
baz=130
WCT Wildcat Mounta 52.09 322 P **P 18 23 21.1 +0.9**
WCT IAmb IAmb 18 23 23.6
comp=Z,7.2nm,1.1s
MPMC Manual Prospec 52.16 321 P **P 18 23 22.3 +1.5**
baz=130,SNR=5.6
SPR3 Spring Creek 3 52.24 326 IAmb IAmb 18 23 24.0
comp=Z,6.3nm,1.1s
DUG Dugway, Tooele 52.27 328 P **P 18 23 23.4 +1.9**
baz=137
SCZ2 Santa Cruz Isl 52.29 318 P **P 18 23 23.3 +1.7**
baz=126
R11B Troy Canyon, C 52.51 325 P **P 18 23 24.9 +1.5**
baz=133,SNR=8.3
ISA Isabella, Lake 52.53 320 IAmb IAmb 18 23 26.6
comp=Z,6.9nm,0.9s
ISA Isabella, Lake 52.53 320 P **P 18 23 24.8 +1.4**
baz=128
BW06 Boulder Array 52.60 333 P **P 18 23 25.2 +1.2**
baz=142
PD31 Pinedale Array 52.60 333 P **P 18 23 23.7 -0.4**
PDAR Pinedale Array 52.60 333 P **P 18 23 24.6 +0.6**
comp=Z,1.6nm,0.8s,baz=126,slow=9.3,SNR=14
PDAR LR LR 18 47 19.9
comp=Z,49nm,18.2s,baz=123,slow=38
comp=Z,1.6nm,0.8s
AGMN Agassiz Nation 52.67 347 IAmb IAmb 18 23 24.7
comp=Z,5.6nm,0.8s
HWUT Hardware Ranch 52.67 330 IAmb IAmb 18 23 41.9
comp=Z,8.7nm,0.9s
CWC Cottonwood Cre 52.77 321 P **P 18 23 26.4 +1.2**
baz=129
GMN Gold Mountain 52.81 323 IAmb IAmb 18 23 28.7
comp=Z,7.0nm,1.2s
SPUT South Promonto 52.90 329 P **P 18 23 26.0 -0.1**
SPUT IAmb IAmb 18 23 43.9
comp=Z,6.8nm,1.0s
BGU Big Grassy Mou 52.91 329 P **P 18 23 25.3 -0.9**
TIN Tinemaha, Big 53.25 322 P **P 18 23 30.0 +1.3**
baz=129
HVU Hansel Valley 53.41 330 P **P 18 23 29.1 -0.8**
NV11 Mina Array Sit 54.08 323 IAmb IAmb 18 23 37.4
comp=Z,4.7nm,0.9s
NVAR Mina Array Bea 54.17 323 P **P 18 23 35.1 -0.5**
NVAR Mina Array Bea 54.17 323 P **P 18 23 37.5 +2.0**
comp=Z,3.4nm,0.8s,baz=141,slow=7.0,SNR=21
comp=Z,3.4nm,0.8s
KVN Kaiserville 54.45 324 P **P 18 23 35.8 -1.7**
ULM Lac du Bonnet 54.51 347 IAmb IAmb 18 23 37.6
comp=Z,5.2nm,0.8s
ULM Lac du Bonnet 54.51 347 P **P 18 23 36.8 -0.7**
comp=Z,5.0nm,0.6s,baz=150,slow=8.8,SNR=6.6
comp=Z,5.0nm,0.6s
WAKR Walker 54.90 322 IAmb IAmb 18 23 44.1
comp=Z,5.3nm,1.0s
HLID Hailey 55.54 330 P **P 18 23 46.5 +1.1**
baz=137
BOZ Bozeman (W) 55.74 333 P **P 18 23 48.2 +1.5**
baz=141
MFID Camas Ranch 56.15 329 IAmb IAmb 18 24 07.7
comp=Z,8.6nm,1.0s
WVOR Wild Horse Val 56.98 326 IAmb IAmb 18 24 15.0
comp=Z,8.7nm,0.9s
MSO Missoula 57.72 333 P **P 18 24 02.0 +1.3**
baz=139
I07A Izee 58.54 327 IAmb IAmb 18 24 09.7
comp=Z,4.9nm,0.9s
F10A Beach Ranch, E 58.66 330 IAmb IAmb 18 24 12.4
comp=Z,3.9nm,0.8s
YBH Yreka Blue Hor 58.87 323 LR LR 18 48 16.7
comp=Z,52nm,18.8s,baz=141,slow=35
G08A Pilot Rock 59.07 329 IAmb IAmb 18 24 12.3
comp=Z,5.6nm,1.0s
NEW Newport 60.24 332 P **P 18 24 19.4 +1.3**
baz=136
BBTS Babate 64.99 73 LR LR 18 52 39.7
comp=Z,87nm,18.2s,baz=156,slow=36
BBB Bella Bella 68.12 330 LR LR 18 56 43.9
comp=Z,25nm,18.5s,baz=153,slow=38
PPT Papeete 69.89 252 LR LR 18 51 01.2
comp=Z,145nm,18.0s,baz=106,slow=32
YKA Yellowknife Ar 70.14 344 P **P 18 25 20.9 -1.0**
comp=Z,2.3nm,0.9s,baz=132,slow=6.9,SNR=4.5
YKA LR LR 18 56 22.7
comp=Z,51nm,19.4s,baz=76,slow=36
comp=Z,2.3nm,0.9s
V35K Ketchikan 71.64 332 P **P 18 25 32.0 +0.8**
baz=124
T35M Bob Quinn 71.97 334 P **P 18 25 34.6 +1.4**
baz=126
CRAG Craig 72.44 331 P **P 18 25 37.3 +1.3**
baz=123
SFJD Kangerlussuaq 72.55 12 LR LR 18 55 58.3
comp=Z,20nm,21.7s,baz=183,slow=35
DLBC Dease Lake 72.74 335 P **P 18 25 37.1 -0.7**
DLBC IAmb IAmb 18 25 39.9
comp=Z,6.6nm,0.9s
DLBC Dease Lake 72.74 335 P **P 18 25 39.1 +1.3**
baz=127
WRGLY Wrigley 73.38 341 P **P 18 25 42.2 +0.8**
baz=134
R33M Jennings River 73.70 335 P **P 18 25 44.5 +1.0**
baz=126
Q32M Nakina River 73.99 335 P **P 18 25 46.3 +1.0**
baz=125
S32K Killisnoo 74.19 333 P **P 18 25 46.8 +0.5**
baz=122
P33M Teslin, Yukon 74.93 336 P **P 18 25 51.4 +0.8**
baz=124
DBIC Dimbokro 75.41 82 P **P 18 25 52.0 -2.3**
comp=Z,5.8nm,0.8s,baz=256,slow=7.8,SNR=4.5
DBIC LR LR 18 55 04.9
comp=Z,65nm,21.2s,baz=180,slow=33
comp=Z,5.8nm,0.8s
MMPY Sheldon Lake, 75.72 338 P **P 18 25 56.3 +1.2**
baz=126
PLBC Pleasant Camp 76.03 334 P **P 18 25 57.3 +0.5**
baz=121
FARO Faro, Yukon 76.29 337 P **P 18 25 59.6 +1.3**
baz=124
P30M Million Dollar 76.63 334 P **P 18 26 01.2 +0.8**
baz=120
P29M Windy Craggy 76.73 334 P **P 18 26 02.5 +1.6**
baz=120
KHU Kahuku 77.49 290 P **P 18 26 02.8 -3.4**
RES Resolute Bay 77.79 356 LR LR 19 01 14.5
comp=Z,38nm,19.1s,baz=270,slow=36
M30M Minto, Yukon 77.83 337 P **P 18 26 07.6 +0.6**
baz=121
O28M Mount Upton 78.35 334 P **P 18 26 10.7 +0.5**
baz=118
M29M Somme Creek 78.43 336 P **P 18 26 11.3 +1.0**
baz=120
L29M L29M 78.62 337 IAmb IAmb 18 26 40.9
comp=Z,6.0nm,1.1s
L29M L29M 78.62 337 P **P 18 26 11.9 +0.5**
baz=120
J30M Hart River 78.69 338 P **P 18 26 12.3 +0.4**
baz=122
K29M Barlow Dome 78.76 338 P **P 18 26 12.6 +0.4**
baz=121
BELA Belgrano 2 78.80 171 P **P 18 26 12.6 +0.5**
MESA MESA 78.86 333 P **P 18 26 12.7 -0.3**
baz=116
I30M Mount Dempster 79.06 339 P **P 18 26 14.1 +0.3**
baz=122
MDT Midelt 79.08 56 LR LR 19 01 18.4
comp=Z,41nm,18.3s,baz=166,slow=36
G31M Satah River 79.27 341 P **P 18 26 14.8 0.0**
G31M IAmb IAmb 18 26 16.1
comp=Z,5.7nm,0.8s
G31M Satah River 79.27 341 P **P 18 26 15.3 +0.6**
baz=124
F31M Tsiigehtchic 79.39 342 P **P 18 26 16.3 +0.9**
baz=125
EPYK Eagle Plains 79.78 340 P **P 18 26 17.8 +0.2**
baz=122
M27K Edge Creek, AK 79.79 335 P **P 18 26 18.1 +0.2**
baz=116
I29M Ogilvie Camp, 79.82 339 P **P 18 26 18.2 +0.4**
baz=120
INK Inuvik 79.82 342 IAmb IAmb 18 26 19.2
comp=Z,6.0nm,0.9s
INK Inuvik 79.82 342 P **P 18 26 18.3 +0.6**
baz=125
INK Inuvik 79.82 342 LR LR 19 04 03.7
comp=Z,49nm,18.4s,baz=120,slow=38
G30M tAoh Zraii Nji 79.94 341 P **P 18 26 19.3 +0.9**
baz=122
A36M Sachs Harbour 79.98 347 P **P 18 26 18.8 +0.3**
baz=134
F30M Barrier River 80.14 341 P **P 18 26 20.5 +1.0**
baz=123
H29M Whitestone 80.28 339 P **P 18 26 21.1 +0.9**
baz=120
M26K Nabesna, AK 80.28 335 P **P 18 26 21.1 +0.7**
baz=115
I28M Miner Creek 80.46 338 P **P 18 26 22.1 +0.7**
baz=119
G29M Pine Creek 80.51 340 P **P 18 26 22.1 +0.6**
G29M IAmb IAmb 18 26 22.7
comp=Z,5.8nm,0.8s
G29M Pine Creek 80.51 340 P **P 18 26 22.0 +0.6**
baz=121
EGAK Eagle 80.60 338 IAmb IAmb 18 26 23.5
comp=Z,7.5nm,1.1s
EGAK Eagle 80.60 338 P **P 18 26 22.7 +0.7**
baz=117
K27K Chicken 80.62 337 P **P 18 26 22.7 +0.6**
baz=116
ESDC Sonseca Array 80.87 49 P **P 18 26 23.3 -0.8**
comp=Z,0.3nm,0.5s,baz=268,slow=4.2,SNR=3.5
ESDC LR LR 18 57 53.1
comp=Z,41nm,20.6s,baz=170,slow=33
comp=Z,0.3nm,0.5s
I27K Kandik River 81.15 338 P **P 18 26 25.2 +0.2**
baz=117
VNA3 Neumayer Olymp 81.16 162 ⇑P **P 18 26 25.3 +0.4**
comp=Z,4.2nm,0.8s

KLU	Klutina baz=112	81.18 334	P	P	18 26 25.3 0.0
E29M	Blow River baz=121	81.23 341	P	P	18 26 25.3 0.0
SCRK	Sand Creek baz=115	81.35 336	P	P	18 26 26.6 +0.4
H27K	Steamboat Moun baz=117	81.41 339	P	P	18 26 26.5 +0.2
J26L	Joseph Creek baz=115	81.41 337	P	P	18 26 26.6 +0.2
GLI	Glacier Island baz=111	81.47 333	P	P	18 26 26.7 0.0
F28M	Old Crow baz=119	81.48 340	P	P	18 26 27.3 +0.6
M24K	Tolsona, Glenn baz=112	81.52 334	P	P	18 26 27.2 +0.1
PAX	Paxson baz=113	81.56 335	P	P	18 26 27.6 +0.4
I26K	Coal Creek Min baz=116	81.59 338	P	P	18 26 27.9 +0.6
G27K	Doyon Strip baz=117	81.72 339	P	P	18 26 28.3 +0.3
E28M	Babbage River baz=120	81.86 341	P	P	18 26 28.6 -0.1
SCM	Sheep Creek Mo baz=111	81.93 334	P	P	18 26 29.3 +0.1
D28M	Stokes Point baz=120	81.97 342	P	P	18 26 30.2 +1.0
J25K	Salcha River, baz=114	82.17 337	P	P	18 26 30.9 +0.5
KNK	Knik Glacier baz=110	82.28 333	P	P	18 26 32.0 +0.9
E27K	Coleen River comp=Z,5.7nm,1.1s	82.33 341	IAmb	IAmb	18 26 32.3
E27K	Coleen River baz=117	82.33 341	P	P	18 26 32.1 +0.9
SML	Sawmill baz=110	82.36 334	P	P	18 26 31.8 +0.3
TORD	Torodi Ar. Bea comp=Z,2.7nm,1.0s,baz=316,slow=7.9,SNR=10	82.37 76	P	P	18 26 30.8 -1.6
TORD			LR	LR	19 02 42.5
	comp=Z,108nm,18.6s,baz=156,slow=36 comp=Z,2.7nm,1.0s				
WAT6	Susitna Watana baz=111	82.38 334	P	P	18 26 32.3 +0.6
DHY	Denali Highway baz=111	82.40 335	P	P	18 26 31.9 +0.1
G26K	Porcupine Rive baz=115	82.53 339	P	P	18 26 32.5 +0.3
D27M	Malcolm River comp=Z,4.6nm,0.9s	82.62 342	IAmb	IAmb	18 26 34.1
D27M	Malcolm River baz=118	82.62 342	P	P	18 26 33.2 +0.5
ILAR	Eielson Array comp=Z,1.2nm,0.9s,baz=137,slow=3.3,SNR=9.2 comp=Z,1.2nm,0.9s	82.83 337	P	P	18 26 33.7 -0.1
F26K	Sheenjek River baz=115	82.98 340	P	P	18 26 35.6 +1.0
H25L	Birch Creek baz=113	82.99 338	P	P	18 26 35.3 +0.8
KDAK	Kodiak Island baz=106	83.14 329	P	P	18 26 36.2 +0.6
POKR	Poker Plat Res baz=112	83.17 337	P	P	18 26 36.5 +0.9
G25K	Bearman Lake baz=113	83.29 339	P	P	18 26 37.1 +1.0
SNAA	Sanae comp=Z,30nm,0.6s	83.38 162	⇑P	P	18 26 36.7 +0.1
F25K	Christian Rive baz=114	83.46 339	P	P	18 26 38.3 +1.2
H24K	Noodor Dome baz=111	83.61 337	P	P	18 26 38.6 +0.7
NEA2	Nenana comp=Z,7.1nm,1.0s	83.64 336	IAmb	IAmb	18 26 38.9
NEA2	Nenana baz=110	83.64 336	P	P	18 26 38.6 +0.6
E25K	Arctic Village baz=114	83.64 340	P	P	18 26 39.0 +1.0
C27K	Jago River baz=116	83.66 342	P	P	18 26 38.9 +0.9
G24K	Hadwenzic Riv baz=112	83.78 338	P	P	18 26 39.8 +1.1
O20K	Slope Mountain baz=106	83.81 331	P	P	18 26 39.1 +0.1
SKT	Skwentna baz=108	83.85 333	P	P	18 26 39.9 +0.8
N20K	Mount Spurr baz=107	83.93 332	P	P	18 26 40.1 +0.5
I23K	Minto, Yukon-K baz=110	83.95 337	P	P	18 26 39.7 +0.2
Q19K	Cape Douglas, baz=105	83.99 330	P	P	18 26 39.9 0.0
R18K	Karluk baz=104	84.06 329	P	P	18 26 40.9 +0.7
C26K	Camden Bay baz=114	84.16 342	P	P	18 26 41.1 +0.6
H23K	Yukon River baz=110	84.25 337	P	P	18 26 41.4 +0.3
BPAW	Bear Paw Mtn. baz=108	84.27 335	P	P	18 26 41.1 -0.1
D25K	Kavik River comp=Z,4.1nm,0.8s	84.39 341	IAmb	IAmb	18 26 43.1
D25K	Kavik River baz=113	84.39 341	P	P	18 26 42.2 +0.4
MLY	Manley	84.46 336	P	P	18 26 42.5 +0.3
MLY			IAmb	IAmb	18 27 02.2
	comp=Z,3.9nm,0.9s				
MLY	Manley baz=108	84.46 336	P	P	18 26 42.5 +0.3
CAST	Castle Rocks comp=Z,6.9nm,1.0s	84.53 335	IAmb	IAmb	18 26 43.1
CAST	Castle Rocks baz=107	84.53 335	P	P	18 26 42.5 0.0
M20K	Styx River baz=106	84.55 333	P	P	18 26 43.1 +0.3
Q18K	Katmai Hardscr baz=104	84.61 329	P	P	18 26 43.3 +0.2
E24K	Your Creek baz=111	84.64 339	P	P	18 26 43.3 +0.3
EKA	Eskdalemuir Ar comp=Z,2.0nm,0.9s,baz=258,slow=3.5,SNR=2.8 comp=Z,2.0nm,0.9s	84.64 34	P	P	18 26 43.2 0.0
G23K	Bananza Creek comp=Z,7.7nm,1.1s	84.73 338	IAmb	IAmb	18 27 05.6
G23K	Bananza Creek baz=109	84.73 338	P	P	18 26 44.0 +0.5
P18K	Big Mountain, baz=104	84.90 330	P	P	18 26 44.3 -0.2
COLD	Coldfoot baz=109	84.97 338	P	P	18 26 44.6 0.0
Q17K	Contact Creek baz=103	84.97 329	P	P	18 26 45.1 +0.2
R17L	Mt. Peulik Vol baz=103	85.07 328	P	P	18 26 45.8 +0.5
TROLL	Troll, Antarti comp=Z,67nm,0.8s	85.09 162	⇑P	P	18 26 45.0 -0.4
M19K	Big River Lodg baz=105	85.13 333	P	P	18 26 46.1 +0.6
TOLK	Toolik Lake Re baz=110	85.22 340	P	P	18 26 46.9 +1.0
C24K	Franklin Bluff baz=111	85.30 341	P	P	18 26 46.9 +0.7
G22K	Bettles baz=108	85.35 338	P	P	18 26 46.6 +0.1
K20K	Telida baz=105	85.37 334	P	P	18 26 46.9 +0.2
L19K	White Mountain baz=105	85.41 333	P	P	18 26 47.2 +0.2
J20K	Nowinta River baz=105	85.62 335	P	P	18 26 47.9 0.0
D23K	Nanushuk River baz=109	85.70 340	P	P	18 26 48.7 +0.4
F22K	John River baz=107	85.78 338	P	P	18 26 49.0 +0.2
E22K	Anaktuvuk Pass baz=108	85.84 339	P	P	18 26 49.2 +0.2
CHGN	Chignik baz=101	85.89 327	P	P	18 26 49.9 +0.5
O17K	Koliganek Bris baz=102	85.91 330	P	P	18 26 50.1 +0.7
C23K	Itkillik River baz=109	85.97 341	P	P	18 26 50.5 +0.9
G21K	Allakaket baz=106	85.99 337	P	P	18 26 50.3 +0.5
J19K	Poorman baz=104	86.20 335	P	P	18 26 50.8 -0.1
H20K	Anotleneega Mo baz=105	86.26 336	P	P	18 26 51.5 +0.4
O16K	Kokwok River B baz=102	86.37 330	P	P	18 26 52.0 +0.3
JMIC	Jan Mayen comp=Z,22nm,21.9s,baz=184,slow=34	86.51 18	LR	LR	19 02 39.5
S14K	Fog Glacier baz=100	86.52 327	P	P	18 26 52.2 -0.5
J18K	Innoko River baz=103	86.55 334	P	P	18 26 53.2 +0.7
SDPT	Sand Point baz=99	86.87 326	P	P	18 26 54.3 +0.1
N16K	Nishlik Lake baz=101	86.88 331	P	P	18 26 54.5 +0.2
GCSA	Galena City Sc baz=103	86.90 335	P	P	18 26 54.4 +0.2
H19K	Roundabout Mou baz=103	86.91 336	P	P	18 26 54.3 +0.1
L17K	Donlin baz=102	86.97 333	P	P	18 26 55.0 +0.3
B22K	Teshekpuk Lake baz=106	87.03 341	P	P	18 26 55.2 +0.4
K17K	Iditarod baz=102	87.09 333	P	P	18 26 55.8 +0.5
C21K	Knifeblade Rid baz=105	87.17 340	P	P	18 26 56.0 +0.6
B21K	Ikpikpuk River baz=105	87.23 340	P	P	18 26 56.5 +0.8
G19K	Purcell Mounta baz=103	87.30 337	P	P	18 26 56.7 +0.5
QSPA	South Pole Qui comp=Z,1.6nm,0.9s,baz=71,slow=2.2,SNR=3.6 comp=Z,1.6nm,0.9s	87.38 180	P	P	18 26 58.5 +1.8
E20K	Nigu River baz=104	87.44 339	P	P	18 26 57.5 +0.6
J17K	VABM Dome baz=101	87.57 334	P	P	18 26 58.2 +0.6
E19K	Redstone River baz=103	87.65 338	P	P	18 26 58.2 +0.4
D20K	Etivluk River baz=103	87.70 339	P	P	18 26 58.6 +0.5
A22K	Sinclair Lake baz=105	87.71 342	P	P	18 26 58.4 +0.4
G18K	Tagagawik baz=101	87.87 336	P	P	18 26 59.6 +0.7
O14K	Tigyukauivet M baz=99	87.91 329	P	P	18 26 59.8 +0.7
B20K	Meade River baz=103	88.19 340	P	P	18 27 01.1 +0.8
I17K	Unalakleet baz=99	88.37 334	P	P	18 27 01.6 +0.3
F18K	Selawik baz=100	88.40 337	P	P	18 27 01.7 +0.4
K15K	Wolf Creek Mou baz=99	88.50 332	P	P	18 27 02.7 +0.7
G17K	Kiwalik Mounta baz=100	88.62 336	P	P	18 27 02.4 0.0
L14K	Kuka Creek baz=98	88.90 331	P	P	18 27 04.7 +0.9
E18K	Tukpahlearik C baz=100	88.92 338	P	P	18 27 05.0 +1.2
M13K	Dall Lake baz=97	89.11 330	P	P	18 27 05.5 +0.7
H16K	Elim baz=98	89.15 335	P	P	18 27 05.2 +0.3
E17K	Hotham Inlet baz=98	89.33 337	P	P	18 27 06.6 +0.9
J14K	Nanvaranak Lak baz=97	89.49 333	P	P	18 27 06.9 +0.4
NIKH	Nikolski High baz=92	91.53 323	P	P	18 27 15.5 -0.8
TNA	Tin City baz=93	91.63 335	P	P	18 27 16.6 +0.1
DAVOX	Davos/Dischmat comp=Z,42nm,19.2s,baz=263,slow=34	91.74 43	LR	LR	19 05 51.1
NOA	NORSAR Array B comp=Z,14nm,21.3s,baz=260,slow=33	92.84 29	LR	LR	19 05 40.2
TSUM	Tsumeb comp=Z,120nm,18.8s,baz=282,slow=35	96.12 110	LR	LR	19 10 09.1
SUR	Sutherland comp=Z,106nm,21.8s,baz=296,slow=33	97.55 123	LR	LR	19 07 46.5
ZALV	Zalesovo Beam comp=Z,1.7nm,0.8s,baz=285,slow=2.9,SNR=5.9	127.37 11	PKP	PKiKP	18 33 14.6 -0.2
KURBB	Kurchatov Arra comp=Z,0.7nm,0.5s,baz=330,slow=2.3,SNR=5.8	128.85 18	PKP	PKiKP	18 33 18.3 +0.4
MKAR	Makanchi Array comp=Z,0.6nm,0.9s,baz=5.7,slow=2.4,SNR=4.6	133.39 17	PKP	PKPdf	18 33 26.0 0.0
SONM	Songino Array comp=Z,0.8nm,0.6s,baz=282,slow=1.3,SNR=2.5	134.70 354	PKhKP	PKPpre	18 33 25.3
ASAR	Alice Springs comp=Z,0.7nm,0.9s,baz=134,slow=4.0,SNR=3.2	137.99 230	PKP	PKPdf	18 33 35.8 +0.4
WRA	Warramunga Arr comp=Z,0.5nm,0.8s,baz=123,slow=2.7,SNR=2.4	139.62 235	PKhKP	PKPpre	18 33 29.6
WRA			PKP	PKPdf	18 33 38.2 -0.1
	comp=Z,0.4nm,0.5s,baz=115,slow=2.1,SNR=6.9				
HHC	Hu-ho-hao-te	140.64 346	*e*P	PKiKP	18 33 41.5 -0.8
NJ2	Nanjing	145.91 331	*e*P	PKPbc	18 33 49.8 +0.1
NJ2			pmax	pmax	
	comp=Z,18nm,0.5s				
PZH	PanZhiHua	156.27 356	PKP	PKPdf	18 34 02.8 -2.5

*ISK **09** 18:24:49.2, 38.°52N×43.°16E, h16km, ML2.5/6*
*AFAD **09** 18:24:49.6±0.0, 38.°52N×43.°13E, h7km±4km, ML2.3*

ISC 09 18:24:49.8±1.1, 38.°52N±0.°05×43.°16E±0.°05, h14km±11km, n12, σ0°62/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.20	68	Pg	Pg	18 24 54.1	-0.3
VANB				Sg	Sg	18 24 58.0	+0.5
GEVA	Gevas	0.22	200	P	Pg	18 24 54.2	-0.6
GEVA				S	Sg	18 24 58.6	+0.3
GEVA				*i* AML	AML	18 25 00.0	
	comp=E,1μm,0.3s						
GEVA				*i* AML	AML	18 25 02.0	
	comp=N,860nm,0.6s						
AKDM	Akdamar-Van	0.24	216	Pg	Pg	18 24 54.8	-0.3
AKDM				Sg	Sg	18 24 59.2	+0.5
ADCV	BITLIS_Adilcev	0.44	310	P	Pb	18 24 59.6	0.0
ADCV				S	Sb	18 25 07.6	+1.4
VMUR	Van-Muradiye	0.57	35	P	Pg	18 25 00.9	-0.2
VMUR				S	Sb	18 25 09.7	0.0
VMUR				*i* AML	AML	18 25 11.0	
	comp=N,216nm,0.4s						
VMUR				*i* AML	AML	18 25 12.0	
	comp=E,176nm,0.8s						
MLAZ	Malazgirt-MUS	0.78	323	Pg	Pb	18 25 04.8	-0.5
CLDR	Caldiran	0.86	44	Pg	Pg	18 25 06.0	-0.5
CLDR				Sg	Sb	18 25 18.9	+0.7
CLDR	Caldiran	0.86	44	P	Pg	18 25 05.8	-0.7
CLDR				S	Sb	18 25 19.2	+1.0
CLDR				*i* AML	AML	18 25 23.0	
	comp=N,107nm,0.6s						
CLDR				*i* AML	AML	18 25 23.0	
	comp=E,106nm,0.4s						
GURO	Guroymak-BITLI	0.88	272	Pg	Pb	18 25 06.6	-0.4
DORK	Agr/Tutak/Do	0.91	341	P	Pb	18 25 07.2	-0.3
DORK				S	Sb	18 25 19.6	-0.1
DORK				*i* AML	AML	18 25 21.0	
	comp=N,99nm,0.3s						
DORK				*i* AML	AML	18 25 21.0	
	comp=E,120nm,0.3s						
AGRB	Hanur-Agry	1.06	353	Pg	Pg	18 25 10.0	-0.3
KOTA	Agri, Merkez-K	1.28	2	P	Pg	18 25 13.9	-0.5
KOTA				S	Sg	18 25 31.2	+0.1

*DJA **09** 18:56:26.5±0.5, 9.°S±4.°×12.°4E±.°, h127km±5km, M3.6/9, mb4.0/3, MLv3.4/9*

ISC 09 18:56:25.8±1.8, 8.°8S±0.°2×123.°92E±0.°10, h150km, n13, σ1°51/15, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	1.05	161	P	Pn	18 56 51.1	0.0
SOEI	Soe	1.05	161	P	Pn	18 56 50.7	-0.4
SOEI				S	Sn	18 57 08.4	-2.1
BATI	Baumata	1.46	190	P	Pn	18 56 54.8	-0.2
BATI				S	Sn	18 57 15.8	-1.6
MMRI	Maumere	1.67	274	P	Pn	18 56 57.6	+0.4
MMRI	Maumere	1.67	274	P	Pn	18 56 57.2	0.0
MMRI				S	Sn	18 57 19.3	-1.9
EDFI	Ende, Flores	2.20	270	P	Pn	18 57 04.0	+0.6
BASI	Baing, Sumba	3.60	246	P	Pn	18 57 22.6	+1.7
PLAI	Plampang 55nm,1.1s	6.07	269	P	Pn	18 57 55.2	+1.7
TWSI	Taliwang, Sumb 40nm,1.8s,0.2nm	6.96	270	P	Pn	18 58 07.1	+1.8
DRS	Darwin Rock St	7.77	119	P	Pn	18 58 18.3	+2.1
MTN	Manton Dam	8.17	120	P	Pn	18 58 22.9	+1.4
KDU	Kakadu	9.27	116	P	Pn	18 58 36.8	+0.7
FAKI	Fak Fak	10.11	55	P	Pn	18 58 38.1	-9.3

*IDC **09** 19:14:54.9±0.8, 31.°73N×128.°92E, h0km, mb3.8/11, mbtmp3.7/17, ML3.2/5, Error ellipse: s-maj=18.4km s-min=12.7km az=135.0*
*NIED **09** 19:14:56.0, 31.°80N×128.°89E, h28km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=8.31; $M_{\theta\theta}$5.72; $M_{\phi\phi}$2.59; $M_{r\theta}$5.65; $M_{\theta\phi}$3.41; $M_{\phi r}$1.38; Fault plane solution: $M_0$9.96000×10^{14} NP1: ϕ_s248.00000°, δ63.00000°, λ-81.00000°. NP2:ϕ_s48.00000°, δ29.00000°, λ-107.00000°.*
*JMA **09** 19:14:56.0±0.1, 31.°8N±0.°5×128.°9E±0.°6, h28km±1km, MD3.9/33, MV4.1/33, SW OFF KYUSHU*
JMA Felt I J1 at SW OFF KYUSHU .

ISC 09 19:14:55.9±0.6, 31.°77N±0.°05×129.°09E±0.°05, h11km, n31, σ1°39/33, mb3.7/11, 3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.54	100	*i* P	Pn	19 15 09.1	-0.4
JSJ				S	Sn	19 15 19.0	+0.4
JSJ	Shimokoshiki	0.54	100	A	A	19 15 09.1	
	comp=E,8.0nm,0.3s,comp=N,11nm,0.3s						
JFU	Fukue jima 2	0.93	342	*i* P	Pg	19 15 12.0	-1.8
JFU				S	Sg	19 15 23.5	-2.5
JFU	Fukue jima 2	0.93	342	A	A	19 15 12.0	
	comp=E,12nm,0.7s,comp=N,12nm,0.6s						
NGSJ	Nagasakinomoza	1.05	35	⇓*i* P	Pn	19 15 16.0	-0.5
NGSJ	Nagasakinomoza	1.05	35	A	A	19 15 16.0	
	comp=E,4.0nm,1.2s,comp=N,5.0nm,1.0s						
JHD	Hondo	1.12	52	A	A	19 15 17.9	
	comp=E,4.0nm,0.7s,comp=N,3.0nm,0.8s						
JSU	Suzuyama	1.19	102	⇓*i* P	Pg	19 15 19.8	+1.0
JSU	Suzuyama	1.19	102	A	A	19 15 19.8	
	comp=E,5.0nm,0.6s,comp=N,8.0nm,0.9s						
JZO	Okuchi	1.33	74	A	A	19 15 21.5	
	comp=E,3.0nm,1.3s,comp=N,4.0nm,0.4s						
JIU3	Izumi3	1.65	62	P	Pg	19 15 25.8	-1.8
JIU3				*e*S	Sg	19 15 48.1	-0.9
JTZ	Takazaki	1.70	85	⇓P	Pg	19 15 26.9	-1.6
JTN	Tanegashima 3	1.96	124	P	Pb	19 15 30.4	-1.3
JNU	Nakatsue	2.02	48	Pn	Pb	19 15 32.4	-0.3
	comp=N,13nm,0.3s,baz=272,slow=6.4,SNR=91						
JNU				Pg	Pg	19 15 35.2	+0.5
	comp=N,34nm,0.3s,baz=259,slow=8.6,SNR=48						
JNU				Lg	Lg	19 16 02.4	
	comp=N,37nm,0.3s,baz=255,slow=16,SNR=5.7 comp=N,178nm,0.5s						
JII	Iki	2.09	15	P	Pn	19 15 30.4	-0.5
JII				S	Sn	19 15 55.6	-1.2
KSRS	Korea Array	5.75	351	Pn	Pn	19 16 20.8	-0.4
	comp=N,1.9nm,0.3s,baz=170,slow=14,SNR=18						
KSRS				Pg	Pb	19 16 39.9	+3.7
	comp=N,3.2nm,0.3s,baz=174,slow=17,SNR=2.4						
KSRS				Sn	Sn	19 17 25.9	-1.2
	comp=N,1.7nm,0.3s,baz=173,slow=25,SNR=1.3						
KSRS				Lg	Lg	19 17 52.9	
	comp=N,7.4nm,0.3s,baz=164,slow=31,SNR=8.1 comp=N,5.0nm,0.3s						
MJAR	Matsushiro Arr	8.93	55	Pn	Pn	19 17 08.2	+3.4
	comp=N,0.7nm,0.7s,baz=244,slow=13,SNR=2.0						
USRK	Ussuriysk Ar.	12.62	10	Pn	Pn	19 17 55.3	+0.1
	comp=N,0.1nm,0.3s,baz=165,slow=12,SNR=3.6 comp=N,1.1nm,0.8s						
ASAJ	Asahikawa	16.26	37	Pn	P	19 18 46.6	-0.7
	comp=N,0.1nm,0.3s,baz=213,slow=12,SNR=5.1 comp=N,1.8nm,0.7s						
KLR	Kul'dur	17.55	6	P	P	19 19 02.5	+0.9
	comp=N,0.1nm,0.3s,baz=168,slow=9.3,SNR=1.8 comp=N,0.4nm,0.4s						
SONM	Songino Array	23.57	319	P	P	19 20 05.9	-0.6
	comp=N,1.3nm,0.8s,baz=133,slow=10.0,SNR=6.2 comp=N,1.3nm,0.8s						
CMAR	Chiang Mai Arr	30.23	251	P	P	19 21 05.5	-1.3
	comp=N,0.2nm,0.5s,baz=42,slow=9.9,SNR=2.2 comp=N,0.2nm,0.5s						
MKAR	Makanchi Array	38.62	307	P	P	19 22 19.1	0.0
	comp=N,0.4nm,0.7s,baz=92,slow=8.7,SNR=3.0 comp=N,0.4nm,0.7s						
BVAR	Borovoye Array	46.78	315	P	P	19 23 25.8	+0.6
	comp=N,0.6nm,0.6s,baz=101,slow=7.6,SNR=2.5 comp=N,0.6nm,0.6s						
WRA	Warramunga Arr	51.66	174	P	P	19 24 02.8	0.0
	comp=N,0.9nm,0.9s,baz=354,slow=7.9,SNR=3.5 comp=N,0.9nm,0.9s						
ASAR	Alice Springs	55.32	175	P	P	19 24 30.2	+0.6
	comp=N,0.8nm,0.9s,baz=2.9,slow=6.4,SNR=5.0						
ASAR				PcP	PcP	19 25 30.8	+0.6
	comp=N,0.3nm,0.7s,baz=353,slow=3.9,SNR=1.9 comp=N,0.8nm,0.9s						
FINES	FINESS Array B	68.45	330	P	P	19 25 59.1	+1.6
	comp=N,2.0nm,0.5s,baz=79,slow=7.2,SNR=5.8 comp=N,2.0nm,0.5s						
AKASG	Malin Array Be	71.85	319	P	P	19 26 19.9	+1.3
	comp=N,0.5nm,0.4s,baz=58,slow=6.0,SNR=2.9 comp=N,0.5nm,0.4s						
BRTR	Keskin Array B	74.27	307	P	P	19 26 32.4	-1.0
	comp=N,0.3nm,0.6s,baz=90,slow=4.4,SNR=2.0 comp=N,0.3nm,0.6s						
HFS	Hagfors	74.29	332	P	P	19 26 33.6	+0.7
	comp=N,6.6nm,1.1s,baz=99,slow=3.6,SNR=3.2 comp=N,6.6nm,1.1s						
NOA	NORSAR Array B	74.70	334	P	P	19 26 35.8	+0.4
	comp=N,0.8nm,0.8s,baz=51,slow=5.6,SNR=2.7 comp=N,0.8nm,0.8s						

*HVO **09** 19:20:46.3±1.9, 19.°4N±0.°3×155.°3W±0.°2, h-0km±9km, ML4.1/10, mb4.9/34(NEIC), ML3.6/36(NEIC), Mww5.3/7(NEIC), Error ellipse: s-maj=41.8km s-min=28.6km az=207.0*
*NEIC **09** 19:20:46.3, 19.°40N×155.°29W, h12km*
*NEIC **09** 19:20:46.3, 19.°30N×155.°18W, h12km, Moment Tensor Solution. Duration: ≥2 Moment tensor: Scale 10^{16}Nm; M_{rr}-8.32; $M_{\theta\theta}$4.07; $M_{\phi\phi}$4.26; $M_{r\theta}$-0.54; $M_{\theta\phi}$5.05; $M_{\phi r}$-3.49; Fault plane solution: $M_0$9.47000×10^{16} NP1:ϕ_s31.24000°, δ55.56000°, λ-106.04000°. NP2:ϕ_s238.18000°, δ37.57000°, λ-68.06000°. Principal axes: T 9.6756, Plg9.0000°, Azm133.0000°; N -0.4025, Plg13.0000°, Azm40.0000°; P -9.2731, Plg74.0000°, Azm257.0000°;*
*NEIC **09** 19:20:46.8±1.7, 19.°4N±0.°3×155.°3W±0.°1, h5km±8km Error ellipse: s-maj=39.0km s-min=16.8km az=178.0*
*BJI **09** 19:20:46.0±0.0, 19.°40N×155.°30W, h5km, mb4.6/15, mB5.6/18, Ms5.2/23, Ms7 5.0/23*
*IDC **09** 19:20:48.0±1.1, 19.°36N×155.°24W, h0km, mb4.1/13, mbtmp4.1/13, MS4.4/68, Error ellipse: s-maj=30.4km s-min=14.0km az=175.0*

ISC 09 19:20:46.4±0.8, 19.°42N±0.°03×155.°28W±0.°02, h2km±4km, n508, σ1°27/455, mb4.8/37, MS4.5/79, 1D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	Observatory Le	0.01	300		Pg	19 20 47.2	+0.2
UWB	Uwekahuna B	0.01	8		Pg	19 20 49.0	+1.9
UWE	Uwekahuna	0.01	295	Pg	Pg	19 20 47.4	+0.3
SBLHI	Steaming Bluff	0.02	42		Pg	19 20 47.9	+0.8
BYL	Byron's Ledge	0.02	99	Pg	Pg	19 20 48.0	+1.0
HATHI	Halema'uma'u T	0.02	66	Pg	Pg	19 20 48.2	+1.1
RIM	Rim	0.02	165		Pg	19 20 47.1	+0.1
KKO	Keanakako`i	0.02	143		Pg	19 20 48.5	+1.4
WRMHI	West Rim	0.02	246		Pg	19 20 47.9	+0.8
SDHHI	Sand Hill	0.03	208		Pg	19 20 47.1	-0.1
RSD	Rainshed	0.05	2		Pg	19 20 48.3	+0.8
RSD				IAML		19 20 49.5	
	comp=N,8μm,0.5s						
PUH	Pauahi	0.07	124		Pg	19 20 48.6	+0.7
PUH				IAML		19 20 50.2	
	comp=N,11μm,0.2s						
PUH				IAML		19 20 50.0	
	comp=E,23μm,2.9s						
KNHH	Kane Nui o Ham	0.11	109		Pg	19 20 49.9	+1.3
HLP	Hilina Pali	0.12	193		Pg	19 20 49.7	+0.9
HLP				IAML		19 20 52.0	
	comp=E,11μm,0.4s						
MLH	Mauna Loa	0.13	308		Pg	19 20 50.4	+1.4
MLH					Sg	19 20 52.7	+1.9
MLH	Mauna Loa	0.13	308	IAML		19 20 52.8	

comp=E,25µm,0.5s
MLH IAML 19 20 52.8
comp=N,14µm,0.6s
STCH Steam Cracks 0.15 101 Pg 19 20 50.6 +1.3
STCH IAML 19 20 54.0
comp=E,31µm,1.1s
STCH IAML 19 20 54.5
comp=N,25µm,0.8s
HTC Hot Caves 0.21 212 Pg 19 20 51.1 +0.6
JOKA Jonika Flow 0.26 86 Pg 19 20 52.8 +1.3
JOKA IAML 19 20 59.1
comp=N,20µm,0.9s
JOKA IAML 19 21 00.3
comp=E,22µm,1.3s
HMH Humu'ula Sheep 0.27 314 Pg 19 20 52.9 +1.2
HMH Humu'ula Sheep 0.27 314 IAML 19 20 59.2
comp=E,28µm,1.9s
HMH IAML 19 21 00.2
comp=N,35µm,1.4s
MLOA Mauna Loa Obse 0.30 293 Pg **Pg 19 20 53.4 +1.0**
MLOA IAML 19 21 00.9
comp=N,30µm,1.5s
MWH Moku'aweowe 0.31 283 Pg **Pg 19 20 53.4 +0.9**
PAH Pahoa 0.32 76 Pg **Pg 19 20 53.6 +0.9**
KHU Kahuku 0.36 242 Pg 19 20 54.2 +0.8
KHU IAML 19 21 02.6
comp=E,20µm,3.8s
KHU IAML 19 21 03.9
comp=N,23µm,1.6s
HPO Honuapo 0.41 219 Pg 19 20 54.8 +0.4
POHA Pohakuloa 0.42 325 IAML 19 21 07.6
comp=N,17µm,1.1s
POHA Pohakuloa 0.42 325 Pg **Pg 19 20 55.4 +0.9**
I59US HAWAII INFRASO 0.60 287 Pg **Pb 19 21 00.7 +0.9**
baz=115,slow=31
I59US I I 19 24 01.2
comp=N,0.2nm,1.1s,baz=106,slow=327,SNR=3.8
HPAH Hawaii Prepara 0.73 327 Pg 19 20 59.9 -0.5
MHA Mahukona 0.97 323 Pg **Pg 19 21 04.0 -1.0**
HLK Haleakala 1.62 326 Pn **Pn 19 21 14.2 -2.0**
KHLH Kahului Airpor 1.83 324 Pn **Pn 19 21 16.9 -2.0**
KPA Kalaupapa 2.38 318 Pn 19 21 23.5 -3.1
HON Honolulu 3.18 307 Pn 19 21 34.0 -3.5
KIP Kipapa 3.25 308 Pn 19 21 35.1 -3.4
SNCC San Nicolas Is 34.70 59 P **P 19 27 36.6 -1.2**
baz=256
SCZ2 Santa Cruz Isl 34.80 58 P P 19 27 37.1 -1.7
baz=254
PKM Mcpherson Peak 34.91 56 P P 19 27 38.7 -1.1
baz=253
SCI2 San Clemente I 35.43 60 P P 19 27 43.8 -0.4
baz=257
YBH Yreka Blue Hor 35.47 44 LR LR 19 38 17.2
comp=N,272nm,19.8s,baz=248,slow=30
OSI Osito Audit: C 35.69 57 P P 19 27 45.8 -0.7
baz=254
FMP Fort Macarthur 35.81 59 P P 19 27 47.6 +0.2
baz=256
DECC Green Verdugo 35.91 58 P P 19 27 48.4 +0.1
baz=255
FALS False Pass 35.92 352 P P 19 27 47.2 -0.8
baz=167
SDPT Sand Point 36.09 355 P P 19 27 49.8 +0.3
baz=172
ISA Isabella, Lake 36.18 56 P P 19 27 49.7 -1.0
baz=253
EDW2 Edwards Air Fo 36.34 57 P P 19 27 51.0 -1.0
baz=255
BFSC Mount Baldy Ra 36.45 58 P P 19 27 52.4 -0.7
baz=256
MLAC Mammoth, Mammo 36.51 52 P P 19 27 53.2 -0.5
baz=250
S12K Black Hills 36.59 354 P P 19 27 54.1 +0.3
baz=169
MURC Murrieta 36.67 60 P P 19 27 53.6 -1.3
baz=257
CWC Cottonwood Cre 36.71 55 P P 19 27 54.2 -1.1
baz=253
LRMC Laurel Mtn Rad 36.75 56 P P 19 27 54.5 -1.1
baz=254
TIN Tinemaha, Big 36.78 54 P P 19 27 55.3 -0.6
baz=252
CHGN Chignik 36.90 357 P P 19 27 56.8 +0.4
baz=175
MPMC Manual Prospec 37.06 55 P P 19 27 56.8 -1.5
baz=254
SII Sitkinak Islan 37.10 1 P P 19 27 57.9 -0.2
baz=182
RRX Edison Barstow 37.13 58 P P 19 27 58.0 -0.7
baz=256
MONP2 Monument Peak 37.16 61 P P 19 27 57.9 -1.3
baz=259
PPT Papeete 37.18 171 LR LR 19 39 21.9
comp=N,1µm,20.7s,baz=358,slow=30
NVAR Mina Array Bea 37.18 51 P P 19 28 01.7 +2.4
comp=N,1.7nm,0.9s,baz=236,slow=10,SNR=6.8
NVAR LR LR 19 39 15.4
comp=N,358nm,21.9s,baz=260,slow=30
comp=N,1.7nm,0.9s
PPT2 Papeete2 37.20 171 *e*PKIKP **P 19 28 01.1 +1.7**
PPT2 *e*S **S 19 33 46.5 -0.7**
comp=N,397nm,25.0s
PPT2 *e*LR LR 19 37 55.3
comp=N,3µm,27.2s
PPT2 *e*LR LR 19 37 55.8
comp=N,4µm,25.2s
PFO Pinyon Flats O 37.28 60 P P 19 27 58.9 -1.2
baz=258
PFO Pinyon Flats O 37.28 60 LR LR 19 39 04.5
comp=N,326nm,19.1s,baz=248,slow=29
TPFO Pinon Flats 37.28 60 P P 19 27 58.4 -1.8
baz=258
IKP In-Ko-Pah, Jac 37.37 61 P P 19 27 59.2 -1.6
baz=259
GSC Goldstone, Bar 37.39 57 P P 19 27 59.1 -1.9
baz=255
GRAC Grapevine Rang 37.42 54 P P 19 27 60.0 -1.3
baz=252
HEC Hector,Ludlow 37.65 58 P P 19 28 01.5 -1.7
baz=256
FURC Furnace Creek, 37.66 55 P P 19 28 01.4 -1.7
baz=254
SWSC Sam W. Stewart 37.68 61 P P 19 28 01.3 -2.1
baz=259
BELC Belle Mtn. Jos 37.73 59 P P 19 28 01.1 -2.9
baz=258
OHAK Old Harbor 37.78 2 P P 19 28 02.6 -1.3
baz=183
SHOC Shoshone, Teco 37.96 56 P P 19 28 03.9 -1.9
baz=255
R18K Karluk 38.10 1 P P 19 28 05.7 -0.8
baz=181
BC3 Big Chuckawall 38.11 60 P P 19 28 04.5 -2.6
baz=258
TUQ Turquoise Moun 38.12 57 P P 19 28 05.3 -2.0
baz=256
R17L Mt. Peulik Vol 38.17 359 P P 19 28 06.3 -0.9
baz=178
GMRC Granite Mounta 38.18 58 P P 19 28 05.1 -2.7
baz=257
TPNV Topopah Spring 38.27 55 P P 19 28 07.6 -0.9
baz=254
KDAK Kodiak Island 38.37 2 P P 19 28 08.5 -0.3
baz=184
KDAK Kodiak Island 38.37 2 LR LR 19 40 15.1
comp=N,1µm,21.3s,baz=208,slow=30
IRM Iron Mountain 38.46 59 P P 19 28 08.9 -1.1
baz=258
GLA Glamis 38.51 61 P P 19 28 09.7 -0.7
baz=260
Q17K Contact Creek 38.80 359 P P 19 28 12.7 +0.1
baz=179
BBB Bella Bella 38.98 27 LR LR 19 40 21.6
comp=N,307nm,20.3s,baz=210,slow=30
R11B Troy Canyon, C 39.18 53 P P 19 28 15.2 -1.0
baz=252
Q18K Katmai Hardscr 39.18 0 P P 19 28 15.9 +0.1
baz=180
Q20K Shuyak Island 39.20 2 P P 19 28 15.5 -0.3
baz=184
PDMCI Parker Dam,Lak 39.30 59 P P 19 28 16.5 -0.5
baz=258
SPIA Saint Paul Isl 39.31 347 P P 19 28 16.6 -0.1
baz=157
Q19K Cape Douglas, 39.48 1 P P 19 28 18.2 0.0
baz=182
P16K Nushagak River 39.62 358 P P 19 28 19.2 -0.1
baz=176
CRAG Craig 39.70 20 P P 19 28 19.5 -0.5
baz=214
P17K Kvichak River 39.74 359 P P 19 28 19.7 -0.6
baz=178
O15K Ungalikthiuk R 39.85 356 P P 19 28 21.1 -0.1
baz=173
P18K Big Mountain, 39.93 0 P P 19 28 21.8 -0.1
baz=180
214A Organ Pipe Nat 40.02 63 P P 19 28 22.3 -0.8
baz=262
O14K Tigyukauivet M 40.02 355 P P 19 28 22.0 -0.6
baz=171
V35K Ketchikan 40.08 21 P P 19 28 22.9 -0.2
baz=216
O16K Kokwok River B 40.18 358 P P 19 28 23.3 -0.6
baz=176
P19K Oil Pt 40.22 2 P P 19 28 22.6 -1.7
baz=183
U33K Whale Pass 40.24 19 P P 19 28 23.4 -1.1
baz=213
HOM Homer 40.28 3 P P 19 28 24.4 -0.4
baz=185
O18K Koktuh Hills 40.39 0 P P 19 28 25.4 -0.4
baz=180
SIT Sitka 40.41 17 P P 19 28 25.5 -0.3
baz=210
BRSE Bradley Lake S 40.41 4 P P 19 28 25.4 -0.5
baz=187
RAR Rarotonga 40.62 186 LR LR 19 41 42.3
comp=N,708nm,18.8s,baz=4.0,slow=31
N14K Kuskokwak Cree 40.72 355 P P 19 28 27.4 -1.0
baz=171
N15K Kwethluk River 40.85 356 P P 19 28 29.2 -0.4
baz=173
SEW Seward 40.86 4 P P 19 28 29.3 -0.2
baz=188
SHEM Shemya Is, Ala 40.87 332 LR LR 19 42 01.3
comp=N,1µm,21.6s,baz=128,slow=31
P23K Montague Islan 40.93 6 P P 19 28 30.1 0.0
baz=191
S31K Pelican 40.96 15 P P 19 28 29.8 -0.6
baz=208
S32K Killisnoo 40.97 17 P P 19 28 29.9 -0.5
baz=211
N16K Nishlik Lake 41.09 357 P P 19 28 30.9 -0.6
baz=175
N17K Nushagak Hills 41.09 359 P P 19 28 31.0 -0.5
baz=177
KAIM Kayak Island 41.21 8 P P 19 28 32.1 -0.4
baz=196
O22K Cooper Landing 41.21 4 P P 19 28 31.8 -0.7
baz=188
N18K Kilae Creek 41.22 360 P P 19 28 31.9 -0.7
baz=179
M13K Dall Lake 41.36 354 P P 19 28 32.7 -0.9
baz=168
N19K Bonanza Creek 41.36 1 IAmb IAmb 19 28 51.0
comp=Z,24nm,1.1s
N19K Bonanza Creek 41.36 1 P P 19 28 32.5 -1.3
baz=181
M15K Kasigluk River 41.41 356 P P 19 28 33.7 -0.4
baz=172
M14K Bethel 41.56 355 P P 19 28 33.8 -1.5
baz=170
M16K Timber Creek 41.65 357 P P 19 28 34.8 -1.2
baz=175
M11K Mekoryuk 41.66 352 P P 19 28 35.4 -0.7
baz=164
R32K Eaglecrest 41.68 16 P P 19 28 36.3 0.0
baz=210
TUC Tucson 41.77 63 P P 19 28 36.1 -1.4
baz=263
WUAZ Wupatki 41.77 58 P P 19 28 36.5 -1.1
baz=259
HLID Hailey 41.77 46 P P 19 28 36.2 -1.3
baz=248
DUG Dugway, Tooele 41.78 51 P P 19 28 36.2 -1.4
baz=253
N20K Mount Spurr 41.80 2 P P 19 28 36.6 -0.8
baz=184
SPCR Spurr Chakacha 41.80 2 P P 19 28 36.8 -0.6
baz=184
RC01 Rabbit Creek A 41.82 4 P P 19 28 37.4 0.0
baz=188
MESA MESA 41.82 10 P P 19 28 37.0 -0.8
baz=199
T35M Bob Quinn 41.87 20 P P 19 28 38.4 +0.5
baz=217
LPIG La Paz 41.90 75 LR LR 19 41 08.9
comp=Z,482nm,21.5s,baz=248,slow=29
M18K Stony River 42.04 360 P P 19 28 39.2 0.0
baz=179
PINM Pinnacle 42.04 11 P P 19 28 39.2 -0.2
baz=201
P29M Windy Craggy 42.11 13 P P 19 28 39.7 -0.1
baz=205
NEW Newport 42.12 38 P P 19 28 40.3 +0.1
baz=240
NEW Newport 42.12 38 LR LR 19 42 03.0
comp=Z,186nm,21.4s,baz=235,slow=30
SUA Susitna One 42.13 3 P P 19 28 39.7 -0.4
baz=186
BMRM Bremner River 42.19 8 P P 19 28 40.4 -0.1
baz=195
L14K Kuka Creek 42.21 355 P P 19 28 40.2 -0.3
baz=170
KNK Knik Glacier 42.23 5 P P 19 28 40.2 -0.6
baz=190
PLBC Pleasant Camp 42.26 14 P P 19 28 40.5 -0.6
baz=207
L16K Owhat River 42.36 357 P P 19 28 40.9 -0.9
baz=174
PMR Palmer 42.36 4 P P 19 28 41.3 -0.5
baz=189
L15K Ungalak Mounta 42.45 356 P P 19 28 41.8 -0.7
baz=171
M22K Willow 42.45 4 P P 19 28 42.1 -0.4
baz=187
M19K Big River Lodg 42.45 1 P P 19 28 42.1 -0.5
baz=181
M20K Styx River 42.45 2 P P 19 28 42.1 -0.6
baz=183
SKAG Skagway 42.51 15 P P 19 28 42.6 -0.5
baz=208
KLU Klutina 42.55 7 P P 19 28 43.1 -0.4
baz=193
O29M Mount Kennedy 42.55 12 P P 19 28 43.5 -0.1
baz=204
SKT Skwentna 42.61 3 P P 19 28 43.2 -0.6
baz=185
SML Sawmill 42.63 5 P P 19 28 43.1 -1.1
baz=190
CTG Chitna Glacier 42.67 10 P P 19 28 43.3 -1.2
baz=200
M23K Glacier View 42.67 5 P P 19 28 43.6 -0.7
baz=190
O28M Mount Upton 42.68 11 P P 19 28 44.2 -0.7
baz=201
P30M Million Dollar 42.72 13 P P 19 28 44.7 -0.2
baz=206
L19K White Mountain 42.73 0 P P 19 28 44.5 -0.4
baz=181
L17K Donlin 42.73 358 P P 19 28 44.7 -0.2
baz=176
SCM Sheep Creek Mo 42.74 6 P P 19 28 44.9 -0.2
baz=191
L18K Granite Mounta 42.78 359 P P 19 28 44.6 -0.6
baz=178
MCARA McCarthy VSAT 42.81 9 P P 19 28 45.3 -0.2
baz=197
N25K Chitina, Valde 42.81 7 P P 19 28 45.6 0.0
baz=195
Q32M Nakina River 42.88 17 P P 19 28 45.5 -0.9
baz=213
TBI Tubuai 42.88 172 *e*S **S 19 35 12.9 +0.9**
comp=Z,905nm,23.5s
TBI *e*LQ LQ 19 38 43.8
comp=Z,3µm,26.8s
TBI *e*LR LR 19 40 35.5
comp=Z,2µm,25.0s
TBI *e*LR LR 19 40 40.4
comp=Z,13µm,28.2s
W18A Petrified Fore 43.02 59 P P 19 28 46.3 -1.5
baz=261
P32M Atlin 43.03 16 P P 19 28 46.8 -0.6
baz=210
L20K Farewell, AK 43.04 1 P P 19 28 46.8 -0.6
baz=182,SNR=7.2
K15K Wolf Creek Mou 43.06 356 P P 19 28 47.0 -0.5
baz=171
CUT Chulitna 43.09 3 P P 19 28 47.5 -0.2
baz=187
DLBC Dease Lake 43.11 19 P P 19 28 47.1 -1.0
baz=216
DLBC Dease Lake 43.11 19 LR LR 19 42 47.2
comp=Z,532nm,20.5s,baz=244,slow=31
M24K Tolsona, Glenn 43.12 6 P P 19 28 47.2 -0.9
baz=193
YUK6 Outpost Mounta 43.18 12 P P 19 28 47.7 -1.1
baz=204
YUK8 Steele Glacier 43.23 11 P P 19 28 48.6 -0.7
baz=202
HYT Haines Junctio 43.25 13 P P 19 28 48.8 -0.4
baz=205
K17K Iditarod 43.31 358 P P 19 28 49.4 -0.2
baz=176
MSO Missoula 43.38 41 P P 19 28 50.2 -0.4
baz=245
WAT6 Susitna Watana 43.44 5 P P 19 28 49.9 -0.9
baz=190
YUK4 Talbot Arm 43.50 12 P P 19 28 51.8 +0.5
baz=203
PPLA Purkeypile 43.50 2 P P 19 28 51.4 +0.2
baz=184
O30N Mendenhall 43.50 14 P P 19 28 50.7 -0.4
baz=207
HARP HAARP 43.52 7 P P 19 28 51.1 -0.1
baz=194
YUK3 Moose Creek 43.58 10 P P 19 28 51.7 -0.3
baz=200
R33M Jennings River 43.62 18 P P 19 28 51.8 -0.5
baz=214
WAT1 Susitna Watana 43.63 4 P P 19 28 51.6 -0.5
baz=189
J14K Nanvaranak Lak 43.67 354 P P 19 28 52.2 -0.3
baz=169
M26K Nabesna, AK 43.79 8 P P 19 28 53.1 -0.4
baz=197
P33M Teslin, Yukon 43.80 16 P P 19 28 53.0 -0.6
baz=211
M27K Edge Creek, AK 43.90 9 P P 19 28 54.1 -0.4
baz=198
N30M Aishkik Lake 43.91 12 P P 19 28 53.8 -0.7
baz=205
K20K Telida 43.91 1 P P 19 28 54.2 -0.2
baz=182
DHY Denali Highway 43.96 5 P P 19 28 54.1 -0.8
baz=191
J16K Anvik River 43.99 357 P P 19 28 54.2 -0.8
baz=173
CAST Castle Rocks 44.02 2 P P 19 28 55.1 -0.2
baz=184
J17K VABM Dome 44.02 358 P P 19 28 54.8 -0.5
baz=175
J18K Innoko River 44.03 359 P P 19 28 54.8 -0.6
baz=178
PAX Paxson 44.04 6 P P 19 28 55.3 -0.2
baz=193,SNR=6.7
BVCY Beaver Creek 44.11 10 P P 19 28 55.2 -0.8
baz=200
N31M Braeburn, Yuko 44.21 13 P P 19 28 56.3 -0.5
baz=207
121A Cookes Peak, D 44.31 63 P P 19 28 56.4 -1.9
baz=265
L26K Log Cabin Wild 44.34 8 P P 19 28 57.4 -0.5
baz=196
MVCO Mesa Verde 44.36 56 P P 19 28 57.5 -1.2
baz=260
BOZ Bozeman (W) 44.38 44 P P 19 28 57.1 -1.5
baz=249
CHUM Lake Minchumin 44.48 2 P P 19 28 58.6 -0.3
baz=184
MCK McKinley 44.49 4 P P 19 28 58.7 -0.4
baz=189
N32M Quiet Lake 44.54 15 P P 19 28 58.9 -0.6
baz=210
M29M Somme Creek 44.55 11 P P 19 28 59.2 -0.4
baz=203,SNR=6.7
J19K Poorman 44.55 360 P P 19 28 59.0 -0.5
baz=180
L27K Beaver Creek, 44.58 9 P P 19 28 59.8 -0.1
baz=198
I17K Unalakleet 44.59 357 P P 19 28 59.4 -0.4
baz=173
J20K Nowinta River 44.74 1 P P 19 29 01.1 +0.1
baz=182
BPAW Bear Paw Mtn. 44.75 3 P P 19 29 01.2 +0.1
baz=186
BW06 Boulder Array 44.86 48 P P 19 29 01.9 -0.7
baz=253
PDAR Pinedale Array 44.86 48 P P 19 29 04.5 +1.8
comp=Z,3.6nm,1.1s,baz=255,slow=5.7,SNR=16
PDAR LR LR 19 47 28.1
comp=Z,44nm,18.2s,baz=260,slow=36
comp=Z,3.6nm,1.1s
M30M Minto, Yukon 44.98 12 P P 19 29 03.0 0.0
baz=205
TOAD Toad River Com 45.01 22 P P 19 29 03.1 -0.1
baz=222
O20A White River Ci 45.15 52 P P 19 29 04.0 -0.9
baz=257
M31M Drury Creek, Y 45.15 14 P P 19 29 04.8 +0.5
baz=208
SCRK Sand Creek 45.19 7 P P 19 29 04.8 +0.1
baz=195
L29M L29M 45.22 11 P P 19 29 04.5 -0.4
baz=203
HDA Harding Lake 45.31 5 P P 19 29 05.9 +0.3
baz=191
GCSA Galena City Sc 45.31 359 P P 19 29 05.5 -0.1
baz=178
NEA2 Nenana 45.34 4 P P 19 29 05.9 +0.1
baz=188
I20K Naaghedeneel 45.36 0 P P 19 29 05.8 -0.1
baz=181
H16K Elim 45.44 356 P P 19 29 05.3 -1.2
baz=171
K27K Chicken 45.47 8 P P 19 29 07.2 +0.3
baz=198
H17K Granite Mounta 45.60 357 P P 19 29 07.8 0.0
baz=174
ANM Nome 45.63 354 P P 19 29 07.9 -0.1
baz=167
J25K Salcha River, 45.66 6 P P 19 29 07.8 -0.6
baz=193,SNR=8.0
ANMO Albuquerque 45.66 60 P P 19 29 07.7 -1.4
baz=263
ANMO Albuquerque 45.66 60 LR LR 19 43 36.2
comp=Z,257nm,21.7s,baz=354,slow=30
ILAR Eielson Array 45.68 5 P P 19 29 07.3 -1.2
ILAR Eielson Array 45.68 5 P P 19 29 09.8 +1.4
comp=Z,2.5nm,0.8s,baz=192,slow=6.5,SNR=17
ILAR LR LR 19 45 11.0
comp=Z,462nm,19.8s,baz=189,slow=32
comp=Z,2.5nm,0.8s
MLY Manley 45.69 3 IAmb IAmb 19 29 23.3
comp=Z,11nm,1.2s
MLY Manley 45.69 3 P P 19 29 07.8 -0.8
baz=186
COLA College 45.70 4 P P 19 29 09.0 +0.4
baz=190
J26L Joseph Creek 45.74 7 P P 19 29 07.3 -1.7
J26L Joseph Creek 45.74 7 P P 19 29 08.9 -0.1
baz=196,SNR=5.4
H18K Honhosa River 45.76 358 P P 19 29 08.0 -1.0
baz=176
S22A 4UR Ranch, Cre 45.76 56 P P 19 29 08.2 -1.6
S22A 4UR Ranch, Cre 45.76 56 P P 19 29 08.8 -1.1
baz=260
MDM Murphy Dome 45.76 4 P P 19 29 08.4 -0.7
RLMT Red Lodge 45.78 45 P P 19 29 09.0 -0.9
baz=251
I23K Minto, Yukon-K 45.88 3 P P 19 29 09.8 -0.2
baz=188
DAWY Dawson 45.90 10 P P 19 29 10.1 -0.2
DAWY IAmb IAmb 19 29 16.0
comp=Z,7.5nm,0.8s
DAWY Dawson 45.90 10 P P 19 29 10.7 +0.5
baz=201
SMCO Snowmass 45.90 54 P P 19 29 09.5 -1.7
G15K Niukluk 45.93 355 P P 19 29 10.7 +0.3
baz=168
POKR Poker Plat Res 45.97 5 P P 19 29 10.3 -0.5
baz=190
K29M Barlow Dome 46.01 11 P P 19 29 11.0 -0.2
baz=204

H20K	Anotleneega Mo	46.05	0	P	P	19 29 10.7	-0.7
	baz=180						
H19K	Roundabout Mou	46.09	359	P	P	19 29 11.4	-0.3
	baz=178						
TGTN	Hyland Airport	46.13	18	P	P	19 29 11.7	-0.4
	baz=216						
G16K	Koyuk River	46.19	356	P	P	19 29 12.5	0.0
	baz=171						
G17K	Kiwalik Mounta	46.20	357	P	P	19 29 12.3	-0.2
	baz=173						
MMPY	Sheldon Lake,	46.24	15	P	P	19 29 12.2	-0.9
	baz=212						
H21K	Melozitna Rive	46.25	1	P	P	19 29 12.7	-0.3
	baz=183						
EGAK	Eagle	46.31	8	P	P	19 29 12.6	-0.9
EGAK				IAmb	IAmb	19 29 22.8	
	comp=Z,13nm,1.1s						
EGAK	Eagle	46.31	8	P	P	19 29 12.7	-0.7
	baz=199						
KOTAN	Kotaneelee Air	46.37	21	P	P	19 29 13.4	-0.5
	baz=222						
EGMT	Eagleton	46.46	41	P	P	19 29 13.6	-1.4
	baz=248						
G18K	Tagagawik	46.51	358	P	P	19 29 14.7	-0.3
G18K	Tagagawik	46.51	358	P	P	19 29 15.0	0.0
	baz=176						
H22K	Ishtalitna Cre	46.53	2	P	P	19 29 15.3	+0.2
	baz=185						
PRP	Porcupine Dome	46.53	6	P	P	19 29 15.1	-0.2
PRP				IAmb	IAmb	19 29 20.0	
	comp=Z,17nm,1.4s						
PRP	Porcupine Dome	46.53	6	P	P	19 29 14.4	-0.9
	baz=193						
H23K	Yukon River	46.54	3	P	P	19 29 16.5	+1.2
H23K	Yukon River	46.54	3	P	P	19 29 15.3	+0.1
	baz=188,SNR=5.7						
I26K	Coal Creek Min	46.57	7	P	P	19 29 15.0	-0.5
	baz=196						
F14K	Arctic Creek	46.61	354	P	P	19 29 15.5	-0.3
	baz=166						
H24K	Noodor Dome	46.65	4	P	P	19 29 18.3	+2.1
H24K	Noodor Dome	46.65	4	P	P	19 29 15.4	-0.8
	baz=190,SNR=8.2						
F15K	North Star Dit	46.68	355	P	P	19 29 16.1	-0.3
	baz=168						
G19K	Purcell Mounta	46.72	359	P	P	19 29 16.4	-0.3
	baz=178						
SDCO	Great Sand Dun	46.80	56	P	P	19 29 18.8	+0.8
SDCO	Great Sand Dun	46.80	56	P	P	19 29 16.9	-1.2
	baz=261						
J30M	Hart River	46.89	11	P	P	19 29 19.3	+1.2
J30M	Hart River	46.89	11	P	P	19 29 17.9	-0.2
	baz=205,SNR=6.1						
K22A	Casper	46.99	49	P	P	19 29 18.4	-0.9
	baz=256						
N23A	Red Feather La	47.02	52	P	P	19 29 19.1	-0.6
	baz=258						
I27K	Kandik River	47.04	8	P	P	19 29 18.3	-0.9
	baz=198						
ISCO	Idaho Springs	47.05	53	P	P	19 29 19.3	-0.7
	baz=259						
G21K	Allakaket	47.09	1	P	P	19 29 19.5	0.0
	baz=182						
I28M	Miner Creek	47.12	9	P	P	19 29 19.9	0.0
	baz=200						
F17K	Baldwin Pennin	47.17	357	P	P	19 29 19.6	-0.4
	baz=172						
H25L	Birch Creek	47.24	5	P	P	19 29 20.7	+0.1
	baz=192,SNR=13						
F18K	Selawik	47.25	358	P	P	19 29 20.1	-0.7
	baz=174						
Q24A	Divide	47.26	55	P	P	19 29 23.9	+2.1
Q24A				IAmb	IAmb	19 29 31.4	
	comp=Z,7.5nm,0.9s						
Q24A	Divide	47.26	55	P	P	19 29 20.6	-1.1
	baz=260						
G23K	Bananza Creek	47.40	3	P	P	19 29 22.9	+0.9
G23K				IAmb	IAmb	19 29 26.7	
	comp=Z,13nm,1.4s						
G23K	Bananza Creek	47.40	3	P	P	19 29 21.9	-0.1
	baz=187						
F19K	Shaleruckik Mo	47.43	359	P	P	19 29 22.0	-0.1
	baz=177						
I30M	Mount Dempster	47.47	11	P	P	19 29 24.0	+1.3
I30M				IAmb	IAmb	19 29 28.1	
	comp=Z,9.8nm,1.0s						
I30M	Mount Dempster	47.47	11	P	P	19 29 22.1	-0.6
	baz=204,SNR=11						
G24K	Hadweenzic Riv	47.54	4	P	P	19 29 23.0	-0.1
	baz=190,SNR=7.7						
G22K	Bettles	47.55	2	P	P	19 29 23.5	+0.4
	baz=185						
T25A	Trinidad	47.57	57	P	P	19 29 22.1	-1.9
	baz=263						
FYU	Fort Yukon	47.58	5	P	P	19 29 23.9	+0.6
F20K	Avaraart Lake	47.62	360	P	P	19 29 23.5	-0.1
	baz=179						
H27K	Steamboat Moun	47.65	7	P	P	19 29 23.6	-0.4
	baz=198,SNR=12						
G25K	Bearman Lake	47.70	5	P	P	19 29 24.0	-0.2
	baz=192						
TX31	Lajitas Ar. Si	47.71	68	P	P	19 29 26.2	+1.2
TX31				IAmb	IAmb	19 29 31.5	
	comp=Z,9.3nm,1.1s						
TXAR	Lajitas Array	47.72	68	P	P	19 29 26.8	+1.7
TXAR	Lajitas Array	47.72	68	P	P	19 29 26.4	+1.3
	comp=Z,3.6nm,0.8s,baz=262,slow=6.3,SNR=7.4						
TXAR				LR	LR	19 45 26.6	
	comp=Z,98nm,20.6s,baz=240,slow=31						
	comp=Z,3.6nm,0.8s						
F21K	Alatna River	47.80	1	P	P	19 29 27.7	+2.6
F21K				IAmb	IAmb	19 29 42.3	
	comp=Z,13nm,1.1s						
F21K	Alatna River	47.80	1	P	P	19 29 24.3	-0.8
	baz=182,SNR=6.9						
E17K	Hotham Inlet	47.84	357	P	P	19 29 24.6	-0.7
	baz=172						
COLD	Coldfoot	47.91	3	P	P	19 29 25.7	-0.2
	baz=186						
E19K	Redstone River	48.04	359	P	P	19 29 27.0	+0.1
	baz=178						
H29M	Whitestone	48.07	9	P	P	19 29 27.1	-0.1
	baz=202,SNR=7.9						
G26K	Porcupine Rive	48.09	6	P	P	19 29 26.8	-0.5
	baz=195,SNR=8.8						
E18K	Tukpahlearik C	48.11	357	P	P	19 29 26.4	-1.1
	baz=173						
F22K	John River	48.12	2	P	P	19 29 26.4	-1.1
	baz=184,SNR=10						
G27K	Doyon Strip	48.19	7	P	P	19 29 27.2	-0.9
G27K	Doyon Strip	48.19	7	P	P	19 29 27.5	-0.6
	baz=197						
F24K	Squaw Lake	48.32	4	P	P	19 29 28.3	-0.8
	baz=189						
EPYK	Eagle Plains	48.47	10	P	P	19 29 29.3	-0.9
	baz=204,SNR=5.8						
BMAR	Burnt Mountain	48.48	5	P	P	19 29 30.4	+0.1
D17K	Noatak River	48.52	356	P	P	19 29 30.0	-0.6
	baz=170						
F25K	Christian Rive	48.55	5	P	P	19 29 30.1	-0.8
	baz=192						
MSTX	Muleshoe	48.61	62	P	P	19 29 30.4	-1.6
	baz=266						
E23K	Chandalar	48.76	3	P	P	19 29 31.8	-0.7
	baz=187						
G29M	Pine Creek	48.77	9	P	P	19 29 32.2	-0.4
	baz=202,SNR=8.9						
F26K	Sheenjek River	48.78	6	P	P	19 29 32.3	-0.4
	baz=194,SNR=6.2						
E20K	Nigu River	48.83	360	P	P	19 29 32.3	-0.8
	baz=179						
E24K	Your Creek	48.84	3	P	P	19 29 31.9	-1.2
	baz=188						
RDOG	Red Dog Mine	48.87	356	P	P	19 29 32.6	-0.7
	baz=170						
WRGLY	Wrigley	48.87	18	P	P	19 29 32.0	-1.3
	baz=221						
E21K	Killik River	49.02	1	P	P	19 29 32.8	-1.7
E21K				IAmb	IAmb	19 29 38.9	
	comp=Z,22nm,1.6s						
E21K	Killik River	49.02	1	P	P	19 29 33.8	-0.7
	baz=182						
E25K	Arctic Village	49.08	5	P	P	19 29 34.6	-0.3
	baz=192,SNR=5.9						
RSSD	Black Hills	49.10	48	P	P	19 29 34.1	-1.6
RSSD				IAmb	IAmb	19 29 44.0	
	comp=Z,12nm,1.1s						
RSSD	Black Hills	49.10	48	P	P	19 29 34.5	-1.2
	baz=257						
D19K	Kuna River	49.10	359	P	P	19 29 34.5	-0.6
	baz=176						
G30M	tAoh Zraii Nji	49.11	10	P	P	19 29 34.5	-0.7
	baz=204,SNR=6.6						
F28M	Old Crow	49.17	8	P	P	19 29 34.7	-0.9
	baz=199,SNR=6.8						
C16K	Lisburne Hills	49.26	355	P	P	19 29 35.1	-1.1
	baz=167						
D20K	Etivluk River	49.30	359	P	P	19 29 35.9	-0.7
	baz=178						
C17K	DeLong Mountai	49.30	356	P	P	19 29 34.8	-1.8
	baz=170						
TOLK	Toolik Lake Re	49.34	3	P	P	19 29 35.7	-1.3
	baz=187						
C18K	Utukok River	49.36	357	P	P	19 29 36.1	-1.1
	baz=173						
G31M	Satah River	49.38	11	P	P	19 29 35.9	-1.3
G31M				IAmb	IAmb	19 29 42.2	
	comp=Z,13nm,1.1s						
G31M	Satah River	49.38	11	P	P	19 29 36.3	-0.9
	baz=206,SNR=9.1						
D22K	Ayikyak River	49.48	1	P	P	19 29 37.1	-0.9
	baz=183						
E27K	Coleen River	49.52	7	P	P	19 29 38.1	-0.2
E27K	Coleen River	49.52	7	P	P	19 29 37.3	-0.9
	baz=197,SNR=6.5						
AMTX	Amarillo	49.56	60	P	P	19 29 37.3	-2.0
	baz=266						
D23K	Nanushuk River	49.62	2	P	P	19 29 38.5	-0.5
	baz=186						
C21K	Knifeblade Rid	49.73	0	P	P	19 29 38.9	-1.0
	baz=181						
C19K	Lookout Ridge	49.75	358	P	P	19 29 39.9	-0.2
	baz=175						
F30M	Barrier River	49.75	10	P	P	19 29 38.8	-1.3
	baz=204						
D24K	Happy Valley	49.89	3	P	P	19 29 43.1	+2.1
D24K				IAmb	IAmb	19 29 47.2	
	comp=Z,27nm,1.6s						
D24K	Happy Valley	49.89	3	P	P	19 29 40.5	-0.5
	baz=188						
F31M	Tsiigehtchic	49.94	11	P	P	19 29 41.5	0.0
	baz=207						
OGNE	Ogallala	49.95	52	P	P	19 29 40.8	-1.3
	baz=261						
B18K	Kokolik River	50.10	357	P	P	19 29 42.8	+0.1
	baz=172						
DGMT	Dagmar	50.12	42	P	P	19 29 42.4	-0.8
	baz=253						
E28M	Babbage River	50.16	7	P	P	19 29 43.1	0.0
	baz=200,SNR=7.3						
E29M	Blow River	50.16	8	P	P	19 29 43.0	-0.1
E29M				IAmb	IAmb	19 29 48.4	
	comp=Z,22nm,1.6s						
E29M	Blow River	50.16	8	P	P	19 29 43.3	+0.1
	baz=202,SNR=10						
B21K	Ikpikpuk River	50.20	0	P	P	19 29 43.3	-0.1
	baz=181						
D25K	Kavik River	50.20	4	P	P	19 29 43.3	-0.2
	baz=191,SNR=7.1						
C24K	Franklin Bluff	50.46	3	P	P	19 29 45.1	-0.3
	baz=188						
C23K	Itkillik River	50.50	2	P	P	19 29 45.2	-0.4
C23K				IAmb	IAmb	19 29 54.9	
	comp=Z,12nm,1.1s						
C23K	Itkillik River	50.50	2	P	P	19 29 45.3	-0.3
	baz=186,SNR=5.4						
D27M	Malcolm River	50.60	7	P	P	19 29 46.7	+0.1
	baz=198						
B20K	Meade River	50.60	359	P	P	19 29 46.1	-0.3
	baz=178						
C27K	Jago River	50.70	5	P	P	19 29 47.5	+0.2
	baz=194						
INK	Inuvik	50.75	10	P	P	19 29 47.4	-0.2
	baz=207,SNR=6.5						
INK	Inuvik	50.75	10	LR	LR	19 49 32.4	
	comp=Z,536nm,18.7s,baz=184,slow=34						
C26K	Camden Bay	50.89	5	P	P	19 29 48.3	-0.3
	baz=193,SNR=8.5						
B22K	Teshekpuk Lake	50.94	1	P	P	19 29 48.0	-0.9
B22K	Teshekpuk Lake	50.94	1	P	P	19 29 48.4	-0.5
	baz=182						
D28M	Stokes Point	50.94	7	P	P	19 29 49.1	+0.1
	baz=200						
YKA	Yellowknife Ar	51.32	23	P	P	19 29 53.7	+1.8
	comp=Z,2.9nm,1.0s,baz=238,slow=8.0,SNR=5.3						
YKA				LR	LR	19 48 37.4	
	comp=Z,244nm,20.2s,baz=218,slow=32						
	comp=Z,2.9nm,1.0s						
CBKS	Cedar Bluff	51.43	55	P	P	19 29 52.4	-0.8
	baz=264						
833A	Chaparral WMA,	51.49	69	P	P	19 29 52.4	-1.4
833A	Chaparral WMA,	51.49	69	P	P	19 29 52.8	-1.0
	baz=273						
A22K	Sinclair Lake	51.59	0	P	P	19 29 53.5	-0.3
	baz=180						
A21K	Barrow	51.92	359	P	P	19 29 56.3	0.0
	baz=178						
WMOK	Wichita Mounta	51.94	61	P	P	19 29 56.5	-0.6
	baz=268						
HNR	Honiara	52.61	241	LR	LR	19 48 35.1	
	comp=Z,2μm,21.6s,baz=23,slow=32						
SUSD	Miller	52.74	49	P	P	19 30 02.4	-0.5
	baz=261						
BGNE	Belgrade	52.91	52	P	P	19 30 03.4	-0.8
	baz=264						
MDND	Maddock	52.94	44	P	P	19 30 03.8	-0.5
	baz=258						
435B	Jarrell	52.96	66	P	P	19 30 04.1	-0.6
	baz=272						
WHTX	Lake Whitney,	53.04	64	P	P	19 30 04.5	-0.7
	baz=271						
RAO	Raoul Island	53.09	205	LR	LR	19 48 34.0	
	comp=Z,114nm,20.0s,baz=314,slow=31						
C36M	Paulatuk	53.46	13	P	P	19 30 06.0	-1.8
C36M				IAmb	IAmb	19 30 11.8	
	comp=Z,25nm,1.6s						
C36M	Paulatuk	53.46	13	P	P	19 30 08.0	+0.3
	baz=218						
KSU1	Kansas State U	53.88	55	P	P	19 30 10.1	-1.3
	baz=266						
ECSD	EROS Data Cent	54.31	50	P	P	19 30 12.8	-1.6
	baz=263						
TUL3	Leonard	54.41	59	P	P	19 30 14.2	-1.1
	baz=269						
A36M	Sachs Harbour	55.37	11	P	P	19 30 21.5	-0.1
	baz=215						
NATX	Nacogdoches	55.42	64	P	P	19 30 21.8	-0.8
	baz=273						
MA2	Magadan	55.45	330	LR	LR	19 49 48.6	
	comp=Z,948nm,21.8s,baz=114,slow=31						
AGMN	Agassiz Nation	55.48	44	P	P	19 30 22.0	-0.8
	baz=260						
DZM	Mont Dzumac	55.68	224	eP	P	19 30 22.1	-2.5
	comp=Z,56nm,24.4s						
DZM				eS	S	19 38 11.2	-0.9
	comp=Z,232nm,24.2s						
DZM				eSS	SS	19 42 00.2	+2.6
	comp=Z,175nm,27.4s						
DZM				eLR	LR	19 46 36.0	
	comp=Z,503nm,31.3s						
ULM	Lac du Bonnet	55.82	42	P	P	19 30 27.1	+1.9
	comp=Z,1.8nm,0.3s,baz=283,slow=12,SNR=4.5						
ULM				LR	LR	19 50 26.1	
	comp=Z,164nm,21.8s,baz=262,slow=32						
	comp=Z,1.8nm,0.3s						
SEY	Seymchan	56.11	334	LR	LR	19 49 38.6	
	comp=Z,481nm,21.9s,baz=145,slow=31						
MIAR	Mount Ida	56.23	61	P	P	19 30 27.5	-0.9
	baz=271						
SCIA	State Center	56.64	52	P	P	19 30 29.7	-1.5
	baz=267						
ASAJ	Asahikawa	56.83	310	LR	LR	19 49 38.3	
	comp=Z,1μm,21.8s,baz=118,slow=30						
JCJ	Chichijima	57.47	290	LR	LR	19 50 04.1	
	comp=Z,401nm,21.9s,baz=92,slow=30						
CCM	Cathedral Cave	58.06	57	P	P	19 30 38.4	-2.9
CCM				IAmb	IAmb	19 30 40.5	
	comp=Z,18nm,1.2s						
CCM	Cathedral Cave	58.06	57	P	P	19 30 39.4	-1.9
	baz=270						
EYMN	Ely	58.34	45	P	P	19 30 42.4	-0.7
	baz=264						
JFWS	Jewell Farm	58.88	51	P	P	19 30 45.8	-1.1
	baz=268						
JHJ	Hachijo jima 2	58.99	298	LR	LR	19 52 44.6	
	comp=Z,345nm,20.1s,baz=121,slow=32						
HDIL	Hopedale	59.56	54	P	P	19 30 50.5	-1.2
	baz=270						
OXF	Oxford	59.67	61	P	P	19 30 51.2	-1.4
	baz=274						
MJAR	Matsushiro Arr	60.08	302	LR	LR	19 52 16.0	
	comp=Z,271nm,21.6s,baz=74,slow=31						
WVT	Waverly	60.86	59	P	P	19 30 59.2	-1.5
	baz=274						
SFIN	Lafayette	61.24	54	P	P	19 31 02.1	-1.1
	baz=272						
LRAL	Lakeview Retre	61.79	62	P	P	19 31 05.9	-1.2
	baz=276						
BRAL	Brewton	61.95	64	P	P	19 31 07.4	-0.7
	baz=277						
WCI	Wyandotte Cave	61.95	56	P	P	19 31 06.9	-1.1
	baz=273						
TEIG	Tepich	62.62	77	LR	LR	19 54 44.6	
	comp=Z,148nm,20.3s,baz=221,slow=32						
O48B	Farmland	62.73	54	P	P	19 31 12.4	-0.8
	baz=273						
URZ	Urewera	62.96	204	LR	LR	19 54 01.0	
	comp=Z,348nm,20.0s,baz=134,slow=32						
P49A	Miami Univ. Ec	63.10	55	P	P	19 31 14.5	-1.2
	baz=274						
E46A	Sault Ste Mari	63.16	47	P	P	19 31 17.3	+1.3
PMG	Port Moresby	63.52	248	LR	LR	19 54 19.4	
	comp=Z,202nm,20.9s,baz=34,slow=32						
TKL	Tuckaleechee C	64.18	59	LR	LR	19 57 30.2	
	comp=Z,98nm,19.4s,baz=254,slow=34						
RPN	Rapa Nui	64.21	135	LR	LR	19 52 50.6	
	comp=Z,493nm,19.7s,baz=318,slow=30						
TZTN	Tazewell	64.27	58	P	P	19 31 21.7	-1.8
	baz=276						
ACSO	Alum Creek Sta	64.39	54	P	P	19 31 22.9	-1.2
	baz=274						
USRK	Ussuriysk Ar.	64.46	310	LR	LR	19 54 42.2	
	comp=Z,580nm,20.7s,baz=85,slow=32						
KLR	Kul'dur	64.49	316	LR	LR	19 54 44.0	
	comp=Z,394nm,20.9s,baz=168,slow=32						
GOGA	Godfrey	64.69	62	P	P	19 31 25.2	-1.1
	baz=277						
TIGA	Tifton	64.85	64	P	P	19 31 26.0	-1.3
	baz=278						
P52A	Corning	65.09	55	P	P	19 31 26.9	-1.8
	baz=275						
O53A	New Philadelph	65.73	54	P	P	19 31 31.4	-1.6
	baz=275						
YAK	Yakutsk	66.03	330	LR	LR	19 57 18.8	
	comp=Z,879nm,20.6s,baz=96,slow=33						
M53A	WI Miller and	66.03	52	P	P	19 31 33.0	-1.8
	baz=275						
KMSC	Kings Mountain	66.22	59	P	P	19 31 34.7	-1.4
	baz=278						
JNU	Nakatsue	66.42	298	LR	LR	20 00 40.6	
	comp=Z,338nm,18.0s,baz=92,slow=36						
ERPA	Erie	66.48	52	P	P	19 31 36.1	-1.6
	baz=275						
BLA	Blacksburg	66.69	57	P	P	19 31 38.3	-0.9
	baz=277						
SADO	Sadowa	66.86	49	LR	LR	20 01 25.9	
	comp=Z,86nm,18.3s,baz=308,slow=36						
DWPF	Disney Wildern	67.24	67	P	P	19 31 41.3	-1.5
	baz=281						
TIXI	Tiksi	67.27	341	LR	LR	20 00 36.1	
	comp=Z,359nm,19.6s,baz=136,slow=36						
NHSC	New Hope	67.46	61	P	P	19 31 42.1	-2.0
	baz=279						
KSRS	Korea Array	68.18	303	LR	LR	20 00 10.9	
	comp=Z,284nm,18.8s,baz=75,slow=35						
JTS	Las Juntas de	68.20	86	LR	LR	19 54 13.5	
	comp=Z,370nm,21.6s,baz=292,slow=29						
SSPA	Standing Stone	68.21	53	P	P	19 31 46.9	-1.8
	baz=277						
BINY	Binghamton	69.43	51	P	P	19 31 54.0	-2.3
	baz=278						
CTA	Charters Tower	69.44	239	LR	LR	19 55 30.4	
	comp=Z,16nm,21.6s,baz=76,slow=30						
JOW	Kunigami	69.76	292	LR	LR	19 55 51.9	
	comp=Z,365nm,21.8s,baz=152,slow=30						
LONY	Lake Ozonia	70.11	49	P	P	19 31 58.4	-2.0
	baz=276						
PAL	Palisades	71.15	52	P	P	19 32 04.5	-2.3
	baz=280						
FRB	Frobisher Bay	71.34	28	LR	LR	20 01 47.6	
	comp=Z,97nm,18.4s,baz=306,slow=34						
L61B	Northampton	71.81	51	P	P	19 32 08.8	-2.0
	baz=280						
LBNH	Lisbon	72.05	49	P	P	19 32 09.9	-2.3
	baz=280						
HRV	Adam Dziewonsk	72.62	50	P	P	19 32 13.4	-2.2
	baz=281						
DL2	Dalian	72.83	306	P	P	19 32 10.7	-6.2
DL2				eS	S	19 41 38.7	-5.3
DL2				pmax	pmax		
	comp=Z,57nm,1.4s						
DL2				pmax	pmax		
	comp=Z,1μm,6.8s						
DL2				LR	LR		
	comp=N,670nm,24.7s						
DL2				LR	LR		
	comp=E,750nm,25.4s						
DL2				LR	LR		
	comp=Z,820nm,32.9s						
SCHQ	Schefferville	73.48	37	LR	LR	20 02 09.0	
	comp=Z,69nm,20.0s,baz=284,slow=34						
PKME	Peaks-Kenny Pk	73.70	47	P	P	19 32 19.7	-2.3
	baz=281						
DAV	Davao City (W)	77.47	273	LR	LR	20 00 31.9	
	comp=Z,313nm,21.8s,baz=58,slow=31						
STKA	Stephens Creek	79.09	231	LR	LR	20 02 07.6	
	comp=Z,174nm,21.5s,baz=31,slow=31						
WRA	Warramunga Arr	79.28	244	P	P	19 32 55.6	+1.6
	comp=Z,0.3nm,0.8s,baz=65,slow=4.0,SNR=1.8						
WRA				LR	LR	20 04 24.9	
	comp=Z,249nm,20.5s,baz=349,slow=33						
	comp=Z,0.3nm,0.8s						
HHC	Hu-ho-hao-te	79.87	310	eP	P	19 32 58.0	+0.9
HHC				SS	SS	19 48 13.3	+3.0
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,250nm,6.7s						
HHC				LR	LR		
	comp=Z,250nm,19.2s						
HHC				LR	LR		
	comp=Z,400nm,20.0s						
HHC				LR	LR		
	comp=Z,530nm,17.5s						
ROSC	El Rosal	79.89	88	LR	LR	20 00 20.8	
	comp=Z,218nm,21.6s,baz=245,slow=30						
ATAH	Atahualpa	80.11	101	LR	LR	20 02 09.6	
	comp=Z,308nm,18.2s,baz=302,slow=31						
NRIK	Noril'sk	81.03	341	P	P	19 33 04.5	+1.9
	comp=Z,1.0nm,0.3s,baz=79,slow=10,SNR=3.7						
NRIK				LR	LR	20 09 16.6	
	comp=Z,298nm,20.1s,baz=56,slow=36						
	comp=Z,1.0nm,0.3s						
LYN	LuoYang	81.03	303	eP	P	19 33 06.3	+3.0
LYN				pmax	pmax		
	comp=Z,730nm,6.7s						
LYN				LR	LR		
	comp=Z,660nm,17.9s						
LYN				LR	LR		
	comp=Z,1μm,21.4s						
BTO	Baotou	81.06	310	eP	P	19 33 04.2	+0.7
BTO				PP	PP	19 36 08.8	+0.8
BTO				S	S	19 43 16.9	+2.8
BTO				SS	SS	19 48 34.6	+6.5
BTO				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BTO				LR	LR		
	comp=Z,740nm,8.8s						
BTO				LR	LR		
	comp=Z,690nm,11.6s						
BTO				LR	LR		
	comp=Z,690nm,14.9s						
ASAR	Alice Springs	81.23	241	P	P	19 33 06.3	+1.8
	comp=Z,1.1nm,0.8s,baz=63,slow=6.1,SNR=7.1						
ASAR				LR	LR	20 08 32.0	
	comp=Z,148nm,18.3s,baz=48,slow=35						
	comp=Z,1.1nm,0.8s						
SONM	Songino Array	81.25	318	P	P	19 33 06.7	+2.3
	comp=Z,1.5nm,0.8s,baz=95,slow=4.0,SNR=11						
SONM				LR	LR	20 07 02.2	
	comp=Z,496nm,20.8s,baz=68,slow=34						
	comp=Z,1.5nm,0.8s						
SDV	Santo Domingo	82.08	83	LR	LR	20 04 37.8	

comp=Z,126nm,21.8s,baz=243,slow=32
SPITS Spitsbergen Ar 82.49 2 LR LR 20 06 16.1
comp=Z,206nm,21.3s,baz=324,slow=33
NNA Nana 83.29 105 LR LR 20 01 11.3
comp=Z,353nm,21.5s,baz=286,slow=29
KAPI Kappang 86.92 264 LR LR 20 08 48.9
comp=Z,108nm,19.1s,baz=78,slow=33
JMIC Jan Mayen 86.94 10 LR LR 20 09 14.1
comp=Z,129nm,21.5s,baz=257,slow=33
LZH Lanzhou 87.16 307 P P 19 33 39.7 +5.0
LZH pmax pmax
comp=Z,17nm,1.5s
LZH LR LR
comp=Z,340nm,13.1s
LZH LR LR
comp=Z,300nm,12.7s
LZH LR LR
comp=Z,400nm,13.7s
PCRV Puerto La Cruz 87.27 80 LR LR 20 09 26.7
comp=Z,133nm,19.8s,slow=33
QIZ Qiongzhong 88.21 289 P **P** **19 33 39.1 -0.8**
QIZ S **S** **19 44 24.0 -1.9**
QIZ SS **SS** **19 50 19.8 +5.3**
QIZ pmax pmax
comp=Z,330nm,7.6s
QIZ LR LR
comp=Z,170nm,14.7s
QIZ LR LR
comp=Z,360nm,19.6s
QIZ LR LR
comp=Z,400nm,17.8s
GYA Guiyang 88.40 297 ⇓P **P** **19 33 41.0 +0.2**
GYA SKS **SKSac** **19 44 05.5 -5.9**
GYA S **SKSac** **19 44 17.0 +5.6**
GYA pmax pmax
comp=Z,4.0nm,0.8s
GYA pmax pmax
comp=Z,360nm,4.7s
GYA LR LR
comp=Z,160nm,5.3s
GYA LR LR
comp=Z,240nm,10.0s
GYA LR LR
comp=Z,400nm,10.9s
GTA Gaotai 88.81 312 *e*P **P** **19 33 45.2 +2.7**
GTA pP sP 19 33 49.6 +5.9
GTA LR LR
comp=Z,280nm,18.9s
GTA LR LR
comp=Z,440nm,22.2s
GTA LR LR
comp=Z,600nm,23.3s
BORG Borgarnes 89.00 18 LR LR 20 10 26.7
comp=Z,99nm,21.5s,baz=327,slow=34
CD2 Chengdu 89.16 302 *e*P **P** **19 33 40.2 -4.0**
H03N2 Juan Fernandez 89.71 126 T T 21 12 52.2
baz=299,slow=76,SNR=6.5
H03N3 Juan Fernandez 89.72 126 T T 21 12 53.7
baz=299,slow=76,SNR=5.4
H03N1 Juan Fernandez 89.73 126 T T 21 12 55.5
baz=299,slow=76,SNR=5.5
ZALV Zalesovo Beam 90.67 329 P **P** **19 33 53.1 +2.4**
comp=Z,0.5nm,0.3s,baz=54,slow=5.2,SNR=6.9
ZALV LR LR 20 12 21.2
comp=Z,525nm,20.7s,baz=64,slow=34
comp=Z,0.5nm,0.3s
ARCES ARCESS Array B 91.30 360 LR LR 20 10 27.9
comp=Z,178nm,21.9s,baz=14,slow=33
PZH PanZhiHua 92.48 299 P **P** **19 33 58.0 -1.8**
PZH S **S** **19 45 06.3 +1.0**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,230nm,5.9s
PZH LR LR
comp=Z,390nm,24.0s
PZH LR LR
comp=Z,650nm,24.0s
PZH LR LR
comp=Z,470nm,27.5s
LPAZ La Paz 92.69 106 LR LR 20 07 54.1
comp=Z,201nm,21.7s,baz=292,slow=30
WMQ Urumqi 94.73 320 *e*P **P** **19 34 10.3 +0.5**
WMQ LR LR
comp=Z,480nm,23.9s
WMQ LR LR
comp=Z,340nm,18.7s
WMQ LR LR
comp=Z,370nm,23.5s
TNCH TengChong 95.73 299 *e*P **P** **19 34 14.4 -0.5**
TNCH sP sP 19 34 19.2 +3.1
TNCH pmax pmax
comp=Z,7.0nm,4.0s
KURBB Kurchatov Arra 95.75 329 P **P** **19 34 16.2 +2.1**
comp=Z,0.1nm,0.4s,baz=99,slow=1.2,SNR=1.4
KURBB LR LR 20 15 12.5
comp=Z,520nm,21.8s,baz=151,slow=34
comp=Z,0.1nm,0.4s
MKAR Makanchi Array 96.18 324 P **P** **19 34 19.4 +3.1**
comp=Z,0.3nm,0.8s,baz=113,slow=2.8,SNR=3.8
MKAR LR LR 20 14 46.3
comp=Z,389nm,21.9s,baz=59,slow=34
comp=Z,0.3nm,0.8s
BVAR Borovoye Array 97.76 334 LR LR 20 19 10.6
comp=Z,194nm,20.1s,baz=49,slow=36
CMAR Chiang Mai Arr 98.03 293 LR LR 20 18 09.6
comp=Z,156nm,19.3s,baz=70,slow=35
SIV San Ignacio 99.04 104 LR LR 20 14 21.3
comp=Z,378nm,18.0s,baz=296,slow=32
ARU Arti 99.25 342 LR LR 20 19 52.3
comp=Z,465nm,21.4s,baz=42,slow=36
KIRV Kirov 99.65 347 LR LR 20 22 31.4
comp=Z,358nm,19.7s,baz=28,slow=37
VNDA Vanda 99.91 189 LR LR 20 10 59.5
comp=Z,182nm,20.1s,baz=28,slow=30
MILM Milestii Mici 113.88 357 *e*PKP **PKiKP** **19 39 28.0 +0.9**
MILM *e*L L 20 22 41.0
MILM LRM MLR 20 28 32.0
comp=Z,300nm,21.0s
TORD Torodi Ar. Bea 140.49 37 PKP **PKiKP** **19 40 20.0 -1.0**
comp=Z,1.3nm,1.1s,baz=227,slow=5.9,SNR=3.2

IDC 09 19:24:00.4±17.0, 19°.50S×177°.23W, h421km±119km, mb3.3/2, mbtmp4.3/3, Error ellipse: s-maj=277.8km s-min=86.5km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.48**	**258**	P	P	19 27 17.6	0.0
	12nm,0.6s,baz=79,slow=19,SNR=10						
ASAR	**Alice Springs**	**45.46**	**256**	P	P	19 31 40.5	+0.1
	3.7nm,0.7s,baz=96,slow=8.5,SNR=68						
	3.7nm,0.7s						
WRA	**Warramunga Arr**	**45.47**	**261**	P	P	19 31 40.0	-0.4
	0.7nm,0.4s,baz=97,slow=7.8,SNR=19						
	0.7nm,0.4s						
BRTR	**Keskin Array B**	**146.69**	**314**	PKPbc	PKPbc	19 42 53.4	-0.8
	0.7nm,0.8s,baz=83,slow=4.5,SNR=3.5						

NIED ***09*** *19:27:01.8, 39°.26N×142°.59E, h29km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.24; $M_{\theta\theta}$2.26; $M_{\phi\phi}$-3.50; $M_{r\theta}$1.81; $M_{\theta\phi}$-0.67; $M_{\phi r}$1.44; Fault plane solution: $M_0$3.88000×10^{14} NP1:ϕ_s45.00000°, δ77.00000°, λ138.00000°. NP2:ϕ_s146.00000°, δ49.00000°, λ17.00000°.*
JMA ***09*** *19:27:01.8±0.1, 39°.3N±0°.3×142°.6E±0°.6, h29km±1km, MV3.9/40, E OFF IWATE PREF*
JMA Felt I J1 at E OFF IWATE PREF .
IDC ***09*** *19:27:05.0±2.2, 39°.28N×142°.70E, h55km±19km, mb3.3/9, mbtmp3.7/14, ML3.1/5, Error ellipse: s-maj=25.9km s-min=11.6km az=106.0*
ISC 09 19:27:00.0±1.8, 39°.23N±0°.04×142°.59E±0°.07, h13km±10km, n30, σ1°.35/33, mb3.6/9, 12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.69**	**300**	⇓P	**Pn**	**19 27 14.6**	**-1.0**
MIYJ				⇓S	**Sb**	**19 27 23.6**	**+0.2**
OFUJ	**Ofunato**	**0.73**	**259**	⇓*i*P	**Pn**	**19 27 15.7**	**-0.4**
OFUJ				⇓S	**Sn**	**19 27 25.4**	**-1.6**
JTH	**Tanohata**	**0.91**	**322**	P	**Pg**	**19 27 17.7**	**+0.1**
JKMT	**Kesennumamotoy**	**0.97**	**245**	⇓*i*P	**Pn**	**19 27 19.4**	**+0.1**
JKMT				⇓S	**Sn**	**19 27 31.9**	**-0.9**
JOM	**Ohasama**	**1.04**	**284**	⇓*i*P	**Pg**	**19 27 20.4**	**+0.3**
JOM				⇓S	**Sg**	**19 27 33.7**	**+0.1**
JMK	**Ichinoseki**	**1.10**	**256**	⇓P	**Pg**	**19 27 21.4**	**+0.1**
JMK				⇓S	**Sn**	**19 27 35.4**	**-0.8**
JKZ	**Kuzumaki**	**1.24**	**308**	⇓*i*P	**Pb**	**19 27 23.2**	**0.0**
JKZ				⇓S	**Sn**	**19 27 39.1**	**-0.5**
JIO	**Ouri**	**1.24**	**232**	P	**Pb**	**19 27 23.3**	**0.0**
JIO				S	**Sb**	**19 27 38.5**	**-0.6**
JANG	**Nango**	**1.42**	**324**	*i* P	**Pn**	**19 27 25.3**	**-0.1**
JRG	**Rokugo**	**1.53**	**277**	P	**Pb**	**19 27 28.1**	**-0.1**
JRG				S	**Sg**	**19 27 48.2**	**-1.1**
MJAR	**Matsushiro Arr**	**4.38**	**234**	P	Pn	19 28 10.7	+4.4
	0.2nm,0.3s,baz=39,slow=12,SNR=12						
MJAR				S	**Sn**	**19 29 02.2**	**+5.0**
	2.1nm,0.5s,baz=60,slow=9.4,SNR=1.2						
	2.5nm,0.6s						
ASAJ	**Asahikawa**	**4.89**	**0**	P	**Pn**	**19 28 14.9**	**+1.8**
	0.8nm,0.3s,baz=180,slow=12,SNR=11						
ASAJ				S	**Sn**	**19 29 10.5**	**+1.0**
	3.9nm,0.4s,baz=229,slow=19,SNR=1.6						
	2.0nm,0.3s						
JHJ	**Hachijo jima 2**	**6.50**	**201**	P	**Pn**	**19 28 37.9**	**+2.5**
	4.4nm,0.3s,baz=313,slow=19,SNR=2.3						
JHJ				S	**Sn**	**19 29 47.4**	**-2.0**
	61nm,0.7s,baz=240,slow=22,SNR=1.7						
	72nm,0.8s						
USRK	**Ussuriysk Ar.**	**9.36**	**305**	P	**Pn**	**19 29 16.7**	**+2.2**
	0.1nm,0.3s,baz=115,slow=17,SNR=5.3						
	2.0nm,0.8s						
JNU	**Nakatsue**	**11.25**	**241**	P	Pn	19 29 45.6	+5.1
	0.2nm,0.3s,baz=60,slow=8.1,SNR=2.2						
	6.3nm,0.9s						
H11N2	**WAKE ISLAND Hy 28.57**	**126**		T	T	20 03 26.9	
	baz=318,slow=75,SNR=85						
H11N1	**WAKE ISLAND Hy 28.58**	**126**		T	T	20 03 24.5	
	baz=318,slow=75,SNR=63						
H11N3	**WAKE ISLAND Hy 28.59**	**126**		T	T	20 03 24.3	
	baz=318,slow=75,SNR=88						
H11S1	**WAKE ISLAND Hy 29.37**	**128**		T	T	20 04 21.4	
	baz=319,slow=76,SNR=7.5						
H11S3	**WAKE ISLAND Hy 29.37**	**128**		T	T	20 04 25.0	
	baz=319,slow=76,SNR=6.2						
H11S2	**WAKE ISLAND Hy 29.38**	**128**		T	T	20 04 25.1	
	baz=319,slow=76,SNR=5.8						
ZALV	**Zalesovo Beam**	**41.16**	**311**	P	**P**	**19 34 43.8**	**+0.1**
	0.6nm,0.4s,baz=80,slow=10,SNR=2.4						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**43.78**	**300**	P	**P**	**19 35 05.2**	**0.0**
	0.6nm,0.8s,baz=83,slow=10,SNR=5.2						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**45.42**	**306**	P	**P**	**19 35 17.8**	**-0.4**
	1.1nm,0.5s,baz=80,slow=8.6,SNR=9.1						
	1.1nm,0.5s						
ILAR	**Eielson Array**	**47.15**	**33**	P	**P**	**19 35 31.6**	**0.0**
	0.3nm,0.9s,baz=256,slow=6.4,SNR=2.2						
	0.3nm,0.9s						
BVAR	**Borovoye Array**	**49.81**	**311**	P	**P**	**19 35 52.3**	**0.0**
	0.3nm,0.5s,baz=69,slow=8.7,SNR=2.7						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**59.36**	**189**	P	**P**	**19 37 01.5**	**-0.4**
	0.4nm,0.7s,baz=6.4,slow=7.0,SNR=4.7						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**63.09**	**189**	P	**P**	**19 37 27.0**	**-0.1**
	0.3nm,0.9s,baz=14,slow=8.0,SNR=1.3						
	0.3nm,0.9s						
FINES	**FINESS Array B**	**67.31**	**332**	P	**P**	**19 37 53.7**	**-0.4**
	0.8nm,0.7s,baz=62,slow=8.9,SNR=2.5						
	0.8nm,0.7s						
HFS	**Hagfors**	**72.47**	**336**	P	**P**	**19 38 25.7**	**-0.1**
	0.4nm,0.5s,baz=56,slow=13,SNR=1.1						
	0.4nm,0.5s						

IDC ***09*** *19:52:17.5±7.3, 36°.88N×72°.20E, h58km±60km, mb3.2/4, mbtmp3.4/6, ML3.0/2, MS4.0/1, Error ellipse: s-maj=71.6km s-min=39.8km az=147.0*
ISC 09 19:52:28.7±1.6, 37°.4N±0°.1×72°.3E±0°.2, h150km, n9, σ2°.37/10, mb3.3/4, 1C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.51**	**18**	⇑P	**Pn**	**19 53 52.0**	**+3.0**
	2.4nm,0.3s						
AAK				⇓S	**Sn**	**19 54 52.6**	**+0.9**
	14nm,0.7s						
KK31	**Karatay Array**	**5.86**	**347**	⇓P	**Pn**	**19 53 55.0**	**+1.6**
	1.8nm,0.2s,baz=155,slow=10,SNR=96						
KK31				S	**Sn**	**19 54 57.4**	**-2.3**
	5.8nm,0.2s,baz=163,slow=19,SNR=41						
MKAR	**Makanchi Array**	**11.98**	**35**	P	**Pn**	**19 55 10.9**	**-3.7**
	0.2nm,0.3s,baz=195,slow=16,SNR=9.1						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**18.69**	**24**	P	**Pn**	**19 56 37.3**	**-0.1**
	0.1nm,0.3s,baz=205,slow=9.5,SNR=2.6						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**37.31**	**325**	P	**P**	**19 59 26.9**	**+1.0**
	0.3nm,0.4s,baz=119,slow=14,SNR=5.1						
	0.3nm,0.4s						
ARCES	**ARCESS Array B**	**40.71**	**337**	P	**P**	**19 59 55.6**	**+1.5**
	1.5nm,0.8s,baz=106,slow=8.6,SNR=4.3						
	1.5nm,0.8s						
DAVOX	**Davos/Dischmat**	**46.12**	**302**	LR	LR	20 22 49.8	
	comp=Z,184nm,19.9s,baz=54,slow=40						
TORD	**Torodi Ar. Bea**	**66.74**	**269**	P	**P**	**20 03 02.8**	**-1.2**
	0.2nm,0.4s,baz=45,slow=5.1,SNR=4.7						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**73.64**	**16**	P	**P**	**20 03 47.1**	**+1.9**
	0.3nm,0.8s,baz=286,slow=4.4,SNR=4.4						
	0.3nm,0.8s						

IDC 09 20:09:10.2±8.6, 20°.43S×174°.88W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=369.7km s-min=43.6km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.38**	**256**	P	P	20 17 45.4	-1.1
	0.6nm,0.8s,baz=100,slow=7.1,SNR=4.7						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**47.50**	**261**	P	P	20 17 48.1	+0.6
	0.5nm,0.4s,baz=96,slow=8.1,SNR=12						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**87.63**	**12**	P	P	20 21 59.9	0.0
	0.2nm,0.5s,baz=193,slow=3.7,SNR=2.0						
	0.2nm,0.5s						

NOU ***09*** *20:19:31.3, 36°.82S×177°.99E, h232km, MLv4.0/11, Off E. Coast of N. Island, N.Z.*
WEL ***09*** *20:19:41.4±2.3, 37°.5±10°×17°.8E±°, h147km±22km, M3.2/30, ML3.5/28, MLv3.2/30, Error ellipse: s-maj=0.0km s-min=0.0km az=40.2, confirmed*
ISC 09 20:19:35.8±2.4, 37°.09S±0°.10×177°.61E±0°.09, h197km±12km, n107, σ1°.83/118, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.68**	**169**	P	**Pn**	**20 20 03.6**	**+0.3**
MXZ	**Matakaoa Point**	**0.73**	**131**	P	**Pn**	**20 20 04.2**	**+0.7**
MXZ	**Matakaoa Point**	**0.73**	**131**	P	**Pn**	**20 20 04.2**	**+0.7**
RUGZ	**Raukumara Rang**	**0.88**	**177**	P	**Pn**	**20 20 04.6**	**+0.1**
PKGZ	**Pakihiroa**	**0.88**	**155**	P	**Pn**	**20 20 05.6**	**+1.2**
WMGZ	**Waiomatatini S**	**0.97**	**139**	P	**Pn**	**20 20 06.3**	**+1.4**
WMGZ				S	**Sn**	**20 20 25.9**	**-1.8**
PUZ	**Puketiti**	**1.11**	**153**	P	**Pn**	**20 20 07.4**	**+1.4**
PUZ				S	**Sn**	**20 20 27.1**	**-2.4**
TWGZ	**Tauwhareparae**	**1.13**	**165**	P	**Pn**	**20 20 08.2**	**+2.1**
TWGZ				S	**Sn**	**20 20 28.5**	**-1.3**
OPRZ	**Ohinepanea**	**1.13**	**228**	P	**Pn**	**20 20 07.0**	**+0.9**
URZ	**Urewera**	**1.24**	**199**	P	**Pn**	**20 20 07.9**	**+1.0**
URZ	**Urewera**	**1.24**	**199**	P	**Pn**	**20 20 08.1**	**+1.2**
URZ				S	**Sn**	**20 20 28.6**	**-2.6**
MWZ	**Matawai**	**1.25**	**183**	P	**Pn**	**20 20 08.6**	**+1.6**
MWZ				S	**Sn**	**20 20 29.3**	**-2.2**
TGRZ	**Tauranga**	**1.25**	**239**	P	**Pn**	**20 20 08.1**	**+1.0**
TKGZ	**Te Karaka**	**1.36**	**172**	P	**Pn**	**20 20 09.9**	**+2.0**
TKGZ				S	**Sn**	**20 20 31.5**	**-1.6**
RAGZ	**Rawiri**	**1.42**	**186**	P	**Pn**	**20 20 10.5**	**+2.0**
RAGZ				S	**Sn**	**20 20 33.0**	**-1.0**
CNGZ	**Carnagh Statio**	**1.47**	**162**	P	**Pn**	**20 20 11.7**	**+2.8**
KMRZ	**Kaimai**	**1.53**	**240**	P	**Pn**	**20 20 11.2**	**+1.8**
MUGZ	**Murupara**	**1.54**	**205**	P	**Pn**	**20 20 11.2**	**+1.7**
MUGZ				S	**Sn**	**20 20 34.1**	**-1.8**
KUZ	**Kuaotunu**	**1.56**	**282**	P	**Pn**	**20 20 10.2**	**+0.6**
KUZ	**Kuaotunu**	**1.56**	**282**	P	**Pn**	**20 20 10.0**	**+0.4**
RTZ	**Ruatahuna**	**1.61**	**198**	P	**Pn**	**20 20 11.7**	**+1.5**
RIGZ	**Rimuhau**	**1.62**	**176**	P	**Pn**	**20 20 12.7**	**+2.4**
RIGZ				S	**Sn**	**20 20 36.6**	**-0.7**
SNGZ	**Shannon Statio**	**1.71**	**187**	P	**Pn**	**20 20 13.1**	**+2.1**
SNGZ				S	**Sn**	**20 20 37.9**	**-0.8**
TOZ	**Tahuroa Road**	**1.80**	**248**	P	**Pn**	**20 20 14.2**	**+2.2**
PRGZ	**Paritu Road**	**1.84**	**173**	P	**Pn**	**20 20 15.4**	**+2.9**
MTHZ	**Maungataniwha**	**1.86**	**199**	P	**Pn**	**20 20 14.4**	**+1.8**
MTHZ				S	**Sn**	**20 20 40.9**	**-0.7**
RAHZ	**Arahi**	**1.87**	**193**	P	**Pn**	**20 20 15.1**	**+2.4**
GRZ	**Great Barrier**	**1.93**	**295**	P	**Pn**	**20 20 14.1**	**+0.8**
KNZ	**Kokohu**	**1.93**	**179**	P	**Pn**	**20 20 15.7**	**+2.4**
MKAZ	**Moumakai**	**1.96**	**269**	P	**Pn**	**20 20 15.6**	**+2.0**
MRHZ	**Matea Rd**	**1.98**	**208**	P	**Pn**	**20 20 15.8**	**+2.0**
WHHZ	**Waihua**	**2.01**	**188**	P	**Pn**	**20 20 16.8**	**+2.7**
TLZ	**Tolley Road**	**2.06**	**232**	P	**Pn**	**20 20 17.5**	**+2.8**
MHGZ	**Mahia Peninsul**	**2.08**	**174**	P	**Pn**	**20 20 17.8**	**+3.0**
NMHZ	**Naumai**	**2.10**	**197**	P	**Pn**	**20 20 17.9**	**+2.7**
MBAZ	**Motutapu North**	**2.20**	**277**	P	**Pn**	**20 20 18.0**	**+1.9**
ARHZ	**Aropaoanui**	**2.23**	**192**	P	**Pn**	**20 20 18.9**	**+2.5**
BKZ	**Black Stump Fm**	**2.26**	**203**	P	**Pn**	**20 20 18.8**	**+2.0**
BKZ	**Black Stump Fm**	**2.26**	**203**	P	**Pn**	**20 20 18.7**	**+1.9**
KWHZ	**Kaweka Forest**	**2.52**	**202**	P	**Pn**	**20 20 21.9**	**+2.3**
NTVZ	**North Tongarir**	**2.52**	**217**	P	**Pn**	**20 20 22.8**	**+3.0**
TMVZ	**Te Maari**	**2.52**	**216**	P	**Pn**	**20 20 22.5**	**+2.7**
ETVZ	**East Tongariro**	**2.54**	**216**	P	**Pn**	**20 20 22.6**	**+2.7**
KRVZ	**Karewarewa**	**2.54**	**217**	P	**Pn**	**20 20 21.6**	**+1.6**
NNVZ	**North Ngauruho**	**2.58**	**217**	P	**Pn**	**20 20 23.3**	**+2.8**
WTVZ	**West Tongariro**	**2.58**	**218**	P	**Pn**	**20 20 23.2**	**+2.7**
OTVZ	**Oturere**	**2.58**	**216**	P	**Pn**	**20 20 23.1**	**+2.6**
CKHZ	**Cape Kidnapper**	**2.60**	**189**	P	**Pn**	**20 20 22.9**	**+2.3**
HIZ	**Hauiti**	**2.61**	**236**	P	**Pn**	**20 20 24.0**	**+3.4**
HIZ	**Hauiti**	**2.61**	**236**	P	**Pn**	**20 20 24.3**	**+3.7**
SNVZ	**South Ngauruho**	**2.61**	**216**	P	**Pn**	**20 20 23.6**	**+2.8**
NGZ	**Ngauruhoe**	**2.62**	**217**	P	**Pn**	**20 20 23.9**	**+2.9**
TWVZ	**Taurewa**	**2.62**	**220**	P	**Pn**	**20 20 23.8**	**+2.9**
FWVZ	**Far West T-bar**	**2.71**	**216**	P	**Pn**	**20 20 24.6**	**+2.6**
WHVZ	**Whangaehu Hut**	**2.71**	**215**	P	**Pn**	**20 20 24.6**	**+2.5**
MAVZ	**Matarangi**	**2.71**	**216**	P	**Pn**	**20 20 24.8**	**+2.6**
KRHZ	**Kereru**	**2.73**	**201**	P	**Pn**	**20 20 23.9**	**+1.9**
MOVZ	**Moawhango**	**2.74**	**212**	P	**Pn**	**20 20 24.1**	**+1.9**
WNVZ	**Wahianoa**	**2.74**	**215**	P	**Pn**	**20 20 24.7**	**+2.4**
KAHZ	**Kahuranaki**	**2.76**	**192**	P	**Pn**	**20 20 25.0**	**+2.5**
PXZ	**Pawanui**	**3.00**	**191**	P	**Pn**	**20 20 27.3**	**+2.2**
PNHZ	**Pukenui**	**3.03**	**201**	P	**Pn**	**20 20 27.3**	**+1.8**
WPHZ	**Waipukurau**	**3.11**	**197**	P	**Pn**	**20 20 28.5**	**+2.0**
TSZ	**Takapari Road**	**3.24**	**203**	P	**Pn**	**20 20 29.9**	**+1.9**
PRHZ	**Porangahau**	**3.27**	**193**	P	**Pn**	**20 20 30.1**	**+1.8**
DVHZ	**Dannevirke**	**3.40**	**199**	P	**Pn**	**20 20 31.3**	**+1.3**
ANWZ	**Angora Road**	**3.48**	**194**	P	**Pn**	**20 20 33.0**	**+2.1**
POWZ	**Post Office Ro**	**3.60**	**203**	P	**Pn**	**20 20 34.1**	**+1.7**
PRWZ	**Pori Road**	**3.69**	**200**	P	**Pn**	**20 20 35.7**	**+2.2**
BFZ	**Birch Farm**	**3.75**	**196**	P	**Pn**	**20 20 35.9**	**+1.7**
BFZ	**Birch Farm**	**3.75**	**196**	P	**Pn**	**20 20 35.9**	**+1.7**
MRZ	**Mangatainoka R**	**3.91**	**203**	P	**Pn**	**20 20 37.4**	**+1.2**
TIWZ	**Tintock**	**3.92**	**200**	P	**Pn**	**20 20 37.9**	**+1.5**
CPWZ	**Castlepoint**	**3.97**	**196**	P	**Pn**	**20 20 39.1**	**+2.1**
HOWZ	**Holdsworth Sta**	**4.14**	**203**	P	**Pn**	**20 20 40.0**	**+0.8**
OGWZ	**Otaki Gorge**	**4.18**	**206**	P	**Pn**	**20 20 40.8**	**+1.2**
TMWZ	**Te Maipa**	**4.23**	**198**	P	**Pn**	**20 20 41.5**	**+1.3**
KIW	**Kapiti Island**	**4.32**	**208**	P	**Pn**	**20 20 42.3**	**+1.0**
MTW	**Mount Morrison**	**4.38**	**201**	P	**Pn**	**20 20 42.8**	**+0.6**
TRWZ	**Traveller**	**4.56**	**199**	P	**Pn**	**20 20 45.5**	**+1.1**
PAWZ	**Paruwai Farm**	**4.61**	**201**	P	**Pn**	**20 20 45.6**	**+0.5**
MSWZ	**Moikau Station**	**4.70**	**202**	P	**Pn**	**20 20 46.5**	**+0.3**
SNZO	**South Karori**	**4.78**	**207**	P	**Pn**	**20 20 47.7**	**+0.5**
BHW	**Baring Head**	**4.81**	**205**	P	**Pn**	**20 20 47.9**	**+0.3**
PLWZ	**Palliser**	**4.83**	**202**	P	**Pn**	**20 20 48.4**	**+0.4**
TCW	**Tory Channel**	**4.87**	**211**	P	**Pn**	**20 20 48.7**	**+0.4**
TUWZ	**Tuamarina**	**5.19**	**212**	P	**Pn**	**20 20 52.8**	**+0.4**
NNZ	**Nelson**	**5.28**	**217**	P	**Pn**	**20 20 54.7**	**+1.1**
TKNZ	**Takaka Hill**	**5.35**	**221**	P	**Pn**	**20 20 55.7**	**+1.1**
QRZ	**Quartz Range**	**5.44**	**225**	P	**Pn**	**20 20 56.9**	**+1.2**
QRZ	**Quartz Range**	**5.44**	**225**	P	**Pn**	**20 20 56.4**	**+0.7**
BSWZ	**Blackbirch Sta**	**5.45**	**211**	P	**Pn**	**20 20 56.5**	**+0.7**
MRNZ	**Matariki Terra**	**5.72**	**220**	P	**Pn**	**20 20 59.9**	**+0.6**
THZ	**Tophouse**	**5.92**	**217**	P	**Pn**	**20 21 03.0**	**+1.1**
KHZ	**Kahutara**	**6.18**	**209**	P	**Pn**	**20 21 05.6**	**+0.4**
KHZ	**Kahutara**	**6.18**	**209**	P	**Pn**	**20 21 05.6**	**+0.4**
GVZ	**Greta Valley S**	**6.84**	**209**	P	**Pn**	**20 21 13.7**	**-0.1**
LTZ	**Lake Taylor**	**7.01**	**214**	P	**Pn**	**20 21 16.2**	**+0.1**
OKCZ	**Okains Bay**	**7.48**	**206**	P	**Pn**	**20 21 22.0**	**-0.1**
MQZ	**McQueen's Vall**	**7.62**	**208**	P	**Pn**	**20 21 23.1**	**-0.8**
MHCZ	**Mount Hutt**	**7.92**	**214**	P	**Pn**	**20 21 28.0**	**+0.1**
RPZ	**Rata Peaks**	**8.30**	**215**	P	**Pn**	**20 21 33.7**	**+0.9**
RPZ	**Rata Peaks**	**8.30**	**215**	P	**Pn**	**20 21 33.7**	**+0.9**
ARCZ	**Arundel**	**8.42**	**214**	P	**Pn**	**20 21 35.0**	**+0.6**
TMZ	**Timaru**	**8.84**	**212**	P	**Pn**	**20 21 40.4**	**+0.5**
ODZ	**Otahua Downs**	**9.53**	**211**	P	**Pn**	**20 21 48.9**	**+0.1**
ODZ	**Otahua Downs**	**9.53**	**211**	P	**Pn**	**20 21 49.0**	**+0.1**

IDC ***09*** *21:02:57.5±1.3, 6°.79S×129°.32E, h0km, mb3.7/4, mbtmp3.6/6, ML3.6/2, Error ellipse: s-maj=111.1km s-min=22.7km az=66.0*
ISC 09 21:03:11.2±1.7, 7°.6S±0°.4×130°.0E±°, h150km, n6, σ0°.47/6, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.17**	**160**	Pn	**P**	**21 06 17.2**	**0.0**
	0.3nm,0.3s,baz=339,slow=14,SNR=9.1						
WRA				Sn	**Sn**	**21 08 38.6**	**0.0**
	1.2nm,0.3s,baz=331,slow=23,SNR=6.7						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**16.57**	**166**	P	Pn	21 07 02.0	+7.1
	0.2nm,0.3s,baz=340,slow=11,SNR=9.5						
ASAR				S	**Sn**	**21 10 00.1**	**+0.1**
	0.6nm,0.4s,baz=342,slow=26,SNR=3.3						
	0.5nm,0.4s						
STKA	**Stephens Creek**	**26.69**	**157**	P	P	21 08 45.0	+8.5
	1.1nm,0.9s,baz=345,slow=12,SNR=1.4						
	1.1nm,0.9s						
MKAR	**Makanchi Array**	**68.42**	**327**	P	**P**	**21 13 57.3**	**+0.4**
	0.3

INU Inuyama 18.71 338 P **P** **21 45 20.2 +1.2**
JGF Kuroka 18.82 339 P **P** **21 45 22.7 +2.5**
JGF Kuroka 18.82 339 P **P** **21 45 19.9 -0.4**
MJAR Matsushiro Arr 19.41 342 P **P** **21 45 24.9 -1.6**
3.6nm,0.3s,baz=167,slow=10,SNR=18
MJAR S **S** **21 48 53.4 +0.9**
0.6nm,0.4s,baz=68,slow=26,SNR=1.6
MAJO Matsushiro 19.41 342 P **P** **21 45 28.7 +2.1**
MAJO Matsushiro 19.41 342 P **P** **21 45 25.1 -1.5**
MJB9 Matsu-Tunnel 19.42 342 P **P** **21 45 25.6 -1.0**
JNU Nakatsue 19.85 321 P **P** **21 45 33.1 +1.8**
JNU Nakatsue 19.85 321 P **P** **21 45 32.3 +1.0**
JNU Nakatsue 19.85 321 P **P** **21 45 31.1 -0.2**
11nm,0.8s,baz=179,slow=5.5,SNR=7.0
JMM Marumori 20.07 349 P **P** **21 45 34.5 +1.0**
JMM Marumori 20.07 349 P **P** **21 45 33.7 +0.2**
MANU Manus Island 20.15 174 P **P** **21 45 34.4 -0.2**
JAY Jayapura 21.06 193 P **P** **21 45 44.4 +0.2**
GENI Genyem 21.26 195 P **P** **21 45 47.1 +1.0**
GENI Genyem 21.26 195 P **P** **21 45 46.7 +0.6**
95nm,1.1s
YOJ Yonaguni jima 21.83 291 P **P** **21 45 51.1 -0.3**
JTM Tenmabayashi 22.88 351 P **P** **21 46 01.0 +0.2**
NACB Ninganchiao 23.04 289 P **P** **21 46 04.8 +2.4**
NACB Ninganchiao 23.04 289 P **P** **21 46 02.1 -0.3**
YULB Yu-li 23.18 287 P **P** **21 46 04.9 +1.2**
YULB Yu-li 23.18 287 P **P** **21 46 03.8 +0.1**
TATO Taipei 23.30 291 P **P** **21 46 07.3 +2.6**
TATO Taipei 23.30 291 P **P** **21 46 05.4 +0.7**
TWGBT Beinan 23.30 286 P **P** **21 46 07.3 +2.5**
TWG Pinlang 23.31 286 P **P** **21 46 04.4 -0.5**
YHNB Yeheng 23.33 290 P **P** **21 46 07.1 +1.9**
YHNB Yeheng 23.33 290 P **P** **21 46 06.1 +0.9**
SWI Sorong 23.50 218 P **P** **21 46 07.2 +0.5**
38nm,0.7s
SSLB Suanglung 23.55 288 P **P** **21 46 08.7 +1.6**
SSLB Suanglung 23.55 288 P **P** **21 46 08.0 +0.8**
TPUB Ta-pu 23.78 287 P **P** **21 46 11.8 +2.6**
TPUB Ta-pu 23.78 287 P **P** **21 46 09.2 0.0**
ERM Erimo 23.87 356 P **P** **21 46 11.2 +1.5**
ERM Erimo 23.87 356 P **P** **21 46 10.0 +0.2**
JEM Erimo 23.87 356 P **P** **21 46 11.5 +1.8**
KSRS Korea Array 24.64 325 P **P** **21 46 16.1 -0.6**
6.9nm,0.6s,baz=143,slow=8.9,SNR=29
6.9nm,0.6s
KSAR Wonju Array Be 24.65 325 P **P** **21 46 16.6 -0.2**
FAKI Fak Fak 24.66 213 P **P** **21 46 17.2 +0.1**
KS19 Wonju Array Si 24.70 325 P **P** **21 46 16.6 -0.8**
QZH Quanzhou 25.87 290 P **P** **21 46 28.8 +0.8**
KNMB Chin-men Tao 25.98 289 P **P** **21 46 30.0 +1.1**
NJ2 Nanjing 27.70 305 *e*P **P** **21 46 45.6 +1.4**
NJ2 pmax pmax
comp=Z,19nm,0.5s
USRK Ussurisyk Ar. 28.34 339 P **P** **21 46 48.9 -0.8**
1.2nm,0.5s,baz=152,slow=6.7,SNR=5.3
1.2nm,0.5s
TOLI2 Tolitoli 29.57 238 P **P** **21 47 01.1 +0.2**
WHN Wuhan 30.81 299 P **P** **21 47 12.8 +1.1**
BNX BinXian 31.34 335 ⇑P **P** **21 47 15.9 -0.2**
BNX pmax pmax
comp=Z,11nm,0.6s
COEN Coen 31.98 184 P **P** **21 47 21.5 -0.5**
COEN Coen 31.98 184 P **P** **21 47 21.7 -0.3**
KDU Kakadu 33.21 204 P **P** **21 47 32.0 -0.6**
GULI GuiLin 33.31 289 ⇓P **P** **21 47 35.9 +2.5**
GULI pmax pmax
comp=Z,30nm,1.1s
BJI Beijing 33.38 317 P **P** **21 47 33.6 -0.2**
BJI pmax pmax
comp=Z,3.0nm,0.6s
MTN Manton Dam 33.89 206 P **P** **21 47 38.7 +0.3**
MTN Manton Dam 33.89 206 P **P** **21 47 37.5 -0.9**
SOEI Soe 34.74 219 P **P** **21 47 46.0 +0.1**
SOEI Soe 34.74 219 P **P** **21 47 44.1 -1.8**
SOEI IAmb IAmb 21 47 51.8
comp=Z,40nm,1.0s
ENH Enshi 34.82 297 P **P** **21 47 48.0 +1.6**
ENH Enshi 34.82 297 IAmb IAmb 21 47 48.3
comp=Z,25nm,1.1s
HEH HeiHe 35.15 340 *e*P **P** **21 47 48.3 -0.5**
HEH pmax pmax
comp=Z,16nm,1.0s
SBUM Sibu 36.13 248 P **P** **21 47 58.3 +0.7**
GYA Guiyang 36.73 290 ⇑P **P** **21 48 04.9 +2.2**
GYA sP sP 21 49 24.2 +3.9
GYA S **S** **21 53 28.7 +1.0**
GYA pmax pmax
comp=Z,41nm,0.8s
GYA pmax pmax
comp=Z,280nm,4.3s
GYA LR LR
comp=Z,330nm,7.6s
GYA LR LR
comp=Z,360nm,6.5s
GYA LR LR
comp=Z,330nm,8.6s
HHC Hu-ho-hao-te 36.83 315 *e*P **P** **21 48 04.0 +0.6**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,170nm,6.3s
CTAO Charters Tower 38.01 179 P **P** **21 48 12.6 -0.7**
CTAO IAmb IAmb 21 48 27.9
comp=Z,41nm,1.6s
PLAI Plampang 38.29 228 P **P** **21 48 15.4 -0.3**
TWSI Taliwang, Sumb 38.86 229 P **P** **21 48 19.5 -0.9**
comp=Z,56nm,0.7s
QIS Mount Isa 38.89 189 P **P** **21 48 20.7 +0.1**
SLVN Son La 39.17 282 P **P** **21 48 24.6 +1.5**
SLVN IAmb IAmb 21 48 26.1
comp=Z,19nm,0.7s
WB0 Warramunga Arr 39.22 197 P **P** **21 48 22.9 -0.4**
WR0 Warramunga Arr 39.36 196 P **P** **21 48 24.6 +0.2**
WRAB Tennant Creek 39.38 197 P **P** **21 48 24.9 +0.2**
WB2 Warramunga Arr 39.39 197 P **P** **21 48 24.8 +0.1**
WRA Warramunga Arr 39.40 197 P **P** **21 48 25.3 +0.5**
comp=Z,51nm,0.4s,baz=17,slow=8.5,SNR=386
WRA PcP **PcP** **21 50 26.9 -0.8**
comp=Z,1.1nm,0.4s,baz=16,slow=4.3,SNR=1.7
WRA ScP **ScP** **21 53 48.4 -3.9**
comp=Z,2.8nm,0.8s,baz=12,slow=3.9,SNR=12
KMI Kunming 40.19 288 ⇓P **P** **21 48 33.8 +2.2**
KMI pmax pmax
comp=Z,14nm,0.5s
LZH Lanzhou 40.77 305 ⇑P **P** **21 48 37.5 +1.3**
LZH sP sP 21 50 02.8 +8.3
LZH pmax pmax
comp=Z,14nm,1.6s
FITZ Fitzroy Crossi 40.96 209 P **P** **21 48 37.9 +0.4**
PZH PanZhiHua 41.14 290 P **P** **21 48 40.6 +1.4**
PZH pmax pmax
comp=Z,40nm,0.7s
PZH pmax pmax
comp=Z,250nm,7.5s
MA2 Magadan 41.55 4 P **P** **21 48 43.0 +1.1**
MA2 IAmb IAmb 21 48 43.5
comp=Z,20nm,0.7s
RK1H Rockhampton Ha 41.57 173 P **P** **21 48 42.4 0.0**
PWJI Pagerwojo 42.20 235 P **P** **21 48 47.4 -0.3**
comp=Z,37nm,0.7s
SMRI Semarang 42.69 237 P **P** **21 48 54.1 +2.5**
comp=Z,101nm,1.8s
AS01 Alice Springs 43.05 196 P **P** **21 48 54.8 +0.4**
AS31 Alice Springs 43.06 196 P **P** **21 48 54.4 -0.1**
ASAR Alice Springs 43.06 196 P **P** **21 48 54.1 -0.4**
ASAR Alice Springs 43.06 196 P **P** **21 48 54.6 +0.1**
comp=Z,11nm,0.6s,baz=14,slow=6.3,SNR=132
ASAR ScP **ScP** **21 54 03.2 -3.6**
comp=Z,1.8nm,0.7s,baz=17,slow=4.3,SNR=9.8
comp=Z,11nm,0.6s
ULN Ulaanbaatar 43.07 322 P **P** **21 48 54.0 -0.4**
UGM Wanagama 43.13 236 P **P** **21 48 55.5 +0.3**
UGM Wanagama 43.13 236 P **P** **21 48 55.6 +0.3**
SONM Songino Array 43.44 322 P **P** **21 48 58.0 +0.6**
SONM Songino Array 43.44 322 P **P** **21 48 57.4 0.0**
comp=Z,5.0nm,0.6s,baz=134,slow=8.0,SNR=11
comp=Z,5.0nm,0.6s
EIDS Eidsvold 43.60 173 P **P** **21 48 58.2 -0.5**
EIDS IAmb IAmb 21 49 32.4
comp=Z,62nm,1.9s
TNCH TengChong 44.02 287 ⇓*i*P **P** **21 49 03.6 +1.2**
TNCH sP sP 21 50 25.2 +3.9
TNCH S **S** **21 55 16.0 +0.4**
TNCH pmax pmax
comp=Z,31nm,0.7s
TNCH pmax pmax
comp=Z,170nm,3.9s
TNCH LR LR
comp=Z,260nm,8.8s
TNCH LR LR
comp=Z,180nm,8.7s
TNCH LR LR
comp=Z,330nm,8.6s
CHTO Chiang Mai 44.03 279 P **P** **21 49 03.1 +0.8**
CM31 Chiang Mai Arr 44.08 278 P **P** **21 49 03.4 +0.6**
CM31 IAmb IAmb 21 49 05.4
comp=Z,31nm,0.9s
CMAR Chiang Mai Arr 44.08 278 P **P** **21 49 04.0 +1.3**
comp=Z,23nm,0.7s,baz=68,slow=7.1,SNR=184
comp=Z,23nm,0.7s
QLP Quilpie 44.48 182 P **P** **21 49 05.3 -0.3**
NOUC Port Laguerre 44.90 152 P **P** **21 49 10.6 +1.6**
ADK Adak 44.90 33 P **P** **21 49 09.7 +1.0**
ADK Adak 44.90 33 P **P** **21 49 10.5 +1.8**
DZM Mont Dzumac 44.93 152 P **P** **21 49 10.3 +0.9**
DZM Mont Dzumac 44.93 152 P **P** **21 49 09.4 0.0**
DZM IAmb IAmb 21 50 45.5
comp=Z,53nm,1.5s
YATNC Mamie plateau, 45.12 151 P **P** **21 49 10.5 -0.3**
BBJI Bungbulang 45.18 239 P **P** **21 49 11.8 +0.3**
YAK Yakutsk 45.22 350 P **P** **21 49 10.2 -0.8**
OUENC Ouen Island, N 45.41 152 P **P** **21 49 14.0 +1.0**
KULM Kulim 45.57 259 P **P** **21 49 16.0 +1.4**
KULM IAmb IAmb 21 50 39.4
comp=Z,95nm,1.9s
INKA Innaminka 45.84 186 P **P** **21 49 16.5 +0.2**
WRKA Warakurna 46.07 202 P **P** **21 49 18.6 +0.4**
ATKA Atka Island 46.36 33 P **P** **21 49 21.0 +0.9**
ATKA Atka Island 46.36 33 P **P** **21 49 20.8 +0.7**
MBWA Marble Bar 46.50 214 P **P** **21 49 21.8 +0.3**
MBWA Marble Bar 46.50 214 P **P** **21 49 21.8 +0.3**
MBWA IAmb IAmb 21 49 22.4
comp=Z,16nm,0.6s
OOD Oodnadatta 46.64 192 P **P** **21 49 22.5 0.0**
PSA00 Pilbara Seismi 46.77 214 P **P** **21 49 24.7 +1.0**
PSA00 Pilbara Seismi 46.77 214 P **P** **21 49 23.5 -0.2**
PSA00 IAmb IAmb 21 49 25.9
comp=Z,85nm,1.9s
MSVF Nonsavu 47.94 136 P **P** **21 49 33.9 +1.2**
GOMU GeErMu 47.96 303 P **P** **21 49 35.1 +2.0**
GOMU pmax pmax
comp=Z,9.0nm,0.5s
ARMA Armidale 48.65 173 P **P** **21 49 39.0 +1.0**
ARMA Armidale 48.65 173 P **P** **21 49 36.7 -1.3**
ARMA IAmb IAmb 21 50 05.1
comp=Z,43nm,1.5s
LCRK Leigh Creek 48.81 188 P **P** **21 49 39.4 +0.3**
MULG Mulgathing 49.39 193 P **P** **21 49 43.7 +0.3**
CMSA Cobar Meteorol 49.40 180 P **P** **21 49 43.6 +0.1**
NIKH Nikolski High 49.58 35 P **P** **21 49 45.3 +0.7**
baz=243
STKA Stephens Creek 49.88 184 P **P** **21 49 47.0 -0.1**
STKA Stephens Creek 49.88 184 P **P** **21 49 46.7 -0.4**
STKA Stephens Creek 49.88 184 P **P** **21 49 46.6 -0.4**
comp=Z,5.0nm,0.4s,baz=9.2,slow=7.0,SNR=28
comp=Z,5.0nm,0.4s
SHL Shillong 50.01 288 P **P** **21 49 48.2 -0.3**
GIRL Giralia 50.76 218 P **P** **21 49 55.3 +1.5**
GIRL Giralia 50.76 218 P **P** **21 49 54.5 +0.7**
SPIA Saint Paul Isl 50.92 29 P **P** **21 49 55.5 +0.9**
baz=239
P08K Saint George I 50.96 30 P **P** **21 49 55.2 +0.4**
baz=240
UNV Unalaska Valle 51.23 34 P **P** **21 49 58.7 +1.8**
UNV Unalaska Valle 51.23 34 P **P** **21 49 57.7 +0.8**
baz=245
FORT Forrest 51.45 199 P **P** **21 49 59.8 +1.0**
FORT Forrest 51.45 199 P **P** **21 49 59.0 +0.2**
BBOO Buckleboo 51.46 190 P **P** **21 49 59.4 +0.5**
BBOO Buckleboo 51.46 190 IAmb IAmb 21 50 48.4
comp=Z,47nm,1.6s
MEEK Meekatharra 51.59 211 P **P** **21 49 59.9 -0.1**
BILL Bilibino 51.60 10 P **P** **21 49 59.7 +0.3**
BILL IAmb IAmb 21 50 01.0
comp=Z,33nm,1.1s
HTT Hallett 51.67 187 P **P** **21 50 00.4 -0.1**
YNG Young 52.23 177 P **P** **21 50 04.4 -0.1**
FALS False Pass 53.29 34 P **P** **21 50 12.9 +0.9**
baz=247
KMBL Kambalda 54.19 205 P **P** **21 50 17.9 -0.9**
S12K Black Hills 54.33 34 P **P** **21 50 20.2 +0.7**
baz=248
TIXI Tiksi 54.39 354 P **P** **21 50 18.3 -1.4**
ARPS Mount Arapiles 54.73 184 P **P** **21 50 23.3 +0.8**
MORW Morawa 54.87 212 P **P** **21 50 23.7 -0.1**
MORW Morawa 54.87 212 P **P** **21 50 22.8 -1.0**
MORW IAmb IAmb 21 50 24.3
comp=Z,20nm,0.6s
CHNA Chernabura Isl 55.35 35 P **P** **21 50 27.7 +0.8**
baz=251
M13K Dall Lake 55.63 28 P **P** **21 50 30.4 +1.7**
M13K Dall Lake 55.63 28 P **P** **21 50 29.8 +1.1**
baz=244
BLDU Ballidu 55.82 210 P **P** **21 50 30.5 0.0**
S14K Fog Glacier 55.86 33 P **P** **21 50 31.1 +0.6**
baz=250
O14K Tigyukauivet M 56.10 30 P **P** **21 50 32.8 +0.8**
O14K Tigyukauivet M 56.10 30 P **P** **21 50 33.2 +1.2**
baz=247
KLBR Kellerberrin 56.15 209 P **P** **21 50 33.2 +0.4**
N14K Kuskokwak Cree 56.17 29 P **P** **21 50 33.5 +1.0**
baz=246
L14K Kuka Creek 56.33 27 P **P** **21 50 34.5 +0.9**
L14K Kuka Creek 56.33 27 P **P** **21 50 34.6 +0.9**
baz=244
M14K Bethel 56.39 28 P **P** **21 50 35.0 +0.9**
baz=245
TNA Tin City 56.41 21 P **P** **21 50 34.5 +0.4**
baz=236
CHGN Chignik 56.46 34 P **P** **21 50 35.6 +1.0**
baz=251
J14K Nanvaranak Lak 56.60 25 P **P** **21 50 36.9 +1.3**
J14K IAmb IAmb 21 51 49.2
comp=Z,46nm,1.5s
J14K Nanvaranak Lak 56.60 25 P **P** **21 50 36.7 +1.2**
baz=242
O15K Ungalikthiuk R 56.75 30 P **P** **21 50 37.7 +1.0**
baz=248
ANM Nome 56.79 23 P **P** **21 50 37.6 +0.8**
baz=239
F14K Arctic Creek 56.92 22 P **P** **21 50 38.6 +0.9**
baz=238
M15K Kasigluk River 56.94 28 P **P** **21 50 38.9 +1.0**
baz=246
L15K Ungalak Mounta 56.99 27 P **P** **21 50 39.4 +1.1**
baz=245
N15K Kwethluk River 57.00 29 IAmb IAmb 21 50 40.6
comp=Z,23nm,0.7s
N15K Kwethluk River 57.00 29 P **P** **21 50 39.8 +1.4**
baz=247,SNR=5.4
MUN Mundaring 57.19 210 P **P** **21 50 40.1 0.0**
K15K Wolf Creek Mou 57.24 26 P **P** **21 50 41.2 +1.2**
baz=244
G15K Niukluk 57.50 23 P **P** **21 50 42.7 +0.9**
baz=240
NWAO Narrogin (SRO) 57.52 208 P **P** **21 50 42.4 +0.1**
P16K Nushagak River 57.58 31 P **P** **21 50 43.7 +1.3**
baz=250
F15K North Star Dit 57.63 22 P **P** **21 50 44.0 +1.3**
baz=239
N16K Nishlik Lake 57.73 29 P **P** **21 50 44.6 +1.1**
baz=248
O16K Kokwok River B 57.73 30 IAmb IAmb 21 50 45.5
comp=Z,19nm,1.0s
O16K Kokwok River B 57.73 30 P **P** **21 50 44.5 +1.1**
baz=250,SNR=5.0
CHIR Chirikof Islan 57.81 35 P **P** **21 50 44.9 +0.8**
baz=254
M16K Timber Creek 57.85 28 P **P** **21 50 45.3 +1.1**
baz=248
L16K Owhat River 57.88 27 P **P** **21 50 45.1 +0.6**
baz=247
R17L Mt. Peulik Vol 57.95 33 P **P** **21 50 45.6 +0.6**
baz=252
H16K Elim 58.00 24 P **P** **21 50 46.4 +1.1**
baz=242
J16K Anvik River 58.05 26 P **P** **21 50 47.1 +1.4**
baz=245
O17K Koliganek Bris 58.27 30 P **P** **21 50 48.3 +1.2**
baz=250
G16K Koyuk River 58.31 23 P **P** **21 50 48.8 +1.4**
baz=242
ZALV Zalesovo Beam 58.32 323 P **P** **21 50 46.5 -1.2**
ZALV Zalesovo Beam 58.32 323 P **P** **21 50 46.8 -0.9**
comp=Z,4.3nm,0.4s,baz=109,slow=8.2,SNR=27
comp=Z,4.3nm,0.4s
Q17K Contact Creek 58.38 32 P **P** **21 50 47.8 -0.3**
baz=252
N17K Nushagak Hills 58.48 29 IAmb IAmb 21 50 50.8
comp=Z,11nm,0.7s
N17K Nushagak Hills 58.48 29 P **P** **21 50 49.8 +1.1**
baz=250
L17K Donlin 58.56 27 P **P** **21 50 50.5 +1.3**
baz=248
M17K Holitna River 58.67 28 IAmb IAmb 21 52 52.0
comp=Z,17nm,0.8s
M17K Holitna River 58.67 28 P **P** **21 50 51.6 +1.7**
baz=249,SNR=5.0
MKAR Makanchi Array 58.69 314 P **P** **21 50 50.1 -0.2**
comp=Z,8.1nm,0.5s,baz=88,slow=8.3,SNR=107
comp=Z,8.1nm,0.5s
J17K VABM Dome 58.72 26 P **P** **21 50 51.5 +1.2**
baz=246
C16K Lisburne Hills 58.76 19 P **P** **21 50 50.7 +0.4**
C16K Lisburne Hills 58.76 19 P **P** **21 50 51.2 +0.8**
baz=237
K17K Iditarod 58.78 27 IAmb IAmb 21 50 53.3
comp=Z,23nm,0.9s
K17K Iditarod 58.78 27 P **P** **21 50 52.4 +1.8**
baz=248,SNR=5.8
SII Sitkinak Islan 58.78 34 P **P** **21 50 52.6 +1.8**
SII Sitkinak Islan 58.78 34 P **P** **21 50 51.7 +0.9**
baz=255
R18K Karluk 58.91 33 P **P** **21 50 52.6 +1.0**
baz=254
Q18K Katmai Hardscr 58.93 32 P **P** **21 50 52.6 +0.7**
baz=253
G17K Kiwalik Mounta 59.00 23 P **P** **21 50 53.2 +1.1**
baz=244
H17K Granite Mounta 59.03 24 P **P** **21 50 53.5 +1.2**
baz=245
P18K Big Mountain, 59.05 31 P **P** **21 50 53.7 +1.1**
baz=252
N18K Kilae Creek 59.13 29 IAmb IAmb 21 50 55.5
comp=Z,24nm,1.1s
N18K Kilae Creek 59.13 29 P **P** **21 50 54.3 +1.2**
baz=251
D17K Noatak River 59.18 20 P **P** **21 50 55.0 +1.7**
baz=240
O18K Koktuh Hills 59.20 30 P **P** **21 50 54.9 +1.3**
baz=252,SNR=5.4
F17K Baldwin Pennin 59.20 22 P **P** **21 50 54.4 +0.9**
baz=242
L18K Granite Mounta 59.30 27 P **P** **21 50 52.7 -1.5**
L18K Granite Mounta 59.30 27 P **P** **21 50 55.7 +1.5**
baz=249
E17K Hotham Inlet 59.30 21 P **P** **21 50 55.3 +1.1**
baz=242
RDOG Red Dog Mine 59.42 20 P **P** **21 50 56.0 +1.1**
baz=240
OHAK Old Harbor 59.43 34 P **P** **21 50 56.3 +1.1**
baz=256
M18K Stony River 59.43 28 P **P** **21 50 56.5 +1.4**
baz=251,SNR=5.7
C17K DeLong Mountai 59.55 20 P **P** **21 50 56.9 +1.0**
baz=240
Q19K Cape Douglas, 59.69 32 P **P** **21 50 57.3 +0.3**
baz=254
H18K Honhosa River 59.72 24 P **P** **21 50 57.8 +0.8**
baz=246,SNR=6.4
J18K Innoko River 59.73 26 P **P** **21 50 58.1 +0.9**
baz=249
N19K Bonanza Creek 59.83 29 P **P** **21 50 58.7 +0.7**
N19K IAmb IAmb 21 51 00.8
comp=Z,15nm,0.6s
N19K Bonanza Creek 59.83 29 P **P** **21 50 59.2 +1.2**
baz=252,SNR=8.4
F18K Selawik 59.85 22 P **P** **21 50 58.8 +0.9**
baz=244
E18K Tukpahlearik C 59.88 21 IAmb IAmb 21 51 00.3
comp=Z,23nm,0.7s
E18K Tukpahlearik C 59.88 21 P **P** **21 50 59.2 +1.1**
baz=243,SNR=7.7
G18K Tagagawik 59.91 23 IAmb IAmb 21 51 00.1
comp=Z,19nm,1.1s
G18K Tagagawik 59.91 23 P **P** **21 50 59.1 +0.7**
baz=245,SNR=8.4
KDAK Kodiak Island 59.94 33 P **P** **21 50 59.4 +0.8**
baz=256
L19K White Mountain 60.09 28 P **P** **21 51 00.6 +0.9**
L19K White Mountain 60.09 28 P **P** **21 51 00.6 +0.9**
baz=251
P19K Oil Pt 60.09 31 P **P** **21 51 00.0 +0.3**
baz=254
M19K Big River Lodg 60.21 28 P **P** **21 51 01.5 +1.1**
baz=252
Q20K Shuyak Island 60.24 32 P **P** **21 51 01.1 +0.4**
baz=256
C18K Utukok River 60.27 20 IAmb IAmb 21 51 02.2
comp=Z,18nm,0.7s
C18K Utukok River 60.27 20 P **P** **21 51 01.4 +0.6**
baz=241,SNR=7.2
J19K Poorman 60.37 26 P **P** **21 51 02.2 +0.7**
J19K IAmb IAmb 21 51 03.5
comp=Z,13nm,0.7s
J19K Poorman 60.37 26 P **P** **21 51 02.6 +1.1**
baz=250,SNR=8.3
B18K Kokolik River 60.42 19 P **P** **21 51 03.0 +1.3**
baz=240
G19K Purcell Mounta 60.60 23 IAmb IAmb 21 51 04.8
comp=Z,23nm,0.8s
G19K Purcell Mounta 60.60 23 P **P** **21 51 04.0 +1.0**
baz=247,SNR=14
H19K Roundabout Mou 60.60 24 P **P** **21 51 03.2 +0.3**
H19K IAmb IAmb 21 51 05.1
comp=Z,17nm,0.8s
H19K Roundabout Mou 60.60 24 P **P** **21 51 04.3 +1.4**
baz=248,SNR=9.2
L20K Farewell, AK 60.62 28 P **P** **21 51 04.5 +1.3**
baz=252
F19K Shaleruckik Mo 60.62 22 IAmb IAmb 21 52 46.6
comp=Z,31nm,1.9s
F19K Shaleruckik Mo 60.62 22 P **P** **21 51 03.6 +0.5**
baz=246
M20K Styx River 60.77 28 P **P** **21 51 05.7 +1.3**
baz=253,SNR=5.5
K20K Telida 60.81 27 IAmb IAmb 21 51 07.0
comp=Z,15nm,0.8s
K20K Telida 60.81 27 P **P** **21 51 05.6 +1.1**
baz=251
C19K Lookout Ridge 60.99 20 IAmb IAmb 21 51 07.9
comp=Z,25nm,0.8s
C19K Lookout Ridge 60.99 20 P **P** **21 51 06.8 +1.1**
baz=243,SNR=7.2
N20K Mount Spurr 61.01 29 P **P** **21 51 06.7 +0.8**
baz=254
J20K Nowinta River 61.05 26 P **P** **21 51 07.3 +1.3**
baz=251,SNR=9.9
A19K Wainwright 61.06 18 P **P** **21 51 07.2 +1.3**
baz=241
E19K Redstone River 61.07 22 P **P** **21 51 06.9 +0.8**
E19K IAmb IAmb 21 51 08.2
comp=Z,16nm,0.9s
E19K Redstone River 61.07 22 P **P** **21 51 07.2 +1.0**
baz=246,SNR=7.7
H20K Anotleneega Mo 61.20 24 P **P** **21 51 08.0 +1.0**
baz=249,SNR=9.2
D19K Kuna River 61.20 21 IAmb IAmb 21 51 08.8
comp=Z,18nm,0.8s
D19K Kuna River 61.20 21 P **P** **21 51 07.8 +0.8**
baz=245
BRSE Bradley Lake S 61.34 31 P **P** **21 51 08.6 +0.5**
baz=256
F20K Avaraart Lake 61.45 22 IAmb IAmb 21 51 10.8
comp=Z,16nm,0.6s
F20K Avaraart Lake 61.45 22 P **P** **21 51 09.8 +1.2**
baz=248,SNR=13
SKT Skwentna 61.53 29 IAmb IAmb 21 51 10.1
comp=Z,18nm,1.1s
SKT Skwentna 61.53 29 P **P** **21 51 09.3 0.0**
baz=254,SNR=7.7
KURK Kurchatov 61.53 318 P **P** **21 51 08.7 -0.8**
KURK IAmb IAmb 21 51 10.4
comp=Z,36nm,1.2s
KURBB Kurchatov Arra 61.58 318 P **P** **21 51 09.2 -0.6**
comp=Z,17nm,0.5s,baz=92,slow=7.5,SNR=273
comp=Z,17nm,0.5s

CAST	**Castle Rocks**	61.68	27	P	P	21 51 11.3 +0.9
	baz=253					
CHUM	**Lake Minchumin**	61.72	26	P	P	21 51 11.8 +1.3
	baz=253,SNR=5.2					
SUA	**Susitna One**	61.75	29	P	P	21 51 11.5 +0.6
	baz=256					
E20K	**Nigu River**	61.76	21	P	P	21 51 11.7 +0.9
	baz=247,SNR=23					
D20K	**Etivluk River**	61.80	21	P	P	21 51 11.9 +0.9
	baz=246,SNR=31					
O22K	**Cooper Landing**	62.01	30	P	P	21 51 12.8 +0.4
	baz=257					
NRIK	**Noril'sk**	62.05	340	P	P	21 51 12.3 -0.3
NRIK				IAmb	IAmb	21 51 13.8
	comp=Z,7.8nm,0.6s					
NRIK	**Noril'sk**	62.05	340	P	P	21 51 12.1 -0.5
	comp=Z,7.3nm,0.5s,baz=119,slow=7.5,SNR=9.9					
	comp=Z,7.3nm,0.5s					
SEW	**Seward**	62.05	31	P	P	21 51 13.2 +0.5
	baz=257					
H21K	**Melozitna Rive**	62.07	24	P	P	21 51 13.7 +0.8
H21K				IAmb	IAmb	21 51 14.5
	comp=Z,14nm,0.5s					
H21K	**Melozitna Rive**	62.07	24	P	P	21 51 13.6 +0.8
	baz=251,SNR=15					
G21K	**Allakaket**	62.08	23	P	P	21 51 14.1 +1.2
	baz=250,SNR=6.2					
B20K	**Meade River**	62.16	19	P	P	21 51 14.4 +1.1
	baz=245,SNR=19					
KTH	**Kantishna Hill**	62.22	27	IAmb	IAmb	21 51 15.4
	comp=Z,21nm,1.0s					
I21K	**Tanana**	62.25	25	IAmb	IAmb	21 51 16.1
	comp=Z,17nm,0.8s					
I21K	**Tanana**	62.25	25	P	P	21 51 15.3 +1.3
	baz=252					
F21K	**Alatna River**	62.33	23	P	P	21 51 15.7 +1.1
	baz=250,SNR=9.6					
BPAW	**Bear Paw Mtn.**	62.34	26	IAmb	IAmb	21 51 16.4
	comp=Z,25nm,0.8s					
BPAW	**Bear Paw Mtn.**	62.34	26	P	P	21 51 15.4 +0.7
	baz=254,SNR=22					
PMR	**Palmer**	62.54	29	P	P	21 51 16.2 +0.2
	baz=257					
C21K	**Knifeblade Rid**	62.58	20	P	P	21 51 17.1 +1.0
	baz=248					
E21K	**Killik River**	62.59	21	P	P	21 51 17.2 +0.9
	baz=249					
GHO	**Glory Hole Cre**	62.67	29	IAmb	IAmb	21 51 17.7
	comp=Z,17nm,0.6s					
H22K	**Ishtalitna Cre**	62.70	24	P	P	21 51 18.1 +1.1
	baz=253,SNR=10					
MLY	**Manley**	62.71	25	P	P	21 51 17.6 +0.5
MLY	**Manley**	62.71	25	P	P	21 51 18.0 +0.9
	baz=254,SNR=20					
B21K	**Ikpikpuk River**	62.81	20	IAmb	IAmb	21 51 19.3
	comp=Z,13nm,0.5s					
B21K	**Ikpikpuk River**	62.81	20	P	P	21 51 18.4 +0.8
	baz=248,SNR=7.4					
KNK	**Knik Glacier**	62.81	30	P	P	21 51 18.3 +0.5
	baz=258					
A21K	**Barrow**	62.88	18	P	P	21 51 18.8 +0.8
	baz=245,SNR=5.2					
F22K	**John River**	62.90	23	P	P	21 51 19.9 +1.5
	baz=251,SNR=31					
SML	**Sawmill**	62.96	29	P	P	21 51 19.5 +0.7
	baz=258,SNR=9.2					
G22K	**Bettles**	62.96	23	P	P	21 51 19.5 +0.8
	baz=252					
BOOM	**Boomskoye usch**	62.98	309	IAmb	IAmb	21 51 21.6
	comp=Z,17nm,0.6s					
KSH	**Kashi**	63.01	306	P	P	21 51 24.0 +4.3
KSH				pP	pwP	21 52 19.1 -0.8
KSH				pmax	pmax	
	comp=Z,13nm,0.8s					
RND	**Reindeer**	63.08	27	IAmb	IAmb	21 51 20.5
	comp=Z,12nm,0.6s					
WAT1	**Susitna Watana**	63.08	28	P	P	21 51 19.6 0.0
	baz=257					
MCK	**McKinley**	63.12	27	P	P	21 51 20.1 +0.2
	baz=256					
D22K	**Ayikyak River**	63.18	21	P	P	21 51 21.3 +1.1
	baz=250,SNR=28					
M23K	**Glacier View**	63.23	29	P	P	21 51 20.8 +0.3
	baz=258					
A22K	**Sinclair Lake**	63.24	18	P	P	21 51 21.2 +0.9
	baz=247,SNR=14					
NEA2	**Nenana**	63.28	26	IAmb	IAmb	21 51 22.4
	comp=Z,8.8nm,0.6s					
NEA2	**Nenana**	63.28	26	P	P	21 51 21.5 +0.7
	baz=256,SNR=6.2					
I23K	**Minto, Yukon-K**	63.30	25	P	P	21 51 21.7 +0.8
	baz=255,SNR=28					
WAT6	**Susitna Watana**	63.39	28	P	P	21 51 21.8 0.0
	baz=258					
H23K	**Yukon River**	63.41	25	IAmb	IAmb	21 51 23.6
	comp=Z,18nm,0.8s					
H23K	**Yukon River**	63.41	25	P	P	21 51 22.4 +0.8
	baz=254,SNR=16					
SCM	**Sheep Creek Mo**	63.43	29	P	P	21 51 22.6 +0.7
	baz=258,SNR=5.4					
B22K	**Teshekpuk Lake**	63.46	19	P	P	21 51 22.6 +0.8
	baz=248,SNR=14					
G23K	**Bananza Creek**	63.46	24	IAmb	IAmb	21 51 23.7
	comp=Z,11nm,0.7s					
G23K	**Bananza Creek**	63.46	24	P	P	21 51 22.8 +0.8
	baz=254,SNR=12					
URZ	**Urewera**	63.49	153	P	P	21 51 22.9 +0.5
COLD	**Coldfoot**	63.54	23	P	P	21 51 23.6 +1.1
	baz=253					
DHY	**Denali Highway**	63.66	28	P	P	21 51 23.8 +0.2
DHY				IAmb	IAmb	21 51 26.3
	comp=Z,7.3nm,0.5s					
DHY	**Denali Highway**	63.66	28	P	P	21 51 24.1 +0.6
	baz=258,SNR=5.7					
WRH	**Wood River Hil**	63.66	26	IAmb	IAmb	21 51 23.9
	comp=Z,13nm,0.6s					
CCB	**Clear Creek Bu**	63.82	26	IAmb	IAmb	21 51 25.0
	comp=Z,6.5nm,0.5s					
QRZ	**Quartz Range**	63.83	157	P	P	21 51 24.9 +0.2
D23K	**Nanushuk River**	63.90	21	P	P	21 51 26.3 +1.5
	baz=252					
EYAK	**Cordova Ski Ar**	63.95	31	P	P	21 51 26.2 +1.0
	baz=261					
BKZ	**Black Stump Fm**	63.98	154	P	P	21 51 25.7 0.0
BKZ	**Black Stump Fm**	63.98	154	P	P	21 51 24.6 -1.1
E23K	**Chandalar**	64.00	22	P	P	21 51 26.9 +1.4
	baz=253,SNR=23					
M24K	**Tolsona, Glenn**	64.02	29	P	P	21 51 27.1 +1.4
	baz=260					
KLU	**Klutina**	64.02	30	P	P	21 51 26.6 +0.8
	baz=260					
AAK	**Ala-Archa**	64.05	309	P	P	21 51 26.0 -0.4
	comp=Z,2.8nm,0.3s,baz=38,slow=11,SNR=4.2					
	comp=Z,2.8nm,0.3s					
H24K	**Noodor Dome**	64.07	25	IAmb	IAmb	21 51 27.7
	comp=Z,12nm,0.6s					
H24K	**Noodor Dome**	64.07	25	P	P	21 51 27.1 +1.1
	baz=256,SNR=18					
POKR	**Poker Plat Res**	64.08	26	P	P	21 51 26.2 +0.1
	baz=257					
HDA	**Harding Lake**	64.13	26	IAmb	IAmb	21 51 26.6
	comp=Z,12nm,0.7s					
HDA	**Harding Lake**	64.13	26	P	P	21 51 26.8 +0.4
	baz=258,SNR=8.9					
TOLK	**Toolik Lake Re**	64.18	22	P	P	21 51 27.9 +1.2
	baz=253,SNR=25					
C23K	**Itkillik River**	64.19	20	P	P	21 51 27.8 +1.1
	baz=252,SNR=24					
IL31		64.23	26	IAmb	IAmb	21 51 27.1
	comp=Z,24nm,1.1s					
ILAR	**Eielson Array**	64.23	26	P	P	21 51 25.9 -1.1
ILAR	**Eielson Array**	64.23	26	P	P	21 51 26.4 -0.7
	comp=Z,13nm,0.7s,baz=250,slow=6.0,SNR=179					
	comp=Z,13nm,0.7s					
E24K	**Your Creek**	64.41	22	IAmb	IAmb	21 51 30.2
	comp=Z,12nm,0.7s					
E24K	**Your Creek**	64.41	22	P	P	21 51 29.2 +1.0
	baz=254,SNR=20					
G24K	**Hadweenzic Riv**	64.44	24	P	P	21 51 29.5 +1.1
	baz=256,SNR=13					
F24K	**Squaw Lake**	64.49	23	IAmb	IAmb	21 51 31.0
	comp=Z,9.9nm,0.7s					
F24K	**Squaw Lake**	64.49	23	P	P	21 51 29.9 +1.3
	baz=255,SNR=11					
PAX	**Paxson**	64.49	28	P	P	21 51 29.5 +0.6
	baz=260,SNR=14					
K24K	**Donnelly Dome**	64.51	27	P	P	21 51 29.2 +0.4
	baz=259					
KAIM	**Kayak Island**	64.51	32	P	P	21 51 29.6 +0.7
	baz=262					
HARP	**HAARP**	64.53	29	P	P	21 51 30.0 +1.0
	baz=260,SNR=5.3					
BMRM	**Bremner River**	64.57	30	P	P	21 51 30.0 +0.7
	baz=262					
D24K	**Happy Valley**	64.59	21	P	P	21 51 30.7 +1.5
	baz=254,SNR=33					
N25K	**Chitina, Valde**	64.67	30	IAmb	IAmb	21 53 10.5
	comp=Z,45nm,1.8s					
N25K	**Chitina, Valde**	64.67	30	P	P	21 51 30.8 +0.8
	baz=261					
C24K	**Franklin Bluff**	64.79	21	P	P	21 51 31.4 +0.9
	baz=254					
J25K	**Salcha River,**	64.84	26	P	P	21 51 30.3 -0.7
	baz=259,SNR=15					
PRP	**Porcupine Dome**	64.95	25	IAmb	IAmb	21 51 33.8
	comp=Z,6.0nm,0.5s					
PRP	**Porcupine Dome**	64.95	25	P	P	21 51 30.7 -1.1
	baz=258					
G25K	**Bearman Lake**	64.98	24	P	P	21 51 32.5 +0.7
	baz=257,SNR=9.8					
H25L	**Birch Creek**	64.99	25	P	P	21 51 32.9 +1.0
	baz=258,SNR=10					
SNZO	**South Karori**	65.07	156	P	P	21 51 32.5 -0.1
BFZ	**Birch Farm**	65.15	155	P	P	21 51 33.8 +0.6
BFZ	**Birch Farm**	65.15	155	P	P	21 51 32.5 -0.7
CRQE	**Cirque**	65.27	31	P	P	21 51 34.8 +0.9
	baz=263					
SCRK	**Sand Creek**	65.32	27	IAmb	IAmb	21 51 36.0
	comp=Z,40nm,1.5s					
SCRK	**Sand Creek**	65.32	27	P	P	21 51 34.5 +0.4
	baz=261,SNR=13					
F25K	**Christian Rive**	65.34	23	P	P	21 51 35.7 +1.5
	baz=257,SNR=23					
MCARA	**McCarthy VSAT**	65.38	30	IAmb	IAmb	21 51 36.3
	comp=Z,19nm,0.6s					
MCARA	**McCarthy VSAT**	65.38	30	P	P	21 51 35.2 +0.8
	baz=263					
L26K	**Log Cabin Wild**	65.46	28	P	P	21 51 35.7 +0.7
	baz=262					
D25K	**Kavik River**	65.48	21	P	P	21 51 36.3 +1.3
	baz=256,SNR=55					
E25K	**Arctic Village**	65.48	23	IAmb	IAmb	21 51 37.4
	comp=Z,26nm,1.3s					
E25K	**Arctic Village**	65.48	23	P	P	21 51 36.6 +1.6
	baz=257,SNR=10					
M26K	**Nabesna, AK**	65.53	29	P	P	21 51 35.9 +0.5
	baz=262					
J26L	**Joseph Creek**	65.59	27	P	P	21 51 36.0 +0.1
	baz=261,SNR=17					
KHZ	**Kahutara**	65.59	158	P	P	21 51 37.2 +1.3
KHZ	**Kahutara**	65.59	158	P	P	21 51 33.2 -2.7
NIL	**Nilore**	65.61	299	P	P	21 51 36.4 -0.1
BMAR	**Burnt Mountain**	65.71	23	P	P	21 51 37.6 +1.1
MESA	**MESA**	65.77	32	P	P	21 51 37.7 +0.5
	baz=264					
RPZ	**Rata Peaks**	65.88	160	P	P	21 51 38.1 +0.3
I26K	**Coal Creek Min**	65.89	26	P	P	21 51 37.1 -0.6
	baz=261					
G26K	**Porcupine Rive**	65.92	24	P	P	21 51 39.1 +1.3
	baz=260,SNR=25					
F26K	**Sheenjek River**	65.92	23	P	P	21 51 39.2 +1.4
	baz=259,SNR=30					
GRNC	**Granite Creek**	65.92	31	IAmb	IAmb	21 51 40.0
	comp=Z,24nm,0.8s					
M27K	**Edge Creek, AK**	66.04	29	IAmb	IAmb	21 51 40.5
	comp=Z,12nm,1.1s					
M27K	**Edge Creek, AK**	66.04	29	P	P	21 51 39.7 +0.9
	baz=263					
C26K	**Camden Bay**	66.11	21	P	P	21 51 40.8 +1.8
	baz=257,SNR=32					
CTG	**Chitna Glacier**	66.15	31	P	P	21 51 40.4 +0.9
	baz=264					
L27K	**Beaver Creek,**	66.15	28	IAmb	IAmb	21 51 40.9
	comp=Z,9.0nm,0.6s					
L27K	**Beaver Creek,**	66.15	28	P	P	21 51 39.9 +0.6
	baz=263,SNR=12					
CTGM	**Chitina Glacie**	66.15	31	IAmb	IAmb	21 51 41.6
	comp=Z,14nm,0.6s					
K27K	**Chicken**	66.16	27	P	P	21 51 40.1 +0.8
	baz=262					
C27K	**Jago River**	66.46	21	P	P	21 51 42.3 +1.2
	baz=258,SNR=21					
I27K	**Kandik River**	66.57	26	P	P	21 51 42.4 +0.4
	baz=262,SNR=6.4					
PINM	**Pinnacle**	66.61	32	P	P	21 51 43.3 +0.9
	baz=266					
YUK3	**Moose Creek**	66.65	30	P	P	21 51 43.8 +1.0
	baz=265,SNR=6.2					
EGAK	**Eagle**	66.65	27	P	P	21 51 43.8 +1.4
	baz=263					
O28M	**Mount Upton**	66.69	31	P	P	21 51 44.1 +1.0
	baz=266,SNR=6.5					
H27K	**Steamboat Moun**	66.69	25	P	P	21 51 43.7 +0.9
	baz=262,SNR=47					
G27K	**Doyon Strip**	66.72	24	P	P	21 51 43.7 +0.8
	baz=262,SNR=8.7					
BRVK	**Borovoye**	66.82	321	P	P	21 51 43.2 -0.5
YUK8	**Steele Glacier**	66.94	30	P	P	21 51 45.7 +1.1
	baz=266					
KK31	**Karatay Array**	66.95	310	P	P	21 51 44.3 -0.5
KK31				IAmb	IAmb	21 51 46.3
	comp=Z,14nm,0.7s					
KKAR	**Karatay Array**	66.95	310	P	P	21 51 44.6 -0.2
E27K	**Coleen River**	66.96	23	IAmb	IAmb	21 51 46.0
	comp=Z,9.2nm,0.6s					
E27K	**Coleen River**	66.96	23	P	P	21 51 45.4 +1.0
	baz=261,SNR=19					
PNL	**Peninsula**	67.01	32	P	P	21 51 45.5 +0.7
	baz=267					
I28M	**Miner Creek**	67.25	26	IAmb	IAmb	21 51 47.7
	comp=Z,10nm,0.7s					
I28M	**Miner Creek**	67.25	26	P	P	21 51 46.8 +0.5
	baz=264,SNR=16					
DAWY	**Dawson**	67.34	27	P	P	21 51 47.7 +0.9
DAWY				IAmb	IAmb	21 51 48.6
	comp=Z,10nm,0.5s					
DAWY	**Dawson**	67.34	27	P	P	21 51 47.8 +0.9
	baz=265					
D27M	**Malcolm River**	67.35	22	IAmb	IAmb	21 51 49.0
	comp=Z,17nm,0.7s					
D27M	**Malcolm River**	67.35	22	P	P	21 51 48.1 +1.2
	baz=261,SNR=7.2					
O29M	**Mount Kennedy**	67.46	32	IAmb	IAmb	21 51 50.4
	comp=Z,27nm,1.1s					
O29M	**Mount Kennedy**	67.46	32	P	P	21 51 49.0 +1.3
	baz=267					
F28M	**Old Crow**	67.52	24	IAmb	IAmb	21 51 49.9
	comp=Z,15nm,0.9s					
F28M	**Old Crow**	67.52	24	P	P	21 51 48.9 +1.0
	baz=263,SNR=23					
YUK6	**Outpost Mounta**	67.59	31	P	P	21 51 50.0 +1.3
	baz=267					
M29M	**Somme Creek**	67.63	29	P	P	21 51 50.2 +1.4
	baz=266,SNR=17					
E28M	**Babbage River**	67.77	23	P	P	21 51 49.9 +0.5
E28M				IAmb	IAmb	21 51 51.8
	comp=Z,18nm,1.1s					
E28M	**Babbage River**	67.77	23	P	P	21 51 50.4 +1.0
	baz=263,SNR=20					
L29M	**L29M**	67.83	29	P	P	21 51 51.4 +1.5
	baz=266,SNR=25					
P29M	**Windy Craggy**	67.85	32	P	P	21 51 51.8 +1.7
	baz=268,SNR=6.2					
I29M	**Ogilvie Camp,**	67.92	26	IAmb	IAmb	21 51 51.9
	comp=Z,10nm,1.0s					
H29M	**Whitestone**	67.96	25	IAmb	IAmb	21 51 52.4
	comp=Z,12nm,0.8s					
H29M	**Whitestone**	67.96	25	P	P	21 51 51.6 +0.9
	baz=265,SNR=11					
HYT	**Haines Junctio**	68.01	31	P	P	21 51 52.6 +1.4
	baz=268,SNR=7.8					
D28M	**Stokes Point**	68.14	22	P	P	21 51 52.8 +1.1
	baz=263					
K29M	**Barlow Dome**	68.15	28	IAmb	IAmb	21 51 54.1
	comp=Z,13nm,0.8s					
K29M	**Barlow Dome**	68.15	28	P	P	21 51 53.2 +1.2
	baz=267,SNR=17					
G29M	**Pine Creek**	68.16	24	IAmb	IAmb	21 51 54.1
	comp=Z,20nm,1.1s					
G29M	**Pine Creek**	68.16	24	P	P	21 51 53.2 +1.3
	baz=265,SNR=15					
N30M	**Aishikik Lake**	68.23	30	P	P	21 51 53.4 +0.9
N30M				IAmb	IAmb	21 51 54.8
	comp=Z,18nm,0.8s					
N30M	**Aishikik Lake**	68.23	30	P	P	21 51 53.7 +1.2
	baz=268,SNR=9.1					
P30M	**Million Dollar**	68.26	32	P	P	21 51 54.3 +1.7
	baz=269					
E29M	**Blow River**	68.35	23	P	P	21 51 53.9 +0.9
	baz=264,SNR=12					
M30M	**Minto, Yukon**	68.41	29	IAmb	IAmb	21 51 55.7
	comp=Z,36nm,1.7s					
M30M	**Minto, Yukon**	68.41	29	P	P	21 51 54.8 +1.2
	baz=268					
SIMJ	**Simiganj**	68.48	305	P	P	21 51 53.9 -0.6
SIMJ				IAmb	IAmb	21 52 51.4
	comp=Z,11nm,0.8s					
PLBC	**Pleasant Camp**	68.55	32	P	P	21 51 55.6 +1.3
	baz=269,SNR=8.4					
S31K	**Pelican**	68.61	34	P	P	21 51 55.7 +1.0
	baz=270					
EPYK	**Eagle Plains**	68.64	25	IAmb	IAmb	21 51 56.3
	comp=Z,16nm,0.7s					
EPYK	**Eagle Plains**	68.64	25	P	P	21 51 55.7 +0.8
	baz=266,SNR=15					
O30N	**Mendenhall**	68.70	31	P	P	21 51 56.4 +1.0
	baz=269					
J30M	**Hart River**	68.70	27	P	P	21 51 56.1 +0.6
J30M				IAmb	IAmb	21 51 56.8
	comp=Z,8.3nm,0.5s					
J30M	**Hart River**	68.70	27	P	P	21 51 56.5 +1.1
	baz=267,SNR=17					
I30M	**Mount Dempster**	68.72	26	P	P	21 51 56.1 +0.6
	baz=267,SNR=16					
N31M	**Braeburn, Yuko**	68.86	30	P	P	21 51 57.1 +0.8
	baz=269					
G30M	**tAoh Zraii Nji**	68.88	24	IAmb	IAmb	21 51 57.7
	comp=Z,40nm,1.5s					
G30M	**tAoh Zraii Nji**	68.88	24	P	P	21 51 56.9 +0.5
	baz=267,SNR=14					
KBL	**Kabul**	68.96	301	P	P	21 51 56.2 -1.5
SKAG	**Skagway**	69.08	32	P	P	21 51 58.2 +0.6
	baz=270					
F30M	**Barrier River**	69.08	24	P	P	21 51 58.7 +1.2
	baz=267,SNR=32					
S32K	**Killisnoo**	69.51	35	P	P	21 52 01.5 +1.3
	baz=272					
R32K	**Eaglecrest**	69.52	34	P	P	21 52 01.4 +1.0
	baz=271					
M31M	**Drury Creek, Y**	69.53	30	IAmb	IAmb	21 52 01.7
	comp=Z,11nm,0.4s					
M31M	**Drury Creek, Y**	69.53	30	P	P	21 52 01.5 +1.2
	baz=270,SNR=7.3					
G31M	**Satah River**	69.64	24	P	P	21 52 01.6 +0.7
	baz=268,SNR=37					
F31M	**Tsiigehtchic**	69.86	24	IAmb	IAmb	21 52 03.1
	comp=Z,13nm,0.7s					
F31M	**Tsiigehtchic**	69.86	24	P	P	21 52 02.5 +0.3
	baz=269,SNR=9.8					
P32M	**Atlin**	69.90	32	P	P	21 52 03.6 +0.9
	baz=272					
INK	**Inuvik**	69.96	23	IAmb	IAmb	21 52 03.8
	comp=Z,20nm,0.8s					
INK	**Inuvik**	69.96	23	P	P	21 52 03.1 +0.3
	baz=269,SNR=14					
FARO	**Faro, Yukon**	70.02	30	P	P	21 52 04.3 +0.9
	baz=271					
N32M	**Quiet Lake**	70.17	31	P	P	21 52 05.0 +0.7
	baz=272					
P33M	**Teslin, Yukon**	70.33	32	P	P	21 52 06.2 +0.9
	baz=272					
U33K	**Whale Pass**	70.37	36	P	P	21 52 06.6 +1.1
	baz=273					
CRAG	**Craig**	70.41	37	P	P	21 52 06.9 +1.1
	baz=274					
Q32M	**Nakina River**	70.66	33	P	P	21 52 08.1 +0.6
Q32M	**Nakina River**	70.66	33	P	P	21 52 08.8 +1.2
	baz=273					
MMPY	**Sheldon Lake,**	70.97	29	P	P	21 52 10.1 +1.0
	baz=273					
V35K	**Ketchikan**	71.27	37	P	P	21 52 12.2 +1.2
	baz=275					
R33M	**Jennings River**	71.31	32	P	P	21 52 12.8 +1.6
	baz=274,SNR=6.7					
S34M	**Telegraph Cree**	71.33	34	P	P	21 52 13.1 +1.8
	baz=274					
HG4B	**Hotspring**	71.81	40	IAmb	IAmb	21 52 15.9
	comp=Z,9.9nm,0.9s					
DLBC	**Dease Lake**	71.87	33	IAmb	IAmb	21 52 17.0
	comp=Z,24nm,1.2s					
DLBC	**Dease Lake**	71.87	33	P	P	21 52 16.2 +1.6
	baz=275,SNR=14					
T35M	**Bob Quinn**	71.89	35	P	P	21 52 16.3 +1.7
	baz=275,SNR=8.5					
TGTN	**Hyland Airport**	72.46	30	P	P	21 52 18.8 +0.8
	baz=276					
C36M	**Paulatuk**	73.34	22	P	P	21 52 22.6 -0.2
	baz=277,SNR=9.4					
ARU	**Arti**	73.39	325	P	P	21 52 22.6 -0.9
ARU	**Arti**	73.39	325	P	P	21 52 22.8 -0.6
	comp=Z,19nm,0.5s,baz=104,slow=3.6,SNR=56					
	comp=Z,19nm,0.5s					
ABKAR	**Akbulak array**	73.59	317	P	P	21 52 23.5 -1.3
HOLB	**Holberg**	73.94	41	IAmb	IAmb	21 52 29.1
	comp=Z,18nm,0.8s					
TOAD	**Toad River Com**	74.31	33	P	P	21 52 29.3 +0.6
	baz=279,SNR=7.3					
WRGLY	**Wrigley**	74.46	28	IAmb	IAmb	21 52 31.2
	comp=Z,19nm,0.8s					
WRGLY	**Wrigley**	74.46	28	P	P	21 52 30.3 +0.8
	baz=279,SNR=5.3					
AKTO	**Aktyubinsk**	74.63	319	P	P	21 52 30.2 -0.6
	comp=Z,6.0nm,0.6s,baz=88,slow=5.6,SNR=18					
	comp=Z,6.0nm,0.6s					
KOTAN	**Kotaneelee Air**	74.69	31	P	P	21 52 31.7 +0.9
	baz=280					
NLWA	**Neilton Lookou**	77.31	44	IAmb	IAmb	21 52 48.6
	comp=Z,18nm,1.0s					
E03A	**Lebam**	77.71	45	IAmb	IAmb	21 52 50.4
	comp=Z,18nm,0.9s					
KIRV	**Kirov**	77.81	328	P	P	21 52 48.4 0.0
	comp=Z,14nm,0.5s,baz=53,slow=4.2,SNR=9.7					
	comp=Z,14nm,0.5s					
GNW	**Green Mountain**	77.96	44	IAmb	IAmb	21 52 52.0
	comp=Z,21nm,1.0s					
J01E	**Myrtle Point**	78.25	48	IAmb	IAmb	21 52 53.5
	comp=Z,16nm,0.9s					
I03D	**Drain, OR**	78.53	48	IAmb	IAmb	21 52 55.0
	comp=Z,10nm,0.8s					
YKA	**Yellowknife Ar**	78.58	28	P	P	21 52 52.4 -0.1
	comp=Z,3.2nm,0.8s,baz=291,slow=5.7,SNR=6.9					
	comp=Z,3.2nm,0.8s					
KSXB	**Camp Six Broad**	78.60	50	P	P	21 52 53.9 +0.7
KHMM	**Horse Mountain**	78.95	51	IAmb	IAmb	21 52 57.8
	comp=Z,9.1nm,0.7s					
HUMO	**Hull Mountain**	79.08	49	IAmb	IAmb	21 52 59.4
	comp=Z,7.1nm,0.6s					
I04A	**Tendick Farm,**	79.16	47	IAmb	IAmb	21 52 57.9
	comp=Z,9.6nm,0.9s					
KCPM	**Cahto Peak**	79.35	52	IAmb	IAmb	21 52 59.7
	comp=Z,18nm,0.6s					
LTY	**Liberty**	79.45	44	IAmb	IAmb	21 52 58.8
	comp=Z,9.0nm,0.6s					
YBH	**Yreka Blue Hor**	79.47	50	P	P	21 52 58.8 +0.8
YBH				IAmb	IAmb	21 53 00.2
	comp=Z,8.9nm,0.8s					
YBH	**Yreka Blue Hor**	79.47	50	P	P	21 52 58.6 +0.7
	comp=Z,7.4nm,0.7s,baz=307,slow=3.1,SNR=26					
	comp=Z,7.4nm,0.7s					
L04D	**Klamath Falls**	79.64	49	IAmb	IAmb	21 53 00.7
	comp=Z,15nm,0.6s					
SPITS	**Spitsbergen Ar**	79.67	351	P	P	21 52 57.6 -0.6
	comp=Z,2.2nm

comp=Z,2.5nm,0.5s
RYN Ryan 83.42 52 IAmb IAmb 21 53 20.5
comp=Z,10nm,0.8s
LHV Little Huntoon 83.55 52 IAmb IAmb 21 53 21.4
comp=Z,7.9nm,0.7s
PKM Mcpherson Peak 83.57 56 P P 21 53 20.6 +1.0
baz=288
KVN Kaiserville 83.61 51 IAmb IAmb 21 53 21.3
comp=Z,9.9nm,0.7s
NVAR Mina Array Bea 83.65 52 P P 21 53 19.9 -0.1
NVAR Mina Array Bea 83.65 52 P P 21 53 20.9 +0.9
comp=Z,13nm,0.7s,baz=267,slow=5.9,SNR=85
comp=Z,13nm,0.7s
NV11 Mina Array Sit 83.76 52 IAmb IAmb 21 53 22.2
comp=Z,8.1nm,0.8s
MFID Camas Ranch 83.85 46 IAmb IAmb 21 53 22.4
comp=Z,9.3nm,0.8s
MSO Missoula 83.97 43 P P 21 53 22.5 +1.2
baz=290
SNCC San Nicolas Is 84.30 57 P P 21 53 22.8 -0.3
baz=288
ISA Isabella, Lake 84.38 54 P P 21 53 24.1 +0.6
baz=288
CWC Cottonwood Cre 84.44 54 P P 21 53 24.5 +0.6
baz=288
OSI Osito Audit: C 84.51 56 P P 21 53 24.5 +0.4
baz=288
HLID Hailey 84.77 46 P P 21 53 26.0 +0.5
baz=290
GMN Gold Mountain 84.79 53 IAmb IAmb 21 53 27.6
comp=Z,9.3nm,0.7s
GRAC Grapevine Rang 84.81 53 P P 21 53 26.3 +0.7
baz=289
LYMT Lyon Mountain 84.98 42 P P 21 53 26.2 -0.3
EDW2 Edwards Air Fo 85.00 55 P P 21 53 27.3 +0.6
baz=289
MPMC Manual Prospec 85.01 54 P P 21 53 27.6 +0.7
baz=289
LRMC Laurel Mtn Rad 85.05 54 P P 21 53 27.9 +0.9
baz=289
ELK Elko 85.15 49 IAmb IAmb 21 53 29.1
comp=Z,7.8nm,0.8s
WCT Wildcat Mounta 85.43 53 IAmb IAmb 21 53 30.3
comp=Z,8.6nm,0.8s
TPNV Topopah Spring 85.67 53 P P 21 53 30.8 +0.8
baz=289
R11B Troy Canyon, C 85.70 51 IAmb IAmb 21 53 31.8
comp=Z,12nm,1.5s
R11B Troy Canyon, C 85.70 51 P P 21 53 30.8 +0.7
baz=290
GSC Goldstone, Bar 85.78 54 P P 21 53 30.9 +0.4
baz=289
BOZ Bozeman (W) 85.91 43 P P 21 53 31.6 +0.5
baz=292
SHOC Shoshone, Teco 85.99 54 P P 21 53 32.5 +1.1
baz=290
EGMT Eagleton 86.18 41 P P 21 53 32.9 +0.8
baz=293
HEC Hector,Ludlow 86.30 55 P P 21 53 33.2 +0.2
baz=290
KBZ Khabaz 86.38 315 P P 21 53 32.2 -0.8
comp=Z,2.2nm,0.8s,baz=101,slow=1.2,SNR=7.0
comp=Z,2.2nm,0.8s
GNI Garni 86.38 311 P P 21 53 32.6 -0.8
comp=Z,1.6nm,0.6s,baz=98,slow=7.1,SNR=1.4
comp=Z,1.6nm,0.6s
PRN Pahroc Range 86.41 52 P P 21 53 33.7 +0.1
TUQ Turquoise Moun 86.42 54 P P 21 53 34.2 +0.6
baz=290
KVAR Kislovodsk Arr 86.43 315 P P 21 53 33.5 0.0
comp=Z,0.9nm,0.4s,baz=113,slow=7.7,SNR=2.7
comp=Z,0.9nm,0.4s
PFO Pinyon Flats O 86.61 56 P P 21 53 35.2 +0.6
baz=290
PFO Pinyon Flats O 86.61 56 P P 21 53 34.2 -0.4
comp=Z,2.5nm,0.8s,baz=256,slow=3.3,SNR=2.6
comp=Z,2.5nm,0.8s
TPFO Pinon Flats 86.61 56 P P 21 53 35.2 +0.6
baz=290
GMRC Granite Mounta 86.84 55 P P 21 53 36.2 +0.4
baz=290
BELC Belle Mtn. Jos 86.84 55 P P 21 53 36.0 +0.2
baz=290
MONP2 Monument Peak 86.88 57 P P 21 53 36.3 +0.2
baz=290
PSUT Pine Spring 86.91 51 IAmb IAmb 21 53 37.5
comp=Z,9.2nm,0.8s
DUG Dugway, Tooele 87.07 49 P P 21 53 37.3 +0.6
baz=291
V12A Nelson 87.14 53 IAmb IAmb 21 53 38.9
comp=Z,8.9nm,0.8s
IKP In-Ko-Pah, Jac 87.21 57 P P 21 53 37.9 +0.5
baz=290
FINES FINESS Array B 87.29 335 P P 21 53 34.5 -2.6
comp=Z,1.4nm,0.3s,baz=65,slow=4.4,SNR=52
comp=Z,1.4nm,0.3s
SWSC Sam W. Stewart 87.35 56 P P 21 53 38.5 +0.5
baz=290
BC3 Big Chuckawall 87.38 56 P P 21 53 38.7 +0.3
baz=290
IRM Iron Mountain 87.45 55 P P 21 53 39.0 +0.4
baz=290
RLMT Red Lodge 87.63 43 P P 21 53 39.2 -0.2
RLMT Red Lodge 87.63 43 P P 21 53 39.8 +0.4
baz=293
MVU Marysvale 88.12 50 IAmb IAmb 21 53 43.6
comp=Z,17nm,0.7s
KNB Kanab 88.22 52 IAmb IAmb 21 53 44.4
comp=Z,8.6nm,0.9s
BW06 Boulder Array 88.36 45 P P 21 53 43.5 +0.6
baz=293
PDAR Pinedale Array 88.36 45 P P 21 53 42.5 -0.4
comp=Z,0.8nm,0.6s,baz=146,slow=1.4,SNR=4.4
comp=Z,0.8nm,0.6s
Q16A Castle Valley 88.72 49 P P 21 53 45.0 +0.3
Q16A IAmb IAmb 21 53 46.4
comp=Z,26nm,1.9s
P18A Preston Nutter 89.11 48 IAmb IAmb 21 53 49.8
comp=Z,21nm,1.9s
SRU San Rafael Swe 89.11 49 IAmb IAmb 21 53 47.5
comp=Z,6.2nm,0.8s
Y14A Wickenburg 89.19 55 IAmb IAmb 21 53 48.4
comp=Z,7.9nm,0.8s
HMU Henry Mountain 89.41 50 IAmb IAmb 21 53 50.2
comp=Z,4.7nm,0.6s
WUAZ Wupatki 89.86 53 P P 21 53 50.7 +0.7
baz=292
N23A Red Feather La 91.60 46 P P 21 53 58.9 +0.8
baz=296
ISCO Idaho Springs 92.30 47 P P 21 54 01.9 +0.6
baz=296
HFS Hagfors 92.81 338 P P 21 54 00.6 -2.3
comp=Z,3.5nm,1.0s,baz=104,slow=3.0,SNR=11
comp=Z,3.5nm,1.0s
NOA NORSAR Array B 93.01 340 P P 21 54 01.5 -2.4
comp=Z,0.2nm,0.5s,baz=49,slow=4.4,SNR=1.4
comp=Z,0.2nm,0.5s
ANMO Albuquerque 93.77 52 P P 21 54 07.9 -0.1
baz=295
BRTR Keskin Array B 94.34 314 P P 21 54 09.2 -1.3
comp=Z,0.6nm,0.6s,baz=72,slow=5.8,SNR=4.9
comp=Z,0.6nm,0.6s
TXAR Lajitas Array 98.33 56 P P 21 54 29.3 +0.7
comp=Z,0.3nm,0.8s,baz=282,slow=4.5,SNR=2.7
comp=Z,0.3nm,0.8s
CLL Collm 99.32 332 ePdif Pdif 21 54 28.0 -4.5
WMOK Wichita Mounta 99.47 49 P Pdif 21 54 33.2 -0.4
baz=300
HDIL Hopedale 102.56 40 P Pdif 21 54 47.1 0.0
baz=307
SFIN Lafayette 103.99 39 P Pdif 21 54 52.9 -0.6
baz=309
OXF Oxford 106.09 45 P PKiKP 21 59 13.2 -0.4
baz=306
ERPA Erie 106.82 34 P PKiKP 21 59 14.2 -0.6
baz=315
M53A WI Miller and 106.93 35 P PKiKP 21 59 14.8 -0.3
baz=314
O53A New Philadelph 107.46 36 P PKiKP 21 59 15.8 -0.2
baz=314
LONY Lake Ozonia 107.64 29 P PKiKP 21 59 16.0 -0.3
baz=320
SSPA Standing Stone 108.98 34 P PKiKP 21 59 18.6 -0.3
baz=316
NHSC New Hope 112.93 41 P PKiKP 21 59 26.1 -0.5
baz=313
TROLL Troll, Antarti 122.01 193 ⇑PKPdf PKPdf 21 59 41.5 -1.5
comp=Z,37nm,0.3s
SNAA Sanae 123.34 191 ⇑PKPdf PKPdf 21 59 43.0 -2.4
comp=Z,17nm,0.6s
SNAA Sanae 123.34 191 PKP PKPdf 21 59 43.2 -2.2
comp=Z,0.3nm,0.5s,baz=200,slow=0.8,SNR=7.4
VNA2 Neumayer--Watz 124.79 191 ⇑PKPdf PKPdf 21 59 47.2 -0.9
comp=Z,2.6nm,0.6s,baz=173,slow=1.5
TORD Torodi Ar. Bea 132.63 309 PKP PKPdf 22 00 03.1 -1.6
comp=Z,0.3nm,0.5s,baz=31,slow=1.9,SNR=4.2
LPAZ La Paz 147.88 92 PKPbc PKPbc 22 00 35.8 -0.3
comp=Z,2.9nm,0.5s,baz=258,slow=3.1,SNR=13

IDC 09 22:00:50.9±999.0, 47°.61N×62°.07E, h0km, Error ellipse: s-maj=1722.0km s-min=147.8km az=138.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	3.86	318	I	I	22 25 10.0	
	0.1nm,0.9s,baz=133,slow=312,SNR=31						
I43RU	DUBNA INFRASONI	7.68	310	I	I	23 46 30.0	
	baz=112,slow=318,SNR=1.7						
I37NO	I37NO	30.28	331	I	I	01 05 55.0	
	baz=114,slow=323,SNR=3.9						

IDC 09 22:24:50.6±4.8, 36°.04N×71°.48E, h0km, mb3.5/4, mbtmp3.5/4, MS3.6/1, Error ellipse: s-maj=105.7km s-min=41.5km az=135.0
NNC 09 22:25:01.4±15.0, 36°.77N×71°.24E, h0km, mb3.9, mpv3.9, Error ellipse: s-maj=213.8km s-min=126.8km az=83.0
ISC 09 22:25:04.5±1.9, 36°.6N±0°.1×71°.7E±0°.2, h114km, n8, σ2s04/8, mb3.5/3, 1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.52	352	P	Pn	22 26 38.7	+0.8
	4.0nm,0.4s,baz=188,slow=15,SNR=50						
KK31				S	Sn	22 27 50.2	-0.5
	1.6nm,0.3s,baz=180,slow=21,SNR=7.8						
MK31	Makanchi Array	12.84	35	P	Pn	22 28 01.7	-1.0
	4.1nm,1.8s,baz=152,slow=7.5,SNR=3.6						
AB31	Akbulak array	15.25	329	⇓P	Pn	22 28 30.7	-2.8
	0.2nm,0.3s						
ZALV	Zalesovo Beam	19.55	24	P	Pn	22 29 26.5	+1.2
	1.0nm,0.3s,baz=222,slow=9.0,SNR=6.8						
	1.0nm,0.3s						
FINES	FINESS Array B	37.69	326	P	P	22 32 10.8	+2.5
	0.2nm,0.3s,baz=123,slow=10,SNR=3.4						
	0.2nm,0.3s						
HFS	Hagfors	43.31	322	P	P	22 32 56.3	+1.6
	0.4nm,0.4s,baz=79,slow=15,SNR=1.2						
	0.4nm,0.4s						
JCJ	Chichijima	59.40	77	LR	LR	23 02 28.8	
	comp=Z,46nm,20.0s,baz=112,slow=38						
TORD	Torodi Ar. Bea	66.30	269	P	P	22 35 39.8	-1.1
	0.2nm,0.6s,baz=50,slow=7.2,SNR=1.4						
	0.2nm,0.6s						

IDC 09 22:26:22.5±3.5, 33°.19S×67°.12W, h0km, mb3.7/1, mbtmp3.6/2, Error ellipse: s-maj=138.2km s-min=70.4km az=67.0
SJA 09 22:26:40.7±0.8, 32°.41S×67°.53W, h149km±3km, ML3.3, MW3.5
ISC 09 22:26:42.0±0.9, 32°.41S±0°.05×67°.52W±0°.04, h143km±7km, n24, σ1s01/32, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	Cerro Valdivia	1.02	302	*i* P	Pn	22 27 06.5	+0.1
RTCV				*i* S	Sn	22 27 24.8	-0.1
RTCV				IAML		22 27 25.5	
	comp=Z,153nm,0.5s						
SJA	San Juan	1.25	315	*i* P	Pn	22 27 08.0	-0.4
SJA				*i* S	Sn	22 27 28.0	-0.6
SJA				IAML		22 27 28.7	
	comp=Z,226nm,0.2s						
ZON	Zonda	1.31	311	*i* P	Pn	22 27 09.0	0.0
ZON				*i* S	Sn	22 27 29.5	-0.2
ZON				IAML		22 27 30.3	
	comp=Z,226nm,0.3s						
ACHE	Chepes	1.44	31	*i* P	Pn	22 27 10.9	+0.3
MRA	San Martin	1.53	91	*i* P	Pn	22 27 11.7	+0.3
MRA				*i* S	Sn	22 27 34.0	0.0
RTLS	Leoncito	1.62	292	*i* P	Pn	22 27 13.1	+0.4
RTLS				*i* S	Sn	22 27 36.9	+0.7
RTLS				IAML		22 27 37.9	
	comp=Z,394nm,0.3s						
DOCA	Reserva Natura	1.97	317	*i* P	Pn	22 27 16.7	-0.1
DOCA				IAML		22 27 47.4	
	comp=Z,446nm,0.6s						
ACCO	Cerro Coronel	2.24	324	*i* P	Pn	22 27 20.2	+0.3
ACCO				IAML		22 27 52.1	
	comp=Z,269nm,0.3s						
RFA	San Rafael	2.48	198	*i* P	Pn	22 27 21.9	-0.7
RFA				*i* S	Sn	22 27 53.8	-0.2
RFA				IAML		22 27 56.0	
	comp=Z,48nm,0.3s						
ACDV	Cuesta del Vie	2.62	328	*i* P	Pn	22 27 24.4	0.0
ACDV				IAML		22 28 00.6	
	comp=Z,51nm,0.3s						
TCA	Tanti	2.71	68	*i* P	Pn	22 27 25.5	0.0
TCA				*i* S	Sn	22 27 57.8	-1.2
TCA				IAML		22 27 58.6	
	comp=Z,52nm,0.5s						
AROD	Rodeo	2.79	323	*i* P	Pn	22 27 27.2	+0.5
ACLC	CERRO LA CRUZ	3.01	10	*i* P	Pn	22 27 29.2	-0.2
ACLC				IAML		22 28 07.2	
	comp=Z,43nm,0.7s						
CO03	El Pedregal	3.12	299	*i* P	Pn	22 27 30.5	-0.2
CO03				IAML		22 28 11.4	
	comp=Z,90nm,0.5s						
MT02	Curacav	3.16	253	*i* P	Pn	22 27 30.7	-0.4
MT02				IAML		22 28 14.9	
	comp=Z,42nm,0.6s						
CO02	Combarbal	3.19	291	*i* P	Pn	22 27 31.4	-0.3
CO02				IAML		22 28 11.6	
	comp=Z,77nm,0.6s						
BO01	Tunca	3.58	235	*i* P	Pn	22 27 35.9	-0.6
BO01				IAML		22 28 31.7	
	comp=Z,11nm,1.2s						
VCA	Vinchina	3.71	351	*i* P	Pn	22 27 38.3	-0.1
VCA				*i* S	Sn	22 28 20.6	-1.5
VCA				IAML		22 28 28.4	
	comp=Z,110nm,0.3s						
LCO	Las Campanas	4.35	320	*i* P	Pn	22 27 46.5	-0.5
AC04	Llanos de Chal	5.19	323	*i* P	Pn	22 27 57.0	-0.9
AC04				IAML		22 29 03.5	
	comp=Z,16nm,0.3s						
LPAZ	La Paz	16.06	358	Pn	Pn	22 30 20.5	0.0
	comp=Z,0.4nm,0.3s,baz=169,slow=5.2,SNR=1.5						
TORD	Torodi Ar. Bea	80.11	68	P	P	22 38 34.6	-1.7
	comp=Z,0.5nm,0.7s,baz=215,slow=4.8,SNR=2.6						
	comp=Z,0.5nm,0.7s						
KURBB	Kurchatov Arra	149.11	44	PKPbc	PKPdf	22 46 12.8	+4.2
	comp=Z,0.2nm,0.3s,baz=286,slow=3.0,SNR=5.6						
ZALV	Zalesovo Beam	150.82	34	PKPbc	PKPbc	22 46 16.9	+0.1
	comp=Z,1.2nm,0.3s,baz=305,slow=3.2,SNR=5.4						

IDC 09 22:31:34.1±2.5, 1°.53N×127°.71E, h120km±21km, mb3.7/12, mbtmp4.2/13, Error ellipse: s-maj=36.0km s-min=11.3km az=69.0
NEIC 09 22:31:36.5±1.0, 1°.32N±0°.09×127°.40E±0°.09, h130km±5km, mb4.6/43, Error ellipse: s-maj=14.9km s-min=11.2km az=222.0
DJA 09 22:31:36.3±0.2, 1°N±2°×12°7E±°, h112km±3km, M4.6/16, mB5.0/4, mb4.8/16, MLv4.7/13, Mw(mB)4.3/4
ISC 09 22:31:36.4±0.4, 1°.28N±0°.05×127°.40E±0°.06, h128km, n92, σ1s41/101, mb4.5/40, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.50	183	P	Pn	22 31 56.2	+1.0
TNTI	Ternate	0.50	183	Pn	Pn	22 31 55.5	+0.3
TNTI				Sn	Sn	22 32 10.8	+1.3
TNTI	Ternate	0.50	183	P	Pn	22 31 56.0	+0.8
TNTI				S	Sn	22 32 10.6	+1.1
LBMI	Labuha	1.90	177	P	Pn	22 32 10.9	+1.8
KMSI	Cibinong	3.48	258	P	Pn	22 32 29.6	+0.3
KMSI				S	Sn	22 33 10.0	-0.2
SANI	Sanana	3.59	203	P	Pn	22 32 30.9	+0.2
SANI	Sanana	3.59	203	P	Pn	22 32 30.5	-0.2
SANI				S	Sn	22 33 09.5	-3.2
SWI	Sorong	4.41	119	P	Pn	22 32 43.0	+1.4
GTOI	Gorontalo	4.43	262	P	Pn	22 32 43.2	+1.4
GTOI				S	Sn	22 33 33.3	+0.6
LUWI	Luwuk	5.16	244	P	Pn	22 32 52.4	+0.7
LUWI	Luwuk	5.16	244	Pn	Pn	22 32 51.5	-0.1
LUWI	Luwuk	5.16	244	P	Pn	22 32 53.1	+1.4
MRSI	Marisa	5.51	262	P	Pn	22 32 56.5	+0.2
	151nm,0.5s,2μm0.7nm						
FAKI	Fak Fak	6.40	131	P	Pn	22 33 10.4	+2.1
FAKI	Fak Fak	6.40	131	Pn	Pn	22 33 09.6	+1.3
FAKI	Fak Fak	6.40	131	P	Pn	22 33 09.2	+0.9
	68nm,0.9s,0.3nm						
TOLI2	Tolitoli	6.61	269	P	Pn	22 33 10.6	-0.6
TOLI2	Tolitoli	6.61	269	Pn	Pn	22 33 09.8	-1.4
BBSI	Bau Bau	8.27	216	P	Pn	22 33 36.2	+2.7
MYLDM	Lahad Datu	9.69	294	Pn	Pn	22 33 55.3	+2.7
KAPI	Kappang	9.87	231	Pn	Pn	22 33 56.6	+1.6
KAPI	Kappang	9.87	231	P	Pn	22 33 57.4	+2.4
	17nm,0.3s,baz=51,slow=4.2,SNR=24						
KAPI				S	Sn	22 35 41.7	-2.3
	18nm,0.4s,baz=90,slow=20,SNR=11						
EDFI	Ende, Flores	11.47	210	P	Pn	22 34 20.5	+4.0
	22nm,0.9s						
JAY	Jayapura	13.83	106	P	Pn	22 34 49.4	+2.2
	15nm,0.9s						
PLAI	Plampang	13.88	224	P	Pn	22 34 49.1	+1.4
	58nm,0.9s						
TWSI	Taliwang, Sumb	14.45	226	P	Pn	22 34 59.1	+4.1
	34nm,1.3s						
MTN	Manton Dam	14.51	165	Pn	Pn	22 34 54.8	-1.0
SBUM	Sibu	15.21	275		Pn	22 35 07.3	+2.7
PWJI	Pagerwojo	18.08	239	P	P	22 35 41.0	+2.7
	56nm,0.8s						
UGM	Wanagama	19.14	241	P	P	22 35 49.7	-0.2
UGM	Wanagama	19.14	241	P	P	22 35 51.4	+1.5
	179nm,2.0s						
FITZ	Fitzroy Crossi	19.33	185	P	P	22 35 51.5	-0.3
COEN	Coen	21.76	135	P	P	22 36 17.6	-0.4
COEN				IAmb	IAmb	22 36 57.3	
	comp=Z,23nm,1.2s						
WB0	Warramunga Arr	22.01	162	P	P	22 36 19.7	-0.8
WRAB	Tennant Creek	22.15	162	P	P	22 36 21.7	-0.3
WRAB				IAmb	IAmb	22 36 22.3	
	comp=Z,31nm,0.9s						
WRA	Warramunga Arr	22.16	162	P	P	22 36 20.2	-1.9
WRA	Warramunga Arr	22.16	162	P	P	22 36 21.6	-0.5
	comp=Z,31nm,0.5s,baz=341,slow=11,SNR=131						
WRA				PcP	PcP	22 40 13.8	-0.6
	comp=Z,0.9nm,0.6s,baz=337,slow=1.9,SNR=2.5						
WRA				ScP	ScP	22 43 38.7	-1.4
	comp=Z,1.0nm,0.9s,baz=340,slow=2.9,SNR=1.7						
WB2	Warramunga Arr	22.16	162	P	P	22 36 21.7	-0.4
WB2				IAmb	IAmb	22 36 22.4	
	comp=Z,30nm,0.8s						
WR0	Warramunga Arr	22.24	162	P	P	22 36 22.1	-0.8
WR0				IAmb	IAmb	22 36 23.2	
	comp=Z,23nm,0.7s						
MYKOM	Kota Tinggi	23.54	272	P	P	22 36 35.2	-0.2
MYKOM				IAmb	IAmb	22 36 36.5	
	comp=Z,24nm,0.7s						
KASI	Kota Agung	23.84	253	P	P	22 36 37.5	-0.6
PSA00	Pilbara Seismi	23.88	198	P	P	22 36 37.5	-0.7
PSA00				IAmb	IAmb	22 36 40.0	
	comp=Z,15nm,1.1s						
AS31	Alice Springs	25.59	166	P	P	22 36 54.0	+0.2
AS31				IAmb	IAmb	22 36 55.8	
	comp=Z,5.2nm,0.3s						
ASAR	Alice Springs	25.59	166	P	P	22 36 53.6	-0.2
	comp=Z,5.3nm,0.6s,baz=352,slow=7.4,SNR=50						
ASAR				PcP	PcP	22 40 21.6	-0.1
	comp=Z,0.5nm,0.3s,baz=5.2,slow=2.0,SNR=1.4						
ASAR				ScP	ScP	22 43 48.0	-1.5
	comp=Z,1.2nm,1.0s,baz=356,slow=3.7,SNR=4.8						
	comp=Z,5.3nm,0.6s						
SRIT	Nakonsritamara	28.61	286	P	P	22 37 21.0	+0.1
SRIT				IAmb	IAmb	22 37 29.0	
	comp=Z,24nm,1.1s						
NJ2	Nanjing	31.66	346	*e*P	P	22 37 49.6	+2.1
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PHRA	Phrae	31.67	304	P	P	22 37 47.3	-0.6
FORT	Forrest	31.88	179	P	P	22 37 49.2	-0.3
GYA	Guiyang	32.01	323	⇑P	P	22 37 53.1	+2.2
GYA				pmax	pmax		
	comp=Z,27nm,0.6s						
MORW	Morawa	32.07	199	P	P	22 37 50.6	-0.7
MORW				IAmb	IAmb	22 38 00.1	
	comp=Z,13nm,1.3s						
CMAR	Chiang Mai Arr	32.72	303	P	P	22 37 56.2	-0.8
	comp=Z,1.2nm,0.3s,baz=130,slow=8.3,SNR=6.2						
	comp=Z,1.2nm,0.3s						
CHTO	Chiang Mai	32.89	304	P	P	22 37 57.8	-0.8
CHTO				IAmb	IAmb	22 37 59.2	
	comp=Z,6.3nm,1.0s						
BBOO	Buckleboo	34.88	167	P	P	22 38 15.0	-0.5
EIDS	Eidsvold	35.03	141	P	P	22 38 16.0	-0.9
PZH	PanZhiHua	35.17	318	P	P	22 38 18.4	+0.1
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,160nm,7.3s						
NWAO	Narrogin (SRO)	35.35	195	P	P	22 38 19.6	0.0
NWAO				IAmb	IAmb	22 38 46.7	
	comp=Z,16nm,1.4s						
STKA	Stephens Creek	35.62	159	P	P	22 38 21.8	-0.1
STKA	Stephens Creek	35.62	159	P	P	22 38 21.8	-0.1
	comp=Z,8.0nm,0.4s,baz=333,slow=8.7,SNR=32						
	comp=Z,8.0nm,0.4s						
ARMA	Armidale	39.07	146	P	P	22 38 51.7	+0.5
SHL	Shillong	41.88	308	P	P	22 39 13.7	-0.8
SHL				IAmb	IAmb	22 39 14.5	
	comp=Z,7.0nm,0.5s						
HHC	Hu-ho-hao-te	41.92	342	*e*P	P	22 39 16.3	+1.8
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,85nm,6.2s						
TOO	Toolangi	42.13	158	P	P	22 39 16.8	+0.7
TOO				IAmb	IAmb	22 39 46.2	
	comp=Z,28nm,1.4s						
USRK	Ussuriysk Ar.	42.94	5	P	P	22 39 17.1	-5.3
	comp=Z,0.5nm,0.6s,baz=165,slow=9.4,SNR=2.2						
	comp=Z,0.5nm,0.6s						
SONM	Songino Array	49.82	342	P	P	22 40 13.7	-2.7
	comp=Z,0.4nm,0.5s,baz=174,slow=4.1,SNR=1.5						
	comp=Z,0.4nm,0.5s						
LBZ	Lake Benmore	59.30	145	P	P	22 41 24.1	-0.6
MK31	Makanchi Array	59.94	326	P	P	22 41 27.9	-1.2
MKAR	Makanchi Array	59.94	326	P	P	22 41 28.1	-1.1
MKAR	Makanchi Array	59.94	326	P	P	22 41 28.4	-0.8
	comp=Z,1.6nm,0.4s,baz=112,slow=7.6,SNR=32						
	comp=Z,1.6nm,0.4s						
MAKZ	Makanchi	60.12	326	P	P	22 41 29.4	-1.0
KSH	Kashi	60.25	316	P	P	22 41 32.2	+0.7
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BKZ	Black Stump Fm	60.33	137	P	P	22 41 31.7	-0.3
ZALV	Zalesovo Beam	63.06	333	P	P	22 41 46.9	-3.0
	comp=Z,0.3nm,0.3s,baz=90,slow=2.9,SNR=2.0						
	comp=Z,0.3nm,0.3s						
KBL	Kabul	63.54	308	P	P	22 41 52.6	-1.1
KBL				IAmb	IAmb	22 41 53.8	
	comp=Z,6.4nm,0.9s						
GAR	Garm	64.07	313	P	P	22 41 55.5	-1.5
GAR				IAmb	IAmb	22 41 58.7	
	comp=Z,8.2nm,0.7s						
BTK	Batken	64.10	315	P	P	22 41 56.5	-0.6
KURBB	Kurchatov Arra	64.15	328	P	P	22 41 55.7	-1.4
	comp=Z,1.9nm,0.6s,baz=128,slow=6.2,SNR=16						
	comp=Z,1.9nm,0.6s						
KURK	Kurchatov	64.16	328	P	P	22 41 56.1	-1.1
SIMJ	Simiganj	64.91	313	P	P	22 42 01.8	-0.7
SIMJ				IAmb	IAmb	22 42 02.7	
	comp=Z,6.0nm,1.2s						
CASY	Casey	68.48	187	P	P	22 42 24.4	0.0
CASY				IAmb	IAmb	22 43 03.7	
	comp=Z,11nm,1.4s						
BVAR	Borovoye Array	69.73	327	P	P	22 42 31.0	-1.4
	comp=Z,1.1nm,0.6s,baz=122,slow=7.2,SNR=9.3						
	comp=Z,1.1nm,0.6s						
BRVK	Borovoye	69.80	327	P	P	22 42 31.1	-1.8
ABKAR	Akbulak array	74.46	321	P	P	22 42 59.0	-1.6
VNDA	Vanda	80.92	173	P	P	22 43 35.5	-0.4
VNDA	Vanda	80.92	173	P	P	22 43 35.1	-0.8
	comp=Z,0.9nm,0.7s,baz=324,slow=7.1,SNR=6.6						

comp=Z,0.9nm,0.7s
M16K Timber Creek 81.00 28 P **P 22 43 36.4 -0.3**
M16K IAmb IAmb 22 43 59.3
comp=Z,26nm,1.4s
MAW Mawson 81.70 200 P **P 22 43 40.2 +0.1**
comp=Z,0.3nm,0.4s,baz=44,slow=14,SNR=1.3
comp=Z,0.3nm,0.4s
C19K Lookout Ridge 82.80 20 P **P 22 43 47.3 +1.4**
C19K IAmb IAmb 22 44 27.4
comp=Z,21nm,1.4s
G19K Purcell Mounta 83.00 23 P **P 22 43 46.5 -0.5**
G19K IAmb IAmb 22 43 47.9
comp=Z,8.9nm,1.4s
H19K Roundabout Mou 83.12 24 P **P 22 43 47.4 -0.2**
H19K IAmb IAmb 22 44 11.8
comp=Z,9.0nm,1.4s
D19K Kuna River 83.16 21 P **P 22 43 47.4 -0.4**
D19K IAmb IAmb 22 44 00.6
comp=Z,18nm,1.3s
IMAR Indian Mountai 84.30 24 P **P 22 43 53.5 -0.1**
ARCES ARCESS Array B 92.97 340 P **P 22 44 32.3 -2.5**
comp=Z,0.9nm,0.8s,baz=85,slow=4.1,SNR=3.9
comp=Z,0.9nm,0.8s

*IDC **09** 22:51:17.5±2.0, 8°.78S×124°.29E, h0km, mb3.4/1, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=192.4km s-min=31.7km az=57.0*
*DJA **09** 22:51:26.6±0.5, 9°.5±3°.×12°.4E±°, h89km±7km, M3.8/10, mb4.1/3, MLv3.6/10*
ISC 09 22:51:26.0±1.1, 9°.2S±0°.1×123°.91E±0°.08, h74km, n10, σ1970/14, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.63**	**146**	P	**Pn**	**22 51 43.2**	**+2.6**
SOEI				S	**Sn**	**22 51 51.3**	**-0.1**
BATI	**Baumata**	**1.00**	**194**	P	**Pn**	**22 51 46.3**	**+1.5**
BATI				S	**Sn**	**22 52 01.3**	**+2.5**
MMRI	**Maumere**	**1.75**	**289**	P	**Pn**	**22 51 56.5**	**+2.0**
MMRI				S	**Sn**	**22 52 17.3**	**+1.2**
EDFI	**Ende, Flores**	**2.24**	**282**	P	**Pn**	**22 52 02.5**	**+1.4**
EDFI				S	**Sn**	**22 52 28.3**	**+0.3**
BASI	**Baing, Sumba**	**3.43**	**253**	P	**Pn**	**22 52 16.1**	**-1.0**
PLAI	**Plampang**	**6.07**	**273**	P	**Pn**	**22 52 53.8**	**+0.6**
	61nm,1.4s,0.2nm						
TWSI	**Taliwang, Sumb**	**6.96**	**273**	P	**Pn**	**22 53 05.6**	**+0.2**
	22nm,1.2s,0.1nm						
WRA	**Warramunga Arr**	**14.66**	**138**	Pn	**Pn**	**22 54 47.0**	**-2.7**
	0.2nm,0.3s,baz=320,slow=13,SNR=7.1						
WRA				Sn	Sn	22 57 19.0	-12
	0.5nm,0.3s,baz=316,slow=24,SNR=10						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.25**	**148**	P	**P**	**22 55 22.2**	**-0.4**
	0.3nm,0.3s,baz=318,slow=12,SNR=18						
ASAR				S	Sn	22 58 22.8	-11
	0.6nm,0.6s,baz=312,slow=22,SNR=5.8						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	**66.96**	**330**	P	**P**	**23 02 10.9**	**+0.1**
	0.2nm,0.4s,baz=127,slow=8.3,SNR=5.0						
	0.2nm,0.4s						

IDC 09 23:14:11.2±6.8, 14°.12S×13°.85W, h0km, mb3.6/4, mbtmp3.6/4, MS3.6/15, Error ellipse: s-maj=158.1km s-min=131.7km az=153.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**5.19**	**351**	T	T	23 20 47.5	
	baz=176,slow=74,SNR=248						
H10S3	**ASCENSION HYDR**	**5.20**	**351**	T	T	23 20 48.0	
	baz=44,slow=74,SNR=161						
H10N1	**ASCENSION HYDR**	**6.27**	**354**	T	T	23 22 09.8	
	baz=179						
H10N3	**ASCENSION HYDR**	**6.27**	**354**	T	T	23 22 11.2	
	baz=179,slow=74						
H10N2	**ASCENSION HYDR**	**6.28**	**354**	T	T	23 22 09.2	
	baz=179,slow=74						
DBIC	**Dimbokro**	**22.50**	**24**	LR	LR	23 26 15.9	
	comp=Z,109nm,18.4s,baz=159,slow=32						
TORD	**Torodi Ar. Bea**	**31.16**	**30**	P	P	23 20 31.9	-0.1
	0.4nm,0.5s,baz=209,slow=7.7,SNR=7.0						
TORD				LR	LR	23 31 43.5	
	comp=Z,150nm,18.4s,baz=155,slow=34						
	0.4nm,0.5s						
SUR	**Sutherland**	**36.44**	**126**	LR	LR	23 31 44.5	
	comp=Z,57nm,21.6s,baz=322,slow=29						
BOSA	**Boshof**	**38.97**	**118**	LR	LR	23 34 59.9	
	comp=Z,82nm,18.6s,baz=353,slow=32						
MDT	**Midelt**	**47.50**	**11**	LR	LR	23 41 14.0	
	comp=Z,96nm,19.4s,baz=189,slow=34						
LVC	**Limon Verde**	**52.70**	**252**	LR	LR	23 44 34.6	
	comp=Z,35nm,18.0s,baz=103,slow=35						
ESDC	**Sonseca Array**	**54.30**	**9**	P	P	23 23 39.3	0.0
	0.2nm,0.6s,baz=190,slow=7.1,SNR=2.4						
ESDC				LR	LR	23 47 54.5	
	comp=Z,46nm,18.6s,baz=174,slow=37						
	0.2nm,0.6s						
ROSC	**El Rosal**	**62.86**	**283**	LR	LR	23 52 41.2	
	comp=Z,50nm,18.0s,baz=135,slow=37						
DAVOX	**Davos/Dischmat**	**64.26**	**18**	LR	LR	23 50 33.0	
	comp=Z,56nm,21.3s,baz=240,slow=34						
VRAC	**Vranov**	**68.64**	**21**	LR	LR	23 53 34.8	
	comp=Z,37nm,18.8s,baz=226,slow=34						
BRTR	**Keskin Array B**	**69.43**	**37**	P	P	23 25 21.7	+0.3
	0.2nm,0.3s,baz=211,slow=5.8,SNR=2.0						
BRTR				LR	LR	23 57 26.7	
	comp=Z,22nm,18.1s,baz=216,slow=37						
	0.2nm,0.3s						
JTS	**Las Juntas de**	**74.56**	**285**	LR	LR	23 57 26.6	
	comp=Z,28nm,21.6s,baz=34,slow=35						
NOA	**NORSAR Array B**	**77.53**	**12**	LR	LR	00 02 25.5	
	comp=Z,27nm,18.3s,baz=65,slow=37						
FINES	**FINESS Array B**	**81.67**	**18**	P	P	23 26 30.8	-0.2
	0.5nm,0.7s,baz=207,slow=4.7,SNR=1.8						
	0.5nm,0.7s						
TKL	**Tuckaleechee C**	**82.50**	**310**	LR	LR	23 57 27.8	
	comp=Z,22nm,18.5s,baz=105,slow=32						
BELG	**Belogornoye**	**84.70**	**33**	LR	LR	00 05 54.1	
	comp=Z,25nm,19.1s,baz=41,slow=37						

KRSC 09 23:25:37.3±1.3, 53°.28N×169°.99E, h20km±41km, Ml4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**3.04**	**311**	*eS*	Sn	23 27 02.9	+2.8
MKZ	**Mys Kozlova**	**5.04**	**288**	*eP*	Pn	23 26 55.3	+3.6
SPN	**Mys Shipunski**	**5.99**	**272**	*eP*	Pn	23 27 09.5	+4.8
SPN				*eS*	Sn	23 28 17.6	+4.9
TUMR	**Tumrok**	**6.10**	**293**	*eP*	Pn	23 27 10.5	+4.2
TUMR				*eS*	Sn	23 28 20.1	+4.5
BZMR	**Bezymyannaya**	**6.12**	**300**	*eP*	Pn	23 27 12.2	+5.5
KMNR	**Kamenistaya**	**6.19**	**297**	*eP*	Pn	23 27 12.8	+5.2
KMNR				*eS*	Sn	23 28 23.1	+5.3
KIRR	**Kirishev**	**6.21**	**299**	*eP*	Pn	23 27 12.6	+4.7
KIRR				*eS*	Sn	23 28 23.1	+4.8
NLC	**Nalytchevo**	**6.39**	**273**	*eS*	Sn	23 28 27.8	+5.2
SRDR	**Sredinnyy**	**6.67**	**301**	*eS*	Sn	23 28 34.9	+5.4
UGLR	**Uglovaya**	**6.70**	**274**	*eP*	Pn	23 27 19.5	+5.0
UGLR				*eS*	Sn	23 28 35.6	+5.3
SMAR	**Somma**	**6.71**	**274**	*eP*	Pn	23 27 20.1	+5.3
SMAR				*eS*	Sn	23 28 36.4	+5.7
KRER	**Koryakskii**	**6.74**	**275**	*eP*	Pn	23 27 20.4	+5.2
KRER				*eS*	Sn	23 28 36.5	+5.2
AVH	**Avacha**	**6.75**	**274**	*eP*	Pn	23 27 20.6	+5.4
AVH				*eS*	Sn	23 28 36.4	+5.0
KRX	**Arik**	**6.79**	**275**	*eP*	Pn	23 27 20.8	+5.0
KRX				*eS*	Sn	23 28 37.9	+5.2
KOK	**Koryaka**	**6.81**	**275**	*eP*	Pn	23 27 21.1	+5.1
MTVR	**Mutnovka**	**7.19**	**268**	*eP*	Pn	23 27 26.6	+5.3
MTVR				*eS*	Sn	23 28 47.0	+4.7
GRL	**Gorelyy**	**7.24**	**269**	*eP*	Pn	23 27 27.7	+5.7
GRL				*eS*	Sn	23 28 49.8	+6.2
ASAK	**Asacha**	**7.38**	**268**	*eP*	Pn	23 27 29.7	+5.9
ASAK				*eS*	Sn	23 28 52.6	+5.7
KDTR	**Khodutka, Kamc**	**7.41**	**263**	*eP*	Pn	23 27 29.1	+5.0
KDTR				*eS*	Sn	23 28 50.6	+3.1

*NEIC **10** 00:00:06.4±1.0, 37°.122N×0°.010×121°.52W±0°.02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.6km az=224.0*

NCEDC 10 00:00:07.0±1.1, 37°.13N±0°.01×121°.53W±0°.02, h7km±5km, ML3.1/47, ML2.8/76(NEIC), Error ellipse: s-maj=1.9km s-min=1.6km az=75.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHS	**Gilroy Hot Spr**	**0.07**	**115**		Pg	00 00 08.6	-0.4
HCAM	**Canada Road**	**0.10**	**161**		Pg	00 00 09.2	-0.3
HLPM	**Lions Peak**	**0.12**	**225**		Pg	00 00 09.5	-0.1
HLPM					Sg	00 00 11.8	+0.4
JLAB	**Laurel Hill**	**0.17**	**280**		Pg	00 00 10.5	0.0
HFEM	**San Felipe**	**0.17**	**145**		Pg	00 00 10.3	-0.3
CCOB	**Coe Ranch Numb**	**0.18**	**319**		Pg	00 00 10.8	+0.1
CCOB					Sg	00 00 15.3	+2.1
HPCM	**Pacheco Lake**	**0.21**	**108**		Pg	00 00 11.0	-0.3
HCBM	**Chamberlain**	**0.22**	**209**		Pg	00 00 11.5	0.0
ARN	**Arnold Ranch**	**0.22**	**359**		Pg	00 00 11.3	-0.2
ARN					Sg	00 00 15.2	+0.6
PACP	**Pacheco Peak**	**0.22**	**121**		Pg	00 00 11.2	-0.3
PACP					Sg	00 00 15.5	+0.9
MHC	**Mount Hamilton**	**0.23**	**337**		Pg	00 00 11.6	-0.2
MHC					Sg	00 00 15.8	+0.8
ANZ	**Anzar Road**	**0.25**	**192**		Pg	00 00 12.1	+0.2
SLD	**San Luis Dam**	**0.25**	**102**		Pg	00 00 11.6	-0.4
SLD					Sg	00 00 15.6	+0.3
HCOM	**Corn Cob Canyo**	**0.28**	**212**		Pg	00 00 12.7	+0.1
JTGM	**Trout Gulch Ro**	**0.30**	**251**		Pg	00 00 12.2	-0.7
HTUM	**Tustin Road**	**0.31**	**197**		Pg	00 00 13.1	-0.1
JELB	**Ellicott, Sant**	**0.31**	**231**		Pg	00 00 13.4	+0.3
JELB					Sg	00 00 18.5	+1.2
HSFM	**Saint Francis**	**0.31**	**176**		Pg	00 00 13.7	+0.5
SCCB	**Santa Clara Co**	**0.31**	**301**		Pg	00 00 13.2	0.0
CMMM	**Mount Mocho**	**0.33**	**4**		Pg	00 00 13.4	-0.2
HERM	**Elkhorn Road**	**0.36**	**204**		Pg	00 00 14.2	+0.1
CMLM	**Mount Lewis**	**0.36**	**344**		Pg	00 00 14.1	-0.1
SAO	**San Andreas Ge**	**0.37**	**170**	Pg	Pg	00 00 14.3	+0.1
SAO	**San Andreas Ge**	**0.37**	**170**		Sb	00 00 20.4	-1.3
JJOM	**Saint Joseph's**	**0.37**	**283**		Pg	00 00 13.9	-0.4
SCKWR	**San Luis Creek**	**0.37**	**81**		Pg	00 00 14.4	+0.2
FRP	**Fremont Peak**	**0.37**	**175**		Pg	00 00 14.4	+0.1
BSLM	**Silva Ranch**	**0.38**	**158**		Pg	00 00 14.5	+0.1
CALM	**Calaveras Res.**	**0.39**	**326**		Pg	00 00 14.4	-0.3
MTOS	**Mt Oso, Westle**	**0.41**	**23**		Pg	00 00 14.8	-0.2
BSRM	**Salinas Radio**	**0.46**	**179**		Pg	00 00 15.7	-0.2
JSJM	**St Joseph**	**0.50**	**295**		Pg	00 00 16.7	0.0
C050	**Festivo Court**	**0.51**	**321**		Pg	00 00 17.1	+0.2
CSTL	**Corral Hollow**	**0.51**	**3**		Pg	00 00 17.2	+0.2
CSTL	**Corral Hollow**	**0.51**	**3**		Pg	00 00 17.3	+0.3
BJOM	**Mount Johnson**	**0.53**	**161**		Pg	00 00 17.2	+0.1
WENL	**Wente Vineyard**	**0.53**	**340**		Pg	00 00 17.3	0.0
SCZ	**Santa Cruz**	**0.54**	**169**		Pg	00 00 16.9	-0.5
JBMM	**Black Mountain**	**0.54**	**291**		Pg	00 00 16.8	-0.6
BPCNC	**Pine Canyon**	**0.56**	**188**		Pg	00 00 17.6	-0.2
CVLM	**Vallecito**	**0.56**	**334**		Pg	00 00 17.9	0.0
CSAM	**Sandia**	**0.56**	**346**		Pg	00 00 18.1	+0.2
BEMM	**Emmet**	**0.58**	**143**		Pg	00 00 17.8	-0.4
JFP	**Foothills Park**	**0.58**	**294**		Pg	00 00 17.7	-0.5
CBZL	**Buffer Zone**	**0.58**	**345**		Pb	00 00 19.0	-0.6
BJCM	**Johnson Can.**	**0.59**	**169**		Pg	00 00 17.9	-0.5
JSFB	**Stanford Teles**	**0.59**	**298**		Pg	00 00 18.1	-0.3
CNIC	**Niles Canyon**	**0.59**	**324**		Pg	00 00 18.5	0.0
HMOM	**Monterey**	**0.61**	**211**		Pg	00 00 18.5	-0.4
BVL	**Bear Valley**	**0.61**	**154**		Pg	00 00 18.7	-0.1
BAVM	**Antelope Valle**	**0.62**	**140**		Pg	00 00 18.5	-0.6
CYD1	**Coyote D'meter**	**0.63**	**314**		Pg	00 00 18.6	-0.6
JRSC	**Jasper Ridge**	**0.63**	**296**		Pg	00 00 18.5	-0.7
JPSM		**0.66**	**277**		Pg	00 00 19.2	-0.6
BBGB	**Big Mountain B**	**0.67**	**144**		Pg	00 00 19.7	-0.3
BGH	**Bear Gulch**	**0.68**	**289**		Pg	00 00 20.0	-0.3
BPIM	**Pinnacles**	**0.70**	**155**		Pg	00 00 19.9	-0.6
CBSNC	**Byron Hot Spri**	**0.70**	**353**		Pg	00 00 20.9	+0.4
C055	**Cottonwood Ave**	**0.71**	**319**		Pg	00 00 20.3	-0.4
CMOB	**Morgan Territo**	**0.72**	**342**		Pb	00 00 22.2	+0.3
BPRM	**Ponciano Ridge**	**0.73**	**193**		Pg	00 00 20.6	-0.6
HAST	**Hastings Reser**	**0.73**	**182**		Pg	00 00 20.7	-0.7
BSGM	**Shirttail Gulc**	**0.74**	**163**		Pg	00 00 20.6	-0.7
BSMM	**Soledad Missio**	**0.74**	**174**		Pg	00 00 20.9	-0.5
CLCB	**Lake Chabot**	**0.75**	**325**		Pg	00 00 21.6	+0.2
CSLM	**San Leandro Hi**	**0.76**	**322**		Pg	00 00 21.4	-0.3
JCHM	**Cahill Ridge**	**0.78**	**300**		Pg	00 00 21.6	-0.5
JCPM	**Coyote Point**	**0.78**	**306**		Pg	00 00 21.4	-0.8
LRV	**Little Rabbit**	**0.81**	**150**		Pg	00 00 22.6	0.0
BGC	**Bolinger Road**	**0.81**	**328**		Pg	00 00 22.4	-0.2
CRPB	**Russellman Par**	**0.84**	**339**		Pg	00 00 23.0	-0.2
SAC	**San Andreas**	**0.84**	**303**		Pg	00 00 22.5	-0.8
SMCB	**Saint Mary's C**	**0.85**	**327**		Pg	00 00 23.0	-0.4
JSBM	**San Bruno Moun**	**0.89**	**309**		Pg	00 00 22.7	-1.4
JMGM	**Milagra Ridge**	**0.91**	**304**		Pg	00 00 23.3	-1.3
MYLM	**Yosemite Lake**	**0.92**	**73**		Pg	00 00 23.7	-1.1
BKS	**Berkeley--Byer**	**0.94**	**323**		Pg	00 00 24.2	-0.8
CVPM	**Vollmer Peak**	**0.94**	**324**		Pg	00 00 24.8	-0.3
BL67	**Building 67, L**	**0.95**	**322**		Pg	00 00 24.4	-0.9
VAK	**Adit at Lawren**	**0.95**	**323**		Pg	00 00 24.6	-0.6
BRK	**Berkeley--Havi**	**0.95**	**322**		Pg	00 00 24.7	-0.6
BAPM	**Anderson Peak**	**0.95**	**186**		Pg	00 00 24.6	-0.8
CYBM	**Yerba Buena Is**	**0.95**	**316**		Pg	00 00 24.4	-1.0
JPRM	**Presidio of Sa**	**1.01**	**312**		Pg	00 00 25.3	-1.1
CPIM	**Pinole Ridge**	**1.02**	**328**		Pg	00 00 25.7	-1.0
HERB	**Hercules**	**1.06**	**327**		Pg	00 00 26.2	-1.2
PCCM	**Crazy Canyon**	**1.07**	**164**		Pg	00 00 26.4	-1.2
PMPB	**Monarch Peak**	**1.08**	**147**		Pg	00 00 26.9	-0.8
PMPB				IAML		00 00 47.7	
	comp=E,374nm,0.7s						
CPMM	**Point Molate**	**1.08**	**320**		Pg	00 00 26.2	-1.6
MCUB	**Copperopolis B**	**1.11**	**40**		Pg	00 00 27.1	-1.4
HULI	**Fort Hunter Li**	**1.13**	**168**		Pg	00 00 26.9	-1.7
PJUM	**Juniper Ridge**	**1.17**	**140**		Pg	00 00 27.7	-1.8
PPTM	**Peach Tree Val**	**1.20**	**147**		Pg	00 00 28.3	-1.8
PSAM	**San Ardo**	**1.21**	**155**		Pb	00 00 28.4	-1.9
PAPM	**Alder Peak**	**1.22**	**174**		Pg	00 00 28.6	-1.8
PDRM	**Domengine Ranc**	**1.22**	**130**		Pb	00 00 28.7	-1.7
PWMM	**Westland Maint**	**1.26**	**123**		Pn	00 00 30.6	-0.4
CMB	**Columbia Colle**	**1.28**	**45**		Pn	00 00 29.6	-1.8
CMB				IAML		00 00 49.4	
	comp=N,113nm,0.7s						
SNT	**Sears Point**	**1.29**	**325**		Pn	00 00 29.4	-2.0
PSMM	**Smith Mountain**	**1.29**	**144**		Pn	00 00 30.3	-1.2
FARB	**Farallon Islan**	**1.31**	**296**		Pn	00 00 28.5	-3.2
PHSB	**Hesperia Broad**	**1.35**	**164**		Pn	00 00 30.3	-2.0
NOLM	**Olema**	**1.36**	**313**		Pn	00 00 30.0	-2.4
PHPM	**Hope Ranch**	**1.36**	**147**		Pn	00 00 30.6	-1.9
CVS	**Carmenet Viney**	**1.43**	**329**		Pn	00 00 31.1	-2.2
NAPC	**Atlas Peak**	**1.43**	**337**		Pn	00 00 31.4	-2.0
PANM	**San Antonio Re**	**1.43**	**159**		Pn	00 00 31.5	-2.0
PVCM	**Vineyard Canyo**	**1.44**	**146**		Pn	00 00 31.6	-2.0
PSTM	**Stockdale Moun**	**1.45**	**145**		Pn	00 00 31.7	-2.0
MCCM	**Marconi Confer**	**1.48**	**314**		Pn	00 00 32.4	-1.7
MCCM				IAML		00 00 59.1	
	comp=E,150nm,0.7s						
MCCM				IAML		00 01 02.1	
	comp=N,151nm,1.0s						
PWKM	**Work Ranch**	**1.54**	**148**		Pn	00 00 33.1	-1.9
RAMR	**Ramage Ranch**	**1.58**	**160**		Pn	00 00 33.5	-1.9
TCAS	**Cass Winery, P**	**1.70**	**152**		Pn	00 00 35.0	-2.1
NHSM	**Mount Saint He**	**1.75**	**331**		Pn	00 00 35.8	-2.1
NMTM	**Middletown**	**1.83**	**337**		Pn	00 00 36.4	-2.5
TSCN	**Private Proper**	**1.84**	**149**		Pn	00 00 37.3	-1.8
PTAM	**Tassajara Cree**	**1.85**	**159**		Pn	00 00 37.2	-2.0
AFDM	**Forest Hills D**	**1.87**	**13**		Pn	00 00 38.6	-0.9
GSGM	**Seigler Mounta**	**1.97**	**332**		Pn	00 00 39.6	-1.3
GHCM	**House Creek**	**1.98**	**319**		Pn	00 00 38.5	-2.6
MDPB	**Devils Postpil**	**2.01**	**75**		Pn	00 00 41.7	+0.1
MDPB				IAML		00 01 08.4	
	comp=N,98nm,0.7s						
MRDM	**Red Cones**	**2.02**	**76**		Pn	00 00 42.1	+0.2
MINS	**Minaret Summit**	**2.03**	**74**		Pn	00 00 42.5	+0.5
MMPM	**Mammoth Pass**	**2.05**	**76**		Pn	00 00 42.7	+0.5
MDCM	**Deadman Creek**	**2.06**	**73**		Pn	00 00 42.6	+0.2
OMMB	**Old Mammoth Mi**	**2.07**	**76**		Pn	00 00 42.6	+0.1
OMMB				IAML		00 01 09.6	
	comp=N,79nm,0.5s						
OMMB				IAML		00 01 10.5	
	comp=E,67nm,0.5s						
MDYM	**Dry Creek**	**2.07**	**74**		Pn	00 00 43.4	+0.9
SUTB	**Sutter Butte**	**2.11**	**355**		Pn	00 00 40.9	-1.9
MEMM	**East Mammoth H**	**2.13**	**75**		Pn	00 00 40.3	-3.0
WAKR	**Walker**	**2.15**	**50**	Pn	Pn	00 00 44.1	+0.6
WAKR				IAML		00 01 14.0	
	comp=N,101nm,0.6s						
MCBM	**Casa Benchmark**	**2.16**	**75**		Pb	00 00 45.2	-1.4
EMB	**Emerald Bay**	**2.16**	**31**		Pn	00 00 43.8	+0.1
MCVM	**Convict Lake**	**2.20**	**77**		Pn	00 00 45.1	+0.9
RUBR	**Rubicon Trail**	**2.21**	**29**		Pn	00 00 45.6	+1.3
HOPS	**Hopland Field**	**2.23**	**327**		Pn	00 00 42.0	-2.3
GHLM	**Highland Sprin**	**2.25**	**329**		Pn	00 00 42.3	-2.4
MTUM	**Tungsten Hills**	**2.38**	**84**		Pn	00 00 47.7	+1.2
DONR	**Donner Summit**	**2.42**	**23**		Pn	00 00 47.8	+0.5
ORV	**Oroville**	**2.43**	**0**		Pn	00 00 47.2	+0.1
BHPR	**Bishop**	**2.43**	**85**		Pn	00 00 48.6	+1.2
MPK	**Martis Peak**	**2.47**	**28**	Pn	Pn	00 00 49.1	+1.2
MPK				IAML		00 01 33.2	
	comp=E,81nm,0.9s						
PNTR	**Pine Nut**	**2.48**	**37**	Pn	Pn	00 00 49.6	+1.6
OGOM	**Van Goodin Ran**	**2.52**	**359**		Pn	00 00 47.6	-0.8
LHV	**Little Huntoon**	**2.65**	**64**		Pn	00 00 50.0	-0.1
GTC	**Three Chop Rid**	**2.78**	**326**		Pn	00 00 49.8	-2.1
RYN	**Ryan**	**2.81**	**57**		Pn	00 00 53.2	+0.7
RYN				IAML		00 01 37.6	
	comp=E,58nm,0.6s						
RYN				IAML		00 01 39.2	
	comp=N,35nm,1.0s						
DSP	**Deep Springs**	**2.85**	**84**	Pn	Pn	00 00 54.6	+1.7
DSP				IAML		00 01 46.1	
	comp=E,22nm,0.7s						
ISA	**Isabella, Lake**	**2.86**	**120**	Pn	Pn	00 00 53.4	+0.3
ISA				IAML		00 01 47.7	
	comp=E,25nm,0.7s						
NVAR	**Mina Array Bea**	**2.87**	**62**		Pn	00 00 52.9	-0.5
NV11	**Mina Array Sit**	**2.97**	**63**		Pg	00 01 03.4	-0.6
NV11				IAML		00 01 45.3	
	comp=N,27nm,1.4s						
KCPM	**Cahto Peak**	**3.02**	**328**	Pn	Pn	00 00 55.6	+0.1
KCPM				IAML		00 01 56.1	
	comp=N,27nm,2.4s						
KCPM				IAML		00 02 38.5	
	comp=E,30nm,2.5s						
PAHR	**Pah Rah Range**	**3.08**	**32**		Pb	00 01 01.6	-0.7
PAHR				IAML		00 01 50.2	
	comp=N,19nm,0.9s						
KVN	**Kaiserville**	**3.32**	**54**		Pn	00 00 59.8	+0.2
KVN				IAML		00 01 53.2	
	comp=N,20nm,0.8s						
KVN				IAML		00 01 53.6	
	comp=E,33nm,0.7s						
GRAC	**Grapevine Rang**	**3.33**	**91**		Pn	00 01 02.9	+3.3
GRAC				IAML		00 01 57.1	
	comp=N,36nm,0.6s						
MZP	**Montezuma Peak**	**3.35**	**79**		Pn	00 00 59.4	-0.6
GMN	**Gold Mountain**	**3.41**	**86**		Pn	00 01 00.2	-0.6
GMN				IAML		00 02 00.4	
	comp=N,18nm,0.6s						
CCAC	**Calif City Air**	**3.46**	**124**		Pn	00 00 59.3	-2.1
CCAC				IAML		00 02 09.2	
	comp=N,27nm,1.1s						
CCAC				IAML		00 02 12.3	
	comp=E,31nm,1.1s						
HATC	**Hat Creek Radi**	**3.69**	**1**	Pn	Pn	00 01 05.0	+0.5
HATC				IAML		00 02 26.4	
	comp=E,26nm,1.8s						
HATC				IAML		00 02 36.0	
	comp=N,26nm,2.9s						
WCT	**Wildcat Mounta**	**3.94**	**93**	Pn	Pn	00 01 08.6	+0.6
WCT				IAML		00 02 13.3	
	comp=N,9.3nm,1.2s						
WCT				IAML		00 02 15.2	
	comp=E,13nm,0.7s						
GWY	**Greenwater Val**	**4.02**	**102**	IAML		00 02 29.9	
	comp=E,11nm,0.9s						
GWY				IAML		00 02 30.1	
	comp=N,8.9nm,1.5s						
GSC	**Goldstone, Bar**	**4.23**	**114**	IAML		00 02 29.7	
	comp=E,12nm,0.6s						
GSC				IAML		00 02 31.3	
	comp=N,8.7nm,0.7s						

*IDC **10** 00:06:08.2±5.3, 37°.79N×74°.14E, h103km±48km, mb3.4/7, mbtmp3.8/13, Error ellipse: s-maj=41.4km s-min=20.6km az=30.0*
*NNC **10** 00:06:20.3±4.2, 38°.59N×74°.00E, h230km±54km, mb2.8, mpv4.0, Error ellipse: s-maj=50.7km s-min=24.2km az=9.0*
*SOME **10** 00:06:22.2, 39°.47N×74°.63E, h0km*
ISC 10 00:06:14.6±1.0, 38°.16N±0°.08×74°.00E±0°.08, h152km, n30, σ2952/42, mb3.5/7, 4C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**4.08**	**5**	P	**Pn**	**00 07 19.0**	**+2.7**
	SNR=31		

ESDC	**Sonseca Array**	**58.80**	**298**	P	**P**	**00 15 57.5**	**+0.6**
	0.3nm,0.6s,baz=58,slow=5.8,SNR=5.2						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**68.14**	**270**	P	**P**	**00 16 58.0**	**-0.4**
	1.0nm,0.5s,baz=44,slow=5.9,SNR=12						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**80.88**	**124**	P	**P**	**00 18 09.8**	**-2.0**
	1.1nm,0.7s,baz=321,slow=5.3,SNR=6.2						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**83.29**	**127**	P	**P**	**00 18 21.5**	**-2.8**
	0.4nm,0.8s,baz=266,slow=39,SNR=2.4						
	0.4nm,0.8s						

IDC 10 00:06:45.2±2.5, 39°.21N×74°.35E, h0km, mb3.6/7, mbtmp3.6/8, ML2.9/1, Error ellipse: s-maj=54.6km s-min=30.0km az=164.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**16.38**	**22**	Pn	Pn	00 10 35.7	-0.7
	0.2nm,0.3s,baz=207,slow=12,SNR=1.8						
	1.0nm,0.5s						
SONM	**Songino Array**	**24.64**	**59**	P	P	00 12 07.2	-0.3
	0.7nm,0.8s,baz=246,slow=11,SNR=2.7						
	0.7nm,0.8s						
BRTR	**Keskin Array B**	**31.24**	**284**	P	P	00 13 05.5	-1.2
	0.4nm,0.6s,baz=100,slow=8.5,SNR=2.2						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**36.81**	**323**	P	P	00 13 55.2	+0.7
	0.7nm,0.7s,baz=99,slow=8.9,SNR=3.4						
	0.7nm,0.7s						
ARCES	**ARCESS Array B**	**39.72**	**336**	P	P	00 14 20.5	+1.5
	1.8nm,1.0s,baz=110,slow=11,SNR=2.1						
	1.8nm,1.0s						
HFS	**Hagfors**	**42.64**	**320**	P	P	00 14 41.7	-1.3
	1.4nm,0.7s,baz=98,slow=8.9,SNR=5.0						
	1.4nm,0.7s						
NOA	**NORSAR Array B**	**43.87**	**321**	P	P	00 14 52.4	-0.7
	0.6nm,0.8s,baz=92,slow=7.9,SNR=3.5						
	0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**68.41**	**270**	P	P	00 17 50.0	+0.9
	0.3nm,0.5s,baz=41,slow=5.1,SNR=1.9						
	0.3nm,0.5s						

NAM 10 00:09:22.6±3.0, 19°.83S×14°.53E, h23km±16km, ML0.1, 7C, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ST9N	**ST9**	**0.03**	**20**	⇑*i*P	Pb	00 09 27.1	+0.3
ST9N				IAML		00 09 28.1	
	comp=Z,20nm,0.3s						
ST9N	**ST9**	**0.03**	**20**	*i* P	Pb	00 09 27.9	+1.1
ST9N				*i* S	Sb	00 09 28.0	-1.6
ST3N	**ST3**	**0.09**	**338**	⇑*i*P	Pb	00 09 28.2	+1.1
ST3N	**ST3**	**0.09**	**338**	*i* P	Pb	00 09 28.9	+1.8
ST3N				*i* S	Sb	00 09 30.4	+0.3
ST1N	**ST1**	**0.12**	**39**	⇑*i*P	Pb	00 09 27.9	+0.5
ST1N				*i* S	Sb	00 09 29.3	-1.2
ST1N				IAML		00 09 30.3	
	comp=Z,5.5nm,0.3s						
ST1N	**ST1**	**0.12**	**39**	*i* P	Pn	00 09 28.5	-0.7
ST1N				*i* S	Sb	00 09 29.8	-0.7
ST2N	**ST2**	**0.12**	**150**	⇑*i*P	Pb	00 09 26.0	-1.3
ST2N				*i* S	Sb	00 09 30.7	+0.2
ST2N				IAML		00 09 31.5	
	comp=Z,1.3nm,0.4s						
ST2N	**ST2**	**0.12**	**150**	*i* P	Pn	00 09 29.5	+0.3
ST2N				*i* S	Sb	00 09 31.2	+0.7
ST6N	**ST6**	**0.13**	**281**	⇑*i*P	Pn	00 09 29.2	-0.1
ST6N				IAML		00 09 33.1	
	comp=Z,2.1nm,0.3s						
ST6N	**ST6**	**0.13**	**281**	*i* P	Pn	00 09 29.8	+0.5
ST6N				*i* S	Sb	00 09 30.9	+0.1
ST8N	**ST8**	**0.25**	**304**	⇑*i*P	Pn	00 09 31.4	+0.5
ST8N				IAML		00 09 36.1	
	comp=Z,0.6nm,0.3s						
ST8N	**ST8**	**0.25**	**304**	*i* P	Pn	00 09 31.8	+0.9
ST8N				*i* S	Sb	00 09 35.6	+2.5
ST4N	**ST4**	**0.42**	**99**	⇑*i*P	Pb	00 09 32.0	+0.5
ST4N				IAML		00 09 43.4	
	comp=Z,0.7nm,0.3s						

*IDC **10** 00:17:50.5±1.2, 42°.98N×80°.51E, h0km, mb3.6/3, mbtmp3.5/9, ML2.8/6, MS2.7/1, Error ellipse: s-maj=16.2km s-min=11.9km az=134.0*
*KRNET **10** 00:17:52.8±0.1, 43°.06N×80°.61E, mb3.5*
*SOME **10** 00:17:54.5, 42°.98N×80°.50E, h10km, MS3.1*
*NNC **10** 00:17:56.2±1.4, 43°.10N×80°.51E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=10.0km s-min=6.3km az=150.0*
ISC 10 00:17:54.2±1.2, 43°.15N±0°.03×80°.71E±0°.03, h13km±7km, n86, σ1s87/142, mb3.7/4, 32C-9D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**0.39**	**319**	*e*P	**Pb**	**00 18 04.4**	**+1.3**
	245nm,0.1s						
KTMS				*e*S	**Sb**	**00 18 11.5**	**+2.4**
	1μm,0.1s						
KTMS	**Ketmen**	**0.39**	**319**	P	**Pb**	**00 18 04.4**	**+1.3**
	245nm,0.1s						
KTMS				S	**Sb**	**00 18 11.5**	**+2.4**
	1μm,0.2s						
PDGK	**Podgornoye**	**0.91**	**282**	P	**Pg**	**00 18 10.7**	**-1.1**
	89nm,0.1s						
PDGK				S	**Sg**	**00 18 22.2**	**-1.3**
	196nm,0.2s						
PDGK	**Podgornoye**	**0.91**	**282**	⇑P	**Pg**	**00 18 10.6**	**-1.1**
	98nm,0.5s						
PDGK				⇓S	**Sg**	**00 18 22.1**	**-1.4**
	430nm,0.5s						
SHLS	**Shalkode**	**0.91**	**271**	*e*P	Pg	00 18 05.2	-6.5
	1000nm,0.2s						
SHLS				*e*S	Sg	00 18 13.0	-11
	5μm,0.1s						
SHLS	**Shalkode**	**0.91**	**271**	P	Pg	00 18 05.3	-6.5
	1000nm,0.2s						
SHLS				S	Sg	00 18 12.9	-11
	5μm,0.2s						
UZB	**Uzynbulak**	**1.23**	**270**	*e*P	**Pn**	**00 18 15.5**	**-1.8**
	195nm,0.1s						
UZB				*e*S	**Sg**	**00 18 30.6**	**-3.4**
	885nm,0.2s						
UZB	**Uzynbulak**	**1.23**	**270**	P	**Pn**	**00 18 15.6**	**-1.8**
	195nm,0.1s						
UZB				S	**Sg**	**00 18 30.9**	**-3.0**
	885nm,0.2s						
DJR	**Jarkent**	**1.35**	**331**	*e*P	**Pg**	**00 18 21.9**	**+1.7**
	181nm,0.1s						
DJR				*e*S	**Sg**	**00 18 41.5**	**+3.7**
	966nm,0.2s						
DJR	**Jarkent**	**1.35**	**331**	P	**Pg**	**00 18 21.2**	**+1.1**
	181nm,0.1s						
DJR				S	**Sg**	**00 18 41.5**	**+3.7**
	456nm,0.3s						
KPKS	**Kokpek**	**1.51**	**283**	*e*P	**Pn**	**00 18 21.4**	**+0.3**
	269nm,0.1s						
KPKS				*e*S	**Sn**	**00 18 40.5**	**-0.1**
	2μm,0.1s						
KPKS	**Kokpek**	**1.51**	**283**	P	**Pn**	**00 18 21.0**	**0.0**
	274nm,0.1s						
KPKS				S	**Sn**	**00 18 40.0**	**-0.6**
	2μm,0.2s						
KNOS	**Konyrlen**	**1.64**	**318**	P	**Pg**	**00 18 26.1**	**+0.5**
	1.1nm,0.5s						
KNOS				S	**Sg**	**00 18 48.8**	**+1.9**
	2μm,0.4s						
ZHN	**Zhinishke**	**1.66**	**271**	*e*P	**Pn**	**00 18 24.1**	**+1.0**
	394nm,0.1s						
ZHN				*e*S	**Sn**	**00 18 45.3**	**+0.8**
	2μm,0.1s						
ZHN	**Zhinishke**	**1.66**	**271**	P	**Pn**	**00 18 23.2**	**0.0**
	377nm,0.2s						
ZHN				S	**Sn**	**00 18 43.7**	**-0.7**
	2μm,0.2s						
SATY	**Saty**	**1.69**	**268**	*e*P	**Pn**	**00 18 24.3**	**+0.8**
	242nm,0.1s						
SATY				*e*S	**Sn**	**00 18 45.7**	**+0.6**
	2μm,0.1s						
SATY	**Saty**	**1.69**	**268**	P	**Pn**	**00 18 24.2**	**+0.7**
	242nm,0.1s						
SATY				S	**Sn**	**00 18 45.4**	**+0.4**
	2μm,0.2s						
PRZ	**Przheval'sk**	**1.82**	**249**	⇑*i*P	**Pn**	**00 18 25.1**	**-0.3**
	baz=52						
PRZ				⇑*i*S	**Sn**	**00 18 48.5**	**0.0**
	baz=52						
BLB	**Baldybastay**	**1.87**	**301**	P	**Pb**	**00 18 28.2**	**-0.2**
	557nm,0.2s						
BLB				S	**Sb**	**00 18 53.5**	**+1.8**
	1μm,0.3s						
KURS	**Kuram**	**1.88**	**281**	*e*P	**Pb**	**00 18 28.5**	**+0.1**
	31nm,0.1s						
KURS				*e*S	**Sb**	**00 18 52.7**	**+0.9**
	2μm,0.2s						
KURS	**Kuram**	**1.88**	**281**	P	**Pn**	**00 18 27.4**	**+1.2**
	70nm,0.5s						
KURS				S	**Sb**	**00 18 52.8**	**+0.9**
	2μm,0.4s						
ANVS	**Anan'yevo**	**2.26**	**262**	⇑*i*P	**Pn**	**00 18 32.4**	**+0.9**
	baz=64						
ANVS				⇑*i*S	**Sn**	**00 19 01.5**	**+2.2**
	baz=64						
ARXS	**Arharly**	**2.34**	**298**	*e*P	**Pb**	**00 18 37.2**	**+0.9**
	59nm,0.2s						
ARXS				*e*S	**Sb**	**00 19 07.4**	**+2.2**
	608nm,0.3s						
ARXS	**Arharly**	**2.34**	**298**	Pg	**Pb**	**00 18 35.8**	**-0.5**
	53nm,0.3s						
ARXS				Lg	Lg	00 19 05.2	
	608nm,0.3s						
TDK	**Taldyqorghan**	**2.48**	**319**	*e*P	**Pb**	**00 18 40.6**	**+1.9**
	163nm,0.2s						
TDK				*e*S	**Sg**	**00 19 13.6**	**-0.3**
	873nm,0.2s						
TDK	**Taldyqorghan**	**2.48**	**319**	Pg	**Pb**	**00 18 39.2**	**+0.6**
	344nm,0.4s						
TDK				Lg	Lg	00 19 11.2	
	871nm,0.3s						
TARG	**Taragay, Kyrgy**	**2.58**	**237**	⇑*i*P	**Pn**	**00 18 36.5**	**+0.5**
	baz=38						
TARG				⇑*i*S	**Sn**	**00 19 08.5**	**+1.1**
	baz=38						
KOTS	**Kotyrbulak**	**2.63**	**273**	*e*P	**Pb**	**00 18 41.1**	**-0.2**
	51nm,0.1s						
KOTS				*e*S	**Sb**	**00 19 14.2**	**+0.7**
	1μm,0.3s						
KOTS	**Kotyrbulak**	**2.63**	**273**	Pg	**Pb**	**00 18 40.5**	**-0.7**
	51nm,0.3s						
KOTS				Lg	Lg	00 19 13.4	
	1μm,0.4s						
MDOK	**Medeo**	**2.68**	**271**	*e*P	**Pb**	**00 18 41.3**	**-0.7**
	23nm,0.1s						
MDOK				*e*S	**Sb**	**00 19 14.8**	**0.0**
	376nm,0.3s						
MDOK	**Medeo**	**2.68**	**271**	⇓Pn	**Pn**	**00 18 38.0**	**+0.9**
	42nm,0.5s						
MDOK				Pg	**Pb**	**00 18 40.6**	**-1.4**
	23nm,0.1s						
MDOK				Lg	Lg	00 19 13.7	
	355nm,0.4s						
MDOK				⇑Sn	**Sb**	**00 19 14.3**	**-0.5**
	320nm,0.6s						
KNDC	**Almaty**	**2.74**	**273**	⇑Pn	**Pb**	**00 18 41.8**	**-1.2**
	125nm,0.6s						
KNDC				⇑Sn	**Sb**	**00 19 16.2**	**-0.3**
	566nm,0.3s						
TNSS	**Tian-Shan**	**2.75**	**269**	*e*P	**Pb**	**00 18 43.6**	**+0.1**
	32nm,0.1s						
TNSS				*e*S	**Sb**	**00 19 18.8**	**+1.4**
	178nm,0.2s						
TNSS	**Tian-Shan**	**2.75**	**269**	Pg	**Pn**	**00 18 41.4**	**+3.0**
	35nm,0.2s						
TNSS				Lg	Lg	00 19 15.0	
	141nm,0.4s						
AAA	**Alma-Ata**	**2.77**	**272**	*e*P	**Pb**	**00 18 43.1**	**-0.5**
	50nm,0.1s						
AAA				*e*S	**Sb**	**00 19 17.8**	**+0.2**
	883nm,0.2s						
AAA	**Alma-Ata**	**2.77**	**272**	Pg	**Pb**	**00 18 42.8**	**-0.9**
	50nm,0.1s						
AAA				Lg	Lg	00 19 17.2	
	883nm,0.3s						
CHKK	**Chushkaly**	**2.79**	**286**	*e*P	**Pb**	**00 18 44.5**	**+0.5**
	18nm,0.1s						
CHKK				*e*S	**Sb**	**00 19 20.1**	**+2.0**
	604nm,0.1s						
CHKK	**Chushkaly**	**2.79**	**286**	Pg	**Pb**	**00 18 43.5**	**-0.5**
	32nm,0.2s						
CHKK				Lg	Lg	00 19 18.5	
	328nm,0.3s						
KDJ	**Kajisay**	**2.79**	**250**	⇑*e*P	**Pn**	**00 18 39.4**	**+0.6**
	baz=51						
KDJ				⇑*i*S	**Sn**	**00 19 13.5**	**+1.0**
	baz=51						
KASK	**Kaskelen**	**2.97**	**273**	⇑Pn	**Pb**	**00 18 47.3**	**+0.3**
KASK				⇓Sn	**Sb**	**00 19 23.0**	**-0.3**
KTBS	**Karatobe**	**2.98**	**282**	*e*P	**Pb**	**00 18 47.0**	**-0.3**
	21nm,0.2s						
KTBS				*e*S	**Sb**	**00 19 24.4**	**+0.8**
	471nm,0.5s						
KTBS	**Karatobe**	**2.98**	**282**	Pg	**Pb**	**00 18 46.6**	**-0.6**
	26nm,0.2s						
KTBS				Lg	Lg	00 19 23.9	
	471nm,0.5s						
IZV	**Izvestkoviy**	**3.00**	**269**	*e*P	**Pb**	**00 18 47.6**	**0.0**
	36nm,0.1s						
IZV				*e*S	**Sb**	**00 19 25.4**	**+1.2**
	547nm,0.4s						
IZV	**Izvestkoviy**	**3.00**	**269**	Pg	**Pb**	**00 18 47.2**	**-0.4**
	27nm,0.1s						
IZV				Lg	Lg	00 19 24.9	
	547nm,0.4s						
ULHL	**Ulahol**	**3.41**	**256**	P	**Pn**	**00 18 47.1**	**-0.2**
	SNR=8.2						
ULHL	**Ulahol**	**3.41**	**256**	⇑*e*P	**Pn**	**00 18 48.4**	**+1.1**
	baz=57						
ULHL				⇑*i*S	**Sn**	**00 19 28.9**	**+1.1**
	baz=57						
KST	**Kastek**	**3.48**	**270**	*e*P	**Pb**	**00 18 55.7**	**+0.1**
	21nm,0.1s						
KST				*e*S	**Sb**	**00 19 39.5**	**+1.7**
	175nm,0.2s						
KST	**Kastek**	**3.48**	**270**	Pg	**Pb**	**00 18 55.3**	**-0.3**
	20nm,0.2s						
KST				Lg	Lg	00 19 38.8	
	196nm,0.4s						
BOOM	**Boomskoye usch**	**3.57**	**261**	⇑*e*P	**Pn**	**00 18 50.8**	**+1.4**
	baz=62						
BOOM				⇑*e*S	**Sn**	**00 19 33.1**	**+1.6**
	baz=62						
DGS	**Degeres**	**3.61**	**273**	*e*P	**Pb**	**00 18 58.3**	**+0.4**
	23nm,0.2s						
DGS				*e*S	**Sb**	**00 19 43.9**	**+2.3**
	349nm,0.2s						
DGS	**Degeres**	**3.61**	**273**	Pg	**Pb**	**00 18 56.8**	**-1.1**
	20nm,0.3s						
DGS				Lg	Lg	00 19 41.4	
	198nm,0.5s						
KRBS	**Karabastau**	**3.70**	**280**	*e*P	**Pb**	**00 19 00.3**	**+0.8**
	23nm,0.1s						
KRBS				*e*S	**Sb**	**00 19 47.2**	**+2.8**
	73nm,0.4s						
KRBS	**Karabastau**	**3.70**	**280**	Pg	**Pb**	**00 18 59.2**	**-0.4**
	22nm,0.2s						
KRBS				Lg	Lg	00 19 45.4	
	73nm,0.4s						
TKM2	**Tokmak 2**	**3.75**	**268**	P	**Pn**	**00 18 53.5**	**+1.6**
	SNR=18						
TKM2	**Tokmak 2**	**3.75**	**268**	⇑Pn	**Pn**	**00 18 53.7**	**+1.7**
	11nm,0.3s						
TKM2				⇑Sn	**Sb**	**00 19 45.7**	**-0.2**
	110nm,0.7s						
MK31	**Makanchi Array**	**3.81**	**17**	⇓Pn	**Pb**	**00 18 57.7**	**-3.6**
	2.4nm,0.2s,baz=201,slow=13,SNR=347						
MK31				⇑Pg	**Pg**	**00 19 08.4**	**+1.3**
	4.6nm,0.2s,baz=200,slow=14,SNR=50						
MK31				⇑Sn	**Sb**	**00 19 43.8**	**-3.6**
	22nm,0.5s						
MK31				⇓Lg	Lg	00 19 56.3	
	47nm,0.6s						
MKAR	**Makanchi Array**	**3.81**	**17**	Pn	**Pn**	**00 18 55.1**	**+2.5**
	4.9nm,0.3s,baz=203,slow=13,SNR=260						
MKAR				Pg	**Pb**	**00 19 03.4**	**+2.1**
	17nm,0.3s,baz=192,slow=17,SNR=49						
MKAR				Sn	**Sb**	**00 19 43.1**	**-4.3**
	9.7nm,0.3s,baz=201,slow=27,SNR=6.4						
MKAR				Lg	Lg	00 19 57.1	
	4.6nm,0.3s,baz=193,slow=16,SNR=5.4						
MKAR				LR	LR	00 20 50.0	
	comp=Z,92nm,19.2s,baz=166,slow=45						
	6.4nm,0.2s						
NRN	**Naryn**	**3.89**	**245**	⇑*e*P	**Pn**	**00 18 55.5**	**+1.5**
	baz=46						
NRN				⇑*e*S	**Sn**	**00 19 40.8**	**+1.1**
	baz=46						
KBK	**Karagaybulak**	**4.26**	**265**	P	**Pn**	**00 19 00.4**	**+1.5**
	SNR=5.5						
SGDS	**Sogindy**	**4.44**	**276**	Pg	**Pb**	**00 19 12.3**	**+0.2**
	7.1nm,0.3s						
SGDS				Lg	Lg	00 20 07.9	
	32nm,0.3s						
FRU1	**Bishkek**	**4.47**	**268**	⇓*e*P	**Pn**	**00 19 03.2**	**+1.5**
	baz=69						
FRU1				⇓*e*S	**Sn**	**00 19 54.7**	**+1.0**
	baz=69						
USP	**Ospenovka**	**4.54**	**274**	P	**Pn**	**00 19 02.9**	**+0.3**
	SNR=6.4						
AAK	**Ala-Archa**	**4.59**	**266**	Pg	**Pb**	**00 19 11.2**	**-3.5**
	1.3nm,0.3s,baz=85,slow=14,SNR=1.9						
AAK				Lg	Lg	00 20 11.5	
	8.5nm,0.3s,baz=0.0,slow=20,SNR=8.8						
AAK	**Ala-Archa**	**4.59**	**266**	⇑Pg	**Pb**	**00 19 15.1**	**+0.4**
	11nm,0.5s						
AAK				⇓Lg	Lg	00 20 19.8	
	61nm,0.5s						
UCH	**Uchtor**	**4.66**	**261**	P	**Pn**	**00 19 05.4**	**+0.8**
	SNR=15						
ARLS	**Aral**	**4.89**	**257**	⇑*e*P	**Pn**	**00 19 08.7**	**+1.1**
	baz=58						
ARLS				⇑*e*S	**Sn**	**00 20 04.2**	**0.0**
	baz=58						
KSH	**Kashi**	**5.09**	**226**	Pn	**Pb**	**00 19 26.7**	**+3.6**
KSH				Sn	**Sg**	**00 20 39.6**	**+2.2**
KSH				smax	smax		
	comp=N,43nm,0.7s						
KSH				smax	smax		
	comp=E,41nm,0.7s						
KSH	**Kashi**	**5.09**	**226**	Pn	**Pg**	**00 19 30.1**	**-1.5**
KSH				Sn	**Sg**	**00 20 39.1**	**+1.7**
KSH				smax	smax		
	comp=N,52nm,0.7s						
KSH				smax	smax		
	comp=E,50nm,0.8s						
WMQ	**Urumqi**	**5.13**	**80**	Pn	**Pn**	**00 19 12.9**	**+2.1**
WMQ				Sg	**Sg**	**00 20 39.2**	**+0.4**
WMQ				smax	smax		
	comp=N,28nm,0.7s						
WMQ				smax	smax		
	comp=E,29nm,1.1s						
ZSN	**Zaisan**	**5.20**	**33**	*e*P	**Pg**	**00 19 32.6**	**-1.2**
	comp=E,8.1nm,0.1s						
ZSN				*e*S	**Sg**	**00 20 42.8**	**+1.7**
	comp=E,22nm,0.4s						
ZSN	**Zaisan**	**5.20**	**33**	Pg	**Pg**	**00 19 30.5**	**-3.2**
	comp=E,9.6nm,0.3s						
ZSN				Lg	Lg	00 20 40.1	
	comp=E,22nm,0.4s						
MRKS	**Merke**	**5.50**	**268**	*e*P	**Pb**	**00 19 33.2**	**+3.0**
	comp=E,6.5nm,0.2s						
MRKS				*e*S	**Sb**	**00 20 43.9**	**+7.7**
	comp=E,40nm,0.4s						
MRKS	**Merke**	**5.50**	**268**	Pg	**Pb**	**00 19 31.3**	**+1.1**
	comp=E,3.9nm,0.4s						
MRKS				Lg	Lg	00 20 40.6	
	comp=E,40nm,0.4s						
KK31	**Karatay Array**	**7.46**	**273**	Pg	**Pg**	**00 20 12.7**	**-4.2**
	comp=E,0.7nm,0.3s,baz=86,slow=18,SNR=9.2						
KK31				⇑Lg	Lg	00 21 45.9	
	comp=E,11nm,0.5s,baz=65,slow=29,SNR=3.6						
KURBB	**Kurchatov Arra**	**7.62**	**349**	Pn	**Pn**	**00 19 44.1**	**-0.7**
	comp=E,0.1nm,0.3s,baz=144,slow=18,SNR=4.9						
KURBB				Lg	Lg	00 21 51.5	
	comp=E,0.4nm,0.3s,baz=171,slow=27,SNR=5.2						
	comp=E,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**7.62**	**349**	⇑Pn	Pn	00 19 52.8	+8.0
	comp=E,1.8nm,0.5s						
KURBB				⇑Sn	**Sn**	**00 21 15.0**	**+4.0**
	comp=E,7.8nm,0.5s						
KURBB				⇓Lg	Lg	00 21 57.8	
	comp=E,44nm,0.7s						
KURK	**Kurchatov**	**7.70**	**350**	⇑Pn	**Pn**	**00 19 47.8**	**+1.9**
	comp=E,3.9nm,0.8s						
KURK				⇑Sn	**Sn**	**00 21 11.1**	**-1.9**
	comp=E,30nm,0.9s						
KURK				⇑Lg	Lg	00 21 55.4	
	comp=E,30nm,0.9s						
ZALV	**Zalesovo Beam**	**11.14**	**13**	Pn	**Pn**	**00 20 31.6**	**-1.4**
	comp=E,0.1nm,0.3s,baz=189,slow=12,SNR=1.9						
ZALV				Sn	**Sn**	**00 22 36.9**	**-0.5**
	comp=E,0.5nm,0.3s,baz=216,slow=28,SNR=4.1						
ZALV				Lg	Lg	00 23 51.4	
	comp=E,0.2nm,0.3s,baz=206,slow=25,SNR=2.0						
	comp=E,0.7nm,0.3s						
BVAR	**Borovoye Array**	**12.03**	**329**	Pn	**Pn**	**00 20 44.4**	**-0.9**
	baz=148,slow=9.3,SNR=2.2						
BVAR				Sn	**Sn**	**00 22 53.8**	**-5.5**
	comp=E,0.1nm,0.3s,baz=130,slow=29,SNR=3.8						
BVAR				Lg	Lg	00 24 12.9	
	baz=202,slow=43,SNR=1.5						
	comp=E,0.2nm,0.4s						
AKTO	**Aktyubinsk**	**17.12**	**303**	Lg	Lg	00 26 52.4	
	comp=E,0.1nm,0.3s,baz=33,slow=18,SNR=1.6						
SONM	**Songino Array**	**18.57**	**66**	P	**P**	**00 22 09.6**	**-1.3**
	comp=E,0.1nm,0.3s,baz=266,slow=11,SNR=1.8						
SONM				S	**Sn**	**00 25 39.2**	**+0.6**
	comp=E,0.4nm,0.4s,baz=230,slow=12,SNR=2.2						
	comp=E,0.4nm,0.5s						
ARU	**Arti**	**19.40**	**321**	P	**P**	**00 22 17.3**	**-2.4**
	baz=90,slow=23,SNR=1.7						
	comp=E,0.8nm,0.3s						
BTO	**Baotou**	**21.93**	**87**	*e*P	**P**	**00 22 48.7**	**+1.3**
BTO				pP	pP	00 22 52.9	+1.4
BTO				sP	sP	00 22 56.2	+2.7
BTO				PP	**PnPn**	**00 23 13.8**	**+5.0**
BTO				S	**S**	**00 26 51.5**	**+2.2**
BTO				SS	Sn	00 27 09.7	+10
BTO				pmax	pmax		
	comp=Z,15nm,0.6s						
BTO				pmax	pmax		
	comp=Z,310nm,6.8s						
BTO				LR	LR		
	comp=N,570nm,6.1s						
BTO				LR	LR		
	comp=E,590nm,6.7s						
BTO				LR	LR		
	comp=Z,310nm,8.3s						
ILAR	**Eielson Array**	**66.16**	**20**	P	**P**	**00 28 41.4**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=321,slow=5.1,SNR=2.7						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.15**	**272**	P	**P**	**00 29 22.0**	**-2.7**
	comp=Z,0.5nm,0.7s,baz=42,slow=6.0,SNR=4.0						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**79.80**	**130**	P	**P**	**00 30 01.2**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=338,slow=6.3,SNR=1.3						
	comp=Z,0.4nm,0.8s						

*PGC **10** 00:28:29.4±0.0, 48°.58N×128°.41W, h10km, MLSn2.7/22, Mw3.3/22, 193km Wsw of Tofino, Bc Vancouver Island, Canada Region*
*IDC **10** 00:28:33.9±2.2, 49°.00N×127°.36W, h0km, mbtmp3.2/4, ML3.5/4, Error ellipse: s-maj=57.3km s-min=12.1km az=64.0*
ISC 10 00:28:28.3±0.9, 48°.55N±0°.04×128°.43W±0°.05, h8km, n37, σ1s77/36, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NCHR	**NEPTUNE Canada**	**0.72**	**218**	P	**Pn**	**00 28 43.4**	**-1.1**
NCHR				S	**Sn**	**00 28 53.7

NCRB	**Newcastle Ridg**	**2.42**	**39**	Pn	**Pn**	**00 29 07.6**	**-0.6**
CBB	**Campbell River**	**2.50**	**52**	Pn	**Pn**	**00 29 08.6**	**-0.6**
PTRF	**Port Renfrew**	**2.67**	**89**	Pn	**Pn**	**00 29 10.3**	**-1.2**
SHB	**Sechelt**	**3.17**	**69**	Pn	**Pn**	**00 29 18.0**	**-0.6**
BBB	**Bella Bella**	**3.65**	**3**	Pn	**Pn**	**00 29 25.3**	**+0.3**
	5.5nm,0.3s,baz=190,slow=11,SNR=108						
BBB				Sn	**Sn**	**00 30 04.8**	**-3.4**
	4.4nm,0.3s,baz=290,slow=20,SNR=10.0						
	16nm,0.3s						
BBB	**Bella Bella**	**3.65**	**3**	Pn	**Pn**	**00 29 25.0**	**+0.1**
BBB				Sn	**Sn**	**00 30 04.7**	**-3.4**
WSLR	**Whistler**	**3.93**	**64**	Pn	**Pn**	**00 29 29.9**	**+0.9**
MBW	**Mount Baker**	**4.33**	**84**	Pn	**Pn**	**00 29 34.8**	**+0.2**
BUTB	**Butedale**	**4.52**	**360**	Pn	**Pn**	**00 29 37.2**	**+0.1**
BUTB				Sn	**Sn**	**00 30 26.6**	**-3.3**
LLLB	**Lillooet**	**4.73**	**62**	Pn	**Pn**	**00 29 39.9**	**0.0**
GRIB	**Gribbell Islan**	**4.82**	**355**	Pn	**Pn**	**00 29 41.0**	**-0.1**
BNAB	**Bonilla**	**5.15**	**345**	Pn	**Pn**	**00 29 46.3**	**+0.8**
GRNB	**Grenville Isla**	**5.39**	**350**	Pn	**Pn**	**00 29 48.9**	**-0.1**
NVAR	**Mina Array Bea**	**12.49**	**140**	Pn	Pn	00 31 35.7	+9.3
	0.2nm,0.3s,baz=318,slow=13,SNR=7.0						
	0.9nm,0.8s						
PDAR	**Pinedale Array**	**14.39**	**107**	Pn	**Pn**	**00 31 54.3**	**+1.9**
	0.1nm,0.3s,baz=298,slow=14,SNR=1.9						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**19.04**	**335**	P	**Pn**	**00 32 55.8**	**+4.6**
	baz=157,slow=9.3,SNR=4.3						
	0.5nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**58.77**	**265**	T	T	01 42 12.1	
	baz=44,slow=75,SNR=59						
H11N3	**WAKE ISLAND Hy**	**58.77**	**265**	T	T	01 42 12.2	
	baz=44,slow=75,SNR=59						
H11N1	**WAKE ISLAND Hy**	**58.78**	**265**	T	T	01 42 13.3	
	baz=44,slow=75,SNR=66						
H11S1	**WAKE ISLAND Hy**	**59.77**	**264**	T	T	01 43 24.5	
	baz=44,slow=74,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**59.77**	**264**	T	T	01 43 27.5	
	baz=44,slow=74,SNR=32						
H11S3	**WAKE ISLAND Hy**	**59.78**	**264**	T	T	01 43 28.7	
	baz=44,slow=74,SNR=15						

BGR ***10*** *01:08:14.8, 63°.19N×150°.49W, h121km±5km, mb4.9, Hypocentre not reviewed by the ISC*
BJI ***10*** *01:08:17.1±0.0, 63°.09N×150°.80W, h107km, mb5.6/79, mB5.3/28*
MOS ***10*** *01:08:19.3±0.8, 63°.07N×150°.75W, h119km, mb5.3/95, Error ellipse: s-maj=8.9km s-min=3.3km az=94.0*
NEIC ***10*** *01:08:20.9±1.4, 63°.01N±0°.03×150°.65W±0°.04, h115km±3km, Error ellipse: s-maj=4.6km s-min=2.1km az=157.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.68; $M_{\theta\theta}$0.42; $M_{\phi\phi}$-2.11; $M_{r\theta}$1.30; $M_{\theta\phi}$-0.03; $M_{\phi r}$1.93; Fault plane solution: $M_0$3.03000×10^{16} NP1:ϕ_s156.32000°, δ26.50000°, λ43.83000°. NP2: ϕ_s25.65000°, δ72.00000°, λ109.78000°. Principal axes: T 3.0417, Plg58.0000°, Azm323.0000°; N -0.0334, Plg19.0000°, Azm199.0000°; P -3.0083, Plg24.0000°, Azm100.0000°;*
NEIC ***10*** *01:08:21.2, 62°.98N×150°.64W, h110km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^{16}Nm; M_{rr}1.91; $M_{\theta\theta}$0.28; $M_{\phi\phi}$-2.19; $M_{r\theta}$1.31; $M_{\theta\phi}$-0.11; $M_{\phi r}$2.22; Fault plane solution: $M_0$3.30000×10^{16} NP1:ϕ_s24.00000°, δ71.80000°, λ105.64000°. NP2:ϕ_s162.13000°, δ23.83000°, λ50.65000°. Principal axes: T 3.3293, Plg60.0000°, Azm317.0000°; N -0.0503, Plg15.0000°, Azm199.0000°; P -3.2790, Plg25.0000°, Azm102.0000°;*
IDC ***10*** *01:08:21.6±0.5, 63°.15N×150°.67W, h125km±3km, mb4.8/31, mbtmp5.2/36, MS3.6/23 Error ellipse: s-maj=10.3km s-min=7.6km az=31.0*
AEIC ***10*** *01:08:21.2±1.5, 62°.98N±0°.03×150°.64W±0°.07, h113km±3km, ML5.0, mb5.3/619(NEIC), ML5.1/238(NEIC), Mwr4.9/150(NEIC), Mww4.9/89(NEIC), Error ellipse: s-maj=4.5km s-min=4.5km az=91.0*
NEIC ***10*** *01:08:21.2, 62°.98N×150°.64W, h115km*
NEIC ***10*** *01:08:21.2, 62°.98N×150°.64W, h110km*
GCMT ***10*** *01:08:23.2±0.2, 63°.18N±0°.02×150°.44W±0°.03, h128km±2km, MW5.0/121, Moment Tensor Solution. s52,c61; s121,c187; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.25±.12; $M_{\theta\theta}$1.10±.15; $M_{\phi\phi}$-3.35±.16; $M_{r\theta}$1.60±.09; $M_{\theta\phi}$-0.26±.13; $M_{\phi r}$2.62±.09; Best double couple: $M_0$4.24600×10^{16} NP1:ϕ_s27.00000°, δ71.00000°, λ112.00000°. NP2:ϕ_s155.00000°, δ29.00000°, λ42.00000°. Principal axes: T 3.9770, Plg58.0000°, Azm327.0000°; N 0.5370, Plg21.0000°, Azm199.0000°; P -4.5140, Plg23.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 01:08:20.9±0.2, 63°.01N±0°.02×150°.69W±0°.02, h120km±1km, h120km:pP-,n1730,σ1s08/1743, mb5.3/512, 111C-41D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.56**	**349**		**Sn**	**01 08 51.6**	**-1.6**
KTH				IAML		01 08 53.4	
	comp=N,66μm,1.1s						
KTH				IAML		01 08 53.6	
	comp=E,35μm,1.4s						
KTH	**Kantishna Hill**	**0.56**	**349**		**Pn**	**01 08 39.3**	**0.0**
CUT	**Chulitna**	**0.64**	**162**		**Pn**	**01 08 39.4**	**-0.3**
CUT					**Sn**	**01 08 53.3**	**-0.6**
CUT	**Chulitna**	**0.64**	**162**	P	**Pn**	**01 08 39.4**	**-0.3**
	baz=344,SNR=1000						
CUT				S	**Sn**	**01 08 53.5**	**-0.4**
	baz=344						
PPLA	**Purkeypile**	**0.69**	**261**		**Pn**	**01 08 40.6**	**+0.3**
PPLA					**Sn**	**01 08 54.7**	**-0.3**
PPLA	**Purkeypile**	**0.69**	**261**	P	**Pn**	**01 08 40.7**	**+0.4**
	baz=82						
PPLA				S	**Sn**	**01 08 55.0**	**+0.1**
	baz=82						
CAST	**Castle Rocks**	**0.75**	**304**		**Pn**	**01 08 40.7**	**0.0**
CAST					**Sn**	**01 08 55.0**	**-0.7**
CAST	**Castle Rocks**	**0.75**	**304**	IAML		01 08 55.6	
	comp=N,73μm,0.7s						
CAST				IAML		01 08 56.0	
	comp=E,23μm,0.8s						
CAST	**Castle Rocks**	**0.75**	**304**	P	**Pn**	**01 08 40.6**	**0.0**
	baz=123						
CAST				S	**Sn**	**01 08 54.9**	**-0.7**
	baz=123						
WAT7	**Susitna Watana**	**0.86**	**101**		**Pn**	**01 08 41.3**	**-0.4**
WAT7					**Sn**	**01 08 56.4**	**-1.0**
RND	**Reindeer**	**0.93**	**64**		**Pn**	**01 08 42.0**	**-0.2**
RND	**Reindeer**	**0.93**	**64**		**Sn**	**01 08 56.8**	**-1.6**
RND				IAML		01 08 58.6	
	comp=N,28μm,0.7s						
RND				IAML		01 08 59.0	
	comp=E,19μm,0.5s						
RND	**Reindeer**	**0.93**	**64**	P	**Pn**	**01 08 41.9**	**-0.3**
RND				S	**Sn**	**01 08 57.8**	**-0.6**
WAT1	**Susitna Watana**	**1.00**	**99**		**Pn**	**01 08 42.5**	**-0.4**
WAT1					**Sn**	**01 08 58.7**	**-0.8**
WAT1	**Susitna Watana**	**1.00**	**99**	P	**Pn**	**01 08 42.5**	**-0.4**
	baz=280						
WAT1				S	**Sn**	**01 08 58.6**	**-0.9**
	baz=280						
MCK	**McKinley**	**1.08**	**47**		**Pn**	**01 08 43.7**	**+0.1**
MCK					**Sn**	**01 09 00.0**	**-1.0**
MCK	**McKinley**	**1.08**	**47**	P	**Pn**	**01 08 43.5**	**-0.2**
	baz=226,SNR=1000						
MCK				S	**Sn**	**01 08 59.9**	**-1.0**
	baz=226						
MCK	**McKinley**	**1.08**	**47**	P	**Pn**	**01 08 43.7**	**+0.1**
MCK						01 09 00.0	
SKT	**Skwentna**	**1.10**	**201**		**Pn**	**01 08 43.9**	**0.0**
SKT					**Sn**	**01 09 00.7**	**-0.7**
SKT	**Skwentna**	**1.10**	**201**	P	**Pn**	**01 08 43.6**	**-0.3**
	baz=22,SNR=1000						
SKT				S	**Sn**	**01 09 00.7**	**-0.7**
	baz=22						
BPAW	**Bear Paw Mtn.**	**1.10**	**353**		**Pn**	**01 08 43.9**	**0.0**
BPAW					**Sn**	**01 09 00.7**	**-0.8**
BPAW	**Bear Paw Mtn.**	**1.10**	**353**	IAML		01 09 01.3	
	comp=E,37μm,1.1s						
BPAW				IAML		01 09 02.8	
	comp=N,20μm,0.8s						
BPAW	**Bear Paw Mtn.**	**1.10**	**353**	P	**Pn**	**01 08 44.0**	**+0.1**
	baz=172,SNR=1000						
BPAW				S	**Sn**	**01 09 00.8**	**-0.7**
	baz=172						
CHUM	**Lake Minchumin**	**1.14**	**321**		**Pn**	**01 08 44.5**	**+0.3**
CHUM	**Lake Minchumin**	**1.14**	**321**	P	**Pn**	**01 08 44.6**	**+0.4**
	baz=140						
CHUM				S	**Sn**	**01 09 02.0**	**-0.1**
	baz=140						
M22K	**Willow**	**1.29**	**168**		**Pn**	**01 08 45.5**	**-0.3**
M22K	**Willow**	**1.29**	**168**		**Sn**	**01 09 04.5**	**-0.3**
M22K	**Willow**	**1.29**	**168**	P	**Pn**	**01 08 45.4**	**-0.3**
	baz=349,SNR=1000						
M22K				S	**Sn**	**01 09 04.4**	**-0.3**
	baz=349						
BWN	**Browne**	**1.29**	**25**		**Pn**	**01 08 46.5**	**+0.6**
BWN				IAML		01 09 13.7	
	comp=N,15μm,0.8s						
BWN				IAML		01 09 29.5	
	comp=E,13μm,1.2s						
WAT6	**Susitna Watana**	**1.42**	**106**		**Pn**	**01 08 47.0**	**-0.6**
WAT6					**Sn**	**01 09 06.5**	**-1.3**
WAT6	**Susitna Watana**	**1.42**	**106**	P	**Pn**	**01 08 46.9**	**-0.6**
	baz=288,SNR=1000						
WAT6				S	**Sn**	**01 09 06.4**	**-1.3**
	baz=288						
GHO	**Glory Hole Cre**	**1.49**	**146**		**Pn**	**01 08 48.1**	**-0.1**
GHO					**Sn**	**01 09 08.7**	**-0.3**
DHY	**Denali Highway**	**1.51**	**86**		**Pn**	**01 08 48.4**	**-0.2**
DHY					**Sn**	**01 09 09.2**	**-0.4**
DHY	**Denali Highway**	**1.51**	**86**	P	**Pn**	**01 08 48.5**	**-0.1**
	baz=268,SNR=894						
DHY				S	**Sn**	**01 09 08.7**	**-1.0**
	baz=268						
SUA	**Susitna One**	**1.55**	**181**		**Pn**	**01 08 48.8**	**-0.1**
SUA	**Susitna One**	**1.55**	**181**	IAML		01 09 13.6	
	comp=E,25μm,0.7s						
SUA				IAML		01 09 14.8	
	comp=N,16μm,1.1s						
SUA	**Susitna One**	**1.55**	**181**	P	**Pn**	**01 08 48.6**	**-0.3**
	baz=1.9,SNR=1000						
SUA				S	**Sn**	**01 09 09.8**	**-0.5**
	baz=1.9						
L20K	**Farewell, AK**	**1.56**	**252**		**Pn**	**01 08 48.9**	**-0.1**
L20K	**Farewell, AK**	**1.56**	**252**	P	**Pn**	**01 08 49.0**	**+0.1**
	baz=70						
L20K				S	**Sn**	**01 09 09.9**	**-0.5**
	baz=70						
K20K	**Telida**	**1.57**	**284**		**Pn**	**01 08 49.2**	**+0.2**
K20K	**Telida**	**1.57**	**284**	P	**Pn**	**01 08 49.3**	**+0.2**
	baz=102,SNR=1000						
K20K				S	**Sn**	**01 09 10.5**	**-0.1**
	baz=102						
PMR	**Palmer**	**1.60**	**152**	P	**Pn**	**01 08 48.9**	**-0.5**
PMR	**Palmer**	**1.60**	**152**		**Pn**	**01 08 48.5**	**-0.8**
PMR					**Sn**	**01 09 10.1**	**-0.9**
PMR	**Palmer**	**1.60**	**152**	IAML		01 09 15.1	
	comp=N,14μm,0.6s						
PMR				IAML		01 09 16.2	
	comp=E,22μm,0.4s						
PMR	**Palmer**	**1.60**	**152**	P	**Pn**	**01 08 48.7**	**-0.7**
	baz=334,SNR=1000						
PMR				S	**Sn**	**01 09 10.2**	**-0.9**
	baz=334						
PMR	**Palmer**	**1.60**	**152**	P	**Pn**	**01 08 48.5**	**-0.8**
PMR				S	**Sn**	**01 09 10.1**	**-0.9**
M20K	**Styx River**	**1.60**	**226**		**Pn**	**01 08 49.1**	**-0.4**
M20K	**Styx River**	**1.60**	**226**	IAML		01 09 12.7	
	comp=E,19μm,0.4s						
M20K	**Styx River**	**1.60**	**226**	P	**Pn**	**01 08 49.2**	**-0.4**
	baz=45,SNR=1000						
M20K				S	**Sn**	**01 09 10.2**	**-1.1**
	baz=45						
STLK	**Strandline Lak**	**1.60**	**200**		**Pn**	**01 08 49.3**	**-0.3**
SML	**Sawmill**	**1.63**	**137**		**Pn**	**01 08 49.3**	**-0.6**
SML					**Sn**	**01 09 11.3**	**-0.6**
SML	**Sawmill**	**1.63**	**137**	IAML		01 09 15.2	
	comp=N,37μm,0.6s						
SML	**Sawmill**	**1.63**	**137**	P	**Pn**	**01 08 49.2**	**-0.6**
	baz=319,SNR=1000						
SML				S	**Sn**	**01 09 11.2**	**-0.6**
	baz=319						
SML	**Sawmill**	**1.63**	**137**	P	**Pn**	**01 08 49.2**	**-0.6**
SML				S	**Sn**	**01 09 11.3**	**-0.6**
NEA2	**Nenana**	**1.75**	**24**		**Pn**	**01 08 51.0**	**-0.1**
NEA2					**Sn**	**01 09 12.8**	**-1.5**
NEA2	**Nenana**	**1.75**	**24**	P	**Pn**	**01 08 51.0**	**-0.1**
	baz=204,SNR=898						
NEA2				S	**Sn**	**01 09 12.7**	**-1.5**
	baz=204						
M23K	**Glacier View**	**1.84**	**130**		**Sn**	**01 09 15.6**	**-0.7**
M23K	**Glacier View**	**1.84**	**130**	P	**Pn**	**01 08 51.6**	**-0.7**
	baz=313,SNR=1000						
M23K				S	**Sn**	**01 09 15.7**	**-0.7**
	baz=313						
WRH	**Wood River Hil**	**1.87**	**37**		**Pn**	**01 08 52.6**	**0.0**
FIS	**Fire Island**	**1.88**	**173**		**Pn**	**01 08 53.4**	**+0.6**
KNK	**Knik Glacier**	**1.91**	**146**	IAML		01 09 19.2	
	comp=N,24μm,0.8s						
KNK	**Knik Glacier**	**1.91**	**146**	P	**Pn**	**01 08 52.7**	**-0.5**
	baz=328						
KNK				S	**Sn**	**01 09 17.4**	**-0.5**
	baz=328						
J20K	**Nowinta River**	**1.94**	**309**		**Pn**	**01 08 53.8**	**+0.3**
J20K	**Nowinta River**	**1.94**	**309**	IAML		01 09 19.4	
	comp=N,12μm,0.8s						
J20K				IAML		01 09 19.9	
	comp=E,12μm,0.9s						
J20K	**Nowinta River**	**1.94**	**309**	P	**Pn**	**01 08 53.8**	**+0.3**
	baz=126,SNR=1000						
J20K				S	**Sn**	**01 09 17.7**	**-0.7**
	baz=126						
SPU	**Mount Spurr**	**1.94**	**200**		**Pn**	**01 08 53.2**	**-0.4**
N20K	**Mount Spurr**	**1.95**	**202**	P	**Pn**	**01 08 53.4**	**-0.3**
	baz=22,SNR=284						
N20K				S	**Sn**	**01 09 18.2**	**-0.6**
	baz=22						
SPCR	**Spurr Chakacha**	**1.95**	**202**	P	Pn	01 08 48.0	-5.7
	baz=22,SNR=263						
SCM	**Sheep Creek Mo**	**1.96**	**125**		**Pn**	**01 08 52.6**	**-1.3**
SCM	**Sheep Creek Mo**	**1.96**	**125**	P	**Pn**	**01 08 52.9**	**-0.9**
	baz=308,SNR=1000						
SCM				S	**Sn**	**01 09 18.5**	**-0.6**
	baz=308						
SCM	**Sheep Creek Mo**	**1.96**	**125**	P	**Pn**	**01 08 52.6**	**-1.3**
RC01	**Rabbit Creek A**	**1.98**	**166**	Pn	**Pn**	**01 08 53.4**	**-0.6**
RC01				IAML		01 09 19.3	
	comp=E,16μm,0.3s						
RC01				IAML		01 09 19.7	
	comp=N,19μm,0.4s						
RC01	**Rabbit Creek A**	**1.98**	**166**	P	**Pn**	**01 08 53.3**	**-0.7**
	baz=348,SNR=554						
RC01				S	**Sn**	**01 09 18.4**	**-0.9**
	baz=348						
MLY	**Manley**	**2.03**	**359**	Pn	**Pn**	**01 08 54.5**	**-0.2**
MLY	**Manley**	**2.03**	**359**	P	**Pn**	**01 08 54.9**	**+0.2**
	baz=179,SNR=1000						
MLY				S	**Sn**	**01 09 19.3**	**-1.3**
	baz=179						
M19K	**Big River Lodg**	**2.04**	**239**		**Pn**	**01 08 54.5**	**-0.3**
M19K	**Big River Lodg**	**2.04**	**239**	IAML		01 09 49.2	
	comp=N,7μm,0.6s						
M19K	**Big River Lodg**	**2.04**	**239**	P	**Pn**	**01 08 54.5**	**-0.3**
	baz=56						
M19K				S	**Sn**	**01 09 20.0**	**-0.8**
	baz=56						
CCB	**Clear Creek Bu**	**2.09**	**37**		**Pn**	**01 08 55.2**	**0.0**
L19K	**White Mountain**	**2.10**	**249**		**Pn**	**01 08 55.4**	**-0.1**
L19K				IAML		01 09 24.5	
	comp=E,7μm,1.7s						
L19K	**White Mountain**	**2.10**	**249**	P	**Pn**	**01 08 55.3**	**-0.2**
	baz=66,SNR=1000						
L19K				S	**Sn**	**01 09 21.2**	**-0.8**
	baz=66						
HDA	**Harding Lake**	**2.18**	**48**		**Pn**	**01 08 56.0**	**-0.5**
HDA				IAML		01 09 27.9	
	comp=N,6μm,0.7s						
HDA	**Harding Lake**	**2.18**	**48**	P	**Pn**	**01 08 56.2**	**-0.3**
	baz=230,SNR=1000						
HDA				S	**Sn**	**01 09 22.6**	**-1.3**
	baz=230						
HDA				S	**Sn**	**01 09 22.6**	**-1.3**
	baz=230						
I23K	**Minto, Yukon-K**	**2.23**	**15**		**Pn**	**01 08 57.3**	**+0.3**
I23K	**Minto, Yukon-K**	**2.23**	**15**	P	**Pn**	**01 08 57.4**	**+0.3**
	baz=195,SNR=187						
I23K				S	**Sn**	**01 09 23.9**	**-0.9**
	baz=195						
MDM	**Murphy Dome**	**2.24**	**28**	Pn	**Pn**	**01 08 57.3**	**0.0**
I21K	**Tanana**	**2.25**	**346**		**Pn**	**01 08 57.8**	**+0.4**
I21K	**Tanana**	**2.25**	**346**	IAML		01 09 25.6	
	comp=E,7μm,1.0s						
I21K	**Tanana**	**2.25**	**346**	P	**Pn**	**01 08 57.8**	**+0.4**
	baz=164						
I21K				S	**Sn**	**01 09 24.8**	**-0.6**
	baz=164						
I53US	**FAIRBANKS INFR**	**2.25**	**32**	P	**Pn**	**01 08 57.4**	**0.0**
	baz=212,slow=18						
I53US				S	**Sn**	**01 09 25.0**	**-0.5**
	baz=212,slow=29,SNR=5.3						
COLA	**College**	**2.26**	**33**	P	**Pn**	**01 08 57.6**	**+0.2**
COLA	**College**	**2.26**	**33**		**Pn**	**01 08 57.6**	**+0.2**
COLA				IAML		01 09 26.9	
	comp=E,12μm,1.0s						
COLA				IAML		01 09 49.1	
	comp=E,10μm,0.5s						
COLA	**College**	**2.26**	**33**	P	**Pn**	**01 08 57.6**	**+0.2**
	baz=214						
COLA				S	**Sn**	**01 09 24.9**	**-0.6**
	baz=214						
COLA	**College**	**2.26**	**33***d*	*i*P	**Pn**	**01 08 57.0**	**-0.4**
CAPN	**Captain Cook N**	**2.26**	**186**		**Pn**	**01 08 59.0**	**+1.6**
CAPN	**Captain Cook N**	**2.26**	**186**	P	**Pn**	**01 08 56.9**	**-0.6**
	baz=6.0,SNR=136						
M24K	**Tolsona, Glenn**	**2.28**	**111**		**Pn**	**01 08 57.6**	**-0.3**
M24K	**Tolsona, Glenn**	**2.28**	**111**	P	**Pn**	**01 08 57.7**	**-0.1**
	baz=295,SNR=852						
K24K	**Donnelly Dome**	**2.35**	**68**	P	**Pn**	**01 08 58.9**	**+0.2**
	baz=252,SNR=278						
K24K				S	**Sn**	**01 09 26.6**	**-1.2**
	baz=252						
PAX	**Paxson**	**2.38**	**89**		**Pn**	**01 08 59.4**	**+0.2**
PAX	**Paxson**	**2.38**	**89**	P	**Pn**	**01 08 59.3**	**+0.2**
	baz=273,SNR=1000						
PAX				S	**Sn**	**01 09 28.0**	**-0.6**
	baz=273						
PAX	**Paxson**	**2.38**	**89**	P	**Pn**	**01 08 59.4**	**+0.2**
J19K	**Poorman**	**2.42**	**296**		**Pn**	**01 08 59.7**	**+0.1**
J19K				IAML		01 09 29.1	
	comp=N,6μm,0.7s						
J19K				IAML		01 09 32.4	
	comp=E,5μm,1.0s						
J19K	**Poorman**	**2.42**	**296**	P	**Pn**	**01 09 00.1**	**+0.6**
	baz=112,SNR=1000						
J19K				S	**Sn**	**01 09 28.7**	**-0.6**
	baz=112						
IL31		**2.44**	**42**		**Pn**	**01 08 59.5**	**-0.3**
ILAR	**Eielson Array**	**2.44**	**42**		**Pn**	**01 08 59.5**	**-0.4**
ILAR	**Eielson Array**	**2.44**	**42**	P	**Pn**	**01 08 58.9**	**-1.0**
	comp=E,2μm,0.8s,baz=225,slow=13,SNR=7947						
ILAR				S	**Sn**	**01 09 27.4**	**-2.4**
	comp=E,2μm,1.0s,baz=226,slow=16,SNR=20						
ILAR				ScP	**ScP**	**01 19 54.8**	**-0.2**
	comp=E,0.6nm,0.8s,baz=179,slow=2.3,SNR=2.7						
ILAR				PKiKP	**PKiKP**	**01 24 35.8**	**-2.1**
	comp=E,0.3nm,0.4s,baz=308,slow=2.6,SNR=5.0						
ILAR	**Eielson Array**	**2.44**	**42**	P	**Pn**	**01 08 59.5**	**-0.4**
I20K	**Naaghedeneel**	**2.46**	**319**	P	**Pn**	**01 09 00.6**	**+0.7**
	baz=135,SNR=1000						
I20K				S	**Sn**	**01 09 30.7**	**+0.7**
	baz=135						
SLKM	**Skilak Lake**	**2.52**	**175**		**Pn**	**01 09 00.3**	**-0.5**
POKR	**Poker Plat Res**	**2.56**	**33**	IAML		01 09 34.2	
	comp=N,5μm,1.2s						
POKR				IAML		01 09 34.9	
	comp=E,5μm,1.2s						
POKR	**Poker Plat Res**	**2.56**	**33**	P	**Pn**	**01 09 01.6**	**+0.2**
	baz=215,SNR=849						
POKR				S	**Sn**	**01 09 31.5**	**-1.0**
	baz=215						
RDT	**Redoubt**	**2.57**	**199**		**Pn**	**01 09 01.2**	**-0.4**
O22K	**Cooper Landing**	**2.58**	**169**		**Pn**	**01 09 00.9**	**-0.6**
O22K	**Cooper Landing**	**2.58**	**169**	P	**Pn**	**01 09 00.9**	**-0.6**
	baz=351,SNR=182						
O22K				S	**Sn**	**01 09 31.2**	**-1.6**
	baz=351						
RDJH	**Redoubt Jeurge**	**2.62**	**203**		**Pn**	**01 09 02.3**	**-0.1**
HARP	**HAARP**	**2.62**	**101**		**Pn**	**01 09 02.4**	**+0.1**
HARP	**HAARP**	**2.62**	**101**	P	**Pn**	**01 09 02.4**	**+0.1**
	baz=286,SNR=1000						
HARP				S	**Sn**	**01 09 33.9**	**-0.1**
	baz=286						
KLU	**Klutina**	**2.70**	**122**		**Pn**	**01 09 02.0**	**-1.2**
KLU	**Klutina**	**2.70**	**122**	IAML		01 09 44.9	
	comp=E,10μm,0.6s						
KLU	**Klutina**	**2.70**	**122**	P	**Pn**	**01 09 02.1**	**-1.2**
	baz=306,SNR=874						
KLU				S	**Sn**	**01 09 33.9**	**-2.0**
	baz=306						
GLI	**Glacier Island**	**2.73**	**140**		**Pn**	**01 09 02.6**	**-0.9**
GLI	**Glacier Island**	**2.73**	**140**	P	**Pn**	**01 09 02.6**	**-0.9**
	baz=323,SNR=190						
GLI				S	**Sn**	**01 09 35.4**	**-1.1**
	baz=323						
J18K	**Innoko River**	**2.76**	**282**		**Pn**	**01 09 04.3**	**+0.3**
J18K	**Innoko River**	**2.76**	**282**	IAML		01 09 37.4	
	comp=N,4μm,1.0s						
J18K				IAML		01 09 39.1	
	comp=E,4μm,0.9s						
J18K	**Innoko River**	**2.76**	**282**	P	**Pn**	**01 09 04.5**	**+0.5**
	baz=97						
RED	**Redoubt Volcan**	**2.78**	**202**		**Pn**	**01 09 04.2**	**-0.1**
H21K	**Melozitna Rive**	**2.81**	**342**		**Pn**	**01 09 04.8**	**+0.2**
H21K	**Melozitna Rive**	**2.81**	**342**	IAML		01 09 37.8	
	comp=E,4μm,1.1s						
H21K				IAML		01 09 39.8	
	comp=N,4μm,0.9s						
H21K	**Melozitna Rive**	**2.81**	**342**	P	**Pn**	**01 09 04.9**	**+0.3**
	baz=160,SNR=1000						
H21K				S	**Sn**	**01 09 36.9**	**-1.5**
	baz=160						
N19K	**Bonanza Creek**	**2.84**	**221**	IAML		01 09 57.2	
	comp=E,4μm,0.9s						
N19K				IAML		01 10 03.8	
	comp=N,4μm,0.8s						
N19K	**Bonanza Creek**	**2.84**	**221**	P	**Pn**	**01 09 05.3**	**+0.2**
	baz=38,SNR=564						
M18K	**Stony River**	**2.84**	**240**		**Pn**	**01 09 04.7**	**-0.3**
M18K	**Stony River**	**2.84**	**240**	P	**Pn**	**01 09 04.8**	**-0.3**
	baz=56,SNR=846						
J25K	**Salcha River,**	**2.86**	**53**		**Pn**	**01 09 05.1**	**-0.2**
J25K	**Salcha River,**	**2.86**	**53**	IAML		01 09 40.9	
	comp=N,5μm,0.6s						
J25

WAZA	Wrangell Mount	3.17	104		Pn	01 09 09.3 -0.3
N25K	Chitina, Valde	3.17	114	IAML		01 09 48.4
	comp=E,6µm,0.7s					
N25K				IAML		01 09 48.9
	comp=N,8µm,0.7s					
N25K	Chitina, Valde	3.17	114	P	Pn	01 09 08.8 -0.6
	baz=299,SNR=458					
MENT	Mentasta	3.19	88	P	Pn	01 09 09.7 +0.2
MENT	Mentasta	3.19	88		Pn	01 09 09.5 0.0
WASW	Wrangell South	3.22	107		Pn	01 09 09.8 -0.4
GCSA	Galena City Sc	3.25	305	P	Pn	01 09 10.8 +0.6
	baz=120,SNR=326					
GCSA				S	Sn	01 09 47.8 -0.6
	baz=120					
ILSW	Iliamna Southw	3.25	202		Pn	01 09 10.7 +0.1
ILSW	Iliamna Southw	3.25	202	IAML		01 10 23.0
	comp=E,3µm,0.8s					
BRLK	Bradley Lake	3.26	182		Pn	01 09 10.3 -0.2
BRLK	Bradley Lake	3.26	182	IAML		01 10 01.6
	comp=N,6µm,0.7s					
BRLK				IAML		01 10 01.9
	comp=E,7µm,0.6s					
IMAR	Indian Mountai	3.27	338		Pn	01 09 10.7 +0.1
BRSE	Bradley Lake S	3.28	180		Pn	01 09 10.3 -0.4
BRSE	Bradley Lake S	3.28	180	P	Pn	01 09 10.3 -0.4
	baz=0.8,SNR=200					
HIN	Hinchinbrook I	3.29	141		Pn	01 09 10.0 -1.0
L26K	Log Cabin Wild	3.35	86		Pn	01 09 11.8 +0.1
L26K	Log Cabin Wild	3.35	86	IAML		01 09 59.8
	comp=E,9µm,0.6s					
L26K				IAML		01 10 09.4
	comp=N,7µm,0.9s					
L26K	Log Cabin Wild	3.35	86	P	Pn	01 09 11.8 +0.1
	baz=272,SNR=805					
PRP	Porcupine Dome	3.38	40	P	Pn	01 09 11.8 -0.4
	baz=224,SNR=257					
HOM	Homer	3.39	188		Pn	01 09 12.7 +0.5
HOM	Homer	3.39	188	P	Pn	01 09 12.4 +0.1
	baz=7.9,SNR=30					
N18K	Kilae Creek	3.39	229		Pn	01 09 12.3 0.0
N18K				IAML		01 10 12.3
	comp=E,3µm,0.8s					
N18K				IAML		01 10 12.5
	comp=N,3µm,0.8s					
N18K	Kilae Creek	3.39	229	P	Pn	01 09 12.3 0.0
	baz=45,SNR=419					
N18K				S	Sn	01 09 50.3 -1.7
	baz=45					
EYAK	Cordova Ski Ar	3.41	134	P	Pn	01 09 11.8 -0.6
EYAK	Cordova Ski Ar	3.41	134		Pn	01 09 11.6 -0.8
EYAK	Cordova Ski Ar	3.41	134	P	Pn	01 09 11.8 -0.6
	baz=319,SNR=43					
EYAK				S	Sn	01 09 51.0 -1.3
	baz=319					
P23K	Montague Islan	3.41	151		Pn	01 09 11.1 -1.3
P23K	Montague Islan	3.41	151	P	Pn	01 09 11.0 -1.5
	baz=334,SNR=35					
P23K				S	Sn	01 09 50.1 -2.1
	baz=334					
K17K	Iditarod	3.50	269		Pn	01 09 14.0 +0.3
K17K	Iditarod	3.50	269	IAML		01 09 55.1
	comp=N,3µm,1.1s					
K17K				IAML		01 09 56.2
	comp=E,4µm,1.4s					
K17K	Iditarod	3.50	269	P	Pn	01 09 14.1 +0.5
	baz=82					
K17K				S	Sn	01 09 54.2 -0.3
	baz=82					
CNPM	China Poot	3.50	185	IAML		01 10 03.8
	comp=E,8µm,0.7s					
CNPM				IAML		01 10 06.5
	comp=N,8µm,0.5s					
J26L	Joseph Creek	3.50	62	IAML		01 09 59.5
	comp=E,5µm,0.7s					
J26L				IAML		01 10 00.4
	comp=N,5µm,0.7s					
J26L	Joseph Creek	3.50	62	P	Pn	01 09 13.8 0.0
	baz=247,SNR=1000					
J26L				S	Sn	01 09 53.3 -1.4
	baz=247					
BMRM	Bremner River	3.53	123	P	Pn	01 09 12.4 -1.7
	baz=308,SNR=62					
BMRM				S	Sn	01 09 52.7 -2.5
	baz=308					
M17K	Holitna River	3.55	246	IAML		01 10 18.1
	comp=E,5µm,0.7s					
M17K				IAML		01 10 40.3
	comp=N,6µm,0.8s					
M17K	Holitna River	3.55	246	P	Pn	01 09 13.8 -0.5
	baz=60,SNR=147					
H19K	Roundabout Mou	3.56	318		Pn	01 09 14.6 +0.2
H19K	Roundabout Mou	3.56	318	P	Pn	01 09 14.7 +0.3
	baz=133,SNR=596					
P19K	Oil Pt	3.58	201		Pn	01 09 14.4 -0.4
P19K	Oil Pt	3.58	201	IAML		01 10 09.2
	comp=E,5µm,0.5s					
P19K				IAML		01 10 31.8
	comp=N,4µm,0.8s					
P19K	Oil Pt	3.58	201	P	Pn	01 09 14.8 0.0
	baz=19,SNR=31					
GLB	Gilahina Butte	3.58	113		Pn	01 09 14.1 -0.8
GLB				IAML		01 09 57.3
	comp=E,6µm,1.1s					
M26K	Nabesna, AK	3.60	96	IAML		01 10 11.1
	comp=E,4µm,0.6s					
M26K				IAML		01 10 20.9
	comp=N,4µm,0.8s					
M26K	Nabesna, AK	3.60	96	P	Pn	01 09 14.6 -0.4
	baz=283,SNR=499					
L17K	Donlin	3.63	259		Pn	01 09 15.4 +0.1
L17K	Donlin	3.63	259	P	Pn	01 09 15.6 +0.3
	baz=73					
G21K	Allakaket	3.72	342		Pn	01 09 17.0 +0.4
G21K	Allakaket	3.72	342	IAML		01 10 12.7
	comp=E,2µm,1.1s					
G21K	Allakaket	3.72	342	P	Pn	01 09 17.0 +0.4
	baz=160,SNR=684					
G23K	Bananza Creek	3.73	4		Pn	01 09 17.4 +0.6
G23K	Bananza Creek	3.73	4	IAML		01 09 59.9
	comp=E,2µm,0.9s					
G23K	Bananza Creek	3.73	4	P	Pn	01 09 17.3 +0.6
	baz=184,SNR=1000					
G23K				S	Sn	01 09 58.9 -1.1
	baz=184					
J17K	VABM Dome	3.82	280	IAML		01 10 01.6
	comp=N,2µm,0.9s					
J17K				IAML		01 10 16.2
	comp=E,2µm,0.8s					
J17K	VABM Dome	3.82	280	P	Pn	01 09 18.1 +0.3
	baz=92,SNR=1000					
J17K				S	Sn	01 10 00.4 -1.6
	baz=92					
O18K	Koktuh Hills	3.83	216		Pn	01 09 18.6 +0.5
O18K				IAML		01 10 35.5
	comp=E,3µm,1.0s					
O18K				IAML		01 10 39.4
	comp=N,2µm,0.9s					
O18K	Koktuh Hills	3.83	216	P	Pn	01 09 18.2 +0.1
	baz=33,SNR=190					
VRDI	Verde Repeater	3.84	114	IAML		01 10 03.6
	comp=E,6µm,0.8s					
AU22	Augustine Moun	3.87	201		Pn	01 09 19.2 +0.7
H25L	Birch Creek	3.89	30		Pn	01 09 19.2 +0.5
H25L	Birch Creek	3.89	30	P	Pn	01 09 19.1 +0.4
	baz=214,SNR=593					
H25L				S	Sn	01 10 03.3 -0.3
	baz=214					
RAGM	Ragged Mountai	3.89	130		Pn	01 09 18.7 -0.2
MCARA	McCarthy VSAT	3.94	111	P	Pn	01 09 19.4 -0.2
	baz=298,SNR=210					
MCARA				S	Sn	01 10 04.1 -1.0
	baz=298					
G22K	Bettles	3.95	355		Pn	01 09 20.0 +0.5
G22K	Bettles	3.95	355	P	Pn	01 09 20.0 +0.5
	baz=174					
G22K				S	Sn	01 10 04.2 -0.8
	baz=174					
G24K	Hadweenzic Riv	3.96	19		Pn	01 09 19.7 0.0
G24K	Hadweenzic Riv	3.96	19	P	Pn	01 09 19.9 +0.2
	baz=201,SNR=510					
G24K				S	Sn	01 10 04.8 -0.5
	baz=201					
N17K	Nushagak Hills	3.96	234	IAML		01 10 39.3
	comp=N,2µm,0.8s					
N17K				IAML		01 10 41.8
	comp=E,2µm,1.1s					
N17K	Nushagak Hills	3.96	234	P	Pn	01 09 19.9 +0.1
	baz=49,SNR=346					
K27K	Chicken	3.99	71		Pn	01 09 19.9 -0.3
K27K	Chicken	3.99	71	IAML		01 10 11.1
	comp=E,2µm,0.8s					
K27K				IAML		01 10 12.6
	comp=N,2µm,0.7s					
K27K	Chicken	3.99	71	P	Pn	01 09 19.8 -0.4
	baz=258,SNR=1000					
K27K				S	Sn	01 10 04.5 -1.8
	baz=258					
H18K	Honhosa River	4.00	306		Pn	01 09 20.9 +0.6
H18K	Honhosa River	4.00	306	P	Pn	01 09 20.8 +0.6
	baz=119,SNR=254					
H18K				S	Sn	01 10 05.0 -1.3
	baz=119					
I26K	Coal Creek Min	4.03	52		Pn	01 09 20.3 -0.3
I26K	Coal Creek Min	4.03	52	IAML		01 10 10.7
	comp=E,2µm,0.8s					
I26K				IAML		01 10 13.4
	comp=N,3µm,1.3s					
I26K	Coal Creek Min	4.03	52	P	Pn	01 09 20.3 -0.3
	baz=238,SNR=1000					
I26K				S	Sn	01 10 06.8 -0.2
	baz=238					
L27K	Beaver Creek,	4.04	85		Pn	01 09 20.2 -0.7
L27K				IAML		01 10 24.5
	comp=N,2µm,1.7s					
L27K	Beaver Creek,	4.04	85	P	Pn	01 09 20.2 -0.7
	baz=273,SNR=1000					
BCAR	Beaver Creek A	4.06	85		Pn	01 09 20.4 -0.7
HMT	Hamilton	4.07	128		Pn	01 09 20.0 -1.3
M27K	Edge Creek, AK	4.12	95	IAML		01 10 33.4
	comp=N,3µm,1.3s					
M27K				IAML		01 10 40.7
	comp=E,3µm,1.4s					
M27K	Edge Creek, AK	4.12	95	P	Pn	01 09 22.2 +0.2
	baz=283,SNR=1000					
Q23K	Middleton Isla	4.16	148		Pn	01 09 21.7 -0.7
Q23K	Middleton Isla	4.16	148	IAML		01 10 26.5
	comp=N,4µm,1.0s					
Q23K	Middleton Isla	4.16	148	P	Pn	01 09 21.2 -1.2
	baz=332,SNR=5.8					
Q23K				S	Sn	01 10 08.5 -1.7
	baz=332					
MID	Middleton Isla	4.16	148	P	Pn	01 09 21.9 -0.6
MID	Middleton Isla	4.16	148		Pn	01 09 21.6 -0.8
MID	Middleton Isla	4.16	148	IAML		01 10 11.0
	comp=E,5µm,1.0s					
MID				IAML		01 10 26.8
	comp=N,4µm,0.6s					
MID	Middleton Isla	4.16	148	P	Pn	01 09 21.6 -0.8
G19K	Purcell Mounta	4.18	322		Pn	01 09 22.5 -0.2
G19K	Purcell Mounta	4.18	322	P	Pn	01 09 22.4 -0.2
	baz=136,SNR=149					
CRQM	Cirque	4.23	119		Pn	01 09 22.9 -0.7
P18K	Big Mountain,	4.24	213	P	Pn	01 09 23.8 +0.3
	baz=30,SNR=106					
COLD	Coldfoot	4.24	3	P	Pn	01 09 23.9 +0.4
	baz=183,SNR=581					
COLD				S	Sn	01 10 11.3 -0.9
	baz=183					
NICHA	Nichawak Mount	4.25	128		Pn	01 09 22.7 -0.9
CRQE	Cirque	4.25	119	P	Pn	01 09 22.5 -1.3
	baz=305,SNR=49					
CRQE				S	Sn	01 10 09.7 -2.8
	baz=305					
G25K	Bearman Lake	4.25	25	P	Pn	01 09 23.9 +0.3
	baz=209,SNR=371					
G25K				S	Sn	01 10 12.7 +0.5
	baz=209					
FYU	Fort Yukon	4.27	31		Pn	01 09 23.8 -0.1
FYU	Fort Yukon	4.27	31	IAML		01 10 51.5
	comp=E,2µm,1.2s					
FYU				IAML		01 11 21.2
	comp=N,1µm,1.7s					
L16K	Owhat River	4.29	256		Pn	01 09 24.3 +0.2
L16K				IAML		01 10 52.1
	comp=E,1µm,1.0s					
L16K				IAML		01 11 04.4
	comp=N,1µm,0.9s					
L16K	Owhat River	4.29	256	P	Pn	01 09 24.4 +0.2
	baz=69,SNR=1000					
L16K				S	Sn	01 10 11.8 -1.6
	baz=69					
KAIM	Kayak Island	4.31	133		Pn	01 09 23.1 -1.4
KAIM	Kayak Island	4.31	133	IAML		01 10 14.3
	comp=E,5µm,0.6s					
KAIM	Kayak Island	4.31	133	P	Pn	01 09 23.2 -1.2
	baz=318					
KAIM				S	Sn	01 10 12.5 -1.4
	baz=318					
Q19K	Cape Douglas,	4.34	201		Pn	01 09 25.1 +0.2
Q19K	Cape Douglas,	4.34	201	P	Pn	01 09 24.9 0.0
	baz=18,SNR=98					
TGL	Tana Glacier	4.35	118		Pn	01 09 23.9 -1.3
M16K	Timber Creek	4.37	247	IAML		01 10 50.0
	comp=E,1µm,0.7s					
M16K				IAML		01 11 00.7
	comp=N,2µm,1.1s					
M16K	Timber Creek	4.37	247	P	Pn	01 09 25.0 -0.3
	baz=60,SNR=108					
M16K				S	Sn	01 10 14.5 -0.8
	baz=60					
KHIT	Khitrov Hills	4.38	123		Pn	01 09 24.2 -1.2
F21K	Alatna River	4.39	346	P	Pn	01 09 26.4 +0.8
	baz=163,SNR=1000					
GRIN	Grindle Hills	4.46	125		Pn	01 09 25.7 -0.7
O17K	Koliganek Bris	4.47	226	P	Pn	01 09 26.8 +0.2
	baz=41,SNR=277					
Q20K	Shuyak Island	4.49	191	P	Pn	01 09 26.8 -0.1
	baz=10,SNR=104					
SYI	Shuyak Island	4.49	191	IAML		01 10 17.5
	comp=N,2µm,0.5s					
SYI				IAML		01 10 18.0
	comp=E,4µm,0.9s					
H17K	Granite Mounta	4.50	300		Pn	01 09 27.6 +0.7
H17K	Granite Mounta	4.50	300	IAML		01 10 18.6
	comp=N,2µm,0.8s					
H17K				IAML		01 10 22.1
	comp=E,1µm,1.0s					
H17K	Granite Mounta	4.50	300	P	Pn	01 09 27.7 +0.7
	baz=111					
H17K				S	Sn	01 10 17.4 -0.9
	baz=111					
G18K	Tagagawik	4.50	314		Pn	01 09 27.4 +0.5
G18K	Tagagawik	4.50	314	IAML		01 10 21.2
	comp=E,1µm,1.0s					
G18K	Tagagawik	4.50	314	P	Pn	01 09 27.5 +0.5
	baz=126					
G18K				S	Sn	01 10 17.6 -0.8
	baz=126					
J16K	Anvik River	4.50	278		Pn	01 09 27.4 +0.4
J16K	Anvik River	4.50	278	IAML		01 10 18.9
	comp=E,1µm,1.5s					
J16K				IAML		01 10 20.3
	comp=N,1µm,0.9s					
J16K	Anvik River	4.50	278	P	Pn	01 09 27.4 +0.4
	baz=89,SNR=664					
J16K				S	Sn	01 10 18.2 -0.2
	baz=89					
WAX	Waxell Ridge	4.53	121		Pn	01 09 26.3 -1.1
F22K	John River	4.56	353		Pn	01 09 28.4 +0.7
F22K	John River	4.56	353	P	Pn	01 09 28.5 +0.7
	baz=171					
BVCY	Beaver Creek	4.57	93	P	Pn	01 09 28.1 +0.2
	baz=282,SNR=5.3					
EGAK	Eagle	4.57	63		Pn	01 09 27.4 -0.5
EGAK	Eagle	4.57	63	IAML		01 11 02.0
	comp=N,3µm,1.0s					
EGAK				IAML		01 11 02.7
	comp=N,2µm,0.8s					
EGAK	Eagle	4.57	63	P	Pn	01 09 27.2 -0.7
	baz=251,SNR=530					
BGLC	Bering Glacier	4.58	126	P	Pn	01 09 28.3 +0.3
	baz=312					
BGLC				S	Sn	01 10 18.5 -1.6
	baz=312					
F20K	Avaraart Lake	4.58	335	P	Pn	01 09 28.8 +0.7
	baz=150,SNR=305					
F20K				S	Sn	01 10 19.5 -0.8
	baz=150					
N16K	Nishlik Lake	4.60	240	P	Pn	01 09 28.3 -0.1
	baz=53,SNR=97					
F24K	Squaw Lake	4.68	13	P	Pn	01 09 29.7 +0.2
	baz=196,SNR=149					
F24K				S	Sn	01 10 21.3 -1.4
	baz=196					
BARK	Barkley Ridge	4.70	120		Pn	01 09 28.6 -1.1
SNH	Sunshine Point	4.70	124		Pn	01 09 28.7 -1.0
SNH	Sunshine Point	4.70	124	IAML		01 10 49.9
	comp=N,3µm,1.3s					
SNH				IAML		01 10 53.4
	comp=E,3µm,1.4s					
P17K	Kvichak River	4.73	219		Pn	01 09 30.2 +0.2
P17K	Kvichak River	4.73	219	P	Pn	01 09 30.5 +0.4
	baz=34,SNR=61					
I27K	Kandik River	4.73	53		Pn	01 09 29.8 -0.3
I27K	Kandik River	4.73	53	P	Pn	01 09 29.6 -0.5
	baz=240,SNR=1000					
GRNC	Granite Creek	4.81	114	IAML		01 10 40.0
	comp=N,3µm,0.8s					
GRNC				IAML		01 10 55.3
	comp=E,2µm,1.0s					
KAHC	Katmai Hardscr	4.86	208		Pn	01 09 32.0 +0.1
Q18K	Katmai Hardscr	4.86	208	P	Pn	01 09 31.9 0.0
	baz=24,SNR=98					
CTG	Chitna Glacier	4.86	111	P	Pn	01 09 31.5 -0.4
	baz=299,SNR=100					
CTG				S	Sn	01 10 25.6 -1.7
	baz=299					
CTGM	Chitina Glacie	4.87	111	IAML		01 10 28.2
	comp=N,3µm,0.6s					
CTGM				IAML		01 10 28.9
	comp=E,1µm,1.0s					
F19K	Shaleruckik Mo	4.88	325	P	Pn	01 09 32.0 0.0
	baz=139,SNR=138					
F19K				S	Sn	01 10 25.0 -2.4
	baz=139					
KAHG	Katmai Hook Gl	4.91	204		Pn	01 09 32.8 +0.3
YUK3	Moose Creek	4.92	100	P	Pn	01 09 32.9 +0.1
	baz=289,SNR=939					
YUK3				S	Sn	01 10 26.5 -2.2
	baz=289					
G26K	Porcupine Rive	4.92	33	P	Pn	01 09 32.0 -0.6
	baz=219,SNR=219					
G26K				S	Sn	01 10 26.9 -1.5
	baz=219					
O16K	Kokwok River B	4.94	229	IAML		01 11 15.9
	comp=E,1µm,1.2s					
O16K				IAML		01 11 19.8
	comp=N,1µm,1.1s					
O16K	Kokwok River B	4.94	229	P	Pn	01 09 32.8 -0.1
	baz=43,SNR=56					
G17K	Kiwalik Mounta	5.01	304		Pn	01 09 34.3 +0.5
G17K	Kiwalik Mounta	5.01	304	P	Pn	01 09 34.1 +0.3
	baz=116,SNR=103					
MESA	MESA	5.05	120	P	Pn	01 09 33.8 -0.7
	baz=308,SNR=20					
MESA				S	Sn	01 10 29.6 -2.2
	baz=308					
K15K	Wolf Creek Mou	5.05	267	P	Pn	01 09 35.0 +0.6
	baz=77,SNR=288					
K15K				S	Sn	01 10 31.9 +0.4
	baz=77					
F25K	Christian Rive	5.07	22	P	Pn	01 09 34.7 +0.1
	baz=207,SNR=358					
F25K				S	Sn	01 10 30.4 -1.7
	baz=207					
LOGN	Logan Glacier	5.08	111		Pn	01 09 34.3 -0.6
LOGN	Logan Glacier	5.08	111	IAML		01 10 37.8
	comp=E,2µm,0.8s					
LOGN				IAML		01 10 43.4
	comp=N,2µm,1.0s					
E23K	Chandalar	5.09	5	P	Pn	01 09 35.5 +0.5
	baz=185,SNR=140					
E23K				S	Sn	01 10 31.5 -1.2
	baz=185					
H27K	Steamboat Moun	5.10	47	P	Pn	01 09 34.4 -0.7
	baz=234,SNR=371					
H27K				S	Sn	01 10 31.7 -1.1
	baz=234					
BMAR	Burnt Mountain	5.13	27		Pn	01 09 35.6 +0.2
DAWY	Dawson	5.17	73		Pn	01 09 35.7 -0.3
DAWY	Dawson	5.17	73	P	Pn	01 09 35.6 -0.3
	baz=263,SNR=1000					
E24K	Your Creek	5.17	9	P	Pn	01 09 36.6 +0.6
	baz=191,SNR=237					
E24K				S	Sn	01 10 34.1 -0.5
	baz=191					
L15K	Ungalak Mounta	5.20	260	P	Pn	01 09 36.5 +0.2
	baz=71,SNR=216					
L15K				S	Sn	01 10 34.8 -0.4
	baz=71					
TABL	Table Mountain	5.22	115		Pn	01 09 36.5 -0.3
TABL	Table Mountain	5.22	115	IAML		01 10 59.3
	comp=E,2µm,1.0s					
TABL				IAML		01 11 03.1
	comp=N,2µm,1.2s					
Q16K	King Salmon	5.23	217	P	Pn	01 09 36.9 +0.2
	baz=32,SNR=42					
E19K	Redstone River	5.24	331		Pn	01 09 37.7 +0.7
E19K	Redstone River	5.24	331	IAML		01 10 39.1
	comp=N,700nm,0.8s					
E19K	Redstone River	5.24	331	P	Pn	01 09 37.6 +0.7
	baz=145,SNR=192					
E19K				S	Sn	01 10 35.3 -0.9
	baz=145					
F18K	Selawik	5.26	317	P	Pn	01 09 37.4 +0.3
	baz=129,SNR=33					
KABU	Katmai Buttres	5.26	207		Pn	01 09 37.7 +0.4
M15K	Kasigluk River	5.27	248		Pn	01 09 37.1 -0.2
M15K	Kasigluk River	5.27	248	P	Pn	01 09 37.2 -0.2
	baz=60,SNR=112					
I28M	Miner Creek	5.29	58		Pn	01 09 38.2 +0.5
I28M	Miner Creek	5.29	58	IAML		01 10 42.8
	comp=E,1µm,1.1s					
I28M				IAML		01 11 25.5
	comp=N,891nm,0.9s					
I28M	Miner Creek	5.29	58	P	Pn	01 09 37.8 +0.1
	baz=247,SNR=1000					
I28M				S	Sn	01 10 36.4 -1.1
	baz=247					
N15K	Kwethluk River	5.31	242	IAML		01 11 21.6
	comp=N,2µm,0.8s					
N15K				IAML		01 11 30.8
	comp=E,1µm,0.8s					
N15K	Kwethluk River	5.31	242	P	Pn	01 09 37.8 -0.2
	baz=54,SNR=37					
KDAK	Kodiak Island	5.33	191		Pn	01 09 35.9 -2.2
KDAK	Kodiak Island	5.33	191	IAML		01 10 37.2
	comp=E,1µm,0.8s					
KDAK				IAML		01 10 38.5
	comp=E,1µm,1.0s					
KDAK	Kodiak Island	5.33	191	P	Pn	01 09 36.9 -1.2
	baz=9.6					
KDAK	Kodiak Island	5.33	191	P	Pn	01 09 36.9 -1.2
	comp=E,154nm,0.2s,baz=60,slow=6.7,SNR=981					
KDAK				S	Sn	01 10 33.3 -4.9
	comp=E,306nm,0.4s,baz=311,slow=20,SNR=15					
KDAK				ScP	ScP	01 19 57.7 +1.3
	comp=E,10nm,0.9s,baz=331,slow=4.0,SNR=4.6					
KDAK	Kodiak Island	5.33	191	*i P*	Pn	01 09 35.8 -2.2
P16K	Nushagak River	5.34	225	P	Pn	01 09 38.9 +0.7
	baz=39,SNR=25					
H16K	Elim	5.37	293		Pn	01 09 39.2 +0.6
H16K	Elim	5.37	293	P	Pn	01 09 39.1 +0.5
	baz=103,SNR=66					
H16K				S	Sn	01 10 38.7 -0.4
	baz=103					
ANCK	Angle Creek	5.37	208		Pn	01 09 38.9 +0.1
CNTC	Contact Creek	5.40	211		Pn	01 09 39.5 +0.3
Q17K	Contact Creek	5.40	211	P	Pn	01 09 39.4 +0.2
	baz=26,SNR=86					
YUK8	Steele Glacier	5.41	104		Pn	01 09 39.1 -0.3
YUK8	Steele Glacier	5.41	104	P	Pn	01 09 39.1 -0.3
	baz=293,SNR=102					
G27K	Doyon Strip	5.42	41	P	Pn	01 09 38.3 -1.0
	baz=229,SNR=122					
G27K				S	Sn	01 10 38.0 -2.4
	baz=229					
F26K	Sheenjek River	5.44	27	P	Pn	01 09 39.4 -0.3
	baz=213,SNR=292					
F26K				S	Sn	01 10 38.4 -2.7
	baz=213					
O28M	Mount Upton	5.45	110		Pn	01 09 39.5 -0.6
O28M	Mount Upton	5.45	110	P	Pn	01 09 39.3 -0.7
	baz=299,SNR=72					
O28M				S	Sn	01 10 40.0 -1.6
	baz=299					
E25K	Arctic Village	5.56	20		Pn	01 09 41.0 -0.1
E25K	Arctic Village	5.56	20	P	Pn	01 09 41.2 0.0
	baz=204,SNR=312					
E25K				S	Sn	01 10 41.9 -1.8
	baz=204					

E21K Killik River 5.62 348 Pn 01 09 43.0 +1.0
E21K Killik River 5.62 348 P Pn 01 09 43.8 +1.8
baz=164
E21K S Sn 01 10 47.0 +1.7
baz=164
G16K Koyuk River 5.63 300 Pn 01 09 42.4 +0.4
G16K Koyuk River 5.63 300 P Pn 01 09 42.5 +0.4
baz=110,SNR=67
M29M Somme Creek 5.66 90 P Pn 01 09 42.2 -0.4
baz=281,SNR=455
M29M S Sn 01 10 45.4 -0.9
baz=281
TOLK Toolik Lake Re 5.68 4 P Pn 01 09 44.4 +1.6
baz=185,SNR=161
TOLK S Sn 01 10 47.9 +1.2
baz=185
F17K Baldwin Pennin 5.68 312 Pn 01 09 43.2 +0.4
F17K Baldwin Pennin 5.68 312 P Pn 01 09 43.5 +0.7
baz=122,SNR=34
L29M L29M 5.71 83 P Pn 01 09 43.0 -0.4
baz=274,SNR=404
J29N Klondike Camp 5.73 70 Pn 01 09 43.3 -0.2
J29N Klondike Camp 5.73 70 P Pn 01 09 43.1 -0.4
baz=261,SNR=57
E20K Nigu River 5.74 339 P Pn 01 09 45.0 +1.3
baz=154,SNR=811
E20K S Sn 01 10 48.9 +0.6
baz=154
R18K Karluk 5.77 201 Pn 01 09 42.5 -1.5
R18K Karluk 5.77 201 P Pn 01 09 42.5 -1.5
baz=18
PCA Pinnacle 5.78 116 Pn 01 09 43.2 -1.0
PINM Pinnacle 5.78 116 P Pn 01 09 43.6 -0.7
baz=305
M14K Bethel 5.79 252 Pn 01 09 44.8 +0.5
M14K Bethel 5.79 252 P Pn 01 09 45.0 +0.7
baz=62,SNR=87
L14K Kuka Creek 5.86 259 P Pn 01 09 46.2 +1.0
baz=68
L14K S Sn 01 10 50.1 -0.9
baz=68
O15K Ungalikthiuk R 5.86 233 P Pn 01 09 45.8 +0.5
baz=46,SNR=47
YUK4 Talbot Arm 5.88 101 P Pn 01 09 45.4 -0.4
baz=291
J14K Nanvaranak Lak 5.89 273 Pn 01 09 46.3 +0.7
J14K Nanvaranak Lak 5.89 273 P Pn 01 09 46.2 +0.7
baz=82
J14K S Sn 01 10 52.2 +0.5
baz=82
I29M Ogilvie Camp, 5.90 61 Pn 01 09 45.7 -0.2
I29M Ogilvie Camp, 5.90 61 P Pn 01 09 45.7 -0.2
baz=252,SNR=1000
OHAK Old Harbor 5.95 194 P Pn 01 09 44.6 -1.8
OHAK Old Harbor 5.95 194 Pn 01 09 44.5 -1.9
OHAK Old Harbor 5.95 194 P Pn 01 09 44.5 -1.9
baz=12,SNR=25
PLK2 Peulik 2 5.95 210 Pn 01 09 47.4 +0.9
D22K Ayikyak River 5.96 353 P Pn 01 09 48.1 +1.6
baz=171,SNR=192
D22K S Sn 01 10 55.7 +2.3
baz=171
K29M Barlow Dome 5.97 76 P Pn 01 09 46.4 -0.5
baz=268,SNR=504
D23K Nanushuk River 5.99 0 P Pn 01 09 48.5 +1.6
baz=180,SNR=328
D23K S Sn 01 10 57.0 +3.0
baz=180
PLK1 Peulik 1 5.99 212 Pn 01 09 47.8 +0.8
PLK3 Peulik 3 6.01 210 Pn 01 09 48.1 +0.8
E18K Tukpahlearik C 6.08 321 Pn 01 09 48.9 +0.8
E18K Tukpahlearik C 6.08 321 P Pn 01 09 48.8 +0.7
baz=132,SNR=48
PLK4 Peulik 4 6.08 210 Pn 01 09 49.0 +0.6
R17L Mt. Peulik Vol 6.08 210 P Pn 01 09 49.0 +0.7
baz=26,SNR=64
N14K Kuskokwak Cree 6.11 245 Pn 01 09 48.8 +0.2
N14K Kuskokwak Cree 6.11 245 P Pn 01 09 48.5 -0.1
baz=55,SNR=12
BCPM Bancas Point 6.12 115 Pn 01 09 47.8 -0.9
PLBL Peulik Blue Cr 6.13 212 Pn 01 09 50.0 +1.1
YUK6 Outpost Mounta 6.17 104 Pn 01 09 48.8 -0.8
YUK6 Outpost Mounta 6.17 104 P Pn 01 09 48.8 -0.8
baz=295,SNR=50
G15K Niukluk 6.20 295 Pn 01 09 49.9 +0.1
G15K Niukluk 6.20 295 P Pn 01 09 50.3 +0.5
baz=103,SNR=38
H29M Whitestone 6.20 53 Pn 01 09 49.6 -0.2
H29M Whitestone 6.20 53 P Pn 01 09 49.4 -0.4
baz=244,SNR=253
D24K Happy Valley 6.22 6 Pn 01 09 51.9 +1.8
D24K Happy Valley 6.22 6 P Pn 01 09 51.9 +1.8
baz=188,SNR=232
D24K S Sn 01 11 01.5 +1.8
baz=188
D20K Etivluk River 6.22 340 P Pn 01 09 51.0 +0.9
baz=154,SNR=167
D20K S Sn 01 11 01.3 +1.5
baz=154
E17K Hotham Inlet 6.23 316 P Pn 01 09 50.6 +0.4
baz=126,SNR=37
D19K Kuna River 6.30 334 P Pn 01 09 52.0 +0.9
baz=147,SNR=126
D19K S Sn 01 11 03.2 +1.5
baz=147
O14K Tigyukauivet M 6.35 238 Pn 01 09 51.9 0.0
O14K Tigyukauivet M 6.35 238 P Pn 01 09 52.1 +0.2
baz=49
O29M Mount Kennedy 6.38 110 Pn 01 09 51.4 -1.0
O29M Mount Kennedy 6.38 110 P Pn 01 09 51.6 -0.8
baz=300,SNR=18
PNL Peninsula 6.38 117 Pn 01 09 51.1 -1.2
PNL Peninsula 6.38 117 P Pn 01 09 51.5 -0.8
baz=306
M30M Minto, Yukon 6.39 88 Pn 01 09 51.5 -0.9
M30M Minto, Yukon 6.39 88 P Pn 01 09 51.7 -0.8
baz=280
C21K Knifeblade Rid 6.39 347 P Pn 01 09 53.8 +1.4
baz=163,SNR=464
C21K S Sn 01 11 06.0 +2.1
baz=163
E27K Coleen River 6.42 32 P Pn 01 09 52.0 -0.8
baz=220,SNR=122
F28M Old Crow 6.47 40 Pn 01 09 52.7 -0.8
F28M Old Crow 6.47 40 P Pn 01 09 52.6 -0.8
baz=229,SNR=137
N30M Aishikik Lake 6.54 98 P Pn 01 09 53.9 -0.7
baz=290,SNR=91
M13K Dall Lake 6.55 252 Pn 01 09 55.8 +1.2
M13K Dall Lake 6.55 252 P Pn 01 09 56.0 +1.4
baz=61
J30M Hart River 6.55 70 P Pn 01 09 54.7 0.0
baz=262,SNR=437
J30M S Sn 01 11 07.4 -0.6
baz=262
D25K Kavik River 6.58 14 P Pn 01 09 56.1 +1.1
baz=197,SNR=347
D25K S Sn 01 11 08.9 +0.4
baz=197
HYT Haines Junctio 6.60 103 Pn 01 09 54.4 -1.0
HYT Haines Junctio 6.60 103 P Pn 01 09 54.6 -0.8
baz=295,SNR=121
F15K North Star Dit 6.63 300 P Pn 01 09 56.3 +0.6
baz=108,SNR=26
G29M Pine Creek 6.65 48 P Pn 01 09 55.3 -0.6
baz=240,SNR=85
I30M Mount Dempster 6.65 64 Pn 01 09 55.1 -0.9
I30M Mount Dempster 6.65 64 P Pn 01 09 54.8 -1.2
baz=257,SNR=280
ANM Nome 6.69 290 Pn 01 09 56.9 +0.5
ANM Nome 6.69 290 P Pn 01 09 57.1 +0.8
baz=97,SNR=17
ANM Nome 6.69 290 P Pn 01 09 56.9 +0.5
SII Sitkinak Islan 6.70 197 P Pn 01 09 55.1 -1.6
SII Sitkinak Islan 6.70 197 Pn 01 09 54.5 -2.2
SII Sitkinak Islan 6.70 197 P Pn 01 09 54.7 -2.0
baz=14,SNR=5.8
C24K Franklin Bluff 6.79 6 Pn 01 09 59.2 +1.5
C24K Franklin Bluff 6.79 6 P Pn 01 09 59.3 +1.5
baz=188
C24K S Sn 01 11 14.6 +1.1
baz=188
B21K Ikpikpuk River 6.83 348 P Pn 01 09 58.8 +0.6
baz=165,SNR=161
B21K S Sn 01 11 15.4 +1.1
baz=165

C23K Itkillik River 6.86 0 P Pn 01 09 59.8 +1.1
baz=180,SNR=350
C23K S Sn 01 11 16.8 +1.6
baz=180
EPYK Eagle Plains 6.87 54 P Pn 01 09 58.0 -0.9
baz=247,SNR=858
EPYK S Sn 01 11 16.2 +0.6
baz=247
D17K Noatak River 6.99 318 Pn 01 10 01.0 +0.5
D17K Noatak River 6.99 318 P Pn 01 10 01.4 +1.0
baz=126
P29M Windy Craggy 7.09 113 P Pn 01 10 01.0 -0.9
baz=304,SNR=155
C19K Lookout Ridge 7.10 333 P Pn 01 10 02.9 +0.8
baz=145,SNR=30
C19K S Sn 01 11 23.2 +2.0
baz=145
C18K Kukok River 7.11 327 P Pn 01 10 02.5 +0.4
baz=138,SNR=30
C18K S Sn 01 11 20.5 -0.8
baz=138
N31M Braeburn, Yuko 7.13 96 Pn 01 10 02.3 -0.1
N31M Braeburn, Yuko 7.13 96 P Pn 01 10 02.4 0.0
baz=289,SNR=124
RDOG Red Dog Mine 7.16 320 Pn 01 10 03.0 +0.3
RDOG Red Dog Mine 7.16 320 P Pn 01 10 03.7 +0.9
baz=129,SNR=17
P30M Million Dollar 7.17 108 Pn 01 10 01.8 -1.1
P30M Million Dollar 7.17 108 P Pn 01 10 02.2 -0.7
baz=300
C27K Jago River 7.21 20 P Pn 01 10 04.3 +0.8
baz=206,SNR=181
C27K S Sn 01 11 23.1 -0.6
baz=206
E28M Babbage River 7.24 34 P Pn 01 10 03.0 -0.9
baz=224,SNR=45
O30N Mendenhall 7.25 101 P Pn 01 10 02.8 -1.3
baz=294,SNR=68
G30M tAoh Zraii Nji 7.31 51 P Pn 01 10 03.4 -1.4
baz=243,SNR=160
C26K Camden Bay 7.31 16 Pn 01 10 05.9 +1.1
C26K Camden Bay 7.31 16 P Pn 01 10 05.8 +1.0
baz=201,SNR=155
C26K S Sn 01 11 26.9 +0.8
baz=201
D27M Malcolm River 7.39 28 P Pn 01 10 06.1 +0.1
baz=216,SNR=172
B22K Teshekpuk Lake 7.45 353 Pn 01 10 06.3 -0.2
B22K Teshekpuk Lake 7.45 353 P Pn 01 10 06.5 -0.1
baz=170
B22K S Sn 01 11 28.6 -0.7
baz=170
B20K Meade River 7.49 343 P Pn 01 10 06.8 -0.3
baz=157,SNR=147
B20K S Sn 01 11 29.9 -0.3
baz=157
C17K DeLong Mountai 7.51 322 Pn 01 10 08.1 +0.6
C17K DeLong Mountai 7.51 322 P Pn 01 10 08.1 +0.6
baz=131,SNR=9.2
E29M Blow River 7.54 39 P Pn 01 10 07.4 -0.5
baz=230,SNR=62
M31M Drury Creek, Y 7.56 89 P Pn 01 10 07.6 -0.7
baz=283,SNR=39
CHIR Chirikof Islan 7.63 201 Pn 01 10 06.5 -2.6
CHIR Chirikof Islan 7.63 201 P Pn 01 10 07.1 -2.1
baz=17
F30M Barrier River 7.75 47 P Pn 01 10 09.7 -1.0
baz=240,SNR=46
PLBC Pleasant Camp 7.77 111 P Pn 01 10 10.0 -1.1
baz=303,SNR=89
CHGN Chignik 7.77 214 Pn 01 10 10.1 -1.0
CHGN Chignik 7.77 214 P Pn 01 10 10.1 -1.0
baz=27,SNR=30
B18K Kokolik River 7.79 330 Pn 01 10 11.8 +0.6
B18K Kokolik River 7.79 330 P Pn 01 10 11.9 +0.6
baz=140,SNR=30
M11K Mekoryuk 7.82 257 Pn 01 10 13.6 +1.9
M11K Mekoryuk 7.82 257 P Pn 01 10 13.3 +1.6
baz=64,SNR=13
M11K S Sn 01 11 38.9 +0.4
baz=64
TNA Tin City 7.91 296 Pn 01 10 14.5 +1.6
TNA Tin City 7.91 296 P Pn 01 10 13.8 +0.9
baz=101,SNR=16
D28M Stokes Point 7.97 32 Pn 01 10 14.3 +0.7
D28M Stokes Point 7.97 32 P Pn 01 10 14.0 +0.4
baz=223
D28M S Sn 01 11 42.4 +0.5
baz=223
G31M Satah River 7.98 53 Pn 01 10 11.9 -1.9
G31M Satah River 7.98 53 P Pn 01 10 12.1 -1.7
baz=248,SNR=308
C16K Lisburne Hills 8.02 318 Pn 01 10 15.6 +1.3
C16K Lisburne Hills 8.02 318 P Pn 01 10 15.2 +0.9
baz=124,SNR=6.8
C16K S Sn 01 11 45.5 +2.3
baz=124
FARO Faro, Yukon 8.03 88 Pn 01 10 14.8 +0.2
FARO Faro, Yukon 8.03 88 P Pn 01 10 14.0 -0.7
baz=283,SNR=128
VNHG Veniaminof 1 8.04 216 Pn 01 10 15.4 +0.6
S14K Fog Glacier 8.09 218 P Pn 01 10 16.3 +0.8
baz=30
VNFG Fog Glacier, M 8.09 218 Pn 01 10 16.7 +1.2
A22K Sinclair Lake 8.20 350 P Pn 01 10 16.3 -0.5
baz=166,SNR=58
A22K S Sn 01 11 45.5 -2.1
baz=166
SKAG Skagway 8.21 109 P Pn 01 10 16.5 -0.5
SKAG Skagway 8.21 109 Pn 01 10 16.4 -0.6
SKAG Skagway 8.21 109 P Pn 01 10 16.0 -1.0
baz=302,SNR=72
A19K Wainwright 8.31 335 Pn 01 10 18.6 +0.4
A19K Wainwright 8.31 335 P Pn 01 10 18.7 +0.5
baz=145,SNR=41
F31M Tsiigehtchic 8.38 51 P Pn 01 10 17.0 -2.1
baz=246,SNR=104
N32M Quiet Lake 8.47 95 P Pn 01 10 20.1 -0.4
baz=290
A21K Barrow 8.66 347 Pn 01 10 21.7 -1.2
A21K Barrow 8.66 347 P Pn 01 10 21.8 -1.2
baz=162,SNR=125
A21K S Sn 01 11 54.0 -4.6
baz=162
S31K Pelican 8.74 119 P Pn 01 10 22.5 -1.6
baz=311,SNR=23
INK Inuvik 8.84 46 P Pn 01 10 24.0 -1.3
baz=241,SNR=64
INK S Sn 01 12 01.9 -1.1
baz=241
INK Inuvik 8.84 46 P Pn 01 10 23.1 -2.2
comp=E,63nm,1.0s,baz=232,slow=18,SNR=66
INK LR LR 01 14 14.7
comp=E,289nm,20.8s,baz=210,slow=40
P32M Atlin 8.85 105 Pn 01 10 24.3 -1.4
P32M Atlin 8.85 105 P Pn 01 10 24.4 -1.2
baz=300,SNR=17
MMPY Sheldon Lake, 8.90 84 Pn 01 10 26.0 -0.3
MMPY Sheldon Lake, 8.90 84 P Pn 01 10 26.7 +0.3
baz=281,SNR=154
BESE Bessie Mountai 8.91 113 Pn 01 10 25.1 -1.4
P33M Teslin, Yukon 8.96 100 P Pn 01 10 25.9 -1.2
baz=296,SNR=35
SDPT Sand Point 9.16 218 P Pn 01 10 29.1 -0.8
SDPT Sand Point 9.16 218 P Pn 01 10 29.1 -0.8
baz=29
R32K Eaglecrest 9.24 114 P Pn 01 10 29.2 -1.7
baz=308,SNR=164
JIS Juneau Island 9.30 113 P Pn 01 10 30.5 -1.1
S12K Black Hills 9.33 223 P Pn 01 10 30.9 -1.2
baz=34
CHNA Chernabura Isl 9.39 213 P Pn 01 10 31.4 -1.5
baz=26
PN7A Pavlof North-7 9.54 222 Pn 01 10 34.0 -1.0
SIT Sitka 9.71 121 P Pn 01 10 36.3 -0.9
SIT Sitka 9.71 121 P Pn 01 10 35.9 -1.3
baz=314,SNR=43
S32K Killisnoo 9.73 117 Pn 01 10 36.5 -1.0
S32K Killisnoo 9.73 117 P Pn 01 10 35.8 -1.7
baz=311,SNR=45
Q32M Nakina River 9.81 106 P Pn 01 10 37.3 -1.5
baz=302,SNR=56
R33M Jennings River 10.17 102 Pn 01 10 43.0 -0.5
R33M Jennings River 10.17 102 P Pn 01 10 42.7 -0.8
baz=299,SNR=37
FALS False Pass 10.47 225 P Pn 01 10 47.9 +0.5
baz=34

TGTN Hyland Airport 10.54 88 P Pn 01 10 48.0 -0.4
baz=288,SNR=28
WTLY Watson Lake, Y 10.82 96 P Pn 01 10 51.9 -0.3
baz=295,SNR=18
T33K Petersburg 10.83 117 P Pn 01 10 51.2 -1.0
baz=312
S34M Telegraph Cree 10.90 109 Pn 01 10 52.7 -0.5
S34M Telegraph Cree 10.90 109 P Pn 01 10 52.3 -0.9
baz=306,SNR=99
DLBC Dease Lake 11.08 105 Pn 01 10 55.1 -0.6
DLBC Dease Lake 11.08 105 P Pn 01 10 53.8 -2.0
baz=303,SNR=152
DLBC Dease Lake 11.08 105 P Pn 01 10 55.0 -0.8
comp=E,124nm,0.8s,baz=299,slow=12,SNR=62
DLBC LR LR 01 15 46.8
comp=E,303nm,19.6s,baz=308,slow=40
U33K Whale Pass 11.25 120 P Pn 01 10 56.8 -1.0
baz=315,SNR=26
WRAK Wrangell Islan 11.34 117 P Pn 01 10 57.7 -1.5
baz=313
CRAG Craig 11.71 122 P Pn 01 11 04.3 +0.3
CRAG Craig 11.71 122 Pn 01 11 03.8 -0.2
CRAG Craig 11.71 122 P Pn 01 11 03.2 -0.8
baz=317,SNR=9.0
T35M Bob Quinn 11.85 111 P Pn 01 11 05.9 +0.1
baz=309,SNR=66
WRGLY Wrigley 12.29 77 Pn 01 11 11.4 -0.1
WRGLY Wrigley 12.29 77 P Pn 01 11 10.8 -0.7
baz=281,SNR=19
UNV Unalaska Valle 12.33 229 P Pn 01 11 12.2 +0.1
baz=36
LIRD Liard River Hi 12.36 96 P Pn 01 11 12.0 -0.4
baz=297
C36M Paulatuk 12.40 48 Pn 01 11 09.5 -3.4
C36M Paulatuk 12.40 48 P Pn 01 11 09.3 -3.7
baz=252,SNR=49
V35K Ketchikan 12.41 120 P Pn 01 11 12.9 -0.2
baz=316,SNR=20
U35K Hyder 12.64 115 P Pn 01 11 16.1 0.0
baz=313
KOTAN Kotaneelee Air 12.97 91 P Pn 01 11 20.8 +0.4
baz=294,SNR=31
TOAD Toad River Com 13.01 97 P Pn 01 11 21.2 +0.2
baz=299,SNR=25
A36M Sachs Harbour 13.13 36 Pn 01 11 23.0 +0.6
A36M Sachs Harbour 13.13 36 P Pn 01 11 22.4 0.0
baz=240
NIKH Nikolski High 13.86 232 P Pn 01 11 32.7 +0.7
NIKH Nikolski High 13.86 232 P Pn 01 11 31.8 -0.1
baz=36
GRNB Grenville Isla 14.15 121 P Pn 01 11 37.2 +1.5
BBB Bella Bella 16.14 122 P Pn 01 12 00.3 -0.2
comp=E,192nm,0.9s,baz=323,slow=10,SNR=29
BBB S Sn 01 14 58.0 -1.5
comp=E,5.2nm,0.4s,baz=53,slow=16,SNR=1.6
BBB LR LR 01 17 45.4
comp=E,172nm,20.2s,baz=336,slow=35
BBB ScP ScP 01 20 12.1 +1.3
comp=E,18nm,1.0s,baz=303,slow=6.5,SNR=4.3
YKA Yellowknife Ar 16.40 76 P Pn 01 12 03.2 -0.5
YKA Yellowknife Ar 16.40 76 P Pn 01 12 02.5 -1.1
comp=E,68nm,0.7s,baz=287,slow=11,SNR=86
YKA PcP PcP 01 16 47.0 -1.0
comp=E,5.4nm,0.7s,baz=296,slow=1.6,SNR=5.2
YKA LR LR 01 18 47.4
comp=E,236nm,21.3s,baz=295,slow=38
YKA ScP ScP 01 20 11.8 +0.7
comp=E,6.4nm,0.6s,baz=293,slow=2.0,SNR=14
YKA Yellowknife Ar 16.40 76*ceP* **Pn 01 12 02.5 -1.1**
YKA pmax pmax
comp=Z,82nm,0.7s
ATKA Atka Island 16.49 240 P Pn 01 12 06.1 +1.3
ATKA Atka Island 16.49 240 P Pn 01 12 05.9 +1.2
GSTR Great Sitkin T 17.32 243 P P 01 12 15.7 +1.2
HOLB Holberg 17.36 125 P Pn 01 12 16.2 +0.7
ADK Adak 17.73 243 P P 01 12 19.4 +0.5
ADK Adak 17.73 243 P P 01 12 19.7 +0.7
ADK Adak 17.73 243 P P 01 12 19.7 +0.7
KIWB Kanaga Island 17.94 244 P P 01 12 22.5 +1.2
BILL Bilibino 18.21 305 P P 01 12 24.6 +0.5
BILL Bilibino 18.21 305 *eP* **P 01 12 23.8 -0.3**
BILL pmax pmax
comp=Z,45nm,1.3s
GNW Green Mountain 21.89 122 P P 01 13 04.8 +1.0
RES Resolute Bay 22.18 36 P P 01 13 07.9 +1.3
RES Resolute Bay 22.18 36 P P 01 13 07.9 +1.3
NEW Newport 23.64 113 P P 01 13 22.2 +1.3
baz=321,SNR=70
NEW Newport 23.64 113 P P 01 13 22.4 +1.5
NEW pmax pmax
comp=Z,88nm,1.1s
HAWA Hanford 24.15 119 P P 01 13 25.4 0.0
COR Corvallis 24.22 127 P P 01 13 27.5 +1.5
COR Corvallis 24.22 127 P P 01 13 27.5 +1.5
I03D Drain, OR 24.97 128 P P 01 13 34.6 +1.7
SEY Seymchan 25.15 296*ceP* **P 01 13 34.2 -0.1**
SEY pmax pmax
comp=Z,185nm,1.3s
I04A Tendick Farm, 25.22 126 P P 01 13 36.5 +1.2
I04A PcP 01 17 04.7 -0.6
I04A ScP ScP 01 20 34.1 +1.2
J01E Myrtle Point 25.23 129 IAmb IAmb 01 13 38.7
comp=Z,65nm,0.8s
K02D Willamette Mer 25.73 129 IAmb IAmb 01 13 43.3
comp=Z,73nm,0.7s
PINE Pine Mountain 25.77 124 IAmb IAmb 01 14 10.1
comp=Z,71nm,1.1s
FFC Flin Flon 25.91 86 P P 01 13 41.5 +0.3
FFC Flin Flon 25.91 86 P P 01 13 41.6 +0.3
FFC pmax pmax
comp=Z,60nm,1.3s
HUMO Hull Mountain 26.06 129 P P 01 13 45.0 +2.2
HUMO PcP 01 17 07.4 +0.2
HUMO ScP ScP 01 20 35.5 +0.2
MSO Missoula 26.11 111 P P 01 13 43.8 +0.5
MSO IAmb IAmb 01 13 45.2
comp=Z,51nm,0.6s
MSO Missoula 26.11 111 P P 01 13 44.3 +1.0
baz=322,SNR=100
K04D Chiloquin, OR 26.48 127 IAmb IAmb 01 14 16.2
comp=Z,94nm,1.0s
L04D Klamath Falls 26.83 128 IAmb IAmb 01 14 17.5
comp=Z,79nm,0.9s
YBH Yreka Blue Hor 26.91 129 LR LR 01 23 35.1
comp=Z,66nm,20.1s,baz=342,slow=34
KRPM Rodgers 26.96 132 IAmb IAmb 01 14 20.6
comp=Z,148nm,1.7s
EGMT Eagleton 27.01 104 IAmb IAmb 01 13 53.4
comp=Z,119nm,0.8s
EGMT Eagleton 27.01 104 P P 01 13 52.4 +1.0
baz=319,SNR=97
FCC Fort Churchill 27.09 73 P P 01 13 52.5 +0.7
FCC Fort Churchill 27.09 73 P P 01 13 52.5 +0.7
FCC pmax pmax
comp=Z,40nm,0.9s
MA2 Magadan 27.48 290 P P 01 13 55.6 +0.3
MA2 IAmb IAmb 01 13 57.5
comp=Z,76nm,1.0s
MA2 Magadan 27.48 290*ceP* **P 01 13 55.2 -0.1**
MA2 pmax pmax
comp=Z,76nm,1.0s
MA2 Magadan 27.48 290 P P 01 13 55.5 +0.2
comp=Z,83nm,1.2s,comp=Z,690nm
WVOR Wild Horse Val 27.81 123 P P 01 13 59.3 +0.7
WVOR Wild Horse Val 27.81 123 P P 01 13 59.3 +0.7
WVOR pmax pmax
comp=Z,33nm,0.9s
PET Petropavlovsk 27.88 273 P P 01 13 58.9 -0.1
PET PcP 01 17 10.3 -0.9
PET ScP ScP 01 20 40.4 -0.1
PET Petropavlovsk 27.88 273*ceP* **P 01 13 58.8 -0.1**
PET pmax pmax
comp=Z,22nm,1.3s
PET Petropavlovsk 27.88 273 P P 01 13 58.7 -0.2
comp=Z,29nm,0.9s
KMRM Mail Ridge 27.91 132 IAmb IAmb 01 14 03.1
comp=Z,46nm,0.9s
BOZ Bozeman (W) 28.07 110 IAmb IAmb 01 14 03.6
comp=Z,72nm,1.6s
BOZ Bozeman (W) 28.07 110 P P 01 14 02.4 +1.5
baz=322,SNR=40
MFID Camas Ranch 28.09 118 IAmb IAmb 01 14 03.2
comp=Z,39nm,0.7s
HATC Hat Creek Radi 28.16 128 P P 01 14 03.8 +2.1
HATC IAmb IAmb 01 14 30.9
comp=Z,56nm,0.8s

O02D	Mt. Diablo Mer	28.26	131	P	P	01 14 04.8 +2.3
KCPM	Cahto Peak	28.43	132	IAmb	IAmb	01 14 33.3
	comp=Z,39nm,0.8s					
HLID	Hailey	28.54	116	P	P	01 14 06.3 +1.1
	baz=326,SNR=37					
YNM	Yellowstone No	29.16	110	IAmb	IAmb	01 14 14.3
	comp=Z,47nm,0.8s					
DGMT	Dagmar	29.17	98	P	P	01 14 11.8 +1.4
	baz=317					
YNR	Norris Junctio	29.18	110	IAmb	IAmb	01 14 14.6
	comp=Z,55nm,0.9s					
YMP	Mirror Lake Pl	29.38	109	IAmb	IAmb	01 14 16.2
	comp=Z,78nm,1.2s					
RLMT	Red Lodge	29.46	108	IAmb	IAmb	01 14 16.6
	comp=Z,88nm,0.9s					
RLMT	Red Lodge	29.46	108	P	P	01 14 15.3 +2.0
	baz=322,SNR=60					
H17A	Grant Village	29.48	110	IAmb	IAmb	01 14 20.6
	comp=Z,72nm,1.6s					
H17A	Grant Village	29.48	110	P	P	01 14 16.8 +3.3
	baz=323,SNR=6.3					
FLWY	Flagg Ranch	29.68	111	IAmb	IAmb	01 14 19.1
	comp=Z,60nm,0.8s					
IMW	Indian Meadow	29.73	111	IAmb	IAmb	01 14 19.4
	comp=Z,47nm,0.8s					
TIXI	Tiksi	29.77	321	LR	LR	01 26 14.2
	comp=Z,83nm,19.5s,baz=20,slow=36					
TIXI	Tiksi	29.77	321	*c*eP	P	01 14 15.4 0.0
TIXI				pmax	pmax	
	comp=Z,10.0nm,0.5s					
TPAW	Teton Pass	30.05	112	IAmb	IAmb	01 14 22.2
	comp=Z,40nm,0.8s					
BMN	Battle Mountai	30.07	123	P	P	01 14 20.3 +1.7
BMN	Battle Mountai	30.07	123	P	P	01 14 20.3 +1.7
BMN				pmax	pmax	
	comp=Z,11nm,0.8s					
LOHW	Long Hollow	30.10	111	IAmb	IAmb	01 14 22.3
	comp=Z,33nm,0.7s					
SNOW	Snow King Moun	30.16	111	IAmb	IAmb	01 14 23.1
	comp=Z,31nm,0.8s					
PNTR	Pine Nut	30.36	127	IAmb	IAmb	01 14 56.5
	comp=Z,52nm,0.8s					
ELK	Elko	30.58	120	P	P	01 14 24.9 +1.7
ELK				IAmb	IAmb	01 14 26.4
	comp=Z,38nm,0.9s					
ELK	Elko	30.58	120	P	P	01 14 24.9 +1.7
ELK				pmax	pmax	
	comp=Z,38nm,0.9s					
AHID	Auburn Hatcher	30.58	113	IAmb	IAmb	01 14 26.4
	comp=Z,36nm,0.9s					
WAKR	Walker	30.93	128	IAmb	IAmb	01 14 56.0
	comp=Z,60nm,1.0s					
SPUT	South Promonto	31.23	116	IAmb	IAmb	01 14 32.0
	comp=Z,37nm,1.0s					
BW06	Boulder Array	31.23	111	P	P	01 14 30.6 +1.7
	baz=325,SNR=14					
PDAR	Pinedale Array	31.23	111	P	P	01 14 30.3 +1.4
	comp=Z,39nm,0.9s,baz=236,slow=0.9,SNR=207					
PDAR				pP	pP	01 14 56.9 +1.6
	comp=Z,19nm,0.9s,baz=20,slow=2.5,SNR=4.7					
PDAR				PcP	PcP	01 17 20.9 +0.5
	comp=Z,2.0nm,0.6s,baz=107,slow=1.5,SNR=3.5					
PDAR				ScP	ScP	01 20 51.0 -0.8
	comp=Z,2.4nm,0.7s,baz=40,slow=0.8,SNR=9.8					
PDAR				LR	LR	01 28 00.3
	comp=Z,57nm,20.2s,baz=353,slow=38					
	comp=Z,39nm,0.9s					
NVAR	Mina Array Bea	31.41	126	P	P	01 14 32.3 +1.7
	comp=Z,22nm,0.7s,baz=319,slow=8.8,SNR=143					
NVAR				pP	pP	01 14 59.7 +2.7
	comp=Z,41nm,0.8s,baz=323,slow=8.5,SNR=20					
NVAR				PcP	PcP	01 17 22.7 +1.8
	comp=Z,1.8nm,0.6s,baz=291,slow=2.8,SNR=5.1					
NVAR				ScP	ScP	01 20 51.5 -1.0
	comp=Z,0.5nm,0.5s,baz=299,slow=0.9,SNR=7.0					
NVAR				LR	LR	01 27 29.3
	comp=Z,71nm,21.7s,baz=318,slow=36					
	comp=Z,22nm,0.7s					
NV11	Mina Array Sit	31.47	126	IAmb	IAmb	01 15 00.8
	comp=Z,62nm,1.0s					
Q09A	Carvers	31.48	124	IAmb	IAmb	01 14 34.4
	comp=Z,46nm,0.9s					
LHV	Little Huntoon	31.50	127	IAmb	IAmb	01 15 01.1
	comp=Z,72nm,1.0s					
NEEM	North Greenlan	31.62	24	*i* P	P	01 14 31.8 -0.2
ULM	Lac du Bonnet	31.68	88	IAmb	IAmb	01 14 34.4
	comp=Z,35nm,0.7s					
ULM	Lac du Bonnet	31.68	88	P	P	01 14 32.2 -0.2
	comp=Z,28nm,0.7s,baz=313,slow=8.6,SNR=61					
ULM				PcP	PcP	01 17 21.2 +0.1
	comp=Z,7.6nm,0.6s,baz=238,slow=2.9,SNR=3.0					
ULM				ScP	ScP	01 20 53.2 +0.3
	comp=Z,5.7nm,0.7s,baz=298,slow=3.4,SNR=5.7					
	comp=Z,28nm,0.7s					
ULM	Lac du Bonnet	31.68	88	*d i* P	P	01 14 32.9 +0.5
MDND	Maddock	31.71	94	P	P	01 14 34.2 +1.5
	baz=318,SNR=12					
TCUT	Toone Canyon	31.81	115	IAmb	IAmb	01 14 37.1
	comp=Z,65nm,1.4s					
MLAC	Mammoth, Mammo	31.93	128	P	P	01 14 37.7 +2.6
	baz=333					
DUG	Dugway, Tooele	32.02	117	IAmb	IAmb	01 14 38.5
	comp=Z,38nm,0.8s					
DUG	Dugway, Tooele	32.02	117	P	P	01 14 37.6 +1.9
	baz=328,SNR=69					
DUG	Dugway, Tooele	32.02	117	P	P	01 14 37.6 +1.9
DUG				pmax	pmax	
	comp=Z,51nm,0.8s					
CTU	Camp Tracy	32.03	116	IAmb	IAmb	01 14 38.5
	comp=Z,47nm,0.8s					
BBGB	Big Mountain B	32.09	131	IAmb	IAmb	01 15 06.6
	comp=Z,69nm,1.0s					
MZP	Montezuma Peak	32.40	126	P	P	01 14 40.3 +1.1
SPR3	Spring Creek 3	32.43	121	IAmb	IAmb	01 14 43.6
	comp=Z,77nm,1.5s					
DSP	Deep Springs	32.47	127	IAmb	IAmb	01 15 09.9
	comp=Z,52nm,1.0s					
R11B	Troy Canyon, C	32.51	123	IAmb	IAmb	01 14 42.9
	comp=Z,32nm,0.9s					
R11B	Troy Canyon, C	32.51	123	P	P	01 14 41.7 +1.7
	baz=331,SNR=76					
NLU	North Lily Min	32.52	117	IAmb	IAmb	01 14 42.9
	comp=Z,39nm,0.9s					
RSSD	Black Hills	32.55	103	P	P	01 14 41.6 +1.2
RSSD	Black Hills	32.55	103	P	P	01 14 42.2 +1.7
	baz=322					
RSSD	Black Hills	32.55	103	P	P	01 14 41.6 +1.2
RSSD				pmax	pmax	
	comp=Z,118nm,0.6s					
RSSD	Black Hills	32.55	103	P	P	01 14 42.0 +1.6
RSSD				pP	pP	01 15 08.4 +1.4
RSSD				ScP	ScP	01 20 56.5 +0.3
BSUT	Blindstream Ca	32.57	115	IAmb	IAmb	01 14 43.9
	comp=Z,66nm,0.8s					
K22A	Casper	32.63	108	IAmb	IAmb	01 14 43.5
	comp=Z,80nm,1.0s					
K22A	Casper	32.63	108	P	P	01 14 42.6 +1.5
	baz=324,SNR=34					
TIN	Tinemaha, Big	32.66	127	P	P	01 14 44.2 +2.9
	baz=333					
VOG	Valley Oaks Go	32.90	129	P	P	01 14 44.9 +1.7
	baz=334					
PSUT	Pine Spring	33.02	120	IAmb	IAmb	01 14 47.5
	comp=Z,44nm,1.0s					
GRAC	Grapevine Rang	33.03	126	P	P	01 14 46.7 +2.3
	baz=333					
RDMU	Red Mountain	33.04	113	IAmb	IAmb	01 14 48.2
	comp=Z,85nm,0.9s					
S11A	Rachel	33.06	124	IAmb	IAmb	01 14 49.9
	comp=Z,32nm,0.9s					
AGMN	Agassiz Nation	33.08	90	P	P	01 14 45.5 +0.8
	baz=317,SNR=12					
CWC	Cottonwood Cre	33.26	128	P	P	01 14 48.7 +2.0
	baz=333					
VES	Vestal, Richgr	33.44	129	P	P	01 14 49.2 +1.2
	baz=334,SNR=11					
WCT	Wildcat Mounta	33.48	125	P	P	01 14 48.9 +0.5
TPNV	Topopah Spring	33.48	125	P	P	01 14 49.9 +1.4
	baz=332,SNR=32					
NOR	Nord	33.54	11	P	P	01 14 49.0 +0.7
NOR				pmax	pmax	
	comp=Z,27nm,0.8s					
NOR	Nord	33.54	11	*i* P	P	01 14 48.3 0.0
NOR				IAmb	IAmb	01 14 49.2
	comp=Z,14nm,0.7s					
P18A	Preston Nutter	33.55	115	IAmb	IAmb	01 14 52.8
	comp=Z,70nm,0.9s					
SMMC	Simmler	33.60	131	P	P	01 14 51.6 +2.2
	baz=335					
FURC	Furnace Creek,	33.68	126	P	P	01 14 52.0 +2.0
	baz=333,SNR=17					
ISA	Isabella, Lake	33.82	129	IAmb	IAmb	01 15 20.7
	comp=Z,43nm,0.8s					
ISA	Isabella, Lake	33.82	129	P	P	01 14 52.8 +1.5
	baz=334,SNR=9.8					
MPMC	Manual Prospec	33.82	127	P	P	01 14 53.5 +2.1
	baz=333,SNR=16					
O20A	White River Ci	33.96	112	IAmb	IAmb	01 15 21.9
	comp=Z,32nm,0.8s					
O20A	White River Ci	33.96	112	P	P	01 14 54.2 +1.5
	baz=327,SNR=42					
PKM	Mcpherson Peak	34.05	131	P	P	01 14 55.7 +2.3
	baz=335					
CCUT	Cedar City	34.07	121	IAmb	IAmb	01 14 56.7
	comp=Z,65nm,0.7s					
MTPU	Mount Pierson	34.11	119	IAmb	IAmb	01 14 57.8
	comp=Z,58nm,1.1s					
SZCU	Shurtz Canyon	34.13	120	P	P	01 14 55.7 +1.5
SZCU				IAmb	IAmb	01 14 57.2
	comp=Z,64nm,0.8s					
ARVC	Arvin	34.17	130	P	P	01 14 55.3 +1.0
	baz=335					
PHWY	Pilot Hill	34.19	108	IAmb	IAmb	01 14 56.5
	comp=Z,22nm,0.6s					
LRMC	Laurel Mtn Rad	34.26	128	P	P	01 14 57.3 +2.0
	baz=334,SNR=5.0					
SHPR	Sheep Range	34.29	124	P	P	01 14 56.9 +1.4
N23A	Red Feather La	34.31	109	P	P	01 14 57.3 +1.5
	baz=325,SNR=16					
SHOC	Shoshone, Teco	34.40	126	P	P	01 14 58.5 +2.2
	baz=333					
FRB	Frobisher Bay	34.44	51	LR	LR	01 29 19.0
	comp=Z,117nm,18.8s,baz=208,slow=37					
FRB	Frobisher Bay	34.44	51	P	P	01 14 57.2 +0.9
FRB				pmax	pmax	
	comp=Z,41nm,0.8s					
NUUG	Nuugaatsiaq	34.46	34	*i* P	P	01 14 56.4 0.0
SBC	Santa Barbara	34.48	131	P	P	01 14 59.4 +2.4
	baz=336					
YAK	Yakutsk	34.57	305	P	P	01 14 57.4 0.0
YAK	Yakutsk	34.57	305	LR	LR	01 30 38.3
	comp=Z,107nm,19.5s,baz=40,slow=39					
YAK	Yakutsk	34.57	305	*c i* P	P	01 14 57.1 -0.3
YAK				*e**PP	pP	01 15 21.8 -2.1
YAK				*e*		01 16 18.6
YAK				*e*		01 17 29.1
YAK				*e*S	S	01 20 18.6 +1.5
YAK				*e**SS	ScP	01 21 01.8 -0.9
YAK				*e*		01 25 01.1
YAK				pmax	pmax	
	comp=Z,137nm,0.8s					
YAK				pmax	pmax	
	comp=N,30nm,1.1s					
YAK				pmax	pmax	
	comp=E,29nm,1.3s					
YAK				pmax	pmax	
	comp=Z,73nm,1.1s					
YAK				pmax	pmax	
	comp=N,33nm,1.4s					
YAK				pmax	pmax	
	comp=E,25nm,1.5s					
YAK				smax	smax	
	comp=E,40nm,2.5s					
YAK				smax	smax	
	comp=N,21nm,2.5s					
YAK	Yakutsk	34.57	305	P	P	01 14 57.3 0.0
YAK				pP	pP	01 15 24.8 +0.9
PKCU	Pink Cliffs	34.57	119	IAmb	IAmb	01 15 01.6
	comp=Z,36nm,0.8s					
LCMT	Little Creek M	34.58	121	P	P	01 14 59.3 +1.3
LCMT				IAmb	IAmb	01 15 01.2
	comp=Z,68nm,0.9s					
SUSD	Miller	34.58	98	IAmb	IAmb	01 15 26.6
	comp=Z,80nm,1.0s					
SUSD	Miller	34.58	98	P	P	01 14 58.9 +1.1
	baz=321					
OSI	Osito Audit: C	34.67	130	P	P	01 15 00.4 +1.7
	baz=335					
EDW2	Edwards Air Fo	34.69	129	P	P	01 15 00.2 +1.4
	baz=334					
F33A	5 Mile Ranch,	34.72	94	IAmb	IAmb	01 15 00.8
	comp=Z,30nm,0.9s					
GSC	Goldstone, Bar	34.74	127	IAmb	IAmb	01 15 28.8
	comp=Z,49nm,0.8s					
GSC	Goldstone, Bar	34.74	127	P	P	01 15 01.5 +2.2
	baz=334,SNR=36					
HMU	Henry Mountain	34.78	117	IAmb	IAmb	01 15 03.2
	comp=Z,35nm,0.7s					
TUQ	Turquoise Moun	34.95	126	P	P	01 15 03.5 +2.4
	baz=333,SNR=32					
RRX	Edison Barstow	35.05	127	P	P	01 15 04.2 +2.3
	baz=334					
V12A	Nelson	35.09	124	IAmb	IAmb	01 15 05.9
	comp=Z,72nm,1.2s					
DECC	Green Verdugo	35.13	130	P	P	01 15 04.3 +1.7
	baz=335					
PASC	Pasadena Art C	35.26	129	P	P	01 15 04.4 +0.7
PASC				IAmb	IAmb	01 15 32.9
	comp=Z,28nm,0.9s					
UMMG	Uummannaq	35.27	35	*i* P	P	01 15 04.8 +1.5
EYMN	Ely	35.33	87	P	P	01 15 05.3 +1.2
	baz=317,SNR=86					
HEC	Hector,Ludlow	35.33	127	P	P	01 15 06.2 +1.8
	baz=334,SNR=9.9					
ISCO	Idaho Springs	35.36	109	P	P	01 15 06.5 +1.7
	baz=326,SNR=19					
ISCO	Idaho Springs	35.36	109	P	P	01 15 06.7 +1.9
ISCO				pmax	pmax	
	comp=Z,20nm,1.2s					
BFSC	Mount Baldy Ra	35.39	129	P	P	01 15 07.0 +2.1
	baz=335,SNR=19					
U15A	North Rim	35.46	120	IAmb	IAmb	01 15 08.7
	comp=Z,42nm,0.8s					
GMRC	Granite Mounta	35.62	126	P	P	01 15 08.8 +1.9
	baz=333,SNR=34					
BBRC	Big Bear Solar	35.63	128	P	P	01 15 08.9 +1.8
	baz=334					
CIS	Catalina Islan	35.88	130	P	P	01 15 10.4 +1.4
	baz=336					
OGNE	Ogallala	35.98	105	P	P	01 15 11.1 +1.2
	baz=324,SNR=5.1					
W13A	Hualapai Mount	36.01	123	IAmb	IAmb	01 15 13.4
	comp=Z,32nm,0.7s					
NEE2	Needles Airpor	36.03	124	P	P	01 15 11.8 +1.6
	baz=333,SNR=6.3					
MURC	Murrieta	36.13	129	P	P	01 15 12.0 +0.9
	baz=335					
ECSD	EROS Data Cent	36.19	96	IAmb	IAmb	01 15 13.1
	comp=Z,38nm,0.8s					
ECSD	EROS Data Cent	36.19	96	P	P	01 15 12.2 +0.7
	baz=321,SNR=48					
BELC	Belle Mtn. Jos	36.20	127	P	P	01 15 13.8 +2.0
	baz=334,SNR=22					
SCI2	San Clemente I	36.21	131	P	P	01 15 13.2 +1.4
	baz=336					
Q24A	Divide	36.25	110	IAmb	IAmb	01 15 15.2
	comp=Z,37nm,0.8s					
Q24A	Divide	36.25	110	P	P	01 15 14.3 +1.8
	baz=327,SNR=20					
E38A	The Farm, Brul	36.30	88	IAmb	IAmb	01 15 14.0
	comp=Z,29nm,0.7s					
MVCO	Mesa Verde	36.32	115	IAmb	IAmb	01 15 15.2
	comp=Z,39nm,0.7s					
MVCO	Mesa Verde	36.32	115	P	P	01 15 14.3 +1.3
	baz=329,SNR=26					
IRM	Iron Mountain	36.37	126	P	P	01 15 15.5 +2.3
	baz=334,SNR=30					
PMD	Palm Desert	36.38	128	IAmb	IAmb	01 15 42.0
	comp=Z,36nm,0.9s					
PFO	Pinyon Flats O	36.38	128	P	P	01 15 14.6 +1.2
PFO				IAmb	IAmb	01 15 42.9
	comp=Z,46nm,1.1s					
PFO	Pinyon Flats O	36.38	128	P	P	01 15 14.6 +1.2
	baz=334,SNR=18					
PFO	Pinyon Flats O	36.38	128	LR	LR	01 28 38.5
	comp=Z,92nm,19.5s,baz=13,slow=33					
PFO	Pinyon Flats O	36.38	128	*i* P	P	01 15 14.2 +0.8
PFO				pmax	pmax	
	comp=Z,64nm,1.6s					
PFO	Pinyon Flats O	36.38	128	P	P	01 15 14.7 +1.3
PFO				pP	pP	01 15 41.3 +1.0
PFO				ScP	ScP	01 21 11.4 +1.4
TPFO	Pinon Flats	36.39	128	P	P	01 15 14.8 +1.4
	baz=334,SNR=18					
S22A	4UR Ranch, Cre	36.56	113	IAmb	IAmb	01 15 18.3
	comp=Z,40nm,0.7s					
S22A	4UR Ranch, Cre	36.56	113	P	P	01 15 16.9 +1.8
	baz=328,SNR=87					
TYV	Tymovskoe	36.59	283	*e*P	P	01 15 15.6 +0.8
TYV				pmax	pmax	
	comp=Z,200nm,4.5s					
TYV				pmax	pmax	
	comp=Z,37nm,1.4s					
PDMCI	Parker Dam,Lak	36.62	124	P	P	01 15 17.0 +1.8
	baz=333,SNR=9.5					
WUAZ	Wupatki	36.62	120	P	P	01 15 17.6 +2.2
	baz=331,SNR=114					
BC3	Big Chuckawall	36.71	126	P	P	01 15 17.7 +1.5
	baz=334,SNR=14					
SPMN	Marine on St.	36.78	91	IAmb	IAmb	01 15 18.7
	comp=Z,72nm,1.0s					
SPMN	Marine on St.	36.78	91	P	P	01 15 17.6 +1.1
	baz=320,SNR=23					
109C	Camp Elliot, M	36.80	129	IAmb	IAmb	01 15 46.4
	comp=Z,53nm,0.9s					
109C	Camp Elliot, M	36.80	129	P	P	01 15 18.8 +2.0
	baz=335					
BLYC	Blythe	36.97	125	IAmb	IAmb	01 15 21.3
	comp=Z,56nm,0.8s					
MONP2	Monument Peak	37.04	128	P	P	01 15 21.2 +2.1
	baz=335,SNR=27					
SDCO	Great Sand Dun	37.12	111	IAmb	IAmb	01 15 22.4
	comp=Z,23nm,0.7s					
SDCO	Great Sand Dun	37.12	111	P	P	01 15 21.7 +1.9
	baz=328,SNR=25					
SUMG	Summit	37.21	27	IAmb	IAmb	01 15 23.3
	comp=Z,48nm,0.7s					
SUMG	Summit	37.21	27	P	P	01 15 20.8 +0.5
SUMG				pmax	pmax	
	comp=Z,87nm,0.7s					
SUMG	Summit	37.21	27	*i* P	P	01 15 21.0 +0.8
SWSC	Sam W. Stewart	37.22	127	P	P	01 15 21.9 +1.6
	baz=334,SNR=13					
DAG	Danmarks Havn	37.29	16	P	P	01 15 20.5 +0.1
DAG				pmax	pmax	
	comp=Z,147nm,0.8s					
DAG	Danmarks Havn	37.29	16	*i* P	P	01 15 20.0 -0.4
KSCO	Kaye Shedlock'	37.31	107	P	P	01 15 22.9 +1.8
	baz=326,SNR=7.0					
D41A	Chassel	37.32	85	IAmb	IAmb	01 15 24.6
	comp=Z,96nm,1.3s					
BGNE	Belgrade	37.34	100	P	P	01 15 22.4 +1.1
	baz=323,SNR=6.4					
IKP	In-Ko-Pah, Jac	37.37	128	P	P	01 15 23.9 +2.2
	baz=335,SNR=19					
Y14A	Wickenburg	37.37	123	IAmb	IAmb	01 15 24.9
	comp=Z,47nm,0.7s					
YUH	Yuha Desert	37.44	128	IAmb	IAmb	01 15 51.6
	comp=Z,27nm,0.9s					
GLA	Glamis	37.48	126	IAmb	IAmb	01 15 25.4
	comp=Z,48nm,0.8s					
GLA	Glamis	37.48	126	P	P	01 15 24.4 +1.8
	baz=334,SNR=31					
W18A	Petrified Fore	37.62	118	P	P	01 15 26.2 +2.3
	baz=331,SNR=27					
COWI	Conover	37.78	87	IAmb	IAmb	01 15 53.1
	comp=Z,35nm,1.0s					
G40A	Rib Lake	37.93	89	P	P	01 15 27.0 +0.8
G40A				IAmb	IAmb	01 15 28.1
	comp=Z,44nm,0.7s					
T25A	Trinidad	38.10	111	P	P	01 15 29.5 +1.5
	baz=328,SNR=11					
SFJD	Kangerlussuaq	38.11	39	P	P	01 15 28.4 +1.0
SFJD				IAmb	IAmb	01 15 29.1
	comp=Z,25nm,0.7s					
SFJD	Kangerlussuaq	38.11	39	LR	LR	01 33 06.4
	comp=Z,18nm,19.1s,baz=325,slow=39					
SFJD	Kangerlussuaq	38.11	39	P	P	01 15 28.4 +1.0
SFJD				pmax	pmax	
	comp=Z,25nm,0.7s					
SFJD	Kangerlussuaq	38.11	39	P	P	01 15 28.0 +0.6
SFJD				pP	pP	01 15 55.4 +1.0
SFJD				PcP	PcP	01 17 40.0 +0.4
113A	Mohawk Valley,	38.13	125	IAmb	IAmb	01 15 30.8
	comp=Z,24nm,0.8s					
F42A	Maple Grove Fa	38.50	86	IAmb	IAmb	01 15 33.4
	comp=Z,62nm,0.7s					
E43A	Lone Tree Farm	38.55	85	IAmb	IAmb	01 15 33.3
	comp=Z,51nm,0.8s					
CBKS	Cedar Bluff	38.74	104	P	P	01 15 34.7 +1.6
	baz=326,SNR=27					
I40A	Norwalk	38.80	91	IAmb	IAmb	01 15 35.1
	comp=Z,31nm,0.6s					
SPA0	Spitsbergen Ar	38.83	4	*e*P	P	01 15 33.5 +0.2
SPA0				IAmb	IAmb	01 15 33.7
	comp=Z,38nm,0.6s					
SPITS	Spitsbergen Ar	38.83	4	P	P	01 15 33.0 -0.3
	comp=Z,23nm,0.4s,baz=23,slow=5.4,SNR=106					
SPITS				pP	pP	01 16 00.1 -0.3
	comp=Z,30nm,1.0s,baz=50,slow=9.9,SNR=2.4					
SPITS				PcP	PcP	01 17 41.6 -0.1
	comp=Z,5.4nm,0.5s,baz=78,slow=7.8,SNR=3.3					
	comp=Z,23nm,0.4s					
SPITS	Spitsbergen Ar	38.83	4	P	P	01 15 33.7 +0.3
SPITS				pmax	pmax	
	comp=Z,107nm,1.4s					
ANMO	Albuquerque	39.11	115	P	P	01 15 38.0 +1.7
ANMO	Albuquerque	39.11	115	P	P	01 15 38.2 +1.9
	baz=330					
ANMO	Albuquerque	39.11	115	*d i* P	P	01 15 37.5 +1.1
ANMO				pmax	pmax	
	comp=Z,9.0nm,1.1s					
ANMO	Albuquerque	39.11	115	⇓P	P	01 15 38.3 +1.9
ANMO				pP	pP	01 16 05.5 +2.0
ANMO				ScP	ScP	01 21 21.9 +1.5
DBG	Daneborg	39.14	19	*i* P	P	01 15 35.5 -0.4
SCIA	State Center	39.17	95	P	P	01 15 37.2 +0.6
SCIA				IAmb	IAmb	01 15 38.8
	comp=Z,44nm,0.7s					
SCIA	State Center	39.17	95	P	P	01 15 37.5 +0.9
	baz=322,SNR=6.2					
214A	Organ Pipe Nat	39.21	124	IAmb	IAmb	01 15 40.2
	comp=Z,39nm,0.9s					
214A	Organ Pipe Nat	39.21	124	P	P	01 15 39.0 +2.0
	baz=334,SNR=21					
SFX	San Felipe	39.28	127	IAmb	IAmb	01 15 40.7
	comp=Z,35nm,1.1s					
PIX	Pinacate	39.32	125	P	P	01 15 39.3 +1.4
PIX				IAmb	IAmb	01 15 41.0
	comp=Z,46nm,1.0s					
GRNR	Gornyy	39.41	287⇑	*i* P	P	01 15 39.0 +0.6
GRNR				pmax	pmax	
	comp=N,150nm,1.2s					
GRNR				pmax	pmax	
	comp=Z,110nm,1.2s					
RTBA	Rita Blanca	39.41	109	IAmb	IAmb	01 15 41.3
	comp=Z,84nm,1.4s					
YSS	Yuzh-Sakhalins	39.41	278	P	P	01 15 38.7 +0.2
YSS				IAmb	IAmb	01 15 40.0
	comp=Z,64nm,1.0s					
YSS	Yuzh-Sakhalins	39.41	278	*e*P	P	01 15 39.5 +1.0
I42A	Draeger Farm,	39.58	89	IAmb	IAmb	01 15 42.1
	comp=Z,38nm,1.1s					
H43A	Windswept, Lux	39.65	87	IAmb	IAmb	01 15 42.6
	comp=Z,64nm,0.8s					
Y22D	IRIS PASSCAL I	39.67	116	IAmb	IAmb	01 15 44.5
	comp=Z,57nm,0.7s					
Y22D	IRIS PASSCAL I	39.67	116	P	P	01 15 43.5 +2.5
	baz=330					
TUC	Tucson	39.67	122	P	P	01 15 42.0 +1.1
TUC				IAmb	IAmb	01 15 44.3
	comp=Z,24nm,0.8s					
TUC	Tucson	39.67	122	P	P	01 15 43.2 +2.2
	baz=333					
TUC	Tucson	39.67	122	P	P	01 15 42.0 +1.1
TUC				pmax	pmax	
	comp=Z,24nm,0.8s					
TUC	Tucson	39.67	122	P	P	01 15 43.1 +2.2
TUC				pP	pP	01 16 10.0 +1.8
TUC				sP	sP	01 16 24.9 +3.0
TUC				ScP	ScP	01 21 24.3 +1.8
JFWS	Jewell Farm	39.73	91	IAmb	IAmb	01 15

comp=Z,36nm,0.8s
121A Cookes Peak, D 40.66 118 P **P** 01 15 51.6 +2.4
baz=332,SNR=32
L42A Oliver, Polo 40.71 91 P **P** 01 15 49.6 +0.3
L42A IAmb IAmb 01 16 17.8
comp=Z,36nm,0.9s
K43A Burlington 40.77 90 IAmb IAmb 01 15 51.4
comp=Z,81nm,0.9s
GLMI Grayling 40.81 84 P **P** 01 15 50.9 +0.8
baz=320,SNR=5.0
KAN08 Anthony NE Sta 40.83 104 IAmb IAmb 01 15 52.1
comp=Z,80nm,1.0s
P38A Dawn 40.86 97 P **P** 01 15 50.9 +0.4
P38A IAmb IAmb 01 15 52.0
comp=Z,45nm,0.8s
KAN06 Argonia West S 40.87 104 IAmb IAmb 01 15 52.4
comp=Z,44nm,0.8s
SCHQ Schefferville 41.06 61 P **P** 01 15 52.1 +0.1
comp=Z,16nm,0.8s,baz=319,slow=7.3,SNR=21
SCHQ pP **pP** 01 16 20.1 +0.7
comp=Z,8.7nm,0.8s,baz=291,slow=7.8,SNR=2.9
SCHQ PcP **PcP** 01 17 48.7 -0.5
comp=Z,11nm,0.6s,baz=307,slow=3.4,SNR=5.6
SCHQ ScP **ScP** 01 21 26.5 -1.0
comp=Z,3.5nm,0.6s,baz=336,slow=2.7,SNR=7.2
SCHQ LR LR 01 33 07.2
comp=Z,90nm,18.7s,baz=280,slow=36
comp=Z,16nm,0.8s
KAN17 Caldwell West 41.08 104 P **P** 01 15 53.1 +0.7
319A Douglas 41.09 121 IAmb IAmb 01 15 56.0
comp=Z,59nm,0.9s
OK038 West end E0370 41.12 105 **P** 01 15 53.0 +0.3
ZEA Zeya 41.13 297 *eP* **P** 01 15 52.7 +0.2
ZEA pmax pmax
comp=E,30nm,1.3s
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=Z,130nm,0.9s
AMTX Amarillo 41.18 110 IAmb IAmb 01 15 55.7
comp=Z,55nm,0.8s
AMTX Amarillo 41.18 110 P **P** 01 15 54.6 +1.3
baz=329
L44A Lake County Fo 41.38 90 P **P** 01 15 54.9 +0.2
L44A IAmb IAmb 01 15 56.5
comp=Z,54nm,0.7s
L44A Lake County Fo 41.38 90 P **P** 01 15 55.3 +0.6
baz=322
MSTX Muleshoe 41.49 111 P **P** 01 15 57.3 +1.3
baz=329,SNR=57
VLDQ Val d'Or 41.53 75 P **P** 01 15 54.9 -0.9
SMWD Samnorwood 41.61 108 P **P** 01 15 57.6 +0.8
SMWD IAmb IAmb 01 15 59.7
comp=Z,32nm,0.8s
NRIK Noril'sk 41.70 333 P **P** 01 15 57.7 +0.7
NRIK Noril'sk 41.70 333 P **P** 01 15 57.0 0.0
comp=Z,143nm,0.6s,baz=51,slow=6.4,SNR=216
NRIK ScP **ScP** 01 21 29.6 -0.2
comp=Z,7.2nm,0.8s,baz=96,slow=1.9,SNR=5.3
NRIK LR LR 01 36 31.0
comp=Z,83nm,18.3s,baz=34,slow=41
comp=Z,143nm,0.6s
NRIK Noril'sk 41.70 333⇑ *eP* **P** 01 15 57.0 0.0
NRIK pmax pmax
comp=Z,180nm,0.8s
CSTR Hydro, Custer 41.84 106 **P** 01 15 59.7 +1.1
EPT El Paso 41.85 117 IAmb IAmb 01 16 01.6
comp=Z,41nm,0.9s
M44A Midewin, Midew 41.94 91 P **P** 01 15 59.9 +0.5
M44A IAmb IAmb 01 16 00.9
comp=Z,53nm,0.8s
J47A Sunmer 41.95 86 IAmb IAmb 01 16 01.5
comp=Z,25nm,0.7s
OK048 Pawnee Station 41.96 103 **P** 01 15 60.0 +0.4
OK048 IAmb IAmb 01 16 01.2
comp=Z,100nm,1.2s
HDIL Hopedale 42.03 92 P **P** 01 16 00.5 +0.4
HDIL Hopedale 42.03 92 P **P** 01 16 00.5 +0.4
baz=323
I49A Point Hope 42.31 84 IAmb IAmb 01 16 04.5
comp=Z,76nm,0.8s
OK052 Battle Ridge R 42.38 104 IAmb IAmb 01 16 04.4
comp=Z,87nm,1.0s
R40A Maddies Statio 42.51 97 P **P** 01 16 03.9 -0.1
R40A IAmb IAmb 01 16 05.6
comp=Z,41nm,0.8s
S39A Bolivar 42.53 99 IAmb IAmb 01 16 04.6
comp=Z,36nm,0.8s
DKNS Dickens 42.54 110 IAmb IAmb 01 16 06.3
comp=Z,61nm,0.8s
HSIG 42.55 124 P **P** 01 16 05.5 +1.1
HSIG IAmb IAmb 01 16 07.3
comp=Z,48nm,1.0s
WMOK Wichita Mounta 42.56 107 **P** 01 16 05.4 +0.9
WMOK IAmb IAmb 01 16 06.6
comp=Z,67nm,0.9s
WMOK Wichita Mounta 42.56 107 P **P** 01 16 05.4 +0.9
baz=328,SNR=92
WMOK Wichita Mounta 42.56 107 P **P** 01 16 05.4 +0.9
WMOK pmax pmax
comp=Z,67nm,0.9s
KLR Kul'dur 42.57 289 *ceP* **P** 01 16 03.4 -0.9
KLR pmax pmax
comp=Z,99nm,1.7s
BJO1 Bjornoya 42.58 4 *eP* **P** 01 16 04.8 +0.7
BJO1 IAmb IAmb 01 16 05.0
comp=Z,69nm,0.8s
DEOK Depew 42.64 103 IAmb IAmb 01 16 06.5
comp=Z,100nm,1.1s
P43A Skaggs, Pawnee 42.67 93 IAmb IAmb 01 16 06.3
comp=Z,41nm,0.5s
FNO Franklin 42.73 105 IAmb IAmb 01 16 07.6
comp=Z,44nm,0.9s
TUL3 Leonard 42.90 103 IAmb IAmb 01 16 08.7
comp=Z,54nm,0.9s
TUL3 Leonard 42.90 103 P **P** 01 16 07.6 +0.5
baz=327,SNR=12
RLO Rose Lookout 43.03 102 **P** 01 16 08.3 +0.2
RLO IAmb IAmb 01 16 09.4
comp=Z,131nm,0.6s
JEM Erimo 43.04 273 P **P** 01 16 09.2 +1.0
ERM Erimo 43.04 273 P **P** 01 16 09.2 +1.0
ERM Erimo 43.04 273 P **P** 01 16 08.7 +0.6
ERM IAmb IAmb 01 16 09.8
comp=Z,38nm,0.8s
ERM Erimo 43.04 273 *ceP* **P** 01 16 09.4 +1.2
ERM pmax pmax
comp=Z,68nm,1.7s
ERM Erimo 43.04 273 P **P** 01 16 08.8 +0.6
ERM pP **pP** 01 16 37.3 +1.6
ERM PcP **PcP** 01 17 57.2 +1.2
ERM ScP **ScP** 01 21 36.0 +0.5
SN07 Snyder 07 43.05 110 IAmb IAmb 01 16 10.3
comp=Z,62nm,0.8s
X34A Smith Ranch, M 43.09 106 IAmb IAmb 01 16 10.8
comp=Z,114nm,1.7s
CCM Cathedral Cave 43.17 96 P **P** 01 16 09.1 -0.2
CCM Cathedral Cave 43.17 96 P **P** 01 16 09.1 -0.2
baz=325
CCM Cathedral Cave 43.17 96 P **P** 01 16 09.1 -0.2
CCM pmax pmax
comp=Z,24nm,1.0s
CCM Cathedral Cave 43.17 96 P **P** 01 16 09.1 -0.2
CCM ScP **ScP** 01 21 36.4 +0.2
SFIN Lafayette 43.18 91 IAmb IAmb 01 16 11.0
comp=Z,56nm,1.0s
SFIN Lafayette 43.18 91 P **P** 01 16 09.8 +0.5
baz=323,SNR=10
APMT Aspermont 43.18 109 IAmb IAmb 01 16 10.9
comp=Z,42nm,0.9s
ODSA Odessa 43.18 113 IAmb IAmb 01 16 11.8
comp=Z,77nm,0.8s
BOD Bodaibo 43.19 309 *eP* **P** 01 16 08.6 -0.6
BOD pmax pmax
comp=Z,138nm,1.1s
AAM Ann Arbor 43.22 86 IAmb IAmb 01 16 11.8
comp=Z,39nm,0.5s
AAM Ann Arbor 43.22 86 P **P** 01 16 11.0 +1.3
baz=322
SN05 Snyder 5 43.23 110 IAmb IAmb 01 16 11.5
comp=Z,41nm,0.7s
K50A Casco 43.32 85 IAmb IAmb 01 16 12.5
comp=Z,89nm,1.1s
VHRN Van Horn 43.33 116 IAmb IAmb 01 16 14.3
comp=Z,71nm,0.9s
SADO Sadowa 43.33 80 LR LR 01 34 42.8
comp=Z,113nm,18.5s,baz=348,slow=36

HHAR Hobbs 43.41 101 IAmb IAmb 01 16 11.3
comp=Z,38nm,0.5s
Q44A Meyer Farm, Va 43.49 94 IAmb IAmb 01 16 12.8
comp=Z,46nm,0.6s
FVM French Village 43.60 96 IAmb IAmb 01 16 13.6
comp=Z,39nm,0.6s
HEH HeiHe 43.65 293 *eP* **P** 01 16 11.9 -1.1
HEH pmax pmax
comp=Z,84nm,1.1s
LOOK Love County 43.89 106 IAmb IAmb 01 16 18.8
comp=Z,31nm,0.8s
ABTX Abilene, Hawle 43.99 109 IAmb IAmb 01 16 17.9
comp=Z,189nm,1.9s
ABTX Abilene, Hawle 43.99 109 P **P** 01 16 16.6 +0.7
baz=329,SNR=22
N49A Columbus Grove 44.07 88 IAmb IAmb 01 16 18.0
comp=Z,52nm,0.8s
T42A Van Buren 44.08 97 IAmb IAmb 01 16 17.1
comp=Z,37nm,0.6s
O48B Farmland 44.16 89 P **P** 01 16 17.1 -0.1
baz=324,SNR=54
X37A Clayton 44.19 103 IAmb IAmb 01 16 19.4
comp=Z,82nm,1.2s
ALPN Alpine 44.25 115 IAmb IAmb 01 16 21.9
comp=Z,33nm,0.7s
TRQ Mont Tremblant 44.25 75 IAmb IAmb 01 16 29.0
comp=Z,28nm,0.6s
PLPT Palo Pinto 44.40 108 IAmb IAmb 01 16 20.9
comp=Z,58nm,0.9s
BLO Bloomington 44.41 91 IAmb IAmb 01 16 19.9
comp=Z,40nm,0.6s
Z35A Perchaven, San 44.42 106 IAmb IAmb 01 16 21.6
comp=Z,60nm,0.8s
FCAR Ozark Folk Cen 44.56 99 IAmb IAmb 01 16 20.8
comp=Z,40nm,0.8s
O49A Covington 44.59 88 IAmb IAmb 01 16 21.8
comp=Z,47nm,0.7s
FW06 Azle 44.59 107 IAmb IAmb 01 16 23.0
comp=Z,28nm,0.7s
P48A Milroy 44.68 90 IAmb IAmb 01 16 22.0
comp=Z,48nm,1.2s
FW07 Weatherford 44.73 107 IAmb IAmb 01 16 23.2
comp=Z,37nm,0.6s
OZNA Ozona 44.82 112 IAmb IAmb 01 16 24.6
comp=Z,50nm,0.7s
M52A Chesterland 44.87 85 IAmb IAmb 01 16 24.9
comp=Z,46nm,0.8s
WBO Williamsburg 44.88 77 IAmb IAmb 01 16 23.9
comp=Z,33nm,0.7s
N51A Ashland 44.90 86 IAmb IAmb 01 16 24.7
comp=Z,61nm,0.8s
P49A Miami Univ. Ec 44.94 89 P **P** 01 16 23.0 -0.4
baz=324
JTM Tenmabayashi 44.97 274 P **P** 01 16 24.0 +0.4
PARMO Parma 44.99 96 IAmb IAmb 01 16 25.1
comp=Z,73nm,0.8s
MIAR Mount Ida 45.03 102 IAmb IAmb 01 16 25.6
comp=Z,78nm,0.9s
MIAR Mount Ida 45.03 102 P **P** 01 16 24.5 +0.4
baz=327,SNR=66
ERPA Erie 45.03 83 IAmb IAmb 01 16 25.9
comp=Z,55nm,0.7s
ERPA Erie 45.03 83 P **P** 01 16 24.8 +0.7
baz=323,SNR=8.9
LMQ La Malbaie 45.07 71 IAmb IAmb 01 16 34.6
comp=Z,33nm,0.8s
TX31 Lajitas Ar. Si 45.15 116 IAmb IAmb 01 16 28.2
comp=Z,58nm,1.1s
TXAR Lajitas Array 45.15 116 P **P** 01 16 26.7 +1.4
comp=Z,28nm,0.8s,baz=330,slow=5.9,SNR=272
TXAR pP **pP** 01 16 54.1 +1.1
comp=Z,12nm,0.6s,baz=337,slow=6.8,SNR=5.3
TXAR ScP **ScP** 01 21 45.4 +0.9
comp=Z,5.0nm,1.0s,baz=272,slow=3.1,SNR=15
TXAR PKiKP **PKiKP** 01 25 00.2 -1.0
comp=Z,0.2nm,0.5s,baz=260,slow=0.7,SNR=5.7
comp=Z,28nm,0.8s
ACSO Alum Creek Sta 45.17 87 IAmb IAmb 01 16 26.8
comp=Z,70nm,0.7s
ACSO Alum Creek Sta 45.17 87 P **P** 01 16 26.0 +0.8
baz=324,SNR=22
FW13 Cleburne 45.18 107 IAmb IAmb 01 16 27.3
comp=Z,62nm,0.7s
SAND Sanderson 45.24 114 IAmb IAmb 01 16 28.5
comp=Z,59nm,0.8s
M53A WI Miller and 45.26 84 IAmb IAmb 01 16 28.0
comp=Z,90nm,0.9s
M53A WI Miller and 45.26 84 P **P** 01 16 27.1 +1.2
baz=323,SNR=23
WCI Wyandotte Cave 45.28 92 P **P** 01 16 26.1 0.0
WCI IAmb IAmb 01 16 27.2
comp=Z,56nm,0.7s
WCI Wyandotte Cave 45.28 92 P **P** 01 16 26.2 0.0
baz=325
WCI Wyandotte Cave 45.28 92 P **P** 01 16 26.1 0.0
WCI pmax pmax
comp=Z,56nm,0.7s
WCI Wyandotte Cave 45.28 92 P **P** 01 16 26.1 0.0
WCI pP **pP** 01 16 54.0 +0.1
FW16 Waxahatchie 45.30 106 IAmb IAmb 01 16 28.2
comp=Z,61nm,0.8s
HICK Hickman 45.33 96 IAmb IAmb 01 16 28.5
comp=Z,107nm,1.1s
UALR University of 45.39 100 IAmb IAmb 01 16 27.9
comp=Z,54nm,0.8s
BRDY Brady 45.41 109 IAmb IAmb 01 16 29.1
comp=Z,45nm,0.9s
WHTX Lake Whitney, 45.48 107 IAmb IAmb 01 16 29.6
comp=Z,57nm,1.0s
WHTX Lake Whitney, 45.48 107 P **P** 01 16 28.3 +0.6
baz=329,SNR=10
Z38A Mt. Pleasant 45.48 104 IAmb IAmb 01 16 30.6
comp=Z,35nm,0.8s
LONY Lake Ozonia 45.48 76 P **P** 01 16 27.3 -0.3
baz=322,SNR=9.0
HBAR Harrisburg 45.50 98 IAmb IAmb 01 16 29.7
comp=Z,66nm,1.1s
P51A Williamsport 45.74 88 IAmb IAmb 01 16 30.9
comp=Z,52nm,1.1s
JCT Junction City 45.77 111 P **P** 01 16 31.3 +1.2
baz=330,SNR=44
O52A Adamsville 45.79 86 IAmb IAmb 01 16 31.4
comp=Z,89nm,1.2s
T47A Sharon Grove 45.93 93 IAmb IAmb 01 16 33.5
comp=Z,123nm,1.4s
WLAR White Oak Lake 45.95 102 IAmb IAmb 01 16 33.9
comp=Z,84nm,0.8s
O53A New Philadelph 45.97 86 P **P** 01 16 31.8 +0.3
baz=324,SNR=8.2
D62A Allapoint, All 45.98 70 IAmb IAmb 01 16 41.8
comp=Z,37nm,0.8s
P52A Corning 46.04 87 IAmb IAmb 01 16 33.2
comp=Z,35nm,0.8s
P52A Corning 46.04 87 P **P** 01 16 32.0 0.0
baz=324,SNR=9.3
M55A Ridgway 46.10 83 IAmb IAmb 01 17 01.5
comp=Z,80nm,0.9s
R50A Paris 46.14 90 IAmb IAmb 01 16 35.7
comp=Z,25nm,0.6s
J58A Remsen 46.16 78 IAmb IAmb 01 16 34.1
comp=Z,84nm,1.9s
WVT Waverly 46.30 95 P **P** 01 16 34.5 +0.3
WVT IAmb IAmb 01 16 35.8
comp=Z,40nm,0.7s
WVT Waverly 46.30 95 P **P** 01 16 34.6 +0.5
baz=326
WVT Waverly 46.30 95 P **P** 01 16 34.5 +0.3
WVT pmax pmax
comp=Z,40nm,0.7s
WVT Waverly 46.30 95 P **P** 01 16 34.8 +0.6
WVT ScP **ScP** 01 21 49.4 +0.3
DRIO Del Rio 46.34 112 IAmb IAmb 01 16 36.3
comp=Z,63nm,0.8s
USA0B Ussuriysk Arra 46.35 284 *eP* **P** 01 16 34.0 -0.4
USRK Ussuriysk Ar. 46.35 284 P **P** 01 16 34.0 -0.4
USRK Ussuriysk Ar. 46.35 284 P **P** 01 16 33.6 -0.7
comp=Z,5.9nm,0.6s,baz=46,slow=7.4,SNR=14
USRK PcP **PcP** 01 18 08.1 +0.7
comp=Z,2.6nm,0.5s,baz=25,slow=5.4,SNR=5.1
USRK PKP2ab 01 48 59.0
comp=Z,0.9nm,0.3s,baz=224,slow=14,SNR=14
comp=Z,5.9nm,0.6s
USRK Ussuriysk Ar. 46.35 284 P **P** 01 16 34.0 -0.4
Z41A Richland Creek 46.46 102 IAmb IAmb 01 16 36.4
comp=Z,101nm,1.1s
435B Jarrell 46.46 108 IAmb IAmb 01 16 37.5
comp=Z,42nm,0.9s
435B Jarrell 46.46 108 P **P** 01 16 36.2 +0.8

baz=330
HPIG 46.46 119 IAmb IAmb 01 16 38.6
comp=Z,60nm,1.3s
P53A Whipple 46.50 86 IAmb IAmb 01 16 36.9
comp=Z,50nm,0.7s
HAMF Hammerfest 46.57 3 *eP* **P** 01 16 35.0 -0.8
HAMF IAmb IAmb 01 16 35.5
comp=Z,27nm,0.4s
BINY Binghamton 46.77 80 IAmb IAmb 01 16 39.0
comp=Z,27nm,0.8s
BINY Binghamton 46.77 80 P **P** 01 16 38.0 +0.2
baz=323,SNR=7.9
HNDO Hondo 46.81 111 IAmb IAmb 01 16 40.4
comp=Z,43nm,0.9s
NATX Nacogdoches 46.90 105 IAmb IAmb 01 16 40.9
comp=Z,61nm,0.8s
NATX Nacogdoches 46.90 105 P **P** 01 16 39.9 +1.1
baz=329,SNR=5.5
OXF Oxford 46.93 98 P **P** 01 16 40.0 +0.9
baz=327,SNR=50
LBNH Lisbon 46.96 75 P **P** 01 16 39.5 +0.3
baz=322
S51A Beattyville 46.99 90 IAmb IAmb 01 16 40.8
comp=Z,51nm,0.8s
MCWV Mont Chateau 47.06 85 IAmb IAmb 01 16 41.9
comp=Z,78nm,1.1s
MCWV Mont Chateau 47.06 85 P **P** 01 16 40.6 +0.6
baz=324,SNR=11
MDJ Mudanjiang 47.08 286 P **P** 01 16 40.0 0.0
MDJ pmax pmax
comp=Z,42nm,1.0s
MDJ Mudanjiang 47.08 286 IAmb IAmb 01 16 41.2
comp=Z,40nm,1.0s
MDJ Mudanjiang 47.08 286 P **P** 01 16 40.1 0.0
V48A Smith Brothers 47.08 94 IAmb IAmb 01 16 42.1
comp=Z,72nm,1.0s
BATG Bathurst New B 47.10 68 IAmb IAmb 01 16 50.0
comp=Z,43nm,0.7s
BNX BinXian 47.14 289 ⇑P **P** 01 16 40.3 -0.2
BNX pmax pmax
comp=Z,28nm,1.0s
PLAL Pickwick Lake 47.14 96 IAmb IAmb 01 16 42.4
comp=Z,82nm,0.9s
VADS Vadso 47.15 360 *eP* **P** 01 16 40.2 -0.1
VADS IAmb IAmb 01 16 41.6
comp=Z,59nm,0.7s
Q54A Coxs Mills 47.16 86 IAmb IAmb 01 16 42.2
comp=Z,42nm,0.9s
SSPA Standing Stone 47.16 82 P **P** 01 16 41.1 +0.3
SSPA IAmb IAmb 01 16 42.5
comp=Z,73nm,1.4s
SSPA Standing Stone 47.16 82 P **P** 01 16 41.5 +0.7
baz=324
SSPA Standing Stone 47.16 82 P **P** 01 16 41.3 +0.5
SSPA pP **pP** 01 17 08.7 -0.2
SSPA sP **sP** 01 17 23.0 +0.6
SSPA ScP **ScP** 01 21 53.2 +0.5
F64A Sherman 47.23 71 IAmb IAmb 01 16 42.6
comp=Z,35nm,0.8s
VLA Vladivostok 47.25 283 *i* P **P** 01 16 39.0 -2.4
VLA pmax pmax
comp=Z,33nm,0.7s
PKME Peaks-Kenny Pk 47.30 72 IAmb IAmb 01 16 52.3
comp=Z,37nm,0.7s
PKME Peaks-Kenny Pk 47.30 72 P **P** 01 16 42.1 +0.3
baz=322,SNR=8.0
HNVL Huntsville, TX 47.40 106 IAmb IAmb 01 16 45.2
comp=Z,93nm,0.9s
TRO Tromso 47.44 5 *eP* **P** 01 16 42.7 +0.2
TRO IAmb IAmb 01 16 44.1
comp=Z,42nm,0.7s
JMM Marumori 47.45 272 P **P** 01 16 43.6 +0.6
JMM Marumori 47.45 272 IAmb IAmb 01 16 44.2
comp=Z,65nm,0.7s
KEV Kevo 47.51 1 P **P** 01 16 42.9 -0.2
KEV IAmb IAmb 01 16 44.4
comp=Z,38nm,0.7s
KEV Kevo 47.51 1 P **P** 01 16 42.9 -0.2
KEV pmax pmax
comp=Z,38nm,0.7s
KEV Kevo 47.51 1 P **P** 01 16 42.4 -0.7
N58A Sunbury 47.53 81 IAmb IAmb 01 17 12.3
comp=Z,30nm,0.9s
HIA Hailar 47.58 297 P **P** 01 16 44.5 +0.6
HIA sP **sP** 01 17 27.4 +2.1
I63A Otisfield 47.70 74 IAmb IAmb 01 16 56.1
comp=Z,26nm,0.8s
ARCES ARCESS Array B 47.71 2 P **P** 01 16 44.2 -0.5
ARCES ARCESS Array B 47.71 2 P **P** 01 16 44.0 -0.7
comp=Z,22nm,0.6s,baz=5.4,slow=7.6,SNR=143
ARCES PcP **PcP** 01 18 10.6 -1.2
comp=Z,16nm,0.8s,baz=354,slow=3.7,SNR=8.5
comp=Z,22nm,0.6s
ARCES ARCESS Array B 47.71 2 P **P** 01 16 44.2 -0.5
ARCES pmax pmax
comp=Z,25nm,0.9s
SLBS Sierra La Lagu 47.75 126 P **P** 01 16 47.5 +2.0
SLBS pP **pP** 01 17 14.7 +1.1
SLBS ScP **ScP** 01 21 57.5 +2.1
833A Chaparral WMA, 47.82 112 IAmb IAmb 01 16 50.2
comp=Z,71nm,1.6s
833A Chaparral WMA, 47.82 112 P **P** 01 16 47.2 +1.3
baz=331,SNR=6.2
CIT Chita 47.83 304 *eP* **P** 01 16 47.3 +1.4
CIT *e* 01 17 13.5
CIT *e* 01 17 27.4
CIT pmax pmax
comp=Z,160nm,1.2s
S54A Dingess, Beckl 47.91 88 IAmb IAmb 01 16 48.0
comp=Z,50nm,0.8s
TZTN Tazewell 47.91 91 IAmb IAmb 01 16 48.4
comp=Z,61nm,0.7s
TZTN Tazewell 47.91 91 P **P** 01 16 47.2 +0.6
baz=326,SNR=14
SWET Sewanee 47.92 94 IAmb IAmb 01 16 47.6
comp=Z,53nm,0.6s
HKT Hockley 47.94 107 P **P** 01 16 47.8 +1.0
HKT IAmb IAmb 01 16 50.3
comp=Z,75nm,1.3s
HKT Hockley 47.94 107 *d i* P **P** 01 16 48.2 +1.4
HKT pmax pmax
comp=Z,56nm,1.1s
HKT Hockley 47.94 107 P **P** 01 16 48.4 +1.6
HKT pP **pP** 01 17 15.8 +1.0
HKT sP **sP** 01 17 31.3 +3.0
MSHR Mys Shultsa 48.00 283 *ceP* **P** 01 16 47.6 +0.4
MSHR pmax pmax
comp=Z,24nm,0.7s
P57A Homestead Farm 48.04 84 IAmb IAmb 01 17 16.6
comp=Z,48nm,0.8s
X48A Hartselle 48.05 95 IAmb IAmb 01 16 50.3
comp=Z,47nm,0.7s
R55A Marlinton 48.05 86 IAmb IAmb 01 16 49.6
comp=Z,117nm,1.6s
PSTR Posyet 48.10 284 *i* P **P** 01 16 46.5 -1.5
KTK1 Kautokeino 48.20 3 *eP* **P** 01 16 47.7 -0.7
KTK1 IAmb IAmb 01 16 49.2
comp=Z,42nm,0.7s
W50A Signal Mountai 48.22 93 IAmb IAmb 01 16 51.3
comp=Z,46nm,1.1s
KSCT Kent School, K 48.27 78 IAmb IAmb 01 17 47.1
comp=Z,55nm,0.9s
LUPA Lehigh Univers 48.33 80 IAmb IAmb 01 16 51.1
comp=Z,46nm,0.9s
VBMS Vicksburg 48.36 100 P **P** 01 16 51.3 +1.2
baz=328,SNR=5.5
CPCT Cooper Cave 48.37 92 IAmb IAmb 01 16 51.6
comp=Z,30nm,0.6s
MVL Millersville 48.37 82 IAmb IAmb 01 17 19.1
comp=Z,58nm,1.7s
V52A Sevierville 48.47 91 IAmb IAmb 01 16 52.1
comp=Z,31nm,0.6s
HRV Adam Dziewonsk 48.50 76 P **P** 01 16 51.1 0.0
baz=323
TKL Tuckaleechee C 48.54 91 IAmb IAmb 01 16 53.0
comp=Z,59nm,0.7s
TKL Tuckaleechee C 48.54 91 LR LR 01 38 24.7
comp=Z,90nm,19.7s,baz=332,slow=37
PAL Palisades 48.66 79 P **P** 01 16 52.5 +0.3
baz=324
LOF Lofoten 48.66 8 *eP* **P** 01 16 51.8 -0.1
LOF IAmb IAmb 01 16 53.4
comp=Z,38nm,0.8s
LMN Caledonia Moun 48.76 68 IAmb IAmb 01 17 02.4
comp=Z,39nm,0.7s
BLA Blacksburg 48.79 87 IAmb IAmb 01 16 55.0
comp=Z,47nm,0.7s

BLA	Blacksburg	48.79	87	P	P	01 16 53.8	+0.4
	baz=325,SNR=11						
Y49A	Blount Mountai	48.84	95	IAmb	IAmb	01 16 55.4	
	comp=Z,56nm,0.9s						
STEI	Steigen	48.96	7	eP	P	01 16 54.2	0.0
STEI				IAmb	IAmb	01 16 55.5	
	comp=Z,100nm,0.7s						
V53A	Saluda	48.97	91	IAmb	IAmb	01 16 56.6	
	comp=Z,53nm,0.7s						
S57A	Dark Hollow, R	49.01	86	IAmb	IAmb	01 16 57.1	
	comp=Z,45nm,1.2s						
HBVL	Hebbronville	49.23	112	IAmb	IAmb	01 17 00.2	
	comp=Z,31nm,0.8s						
LRAL	Lakeview Retre	49.26	96	IAmb	IAmb	01 16 58.0	
	comp=Z,23nm,0.8s						
LRAL	Lakeview Retre	49.26	96	P	P	01 16 57.1	+0.1
	baz=327,SNR=12						
LVZ	Lovozero	49.33	357	P	P	01 16 57.3	+0.2
LVZ				IAmb	IAmb	01 16 58.9	
	comp=Z,50nm,1.3s						
LVZ	Lovozero	49.33	357	ceP	P	01 16 56.2	-0.9
LVZ				pmax	pmax		
	comp=Z,35nm,1.3s						
LVZ	Lovozero	49.33	357	P	P	01 16 57.1	0.0
	comp=Z,31nm,1.1s						
LVZ	Lovozero	49.33	357	P	P	01 16 57.0	0.0
R58B	Mineral	49.33	85	P	P	01 16 58.3	+0.9
R58B				IAmb	IAmb	01 17 27.1	
	comp=Z,58nm,1.1s						
CBN	Corbin Frederi	49.37	84	P	P	01 16 58.3	+0.6
CBN	Corbin Frederi	49.37	84	P	P	01 16 58.3	+0.6
	baz=325,SNR=9.9						
BG3	Lake Jocassee	49.48	91	P	P	01 16 59.5	+0.9
BG3				IAmb	IAmb	01 17 00.4	
	comp=Z,32nm,0.9s						
T57A	Hurt	49.50	86	P	P	01 16 59.1	+0.4
T57A				IAmb	IAmb	01 17 00.2	
	comp=Z,31nm,0.8s						
FAUS	Fauske	49.51	7	eP	P	01 16 58.0	-0.4
FAUS				IAmb	IAmb	01 16 59.4	
	comp=Z,56nm,0.8s						
U56A	King	49.52	88	P	P	01 16 59.4	+0.5
U56A				IAmb	IAmb	01 17 00.7	
	comp=Z,56nm,0.9s						
346A	Big Creek Wild	49.53	100	P	P	01 16 59.6	+0.6
346A				IAmb	IAmb	01 17 01.3	
	comp=Z,54nm,0.8s						
V55A	Taylorsville	49.55	89	P	P	01 17 00.3	+1.1
V55A				IAmb	IAmb	01 17 00.9	
	comp=Z,44nm,0.8s						
APA	Apatity	49.68	358 ⇓	iP	P	01 16 58.1	-1.6
APA				i *PP	pP	01 17 24.2	-3.7
APA				i		01 18 20.3	
APA				i S	S	01 23 53.0	-5.6
APA				i		01 26 33.0	
APA				i SS	SS	01 27 29.0	-2.5
APA				pmax	pmax		
	comp=Z,31nm,0.6s						
APA				MLR	MLR		
	comp=Z,100nm,16.0s						
MJB9	Matsu-Tunnel	49.72	273	P	P	01 17 01.6	+1.1
MJB9				IAmb	IAmb	01 17 02.7	
	comp=Z,39nm,0.8s						
MAJO	Matsushiro	49.72	273	P	P	01 17 01.1	+0.7
MAJO	Matsushiro	49.72	273	P	P	01 17 00.9	+0.5
MAJO				IAmb	IAmb	01 17 01.7	
	comp=Z,40nm,0.8s						
MAJO	Matsushiro	49.72	273	iP	P	01 17 00.3	-0.1
MAJO				pmax	pmax		
	comp=Z,42nm,0.8s						
MAJO	Matsushiro	49.72	273	P	P	01 17 00.9	+0.5
MAJO				pP	pP	01 17 29.7	+1.2
MAJO				sP	sP	01 17 43.3	+1.3
MJAR	Matsushiro Arr	49.72	273	P	P	01 17 00.7	+0.3
	comp=Z,22nm,1.0s,baz=11,slow=7.9,SNR=53						
MJAR				pP	pP	01 17 29.9	+1.3
	comp=Z,9.1nm,1.0s,baz=9.9,slow=6.8,SNR=3.8						
MJAR				PcP	PcP	01 18 18.5	-1.1
	comp=Z,2.2nm,0.6s,baz=56,slow=3.1,SNR=2.4						
MJAR				PP	PP	01 18 52.0	-3.7
	comp=Z,0.9nm,0.3s,baz=61,slow=5.7,SNR=1.7						
MJAR				ScP	ScP	01 22 03.4	-0.2
	comp=Z,1.4nm,0.5s,baz=5.0,slow=6.0,SNR=6.5						
	comp=Z,22nm,1.0s						
Y52A	Lilburn	49.90	93	P	P	01 17 02.6	+0.8
KMSC	Kings Mountain	50.08	90	P	P	01 17 03.8	+0.7
KMSC				IAmb	IAmb	01 17 04.6	
	comp=Z,27nm,0.8s						
KMSC	Kings Mountain	50.08	90	P	P	01 17 03.5	+0.4
	baz=326,SNR=11						
PAULI	Pauline	50.13	90	P	P	01 17 04.3	+0.8
HAL	Halifax	50.24	68	IAmb	IAmb	01 17 13.6	
	comp=Z,25nm,0.7s						
KONS	Konsvik	50.25	8	eP	P	01 17 04.0	0.0
KONS				IAmb	IAmb	01 17 04.7	
	comp=Z,19nm,0.9s						
T59A	Double "B" Far	50.29	85	P	P	01 17 04.4	-0.3
T59A				IAmb	IAmb	01 17 06.6	
	comp=Z,37nm,0.9s						
STOK	Stokkvaagen	50.41	8	eP	P	01 17 05.0	-0.2
STOK				IAmb	IAmb	01 17 06.4	
	comp=Z,29nm,0.8s						
HODGE	Hodges	50.41	91	P	P	01 17 06.0	+0.3
250A	Grady	50.48	96	P	P	01 17 06.0	-0.2
GBN	Guysborough	50.49	66	IAmb	IAmb	01 17 14.9	
	comp=Z,27nm,0.7s						
GOGA	Godfrey	50.55	93	P	P	01 17 07.5	+0.8
GOGA				IAmb	IAmb	01 17 07.6	
	comp=Z,18nm,0.7s						
GOGA	Godfrey	50.55	93	P	P	01 17 07.0	+0.4
	baz=327,SNR=8.0						
GOGA	Godfrey	50.55	93	P	P	01 17 07.5	+0.8
GOGA				pmax	pmax		
	comp=Z,18nm,0.7s						
V58A	Windy Hill, Pi	50.55	87	IAmb	IAmb	01 17 08.4	
	comp=Z,24nm,0.9s						
152A	Waverly Hall	50.60	94	P	P	01 17 07.1	0.0
MOR8	Moi Rana	50.66	8	eP	P	01 17 05.8	-1.4
MOR8				IAmb	IAmb	01 17 07.0	
	comp=Z,32nm,0.9s						
W57A	Gilead	50.68	88	P	P	01 17 08.2	+0.5
W57A				IAmb	IAmb	01 17 09.1	
	comp=Z,33nm,0.8s						
BRAL	Brewton	50.81	98	P	P	01 17 09.6	+1.0
	baz=328,SNR=5.9						
JSC	Jenkinsville	50.83	90	P	P	01 17 09.2	+0.4
JSC	Jenkinsville	50.83	90	P	P	01 17 09.2	+0.4
JSC				pmax	pmax		
	comp=Z,77nm,0.7s						
JGF	Kuroka	50.88	273	P	P	01 17 10.1	+0.9
JGF	Kuroka	50.88	273	P	P	01 17 09.3	+0.1
JGF				IAmb	IAmb	01 17 10.9	
	comp=Z,58nm,0.9s						
BIRD	Birdtown, Kers	50.89	89	P	P	01 17 10.0	+0.8
BIRD				IAmb	IAmb	01 17 10.8	
	comp=Z,46nm,0.8s						
IRK	Irkutsk	51.03	310	eP	P	01 17 09.8	-0.3
IRK				pmax	pmax		
	comp=Z,119nm,0.9s						
INU	Inuyama	51.24	273	P	P	01 17 12.0	+0.1
INU				pP	pP	01 17 40.8	+0.7
W59A	Clinton	51.38	87	P	P	01 17 13.8	+1.0
W59A				IAmb	IAmb	01 17 14.8	
	comp=Z,42nm,0.8s						
ZAIG	Zacatecas	51.42	118	P	P	01 17 14.3	+0.6
Y57A	Sumter	51.45	90	P	P	01 17 14.2	+0.9
Y57A				IAmb	IAmb	01 17 14.9	
	comp=Z,64nm,1.1s						
X58A	Rowland	51.48	88	P	P	01 17 14.4	+0.8
X58A				IAmb	IAmb	01 17 15.6	
	comp=Z,41nm,0.8s						
KRAR	Krasnoyarsk	51.52	320	i P	P	01 17 12.8	-0.9
CNNC	Cliffs of the	51.57	87	P	P	01 17 15.0	+0.7
	baz=326						
NSS	Namsos	52.12	9	eP	P	01 17 17.9	-0.1
NSS				IAmb	IAmb	01 17 18.9	
	comp=Z,38nm,0.9s						
TIGA	Tifton	52.15	94	P	P	01 17 18.6	-0.1
	baz=328,SNR=8.8						
OUL	Oulu	52.19	2	P	P	01 17 17.9	-0.5
255A	Hazlehurst	52.25	93	P	P	01 17 19.9	+0.6
NHSC	New Hope	52.30	90	P	P	01 17 20.3	+0.6
	baz=327						
MOY	Mondy	52.63	312	eP	P	01 17 23.8	+1.7
MOY				pmax	pmax		
	comp=Z,104nm,1.9s						
ZAK	Zakamensk	52.92	310	eP	P	01 17 24.6	+0.4
ZAK				pmax	pmax		
	comp=Z,23nm,0.9s						
ADZR	Andozero	53.20	355 ⇑	iP	P	01 17 25.6	-0.2
ADZR				pmax	pmax		
	comp=Z,48nm,0.8s						
XLT	XiLinHaoTe	53.40	296	eP	P	01 17 28.2	+0.4
XLT				pmax	pmax		
	comp=Z,35nm,0.7s						
KS19	Wonju Array Si	53.60	282	P	P	01 17 30.3	+1.1
KSRS	Korea Array	53.61	282	P	P	01 17 30.1	+0.8
	comp=Z,47nm,0.7s,baz=28,slow=7.0,SNR=114						
KSRS				pP	pP	01 17 58.9	+1.1
	comp=Z,11nm,0.9s,baz=34,slow=7.7,SNR=3.4						
KSRS				LR	LR	01 42 06.7	
	comp=Z,35nm,19.5s,baz=35,slow=38						
	comp=Z,47nm,0.7s						
KSAR	Wonju Array Be	53.64	282	P	P	01 17 30.0	+0.5
KSAR	Wonju Array Be	53.64	282	P	P	01 17 30.0	+0.5
ULN	Ulaanbaatar	53.65	305	P	P	01 17 30.5	+0.9
ULN	Ulaanbaatar	53.65	305	ceP	P	01 17 30.6	+0.9
ULN				pmax	pmax		
	comp=Z,82nm,1.0s						
ULN	Ulaanbaatar	53.65	305	P	P	01 17 30.8	+1.1
ULN				pP	pP	01 17 59.3	+1.2
ULN				sP	sP	01 18 14.5	+3.1
MOL	Molde	53.67	12	eP	P	01 17 28.9	-0.5
MOL				IAmb	IAmb	01 17 30.7	
	comp=Z,39nm,1.2s						
SONM	Songino Array	53.92	306	P	P	01 17 33.0	+1.4
SONM	Songino Array	53.92	306	P	P	01 17 32.8	+1.2
	comp=Z,59nm,0.8s,baz=24,slow=6.5,SNR=338						
SONM				ScP	ScP	01 22 20.4	-1.4
	comp=Z,0.5nm,0.5s,baz=0.9,slow=3.6,SNR=1.7						
	comp=Z,59nm,0.8s						
SONM	Songino Array	53.92	306	P	P	01 17 33.0	+1.4
SONM				pmax	pmax		
	comp=Z,78nm,0.9s						
INCN	Inchon	54.16	283	P	P	01 17 34.3	+1.0
INCN	Inchon	54.16	283	P	P	01 17 34.3	+1.0
INCN				pmax	pmax		
	comp=Z,67nm,0.9s						
VAF	Ylistaro	54.16	4	eP	P	01 17 32.2	-0.7
DOMB	Dombas	54.34	12	eP	P	01 17 33.5	-0.7
JOF	Joensuu	54.38	359	eP	P	01 17 34.3	-0.2
TJN	Taejon	54.76	282	ceP	P	01 17 37.8	+0.2
KEF	Keuruu	55.10	3	eP	P	01 17 39.3	-0.4
DL2	Dalian	55.18	288	P	P	01 17 41.2	+0.6
DL2				pmax	pmax		
	comp=Z,170nm,0.9s						
NC303	NORSAR Array S	55.34	10	IAmb	IAmb	01 17 43.4	
	comp=Z,27nm,1.1s						
JTU	Tsushima	55.39	279	P	P	01 17 42.8	+0.7
ASK	Askoy	55.47	14	eP	P	01 17 43.0	+0.6
ASK				IAmb	IAmb	01 17 44.6	
	comp=Z,0.4nm,0.2s						
NC405	NORSAR Array S	55.48	10	IAmb	IAmb	01 17 43.8	
	comp=Z,22nm,0.8s						
NBO00	NORSAR Array S	55.48	11	IAmb	IAmb	01 17 43.7	
	comp=Z,22nm,0.9s						
NB201	NORSAR Array S	55.51	11	IAmb	IAmb	01 17 44.5	
	comp=Z,31nm,0.9s						
NB2	NORSAR Subarra	55.51	11	P	P	01 17 41.7	-1.0
	comp=Z,14nm,0.7s,baz=350,slow=7.4						
NB2	NORSAR Subarra	55.51	11	P	P	01 17 41.7	-1.0
	baz=350,slow=7.4						
NOA	NORSAR Array B	55.51	11	P	P	01 17 41.1	-1.6
	comp=Z,11nm,0.7s,baz=351,slow=7.1,SNR=46						
NOA				PcP	PcP	01 18 40.5	-0.6
	comp=Z,4.4nm,0.8s,baz=354,slow=4.6,SNR=5.3						
	comp=Z,11nm,0.7s						
BER	Bergen	55.58	14	eP	P	01 17 42.6	-0.5
ZAA0	Zalesovo Array	55.60	324	P	P	01 17 43.3	-0.1
ZALV	Zalesovo Beam	55.60	324	P	P	01 17 43.1	-0.3
ZALV	Zalesovo Beam	55.60	324	P	P	01 17 42.1	-1.2
	comp=Z,86nm,0.6s,baz=25,slow=6.8,SNR=454						
ZALV				ScP	ScP	01 22 28.3	-0.5
	comp=Z,6.2nm,0.8s,baz=19,slow=5.0,SNR=10						
ZALV				PKP2bc		01 48 11.7	
	comp=Z,0.8nm,0.6s,baz=216,slow=4.8,SNR=4.1						
	comp=Z,86nm,0.6s						
ZALV	Zalesovo Beam	55.60	324	i P	P	01 17 43.0	-0.4
ZALV				pmax	pmax		
	comp=Z,86nm,0.6s						
SKAR	Skarslia	55.60	12	eP	P	01 17 44.0	+0.6
SKAR				IAmb	IAmb	01 17 45.0	
	comp=Z,22nm,1.1s						
NAO01	NORSAR Array S	55.68	11	IAmb	IAmb	01 17 45.5	
	comp=Z,20nm,0.9s						
NC602	NORSAR Array S	55.84	10	eP	P	01 17 44.5	-0.5
NC602				IAmb	IAmb	01 17 46.8	
	comp=Z,19nm,1.0s						
FIA1	FINESS Array S	55.84	2	P	P	01 17 44.4	-0.6
FINES	FINESS Array B	55.84	2	P	P	01 17 44.5	-0.5
FINES	FINESS Array B	55.84	2	P	P	01 17 44.1	-0.9
	comp=Z,39nm,0.7s,baz=4.0,slow=8.2,SNR=113						
FINES				pP	pP	01 18 14.0	+0.2
	comp=Z,12nm,0.7s,baz=4.0,slow=8.2,SNR=4.2						
FINES				ScP	ScP	01 22 28.7	-1.0
	comp=Z,3.2nm,0.7s,baz=45,slow=5.7,SNR=5.6						
	comp=Z,39nm,0.7s						
JNU	Nakatsue	55.89	277	IAmb	IAmb	01 17 47.3	
	comp=Z,25nm,0.9s						
VALR	Valaam	55.95	359	c iP	P	01 17 45.2	-0.5
VALR				pmax	pmax		
	comp=Z,51nm,0.7s						
DWPF	Disney Wildern	55.96	94	P	P	01 17 46.8	+0.5
	baz=329						
RAF	Rauma	56.16	4	eP	P	01 17 46.4	-0.8
BJI	Beijing	56.56	293	P	P	01 17 51.1	+0.7
BJI				pmax	pmax		
	comp=Z,23nm,1.1s						
BJT	Baijiatuau	56.58	293	P	P	01 17 51.8	+1.2
BJT	Baijiatuau	56.58	293	P	P	01 17 50.8	+0.2
BJT				IAmb	IAmb	01 17 52.2	
	comp=Z,42nm,1.0s						
BJT	Baijiatuau	56.58	293	P	P	01 17 50.8	+0.2
BJT				pmax	pmax		
	comp=Z,42nm,1.0s						
BJT	Baijiatuau	56.58	293	P	P	01 17 51.2	+0.7
BJT				pP	pP	01 18 21.6	+2.2
HFS	Hagfors	56.61	9	P	P	01 17 49.1	-1.3
	comp=Z,30nm,0.8s,baz=351,slow=2.4,SNR=81						
HFS				pP	pP	01 18 20.1	+0.7
	comp=Z,8.1nm,0.8s,baz=22,slow=8.3,SNR=2.7						
	comp=Z,30nm,0.8s						
KONO	Kongsberg	56.74	12	eP	P	01 17 50.7	-0.7
AAL	Aland	56.93	6	eP	P	01 17 51.9	-0.8
MEF	Metsahovi	57.04	3	eP	P	01 17 53.1	-0.4
UPP	Uppsala	57.13	7	eP	P	01 17 53.5	-0.6
PUL	Pulkovo	57.54	359	ceP	P	01 17 58.2	+1.2
PUL				pmax	pmax		
	comp=Z,77nm,1.0s						
KIRV	Kirov	57.75	348	ceP	P	01 17 58.7	+0.2
HHC	Hu-ho-hao-te	57.78	297	eP	P	01 17 59.5	+0.3
HHC				pmax	pmax		
	comp=Z,33nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,7.7s						
ARBE	Arbavere	57.85	2	eP	P	01 17 59.4	+0.1
HOMB	Homborsund	57.99	13	eP	P	01 17 59.8	-0.4
HOMB				IAmb	IAmb	01 18 01.6	
	comp=Z,64nm,1.0s						
HOMB	Homborsund	57.99	13	i P	P	01 17 59.3	-0.9
SVE	Sverdlovsk	58.06	340	deP	P	01 18 01.1	+0.4
SVE				pmax	pmax		
	comp=Z,166nm,1.1s						
VIKU	Vikbolandet	58.43	8	eP	P	01 18 02.8	-0.4
TJOU	Tjoern	58.52	11	i P	P	01 18 02.2	-1.6
MTSE	Matsula	58.53	3	eP	P	01 18 03.8	-0.1
BTO	Baotou	58.61	298	eP	P	01 18 04.4	-0.5
BTO				pP	pP	01 18 29.8	-4.0
BTO				sP	sP	01 18 41.8	-5.3
BTO				PP	PP	01 20 12.2	-3.2
BTO				S	S	01 26 05.2	+5.7
BTO				SS	SS	01 29 48.8	-4.5
BTO				pmax	pmax		
	comp=Z,41nm,0.6s						
BTO				pmax	pmax		
	comp=Z,510nm,7.5s						
BTO				LR	LR		
	comp=Z,790nm,9.8s						
BTO				LR	LR		
	comp=Z,620nm,7.4s						
BTO				LR	LR		
	comp=Z,690nm,9.0s						
ARU	Arti	58.75	341	P	P	01 18 05.6	0.0
ARU	Arti	58.75	341	LR	LR	01 45 27.0	
	comp=Z,46nm,18.4s,baz=38,slow=38						
ARU	Arti	58.75	341	c iP	P	01 18 05.5	0.0
ARU				*PP	pP	01 18 34.5	0.0
ARU						01 18 52.5	
ARU				S	S	01 26 04.3	+3.7
ARU				SS	SS	01 29 56.8	+2.2
ARU				pmax	pmax		
	comp=Z,242nm,1.6s						
ARU	Arti	58.75	341	P	P	01 18 05.5	0.0
	comp=Z,131nm,0.7s,comp=Z,2μm						
ARU	Arti	58.75	341 ⇑	P	P	01 18 05.5	0.0
ARU				pP	pP	01 18 36.0	+1.5
VSU	Vasula	58.84	2	ceP	P	01 18 06.0	-0.1
VSU				pmax	pmax		
	comp=Z,83nm,0.7s						
BORU	Boraas	59.01	10	i P	P	01 18 05.2	-2.0
ONAU	Onsala	59.18	11	i P	P	01 18 07.0	-1.4
EKA	Eskdalemuir Ar	59.32	21	P	P	01 18 08.8	-0.6
	comp=Z,14nm,0.5s,baz=332,slow=5.2,SNR=63						
EKA				pP	pP	01 18 37.8	-0.8
	comp=Z,6.6nm,0.5s,baz=336,slow=5.8,SNR=4.4						
	comp=Z,14nm,0.5s						
ESK	Eskdalemuir	59.33	21	P	P	01 18 09.3	-0.2
ESK				IAmb	IAmb	01 18 09.9	
	comp=Z,18nm,0.8s						
ESK	Eskdalemuir	59.33	21	P	P	01 18 09.3	-0.2
ESK				pmax	pmax		
	comp=Z,18nm,0.8s						
ESK	Eskdalemuir	59.33	21	P	P	01 18 09.2	-0.3
ESK				pP	pP	01 18 38.8	+0.1
ESK				sP	sP	01 18 51.9	-0.2
TIA	Tai'an	59.38	290	P	P	01 18 10.6	+0.4
TIA				pmax	pmax		
	comp=Z,14nm,0.7s						
HNS	HongShan	59.40	293 ⇑	P	P	01 18 11.2	+1.0
HNS				pmax	pmax		
	comp=Z,130nm,1.1s						
SLIT	Slitere, Latvi	59.57	4	eP	P	01 18 10.5	-0.6
FABU	Falkenberg	59.64	10	i P	P	01 18 10.5	-1.1
BRVK	Borovoye	59.90	333	P	P	01 18 13.1	-0.3
BRVK	Borovoye	59.90	333	ceP	P	01 18 13.1	-0.3
BRVK				pmax	pmax		
	comp=Z,120nm,1.7s						
BRVK	Borovoye	59.90	333	P	P	01 18 13.2	-0.3
BRVK				pP	pP	01 18 43.3	+0.8
BRVK				PcP	PcP	01 18 58.7	+0.2
BRVK				ScP	ScP	01 22 48.4	+0.5
BVA0	Borovoye Array	59.91	333	i P	P	01 18 13.2	-0.3
BVAR	Borovoye Array	59.91	333	P	P	01 18 12.7	-0.8
	comp=Z,22nm,0.4s,baz=42,slow=6.8,SNR=183						
BVAR				PcP	PcP	01 18 58.8	+0.2
	comp=Z,8.1nm,0.4s,baz=7.1,slow=3.9,SNR=8.8						
BVAR				ScP	ScP	01 22 48.1	+0.2
	comp=Z,2.6nm,0.7s,baz=27,slow=4.0,SNR=3.9						
BVAR				LR	LR	01 48 34.9	
	comp=Z,76nm,18.1s,baz=46,slow=40						
	comp=Z,22nm,0.4s						
TIY	Taiyuan	60.08	295	P	P	01 18 15.7	+0.7
TIY				pmax	pmax		
	comp=Z,39nm,0.8s						
KURK	Kurchatov	60.15	326	P	P	01 18 14.7	-0.5
KURK	Kurchatov	60.15	326	ceP	P	01 18 14.7	-0.5
KURK				pmax	pmax		
	comp=Z,107nm,1.7s						
KURK	Kurchatov	60.15	326 ⇑	P	P	01 18 14.7	-0.5
KURK				PcP	PcP	01 19 00.8	+1.2
KURK				ScP	ScP	01 22 48.8	-0.2
DEL	Delary	60.26	10	eP	P	01 18 15.0	-0.7
DEL	Delary	60.26	10	i P	P	01 18 15.1	-0.7
KURBB	Kurchatov Arra	60.26	326	P	P	01 18 15.2	-0.7
	comp=Z,24nm,0.6s,baz=26,slow=6.9,SNR=199						
KURBB				PcP	PcP	01 18 59.3	-0.7
	comp=Z,11nm,0.6s,baz=28,slow=4.2,SNR=7.6						
KURBB				PP	PP	01 20 26.5	-3.0
	comp=Z,4.3nm,0.8s,baz=35,slow=10,SNR=4.3						
KURBB				ScP	ScP	01 22 48.5	-1.0
	comp=Z,3.7nm,0.8s,baz=26,slow=4.1,SNR=8.0						
KURBB				PKP2bc		01 47 47.2	
	comp=Z,0.3nm,0.6s,baz=218,slow=3.9,SNR=4.3						
	comp=Z,24nm,0.6s						
BJUU	Bjuv	60.58	10	i P	P	01 18 17.3	-0.7
LUNU	Lund	61.05	10	i P	P	01 18 20.2	-1.0
PBUR	Paburge	61.17	5	eP	P	01 18 21.6	-0.4
MOS	Moscow	61.41	355	eP	P	01 18 23.3	-0.3
MOS				e*PP	pP	01 18 52.9	0.0
MOS				e		01 19 03.5	
MOS				pmax	pmax		
	comp=Z,107nm,0.6s						
MOS				pmax	pmax		
	comp=Z,111nm,0.7s						
ZSN	Zaisan	61.42	320 ⇑	iP	P	01 18 24.4	+0.4
	comp=Z,19nm,0.5s,baz=320						
ZSN	Zaisan	61.42	320	c iP	P	01 18 24.3	+0.4
ZSN				pmax	pmax		
	comp=Z,19nm,0.5s						
CCIG	Comitan	61.54	111	P	P	01 18 24.5	-0.7
CCIG				IAmb	IAmb	01 18 55.6	
	comp=Z,24nm,0.9s						
ISAL	Salakas	61.73	2	eP	P	01 18 27.4	+1.7
PABE	Paberze	61.75	3	P	P	01 18 25.8	-0.1
PABE	Paberze	61.75	3	eP	P	01 18 26.2	+0.4
IIGN	Ignalina	61.95	2	eP	P	01 18 28.7	+1.4
OBN	Obninsk	62.08	355	P	P	01 18 28.2	+0.1
OBN	Obninsk	62.08	355	eP	P	01 18 28.0	-0.1
OBN				e*PP	pP	01 18 54.7	-2.7
OBN				e		01 19 06.4	
OBN				e*SP	PcP	01 19 08.2	+1.0
OBN				e		01 20 45.3	
OBN				pmax	pmax		
	comp=Z,107nm,0.8s						
OBN	Obninsk	62.08	355	P	P	01 18 28.2	+0.1
	comp=Z,303nm,0.6s,comp=Z,3μm						
OBN	Obninsk	62.08	355	P	P	01 18 28.3	+0.1
NJ2	Nanjing	62.17	286 ⇑	iP	P	01 18 29.2	+0.2
NJ2				pP	pP	01 18 58.6	+0.2
NJ2				pmax	pmax		
	comp=Z,110nm,0.8s						
BSEG	Bad Segeberg	62.45	13	eP		01 18 32.2	
	comp=Z,9.2nm,0.8s,baz=351,slow=6.4						
MK31	Makanchi Array	62.76	322	P	P	01 18 32.1	-0.7
MK31				IAmb	IAmb	01 18 33.0	
	comp=Z,78nm,1.6s						
MK31	Makanchi Array	62.76	322	i P	P	01 18 31.8	-1.0
MK31				pmax	pmax		
	comp=Z,19nm,0.5s						
MKAR	Makanchi Array	62.76	322	P	P	01 18 32.2	-0.6
MKAR	Makanchi Array	62.76	322	P	P	01 18 32.1	-0.7
	comp=Z,32nm,0.5s,baz=47,slow=6.9,SNR=418						
MKAR				PP	PP	01 20 49.8	-1.8
	comp=Z,2.0nm,0.6s,baz=39,slow=8.4,SNR=3.6						
MKAR				PKP2bc		01 47 40.4	
	comp=Z

MAKZ Makanchi 62.83 322 P **P** **01 18 32.6 -0.6**
MAKZ pP **pP** **01 19 02.3 -0.3**
MAKZ PcP **PcP** **01 19 10.4 -0.2**
SUW Suwalki 63.22 4 *eP* **P** **01 18 34.9 -0.8**
SUW Suwalki 63.22 4 P **P** **01 18 35.4 -0.3**
SUW Suwalki 63.22 4 P **P** **01 18 35.4 -0.3**
GTA Gaotai 63.59 305 ⇑P **P** **01 18 39.4 +0.8**
GTA pP pP 01 19 09.1 +1.1
GTA pmax pmax
comp=Z,82nm,0.7s
GKP Gorka Klasztor 63.68 8 *eP* **P** **01 18 38.1 -0.6**
GKP Gorka Klasztor 63.68 8 P **P** **01 18 38.9 +0.2**
IBBN Ibbenburen 63.79 15 *eP* 01 18 39.7
comp=Z,9.3nm,0.8s,baz=351,slow=6.4
WMQ Urumqi 63.84 317⇑*iP* **P** **01 18 40.8 +0.7**
WMQ pmax pmax
comp=Z,34nm,0.9s
NRDL Niedersach Rie 63.86 13 *eP* 01 18 39.9
comp=Z,5.1nm,0.8s,baz=351,slow=6.4
NRDL epP 01 19 09.8
BELG Belogornoye 64.04 348*c iP* **P** **01 18 39.9 -1.2**
BELG pmax pmax
comp=Z,48nm,0.6s
FLTG Flechtingen 64.13 12 *eP* 01 18 40.9
comp=Z,4.7nm,0.7s,baz=351,slow=6.4
MTO3 Montecristo 64.41 109 P **P** **01 18 43.4 -0.8**
LPSR Galich'ya Gora 64.48 354 *eP* **P** **01 18 42.1 -1.9**
LPSR pmax pmax
comp=Z,140nm,0.8s
CLZ Clausthal 64.53 13 *eP* 01 18 44.6
comp=Z,12nm,0.7s,baz=351,slow=6.4
CLZ epP 01 19 14.1
BUG Bochum--Univer 64.58 15 *eP* 01 18 42.7
comp=Z,9.0nm,0.7s,baz=351,slow=6.4
XAN Xi'an 64.69 295 ⇑P **P** **01 18 45.1 -0.6**
XAN pmax pmax
comp=Z,52nm,0.7s
GTTG Gottingen 64.78 13 *eP* 01 18 45.8
comp=Z,7.9nm,0.8s,baz=351,slow=6.4
GTTG epP 01 19 15.1
KASTN Kahler Asten 64.95 14 *eP* 01 18 46.9
comp=Z,4.7nm,1.0s,baz=351,slow=6.4
LZH Lanzhou 64.96 300 ⇑P **P** **01 18 48.4 +0.8**
LZH pP pP 01 19 17.3 +0.3
LZH pmax pmax
comp=Z,150nm,1.5s
BSTI Sart Tilman 65.21 16 *dP* **P** **01 18 48.6 -0.1**
BSTI *dp*P **pP** **01 19 18.1 -0.2**
MEM Membach 65.24 16 *dP* **P** **01 18 47.7 -1.2**
BTNL Ternell 65.28 16 *dp*P pP 01 19 18.1 -0.8
NEUB Neuenburg 65.29 12 *eP* 01 18 49.4
comp=Z,9.3nm,0.7s,baz=351,slow=6.4
NEUB epP 01 19 18.3
BEL Belsk 65.30 6 *eP* **P** **01 18 51.3 +2.0**
CLL Collm 65.31 11 *i P* **P** **01 18 48.4 -0.9**
CLL *i* *PP **pP** **01 19 18.8 -0.2**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 65.31 11 P **P** **01 18 49.1 -0.2**
comp=Z,12nm,1.2s
CLL Collm 65.31 11 *eP* 01 18 47.7
comp=Z,5.1nm,0.7s,baz=351,slow=6.4
BCLA Clavier 65.34 17 *dP* **P** **01 18 50.5 +1.0**
BGES Gesves 65.34 17 *dP* **P** **01 18 49.1 -0.5**
BMRD Maredsous 65.38 17 *dP* **P** **01 18 49.6 -0.3**
BMRD *dp*P **pP** **01 19 19.2 -0.3**
VORR Voronezh 65.40 353 *eP* **P** **01 18 49.7 -0.2**
VORR pmax pmax
comp=Z,142nm,0.6s
WHN Wuhan 65.42 289 ⇑P **P** **01 18 50.7 +0.3**
WHN pP **pP** **01 19 19.9 0.0**
WHN pmax pmax
comp=Z,160nm,0.6s
TDK Taldyqorghan 65.47 324 *eP* **P** **01 18 50.8 +0.2**
comp=Z,35nm,0.6s,baz=324
TDK Taldyqorghan 65.47 324 *eP* **P** **01 18 50.7 +0.2**
TDK pmax pmax
comp=Z,35nm,0.6s
AB31 Akbulak array 65.48 338 P **P** **01 18 50.3 -0.2**
ABKAR Akbulak array 65.48 338 P **P** **01 18 50.5 0.0**
ABKAR Akbulak array 65.48 338 P **P** **01 18 50.4 -0.1**
BHOU Houvegnez 65.49 16 *dP* **P** **01 18 49.2 -1.4**
UBBA Unterbreizbach 65.50 13 *eP* 01 18 50.5
comp=Z,3.9nm,0.7s,baz=351,slow=6.4
BAIF Baives 65.54 17 *eP* **P** **01 18 51.0 +0.1**
BAIF pmax pmax
comp=Z,7.0nm,0.7s
DOU Dourbes 65.56 17 *dP* **P** **01 18 52.1 +1.1**
GIVF Givet 65.58 17 *eP* **P** **01 18 51.1 -0.1**
GIVF pmax pmax
comp=Z,21nm,1.2s
RCHB Rochefort 65.59 17 *dP* **P** **01 18 50.9 -0.2**
RCHB *dp*P **pP** **01 19 19.9 -0.9**
VRH Novokhopyorsk 65.71 351 *eP* **P** **01 18 51.1 -0.8**
VRH pmax pmax
comp=Z,91nm,0.7s
BRG Berggiesshubel 65.82 11 *eP* **P** **01 18 52.6 0.0**
BRG Amp 01 18 54.9
comp=Z,11nm,0.8s
BRG pP **PcP** **01 19 22.6 -0.1**
BRG Amp 01 19 23.5
comp=Z,8.1nm,0.9s
BRG sP **sP** **01 19 36.1 +0.6**
BRG Amp 01 19 36.7
comp=Z,4.0nm,0.7s
BRG Berggiesshubel 65.82 11 *eP* **P** **01 18 52.6 0.0**
BRG 01 19 22.6
BRG SP 01 19 36.0
BRG pmax pmax
comp=Z,11nm,0.8s
BRG Berggiesshubel 65.82 11 *eP* 01 18 52.6
comp=Z,7.6nm,0.8s,baz=351,slow=6.4
BRG epP 01 19 22.6
MOX Moxa 65.83 12 *eP* 01 18 52.7
comp=Z,9.3nm,0.7s,baz=351,slow=6.4
MOX epP 01 19 22.7
VSR Storozhevoye 65.86 353 *eP* **P** **01 18 51.6 -1.3**
VSR pmax pmax
comp=Z,100nm,0.8s
RNPP9 Sopachiv 65.89 2 P **P** **01 18 52.7 -0.4**
TNS Taunus Mts 65.92 15 *eP* 01 18 53.4
comp=Z,5.0nm,0.6s,baz=351,slow=6.4
TNS epP 01 19 22.7
KSP Ksiaz 66.03 9 *eP* **P** **01 18 53.7 -0.3**
KSP Ksiaz 66.03 9 P **P** **01 18 54.2 +0.2**
HSKC Hora Svate Kat 66.04 11 *eP* **P** **01 18 54.0 -0.1**
RNPP5 Staryi Chortor 66.08 2 P **P** **01 18 54.0 -0.3**
VORD Divnogorie 66.10 353 *eP* **P** **01 18 52.9 -1.5**
VORD pmax pmax
comp=Z,110nm,0.8s
FLN La Foliniere 66.10 21 *eP* **P** **01 18 53.2 -1.3**
FLN pmax pmax
comp=Z,10.0nm,0.5s
TANN Tannenbergstha 66.14 12 *eP* 01 18 55.0
comp=Z,6.3nm,1.0s,baz=351,slow=6.4
TANN epP 01 19 24.0
RICC Richard 66.16 11 *eP* **P** **01 18 56.2 +1.4**
WLF Walferdange 66.19 16 *dP* **P** **01 18 55.2 +0.1**
WLF *dp*P **PcP** **01 19 25.2 +1.0**
WLF Walferdange 66.19 16 *eP* 01 18 55.5
comp=Z,6.5nm,0.8s,baz=351,slow=6.4
WLF epP 01 19 25.4
SGMF Saint Gilles 66.24 23 *eP* **P** **01 18 54.4 -1.0**
SGMF pmax pmax
comp=Z,4.0nm,0.6s
CHVC Chvalec 66.27 9 *eP* **P** **01 18 55.6 0.0**
CHVC Chvalec 66.27 9 *eP* **P** **01 18 55.6 0.0**
OSTC Ostas 66.31 9 *eP* **P** **01 18 55.6 -0.2**
OSTC Ostas 66.31 9 *eP* **P** **01 18 55.6 -0.2**
LDF La Druitiere 66.32 21 *eP* **P** **01 18 54.6 -1.3**
LDF pmax pmax
comp=Z,9.0nm,0.8s
UPC Upice 66.34 9 *eP* **P** **01 18 56.0 0.0**
UPC epP **pP** **01 19 26.7 +1.0**
UPC Upice 66.34 9 *eP* **P** **01 18 56.0 0.0**
UPC *e* 01 19 26.7
MI28 Mi28,Pidlybu 66.40 1 P **P** **01 18 56.4 +0.1**
GRR Gorron 66.40 21 *eP* **P** **01 18 55.4 -1.0**
GRR pmax pmax
comp=Z,10.0nm,0.7s
QUIF Quistinic 66.46 23 *eP* **P** **01 18 56.5 -0.2**
QUIF pmax pmax
comp=Z,11nm,1.2s
DPC Dobruska-Polom 66.52 9 *eP* **P** **01 18 57.4 +0.2**
DPC Dobruska-Polom 66.52 9 P **P** **01 18 57.4 +0.2**
comp=Z,24nm,1.3s,comp=Z,297nm
MANZ Manzenberg 66.53 12 *eP* 01 18 57.3
comp=Z,1.0nm,1.0s,baz=351,slow=6.4
MANZ *ep*P 01 19 25.6
AK21 Malin Array Si 66.56 0 P **P** **01 18 56.8 -0.6**
BTLS Baital 66.56 327⇑*iP* **P** **01 18 57.3 -0.2**
baz=327
BTLS Baital 66.56 327*c iP* **P** **01 18 57.3 -0.2**
MI30 MI30,Zelenitsa 66.59 1 P **P** **01 18 57.2 -0.3**
AKASG Malin Array Be 66.64 0 P **P** **01 18 57.1 -0.7**
AKASG Malin Array Be 66.64 0 P **P** **01 18 57.2 -0.7**
comp=Z,25nm,0.4s,baz=2.2,slow=6.2,SNR=83
comp=Z,25nm,0.4s
AKASG Malin Array Be 66.64 0*ceP* **P** **01 18 57.2 -0.7**
AKASG pmax pmax
comp=Z,46nm,0.6s
AKBB Malin Array Si 66.64 0 P **P** **01 18 57.4 -0.5**
AKBB Malin Array Si 66.64 0*ceP* **P** **01 18 57.2 -0.6**
AKBB pmax pmax
comp=Z,50nm,0.6s
AKBB Malin Array Si 66.64 0 P **P** **01 18 57.2 -0.6**
KIEV Kiev 66.64 0⇓P **P** **01 18 57.2 -0.6**
KIEV Kiev 66.64 0 P **P** **01 18 57.2 -0.6**
KIEV Kiev 66.64 0 *i P* **P** **01 18 57.4 -0.5**
SNR=5.7
KIEV Kiev 66.64 0 P **P** **01 18 57.3 -0.6**
KIEV pmax pmax
comp=Z,51nm,0.7s
KIEV Kiev 66.64 0 P **P** **01 18 57.1 -0.8**
comp=Z,354nm,0.8s,comp=Z,3μm
KIEV Kiev 66.64 0 P **P** **01 18 57.2 -0.6**
PDGK Podgornoye 66.72 322 P **P** **01 18 59.0 +0.3**
GRF Grafenberg Arr 66.74 13 *eP* 01 18 57.4
comp=Z,6.3nm,0.7s,baz=351,slow=6.4
PRU Pruhonice 66.75 10 *eP* **P** **01 18 58.5 -0.1**
PRU Pruhonice 66.75 10 *eP* **P** **01 18 58.5 -0.1**
ROTZ Rotzenmuhle 66.76 12 *eP* 01 18 58.7
comp=Z,1.3nm,0.8s,baz=351,slow=6.4
ROTZ *ep*P 01 19 29.1
KPKS Kokpek 66.82 323⇑*iP* **P** **01 18 59.5 +0.2**
comp=Z,20nm,0.7s,baz=323
KPKS Kokpek 66.82 323*c iP* **P** **01 18 59.5 +0.2**
KPKS pmax pmax
comp=Z,20nm,0.7s
KRLC Kraliky 66.83 9 *eP* **P** **01 18 59.4 +0.2**
KRLC Kraliky 66.83 9 *eP* **P** **01 18 59.4 +0.2**
OJC Ojcow 66.87 7 *eP* **P** **01 18 58.3 -1.0**
OJC *eS* **S** **01 27 46.3 +4.2**
OJC Ojcow 66.87 7 P **P** **01 18 59.2 -0.2**
comp=Z,9.7nm,1.5s
SHLS Shalkode 66.89 322 *eP* **P** **01 18 59.5 -0.3**
comp=Z,46nm,0.7s,baz=322
SHLS Shalkode 66.89 322 *eP* **P** **01 18 59.4 -0.3**
SHLS pmax pmax
comp=Z,46nm,0.7s
MI29 MI29, Kamyanyy 66.91 1 P **P** **01 18 59.3 -0.3**
UZB Uzynbulak 67.02 323 *eP* **P** **01 19 00.7 +0.1**
baz=323
UZB Uzynbulak 67.02 323 *eP* **P** **01 19 00.7 +0.1**
ZHN Zhinishke 67.16 323 *eP* **P** **01 19 01.5 0.0**
baz=323
ZHN Zhinishke 67.16 323 *eP* **P** **01 19 01.5 0.0**
MORC Moravsky Berou 67.18 8⇑P **P** **01 19 01.1 -0.3**
MORC Moravsky Berou 67.18 8 P **P** **01 19 00.9 -0.5**
MORC Moravsky Berou 67.18 8 *eP* **P** **01 19 01.1 -0.3**
MORC Moravsky Berou 67.18 8 P **P** **01 19 01.1 -0.3**
KHAM Kharkiv 67.21 355 P **P** **01 19 01.1 -0.4**
CLF Chambon-Foret 67.25 19 IAmb IAmb 01 19 32.6
comp=Z,24nm,0.8s
CLF Chambon-Foret 67.25 19 P **P** **01 19 01.8 0.0**
CLF pP **pP** **01 19 31.9 +0.4**
ZVC Zvikov 67.26 11 *eP* **P** **01 19 02.1 +0.2**
ZVC *ep*P **pP** **01 19 30.5 -1.1**
SATY Saty 67.27 323 *eP* **P** **01 19 02.3 +0.1**
baz=323
SATY Saty 67.27 323 *eP* **P** **01 19 02.3 +0.1**
LUBAR Lubar, Ukraine 67.41 1 P **P** **01 19 01.5 -1.3**
WET Wettzell 67.44 12 *eP* 01 19 03.4
comp=Z,4.6nm,0.9s,baz=351,slow=6.4
WET *ep*P 01 19 32.4
KHC Kasperske Hory 67.52 11 P **P** **01 19 03.2 -0.3**
KHC Kasperske Hory 67.52 11 *eP* **P** **01 19 03.9 +0.4**
KHC *ep*P **pP** **01 19 32.2 -1.1**
KHC Kasperske Hory 67.52 11*ceP* **P** **01 19 04.0 +0.4**
KHC pmax pmax
comp=Z,38nm,1.3s
AAA Alma-Ata 67.53 324 *eP* **P** **01 19 03.9 +0.1**
comp=Z,34nm,0.8s,baz=324
AAA Alma-Ata 67.53 324 *eP* **P** **01 19 03.8 +0.1**
AAA pmax pmax
comp=Z,34nm,0.8s
MDOK Medeo 67.54 324 *i P* **P** **01 19 03.8 -0.2**
baz=324
MDOK Medeo 67.54 324 *i P* **P** **01 19 03.7 -0.2**
CDF Champ du Feu 67.56 16 *eP* **P** **01 19 03.0 -0.9**
CDF pmax pmax
comp=Z,5.0nm,0.5s
VRAC Vranov 67.58 9⇑P **P** **01 19 04.0 +0.2**
VRAC Vranov 67.58 9 *eP* **P** **01 19 03.8 -0.1**
VRAC Vranov 67.58 9 P **P** **01 19 04.0 +0.2**
KWP Kalwaria Pacla 67.59 5 *eP* **P** **01 19 05.4 +1.5**
KWP Kalwaria Pacla 67.59 5 IAmb IAmb 01 19 06.3
comp=Z,56nm,1.5s
KWP Kalwaria Pacla 67.59 5 P **P** **01 19 05.1 +1.2**
comp=Z,27nm,1.1s
MAUC Maruska 67.61 8 *eP* **P** **01 19 04.1 0.0**
PLTM Poltava 67.66 356 P **P** **01 19 04.8 +0.5**
TNSS Tian-Shan 67.69 324 *eP* **P** **01 19 04.8 -0.4**
baz=324
TNSS Tian-Shan 67.69 324 *eP* **P** **01 19 04.7 -0.4**
NIE Niedzica 67.69 6 *eP* **P** **01 19 05.3 +0.7**
NIE Niedzica 67.69 6 P **P** **01 19 05.6 +1.0**
NIE Niedzica 67.69 6 P **P** **01 19 05.6 +1.0**
comp=Z,5.2nm,1.2s
ENH Enshi 67.73 293 P **P** **01 19 05.4 +0.3**
ENH Enshi 67.73 293 P **P** **01 19 05.1 0.0**
ENH Enshi 67.73 293 P **P** **01 19 05.1 0.0**
ECH Echery 67.74 16 P **P** **01 19 04.6 -0.3**
ECH pP **pP** **01 19 34.9 +0.2**
BFO Black Forest 67.77 15 *eP* 01 19 04.6
comp=Z,2.9nm,0.9s,baz=351,slow=6.4
PRZ Przheval'sk 67.81 323 P **P** **01 19 06.2 +0.5**
PRZ IAmb IAmb 01 19 07.4
comp=Z,29nm,0.7s
PRZ Przheval'sk 67.81 323 P **P** **01 19 06.2 +0.5**
PRZ pmax pmax
comp=Z,29nm,0.7s
GERES GERESS Array B 67.81 11 P **P** **01 19 05.4 0.0**
GERES GERESS Array B 67.81 11 P **P** **01 19 05.0 -0.4**
comp=Z,2.6nm,0.5s,baz=15,slow=5.5,SNR=18
comp=Z,2.6nm,0.5s
GERES GERESS Array B 67.81 11 P **P** **01 19 05.4 0.0**
KRUC Moravsky 67.81 9 *eP* **P** **01 19 05.1 -0.2**
GEC2 GERESS Array S 67.81 11 *eP* 01 19 05.2
comp=Z,5.7nm,0.9s,baz=351,slow=6.4
HAU Haudompre 67.84 16 *eP* **P** **01 19 04.6 -1.0**
HAU pmax pmax
comp=Z,6.0nm,0.6s
CKRC Cesky Krumlov 67.89 11 *eP* **P** **01 19 05.7 -0.1**
CKRC Cesky Krumlov 67.89 11 *eP* **P** **01 19 05.7 -0.1**
SGDS Sogindy 67.90 326⇑*iP* **P** **01 19 06.2 0.0**
baz=326
SGDS Sogindy 67.90 326*c iP* **P** **01 19 06.1 0.0**
LANS Liptovska Anna 67.92 7 *eP* **P** **01 19 06.6 +0.6**
LANS pmax pmax
comp=Z,9.0nm,0.8s
LANS Liptovska Anna 67.92 7 *eP* **P** **01 19 06.6 +0.6**
HINF Hinteralfeld 68.09 16 *eP* **P** **01 19 06.0 -1.1**
HINF pmax pmax
comp=Z,3.0nm,0.6s
JAVC Velka Javorina 68.10 8 *eP* **P** **01 19 08.0 +0.8**
TKM2 Tokmak 2 68.15 325 P **P** **01 19 06.0 -1.8**
SNR=23
TKM2 Tokmak 2 68.15 325 *i P* **P** **01 19 07.7 -0.1**
TKM2 pmax pmax
comp=Z,33nm,0.7s
LOR Lormes 68.22 18 *eP* **P** **01 19 06.9 -1.1**
LOR pmax pmax
comp=Z,10.0nm,0.7s
MFF Saint Martin d 68.25 21 *eP* **P** **01 19 07.2 -0.9**
MFF pmax pmax
comp=Z,8.0nm,0.9s
FUR Furstenfeldbru 68.25 13 *eP* 01 19 08.3
comp=Z,13nm,0.8s,baz=351,slow=6.4
CRVS Cervenica-Dubn 68.26 6 *eP* **P** **01 19 08.3 +0.1**
CRVS pmax pmax
comp=Z,22nm,1.0s
CRVS Cervenica-Dubn 68.26 6 *eP* **P** **01 19 08.3 +0.1**
KOLS Kolonicke sedl 68.27 5 *eP* **P** **01 19 08.9 +0.7**
KOLS pmax pmax
comp=Z,17nm,0.6s
KOLS Kolonicke sedl 68.27 5 *eP* **P** **01 19 08.9 +0.7**
GOMU GeErMu 68.27 308 P **P** **01 19 09.9 +1.0**
GOMU pmax pmax
comp=Z,89nm,0.7s
CHMS Chumysh 68.30 326 P **P** **01 19 05.0 -3.5**
SNR=18
SSLB Suanglung 68.35 280 P **P** **01 19 09.5 +0.4**
SSLB Suanglung 68.35 280 IAmb IAmb 01 19 09.8
comp=Z,30nm,1.0s
SSF Saint Saulge 68.38 19 *eP* **P** **01 19 08.0 -0.9**
SSF pmax pmax
comp=Z,11nm,0.8s
BOOM Boomskoye usch 68.46 325 P **P** **01 19 10.3 +0.6**
BOOM IAmb IAmb 01 19 10.5
comp=Z,19nm,0.7s
BOOM Boomskoye usch 68.46 325 P **P** **01 19 10.3 +0.6**
BOOM pmax pmax
comp=Z,19nm,0.7s
VYHS Vyhne 68.53 7 *eP* **P** **01 19 09.8 -0.1**
VYHS pmax pmax
comp=Z,16nm,1.2s
VYHS Vyhne 68.53 7 *eP* **P** **01 19 09.8 -0.1**
MODS Modra-Piesok 68.56 9 *eP* **P** **01 19 10.4 +0.4**
MODS pmax pmax
comp=Z,46nm,1.3s
MODS Modra-Piesok 68.56 9 *eP* **P** **01 19 10.4 +0.4**
KBK Karagaybulak 68.57 325 P **P** **01 19 11.0 +0.6**
SNR=21
UBR Ueberruh 68.61 14 *eP* 01 19 10.3
comp=Z,4.7nm,0.8s,baz=351,slow=6.4
UBR *ep*P 01 19 40.6
ULHL Ulahol 68.61 324 P **P** **01 19 10.8 +0.1**
SNR=8.2
AVF Avril sur Loir 68.62 19 *eP* **P** **01 19 09.2 -1.2**
AVF pmax pmax
comp=Z,5.0nm,0.5s
KECS Kecovo 68.64 6 *eP* **P** **01 19 10.8 +0.3**
KECS Kecovo 68.64 6 *eP* **P** **01 19 10.8 +0.3**
TARG Taragay, Kyrgy 68.67 323 P **P** **01 19 12.0 +0.7**
TARG IAmb IAmb 01 19 14.6
comp=Z,100nm,1.8s
TARG Taragay, Kyrgy 68.67 323 P **P** **01 19 12.0 +0.7**
TARG pmax pmax
comp=Z,100nm,1.8s
AAK Ala-Archa 68.70 326 P **P** **01 19 11.7 +0.5**
SNR=12
AAK Ala-Archa 68.70 326 P **P** **01 19 11.6 +0.5**
AAK Ala-Archa 68.70 326 *i P* **P** **01 19 11.7 +0.5**
SNR=12
AAK Ala-Archa 68.70 326*ceP* **P** **01 19 11.4 +0.2**
AAK pmax pmax
comp=Z,81nm,1.7s
AAK Ala-Archa 68.70 326 P **P** **01 19 11.6 +0.5**
ZST Bratislava 68.72 9 *eP* **P** **01 19 11.5 +0.5**
ZST Bratislava 68.72 9 *eP* **P** **01 19 11.5 +0.5**
KMPD K-Podol'skiy 68.75 2 P **P** **01 19 10.5 -0.7**
WUS Wushi 68.77 322 P **P** **01 19 11.8 +0.2**
RJOB Jochberg 68.83 12 *eP* 01 19 11.9
comp=Z,11nm,0.8s,baz=351,slow=6.4
RJOB *ep*P 01 19 41.9
MOA Molln 68.85 11 *eP* **P** **01 19 11.5 -0.3**
comp=Z,17nm,1.3s,SNR=8.1
MOA *i* pP **pP** **01 19 40.4 -1.3**
comp=Z,7.3nm,1.1s
EKS2 Erkin-Say 68.86 326 P **P** **01 19 12.7 +0.6**
SNR=55
RETA Reutte 68.87 13 *eP* **P** **01 19 11.6 -0.5**
comp=Z,7.1nm,1.2s
RETA *ep*P **pP** **01 19 42.4 +0.4**
comp=Z,4.1nm,1.2s
CONA Conrad Observa 68.90 10 *i P* **P** **01 19 12.3 +0.1**
comp=Z,9.5nm,0.8s,SNR=12
CONA *i* pP **pP** **01 19 42.6 +0.5**
comp=Z,19nm,1.6s
TCF Toulx Ste Croi 68.94 20 *eP* **P** **01 19 11.2 -1.2**
TCF pmax pmax
comp=Z,7.0nm,0.9s
BIOA Bad Ischl, Aus 68.95 11 *i P* **P** **01 19 12.2 -0.3**
comp=Z,3.0nm,0.6s
BIOA *i* pP **PcP** **01 19 38.5 +2.6**
comp=Z,8.9nm,1.1s
DAVA Damuels 68.97 14 *eP* **P** **01 19 13.0 +0.3**
comp=Z,5.1nm,1.1s
DAVA *ep*P **PcP** **01 19 39.1 +2.9**
comp=Z,3.0nm,0.7s
UCH Uchtor 69.08 326 P **P** **01 19 14.2 +0.3**
SNR=9.9
WATA Walderalm 69.10 13 *i P* **P** **01 19 13.6 0.0**
comp=Z,14nm,1.2s,SNR=12
WATA *i* pP **pP** **01 19 42.0 -1.5**
comp=Z,13nm,0.9s
LESA Schwarzleotal 69.12 12 *i P* **P** **01 19 13.6 0.0**
comp=Z,5.4nm,0.7s
LESA *i* pP **pP** **01 19 42.1 -1.4**
comp=Z,9.0nm,1.0s
RONA Rosalia, Austr 69.16 9 *i P* **P** **01 19 14.2 +0.5**
comp=Z,9.1nm,1.2s
RONA *ep*P **pP** **01 19 40.3 -3.3**
comp=Z,5.7nm,0.9s
PSZ Piszkesteto 69.17 7⇑P **P** **01 19 14.1 +0.3**
PSZ Piszkesteto 69.17 7 P **P** **01 19 14.4 +0.6**
PSZ Piszkesteto 69.17 7 P **P** **01 19 14.4 +0.6**
PSZ pmax pmax
comp=Z,17nm,0.9s
SQTA Sankt Quirin 69.18 13 *i P* **P** **01 19 14.2 +0.2**
comp=Z,11nm,0.8s,SNR=15
SQTA *i* pP **pP** **01 19 44.5 +0.6**
comp=Z,20nm,1.0s
WTTA Wattenberg 69.18 13 *i P* **P** **01 19 14.3 +0.2**
comp=Z,8.9nm,0.6s,SNR=13
WTTA *i* pP **pP** **01 19 44.0 0.0**
comp=Z,18nm,0.9s
SRO Srobarova 69.18 8 *eP* **P** **01 19 13.9 +0.1**
SRO pmax pmax
comp=Z,27nm,1.7s
SRO Srobarova 69.18 8 *eP* **P** **01 19 13.9 +0.1**
SOP Sopron 69.19 9 P **P** **01 19 14.8 +0.9**
SORM Soroca 69.20 1⇑P **P** **01 19 13.1 -0.8**
SORM Soroca 69.20 1 P **P** **01 19 13.1 -0.8**
SORM Soroca 69.20 1 P **P** **01 19 13.2 -0.8**
comp=Z,52nm,1.1s,comp=Z,677nm
KK31 Karatay Array 69.24 329 P **P** **01 19 14.1 -0.2**
KK31 Karatay Array 69.24 329 P **P** **01 19 14.1 -0.2**
KK31 pmax pmax
comp=Z,20nm,0.9s
KKAR Karatay Array 69.24 329 P **P** **01 19 14.1 -0.3**
KKAR Karatay Array 69.24 329 P **P** **01 19 14.0 -0.3**
KKAR IAmb IAmb 01 19 16.1
comp=Z,20nm,0.9s
KKAR Karatay Array 69.24 329 P **P** **01 19 14.1 -0.3**
FETA Feichten 69.33 13 *i P* **P** **01 19 15.0 +0.1**
comp=Z,5.7nm,0.8s,SNR=8.4
FETA *i* pP **PcP** **01 19 40.7 +2.9**
comp=Z,9.2nm,1.1s
BAL3X Bal3x, Balta 69.41 360 P **P** **01 19 14.3 -0.9**
BRLS Boroldav 69.47 329⇑*iP* **P** **01 19 17.0 +1.3**
baz=329
BRLS Boroldav 69.47 329*c iP* **P** **01 19 17.0 +1.3**
DAVOX Davos/Dischmat 69.47 14 P **P** **01 19 15.3 -0.6**
comp=Z,10.0nm,0.8s,baz=349,slow=5.5,SNR=19
DAVOX pP **pP** **01 19 46.2 +0.4**
comp=Z,8.7nm,0.8s,baz=343,slow=5.2,SNR=4.8
comp=Z,10.0nm,0.8s
KBA Koelnbreinsper 69.53 12 *i P* **P** **01 19 16.7 +0.4**
comp=Z,15nm,0.6s,SNR=15
KBA *i* pP **pP** **01 19 46.3 +0.2**
comp=Z,22nm,0.7s
KBA Koelnbreinsper 69.53 12 P **P** **01 19 16.4 +0.2**
CD2 Chengdu 69.53 298 *eP* **P** **01 19 16.0 -0.3**
ARSA Arzberg 69.54 10 *i P* **P** **01 19 16.7 +0.5**
comp=Z,7.2nm,1.2s
ARSA *i* pP **pP** **01 19 47.2 +1.2**
comp=Z,5.8nm,1.1s
BMR Baia Mare 69.57 4⇓P **P** **01 19 16.4 +0.1**
BMR Baia Mare 69.57 4 P **P** **01 19 16.3 +0.1**
BUR08 Bucovina Ar. S 69.65 3 P **P** **01 19 16.4 -0.5**
FUORN Ofenpass-Fuorn 69.67 14 P **P** **01 19 17.6 +0.4**

BURAR **Bucovina Array** 69.68 3 ⇑P P 01 19 16.9 0.0
BURAR **Bucovina Array** 69.68 3 P P 01 19 17.0 0.0
BURAR IAmb IAmb 01 19 17.8
comp=Z,20nm,0.6s
TUE **Stuetta** 69.72 15 P P 01 19 17.7 +0.3
MPLH **Magyarpolny** 69.77 9 P P 01 19 17.7 +0.2
comp=Z,36nm,1.0s
ABTA **Abfaltersbach** 69.78 12 *i* P P 01 19 17.2 -0.5
comp=Z,4.4nm,0.7s
ABTA *e*pP pP 01 19 45.9 -1.7
comp=Z,8.9nm,1.7s
RJF **Les Rejaudoux** 69.78 21 *e*P P 01 19 17.9 +0.3
RJF pmax pmax
comp=Z,7.0nm,1.0s
PRAR **RASCA** 69.95 2 ⇑P P 01 19 18.0 -0.6
MYKA **Terra Mystica** 70.00 11 *i* P P 01 19 18.9 -0.1
comp=Z,11nm,1.0s
MYKA *i* pP pP 01 19 48.8 -0.1
comp=Z,5.7nm,1.1s
LFF **La Frestale** 70.01 21 *e*P P 01 19 18.2 -0.8
LFF pmax pmax
comp=Z,10.0nm,0.8s
SOKA **Soboth** 70.07 10 *i* P P 01 19 19.0 -0.5
comp=Z,7.5nm,1.1s,SNR=6.5
SOKA *e*pP pP 01 19 48.7 -0.7
comp=Z,7.2nm,1.0s
MESR **Meseseni** 70.07 5 ⇓P P 01 19 19.4 +0.1
IAS **Iasi** 70.14 1 P P 01 19 20.9 +1.2
OBKA **Obir** 70.20 11 *i* P P 01 19 20.3 0.0
comp=Z,22nm,0.8s,SNR=20
OBKA *i* pP pP 01 19 50.6 +0.3
comp=Z,15nm,0.8s
OBKA **Obir** 70.20 11⇑*i*P P 01 19 20.1 -0.1
CAF **Calviac** 70.24 20 *e*P P 01 19 19.3 -1.1
CAF pmax pmax
comp=Z,2.0nm,0.4s
IUG **Iuzhnay** 70.26 329 *e*P P 01 19 20.7 0.0
comp=Z,27nm,0.7s,baz=329
IUG **Iuzhnay** 70.26 329 *e*P P 01 19 20.7 0.0
IUG pmax pmax
comp=Z,27nm,0.7s
STAL **STALIGIAL** 70.28 12 IAmb IAmb 01 19 39.5
comp=Z,18nm,0.5s
GROS **Grobnik** 70.33 10 *i* P P 01 19 20.5 -0.5
LPL **La Plagne** 70.34 17 *e*P P 01 19 21.2 0.0
LPL pmax pmax
comp=Z,10.0nm,1.1s
KIS **Kishinev** 70.34 0⇑*i*P P 01 19 20.0 -0.9
comp=Z,20nm,0.5s
KIS M M 01 19 22.0
comp=Z,50nm,1.0s
KIS **Kishinev** 70.34 0*c* *i*P P 01 19 20.0 -0.9
KIS pmax pmax
comp=Z,20nm,0.5s
KIS **Kishinev** 70.34 0 P P 01 19 20.1 -0.9
comp=Z,35nm,0.7s,comp=Z,497nm
LPG **La Plagne** 70.36 17 *e*P P 01 19 21.6 +0.2
LPG pmax pmax
comp=Z,15nm,1.3s
KOGS **Kog** 70.40 10 *i* P P 01 19 20.9 -0.4
CADS **Cadrg** 70.41 11 *i* P P 01 19 20.3 -1.2
MILM **Milestii Mici** 70.42 0 ⇑P P 01 19 20.7 -0.7
MILM **Milestii Mici** 70.42 0⇑*i*P P 01 19 20.1 -1.3
comp=Z,80nm,1.0s
MILM M M 01 19 23.0
comp=Z,80nm,1.0s
MILM **Milestii Mici** 70.42 0*c* *i*P P 01 19 20.1 -1.3
MILM pmax pmax
comp=Z,80nm,1.0s
DRGR 70.42 5 ⇓P P 01 19 21.1 -0.5
DRGR 70.42 5 P P 01 19 21.0 -0.5
CMLA **Cha da Macela** 70.47 43 *i* P P 01 19 19.0 -2.9
MARR **Marisel-Cluj** 70.55 5 ⇓P P 01 19 22.1 -0.3
SABO **M.te Sabotino** 70.64 12 IAmb IAmb 01 19 24.5
comp=Z,10nm,0.8s
NE56 **Odesa** 70.66 359 P P 01 19 21.0 -1.8
LOBO **Lobor** 70.67 10 *i* P P 01 19 22.3 -0.7
VIVF **Saint-Julien-l** 70.70 18 *e*P P 01 19 22.3 -0.9
VIVF pmax pmax
comp=Z,7.0nm,0.7s
KALN **Kalnik** 70.73 9 *i* P P 01 19 22.9 -0.5
BNI **Bardonecchia** 70.78 17 P P 01 19 21.8 -2.1
MORH **Mrgy, Hungar** 70.80 8 P P 01 19 23.7 0.0
comp=Z,6.1nm,0.6s
TESR **Tescani** 70.81 2 ⇑P P 01 19 23.2 -0.6
TESR **Tescani** 70.81 2 P P 01 19 23.0 -0.8
comp=Z,9.2nm,1.0s
ORIF **Oris-en-Rattie** 70.81 17 *e*P P 01 19 23.2 -0.8
ORIF pmax pmax
comp=Z,4.0nm,0.6s
SIRR **Siria** 70.90 6 ⇓P P 01 19 24.3 -0.1
PTJ **Puntijarka** 70.91 10 P P 01 19 23.7 -0.9
CEY **Cerknica** 70.95 11⇑*i*P P 01 19 23.6 -1.1
ONER **Baraj Valea Uz** 70.98 2 ⇓P P 01 19 24.9 0.0
MBDF **Montbardon** 71.12 17 *e*P P 01 19 25.9 0.0
MBDF pmax pmax
comp=Z,5.0nm,0.7s
PGAV **Gavieira, Arco** 71.15 29 *e*P P 01 19 26.5 +0.4
OZUR 71.21 3 ⇑P P 01 19 26.7 +0.4
BOSR **Bodos** 71.23 3 ⇓P P 01 19 26.8 +0.4
KSH **Kashi** 71.23 324 P P 01 19 29.8 +3.2
KSH pmax pmax
comp=Z,48nm,0.7s
BOJS **Bojanci** 71.26 10⇑*i*P P 01 19 25.8 -0.7
MOSL **Moslavina** 71.27 9 *i* P P 01 19 25.9 -0.7
GHRR 71.27 1 ⇓P P 01 19 26.8 +0.2
SURR **Surduc** 71.44 5 ⇑P P 01 19 27.6 +0.1
VRI **Vrincioaia** 71.46 2 ⇑P P 01 19 27.6 -0.1
VRI **Vrincioaia** 71.46 2 P P 01 19 27.6 -0.1
VRI **Vrincioaia** 71.46 2 P P 01 19 27.6 -0.1
comp=Z,20nm,0.9s
PLOR3 **Plostina Array** 71.47 2 P P 01 19 28.2 +0.4
comp=Z,23nm,1.0s
COVR **Voineasa-Covas** 71.47 2 ⇑P P 01 19 27.9 +0.1
PLOR **Plostina** 71.47 2 ⇑P P 01 19 28.0 +0.1
PLOR **Plostina** 71.47 2 P P 01 19 27.9 +0.1
VLDR **Vladesti** 71.49 1 ⇑P P 01 19 27.5 -0.4
BZS **Buzias** 71.55 6 ⇓P P 01 19 27.6 -0.7
BZS **Buzias** 71.55 6 P P 01 19 27.6 -0.7
ODBI **Odobesti** 71.56 2 ⇑P P 01 19 28.4 +0.1
SMRN **Sveta Marina** 71.63 11 *i* P P 01 19 27.1 -1.6
PBRG **Braganca** 71.63 28 *e*P P 01 19 29.5 +0.6
comp=Z,18nm,1.4s
GULI **GuiLin** 71.71 290 ⇑P P 01 19 29.8 +0.3
GULI pmax pmax
comp=Z,40nm,0.8s
GOF **Gofitskoye** 71.73 350*c* *i*P P 01 19 29.3 0.0
SLCR **Slobozia Conac** 71.75 1 ⇑P P 01 19 28.7 -0.7
ETSF **Etsaut** 71.78 23 *e*P P 01 19 30.0 +0.2
ETSF pmax pmax
comp=Z,3.0nm,0.7s
LOT **Lotru** 71.80 4 ⇑P P 01 19 29.2 -0.8
MTLF **Montolieu** 71.81 20 *e*P P 01 19 29.0 -0.9
MTLF pmax pmax
comp=Z,10.0nm,0.9s
MLR **Muntele Rosu** 71.82 2 ⇑P P 01 19 30.2 +0.1
MLR **Muntele Rosu** 71.82 2 P P 01 19 30.4 +0.3
MLR **Muntele Rosu** 71.82 2 P P 01 19 30.4 +0.3
MLR pmax pmax
comp=Z,12nm,0.9s
POLO **Lamas de Olo** 71.82 29 *e*P P 01 19 30.5 +0.4
comp=Z,12nm,1.7s
GZR **Gura Zlata** 71.82 5 ⇑P P 01 19 29.9 -0.1
GZR **Gura Zlata** 71.82 5 P P 01 19 29.9 -0.1
VOIR 71.85 3 ⇓P P 01 19 30.3 +0.1
VOIR 71.85 3 P P 01 19 30.3 +0.1
PLIT **Plitvice** 71.91 10 *i* P P 01 19 30.8 +0.4
ARR **Arges** 71.91 3 ⇓P P 01 19 29.6 -0.9
FRGS **Fruska Gora** 71.92 7 ⇑P P 01 19 30.2 -0.3
FRGS **Fruska Gora** 71.92 7⇑*i*P P 01 19 29.8 -0.7
PVRL **Vila Real** 71.93 29 *e*P P 01 19 31.2 +0.5
comp=Z,24nm,1.6s
BTK **Batken** 72.05 328 P P 01 19 31.5 0.0
BTK IAmb IAmb 01 19 33.6
comp=Z,38nm,0.9s
BTK **Batken** 72.05 328 P P 01 19 31.5 0.0
BTK pmax pmax
comp=Z,38nm,1.0s
SBF **Sospel** 72.05 16 *e*P P 01 19 30.6 -0.8
SBF pmax pmax
comp=Z,10.0nm,0.7s
TLCR 72.16 0 ⇓P P 01 19 31.9 0.0
TLCR 72.16 0 P P 01 19 31.8 0.0
BLY **Banja Luka** 72.16 9⇑*i*P P 01 19 31.1 -0.8

CFR **Carcaliu** 72.16 1 ⇓P P 01 19 31.4 -0.5
CFR **Carcaliu** 72.16 1 P P 01 19 31.4 -0.5
DOB **Doboj** 72.24 8 *e*P P 01 19 41.4 +9.0
GYA **Guiyang** 72.25 293 ⇓P P 01 19 33.7 +0.8
GYA pP pP 01 20 03.6 +0.6
GYA S S 01 28 42.2 -3.8
GYA pmax pmax
comp=Z,74nm,0.6s
GYA pmax pmax
comp=Z,470nm,6.6s
GYA LR LR
comp=Z,400nm,8.0s
GYA LR LR
comp=Z,590nm,8.2s
GYA LR LR
comp=Z,430nm,7.4s
UDBI **Udbina** 72.27 10 *i* P P 01 19 31.8 -0.9
HERR **Herculane** 72.32 5 ⇑P P 01 19 32.3 -0.5
SIM **Simferopol'** 72.32 356 *e*P P 01 19 33.1 +0.2
SIM pmax pmax
comp=Z,24nm,1.0s
ANN **Anapa** 72.34 354 *e*P P 01 19 31.7 -1.3
ANN *e**PP pP 01 19 59.8 -3.2
ANN *e*S S 01 28 46.4 +0.2
ANN *e*SS SS 01 33 24.4 -0.9
ANN pmax pmax
comp=Z,55nm,1.1s
DRK **Karamyk** 72.36 327 P P 01 19 34.0 +0.4
DRK **Karamyk** 72.36 327 P P 01 19 34.0 +0.4
DRK pmax pmax
comp=Z,86nm,0.6s
A050A **Klekovaca** 72.37 10⇑*i*P P 01 19 31.0 -2.3
MDVR **Moldovita** 72.39 6 ⇑P P 01 19 32.9 -0.4
PVIS **Viseu** 72.43 29 *e*P P 01 19 34.0 +0.3
VIRC **Vir** 72.44 11 *i* P P 01 19 32.7 -0.9
MGRS **Mrkonjic Grad** 72.48 9⇑*i*P P 01 19 32.6 -1.3
TPGR **Topolog** 72.48 1 ⇑P P 01 19 33.8 -0.1
TEKS **Tekeris** 72.51 7⇑*i*P P 01 19 33.3 -0.7
SRE **Strehaia** 72.57 5 ⇑P P 01 19 34.3 -0.1
SRE **Strehaia** 72.57 5 P P 01 19 34.2 -0.1
HARR **Harsova** 72.65 1 ⇑P P 01 19 34.7 -0.2
HARR **Harsova** 72.65 1 P P 01 19 34.6 -0.2
DUGI **Dugi Otok** 72.74 11 *i* P P 01 19 34.7 -0.7
HUMR **Humele** 72.76 3 ⇓P P 01 19 34.4 -1.1
TLBR **Topalu** 72.79 1 ⇑P P 01 19 35.5 -0.2
MTE **Manteigas** 72.81 29 *e*P P 01 19 36.1 +0.2
comp=Z,28nm,1.3s
KIV **Kislovodsk** 72.85 350 ⇑P P 01 19 36.3 +0.1
KIV **Kislovodsk** 72.85 350 P P 01 19 36.5 +0.3
KIV **Kislovodsk** 72.85 350 *i* P P 01 19 36.4 +0.3
SNR=49
KIV **Kislovodsk** 72.85 350 *e*P P 01 19 36.0 -0.2
KIV *e* 01 22 17.5
KIV *e*S S 01 28 53.3 +1.1
KIV pmax pmax
comp=Z,109nm,1.0s
PCAS **Casmilo, Conde** 72.93 29 *e*P P 01 19 36.6 0.0
comp=Z,35nm,1.6s
HAPS **Han Pijesak,Bl** 72.93 8⇑*i*P P 01 19 36.2 -0.5
KBZ **Khabaz** 73.06 350 P P 01 19 37.0 -0.2
comp=Z,82nm,0.9s,baz=328,slow=4.3,SNR=119
comp=Z,82nm,0.9s
KBZ **Khabaz** 73.06 350*c*e*P P 01 19 37.7 +0.5
KBZ pmax pmax
comp=Z,83nm,0.9s
SHA1 **Shidzhatmaz** 73.07 350*c*e*P P 01 19 38.0 +0.4
MFTR **Murfatlar** 73.16 1 ⇑P P 01 19 37.8 0.0
GAR **Garm** 73.18 328 P P 01 19 38.2 0.0
BBLS **Lazi&#263i** 73.18 7⇑*i*P P 01 19 38.0 -0.1
NCK **Nalchik** 73.23 349*c* *i*P P 01 19 38.9 +0.6
NCK pmax pmax
comp=Z,153nm,0.6s
PCBR **Castelo Branco** 73.36 29 *e*P P 01 19 39.0 -0.1
comp=Z,19nm,1.7s
PSBE **So Bento** 73.37 30 *e*P P 01 19 39.5 +0.3
comp=Z,38nm,1.9s
RICI **Ricice** 73.40 9 *i* P P 01 19 38.9 -0.4
RUDO **Rudo** 73.43 8⇑*i*P P 01 19 38.8 -0.6
SOC **Sochi** 73.43 352 *e*P P 01 19 38.2 -1.2
SOC *e**PP pP 01 20 04.0 -5.6
SOC *e**SP sP 01 20 18.1 -4.5
SOC *e* 01 22 22.7
SOC *e*PPP PPP 01 24 08.0
SOC *e*S S 01 28 59.5 +0.9
SOC *e**SS sS 01 29 51.6 +1.4
SOC *e*SS SS 01 33 47.0 +5.0
SOC *e*SSS SSS 01 37 00.8
SOC pmax pmax
comp=Z,35nm,0.7s
BOVS **Bovan** 73.53 6 ⇑P P 01 19 39.1 -0.9
VSLR **Vesyoloye** 73.53 352 *i* P P 01 19 38.9 -1.2
VSLR pmax pmax
comp=Z,66nm,1.0s
PGF **Pioggiola** 73.54 16 *e*P P 01 19 39.4 -0.9
PGF pmax pmax
comp=Z,13nm,1.1s
HVAR **Hvar** 73.66 10 *i* P P 01 19 39.8 -1.0
PMRV **Marv??o** 73.77 29 *e*P P 01 19 40.7 -0.8
comp=Z,17nm,1.8s
CHGR **Chuyangaron** 73.78 328 P P 01 19 41.7 0.0
CHGR **Chuyangaron** 73.78 328 P P 01 19 41.7 0.0
CHGR pmax pmax
comp=Z,421nm,0.6s
UPM **Unac-Piva** 73.81 8 *e*P P 01 19 41.5 -0.4
SIMJ **Simiganj** 73.82 329 P P 01 19 42.0 +0.1
SIMJ IAmb IAmb 01 19 42.9
comp=Z,72nm,0.8s
SJES **Sjenica** 73.82 7⇑*i*P P 01 19 41.8 -0.1
MPEP **Malo Peshtene** 73.89 4 P P 01 19 40.0 -2.2
PMTG **Montargil** 73.93 30 *e*P P 01 19 41.8 -0.6
comp=Z,15nm,1.5s
SZH **Strazhitsa** 74.04 3 P P 01 19 42.0 -1.0
LIS **Lisbon** 74.05 30 *e*P P 01 19 44.2 +1.1
STON **Ston** 74.06 9⇑*i*P P 01 19 41.8 -1.3
BRY **Bratogost** 74.09 8⇑*i*P P 01 19 42.5 -1.0
ONI **Oni** 74.14 349 P P 01 19 44.2 +0.5
ONI IAmb IAmb 01 19 46.6
comp=Z,37nm,0.8s
ONI **Oni** 74.14 349 P P 01 19 44.2 +0.5
ONI pmax pmax
comp=Z,37nm,0.8s
PRD **Provadia** 74.17 1 P P 01 19 44.0 +0.3
PZH **PanZhiHua** 74.24 297 P P 01 19 44.6 0.0
PZH pmax pmax
comp=Z,110nm,0.8s
PZH pmax pmax
comp=Z,200nm,5.9s
ESBB **Sonseca Array** 74.25 26 P P 01 19 44.6 +0.2
ESDC **Sonseca Array** 74.25 26 P P 01 19 44.6 +0.2
ESDC **Sonseca Array** 74.25 26 P P 01 19 43.8 -0.6
comp=Z,9.8nm,0.9s,baz=343,slow=5.8,SNR=74
ESDC pP pP 01 20 14.7 -0.1
comp=Z,7.7nm,0.8s,baz=344,slow=5.6,SNR=5.8
ESDC LR LR 01 57 31.6
comp=Z,65nm,18.1s,baz=155,slow=40
comp=Z,9.8nm,0.9s
TREB **Trebinje** 74.26 8 *e*P P 01 19 43.0 -1.3
PESTR **Estremoz** 74.26 29 *e*P P 01 19 43.9 -0.5
PAB **San Pablo** 74.30 26 P P 01 19 44.7 0.0
PAB **San Pablo** 74.30 26 P P 01 19 44.7 0.0
PAB pmax pmax
comp=Z,9.0nm,1.0s
ELND **Elena** 74.38 3 ⇑P P 01 19 44.0 -1.0
EVO **Evora** 74.49 30 *e*P P 01 19 45.3 -0.4
comp=Z,23nm,1.4s
PDG **Podgorica** 74.60 8 ⇓P P 01 19 45.4 -0.9
PDG **Podgorica** 74.60 8⇑*i*P P 01 19 45.1 -1.2
VTS **Vitosha** 74.61 5 P P 01 19 45.5 -1.0
PLNA **Plana** 74.76 5 P P 01 19 46.0 -1.3
PNCL **Nicolau / Gran** 74.77 30 *e*P P 01 19 47.4 +0.1
DRME **Dracevica, Mon** 74.84 8⇑*i*P P 01 19 44.9 -2.8
PBEJ **Beja** 75.01 30 *e*P P 01 19 49.0 +0.3
comp=Z,16nm,1.6s
PBAR **Barrancos** 75.05 29 *e*P P 01 19 49.0 +0.1
comp=Z,28nm,1.5s
KMI **Kunming** 75.06 296 ⇑P P 01 19 49.4 -0.1
KMI pP pP 01 20 21.7 +2.0
KMI pmax pmax
comp=Z,18nm,0.9s
KMI pmax pmax
comp=Z,380nm,6.5s
KMI LR LR
comp=Z,410nm,12.6s
KMI LR LR

comp=Z,350nm,8.9s
TRLG **Trialeti** 75.13 349 P P 01 19 49.6 +0.1
SEKA **Sheki** 75.15 346 P P 01 19 49.0 -0.5
SKO **Skopje** 75.18 6 *i* P P 01 19 49.9 +0.3
BZK **Bozkurt** 75.31 356 ⇑P P 01 19 50.0 -0.4
BZK **Bozkurt** 75.31 356 IAmb IAmb 01 19 57.5
comp=Z,56nm,0.7s
KKB **Krupnik** 75.38 5 P P 01 19 50.0 -0.8
BCA **Borcka** 75.43 350 ⇑P P 01 19 50.4 -0.7
STIP **Stip** 75.49 6 *i* P P 01 19 50.6 -0.8
MORF **Marmelete** 75.52 30 *e*P P 01 19 51.6 -0.1
comp=Z,39nm,1.9s
DIKM **Dikmen** 75.58 355 ⇓P P 01 19 51.5 -0.4
RZN **Rozhen** 75.58 4 P P 01 19 52.0 -0.1
MNGR **Mingechevir, A** 75.59 346 P P 01 19 52.7 +0.8
PVAQ **Vaqueiros** 75.64 30 *e*P P 01 19 52.4 +0.1
comp=Z,36nm,1.5s
PAOL **Paolisi** 75.64 11 P P 01 19 53.9 +1.6
MMB **Musomishta** 75.70 4 P P 01 19 52.0 -0.6
PBDV **Barranco-do-Ve** 75.74 30 *e*P P 01 19 53.4 +0.5
comp=Z,50nm,1.4s
GANJ **Ganja** 75.80 347 P P 01 19 53.6 +0.4
OHR **Ohrid** 76.00 7 *i* P P 01 19 53.5 -0.9
KARS **Kars** 76.12 349 P P 01 19 56.3 +1.1
KARS **Kars** 76.12 349 P P 01 19 56.3 +1.1
KARS pmax pmax
comp=Z,120nm,0.7s
ISK **Istanbul-Kandi** 76.27 0 P P 01 19 55.5 -0.3
FNA **Florina** 76.36 6 IAmb IAmb 01 19 57.9
comp=Z,29nm,0.7s
GNI **Garni** 76.45 348 P P 01 19 58.0 +0.9
GNI IAmb IAmb 01 20 14.6
comp=Z,31nm,0.8s
GNI **Garni** 76.45 348 P P 01 19 57.8 +0.7
GNI **Garni** 76.45 348*c*e*P P 01 19 58.3 +1.2
GNI pmax pmax
comp=Z,42nm,1.3s
GNI **Garni** 76.45 348 P P 01 19 57.5 +0.4
LIT **Litokhoron** 77.09 5 P P 01 19 59.9 -0.6
LIT IAmb IAmb 01 20 02.5
comp=Z,24nm,0.7s
LIT **Litokhoron** 77.09 5 P P 01 19 59.9 -0.6
LIT pmax pmax
comp=Z,24nm,0.7s
NAX **Nakhchivan** 77.34 347 P P 01 20 02.7 +0.7
ANTO **Ankara** 77.43 357 ⇑P P 01 20 03.0 +0.6
ANTO **Ankara** 77.43 357 P P 01 20 03.1 +0.6
ANTO IAmb IAmb 01 20 05.7
comp=Z,59nm,0.7s
ANTO **Ankara** 77.43 357 P P 01 20 03.1 +0.6
ANTO pmax pmax
comp=Z,59nm,0.7s
LKRN **Lenkeran, Azer** 77.43 345 P P 01 20 02.4 +0.1
QIZ **Qiongzhong** 77.44 287 P P 01 20 03.9 +1.2
QIZ pP pP 01 20 33.8 +0.5
QIZ sP sP 01 20 46.8 +0.6
QIZ S S 01 29 45.6 +2.1
QIZ sS sS 01 30 36.2 +0.7
QIZ pmax pmax
comp=Z,29nm,2.1s
QIZ LR LR
comp=Z,360nm,15.1s
QIZ LR LR
comp=Z,300nm,13.3s
QIZ LR LR
comp=Z,450nm,16.2s
BR231 **Keskin MP Arra** 77.46 357 P P 01 20 03.5 +0.9
BR231 IAmb IAmb 01 20 05.4
comp=Z,48nm,0.9s
NIL **Nilore** 77.48 324 P P 01 20 02.6 -0.2
NIL **Nilore** 77.48 324 P P 01 20 02.6 -0.2
NIL pmax pmax
comp=Z,68nm,0.6s
BR131 **Keskin Array S** 77.55 357 P P 01 20 03.3 0.0
BR131 **Keskin Array S** 77.55 357 P P 01 20 03.3 0.0
BR131 pmax pmax
comp=Z,23nm,0.8s
BRTR **Keskin Array B** 77.55 357 P P 01 20 03.2 0.0
BRTR **Keskin Array B** 77.55 357 P P 01 20 02.9 -0.4
comp=Z,16nm,0.7s,baz=0.5,slow=2.7,SNR=70
BRTR PP PP 01 23 00.0 +1.2
comp=Z,0.2nm,0.3s,baz=309,slow=1.2,SNR=4.0
comp=Z,16nm,0.7s
BRTR **Keskin Array B** 77.55 357 P P 01 20 03.2 0.0
PMAR **Madeira** 77.72 39 *e*P P 01 20 05.5 +1.2
comp=Z,109nm,1.4s
KBL **Kabul** 77.73 327 P P 01 20 03.0 -1.4
KBL IAmb IAmb 01 20 05.3
comp=Z,31nm,0.7s
KBL **Kabul** 77.73 327 P P 01 20 03.0 -1.4
KBL pmax pmax
comp=Z,31nm,0.7s
FUL **Funchal** 77.80 39 *e*P P 01 20 05.3 +0.8
SLVN **Son La** 77.94 293 P P 01 20 05.5 0.0
SLVN IAmb IAmb 01 20 07.6
comp=Z,52nm,0.9s
ARPR **Arapgir-MALATY** 77.99 353 P P 01 20 06.5 +0.8
ARPR IAmb IAmb 01 20 08.8
comp=Z,40nm,0.7s
GURO **Guroymak-BITLI** 78.27 350 P P 01 20 07.7 +0.5
BNN **Bunyan** 78.35 355 P P 01 20 08.2 +0.6
BAUV **El Baul** 78.75 92 IAmb IAmb 01 20 40.5
comp=Z,36nm,0.8s
SHL **Shillong** 78.92 305 IAmb IAmb 01 20 11.5
comp=Z,40nm,0.6s
CLTB **Caltabellotta** 78.93 13 IAmb IAmb 01 20 17.9
comp=Z,32nm,0.8s
HRA **Herat** 79.42 333 P P 01 20 14.2 +0.6
ROSC **El Rosal** 79.53 100 P P 01 20 13.7 -0.9
comp=Z,8.5nm,0.5s,baz=280,slow=13,SNR=5.3
comp=Z,8.5nm,0.5s
GAZ **Gaziantep** 79.96 354 IAmb IAmb 01 20 19.7
comp=Z,30nm,0.9s
ITM **Ithomi** 79.98 6 IAmb IAmb 01 20 18.9
comp=Z,25nm,0.7s
KEST **Kesra** 80.31 16 P P 01 20 17.8 -0.4
KEST **Kesra** 80.31 16 P P 01 20 17.0 -1.2
comp=Z,9.3nm,0.7s,baz=326,slow=2.0,SNR=12
comp=Z,9.3nm,0.7s
PPT2 **Papeete2** 80.33 179 *e*LR LR 01 45 29.7
comp=Z,81nm,26.8s
PPT2 *e*LR LR 01 45 37.7
comp=Z,133nm,28.2s
ELL **Elmali** 80.58 360 IAmb IAmb 01 20 30.9
comp=Z,37nm,0.8s
MDT **Midelt** 80.73 28 P P 01 20 20.1 -0.5
comp=Z,7.8nm,0.8s,baz=348,slow=8.8,SNR=15
comp=Z,7.8nm,0.8s
SANT **Santorini** 80.91 3 IAmb IAmb 01 20 22.6
comp=Z,43nm,1.3s
ARG **Arkhangelos** 81.11 1 IAmb IAmb 01 20 23.5
comp=Z,72nm,0.9s
PHRA **Phrae** 82.00 295 P P 01 20 27.2 -0.1
CHTO **Chiang Mai** 82.25 296 P P 01 20 28.3 -0.3
CHTO **Chiang Mai** 82.25 296 P P 01 20 28.3 -0.3
CHTO pmax pmax
comp=Z,11nm,0.9s
CMAR **Chiang Mai Arr** 82.57 296 P P 01 20 30.2 -0.1
comp=Z,21nm,0.9s,baz=5.5,slow=6.0,SNR=60
CMAR LR LR 01 59 31.8
comp=Z,43nm,18.6s,baz=20,slow=37
comp=Z,21nm,0.9s
JAY **Jayapura** 82.67 250 P P 01 20 29.3 -1.5
comp=Z,13nm,0.9s
MSVF **Nonsavu** 84.12 210 P P 01 20 38.6 +0.5
MSVF **Nonsavu** 84.12 210 *i* P P 01 20 37.9 -0.2
MSVF pmax pmax
comp=Z,25nm,1.3s
MMAI **Mount Meron Ar** 84.19 355 P P 01 20 38.2 -0.3
comp=Z,4.0nm,0.5s,baz=353,slow=5.9,SNR=14
MMAI PP PP 01 23 51.6 -1.9
comp=Z,2.6nm,0.8s,baz=10,slow=5.1,SNR=5.2
comp=Z,4.0nm,0.5s
EIL **Elat** 87.53 355 LR LR 02 06 14.4
comp=Z,67nm,18.6s,baz=61,slow=40
SHME **Shamm** 88.72 336 *i* P P 01 20 59.9 -0.6
SNR=18
MSFE **Esma-Masafi** 89.39 336 P P 01 21 03.1 -0.6
UOSS **Minazif** 89.78 336 P P 01 21 06.4 +0.8
HATD **Hatta, Dubai** 89.91 336 P P 01 21 07.4 +1.3
ASHO **Ashiyiah** 90.06 336 *i* P P 01 21 08.0 +1.1
SNR=6.1
ASUD **Al Ashush, Dub** 90.25 336 P P 01 21 07.6 -0.2
SOHO **SOHO** 90.51 335 P P 01 21 09.5 +0.6
DZM **Mont Dzumac** 91.27 219 *e*LR LR 01 50 36.0

comp=Z,61nm,21.5s
CZSB Cruzeiro do Su 91.42 104 P P 01 21 12.6 -0.5
CZSB IAmb IAmb 01 21 45.0
comp=Z,19nm,0.9s
MZR Muzera 92.17 338 P P 01 21 17.3 +0.6
TAM Tamanrasset 92.44 22 P P 01 21 18.8 +0.7
TAM Tamanrasset 92.44 22 P P 01 21 18.8 +0.7
TAM pmax pmax
comp=Z,4.0nm,1.1s
MACA Manacapuru-AM 92.80 91 IAmb IAmb 01 21 51.0
comp=Z,10nm,0.8s
RAYN Ar Rayn 92.81 345 P P 01 21 19.4 -0.3
RAYN IAmb IAmb 01 21 22.7
comp=Z,15nm,1.1s
RAYN Ar Rayn 92.81 345 *i* P **P 01 21 19.6 -0.1**
SNR=9.7
RAYN Ar Rayn 92.81 345 P P 01 21 19.4 -0.3
RAYN pmax pmax
comp=Z,15nm,1.2s
RPN Rapa Nui 95.64 144 LR LR 01 55 06.0
comp=Z,30nm,20.9s,baz=322,slow=29
WRA Warramunga Arr 100.97 248 P Pdif 01 21 54.9 -1.4
comp=Z,0.9nm,0.8s,baz=32,slow=5.6,SNR=6.3
WRA PKiKP **PKiKP 01 26 19.6 -1.4**
comp=Z,0.7nm,0.6s,baz=348,slow=1.9,SNR=7.6
WRA PKKP **PKKPdf 01 38 14.3 +3.5**
comp=Z,0.2nm,0.5s,baz=228,slow=2.3,SNR=4.6
WRA Warramunga Arr 100.97 248 *i* P **Pdif 01 21 55.5 -0.8**
WRA pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 101.03 104 PKKPbc PKKPbc 01 38 07.5 +2.0
comp=Z,0.7nm,0.5s,baz=131,slow=6.5,SNR=4.1
TORD Torodi Ar. Bea 101.11 27 P Pdif 01 21 55.5 -1.7
comp=Z,0.5nm,0.6s,baz=340,slow=5.1,SNR=3.9
TORD PKKPbc **PKKPbc 01 38 04.5 +0.5**
comp=Z,1.0nm,0.8s,baz=154,slow=1.4,SNR=6.2
ASAR Alice Springs 104.46 246 Pdiff **Pdif 01 22 11.4 -0.4**
comp=Z,0.4nm,0.9s,baz=20,slow=4.9,SNR=5.0
ASAR PKiKP **PKiKP 01 26 26.9 -0.4**
comp=Z,1.0nm,0.7s,baz=43,slow=1.8,SNR=9.7
STKA Stephens Creek 108.69 236 PKiKP **PKiKP 01 26 34.0 -0.8**
comp=Z,2.3nm,0.7s,baz=331,slow=6.5,SNR=4.7
KMBO Kilima Mbogo 117.98 351 P PKPdf 01 26 53.8 +0.3
VNDA Vanda 143.26 196 PKP PKPbc 01 27 36.4 +0.2
comp=Z,3.8nm,0.8s,baz=331,slow=2.1,SNR=16
VNDA SKP 01 31 01.6
comp=Z,1.3nm,1.0s,baz=121,slow=5.9,SNR=1.6
BOSA Boshof 145.50 6 PKPbc **PKPdf 01 27 43.6 -0.6**
comp=Z,61nm,0.8s,baz=356,slow=3.8,SNR=52
QSPA South Pole Qui 152.82 180 PKP **PKPdf 01 27 52.1 -2.5**
comp=Z,1.4nm,0.8s,baz=27,slow=2.3,SNR=9.8
QSPA PKPbc **PKPbc 01 28 01.9 0.0**
comp=Z,9.6nm,0.7s,baz=234,slow=2.4,SNR=33
VNA3 Neumayer Olymp 163.08 136 ⇑PKPdf **PKPdf 01 28 01.7 -5.2**
comp=Z,1.7nm,0.8s
VNA1 Neumayer--Stat 163.64 134 ⇑PKPdf **PKPdf 01 28 04.1 -3.3**
comp=Z,2.8nm,0.7s
VNA2 Neumayer--Watz 163.87 135 ⇑PKPdf **PKPdf 01 28 02.3 -5.4**
comp=Z,2.0nm,0.6s,baz=262,slow=2.5
SNAA Sanae 165.09 139 PKP **PKPdf 01 28 07.4 -1.4**
comp=Z,1.9nm,1.1s,baz=226,slow=14,SNR=3.4
MAW Mawson 165.38 237 PKP **PKPdf 01 28 07.9 -1.1**
comp=Z,1.5nm,0.8s,baz=63,slow=2.3,SNR=3.3
ELIB Princess Elisa 170.74 168 *d*PKP **PKPab 01 29 33.9 +2.2**
ELIB *dp*PKP **pPKPab 01 30 01.5 -1.7**

*IDC **10** 01:24:27.6±0.8,2°.81S×100°.13E, h0km, mb4.5/18, mbtmp4.6/19, ML4.6/1, MS3.9/18, Error ellipse: s-maj=26.6km s-min=13.3km az=49.0*
*BJI **10** 01:24:29.0±0.0,2°.90S×100°.10E, h21km, mb5.0/27, mB5.1/9, Ms4.5/3, Ms7 4.3/3*
*DJA **10** 01:24:30.3±0.4,3°.5±3°.3×10°.0E±°, h26km±3km, M4.8/18, mB4.9/3, mb4.8/18, MLv4.9/15, Mw(mB)4.2/3*
*NEIC **10** 01:24:32.9±1.8,2°.87S±0°.08×100°.00E±0°.06, h33km±4km, mb4.9/45, Error ellipse: s-maj=13.0km s-min=7.7km az=204.0*
ISC 10 01:24:31.7±0.5,2°.79S±0°.05×100°.09E±0°.05, h27km±2km, h28km:pP-P, n151, σ1§15/146, mb4.8/54, MS3.9/18, 2C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.08**	**285**	P	**Pb**	**01 24 36.1**	**-0.5**
PPSI				S	**Sb**	**01 24 40.3**	**+0.4**
SISI	**Saibi**	**1.76**	**325**	P	**Pn**	**01 25 00.7**	**+0.3**
SISI				S	**Sb**	**01 25 23.1**	**-1.9**
PDSI	**Padang**	**1.90**	**11**	P	**Pb**	**01 25 03.2**	**-2.5**
PDSI				S	**Sb**	**01 25 27.8**	**-1.2**
BKNI	**Bangkinang**	**3.23**	**17**		**Pn**	**01 25 22.2**	**+1.5**
BKNI	**Bangkinang**	**3.23**	**17**	P	**Pn**	**01 25 21.0**	**+0.3**
MNAI	**Manna**	**3.26**	**119**	Pn	**Pn**	**01 25 21.4**	**+0.3**
MNAI	**Manna**	**3.26**	**119**	P	**Pn**	**01 25 21.1**	**+0.1**
PBSI	**Pulau Batu**	**3.26**	**326**	P	**Pn**	**01 25 20.8**	**-0.2**
PBSI				S	**Sn**	**01 25 57.8**	**-1.2**
LWLI	**Liwa**	**4.54**	**119**	P	**Pn**	**01 25 38.7**	**0.0**
GSI	**Gunungsitoli**	**4.78**	**328**	Pn	**Pn**	**01 25 41.7**	**-0.3**
GSI	**Gunungsitoli**	**4.78**	**328**	P	**Pn**	**01 25 41.2**	**-0.7**
KASI	**Kota Agung**	**5.17**	**122**	P	**Pn**	**01 25 47.1**	**-0.2**
	127nm,0.6s,1μm0.7nm						
TPRI	**Tanjung Pinang**	**5.76**	**50**	P	**Pn**	**01 25 54.2**	**-1.3**
SNSI	**Sinabang, Aceh**	**6.39**	**324**	P	**Pn**	**01 26 04.3**	**+0.3**
	227nm,1.9s						
KCSI	**Kotacane, Aceh**	**6.68**	**340**	P	**Pn**	**01 26 08.1**	**0.0**
	40nm,0.6s,0.3nm						
MLSI	**Meulaboh, Aceh**	**7.92**	**332**	P	**Pn**	**01 26 24.5**	**-0.5**
	57nm,0.8s,0.3nm						
KULM	**Kulim**	**8.04**	**4**	Pn	**Pn**	**01 26 27.6**	**+0.8**
CNJI	**Cibinong**	**8.33**	**123**	P	**Pn**	**01 26 29.7**	**-1.0**
	52nm,1.2s,794nm						
LEM	**Lembang**	**8.51**	**118**	P	**Pn**	**01 26 33.2**	**-0.1**
	39nm,0.9s						
LHMI	**Lhok Sumawe**	**8.56**	**338**	P	**Pn**	**01 26 32.8**	**-1.1**
CMJI	**Cimerak**	**9.69**	**121**	P	**Pn**	**01 26 46.3**	**-3.1**
	110nm,1.0s						
SBUM	**Sibu**	**13.19**	**67**		**Pn**	**01 27 38.7**	**+1.3**
BKB	**Balikpapan**	**16.86**	**85**	P	**P**	**01 28 27.6**	**-0.3**
TWSI	**Taliwang, Sumb**	**17.72**	**110**	P	**Pn**	**01 28 35.7**	**-0.9**
KAPI	**Kappang**	**19.74**	**97**		**Pn**	**01 29 00.8**	**-0.4**
KAPI				IAmb	IAmb	01 29 03.1	
	comp=Z,52nm,1.1s						
KAPI	**Kappang**	**19.74**	**97**	P	**P**	**01 28 58.6**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=266,slow=11,SNR=6.4						
	comp=Z,46nm,1.1s						
MYLDM	**Lahad Datu**	**20.02**	**67**		**Pn**	**01 29 03.5**	**-1.0**
MYLDM				IAmb	IAmb	01 29 11.7	
	comp=Z,36nm,0.8s						
TOLI2	**Tolitoli**	**21.04**	**80**	P	**P**	**01 29 13.6**	**-0.1**
TOLI2				IAmb	IAmb	01 29 18.7	
	comp=Z,30nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.14**	**357**	P	**P**	**01 29 14.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**21.14**	**357**	P	**P**	**01 29 13.8**	**-0.8**
	comp=Z,3.8nm,0.3s,baz=186,slow=9.5,SNR=24						
CMAR				LR	LR	01 37 39.8	
	comp=Z,215nm,20.0s,baz=185,slow=37						
	comp=Z,3.8nm,0.3s						
PHRA	**Phrae**	**21.15**	**0**	P	**P**	**01 29 14.3**	**-0.5**
PHRA				IAmb	IAmb	01 29 23.2	
	comp=Z,60nm,0.9s						
CHTO	**Chiang Mai**	**21.49**	**357**	P	**P**	**01 29 17.3**	**-1.2**
PALK	**Pallekele**	**21.78**	**297**	LR	LR	01 37 18.9	
	comp=Z,165nm,18.9s,baz=223,slow=35						
EDFI	**Ende, Flores**	**22.28**	**106**	P	**P**	**01 29 24.5**	**-2.7**
CRAI	**Chiangrai**	**22.87**	**1**	P	**P**	**01 29 32.6**	**-0.7**
GTOI	**Gorontalo**	**23.16**	**82**	P	**P**	**01 29 33.5**	**-2.8**
	comp=Z,15nm,0.8s						
SANI	**Sanana**	**25.88**	**89**	P	**P**	**01 30 02.2**	**+0.6**
	comp=Z,46nm,0.7s						
TNTI	**Ternate**	**27.50**	**83**	P	**P**	**01 30 18.1**	**+2.0**
TNTI				IAmb	IAmb	01 30 32.8	
	comp=Z,39nm,1.2s						
TNCH	**TengChong**	**27.69**	**357**	⇓P	**P**	**01 30 22.3**	**+4.4**
TNCH				pP	pP	01 30 24.7	-1.2
TNCH				pmax	pmax		
	comp=Z,26nm,0.6s						
H08S2	**Diego Garcia H**	**27.89**	**259**	T	T	01 59 18.4	
	baz=82,slow=76,SNR=3770						
H08S3	**Diego Garcia H**	**27.90**	**259**	T	T	01 59 17.8	
	baz=82,slow=76,SNR=3448						
H08S1	**Diego Carcia H**	**27.91**	**259**	T	T	01 59 17.2	
	baz=82,slow=76,SNR=2469						
PZH	**PanZhiHua**	**29.16**	**3**	P	P	01 30 36.8	+5.9
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,150nm,5.5s						
SHL	**Shillong**	**29.29**	**345**	P	**P**	**01 30 32.3**	**+0.2**
SHL				IAmb	IAmb	01 30 41.4	
	comp=Z,14nm,0.7s						
NWAO	**Narrogin (SRO)**	**34.02**	**154**	LR	LR	01 44 03.0	
	comp=Z,116nm,21.2s,baz=324,slow=35						
WRA	**Warramunga Arr**	**37.52**	**120**	P	**P**	**01 31 42.4**	**-1.4**
	comp=Z,1.5nm,0.4s,baz=279,slow=7.7,SNR=23						
WRA				PcP	**PcP**	**01 34 02.2**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=300,slow=2.2,SNR=4.8						
	comp=Z,1.5nm,0.4s						
XAN	**Xi'an**	**37.56**	**12**	⇑P	**P**	**01 31 43.3**	**-0.5**
XAN				pP	pP	01 31 51.5	-0.5
XAN				pmax	pmax		
	comp=Z,15nm,0.8s						
ASAR	**Alice Springs**	**38.72**	**125**	P	**P**	**01 31 52.5**	**-1.3**
ASAR	**Alice Springs**	**38.72**	**125**	P	**P**	**01 31 53.1**	**-0.7**
	comp=Z,4.7nm,0.7s,baz=299,slow=8.0,SNR=22						
ASAR				PcP	**PcP**	**01 34 06.1**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=248,slow=3.7,SNR=3.6						
ASAR				LR	LR	01 49 51.9	
	comp=Z,207nm,20.0s,baz=308,slow=39						
	comp=Z,4.7nm,0.7s						
AS31	**Alice Springs**	**38.72**	**125**	P	**P**	**01 31 52.8**	**-1.1**
LYN	**LuoYang**	**38.92**	**16**	⇑P	**P**	**01 31 56.2**	**+1.0**
LYN				pP	pP	01 32 01.1	-2.3
LYN				sP	sP	01 32 04.4	-2.4
LYN				pmax	pmax		
	comp=Z,89nm,0.8s						
BTO	**Baotou**	**44.13**	**11**	*e*P	**P**	**01 32 41.0**	**+3.0**
BTO				pP	**pP**	**01 32 47.4**	**+1.1**
BTO				sP	**sP**	**01 32 49.3**	**-0.3**
BTO				PP	**PcP**	**01 34 24.5**	**+1.7**
BTO				S	**S**	**01 39 15.8**	**+6.5**
BTO				pmax	pmax		
	comp=Z,30nm,0.5s						
BTO				pmax	pmax		
	comp=Z,560nm,7.7s						
NIL	**Nilore**	**44.21**	**327**	P	**P**	**01 32 38.9**	**+0.3**
NIL				IAmb	IAmb	01 32 39.9	
	comp=Z,15nm,0.8s						
NIL	**Nilore**	**44.21**	**327**	P	**P**	**01 32 39.3**	**+0.6**
BJT	**Baijiatuau**	**45.08**	**17**	P	**P**	**01 32 45.4**	**0.0**
BJT				IAmb	IAmb	01 32 47.4	
	comp=Z,11nm,0.8s						
BJT	**Baijiatuau**	**45.08**	**17**	P	**P**	**01 32 46.9**	**+1.5**
JNU	**Nakatsue**	**46.07**	**37**	LR	LR	01 53 15.0	
	comp=Z,116nm,18.3s,baz=204,slow=38						
KSH	**Kashi**	**47.58**	**335**	P	**P**	**01 33 05.5**	**+0.3**
KSH				pP	pP	01 33 11.8	-1.8
KSH				pmax	pmax		
	comp=Z,11nm,0.8s						
KSAR	**Wonju Array Be**	**47.62**	**30**	P	**P**	**01 33 06.2**	**+0.8**
KSRS	**Korea Array**	**47.65**	**30**	P	**P**	**01 33 04.8**	**-0.8**
	comp=Z,4.2nm,0.9s,baz=226,slow=8.9,SNR=11						
KSRS				LR	LR	01 55 11.7	
	comp=Z,102nm,18.6s,baz=235,slow=39						
	comp=Z,4.2nm,0.9s						
WUS	**Wushi**	**47.73**	**339**	P	**P**	**01 33 07.8**	**+1.3**
CTAO	**Charters Tower**	**48.19**	**115**	P	**P**	**01 33 10.2**	**+0.1**
CTAO				pP	**pP**	**01 33 18.5**	**0.0**
STKA	**Stephens Creek**	**48.56**	**131**	P	**P**	**01 33 13.3**	**+0.4**
STKA	**Stephens Creek**	**48.56**	**131**	P	**P**	**01 33 13.1**	**+0.1**
	comp=Z,5.5nm,0.7s,baz=306,slow=9.9,SNR=10						
	comp=Z,5.5nm,0.7s						
XLT	**XiLinHaoTe**	**48.64**	**15**	*e*P	**P**	**01 33 14.3**	**+0.9**
XLT				pmax	pmax		
	comp=Z,21nm,0.8s						
TARG	**Taragay, Kyrgy**	**48.72**	**338**	P	**P**	**01 33 15.5**	**+1.1**
TARG				IAmb	IAmb	01 33 43.5	
	comp=Z,10nm,0.9s						
PRZ	**Przheval'sk**	**49.15**	**339**	P	**P**	**01 33 18.4**	**+1.0**
PRZ				IAmb	IAmb	01 33 21.2	
	comp=Z,22nm,1.1s						
SHLS	**Shalkode**	**49.37**	**340**	*e*P	**P**	**01 33 18.2**	**-0.8**
	comp=Z,10nm,0.9s,baz=340						
DRK	**Karamyk**	**49.45**	**331**	P	**P**	**01 33 20.6**	**+0.7**
UZB	**Uzynbulak**	**49.51**	**340**	*e*P	**P**	**01 33 20.8**	**+0.7**
	comp=Z,13nm,1.3s,baz=340						
SATY	**Saty**	**49.65**	**339**	*e*P	**P**	**01 33 21.6**	**+0.5**
	comp=Z,8.9nm,0.8s,baz=339						
ZHN	**Zhinishke**	**49.74**	**339**	*e*P	**P**	**01 33 22.5**	**+0.7**
	baz=339						
GAR	**Garm**	**49.81**	**330**	P	**P**	**01 33 22.5**	**+0.1**
GAR				IAmb	IAmb	01 33 24.9	
	comp=Z,14nm,1.0s						
KPKS	**Kokpek**	**49.91**	**340**	*e*P	**P**	**01 33 23.4**	**+0.4**
	baz=340						
BOOM	**Boomskoye usch**	**50.09**	**337**	P	**P**	**01 33 25.0**	**+0.5**
BOOM				IAmb	IAmb	01 33 26.9	
	comp=Z,10nm,0.8s						
CHGR	**Chuyangaron**	**50.15**	**328**	P	**P**	**01 33 24.0**	**-1.0**
TNSS	**Tian-Shan**	**50.16**	**338**	*e*P	**P**	**01 33 25.4**	**0.0**
	baz=338						
SIMJ	**Simiganj**	**50.23**	**328**	P	**P**	**01 33 25.1**	**-0.5**
SIMJ				IAmb	IAmb	01 33 35.0	
	comp=Z,9.7nm,1.0s						
SIMJ	**Simiganj**	**50.23**	**328**	P	**P**	**01 33 25.5**	**-0.2**
SIMJ				pP	**pP**	**01 33 34.5**	**+0.5**
SIMJ				sP	**sP**	**01 33 38.8**	**+1.4**
MDOK	**Medeo**	**50.23**	**338**	*e*P	**P**	**01 33 26.1**	**+0.5**
	baz=338						
ARSB	**Arslanbob**	**50.36**	**334**	P	**P**	**01 33 26.6**	**0.0**
BTK	**Batken**	**50.37**	**331**	P	**P**	**01 33 27.6**	**+0.9**
BTK				IAmb	IAmb	01 33 39.0	
	comp=Z,8.6nm,0.7s						
SONM	**Songino Array**	**50.71**	**5**	P	**P**	**01 33 30.2**	**+1.1**
SONM	**Songino Array**	**50.71**	**5**	P	**P**	**01 33 29.9**	**+0.8**
	comp=Z,19nm,0.8s,baz=189,slow=8.7,SNR=84						
SONM				PcP	**PcP**	**01 34 46.8**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=189,slow=2.7,SNR=1.4						
	comp=Z,19nm,0.8s						
AAK	**Ala-Archa**	**50.79**	**336**	P	**P**	**01 33 30.5**	**+0.7**
AAK				IAmb	IAmb	01 34 01.9	
	comp=Z,13nm,1.4s						
ULN	**Ulaanbaatar**	**50.81**	**6**	P	**P**	**01 33 30.4**	**+0.5**
ULN				IAmb	IAmb	01 33 32.2	
	comp=Z,17nm,0.8s						
ULN	**Ulaanbaatar**	**50.81**	**6**	P	**P**	**01 33 31.2**	**+1.4**
CHKK	**Chushkaly**	**50.85**	**339**	*e*P	**P**	**01 33 30.3**	**+0.2**
	baz=338						
TDK	**Taldyqorghan**	**51.36**	**340**	*e*P	**P**	**01 33 34.1**	**+0.3**
	comp=Z,8.1nm,0.7s,baz=340						
SGDS	**Sogindy**	**51.41**	**336**	*e*P	**P**	**01 33 34.8**	**+0.4**
	baz=336						
JHJ	**Hachijo jima 2**	**51.77**	**43**	P	**P**	**01 33 37.6**	**+0.4**
	comp=Z,52nm,0.6s,baz=253,slow=19,SNR=2.3						
ZSN	**Zaisan**	**51.78**	**347**	*e*P	**P**	**01 33 37.8**	**+0.8**
	comp=Z,11nm,1.1s,baz=347						
MK31	**Makanchi Array**	**51.80**	**344**	P	**P**	**01 33 38.5**	**+1.4**
MK31				IAmb	IAmb	01 33 39.2	
	comp=Z,15nm,0.8s						
MKAR	**Makanchi Array**	**51.80**	**344**	P	**P**	**01 33 38.0**	**+0.8**
MKAR	**Makanchi Array**	**51.80**	**344**	P	**P**	**01 33 38.3**	**+1.1**
	comp=Z,21nm,0.7s,baz=148,slow=8.2,SNR=208						
	comp=Z,21nm,0.7s						
MAKZ	**Makanchi**	**51.90**	**344**	P	**P**	**01 33 38.3**	**+0.4**
MAKZ				IAmb	IAmb	01 33 39.8	
	comp=Z,10nm,0.8s						
MAKZ	**Makanchi**	**51.90**	**344**	P	**P**	**01 33 38.9**	**+0.9**
MAKZ				pP	**sP**	**01 33 48.1**	**-1.6**
IUG	**Iuzhnay**	**52.37**	**332**	*e*P	**P**	**01 33 42.2**	**+0.6**
	comp=Z,16nm,0.9s,baz=332						
MJAR	**Matsushiro Arr**	**52.83**	**39**	P	**P**	**01 33 44.3**	**-0.6**
	comp=Z,6.9nm,0.9s,baz=213,slow=7.3,SNR=13						
	comp=Z,6.9nm,0.9s						
MJB9	**Matsu-Tunnel**	**52.83**	**39**	P	**P**	**01 33 44.8**	**-0.2**
KK31	**Karatay Array**	**52.89**	**333**	P	**P**	**01 33 45.6**	**+0.3**
KKAR	**Karatay Array**	**52.89**	**333**	P	**P**	**01 33 45.5**	**+0.2**
KKAR	**Karatay Array**	**52.89**	**333**	P	**P**	**01 33 45.3**	**0.0**
BTLS	**Baital**	**52.97**	**337**	*e*P	**P**	**01 33 46.1**	**+0.3**
	baz=337						
BRLS	**Borolday**	**53.14**	**332**	*e*P	**P**	**01 33 46.4**	**-0.8**
	baz=332						
BNX	**BinXian**	**54.05**	**23**	⇓P	**P**	**01 33 54.4**	**+0.7**
BNX				pmax	pmax		
	comp=Z,19nm,0.9s						
HIA	**Hailar**	**54.57**	**16**	P	**P**	**01 33 57.5**	**0.0**
USA0B	**Ussuriysk Arra**	**54.80**	**28**	P	**P**	**01 33 59.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**54.80**	**28**	P	**P**	**01 33 59.8**	**+0.5**
	comp=Z,21nm,0.8s,baz=224,slow=6.4,SNR=37						
USRK				LR	LR	01 59 41.7	
	comp=Z,98nm,18.1s,baz=218,slow=39						
	comp=Z,21nm,0.8s						
SEM	**Semipalatinsk**	**55.66**	**345**	*e*P	**P**	**01 34 05.8**	**+0.1**
	comp=Z,7.9nm,0.7s,baz=345						
KURBB	**Kurchatov Arra**	**56.32**	**344**	P	**P**	**01 34 10.8**	**+0.8**
	comp=Z,10nm,0.8s,baz=159,slow=7.0,SNR=80						
	comp=Z,10nm,0.8s						
KURK	**Kurchatov**	**56.38**	**344**	P	**P**	**01 34 10.8**	**+0.4**
KURK	**Kurchatov**	**56.38**	**344**	P	**P**	**01 34 11.2**	**+0.8**
KURK				pP	**pP**	**01 34 20.1**	**+1.1**
HEH	**HeiHe**	**57.82**	**20**	*e*P	**P**	**01 34 20.6**	**0.0**
HEH				pmax	pmax		
	comp=Z,11nm,1.1s						
ZAA0	**Zalesovo Array**	**57.95**	**349**	P	**P**	**01 34 21.4**	**0.0**
ZALV	**Zalesovo Beam**	**57.95**	**349**	P	**P**	**01 34 22.0**	**+0.5**
ZALV	**Zalesovo Beam**	**57.95**	**349**	P	**P**	**01 34 22.1**	**+0.5**
	comp=Z,9.6nm,0.7s,baz=164,slow=5.9,SNR=36						
ZALV				LR	LR	02 01 56.4	
	comp=Z,65nm,18.6s,baz=160,slow=39						
	comp=Z,9.6nm,0.7s						
ATD	**Arta Tunnel**	**58.66**	**285**	P	**P**	**01 34 25.8**	**-1.5**
H04N2	**CROZET ISLANDS**	**60.22**	**217**	T	T	02 39 49.1	
	baz=58,slow=75,SNR=1256						
H04N1	**CROZET ISLANDS**	**60.24**	**217**	T	T	02 39 45.5	
	baz=58,slow=75,SNR=555						
H04N3	**CROZET ISLANDS**	**60.24**	**217**	T	T	02 39 48.2	
	baz=58,slow=75,SNR=1288						
H04S1	**CROZET ISLANDS**	**60.51**	**216**	T	T	02 40 03.0	
	baz=58,slow=76,SNR=1519						
H04S3	**CROZET ISLANDS**	**60.52**	**216**	T	T	02 40 09.3	
	baz=58,slow=76,SNR=1227						
H04S2	**CROZET ISLANDS**	**60.52**	**216**	T	T	02 40 09.3	
	baz=58,slow=76,SNR=1181						
BVAR	**Borovoye Array**	**60.95**	**340**	P	**P**	**01 34 42.2**	**0.0**
	comp=Z,2.7nm,0.7s,baz=152,slow=10.0,SNR=12						
	comp=Z,2.7nm,0.7s						
BRVK	**Borovoye**	**61.01**	**340**	P	**P**	**01 34 42.7**	**+0.1**
FURI	**Furi**	**62.30**	**281**	LR	LR	01 58 10.1	
	comp=Z,86nm,19.0s,baz=109,slow=32						
ABKAR	**Akbulak array**	**62.37**	**332**	P	**P**	**01 34 51.6**	**-0.3**
ABKAR	**Akbulak array**	**62.37**	**332**	P	**P**	**01 34 51.7**	**-0.2**
ABKAR				IAmb	IAmb	01 34 53.0	
	comp=Z,9.7nm,0.8s						
AKTO	**Aktyubinsk**	**64.09**	**332**	LR	LR	02 04 26.9	
	comp=Z,75nm,19.8s,baz=200,slow=37						
ARU	**Arti**	**67.96**	**337**	LR	LR	02 08 10.2	
	comp=Z,80nm,18.1s,baz=136,slow=39						
ARU	**Arti**	**67.96**	**337**	P	**P**	**01 35 28.0**	**0.0**
ARU				pP	**pP**	**01 35 36.8**	**+0.1**
KBZ	**Khabaz**	**68.96**	**319**	P	**P**	**01 35 35.1**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=115,slow=4.6,SNR=10						
	comp=Z,3.8nm,0.8s						
KIV	**Kislovodsk**	**69.19**	**319**	P	**P**	**01 35 37.0**	**+0.9**
KIV				pP	**pP**	**01 35 46.4**	**+1.6**
MAW	**Mawson**	**69.55**	**194**	LR	LR	01 58 57.0	
	comp=Z,86nm,21.1s,baz=22,slow=30						
NRIK	**Noril'sk**	**72.49**	**355**	P	**P**	**01 35 55.6**	**+0.1**
	comp=Z,3.6nm,0.9s,baz=164,slow=7.2,SNR=5.9						
	comp=Z,3.6nm,0.9s						
KIRV	**Kirov**	**73.12**	**335**	LR	LR	02 13 54.6	
	comp=Z,48nm,18.2s,baz=112,slow=40						
BR131	**Keskin Array S**	**73.92**	**313**	P	**P**	**01 36 03.6**	**-1.2**
BRTR	**Keskin Array B**	**73.92**	**313**	P	**P**	**01 36 04.8**	**0.0**
	comp=Z,2.4nm,0.8s,baz=134,slow=7.3,SNR=19						
	comp=Z,2.4nm,0.8s						
RPZ	**Rata Peaks**	**74.37**	**135**	LR	LR	02 07 17.6	
	comp=Z,187nm,21.1s,baz=337,slow=35						
TIXI	**Tiksi**	**76.61**	**9**	LR	LR	02 15 56.1	
	comp=Z,150nm,18.2s,baz=198,slow=40						
URZ	**Urewera**	**78.09**	**128**	LR	LR	02 15 35.8	
	comp=Z,78nm,18.3s,baz=10.0,slow=39						
BURAR	**Bucovina Array**	**81.91**	**319**	P	**P**	**01 36 48.1**	**-0.9**
BUR08	**Bucovina Ar. S**	**81.92**	**319**	P	**P**	**01 36 49.8**	**+0.7**
TSUM	**Tsumeb**	**82.02**	**251**	LR	LR	02 08 32.1	
	comp=Z,62nm,20.6s,baz=338,slow=32						
FINES	**FINESS Array B**	**84.84**	**332**	P	**P**	**01 37 04.2**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=100,slow=6.6,SNR=10						
	comp=Z,1.6nm,0.6s						
QSPA	**South Pole Qui**	**87.18**	**180**	LR	LR	02 12 53.7	
	comp=Z,47nm,21.4s,baz=262,slow=33						
ARCES	**ARCESS Array B**	**87.24**	**340**	P	**P**	**01 37 15.2**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=111,slow=4.9,SNR=8.3						
	comp=Z,2.7nm,0.7s						
GERES	**GERESS Array B**	**89.69**	**319**	P	**P**	**01 37 27.5**	**0.0**
	comp=Z,0.8nm,0.8s,baz=160,slow=24,SNR=3.9						
	comp=Z,0.8nm,0.8s						
NVAR	**Mina Array Bea**	**130.15**	**40**	PKP	**PKiKP**	**01 43 41.1**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=263,slow=5.4,SNR=1.9						
TXAR	**Lajitas Array**	**145.26**	**38**	PKPbc	**PKPdf**	**01 44 08.5**	**+0.7**
	comp=Z,9.3nm,0.8s,baz=288,slow=0.9,SNR=67						

*IDC **10** 01:35:54.7±1.3,23°.13N×145°.44E, h0km, mb3.5/7, mbtmp3.5/7, Error ellipse: s-maj=47.7km s-min=24.4km az=87.0*
ISC 10 01:35:56.2±1.3,23°.1N±0°.2×145°.4E±0°.3, h10km, n7, σ0§79/7, mb3.6/7, North Pacific Ocean

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

AB31	Akbulak array	14.38	328	⇑P	Pn	01 50 07.2	-0.3
	0.3nm,0.3s						
AKTO	Aktyubinsk	16.09	327	P	P	01 50 31.2	+2.1
	1.5nm,0.4s,baz=150,slow=6.8,SNR=4.8						
AKTO				S	S	01 53 23.0	-4.5
	0.9nm,0.5s,baz=237,slow=18,SNR=2.1						
ZALV	Zalesovo Beam	18.76	25	P	Pn	01 51 01.1	+0.6
	1.2nm,0.3s,baz=214,slow=9.8,SNR=7.2						
FINES	FINESS Array B	36.84	325	P	P	01 53 49.3	+5.0
	0.5nm,0.8s,baz=113,slow=11,SNR=1.3						
	0.5nm,0.8s						
ARCES	ARCESS Array B	40.33	337	P	P	01 54 17.8	+4.5
	0.7nm,0.7s,baz=108,slow=8.6,SNR=3.8						
	0.7nm,0.7s						
HFS	Hagfors	42.50	321	P	P	01 54 35.8	+4.7
	5.1nm,1.2s,baz=74,slow=11,SNR=2.5						
	5.1nm,1.2s						
TORD	Torodi Ar. Bea	66.18	268	P	P	01 57 24.7	+1.9
	0.2nm,0.4s,baz=38,slow=7.2,SNR=4.4						
	0.2nm,0.4s						
ILAR	Eielson Array	73.63	16	P	P	01 58 09.3	+1.8
	0.2nm,0.6s,baz=14,slow=4.1,SNR=2.3						
	0.2nm,0.6s						
ASAR	Alice Springs	84.51	125	P	P	01 59 03.7	-3.5
	0.3nm,0.5s,baz=281,slow=10,SNR=2.0						
	0.3nm,0.5s						

*IDC **10** 01:52:34.5±3.0, 15°.72N×96°.52W, h0km, mb3.3/4, mbtmp3.5/7, ML3.3/3, MS3.3/12, Error ellipse: s-maj=60.3km s-min=28.2km az=20.0*
*MEX **10** 01:52:44.7±0.8, 15°.87N×97°.12W, h32km±4km, MD4.6*
*NEIC **10** 01:52:46.7±2.2, 16°.3N±0°.1×96°.94W±0°.10, h35km±2km, mb4.2/37, Error ellipse: s-maj=25.6km s-min=10.5km az=211.0*

ISC 10 01:52:40.9±0.7, 15°.84N±0°.04×97°.13W±0°.03, h13km, n116, σ2°.50/137, mb4.2/13, MS3.2/9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PEIG	Puerto Escondi	0.15	353	eP		Pb		01 52 49.3	+3.6
PEIG				eS		Sb		01 52 53.0	+4.1
PANG	Puerto Angel	0.65	106	eP		Pg		01 52 55.4	+1.8
PANG				i S		Sg		01 53 03.2	+1.0
HUIG	Huatulco	0.98	94	eP		Pb		01 53 00.3	+0.5
HUIG				eS		Sb		01 53 11.5	-1.2
YOIG	Yosondua	1.08	338	eP		Pb		01 53 01.8	0.0
YOIG				eS		Sb		01 53 14.3	-1.6
PNIG	Pinotepa	1.11	300	eP		Pb		01 53 02.3	+0.4
PNIG				eS		Sb		01 53 14.7	-1.5
OXBJ	Oaxaca	1.28	18	eP		Pn		01 53 05.1	+0.5
OXBJ				i S		Sb		01 53 19.3	-2.1
VHO	Vista Hermosa	1.28	17	eP		Pn		01 53 04.4	-0.3
VHO				eS		Sb		01 53 19.0	-2.4
TXIG	Tlaxiaco	1.53	336	eP		Pn		01 53 08.5	+0.3
TXIG				eS		Sn		01 53 25.1	-3.0
MGIG	Malinaltepec	2.00	314	eP		Pn		01 53 16.9	+2.4
MGIG				eS		Sn		01 53 38.2	-1.4
HLIG	Huajuapan de L	2.08	342	i P		Pn		01 53 16.6	+0.8
HLIG				i S		Sn		01 53 39.8	-1.8
CRIG	Cruz Grande	2.12	295	eP		Pn		01 53 16.4	+0.3
CRIG				eS		Sn		01 53 39.0	-3.3
TLIG	Tlapa	2.20	321	Pn		Pn		01 53 17.9	+0.7
TLIG	Tlapa	2.20	321	eP		Pn		01 53 18.7	+1.5
TLIG				eS		Sn		01 53 42.2	-2.2
TOIG	Toxpalan	2.24	2	eP		Pn		01 53 18.6	+0.7
TOIG				eS		Sn		01 53 44.7	-0.8
NEUV	Arroyo Zacate	2.25	34	eP		Pn		01 53 17.9	0.0
NEUV				eS		Sn		01 53 45.3	-0.2
FTIG	Fresnillo de T	2.27	335	eP		Pn		01 53 19.7	+1.5
FTIG				eS		Sn		01 53 44.2	-1.9
TPIG	Tehuac#an	2.57	355	eP		Pn		01 53 23.9	+1.5
TPIG				eS		Sb		01 53 59.3	+0.6
DAIG	Los Arroyos	2.69	296	eP		Pn		01 53 24.9	+1.0
DAIG				eS		Sn		01 53 52.5	-3.9
ACP2	Acapulco	2.84	292	eP		Pn		01 53 27.0	+1.0
ACP2				eS		Sn		01 53 55.0	-5.1
OZST	Orizaba	3.00	1	eP		Pb		01 53 36.3	+1.9
OZST				i S		Sn		01 54 02.0	-2.2
MEIG	Mezcala	3.16	311	eP		Pn		01 53 32.6	+2.1
MEIG				eS		Sn		01 54 06.2	-1.9
CAIG	El Cayaco	3.24	292	eP		Pn		01 53 32.5	+1.0
CAIG				eS		Sn		01 54 05.7	-4.4
PMUV	Sontecomapan	3.30	35	eP		Pn		01 53 31.0	-1.3
PMUV				eS		Sn		01 54 08.7	-2.9
PLIG	Platanillo	3.40	318	eP		Pn		01 53 36.6	+2.8
PLIG				eS		Sn		01 54 12.8	-1.3
PPM	Popocatepetl	3.51	336	eP		Pn		01 53 38.8	+3.2
PPM				e				01 54 32.2	
JAUV	Jalcomulco	3.52	5	eP		Pn		01 53 34.8	-0.5
JAUV				e				01 54 30.1	
YAIG	Yautepec	3.53	329	eP		Pn		01 53 38.1	+2.5
YAIG				eS		Sn		01 54 13.9	-3.4
PCIG		3.77	92	eP		Pn		01 53 39.0	+0.3
PCIG				eS		Sn		01 54 18.4	-4.5
TLVM	San Miguel Top	3.87	330	eP		Pn		01 53 43.6	+3.2
TLVM				eS		Sn		01 54 23.8	-2.1
XCVM	Xochimilco	3.89	331	eP		Pn		01 53 43.7	+3.1
XCVM				eS		Sn		01 54 25.7	-0.6
LVIG	Laguna Verde	3.92	10	e		Pb		01 53 51.6	+1.8
LVIG				eS		Sn		01 54 21.5	-5.1
ARIG	Puente Sto Nin	3.92	309	eP		Pn		01 53 44.1	+3.2
ARIG				eS		Sn		01 54 24.0	-2.8
TGIG		3.96	76	eP		Pn		01 53 41.8	+0.4
TGIG				eS		Sn		01 54 28.1	+0.4
AOVM	Tlapan	4.00	329	eP		Pn		01 53 45.4	+3.0
AOVM				eS		Sn		01 54 28.9	-0.4
PBVM	Pinon	4.04	333	eP		Pb		01 53 53.7	+1.8
PBVM				eS		Sn		01 54 24.2	-5.4
TOVM	TOLUCA	4.20	325	eP		Pn		01 53 48.2	+3.2
TOVM				i S		Sn		01 54 32.5	-1.6
VTVM	Tizayuca	4.21	338	e		Pb		01 53 58.4	+3.4
VTVM				e				01 54 31.7	
ZIIG	Zihuatanejo	4.51	293	e		Pn		01 53 51.2	+2.2
ZIIG				e				01 54 36.1	
DEIG	Demacu	4.79	338	e		Pg		01 54 11.1	-1.6
DEIG				e				01 54 46.6	
PAVE	Pavencul	4.81	97	e		Pn		01 53 54.6	+1.3
PAVE				e				01 54 45.0	
CCIG	Comitan	4.82	84	Pn		Pn		01 53 54.1	+0.8
CCIG	Comitan	4.82	84	eP		Pn		01 53 55.4	+2.0
CCIG				eS		Sn		01 54 44.3	-4.8
ACIG	Acambay	4.88	328	e		Pb		01 54 07.1	+0.8
ACIG				e				01 54 53.5	
CHUJ	Union Juarez	4.90	98	eP		Pn		01 53 55.8	+1.3
CHUJ				eS		Sn		01 54 46.8	-4.4
RTAL	Retalhuleu	5.41	103	Pn		Pn		01 54 03.6	+2.3
MOIG	Morelia	5.43	315	Pn		Pn		01 54 02.4	+0.5
MOIG	Morelia	5.43	315	eP		Pn		01 54 05.6	+3.8
MOIG				eS		Sn		01 55 03.4	-1.0
HUEH	Huehuetenango	5.45	95			Pn		01 54 04.2	+2.2
JRQG	Juriquilla Cam	5.77	327	e		Pg		01 55 14.6	+43
PETF	Flores	7.05	80	Pn		Pn		01 54 22.2	-1.6
COIG	Colima	7.09	299	eP		Pn		01 54 28.7	+4.2
COIG				eS		Sn		01 55 40.7	-4.3
JUBC	Volcan de Coli	7.14	302	eP		Pn		01 54 31.2	+5.8
JUBC				eS		Sn		01 55 48.6	+1.9
MNGA	Volcan de Coli	7.16	301	eP		Pn		01 54 30.9	+5.2
MNGA				eS		Sn		01 55 48.4	+1.3
INCO	Volcan de Coli	7.18	302	eP		Pn		01 54 31.4	+5.4
INCO				eS		Sn		01 55 48.7	+1.0
SOMAC	Volcano de Col	7.20	302	eP		Pn		01 54 31.6	+5.4
SOMAC				i S		Sn		01 55 48.9	+0.7
CDAR	Ciudad de Arme	7.26	296	eP		Pn		01 54 29.9	+3.2
CDAR				eS		Sn		01 55 41.9	-7.2
CEGR	Campo Tres	7.32	300	eP		Pn		01 54 32.2	+4.4
CEGR				eS		Sn		01 55 47.5	-3.4
MTO3	Montecristo	7.64	100	Pn		Pn		01 54 33.8	+1.7
TEIG	Tepich	9.48	61	Pn		Pn		01 54 53.9	-3.3
TEIG	Tepich	9.48	61	Pn		Pn		01 54 45.6	-12
	0.1nm,0.3s,baz=223,slow=23,SNR=1.8								
TEIG				Sn		Sn		01 56 30.7	-13
	2.9nm,0.3s,baz=255,slow=20,SNR=2.0								
TEIG				LR		LR		01 59 16.9	
	comp=Z,140nm,19.3s,baz=214,slow=44 4.9nm,0.8s								
JTS	Las Juntas de	13.08	113			Pn		01 55 50.6	+4.1
JTS	Las Juntas de	13.08	113	Pn		Pn		01 55 34.9	-12
	0.8nm,0.3s,baz=342,slow=22,SNR=1.6 1.6nm,0.3s								
LCR2	La Lucha 2	14.16	114			Pn		01 56 06.0	+4.6
TX31	Lajitas Ar. Si	14.72	337			Pn		01 56 05.4	-3.5
TXAR	Lajitas Array	14.72	337	Pn		Pn		01 56 09.7	+0.7
	baz=158,slow=14,SNR=7.7								
TXAR				LR		LR		02 02 07.7	
	comp=Z,122nm,19.0s,baz=158,slow=38 1.0nm,0.9s								
LPIG	La Paz	14.86	306	LR		LR		02 01 03.4	
	comp=Z,102nm,19.9s,baz=116,slow=33								
HNVL	Huntsville, TX	14.92	6	Pn		Pn		01 56 07.5	-4.1
BRDY	Brady	15.47	354	Pn		Pn		01 56 16.5	-2.4
ABTX	Abilene, Hawle	16.86	353	Pn		Pn		01 56 33.6	-3.1
ABTX				IAmb		IAmb		01 56 49.1	
	comp=Z,18nm,1.0s								
APMT	Aspermont	17.61	352	Pn		Pn		01 56 43.1	-3.0
MSTX	Muleshoe	18.75	345			P		01 56 57.3	-2.5
MSTX				IAmb		IAmb		01 57 09.4	
	comp=Z,21nm,1.2s								
MIAR	Mount Ida	18.89	9			P		01 56 58.2	-3.0
MIAR				IAmb		IAmb		01 57 11.5	
	comp=Z,20nm,0.8s								
W35A	Tecumseh	19.23	1	P		P		01 57 02.2	-2.7
W35A				IAmb		IAmb		01 57 14.9	
	comp=Z,28nm,1.4s								
Y49A	Blount Mountai	20.38	26	P		P		01 57 14.0	-3.4
Y49A				IAmb		IAmb		01 57 17.8	
	comp=Z,12nm,0.8s								
FCAR	Ozark Folk Cen	20.46	12	P		P		01 57 13.9	-4.4
FCAR				IAmb		IAmb		01 57 27.4	
	comp=Z,6.5nm,0.7s								
OK048	Pawnee Station	20.49	0			P		01 57 16.7	-1.9
OK048				IAmb		IAmb		01 57 29.3	
	comp=Z,11nm,0.9s								
HHAR	Hobbs	20.55	7			P		01 57 15.8	-3.5
TUC	Tucson	20.56	325			P		01 57 17.2	-2.3
X48A	Hartselle	20.63	24	P		P		01 57 15.5	-4.7
X48A				IAmb		IAmb		01 57 20.3	
	comp=Z,15nm,0.8s								
ANMO	Albuquerque	20.78	338			P		01 57 18.9	-3.1
ANMO	Albuquerque	20.78	338	P		P		01 57 23.1	+1.1
	comp=Z,1.8nm,0.7s,baz=237,slow=12,SNR=9.2								
ANMO				LR		LR		02 06 16.0	
	comp=Z,75nm,18.9s,baz=246,slow=39 comp=Z,1.8nm,0.7s								
T35A	Sooner Cattle	21.00	1	P		P		01 57 21.5	-2.5
Y52A	Lilburn	21.47	31	P		P		01 57 26.1	-3.0
Y52A				IAmb		IAmb		01 57 28.8	
	comp=Z,12nm,1.1s								
PBMO	Poplar Bluff	21.68	15	P		P		01 57 29.4	-2.0
PBMO				IAmb		IAmb		01 57 34.5	
	comp=Z,8.1nm,0.7s								
SWET	Sewanee	21.74	25	P		P		01 57 29.9	-2.2
T42A	Van Buren	21.77	13	P		P		01 57 29.3	-3.1
T42A				IAmb		IAmb		01 57 41.5	
	comp=Z,13nm,1.2s								
WVT	Waverly	21.84	21	P		P		01 57 30.9	-2.2
V48A	Smith Brothers	21.85	23	P		P		01 57 31.8	-1.4
X18A	Snowflake	21.89	331	P		P		01 57 33.5	-0.4
X18A				IAmb		IAmb		01 57 46.6	
	comp=Z,5.6nm,0.8s								
W50A	Signal Mountai	21.99	27	P		P		01 57 32.6	-2.2
W50A				IAmb		IAmb		01 57 34.4	
	comp=Z,15nm,1.1s								
S39A	Bolivar	22.02	8	P		P		01 57 34.1	-1.0
S39A				IAmb		IAmb		01 57 44.5	
	comp=Z,8.9nm,0.9s								
T25A	Trinidad	22.17	344			P		01 57 36.3	-0.7
T25A				IAmb		IAmb		01 57 50.8	
	comp=Z,8.0nm,1.1s								
CLTN	Cedars of Leba	22.35	24	P		P		01 57 36.2	-2.3
CCM	Cathedral Cave	22.73	12	P		P		01 57 41.9	-0.8
S44A	Carbondale	22.85	16	P		P		01 57 43.1	-0.8
S44A				IAmb		IAmb		01 57 45.2	
	comp=Z,7.9nm,0.8s								
T47A	Sharon Grove	22.86	21	P		P		01 57 41.3	-2.7
T47A				IAmb		IAmb		01 57 45.3	
	comp=Z,11nm,0.8s								
U49A	Red Boiling Sp	22.93	24	P		P		01 57 42.2	-2.6
U49A				IAmb		IAmb		01 57 43.6	
	comp=Z,11nm,1.1s								
S22A	4UR Ranch, Cre	23.44	340	P		P		01 57 48.9	-1.5
U15A	North Rim	24.55	329	P		P		01 58 00.9	+0.2
PFO	Pinyon Flats O	24.85	319	LR		LR		02 07 21.5	
	comp=Z,50nm,18.9s,baz=204,slow=35								
SSFO	Shawnee State	25.85	26	P		P		01 58 09.1	-3.1
P49A	Miami Univ. Ec	25.98	22	P		P		01 58 11.0	-2.4
Q52A	Bidwell	26.47	27	P		P		01 58 14.4	-3.4
P51A	Williamsport	26.57	25	P		P		01 58 16.3	-2.4
O49A	Covington	26.69	22	P		P		01 58 17.8	-2.0
PDAR	Pinedale Array	28.87	341	P		P		01 58 38.3	-1.2
	comp=Z,0.1nm,0.6s,baz=142,slow=10,SNR=1.6								
PDAR				LR		LR		02 10 54.1	
	comp=Z,35nm,19.7s,baz=137,slow=38 comp=Z,0.1nm,0.6s								
NVAR	Mina Array Bea	29.21	324	P		P		01 58 42.5	-0.1
	comp=Z,0.2nm,0.5s,baz=135,slow=9.0,SNR=2.2								
NVAR				LR		LR		02 10 39.5	
	comp=Z,87nm,18.9s,baz=92,slow=37 comp=Z,0.2nm,0.5s								
PCRV	Puerto La Cruz	32.13	96	LR		LR		02 11 42.7	
	comp=Z,29nm,21.8s,slow=36								
YBH	Yreka Blue Hor	33.93	325	LR		LR		02 14 43.9	
	comp=Z,64nm,18.1s,baz=160,slow=39								
NNA	Nana	34.17	143	LR		LR		02 10 26.4	
	comp=Z,53nm,20.2s,baz=322,slow=32								
NEW	Newport	36.27	337	LR		LR		02 15 10.9	
	comp=Z,41nm,19.9s,baz=182,slow=37								
LPAZ	La Paz	42.87	137	LR		LR		02 16 33.7	
	comp=Z,44nm,19.4s,baz=278,slow=34								
H03N2	Juan Fernandez	51.99	161	T		T		02 58 05.5	
	baz=338,slow=77,SNR=30								
H03N1	Juan Fernandez	52.00	161	T		T		02 57 55.5	
	baz=338,slow=77,SNR=34								
H03N3	Juan Fernandez	52.01	161	T		T		02 58 01.1	
	baz=338,slow=77,SNR=28								
ILAR	Eielson Array	59.23	338	P		P		02 02 37.6	-4.0
	comp=Z,0.1nm,0.5s,baz=144,slow=5.2,SNR=1.7 comp=Z,0.1nm,0.5s								

*IDC **10** 01:53:10.7±3.8, 2°.87S×100°.07E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=166.5km s-min=23.1km az=54.0*

ISC 10 01:53:15.0±3.0, 2°.8S±0°.5×100°.2E±0°.8, h27km, n16, σ0°76/7, mb3.7/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	27.96	259		T		T	02 27 57.3	
	baz=82,slow=75,SNR=349								
H08S3	Diego Garcia H	27.97	259		T		T	02 27 57.3	
	baz=82,slow=75,SNR=309								
H08S1	Diego Carcia H	27.98	259		T		T	02 28 03.3	
	baz=82,slow=75,SNR=320								
WRA	Warramunga Arr	37.44	120	P		P		02 00 26.0	-0.4
	0.8nm,1.0s,baz=308,slow=9.2,SNR=2.5 0.8nm,1.0s								
ASAR	Alice Springs	38.64	125	P		P		02 00 36.5	+0.1
	0.2nm,0.3s,baz=300,slow=7.4,SNR=2.3 0.2nm,0.3s								
SONM	Songino Array	50.73	5	P		P		02 02 12.6	0.0
	1.0nm,0.8s,baz=168,slow=7.6,SNR=5.0 1.0nm,0.8s								
MKAR	Makanchi Array	51.85	344	P		P		02 02 21.0	+0.1
	1.2nm,0.7s,baz=153,slow=8.6,SNR=12 1.2nm,0.7s								
KURBB	Kurchatov Arra	56.38	344	P		P		02 02 52.6	-1.1
	0.6nm,0.9s,baz=156,slow=7.3,SNR=4.4 0.6nm,0.9s								
ZALV	Zalesovo Beam	58.00	349	P		P		02 03 05.7	+0.6
	0.5nm,0.5s,baz=198,slow=8.9,SNR=2.0 0.5nm,0.5s								
H04N2	CROZET ISLANDS	60.24	217	T		T		03 08 27.8	
	baz=58,slow=75,SNR=237								
H04N1	CROZET ISLANDS	60.26	217	T		T		03 08 27.9	
	baz=58,slow=75,SNR=342								
H04N3	CROZET ISLANDS	60.26	217	T		T		03 08 27.2	
	baz=58,slow=75,SNR=240								
H04S1	CROZET ISLANDS	60.53	216	T		T		03 08 50.7	
	baz=58,slow=75,SNR=260								
H04S3	CROZET ISLANDS	60.54	216	T		T		03 08 51.2	
	baz=58,slow=75,SNR=205								
H04S2	CROZET ISLANDS	60.55	216	T		T		03 08 51.6	
	baz=58,slow=75,SNR=153								
TXAR	Lajitas Array	145.24	38	PKPbc		PKPdf		02 12 51.8	+0.7
	0.5nm,0.7s,baz=292,slow=1.5,SNR=4.9								

*IDC **10** 01:56:08.5±3.5, 4°.48S×152°.91E, h0km, mb3.9/6, mbtmp3.9/6, MS3.5/1, Error ellipse: s-maj=120.0km s-min=27.7km az=108.0*
*NEIC **10** 01:56:16±1.0, 4°.4S±0°.1×153°.2E±0°.2, h58km±6km, mb4.3/13, Error ellipse: s-maj=31.6km s-min=19.0km az=93.0*

ISC 10 01:56:15.7±0.8, 4°.4S±0°.1×153°.2E±0°.2, h55km, n24, σ1°31/23, mb4.0/13, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MTN	Manton Dam	23.32	247	P		P	P	02 01 19.7	+0.5
MTN						IAmb	IAmb	02 01 32.6	
	comp=Z,30nm,1.4s								
WB0	Warramunga Arr	23.84	229	P		P	P	02 01 23.5	-0.5
WB0						IAmb	IAmb	02 01 36.9	
	comp=Z,4.7nm,1.1s								
WR0	Warramunga Arr	23.85	228	P		P	P	02 01 23.6	-0.5
WR0						IAmb	IAmb	02 01 38.9	
	comp=Z,19nm,1.4s								
WB2	Warramunga Arr	23.98	228	P		P	P	02 01 23.6	-1.6
WB2						IAmb	IAmb	02 01 34.8	
	comp=Z,5.9nm,1.1s								
WRA	Warramunga Arr	23.99	228	P		P	P	02 01 25.0	-0.3
WRA	Warramunga Arr	23.99	228	P		P	P	02 01 23.0	-2.4
	comp=Z,1.1nm,0.6s,baz=53,slow=9.9,SNR=12 comp=Z,1.1nm,0.6s								
KNRA	Kununurra	26.47	243	P		P	P	02 01 49.8	+1.9
ASAR	Alice Springs	26.70	222	P		P	P	02 01 47.4	-2.6
	comp=Z,0.3nm,0.5s,baz=59,slow=9.2,SNR=2.0 comp=Z,0.3nm,0.5s								
RAR	Rarotonga	48.63	114	LR		LR		02 22 35.8	
	comp=Z,45nm,18.6s,baz=314,slow=32								
SONM	Songino Array	66.16	328	P		P	P	02 06 59.0	+1.4
	comp=Z,0.3nm,0.4s,baz=144,slow=6.1,SNR=2.6 comp=Z,0.3nm,0.4s								
SHL	Shillong	66.40	300	P		P	P	02 06 59.1	-0.6
CASY	Casey	68.52	197	P		P	P	02 07 14.6	+2.5
CASY						IAmb	IAmb	02 07 15.6	
	comp=Z,11nm,1.4s								
VNDA	Vanda	73.24	178	P		P	P	02 07 40.5	0.0
MK31	Makanchi Array	80.24	319	P		P	P	02 08 19.0	-1.6
MKAR	Makanchi Array	80.24	319	P		P	P	02 08 20.0	-0.6
MKAR	Makanchi Array	80.24	319	P		P	P	02 08 19.7	-0.9
	comp=Z,1.5nm,0.7s,baz=109,slow=4.8,SNR=12 comp=Z,1.5nm,0.7s								
ILAR	Eielson Array	81.64	22	P		P	P	02 08 27.3	-0.3
KURBB	Kurchatov Arra	83.68	322	P		P	P	02 08 38.2	-0.3
	comp=Z,0.6nm,0.6s,baz=112,slow=4.0,SNR=7.5 comp=Z,0.6nm,0.6s								
QSPA	South Pole Qui	85.58	180	P		P	P	02 08 47.2	-0.8
QSPA						IAmb	IAmb	02 09 03.0	
	comp=Z,1.9nm,1.0s								
BVAR	Borovoye Array	89.11	323	P		P	P	02 09 06.2	+1.1
	comp=Z,3.3nm,0.6s,baz=106,slow=5.4,SNR=13 comp=Z,3.3nm,0.6s								
BRVK	Borovoye	89.18	323	P		P	P	02 09 05.1	-0.3
B08A	Colville Reser	91.58	42	P		P	P	02 09 16.8	0.0
B08A						IAmb	IAmb	02 09 21.4	
	comp=Z,4.4nm,1.5s								
ABKAR	Akbulak array	95.38	319	P		P	P	02 09 34.1	0.0
TORD	Torodi Ar. Bea	150.50	289	PKPbc		PKiKP		02 16 02.5	-0.6
	comp=Z,1.4nm,0.7s,baz=52,slow=3.1,SNR=7.6								

IDC 10 01:56:18.3±3.0, 31°.85S×58°.40E, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=90.7km s-min=34.7km az=119.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.17	198		T		T	02 15 32.4	
	baz=20,slow=75,SNR=36								
H04N1	CROZET ISLANDS	15.18	198		T		T	02 15 33.5	
	baz=20,slow=75,SNR=33								
H04N3	CROZET ISLANDS	15.19	198		T		T	02 15 33.0	
	baz=20,slow=75,SNR=34								
H08S1	Diego Carcia H	27.43	32		T		T	02 30 42.8	
	baz=208								
H08S2	Diego Garcia H	27.43	32		T		T	02 30 42.8	
	baz=208								
H08S3	Diego Garcia H	27.45	32		T		T	02 30 42.8	
	baz=208								
QSPA	South Pole Qui	58.32	180	P		P		02 06 14.8	-0.1
	3.1nm,0.9s,baz=269,slow=2.9,SNR=20 3.1nm,0.9s								
CMAR	Chiang Mai Arr	63.35	44	P		P		02 06 49.3	-0.2
	1.7nm,0.3s,baz=217,slow=6.2,SNR=2.5 1.7nm,0.3s								
ASAR	Alice Springs	66.12	104	P		P		02 07 07.7	-0.1
	0.6nm,0.7s,baz=235,slow=6.0,SNR=5.5 0.6nm,0.7s								
WRA	Warramunga Arr	68.13	100	P		P		02 07 20.9	+0.4
	0.9nm,0.9s,baz=245,slow=5.5,SNR=4.2 0.9nm,0.9s								

*TIR **10** 02:17:56.9, 42°.41N×18°.95E, h37km±2km, Ml3.6*
*LDG **10** 02:17:57.8±0.1, 42°.43N×19°.00E, h5km, Ml3.5/8, Error ellipse: s-maj=5.3km s-min=3.1km az=22.0*
*NEIC **10** 02:17:57.9±1.7, 42°.28N±0°.06×18°.89E±0°.04, h10km±1km, ML3.2/32, Error ellipse: s-maj=9.4km s-min=5.0km az=3.0*
*PDG **10** 02:17:57.7±0.1, 42°.36N×18°.95E, h18km, MD3.3/10, ML3.3/10

PVY				*e*Sg		**Sb**	02 18 23.5	-0.6
PVY	**Plav**	0.80	71	⇑*i*Pg		**Pg**	02 18 12.6	-1.0
PVY				*i* Sg		**Sb**	02 18 24.7	+0.6
BCI	**Bajram Curri**	0.84	88	P		**Pg**	02 18 13.0	-1.4
	baz=92							
BCI				S		**Sb**	02 18 26.0	+0.8
	baz=92							
BCI				AMP				
	comp=N,7.5nm,0.4s,baz=92							
UPM	**Unac-Piva**	0.86	358	⇓*i*Pg		**Pg**	02 18 13.3	-1.6
UPM				*e*Sg		**Sg**	02 18 25.6	-0.6
UPM	**Unac-Piva**	0.86	358	⇓*i*Pg		**Pg**	02 18 13.3	-1.6
UPM				*i* Sg		**Sb**	02 18 26.6	+0.6
KLINJ	**Klinje**	0.86	343	*e*Pg		**Pg**	02 18 13.6	-1.4
KLINJ				*e*Sg		**Sb**	02 18 26.5	+0.4
BEY	**Berane**	0.88	53	*e*Pg		**Pg**	02 18 14.3	-0.9
BEY				*e*Sg		**Sg**	02 18 25.4	-1.5
IVA	**Berane**	0.88	53	⇑*i*Pg		**Pg**	02 18 14.5	-0.7
IVA				*i* Sg		**Sb**	02 18 27.7	+1.2
PLE	**Pljevlja**	1.04	18	*e*Pg		**Pg**	02 18 16.6	-1.7
PLE				*e*Sg		**Sb**	02 18 31.9	+0.7
PLE	**Pljevlja**	1.04	18	⇓*i*Pg		**Pg**	02 18 16.6	-1.7
PLE				*i* Sg		**Sn**	02 18 32.5	+0.2
STON	**Ston**	1.06	300	*e*Pg		**Pg**	02 18 16.7	-1.8
STON				*e*Sg		**Sb**	02 18 33.6	+2.1
STON	**Ston**	1.06	300	*i* Pg		**Pg**	02 18 16.7	-1.8
STON				Sg		**Sn**	02 18 33.9	+1.4
STON	**Ston**	1.06	300	*e*Pg		**Pg**	02 18 18.6	+0.1
STON				*e*Sg		**Sg**	02 18 32.6	+0.2
SJES	**Sjenica**	1.19	39	*e*Pg		**Pg**	02 18 19.9	-1.2
SJES				*e*Sg		**Sg**	02 18 35.3	-1.4
SJES	**Sjenica**	1.19	39	⇓*i*Pg		**Pg**	02 18 19.5	-1.6
SJES				*e*Sg		**Sb**	02 18 35.9	+0.4
TIR	**Tirane**	1.21	145	⇓P		**Pn**	02 18 21.4	+1.1
TIR				⇑S		**Sn**	02 18 38.8	+2.5
TIR	**Tirane**	1.21	145	P		**Pg**	02 18 20.9	-0.6
	baz=146							
TIR	**Tirane**	1.21	145			**Pg**	02 18 20.0	-1.5
TIR				Sn		**Sn**	02 18 38.1	+1.8
TIR	**Tirane**	1.21	145	*e*Pg		**Pg**	02 18 20.0	-1.5
TIR				*e*Sg		**Sn**	02 18 37.6	+1.3
RUDO	**Rudo**	1.31	14	*e*Pg		**Pn**	02 18 21.5	-0.2
RUDO				*e*Sg		**Sn**	02 18 40.2	+1.3
IVAS	**Ivanjica**	1.52	35	*e*Pg		**Pn**	02 18 25.1	+0.5
IVAS				*e*Sg		**Sg**	02 18 46.0	-1.2
BBLS	**Lazi&#263i**	1.56	12	*e*Pn		**Pg**	02 18 27.4	-0.7
BBLS				*e*Sn		**Sb**	02 18 46.9	+0.8
BBLS	**Lazi&#263i**	1.56	12	⇓*i*Pn		**Pg**	02 18 27.3	-0.8
BBLS				*e*Sn		**Sg**	02 18 47.3	-1.1
MAKA	**Makarska**	1.70	304	*i* Pn		**Pn**	02 18 28.1	+1.2
HAPS	**Han Pijesak,BI**	1.74	0	*e*Pn		**Pb**	02 18 30.0	+0.3
HAPS				*e*Sn		**Sb**	02 18 52.0	+0.6
HAPS	**Han Pijesak,BI**	1.74	0	⇓*i*Pn		**Pb**	02 18 29.6	-0.1
HAPS				*e*Sn		**Sb**	02 18 51.6	+0.2
RICI	**Ricice**	1.76	312	*e*Pn		**Pn**	02 18 29.1	+1.3
OHR	**Ohrid**	1.86	131	*i* Pn		**Pg**	02 18 32.6	-1.2
SKO	**Skopje**	1.90	100	*i* Pn		**Pb**	02 18 32.1	-0.1
DIVS	**Divibare**	1.92	23	*e*Pn		**Pn**	02 18 31.3	+1.2
DIVS				*e*Sn		**Sn**	02 18 55.1	+1.3
VLO	**Vlora**	1.92	167	P		**Pn**	02 18 31.4	+1.4
	baz=167							
VLO				S		**Sb**	02 18 56.7	+0.4
	baz=167							
VLO	**Vlora**	1.92	167	Pn		**Pn**	02 18 29.2	-0.8
HVAR	**Hvar**	2.01	295	*e*Pn		**Pn**	02 18 32.2	+0.9
GRUS	**Gruza**	2.02	40	*e*Pn		**Pn**	02 18 32.9	+1.5
GRUS				*e*Sn		**Sn**	02 18 57.7	+1.4
TRUS	**Trudelj**	2.16	29	*e*Pn		**Pn**	02 18 34.6	+1.2
TRUS				*e*Sn		**Sn**	02 19 01.1	+1.3
KBN	**Korca**	2.21	140	P		**Pb**	02 18 36.7	-0.9
	baz=141							
KBN				S		**Sb**	02 19 04.4	-0.4
	baz=141							
KBN	**Korca**	2.21	140	Pn		**Pn**	02 18 35.2	+1.1
KBN				IAML			02 19 17.0	
	comp=N,148nm,0.8s							
TEKS	**Tekeris**	2.25	11	*e*Pn		**Pn**	02 18 35.7	+1.1
TEKS				*e*Sn		**Sn**	02 19 02.7	+0.8
TEKS	**Tekeris**	2.25	11	⇓*i*Pn		**Pn**	02 18 35.3	+0.8
TEKS				*e*Sn		**Sn**	02 19 03.9	+2.0
SCTE	**Santa Cesarea**	2.30	189	Pn		**Pn**	02 18 34.3	-0.9
PRVS	**Prvonek**	2.33	85	*e*Pn		**Pn**	02 18 37.6	+1.9
PRVS				*e*Sn		**Sn**	02 19 05.0	+1.1
MATE	**Matera**	2.38	225	⇑P		**Pn**	02 18 38.7	+2.4
FNA	**Florina**	2.40	130	P		**Pn**	02 18 38.8	+2.0
	baz=130							
FNA				S		**Sn**	02 19 08.5	+2.7
	baz=130							
FNA	**Florina**	2.40	130	Pn		**Pn**	02 18 37.3	+0.6
FNA				IAML			02 19 20.2	
	comp=N,172nm,0.3s							
FNA				IAML			02 19 20.4	
	comp=E,171nm,0.4s							
FNA	**Florina**	2.40	130	*e*Pn		**Pn**	02 18 38.7	+2.0
BOVS	**Bovan**	2.41	57	*e*Sn		**Sn**	02 19 07.3	+1.5
SGRT	**San Giovanni R**	2.45	257	Pn		**Pn**	02 18 36.9	-0.5
SGRT				IAML			02 19 27.4	
	comp=N,122nm,0.6s							
SGRT				IAML			02 19 31.0	
	comp=E,124nm,0.7s							
DOB	**Doboj**	2.46	346	⇓*i*Pn		**Pn**	02 18 39.1	+1.6
DOB				*e*Sn		**Sn**	02 19 09.9	+2.7
MGRS	**Mrkonjic Grad**	2.47	328	*e*Pn		**Pn**	02 18 39.6	+1.9
MGRS				*e*Sn		**Sn**	02 19 10.4	+2.9
KIJV	**Kijevo**	2.49	313	*e*Pn		**Pn**	02 18 40.0	+2.1
STIP	**Stip**	2.50	104	*i* Pn		**Pb**	02 18 41.8	-0.8
LSK	**Leskovik**	2.52	150	P		**Pn**	02 18 39.9	+1.5
	baz=150							
LSK				S		**Sb**	02 19 12.7	-1.1
	baz=150							
SRN	**Sarande**	2.59	162	P		**Pn**	02 18 39.5	+0.3
	baz=162							
SRN				S		**Sn**	02 19 12.9	+2.7
	baz=162							
AVAS	**Avala Beograd**	2.62	25	*e*Pn		**Pn**	02 18 40.3	+0.7
AVAS				*e*Sn		**Sn**	02 19 12.1	+1.1
BLY	**Banja Luka**	2.72	333	*e*Sn		**Sn**	02 19 17.1	+3.5
BLY	**Banja Luka**	2.72	333	⇑*i*Pn		**Pn**	02 18 43.3	+2.2
BLY				*e*Sn		**Sn**	02 19 15.7	+2.1
ZIRJ	**Zirje**	2.75	300	*e*Pn		**Pn**	02 18 42.6	+1.2
A050A	**Klekovaca**	2.77	321	⇑*i*Pn		**Pn**	02 18 43.9	+2.2
A050A				*e*Sn		**Sn**	02 19 17.0	+2.2
MORI	**Morici**	2.81	304	*e*Pn		**Pn**	02 18 44.1	+1.8
ZAGS	**Zajecar**	2.83	58	*e*Pn		**Pn**	02 18 44.4	+1.9
ZAGS				*e*Sn		**Sn**	02 19 16.4	+0.3
KUBS	**Kucevo**	2.87	43	*e*Pn		**Pn**	02 18 43.2	+0.1
KUBS				*e*Sn		**Sn**	02 19 18.5	+1.2
FRGS	**Fruska Gora**	2.88	12	⇓P		**Pn**	02 18 44.3	+1.1
FRGS				⇑S		**Sn**	02 19 19.3	+1.6
FRGS	**Fruska Gora**	2.88	12	*e*Pn		**Pn**	02 18 44.4	+1.1
FRGS				*e*Sn		**Sn**	02 19 19.1	+1.5
FRGS	**Fruska Gora**	2.88	12	⇓*i*Pn		**Pn**	02 18 44.1	+0.8
FRGS				*e*Sn		**Sn**	02 19 18.9	+1.3
VAY	**Valandovo**	2.90	109	*i* Pn		**Pn**	02 18 44.5	+1.0
BLKB	**Belogradchik**	3.02	64	⇓S		**Sn**	02 19 23.0	+1.8
PRIJ	**Prijedor**	3.09	329	*e*Pn		**Pn**	02 18 47.4	+1.3
PRIJ				*e*Sn		**Sn**	02 19 24.8	+2.2
MDVR	**Moldovita**	3.16	39	⇑P		**Pn**	02 18 48.5	+1.3
MDVR				⇓S		**Sn**	02 19 25.8	+1.3
MDVR	**Moldovita**	3.16	39	*e*Pn		**Pn**	02 18 48.2	+1.0
MDVR				*e*Sn		**Sn**	02 19 25.1	+0.6
UDBI	**Udbina**	3.18	314	*e*Pn		**Pn**	02 18 50.1	+2.7
VTS	**Vitosha**	3.19	84	*e*Pn		**Pn**	02 18 49.5	+1.9
VTS				*e*Sn		**Sn**	02 19 25.4	0.0
DUGI	**Dugi Otok**	3.28	301	*e*Pn		**Pn**	02 18 50.3	+1.5
CUC	**Castrocucco**	3.33	226	Pn		**Pn**	02 18 49.2	-0.2
CUC				IAML			02 19 31.3	
	comp=N,48nm,0.6s							
CUC				IAML			02 19 58.6	
	comp=E,41nm,1.1s							
VIRC	**Vir**	3.44	306	*e*Pn		**Pn**	02 18 52.6	+1.7
LIT	**Litokhoron**	3.49	129	Pn		**Pn**	02 18 51.0	-0.6
PLIT	**Plitvice**	3.50	318	*i* Pn		**Pn**	02 18 54.5	+2.7
PAOL	**Paolisi**	3.53	250	Pn		**Pn**	02 18 51.7	-0.4
PAOL				IAML			02 20 07.7	
	comp=N,40nm,0.6s							
TIP	**Timpagrande**	3.57	208	Pn		**Pn**	02 18 52.5	-0.3
HERR	**Herculane**	3.58	44	⇓P		**Pn**	02 18 53.6	+0.8
HERR				⇓S		**Sn**	02 19 35.9	+1.2
MOSL	**Moslavina**	3.63	335	*e*Pn		**Pn**	02 18 55.3	+1.7
SRS	**Serrai**	3.69	108	*e*Pn		**Pn**	02 18 56.0	+1.6
NVLJ	**Novalja**	3.70	308	*e*Pn		**Pn**	02 18 55.8	+1.3
NVLJ				Sn		**Sn**	02 19 39.5	+1.8
INTR	**Introdacqua**	3.76	267	Pn		**Pn**	02 18 55.8	+0.4
BZS	**Buzias**	3.80	30	⇑P		**Pn**	02 18 56.7	+0.8
BZS	**Buzias**	3.80	30	*e*Pn		**Pn**	02 18 56.7	+0.8
BZS				*e*Sn		**Sn**	02 19 40.3	+0.1
RABC	**Rab**	3.86	310	*e*Pn		**Pn**	02 18 58.1	+1.4
RABC				Sn		**Sn**	02 19 43.8	+2.2
MORH	**Mrgy, Hungar**	3.88	357	⇓P		**Pn**	02 18 58.1	+1.2
MORH				⇑S		**Sn**	02 19 43.4	+1.4
MORH	**Mrgy, Hungar**	3.88	357	⇓*i*Pn		**Pn**	02 18 57.8	+0.9
MORH				*e*Sn		**Sn**	02 19 43.0	+1.0
CAMP	**Campotosto**	4.10	275	Pn		**Pn**	02 19 00.3	+0.2
SURR	**Surduc**	4.11	33	⇑P		**Pn**	02 19 01.1	+1.0
SURR				⇓S		**Sn**	02 19 48.7	+0.9
OZLJ	**Ozalj**	4.12	324	*e*Pn		**Pn**	02 19 02.5	+2.3
GZR	**Gura Zlata**	4.12	41	⇑P		**Pn**	02 19 01.6	+1.2
GZR				⇓S		**Sn**	02 19 49.8	+1.6
BOJS	**Bojanci**	4.13	321	⇑*i*Pn		**Pn**	02 19 02.2	+1.8
BOJS				*e*Sn		**Sn**	02 19 49.9	+1.6
KALN	**Kalnik**	4.19	336	*e*Pn		**Pn**	02 19 02.7	+1.5
GUMA	**Gualdo di Mace**	4.19	282	Pn		**Pn**	02 19 01.2	-0.1
GUMA				IAML			02 20 32.6	
	comp=N,77nm,0.6s							
GUMA				IAML			02 20 54.1	
	comp=E,90nm,0.6s							
AGG	**Agios Georgios**	4.20	141	Pn		**Pn**	02 19 01.9	+0.5
CRES	**Cresnjev**	4.29	325	*e*Pn		**Pn**	02 19 04.6	+2.0
NRCA	**Norcia**	4.33	278	Pn		**Pn**	02 19 03.6	+0.4
NRCA				IAML			02 19 58.9	
	comp=N,35nm,0.5s							
NRCA				IAML			02 19 59.1	
	comp=E,31nm,0.2s							
LOBO	**Lobor**	4.33	333	*e*Pn		**Pn**	02 19 05.3	+2.1
GBRS	**Gornja Briga**	4.36	318	*i* Pn		**Pn**	02 19 05.5	+1.9
GBRS				*i* Sn		**Sn**	02 19 57.6	+3.4
SIRR	**Siria**	4.38	26	⇑P		**Pn**	02 19 05.5	+1.6
RIY	**Rijeka**	4.39	314	*e*Pn		**Pn**	02 19 05.5	+1.6
SMRN	**Sveta Marina**	4.39	309	*e*Pn		**Pn**	02 19 04.9	+1.0
BEHE	**Becsehely**	4.41	340	⇓*i*Pn		**Pn**	02 19 06.3	+2.1
BEHE				*e*Sn		**Sn**	02 19 56.3	+1.2
BRJN	**Brijuni**	4.55	306	*e*Pn		**Pn**	02 19 07.2	+1.0
LOT	**Lotru**	4.67	47	⇓P		**Pn**	02 19 09.2	+1.3
LOT				⇓S		**Sn**	02 20 03.0	+1.2
CEL	**Celeste**	4.70	211	Pn		**Pn**	02 19 06.5	-1.8
CEL				IAML			02 20 02.7	
	comp=E,17nm,0.7s							
CEY	**Cerknica**	4.70	318	*i* Pn		**Pn**	02 19 10.4	+2.1
CEY	**Cerknica**	4.70	318	*e*Pn		**Pn**	02 19 10.3	+2.1
CEY				*e*Sn		**Sn**	02 20 03.6	+1.2
CESX	**Cesi**	4.71	275	Pn		**Pn**	02 19 08.7	+0.3
CESX				IAML			02 20 04.9	
	comp=N,20nm,0.6s							
CESX				IAML			02 20 17.5	
	comp=E,17nm,0.5s							
HUMR	**Humele**	4.91	62	⇓P		**Pn**	02 19 12.1	+0.9
HUMR				⇓S		**Sn**	02 20 08.6	+1.1
RDO	**Rodhopi**	5.08	101	Pn		**Pn**	02 19 15.1	+1.7
ELND	**Elena**	5.15	81	⇓P		**Pn**	02 19 15.9	+1.5
ELND				⇓S		**Sn**	02 20 15.1	+1.6
SOKA	**Soboth**	5.16	329	*i* Pn		**Pn**	02 19 17.2	+2.6
	comp=E,1.5nm,0.2s,SNR=12							
DRGR		5.20	30	⇑P		**Pn**	02 19 16.5	+1.3
DRGR		5.20	30	*e*Pn		**Pn**	02 19 16.8	+1.6
OBKA	**Obir**	5.22	324	*i* Pn		**Pn**	02 19 18.8	+3.3
	comp=E,1.4nm,0.2s							
OBKA	**Obir**	5.22	324	*e*Pn		**Pn**	02 19 17.0	+1.6
MARR	**Marisel-Cluj**	5.26	33	⇑P		**Pn**	02 19 16.8	+0.7
SABO	**M.te Sabotino**	5.29	315	Pn		**Pn**	02 19 17.1	+0.8
VOIR		5.39	53	⇑P		**Pn**	02 19 18.0	+0.2
ARSA	**Arzberg**	5.47	335	*i* Pn		**Pn**	02 19 21.1	+2.2
	comp=E,1.6nm,0.2s,SNR=4.6							
ARSA	**Arzberg**	5.47	335	*e*Pn		**Pn**	02 19 20.7	+1.8
ARSA				*e*Sn		**Sn**	02 20 21.7	+0.2
SRO	**Srobarova**	5.49	356	*e*PN		**Pn**	02 19 22.0	+3.0
SRO				*e*SN		**Sn**	02 20 27.6	+5.9
ALN	**Alexandroupoli**	5.52	103	Pn		**Pn**	02 19 20.9	+1.5
PSZ	**Piszkesteto**	5.62	7	⇓P		**Pn**	02 19 21.7	+0.9
PSZ	**Piszkesteto**	5.62	7	Pn		**Pn**	02 19 21.8	+0.9
PRED	**Cave del Predi**	5.62	319	Pn		**Pn**	02 19 20.5	-0.4
ITM	**Ithomi**	5.65	155	Pn		**Pn**	02 19 20.0	-1.3
RONA	**Rosalia, Austr**	5.67	342	*i* Pn		**Pn**	02 19 23.5	+1.9
	comp=E,4.2nm,0.3s,SNR=5.4							
MYKA	**Terra Mystica**	5.72	320	*i* Pn		**Pn**	02 19 25.1	+2.8
	comp=E,1.2nm,0.2s							
OSSC	**Osservatorio P**	5.77	284	Pn		**Pn**	02 19 23.3	+0.3
STAL	**STALIGIAL**	5.94	313	Pn		**Pn**	02 19 27.0	+1.7
MLR	**Muntele Rosu**	5.96	56	⇓P		**Pn**	02 19 27.0	+1.3
MLR	**Muntele Rosu**	5.96	56	Pn		**Pn**	02 19 28.1	+2.5
CASP	**Castiglione de**	5.98	277	Pn		**Pn**	02 19 25.3	-0.5
CONA	**Conrad Observa**	5.99	340	*i* Pn		**Pn**	02 19 28.4	+2.3
	comp=E,1.0nm,0.3s							
TEOL	**Teolo**	6.06	302	Pn		**Pn**	02 19 27.4	+0.5
ZCCA	**Zocca**	6.14	292	Pn		**Pn**	02 19 27.5	-0.6
MODS	**Modra-Piesok**	6.14	350	*e*PN		**Pn**	02 19 30.8	+2.7
MODS				*e*SN		**Sn**	02 20 38.3	+0.4
KBA	**Koelnbreinsper**	6.19	322	*e*Pn		**Pn**	02 19 31.3	+2.5
	comp=E,1.4nm,0.1s							
RAFF	**Raffo Rosso**	6.21	216	Pn		**Pn**	02 19 27.9	-1.2
KECS	**Kecovo**	6.24	10	*e*PN		**Pn**	02 19 31.2	+1.9
KECS				*e*SN		**Sn**	02 20 40.0	-0.2
ABTA	**Abfaltersbach**	6.36	316	*e*Pn		**Pn**	02 19 32.6	+1.5
	comp=E,0.3nm,0.2s							
CTI	**Castel Tesino**	6.42	308	Pn		**Pn**	02 19 31.9	0.0
MOA	**Molln**	6.42	331	*i* Pn		**Pn**	02 19 35.9	+4.0
	comp=E,0.6nm,0.2s							
BIOA	**Bad Ischl, Aus**	6.53	327	*i* Pn		**Pn**	02 19 37.1	+3.7
	comp=E,1.9nm,0.3s							
JAVC	**Velka Javorina**	6.58	353	*e*PN		**Pn**	02 19 36.8	+2.7
JAVC				*e*SN		**Sn**	02 20 50.7	+2.0
VRI	**Vrincioaia**	6.62	55	⇓P		**Pn**	02 19 34.6	0.0
LESA	**Schwarzleotal**	6.75	321	*e*Pn		**Pn**	02 19 38.5	+2.0
	comp=E,1.0nm,0.2s							
CRVS	**Cervenica-Dubn**	6.79	14	*e*PN		**Pn**	02 19 38.8	+1.8
BURAR	**Bucovina Array**	6.90	38	⇑P		**Pn**	02 19 38.8	+0.3
BURAR	**Bucovina Array**	6.90	38	Pn		**Pn**	02 19 41.8	+3.3
BUR08	**Bucovina Ar. S**	6.91	38	Pn		**Pn**	02 19 41.1	+2.4
KRUC	**Moravsky**	6.95	346	*e*PN		**Pn**	02 19 39.0	-0.1
KRUC				*e*SN		**Sn**	02 20 58.1	+0.3
KOLS	**Kolonicke sedl**	6.99	18	*e*PN		**Pn**	02 19 42.4	+2.7
KOLS				*e*SN		**Sn**	02 21 02.8	+4.0
MSSA	**Maissana**	7.15	289	Pn		**Pn**	02 19 41.9	0.0
WTTA	**Wattenberg**	7.15	316	*e*Pn		**Pn**	02 19 41.9	-0.1
	comp=E,1.4nm,0.2s							
VRAC	**Vranov**	7.16	348	*e*PN		**Pn**	02 19 41.7	-0.3
WATA	**Walderalm**	7.23	316	*e*Pn		**Pn**	02 19 43.2	+0.1
	comp=E,0.9nm,0.2s							
WDD	**Wied Dalam**	7.35	209	Pn		**Pn**	02 19 44.1	-0.5
SQTA	**Sankt Quirin**	7.35	314	*i* Pn		**Pn**	02 19 47.0	+2.3
	comp=E,1.5nm,0.2s							
PGF	**Pioggiola**	7.36	275	*e*Pn		**Pn**	02 19 46.0	+1.2
GEC2	**GERESS Array S**	7.47	332	Pn		**Pn**	02 19 45.7	-0.6
FETA	**Feichten**	7.49	311	*i* Pn		**Pn**	02 19 47.5	+0.8
	comp=E,0.2nm,0.3s							
MORC	**Moravsky Berou**	7.50	353	*e*SN		**Sn**	02 21 11.2	-0.1
FUORN	**Ofenpass-Fuorn**	7.53	308	Pn		**Pn**	02 19 47.4	0.0
KHC	**Kasperske Hory**	7.75	333	Pn		**Pn**	02 19 51.5	+1.3
KHC	**Kasperske Hory**	7.75	333	*e*Pn		**Pn**	02 19 52.5	+2.3
KHC				*e*SN		**Sn**	02 21 18.7	+1.1
TUE	**Stuetta**	8.01	304	Pn		**Pn**	02 19 56.3	+2.4
DAVA	**Damuels**	8.12	311	*i* Pn		**Pn**	02 19 58.1	+2.8
	comp=E,1.4nm,0.4s							
IDI	**Anoyia**	8.44	145	Pn		**Pn**	02 19 58.6	-1.0
SBF	**Sospel**	8.55	284	*e*Pn		**Pn**	02 20 00.9	-0.3
SBF				*e*Sn		**Sn**	02 21 34.1	-3.2
	comp=E,3.9nm,0.5s							
MBDF	**Montbardon**	9.15	289	*e*Pn		**Pn**	02 20 08.0	-1.5
MBDF				*e*Sn		**Sn**	02 21 47.7	-4.5
	comp=E,1.6nm,0.3s							
LMR	**La Mourre**	9.19	280	*e*Pn		**Pn**	02 20 10.2	+0.4
BNI	**Bardonecchia**	9.29	291	Pn		**Pn**	02 20 10.6	-0.6
LPG	**La Plagne**	9.34	294	*e*Pn		**Pn**	02 20 10.9	-1.3
LPG				*e*Sn		Sn	02 21 49.8	-7.2
	comp=E,3.8nm,0.5s							
LPL	**La Plagne**	9.36	294	*e*Pn		**Pn**	02 20 10.4	-2.0
LPL				*e*Sn		**Sn**	02 21 50.9	-6.5
	comp=E,3.7nm,0.4s							
ORIF	**Oris-en-Rattie**	9.81	290	*e*Pn		**Pn**	02 20 17.3	-1.2
ORIF				*e*Sn		**Sn**	02 22 02.3	-6.0
	comp=E,1.6nm,0.4s							
SMRF	**Simiane la Rot**	9.90	284	*e*Pn		**Pn**	02 20 19.9	+0.2
KEST	**Kesra**	9.96	232	Pn		**Pn**	02 20 20.9	+0.4
CABF	**La Chapelle**	10.12	299	*e*Pn		**Pn**	02 20 20.1	-2.6
HINF	**Hinteralfeld**	10.14	307	*e*Pn		**Pn**	02 20 22.7	-0.3
ECH	**Echery**	10.16	309	Pn		**Pn**	02 20 22.7	-0.5
CDF	**Champ du Feu**	10.20	310	*e*Pn		Pn	02 20 19.9	-3.9
HAU	**Haudompre**	10.53	307	*e*Pn		**Pn**	02 20 25.5	-2.8
VIVF	**Saint-Julien-l**	10.65	288	*e*Pn		**Pn**	02 20 29.4	-0.5
SMF	**Signal de Mont**	11.61	297	*e*Pn		**Pn**	02 20 40.9	-2.0
LOR	**Lormes**	11.79	300	*e*Pn		**Pn**	02 20 43.5	-1.9
LOR				*e*Sn		Sn	02 22 47.9	-8.6
	comp=E,2.3nm,0.4s							
AVF	**Avril sur Loir**	11.97	297	*e*Pn		**Pn**	02 20 45.7	-2.2
BGF	**Bois d'Agland**	12.24	296	*e*Pn		**Pn**	02 20 50.6	-1.1
GIVF	**Givet**	12.46	313	*e*Pn		Pn	02 20 50.8	-3.8

KRSC 10 02:32:53.6±1.4, 51°.28N×158°.33E, h53km±16km, Ml4.1,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	0.56	344	*e*P		**Pn**	02 33 07.4	+1.6
KDTR				*e*S		Sn	02 33 15.7	+1.2
ASAK	**Asacha**	1.14	347	*e*P		Pn	02 33 15.2	+1.7
ASAK				*e*S		Sn	02 33 29.1	+1.0
MTVR	**Mutnovka**	1.21	356	*e*P		Pn	02 33 16.3	+1.8
MTVR				*e*S		Sn	02 33 31.0	+1.1
GRL	**Gorelyy**	1.29	353	*e*P		Pn	02 33 17.6	+2.2
GRL				*e*S		Sn	02 33 33.7	+2.0
SKR	**Severo-Kuril's**	1.52	248	*e*P		Pn	02 33 19.

MGRS eSn **Sn** **02 47 52.8 +1.0**
BLY Banja Luka 2.71 332 ePn **Pn** **02 47 26.3 +1.2**
BLY eSn **Sn** **02 47 59.2 +1.4**
A050A Klekovaca 2.75 321 ePn **Pn** **02 47 26.8 +0.9**
A050A eSn **Sn** **02 47 59.6 +0.5**
ZAGS Zajecar 2.80 58 ePn **Pn** **02 47 26.9 +0.5**
MORI Morici 2.81 303 ePn **Pn** **02 47 28.0 +1.5**
FRGS Fruska Gora 2.86 12 ⇑P **Pn** **02 47 27.7 +0.5**
FRGS ⇑S **Sn** **02 48 01.5 0.0**
FRGS Fruska Gora 2.86 12 ePn **Pn** **02 47 27.3 +0.1**
FRGS Fruska Gora 2.86 12 ePn **Pn** **02 47 27.4 +0.2**
FRGS eSn **Sn** **02 48 02.7 +1.2**
BLKB Belogradchik 3.00 64 ⇑S **Sn** **02 48 03.6 -1.5**
MDVR Moldovita 3.13 39 ⇓P **Pn** **02 47 30.5 -0.5**
MDVR ⇑S **Sn** **02 48 06.5 -1.9**
DUGI Dugi Otok 3.28 301 ePn **Pn** **02 47 32.8 -0.3**
VIRC Vir 3.44 305 ePn **Pn** **02 47 35.7 +0.6**
NVLJ Novalja 3.70 308 ePn **Pn** **02 47 39.0 +0.3**
BZS Buzias 3.77 30 ⇑P **Pn** **02 47 39.4 -0.3**
BZS ⇓S **Sn** **02 48 23.2 -0.8**
BZS Buzias 3.77 30 ePn **Pn** **02 47 40.2 +0.4**
BZS eSn **Sn** **02 48 24.6 +0.6**
MORH Mrgy, Hungar 3.85 357 ⇑P **Pn** **02 47 41.5 +0.7**
MORH ⇑S **Sn** **02 48 26.1 +0.1**
MORH Mrgy, Hungar 3.85 357 ⇑iPn **Pn** **02 47 41.3 +0.5**
MORH eSn **Sn** **02 48 25.9 -0.1**
SURR Surduc 4.08 33 ⇑P **Pn** **02 47 44.2 +0.2**
DRGR 5.17 30 ⇑P **Pn** **02 47 59.2 +0.2**
SRO Srobarova 5.46 355 eSN **Sn** **02 49 03.9 -1.8**

*IDC **10** 03:02:02.7±1.5,5°.48N×124°.96E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=62.0km s-min=23.9km az=82.0*
ISC 10 03:02:09.5±1.3,5.78N±0.08×126.21E±0.09, h50km, n8, σ1§87/13, mb3.1/3, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.29**	**284**	⇓iP	**Pn**	**03 02 33.5**	**+2.2**
GSPH				*i* S	**Sn**	**03 02 48.1**	**+0.6**
DAV	**Davao City (W)**	**1.43**	**334**	Pn	**Pn**	**03 02 33.9**	**+0.8**
	117nm,0.3s,baz=225,slow=4.3,SNR=1.8						
DAV				Sn	**Sn**	**03 02 52.6**	**+1.9**
	214nm,0.3s,baz=232,slow=19,SNR=16						
DMPH	**Davao City--Mi**	**1.47**	**332**	⇑eP	**Pn**	**03 02 35.6**	**+2.0**
DMPH				eS	**Sn**	**03 02 51.0**	**-0.8**
KCP	**Kidapawan**	**1.65**	**318**	⇓iP	**Pn**	**03 02 37.2**	**+1.1**
KCP				*i* S	**Sn**	**03 02 55.4**	**-0.9**
BIPH	**Bislig**	**2.40**	**4**	⇑iP	**Pn**	**03 02 48.3**	**+2.0**
BIPH				*i* S	**Sn**	**03 03 15.2**	**+0.7**
WRA	**Warramunga Arr**	**26.78**	**163**	P	**P**	**03 07 44.5**	**-0.5**
	0.4nm,0.7s,baz=341,slow=9.4,SNR=2.0						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**30.21**	**166**	P	**P**	**03 08 16.6**	**+1.1**
	0.3nm,0.3s,baz=344,slow=7.0,SNR=5.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**55.59**	**325**	P	**P**	**03 11 36.5**	**-3.6**
	0.1nm,0.5s,baz=126,slow=9.0,SNR=2.6						
	0.1nm,0.5s						

*JMA **10** 03:05:12.6±0.4, 44°.N±1°.×14°.8E±°, h0km, MV3.3/18, SE OFF ETOROFU*
*SKHL **10** 03:05:13.8±0.1, 44°.00N×148°.50E, h35km±3km, mb4.5/3*
*MOS **10** 03:05:15.0±1.0, 43°.91N×148°.25E, h43km, mb4.1/1, Error ellipse: s-maj=23.9km s-min=15.8km az=12.4*
*IDC **10** 03:05:24.1±1.9, 46°.03N×147°.28E, h0km, mb3.6/10, mbtmp3.6/11, ML2.8/1, Error ellipse: s-maj=52.5km s-min=22.9km az=168.0*
ISC 10 03:05:12.6±2.3, 44.0N±0.1×148.24E±0.08, h6km±12km, n43, σ1§00/53, mb3.8/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.03**	**264**	eP	**Pb**	**03 05 32.8**	**0.0**
SHO				AMB	AMB	03 05 34.9	
	60nm,0.2s						
SHO				eS	**Sb**	**03 05 47.1**	**+0.6**
SHO				A	A	03 05 54.2	
	520nm,0.2s						
SHO				A	A	03 05 54.2	
	410nm,0.2s						
SHO	**Shikotan**	**1.03**	**264**	ePN	**Pg**	**03 05 32.6**	**+0.2**
SHO				eS	**Sn**	**03 05 47.8**	**-0.4**
SHO				pmax	pmax		
	comp=Z,92nm,0.4s						
SHO				pmax	pmax		
	comp=N,43nm,0.3s						
SHO				pmax	pmax		
	comp=E,29nm,0.3s						
SHO				smax	smax		
	comp=N,407nm,0.3s						
SHO				smax	smax		
	comp=E,195nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.72**	**272**	eP	**Pn**	**03 05 43.5**	**+0.4**
YUK				AMB	AMB	03 05 45.8	
	comp=E,100nm,0.2s						
YUK				eS	**Sn**	**03 06 05.9**	**+0.6**
YUK				A	A	03 06 07.9	
	comp=E,330nm,0.3s						
YUK				A	A	03 06 07.9	
	comp=E,430nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.72**	**272**	ePN	**Pb**	**03 05 44.1**	**-0.5**
YUK				eS	**Sn**	**03 06 04.3**	**-1.0**
YUK				pmax	pmax		
	comp=Z,132nm,0.4s						
YUK				pmax	pmax		
	comp=E,66nm,0.2s						
YUK				pmax	pmax		
	comp=N,23nm,0.1s						
YUK				smax	smax		
	comp=N,106nm,0.2s						
YUK				smax	smax		
	comp=E,429nm,0.5s						
NEM2	**Nemuro 2**	**1.92**	**252**	P	**Pn**	**03 05 45.7**	**-0.1**
NMR	**Nemuro--Hokkai**	**1.93**	**252**	eP	**Pn**	**03 05 45.7**	**-0.2**
NMR				eS	**Sn**	**03 06 09.6**	**-0.8**
NMR	**Nemuro--Hokkai**	**1.93**	**252**	ePN	**Pn**	**03 05 45.6**	**-0.3**
NMR				eS	**Sn**	**03 06 08.5**	**-1.9**
RUSJ	**Misakicho**	**2.16**	**274**	ePN	**Pn**	**03 05 50.1**	**+0.9**
RUSJ				eS	**Sn**	**03 06 15.5**	**-0.8**
JRA	**Rausu**	**2.25**	**270**	eP	**Pb**	**03 05 52.5**	**-1.2**
JNSB	**Nemuroshibetsu**	**2.35**	**266**	eP	**Pn**	**03 05 53.5**	**+1.8**
JNSB				eS	**Sb**	**03 06 23.4**	**-1.2**
JKHN	**Kushirohamanak**	**2.42**	**249**	eP	**Pn**	**03 05 53.3**	**+0.6**
JKHN				eS	**Sn**	**03 06 22.9**	**+0.4**
JNK	**Nakash**	**2.58**	**262**	eP	**Pn**	**03 05 56.2**	**+1.2**
AKK	**Akkeshi**	**2.66**	**250**	eP	**Pn**	**03 05 57.2**	**+1.2**
JAK	**Akkeshi**	**2.76**	**250**	eP	**Pn**	**03 05 58.3**	**+0.9**
JAK				eS	**Sn**	**03 06 31.6**	**+0.5**
JTKR	**Abashiri--Toko**	**3.13**	**271**	P	**Pn**	**03 06 04.7**	**+2.2**
JAR	**Ashorobuto**	**3.32**	**260**	eP	**Pn**	**03 06 06.9**	**+1.8**
JAR				eS	**Sn**	**03 06 46.6**	**+1.8**
JOB	**Onbets**	**3.39**	**253**	eP	**Pn**	**03 06 07.0**	**+1.0**
JCH	**Churui**	**3.82**	**251**	eP	**Pn**	**03 06 12.8**	**+0.9**
JCH				eS	**Sn**	**03 06 58.1**	**+1.1**
ASAJ	**Asahikawa**	**4.07**	**274**	Pn	**Pb**	**03 06 23.2**	**-1.4**
	comp=E,0.6nm,0.3s,baz=96,slow=16,SNR=7.4						
ASAJ				Sn	**Sb**	**03 07 14.5**	**+0.3**
	comp=E,0.1nm,0.3s,baz=20,slow=31,SNR=1.1						
	comp=E,3.6nm,0.5s						
ASAJ	**Asahikawa**	**4.07**	**274**	PN	**Pb**	**03 06 23.3**	**-1.4**
JNBK	**Urakawa-nobuka**	**4.37**	**249**	P	**Pn**	**03 06 20.5**	**+1.0**
ILAR	**Eielson Array**	**40.83**	**36**	P	**P**	**03 12 55.1**	**+0.5**
	comp=E,0.4nm,0.9s,baz=282,slow=9.5,SNR=5.2						
	comp=E,0.4nm,0.9s						
ILAR	**Eielson Array**	**40.83**	**36**	P	**P**	**03 12 55.1**	**+0.5**
MKAR	**Makanchi Array**	**45.18**	**298**	P	**P**	**03 13 30.4**	**+0.3**
	comp=E,0.6nm,0.7s,baz=76,slow=8.9,SNR=5.4						
	comp=E,0.6nm,0.7s						
MKAR	**Makanchi Array**	**45.18**	**298**	eP	**P**	**03 13 30.4**	**+0.3**
MKAR	**Makanchi Array**	**45.18**	**298**	P	**P**	**03 13 30.4**	**+0.3**
KURK	**Kurchatov**	**46.05**	**304**	eP	**P**	**03 13 37.7**	**+0.8**
KURK	**Kurchatov**	**46.05**	**304**	P	**P**	**03 13 37.7**	**+0.8**
KURBB	**Kurchatov Arra**	**46.14**	**304**	P	**P**	**03 13 37.7**	**+0.2**
	comp=E,0.3nm,0.3s,baz=72,slow=8.9,SNR=2.0						
	comp=E,0.3nm,0.3s						
FINES	**FINESS Array B**	**65.02**	**333**	P	**P**	**03 15 52.1**	**-1.0**
	comp=E,0.6nm,0.5s,baz=33,slow=11,SNR=5.1						
	comp=E,0.6nm,0.5s						
FINES	**FINESS Array B**	**65.02**	**333**	P	**P**	**03 15 52.1**	**-1.0**
PDAR	**Pinedale Array**	**69.15**	**50**	P	P	03 16 29.2	+9.2
	comp=E,0.1nm,0.4s,baz=273,slow=8.0,SNR=1.7						
	comp=E,0.1nm,0.4s						
NOA	**NORSAR Array B**	**69.67**	**339**	P	**P**	**03 16 22.0**	**-0.6**
	comp=E,0.4nm,0.6s,baz=31,slow=6.4,SNR=3.2						
	comp=E,0.4nm,0.6s						
NOA	**NORSAR Array B**	**69.67**	**339**	P	**P**	**03 16 22.0**	**-0.6**
HFS	**Hagfors**	**69.78**	**338**	P	**P**	**03 16 21.6**	**-1.6**
	comp=E,0.5nm,0.6s,baz=19,slow=5.3,SNR=1.1						
	comp=E,0.5nm,0.6s						
HFS	**Hagfors**	**69.78**	**338**	P	**P**	**03 16 21.6**	**-1.6**
KBZ	**Khabaz**	**70.23**	**312**	P	**P**	**03 16 26.3**	**0.0**
	comp=E,1.7nm,0.8s,baz=44,slow=8.2,SNR=4.4						
	comp=E,1.7nm,0.8s						
KBZ	**Khabaz**	**70.23**	**312**	eP	**P**	**03 16 26.3**	**0.0**
KBZ	**Khabaz**	**70.23**	**312**	P	**P**	**03 16 26.3**	**0.0**
AKASG	**Malin Array Be**	**71.86**	**324**	P	**P**	**03 16 36.0**	**0.0**
	comp=E,0.5nm,0.4s,baz=38,slow=6.5,SNR=4.7						
	comp=E,0.5nm,0.4s						
AKASG	**Malin Array Be**	**71.86**	**324**	P	**P**	**03 16 36.0**	**0.0**
TXAR	**Lajitas Array**	**81.86**	**57**	P	P	03 17 42.8	+10
	comp=E,0.3nm,0.5s,baz=297,slow=4.5,SNR=6.0						
	comp=E,0.3nm,0.5s						
TXAR	**Lajitas Array**	**81.86**	**57**	P	P	03 17 42.8	+10

*IDC **10** 03:31:37.5±1.1, 2°.44S×139°.89E, h0km, mb3.9/5, mbtmp3.9/6, ML3.9/1, MS3.6/8, Error ellipse: s-maj=53.7km s-min=23.9km az=89.0*
ISC 10 03:31:40.5±1.2, 2.6S±0.1×140.1E±0.4, h25km, n20, σ1§48/10, mb4.0/5, MS3.7/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**16.81**	**16**	LR	LR	03 40 24.5	
	comp=Z,236nm,21.0s,baz=108,slow=32						
WRA	**Warramunga Arr**	**18.09**	**198**	P	**Pn**	**03 35 50.1**	**-0.1**
	0.4nm,0.3s,baz=20,slow=12,SNR=16						
WRA				S	**Sn**	**03 39 09.4**	**-2.1**
	0.9nm,0.7s,baz=22,slow=23,SNR=1.7						
WRA				LR	LR	03 43 40.4	
	comp=Z,176nm,18.5s,baz=307,slow=40						
	1.6nm,0.6s						
CTA	**Charters Tower**	**18.37**	**161**	LR	LR	03 43 29.6	
	comp=Z,12nm,18.6s,baz=6.0,slow=38						
KAPI	**Kappang**	**20.40**	**263**	LR	LR	03 45 53.8	
	comp=Z,71nm,19.1s,baz=88,slow=42						
ASAR	**Alice Springs**	**21.74**	**195**	P	**P**	**03 36 32.7**	**+2.5**
	5.4nm,1.1s,baz=25,slow=9.4,SNR=15						
	5.4nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**34.46**	**49**	T	T	04 14 48.9	
	baz=233,slow=76,SNR=63						
H11N2	**WAKE ISLAND Hy**	**34.48**	**49**	T	T	04 14 50.0	
	baz=233,slow=76,SNR=53						
H11N3	**WAKE ISLAND Hy**	**34.48**	**49**	T	T	04 14 50.1	
	baz=233,slow=76,SNR=47						
JHJ	**Hachijo jima 2**	**35.56**	**360**	LR	LR	03 49 20.8	
	comp=Z,163nm,19.8s,baz=87,slow=30						
NWAO	**Narrogin (SRO)**	**36.96**	**213**	LR	LR	03 55 44.3	
	comp=Z,183nm,21.4s,baz=360,slow=39						
SHEM	**Shemya Is, Ala**	**62.15**	**23**	LR	LR	04 04 03.1	
	comp=Z,40nm,21.7s,baz=2.5,slow=31						
MA2	**Magadan**	**62.60**	**6**	LR	LR	04 12 45.0	
	comp=Z,16nm,18.0s,baz=296,slow=40						
MKAR	**Makanchi Array**	**70.56**	**322**	P	**P**	**03 42 53.4**	**-0.1**
	0.9nm,0.7s,baz=123,slow=5.3,SNR=6.9						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**74.44**	**324**	P	**P**	**03 43 16.3**	**-0.2**
	0.3nm,0.5s,baz=103,slow=4.2,SNR=2.9						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**80.02**	**325**	P	**P**	**03 43 47.9**	**+0.1**
	1.9nm,0.7s,baz=87,slow=9.1,SNR=6.7						
	1.9nm,0.7s						
KDAK	**Kodiak Island**	**80.36**	**30**	LR	LR	04 14 44.7	
	comp=Z,45nm,20.0s,baz=247,slow=32						
ILAR	**Eielson Array**	**85.21**	**24**	P	**P**	**03 44 14.2**	**-0.3**
	1.1nm,1.1s,baz=240,slow=6.7,SNR=5.0						
	1.1nm,1.1s						
SPITS	**Spitsbergen Ar**	**99.14**	**350**	P	**Pdif**	**03 45 17.2**	**-2.1**
	6.2nm,0.7s,baz=22,slow=9.3,SNR=2.4						
DBIC	**Dimbokro**	**144.81**	**278**	PKP	**PKPab**	**03 51 15.8**	**+0.5**
	6.4nm,0.9s,baz=45,slow=1.4,SNR=4.4						
LPAZ	**La Paz**	**146.39**	**125**	PKPbc	**PKiKP**	**03 51 23.7**	**-0.5**
	2.4nm,0.9s,baz=215,slow=1.3,SNR=5.1						

*RSNC **10** 03:32:56.3±0.0, 8°.N±2°.×7°.7W±°, h0km±3km, M2.0, ML2.0*
*UPA **10** 03:32:58.4±1.6, 8°.23N×77°.33W, h0km±15km, MD3.7, MW4.3*
ISC 10 03:32:53.4±1.3, 7.82N±0.04×77.42W±0.03, h10km±11km, n20, σ1§40/36, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**0.81**	**5**	P	**Pb**	**03 33 09.1**	**-0.5**
CAPC				S	**Sg**	**03 33 19.6**	**-0.1**
APAC	**Apartado, Choc**	**0.83**	**85**	P	**Pn**	**03 33 10.0**	**-1.2**
APAC				S	**Sn**	**03 33 21.9**	**-1.7**
UPD2	**Meteti**	**0.93**	**321**	eP	**Pn**	**03 33 12.5**	**-0.1**
UPD2				*i* S	**Sn**	**03 33 25.8**	**-0.2**
UPD2				*i* S	**Sb**	**03 33 26.1**	**+1.9**
TOTI	**Torti**	**1.41**	**321**	eP	**Pg**	**03 33 22.6**	**+2.1**
TOTI				*i* S	**Sb**	**03 33 38.3**	**+0.3**
DBBC	**Dabeiba**	**1.44**	**124**	P	**Pg**	**03 33 20.2**	**-0.9**
DBBC				S	**Sn**	**03 33 40.7**	**+2.0**
LCBC	**Los crdobas,**	**1.46**	**45**	P	**Pg**	**03 33 20.8**	**-0.7**
LCBC				S	**Sg**	**03 33 43.6**	**+3.1**
UREC	**San Jos de Ur**	**1.87**	**92**	P	**Pb**	**03 33 26.7**	**-1.0**
UREC				S	**Sn**	**03 33 48.1**	**-1.1**
CHPO	**Chepo, Panama**	**2.15**	**309**	*i* P	**Pb**	**03 33 32.3**	**-0.1**
CHPO				*i* S	**Sb**	**03 33 58.9**	**-0.3**
UPA	**Univ. de Panam**	**2.39**	**299**	eP	**Pg**	**03 33 38.3**	**-1.0**
CBOC	**Ciudad Bolivar**	**2.39**	**144**	P	**Pn**	**03 33 33.6**	**+0.7**
ZARC	**Zaragoza, Cauc**	**2.56**	**97**	P	**Pb**	**03 33 37.8**	**-1.6**
ZARC				S	**Sn**	**03 34 04.4**	**-1.8**
ZANG	**Zanguenga, Cho**	**2.67**	**295**	eP	**Pg**	**03 33 42.8**	**-1.9**
FRIJ	**El Hiral**	**2.67**	**302**	eP	**Pb**	**03 33 40.6**	**-0.8**
BCIP	**Isla Barro Col**	**2.74**	**299**	eP	**Pb**	**03 33 41.7**	**-0.9**
BCIP				eS	**Sb**	**03 34 17.2**	**+0.9**
BCIP	**Isla Barro Col**	**2.74**	**299**	P	**Pb**	**03 33 41.6**	**-0.9**
BCIP				S	**Sb**	**03 34 15.7**	**-0.6**
AZU	**Azuero**	**2.83**	**270**	eP	**Pg**	**03 33 46.0**	**-1.7**
PTBC	**PUERTO BERRIO,**	**3.20**	**113**	P	**Pn**	**03 33 45.1**	**+1.2**
PTBC				S	**Sn**	**03 34 23.2**	**+1.1**
GUY2C	**Guyana, Caldas**	**3.29**	**142**	P	**Pn**	**03 33 47.5**	**+2.0**
GUY2C				S	**Sn**	**03 34 26.8**	**+1.9**
OCAC	**Ocana**	**4.08**	**84**	P	**Pn**	**03 33 57.1**	**+1.1**
OCAC				S	**Sn**	**03 34 42.9**	**-1.1**
PAMC	**Pamplona, Colo**	**4.70**	**96**	P	**Pn**	**03 34 05.9**	**+1.0**
PAMC				S	**Sn**	**03 34 58.6**	**-1.2**

*IDC **10** 03:55:16.7±0.5, 31°.75S×58°.07E, h0km, mb4.3/16, mbtmp4.3/17, ML4.3/1, MS3.7/10, Error ellipse: s-maj=22.9km s-min=15.7km az=82.0*
*NEIC **10** 03:55:18.7±1.7, 31°.60S±0°.08×58°.12E±0°.10, h10km±1km, mb4.9/32, Error ellipse: s-maj=19.5km s-min=4.2km az=226.0*
*GCMT **10** 03:55:19.7±0.3, 31°.72S±0°.03×57°.96E±0°.05, h17km±1km, MW4.9/78, Moment Tensor Solution. s28,c29; s78,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.47±.19; $M_{\theta\theta}$2.01±.14; $M_{\phi\phi}$0.46±.13; $M_{r\theta}$0.36±.36; $M_{\theta\phi}$0.17±.09; $M_{\phi r}$1.49±.48; Best double couple: $M_0$2.60900×10^{16} NP1:ϕ_s239.00000°, δ57.00000°, λ-115.00000°. NP2: ϕ_s99.00000°, δ41.00000°, λ-57.00000°. Principal axes: T 2.1090, Plg9.0000°, Azm346.0000°; N 1.0010, Plg21.0000°, Azm253.0000°; P -3.1090, Plg67.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 03:55:19.2±0.5, 31.68S±0.08×58.18E±0.10, h17km, n84, σ1§25/67, mb4.7/40, MS3.8/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.70**	**348**	Pn	**Pn**	**03 57 49.8**	**-2.0**
FOMA	**Nahampoana Res**	**11.91**	**301**	Pn	**Pn**	**03 58 07.0**	**-1.2**
VOI	**Vohitsoka**	**14.06**	**311**	Pn	**Pn**	**03 58 35.9**	**-1.9**
H04N2	**CROZET ISLANDS**	**15.28**	**197**	T	T	04 14 44.8	
	baz=21,slow=75,SNR=61						
H04N1	**CROZET ISLANDS**	**15.28**	**197**	T	T	04 14 46.2	
	baz=21,slow=75,SNR=68						
H04N3	**CROZET ISLANDS**	**15.30**	**197**	T	T	04 14 45.0	
	baz=21,slow=75,SNR=62						
ABPO	**Ambohimpanom**	**16.01**	**319**	Pn	**Pn**	**03 59 03.6**	**-0.3**
OPO	**Ambohidratompo**	**16.40**	**320**	Pn	**Pn**	**03 59 10.1**	**+1.3**
	0.1nm,0.3s,baz=148,slow=7.5,SNR=7.7						
OPO				LR	LR	04 04 05.0	
	comp=Z,341nm,19.3s,baz=11,slow=32						
	6.6nm,0.5s						
H08S1	**Diego Garcia H**	**27.38**	**32**	T	T	04 29 24.0	
	baz=206,slow=75,SNR=39						
H08S2	**Diego Garcia H**	**27.39**	**32**	T	T	04 29 27.3	
	baz=206,slow=75,SNR=31						
H08S3	**Diego Garcia H**	**27.40**	**32**	T	T	04 29 27.5	
	baz=206,slow=75,SNR=31						
BOSA	**Boshof**	**28.57**	**268**	P	**P**	**04 01 15.1**	**+0.6**
BOSA				IAmb	IAmb	04 01 22.7	
	comp=Z,29nm,1.9s						
BOSA	**Boshof**	**28.57**	**268**	LR	LR	04 11 13.2	
	comp=Z,73nm,19.0s,baz=88,slow=34						
SUR	**Sutherland**	**31.58**	**259**	LR	LR	04 12 36.0	
	comp=Z,111nm,18.8s,baz=86,slow=33						
MAW	**Mawson**	**36.06**	**177**	P	**P**	**04 02 18.0**	**-1.4**
	comp=Z,1.8nm,1.0s,baz=291,slow=8.6,SNR=2.8						
MAW				LR	LR	04 13 05.9	
	comp=Z,250nm,21.1s,baz=331,slow=30						
	comp=Z,1.8nm,1.0s						
TSUM	**Tsumeb**	**38.49**	**279**	P	**P**	**04 02 40.0**	**-0.8**
TSUM				IAmb	IAmb	04 02 41.3	
	comp=Z,26nm,2.0s						
TSUM	**Tsumeb**	**38.49**	**279**	LR	LR	04 16 57.2	
	comp=Z,164nm,19.7s,baz=156,slow=34						
FURI	**Furi**	**44.45**	**332**	LR	LR	04 20 44.5	
	comp=Z,59nm,18.4s,baz=154,slow=34						
ATD	**Arta Tunnel**	**45.41**	**339**	LR	LR	04 19 24.7	
	comp=Z,11nm,19.9s,baz=173,slow=32						
H01W2	**Cape Leeuwin H**	**46.37**	**110**	T	T	04 53 27.6	
	baz=257,slow=75,SNR=58						
H01W3	**Cape Leeuwin H**	**46.38**	**110**	T	T	04 53 27.9	
	baz=257,slow=75,SNR=57						
H01W1	**Cape Leeuwin H**	**46.39**	**110**	T	T	04 53 32.1	
	baz=257,slow=75,SNR=51						
NWAO	**Narrogin (SRO)**	**49.35**	**108**	LR	LR	04 19 51.3	
	comp=Z,104nm,20.7s,baz=209,slow=30						
SNAA	**Sanae**	**51.21**	**201**	P	**P**	**04 04 22.0**	**+0.7**
SNAA	**Sanae**	**51.21**	**201**	P	**P**	**04 04 22.0**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=73,slow=11,SNR=6.7						
	comp=Z,1.0nm,0.6s						
WSAR	**Wadi Sarin**	**54.61**	**1**	LR	LR	04 22 32.0	
	comp=Z,165nm,21.7s,baz=156,slow=30						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**04 05 15.5**	**+1.3**
QSPA				IAmb	IAmb	04 05 16.0	
	comp=Z,16nm,1.4s						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**04 05 15.0**	**+0.8**
	comp=Z,3.4nm,0.6s,baz=273,slow=0.6,SNR=27						
	comp=Z,3.4nm,0.6s						
VNDA	**Vanda**	**62.21**	**166**	P	**P**	**04 05 38.6**	**-0.7**
VNDA	**Vanda**	**62.21**	**166**	P	**P**	**04 05 37.3**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=279,slow=7.8,SNR=4.0						
	comp=Z,0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.36**	**44**	P	**P**	**04 05 49.0**	**+1.3**
	comp=Z,2.9nm,0.4s,baz=230,slow=7.0,SNR=17						
	comp=Z,2.9nm,0.4s						
HRA	**Herat**	**65.83**	**4**	P	**P**	**04 06 01.4**	**-2.3**
ASAR	**Alice Springs**	**66.34**	**104**	P	**P**	**04 06 08.4**	**+1.1**
	comp=Z,3.1nm,0.9s,baz=239,slow=6.3,SNR=22						
	comp=Z,3.1nm,0.9s						
AS31	**Alice Springs**	**66.34**	**104**	P	**P**	**04 06 06.9**	**-0.4**
KBL	**Kabul**	**66.66**	**10**	P	**P**	**04 06 09.0**	**-0.2**
KBL				IAmb	IAmb	04 06 19.9	
	comp=Z,4.4nm,0.8s						
WRA	**Warramunga Arr**	**68.34**	**101**	P	**P**	**04 06 20.4**	**+0.4**
WRA	**Warramunga Arr**	**68.34**	**101**	P	**P**	**04 06 20.7**	**+0.7**
	comp=Z,6.5nm,1.0s,baz=242,slow=5.4,SNR=20						
	comp=Z,6.5nm,1.0s						
WB2	**Warramunga Arr**	**68.36**	**101**	P	**P**	**04 06 20.9**	**+0.8**
WB2				IAmb	IAmb	04 06 22.4	
	comp=Z,10nm,1.0s						
WB0	**Warramunga Arr**	**68.47**	**100**	P	**P**	**04 06 21.2**	**+0.4**
WR0	**Warramunga Arr**	**68.51**	**101**	P	**P**	**04 06 21.4**	**+0.4**
WR0				IAmb	IAmb	04 06 23.2	
	comp=Z,13nm,1.2s						
TORD	**Torodi Ar. Bea**	**70.09**	**300**	P	**P**	**04 06 30.1**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=114,slow=6.1,SNR=5.7						
	comp=Z,1.1nm,0.9s						
SIMJ	**Simiganj**	**70.70**	**9**	P	**P**	**04 06 34.6**	**+0.5**
SIMJ				IAmb	IAmb	04 06 50.2	
	comp=Z,14nm,1.4s						
CHGR	**Chuyangaron**	**70.72**	**9**	P	**P**	**04 06 35.2**	**+1.0**
GURO	**Guroymak-BITLI**	**71.47**	**347**	P	**P**	**04 06 37.4**	**-1.4**
GURO				IAmb	IAmb	04 06 44.3	
	comp=Z,13nm,1.8s						
DRK	**Karamyk**	**71.92**	**11**	P	**P**	**04 06 43.0**	**+1.3**
BTK	**Batken**	**72.33**	**10**	P	**P**	**04 06 43.2**	**-0.7**
BTK				IAmb	IAmb	04 06 50.7	
	comp=Z,16nm,1.6s						
GNI	**Garni**	**72.55**	**349**	P	**P**	**04 06 46.1**	**+0.8**
GNI				IAmb	IAmb	04 06 48.8	
	comp=Z,17nm,1.5s						
ARPR	**Arapgir-MALATY**	**72.79**	**344**	P	**P**	**04 06 48.4**	**+1.7**
ARPR				IAmb	IAmb	04 06 51.8	
	com

comp=Z,0.3nm,0.7s,baz=297,slow=4.0,SNR=2.4
ILAR PKP **PKPdf** **04 14 51.5 -0.4**
comp=Z,0.2nm,0.6s,baz=305,slow=3.2,SNR=3.5
YKA Yellowknife Ar 148.83 354 PKPbc **PKPbc** **04 15 04.3 -0.7**
comp=Z,2.1nm,0.8s,baz=352,slow=2.5,SNR=7.3
ULM Lac du Bonnet 153.24 321 PKPbc **PKPbc** **04 15 15.5 -0.3**
comp=Z,1.8nm,0.7s,baz=50,slow=3.7,SNR=5.6
TXAR Lajitas Array 164.18 266 PKP **PKPdf** **04 15 23.2 +1.1**
baz=110,slow=1.1,SNR=2.5

IDC 10 04:03:53.9±3.1, 31°.76S×58°.17E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=92.9km s-min=38.1km az=117.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.20**	**197**	T	T	04 23 21.4	
	baz=21,slow=74						
H04N1	**CROZET ISLANDS**	**15.20**	**197**	T	T	04 23 22.6	
	baz=21						
H04N3	**CROZET ISLANDS**	**15.22**	**197**	T	T	04 23 21.1	
	baz=21,slow=74						
H08S1	**Diego Carcia H**	**27.45**	**32**	T	T	04 38 04.2	
	baz=207,slow=75,SNR=17						
H08S2	**Diego Garcia H**	**27.46**	**32**	T	T	04 38 02.6	
	baz=207,slow=75,SNR=7.1						
H08S3	**Diego Garcia H**	**27.47**	**32**	T	T	04 38 04.2	
	baz=207,slow=75,SNR=14						
H01W2	**Cape Leeuwin H**	**46.35**	**110**	T	T	05 02 04.5	
	baz=257,slow=75,SNR=5.5						
H01W3	**Cape Leeuwin H**	**46.35**	**110**	T	T	05 02 02.4	
	baz=257,slow=75,SNR=5.5						
H01W1	**Cape Leeuwin H**	**46.37**	**110**	T	T	05 02 04.1	
	baz=257,slow=75,SNR=5.4						
QSPA	**South Pole Qui**	**58.40**	**180**	P	P	04 13 51.1	0.0
	1.3nm,0.9s,baz=263,slow=9.1,SNR=5.8						
	1.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.42**	**44**	P	P	04 14 25.6	+0.1
	1.1nm,0.3s,baz=230,slow=6.9,SNR=1.1						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**66.32**	**104**	P	P	04 14 44.5	-0.1
	0.9nm,0.8s,baz=240,slow=5.9,SNR=6.6						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**68.33**	**101**	P	P	04 14 57.5	0.0
	0.6nm,0.7s,baz=239,slow=5.0,SNR=2.9						
	0.6nm,0.7s						

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*IDC **10** 04:18:41.1±1.2, 31°.05S×59°.01E, h0km, mb4.2/7, mbtmp4.2/7, Error ellipse: s-maj=42.3km s-min=25.1km az=79.0*

ISC 10 04:18:39.9±3.1, 31°.6S±0°.6×58°.4E±0°.5, h10km, n16, σ0°.31/6, mb4.3/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.46**	**198**	T	T	04 38 04.5	
	baz=21,slow=75,SNR=16						
H04N1	**CROZET ISLANDS**	**15.46**	**198**	T	T	04 38 05.6	
	baz=21,slow=75,SNR=16						
H04N3	**CROZET ISLANDS**	**15.47**	**198**	T	T	04 38 04.4	
	baz=21,slow=75,SNR=17						
H08S1	**Diego Carcia H**	**27.16**	**32**	T	T	04 52 52.7	
	baz=207,slow=76,SNR=10						
H08S2	**Diego Garcia H**	**27.17**	**32**	T	T	04 53 08.1	
	baz=207,slow=76,SNR=9.7						
H08S3	**Diego Garcia H**	**27.18**	**32**	T	T	04 52 51.1	
	baz=207,slow=76,SNR=10						
MAW	**Mawson**	**36.17**	**177**	P	P	04 25 49.6	+7.5
	5.2nm,0.4s,baz=330,slow=15,SNR=27						
	5.2nm,0.4s						
H01W2	**Cape Leeuwin H**	**46.20**	**110**	T	T	05 16 44.1	
	baz=257,slow=75,SNR=11						
H01W3	**Cape Leeuwin H**	**46.21**	**110**	T	T	05 16 44.7	
	baz=257,slow=75,SNR=10						
H01W1	**Cape Leeuwin H**	**46.22**	**110**	T	T	05 16 45.7	
	baz=257,slow=75,SNR=9.1						
CMAR	**Chiang Mai Arr**	**63.12**	**44**	P	**P**	**04 29 07.9**	**0.0**
	0.8nm,0.3s,baz=226,slow=8.6,SNR=1.5						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**66.15**	**104**	P	**P**	**04 29 27.9**	**0.0**
	1.5nm,0.8s,baz=240,slow=6.7,SNR=11						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**68.15**	**101**	P	**P**	**04 29 40.6**	**0.0**
	2.4nm,1.0s,baz=241,slow=5.3,SNR=6.0						
	2.4nm,1.0s						
BRTR	**Keskin Array B**	**74.57**	**340**	P	**P**	**04 30 18.8**	**-0.2**
	0.3nm,0.5s,baz=165,slow=7.4,SNR=2.5						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**83.74**	**13**	P	**P**	**04 31 08.5**	**-0.2**
	0.5nm,0.2s,baz=208,slow=4.4,SNR=1.8						
	0.5nm,0.2s						
BVAR	**Borovoye Array**	**84.88**	**7**	P	**P**	**04 31 14.9**	**+0.5**
	1.1nm,0.8s,baz=182,slow=5.5,SNR=5.7						
	1.1nm,0.8s						

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*IDC **10** 04:19:12.4±0.5, 41°.09S×43°.56E, h0km, mb4.5/21, mbtmp4.5/22, ML3.8/1, MS4.5/30, Error ellipse: s-maj=18.1km s-min=13.8km az=73.0*

*MOS **10** 04:19:13.7±1.5, 41°.14S×43°.53E, h9km, mb5.1/35, Error ellipse: s-maj=17.4km s-min=7.5km az=92.9*

*NEIC **10** 04:19:15.2±1.8, 41°.06S±0°.09×43°.42E±0°.08, h10km±1km, mb5.0/73, Error ellipse: s-maj=17.7km s-min=6.9km az=207.0*

*GCMT **10** 04:19:16.2±0.1, 40°.98S±0°.01×43°.55E±0°.02, h12km, MW5.3/151, Moment Tensor Solution. s81,c113; s151,c274; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.89±.01; $M_{\theta\theta}$0.81±.01; $M_{\phi\phi}$0.07±.01; $M_{r\theta}$0.20±.03; $M_{\theta\phi}$-0.39±.01; $M_{\phi r}$0.22±.04; Best double couple: $M_0$0.98100×10^{17} NP1:ϕ_s276.00000°, δ51.00000°, λ-113.00000°. NP2:ϕ_s130.00000°, δ45.00000°, λ-64.00000°. Principal axes: T 0.9820, Plg3.0000°, Azm22.0000°; N -0.0020, Plg18.0000°, Azm291.0000°; P -0.9810, Plg72.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 04:19:14.7±0.3, 41°.14S±0°.06×43°.46E±0°.08, h9km, n212, σ1s70/179, mb4.9/74, MS4.5/36, 13C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**7.84**	**133**	T	T	04 29 08.0	
	baz=314						
H04N3	**CROZET ISLANDS**	**7.85**	**133**	T	T	04 29 08.0	
	baz=314						
H04N2	**CROZET ISLANDS**	**7.86**	**132**	T	T	04 29 08.0	
	baz=314						
GRHM	**Grahamstown, E**	**15.70**	**295**	Pn	**Pn**	**04 22 54.2**	**-1.9**
SOE	**Somerset East**	**16.58**	**295**	P	**Pn**	**04 23 05.7**	**-1.8**
POGA	**Pongola**	**16.82**	**321**	P	**Pn**	**04 23 11.8**	**+1.3**
VOI	**Vohitsoka**	**19.39**	**9**	P	**P**	**04 23 39.9**	**-1.1**
BOSA	**Boshof**	**19.43**	**304**	P	**P**	**04 23 42.4**	**+0.9**
BOSA	**Boshof**	**19.43**	**304**	P	**P**	**04 23 40.8**	**-0.7**
	0.2nm,0.3s,baz=138,slow=12,SNR=17						
	8.8nm,0.9s						
BOSA	**Boshof**	**19.43**	**304**	P	**P**	**04 23 42.4**	**+0.9**
BOSA				pmax	pmax		
	comp=Z,33nm,1.2s						
SUR	**Sutherland**	**20.10**	**289**	P	**P**	**04 23 49.1**	**+0.2**
SUR				IAmb	IAmb	04 23 57.9	
	comp=Z,138nm,1.8s						
SUR	**Sutherland**	**20.10**	**289**	P	**P**	**04 23 48.9**	**0.0**
	comp=Z,9.2nm,0.9s,baz=124,slow=13,SNR=15						
SUR				LR	LR	04 29 59.4	
	comp=Z,624nm,21.1s,baz=119,slow=32						
	comp=Z,9.2nm,0.9s						
LBTB	**Lobatse**	**21.90**	**312**	P	**P**	**04 24 09.2**	**+0.9**
LBTB				IAmb	IAmb	04 24 11.6	
	comp=Z,77nm,1.5s						
LBTB	**Lobatse**	**21.90**	**312**	P	**P**	**04 24 09.2**	**+0.9**
LBTB				pmax	pmax		
	comp=Z,77nm,1.5s						
ABPO	**Ambohimpanom**	**22.29**	**9**	P	**P**	**04 24 13.5**	**+1.0**
ABPO				IAmb	IAmb	04 24 20.5	
	comp=Z,87nm,1.2s						
ABPO	**Ambohimpanom**	**22.29**	**9**	P	**P**	**04 24 13.5**	**+1.0**
ABPO				pmax	pmax		
	comp=Z,87nm,1.2s						
OPO	**Ambohidratompo**	**22.72**	**9**	P	**P**	**04 24 17.2**	**+0.1**
	comp=Z,5.2nm,0.8s,baz=261,slow=11,SNR=2.6						
	comp=Z,5.2nm,0.8s						
MATP	**Matopo**	**24.25**	**324**	LR	LR	04 32 13.7	
	comp=Z,361nm,20.2s,baz=126,slow=32						
MAW	**Mawson**	**28.55**	**165**	P	**P**	**04 25 10.3**	**-0.1**
	comp=Z,3.7nm,1.0s,baz=316,slow=13,SNR=5.8						
	comp=Z,3.7nm,1.0s						
WIN	**Windhoek**	**28.88**	**302**	P	**P**	**04 25 14.3**	**+0.2**
WIN	**Windhoek**	**28.88**	**302**	P	**P**	**04 25 14.3**	**+0.2**
WIN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LSZ	**Lusaka**	**28.98**	**328**	P	**P**	**04 25 14.1**	**-0.8**
LSZ				IAmb	IAmb	04 25 40.4	
	comp=Z,32nm,1.6s						
LSZ	**Lusaka**	**28.98**	**328**	P	**P**	**04 25 14.1**	**-0.8**
LSZ				pmax	pmax		
	comp=Z,32nm,1.6s						
TSUM	**Tsumeb**	**31.08**	**307**	P	**P**	**04 25 32.9**	**-0.6**
TSUM				IAmb	IAmb	04 25 37.0	
	comp=Z,35nm,1.4s						
NVL	**N'lazarevskaya**	**33.74**	**198**	*e*P	**P**	**04 25 58.4**	**+2.3**
NVL				*e*S	**S**	**04 31 15.4**	**-3.9**
NVL				pmax	pmax		
	comp=Z,11nm,1.0s						
NVL				MLR	MLR		
	comp=Z,470nm,18.0s						
TROLL	**Troll, Antarti**	**36.84**	**200**	⇑P	**P**	**04 26 22.7**	**-0.3**
	comp=Z,86nm,0.7s						
SNAA	**Sanae**	**38.11**	**202**	P	**P**	**04 26 35.0**	**+1.4**
SNAA	**Sanae**	**38.11**	**202**	⇑P	**P**	**04 26 33.4**	**-0.2**
	comp=Z,95nm,0.9s						
SNAA	**Sanae**	**38.11**	**202**	P	**P**	**04 26 32.7**	**-0.9**
	comp=Z,4.0nm,0.8s,baz=107,slow=9.3,SNR=23						
SNAA				LR	LR	04 38 36.7	
	comp=Z,1μm,22.0s,baz=91,slow=30						
	comp=Z,4.0nm,0.8s						
SNAA	**Sanae**	**38.11**	**202**	P	**P**	**04 26 35.0**	**+1.4**
SNAA				pmax	pmax		
	comp=Z,11nm,1.2s						
VNA2	**Neumayer--Watz**	**39.13**	**204**	⇑P	**P**	**04 26 42.0**	**0.0**
	comp=Z,3.9nm,0.6s,baz=51,slow=8,1						
VNA3	**Neumayer Olymp**	**39.93**	**204**	⇑P	**P**	**04 26 49.1**	**+0.3**
	comp=Z,4.5nm,0.7s						
KMBO	**Kilima Mbogo**	**40.23**	**350**	P	**P**	**04 26 51.4**	**-0.7**
KMBO	**Kilima Mbogo**	**40.23**	**350**	P	**P**	**04 26 51.4**	**-0.7**
KMBO				pmax	pmax		
	comp=Z,36nm,2.0s						
H08S1	**Diego Carcia H**	**42.16**	**46**	T	T	05 11 31.9	
	baz=206						
H08S2	**Diego Garcia H**	**42.17**	**46**	T	T	05 11 31.9	
	baz=206						
H08S3	**Diego Garcia H**	**42.18**	**46**	T	T	05 11 31.9	
	baz=206						
QSPA	**South Pole Qui**	**49.06**	**180**	P	**P**	**04 28 02.6**	**+0.7**
QSPA	**South Pole Qui**	**49.06**	**180**	P	**P**	**04 28 01.0**	**-0.9**
	comp=Z,27nm,1.1s,baz=259,slow=5.4,SNR=29						
QSPA				LR	LR	04 46 45.7	
	comp=Z,1μm,19.4s,baz=255,slow=34						
	comp=Z,27nm,1.1s						
FURI	**Furi**	**49.99**	**354**	LR	LR	04 47 18.8	
	comp=Z,749nm,21.9s,baz=158,slow=34						
ATD	**Arta Tunnel**	**52.41**	**359**	LR	LR	04 47 58.3	
	comp=Z,31nm,22.0s,baz=170,slow=33						
H01W2	**Cape Leeuwin H**	**54.64**	**108**	T	T	05 27 28.7	
	baz=242,slow=75,SNR=226						
H01W3	**Cape Leeuwin H**	**54.65**	**108**	T	T	05 27 29.4	
	baz=242,slow=75,SNR=320						
H01W1	**Cape Leeuwin H**	**54.66**	**108**	T	T	05 27 30.0	
	baz=242,slow=75,SNR=257						
VNDA	**Vanda**	**55.83**	**167**	P	**P**	**04 28 52.6**	**+0.9**
VNDA				IAmb	IAmb	04 28 53.9	
	comp=Z,18nm,1.6s						
VNDA	**Vanda**	**55.83**	**167**	P	**P**	**04 28 51.4**	**-0.4**
	comp=Z,3.5nm,1.1s,baz=248,slow=8.4,SNR=10.0						
	comp=Z,3.5nm,1.1s						
VNDA	**Vanda**	**55.83**	**167**	P	**P**	**04 28 52.7**	**+0.9**
VNDA				pmax	pmax		
	comp=Z,18nm,1.7s						
SBA	**Scott Base**	**56.44**	**168**	P	**P**	**04 28 58.2**	**+2.1**
SBA				IAmb	IAmb	04 29 01.4	
	comp=Z,22nm,1.1s						
SBA	**Scott Base**	**56.44**	**168**	P	**P**	**04 28 58.3**	**+2.1**
SBA				pmax	pmax		
	comp=Z,23nm,1.1s						
NWAO	**Narrogin (SRO)**	**57.85**	**107**	LR	LR	04 47 51.2	
	comp=Z,324nm,21.2s,baz=208,slow=30						
MORW	**Morawa**	**59.02**	**103**	P	**P**	**04 29 16.1**	**+1.1**
PALK	**Pallekele**	**59.07**	**44**	LR	LR	04 48 09.8	
	comp=Z,987nm,21.5s,baz=308,slow=30						
SMAI	**San Martin Ant**	**59.45**	**204**	P	**P**	**04 29 17.9**	**+0.6**
SMAI				IAmb	IAmb	04 29 22.5	
	comp=Z,13nm,1.2s						
PMSA	**Palmer Station**	**60.34**	**208**	LR	LR	04 49 17.1	
	comp=Z,257nm,21.1s,baz=82,slow=30						
RAYN	**Ar Rayn**	**64.36**	**2**	P	**P**	**04 29 50.9**	**0.0**
RAYN	**Ar Rayn**	**64.36**	**2**	P	**P**	**04 29 50.9**	**0.0**
RAYN				pmax	pmax		
	comp=Z,33nm,1.7s						
WSAR	**Wadi Sarin**	**65.59**	**15**	LR	LR	04 54 31.9	
	comp=Z,781nm,19.7s,baz=211,slow=32						
TOA0	**Torodi Ar. Sit**	**66.38**	**315**	P	**P**	**04 30 04.0**	**-0.1**
TOA0				IAmb	IAmb	04 30 07.1	
	comp=Z,21nm,1.2s						
TORD	**Torodi Ar. Bea**	**66.38**	**315**	P	**P**	**04 30 03.5**	**-0.6**
	comp=Z,7.8nm,0.9s,baz=130,slow=3.7,SNR=37						
	comp=Z,7.8nm,0.9s						
UOSS	**Minazif**	**66.81**	**13**	P	**P**	**04 30 05.7**	**-0.9**
EIL	**Elat**	**70.90**	**352**	LR	LR	04 58 56.4	
	comp=Z,183nm,21.1s,baz=190,slow=34						
BBOO	**Buckleboo**	**71.06**	**117**	P	**P**	**04 30 32.6**	**-0.7**
TAM	**Tamanrasset**	**72.71**	**324**	P	**P**	**04 30 43.2**	**0.0**
TAM				IAmb	IAmb	04 30 48.1	
	comp=Z,26nm,2.0s						
TAM	**Tamanrasset**	**72.71**	**324**	P	**P**	**04 30 43.2**	**0.0**
TAM				pmax	pmax		
	comp=Z,26nm,2.0s						
MMAI	**Mount Meron Ar**	**74.17**	**353**	LR	LR	05 04 17.2	
	comp=Z,476nm,18.1s,baz=106,slow=36						
ASAR	**Alice Springs**	**75.15**	**108**	P	**P**	**04 30 57.2**	**-0.5**
ASAR	**Alice Springs**	**75.15**	**108**	P	**P**	**04 30 56.9**	**-0.8**
	comp=Z,4.7nm,0.9s,baz=228,slow=5.6,SNR=20						
ASAR				LR	LR	04 59 19.5	
	comp=Z,551nm,18.6s,baz=246,slow=32						
	comp=Z,4.7nm,0.9s						
ASAR	**Alice Springs**	**75.15**	**108**	P	**P**	**04 30 57.2**	**-0.5**
AS31	**Alice Springs**	**75.15**	**108**	P	**P**	**04 30 57.7**	**+0.1**
SBUM	**Sibu**	**75.79**	**74**	P	**P**	**04 31 02.7**	**+1.4**
SBUM				IAmb	IAmb	04 31 05.6	
	comp=Z,11nm,1.2s						
KAPI	**Kappang**	**76.40**	**85**	LR	LR	04 58 48.8	
	comp=Z,183nm,21.2s,baz=258,slow=31						
HRA	**Herat**	**77.12**	**16**	P	**P**	**04 31 07.9**	**-0.7**
HRA				IAmb	IAmb	04 31 14.4	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**77.80**	**106**	P	**P**	**04 31 12.7**	**0.0**
WRA	**Warramunga Arr**	**77.80**	**106**	P	**P**	**04 31 12.0**	**-0.6**
	comp=Z,10nm,0.9s,baz=226,slow=4.6,SNR=38						
WRA				LR	LR	05 00 36.7	
	comp=Z,268nm,19.5s,baz=318,slow=32						
	comp=Z,10nm,0.9s						
WRA	**Warramunga Arr**	**77.80**	**106**	P	**P**	**04 31 12.7**	**0.0**
WRA				pmax	pmax		
	comp=Z,5.0nm,2.0s						
WB2	**Warramunga Arr**	**77.81**	**106**	P	**P**	**04 31 12.6**	**-0.1**
WB2				IAmb	IAmb	04 31 14.6	
	comp=Z,13nm,0.9s						
WRAB	**Tennant Creek**	**77.81**	**106**	P	**P**	**04 31 13.5**	**+0.8**
WRAB				IAmb	IAmb	04 31 14.6	
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	**77.81**	**106**	*e*P	**P**	**04 31 12.3**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,17nm,0.8s						
WR0	**Warramunga Arr**	**77.94**	**106**	P	**P**	**04 31 11.6**	**-1.8**
WB0	**Warramunga Arr**	**77.95**	**106**	P	**P**	**04 31 13.3**	**-0.2**
WB0				IAmb	IAmb	04 31 15.2	
	comp=Z,13nm,0.8s						
GAZ	**Gaziantep**	**78.15**	**355**	P	**P**	**04 31 13.6**	**-0.4**
GAZ				IAmb	IAmb	04 31 18.9	
	comp=Z,9.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**78.47**	**53**	P	**P**	**04 31 15.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**78.47**	**53**	P	**P**	**04 31 14.5**	**-1.7**
	comp=Z,1.4nm,0.4s,baz=228,slow=7.0,SNR=8.9						
CMAR				LR	LR	04 59 29.7	
	comp=Z,230nm,21.6s,baz=225,slow=31						
	comp=Z,1.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**78.47**	**53**	P	**P**	**04 31 15.8**	**-0.4**
ELL	**Elmali**	**78.51**	**349**	P	**P**	**04 31 16.5**	**+0.4**
ELL	**Elmali**	**78.51**	**349**	P	**P**	**04 31 16.5**	**+0.4**
ELL				pmax	pmax		
	comp=Z,68nm,1.5s						
CHTO	**Chiang Mai**	**78.74**	**53**	P	**P**	**04 31 16.8**	**-0.9**
CHTO				IAmb	IAmb	04 31 20.3	
	comp=Z,14nm,1.4s						
CHTO	**Chiang Mai**	**78.74**	**53**	P	**P**	**04 31 16.8**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,15nm,1.4s						
NIL	**Nilore**	**79.33**	**25**	P	**P**	**04 31 19.8**	**-0.8**
NIL				IAmb	IAmb	04 31 24.6	
	comp=Z,24nm,1.2s						
NIL	**Nilore**	**79.33**	**25**	P	**P**	**04 31 19.8**	**-0.8**
NIL				pmax	pmax		
	comp=Z,24nm,1.2s						
LKRN	**Lenkeran, Azer**	**79.62**	**4**	P	**P**	**04 31 25.6**	**+3.6**
BNN	**Bunyan**	**79.92**	**354**	P	**P**	**04 31 23.8**	**0.0**
BNN				IAmb	IAmb	04 31 28.8	
	comp=Z,24nm,1.0s						
NAX	**Nakhchivan**	**79.96**	**2**	P	**P**	**04 31 28.1**	**+4.2**
ARPR	**Arapgir-MALATY**	**80.00**	**356**	P	**P**	**04 31 24.3**	**+0.1**
ARPR				IAmb	IAmb	04 31 29.6	
	comp=Z,34nm,1.6s						
SHL	**Shillong**	**80.13**	**43**	P	**P**	**04 31 23.4**	**-1.9**
SHL				IAmb	IAmb	04 31 35.3	
	comp=Z,28nm,1.4s						
SHL	**Shillong**	**80.13**	**43**	P	**P**	**04 31 23.4**	**-1.9**
SHL				pmax	pmax		
	comp=Z,28nm,1.4s						
GO06	**Curarrehue**	**80.22**	**225**	P	**P**	**04 31 25.6**	**-0.1**
CPUP	**Villa Florida**	**80.66**	**243**	P	**P**	**04 31 28.6**	**+0.4**
	comp=Z,4.6nm,0.7s,baz=120,slow=5.5,SNR=11						
	comp=Z,4.6nm,0.7s						
GNI	**Garni**	**80.92**	**1**	P	**P**	**04 31 29.4**	**+0.2**
GNI				IAmb	IAmb	04 31 33.4	
	comp=Z,19nm,1.2s						
GNI	**Garni**	**80.92**	**1**	LR	LR	05 06 11.2	
	comp=Z,228nm,22.0s,baz=171,slow=35						
GNI	**Garni**	**80.92**	**1**	*ce*P	**P**	**04 31 30.7**	**+1.5**
GNI				pmax	pmax		
	comp=Z,26nm,1.7s						
BDFB	**Brasilia**	**80.97**	**257**	P	**P**	**04 31 29.7**	**-0.5**
BDFB				IAmb	IAmb	04 31 33.9	
	comp=Z,16nm,1.1s						
BDFB	**Brasilia**	**80.97**	**257**	P	**P**	**04 31 30.4**	**+0.3**
	comp=Z,6.3nm,0.8s,baz=96,slow=6.5,SNR=9.0						
	comp=Z,6.3nm,0.8s						
BR131	**Keskin Array S**	**80.98**	**352**	*e*P	P	04 31 26.0	-3.5
BRTR	**Keskin Array B**	**80.98**	**352**	P	**P**	**04 31 28.4**	**-1.1**
BRTR	**Keskin Array B**	**80.98**	**352**	P	**P**	**04 31 27.9**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=168,slow=7.5,SNR=6.0						
BRTR				LR	LR	05 08 55.6	
	comp=Z,175nm,18.4s,baz=154,slow=37						
	comp=Z,0.8nm,0.8s						
BRTR	**Keskin Array B**	**80.98**	**352**	P	**P**	**04 31 28.4**	**-1.1**
KARS	**Kars**	**81.39**	**360**	P	**P**	**04 31 32.0**	**+0.4**
KARS	**Kars**	**81.39**	**360**	P	**P**	**04 31 32.0**	**+0.4**
KARS				pmax	pmax		
	comp=Z,36nm,0.8s						
GANJ	**Ganja**	**81.45**	**2**	P	**P**	**04 31 35.5**	**+3.7**
MNGR	**Mingechevir, A**	**81.60**	**3**	P	**P**	**04 31 36.2**	**+3.7**
SEKA	**Sheki**	**82.04**	**3**	P	**P**	**04 31 38.2**	**+3.2**
KEST	**Kesra**	**82.67**	**333**	P	**P**	**04 31 38.2**	**-0.2**
KEST				IAmb	IAmb	04 31 52.5	
	comp=Z,26nm,1.4s						
KEST	**Kesra**	**82.67**	**333**	P	**P**	**04 31 37.7**	**-0.7**
	comp=Z,6.1nm,1.1s,baz=102,slow=14,SNR=4.3						
KEST				LR	LR	05 08 55.2	
	comp=Z,603nm,19.8s,baz=118,slow=36						
	comp=Z,6.1nm,1.1s						
SIMJ	**Simiganj**	**82.78**	**20**	P	**P**	**04 31 38.8**	**-0.2**
SIMJ				IAmb	IAmb	04 31 42.3	
	comp=Z,9.3nm,1.1s						
CHGR	**Chuyangaron**	**82.81**	**20**	P	**P**	**04 31 39.3**	**+0.2**
CHGR	**Chuyangaron**	**82.81**	**20**	P	**P**	**04 31 39.3**	**+0.2**
CHGR				pmax	pmax		
	comp=Z,26nm,1.0s						
BO02	**Sierra Bellavi**	**83.28**	**229**	P	**P**	**04 31 41.2**	**-0.7**
BO02				IAmb	IAmb	04 31 53.6	
	comp=Z,15nm,1.2s						
TNCH	**TengChong**	**83.30**	**48**	*e*P	P	04 31 48.6	+6.5
TNCH				pmax	pmax		
	comp=Z,270nm,6.7s						
ONI	**Oni**	**83.35**	**360**	P	**P**	**04 31 40.5**	**-1.2**
ONI				IAmb	IAmb	04 31 52.9	
	comp=Z,18nm,1.4s						
ONI	**Oni**	**83.35**	**360**	P	**P**	**04 31 40.6**	**-1.2**
ONI				pmax	pmax		
	comp=Z,17nm,1.4s						
AQDB	**Aquidauana**	**83.38**	**249**	P	**P**	**04 31 43.1**	**+0.5**
GAR	**Garm**	**83.44**	**21**	P	**P**	**04 31 41.4**	**-1.0**
GAR				IAmb	IAmb	04 31 45.7	
	comp=Z,19nm,1.2s						
MAK	**Makhachkala**	**83.80**	**3**	*c i*P	P	04 31 40.3	-3.6
MAK				*e*		04 35 03.7	
MAK				*e*PPP	PPP	04 36 52.1	
MAK				*e*S	**SKSac**	**04 41 59.3**	**-7.2**
MAK				*e*SSS	SSS	04 51 09.7	
MAK				pmax	pmax		
	comp=Z,30nm,0.4s						
MAK				MLR	MLR		
	comp=Z,712nm,19.0s						
KBN	**Korca**	**83.95**	**343**	P	**P**	**04 31 44.6**	**-0.3**
KBN	**Korca**	**83.95**	**343**	P	**P**	**04 31 44.6**	**-0.3**
KBN				pmax	pmax		
	comp=Z,47nm,1.7s						
DRK	**Karamyk**	**84.30**	**22**	P	**P**	**04 31 46.2**	**-0.8**
DRK				IAmb	IAmb	04 31 51.6	
	comp=Z,8.2nm,0.7s						
DRK	**Karamyk**	**84.30**	**22**	P	**P**	**04 31 46.2**	**-0.8**
DRK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SOC	**Sochi**	**84.41**	**357**	*e*P	**P**	**04 31 47.7**	**+0.7**
SOC				*e*		04 35 01.4	
SOC				*e*S	**SKSac**	**04 42 11.2**	**+0.7**
SOC				*e*SS	**SS**	**04 47 46.0**	**+1.8**
SOC				*e*SSS	SSS	04 51 12.4	
SOC				MLR	MLR		
	comp=Z,107nm,17.0s						
KBZ	**Khabaz**	**84.49**	**360**	P	**P**	**04

comp=Z,10.0nm,1.2s

MLR	**Muntele Rosu**	**87.67 348**	P	**P**	**04 32 01.8**	**-1.5**
MLR	**Muntele Rosu**	**87.67 348**	P	**P**	**04 32 01.8**	**-1.5**
MLR			pmax	pmax		

comp=Z,47nm,1.9s

VOIR		**87.76 347**	P	**P**	**04 32 04.3**	**+0.6**
AAK	**Ala-Archa**	**87.98 22**	LR	LR	05 09 56.8	

comp=Z,221nm,18.2s,baz=152,slow=35

AAK	**Ala-Archa**	**87.98 22**	*ce*P	**P**	**04 32 06.2**	**+1.3**
AAK			pmax	pmax		

comp=Z,2.0nm,0.6s

BZS	**Buzias**	**88.56 345**	P	**P**	**04 32 10.9**	**+3.6**
PTLB	**Pontes e Lacer**	**89.16 250**	P	**P**	**04 32 11.4**	**+0.3**
BURAR	**Bucovina Array**	**89.85 348**	P	**P**	**04 32 13.6**	**+0.2**
BUR08	**Bucovina Ar. S**	**89.88 348**	P	**P**	**04 32 14.3**	**+0.6**
BUR08			IAmb	IAmb	04 32 26.7	

comp=Z,21nm,1.5s

SIV	**San Ignacio**	**90.16 249**	LR	LR	05 06 07.9	

comp=Z,565nm,21.5s,baz=120,slow=31

LVC	**Limon Verde**	**90.86 239**	LR	LR	05 10 08.0	

comp=Z,64nm,18.3s,baz=148,slow=34

OBKA	**Obir**	**91.00 340**	*e*P	**P**	**04 32 21.2**	**+2.4**

comp=Z,4.6nm,1.5s

SOKA	**Soboth**	**91.03 341**	*i* P	**P**	**04 32 19.9**	**+0.9**

comp=Z,1.8nm,0.7s

ESDC	**Sonseca Array**	**91.28 325**	P	**P**	**04 32 21.0**	**+0.7**
ESDC	**Sonseca Array**	**91.28 325**	P	**P**	**04 32 19.3**	**-1.0**

comp=Z,1.8nm,1.0s,baz=157,slow=5.2,SNR=9.3
comp=Z,1.8nm,1.0s

RONA	**Rosalia, Austr**	**91.69 342**	*e*PcP	**PcP**	**04 32 27.2**	**+4.4**

comp=Z,1.5nm,0.6s

ABTA	**Abfaltersbach**	**91.75 339**	*i* P	**P**	**04 32 24.0**	**+1.7**

comp=Z,5.6nm,1.2s

KBA	**Koelnbreinsper**	**91.83 340**	*e*P	**P**	**04 32 26.0**	**+3.1**

comp=Z,4.1nm,1.5s

BNI	**Bardonecchia**	**91.92 335**	P	**P**	**04 32 23.8**	**+0.6**
BNI			IAmb	IAmb	04 32 27.8	

comp=Z,14nm,1.5s

BNI	**Bardonecchia**	**91.92 335**	P	**P**	**04 32 23.8**	**+0.6**
BNI			pmax	pmax		

comp=Z,14nm,1.5s

CONA	**Conrad Observa**	**92.00 342**	*e*P	**P**	**04 32 25.8**	**+2.3**

comp=Z,3.2nm,1.1s

AKTO	**Aktyubinsk**	**92.09 9**	LR	LR	05 12 10.5	

comp=Z,442nm,21.7s,baz=122,slow=34

MODS	**Modra-Piesok**	**92.10 343**	*e*P	**P**	**04 32 27.8**	**+4.0**
MODS	**Modra-Piesok**	**92.10 343**	*e*P	**P**	**04 32 27.8**	**+4.0**
AKASG	**Malin Array Be**	**92.31 351**	P	**P**	**04 32 24.5**	**-0.1**

comp=Z,0.4nm,0.4s,baz=181,slow=4.8,SNR=5.6
comp=Z,0.4nm,0.4s

AKASG	**Malin Array Be**	**92.31 351**	*c i*P	**P**	**04 32 27.7**	**+3.0**
AKASG			pmax	pmax		

comp=Z,1.0nm,0.6s

AKBB	**Malin Array Si**	**92.31 351**	*ce*P	**P**	**04 32 23.3**	**-1.4**
AKBB			pmax	pmax		

comp=Z,7.0nm,1.4s

MOA	**Molln**	**92.31 341**	*i* P	**P**	**04 32 28.0**	**+3.2**

comp=Z,3.0nm,1.0s

LESA	**Schwarzleotal**	**92.33 340**	*e*PcP	**PcP**	**04 32 29.0**	**+3.3**

comp=Z,2.6nm,0.6s

FETA	**Feichten**	**92.48 338**	*e*PcP	**PcP**	**04 32 30.7**	**+4.1**

comp=Z,5.9nm,1.6s

RETA	**Reutte**	**92.90 338**	*e*P	**P**	**04 32 29.0**	**+1.4**

comp=Z,2.7nm,0.7s

BELG	**Belogornoye**	**93.23 3**	P	**P**	**04 32 27.4**	**-1.5**

comp=Z,8.1nm,0.8s,baz=163,slow=19,SNR=4.5

BELG			LR	LR	05 14 58.0	

comp=Z,405nm,21.9s,baz=148,slow=36
comp=Z,8.1nm,0.8s

BELG	**Belogornoye**	**93.23 3**	P	**P**	**04 32 28.1**	**-0.7**
BELG			pmax	pmax		

comp=Z,2.0nm,1.1s

PMG	**Port Moresby**	**94.02 106**	LR	LR	05 09 43.3	

comp=Z,199nm,21.1s,baz=234,slow=32

MAKZ	**Makanchi**	**94.04 25**	P	**P**	**04 32 31.3**	**-1.5**
MAKZ	**Makanchi**	**94.04 25**	P	**P**	**04 32 31.3**	**-1.5**
MAKZ			pmax	pmax		

comp=Z,3.0nm,1.0s

MK31	**Makanchi Array**	**94.13 26**	P	**P**	**04 32 31.9**	**-1.3**
MK31	**Makanchi Array**	**94.13 26**	*ce*P	**P**	**04 32 32.6**	**-0.6**
MKAR	**Makanchi Array**	**94.13 26**	P	**P**	**04 32 31.4**	**-1.9**
MKAR	**Makanchi Array**	**94.13 26**	P	**P**	**04 32 31.1**	**-2.1**

comp=Z,1.4nm,0.7s,baz=205,slow=5.4,SNR=10.0
comp=Z,1.4nm,0.7s

MKAR	**Makanchi Array**	**94.13 26**	*c i*P	**P**	**04 32 31.8**	**-1.4**
MKAR			pmax	pmax		

comp=Z,1.0nm,0.7s

LPAZ	**La Paz**	**94.83 244**	LR	LR	05 10 31.7	

comp=Z,466nm,19.6s,baz=120,slow=32

OBN	**Obninsk**	**96.07 356**	LR	LR	05 14 34.5	

comp=Z,102nm,21.8s,baz=174,slow=35

OBN	**Obninsk**	**96.07 356**	*e*P	**P**	**04 32 42.5**	**+0.7**
OBN			*e*		04 36 35.4	
OBN			*e*PPP	PPP	04 38 38.4	
OBN			pmax	pmax		

comp=Z,5.0nm,0.6s

KURBB	**Kurchatov Arra**	**96.41 22**	LR	LR	05 14 39.8	

comp=Z,234nm,18.1s,baz=162,slow=34

KURK	**Kurchatov**	**96.51 22**	*i* P	**P**	**04 32 45.2**	**+1.2**
KURK			pmax	pmax		

comp=Z,1.0nm,0.7s

BVAR	**Borovoye Array**	**96.64 16**	P	**P**	**04 32 42.5**	**-2.1**

comp=Z,0.8nm,0.6s,baz=179,slow=5.9,SNR=4.3
comp=Z,0.8nm,0.6s

DZM	**Mont Dzumac**	**97.85 128**	*e*LR	LR	05 04 35.0	

comp=Z,176nm,25.5s

KIRV	**Kirov**	**99.49 3**	LR	LR	05 18 20.9	

comp=Z,396nm,21.9s,baz=171,slow=36

ZALV	**Zalesovo Beam**	**101.16 23**	P	**Pdif**	**04 33 02.1**	**-2.6**

comp=Z,0.5nm,0.4s,baz=247,slow=3.1,SNR=3.8

ZALV	**Zalesovo Beam**	**101.16 23**	*i* P	**Pdif**	**04 33 04.3**	**-0.4**
ZALV			pmax	pmax		

comp=Z,1.0nm,0.4s

TBI	**Tubuai**	**114.72 167**	*e*LR	LR	05 12 24.3	

comp=Z,3μm,31.8s

KLR	**Kul'dur**	**118.70 48**	*i* PKIKP	**PKPdf**	**04 38 02.2**	**-0.3**
PPT2	**Papeete2**	**120.33 166**	*e*LR	LR	05 15 02.8	

comp=Z,315nm,25.0s

PPT2			*e*LR	LR	05 15 14.3	

comp=Z,374nm,24.2s

SEY	**Seymchan**	**134.02 37**	*i* PKIKP	**PKPdf**	**04 38 32.2**	**+0.9**
PET	**Petropavlovsk**	**135.77 52**	*i* PKIKP	**PKPdf**	**04 38 32.4**	**-2.5**
BILL	**Bilibino**	**139.57 29**	*e*PKIKP	**PKPdf**	**04 38 43.6**	**+2.1**
BILL			*e*		04 41 34.0	
BILL			*e*PPP	PPP	04 44 40.7	
BILL			pmax	pmax		

comp=Z,5.0nm,1.1s

HKT	**Hockley**	**145.33 264**	*e*PKP2	**PKPbc**	**04 38 51.5**	**-1.2**
MIAR	**Mount Ida**	**145.71 273**	PKP2	**PKPdf**	**04 38 54.4**	**+1.0**
ULM	**Lac du Bonnet**	**150.50 302**	PKPbc	**PKPdf**	**04 39 03.5**	**+2.7**

comp=Z,14nm,0.9s,baz=92,slow=2.5,SNR=30

TXAR	**Lajitas Array**	**150.85 257**	PKP	**PKPdf**	**04 38 58.6**	**-3.5**

baz=130,slow=8.4,SNR=2.3

TXAR			PKPbc	**sPKPdf**	**04 39 07.2**	**+2.1**

comp=Z,3.0nm,0.8s,baz=138,slow=4.6,SNR=29

ILAR	**Eielson Array**	**155.59 11**	PKPbc	**PKPdf**	**04 39 14.4**	**+6.6**

comp=Z,0.8nm,0.9s,baz=301,slow=3.0,SNR=5.8

PDAR	**Pinedale Array**	**159.89 284**	PKP	**PKPdf**	**04 39 10.9**	**-3.2**

comp=Z,0.8nm,0.9s,baz=81,slow=3.0,SNR=3.4

IDC 10 04:22:09.8±2.3, 4°.71S×138°.89E, h0km, mb3.7/1, mbtmp3.4/3, ML3.4/2, MS3.4/1, Error ellipse: s-maj=199.3km s-min=35.8km az=108.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.78**	**196**	Pn	Pn	04 25 55.2	+1.7

0.2nm,0.3s,baz=17,slow=12,SNR=7.9
0.4nm,0.4s

DAV	**Davao City (W)**	**17.70**	**311**	LR	LR	04 34 08.2	

comp=Z,99nm,18.0s,baz=3.0,slow=41

ASAR	**Alice Springs**	**19.45**	**194**	P	P	04 26 37.5	-0.7

0.1nm,0.3s,baz=21,slow=11,SNR=7.9
0.7nm,0.7s

ILAR	**Eielson Array**	**87.57**	**24**	P	P	04 34 59.5	0.0

0.4nm,0.9s,baz=243,slow=4.0,SNR=2.8
0.4nm,0.9s

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*IDC **10** 04:28:09.9±8.0, 14°.24N×98°.10W, h0km, mb3.4/3, mbtmp3.6/4, ML3.2/1, MS3.7/3, Error ellipse: s-maj=619.9km s-min=113.5km az=77.0*
*MEX **10** 04:28:33.7±0.5, 15°.09N×104°.65W, h10km, MD4.4*
ISC 10 04:28:38.2±2.1, 15°.4N±0°.1×104°.9W±0°.1, h35km, n17, σ2§12/22, MS3.6/3, Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**3.26**	**26**	*e*P	**Pn**	**04 29 24.7**	**-2.1**
CDAR	**Ciudad de Arme**	**3.66**	**13**	*e*S	**Sn**	**04 30 15.8**	**+1.6**
COIG	**Colima**	**3.96**	**16**	*e*P	**Pn**	**04 29 34.5**	**-2.2**
COIG				*e*S	**Sn**	**04 30 21.5**	**-0.5**
CEGR	**Campo Tres**	**4.13**	**13**	*e*P	**Pn**	**04 29 37.9**	**-1.0**
CEGR				*e*S	**Sn**	**04 30 26.9**	**+0.8**
MNGA	**Volcan de Coli**	**4.26**	**16**	*e*P	**Pn**	**04 29 40.4**	**-0.4**
MNGA				*e*S	**Sn**	**04 30 29.9**	**+0.5**
SOMAC	**Volcano de Col**	**4.31**	**16**	*e*P	**Pn**	**04 29 40.9**	**-0.7**
SOMAC				*e*S	**Sn**	**04 30 28.2**	**-2.7**
JUBC	**Volcan de Coli**	**4.32**	**16**	*e*P	**Pn**	**04 29 41.3**	**-0.4**
JUBC				*e*S	**Sn**	**04 30 30.7**	**-0.2**
INCO	**Volcan de Coli**	**4.32**	**16**	*e*P	**Pn**	**04 29 40.4**	**-1.4**
INCO				*e*S	**Sn**	**04 30 27.6**	**-3.6**
ARIG	**Puente Sto Nin**	**5.20**	**55**	*e*P	**Pn**	**04 29 52.6**	**-1.0**
ARIG				*e*S	**Sn**	**04 30 55.4**	**+3.0**
ANIG	**Ahuacatlan**	**5.68**	**3**	*e*P	**Pn**	**04 29 58.8**	**-1.5**
ANIG				*e*S	**Sn**	**04 31 09.0**	**+4.7**
TXAR	**Lajitas Array**	**13.96**	**4**	Pn	**Pn**	**04 31 55.8**	**+2.2**

baz=162,slow=12,SNR=20
3.8nm,1.1s

ANMO	**Albuquerque**	**19.57**	**356**	P	**Pn**	**04 33 06.6**	**+1.8**

1.1nm,0.8s,baz=149,slow=5.9,SNR=4.6
1.1nm,0.8s

PDAR	**Pinedale Array**	**27.62**	**353**	P	**P**	**04 34 20.2**	**-2.5**

0.1nm,0.4s,baz=163,slow=10,SNR=2.4
0.1nm,0.4s

ULM	**Lac du Bonnet**	**35.56**	**10**	LR	LR	04 49 37.8	

comp=Z,104nm,19.1s,baz=204,slow=36

SADO	**Sadowa**	**36.50**	**31**	LR	LR	04 50 55.8	

comp=Z,61nm,20.8s,baz=238,slow=40

FRB	**Frobisher Bay**	**54.45**	**19**	LR	LR	05 01 50.2	

comp=Z,111nm,19.2s,baz=59,slow=38

ILAR	**Eielson Array**	**56.99**	**340**	P	**P**	**04 38 20.7**	**+0.7**

0.9nm,1.0s,baz=123,slow=6.8,SNR=4.3
0.9nm,1.0s

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*KRNET **10** 04:30:22.9±0.1, 39°.07N×77°.93E, mb2.3*
SOME 10 04:30:24.2, 42°.47N×80°.90E, h0km, 6C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.26**	**304**	*e*P	Pg	04 30 45.0	-3.4

4.2nm,0.2s

SHLS				*e*S	Sg	04 30 60.0	-4.8

7.2nm,0.2s

PRZ	**Przheval'sk**	**1.85**	**271**	⇓*e*P	Pg	04 31 17.9	+18

baz=6.0

PRZ				⇓*e*S	Sg	04 31 58.1	+34

baz=6.0

KPKS	**Kokpek**	**1.91**	**302**	*e*P	Pb	04 31 00.2	+0.2

3.2nm,0.2s

KPKS				*e*S	Sg	04 31 26.1	+0.6

7.9nm,0.2s

SATY	**Saty**	**1.93**	**289**	*e*P	Pg	04 31 01.6	+0.5

1.0nm,0.1s

SATY				*e*S	Sg	04 31 28.7	+2.5

6.0nm,0.2s

TARG	**Taragay, Kyrgy**	**2.42**	**253**	⇑*e*P	Pn	04 31 07.1	+1.7

baz=58

TARG				⇑*i*S	Sb	04 31 39.4	0.0

baz=58

KDJ	**Kajisay**	**2.78**	**264**	⇑*i*P	Pb	04 31 13.1	-1.8

baz=50

KDJ				⇑*i*S	Sb	04 31 50.0	+0.5

baz=50

ARXS	**Arharly**	**2.84**	**309**	*e*P	Pb	04 31 17.1	+1.3

0.6nm,0.1s

ARXS				*e*S	Sg	04 31 55.2	-0.3

2.6nm,0.2s

BOOM	**Boomskoye usch**	**3.67**	**272**	⇓*e*P	Pn	04 31 22.3	-0.1

baz=37

BOOM				⇓*e*S	Sn	04 32 05.3	-1.1

baz=37

UCH	**Uchtor**	**4.74**	**269**	⇑*e*P	Pn	04 31 27.4	-10

baz=22

UCH				⇑*i*S	Sn	04 32 13.8	-19

baz=22

KSH	**Kashi**	**4.75**	**233**	P	Pb	04 31 50.4	+2.0
KSH				pmax	pmax		

comp=Z,13nm,1.3s

ARLS	**Aral**	**4.93**	**265**	⇓*e*P	Pn	04 31 24.8	-15

baz=16

ARLS				⇓*e*S	Sn	04 32 10.0	-27

baz=16

DJA 10 04:37:12.3±0.6, 8°S±7°×11°9E±°, h192km±7km, M3.8/8, mb4.1/1, MLv3.6/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.96**	**228**	P	Pn	04 37 41.2	+0.3
PLAI				S	Sn	04 38 03.9	+0.8
TWSI	**Taliwang, Sumb**	**1.69**	**251**	P	Pn	04 37 46.6	-0.5
TWSI				S	Sn	04 38 13.2	-0.9
BASI	**Baing, Sumba**	**2.88**	**135**	P	Pn	04 38 00.2	+0.1
EDFI	**Ende, Flores**	**3.21**	**100**	P	Pn	04 38 04.0	-0.1
MMRI	**Maumere**	**3.72**	**97**	P	Pn	04 38 10.7	+0.3
JAGI	**Jajag, Banyuwa**	**4.31**	**266**	P	Pn	04 38 17.2	-0.6
BATI	**Baumata**	**5.48**	**112**	P	Pn	04 38 32.6	-0.1

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*IDC **10** 04:40:43.6±1.3, 31°.73S×58°.20E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=47.1km s-min=27.2km az=87.0*
*NEIC **10** 04:40:45.1±1.3, 31°.7S±0°.2×58°.1E±0°.2, h10km±1km, mb4.4/8, Error ellipse: s-maj=27.6km s-min=20.5km az=23.0*
ISC 10 04:40:45.8±0.7, 31°.7S±0°.1×58°.1E±0°.1, h17km, n18, σ1§18/15, mb4.2/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**15.98**	**320**	Pn	**Pn**	**04 44 28.1**	**-1.9**
LBTB	**Lobatse**	**29.30**	**275**	P	**P**	**04 46 47.2**	**-0.4**
KMBO	**Kilima Mbogo**	**36.23**	**323**	P	**P**	**04 47 48.7**	**+0.4**
H01W2	**Cape Leeuwin H**	**46.42**	**110**	T	T	05 38 24.9	

baz=258

H01W3	**Cape Leeuwin H**	**46.43**	**110**	T	T	05 38 24.9	

baz=258

H01W1	**Cape Leeuwin H**	**46.44**	**110**	T	T	05 38 24.9	

baz=258

MORW	**Morawa**	**49.54**	**103**	P	**P**	**04 49 33.0**	**-2.8**
MORW				IAmb	IAmb	04 49 47.5	

comp=Z,6.2nm,1.2s

SNAA	**Sanae**	**51.18**	**201**	P	**P**	**04 49 48.0**	**+0.3**
SNAA				IAmb	IAmb	04 50 03.8	

comp=Z,5.1nm,1.5s

PSA00	**Pilbara Seismi**	**55.47**	**96**	P	**P**	**04 50 18.9**	**-1.0**
PSA00				IAmb	IAmb	04 50 21.2	

comp=Z,3.7nm,0.9s

QSPA	**South Pole Qui**	**58.48**	**180**	P	**P**	**04 50 41.5**	**+0.8**
QSPA				IAmb	IAmb	04 50 49.0	

comp=Z,7.3nm,1.4s

QSPA	**South Pole Qui**	**58.48**	**180**	P	**P**	**04 50 41.1**	**+0.4**

comp=Z,1.2nm,0.6s,baz=288,slow=1.9,SNR=12
comp=Z,1.2nm,0.6s

CMAR	**Chiang Mai Arr**	**63.40**	**44**	P	**P**	**04 51 15.4**	**+0.9**

comp=Z,0.6nm,0.4s,baz=221,slow=7.9,SNR=1.6
comp=Z,0.6nm,0.4s

ASAR	**Alice Springs**	**66.39**	**104**	P	**P**	**04 51 34.0**	**-0.2**

comp=Z,1.2nm,0.7s,baz=239,slow=6.4,SNR=9.8
comp=Z,1.2nm,0.7s

WRA	**Warramunga Arr**	**68.40**	**101**	P	**P**	**04 51 47.2**	**+0.2**

comp=Z,1.5nm,0.9s,baz=242,slow=5.5,SNR=6.4
comp=Z,1.5nm,0.9s

WB0	**Warramunga Arr**	**68.53**	**101**	P	**P**	**04 51 48.5**	**+0.7**
MKAR	**Makanchi Array**	**81.11**	**17**	P	**P**	**04 53 00.5**	**+0.7**

comp=Z,0.2nm,0.5s,baz=198,slow=5.3,SNR=2.4
comp=Z,0.2nm,0.5s

KURBB	**Kurchatov Arra**	**83.92**	**13**	P	**P**	**04 53 15.1**	**+0.8**

comp=Z,1.0nm,0.9s,baz=206,slow=5.8,SNR=4.9
comp=Z,1.0nm,0.9s

BVAR	**Borovoye Array**	**85.03**	**7**	P	**P**	**04 53 20.6**	**+0.7**

comp=Z,1.1nm,0.8s,baz=172,slow=4.0,SNR=5.8
comp=Z,1.1nm,0.8s

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*IDC **10** 04:42:45.6±1.1, 31°.73S×58°.20E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=40.9km s-min=25.1km az=75.0*
ISC 10 04:42:48.1±1.1, 31°.8S±0°.2×58°.1E±0°.3, h17km, n18, σ1§00/9, mb4.2/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.21**	**197**	T	T	05 01 41.6	

baz=24,SNR=6.1

H04N1	**CROZET ISLANDS**	**15.21**	**197**	T	T	05 01 36.9	

baz=24,slow=74,SNR=6.2

H04N3	**CROZET ISLANDS**	**15.22**	**197**	T	T	05 01 41.6	

baz=24,slow=74,SNR=5.1

H08S1	**Diego Carcia H**	**27.45**	**32**	T	T	05 16 52.1	

baz=206

H08S2	**Diego Garcia H**	**27.46**	**32**	T	T	05 16 52.1	

baz=206

H08S3	**Diego Garcia H**	**27.48**	**32**	T	T	05 16 55.7	

baz=206

H01W2	**Cape Leeuwin H**	**46.38**	**110**	T	T	05 40 21.4	

baz=257

H01W3	**Cape Leeuwin H**	**46.39**	**110**	T	T	05 40 21.4	

baz=257

H01W1	**Cape Leeuwin H**	**46.40**	**110**	T	T	05 40 21.4	

baz=257

QSPA	**South Pole Qui**	**58.42**	**180**	P	**P**	**04 52 43.0**	**+0.4**

0.7nm,0.5s,baz=256,slow=5.5,SNR=10.0
0.7nm,0.5s

CMAR	**Chiang Mai Arr**	**63.43**	**44**	P	**P**	**04 53 17.2**	**+0.1**

0.9nm,0.4s,baz=229,slow=7.9,SNR=1.4
0.9nm,0.4s

ASAR	**Alice Springs**	**66.36**	**104**	P	**P**	**04 53 36.2**	**0.0**

1.7nm,0.7s,baz=238,slow=6.0,SNR=15
1.7nm,0.7s

WRA	**Warramunga Arr**	**68.37**	**101**	P	**P**	**04 53 49.1**	**+0.1**

1.7nm,0.7s,baz=245,slow=5.4,SNR=8.2
1.7nm,0.7s

BRTR	**Keskin Array B**	**74.66**	**341**	P	**P**	**04 54 27.0**	**+0.5**

0.3nm,0.5s,baz=149,slow=3.0,SNR=2.2
0.3nm,0.5s

MKAR	**Makanchi Array**	**81.16**	**17**	P	**P**	**04 55 03.0**	**+0.7**

0.3nm,0.6s,baz=193,slow=5.8,SNR=3.7
0.3nm,0.6s

KURBB	**Kurchatov Arra**	**83.97**	**13**	P	**P**	**04 55 17.0**	**+0.1**

0.4nm,0.5s,baz=210,slow=6.0,SNR=4.6
0.4nm,0.5s

BVAR	**Borovoye Array**	**85.09**	**7**	P	**P**	**04 55 22.4**	**-0.1**

1.5nm,0.7s,baz=172,slow=4.0,SNR=7.4
1.5nm,0.7s

ILAR	**Eielson Array**	**143.51**	**18**	PKP	**PKiKP**	**05 02 22.0**	**-2.3**

0.3nm,0.6s,baz=298,slow=5.4,SNR=2.9

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*DNK **10** 04:44:14.4±3.4, 80°.14N×4°.22E, h36km±125km, ML1.6*
*BER **10** 04:44:16.8±2.2, 79°.48N×3°.28E, h10km, mb(Pn)3.5, ML1.6(DNK), Confirmed Earthquake*
ISC 10 04:44:12.2±1.2, 79°.7N±0°.1×3°.39E±0°.05, h16km, n14, σ2§18/20, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.79**	**113**	*e*P	**Pb**	**04 44 44.4**	**-0.1**
KBS				*e*S	**Sn**	**04 45 04.0**	**-0.7**
KBS				IAML		04 45 07.0	

comp=Z,17nm,0.8s

KBS	**Kingsbay**	**1.79**	**113**	*i* P	**Pb**	**04 44 43.9**	**-0.6**
KBS				*i* S	**Sb**	**04 45 04.8**	**-1.9**
BRBA	**Barentsburg A**	**2.69**	**123**	*e*P	**Pb**	**04 44 59.3**	**-0.5**
SPA0	**Spitsbergen Ar**	**2.95**	**116**	*e*P	**Pb**	**04 45 01.3**	**-2.9**
SPA0				*e*S	**Sn**	**04 45 32.8**	**-0.4**
SPA0				IAML		04 45 53.3	

comp=Z,8.8nm,0.7s

NOR	**Nord**	**3.74**	**309**	*e*P	**Pn**	**04 45 06.4**	**-2.7**
NOR				IAML		04 45 56.3	

comp=Z,1.3nm,0.5s

DAG	**Danmarks Havn**	**5.36**	**248**	*i* P	**Pn**	**04 45 33.5**	**+2.2**
DAG				*e*S	**Sn**	**04 46 28.5**	**-4.1**
DAG				IAML		04 46 33.4	

comp=Z,5.4nm,0.4s

DAG	**Danmarks Havn**	**5.36**	**248**	*e*	**Pn**	**04 45 31.9**	**+0.6**

baz=54,slow=16

DAG				*i* P	**Pn**	**04 45 33.5**	**+2.2**
DAG				*i*		04 46

IDC ***10*** *04:54:19.6±3.1, 31°.86S×58°.49E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=95.4km s-min=31.1km az=117.0*

ISC 10 04:54:21.1±2.9, 31°.9S±0°.3×58°.5E±0°.6, h10km, n5, σ0°18/5, mb4.1/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**35.88**	**177**	P	**P**	**05 01 20.8**	**0.0**
	0.8nm,0.3s,baz=16,slow=8.7,SNR=6.6 0.8nm,0.3s						
QSPA	**South Pole Qui**	**58.31**	**180**	P	**P**	**05 04 16.0**	**0.0**
	1.5nm,0.9s,baz=264,slow=2.6,SNR=1.7 1.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.31**	**44**	P	**P**	**05 04 50.4**	**0.0**
	1.3nm,0.3s,baz=225,slow=5.8,SNR=1.6 1.3nm,0.3s						
ASAR	**Alice Springs**	**66.06**	**104**	P	**P**	**05 05 08.3**	**-0.2**
	0.8nm,0.7s,baz=237,slow=6.2,SNR=5.0 0.8nm,0.7s						
WRA	**Warramunga Arr**	**68.07**	**100**	P	**P**	**05 05 21.5**	**+0.2**
	0.9nm,0.7s,baz=241,slow=5.2,SNR=3.0 0.9nm,0.7s						

BJI ***10*** *04:55:53.8±0.0, 41°.52N×142°.24E, h70km, mb5.1/79, mB5.2/33, Ms4.4/42, Ms7 4.3/42*

MOS ***10*** *04:55:54.6±0.9, 41°.59N×142°.06E, h56km, mb5.4/137, Error ellipse: s-maj=5.1km s-min=3.4km az=112.9*

JMA ***10*** *04:55:55.5±0.2, 41°.6N±0°.6×142°.1E±0°.8, h68km±2km, MD4.9/40, MW5.0/40, E OFF AOMORI PREF*

JMA Felt III J1 at E OFF AOMORI PREF .

IDC ***10*** *04:55:55.0±1.3, 41°.62N×142°.00E, h57km±10km, mb4.7/30, mbtmp4.9/36, MS4.1/39, Error ellipse: s-maj=12.7km s-min=8.8km az=110.0*

NIED ***10*** *04:55:55.5, 41°.55N×142°.07E, h68km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; M_{rr}1.99; $M_{\theta\theta}$-0.41; $M_{\phi\phi}$-1.59; $M_{r\theta}$0.88; $M_{\theta\phi}$-0.30; $M_{\phi r}$1.99; Fault plane solution: $M_0$2.84000×10^16^ NP1:ϕ_s21.00000°, δ70.00000°, λ94.00000°. NP2:ϕ_s190.00000°, δ20.00000°, λ79.00000°.*

NEIC ***10*** *04:55:56.9, 41°.56N×142°.09E, h54km*

NEIC ***10*** *04:55:56.0±1.3, 41°.56N±0°.05×142°.09E±0°.07, h51km±5km, mb5.1/424, Mwr4.9/10, Error ellipse: s-maj=9.9km s-min=5.2km az=132.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}2.30; $M_{\theta\theta}$-0.50; $M_{\phi\phi}$-1.81; $M_{r\theta}$0.72; $M_{\theta\phi}$-1.01; $M_{\phi r}$1.83; Fault plane solution: $M_0$3.05000×10^16^ NP1:ϕ_s213.15000°, δ25.14000°, λ98.40000°. NP2:ϕ_s23.89000°, δ65.15000°, λ86.08000°. Principal axes: T 3.0342, Plg70.0000°, Azm286.0000°; N 0.0340, Plg4.0000°, Azm26.0000°; P -3.0682, Plg20.0000°, Azm117.0000°;*

GCMT ***10*** *04:55:57.0±0.3, 41°.48N±0°.02×142°.21E±0°.03, h63km±2km, MW5.0/103, Moment Tensor Solution. s51,c66; s103,c147; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}2.86±.18; $M_{\theta\theta}$0.19±.14; $M_{\phi\phi}$-3.05±.13; $M_{r\theta}$0.57±.09; $M_{\theta\phi}$-2.32±.13; $M_{\phi r}$1.93±.11; Best double couple: $M_0$4.10600×10^16^ NP1:ϕ_s18.00000°, δ60.00000°, λ79.00000°. NP2:ϕ_s220.00000°, δ32.00000°, λ109.00000°. Principal axes: T 3.4400, Plg72.0000°, Azm261.0000°; N 1.3320, Plg10.0000°, Azm24.0000°; P -4.7730, Plg15.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***10*** *04:56:05.8, 42°.80N×142°.03E, h66km±13km, mb4.9, Hypocentre not reviewed by the ISC*

ISC 10 04:55:56.7±0.3, 41°.55N±0°.03×142°.11E±0°.03, h64km±2km, h64km:pP-P, n1446, σ1°08/1438, mb5.1/365, 82C-34D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.64**	**244**	*i* P	**Pn**	**04 56 09.7**	**-0.7**
JAHD				⇓*e*S	**Sn**	**04 56 20.8**	**+0.3**
JAHD	**Aomorihigashid**	**0.64**	**244**	A	A	04 56 09.7	
	comp=E,831nm,0.6s,comp=N,788nm,1.4s						
JARK	**Aomorirokkasho**	**0.78**	**226**	⇓P	**Pn**	**04 56 10.8**	**-1.2**
JARK				⇓*e*S	**Sn**	**04 56 22.1**	**-1.3**
JARK	**Aomorirokkasho**	**0.78**	**226**	A	A	04 56 10.8	
	comp=E,107nm,0.4s,comp=N,81nm,1.7s						
JOT	**Ohata**	**0.81**	**258**	*i* P	**Pn**	**04 56 11.3**	**-1.1**
JOT	**Ohata**	**0.81**	**258**	A	A	04 56 11.3	
	comp=E,32nm,1.2s,comp=N,47nm,2.7s						
JKB	**Kayabe**	**0.87**	**293**	P	**Pn**	**04 56 11.7**	**-1.5**
JKB	**Kayabe**	**0.87**	**293**	A	A	04 56 11.7	
	comp=E,23nm,2.6s,comp=N,24nm,3.7s						
JNBK	**Urakawa-nobuka**	**0.87**	**33**	P	**Pn**	**04 56 12.1**	**-1.2**
JNBK	**Urakawa-nobuka**	**0.87**	**33**	A	A	04 56 12.1	
	comp=E,122nm,1.4s,comp=N,130nm,1.3s						
JSHD	**Hidakashinhida**	**0.90**	**17**	A	A	04 56 12.9	
	comp=E,115nm,2.5s,comp=N,88nm,2.1s						
ERM	**Erimo**	**0.91**	**59**		**Pn**	**04 56 13.2**	**-0.6**
ERM				Sn	**Sn**	**04 56 25.8**	**-0.5**
ERM	**Erimo**	**0.91**	**59**	*ce*P	**Pn**	**04 56 12.4**	**-1.3**
JEM	**Erimo**	**0.91**	**59**	*i* P	**Pn**	**04 56 13.1**	**-0.7**
JEM				*e*S	**Sn**	**04 56 26.1**	**-0.3**
JEM	**Erimo**	**0.91**	**59**	A	A	04 56 13.1	
	comp=E,48nm,1.6s,comp=N,24nm,1.9s						
JIAM	**Iburiatsuma**	**1.08**	**353**	*i* P	**Pn**	**04 56 15.9**	**+0.1**
JIAM	**Iburiatsuma**	**1.08**	**353**	A	A	04 56 15.9	
	comp=E,197nm,1.4s,comp=N,131nm,1.1s						
JTM	**Tenmabayashi**	**1.09**	**226**		**Pn**	**04 56 15.2**	**-0.9**
JTM				Sn	**Sn**	**04 56 30.1**	**-0.4**
JTM	**Tenmabayashi**	**1.09**	**226**	⇓*i* P	**Pn**	**04 56 15.3**	**-0.7**
JTM				⇓*e*S	**Sn**	**04 56 30.0**	**-0.5**
JTM	**Tenmabayashi**	**1.09**	**226**	A	A	04 56 15.3	
	comp=E,44nm,1.5s,comp=N,58nm,2.4s						
JTHR	**Tokachihiroo**	**1.16**	**50**	A	A	04 56 16.4	
	comp=E,57nm,3.3s,comp=N,58nm,0.9s						
JNB	**Noboribetsu**	**1.21**	**319**	*i* P	**Pn**	**04 56 16.1**	**-1.5**
JNB				*e*S	**Sn**	**04 56 32.0**	**-1.3**
JNB	**Noboribetsu**	**1.21**	**319**	A	A	04 56 16.1	
	comp=E,16nm,0.6s,comp=N,20nm,0.4s						
JBT2	**Biratori 2**	**1.24**	**9**	*i* P	**Pn**	**04 56 17.6**	**-0.4**
JBT2	**Biratori 2**	**1.24**	**9**	A	A	04 56 17.6	
	comp=E,29nm,1.4s,comp=N,18nm,2.3s						
JANG	**Nango**	**1.26**	**201**	P	**Pn**	**04 56 17.2**	**-1.0**
JANG				*e*S	**Sn**	**04 56 33.3**	**-1.0**
JANG	**Nango**	**1.26**	**201**	A	A	04 56 17.2	
	comp=E,49nm,2.2s,comp=N,57nm,0.7s						
JSR	**Shiriuchi**	**1.27**	**270**	*i* P	**Pn**	**04 56 17.3**	**-1.0**
JSR	**Shiriuchi**	**1.27**	**270**	A	A	04 56 17.3	
	comp=E,19nm,2.9s,comp=N,20nm,2.1s						
JSI2	**Shiura 2**	**1.37**	**249**	A	A	04 56 18.7	
	comp=E,49nm,2.8s,comp=N,95nm,1.0s						
JEW	**Eniwo**	**1.38**	**340**	⇓*i* P	**Pn**	**04 56 19.4**	**-0.4**
JEW	**Eniwo**	**1.38**	**340**	A	A	04 56 19.4	
	comp=E,65nm,1.6s,comp=N,63nm,1.3s						
JKEN	**Kujiedanarisaw**	**1.38**	**193**	A	A	04 56 19.0	
	comp=E,84nm,1.2s,comp=N,91nm,0.8s						
JYM2	**Yakumo 2**	**1.42**	**294**	⇓*i* P	**Pn**	**04 56 19.6**	**-0.6**
JYM2	**Yakumo 2**	**1.42**	**294**	A	A	04 56 19.6	
	comp=E,13nm,1.3s,comp=N,19nm,2.4s						
JCH	**Churui**	**1.42**	**41**	⇓*i* P	**Pn**	**04 56 20.5**	**+0.2**
JCH	**Churui**	**1.42**	**41**	A	A	04 56 20.5	
	comp=E,28nm,2.2s,comp=N,21nm,2.7s						
JOMM	**Oshimamatsumae**	**1.57**	**270**	P	**Pn**	**04 56 21.4**	**-1.0**
JOMM	**Oshimamatsumae**	**1.57**	**270**	A	A	04 56 21.4	
	comp=E,12nm,2.4s,comp=N,12nm,2.8s						
JHHS	**Hirosakihyakuz**	**1.60**	**236**	A	A	04 56 21.8	
	comp=E,56nm,4.4s,comp=N,90nm,4.4s						
JTH	**Tanohata**	**1.62**	**187**	A	A	04 56 22.3	
	comp=E,13nm,5.3s,comp=N,8.0nm,2.8s						
JFR	**Furan**	**1.65**	**13**	A	A	04 56 23.0	
	comp=E,14nm,1.4s,comp=N,20nm,5.5s						
JKZ	**Kuzumaki**	**1.67**	**201**	A	A	04 56 23.0	
	comp=E,23nm,0.6s,comp=N,19nm,0.5s						
JAH	**Hinai**	**1.76**	**220**	A	A	04 56 24.1	
	comp=E,28nm,3.1s,comp=N,22nm,1.8s						
JISS	**Ishikarishitsu**	**1.80**	**344**	A	A	04 56 24.8	
	comp=E,35nm,4.6s,comp=N,33nm,2.2s						
JIW	**Iwasaki**	**1.85**	**240**	A	A	04 56 25.4	
	comp=E,25nm,1.8s,comp=N,36nm,1.1s						
JOB	**Onbets**	**1.86**	**43**	A	A	04 56 26.1	
	comp=E,31nm,2.3s,comp=N,52nm,2.9s						
JHST	**Hiyamasetana**	**1.88**	**298**	A	A	04 56 25.7	
	comp=E,14nm,0.8s,comp=N,14nm,2.0s						
JSH	**Shimam**	**1.88**	**306**	A	A	04 56 25.9	
	comp=E,6.0nm,1.4s,comp=N,6.0nm,1.9s						
JNTW	**Noshirotokiwa**	**1.95**	**230**	A	A	04 56 26.8	
	comp=E,74nm,5.3s,comp=N,48nm,1.2s						
JAB	**Ashibetsu**	**1.95**	**3**	A	A	04 56 27.2	
	comp=E,40nm,1.6s,comp=N,41nm,3.5s						
MIYJ	**Miyakonagasawa**	**1.98**	**186**	A	A	04 56 27.4	
	comp=E,33nm,2.2s,comp=N,20nm,0.7s						
JSZI	**Iwateshizukuis**	**2.01**	**206**	A	A	04 56 27.7	
	comp=E,33nm,3.5s,comp=N,31nm,1.9s						
JOSM	**Okushiri--Mats**	**2.04**	**286**	*eP*	**Pn**	**04 56 27.2**	**-1.4**
JAR	**Ashorobuto**	**2.14**	**35**	A	A	04 56 29.8	
	comp=E,16nm,1.0s,comp=N,18nm,2.7s						
JOM	**Ohasama**	**2.17**	**197**	A	A	04 56 29.9	
	comp=E,22nm,1.1s,comp=N,17nm,0.6s						
JHR	**Hokuryu**	**2.21**	**353**	A	A	04 56 30.7	
	comp=E,26nm,1.6s,comp=N,22nm,1.4s						
JKK2	**Kamakawa 2**	**2.37**	**11**	A	A	04 56 33.0	
	comp=E,9.0nm,3.9s,comp=N,9.0nm,1.5s						
JAK	**Akkeshi**	**2.41**	**52**	A	A	04 56 33.6	
	comp=E,20nm,1.2s,comp=N,19nm,1.4s						
JRG	**Rokugo**	**2.43**	**208**	A	A	04 56 33.5	
	comp=E,17nm,1.0s,comp=N,16nm,0.8s						
JYW	**Yuwa**	**2.47**	**216**	A	A	04 56 34.1	
	comp=E,27nm,2.0s,comp=N,25nm,2.6s						
OFUJ	**Ofunato**	**2.49**	**188**	A	A	04 56 34.5	
	comp=E,10.0nm,2.0s,comp=N,8.0nm,0.5s						
ASAJ	**Asahikawa**	**2.59**	**8**	P	**Pn**	**04 56 35.0**	**-1.2**
	comp=N,212nm,0.3s,baz=205,slow=12,SNR=210						
ASAJ				S	**Sn**	**04 57 04.7**	**-1.8**
	comp=N,442nm,0.6s,baz=202,slow=15,SNR=5.9						
ASAJ	**Asahikawa**	**2.59**	**8**	A	A	04 56 36.1	
	comp=E,9.0nm,2.2s,comp=N,8.0nm,4.8s						
JKA	**Kamikawa-asahi**	**2.59**	**8**		**Pn**	**04 56 36.5**	**+0.3**
JKA				Sn	**Sn**	**04 57 05.5**	**-1.0**
JMP	**Maruseppu**	**2.62**	**20**	A	A	04 56 36.6	
	comp=E,11nm,2.7s,comp=N,6.0nm,3.3s						
JMK	**Ichinoseki**	**2.68**	**195**	A	A	04 56 37.1	
	comp=E,12nm,3.2s,comp=N,6.0nm,1.8s						
JKHN	**Kushirohamak**	**2.73**	**55**	A	A	04 56 38.3	
	comp=E,12nm,1.3s,comp=N,15nm,2.1s						
JTKR	**Abashiri--Toko**	**2.76**	**28**	A	A	04 56 38.5	
	comp=E,13nm,1.9s,comp=N,7.0nm,1.7s						
JNK	**Nakash**	**2.80**	**43**	A	A	04 56 39.2	
	comp=E,7.0nm,1.5s,comp=N,10.0nm,1.5s						
JOG3	**Oga3**	**2.82**	**236**	A	A	04 56 32.9	
	comp=E,33nm,2.5s,comp=N,25nm,2.3s						
JSS	**Shosan**	**2.85**	**356**	A	A	04 56 39.7	
	comp=E,15nm,4.8s,comp=N,10.0nm,3.1s						
JYK	**Kaneyama**	**2.95**	**208**	A	A	04 56 40.8	
	comp=E,9.0nm,2.8s,comp=N,9.0nm,3.3s						
JYYZ	**Yamagatayuza**	**3.03**	**214**	A	A	04 56 41.9	
	comp=E,13nm,8.4s,comp=N,16nm,2.3s						
JOFO	**Osakifurukawao**	**3.08**	**198**	A	A	04 56 42.8	
	comp=E,53nm,3.2s,comp=N,38nm,1.6s						
JNSB	**Nemuroshibetsu**	**3.08**	**43**	A	A	04 56 43.1	
	comp=E,11nm,3.1s,comp=N,22nm,2.0s						
NMR	**Nemuro--Hokkai**	**3.24**	**55**	*eP*	**Pn**	**04 56 43.0**	**-2.0**
NMR				*eS*	**Sn**	**04 57 18.1**	**-4.2**
JRA	**Rausu**	**3.26**	**42**	A	A	04 56 45.6	
	comp=E,7.0nm,2.2s,comp=N,13nm,1.5s						
JOU	**Okura**	**3.37**	**200**	A	A	04 56 46.7	
	comp=E,9.0nm,2.6s,comp=N,11nm,2.3s						
RUSJ	**Misakicho**	**3.44**	**41**	⇓*i* P	**Pn**	**04 56 48.0**	**+0.2**
RUSJ				*e*S	**Sn**	**04 57 28.1**	**+0.8**
JYA	**Atsumi**	**3.48**	**213**	A	A	04 56 48.2	
	comp=E,13nm,0.9s,comp=N,23nm,2.0s						
JYS	**Shirataka**	**3.68**	**206**	A	A	04 56 51.0	
	comp=E,14nm,1.7s,comp=N,12nm,1.6s						
YUK	**Yuzh-Kuril'sk**	**3.71**	**47**	*d* P	**Pn**	**04 56 50.9**	**-0.6**
YUK				*e*S	**Sn**	**04 57 31.3**	**-2.7**
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=N,956nm,0.4s						
YUK				pmax	pmax		
	comp=E,1μm,0.4s						
YUK				smax	smax		
	comp=E,7μm,0.4s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
JMM	**Marumori**	**3.82**	**196**		**Pn**	**04 56 53.1**	**+0.2**
JMST	**Minamisoumatoc**	**3.94**	**194**	A	A	04 56 54.7	
	comp=E,6.0nm,1.0s,comp=N,7.0nm,1.3s						
SHO	**Shikotan**	**4.18**	**55**	*eP*	**Pn**	**04 56 55.7**	**-2.2**
SHO				*eS*	**Sn**	**04 57 40.4**	**-5.1**
SHO				pmax	pmax		
	comp=E,205nm,0.4s						
SHO				pmax	pmax		
	comp=Z,335nm,0.4s						
SHO				pmax	pmax		
	comp=N,88nm,0.1s						
SHO				smax	smax		
	comp=E,2μm,0.2s						
SHO				smax	smax		
	comp=N,2μm,0.3s						
JSD	**Sado**	**4.59**	**221**		**Pn**	**04 57 04.5**	**+1.0**
TEY	**Ternei**	**5.32**	**313**	⇑*eP*	**Pn**	**04 57 12.8**	**-0.6**
TEY				*e*		04 58 11.5	
TEY				pmax	pmax		
	comp=N,700nm,0.7s						
TEY				pmax	pmax		
	comp=E,60nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.42**	**5**		**Pn**	**04 57 15.9**	**+1.1**
YSS	**Yuzh-Sakhalins**	**5.42**	**5**	*eP*	**Pn**	**04 57 16.7**	**+1.9**
YSS				*eS*	**Sn**	**04 58 18.7**	**+2.9**
YSS				pmax	pmax		
	comp=Z,300nm,4.0s						
YSS				pmax	pmax		
	comp=Z,100nm,1.1s						
YSS				smax	smax		
	comp=N,500nm,2.0s						
YSS				smax	smax		
	comp=E,140nm,0.9s						
YSS				MLR	MLR		
	comp=Z,1μm,12.0s						
YSS				MLR	MLR		
	comp=N,1μm,13.0s						
KUR	**Kuril'sk**	**5.58**	**47**	*eP*	**Pn**	**04 57 17.2**	**+0.2**
KUR				*eS*	**Sn**	**04 58 17.7**	**-2.1**
KUR				pmax	pmax		
	comp=Z,511nm,0.9s						
KUR				pmax	pmax		
	comp=N,199nm,0.7s						
KUR				pmax	pmax		
	comp=E,250nm,0.9s						
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				smax	smax		
	comp=N,408nm,0.6s						
KUR				smax	smax		
	comp=E,657nm,0.6s						
KUR				smax	smax		
	comp=E,3μm,1.5s						
KUR				smax	smax		
	comp=N,1μm,1.9s						
KUR				MLR	MLR		
	comp=Z,2μm,15.0s						
MJB9	**Matsu-Tunnel**	**5.85**	**213**		**Pn**	**04 57 22.0**	**+1.3**
MAJO	**Matsushiro**	**5.85**	**212**		**Pn**	**04 57 22.3**	**+1.6**
MAJO	**Matsushiro**	**5.85**	**212**	*i* P	**Pn**	**04 57 22.4**	**+1.6**
MJAR	**Matsushiro Arr**	**5.85**	**212**	P	**Pn**	**04 57 20.9**	**+0.1**
	comp=Z,21nm,0.7s,baz=25,slow=14,SNR=55						
MJAR				S	**Sn**	**04 58 31.2**	**+4.8**
	comp=Z,22nm,0.6s,baz=12,slow=9.4,SNR=4.1						
MJAR				LR	LR	05 00 01.4	
	comp=Z,1μm,20.6s,baz=27,slow=42						
JGF	**Kuroka**	**7.01**	**214**		**Pn**	**04 57 38.2**	**+1.6**
INU	**Inuyama**	**7.37**	**214**		**Pn**	**04 57 43.3**	**+1.7**
VLA	**Vladivostok**	**7.73**	**285**	*i* P	**Pn**	**04 57 45.8**	**-0.7**
USA0B	**Ussuriysk Arra**	**7.89**	**293**		**Pn**	**04 57 49.6**	**+1.0**
USA0B	**Ussuriysk Arra**	**7.89**	**293**	*i* P	**Pn**	**04 57 49.6**	**+1.0**
USRK	**Ussuriysk Ar.**	**7.89**	**293**		**Pn**	**04 57 48.8**	**+0.2**
USRK	**Ussuriysk Ar.**	**7.89**	**293**	P	**Pn**	**04 57 48.4**	**-0.2**
	comp=Z,49nm,0.7s,baz=98,slow=14,SNR=60						
USRK				LR	LR	05 00 53.7	
	comp=Z,1μm,18.6s,baz=106,slow=38						
USRK	**Ussuriysk Ar.**	**7.89**	**293**	P	**Pn**	**04 57 48.8**	**+0.2**
MSHR	**Mys Shultsa**	**8.21**	**281**	*i* P	**Pn**	**04 57 53.0**	**0.0**
PSTR	**Posyet**	**8.47**	**281**	*i* P	**Pn**	**04 57 56.9**	**+0.3**
JHJ	**Hachijo jima 2**	**8.62**	**193**	P	**Pn**	**04 57 57.3**	**-1.3**
	comp=Z,53nm,0.3s,baz=74,slow=22,SNR=8.0						
JHJ				S	**Sn**	**04 59 28.2**	**-6.1**
	comp=Z,58nm,0.3s,baz=322,slow=19,SNR=1.7						
JHJ				LR	LR	05 02 08.7	
	comp=Z,367nm,18.6s,baz=70,slow=43						
JHJ2	**Mitsune**	**8.62**	**193**	Pn	**Pn**	**04 57 57.4**	**-1.3**
TYV	**Tymovskoe**	**9.32**	**2**	*eP*	**Pn**	**04 58 09.2**	**+1.0**
TYV				*e*S	**Sn**	**04 59 54.8**	**+3.5**
TYV				pmax	pmax		
	comp=Z,22nm,1.0s						
TYV				pmax	pmax		
	comp=Z,100nm,3.7s						
TYV				smax	smax		
	comp=E,8.0nm,1.1s						
TYV				smax	smax		
	comp=N,100nm,5.6s						
TYV				smax	smax		
	comp=E,200nm,5.6s						
MDJ	**Mudanjiang**	**9.65**	**293**	P	**Pn**	**04 58 15.9**	**+3.2**
MDJ				sP		04 58 32.2	
MDJ				S	**Sn**	**05 00 07.4**	**+7.8**
MDJ				pmax	pmax		
	comp=E,36nm,1.0s						
MDJ				pmax	pmax		
	comp=E,300nm,3.8s						
MDJ				LR	LR		
	comp=E,640nm,21.0s						
MDJ				LR	LR		
	comp=E,1μm,24.0s						
MDJ				LR	LR		
	comp=E,2μm,23.9s						
MDJ	**Mudanjiang**	**9.65**	**293**	Pn	**Pn**	**04 58 14.3**	**+1.6**
GRNR	**Gornyy**	**10.02**	**339**	⇑*i* P	**Pn**	**04 58 19.6**	**+1.8**
GRNR				pmax	pmax		
	comp=Z,20nm,1.0s						
KLR	**Kul'dur**	**10.57**	**320**	P	**Pn**	**04 58 23.2**	**-2.0**
	comp=Z,34nm,1.2s,baz=140,slow=16,SNR=17						
KLR				LR	LR	05 02 33.4	
	comp=Z,1μm,20.1s,baz=132,slow=38						
KLR	**Kul'dur**	**10.57**	**320**	*eP*	**Pn**	**04 58 23.8**	**-1.5**
KLR				pmax	pmax		
	comp=Z,77nm,1.2s						
BNX	**BinXian**	**11.44**	**296**	⇓P	**Pn**	**04 58 38.4**	**+1.3**
BNX				pmax	pmax		
	comp=Z,34nm,1.0s						
KSRS	**Korea Array**	**11.69**	**254**	P	**Pn**	**04 58 42.7**	**+2.1**
	comp=Z,44nm,0.7s,baz=63,slow=14,SNR=48						
KSRS				S	Sn	05 00 57.9	+8.5
	comp=Z,43nm,0.7s,baz=68,slow=24,SNR=14						
KSRS				LR	LR	05 02 46.0	
	comp=Z,722nm,21.6s,baz=65,slow=35						
KS19	**Wonju Array Si**	**11.71**	**254**		**Pn**	**04 58 44.6**	**+3.7**
KSAR	**Wonju Array Be**	**11.73**	**254**		**Pn**	**04 58 42.6**	**+1.6**
KSAR	**Wonju Array Be**	**11.73**	**254**	P	**Pn**	**04 58 42.7**	**+1.6**
OKH	**Okha**	**12.02**	**2**	*c i* P	P	04 58 50.6	-5.1
OKH				*e*S	**Sn**	**05 00 59.3**	**+2.2**
OKH				pmax	pmax		
	comp=Z,100nm,15.1s						
JNU	**Nakatsue**	**12.26**	**230**		**Pn**	**04 58 49.4**	**+0.9**
JNU	**Nakatsue**	**12.26**	**230**	P	**Pn**	**04 58 47.3**	**-1.1**
	comp=Z,26nm,0.7s,baz=86,slow=3.8,SNR=14						
JNU				LR	LR	05 03 22.2	
	comp=Z,801nm,20.0s,baz=42,slow=36						
TJN	**Taejon**	**12.58**	**251**		**Pn**	**04 58 52.7**	**0.0**
TJN	**Taejon**	**12.58**	**251**	*ce*P	P	04 58 57.0	-5.0
HEH	**HeiHe**	**13.41**	**315**	*eP*	**Pn**	**04 59 03.6**	**-0.3**
HEH				PP	**PnPn**	**04 59 11.6**	**-0.4**
HEH				S	**Sn**	**05 01 31.7**	**+0.6**
HEH				SS	**S**	**05 01 47.7**	**-3.7**
HEH				pmax	pmax		
	comp=Z,28nm,0.8s						
HEH				pmax	pmax		
	comp=Z,320nm,5.4s						
HEH				LR	LR		
	comp=Z,740nm,15.0s						
HEH				LR	LR		
	comp=Z,810nm,15.0s						
HEH				LR	LR		
	comp=Z,1μm,18.5s						
SNY	**Shenyang**	**13.85**	**277**	⇓P	**Pn**	**04 59 12.2**	**+2.4**
SNY				pmax	pmax		
	comp=Z,430nm,7.1s						
SNY				LR	LR		
	comp=Z,460nm,7.1s						
SNY				LR	LR		
	comp=Z,420nm,6.4s						
SNY				LR	LR		
	comp=Z,600nm,12.6s						
JCJ	**Chichijima**	**14.42**	**180**	LR	LR	05 06 22.1	
	comp=Z,99nm,20.0s,baz=14,slow=43						
ZEA	**Zeya**	**15.73**	**326**	*eP*	**Pn**	**04 59 33.2**	**-0.9**
ZEA				*e*		05 02 30.2	
ZEA				pmax	pmax		
	comp=E,40nm,0.6s						
ZEA				pmax	pmax		
	comp=N,50nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,90nm,0.8s						
ZEA				MLR	MLR		
	comp=E,400nm,14.0s						
ZEA				MLR	MLR		
	comp=N,400nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,16.0s						
DL2	**Dalian**	**15.86**	**267**	P	**P**	**04 59 37.6**	**-0.8**
DL2				pmax	pmax		
	comp=Z,200nm,1.0s						
PET	**Petropavlovsk**	**16.01**	**39**	*eP*	**P**	**04 59 43.2**	**+3.2**
PET				*e*S	**Sn**	**05 02 34.8**	**+0.8**
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
PET				MLR	MLR		
	comp=Z,400nm,16.0s						
HIA	**Hailar**	**17.45**	**304**		**Pn**	**04 59 55.0**	**-0.6**
HIA	**Hailar**	**17.45**	**304**	P	**Pn**	**04 59 55.0**	**-0.6**
HIA				pmax	pmax		
	comp=Z,21nm,0.6s						
JOW	**Kunigami**	**18.58**	**222**	LR	LR	05 07 26.5	
	comp=Z,741nm,20.4s,baz=126,slow=37						
MA2	**Magadan**	**18.84**	**14**	P	**P**	**05 00 10.2**	**-0.9**
MA2	**Magadan**	**18.84**	**14**	P	**P**	**05 00 07.8**	**-3.3**
	comp=Z,17nm,0.7s,baz=175,slow=14,SNR=7.0						
MA2				LR	LR	05 08 28.6	
	comp=Z,237nm,19.1s,baz=197,slow=40						
MA2	**Magadan**	**18.84**	**14**	*ce*P	**P**	**05 00 11.1**	**0.0**
MA2				pmax	pmax		
	comp=Z,23nm,1.0s						
MA2	**Magadan**	**18.84

comp=Z,12nm,0.3s,baz=142,slow=18,SNR=5.5
YAK LR LR 05 09 25.7
comp=Z,383nm,20.1s,baz=152,slow=37
comp=Z,92nm,0.8s
YAK Yakutsk 21.83 344 *c iP* **P 05 00 39.3 -4.0**
YAK *e**PP **pP 05 00 57.1 +0.2**
YAK *e*S **S 05 04 34.7 -6.1**
YAK *e* 05 04 44.4
YAK pmax pmax
comp=Z,131nm,1.1s
YAK pmax pmax
comp=N,36nm,1.1s
YAK pmax pmax
comp=E,26nm,1.3s
YAK smax smax
comp=N,151nm,2.1s
YAK smax smax
comp=E,76nm,2.0s
SEY Seymchan 22.27 12 *ce*P **P 05 00 45.9 -2.2**
SEY pmax pmax
comp=Z,19nm,1.0s
HHC Hu-ho-hao-te 22.94 278 *e*P **P 05 00 53.1 -2.4**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,87nm,5.5s
HHC LR LR
comp=Z,300nm,8.8s
HHC LR LR
comp=Z,430nm,11.0s
HHC LR LR
comp=Z,640nm,11.8s
TIY Taiyuan 23.11 270 P **P 05 00 55.0 -2.3**
TIY pP **pP 05 01 10.1 -1.1**
TIY pmax pmax
comp=Z,30nm,0.8s
TATO Taipei 23.79 232 P **P 05 01 05.2 +1.7**
YHNB Yeheng 24.09 232 P **P 05 01 05.9 -0.4**
YHNB IAmb IAmb 05 01 13.4
comp=Z,37nm,0.7s
BTO Baotou 24.14 278 *e*P **P 05 01 05.5 -1.2**
BTO pP **pP 05 01 16.6 -5.2**
BTO sP **sP 05 01 27.4 -2.0**
BTO PP **PnPn 05 01 39.2 +0.3**
BTO S **S 05 05 19.1 -1.0**
BTO SS **SnSn 05 06 13.9 +6.9**
BTO pmax pmax
comp=Z,69nm,0.7s
BTO pmax pmax
comp=Z,690nm,6.1s
BTO LR LR
comp=Z,640nm,12.8s
BTO LR LR
comp=Z,750nm,15.7s
BTO LR LR
comp=Z,990nm,10.4s
BOD Bodaibo 24.14 322 *e*P **P 05 01 05.5 -0.9**
BOD pmax pmax
comp=Z,31nm,1.2s
LYN LuoYang 24.28 263 *e*P **P 05 01 05.3 -2.6**
LYN pmax pmax
comp=Z,48nm,0.7s
LYN LR LR
comp=Z,1μm,8.5s
LYN LR LR
comp=Z,1μm,16.9s
LYN LR LR
comp=Z,2μm,13.2s
WHN Wuhan 24.88 253 ⇓P **P 05 01 12.5 -0.9**
WHN sP **sP 05 01 38.2 +2.0**
WHN pmax pmax
comp=Z,120nm,0.7s
SSLB Suanglung 25.00 231 P **P 05 01 13.6 -1.0**
ULN Ulaanbaatar 25.54 296 P **P 05 01 20.3 +0.8**
ULN Ulaanbaatar 25.54 296 P **P 05 01 19.7 +0.3**
ULN Ulaanbaatar 25.54 296 *ce*P **P 05 01 18.8 -0.6**
ULN pmax pmax
comp=Z,39nm,1.0s
SONM Songino Array 25.98 296 P **P 05 01 23.1 -0.3**
SONM IAmb IAmb 05 01 25.4
comp=Z,42nm,0.9s
SONM Songino Array 25.98 296 P **P 05 01 19.7 -3.7**
comp=Z,14nm,0.9s,baz=83,slow=7.1,SNR=116
SONM PcP **PcP 05 04 50.3 +0.2**
comp=Z,0.9nm,0.5s,baz=126,slow=2.5,SNR=1.7
SONM ScP **ScP 05 08 24.3 +0.2**
comp=Z,0.8nm,0.9s,baz=171,slow=2.9,SNR=3.7
SONM LR LR 05 12 21.6
comp=Z,559nm,18.9s,baz=147,slow=38
comp=Z,14nm,0.9s
SONM Songino Array 25.98 296 P **P 05 01 23.1 -0.3**
SONM pmax pmax
comp=Z,42nm,0.9s
KNMB Chin-men Tao 26.06 237 P **P 05 01 25.1 +1.0**
XAN Xi'an 27.15 265 ⇑P **P 05 01 32.3 -1.6**
XAN pmax pmax
comp=Z,55nm,1.0s
IRK Irkutsk 27.67 306 *e*P **P 05 01 38.1 -0.3**
IRK pmax pmax
comp=Z,45nm,0.8s
GUMO Guam 27.96 174 LR LR 05 12 32.5
comp=Z,154nm,20.5s,baz=30,slow=36
ZAK Zakamensk 28.12 302 *e*P **P 05 01 41.9 -0.6**
ZAK pmax pmax
comp=Z,19nm,1.3s
ENH Enshi 28.55 257 P **P 05 01 45.4 -1.1**
ENH IAmb IAmb 05 01 49.5
comp=Z,30nm,0.7s
BILL Bilibino 29.56 18 *ce*P **P 05 01 55.1 +0.2**
BILL *e* 05 02 52.7
BILL *e* 05 04 59.1
BILL pmax pmax
comp=Z,10.0nm,0.7s
MOY Mondy 29.64 304 *e*P **P 05 01 55.6 -0.4**
MOY pmax pmax
comp=Z,39nm,2.3s
LZH Lanzhou 30.13 272 ⇓P **P 05 02 00.2 -0.4**
LZH pP pP 05 02 12.2 -3.8
LZH pmax pmax
comp=Z,29nm,1.5s
LZH LR LR
comp=Z,540nm,11.0s
LZH LR LR
comp=Z,480nm,10.3s
LZH LR LR
comp=Z,660nm,12.6s
H11N2 WAKE ISLAND Hy 30.27 128 T T 05 34 34.1
baz=322,slow=75,SNR=1045
H11N1 WAKE ISLAND Hy 30.28 128 T T 05 34 34.7
baz=322,slow=75,SNR=1132
H11N3 WAKE ISLAND Hy 30.29 128 T T 05 34 35.3
baz=322,slow=75,SNR=780
GULI GuiLin 30.84 248 P **P 05 02 07.3 +0.6**
GULI pmax pmax
comp=Z,10.0nm,1.3s
TIXI Tiksi 30.89 352 LR LR 05 16 28.4
comp=Z,131nm,19.0s,baz=210,slow=40
H11S1 WAKE ISLAND Hy 31.12 130 T T 05 34 34.0
baz=324,slow=76,SNR=455
H11S3 WAKE ISLAND Hy 31.12 130 T T 05 34 34.1
baz=324,slow=76,SNR=512
H11S2 WAKE ISLAND Hy 31.14 130 T T 05 34 35.3
baz=324,slow=76,SNR=726
GTA Gaotai 32.01 280 P **P 05 02 16.8 -0.2**
GTA pP pP 05 02 28.7 -3.7
GTA PcP **PcP 05 05 06.8 +1.3**
GTA pmax pmax
comp=Z,18nm,1.0s
GTA LR LR
comp=Z,250nm,17.5s
GTA LR LR
comp=Z,420nm,17.9s
GTA LR LR
comp=Z,580nm,17.9s
CD2 Chengdu 32.47 263 P **P 05 02 19.8 -1.2**
CD2 pmax pmax
comp=Z,50nm,0.5s
GYA Guiyang 32.75 254 ⇑P **P 05 02 24.7 +1.1**
GYA pmax pmax
comp=Z,37nm,0.6s
KRAR Krasnoyarsk 34.72 312 *i* P **P 05 02 40.2 0.0**
PZH PanZhiHua 36.31 259 P **P 05 02 53.9 -0.5**
PZH pmax pmax
comp=Z,40nm,0.8s
PZH pmax pmax
comp=Z,320nm,8.8s

KMI Kunming 36.39 256 ⇓P **P 05 02 54.9 -0.2**
KMI pmax pmax
comp=Z,12nm,0.7s
KMI LR LR
comp=Z,520nm,22.1s
M11K Mekoryuk 36.43 41 P **P 05 02 55.8 +1.1**
baz=263
GOMU GeErMu 36.84 278 P **P 05 02 59.0 0.0**
GOMU PcP **PcP 05 05 21.8 +2.0**
GOMU pmax pmax
comp=Z,63nm,0.8s
DAV Davao City (W) 37.35 208 LR LR 05 18 10.2
comp=Z,123nm,20.1s,baz=18,slow=36
M13K Dall Lake 37.84 41 P **P 05 03 07.5 +0.8**
baz=265
SLVN Son La 37.92 250 P **P 05 03 07.8 -0.1**
SLVN IAmb IAmb 05 03 11.7
comp=Z,24nm,0.9s
J14K Nanvaranak Lak 38.00 37 P **P 05 03 08.2 +0.1**
baz=262
F15K North Star Dit 38.06 33 P **P 05 03 08.6 0.0**
baz=257
G15K Niukluk 38.16 34 P **P 05 03 09.8 +0.4**
baz=259
L14K Kuka Creek 38.24 40 P **P 05 03 11.3 +1.1**
L14K IAmb IAmb 05 03 13.4
comp=Z,18nm,0.9s
L14K Kuka Creek 38.24 40 P **P 05 03 10.5 +0.4**
baz=265
S12K Black Hills 38.43 49 P **P 05 03 11.7 -0.1**
baz=272
C16K Lisburne Hills 38.45 28 P **P 05 03 11.4 -0.3**
baz=253
M14K Bethel 38.55 41 P **P 05 03 14.4 +1.7**
M14K IAmb IAmb 05 03 15.3
comp=Z,32nm,0.9s
M14K Bethel 38.55 41 P **P 05 03 12.5 -0.1**
baz=266
N14K Kuskokwak Cree 38.64 42 P **P 05 03 13.3 -0.1**
baz=268
O14K Tigyukauivet M 38.83 43 P **P 05 03 16.1 +1.1**
baz=269
L15K Ungalak Mounta 38.84 39 P **P 05 03 16.2 +1.1**
baz=266
H16K Elim 38.85 35 P **P 05 03 16.6 +1.3**
baz=261
K15K Wolf Creek Mou 38.88 38 P **P 05 03 16.0 +0.6**
baz=265
G16K Koyuk River 38.93 33 P **P 05 03 16.1 +0.2**
baz=260
D17K Noatak River 39.12 30 P **P 05 03 17.6 +0.2**
baz=256
M15K Kasigluk River 39.17 41 P **P 05 03 18.5 +0.6**
baz=267,SNR=6.9
RDOG Red Dog Mine 39.27 29 P **P 05 03 18.9 +0.2**
baz=256
C17K DeLong Mountai 39.27 28 P **P 05 03 18.6 -0.1**
baz=256
ZAA0 Zalesovo Array 39.40 308 P **P 05 03 20.2 +0.3**
ZAA0 IAmb IAmb 05 03 20.9
comp=Z,44nm,0.9s
ZAA0 PcP **PcP 05 05 27.7 +0.8**
ZALV Zalesovo Beam 39.40 308 P **P 05 03 20.1 +0.3**
ZALV Zalesovo Beam 39.40 308 P **P 05 03 18.1 -1.7**
comp=Z,39nm,0.8s,baz=87,slow=7.8,SNR=116
ZALV PcP **PcP 05 05 27.2 +0.3**
comp=Z,14nm,0.6s,baz=92,slow=2.0,SNR=8.4
ZALV ScP **ScP 05 09 08.9 -0.9**
comp=Z,0.4nm,0.4s,baz=114,slow=3.5,SNR=2.0
comp=Z,39nm,0.8s
ZALV Zalesovo Beam 39.40 308 *i* P **P 05 03 19.8 -0.1**
ZALV pmax pmax
comp=Z,39nm,0.8s
J16K Anvik River 39.40 37 P **P 05 03 20.9 +1.1**
J16K Anvik River 39.40 37 P **P 05 03 19.8 0.0**
baz=264
NRIK Noril'sk 39.44 333 P **P 05 03 20.1 0.0**
NRIK IAmb IAmb 05 03 20.6
comp=Z,21nm,0.7s
NRIK Noril'sk 39.44 333 P **P 05 03 17.4 -2.7**
comp=Z,18nm,0.7s,baz=107,slow=11,SNR=26
NRIK LR LR 05 20 51.2
comp=Z,515nm,19.1s,baz=146,slow=38
comp=Z,18nm,0.7s
NRIK Noril'sk 39.44 333 *ce*P **P 05 03 19.4 -0.7**
NRIK pmax pmax
comp=Z,25nm,0.8s
N15K Kwethluk River 39.45 42 P **P 05 03 21.5 +1.3**
N15K IAmb IAmb 05 03 48.4
comp=Z,27nm,0.9s
N15K Kwethluk River 39.45 42 P **P 05 03 20.4 +0.1**
baz=269,SNR=5.9
WMQ Urumqi 39.46 292 ⇑ *i* P **P 05 03 21.2 +0.6**
WMQ PcP **PcP 05 05 28.8 +1.4**
WMQ pmax pmax
comp=Z,68nm,1.3s
WMQ pmax pmax
comp=Z,130nm,3.7s
WMQ LR LR
comp=Z,350nm,13.1s
WMQ LR LR
comp=Z,550nm,14.1s
WMQ LR LR
comp=Z,320nm,14.1s
E17K Hotham Inlet 39.46 31 P **P 05 03 21.0 +0.8**
baz=258
TNCH TengChong 39.53 259 ⇑P **P 05 03 22.4 +0.8**
TNCH pP pP 05 03 36.7 -0.6
TNCH sP sP 05 03 43.6 -1.0
TNCH S **S 05 09 24.9 +5.2**
TNCH sS sS 05 09 46.1 0.0
TNCH pmax pmax
comp=Z,87nm,1.0s
TNCH pmax pmax
comp=Z,240nm,4.0s
TNCH LR LR
comp=Z,380nm,7.8s
TNCH LR LR
comp=Z,500nm,7.7s
TNCH LR LR
comp=Z,300nm,6.7s
F17K Baldwin Pennin 39.56 32 P **P 05 03 21.3 +0.3**
baz=260
O15K Ungalikthiuk R 39.57 43 P **P 05 03 22.2 +0.9**
baz=270
G17K Kiwalik Mounta 39.65 33 P **P 05 03 21.9 0.0**
baz=262
L16K Owhat River 39.80 39 P **P 05 03 24.3 +1.1**
L16K IAmb IAmb 05 03 25.4
comp=Z,23nm,0.9s
L16K Owhat River 39.80 39 P **P 05 03 24.5 +1.3**
baz=267,SNR=8.3
S14K Fog Glacier 39.81 48 P **P 05 03 23.6 +0.2**
baz=274
H17K Granite Mounta 39.88 34 P **P 05 03 25.0 +1.2**
baz=263
CHNA Chernabura Isl 39.91 50 P **P 05 03 24.5 +0.5**
baz=276
B18K Kokolik River 39.98 27 P **P 05 03 24.6 +0.1**
baz=256
E18K Tukpahlearik C 39.99 30 P **P 05 03 25.1 +0.4**
E18K IAmb IAmb 05 03 27.1
comp=Z,16nm,0.7s
E18K Tukpahlearik C 39.99 30 P **P 05 03 23.9 -0.7**
baz=259
C18K Utukok River 40.02 28 P **P 05 03 24.5 -0.5**
C18K Utukok River 40.02 28 P **P 05 03 23.8 -1.2**
baz=257
M16K Timber Creek 40.03 40 P **P 05 03 26.6 +1.6**
M16K PcP **PcP 05 05 29.6 +0.8**
M16K Timber Creek 40.03 40 P **P 05 03 25.9 +0.9**
baz=269
J17K VABM Dome 40.09 37 P **P 05 03 26.6 +1.0**
J17K IAmb IAmb 05 03 28.2
comp=Z,40nm,0.9s
J17K VABM Dome 40.09 37 P **P 05 03 26.3 +0.7**
baz=266,SNR=20
N16K Nishlik Lake 40.11 41 P **P 05 03 26.2 +0.5**
baz=269,SNR=9.8
F18K Selawik 40.22 32 P **P 05 03 27.1 +0.6**
baz=261
L17K Donlin 40.38 39 P **P 05 03 28.5 +0.5**
baz=268
K17K Iditarod 40.40 38 P **P 05 03 28.6 +0.5**
baz=267
A19K Wainwright 40.43 26 P **P 05 03 28.7 +0.4**
baz=256

CHGN Chignik 40.44 48 P **P 05 03 29.2 +0.7**
baz=275
ZSN Zaisan 40.45 298 *e*P **P 05 03 28.9 +0.1**
comp=Z,14nm,0.8s,baz=298
ZSN Zaisan 40.45 298 *e*P **P 05 03 28.8 +0.1**
ZSN pmax pmax
comp=Z,14nm,0.8s
O16K Kokwok River B 40.45 43 P **P 05 03 29.9 +1.4**
O16K Kokwok River B 40.45 43 P **P 05 03 29.7 +1.1**
baz=271
P16K Nushagak River 40.52 44 P **P 05 03 29.6 +0.6**
baz=272
G18K Tagagawik 40.52 33 P **P 05 03 29.8 +0.7**
baz=263
H18K Honhosa River 40.56 34 P **P 05 03 30.2 +0.8**
baz=264
C19K Lookout Ridge 40.69 28 P **P 05 03 30.0 -0.5**
C19K PcP **PcP 05 05 32.4 +1.6**
C19K Lookout Ridge 40.69 28 P **P 05 03 30.8 +0.3**
baz=258
M17K Holitna River 40.77 40 P **P 05 03 32.6 +1.4**
M17K IAmb IAmb 05 03 34.0
comp=Z,32nm,0.8s
M17K Holitna River 40.77 40 P **P 05 03 31.7 +0.5**
baz=270,SNR=10
N17K Nushagak Hills 40.89 41 P **P 05 03 32.5 +0.3**
baz=271
O17K Koliganek Bris 40.95 42 P **P 05 03 33.4 +0.7**
baz=272
F19K Shaleruckik Mo 40.99 32 P **P 05 03 33.0 +0.1**
F19K Shaleruckik Mo 40.99 32 P **P 05 03 33.2 +0.3**
baz=263
D19K Kuna River 41.10 29 P **P 05 03 34.1 +0.2**
D19K IAmb IAmb 05 03 53.9
comp=Z,37nm,1.3s
D19K Kuna River 41.10 29 P **P 05 03 33.8 -0.1**
baz=261,SNR=7.8
L18K Granite Mounta 41.14 39 P **P 05 03 35.5 +1.3**
L18K Granite Mounta 41.14 39 P **P 05 03 35.0 +0.9**
baz=269,SNR=10
CRAI Chiangrai 41.14 252 P **P 05 03 36.0 +1.3**
J18K Innoko River 41.16 37 P **P 05 03 34.5 +0.1**
baz=268
G19K Purcell Mounta 41.19 33 P **P 05 03 34.7 +0.1**
G19K PcP **PcP 05 05 34.4 +1.9**
G19K Purcell Mounta 41.19 33 P **P 05 03 35.0 +0.4**
baz=264,SNR=14
Q16K King Salmon 41.23 44 P **P 05 03 35.1 +0.2**
baz=273
E19K Redstone River 41.28 31 P **P 05 03 35.6 +0.3**
E19K Redstone River 41.28 31 P **P 05 03 34.9 -0.4**
baz=263,SNR=13
H19K Roundabout Mou 41.40 34 P **P 05 03 37.2 +1.0**
H19K IAmb IAmb 05 03 38.0
comp=Z,26nm,0.8s
H19K Roundabout Mou 41.40 34 P **P 05 03 36.0 -0.2**
baz=266,SNR=16
R17L Mt. Peulik Vol 41.45 46 P **P 05 03 37.3 +0.5**
baz=275
N18K Kilae Creek 41.53 41 P **P 05 03 39.0 +1.5**
N18K Kilae Creek 41.53 41 P **P 05 03 38.4 +1.0**
baz=272,SNR=5.7
M18K Stony River 41.55 40 P **P 05 03 38.2 +0.7**
baz=271,SNR=6.3
Q17K Contact Creek 41.66 45 P **P 05 03 38.9 +0.3**
baz=274
J19K Poorman 41.66 36 P **P 05 03 38.8 +0.3**
J19K IAmb IAmb 05 03 40.9
comp=Z,45nm,0.9s
J19K Poorman 41.66 36 P **P 05 03 38.6 +0.1**
baz=268,SNR=32
D20K Etivluk River 41.68 29 P **P 05 03 38.6 +0.1**
baz=262,SNR=13
B20K Meade River 41.70 27 P **P 05 03 38.9 +0.3**
baz=260
E20K Nigu River 41.78 30 P **P 05 03 39.5 +0.1**
baz=263,SNR=13
F20K Avaraart Lake 41.82 31 P **P 05 03 40.2 +0.6**
baz=265
O18K Koktuh Hills 41.90 42 P **P 05 03 40.8 +0.3**
baz=273
P18K Big Mountain, 41.92 43 P **P 05 03 40.5 -0.2**
P18K IAmb IAmb 05 03 42.9
comp=Z,29nm,1.0s
P18K Big Mountain, 41.92 43 P **P 05 03 41.6 +0.9**
baz=274
L19K White Mountain 42.00 39 P **P 05 03 41.8 +0.6**
L19K White Mountain 42.00 39 P **P 05 03 42.5 +1.3**
baz=271
H20K Anotleneega Mo 42.05 34 P **P 05 03 41.7 +0.1**
baz=267,SNR=10
CHIR Chirikof Islan 42.05 48 P **P 05 03 41.6 -0.1**
baz=277
Q18K Katmai Hardscr 42.09 44 P **P 05 03 42.5 +0.4**
baz=275
A21K Barrow 42.12 25 P **P 05 03 41.6 -0.4**
baz=259,SNR=13
I20K Naaghedeneel 42.19 35 P **P 05 03 42.9 +0.3**
I20K Naaghedeneel 42.19 35 P **P 05 03 42.6 0.0**
baz=268
N19K Bonanza Creek 42.22 41 P **P 05 03 43.7 +0.6**
N19K Bonanza Creek 42.22 41 P **P 05 03 43.5 +0.3**
baz=273
M19K Big River Lodg 42.22 39 P **P 05 03 42.9 -0.1**
baz=272
J20K Nowinta River 42.32 36 P **P 05 03 45.1 +1.4**
J20K Nowinta River 42.32 36 P **P 05 03 44.3 +0.5**
baz=269,SNR=50
MK31 Makanchi Array 42.32 298 P **P 05 03 44.1 +0.1**
MK31 IAmb IAmb 05 03 49.3
comp=Z,36nm,0.9s
MK31 PcP **PcP 05 05 36.6 +0.1**
MK31 Makanchi Array 42.32 298 *i* P **P 05 03 43.3 -0.8**
MK31 pmax pmax
comp=Z,53nm,0.9s
MKAR Makanchi Array 42.32 298 P **P 05 03 43.8 -0.3**
MKAR PcP **PcP 05 05 36.6 0.0**
MKAR Makanchi Array 42.32 298 P **P 05 03 41.6 -2.5**
comp=Z,18nm,0.8s,baz=82,slow=9.9,SNR=82
MKAR PcP **PcP 05 05 36.7 +0.2**
comp=Z,6.9nm,0.7s,baz=69,slow=5.4,SNR=6.9
MKAR ScP **ScP 05 09 21.0 -0.5**
comp=Z,0.2nm,0.4s,baz=112,slow=2.3,SNR=2.9
MKAR LR LR 05 22 47.5
comp=Z,220nm,18.4s,baz=164,slow=38
comp=Z,18nm,0.8s
MKAR Makanchi Array 42.32 298 *ce*P **P 05 03 44.0 -0.1**
MKAR pmax pmax
comp=Z,40nm,0.9s
K20K Telida 42.35 37 P **P 05 03 45.1 +1.0**
K20K IAmb IAmb 05 03 46.6
comp=Z,31nm,0.8s
K20K Telida 42.35 37 P **P 05 03 45.1 +1.0**
baz=270,SNR=18
PHRA Phrae 42.38 250 P **P 05 03 45.2 +0.4**
C21K Knifeblade Rid 42.40 28 P **P 05 03 44.7 +0.4**
baz=263,SNR=7.4
L20K Farewell, AK 42.45 38 P **P 05 03 45.3 +0.4**
baz=271
R18K Karluk 42.48 46 P **P 05 03 44.7 -0.4**
baz=276
B21K Ikpikpuk River 42.51 28 P **P 05 03 44.7 -0.5**
baz=263
MAKZ Makanchi 42.52 298 P **P 05 03 46.2 +0.5**
MAKZ IAmb IAmb 05 03 50.6
comp=Z,59nm,1.0s
MAKZ Makanchi 42.52 298 P **P 05 03 46.2 +0.5**
MAKZ pmax pmax
comp=Z,59nm,1.0s
MAKZ Makanchi 42.52 298 P **P 05 03 46.0 +0.2**
MAKZ PcP **PcP 05 05 37.5 +0.3**
IMAR Indian Mountai 42.53 33 P **P 05 03 45.6 +0.1**
A22K Sinclair Lake 42.59 26 P **P 05 03 46.1 +0.3**
baz=261
E21K Killik River 42.61 29 P **P 05 03 46.3 +0.2**
baz=265
G21K Allakaket 42.66 32 P **P 05 03 47.3 +0.7**
G21K Allakaket 42.66 32 P **P 05 03 46.4 -0.1**
baz=267,SNR=17
F21K Alatna River 42.70 31 P **P 05 03 47.5 +0.6**
F21K Alatna River 42.70 31 P **P 05 03 47.5 +0.6**
baz=267,SNR=15
SEM Semipalatinsk 42.75 304 *e*P **P 05 03 46.8 -0.9**
comp=Z,17nm,0.7s,baz=304
SEM Semipalatinsk 42.75 304 *e*P **P 05 03 46.8 -0.9**
SEM pmax pmax

comp=Z,17nm,0.7s
Q19K Cape Douglas, 42.77 43 P P 05 03 48.2 +0.7
baz=275
M20K Styx River 42.82 39 P P 05 03 48.5 +0.5
baz=273
H21K Melozitna Rive 42.91 34 P P 05 03 48.9 +0.3
H21K Melozitna Rive 42.91 34 P P 05 03 49.5 +0.9
baz=269,SNR=7.5
B22K Teshekpuk Lake 43.01 27 P P 05 03 49.3 0.0
B22K IAmb IAmb 05 04 09.2
comp=Z,53nm,1.6s
B22K Teshekpuk Lake 43.01 27 P P 05 03 49.0 -0.2
baz=263,SNR=8.0
CHTO Chiang Mai 43.08 252 P P 05 03 50.8 +0.3
CHTO IAmb IAmb 05 03 53.9
comp=Z,26nm,0.8s
CHTO Chiang Mai 43.08 252 P P 05 03 50.8 +0.3
CHTO pmax pmax
comp=Z,26nm,0.8s
RSO Redoubt South 43.09 41 P P 05 03 50.9 +0.6
D22K Ayikyak River 43.12 29 P P 05 03 49.8 -0.5
D22K Ayikyak River 43.12 29 P P 05 03 50.6 +0.4
baz=266,SNR=7.7
CHUM Lake Minchumin 43.12 36 P P 05 03 51.4 +1.1
baz=271
O20K Slope Mountain 43.18 42 P P 05 03 50.9 0.0
baz=275
PPLA Purkeypile 43.21 38 P P 05 03 51.3 +0.1
baz=272
F22K John River 43.22 31 P P 05 03 51.7 +0.6
baz=268
CAST Castle Rocks 43.24 37 P P 05 03 52.4 +1.2
baz=272
I21K Tanana 43.25 34 P P 05 03 52.0 +0.7
baz=270
N20K Mount Spurr 43.30 40 P P 05 03 52.4 +0.5
baz=274
CMAR Chiang Mai Arr 43.31 251 P P 05 03 50.9 -1.5
CMAR Chiang Mai Arr 43.31 251 P P 05 03 51.5 -0.9
comp=Z,10nm,0.7s,baz=48,slow=10.0,SNR=36
CMAR PcP **PcP 05 05 41.3 +1.0**
comp=Z,5.1nm,0.6s,baz=16,slow=1.7,SNR=11
CMAR LR LR 05 21 23.6
comp=Z,195nm,21.7s,baz=60,slow=35
comp=Z,10nm,0.7s
SPU Mount Spurr 43.38 40 P P 05 03 53.3 +0.9
E22K Anaktuvuk Pass 43.39 30 P P 05 03 52.7 +0.2
baz=267
Q20K Shuyak Island 43.45 44 P P 05 03 53.6 +0.6
baz=277
KDAK Kodiak Island 43.45 45 P P 05 03 53.5 +0.5
baz=278
KDAK Kodiak Island 43.45 45 LR LR 05 24 26.3
comp=Z,37nm,18.9s,baz=267,slow=39
KDAK Kodiak Island 43.45 45 *i* P **P 05 03 51.8 -1.2**
KDAK pmax pmax
comp=Z,36nm,0.9s
KDAK Kodiak Island 43.45 45 P P 05 03 53.0 0.0
KDAK pP **pP 05 04 09.5 +0.7**
G22K Bettles 43.47 32 P P 05 03 53.4 +0.4
baz=269
H22K Ishtalitna Cre 43.51 33 P P 05 03 53.8 +0.4
baz=270,SNR=14
SKT Skwentna 43.57 39 P P 05 03 54.7 +0.8
baz=274
KURK Kurchatov 43.69 305 P P 05 03 54.7 -0.3
KURK Kurchatov 43.69 305 P P 05 03 55.4 +0.4
KURK Kurchatov 43.69 305 *ce*P **P 05 03 54.9 -0.1**
KURK pmax pmax
comp=Z,64nm,0.7s
KURK Kurchatov 43.69 305 P P 05 03 55.0 0.0
KURK pP **pP 05 04 11.4 +0.6**
KURK sP **sP 05 04 17.8 -0.4**
KURK PcP **PcP 05 05 41.5 +0.5**
BPAW Bear Paw Mtn. 43.70 36 P P 05 03 55.4 +0.4
BPAW IAmb IAmb 05 03 57.3
comp=Z,25nm,0.8s
BPAW Bear Paw Mtn. 43.70 36 P P 05 03 55.0 0.0
baz=272,SNR=17
HOM Homer 43.72 42 P P 05 03 54.1 -1.1
baz=276
KURBB Kurchatov Arra 43.77 304 P P 05 03 54.4 -1.2
comp=Z,57nm,0.8s,baz=78,slow=8.8,SNR=265
KURBB PcP **PcP 05 05 41.5 +0.2**
comp=Z,9.0nm,0.8s,baz=85,slow=3.7,SNR=4.2
KURBB LR LR 05 23 01.1
comp=Z,282nm,18.0s,baz=152,slow=37
comp=Z,57nm,0.8s
MLY Manley 43.78 34 P P 05 03 56.5 +0.8
MLY Manley 43.78 34 P P 05 03 55.3 -0.4
baz=271,SNR=14
CAPN Captain Cook N 43.85 41 P P 05 03 55.5 -0.6
baz=276
D23K Nanushuk River 43.85 29 P P 05 03 57.1 +1.0
baz=267
C23K Itkillik River 43.92 27 P P 05 03 56.8 +0.2
C23K Itkillik River 43.92 27 P P 05 03 56.6 0.0
baz=266,SNR=9.1
SUA Susitna One 43.98 40 P P 05 03 57.7 +0.3
SUA Susitna One 43.98 40 P P 05 03 57.8 +0.5
baz=275
COLD Coldfoot 43.98 31 P P 05 03 57.6 +0.4
baz=270,SNR=14
G23K Bananza Creek 44.05 32 P P 05 03 57.8 0.0
G23K Bananza Creek 44.05 32 P P 05 03 58.2 +0.5
baz=270,SNR=26
CUT Chulitna 44.13 38 P P 05 03 59.2 +0.9
baz=275
BRSE Bradley Lake S 44.16 42 P P 05 03 59.1 +0.4
baz=277
SHL Shillong 44.16 265 P P 05 03 59.1 -0.3
SHL Shillong 44.16 265 P P 05 03 59.6 +0.3
SNR=6.4
SHL Shillong 44.16 265 P P 05 03 59.1 -0.3
E23K Chandalar 44.21 30 P P 05 03 59.1 0.0
baz=269,SNR=12
TOLK Toolik Lake Re 44.24 29 P P 05 03 59.2 -0.1
TOLK IAmb IAmb 05 04 19.1
comp=Z,47nm,1.8s
TOLK Toolik Lake Re 44.24 29 P P 05 03 59.8 +0.5
baz=269,SNR=5.2
M22K Willow 44.25 39 P P 05 04 00.7 +1.4
baz=275
H23K Yukon River 44.26 33 P P 05 03 59.8 +0.3
H23K Yukon River 44.26 33 P P 05 04 00.0 +0.6
baz=272,SNR=23
I23K Minto, Yukon-K 44.36 34 P P 05 04 00.6 +0.4
I23K Minto, Yukon-K 44.36 34 P P 05 04 01.4 +1.2
baz=272,SNR=19
BWN Browne 44.37 36 P P 05 04 01.2 +0.9
RC01 Rabbit Creek A 44.50 40 P P 05 04 02.3 +0.9
baz=276
NEA2 Nenana 44.51 35 P P 05 04 02.0 +0.6
NEA2 Nenana 44.51 35 P P 05 04 02.2 +0.8
baz=273,SNR=46
D24K Happy Valley 44.52 28 P P 05 04 01.6 +0.1
D24K IAmb IAmb 05 04 02.5
comp=Z,27nm,0.7s
D24K Happy Valley 44.52 28 P P 05 04 01.2 -0.3
baz=269,SNR=16
C24K Franklin Bluff 44.58 28 P P 05 04 01.3 -0.6
baz=268
MCK McKinley 44.63 36 P P 05 04 02.6 +0.2
baz=274,SNR=12
E24K Your Creek 44.64 30 P P 05 04 01.7 -0.7
baz=270
RND Reindeer 44.69 37 P P 05 04 03.5 +0.5
RND IAmb IAmb 05 04 04.5
comp=Z,35nm,1.0s
RND Reindeer 44.69 37 P P 05 04 03.5 +0.5
RND pmax pmax
comp=Z,35nm,1.0s
PMR Palmer 44.74 39 P P 05 04 02.9 -0.3
PMR Palmer 44.74 39 P P 05 04 03.1 -0.1
baz=276,SNR=5.0
PMR Palmer 44.74 39 P P 05 04 02.9 -0.3
PMR pmax pmax
comp=Z,21nm,1.0s
SEW Seward 44.76 41 P P 05 04 03.5 +0.1
baz=278
GHO Glory Hole Cre 44.82 39 P P 05 04 04.2 +0.2
GHO IAmb IAmb 05 04 05.7
comp=Z,32nm,0.9s
MDM Murphy Dome 44.85 34 P P 05 04 04.5 +0.3
MDM IAmb IAmb 05 04 06.3
comp=Z,39nm,0.8s

F24K Squaw Lake 44.87 31 P P 05 04 04.2 -0.1
F24K Squaw Lake 44.87 31 P P 05 04 04.9 +0.5
baz=271,SNR=12
WAT1 Susitna Watana 44.88 38 P P 05 04 05.3 +0.9
baz=276
H24K Noodor Dome 44.94 33 P P 05 04 05.2 +0.3
H24K IAmb IAmb 05 04 07.5
comp=Z,29nm,0.9s
H24K Noodor Dome 44.94 33 P P 05 04 05.1 +0.2
baz=273,SNR=38
WRH Wood River Hil 44.94 35 P P 05 04 05.7 +0.9
COLA College 45.02 35 P P 05 04 06.2 +0.8
COLA College 45.02 35 P P 05 04 05.8 +0.4
baz=274
COLA College 45.02 35 *c i* P **P 05 04 06.3 +0.9**
COLA pmax pmax
comp=Z,79nm,0.9s
COLA College 45.02 35 P P 05 04 06.5 +1.2
CCB Clear Creek Bu 45.05 35 P P 05 04 06.1 +0.4
G24K Hadweenzic Riv 45.06 32 P P 05 04 06.0 +0.2
baz=273,SNR=8.0
KNK Knik Glacier 45.08 39 P P 05 04 06.6 +0.6
baz=277
SML Sawmill 45.09 39 P P 05 04 06.9 +0.8
SML IAmb IAmb 05 04 08.7
comp=Z,42nm,1.0s
SML Sawmill 45.09 39 P P 05 04 06.7 +0.5
baz=277,SNR=6.9
SML Sawmill 45.09 39 P P 05 04 07.4 +1.3
SML pmax pmax
comp=Z,42nm,1.0s
POKR Poker Plat Res 45.18 34 P P 05 04 08.0 +1.3
POKR Poker Plat Res 45.18 34 P P 05 04 07.3 +0.6
baz=274,SNR=20
PDGK Podgornoye 45.27 294 P P 05 04 06.8 -1.1
WAT6 Susitna Watana 45.28 38 P P 05 04 08.6 +0.8
baz=276,SNR=5.0
SHLS Shalkode 45.35 294 *eP* **P 05 04 06.0 -2.6**
baz=294
SHLS Shalkode 45.35 294 *eP* **P 05 04 05.9 -2.6**
M23K Glacier View 45.38 39 P P 05 04 09.2 +0.8
baz=277
DHY Denali Highway 45.39 37 P P 05 04 09.3 +0.7
DHY IAmb IAmb 05 04 10.2
comp=Z,42nm,1.3s
DHY Denali Highway 45.39 37 P P 05 04 09.0 +0.4
baz=276,SNR=11
D25K Kavik River 45.40 28 P P 05 04 07.7 -0.7
baz=271
IL31 45.44 35 P P 05 04 08.4 -0.3
ILAR Eielson Array 45.44 35 P P 05 04 09.2 +0.5
ILAR Eielson Array 45.44 35 P P 05 04 08.3 -0.4
comp=Z,40nm,1.0s,baz=266,slow=5.6,SNR=170
ILAR LR LR 05 25 55.9
comp=Z,93nm,18.5s,baz=269,slow=40
comp=Z,40nm,1.0s
ILAR Eielson Array 45.44 35 P P 05 04 09.3 +0.5
HDA Harding Lake 45.44 35 P P 05 04 08.9 +0.1
HDA IAmb IAmb 05 04 10.1
comp=Z,25nm,0.9s
HDA Harding Lake 45.44 35 P P 05 04 09.0 +0.2
baz=275,SNR=14
TDK Taldyqorghan 45.44 297 *eP* **P 05 04 09.4 +0.3**
comp=Z,28nm,0.7s,baz=297
TDK Taldyqorghan 45.44 297 *eP* **P 05 04 09.4 +0.3**
TDK pmax pmax
comp=Z,28nm,0.7s
SCM Sheep Creek Mo 45.56 39 P P 05 04 10.4 +0.5
SCM IAmb IAmb 05 04 32.1
comp=Z,35nm,0.9s
SCM Sheep Creek Mo 45.56 39 P P 05 04 10.7 +0.8
baz=278
SCM Sheep Creek Mo 45.56 39 P P 05 04 10.4 +0.5
SCM pmax pmax
comp=Z,35nm,0.9s
G25K Bearman Lake 45.61 32 P P 05 04 10.9 +0.8
baz=274,SNR=5.9
UZB Uzynbulak 45.66 294 *eP* **P 05 04 10.7 -0.3**
baz=294
UZB Uzynbulak 45.66 294 *eP* **P 05 04 10.7 -0.3**
E25K Arctic Village 45.73 30 P P 05 04 12.0 +0.9
E25K Arctic Village 45.73 30 P P 05 04 11.9 +0.8
baz=273,SNR=8.0
F25K Christian Rive 45.73 31 P P 05 04 12.3 +1.1
baz=273,SNR=7.8
H25L Birch Creek 45.76 33 P P 05 04 12.5 +1.3
baz=274
GLI Glacier Island 45.81 40 P P 05 04 12.1 +0.3
baz=279
C26K Camden Bay 45.89 27 P P 05 04 13.3 +1.0
baz=272
PRP Porcupine Dome 45.94 34 P P 05 04 14.3 +1.4
PRP Porcupine Dome 45.94 34 P P 05 04 14.0 +1.1
baz=276,SNR=33
FYU Fort Yukon 45.97 32 P P 05 04 14.6 +1.7
K24K Donnelly Dome 46.02 36 P P 05 04 13.8 +0.4
baz=277
ZHN Zhinishke 46.05 294 *eP* **P 05 04 13.6 -0.5**
baz=294
ZHN Zhinishke 46.05 294 *eP* **P 05 04 13.5 -0.5**
M24K Tolsona, Glenn 46.06 38 P P 05 04 15.2 +1.4
baz=278
ARXS Arhartly 46.10 296 *eP* **P 05 04 14.1 -0.3**
J25K Salcha River, 46.10 35 P P 05 04 14.0 -0.1
J25K Salcha River, 46.10 35 P P 05 04 14.5 +0.4
baz=276,SNR=9.9
SATY Saty 46.11 294 *eP* **P 05 04 14.6 0.0**
baz=294
SATY Saty 46.11 294 *eP* **P 05 04 14.5 0.0**
BMAR Burnt Mountain 46.15 31 P P 05 04 15.7 +1.3
WUS Wushi 46.23 292 P P 05 04 16.3 +0.7
WUS sP **sP 05 04 38.9 +0.2**
PAX Paxson 46.26 37 P P 05 04 16.4 +1.0
baz=278
KLU Klutina 46.27 39 P P 05 04 16.8 +1.2
KLU IAmb IAmb 05 04 17.7
comp=Z,36nm,1.1s
KLU Klutina 46.27 39 P P 05 04 16.6 +1.1
baz=279,SNR=6.9
F26K Sheenjek River 46.30 30 P P 05 04 16.7 +1.2
baz=275,SNR=18
C27K Jago River 46.32 28 P P 05 04 16.4 +0.7
baz=273,SNR=19
HARP HAARP 46.49 38 P P 05 04 18.4 +1.3
baz=279,SNR=6.7
G26K Porcupine Rive 46.50 31 P P 05 04 18.8 +1.7
baz=276,SNR=16
SCRK Sand Creek 46.78 36 P P 05 04 19.7 +0.2
SCRK Sand Creek 46.78 36 P P 05 04 19.8 +0.2
baz=278,SNR=48
CHKK Chushkaly 46.79 296 *eP* **P 05 04 19.3 -0.4**
baz=296
CHKK Chushkaly 46.79 296 *eP* **P 05 04 19.3 -0.4**
N25K Chitina, Valde 46.88 39 P P 05 04 20.5 +0.2
baz=280
J26L Joseph Creek 46.89 35 P P 05 04 20.4 +0.1
J26L Joseph Creek 46.89 35 P P 05 04 20.2 -0.1
baz=278,SNR=7.2
I26K Coal Creek Min 46.95 34 P P 05 04 21.1 +0.4
baz=278
BMRM Bremner River 46.99 40 P P 05 04 22.0 +0.9
baz=281
MDOK Medeo 47.00 295 *eP* **P 05 04 21.6 0.0**
baz=295
MDOK Medeo 47.00 295 *eP* **P 05 04 21.5 0.0**
TARG Taragay, Kyrgy 47.01 293 P P 05 04 23.0 +1.0
TARG IAmb IAmb 05 04 23.8
comp=Z,28nm,0.8s
TARG Taragay, Kyrgy 47.01 293 P P 05 04 23.0 +1.0
TARG pmax pmax
comp=Z,28nm,0.8s
MENT Mentasta 47.06 37 P P 05 04 22.4 +0.9
MENT IAmb IAmb 05 04 24.2
comp=Z,17nm,0.9s
AAA Alma-Ata 47.07 295 *eP* **P 05 04 21.9 -0.2**
comp=Z,19nm,0.4s,baz=295
AAA Alma-Ata 47.07 295 *eP* **P 05 04 21.8 -0.2**
AAA pmax pmax
comp=Z,19nm,0.4s
TNSS Tian-Shan 47.11 295 *eP* **P 05 04 22.3 -0.5**
baz=295
TNSS Tian-Shan 47.11 295 *eP* **P 05 04 22.2 -0.5**
E27K Coleen River 47.21 30 P P 05 04 23.7 +1.1
E27K Coleen River 47.21 30 P P 05 04 23.3 +0.6
baz=276
L26K Log Cabin Wild 47.21 37 P P 05 04 24.1 +1.3

L26K IAmb IAmb 05 04 25.3
comp=Z,23nm,0.8s
L26K Log Cabin Wild 47.21 37 P P 05 04 24.0 +1.3
baz=280,SNR=7.4
KAIM Kayak Island 47.28 41 P P 05 04 24.5 +1.3
baz=282
D27M Malcolm River 47.32 28 P P 05 04 24.5 +0.9
baz=276
G27K Doyon Strip 47.35 32 P P 05 04 25.2 +1.3
G27K Doyon Strip 47.35 32 P P 05 04 25.1 +1.3
baz=278,SNR=11
M26K Nabesna, AK 47.48 38 P P 05 04 25.6 +0.7
M26K IAmb IAmb 05 04 27.8
comp=Z,30nm,1.2s
M26K Nabesna, AK 47.48 38 P P 05 04 26.7 +1.8
baz=281,SNR=11
H27K Steamboat Moun 47.49 32 P P 05 04 26.8 +1.9
baz=278,SNR=45
I27K Kandik River 47.54 33 P P 05 04 26.3 +1.0
baz=279,SNR=25
K27K Chicken 47.60 35 P P 05 04 26.7 +1.0
baz=280
MCARA McCarthy VSAT 47.66 39 P P 05 04 27.1 +0.9
baz=282
EGAK Eagle 47.87 34 P P 05 04 28.1 +0.4
EGAK IAmb IAmb 05 04 30.0
comp=Z,28nm,0.9s
EGAK Eagle 47.87 34 P P 05 04 28.4 +0.6
baz=280,SNR=23
L27K Beaver Creek, 47.89 37 P P 05 04 28.4 +0.4
L27K IAmb IAmb 05 04 30.7
comp=Z,24nm,0.8s
L27K Beaver Creek, 47.89 37 P P 05 04 29.7 +1.7
baz=281,SNR=23
ULHL Ulahol 47.89 294 P P 05 04 28.9 +0.4
SNR=7.0
BCAR Beaver Creek A 47.91 37 P P 05 04 29.6 +1.4
E28M Babbage River 47.91 29 P P 05 04 29.0 +0.9
E28M Babbage River 47.91 29 P P 05 04 29.0 +0.9
baz=278,SNR=8.8
F28M Old Crow 47.93 30 P P 05 04 29.6 +1.3
F28M IAmb IAmb 05 04 30.8
comp=Z,17nm,0.9s
F28M Old Crow 47.93 30 P P 05 04 29.7 +1.5
baz=278,SNR=23
M27K Edge Creek, AK 48.00 38 P P 05 04 30.5 +1.5
baz=282
BOOM Boomskoye usch 48.01 294 P P 05 04 30.2 +0.8
BVA0 Borovoye Array 48.02 310 *i* P **P 05 04 28.5 -0.6**
BVAR Borovoye Array 48.02 310 P P 05 04 28.5 -0.6
comp=Z,21nm,0.4s,baz=72,slow=9.0,SNR=114
BVAR PcP **PcP 05 05 57.0 +0.8**
comp=Z,7.3nm,0.5s,baz=74,slow=3.9,SNR=4.6
BVAR LR LR 05 26 02.8
comp=Z,288nm,19.3s,baz=96,slow=38
comp=Z,21nm,0.4s
BRVK Borovoye 48.07 310 P P 05 04 29.8 +0.3
BRVK IAmb IAmb 05 04 30.9
comp=Z,37nm,1.1s
BRVK Borovoye 48.07 310 P P 05 04 30.1 +0.6
BRVK Borovoye 48.07 310 *ce*P **P 05 04 27.7 -1.8**
BRVK pmax pmax
comp=Z,34nm,1.0s
BRVK Borovoye 48.07 310 P P 05 04 29.8 +0.3
TKM2 Tokmak 2 48.08 295 P P 05 04 30.2 +0.2
SNR=74
TKM2 Tokmak 2 48.08 295 *i* P **P 05 04 30.5 +0.5**
TKM2 pmax pmax
comp=Z,83nm,1.0s
I28M Miner Creek 48.26 33 P P 05 04 32.0 +1.1
I28M Miner Creek 48.26 33 P P 05 04 32.6 +1.7
baz=280,SNR=64
BTLS Baital 48.33 298 *eP* **P 05 04 31.2 -0.5**
baz=298
BTLS Baital 48.33 298 *eP* **P 05 04 31.1 -0.5**
SGDS Sogindy 48.53 296 *eP* **P 05 04 33.2 0.0**
baz=296
SGDS Sogindy 48.53 296 *eP* **P 05 04 33.2 0.0**
E29M Blow River 48.54 29 P P 05 04 34.2 +1.4
E29M IAmb IAmb 05 04 44.1
comp=Z,16nm,0.9s
E29M Blow River 48.54 29 P P 05 04 34.3 +1.4
baz=280,SNR=15
CTG Chitna Glacier 48.55 39 P P 05 04 34.4 +1.2
baz=283
CTGM Chitina Glacie 48.55 39 P P 05 04 34.3 +1.0
CTGM IAmb IAmb 05 04 54.6
comp=Z,35nm,1.2s
KBK Karagaybulak 48.62 295 P P 05 04 35.1 +1.1
SNR=28
USP Ospenovka 48.69 296 P P 05 04 34.7 +0.2
SNR=17
H29M Whitestone 48.75 32 P P 05 04 36.0 +1.4
H29M Whitestone 48.75 32 P P 05 04 36.3 +1.8
baz=281,SNR=25
G29M Pine Creek 48.76 31 P P 05 04 36.0 +1.4
G29M Pine Creek 48.76 31 P P 05 04 36.5 +1.9
baz=281,SNR=30
DAWY Dawson 48.76 35 P P 05 04 35.5 +0.8
DAWY Dawson 48.76 35 P P 05 04 36.0 +1.3
baz=282
YUK3 Moose Creek 48.78 38 P P 05 04 36.1 +1.0
baz=283,SNR=5.4
AAK Ala-Archa 48.93 295 P P 05 04 36.8 +0.3
SNR=7.5
AAK Ala-Archa 48.93 295 P P 05 04 36.9 +0.4
AAK IAmb IAmb 05 04 37.2
comp=Z,13nm,0.6s
AAK Ala-Archa 48.93 295 *i* P **P 05 04 37.2 +0.7**
SNR=7.5
AAK Ala-Archa 48.93 295 LR LR 05 27 01.9
comp=Z,389nm,19.4s,baz=92,slow=38
AAK Ala-Archa 48.93 295 P P 05 04 37.0 +0.4
AAK Ala-Archa 48.93 295 *ce*P **P 05 04 36.9 +0.4**
AAK pmax pmax
comp=Z,20nm,1.0s
AAK Ala-Archa 48.93 295 P P 05 04 36.8 +0.3
I29M Ogilvie Camp, 48.95 33 P P 05 04 37.7 +1.6
I29M Ogilvie Camp, 48.95 33 P P 05 04 37.5 +1.4
baz=282,SNR=39
UCH Uchtor 49.08 295 P P 05 04 38.9 +1.0
SNR=9.3
O28M Mount Upton 49.14 39 P P 05 04 39.1 +1.1
baz=284
KSH Kashi 49.18 291 P P 05 04 42.3 +3.9
KSH sP sP 05 05 03.0 +1.3
KSH pmax pmax
comp=Z,20nm,1.0s
KSH LR LR
comp=Z,290nm,15.1s
KSH LR LR
comp=Z,380nm,16.8s
KSH LR LR
comp=Z,390nm,19.2s
EPYK Eagle Plains 49.37 32 P P 05 04 40.9 +1.5
EPYK Eagle Plains 49.37 32 P P 05 04 40.7 +1.3
baz=282,SNR=62
EKS2 Erkin-Say 49.41 295 P P 05 04 40.8 +0.7
SNR=15
G30M tAoh Zraii Nji 49.44 31 P P 05 04 41.0 +1.2
baz=282,SNR=52
F30M Barrier River 49.47 30 P P 05 04 41.9 +1.8
baz=282,SNR=56
L29M L29M 49.52 36 P P 05 04 42.9 +2.4
baz=284,SNR=17
M29M Somme Creek 49.53 37 P P 05 04 42.6 +1.9
baz=284
K29M Barlow Dome 49.61 35 P P 05 04 43.0 +1.7
baz=284,SNR=21
I30M Mount Dempster 49.77 33 P P 05 04 43.9 +1.4
baz=284,SNR=116
J30M Hart River 49.94 34 P P 05 04 45.2 +1.5
baz=284,SNR=17
INK Inuvik 50.15 29 P P 05 04 46.0 +0.9
INK Inuvik 50.15 29 P P 05 04 46.0 +0.9
baz=283,SNR=35
INK Inuvik 50.15 29 P P 05 04 46.0 +0.9
INK pmax pmax
comp=Z,33nm,0.7s
G31M Satah River 50.20 31 P P 05 04 46.5 +1.0
baz=284,SNR=36
M30M Minto, Yukon 50.25 37 P P 05 04 48.0 +2.0
baz=285,SNR=9.3
F31M Tsiigehtchic 50.27 30 P P 05 04 46.8 +0.8
baz=284,SNR=15
HYT Haines Junctio 50.40 39 P P 05 04 49.3 +2.0
HYT Haines Junctio 50.40 39 P P 05 04 49.7 +2.4

baz=286,SNR=25
N30M Aishikik Lake 50.42 38 P P 05 04 49.2 +1.9
baz=286
ARSB Arslanbob 50.50 294 P P 05 04 49.3 +0.9
ARSB IAmb IAmb 05 04 51.1
comp=Z,22nm,0.8s
ARSB Arslanbob 50.50 294 P P 05 04 49.3 +0.9
ARSB pmax pmax
comp=Z,22nm,0.8s
P29M Windy Craggy 50.63 40 P P 05 04 50.9 +2.0
P29M Windy Craggy 50.63 40 P P 05 04 51.0 +2.0
baz=287,SNR=7.7
KAPI Kappang 50.64 209 *i* P **P 05 04 48.9 -0.5**
KAPI pmax pmax
comp=Z,29nm,0.9s
P30M Million Dollar 50.86 40 P P 05 04 52.5 +1.8
baz=287
N31M Braeburn, Yuko 51.01 38 P P 05 04 53.4 +1.6
N31M IAmb IAmb 05 05 14.1
comp=Z,29nm,0.9s
N31M Braeburn, Yuko 51.01 38 P P 05 04 53.7 +1.9
baz=287,SNR=8.2
O30N Mendenhall 51.08 39 P P 05 04 53.9 +1.5
O30N IAmb IAmb 05 05 14.3
comp=Z,24nm,1.4s
O30N Mendenhall 51.08 39 P P 05 04 53.8 +1.5
baz=287
PLBC Pleasant Camp 51.35 40 P P 05 04 56.0 +1.7
baz=288
KK31 Karatay Array 51.43 297 P P 05 04 55.3 +0.2
KK31 IAmb IAmb 05 04 56.0
comp=Z,19nm,0.7s
KK31 Karatay Array 51.43 297 *i* P **P 05 04 54.7 -0.5**
KKAR Karatay Array 51.43 297 P P 05 04 55.2 +0.1
KKAR IAmb IAmb 05 04 56.0
comp=Z,19nm,0.7s
KKAR Karatay Array 51.43 297 P P 05 04 55.0 -0.2
KKAR Karatay Array 51.43 297 P P 05 04 55.0 -0.2
KKAR pmax pmax
comp=Z,19nm,0.7s
M31M Drury Creek, Y 51.43 37 P P 05 04 55.9 +1.0
M31M Drury Creek, Y 51.43 37 P P 05 04 56.5 +1.6
baz=288,SNR=6.1
SKAG Skagway 51.85 40 P P 05 04 59.8 +1.8
baz=289
FARO Faro, Yukon 51.89 36 P P 05 04 59.5 +1.2
FARO Faro, Yukon 51.89 36 P P 05 04 59.8 +1.5
baz=288,SNR=6.8
A36M Sachs Harbour 51.89 23 P P 05 04 59.8 +1.7
A36M Sachs Harbour 51.89 23 P P 05 04 59.0 +0.9
baz=288,SNR=6.6
BRLS Borolday 51.91 297 *eP* **P 05 05 00.0 +1.2**
baz=297
BRLS Borolday 51.91 297 *eP* **P 05 05 00.0 +1.2**
IUG Iuzhnay 52.15 296 *eP* **P 05 05 00.8 +0.1**
comp=Z,14nm,1.1s,baz=296
IUG Iuzhnay 52.15 296 *eP* **P 05 05 00.7 +0.1**
IUG pmax pmax
comp=Z,14nm,1.1s
SVE Sverdlovsk 52.18 317 *deP* **P 05 05 01.0 +0.5**
SVE pmax pmax
comp=Z,57nm,1.0s
BTK Batken 52.53 294 P P 05 05 03.6 +0.2
BTK IAmb IAmb 05 05 12.7
comp=Z,15nm,0.9s
BTK Batken 52.53 294 P P 05 05 03.6 +0.2
BTK pmax pmax
comp=Z,15nm,0.9s
P32M Atlin 52.58 40 P P 05 05 05.0 +1.5
baz=290
R32K Eaglecrest 52.65 41 P P 05 05 04.9 +1.0
R32K IAmb IAmb 05 05 25.6
comp=Z,14nm,1.0s
R32K Eaglecrest 52.65 41 P P 05 05 05.3 +1.4
baz=290
P33M Teslin, Yukon 52.80 39 P P 05 05 05.5 +0.3
P33M Teslin, Yukon 52.80 39 P P 05 05 06.2 +1.1
baz=290,SNR=7.5
S32K Killisnoo 52.90 42 P P 05 05 06.3 +0.6
baz=291
C36M Paulatuk 53.13 26 P P 05 05 07.8 +0.6
C36M Paulatuk 53.13 26 P P 05 05 08.1 +0.8
baz=291,SNR=17
HNR Honiara 53.32 158 LR LR 05 26 01.4
comp=Z,2μm,21.7s,baz=242,slow=34
GAR Garm 53.35 293 P P 05 05 09.4 -0.1
ARU Arti 53.39 317 P P 05 05 09.1 -0.3
ARU Arti 53.39 317 LR LR 05 30 33.5
comp=Z,545nm,18.1s,baz=112,slow=39
ARU Arti 53.39 317 *c i* P **P 05 05 09.5 0.0**
ARU *PP **pP 05 05 27.1 +1.4**
ARU 05 06 15.0
ARU S **S 05 12 36.9 +0.3**
ARU pmax pmax
comp=Z,44nm,1.0s
ARU MLR MLR
comp=Z,497nm,18.0s
ARU Arti 53.39 317 P **P 05 05 09.4 0.0**
ARU pP **pP 05 05 25.6 -0.1**
ARU sP **sP 05 05 32.4 -0.5**
ARU PcP **PcP 05 06 16.2 +0.3**
Q32M Nakina River 53.50 40 P **P 05 05 12.0 +1.6**
Q32M IAmb IAmb 05 05 32.3
comp=Z,25nm,1.4s
Q32M Nakina River 53.50 40 P P 05 05 11.8 +1.4
baz=292
NIL Nilore 53.82 285 P P 05 05 13.7 +0.7
NIL Nilore 53.82 285 P P 05 05 13.7 +0.7
NIL pmax pmax
comp=Z,38nm,0.9s
R33M Jennings River 53.96 39 P P 05 05 14.8 +1.0
R33M IAmb IAmb 05 05 36.5
comp=Z,36nm,1.7s
R33M Jennings River 53.96 39 P P 05 05 15.6 +1.8
baz=292
U33K Whale Pass 54.15 43 P P 05 05 16.8 +1.8
baz=293
CHGR Chuyangaron 54.31 293 P P 05 05 16.4 -0.1
CHGR Chuyangaron 54.31 293 P P 05 05 16.4 -0.1
CHGR pmax pmax
comp=Z,111nm,0.8s
TGTN Hyland Airport 54.38 36 P P 05 05 18.1 +1.4
baz=293
CRAG Craig 54.40 44 P P 05 05 19.0 +2.3
baz=293
SIMJ Simiganj 54.41 293 P P 05 05 17.1 -0.2
SIMJ Simiganj 54.41 293 P P 05 05 17.1 -0.2
SIMJ sP **sP 05 05 40.2 -0.6**
S34M Telegraph Cree 54.45 41 P P 05 05 19.2 +2.0
S34M IAmb IAmb 05 05 39.8
comp=Z,24nm,1.2s
S34M Telegraph Cree 54.45 41 P P 05 05 19.2 +2.0
baz=293
DLBC Dease Lake 54.78 40 P P 05 05 20.7 +1.1
DLBC IAmb IAmb 05 05 42.5
comp=Z,25nm,1.2s
DLBC Dease Lake 54.78 40 P P 05 05 21.7 +2.0
baz=293
V35K Ketchikan 55.24 44 P P 05 05 24.2 +1.3
baz=294
T35M Bob Quinn 55.26 42 P P 05 05 24.6 +1.5
T35M IAmb IAmb 05 05 47.0
comp=Z,34nm,1.1s
T35M Bob Quinn 55.26 42 P P 05 05 25.0 +1.9
baz=294
AB31 Akbulak array 55.51 308 P P 05 05 24.5 -0.4
ABKAR Akbulak array 55.51 308 P P 05 05 25.0 +0.1
ABKAR Akbulak array 55.51 308 P P 05 05 24.9 +0.1
ALE Alert 55.58 4 P P 05 05 25.2 +0.3
WRGLY Wrigley 55.75 33 P P 05 05 27.7 +1.3
WRGLY IAmb IAmb 05 05 29.0
comp=Z,18nm,1.0s
WRGLY Wrigley 55.75 33 P P 05 05 28.1 +1.7
baz=295
AKTO Aktyubinsk 56.12 310 LR LR 05 31 00.1
comp=Z,303nm,20.2s,baz=76,slow=38
SPITS Spitsbergen Ar 56.21 348 P P 05 05 27.8 -1.7
comp=Z,5.0nm,0.4s,baz=75,slow=6.5,SNR=9.5
SPITS LR LR 05 31 09.1
comp=Z,93nm,19.9s,baz=52,slow=38
comp=Z,5.0nm,0.4s
LIRD Liard River Hi 56.23 38 P P 05 05 31.8 +1.8
baz=296
KBS Kingsbay 56.31 350 P P 05 05 30.8 +0.6
KBL Kabul 56.40 289 P P 05 05 30.8 -0.9
KBL Kabul 56.40 289 P P 05 05 31.2 -0.5
SNR=12
KBL Kabul 56.40 289 P P 05 05 30.8 -0.9
KBL pmax pmax
comp=Z,31nm,0.9s
NOR Nord 56.58 356⇑ *iP* **P 05 05 31.6 -0.5**
NOR IAmb IAmb 05 05 32.7
comp=Z,21nm,1.0s
TOAD Toad River Com 56.88 38 P P 05 05 36.3 +1.7
baz=296,SNR=6.5
KIRV Kirov 57.01 321 *ceP* **P 05 05 35.7 +0.3**
RES Resolute Bay 58.10 15 P P 05 05 43.0 +0.1
RES Resolute Bay 58.10 15 P P 05 05 43.0 +0.1
RES pmax pmax
comp=Z,55nm,0.8s
LVZ Lovozero 58.23 335 P P 05 05 44.0 0.0
LVZ IAmb IAmb 05 05 46.4
comp=Z,13nm,0.8s
LVZ Lovozero 58.23 335 *ceP* **P 05 05 44.5 +0.5**
LVZ pmax pmax
comp=Z,15nm,0.8s
LVZ Lovozero 58.23 335 P P 05 05 43.9 -0.1
LVZ sP **sP 05 06 06.6 -0.8**
BBB Bella Bella 58.50 46 LR LR 05 30 02.3
comp=Z,45nm,22.0s,baz=328,slow=35
VADS Vadso 58.56 338 *eP* **P 05 05 46.2 +0.1**
VADS IAmb IAmb 05 05 46.7
comp=Z,33nm,0.9s
APA Apatity 58.81 335⇓ *iP* **P 05 05 45.9 -2.0**
APA *i* 05 07 56.0
APA *i* S S 05 13 38.0 -10
APA *i* 05 15 29.0
APA *i* SS **SS 05 17 38.0 -3.4**
APA pmax pmax
comp=Z,12nm,0.8s
APA MLR MLR
comp=Z,300nm,14.0s
ADZR Andozero 59.10 330 *eP* **P 05 05 48.7 -1.2**
ADZR pmax pmax
comp=Z,34nm,0.6s
KEV Kevo 59.43 339 P P 05 05 52.5 +0.4
KEV IAmb IAmb 05 05 52.6
comp=Z,24nm,1.0s
KEV Kevo 59.43 339 P P 05 05 52.5 +0.4
KEV pmax pmax
comp=Z,24nm,1.0s
KEV Kevo 59.43 339 P P 05 05 52.1 0.0
KEV sP **sP 05 06 14.9 -0.7**
YKA Yellowknife Ar 59.66 32 P P 05 05 51.9 -1.9
comp=Z,4.0nm,0.8s,baz=305,slow=6.6,SNR=15
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 59.66 32 *ceP* **P 05 05 54.2 +0.4**
YKA pmax pmax
comp=Z,4.0nm,0.8s
HAMF Hammerfest 59.74 340 *eP* **P 05 05 53.9 -0.4**
HAMF IAmb IAmb 05 05 55.0
comp=Z,18nm,0.8s
ARCES ARCESS Array B 59.98 339 P P 05 05 56.4 +0.5
ARCES ARCESS Array B 59.98 339 P P 05 05 54.0 -1.9
comp=Z,5.5nm,0.8s,baz=56,slow=6.8,SNR=15
comp=Z,5.5nm,0.8s
ARCES ARCESS Array B 59.98 339 P P 05 05 56.4 +0.5
ARCES pmax pmax
comp=Z,54nm,2.0s
BELG Belogornoye 60.91 316 LR LR 05 34 57.3
comp=Z,501nm,18.7s,baz=66,slow=38
BELG Belogornoye 60.91 316 *i* P **P 05 06 01.1 -1.4**
BELG pmax pmax
comp=Z,14nm,1.1s
KTK1 Kautokeino 60.93 339 *eP* **P 05 06 02.5 +0.1**
KTK1 IAmb IAmb 05 06 03.2
comp=Z,26nm,0.9s
NEEM North Greenlan 60.99 3⇑ *iP* **P 05 06 03.1 0.0**
NEEM IAmb IAmb 05 06 04.0
comp=Z,64nm,0.8s
SGF Sodankyl 61.01 337 P P 05 06 02.0 -1.0
SGF pmax pmax
comp=Z,30nm,0.9s
MSF Maaselka 61.19 334 P P 05 06 04.4 +0.2
MSF pmax pmax
comp=Z,33nm,0.9s
HRA Herat 61.27 292 P P 05 06 05.6 +0.1
DAG Danmarks Havn 61.33 355 P P 05 06 04.9 -0.1
DAG pmax pmax
comp=Z,50nm,1.0s
DAG Danmarks Havn 61.33 355 *i* P **P 05 06 03.0 -2.0**
WB0 Warramunga Arr 61.42 188 P P 05 06 06.0 -0.3
WR0 Warramunga Arr 61.60 188 P P 05 06 06.9 -0.5
WR0 IAmb IAmb 05 06 07.8
comp=Z,21nm,0.8s
WB2 Warramunga Arr 61.60 188 P P 05 06 07.1 -0.3
WRA Warramunga Arr 61.60 188 P P 05 06 06.4 -1.1
WRA Warramunga Arr 61.60 188 P P 05 06 05.5 -2.0
comp=Z,23nm,0.8s,baz=5.0,slow=7.0,SNR=160
comp=Z,23nm,0.8s
WRA Warramunga Arr 61.60 188 *i* P **P 05 06 07.0 -0.5**
WRA pmax pmax
comp=Z,23nm,0.8s
TRO Tromso 61.63 341 *eP* **P 05 06 07.1 0.0**
TRO IAmb IAmb 05 06 07.7
comp=Z,35nm,0.9s
JOF Joensuu 62.25 331 *eP* **P 05 06 11.2 -0.2**
BRLDA Berland Lookou 63.03 41 P **P 05 06 17.7 +0.8**
BRLDA IAmb IAmb 05 06 37.4
comp=Z,23nm,0.9s
NLWA Neilton Lookou 63.32 49 P **P 05 06 20.0 +1.2**
NLWA IAmb IAmb 05 06 40.3
comp=Z,15nm,0.9s
VALR Valaam 63.38 330 *i* P **P 05 06 17.1 -1.7**
VALR pmax pmax
comp=Z,39nm,0.9s
STEI Steigen 63.79 340 *eP* **P 05 06 21.4 -0.1**
STEI IAmb IAmb 05 06 21.9
comp=Z,19nm,0.9s
PALK Pallekele 63.93 256 LR LR 05 37 17.0
comp=Z,117nm,18.6s,baz=156,slow=39
E03A Lebam 63.96 50 P **P 05 06 23.9 +1.0**
E03A IAmb IAmb 05 06 44.4
comp=Z,23nm,0.8s
MOS Moscow 63.97 322 *eP* **P 05 06 22.0 -0.9**
MOS *e* 05 07 00.3
MOS *e* 05 08 42.1
MOS pmax pmax
comp=Z,42nm,0.8s
FAUS Fauske 64.19 340 *eP* **P 05 06 24.1 0.0**
FAUS IAmb IAmb 05 06 24.7
comp=Z,37nm,0.9s
VRH Novokhopyorsk 64.63 317 *eP* **P 05 06 26.7 -0.5**
VRH pmax pmax
comp=Z,34nm,0.6s
OBN Obninsk 64.83 322 *ceP* **P 05 06 28.1 -0.4**
OBN *e* 05 07 01.3
OBN *e* 05 08 51.4
OBN *e*PPP PPP 05 10 23.9
OBN pmax pmax
comp=Z,63nm,1.3s
OBN MLR MLR
comp=Z,226nm,18.0s
KEF Keuruu 65.02 333 *eP* **P 05 06 29.3 -0.3**
FIA1 FINESS Array S 65.08 332 P P 05 06 29.7 -0.3
FINES FINESS Array B 65.09 332 P P 05 06 29.6 -0.4
FINES FINESS Array B 65.09 332 P P 05 06 28.6 -1.5
comp=Z,32nm,0.7s,baz=46,slow=8.2,SNR=121
FINES LR LR 05 37 18.9
comp=Z,362nm,18.9s,baz=73,slow=38
comp=Z,32nm,0.7s
FINES FINESS Array B 65.09 332 *i* P **P 05 06 29.7 -0.4**
FINES pmax pmax
comp=Z,32nm,0.7s
VAF Ylistaro 65.16 334 *eP* **P 05 06 30.8 +0.3**
LPSR Galich'ya Gora 65.21 319 *eP* **P 05 06 29.0 -2.0**
LPSR pmax pmax
comp=Z,50nm,0.8s
MOR8 Moi Rana 65.33 339 *eP* **P 05 06 30.3 -1.3**
MOR8 IAmb IAmb 05 06 30.8
comp=Z,38nm,0.9s
AS31 Alice Springs 65.33 188 P P 05 06 32.5 +0.4
ASAR Alice Springs 65.33 188 P P 05 06 32.2 +0.1
ASAR Alice Springs 65.33 188 P P 05 06 31.5 -0.6
comp=Z,13nm,0.8s,baz=5.8,slow=5.3,SNR=85
comp=Z,13nm,0.8s
ASAR Alice Springs 65.33 188 P P 05 06 32.2 +0.1
VORR Voronezh 65.62 318 *eP* **P 05 06 33.8 +0.1**
VORR pmax pmax
comp=Z,64nm,0.6s
J01E Myrtle Point 65.64 53 P P 05 06 34.9 +0.9
J01E IAmb IAmb 05 06 55.5
comp=Z,13nm,0.8s
I03D Drain, OR 65.69 53 P P 05 06 35.9 +1.6
H04A Detroit Lake 65.81 51 P P 05 06 36.0 +0.9
H04A IAmb IAmb 05 06 56.1
comp=Z,15nm,0.8s
VSR Storozhevoye 65.92 318 *eP* **P 05 06 34.1 -1.5**
VSR pmax pmax
comp=Z,30nm,0.5s
VORD Divnogorie 66.00 318 *eP* **P 05 06 34.1 -2.0**
VORD pmax pmax
comp=Z,30nm,0.9s
SUMG Summit 66.17 0 P P 05 06 38.1 +0.6
SUMG Summit 66.17 0 P P 05 06 38.1 +0.6
SUMG pmax pmax
comp=Z,67nm,1.0s
SUMG Summit 66.17 0 *i* P **P 05 06 38.0 +0.6**
I04A Tendick Farm, 66.19 52 P P 05 06 38.5 +1.0
I04A IAmb IAmb 05 06 58.6
comp=Z,54nm,1.7s
C09A Chrisman Ranch 66.20 47 P P 05 06 37.9 +0.4
C09A IAmb IAmb 05 06 58.3
comp=Z,16nm,0.8s
L02F Cave Junction 66.46 54 P P 05 06 40.5 +1.2
ARBE Arbavere 66.48 330 *eP* **P 05 06 39.4 +0.3**
MEF Metsahovi 66.53 331 *eP* **P 05 06 39.7 +0.3**
E08A Dider Farm, El 66.54 48 P P 05 06 40.8 +1.1
E08A IAmb IAmb 05 07 00.6
comp=Z,14nm,0.8s
NEW Newport 66.55 46 P P 05 06 40.6 +0.8
NEW Newport 66.55 46 P P 05 06 40.6 +0.8
baz=307
NEW Newport 66.55 46 P P 05 06 40.6 +0.8
NEW pmax pmax
comp=Z,12nm,0.9s
VSU Vasula 66.85 329 *ceP* **P 05 06 41.7 +0.3**
VSU pmax pmax
comp=Z,70nm,1.3s
RAF Rauma 66.89 333 *eP* **P 05 06 41.5 -0.1**
E09A Wood Farm, Sta 67.04 48 P P 05 06 43.8 +0.9
E09A IAmb IAmb 05 07 03.9
comp=Z,17nm,0.8s
PINE Pine Mountain 67.05 51 P P 05 06 44.7 +1.4
PINE IAmb IAmb 05 07 04.8
comp=Z,22nm,0.9s
L04D Klamath Falls 67.17 53 P P 05 06 45.4 +1.4
L04D IAmb IAmb 05 07 05.2
comp=Z,25nm,0.8s
DZM Mont Dzumac 67.20 156 *e*LR LR 05 27 02.7
comp=Z,235nm,23.2s
YBH Yreka Blue Hor 67.20 54 P P 05 06 44.3 +0.2
YBH Yreka Blue Hor 67.20 54 P P 05 06 44.3 +0.2
YBH pmax pmax
comp=Z,8.0nm,0.8s
NSS Namsos 67.26 339 *eP* **P 05 06 43.7 -0.2**
NSS IAmb IAmb 05 06 44.2
comp=Z,17nm,1.1s
GOF Gofitskoye 67.52 311 *ceP* **P 05 06 46.2 +0.3**
I07A Izee 67.72 50 P P 05 06 47.5 +0.1
MTSE Matsula 67.79 330 *eP* **P 05 06 47.8 +0.4**
F10A Beach Ranch, E 67.87 48 P P 05 06 49.3 +1.0
O02D Mt. Diablo Mer 68.07 55 P P 05 06 50.9 +1.3
O02D IAmb IAmb 05 07 11.3
comp=Z,23nm,1.0s
AAL Aland 68.11 333 *eP* **P 05 06 48.9 -0.4**
NCK Nalchik 68.14 309 *i* P **P 05 06 49.1 -0.8**
NCK pmax pmax
comp=Z,23nm,0.4s
KIV Kislovodsk 68.39 310 ⇑P **P 05 06 53.1 +1.6**
KIV Kislovodsk 68.39 310 P P 05 06 51.2 -0.3
KIV Kislovodsk 68.39 310 *i* P **P 05 06 52.9 +1.4**
SNR=14
KIV Kislovodsk 68.39 310 P P 05 06 53.4 +1.9
KIV Kislovodsk 68.39 310 *eP* **P 05 06 52.2 +0.7**
KIV pmax pmax
comp=Z,99nm,1.1s
KIV MLR MLR
comp=Z,171nm,17.0s
KIV Kislovodsk 68.39 310 P P 05 06 52.9 +1.4
KIV PcP **PcP 05 07 18.8 +2.2**
KBZ Khabaz 68.40 310 P P 05 06 50.0 -1.4
comp=Z,24nm,0.9s,baz=45,slow=9.5,SNR=54
KBZ LR LR 05 39 39.0
comp=Z,133nm,21.2s,baz=74,slow=38
comp=Z,24nm,0.9s
KBZ Khabaz 68.40 310 *ceP* **P 05 06 51.6 +0.2**
KBZ pmax pmax
comp=Z,34nm,0.9s
HATC Hat Creek Radi 68.50 54 P P 05 06 53.0 +0.7
HATC IAmb IAmb 05 07 13.6
comp=Z,30nm,0.8s
BMO Blue Mountains 68.51 49 P P 05 06 53.1 +0.9
BMO IAmb IAmb 05 07 12.8
comp=Z,44nm,2.0s
BMO Blue Mountains 68.51 49 P P 05 06 53.1 +0.9
BMO pmax pmax
comp=Z,44nm,2.0s
SHA1 Shidzhatmaz 68.53 310 *ceP* **P 05 06 53.7 +1.1**
J08A Circle Bar Ran 68.75 51 P P 05 06 54.7 +0.9
ONI Oni 68.77 308 P P 05 06 54.5 +0.6
ONI IAmb IAmb 05 06 56.3
comp=Z,46nm,1.3s
ONI Oni 68.77 308 P P 05 06 54.5 +0.6
ONI pmax pmax
comp=Z,45nm,1.3s
MNK Minsk 69.08 325 *i* P **P 05 06 55.2 -0.3**
MNK *i* *PP **pP 05 07 13.8 +1.5**
MNK *i* 05 09 29.6
MNK *i* PPP PPP 05 11 09.6
MNK *i* S **S 05 15 56.1 +0.6**
MNK *i* *SS **sS 05 16 27.4 +3.2**
MNK *i* SS **SS 05 20 24.0 +2.5**
MNK pmax pmax
comp=Z,35nm,0.9s
MNK pmax pmax
comp=N,17nm,1.0s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK MLR MLR
comp=E,55nm,13.0s
MNK MLR MLR
comp=N,146nm,18.0s
MNK MLR MLR
comp=Z,211nm,16.0s
ISAL Salakas 69.08 327 *eP* **P 05 06 57.5 +2.0**
PLID Pearl Lake 69.10 48 P P 05 06 56.6 +0.6
ILULI Ilulissat 69.12 5 P P 05 06 55.9 +0.4
ILULI IAmb IAmb 05 06 56.6
comp=Z,28nm,0.9s
ILULI Ilulissat 69.12 5 P P 05 06 55.9 +0.4
ILULI pmax pmax
comp=Z,28nm,0.9s
SLIT Slitere, Latvi 69.13 330 *eP* **P 05 06 55.3 -0.4**
MSO Missoula 69.14 45 P P 05 06 56.3 +0.1
baz=309
UPP Uppsala 69.14 334 *eP* **P 05 06 55.0 -0.8**
IIGN Ignalina 69.19 327 *eP* **P 05 06 57.5 +1.3**
JASK Jask - Hormozg 69.23 287 P P 05 06 58.9 +1.9
ORV Oroville 69.24 55 P P 05 06 57.3 +0.5
ORV IAmb IAmb 05 07 17.2
comp=Z,16nm,0.8s
ORV Oroville 69.24 55 P P 05 06 57.3 +0.5
ORV pmax pmax
comp=Z,16nm,0.8s
GNI Garni 69.47 306 P P 05 06 59.1 +0.7
GNI IAmb IAmb 05 07 20.9
comp=Z,23nm,1.0s
GNI Garni 69.47 306 P P 05 07 00.2 +1.7
GNI Garni 69.47 306 *c i* P **P 05 07 00.1 +1.7**
GNI pmax pmax
comp=Z,26nm,1.2s
GNI Garni 69.47 306 P P 05 06 59.7 +1.3
OVMT Ovando 69.49 45 P P 05 06 58.6 +0.2
FFC Flin Flon 69.64 34 P P 05 06 59.4 +0.4
FFC IAmb IAmb 05 07 20.0
comp=Z,40nm,0.9s
FFC Flin Flon 69.64 34 P P 05 06 59.4 +0.4
FFC pmax pmax
comp=Z,40nm,1.0s
FFC Flin Flon 69.64 34 P P 05 06 59.3 +0.4
BPMT Black Pine Rid 69.65 46 P P 05 06 59.8 +0.2
FCC Fort Churchill 69.74 27 P P 05 06 59.3 -0.1
FCC IAmb IAmb 05 07 19.7
comp=Z,37nm,1.2s

FCC Fort Churchill 69.74 27 P P 05 06 59.3 -0.1
FCC pmax pmax
comp=Z,37nm,1.2s
LYMT Lyon Mountain 69.93 45 P P 05 07 01.7 +0.5
PABE Paberze 70.00 328 P P 05 07 01.7 +0.6
PABE Paberze 70.00 328 *e*P **P 05 07 01.4 +0.3**
NC405 NORSAR Array S 70.03 337 P P 05 07 01.7 +0.4
DOMB Dombas 70.04 339 *e*P **P 05 07 01.5 +0.1**
DOMB IAmb IAmb 05 07 01.9
comp=Z,146nm,2.3s
NC303 NORSAR Array S 70.04 337 P P 05 07 01.6 +0.2
NC303 IAmb IAmb 05 07 02.4
comp=Z,25nm,1.1s
NC204 NORSAR Array S 70.18 337 P P 05 07 02.3 +0.1
NC204 IAmb IAmb 05 07 03.2
comp=Z,30nm,0.8s
HFS Hagfors 70.20 335 P P 05 07 00.8 -1.5
comp=Z,10nm,0.3s,baz=36,slow=5.4,SNR=88
HFS LR LR 05 41 01.5
comp=Z,148nm,18.4s,baz=55,slow=39
comp=Z,10nm,0.3s
NB201 NORSAR Array S 70.21 337 P P 05 07 02.4 +0.1
VSLR Vesyoloye 70.21 311 *i* P **P 05 07 01.8 -0.8**
MFID Camas Ranch 70.23 49 P P 05 07 03.7 +0.7
MFID IAmb IAmb 05 07 24.3
comp=Z,40nm,1.8s
NB2 NORSAR Subarra 70.24 337 P P 05 07 02.4 -0.2
comp=Z,11nm,0.6s,baz=35,slow=6.2
NB2 NORSAR Subarra 70.24 337 P P 05 07 02.4 -0.2
baz=35,slow=6.2
NOA NORSAR Array B 70.24 337 P P 05 07 01.0 -1.6
comp=Z,12nm,0.7s,baz=37,slow=6.1,SNR=52
NOA LR LR 05 41 14.0
comp=Z,111nm,22.0s,baz=40,slow=39
comp=Z,12nm,0.7s
NOA NORSAR Array B 70.24 337 P P 05 07 01.0 -1.6
MPK Martis Peak 70.30 55 P P 05 07 04.4 +0.7
SOC Sochi 70.31 311 *e*P **P 05 07 02.2 -1.0**
SOC *e*PPP PPP 05 11 18.0
SOC *e*S **S 05 16 09.4 -1.0**
SOC pmax pmax
comp=Z,20nm,0.6s
BANOM Banah 70.32 287 P P 05 07 04.1 +0.4
BANOM Banah 70.32 287 P P 05 07 04.0 +0.4
SHME Shamm 70.36 288 *i* P **P 05 07 04.6 +0.7**
SNR=19
SHME Shamm 70.36 288 P P 05 07 04.5 +0.7
SNR=6.4
NBO00 NORSAR Array S 70.37 337 P P 05 07 03.1 -0.2
NBO00 IAmb IAmb 05 07 04.3
comp=Z,27nm,0.9s
NC602 NORSAR Array S 70.39 337 *e*P **P 05 07 02.9 -0.5**
NORES NORESS Array B 70.39 337 P P 05 07 02.8 -0.6
WBK Wadi Bani Khal 70.40 283 P P 05 07 05.4 +1.3
PBUR Paburge 70.43 329 *e*P **P 05 07 04.1 +0.3**
PAHR Pah Rah Range 70.44 54 P P 05 07 05.1 +0.8
PAHR IAmb IAmb 05 07 25.5
comp=Z,23nm,1.0s
BIDO Bidbid 70.46 284 P P 05 07 06.1 +1.6
VIKU Vikbolandet 70.48 333 *e*P **P 05 07 04.1 0.0**
NAO01 NORSAR Array S 70.49 337 P P 05 07 03.9 -0.1
NAO01 IAmb IAmb 05 07 20.8
comp=Z,19nm,1.1s
BCA Borcka 70.55 308 ⇑P **P 05 07 06.1 +1.4**
EGMT Eagleton 70.56 43 P P 05 07 05.0 +0.2
EGMT IAmb IAmb 05 07 25.6
comp=Z,21nm,0.8s
EGMT Eagleton 70.56 43 P P 05 07 04.7 -0.1
baz=311,SNR=5.2
PNTR Pine Nut 70.69 55 P P 05 07 07.2 +1.3
PNTR IAmb IAmb 05 07 29.3
comp=Z,25nm,0.8s
MDH Madha 70.70 287 P P 05 07 06.3 +0.4
MASF Masafi 70.76 287 P P 05 07 07.1 +0.7
SNR=5.4
MSFE Esma-Masafi 70.76 287 *i* P **P 05 07 07.0 +0.7**
SNR=11
SMDO Samad 70.80 284 P P 05 07 07.7 +1.0
CMB Columbia Colle 70.85 56 P P 05 07 07.7 +1.0
CMB IAmb IAmb 05 07 27.9
comp=Z,19nm,0.8s
CMB Columbia Colle 70.85 56 P P 05 07 07.7 +1.0
CMB pmax pmax
comp=Z,19nm,0.9s
HLID Hailey 70.94 48 P P 05 07 07.0 -0.3
HLID Hailey 70.94 48 P P 05 07 08.2 +0.9
baz=310
YERR Yerington 70.97 55 P P 05 07 08.1 +0.5
UOSS Minazif 70.98 287 P P 05 07 08.3 +0.6
UOSS Minazif 70.98 287 *i* P **P 05 07 08.2 +0.6**
SNR=19
UOSS Minazif 70.98 287 P P 05 07 08.3 +0.6
UOSS Minazif 70.98 287 P P 05 07 07.9 +0.2
HOQ Hoqain 71.01 285 P P 05 07 08.6 +0.8
AK03 Malin Array Si 71.06 322 P P 05 07 07.2 -0.4
AKASG Malin Array Be 71.07 322 P P 05 07 07.6 -0.1
AKASG Malin Array Be 71.07 322 P P 05 07 06.1 -1.6
comp=Z,21nm,0.7s,baz=46,slow=6.0,SNR=52
AKASG LR LR 05 40 56.5
comp=Z,213nm,18.5s,baz=50,slow=38
comp=Z,21nm,0.7s
AKASG Malin Array Be 71.07 322 *ce*P **P 05 07 07.5 -0.2**
AKASG pmax pmax
comp=Z,20nm,0.7s
AKBB Malin Array Si 71.07 322 P P 05 07 07.8 +0.1
AKBB IAmb IAmb 05 07 08.5
comp=Z,32nm,0.8s
AKBB Malin Array Si 71.07 322 *ce*P **P 05 07 06.8 -0.9**
AKBB pmax pmax
comp=Z,37nm,0.9s
KIEV Kiev 71.08 322 P P 05 07 07.7 -0.2
KIEV pP **pP 05 07 24.0 -0.7**
HATD Hatta, Dubai 71.11 287 *i* P **P 05 07 09.0 +0.6**
SNR=22
HATD Hatta, Dubai 71.11 287 P P 05 07 09.3 +0.8
SNR=13
AK11 Malin Array Si 71.11 322 P P 05 07 07.7 -0.3
WAKR Walker 71.15 55 P P 05 07 09.3 +0.6
WAKR IAmb IAmb 05 07 30.2
comp=Z,17nm,0.8s
BOZ Bozeman (W) 71.16 45 P P 05 07 09.3 +0.7
BOZ IAmb IAmb 05 07 29.6
comp=Z,16nm,0.8s
BOZ Bozeman (W) 71.16 45 P P 05 07 09.4 +0.8
baz=310
BOZ Bozeman (W) 71.16 45 P P 05 07 09.3 +0.7
BOZ pmax pmax
comp=Z,16nm,0.9s
JMDO Jabal Madar 71.18 283 P P 05 07 09.7 +0.9
SOHO SOHO 71.24 286 *i* P **P 05 07 09.7 +0.5**
SNR=9.4
SOHO SOHO 71.24 286 P P 05 07 09.9 +0.7
ASHO Ashiyiah 71.25 287 *i* P **P 05 07 09.8 +0.5**
SNR=17
ASHO Ashiyiah 71.25 287 P P 05 07 10.0 +0.7
ASHO P **P 05 07 11.0 +1.7**
SNR=11
SFJD Kangerlussuaq 71.34 5 P P 05 07 09.2 +0.1
SFJD IAmb IAmb 05 07 10.2
comp=Z,26nm,1.0s
SFJD Kangerlussuaq 71.34 5 P P 05 07 09.2 +0.1
SFJD pmax pmax
comp=Z,26nm,1.0s
SFJD Kangerlussuaq 71.34 5 P P 05 07 09.3 +0.2
SFJD sP **sP 05 07 31.8 -1.1**
NAZ Nazwa, Dubai 71.35 287 P P 05 07 10.6 +0.7
NAZ Nazwa, Dubai 71.35 287 P P 05 07 10.5 +0.7
SUW Suwalki 71.39 327 *e*P **P 05 07 08.8 -0.7**
SUW Suwalki 71.39 327 *e*P **P 05 07 09.8 +0.3**
HYA Hoyanger 71.54 339 *e*P **P 05 07 10.0 -0.4**
HYA IAmb IAmb 05 07 10.9
comp=Z,15nm,0.8s
FAQ Al Faqa, Dubai 71.54 287 *i* P **P 05 07 11.4 +0.4**
SNR=6.8
FAQ Al Faqa, Dubai 71.54 287 P P 05 07 11.4 +0.4
BSY Bisya 71.61 284 P P 05 07 12.3 +0.9
KVN Kaiserville 71.63 54 P P 05 07 12.2 +0.6
KVN IAmb IAmb 05 07 32.9
comp=Z,31nm,0.9s
KVN Kaiserville 71.63 54 P P 05 07 12.2 +0.6
KVN pmax pmax
comp=Z,31nm,0.9s
RYN Ryan 71.64 55 P P 05 07 11.9 +0.3
RYN IAmb IAmb 05 07 32.9
comp=Z,21nm,0.9s

ARQ Araqi 71.73 285 P P 05 07 13.1 +0.9
ASUD Al Ashush, Dub 71.81 287 *i* P **P 05 07 13.2 +0.6**
SNR=9.8
ASUD Al Ashush, Dub 71.81 287 P P 05 07 13.6 +1.0
SNR=5.5
KONO Kongsberg 71.84 337 P P 05 07 11.9 -0.3
KONO Kongsberg 71.84 337 P P 05 07 11.8 -0.3
ALNE Al Ain 71.85 286 *i* P **P 05 07 13.3 +0.4**
SNR=9.3
ALNE Al Ain 71.85 286 P P 05 07 13.8 +0.8
SNR=5.6
STRU Stroemstad 71.86 336 *i* P **P 05 07 12.2 -0.1**
LHV Little Huntoon 71.88 55 P P 05 07 14.0 +1.1
NVAR Mina Array Bea 71.89 55 P P 05 07 13.9 +0.7
NVAR Mina Array Bea 71.89 55 P P 05 07 13.2 0.0
comp=Z,4.7nm,0.7s,baz=289,slow=5.7,SNR=44
comp=Z,4.7nm,0.7s
MDPB Devils Postpil 71.91 56 P P 05 07 13.3 -0.1
NV11 Mina Array Sit 71.98 54 P P 05 07 13.9 +0.3
NV11 IAmb IAmb 05 07 35.0
comp=Z,16nm,0.9s
RNPP9 Sopachiv 72.09 324 P P 05 07 14.1 +0.2
GURO Guroymak-BITLI 72.11 306 P P 05 07 14.3 -0.2
GURO IAmb IAmb 05 07 16.8
comp=Z,38nm,1.1s
MHTO MHTO 72.13 282 P P 05 07 15.6 +1.1
SNR=5.1
RNPP5 Staryi Chortor 72.22 324 P P 05 07 14.7 +0.1
ELK Elko 72.26 51 P P 05 07 16.1 +0.7
ELK Elko 72.26 51 P P 05 07 16.1 +0.7
ELK pmax pmax
comp=Z,5.0nm,1.0s
FRB Frobisher Bay 72.26 14 LR LR 05 42 12.4
comp=Z,216nm,19.6s,baz=2.5,slow=38
LUBAR Lubar, Ukraine 72.29 322 P P 05 07 14.2 -0.9
BER Bergen 72.43 339 *e*P **P 05 07 16.1 +0.4**
BORU Boraas 72.47 334 *e*P **P 05 07 16.2 +0.2**
SIM Simferopol' 72.50 315 *e*P **P 05 07 16.9 +0.5**
SIM pmax pmax
comp=Z,38nm,0.8s
H17A Grant Village 72.51 46 P P 05 07 17.6 +0.7
H17A IAmb IAmb 05 07 39.8
comp=Z,29nm,1.1s
H17A Grant Village 72.51 46 P P 05 07 19.1 +2.2
baz=311
TJOU Tjoern 72.53 335 *e*P **P 05 07 13.7 -2.6**
IMW Indian Meadow 72.64 46 P P 05 07 19.4 +1.7
FLWY Flagg Ranch 72.65 46 P P 05 07 18.0 +0.4
RLMT Red Lodge 72.73 45 P P 05 07 19.2 +1.1
baz=312
DSP Deep Springs 72.76 55 P P 05 07 18.9 +0.8
DSP IAmb IAmb 05 07 40.0
comp=Z,31nm,1.0s
FXWY Fox Creek 72.77 47 P P 05 07 19.0 +0.7
TPH Tonopah 72.78 54 P P 05 07 18.9 +0.5
TPH Tonopah 72.78 54 P P 05 07 18.9 +0.5
TPH pmax pmax
comp=Z,97nm,0.9s
MOOW Moose Ponds 72.85 46 P P 05 07 19.4 +0.6
MOOW IAmb IAmb 05 07 40.6
comp=Z,19nm,1.1s
TPAW Teton Pass 72.91 47 P P 05 07 19.3 +0.1
TPAW IAmb IAmb 05 07 41.0
comp=Z,34nm,1.3s
MZP Montezuma Peak 72.92 55 P P 05 07 19.9 +0.5
BLS5 Blasjo 72.93 338 *e*P **P 05 07 19.6 +0.8**
HVU Hansel Valley 73.01 49 P P 05 07 20.5 +0.7
HVU Hansel Valley 73.01 49 P P 05 07 20.5 +0.7
HVU pmax pmax
comp=Z,11nm,0.9s
LOHW Long Hollow 73.01 46 P P 05 07 21.0 +1.2
DEL Delary 73.03 333 *e*P **P 05 07 18.4 -0.9**
DEL Delary 73.03 333 *e*P **P 05 07 18.6 -0.7**
SNOW Snow King Moun 73.03 47 P P 05 07 19.4 -0.5
VES Vestal, Richgr 73.03 57 P P 05 07 21.0 +1.2
baz=309,SNR=5.5
REDW Red Top Meadow 73.04 47 P P 05 07 21.1 +1.1
PKM Mcpherson Peak 73.17 58 P P 05 07 21.9 +1.1
baz=309
GMN Gold Mountain 73.25 55 P P 05 07 21.7 +0.4
SORM Soroca 73.26 320 ⇓P **P 05 07 20.9 +0.1**
SORM Soroca 73.26 320 ⇓P **P 05 07 20.9 +0.1**
CWC Cottonwood Cre 73.28 56 P P 05 07 22.2 +0.8
baz=310
GRAC Grapevine Rang 73.37 55 P P 05 07 22.7 +0.9
GRAC Grapevine Rang 73.37 55 P P 05 07 23.1 +1.3
baz=310,SNR=6.3
JRN Qarnain Island 73.38 289 P P 05 07 21.7 -0.3
ISA Isabella, Lake 73.53 57 P P 05 07 23.6 +0.9
baz=310
R11B Troy Canyon, C 73.59 53 P P 05 07 24.0 +0.7
R11B IAmb IAmb 05 07 44.6
comp=Z,22nm,1.2s
R11B Troy Canyon, C 73.59 53 P P 05 07 23.8 +0.6
baz=310,SNR=6.5
BJUU Bjuv 73.63 333 *e*P **P 05 07 23.4 +0.5**
BSD Bornholm Skovb 73.73 332 *e*P **P 05 07 24.1 +0.6**
BSD Bornholm Skovb 73.73 332 *i* P **P 05 07 23.8 +0.4**
HWUT Hardware Ranch 73.81 49 P P 05 07 25.1 +0.6
HWUT IAmb IAmb 05 07 45.9
comp=Z,26nm,1.1s
LUNU Lund 73.84 333 *e*P **P 05 07 24.4 +0.3**
MPMC Manual Prospec 73.90 56 P P 05 07 25.8 +0.7
baz=310,SNR=6.5
SPR3 Spring Creek 3 73.92 52 P P 05 07 25.9 +0.5
SPR3 IAmb IAmb 05 07 47.3
comp=Z,38nm,1.6s
S11A Rachel 73.95 54 P P 05 07 26.3 +1.0
S11A IAmb IAmb 05 07 46.9
comp=Z,29nm,0.9s
WCT Wildcat Mounta 73.96 55 P P 05 07 25.7 +0.4
BEL Belsk 73.97 327 *e*P **P 05 07 25.8 +0.8**
GHWR Ruwais 73.97 288 P P 05 07 25.3 -0.1
ARPR Arapgir-MALATY 73.98 308 P P 05 07 26.4 +0.9
FURC Furnace Creek, 74.02 55 P P 05 07 27.1 +1.6
baz=310,SNR=6.3
DUG Dugway, Tooele 74.03 50 P P 05 07 26.4 +0.7
DUG IAmb IAmb 05 07 47.2
comp=Z,19nm,1.1s
DUG Dugway, Tooele 74.03 50 P P 05 07 26.7 +1.0
baz=311
DUG Dugway, Tooele 74.03 50 P P 05 07 26.4 +0.7
DUG pmax pmax
comp=Z,19nm,1.1s
LVV L'vov 74.06 324 *e*P **P 05 07 25.8 +0.3**
DIKM Dikmen 74.07 312 ⇑P **P 05 07 27.0 +1.2**
TPNV Topopah Spring 74.09 55 P P 05 07 26.7 +0.5
baz=310
MZR Muzera 74.14 287 P P 05 07 27.0 +0.5
SNR=6.3
LRMC Laurel Mtn Rad 74.14 57 P P 05 07 27.0 +0.5
baz=310
BW06 Boulder Array 74.15 47 P P 05 07 27.2 +0.7
baz=312
PD31 Pinedale Array 74.15 47 P P 05 07 26.7 +0.2
PDAR Pinedale Array 74.15 47 P P 05 07 26.9 +0.4
PDAR Pinedale Array 74.15 47 P P 05 07 25.6 -0.9
comp=Z,4.5nm,0.7s,baz=270,slow=2.4,SNR=56
comp=Z,4.5nm,0.7s
SHMA Al-Shehemyia 74.15 291 P P 05 07 26.4 0.0
BBOO Buckleboo 74.20 185 P P 05 07 27.4 +1.1
BBOO IAmb IAmb 05 07 28.1
comp=Z,16nm,0.9s
TCUT Toone Canyon 74.22 49 P P 05 07 28.0 +1.0
TCUT IAmb IAmb 05 07 48.3
comp=Z,20nm,0.8s
GWY Greenwater Val 74.32 56 P P 05 07 28.2 +0.6
GWY IAmb IAmb 05 07 48.7
comp=Z,23nm,1.0s
EDW2 Edwards Air Fo 74.33 57 P P 05 07 28.1 +0.6
baz=310,SNR=5.0
KBD Kabd 74.34 295 P P 05 07 27.5 +0.1
SAKB Bahrain 74.37 291 P P 05 07 27.8 0.0
PSUT Pine Spring 74.50 52 P P 05 07 29.2 +0.6
PSUT IAmb IAmb 05 07 50.0
comp=Z,25nm,1.4s
PRN Pahroc Range 74.52 54 P P 05 07 30.0 +1.4
BZK Bozkurt 74.56 313 ⇓P **P 05 07 29.2 +0.7**
BZK Bozkurt 74.56 313 P P 05 07 29.4 +0.8
NLU North Lily Min 74.61 50 P P 05 07 29.7 +0.5
TRNA Turayna 74.67 289 P P 05 07 29.1 -0.4
SLWR Sila 74.75 289 P P 05 07 30.0 +0.1
SHOC Shoshone, Teco 74.75 56 P P 05 07 30.5 +0.6
baz=310

KWP Kalwaria Pacla 74.78 324 *e*P **P 05 07 31.7 +2.0**
KWP Kalwaria Pacla 74.78 324 P P 05 07 30.8 +1.0
KWP Kalwaria Pacla 74.78 324 P P 05 07 30.8 +1.0
KWP pmax pmax
comp=Z,99nm,1.4s
KWP Kalwaria Pacla 74.78 324 P P 05 07 31.6 +1.8
GSC Goldstone, Bar 74.81 56 P P 05 07 31.0 +0.8
baz=310,SNR=5.1
MPU Maple Canyon 74.82 50 P P 05 07 31.1 +0.7
MPU IAmb IAmb 05 07 51.7
comp=Z,16nm,0.9s
SMRA Abu-Samra 74.94 290 P P 05 07 30.8 -0.2
BFSC Mount Baldy Ra 74.95 58 P P 05 07 31.6 +0.4
baz=310,SNR=5.2
BSUT Blindstream Ca 74.97 49 P P 05 07 32.2 +0.8
CIS Catalina Islan 75.01 59 P P 05 07 31.7 +0.3
baz=310
SHPR Sheep Range 75.04 54 P P 05 07 32.5 +0.8
BUR08 Bucovina Ar. S 75.10 321 P P 05 07 31.8 0.0
BUR08 IAmb IAmb 05 07 33.3
comp=Z,15nm,0.8s
BURAR Bucovina Array 75.11 321 ⇑P **P 05 07 32.3 +0.5**
BURAR Bucovina Array 75.11 321 P P 05 07 32.2 +0.4
BURAR IAmb IAmb 05 07 33.6
comp=Z,18nm,0.7s
BURAR Bucovina Array 75.11 321 P P 05 07 32.2 +0.4
BURAR pmax pmax
comp=Z,18nm,0.7s
TESR Tescani 75.22 320 ⇑P **P 05 07 32.8 +0.4**
TUQ Turquoise Moun 75.27 56 P P 05 07 33.7 +0.7
baz=311
BBRC Big Bear Solar 75.41 57 P P 05 07 34.7 +0.9
baz=311
HEC Hector,Ludlow 75.41 56 P P 05 07 34.3 +0.6
baz=311
CFR Carcaliu 75.44 318 ⇑P **P 05 07 33.5 0.0**
CFR Carcaliu 75.44 318 ⇑P **P 05 07 33.5 0.0**
CCUT Cedar City 75.44 53 P P 05 07 35.0 +0.9
CCUT IAmb IAmb 05 07 55.7
comp=Z,30nm,1.6s
ULM Lac du Bonnet 75.45 34 P P 05 07 33.5 0.0
ULM Lac du Bonnet 75.45 34 P P 05 07 32.5 -1.1
comp=Z,2.2nm,0.6s,baz=326,slow=5.8,SNR=5.3
comp=Z,2.2nm,0.6s
ULM Lac du Bonnet 75.45 34 *i* P **P 05 07 32.2 -1.4**
ONER Baraj Valea Uz 75.47 320 ⇑P **P 05 07 34.8 +1.0**
KOLS Kolonicke sedl 75.49 324 *e*P **P 05 07 34.7 +0.9**
KOLS pmax pmax
comp=Z,15nm,1.0s
KOLS Kolonicke sedl 75.49 324 *e*P **P 05 07 34.7 +0.9**
MVU Marysvale 75.49 51 P P 05 07 35.6 +1.3
MVU IAmb IAmb 05 07 55.5
comp=Z,52nm,1.2s
MSU Marysvale 75.51 51 P P 05 07 35.5 +1.1
MSU Marysvale 75.51 51 P P 05 07 35.5 +1.1
TPGR Topolog 75.52 318 ⇑P **P 05 07 34.6 +0.5**
TMUT Trail Mountain 75.55 50 P P 05 07 35.1 +0.4
MDND Maddock 75.59 38 P P 05 07 34.9 +0.5
baz=317
OJC Ojcow 75.60 326 *e*P **P 05 07 34.6 +0.2**
OJC Ojcow 75.60 326 P P 05 07 35.1 +0.7
OJC Ojcow 75.60 326 P P 05 07 35.1 +0.7
OJC pmax pmax
comp=Z,44nm,0.9s
RDMU Red Mountain 75.62 48 P P 05 07 35.7 +0.7
VRI Vrincioaia 75.64 319 ⇑P **P 05 07 36.2 +1.4**
VRI Vrincioaia 75.64 319 ⇑P **P 05 07 36.2 +1.4**
MURC Murrieta 75.66 58 P P 05 07 35.9 +0.8
baz=311
PLOR Plostina 75.69 319 ⇑P **P 05 07 36.5 +1.4**
PLOR Plostina 75.69 319 ⇑P **P 05 07 36.5 +1.4**
Q16A Castle Valley 75.82 50 P P 05 07 36.8 +0.6
TURR Turia 75.86 320 ⇑P **P 05 07 36.6 +0.6**
GMRC Granite Mounta 75.86 56 P P 05 07 36.7 +0.4
baz=311
K22A Casper 75.86 45 P P 05 07 36.2 0.0
K22A IAmb IAmb 05 07 57.1
comp=Z,25nm,1.2s
K22A Casper 75.86 45 P P 05 07 36.7 +0.4
baz=314
CRVS Cervenica-Dubn 75.87 324 *e*P **P 05 07 36.8 +0.8**
CRVS pmax pmax
comp=Z,307nm,3.4s
CRVS Cervenica-Dubn 75.87 324 *e*P **P 05 07 36.8 +0.8**
CRVS *ep*P **pP 05 07 53.2 +0.1**
P18A Preston Nutter 75.88 49 P P 05 07 37.1 +0.6
P18A IAmb IAmb 05 07 58.0
comp=Z,22nm,1.1s
GAZ Gaziantep 75.91 307 P P 05 07 37.3 +0.8
GAZ IAmb IAmb 05 07 39.1
comp=Z,32nm,1.0s
COVR Voineasa-Covas 75.91 320 ⇑P **P 05 07 37.2 +0.8**
OZUR 75.94 320 ⇑P **P 05 07 37.7 +1.2**
NIE Niedzica 75.99 325 *e*P **P 05 07 36.8 +0.1**
NIE Niedzica 75.99 325 P P 05 07 38.3 +1.6
SRU San Rafael Swe 76.07 50 P P 05 07 38.3 +0.8
SRU IAmb IAmb 05 07 58.6
comp=Z,18nm,0.9s
SRU San Rafael Swe 76.07 50 P P 05 07 38.3 +0.8
SRU pmax pmax
comp=Z,18nm,0.9s
KNB Kanab 76.12 53 P P 05 07 38.7 +0.9
KNB IAmb IAmb 05 07 59.8
comp=Z,22nm,1.2s
KNB Kanab 76.12 53 P P 05 07 38.7 +0.9
KNB pmax pmax
comp=Z,22nm,1.2s
PFO Pinyon Flats O 76.12 57 P P 05 07 38.3 +0.5
baz=311
PFO Pinyon Flats O 76.12 57 *i* P **P 05 07 37.3 -0.5**
PFO pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 76.13 43 P P 05 07 38.0 +0.2
RSSD Black Hills 76.13 43 P P 05 07 37.7 -0.1
baz=315
RSSD Black Hills 76.13 43 P P 05 07 38.0 +0.2
RSSD pmax pmax
comp=Z,13nm,1.0s
TPFO Pinon Flats 76.13 57 P P 05 07 38.2 +0.3
baz=311
BELC Belle Mtn. Jos 76.16 57 P P 05 07 38.8 +0.7
baz=311
RWWY Rawlins 76.16 46 P P 05 07 37.3 -0.8
RWWY IAmb IAmb 05 07 57.9
comp=Z,27nm,1.1s
NEHR Nehoiu 76.17 319 ⇑P **P 05 07 38.5 +0.7**
109C Camp Elliot, M 76.18 58 P P 05 07 39.0 +1.0
baz=311
DOPR Dopca 76.22 320 ⇑P **P 05 07 39.3 +1.2**
BR131 Keskin Array S 76.27 311 P P 05 07 38.8 +0.2
BR131 Keskin Array S 76.27 311 P P 05 07 38.8 +0.2
BR131 pmax pmax
comp=Z,12nm,0.9s
BRTR Keskin Array B 76.27 311 P P 05 07 38.5 -0.2
BRTR Keskin Array B 76.27 311 P P 05 07 36.9 -1.7
comp=Z,7.9nm,0.8s,baz=57,slow=4.6,SNR=44
BRTR PP **PP 05 10 30.4 +0.3**
comp=Z,1.8nm,0.9s,baz=64,slow=5.6,SNR=4.0
BRTR LR LR 05 46 13.7
comp=Z,85nm,18.7s,baz=69,slow=40
comp=Z,7.9nm,0.8s
BRTR Keskin Array B 76.27 311 *ce*P **P 05 07 39.5 +0.9**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BSEG Bad Segeberg 76.28 333 *e*P 05 07 39.0
comp=Z,18nm,0.8s,baz=35,slow=5.5
MLR Muntele Rosu 76.30 319 ⇑P **P 05 07 39.9 +1.2**
MLR Muntele Rosu 76.30 319 P P 05 07 38.6 0.0
MLR Muntele Rosu 76.30 319 LR LR 05 45 19.0
comp=Z,153nm,18.1s,baz=70,slow=39
MLR Muntele Rosu 76.30 319 ⇑P **P 05 07 39.9 +1.2**
ICOR Ion Corvin 76.36 318 ⇑P **P 05 07 40.1 +1.3**
DOK Doka 76.42 283 P P 05 07 39.5 0.0
LANS Liptovska Anna 76.55 325 *e*P **P 05 07 41.3 +1.4**
LANS pmax pmax
comp=Z,8.0nm,1.0s
LANS Liptovska Anna 76.55 325 *e*P **P 05 07 41.3 +1.4**
KSP Ksiaz 76.55 328 *e*P **P 05 07 39.4 -0.4**
KSP Ksiaz 76.55 328 P P 05 07 40.7 +0.9
OKC Ostrava-Krasne 76.58 326 AMS AMS 05 44 00.0
comp=Z,300nm,21.8s
IRM Iron Mountain 76.59 56 P P 05 07 41.1 +0.8
baz=311
MONP2 Monument Peak 76.61 58 P P 05 07 41.0 +0.2
baz=311

ANTO Ankara 76.65 312 ⇑P P 05 07 41.5 +0.8
ANTO Ankara 76.65 312 P P 05 07 41.2 +0.6
ANTO Ankara 76.65 312 P P 05 07 42.2 +1.6
ANTO Ankara 76.65 312 ⇑P P 05 07 41.5 +0.8
O20A White River Ci 76.66 48 P P 05 07 41.5 +0.6
O20A IAmb IAmb 05 08 01.7
comp=Z,18nm,1.1s
O20A White River Ci 76.66 48 P P 05 07 41.2 +0.3
baz=314
BC3 Big Chuckawall 76.72 57 P P 05 07 41.7 +0.4
baz=311
HMU Henry Mountain 76.73 51 P P 05 07 41.9 +0.5
HMU IAmb IAmb 05 08 02.7
comp=Z,27nm,1.0s
W13A Hualapai Mount 76.75 55 P P 05 07 41.8 +0.3
VOIR 76.77 320 ⇑P P 05 07 41.9 +0.7
VOIR 76.77 320 ⇑P P 05 07 41.9 +0.7
MARR Marisel-Cluj 76.78 322 ⇑P P 05 07 42.0 +0.7
OSTC Ostas 76.81 328 AMS AMS 05 44 40.0
comp=Z,100nm,17.2s
U15A North Rim 76.83 53 P P 05 07 42.8 +0.8
U15A IAmb IAmb 05 08 03.9
comp=Z,20nm,1.0s
CHVC Chvalec 76.84 328 *e*P P 05 07 42.5 +1.0
CHVC Chvalec 76.84 328 *e*P P 05 07 42.5 +1.0
MORC Moravsky Berou 76.88 327 ⇓P P 05 07 42.8 +1.1
MORC Moravsky Berou 76.88 327 P P 05 07 42.5 +0.8
MORC IAmb IAmb 05 07 43.6
comp=Z,27nm,1.0s
MORC Moravsky Berou 76.88 327 *e*P P 05 07 42.2 +0.5
MORC Moravsky Berou 76.88 327 ⇓P P 05 07 42.8 +1.1
DPC Dobruska-Polom 76.92 328 *e*P P 05 07 43.1 +1.1
DPC AMS AMS 05 44 30.0
comp=Z,200nm,18.0s
DPC Dobruska-Polom 76.92 328 *e*P P 05 07 43.1 +1.1
DPC MLR MLR
comp=Z,200nm,18.0s
UPC Upice 76.93 328 AMS AMS 05 45 00.0
comp=Z,200nm,12.6s
AGMN Agassiz Nation 76.94 36 P P 05 07 41.7 -0.3
AGMN Agassiz Nation 76.94 36 P P 05 07 41.5 -0.6
baz=319
KRLC Kraliky 76.95 327 *e*P P 05 07 43.0 +0.8
KRLC Kraliky 76.95 327 *e*P P 05 07 43.0 +0.8
IKP In-Ko-Pah, Jac 76.97 58 P P 05 07 43.1 +0.5
baz=311
ARR Arges 77.02 320 ⇑P P 05 07 44.4 +1.7
RBK Rabkut 77.07 282 P P 05 07 43.3 0.0
PDMCI Parker Dam,Lak 77.12 56 P P 05 07 44.4 +1.2
baz=312
WHFO Wadi Hawf 77.12 283 P P 05 07 43.2 -0.4
FLTG Flechtingen 77.27 332 *e*P 05 07 43.7
comp=Z,21nm,0.8s,baz=35,slow=5.5
PSZ Piszkesteto 77.30 324 ⇑P P 05 07 44.8 +0.7
PSZ Piszkesteto 77.30 324 P P 05 07 45.0 +0.8
PSZ IAmb IAmb 05 07 46.2
comp=Z,23nm,1.1s
PSZ Piszkesteto 77.30 324 P P 05 07 45.0 +0.8
PSZ pmax pmax
comp=Z,23nm,1.1s
VYHS Vyhne 77.32 325 *e*P P 05 07 45.1 +0.9
VYHS pmax pmax
comp=Z,14nm,1.2s
VYHS Vyhne 77.32 325 *e*P P 05 07 45.1 +0.9
VYHS *e*pP **pP 05 08 01.7 +0.4**
N23A Red Feather La 77.39 46 P P 05 07 45.4 +0.3
N23A IAmb IAmb 05 08 06.7
comp=Z,29nm,1.4s
N23A Red Feather La 77.39 46 P P 05 07 45.8 +0.7
baz=315
BRG Berggiesshubel 77.44 329 *e*P P 05 07 45.0 +0.1
BRG Amp 05 07 46.3
comp=Z,9.3nm,1.1s
BRG Amp 05 17 12.0
comp=E,0.1nm,15.3s
BRG Amp 05 17 15.0
comp=Z,0.2nm,14.9s
BRG Amp 05 17 17.0
comp=N,0.1nm,14.4s
BRG Amp 05 43 27.0
comp=Z,0.2nm,14.7s
BRG Amp 05 43 43.0
comp=E,0.1nm,14.1s
BRG Amp 05 43 45.0
comp=N,0.1nm,16.1s
BRG Berggiesshubel 77.44 329 *e*P P 05 07 44.9 +0.1
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 77.44 329 *e*P 05 07 45.0
comp=Z,4.8nm,1.0s,baz=35,slow=5.5
CLL Collm 77.45 330 P P 05 07 44.7 -0.1
CLL IAmb IAmb 05 07 46.0
comp=Z,23nm,1.0s
CLL Collm 77.45 330 ⇑*i*P P 05 07 44.9 +0.1
comp=Z,22nm,1.0s
CLL *i* pP **pP 05 08 01.2 -0.7**
CLL *i* x x 05 08 04.0
CLL *e*PP **PP 05 10 38.0 -1.4**
CLL AMS AMS 05 42 00.0
comp=N,200nm,20.6s
CLL AMS AMS 05 42 00.0
comp=E,200nm,21.4s
CLL AMS AMS 05 44 00.0
comp=Z,300nm,20.3s
CLL Collm 77.45 330 ⇑*i*P P 05 07 44.9 +0.1
CLL *i* *PP **pP 05 08 01.2 -0.7**
CLL pmax pmax
comp=Z,22nm,1.0s
CLL Collm 77.45 330 *e*P 05 07 44.9
comp=Z,14nm,0.8s,baz=35,slow=5.5
CLL *e*pP 05 08 02.2
GLA Glamis 77.52 57 P P 05 07 46.4 +0.8
baz=312
JAVC Velka Javorina 77.53 326 *e*P P 05 07 46.9 +1.5
NRDL Niedersach Rie 77.54 332 *e*P 05 07 45.9
comp=Z,7.9nm,0.8s,baz=35,slow=5.5
VRAC Vranov 77.63 327 ⇑P P 05 07 46.7 +0.8
VRAC Vranov 77.63 327 *e*P P 05 07 46.7 +0.8
VRAC Vranov 77.63 327 ⇑P P 05 07 46.7 +0.8
SIRR Siria 77.75 322 ⇑P P 05 07 47.5 +0.8
ABTO Aybut 77.83 282 P P 05 07 47.3 -0.2
HSKC Hora Svate Kat 77.85 329 *e*P P 05 07 47.9 +0.8
GOPC GO Pecny, Ondr 77.88 328 *e*P P 05 07 48.1 +0.8
GOPC GO Pecny, Ondr 77.88 328 *e*P P 05 07 48.1 +0.8
GZR Gura Zlata 77.89 321 ⇑P P 05 07 47.8 +0.4
SMOL Smolenice 77.90 326 *e*P P 05 07 48.7 +1.3
KRUC Moravsky 77.90 327 *e*P P 05 07 48.0 +0.6
PRU Pruhonice 77.92 328 *e*P P 05 07 48.4 +0.9
PRU AMS AMS 05 45 00.0
comp=Z,200nm,22.0s
PRU Pruhonice 77.92 328 *e*P P 05 07 48.4 +0.9
PRU MLR MLR
comp=Z,200nm,22.0s
SURR Surduc 77.92 322 ⇑P P 05 07 47.7 +0.1
CLZ Clausthal 77.98 332 *e*P 05 07 48.8
comp=Z,14nm,0.8s,baz=35,slow=5.5
NEUB Neuenburg 77.99 331 *e*P 05 07 48.4
comp=Z,21nm,0.9s,baz=35,slow=5.5
WUAZ Wupatki 77.99 53 P P 05 07 49.1 +0.8
WUAZ IAmb IAmb 05 08 10.1
comp=Z,18nm,1.0s
WUAZ Wupatki 77.99 53 P P 05 07 49.4 +1.0
baz=313
SMCO Snowmass 78.03 48 P P 05 07 49.2 +0.4
SRO Srobarova 78.07 325 *e*P P 05 07 49.8 +1.5
SRO pmax pmax
comp=Z,21nm,0.9s
SRO Srobarova 78.07 325 *e*P P 05 07 49.8 +1.5
MODS Modra-Piesok 78.07 326 *e*P P 05 07 50.3 +1.9
MODS pmax pmax
comp=Z,36nm,1.1s
MODS Modra-Piesok 78.07 326 *e*P P 05 07 50.3 +1.9
MODS *e*pP **pP 05 08 06.8 +1.3**
ELND Elena 78.18 318 ⇑P P 05 07 49.1 0.0
BZS Buzias 78.26 322 ⇓P P 05 07 50.0 +0.5
BZS Buzias 78.26 322 ⇓P P 05 07 50.0 +0.5
ISCO Idaho Springs 78.34 47 P P 05 07 50.6 +0.2
ISCO IAmb IAmb 05 08 12.1
comp=Z,42nm,1.8s
ISCO Idaho Springs 78.34 47 P P 05 07 51.4 +1.0
baz=315
ISCO Idaho Springs 78.34 47 P P 05 07 50.6 +0.2
ISCO pmax pmax
comp=Z,42nm,1.8s

113A Mohawk Valley, 78.37 57 P P 05 07 51.3 +1.0
TANN Tannenbergstha 78.38 330 *e*P 05 07 50.5
comp=Z,3.7nm,1.0s,baz=35,slow=5.5
SUSD Miller 78.41 40 P P 05 07 50.7 +0.3
SUSD Miller 78.41 40 P P 05 07 51.1 +0.7
baz=318
ZVC Zvikov 78.49 328 *e*P P 05 07 51.5 +0.8
ZVC AMS AMS 05 45 10.0
comp=Z,100nm,17.4s
IBBN Ibbenburen 78.50 333 *e*P 05 07 51.0
comp=Z,22nm,0.9s,baz=35,slow=5.5
IBBN *e*pP 05 08 12.2
MOX Moxa 78.51 330 *e*P 05 07 51.5
comp=Z,6.1nm,0.9s,baz=35,slow=5.5
MVCO Mesa Verde 78.53 50 P P 05 07 52.2 +0.8
MVCO Mesa Verde 78.53 50 P P 05 07 52.0 +0.6
baz=314
F33A 5 Mile Ranch, 78.61 37 P P 05 07 51.3 -0.1
F33A IAmb IAmb 05 08 11.8
comp=Z,25nm,1.3s
X16A Lo Mia Camp, P 78.69 54 P P 05 07 52.9 +0.6
MDVR Moldovita 78.84 321 ⇑P P 05 07 52.6 -0.1
MANZ Manzenberg 78.86 330 *e*P 05 07 53.4
comp=Z,1.6nm,0.9s,baz=35,slow=5.5
MANZ *e*pP 05 08 10.1
CKRC Cesky Krumlov 78.94 328 *e*P P 05 07 54.0 +0.8
CKRC Cesky Krumlov 78.94 328 *e*P P 05 07 54.0 +0.8
KHC Kasperske Hory 78.98 328 P P 05 07 53.5 +0.1
KHC IAmb IAmb 05 07 55.2
comp=Z,14nm,0.8s
KHC Kasperske Hory 78.98 328 *e*P P 05 07 54.1 +0.7
KHC *e*pP **pP 05 08 11.6 +1.1**
KHC Kasperske Hory 78.98 328 *c e*P P 05 07 54.4 +1.0
KHC pmax pmax
comp=Z,36nm,0.8s
ROTZ Rotzenmuhle 79.00 330 *e*P 05 07 53.8
comp=Z,1.7nm,0.9s,baz=35,slow=5.5
RONA Rosalia, Austr 79.01 326 *i* P P 05 07 54.9 +1.3
comp=Z,14nm,0.7s,SNR=9.6
CONA Conrad Observa 79.01 326 *i* P P 05 07 54.8 +1.2
comp=Z,15nm,1.3s,SNR=8.9
EKA Eskdalemuir Ar 79.06 341 P P 05 07 52.4 -1.3
comp=Z,5.1nm,0.6s,baz=28,slow=4.8,SNR=20
comp=Z,5.1nm,0.6s
EYMN Ely 79.06 33 P P 05 07 53.8 0.0
EYMN IAmb IAmb 05 08 13.9
comp=Z,34nm,1.3s
EYMN Ely 79.06 33 P P 05 07 53.8 0.0
baz=322
S22A 4UR Ranch, Cre 79.11 49 P P 05 07 55.2 +0.6
S22A 4UR Ranch, Cre 79.11 49 P P 05 07 55.4 +0.7
baz=315
MORH Mrgy, Hungar 79.16 324 ⇑P P 05 07 54.4 +0.1
GEC2 GERESS Array S 79.16 328 P P 05 07 54.7 +0.2
GERES GERESS Array B 79.16 328 P P 05 07 54.2 -0.2
GERES GERESS Array B 79.16 328 P P 05 07 53.1 -1.4
comp=Z,3.0nm,0.7s,baz=9.7,slow=9.5,SNR=12
comp=Z,3.0nm,0.7s
GERES GERESS Array B 79.16 328 P P 05 07 54.2 -0.2
GEC2 GERESS Array S 79.16 328 *e*P 05 07 55.0
comp=Z,4.1nm,0.8s,baz=35,slow=5.5
GEC2 *e*pP 05 08 13.2
Q24A Divide 79.19 47 P P 05 07 55.4 +0.3
baz=315
KASTN Kahler Asten 79.20 332 *e*P 05 07 54.8
comp=Z,6.9nm,0.9s,baz=35,slow=5.5
W18A Petrified Fore 79.24 52 P P 05 07 55.6 +0.4
baz=314
WET Wettzell 79.24 329 *e*P 05 07 55.4
comp=Z,10.0nm,0.9s,baz=35,slow=5.5
BUG Bochum--Univer 79.39 333 *e*P 05 07 55.9
comp=Z,12nm,0.8s,baz=35,slow=5.5
GRF Grafenberg Arr 79.43 330 *e*P 05 07 57.0
comp=Z,19nm,0.8s,baz=35,slow=5.5
OGNE Ogallala 79.43 44 P P 05 07 56.5 +0.4
baz=317
FRGS Fruska Gora 79.44 323 ⇓P P 05 07 56.3 +0.3
RAYN Ar Rayn 79.45 292 P P 05 07 56.6 +0.2
RAYN Ar Rayn 79.45 292 *i* P P 05 07 56.4 0.0
SNR=27
RAYN Ar Rayn 79.45 292 P P 05 07 57.0 +0.6
RAYN Ar Rayn 79.45 292 P P 05 07 56.6 +0.2
RAYN pmax pmax
comp=Z,36nm,0.7s
214A Organ Pipe Nat 79.51 57 P P 05 07 57.4 +0.8
baz=313
RDO Rodhopi 79.65 317 P P 05 07 57.8 +0.6
RDO IAmb IAmb 05 07 59.2
comp=Z,33nm,1.1s
ARSA Arzberg 79.69 326 *i* P P 05 07 58.2 +1.0
comp=Z,5.8nm,0.7s
BOVS Bovan 79.71 320 ⇑P P 05 07 56.9 -0.5
CSS Mathiatis 79.72 308 P P 05 07 57.6 0.0
CSS IAmb IAmb 05 07 59.1
comp=Z,27nm,0.9s
MOA Molln 79.73 327 *i* P P 05 07 58.4 +0.9
comp=Z,5.5nm,0.8s
MMAI Mount Meron Ar 79.80 305 P P 05 07 56.3 -1.9
comp=Z,40nm,0.9s,baz=40,slow=6.6,SNR=34
comp=Z,40nm,0.9s
SDCO Great Sand Dun 79.86 48 P P 05 07 59.1 +0.5
SDCO Great Sand Dun 79.86 48 P P 05 07 59.2 +0.5
baz=315
ECSD EROS Data Cent 80.06 39 P P 05 07 59.8 +0.5
ECSD IAmb IAmb 05 08 19.8
comp=Z,31nm,1.4s
ECSD EROS Data Cent 80.06 39 P P 05 07 59.4 +0.1
baz=320
E38A The Farm, Brul 80.10 34 P P 05 07 58.9 -0.5
E38A IAmb IAmb 05 08 19.5
comp=Z,22nm,1.1s
BIOA Bad Ischl, Aus 80.11 328 *i* P P 05 08 00.7 +1.2
comp=Z,9.9nm,0.7s,SNR=5.8
GROS Grobnik 80.32 326 *i* P P 05 08 00.8 0.0
PERS Pernice 80.35 326 *i* P P 05 08 01.2 +0.4
SOKA Soboth 80.35 326 *i* P P 05 08 01.4 +0.5
comp=Z,28nm,1.1s,SNR=23
RJOB Jochberg 80.41 328 *e*P 05 08 02.4
comp=Z,12nm,0.8s,baz=35,slow=5.5
ELL Elmali 80.45 311 P P 05 08 01.6 -0.1
ELL Elmali 80.45 311 P P 05 08 01.6 -0.1
ELL pmax pmax
comp=Z,90nm,0.8s
BTNL Ternell 80.50 333 *d*P P 05 08 01.5 0.0
comp=Z,6.5nm,0.9s
MEM Membach 80.52 333 *d*P P 05 08 01.8 +0.2
comp=Z,14nm,1.0s
KSCO Kaye Shedlock' 80.52 46 P P 05 08 02.5 +0.4
baz=317
TUC Tucson 80.53 55 P P 05 08 02.8 +0.6
TUC Tucson 80.53 55 P P 05 08 02.8 +0.6
baz=314
TUC Tucson 80.53 55 P P 05 08 02.8 +0.6
TUC pmax pmax
comp=Z,13nm,1.3s
DOBS Dobrina 80.58 326 *i* P P 05 08 02.0 -0.1
SPMN Marine on St. 80.64 36 P P 05 08 03.0 +0.6
baz=322
FUR Furstenfeldbru 80.66 329 *e*P 05 08 03.5
comp=Z,21nm,0.7s,baz=35,slow=5.5
OBKA Obir 80.68 326 *i* P P 05 08 03.3 +0.6
comp=Z,11nm,0.8s,SNR=6.1
BSTI Sart Tilman 80.69 334 *d*P P 05 08 03.2 +0.7
LESA Schwarzleotal 80.71 328 *i* P P 05 08 03.6 +0.7
comp=Z,28nm,1.3s
KBA Koelnbreinsper 80.72 327 *i* P P 05 08 03.9 +0.9
comp=Z,21nm,1.0s,SNR=17
SCHQ Schefferville 80.86 16 P P 05 08 03.9 +0.5
SCHQ IAmb IAmb 05 08 04.6
comp=Z,18nm,0.9s
SCHQ Schefferville 80.86 16 P P 05 08 02.4 -1.0
comp=Z,13nm,0.8s,baz=350,slow=6.0,SNR=16
comp=Z,13nm,0.8s
T25A Trinidad 80.90 48 P P 05 08 04.6 +0.4
T25A Trinidad 80.90 48 P P 05 08 04.8 +0.6
baz=316
BCLA Clavier 80.92 334 *d*P P 05 08 03.9 +0.2
comp=Z,8.9nm,1.1s
STU Stuttgart 80.94 331 *e*P 05 08 04.6
comp=Z,41nm,0.7s,baz=35,slow=5.5
MYKA Terra Mystica 80.96 327 *i* P P 05 08 04.3 +0.1
comp=Z,15nm,1.1s,SNR=7.8
BGNE Belgrade 81.07 41 P P 05 08 05.6 +0.8
baz=319
PRED Cave del Predi 81.14 327 P P 05 08 04.5 -0.7
RCHB Rochefort 81.17 334 *d*P P 05 08 05.4 +0.3

BMRD Maredsous 81.19 334 *d*P P 05 08 05.0 -0.2
comp=Z,12nm,1.0s
WATA Walderalm 81.22 328 *i* P P 05 08 06.4 +0.8
comp=Z,7.6nm,0.5s
CADS Cadrg 81.25 327 *i* P P 05 08 04.7 -1.0
WTTA Wattenberg 81.25 328 *i* P P 05 08 06.5 +0.6
comp=Z,16nm,0.9s,SNR=6.4
ANMO Albuquerque 81.29 51 P P 05 08 07.0 +0.7
ANMO Albuquerque 81.29 51 P P 05 08 07.1 +0.8
baz=315
ANMO Albuquerque 81.29 51 P P 05 08 07.0 +0.7
ANMO pmax pmax
comp=Z,12nm,1.3s
I37A Lemond, Waseca 81.32 37 P P 05 08 06.3 +0.2
I37A IAmb IAmb 05 08 26.8
comp=Z,34nm,1.1s
ABTA Abfaltersbach 81.33 328 *i* P P 05 08 06.1 0.0
comp=Z,5.1nm,0.7s,SNR=5.4
GIVF Givet 81.35 334 *e*P P 05 08 05.2 -0.9
GIVF pmax pmax
comp=Z,9.0nm,0.9s
DUN6 Lazy B Ranch 81.40 54 P P 05 08 07.4 +0.6
RETA Reutte 81.41 329 *i* P P 05 08 07.3 +0.7
comp=Z,35nm,1.2s,SNR=11
SQTA Sankt Quirin 81.46 329 *i* P P 05 08 07.6 +0.8
comp=Z,13nm,0.8s,SNR=6.4
COWI Conover 81.51 33 P P 05 08 07.0 -0.1
BFO Black Forest 81.63 331 P P 05 08 07.8 +0.2
BFO IAmb IAmb 05 08 09.0
comp=Z,34nm,1.5s
BFO Black Forest 81.63 331 P P 05 08 07.8 +0.2
BFO pmax pmax
comp=Z,34nm,1.5s
BFO Black Forest 81.63 331 *e*P 05 08 07.8
comp=Z,9.5nm,0.9s,baz=35,slow=5.5
BFO *e*pP 05 08 24.9
STAL STALIGIAL 81.64 327 P P 05 08 07.0 -0.7
STAL IAmb IAmb 05 08 07.8
comp=Z,29nm,1.3s
G40A Rib Lake 81.73 34 P P 05 08 07.9 -0.3
PDG Podgorica 81.79 321 ⇑P P 05 08 07.8 -0.8
PDG Podgorica 81.79 321 P P 05 08 08.6 +0.1
PDG IAmb IAmb 05 08 29.4
comp=Z,23nm,0.9s
FETA Feichten 81.81 329 *i* P P 05 08 09.4 +0.6
comp=Z,12nm,0.8s,SNR=9.6
ARG Arkhangelos 81.83 312 P P 05 08 09.6 +0.7
ARG Arkhangelos 81.83 312 P P 05 08 09.6 +0.7
ARG pmax pmax
comp=Z,45nm,0.9s
DAVA Damuels 81.92 329 *i* P P 05 08 09.7 +0.4
comp=Z,27nm,1.0s,SNR=9.6
CDF Champ du Feu 81.94 331 *e*P P 05 08 08.7 -0.6
CDF pmax pmax
comp=Z,15nm,1.1s
LIT Litokhoron 81.98 318 P P 05 08 08.9 -0.7
LIT IAmb IAmb 05 08 12.3
comp=Z,17nm,0.9s
LIT Litokhoron 81.98 318 P P 05 08 08.9 -0.7
LIT pmax pmax
comp=Z,17nm,0.9s
FNA Florina 82.03 319 P P 05 08 08.6 -1.3
FNA Florina 82.03 319 P P 05 08 08.6 -1.3
FNA pmax pmax
comp=Z,9.0nm,0.9s
319A Douglas 82.10 55 P P 05 08 10.6 +0.1
319A IAmb IAmb 05 08 32.1
comp=Z,23nm,1.1s
ECH Echery 82.15 331 P P 05 08 09.7 -0.6
ECH Echery 82.15 331 P P 05 08 09.7 -0.6
ECH pmax pmax
comp=Z,12nm,1.0s
E43A Lone Tree Farm 82.15 32 P P 05 08 10.4 +0.1
CBKS Cedar Bluff 82.20 44 P P 05 08 11.5 +0.7
baz=318
121A Cookes Peak, D 82.20 53 P P 05 08 11.4 +0.3
121A IAmb IAmb 05 08 33.1
comp=Z,16nm,1.1s
121A Cookes Peak, D 82.20 53 P P 05 08 12.1 +1.0
baz=315
CTI Castel Tesino 82.24 328 P P 05 08 09.9 -1.1
CTI IAmb IAmb 05 08 11.2
comp=Z,13nm,0.9s
CTI Castel Tesino 82.24 328 P P 05 08 09.9 -1.1
CTI pmax pmax
comp=Z,13nm,0.9s
FUORN Ofenpass-Fuorn 82.32 329 P P 05 08 11.9 +0.3
FUORN IAmb IAmb 05 08 13.3
comp=Z,24nm,0.8s
KBN Korca 82.44 319 P P 05 08 12.2 +0.1
KBN IAmb IAmb 05 08 32.4
comp=Z,22nm,0.9s
KBN Korca 82.44 319 P P 05 08 12.2 +0.1
KBN pmax pmax
comp=Z,22nm,0.9s
HINF Hinteralfeld 82.59 331 *e*P P 05 08 11.5 -1.2
HINF pmax pmax
comp=Z,3.0nm,0.9s
HAU Haudompre 82.61 332 *e*P P 05 08 11.8 -1.0
HAU pmax pmax
comp=Z,5.0nm,0.8s
N35A Tabor 82.71 40 P P 05 08 13.7 +0.3
N35A IAmb IAmb 05 08 44.0
comp=Z,22nm,1.0s
TEOL Teolo 82.80 327 P P 05 08 13.4 -0.4
TEOL IAmb IAmb 05 08 14.7
comp=Z,28nm,1.1s
TUE Stuetta 82.80 329 P P 05 08 14.1 +0.1
SCIA State Center 83.06 38 P P 05 08 15.3 +0.2
SCIA IAmb IAmb 05 08 36.0
comp=Z,28nm,1.1s
SCIA State Center 83.06 38 P P 05 08 15.9 +0.7
baz=322
I42A Draeger Farm, 83.39 34 P P 05 08 17.2 +0.4
H43A Windswept, Lux 83.40 33 P P 05 08 17.4 +0.6
H43A IAmb IAmb 05 08 37.3
comp=Z,16nm,0.8s
KSU1 Kansas State U 83.58 42 P P 05 08 17.9 -0.1
baz=320
JFWS Jewell Farm 83.60 36 P P 05 08 17.6 -0.3
baz=323
L40A Anamosa 83.84 37 P P 05 08 19.2 0.0
L40A IAmb IAmb 05 08 19.9
comp=Z,14nm,1.1s
ZCCA Zocca 83.91 327 P P 05 08 18.7 -0.9
ZCCA IAmb IAmb 05 08 32.8
comp=Z,16nm,0.9s
AMTX Amarillo 84.05 48 P P 05 08 21.4 +0.9
baz=318
MSTX Muleshoe 84.11 49 P P 05 08 20.1 -0.7
MSTX Muleshoe 84.11 49 P P 05 08 21.7 +0.9
baz=317
VLDQ Val d'Or 84.11 25 P P 05 08 19.4 -1.0
LOR Lormes 84.11 333 *e*P P 05 08 19.6 -0.9
LOR pmax pmax
comp=Z,18nm,1.0s
FLN La Foliniere 84.20 336 *e*P P 05 08 19.9 -1.0
FLN pmax pmax
comp=Z,8.0nm,0.8s
LDF La Druitiere 84.25 336 *e*P P 05 08 21.1 0.0
LDF pmax pmax
comp=Z,5.0nm,0.6s
NOKA Waynoka 84.25 45 P P 05 08 21.1 -0.3
NRCA Norcia 84.25 325 P P 05 08 20.4 -1.0
IDI Anoyia 84.31 313 P P 05 08 21.0 -0.8
CAMP Campotosto 84.36 325 P P 05 08 21.9 -0.1
CAMP IAmb IAmb 05 08 23.5
comp=Z,26nm,1.1s
GLMI Grayling 84.37 31 P P 05 08 22.5 +0.6
baz=327
SSF Saint Saulge 84.41 333 *e*P P 05 08 21.2 -0.8
SSF pmax pmax
comp=Z,8.0nm,0.8s
ITM Ithomi 84.48 316 P P 05 08 22.1 -0.5
MSSA Maissana 84.52 328 P P 05 08 21.8 -0.9
MSSA IAmb IAmb 05 08 23.7
comp=Z,16nm,1.1s
INTR Introdacqua 84.57 324 P P 05 08 23.1 +0.1
INTR IAmb IAmb 05 08 25.0
comp=Z,21nm,1.0s
LPL La Plagne 84.59 330 *e*P P 05 08 22.9 -0.3
LPL pmax pmax
comp=Z,17nm,0.8s
LPG La Plagne 84.60 330 *e*P P 05 08 23.1 -0.2
LPG pmax pmax

comp=Z,36nm,1.0s
K43A Burlington 84.60 35 P P 05 08 21.7 -1.3
K43A IAmb IAmb 05 08 43.0
comp=Z,19nm,1.1s
GRR Gorron 84.65 336 *eP* **P 05 08 22.5 -0.6**
GRR pmax pmax
comp=Z,12nm,0.8s
SMF Signal de Mont 84.66 333 *eP* **P 05 08 22.6 -0.7**
SMF pmax pmax
comp=Z,37nm,1.3s
SMWD Samnorwood 84.68 47 P P 05 08 24.3 +0.7
SMWD IAmb IAmb 05 08 45.6
comp=Z,17nm,1.0s
P38A Dawn 84.69 40 P P 05 08 23.4 -0.1
P38A IAmb IAmb 05 08 24.7
comp=Z,17nm,1.1s
AVF Avril sur Loir 84.70 333 *eP* **P 05 08 22.8 -0.6**
AVF pmax pmax
comp=Z,26nm,0.9s
BNI Bardonecchia 85.00 330 P P 05 08 25.1 -0.1
BNI IAmb IAmb 05 08 26.6
comp=Z,10nm,0.9s
BNI Bardonecchia 85.00 330 P P 05 08 25.1 -0.1
BNI pmax pmax
comp=Z,10.0nm,0.9s
N41A Harden Midland 85.09 38 P P 05 08 25.2 -0.3
VHRN Van Horn 85.12 53 P P 05 08 26.4 +0.4
VHRN IAmb IAmb 05 08 47.5
comp=Z,24nm,1.5s
L44A Lake County Fo 85.21 35 P P 05 08 26.0 -0.1
baz=325
MBDF Montbardon 85.24 330 *eP* **P 05 08 25.4 -1.0**
MBDF pmax pmax
comp=Z,11nm,0.8s
SGMF Saint Gilles 85.28 337 *eP* **P 05 08 26.0 -0.3**
SGMF pmax pmax
comp=Z,27nm,1.3s
DKNS Dickens 85.37 48 P P 05 08 27.4 +0.3
ROSF Rostrenen 85.41 338 *eP* **P 05 08 26.7 -0.2**
ROSF pmax pmax
comp=Z,50nm,1.1s
ORIF Oris-en-Rattie 85.41 330 *eP* **P 05 08 26.7 -0.5**
ORIF pmax pmax
comp=Z,12nm,0.7s
P40A Paris 85.47 39 P P 05 08 27.8 +0.3
P40A IAmb IAmb 05 08 48.1
comp=Z,12nm,0.8s
POST Post 85.49 49 P P 05 08 27.4 -0.3
POST IAmb IAmb 05 08 50.4
comp=Z,14nm,0.9s
TIP Timpagrande 85.51 321 ⇑P **P 05 08 26.7 -1.1**
TIP Timpagrande 85.51 321 P P 05 08 27.7 0.0
ODSA Odessa 85.58 50 P P 05 08 28.6 +0.4
ODSA IAmb IAmb 05 08 50.4
comp=Z,16nm,0.9s
SSB Saint Sauveur 85.59 331 P P 05 08 27.4 -0.6
SSB IAmb IAmb 05 08 29.4
comp=Z,8.9nm,0.8s
SSB Saint Sauveur 85.59 331 P P 05 08 27.4 -0.6
SSB pmax pmax
comp=Z,9.0nm,0.8s
J47A Sunmer 85.62 32 P P 05 08 28.2 +0.1
SBF Sospel 85.72 329 *eP* **P 05 08 27.4 -1.3**
SBF pmax pmax
comp=Z,20nm,0.9s
WMOK Wichita Mounta 85.75 46 P P 05 08 29.0 +0.1
WMOK Wichita Mounta 85.75 46 P P 05 08 29.7 +0.8
baz=319
WMOK Wichita Mounta 85.75 46 P P 05 08 29.0 +0.1
WMOK pmax pmax
comp=Z,8.0nm,1.1s
QUIF Quistinic 85.76 337 *eP* **P 05 08 28.1 -0.6**
QUIF pmax pmax
comp=Z,16nm,0.9s
M44A Midewin, Midew 85.80 35 P P 05 08 29.1 +0.1
M44A IAmb IAmb 05 08 29.9
comp=Z,14nm,0.8s
SN07 Snyder 07 85.81 49 P P 05 08 30.0 +0.7
SN07 IAmb IAmb 05 08 52.7
comp=Z,24nm,1.7s
VIVF Saint-Julien-l 85.91 331 *eP* **P 05 08 29.2 -0.4**
VIVF pmax pmax
comp=Z,22nm,1.0s
HDIL Hopedale 85.92 37 P P 05 08 29.6 -0.1
baz=324
MNHN Monahans 86.03 51 P P 05 08 30.2 -0.3
APMT Aspermont 86.07 48 P P 05 08 30.1 -0.4
APMT IAmb IAmb 05 08 51.4
comp=Z,11nm,1.1s
PPT Papeete 86.20 117 LR LR 05 41 33.5
comp=Z,170nm,21.7s,baz=314,slow=32
PPT2 Papeete2 86.22 117 *e*LR LR 05 35 48.3
comp=Z,370nm,25.5s
PPT2 *e*LR LR 05 35 50.7
comp=Z,290nm,28.0s
ALPN Alpine 86.22 52 P P 05 08 31.2 -0.2
ALPN IAmb IAmb 05 08 52.6
comp=Z,13nm,1.3s
S39A Bolivar 86.31 41 P P 05 08 30.2 -1.4
R40A Maddies Statio 86.35 40 P P 05 08 30.8 -1.0
R40A IAmb IAmb 05 08 54.7
comp=Z,28nm,1.6s
TUL3 Leonard 86.44 44 P P 05 08 32.8 +0.5
baz=321
SGCY Sterling City 86.55 50 P P 05 08 32.7 -0.3
SGCY IAmb IAmb 05 08 55.5
comp=Z,22nm,1.0s
RJF Les Rejaudoux 86.62 333 *eP* **P 05 08 32.9 -0.1**
RJF pmax pmax
comp=Z,17nm,1.0s
CEL Celeste 86.65 320 P P 05 08 33.0 -0.4
CEL IAmb IAmb 05 08 34.2
comp=Z,20nm,1.0s
TRQ Mont Tremblant 86.70 25 P P 05 08 33.2 -0.2
U38A Gravette 86.75 42 P P 05 08 34.0 +0.2
CAF Calviac 86.77 333 *eP* **P 05 08 34.0 +0.2**
CAF pmax pmax
comp=Z,27nm,0.8s
L48A N Adams 86.86 33 P P 05 08 34.9 +0.7
ABTX Abilene, Hawle 86.86 48 P P 05 08 34.6 +0.1
baz=319
TX31 Lajitas Ar. Si 86.95 53 P P 05 08 35.4 +0.4
TX31 IAmb IAmb 05 08 56.3
comp=Z,12nm,1.2s
TXAR Lajitas Array 86.95 53 P P 05 08 35.1 +0.1
TXAR Lajitas Array 86.95 53 P P 05 08 34.1 -1.0
comp=Z,2.4nm,0.8s,baz=291,slow=3.8,SNR=35
comp=Z,2.4nm,0.8s
TXAR Lajitas Array 86.95 53 P P 05 08 35.1 +0.1
CCM Cathedral Cave 87.02 39 P P 05 08 35.1 0.0
CCM IAmb IAmb 05 08 36.1
comp=Z,16nm,1.1s
CCM Cathedral Cave 87.02 39 P P 05 08 35.1 0.0
baz=323
CCM Cathedral Cave 87.02 39 P P 05 08 35.1 0.0
CCM pmax pmax
comp=Z,16nm,1.1s
SFIN Lafayette 87.03 35 P P 05 08 35.1 0.0
baz=325
HHAR Hobbs 87.10 42 P P 05 08 35.6 +0.1
LFF La Frestale 87.20 334 *eP* **P 05 08 36.1 +0.3**
LFF pmax pmax
comp=Z,30nm,1.0s
DELO Deloro Mine 87.21 27 P P 05 08 35.5 -0.3
DELO IAmb IAmb 05 08 56.1
comp=Z,15nm,1.1s
FVM French Village 87.47 39 P P 05 08 36.9 -0.4
FVM IAmb IAmb 05 09 01.0
comp=Z,13nm,1.2s
FVM French Village 87.47 39 P P 05 08 36.9 -0.4
FVM pmax pmax
comp=Z,13nm,1.2s
WBO Williamsburg 87.56 26 P P 05 08 36.8 -0.7
WBO IAmb IAmb 05 08 38.6
comp=Z,10nm,0.9s
MNTQ Montreal, Queb 87.64 24 P P 05 08 37.8 0.0
MNTQ IAmb IAmb 05 08 40.1
comp=Z,13nm,1.0s
N49A Columbus Grove 87.81 33 P P 05 08 38.0 -0.8
N49A IAmb IAmb 05 08 59.6
comp=Z,16nm,1.1s
T42A Van Buren 87.91 40 P P 05 08 38.0 -1.4
T42A IAmb IAmb 05 09 00.1
comp=Z,10nm,1.1s
OLIL Olney 87.94 37 P P 05 08 39.8 +0.4

O48B Farmland 87.97 34 P P 05 08 38.4 -1.2
O48B IAmb IAmb 05 08 60.0
comp=Z,11nm,1.1s
O48B Farmland 87.97 34 P P 05 08 39.6 0.0
baz=327
VAE Valguarnera 87.98 321 LR LR 05 50 47.5
comp=Z,230nm,20.1s,baz=118,slow=38
BATG Bathurst New B 88.09 19 P P 05 08 40.6 +0.5
MTLF Montolieu 88.10 332 *eP* **P 05 08 40.2 0.0**
MTLF pmax pmax
comp=Z,7.0nm,0.9s
LONY Lake Ozonia 88.12 25 P P 05 08 40.1 -0.2
baz=333
BRDY Brady 88.23 49 P P 05 08 41.1 +0.1
BRDY IAmb IAmb 05 09 02.1
comp=Z,17nm,1.4s
S44A Carbondale 88.25 38 P P 05 08 40.6 -0.3
FCAR Ozark Folk Cen 88.31 41 P P 05 08 40.8 -0.5
FCAR IAmb IAmb 05 09 01.7
comp=Z,16nm,1.4s
JCT Junction City 88.37 50 P P 05 08 42.3 +0.5
baz=319
M52A Chesterland 88.42 31 P P 05 08 42.1 +0.4
PBMO Poplar Bluff 88.43 40 P P 05 08 41.8 0.0
PBMO IAmb IAmb 05 09 03.2
comp=Z,16nm,1.0s
ERPA Erie 88.44 30 P P 05 08 42.2 +0.4
baz=330
WHTX Lake Whitney, 88.55 47 P P 05 08 42.9 +0.4
baz=320
MIAR Mount Ida 88.64 43 P P 05 08 41.8 -1.1
MIAR IAmb IAmb 05 08 44.4
comp=Z,9.9nm,0.9s
MIAR Mount Ida 88.64 43 P P 05 08 43.4 +0.5
baz=322
MIAR Mount Ida 88.64 43 P P 05 08 41.8 -1.1
MIAR pmax pmax
comp=Z,10.0nm,1.0s
WVNY West Valley, N 88.70 29 P P 05 08 43.1 0.0
WHAR Wooly Hollow 88.71 42 P P 05 08 43.1 -0.1
WHAR IAmb IAmb 05 09 03.7
comp=Z,23nm,1.4s
P49A Miami Univ. Ec 88.75 34 P P 05 08 43.6 +0.3
P49A Miami Univ. Ec 88.75 34 P P 05 08 43.8 +0.4
baz=327
M53A WI Miller and 88.77 31 P P 05 08 43.8 +0.4
M53A WI Miller and 88.77 31 P P 05 08 43.7 +0.4
baz=330
ALLY Alegheny Colle 88.79 30 P P 05 08 43.9 +0.5
ACSO Alum Creek Sta 88.89 33 P P 05 08 44.4 +0.4
ACSO Alum Creek Sta 88.89 33 P P 05 08 44.3 +0.4
baz=328
VT1 Waterbury 88.96 24 P P 05 08 43.9 -0.3
J58A Remsen 89.02 26 P P 05 08 44.3 -0.2
J58A IAmb IAmb 05 09 04.9
comp=Z,10nm,0.9s
EPF Esparros 89.03 333 *eP* **P 05 08 44.0 -0.6**
EPF pmax pmax
comp=Z,6.0nm,1.0s
X40A Basin Creek Fa 89.07 43 P P 05 08 45.3 +0.4
X40A IAmb IAmb 05 09 07.5
comp=Z,11nm,1.3s
CEST Esterri de Car 89.09 332 P P 05 08 45.2 +0.2
CEST IAmb IAmb 05 08 46.8
comp=Z,9.4nm,0.9s
PKME Peaks-Kenny Pk 89.12 22 P P 05 08 45.2 +0.3
baz=337
WCI Wyandotte Cave 89.16 36 P P 05 08 45.3 +0.1
baz=326
H62A Milan 89.22 23 P P 05 08 45.1 -0.3
N53A Lisbon 89.25 31 P P 05 08 45.9 +0.3
LBNH Lisbon 89.29 24 P P 05 08 46.1 +0.3
baz=335
L56A Greenwood 89.32 28 P P 05 08 46.2 +0.3
L56A IAmb IAmb 05 08 47.2
comp=Z,13nm,0.9s
ETSF Etsaut 89.45 334 *eP* **P 05 08 47.4 +0.8**
ETSF pmax pmax
comp=Z,4.0nm,0.6s
O52A Adamsville 89.45 32 P P 05 08 47.1 +0.6
M55A Ridgway 89.46 29 P P 05 08 47.0 +0.4
P51A Williamsport 89.49 33 P P 05 08 46.6 -0.1
P51A IAmb IAmb 05 08 47.7
comp=Z,14nm,0.9s
ACCN Adirondack Com 89.53 25 P P 05 08 46.1 -0.7
ACCN IAmb IAmb 05 09 07.5
comp=Z,15nm,1.1s
O53A New Philadelph 89.58 32 P P 05 08 47.6 +0.5
O53A New Philadelph 89.58 32 P P 05 08 47.5 +0.3
baz=329
H06N1 SOCORRO T-PHAS 89.68 65 T T 06 47 54.8
SNR=4.1
LMN Caledonia Moun 89.72 18 P P 05 08 48.3 +0.6
P52A Corning 89.74 33 P P 05 08 47.6 -0.3
P52A IAmb IAmb 05 08 48.9
comp=Z,14nm,1.1s
P52A Corning 89.74 33 P P 05 08 48.2 +0.3
baz=329
Q51A Peebles 89.76 34 P P 05 08 48.2 +0.2
BINY Binghamton 89.81 27 P P 05 08 48.5 +0.2
baz=332
T47A Sharon Grove 89.81 37 P P 05 08 48.4 +0.1
T47A IAmb IAmb 05 09 09.3
comp=Z,11nm,0.8s
I63A Otisfield 89.87 23 P P 05 08 49.2 +0.8
O54A Avella 89.97 31 P P 05 08 49.2 +0.2
SSFO Shawnee State 90.10 34 P P 05 08 49.6 -0.1
L59A Walton 90.14 27 P P 05 08 49.9 +0.1
M57A Sunshine Farm, 90.17 28 P P 05 08 50.2 +0.3
WVT Waverly 90.18 38 P P 05 08 50.5 +0.5
baz=325
833A Chaparral WMA, 90.22 51 P P 05 08 51.0 +0.6
baz=319
TBI Tubuai 90.39 121 *e*LR LR 05 37 47.5
comp=Z,1μm,28.2s
KSPA Keystone Colle 90.46 27 P P 05 08 51.7 +0.4
SSPA Standing Stone 90.51 29 P P 05 08 51.9 +0.4
SSPA Standing Stone 90.51 29 P P 05 08 51.8 +0.3
baz=331
MCWV Mont Chateau 90.62 31 P P 05 08 52.6 +0.6
baz=330
L61B Northampton 90.68 25 P P 05 08 53.1 +0.9
baz=335
OXF Oxford 90.75 40 P P 05 08 53.3 +0.6
baz=324
N58A Sunbury 90.76 28 P P 05 08 52.6 0.0
U49A Red Boiling Sp 90.81 37 P P 05 08 52.9 -0.1
U49A IAmb IAmb 05 08 54.2
comp=Z,9.4nm,1.1s
HRV Adam Dziewonsk 90.98 24 P P 05 08 53.8 +0.1
baz=336
TRNY Table Rock, Ra 91.35 27 P P 05 08 56.3 +0.9
HBVL Hebbronville 91.59 51 P P 05 08 56.0 -0.7
KEST Kesra 91.74 323 P P 05 08 57.4 0.0
KEST IAmb IAmb 05 08 57.7
comp=Z,9.4nm,1.1s
KEST Kesra 91.74 323 P P 05 08 54.9 -2.5
comp=Z,5.4nm,0.9s,baz=352,slow=2.8,SNR=5.7
comp=Z,5.4nm,0.9s
LRAL Lakeview Retre 93.11 39 P P 05 09 03.5 -0.1
baz=326
ESBB Sonseca Array 93.46 334 P P 05 09 05.7 +0.4
ESBB IAmb IAmb 05 09 05.8
comp=Z,6.7nm,1.1s
ESDC Sonseca Array 93.47 334 P P 05 09 05.1 -0.2
ESDC Sonseca Array 93.47 334 P P 05 09 03.5 -1.7
comp=Z,3.1nm,0.8s,baz=19,slow=4.2,SNR=26
ESDC PP **PP 05 12 49.6 +0.4**
comp=Z,2.4nm,1.1s,baz=25,slow=8.4,SNR=8.4
ESDC LR LR 05 57 10.5
comp=Z,104nm,19.7s,baz=29,slow=39
comp=Z,3.1nm,0.8s
KMSC Kings Mountain 93.90 34 P P 05 09 07.1 -0.2
baz=329
NHSC New Hope 96.13 35 P P 05 09 18.0 +0.6
baz=330
MAW Mawson 123.82 207 PKP **PKPdf 05 14 44.2 -1.8**
comp=Z,0.9nm,0.6s,baz=158,slow=6.4,SNR=6.3
BOSA Boshof 127.80 263 PKP **PKPdf 05 14 53.0 -2.1**
comp=Z,2.0nm,0.8s,baz=350,slow=2.1,SNR=3.5
BOSA Boshof 127.80 263 PKIKP **PKPdf 05 14 53.0 -2.1**
QSPA South Pole Qui 131.29 180 SKPbc **SKPbc 05 18 18.2 -1.5**
comp=Z,1.7nm,1.0s,baz=335,slow=2.6,SNR=3.8
ELIB Princess Elisa 137.77 204 *d*PKPdf **PKiKP 05 15 14.9 +0.5**
ITTB Itaituba 139.68 28 *eP* **PKiKP 05 15 20.2 +0.2**
NVL N'lazarevskaya 141.65 204 *e*PKIKP **PKPdf 05 15 20.2 +0.8**

NVL pmax pmax
comp=Z,5.0nm,0.7s
TROLL Troll, Antarti 143.67 200 ⇑PKPdf PKPbc 05 15 20.8 -0.1
comp=Z,1μm,0.9s
LPAZ La Paz 143.80 55 PKPdf PKPbc 05 15 24.6 +1.2
LPAZ La Paz 143.80 55 PKP PKPab 05 15 22.6 -0.1
comp=Z,1.5nm,0.8s,baz=352,slow=6.2,SNR=7.8
LPAZ La Paz 143.80 55 *eP* **PKPdf 05 15 27.3 +1.7**
SNAA Sanae 145.21 199 PKPbc 05 15 25.7 +0.1
SNAA Sanae 145.21 199 ⇑PKPdf **PKPab 05 15 25.9 +0.2**
comp=Z,485nm,0.7s
SNAA Sanae 145.21 199 PKPbc **PKPbc 05 15 25.1 -0.5**
comp=Z,19nm,0.7s,baz=160,slow=4.0,SNR=77
PB11 IPOC Station P 145.40 61 PKPdf **PKPab 05 15 28.2 +0.2**
PDRB Porto dos Gac 145.91 34 *eP* **PKPdf 05 15 28.7 +0.1**
SMTB Santa Maria do 146.33 17 *eP* **PKPab 05 15 31.2 -0.2**
H03N2 Juan Fernandez 146.70 89 T T 07 58 53.6
baz=300,slow=76,SNR=12
H03N3 Juan Fernandez 146.72 89 T T 07 58 53.8
baz=300,slow=76,SNR=9.4
H03N1 Juan Fernandez 146.72 89 T T 07 58 54.9
baz=300,slow=76,SNR=10.0
VNA2 Neumayer--Watz 146.79 198 ⇑PKPdf **PKPbc 05 15 30.2 -0.1**
comp=Z,12nm,0.6s,baz=133,slow=2.3
H03S3 Juan Fernandez 146.89 90 T T 08 01 25.4
SNR=85
VNA3 Neumayer Olymp 147.06 196 ⇑PKPdf **PKPbc 05 15 30.5 -0.5**
comp=Z,7.0nm,0.7s
VNA1 Neumayer--Stat 147.19 198 ⇑PKPdf **PKPbc 05 15 31.7 +0.3**
comp=Z,10nm,0.8s
PTLB Pontes e Lacer 148.16 41 PKPdf **PKPdf 05 15 32.6 +0.3**
PTLB Pontes e Lacer 148.16 41 *eP* **PKPbc 05 15 35.0 -0.5**
SNDB Serra Nova Dou 148.28 26 *eP* **PKPbc 05 15 34.9 -1.0**
BBSD Serra de San D 148.86 46 *eP* **PKPbc 05 15 35.8 -1.6**
NBLA Lagarto - SE 149.56 360 *eP* **PKPdf 05 15 37.0 +2.4**
SALV Santo Antonio 150.18 36 *eP* **PKPbc 05 15 38.5 -2.2**
SDBA SAO DESIDERIO 150.33 14 *eP* **PKPdf 05 15 37.4 +1.5**
GDU01 Guandu, BA 152.23 4 *eP* **PKPdf 05 15 41.1 +2.4**
BDFB Brasilia 152.74 22 PKPbc **PKPbc 05 15 45.8 -0.9**
comp=Z,6.5nm,0.8s,baz=29,slow=2.1,SNR=11
JANB Januaria 153.02 14 *eP* **PKPdf 05 15 42.2 +2.2**

IDC ***10*** *04:59:06.2±1.2, 31°.75S×58°.24E, h0km, mb4.2/6, mbtmp4.2/6, Error ellipse: s-maj=44.2km s-min=27.9km az=90.0*

ISC 10 04:59:07.7±1.4, 31°.8S±0°.2×58°.2E±0°.4, h10km, n16, σ0$48/7, mb4.3/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.23**	**197**	T	T	05 18 26.7	
baz=24							
H04N1	**CROZET ISLANDS**	**15.23**	**197**	T	T	05 18 26.7	
baz=24							
H04N3	**CROZET ISLANDS**	**15.25**	**197**	T	T	05 18 26.7	
baz=24							
H08S1	**Diego Carcia H**	**27.41**	**32**	T	T	05 33 01.6	
baz=206							
H08S2	**Diego Garcia H**	**27.42**	**32**	T	T	05 33 01.6	
baz=206							
H08S3	**Diego Garcia H**	**27.43**	**32**	T	T	05 33 01.6	
baz=206							
H01W2	**Cape Leeuwin H**	**46.31**	**110**	T	T	05 56 48.3	
baz=257,slow=74,SNR=4.3							
H01W3	**Cape Leeuwin H**	**46.31**	**110**	T	T	05 56 48.7	
baz=257,slow=74,SNR=6.3							
H01W1	**Cape Leeuwin H**	**46.32**	**110**	T	T	05 56 49.6	
baz=257,slow=74,SNR=4.7							
QSPA	**South Pole Qui**	**58.42**	**180**	P	**P**	**05 09 03.2**	**-0.1**
1.5nm,0.7s,baz=274,slow=4.4,SNR=15							
1.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**63.37**	**44**	P	**P**	**05 09 36.9**	**-0.5**
1.1nm,0.3s,baz=224,slow=7.0,SNR=5.1							
1.1nm,0.3s							
ASAR	**Alice Springs**	**66.28**	**104**	P	**P**	**05 09 56.6**	**+0.1**
1.4nm,0.6s,baz=239,slow=5.8,SNR=9.2							
1.4nm,0.6s							
WRA	**Warramunga Arr**	**68.28**	**101**	P	**P**	**05 10 09.7**	**+0.4**
2.0nm,0.7s,baz=246,slow=5.4,SNR=5.3							
2.0nm,0.7s							
KURBB	**Kurchatov Arra**	**83.96**	**13**	P	**P**	**05 11 37.7**	**+0.1**
1.4nm,0.9s,baz=208,slow=5.9,SNR=4.7							
1.4nm,0.9s							
BVAR	**Borovoye Array**	**85.08**	**7**	P	**P**	**05 11 43.8**	**+0.6**
1.5nm,0.8s,baz=193,slow=4.4,SNR=4.0							
1.5nm,0.8s							
YKA	**Yellowknife Ar**	**148.90**	**354**	PKPbc	**PKPbc**	**05 18 54.6**	**-0.3**
1.2nm,0.7s,baz=350,slow=3.1,SNR=4.8							

IDC ***10*** *05:04:00.1±1.8, 31°.66S×58°.19E, h0km, mb3.8/5, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=44.2km s-min=34.3km az=133.0*

ISC 10 05:04:02.6±1.2, 31°.7S±0°.2×58°.1E±0°.2, h17km, n6, σ0$68/6, mb3.9/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.34**	**320**	Pn	**Pn**	**05 07 51.3**	**-0.2**
baz=128,slow=12,SNR=1.9							
4.2nm,0.9s							
MAW	**Mawson**	**36.10**	**177**	P	**P**	**05 11 02.3**	**-0.8**
0.9nm,0.8s,baz=32,slow=22,SNR=2.1							
0.9nm,0.8s							
SNAA	**Sanae**	**51.23**	**201**	P	**P**	**05 13 05.2**	**+0.4**
0.8nm,1.0s,baz=30,slow=14,SNR=1.9							
0.8nm,1.0s							
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**05 13 58.3**	**+0.5**
1.5nm,0.8s,baz=271,slow=6.0,SNR=9.2							
1.5nm,0.8s							
ASAR	**Alice Springs**	**66.39**	**104**	P	**P**	**05 14 50.6**	**-0.3**
0.6nm,0.6s,baz=241,slow=6.2,SNR=5.6							
0.6nm,0.6s							
WRA	**Warramunga Arr**	**68.39**	**101**	P	**P**	**05 15 04.1**	**+0.4**
0.7nm,0.8s,baz=244,slow=5.5,SNR=2.5							
0.7nm,0.8s							

IDC ***10*** *05:04:21.3±0.6, 31°.68S×58°.30E, h0km, mb4.2/14, mbtmp4.3/15, ML4.4/1, Error ellipse: s-maj=22.5km s-min=16.3km az=90.0*

NEIC ***10*** *05:04:22.9±2.2, 31°.61S±0°.10×57°.8E±0°.1, h10km±1km, mb4.7/17, Error ellipse: s-maj=18.5km s-min=16.1km az=121.0*

GCMT ***10*** *05:04:23.9±0.4, 31°.61S±0°.03×58°.10E±0°.04, h23km±1km, MW5.0/70, Moment Tensor Solution. s18,c24; s70,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.92±.29; $M_{\theta\theta}$2.78±.20; $M_{\phi\phi}$0.13±.20; $M_{r\theta}$0.26±.26; $M_{\phi\phi}$1.94±.14; $M_{\phi r}$-0.09±.33; Best double couple: $M_0$3.37800×10^{16} NP1:ϕ_s248.00000°, δ47.00000°, λ-82.00000°. NP2: ϕ_s56.00000°, δ44.00000°, λ-98.00000°. Principal axes: T 3.8110, Plg2.0000°, Azm332.0000°; N -0.8710, Plg6.0000°, Azm62.0000°; P -2.9450, Plg84.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 05:04:24.0±0.5, 31°.61S±0°.09×57°.9E±0°.1, h17km, n82, σ1$58/69, mb4.7/28, 2C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.57**	**349**	Pn	Pn	05 06 50.8	-4.1
FOMA	**Nahampoana Res**	**11.63**	**302**	Pn	**Pn**	**05 07 07.3**	**-2.0**
VOI	**Vohitsoka**	**13.81**	**312**	Pn	**Pn**	**05 07 38.4**	**-0.8**
H04N2	**CROZET ISLANDS**	**15.27**	**196**	T	T	05 23 56.8	
baz=22,slow=75,SNR=72							
H04N1	**CROZET ISLANDS**	**15.28**	**196**	T	T	05 23 57.9	
baz=22,slow=75,SNR=72							
H04N3	**CROZET ISLANDS**	**15.29**	**196**	T	T	05 23 57.3	
baz=22,slow=75,SNR=78							
ABPO	**Ambohimpanom**	**15.78**	**320**	Pn	**Pn**	**05 08 05.1**	**-0.5**
ABPO				IAmb	IAmb	05 08 23.4	
comp=Z,22nm,0.9s							
OPO	**Ambohidratompo**	**16.16**	**321**	Pn	**Pn**	**05 08 13.7**	**+3.1**
comp=Z,0.1nm,0.3s,baz=133,slow=9.2,SNR=10							
OPO				Sn	**Sn**	**05 11 04.1**	**-5.5**
comp=Z,0.1nm,0.3s,baz=101,slow=19,SNR=3.0							
comp=Z,17nm,0.8s							
H08S1	**Diego Carcia H**	**27.47**	**33**	T	T	05 38 29.1	
baz=210,slow=75							
H08S2	**Diego Garcia H**	**27.48**	**33**	T	T	05 38 29.1	
baz=210,slow=75							
H08S3	**Diego Garcia H**	**27.49**	**33**	T	T	05 38 26.9	

baz=210,slow=75
BOSA Boshof 28.30 268 P **P 05 10 21.6 +4.6**
comp=Z,2.3nm,1.1s,baz=131,slow=10,SNR=1.9
comp=Z,2.3nm,1.1s
MAW Mawson 36.16 177 P **P 05 11 23.9 -1.1**
comp=Z,1.3nm,0.9s,baz=353,slow=8.1,SNR=2.0
comp=Z,1.3nm,0.9s
H01W2 Cape Leeuwin H 46.66 110 T T 06 02 01.0
baz=257,slow=75,SNR=86
H01W3 Cape Leeuwin H 46.66 110 T T 06 02 03.8
baz=257,slow=75,SNR=100
H01W1 Cape Leeuwin H 46.68 110 T T 06 02 02.1
baz=257,slow=75,SNR=82
SNAA Sanae 51.18 201 P **P 05 13 25.4 -0.6**
SNAA Sanae 51.18 201 ⇑P **P 05 13 24.9 -1.0**
SNAA Sanae 51.18 201 P **P 05 13 25.9 -0.1**
comp=Z,1.4nm,0.9s,baz=62,slow=6.2,SNR=5.0
comp=Z,1.4nm,0.9s
VNA3 Neumayer Olymp 53.20 202 ⇑P **P 05 13 40.1 -0.8**
QSPA South Pole Qui 58.56 180 P **P 05 14 19.0 -0.6**
QSPA IAmb IAmb 05 14 42.6
comp=Z,12nm,1.3s
QSPA South Pole Qui 58.56 180 P **P 05 14 18.5 -1.0**
comp=Z,4.3nm,0.7s,baz=280,slow=2.6,SNR=20
comp=Z,4.3nm,0.7s
VNDA Vanda 62.35 166 P **P 05 14 45.6 +0.5**
VNDA IAmb IAmb 05 14 49.5
comp=Z,6.7nm,1.4s
VNDA Vanda 62.35 166 P **P 05 14 44.7 -0.4**
comp=Z,1.5nm,1.0s,baz=294,slow=6.6,SNR=5.6
comp=Z,1.5nm,1.0s
CMAR Chiang Mai Arr 63.50 44 P **P 05 14 52.7 -0.7**
CMAR Chiang Mai Arr 63.50 44 P **P 05 14 52.4 -1.0**
comp=Z,5.1nm,0.8s,baz=229,slow=7.0,SNR=19
comp=Z,5.1nm,0.8s
ASAR Alice Springs 66.63 104 P **P 05 15 11.8 -2.2**
ASAR Alice Springs 66.63 104 P **P 05 15 11.6 -2.4**
comp=Z,4.9nm,0.8s,baz=238,slow=6.1,SNR=27
comp=Z,4.9nm,0.8s
AS31 Alice Springs 66.63 104 P **P 05 15 13.1 -0.9**
WRA Warramunga Arr 68.63 101 P **P 05 15 24.8 -1.8**
WRA Warramunga Arr 68.63 101 P **P 05 15 24.4 -2.2**
comp=Z,7.0nm,0.9s,baz=243,slow=5.5,SNR=18
comp=Z,7.0nm,0.9s
WB2 Warramunga Arr 68.64 101 P **P 05 15 24.8 -1.9**
WB0 Warramunga Arr 68.75 101 P **P 05 15 25.3 -2.1**
WR0 Warramunga Arr 68.79 101 P **P 05 15 27.2 -0.5**
SIMJ Simiganj 70.67 9 P **P 05 15 39.2 +0.4**
PZH PanZhiHua 71.36 41 P **P 05 15 47.1 +3.8**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,6.7s
KSH Kashi 72.74 15 P **P 05 15 50.0 -1.2**
KSH pP pP 05 15 55.4 -0.4
KSH pmax pmax
comp=Z,6.0nm,1.1s
BR131 Keskin Array S 74.44 341 P **P 05 15 59.6 -1.6**
BRTR Keskin Array B 74.44 341 P **P 05 15 58.7 -2.5**
BRTR Keskin Array B 74.44 341 P **P 05 16 02.0 +0.8**
comp=Z,1.1nm,0.8s,baz=169,slow=7.3,SNR=5.9
comp=Z,1.1nm,0.8s
KK31 Karatay Array 75.25 10 P **P 05 16 06.4 +0.7**
KK31 IAmb IAmb 05 16 16.7
comp=Z,9.9nm,1.4s
KKAR Karatay Array 75.25 10 P **P 05 16 05.6 -0.1**
BOOM Boomskoye usch 75.59 14 P **P 05 16 08.2 +0.4**
BOOM IAmb IAmb 05 16 25.3
comp=Z,4.6nm,1.2s
WMQ Urumqi 79.87 21 *e*P **P 05 16 33.6 +2.0**
WMQ LR LR
comp=N,450nm,17.7s
WMQ LR LR
comp=E,510nm,16.7s
WMQ LR LR
comp=Z,280nm,18.7s
ABKAR Akbulak array 80.52 1 P **P 05 16 35.7 +0.9**
ABKAR IAmb IAmb 05 16 44.8
comp=Z,10.0nm,1.4s
ABKAR Akbulak array 80.52 1 P **P 05 16 35.1 +0.3**
MKAR Makanchi Array 81.10 17 P **P 05 16 39.2 +1.2**
MKAR Makanchi Array 81.10 17 P **P 05 16 37.7 -0.3**
comp=Z,0.9nm,0.8s,baz=202,slow=5.0,SNR=5.4
comp=Z,0.9nm,0.8s
KURBB Kurchatov Arra 83.89 13 P **P 05 16 52.8 +0.4**
comp=Z,3.3nm,1.1s,baz=206,slow=5.4,SNR=9.1
comp=Z,3.3nm,1.1s
KURK Kurchatov 84.00 13 P **P 05 16 53.5 +0.6**
KURK IAmb IAmb 05 17 02.1
comp=Z,15nm,1.4s
BVAR Borovoye Array 84.98 8 P **P 05 16 58.5 +0.5**
comp=Z,4.7nm,0.9s,baz=160,slow=4.7,SNR=10
comp=Z,4.7nm,0.9s
BRVK Borovoye 85.00 7 P **P 05 16 58.1 +0.1**
BRVK IAmb IAmb 05 17 08.0
comp=Z,4.8nm,0.9s
NJ2 Nanjing 85.65 48 *e*P **P 05 17 03.3 +1.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
SOKA Soboth 86.98 332 *e*P **P 05 17 09.0 +0.9**
comp=Z,1.0nm,0.7s
OBKA Obir 87.03 332 *e*P **P 05 17 09.9 +1.6**
comp=Z,5.8nm,1.1s
RONA Rosalia, Austr 87.32 333 *e*PcP **PcP 05 17 12.0 +0.3**
comp=Z,2.6nm,0.9s
CONA Conrad Observa 87.68 333 *i* P **P 05 17 12.4 +0.9**
comp=Z,5.9nm,1.4s
KBA Koelnbreinsper 87.98 331 *e*PcP **PcP 05 17 16.1 +1.3**
comp=Z,1.7nm,0.9s
MOA Molln 88.23 332 *e*P **P 05 17 15.7 +1.7**
comp=Z,3.2nm,1.0s
ZALV Zalesovo Beam 88.35 16 P **P 05 17 13.2 -1.1**
ZALV Zalesovo Beam 88.35 16 P **P 05 17 14.7 +0.4**
comp=Z,1.0nm,0.7s,baz=177,slow=2.8,SNR=5.2
comp=Z,1.0nm,0.7s
WTTA Wattenberg 88.84 331 *e*P **P 05 17 18.0 +1.0**
comp=Z,3.8nm,0.6s
FETA Feichten 89.03 330 *e*PcP **PcP 05 17 20.6 +1.1**
comp=Z,5.2nm,1.1s
RETA Reutte 89.38 330 *e*P **P 05 17 21.1 +1.6**
comp=Z,5.1nm,1.2s
SONM Songino Array 90.27 30 P **P 05 17 22.2 -1.5**
comp=Z,1.2nm,0.9s,baz=235,slow=4.7,SNR=6.7
comp=Z,1.2nm,0.9s
DZM Mont Dzumac 93.30 118 *e*LR LR 05 47 39.3
comp=Z,290nm,21.0s
TBI Tubuai 119.42 151 *e*LR LR 05 59 36.0
comp=Z,763nm,23.8s
PPT2 Papeete2 124.45 148 *e*LR LR 06 02 03.6
comp=Z,190nm,21.5s
PPT2 *e*LR LR 06 02 06.7
comp=Z,187nm,23.0s
ILAR Eielson Array 143.45 18 PKhKP PKPpre 05 23 52.5
comp=Z,0.3nm,0.9s,baz=323,slow=6.1,SNR=4.0
J26L Joseph Creek 144.48 16 PKPdf **PKPab 05 23 57.1 0.0**
I29M Ogilvie Camp, 144.79 12 **PKPab 05 23 56.5 -1.6**
SUA Susitna One 144.81 24 PKPdf **PKPab 05 23 57.5 -1.0**
SCRK Sand Creek 144.83 17 PKPdf **PKPab 05 23 58.3 -0.1**
MENT Mentasta 145.76 17 PKPdf **PKPdf 05 24 00.4 -0.5**
BCAR Beaver Creek A 146.13 16 PKPdf **PKPbc 05 24 02.0 -0.5**
N25K Chitina, Valde 146.62 19 **PKPbc 05 24 04.1 0.0**
YKA Yellowknife Ar 148.72 353 **PKPdf 05 24 07.4 +1.6**
YKA Yellowknife Ar 148.72 353 PKPbc **PKPbc 05 24 09.5 -0.1**
comp=Z,2.4nm,0.8s,baz=3.4,slow=2.9,SNR=9.2
COWI Conover 150.74 309 **PKPbc 05 24 13.4 -1.8**
ULM Lac du Bonnet 153.00 321 PKPbc **PKPbc 05 24 19.9 -0.2**
comp=Z,3.4nm,0.9s,baz=73,slow=2.5,SNR=5.7
TXAR Lajitas Array 163.90 267 PKP **PKPdf 05 24 27.2 +0.6**
comp=Z,0.2nm,0.8s,baz=101,slow=2.8,SNR=1.5
PDAR Pinedale Array 165.03 322 PKP **PKPdf 05 24 27.2 -0.2**
comp=Z,0.1nm,0.3s,baz=84,slow=2.8,SNR=4.5

DJA 10 05:08:23.9±1.1, 8°S±6°×10°7E±°, h11km±10km, M4.0/6, mb4.6/1, MLv3.8/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.89**	**348**	P	Pn	05 08 42.1	-0.2
CNJI				S	Sb	05 08 53.0	-0.1
CMJI	**Cimerak**	**1.19**	**71**	P	Pb	05 08 45.6	-0.8
CMJI				S	Sb	05 08 59.4	-2.4
LEM	**Lembang**	**1.38**	**12**	P	Pg	05 08 51.0	+0.6
SKJI	**Sukabumi**	**1.39**	**327**	P	Pn	05 08 49.5	+0.2
SKJI				S	Sn	05 09 07.2	-0.5
UGM	**Wanagama**	**3.18**	**85**	P	Pn	05 09 13.5	-0.5
PWJI	**Pagerwojo**	**4.44**	**88**	P	Pn	05 09 32.4	+1.1

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*IDC **10** 05:14:45.7±0.5, 31°.67S×58°.19E, h0km, mb4.4/16, mbtmp4.4/17, ML4.2/1, MS3.7/4, Error ellipse: s-maj=22.6km s-min=15.1km az=84.0*
*NEIC **10** 05:14:47.6±2.0, 31°.60S±0°.06×58°.11E±0°.09, h10km±1km, mb4.8/34, Error ellipse: s-maj=15.5km s-min=5.1km az=123.0*
ISC 10 05:14:48.2±0.4, 31°.57S±0°.08×58°.10E±0°.09, h17km, n89, σ1§28/75, mb4.7/45, MS3.6/4, 3C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.58**	**348**	Pn	**Pn**	**05 17 18.2**	**-1.0**
FOMA	**Nahampoana Res**	**11.79**	**301**	Pn	**Pn**	**05 17 36.6**	**+0.9**
VOI	**Vohitsoka**	**13.94**	**311**	Pn	**Pn**	**05 18 05.5**	**+0.3**
H04N2	**CROZET ISLANDS**	**15.37**	**197**	T	T	05 34 13.3	
	baz=21,slow=75,SNR=36						
H04N1	**CROZET ISLANDS**	**15.37**	**197**	T	T	05 34 13.0	
	baz=21,slow=75,SNR=41						
H04N3	**CROZET ISLANDS**	**15.38**	**197**	T	T	05 34 11.5	
	baz=21,slow=75,SNR=38						
ABPO	**Ambohimpanom**	**15.88**	**319**	Pn	**Pn**	**05 18 32.9**	**+1.6**
OPO	**Ambohidratompo**	**16.27**	**320**	Pn	**P**	**05 18 39.0**	**-0.2**
	0.1nm,0.3s,baz=134,slow=17,SNR=3.1						
OPO				Sn	**Sn**	**05 21 29.3**	**-7.1**
	0.1nm,0.3s,baz=306,slow=6.4,SNR=2.3						
	11nm,0.7s						
POGA	**Pongola**	**23.34**	**274**	P	**P**	**05 19 56.1**	**+0.4**
H08S1	**Diego Carcia H**	**27.32**	**32**	T	T	05 48 54.5	
	baz=209,slow=75						
H08S2	**Diego Garcia H**	**27.33**	**32**	T	T	05 48 56.6	
	baz=209,slow=75						
H08S3	**Diego Garcia H**	**27.34**	**32**	T	T	05 48 56.0	
	baz=209,slow=75						
BOSA	**Boshof**	**28.51**	**267**	LR	LR	05 30 51.1	
	comp=Z,73nm,19.0s,baz=111,slow=34						
SUR	**Sutherland**	**31.54**	**259**	LR	LR	05 31 25.2	
	comp=Z,146nm,20.7s,baz=116,slow=32						
MAW	**Mawson**	**36.18**	**177**	P	**P**	**05 21 50.3**	**+0.9**
	2.8nm,1.0s,baz=17,slow=12,SNR=4.7						
MAW				PcP	**PcP**	**05 24 14.6**	**0.0**
	2.4nm,0.9s,baz=291,slow=6.2,SNR=3.9						
MAW				LR	LR	05 32 33.8	
	comp=Z,172nm,20.4s,baz=330,slow=30						
	2.8nm,1.0s						
TSUM	**Tsumeb**	**38.41**	**279**	P	**P**	**05 22 09.5**	**+0.4**
TSUM	**Tsumeb**	**38.41**	**279**	LR	LR	05 36 25.1	
	comp=Z,103nm,18.8s,baz=166,slow=34						
H01W2	**Cape Leeuwin H**	**46.48**	**110**	T	T	06 12 54.9	
	baz=257						
H01W3	**Cape Leeuwin H**	**46.48**	**110**	T	T	06 12 53.8	
	baz=257						
H01W1	**Cape Leeuwin H**	**46.49**	**110**	T	T	06 12 56.3	
	baz=257						
TROLL	**Troll, Antarti**	**49.82**	**200**	⇑P	**P**	**05 23 39.3**	**-0.7**
	comp=Z,47nm,1.1s						
SNAA	**Sanae**	**51.29**	**201**	P	**P**	**05 23 49.9**	**-1.1**
SNAA				IAmb	IAmb	05 24 09.1	
	comp=Z,8.7nm,1.3s						
SNAA	**Sanae**	**51.29**	**201**	⇑P	**P**	**05 23 49.8**	**-1.1**
	comp=Z,33nm,0.6s						
SNAA	**Sanae**	**51.29**	**201**	P	**P**	**05 23 50.1**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=116,slow=8.5,SNR=8.0						
	comp=Z,2.2nm,0.9s						
VNA3	**Neumayer Olymp**	**53.31**	**202**	⇑P	**P**	**05 24 04.8**	**-1.2**
	comp=Z,3.2nm,0.8s						
PSA00	**Pilbara Seismi**	**55.49**	**96**	P	**P**	**05 24 21.6**	**-0.9**
PSA00				IAmb	IAmb	05 24 42.3	
	comp=Z,18nm,1.4s						
QSPA	**South Pole Qui**	**58.60**	**180**	P	**P**	**05 24 43.6**	**-0.4**
QSPA	**South Pole Qui**	**58.60**	**180**	P	**P**	**05 24 43.5**	**-0.5**
	comp=Z,5.5nm,0.6s,baz=256,slow=1.3,SNR=41						
	comp=Z,5.5nm,0.6s						
VNDA	**Vanda**	**62.33**	**166**	P	**P**	**05 25 09.0**	**-0.1**
VNDA				IAmb	IAmb	05 25 21.4	
	comp=Z,3.4nm,1.1s						
VNDA	**Vanda**	**62.33**	**166**	P	**P**	**05 25 08.2**	**-0.9**
	comp=Z,1.4nm,1.0s,baz=268,slow=8.0,SNR=5.2						
	comp=Z,1.4nm,1.0s						
CM31	**Chiang Mai Arr**	**63.33**	**44**	P	**P**	**05 25 17.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**63.33**	**44**	P	**P**	**05 25 17.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**63.33**	**44**	P	**P**	**05 25 17.4**	**+0.9**
	comp=Z,8.3nm,0.3s,baz=231,slow=7.2,SNR=24						
	comp=Z,8.3nm,0.3s						
BBOO	**Buckleboo**	**64.48**	**114**	P	**P**	**05 25 23.0**	**-1.1**
ASAR	**Alice Springs**	**66.43**	**104**	P	**P**	**05 25 36.5**	**-0.5**
ASAR	**Alice Springs**	**66.43**	**104**	P	**P**	**05 25 36.2**	**-0.7**
	comp=Z,6.3nm,0.7s,baz=238,slow=6.2,SNR=57						
	comp=Z,6.3nm,0.7s						
AS31	**Alice Springs**	**66.44**	**104**	P	**P**	**05 25 36.5**	**-0.5**
AS31				IAmb	IAmb	05 25 37.0	
	comp=Z,2.5nm,0.6s						
WRA	**Warramunga Arr**	**68.43**	**101**	P	**P**	**05 25 49.1**	**-0.5**
WRA	**Warramunga Arr**	**68.43**	**101**	P	**P**	**05 25 49.2**	**-0.4**
	comp=Z,7.7nm,0.7s,baz=243,slow=5.4,SNR=34						
	comp=Z,7.7nm,0.7s						
WB2	**Warramunga Arr**	**68.44**	**101**	P	**P**	**05 25 49.4**	**-0.2**
WB0	**Warramunga Arr**	**68.56**	**101**	P	**P**	**05 25 50.0**	**-0.4**
WB0				IAmb	IAmb	05 25 50.9	
	comp=Z,11nm,0.9s						
WR0	**Warramunga Arr**	**68.59**	**101**	P	**P**	**05 25 50.4**	**-0.2**
SIMJ	**Simiganj**	**70.61**	**9**	P	**P**	**05 26 04.3**	**+1.7**
SIMJ				IAmb	IAmb	05 26 05.9	
	comp=Z,7.6nm,0.9s						
CHGR	**Chuyangaron**	**70.62**	**9**	P	**P**	**05 26 02.2**	**-0.4**
DBIC	**Dimbokro**	**71.01**	**291**	P	**P**	**05 26 06.1**	**+0.6**
	comp=Z,5.5nm,0.9s,baz=178,slow=1.2,SNR=3.4						
	comp=Z,5.5nm,0.9s						
SMAI	**San Martin Ant**	**72.62**	**199**	P	**P**	**05 26 12.8**	**-1.5**
SMAI				IAmb	IAmb	05 26 15.5	
	comp=Z,7.2nm,1.0s						
ARPR	**Arapgir-MALATY**	**72.67**	**344**	P	**P**	**05 26 16.8**	**+1.7**
ARPR				IAmb	IAmb	05 26 26.4	
	comp=Z,4.8nm,0.6s						
BR131	**Keskin Array S**	**74.48**	**341**	P	**P**	**05 26 26.1**	**+0.4**
BRTR	**Keskin Array B**	**74.48**	**341**	P	**P**	**05 26 26.0**	**+0.4**
BRTR	**Keskin Array B**	**74.48**	**341**	P	**P**	**05 26 26.8**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=169,slow=8.4,SNR=11						
	comp=Z,2.0nm,0.8s						
KK31	**Karatay Array**	**75.18**	**9**	P	**P**	**05 26 31.0**	**+1.5**
KK31				IAmb	IAmb	05 26 32.9	
	comp=Z,11nm,1.4s						
KKAR	**Karatay Array**	**75.18**	**9**	P	**P**	**05 26 30.9**	**+1.4**
BOOM	**Boomskoye usch**	**75.50**	**14**	P	**P**	**05 26 33.1**	**+1.6**
ABKAR	**Akbulak array**	**80.48**	**1**	IAmb	IAmb	05 27 00.9	
	comp=Z,10nm,1.4s						
MAKZ	**Makanchi**	**80.94**	**16**	P	**P**	**05 27 01.2**	**-0.2**
MK31	**Makanchi Array**	**81.00**	**17**	IAmb	IAmb	05 27 06.7	
	comp=Z,6.1nm,1.4s						
MKAR	**Makanchi Array**	**81.00**	**17**	P	**P**	**05 27 01.7**	**-0.1**
MKAR	**Makanchi Array**	**81.00**	**17**	P	**P**	**05 27 02.8**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=198,slow=7.4,SNR=10						
	comp=Z,1.1nm,0.7s						
MLR	**Muntele Rosu**	**82.07**	**338**	P	**P**	**05 27 08.4**	**+0.9**
MLR				IAmb	IAmb	05 27 09.2	
	comp=Z,4.9nm,0.8s						
KURBB	**Kurchatov Arra**	**83.81**	**13**	P	**P**	**05 27 17.4**	**+1.2**
	comp=Z,5.7nm,1.0s,baz=205,slow=5.8,SNR=29						
	comp=Z,5.7nm,1.0s						
KURK	**Kurchatov**	**83.92**	**13**	P	**P**	**05 27 17.7**	**+0.9**
KURK				IAmb	IAmb	05 27 19.1	
	comp=Z,12nm,1.1s						
BURAR	**Bucovina Array**	**84.18**	**338**	P	**P**	**05 27 18.5**	**+0.2**
BVAR	**Borovoye Array**	**84.92**	**7**	P	**P**	**05 27 23.4**	**+1.5**
	comp=Z,8.4nm,0.8s,baz=174,slow=5.4,SNR=42						
	comp=Z,8.4nm,0.8s						
BRVK	**Borovoye**	**84.94**	**7**	P	**P**	**05 27 22.6**	**+0.7**
BRVK				IAmb	IAmb	05 27 24.2	
	comp=Z,10nm,1.0s						
KIEV	**Kiev**	**85.80**	**342**	P	**P**	**05 27 25.9**	**-0.3**
KIEV				IAmb	IAmb	05 27 27.6	
	comp=Z,6.1nm,1.1s						
AKASG	**Malin Array Be**	**85.80**	**342**	P	**P**	**05 27 26.1**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=167,slow=4.4,SNR=1.8						
	comp=Z,1.5nm,0.6s						
AKBB	**Malin Array Si**	**85.80**	**342**	IAmb	IAmb	05 27 27.6	
	comp=Z,7.5nm,1.1s						
SOKA	**Soboth**	**87.05**	**332**	*e*P	**P**	**05 27 33.3**	**+0.7**
	comp=Z,1.3nm,0.6s						
RONA	**Rosalia, Austr**	**87.38**	**333**	*e*P	**P**	**05 27 35.5**	**+1.3**
	comp=Z,2.8nm,0.7s						
CONA	**Conrad Observa**	**87.74**	**333**	*i* P	**P**	**05 27 37.1**	**+1.2**
	comp=Z,7.4nm,1.4s						
KBA	**Koelnbreinsper**	**88.05**	**331**	*i* P	**P**	**05 27 39.3**	**+1.8**
	comp=Z,3.2nm,1.1s						
ABTA	**Abfaltersbach**	**88.14**	**331**	*i* P	**P**	**05 27 39.8**	**+1.9**
	comp=Z,6.0nm,1.0s						
ZAA0	**Zalesovo Array**	**88.26**	**15**	P	**P**	**05 27 36.9**	**-1.2**
ZAA0				IAmb	IAmb	05 27 39.7	
	comp=Z,4.8nm,1.1s						
ZALV	**Zalesovo Beam**	**88.26**	**15**	P	**P**	**05 27 37.3**	**-0.8**
ZALV	**Zalesovo Beam**	**88.26**	**15**	P	**P**	**05 27 36.8**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=230,slow=3.7,SNR=5.9						
	comp=Z,0.9nm,0.5s						
MOA	**Molln**	**88.30**	**332**	*i* P	**P**	**05 27 39.9**	**+1.4**
	comp=Z,7.3nm,1.4s						
LESA	**Schwarzleotal**	**88.61**	**331**	*i* P	**P**	**05 27 41.0**	**+0.9**
	comp=Z,5.6nm,0.7s						
WTTA	**Wattenberg**	**88.91**	**330**	*i* P	**P**	**05 27 42.6**	**+1.0**
	comp=Z,6.5nm,0.6s						
WATA	**Walderalm**	**88.99**	**330**	*e*P	**P**	**05 27 41.9**	**-0.1**
	comp=Z,3.0nm,0.5s						
SQTA	**Sankt Quirin**	**89.06**	**330**	*e*P	**P**	**05 27 43.2**	**+1.0**
	comp=Z,3.9nm,0.5s						
FETA	**Feichten**	**89.11**	**330**	*i* P	**P**	**05 27 43.9**	**+1.4**
	comp=Z,8.1nm,1.2s						
BJI	**Beijing**	**89.28**	**41**	P	**P**	**05 27 42.9**	**-0.3**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.4s						
RETA	**Reutte**	**89.46**	**330**	*i* P	**P**	**05 27 45.5**	**+1.5**
	comp=Z,4.9nm,0.7s						
DAVA	**Damuels**	**89.68**	**329**	*e*PcP	PcP	05 27 54.5	+8.0
	comp=Z,5.2nm,0.8s						
SONM	**Songino Array**	**90.14**	**30**	P	**P**	**05 27 47.6**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=218,slow=5.2,SNR=7.3						
	comp=Z,2.1nm,1.0s						
ESDC	**Sonseca Array**	**91.30**	**317**	P	**P**	**05 27 54.4**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=124,slow=4.3,SNR=7.3						
	comp=Z,0.8nm,0.8s						
YKA	**Yellowknife Ar**	**148.71**	**353**	PKPbc	**PKPbc**	**05 34 33.9**	**+0.2**
	comp=Z,5.0nm,0.8s,baz=357,slow=3.0,SNR=14						
ULM	**Lac du Bonnet**	**153.11**	**321**	PKPbc	**PKPbc**	**05 34 44.4**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=30,slow=3.9,SNR=8.1						
PDAR	**Pinedale Array**	**165.13**	**322**	PKP	**PKPdf**	**05 34 51.7**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=114,slow=3.7,SNR=5.5						

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*IDC **10** 05:16:58.8±1.1, 3°.29N×76°.06W, h0km, mb3.5/5, mbtmp3.8/9, ML3.2/4, MS3.7/3, Error ellipse: s-maj=26.0km s-min=16.4km az=133.0*
*RSNC **10** 05:16:58.7±0.0, 3°N±1°×7°6W±°, h8km±2km, M3.5, ML4.0*
ISC 10 05:16:57.8±1.1, 3°.08N±0°.02×75°.94W±0°.02, h3km±8km, n56, σ1§79/84, mb3.5/4, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BETC	**Betania**	**0.64**	**128**	P	**Pg**	**05 17 09.6**	**-0.5**
BETC				S	**Sg**	**05 17 18.0**	**-0.3**
JAMC	**Jamundi, Valle**	**0.74**	**281**	P	**Pg**	**05 17 12.0**	**-0.1**
JAMC				S	**Sb**	**05 17 22.7**	**-1.6**
POPC	**Popayan, Colom**	**0.91**	**234**	P	**Pg**	**05 17 13.9**	**-1.4**
POPC				S	**Sg**	**05 17 25.5**	**-1.5**
YOTC	**Yotoco, Valle**	**0.99**	**336**	P	**Pg**	**05 17 16.1**	**-0.7**
YOTC				S	**Sg**	**05 17 29.8**	**+0.2**
GARC	**Garzon, Huila**	**0.99**	**153**	P	**Pg**	**05 17 15.8**	**-1.1**
GARC				S	**Sg**	**05 17 27.8**	**-2.0**
ORTC	**Ortega, Tolima**	**1.08**	**40**	P	**Pb**	**05 17 18.7**	**-0.6**
ORTC				S	**Sb**	**05 17 34.2**	**+0.4**
PRAC	**Prado**	**1.23**	**59**	P	**Pg**	**05 17 21.3**	**-0.1**
PRAC				S	**Sb**	**05 17 38.5**	**+0.4**
ANIL	**Santa Ana**	**1.50**	**21**	P	**Pn**	**05 17 25.3**	**-0.8**
ANIL				S	**Sb**	**05 17 46.2**	**-0.1**
BBAC	**Balboa, Cauca**	**1.67**	**231**	P	**Pn**	**05 17 27.3**	**-1.0**
BBAC				S	**Sn**	**05 17 48.5**	**-1.9**
MALC	**Bahia Malaga**	**1.67**	**304**	P	**Pg**	**05 17 29.4**	**-0.6**
MALC				S	**Sg**	**05 17 54.5**	**+2.8**
CRUC	**La Cruz**	**1.81**	**214**	P	**Pg**	**05 17 32.0**	**-0.5**
PLMC	**San Jos del P**	**1.85**	**349**	P	**Pn**	**05 17 30.4**	**-0.2**
PLMC				S	**Sb**	**05 17 56.0**	**0.0**
RECRC	**Villamaria, Ca**	**1.96**	**17**	P	**Pg**	**05 17 35.0**	**-0.5**
RECRC				S	**Sg**	**05 18 02.0**	**+1.0**
NIZA	**Niza - Manizal**	**2.02**	**13**	P	**Pg**	**05 17 36.2**	**-0.5**
NIZA				S	**Sg**	**05 18 02.9**	**-0.1**
CMAN1	**Manizales, Cal**	**2.02**	**12**	P	**Pg**	**05 17 36.5**	**-0.2**
CMAN1				S	**Sg**	**05 18 03.1**	**+0.1**
GUY2C	**Guyana, Caldas**	**2.21**	**15**	P	**Pb**	**05 17 37.7**	**-1.1**
GUY2C				S	**Sg**	**05 18 08.4**	**-0.5**
GCUF	**Volcan Galeras**	**2.31**	**217**	P	**Pg**	**05 17 41.3**	**-0.9**
GCUF				S	**Sg**	**05 18 11.5**	**-0.8**
CVER	**Cruz Verde, Cu**	**2.35**	**52**	P	**Pb**	**05 17 41.4**	**+0.2**
CVER				S	**Sg**	**05 18 14.1**	**+0.6**
ROSC	**El Rosal**	**2.38**	**43**	Pn	**Pb**	**05 17 39.9**	**-1.9**
	33nm,0.3s,baz=293,slow=1.5,SNR=41						
ROSC				Lg	Lg	05 18 13.0	
	196nm,0.3s,baz=231,slow=18,SNR=4.9						
	132nm,0.4s						
ROSC	**El Rosal**	**2.38**	**43**	P	**Pb**	**05 17 40.0**	**-1.7**
ROSC				S	**Sg**	**05 18 15.4**	**+0.8**
VILC	**Villavicencio,**	**2.47**	**65**	P	**Pb**	**05 17 42.4**	**-0.6**
VILC				S	**Sg**	**05 18 17.1**	**-0.2**
CHIC	**Chingaza**	**2.69**	**55**	P	**Pb**	**05 17 44.9**	**-2.1**
CHIC				S	**Sb**	**05 18 21.2**	**+0.6**
NORC	**Norcasia**	**2.69**	**23**	P	**Pb**	**05 17 46.1**	**-0.7**
NORC				S	**Sb**	**05 18 20.1**	**-0.2**
CBOC	**Ciudad Bolivar**	**2.77**	**359**	P	**Pb**	**05 17 46.0**	**-2.2**
CBOC				S	**Sg**	**05 18 24.8**	**-2.1**
CMBC	**Cumbal**	**2.84**	**222**	P	**Pg**	**05 17 51.5**	**-0.8**
CMBC				S	**Sg**	**05 18 33.3**	**+4.2**
TULM	**Tulcn-Chalpat**	**2.98**	**218**	P	**Pb**	**05 17 52.7**	**+0.7**
TULM				S	**Sg**	**05 18 32.7**	**-1.1**
BONI	**La Bonita**	**3.05**	**211**	P	**Pb**	**05 17 52.6**	**-0.4**
BONI				S	**Sb**	**05 18 32.4**	**+1.6**
PTLC	**Puerto Leguiza**	**3.10**	**158**	P	**Pg**	**05 17 56.0**	**-1.4**
PTLC				S	**Sg**	**05 18 40.1**	**+2.4**
SPBC	**San Pablo de B**	**3.17**	**36**	P	**Pb**	**05 17 53.7**	**-1.2**
SPBC				S	**Sb**	**05 18 33.1**	**-0.9**
GUVC	**San Jose del G**

1.0nm,0.9s,baz=117,slow=2.8,SNR=3.1

IDC 10 05:17:40.6±1.1,18°.77N×145°.58E,h0km,mb3.7/4, mbtmp3.7/4,MS3.9/2,Error ellipse: s-maj=48.8km s-min=27.8km az=108.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.02**	**197**	P	P	05 25 17.7	+0.2
	1.1nm,0.8s,baz=6.2,slow=8.6,SNR=12						
WRA				LR	LR	05 41 27.3	
	comp=Z,113nm,19.6s,baz=296,slow=36						
	1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**61.20**	**318**	P	P	05 27 57.3	+0.1
	0.2nm,0.3s,baz=92,slow=7.3,SNR=4.2						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**63.63**	**26**	P	P	05 28 13.9	+0.7
	0.4nm,0.7s,baz=246,slow=4.9,SNR=5.5						
	0.4nm,0.7s						
BBB	**Bella Bella**	**73.17**	**40**	LR	LR	05 59 24.8	
	comp=Z,109nm,18.4s,baz=286,slow=34						
NVAR	**Mina Array Bea**	**83.18**	**52**	P	P	05 30 09.0	-0.4
	0.5nm,0.6s,baz=260,slow=6.2,SNR=5.8						
	0.5nm,0.6s						
LPAZ	**La Paz**	**147.78**	**91**	PKPbc	PKPdf	05 37 27.2	+0.9
	0.3nm,0.5s,baz=256,slow=4.2,SNR=1.5						

IDC 10 05:22:15.9±3.2,31°.53S×58°.35E,h0km,mb3.9/4, mbtmp3.9/4,Error ellipse: s-maj=106.2km s-min=31.7km az=115.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**36.21**	**177**	P	P	05 29 21.5	+1.5
	2.1nm,0.6s,baz=355,slow=9.1,SNR=7.5						
	2.1nm,0.6s						
QSPA	**South Pole Qui**	**58.64**	**180**	P	P	05 32 12.7	-2.0
	0.7nm,0.8s,baz=266,slow=4.4,SNR=1.9						
	0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.14**	**44**	P	P	05 32 46.2	+0.5
	0.6nm,0.3s,baz=240,slow=7.2,SNR=1.2						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**66.23**	**104**	P	P	05 33 05.7	-0.3
	0.7nm,0.7s,baz=242,slow=5.5,SNR=6.2						
	0.7nm,0.7s						

*IDC **10** 05:23:39.7±0.6,36°.22N×141°.59E,h0km,mb4.3/22, mbtmp4.3/29,ML3.7/7,MS4.2/22,Error ellipse: s-maj=15.1km s-min=13.9km az=165.0*
*JMA **10** 05:23:42.5±0.2,36°.2N±0°.5×14°.2E±°,h60km±4km, MD4.8/37,MW4.7/37,FAR E OFF IBARAKI PREF*
JMA Felt I J1 at FAR E OFF IBARAKI PREF .
*MOS **10** 05:23:42.5±1.0,36°.40N×141°.63E,h30km,mb4.9/50, MS4.5/7,Error ellipse: s-maj=7.3km s-min=4.4km az=119.1*
*NIED **10** 05:23:42.5,36°.22N×141°.57E,h60km,MW4.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.90; $M_{\theta\theta}$0.39; $M_{\phi\phi}$-1.28; $M_{r\theta}$0.71; $M_{\theta\phi}$0.05; $M_{\phi r}$0.82; Fault plane solution: $M_0$1.58000×10^{16} NP1:ϕ_s27.00000°, δ70.00000°,λ118.00000°. NP2:ϕ_s150.00000°,δ34.00000°, λ38.00000°.*
*BJI **10** 05:23:42.5±0.0,36°.25N×141°.43E,h24km,mb4.6/54, mB5.1/20,Ms4.7/36,Ms7 4.5/36*
*NEIC **10** 05:23:44.9±1.9,36°.28N±0°.06×141°.68E±0°.06,h32km±4km, mb4.9/201,Error ellipse: s-maj=8.0km s-min=7.4km az=187.0*
*GCMT **10** 05:23:44.9±0.5,36°.14N±0°.05×141°.65E±0°.04,h28km±1km, MW4.9/66,Moment Tensor Solution. s27,c27; s66,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.64±.23; $M_{\theta\theta}$-0.36±.14; $M_{\phi\phi}$-2.28±.13; $M_{r\theta}$0.81±.26; $M_{\theta\phi}$0.13±.07; $M_{\phi r}$1.32±.16; Best double couple: $M_0$2.88700×10^{16} NP1:ϕ_s12.00000°,δ60.00000°,λ104.00000°. NP2: ϕ_s165.00000°,δ32.00000°,λ67.00000°. Principal axes: T 3.1610, Plg71.0000°, Azm314.0000°; N -0.5480, Plg12.0000°, Azm185.0000°; P -2.6140, Plg14.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 05:23:44.3±0.5,36°.34N±0°.04×141°.67E±0°.04,h32km±2km, h32km:pP-P,n777,σ1$26/664,mb4.8/169,MS4.4/32,2C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.87**	**271**	⇓*i*P	**Pn**	**05 23 58.2**	**-2.1**
JHYU				⇓*e*S	**Sn**	**05 24 09.8**	**-2.1**
JHYU	**Hitachinakayam**	**0.87**	**271**	A	A	05 23 58.2	
	comp=E,31nm,2.1s,comp=N,27nm,0.5s						
JHO	**Hitachi**	**0.93**	**287**	⇓*i*P	**Pn**	**05 23 59.0**	**-2.1**
JHO	**Hitachi**	**0.93**	**287**	A	A	05 23 59.0	
	comp=E,16nm,5.3s,comp=N,32nm,3.1s						
JIHU	**Itakohorinouch**	**0.99**	**248**	P	**Pn**	**05 23 59.7**	**-2.3**
JIHU	**Itakohorinouch**	**0.99**	**248**	A	A	05 23 59.7	
	comp=E,95nm,2.0s,comp=N,66nm,2.0s						
ONAJ	**Iwakimizuishiy**	**1.03**	**318**	A	A	05 24 01.8	
	comp=E,17nm,5.5s,comp=N,28nm,3.2s						
JFFD	**Fukushimafurud**	**1.16**	**311**	A	A	05 24 03.3	
	comp=E,20nm,2.6s,comp=N,14nm,2.2s						
JYT	**Yasato**	**1.20**	**265**	A	A	05 24 02.3	
	comp=E,19nm,1.5s,comp=N,18nm,1.1s						
JSMT	**Sammumatsuo**	**1.21**	**235**	A	A	05 24 01.8	
	comp=E,89nm,2.3s,comp=N,57nm,5.0s						
JFK	**Kawauchi**	**1.21**	**328**	*i* P	**Pn**	**05 24 04.3**	**-0.7**
JFK	**Kawauchi**	**1.21**	**328**	A	A	05 24 04.3	
	comp=E,8.0nm,5.6s,comp=N,8.0nm,4.6s						
JCN	**Nagara**	**1.50**	**233**	A	A	05 24 05.8	
	comp=E,66nm,3.6s,comp=N,59nm,4.3s						
JMST	**Minamisoumatoc**	**1.52**	**336**	A	A	05 24 09.0	
	comp=E,9.0nm,2.7s,comp=N,9.0nm,3.3s						
JSB	**Shiboa**	**1.54**	**295**	A	A	05 24 08.0	
	comp=E,41nm,3.4s,comp=N,57nm,3.8s						
JOTO	**OTAMA OYAMA**	**1.62**	**319**	*i* P	**Pn**	**05 24 11.0**	**+0.3**
JOTO				*e*S	**Sb**	**05 24 32.5**	**-1.2**
JOTO	**OTAMA OYAMA**	**1.62**	**319**	A	A	05 24 11.0	
	comp=E,26nm,1.1s,comp=N,26nm,1.6s						
JKUC	**kamogawauchiur**	**1.68**	**226**	A	A	05 24 08.2	
	comp=E,19nm,8.0s,comp=N,18nm,2.5s						
JMM	**Marumori**	**1.68**	**336**	P	**Pn**	**05 24 12.0**	**+0.6**
JMM	**Marumori**	**1.68**	**336**		**Pn**	**05 24 11.7**	**+0.3**
JMM	**Marumori**	**1.68**	**336**	*e*P	**Pn**	**05 24 11.4**	**0.0**
JMM	**Marumori**	**1.68**	**336**	A	A	05 24 11.4	
	comp=E,8.0nm,3.3s,comp=N,7.0nm,1.2s						
TOK	**Tokyo**	**1.68**	**248**	A	A	05 24 08.5	
	comp=E,49nm,3.4s,comp=N,36nm,2.7s						
BSO1	**Boso 1**	**1.77**	**199**	*e*P	**Pn**	**05 24 10.0**	**-2.2**
JAG	**Ashikaga**	**1.79**	**273**	*e*P	**Pn**	**05 24 10.9**	**-2.0**
JAG				*e*S	**Sn**	**05 24 32.6**	**-2.0**
JAG	**Ashikaga**	**1.79**	**273**	A	A	05 24 10.9	
	comp=E,8.0nm,3.3s,comp=N,7.0nm,4.7s						
BSO3	**Boso 3**	**1.80**	**212**	*e*P	**Pn**	**05 24 11.0**	**-1.8**
JFY	**Yanaizu**	**1.90**	**305**	*e*P	**Pn**	**05 24 14.3**	**-0.2**
TATJ	**Tateyama 2**	**1.95**	**229**	A	A	05 24 12.0	
	comp=E,30nm,4.4s,comp=N,27nm,2.3s						
JYO	**Yokosk**	**1.97**	**236**	A	A	05 24 12.4	
	comp=E,35nm,2.9s,comp=N,35nm,5.0s						
JYAR	**Yonezawaarcadi**	**1.99**	**323**	A	A	05 24 15.2	
	comp=E,25nm,1.2s,comp=N,30nm,1.1s						
JHU	**Hanno**	**1.99**	**257**	A	A	05 24 13.1	
	comp=E,13nm,3.4s,comp=N,7.0nm,5.8s						
JKT	**Katashina**	**1.99**	**283**	*e*P	**Pn**	**05 24 14.7**	**-1.2**
JSGW	**Sagamiharawaka**	**2.12**	**251**	A	A	05 24 14.9	
	comp=E,13nm,4.5s,comp=N,14nm,4.9s						
JOU	**Okura**	**2.18**	**339**	A	A	05 24 18.4	
	comp=E,13nm,2.2s,comp=N,18nm,1.2s						
JRY	**Ryogami san**	**2.26**	**263**	P	**Pn**	**05 24 17.2**	**-2.2**
JYS	**Shiratake**	**2.27**	**326**	A	A	05 24 19.4	
	comp=E,15nm,2.6s,comp=N,19nm,3.1s						
JOFO	**Osakifurukawao**	**2.34**	**345**	A	A	05 24 20.8	
	comp=E,55nm,3.4s,comp=N,67nm,4.0s						
JOD2	**Odawara 2**	**2.35**	**244**	P	**Pn**	**05 24 19.9**	**-0.8**
JOD2	**Odawara 2**	**2.35**	**244**	A	A	05 24 19.9	
	comp=E,11nm,2.8s,comp=N,22nm,2.8s						
JNS	**Sasagawa**	**2.39**	**309**	A	A	05 24 20.5	
	comp=E,5.0nm,6.6s,comp=N,6.0nm,3.5s						
JIM2	**Oshima 3**	**2.44**	**229**	A	A	05 24 18.9	
	comp=E,11nm,2.0s,comp=N,10.0nm,4.8s						
JGK	**Kuni**	**2.45**	**276**	A	A	05 24 20.2	
	comp=E,8.0nm,2.1s,comp=N,8.0nm,3.2s						
JHTM	**Izuhatsuma**	**2.56**	**238**	A	A	05 24 20.8	
	comp=E,15nm,5.4s,comp=N,12nm,2.4s						
JIZZ	**Izumozaki**	**2.65**	**298**	A	A	05 24 23.7	
	comp=E,22nm,4.7s,comp=N,18nm,3.8s						
JFNN	**Fujinakano**	**2.68**	**246**	A	A	05 24 22.6	
	comp=E,17nm,2.9s,comp=N,17nm,2.9s						
JYA	**Atsumi**	**2.73**	**326**	A	A	05 24 25.9	
	comp=E,8.0nm,1.3s,comp=N,8.0nm,2.4s						
MJAR	**Matsushiro Arr**	**2.80**	**275**	Pn	**Pn**	**05 24 25.9**	**-1.0**
	comp=N,7.0nm,0.3s,baz=165,slow=4.0,SNR=134						
MJAR				Sn	**Sn**	**05 24 55.5**	**-4.0**
	comp=N,5.2nm,0.3s,baz=124,slow=10,SNR=2.9						
MJAR				LR	LR	05 25 48.4	
	comp=N,5μm,18.1s,baz=9.5,slow=47						
	comp=N,29nm,0.4s						
MAJO	**Matsushiro**	**2.80**	**275**	P	**Pn**	**05 24 26.9**	**+0.1**
MAJO	**Matsushiro**	**2.80**	**275**	Pn	**Pn**	**05 24 26.7**	**-0.2**
MAJO	**Matsushiro**	**2.80**	**275**	*i* P	**Pn**	**05 24 25.7**	**-1.1**
MJB9	**Matsu-Tunnel**	**2.80**	**275**	Pn	**Pn**	**05 24 27.5**	**+0.7**
JJN	**Nakama**	**2.92**	**286**	A	A	05 24 27.1	
	comp=E,11nm,3.5s,comp=N,14nm,4.4s						
JYYZ	**Yamagatayuza**	**3.01**	**333**	A	A	05 24 29.9	
	comp=E,17nm,5.4s,comp=N,22nm,5.0s						
SHZ3	**Shizuoka 3**	**3.09**	**247**	A	A	05 24 28.3	
	comp=E,6.0nm,1.9s,comp=N,8.0nm,2.1s						
JRG	**Rokugo**	**3.16**	**345**	A	A	05 24 32.4	
	comp=E,8.0nm,3.8s,comp=N,7.0nm,3.1s						
JSD	**Sado**	**3.21**	**303**	Pn	**Pn**	**05 24 33.0**	**+0.6**
JNY	**Yasuok**	**3.24**	**254**	A	A	05 24 30.7	
	comp=E,6.0nm,3.2s,comp=N,6.0nm,1.8s						
JSG	**Sagara**	**3.29**	**241**	Pn	**Pn**	**05 24 34.2**	**+0.6**
JHJ2	**Mitsune**	**3.56**	**206**	P	**Pn**	**05 24 36.0**	**-1.3**
JHJ2	**Mitsune**	**3.56**	**206**	Pn	**Pn**	**05 24 35.6**	**-1.7**
JHJ	**Hachijo jima 2**	**3.57**	**206**	Pn	**Pn**	**05 24 35.6**	**-1.7**
	comp=N,53nm,0.3s,baz=329,slow=22,SNR=23						
JHJ				Sn	**Sn**	**05 25 13.7**	**-4.7**
	comp=N,103nm,0.3s,baz=54,slow=22,SNR=4.1						
	comp=N,118nm,0.3s						
JGF	**Kuroka**	**3.57**	**259**	P	**Pn**	**05 24 38.6**	**+1.1**
JGF	**Kuroka**	**3.57**	**259**	Pn	**Pn**	**05 24 38.3**	**+0.8**
INU	**Inuyama**	**3.90**	**257**	P	**Pn**	**05 24 43.3**	**+1.3**
INU	**Inuyama**	**3.90**	**257**	Pn	**Pn**	**05 24 42.3**	**+0.3**
JTM	**Tenmabayashi**	**4.47**	**354**	P	**Pn**	**05 24 51.5**	**+1.8**
JTM	**Tenmabayashi**	**4.47**	**354**	Pn	**Pn**	**05 24 51.2**	**+1.5**
ERM	**Erimo**	**5.79**	**11**	P	**Pn**	**05 25 07.8**	**0.0**
ERM	**Erimo**	**5.79**	**11**	Pn	**Pn**	**05 25 08.0**	**+0.1**
ERM	**Erimo**	**5.79**	**11**	*i* P	**Pn**	**05 25 07.2**	**-0.6**
JEM	**Erimo**	**5.79**	**11**	P	**Pn**	**05 25 08.1**	**+0.2**
NMR	**Nemuro--Hokkai**	**7.69**	**23**	*e*P	**Pn**	**05 25 31.7**	**-2.2**
NMR				*e*S	**Sn**	**05 26 53.4**	**-6.4**
ASAJ	**Asahikawa**	**7.80**	**5**	Pn	**Pn**	**05 25 35.1**	**-0.5**
	comp=N,2.6nm,0.3s,baz=195,slow=14,SNR=7.1						
ASAJ				Sn	**Sn**	**05 27 04.3**	**+1.6**
	comp=N,1.5nm,0.3s,baz=88,slow=32,SNR=1.9						
ASAJ				LR	LR	05 29 17.5	
	comp=N,1μm,21.7s,baz=190,slow=43						
	comp=N,7.3nm,0.3s						
ASAJ	**Asahikawa**	**7.80**	**5**	P	**Pn**	**05 25 36.7**	**+1.2**
JKA	**Kamikawa-asahi**	**7.80**	**5**	Pn	**Pn**	**05 25 36.7**	**+1.2**
RUSJ	**Misakicho**	**8.23**	**18**	*e*P	**Pn**	**05 25 39.6**	**-1.7**
RUSJ				*e*S	**Sn**	**05 27 10.3**	**-2.8**
YUK	**Yuzh-Kuril'sk**	**8.33**	**21**	*e*P	**Pn**	**05 25 41.6**	**-1.1**
YUK				*e*S	**Sn**	**05 27 10.6**	**-5.0**
YUK				pmax	pmax		
	comp=E,143nm,0.3s						
YUK				pmax	pmax		
	comp=Z,364nm,0.3s						
YUK				pmax	pmax		
	comp=N,42nm,0.2s						
SHO	**Shikotan**	**8.50**	**26**	*e*P	**Pn**	**05 25 41.7**	**-3.3**
SHO				*e*S	**Sn**	**05 27 12.0**	**-7.8**
SHO				pmax	pmax		
	comp=E,46nm,0.3s						
SHO				pmax	pmax		
	comp=Z,32nm,0.3s						
SHO				pmax	pmax		
	comp=N,32nm,0.2s						
JCJ	**Chichijima**	**9.22**	**177**	P	**Pn**	**05 25 54.3**	**-0.8**
JCJ	**Chichijima**	**9.22**	**177**	Pn	Pn	05 25 47.6	-7.5
	comp=N,12nm,0.3s,baz=300,slow=19,SNR=1.8						
JCJ				Sn	Sn	05 27 21.8	-16
	comp=N,7.1nm,0.3s,baz=106,slow=22,SNR=1.8						
JCJ				LR	LR	05 30 07.5	
	comp=N,716nm,18.7s,baz=20,slow=43						
JNU	**Nakatsue**	**9.44**	**253**	Pn	**Pn**	**05 25 56.4**	**-1.7**
	comp=N,0.5nm,0.3s,baz=30,slow=12,SNR=4.9						
JNU				LR	LR	05 29 22.0	
	comp=N,448nm,21.6s,baz=66,slow=37						
	comp=N,14nm,1.0s						
TEY	**Ternei**	**9.50**	**338**	*e*P	**Pn**	**05 25 58.8**	**0.0**
VLA	**Vladivostok**	**10.13**	**315**	*i* P	**Pn**	**05 26 07.9**	**+0.5**
MSHR	**Mys Shultsa**	**10.24**	**311**	*i* P	**Pn**	**05 26 09.9**	**+1.0**
PSTR	**Posyet**	**10.49**	**310**	P	**Pn**	**05 26 13.8**	**+1.4**
YSS	**Yuzh-Sakhalins**	**10.64**	**4**	*e*P	Pn	05 26 20.0	+5.6
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,800nm,16.0s						
USA0B	**Ussuriysk Arra**	**10.78**	**320**		**Pn**	**05 26 18.2**	**+1.9**
USA0B	**Ussuriysk Arra**	**10.78**	**320**	*i* P	**Pn**	**05 26 17.7**	**+1.4**
USRK	**Ussuriysk Ar.**	**10.78**	**320**	Pn	**Pn**	**05 26 18.5**	**+2.2**
USRK	**Ussuriysk Ar.**	**10.78**	**320**	Pn	**Pn**	**05 26 17.7**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=128,slow=12,SNR=15						
USRK				LR	LR	05 30 20.6	
	comp=Z,2μm,18.5s,baz=136,slow=37						
	comp=Z,5.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**10.78**	**320**	P	**Pn**	**05 26 18.5**	**+2.2**
KSRS	**Korea Array**	**11.06**	**280**	Pn	**Pn**	**05 26 20.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=93,slow=12,SNR=12						
	comp=Z,2.4nm,0.9s						
KSAR	**Wonju Array Be**	**11.10**	**280**	Pn	**Pn**	**05 26 22.6**	**+1.9**
KSAR	**Wonju Array Be**	**11.10**	**280**	P	**Pn**	**05 26 22.6**	**+1.9**
MDJ	**Mudanjiang**	**12.35**	**316**	P	**Pn**	**05 26 39.8**	**+1.9**
MDJ				pmax	pmax		
	comp=Z,13nm,1.1s						
MDJ				LR	LR		
	comp=Z,1μm,18.5s						
MDJ				LR	LR		
	comp=Z,1μm,17.2s						
MDJ				LR	LR		
	comp=Z,2μm,17.2s						
BNX	**BinXian**	**14.27**	**316**	⇓P	**Pn**	**05 27 02.8**	**-1.1**
BNX				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TYV	**Tymovskoe**	**14.54**	**2**	*e*P	**P**	**05 27 16.3**	**+2.5**
TYV				pmax	pmax		
	comp=Z,13nm,1.3s						
TYV				pmax	pmax		
	comp=Z,100nm,4.7s						
TYV				MLR	MLR		
	comp=N,600nm,16.0s						
TYV				MLR	MLR		
	comp=Z,900nm,16.0s						
KLR	**Kul'dur**	**14.78**	**334**	Pn	**Pn**	**05 27 10.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=159,slow=16,SNR=2.7						
KLR				LR	LR	05 32 58.1	
	comp=Z,1μm,18.9s,baz=146,slow=38						
	comp=Z,0.8nm,0.4s						
KLR	**Kul'dur**	**14.78**	**334**	*e*P	**P**	**05 27 18.6**	**+2.1**
KLR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
OKH	**Okha**	**17.23**	**3**	*de*P	**Pn**	**05 27 40.8**	**-1.5**
HEH	**HeiHe**	**17.31**	**328**	*e*P	P	05 27 54.9	+10
HEH				pmax	pmax		
	comp=Z,12nm,1.1s						
HEH				pmax	pmax		
	comp=Z,280nm,9.6s						
HEH				LR	LR		
	comp=N,780nm,18.0s						
HEH				LR	LR		
	comp=E,830nm,18.6s						
HEH				LR	LR		
	comp=Z,1μm,18.8s						
NJ2	**Nanjing**	**19.34**	**264**	*e*P	**P**	**05 28 07.4**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TIA	**Tai'an**	**19.78**	**277**	P	**P**	**05 28 09.5**	**-2.3**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.7s						
ZEA	**Zeya**	**20.09**	**334**	*e*P	Pn	05 28 16.3	-0.7
ZEA				pmax	pmax		
	comp=N,20nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,30nm,1.1s						
ZEA				MLR	MLR		
	comp=N,400nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,15.0s						
PET	**Petropavlovsk**	**20.51**	**30**	P	Pn	05 28 20.9	-1.0
PET	**Petropavlovsk**	**20.51**	**30**	*e*P	Pn	05 28 21.2	-0.6
PET				*e*		05 32 37.1	
PET				pmax	pmax		
	comp=Z,23nm,1.3s						
PET				MLR	MLR		
	comp=Z,300nm,18.0s						
PET	**Petropavlovsk**	**20.51**	**30**	P	Pn	05 28 21.6	-0.2
	comp=Z,23nm,1.5s						
XLT	**XiLinHaoTe**	**20.92**	**299**	*e*P	**P**	**05 28 22.0**	**-2.2**
XLT				pP	pP	05 28 31.2	-1.1
XLT				pmax	pmax		
	comp=Z,14nm,1.4s						
XLT				LR	LR		
	comp=Z,2μm,17.3s						
XLT				LR	LR		
	comp=Z,2μm,16.0s						
HNS	**HongShan**	**21.57**	**281**	⇓P	**P**	**05 28 28.2**	**-2.9**
HNS				S	S	05 32 14.5	-14
HNS				pmax	pmax		
	comp=Z,12nm,1.0s						
HNS				LR	LR		
	comp=Z,320nm,11.4s						
HNS				LR	LR		
	comp=Z,1μm,11.7s						
HNS				LR	LR		
	comp=Z,1μm,11.8s						
GUMO	**Guam**	**22.83**	**172**	LR	LR	05 38 12.5	
	comp=Z,94nm,20.6s,baz=38,slow=38						
LYN	**LuoYang**	**23.82**	**274**	*e*P	**P**	**05 28 53.3**	**-1.1**
LYN				pP	pP	05 29 02.1	-0.9
LYN				sP	sP	05 29 06.2	-0.4
LYN				PP	**PnPn**	**05 29 30.8**	**+8.0**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LYN				LR	LR		
	comp=Z,1μm,9.3s						
LYN				LR	LR		
	comp=Z,900nm,11.6s						
LYN				LR	LR		
	comp=Z,2μm,13.1s						
HHC	**Hu-ho-hao-te**	**23.89**	**290**	*e*P	**P**	**05 28 55.7**	**+0.5**
HHC				sP	pP	05 29 05.4	+1.6
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,6.4s						
HHC				LR	LR		
	comp=Z,310nm,11.4s						
HHC				LR	LR		
	comp=Z,570nm,16.3s						
HHC				LR	LR		
	comp=Z,820nm,15.7s						
MA2	**Magadan**	**23.99**	**11**	P	**P**	**05 28 55.9**	**+0.1**
MA2				IAmb	IAmb	05 28 58.1	
	comp=Z,83nm,1.7s						
MA2	**Magadan**	**23.99**	**11**	LR	LR	05 39 12.6	
	comp=Z,246nm,19.3s,baz=220,slow=39						
MA2	**Magadan**	**23.99**	**11**	P	**P**	**05 28 55.9**	**+0.1**
MA2				pmax	pmax		
	comp=Z,83nm,1.7s						
BTO	**Baotou**	**25.07**	**289**	*e*P	**P**	**05 29 05.2**	**-0.7**
BTO				pP	**pP**	**05 29 15.6**	**+1.1**
BTO				S	**S**	**05 33 28.0**	**-0.2**
BTO				SS	**SnSn**	**05 34 21.0**	**+2.4**
BTO				pmax	pmax		
	comp=Z,18nm,0.6s						
BTO				pmax	pmax		
	comp=Z,640nm,7.5s						
BTO				LR	LR		
	comp=Z,840nm,10.8s						
BTO				LR	LR		
	comp=Z,2μm,13.1s						
BTO				LR	LR		
	comp=Z,2μm,13.6s						
CIT	**Chita**	**25.32**	**317**	*e*P	**P**	**05 29 07.6**	**-0.4**
CIT				*e*		05 29 18.2	
CIT				*e*		05 29 42.8	
CIT				*e*		05 29 51.8	
XAN	**Xi'an**	**26.79**	**275**	P	**P**	**05 29 20.3**	**-1.2**
XAN				pP	sP	05 29 33.4	-0.4
XAN				pmax	pmax		
	comp=Z,22nm,1.6s						
YAK	**Yakutsk**	**26.79**	**347**	P	**P**	**05 29 22.5**	**+1.4**
YAK	**Yakutsk**	**26.79**	**347**	LR	LR	05 40 24.9	
	comp=Z,494nm,18.8s,baz=148,slow=37						
YAK	**Yakutsk**	**26.79**	**347**	*e*P	**P**	**05 29 20.8**	**-0.3**
YAK				*e**PP	**pP**	**05 29 30.2**	**+0.5**
YAK				*e*		05 30 00.3	
YAK				*e*PPP	PPP	05 30 12.9	
YAK				*e*		05 32 39.7	
YAK				*e*S	**S**	**05 33 54.6**	**-0.2**
YAK				*e**SS	**sS**	**05 34 11.2**	**+2.0**
YAK				*e*SS	**SnSn**	**05 34 58.4**	**-1.9**
YAK				pmax	pmax		
	comp=Z,66nm,1.2s						
YAK				pmax	pmax		
	comp=N,32nm,1.2s						
YAK				pmax	pmax		
	comp=E,11nm,1.5s						
YAK				pmax	pmax		
	comp=Z,49nm,1.5s						
YAK				pmax	pmax		
	comp=N,16nm,1.3s						
YAK				pmax	pmax		
	comp=E,16nm,1.5s						
YAK				smax	smax		
	comp=E,92nm,4.1s						
YAK				smax	smax		
	comp=N,75nm,3.5s						
YAK				MLR	MLR		
	comp=Z,602nm,17.0s						
YAK				MLR	MLR		
	comp=N,496nm,16.0s						
YAK				MLR	MLR		
	comp=E,253nm,18.0s						
SEY	**Seymchan**	**27.43**	**11**	*e*P	**P**	**05 29 27.8**	**+0.9**
SEY				pmax	pmax		
	comp=Z,20nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**27.62**	**120**	T	T	05 58 38.9	
	baz=311,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**27.63**	**120**	T	T	05 58 32.7	
	baz=311,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy**	**27.64**	**120**	T	T	05 58 17.1	
	baz=311,slow=75,SNR=35						
ULN	**Ulaanbaatar**	**27.92**	**305**	P	**P**	**05 29 31.4**	**-0.1**
ULN	**Ulaanbaatar**	**27.92**	**305**	P	**P**	**05 29 32.2**	**+0.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BOD	**Bodaibo**	**28.23**	**328**	*e*P	**P**

comp=Z,340nm,12.0s
QIZ LR LR
comp=Z,380nm,19.6s
GTA Gaotai 32.97 288 *e*P **P** **05 30 17.3 +1.1**
GTA sP sP 05 30 29.0 +0.4
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA LR LR
comp=Z,330nm,17.1s
GTA LR LR
comp=Z,470nm,18.7s
GTA LR LR
comp=Z,630nm,16.7s
BILL Biiibino 34.64 16 *e*P **P** **05 30 29.6 -0.6**
BILL *e* 05 31 45.2
BILL *e*PPP PPP 05 31 59.9
BILL *e* 05 33 04.3
BILL pmax pmax
comp=Z,12nm,1.6s
PZH PanZhiHua 35.24 265 P **P** **05 30 35.0 -1.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,160nm,6.1s
TIXI Tiksi 36.00 353 LR LR 05 46 44.5
comp=Z,522nm,18.2s,baz=175,slow=38
SPIA Saint Paul Isl 37.95 41 P **P** **05 30 59.6 +1.0**
baz=258
NIKH Nikolski High 38.08 48 P **P** **05 31 00.4 +0.7**
baz=264
P08K Saint George I 38.21 42 P **P** **05 31 01.5 +0.8**
baz=259
CRAI Chiangrai 39.42 257 P **P** **05 31 10.9 -0.5**
M11K Mekoryuk 40.69 37 P **P** **05 31 22.4 +1.0**
baz=258
CHTO Chiang Mai 41.32 257 P **P** **05 31 25.0 -2.2**
CHTO Chiang Mai 41.32 257 P **P** **05 31 25.0 -2.2**
CHTO pmax pmax
comp=Z,22nm,1.8s
WMQ Urumqi 41.34 298 *e*P **P** **05 31 29.7 +2.6**
WMQ pmax pmax
comp=Z,34nm,1.3s
WMQ pmax pmax
comp=Z,210nm,3.7s
WMQ LR LR
comp=Z,420nm,15.3s
WMQ LR LR
comp=Z,480nm,14.3s
WMQ LR LR
comp=Z,260nm,16.3s
TNA Tin City 41.36 29 P **P** **05 31 27.9 +1.0**
baz=250
CMAR Chiang Mai Arr 41.52 256 P **P** **05 31 28.2 -0.6**
CMAR Chiang Mai Arr 41.52 256 P **P** **05 31 28.0 -0.8**
comp=Z,1.1nm,0.3s,baz=49,slow=6.7,SNR=4.6
CMAR LR LR 05 49 44.7
comp=Z,197nm,18.2s,baz=55,slow=38
comp=Z,1.1nm,0.3s
CMAR Chiang Mai Arr 41.52 256 P **P** **05 31 28.2 -0.6**
S12K Black Hills 42.26 44 P **P** **05 31 35.1 +0.7**
baz=267
J14K Nanvaranak Lak 42.43 34 P **P** **05 31 36.2 +0.6**
baz=258
ZAA0 Zalesovo Array 42.53 313 P **P** **05 31 37.3 +0.7**
ZAA0 IAmb IAmb 05 31 47.9
comp=Z,40nm,1.6s
ZALV Zalesovo Beam 42.53 313 P **P** **05 31 37.0 +0.4**
ZALV Zalesovo Beam 42.53 313 P **P** **05 31 37.3 +0.7**
comp=Z,4.7nm,0.6s,baz=93,slow=6.8,SNR=18
comp=Z,4.7nm,0.6s
L14K Kuka Creek 42.56 36 P **P** **05 31 37.5 +0.8**
baz=260
F15K North Star Dit 42.70 29 P **P** **05 31 38.6 +0.8**
baz=254
G15K Niukluk 42.75 31 P **P** **05 31 39.3 +1.0**
baz=255
M14K Bethel 42.82 37 P **P** **05 31 40.1 +1.3**
baz=262
ZSN Zaisan 42.83 303 *e*P **P** **05 31 39.5 +0.2**
comp=Z,21nm,0.8s,baz=303
ZSN Zaisan 42.83 303 *e*P **P** **05 31 39.4 +0.2**
ZSN pmax pmax
comp=Z,21nm,0.8s
N14K Kuskokwak Cree 42.84 38 P **P** **05 31 40.0 +1.0**
baz=263
O14K Tigyukauivet M 42.97 39 P **P** **05 31 40.2 +0.1**
baz=264
C16K Lisburne Hills 43.24 26 P **P** **05 31 42.8 +0.7**
baz=250
K15K Wolf Creek Mou 43.27 35 P **P** **05 31 43.3 +0.9**
baz=260
H16K Elim 43.41 31 P **P** **05 31 44.2 +0.7**
baz=257
M15K Kasigluk River 43.43 37 P **P** **05 31 44.5 +0.7**
baz=263
G16K Koyuk River 43.54 30 P **P** **05 31 46.2 +1.6**
baz=256
CHNA Chernabura Isl 43.65 46 P **P** **05 31 46.4 +0.8**
baz=270
N15K Kwethluk River 43.66 38 P **P** **05 31 46.6 +0.9**
baz=264
S14K Fog Glacier 43.69 44 P **P** **05 31 46.9 +0.8**
baz=268
J16K Anvik River 43.85 33 P **P** **05 31 48.2 +1.1**
baz=260
D17K Noatak River 43.87 27 P **P** **05 31 48.5 +1.4**
baz=253
NRIK Noril'sk 43.98 336 P **P** **05 31 48.7 +0.6**
comp=Z,1.5nm,0.5s,baz=110,slow=7.0,SNR=5.8
comp=Z,1.5nm,0.5s
NRIK Noril'sk 43.98 336 *e*P **P** **05 31 47.7 -0.4**
NRIK pmax pmax
comp=Z,10.0nm,1.5s
RDOG Red Dog Mine 44.03 26 P **P** **05 31 49.8 +1.2**
baz=253
C17K DeLong Mountai 44.06 26 P **P** **05 31 49.9 +1.1**
baz=252
L16K Owhat River 44.14 36 P **P** **05 31 50.4 +0.9**
baz=263
E17K Hotham Inlet 44.16 28 P **P** **05 31 50.6 +1.0**
baz=255
F17K Baldwin Pennin 44.23 29 P **P** **05 31 51.3 +1.2**
baz=256
G17K Kiwalik Mounta 44.26 30 P **P** **05 31 51.4 +1.1**
baz=258
M16K Timber Creek 44.31 37 P **P** **05 31 52.0 +1.1**
baz=264
CHGN Chignik 44.33 44 P **P** **05 31 51.8 +0.9**
baz=269
N16K Nishlik Lake 44.35 38 P **P** **05 31 52.5 +1.3**
baz=265
H17K Granite Mounta 44.45 31 P **P** **05 31 53.0 +1.0**
baz=259
J17K VABM Dome 44.55 33 P **P** **05 31 53.2 +0.5**
baz=262
O16K Kokwok River B 44.62 39 P **P** **05 31 53.6 +0.3**
baz=266
P16K Nushagak River 44.64 40 P **P** **05 31 53.9 +0.4**
baz=267
MK31 Makanchi Array 44.66 303 P **P** **05 31 54.6 +0.6**
MK31 Makanchi Array 44.66 303 *i* P **P** **05 31 54.1 +0.2**
MK31 pmax pmax
comp=Z,16nm,1.0s
MKAR Makanchi Array 44.66 303 P **P** **05 31 54.4 +0.4**
MKAR Makanchi Array 44.66 303 P **P** **05 31 54.5 +0.6**
comp=Z,6.0nm,0.9s,baz=88,slow=8.9,SNR=34
comp=Z,6.0nm,0.9s
E18K Tukpahlearik C 44.71 28 P **P** **05 31 54.7 +0.7**
baz=256
L17K Donlin 44.74 35 P **P** **05 31 55.1 +0.8**
baz=264
B18K Kokolik River 44.81 25 P **P** **05 31 55.6 +0.9**
baz=253
K17K Iditarod 44.81 35 P **P** **05 31 55.7 +0.9**
baz=263
C18K Utukok River 44.81 26 IAmb IAmb 05 31 58.1
comp=Z,22nm,1.0s
C18K Utukok River 44.81 26 P **P** **05 31 55.4 +0.5**
baz=254
MAKZ Makanchi 44.87 303 P **P** **05 31 55.5 -0.1**
MAKZ IAmb IAmb 05 32 07.2
comp=Z,21nm,1.4s
MAKZ Makanchi 44.87 303 P **P** **05 31 55.8 +0.2**
MAKZ Makanchi 44.87 303 P **P** **05 31 56.1 +0.5**
MAKZ pP **pwP** **05 32 06.6 -0.2**
F18K Selawik 44.89 29 P **P** **05 31 56.2 +0.9**
baz=258

M17K Holitna River 45.08 36 P **P** **05 31 57.7 +0.7**
baz=265
N17K Nushagak Hills 45.13 38 P **P** **05 31 58.0 +0.6**
baz=266
H18K Honhosa River 45.13 31 P **P** **05 31 58.2 +0.8**
baz=260
O17K Koliganek Bris 45.13 39 P **P** **05 31 57.6 +0.2**
baz=267
G18K Tagagawik 45.15 30 IAmb IAmb 05 32 00.8
comp=Z,13nm,1.0s
G18K Tagagawik 45.15 30 P **P** **05 31 57.7 +0.2**
baz=260
A19K Wainwright 45.30 24 P **P** **05 31 59.1 +0.6**
baz=253
Q16K King Salmon 45.32 40 P **P** **05 31 58.9 +0.1**
baz=268
P17K Kvichak River 45.45 40 P **P** **05 31 59.5 -0.3**
baz=268
R17L Mt. Peulik Vol 45.46 42 P **P** **05 32 00.4 +0.3**
baz=270
C19K Lookout Ridge 45.49 25 P **P** **05 32 03.0 +2.8**
C19K IAmb IAmb 05 32 04.1
comp=Z,17nm,0.9s
C19K Lookout Ridge 45.49 25 P **P** **05 32 00.8 +0.5**
baz=256
L18K Granite Mounta 45.50 35 P **P** **05 32 00.8 +0.5**
baz=265
SEM Semipalatinsk 45.53 308 *e*P **P** **05 32 00.4 -0.6**
baz=308
SEM Semipalatinsk 45.53 308 *e*P **P** **05 32 00.3 -0.6**
J18K Innoko River 45.61 34 P **P** **05 32 01.7 +0.5**
baz=264
F19K Shaleruckik Mo 45.67 29 P **P** **05 32 02.4 +0.8**
baz=260
Q17K Contact Creek 45.72 41 P **P** **05 32 02.5 +0.3**
baz=270
N18K Kilae Creek 45.78 38 P **P** **05 32 03.0 +0.5**
baz=267
G19K Purcell Mounta 45.82 30 P **P** **05 32 03.3 +0.6**
baz=261
M18K Stony River 45.86 36 P **P** **05 32 03.9 +0.7**
baz=266
D19K Kuna River 45.87 26 P **P** **05 32 05.4 +2.2**
D19K IAmb IAmb 05 32 06.6
comp=Z,17nm,1.0s
D19K Kuna River 45.87 26 P **P** **05 32 04.0 +0.8**
baz=258
CHIR Chirikof Islan 45.90 44 P **P** **05 32 04.3 +0.8**
baz=272
KAPI Kappang 45.97 211 LR LR 05 51 04.5
comp=Z,63nm,20.5s,baz=53,slow=36
H19K Roundabout Mou 45.98 31 IAmb IAmb 05 32 07.6
comp=Z,15nm,1.0s
H19K Roundabout Mou 45.98 31 P **P** **05 32 04.2 +0.1**
baz=262,SNR=6.6
E19K Redstone River 45.99 28 IAmb IAmb 05 32 07.6
comp=Z,10nm,0.8s
E19K Redstone River 45.99 28 P **P** **05 32 05.2 +1.1**
baz=259,SNR=5.6
P18K Big Mountain, 46.07 39 P **P** **05 32 05.4 +0.5**
baz=269
O18K Koktuh Hills 46.09 39 P **P** **05 32 05.8 +0.8**
baz=269
J19K Poorman 46.15 33 P **P** **05 32 06.3 +0.9**
baz=264
Q18K Katmai Hardscr 46.18 40 P **P** **05 32 06.6 +0.8**
baz=270
L19K White Mountain 46.36 35 P **P** **05 32 07.9 +0.8**
baz=267
D20K Etivluk River 46.46 26 P **P** **05 32 09.0 +1.2**
baz=259,SNR=7.0
N19K Bonanza Creek 46.48 37 P **P** **05 32 08.4 +0.2**
baz=268
R18K Karluk 46.49 42 P **P** **05 32 08.4 +0.3**
baz=271
F20K Avaraart Lake 46.50 29 P **P** **05 32 08.8 +0.7**
baz=261
KURK Kurchatov 46.52 309 P **P** **05 32 08.3 -0.2**
KURK Kurchatov 46.52 309 *c i* P **P** **05 32 08.1 -0.4**
KURK pmax pmax
comp=Z,17nm,0.8s
KURK Kurchatov 46.52 309 P **P** **05 32 08.4 -0.1**
E20K Nigu River 46.52 27 P **P** **05 32 09.3 +0.9**
baz=260
B20K Meade River 46.54 25 P **P** **05 32 09.6 +1.3**
baz=257
M19K Big River Lodg 46.56 36 P **P** **05 32 09.8 +1.1**
baz=267
KURBB Kurchatov Arra 46.59 309 P **P** **05 32 09.0 0.0**
comp=Z,9.2nm,0.7s,baz=86,slow=8.2,SNR=94
comp=Z,9.2nm,0.7s
H20K Anotleneega Mo 46.63 31 P **P** **05 32 10.2 +1.1**
baz=264
SII Sitkinak Islan 46.67 43 P **P** **05 32 10.2 +0.6**
baz=273
I20K Naaghedeneel 46.73 32 P **P** **05 32 11.0 +1.1**
baz=265
K20K Telida 46.79 34 IAmb IAmb 05 32 14.2
comp=Z,8.0nm,0.8s
K20K Telida 46.79 34 P **P** **05 32 11.6 +1.1**
baz=266,SNR=7.1
J20K Nowinta River 46.81 33 P **P** **05 32 11.1 +0.5**
baz=266,SNR=5.2
L20K Farewell, AK 46.83 35 P **P** **05 32 11.2 +0.4**
baz=267
Q19K Cape Douglas, 46.89 40 P **P** **05 32 11.3 0.0**
baz=271
A21K Barrow 47.02 23 P **P** **05 32 12.8 +0.7**
baz=256,SNR=9.3
P19K Oil Pt 47.09 39 P **P** **05 32 14.1 +1.2**
baz=270
OHAK Old Harbor 47.13 42 P **P** **05 32 13.8 +0.7**
baz=273
IMAR Indian Mountai 47.15 30 P **P** **05 32 14.9 +1.8**
M20K Styx River 47.16 36 P **P** **05 32 13.9 +0.4**
baz=268
C21K Knifeblade Rid 47.19 26 P **P** **05 32 13.5 +0.1**
baz=260,SNR=5.3
G21K Allakaket 47.30 30 P **P** **05 32 14.7 +0.3**
baz=264
B21K Ikpikpuk River 47.33 25 P **P** **05 32 14.7 +0.2**
baz=260
SHLS Shalkode 47.34 298 *e*P **P** **05 32 13.0 -2.2**
comp=Z,7.3nm,1.0s,baz=298
SHLS Shalkode 47.34 298 *e*P **P** **05 32 13.0 -2.2**
SHLS pmax pmax
comp=Z,7.0nm,1.0s
E21K Killik River 47.37 27 IAmb IAmb 05 32 18.0
comp=Z,12nm,0.8s
E21K Killik River 47.37 27 P **P** **05 32 15.2 +0.2**
baz=262
F21K Alatna River 47.39 29 P **P** **05 32 15.1 0.0**
baz=263
O20K Slope Mountain 47.39 38 P **P** **05 32 15.6 +0.3**
baz=271
A22K Sinclair Lake 47.47 23 P **P** **05 32 15.9 +0.4**
baz=258
KDAK Kodiak Island 47.48 42 P **P** **05 32 16.3 +0.4**
baz=273
KDAK Kodiak Island 47.48 42 P **P** **05 32 16.7 +0.9**
KDAK pP **pwP** **05 32 27.0 -0.6**
H21K Melozitna Rive 47.50 31 P **P** **05 32 16.2 +0.2**
baz=265
Q20K Shuyak Island 47.55 40 P **P** **05 32 16.8 +0.4**
baz=272
N20K Mount Spurr 47.59 37 P **P** **05 32 17.8 +1.0**
baz=270
SPCR Spurr Chakacha 47.59 37 P **P** **05 32 17.4 +0.6**
baz=270
CHUM Lake Minchumin 47.60 33 P **P** **05 32 17.3 +0.6**
baz=267
UZB Uzynbulak 47.66 298 *e*P **P** **05 32 17.8 +0.1**
comp=Z,5.6nm,0.9s,baz=298
UZB Uzynbulak 47.66 298 *e*P **P** **05 32 17.7 +0.1**
UZB pmax pmax
comp=Z,6.0nm,0.9s
TDK Taldyqorghan 47.66 301 *e*P **P** **05 32 17.8 +0.3**
baz=301
TDK Taldyqorghan 47.66 301 *e*P **P** **05 32 17.8 +0.3**
CAST Castle Rocks 47.69 34 P **P** **05 32 19.3 +1.8**
CAST Castle Rocks 47.69 34 P **P** **05 32 18.3 +0.9**
baz=268
I21K Tanana 47.81 31 P **P** **05 32 19.5 +1.2**
baz=267
KPKS Kokpek 47.82 299 *e*P **P** **05 32 19.2 +0.3**
comp=Z,4.9nm,0.9s,baz=299
KPKS Kokpek 47.82 299 *e*P **P** **05 32 19.2 +0.3**
KPKS pmax pmax

comp=Z,5.0nm,0.9s
B22K Teshekpuk Lake 47.85 24 IAmb IAmb 05 32 22.0
comp=Z,1.9nm,0.9s
B22K Teshekpuk Lake 47.85 24 P **P** **05 32 19.5 +0.9**
baz=260,SNR=6.9
D22K Ayikyak River 47.89 26 P **P** **05 32 19.3 +0.4**
baz=263,SNR=6.3
SKT Skwentna 47.91 36 P **P** **05 32 19.7 +0.5**
baz=270
F22K John River 47.92 28 P **P** **05 32 20.1 +0.9**
baz=264
ZHN Zhinishke 48.07 299 *e*P **P** **05 32 20.9 0.0**
comp=Z,5.4nm,0.9s,baz=299
ZHN Zhinishke 48.07 299 *e*P **P** **05 32 20.8 0.0**
ZHN pmax pmax
comp=Z,5.0nm,0.9s
H22K Ishtalitna Cre 48.11 31 P **P** **05 32 21.9 +1.2**
baz=266,SNR=5.1
SATY Saty 48.12 298 *e*P **P** **05 32 21.4 +0.1**
comp=Z,5.7nm,1.3s,baz=298
SATY Saty 48.12 298 *e*P **P** **05 32 21.3 +0.1**
SATY pmax pmax
comp=Z,6.0nm,1.3s
E22K Anaktuvuk Pass 48.12 27 IAmb IAmb 05 32 24.3
comp=Z,14nm,0.9s
E22K Anaktuvuk Pass 48.12 27 P **P** **05 32 22.4 +1.6**
baz=264
G22K Bettles 48.13 29 P **P** **05 32 22.6 +1.9**
baz=265
BPAW Bear Paw Mtn. 48.20 33 P **P** **05 32 23.0 +1.7**
baz=268
ARXS Arharly 48.24 300 *e*P **P** **05 32 22.5 +0.4**
MLY Manley 48.33 32 P **P** **05 32 24.1 +1.6**
MLY IAmb IAmb 05 32 26.1
comp=Z,8.4nm,0.9s
MLY Manley 48.33 32 P **P** **05 32 23.6 +1.2**
baz=268,SNR=6.8
M22K Willow 48.59 36 P **P** **05 32 25.9 +1.6**
baz=271
D23K Nanushuk River 48.62 26 P **P** **05 32 26.2 +1.6**
baz=264
COLD Coldfoot 48.66 29 P **P** **05 32 26.5 +1.6**
baz=266
HNR Honiara 48.67 156 LR LR 05 49 39.6
comp=Z,2μm,21.8s,baz=123,slow=32
G23K Bananza Creek 48.70 29 IAmb IAmb 05 33 48.3
comp=Z,22nm,1.9s
G23K Bananza Creek 48.70 29 P **P** **05 32 26.8 +1.5**
baz=267
C23K Itkillik River 48.74 25 P **P** **05 32 27.3 +1.9**
baz=264,SNR=12
RC01 Rabbit Creek A 48.79 37 P **P** **05 32 27.6 +1.6**
baz=272
H23K Yukon River 48.86 31 IAmb IAmb 05 32 30.5
comp=Z,13nm,1.1s
H23K Yukon River 48.86 31 P **P** **05 32 28.2 +1.8**
baz=268,SNR=9.4
TARG Taragay, Kyrgy 48.89 297 P **P** **05 32 29.2 +1.6**
TARG pmax pmax
comp=Z,20nm,0.8s
CHKK Chushkaly 48.92 300 *e*P **P** **05 32 27.5 +0.3**
baz=300
CHKK Chushkaly 48.92 300 *e*P **P** **05 32 27.5 +0.3**
I23K Minto, Yukon-K 48.92 32 P **P** **05 32 28.2 +1.4**
baz=269
E23K Chandalar 48.94 28 P **P** **05 32 28.5 +1.4**
baz=266,SNR=13
TOLK Toolik Lake Re 49.00 27 P **P** **05 32 28.1 +0.6**
TOLK IAmb IAmb 05 32 31.0
comp=Z,9.8nm,0.9s
TOLK Toolik Lake Re 49.00 27 P **P** **05 32 28.6 +1.1**
baz=266,SNR=6.9
NEA2 Nenana 49.04 32 P **P** **05 32 29.2 +1.3**
NEA2 IAmb IAmb 05 32 31.3
comp=Z,11nm,1.0s
NEA2 Nenana 49.04 32 P **P** **05 32 29.1 +1.3**
baz=270,SNR=5.6
MDOK Medeo 49.05 299 *e*P **P** **05 32 28.4 0.0**
baz=299
MDOK Medeo 49.05 299 *e*P **P** **05 32 28.4 0.0**
PMR Palmer 49.06 36 P **P** **05 32 29.0 +1.0**
baz=272
MCK McKinley 49.10 33 P **P** **05 32 29.4 +1.1**
baz=271
TNSS Tian-Shan 49.16 299 *e*P **P** **05 32 29.4 -0.2**
baz=299
TNSS Tian-Shan 49.16 299 *e*P **P** **05 32 29.3 -0.2**
WAT1 Susitna Watana 49.29 35 P **P** **05 32 31.3 +1.5**
baz=272
D24K Happy Valley 49.30 26 P **P** **05 32 31.6 +1.8**
baz=266,SNR=6.0
E24K Your Creek 49.36 28 IAmb IAmb 05 32 34.2
comp=Z,20nm,1.4s
E24K Your Creek 49.36 28 P **P** **05 32 31.5 +1.2**
baz=267
C24K Franklin Bluff 49.39 26 P **P** **05 32 31.6 +1.2**
baz=266
KNK Knik Glacier 49.39 37 P **P** **05 32 31.9 +1.3**
baz=273
MDM Murphy Dome 49.40 32 IAmb IAmb 05 32 34.1
comp=Z,15nm,0.9s
SML Sawmill 49.43 36 P **P** **05 32 32.1 +1.1**
baz=273
H24K Noodor Dome 49.55 31 IAmb IAmb 05 32 35.6
comp=Z,9.2nm,1.0s
H24K Noodor Dome 49.55 31 P **P** **05 32 33.1 +1.4**
baz=270,SNR=7.0
COLA College 49.56 32 P **P** **05 32 33.4 +1.7**
baz=271
COLA College 49.56 32 *i* P **P** **05 32 31.8 +0.1**
COLA pmax pmax
comp=Z,9.0nm,0.9s
COLA College 49.56 32 P **P** **05 32 34.9 +3.2**
F24K Squaw Lake 49.57 28 P **P** **05 32 33.4 +1.5**
baz=268
WAT6 Susitna Watana 49.67 35 P **P** **05 32 34.2 +1.3**
baz=273
G24K Hadweenzic Riv 49.71 30 P **P** **05 32 34.7 +1.8**
baz=269,SNR=6.1
M23K Glacier View 49.72 36 P **P** **05 32 34.8 +1.7**
baz=273
POKR Poker Plat Res 49.73 32 P **P** **05 32 34.2 +1.0**
POKR Poker Plat Res 49.73 32 P **P** **05 32 34.4 +1.3**
baz=271,SNR=6.2
DHY Denali Highway 49.82 34 P **P** **05 32 35.0 +1.0**
baz=273
SCM Sheep Creek Mo 49.91 36 P **P** **05 32 35.4 +0.8**
baz=274
HDA Harding Lake 49.96 33 IAmb IAmb 05 32 37.0
comp=Z,8.8nm,1.0s
HDA Harding Lake 49.96 33 P **P** **05 32 36.0 +1.2**
baz=272
IL31 49.97 32 P **P** **05 32 34.6 -0.3**
IL31 IAmb IAmb 05 32 37.3
comp=Z,7.3nm,0.8s
ILAR Eielson Array 49.97 32 P **P** **05 32 35.6 +0.6**
ILAR Eielson Array 49.97 32 P **P** **05 32 36.2 +1.3**
comp=Z,5.3nm,0.8s,baz=267,slow=6.4,SNR=64
comp=Z,5.3nm,0.8s
P23K Montague Islan 50.01 38 P **P** **05 32 36.2 +0.9**
baz=275
BOOM Boomskoye usch 50.02 298 P **P** **05 32 36.3 +0.5**
GLI Glacier Island 50.09 37 P **P** **05 32 37.0 +1.2**
baz=275
TKM2 Tokmak 2 50.14 299 *i* P **P** **05 32 37.4 +0.6**
TKM2 pmax pmax
comp=Z,20nm,1.4s
D25K Kavik River 50.19 26 IAmb IAmb 05 32 39.9
comp=Z,11nm,0.7s
D25K Kavik River 50.19 26 P **P** **05 32 37.5 +0.9**
baz=268
G25K Bearman Lake 50.26 29 P **P** **05 32 38.6 +1.6**
baz=271
H25L Birch Creek 50.38 30 P **P** **05 32 39.8 +1.8**
baz=271
M24K Tolsona, Glenn 50.43 36 P **P** **05 32 39.5 +1.0**
baz=274
F25K Christian Rive 50.43 28 P **P** **05 32 39.5 +1.0**
baz=270,SNR=6.0
E25K Arctic Village 50.46 28 IAmb IAmb 05 32 42.7
comp=Z,9.8nm,1.0s
E25K Arctic Village 50.46 28 P **P** **05 32 39.7 +1.1**
baz=270,SNR=7.4
K24K Donnelly Dome 50.50 33 P **P** **05 32 39.6 +0.6**
baz=273
PRP Porcupine Dome 50.52 31 P **P** **05 32 40.2 +0.9**
baz=272
Q23K Middleton Isla 50.60 39 P **P** **05 32 40.7 +1.0**

baz=276
KLU Klutina 50.60 36 P P 05 32 40.4 +0.6
baz=275
J25K Salcha River, 50.63 32 P P 05 32 40.4 +0.4
baz=273
BTLS Baital 50.65 302 eP P 05 32 40.5 0.0
baz=302
BTLS Baital 50.65 302 eP P 05 32 40.4 0.0
SGDS Sogindy 50.68 300 eP P 05 32 40.9 +0.2
baz=300
SGDS Sogindy 50.68 300 eP P 05 32 40.9 +0.2
PAX Paxson 50.69 34 P P 05 32 41.2 +0.7
baz=274
C26K Camden Bay 50.71 25 P P 05 32 40.8 +0.3
baz=269,SNR=7.3
EYAK Cordova Ski Ar 50.78 37 P P 05 32 41.3 +0.3
baz=276
BMAR Burnt Mountain 50.84 29 P P 05 32 44.0 +2.5
KSH Kashi 50.88 295 P P 05 32 48.2 +5.9
KSH pP sP 05 32 57.6 +2.6
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH LR LR
comp=Z,630nm,17.2s
KSH LR LR
comp=Z,520nm,14.8s
KSH LR LR
comp=Z,530nm,16.8s
HARP HAARP 50.88 35 P P 05 32 43.0 +1.1
baz=275
AAK Ala-Archa 51.00 299 i P P 05 32 43.5 +0.3
AAK pmax pmax
comp=Z,7.0nm,1.1s
F26K Sheenjek River 51.00 28 P P 05 32 44.4 +1.7
baz=272,SNR=17
C27K Jago River 51.13 26 P P 05 32 45.2 +1.7
baz=270,SNR=9.1
G26K Porcupine Rive 51.17 29 P P 05 32 45.8 +1.9
baz=273,SNR=7.1
BVA0 Borovoye Array 51.19 313 i P P 05 32 43.7 -0.6
BVAR Borovoye Array 51.19 313 P P 05 32 44.4 +0.1
comp=Z,3.7nm,0.8s,baz=80,slow=8.1,SNR=16
comp=Z,3.7nm,0.8s
N25K Chitina, Valde 51.22 36 P P 05 32 45.6 +1.1
baz=276
BRVK Borovoye 51.25 313 P P 05 32 45.0 +0.2
BRVK Borovoye 51.25 313 i P P 05 32 43.8 -0.9
BRVK pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 51.25 313 P P 05 32 45.6 +0.9
BRVK pP sP 05 32 55.8 -1.5
SCRK Sand Creek 51.28 33 IAmb IAmb 05 34 24.2
comp=Z,19nm,1.2s
SCRK Sand Creek 51.28 33 P P 05 32 45.8 +0.9
baz=275,SNR=6.8
BMRM Bremner River 51.29 37 P P 05 32 45.9 +0.9
baz=277
J26L Joseph Creek 51.42 32 P P 05 32 46.9 +0.9
baz=275
KAIM Kayak Island 51.51 38 P P 05 32 47.7 +1.1
baz=278
I26K Coal Creek Min 51.53 31 P P 05 32 47.9 +1.3
baz=274
L26K Log Cabin Wild 51.65 34 IAmb IAmb 05 32 51.2
comp=Z,8.2nm,0.8s
L26K Log Cabin Wild 51.65 34 P P 05 32 48.9 +1.3
baz=276
M26K Nabesna, AK 51.88 35 P P 05 32 50.8 +1.4
baz=277
E27K Coleen River 51.94 28 IAmb IAmb 05 32 53.7
comp=Z,8.6nm,0.8s
E27K Coleen River 51.94 28 P P 05 32 51.4 +1.7
baz=274,SNR=10
MCARA McCarthy VSAT 52.00 36 P P 05 32 52.2 +2.0
baz=278
G27K Doyon Strip 52.02 29 P P 05 32 52.5 +2.1
baz=275
D27M Malcolm River 52.11 26 P P 05 32 53.1 +2.1
baz=273
K27K Chicken 52.11 33 IAmb IAmb 05 34 25.9
comp=Z,15nm,0.9s
K27K Chicken 52.11 33 P P 05 32 52.6 +1.6
baz=276
H27K Steamboat Moun 52.12 30 P P 05 32 53.4 +2.3
baz=275,SNR=11
I27K Kandik River 52.14 31 P P 05 32 53.3 +2.0
baz=276
L27K Beaver Creek, 52.34 34 IAmb IAmb 05 34 28.4
comp=Z,8.5nm,0.8s
L27K Beaver Creek, 52.34 34 P P 05 32 54.7 +2.0
baz=277
BCAR Beaver Creek A 52.35 34 P P 05 32 54.2 +1.3
M27K Edge Creek, AK 52.41 35 P P 05 32 55.1 +1.7
baz=278
EGAK Eagle 52.42 32 P P 05 32 54.3 +1.0
EGAK Eagle 52.42 32 P P 05 32 55.0 +1.7
baz=277
F28M Old Crow 52.64 28 IAmb IAmb 05 32 58.9
comp=Z,8.8nm,0.8s
F28M Old Crow 52.64 28 P P 05 32 56.0 +1.1
baz=276,SNR=11
E28M Babbage River 52.67 27 P P 05 32 56.4 +1.2
baz=275,SNR=8.4
I28M Miner Creek 52.85 31 IAmb IAmb 05 33 01.1
comp=Z,8.3nm,0.8s
I28M Miner Creek 52.85 31 P P 05 32 57.8 +1.2
baz=277,SNR=16
CTG Chitna Glacier 52.87 37 P P 05 32 58.3 +1.5
baz=279
D28M Stokes Point 52.89 26 P P 05 32 57.5 +0.9
baz=275
YUK3 Moose Creek 53.15 36 P P 05 32 59.4 +0.3
baz=280
DAWY Dawson 53.28 33 P P 05 33 00.5 +0.9
baz=279
E29M Blow River 53.30 27 IAmb IAmb 05 33 03.8
comp=Z,12nm,0.9s
E29M Blow River 53.30 27 P P 05 33 00.6 +0.9
baz=277,SNR=12
H29M Whitestone 53.39 30 IAmb IAmb 05 33 37.8
comp=Z,16nm,1.1s
H29M Whitestone 53.39 30 P P 05 33 01.4 +1.0
baz=278,SNR=5.6
G29M Pine Creek 53.44 29 P P 05 33 02.1 +1.3
baz=278,SNR=19
O28M Mount Upton 53.46 37 P P 05 33 02.6 +1.3
baz=280
I29M Ogilvie Camp, 53.54 31 IAmb IAmb 05 33 05.0
comp=Z,13nm,0.9s
I29M Ogilvie Camp, 53.54 31 P P 05 33 03.0 +1.5
baz=279,SNR=14
PINM Pinnacle 53.55 38 P P 05 33 03.7 +1.9
baz=281
KK31 Karatay Array 53.65 301 i P P 05 33 02.5 -0.2
KKAR Karatay Array 53.65 301 P P 05 33 02.5 -0.2
KKAR Karatay Array 53.65 301 P P 05 33 02.5 -0.2
J29N Klondike Camp 53.72 32 P P 05 33 04.7 +1.7
baz=279
M29M Somme Creek 53.96 34 IAmb IAmb 05 34 32.2
comp=Z,7.9nm,0.8s
M29M Somme Creek 53.96 34 P P 05 33 05.4 +0.6
baz=281
L29M L29M 53.99 34 IAmb IAmb 05 33 20.4
comp=Z,17nm,1.0s
L29M L29M 53.99 34 P P 05 33 06.0 +1.1
baz=280,SNR=9.4
EPYK Eagle Plains 54.03 30 P P 05 33 06.4 +1.3
baz=279,SNR=24
PNL Peninsula 54.06 38 P P 05 33 06.4 +1.0
baz=282
G30M tAoh Zraii Nji 54.13 29 P P 05 33 06.7 +0.8
baz=279,SNR=17
K29M Barlow Dome 54.13 33 IAmb IAmb 05 34 29.3
comp=Z,14nm,1.2s
K29M Barlow Dome 54.13 33 P P 05 33 06.9 +0.9
baz=280,SNR=5.4
BRLS Boroldy 54.14 301 eP P 05 33 08.0 +1.7
baz=300
BRLS Boroldy 54.14 301 eP P 05 33 08.0 +1.7
F30M Barrier River 54.19 28 P P 05 33 06.8 +0.5
baz=279,SNR=10
IUG Iuzhnay 54.30 300 eP P 05 33 07.8 +0.3
comp=Z,14nm,1.1s,baz=300
IUG Iuzhnay 54.30 300 eP P 05 33 07.8 +0.3
IUG pmax pmax
comp=Z,14nm,1.1s
O29M Mount Kennedy 54.33 37 P P 05 33 08.2 +0.6
baz=282

I30M Mount Dempster 54.36 31 P P 05 33 08.5 +0.8
baz=280,SNR=24
J30M Hart River 54.50 32 IAmb IAmb 05 34 29.0
comp=Z,12nm,0.8s
J30M Hart River 54.50 32 P P 05 33 10.0 +1.2
baz=281
M30M Minto, Yukon 54.70 34 P P 05 33 10.9 +0.9
baz=282,SNR=5.1
HYT Haines Junctio 54.74 36 P P 05 33 11.2 +0.7
baz=282
N30M Aishikik Lake 54.80 36 P P 05 33 11.8 +0.9
baz=282
P29M Windy Craggy 54.89 38 P P 05 33 12.4 +1.0
baz=283
G31M Satah River 54.89 29 IAmb IAmb 05 33 25.1
comp=Z,16nm,1.0s
G31M Satah River 54.89 29 P P 05 33 12.2 +0.9
baz=281,SNR=8.0
INK Inuvik 54.91 27 IAmb IAmb 05 33 14.5
comp=Z,7.5nm,0.8s
INK Inuvik 54.91 27 P P 05 33 12.8 +1.4
baz=281,SNR=5.6
F31M Tsiigehtchic 54.99 28 IAmb IAmb 05 33 15.8
comp=Z,18nm,1.2s
F31M Tsiigehtchic 54.99 28 P P 05 33 13.2 +1.1
baz=281,SNR=6.7
P30M Million Dollar 55.16 37 P P 05 33 14.4 +0.9
baz=283
N31M Braeburn, Yuko 55.40 35 P P 05 33 16.2 +1.1
baz=284
O30N Mendenhall 55.42 36 P P 05 33 15.5 +0.1
baz=284
PLBC Pleasant Camp 55.61 38 P P 05 33 16.8 +0.2
baz=284
M31M Drury Creek, Y 55.87 34 P P 05 33 19.2 +0.7
baz=284
S31K Pelican 56.06 40 P P 05 33 21.1 +1.2
baz=285
CHGR Chuyangaron 56.15 296 P P 05 33 21.1 +0.1
CHGR pmax pmax
comp=Z,53nm,1.2s
WB0 Warramunga Arr 56.22 188 P P 05 33 21.3 -0.1
SIMJ Simiganj 56.26 296 P P 05 33 21.3 -0.5
SIMJ Simiganj 56.26 296 P P 05 33 22.3 +0.5
SIMJ pP pwP 05 33 32.8 -0.4
FARO Faro, Yukon 56.34 34 P P 05 33 22.4 +0.6
baz=285
WR0 Warramunga Arr 56.40 188 P P 05 33 21.3 -1.3
WB2 Warramunga Arr 56.40 188 P P 05 33 21.2 -1.4
WB2 IAmb IAmb 05 33 50.5
comp=Z,12nm,1.1s
WRA Warramunga Arr 56.40 188 P P 05 33 20.6 -2.1
WRA Warramunga Arr 56.40 188 P P 05 33 20.9 -1.8
comp=Z,3.3nm,0.9s,baz=5.7,slow=7.5,SNR=12
comp=Z,3.3nm,0.9s
WRA Warramunga Arr 56.40 188 i P P 05 33 22.2 -0.5
WRA pmax pmax
comp=Z,3.0nm,0.9s
SIT Sitka 56.78 40 P P 05 33 25.5 +0.5
baz=287
A36M Sachs Harbour 56.83 22 P P 05 33 25.9 +0.8
baz=286
R32K Eaglecrest 56.85 39 P P 05 33 26.0 +0.5
baz=286
P32M Atlin 56.88 37 P P 05 33 26.6 +0.9
baz=286
ARU Arti 57.02 319 P P 05 33 26.6 -0.1
ARU IAmb IAmb 05 33 28.1
comp=Z,16nm,1.0s
ARU Arti 57.02 319 LR LR 06 00 08.8
comp=Z,278nm,19.1s,baz=78,slow=38
ARU Arti 57.02 319c i P P 05 33 25.6 -1.1
ARU 05 35 28.8
ARU S S 05 41 18.5 -0.3
ARU SS SS 05 45 03.2 -3.9
ARU pmax pmax
comp=Z,35nm,1.8s
ARU MLR MLR
comp=Z,384nm,16.0s
ARU Arti 57.02 319 P P 05 33 27.0 +0.3
comp=Z,21nm,1.5s,comp=Z,280nm
ARU Arti 57.02 319 P P 05 33 27.1 +0.4
ARU pP sP 05 33 38.0 -1.4
S32K Killisnoo 57.05 40 P P 05 33 26.8 -0.1
baz=287
P33M Teslin, Yukon 57.13 36 IAmb IAmb 05 33 42.7
comp=Z,16nm,1.1s
P33M Teslin, Yukon 57.13 36 P P 05 33 28.1 +0.5
baz=287,SNR=6.2
Q32M Nakina River 57.77 38 P P 05 33 32.4 +0.2
baz=288
C36M Paulatuk 57.98 25 P P 05 33 34.0 +0.8
C36M IAmb IAmb 05 33 46.7
comp=Z,9.8nm,0.8s
C36M Paulatuk 57.98 25 P P 05 33 33.7 +0.5
baz=288
U33K Whale Pass 58.23 41 P P 05 33 35.6 +0.4
baz=289
R33M Jennings River 58.27 37 P P 05 33 36.1 +0.4
baz=288
CRAG Craig 58.44 42 P P 05 33 37.2 +0.5
baz=289
WRAK Wrangell Islan 58.54 41 P P 05 33 37.9 +0.5
baz=289
ABKAR Akbulak array 58.54 311 P P 05 33 37.1 -0.5
ABKAR IAmb IAmb 05 33 38.6
comp=Z,5.9nm,0.8s
S34M Telegraph Cree 58.67 39 P P 05 33 38.4 +0.1
baz=289
TGTN Hyland Airport 58.84 34 P P 05 33 39.8 +0.3
baz=289
DLBC Dease Lake 59.05 38 P P 05 33 41.0 0.0
baz=290
V35K Ketchikan 59.30 42 P P 05 33 42.7 0.0
baz=290
T35M Bob Quinn 59.44 39 P P 05 33 44.6 +1.0
baz=290
ASAR Alice Springs 60.13 188 P P 05 33 48.0 -0.6
comp=Z,0.9nm,0.8s,baz=15,slow=9.2,SNR=6.6
comp=Z,0.9nm,0.8s
WRGLY Wrigley 60.34 31 P P 05 33 52.1 +2.5
WRGLY Wrigley 60.34 31 P P 05 33 50.1 +0.5
baz=292
LIRD Liard River Hi 60.60 36 P P 05 33 52.6 +1.0
baz=292
KIRV Kirov 60.93 323 i P P 05 33 52.7 -1.0
TOAD Toad River Com 61.23 36 P P 05 33 57.2 +1.3
baz=293
DZM Mont Dzumac 62.64 154 eLR LR 05 52 45.2
comp=Z,290nm,21.0s
DZM Mont Dzumac 62.64 154 LR LR 05 59 18.3
comp=Z,239nm,20.2s,baz=354,slow=34
APA Apatity 63.41 336 || i P P 05 34 02.5 -7.7
APA pmax pmax
comp=Z,2.0nm,0.8s
APA MLR MLR
comp=Z,500nm,14.0s
YKA Yellowknife Ar 64.31 30 P P 05 34 17.8 +1.6
comp=Z,1.3nm,0.7s,baz=297,slow=6.8,SNR=5.5
comp=Z,1.3nm,0.7s
YKA Yellowknife Ar 64.31 30 i P P 05 34 17.7 +1.5
YKA pmax pmax
comp=Z,1.0nm,0.7s
BELG Belogornoye 64.45 317 eP P 05 34 17.3 0.0
BELG pmax pmax
comp=Z,5.0nm,1.3s
ARCES ARCESS Array B 64.72 340 P P 05 34 19.6 +0.8
comp=Z,4.0nm,0.8s,baz=60,slow=7.2,SNR=7.1
ARCES LR LR 06 06 24.2
comp=Z,128nm,18.4s,baz=52,slow=40
comp=Z,4.0nm,0.8s
OUL Oulu 67.31 336 P P 05 34 36.4 +0.9
OUL pmax pmax
comp=Z,11nm,1.3s
MOS Moscow 67.93 324 eP P 05 34 37.1 -2.5
OBN Obninsk 68.78 323 eP P 05 34 44.7 -0.2
OBN e 05 35 07.8
OBN e 05 37 17.1
OBN ePPP PPP 05 38 55.5
OBN pmax pmax
comp=Z,11nm,1.1s
MAK Makhachkala 69.05 308 eP P 05 34 44.3 -2.5
MAK e 05 37 15.4
MAK ePPP PPP 05 39 01.6
MAK eS S 05 43 46.6 -3.1
MAK pmax pmax
comp=Z,23nm,0.3s

MAK MLR MLR
comp=Z,467nm,17.0s
I03D Drain, OR 69.19 51 P P 05 34 50.3 +2.6
FIA1 FINESS Array S 69.52 332 P P 05 34 48.8 -0.6
FINES FINESS Array B 69.52 332 P P 05 34 48.9 -0.6
FINES FINESS Array B 69.52 332 P P 05 34 49.9 +0.5
comp=Z,4.6nm,0.8s,baz=76,slow=8.0,SNR=15
FINES LR LR 06 07 42.4
comp=Z,260nm,19.2s,baz=62,slow=38
comp=Z,4.6nm,0.8s
FINES FINESS Array B 69.52 332 i P P 05 34 50.2 +0.8
FINES pmax pmax
comp=Z,5.0nm,0.8s
MXC Moxie City 69.56 47 IAmb IAmb 05 35 03.9
comp=Z,9.3nm,0.9s
I04A Tendick Farm, 69.72 50 IAmb IAmb 05 35 05.0
comp=Z,15nm,1.1s
G06A Carlson Farm, 70.06 48 IAmb IAmb 05 35 07.0
comp=Z,8.2nm,1.0s
D08A Wollman Farm, 70.11 46 IAmb IAmb 05 35 06.8
comp=Z,9.0nm,0.7s
NEW Newport 70.49 44 IAmb IAmb 05 35 09.2
comp=Z,6.5nm,0.8s
NEW Newport 70.49 44 P P 05 34 56.4 +0.7
baz=303
NEW Newport 70.49 44 P P 05 34 57.8 +2.1
NEW pmax pmax
comp=Z,9.0nm,1.0s
L04D Klamath Falls 70.61 52 P P 05 34 58.6 +1.9
J05D Fort Rock, OR 70.72 50 P P 05 34 58.0 +0.7
J05D IAmb IAmb 05 35 11.6
comp=Z,15nm,1.0s
SUMG Summit 71.38 0 P P 05 35 02.4 +1.3
SUMG Summit 71.38 0 P P 05 35 02.4 +1.3
SUMG pmax pmax
comp=Z,24nm,1.3s
SUMG Summit 71.38 0 i P P 05 35 02.0 +0.9
KBZ Khabaz 71.51 311 P P 05 35 02.7 +0.8
comp=Z,3.3nm,0.8s,baz=50,slow=4.7,SNR=10
comp=Z,3.3nm,0.8s
KBZ Khabaz 71.51 311 eP P 05 35 02.2 +0.4
KBZ pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 71.52 311 eP P 05 35 01.5 -0.5
KIV pmax pmax
comp=Z,13nm,1.0s
SHA1 Shidzhatmaz 71.65 311 P P 05 35 02.8 -0.2
GNI Garni 72.28 307 i P P 05 35 06.4 -0.4
GNI pmax pmax
comp=Z,13nm,0.9s
GNI Garni 72.28 307 P P 05 35 07.9 +1.1
comp=Z,14nm,1.2s
J08A Circle Bar Ran 72.38 49 IAmb IAmb 05 35 21.3
comp=Z,14nm,1.2s
PLID Pearl Lake 72.89 46 IAmb IAmb 05 35 23.6
comp=Z,23nm,1.7s
MSO Missoula 73.08 44 P P 05 35 11.5 +0.2
baz=305
MNK Minsk 73.18 326 i LRM MLR 06 10 41.6
comp=Z,270nm,14.8s
MNK Minsk 73.18 326 i P P 05 35 09.1 -2.5
MNK i 05 37 51.4
MNK i PPP PPP 05 39 35.3
MNK i S S 05 44 35.2 -2.0
MNK i SS SS 05 49 17.8 -0.2
MNK pmax pmax
comp=N,18nm,0.9s
MNK pmax pmax
comp=Z,11nm,1.0s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK MLR MLR
comp=E,122nm,17.0s
MNK MLR MLR
comp=N,230nm,14.0s
MNK MLR MLR
comp=Z,270nm,15.0s
MNK Minsk 73.18 326 i P P 05 35 09.1 -2.5
comp=N,18nm,0.9s
MNK Minsk 73.18 326 i P P 05 35 09.1 -2.5
comp=E,5.0nm,0.8s
MNK Minsk 73.18 326 i P P 05 35 09.1 -2.5
comp=Z,11nm,1.1s,baz=50
MNK Minsk 73.18 326 i PP PP 05 37 51.5 -2.8
MNK Minsk 73.18 326 i PPP PPP 05 39 35.3
MNK Minsk 73.18 326 i S S 05 44 35.2 -2.0
MNK Minsk 73.18 326 i SS SS 05 49 17.8 -0.2
MNK Minsk 73.18 326 i SSS SSS 05 52 39.8
MNK Minsk 73.18 326 i LQ LQ 06 02 45.8
MNK Minsk 73.18 326 i LR LR 06 07 37.0
MNK Minsk 73.18 326 i LRM MLR 06 10 20.0
comp=E,122nm,16.6s
MNK Minsk 73.18 326 i LRM MLR 06 10 22.0
comp=N,230nm,14.1s
NACGM Naroch 73.42 327 eP P 05 35 11.3 -1.7
PAHR Pah Rah Range 73.83 53 IAmb IAmb 05 35 29.5
comp=Z,12nm,1.1s
CMB Columbia Colle 74.11 54 IAmb IAmb 05 35 31.0
comp=Z,13nm,1.1s
ANN Anapa 74.16 314 eP P 05 35 15.3 -2.2
ANN e*PP pP 05 35 25.1 -1.9
ANN eS S 05 44 46.6 -1.9
ANN pmax pmax
comp=Z,13nm,0.7s
FFC Flin Flon 74.18 33 P P 05 35 18.2 +0.7
FFC Flin Flon 74.18 33 P P 05 35 18.2 +0.7
FFC pmax pmax
comp=Z,7.0nm,1.0s
YERR Yerington 74.32 53 IAmb IAmb 05 35 32.6
comp=Z,19nm,1.1s
EGMT Eagleton 74.66 41 IAmb IAmb 05 35 34.0
comp=Z,12nm,0.9s
EGMT Eagleton 74.66 41 P P 05 35 20.8 +0.3
baz=308
HLID Hailey 74.70 47 P P 05 35 20.9 -0.1
baz=306
BMN Battle Mountai 74.79 51 IAmb IAmb 05 35 35.5
comp=Z,11nm,0.9s
HFS Hagfors 74.81 336 P P 05 35 21.8 +0.8
comp=Z,1.9nm,0.8s,baz=52,slow=7.5,SNR=3.2
comp=Z,1.9nm,0.8s
NB2 NORSAR Subarra 74.91 337 P P 05 35 22.3 +0.6
comp=Z,14nm,1.1s,baz=40,slow=5.9
NB2 NORSAR Subarra 74.91 337 P P 05 35 22.1 +0.4
NB2 pmax pmax
comp=Z,39nm,2.0s
NOA NORSAR Array B 74.91 337 P P 05 35 22.6 +0.9
comp=Z,2.5nm,0.8s,baz=39,slow=5.8,SNR=12
comp=Z,2.5nm,0.8s
AK03 Malin Array Si 74.96 323 P P 05 35 22.0 -0.1
AKASG Malin Array Be 74.97 323 P P 05 35 22.3 +0.1
comp=Z,2.1nm,0.5s,baz=48,slow=5.8,SNR=12
comp=Z,2.1nm,0.5s
AKBB Malin Array Si 74.97 323 P P 05 35 22.2 0.0
AKBB IAmb IAmb 05 35 23.4
comp=Z,9.1nm,0.9s
AKBB Malin Array Si 74.97 323 eP P 05 35 20.7 -1.5
AKBB pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 74.98 323 P P 05 35 22.4 +0.2
KIEV IAmb IAmb 05 35 23.4
comp=Z,7.6nm,0.8s
KIEV Kiev 74.98 323 P P 05 35 22.4 +0.2
KIEV pmax pmax
comp=Z,8.0nm,0.9s
AK04 Malin Array Si 74.99 323 P P 05 35 22.4 +0.2
KVN Kaiserville 75.02 52 IAmb IAmb 05 35 36.7
comp=Z,16nm,1.0s
BOZ Bozeman (W) 75.10 44 IAmb IAmb 05 35 36.8
comp=Z,11nm,0.9s
BOZ Bozeman (W) 75.10 44 P P 05 35 23.6 +0.4
baz=307
NVAR Mina Array Bea 75.24 53 P P 05 35 25.9 +1.6
NVAR Mina Array Bea 75.24 53 P P 05 35 26.4 +2.2
comp=Z,2.8nm,0.8s,baz=282,slow=5.5,SNR=20
comp=Z,2.8nm,0.8s
NV11 Mina Array Sit 75.34 53 P P 05 35 25.6 +0.9
NV11 IAmb IAmb 05 35 38.5
comp=Z,12nm,1.2s
ELK Elko 75.84 50 P P 05 35 29.2 +1.5
SMMC Simmler 75.89 57 P P 05 35 28.6 +0.8
baz=305
DSP Deep Springs 76.06 54 P P 05 35 30.2 +1.6
DSP IAmb IAmb 05 35 42.8
comp=Z,11nm,1.1s
RNPP9 Sopachiv 76.11 324 P P 05 35 29.9 +1.2

VES	Vestal, Richgr	76.20	56	P	P	05 35 30.2 +0.7
	baz=305					
PKM	Mcpherson Peak	76.26	57	P	P	05 35 30.5 +0.4
	baz=305					
H17A	Grant Village	76.42	45	IAmb	IAmb	05 35 46.5
	comp=Z,15nm,0.9s					
H17A	Grant Village	76.42	45	P	P	05 35 31.4 +0.5
	baz=308					
IMW	Indian Meadow	76.52	45	IAmb	IAmb	05 35 46.0
	comp=Z,9.4nm,0.9s					
CWC	Cottonwood Cre	76.53	55	P	P	05 35 32.3 +0.8
	baz=305					
SBC	Santa Barbara	76.58	57	P	P	05 35 32.3 +0.7
	baz=305					
GRAC	Grapevine Rang	76.67	54	P	P	05 35 32.1 -0.1
	baz=306					
RLMT	Red Lodge	76.71	43	P	P	05 35 33.0 +0.5
	baz=308					
ISA	Isabella, Lake	76.71	56	P	P	05 35 33.2 +0.7
	baz=305					
HVU	Hansel Valley	76.72	48	IAmb	IAmb	05 35 46.5
	comp=Z,8.1nm,0.8s					
ARVC	Arvin	76.78	56	P	P	05 35 33.1 +0.3
	baz=305					
SCZ2	Santa Cruz Isl	76.89	57	P	P	05 35 34.3 +0.8
	baz=305					
ARPR	Arapgir-MALATY	76.96	309	P	P	05 35 35.2 +1.2
R11B	Troy Canyon, C	77.03	52	IAmb	IAmb	05 35 48.1
	comp=Z,12nm,1.1s					
R11B	Troy Canyon, C	77.03	52	P	P	05 35 34.8 +0.4
	baz=306					
MPMC	Manual Prospec	77.14	55	P	P	05 35 35.5 +0.5
	baz=306					
DGMT	Dagmar	77.25	39	P	P	05 35 36.5 +1.2
	baz=311					
FURC	Furnace Creek,	77.31	54	P	P	05 35 36.9 +1.2
	baz=306					
LRMC	Laurel Mtn Rad	77.34	55	P	P	05 35 36.8 +0.7
	baz=306					
SNCC	San Nicolas Is	77.39	58	P	P	05 35 37.4 +1.1
	baz=305					
TPNV	Topopah Spring	77.43	53	P	P	05 35 37.4 +0.7
	baz=306					
EDW2	Edwards Air Fo	77.48	56	P	P	05 35 37.8 +1.0
	baz=306					
HWUT	Hardware Ranch	77.55	47	IAmb	IAmb	05 35 51.2
	comp=Z,12nm,1.0s					
GWY	Greenwater Val	77.60	54	IAmb	IAmb	05 35 51.0
	comp=Z,11nm,1.0s					
DUG	Dugway, Tooele	77.66	49	IAmb	IAmb	05 35 51.8
	comp=Z,13nm,0.9s					
DUG	Dugway, Tooele	77.66	49	P	P	05 35 39.7 +1.9
	baz=307					
PRN	Pahroc Range	77.93	52	IAmb	IAmb	05 35 53.2
	comp=Z,9.1nm,1.0s					
TCUT	Toone Canyon	77.94	48	IAmb	IAmb	05 35 53.3
	comp=Z,11nm,0.8s					
BW06	Boulder Array	78.01	45	P	P	05 35 40.9 +1.0
	baz=309					
PD31	Pinedale Array	78.01	45	P	P	05 35 40.0 +0.2
PDAR	Pinedale Array	78.01	45	P	P	05 35 39.7 -0.2
PDAR				pP	PcP	05 35 49.5 0.0
PDAR	Pinedale Array	78.01	45	P	P	05 35 41.2 +1.4
	comp=Z,1.5nm,0.7s,baz=272,slow=1.8,SNR=16					
	comp=Z,1.5nm,0.7s					
PSUT	Pine Spring	78.01	51	IAmb	IAmb	05 35 53.6
	comp=Z,12nm,1.1s					
GSC	Goldstone, Bar	78.03	55	P	P	05 35 41.4 +1.5
	baz=306					
CIS	Catalina Islan	78.06	57	P	P	05 35 41.4 +1.4
	baz=306					
BFSC	Mount Baldy Ra	78.08	56	P	P	05 35 41.2 +0.9
	baz=306					
SCI2	San Clemente I	78.21	58	P	P	05 35 42.0 +1.2
	baz=306					
MPU	Maple Canyon	78.48	49	IAmb	IAmb	05 35 56.3
	comp=Z,14nm,1.0s					
HEC	Hector,Ludlow	78.62	55	P	P	05 35 43.8 +0.6
	baz=306					
KWP	Kalwaria Pacla	78.81	325	eP	P	05 35 46.5 +2.6
CCUT	Cedar City	78.92	51	P	P	05 35 45.6 +0.6
CCUT				pP	pwP	05 35 56.3 -0.9
BUR08	Bucovina Ar. S	78.97	322	P	P	05 35 45.3 +0.4
BURAR	Bucovina Array	78.98	322	P	P	05 35 45.1 +0.1
BURAR	Bucovina Array	78.98	322	P	P	05 35 45.1 +0.1
BURAR				P	pP	05 35 54.3 -0.1
BURAR				pmax	pmax	
	comp=Z,5.0nm,1.2s					
GMRC	Granite Mounta	79.09	55	P	P	05 35 46.7 +0.9
	baz=307					
109C	Camp Elliot, M	79.25	57	P	P	05 35 46.6 +0.1
	baz=306					
PFO	Pinyon Flats O	79.26	56	P	P	05 35 47.2 +0.5
	baz=306					
TPFO	Pinon Flats	79.26	56	P	P	05 35 46.7 -0.1
	baz=307					
BELC	Belle Mtn. Jos	79.33	56	P	P	05 35 47.6 +0.4
	baz=307					
MTPU	Mount Pierson	79.36	51	IAmb	IAmb	05 36 01.8
	comp=Z,10.0nm,1.0s					
Q16A	Castle Valley	79.44	49	IAmb	IAmb	05 36 01.8
	comp=Z,13nm,1.2s					
BRTR	Keskin Array B	79.47	312	P	P	05 35 47.3 -0.5
BRTR	Keskin Array B	79.47	312	P	P	05 35 48.5 +0.7
	comp=Z,2.0nm,0.8s,baz=90,slow=4.9,SNR=11					
	comp=Z,2.0nm,0.8s					
KOLS	Kolonicke sedl	79.50	324	eP	P	05 35 48.0 +0.4
KOLS	Kolonicke sedl	79.50	324	eP	P	05 35 48.0 +0.4
P18A	Preston Nutter	79.56	48	IAmb	IAmb	05 36 02.5
	comp=Z,21nm,1.4s					
KNB	Kanab	79.58	52	IAmb	IAmb	05 36 02.7
	comp=Z,16nm,1.1s					
MONP2	Monument Peak	79.71	57	P	P	05 35 49.9 +0.6
	baz=307					
SRU	San Rafael Swe	79.72	49	P	P	05 35 50.1 +0.9
SRU	San Rafael Swe	79.72	49	P	P	05 35 50.1 +0.9
SRU				pmax	pmax	
	comp=Z,17nm,0.8s					
K22A	Casper	79.81	44	P	P	05 35 50.0 +0.4
	baz=310					
BC3	Big Chuckawall	79.90	56	P	P	05 35 50.6 +0.3
	baz=307					
MDND	Maddock	79.94	37	P	P	05 35 50.3 +0.3
	baz=314					
ULM	Lac du Bonnet	79.97	33	P	P	05 35 51.2 +1.1
	comp=Z,2.2nm,0.7s,baz=332,slow=5.2,SNR=5.2					
	comp=Z,2.2nm,0.7s					
MLR	Muntele Rosu	80.05	320	LR	LR	06 14 31.6
	comp=Z,464nm,18.4s,baz=65,slow=38					
IKP	In-Ko-Pah, Jac	80.06	57	P	P	05 35 51.0 -0.1
	baz=307					
SWSC	Sam W. Stewart	80.10	56	P	P	05 35 51.3 +0.2
	baz=307					
RSSD	Black Hills	80.21	42	P	P	05 35 51.8 -0.1
	baz=312					
HMU	Henry Mountain	80.31	50	IAmb	IAmb	05 36 06.0
	comp=Z,14nm,0.8s					
O20A	White River Ci	80.44	47	IAmb	IAmb	05 36 06.4
	comp=Z,12nm,0.9s					
O20A	White River Ci	80.44	47	P	P	05 35 53.4 +0.3
	baz=310					
ESJX	Sierra Juarez	80.56	57	IAmb	IAmb	05 36 07.4
	comp=Z,11nm,1.0s					
LANS	Liptovska Anna	80.65	326	eP	P	05 35 56.9 +3.0
LANS	Liptovska Anna	80.65	326	eP	P	05 35 56.9 +3.0
MORC	Moravsky Berou	81.05	327	eP	P	05 35 56.5 +0.5
RAYN	Ar Rayn	81.11	293	P	P	05 35 55.7 -1.1
RAYN				IAmb	IAmb	05 36 10.7
	comp=Z,12nm,1.2s					
RAYN	Ar Rayn	81.11	293	P	P	05 35 55.7 -1.1
RAYN				pmax	pmax	
	comp=Z,13nm,1.3s					
N23A	Red Feather La	81.28	45	IAmb	IAmb	05 36 11.5
	comp=Z,12nm,0.9s					
N23A	Red Feather La	81.28	45	P	P	05 35 57.7 0.0
	baz=311					
AGMN	Agassiz Nation	81.39	35	P	P	05 35 57.9 +0.2
	baz=316					
WUAZ	Wupatki	81.43	52	P	P	05 35 58.1 -0.3
WUAZ				pP	pP	05 36 08.5 +0.7
WUAZ				IAmb	IAmb	05 36 12.2
	comp=Z,12nm,1.0s					
WUAZ	Wupatki	81.43	52	P	P	05 35 58.3 -0.2
	baz=309					
JAVC	Velka Javorina	81.67	326	eP	P	05 36 01.0 +1.7
CLL	Collm	81.80	330	eP	P	05 36 01.0 +1.1
CLL				esP	sP	05 36 13.0 +0.2
CLL				ePP	PP	05 39 07.0 +0.6
CLL				AMS	AMS	06 16 00.0
	comp=N,200nm,18.8s					
CLL				AMS	AMS	06 16 00.0
	comp=E,200nm,18.8s					
CLL				AMS	AMS	06 16 00.0
	comp=Z,300nm,18.6s					
CLL	Collm	81.80	330	eP	P	05 36 01.0 +1.1
CLL				e*SP	sP	05 36 13.0 +0.2
CLL				MLR	MLR	
	comp=Z,300nm,18.6s					
VRAC	Vranov	81.81	327	eP	P	05 36 01.1 +1.1
KRUC	Moravsky	82.08	327	eP	P	05 36 01.8 +0.4
MVCO	Mesa Verde	82.15	49	IAmb	IAmb	05 36 15.9
	comp=Z,9.5nm,0.9s					
MVCO	Mesa Verde	82.15	49	P	P	05 36 02.3 -0.1
	baz=310					
ISCO	Idaho Springs	82.19	46	P	P	05 36 02.1 -0.4
	baz=311					
Q24A	Divide	83.01	46	P	P	05 36 06.6 -0.2
	baz=312					
RONA	Rosalia, Austr	83.15	326	eP	P	05 36 08.6 +1.6
	comp=Z,5.6nm,1.4s					
CONA	Conrad Observa	83.17	327	i P	P	05 36 08.5 +1.3
	comp=Z,2.8nm,0.8s					
KHC	Kasperske Hory	83.24	329	i P	P	05 36 06.4 -1.1
KHC				pmax	pmax	
	comp=Z,21nm,2.1s					
OGNE	Ogallala	83.45	43	P	P	05 36 08.4 -0.3
	baz=313					
EYMN	Ely	83.61	33	P	P	05 36 08.8 -0.6
	baz=320					
SDCO	Great Sand Dun	83.61	47	P	P	05 36 09.5 -0.4
	baz=312					
TUC	Tucson	83.82	54	P	P	05 36 10.6 -0.2
	baz=309					
MOA	Molln	83.93	327	eP	P	05 36 11.9 +0.9
	comp=Z,2.9nm,1.1s					
PPT	Papeete	84.14	117	LR	LR	06 07 49.3
	comp=Z,150nm,20.5s,baz=325,slow=32					
PPT2	Papeete2	84.15	117	eLR	LR	06 02 41.6
	comp=Z,190nm,21.5s					
PPT2				eLR	LR	06 02 42.1
	comp=Z,187nm,23.0s					
ECSD	EROS Data Cent	84.34	38	P	P	05 36 12.5 -0.6
ECSD				pP	pP	05 36 22.1 -0.6
ECSD				IAmb	IAmb	05 36 25.8
	comp=Z,7.1nm,0.9s					
SOKA	Soboth	84.48	326	eP	P	05 36 15.3 +1.3
	comp=Z,4.3nm,1.2s					
T25A	Trinidad	84.66	47	P	P	05 36 14.9 -0.3
	baz=312					
ANMO	Albuquerque	84.88	50	P	P	05 36 16.9 +0.6
ANMO				IAmb	IAmb	05 36 30.6
	comp=Z,5.4nm,0.9s					
ANMO	Albuquerque	84.88	50	P	P	05 36 16.6 +0.3
	baz=311					
ANMO	Albuquerque	84.88	50	P	P	05 36 16.9 +0.6
ANMO				pmax	pmax	
	comp=Z,5.0nm,0.9s					
LESA	Schwarzleotal	84.94	328	eP	P	05 36 16.7 +0.5
	comp=Z,2.0nm,0.8s					
SPMN	Marine on St.	85.08	35	P	P	05 36 17.1 +0.3
	baz=319					
Y22D	IRIS PASSCAL I	85.16	51	P	P	05 36 17.8 +0.1
	baz=311					
BGNE	Belgrade	85.22	41	P	P	05 36 17.4 -0.3
	baz=316					
ABTA	Abfaltersbach	85.54	328	eP	P	05 36 19.1 -0.2
	comp=Z,1.5nm,0.6s					
121A	Cookes Peak, D	85.62	52	P	P	05 36 20.0 -0.1
	baz=311					
RETA	Reutte	85.70	329	eP	P	05 36 20.9 +0.9
	comp=Z,0.9nm,0.4s					
FETA	Feichten	86.08	329	eP	P	05 36 18.4 -3.7
	comp=Z,3.6nm,0.9s					
CBKS	Cedar Bluff	86.19	43	P	P	05 36 22.1 -0.5
	baz=315					
DAVOX	Davos/Dischmat	86.63	329	LR	LR	06 18 46.1
	comp=Z,289nm,18.5s,baz=77,slow=38					
SCIA	State Center	87.37	38	P	P	05 36 28.4 +0.2
	baz=319					
KSU1	Kansas State U	87.69	41	P	P	05 36 29.7 -0.2
	baz=317					
MSTX	Muleshoe	87.79	49	P	P	05 36 30.5 -0.1
	baz=313					
AMTX	Amarillo	87.82	47	P	P	05 36 30.7 +0.1
	baz=314					
TBI	Tubuai	88.00	121	eLR	LR	06 04 22.1
	comp=Z,763nm,23.8s					
TBI				eLR	LR	06 04 29.6
	comp=Z,904nm,26.0s					
JFWS	Jewell Farm	88.03	35	P	P	05 36 31.7 +0.4
	baz=321					
GLMI	Grayling	89.00	31	P	P	05 36 36.3 +0.4
	baz=324					
WMOK	Wichita Mounta	89.62	46	P	P	05 36 39.9 +0.9
	baz=316					
L44A	Lake County Fo	89.68	34	P	P	05 36 38.4 -0.7
	baz=322					
SLBS	Sierra La Lagu	89.88	60	P	P	05 36 41.2 +0.8
HDIL	Hopedale	90.31	36	P	P	05 36 42.3 +0.2
	baz=321					
TX31	Lajitas Ar. Si	90.38	53	IAmb	IAmb	05 36 55.9
	comp=Z,4.8nm,0.9s					
TXAR	Lajitas Array	90.38	53	P	P	05 36 43.6 +0.8
TXAR	Lajitas Array	90.38	53	P	P	05 36 44.2 +1.4
	comp=Z,1.3nm,0.8s,baz=293,slow=3.9,SNR=14					
	comp=Z,1.3nm,0.8s					
TXAR	Lajitas Array	90.38	53	P	P	05 36 43.6 +0.8
TUL3	Leonard	90.46	43	P	P	05 36 42.9 0.0
	baz=317					
S39A	Bolivar	90.48	41	IAmb	IAmb	05 36 54.9
	comp=Z,6.6nm,0.8s					
ABTX	Abilene, Hawle	90.61	48	P	P	05 36 43.4 -0.2
	baz=315					
HHAR	Hobbs	91.20	42	IAmb	IAmb	05 36 58.6
	comp=Z,6.2nm,0.8s					
CCM	Cathedral Cave	91.27	39	P	P	05 36 46.4 -0.2
	baz=320					
AAM	Ann Arbor	91.47	32	P	P	05 36 46.6 -0.8
	baz=325					
SFIN	Lafayette	91.48	35	P	P	05 36 46.9 -0.6
	baz=323					
BRDY	Brady	91.94	48	IAmb	IAmb	05 37 02.9
	comp=Z,5.6nm,1.1s					
JCT	Junction City	92.02	49	P	P	05 36 49.7 -0.6
	baz=315					
WHTX	Lake Whitney,	92.35	47	P	P	05 36 51.4 -0.3
	baz=316					
O48B	Farmland	92.47	34	P	P	05 36 51.9 -0.2
	baz=324					
MIAR	Mount Ida	92.69	43	P	P	05 36 52.9 -0.4
	baz=319					
LONY	Lake Ozonia	92.98	25	P	P	05 36 54.1 -0.3
	baz=332					
ERPA	Erie	93.13	30	P	P	05 36 54.9 -0.2
	baz=328					
435B	Jarrell	93.14	48	P	P	05 36 54.9 -0.5
	baz=316					
P49A	Miami Univ. Ec	93.25	34	P	P	05 36 55.4 -0.3
	baz=324					
M53A	Wi Miller and	93.42	30	P	P	05 36 56.0 -0.5
	baz=327					
ACSO	Alum Creek Sta	93.45	33	P	P	05 36 56.5 -0.1
	baz=326					
WCI	Wyandotte Cave	93.57	36	P	P	05 36 56.8 -0.4
	baz=323					
833A	Chaparral WMA,	93.78	51	P	P	05 36 58.0 -0.3
	baz=315					
PKME	Peaks-Kenny Pk	94.09	21	P	P	05 36 59.3 -0.2
	baz=336					
NATX	Nacogdoches	94.15	45	P	P	05 36 60.0 0.0
	baz=318					
LBNH	Lisbon	94.20	24	P	P	05 36 59.9 -0.1
	baz=334					
P52A	Corning	94.31	32	P	P	05 37 00.6 0.0
	baz=326					
WVT	Waverly	94.49	38	P	P	05 37 01.9 +0.5
	baz=322					
BINY	Binghamton	94.60	27	P	P	05 37 02.2 +0.3
	baz=330					
OXF	Oxford	94.94	40	P	P	05 37 03.7 +0.1
	baz=321					
FURI	Furi	95.09	285	LR	LR	06 25 31.1
	comp=Z,102nm,18.0s,baz=100,slow=39					
SSPA	Standing Stone	95.22	29	P	P	05 37 04.8 0.0
	baz=329					
MCWV	Mont Chateau	95.26	31	P	P	05 37 05.1 +0.2
	baz=328					
L61B	Northampton	95.55	25	P	P	05 37 06.2 0.0
	baz=333					
HRV	Adam Dziewonsk	95.87	24	P	P	05 37 07.9 +0.2
	baz=334					
TZTN	Tazewell	96.22	35	P	P	05 37 09.6 +0.2
	baz=325					
PAL	Palisades	96.40	26	P	P	05 37 10.1 0.0
	baz=332					
BLA	Blacksburg	97.07	33	P	P	05 37 13.0 -0.3
	baz=327					
LRAL	Lakeview Retre	97.35	39	P	P	05 37 14.1 -0.4
	baz=322					
GOGA	Godfrey	98.81	37	P	P	05 37 20.6 -0.5
	baz=325					
CNNC	Cliffs of the	99.83	32	P	Pdif	05 37 25.1 -0.5
	baz=329					
TIGA	Tifton	100.35	38	P	Pdif	05 37 27.4 -0.5
	baz=324					
NHSC	New Hope	100.61	35	P	Pdif	05 37 28.3 -0.8
	baz=327					
DWPF	Disney Wildern	104.14	38	P	Pdif	05 37 44.2 -0.7
	baz=326					
H03N2	Juan Fernandez	146.74	97	T	T	08 28 08.4
	baz=291,slow=76,SNR=5.8					
H03N3	Juan Fernandez	146.75	97	T	T	08 27 46.8
	baz=291,slow=76,SNR=7.6					
H03N1	Juan Fernandez	146.76	97	T	T	08 28 07.9
	baz=291,slow=76,SNR=7.3					
LPAZ	La Paz	146.86	61	PKPbc	PKPbc	05 43 24.9 +0.4
	comp=Z,3.5nm,0.8s,baz=281,slow=3.6,SNR=15					

*IDC **10** 05:28:18.4±1.1,31°.68S×58°.16E,h0km,mb4.1/6, mbtmp4.1/7,ML3.9/1,Error ellipse: s-maj=39.0km s-min=25.8km az=73.0*

*NEIC **10** 05:28:19.9±0.8,31°.64S±0°.09×58°.1E±0°.2,h10km±1km, mb4.6/6,Error ellipse: s-maj=23.5km s-min=14.9km az=254.0*

ISC 10 05:28:20.3±0.8,31°.75±0°.1×58°.0E±0°.1,h17km,n35, σ0§87/26,mb4.3/8,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	Nahampoana Res	11.78	302	Pn	Pn	05 31 08.4	+0.8
ROCAM	Rodrigues Isla	12.81	23	Pn	Pn	05 31 22.3	+0.7
H04N2	CROZET ISLANDS	15.25	197	T	T	05 47 43.5	
	baz=22,slow=75,SNR=12						
H04N1	CROZET ISLANDS	15.25	197	T	T	05 47 44.6	
	baz=22,slow=75,SNR=14						
H04N3	CROZET ISLANDS	15.27	197	T	T	05 47 42.3	
	baz=22,slow=75,SNR=15						
ABPO	Ambohimpanom	15.91	320		P	05 32 05.8	-1.5
OPO	Ambohidratompo	16.30	321	Pn	P	05 32 10.5	-1.1
	baz=125,slow=19,SNR=2.1						
	3.5nm,0.8s						
H08S1	Diego Carcia H	27.45	32	T	T	06 02 32.4	
	baz=206,slow=75,SNR=8.4						
H08S2	Diego Garcia H	27.45	33	T	T	06 02 29.5	
	baz=206,slow=75,SNR=7.6						
H08S3	Diego Garcia H	27.47	32	T	T	06 02 27.7	
	baz=206,slow=75,SNR=10.0						
H01W2	Cape Leeuwin H	46.51	110	T	T	06 26 21.6	
	baz=257						
H01W3	Cape Leeuwin H	46.51	110	T	T	06 26 21.6	
	baz=257						
H01W1	Cape Leeuwin H	46.52	110	T	T	06 26 23.3	
	baz=257						
QSPA	South Pole Qui	58.50	180	P	P	05 38 16.2	+0.9
QSPA				IAmb	IAmb	05 38 24.6	
	comp=Z,9.1nm,1.4s						
QSPA	South Pole Qui	58.50	180	P	P	05 38 16.3	+0.9
	comp=Z,1.0nm,0.7s,baz=294,slow=1.8,SNR=7.7						
	comp=Z,1.0nm,0.7s						
CMAR	Chiang Mai Arr	63.45	44	P	P	05 38 48.7	-0.7
CMAR	Chiang Mai Arr	63.45	44	P	P	05 38 50.0	+0.6
	comp=Z,1.5nm,0.6s,baz=235,slow=7.2,SNR=8.4						
	comp=Z,1.5nm,0.6s						
ASAR	Alice Springs	66.48	104	P	P	05 39 08.9	-0.4
ASAR	Alice Springs	66.48	104	P	P	05 39 09.3	0.0
	comp=Z,1.1nm,0.6s,baz=240,slow=5.7,SNR=10						
	comp=Z,1.1nm,0.6s						
WRA	Warramunga Arr	68.48	101	P	P	05 39 21.9	-0.1
	comp=Z,1.7nm,0.7s,baz=244,slow=5.5,SNR=7.4						
	comp=Z,1.7nm,0.7s						
WB2	Warramunga Arr	68.49	101	P	P	05 39 21.3	-0.7
WB0	Warramunga Arr	68.61	101	P	P	05 39 21.5	-1.2
WB0				IAmb	IAmb	05 39 29.9	
	comp=Z,7.6nm,1.3s						
WR0	Warramunga Arr	68.64	101	P	P	05 39 22.5	-0.5
KKAR	Karatay Array	75.29	9	P	P	05 40 02.4	+0.2
ABKAR	Akbulak array	80.58	1	P	P	05 40 32.1	+0.7
KURBB	Kurchatov Arra	83.92	13	P	P	05 40 49.6	+0.8
	comp=Z,1.3nm,0.9s,baz=208,slow=5.8,SNR=9.4						
	comp=Z,1.3nm,0.9s						
KURK	Kurchatov	84.03	13	P	P	05 40 49.6	+0.2
KURK				IAmb	IAmb	05 40 52.3	
	comp=Z,2.8nm,0.9s						
BVAR	Borovoye Array	85.03	7	P	P	05 40 55.3	+0.9
	comp=Z,2.8nm,0.8s,baz=180,slow=6.8,SNR=12						
	comp=Z,2.8nm,0.8s						
IL31		143.47	18	PKPdf	PKPdf	05 47 53.5	+0.4
ILAR	Eielson Array	143.47	18	PKPdf	PKPdf	05 47 52.4	-0.7
J26L	Joseph Creek	144.51	16		PKPdf	05 47 54.7	-0.4
I30M	Mount Dempster	145.27	11		PKPdf	05 47 56.9	+0.5
J30M	Hart River	145.88	11		PKiKP	05 47 59.8	-1.8
PAH	Pahoa	148.02	104		PKPdf	05 48 02.3	0.0
YKA	Yellowknife Ar	148.80	353	PKPbc	PKiKP	05 48 06.1	-1.4
	comp=Z,0.7nm,0.6s,baz=12,slow=3.4,SNR=3.5						

*BJI **10** 05:33:29.8±0.0,31°.50S×58°.37E,h6km,mb4.9/28, mB5.4/4,Ms4.9/2*

*IDC **10** 05:33:30.0±0.5,31°.67S×58°.29E,h0km,mb4.5/19, mbtmp4.5/20,ML4.3/1,MS4.1/24,Error ellipse: s-maj=18.8km s-min=14.3km az=81.0*

*NEIC **10** 05:33:31.2±1.5,31°.65S±0°.10×58°.1E±0°.1,h10km±1km, mb4.8/60,Error ellipse: s-maj=16.4km s-min=15.8km az=50.0*

*GCMT **10** 05:33:32.2±0.3,31°.68S±0°.02×58°.08E±0°.03,h15km±1km, MW5.0/99,Moment Tensor Solution. s34,c41; s99,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.54±.21; $M_{\theta\theta}$3.07±.14; $M_{\phi\phi}$0.46±.12; $M_{r\theta}$0.89±.26; $M_{\phi\theta}$0.14±.08; $M_{\phi r}$-0.16±.30; Best double couple: M=3.42900×10^{16} NP1:ϕ_s270.00000°,δ53.00000°,λ-87.00000°. NP2: ϕ_s84.00000°,δ38.00000°,λ-94.00000°. Principal axes: T 3.1930, Plg7.0000°, Azm358.0000°; N 0.4690, Plg3.0000°, Azm88.0000°; P -3.6650, Plg82.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 05:33:31.4±0.3,31°.61S±0°.07×58°.12E±0°.07,h10km,n365, σ1§04/321,mb4.8/67,MS4.1/26,4C-1D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.62	348	Pn	Pn	05 36 01.2	-2.5
FOMA	Nahampoana Res	11.83	301	Pn	Pn	05 36 19.7	-0.5
VOI	Vohitsoka	13.98	311	Pn	Pn	05 36 49.1	-0.6
H04N2	CROZET ISLANDS	15.34	197	T	T	05 53 10.0	
	baz=22,slow=75,SNR=45						
H04N1	CROZET ISLANDS	15.34	197	T	T	05 53 11.2	
	baz=22,slow=75,SNR=42						
H04N3	CROZET ISLANDS	15.36	197	T	T	05 53 11.2	
	baz=22,slow=75,SNR=40						
ABPO	Ambohimpanom	15.93	319	Pn	Pn	05 37 15.7	-0.1
OPO	Ambohidratompo	16.31	320	Pn	Pn	05 37 22.7	+1.9
	0.1nm,0.3s,baz=130,slow=8.0,SNR=9.4						
OPO				Sn	Sn	05 40 14.9	-7.0
	0.1nm,0.3s,baz=72,slow=11,SNR=2.4						
OPO				LR	LR	05 42 17.3	
	comp=Z,493nm,18.2s,baz=18,slow=32						
	19nm,0.9s						
H08S1	Diego Carcia H	27.34	32	T	T	06 07 31.8	
	baz=206,slow=75,SNR=34						
H08S2	Diego Garcia H	27.35	32	T	T	06

BOSA LR LR 05 48 21.9
comp=Z,177nm,21.7s,baz=120,slow=31
1.8nm,0.8s
BOSA Boshof 28.53 267 P P 05 39 30.0 +2.6
SUR Sutherland 31.55 259 LR LR 05 50 09.9
comp=Z,308nm,21.5s,baz=112,slow=32
MAW Mawson 36.14 177 P **P 05 40 33.7 +0.4**
5.1nm,1.1s,baz=0.0,slow=12,SNR=6.1
MAW LR LR 05 51 29.7
comp=Z,368nm,21.3s,baz=345,slow=30
5.1nm,1.1s
TSUM Tsumeb 38.44 279 P P 05 40 52.7 -0.9
TSUM Tsumeb 38.44 279 LR LR 05 55 09.5
comp=Z,253nm,20.1s,baz=150,slow=34
LODK Lodwar 41.02 324 P P 05 41 17.1 +2.1
PALK Pallekele 44.27 33 LR LR 05 55 52.5
comp=Z,180nm,20.1s,baz=136,slow=30
FURI Furi 44.37 332 LR LR 05 58 27.4
comp=Z,141nm,19.8s,baz=166,slow=34
ATD Arta Tunnel 45.32 339 LR LR 05 57 37.0
comp=Z,18nm,20.1s,baz=172,slow=32
H01W2 Cape Leeuwin H 46.44 110 T T 06 31 35.2
baz=257
H01W3 Cape Leeuwin H 46.45 110 T T 06 31 36.2
baz=257
H01W1 Cape Leeuwin H 46.46 110 T T 06 31 36.2
baz=257
NWAO Narrogin (SRO) 49.42 108 P P 05 42 21.2 -0.3
NWAO Narrogin (SRO) 49.42 108 LR LR 05 58 55.1
comp=Z,120nm,19.0s,baz=190,slow=31
TROLL Troll, Antarti 49.79 200 ⇑P **P 05 42 23.5 -0.4**
comp=Z,63nm,0.8s
GIRL Giralia 50.27 94 P P 05 42 26.4 -1.8
SNAA Sanae 51.26 201 P P 05 42 33.8 -1.2
SNAA Sanae 51.26 201 ⇑P **P 05 42 34.3 -0.7**
comp=Z,69nm,0.9s
SNAA Sanae 51.26 201 P P 05 42 34.6 -0.4
comp=Z,3.0nm,0.9s,baz=72,slow=7.0,SNR=9.1
SNAA LR LR 05 59 25.2
comp=Z,201nm,21.3s,baz=103,slow=30
comp=Z,3.0nm,0.9s
VNA2 Neumayer--Watz 52.50 202 ⇑P **P 05 42 43.7 -0.4**
comp=Z,2.2nm,0.6s,baz=62,slow=2.0
VNA3 Neumayer Olymp 53.29 202 ⇑P **P 05 42 49.2 -0.8**
comp=Z,4.1nm,0.8s
WSAR Wadi Sarin 54.54 1 LR LR 06 00 33.9
comp=Z,258nm,21.0s,baz=191,slow=30
PSA00 Pilbara Seismi 55.47 96 P P 05 43 05.5 -1.0
PSA00 IAmb IAmb 05 43 23.2
comp=Z,13nm,1.2s
MBWA Marble Bar 55.54 95 P P 05 43 06.2 -0.9
RAYN Ar Rayn 56.13 346 P P 05 43 10.1 -1.1
QSPA South Pole Qui 58.56 180 P P 05 43 27.7 -0.3
QSPA South Pole Qui 58.56 180 P P 05 43 27.5 -0.5
comp=Z,8.6nm,1.0s,baz=274,slow=1.9,SNR=12
QSPA LR LR 06 05 34.5
comp=Z,255nm,21.1s,baz=290,slow=33
comp=Z,8.6nm,1.0s
FORT Forrest 58.84 109 P P 05 43 29.6 -0.6
BELA Belgrano 2 59.93 194 P P 05 43 36.0 -1.1
BELA IAmb IAmb 05 43 38.3
comp=Z,5.9nm,1.4s
FITZ Fitzroy Crossi 61.88 95 P P 05 43 50.9 -0.3
VNDA Vanda 62.29 166 P P 05 43 51.8 -1.3
VNDA IAmb IAmb 05 44 01.2
comp=Z,10nm,1.4s
VNDA Vanda 62.29 166 P P 05 43 52.1 -1.0
comp=Z,1.3nm,0.9s,baz=265,slow=10,SNR=4.7
comp=Z,1.3nm,0.9s
SBA Scott Base 63.13 167 P P 05 43 57.6 -1.1
SBA IAmb IAmb 05 44 11.9
comp=Z,7.8nm,1.2s
KAPI Kappang 63.31 79 LR LR 06 08 41.8
comp=Z,44nm,18.6s,baz=23,slow=33
CM31 Chiang Mai Arr 63.34 44 P P 05 44 00.2 -0.6
CMAR Chiang Mai Arr 63.34 44 P P 05 43 59.6 -1.2
CMAR Chiang Mai Arr 63.34 44 P P 05 44 01.4 +0.6
comp=Z,9.5nm,0.8s,baz=230,slow=7.0,SNR=41
CMAR LR LR 06 06 25.4
comp=Z,135nm,21.9s,baz=225,slow=31
comp=Z,9.5nm,0.8s
CHTO Chiang Mai 63.61 44 P P 05 44 02.4 -0.3
CHTO IAmb IAmb 05 44 03.9
comp=Z,19nm,1.5s
EIL Elat 64.80 338 LR LR 06 08 36.9
comp=Z,134nm,19.6s,baz=65,slow=32
SHL Shillong 65.36 34 P P 05 44 14.3 +0.1
CRAI Chiangrai 65.55 44 P P 05 44 15.5 +0.1
CRAI IAmb IAmb 05 44 24.5
comp=Z,6.9nm,0.9s
ASAR Alice Springs 66.40 104 P P 05 44 19.1 -1.8
ASAR Alice Springs 66.40 104 P P 05 44 20.2 -0.7
comp=Z,7.6nm,0.8s,baz=238,slow=6.1,SNR=61
comp=Z,7.6nm,0.8s
AS31 Alice Springs 66.40 104 P P 05 44 19.3 -1.7
KBL Kabul 66.59 10 P P 05 44 21.9 -0.1
MMAI Mount Meron Ar 67.76 339 P P 05 44 31.1 +1.9
comp=Z,0.7nm,0.2s,baz=144,slow=7.2,SNR=4.1
comp=Z,0.7nm,0.2s
WRA Warramunga Arr 68.40 101 P P 05 44 32.3 -1.4
WRA Warramunga Arr 68.40 101 P P 05 44 33.0 -0.7
comp=Z,10nm,0.8s,baz=242,slow=5.5,SNR=39
WRA LR LR 06 10 25.4
comp=Z,80nm,19.6s,baz=284,slow=32
comp=Z,10nm,0.8s
WB2 Warramunga Arr 68.41 101 P P 05 44 32.4 -1.4
WRAB Tennant Creek 68.42 101 P P 05 44 32.3 -1.5
SLVN Son La 68.52 46 P P 05 44 33.1 -1.2
SLVN IAmb IAmb 05 44 43.8
comp=Z,12nm,1.0s
WB0 Warramunga Arr 68.53 101 P P 05 44 32.3 -2.1
WR0 Warramunga Arr 68.56 101 P P 05 44 33.6 -1.0
SIMJ Simiganj 70.64 9 P P 05 44 47.8 +0.8
CHGR Chuyangaron 70.66 9 P P 05 44 47.6 +0.5
DBIC Dimbokro 71.04 291 P P 05 44 50.9 +1.0
comp=Z,6.9nm,0.9s,baz=146,slow=5.7,SNR=3.8
DBIC LR LR 06 13 55.5
comp=Z,84nm,19.1s,baz=86,slow=34
comp=Z,6.9nm,0.9s
GAR Garm 71.16 10 P P 05 44 49.8 -0.4
GAR IAmb IAmb 05 44 58.6
comp=Z,14nm,1.2s
DRK Karamyk 71.86 11 P P 05 44 55.2 +0.6
BTK Batken 72.27 10 P P 05 44 58.4 +1.6
BTK IAmb IAmb 05 45 03.1
comp=Z,10.0nm,1.1s
GNI Garni 72.47 349 LR LR 06 14 11.4
comp=Z,162nm,21.3s,baz=134,slow=34
KSH Kashi 72.68 14 P P 05 44 57.2 -2.1
KSH sP pwP 05 45 05.2 0.0
KSH PcP **PcP 05 45 14.1 -2.6**
KSH pmax pmax
comp=Z,10.0nm,0.9s
ARPR Arapgir-MALATY 72.71 344 P P 05 44 59.6 +0.1
ARPR IAmb IAmb 05 45 10.0
comp=Z,21nm,1.5s
PMSA Palmer Station 73.95 202 LR LR 06 10 11.8
comp=Z,145nm,19.8s,baz=154,slow=30
BRTR Keskin Array B 74.52 341 P P 05 45 09.5 -0.7
BRTR Keskin Array B 74.52 341 P P 05 45 10.7 +0.5
comp=Z,2.8nm,0.9s,baz=169,slow=8.3,SNR=14
comp=Z,2.8nm,0.9s
BR131 Keskin Array S 74.52 341 P P 05 45 10.4 +0.2
ONI Oni 75.06 349 P P 05 45 13.2 +0.1
ONI IAmb IAmb 05 45 29.6
comp=Z,7.5nm,1.2s
TARG Taragay, Kyrgy 75.20 15 P P 05 45 13.2 -1.2
KK31 Karatay Array 75.21 9 P P 05 45 13.9 -0.1
KK31 IAmb IAmb 05 45 16.2
comp=Z,15nm,1.2s
KKAR Karatay Array 75.21 9 P P 05 45 13.7 -0.2
AAK Ala-Archa 75.40 12 P P 05 45 16.1 +0.9
AAK IAmb IAmb 05 45 25.7
comp=Z,23nm,1.4s
AAK Ala-Archa 75.40 12 LR LR 06 15 13.0
comp=Z,186nm,21.6s,baz=173,slow=33
BOOM Boomskoye usch 75.53 14 P P 05 45 14.7 -1.3
BOOM IAmb IAmb 05 45 18.1
comp=Z,6.5nm,1.0s
KBZ Khabaz 76.26 349 P P 05 45 21.1 +1.3
comp=Z,1.0nm,0.6s,baz=208,slow=6.9,SNR=4.1
KBZ LR LR 06 18 50.4
comp=Z,108nm,18.5s,baz=68,slow=36
comp=Z,1.0nm,0.6s
CTA Charters Tower 78.22 106 LR LR 06 16 02.9
comp=Z,6.0nm,20.7s,baz=268,slow=33

WMQ Urumqi 79.79 21 *e*P **P 05 45 42.6 +3.0**
WMQ LR LR
comp=Z,480nm,23.9s
LZH Lanzhou 79.82 36 *e*P **P 05 45 40.8 +0.7**
LZH pP sP 05 45 45.3 +2.6
LZH pmax pmax
comp=Z,12nm,1.5s
ABKAR Akbulak array 80.52 1 P **P 05 45 42.9 -0.4**
ABKAR Akbulak array 80.52 1 IAmb IAmb 05 45 45.0
comp=Z,17nm,1.3s
GTA Gaotai 80.57 31 *e*P **P 05 45 44.9 +0.9**
GTA sP pwP 05 45 52.7 +1.1
GTA pmax pmax
comp=Z,11nm,1.0s
MAKZ Makanchi 80.97 16 P **P 05 45 45.6 -0.2**
MAKZ IAmb IAmb 05 45 49.6
comp=Z,12nm,1.3s
MK31 Makanchi Array 81.03 17 P P 05 45 45.8 -0.4
MKAR Makanchi Array 81.03 17 P P 05 45 45.2 -1.0
MKAR Makanchi Array 81.03 17 P **P 05 45 46.2 +0.1**
comp=Z,2.3nm,0.9s,baz=208,slow=4.9,SNR=15
MKAR LR LR 06 19 15.0
comp=Z,92nm,18.3s,baz=105,slow=34
comp=Z,2.3nm,0.9s
ISR Istrita 81.59 338 P P 05 45 49.3 +0.1
comp=Z,13nm,1.1s
MLR Muntele Rosu 82.11 338 IAmb IAmb 05 45 54.8
comp=Z,17nm,1.2s
VRI Vrincioaia 82.19 338 P P 05 45 52.7 +0.4
comp=Z,24nm,1.1s
RPZ Rata Peaks 83.22 138 LR LR 06 15 08.8
comp=Z,267nm,19.6s,baz=246,slow=30
KURBB Kurchatov Arra 83.84 13 P P 05 46 01.3 +0.7
comp=Z,12nm,1.1s,baz=205,slow=5.9,SNR=50
comp=Z,12nm,1.1s
KURK Kurchatov 83.94 13 P P 05 46 01.4 +0.2
BURAR Bucovina Array 84.23 338 P P 05 46 03.2 +0.3
BUR08 Bucovina Ar. S 84.26 338 P P 05 46 04.0 +0.9
BUR08 IAmb IAmb 05 46 06.4
comp=Z,5.3nm,1.2s
BVAR Borovoye Array 84.95 7 P P 05 46 07.3 +1.0
comp=Z,14nm,0.8s,baz=172,slow=5.4,SNR=64
comp=Z,14nm,0.8s
BRVK Borovoye 84.97 7 P P 05 46 06.7 +0.3
NJ2 Nanjing 85.48 48 *e*P **P 05 46 11.6 +2.2**
NJ2 pP **PcP 05 46 15.0 +2.6**
NJ2 pmax pmax
comp=Z,11nm,0.6s
KIEV Kiev 85.84 342 P P 05 46 08.8 -1.9
KIEV IAmb IAmb 05 46 11.6
comp=Z,7.6nm,1.1s
AKASG Malin Array Be 85.84 342 P P 05 46 10.0 -0.7
comp=Z,1.3nm,0.7s,baz=175,slow=4.6,SNR=6.6
comp=Z,1.3nm,0.7s
AKBB Malin Array Si 85.84 342 IAmb IAmb 05 46 11.6
comp=Z,8.6nm,1.1s
HNS HongShan 86.63 42 ⇓P **P 05 46 15.2 +0.3**
HNS pmax pmax
comp=Z,21nm,1.0s
SOKA Soboth 87.09 332 *i* P **P 05 46 17.9 +0.8**
comp=Z,7.2nm,1.4s
OBKA Obir 87.15 332 *e*P **P 05 46 17.4 0.0**
comp=Z,8.7nm,1.1s
MDT Midelt 87.25 311 LR LR 06 26 22.1
comp=Z,223nm,18.2s,baz=118,slow=36
ARSA Arzberg 87.36 333 *i* P **P 05 46 19.2 +0.8**
comp=Z,3.5nm,0.8s
HHC Hu-ho-hao-te 87.38 38 *e*P **P 05 46 19.3 +0.6**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,250nm,7.1s
RONA Rosalia, Austr 87.43 333 *i* P **P 05 46 20.0 +1.3**
comp=Z,13nm,1.6s
MYKA Terra Mystica 87.62 331 *e*P **P 05 46 21.8 +2.2**
comp=Z,4.5nm,1.1s
ARU Arti 87.69 0 P **P 05 46 20.3 +0.7**
CONA Conrad Observa 87.78 333 *e*P **P 05 46 21.3 +0.9**
comp=Z,16nm,1.4s
JAVC Velka Javorina 87.87 335 *e*P **P 05 46 21.8 +1.0**
KBA Koelnbreinsper 88.10 331 *i* P **P 05 46 23.0 +0.9**
comp=Z,6.7nm,1.3s
ABTA Abfaltersbach 88.18 331 *i* P **P 05 46 23.6 +1.3**
comp=Z,8.6nm,0.7s
ZAA0 Zalesovo Array 88.29 15 P **P 05 46 21.8 -0.7**
ZAA0 IAmb IAmb 05 46 23.7
comp=Z,9.2nm,1.2s
ZALV Zalesovo Beam 88.29 15 P P 05 46 21.5 -1.0
ZALV Zalesovo Beam 88.29 15 P **P 05 46 21.9 -0.6**
comp=Z,2.8nm,0.9s,baz=238,slow=2.8,SNR=10
comp=Z,2.8nm,0.9s
MOA Molln 88.34 332 *i* P **P 05 46 23.8 +0.8**
comp=Z,13nm,1.5s
BIOA Bad Ischl, Aus 88.47 332 *i* P **P 05 46 24.1 +0.5**
comp=Z,4.5nm,0.7s
KRUC Moravsky 88.51 334 *e*P **P 05 46 23.6 -0.1**
VRAC Vranov 88.64 334 *e*P **P 05 46 24.5 +0.1**
LESA Schwarzleotal 88.65 331 *i* P **P 05 46 25.0 +0.5**
comp=Z,7.5nm,0.8s
MORC Moravsky Berou 88.68 335 *e*P **P 05 46 24.6 0.0**
WTTA Wattenberg 88.96 330 *i* P **P 05 46 26.3 +0.2**
comp=Z,12nm,1.1s
WATA Walderalm 89.04 330 *e*P **P 05 46 26.8 +0.3**
comp=Z,5.8nm,0.6s
SQTA Sankt Quirin 89.10 330 *i* P **P 05 46 27.4 +0.7**
comp=Z,12nm,1.0s
FETA Feichten 89.15 330 *i* P **P 05 46 27.6 +0.6**
comp=Z,10nm,1.3s
TUE Stuetta 89.33 329 IAmb IAmb 05 46 29.3
comp=Z,4.1nm,0.7s
RETA Reute 89.50 330 *i* P **P 05 46 29.3 +0.7**
comp=Z,8.0nm,0.9s
DAVA Damuels 89.72 329 *i* P **P 05 46 30.5 +0.8**
comp=Z,5.7nm,0.9s
SONM Songino Array 90.16 30 P **P 05 46 31.6 0.0**
comp=Z,1.3nm,0.5s,baz=202,slow=4.6,SNR=11
comp=Z,1.3nm,0.5s
ESDC Sonseca Array 91.34 317 P **P 05 46 37.0 -0.3**
ESDC IAmb IAmb 05 46 39.9
comp=Z,5.4nm,1.2s
ESDC Sonseca Array 91.34 317 P **P 05 46 39.0 +1.7**
comp=Z,1.7nm,0.9s,baz=132,slow=3.7,SNR=12
comp=Z,1.7nm,0.9s
CLL Collm 91.61 334 *e*P **P 05 46 39.0 +0.9**
DZM Mont Dzumac 93.09 118 *e*LR LR 06 16 39.3
comp=Z,90nm,22.9s
BDFB Brasilia 95.09 248 LR LR 06 23 52.1
comp=Z,89nm,18.1s,baz=288,slow=32
HEH HeiHe 101.90 38 *e*P **Pdif 05 47 30.8 +6.0**
PPT2 Papeete2 124.33 148 *e*LR LR 06 30 56.1
comp=Z,116nm,25.2s
PPT2 *e*LR LR 06 31 10.0
comp=Z,96nm,24.8s
ILAR Eielson Array 143.38 18 PKhKP PKPpre 05 53 01.3
comp=Z,0.5nm,0.8s,baz=314,slow=2.5,SNR=4.9
ILAR PKP pPKPdf 05 53 07.2 0.0
comp=Z,1.2nm,0.9s,baz=38,slow=1.0,SNR=8.1
F31M Tsiigehtchic 143.45 8 P PKPbc 05 53 03.0 +0.6
baz=343,SNR=5.8
MCK McKinley 143.62 20 P PKPbc 05 53 04.1 +0.9
baz=319
HDA Harding Lake 143.65 18 P PKPbc 05 53 04.3 +1.1
baz=322
N19K Bonanza Creek 143.79 27 P PKPbc 05 53 04.1 +0.2
baz=309
I26K Coal Creek Min 143.83 15 P PKPbc 05 53 04.4 +0.7
baz=328
G31M Satah River 143.88 8 P PKPbc 05 53 05.3 +1.5
baz=342,SNR=6.6
J25K Salcha River, 143.89 17 P PKPbc 05 53 04.9 +0.9
baz=325
I27K Kandik River 143.90 14 P PKPbc 05 53 04.8 +0.9
baz=331
H29M Whitestone 143.95 11 P PKPbc 05 53 05.5 +1.5
baz=336,SNR=5.9
P17K Kvichak River 143.98 30 P PKPbc 05 53 05.3 +1.0
baz=304
S14K Fog Glacier 144.05 35 P PKPbc 05 53 05.8 +1.0
baz=297
EPYK Eagle Plains 144.07 10 P PKPbc 05 53 05.3 +0.9
baz=338,SNR=8.1
SKT Skwentna 144.08 23 P PKPbc 05 53 05.2 +0.7
baz=314
O18K Koktuh Hills 144.10 28 P PKPbc 05 53 05.3 +0.6
baz=307
O19K Port Alsworth 144.24 27 P PKPbc 05 53 05.6 +0.6
baz=308

I28M Miner Creek 144.37 13 P **PKPab 05 53 05.5 +0.4**
baz=333,SNR=6.8
P18K Big Mountain, 144.37 29 P **PKPab 05 53 05.4 +0.1**
baz=306
N20K Mount Spurr 144.38 25 P **PKPab 05 53 06.0 +0.7**
baz=312
SPCR Spurr Chakacha 144.38 25 P **PKPab 05 53 06.0 +0.7**
baz=312
J26L Joseph Creek 144.42 16 P **PKPab 05 53 05.0 -0.4**
baz=327,SNR=9.0
WAT1 Susitna Watana 144.42 21 P **PKPab 05 53 04.9 -0.5**
baz=319
K24K Donnelly Dome 144.45 18 P **PKPab 05 53 05.1 -0.4**
baz=323
DHY Denali Highway 144.58 20 P **PKPab 05 53 05.5 -0.6**
baz=321
SUA Susitna One 144.71 24 P **PKPab 05 53 06.0 -0.6**
baz=314,SNR=10
EGAK Eagle 144.72 14 P **PKPab 05 53 06.1 -0.2**
baz=331,SNR=6.6
M22K Willow 144.72 23 P **PKPab 05 53 06.1 -0.3**
baz=316,SNR=6.1
I29M Ogilvie Camp, 144.74 12 P **PKPab 05 53 06.5 +0.1**
baz=335,SNR=13
SCRK Sand Creek 144.76 17 P **PKPab 05 53 06.7 0.0**
baz=326,SNR=15
WAT6 Susitna Watana 144.86 21 P **PKPab 05 53 06.8 -0.4**
baz=320,SNR=6.4
R17L Mt. Peulik Vol 144.88 32 P **PKPab 05 53 07.2 0.0**
baz=303
Q18K Katmai Hardscr 144.90 30 P **PKPab 05 53 07.3 -0.1**
baz=306
NHSC New Hope 144.91 284 P **PKPab 05 53 07.5 -0.5**
baz=99
O20K Slope Mountain 144.97 27 P PKPbc 05 53 06.7 -0.8
baz=310
P19K Oil Pt 145.01 27 P **PKPbc 05 53 06.6 -1.0**
baz=309
CAPN Captain Cook N 145.05 25 P **PKPbc 05 53 06.7 -0.9**
baz=313
PMR Palmer 145.16 23 P **PKPbc 05 53 07.3 -0.6**
baz=317,SNR=5.3
MCWV Mont Chateau 145.16 295 P **PKPbc 05 53 07.0 -1.7**
baz=90
K27K Chicken 145.17 15 P **PKPab 05 53 08.6 +0.6**
baz=329
ERPA Erie 145.19 300 P **PKPbc 05 53 07.8 -1.0**
baz=86
I30M Mount Dempster 145.19 11 P **PKPbc 05 53 08.1 -0.1**
baz=338,SNR=36
PAX Paxson 145.20 19 P **PKPbc 05 53 08.2 0.0**
baz=323,SNR=18
SML Sawmill 145.26 22 P **PKPbc 05 53 08.0 -0.4**
baz=318,SNR=5.9
Q19K Cape Douglas, 145.30 29 P **PKPbc 05 53 08.7 +0.1**
baz=308
RC01 Rabbit Creek A 145.32 24 P **PKPbc 05 53 08.7 +0.2**
baz=315
M23K Glacier View 145.46 21 P **PKPdf 05 53 08.9 0.0**
baz=319
KNK Knik Glacier 145.51 22 P **PKPdf 05 53 09.0 0.0**
baz=318
BLA Blacksburg 145.55 291 P **PKPdf 05 53 09.0 -1.0**
baz=93
SCM Sheep Creek Mo 145.55 21 P **PKPdf 05 53 09.3 +0.1**
baz=320
J29N Klondike Camp 145.59 12 P **PKPdf 05 53 09.5 +0.3**
baz=335
HOM Homer 145.62 27 P **PKPbc 05 53 10.0 +0.5**
baz=311
M24K Tolsona, Glenn 145.69 20 P **PKPbc 05 53 10.1 +0.4**
baz=321
DAWY Dawson 145.71 14 P **PKPdf 05 53 09.9 +0.6**
baz=333,SNR=16
L26K Log Cabin Wild 145.71 17 P **PKPbc 05 53 10.4 +0.6**
baz=326
M53A WI Miller and 145.75 298 P **PKPdf 05 53 10.0 -0.1**
baz=87
HARP HAARP 145.75 19 P **PKPab 05 53 10.6 +0.4**
baz=323
O22K Cooper Landing 145.76 24 P **PKPbc 05 53 10.3 +0.4**
baz=315
R18K Karluk 145.77 31 P **PKPdf 05 53 09.6 +0.1**
baz=305
J30M Hart River 145.80 11 P **PKPdf 05 53 09.2 -0.4**
baz=338,SNR=21
BRSE Bradley Lake S 145.91 26 P **PKPdf 05 53 09.8 0.0**
baz=313
L27K Beaver Creek, 146.06 16 P **PKPdf 05 53 10.6 +0.7**
baz=328,SNR=9.6
KMSC Kings Mountain 146.12 287 P **PKPdf 05 53 11.0 +0.1**
baz=96
SEW Seward 146.12 25 P **PKPbc 05 53 11.1 +0.1**
baz=315
CHIR Chirikof Islan 146.19 34 P **PKPbc 05 53 11.6 +0.2**
baz=302
O53A New Philadelph 146.20 296 P **PKPdf 05 53 10.9 0.0**
baz=88
KLU Klutina 146.24 21 P **PKPdf 05 53 11.3 +0.9**
baz=321
K29M Barlow Dome 146.27 12 P **PKPbc 05 53 11.9 +0.3**
baz=336,SNR=12
M26K Nabesna, AK 146.32 18 P **PKPbc 05 53 12.1 +0.4**
baz=326
GLI Glacier Island 146.35 22 P **PKPbc 05 53 12.3 +0.5**
baz=319
KDAK Kodiak Island 146.45 30 P **PKPbc 05 53 12.1 0.0**
baz=308
N25K Chitina, Valde 146.54 20 P **PKPbc 05 53 12.8 +0.4**
baz=323,SNR=10
M27K Edge Creek, AK 146.65 17 P **PKPbc 05 53 13.3 +0.6**
baz=328
L29M L29M 146.82 13 P **PKPbc 05 53 13.3 +0.2**
baz=334
P23K Montague Islan 146.91 23 P **PKPbc 05 53 13.7 +0.4**
baz=318
P52A Corning 146.93 295 P **PKPdf 05 53 13.3 +1.2**
baz=89
EYAK Cordova Ski Ar 147.03 22 P **PKPbc 05 53 13.6 -0.1**
baz=320
BMRM Bremner River 147.05 20 P **PKPbc 05 53 14.0 +0.2**
baz=323
MCARA McCarthy VSAT 147.16 19 P **PKPbc 05 53 13.6 -0.5**
baz=325
M29M Somme Creek 147.35 14 P **PKPbc 05 53 15.1 +0.4**
baz=333
TIGA Tifton 147.47 280 P **PKPbc 05 53 15.2 -0.6**
baz=101
YUK3 Moose Creek 147.49 16 P **PKPbc 05 53 15.3 +0.1**
baz=330
M30M Minto, Yukon 147.56 13 P **PKPbc 05 53 14.8 -0.4**
baz=336
GOGA Godfrey 147.68 284 P **PKPdf 05 53 14.9 +1.3**
baz=98
Q23K Middleton Isla 147.69 23 P **PKPbc 05 53 16.2 +0.7**
baz=318
TEIG Tepich 147.85 258 PKPbc **PKPbc 05 53 16.5 -0.6**
comp=Z,9.8nm,0.9s,baz=186,slow=2.9,SNR=5.7
KAIM Kayak Island 147.94 21 P **PKPbc 05 53 17.5 +1.3**
baz=322
CTG Chitna Glacier 147.96 18 P **PKPbc 05 53 16.4 0.0**
baz=328
GLMI Grayling 148.18 305 P **PKPbc 05 53 17.2 -0.1**
baz=78
YUK4 Talbot Arm 148.29 15 P **PKPbc 05 53 17.3 -0.1**
baz=332
M31M Drury Creek, Y 148.34 11 P **PKPbc 05 53 16.9 -0.3**
baz=339
WRGLY Wrigley 148.35 1 P **PKPbc 05 53 17.0 -0.1**
baz=357
O28M Mount Upton 148.42 17 P **PKPbc 05 53 17.6 -0.2**
baz=329
MESA MESA 148.46 19 P **PKPbc 05 53 17.7 -0.1**
baz=326
FARO Faro, Yukon 148.48 10 P **PKPbc 05 53 17.9 +0.3**
baz=341
N30M Aishikik Lake 148.53 14 P **PKPbc 05 53 17.5 -0.3**
baz=334
YKA Yellowknife Ar 148.75 353 PKPbc **PKPbc 05 53 17.8 -0.4**
comp=Z,5.8nm,0.8s,baz=1.5,slow=2.5,SNR=22
N31M Braeburn, Yuko 148.76 13 P **PKPbc 05 53 18.5 +0.1**
baz=337
P49A Miami Univ. Ec 148.93 295 P **PKPbc 05 53 18.0 -1.4**
baz=87
PINM Pinnacle 148.99 18 P **PKPbc 05 53 18.8 -0.2**
baz=328
HYT Haines Junctio 149.01 15 P **PKPbc 05 53 19.5 +0.4**
baz=333

O48B	Farmland	149.22	297	P	PKPbc	05 53 20.4	+0.3
	baz=86						
O29M	Mount Kennedy	149.23	16	P	PKiKP	05 53 20.9	0.0
	baz=331						
O30N	Mendenhall	149.36	14	P	PKPbc	05 53 19.9	0.0
	baz=336						
N32M	Quiet Lake	149.54	11	P	PKPbc	05 53 21.1	+0.7
	baz=341						
PNL	Peninsula	149.58	18	P	PKiKP	05 53 21.8	+0.3
	baz=329						
P30M	Million Dollar	149.76	15	P	PKiKP	05 53 22.5	+0.6
	baz=334						
TGTN	Hyland Airport	149.78	6	P	PKiKP	05 53 22.3	+0.4
	baz=349						
P29M	Windy Craggy	150.02	16	P	PKiKP	05 53 22.7	+0.3
	baz=332						
WCI	Wyandotte Cave	150.22	293	P	PKPbc	05 53 23.1	+0.5
	baz=88						
BRAL	Brewton	150.34	278	P	PKPbc	05 53 22.9	-0.2
	baz=100						
P33M	Teslin, Yukon	150.48	11	P	PKiKP	05 53 24.2	+0.8
	baz=341						
PLBC	Pleasant Camp	150.49	15	P	PKiKP	05 53 23.8	+0.5
	baz=334						
LRAL	Lakeview Retre	150.57	282	P	PKPbc	05 53 23.1	-0.6
	baz=97						
SFIN	Lafayette	150.68	297	P	PKPbc	05 53 24.0	+0.3
	baz=84						
SKAG	Skagway	150.71	14	P	PKiKP	05 53 25.1	+1.4
	baz=336						
P32M	Atlin	150.91	12	P	PKiKP	05 53 25.4	+1.2
	baz=339						
WVT	Waverly	151.46	288	P	PKPbc	05 53 25.8	+0.2
	baz=91						
R33M	Jennings River	151.54	10	P	PKPbc	05 53 26.0	+0.7
	baz=344						
R31K	City Hall, Gus	151.58	15	P	PKiKP	05 53 26.0	+0.5
	baz=334						
Q32M	Nakina River	151.75	11	P	PKPbc	05 53 25.9	+0.1
	baz=341						
EYMN	Ely	151.76	314	P	PKPbc	05 53 25.5	-0.4
	baz=66						
S31K	Pelican	151.87	16	P	PKPbc	05 53 25.4	-0.4
	baz=333						
R32K	Eaglecrest	151.97	14	P	PKPbc	05 53 26.6	+0.5
	baz=336						
LIRD	Liard River Hi	152.05	5	P	PKPbc	05 53 26.7	+0.5
	baz=352						
HDIL	Hopedale	152.32	298	P	PKPbc	05 53 27.1	-0.3
	baz=82						
JFWS	Jewell Farm	152.57	303	P	PKPbc	05 53 26.8	-1.1
	baz=76						
DLBC	Dease Lake	152.60	9	P	PKPbc	05 53 26.8	-0.7
	baz=345						
TOAD	Toad River Com	152.66	4	P	PKPbc	05 53 27.4	-0.3
	baz=354						
S32K	Killisnoo	152.70	15	P	PKPbc	05 53 27.0	-0.7
	baz=336						
OXF	Oxford	152.70	285	P	PKPbc	05 53 27.1	-1.4
	baz=93						
SIT	Sitka	152.90	16	P	PKPbc	05 53 27.2	-1.0
	baz=334						
S34M	Telegraph Cree	152.94	11	P	PKPbc	05 53 27.7	-0.6
	baz=342						
ULM	Lac du Bonnet	153.15	321	PKPbc	PKPbc	05 53 28.6	-0.3
	comp=Z,5.0nm,0.8s,baz=64,slow=3.3,SNR=9.8						
VBMS	Vicksburg	153.42	280	P	PKPbc	05 53 28.3	-1.8
	baz=97						
SPMN	Marine on St.	153.64	309	P	PKPbc	05 53 30.3	+0.1
	baz=69						
T33K	Petersburg	153.65	14	P	PKPbc	05 53 29.5	-0.3
	baz=338						
T35M	Bob Quinn	153.97	10	P	PKPbc	05 53 30.7	+0.1
	baz=344						
CCM	Cathedral Cave	154.12	293	P	PKPbc	05 53 30.7	-0.8
	baz=85						
WRAK	Wrangell Islan	154.14	13	P	PKPbc	05 53 30.7	-0.1
	baz=339						
AGMN	Agassiz Nation	154.19	318	P	PKPbc	05 53 31.2	-0.1
	baz=59						
U33K	Whale Pass	154.26	15	P	PKiKP	05 53 31.7	+0.5
	baz=337						
CRAG	Craig	154.86	15	P	PKPbc	05 53 32.1	-0.3
	baz=337						
SCIA	State Center	154.95	302	P	PKPdf	05 53 32.8	+8.4
	baz=75						
V35K	Ketchikan	155.31	13	P	PKPab	05 53 50.8	+1.3
	baz=340						
MIAR	Mount Ida	156.14	285	P	PKPab	05 53 54.1	+0.2
	baz=91						
ECSD	EROS Data Cent	156.72	308	P	PKPab	05 53 56.1	0.0
	baz=67						
TUL3	Leonard	157.92	288	P	PKPab	05 53 59.4	-2.2
	baz=87						
SUSD	Miller	157.95	312	P	PKPab	05 53 59.6	-1.8
	baz=62						
KSU1	Kansas State U	158.12	297	P	PKPab	05 54 02.4	+0.1
	baz=78						
DGMT	Dagmar	158.48	327	P	PKPab	05 54 03.2	-0.4
	baz=45						
BGNE	Belgrade	158.63	304	P	PKPab	05 54 03.3	-1.1
	baz=71						
WHTX	Lake Whitney,	159.25	278	P	PKPab	05 54 07.4	0.0
	baz=96						
833A	Chaparral WMA,	160.25	266	P	PKPab	05 54 10.3	-1.6
	baz=106						
WMOK	Wichita Mounta	160.43	285	P	PKPab	05 54 10.4	-2.1
	baz=88						
CBKS	Cedar Bluff	160.56	298	P	PKPab	05 54 12.7	-0.3
	baz=75						
JCT	Junction City	161.05	272	P	PKPab	05 54 13.8	-1.6
	baz=100						
ABTX	Abilene, Hawle	161.14	279	P	PKPab	05 54 14.1	-1.6
	baz=93						
EGMT	Eagleton	161.18	334	P	PKPab	05 54 14.9	-0.5
	baz=34						
RSSD	Black Hills	161.22	317	P	PKPab	05 54 15.5	-0.4
	baz=54						
OGNE	Ogallala	161.52	306	P	PKPab	05 54 17.7	+0.5
	baz=66						
KSCO	Kaye Shedlock'	162.66	301	P	PKPab	05 54 19.8	-2.4
	baz=71						
AMTX	Amarillo	162.79	286	P	PKPab	05 54 21.9	-1.1
	baz=85						
NEW	Newport	162.97	349	P	PKPab	05 54 23.5	+0.4
	baz=14						
RLMT	Red Lodge	163.30	327	P	PKPab	05 54 24.1	-0.8
	baz=40						
K22A	Casper	163.55	316	P	PKPab	05 54 24.9	-1.2
	baz=53						
MSO	Missoula	163.62	340	P	PKPab	05 54 26.1	0.0
	baz=25						
MSTX	Muleshoe	163.76	283	P	PKPab	05 54 26.8	-0.5
	baz=87						
BOZ	Bozeman (W)	163.92	333	P	PKPab	05 54 27.8	+0.3
	baz=33						
TXAR	Lajitas Array	164.14	266	PKP	PKPdf	05 53 35.8	+0.3
	comp=Z,0.6nm,1.0s,baz=162,slow=5.3,SNR=4.6						
TXAR				PKPab	PKPab	05 54 29.8	+0.7
	comp=Z,2.1nm,1.3s,baz=134,slow=5.4,SNR=5.0						
N23A	Red Feather La	164.18	310	P	PKPab	05 54 29.1	+0.1
	baz=59						
ISCO	Idaho Springs	164.48	306	P	PKPab	05 54 29.8	-0.6
	baz=64						
Q24A	Divide	164.51	303	P	PKPab	05 54 30.8	+0.2
	baz=67						
T25A	Trinidad	164.56	296	P	PKPab	05 54 31.3	+0.4
	baz=74						
PDAR	Pinedale Array	165.17	322	PKP	PKPdf	05 53 35.5	-0.6
	comp=Z,1.0nm,0.9s,baz=111,slow=2.0,SNR=6.4						
BW06	Boulder Array	165.17	322	P	PKPab	05 54 33.4	+0.2
	baz=46						
SDCO	Great Sand Dun	165.21	299	P	PKPab	05 54 35.4	+1.7
	baz=71						
O20A	White River Ci	166.06	311	P	PKPab	05 54 36.9	-0.4
	baz=57						
S22A	4UR Ranch, Cre	166.19	300	P	PKPab	05 54 38.2	+0.1
	baz=68						
ANMO	Albuquerque	166.68	289	P	PKPab	05 54 41.3	+1.1
	baz=80						
Y22D	IRIS PASSCAL I	167.19	285	P	PKPab	05 54 42.5	0.0
	baz=84						
MVCO	Mesa Verde	167.62	300	P	PKPab	05 54 44.9	+0.5
	baz=68						
121A	Cookes Peak, D	168.01	278	P	PKPab	05 54 45.8	-0.3
	baz=90						
DUG	Dugway, Tooele	168.72	322	P	PKPab	05 54 48.7	-0.1
	baz=44						
W18A	Petrified Fore	169.26	292	P	PKPab	05 54 52.0	+0.4
	baz=75						
WUAZ	Wupatki	170.41	297	P	PKPab	05 54 56.8	+0.2
	baz=70						
TUC	Tucson	170.55	277	P	PKPab	05 54 58.6	+1.3
	baz=90						
R11B	Troy Canyon, C	171.52	324	P	PKPab	05 55 02.2	+0.8
	baz=40						
214A	Organ Pipe Nat	172.28	275	P	PKPab	05 55 04.1	-0.8
	baz=91						
NVAR	Mina Array Bea	172.59	338	PKP	PKPdf	05 53 42.6	+1.7
	comp=Z,0.4nm,0.7s,baz=328,slow=1.9,SNR=4.1						
NVAR				PKPab	PKPab	05 55 06.2	+0.1
	comp=Z,0.2nm,0.5s,baz=29,slow=4.7,SNR=4.6						
TPNV	Topopah Spring	172.93	320	P	PKPab	05 55 07.3	-0.3
	baz=43						
GRAC	Grapevine Rang	173.46	326	P	PKPab	05 55 08.1	-1.6
	baz=25						
MLAC	Mammoth, Mamm	173.49	338	P	PKPab	05 55 09.8	-0.3
	baz=24						
FURC	Furnace Creek,	173.61	321	P	PKPab	05 55 10.9	+0.5
	baz=42						
SHOC	Shoshone, Teco	173.67	314	P	PKPab	05 55 10.3	-0.5
	baz=50						
TUQ	Turquoise Moun	173.73	309	P	PKPab	05 55 11.6	+0.3
	baz=55						
GMRC	Granite Mounta	173.90	303	P	PKPab	05 55 11.0	-1.1
	baz=61						
CWC	Cottonwood Cre	174.24	328	P	PKPab	05 55 12.1	-1.4
	baz=35						
MPMC	Manual Prospec	174.25	322	P	PKPab	05 55 13.3	-0.2
	baz=41						
HEC	Hector,Ludlow	174.35	306	P	PKPab	05 55 13.8	-0.3
	baz=58						
GSC	Goldstone, Bar	174.38	312	P	PKPab	05 55 14.9	+0.8
	baz=51						
BELC	Belle Mtn. Jos	174.51	297	P	PKPab	05 55 15.4	+0.5
	baz=67						
SWSC	Sam W. Stewart	174.68	286	P	PKPab	05 55 13.8	-1.7
	baz=78						
RRX	Edison Barstow	174.77	310	P	PKPab	05 55 15.1	-0.7
	baz=54						
LRMC	Laurel Mtn Rad	174.79	319	P	PKPab	05 55 16.1	+0.2
	baz=44						
IKP	In-Ko-Pah, Jac	175.00	284	P	PKPab	05 55 16.5	-0.6
	baz=81						
TPFO	Pinon Flats	175.01	295	P	PKPab	05 55 15.2	-1.9
	baz=69						
PFO	Pinyon Flats O	175.01	295	P	PKPab	05 55 15.4	-1.7
	baz=69						
ISA	Isabella, Lake	175.06	326	P	PKPab	05 55 18.1	+1.1
	baz=36						
BBRC	Big Bear Solar	175.06	304	P	PKPab	05 55 17.3	-0.1
	baz=60						
MONP2	Monument Peak	175.21	287	P	PKPab	05 55 18.1	0.0
	baz=77						
EDW2	Edwards Air Fo	175.39	316	P	PKPab	05 55 17.8	-0.7
	baz=47						
BFSC	Mount Baldy Ra	175.59	308	P	PKPab	05 55 18.8	-0.7
	baz=56						
ARVC	Arvin	175.66	325	P	PKPab	05 55 19.5	-0.1
	baz=38						
109C	Camp Elliot, M	175.76	289	P	PKPab	05 55 19.9	-0.4
	baz=75						
DECC	Green Verdugo	176.02	312	P	PKPab	05 55 21.5	+0.2
	baz=50						
PKM	Mcpherson Peak	176.30	333	P	PKPab	05 55 23.6	+0.9
	baz=29						
FMP	Fort Macarthur	176.32	306	P	PKPab	05 55 21.6	-1.1
	baz=58						
SBC	Santa Barbara	176.64	328	P	PKPab	05 55 25.0	+1.1
	baz=34						

*IDC **10** 05:42:57.6±1.2, 31°.72S×58°.25E, h0km, mb4.2/6, mbtmp4.2/6, Error ellipse: s-maj=43.6km s-min=25.2km az=99.0*

ISC 10 05:43:00.2±1.3, 31°.7S±0°.2×58°.2E±0°.4, h17km, n10, σ0§23/7, mb4.3/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	27.40	32	T	T	06 17 06.3	
	baz=206,slow=76,SNR=3.9						
H08S2	Diego Garcia H	27.41	32	T	T	06 17 08.8	
	baz=206,slow=76,SNR=4.6						
H08S3	Diego Garcia H	27.42	32	T	T	06 17 07.7	
	baz=206,slow=76,SNR=4.7						
MAW	Mawson	36.03	177	P	P	05 50 00.1	-0.1
	2.4nm,0.6s,baz=342,slow=14,SNR=4.0						
	2.4nm,0.6s						
QSPA	South Pole Qui	58.45	180	P	P	05 52 55.0	+0.1
	1.0nm,0.6s,baz=276,slow=2.5,SNR=9.8						
	1.0nm,0.6s						
CMAR	Chiang Mai Arr	63.37	44	P	P	05 53 28.6	-0.1
	0.9nm,0.3s,baz=224,slow=8.4,SNR=5.3						
	0.9nm,0.3s						
ASAR	Alice Springs	66.30	104	P	P	05 53 48.0	-0.1
	1.8nm,0.9s,baz=240,slow=6.4,SNR=11						
	1.8nm,0.9s						
WRA	Warramunga Arr	68.31	101	P	P	05 54 01.0	+0.2
	2.0nm,0.8s,baz=245,slow=5.3,SNR=7.5						
	2.0nm,0.8s						
BVAR	Borovoye Array	85.05	7	P	P	05 55 34.7	+0.2
	2.3nm,0.9s,baz=197,slow=4.5,SNR=7.9						
	2.3nm,0.9s						
YKA	Yellowknife Ar	148.87	354	PKPbc	PKPbc	06 02 45.9	-0.3
	0.5nm,0.6s,baz=360,slow=2.2,SNR=4.4						

*IDC **10** 05:46:57.0±0.7, 36°.32N×141°.59E, h0km, mb4.0/19, mbtmp4.0/26, ML3.6/7, MS3.3/3, Error ellipse: s-maj=16.7km s-min=15.8km az=9.0*

*NIED **10** 05:46:58.5, 36°.25N×141°.73E, h35km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.25; Mθθ0.42; Mφφ-0.67; Mrθ0.53; Mφθ0.86; Mφr0.89; Fault plane solution: M0 1.46000×10^15^ NP1:φs14.00000°, δ81.00000°, λ136.00000°. NP2:φs112.00000°, δ47.00000°, λ12.00000°.*

*JMA **10** 05:46:58.5±0.3, 36°.3N±0°.5×14°.2E±°, h35km, MD4.3/31, MV4.2/31, FAR E OFF IBARAKI PREF*

JMA Felt I J1 at FAR E OFF IBARAKI PREF .

*NEIC **10** 05:47:01.9±1.9, 36°.28N±0°.06×141°.7E±0°.1, h37km±9km, mb4.5/16, Error ellipse: s-maj=13.7km s-min=8.0km az=100.0*

ISC 10 05:47:00.2±0.6, 36°.27N±0°.04×141°.63E±0°.06, h26km, n83, σ1§44/76, mb4.2/27, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.85	275	*i* P	Pn	05 47 15.5	-0.9
JHYU				S	Sn	05 47 28.2	+0.2
JHYU	Hitachinakayam	0.85	275	A	A	05 47 15.5	
	comp=E,19nm,0.8s,comp=N,26nm,0.5s						
JHO	Hitachi	0.92	292	*i* P	Pb	05 47 16.3	-1.2
JIHU	Itakohorinouch	0.94	252	*e*P	Pb	05 47 16.9	-1.0
JSMT	Sammumatsuo	1.15	237	*e*P	Pb	05 47 19.9	-1.3
JYT	Yasato	1.16	268	A	A	05 47 20.1	
	comp=E,10.0nm,0.3s,comp=N,8.0nm,0.9s						
JFK	Kawauchi	1.25	331	*i* P	Pb	05 47 21.4	-1.8
JOTO	OTAMA OYAMA	1.65	321	*i* P	Pb	05 47 28.3	-1.7
BSO1	Boso 1	1.70	198	P	Pn	05 47 27.0	-0.7
BSO3	Boso 3	1.73	212	P	Pn	05 47 28.1	-0.2
JMM	Marumori	1.73	337	P	Pb	05 47 28.9	-2.3
JMM	Marumori	1.73	337		Pb	05 47 28.5	-2.8
JMM	Marumori	1.73	337	*i* P	Pb	05 47 28.4	-2.8
JAG	Ashikaga	1.76	276	P	Pn	05 47 28.5	-0.5
MJAR	Matsushiro Arr	2.77	277	Pn	Pn	05 47 43.6	+0.7
	comp=N,4.9nm,0.3s,baz=84,slow=24,SNR=92						
MJAR				Sn	Sn	05 48 16.4	+0.8
	comp=N,3.1nm,0.3s,baz=88,slow=36,SNR=2.8						
MJAR				LR	LR	05 49 05.1	
	comp=N,440nm,18.2s,baz=53,slow=47						
	comp=N,55nm,0.6s						
MAJO	Matsushiro	2.77	277	P	Pn	05 47 44.6	+1.6
MAJO	Matsushiro	2.77	277		Pn	05 47 44.0	+1.0
MJB9	Matsu-Tunnel	2.78	277		Pb	05 47 44.9	-4.2
JSD	Sado	3.22	304	P	Pb	05 47 53.1	-3.5
JSD	Sado	3.22	304	Pn	Pn	05 47 50.3	+1.3
JHJ2	Mitsune	3.49	206	P	Pn	05 47 52.7	0.0
JHJ2	Mitsune	3.49	206	Pn	Pn	05 47 53.3	+0.6
JHJ	Hachijo jima 2	3.49	206	Pn	Pn	05 47 52.2	-0.6
	comp=N,43nm,0.3s,baz=313,slow=23,SNR=24						
JHJ				Sn	Sn	05 48 29.6	-3.7
	comp=N,102nm,0.3s,baz=88,slow=21,SNR=7.8						
	comp=N,77nm,0.3s						
JGF	Kuroka	3.53	260	P	Pb	05 47 56.6	-5.4
JGF	Kuroka	3.53	260		Pn	05 47 56.0	+2.6
INU	Inuyama	3.86	258	P	Pn	05 48 00.0	+2.2
INU	Inuyama	3.86	258		Pn	05 47 59.7	+1.8
JTM	Tenmabayashi	4.53	355	P	Pn	05 48 08.4	+1.3
JTM	Tenmabayashi	4.53	355	Pn	Pn	05 48 08.7	+1.7
ERM	Erimo	5.86	11	Pn	Pn	05 48 25.2	-0.1
ASAJ	Asahikawa	7.87	5	Pn	Pn	05 48 52.5	-0.4
	comp=N,3.1nm,0.3s,baz=163,slow=9.1,SNR=7.2						
ASAJ				Sn	Sn	05 50 18.5	-2.6
	comp=N,1.5nm,0.3s,baz=289,slow=33,SNR=2.1						
	comp=N,6.1nm,0.3s						
JKA	Kamikawa-asahi	7.87	5	Pn	Pn	05 48 52.5	-0.4
JNU	Nakatsue	9.39	254	Pn	Pn	05 49 14.2	+0.3
	comp=N,0.2nm,0.3s,baz=49,slow=17,SNR=3.1						
	comp=N,9.9nm,1.0s						
USA0B	Ussuriysk Arra	10.81	320	Pn	Pn	05 49 34.6	+1.4
USRK	Ussuriysk Ar.	10.81	320	Pn	Pn	05 49 32.8	-0.4
	comp=N,0.5nm,0.3s,baz=81,slow=12,SNR=5.8						
	comp=N,3.0nm,0.7s						
KSRS	Korea Array	11.05	280	Pn	Pn	05 49 37.4	+1.0
	comp=N,0.1nm,0.3s,baz=92,slow=14,SNR=1.4						
KSRS				LR	LR	05 53 30.0	
	comp=N,107nm,20.1s,baz=85,slow=36						
	comp=N,1.1nm,0.6s						
KLR	Kul'dur	14.83	334	Pn	Pn	05 50 27.8	-0.2
	comp=N,0.1nm,0.3s,baz=122,slow=15,SNR=1.8						
	comp=N,0.6nm,0.5s						
H11N2	WAKE ISLAND Hy	27.61	120	T	T	06 22 05.2	
	baz=311,slow=75,SNR=48						
H11N1	WAKE ISLAND Hy	27.62	120	T	T	06 22 02.3	
	baz=311,slow=75,SNR=24						
H11N3	WAKE ISLAND Hy	27.63	120	T	T	06 22 02.0	
	baz=311,slow=75,SNR=27						
H11S1	WAKE ISLAND Hy	28.30	122	T	T	06 22 49.0	
	baz=313,slow=75,SNR=38						
H11S3	WAKE ISLAND Hy	28.30	122	T	T	06 22 51.4	
	baz=313,slow=75,SNR=27						
H11S2	WAKE ISLAND Hy	28.32	122	T	T	06 22 47.3	
	baz=313,slow=75,SNR=35						
SONM	Songino Array	28.36	305	P	P	05 52 52.2	+0.1
SONM	Songino Array	28.36	305	P	P	05 52 52.4	+0.3
	comp=N,2.7nm,0.7s,baz=107,slow=9.3,SNR=14						
SONM				LR	LR	06 05 02.9	
	comp=N,72nm,18.6s,baz=216,slow=38						
	comp=N,2.7nm,0.7s						
ZAA0	Zalesovo Array	42.56	313	P	P	05 54 53.8	+0.2
ZAA0				IAmb	IAmb	05 54 54.6	
	comp=Z,4.1nm,0.6s						
ZALV	Zalesovo Beam	42.56	313	P	P	05 54 53.4	-0.1
ZALV	Zalesovo Beam	42.56	313	P	P	05 54 54.0	+0.5
	comp=Z,3.5nm,0.5s,baz=96,slow=7.3,SNR=13						
	comp=Z,3.5nm,0.5s						
MK31	Makanchi Array	44.67	303	P	P	05 55 10.6	-0.1
MKAR	Makanchi Array	44.67	303	P	P	05 55 10.8	+0.1
MKAR	Makanchi Array	44.67	303	P	P	05 55 11.1	+0.3
	comp=Z,3.3nm,0.8s,baz=86,slow=9.8,SNR=16						
	comp=Z,3.3nm,0.8s						
MAKZ	Makanchi	44.88	303	P	P	05 55 12.1	-0.3
E19K	Redstone River	46.06	28	P	P	05 55 23.0	+1.6
E19K				IAmb	IAmb	05 55 24.2	
	comp=Z,4.5nm,0.8s						
KURK	Kurchatov	46.54	309	P	P	05 55 25.6	+0.2
KURK				IAmb	IAmb	05 55 26.3	
	comp=Z,6.9nm,0.7s						
KURBB	Kurchatov Arra	46.61	309	P	P	05 55 26.0	+0.1
	comp=Z,5.1nm,0.6s,baz=86,slow=8.3,SNR=48						
	comp=Z,5.1nm,0.6s						
IMAR	Indian Mountai	47.22	30	P	P	05 55 28.3	-2.2
B21K	Ikpikpuk River	47.40	25	P	P	05 55 33.6	+1.8
B21K				IAmb	IAmb	05 55 34.8	
	comp=Z,4.5nm,0.6s						
H23K	Yukon River	48.93	31	IAmb	IAmb	05 55 54.0	
	comp=Z,7.2nm,1.4s						
ILAR	Eielson Array	50.05	32	P	P	05 55 53.3	+1.1
	comp=Z,0.8nm,0.7s,baz=268,slow=5.7,SNR=11						
	comp=Z,0.8nm,0.7s						
D25K	Kavik River	50.26	26	P	P	05 55 55.1	+1.3
D25K				IAmb	IAmb	05 55 56.7	
	comp=Z,2.9nm,0.7s						
BVAR	Borovoye Array	51.22	313	P	P	05 56 01.4	+0.2
	comp=Z,2.1nm,0.7s,baz=81,slow=8.1,SNR=5.5						
	comp=Z,2.1nm,0.7s						
E29M	Blow River	53.37	27	P	P	05 56 18.4	+1.4
E29M				IAmb	IAmb	05 56 40.2	
	comp=Z,4.7nm,1.1s						
FITZ	Fitzroy Crossi	56.15	198	P	P	05 56 37.3	-0.3
WB0	Warramunga Arr	56.15	188	P	P	05 56 38.2	+0.6
WB2	Warramunga Arr	56.33	188	P	P	05 56 38.1	-0.7
WRA	Warramunga Arr	56.33	188	P	P	05 56 37.2	-1.6
WRA	Warramunga Arr	56.33	188	P	P	05 56 39.1	+0.3
	comp=Z,1.2nm,0.9s,baz=5.2,slow=7.1,SNR=9.7						
	comp=Z,1.2nm,0.9s						
ABKAR	Akbulak array	58.56	311		P	05 56 54.0	-0.4
ABKAR	Akbulak array	58.56	311	IAmb	IAmb	05 56 55.2	
	comp=Z,3.6nm,0.6s						
ASAR	Alice Springs	60.06	188	P	P	05 57 07.3	+2.4
	comp=Z,0.2nm,0.4s,baz=2.3,slow=5.7,SNR=2.4						
	comp=Z,0.2nm,0.4s						
ARCES	ARCESS Array B	64.77	340	P	P	05 57 35.9	-0.1
	comp=Z,0.8nm,0.6s,baz=32,slow=8.7,SNR=1.5						
	comp=Z,0.8nm,0.6s						
FINES	FINESS Array B	69.57	332	P	P	05 58 06.7	+0.3
	comp=Z,3.6nm,1.0s,baz=44,slow=8.2,SNR=3.1						
	comp=Z,3.6nm,1.0s						
KBZ	Khabaz	71.53	311	P	P	05 58 19.1	+0.4
	comp=Z,1.8nm,0.8s,baz=123,slow=1.3,SNR=4.9						
	comp=Z,1.8nm,0.8s						
HFS	Hagfors	74.85	336	P	P	05 58 38.5	+0.5
	comp=Z,1.0nm,0.7s,baz=92,slow=5.0,SNR=1.9						
	comp=Z,1.0nm,0.7s						
NB2	NORSAR Subarra	74.96	337	P	P	05 58 39.1	+0.4
	comp=Z,2.2nm,0.7s,baz=39,slow=5.9						
NOA	NORSAR Array B	74.96	337	P	P	05 58 39.3	+0.6
	comp=Z,1.2nm,0.7s,baz=38,slow=5.9,SNR=5.2						
	comp=Z,1.2nm,0.7s						
AKASG	Malin Array Be	75.01	323	P	P	05 58 39.1	0.0
	comp=Z,3.2nm,0.6s,baz=47,slow=6.1,SNR=5.1						
	comp=Z,3.2nm,0.6s						
NVAR	Mina Array Bea	75.31	53	P	P	05 58 43.0	+1.6
	comp=Z,0.3nm,0.6s,baz=289,slow=5.2,SNR=3.7						
	comp=Z,0.3nm,0.6s						
PDAR	Pinedale Array	78.08	45	P	P	05 58 58.1	+1.2
	comp=Z,0.4nm,0.6s,baz=265,slow=1.5,SNR=7.0						
	comp=Z,0.4nm,0.6s						
BRTR	Keskin Array B	79.49	312

SNR=94
LPIG La Paz 10.38 330 LR LR 06 00 29.1
comp=Z,819nm,19.4s,baz=178,slow=32
TXAR Lajitas Array 14.19 4 Pn **Pn 05 58 35.0 +3.4**
baz=185,slow=13,SNR=14
3.5nm,1.1s
TEIG Tepich 16.47 70 LR LR 06 05 50.4
comp=Z,248nm,19.7s,baz=238,slow=37
ANMO Albuquerque 19.82 356 P **Pn 05 59 43.8 +1.0**
0.1nm,0.3s,baz=233,slow=5.1,SNR=3.2
0.8nm,0.8s
JTS Las Juntas de 19.87 102 LR LR 06 05 52.0
comp=Z,145nm,19.9s,baz=280,slow=31
PFO Pinyon Flats O 21.27 332 LR LR 06 06 47.4
comp=Z,419nm,21.0s,baz=180,slow=34
NVAR Mina Array Bea 26.14 335 P **P 06 00 43.6 -1.3**
0.4nm,0.9s,baz=150,slow=7.3,SNR=1.9
NVAR LR LR 06 07 56.5
comp=Z,125nm,20.8s,baz=18,slow=30
0.4nm,0.9s
TKL Tuckaleechee C 27.76 39 LR LR 06 14 21.2
comp=Z,167nm,19.8s,baz=248,slow=41
PDAR Pinedale Array 27.88 352 P **P 06 01 01.1 +0.6**
0.2nm,0.5s,baz=174,slow=8.8,SNR=2.9
0.2nm,0.5s
YBH Yreka Blue Hor 30.75 333 LR LR 06 12 59.9
comp=Z,137nm,18.7s,baz=108,slow=35
ATAH Atahualpa 34.20 128 LR LR 06 13 14.4
comp=Z,203nm,19.1s,baz=323,slow=31
ULM Lac du Bonnet 35.78 10 LR LR 06 16 16.7
comp=Z,174nm,20.4s,baz=311,slow=35
SADO Sadowa 36.64 31 LR LR 06 17 36.3
comp=Z,144nm,21.3s,baz=274,slow=36
NNA Nana 38.56 133 LR LR 06 15 54.4
comp=Z,145nm,18.1s,baz=290,slow=32
DLBC Dease Lake 47.19 342 LR LR 06 24 02.7
comp=Z,156nm,19.2s,baz=130,slow=37
LPAZ La Paz 47.73 129 P P 06 03 56.2 +7.7
1.9nm,1.0s,baz=305,slow=8.5,SNR=5.7
LPAZ LR LR 06 21 44.3
comp=Z,179nm,20.1s,baz=334,slow=33
1.9nm,1.0s
YKA Yellowknife Ar 47.84 354 P **P 06 03 47.7 -0.3**
0.4nm,0.7s,baz=170,slow=9.1,SNR=2.2
YKA LR LR 06 24 30.0
comp=Z,134nm,18.4s,baz=90,slow=37
0.4nm,0.7s
LVC Limon Verde 51.34 136 LR LR 06 22 21.4
comp=Z,42nm,20.2s,baz=350,slow=31
SIV San Ignacio 53.04 124 LR LR 06 23 55.1
comp=Z,85nm,19.4s,baz=306,slow=32
H03N2 Juan Fernandez 54.19 153 T T 07 03 39.9
baz=330,slow=77,SNR=25
H03N1 Juan Fernandez 54.20 153 T T 07 03 44.8
baz=330,slow=77,SNR=32
H03N3 Juan Fernandez 54.21 153 T T 07 03 38.9
baz=330,slow=77,SNR=23
PPT Papeete 54.87 235 LR LR 06 21 42.8
comp=Z,134nm,21.2s,baz=2.5,slow=29
ILAR Eielson Array 57.26 340 P **P 06 04 57.6 -0.2**
0.5nm,0.8s,baz=116,slow=4.1,SNR=3.6
0.5nm,0.8s
SHEM Shemya Is, Ala 72.80 321 LR LR 06 30 56.0
comp=Z,56nm,21.9s,baz=204,slow=30
BORG Borgarnes 73.64 26 LR LR 06 39 32.8
comp=Z,87nm,18.3s,baz=338,slow=36

*IDC **10** 05:57:05.9±1.0, 31°.69S×58°.27E, h0km, mb4.1/9, mbtmp4.1/10, ML3.8/1, Error ellipse: s-maj=37.5km s-min=23.2km az=64.0*
ISC 10 05:57:08.1±1.0, 31°.7S±0°.2×58°.3E±0°.2, h14km, n17, σ0.66/11, mb4.3/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N2	**CROZET ISLANDS**	**15.30**	**197**	T	T	06 16 30.8	
baz=22,slow=75,SNR=2.8							
H04N1	**CROZET ISLANDS**	**15.31**	**197**	T	T	06 16 34.5	
baz=22,slow=75,SNR=3.1							
H04N3	**CROZET ISLANDS**	**15.32**	**197**	T	T	06 16 29.1	
baz=22,slow=75,SNR=2.9							
OPO	**Ambohidratompo**	**16.45**	**320**	Pn	**Pn**	**06 00 58.9**	**+0.1**
baz=108,slow=20,SNR=1.8							
2.3nm,0.5s							
H08S1	**Diego Garcia H**	**27.34**	**32**	T	T	06 31 15.4	
baz=206,slow=75,SNR=4.8							
H08S2	**Diego Garcia H**	**27.34**	**32**	T	T	06 31 16.3	
baz=206,slow=75,SNR=5.3							
H08S3	**Diego Garcia H**	**27.36**	**32**	T	T	06 31 16.0	
baz=206,slow=75,SNR=6.0							
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**06 07 03.7**	**+0.2**
1.5nm,0.9s,baz=285,slow=3.5,SNR=6.2							
1.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**63.30**	**44**	P	**P**	**06 07 37.0**	**+0.4**
1.3nm,0.3s,baz=228,slow=6.8,SNR=7.9							
1.3nm,0.3s							
ASAR	**Alice Springs**	**66.26**	**104**	P	**P**	**06 07 56.4**	**+0.3**
1.2nm,0.6s,baz=240,slow=5.7,SNR=17							
1.2nm,0.6s							
WRA	**Warramunga Arr**	**68.26**	**101**	P	**P**	**06 08 08.9**	**0.0**
1.5nm,0.7s,baz=245,slow=5.4,SNR=8.7							
1.5nm,0.7s							
BRTR	**Keskin Array B**	**74.64**	**341**	P	**P**	**06 08 47.2**	**+0.3**
0.3nm,0.3s,baz=140,slow=7.2,SNR=2.5							
0.3nm,0.3s							
MKAR	**Makanchi Array**	**81.07**	**16**	P	**P**	**06 09 22.4**	**+0.1**
0.5nm,0.8s,baz=217,slow=5.9,SNR=4.2							
0.5nm,0.8s							
KURBB	**Kurchatov Arra**	**83.88**	**13**	P	**P**	**06 09 37.2**	**+0.2**
2.0nm,1.0s,baz=208,slow=5.7,SNR=9.5							
2.0nm,1.0s							
BVAR	**Borovoye Array**	**85.01**	**7**	P	**P**	**06 09 43.4**	**+0.7**
3.2nm,0.8s,baz=184,slow=5.7,SNR=17							
3.2nm,0.8s							
SONM	**Songino Array**	**90.16**	**30**	P	**P**	**06 10 06.9**	**-0.8**
0.5nm,0.8s,baz=194,slow=5.5,SNR=2.4							
0.5nm,0.8s							
YKA	**Yellowknife Ar**	**148.84**	**354**	PKPbc	**PKPbc**	**06 16 53.1**	**-1.4**
1.6nm,0.8s,baz=14,slow=2.0,SNR=6.3							

*IDC **10** 06:03:48.8±0.5, 52°.84N×160°.43E, h0km, mb4.8/32, mbtmp4.8/37, ML4.9/5, MS3.9/18, Error ellipse: s-maj=12.4km s-min=10.2km az=163.0*
*KRSC **10** 06:03:49.7±1.6, 52°.62N×160°.79E, h47km±20km, Mc4.3, Ml5.1, Felt [II] at Petropavlovsk.*
*BJI **10** 06:03:50.0±0.0, 53°.08N×160°.52E, h29km, mb4.7/42, mB5.0/18, Ms4.5/14, Ms7 4.3/14*
*MOS **10** 06:03:53.1±1.1, 52°.72N×160°.50E, h48km, mb5.1/66, Error ellipse: s-maj=5.9km s-min=3.2km az=98.0*
*NEIC **10** 06:03:53.1±1.9, 52°.66N±0°.09×160°.53E±0°.10, h34km±5km, mb4.7/307, Error ellipse: s-maj=13.5km s-min=8.6km az=175.0*
*BGR **10** 06:04:02.9, 54°.22N×161°.04E, h33km, mb4.6, Hypocentre not reviewed by the ISC*
ISC 10 06:03:53.4±0.4, 52°.69N±0°.04×160°.63E±0°.03, h37km±1km, h38km: pP-P, n878, σ1§15/800, mb4.8/276, MS4.1/28, 44C-22D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.55**	**319**	*e*P	**Pn**	**06 04 02.6**	**-2.2**
SPN	**Mys Shipunski**	**0.55**	**319**	PN	**Pn**	**06 04 02.6**	**-2.2**
NLC	**Nalytchevo**	**0.92**	**303**	*e*P	**Pn**	**06 04 08.4**	**-1.3**
NLC				*e*S	**Sn**	**06 04 19.3**	**-2.4**
NLC	**Nalytchevo**	**0.92**	**303**	PN	**Pn**	**06 04 08.4**	**-1.3**
NLC				S	**Sn**	**06 04 19.3**	**-2.4**
DALK	**Dalny**	**1.19**	**288**	*e*P	**Pn**	**06 04 12.9**	**-0.5**
DALK				*e*S	**Sn**	**06 04 28.3**	**0.0**
DALK	**Dalny**	**1.19**	**288**	PN	**Pn**	**06 04 12.9**	**-0.5**
DALK				S	**Sn**	**06 04 28.3**	**0.0**
UGLR	**Uglovaya**	**1.21**	**296**	*e*P	**Pn**	**06 04 13.4**	**-0.4**
UGLR	**Uglovaya**	**1.21**	**296**	PN	**Pn**	**06 04 13.4**	**-0.4**
PET	**Petropavlovsk**	**1.25**	**287**	Pn	**Pn**	**06 04 13.7**	**-0.5**
PET	**Petropavlovsk**	**1.25**	**287**	*e*P	**Pn**	**06 04 13.8**	**-0.5**
PET	**Petropavlovsk**	**1.25**	**287**	*i*PN	**Pn**	**06 04 13.7**	**-0.5**
PET				*e*S	**Sn**	**06 04 30.2**	**+0.5**
PET				pmax	pmax		
comp=Z,6μm,0.6s							
PET				smax	smax		
comp=N,15μm,0.6s							
PET				smax	smax		
comp=E,29μm,0.9s							
PET	**Petropavlovsk**	**1.25**	**287**	P	**Pn**	**06 04 13.2**	**-1.0**
SMAR	**Somma**	**1.25**	**298**	*e*P	**Pn**	**06 04 13.7**	**-0.8**
SMAR	**Somma**	**1.25**	**298**	PN	**Pn**	**06 04 13.7**	**-0.8**
AVH	**Avacha**	**1.28**	**298**	*e*P	**Pn**	**06 04 14.5**	**-0.3**
AVH	**Avacha**	**1.28**	**298**	PN	**Pn**	**06 04 14.5**	**-0.3**
KRER	**Koryakskii**	**1.29**	**299**	*e*P	**Pn**	**06 04 14.7**	**-0.4**
KRER	**Koryakskii**	**1.29**	**299**	PN	**Pn**	**06 04 14.7**	**-0.4**
KOK	**Koryaka**	**1.35**	**298**	*e*P	**Pn**	**06 04 15.4**	**-0.3**
KOK	**Koryaka**	**1.35**	**298**	PN	**Pn**	**06 04 15.4**	**-0.3**
KRX	**Arik**	**1.37**	**300**	*e*P	**Pn**	**06 04 15.5**	**-0.6**
KRX	**Arik**	**1.37**	**300**	PN	**Pn**	**06 04 15.5**	**-0.6**
MTVR	**Mutnovka**	**1.51**	**263**	*e*P	**Pn**	**06 04 18.1**	**+0.2**
MTVR	**Mutnovka**	**1.51**	**263**	PN	**Pn**	**06 04 18.1**	**+0.2**
KRMR	**Karymshinskiy**	**1.53**	**276**	*e*P	**Pn**	**06 04 18.0**	**-0.1**
KRMR	**Karymshinskiy**	**1.53**	**276**	PN	**Pn**	**06 04 18.0**	**-0.1**
KII	**Karymskiy**	**1.53**	**333**	*e*P	**Pn**	**06 04 17.9**	**-0.3**
KII	**Karymskiy**	**1.53**	**333**	PN	**Pn**	**06 04 17.9**	**-0.3**
GRL	**Gorelyy**	**1.56**	**266**	*e*P	**Pn**	**06 04 19.4**	**+0.7**
GRL	**Gorelyy**	**1.56**	**266**	PN	**Pn**	**06 04 19.4**	**+0.7**
ASAK	**Asacha**	**1.69**	**261**	*e*P	**Pn**	**06 04 21.5**	**+1.1**
ASAK	**Asacha**	**1.69**	**261**	PN	**Pn**	**06 04 21.5**	**+1.1**
KDTR	**Khodutka, Kamc**	**1.80**	**242**	*e*P	**Pn**	**06 04 22.6**	**+0.8**
KDTR				*e*S	**Sn**	**06 04 44.0**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.80**	**242**	PN	**Pn**	**06 04 22.6**	**+0.8**
KDTR				S	**Sn**	**06 04 44.0**	**+0.7**
GNL	**Ganaly**	**1.91**	**303**	*e*P	**Pn**	**06 04 24.3**	**+0.9**
GNL	**Ganaly**	**1.91**	**303**	PN	**Pn**	**06 04 24.3**	**+0.9**
MKZ	**Mys Kozlova**	**1.98**	**19**	*e*P	**Pn**	**06 04 23.6**	**-0.7**
MKZ				*e*S	**Sn**	**06 04 47.2**	**-0.7**
MKZ	**Mys Kozlova**	**1.98**	**19**	PN	**Pn**	**06 04 23.6**	**-0.7**
MKZ				S	**Sn**	**06 04 47.2**	**-0.7**
APC	**Apacha**	**2.12**	**278**	*e*P	**Pn**	**06 04 27.7**	**+1.5**
APC				*e*S	**Sn**	**06 04 55.5**	**+4.2**
APC	**Apacha**	**2.12**	**278**	PN	**Pn**	**06 04 27.7**	**+1.5**
APC				S	**Sn**	**06 04 55.5**	**+4.2**
TUMD	**Tumrok D**	**2.53**	**357**	*e*P	**Pn**	**06 04 32.1**	**+0.3**
TUMD				*e*S	**Sn**	**06 05 02.0**	**+0.7**
TUMR	**Tumrok**	**2.62**	**354**	*e*P	**Pn**	**06 04 34.4**	**+1.2**
TUMR				*e*S	**Sn**	**06 05 05.6**	**+1.9**
TUMR	**Tumrok**	**2.62**	**354**	PN	**Pn**	**06 04 34.4**	**+1.2**
TUMR				S	**Sn**	**06 05 05.6**	**+1.9**
KMNR	**Kamenistaya**	**3.08**	**356**	*e*P	**Pn**	**06 04 41.3**	**+1.7**
KMNR				*e*S	**Sn**	**06 05 16.6**	**+1.4**
KMNR	**Kamenistaya**	**3.08**	**356**	PN	**Pn**	**06 04 41.3**	**+1.7**
KMNR				S	**Sn**	**06 05 16.6**	**+1.4**
BZP	**Bezymyannyi-Pe**	**3.23**	**359**	*e*P	**Pn**	**06 04 43.2**	**+1.6**
BZP				*e*S	**Sn**	**06 05 21.9**	**+2.9**
BZMR	**Bezymyannaya**	**3.26**	**359**	*e*P	**Pn**	**06 04 44.2**	**+2.2**
BZMR	**Bezymyannaya**	**3.26**	**359**	PN	**Pn**	**06 04 44.2**	**+2.2**
BZGR	**Bezymyannyi-Gr**	**3.26**	**1**	*e*P	**Pn**	**06 04 43.6**	**+1.6**
BZGR	**Bezymyannyi-Gr**	**3.26**	**1**	PN	**Pn**	**06 04 43.6**	**+1.6**
KIRR	**Kirishev**	**3.28**	**357**	*e*P	**Pn**	**06 04 44.2**	**+1.9**
KIRR	**Kirishev**	**3.28**	**357**	PN	**Pn**	**06 04 44.2**	**+1.9**
BZWR	**Bezymyannyi-We**	**3.29**	**359**	*e*P	**Pn**	**06 04 44.2**	**+1.8**
BZWR	**Bezymyannyi-We**	**3.29**	**359**	PN	**Pn**	**06 04 44.2**	**+1.8**
KPT	**Kopyto**	**3.30**	**356**	*e*P	**Pn**	**06 04 43.7**	**+1.3**
KPT	**Kopyto**	**3.30**	**356**	PN	**Pn**	**06 04 43.7**	**+1.3**
ZLN	**Zelenaya**	**3.34**	**2**	*e*P	**Pn**	**06 04 44.6**	**+1.5**
ZLN	**Zelenaya**	**3.34**	**2**	PN	**Pn**	**06 04 44.6**	**+1.5**
LGNR	**Loginova**	**3.40**	**1**	*e*P	**Pn**	**06 04 46.4**	**+2.3**
LGNR	**Loginova**	**3.40**	**1**	PN	**Pn**	**06 04 46.4**	**+2.3**
KOZ	**Kozyrevsk**	**3.41**	**353**	*e*P	**Pn**	**06 04 45.5**	**+1.6**
KOZ	**Kozyrevsk**	**3.41**	**353**	PN	**Pn**	**06 04 45.5**	**+1.6**
CIRR	**Tsirk**	**3.44**	**1**	*e*P	**Pn**	**06 04 46.5**	**+2.0**
CIRR	**Tsirk**	**3.44**	**1**	PN	**Pn**	**06 04 46.5**	**+2.0**
ESO	**Esso**	**3.44**	**342**	*e*P	**Pn**	**06 04 45.1**	**+0.8**
ESO	**Esso**	**3.44**	**342**	PN	**Pn**	**06 04 45.1**	**+0.8**
SKR	**Severo-Kuril's**	**3.45**	**236**	*e*P	**Pn**	**06 04 45.6**	**+1.1**
SKR				*e*S	**Sn**	**06 05 24.1**	**+0.1**
SKR	**Severo-Kuril's**	**3.45**	**236**	⇑*i*PN	**Pn**	**06 04 46.8**	**+2.3**
SKR				*e*S	**Sn**	**06 05 24.6**	**+0.5**
SKR				pmax	pmax		
comp=Z,130nm,0.4s							
SKR				smax	smax		
comp=E,2μm,0.6s							
SKR				smax	smax		
comp=N,1μm,0.4s							
KRSR	**Krestovskiy**	**3.54**	**359**	*e*P	**Pn**	**06 04 47.4**	**+1.6**
KRSR	**Krestovskiy**	**3.54**	**359**	PN	**Pn**	**06 04 47.4**	**+1.6**
KLY	**Klyuchi**	**3.63**	**0**	*e*P	**Pn**	**06 04 48.2**	**+1.2**
KLY	**Klyuchi**	**3.63**	**0**	PN	**Pn**	**06 04 48.2**	**+1.2**
SRDR	**Sredinnyy**	**3.68**	**352**	*e*P	**Pn**	**06 04 48.6**	**+1.0**
SRDR	**Sredinnyy**	**3.68**	**352**	PN	**Pn**	**06 04 48.6**	**+1.0**
KBTR	**Krutoberegovo**	**3.75**	**19**	*e*P	**Pn**	**06 04 48.7**	**+0.1**
KBTR	**Krutoberegovo**	**3.75**	**19**	PN	**Pn**	**06 04 48.7**	**+0.1**
KBG	**Krutoberegovo**	**3.78**	**18**	*e*P	**Pn**	**06 04 50.3**	**+1.4**
KBG	**Krutoberegovo**	**3.78**	**18**	PN	**Pn**	**06 04 50.3**	**+1.4**
BKI	**Bering**	**4.04**	**49**	*e*P	**Pn**	**06 04 51.9**	**-0.7**
BKI				*e*S	**Sn**	**06 05 33.5**	**-5.0**
BKI	**Bering**	**4.04**	**49**	PN	**Pn**	**06 04 51.9**	**-0.7**
TIGL	**Tigil**	**5.21**	**348**	*e*P	**Pn**	**06 05 10.1**	**+1.4**
SHEM	**Shemya Is, Ala**	**8.18**	**84**	Pn	**Pn**	**06 05 50.0**	**+0.6**
comp=N,19nm,0.3s,baz=111,slow=2.4,SNR=26							
SHEM				Sn	**Sn**	**06 07 14.3**	**-6.2**
comp=N,8.8nm,0.3s,baz=180,slow=23,SNR=10							
SHEM				LR	LR	06 09 05.6	
comp=N,278nm,20.2s,baz=280,slow=38							
comp=N,70nm,0.5s							
MA2	**Magadan**	**8.82**	**325**	Pn	**Pn**	**06 05 59.2**	**+1.1**
MA2	**Magadan**	**8.82**	**325**	Pn	**Pn**	**06 05 59.4**	**+1.2**
comp=N,1.2nm,0.3s,baz=141,slow=10,SNR=8.5							
MA2				LR	LR	06 09 49.7	
comp=N,673nm,19.2s,baz=146,slow=42							
comp=N,22nm,0.7s							
MA2	**Magadan**	**8.82**	**325**	*e*PN	**Pn**	**06 05 59.5**	**+1.3**
MA2				pmax	pmax		
comp=Z,14nm,0.8s							
MA2				MLR	MLR		
comp=Z,649nm,17.0s							
SEY	**Seymchan**	**11.16**	**340**	Pn	**Pn**	**06 06 32.0**	**+1.9**
comp=Z,0.5nm,0.3s,baz=148,slow=12,SNR=10							
SEY	**Seymchan**	**11.16**	**340**	*e*PN	Pn	06 06 35.3	+5.1
SEY				pmax	pmax		
comp=Z,15nm,1.2s							
TYV	**Tymovskoe**	**11.29**	**268**	*e*PN	Pn	06 06 37.2	+5.3
TYV				*e*S	Sn	06 08 47.7	+11
TYV				pmax	pmax		
comp=Z,100nm,2.9s							
TYV				pmax	pmax		
comp=Z,7.0nm,1.0s							
TYV				smax	smax		
comp=N,100nm,6.3s							
TYV				smax	smax		
comp=E,100nm,6.3s							
UGL	**Uglegorsk**	**12.26**	**260**	*e*PN	P	06 06 51.8	-5.2
UGL				pmax	pmax		
comp=Z,70nm,0.5s							
YSS	**Yuzh-Sakhalins**	**12.88**	**251**	*e*PN	**Pn**	**06 06 55.7**	**+2.1**
YSS				*e*S	**Sn**	**06 09 18.6**	**+3.2**
YSS				pmax	pmax		
comp=Z,20nm,1.2s							
YSS				MLR	MLR		
comp=Z,800nm,16.0s							
ADK	**Adak**	**13.90**	**84**	Pn	**Pn**	**06 07 07.8**	**+0.3**
ADK	**Adak**	**13.90**	**84**	P	**Pn**	**06 07 07.8**	**+0.3**
JKA	**Kamikawa-asahi**	**14.70**	**241**	Pn	Pn	06 07 10.7	-7.7
ASAJ	**Asahikawa**	**14.70**	**242**	Pn	**Pn**	**06 07 18.9**	**+0.5**
comp=Z,7.1nm,0.3s,baz=62,slow=12,SNR=18							
ASAJ				LR	LR	06 12 36.8	
comp=Z,153nm,18.2s,baz=58,slow=36							
comp=Z,19nm,0.4s							
GRNR	**Gornyy**	**15.11**	**272**	⇓*i*P	**P**	**06 07 29.0**	**+0.4**
GRNR				pmax	pmax		
comp=Z,60nm,0.6s							
GRNR				MLR	MLR		
comp=Z,250nm,16.0s							
BILL	**Bilibino**	**15.64**	**8**		**P**	**06 07 35.4**	**+1.0**
BILL				IAmb	IAmb	06 07 37.4	
comp=Z,40nm,0.8s							
BILL	**Bilibino**	**15.64**	**8**	*e*P	**Pn**	**06 07 31.9**	**+1.2**
BILL				pmax	pmax		
comp=Z,37nm,0.8s							
BILL				MLR	MLR		
comp=Z,453nm,18.0s							
ERM	**Erimo**	**15.90**	**235**		**Pn**	**06 07 29.0**	**-5.1**
ERM	**Erimo**	**15.90**	**235**	*d i*P	**Pn**	**06 07 31.0**	**-3.1**
ERM				pmax	pmax		
comp=Z,21nm,0.6s							
SPIA	**Saint Paul Isl**	**17.25**	**63**	P	**Pn**	**06 07 51.9**	**+0.8**
baz=268							
P08K	**Saint George I**	**17.62**	**65**	P	**Pn**	**06 07 55.1**	**-0.6**
baz=270							
JTM	**Tenmabayashi**	**17.86**	**236**		**Pn**	**06 07 52.1**	**-6.6**
JTM				IAmb	IAmb	06 07 56.8	
comp=Z,28nm,0.5s							
NIKH	**Nikolski High**	**18.38**	**77**	P	**P**	**06 08 04.9**	**+0.1**
baz=282							
KLR	**Kul'dur**	**18.46**	**271**	P	**Pn**	**06 08 06.2**	**+0.3**
comp=Z,1.3nm,0.3s,baz=64,slow=10,SNR=31							
KLR				LR	LR	06 15 55.4	
comp=Z,375nm,18.2s,baz=67,slow=40							
comp=Z,13nm,0.7s							
KLR	**Kul'dur**	**18.46**	**271**	*e*P	**P**	**06 08 05.3**	**-0.4**
KLR				pmax	pmax		
comp=Z,13nm,1.0s							
YAK	**Yakutsk**	**18.95**	**312**	P	**P**	**06 08 08.8**	**-2.2**
comp=Z,7.3nm,0.3s,baz=6.5,slow=0.8,SNR=6.7							
YAK				LR	LR	06 16 27.6	
comp=Z,445nm,18.1s,baz=120,slow=40							
comp=Z,29nm,0.3s							
YAK	**Yakutsk**	**18.95**	**312**	*e*P	**P**	**06 08 08.5**	**-2.4**
YAK				*e*S	**Sn**	**06 11 37.7**	**-5.0**
YAK				pmax	pmax		
comp=Z,75nm,1.1s							
YAK				pmax	pmax		
comp=E,19nm,1.0s							
YAK				pmax	pmax		
comp=N,8.0nm,0.9s							
YAK				smax	smax		
comp=E,80nm,4.0s							
YAK				smax	smax		
comp=N,30nm,3.0s							
YAK				MLR	MLR		
comp=Z,536nm,20.0s							
YAK				MLR	MLR		
comp=N,344nm,22.0s							
YAK				MLR	MLR		
comp=E,172nm,14.0s							
M11K	**Mekoryuk**	**19.66**	**54**	P	**P**	**06 08 18.8**	**+0.1**
baz=262							
ZEA	**Zeya**	**19.92**	**286**	*e*P	**P**	**06 08 21.1**	**-0.5**
ZEA				pmax	pmax		
comp=Z,20nm,0.7s							
ZEA				MLR	MLR		
comp=E,200nm,12.0s							
ZEA				MLR	MLR		
comp=Z,200nm,13.0s							
JMM	**Marumori**	**20.26**	**231**	P	**P**	**06 08 25.1**	**-0.2**
JMM				IAmb	IAmb	06 08 34.2	
comp=Z,35nm,0.7s							
TNA	**Tin City**	**20.36**	**39**	P	**P**	**06 08 26.4**	**+0.1**
baz=246							
USA0B	**Ussuriysk Arra**	**20.70**	**257**	⇓*i*P	**P**	**06 08 28.4**	**-1.7**
USRK	**Ussuriysk Ar.**	**20.70**	**257**	P	**P**	**06 08 29.6**	**-0.5**
comp=Z,12nm,0.5s,baz=66,slow=11,SNR=22							
USRK				LR	LR	06 17 04.5	
comp=Z,363nm,19.8s,baz=53,slow=39							
comp=Z,12nm,0.5s							
HEH	**HeiHe**	**20.73**	**277**	*e*P	**P**	**06 08 29.5**	**-0.9**
HEH				S	**S**	**06 12 18.2**	**-1.4**
HEH				SS	**SnSn**	**06 12 42.7**	**+2.3**
HEH				pmax	pmax		
comp=Z,32nm,1.2s							
HEH				pmax	pmax		
comp=Z,270nm,6.6s							
HEH				LR	LR		
comp=Z,230nm,14.8s							
HEH				LR	LR		
comp=Z,360nm,14.9s							
HEH				LR	LR		
comp=Z,580nm,14.9s							
ANM	**Nome**	**21.01**	**42**	P	**P**	**06 08 33.0**	**-0.3**
baz=252							
J14K	**Nanvaranak Lak**	**21.32**	**48**	P	**P**	**06 08 37.0**	**+0.4**
baz=259							
L14K	**Kuka Creek**	**21.50**	**52**	P	**P**	**06 08 39.1**	**+0.6**
baz=263							
F15K	**North Star Dit**	**21.68**	**40**	P	**P**	**06 08 40.9**	**+0.5**
baz=250							
G15K	**Niukluk**	**21.69**	**42**	P	**P**	**06 08 40.8**	**+0.3**
baz=253							
M14K	**Bethel**	**21.79**	**53**	P	**P**	**06 08 41.6**	**0.0**
baz=265							
S12K	**Black Hills**	**21.86**	**67**	P	**P**	**06 08 42.9**	**+0.4**
baz=278							
N14K	**Kuskokwak Cree**	**21.87**	**56**	P	**P**	**06 08 42.7**	**+0.2**
baz=268							
MDJ	**Mudanjiang**	**21.90**	**261**	P	**P**	**06 08 42.0**	**-1.0**
MDJ				pmax	pmax		
comp=Z,20nm,1.2s							
O14K	**Tigyukauivet M**	**22.07**	**58**	P	**P**	**06 08 45.3**	**+0.6**
baz=270							
L15K	**Ungalak Mounta**	**22.11**	**51**	P	**P**	**06 08 46.0**	**+0.9**
baz=264							
MSHR	**Mys Shultsa**	**22.14**	**255**	⇑*i*P	**P**	**06 08 43.7**	**-1.8**
MSHR				pmax	pmax		
comp=Z,5.0nm,0.9s							
K15K	**Wolf Creek Mou**	**22.17**	**49**	P	**P**	**06 08 46.4**	**+0.7**
baz=262							
PSTR	**Posyet**	**22.30**	**255**	⇑*i*P	**P**	**06 08 45.2**	**-2.1**
H16K	**Elim**	**22.33**	**43**	P	**P**	**06 08 47.5**	**+0.1**
baz=256							
M15K	**Kasigluk River**	**22.41**	**54**	P	**P**	**06 08 48.7**	**+0.4**
baz=267							
C16K	**Lisburne Hills**	**22.46**	**33**	P	**P**	**06 08 48.8**	**+0.1**
baz=243							
G16K	**Koyuk River**	**22.48**	**41**	P	**P**	**06 08 48.7**	**-0.4**
baz=254							
MJB9	**Matsu-Tunnel**	**22.55**	**233**	P	**P**	**06 08 51.7**	**+1.6**
MAJO	**Matsushiro**	**22.55**	**233**	P	**P**	**06 08 49.4**	**-0.7**
MAJO	**Matsushiro**	**22.55**	**233**	*e*P	**P**	**06 08 50.7**	**+0.6**
MAJO				pmax	pmax		
comp=Z,43nm,1.2s							
MJAR	**Matsushiro Arr**	**22.55**	**233**	P	**P**	**06 08 51.2**	**+1.1**
comp=Z,17nm,0.7s,baz=13,slow=13,SNR=38							
comp=Z,17nm,0.7s							
BNX	**BinXian**	**22.64**	**265**	⇓P	**P**	**06 08 49.6**	**-1.3**
BNX				pmax	pmax		
comp=Z,32nm,0.6s							
N15K	**Kwethluk River**	**22.68**	**55**	P	**P**	**06 08 52.1**	**+0.9**
N15K				IAmb	IAmb	06 09 02.1	
comp=Z,24nm,0.9s							
N15K	**Kwethluk River**	**22.68**	**55**	P	**P**	**06 08 50.7**	**-0.6**
baz=269

JGF IAmb IAmb 06 09 10.0
comp=Z,19nm,0.7s
P16K Nushagak River 23.76 58 P **P** **06 09 01.3 -0.6**
baz=273
E18K Tukpahlearik C 23.78 37 P **P** **06 09 03.1 +1.1**
E18K IAmb IAmb 06 09 03.6
comp=Z,16nm,0.8s
E18K Tukpahlearik C 23.78 37 P **P** **06 09 01.2 -0.9**
baz=251,SNR=6.9
F18K Selawik 23.89 39 P **P** **06 09 03.2 +0.2**
baz=254,SNR=7.2
C18K Utukok River 24.01 34 P **P** **06 09 04.7 +0.4**
baz=248,SNR=7.1
M17K Holitna River 24.02 52 IAmb IAmb 06 09 06.7
comp=Z,25nm,0.8s
M17K Holitna River 24.02 52 P **P** **06 09 04.9 +0.5**
baz=268,SNR=6.4
H18K Honhosa River 24.05 43 IAmb IAmb 06 09 06.7
comp=Z,21nm,0.9s
H18K Honhosa River 24.05 43 P **P** **06 09 05.5 +0.8**
baz=259
B18K Kokolik River 24.09 32 P **P** **06 09 05.6 +0.7**
baz=246
R16K Pilot Point 24.09 62 P **P** **06 09 06.1 +1.1**
baz=277
G18K Tagagawik 24.10 41 P **P** **06 09 06.2 +1.1**
baz=257
N17K Nushagak Hills 24.13 54 P **P** **06 09 06.3 +0.9**
baz=270
O17K Koliganek Bris 24.19 56 P **P** **06 09 06.9 +1.0**
baz=272
L18K Granite Mounta 24.42 50 P **P** **06 09 07.9 -0.1**
L18K Granite Mounta 24.42 50 P **P** **06 09 08.8 +0.8**
baz=267
Q16K King Salmon 24.47 59 P **P** **06 09 10.1 +1.6**
baz=275
J18K Innoko River 24.51 47 IAmb IAmb 06 09 11.3
comp=Z,15nm,0.8s
J18K Innoko River 24.51 47 P **P** **06 09 09.6 +0.8**
baz=264
P17K Kvichak River 24.55 58 P **P** **06 09 10.5 +1.3**
baz=274
F19K Shaleruckim Mo 24.67 39 P **P** **06 09 10.8 +0.6**
F19K IAmb IAmb 06 09 12.0
comp=Z,15nm,0.8s
F19K Shaleruckik Mo 24.67 39 P **P** **06 09 10.6 +0.4**
baz=256,SNR=13
A19K Wainwright 24.68 30 P **P** **06 09 10.9 +0.7**
baz=245
C19K Lookout Ridge 24.72 33 P **P** **06 09 11.1 +0.4**
baz=249,SNR=24
R17L Mt. Peulik Vol 24.74 61 P **P** **06 09 11.5 +0.6**
baz=277
N18K Kilae Creek 24.77 54 P **P** **06 09 12.3 +1.0**
N18K Kilae Creek 24.77 54 P **P** **06 09 12.2 +1.0**
baz=271
G19K Purcell Mounta 24.78 41 P **P** **06 09 11.6 +0.4**
G19K Purcell Mounta 24.78 41 P **P** **06 09 11.6 +0.4**
baz=258
M18K Stony River 24.80 52 P **P** **06 09 12.3 +0.8**
baz=269,SNR=5.2
CN2 Changchun 24.84 263 *e*P **P** **06 09 10.9 -1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,600nm,17.0s
H19K Roundabout Mou 24.91 42 IAmb IAmb 06 09 14.1
comp=Z,13nm,0.8s
H19K Roundabout Mou 24.91 42 P **P** **06 09 13.2 +0.8**
baz=260,SNR=10
Q17K Contact Creek 24.91 60 P **P** **06 09 13.4 +0.8**
baz=276
D19K Kuna River 25.01 35 P **P** **06 09 14.1 +0.8**
D19K IAmb IAmb 06 09 17.6
comp=Z,33nm,1.1s
D19K Kuna River 25.01 35 P **P** **06 09 14.2 +0.8**
baz=252,SNR=10
E19K Redstone River 25.03 38 IAmb IAmb 06 09 16.4
comp=Z,26nm,1.0s
E19K Redstone River 25.03 38 P **P** **06 09 14.1 +0.6**
baz=255,SNR=18
J19K Poorman 25.05 46 IAmb IAmb 06 09 15.9
comp=Z,12nm,0.6s
J19K Poorman 25.05 46 P **P** **06 09 14.0 +0.4**
baz=264,SNR=9.4
O18K Koktuh Hills 25.14 56 P **P** **06 09 14.9 +0.4**
baz=273
P18K Big Mountain, 25.15 57 P **P** **06 09 15.2 +0.5**
baz=274
L19K White Mountain 25.27 50 P **P** **06 09 16.0 +0.2**
baz=269
Q18K Katmai Hardscr 25.33 59 P **P** **06 09 16.9 +0.5**
baz=276,SNR=6.1
N19K Bonanza Creek 25.45 54 P **P** **06 09 17.3 -0.2**
baz=272
M19K Big River Lodg 25.49 51 P **P** **06 09 18.1 +0.4**
baz=270
F20K Avaraart Lake 25.50 39 P **P** **06 09 18.4 +0.7**
baz=258
H20K Anotleneega Mo 25.55 43 P **P** **06 09 18.1 -0.1**
baz=262,SNR=6.9
O19K Port Alsworth 25.56 55 P **P** **06 09 19.3 +1.0**
baz=273
D20K Etivluk River 25.61 35 P **P** **06 09 19.4 +0.7**
baz=253,SNR=14
E20K Nigu River 25.63 36 P **P** **06 09 19.6 +0.6**
baz=255,SNR=24
I20K Naaghedeneel 25.63 44 IAmb IAmb 06 09 43.1
comp=Z,18nm,0.8s
I20K Naaghedeneel 25.63 44 P **P** **06 09 20.2 +1.3**
baz=264
K20K Telida 25.68 48 IAmb IAmb 06 09 22.6
comp=Z,12nm,0.7s
K20K Telida 25.68 48 P **P** **06 09 20.5 +1.0**
baz=267
J20K Nowinta River 25.71 46 P **P** **06 09 20.7 +1.0**
J20K IAmb IAmb 06 09 22.7
comp=Z,16nm,0.8s
J20K Nowinta River 25.71 46 P **P** **06 09 20.9 +1.2**
baz=265,SNR=12
HIA Hailar 25.72 279 P **P** **06 09 18.9 -1.1**
HIA IAmb IAmb 06 09 19.3
comp=Z,20nm,0.5s
HIA Hailar 25.72 279 P **P** **06 09 18.9 -1.1**
HIA pmax pmax
comp=Z,20nm,0.5s
L20K Farewell, AK 25.74 50 P **P** **06 09 20.3 +0.4**
baz=269
B20K Meade River 25.84 32 IAmb IAmb 06 09 23.9
comp=Z,35nm,0.9s
B20K Meade River 25.84 32 P **P** **06 09 21.1 +0.3**
baz=250
M20K Styx River 26.08 51 P **P** **06 09 23.8 +0.6**
baz=271
G21K Allakaket 26.27 41 P **P** **06 09 25.8 +1.1**
G21K IAmb IAmb 06 10 03.5
comp=Z,24nm,1.4s
G21K Allakaket 26.27 41 P **P** **06 09 25.9 +1.1**
baz=261
C21K Knifeblade Rid 26.37 34 P **P** **06 09 26.1 +0.5**
baz=254,SNR=14
F21K Alatna River 26.40 39 P **P** **06 09 26.7 +0.8**
baz=260
H21K Melozitna Rive 26.43 43 P **P** **06 09 26.5 +0.3**
baz=264,SNR=9.3
OHAK Old Harbor 26.44 62 P **P** **06 09 26.3 0.0**
OHAK IAmb IAmb 06 10 08.1
comp=Z,48nm,1.4s
OHAK Old Harbor 26.44 62 P **P** **06 09 26.3 0.0**
baz=280
E21K Killik River 26.47 36 P **P** **06 09 27.4 +0.9**
baz=257
A21K Barrow 26.48 29 P **P** **06 09 27.2 +0.7**
baz=248,SNR=13
B21K Ikpikpuk River 26.55 33 P **P** **06 09 27.3 +0.1**
baz=254
CAST Castle Rocks 26.58 48 P **P** **06 09 28.3 +0.8**
baz=269
BOD Bodaibo 26.63 300 *e*P **P** **06 09 26.5 -1.5**
BOD pmax pmax
comp=Z,19nm,1.0s
Q20K Shuyak Island 26.70 58 P **P** **06 09 28.8 +0.2**
baz=278
KDAK Kodiak Island 26.72 60 P **P** **06 09 28.6 -0.2**
KDAK IAmb IAmb 06 09 29.3
comp=Z,26nm,1.1s
KDAK Kodiak Island 26.72 60 P **P** **06 09 28.8 0.0**
baz=280
KDAK Kodiak Island 26.72 60 P **P** **06 09 28.6 -0.2**
KDAK pmax pmax
comp=Z,26nm,1.1s
I21K Tanana 26.72 44 P **P** **06 09 29.3 +0.5**
baz=265
SKT Skwentna 26.84 51 P **P** **06 09 30.0 +0.1**
baz=272
A22K Sinclair Lake 26.87 30 P **P** **06 09 30.3 +0.3**
baz=251
F22K John River 26.94 39 P **P** **06 09 31.6 +0.8**
baz=260
HOM Homer 26.95 56 P **P** **06 09 31.9 +1.0**
baz=277
D22K Ayikyak River 27.03 35 P **P** **06 09 32.2 +0.6**
baz=257
H22K Ishtalitna Cre 27.04 42 P **P** **06 09 31.9 +0.2**
baz=264
BPAW Bear Paw Mtn. 27.09 46 P **P** **06 09 32.9 +0.8**
BPAW Bear Paw Mtn. 27.09 46 P **P** **06 09 32.5 +0.4**
baz=268
G22K Bettles 27.11 40 P **P** **06 09 32.2 -0.1**
baz=262
B22K Teshekpuk Lake 27.15 32 P **P** **06 09 33.1 +0.6**
B22K IAmb IAmb 06 09 34.0
comp=Z,16nm,0.8s
B22K Teshekpuk Lake 27.15 32 P **P** **06 09 32.9 +0.3**
baz=254,SNR=9.7
E22K Anaktuvuk Pass 27.19 37 IAmb IAmb 06 09 34.6
comp=Z,14nm,0.7s
E22K Anaktuvuk Pass 27.19 37 P **P** **06 09 33.2 +0.1**
baz=260
SUA Susitna One 27.24 52 P **P** **06 09 33.4 -0.2**
SUA IAmb IAmb 06 09 50.0
comp=Z,17nm,1.3s
MLY Manley 27.24 44 P **P** **06 09 33.6 +0.1**
baz=267
KSRS Korea Array 27.37 249 P **P** **06 09 35.3 +0.5**
comp=Z,9.4nm,0.8s,baz=42,slow=9.7,SNR=23
comp=Z,9.4nm,0.8s
COLD Coldfoot 27.66 39 P **P** **06 09 36.8 -0.4**
baz=263,SNR=6.6
G23K Bananza Creek 27.67 41 P **P** **06 09 37.6 +0.2**
baz=264
D23K Nanushuk River 27.76 36 P **P** **06 09 38.3 +0.2**
baz=259
H23K Yukon River 27.79 42 P **P** **06 09 38.4 0.0**
baz=266
I23K Minto, Yukon-K 27.83 44 IAmb IAmb 06 10 04.9
comp=Z,18nm,1.4s
I23K Minto, Yukon-K 27.83 44 P **P** **06 09 38.9 +0.2**
baz=268
NEA2 Nenana 27.93 45 P **P** **06 09 40.2 +0.5**
baz=269
C23K Itkillik River 27.96 34 IAmb IAmb 06 09 41.5
comp=Z,11nm,0.8s
C23K Itkillik River 27.96 34 P **P** **06 09 40.0 +0.2**
baz=258,SNR=7.0
MCK McKinley 27.99 47 P **P** **06 09 39.9 -0.3**
baz=271
E23K Chandalar 27.99 38 P **P** **06 09 40.1 -0.2**
baz=262,SNR=12
SEW Seward 28.00 55 P **P** **06 09 39.4 -0.8**
baz=277
PMR Palmer 28.00 52 P **P** **06 09 40.0 -0.3**
baz=275
RND Reindeer 28.03 48 IAmb IAmb 06 09 41.1
comp=Z,19nm,1.4s
TOLK Toolik Lake Re 28.10 36 P **P** **06 09 40.7 -0.5**
baz=261
WAT1 Susitna Watana 28.19 49 P **P** **06 09 40.8 -1.2**
baz=273
KNK Knik Glacier 28.34 52 P **P** **06 09 43.2 -0.1**
baz=276
SML Sawmill 28.36 51 P **P** **06 09 44.7 +1.1**
SML Sawmill 28.36 51 P **P** **06 09 43.8 +0.3**
baz=275
SML Sawmill 28.36 51 P **P** **06 09 44.7 +1.1**
SML pmax pmax
comp=Z,47nm,1.4s
E24K Your Creek 28.41 38 IAmb IAmb 06 09 45.9
comp=Z,11nm,0.8s
E24K Your Creek 28.41 38 P **P** **06 09 43.8 -0.2**
baz=263
D24K Happy Valley 28.45 35 IAmb IAmb 06 09 45.6
comp=Z,7.8nm,0.7s
D24K Happy Valley 28.45 35 P **P** **06 09 44.6 +0.4**
baz=261,SNR=5.2
COLA College 28.46 45 P **P** **06 09 44.8 +0.5**
baz=270
COLA College 28.46 45 ↓*i*P **P** **06 09 45.3 +1.0**
COLA pmax pmax
comp=Z,7.0nm,1.0s
H24K Noodor Dome 28.47 43 P **P** **06 09 45.4 +0.9**
baz=268
WAT6 Susitna Watana 28.58 49 P **P** **06 09 46.1 +0.5**
baz=274
F24K Squaw Lake 28.58 39 P **P** **06 09 46.2 +0.7**
baz=265,SNR=7.8
C24K Franklin Bluff 28.59 34 P **P** **06 09 45.4 0.0**
baz=260
POKR Poker Plat Res 28.64 44 P **P** **06 09 46.3 +0.3**
baz=270
M23K Glacier View 28.65 51 P **P** **06 09 46.6 +0.5**
baz=276
G24K Hadweenzic Riv 28.68 41 P **P** **06 09 46.1 -0.2**
baz=267,SNR=10
DHY Denali Highway 28.71 48 P **P** **06 09 47.0 +0.2**
baz=274
SCM Sheep Creek Mo 28.83 51 P **P** **06 09 48.0 +0.2**
baz=276
HDA Harding Lake 28.85 46 P **P** **06 09 47.9 0.0**
baz=271,SNR=6.4
ILAR Eielson Array 28.87 45 P **P** **06 09 48.0 0.0**
comp=Z,2.4nm,0.8s,baz=268,slow=8.1,SNR=25
ILAR PcP **PcP** **06 12 56.3 -0.1**
comp=Z,1.2nm,0.9s,baz=277,slow=3.6,SNR=4.8
comp=Z,2.4nm,0.8s
P23K Montague Islan 29.03 55 P **P** **06 09 49.9 +0.5**
baz=279
GLI Glacier Island 29.05 53 P **P** **06 09 49.2 -0.5**
baz=278
G25K Bearman Lake 29.23 41 P **P** **06 09 50.8 -0.4**
baz=268
H25L Birch Creek 29.33 42 P **P** **06 09 51.6 -0.3**
baz=269
D25K Kavik River 29.34 35 IAmb IAmb 06 09 53.9
comp=Z,16nm,0.7s
D25K Kavik River 29.34 35 P **P** **06 09 52.1 -0.1**
baz=263
K24K Donnelly Dome 29.39 47 P **P** **06 09 52.7 +0.1**
baz=274
PRP Porcupine Dome 29.44 43 P **P** **06 09 53.0 -0.2**
baz=271
F25K Christian Rive 29.45 39 P **P** **06 09 52.7 -0.5**
baz=267,SNR=5.8
E25K Arctic Village 29.51 38 P **P** **06 09 53.8 +0.1**
baz=266,SNR=7.3
J25K Salcha River, 29.53 45 P **P** **06 09 53.3 -0.7**
baz=272
FYU Fort Yukon 29.57 41 IAmb IAmb 06 09 56.3
comp=Z,12nm,1.0s
Q23K Middleton Isla 29.65 56 P **P** **06 09 55.0 +0.1**
baz=281
HARP HAARP 29.79 50 P **P** **06 09 55.8 -0.4**
baz=276
C26K Camden Bay 29.92 34 P **P** **06 09 56.6 -0.6**
baz=264,SNR=8.4
F26K Sheenjek River 30.02 39 P **P** **06 09 57.5 -0.7**
baz=268,SNR=7.7
G26K Porcupine Rive 30.15 40 P **P** **06 09 59.1 -0.2**
baz=270,SNR=6.5
N25K Chitina, Valde 30.15 51 P **P** **06 09 59.6 +0.2**
baz=278
SCRK Sand Creek 30.17 46 P **P** **06 09 59.8 +0.1**
baz=275
BMRM Bremner River 30.24 52 P **P** **06 10 00.0 -0.2**
baz=279
C27K Jago River 30.30 35 P **P** **06 10 00.5 -0.2**
baz=265
J26L Joseph Creek 30.31 45 P **P** **06 10 00.1 -0.8**
baz=274
I26K Coal Creek Min 30.44 44 P **P** **06 10 01.9 +0.1**
baz=273
M26K Nabesna, AK 30.79 49 P **P** **06 10 04.9 -0.2**
baz=278
G27K Doyon Strip 30.99 41 P **P** **06 10 06.6 -0.2**
baz=272
E27K Coleen River 31.00 38 P **P** **06 10 07.2 +0.4**
baz=270,SNR=5.9
K27K Chicken 31.00 46 P **P** **06 10 06.3 -0.5**
baz=276
BGLC Bering Glacier 31.04 54 P **P** **06 10 07.3 +0.1**
baz=282
H27K Steamboat Moun 31.06 42 P **P** **06 10 08.2 +0.7**
baz=273,SNR=5.2
I27K Kandik River 31.06 43 P **P** **06 10 07.5 0.0**
baz=274
L27K Beaver Creek, 31.23 48 IAmb IAmb 06 10 11.4
comp=Z,9.0nm,0.8s
L27K Beaver Creek, 31.23 48 P **P** **06 10 08.8 -0.1**
baz=278,SNR=12
D27M Malcolm River 31.25 36 IAmb IAmb 06 10 11.0
comp=Z,7.6nm,0.7s
D27M Malcolm River 31.25 36 P **P** **06 10 08.7 -0.4**
baz=268
EGAK Eagle 31.32 44 IAmb IAmb 06 10 10.4
comp=Z,6.5nm,0.7s
EGAK Eagle 31.32 44 P **P** **06 10 09.8 +0.1**
baz=276
F28M Old Crow 31.66 39 IAmb IAmb 06 10 15.0
comp=Z,7.4nm,0.8s
F28M Old Crow 31.66 39 P **P** **06 10 12.7 +0.1**
baz=272,SNR=11
E28M Babbage River 31.76 37 P **P** **06 10 13.7 +0.2**
baz=271
I28M Miner Creek 31.77 43 P **P** **06 10 13.3 -0.5**
baz=276
CTG Chitna Glacier 31.81 52 P **P** **06 10 13.7 -0.4**
baz=282
D28M Stokes Point 32.04 36 P **P** **06 10 15.7 -0.2**
baz=270
YUK3 Moose Creek 32.07 50 P **P** **06 10 16.6 +0.1**
baz=281
DAWY Dawson 32.17 46 P **P** **06 10 17.3 +0.1**
baz=278
H29M Whitestone 32.34 42 P **P** **06 10 19.5 +0.9**
baz=276
E29M Blow River 32.37 37 P **P** **06 10 19.3 +0.5**
baz=273,SNR=6.6
G29M Pine Creek 32.42 40 IAmb IAmb 06 10 32.3
comp=Z,11nm,0.9s
G29M Pine Creek 32.42 40 P **P** **06 10 19.7 +0.4**
baz=275
PINM Pinnacle 32.53 53 P **P** **06 10 20.9 +0.5**
baz=284
M29M Somme Creek 32.86 49 P **P** **06 10 23.3 0.0**
baz=282
L29M L29M 32.88 47 IAmb IAmb 06 10 26.8
comp=Z,10nm,1.1s
L29M L29M 32.88 47 P **P** **06 10 23.8 +0.4**
baz=281
EPYK Eagle Plains 32.99 41 P **P** **06 10 24.6 +0.3**
baz=277
K29M Barlow Dome 33.02 46 P **P** **06 10 24.8 +0.1**
baz=280
G30M tAoh Zraii Nji 33.12 40 P **P** **06 10 25.9 +0.5**
baz=276
F30M Barrier River 33.22 39 P **P** **06 10 26.2 0.0**
baz=276
H11N2 WAKE ISLAND Hy 33.25 169 T T 06 45 53.7
baz=353,slow=76,SNR=1805
H11N3 WAKE ISLAND Hy 33.27 169 T T 06 45 55.9
baz=353,slow=76,SNR=1629
H11N1 WAKE ISLAND Hy 33.27 169 T T 06 45 55.3
baz=353,slow=76,SNR=1641
I30M Mount Dempster 33.28 43 P **P** **06 10 26.6 -0.4**
baz=279
M30M Minto, Yukon 33.59 48 P **P** **06 10 29.8 +0.2**
baz=283
HYT Haines Junctio 33.67 51 P **P** **06 10 30.7 +0.3**
baz=285
N30M Aishikik Lake 33.71 50 P **P** **06 10 30.7 0.0**
baz=284
P29M Windy Craggy 33.87 53 P **P** **06 10 32.7 +0.6**
baz=286
G31M Satah River 33.88 40 P **P** **06 10 32.2 +0.2**
baz=278
ULN Ulaanbaatar 33.91 284 P **P** **06 10 31.2 -1.5**
ULN IAmb IAmb 06 10 33.1
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 33.91 284 *ce*P **P** **06 10 31.6 -1.1**
ULN pmax pmax
comp=Z,8.0nm,1.0s
INK Inuvik 33.99 37 P **P** **06 10 33.5 +0.6**
INK IAmb IAmb 06 10 37.9
comp=Z,7.8nm,1.1s
INK Inuvik 33.99 37 P **P** **06 10 32.9 0.0**
baz=277
INK Inuvik 33.99 37 P **P** **06 10 33.5 +0.6**
INK pmax pmax
comp=Z,8.0nm,1.1s
F31M Tsiigehtchic 34.02 39 IAmb IAmb 06 10 51.6
comp=Z,7.6nm,1.0s
F31M Tsiigehtchic 34.02 39 P **P** **06 10 33.6 +0.4**
baz=278
SONM Songino Array 34.31 284 P **P** **06 10 35.4 -0.8**
comp=Z,2.0nm,0.3s,baz=57,slow=8.1,SNR=25
SONM PcP **PcP** **06 13 12.9 +1.4**
comp=Z,4.9nm,0.7s,baz=98,slow=1.6,SNR=15
comp=Z,2.0nm,0.3s
O30N Mendenhall 34.35 51 P **P** **06 10 36.7 +0.5**
baz=286
H11S1 WAKE ISLAND Hy 34.44 170 T T 06 48 21.8
baz=351,slow=76,SNR=69
H11S3 WAKE ISLAND Hy 34.45 170 T T 06 48 18.7
baz=351,slow=76,SNR=107
H11S2 WAKE ISLAND Hy 34.45 170 T T 06 48 19.8
baz=351,slow=76,SNR=24
PLBC Pleasant Camp 34.59 53 P **P** **06 10 38.7 +0.5**
baz=287
ZAK Zakamensk 34.94 290 *e*P **P** **06 10 40.0 -1.5**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
HHC Hu-ho-hao-te 34.97 270 *e*P **P** **06 10 42.3 +0.5**
HHC PP **PnPn** **06 11 55.7 -3.5**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.6s
FARO Faro, Yukon 35.23 48 P **P** **06 10 43.7 -0.1**
baz=286
P32M Atlin 35.84 52 P **P** **06 10 49.2 +0.2**
baz=289
R32K Eaglecrest 35.88 55 P **P** **06 10 50.1 +0.8**
baz=290
SIT Sitka 35.90 57 P **P** **06 10 50.0 +0.6**
baz=291
BTO Baotou 36.05 271 *e*P **P** **06 10 50.3 -0.8**
BTO pP **pP** **06 11 00.6 -0.9**
BTO sP **sP** **06 11 02.6 -3.2**
BTO S **S** **06 16 25.4 -2.2**
BTO SS **SnSn** **06 18 48.0 -6.0**
BTO pmax pmax
comp=Z,21nm,0.6s
BTO pmax pmax
comp=Z,530nm,6.2s
BTO LR LR
comp=Z,690nm,9.5s
BTO LR LR
comp=Z,710nm,5.6s
BTO LR LR
comp=Z,720nm,16.1s
P33M Teslin, Yukon 36.07 51 P **P** **06 10 50.3 -0.7**
baz=289
S32K Killisnoo 36.13 56 P **P** **06 10 50.8 -0.7**
baz=291
NRIK Noril'sk 36.43 325 P **P** **06 10 53.7 -0.1**
comp=Z,2.3nm,0.4s,baz=103,slow=14,SNR=2.1
NRIK PcP **PcP** **06 13 18.1 +0.9**
comp=Z,3.4nm,0.6s,baz=22,slow=4.6,SNR=3.9
comp=Z,2.3nm,0.4s
NJ2 Nanjing 36.44 252 *e*P **P** **06 10 54.6 +0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
Q32M Nakina River 36.75 53 P **P** **06 10 56.6 -0.4**
baz=291
C36M Paulatuk 37.20 35 IAmb IAmb 06 11 02.3
comp=Z,24nm,1.2s
C36M Paulatuk 37.20 35 P **P** **06 10 59.9 -0.4**
baz=283,SNR=6.0
R33M Jennings River 37.22 52 P **P** **06 10 59.9 -1.0**
baz=291

U33K **Whale Pass** 37.39 58 P P 06 11 01.3 -0.8
baz=294
WRAK **Wrangell Islan** 37.66 57 P P 06 11 04.1 -0.4
baz=294
S34M **Telegraph Cree** 37.69 54 P P 06 11 04.3 -0.3
baz=293
DLBC **Dease Lake** 38.03 53 P P 06 11 07.3 -0.4
baz=293
V35K **Ketchikan** 38.49 58 P P 06 11 11.6 +0.2
baz=295
T35M **Bob Quinn** 38.49 55 IAmb IAmb 06 11 15.1
comp=Z,6.2nm,0.6s
T35M **Bob Quinn** 38.49 55 P P 06 11 11.4 -0.2
baz=294
WRGLY **Wrigley** 39.24 44 IAmb IAmb 06 11 21.0
comp=Z,11nm,1.0s
WRGLY **Wrigley** 39.24 44 P P 06 11 17.9 +0.3
baz=291
GRNB **Grenville Isla** 40.01 60 P P 06 11 26.4 +2.1
GRNB IAmb IAmb 06 11 27.4
comp=Z,7.1nm,0.7s
TOAD **Toad River Com** 40.16 51 P P 06 11 25.2 -0.2
baz=295,SNR=8.8
GUMO **Guam** 40.98 204 LR LR 06 26 47.1
comp=Z,66nm,19.4s,baz=67,slow=34
EUNU **Eureka** 42.27 14 P P 06 11 43.5 +0.9
YKA **Yellowknife Ar** 43.24 42 P P 06 11 51.4 +0.9
comp=Z,2.8nm,0.8s,baz=298,slow=8.0,SNR=8.1
comp=Z,2.8nm,0.8s
ENH **Enshi** 43.25 259 IAmb IAmb 06 11 52.4
comp=Z,22nm,0.9s
ZALV **Zalesovo Beam** 43.27 303 P P 06 11 48.7 -2.1
comp=Z,2.7nm,0.3s,baz=58,slow=7.1,SNR=10
ZALV PcP PcP 06 13 39.7 +0.5
comp=Z,3.0nm,0.9s,baz=45,slow=4.6,SNR=4.7
ZALV LR LR 06 30 58.9
comp=Z,168nm,19.6s,baz=142,slow=38
comp=Z,2.7nm,0.3s
SPITS **Spitsbergen Ar** 47.59 351 P P 06 12 25.1 +0.4
comp=Z,14nm,0.4s,baz=64,slow=9.4,SNR=62
comp=Z,14nm,0.4s
KURK **Kurchatov** 48.23 302 P P 06 12 28.7 -1.3
KURK **Kurchatov** 48.23 302*c iP* P 06 12 27.9 -2.1
KURK pmax pmax
comp=Z,16nm,0.8s
KURBB **Kurchatov Arra** 48.33 302 P P 06 12 28.9 -1.9
comp=Z,10nm,0.6s,baz=60,slow=7.6,SNR=93
KURBB PcP PcP 06 13 57.3 +0.4
comp=Z,2.0nm,1.1s,baz=56,slow=3.9,SNR=2.2
KURBB LR LR 06 34 18.4
comp=Z,200nm,18.6s,baz=174,slow=38
comp=Z,10nm,0.6s
B08A **Colville Reser** 48.59 61 IAmb IAmb 06 12 34.9
comp=Z,6.1nm,1.0s
MK31 **Makanchi Array** 48.62 296*c iP* P 06 12 31.3 -1.9
MKAR **Makanchi Array** 48.62 296 P P 06 12 31.2 -1.9
comp=Z,10nm,0.5s,baz=56,slow=6.9,SNR=242
comp=Z,10nm,0.5s
NEEM **North Greenlan** 48.64 9 *eP* P 06 12 32.9 -0.3
MAKZ **Makanchi** 48.79 296 P P 06 12 31.7 -2.7
MAKZ IAmb IAmb 06 12 38.1
comp=Z,7.0nm,0.7s
MAKZ **Makanchi** 48.79 296 P P 06 12 31.7 -2.7
MAKZ pmax pmax
comp=Z,7.0nm,0.7s
K02D **Willamette Mer** 49.70 70 IAmb IAmb 06 12 55.0
comp=Z,8.2nm,1.5s
NEW **Newport** 49.83 60 P P 06 12 41.9 -0.4
baz=308
PZH **PanZhiHua** 50.65 263 P P 06 12 49.9 +1.0
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,190nm,6.7s
J05D **Fort Rock, OR** 50.70 67 P P 06 12 50.5 +1.3
J05D IAmb IAmb 06 12 51.7
comp=Z,5.1nm,0.7s
L04D **Klamath Falls** 50.78 69 IAmb IAmb 06 12 52.5
comp=Z,9.1nm,1.0s
DAG **Danmarks Havn** 50.81 360 P P 06 12 49.6 +0.3
DAG pmax pmax
comp=Z,23nm,0.9s
DAG **Danmarks Havn** 50.81 360 *i P* P 06 12 49.0 -0.3
DAG **Danmarks Havn** 50.81 360 *i P* P 06 12 48.0 -1.3
BVAR **Borovoye Array** 50.90 309 P P 06 12 48.5 -1.9
comp=Z,11nm,0.5s,baz=64,slow=7.4,SNR=64
BVAR PcP PcP 06 14 05.6 -0.7
comp=Z,3.5nm,0.8s,baz=59,slow=5.7,SNR=1.6
BVAR PP PP 06 14 45.8 -0.6
comp=Z,5.2nm,0.8s,baz=58,slow=11,SNR=3.6
BVAR LR LR 06 36 03.2
comp=Z,136nm,18.7s,baz=58,slow=38
comp=Z,11nm,0.5s
BRVK **Borovoye** 50.93 309 P P 06 12 48.8 -1.8
BRVK **Borovoye** 50.93 309*c iP* P 06 12 48.6 -1.9
BRVK pmax pmax
comp=Z,9.0nm,0.6s
F10A **Beach Ranch, E** 51.20 62 P P 06 12 52.6 -0.1
MSO **Missoula** 52.40 60 IAmb IAmb 06 13 03.9
comp=Z,11nm,1.4s
MSO **Missoula** 52.40 60 P P 06 13 02.3 +0.5
baz=310,SNR=5.2
VADS **Vadso** 52.55 341 *eP* P 06 13 01.9 -0.4
VADS IAmb IAmb 06 13 02.0
comp=Z,14nm,0.6s
FFC **Flin Flon** 53.07 46 P P 06 13 05.6 -0.8
FFC **Flin Flon** 53.07 46 P P 06 13 05.6 -0.8
FFC pmax pmax
comp=Z,3.0nm,0.9s
HAMF **Hammerfest** 53.16 343 *eP* P 06 13 05.3 -1.5
HAMF IAmb IAmb 06 13 07.5
comp=Z,10nm,1.0s
LVZ **Lovozero** 53.20 338 P P 06 13 06.6 -0.6
LVZ **Lovozero** 53.20 338*c iP* P 06 13 06.4 -0.9
LVZ pmax pmax
comp=Z,24nm,0.9s
SLVN **Son La** 53.25 257 P P 06 13 08.4 +0.2
SLVN IAmb IAmb 06 13 10.5
comp=Z,7.9nm,0.8s
KEV **Kevo** 53.30 342 P P 06 13 06.7 -1.2
KEV **Kevo** 53.30 342 P P 06 13 06.7 -1.2
KEV pmax pmax
comp=Z,16nm,0.9s
FCC **Fort Churchill** 53.60 39 P P 06 13 11.2 +1.0
FCC IAmb IAmb 06 13 12.6
comp=Z,16nm,1.2s
FCC **Fort Churchill** 53.60 39 P P 06 13 11.2 +1.0
FCC pmax pmax
comp=Z,16nm,1.3s
APA **Apatity** 53.75 338⇓ *iP* P 06 13 09.0 -2.2
APA MLR MLR
comp=Z,200nm,13.0s
ARCES **ARCESS Array B** 53.78 342 P P 06 13 10.4 -1.0
comp=Z,11nm,0.5s,baz=43,slow=9.3,SNR=88
ARCES PcP PcP 06 14 17.5 +0.7
comp=Z,1.9nm,0.7s,baz=337,slow=4.3,SNR=1.8
comp=Z,11nm,0.5s
EGMT **Eagleton** 53.79 56 P P 06 13 12.0 +0.1
baz=311
ARU **Arti** 53.92 318 P P 06 13 10.7 -1.9
ARU **Arti** 53.92 318 LR LR 06 40 25.3
comp=Z,108nm,18.2s,baz=46,slow=41
ARU **Arti** 53.92 318*c iP* P 06 13 11.0 -1.6
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU MLR MLR
comp=Z,111nm,16.0s
PAHR **Pah Rah Range** 54.09 70 IAmb IAmb 06 13 17.2
comp=Z,12nm,1.4s
HLID **Hailey** 54.29 63 P P 06 13 15.8 0.0
baz=312
SUMG **Summit** 54.33 7 P P 06 13 16.5 +0.6
SUMG **Summit** 54.33 7 P P 06 13 16.5 +0.6
SUMG pmax pmax
comp=Z,38nm,1.1s
SUMG **Summit** 54.33 7 *i P* P 06 13 16.0 +0.1
PNTR **Pine Nut** 54.38 70 IAmb IAmb 06 13 19.6
comp=Z,8.9nm,0.9s
BOZ **Bozeman (W)** 54.42 60 IAmb IAmb 06 13 18.9
comp=Z,4.6nm,0.8s
BOZ **Bozeman (W)** 54.42 60 P P 06 13 17.6 +0.9
baz=312,SNR=11
KTK1 **Kautokeino** 54.64 343 *eP* P 06 13 17.1 -0.6
KTK1 IAmb IAmb 06 13 18.2
comp=Z,26nm,0.6s
YERR **Yerington** 54.66 70 IAmb IAmb 06 13 21.6
comp=Z,8.0nm,1.2s

BMN **Battle Mountai** 54.83 68 IAmb IAmb 06 13 22.7
comp=Z,11nm,1.2s
TRO **Tromso** 54.84 345 *eP* P 06 13 18.6 -0.5
TRO IAmb IAmb 06 13 19.7
comp=Z,18nm,0.8s
BOOM **Boomskoye usch** 54.86 296 P P 06 13 19.2 -0.7
BOOM pmax pmax
comp=Z,11nm,1.0s
WAKR **Walker** 54.87 71 IAmb IAmb 06 13 22.9
comp=Z,4.9nm,0.6s
KVN **Kaiserville** 55.27 69 IAmb IAmb 06 13 25.9
comp=Z,13nm,1.3s
SGF **Sodankyl** 55.36 340 P P 06 13 22.1 -0.8
SGF pmax pmax
comp=Z,13nm,1.0s
FRU1 **Bishkek** 55.36 297 P P 06 13 33.7 +10
FRU1 pmax pmax
comp=Z,75nm,0.5s
ADZR **Andozero** 55.40 333 *eP* P 06 13 22.7 -0.5
ADZR pmax pmax
comp=Z,61nm,0.6s
AAK **Ala-Archa** 55.55 297 P P 06 13 23.1 -1.8
AAK IAmb IAmb 06 13 29.6
comp=Z,12nm,0.9s
AAK **Ala-Archa** 55.55 297 P P 06 13 24.0 -0.9
AAK **Ala-Archa** 55.55 297*ceP* P 06 13 23.7 -1.1
AAK pmax pmax
comp=Z,10.0nm,1.0s
NVAR **Mina Array Bea** 55.58 70 P P 06 13 27.2 +2.0
comp=Z,2.9nm,0.6s,baz=298,slow=7.4,SNR=26
comp=Z,2.9nm,0.6s
LHV **Little Huntoon** 55.58 70 IAmb IAmb 06 13 35.3
comp=Z,7.8nm,1.1s
H17A **Grant Village** 55.78 60 IAmb IAmb 06 13 30.7
comp=Z,7.5nm,0.9s
H17A **Grant Village** 55.78 60 P P 06 13 26.8 +0.2
baz=313
KIRV **Kirov** 55.91 324*c iP* P 06 13 26.5 -0.5
FLWY **Flagg Ranch** 55.93 60 IAmb IAmb 06 13 31.0
comp=Z,6.6nm,0.8s
RLMT **Red Lodge** 55.98 59 IAmb IAmb 06 13 30.9
comp=Z,9.4nm,0.9s
RLMT **Red Lodge** 55.98 59 P P 06 13 28.2 +0.2
baz=313,SNR=5.3
MSF **Maaselka** 56.11 338 P P 06 13 38.3 +10
MSF pmax pmax
comp=Z,71nm,0.8s
ARLS **Aral** 56.17 296 P P 06 13 28.4 -0.9
ARLS pmax pmax
comp=Z,6.0nm,0.7s
CRAI **Chiangrai** 56.20 259 IAmb IAmb 06 13 32.2
comp=Z,8.7nm,1.1s
HVU **Hansel Valley** 56.38 64 IAmb IAmb 06 13 33.8
comp=Z,5.2nm,0.8s
AHID **Auburn Hatcher** 56.61 62 P P 06 13 32.0 -0.5
AHID IAmb IAmb 06 13 35.2
comp=Z,5.9nm,0.8s
SMMC **Simmler** 56.74 74 P P 06 13 34.3 +0.9
baz=315
KSH **Kashi** 56.86 293 P P 06 13 37.3 +3.1
KSH pmax pmax
comp=Z,7.0nm,0.7s
VES **Vestal, Richgr** 56.91 73 P P 06 13 35.4 +1.0
baz=314
LOF **Lofoten** 57.04 346 *eP* P 06 13 34.6 -0.2
LOF IAmb IAmb 06 13 35.2
comp=Z,51nm,0.7s
CWC **Cottonwood Cre** 57.08 72 P P 06 13 36.2 +0.4
baz=314
PKM **Mcpherson Peak** 57.15 74 P P 06 13 36.8 +0.4
baz=315
HWUT **Hardware Ranch** 57.16 63 IAmb IAmb 06 13 39.4
comp=Z,7.3nm,0.9s
R11B **Troy Canyon, C** 57.18 68 P P 06 13 37.4 +0.9
baz=314
SHL **Shillong** 57.33 270 P P 06 13 36.7 -1.0
SHL **Shillong** 57.33 270 P P 06 13 36.7 -1.0
SHL pmax pmax
comp=Z,12nm,0.8s
KKAR **Karatay Array** 57.37 300 IAmb IAmb 06 13 41.9
comp=Z,7.7nm,0.9s
ISA **Isabella, Lake** 57.39 73 P P 06 13 39.1 +1.1
baz=315
SPR3 **Spring Creek 3** 57.43 67 IAmb IAmb 06 13 42.0
comp=Z,6.4nm,0.8s
BW06 **Boulder Array** 57.44 61 P P 06 13 38.8 +0.4
baz=314,SNR=10.0
PDAR **Pinedale Array** 57.44 61 P P 06 13 39.9 +1.5
comp=Z,4.7nm,0.8s,baz=309,slow=2.7,SNR=47
PDAR PcP PcP 06 14 33.1 +1.3
comp=Z,1.5nm,0.8s,baz=344,slow=2.9,SNR=1.8
comp=Z,4.7nm,0.8s
DUG **Dugway, Tooele** 57.45 65 IAmb IAmb 06 13 41.4
comp=Z,8.5nm,1.1s
DUG **Dugway, Tooele** 57.45 65 P P 06 13 38.8 +0.3
baz=314,SNR=5.3
DUG **Dugway, Tooele** 57.45 65 P P 06 13 38.7 +0.3
DUG pmax pmax
comp=Z,7.0nm,1.1s
FAUS **Fauske** 57.46 345 *eP* P 06 13 37.5 -0.3
FAUS IAmb IAmb 06 13 38.2
comp=Z,20nm,0.9s
ARK **Arkit** 57.49 298 P P 06 13 38.5 -0.1
ARK pmax pmax
comp=Z,4.0nm,1.0s
OUL **Oulu** 57.51 339 P P 06 13 37.9 -0.3
OUL pmax pmax
comp=Z,55nm,0.7s
SBC **Santa Barbara** 57.52 75 P P 06 13 40.1 +1.3
baz=315
S11A **Rachel** 57.58 69 IAmb IAmb 06 13 42.2
comp=Z,7.3nm,0.8s
ICESG **Greenland Ices** 57.62 8 *eP* P 06 13 39.9 +0.5
MPMC **Manual Prospec** 57.68 72 P P 06 13 40.9 +0.7
baz=315
FURC **Furnace Creek,** 57.76 71 P P 06 13 41.3 +0.9
baz=315
TPNV **Topopah Spring** 57.77 70 P P 06 13 41.1 +0.4
baz=315,SNR=5.0
SCZ2 **Santa Cruz Isl** 57.88 75 P P 06 13 41.7 +0.3
baz=315
LRMC **Laurel Mtn Rad** 57.98 72 P P 06 13 42.6 +0.4
baz=315
GWY **Greenwater Val** 58.07 71 IAmb IAmb 06 13 45.4
comp=Z,7.0nm,1.1s
JOF **Joensuu** 58.07 335 *eP* P 06 13 42.5 +0.3
TRKS **Terek-Say** 58.12 298 P P 06 13 42.6 -0.5
TRKS pmax pmax
comp=Z,7.0nm,0.8s
PRN **Pahroc Range** 58.14 69 IAmb IAmb 06 13 46.2
comp=Z,5.3nm,1.0s
CHTO **Chiang Mai** 58.14 259 P P 06 13 43.8 +0.5
CHTO **Chiang Mai** 58.14 259 P P 06 13 43.8 +0.5
CHTO pmax pmax
comp=Z,12nm,0.9s
MPU **Maple Canyon** 58.23 65 IAmb IAmb 06 13 46.8
comp=Z,4.0nm,0.8s
ABKAR **Akbulak array** 58.31 311 IAmb IAmb 06 13 45.2
comp=Z,7.6nm,0.9s
AKTO **Aktyubinsk** 58.34 313 LR LR 06 41 29.3
comp=Z,132nm,19.0s,baz=13,slow=39
CMAR **Chiang Mai Arr** 58.42 259 P P 06 13 46.8 +1.5
comp=Z,5.0nm,0.6s,baz=21,slow=7.3,SNR=26
CMAR LR LR 06 42 34.6
comp=Z,104nm,18.0s,baz=235,slow=40
comp=Z,5.0nm,0.6s
GSC **Goldstone, Bar** 58.61 72 P P 06 13 47.2 +0.7
baz=315
MOR8 **Moi Rana** 58.71 345 *eP* P 06 13 45.3 -1.3
MOR8 IAmb IAmb 06 13 45.6
comp=Z,17nm,0.8s
STOK **Stokkvaagen** 58.78 345 *eP* P 06 13 47.1 +0.1
STOK IAmb IAmb 06 13 47.2
comp=Z,12nm,1.1s
ULM **Lac du Bonnet** 58.86 47 P P 06 13 48.8 +0.9
comp=Z,4.1nm,0.4s,baz=320,slow=7.5,SNR=15
comp=Z,4.1nm,0.4s
ULM **Lac du Bonnet** 58.86 47*c iP* P 06 13 48.7 +0.8
TMUT **Trail Mountain** 58.96 65 IAmb IAmb 06 13 51.9
comp=Z,7.1nm,0.8s
K22A **Casper** 59.12 59 P P 06 13 50.3 +0.3
baz=315
HEC **Hector,Ludlow** 59.22 72 P P 06 13 51.8 +1.1
baz=316
Q16A **Castle Valley** 59.25 65 IAmb IAmb 06 13 53.9
comp=Z,4.2nm,0.9s
BTK **Batken** 59.33 297 P P 06 13 50.4 -1.0

BTK pmax pmax
comp=Z,19nm,0.8s
RSSD **Black Hills** 59.36 56 P P 06 13 52.9 +1.1
RSSD **Black Hills** 59.36 56 P P 06 13 52.8 +1.1
baz=315
RSSD **Black Hills** 59.36 56 P P 06 13 52.9 +1.1
RSSD pmax pmax
comp=Z,16nm,0.7s
LCMT **Little Creek M** 59.44 68 IAmb IAmb 06 13 55.4
comp=Z,6.2nm,1.0s
VALR **Valaam** 59.49 335*c iP* P 06 13 52.3 +0.3
GMRC **Granite Mounta** 59.64 71 P P 06 13 54.9 +1.2
baz=316
PKCU **Pink Cliffs** 59.66 67 IAmb IAmb 06 13 57.3
comp=Z,5.7nm,1.0s
KNB **Kanab** 59.67 68 IAmb IAmb 06 13 57.1
comp=Z,5.2nm,1.1s
O20A **White River Ci** 59.99 62 IAmb IAmb 06 13 58.5
comp=Z,4.9nm,0.9s
O20A **White River Ci** 59.99 62 P P 06 13 56.7 +0.6
baz=316
VAF **Ylistaro** 59.99 339 *eP* P 06 13 56.1 +0.6
BELC **Belle Mtn. Jos** 60.00 72 P P 06 13 56.4 +0.2
baz=316
PFO **Pinyon Flats O** 60.01 73 P P 06 13 56.7 +0.5
baz=316
TPFO **Pinon Flats** 60.02 73 P P 06 13 57.1 +0.8
baz=316
KEF **Keuruu** 60.27 338 *eP* P 06 13 57.7 +0.3
AGMN **Agassiz Nation** 60.29 48 IAmb IAmb 06 13 59.4
comp=Z,5.7nm,1.0s
AGMN **Agassiz Nation** 60.29 48 P P 06 13 58.1 +0.3
baz=317
FINES **FINESS Array B** 60.62 337 P P 06 13 59.9 +0.1
comp=Z,32nm,0.5s,baz=33,slow=8.3,SNR=93
comp=Z,32nm,0.5s
NSS **Namsos** 60.62 345 *eP* P 06 13 59.6 -0.1
NSS IAmb IAmb 06 14 00.1
comp=Z,27nm,1.3s
N23A **Red Feather La** 60.67 60 IAmb IAmb 06 14 03.5
comp=Z,5.9nm,0.8s
N23A **Red Feather La** 60.67 60 P P 06 14 01.2 +0.3
baz=316,SNR=6.9
PDMCI **Parker Dam,Lak** 60.86 71 P P 06 14 02.7 +0.9
baz=316
IKP **In-Ko-Pah, Jac** 60.91 73 P P 06 14 03.2 +0.9
baz=316
CHGR **Chuyangaron** 61.23 297 P P 06 14 03.4 -1.0
CHGR pmax pmax
comp=Z,27nm,0.8s
BELG **Belogornoye** 61.24 320*c iP* P 06 14 03.2 -0.9
BELG pmax pmax
comp=Z,7.0nm,0.9s
SIMJ **Simiganj** 61.31 297 P P 06 14 03.2 -1.8
SIMJ IAmb IAmb 06 14 09.0
comp=Z,12nm,1.1s
SMCO **Snowmass** 61.35 62 IAmb IAmb 06 14 08.1
comp=Z,5.0nm,0.9s
GLA **Glamis** 61.36 72 P P 06 14 06.6 +1.2
baz=317
WUAZ **Wupatki** 61.56 68 IAmb IAmb 06 14 09.9
comp=Z,9.4nm,1.4s
WUAZ **Wupatki** 61.56 68 P P 06 14 07.3 +0.5
baz=316
ISCO **Idaho Springs** 61.63 61 IAmb IAmb 06 14 10.5
comp=Z,9.0nm,1.1s
ISCO **Idaho Springs** 61.63 61 P P 06 14 08.0 +0.6
baz=317,SNR=8.9
ISCO **Idaho Springs** 61.63 61 P P 06 14 09.7 +2.3
ISCO pmax pmax
comp=Z,9.0nm,1.2s
HNR **Honiara** 61.87 181 LR LR 06 38 15.0
comp=Z,559nm,20.4s,baz=70,slow=33
F33A **5 Mile Ranch,** 61.90 51 P P 06 14 09.0 +0.3
F33A IAmb IAmb 06 14 11.0
comp=Z,9.4nm,1.2s
F33A **pP** 06 14 18.5 -1.1
MVCO **Mesa Verde** 61.94 65 IAmb IAmb 06 14 11.9
comp=Z,3.9nm,0.8s
MVCO **Mesa Verde** 61.94 65 P P 06 14 10.1 +0.6
baz=317
RAF **Rauma** 61.99 339 *eP* P 06 14 09.3 +0.3
MEF **Metsahovi** 62.10 337 *eP* P 06 14 10.3 +0.5
MOS **Moscow** 62.18 328 *eP* P 06 14 09.4 -1.0
MOS pmax pmax
comp=Z,42nm,0.7s
ARBE **Arbavere** 62.40 336 *eP* P 06 14 11.8 0.0
S22A **4UR Ranch, Cre** 62.47 63 IAmb IAmb 06 14 16.1
comp=Z,6.4nm,1.2s
S22A **4UR Ranch, Cre** 62.47 63 P P 06 14 13.6 +0.5
baz=317
Q24A **Divide** 62.49 61 P P 06 14 13.3 +0.1
baz=317
EYMN **Ely** 62.50 46 IAmb IAmb 06 14 14.2
comp=Z,6.7nm,0.7s
EYMN **Ely** 62.50 46 P P 06 14 13.1 +0.4
baz=319,SNR=7.4
NIL **Nilore** 62.56 290 P P 06 14 11.8 -1.6
NIL **Nilore** 62.56 290 P P 06 14 11.8 -1.6
NIL pmax pmax
comp=Z,20nm,0.6s
OGNE **Ogallala** 62.67 58 P P 06 14 14.3 +0.2
baz=317
OBN **Obninsk** 63.03 328*c iP* P 06 14 15.6 -0.5
OBN *e**PP **sP** 06 14 30.0 -1.6
OBN *e**SP **pP** 06 14 35.0 +7.8
OBN *e* 06 14 52.4
OBN *e* 06 16 32.0
OBN *e*PPP PPP 06 18 03.6
OBN *eS* **S** 06 22 43.2 -0.3
OBN pmax pmax
comp=Z,18nm,0.8s
OBN MLR MLR
comp=Z,136nm,21.0s
VSU **Vasula** 63.06 335*c iP* P 06 14 16.6 +0.4
VSU pmax pmax
comp=Z,37nm,0.8s
X18A **Snowflake** 63.08 68 IAmb IAmb 06 14 20.0
comp=Z,5.9nm,0.9s
AAL **Aland** 63.13 339 *eP* P 06 14 16.8 +0.1
SDCO **Great Sand Dun** 63.19 62 P P 06 14 17.8 0.0
baz=317,SNR=5.6
ECSD **EROS Data Cent** 63.31 52 IAmb IAmb 06 14 19.6
comp=Z,5.7nm,0.9s
ECSD **EROS Data Cent** 63.31 52 P P 06 14 18.6 +0.4
baz=319,SNR=6.7
214A **Organ Pipe Nat** 63.33 72 P P 06 14 19.1 +0.7
baz=317
DOMB **Dombas** 63.42 345 *eP* P 06 14 18.3 -0.3
DOMB IAmb IAmb 06 14 19.2
comp=Z,14nm,0.8s
MTSE **Matsula** 63.57 336 *eP* P 06 14 20.5 +1.0
UPP **Uppsala** 63.93 340 *eP* P 06 14 22.2 +0.3
SPMN **Marine on St.** 63.98 49 IAmb IAmb 06 14 24.1
comp=Z,6.4nm,0.8s
SPMN **Marine on St.** 63.98 49 P P 06 14 22.1 -0.5
baz=320
NB2 **NORSAR Subarra** 64.02 344 P P 06 14 22.2 -0.4
comp=Z,19nm,1.0s,baz=24,slow=6.9
NB2 **NORSAR Subarra** 64.02 344 P P 06 14 22.2 -0.4
baz=24,slow=6.9
NOA **NORSAR Array B** 64.02 344 P P 06 14 22.2 -0.4
comp=Z,7.5nm,0.8s,baz=14,slow=5.4,SNR=32
comp=Z,7.5nm,0.8s
T25A **Trinidad** 64.22 62 P P 06 14 24.6 +0.1
baz=318
TUC **Tucson** 64.23 70 P P 06 14 23.9 -0.6
baz=318
NC602 **NORSAR Array S** 64.26 344 *eP* P 06 14 24.1 +0.1
NORES **NORESS Array B** 64.26 344 P P 06 14 23.6 -0.5
LPSR **Galich'ya Gora** 64.31 325 *eP* P 06 14 21.6 -2.9
LPSR pmax pmax
comp=Z,60nm,0.6s
VRH **Novokhopyorsk** 64.44 322 *eP* P 06 14 24.4 -1.0
VRH pmax pmax
comp=Z,57nm,0.5s
HFS **Hagfors** 64.44 342 P P 06 14 24.9 -0.4
comp=Z,4.4nm,0.4s,baz=37,slow=5.7,SNR=48
comp=Z,4.4nm,0.4s
HYA **Hoyanger** 64.68 347 *eP* P 06 14 27.2 +0.4
ANMO **Albuquerque** 64.72 65 P P 06 14 28.7 +0.9
ANMO **Albuquerque** 64.72 65 P P 06 14 27.7 -0.2
baz=318
ANMO **Albuquerque** 64.72 65⇑ *iP* P 06 14 28.8 +1.0
ANMO pmax pmax
comp=Z,1.0nm,1.0s

SKAR Skarslia 64.83 345 *e*P **P 06 14 28.3 +0.3**
SKAR IAmb IAmb 06 14 29.7
comp=Z,16nm,1.1s
SLIT Slitere, Latvi 64.91 337 *e*P **P 06 14 28.9 +0.5**
COWI Conover 64.96 46 IAmb IAmb 06 14 29.6
comp=Z,4.3nm,0.7s
VORR Voronezh 64.97 324 *e*P **P 06 14 27.0 -1.9**
VORR pmax pmax
comp=Z,70nm,0.4s
VSR Storozhevoye 65.36 324 *e*P **P 06 14 29.1 -2.3**
VSR pmax pmax
comp=Z,40nm,1.1s
VIKU Vikbolandet 65.36 340 *e*P **P 06 14 31.7 +0.4**
VORD Divnogorie 65.52 324 *e*P **P 06 14 29.6 -2.8**
VORD pmax pmax
comp=Z,30nm,0.9s
RTBA Rita Blanca 65.64 62 IAmb IAmb 06 14 34.9
comp=Z,4.3nm,0.7s
319A Douglas 65.78 70 IAmb IAmb 06 14 37.4
comp=Z,7.5nm,0.9s
ODD1 Odda 65.82 346 *e*P **P 06 14 34.7 +0.4**
SCHQ Schefferville 65.86 28 P **P 06 14 35.3 +0.7**
comp=Z,11nm,0.8s,baz=337,slow=5.7,SNR=16
comp=Z,11nm,0.8s
IIGN Ignalina 65.92 333 *e*P **P 06 14 35.9 +0.9**
VSVD Vaisvydziai 65.97 335 *e*P **P 06 14 36.2 +0.9**
MNK Minsk 66.21 332 *i* P **P 06 14 37.7 +0.9**
MNK *i* *PP **pP 06 14 49.8 +1.8**
MNK *i* 06 17 03.3
MNK *i* PPP PPP 06 18 38.6
MNK *i* S **S 06 23 24.3 +1.6**
MNK *i* *SS **sS 06 23 43.8 +2.1**
MNK *i* SS **SS 06 27 41.1 +3.2**
MNK pmax pmax
comp=Z,59nm,0.9s
MNK pmax pmax
comp=N,35nm,0.9s
MNK pmax pmax
comp=E,13nm,0.9s
MNK MLR MLR
comp=N,80nm,15.0s
MNK MLR MLR
comp=E,77nm,16.0s
MNK MLR MLR
comp=Z,158nm,18.0s
SCIA State Center 66.33 52 P **P 06 14 38.0 +0.2**
baz=321,SNR=9.6
PABE Paberze 66.39 335 P **P 06 14 37.2 -0.8**
PABE Paberze 66.39 335 *e*P **P 06 14 38.9 +1.0**
KSU1 Kansas State U 66.81 56 P **P 06 14 40.9 -0.1**
baz=320
JFWS Jewell Farm 66.94 49 IAmb IAmb 06 14 42.2
comp=Z,4.3nm,0.8s
JFWS Jewell Farm 66.94 49 P **P 06 14 41.4 -0.3**
baz=322
L40A Anamosa 67.15 50 IAmb IAmb 06 14 43.7
comp=Z,7.0nm,0.7s
AMTX Amarillo 67.37 62 P **P 06 14 44.8 +0.1**
baz=319
MSTX Muleshoe 67.47 63 IAmb IAmb 06 14 47.3
comp=Z,11nm,1.1s
MSTX Muleshoe 67.47 63 P **P 06 14 45.2 -0.2**
baz=319,SNR=5.9
DEL Delary 67.83 341 *e*P **P 06 14 47.1 0.0**
SUW Suwalki 67.93 334 *e*P **P 06 14 47.9 +0.1**
VLDQ Val d'Or 68.09 38 P **P 06 14 47.6 -1.3**
DKNS Dickens 68.70 62 P **P 06 14 52.8 -0.2**
DKNS IAmb IAmb 06 14 54.8
comp=Z,4.9nm,0.7s
DKNS **pP 06 15 03.7 -0.2**
P40A Paris 68.73 52 IAmb IAmb 06 14 54.3
comp=Z,7.5nm,0.8s
POST Post 68.85 63 IAmb IAmb 06 14 55.8
comp=Z,6.1nm,0.8s
BSD Bornholm Skovb 68.88 340 *e*P **P 06 14 54.1 +0.5**
GOF Gofitskoye 68.91 318*ce*P **P 06 14 53.8 -0.2**
WMOK Wichita Mounta 69.03 60 P **P 06 14 55.5 +0.5**
WMOK IAmb IAmb 06 14 56.7
comp=Z,9.0nm,0.9s
WMOK Wichita Mounta 69.03 60 P **P 06 14 54.8 -0.2**
baz=320,SNR=17
WMOK Wichita Mounta 69.03 60 P **P 06 14 55.5 +0.5**
WMOK pmax pmax
comp=Z,9.0nm,0.9s
AKASG Malin Array Be 69.13 329 P **P 06 14 54.9 -0.4**
comp=Z,15nm,0.5s,baz=30,slow=6.2,SNR=48
comp=Z,15nm,0.5s
AKBB Malin Array Si 69.13 329*c i*P **P 06 14 54.6 -0.7**
AKBB *i* *PP **pP 06 15 06.6 0.0**
AKBB pmax pmax
comp=Z,29nm,0.9s
KIEV Kiev 69.14 329 P **P 06 14 54.4 -1.0**
KIEV Kiev 69.14 329 P **P 06 14 54.7 -0.6**
KIEV Kiev 69.14 329 P **P 06 14 54.4 -1.0**
KIEV pmax pmax
comp=Z,28nm,0.9s
HDIL Hopedale 69.23 50 P **P 06 14 55.5 -0.6**
baz=322
APMT Aspermont 69.40 62 IAmb IAmb 06 14 58.3
comp=Z,5.3nm,0.7s
RNPP9 Sopachiv 69.50 332 P **P 06 14 57.7 +0.1**
R40A Maddies Statio 69.59 53 IAmb IAmb 06 14 58.8
comp=Z,7.2nm,0.6s
TUL3 Leonard 69.68 57 IAmb IAmb 06 15 00.3
comp=Z,6.8nm,0.9s
TUL3 Leonard 69.68 57 P **P 06 14 58.4 -0.5**
baz=321
PYA1 Pyatigorsk 69.70 317*c i*P **P 06 14 59.0 0.0**
P43A Skaggs, Pawnee 69.85 51 IAmb IAmb 06 15 01.3
comp=Z,10nm,0.8s
KIV Kislovodsk 69.96 317 ⇑P **P 06 15 01.0 +0.3**
KIV Kislovodsk 69.96 317 P **P 06 15 00.5 -0.1**
KIV Kislovodsk 69.96 317 *e*P **P 06 15 00.7 0.0**
KIV pmax pmax
comp=Z,15nm,0.9s
KIV MLR MLR
comp=Z,91nm,17.0s
U38A Gravette 69.98 56 IAmb IAmb 06 15 01.6
comp=Z,8.9nm,1.1s
KBZ Khabaz 70.06 317 P **P 06 15 01.8 +0.7**
comp=Z,24nm,0.7s,baz=67,slow=3.5,SNR=49
comp=Z,24nm,0.7s
KBZ Khabaz 70.06 317*ce*P **P 06 15 01.3 +0.2**
KBZ pmax pmax
comp=Z,28nm,0.9s
SHA1 Shidzhatmaz 70.15 317*c i*P **P 06 15 02.1 +0.1**
ABTX Abilene, Hawle 70.19 62 IAmb IAmb 06 15 04.0
comp=Z,8.5nm,0.9s
ABTX Abilene, Hawle 70.19 62 P **P 06 15 01.7 -0.5**
baz=321
LUBAR Lubar, Ukraine 70.27 330 P **P 06 15 01.1 -1.2**
CCM Cathedral Cave 70.28 53 P **P 06 15 02.3 -0.3**
CCM Cathedral Cave 70.28 53 P **P 06 15 02.2 -0.4**
baz=322
CCM Cathedral Cave 70.28 53 P **P 06 15 02.3 -0.3**
CCM pmax pmax
comp=Z,4.0nm,0.8s
SFIN Lafayette 70.39 49 P **P 06 15 02.7 -0.5**
baz=324
MGMO Mountain Grove 70.48 54 IAmb IAmb 06 15 04.3
comp=Z,4.7nm,0.6s
TXAR Lajitas Array 70.50 67 P **P 06 15 05.6 +1.4**
comp=Z,4.3nm,0.6s,baz=300,slow=4.6,SNR=105
comp=Z,4.3nm,0.6s
TRQ Mont Tremblant 70.75 37 P **P 06 15 04.8 -0.6**
TRQ IAmb IAmb 06 15 06.6
comp=Z,12nm,1.0s
PLPT Palo Pinto 70.76 61 IAmb IAmb 06 15 07.0
comp=Z,7.5nm,0.9s
BSEG Bad Segeberg 70.91 342 *e*P 06 15 07.0
comp=Z,5.6nm,0.6s,baz=18,slow=5.9
ANN Anapa 71.35 321 *e*P **P 06 15 09.0 +0.1**
ANN *e**PP **sP 06 15 22.5 -2.2**
ANN *e* 06 17 48.9
ANN *e*S **S 06 24 26.1 +2.2**
ANN pmax pmax
comp=Z,19nm,0.9s
O48B Farmland 71.36 47 P **P 06 15 08.2 -1.0**
baz=324
VSLR Vesyoloye 71.45 319*d i*P **P 06 15 09.9 +0.3**
VSLR pmax pmax
comp=Z,72nm,1.2s
LVV L'vov 71.46 332 *e*P **P 06 15 09.2 -0.4**
SOC Sochi 71.47 319 *e*P **P 06 15 08.2 -1.6**
SOC *e* 06 17 49.4
SOC *e*PPP PPP 06 19 30.0
SOC *e*S **S 06 24 24.8 -0.6**
SOC *e*SS **SS 06 29 02.4 +2.9**
SOC pmax pmax
comp=Z,17nm,0.7s
SOC MLR MLR
comp=Z,171nm,21.0s
EKA Eskdalemuir Ar 71.51 350 P **P 06 15 09.9 +0.2**
comp=Z,1.9nm,0.4s,baz=18,slow=5.4,SNR=24
comp=Z,1.9nm,0.4s
EKA Eskdalemuir Ar 71.51 350 P **P 06 15 09.8 0.0**
S44A Carbondale 71.52 52 IAmb IAmb 06 15 11.7
comp=Z,9.5nm,0.7s
FCAR Ozark Folk Cen 71.55 55 IAmb IAmb 06 15 11.0
comp=Z,11nm,1.0s
SORM Soroca 71.66 329 ⇑P **P 06 15 10.5 -0.3**
SORM Soroca 71.66 329 P **P 06 15 10.4 -0.3**
SORM Soroca 71.66 329 P **P 06 15 10.2 -0.6**
comp=Z,34nm,0.9s
PBMO Poplar Bluff 71.68 53 IAmb IAmb 06 15 11.9
comp=Z,5.7nm,0.8s
JCT Junction City 71.76 64 IAmb IAmb 06 15 13.4
comp=Z,9.6nm,1.2s
JCT Junction City 71.76 64 P **P 06 15 11.4 -0.4**
baz=321
WHTX Lake Whitney, 71.85 61 P **P 06 15 12.1 -0.2**
baz=321
KMPD K-Podol'skiy 71.87 330 P **P 06 15 10.9 -1.1**
MIAR Mount Ida 71.88 57 IAmb IAmb 06 15 14.3
comp=Z,14nm,1.4s
MIAR Mount Ida 71.88 57 P **P 06 15 12.2 -0.2**
baz=322
MIAR Mount Ida 71.88 57 P **P 06 15 12.8 +0.5**
WHAR Wooly Hollow 71.94 55 IAmb IAmb 06 15 23.4
comp=Z,9.9nm,1.2s
KWP Kalwaria Pacla 72.00 333 *e*P **P 06 15 14.9 +2.1**
KWP Kalwaria Pacla 72.00 333 P **P 06 15 10.5 -2.4**
LONY Lake Ozonia 72.10 38 P **P 06 15 12.5 -1.1**
baz=328
DRIO Del Rio 72.12 65 IAmb IAmb 06 15 15.5
comp=Z,4.2nm,0.7s
P49A Miami Univ. Ec 72.14 48 P **P 06 15 13.2 -0.6**
baz=325
E62A Clayton Lake 72.19 34 P **P 06 15 14.8 +0.8**
GNI Garni 72.19 314 P **P 06 15 14.7 +0.3**
GNI Garni 72.19 314*ce*P **P 06 15 15.2 +0.8**
GNI pmax pmax
comp=Z,20nm,1.0s
GNI Garni 72.19 314 P **P 06 15 14.6 +0.3**
comp=Z,30nm,1.4s
FLTG Flechtingen 72.25 341 *e*P 06 15 14.7
comp=Z,5.1nm,0.8s,baz=18,slow=5.9
OJC Ojcow 72.25 335 *e*P **P 06 15 14.8 +0.5**
OJC Ojcow 72.25 335 P **P 06 15 13.8 -0.5**
OJC Ojcow 72.25 335 P **P 06 15 13.8 -0.5**
OJC pmax pmax
comp=Z,25nm,1.2s
OJC Ojcow 72.25 335 P **P 06 15 14.6 +0.3**
comp=Z,21nm,1.2s
NRDL Niedersach Rie 72.32 342 *e*P 06 15 15.6
comp=Z,3.5nm,0.7s,baz=18,slow=5.9
M53A Wi Miller and 72.34 44 P **P 06 15 14.4 -0.6**
baz=326
ACSO Alum Creek Sta 72.35 46 P **P 06 15 14.6 -0.4**
baz=325
BCA Borcka 72.47 316 ⇑P **P 06 15 15.8 0.0**
WCI Wyandotte Cave 72.48 49 P **P 06 15 15.2 -0.7**
baz=324
KSP Ksiaz 72.55 337 *e*P **P 06 15 15.9 -0.1**
KSP Ksiaz 72.55 337 P **P 06 15 15.7 -0.4**
KSP pmax pmax
comp=Z,14nm,1.0s
KOLS Kolonicke sedl 72.76 333 *e*P **P 06 15 17.6 +0.2**
KOLS pmax pmax
comp=Z,16nm,1.1s
KOLS Kolonicke sedl 72.76 333 *e*P **P 06 15 17.6 +0.2**
OSTC Ostas 72.83 337 AMS AMS 06 53 50.0
comp=Z,200nm,16.3s
CLL Collm 72.85 339 *e*P **P 06 15 18.0 +0.1**
comp=Z,25nm,1.2s
CLL *e*pP **pP 06 15 30.0 +0.8**
CLL AMS AMS 06 49 00.0
comp=Z,100nm,18.4s
CLL Collm 72.85 339 *e*P **P 06 15 18.0 +0.1**
CLL *e**SP **pP 06 15 30.0 +0.8**
CLL pmax pmax
comp=Z,25nm,1.2s
CLL Collm 72.85 339 *e*P 06 15 18.4
comp=Z,10nm,0.8s,baz=18,slow=5.9
NIE Niedzica 72.85 334 *e*P **P 06 15 19.5 +1.5**
NIE Niedzica 72.85 334 P **P 06 15 18.8 +0.8**
NIE pmax pmax
comp=Z,6.0nm,0.9s
CLZ Clausthal 72.89 341 *e*P 06 15 19.4
comp=Z,9.4nm,0.9s,baz=18,slow=5.9
UPC Upice 72.92 337 *e*P **P 06 15 19.6 +1.3**
UPC AMS AMS 06 54 00.0
comp=Z,200nm,14.6s
UPC Upice 72.92 337 *e*P **P 06 15 19.6 +1.3**
UPC MLR MLR
comp=Z,200nm,14.6s
DPC Dobruska-Polom 73.00 337 *e*P **P 06 15 19.5 +0.7**
DPC AMS AMS 06 53 50.0
comp=Z,200nm,16.3s
DPC Dobruska-Polom 73.00 337 *e*P **P 06 15 19.5 +0.7**
DPC MLR MLR
comp=Z,200nm,16.3s
CRVS Cervenica-Dubn 73.01 333 *e*P **P 06 15 19.4 +0.5**
CRVS pmax pmax
comp=Z,13nm,1.1s
CRVS Cervenica-Dubn 73.01 333 *e*P **P 06 15 19.4 +0.5**
BRG Berggiesshubel 73.05 339 *e*P **P 06 15 20.3 +1.2**
BRG Amp 06 15 21.3
comp=Z,8.4nm,1.1s
BRG Amp 06 16 31.0
comp=Z,0.3nm,20.7s
BRG Amp 06 16 34.0
comp=N,0.2nm,14.1s
BRG Amp 06 16 35.0
comp=E,0.2nm,20.4s
BRG Amp 06 54 35.0
comp=Z,0.1nm,20.5s
BRG Berggiesshubel 73.05 339 *e*P **P 06 15 20.3 +1.2**
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG Berggiesshubel 73.06 339 *e*P 06 15 20.2
comp=Z,4.7nm,0.9s,baz=18,slow=5.9
G62A West of Eustis 73.06 35 IAmb IAmb 06 15 21.2
comp=Z,13nm,0.9s
BURAR Bucovina Array 73.09 330 ⇓P **P 06 15 19.7 +0.2**
O53A New Philadelph 73.10 45 P **P 06 15 18.6 -0.9**
baz=326
T47A Sharon Grove 73.11 51 IAmb IAmb 06 15 21.3
comp=Z,9.0nm,0.6s
KRLC Kraliky 73.14 337 *e*P **P 06 15 19.9 +0.2**
KRLC Kraliky 73.14 337 *e*P **P 06 15 19.9 +0.2**
P52A Corning 73.21 46 P **P 06 15 19.3 -0.9**
baz=326
MORC Moravsky Berou 73.23 336 ⇑P **P 06 15 21.2 +0.9**
MORC Moravsky Berou 73.23 336 IAmb IAmb 06 15 22.1
comp=Z,16nm,1.1s
MORC Moravsky Berou 73.23 336 *e*P **P 06 15 20.6 +0.4**
MORC Moravsky Berou 73.23 336 P **P 06 15 21.1 +0.9**
LANS Liptovska Anna 73.32 335 *e*P **P 06 15 22.6 +1.9**
LANS pmax pmax
comp=Z,16nm,1.1s
LANS Liptovska Anna 73.32 335 *e*P **P 06 15 22.6 +1.9**
HSKC Hora Svate Kat 73.42 339 *e*P **P 06 15 22.5 +1.2**
PKME Peaks-Kenny Pk 73.45 34 P **P 06 15 21.1 -0.4**
baz=331
WVT Waverly 73.45 52 P **P 06 15 22.6 +0.9**
WVT IAmb IAmb 06 15 23.2
comp=Z,4.9nm,0.8s
WVT Waverly 73.45 52 P **P 06 15 21.2 -0.5**
baz=324
WVT Waverly 73.45 52 P **P 06 15 22.6 +0.9**
WVT pmax pmax
comp=Z,5.0nm,0.8s
BINY Binghamton 73.62 40 P **P 06 15 21.9 -0.7**
baz=328
TESR Tescani 73.63 329 ⇑P **P 06 15 22.7 +0.1**
PRU Pruhonice 73.75 338 AMS AMS 06 54 00.0
comp=Z,100nm,15.2s
PRU Pruhonice 73.75 338 P **P 06 15 24.1 +0.9**
PRU pmax pmax
comp=Z,7.0nm,0.9s
GOPC GO Pecny, Ondr 73.76 338 *e*P **P 06 15 24.1 +0.8**
GOPC GO Pecny, Ondr 73.76 338 *e*P **P 06 15 24.1 +0.8**
MOX Moxa 73.77 340 P **P 06 15 24.1 +0.8**
MOX pmax pmax
comp=Z,9.0nm,1.1s
MOX Moxa 73.77 340 *e*P 06 15 24.2
comp=Z,8.8nm,1.1s,baz=18,slow=5.9
TANN Tannenbergstha 73.81 339 *e*P 06 15 24.9
comp=Z,2.5nm,0.8s,baz=18,slow=5.9
KASTN Kahler Asten 73.87 342 *e*P 06 15 24.9
comp=Z,5.3nm,0.8s,baz=18,slow=5.9
VRAC Vranov 73.90 336 *e*P **P 06 15 25.0 +0.9**
VRAC Vranov 73.90 336 LR LR 06 52 05.5
comp=Z,98nm,18.3s,baz=8.0,slow=39
VRAC Vranov 73.90 336 P **P 06 15 25.2 +1.1**
VRAC pmax pmax
comp=Z,13nm,1.2s
UBBA Unterbreizbach 73.93 341 *e*P 06 15 25.9
comp=Z,3.0nm,0.6s,baz=18,slow=5.9
OXF Oxford 73.99 54 P **P 06 15 24.6 -0.2**
baz=324
JAVC Velka Javorina 74.05 336 *e*P **P 06 15 26.4 +1.4**
VYHS Vyhne 74.09 335 *e*P **P 06 15 26.1 +0.9**
VYHS pmax pmax
comp=Z,8.0nm,0.8s
VYHS Vyhne 74.09 335 *e*P **P 06 15 26.1 +0.9**
SSPA Standing Stone 74.17 42 P **P 06 15 25.9 +0.1**
baz=328
MCWV Mont Chateau 74.17 44 P **P 06 15 25.3 -0.6**
baz=327
KRUC Moravsky 74.18 336 *e*P **P 06 15 27.0 +1.3**
KRUC Moravsky 74.18 336 P **P 06 15 27.3 +1.6**
KRUC pmax pmax
comp=Z,13nm,1.0s
VRI Vrincioaia 74.18 328 ⇑P **P 06 15 26.3 +0.5**
VRI Vrincioaia 74.18 328 P **P 06 15 26.3 +0.5**
CLTN Cedars of Leba 74.20 51 IAmb IAmb 06 15 27.6
comp=Z,9.2nm,0.6s
TURR Turia 74.24 329 ⇓P **P 06 15 27.0 +0.8**
V48A Smith Brothers 74.25 51 IAmb IAmb 06 15 27.6
comp=Z,5.4nm,0.7s
MANZ Manzenberg 74.29 340 *e*P 06 15 27.9
comp=Z,1.1nm,1.0s,baz=18,slow=5.9
CFR Carcaliu 74.34 327 ⇑P **P 06 15 26.9 +0.2**
CFR Carcaliu 74.34 327 P **P 06 15 26.8 +0.2**
PSZ Piszkesteto 74.34 334 ⇓P **P 06 15 27.4 +0.7**
PSZ Piszkesteto 74.34 334 P **P 06 15 27.4 +0.7**
ZVC Zvikov 74.34 338 *e*P **P 06 15 27.4 +0.7**
COVR Voineasa-Covas 74.37 329 ⇓P **P 06 15 27.6 +0.6**
ROTZ Rotzenmuhle 74.48 339 *e*P 06 15 29.0
comp=Z,1.0nm,0.9s,baz=18,slow=5.9
TPGR Topolog 74.53 327 ⇑P **P 06 15 28.1 +0.3**
MARR Marisel-Cluj 74.56 331 ⇑P **P 06 15 28.5 +0.4**
MODS Modra-Piesok 74.60 336 *e*P **P 06 15 29.5 +1.3**
MODS pmax pmax
comp=Z,25nm,1.2s
MODS Modra-Piesok 74.60 336 *e*P **P 06 15 29.5 +1.3**
DZM Mont Dzumac 74.61 174 LR LR 06 42 11.8
comp=Z,117nm,21.8s,baz=354,slow=31
MLR Muntele Rosu 74.77 329 ⇑P **P 06 15 30.1 +0.7**
MLR Muntele Rosu 74.77 329 P **P 06 15 30.0 +0.7**
KHC Kasperske Hory 74.77 338 IAmb IAmb 06 15 32.1
comp=Z,10nm,1.0s
KHC Kasperske Hory 74.77 338 *e*P **P 06 15 30.2 +1.0**
KHC *e*pP **pP 06 15 41.0 +0.4**
KHC AMS AMS 06 54 40.0
comp=Z,200nm,18.1s
KHC Kasperske Hory 74.77 338*ce*P **P 06 15 30.2 +1.0**
KHC pmax pmax
comp=Z,28nm,1.1s
KHC Kasperske Hory 74.77 338 P **P 06 15 29.9 +0.7**
TNS Taunus Mts 74.80 342 *e*P 06 15 30.0
comp=Z,4.6nm,0.7s,baz=18,slow=5.9
DIKM Dikmen 74.86 321 ⇓P **P 06 15 30.2 +0.4**
MEM Membach 74.87 344 *d*P **P 06 15 30.3 +0.6**
comp=Z,15nm,0.8s
MEM Membach 74.87 344 P **P 06 15 30.4 +0.7**
MEM pmax pmax
comp=Z,18nm,0.7s
BTNL Ternell 74.87 343 *d*P **P 06 15 30.1 +0.4**
CKRC Cesky Krumlov 74.90 338 AMS AMS 06 53 50.0
comp=Z,100nm,20.6s
WET Wettzell 74.92 339 P **P 06 15 30.7 +0.7**
WET pmax pmax
comp=Z,8.0nm,1.4s
WET Wettzell 74.92 339 *e*P 06 15 31.3
comp=Z,4.5nm,0.8s,baz=18,slow=5.9
GERES GERESS Array B 75.01 338 P **P 06 15 31.3 +0.6**
comp=Z,2.2nm,0.5s,baz=46,slow=5.8,SNR=7.4
comp=Z,2.2nm,0.5s
GEC2 GERESS Array S 75.01 338 *e*P 06 15 31.3
comp=Z,4.0nm,0.9s,baz=18,slow=5.9
HBVL Hebbronville 75.03 65 IAmb IAmb 06 15 44.2
comp=Z,11nm,1.0s
VOIR 75.09 329 ⇓P **P 06 15 32.1 +0.9**
VOIR 75.09 329 P **P 06 15 32.0 +0.9**
ARR Arges 75.28 330 ⇑P **P 06 15 33.2 +0.9**
SIRR Siria 75.35 332 ⇑P **P 06 15 33.3 +0.7**
CONA Conrad Observa 75.36 336 *e*P **P 06 15 34.0 +1.3**
comp=Z,14nm,1.2s,SNR=5.7
BMRD Maredsous 75.37 344 *d*P **P 06 15 33.3 +0.7**
W50A Signal Mountai 75.40 51 IAmb IAmb 06 15 34.6
comp=Z,7.1nm,0.7s
PAL Palisades 75.45 40 P **P 06 15 33.5 +0.3**
baz=329
RONA Rosalia, Austr 75.47 336 *i* P **P 06 15 34.6 +1.4**
comp=Z,5.9nm,0.8s
SURR Surduc 75.69 331 ⇑P **P 06 15 34.6 +0.2**
Z47A Carrollton 75.70 54 IAmb IAmb 06 15 36.6
comp=Z,11nm,0.7s
WR0 Warramunga Arr 75.81 205 P **P 06 15 36.5 +1.1**
WR0 IAmb IAmb 06 15 37.5
comp=Z,16nm,1.2s
MOA Molln 75.82 337 *i* P **P 06 15 36.2 +1.0**
comp=Z,7.4nm,1.2s
WRAB Tennant Creek 75.84 205 P **P 06 15 36.6 +1.1**
WRAB Tennant Creek 75.84 205 P **P 06 15 36.6 +1.1**
WRAB pmax pmax
comp=Z,19nm,1.1s
WB2 Warramunga Arr 75.85 205 P **P 06 15 36.8 +1.2**
WRA Warramunga Arr 75.85 205 P **P 06 15 36.7 +1.1**
comp=Z,11nm,0.9s,baz=21,slow=6.1,SNR=34
comp=Z,11nm,0.9s
BZS Buzias 75.96 332 ⇓P **P 06 15 36.5 +0.5**
BZS Buzias 75.96 332 P **P 06 15 36.5 +0.5**
ARSA Arzberg 76.08 336 *i* P **P 06 15 38.0 +1.3**
comp=Z,8.5nm,1.0s
BIOA Bad Ischl, Aus 76.11 338 *e*P **P 06 15 38.0 +1.1**
comp=Z,3.3nm,0.5s
RJOB Jochberg 76.26 338 *e*P 06 15 39.3
comp=Z,3.7nm,0.7s,baz=18,slow=5.9
LRAL Lakeview Retre 76.36 53 P **P 06 15 38.5 0.0**
baz=325
HERR Herculane 76.39 331 ⇑P **P 06 15 39.0 +0.5**
LESA Schwarzleotal 76.58 338 *i* P **P 06 15 40.7 +1.1**
comp=Z,7.8nm,0.9s
BFO Black Forest 76.64 341 *e*P 06 15 40.6
comp=Z,3.5nm,0.8s,baz=18,slow=5.9
SOKA Soboth 76.73 336 *i* P **P 06 15 41.5 +1.0**
comp=Z,7.2nm,0.6s,SNR=9.3
KBA Koelnbreinsper 76.76 338 *e*P **P 06 15 42.4 +1.6**
comp=Z,36nm,0.7s,SNR=27
KBA Koelnbreinsper 76.76 338 P **P 06 15 42.3 +1.6**
KBA pmax pmax
comp=Z,54nm,0.9s
FRGS Fruska Gora 76.89 333 ⇓P **P 06 15 42.0 +0.7**
UBR Ueberruh 76.90 340 *e*P 06 15 42.7
comp=Z,5.9nm,0.8s,baz=18,slow=5.9
WATA Walderalm 76.91 339 *i* P **P 06 15 43.6 +2.0**
comp=Z,8.3nm,0.8s
RETA Reutte 76.94 340 *e*P **P 06 15 42.5 +0.8**
comp=Z,4.0nm,0.6s
ECH Echery 76.97 342 IAmb IAmb 06 15 45.5
comp=Z,11nm,1.1s
ECH Echery 76.97 342 P **P 06 15 42.3 +0.6**
ECH pmax pmax
comp=Z,10.0nm,1.3s
WTTA Wattenberg 76.97 339 *e*P **P 06 15 43.7 +1.7**
comp=Z,6.5nm,0.5s
WTTA Wattenberg 76.97 339 P **P 06 15 43.8 +1.9**
WTTA pmax pmax
comp=Z,13nm,1.4s
OBKA Obir 77.01 337 *e*P **P 06 15 42.7 +0.6**
comp=Z,15nm,0.9s,SNR=6.7
SQTA Sankt Quirin 77.10 339 *i* P **P 06 15 44.1 +1.5**
comp=Z,6.2nm,0.6s
MYKA Terra Mystica 77.11 337 *i* P **P 06 15 44.2 +1.6**

comp=Z,4.7nm,1.0s
BRTR Keskin Array B 77.14 321 P **P 06 15 43.1 +0.1**
comp=Z,6.2nm,1.0s,baz=60,slow=3.0,SNR=25
comp=Z,6.2nm,1.0s
ABTA Abfaltersbach 77.26 338 *i* P **P 06 15 44.6 +1.1**
comp=Z,14nm,0.9s,SNR=7.5
KMSC Kings Mountain 77.28 48 P **P 06 15 43.9 +0.2**
baz=327
DAVA Damuels 77.32 340 *i* P **P 06 15 45.5 +1.6**
comp=Z,16nm,1.4s
FETA Feichten 77.39 339 *i* P **P 06 15 45.8 +1.4**
comp=Z,11nm,1.0s,SNR=5.0
BOVS Bovan 77.74 331 ⇓P **P 06 15 46.4 +0.3**
FUORN Ofenpass-Fuorn 77.87 340 IAmb IAmb 06 15 51.4
comp=Z,5.9nm,0.7s
SHME Shamm 77.91 297 P **P 06 15 46.4 -0.9**
CTI Castel Tesino 78.11 338 IAmb IAmb 06 15 50.3
comp=Z,12nm,1.1s
MDH Madha 78.42 296 P **P 06 15 49.2 -0.9**
MSFE Esma-Masafi 78.45 297 P **P 06 15 49.9 -0.4**
UOSS Minazif 78.75 296 P **P 06 15 51.4 -0.6**
UOSS Minazif 78.75 296 P **P 06 15 51.0 -1.0**
HATD Hatta, Dubai 78.89 296 P **P 06 15 52.2 -0.6**
NAZ Nazwa, Dubai 79.01 297 P **P 06 15 52.3 -1.1**
ASHO Ashiyiah 79.04 296 P **P 06 15 53.2 -0.4**
FAQ Al Faqa, Dubai 79.24 297 P **P 06 15 54.1 -0.5**
NHSC New Hope 79.51 48 P **P 06 15 55.7 -0.3**
baz=328
ASAR Alice Springs 79.52 205 P **P 06 15 57.8 +1.8**
comp=Z,8.6nm,0.6s,baz=15,slow=5.3,SNR=91
comp=Z,8.6nm,0.6s
PDG Podgorica 79.56 332 ⇑P **P 06 15 55.9 -0.2**
BNI Bardonecchia 80.10 342 IAmb IAmb 06 16 13.4
comp=Z,8.0nm,0.8s
BNI Bardonecchia 80.10 342 P **P 06 16 00.9 +1.7**
BNI pmax pmax
comp=Z,11nm,1.0s
MSSA Maissana 80.23 339 IAmb IAmb 06 16 15.9
comp=Z,14nm,0.9s
ORIF Oris-en-Rattie 80.38 342 P **P 06 16 02.3 +1.6**
ORIF pmax pmax
comp=Z,13nm,1.1s
ISO Isola 80.86 341 P **P 06 16 04.6 +1.4**
ISO pmax pmax
comp=Z,10.0nm,0.9s
PPT Papeete 82.13 133 LR LR 06 43 20.7
comp=Z,53nm,21.4s,baz=316,slow=29
MMAI Mount Meron Ar 82.23 316 P **P 06 16 11.8 +1.2**
comp=Z,12nm,0.6s,baz=40,slow=6.6,SNR=26
comp=Z,12nm,0.6s
CEST Esterri de Car 83.43 345 IAmb IAmb 06 16 30.4
comp=Z,8.9nm,0.8s
RAYN Ar Rayn 85.55 304 P **P 06 16 27.5 -0.2**
RAYN Ar Rayn 85.55 304 P **P 06 16 27.4 -0.3**
RAYN Ar Rayn 85.55 304 P **P 06 16 27.5 -0.2**
RAYN pmax pmax
comp=Z,6.0nm,0.6s
POLO Lamas de Olo 85.78 351 *e*P **P 06 16 30.1 +1.5**
PVIS Viseu 86.44 351 *e*P **P 06 16 35.2 +3.4**
comp=Z,14nm,1.6s
MTE Manteigas 86.72 351 *e*P **P 06 16 35.0 +1.8**
comp=Z,14nm,1.2s
ESDC Sonseca Array 87.05 348 P **P 06 16 35.2 +0.4**
comp=Z,4.3nm,0.9s,baz=1.3,slow=4.9,SNR=23
comp=Z,4.3nm,0.9s
PCAS Casmilo, Conde 87.16 352 *e*P **P 06 16 36.5 +1.2**
comp=Z,21nm,1.7s
KEST Kesra 88.46 337 P **P 06 16 41.7 0.0**
comp=Z,4.0nm,0.9s,baz=108,slow=3.2,SNR=3.2
comp=Z,4.0nm,0.9s
PACT Alcochete 88.46 352 *e*P **P 06 16 43.8 +2.3**
LPAZ La Paz 127.34 65 PKP **PKiKP 06 22 55.2 0.0**
comp=Z,1.3nm,0.7s,baz=9.1,slow=5.8,SNR=8.0
VNDA Vanda 129.94 180 PKP **PKiKP 06 22 57.9 0.0**
comp=Z,0.3nm,0.5s,baz=313,slow=4.5,SNR=5.1
CPUP Villa Florida 141.33 62 PKhKP PKPpre 06 23 16.7
comp=Z,1.3nm,0.6s,baz=293,slow=1.7,SNR=5.2
QSPA South Pole Qui 142.43 180 PKhKP PKPpre 06 23 16.4
comp=Z,2.2nm,0.4s,baz=281,slow=0.7,SNR=29
ELIB Princess Elisa 153.29 208 *d*PKP **PKiKP 06 23 46.4 +0.4**
TROLL Troll, Antarti 158.37 198 ⇑Pdiff **PKPab 06 24 20.4 +0.6**
comp=Z,185nm,0.4s
SNAA Sanae 159.59 195 ⇑Pdiff **PKPab 06 24 25.4 +0.3**
comp=Z,42nm,0.6s
SNAA Sanae 159.59 195 PKPab **PKPab 06 24 25.5 +0.4**
comp=Z,2.0nm,0.8s,baz=188,slow=8.0,SNR=11
VNA3 Neumayer Olymp 160.88 190 ⇑Pdiff **PKPab 06 24 30.6 0.0**
comp=Z,6.0nm,0.7s
VNA2 Neumayer--Watz 160.91 192 ⇑Pdiff **PKPab 06 24 31.4 +0.6**
comp=Z,2.8nm,0.8s,baz=152,slow=3.3
VNA1 Neumayer--Stat 161.28 192 ⇑Pdiff **PKPab 06 24 32.4 +0.1**
comp=Z,3.1nm,0.7s

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*IDC **10** 06:09:46.6±1.2, 31°.67S×58°.24E, h0km, mb4.1/8, mbtmp4.1/8, Error ellipse: s-maj=42.3km s-min=25.5km az=78.0*

ISC 10 06:09:49.2±1.3, 31°.7S±0°.2×58°.2E±0°.4, h17km, n15, σ0s53/9, mb4.2/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.30**	**197**	T	T	06 29 13.9	
baz=22,slow=75,SNR=3.7							
H04N1	**CROZET ISLANDS**	**15.30**	**197**	T	T	06 29 13.6	
baz=22,slow=75,SNR=11							
H04N3	**CROZET ISLANDS**	**15.32**	**197**	T	T	06 29 15.7	
baz=22,slow=75,SNR=3.2							
H08S1	**Diego Carcia H**	**27.36**	**32**	T	T	06 44 02.6	
baz=206,slow=75,SNR=5.0							
H08S2	**Diego Garcia H**	**27.37**	**32**	T	T	06 43 59.8	
baz=206,slow=75,SNR=4.6							
H08S3	**Diego Garcia H**	**27.38**	**32**	T	T	06 43 58.5	
baz=206,slow=75,SNR=5.2							
QSPA	**South Pole Qui**	**58.50**	**180**	P	**P**	**06 19 44.5 +0.2**	
1.5nm,1.0s,baz=290,slow=1.7,SNR=6.5							
1.5nm,1.0s							
CMAR	**Chiang Mai Arr**	**63.33**	**44**	P	**P**	**06 20 17.9 +0.4**	
3.2nm,0.7s,baz=239,slow=7.2,SNR=10							
3.2nm,0.7s							
ASAR	**Alice Springs**	**66.32**	**104**	P	**P**	**06 20 37.0 -0.3**	
1.3nm,0.7s,baz=240,slow=6.0,SNR=15							
1.3nm,0.7s							
WRA	**Warramunga Arr**	**68.33**	**101**	P	**P**	**06 20 49.9 -0.1**	
1.5nm,0.8s,baz=246,slow=5.4,SNR=8.3							
1.5nm,0.8s							
MKAR	**Makanchi Array**	**81.07**	**16**	P	**P**	**06 22 03.1 0.0**	
0.5nm,0.7s,baz=220,slow=5.7,SNR=4.8							
0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**83.88**	**13**	P	**P**	**06 22 17.9 +0.3**	
2.2nm,0.9s,baz=208,slow=5.8,SNR=13							
2.2nm,0.9s							
BVAR	**Borovoye Array**	**85.00**	**7**	P	**P**	**06 22 23.7 +0.5**	
3.4nm,0.7s,baz=172,slow=5.4,SNR=17							
3.4nm,0.7s							
ZALV	**Zalesovo Beam**	**88.33**	**15**	P	**P**	**06 22 38.5 -0.9**	
0.4nm,0.3s,baz=243,slow=5.8,SNR=1.8							
0.4nm,0.3s							
YKA	**Yellowknife Ar**	**148.81**	**354**	PKPbc	**PKPbc**	**06 29 34.5 -0.5**	
1.9nm,0.9s,baz=348,slow=2.9,SNR=5.0							

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*IDC **10** 06:16:37.4±3.3, 51°.67N×161°.32E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=99.0km s-min=36.0km az=7.0*

*KRSC **10** 06:16:49.1±1.6, 52°.73N×160°.61E, h21km±15km, Ml3.8*

ISC 10 06:16:45.6±1.8, 52°.76N±0°.06×160°.97E±0°.05, h17km±10km, n43, σ1s50/52, mb3.7/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.66**	**301**	*e*P	**Pb**	**06 17 00.4 +1.7**	
SPN				*e*S	**Sg**	**06 17 06.0 -1.4**	
NLC	**Nalytchevo**	**1.06**	**293**	*e*P	**Pn**	**06 17 06.0 +0.4**	
NLC				*e*S	**Sb**	**06 17 17.6 -1.5**	
DALK	**Dalny**	**1.37**	**282**	*e*P	**Pn**	**06 17 10.5 +0.6**	
DALK				*e*S	**Sn**	**06 17 25.5 -2.0**	
UGLR	**Uglovaya**	**1.37**	**290**	*e*P	**Pn**	**06 17 11.1 +1.1**	
SMAR	**Somma**	**1.40**	**292**	*e*P	**Pn**	**06 17 11.4 +0.9**	
PET	**Petropavlovsk**	**1.43**	**281**	*e*P	**Pn**	**06 17 11.5 +0.8**	
AVH	**Avacha**	**1.44**	**291**	*e*P	**Pn**	**06 17 12.3 +1.3**	
KRER	**Koryakskii**	**1.44**	**293**	*e*P	**Pn**	**06 17 12.5 +1.4**	
KOK	**Koryaka**	**1.50**	**292**	*e*P	**Pn**	**06 17 13.1 +1.3**	
KRX	**Arik**	**1.52**	**294**	*e*P	**Pn**	**06 17 12.9 +0.8**	
KRX				*e*S	**Sn**	**06 17 29.0 -2.6**	
KII	**Karymskiy**	**1.57**	**325**	*e*P	**Pg**	**06 17 15.9 +0.2**	
KII				*e*S	**Sb**	**06 17 36.3 +2.6**	
MTVR	**Mutnovka**	**1.72**	**262**	*e*P	**Pn**	**06 17 16.1 +1.3**	
MTVR				*e*S	**Sn**	**06 17 35.6 -0.8**	
KRMR	**Karymshinskiy**	**1.72**	**273**	*e*P	**Pn**	**06 17 15.7 +1.0**	
KRMR				*e*S	**Sn**	**06 17 33.7 -2.7**	
GRL	**Gorelyy**	**1.77**	**264**	*e*P	**Pn**	**06 17 17.3 +1.7**	
GRL				*e*S	**Sn**	**06 17 37.2 -0.6**	
MKZ	**Mys Kozlova**	**1.85**	**14**	*e*P	**Pg**	**06 17 21.3 +0.1**	
MKZ				*e*S	**Sg**	**06 17 45.2 -0.1**	
ASAK	**Asacha**	**1.91**	**260**	*e*P	**Pn**	**06 17 19.2 +1.8**	
ASAK				*e*S	**Sn**	**06 17 41.7 +0.6**	
KDTR	**Khodutka, Kamc**	**2.02**	**243**	*e*P	**Pn**	**06 17 20.3 +1.6**	
KDTR				*e*S	**Sn**	**06 17 42.8 -0.8**	
GNL	**Ganaly**	**2.04**	**298**	*e*P	**Pb**	**06 17 22.2 -0.1**	
GNL				*e*S	**Sn**	**06 17 45.4 +0.9**	
APC	**Apacha**	**2.31**	**276**	*e*P	**Pn**	**06 17 25.6 +2.7**	
APC				*e*S	**Sn**	**06 17 52.3 +1.3**	
TUMD	**Tumrok D**	**2.47**	**352**	*e*P	**Pb**	**06 17 30.2 +0.8**	
TUMD				*e*S	**Sb**	**06 17 59.7 +0.1**	
TUMR	**Tumrok**	**2.57**	**349**	*e*P	**Pb**	**06 17 32.1 +0.9**	
KMNR	**Kamenistaya**	**3.03**	**352**	*e*P	**Pb**	**06 17 39.5 +0.4**	
BZP	**Bezymyannyi-Pe**	**3.17**	**356**	*e*P	**Pb**	**06 17 41.6 +0.2**	
BZGR	**Bezymyannyi-Gr**	**3.19**	**357**	*e*P	**Pb**	**06 17 41.5 -0.3**	
BZGR				*e*S	**Sb**	**06 18 21.5 +1.2**	
BZMR	**Bezymyannaya**	**3.19**	**355**	*e*P	**Pb**	**06 17 41.7 -0.2**	
KIRR	**Kirishev**	**3.22**	**354**	*e*P	**Pb**	**06 17 42.7 +0.4**	
BZWR	**Bezymyannyi-We**	**3.22**	**355**	*e*P	**Pb**	**06 17 41.9 -0.4**	
KPT	**Kopyto**	**3.24**	**353**	*e*P	**Pb**	**06 17 42.3 -0.3**	
ZLN	**Zelenaya**	**3.26**	**358**	*e*P	**Pb**	**06 17 44.6 +1.6**	
KRSR	**Krestovskiy**	**3.47**	**356**	*e*P	**Pb**	**06 17 45.3 -1.2**	
KBTR	**Krutoberegovo**	**3.62**	**17**	*e*P	**Pb**	**06 17 50.5 +1.5**	
SRDR	**Sredimnyy**	**3.63**	**349**	*e*P	**Pb**	**06 17 46.6 -2.8**	
H11N2	**WAKE ISLAND Hy**	**33.29**	**170**	T	T	06 58 49.1	
baz=353,slow=76,SNR=55							
H11N3	**WAKE ISLAND Hy**	**33.30**	**170**	T	T	06 58 48.2	
baz=353,slow=76,SNR=60							
H11N1	**WAKE ISLAND Hy**	**33.31**	**170**	T	T	06 58 47.0	
baz=353,slow=76,SNR=52							
H11S1	**WAKE ISLAND Hy**	**34.48**	**170**	T	T	07 00 12.9	
baz=352,slow=76							
H11S3	**WAKE ISLAND Hy**	**34.49**	**170**	T	T	07 00 16.9	
baz=352,slow=76							
H11S2	**WAKE ISLAND Hy**	**34.50**	**170**	T	T	07 00 13.5	
baz=352,slow=76							
KURBB	**Kurchatov Arra**	**48.46**	**302**	P	**P**	**06 25 27.0 +0.3**	
0.4nm,0.5s,baz=60,slow=7.6,SNR=4.4							
0.4nm,0.5s							
MKAR	**Makanchi Array**	**48.77**	**296**	P	**P**	**06 25 28.9 -0.4**	
0.3nm,0.5s,baz=52,slow=7.8,SNR=6.7							
0.3nm,0.5s							
ARCES	**ARCESS Array B**	**53.76**	**342**	P	**P**	**06 26 08.0 +1.7**	
1.4nm,0.8s,baz=50,slow=9.9,SNR=1.9							
1.4nm,0.8s							
FINES	**FINESS Array B**	**60.63**	**337**	P	**P**	**06 26 57.4 +2.5**	
1.0nm,0.6s,baz=35,slow=7.0,SNR=7.5							
1.0nm,0.6s							
TXAR	**Lajitas Array**	**70.28**	**67**	P	**P**	**06 27 53.9 -4.1**	
0.2nm,0.9s,baz=317,slow=5.2,SNR=2.5							
0.2nm,0.9s							

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*IDC **10** 06:16:56.6±1.4, 31°.60S×58°.07E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=53.2km s-min=33.6km az=70.0*

ISC 10 06:16:59.3±1.1, 31°.7S±0°.2×58°.3E±0°.3, h10km, n13, σ0s98/7, mb4.0/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.34**	**197**	T	T	06 36 26.1	
baz=20							
H04N1	**CROZET ISLANDS**	**15.34**	**197**	T	T	06 36 26.1	
baz=20							
H04N3	**CROZET ISLANDS**	**15.36**	**197**	T	T	06 36 26.1	
baz=20							
OPO	**Ambohidratompo**	**16.46**	**320**	Pn	**P**	**06 20 53.7 +0.4**	
baz=122,slow=18,SNR=1.5							
H08S1	**Diego Carcia H**	**27.29**	**32**	T	T	06 51 04.6	
baz=202							
H08S2	**Diego Garcia H**	**27.30**	**32**	T	T	06 51 04.6	
baz=202							
H08S3	**Diego Garcia H**	**27.31**	**32**	T	T	06 51 08.1	
baz=202							
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**06 26 55.2 -0.4**	
0.9nm,0.6s,baz=251,slow=2.3,SNR=2.0							
0.9nm,0.6s							
ASAR	**Alice Springs**	**66.22**	**104**	P	**P**	**06 27 48.1 +0.3**	
0.6nm,0.6s,baz=235,slow=6.2,SNR=9.4							
0.6nm,0.6s							
WRA	**Warramunga Arr**	**68.23**	**101**	P	**P**	**06 28 00.8 +0.3**	
0.9nm,0.7s,baz=244,slow=5.8,SNR=3.8							
0.9nm,0.7s							
KURBB	**Kurchatov Arra**	**83.85**	**13**	P	**P**	**06 29 28.3 -0.3**	
0.6nm,0.9s,baz=198,slow=4.9,SNR=3.5							
0.6nm,0.9s							
BVAR	**Borovoye Array**	**84.98**	**7**	P	**P**	**06 29 33.0 -1.3**	
1.3nm,0.8s,baz=171,slow=3.6,SNR=6.2							
1.3nm,0.8s							
YKA	**Yellowknife Ar**	**148.81**	**354**	PKPbc	**PKPdf**	**06 36 43.6 +1.3**	
0.7nm,0.8s,baz=8.5,slow=1.2,SNR=3.4							

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*IDC **10** 06:18:30.0±0.7, 31°.61S×58°.25E, h0km, mb4.2/11, mbtmp4.2/12, ML3.8/1, Error ellipse: s-maj=29.1km s-min=17.5km az=88.0*

*NEIC **10** 06:18:31.0±1.2, 31°.7S±0°.1×58°.3E±0°.2, h10km±1km, mb4.5/19, Error ellipse: s-maj=29.8km s-min=18.5km az=270.0*

ISC 10 06:18:31.2±0.6, 31°.6S±0°.1×58°.3E±0°.1, h10km, n41, σ0s96/34, mb4.5/17, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**14.11**	**311**	Pn	**Pn**	**06 21 51.0 -0.2**	
ABPO	**Ambohimpanom**	**16.04**	**319**	Pn	**Pn**	**06 22 16.5 -0.6**	
OPO	**Ambohidratompo**	**16.42**	**320**	Pn	**Pn**	**06 22 23.1 +1.0**	
baz=135,slow=14,SNR=2.3							
5.8nm,0.8s							
H08S1	**Diego Carcia H**	**27.28**	**32**	T	T	06 52 34.5	
baz=202							
H08S2	**Diego Garcia H**	**27.29**	**32**	T	T	06 52 34.5	
baz=202							
H08S3	**Diego Garcia H**	**27.30**	**32**	T	T	06 52 34.5	
baz=202							
MAW	**Mawson**	**36.11**	**177**	P	**P**	**06 25 35.1 +2.2**	
6.3nm,0.6s,baz=24,slow=7.1,SNR=22							
6.3nm,0.6s							
H01W2	**Cape Leeuwin H**	**46.30**	**110**	T	T	07 16 07.2	
baz=256							
H01W3	**Cape Leeuwin H**	**46.30**	**110**	T	T	07 16 07.2	
baz=256							
H01W1	**Cape Leeuwin H**	**46.31**	**110**	T	T	07 16 07.2	
baz=256							
SNAA	**Sanae**	**51.29**	**201**	P	**P**	**06 27 34.3 -0.8**	
SNAA				IAmb	IAmb	06 27 54.7	
comp=Z,3.9nm,1.3s							
SNAA	**Sanae**	**51.29**	**201**	P	**P**	**06 27 34.3 -0.8**	
comp=Z,0.5nm,0.7s,baz=139,slow=11,SNR=1.7							
comp=Z,0.5nm,0.7s							
QSPA	**South Pole Qui**	**58.54**	**180**	P	**P**	**06 28 26.9 -0.7**	
QSPA				IAmb	IAmb	06 28 38.9	
comp=Z,6.7nm,1.2s							
QSPA	**South Pole Qui**	**58.54**	**180**	P	**P**	**06 28 27.7 0.0**	
comp=Z,1.3nm,0.6s,baz=278,slow=3.7,SNR=8.5							
comp=Z,1.3nm,0.6s							
FORT	**Forrest**	**58.69**	**109**	P	**P**	**06 28 26.5 -2.6**	
CMAR	**Chiang Mai Arr**	**63.25**	**44**	P	**P**	**06 29 01.1 +0.9**	
comp=Z,3.1nm,0.4s,baz=231,slow=7.3,SNR=14							
comp=Z,3.1nm,0.4s							
ASAR	**Alice Springs**	**66.25**	**104**	P	**P**	**06 29 20.4 +0.5**	
comp=Z,2.2nm,0.6s,baz=240,slow=5.9,SNR=22							
comp=Z,2.2nm,0.6s							
AS31	**Alice Springs**	**66.26**	**104**	P	**P**	**06 29 19.4 -0.5**	
WRA	**Warramunga Arr**	**68.25**	**101**	P	**P**	**06 29 33.2 +0.6**	
comp=Z,2.2nm,0.7s,baz=244,slow=5.5,SNR=13							
comp=Z,2.2nm,0.7s							
WB2	**Warramunga Arr**	**68.27**	**101**	P	**P**	**06 29 31.5 -1.2**	
WRAB	**Tennant Creek**	**68.27**	**101**	P	**P**	**06 29 32.0 -0.6**	
WB0	**Warramunga Arr**	**68.38**	**100**	P	**P**	**06 29 32.2 -1.2**	
WR0	**Warramunga Arr**	**68.42**	**101**	P	**P**	**06 29 33.9 +0.3**	
SIMJ	**Simiganj**	**70.64**	**9**	P	**P**	**06 29 47.3 +0.4**	
SIMJ				IAmb	IAmb	06 29 49.2	
comp=Z,8.2nm,1.2s							
BRTR	**Keskin Array B**	**74.59**	**341**	P	**P**	**06 30 10.3 -0.1**	
comp=Z,0.8nm,0.8s,baz=159,slow=12,SNR=4.2							
KK31	**Karatay Array**	**75.21**	**9**	P	**P**	**06 30 13.7 -0.1**	
KK31				IAmb	IAmb	06 30 16.1	
comp=Z,2.1nm,0.9s							
KKAR	**Karatay Array**	**75.21**	**9**	P	**P**	**06 30 13.3 -0.5**	
BOOM	**Boomskoye usch**	**75.52**	**13**	P	**P**	**06 30 16.5 +0.7**	
BOOM				IAmb	IAmb	06 30 25.9	
comp=Z,3.2nm,1.2s							
PRZ	**Przheval'sk**	**76.03**	**15**	P	**P**	**06 30 19.4 +0.6**	
ABKAR	**Akbulak array**	**80.54**	**1**	P	**P**	**06 30 43.3 0.0**	
ABKAR				IAmb	IAmb	06 30 44.9	
comp=Z,5.8nm,1.4s							
MAKZ	**Makanchi**	**80.95**	**16**	P	**P**	**06 30 44.9 -0.6**	
MAKZ				IAmb	IAmb	06 30 49.7	
comp=Z,6.6nm,1.4s							
MK31	**Makanchi Array**	**81.01**	**16**	P	**P**	**06 30 44.4 -1.5**	
MKAR	**Makanchi Array**	**81.01**	**16**	P	**P**	**06 30 46.5 +0.6**	
comp=Z,0.5nm,0.6s,baz=220,slow=5.5,SNR=6.3							
comp=Z,0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**83.83**	**13**	P	**P**	**06 31 01.4 +0.9**	
comp=Z,2.7nm,0.9s,baz=208,slow=5.7,SNR=15							
comp=Z,2.7nm,0.9s							
KURK	**Kurchatov**	**83.94**	**13**	P	**P**	**06 31 01.4 +0.5**	
KURK				IAmb	IAmb	06 31 03.0	
comp=Z,5.8nm,1.0s							
BVAR	**Borovoye Array**	**84.96**	**7**	P	**P**	**06 31 06.9 +0.7**	
comp=Z,5.0nm,0.8s,baz=163,slow=5.6,SNR=23							
comp=Z,5.0nm,0.8s							
BRVK	**Borovoye**	**84.98**	**7**	P	**P**	**06 31 06.8 +0.6**	
SONM	**Songino Array**	**90.11**	**30**	P	**P**	**06 31 31.4 +0.1**	
comp=Z,0.6nm,0.8s,baz=206,slow=6.3,SNR=2.0							
comp=Z,0.6nm,0.8s							
ILAR	**Eielson Array**	**143.36**	**18**	PKhKP	PKPpre	06 38 01.7	
comp=Z,0.3nm,0.7s,baz=307,slow=3.3,SNR=2.8							
ILAR				PKP	pPKPdf	06 38 07.3 +0.5	
comp=Z,0.4nm,0.8s,baz=245,slow=1.5,SNR=4.4							
YKA	**Yellowknife Ar**	**148.79**	**354**	PKPbc	**PKPbc**	**06 38 17.9 -0.2**	
comp=Z,1.8nm,0.7s,baz=1.5,slow=2.4,SNR=7.3							
DLBC	**Dease Lake**	**152.60**	**10**	PKPbc	**PKPbc**	**06 38 25.8 -1.6**	
comp=Z,0.5nm,0.4s,baz=26,slow=12,SNR=3.0							

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*IDC **10** 06:22:04.5±1.1, 31°.68S×58°.22E, h0km, mb4.0/8, mbtmp4.0/9, ML3.9/1, Error ellipse: s-maj=38.7km s-min=23.8km az=63.0*

ISC 10 06:22:07.4±1.0, 31°.7S±0°.2×58°.2E±0°.2, h17km, n20, σ0s73/11, mb4.1/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.29**	**197**	T	T	06 40 58.9	
baz=22							
H04N1	**CROZET ISLANDS**	**15.29**	**197**	T	T	06 40 58.9	
baz=22							
H04N3	**CROZET ISLANDS**	**15.31**	**197**	T	T	06 40 58.9	
baz=22							
OPO	**Ambohidratompo**	**16.42**	**320**	Pn	**Pn**	**06 25 57.6 +0.3**	
baz=132,slow=11,SNR=3.2							
6.8nm,0.8s							
H08S1	**Diego Carcia H**	**27.36**	**32**	T	T	06 56 12.0	
baz=207,slow=75,SNR=3.3							
H08S2	**Diego Garcia H**	**27.37**	**32**	T	T	06 56 10.9	
baz=207,slow=75,SNR=4.1							
H08S3	**Diego Garcia H**	**27.38**	**32**	T	T	06 56 15.9	
baz=207,slow=75,SNR=4.5							
H01W2	**Cape Leeuwin H**	**46.34**	**110**	T	T	07 20 12.8	
baz=254							
H01W3	**Cape Leeuwin H**	**46.34**	**110**	T	T	07 20 12.8	
baz=254							
H01W1	**Cape Leeuwin H**	**46.35**	**110**	T	T	07 20 12.8	
baz=254							
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**06 32 02.5 +0.1**	
1.0nm,0.7s,baz=271,slow=2.7,SNR=5.5							
1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**63.33**	**44**	P	**P**	**06 32 36.0 +0.3**	
1.4nm,0.3s,baz=231,slow=7.3,SNR=5.4							
1.4nm,0.3s							
ASAR	**Alice Springs**	**66.30**	**104**	P	**P**	**06 32 55.0 -0.2**	
1.2nm,0.7s,baz=242,slow=5.8,SNR=11							
1.2nm,0.7s							
WRA	**Warramunga Arr**	**68.31**	**101**	P	**P**	**06 33 07.9 -0.1**	
1.0nm,0.7s,baz=245,slow=5.4,SNR=8.1							
1.0nm,0.7s							
BRTR	**Keskin Array B**	**74.62**	**341**	P	**P**	**06 33 45.1 -0.5**	
0.4nm,0.6s,baz=193,slow=3.8,SNR=1.8							
0.4nm,0.6s							
MKAR	**Makanchi Array**	**81.08**	**16**	P	**P**	**06 34 20.9 -0.3**	
0.4nm,0.6s,baz=172,slow=3.7,SNR=3.9							
0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**83.89**	**13**	P	**P**	**06 34 36.1 +0.4**	
1.3nm,0.9s,baz=207,slow=5.7,SNR=9.9							
1.3nm,0.9s							
BVAR	**Borovoye Array**	**85.01**	**7**	P	**P**	**06 34 41.5 +0.1**	
2.4nm,0.8s,baz=178,slow=4.5,SNR=10							
2.4nm,0.8s							
ILAR	**Eielson Array**	**143.42**	**18**	PKP	**PKPdf**	**06 41 41.3 +1.2**	
0.4nm,0.8s,baz=253,slow=0.9,SNR=2.6							
YKA	**Yellowknife Ar**	**148.83**	**354**	PKPbc	**PKPbc**	**06 41 51.8 -1.4**	
1.3nm,0.9s,baz=39,slow=4.6,SNR=4.6							

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*IDC **10** 06:26:29.6±1.1, 31°.67S×58°.25E, h0km, mb4.1/8, mbtmp4.1/9, ML3.9/1, Error ellipse: s-maj=39.7km s-min=25.8km az=62.0*

ISC 10 06:26:31.0±1.0, 31°.6S±0°.2×58°.2E±0°.2, h10km, n21, σ1s03/12, mb4.2/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.33**	**197**	T	T	06 45 58.1	
baz=21,slow=75,SNR=2.2							
H04N1	**CROZET ISLANDS**	**15.33**	**197**	T	T	06 45 56.9	
baz=21,slow=75,SNR=3.2							
H04N3	**CROZET ISLANDS**	**15.35**	**197**	T	T	06 45 57.9	
baz=21,slow=75,SNR=2.8							
OPO	**Ambohidratompo**	**16.34**	**320**	Pn	**P**	**06 30 23.3 -0.4**	
baz=128,slow=19,SNR=2.4							
5.2nm,0.9s			

baz=106,slow=312,SNR=3.0
ZALV Zalesovo Beam 1.20 286 Pg Pg 06 26 55.4 -0.1
1.3nm,0.3s,baz=105,slow=17,SNR=11
ZALV Lg Lg 06 27 11.1
1.0nm,0.3s,baz=105,slow=26,SNR=5.6
KURBB Kurchatov Arra 5.91 243 Pn Pn 06 28 01.9 +0.7
0.1nm,0.3s,baz=58,slow=13,SNR=7.2
KURBB Lg Lg 06 29 40.5
baz=58,slow=32,SNR=1.6
0.2nm,0.2s
MKAR Makanchi Array 7.43 205 Pn Pn 06 28 23.2 +1.1
0.1nm,0.3s,baz=23,slow=13,SNR=7.7
MKAR Sn Sn 06 29 47.6 +0.5
baz=23,slow=23,SNR=2.2
0.3nm,0.2s

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*IDC **10** 06:28:48.9±0.9,31°.63S×58°.26E,h0km,mb3.7/8,*
mbtmp3.7/8,Error ellipse: s-maj=35.1km s-min=23.8km
az=90.0
ISC 10 06:28:50.3±0.8,31°.6S±0°.2×58°.2E±0°.3,h10km,n20,
σ0°99/11,mb3.9/9,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.35**	**197**	T	T	06 47 43.6	
baz=21,slow=75,SNR=9.4							
H04N1	**CROZET ISLANDS**	**15.35**	**197**	T	T	06 47 43.6	
baz=21,slow=75,SNR=9.1							
H04N3	**CROZET ISLANDS**	**15.36**	**197**	T	T	06 47 43.6	
baz=21,slow=75,SNR=10							
H08S1	**Diego Carcia H**	**27.31**	**32**	T	T	07 03 04.2	
baz=206,slow=75,SNR=11							
H08S2	**Diego Garcia H**	**27.32**	**32**	T	T	07 03 04.2	
baz=206,slow=75,SNR=8.1							
H08S3	**Diego Garcia H**	**27.33**	**32**	T	T	07 03 04.2	
baz=206,slow=75,SNR=11							
H01W2	**Cape Leeuwin H**	**46.36**	**110**	T	T	07 27 03.2	
baz=257,slow=75,SNR=5.0							
H01W3	**Cape Leeuwin H**	**46.36**	**110**	T	T	07 27 05.5	
baz=257,slow=75,SNR=5.0							
H01W1	**Cape Leeuwin H**	**46.38**	**110**	T	T	07 27 08.8	
baz=257,slow=75,SNR=5.3							
SNAA	**Sanae**	**51.27**	**201**	P	**P**	**06 37 54.6**	**+0.6**
0.3nm,0.8s,baz=60,slow=3.5,SNR=1.0							
0.3nm,0.8s							
QSPA	**South Pole Qui**	**58.54**	**180**	P	**P**	**06 38 46.8**	**-0.1**
0.5nm,0.6s,baz=256,slow=3.0,SNR=5.2							
0.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.29**	**44**	P	**P**	**06 39 19.7**	**+0.2**
1.7nm,0.6s,baz=228,slow=6.7,SNR=1.3							
ASAR	**Alice Springs**	**66.32**	**104**	P	**P**	**06 39 39.3**	**-0.1**
0.7nm,0.6s,baz=236,slow=6.0,SNR=7.6							
0.7nm,0.6s							
WRA	**Warramunga Arr**	**68.32**	**101**	P	**P**	**06 39 52.2**	**+0.1**
0.8nm,0.7s,baz=241,slow=5.4,SNR=5.6							
0.8nm,0.7s							
BRTR	**Keskin Array B**	**74.57**	**341**	P	**P**	**06 40 29.5**	**+0.1**
0.3nm,0.4s,baz=147,slow=2.9,SNR=1.8							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**81.03**	**16**	P	**P**	**06 41 05.0**	**0.0**
0.2nm,0.5s,baz=211,slow=8.1,SNR=3.0							
0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**83.84**	**13**	P	**P**	**06 41 19.5**	**-0.1**
0.4nm,0.5s,baz=206,slow=5.7,SNR=4.6							
0.4nm,0.5s							
BVAR	**Borovoye Array**	**84.96**	**7**	P	**P**	**06 41 25.9**	**+0.6**
2.1nm,0.8s,baz=178,slow=6.8,SNR=6.4							
2.1nm,0.8s							
YKA	**Yellowknife Ar**	**148.77**	**354**	PKPbc	**PKPbc**	**06 48 38.1**	**+0.9**
1.5nm,0.7s,baz=360,slow=3.7,SNR=6.1							
TXAR	**Lajitas Array**	**164.22**	**266**	PKP	**PKPdf**	**06 48 52.0**	**-2.5**
0.2nm,0.8s,baz=104,slow=1.9,SNR=2.4							

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*IDC **10** 06:30:20.8±0.9,31°.74S×58°.15E,h0km,mb4.0/10,*
mbtmp4.0/10,Error ellipse: s-maj=35.0km s-min=23.8km
az=86.0
ISC 10 06:30:23.3±0.9,31°.7S±0°.2×58°.1E±0°.3,h17km,n11,
σ0°63/11,mb4.2/10,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**51.14**	**201**	P	**P**	**06 39 25.0**	**+0.1**
2.1nm,1.1s,baz=14,slow=4.2,SNR=2.5							
1.2nm,1.1s							
QSPA	**South Pole Qui**	**58.44**	**180**	P	**P**	**06 40 17.9**	**-0.1**
1.7nm,1.0s,baz=250,slow=3.4,SNR=2.4							
1.7nm,1.0s							
CMAR	**Chiang Mai Arr**	**63.44**	**44**	P	**P**	**06 40 52.1**	**-0.2**
1.9nm,0.3s,baz=230,slow=6.5,SNR=5.0							
1.9nm,0.3s							
ASAR	**Alice Springs**	**66.39**	**104**	P	**P**	**06 41 11.7**	**0.0**
1.2nm,0.6s,baz=238,slow=5.9,SNR=7.8							
1.2nm,0.6s							
WRA	**Warramunga Arr**	**68.40**	**101**	P	**P**	**06 41 24.6**	**+0.2**
1.4nm,0.7s,baz=245,slow=5.4,SNR=6.5							
1.4nm,0.7s							
BRTR	**Keskin Array B**	**74.63**	**341**	P	**P**	**06 42 01.3**	**-0.3**
0.5nm,0.8s,baz=188,slow=2.9,SNR=3.8							
0.5nm,0.8s							
MKAR	**Makanchi Array**	**81.16**	**17**	P	**P**	**06 42 37.6**	**0.0**
0.3nm,0.6s,baz=197,slow=4.5,SNR=2.6							
0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**83.96**	**13**	P	**P**	**06 42 52.9**	**+0.9**
1.6nm,0.9s,baz=209,slow=5.8,SNR=6.5							
1.6nm,0.9s							
BVAR	**Borovoye Array**	**85.08**	**7**	P	**P**	**06 42 58.9**	**+1.2**
2.9nm,0.8s,baz=176,slow=4.5,SNR=8.1							
2.9nm,0.8s							
ZALV	**Zalesovo Beam**	**88.41**	**15**	P	**P**	**06 43 13.1**	**-0.8**
0.4nm,0.2s,baz=225,slow=0.6,SNR=1.5							
0.4nm,0.2s							
YKA	**Yellowknife Ar**	**148.87**	**353**	PKPbc	**PKiKP**	**06 50 10.3**	**-0.3**
1.4nm,0.7s,baz=350,slow=2.5,SNR=4.6							

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*IDC **10** 06:33:36.7±1.4,31°.77S×58°.50E,h0km,mb3.8/8,*
mbtmp3.8/8,Error ellipse: s-maj=51.8km s-min=26.4km
az=88.0
ISC 10 06:33:38.3±1.4,31°.8S±0°.2×58°.6E±0°.4,h10km,n14,
σ1°16/8,mb3.9/8,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**27.29**	**31**	T	T	07 07 47.2	
baz=206							
H08S2	**Diego Garcia H**	**27.30**	**31**	T	T	07 07 53.8	
baz=206							
H08S3	**Diego Garcia H**	**27.31**	**31**	T	T	07 07 51.3	
baz=206							
H01W2	**Cape Leeuwin H**	**46.03**	**110**	T	T	07 31 46.2	
baz=256							
H01W3	**Cape Leeuwin H**	**46.04**	**110**	T	T	07 31 46.2	
baz=256							
H01W1	**Cape Leeuwin H**	**46.05**	**110**	T	T	07 31 46.2	
baz=256							
QSPA	**South Pole Qui**	**58.39**	**180**	P	**P**	**06 43 33.7**	**-0.1**
0.4nm,0.8s,baz=349,slow=5.2,SNR=1.0							
0.4nm,0.8s							
VNDA	**Vanda**	**62.04**	**166**	P	**P**	**06 43 58.2**	**-0.1**
0.2nm,0.3s,baz=285,slow=15,SNR=1.7							
0.2nm,0.3s							
CMAR	**Chiang Mai Arr**	**63.20**	**44**	P	**P**	**06 44 06.4**	**-0.4**
0.6nm,0.3s,baz=228,slow=9.2,SNR=1.1							
0.6nm,0.3s							
ASAR	**Alice Springs**	**66.00**	**104**	P	**P**	**06 44 27.3**	**+1.9**
0.7nm,0.7s,baz=238,slow=5.5,SNR=6.3							
0.7nm,0.7s							
WRA	**Warramunga Arr**	**68.00**	**100**	P	**P**	**06 44 36.5**	**-1.6**
0.5nm,0.7s,baz=242,slow=5.4,SNR=2.7							
0.5nm,0.7s							
MKAR	**Makanchi Array**	**81.09**	**16**	P	**P**	**06 45 53.7**	**+0.3**
0.3nm,0.8s,baz=215,slow=4.8,SNR=2.7							
0.3nm,0.8s							
KURBB	**Kurchatov Arra**	**83.92**	**13**	P	**P**	**06 46 08.0**	**0.0**
0.3nm,0.3s,baz=205,slow=6.0,SNR=5.4							
0.3nm,0.3s							
BVAR	**Borovoye Array**	**85.07**	**7**	P	**P**	**06 46 14.2**	**+0.4**
1.3nm,0.8s,baz=173,slow=5.8,SNR=5.1							
1.3nm,0.8s							

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*IDC **10** 06:37:32.6±1.4,31°.63S×57°.91E,h0km,mb3.9/7,*
mbtmp3.9/7,Error ellipse: s-maj=48.9km s-min=30.1km
az=75.0
ISC 10 06:37:35.2±1.3,31°.6S±0°.2×57°.9E±0°.4,h17km,n17,
σ1°10/8,mb4.1/7,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.27**	**196**	T	T	06 57 00.5	
baz=21,slow=75,SNR=2.7							
H04N1	**CROZET ISLANDS**	**15.27**	**196**	T	T	06 57 02.0	
baz=21,slow=75,SNR=3.3							
H04N3	**CROZET ISLANDS**	**15.28**	**196**	T	T	06 57 00.9	
baz=21,slow=75,SNR=2.9							
H08S1	**Diego Carcia H**	**27.45**	**33**	T	T	07 11 45.6	
baz=207,slow=75							
H08S2	**Diego Garcia H**	**27.46**	**33**	T	T	07 11 45.4	
baz=207							
H08S3	**Diego Garcia H**	**27.47**	**33**	T	T	07 11 47.1	
baz=207,slow=75							
H01W2	**Cape Leeuwin H**	**46.58**	**110**	T	T	07 35 44.1	
baz=256							
H01W3	**Cape Leeuwin H**	**46.58**	**110**	T	T	07 35 42.5	
baz=256							
H01W1	**Cape Leeuwin H**	**46.59**	**110**	T	T	07 35 43.7	
baz=256							
QSPA	**South Pole Qui**	**58.53**	**180**	P	**P**	**06 47 30.0**	**-0.5**
1.2nm,0.9s,baz=284,slow=5.0,SNR=2.4							
1.2nm,0.9s							
CMAR	**Chiang Mai Arr**	**63.47**	**44**	P	**P**	**06 48 02.9**	**-1.5**
0.8nm,0.3s,baz=230,slow=7.0,SNR=1.6							
0.8nm,0.3s							
ASAR	**Alice Springs**	**66.55**	**104**	P	**P**	**06 48 25.4**	**+0.8**
1.0nm,0.7s,baz=239,slow=6.0,SNR=10.0							
1.0nm,0.7s							
WRA	**Warramunga Arr**	**68.55**	**101**	P	**P**	**06 48 37.9**	**+0.6**
1.2nm,0.8s,baz=243,slow=5.7,SNR=5.6							
1.2nm,0.8s							
MKAR	**Makanchi Array**	**81.10**	**17**	P	**P**	**06 49 48.7**	**-0.5**
0.2nm,0.7s,baz=186,slow=4.3,SNR=3.6							
0.2nm,0.7s							
KURBB	**Kurchatov Arra**	**83.90**	**13**	P	**P**	**06 50 04.9**	**+1.3**
0.2nm,0.3s,baz=209,slow=5.9,SNR=5.7							
0.2nm,0.3s							
BVAR	**Borovoye Array**	**85.00**	**8**	P	**P**	**06 50 10.1**	**+0.9**
1.0nm,0.7s,baz=177,slow=5.2,SNR=2.8							
1.0nm,0.7s							
YKA	**Yellowknife Ar**	**148.76**	**353**	PKPbc	**PKPbc**	**06 57 20.6**	**-0.3**
0.6nm,0.7s,baz=358,slow=3.1,SNR=2.4							

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*IDC **10** 06:43:27.5±1.3,31°.72S×58°.09E,h0km,mb3.9/6,*
mbtmp3.9/6,Error ellipse: s-maj=72.2km s-min=33.8km
az=96.0
ISC 10 06:43:30.4±1.2,31°.8S±0°.2×58°.1E±0°.5,h17km,n6,σ0°58/6,
mb3.9/6,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.42**	**180**	P	**P**	**06 53 24.9**	**0.0**
0.4nm,0.6s,baz=195,slow=6.6,SNR=1.3							
0.4nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.44**	**44**	P	**P**	**06 53 59.4**	**0.0**
1.5nm,0.3s,baz=229,slow=7.7,SNR=4.7							
1.5nm,0.3s							
BRTR	**Keskin Array B**	**74.65**	**341**	P	**P**	**06 55 08.7**	**-0.1**
0.5nm,0.6s,baz=167,slow=6.8,SNR=3.7							
0.5nm,0.6s							
MKAR	**Makanchi Array**	**81.17**	**17**	P	**P**	**06 55 44.8**	**+0.1**
0.2nm,0.6s,baz=206,slow=5.5,SNR=2.8							
0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**83.98**	**13**	P	**P**	**06 55 58.2**	**-1.0**
0.3nm,0.3s,baz=209,slow=5.5,SNR=6.5							
0.3nm,0.3s							
BVAR	**Borovoye Array**	**85.09**	**7**	P	**P**	**06 56 05.0**	**+0.2**
2.0nm,0.8s,baz=174,slow=5.8,SNR=9.9							
2.0nm,0.8s							

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*IDC **10** 06:44:03.4±0.6,31°.67S×58°.19E,h0km,mb4.4/15,*
mbtmp4.4/16,ML4.1/1,Error ellipse: s-maj=21.4km
s-min=19.1km az=69.0
*NEIC **10** 06:44:05.2±1.9,31°.5S±0°.1×58°.0E±0°.2,h10km±1km,*
mb4.6/16,Error ellipse: s-maj=23.3km s-min=18.1km
az=71.0
ISC 10 06:44:06.3±0.5,31°.58S±0°.09×58°.1E±0°.1,h17km,n66,
σ1°02/56,mb4.6/37,2C,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.60**	**348**	Pn	**Pn**	**06 46 35.8**	**-1.7**
FOMA	**Nahampoana Res**	**11.82**	**301**	Pn	**Pn**	**06 46 52.1**	**-2.0**
VOI	**Vohitsoka**	**13.97**	**311**	Pn	**Pn**	**06 47 23.6**	**0.0**
H04N2	**CROZET ISLANDS**	**15.36**	**197**	T	T	07 03 30.5	
baz=21,slow=75,SNR=4.3							
H04N1	**CROZET ISLANDS**	**15.36**	**197**	T	T	07 03 32.3	
baz=21,slow=75,SNR=5.1							
H04N3	**CROZET ISLANDS**	**15.38**	**197**	T	T	07 03 31.1	
baz=21,slow=75,SNR=6.0							
ABPO	**Ambohimpanom**	**15.91**	**319**		**Pn**	**06 47 50.6**	**+1.0**
OPO	**Ambohidratompo**	**16.29**	**320**	Pn	**Pn**	**06 47 54.9**	**+0.4**
0.1nm,0.3s,baz=129,slow=11,SNR=2.1							
5.8nm,0.8s							
H08S1	**Diego Carcia H**	**27.32**	**32**	T	T	07 18 15.3	
baz=206,slow=75,SNR=7.2							
H08S2	**Diego Garcia H**	**27.33**	**32**	T	T	07 18 15.4	
baz=206,slow=75,SNR=8.3							
H08S3	**Diego Garcia H**	**27.34**	**32**	T	T	07 18 17.2	
baz=206,slow=75,SNR=8.6							
MATP	**Matopo**	**28.76**	**286**	P	**P**	**06 50 03.5**	**+0.2**
1.4nm,0.8s,baz=135,slow=9.6,SNR=5.1							
1.4nm,0.8s							
MAW	**Mawson**	**36.16**	**177**	P	**P**	**06 51 08.7**	**+1.3**
2.4nm,1.0s,baz=319,slow=10,SNR=3.7							
TSUM	**Tsumeb**	**38.43**	**279**	P	**P**	**06 51 26.7**	**-0.6**
H01W2	**Cape Leeuwin H**	**46.45**	**110**	T	T	07 41 35.6	
baz=258							
H01W3	**Cape Leeuwin H**	**46.45**	**110**	T	T	07 41 35.6	
baz=258							
H01W1	**Cape Leeuwin H**	**46.47**	**110**	T	T	07 41 35.6	
baz=258							
SNAA	**Sanae**	**51.28**	**201**	P	**P**	**06 53 08.7**	**-0.2**
SNAA				IAmb	IAmb	06 53 10.6	
comp=Z,5.6nm,1.3s							
SNAA	**Sanae**	**51.28**	**201**	⇑P	**P**	**06 53 08.4**	**-0.5**
comp=Z,27nm,0.8s							
SNAA	**Sanae**	**51.28**	**201**	P	**P**	**06 53 08.0**	**-0.9**
comp=Z,1.9nm,1.0s,baz=32,slow=4.7,SNR=4.2							
comp=Z,1.9nm,1.0s							
VNA3	**Neumayer Olymp**	**53.31**	**202**	⇑P	**P**	**06 53 23.4**	**-0.5**
comp=Z,2.0nm,0.8s							
QSPA	**South Pole Qui**	**58.58**	**180**	P	**P**	**06 54 01.7**	**-0.2**
QSPA	**South Pole Qui**	**58.58**	**180**	P	**P**	**06 54 01.5**	**-0.4**
comp=Z,3.2nm,0.9s,baz=338,slow=0.5,SNR=15							
comp=Z,3.2nm,0.9s							
CMAR	**Chiang Mai Arr**	**63.32**	**44**	P	**P**	**06 54 35.0**	**+0.5**
comp=Z,3.8nm,0.5s,baz=230,slow=7.1,SNR=19							
comp=Z,3.8nm,0.5s							
ASAR	**Alice Springs**	**66.41**	**104**	P	**P**	**06 54 54.1**	**-0.6**
comp=Z,4.8nm,0.7s,baz=243,slow=5.3,SNR=5.9							
comp=Z,4.8nm,0.7s							
WRA	**Warramunga Arr**	**68.41**	**101**	P	**P**	**06 55 06.9**	**-0.5**
comp=Z,3.8nm,0.7s,baz=245,slow=5.8,SNR=5.1							
comp=Z,3.8nm,0.7s							
WRAB	**Tennant Creek**	**68.42**	**101**	P	**P**	**06 55 08.2**	**+0.7**
SIMJ	**Simiganj**	**70.61**	**9**	P	**P**	**06 55 20.4**	**-0.3**
SIMJ				IAmb	IAmb	06 55 23.0	
comp=Z,15nm,1.3s							
CHGR	**Chuyangaron**	**70.63**	**9**	P	**P**	**06 55 20.2**	**-0.6**
DBIC	**Dimbokro**	**71.03**	**291**	P	**P**	**06 55 24.5**	**+0.9**
comp=Z,2.7nm,0.6s,baz=104,slow=7.4,SNR=3.7							
comp=Z,2.7nm,0.6s							
BR131	**Keskin Array S**	**74.50**	**341**	P	**P**	**06 55 42.7**	**-1.1**
BRTR	**Keskin Array B**	**74.50**	**341**	P	**P**	**06 55 44.2**	**+0.4**
comp=Z,1.6nm,0.8s,baz=160,slow=7.7,SNR=8.5							
comp=Z,1.6nm,0.8s							
KK31	**Karatay Array**	**75.19**	**9**	P	**P**	**06 55 48.7**	**+1.2**
KK31				IAmb	IAmb	06 55 49.9	
comp=Z,6.3nm,1.1s							
KKAR	**Karatay Array**	**75.19**	**9**	P	**P**	**06 55 48.3**	**+0.7**
KKAR				IAmb	IAmb	06 55 49.9	
comp=Z,6.3nm,1.1s							
AAK	**Ala-Archa**	**75.38**	**12**	P	**P**	**06 55 50.5**	**+1.6**
AAK				IAmb	IAmb	06 55 59.7	
comp=Z,5.1nm,0.8s							
BOOM	**Boomskoye usch**	**75.51**	**14**	P	**P**	**06 55 49.0**	**-0.6**
BOOM				IAmb	IAmb	06 55 51.7	
comp=Z,3.7nm,0.9s							
ABKAR	**Akbulak array**	**80.49**	**1**	P	**P**	**06 56 17.3**	**+0.4**
ABKAR				IAmb	IAmb	06 56 18.8	
comp=Z,7.2nm,1.1s							
MAKZ	**Makanchi**	**80.95**	**16**	P	**P**	**06 56 19.0**	**-0.4**
MAKZ				IAmb	IAmb	06 56 23.4	
comp=Z,6.4nm,1.1s							
MKAR	**Makanchi Array**	**81.01**	**17**	P	**P**	**06 56 20.3**	**+0.5**
comp=Z,1.7nm,0.8s,baz=212,slow=4.3,SNR=12							
comp=Z,1.7nm,0.8s							
KURBB	**Kurchatov Arra**	**83.82**	**13**	P	**P**	**06 56 34.8**	**+0.6**
comp=Z,6.0nm,0.9s,baz=205,slow=5.8,SNR=28							
comp=Z,6.0nm,0.9s							
KURK	**Kurchatov**	**83.92**	**13**	P	**P**	**06 56 34.8**	**0.0**
BVAR	**Borovoye Array**	**84.93**	**7**	P	**P**	**06 56 40.5**	**+0.6**
comp=Z,11nm,0.8s,baz=177,slow=5.5,SNR=38							
comp=Z,11nm,0.8s							
BRVK	**Borovoye**	**84.95**	**7**	P	**P**	**06 56 40.7**	**+0.7**
AKASG	**Malin Array Be**	**85.82**	**342**	P	**P**	**06 56 44.5**	**+0.1**
comp=Z,0.5nm,0.4s,baz=171,slow=3.9,SNR=4.2							
comp=Z,0.5nm,0.4s							
SOKA	**Soboth**	**87.07**	**332**	*i* P	**P**	**06 56 51.7**	**+0.9**
comp=Z,3.8nm,1.3s							
OBKA	**Obir**	**87.13**	**332**	*e*P	**P**	**06 56 53.7**	**+2.7**
comp=Z,5.7nm,1.1s							
RONA	**Rosalia, Austr**	**87.41**	**333**	*i* P	**P**	**06 56 53.3**	**+1.0**
comp=Z,2.4nm,0.8s							
CONA	**Conrad Observa**	**87.76**	**333**	*i* P	**P**	**06 56 55.1**	**+1.1**
comp=Z,5.8nm,1.1s							
KBA	**Koelnbreinsper**	**88.08**	**331**	*i* P	**P**	**06 56 57.9**	**+2.2**
comp=Z,5.4nm,1.1s							
ABTA	**Abfaltersbach**	**88.16**	**331**	*i* P	**P**	**06 56 57.3**	**+1.3**
comp=Z,7.6nm,1.0s							
ZALV	**Zalesovo Beam**	**88.26**	**15**	P	**P**	**06 56 55.4**	**-0.7**
comp=Z,0.7nm,0.3s,baz=222,slow=2.0,SNR=5.5							
comp=Z,0.7nm,0.3s							
MOA	**Molln**	**88.32**	**332**	*i* P	**P**	**06 56 57.8**	**+1.1**
comp=Z,8.2nm,1.1s							
LESA	**Schwarzleotal**	**88.63**	**331**	*i* P	**P**	**06 56 58.8**	**+0.6**
comp=Z,6.1nm,0.7s							
WATA	**Walderalm**	**89.02**	**330**	*i* P	**P**	**06 57 01.2**	**+1.1**
comp=Z,7.5nm,0.9s							
SQTA	**Sankt Quirin**	**89.08**	**330**	*i* P	**P**	**06 57 01.9**	**+1.6**
comp=Z,10nm,0.9s							
FETA	**Feichten**	**89.13**	**330**	*i* P	**P**	**06 57 01.9**	**+1.2**
comp=Z,4.6nm,0.9s							
RETA	**Reutte**	**89.48**	**330**	*i* P	**P**	**06 57 03.0**	**+0.8**
comp=Z,4.1nm,0.8s							
DAVA	**Damuels**	**89.70**	**329**	*i* P	**P**	**06 57 04.4**	**+1.0**
comp=Z,4.1nm,0.5s							
SONM	**Songino Array**	**90.14**	**30**	P	**P**	**06 57 04.7**	**-0.6**
comp=Z,1.7nm,0.9s,baz=222,slow=4.9,SNR=5.6							
comp=Z,1.7nm,0.9s							
ESDC	**Sonseca Array**	**91.32**	**317**	P	**P**	**06 57 11.7**	**+0.8**
comp=Z,1.5nm,0.9s,baz=139,slow=3.9,SNR=7.9							
comp=Z,1.5nm,0.9s							
VA02	**Isla de Pascua**	**120.39**	**193**	PKPdf	**PKPdf**	**07 02 55.7**	**-1.4**
ILAR	**Eielson Array**	**143.36**	**18**	PKhKP	PKPpre	07 03 34.8	
comp=Z,0.6nm,0.8s,baz=299,slow=3.6,SNR=4.5							
YKA	**Yellowknife Ar**	**148.72**	**354**	PKPbc	**PKiKP**	**07 03 51.9**	**-1.3**
comp=Z,4.0nm,0.8s,baz=360,slow=2.9,SNR=15							
ULM	**Lac du Bonnet**	**153.13**	**321**	PKPbc	**PKPbc**	**07 04 01.8**	**-0.8**
comp=Z,2.5nm,0.8s,baz=15,slow=4.4,SNR=4.7							
PDAR	**Pinedale Array**	**165.15**	**322**	PKP	**PKPdf**	**07 04 09.2**	**-0.6**
comp=Z,0.5nm,0.8s,baz=101,slow=1.5,SNR=4.8							
NVAR	**Mina Array Bea**	**172.57**	**338**	PKPab	**PKPab**	**07 05 40.7**	**+1.0**
comp=Z,0.4nm,0.8s,baz=49,slow=7.6,SNR=2.8							

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*IDC **10** 06:45:53.3±1.1,7°.13S×129°.42E,h0km,mb4.0/4,*
mbtmp4.1/6,ML4.6/2,Error ellipse: s-maj=61.6km
s-min=21.1km az=60.0
*NEIC **10** 06:46:06.6±2.1,7°.04S±0°.07×129°.74E±0°.08,h146km±15km,*
mb4.4/6,Error ellipse: s-maj=12.1km s-min=9.7km
az=105.0
ISC 10 06:46:07.6±0.6,7°.03S±0°.06×129°.75E±0°.06,h139km,n47,
σ1°96/49,mb4.1/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.81**	**122**	P	**Pn**	**06 46 39.6**	**-0.3**
SAUI	**Saumlaki**	**1.81**	**122**		**Pn**	**06 46 41.1**	**+1.2**
FAKI	**Fak Fak**	**4.78**	**32**	P	**Pn**	**06 47 16.7**	**-1.3**
FAKI	**Fak Fak**	**4.78**	**32**	Pn	**Pn**	**06 47 17.3**	**-0.8**
FAKI				Sn	**Sn**	**06 48 09.2**	**-3.7**
DRS	**Darwin Rock St**	**5.49**	**168**	P	**Pn**	**06 47 27.3**	**-0.1**
MTN	**Manton Dam**	**5.94**	**167**	P	**Pn**	**06 47 33.0**	**-0.5**
MTN	**Manton Dam**	**5.94**	**167**		**Pn**	**06 47 32.7**	**-0.7**
MTN				Sn	**Sn**	**06 48 37.3**	**-3.2**
SOEI	**Soe**	**6.06**	**243**	P	**Pn**	**06 47 34.5**	**-0.7**
SOEI	**Soe**	**6.06**	**243**		**Pn**	**06 47 34.5**	**-0.7**
SOEI				Sn	**Sn**	**06 48 40.1**	**-3.4**
KDU	**Kakadu**	**6.23**	**155**	P	**Pn**	**06 47 37.0**	**-0.4**
KNRA	**Kununurra**	**8.65**	**186**	Pn	**Pn**	**06 48 07.9**	**-1.9**
FITZ	**Fitzroy Crossi**	**11.71**	**200**	P	**Pn**	**06 48 50.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.71**	**200**		**Pn**	**06 48 48.0**	**-2.5**
PLAI	**Plampang**	**11.99**	**261**	P	**Pn**	**06 48 52.8**	**-1.4**
WB0	**Warramunga Arr**	**13.44**	**161**	Pn	**Pn**	**06 49 10.5**	**-2.5**
WRAB	**Tennant Creek**	**13.59**	**161**		**Pn**	**06 49 12.7**	**-2.1**
WRA	**Warramunga Arr**	**13.59**	**161**	Pn	Pn	06 49 09.6	-5.3
3.7nm,0.3s,baz=337,slow=14,SNR=120							
WRA				Sn	Sn	06 51 33.0	-12
0.8nm,0.3s,baz=338,slow=21,SNR=4.7							
6.2nm,0.5s							
WB2	**Warramunga Arr**	**13.59**	**161**	Pn	**Pn**	**06 49 12.4**	**-2.5**
WR0

WRA S **S** **07 02 10.0 -1.7**
2.2nm,1.0s,baz=46,slow=19,SNR=5.2
WRA LR LR 07 06 13.0
comp=Z,94nm,20.6s,baz=336,slow=37
ASAR Alice Springs 22.18 215 P **P** **06 59 16.0 +0.7**
9.4nm,0.6s,baz=50,slow=8.2,SNR=93
ASAR S **S** **07 03 10.6 +1.6**
3.2nm,0.8s,baz=39,slow=21,SNR=10.0
9.4nm,0.6s
SONM Songino Array 64.40 331 P **P** **07 04 51.5 +0.1**
1.1nm,0.9s,baz=153,slow=6.4,SNR=5.2
1.1nm,0.9s
MKAR Makanchi Array 77.61 320 P **P** **07 06 10.4 -0.4**
0.9nm,0.8s,baz=106,slow=7.4,SNR=5.8
0.9nm,0.8s
ILAR Eielson Array 84.99 23 P **P** **07 06 48.8 -0.5**
0.4nm,0.8s,baz=264,slow=5.6,SNR=4.3
0.4nm,0.8s

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*IDC **10** 06:54:38.9±1.1, 31°.69S×58°.30E, h0km, mb4.0/8, mbtmp4.0/9, ML4.1/1, Error ellipse: s-maj=41.2km s-min=24.6km az=59.0*
ISC 10 06:54:41.1±1.0, 31°.7S±0°.2×58°.3E±0°.2, h14km, n17, σ0°.44/10, mb4.2/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.31**	**197**	T	T	07 14 05.3	
baz=21,slow=75,SNR=12							
H04N1	**CROZET ISLANDS**	**15.31**	**197**	T	T	07 14 05.7	
baz=21,slow=75,SNR=12							
H04N3	**CROZET ISLANDS**	**15.32**	**197**	T	T	07 14 06.9	
baz=21,slow=75,SNR=14							
OPO	**Ambohidratompo**	**16.45**	**320**	Pn	**Pn**	**06 58 32.1 +0.2**	
0.1nm,0.3s,baz=113,slow=20,SNR=1.8							
3.5nm,0.7s							
H08S1	**Diego Carcia H**	**27.33**	**32**	T	T	07 28 48.3	
baz=207,slow=75,SNR=8.2							
H08S2	**Diego Garcia H**	**27.34**	**32**	T	T	07 28 47.0	
baz=207,slow=75,SNR=5.6							
H08S3	**Diego Garcia H**	**27.35**	**32**	T	T	07 28 49.0	
baz=207,slow=75,SNR=8.9							
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**07 04 36.9 +0.3**	
1.5nm,0.9s,baz=327,slow=5.4,SNR=3.0							
1.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**63.29**	**44**	P	**P**	**07 05 10.0 +0.3**	
1.2nm,0.4s,baz=223,slow=7.1,SNR=7.0							
1.2nm,0.4s							
ASAR	**Alice Springs**	**66.25**	**104**	P	**P**	**07 05 29.1 0.0**	
1.2nm,0.7s,baz=239,slow=5.9,SNR=8.8							
1.2nm,0.7s							
WRA	**Warramunga Arr**	**68.25**	**101**	P	**P**	**07 05 41.5 -0.4**	
1.3nm,0.8s,baz=242,slow=5.6,SNR=7.4							
1.3nm,0.8s							
BRTR	**Keskin Array B**	**74.64**	**341**	P	**P**	**07 06 19.5 -0.5**	
0.7nm,0.8s,baz=167,slow=6.2,SNR=4.1							
0.7nm,0.8s							
MKAR	**Makanchi Array**	**81.06**	**16**	P	**P**	**07 06 55.5 0.0**	
0.2nm,0.4s,baz=212,slow=5.1,SNR=3.5							
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**83.88**	**13**	P	**P**	**07 07 10.2 +0.2**	
1.4nm,0.7s,baz=206,slow=5.7,SNR=9.6							
1.4nm,0.7s							
BVAR	**Borovoye Array**	**85.01**	**7**	P	**P**	**07 07 16.1 +0.5**	
3.1nm,0.8s,baz=174,slow=6.0,SNR=14							
3.1nm,0.8s							
ILAR	**Eielson Array**	**143.41**	**18**	PKhKP	PKPpre	07 14 07.2	
0.1nm,0.5s,baz=224,slow=2.5,SNR=1.8							
YKA	**Yellowknife Ar**	**148.83**	**354**	PKPbc	**PKPbc**	**07 14 26.8 -0.7**	
1.0nm,0.9s,baz=351,slow=3.4,SNR=4.1							

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*IDC **10** 06:56:10.1±1.4, 31°.69S×58°.10E, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=48.5km s-min=31.4km az=80.0*
ISC 10 06:56:12.9±1.3, 31°.7S±0°.2×58°.1E±0°.4, h17km, n7, σ1°.27/7, mb4.2/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**07 06 08.3 +0.5**	
0.8nm,0.6s,baz=272,slow=3.2,SNR=2.0							
0.8nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.42**	**44**	P	**P**	**07 06 41.9 +0.1**	
1.6nm,0.4s,baz=233,slow=6.3,SNR=6.2							
1.6nm,0.4s							
ASAR	**Alice Springs**	**66.43**	**104**	P	**P**	**07 07 01.2 -0.3**	
1.1nm,0.7s,baz=240,slow=5.9,SNR=8.5							
1.1nm,0.7s							
WRA	**Warramunga Arr**	**68.43**	**101**	P	**P**	**07 07 14.0 -0.2**	
1.3nm,0.7s,baz=241,slow=5.3,SNR=5.5							
1.3nm,0.7s							
MKAR	**Makanchi Array**	**81.11**	**17**	P	**P**	**07 08 27.5 +0.5**	
0.3nm,0.6s,baz=184,slow=4.6,SNR=2.4							
0.3nm,0.6s							
BVAR	**Borovoye Array**	**85.03**	**7**	P	**P**	**07 08 47.7 +0.7**	
2.5nm,0.8s,baz=182,slow=4.3,SNR=7.1							
2.5nm,0.8s							
YKA	**Yellowknife Ar**	**148.81**	**353**	PKPbc	**PKPbc**	**07 15 56.4 -2.3**	
0.4nm,0.6s,baz=358,slow=2.8,SNR=2.1							

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*IDC **10** 07:02:20.2±1.2, 31°.66S×58°.25E, h0km, mb3.9/9, mbtmp4.0/10, ML3.5/1, Error ellipse: s-maj=46.2km s-min=24.2km az=58.0*
ISC 10 07:02:21.4±1.0, 31°.6S±0°.2×58°.0E±0°.2, h10km, n11, σ1°.80/12, mb4.1/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.18**	**321**	Pn	**Pn**	**07 06 11.1 +1.9**	
baz=52,slow=18,SNR=1.9							
OPO				Sn	**Sn**	**07 09 05.0 -3.9**	
baz=297,slow=23,SNR=0.9							
3.6nm,0.8s							
QSPA	**South Pole Qui**	**58.61**	**180**	P	**P**	**07 12 18.2 -0.2**	
1.0nm,0.9s,baz=144,slow=5.5,SNR=2.2							
1.0nm,0.9s							
ASAR	**Alice Springs**	**66.55**	**104**	P	**P**	**07 13 10.7 -1.4**	
1.0nm,0.7s,baz=237,slow=5.9,SNR=10.0							
1.0nm,0.7s							
WRA	**Warramunga Arr**	**68.55**	**101**	P	**P**	**07 13 23.1 -1.6**	
1.1nm,0.8s,baz=240,slow=5.6,SNR=7.6							
1.1nm,0.8s							
BRTR	**Keskin Array B**	**74.43**	**341**	P	**P**	**07 14 00.8 +1.0**	
0.6nm,0.8s,baz=179,slow=8.2,SNR=3.9							
0.6nm,0.8s							
MKAR	**Makanchi Array**	**81.03**	**17**	P	**P**	**07 14 37.3 +1.0**	
0.5nm,0.8s,baz=197,slow=7.5,SNR=4.1							
0.5nm,0.8s							
KURBB	**Kurchatov Arra**	**83.83**	**13**	P	**P**	**07 14 51.9 +1.3**	
2.0nm,1.0s,baz=208,slow=5.4,SNR=9.1							
2.0nm,1.0s							
BVAR	**Borovoye Array**	**84.92**	**8**	P	**P**	**07 14 57.6 +1.4**	
2.3nm,0.8s,baz=163,slow=7.7,SNR=8.4							
2.3nm,0.8s							
ZALV	**Zalesovo Beam**	**88.28**	**16**	P	**P**	**07 15 12.3 -0.2**	
0.4nm,0.2s,baz=298,slow=3.1,SNR=0.9							
0.4nm,0.2s							
SONM	**Songino Array**	**90.19**	**30**	P	**P**	**07 15 21.5 -0.4**	
0.2nm,0.3s,baz=192,slow=5.6,SNR=2.0							
0.2nm,0.3s							
YKA	**Yellowknife Ar**	**148.68**	**353**	PKPbc	**PKPbc**	**07 22 08.7 +0.6**	
0.3nm,0.6s,baz=6.0,slow=2.4,SNR=3.6							

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*IDC **10** 07:03:02.2±0.6, 31°.68S×58°.22E, h0km, mb4.3/14, mbtmp4.3/15, ML4.1/1, MS3.5/1, Error ellipse: s-maj=26.0km s-min=15.6km az=87.0*
*NEIC **10** 07:03:03.4±1.3, 31°.6S±0°.1×58°.0E±0°.1, h10km±1km, mb4.7/19, Error ellipse: s-maj=17.6km s-min=14.6km az=161.0*
ISC 10 07:03:04.4±0.5, 31°.59S±0°.08×58°.01E±0°.10, h17km, n59, σ1°.39/53, mb4.6/34, 2C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.58**	**348**	Pn	**Pn**	**07 05 34.7 -0.7**	
FOMA	**Nahampoana Res**	**11.74**	**301**	Pn	**Pn**	**07 05 50.8 -0.4**	
VOI	**Vohitsoka**	**13.89**	**311**	Pn	**Pn**	**07 06 21.1 +0.4**	
H04N2	**CROZET ISLANDS**	**15.33**	**197**	T	T	07 22 29.6	
baz=21,slow=75,SNR=7.6							
H04N1	**CROZET ISLANDS**	**15.33**	**197**	T	T	07 22 30.7	
baz=21,slow=75,SNR=6.5							
H04N3	**CROZET ISLANDS**	**15.35**	**197**	T	T	07 22 29.4	
baz=21,slow=75,SNR=6.8							
ABPO	**Ambohimpanom**	**15.85**	**320**	P	**P**	**07 06 50.0 -0.7**	
OPO	**Ambohidratompo**	**16.23**	**320**	Pn	**P**	**07 06 55.8 +0.8**	
0.1nm,0.3s,baz=130,slow=9.8,SNR=5.9							
OPO				Sn	**Sn**	**07 09 47.7 -4.1**	
baz=158,slow=21,SNR=1.5							
8.4nm,0.7s							
H08S1	**Diego Carcia H**	**27.38**	**33**	T	T	07 37 10.3	
baz=207,slow=75,SNR=22							
H08S2	**Diego Garcia H**	**27.38**	**33**	T	T	07 37 14.9	
baz=207,slow=75,SNR=29							
H08S3	**Diego Garcia H**	**27.39**	**33**	T	T	07 37 12.8	
baz=207,slow=75,SNR=25							
MATP	**Matopo**	**28.67**	**286**	LR	LR	07 18 28.2	
comp=Z,112nm,21.9s,baz=80,slow=32							
MAW	**Mawson**	**36.17**	**177**	P	**P**	**07 10 05.5 -0.1**	
2.1nm,0.4s,baz=332,slow=19,SNR=31							
2.1nm,0.4s							
GIRL	**Giralia**	**50.37**	**94**	P	**P**	**07 12 00.3 -0.6**	
SNAA	**Sanae**	**51.25**	**201**	P	**P**	**07 12 06.7 -0.1**	
SNAA				IAmb	IAmb	07 13 38.6	
comp=Z,10.0nm,1.7s							
SNAA	**Sanae**	**51.25**	**201**	⇑P	**P**	**07 12 06.2 -0.7**	
comp=Z,30nm,0.7s							
SNAA	**Sanae**	**51.25**	**201**	P	**P**	**07 12 06.9 +0.1**	
comp=Z,1.4nm,0.9s,baz=96,slow=7.6,SNR=4.9							
comp=Z,1.4nm,0.9s							
VNA3	**Neumayer Olymp**	**53.27**	**202**	⇑P	**P**	**07 12 21.9 +0.1**	
comp=Z,3.0nm,0.8s							
QSPA	**South Pole Qui**	**58.58**	**180**	P	**P**	**07 13 00.2 0.0**	
QSPA				IAmb	IAmb	07 13 09.1	
comp=Z,12nm,1.2s							
QSPA	**South Pole Qui**	**58.58**	**180**	P	**P**	**07 13 00.0 -0.1**	
comp=Z,2.7nm,0.6s,baz=167,slow=0.3,SNR=23							
comp=Z,2.7nm,0.6s							
FORT	**Forrest**	**58.93**	**109**	P	**P**	**07 13 02.2 -0.7**	
FORT				IAmb	IAmb	07 13 40.8	
comp=Z,24nm,1.1s							
VNDA	**Vanda**	**62.33**	**166**	P	**P**	**07 13 25.1 -0.3**	
comp=Z,0.8nm,0.9s,baz=262,slow=10,SNR=2.1							
comp=Z,0.8nm,0.9s							
CM31	**Chiang Mai Arr**	**63.39**	**44**	P	**P**	**07 13 32.8 -0.4**	
CMAR	**Chiang Mai Arr**	**63.39**	**44**	P	**P**	**07 13 33.9 +0.8**	
comp=Z,4.1nm,0.5s,baz=232,slow=6.9,SNR=16							
comp=Z,4.1nm,0.5s							
BBOO	**Buckleboo**	**64.54**	**114**	P	**P**	**07 13 39.7 -1.0**	
ASAR	**Alice Springs**	**66.50**	**104**	P	**P**	**07 13 52.7 -0.9**	
comp=Z,4.9nm,0.7s,baz=239,slow=5.9,SNR=35							
comp=Z,4.9nm,0.7s							
AS31	**Alice Springs**	**66.50**	**104**	P	**P**	**07 13 52.5 -1.1**	
AS31				IAmb	IAmb	07 13 53.4	
comp=Z,1.9nm,0.6s							
WRA	**Warramunga Arr**	**68.50**	**101**	P	**P**	**07 14 05.6 -0.7**	
comp=Z,5.8nm,0.7s,baz=242,slow=5.4,SNR=23							
comp=Z,5.8nm,0.7s							
WB2	**Warramunga Arr**	**68.51**	**101**	P	**P**	**07 14 05.9 -0.4**	
WB2				IAmb	IAmb	07 14 06.2	
comp=Z,6.2nm,0.8s							
WB0	**Warramunga Arr**	**68.63**	**101**	P	**P**	**07 14 06.2 -0.9**	
WB0				IAmb	IAmb	07 14 06.8	
comp=Z,8.6nm,0.8s							
WR0	**Warramunga Arr**	**68.66**	**101**	P	**P**	**07 14 06.2 -1.1**	
TOA0	**Torodi Ar. Sit**	**69.92**	**300**	P	**P**	**07 14 13.8 -1.2**	
TOA0				IAmb	IAmb	07 16 34.8	
comp=Z,12nm,1.6s							
BRTR	**Keskin Array B**	**74.47**	**341**	P	**P**	**07 14 43.2 +1.4**	
comp=Z,1.3nm,0.8s,baz=168,slow=6.3,SNR=6.9							
comp=Z,1.3nm,0.8s							
BR131	**Keskin Array S**	**74.47**	**341**	P	**P**	**07 14 39.9 -1.9**	
KKAR	**Karatay Array**	**75.20**	**9**	P	**P**	**07 14 47.0 +1.2**	
AAK	**Ala-Archa**	**75.40**	**12**	P	**P**	**07 14 47.7 +0.5**	
AAK				IAmb	IAmb	07 14 58.2	
comp=Z,5.4nm,1.1s							
ABKAR	**Akbulak array**	**80.50**	**1**	P	**P**	**07 15 15.8 +0.7**	
ABKAR				IAmb	IAmb	07 15 17.4	
comp=Z,7.5nm,1.4s							
MAKZ	**Makanchi**	**80.97**	**16**	P	**P**	**07 15 18.4 +0.6**	
MK31	**Makanchi Array**	**81.04**	**17**	P	**P**	**07 15 17.2 -0.9**	
MK31				IAmb	IAmb	07 15 20.2	
comp=Z,7.8nm,1.8s							
MKAR	**Makanchi Array**	**81.04**	**17**	P	**P**	**07 15 19.1 +1.0**	
comp=Z,1.0nm,0.7s,baz=224,slow=3.3,SNR=9.0							
comp=Z,1.0nm,0.7s							
KURBB	**Kurchatov Arra**	**83.84**	**13**	P	**P**	**07 15 33.9 +1.3**	
comp=Z,4.3nm,0.9s,baz=205,slow=5.8,SNR=18							
comp=Z,4.3nm,0.9s							
BVAR	**Borovoye Array**	**84.94**	**7**	P	**P**	**07 15 39.8 +1.7**	
comp=Z,7.4nm,0.8s,baz=180,slow=4.4,SNR=21							
comp=Z,7.4nm,0.8s							
SOKA	**Soboth**	**87.02**	**332**	*i* P	**P**	**07 15 51.9 +3.2**	
comp=Z,0.7nm,0.5s							
OBKA	**Obir**	**87.08**	**332**	*e*P	**P**	**07 15 52.5 +3.5**	
comp=Z,4.3nm,1.1s							
CONA	**Conrad Observa**	**87.72**	**333**	*i* P	**P**	**07 15 53.6 +1.6**	
comp=Z,2.4nm,1.0s							
KBA	**Koelnbreinsper**	**88.03**	**331**	*i* P	**P**	**07 15 55.0 +1.4**	
comp=Z,2.2nm,1.0s							
ABTA	**Abfaltersbach**	**88.11**	**331**	*i* P	**P**	**07 15 56.3 +2.4**	
comp=Z,5.6nm,0.9s							
MOA	**Molln**	**88.28**	**332**	*i* P	**P**	**07 15 56.3 +1.6**	
comp=Z,2.0nm,0.9s							
ZALV	**Zalesovo Beam**	**88.29**	**15**	P	**P**	**07 15 53.6 -0.9**	
comp=Z,0.9nm,0.4s,baz=181,slow=7.2,SNR=2.0							
comp=Z,0.9nm,0.4s							
LESA	**Schwarzleotal**	**88.58**	**331**	*i* P	**P**	**07 15 57.5 +1.4**	
comp=Z,4.6nm,0.6s							
SQTA	**Sankt Quirin**	**89.03**	**330**	*i* P	**P**	**07 16 00.4 +2.0**	
comp=Z,5.9nm,0.6s							
FETA	**Feichten**	**89.08**	**330**	*i* P	**P**	**07 15 59.4 +0.8**	
comp=Z,4.3nm,0.9s							
RETA	**Reutte**	**89.43**	**330**	*e*P	**P**	**07 16 02.1 +1.9**	
comp=Z,2.7nm,0.4s							
DAVA	**Damuels**	**89.66**	**330**	*e*P	**P**	**07 16 03.1 +1.8**	
comp=Z,7.7nm,1.1s							
SONM	**Songino Array**	**90.19**	**30**	P	**P**	**07 16 03.6 -0.1**	
comp=Z,0.9nm,0.8s,baz=215,slow=2.2,SNR=5.9							
comp=Z,0.9nm,0.8s							
ESDC	**Sonseca Array**	**91.26**	**317**	P	**P**	**07 16 10.8 +2.0**	
comp=Z,1.2nm,1.0s,baz=111,slow=2.3,SNR=5.2							
comp=Z,1.2nm,1.0s							
ILAR	**Eielson Array**	**143.39**	**18**	PKP	**PKPdf**	**07 22 36.4 -0.8**	
comp=Z,0.9nm,0.9s,baz=280,slow=1.6,SNR=4.3							
YKA	**Yellowknife Ar**	**148.71**	**353**	PKPbc	**PKPbc**	**07 22 49.8 -0.2**	
comp=Z,4.4nm,0.8s,baz=6.5,slow=2.8,SNR=14							
ULM	**Lac du Bonnet**	**153.07**	**321**	PKPbc	**PKPbc**	**07 23 00.1 -0.6**	
comp=Z,2.3nm,0.4s,baz=51,slow=4.3,SNR=3.5							

IDC 10 07:05:22.8±3.1, 53°.50N×87°.56E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=26.6km s-min=14.2km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.69**	**287**	I	I	07 16 10.0	
0.1nm,0.8s,baz=102,slow=302,SNR=5.0							
ZALV	**Zalesovo Beam**	**1.69**	**287**	Pg	Pn	07 05 53.4 -0.2	
1.1nm,0.3s,baz=101,slow=15,SNR=11							
ZALV				Lg	Lg	07 06 16.3	
1.5nm,0.3s,baz=108,slow=27,SNR=12							
KURBB	**Kurchatov Arra**	**6.27**	**246**	Pn	Pn	07 06 56.9 +0.5	
baz=62,slow=15,SNR=1.5							
KURBB				Lg	Lg	07 08 42.1	
baz=63,slow=32							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**7.52**	**209**	Pn	Pn	07 07 15.0 +1.4	
0.1nm,0.3s,baz=25,slow=14,SNR=4.1							
MKAR				Sn	Sn	07 08 39.2 -0.3	
0.1nm,0.3s,baz=34,slow=23,SNR=5.2							
MKAR				Lg	Lg	07 09 21.2	
baz=35,slow=33,SNR=6.3							
0.3nm,0.4s							

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*IDC **10** 07:07:54.6±0.8, 31°.69S×58°.04E, h0km, mb4.1/11, mbtmp4.1/12, ML4.0/1, Error ellipse: s-maj=29.3km s-min=20.1km az=77.0*
*NEIC **10** 07:07:57.2±0.8, 31°.5S±0°.1×57°.9E±0°.2, h10km±1km, mb4.7/16, Error ellipse: s-maj=27.6km s-min=17.1km az=269.0*
ISC 10 07:07:57.7±0.6, 31°.45S±0°.09×58°.0E±0°.1, h17km, n34, σ1°.21/29, mb4.4/15, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.44**	**349**	Pn	**Pn**	**07 10 26.8 0.0**	
H04N2	**CROZET ISLANDS**	**15.44**	**196**	T	T	07 27 26.6	
baz=21,slow=74							
H04N1	**CROZET ISLANDS**	**15.45**	**196**	T	T	07 27 27.7	
baz=21							
H04N3	**CROZET ISLANDS**	**15.46**	**196**	T	T	07 27 26.5	
baz=21,slow=74							
ABPO	**Ambohimpanom**	**15.72**	**319**	Pn	**Pn**	**07 11 38.3 -0.3**	
OPO	**Ambohidratompo**	**16.10**	**320**	Pn	**P**	**07 11 46.5 -0.2**	
0.1nm,0.3s,baz=132,slow=19,SNR=1.3							
OPO				Sn	**Sn**	**07 14 40.9 -0.9**	
baz=348,slow=21,SNR=1.8							
2.0nm,0.5s							
H08S1	**Diego Carcia H**	**27.29**	**33**	T	T	07 42 05.3	
baz=207,slow=75,SNR=22							
H08S2	**Diego Garcia H**	**27.30**	**33**	T	T	07 42 06.8	
baz=207,slow=75,SNR=14							
H08S3	**Diego Garcia H**	**27.31**	**33**	T	T	07 42 09.4	
baz=207,slow=75,SNR=22							
KAAM	**Kaadhehdhoo**	**34.83**	**27**	P	**P**	**07 14 44.8 -3.1**	
SNAA	**Sanae**	**51.35**	**201**	P	**P**	**07 17 01.2 +0.3**	
SNAA				IAmb	IAmb	07 17 01.6	
comp=Z,8.0nm,1.5s							
SNAA	**Sanae**	**51.35**	**201**	P	**P**	**07 16 59.4 -1.5**	
comp=Z,1.6nm,1.1s,baz=288,slow=3.2,SNR=2.6							
comp=Z,1.6nm,1.1s							
QSPA	**South Pole Qui**	**58.71**	**180**	P	**P**	**07 17 53.8 -0.5**	
QSPA				IAmb	IAmb	07 18 05.6	
comp=Z,9.7nm,1.2s							
QSPA	**South Pole Qui**	**58.71**	**180**	P	**P**	**07 17 52.6 -1.7**	
comp=Z,2.4nm,0.9s,baz=265,slow=1.9,SNR=9.7							
comp=Z,2.4nm,0.9s							
FORT	**Forrest**	**59.02**	**109**	P	**P**	**07 17 57.6 +0.8**	
CMAR	**Chiang Mai Arr**	**63.33**	**44**	P	**P**	**07 18 26.6 +0.6**	
comp=Z,2.0nm,0.5s,baz=235,slow=7.2,SNR=8.7							
comp=Z,2.0nm,0.5s							
ASAR	**Alice Springs**	**66.58**	**104**	P	**P**	**07 18 46.0 -1.3**	
comp=Z,2.0nm,0.7s,baz=238,slow=5.7,SNR=20							
comp=Z,2.0nm,0.7s							
HOPE	**Hope Point**	**67.55**	**219**	P	**P**	**07 18 53.2 +0.3**	
WRA	**Warramunga Arr**	**68.58**	**101**	P	**P**	**07 18 58.5 -1.5**	
comp=Z,1.3nm,0.7s,baz=241,slow=5.6,SNR=16							
comp=Z,1.3nm,0.7s							
WB2	**Warramunga Arr**	**68.58**	**101**	P	**P**	**07 18 59.9 -0.2**	
WB2				IAmb	IAmb	07 19 43.2	
comp=Z,17nm,1.5s							
WB0	**Warramunga Arr**	**68.70**	**101**	P	**P**	**07 19 01.2 +0.5**	
WB0				IAmb	IAmb	07 19 30.4	
comp=Z,17nm,1.4s							
WR0	**Warramunga Arr**	**68.74**	**101**	P	**P**	**07 18 58.9 -2.1**	
WR0				IAmb	IAmb	07 19 04.1	
comp=Z,13nm,1.4s							
SIMJ	**Simiganj**	**70.51**	**9**	P	**P**	**07 19 11.7 +0.2**	
MCQ	**Macquarie Isla**	**70.94**	**143**	P	**P**	**07 19 14.9 +1.0**	
BRTR	**Keskin Array B**	**74.33**	**341**	P	**P**	**07 19 34.9 +0.6**	
comp=Z,0.9nm,0.7s,baz=152,slow=5.6,SNR=5.0							
comp=Z,0.9nm,0.7s							
BR131	**Keskin Array S**	**74.33**	**341**	P	**P**	**07 19 34.8 +0.5**	
ABKAR	**Akbulak array**	**80.37**	**1**	P	**P**	**07 20 08.4 +0.7**	
ABKAR				IAmb	IAmb	07 20 10.5	
comp=Z,5.8nm,1.2s							
MK31	**Makanchi Array**	**80.93**	**17**	P	**P**	**07 20 11.4 +0.7**	
MKAR	**Makanchi Array**	**80.93**	**17**	P	**P**	**07 20 12.2 +1.4**	
comp=Z,0.7nm,0.7s,baz=221,slow=4.6,SNR=6.4							
comp=Z,0.7nm,0.7s							
KURBB	**Kurchatov Arra**	**83.72**	**13**	P	**P**	**07 20 26.4 +1.2**	
comp=Z,2.2nm,0.8s,baz=219,slow=5.7,SNR=9.2							
comp=Z,2.2nm,0.8s							
BVAR	**Borovoye Array**	**84.82**	**8**	P	**P**	**07 20 32.9 +2.1**	
comp=Z,4.7nm,0.8s,baz=177,slow=5.8,SNR=19							
comp=Z,4.7nm,0.8s							
AKASG	**Malin Array Be**	**85.65**	**342**	P	**P**	**07 20 34.8 -0.2**	
comp=Z,0.6nm,0.4s,baz=178,slow=5.7,SNR=4.2							
comp=Z,0.6nm,0.4s							
SONM	**Songino Array**	**90.10**	**30**	P	**P**	**07 20 57.1 +0.5**	
comp=Z,0.6nm,0.7s,baz=197,slow=4.6,SNR=3.5							
comp=Z,0.6nm,0.7s							
YKA	**Yellowknife Ar**	**148.58**	**353**	PKPbc	**PKPdf**	**07 27 40.7 +1.4**	
comp=Z,1.9nm,0.8s,baz=3.0,slow=3.0,SNR=7.2							

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*MEX **10** 07:08:39.4±0.9, 16°.72N×95°.04W, h110km±17km, MD4.4*
*CATAC **10** 07:08:40.0±0.6, 17°.64N×94°.69W, h212km±8km, MB4.5, mb4.1, ML4.5*
ISC 10 07:08:42.6±1.1, 16°.74N±0°.03×95°.00W±0°.02, h47km±52km, n57, σ2°.81/87, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEUV	**Arroyo Zacate**	**1.23**	**322**	*i* P	**Pn**	**07 09 01.6 -1.8**	
NEUV				*i* S	**Sn**	**07 09 19.1 +0.2**	
TUIG	**Tuzandepetl**	**1.40**	**23**	*e*P	**Pn**	**07 09 05.6 -0.2**	
TUIG				*e*S	**Sn**	**07 09 26.4 +3.4**	
HUIG	**Huatulco**	**1.44**	**228**	*e*P	**Pn**	**07 09 03.5 -2.7**	
HUIG				*e*S	**Sn**	**07 09 22.6 -1.3**	
OXBJ	**Oaxaca**	**1.68**	**281**	*e*P	**Pn**	**07 09 10.3 +0.6**	
OXBJ				*e*S	**Sn**	**07 09 33.3 +3.1**	
VHO	**Vista Hermosa**	**1.69**	**282**	*e*P	**Pn**	**07 09 09.8 -0.1**	
VHO				*e*S	**Sn**	**07 09 33.6 +3.2**	
PANG	**Puerto Angel**	**1.77**	**233**	*e*P	**Pn**	**07 09 10.5 -0.4**	
PANG				*e*S	**Sn**	**07 09 32.5 +0.4**	
PMUV	**Sontecomapan**	**1.80**	**356**	*e*P	Pn	07 09 03.5 -7.8	
PMUV				*e*S	**Sn**	**07 09 38.7 +5.7**	
TGIG		**1.80**	**89**	*i* P	**Pn**	**07 09 09.5 -1.9**	
TGIG				*e*S	**Sn**	**07 09 32.4 -0.6**	
TGBT	**Tuxtla Gutierr**	**1.83**	**89**	*e*P	**Pn**	**07 09 10.1 -1.5**	
TGBT				*e*S	**Sn**

SCIG	**Sabancuy**	**4.26**	**58**	*i* P	**Pn**	**07 09 43.6**	**-1.4**
SCIG				*e*S	**Sn**	**07 10 30.4**	**-3.0**
YAIG	**Yautepec**	**4.41**	**299**	*e*P	**Pn**	**07 09 45.1**	**-2.1**
YAIG				*e*S	**Sn**	**07 10 38.7**	**+1.3**
DAIG	**Los Arroyos**	**4.46**	**274**	*e*P	**Pn**	**07 09 48.1**	**+0.3**
DAIG				*e*S	**Sn**	**07 10 30.8**	**-7.6**
MEIG	**Mezcala**	**4.56**	**286**	*e*P	Pn	07 09 51.5	+2.2
MEIG				*e*S	**Sn**	**07 10 39.5**	**-1.7**
PLIG	**Platanillo**	**4.59**	**292**	*e*P	Pn	07 09 52.3	+2.6
PLIG				*e*S	**Sn**	**07 10 44.2**	**+2.3**
XCVM	**Xochimilco**	**4.64**	**303**	*e*S	**Sn**	**07 10 40.5**	**-2.8**
TLVM	**San Miguel Top**	**4.65**	**302**	*e*P	Pn	07 09 53.2	+2.5
TLVM				*e*S	**Sn**	**07 10 42.3**	**-1.3**
VTVM	**Tizayuca**	**4.68**	**311**	*e*P	**Pn**	**07 09 46.9**	**-4.2**
VTVM				*e*S	**Sn**	**07 10 46.0**	**+1.7**
COVM	**Coyoacan**	**4.73**	**304**	*e*S	**Sn**	**07 10 39.0**	**-6.4**
MAVM	**Malinalco, Edo**	**4.81**	**298**	*e*P	**Pn**	**07 09 52.8**	**0.0**
MAVM				*e*S	**Sn**	**07 10 47.4**	**0.0**
AOVM	**Tlapan**	**4.82**	**302**	*e*	Pn	07 10 00.6	+7.5
AOVM				*e*S	**Sn**	**07 10 47.9**	**0.0**
PETF	**Flores**	**4.92**	**87**	*e*P	**Pn**	**07 09 51.2**	**-2.9**
PETF				*e*S	**Sn**	**07 10 44.3**	**-5.5**
PETF	**Flores**	**4.92**	**87**	*i* P	**Pn**	**07 09 50.7**	**-3.4**
PETF				*i* S	**Sn**	**07 10 47.2**	**-2.6**
PETF				IAML		07 11 27.3	
	comp=Z,93nm,1.0s						
CAIG	**El Cayaco**	**5.05**	**274**	*e*P	**Pn**	**07 09 55.4**	**-0.4**
CAIG				*e*S	**Sn**	**07 10 46.6**	**-6.4**
TOVM	**TOLUCA**	**5.12**	**300**	*e*P	**Pn**	**07 09 56.1**	**-1.0**
TOVM				*e*S	**Sn**	**07 10 52.5**	**-2.5**
DEIG	**Demacu**	**5.21**	**313**	*e*	Pn	07 10 14.4	+16
DEIG				*e*		07 11 20.4	
ARIG	**Puente Sto Nin**	**5.32**	**287**	*e*P	Pn	07 10 02.0	+2.3
ARIG				*e*S	**Sn**	**07 10 58.5**	**-1.2**
NUBE	**Las Nubes**	**5.78**	**119**	*i* P	**Pn**	**07 10 07.1**	**+1.1**
NUBE				IAmb	IAmb	07 10 26.4	
	comp=Z,60nm,0.8s						
NUBE				IAML		07 11 49.3	
	comp=Z,95nm,1.0s						
ESQI	**Esquipulas**	**5.87**	**111**	*i* P	**Pn**	**07 10 08.1**	**+0.9**
ESQI				IVmB_BB		07 10 28.9	
	comp=Z,2μm,1.0s						
ESQI				IAmb	IAmb	07 10 34.7	
	comp=Z,73nm,1.7s						
ESQI				*i* S	**Sn**	**07 11 17.9**	**+4.6**
ESQI				IAML		07 11 48.7	
	comp=Z,280nm,1.0s						
ZIIG	**Zihuatanejo**	**6.24**	**279**	*e*		07 11 27.9	
COEG	**Centro de Oper**	**6.68**	**117**	*i* P	**Pn**	**07 10 19.2**	**+0.9**
COEG				IAmb	IAmb	07 10 23.6	
	comp=Z,33nm,0.5s						
COEG				IAML		07 10 24.0	
	comp=Z,45nm,1.0s						
COEG				IVmB_BB		07 10 58.9	
	comp=Z,380nm,1.0s						
SCLA	**Alcaldia de Sa**	**6.77**	**116**	*i* P	**Pn**	**07 10 20.0**	**+0.5**
SCLA				IAML		07 10 28.3	
	comp=Z,25nm,1.0s						
SCLA				IAmb	IAmb	07 10 28.3	
	comp=Z,16nm,1.3s						

IDC 10 07:11:09.5±1.8, 31°.70S×58°.36E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=56.1km s-min=35.2km az=90.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.47**	**180**	P	P	07 21 07.0	0.0
	0.9nm,0.9s,baz=315,slow=1.4,SNR=2.3 0.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.27**	**44**	P	P	07 21 40.1	0.0
	1.4nm,0.4s,baz=222,slow=6.3,SNR=4.1 1.4nm,0.4s						
ASAR	**Alice Springs**	**66.18**	**104**	P	P	07 21 59.5	+0.2
	0.9nm,0.7s,baz=239,slow=5.7,SNR=7.0 0.9nm,0.7s						
WRA	**Warramunga Arr**	**68.19**	**101**	P	P	07 22 11.8	-0.3
	0.9nm,0.7s,baz=242,slow=5.5,SNR=4.5 0.9nm,0.7s						
BVAR	**Borovoye Array**	**85.02**	**7**	P	P	07 23 46.4	0.0
	1.5nm,0.7s,baz=205,slow=6.2,SNR=7.5 1.5nm,0.7s						

*IDC **10** 07:13:33.4±1.0, 31°.57S×58°.18E, h0km, mb4.0/9, mbtmp4.0/10, ML3.6/1, Error ellipse: s-maj=37.6km s-min=23.5km az=66.0*

ISC 10 07:13:35.9±1.0, 31°.6S±0°.2×58°.1E±0°.2, h17km, n17, σ0§41/11, mb4.1/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.37**	**197**	T	T	07 32 58.7	
	baz=22,slow=75,SNR=7.5						
H04N1	**CROZET ISLANDS**	**15.37**	**197**	T	T	07 33 01.6	
	baz=22,slow=75,SNR=8.2						
H04N3	**CROZET ISLANDS**	**15.38**	**197**	T	T	07 33 01.3	
	baz=22,slow=75,SNR=8.7						
OPO	**Ambohidratompo**	**16.30**	**320**	Pn	**Pn**	**07 17 24.4**	**+0.2**
	baz=234,slow=22,SNR=1.3 1.9nm,0.6s						
H08S1	**Diego Carcia H**	**27.31**	**32**	T	T	07 47 41.6	
	baz=206,slow=75,SNR=8.9						
H08S2	**Diego Garcia H**	**27.32**	**32**	T	T	07 47 51.9	
	baz=206,slow=75,SNR=5.1						
H08S3	**Diego Garcia H**	**27.33**	**32**	T	T	07 47 42.9	
	baz=206,slow=75,SNR=10.0						
QSPA	**South Pole Qui**	**58.59**	**180**	P	**P**	**07 23 31.8**	**+0.2**
	1.5nm,0.9s,baz=266,slow=2.1,SNR=7.6 1.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.31**	**44**	P	**P**	**07 24 04.0**	**-0.1**
	1.6nm,0.3s,baz=230,slow=7.1,SNR=5.5 1.6nm,0.3s						
ASAR	**Alice Springs**	**66.40**	**104**	P	**P**	**07 24 24.6**	**+0.2**
	0.9nm,0.7s,baz=241,slow=5.6,SNR=10 0.9nm,0.7s						
WRA	**Warramunga Arr**	**68.40**	**101**	P	**P**	**07 24 36.9**	**-0.2**
	1.1nm,1.0s,baz=241,slow=5.7,SNR=8.5 1.1nm,1.0s						
BRTR	**Keskin Array B**	**74.50**	**341**	P	**P**	**07 25 13.2**	**-0.3**
	0.6nm,0.4s,baz=153,slow=8.3,SNR=3.6 0.6nm,0.4s						
MKAR	**Makanchi Array**	**81.00**	**17**	P	**P**	**07 25 49.8**	**+0.5**
	0.2nm,0.5s,baz=154,slow=7.5,SNR=1.9 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**83.81**	**13**	P	**P**	**07 26 04.0**	**+0.1**
	1.2nm,0.9s,baz=209,slow=5.5,SNR=4.5 1.2nm,0.9s						
BVAR	**Borovoye Array**	**84.92**	**7**	P	**P**	**07 26 09.9**	**+0.4**
	2.3nm,0.8s,baz=180,slow=4.4,SNR=10 2.3nm,0.8s						
SONM	**Songino Array**	**90.13**	**30**	P	**P**	**07 26 35.0**	**+0.1**
	0.7nm,0.9s,baz=222,slow=1.9,SNR=2.4 0.7nm,0.9s						
YKA	**Yellowknife Ar**	**148.72**	**354**	PKPbc	**PKiKP**	**07 33 22.1**	**-0.9**
	1.3nm,0.8s,baz=4.3,slow=3.4,SNR=3.8						

*IDC **10** 07:15:15.9±1.2, 52°.93N×160°.60E, h0km, mb4.0/13, mbtmp4.0/16, ML3.8/3, MS2.9/1, Error ellipse: s-maj=29.7km s-min=20.0km az=123.0*

*KRSC **10** 07:15:18.4±1.4, 52°.70N×160°.68E, h16km±15km, Ml4.2*

ISC 10 07:15:16.7±1.6, 52°.79N±0°.04×160°.73E±0°.04, h10km±9km, n60, σ1§32/75, mb4.2/12, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.53**	**306**	*e*P	**Pn**	**07 15 30.5**	**+0.3**
SPN				*e*S	**Sb**	**07 15 37.1**	**+1.5**
NLC	**Nalytchevo**	**0.92**	**295**	*e*P	**Pn**	**07 15 36.2**	**+0.6**
NLC				*e*S	**Sb**	**07 15 47.0**	**+0.2**
DALK	**Dalny**	**1.22**	**282**	*e*P	**Pn**	**07 15 40.8**	**+1.1**
DALK				*e*S	**Sn**	**07 15 56.1**	**-0.1**
UGLR	**Uglovaya**	**1.22**	**291**	*e*P	**Pn**	**07 15 41.2**	**+1.3**
SMAR	**Somma**	**1.26**	**293**	*e*P	**Pn**	**07 15 41.5**	**+1.1**
PET	**Petropavlovsk**	**1.28**	**281**	*e*P	**Pg**	**07 15 41.4**	**+0.2**
PET				*e*S	**Sn**	**07 15 57.5**	**-0.1**
AVH	**Avacha**	**1.29**	**292**	*e*P	**Pg**	**07 15 42.3**	**+0.9**
AVH				*e*S	**Sn**	**07 16 00.4**	**+2.2**
KRER	**Koryakskii**	**1.30**	**294**	*e*P	**Pn**	**07 15 42.5**	**+1.5**
KOK	**Koryaka**	**1.36**	**293**	*e*P	**Pg**	**07 15 43.3**	**+0.5**
KOK				*e*S	**Sn**	**07 16 01.3**	**+1.5**
KRX	**Arik**	**1.38**	**295**	*e*P	**Pg**	**07 15 43.3**	**+0.2**
KRX				*e*S	**Sn**	**07 16 00.7**	**+0.3**
KII	**Karymskiy**	**1.47**	**329**	*e*P	**Pg**	**07 15 45.8**	**+1.0**
KII				*e*S	**Sg**	**07 16 04.6**	**+0.9**
KRMR	**Karymshinskiy**	**1.58**	**273**	*e*P	**Pb**	**07 15 45.6**	**-0.2**
KRMR				*e*S	**Sb**	**07 16 04.8**	**-0.9**
MTVR	**Mutnovka**	**1.58**	**260**	*e*P	**Pb**	**07 15 46.1**	**+0.1**
MTVR				*e*S	**Sb**	**07 16 05.6**	**-0.4**
GRL	**Gorelyy**	**1.63**	**263**	*e*P	**Pg**	**07 15 47.3**	**-0.7**
GRL				*e*S	**Sn**	**07 16 06.4**	**-0.2**
ASAK	**Asacha**	**1.77**	**258**	*e*P	**Pb**	**07 15 49.3**	**+0.1**
ASAK				*e*S	**Sb**	**07 16 11.1**	**-0.3**
MKZ	**Mys Kozlova**	**1.87**	**18**	*e*P	**Pb**	**07 15 51.6**	**+0.7**
MKZ				*e*S	**Sb**	**07 16 15.0**	**+0.8**
KDTR	**Khodutka, Kamc**	**1.90**	**240**	*e*P	**Pn**	**07 15 50.4**	**+1.3**
KDTR				*e*S	**Sn**	**07 16 12.6**	**-0.4**
GNL	**Ganaly**	**1.90**	**300**	*e*P	**Pg**	**07 15 52.3**	**-0.9**
GNL				*e*S	**Sg**	**07 16 16.3**	**-1.5**
APC	**Apacha**	**2.17**	**275**	*e*P	**Pb**	**07 15 55.6**	**-0.3**
APC				*e*S	**Sg**	**07 16 23.5**	**-2.7**
TUMD	**Tumrok D**	**2.43**	**356**	*e*P	**Pb**	**07 16 00.1**	**-0.2**
TUMD				*e*S	**Sb**	**07 16 30.5**	**+0.2**
TUMR	**Tumrok**	**2.52**	**352**	*e*P	**Pb**	**07 16 02.3**	**+0.3**
TUMR				*e*S	**Sb**	**07 16 34.8**	**+1.7**
KMNR	**Kamenistaya**	**2.99**	**355**	*e*P	**Pb**	**07 16 09.0**	**-1.0**
BZP	**Bezymyannyi-Pe**	**3.13**	**358**	*e*P	**Pb**	**07 16 11.4**	**-1.0**
BZMR	**Bezymyannaya**	**3.16**	**358**	*e*P	**Pb**	**07 16 11.4**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**3.16**	**360**	*e*P	**Pb**	**07 16 11.8**	**-1.1**
KIRR	**Kirishev**	**3.18**	**356**	*e*P	**Pb**	**07 16 12.1**	**-1.2**
BZWR	**Bezymyannyi-We**	**3.19**	**358**	*e*P	**Pb**	**07 16 12.6**	**-0.7**
KPT	**Kopyto**	**3.20**	**355**	*e*P	**Pb**	**07 16 11.8**	**-1.7**
ZLN	**Zelenaya**	**3.23**	**1**	*e*P	**Pb**	**07 16 13.2**	**-1.0**
ZLN				*e*S	**Sb**	**07 16 54.4**	**+0.7**
LGNR	**Loginova**	**3.30**	**360**	*e*P	**Pb**	**07 16 14.7**	**-0.7**
KOZ	**Kozyrevsk**	**3.31**	**352**	*e*P	**Pb**	**07 16 13.6**	**-1.9**
CIRR	**Tsirk**	**3.33**	**0**	*e*P	**Pb**	**07 16 14.7**	**-1.2**
CIRR				*e*S	**Sb**	**07 16 56.7**	**+0.2**
ESO	**Esso**	**3.36**	**340**	*e*P	**Pb**	**07 16 13.5**	**-2.7**
KRSR	**Krestovskiy**	**3.44**	**359**	*e*P	**Pb**	**07 16 15.6**	**-2.0**
KRSR				*e*S	**Sb**	**07 16 59.7**	**+0.2**
KLY	**Klyuchi**	**3.53**	**359**	*e*P	**Pb**	**07 16 16.9**	**-2.3**
KLY				*e*S	**Sb**	**07 17 00.3**	**-1.7**
SRDR	**Sredinnyy**	**3.58**	**351**	*e*P	**Pb**	**07 16 16.5**	**-3.6**
KBG	**Krutoberegovo**	**3.66**	**18**	*e*P	**Pb**	**07 16 21.0**	**-0.4**
SHEM	**Shemya Is, Ala**	**8.12**	**85**	Pn	**Pn**	**07 17 17.1**	**+2.7**
	3.1nm,0.3s,baz=254,slow=15,SNR=1.6						
SHEM				Sn	**Sn**	**07 18 42.6**	**-3.5**
	2.5nm,0.3s,baz=305,slow=16,SNR=1.8 10nm,0.4s						
MA2	**Magadan**	**8.77**	**325**	LR	LR	07 21 26.5	
	comp=Z,79nm,18.5s,baz=162,slow=43						
ASAJ	**Asahikawa**	**14.80**	**241**	Pn	**Pn**	**07 18 47.0**	**+1.2**
	0.7nm,0.3s,baz=57,slow=14,SNR=5.3 1.6nm,0.4s						
KLR	**Kul'dur**	**18.52**	**271**	P	**Pn**	**07 19 33.9**	**+0.9**
	0.1nm,0.3s,baz=53,slow=11,SNR=4.2 0.8nm,0.4s						
USRK	**Ussuriysk Ar.**	**20.78**	**257**	P	Pn	07 19 59.6	-0.4
	1.2nm,0.6s,baz=54,slow=10.0,SNR=2.4 1.2nm,0.6s						
MJAR	**Matsushiro Arr**	**22.66**	**233**	P	**P**	**07 20 20.1**	**+2.2**
	1.5nm,0.5s,baz=18,slow=12,SNR=5.8 1.5nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**33.34**	**169**	T	T	07 57 22.3	
	baz=353,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.36**	**169**	T	T	07 57 22.5	
	baz=353,slow=76						
H11N1	**WAKE ISLAND Hy**	**33.36**	**169**	T	T	07 57 20.7	
	baz=353,slow=76						
H11S1	**WAKE ISLAND Hy**	**34.53**	**170**	T	T	07 58 52.2	
	baz=351,slow=74						
H11S3	**WAKE ISLAND Hy**	**34.54**	**170**	T	T	07 58 48.1	
	baz=351,slow=74						
H11S2	**WAKE ISLAND Hy**	**34.55**	**170**	T	T	07 58 45.5	
	baz=351						
SPITS	**Spitsbergen Ar**	**47.50**	**351**	P	**P**	**07 23 52.4**	**+1.2**
	2.0nm,0.4s,baz=63,slow=9.5,SNR=2.0 2.0nm,0.4s						
KURBB	**Kurchatov Arra**	**48.32**	**302**	P	**P**	**07 23 56.7**	**-1.1**
	0.8nm,0.4s,baz=60,slow=7.6,SNR=3.2 0.8nm,0.4s						
MKAR	**Makanchi Array**	**48.63**	**296**	P	**P**	**07 23 59.4**	**-1.0**
	1.0nm,0.4s,baz=60,slow=6.1,SNR=13 1.0nm,0.4s						
BVAR	**Borovoye Array**	**50.88**	**309**	P	**P**	**07 24 16.1**	**-1.2**
	1.1nm,0.5s,baz=50,slow=7.5,SNR=6.9 1.1nm,0.5s						
ARCES	**ARCESS Array B**	**53.70**	**342**	P	**P**	**07 24 37.5**	**-0.5**
	0.7nm,0.4s,baz=47,slow=9.0,SNR=10 0.7nm,0.4s						
FINES	**FINESS Array B**	**60.55**	**337**	P	**P**	**07 25 27.7**	**+1.2**
	2.9nm,0.5s,baz=38,slow=8.3,SNR=24 2.9nm,0.5s						
NOA	**NORSAR Array B**	**63.94**	**344**	P	**P**	**07 25 49.5**	**+0.2**
	0.3nm,0.3s,baz=28,slow=6.0,SNR=4.3 0.3nm,0.3s						
HFS	**Hagfors**	**64.36**	**342**	P	**P**	**07 25 51.6**	**-0.4**
	0.5nm,0.3s,baz=54,slow=2.6,SNR=6.7 0.5nm,0.3s						
AKASG	**Malin Array Be**	**69.07**	**329**	P	**P**	**07 26 20.4**	**-1.8**
	1.3nm,0.4s,baz=28,slow=6.9,SNR=5.7 1.3nm,0.4s						
KBZ	**Khabaz**	**70.02**	**317**	P	**P**	**07 26 28.5**	**+0.3**
	1.8nm,0.6s,baz=190,slow=5.8,SNR=4.4 1.8nm,0.6s						
WRA	**Warramunga Arr**	**75.97**	**206**	P	**P**	**07 27 03.9**	**+0.4**
	0.8nm,0.9s,baz=23,slow=6.2,SNR=5.0 0.8nm,0.9s						

IGQ 10 07:15:43.3±0.5, 4°S±3°×7°9W±°, h4km, M4.2/21, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZUMB	**Zumba**	**0.65**	**234**	S	Sb	07 16 06.4	-0.4
ZUMB				P	Pg	07 15 54.3	-1.4
ALJ1	**Ecuador-Loja-U**	**0.76**	**310**	P	Pg	07 15 56.1	-1.9
ALJ1				S	Sb	07 16 09.7	-0.5
GONZ	**Gonzanam**	**0.81**	**288**	P	Pg	07 15 58.9	-0.1
BOSC	**San Juan Bosco**	**1.33**	**5**	P	Pg	07 16 01.3	-7.7
BOSC				S	Sg	07 16 19.0	-7.3
AMCR	**Ecuador-Macara**	**1.34**	**275**	P	Pn	07 16 07.3	-1.6
MCRA	**Macar, Loja**	**1.34**	**275**	P	Pn	07 16 07.3	-1.6
LAMO	**ALAMOR**	**1.47**	**288**	P	Pn	07 16 10.5	-0.4
PCRA	**Pucara 2**	**1.55**	**325**	P	Pn	07 16 10.4	-1.8
PCRA				S	Sg	07 16 37.7	+4.6
ARNL	**Arenillas**	**1.72**	**303**	P	Pn	07 16 14.0	-0.1
ISPG	**Isla Puna-Puer**	**2.16**	**314**	P	Pb	07 16 22.1	-1.0
TAIS	**Taisha**	**2.37**	**28**	P	Pn	07 16 17.7	-5.4
MILO	**Milagro-Astudi**	**2.38**	**337**	P	Pn	07 16 23.1	-0.2
MORR	**Playas El Morr**	**2.51**	**317**	P	Pn	07 16 26.4	+1.4
TAMH	**Tambohuasha Ch**	**2.93**	**357**	P	Pn	07 16 32.4	+1.2
ARRY	**Arrayan**	**2.96**	**3**	P	Pn	07 16 30.5	-1.1
BMAS	**Trigal station**	**2.97**	**3**	P	Pn	07 16 30.6	-1.0
BPAT	**Tungurahua Vol**	**2.97**	**4**	P	Pn	07 16 31.1	-0.7
IGUA	**Igualata**	**2.98**	**360**	P	Pn	07 16 32.4	+0.5
CHSH	**Refugio Sur-Vo**	**2.98**	**355**	P	Pn	07 16 32.4	+0.4
TUYU	**Q. Yuibug Volc**	**2.99**	**3**	P	Pn	07 16 32.5	+0.6
PORT	**Chimborazo Vol**	**3.01**	**357**	P	Pn	07 16 31.8	-0.6
PUYO	**Puyo, Santa Ro**	**3.03**	**11**	P	Pn	07 16 29.3	-3.0
BULB	**Ulba Tungurahu**	**3.04**	**4**	P	Pn	07 16 31.5	-1.1
JUI6	**Juive**	**3.04**	**3**	P	Pn	07 16 32.6	0.0
PIS1	**Pisayambo**	**3.41**	**4**	P	Pn	07 16 37.0	-0.8
ARDO	**Archidona, Ten**	**3.56**	**13**	P	Pn	07 16 35.5	-4.1
VCES	**Cotopaxi**	**3.67**	**3**	P	Pn	07 16 40.8	-0.6
BRRN	**Barrancas-Volc**	**3.68**	**2**	P	Pn	07 16 41.9	+0.4
SRAM	**San Ramn-Vol**	**3.71**	**1**	P	Pn	07 16 43.8	+1.9
SLOR	**San Lorenzo -**	**3.73**	**2**	P	Pn	07 16 42.2	-0.1
TAMB	**Tambo**	**3.77**	**4**	P	Pn	07 16 41.5	-1.4
CAMI	**Rancho Maria**	**3.79**	**2**	P	Pn	07 16 42.8	-0.2
BNAS	**Cotopaxi Volca**	**3.79**	**2**	P	Pn	07 16 43.6	+0.5
BTAM	**Cotopaxi Volca**	**3.79**	**3**	P	Pn	07 16 42.7	-0.4
BREF	**Cotopaxi Volca**	**3.79**	**3**	P	Pn	07 16 43.6	+0.4
BVC2	**Cotopaxi Volca**	**3.81**	**3**	P	Pb	07 16 48.1	-3.5
SUCR	**Mariscal Sucre**	**3.82**	**2**	P	Pn	07 16 43.8	+0.3
VC1	**Cotopaxi 1**	**3.83**	**3**	P	Pn	07 16 43.6	+0.1
PITA	**Cotopaxi Volc**	**3.91**	**3**	P	Pn	07 16 43.4	-1.2
ANTS	**Antisana-Sarah**	**3.99**	**6**	P	Pn	07 16 45.8	-0.1
ANTI	**Antisana**	**4.04**	**6**	P	Pn	07 16 48.8	+2.3
JUA2	**San Juan 2**	**4.24**	**0**	P	Pn	07 16 53.5	+4.2
FLF1	**Flavio Alfaro-**	**4.28**	**343**	P	Pb	07 16 55.8	-3.5
PINO	**Pino**	**4.30**	**0**	P	Pb	07 16 59.1	-0.8
REVN	**San Rafael**	**4.49**	**13**	P	Pn	07 16 52.8	+0.3
CAYR	**Refugio Cayamb**	**4.51**	**8**	P	Pn	07 16 56.5	+3.4
ANGU	**Angureal**	**4.54**	**8**	P	Pb	07 17 01.0	-3.1
CAYA	**Cayambe**	**4.57**	**8**	P	Pn	07 16 55.8	+2.0
OTAV	**Otavalo**	**4.70**	**2**	P	Pn	07 16 54.7	-0.8
PAC1	**Pacto, Paraso**	**4.72**	**358**	P	Pn	07 16 54.5	-1.1
IMBA	**Imbabura, San**	**4.75**	**5**	P	Pn	07 16 56.6	+0.4
CUSE	**Cuicocha Este**	**4.76**	**3**	P	Pn	07 16 55.1	-1.3
CUIC	**Cuicocha-Domo**	**4.76**	**3**	P	Pn	07 16 57.2	+0.8
YAHU	**Yahuarcocha**	**4.85**	**6**	P	Pn	07 16 57.0	-0.6
URCU	**Urcuqui**	**4.91**	**4**	P	Pn	07 16 57.5	-0.8
PTLC	**Puerto Leguiza**	**6.00**	**40**	P	Pn	07 17 00.6	-12

*IDC **10** 07:16:21.2±0.6, 31°.59S×58°.25E, h0km, mb4.2/13, mbtmp4.2/14, ML4.0/1, Error ellipse: s-maj=24.8km s-min=18.1km az=81.0*

*NEIC **10** 07:16:23.0±1.6, 31°.6S±0°.1×58°.2E±0°.2, h10km±1km, mb4.7/21, Error ellipse: s-maj=28.2km s-min=17.9km az=255.0*

ISC 10 07:16:23.7±0.5, 31°.56S±0°.10×58°.2E±0°.1, h17km, n60, σ1§30/54, mb4.6/35, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.60**	**347**	Pn	**Pn**	**07 18 53.6**	**-1.3**
H04N2	**CROZET ISLANDS**	**15.41**	**197**	T	T	07 35 52.7	
	baz=22,slow=75,SNR=17						
H04N1	**CROZET ISLANDS**	**15.41**	**197**	T	T	07 36 00.5	
	baz=22,slow=75,SNR=4.1						
H04N3	**CROZET ISLANDS**	**15.43**	**197**	T	T	07 35 57.3	
	baz=22,slow=75,SNR=4.8						
OPO	**Ambohidratompo**	**16.34**	**320**	Pn	**P**	**07 20 14.2**	**-1.2**
	0.1nm,0.3s,baz=171,slow=5.6,SNR=5.3 4.3nm,0.8s						
H08S1	**Diego Carcia H**	**27.25**	**32**	T	T	07 50 30.8	
	baz=207,slow=75,SNR=7.1						
H08S2	**Diego Garcia H**	**27.26**	**32**	T	T	07 50 31.8	
	baz=207,slow=75,SNR=9.5						
H08S3	**Diego Garcia H**	**27.27**	**32**	T	T	07 50 34.9	
	baz=207,slow=75,SNR=7.4						
TSUM	**Tsumeb**	**38.52**	**279**	P	**P**	**07 23 45.6**	**+0.1**
SNAA	**Sanae**	**51.34**	**201**	P	**P**	**07 25 25.6**	**-1.2**
SNAA	**Sanae**	**51.34**	**201**	P	**P**	**07 25 26.9**	**+0.1**
	0.5nm,0.8s,baz=90,slow=16,SNR=1.6 0.5nm,0.8s						
QSPA	**South Pole Qui**	**58.61**	**180**	P	**P**	**07 26 19.4**	**-0.1**
QSPA				IAmb	IAmb	07 26 31.2	
	comp=Z,10nm,1.1s						
QSPA	**South Pole Qui**	**58.61**	**180**	P	**P**	**07 26 19.8**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=270,slow=3.5,SNR=9.6 comp=Z,2.5nm,0.8s						
VNDA	**Vanda**	**62.31**	**166**	P	**P**	**07 26 44.8**	**+0.3**
VNDA				IAmb	IAmb	07 26 51.1	
	comp=Z,4.2nm,1.4s						
VNDA	**Vanda**	**62.31**	**166**	P	**P**	**07 26 44.4**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=265,slow=7.4,SNR=3.5 comp=Z,0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.24**	**44**	P	**P**	**07 26 51.8**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=230,slow=7.1,SNR=15 comp=Z,3.5nm,0.6s						
ASAR	**Alice Springs**	**66.32**	**104**	P	**P**	**07 27 11.9**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=237,slow=5.8,SNR=28 comp=Z,3.2nm,0.7s						
AS31	**Alice Springs**	**66.33**	**104**	P	**P**	**07 27 10.9**	**-0.8**
WRA	**Warramunga Arr**	**68.32**	**101**	P	**P**	**07 27 24.6**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=242,slow=5.6,SNR=16 comp=Z,2.9nm,0.7s						
WB2	**Warramunga Arr**	**68.33**	**101**	P	**P**	**07 27 23.4**	**-1.0**
WB2				IAmb	IAmb	07 27 25.9	
	comp=Z,8.2nm,1.1s						
WB0	**Warramunga Arr**	**68.45**	**101**	P	**P**	**07 27 24.6**	**-0.6**
WR0	**Warramunga Arr**	**68.48**	**101**	P	**P**	**07 27 25.2**	**-0.2**
WR0				IAmb	IAmb	07 27 47.8	
	comp=Z,12nm,1.4s						
SIMJ	**Simiganj**	**70.58**	**9**	P	**P**	**07 27 39.3**	**+1.4**
SIMJ				IAmb	IAmb	07 27 49.6	
	comp=Z,12nm,1.2s						
CHGR	**Chuyangaron**	**70.60**	**9**	P	**P**	**07 27 38.4**	**+0.4**
ARSB	**Arslanbob**	**73.79**	**12**	P	**P**	**07 27 57.5**	**+0.4**
BR131	**Keskin Array S**	**74.51**	**341**	P	**P**	**07 28 01.1**	**-0.3**
BR131				IAmb	IAmb	07 28 03.2	
	comp=Z,3.9nm,1.2s			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.41**	**180**	P	**P**	**07 27 14.1**	**+0.1**
	2.0nm,0.8s,baz=225,slow=1.7,SNR=1.8						
	2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.44**	**44**	P	**P**	**07 27 48.6**	**+0.1**
	1.6nm,0.4s,baz=228,slow=7.3,SNR=5.0						
	1.6nm,0.4s						
ASAR	**Alice Springs**	**66.35**	**104**	P	**P**	**07 28 07.8**	**0.0**
	1.3nm,0.7s,baz=241,slow=5.9,SNR=5.3						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**68.36**	**101**	P	**P**	**07 28 20.3**	**-0.2**
	1.1nm,0.7s,baz=242,slow=5.6,SNR=5.7						
	1.1nm,0.7s						
BRTR	**Keskin Array B**	**74.67**	**341**	P	**P**	**07 28 58.3**	**+0.2**
	0.8nm,0.8s,baz=181,slow=5.8,SNR=2.7						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**81.17**	**17**	P	**P**	**07 29 33.8**	**-0.2**
	0.6nm,0.7s,baz=157,slow=3.7,SNR=3.8						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**83.98**	**13**	P	**P**	**07 29 48.9**	**+0.5**
	2.1nm,0.9s,baz=206,slow=5.9,SNR=4.8						
	2.1nm,0.9s						
BVAR	**Borovoye Array**	**85.10**	**7**	P	**P**	**07 29 54.4**	**+0.4**
	4.2nm,0.8s,baz=185,slow=7.4,SNR=6.5						
	4.2nm,0.8s						
AKASG	**Malin Array Be**	**85.99**	**342**	P	**P**	**07 29 58.3**	**-0.2**
	0.5nm,0.3s,baz=255,slow=5.7,SNR=1.1						
	0.5nm,0.3s						
YKA	**Yellowknife Ar**	**148.90**	**353**	PKPbc	**PKPbc**	**07 37 05.2**	**-0.5**
	1.6nm,0.9s,baz=341,slow=2.6,SNR=2.9						

*IDC **10** 07:17:46.4±3.5, 32°.58S×55°.22E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=119.2km s-min=36.6km az=48.0*

ISC 10 07:17:48.0±3.3, 32°.6S±0°.6×55°.2E±0°.6, h10km, n6, σ1§40/6, mb4.0/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**65.75**	**46**	P	**P**	**07 28 32.3**	**-1.0**
	1.5nm,0.3s,baz=236,slow=6.4,SNR=1.4						
	1.5nm,0.3s						
ASAR	**Alice Springs**	**68.56**	**105**	P	**P**	**07 28 51.0**	**-0.3**
	0.9nm,0.6s,baz=238,slow=5.9,SNR=4.6						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**70.64**	**102**	P	**P**	**07 29 04.5**	**+0.3**
	1.0nm,0.7s,baz=244,slow=5.2,SNR=3.1						
	1.0nm,0.7s						
BRTR	**Keskin Array B**	**74.64**	**343**	P	**P**	**07 29 26.6**	**-0.9**
	0.2nm,0.3s,baz=147,slow=6.4,SNR=1.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**82.67**	**18**	P	**P**	**07 30 13.2**	**+1.7**
	0.3nm,0.7s,baz=210,slow=6.4,SNR=1.9						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**85.34**	**15**	P	**P**	**07 30 25.9**	**+1.0**
	0.2nm,0.3s,baz=205,slow=4.1,SNR=4.4						
	0.2nm,0.3s						

*ANF **10** 07:18:16.9±0.2, 36°.29N×97°.51W, h5km, Error ellipse: s-maj=2.3km s-min=2.2km az=106.0*
*IDC **10** 07:18:17.4±0.8, 36°.40N×97°.70W, h0km, mb4.0/2, mbtmp3.8/7, ML3.8/4, Error ellipse: s-maj=12.2km s-min=8.4km az=142.0*
*TUL **10** 07:18:17.5±0.4, 36°.30N±0°.01×97°.53W±0°.01, h8km±4km, ML3.8, mb_Lg3.6/143(NEIC), ML4.0/62(NEIC), Mwr3.4/21(NEIC), Error ellipse: s-maj=1.7km s-min=1.6km az=88.0*
*NEIC **10** 07:18:17.4±0.5, 36°.293N±0°.010×97°.53W±0°.01, h6km±2km, Error ellipse: s-maj=1.8km s-min=1.1km az=129.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.24; $M_{\theta\theta}$0.70; $M_{\phi\phi}$-0.94; $M_{r\theta}$-1.13; $M_{\theta\phi}$0.95; $M_{\phi r}$-0.15; Fault plane solution: $M_0$1.71000×10^{14} NP1: ϕ_s=292.88000°, δ77.49000°, λ36.22000°. NP2: ϕ_s=193.87000°, δ54.77000°, λ164.63000°. Principal axes: T 1.8837, Plg34.0000°, Azm159.0000°; N -0.4156, Plg52.0000°, Azm309.0000°; P -1.4681, Plg15.0000°, Azm59.0000°;*
*NEIC **10** 07:18:17.5, 36°.30N×97°.53W, h8km*

ISC 10 07:18:17.1±0.6, 36°.30N±0°.02×97°.53W±0°.02, h10km, n155, σ1§42/123, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.42**	**300**		**Pg**	**07 18 25.8**	**+0.5**
CROK				Sg	**Sg**	**07 18 31.2**	**+0.3**
CROK				IAML		07 18 31.9	
	comp=E,14μm,0.3s						
CROK				IAML		07 18 36.4	
	comp=N,11μm,0.3s						
OK048	**Pawnee Station**	**0.49**	**76**	Pg	**Pg**	**07 18 27.2**	**+0.6**
OK029	**Liberty Lake**	**0.50**	**173**	Pg	**Pg**	**07 18 27.4**	**+0.5**
OK029				IAML		07 18 34.5	
	comp=N,10μm,0.4s						
OK029				IAML		07 18 34.5	
	comp=N,7μm,0.4s						
BLOK	**Blackwell**	**0.53**	**29**	Pg	**Pg**	**07 18 27.9**	**+0.6**
BLOK				IAML		07 18 42.7	
	comp=E,8μm,0.2s						
OK051	**E0350 and S346**	**0.60**	**69**	Pg	**Pg**	**07 18 29.2**	**+0.5**
OK051				IAML		07 18 41.0	
	comp=E,7μm,0.2s						
OK051				IAML		07 18 43.5	
	comp=E,5μm,0.2s						
GC02	**Grant County #**	**0.61**	**335**		**Pg**	**07 18 29.3**	**+0.3**
ADOK	**Arcadia Dam**	**0.66**	**169**	Pg	**Pg**	**07 18 30.0**	**+0.2**
OK031	**S. Brethren Rd**	**0.66**	**121**	Pg	**Pg**	**07 18 30.3**	**+0.5**
OK052	**Battle Ridge R**	**0.66**	**117**	Pg	**Pg**	**07 18 30.3**	**+0.5**
KAN13	**South Haven SW**	**0.72**	**3**	Pg	**Pg**	**07 18 31.2**	**+0.3**
KAN13				IAML		07 18 41.5	
	comp=E,9μm,0.3s						
KAN14	**Manchester OK**	**0.74**	**332**		**Pg**	**07 18 31.6**	**+0.2**
KAN14				IAML		07 18 42.8	
	comp=N,9μm,0.1s						
KAN14				IAML		07 18 42.8	
	comp=E,8μm,0.1s						
OK032	**Salt Plains WL**	**0.75**	**313**		**Pg**	**07 18 31.6**	**+0.1**
OK032				IAML		07 18 45.0	
	comp=E,5μm,0.2s						
OK032				IAML		07 18 46.0	
	comp=E,6μm,0.2s						
KAN17	**Caldwell West**	**0.77**	**346**		**Pg**	**07 18 32.2**	**+0.2**
KAN17				IAML		07 18 45.2	
	comp=E,6μm,0.3s						
KAN17				IAML		07 18 48.2	
	comp=N,8μm,0.3s						
KAN09	**Caldwell North**	**0.84**	**355**		**Pg**	**07 18 33.5**	**+0.2**
KAN05	**Bluff City Nor**	**0.86**	**341**	Pg	**Pg**	**07 18 33.7**	**+0.1**
KAN05				IAML		07 18 45.5	
	comp=N,7μm,0.4s						
KAN05				IAML		07 18 48.4	
	comp=E,7μm,0.2s						
KAN01	**Argonia South**	**0.88**	**348**		**Pg**	**07 18 34.2**	**+0.2**
KAN01				IAML		07 18 46.2	
	comp=E,5μm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.89**	**175**	Pg	**Pg**	**07 18 34.4**	**+0.1**
DEOK	**Depew**	**0.95**	**118**		**Pg**	**07 18 35.3**	**-0.1**
DEOK				IAML		07 18 50.1	
	comp=N,3μm,0.2s						
KAN06	**Argonia West S**	**0.99**	**345**		**Pg**	**07 18 36.3**	**+0.2**
KAN08	**Anthony NE Sta**	**0.99**	**339**		**Pg**	**07 18 36.3**	**+0.1**
KAN08				IAML		07 18 51.5	
	comp=E,3μm,0.2s						
KAN08				IAML		07 18 51.9	
	comp=N,4μm,0.5s						
OK038	**West end E0370**	**0.99**	**281**		**Pg**	**07 18 36.0**	**-0.2**
OK035	**E0210 Rd and N**	**1.03**	**294**		**Pg**	**07 18 36.6**	**-0.4**
OK035				IAML		07 18 53.5	
	comp=N,3μm,0.4s						
OK035				IAML		07 18 58.5	
	comp=N,5μm,0.3s						
KAN12	**Harper NE Stat**	**1.07**	**340**		**Pg**	**07 18 37.8**	**+0.2**
CSTR	**Hydro, Custer**	**1.14**	**236**		**Pb**	**07 18 38.8**	**-0.1**
NOKA	**Waynoka**	**1.18**	**287**		**Pb**	**07 18 39.3**	**-0.3**
NOKA				IAML		07 19 02.5	
	comp=E,3μm,0.2s						
U32A	**Winter Ranch,**	**1.19**	**274**		**Pb**	**07 18 39.7**	**-0.1**
U32A				IAML		07 18 58.8	
	comp=N,2μm,0.6s						
TUL3	**Leonard**	**1.46**	**105**		**Pn**	**07 18 43.8**	**+0.3**
TUL3				IAmb_Lg		07 19 05.0	
	comp=Z,512nm,0.8s						
TUL3	**Leonard**	**1.46**	**105**	P	**Pn**	**07 18 43.9**	**+0.4**
	baz=286,SNR=169						
TUL3				S	**Sb**	**07 19 03.9**	**+1.0**
	baz=286						
WMOK	**Wichita Mounta**	**1.86**	**214**	Pn	**Pn**	**07 18 49.9**	**+0.9**
WMOK				IAmb_Lg		07 19 19.2	
	comp=Z,269nm,0.7s						
WMOK	**Wichita Mounta**	**1.86**	**214**	P	**Pn**	**07 18 50.1**	**+1.0**
	baz=33,SNR=623						
WMOK				S	**Sb**	**07 19 14.3**	**-0.2**
	baz=33						
RLO	**Rose Lookout**	**2.03**	**93**	Pn	**Pn**	**07 18 53.0**	**+1.6**
LOOK	**Love County**	**2.32**	**173**		**Pn**	**07 18 56.7**	**+1.4**
LOOK				IAmb_Lg		07 19 33.5	
	comp=Z,253nm,0.8s						
R32A	**Long Quarter,**	**2.32**	**336**		**Pn**	**07 18 56.5**	**+1.1**
R32A				IAmb_Lg		07 19 32.2	
	comp=Z,380nm,0.8s						
X37A	**Clayton**	**2.45**	**133**	Pn	**Pn**	**07 18 58.3**	**+1.1**
X37A				IAmb_Lg		07 19 39.0	
	comp=Z,213nm,0.8s						
SMWD	**Samnorwood**	**2.51**	**242**	IAmb_Lg		07 19 40.8	
	comp=Z,195nm,0.8s						
KSU1	**Kansas State U**	**2.89**	**14**	Pn	**Pn**	**07 19 04.5**	**+1.3**
KSU1				IAmb_Lg		07 19 52.1	
	comp=Z,289nm,0.9s						
KSU1	**Kansas State U**	**2.89**	**14**	P	**Pn**	**07 19 04.5**	**+1.3**
	baz=195,SNR=33						
KSU1				Sb	**Sb**	**07 19 45.8**	**+1.6**
	baz=195						
Z35A	**Perchaven, San**	**2.97**	**176**	Pn	**Pn**	**07 19 05.2**	**+1.0**
CBKS	**Cedar Bluff**	**3.06**	**326**		**Pn**	**07 19 06.9**	**+1.3**
CBKS	**Cedar Bluff**	**3.06**	**326**	P	**Pn**	**07 19 06.4**	**+0.7**
	baz=144,SNR=30						
CBKS				Sb	**Sb**	**07 19 52.4**	**+3.2**
	baz=144						
FW03	**Perrin-Whitt E**	**3.28**	**188**	Pn	**Pn**	**07 19 10.1**	**+1.6**
FW06	**Azle**	**3.32**	**180**	Pn	**Pn**	**07 19 10.7**	**+1.6**
S39A	**Bolivar**	**3.64**	**66**	IAmb_Lg		07 20 12.6	
	comp=Z,137nm,0.8s						
AMTX	**Amarillo**	**3.67**	**249**		**Pn**	**07 19 15.2**	**+1.3**
AMTX				IAmb_Lg		07 20 13.8	
	comp=Z,217nm,0.8s						
AMTX	**Amarillo**	**3.67**	**249**	P	**Pn**	**07 19 14.9**	**+0.9**
	baz=66						
AMTX				Sb	**Sb**	**07 20 11.1**	**+4.6**
	baz=66						
MIAR	**Mount Ida**	**3.67**	**117**	Pn	**Pn**	**07 19 15.3**	**+1.3**
MIAR				IAmb_Lg		07 20 16.7	
	comp=Z,147nm,0.7s						
MIAR	**Mount Ida**	**3.67**	**117**	P	**Pn**	**07 19 15.2**	**+1.3**
	baz=300,SNR=42						
MIAR				S	**Sn**	**07 19 58.8**	**+1.5**
	baz=300						
TREL	**Terrell**	**3.75**	**161**	IAmb_Lg		07 20 19.1	
	comp=Z,209nm,0.8s						
FW16	**Waxahatchie**	**3.84**	**172**	IAmb_Lg		07 20 23.8	
	comp=Z,130nm,0.7s						
FW14	**Alvarado**	**3.90**	**176**	IAmb_Lg		07 20 29.3	
	comp=Z,115nm,0.8s						
FW13	**Cleburne**	**3.94**	**179**	IAmb_Lg		07 20 27.0	
	comp=Z,92nm,0.8s						
ABTX	**Abilene, Hawle**	**4.06**	**206**	P	**Pn**	**07 19 19.7**	**+0.5**
	baz=25,SNR=27						
SN07	**Snyder 07**	**4.23**	**222**	IAmb_Lg		07 20 35.9	
	comp=Z,152nm,0.9s						
X40A	**Basin Creek Fa**	**4.24**	**114**	IAmb_Lg		07 20 39.0	
	comp=Z,124nm,0.9s						
WHTX	**Lake Whitney,**	**4.29**	**179**	P	**Pn**	**07 19 23.3**	**+0.9**
	baz=359,SNR=12						
WHTX				S	**Sn**	**07 20 13.5**	**+0.9**
	baz=359						
WHAR	**Wooly Hollow**	**4.38**	**102**	IAmb_Lg		07 20 42.3	
	comp=Z,116nm,0.8s						
SN05	**Snyder 5**	**4.39**	**220**	IAmb_Lg		07 20 41.6	
	comp=Z,161nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.40**	**94**	IAmb_Lg		07 20 34.9	
	comp=Z,88nm,0.8s						
WLAR	**White Oak Lake**	**4.46**	**124**	IAmb_Lg		07 20 49.6	
	comp=Z,160nm,0.9s						
UALR	**University of**	**4.49**	**108**	IAmb_Lg		07 20 49.7	
	comp=Z,180nm,1.0s						
237A	**Washetta, Mont**	**4.52**	**161**	IAmb_Lg		07 20 49.8	
	comp=Z,112nm,0.9s						
P38A	**Dawn**	**4.58**	**42**	IAmb_Lg		07 20 41.9	
	comp=Z,110nm,0.7s						
POST	**Post**	**4.59**	**227**	IAmb_Lg		07 20 49.7	
	comp=Z,100nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.87**	**305**	IAmb_Lg		07 21 05.0	
	comp=Z,100nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.87**	**305**	P	**Pn**	**07 19 31.0**	**+0.5**
	baz=122						
MSTX	**Muleshoe**	**4.88**	**243**	P	**Pn**	**07 19 30.7**	**0.0**
	baz=60						
Z41A	**Richland Creek**	**4.93**	**127**	IAmb_Lg		07 21 05.5	
	comp=Z,121nm,0.8s						
NATX	**Nacogdoches**	**5.11**	**151**	IAmb_Lg		07 21 13.0	
	comp=Z,76nm,0.8s						
NATX	**Nacogdoches**	**5.11**	**151**	P	**Pn**	**07 19 34.4**	**+0.6**
	baz=333						
NATX				S	**Sn**	**07 20 33.3**	**+0.5**
	baz=333						
BGNE	**Belgrade**	**5.13**	**355**	P	**Pn**	**07 19 34.3**	**+0.3**
	baz=174,SNR=18						
BGNE				S	**Sn**	**07 20 33.4**	**+0.3**
	baz=174						
BRDY	**Brady**	**5.14**	**194**	IAmb_Lg		07 21 06.3	
	comp=Z,105nm,0.9s						
LCAR	**Lake Charles**	**5.16**	**91**	IAmb_Lg		07 21 02.3	
	comp=Z,115nm,0.8s						
T42A	**Van Buren**	**5.23**	**80**	IAmb_Lg		07 21 08.6	
	comp=Z,167nm,0.7s						
CCAR	**Cane Creek**	**5.28**	**115**		**Pn**	**07 19 37.1**	**+1.0**
CCAR				IAmb_Lg		07 21 12.0	
	comp=Z,170nm,0.8s						
SGCY	**Sterling City**	**5.29**	**215**	Pn	**Pn**	**07 19 35.5**	**-0.8**
SGCY				IAmb_Lg		07 21 07.0	
	comp=Z,114nm,0.8s						
CCM	**Cathedral Cave**	**5.32**	**69**		**Pn**	**07 19 36.5**	**0.0**
CCM	**Cathedral Cave**	**5.32**	**69**	P	**Pn**	**07 19 36.9**	**+0.4**
	baz=253						
CCM				S	**Sn**	**07 20 37.0**	**-0.9**
	baz=253						
P40A	**Paris**	**5.40**	**52**	Pn	**Pn**	**07 19 38.3**	**+0.6**
P40A				IAmb_Lg		07 21 16.7	
	comp=Z,78nm,0.7s						
435B	**Jarrell**	**5.50**	**180**	Pn	**Pn**	**07 19 39.0**	**0.0**
435B				IAmb_Lg		07 21 19.0	
	comp=Z,144nm,0.8s						
435B	**Jarrell**	**5.50**	**180**	P	**Pn**	**07 19 39.8**	**+0.8**
	baz=0.5						
435B				S	**Sn**	**07 20 41.8**	**-0.5**
	baz=0.5						
T25A	**Trinidad**	**5.59**	**281**	IAmb_Lg		07 21 27.5	
	comp=Z,89nm,0.8s						
T25A	**Trinidad**	**5.59**	**281**	P	**Pn**	**07 19 41.0**	**+0.5**
	baz=97						
T25A				S	**Sn**	**07 20 44.1**	**-0.8**
	baz=97						
N38A	**Joes South For**	**5.61**	**36**	Pn	**Pn**	**07 19 40.3**	**-0.3**
L34A	**Svendsen Farm,**	**5.73**	**9**		**Pn**	**07 19 42.2**	**-0.1**
OGNE	**Ogallala**	**5.83**	**324**	Pn	**Pn**	**07 19 45.0**	**+1.4**
OGNE				IAmb_Lg		07 21 31.3	
	comp=Z,132nm,0.8s						
OGNE	**Ogallala**	**5.83**	**324**	P	**Pn**	**07 19 44.7**	**+1.1**
	baz=141						
OGNE				S	**Sn**	**07 20 49.3**	**-1.3**
	baz=141						
ODSA	**Odessa**	**5.88**	**226**	Pn	**Pn**	**07 19 45.4**	**+1.0**
FVM	**French Village**	**5.92**	**71**	IAmb_Lg		07 21 28.9	
	comp=Z,149nm,0.8s						
JCT	**Junction City**	**6.11**	**199**		**Pn**	**07 19 47.1**	**-0.3**
JCT	**Junction City**	**6.11**	**199**	P	**Pn**	**07 19 47.1**	**-0.3**
	baz=17,SNR=7.1						
JCT				S	**Sn**	**07 20 58.0**	**+0.6**
	baz=17						
OZNA	**Ozona**	**6.14**	**210**	IAmb_Lg		07 21 43.3	
	comp=Z,80nm,0.7s						
143A	**Socs Landing,**	**6.20**	**124**	IAmb_Lg		07 21 49.2	
	comp=Z,64nm,0.7s						
MET	**Memphis--Engin**	**6.29**	**99**	IAmb_Lg		07 21 44.2	
	comp=Z,126nm,0.8s						
MLDN	**Muldoon**	**6.51**	**176**		**Pn**	**07 19 51.8**	**-1.1**
MLDN				IAmb_Lg		07 22 00.7	
	comp=Z,56nm,0.8s						
SCIA	**State Center**	**6.53**	**30**		**Pn**	**07 19 53.1**	**0.0**
SCIA				IAmb_Lg		07 21 50.9	
	comp=Z,122nm,0.7s						
SCIA	**State Center**	**6.53**	**30**	P	**Pn**	**07 19 53.9**	**+0.7**
	baz=212,SNR=9.7						
SCIA				S	**Sn**	**07 21 08.0**	**+0.3**
	baz=212						
SDCO	**Great Sand Dun**	**6.54**	**285**	P	**Pn**	**07 19 55.3**	**+1.7**
	baz=100						
MNHN	**Monahans**	**6.59**	**223**		**Pn**	**07 19 53.3**	**-0.8**
Q24A	**Divide**	**6.61**	**296**	IAmb_Lg		07 21 58.9	
	comp=Z,69nm,0.7s						
Q24A	**Divide**	**6.61**	**296**	P	**Pn**	**07 19 55.6**	**+1.1**
	baz=112						
S44A	**Carbondale**	**6.77**	**76**		**Pn**	**07 19 56.5**	**0.0**
S44A				IAmb_Lg		07 22 07.3	
	comp=Z,96nm,0.8s						
OXF	**Oxford**	**6.87**	**103**	IAmb_Lg		07 21 59.7	
	comp=Z,90nm,0.7s						
OXF	**Oxford**	**6.87**	**103**	P	**Pn**	**07 19 58.6**	**+0.8**
	baz=287						
HNDO	**Hondo**	**6.91**	**193**	IAmb_Lg		07 21 59.4	
	comp=Z,109nm,0.8s						
Y45A	**Yeager Farm, C**	**6.98**	**108**	IAmb_Lg		07 22 09.8	
	comp=Z,71nm,0.8s						
VBMS	**Vicksburg**	**7.09**	**123**	P	**Pn**	**07 20 01.6**	**+0.7**
	baz=307						
ISCO	**Idaho Springs**	**7.27**	**301**	IAmb_Lg		07 22 17.1	
	comp=Z,66nm,1.0s						
ISCO	**Idaho Springs**	**7.27**	**301**	P	**Pn**	**07 20 05.3**	**+1.6**
	baz=116						
DRIO	**Del Rio**	**7.33**	**202**	IAmb_Lg		07 22 17.3	
	comp=Z,65nm,1.0s						
ANMO	**Albuquerque**	**7.39**	**262**	Pn	**Pn**	**07 20 05.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=10,slow=15,SNR=2.3						
ANMO				Sn	**Sn**	**07 21 27.3**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=185,slow=15,SNR=1.7						
ANMO				Lg	Lg	07 22 09.1	
	comp=Z,5.8nm,0.3s,baz=95,slow=12,SNR=10						
SAND	**Sanderson**	**7.40**	**213**	IAmb_Lg		07 22 21.9	
	comp=Z,70nm,0.8s						
735A	**Kenedy**	**7.42**	**182**	IAmb_Lg		07 22 24.9	
	comp=Z,102nm,1.1s						
ECSD	**EROS Data Cent**	**7.46**	**5**	P	**Pn**	**07 20 05.2**	**-0.7**
	baz=186,SNR=35						
L40A	**Anamosa**	**7.56**	**38**	IAmb_Lg		07 22 39.6	
	comp=Z,85nm,0.7s						
HDIL	**Hopedale**	**7.74**	**54**	P	**Pn**	**07 20 09.2**	**-0.5**
	baz=239,SNR=18						
ALPN	**Alpine**	**7.81**	**223**	IAmb_Lg		07 22 34.8	
	comp=Z,82nm,1.3s						
PLAL	**Pickwick Lake**	**7.81**	**97**	IAmb_Lg		07 22 25.5	
	comp=Z,49nm,0.8s						
146A	**Union**	**7.89**	**115**	IAmb_Lg		07 22 42.7	
	comp=Z,49nm,0.9s						
PHWY	**Pilot Hill**	**7.95**	**311**	IAmb_Lg		07 22 40.8	
	comp=Z,53nm,0.8s						
Y22D	**IRIS PASSCAL I**	**8.00**	**257**	IAmb_Lg		07 22 47.5	
	comp=Z,95nm,0.9s						
SMCO	**Snowmass**	**8.02**	**294**	IAmb_Lg		07 22 43.3	
	comp=Z,40nm,1.2s						
N23A	**Red Feather La**	**8.03**	**307**	IAmb_Lg		07 22 47.7	
	comp=Z,72nm,0.9s						
N23A	**Red Feather La**	**8.03**	**307**	P	**Pn**	**07 20 14.8**	**+0.8**
	baz=122,SNR=25						
USIN	**University of**	**8.05**	**75**	IAmb_Lg		07 22 34.1	
	comp=Z,70nm,0.8s						
833A	**Chaparral WMA,**	**8.11**	**192**	IAmb_Lg		07 22 48.4	
	comp=Z,41nm,0.7s						
833A	**Chaparral WMA,**	**8.11**	**192**	P	**Pn**	**07 20 15.7**	**+0.9**
	baz=11						
L42A	**Oliver, Polo**	**8.35**	**45**	IAmb_Lg		07 22 45.6	
	comp=Z,64nm,0.8s						
TXAR	**Lajitas Array**	**8.65**	**218**	Pn	**Pn**	**07 20 22.3**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=38,slow=11,SNR=64						
TXAR				Sn	**Sn**	**07 21 55.9**	**-4.2**
	comp=Z,0.7nm,0.3s,baz=45,slow=12,SNR=1.4						
TXAR				Lg	Lg	07 22 47.6	
	comp=Z,3.8nm,0.3s,baz=41,slow=25,SNR=10						
	comp=Z,1.0nm,0.3s						
JFWS	**Jewell Farm**	**8.67**	**38**	P	**Pn**	**07 20 21.8**	**-0.8**
	baz=223,SNR=14						
M44A	**Midewin, Midew**	**8.98**	**53**	IAmb_Lg		07 23 02.9	
	comp=Z,54nm,0.8s						
SFIN	**Lafayette**	**9.15**	**60**	P	**Pn**	**07 20 29.2**	**0.0**
	baz=247,SNR=10						
WCI	**Wyandotte Cave**	**9.16**	**74**	P	**Pn**	**07 20 30.2**	**+0.9**
	baz=261						
I40A	**Norwalk**	**9.25**	**33**	IAmb_Lg		07 23 23.2	
	comp=Z,52nm,0.9s						
RSSD	**Black Hills**	**9.26**	**330**	IAmb_Lg		07 23 26.1	
	comp=Z,37nm,0.8s						
RSSD	**Black Hills**	**9.26**	**330**	P	**Pn**	**07 20 31.7**	**+0.8**
	baz=145						
LRAL	**Lakeview Retre**	**9.27**	**108**	P	**Pn**	**07 20 31.2**	**+0.5**
	baz=294						
K22A	**Casper**	**9.41**	**315**	IAmb_Lg		07 23 25.5	
	comp=Z,75nm,1.2s						
K22A	**Casper**	**9.41**	**315**	P	**Pn**	**07 20 33.3**	**+0.5**
	baz=130						
L44A	**Lake County Fo**	**9.49**	**49**	P	**Pn**	**07 20 33.4**	**-0.4**
	baz=235						
F33A	**5 Mile Ranch,**	**9.58**	**5**	IAmb_Lg		07 23 28.1	
	comp=Z,42nm,1.0s						
SPMN	**Marine on St.**	**9.61**	**20**	IAmb_Lg		07 23 41.6	
	comp=Z,45nm,0.9s						
SPMN	**Marine on St.**	**9.61**	**20**	P	**Pn**	**07 20 34.2**	**-1.3**
	baz=203						
O48B	**Farmland**	**10.50**	**64**	P	**Pn**	**07 20 46.0**	**-1.6**
	baz=252						
P49A	**Miami Univ. Ec**	**10.63**	**68**	P	**Pn**	**07 20 48.2**	**-1.1**
	baz=256						
TKL	**Tuckaleechee C**	**11.17**	**89**	Pn	**Pn**	**07 20 57.8**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=223,slow=10.0,SNR=1.2						
TKL				Sn	**Sn**	**07 23 05.3**	**+3.7**
	comp=Z,0.5nm,0.3s,baz=315,slow=9.4,SNR=2.0						
TKL				Lg	Lg	07 24 07.4	
	comp=Z,3.2nm,0.3s,baz=189,slow=23,SNR=12						
PDAR	**Pinedale Array**	**11.31**	**309**	Pn	**Pn**	**07 20 58.5**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=45,slow=47,SNR=13						
PDAR				Lg	Lg	07 24 09.9	
	comp=Z,0.8nm,0.3s,baz=110,slow=30,SNR=4.2		

OK048			Sg	Sg	07 24 05.5	0.0
OK029	**Liberty Lake**	**0.50 173**	Pg	Pg	07 23 59.5	+0.1
OK029			IAML		07 24 06.7	
	comp=N,146nm,0.2s					
OK029			IAML		07 24 06.9	
	comp=N,170nm,0.1s					
BLOK	**Blackwell**	**0.53 29**	Pg	Pg	07 24 00.2	+0.3
BLOK			IAML		07 24 15.9	
	comp=E,168nm,0.2s					
OK051	**E0350 and S346**	**0.60 70**	Pg	Pg	07 24 01.4	+0.2
OK051			IAML		07 24 13.9	
	comp=E,159nm,0.2s					
OK051			IAML		07 24 15.7	
	comp=E,134nm,0.2s					
GC02	**Grant County #**	**0.61 334**	Pg	Pg	07 24 01.5	0.0
OK031	**S. Brethren Rd**	**0.66 121**	Pg	Pg	07 24 02.4	+0.1
ADOK	**Arcadia Dam**	**0.66 169**	Pg	Pg	07 24 02.3	-0.1
OK052	**Battle Ridge R**	**0.66 117**	Pg	Pg	07 24 02.5	0.0
KAN13	**South Haven SW**	**0.71 3**	Pg	Pg	07 24 03.5	0.0
KAN13			IAML		07 24 13.7	
	comp=E,168nm,0.3s					
KAN14	**Manchester OK**	**0.74 332**	Pg	Pg	07 24 03.8	-0.2
OK032	**Salt Plains WL**	**0.74 313**	Pg	Pg	07 24 03.8	-0.3
OK032			IAML		07 24 15.4	
	comp=E,163nm,0.2s					
OK032			IAML		07 24 17.8	
	comp=E,152nm,0.1s					
KAN17	**Caldwell West**	**0.77 346**	Pg	Pg	07 24 03.8	-0.7
KAN17			IAML		07 24 17.4	
	comp=E,127nm,0.3s					
KAN17			IAML		07 24 20.2	
	comp=N,163nm,0.3s					
KAN09	**Caldwell North**	**0.84 355**	Pg	Pg	07 24 05.8	-0.1
KAN05	**Bluff City Nor**	**0.85 341**	Pg	Pg	07 24 06.0	-0.1
KAN05			IAML		07 24 24.6	
	comp=N,140nm,0.2s					
KAN01	**Argonia South**	**0.87 348**	Pg	Pg	07 24 06.3	-0.1
KAN01			IAML		07 24 22.4	
	comp=E,141nm,0.1s					
OKCSW	**OKLAHOMA CITY**	**0.89 175**		Pg	07 24 06.4	-0.5
OKCSW			IAmb_Lg		07 24 17.7	
	comp=Z,11nm,0.8s					
DEOK	**Depew**	**0.95 118**	Pg	Pg	07 24 07.5	-0.5
DEOK			IAML		07 24 21.5	
	comp=E,65nm,0.1s					
DEOK			IAML		07 24 22.9	
	comp=N,74nm,0.2s					
KAN08	**Anthony NE Sta**	**0.99 339**	Pg	Pg	07 24 08.9	+0.1
KAN08			IAML		07 24 25.4	
	comp=N,106nm,0.1s					
KAN08			IAML		07 24 25.9	
	comp=E,109nm,0.1s					
OK038	**West end E0370**	**0.99 281**	Pg	Pg	07 24 08.2	-0.6
FNO	**Franklin**	**1.04 174**	Pg	Pg	07 24 09.1	-0.6
FNO			IAML		07 24 25.4	
	comp=E,76nm,0.2s					
KAN12	**Harper NE Stat**	**1.07 339**	Pg	Pg	07 24 10.1	-0.1
CSTR	**Hydro, Custer**	**1.14 236**	Pg	Pg	07 24 10.7	-1.0
NOKA	**Waynoka**	**1.18 287**	Pg	Pg	07 24 11.0	-1.4
NOKA			IAML		07 24 35.9	
	comp=E,84nm,0.2s					
U32A	**Winter Ranch,**	**1.19 274**	Pg	Pg	07 24 11.4	-1.2
U32A			IAML		07 24 35.2	
	comp=N,52nm,0.3s					
U32A			IAML		07 24 41.7	
	comp=E,37nm,0.7s					
W35A	**Tecumseh**	**1.26 155**		Pn	07 24 12.6	-1.1
W35A			IAML		07 24 37.5	
	comp=N,50nm,0.4s					
TUL3	**Leonard**	**1.46 105**		Pn	07 24 15.7	-0.7
X34A	**Smith Ranch, M**	**1.71 188**	Pn	Pb	07 24 20.9	-0.6
X34A			IAmb_Lg		07 24 47.9	
	comp=Z,14nm,0.8s					
WMOK	**Wichita Mounta**	**1.86 214**	Pn	Pn	07 24 22.3	+0.3
RLO	**Rose Lookout**	**2.03 93**	Pn	Pn	07 24 25.2	+0.9
146A	**Union**	**7.89 115**	IAmb_Lg		07 27 54.5	
	comp=Z,14nm,0.7s					

*IDC **10** 07:25:51.3±1.5, 31°.82S×58°.19E, h0km, mb4.1/7, mbtmp4.1/7, Error ellipse: s-maj=56.9km s-min=25.7km az=29.0*

ISC 10 07:25:52.9±1.8, 31°.8S±0°.4×58°.2E±0°.3, h10km, n7, σ0$42/7, mb4.2/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**63.43**	**44**	P		**P**	**07 36 22.9**	**-0.1**
	2.1nm,0.3s,baz=225,slow=7.3,SNR=6.0						
	2.1nm,0.3s						
ASAR	**Alice Springs**	**66.29**	**104**	P		**P**	**07 36 42.2**	**+0.4**
	1.0nm,0.6s,baz=239,slow=5.6,SNR=9.3						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**68.31**	**101**	P		**P**	**07 36 54.2**	**-0.5**
	1.1nm,0.7s,baz=244,slow=5.2,SNR=7.0						
	1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**70.17**	**300**	P		**P**	**07 37 06.1**	**0.0**
	0.7nm,1.0s,baz=132,slow=4.1,SNR=2.8						
	0.7nm,1.0s						
BRTR	**Keskin Array B**	**74.73**	**341**	P		**P**	**07 37 32.7**	**-0.3**
	0.5nm,0.5s,baz=174,slow=4.3,SNR=3.0						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**84.01**	**13**	P		**P**	**07 38 23.4**	**+0.3**
	1.4nm,0.3s,baz=205,slow=6.0,SNR=5.7						
	1.4nm,0.3s						
BVAR	**Borovoye Array**	**85.14**	**7**	P		**P**	**07 38 29.2**	**+0.4**
	2.2nm,0.8s,baz=181,slow=5.9,SNR=9.4						
	2.2nm,0.8s						

*IDC **10** 07:26:56.6±0.4, 31°.69S×58°.24E, h0km, mb4.4/20, mbtmp4.4/21, ML4.4/1, MS3.9/2, Error ellipse: s-maj=17.8km s-min=12.5km az=79.0*

*BJI **10** 07:26:56.0±0.0, 31°.60S×58°.00E, h5km, mB5.6/9, mb4.9/30, Ms5.1/1, Ms7 4.7/3*

*NEIC **10** 07:26:59.2±2.6, 31°.6S±0°.1×58°.0E±0°.1, h10km±1km, mb5.1/30, Error ellipse: s-maj=21.9km s-min=17.1km az=216.0*

*GCMT **10** 07:26:59.2±0.3, 31°.67S±0°.03×57°.92E±0°.06, h18km±1km, MW4.9/76, Moment Tensor Solution. s14,c14; s76,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.96±.25; $M_{\theta\theta}$2.37±.17; $M_{\phi\phi}$0.59±.15; $M_{r\theta}$0.27±.42; $M_{\theta\phi}$0.33±.09; $M_{r\phi}$1.64±.57; Best double couple: $M_0$3.05400×10^{16} NP1:ϕ_s237.00000°, δ56.00000°, λ-114.00000°. NP2: ϕ_s95.00000°, δ41.00000°, λ-59.00000°. Principal axes: T 2.5050, Plg8.0000°, Azm344.0000°; N 1.1030, Plg20.0000°, Azm251.0000°; P -3.6040, Plg69.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 07:26:59.9±0.3, 31°.67S±0°.07×57°.92E±0°.07, h17km, n305, σ1$06/307, mb4.9/60, MS3.5/3, 4C-3D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOMA	**Nahampoana Res**	**11.71**	**302**	Pn		**Pn**	**07 29 46.2**	**-0.1**
H04N2	**CROZET ISLANDS**	**15.23**	**196**	T		T	07 46 24.8	
	baz=21,slow=75,SNR=3.0							
H04N1	**CROZET ISLANDS**	**15.23**	**196**	T		T	07 46 23.3	
	baz=21,slow=75,SNR=10							
H04N3	**CROZET ISLANDS**	**15.25**	**196**	T		T	07 46 23.0	
	baz=21,slow=75,SNR=4.0							
ABPO	**Ambohimpanom**	**15.86**	**320**	P		**Pn**	**07 30 43.9**	**+1.2**
OPO	**Ambohidratompo**	**16.25**	**321**	Pn		**Pn**	**07 30 49.5**	**+1.9**
	0.2nm,0.3s,baz=132,slow=9.2,SNR=12							
OPO				Sn		**Sn**	**07 33 39.0**	**-8.6**
	baz=333,slow=23,SNR=2.2							
	23nm,0.9s							
POGA	**Pongola**	**23.20**	**274**	P		**P**	**07 32 06.8**	**+0.8**
H08S1	**Diego Carcia H**	**27.48**	**33**	T		T	08 01 04.9	
	baz=207,slow=75,SNR=8.3							
H08S2	**Diego Garcia H**	**27.49**	**33**	T		T	08 01 07.5	
	baz=207,slow=75,SNR=6.8							
H08S3	**Diego Garcia H**	**27.50**	**33**	T		T	08 01 08.2	
	baz=207,slow=75,SNR=10							
BOSA	**Boshof**	**28.36**	**268**	P		**P**	**07 32 54.8**	**+1.5**
	1.8nm,0.9s,baz=132,slow=8.5,SNR=3.6							
BOSA				LR		LR	07 42 00.3	
	comp=Z,130nm,20.4s,baz=89,slow=32							
	1.8nm,0.9s							
MAW	**Mawson**	**36.09**	**177**	P		**P**	**07 33 60.0**	**-0.5**
	1.5nm,0.9s,baz=344,slow=15,SNR=2.5							
MAW				S		**S**	**07 39 38.7**	**0.0**
	0.4nm,0.3s,baz=276,slow=12,SNR=1.6							
	1.5nm,0.9s							
TSUM	**Tsumeb**	**38.28**	**279**	P		**P**	**07 34 20.3**	**+0.6**
TSUM				IAmb		IAmb	07 34 22.7	
	comp=Z,50nm,1.9s							
ELIB	**Princess Elisa**	**44.33**	**195**	*d*P		**P**	**07 35 09.1**	**+0.2**
	comp=Z,2.5nm,1.0s							
NWAO	**Narrogin (SRO)**	**49.56**	**108**	P		**P**	**07 35 47.6**	**-2.5**
NWAO				IAmb		IAmb	07 37 16.9	
	comp=Z,38nm,1.6s							
TROLL	**Troll, Antarti**	**49.68**	**200**	⇑P		**P**	**07 35 50.1**	**-0.5**
	comp=Z,78nm,1.1s							
SNAA	**Sanae**	**51.14**	**201**	P		**P**	**07 36 00.1**	**-1.5**
SNAA	**Sanae**	**51.14**	**201**	⇑P		**P**	**07 36 01.8**	**+0.1**
	comp=Z,45nm,0.9s							
SNAA	**Sanae**	**51.14**	**201**	P		**P**	**07 36 01.7**	**+0.1**
	comp=Z,3.0nm,1.0s,baz=78,slow=7.2,SNR=5.9							
	comp=Z,3.0nm,1.0s							
VNA2	**Neumayer--Watz**	**52.38**	**202**	⇑P		**P**	**07 36 10.5**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=69,slow=2.6							
HYB	**Hyderabad**	**52.67**	**25**	*e*P		**P**	**07 36 13.4**	**-0.1**
VNA3	**Neumayer Olymp**	**53.17**	**202**	⇑P		**P**	**07 36 16.6**	**0.0**
	comp=Z,2.6nm,0.9s							
QSPA	**South Pole Qui**	**58.50**	**180**	P		**P**	**07 36 54.7**	**-0.4**
QSPA				IAmb		IAmb	07 37 03.0	
	comp=Z,12nm,0.9s							
QSPA	**South Pole Qui**	**58.50**	**180**	P		**P**	**07 36 54.6**	**-0.4**
	comp=Z,7.9nm,0.8s,baz=270,slow=1.4,SNR=25							
	comp=Z,7.9nm,0.8s							
FORT	**Forrest**	**58.98**	**109**	P		**P**	**07 37 00.5**	**+1.7**
FORT				IAmb		IAmb	07 37 26.4	
	comp=Z,25nm,1.2s							
VNDA	**Vanda**	**62.27**	**166**	P		**P**	**07 37 19.4**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=252,slow=10.0,SNR=6.5							
	comp=Z,1.4nm,0.9s							
CMAR	**Chiang Mai Arr**	**63.50**	**44**	P		**P**	**07 37 27.6**	**-1.8**
	comp=Z,10nm,1.0s,baz=231,slow=7.2,SNR=23							
	comp=Z,10nm,1.0s							
BBOO	**Buckleboo**	**64.57**	**114**	P		**P**	**07 37 36.3**	**-0.1**
SHL	**Shillong**	**65.51**	**34**	P		**P**	**07 37 41.6**	**-1.0**
ASAR	**Alice Springs**	**66.55**	**104**	P		**P**	**07 37 47.4**	**-2.0**
	comp=Z,3.9nm,0.8s,baz=239,slow=6.3,SNR=22							
	comp=Z,3.9nm,0.8s							
WRA	**Warramunga Arr**	**68.56**	**101**	P		**P**	**07 38 00.2**	**-1.9**
	comp=Z,6.9nm,0.9s,baz=243,slow=5.6,SNR=16							
	comp=Z,6.9nm,0.9s							
WRAB	**Tennant Creek**	**68.57**	**101**	P		**P**	**07 37 59.8**	**-2.3**
WRAB				IAmb		IAmb	07 39 49.9	
	comp=Z,16nm,0.7s							
TORD	**Torodi Ar. Bea**	**69.90**	**300**	P		**P**	**07 38 11.7**	**+1.4**
	comp=Z,2.7nm,0.9s,baz=97,slow=2.9,SNR=11							
	comp=Z,2.7nm,0.9s							
SIMJ	**Simiganj**	**70.72**	**9**	P		**P**	**07 38 15.5**	**+0.5**
SIMJ				IAmb		IAmb	07 38 23.9	
	comp=Z,25nm,1.4s							
CHGR	**Chuyangaron**	**70.74**	**9**	P		**P**	**07 38 15.2**	**+0.2**
DBIC	**Dimbokro**	**70.90**	**291**	P		**P**	**07 38 18.0**	**+1.5**
	comp=Z,7.2nm,0.8s,baz=102,slow=6.8,SNR=4.7							
	comp=Z,7.2nm,0.8s							
GAR	**Garm**	**71.25**	**10**	P		**P**	**07 38 16.6**	**-1.6**
GAR				IAmb		IAmb	07 38 26.0	
	comp=Z,49nm,2.0s							
PZH	**PanZhiHua**	**71.37**	**41**	P		**P**	**07 38 21.0**	**+1.8**
PZH				pmax		pmax		
	comp=Z,20nm,0.8s							
PZH				pmax		pmax		
	comp=Z,130nm,5.1s							
DRK	**Karamyk**	**71.95**	**11**	P		**P**	**07 38 21.5**	**-1.1**
BTK	**Batken**	**72.36**	**10**	P		**P**	**07 38 25.0**	**+0.2**
BTK				IAmb		IAmb	07 38 34.0	
	comp=Z,34nm,1.7s							
KSH	**Kashi**	**72.78**	**15**	P		**P**	**07 38 24.4**	**-3.0**
KSH				sP		pP	07 38 32.0	+0.3
KSH				pmax		pmax		
	comp=Z,8.0nm,0.7s							
KARP	**Karpathos**	**72.83**	**334**	P		**P**	**07 38 27.0**	**-0.6**
ARSB	**Arslanbob**	**73.95**	**12**	P		**P**	**07 38 32.9**	**-1.3**
GYA	**Guiyang**	**74.18**	**44**	⇓P		**P**	**07 38 39.3**	**+3.4**
GYA				pmax		pmax		
	comp=Z,19nm,0.6s							
BRTR	**Keskin Array B**	**74.52**	**341**	P		**P**	**07 38 38.0**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=165,slow=5.1,SNR=11							
	comp=Z,2.4nm,0.9s							
KKAR	**Karatay Array**	**75.30**	**10**	P		**P**	**07 38 41.2**	**-0.7**
KKAR				IAmb		IAmb	07 38 50.9	
	comp=Z,17nm,1.4s							
AAK	**Ala-Archa**	**75.49**	**13**	P		**P**	**07 38 43.8**	**+0.6**
AAK				IAmb		IAmb	07 38 52.6	
	comp=Z,22nm,1.4s							
AAK	**Ala-Archa**	**75.49**	**13**	LR		LR	08 08 40.1	
	comp=Z,134nm,21.6s,baz=182,slow=33							
BOOM	**Boomskoye usch**	**75.63**	**14**	P		**P**	**07 38 43.8**	**-0.2**
CD2	**Chengdu**	**75.90**	**39**	*e*P		**P**	**07 38 47.0**	**+1.3**
PRZ	**Przheval'sk**	**76.15**	**15**	P		**P**	**07 38 46.8**	**-0.2**
PRZ				IAmb		IAmb	07 38 48.8	
	comp=Z,19nm,0.7s							
KBZ	**Khabaz**	**76.28**	**349**	P		**P**	**07 38 47.1**	**-0.3**
	comp=Z,2.3nm,1.0s,baz=193,slow=2.3,SNR=4.6							
	comp=Z,2.3nm,1.0s							
CTA	**Charters Tower**	**78.36**	**106**	LR		LR	08 10 19.8	
	comp=Z,4.9nm,18.2s,baz=269,slow=33							
WMQ	**Urumqi**	**79.91**	**21**	*e*P		**P**	**07 39 11.5**	**+3.8**
WMQ				pmax		pmax		
	comp=Z,29nm,0.7s							
ABKAR	**Akbulak array**	**80.58**	**1**	P		**P**	**07 39 10.5**	**-0.6**
ABKAR				IAmb		IAmb	07 39 12.2	
	comp=Z,16nm,1.4s							
GTA	**Gaotai**	**80.71**	**32**	*e*P		**P**	**07 39 12.1**	**-0.1**
GTA				pP		PcP	07 39 19.5	+0.6
GTA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KEST	**Kesra**	**81.07**	**322**	P		**P**	**07 39 14.2**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=247,slow=14,SNR=2.5							
	comp=Z,2.6nm,0.7s							
MKAR	**Makanchi Array**	**81.14**	**17**	P		**P**	**07 39 12.9**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=225,slow=6.3,SNR=11							
	comp=Z,1.5nm,0.8s							
MLR	**Muntele Rosu**	**82.10**	**338**	P		**P**	**07 39 19.2**	**-0.1**
MLR				IAmb		IAmb	07 39 20.5	
	comp=Z,8.7nm,0.9s							
KURBB	**Kurchatov Arra**	**83.94**	**13**	P		**P**	**07 39 27.8**	**-0.8**
	comp=Z,7.4nm,0.8s,baz=206,slow=5.5,SNR=26							
	comp=Z,7.4nm,0.8s							
KURK	**Kurchatov**	**84.04**	**13**	P		**P**	**07 39 28.4**	**-0.7**
BVAR	**Borovoye Array**	**85.03**	**8**	P		**P**	**07 39 34.4**	**+0.3**
	comp=Z,12nm,0.8s,baz=183,slow=5.5,SNR=39							
	comp=Z,12nm,0.8s							
BRVK	**Borovoye**	**85.06**	**7**	P		**P**	**07 39 34.1**	**-0.1**
BRVK				IAmb		IAmb	07 39 35.4	
	comp=Z,18nm,1.1s							
NJ2	**Nanjing**	**85.65**	**48**	*e*P		**P**	**07 39 39.4**	**+1.7**
NJ2				sP		**pP**	**07 39 42.2**	**+0.1**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
AKASG	**Malin Array Be**	**85.85**	**342**	P		**P**	**07 39 38.2**	**+0.1**
	comp=Z,0.5nm,0.2s,baz=174,slow=4.9,SNR=6.1							
	comp=Z,0.5nm,0.2s							
BTO	**Baotou**	**86.56**	**37**	*e*P		**P**	**07 39 41.9**	**-0.2**
BTO				pP		**pP**	**07 39 46.6**	**+0.1**
BTO				sP		**sP**	**07 39 48.4**	**+0.3**
BTO				PP		**PP**	**07 43 08.3**	**+3.9**
BTO				S		**S**	**07 50 19.2**	**+1.2**
BTO				pmax		pmax		
	comp=Z,17nm,0.8s							
BTO				pmax		pmax		
	comp=Z,400nm,5.4s							
BTO				LR		LR		
	comp=Z,450nm,7.3s							
HNS	**HongShan**	**86.79**	**42**	⇓P		**P**	**07 39 42.4**	**-0.7**
HNS				pmax		pmax		
	comp=Z,13nm,1.1s							
SOKA	**Soboth**	**87.06**	**332**	*e*P		**P**	**07 39 45.7**	**+1.4**
	comp=Z,5.9nm,1.3s							
OBKA	**Obir**	**87.12**	**332**	*i*P		**P**	**07 39 45.6**	**+0.9**
	comp=Z,5.7nm,1.0s							
ARSA	**Arzberg**	**87.33**	**333**	*e*P		**P**	**07 39 47.1**	**+1.5**
	comp=Z,3.8nm,1.1s							
TIA	**Tai'an**	**87.38**	**44**	P		**P**	**07 39 45.0**	**-1.1**
TIA				pmax		pmax		
	comp=Z,5.0nm,1.3s							
RONA	**Rosalia, Austr**	**87.40**	**333**	*i*P		**P**	**07 39 46.8**	**+0.8**
	comp=Z,7.8nm,1.2s							
HHC	**Hu-ho-hao-te**	**87.53**	**38**	*e*P		**P**	**07 39 46.8**	**0.0**
HHC				sP		sP	07 39 53.7	+0.8
HHC				pmax		pmax		
	comp=Z,15nm,0.5s							
HHC				pmax		pmax		
	comp=Z,130nm,3.8s							
STAL	**STALIGIAL**	**87.68**	**330**	P		**P**	**07 39 46.6**	**-0.7**
ARU	**Arti**	**87.75**	**0**	P		**P**	**07 39 46.8**	**-0.6**
CONA	**Conrad Observa**	**87.76**	**333**	*e*P		**P**	**07 39 48.3**	**+0.6**
	comp=Z,12nm,1.4s							
JAVC	**Velka Javorina**	**87.85**	**335**	*e*P		**P**	**07 39 49.1**	**+1.0**
KBA	**Koelnbreinsper**	**88.07**	**331**	*i*P		**P**	**07 39 50.7**	**+1.4**
	comp=Z,6.1nm,1.3s							
ABTA	**Abfaltersbach**	**88.15**	**331**	*e*P		**P**	**07 39 50.7**	**+1.1**
	comp=Z,7.0nm,0.9s							
OJC	**Ojcow**	**88.25**	**337**	*e*P		**P**	**07 39 48.3**	**-1.6**
MOA	**Molln**	**88.32**	**332**	*i*P		**P**	**07 39 50.6**	**+0.3**
	comp=Z,9.6nm,1.2s							
ZALV	**Zalesovo Beam**	**88.39**	**16**	P		**P**	**07 39 48.6**	**-1.8**
	comp=Z,3.8nm,0.9s,baz=212,slow=5.3,SNR=8.5							
	comp=Z,3.8nm,0.9s							
KRUC	**Moravsky**	**88.49**	**334**	*e*P		**P**	**07 39 50.9**	**-0.1**
KRUC				*e*			07 39 58.4	
LESA	**Schwarzleotal**	**88.62**	**331**	*i*P		**P**	**07 39 51.9**	**+0.1**
	comp=Z,6.1nm,0.7s							
MORC	**Moravsky Berou**	**88.66**	**335**	*e*P		**P**	**07 39 51.9**	**0.0**
MORC				*e*			07 39 59.9	
WATA	**Walderalm**	**89.00**	**331**	*i*P		**P**	**07 39 54.4**	**+0.7**
	comp=Z,7.9nm,0.7s							
SQTA	**Sankt Quirin**	**89.07**	**330**	*e*P		**P**	**07 39 54.9**	**+0.9**
	comp=Z,0.1nm,0.2s							
FETA	**Feichten**	**89.12**	**330**	*i*P		**P**	**07 39 55.2**	**+1.0**
	comp=Z,6.7nm,0.8s							
TUE	**Stuetta**	**89.29**	**329**	P		**P**	**07 39 54.9**	**-0.2**
RETA	**Reutte**	**89.47**	**330**	*i*P		**P**	**07 39 56.1**	**+0.3**
	comp=Z,7.0nm,0.9s							
DAVA	**Damuels**	**89.69**	**330**	*i*P		**P**	**07 39 57.0**	**+0.1**
	comp=Z,3.0nm,0.5s							
SONM	**Songino Array**	**90.30**	**30**	P		**P**	**07 39 58.4**	**-1.3**
	comp=Z,1.7nm,0.9s,baz=200,slow=5.0,SNR=7.2							
	comp=Z,1.7nm,0.9s							
ESDC	**Sonseca Array**	**91.27**	**317**	P		**P**	**07 40 05.1**	**+0.7**
	comp=Z,1.8nm,1.0s,baz=108,slow=3.2,SNR=10							
	comp=Z,1.8nm,1.0s							
TBI	**Tubuai**	**119.34**	**151**	*e*LR		LR	08 22 20.7	
	comp=Z,1μm,35.5s							
PPT2	**Papeete2**	**124.37**	**148**	*e*LR		LR	08 24 43.3	
	comp=Z,86nm,29.2s							
OTAV	**Otavalo**	**128.27**	**241**			**PKiKP**	**07 46 07.6**	**+0.2**
G24K	**Hadweenzic Riv**	**141.79**	**16**	P		**PKiKP**	**07 46 33.5**	**+0.9**
	baz=324							
H23K	**Yukon River**	**141.97**	**18**	P		**PKiKP**	**07 46 33.0**	**0.0**
	baz=320							
BINY	**Binghamton**	**142.09**	**299**	P		**PKiKP**	**07 46 34.8**	**+0.8**
	baz=89							
C36M	**Paulatuk**	**142.26**	**1**	P		**PKiKP**	**07 46 35.1**	**+1.6**
	baz=357							
I23K	**Minto, Yukon-K**	**142.54**	**19**	P		**PKiKP**	**07 46 35.5**	**+1.4**
	baz=320							
INK	**Inuvik**	**142.72**	**7**	P		**PKiKP**	**07 46 35.6**	**+1.2**
	baz=344							
BPAW	**Bear Paw Mtn.**	**142.86**	**21**	P		**PKiKP**	**07 46 35.2**	**+0.3**
	baz=317							
L19K	**White Mountain**	**142.91**	**25**	P		**PKiKP**	**07 46 35.5**	**+0.4**
	baz=310							
CAST	**Castle Rocks**	**143.01**	**22**			**PKPdf**	**07 46 29.1**	**-3.0**
CAST	**Castle Rocks**	**143.01**	**22**	P		**PKiKP**	**07 46 35.7**	**+0.4**
	baz=315							
L20K	**Farewell, AK**	**143.06**	**24**	P		**PKiKP**	**07 46 36.0**	**+0.6**
	baz=312							
O16K	**Kokwok River B**	**143.19**	**30**	P		**PKiKP**	**07 46 35.7**	**+0.1**
	baz=303							
M19K	**Big River Lodg**	**143.26**	**25**	P		**PKiKP**	**07 46 35.9**	**+0.1**
	baz=310							
G29M	**Pine Creek**	**143.46**	**10**	P		**PKiKP**	**07 46 36.6**	**+0.5**
	baz=337							
N18K	**Kilae Creek**	**143.46**	**27**	P		**PKiKP**	**07 46 36.7**	**+0.4**
	baz=307							
H27K	**Steamboat Moun**	**143.46**	**13**	P		**PKiKP**	**07 46 36.7**	**+0.6**
	baz=331							
ILAR	**Eielson Array**	**143.49**	**18**	PKP		PKPbc	07 46 29.5	-0.6
	comp=Z,1.1nm,0.9s,baz=305,slow=3.5,SNR=7.0							
O17K	**Koliganek Bris**	**143.51**	**29**	P		**PKiKP**	**07 46 37.0**	**+0.7**
	baz=305							
SSPA	**Standing Stone**	**143.53**	**297**	P		**PKiKP**	**07 46 36.5**	**-0.5**
	baz=90							
G30M	**tAoh Zraii Nji**	**143.66**	**9**	P		**PKiKP**	**07 46 36.4**	**-0.1**
	baz=339							
M20K	**Styx River**	**143.72**	**24**	P		**PKiKP**	**07 46 36.7**	**-0.1**
	baz=312							
MCK	**McKinley**	**143.74**	**20**	P		**PKiKP**	**07 46 37.0**	**+0.2**
	baz=319							
N19K	**Bonanza Creek**	**143.92**	**26**	P		**PKiKP**	**07 46 37.5**	**+0.2**
	baz=309							
I26K	**Coal Creek Min**	**143.93**	**15**			PKPbc	07 46 31.0	-0.4
I26K	**Coal Creek Min**	**143.93**	**15**	P		**PKiKP**	**07 46 37.6**	**+0.6**
	baz=328							
G31M	**Satah River**	**143.97**	**8**	P		**PKiKP**	**07 46 37.8**	**+0.8**
	baz=342							
I27K	**Kandik River**	**144.00**	**14**	P		**PKiKP**	**07 46 38.3**	**+1.1**
	baz=331							
J25K	**Salcha River,**	**144.00**	**17**	P		**PKiKP**	**07 46 37.7**	**+0.4**
	baz=325							
WVNY	**West Valley, N**	**144.03**	**300**	PKPdf		**PKPab**	**07 46 32.0**	**+0.1**
H29M	**Whitestone**	**144.04**	**11**

P19K	Oil Pt	145.15	27	P		PKiKP	07 46 40.4	+0.7
	baz=309							
CAPN	Captain Cook N	145.18	25	P		PKiKP	07 46 40.7	+1.0
	baz=313							
K27K	Chicken	145.27	15			PKPbc	07 46 35.4	-0.3
K27K	Chicken	145.27	15	P		PKiKP	07 46 41.1	+1.2
	baz=329							
I30M	Mount Dempster	145.28	11			PKPbc	07 46 35.1	-0.7
I30M	Mount Dempster	145.28	11	P		PKiKP	07 46 41.4	+1.4
	baz=338,SNR=46							
PMR	Palmer	145.28	22			PKPbc	07 46 34.1	-1.6
PMR	Palmer	145.28	22	P		PKiKP	07 46 40.8	+1.0
	baz=317							
PAX	Paxson	145.31	19	P		PKiKP	07 46 40.9	+0.8
	baz=323,SNR=16							
SML	Sawmill	145.38	22			PKPbc	07 46 34.4	-1.7
SML	Sawmill	145.38	22	P		PKiKP	07 46 41.0	+0.8
	baz=318							
BLA	Blacksburg	145.41	291	P		PKiKP	07 46 41.8	+0.8
	baz=93							
Q19K	Cape Douglas,	145.43	29	P		PKiKP	07 46 41.1	+0.8
	baz=308							
O54A	Avella	145.44	296			PKPdf	07 46 36.9	-0.1
RC01	Rabbit Creek A	145.45	23	P		PKiKP	07 46 41.6	+1.4
	baz=316							
M23K	Glacier View	145.58	21	P		PKiKP	07 46 41.8	+1.2
	baz=319							
M53A	WI Miller and	145.62	298			PKPdf	07 46 36.5	-0.7
M53A	WI Miller and	145.62	298	P		PKiKP	07 46 42.2	+0.9
	baz=87							
KNK	Knik Glacier	145.63	22	P		PKiKP	07 46 41.8	+1.2
	baz=318							
J29N	Klondike Camp	145.68	12			PKPab	07 46 37.1	-0.3
J29N	Klondike Camp	145.68	12	P		PKiKP	07 46 42.0	+1.2
	baz=335							
HOM	Homer	145.75	26	P		PKiKP	07 46 41.9	+1.0
	baz=312							
N53A	Lisbon	145.77	297			PKPdf	07 46 36.8	-0.7
Q54A	Coxs Mills	145.79	294			PKPdf	07 46 38.0	+0.4
MENT	Mentasta	145.80	17			PKPbc	07 46 37.1	-0.4
DAWY	Dawson	145.81	13			PKPdf	07 46 36.2	-0.7
DAWY	Dawson	145.81	13	P		PKiKP	07 46 42.4	+1.4
	baz=333,SNR=15							
L26K	Log Cabin Wild	145.82	17			PKPdf	07 46 36.9	0.0
L26K	Log Cabin Wild	145.82	17	P		PKiKP	07 46 42.5	+1.5
	baz=326							
HARP	HAARP	145.86	19	P		PKiKP	07 46 41.8	+0.7
	baz=323							
O22K	Cooper Landing	145.89	24	P		PKiKP	07 46 41.9	+0.7
	baz=315							
J30M	Hart River	145.89	11	PKPdf		PKPbc	07 46 37.5	-0.3
J30M	Hart River	145.89	11	P		PKiKP	07 46 41.7	+0.5
	baz=338,SNR=11							
R18K	Karluk	145.91	31	P		PKiKP	07 46 42.0	+0.8
	baz=305							
V55A	Taylorsville	145.95	288			PKPdf	07 46 37.9	-0.1
KMSC	Kings Mountain	145.97	287	P		PKiKP	07 46 42.6	+0.4
	baz=96							
BRSE	Bradley Lake S	146.04	26	P		PKiKP	07 46 42.3	+0.8
	baz=313							
O53A	New Philadelph	146.07	296	P		PKPbc	07 46 38.8	-0.1
	baz=88							
Q20K	Shuyak Island	146.14	28	P		PKiKP	07 46 42.0	+0.3
	baz=309							
L27K	Beaver Creek,	146.16	16	PKPdf		PKPbc	07 46 38.1	-0.4
L27K	Beaver Creek,	146.16	16	P		PKiKP	07 46 42.1	+0.3
	baz=329,SNR=8.4							
P53A	Whipple	146.22	295			PKPbc	07 46 39.2	-0.2
SEW	Seward	146.25	24	P		PKPbc	07 46 38.7	-0.1
	baz=315							
CHIR	Chirikof Islan	146.34	34	P		PKPbc	07 46 39.0	-0.2
	baz=302							
KLU	Klutina	146.36	20	P		PKPbc	07 46 39.0	-0.2
	baz=321							
K29M	Barlow Dome	146.37	12	PKPdf		PKPbc	07 46 38.5	-0.8
K29M	Barlow Dome	146.37	12	P		PKPbc	07 46 39.1	-0.1
	baz=336,SNR=6.8							
M26K	Nabesna, AK	146.43	18	P		PKPbc	07 46 39.3	-0.1
	baz=326							
GLI	Glacier Island	146.47	22	P		PKPbc	07 46 39.2	-0.3
	baz=319							
U54A	Nelsons Funny	146.48	289			PKPbc	07 46 40.1	-0.3
O52A	Adamsville	146.56	296			PKPdf	07 46 39.4	+0.5
KDAK	Kodiak Island	146.58	30	P		PKPbc	07 46 39.5	-0.3
	baz=308							
N25K	Chitina, Valde	146.66	19	PKPdf		PKPbc	07 46 39.6	-0.5
N25K	Chitina, Valde	146.66	19	P		PKPbc	07 46 39.4	-0.7
	baz=323,SNR=8.1							
M27K	Edge Creek, AK	146.75	17	P		PKPdf	07 46 39.3	+0.6
	baz=328							
P52A	Corning	146.80	295			PKPbc	07 46 40.9	-0.2
P52A	Corning	146.80	295	P		PKPdf	07 46 40.3	+1.0
	baz=89							
Q52A	Bidwell	146.91	294			PKPdf	07 46 40.4	+0.9
L29M	L29M	146.92	13			PKPdf	07 46 39.4	+0.6
L29M	L29M	146.92	13	P		PKPbc	07 46 39.9	-0.8
	baz=334							
EYAK	Cordova Ski Ar	147.15	21	P		PKPbc	07 46 40.7	-0.7
	baz=321							
BMRM	Bremner River	147.17	20	P		PKPbc	07 46 41.0	-0.6
	baz=323							
MCARA	McCarthy VSAT	147.28	19	P		PKPbc	07 46 42.0	+0.2
	baz=326							
TIGA	Tifton	147.31	280	P		PKPbc	07 46 42.7	-0.1
	baz=101							
ACSO	Alum Creek Sta	147.43	296	P		PKPbc	07 46 43.6	+0.8
	baz=87							
M29M	Somme Creek	147.45	14	P		PKPbc	07 46 42.3	0.0
	baz=333							
GOGA	Godfrey	147.52	284	P		PKPbc	07 46 43.7	+0.4
	baz=98							
YUK3	Moose Creek	147.60	16	P		PKPbc	07 46 42.9	0.0
	baz=330							
M30M	Minto, Yukon	147.66	13	P		PKPbc	07 46 43.5	+0.7
	baz=336							
M31M	Drury Creek, Y	148.43	11	P		PKPbc	07 46 45.2	+0.4
	baz=340							
FARO	Faro, Yukon	148.57	10	P		PKPbc	07 46 45.7	+0.4
	baz=341							
MESA	MESA	148.57	19	P		PKPbc	07 46 45.7	+0.2
	baz=326							
N30M	Aishikik Lake	148.62	14	P		PKPbc	07 46 45.6	+0.1
	baz=335							
YKA	Yellowknife Ar	148.79	353	PKPbc		PKPbc	07 46 44.8	-0.9
	comp=Z,5.6nm,0.8s,baz=3.3,slow=2.5,SNR=18							
P49A	Miami Univ. Ec	148.80	295	P		PKPbc	07 46 46.8	+0.3
	baz=87							
YUK6	Outpost Mounta	148.81	15	P		PKiKP	07 46 46.8	-0.8
	baz=332							
N31M	Braeburn, Yuko	148.86	13	P		PKiKP	07 46 46.8	-0.5
	baz=337							
PINM	Pinnacle	149.10	18	P		PKiKP	07 46 47.4	-0.5
	baz=329							
HYT	Haines Junctio	149.11	15	P		PKiKP	07 46 47.2	-0.8
	baz=334							
O30N	Mendenhall	149.46	14	P		PKPbc	07 46 47.7	+0.2
	baz=336							
N32M	Quiet Lake	149.63	11	P		PKiKP	07 46 48.5	-0.5
	baz=341							
PNL	Peninsula	149.69	17	P		PKiKP	07 46 48.6	-0.5
	baz=330							
P30M	Million Dollar	149.86	15	P		PKiKP	07 46 49.8	+0.3
	baz=334							
WCI	Wyandotte Cave	150.08	293	P		PKiKP	07 46 51.1	+0.6
	baz=88							
P29M	Windy Craggy	150.13	16	P		PKiKP	07 46 50.4	+0.4
	baz=332							
BRAL	Brewton	150.18	278	P		PKiKP	07 46 51.7	+0.7
	baz=100							
LRAL	Lakeview Retre	150.41	282	P		PKiKP	07 46 51.2	-0.2
	baz=97							
SFIN	Lafayette	150.56	297	P		PKiKP	07 46 51.3	-0.1
	baz=84							
P33M	Teslin, Yukon	150.57	11	P		PKiKP	07 46 51.1	+0.1
	baz=341							
PLBC	Pleasant Camp	150.59	15	P		PKiKP	07 46 51.1	+0.2
	baz=334							
SKAG	Skagway	150.81	14	P		PKiKP	07 46 51.5	+0.2
	baz=336							
COWI	Conover	150.82	309	PKPdf		PKPdf	07 46 43.2	-2.4
COWI						PKPbc	07 46 51.2	-0.1
COWI						PKPab	07 46 58.3	-0.2
L44A	Lake County Fo	150.91	301	P		PKiKP	07 46 52.5	+0.4
	baz=80							
P32M	Atlin	151.00	12	P		PKiKP	07 46 52.4	+0.6
	baz=339							
WVT	Waverly	151.32	288	P		PKPbc	07 46 52.5	-0.1
	baz=91							
R33M	Jennings River	151.63	10	P		PKiKP	07 46 53.1	-0.1
	baz=344							
EYMN	Ely	151.67	314	P		PKPbc	07 46 53.4	+0.2
	baz=66							
R31K	City Hall, Gus	151.68	15	P		PKiKP	07 46 53.2	+0.1
	baz=335							
Q32M	Nakina River	151.85	11	P		PKPbc	07 46 53.2	-0.3
	baz=341							
S31K	Pelican	151.97	16	P		PKiKP	07 46 53.8	0.0
	baz=334							
R32K	Eaglecrest	152.07	14	P		PKiKP	07 46 54.0	0.0
	baz=337							
LIRD	Liard River Hi	152.12	4	P		PKiKP	07 46 54.1	0.0
	baz=352							
HDIL	Hopedale	152.20	298	P		PKiKP	07 46 55.0	+0.1
	baz=82							
JFWS	Jewell Farm	152.46	303	P		PKiKP	07 46 55.3	0.0
	baz=76							
OXF	Oxford	152.55	285	P		PKiKP	07 46 56.6	+0.9
	baz=93							
DLBC	Dease Lake	152.69	9	P		PKiKP	07 46 55.5	+0.1
	baz=345							
TOAD	Toad River Com	152.73	4	P		PKiKP	07 46 55.9	+0.5
	baz=354							
S32K	Killisnoo	152.80	15	P		PKiKP	07 46 56.9	+1.4
	baz=336							
S34M	Telegraph Cree	153.03	11	P		PKiKP	07 46 57.6	+1.6
	baz=343							
ULM	Lac du Bonnet	153.09	321	PKPbc		PKPbc	07 46 55.3	-0.9
	comp=Z,4.3nm,0.9s,baz=39,slow=4.9,SNR=6.7							
AGMN	Agassiz Nation	154.12	317	P		PKPab	07 47 13.5	+1.3
	baz=59							
R40A	Maddies Statio	154.76	293	PKPdf		PKPdf	07 46 49.7	-1.9
R40A				PKPab		PKPab	07 47 14.0	-1.3
ECSD	EROS Data Cent	156.62	308	P		PKPab	07 47 24.1	+0.9
	baz=67							
TUL3	Leonard	157.77	288	P		PKPab	07 47 28.2	-0.1
	baz=86							
DGMT	Dagmar	158.43	326	P		PKPab	07 47 31.2	+0.4
	baz=45							
BGNE	Belgrade	158.51	304	P		PKPab	07 47 32.6	+1.2
	baz=70							
WMOK	Wichita Mounta	160.27	285	P		PKPab	07 47 39.2	-0.1
	baz=88							
CBKS	Cedar Bluff	160.44	298	P		PKPab	07 47 40.5	+0.6
	baz=75							
JCT	Junction City	160.88	272	P		PKPab	07 47 41.7	-0.4
	baz=99							
ABTX	Abilene, Hawle	160.98	279	P		PKPab	07 47 42.5	+0.1
	baz=93							
RSSD	Black Hills	161.15	316	P		PKPab	07 47 43.4	+0.4
	baz=54							
NEW	Newport	163.00	349	P		PKPab	07 47 50.9	+0.3
	baz=14							
RLMT	Red Lodge	163.26	327	P		PKPab	07 47 52.6	+0.5
	baz=41							
K22A	Casper	163.48	316	P		PKPab	07 47 52.8	-0.3
	baz=53							
MSTX	Muleshoe	163.61	283	P		PKPab	07 47 54.1	+0.1
	baz=87							
MSO	Missoula	163.61	340	P		PKPab	07 47 53.5	+0.1
	baz=25							
BPMT	Black Pine Rid	163.81	338	PKPdf		PKPdf	07 47 01.6	-0.6
BPMT						PKPab	07 47 55.1	+0.5
BOZ	Bozeman (W)	163.89	333	P		PKPab	07 47 55.3	+0.5
	baz=34							
TXAR	Lajitas Array	163.96	266	PKP		PKPdf	07 47 01.7	-0.9
	comp=Z,0.5nm,0.9s,baz=126,slow=1.7,SNR=3.6							
TXAR				PKPab		PKPab	07 47 55.7	+0.1
	comp=Z,0.5nm,0.9s,baz=45,slow=1.9,SNR=3.9							
N23A	Red Feather La	164.08	310	P		PKPab	07 47 57.6	+1.6
	baz=59							
ISCO	Idaho Springs	164.38	306	P		PKPab	07 47 59.0	+1.6
	baz=63							
SDCO	Great Sand Dun	165.09	299	P		PKPab	07 48 01.7	+1.1
	baz=71							
BW06	Boulder Array	165.11	322	P		PKPab	07 48 01.0	+0.6
	baz=46							
PDAR	Pinedale Array	165.11	322	PKP		PKPdf	07 47 02.3	-1.1
	comp=Z,0.7nm,0.9s,baz=114,slow=2.3,SNR=5.0							
PDAR				PKPab		PKPab	07 48 00.3	-0.1
	comp=Z,0.2nm,0.6s,baz=79,slow=4.7,SNR=2.8							
S22A	4UR Ranch, Cre	166.07	300	P		PKPab	07 48 05.1	+0.1
	baz=68							
ANMO	Albuquerque	166.53	288	P		PKPab	07 48 06.8	-0.2
	baz=80							
HLID	Hailey	166.67	335	P		PKPab	07 48 08.4	+1.3
	baz=29							
MVCO	Mesa Verde	167.50	300	P		PKPab	07 48 10.6	-0.6
	baz=67							
DUG	Dugway, Tooele	168.66	321	P		PKPab	07 48 15.8	-0.2
	baz=44							
TUC	Tucson	170.39	277	P		PKPab	07 48 24.9	+0.9
	baz=89							
R11B	Troy Canyon, C	171.47	323	P		PKPab	07 48 27.9	-0.6
	baz=40							
NVAR	Mina Array Bea	172.58	336	PKP		PKPdf	07 47 08.2	-0.1
	comp=Z,0.4nm,0.6s,baz=256,slow=2.3,SNR=3.0							
NVAR				PKPab		PKPab	07 48 32.4	-1.1
	comp=Z,0.4nm,0.7s,baz=44,slow=5.0,SNR=4.2							

*IDC **10** 07:33:14.8±0.8, 31°.66S×58°.20E, h0km, mb4.0/9, mbtmp4.0/9, Error ellipse: s-maj=30.9km s-min=23.6km az=39.0*

ISC 10 07:33:17.6±0.9, 31°.7S±0°.2×58°.2E±0°.2, h17km, n16, σ0°73/10, mb4.1/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	27.36	32	T	T	08 07 28.1	
	baz=206						
H08S2	Diego Garcia H	27.37	32	T	T	08 07 34.7	
	baz=206						
H08S3	Diego Garcia H	27.39	32	T	T	08 07 26.3	
	baz=206						
H01W2	Cape Leeuwin H	46.35	110	T	T	08 31 31.2	
	baz=257						
H01W3	Cape Leeuwin H	46.35	110	T	T	08 31 36.0	
	baz=257						
H01W1	Cape Leeuwin H	46.37	110	T	T	08 31 28.7	
	baz=257						
QSPA	South Pole Qui	58.49	180	P	P	07 43 12.2	-0.3
	0.7nm,0.5s,baz=250,slow=1.1,SNR=6.5						
	0.7nm,0.5s						
CMAR	Chiang Mai Arr	63.34	44	P	P	07 43 46.5	+0.5
	1.0nm,0.3s,baz=229,slow=6.8,SNR=4.9						
	1.0nm,0.3s						
ASAR	Alice Springs	66.31	104	P	P	07 44 05.8	+0.3
	1.6nm,1.0s,baz=238,slow=6.0,SNR=8.5						
	1.6nm,1.0s						
WRA	Warramunga Arr	68.32	101	P	P	07 44 18.5	+0.3
	1.0nm,0.7s,baz=245,slow=5.3,SNR=6.5						
	1.0nm,0.7s						
TORD	Torodi Ar. Bea	70.12	300	P	P	07 44 29.2	-0.1
	0.3nm,0.5s,baz=140,slow=4.7,SNR=3.2						
	0.3nm,0.5s						
DBIC	Dimbokro	71.14	291	P	P	07 44 36.0	+0.5
	11nm,1.0s,baz=186,slow=2.5,SNR=3.9						
	11nm,1.0s						
BRTR	Keskin Array B	74.61	341	P	P	07 44 56.1	+0.3
	0.2nm,0.3s,baz=235,slow=8.8,SNR=2.1						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	83.89	13	P	P	07 45 44.5	-1.5
	1.0nm,0.8s,baz=202,slow=5.5,SNR=5.4						
	1.0nm,0.8s						
BVAR	Borovoye Array	85.02	7	P	P	07 45 50.9	-0.7
	2.6nm,0.8s,baz=178,slow=4.5,SNR=8.0						
	2.6nm,0.8s						
YKA	Yellowknife Ar	148.83	354	PKPbc	PKPbc	07 53 03.7	+0.3
	0.5nm,0.6s,baz=12,slow=3.9,SNR=4.2						

*IDC **10** 07:34:24.6±0.9, 31°.67S×58°.33E, h0km, mb4.0/7, mbtmp4.1/8, ML3.7/1, Error ellipse: s-maj=37.3km s-min=24.0km az=52.0*

ISC 10 07:34:26.9±0.9, 31°.7S±0°.2×58°.4E±0°.2, h14km, n9, σ0°83/9, mb4.2/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	16.48	320	Pn	Pn	07 38 18.2	+0.3
	baz=152,slow=22,SNR=2.7						
	9.4nm,0.9s						
QSPA	South Pole Qui	58.50	180	P	P	07 44 22.4	0.0
	1.4nm,0.9s,baz=182,slow=1.5,SNR=5.6						
	1.4nm,0.9s						
ASAR	Alice Springs	66.19	104	P	P	07 45 14.8	+0.2
	1.4nm,0.7s,baz=239,slow=6.0,SNR=12						
	1.4nm,0.7s						
WRA	Warramunga Arr	68.20	101	P	P	07 45 27.6	+0.3
	1.9nm,0.7s,baz=242,slow=5.5,SNR=8.5						
	1.9nm,0.7s						
TORD	Torodi Ar. Bea	70.22	300	P	P	07 45 39.6	-0.1
	0.7nm,0.9s,baz=100,slow=6.1,SNR=2.5						
	0.7nm,0.9s						
MKAR	Makanchi Array	81.03	16	P	P	07 46 39.4	-1.6
	0.5nm,0.7s,baz=191,slow=2.9,SNR=2.9						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	83.86	13	P	P	07 46 56.3	+0.7
	1.6nm,0.9s,baz=203,slow=6.0,SNR=8.6						
	1.6nm,0.9s						
BVAR	Borovoye Array	84.99	7	P	P	07 47 01.9	+0.6
	3.1nm,0.8s,baz=174,slow=4.5,SNR=11						
	3.1nm,0.8s						
YKA	Yellowknife Ar	148.83	354	PKPbc	PKPbc	07 54 12.6	-0.7
	1.6nm,0.8s,baz=358,slow=2.7,SNR=5.4						

*IDC **10** 07:36:20.2±2.5, 12°.63N×93°.15E, h0km, mb4.0/13, mbtmp4.0/14, ML3.9/1, MS3.7/2, Error ellipse: s-maj=58.0km s-min=26.8km az=151.0*
*NEIC **10** 07:36:30.9±2.3, 12°.9N±0°.1×93°.4E±0°.1, h80km±12km, mb4.5/10, Error ellipse: s-maj=17.1km s-min=13.9km az=126.0*
*NDI **10** 07:36:32.4±4.5, 13°.09N×93°.15E, h80km, ML3.6, MW4.3, mb4.5(NEIC)*

ISC 10 07:36:32.3±0.6, 12°.79N±0°.08×93°.46E±0°.08, h100km, n31, σ1°61/29, mb4.1/19, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.32	212	Pn	Pn	07 36 55.9	-0.5
PBA	Port Blair	1.32	212	*e*Pg	Pn	07 36 56.0	-0.5
PBA				*i* Sg	Sn	07 37 17.1	+2.5
PBA				IAML		07 37 21.7	
	comp=E,649nm,0.5s						
PBA				IAML		07 37 24.6	
	comp=E,953nm,1.2s						
SRIT	Nakonsritamara	7.33	124	Pn	Pn	07 38 16.5	-0.2
CMAR	Chiang Mai Arr	7.72	42	Pn	Pn	07 38 18.4	-3.6
	comp=E,0.5nm,0.3s,baz=233,slow=14,SNR=4.2						
CMAR				Sn	Sn	07 39 51.6	+3.6
	comp=E,0.4nm,0.3s,baz=336,slow=17,SNR=5.4						
	comp=E,3.4nm,0.7s						
VIS	Vishakhapatnam	10.94	298	*e*P	Pn	07 38 57.8	-7.9
VIS				*e*S	Sn	07 40 45.3	-21
RAGD	RAYAGADA	11.56	305	*e*P	Pn	07 39 07.0	-7.2
RAGD				*e*S	Sn	07 41 03.8	-18
ZIRO	ZIRO	14.67	1	IAML		07 39 25.8	
	comp=E,674nm,0.1s						
SMLA	Simla	23.64	323	*e*P	P	07 41 34.7	+0.1
SIMJ	Simiganj	33.69	324	P	P	07 43 02.3	-1.7
SIMJ				IAmb	IAmb	07 43 04.8	
	comp=Z,8.9nm,1.2s						
MK31	Makanchi Array	35.18	347	P	P	07 43 16.6	0.0
MKAR	Makanchi Array	35.18	347	P	P	07 43 16.6	-0.1
	comp=Z,2.0nm,0.8s,baz=163,slow=8.9,SNR=12						
MKAR				LR	LR	08 00 45.8	
	comp=Z,100nm,18.7s,baz=230,slow=42						
	comp=Z,2.0nm,0.8s						
TNTI	Ternate	35.66	107	P	P	07 43 18.8	-2.3
SONM	Songino Array	36.58	15	P	P	07 43 30.3	+1.7
	comp=Z,0.4nm,0.4s,baz=198,slow=9.3,SNR=4.5						
	comp=Z,0.4nm,0.4s						
KSRS	Korea Array	39.35	45	P	P	07 43 53.5	+1.5
	comp=Z,0.6nm,0.5s,baz=4.2,slow=6.1,SNR=1.9						
	comp=Z,0.6nm,0.5s						
KURBB	Kurchatov Arra	39.65	345	P	P	07 43 54.5	+0.3
	comp=Z,2.1nm,0.8s,baz=162,slow=8.0,SNR=8.3						
	comp=Z,2.1nm,0.8s						
ZAA0	Zalesovo Array	41.63	352	P	P	07 44 09.8	-0.6
ZAA0				IAmb	IAmb	07 44 11.7	
	comp=Z,2.3nm,0.8s						
ZALV	Zalesovo Beam	41.63	352	P	P	07 44 10.6	+0.1
	comp=Z,1.9nm,0.6s,baz=183,slow=10.0,SNR=5.9						
	comp=Z,1.9nm,0.6s						
BVAR	Borovoye Array	44.16	340	P	P	07 44 31.0	+0.1
	comp=Z,1.3nm,0.7s,baz=133,slow=10,SNR=4.7						
	comp=Z,1.3nm,0.7s						
GUMO	Guam	49.98	83	LR	LR	08 05 54.7	
	comp=Z,72nm,18.7s,baz=98,slow=35						
BR131	Keskin Array S	58.79	309	P	P	07 46 18.4	-2.0
BR131				IAmb	IAmb	07 46 21.0	
	comp=Z,2.1nm,0.8s						
TIXI	Tiksi	62.59	12	P	P	07 46 44.3	-1.1
TIXI				IAmb	IAmb	07 46 46.0	
	comp=Z,16nm,1.1s						
FIA1	FINESS Array S	68.09	331	P	P	07 47 20.6	-0.5
FIA1				IAmb	IAmb	07 47 22.7	
	comp=Z,15nm,1.0s						
FINES	FINESS Array B	68.09	331	P	P	07 47 21.5	+0.4
	comp=Z,2.3nm,0.7s,baz=100,slow=7.9,SNR=7.1						
	comp=Z,2.3nm,0.7s						
ARCES	ARCESS Array B	70.45	340	P	P	07 47 36.4	+0.9
	comp=Z,0.8nm,0.5s,baz=96,slow=6.4,SNR=11						
	comp=Z,0.8nm,0.5s						
GERES	GERESS Array B	73.76	317	P	P	07 47 56.1	+0.4
	comp=Z,0.9nm,0.6s,baz=34,slow=9.7,SNR=4.7						
	comp=Z,0.9nm,0.6s						
HFS	Hagfors	73.91	329	P	P	07 47 56.5	+0.2
	comp=Z,1.9nm,0.7s,baz=107,slow=5.1,SNR=5.6						
	comp=Z,1.9nm,0.7s						
NOA	NORSAR Array B	75.16	330	P	P	07 48 03.5	0.0
	comp=Z,0.8nm,0.6s,baz=95,slow=5.6,SNR=4.1						
	comp=Z,0.8nm,0.6s						
C19K	Lookout Ridge	84.08	20	P	P	07 48 54.3	+2.6
ESDC	Sonseca Array	87.56	310	P	P	07 49 08.8	-0.7
	comp=Z,0.3nm,0.4s,baz=90,slow=1.3,SNR=2.4						
	comp=Z,0.3nm,0.4s						
D25K	Kavik River	88.20	18	P	P	07 49 14.1	+2.2
D25K				IAmb	IAmb	07 49 27.5	
	comp=Z,2.8nm,1.1s						
TORD	Torodi Ar. Bea	88.83	283	P	P	07 49 17.1	+1.2
	comp=Z,0.6nm,0.8s,baz=48,slow=2.1,SNR=3.1						
	comp=Z,0.6nm,0.8s						

*IDC **10** 07:39:08.6±1.3, 31°.68S×58°.31E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=47.0km s-min=27.2km az=84.0*

ISC 10 07:39:10.9±1.5, 31°.7S±0°.2×58°.3E±0°.4, h14km, n7, σ0°30/7, mb4.1/7, Southwest Indian Ridge

| Code | Station Name | Δ° | AZ° | Phase ID Op | IS

H04N3 CROZET ISLANDS 15.26 197 T T 08 06 52.6
baz=21,slow=75,SNR=16
ABPO Ambohimpanom 16.00 320 Pn **Pn** **07 51 06.8 +0.1**
ABPO IAmb IAmb 07 51 50.5
comp=Z,28nm,1.4s
OPO Ambohidratompo 16.38 320 Pn **Pn** **07 51 11.9 +0.2**
baz=97,slow=22,SNR=2.2
OPO LR LR 07 56 09.1
comp=Z,155nm,20.3s,baz=17,slow=32
comp=Z,3.5nm,0.8s
H08S1 Diego Garcia H 27.43 32 T T 08 21 28.5
baz=207,slow=76,SNR=17
H08S2 Diego Garcia H 27.43 32 T T 08 21 26.0
baz=207,slow=76,SNR=13
H08S3 Diego Garcia H 27.45 32 T T 08 21 30.1
baz=207,slow=76,SNR=16
BOSA Boshof 28.52 268 LR LR 08 01 49.7
comp=Z,72nm,21.6s,baz=90,slow=30
SUR Sutherland 31.53 259 LR LR 08 04 21.6
comp=Z,137nm,19.0s,baz=109,slow=32
MAW Mawson 36.05 177 LR LR 08 05 40.9
comp=Z,121nm,19.8s,baz=331,slow=30
FURI Furi 44.45 332 LR LR 08 10 36.6
comp=Z,82nm,20.9s,baz=178,slow=32
SNAA Sanae 51.17 201 P **P** **07 56 23.9 -0.2**
SNAA Sanae 51.17 201 P **P** **07 56 24.1 0.0**
comp=Z,1.0nm,0.9s,baz=344,slow=22,SNR=2.5
comp=Z,1.0nm,0.9s
QSPA South Pole Qui 58.47 180 P **P** **07 57 17.7 +0.6**
QSPA IAmb IAmb 07 57 27.7
comp=Z,14nm,1.4s
QSPA South Pole Qui 58.47 180 P **P** **07 57 17.4 +0.3**
comp=Z,2.2nm,0.8s,baz=275,slow=1.2,SNR=18
QSPA LR LR 08 19 26.4
comp=Z,110nm,20.6s,baz=268,slow=33
comp=Z,2.2nm,0.8s
VNDA Vanda 62.20 166 P **P** **07 57 42.5 +0.2**
VNDA IAmb IAmb 07 57 46.7
comp=Z,6.4nm,1.4s
VNDA Vanda 62.20 166 P **P** **07 57 42.6 +0.3**
comp=Z,1.1nm,0.5s,baz=265,slow=15,SNR=9.7
VNDA LR LR 08 22 55.8
comp=Z,79nm,18.5s,baz=246,slow=34
comp=Z,1.1nm,0.5s
CMAR Chiang Mai Arr 63.41 44 P **P** **07 57 51.2 +0.2**
comp=Z,1.5nm,0.3s,baz=230,slow=7.0,SNR=10
comp=Z,1.5nm,0.3s
ASAR Alice Springs 66.38 104 P **P** **07 58 10.7 +0.1**
comp=Z,2.0nm,0.7s,baz=238,slow=5.9,SNR=21
comp=Z,2.0nm,0.7s
AS31 Alice Springs 66.38 104 P **P** **07 58 09.9 -0.7**
TOLI2 Tolitoli 67.59 74 P **P** **07 58 18.3 0.0**
WRA Warramunga Arr 68.39 101 P **P** **07 58 23.2 -0.1**
comp=Z,5.5nm,0.8s,baz=243,slow=5.5,SNR=19
comp=Z,2.5nm,0.8s
WB2 Warramunga Arr 68.40 101 P **P** **07 58 23.3 -0.1**
WB0 Warramunga Arr 68.51 101 P **P** **07 58 24.0 -0.1**
WR0 Warramunga Arr 68.55 101 P **P** **07 58 23.6 -0.8**
TORD Torodi Ar. Bea 70.06 300 P **P** **07 58 32.5 -1.1**
comp=Z,1.0nm,0.9s,baz=125,slow=8.0,SNR=4.1
comp=Z,1.0nm,0.9s
SIMJ Simiganj 70.73 9 P **P** **07 58 37.9 +0.5**
SIMJ IAmb IAmb 07 58 48.1
comp=Z,7.3nm,1.0s
BRTR Keskin Array B 74.61 341 P **P** **07 59 00.1 -0.3**
comp=Z,0.4nm,0.4s,baz=186,slow=4.8,SNR=4.1
comp=Z,0.4nm,0.4s
KK31 Karatay Array 75.31 9 P **P** **07 59 04.3 +0.1**
KK31 IAmb IAmb 07 59 06.2
comp=Z,8.6nm,1.5s
KKAR Karatay Array 75.31 9 P **P** **07 59 04.8 +0.5**
KKAR IAmb IAmb 07 59 06.2
comp=Z,8.5nm,1.5s
ABKAR Akbulak array 80.61 1 P **P** **07 59 33.8 +0.3**
ABKAR IAmb IAmb 07 59 43.9
comp=Z,8.8nm,1.5s
MAKZ Makanchi 81.06 16 P **P** **07 59 36.3 +0.2**
MK31 Makanchi Array 81.12 17 P **P** **07 59 36.4 0.0**
MKAR Makanchi Array 81.12 17 P **P** **07 59 35.5 -0.9**
comp=Z,0.3nm,0.5s,baz=198,slow=7.3,SNR=6.7
comp=Z,0.3nm,0.5s
KURBB Kurchatov Arra 83.93 13 P **P** **07 59 51.2 +0.4**
comp=Z,2.8nm,1.0s,baz=205,slow=5.4,SNR=13
comp=Z,2.8nm,1.0s
BVAR Borovoye Array 85.05 7 P **P** **07 59 57.4 +0.9**
comp=Z,4.8nm,0.9s,baz=164,slow=5.9,SNR=18
comp=Z,4.8nm,0.9s
ZALV Zalesovo Beam 88.38 15 P **P** **08 00 11.9 -0.8**
comp=Z,0.4nm,0.3s,baz=205,slow=6.4,SNR=1.8
comp=Z,0.4nm,0.3s
ESDC Sonseca Array 91.41 317 P **P** **08 00 28.8 +1.5**
comp=Z,0.4nm,0.5s,baz=43,slow=6.4,SNR=2.4
ESDC LR LR 08 43 03.5
comp=Z,81nm,18.8s,baz=280,slow=37
comp=Z,0.4nm,0.5s
JCJ Chichijima 99.11 64 LR LR 08 40 23.9
comp=Z,109nm,20.9s,baz=106,slow=32
ILAR Eielson Array 143.47 18 PKP **PKPdf** **08 06 55.7 +0.7**
comp=Z,0.2nm,0.7s,baz=343,slow=1.2,SNR=2.3
YKA Yellowknife Ar 148.84 353 PKPbc **PKPbc** **08 07 06.8 -1.4**
comp=Z,1.9nm,0.8s,baz=3.2,slow=2.5,SNR=7.0
PDAR Pinedale Array 165.24 322 PKP **PKPdf** **08 07 24.5 -1.4**
comp=Z,0.2nm,0.7s,baz=106,slow=3.2,SNR=2.3

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*NAO **10** 07:47:48.1±2.2, 72.96N×4.78E, ML3.0*
*IDC **10** 07:47:50.8±0.9, 72.78N×5.59E, h0km, mb3.5/4,*
mbtmp3.5/10, ML3.0/5, MS2.8/3, Error ellipse:
s-maj=23.8km s-min=15.5km az=65.0
*BER **10** 07:47:52.7±3.0, 73.04N×4.85E, h10km, mb(Pn)4.2,*
Confirmed Earthquake
ISC 10 07:47:51.4±0.8, 72.94N±0.08×5.27E±0.09, h11km, n42, σ1§36/39, mb3.6/4, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**4.17**	**61**	*eP*	**Pn**	**07 48 54.2**	**-0.5**
BJO1				IAML		07 48 55.0	
	comp=Z,58nm,0.5s						
BJO1	**Bjornoya**	**4.17**	**61**	Pn	**Pn**	**07 48 54.4**	**-0.4**
JMIC	**Jan Mayen**	**4.71**	**252**	LR	LR	07 50 28.4	
	comp=Z,81nm,19.4s,baz=182,slow=33						
TRO	**Tromso**	**5.50**	**120**	*eP*	**Pn**	**07 49 12.6**	**-0.5**
TRO	**Tromso**	**5.50**	**120**	Pn	**Pn**	**07 49 13.1**	**0.0**
LOF	**Lofoten**	**5.56**	**146**	*eP*	**Pn**	**07 49 14.7**	**+0.8**
LOF	**Lofoten**	**5.56**	**146**	Pn	**Pn**	**07 49 14.2**	**+0.3**
JETT	**Jettan, Norway**	**5.94**	**117**	Pn	**Pn**	**07 49 19.0**	**-0.1**
SPA0	**Spitsbergen Ar**	**5.94**	**23**	*eP*	**Pn**	**07 49 20.5**	**+1.5**
SPA0				IAML		07 49 21.7	
	comp=Z,4.0nm,0.8s						
SPA0	**Spitsbergen Ar**	**5.94**	**23**	Pn	**Pn**	**07 49 19.3**	**+0.3**
	baz=201,slow=16						
SPITS	**Spitsbergen Ar**	**5.94**	**23**	Pn	**Pn**	**07 49 19.2**	**+0.2**
	baz=206,slow=17						
	comp=Z,1.5nm,0.3s						
STEI	**Steigen**	**6.04**	**142**	*eP*	**Pn**	**07 49 21.5**	**+1.2**
HAMF	**Hammerfest**	**6.20**	**103**	*eP*	**Pn**	**07 49 21.7**	**-0.9**
HAMF	**Hammerfest**	**6.20**	**103**	Pn	**Pn**	**07 49 22.0**	**-0.6**
KBS	**Kingsbay**	**6.23**	**12**	*eP*	**Pn**	**07 49 20.7**	**-2.3**
KBS	**Kingsbay**	**6.23**	**12**	Pn	**Pn**	**07 49 20.4**	**-2.6**
FAUS	**Fauske**	**6.53**	**144**	*eP*	**Pn**	**07 49 27.9**	**+0.7**
KONS	**Konsvik**	**7.01**	**153**	*eP*	**Pn**	**07 49 34.6**	**+0.9**
KTK1	**Kautokeino**	**7.05**	**115**	*eP*	**Pn**	**07 49 35.1**	**+0.8**
SALU	**Saltoluokta**	**7.15**	**135**	*eP*	**Pn**	**07 49 37.4**	**+1.6**
STOK	**Stokkvaagen**	**7.16**	**154**	*eP*	**Pn**	**07 49 35.8**	**0.0**
DBG	**Daneborg**	**7.30**	**293**	*eP*	**Pn**	**07 49 36.4**	**-1.3**
DBG				*eS*	Sn	07 50 47.0	-13
DBG	**Daneborg**	**7.30**	**293**	Pn	**Pn**	**07 49 33.8**	**-3.9**
ARA0	**ARCESS Array S**	**7.34**	**108**	Pn	**Pn**	**07 49 38.5**	**+0.2**
	baz=321,slow=12						
ARCES	**ARCESS Array B**	**7.34**	**108**	Pn	**Pn**	**07 49 37.1**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=325,slow=12,SNR=8.0						
	comp=Z,0.4nm,0.3s						
MOR8	**Moi Rana**	**7.51**	**150**	*eP*	**Pn**	**07 49 40.9**	**+0.3**
HEF	**Hetta**	**7.58**	**118**	*eP*	**Pn**	**07 49 41.9**	**+0.3**
KEV	**Kevo**	**7.63**	**104**	*eP*	**Pn**	**07 49 42.9**	**+0.6**
KEV	**Kevo**	**7.63**	**104**	Pn	**Pn**	**07 49 42.0**	**-0.3**
VADS	**Vadso**	**8.12**	**99**	*eP*	**Pn**	**07 49 48.7**	**-0.2**
NSS	**Namsos**	**8.78**	**161**	*eP*	**Pn**	**07 49 58.7**	**+0.7**
NOA	**NORSAR Array B**	**12.17**	**166**	Pn	**Pn**	**07 50 43.9**	**-0.5**
	baz=6.2,slow=17,SNR=1.8						
NOA				LR	LR	07 55 00.8	
	comp=Z,24nm,21.1s,baz=70,slow=36						
	comp=Z,0.1nm,0.3s						
HFS	**Hagfors**	**13.27**	**161**	Pn	**Pn**	**07 50 58.1**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=354,slow=12,SNR=9.6						
	comp=Z,1.5nm,0.5s						
FINES	**FINESS Array B**	**13.95**	**135**	Pn	**Pn**	**07 51 06.8**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=345,slow=14,SNR=8.8						
	comp=Z,0.9nm,0.5s						
EKA	**Eskdalemuir Ar**	**18.02**	**196**	P	**Pn**	**07 51 59.3**	**-2.1**
	comp=Z,1.3nm,0.7s,baz=12,slow=11,SNR=1.9						
AKASG	**Malin Array Be**	**24.64**	**142**	P	**P**	**07 53 11.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=344,slow=8.7,SNR=4.8						
	comp=Z,0.4nm,0.3s						
RES	**Resolute Bay**	**24.87**	**322**	LR	LR	08 03 13.7	
	comp=Z,46nm,18.7s,baz=55,slow=37						
ILAR	**Eielson Array**	**41.29**	**342**	P	**P**	**07 55 37.5**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=2.5,slow=6.5,SNR=5.2						
	comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**59.81**	**184**	P	**P**	**07 57 56.3**	**0.0**
	comp=Z,0.6nm,0.7s,baz=3.9,slow=8.3,SNR=4.8						
	comp=Z,0.6nm,0.7s						
TXAR	**Lajitas Array**	**67.54**	**297**	P	**P**	**07 58 50.8**	**+3.4**
	comp=Z,0.4nm,0.8s,baz=30,slow=4.0,SNR=3.6						
	comp=Z,0.4nm,0.8s						
SNAA	**Sanae**	**144.48**	**184**	PKP	PKPbc	08 07 25.1	+0.8
	comp=Z,0.9nm,0.7s,baz=7.3,slow=3.2,SNR=3.9						
MAW	**Mawson**	**145.28**	**145**	PKPbc	**PKPab**	**08 07 28.0**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=14,slow=4.2,SNR=2.1						

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*IDC **10** 07:50:11.7±1.1, 15.32N×105.02W, h0km, mb4.0/8,*
mbtmp4.0/11, ML3.5/2, MS4.2/46, Error ellipse:
s-maj=49.2km s-min=16.6km az=63.0
*NEIC **10** 07:50:12.9±1.9, 15.3N±0.1×104.9W±0.1, h10km±2km,*
mb4.4/79, Error ellipse: s-maj=22.9km s-min=19.4km
az=253.0
*MEX **10** 07:50:12.4±0.6, 15.27N×104.91W, h15km, MD4.8*
*GCMT **10** 07:50:15.9±0.4, 15.56N±0.02×105.29W±0.02, h22km±1km,*
MW5.0/105, Moment Tensor Solution. s35,c46;
s105,c161; Duration: 0 Moment tensor: Scale 1016Nm;
Mrr-0.24±.16; Mθθ0.55±.12; Mφφ-0.31±.14; Mrθ-0.06±.22;
Mθφ-4.47±.13; Mφr0.63±.23; Best double couple:
Mo4.53500×1016 NP1:φs177.00000°, δ90.00000°,
λ-8.00000°. NP2:φs267.00000°, δ82.00000°,
λ-180.00000°. Principal axes: T 4.6550, Plg5.0000°,
Azm222.0000°; N -0.2390, Plg82.0000°, Azm355.0000°;
P -4.4160, Plg6.0000°, Azm132.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
ISC 10 07:50:12.9±0.6, 15.39N±0.06×104.89W±0.05, h10km,
n558, σ1§22/533, mb4.5/23, MS4.3/44, Off coast of
Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**3.23**	**27**	*eP*	**Pn**	**07 51 01.1**	**-2.7**
MMIG				*eS*	**Sn**	**07 51 40.3**	**-2.1**
CDAR	**Ciudad de Arme**	**3.63**	**13**	*eP*	**Pn**	**07 51 06.9**	**-2.3**
CDAR				*eS*	**Sn**	**07 51 49.6**	**-2.4**
CIHU	**Emiliano Zapat**	**3.85**	**2**	*eP*	**Pn**	**07 51 10.2**	**-2.1**
CIHU				*eS*	**Sn**	**07 51 55.5**	**-2.2**
COIG	**Colima**	**3.94**	**17**	*eP*	**Pn**	**07 51 12.6**	**-1.0**
COIG				*eS*	**Sn**	**07 51 56.8**	**-3.1**
ZIIG	**Zihuatanejo**	**3.95**	**56**	*eP*	**Pn**	**07 51 10.1**	**-3.6**
ZIIG				*eS*	**Sn**	**07 51 57.8**	**-2.3**
CJM	**Chamela**	**4.09**	**358**	*eP*	**Pn**	**07 51 13.3**	**-2.2**
CJM				*eS*	Sn	07 51 56.8	-6.6
CEGR	**Campo Tres**	**4.09**	**14**	*eP*	**Pn**	**07 51 14.3**	**-1.5**
CEGR				*eS*	Sn	07 51 53.5	-10
MNGA	**Volcan de Coli**	**4.23**	**16**	*eP*	**Pn**	**07 51 17.2**	**-0.5**
MNGA				*eS*	Sn	07 51 58.3	-9.0
SOMAC	**Volcano de Col**	**4.28**	**16**	*eP*	**Pn**	**07 51 18.5**	**0.0**
SOMAC				*eS*	Sn	07 52 02.5	-6.2
INCO	**Volcan de Coli**	**4.29**	**16**	*eP*	**Pn**	**07 51 18.7**	**0.0**
INCO				*eS*	Sn	07 52 02.1	-6.9
JUBC	**Volcan de Coli**	**4.29**	**17**	*eP*	**Pn**	**07 51 17.9**	**-0.7**
JUBC				*eS*	**Sn**	**07 52 05.7**	**-3.1**
ARIG	**Puente Sto Nin**	**5.21**	**56**	*eP*	**Pn**	**07 51 30.7**	**-0.2**
ARIG				*eS*	**Sn**	**07 52 29.5**	**-1.7**
DAIG	**Los Arroyos**	**5.28**	**71**	*eP*	**Pn**	**07 51 28.2**	**-3.7**
DAIG				*eS*	**Sn**	**07 52 28.8**	**-4.3**
MOIG	**Morelia**	**5.53**	**39**		**Pn**	**07 51 36.4**	**+0.8**
MOIG	**Morelia**	**5.53**	**39**	*eP*	**Pn**	**07 51 34.0**	**-1.6**
MOIG				*eS*	**Sn**	**07 52 34.8**	**-4.6**
ANIG	**Ahuacatlan**	**5.64**	**3**	*eP*	**Pn**	**07 51 36.7**	**-0.3**
ANIG				*eS*	**Sn**	**07 52 41.7**	**-0.2**
MEIG	**Mezcala**	**5.64**	**63**	*eP*	**Pn**	**07 51 33.8**	**-3.2**
MEIG				*eS*	**Sn**	**07 52 41.6**	**-0.3**
CRIG	**Cruz Grande**	**5.69**	**76**	*eP*	Pn	07 51 43.4	+5.8
CRIG				*eS*	**Sn**	**07 52 43.5**	**+0.4**
PLIG	**Platanillo**	**5.95**	**59**	*eP*	**Pn**	**07 51 39.1**	**-2.2**
PLIG				*eS*	**Sn**	**07 52 50.5**	**+0.8**
MAVM	**Malinalco, Edo**	**6.25**	**55**	*eP*	**Pn**	**07 51 44.3**	**-1.3**
MAVM				*eS*	**Sn**	**07 53 01.4**	**+4.2**
MGIG	**Malinaltepec**	**6.28**	**72**	*eP*	**Pn**	**07 51 44.2**	**-1.6**
MGIG				*eS*	**Sn**	**07 52 53.8**	**-3.9**
TOVM	**TOLUCA**	**6.30**	**51**	*eP*	**Pn**	**07 51 46.1**	**-0.1**
TOVM				*eS*	**Sn**	**07 53 03.3**	**+4.7**
TLIG	**Tlapa**	**6.43**	**70**	*eS*	**Sn**	**07 53 05.7**	**+4.1**
YAIG	**Yautepec**	**6.55**	**57**	*eP*	**Pn**	**07 51 48.7**	**-0.7**
YAIG				*eS*	**Sn**	**07 53 04.1**	**-0.2**
AOVM	**Tlapan**	**6.56**	**53**	*eP*	**Pn**	**07 51 46.7**	**-3.3**
AOVM				*eS*	**Sn**	**07 53 02.6**	**-2.6**
PNIG	**Pinotepa**	**6.58**	**80**	*eP*	**Pn**	**07 51 49.4**	**-0.4**
PNIG				*eS*	**Sn**	**07 53 09.1**	**+4.1**
ACIG	**Acambay**	**6.60**	**46**	*eS*	Sn	07 52 56.4	-9.3
CJVM	**Cuajimalpa**	**6.65**	**53**	*eS*	**Sn**	**07 53 02.2**	**-4.7**
TLVM	**San Miguel Top**	**6.66**	**54**	*eS*	**Sn**	**07 53 05.6**	**-1.9**
H06E		**6.68**	**301**	*eS*	Sn	07 52 54.0	-13
H06S		**6.69**	**301**	*eS*	**Sb**	**07 53 27.0**	**-2.4**
UNM	**Universidad Na**	**6.71**	**54**	*eP*	**Pn**	**07 51 51.5**	**-0.3**
UNM				*eS*	**Sn**	**07 53 10.4**	**+1.9**
XCVM	**Xochimilco**	**6.71**	**54**	*eS*	**Sn**	**07 53 07.0**	**-1.7**
JRQG	**Juriquilla Cam**	**6.76**	**38**	Pn	**Pn**	**07 51 55.5**	**+3.0**
JRQG	**Juriquilla Cam**	**6.76**	**38**	*eP*	Pn	07 51 48.8	-3.7
JRQG				*eS*	**Sn**	**07 53 06.0**	**-3.8**
H06N	**Isla Socorro**	**6.78**	**301**	*eS*	Sn	07 52 54.4	-15
PBVM	**Pinon**	**6.85**	**53**	*e*	Pb	07 52 04.1	-7.9
PBVM				*e*		07 53 15.9	
FTIG	**Fresnillo de T**	**6.94**	**68**	*eP*	**Pn**	**07 51 54.6**	**-0.2**
FTIG				*eS*	**Sn**	**07 53 16.2**	**+2.2**
AAIG	**Aguscalientes**	**6.96**	**20**	*eP*	**Pn**	**07 51 55.6**	**+0.4**
AAIG				*eS*	**Sn**	**07 53 09.4**	**-5.1**
PPM	**Popocatepetl**	**7.01**	**58**	*eP*	**Pn**	**07 51 56.7**	**+0.5**
PPM				*eS*	**Sn**	**07 53 14.0**	**-2.2**
TXIG	**Tlaxiaco**	**7.08**	**74**	*eP*	Pn	07 52 04.1	+7.2
TXIG				*eS*	**Sn**	**07 53 18.4**	**+0.7**
YOIG	**Yosondua**	**7.20**	**77**	*eP*	**Pn**	**07 51 57.1**	**-1.5**
YOIG				*eS*	Sn	07 53 12.6	-8.1
HLIG	**Huajuapan de L**	**7.21**	**69**	*eP*	Pn	07 51 54.2	-4.4
HLIG				*eS*	**Sn**	**07 53 13.4**	**-7.4**
DEIG	**Demacu**	**7.41**	**48**	*eP*	Pn	07 51 57.6	-3.8
DEIG				*eS*	**Sn**	**07 53 23.8**	**-1.8**
ZAIG	**Zacatecas**	**7.66**	**16**	Pn	**Pn**	**07 52 07.4**	**+2.6**
ZAIG	**Zacatecas**	**7.66**	**16**	*eP*	**Pn**	**07 52 07.1**	**+2.2**
ZAIG				*eS*	**Sn**	**07 53 33.1**	**+1.2**
TPIG	**Tehuac#an**	**7.80**	**66**	*eS*	**Sn**	**07 53 30.8**	**-4.6**
MAIG	**Mazatlaan**	**7.89**	**350**	*eP*	Pn	07 52 03.4	-4.3
RPIG	**Rio Verde**	**7.96**	**35**	*eP*	Pn	07 52 05.2	-3.6
RPIG				*e*		07 53 50.9	
TOIG	**Toxpalan**	**7.96**	**69**	*eP*	**Pn**	**07 52 08.4**	**-0.5**
TOIG				*eS*	**Sn**	**07 53 37.2**	**-1.9**
CTIV	**Llano Grande**	**8.66**	**45**	*eP*	**Pn**	**07 52 17.2**	**-1.2**
JAUV	**Jalcomulco**	**8.67**	**62**	*eS*	**Sn**	**07 53 54.0**	**-2.4**
NEUV	**Arroyo Zacate**	**9.01**	**74**	*eS*	**Sn**	**07 54 04.7**	**-0.1**
LPIG	**La Paz**	**10.05**	**330**	Pn	**Pn**	**07 52 39.0**	**+1.5**
	26nm,0.3s,baz=186,slow=4.3,SNR=5.5						
LPIG				Sn	**Sn**	**07 54 31.2**	**+0.9**
	baz=51,slow=20						
LPIG				LR	LR	07 55 28.2	
	comp=Z,3μm,18.6s,baz=160,slow=32						
SRIG	**Santa Rosalia**	**13.70**	**331**	Pn	**Pn**	**07 53 29.5**	**+2.2**
833A	**Chaparral WMA,**	**13.84**	**21**		**Pn**	**07 53 32.8**	**+3.6**
833A	**Chaparral WMA,**	**13.84**	**21**	P	**Pn**	**07 53 32.0**	**+2.8**
	baz=202						
TXAR	**Lajitas Array**	**13.92**	**4**	Pn	**Pn**	**07 53 32.4**	**+1.9**
	0.1nm,0.3s,baz=186,slow=14,SNR=23						
	2.4nm,0.9s						
DRIO	**Del Rio**	**14.51**	**15**	Pn	**Pn**	**07 53 41.2**	**+2.8**
HSIG		**14.67**	**339**		**Pn**	**07 53 41.7**	**+1.1**
SAND	**Sanderson**	**14.71**	**9**		**Pn**	**07 53 42.0**	**+0.7**
ALPN	**Alpine**	**14.96**	**4**	Pn	**Pn**	**07 53 43.4**	**-1.2**
ALPN				IAmb	IAmb	07 53 57.3	
	comp=Z,28nm,1.3s						
HNDO	**Hondo**	**14.99**	**19**		**Pn**	**07 53 44.6**	**-0.3**
HNDO				IAmb	IAmb	07 54 04.8	
	comp=Z,19nm,0.9s						
VHRN	**Van Horn**	**15.32**	**360**	Pn	**Pn**	**07 53 50.1**	**+0.6**
VHRN				IAmb	IAmb	07 54 06.4	
	comp=Z,19nm,1.3s						
JCT	**Junction City**	**15.72**	**16**	P	**Pn**	**07 53 57.3**	**+2.6**
JCT				IAmb	IAmb	07 54 12.8	
	comp=Z,46nm,1.4s						
JCT	**Junction City**	**15.72**	**16**	P	**Pn**	**07 53 56.4**	**+1.8**
	baz=198,SNR=7.7						
OZNA	**Ozona**	**15.84**	**12**	P	**P**	**07 53 59.7**	**-0.3**
OZNA				IAmb	IAmb	07 54 10.4	
	comp=Z,42nm,1.4s						
PECS	**Pecos**	**15.93**	**3**	P	**P**	**07 54 02.5**	**+1.4**
MNHN	**Monahans**	**15.99**	**7**	P	**Pn**	**07 54 01.0**	**+2.9**
TEIG	**Tepich**	**16.53**	**71**	LR	LR	08 00 48.5	
	comp=Z,574nm,20.3s,baz=242,slow=38						
BRDY	**Brady**	**16.71**	**18**		**Pn**	**07 54 09.0**	**+1.7**
HKT	**Hockley**	**16.71**	**28**	P	**Pn**	**07 54 09.1**	**+1.9**
435B	**Jarrell**	**16.72**	**22**	P	**Pn**	**07 54 09.3**	**+2.0**
	baz=205						
SGCY	**Sterling City**	**16.80**	**11**	P	**P**	**07 54 11.9**	**+1.3**
SGCY				IAmb	IAmb	07 54 24.7	
	comp=Z,37nm,1.4s						
121A	**Cookes Peak, D**	**17.27**	**352**	P	**P**	**07 54 18.1**	**+2.2**
121A	**Cookes Peak, D**	**17.27**	**352**	P	**Pn**	**07 54 16.2**	**+1.8**
	baz=171						
HNVL	**Huntsville, TX**	**17.56**	**28**	P	**Pn**	**07 54 18.6**	**+0.7**
HNVL				IAmb	IAmb	07 54 22.5	
	comp=Z,66nm,1.4s						
TUC	**Tucson**	**17.68**	**343**		**Pn**	**07 54 20.7**	**+1.3**
TUC	**Tucson**	**17.68**	**343**	P	**P**	**07 54 21.4**	**+1.0**
	baz=161						
SN05	**Snyder 5**	**17.78**	**11**	P	**Pn**	**07 54 22.5**	**+1.8**
SN05				IAmb	IAmb	07 54 35.0	
	comp=Z,42nm,1.5s						
ABTX	**Abilene, Hawle**	**17.80**	**15**	P	**Pn**	**07 54 21.6**	**+0.6**
ABTX				IAmb	IAmb	07 54 39.7	
	comp=Z,30nm,1.4s						
ABTX	**Abilene, Hawle**	**17.80**	**15**	P	**P**	**07 54 23.1**	**+1.5**
	baz=197						
WHTX	**Lake Whitney,**	**17.86**	**21**	P	**P**	**07 54 24.0**	**+1.8**
	baz=204						
POST	**Post**	**17.86**	**9**	P	**P**	**07 54 23.6**	**+1.2**
SN07	**Snyder 07**	**17.99**	**11**	P	**Pn**	**07 54 24.7**	**+1.5**
214A	**Organ Pipe Nat**	**18.00**	**338**	P	**Pn**	**07 54 23.6**	**+0.2**
214A	**Organ Pipe Nat**	**18.00**	**338**	P	**Pn**	**07 54 24.2**	**+0.8**
	baz=155						
PLPT	**Palo Pinto**	**18.34**	**18**	P	**Pn**	**07 54 29.2**	**+1.7**
APMT	**Aspermont**	**18.37**	**13**	P	**P**	**07 54 26.7**	**-1.2**
DKNS	**Dickens**	**18.54**	**10**		**P**	**07 54 30.8**	**+0.9**
DKNS				IAmb	IAmb	07 54 39.1	
	comp=Z,24nm,1.1s						
MSTX	**Muleshoe**	**18.59**	**6**	P	**P**	**07 54 30.9**	**+0.5**
MSTX				IAmb	IAmb	07 54 43.7	
	comp=Z,31nm,1.2s						
MSTX	**Muleshoe**	**18.59**	**6**	P	**P**	**07 54 31.5**	**+1.0**
	baz=186						
Y22D	**IRIS PASSCAL I**	**18.69**	**355**	P	**P**	**07 54 32.9**	**+1.3**
	baz=174						
FW06	**Azle**	**18.72**	**20**	P	**Pn**	**07 54 33.4**	**+1.3**
NATX	**Nacogdoches**	**18.77**	**28**	P	**Pn**	**07 54 34.4**	**+1.6**
	baz=212						
113A	**Mohawk Valley,**	**19.09**	**337**	P	**P**	**07 54 36.7**	**+0.9**
113A				IAmb	IAmb	07 54 43.3	
	comp=Z,38nm,1.5s						
WTFS	**Witchita Falls**	**19.19**	**16**	P	**Pn**	**07 54 38.9**	**+1.0**
WTFS				IAmb	IAmb	07 54 51.9	
	comp=Z,28nm,1.2s						
ANMO	**Albuquerque**	**19.52**	**356**	P	**P**	**07 54 42.1**	**+1.4**
ANMO	**Albuquerque**	**19.52**	**356**	P	**P**	**07 54 42.0**	**+1.3**
	baz=176						
ANMO	**Albuquerque**	**19.52**	**356**	P	**Pn**	**07 54 42.9**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=258,slow=10.0,SNR=8.4						
	comp=Z,2.8nm,1.1s						
X18A	**Snowflake**	**19.59**	**347**	P	**Pn**	**07 54 43.6**	**+0.8**
X18A				IAmb	IAmb	07 54 60.0	
	comp=Z,22nm,1.5s						
AMTX	**Amarillo**	**19.62**	**8**	P	**P**	**07 54 42.3**	**+0.6**
AMTX				IAmb	IAmb	07 54 52.8	
	comp=Z,12nm,0.8s						
AMTX	**Amarillo**	**19.62**	**8**	P	**P**	**07 54 43.6**	**+1.9**
	baz=189						
GLA	**Glamis**	**19.76**	**335**	P	**P**	**07 54 43.8**	**+0.6**
	baz=151						
X16A	**Lo Mia Camp, P**	**19.84**	**344**	P	**P**	**07 54 45.5**	**+1.2**
IKP	**In-Ko-Pah, Jac**	**19.98**	**331**	P	**P**	**07 54 45.7**	**0.0**
	baz=147						
WMOK	**Wichita Mounta**	**20.03**	**15**	P	**P**	**07 54 47.1**	**+1.0**
WMOK				IAmb	IAmb	07 54 58.4	
	comp=Z,17nm,1.1s		

BFSC	Mount Baldy Ra	22.02	331	P	P	07 55 08.2 +0.5
	baz=146					
SDCO	Great Sand Dun	22.27	359	P	P	07 55 10.8 +0.3
	baz=178					
S22A	4UR Ranch, Cre	22.33	356	P	P	07 55 12.4 +1.2
	baz=175					
DECC	Green Verdugo	22.35	330	P	P	07 55 12.1 +0.9
	baz=144					
GSC	Goldstone, Bar	22.52	334	P	P	07 55 13.8 +0.7
	baz=149					
BRAL	Brewton	22.64	43	P	P	07 55 14.1 -0.1
	baz=230					
EDW2	Edwards Air Fo	22.70	331	P	P	07 55 15.4 +0.5
	baz=146					
WHAR	Wooly Hollow	22.81	27	P	P	07 55 17.5 +1.6
WHAR				IAmb	IAmb	07 55 38.9
	comp=Z,19nm,1.2s					
SCZ2	Santa Cruz Isl	22.81	327	P	P	07 55 16.9 +0.8
	baz=141					
OSI	Osito Audit: C	22.83	329	P	P	07 55 17.4 +1.1
	baz=144					
LRMC	Laurel Mtn Rad	23.06	333	P	P	07 55 19.6 +0.9
	baz=147					
SBC	Santa Barbara	23.20	328	P	P	07 55 19.9 -0.1
	baz=142					
ARVC	Arvin	23.30	330	P	P	07 55 21.0 -0.1
	baz=144					
MPMC	Manual Prospec	23.46	334	P	P	07 55 23.4 +0.6
	baz=148					
Q24A	Divide	23.48	359	P	P	07 55 24.3 +1.1
	baz=179					
ISA	Isabella, Lake	23.57	331	P	P	07 55 24.3 +0.6
	baz=146					
OXF	Oxford	23.59	33	P	P	07 55 24.6 +0.7
	baz=220					
PKM	Mcpherson Peak	23.60	328	P	P	07 55 25.3 +1.1
	baz=142					
KSCO	Kaye Shedlock'	23.61	4	P	P	07 55 25.4 +1.1
	baz=185					
TPNV	Topopah Spring	23.73	337	P	P	07 55 26.7 +1.3
	baz=152					
CBKS	Cedar Bluff	23.77	10	P	P	07 55 27.3 +1.7
	baz=192					
LRAL	Lakeview Retre	23.91	40	P	P	07 55 28.5 +1.5
	baz=227					
MVU	Marysvale	23.91	346	P	P	07 55 27.3 0.0
VES	Vestal, Richgr	24.00	331	P	P	07 55 29.4 +1.6
	baz=145					
CWC	Cottonwood Cre	24.04	333	P	P	07 55 29.8 +1.4
	baz=148					
SRU	San Rafael Swe	24.14	349	P	P	07 55 29.1 -0.2
SRU				IAmb	IAmb	07 55 45.1
	comp=Z,6.2nm,0.9s					
GRAC	Grapevine Rang	24.21	335	P	P	07 55 31.2 +1.3
	baz=150					
ISCO	Idaho Springs	24.32	359	P	P	07 55 32.2 +1.0
	baz=178					
KSU1	Kansas State U	24.71	16	P	P	07 55 35.4 +1.1
	baz=199					
R11B	Troy Canyon, C	24.74	340	P	P	07 55 35.2 +0.4
	baz=155					
O20A	White River Ci	24.82	354	P	P	07 55 36.6 +1.0
O20A				IAmb	IAmb	07 55 44.2
	comp=Z,15nm,1.0s					
O20A	White River Ci	24.82	354	P	P	07 55 36.5 +1.0
	baz=172,SNR=5.6					
DWPF	Disney Wildern	25.14	56	P	P	07 55 38.0 -0.3
	baz=244					
TIGA	Tifton	25.16	47	P	P	07 55 38.4 -0.1
	baz=235					
MLAC	Mammoth, Mammo	25.36	333	P	P	07 55 41.0 +0.5
	baz=147					
N23A	Red Feather La	25.43	358	P	P	07 55 41.6 +0.5
	baz=178					
OGNE	Ogallala	25.58	5	P	P	07 55 43.2 +0.9
	baz=186					
CCM	Cathedral Cave	25.59	26	P	P	07 55 43.0 +0.7
	baz=212					
WVT	Waverly	25.66	33	P	P	07 55 43.4 +0.5
	baz=220					
DUG	Dugway, Tooele	25.66	346	P	P	07 55 44.1 +1.0
	baz=162					
NVAR	Mina Array Bea	25.82	335	P	P	07 55 45.7 +1.0
	comp=Z,1.8nm,1.1s,baz=164,slow=9.1,SNR=8.7					
NVAR				LR	LR	08 04 56.1
	comp=Z,567nm,18.7s,baz=143,slow=34					
	comp=Z,1.8nm,1.1s					
KVN	Kaiserville	26.27	336	P	P	07 55 48.8 +0.1
GOGA	Godfrey	26.41	43	P	P	07 55 50.3 +0.6
	baz=232					
BGNE	Belgrade	26.57	11	P	P	07 55 52.6 +1.4
	baz=195					
K22A	Casper	27.20	357	P	P	07 55 58.2 +1.1
	baz=177					
BW06	Boulder Array	27.57	353	P	P	07 56 00.4 -0.1
	baz=170					
PDAR	Pinedale Array	27.57	353	P	P	07 56 00.9 +0.4
	comp=Z,1.0nm,0.8s,baz=172,slow=12,SNR=6.7					
PDAR				LR	LR	08 06 30.7
	comp=Z,100nm,19.6s,baz=176,slow=35					
	comp=Z,1.0nm,0.8s					
TKL	Tuckaleechee C	27.64	39	LR	LR	08 09 19.9
	comp=Z,428nm,18.7s,baz=234,slow=41					
WCI	Wyandotte Cave	28.05	32	P	P	07 56 04.7 +0.2
	baz=221					
SCIA	State Center	28.28	19	P	P	07 56 06.4 -0.1
	baz=204					
TZTN	Tazewell	28.37	38	P	P	07 56 06.9 -0.4
	baz=227					
NHSC	New Hope	28.49	47	P	P	07 56 07.9 -0.6
	baz=237					
HDIL	Hopedale	28.51	25	P	P	07 56 08.8 +0.2
	baz=213					
RSSD	Black Hills	28.64	1	P	P	07 56 10.2 +0.2
	baz=182					
KMSC	Kings Mountain	28.86	43	P	P	07 56 11.8 +0.1
	baz=233					
ECSD	EROS Data Cent	29.11	12	P	P	07 56 14.8 +0.9
	baz=196					
HLID	Hailey	29.23	346	P	P	07 56 16.0 +0.9
	baz=161					
H17A	Grant Village	29.31	352	P	P	07 56 16.7 +0.8
	baz=169					
SFIN	Lafayette	29.32	28	P	P	07 56 16.4 +0.6
	baz=217					
SUSD	Miller	29.39	9	P	P	07 56 17.7 +1.3
	baz=192					
P49A	Miami Univ. Ec	29.84	32	P	P	07 56 20.7 +0.3
	baz=222					
RLMT	Red Lodge	29.86	354	P	P	07 56 21.8 +1.0
	baz=172					
O48B	Farmland	30.16	31	P	P	07 56 23.7 +0.5
	baz=220					
JFWS	Jewell Farm	30.16	22	P	P	07 56 24.5 +1.3
	baz=209					
YBH	Yreka Blue Hor	30.43	333	LR	LR	08 07 59.1
	comp=Z,411nm,19.3s,baz=149,slow=35					
L44A	Lake County Fo	30.43	25	P	P	07 56 26.2 +0.6
	baz=214					
BOZ	Bozeman (W)	30.64	351	P	P	07 56 28.2 +0.6
BOZ				IAmb	IAmb	07 56 35.1
	comp=Z,4.0nm,0.9s					
BOZ	Bozeman (W)	30.64	351	P	P	07 56 27.8 +0.2
	baz=167,SNR=5.4					
BLA	Blacksburg	30.71	40	P	P	07 56 28.4 +0.2
	baz=231					
CNNC	Cliffs of the	31.23	46	P	P	07 56 32.7 0.0
	baz=237					
ACSO	Alum Creek Sta	31.26	33	P	P	07 56 33.8 +0.9
	baz=224					
P52A	Corning	31.29	35	P	P	07 56 33.6 +0.3
	baz=226					
SPMN	Marine on St.	31.44	16	P	P	07 56 35.5 +1.1
	baz=203					
BPMT	Black Pine Rid	31.77	349	P	P	07 56 37.9 +0.2
ROSC	El Rosal	31.82	106	LR	LR	08 06 50.7
	comp=Z,380nm,21.5s,baz=320,slow=31					
O53A	New Philadelph	32.23	35	P	P	07 56 41.8 +0.3
	baz=226					
MSO	Missoula	32.24	348	P	P	07 56 42.7 +1.1
MSO				IAmb	IAmb	07 56 52.2
	comp=Z,6.5nm,1.1s					
MSO	Missoula	32.24	348	P	P	07 56 42.4 +0.8
	baz=164					
OVMT	Ovando	32.29	350	P	P	07 56 42.7 +0.6
AAM	Ann Arbor	32.45	30	P	P	07 56 44.4 +1.1
	baz=220					
MCWV	Mont Chateau	32.61	37	P	P	07 56 45.5 +0.7
	baz=229					
EGMT	Eagleton	32.79	354	P	P	07 56 47.1 +0.8
EGMT	Eagleton	32.79	354	P	P	07 56 47.6 +1.3
	baz=171					
DGMT	Dagmar	32.99	1	P	P	07 56 49.0 +0.9
	baz=181					
M53A	Wl Miller and	33.35	34	P	P	07 56 51.1 -0.1
	baz=226					
AGMN	Agassiz Nation	33.65	11	P	P	07 56 53.7 0.0
AGMN	Agassiz Nation	33.65	11	P	P	07 56 54.8 +1.1
	baz=196					
GLMI	Grayling	33.98	26	P	P	07 56 57.0 +0.3
	baz=217					
SDV	Santo Domingo	34.07	97	LR	LR	08 10 12.7
	comp=Z,184nm,18.0s,baz=248,slow=35					
ERPA	Erie	34.19	34	P	P	07 56 58.8 +0.3
	baz=226					
EYMN	Ely	34.30	16	P	P	07 56 59.8 +0.4
	baz=203					
NEW	Newport	34.30	345	P	P	07 56 59.8 +0.4
	baz=159					
NEW	Newport	34.30	345	LR	LR	08 10 34.8
	comp=Z,144nm,21.4s,baz=168,slow=36					
SSPA	Standing Stone	34.39	38	P	P	07 57 00.5 +0.1
	baz=231					
ATAH	Atahualpa	34.50	129	LR	LR	08 08 12.7
	comp=Z,892nm,19.7s,baz=299,slow=31					
ULM	Lac du Bonnet	35.53	10	P	P	07 57 11.9 +2.0
	comp=Z,1.8nm,0.7s,baz=226,slow=11,SNR=3.7					
ULM				LR	LR	08 11 15.1
	comp=Z,502nm,19.8s,baz=198,slow=36					
	comp=Z,1.8nm,0.7s					
SADO	Sadowa	36.48	31	LR	LR	08 14 51.2
	comp=Z,199nm,20.2s,baz=240,slow=40					
BINY	Binghamton	36.48	37	P	P	07 57 17.7 -0.6
	baz=231					
PAL	Palisades	37.03	40	P	P	07 57 22.1 -0.9
	baz=235					
L61B	Northampton	38.61	39	P	P	07 57 35.8 -0.5
	baz=235					
LONY	Lake Ozonia	38.80	35	P	P	07 57 37.3 -0.6
	baz=231					
NNA	Nana	38.87	133	LR	LR	08 10 25.7
	comp=Z,631nm,19.5s,baz=309,slow=31					
FFC	Flin Flon	39.31	3	P	P	07 57 42.5 +0.5
FFC				IAmb	IAmb	07 57 48.5
	comp=Z,7.9nm,1.0s					
HRV	Adam Dziewonsk	39.33	40	P	P	07 57 41.5 -0.9
	baz=236					
PCRV	Puerto La Cruz	39.55	93	LR	LR	08 14 44.5
	comp=Z,220nm,18.3s,slow=37					
LBNH	Lisbon	40.08	37	P	P	07 57 47.9 -0.7
	baz=234					
BBB	Bella Bella	41.10	338	LR	LR	08 14 51.7
	comp=Z,335nm,18.4s,baz=155,slow=36					
PKME	Peaks-Kenny Pk	42.21	38	P	P	07 58 05.5 -0.6
	baz=236					
RPN	Rapa Nui	42.49	186	LR	LR	08 11 27.1
	comp=Z,321nm,20.6s,baz=349,slow=30					
V35K	Ketchikan	44.86	339	P	P	07 58 26.9 -0.4
	baz=142					
CRAG	Craig	45.51	338	P	P	07 58 32.0 -0.4
	baz=140					
ETMB	Extrema	45.77	121	P	P	07 58 33.4 -1.7
ETMB				IAmb	IAmb	07 58 45.7
	comp=Z,6.3nm,0.9s					
WRAK	Wrangell Islan	45.98	339	P	P	07 58 35.8 -0.3
	baz=142					
U33K	Whale Pass	46.01	338	P	P	07 58 35.9 -0.4
	baz=141					
DLBC	Dease Lake	46.87	342	P	P	07 58 42.9 -0.3
DLBC				IAmb	IAmb	07 58 50.5
	comp=Z,5.1nm,0.8s					
DLBC	Dease Lake	46.87	342	P	P	07 58 43.1 -0.2
	baz=146					
DLBC	Dease Lake	46.87	342	LR	LR	08 19 01.7
	comp=Z,419nm,19.0s,baz=144,slow=37					
SIT	Sitka	47.52	338	P	P	07 58 47.8 -0.4
	baz=139					
YKA	Yellowknife Ar	47.54	354	P	P	07 58 49.0 +0.7
	comp=Z,0.9nm,0.7s,baz=164,slow=7.1,SNR=4.9					
	comp=Z,0.9nm,0.7s					
S32K	Killisnoo	47.57	339	P	P	07 58 48.3 -0.2
	baz=140					
R33M	Jennings River	47.94	342	P	P	07 58 51.2 -0.4
	baz=145					
Q32M	Nakina River	47.98	341	P	P	07 58 51.6 -0.4
	baz=143					
LPAZ	La Paz	48.04	129	P	P	07 58 54.1 +0.6
	comp=Z,3.5nm,0.9s,baz=326,slow=5.7,SNR=12					
LPAZ				LR	LR	08 16 43.0
	comp=Z,714nm,20.3s,baz=302,slow=33					
	comp=Z,3.5nm,0.9s					
R32K	Eaglecrest	48.16	339	P	P	07 58 53.6 +0.4
	baz=140					
S31K	Pelican	48.52	338	P	P	07 58 56.9 +1.0
	baz=138					
R31K	City Hall, Gus	48.69	339	P	P	07 58 57.9 +0.8
	baz=139					
P32M	Atlin	48.93	341	P	P	07 58 59.5 +0.4
	baz=142					
TGTN	Hyland Airport	49.02	345	P	P	07 59 00.3 +0.5
	baz=150					
SCHQ	Schefferville	49.11	28	LR	LR	08 21 10.9
	comp=Z,333nm,18.4s,baz=236,slow=38					
P33M	Teslin, Yukon	49.15	342	P	P	07 59 01.1 +0.2
	baz=143					
SKAG	Skagway	49.35	340	P	P	07 59 02.6 +0.4
	baz=140					
PLBC	Pleasant Camp	49.69	340	P	P	07 59 05.1 +0.3
	baz=139					
P29M	Windy Craggy	50.29	339	P	P	07 59 09.9 +0.4
	baz=137					
P30M	Million Dollar	50.39	340	P	P	07 59 10.4 +0.2
	baz=138					
O30N	Mendenhall	50.60	341	P	P	07 59 11.9 +0.1
	baz=140					
PNL	Peninsula	50.90	338	P	P	07 59 14.4 +0.4
	baz=135					
FARO	Faro, Yukon	50.93	343	P	P	07 59 14.8 +0.5
	baz=144					
N31M	Braeburn, Yuko	51.05	342	P	P	07 59 15.8 +0.5
	baz=141					
O29M	Mount Kennedy	51.07	339	P	P	07 59 15.8 +0.4
	baz=137					
HYT	Haines Junctio	51.09	340	P	P	07 59 16.6 +1.0
	baz=138					
M31M	Drury Creek, Y	51.20	343	P	P	07 59 16.8 +0.5
	baz=143					
N30M	Aishikik Lake	51.44	341	P	P	07 59 18.5 +0.4
	baz=139					
YUK6	Outpost Mounta	51.47	340	P	P	07 59 18.6 0.0
	baz=137					
PINM	Pinnacle	51.51	338	P	P	07 59 18.8 +0.1
	baz=135					
LVC	Limon Verde	51.65	136	LR	LR	08 16 12.5
	comp=Z,241nm,21.4s,baz=313,slow=30					
MESA	MESA	52.18	338	P	P	07 59 23.5 -0.3
	baz=133					
YUK8	Steele Glacier	52.18	340	P	P	07 59 24.5 +0.5
	baz=136					
M30M	Minto, Yukon	52.20	342	P	P	07 59 24.4 +0.6
	baz=140					
MDP	Montagnes des	52.30	95	LR	LR	08 21 36.9
	comp=Z,116nm,18.6s,baz=286,slow=36					
CTG	Chitna Glacier	52.50	339	P	P	07 59 25.4 -0.7
	baz=134					
M29M	Somme Creek	52.61	341	P	P	07 59 26.3 -0.6
	baz=138					
YUK3	Moose Creek	52.77	340	P	P	07 59 28.2 0.0
	baz=135					
KAIM	Kayak Island	52.95	336	P	P	07 59 29.7 +0.4
	baz=130					
L29M	L29M	53.00	342	P	P	07 59 29.6 -0.2
L29M	L29M	53.00	342	P	P	07 59 29.5 -0.2
	baz=139					
SIV	San Ignacio	53.33	124	LR	LR	08 20 20.4
	comp=Z,518nm,20.2s,baz=298,slow=34					
K29M	Barlow Dome	53.38	343	P	P	07 59 32.3 -0.3
	baz=140					
MCARA	McCarthy VSAT	53.38	338	P	P	07 59 32.2 -0.3
	baz=132					
Q23K	Middleton Isla	53.40	335	P	P	07 59 32.4 -0.2
	baz=127					
J30M	Hart River	53.62	344	P	P	07 59 34.6 +0.3
	baz=141					
M27K	Edge Creek, AK	53.65	340	P	P	07 59 34.4 -0.3
	baz=134					
BMRM	Bremner River	53.69	337	P	P	07 59 34.1 -0.7
	baz=130					
EYAK	Cordova Ski Ar	53.85	336	P	P	07 59 35.3 -0.6
	baz=129					
J29N	Klondike Camp	54.04	343	P	P	07 59 37.1 -0.2
	baz=139					
M26K	Nabesna, AK	54.06	339	P	P	07 59 36.9 -0.6
	baz=133					
DAWY	Dawson	54.09	342	P	P	07 59 37.3 -0.5
	baz=138					
N25K	Chitina, Valde	54.10	338	P	P	07 59 37.2 -0.6
	baz=131					
L27K	Beaver Creek,	54.13	340	P	P	07 59 38.3 +0.3
	baz=134					
I30M	Mount Dempster	54.14	344	P	P	07 59 38.0 -0.2
	baz=142					
P23K	Montague Islan	54.17	335	P	P	07 59 38.0 -0.3
	baz=127					
FRB	Frobisher Bay	54.42	19	LR	LR	08 23 09.1
	comp=Z,295nm,21.9s,baz=207,slow=36					
H03N2	Juan Fernandez	54.51	153	T	T	08 58 36.5
	baz=330,slow=77,SNR=21					
KLU	Klutina	54.51	337	P	P	07 59 40.2 -0.6
	baz=129					
H03N1	Juan Fernandez	54.52	153	T	T	08 58 40.6
	baz=330,slow=77,SNR=23					
H03N3	Juan Fernandez	54.53	153	T	T	08 58 37.8
	baz=330,slow=77,SNR=23					
GLI	Glacier Island	54.58	336	P	P	07 59 41.2 -0.1
	baz=128					
L26K	Log Cabin Wild	54.61	340	P	P	07 59 41.3 -0.2
	baz=133					
I29M	Ogilvie Camp,	54.76	344	P	P	07 59 42.8 +0.3
	baz=140					
HARP	HAARP	54.81	338	P	P	07 59 43.0 0.0
	baz=130					
K27K	Chicken	54.89	341	P	P	07 59 44.4 +0.9
	baz=135					
PPT	Papeete	54.90	235	LR	LR	08 16 33.1
	comp=Z,272nm,18.9s,baz=56,slow=29					
PPT2	Papeete2	54.91	235	*e*S	S	08 07 22.5 -3.8
	comp=Z,99nm,27.5s					
PPT2				*e*LR	LR	08 15 15.6
	comp=Z,759nm,25.0s					
PPT2				*e*LR	LR	08 15 21.9
	comp=Z,496nm,24.2s					
G31M	Satah River	54.99	346	P	P	07 59 44.0 0.0
G31M	Satah River	54.99	346	P	P	07 59 44.8 +0.7
	baz=145					
M24K	Tolsona, Glenn	54.99	338	P	P	07 59 44.5 +0.2
	baz=129					
SEW	Seward	55.07	335	P	P	07 59 44.8 0.0
	baz=124					
EPYK	Eagle Plains	55.13	345	P	P	07 59 45.3 +0.2
	baz=142					
EGAK	Eagle	55.14	342	P	P	07 59 45.1 -0.2
	baz=136					
KDAK	Kodiak Island	55.21	331	P	P	07 59 45.4 -0.4
	baz=120					
C36M	Paulatuk	55.26	352	P	P	07 59 46.1 +0.1
	baz=157					
OHAK	Old Harbor	55.27	330	P	P	07 59 45.5 -0.8
	baz=119					
I28M	Miner Creek	55.28	343	P	P	07 59 47.0 +0.6
	baz=138					
PAX	Paxson	55.30	339	P	P	07 59 46.0 -0.5
	baz=130					
M23K	Glacier View	55.38	337	P	P	07 59 47.8 +0.8
	baz=127					
SII	Sitkinak Islan	55.39	329	P	P	07 59 46.6 -0.7
	baz=118					
O22K	Cooper Landing	55.40	335	P	P	07 59 46.4 -0.7
	baz=124					
BRSE	Bradley Lake S	55.41	334	P	P	07 59 46.9 -0.4
	baz=123					
KNK	Knik Glacier	55.43	336	P	P	07 59 47.2 -0.3
	baz=126					
H29M	Whitestone	55.43	344	P	P	07 59 47.6 +0.3
	baz=140					
SCRK	Sand Creek	55.46	340	P	P	07 59 48.1 +0.4
	baz=132					
Q20K	Shuyak Island	55.54	332	P	P	07 59 48.4 +0.2
	baz=120					
SML	Sawmill	55.62	337	P	P	07 59 48.8 0.0
	baz=127					
J26L	Joseph Creek	55.69	341	P	P	07 59 49.2 -0.1
J26L	Joseph Creek	55.69	341	P	P	07 59 49.1 -0.2
	baz=133,SNR=6.2					
RC01	Rabbit Creek A	55.75	336	P	P	07 59 49.7 0.0
	baz=125					
HOM	Homer	55.75	333	P	P	07 59 49.3 -0.4
	baz=122					
CHIR	Chirikof Islan	55.79	328	P	P	07 59 49.6 -0.5
	baz=116					
PMR	Palmer	55.80	336	P	P	07 59 49.7 -0.3
	baz=126					
WAT6	Susitna Watana	55.86	338	P	P	07 59 50.0 -0.6
	baz=128					
I27K	Kandik River	55.87	343	P	P	07 59 50.3 -0.3
	baz=136					
G29M	Pine Creek	55.88	345	P	P	07 59 50.4 -0.2
	baz=140					
F30M	Barrier River	55.89	346	P	P	07 59 50.5 -0.1
	baz=143					
K24K	Donnelly Dome	55.94	339	P	P	07 59 50.8 -0.3
	baz=130					
INK	Inuvik	55.97	348	P	P	07 59 50.7 -0.4
INK				IAmb	IAmb	08 00 08.6
	comp=Z,7.9nm,1.1s					
INK	Inuvik	55.97	348	P	P	07 59 51.3 +0.2
	baz=146					
INK	Inuvik	55.97	348	LR	LR	08 23 57.7
	comp=Z,129nm,18.1s,baz=179,slow=36					
R18K	Karluk	55.99	330	P	P	07 59 50.8 -0.6
	baz=118					
DHY	Denali Highway	56.04	338	P	P	07 59 52.1 +0.2
	baz=128					
I26K	Coal Creek Min	56.12	342	P	P	07 59 51.6 -0.6
I26K				IAmb	IAmb	07 59 58.5
	comp=Z,5.4nm,0.9s					
I26K	Coal Creek Min	56.12	342	P	P	07 59 52.0 -0.2
	baz=134					
CAPN	Captain Cook N	56.14	335	P	P	07 59 52.5 +0.1
	baz=123					
Q19K	Cape Douglas,	56.27	332	P	P	07 59 53.4 -0.1
	baz=119					
M22K	Willow	56.28	336	P	P	07 59 53.2 -0.2
	baz=125					
H27K	Steamboat Moun	56.30	343	P	P	07 59 53.3 -0.3
	baz=136					
WAT1	Susitna Watana	56.31	338	P	P	07 59 53.2 -0.5
	baz=127					
J25K	Salcha River,	56.34	340	P	P	07 59 54.0 +0.1
	baz=131					
SUA	Susitna One	56.36	336	P	P	07 59 54.1 -0.1
	baz=124					
O20K	Slope Mountain	56.40	334	P	P	07 59 54.3 -0.1
	baz=121					
P19K	Oil Pt	56.44	333	P	P	07 59 54.6 -0.1
	baz=120					
HDA	Harding Lake	56.73	340	P	P	07 59 56.7 +0.1
	baz=130					
G27K	Doyon Strip	56.75	344	P	P	07 59 56.2 -0.6
G27K				IAmb	IAmb	08 00 06.1
	comp=Z,6.6nm,1.1s					
G27K	Doyon Strip	56.75	344	P	P	07 59 57.2 +0.4
	baz=136					
Q18K	Katmai Hardscr	56.76	331	P	P	07 59 57.1 0.0
	baz=118					
N20K	Mount Spurr	56.81	335	P	P	07 59 57.0 -0.4
	baz=122					
SPCR	Spurr Chakacha	56.81	335	P	P	07 59 57.0 -0.4
	baz=122					
F28M	Old Crow	56.88	345	P	P	07 59 57.1 -0.6
F28M	Old Crow	56.88	345	P	P	07 59 57.7 0.0
	baz=139,SNR=9.0					
R17L	Mt. Peulik Vol	56.94	330	P	P	07 59 57.8 -0.4
	baz=116					
ILAR	Eielson Array	56.94	340	P	P	07 59 56.9 -1.2
	comp=Z,1.2nm,0.8s,baz=159,slow=4.2,SNR=14					
ILAR				LR	LR	08 22 46.7
	comp=Z,121nm,19.0s,baz=142,slow=34					
	comp=Z,1.2nm,0.8s					
SKT	Skwentna	56.96	336	P	P	07 59 58.4 0.0
	baz=123					
PRP	Porcupine Dome	56.99	341	P	P	07 59 59.4 +0.8
	baz=132					
Q17K	Contact Creek	56.99	331	P	P	07 59 58.7 0.0

baz=117
MCK McKinley 56.99 338 P P 07 59 58.9 +0.3
baz=127
E29M Blow River 57.00 346 P P 07 59 58.4 -0.1
E29M Blow River 57.00 346 P P 07 59 59.0 +0.5
baz=141
O19K Port Alsworth 57.19 333 P P 08 00 00.6 +0.7
baz=120
P18K Big Mountain, 57.20 332 P P 08 00 00.9 +0.8
baz=118
COLA College 57.32 340 P P 08 00 01.5 +0.7
baz=129
POKR Poker Plat Res 57.34 340 P P 08 00 01.0 0.0
baz=129
CHGN Chignik 57.41 328 P P 08 00 01.6 +0.1
baz=113
O18K Koktuh Hills 57.41 333 P P 08 00 01.4 -0.2
baz=118
G26K Porcupine Rive 57.45 343 P P 08 00 02.8 +1.2
baz=134
CHNA Chernabura Isl 57.48 326 P P 08 00 01.6 -0.4
baz=111
M20K Styx River 57.55 335 P P 08 00 02.1 -0.5
M20K IAmb IAmb 08 00 08.3
comp=Z,4.8nm,0.8s
M20K Styx River 57.55 335 P P 08 00 02.9 +0.4
baz=122
E28M Babbage River 57.55 346 P P 08 00 03.4 +1.0
baz=140
NEA2 Nenana 57.56 339 P P 08 00 02.9 +0.4
NEA2 Nenana 57.56 339 P P 08 00 02.8 +0.3
baz=127
N19K Bonanza Creek 57.56 334 P P 08 00 02.7 0.0
baz=120
H25L Birch Creek 57.58 342 P P 08 00 03.2 +0.7
baz=132
P17K Kvichak River 57.67 332 P P 08 00 03.7 +0.4
baz=117
PPLA Purkeypile 57.72 337 P P 08 00 03.9 +0.1
baz=123
E27K Coleen River 57.74 345 P P 08 00 04.5 +0.7
E27K IAmb IAmb 08 00 10.2
comp=Z,5.0nm,0.9s
E27K Coleen River 57.74 345 P P 08 00 03.6 -0.2
baz=137
A36M Sachs Harbour 57.86 353 P P 08 00 04.7 +0.3
baz=157
D28M Stokes Point 57.92 347 P P 08 00 05.1 +0.2
baz=141
H24K Noodor Dome 57.94 341 P P 08 00 04.7 -0.5
baz=129
BPAW Bear Paw Mtn. 57.95 338 P P 08 00 04.9 -0.4
baz=125
CAST Castle Rocks 57.97 337 P P 08 00 05.2 -0.3
baz=124
S14K Fog Glacier 57.99 328 P P 08 00 05.6 -0.2
baz=112
G25K Bearman Lake 57.99 342 P P 08 00 05.3 -0.2
baz=132
I23K Minto, Yukon-K 58.00 340 P P 08 00 05.2 -0.3
I23K Minto, Yukon-K 58.00 340 P P 08 00 05.6 0.0
baz=127
F26K Sheenjek River 58.07 343 P P 08 00 06.9 +0.9
baz=134
M19K Big River Lodg 58.07 335 P P 08 00 06.1 -0.1
baz=120
N18K Kilae Creek 58.10 333 P P 08 00 06.5 +0.1
baz=118
SDPT Sand Point 58.14 326 P P 08 00 06.5 -0.2
baz=111
L20K Farewell, AK 58.16 336 P P 08 00 07.2 +0.4
baz=121
TBI Tubuai 58.16 229 *e*LR LR 08 16 57.0
TBI *e*LR LR 08 16 57.9
comp=Z,1μm,23.5s
O17K Koliganek Bris 58.22 332 P P 08 00 07.2 0.0
baz=116
CHUM Lake Minchumin 58.31 337 P P 08 00 08.1 +0.4
baz=124
P16K Nushagak River 58.32 331 P P 08 00 08.5 +0.6
baz=115
G24K Hadweenzic Riv 58.37 342 P P 08 00 09.0 +0.8
baz=130
D27M Malcolm River 58.37 346 P P 08 00 08.7 +0.4
D27M IAmb IAmb 08 00 29.7
comp=Z,8.0nm,1.2s
D27M Malcolm River 58.37 346 P P 08 00 09.3 +1.1
baz=138
L19K White Mountain 58.40 335 P P 08 00 08.6 +0.2
baz=120
MLY Manley 58.40 339 P P 08 00 09.4 +1.0
baz=126
F25K Christian Rive 58.42 343 P P 08 00 09.6 +1.1
baz=132
M18K Stony River 58.46 334 P P 08 00 09.5 +0.7
baz=119
H23K Yukon River 58.47 340 P P 08 00 09.7 +0.8
baz=127
N17K Nushagak Hills 58.60 333 P P 08 00 09.7 -0.2
baz=117
O16K Kokwok River B 58.60 331 P P 08 00 09.9 +0.1
baz=115
K20K Telida 58.69 336 P P 08 00 11.6 +1.1
K20K Telida 58.69 336 P P 08 00 10.2 -0.3
baz=121
E25K Arctic Village 58.75 343 P P 08 00 10.7 -0.1
baz=133
I21K Tanana 58.91 339 P P 08 00 11.5 -0.5
baz=124
F24K Squaw Lake 59.02 342 P P 08 00 12.3 -0.4
baz=130
M17K Holitna River 59.11 334 P P 08 00 13.0 -0.4
baz=117
S12K Black Hills 59.11 326 P P 08 00 12.9 -0.6
baz=109
H22K Ishtalitna Cre 59.12 340 P P 08 00 13.7 +0.3
baz=126
J20K Nowinta River 59.15 337 P P 08 00 13.3 -0.2
J20K Nowinta River 59.15 337 P P 08 00 13.8 +0.3
baz=122
G23K Bananza Creek 59.16 341 P P 08 00 14.7 +0.9
baz=127
L18K Granite Mounta 59.17 335 P P 08 00 14.2 +0.4
baz=118
O15K Ungalikthiuk R 59.24 331 P P 08 00 14.5 +0.1
baz=113
N16K Nishlik Lake 59.28 332 P P 08 00 14.5 -0.2
baz=115
C27K Jago River 59.32 345 P P 08 00 15.4 +0.7
baz=135
H21K Melozitna Rive 59.47 339 P P 08 00 15.8 0.0
H21K Melozitna Rive 59.47 339 P P 08 00 16.8 +1.0
baz=124
COLD Coldfoot 59.53 341 P P 08 00 16.5 +0.3
baz=127
E24K Your Creek 59.55 343 P P 08 00 16.5 +0.1
E24K IAmb IAmb 08 00 22.1
comp=Z,3.8nm,1.0s
E24K Your Creek 59.55 343 P P 08 00 16.3 -0.1
baz=130
RES Resolute Bay 59.55 3 LR LR 08 27 07.6
comp=Z,412nm,19.4s,baz=163,slow=37
FALS False Pass 59.58 325 P P 08 00 16.4 -0.3
baz=108
I20K Naaghedeneel 59.59 338 P P 08 00 16.6 -0.1
baz=122
M16K Timber Creek 59.60 333 P P 08 00 16.7 -0.1
baz=115
J19K Poorman 59.61 337 P P 08 00 17.1 +0.3
baz=120
N15K Kwethluk River 59.76 332 P P 08 00 17.8 -0.1
baz=114
G22K Bettles 59.76 341 P P 08 00 18.5 +0.7
baz=126
J18K Innoko River 59.77 336 P P 08 00 18.1 +0.2
baz=119
D25K Kavik River 59.79 344 P P 08 00 18.9 +0.9
D25K Kavik River 59.79 344 P P 08 00 19.1 +1.1
baz=132
L17K Donlin 59.80 334 P P 08 00 18.3 +0.1
baz=116
C26K Camden Bay 59.82 345 P P 08 00 19.3 +1.2
baz=134
E23K Chandalar 59.87 342 P P 08 00 19.6 +1.0
baz=128
O14K Tigyukauivet M 59.95 330 P P 08 00 19.4 +0.2
baz=112

K17K Iditarod 60.06 335 P P 08 00 19.2 -0.8
baz=117
H20K Anotleneega Mo 60.11 338 P P 08 00 19.8 -0.4
baz=122
L16K Owhat River 60.12 333 P P 08 00 20.5 +0.2
baz=115
G21K Allakaket 60.18 340 P P 08 00 21.7 +1.0
baz=124
TOLK Toolik Lake Re 60.22 343 P P 08 00 20.9 -0.1
TOLK Toolik Lake Re 60.22 343 P P 08 00 21.8 +0.8
baz=129
M15K Kasigluk River 60.24 332 P P 08 00 21.6 +0.5
baz=113
F22K John River 60.32 341 P P 08 00 22.1 +0.5
baz=125
D24K Happy Valley 60.33 343 P P 08 00 22.8 +1.1
baz=130
N14K Kuskokwak Cree 60.40 331 P P 08 00 22.6 +0.3
baz=112
GCSA Galena City Sc 60.46 337 P P 08 00 23.6 +1.0
baz=119
F21K Alatna River 60.57 340 P P 08 00 22.7 -0.7
baz=124
E22K Anaktuvuk Pass 60.57 342 P P 08 00 24.3 +0.9
baz=126
C24K Franklin Bluff 60.66 344 P P 08 00 24.2 +0.3
baz=130
J17K VABM Dome 60.68 335 P P 08 00 24.8 +0.7
baz=116
H19K Roundabout Mou 60.69 338 P P 08 00 24.7 +0.6
baz=120
D23K Nanushuk River 60.74 343 P P 08 00 24.9 +0.4
baz=128
M14K Bethel 60.84 332 P P 08 00 25.8 +0.6
baz=112
L15K Ungalak Mounta 60.98 333 P P 08 00 26.5 +0.3
baz=113
UNV Unalaska Valle 61.04 323 P P 08 00 26.2 -0.5
baz=104
H18K Honhosa River 61.21 337 P P 08 00 28.9 +1.2
baz=118
F20K Avaraart Lake 61.21 340 P P 08 00 28.5 +0.8
baz=122
G19K Purcell Mounta 61.22 338 P P 08 00 27.8 0.0
baz=120
C23K Itkillik River 61.26 344 P P 08 00 28.9 +1.0
C23K Itkillik River 61.26 344 P P 08 00 28.2 +0.3
baz=128
J16K Anvik River 61.26 335 P P 08 00 28.4 +0.4
baz=115
D22K Ayikyak River 61.27 342 P P 08 00 28.0 -0.1
baz=126
M13K Dall Lake 61.35 331 P P 08 00 28.7 0.0
baz=111
L14K Kuka Creek 61.38 332 P P 08 00 29.9 +0.9
L14K Kuka Creek 61.38 332 P P 08 00 29.0 0.0
baz=112
E21K Killik River 61.41 341 P P 08 00 29.1 0.0
baz=124
I17K Unalakleet 61.55 335 P P 08 00 29.8 -0.2
baz=115
G18K Tagagawik 61.66 338 P P 08 00 30.9 +0.1
baz=118
H17K Granite Mounta 61.70 337 P P 08 00 32.4 +1.4
baz=116
F19K Shaleruckik Mo 61.80 339 P P 08 00 31.7 0.0
baz=119
E19K Redstone River 61.93 340 P P 08 00 33.8 +1.2
baz=120
E20K Nigu River 62.00 341 P P 08 00 33.5 +0.4
baz=122
C21K Knifeblade Rid 62.05 342 P P 08 00 34.3 +1.0
baz=123
CPUP Villa Florida 62.11 131 P P 08 00 34.8 +0.4
comp=Z,1.9nm,0.8s,baz=271,slow=1.8,SNR=3.4
CPUP LR LR 08 26 51.4
comp=Z,229nm,19.3s,baz=336,slow=35
comp=Z,1.9nm,0.8s
NIKH Nikolski High 62.22 322 P P 08 00 34.1 -0.6
baz=102
G17K Kiwalik Mounta 62.22 337 P P 08 00 34.4 -0.2
baz=116
B21K Ikpikpuk River 62.26 342 P P 08 00 34.6 0.0
baz=124
J14K Nanvaranak Lak 62.28 334 P P 08 00 35.7 +0.8
baz=112
B22K Teshekpuk Lake 62.33 343 P P 08 00 34.7 -0.4
baz=125
F18K Selawik 62.35 338 P P 08 00 35.1 -0.3
baz=117
SFJD Kangerlussuaq 62.36 21 LR LR 08 28 11.9
comp=Z,273nm,19.2s,baz=230,slow=36
D20K Etivluk River 62.37 341 P P 08 00 36.3 +0.7
baz=121
H16K Elim 62.47 336 P P 08 00 35.8 -0.4
baz=114
M11K Mekoryuk 62.68 331 P P 08 00 35.9 -1.8
baz=108
D19K Kuna River 62.73 341 P P 08 00 37.2 -0.8
baz=120
G16K Koyuk River 62.82 337 P P 08 00 37.3 -1.2
baz=114
F17K Baldwin Pennin 62.85 338 P P 08 00 37.4 -1.3
baz=116
E18K Tukpahlearik C 63.05 339 P P 08 00 39.0 -1.0
baz=117
A22K Sinclair Lake 63.13 344 P P 08 00 40.6 +0.1
baz=124
B20K Meade River 63.21 342 P P 08 00 41.1 +0.1
baz=121
G15K Niukluk 63.32 336 P P 08 00 41.8 -0.1
baz=112
E17K Hotham Inlet 63.33 338 P P 08 00 40.9 -1.0
baz=115
P08K Saint George I 63.38 326 P P 08 00 41.2 -1.2
baz=103
C19K Lookout Ridge 63.50 341 P P 08 00 42.1 -0.9
baz=118
ANM Nome 63.70 335 P P 08 00 43.4 -1.0
baz=111
A21K Barrow 63.76 344 P P 08 00 43.7 -0.9
baz=122
C18K Utukok River 63.81 340 P P 08 00 44.3 -0.8
baz=117
F15K North Star Dit 63.83 337 P P 08 00 44.5 -0.7
baz=112
SPIA Saint Paul Isl 63.88 327 P P 08 00 44.7 -0.9
baz=103
D17K Noatak River 64.03 339 P P 08 00 46.8 +0.3
baz=114
BDFB Brasilia 64.08 116 LR LR 08 27 54.6
comp=Z,340nm,18.4s,baz=320,slow=35
RDOG Red Dog Mine 64.12 339 P P 08 00 46.3 -0.8
baz=115
B18K Kokolik River 64.32 341 P P 08 00 46.9 -1.4
baz=116
C17K DeLong Mountai 64.39 340 P P 08 00 48.4 -0.5
baz=115
F14K Arctic Creek 64.39 336 P P 08 00 47.9 -1.0
baz=110
A19K Wainwright 64.48 342 P P 08 00 49.1 -0.2
baz=117
RAR Rarotonga 64.99 237 LR LR 08 22 05.9
comp=Z,185nm,18.8s,baz=55,slow=30
C16K Lisburne Hills 65.05 339 P P 08 00 52.8 -0.3
baz=112
TNA Tin City 65.05 336 P P 08 00 53.1 -0.1
baz=109
RCBR Riachuelo 71.49 102 LR LR 08 34 31.7
comp=Z,98nm,18.1s,baz=248,slow=37
SHEM Shemya Is, Ala 72.48 321 LR LR 08 27 05.8
comp=Z,106nm,18.3s,baz=107,slow=31
JMIC Jan Mayen 77.64 19 LR LR 08 36 58.6
comp=Z,184nm,18.6s,baz=214,slow=36
MA2 Magadan 83.95 330 LR LR 08 38 09.3
comp=Z,43nm,18.4s,baz=80,slow=34
TIXI Tiksi 86.01 345 LR LR 08 47 19.9
comp=Z,79nm,18.7s,baz=56,slow=40
ARCES ARCESS Array B 88.45 16 LR LR 08 43 02.7
comp=Z,234nm,19.7s,baz=284,slow=36
NOA NORSAR Array B 88.63 26 LR LR 08 44 27.3
comp=Z,95nm,18.0s,baz=300,slow=37
DZM Mont Dzumac 94.46 248 *e*LR LR 08 34 16.0
comp=Z,314nm,23.0s
ASAJ Asahikawa 94.77 318 LR LR 08 41 42.7
comp=Z,96nm,18.3s,baz=144,slow=33
DAVOX Davos/Dischmat 94.94 39 LR LR 08 47 06.2
comp=Z,237nm,18.1s,baz=263,slow=36

GERES GERESS Array B 96.14 36 LR LR 08 47 59.7
comp=Z,103nm,18.2s,baz=284,slow=36
RPZ Rata Peaks 96.27 227 LR LR 08 37 52.7
comp=Z,183nm,19.6s,baz=128,slow=30
VRAC Vranov 97.48 34 LR LR 08 47 26.8
comp=Z,107nm,21.8s,baz=272,slow=35
KLR Kul'dur 98.54 326 LR LR 08 42 07.6
comp=Z,120nm,19.0s,baz=58,slow=32
WRA Warramunga Arr 123.62 256 PKP **PKiKP 08 09 11.8 -0.1**
comp=Z,0.4nm,0.8s,baz=78,slow=3.6,SNR=1.8
ASAR Alice Springs 124.30 252 PKP **PKiKP 08 09 13.6 +0.4**
comp=Z,0.1nm,0.3s,baz=64,slow=4.2,SNR=2.9

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*NEIC **10** 07:52:31.7±2.0, 19°.29N±0°.02×155°.16W±0°.02, h5km±1km, Error ellipse: s-maj=3.7km s-min=2.7km az=315.0*
HVO 10 07:52:31.3±2.0, 19°.33N±0°.01×155°.141W±0°.009, h1km±6km, ML4.0/4, ML2.4/40(NEIC), Error ellipse: s-maj=2.0km s-min=0.9km az=159.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.06**	**333**		Pg	07 52 33.5	+1.0
STCH	**Steam Cracks**	**0.06**	**14**	Pg	Pg	07 52 33.4	+0.8
STCH					Sg	07 52 34.8	+1.4
NPOC	**North of Pu'u**	**0.07**	**24**		Pg	07 52 35.5	+2.7
PUH	**Pauahi**	**0.09**	**303**		Sg	07 52 36.1	+1.9
PUH	**Pauahi**	**0.09**	**303**		Pg	07 52 33.8	+0.8
PUH	**Pauahi**	**0.09**	**303**	IAML		07 52 34.1	
PUH	comp=N,490nm,0.7s			IAML		07 52 34.9	
	comp=E,645nm,0.6s						
KKO	**Keanakako`i**	**0.14**	**301**		Pg	07 52 34.1	0.0
KKO					Sg	07 52 38.1	+2.2
BYL	**Byron's Ledge**	**0.14**	**307**	Pg	Pg	07 52 34.2	+0.1
RIM	**Rim**	**0.14**	**298**		Pg	07 52 34.0	-0.1
RIM					Sg	07 52 38.1	+2.1
HATHI	**Halema'uma'u T**	**0.15**	**310**	Pg	Pg	07 52 34.5	+0.3
SBLHI	**Steaming Bluff**	**0.16**	**310**		Pg	07 52 34.8	+0.4
SBLHI					Sg	07 52 38.2	+1.7
HLP	**Hilina Pali**	**0.16**	**259**		Pg	07 52 35.0	+0.6
HLP					Sg	07 52 38.2	+1.6
HLP	**Hilina Pali**	**0.16**	**259**	IAML		07 52 39.6	
HLP	comp=E,657nm,0.5s			IAML		07 52 39.6	
	comp=N,869nm,0.4s						
UWB	**Uwekahuna B**	**0.16**	**307**		Pg	07 52 38.1	+3.6
OBL	**Observatory Le**	**0.16**	**304**		Pg	07 52 37.5	+3.0
JOKA	**Jonika Flow**	**0.17**	**50**		Pg	07 52 35.0	+0.4
JOKA					Sg	07 52 37.7	+1.0
JOKA	**Jonika Flow**	**0.17**	**50**	IAML		07 52 38.0	
JOKA	comp=E,125nm,1.3s			IAML		07 52 38.9	
	comp=N,211nm,1.0s						
WRMHI	**West Rim**	**0.17**	**298**		Pg	07 52 37.8	+3.1
UWE	**Uwekahuna**	**0.17**	**303**	Pg	Pg	07 52 34.3	-0.4
RSD	**Rainshed**	**0.19**	**316**		Pg	07 52 35.6	+0.6
RSD					Sg	07 52 38.9	+1.4
RSD	**Rainshed**	**0.19**	**316**	IAML		07 52 40.7	
RSD	comp=N,4μm,0.5s			IAML		07 52 41.2	
	comp=E,4μm,0.4s						
HTC	**Hot Caves**	**0.26**	**250**		Pg	07 52 37.3	+1.0
MLH	**Mauna Loa**	**0.28**	**306**		Pg	07 52 37.3	+0.4
MLH					Sb	07 52 43.9	-0.9
MLH	**Mauna Loa**	**0.28**	**306**	IAML		07 52 45.9	
MLH	comp=E,1μm,0.7s			IAML		07 52 46.8	
	comp=N,1μm,0.5s						
HMH	**Humu'ula Sheep**	**0.42**	**310**		Pg	07 52 40.3	+0.8
HMH					Sg	07 52 46.7	+1.6
HMH	**Humu'ula Sheep**	**0.42**	**310**	IAML		07 52 47.2	
HMH	comp=N,534nm,0.3s			IAML		07 52 47.2	
	comp=E,406nm,0.3s						
KHU	**Kahuku**	**0.46**	**260**		Pg	07 52 40.3	+0.3
KHU	**Kahuku**	**0.46**	**260**	IAML		07 52 53.5	
KHU	comp=N,233nm,1.9s			IAML		07 52 54.1	
	comp=E,386nm,2.8s						
HPO	**Honuapo**	**0.46**	**239**	Pg	Pg	07 52 39.1	-0.9
MWH	**Moku'aweowe**	**0.46**	**290**		Pg	07 52 40.6	+0.4
MWH	**Moku'aweowe**	**0.46**	**290**	IAML		07 52 48.5	
MWH	comp=E,650nm,0.7s			IAML		07 52 52.7	
	comp=N,577nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.46**	**297**	Pg	Pg	07 52 39.7	-0.6
MLOA				IAML		07 52 49.0	
MLOA	comp=E,365nm,1.0s			IAML		07 52 55.4	
	comp=N,373nm,0.7s						
ALEP	**Alea Permanent**	**0.52**	**294**		Pg	07 52 41.5	+0.1
ALEP					Sg	07 52 49.2	+1.1
HUH	**Hualalai**	**0.75**	**299**		Pg	07 52 44.3	-1.4

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*DJA **10** 07:53:57.4±0.7, 10°.N±7°.×12°.6E±1°.0, h10km, M5.3/6, mB5.9/3, mb5.1/6, MLv5.3/2, Mw(mB)5.5/3, MwMwp6.4/1, Mwp6.4/1*
*NEIC **10** 07:54:01.4±1.3, 9°.77N±0°.06×125°.39E±0°.08, h53km±7km, mb4.7/59, Error ellipse: s-maj=13.1km s-min=6.6km az=122.0*
*IDC **10** 07:54:04.3±1.7, 9°.67N×125°.40E, h94km±17km, mb3.9/21, mbtmp4.2/22, MS3.5/3, Error ellipse: s-maj=24.4km s-min=12.2km az=75.0*
ISC 10 07:54:01.3±1.1, 9°.77N±0°.04×125°.38E±0°.06, h60km±10km, n109, σ1§44/112, mb4.6/56, MS4.3/3, 7C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.45**	**344**	‖ *e*P	Pn	07 54 20.8	-4.5
PLP				*e*S	**Sn**	**07 54 42.2**	**-1.1**
LLP	**Lapu-Lapu**	**1.50**	**292**	‖ *e*P	Pn	07 54 21.9	-4.1
LLP				*i* S	**Sn**	**07 54 41.2**	**-3.3**
BIPH	**Bislig**	**1.85**	**148**	‖ *e*P	Pn	07 54 26.3	-4.4
BIPH				*e*S	**Sn**	**07 54 48.0**	**-5.0**
SNPH	**Sibulan**	**2.16**	**259**	‖ *e*P	**Pn**	**07 54 32.0**	**-3.0**
SNPH				*e*S	**Sn**	**07 55 04.9**	**+4.2**
DMPH	**Davao City--Mi**	**2.67**	**177**	‖ *e*P	**Pn**	**07 54 40.6**	**-1.4**
DMPH				*e*S	**Sn**	**07 55 13.1**	**0.0**
DAV	**Davao City (W)**	**2.69**	**176**		**Pn**	**07 54 42.1**	**-0.1**
DAV	**Davao City (W)**	**2.69**	**176**	P	**Pn**	**07 54 46.1**	**+3.9**
	859nm,0.7s,baz=18,slow=3.3,SNR=10						
DAV				S	**Sn**	**07 55 15.0**	**+1.5**
	559nm,0.4s,baz=96,slow=21,SNR=4.5						
DAV	**Davao City (W)**	**2.69**	**176**	‖ *e*P	**Pn**	**07 54 46.0**	**+3.9**
KCP	**Kidapawan**	**2.75**	**186**	‖ *i*P	**Pn**	**07 54 40.5**	**-2.6**
KCP				*i* S	**Sn**	**07 55 16.4**	**+1.1**
MMPH	**Masbate**	**3.10**	**326**	‖ *e*P	**Pn**	**07 54 47.0**	**-0.7**
RCP	**Roxas**	**3.14**	**305**	‖ *e*P	**Pn**	**07 54 46.8**	**-1.6**
RCP				*i* S	**Sn**	**07 55 24.8**	**0.0**
GSPH	**General Santos**	**3.68**	**187**	‖ *i*P	**Pn**	**07 54 58.1**	**+2.2**
IBAJ	**Ibajay, Aklan**	**3.75**	**303**	‖ *e*P	**Pn**	**07 54 56.9**	**+0.1**
GQP	**Guinayangan**	**5.02**	**325**	‖ *e*P	**Pn**	**07 55 17.6**	**+3.6**
LQP	**Lukban**	**5.72**	**319**	‖ *e*P	Pn	07 55 34.1	+10
MYLDM	**Lahad Datu**	**8.20**	**237**	Pn	**Pn**	**07 55 57.5**	**-0.3**
GTOI	**Gorontalo**	**9.37**	**195**	P	Pn	07 56 20.0	+6.2
FAKI	**Fak Fak**	**14.34**	**151**	P	**P**	**07 57 25.0**	**-1.8**
SBUM	**Sibu**	**14.96**	**242**	P	**P**	**07 57 34.5**	**+0.8**
KAPI	**Kappang**	**15.72**	**201**	LR	LR	08 02 56.7	
	comp=Z,49nm,21.5s,baz=31,slow=34						
NJ2	**Nanjing**	**22.99**	**346**	*e*P	**P**	**07 59 03.2**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JCJ	**Chichijima**	**23.43**	**40**	LR	LR	08 06 49.7	
	comp=Z,68nm,21.2s,baz=108,slow=33						
CRAI	**Chiangrai**	**26.26**	**296**	P	**P**	**07 59 31.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**27.02**	**292**	P	**P**	**07 59 40.0**	**+1.9**
	comp=Z,1.3nm,0.4s,baz=89,slow=6.9,SNR=7.4						
	comp=Z,1.3nm,0.4s						
KSRS	**Korea Array**	**27.66**	**4**	P	**P**	**07 59 43.8**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=181,slow=9.8,SNR=5.2						
	comp=Z,1.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.69**	**179**	P	**P**	**07 59 42.8**	**-1.2**
PZH	**PanZhiHua**	**27.87**	**310**	P	**P**	**07 59 47.8**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,130nm,4.0s						
MJAR	**Matsushiro Arr**	**29.08**	**22**	P	**P**	**07 59 57.4**	**+1.1**
	comp=Z,0.6nm,0.2s,baz=226,slow=8.3,SNR=1.6						
	comp=Z,0.6nm,0.2s						
COEN	**Coen**	**29.45**	**143**	P	**P**	**07 59 59.2**	**-0.5**

COEN IAmb IAmb 08 00 12.1
comp=Z,25nm,1.2s
WRA Warramunga Arr 30.81 163 P **P 08 00 11.2 -0.5**
comp=Z,1.0nm,0.8s,baz=344,slow=8.3,SNR=7.6
WRA PcP **PcP 08 03 06.8 -1.1**
comp=Z,0.5nm,0.7s,baz=329,slow=3.1,SNR=1.2
comp=Z,1.0nm,0.8s
PSA00 Pilbara Seismi 31.61 190 P **P 08 00 19.3 +0.6**
HHC Hu-ho-hao-te 33.29 341 *e*P **P 08 00 36.0 +2.6**
HHC sP sP 08 01 10.0 +15
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,140nm,4.0s
ASAR Alice Springs 34.26 166 P **P 08 00 41.4 -0.4**
comp=Z,1.2nm,0.6s,baz=347,slow=7.1,SNR=4.8
ASAR PcP **PcP 08 03 15.7 -1.6**
comp=Z,0.2nm,0.3s,baz=350,slow=3.9,SNR=1.3
comp=Z,1.2nm,0.6s
USRK Ussuriysk Ar. 34.78 8 P **P 08 00 47.0 +0.9**
comp=Z,5.6nm,0.7s,baz=168,slow=7.4,SNR=9.3
comp=Z,5.6nm,0.7s
SHL Shillong 35.44 301 P **P 08 00 52.8 +0.5**
CTAO Charters Tower 36.09 145 P **P 08 00 57.0 -0.6**
CTAO IAmb IAmb 08 01 04.3
comp=Z,18nm,1.1s
JKA Kamikawa-asahi 37.34 21 P **P 08 01 09.2 +1.2**
MORW Morawa 39.65 193 P **P 08 01 27.2 -0.3**
MORW IAmb IAmb 08 01 44.4
comp=Z,11nm,1.3s
FORT Forrest 40.40 176 P **P 08 01 33.4 -0.3**
HEH HeiHe 40.40 2 *e*P **P 08 01 35.1 +1.7**
HEH pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 41.19 341 P **P 08 01 40.3 +0.1**
comp=Z,0.9nm,0.7s,baz=155,slow=8.7,SNR=3.8
comp=Z,0.9nm,0.7s
NWAO Narrogin (SRO) 43.16 190 P **P 08 01 56.8 +0.6**
NWAO IAmb IAmb 08 01 58.0
comp=Z,9.6nm,0.7s
BBOO Buckleboo 43.55 167 P **P 08 01 59.4 0.0**
BBOO IAmb IAmb 08 02 15.2
comp=Z,11nm,0.7s
ARMA Armidale 47.25 149 P **P 08 02 30.1 +1.2**
CAN Canberra 50.09 155 P **P 08 02 51.3 +0.8**
TOO Toolangi 50.72 159 P **P 08 02 56.7 +1.5**
LIFNC LIFOU 51.13 127 P **P 08 02 59.6 +1.1**
MKAR Makanchi Array 51.90 323 P **P 08 03 04.1 +0.1**
comp=Z,2.7nm,0.7s,baz=123,slow=7.9,SNR=22
MKAR PcP **PcP 08 04 15.5 -0.5**
comp=Z,1.7nm,0.7s,baz=110,slow=5.3,SNR=4.4
comp=Z,2.7nm,0.7s
MAKZ Makanchi 52.09 323 P **P 08 03 05.6 +0.2**
KSH Kashi 52.92 313 P **P 08 03 14.2 +2.4**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH LR LR
comp=N,600nm,21.0s
KSH LR LR
comp=E,290nm,20.6s
NIL Nilore 53.29 305 P **P 08 03 15.5 +0.9**
ZALV Zalesovo Beam 54.65 332 P **P 08 03 23.2 -0.8**
comp=E,0.8nm,0.5s,baz=108,slow=6.6,SNR=2.0
comp=E,0.8nm,0.5s
KURK Kurchatov 55.99 326 P **P 08 03 33.7 +0.1**
KURK IAmb IAmb 08 03 35.8
comp=Z,11nm,1.1s
KURBB Kurchatov Arra 55.99 326 P **P 08 03 33.4 -0.3**
comp=Z,2.1nm,0.4s,baz=125,slow=7.1,SNR=31
comp=Z,2.1nm,0.4s
GAR Garm 56.94 310 P **P 08 03 41.2 +0.4**
SIMJ Simiganj 57.84 310 P **P 08 03 47.1 -0.1**
SIMJ IAmb IAmb 08 03 57.2
comp=Z,11nm,1.4s
KKAR Karatay Array 57.98 315 P **P 08 03 47.5 -0.5**
KKAR IAmb IAmb 08 03 49.1
comp=Z,7.4nm,1.3s
BRVK Borovoye 61.65 326 P **P 08 04 12.7 -0.3**
BRVK IAmb IAmb 08 04 14.7
comp=Z,4.7nm,0.8s
ATKA Atka Island 64.39 36 P **P 08 04 30.9 -0.2**
ABKAR Abkulak array 66.69 320 P **P 08 04 45.8 -0.2**
AKTO Aktyubinsk 68.15 321 P **P 08 04 55.0 -0.2**
comp=Z,1.9nm,0.6s,baz=81,slow=6.6,SNR=4.5
comp=Z,1.9nm,0.6s
ARU Arti 69.16 327 P **P 08 05 01.6 +0.2**
comp=Z,3.5nm,0.3s,baz=77,slow=6.4,SNR=8.5
comp=Z,3.5nm,0.3s
L1AK Kuka Creek 72.84 29 P **P 08 05 24.0 +0.5**
KIRV Kirov 74.41 328 P **P 08 05 32.9 +0.2**
comp=Z,12nm,0.4s,baz=114,slow=5.6,SNR=4.2
M16K Timber Creek 74.57 29 P **P 08 05 34.5 +0.8**
M16K IAmb IAmb 08 05 48.6
comp=Z,19nm,1.3s
E18K Tukpahlearik C 74.91 23 P **P 08 05 37.0 +1.4**
E18K IAmb IAmb 08 05 43.8
comp=Z,6.1nm,0.8s
C19K Lookout Ridge 75.60 21 P **P 08 05 40.2 +0.7**
C19K IAmb IAmb 08 05 54.4
comp=Z,9.1nm,1.1s
E19K Redstone River 76.20 23 P **P 08 05 44.8 +1.8**
E19K IAmb IAmb 08 05 52.1
comp=Z,6.6nm,0.8s
B20K Meade River 76.59 20 P **P 08 05 44.8 -0.3**
B20K IAmb IAmb 08 05 48.4
comp=Z,10nm,1.0s
RAYN Ar Rayn 76.94 292 P **P 08 05 48.2 +0.1**
RAYN IAmb IAmb 08 05 49.2
comp=Z,6.7nm,0.8s
B21K Ikpikpuk River 77.42 21 P **P 08 05 50.4 +0.6**
B21K IAmb IAmb 08 05 51.8
comp=Z,6.8nm,0.8s
ONI Oni 77.53 312 P **P 08 05 52.0 +1.0**
ONI IAmb IAmb 08 05 53.8
comp=Z,12nm,1.3s
KDAK Kodiak Island 77.56 33 P **P 08 05 50.2 -0.5**
G21K Allakaket 77.56 24 P **P 08 05 51.5 +0.8**
B22K Teshekpuk Lake 77.90 20 P **P 08 05 52.9 +0.5**
B22K IAmb IAmb 08 06 06.4
comp=Z,9.9nm,1.1s
KBZ Khabaz 77.90 313 P **P 08 05 52.3 -0.6**
comp=Z,4.7nm,1.0s,baz=121,slow=2.0,SNR=9.9
comp=Z,4.7nm,1.0s
CAST Castle Rocks 77.99 27 P **P 08 05 53.0 -0.1**
BPAW Bear Paw Mtn. 78.50 26 P **P 08 05 56.5 +0.6**
BPAW IAmb IAmb 08 06 00.1
comp=Z,5.6nm,0.8s
BWN Browne 79.17 26 P **P 08 06 00.3 +0.7**
D24K Happy Valley 79.44 21 P **P 08 06 01.6 +0.7**
D24K IAmb IAmb 08 06 07.3
comp=Z,5.7nm,0.7s
E24K Your Creek 79.56 22 P **P 08 06 02.3 +0.6**
F24K Squaw Lake 79.80 23 P **P 08 06 03.1 +0.1**
ILAR Eielson Array 80.27 26 P **P 08 06 04.8 -0.7**
comp=Z,0.4nm,0.6s,baz=240,slow=4.6,SNR=8.2
comp=Z,0.4nm,0.6s
D25K Kavik River 80.31 21 P **P 08 06 06.7 +0.9**
E27K Coleen River 82.13 22 P **P 08 06 16.4 +1.1**
D27M Malcolm River 82.24 21 P **P 08 06 17.0 +1.0**
D27M IAmb IAmb 08 06 19.3
comp=Z,4.7nm,0.7s
K27K Chicken 82.41 26 P **P 08 06 17.7 +0.8**
K27K IAmb IAmb 08 07 00.0
comp=Z,13nm,1.2s
E28M Babbage River 82.83 22 P **P 08 06 19.8 +0.8**
F28M Old Crow 82.85 23 P **P 08 06 20.2 +1.1**
F28M IAmb IAmb 08 06 22.2
comp=Z,4.0nm,0.7s
I28M Miner Creek 83.14 25 P **P 08 06 21.6 +0.8**
G29M Pine Creek 83.67 23 P **P 08 06 23.8 +0.5**
G29M IAmb IAmb 08 06 26.5
comp=Z,6.0nm,0.8s
M29M Somme Creek 84.26 28 P **P 08 06 28.2 +1.7**
M29M IAmb IAmb 08 07 05.8
comp=Z,7.7nm,1.1s
ARCES ARCESS Array B 84.36 340 P **P 08 06 25.5 -1.2**
comp=Z,0.9nm,0.4s,baz=87,slow=6.5,SNR=20
comp=Z,0.9nm,0.4s
I30M Mount Dempster 84.65 25 P **P 08 06 28.4 -0.1**
I30M IAmb IAmb 08 06 59.2
comp=Z,9.8nm,1.1s
HYT Haines Junctio 85.00 29 P **P 08 06 31.0 +0.7**
HYT IAmb IAmb 08 06 40.6
comp=Z,4.9nm,0.8s
INK Inuvik 85.07 21 P **P 08 06 30.5 +0.2**
BRTR Keskin Array B 85.17 309 P **P 08 06 30.5 -1.2**
comp=Z,1.7nm,0.8s,baz=96,slow=6.3,SNR=8.0
comp=Z,1.7nm,0.8s
FINES FINESS Array B 85.92 332 P **P 08 06 34.0 -0.7**
comp=Z,2.1nm,0.4s,baz=76,slow=4.8,SNR=20
comp=Z,2.1nm,0.4s
AKASG Malin Array Be 86.40 321 P **P 08 06 35.9 -1.4**
comp=Z,2.9nm,0.8s,baz=65,slow=4.2,SNR=7.3
comp=Z,2.9nm,0.8s
KIEV Kiev 86.41 321 P **P 08 06 36.2 -1.1**
KIEV IAmb IAmb 08 06 37.1
comp=Z,5.5nm,0.8s
C36M Paulatuk 88.00 19 P **P 08 06 44.5 -0.1**
VNDA Vanda 89.55 173 P **P 08 06 49.7 -1.9**
VNDA IAmb IAmb 08 07 24.1
comp=Z,3.7nm,1.1s
VNDA Vanda 89.55 173 P **P 08 06 49.5 -2.2**
comp=Z,0.7nm,0.6s,baz=338,slow=11,SNR=6.0
comp=Z,0.7nm,0.6s
BUR08 Bucovina Ar. S 89.64 318 P **P 08 06 51.9 -1.0**
BUR08 IAmb IAmb 08 06 54.0
comp=Z,3.3nm,0.9s
MLR Muntele Rosu 89.65 316 LR LR 08 52 04.1
comp=Z,125nm,20.9s,baz=306,slow=39
HFS Hagfors 92.09 332 P **P 08 07 02.7 -1.2**
comp=Z,1.6nm,0.6s,baz=101,slow=7.7,SNR=5.6
comp=Z,1.6nm,0.6s
NOA NORSAR Array B 92.82 334 P **P 08 07 05.1 -2.3**
comp=Z,0.8nm,0.8s,baz=67,slow=4.5,SNR=3.3
comp=Z,0.8nm,0.8s
TXAR Lajitas Array 118.81 49 PKP **PKPdf 08 12 43.1 -0.7**
comp=Z,0.1nm,0.5s,baz=344,slow=1.9,SNR=5.3
TORD Torodi Ar. Bea 119.64 291 PKP **PKiKP 08 12 44.6 -1.0**
comp=Z,1.6nm,0.7s,baz=74,slow=2.5,SNR=12

*ISK **10** 07:55:58.2, 41.°43N×40.°03E, h5km, ML2.7/3*
*AFAD **10** 07:56:02.6±0.0, 41.°40N×40.°21E, h8km±6km, ML1.8*
ISC 10 07:55:59.6±1.6, 41.°44N±0.°08×40.°07E±0.°03, h4km±12km, n12, σ1°01/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MACK	**Trabzon**	**0.54**	**204**	P	**Pn**		**07 56 14.1**	**-0.1**
MACK				S	**Sn**		**07 56 22.3**	**-1.5**
MACK				*i* AML	AML		07 56 23.0	
	comp=N,609nm,0.2s							
MACK				*i* AML	AML		07 56 23.0	
	comp=E,423nm,0.2s							
CHOM	**Cayeli-Rize**	**0.63**	**123**	Pg	**Pg**		**07 56 10.9**	**-0.7**
CHOM				Sg	**Sb**		**07 56 20.5**	**-1.8**
IZDR	**Rize**	**0.75**	**150**	P	**Pn**		**07 56 16.5**	**-0.6**
IZDR				S	**Sb**		**07 56 26.7**	**+0.7**
ESPY	**Espiye-Giresun**	**1.14**	**243**	Pn	**Pg**		**07 56 19.9**	**-1.5**
ESPY				Sn	**Sg**		**07 56 35.6**	**-0.5**
BAYB	**BAYBURT**	**1.19**	**173**	P	**Pn**		**07 56 23.5**	**+0.3**
BAYB				S	**Sn**		**07 56 39.4**	**-0.6**
BAYB				*i* AML	AML		07 56 40.0	
	comp=N,12nm,0.2s							
BAYB				*i* AML	AML		07 56 40.0	
	comp=E,18nm,0.3s							
BATM	**Batumi**	**1.23**	**82**	Pn	**Pg**		**07 56 22.7**	**-0.5**
BATM				Sn	**Sn**		**07 56 40.5**	**-0.3**
DBAD	**Bademkaya**	**1.30**	**108**	P	**Pn**		**07 56 26.0**	**+1.3**
DBAD				S	**Sn**		**07 56 41.3**	**-1.2**
DBAD				*i* AML	AML		07 56 43.0	
	comp=E,12nm,0.3s							
DBAD				*i* AML	AML		07 56 44.0	
	comp=N,14nm,0.3s							
DDEM	**Demirkent**	**1.39**	**113**	P	**Pg**		**07 56 27.3**	**+1.1**
DDEM				S	**Sn**		**07 56 44.7**	**0.0**
DDEM				*i* AML	AML		07 56 47.0	
	comp=E,18nm,0.4s							
DDEM				*i* AML	AML		07 56 49.0	
	comp=N,24nm,0.4s							
KELT	**Kelkit**	**1.43**	**206**	P	**Pg**		**07 56 27.6**	**+0.6**
KELT				S	**Sb**		**07 56 45.7**	**+0.1**
KELT				*i* AML	AML		07 56 46.0	
	comp=E,20nm,0.3s							
KELT				*i* AML	AML		07 56 47.0	
	comp=N,23nm,0.2s							
DAGI	**Agillar**	**1.44**	**104**	P	**Pg**		**07 56 27.8**	**+0.6**
DAGI				S	**Sn**		**07 56 45.1**	**-1.0**
ALUC	**Giresun/Alucra**	**1.47**	**222**	P	**Pb**		**07 56 28.2**	**+0.6**
ALUC				S	**Sn**		**07 56 46.6**	**-0.2**
ALUC				*i* AML	AML		07 56 47.0	
	comp=N,24nm,0.2s							
ALUC				*i* AML	AML		07 56 49.0	
	comp=E,25nm,0.3s							
SUSE	**Susehri**	**1.87**	**230**	P	**Pn**		**07 56 33.8**	**+1.2**
SUSE				S	**Sn**		**07 56 58.2**	**+1.4**
SUSE				*i* AML	AML		07 57 01.0	
	comp=N,7.8nm,0.2s							
SUSE				*i* AML	AML		07 57 05.0	
	comp=E,4.7nm,0.2s							

IDC 10 08:00:14.7±2.2, 53.°89N×86.°33E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=18.3km s-min=11.7km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**274**	I	I		08 06 10.0	
	0.2nm,0.8s,baz=95,slow=306,SNR=4.8							
ZALV	**Zalesovo Beam**	**0.90**	**274**	Pg	Pg		08 00 30.2	-1.7
	1.3nm,0.3s,baz=90,slow=17,SNR=11							
ZALV				Lg	Lg		08 00 44.9	
	2.8nm,0.3s,baz=94,slow=28,SNR=13							
KURBB	**Kurchatov Arra**	**5.80**	**239**	Pn	Pn		08 01 43.2	+1.2
	0.2nm,0.3s,baz=56,slow=14,SNR=11							
KURBB				Lg	Lg		08 03 20.7	
	baz=59,slow=31,SNR=3.7							
	0.9nm,0.3s							
MKAR	**Makanchi Array**	**7.56**	**202**	Pn	Pn		08 02 07.2	+1.0
	0.4nm,0.3s,baz=23,slow=13,SNR=10							
	0.4nm,0.3s							

*IDC **10** 08:00:59.9±1.1, 31.°82S×58.°51E, h0km, mb4.0/5, mbtmp4.0/6, ML4.1/1, Error ellipse: s-maj=43.9km s-min=27.8km az=69.0*
ISC 10 08:01:01.3±1.0, 31.°8S±0.°2×58.°5E±0.°3, h10km, n14, σ0°42/8, mb4.2/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.23**	**198**	T	T		08 20 29.6	
	baz=21							
H04N1	**CROZET ISLANDS**	**15.23**	**198**	T	T		08 20 36.5	
	baz=21							
H04N3	**CROZET ISLANDS**	**15.25**	**198**	T	T		08 20 31.2	
	baz=21							
OPO	**Ambohidratompo**	**16.65**	**320**	Pn	**Pn**		**08 04 54.8**	**-0.2**
	0.1nm,0.3s,baz=116,slow=18,SNR=2.0							
	2.8nm,0.5s							
H08S1	**Diego Carcia H**	**27.36**	**31**	T	T		08 35 08.4	
	baz=207,slow=76,SNR=6.8							
H08S2	**Diego Garcia H**	**27.37**	**32**	T	T		08 35 09.8	
	baz=207,slow=76,SNR=5.3							
H08S3	**Diego Garcia H**	**27.38**	**31**	T	T		08 35 10.7	
	baz=207,slow=76,SNR=6.8							
QSPA	**South Pole Qui**	**58.36**	**180**	P	**P**		**08 10 56.6**	**+0.1**
	1.1nm,0.7s,baz=44,slow=0.5,SNR=9.3							
	1.1nm,0.7s							
ASAR	**Alice Springs**	**66.07**	**104**	P	**P**		**08 11 48.2**	**-0.5**
	0.8nm,0.7s,baz=237,slow=5.8,SNR=3.4							
	0.8nm,0.7s							
WRA	**Warramunga Arr**	**68.08**	**100**	P	**P**		**08 12 01.8**	**+0.2**
	1.1nm,0.7s,baz=242,slow=5.6,SNR=7.5							
	1.1nm,0.7s							
KURBB	**Kurchatov Arra**	**83.97**	**13**	P	**P**		**08 13 31.3**	**+0.1**
	1.4nm,1.0s,baz=202,slow=5.2,SNR=4.5							
	1.4nm,1.0s							
BVAR	**Borovoye Array**	**85.11**	**7**	P	**P**		**08 13 37.6**	**+0.6**
	1.7nm,0.8s,baz=143,slow=2.9,SNR=6.7							
	1.7nm,0.8s							
ILAR	**Eielson Array**	**143.48**	**18**	PKP	**PKPdf**		**08 20 35.2**	**-0.1**
	0.3nm,0.8s,baz=331,slow=1.1,SNR=3.5							
YKA	**Yellowknife Ar**	**148.98**	**354**	PKPbc	**PKPbc**		**08 20 48.4**	**-0.3**
	1.1nm,0.8s,baz=3.5,slow=3.5,SNR=3.6							

*IDC **10** 08:02:18.2±1.5, 31.°66S×56.°64E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=57.6km s-min=30.8km az=87.0*
ISC 10 08:02:19.9±1.5, 31.°7S±0.°2×56.°7E±0.°4, h10km, n6, σ0°71/6, mb3.9/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**		**08 12 16.6**	**+0.5**
	1.1nm,0.8s,baz=192,slow=9.7,SNR=2.3							
	1.1nm,0.8s							
VNDA	**Vanda**	**62.53**	**166**	P	**P**		**08 12 42.6**	**-0.6**
	0.5nm,0.6s,baz=299,slow=9.5,SNR=2.3							
	0.5nm,0.6s							
ASAR	**Alice Springs**	**67.59**	**105**	P	**P**		**08 13 17.5**	**+0.4**
	0.3nm,0.6s,baz=240,slow=5.6,SNR=4.8							
	0.3nm,0.6s							
WRA	**Warramunga Arr**	**69.61**	**101**	P	**P**		**08 13 29.7**	**0.0**
	0.5nm,0.7s,baz=238,slow=5.4,SNR=2.3							
	0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**84.18**	**14**	P	**P**		**08 14 50.3**	**-0.7**
	0.6nm,0.9s,baz=202,slow=4.6,SNR=5.7							
	0.6nm,0.9s							
BVAR	**Borovoye Array**	**85.18**	**8**	P	**P**		**08 14 56.5**	**+0.5**
	1.5nm,0.8s,baz=191,slow=1.5,SNR=4.3							
	1.5nm,0.8s							

*IDC **10** 08:03:49.9±0.8, 31.°70S×58.°29E, h0km, mb4.1/10, mbtmp4.1/11, ML3.6/1, Error ellipse: s-maj=31.1km s-min=21.4km az=85.0*
*NEIC **10** 08:03:51.5±1.2, 31.°75S±0.°07×58.°2E±0.°2, h10km±1km, mb4.6/17, Error ellipse: s-maj=29.5km s-min=11.2km az=276.0*
ISC 10 08:03:52.2±0.6, 31.°7S±0.°1×58.°2E±0.°2, h17km, n35, σ0°76/29, mb4.5/18, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.76**	**347**	Pn	**Pn**		**08 06 26.8**	**+1.2**
H04N2	**CROZET ISLANDS**	**15.24**	**197**	T	T		08 23 21.3	
	baz=22,slow=75,SNR=8.1							
H04N1	**CROZET ISLANDS**	**15.25**	**197**	T	T		08 23 21.3	
	baz=22,slow=75,SNR=7.2							
H04N3	**CROZET ISLANDS**	**15.26**	**197**	T	T		08 23 21.9	
	baz=22,slow=75,SNR=7.3							
OPO	**Ambohidratompo**	**16.46**	**320**	Pn	**P**		**08 07 44.6**	**-0.7**
	baz=127,slow=15,SNR=1.5							
	3.9nm,0.9s							
H08S1	**Diego Carcia H**	**27.40**	**32**	T	T		08 37 54.8	
	baz=207,slow=75,SNR=5.9							
H08S2	**Diego Garcia H**	**27.41**	**32**	T	T		08 37 54.1	
	baz=207,slow=75,SNR=6.2							
H08S3	**Diego Garcia H**	**27.42**	**32**	T	T		08 37 56.5	
	baz=207,slow=75,SNR=6.9							
KIBK	**Kibwezi**	**34.88**	**323**	P	**P**		**08 10 43.0**	**+0.1**
KIBK				IAmb	IAmb		08 10 52.6	
	comp=Z,5.7nm,1.2s							
SNAA	**Sanae**	**51.18**	**201**	P	**P**		**08 12 54.7**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=69,slow=4.7,SNR=3.7							
	comp=Z,0.9nm,0.9s							
QSPA	**South Pole Qui**	**58.44**	**180**	P	**P**		**08 13 47.5**	**+0.7**
QSPA				IAmb	IAmb		08 14 28.4	
	comp=Z,4.3nm,1.2s							
QSPA	**South Pole Qui**	**58.44**	**180**	P	**P**		**08 13 47.6**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=264,slow=3.2,SNR=6.3							
	comp=Z,2.2nm,0.8s							
SBA	**Scott Base**	**62.99**	**167**	P	**P**		**08 14 17.7**	**+0.2**
SBA				IAmb	IAmb		08 14 49.4	
	comp=Z,5.8nm,1.5s							
CMAR	**Chiang Mai Arr**	**63.36**	**44**	P	**P**		**08 14 20.6**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=231,slow=7.0,SNR=11							
	comp=Z,2.8nm,0.6s							
ASAR	**Alice Springs**	**66.28**	**104**	P	**P**		**08 14 40.2**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=238,slow=6.3,SNR=10							
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**68.29**	**101**	P	**P**		**08 14 53.2**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=242,slow=5.7,SNR=5.7							
	comp=Z,1.4nm,0.8s							
WB2	**Warramunga Arr**	**68.30**	**101**	P	**P**		**08 14 52.9**	**+0.1**
WB2				IAmb	IAmb		08 15 33.8	
	comp=Z,8.8nm,1.1s							
WB0	**Warramunga Arr**	**68.42**	**100**	P	**P**		**08 14 53.6**	**+0.1**
WR0	**Warramunga Arr**	**68.45**	**101**	P	**P**		**08 14 53.0**	**-0.7**
WR0				IAmb	IAmb		08 15 21.2	
	comp=Z,6.8nm,1.2s							
SIMJ	**Simiganj**	**70.75**	**9**	P	**P**		**08 15 07.8**	**+0.3**
SIMJ				IAmb	IAmb		08 15 09.3	
	comp=Z,6.6nm,1.1s							
BRTR	**Keskin Array B**	**74.67**	**341**	P	**P**		**08 15 30.9**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=161,slow=7.9,SNR=3.8							
	comp=Z,0.3nm,0.4s							
KK31	**Karatay Array**	**75.32**	**9**	P	**P**		**08 15 35.0**	**+0.8**
KKAR	**Karatay Array**	**75.32**	**9**	P	**P**		**08 15 35.4**	**+1.1**
PRZ	**Przheval'sk**	**76.14**	**15**	P	**P**		**08 15 39.8**	**+0.6**
TIP	**Timpagrande**	**80.39**	**329**	P	**P**		**08 16 00.9**	**-1.8**
TIP				IAmb	IAmb		08 16 01.4	
	comp=Z,8.5nm,1.2s							
ABKAR	**Akbulak array**	**80.64**	**1**	P	**P**		**08 16 03.8**	**+0.1**
MK31	**Makanchi Array**	**81.12**	**16**	P	**P**		**08 16 06.5**	**+0.1**
MKAR	**Makanchi Array**	**81.12**	**16**	P	**P**		**08 16 06.4**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=212,slow=5.1,SNR=3.8							
	comp=Z,0.6nm,0.8s							
LHI	**Lord Howe Isla**	**82.21**	**122**	P	**P**		**08 16 11.6**	**-1.1**
KURBB	**Kurchatov Arra**	**83.94**	**13**	P	**P**		**08 16 21.4**	**+0.6**
	comp=Z,2.6nm,1.0s,baz=203,slow=5.5,SNR=11							
	comp=Z,2.6nm,1.0s							
KURK	**Kurchatov**	**84.05**	**13**	P	**P**		**08 16 21.9**	**+0.5**
KURK				IAmb	IAmb		08 16 23.2	
	comp=Z,5.9nm,1.0s							
BVAR	**Borovoye Array**	**85.06**	**7**	P	**P**		**08 16 27.4**	**+0.9**
	comp=Z,3.9nm,0.9s,baz=178,slow=5.3,SNR=12							
	comp=Z,3.9nm,0.9s							
BRVK	**Borovoye**	**85.09**	**7**	P	**P**		**08 16 26.4**	**-0.3**
BRVK				IAmb	IAmb		08 16 28.3	
	comp=Z,5.5nm,1.1s							
SONM	**Songino Array**	**90.22**	**30**	P	**P**		**08 16 51.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=200,slow=6.5,SNR=2.6							
	comp=Z,0.3nm,0.3s							
YKA	**Yellowknife Ar**	**148.88**	**354**	PKPbc	**PKPbc**		**08 23 36.5**	**-1.7**
	comp=Z,1.3nm,1.0s,baz=12,slow=2.2,SNR=3.7							

*IDC **10** 08:08:10.7±1.0, 31.°67S×58.°22E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=35.6km s-min=27.4km az=80.0*
ISC 10 08:08:13.5±1.0, 31.°7S±0.°2×58.°2E±0.°2, h17km, n8, σ0°36/8, mb3.8/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**		**08 18 08.6**	**+0.1**
	0.9nm,0.6s,baz=255,slow=2.1,SNR=8.7							
	0.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.33**	**44**	P	**P**		**08 18 42.4**	**+0.6**
	1.3nm,0.3s,baz=228,slow=6.4,SNR=4.6							
	1.3nm,0.3s							
ASAR	**Alice Springs**	**66.30**	**104**	P	**P**		**08 19 01.1**	**-0.2**
	0.4nm,0.9s,baz=235,slow=5.7,SNR=2.1							
	0.4nm,0.9s							
WRA	**Warramunga Arr**	**68.31**	**101**	P	**P**		**08 19 13.8**	**-0.3**
	0.4nm,0.9s,baz=242,slow=5.6,SNR=1.6							
	0.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**70.13**	**300**	P	**P**		**08 19 25.3**	**0.0**
	0.7nm,0.9s,baz=142,slow=7.3,SNR=3.3							
	0.7nm,0.9s							
MKAR	**Makanchi Array**	**81.08**	**16**	P	**P**		**08 20 27.1**	**-0.3**
	0.3nm,0.7s,baz=186,slow=4.3,SNR=2.6							
	0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**83.89**	**13**	P	**P**		**08 20 41.6**	**-0.3**
	0.6nm,0.8s,baz=206,slow=5.7,SNR=5.1							
	0.6nm,0.8s							
BVAR	**Borovoye Array**	**85.01**	**7**	P	**P**		**08 20 47.4**	**-0.1**
	1.5nm,0.8s,baz=169,slow=3.0,SNR=6.3							
	1.5nm,0.8s							

*IDC **10** 08:09:20.1±0.6, 31.°67S×58.°20E, h0km, mb4.2/15, mbtmp4.2/16, ML4.5/1, Error ellipse: s-maj=22.9km s-min=16.2km az=80.0*
*NEIC **10** 08:09:21.9±0.9, 31.°69S±0.°06×58.°2E±0.°1, h10km±1km, mb4.8/20, Error ellipse: s-maj=21.1km s-min=10.2km az=265.0*
ISC 10 08:09:21.7±0.5, 31.°64S±0.°09×58.°3E±0.°1, h10km, n48, σ0°72/42, mb4.6/23, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.68**	**347**	Pn	**

H04N2 CROZET ISLANDS 15.34 197 T T 08 28 50.3
baz=21,slow=75,SNR=2.6
H04N1 CROZET ISLANDS 15.35 197 T T 08 28 51.4
baz=21,slow=75,SNR=2.8
H04N3 CROZET ISLANDS 15.36 197 T T 08 28 50.3
baz=21,slow=75,SNR=2.6
ABPO Ambohimpanom 16.04 319 Pn **Pn 08 13 08.4 +0.8**
OPO Ambohidratompo 16.42 320 Pn **Pn 08 13 13.0 +0.5**
0.2nm,0.3s,baz=263,slow=22,SNR=7.4
OPO Sn Sn 08 16 02.0 -13
baz=103,slow=18,SNR=1.6
11nm,0.8s
POGA Pongola 23.50 274 P **P 08 14 30.8 -1.0**
POGA IAmb IAmb 08 14 46.2
comp=Z,26nm,1.5s
H08S1 Diego Carcia H 27.30 32 T T 08 43 28.1
baz=207,slow=76,SNR=5.7
H08S2 Diego Garcia H 27.31 32 T T 08 43 28.8
baz=207,slow=76,SNR=4.7
H08S3 Diego Garcia H 27.32 32 T T 08 43 30.2
baz=207,slow=76,SNR=3.6
MAW Mawson 36.10 177 P **P 08 16 23.3 -0.1**
comp=Z,1.4nm,0.9s,baz=2.2,slow=5.6,SNR=2.2
comp=Z,1.4nm,0.9s
MNAI Manna 49.90 66 P **P 08 18 15.9 +0.2**
SNAA Sanae 51.27 201 P **P 08 18 24.6 -0.8**
SNAA Sanae 51.27 201 P **P 08 18 24.8 -0.7**
comp=Z,1.1nm,0.8s,baz=67,slow=7.7,SNR=4.4
comp=Z,1.1nm,0.8s
QSPA South Pole Qui 58.52 180 P **P 08 19 18.0 0.0**
QSPA IAmb IAmb 08 19 27.1
comp=Z,12nm,1.2s
QSPA South Pole Qui 58.52 180 P **P 08 19 18.1 0.0**
comp=Z,3.0nm,0.8s,baz=87,slow=0.9,SNR=22
comp=Z,3.0nm,0.8s
VNDA Vanda 62.23 166 P **P 08 19 43.1 +0.1**
comp=Z,0.5nm,0.8s,baz=267,slow=9.1,SNR=2.1
comp=Z,0.5nm,0.8s
CM31 Chiang Mai Arr 63.27 44 P **P 08 19 50.8 +0.1**
CMAR Chiang Mai Arr 63.27 44 P **P 08 19 51.6 +0.9**
comp=Z,4.4nm,0.6s,baz=231,slow=7.1,SNR=16
comp=Z,4.4nm,0.6s
ASAR Alice Springs 66.27 104 P **P 08 20 10.7 +0.2**
comp=Z,2.6nm,0.7s,baz=239,slow=6.1,SNR=24
comp=Z,2.6nm,0.7s
AS31 Alice Springs 66.27 104 P **P 08 20 10.7 +0.2**
WRA Warramunga Arr 68.27 101 P **P 08 20 23.4 +0.3**
comp=Z,3.9nm,0.8s,baz=242,slow=5.4,SNR=15
comp=Z,3.9nm,0.8s
WB2 Warramunga Arr 68.28 101 P **P 08 20 23.3 0.0**
WB0 Warramunga Arr 68.39 100 P **P 08 20 24.6 +0.7**
WB0 IAmb IAmb 08 20 24.8
comp=Z,7.6nm,1.0s
WR0 Warramunga Arr 68.43 101 P **P 08 20 24.4 +0.2**
WR0 IAmb IAmb 08 20 38.7
comp=Z,9.5nm,1.2s
TORD Torodi Ar. Bea 70.15 300 P **P 08 20 34.1 -0.6**
comp=Z,1.5nm,0.9s,baz=115,slow=4.9,SNR=7.5
comp=Z,1.5nm,0.9s
SIMJ Simiganj 70.65 9 P **P 08 20 38.2 +0.8**
SIMJ IAmb IAmb 08 20 48.4
comp=Z,8.6nm,1.2s
CHGR Chuyangaron 70.67 9 P **P 08 20 37.7 +0.2**
BRTR Keskin Array B 74.60 341 P **P 08 21 00.9 -0.1**
comp=Z,0.4nm,0.4s,baz=142,slow=10,SNR=4.6
comp=Z,0.4nm,0.4s
KK31 Karatay Array 75.22 9 P **P 08 21 05.1 +0.7**
KK31 IAmb IAmb 08 21 06.6
comp=Z,4.6nm,1.1s
KKAR Karatay Array 75.22 9 P **P 08 21 05.3 +1.0**
KKAR IAmb IAmb 08 21 06.6
comp=Z,4.6nm,1.1s
BOOM Boomskoye usch 75.54 13 P **P 08 21 06.5 +0.2**
PRZ Przheval'sk 76.05 15 P **P 08 21 09.8 +0.5**
ABKAR Akbulak array 80.55 1 P **P 08 21 34.1 +0.3**
MKAR Makanchi Array 81.03 16 P **P 08 21 36.5 0.0**
comp=Z,1.2nm,0.9s,baz=212,slow=4.3,SNR=9.2
comp=Z,1.2nm,0.9s
KURBB Kurchatov Arra 83.84 13 P **P 08 21 51.5 +0.5**
comp=Z,3.8nm,0.9s,baz=204,slow=5.8,SNR=21
comp=Z,3.8nm,0.9s
KURK Kurchatov 83.95 13 P **P 08 21 51.8 +0.3**
KURK IAmb IAmb 08 21 53.6
comp=Z,8.9nm,1.1s
BVAR Borovoye Array 84.97 7 P **P 08 21 57.9 +1.2**
comp=Z,6.4nm,0.8s,baz=178,slow=5.6,SNR=25
comp=Z,6.4nm,0.8s
BRVK Borovoye 84.99 7 P **P 08 21 57.0 +0.2**
BRVK IAmb IAmb 08 21 58.7
comp=Z,9.8nm,1.1s
ZALV Zalesovo Beam 88.28 15 P **P 08 22 12.0 -0.8**
comp=Z,0.7nm,0.5s,baz=247,slow=3.0,SNR=1.7
comp=Z,0.7nm,0.5s
SONM Songino Array 90.12 30 P **P 08 22 21.6 -0.2**
comp=Z,1.2nm,0.9s,baz=211,slow=8.1,SNR=4.3
comp=Z,1.2nm,0.9s
ESDC Sonseca Array 91.45 317 P **P 08 22 28.7 +0.6**
comp=Z,1.0nm,0.9s,baz=143,slow=2.5,SNR=6.0
comp=Z,1.0nm,0.9s
ILAR Eielson Array 143.37 18 PKhKP PKPpre 08 28 51.0
comp=Z,0.2nm,0.5s,baz=83,slow=10,SNR=3.1
ILAR PKP **PKPdf 08 28 56.7 +1.1**
comp=Z,0.4nm,0.9s,baz=266,slow=1.5,SNR=4.8
YKA Yellowknife Ar 148.80 354 PKPbc **PKPbc 08 29 08.2 -0.5**
comp=Z,3.3nm,0.8s,baz=12,slow=2.2,SNR=11
ULM Lac du Bonnet 153.26 322 PKPbc **PKPbc 08 29 18.4 -1.1**
comp=Z,1.7nm,0.7s,baz=351,slow=1.3,SNR=5.4
PDAR Pinedale Array 165.28 322 PKP **PKPdf 08 29 26.1 -0.5**
comp=Z,0.3nm,0.7s,baz=232,slow=1.7,SNR=4.2

IDC ***10*** *08:15:22.3±0.4, 31.°70S×58.°16E, h0km, mb4.5/23, mbtmp4.5/24, ML4.5/1, MS3.8/11, Error ellipse: s-maj=17.9km s-min=13.9km az=75.0*
BJI ***10*** *08:15:22.1±0.0, 31.°61S×57.°82E, h10km, mb4.9/27, mB5.4/9, Ms5.0/5, Ms7 4.6/6*
GCMT ***10*** *08:15:24.9±0.4, 31.°50S±0.°03×58.°25E±0.°05, h21km±1km, MW4.9/75, Moment Tensor Solution. s14,c17; s75,c89; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~2.74±.26; Mθθ2.59±.18; Mφφ0.15±.16; Mrθ 1.71±.26; Mφθ0.44±.12; Mφr~0.27±.32; Best double couple: M0 3.20800×10^16 NP1:φs270.00000°, δ61.00000°, λ~81.00000°. NP2: φs71.00000°, δ30.00000°, λ~106.00000°. Principal axes: T 3.1320, Plg16.0000°, Azm353.0000°; N 0.1530, Plg8.0000°, Azm85.0000°; P -3.2840, Plg72.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***10*** *08:15:25.9±2.0, 31.°48S±0.°09×58.°2E±0.°1, h10km±1km, mb5.0/24 Error ellipse: s-maj=19.8km s-min=15.2km az=270.0*
ISC 10 08:15:25.6±0.3, 31.°55S±0.°07×58.°15E±0.°08, h17km, n312, σ0=98/308, mb4.9/61, MS4.0/14, 20C-9D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.57**	**348**	Pn	**Pn**	**08 17 53.2**	**-3.2**
FOMA	**Nahampoana Res**	**11.82**	**301**	Pn	**Pn**	**08 18 16.1**	**+2.6**
VOI	**Vohitsoka**	**13.96**	**311**	Pn	**Pn**	**08 18 44.5**	**+1.6**
H04N2	**CROZET ISLANDS**	**15.40**	**197**	T	T	08 34 15.0	
	baz=21,slow=75						
H04N1	**CROZET ISLANDS**	**15.40**	**197**	T	T	08 34 17.6	
	baz=21,slow=75						
H04N3	**CROZET ISLANDS**	**15.42**	**197**	T	T	08 34 14.1	
	baz=21,slow=75						
ABPO	**Ambohimpanom**	**15.90**	**319**	P	**Pn**	**08 19 10.6**	**+1.8**
OPO	**Ambohidratompo**	**16.29**	**320**	Pn	**Pn**	**08 19 15.5**	**+1.8**
	0.2nm,0.3s,baz=153,slow=9.5,SNR=8.9						
OPO				Sn	**Sn**	**08 22 06.7**	**-7.5**
	0.1nm,0.3s,baz=183,slow=4.1,SNR=3.6						
	20nm,0.8s						
POGA	**Pongola**	**23.39**	**274**	P	**P**	**08 20 33.2**	**-0.4**
H08S1	**Diego Carcia H**	**27.28**	**32**	T	T	08 49 30.5	
	baz=207,slow=76						
H08S2	**Diego Garcia H**	**27.29**	**32**	T	T	08 49 31.4	
	baz=207,slow=76						
H08S3	**Diego Garcia H**	**27.30**	**32**	T	T	08 49 31.9	
	baz=207,slow=76						
BOSA	**Boshof**	**28.56**	**267**	P	**P**	**08 21 19.6**	**-1.2**
	3.0nm,1.0s,baz=112,slow=5.4,SNR=2.6						
BOSA				LR	LR	08 30 02.3	
	comp=Z,133nm,20.9s,baz=86,slow=31						
	3.0nm,1.0s						
SUR	**Sutherland**	**31.59**	**258**	LR	LR	08 32 13.4	
	comp=Z,206nm,20.3s,baz=111,slow=32						
MAW	**Mawson**	**36.20**	**177**	P	**P**	**08 22 26.1**	**-0.8**
	2.4nm,0.6s,baz=347,slow=11,SNR=5.0						
MAW				LR	LR	08 33 33.3	
	comp=Z,235nm,20.8s,baz=344,slow=30						
	2.4nm,0.6s						
TSUM	**Tsumeb**	**38.45**	**279**	P	**P**	**08 22 46.5**	**-0.4**
TSUM				IAmb	IAmb	08 22 48.4	
	comp=Z,69nm,2.0s						
TSUM	**Tsumeb**	**38.45**	**279**	LR	LR	08 37 12.5	
	comp=Z,159nm,19.9s,baz=147,slow=34						
PALK	**Pallekele**	**44.22**	**33**	LR	LR	08 37 56.2	
	comp=Z,85nm,19.3s,baz=320,slow=30						
FURI	**Furi**	**44.33**	**332**	LR	LR	08 38 49.3	
	comp=Z,116nm,19.5s,baz=175,slow=32						
ELIB	**Princess Elisa**	**44.50**	**195**	*d*P	**P**	**08 23 36.8**	**+1.0**
	comp=Z,4.1nm,1.1s						
ELIB				*d*pP	**pP**	**08 23 40.4**	**+0.6**
ELIB				*d*PcP	**PcP**	**08 25 17.9**	**-1.0**
ATD	**Arta Tunnel**	**45.28**	**339**	LR	LR	08 39 19.4	
	comp=Z,13nm,21.3s,baz=190,slow=32						
TROLL	**Troll, Antarti**	**49.85**	**200**	⇑P	**P**	**08 24 17.3**	**-0.3**
	comp=Z,60nm,0.8s						
SNAA	**Sanae**	**51.32**	**201**	⇑P	**P**	**08 24 26.9**	**-1.7**
	comp=Z,55nm,0.7s						
SNAA	**Sanae**	**51.32**	**201**	P	**P**	**08 24 26.4**	**-2.2**
	comp=Z,2.3nm,0.9s,baz=110,slow=6.4,SNR=11						
SNAA				LR	LR	08 41 18.2	
	comp=Z,141nm,21.3s,baz=108,slow=30						
	comp=Z,2.3nm,0.9s						
HYB	**Hyderabad**	**52.48**	**25**	*e*P	**P**	**08 24 38.0**	**+0.2**
VNA3	**Neumayer Olymp**	**53.35**	**202**	⇑P	**P**	**08 24 42.4**	**-1.1**
	comp=Z,3.9nm,0.9s						
WSAR	**Wadi Sarin**	**54.48**	**1**	LR	LR	08 42 37.0	
	comp=Z,162nm,21.8s,baz=204,slow=30						
RAYN	**Ar Rayn**	**56.09**	**346**	P	**P**	**08 25 03.7**	**-0.2**
RAYN				IAmb	IAmb	08 25 06.6	
	comp=Z,28nm,1.9s						
QSPA	**South Pole Qui**	**58.62**	**180**	P	**P**	**08 25 20.4**	**-1.1**
QSPA				IAmb	IAmb	08 25 29.4	
	comp=Z,13nm,0.9s						
QSPA	**South Pole Qui**	**58.62**	**180**	P	**P**	**08 25 20.0**	**-1.5**
	comp=Z,4.8nm,0.6s,baz=270,slow=1.2,SNR=64						
QSPA				LR	LR	08 48 40.5	
	comp=Z,130nm,18.2s,baz=246,slow=34						
	comp=Z,4.8nm,0.6s						
VNDA	**Vanda**	**62.34**	**166**	P	**P**	**08 25 45.0**	**-1.5**
	comp=Z,1.2nm,1.0s,baz=274,slow=7.8,SNR=4.5						
VNDA				LR	LR	08 51 07.6	
	comp=Z,108nm,18.4s,baz=250,slow=34						
	comp=Z,1.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**63.28**	**44**	P	**P**	**08 25 53.9**	**+0.4**
	comp=Z,8.1nm,0.6s,baz=230,slow=7.0,SNR=6.9						
	comp=Z,8.1nm,0.6s						
SHL	**Shillong**	**65.30**	**34**	P	**P**	**08 26 07.0**	**+0.1**
ASAR	**Alice Springs**	**66.39**	**104**	P	**P**	**08 26 13.1**	**-0.9**
	comp=Z,6.6nm,0.7s,baz=238,slow=6.1,SNR=67						
	comp=Z,6.6nm,0.7s						
MMAI	**Mount Meron Ar**	**67.72**	**339**	P	**P**	**08 26 23.1**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=252,slow=18,SNR=3.4						
	comp=Z,0.4nm,0.3s						
WRA	**Warramunga Arr**	**68.39**	**101**	P	**P**	**08 26 25.8**	**-0.9**
	comp=Z,8.7nm,0.8s,baz=242,slow=5.4,SNR=36						
	comp=Z,8.7nm,0.8s						
WRAB	**Tennant Creek**	**68.40**	**101**	P	**P**	**08 26 25.3**	**-1.5**
WB0	**Warramunga Arr**	**68.51**	**101**	P	**P**	**08 26 25.9**	**-1.5**
WB0				IAmb	IAmb	08 26 27.6	
	comp=Z,15nm,0.9s						
WR0	**Warramunga Arr**	**68.55**	**101**	P	**P**	**08 26 26.6**	**-1.1**
WR0				IAmb	IAmb	08 26 27.8	
	comp=Z,10nm,0.9s						
TORD	**Torodi Ar. Bea**	**70.01**	**300**	P	**P**	**08 26 36.6**	**-0.1**
	comp=Z,3.8nm,0.9s,baz=120,slow=5.2,SNR=18						
	comp=Z,3.8nm,0.9s						
SIMJ	**Simiganj**	**70.58**	**9**	P	**P**	**08 26 40.8**	**+1.1**
SIMJ				IAmb	IAmb	08 26 42.1	
	comp=Z,14nm,1.1s						
CHGR	**Chuyangaron**	**70.60**	**9**	P	**P**	**08 26 41.2**	**+1.4**
KIC	**Kosan Boka**	**70.77**	**290**	⇑*i*P	**P**	**08 26 42.1**	**+0.7**
	comp=Z,13nm,0.7s						
LIC	**Lamto**	**70.92**	**290**	⇑*i*P	**P**	**08 26 43.1**	**+0.8**
	comp=Z,21nm,0.6s						
DBIC	**Dimbokro**	**71.05**	**291**	P	**P**	**08 26 43.1**	**+0.1**
	comp=Z,5.6nm,0.8s,baz=99,slow=4.9,SNR=4.7						
	comp=Z,5.6nm,0.8s						
PZH	**PanZhiHua**	**71.16**	**41**	P	**P**	**08 26 45.6**	**+2.1**
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,190nm,6.3s						
TIC	**Toumodi**	**71.16**	**291**	⇓*i*P	**P**	**08 26 44.9**	**+1.1**
	comp=Z,3.4nm,0.3s						
KSH	**Kashi**	**72.62**	**14**	P	**P**	**08 26 50.2**	**-1.8**
KSH				sP	sP	08 26 58.0	-0.1
KSH				pmax	pmax		
	comp=Z,11nm,0.8s						
KSH				LR	LR		
	comp=Z,400nm,21.0s						
KSH				LR	LR		
	comp=Z,400nm,21.0s						
BRTR	**Keskin Array B**	**74.48**	**341**	P	**P**	**08 27 03.5**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=171,slow=8.4,SNR=14						
	comp=Z,3.1nm,0.9s						
KKAR	**Karatay Array**	**75.15**	**9**	P	**P**	**08 27 07.5**	**+0.8**
AAK	**Ala-Archa**	**75.34**	**12**	P	**P**	**08 27 09.5**	**+1.6**
AAK				IAmb	IAmb	08 27 10.6	
	comp=Z,19nm,1.6s						
AAK	**Ala-Archa**	**75.34**	**12**	P	**P**	**08 27 09.0**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=188,slow=7.3,SNR=1.9						
	comp=Z,1.8nm,0.3s						
BOOM	**Boomskoye usch**	**75.47**	**13**	P	**P**	**08 27 09.7**	**+1.0**
PRZ	**Przheval'sk**	**75.99**	**15**	P	**P**	**08 27 13.4**	**+1.7**
KBZ	**Khabaz**	**76.21**	**349**	P	**P**	**08 27 13.5**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=183,slow=8.7,SNR=2.5						
	comp=Z,1.0nm,0.7s						
WMQ	**Urumqi**	**79.73**	**21**	*e*P	**P**	**08 27 34.4**	**+2.1**
WMQ				LR	LR		
	comp=Z,190nm,21.3s						
TIP	**Timpagrande**	**80.20**	**329**	⇑P	**P**	**08 27 35.1**	**+0.1**
ABKAR	**Akbulak array**	**80.46**	**1**	P	**P**	**08 27 37.0**	**+1.0**
ABKAR				IAmb	IAmb	08 27 37.9	
	comp=Z,14nm,1.2s						
GTA	**Gaotai**	**80.51**	**31**	*e*P	**P**	**08 27 37.7**	**+1.0**
GTA				pP	pwP	08 27 45.5	-1.4
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MAKZ	**Makanchi**	**80.91**	**16**	P	**P**	**08 27 38.9**	**+0.4**
MK31	**Makanchi Array**	**80.97**	**17**	P	**P**	**08 27 38.8**	**-0.1**
MKAR	**Makanchi Array**	**80.97**	**17**	P	**P**	**08 27 38.8**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=214,slow=5.2,SNR=15						
	comp=Z,2.0nm,0.8s						
CFR	**Carcaliu**	**81.10**	**339**	⇑P	**P**	**08 27 40.4**	**+0.8**
BOVS	**Bovan**	**81.92**	**334**	⇑P	**P**	**08 27 44.1**	**+0.1**
MLR	**Muntele Rosu**	**82.07**	**338**	⇑P	**P**	**08 27 45.7**	**+0.8**
MLR	**Muntele Rosu**	**82.07**	**338**	P	**P**	**08 27 44.8**	**-0.1**
MLR				IAmb	IAmb	08 27 46.3	
	comp=Z,7.9nm,0.8s						
VRI	**Vrincioaia**	**82.15**	**338**	⇓P	**P**	**08 27 45.2**	**+0.1**
PLOR	**Plostina**	**82.16**	**338**	⇑P	**P**	**08 27 46.1**	**+0.8**
COVR	**Voineasa-Covas**	**82.30**	**338**	⇑P	**P**	**08 27 46.2**	**+0.3**
VOIR		**82.31**	**337**	⇓P	**P**	**08 27 46.2**	**+0.1**
ARR	**Arges**	**82.39**	**337**	⇓P	**P**	**08 27 45.7**	**-0.8**
TURR	**Turia**	**82.55**	**338**	⇑P	**P**	**08 27 46.6**	**-0.6**
ONER	**Baraj Valea Uz**	**82.67**	**338**	⇑P	**P**	**08 27 47.5**	**-0.3**
HERR	**Herculane**	**82.73**	**335**	⇑P	**P**	**08 27 49.0**	**+0.8**
MDVR	**Moldovita**	**82.90**	**335**	⇑P	**P**	**08 27 49.6**	**+0.5**
GZR	**Gura Zlata**	**83.05**	**336**	⇑P	**P**	**08 27 50.5**	**+0.6**
BZS	**Buzias**	**83.65**	**335**	⇑P	**P**	**08 27 52.4**	**-0.5**
KURBB	**Kurchatov Arra**	**83.78**	**13**	P	**P**	**08 27 54.0**	**+0.6**
	comp=Z,8.7nm,0.9s,baz=206,slow=5.7,SNR=30						
	comp=Z,8.7nm,0.9s						
KURK	**Kurchatov**	**83.88**	**13**	P	**P**	**08 27 55.0**	**+1.1**
MARR	**Marisel-Cluj**	**84.05**	**337**	⇑P	**P**	**08 27 54.5**	**-0.5**
BURAR	**Bucovina Array**	**84.18**	**338**	⇓P	**P**	**08 27 55.3**	**-0.4**
SIRR	**Siria**	**84.20**	**336**	⇓P	**P**	**08 27 56.5**	**+0.8**
BVAR	**Borovoye Array**	**84.89**	**7**	P	**P**	**08 28 00.2**	**+1.1**
	comp=Z,16nm,0.8s,baz=175,slow=5.5,SNR=56						
	comp=Z,16nm,0.8s						
BRVK	**Borovoye**	**84.91**	**7**	P	**P**	**08 27 59.8**	**+0.6**
NJ2	**Nanjing**	**85.42**	**48**	*e*P	**P**	**08 28 04.6**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KIEV	**Kiev**	**85.79**	**342**	⇑P	**P**	**08 28 03.2**	**-0.3**
KIEV	**Kiev**	**85.79**	**342**	P	**P**	**08 28 03.1**	**-0.5**
KIEV				IAmb	IAmb	08 28 04.6	
	comp=Z,6.6nm,1.1s						
AKASG	**Malin Array Be**	**85.80**	**342**	P	**P**	**08 28 02.9**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=169,slow=4.5,SNR=5.4						
	comp=Z,1.6nm,0.5s						
BTO	**Baotou**	**86.34**	**37**	*e*P	**P**	**08 28 06.2**	**-0.5**
BTO				pP	**pP**	**08 28 11.2**	**+0.3**
BTO				S	**S**	**08 38 40.4**	**-1.1**
BTO				pmax	pmax		
	comp=Z,24nm,0.8s						
BTO				pmax	pmax		
	comp=Z,740nm,5.7s						
BTO				LR	LR		
	comp=Z,670nm,11.4s						
BTO				LR	LR		
	comp=Z,580nm,13.3s						
BTO				LR	LR		
	comp=Z,410nm,5.7s						
HNS	**HongShan**	**86.57**	**42**	⇑P	**P**	**08 28 08.3**	**+0.6**
HNS				pmax	pmax		
	comp=Z,19nm,1.1s						
SOKA	**Soboth**	**87.05**	**332**	*i* P	**P**	**08 28 11.1**	**+1.1**
	comp=Z,4.6nm,1.0s						
OBKA	**Obir**	**87.11**	**332**	*i* P	**P**	**08 28 11.0**	**+0.8**
	comp=Z,7.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**87.32**	**38**	*e*P	**P**	**08 28 12.8**	**+1.3**
HHC				sP	pwP	08 28 19.6	-2.0
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,78nm,4.4s						
ARSA	**Arzberg**	**87.32**	**332**	*e*P	**P**	**08 28 13.5**	**+2.3**
	comp=Z,1.2nm,0.6s						
RONA	**Rosalia, Austr**	**87.39**	**333**	*i* P	**P**	**08 28 12.1**	**+0.6**
	comp=Z,4.2nm,0.9s						
ARU	**Arti**	**87.63**	**0**	P	**P**	**08 28 12.5**	**+0.1**
	comp=Z,3.6nm,0.2s,baz=159,slow=4.8,SNR=5.6						
	comp=Z,3.6nm,0.2s						
CONA	**Conrad Observa**	**87.74**	**333**	*i* P	**P**	**08 28 14.7**	**+1.4**
	comp=Z,9.1nm,0.8s						
JAVC	**Velka Javorina**	**87.83**	**335**	*e*P	**P**	**08 28 14.8**	**+1.2**
CTI	**Castel Tesino**	**87.96**	**330**	P	**P**	**08 28 14.4**	**0.0**
CTI				IAmb	IAmb	08 28 16.1	
	comp=Z,8.9nm,0.9s						
KBA	**Koelnbreinsper**	**88.06**	**331**	*i* P	**P**	**08 28 16.0**	**+1.0**
	comp=Z,8.7nm,1.3s						
ABTA	**Abfaltersbach**	**88.14**	**331**	*i* P	**P**	**08 28 16.7**	**+1.5**
	comp=Z,9.3nm,0.9s						
OJC	**Ojcow**	**88.22**	**336**	*e*P	**P**	**08 28 15.4**	**0.0**
ZALV	**Zalesovo Beam**	**88.22**	**15**	P	**P**	**08 28 14.7**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=193,slow=4.6,SNR=6.8						
	comp=Z,1.3nm,0.5s						
MOA	**Molln**	**88.31**	**332**	*i* P	**P**	**08 28 16.3**	**+0.4**
	comp=Z,5.4nm,0.8s						
BIOA	**Bad Ischl, Aus**	**88.43**	**332**	*e*P	**P**	**08 28 17.2**	**+0.7**
	comp=Z,2.2nm,0.4s						
KRUC	**Moravsky**	**88.47**	**334**	*e*P	**P**	**08 28 16.6**	**0.0**
VRAC	**Vranov**	**88.60**	**334**	*e*P	**P**	**08 28 18.0**	**+0.8**
LESA	**Schwarzleotal**	**88.61**	**331**	*i* P	**P**	**08 28 17.9**	**+0.5**
	comp=Z,9.5nm,0.6s						
MORC	**Moravsky Berou**	**88.64**	**335**	*e*P	**P**	**08 28 18.1**	**+0.6**
WTTA	**Wattenberg**	**88.92**	**330**	*i* P	**P**	**08 28 19.7**	**+0.7**
	comp=Z,12nm,0.6s						
WATA	**Walderalm**	**89.00**	**330**	*i* P	**P**	**08 28 20.5**	**+1.2**
	comp=Z,9.1nm,0.6s						
SQTA	**Sankt Quirin**	**89.07**	**330**	*i* P	**P**	**08 28 20.6**	**+1.0**
	comp=Z,11nm,0.6s						
FETA	**Feichten**	**89.12**	**330**	*i* P	**P**	**08 28 20.6**	**+0.7**
	comp=Z,14nm,1.0s						
TUE	**Stuetta**	**89.30**	**329**		**P**	**08 28 20.2**	**-0.6**
TUE				IAmb	IAmb	08 28 22.2	
	comp=Z,5.6nm,0.8s						
GERES	**GERESS Array B**	**89.33**	**332**	P	**P**	**08 28 20.7**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=168,slow=13,SNR=4.6						
	comp=Z,0.6nm,0.4s						
RETA	**Reutte**	**89.46**	**330**	*i* P	**P**	**08 28 22.2**	**+0.8**
	comp=Z,7.6nm,0.9s						
DAVA	**Damuels**	**89.69**	**329**	*i* P	**P**	**08 28 23.6**	**+1.0**
	comp=Z,11nm,0.8s						
SONM	**Songino Array**	**90.10**	**30**	P	**P**	**08 28 23.6**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=224,slow=4.1,SNR=7.9						
	comp=Z,1.9nm,0.8s						
ESDC	**Sonseca Array**	**91.31**	**317**	P	**P**	**08 28 30.2**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=118,slow=3.6,SNR=13						
	comp=Z,2.6nm,0.9s						
DZM	**Mont Dzumac**	**93.10**	**118**	*e*LR	LR	08 58 35.2	
	comp=Z,122nm,25.1s						
PPT2	**Papeete2**	**124.36**	**147**	*e*LR	LR	09 13 04.9	
	comp=Z,93nm,25.0s						
PPT2				*e*LR	LR	09 13 10.8	
	comp=Z,115nm,25.0s						
F28M	**Old Crow**	**142.37**	**11**	PKPdf	**PKPdf**	**08 34 58.0**	**+1.5**
ILAR	**Eielson Array**	**143.32**	**18**	PKhKP	PKPpre	08 34 53.6	
	comp=Z,1.4nm,0.8s,baz=320,slow=2.7,SNR=5.3						
ILAR				PKP	**PKPdf**	**08 34 58.5**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=336,slow=2.0,SNR=8.7						
O18K	**Koktub Hills**	**144.04**	**28**		PKPbc	08 34 57.6	0.0
WVNY	**West Valley, N**	**144.14**	**300**		**PKPab**	**08 34 58.5**	**+0.5**
M55A	**Ridgway**	**144.30**	**298**	PKPdf	**PKPab**	**08 34 59.0**	**+0.3**
I28M	**Miner Creek**	**144.31**	**13**		**PKPab**	**08 34 58.4**	**+0.4**
T57A	**Hurt**	**144.61**	**291**	PKPdf	**PKPab**	**08 35 00.4**	**+0.5**
Q56A	**Snyder Ridge,**	**144.64**	**294**	PKPdf	**PKPab**	**08 35 00.2**	**+0.3**
WAT6	**Susitna Watana**	**144.79**	**21**	P	**PKPab**	**08 34 59.3**	**-0.7**
	baz=320						
R17L	**Mt. Peulik Vol**	**144.82**	**32**	P	**PKPab**	**08 34 59.1**	**-0.9**
	baz=303						
Q18K	**Katmai Hardscr**	**144.84**	**30**	P	**PKPab**	**08 34 59.8**	**-0.4**
	baz=306						
DWPF	**Disney Wildern**	**144.91**	**275**	P	**PKPab**	**08 35 01.1**	**-0.1**
	baz=106						
O20K	**Slope Mountain**	**144.91**	**26**	P	**PKPab**	**08 35 00.3**	**-0.1**
	baz=311						
NHSC	**New Hope**	**144.92**	**284**	P	PKPbc	08 35 01.8	+0.7
	baz=99						
**P

R18K	Karluk	145.71	31	P		PKPdf	08 35 02.9	+0.4
	baz=305							
M53A	WI Miller and	145.74	298	P		PKPdf	08 35 03.4	+0.3
	baz=87							
J30M	Hart River	145.74	11	PKPdf		PKPdf	08 35 02.7	+0.2
J30M	Hart River	145.74	11	P		PKPdf	08 35 02.8	+0.2
	baz=338,SNR=17							
BRSE	Bradley Lake S	145.84	26	P		PKPdf	08 35 03.2	+0.5
	baz=313							
N53A	Lisbon	145.89	297	PKPdf		PKPdf	08 35 03.4	0.0
Q54A	Coxs Mills	145.93	294			PKPdf	08 35 03.2	-0.3
Q20K	Shuyak Island	145.95	28	P		PKPdf	08 35 03.2	+0.3
	baz=309							
L27K	Beaver Creek,	146.00	16			PKPbc	08 35 04.2	+0.5
L27K	Beaver Creek,	146.00	16	P		PKPdf	08 35 03.3	+0.4
	baz=329,SNR=13							
BCAR	Beaver Creek A	146.00	16			PKPbc	08 35 04.2	+0.5
SEW	Seward	146.06	25	P		PKPbc	08 35 03.7	-0.2
	baz=315							
KMSC	Kings Mountain	146.13	287	P		PKPdf	08 35 04.7	+0.8
	baz=96							
CHIR	Chirikof Islan	146.13	34	P		PKPdf	08 35 03.6	+0.3
	baz=302							
KLU	Klutina	146.18	21			PKPdf	08 35 02.3	-1.0
KLU	Klutina	146.18	21	P		PKPdf	08 35 02.9	-0.4
	baz=321							
O53A	New Philadelph	146.20	296	P		PKPbc	08 35 05.1	+0.1
	baz=88							
K29M	Barlow Dome	146.21	12			PKPbc	08 35 04.1	-0.3
K29M	Barlow Dome	146.21	12	P		PKPbc	08 35 04.2	-0.3
	baz=336,SNR=8.8							
M26K	Nabesna, AK	146.26	18	P		PKPbc	08 35 04.6	0.0
	baz=326							
GLI	Glacier Island	146.29	22	P		PKPbc	08 35 04.6	0.0
	baz=319							
P53A	Whipple	146.35	295	PKPdf		PKPdf	08 35 05.0	+0.8
KDAK	Kodiak Island	146.39	30	P		PKPab	08 35 05.6	-0.2
	baz=308							
OHAK	Old Harbor	146.42	31	P		PKPbc	08 35 04.7	-0.3
	baz=306							
N25K	Chitina, Valde	146.48	20			PKPbc	08 35 05.0	-0.2
N25K	Chitina, Valde	146.48	20	P		PKPbc	08 35 05.6	+0.4
	baz=323,SNR=8.0							
M27K	Edge Creek, AK	146.58	17	P		PKPbc	08 35 06.1	+0.5
	baz=328							
U54A	Nelsons Funny	146.63	290			PKPdf	08 35 05.7	+0.9
O52A	Adamsville	146.68	296			PKPdf	08 35 05.1	+0.4
L29M	L29M	146.76	13			PKPbc	08 35 06.3	+0.4
L29M	L29M	146.76	13	P		PKPbc	08 35 06.3	+0.4
	baz=334							
P23K	Montague Islan	146.85	23	P		PKPbc	08 35 06.5	+0.3
	baz=318							
P52A	Corning	146.93	295			PKPdf	08 35 06.2	+1.0
P52A	Corning	146.93	295	P		PKPbc	08 35 06.5	-0.6
	baz=88							
FCC	Fort Churchill	146.94	334			PKPdf	08 35 05.3	+0.8
EYAK	Cordova Ski Ar	146.97	22	P		PKPbc	08 35 06.8	+0.3
	baz=321							
BMRM	Bremner River	146.99	20	P		PKPbc	08 35 07.0	+0.3
	baz=323							
MCARA	McCarthy VSAT	147.10	19			PKPbc	08 35 07.1	+0.2
MCARA	McCarthy VSAT	147.10	19	P		PKPbc	08 35 07.1	+0.2
	baz=325							
M29M	Somme Creek	147.29	14			PKPbc	08 35 07.5	-0.1
M29M	Somme Creek	147.29	14	P		PKPbc	08 35 07.5	-0.1
	baz=333							
YUK3	Moose Creek	147.43	16	P		PKPbc	08 35 08.1	0.0
	baz=330							
TIGA	Tifton	147.49	280	P		PKPbc	08 35 08.7	-0.2
	baz=100							
M30M	Minto, Yukon	147.50	13	P		PKPbc	08 35 08.5	+0.5
	baz=336							
ACSO	Alum Creek Sta	147.55	296	P		PKPbc	08 35 08.9	+0.1
	baz=87							
Q23K	Middleton Isla	147.63	23	P		PKPbc	08 35 08.9	+0.5
	baz=319							
GOGA	Godfrey	147.69	284	P		PKPbc	08 35 08.8	-0.6
	baz=97							
KAIM	Kayak Island	147.87	21	P		PKPbc	08 35 09.2	+0.2
	baz=322							
CTG	Chitna Glacier	147.90	18	P		PKPbc	08 35 09.2	-0.1
	baz=328							
TZTN	Tazewell	148.02	290	P		PKPbc	08 35 09.4	-0.8
	baz=92							
GLMI	Grayling	148.16	305	P		PKPbc	08 35 09.6	-0.7
	baz=78							
M31M	Drury Creek, Y	148.28	11	P		PKPbc	08 35 09.4	-0.7
	baz=339							
O28M	Mount Upton	148.36	17	P		PKPbc	08 35 10.2	-0.5
	baz=329							
MESA	MESA	148.40	19	P		PKPbc	08 35 10.8	+0.1
	baz=326							
FARO	Faro, Yukon	148.42	10	P		PKPbc	08 35 10.8	+0.3
	baz=341							
N30M	Aishikik Lake	148.46	14	P		PKPbc	08 35 11.2	+0.5
	baz=335							
YUK6	Outpost Mounta	148.65	15	P		PKPbc	08 35 10.7	-0.7
	baz=332							
YKA	Yellowknife Ar	148.69	354			PKPbc	08 35 10.3	-0.7
YKA	Yellowknife Ar	148.69	354	PKPbc		PKPbc	08 35 10.9	-0.2
	comp=Z,7.3nm,0.8s,baz=4.5,slow=2.5,SNR=24							
N31M	Braeburn, Yuko	148.70	13	P		PKPbc	08 35 11.4	+0.2
	baz=337							
P49A	Miami Univ. Ec	148.93	295	P		PKPbc	08 35 11.8	-0.7
	baz=87							
PINM	Pinnacle	148.93	18	P		PKPbc	08 35 11.9	0.0
	baz=328							
HYT	Haines Junctio	148.95	15	P		PKPbc	08 35 12.2	+0.2
	baz=334							
O29M	Mount Kennedy	149.17	16	P		PKPbc	08 35 12.2	-0.4
	baz=331							
O48B	Farmland	149.21	297	P		PKPbc	08 35 13.4	+0.3
	baz=85							
O30N	Mendenhall	149.29	14	P		PKPbc	08 35 12.0	-0.7
	baz=336							
N32M	Quiet Lake	149.48	11	P		PKPbc	08 35 12.5	-0.7
	baz=341							
PNL	Peninnsula	149.52	18	P		PKPbc	08 35 12.9	-0.4
	baz=330							
P30M	Million Dollar	149.70	15	P		PKPbc	08 35 13.6	-0.2
	baz=334							
TGTN	Hyland Airport	149.72	6	P		PKPbc	08 35 14.3	+0.5
	baz=349							
P29M	Windy Craggy	149.96	16	P		PKPbc	08 35 14.9	+0.5
	baz=332							
WCI	Wyandotte Cave	150.22	293	P		PKPbc	08 35 15.8	+0.2
	baz=88							
BRAL	Brewton	150.36	279	P		PKPbc	08 35 16.7	+0.5
	baz=100							
P33M	Teslin, Yukon	150.42	11	P		PKPbc	08 35 15.6	+0.1
	baz=341							
PLBC	Pleasant Camp	150.43	15	P		PKPbc	08 35 15.1	-0.4
	baz=334							
LRAL	Lakeview Retre	150.58	282	P		PKPbc	08 35 16.6	-0.1
	baz=97							
SKAG	Skagway	150.65	14	P		PKPbc	08 35 16.1	+0.1
	baz=336							
SFIN	Lafayette	150.68	297	P		PKPbc	08 35 17.3	+0.6
	baz=83							
P32M	Atlin	150.85	12	P		PKPbc	08 35 16.3	-0.3
	baz=339							
L44A	Lake County Fo	151.02	301	P		PKPbc	08 35 16.9	-0.5
	baz=80							
WTLY	Watson Lake, Y	151.06	7	P		PKPbc	08 35 17.1	+0.1
	baz=348							
KOTAN	Kotaneelee Air	151.38	2	P		PKiKP	08 35 18.5	+0.3
	baz=356							
WVT	Waverly	151.47	289	P		PKPbc	08 35 19.3	+0.6
	baz=91							
R33M	Jennings River	151.48	10	P		PKPbc	08 35 18.1	-0.1
	baz=344							
Q32M	Nakina River	151.69	11	P		PKPbc	08 35 18.8	+0.1
	baz=341							
EYMN	Ely	151.74	314	PKPdf		PKPdf	08 35 12.5	-0.1
EYMN				PKPbc		sPKPdf	08 35 18.9	-0.1
EYMN				PKPab		PKPab	08 35 27.3	-0.5
EYMN	Ely	151.74	314	P		PKPbc	08 35 18.8	-0.1
	baz=65							
S31K	Pelican	151.81	16	P		PKiKP	08 35 19.8	+0.7
	baz=333							
R32K	Eaglecrest	151.91	14	P		PKPab	08 35 28.7	+0.6
	baz=337							
LIRD	Liard River Hi	151.99	5	P		PKPab	08 35 29.1	+0.6
	baz=352							
HDIL	Hopedale	152.32	298	P		PKPab	08 35 32.0	+1.5
	baz=81							
DLBC	Dease Lake	152.54	9	P		PKPab	08 35 31.5	+0.6
	baz=345							
JFWS	Jewell Farm	152.56	303	P		PKPab	08 35 31.0	-0.5
	baz=76							
TOAD	Toad River Com	152.60	4	P		PKPab	08 35 32.3	+1.2
	baz=354							
S32K	Killisnoo	152.64	15	P		PKPab	08 35 31.7	+0.6
	baz=336							
OXF	Oxford	152.71	285	P		PKPab	08 35 33.5	+1.2
	baz=93							
SIT	Sitka	152.84	16	P		PKPab	08 35 31.8	-0.3
	baz=334							
S34M	Telegraph Cree	152.88	11	P		PKPab	08 35 32.6	+0.4
	baz=342							
ULM	Lac du Bonnet	153.12	322	PKPbc		PKPbc	08 35 21.6	-0.3
	comp=Z,4.8nm,0.8s,baz=45,slow=2.1,SNR=12							
VBMS	Vicksburg	153.43	280	P		PKPab	08 35 34.9	-0.6
	baz=97							
SPMN	Marine on St.	153.62	309	P		PKPab	08 35 35.3	-0.5
	baz=69							
T35M	Bob Quinn	153.91	10	P		PKPab	08 35 36.6	-0.1
	baz=344							
CCM	Cathedral Cave	154.12	293	P		PKPab	08 35 38.9	+0.7
	baz=84							
LCAR	Lake Charles	154.16	288	PKPdf		PKPdf	08 35 15.9	-0.5
LCAR						PKPab	08 35 38.4	0.0
AGMN	Agassiz Nation	154.16	318	P		PKPab	08 35 37.9	-0.1
	baz=59							
U33K	Whale Pass	154.20	15	P		PKPab	08 35 37.4	-0.4
	baz=337							
R40A	Maddies Statio	154.90	294	PKPdf		PKPdf	08 35 17.6	+0.1
R40A				PKPab		PKPab	08 35 41.4	-0.1
MIAR	Mount Ida	156.15	285	P		PKPab	08 35 44.3	-2.7
	baz=91							
ECSD	EROS Data Cent	156.71	309	P		PKPab	08 35 48.4	-0.7
	baz=67							
TUL3	Leonard	157.92	288	P		PKPab	08 35 54.0	-0.7
	baz=86							
SUSD	Miller	157.93	312	P		PKPab	08 35 54.2	-0.1
	baz=62							
DGMT	Dagmar	158.44	327	P		PKPab	08 35 56.0	-0.4
	baz=44							
833A	Chaparral WMA,	160.28	266	P		PKPab	08 36 05.9	+0.9
	baz=105							
WMOK	Wichita Mounta	160.43	286	P		PKPab	08 36 06.3	+0.7
	baz=87							
CBKS	Cedar Bluff	160.56	298	P		PKPab	08 36 06.6	+0.6
	baz=75							
JCT	Junction City	161.07	273	P		PKPab	08 36 09.8	+1.2
	baz=99							
ABTX	Abilene, Hawle	161.16	279	P		PKPab	08 36 10.7	+1.9
	baz=92							
RSSD	Black Hills	161.20	317	P		PKPab	08 36 10.6	+1.8
	baz=54							
NEW	Newport	162.92	349	P		PKPab	08 36 16.1	+0.2
	baz=14							
RLMT	Red Lodge	163.27	328	P		PKPab	08 36 17.5	-0.3
	baz=40							
K22A	Casper	163.53	317	P		PKPab	08 36 19.3	+0.3
	baz=52							
MSO	Missoula	163.57	340	P		PKPab	08 36 18.1	-0.8
	baz=24							
MSTX	Muleshoe	163.77	284	P		PKPab	08 36 20.2	-0.2
	baz=86							
BOZ	Bozeman (W)	163.88	333	P		PKPab	08 36 19.5	-0.8
	baz=33							
N23A	Red Feather La	164.16	310	P		PKPab	08 36 21.0	-1.0
	baz=59							
TXAR	Lajitas Array	164.16	267	PKP		PKPdf	08 35 28.2	-0.3
	comp=Z,0.7nm,1.0s,baz=123,slow=4.6,SNR=5.1							
TXAR				PKPab		PKPab	08 36 20.6	-1.6
	comp=Z,0.7nm,1.0s,baz=91,slow=5.4,SNR=5.2							
H17A	Grant Village	164.42	329	P		PKPab	08 36 22.5	-0.4
	baz=38							
Q24A	Divide	164.50	303	P		PKPab	08 36 22.4	-1.2
	baz=66							
BW06	Boulder Array	165.14	322	P		PKPab	08 36 25.7	-0.5
	baz=45							
PDAR	Pinedale Array	165.14	322	PKP		PKPdf	08 35 28.6	-0.5
	comp=Z,0.9nm,0.8s,baz=128,slow=4.5,SNR=6.9							
PDAR				PKPab		PKPab	08 36 25.8	-0.4
	comp=Z,0.4nm,0.7s,baz=64,slow=3.4,SNR=4.5							
SDCO	Great Sand Dun	165.20	299	P		PKPab	08 36 27.9	+1.1
	baz=70							
O20A	White River Ci	166.04	312	P		PKPab	08 36 29.6	-0.7
	baz=56							
S22A	4UR Ranch, Cre	166.19	301	P		PKPab	08 36 31.5	+0.4
	baz=68							
HLID	Hailey	166.65	336	P		PKPab	08 36 33.1	+0.4
	baz=28							
ANMO	Albuquerque	166.68	289	P		PKPab	08 36 34.0	+0.7
	baz=79							
MVCO	Mesa Verde	167.62	301	P		PKPab	08 36 37.9	+0.5
	baz=66							
WUAZ	Wupatki	170.41	297	P		PKPab	08 36 50.8	+1.1
	baz=68							
TUC	Tucson	170.57	278	P		PKPab	08 36 53.8	+3.4
	baz=88							
R11B	Troy Canyon, C	171.49	325	P		PKPab	08 36 54.7	+0.5
	baz=38							
214A	Organ Pipe Nat	172.29	275	P		PKPab	08 36 55.2	-2.8
	baz=89							
NVAR	Mina Array Sta	172.55	338	PKP		PKPdf	08 35 34.2	+0.2
	comp=Z,0.2nm,0.5s,baz=217,slow=2.3,SNR=3.2							
NVAR				PKPab		PKPab	08 36 59.6	+0.6
	comp=Z,0.7nm,0.8s,baz=52,slow=5.7,SNR=5.5							
TPNV	Topopah Spring	172.90	321	P		PKPab	08 36 55.8	-4.7
	baz=42							
CWC	Cottonwood Cre	174.21	328	P		PKPab	08 37 06.9	+0.6
	baz=33							

*IDC **10** 08:20:41.5±1.4, 31°.66S×58°.07E, h0km, mb3.9/5, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=44.6km s-min=29.9km az=84.0*

ISC 10 08:20:43.8±1.1, 31°.6S±0°.2×57°.9E±0°.2, h17km, n12, σ1°14/6, mb4.1/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.27	196	T	T	08 39 38.1	
	baz=22						
H04N1	CROZET ISLANDS	15.27	196	T	T	08 40 21.5	
	baz=22						
H04N3	CROZET ISLANDS	15.29	196	T	T	08 40 06.4	
	baz=22						
OPO	Ambohidratompo	16.23	321	Pn	Pn	08 24 30.5	-0.8
	baz=310,slow=13,SNR=2.3						
	5.1nm,0.8s						
H08S1	Diego Garcia H	27.45	33	T	T	08 55 02.0	
	baz=207						
H08S2	Diego Garcia H	27.45	33	T	T	08 54 54.1	
	baz=207						
H08S3	Diego Garcia H	27.46	33	T	T	08 54 57.3	
	baz=207						
QSPA	South Pole Qui	58.54	180	P	P	08 30 39.3	+0.1
	1.3nm,0.7s,baz=261,slow=0.5,SNR=7.4						
	1.3nm,0.7s						
CMAR	Chiang Mai Arr	63.46	44	P	P	08 31 12.6	-0.4
	0.8nm,0.3s,baz=235,slow=6.9,SNR=4.6						
	0.8nm,0.3s						
ASAR	Alice Springs	66.55	104	P	P	08 31 32.4	-0.9
	0.2nm,0.6s,baz=238,slow=6.6,SNR=2.1						
	0.2nm,0.6s						
WRA	Warramunga Arr	68.55	101	P	P	08 31 46.0	0.0
	0.7nm,0.9s,baz=243,slow=5.3,SNR=2.6						
	0.7nm,0.9s						
BVAR	Borovoye Array	85.00	8	P	P	08 33 19.3	+1.5
	2.1nm,0.8s,baz=165,slow=6.0,SNR=7.8						
	2.1nm,0.8s						

*IDC **10** 08:21:47.5±0.8, 57°.44N×130°.35E, h0km, mb3.6/3, mbtmp3.9/9, ML3.9/6, MS3.5/4, Error ellipse: s-maj=32.5km s-min=11.1km az=88.0*

*YARS **10** 08:21:50.2, 57°.68N×130°.22E, h10km*

ISC 10 08:21:48.7±0.7, 57°.65N±0°.04×130°.28E±0°.06, h10km, n20, σ2°23/26, mb3.9/3, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGD	Chagda	1.12	9	*e*Pg	Pb	08 22 10.4	+0.3
	11μm,0.2s						
CGD				*e*Sg	Sg	08 22 25.2	+0.5
	29μm,0.3s						
ALDR	Aldan	2.76	293	*i* Pg	Pb	08 22 39.9	+1.9
	124nm,0.2s						
ALDR				*e*Sg	Sg	08 23 15.6	-1.6
	804nm,0.4s						
CLNS	Chul'man	3.04	257	*i* Pg	Pb	08 22 44.6	+1.7
	58nm,0.2s						
CLNS				*e*Sg	Sg	08 23 24.3	-1.9
	174nm,0.2s						
BLSR	Buluus	3.78	351	*i* Pg	Pb	08 22 57.7	+2.3
	418μm,0.2s						
BLSR				*e*Sg	Sg	08 23 46.8	-3.0
	1577μm,0.6s						
TNDR	Tynda	3.98	233	*i* Pg	Pb	08 23 01.9	+3.0
	23nm,0.3s						
TNDR				*e*Sg	Sg	08 23 54.0	-2.3
	835nm,0.7s						
YAK	Yakutsk	4.41	356	*e*Pg	Pb	08 23 08.7	+2.6
	87nm,0.2s						
YAK				*e*Sg	Sg	08 24 06.5	-3.6
	946nm,0.8s						
YAK	Yakutsk	4.41	356	Pn	Pn	08 22 58.4	+2.9
	14nm,0.3s,baz=160,slow=3.7,SNR=13						
YAK				Pg	Pb	08 23 08.5	+2.4
	77nm,0.3s,baz=14,slow=2.1,SNR=25						
YAK				Sn	Sn	08 23 44.7	-2.1
	50nm,0.3s,baz=169,slow=5.2,SNR=2.5						
YAK				Lg	Lg	08 24 04.5	
	147nm,0.3s,baz=273,slow=22,SNR=17						
YAK				LR	LR	08 24 42.8	
	comp=Z,233nm,18.9s,baz=197,slow=38						
	38nm,0.3s						
YKLR	Yuktali	4.82	261	*i* Pg	Pb	08 23 16.3	+3.2
	104nm,1.0s						
YKLR				*e*Sg	Sg	08 24 19.9	-3.4
	518nm,0.9s						
KLR	Kul'dur	8.48	173	Pn	Pn	08 23 49.7	-1.8
	0.4nm,0.3s,baz=351,slow=12,SNR=7.2						
KLR				Lg	Lg	08 26 10.1	
	1.6nm,0.3s,baz=275,slow=6.2,SNR=3.7						
	1.2nm,0.3s						
MA2	Magadan	10.85	71	Lg	Lg	08 27 28.2	
	0.6nm,0.3s,baz=191,slow=19,SNR=2.1						
SEY	Seymchan	12.14	55	Pn	Pn	08 24 42.0	+0.5
	0.3nm,0.3s,baz=257,slow=18,SNR=2.7						
SEY				Lg	Lg	08 28 07.5	
	0.7nm,0.3s,baz=8.7,slow=23,SNR=7.1						
	2.1nm,0.3s						
USRK	Ussurisyk Ar.	13.51	175	Pn	Pn	08 24 58.1	-2.2
	0.2nm,0.3s,baz=342,slow=14,SNR=2.0						
USRK				Lg	Lg	08 28 52.6	
	0.1nm,0.3s,baz=324,slow=21,SNR=3.2						
USRK				LR	LR	08 30 25.5	
	comp=Z,68nm,20.2s,baz=192,slow=39						
	0.4nm,0.3s						
TIXI	Tiksi	14.07	358	Pn	Pn	08 25 06.4	-1.3
	1.4nm,0.3s,baz=176,slow=10,SNR=6.7						
TIXI				Lg	Lg	08 29 14.6	
	baz=99,slow=18						
	15nm,0.6s						
SONM	Songino Array	17.39	246	P	Pn	08 25 51.5	+0.1
	0.1nm,0.3s,baz=40,slow=12,SNR=5.3						
SONM				Lg	Lg	08 30 57.6	
	0.2nm,0.3s,baz=50,slow=28,SNR=5.3						
	0.8nm,0.8s						
FINES	FINESS Array B	47.46	321	P	P	08 30 24.1	+1.1
	0.7nm,0.7s,baz=38,slow=7.0,SNR=1.6						
	0.7nm,0.7s						
DAV	Davao City (W)	50.59	186	LR	LR	08 55 03.3	
	comp=Z,84nm,18.5s,baz=187,slow=40						
GNI	Garni	55.00	291	LR	LR	08 56 12.2	
	comp=Z,134nm,21.7s,baz=248,slow=38						
WRA	Warramunga Arr	77.37	176	P	P	08 33 42.6	-0.9
	0.5nm,0.5s,baz=358,slow=6.2,SNR=9.4						
	0.5nm,0.5s						
ASAR	Alice Springs	81.06	177	P	P	08 34 03.1	-0.4
	0.3nm,0.6s,baz=18,slow=6.3,SNR=4.4						
	0.3nm,0.6s						
QSPA	South Pole Qui	147.41	180	PKPbc	PKPdf	08 41 29.6	+1.0
	1.2nm,0.7s,baz=359,slow=2.1,SNR=7.8						

*IDC **10** 08:23:46.0±1.6, 32°.19S×56°.46E, h0km, mb3.9/5, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=49.3km s-min=32.7km az=78.0*

ISC 10 08:23:47.4±1.2, 32°.2S±0°.2×56°.4E±0°.3, h10km, n6, σ0°92/6, mb4.0/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	15.89	326	Pn	Pn	08 27 30.8	-0.5
	baz=185,slow=18,SNR=2.5						
	3.8nm,0.7s						
QSPA	South Pole Qui	57.99	180	P	P	08 33 39.9	-0.1
	0.7nm,0.9s,baz=252,slow=3.2,SNR=1.9						
	0.7nm,0.9s						
CMAR	Chiang Mai Arr	64.78	45	P	P	08 34 25.6	-0.7
	1.1nm,0.3s,baz=227,slow=7.3,SNR=4.3						
	1.1nm,0.3s						
ASAR	Alice Springs	67.69	105	P	P	08 34 45.4	+0.1
	0.8nm,0.7s,baz=238,slow=6.2,SNR=10						
	0.8nm,0.7s						
WRA	Warramunga Arr	69.75	101	P	P	08 34 57.7	-0.4
	1.0nm,0.7s,baz=244,slow=5.8,SNR=5.2						
	1.0nm,0.7s						
MKAR	Makanchi Array	82.02	18	P	P	08 36 08.6	+1.3
	0.3nm,0.5s,baz=198,slow=5.5,SNR=1.6						
	0.3nm,0.5s						

IDC 10 08:24:35.0±2.4, 54°.67N×83°.78E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=19.4km s-min=11.4km az=170.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.94	139	I	I	08 30 40.0	
	baz=316,slow=319,SNR=1.3						
ZALV	Zalesovo Beam	0.94	139	Pg	Pg	08 24 52.6	-0.5
	3.1nm,0.3s,baz=325,slow=20,SNR=14						
ZALV				Lg	Lg	08 25 07.0	
	6.6nm,0.3s,baz=321,slow=29,SNR=25						
KURBB	Kurchatov Arra	5.16	220	Pn	Pn	08 25 53.6	+0.2
	baz=41,slow=14,SNR=4.5						
KURBB				Lg	Lg	08 27 23.0	
	baz=43,slow=33,SNR=3.4						
	0.2nm,0.4s						
MKAR	Makanchi Array	7.94	187	Pn	Pn	08 26 30.9	-0.7
	0.1nm,0.3s,baz=9.3,slow=12,SNR=1.3						
	0.2nm,0.4s						

*IDC **10** 08:27:14.3±0.8, 31°.69S×58°.29E, h0km, mb4.2/9, mbtmp4.1/10, ML4.0/1, Error ellipse: s-maj=29.4km s-min=21.1km az=55.0*

*NEIC **10** 08:27:15.0±1.9, 31°.72S±0°.08×57°.9E±0°.2, h10km±1km, mb4.5/8, Error ellipse: s-maj=27.3km s-min=13.6km az=262.0*

ISC 10 08:27:16.6±0.7, 31°.6S±0°.1×57°.9E±0°.1, h17km, n30, σ1°79/25, mb4.3/12, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	Vohitsoka	13.79	312	Pn	Pn	08 30 31.7	+0.1
H04N2	CROZET ISLANDS	15.31	196	T	T	08 46 48.7	
	baz=22,slow=75						
H04N1	CROZET ISLANDS	15.31	196	T	T	08 46 50.9	
	baz=22,slow=75						
H04N3	CROZET ISLANDS	15.32	196	T	T	08 46 47.7	
	baz=22,slow=75						

comp=Z,2.9nm,0.6s
ASAR Alice Springs 66.62 104 P **P 08 38 04.1 -2.5**
ASAR Alice Springs 66.62 104 P **P 08 38 04.3 -2.3**
comp=Z,1.2nm,0.6s,baz=240,slow=6.0,SNR=21
comp=Z,1.2nm,0.6s
WRA Warramunga Arr 68.63 101 P **P 08 38 17.3 -1.9**
comp=Z,1.7nm,0.8s,baz=241,slow=5.5,SNR=11
comp=Z,1.7nm,0.8s
WB0 Warramunga Arr 68.75 101 P **P 08 38 17.8 -2.2**
WR0 Warramunga Arr 68.79 101 P **P 08 38 18.6 -1.6**
TORD Torodi Ar. Bea 69.81 300 P **P 08 38 29.1 +2.7**
comp=Z,0.7nm,0.8s,baz=87,slow=3.7,SNR=4.0
comp=Z,0.7nm,0.8s
BRTR Keskin Array B 74.42 341 P **P 08 38 54.9 +1.1**
comp=Z,1.1nm,0.8s,baz=177,slow=6.2,SNR=5.2
comp=Z,1.1nm,0.8s
KKAR Karatay Array 75.21 10 P **P 08 38 59.6 +1.6**
ABKAR Akbulak array 80.49 1 P **P 08 39 28.8 +1.6**
MK31 Makanchi Array 81.06 17 P **P 08 39 29.5 -0.9**
MKAR Makanchi Array 81.06 17 P **P 08 39 30.8 +0.3**
comp=Z,0.6nm,0.7s,baz=206,slow=5.3,SNR=4.1
comp=Z,0.6nm,0.7s
KURBB Kurchatov Arra 83.86 13 P **P 08 39 45.6 +0.8**
comp=Z,2.5nm,0.9s,baz=205,slow=5.9,SNR=10
comp=Z,2.5nm,0.9s
KURK Kurchatov 83.96 13 P **P 08 39 46.2 +0.8**
KURK IAmb IAmb 08 39 47.8
comp=Z,5.6nm,1.0s
BVAR Borovoye Array 84.95 8 P **P 08 39 52.1 +1.8**
comp=Z,4.3nm,0.8s,baz=163,slow=5.7,SNR=18
comp=Z,4.3nm,0.8s
BRVK Borovoye 84.97 7 P **P 08 39 50.3 -0.2**
BRVK IAmb IAmb 08 39 52.9
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 148.69 353 PKPbc **PKiKP 08 47 02.8 -0.8**
comp=Z,2.3nm,0.8s,baz=357,slow=2.3,SNR=7.5
ULM Lac du Bonnet 152.98 321 PKPbc **PKPbc 08 47 12.4 -0.3**
comp=Z,1.0nm,0.7s,baz=336,slow=1.4,SNR=3.4

IDC 10 08:29:39.8±3.9, 53°.87N×90°.91E, h0km, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=30.5km s-min=25.2km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.60**	**274**	I	I	08 51 15.0	
	0.1nm,1.1s,baz=92,slow=314,SNR=12						
ZALV	**Zalesovo Beam**	**3.60**	**274**	Pg	Pb	08 30 46.1	+1.9
	1.2nm,0.3s,baz=88,slow=16,SNR=11						
ZALV				Lg	Lg	08 31 34.2	
	0.4nm,0.3s,baz=91,slow=25,SNR=2.4						
KURBB	**Kurchatov Arra**	**8.26**	**252**	Pn	Pn	08 31 39.0	-1.8
	baz=65,slow=15,SNR=2.9						
KURBB				Sn	Sn	08 33 13.1	-1.6
	0.1nm,0.3s,baz=67,slow=26,SNR=5.9						
KURBB				Lg	Lg	08 34 03.8	
	0.1nm,0.3s,baz=66,slow=32,SNR=11						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**8.97**	**221**	Pn	Pn	08 31 52.1	+1.6
	0.1nm,0.3s,baz=38,slow=12,SNR=2.3						
MKAR				Sn	Sn	08 33 31.7	-0.5
	0.1nm,0.3s,baz=36,slow=27,SNR=3.3						
MKAR				Lg	Lg	08 34 21.6	
	baz=43,slow=28,SNR=5.3						
	0.2nm,0.4s						

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*IDC **10** 08:33:35.7±1.4, 31°.70S×58°.36E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=51.0km s-min=32.1km az=82.0*
ISC 10 08:33:37.9±1.4, 31°.75S±0°.2×58°.3E±0°.4, h14km, n7, σ0s50/7, mb4.1/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.48**	**180**	P	**P**	**08 43 33.4**	**+0.1**
	1.8nm,1.0s,baz=260,slow=7.7,SNR=2.6						
	1.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**63.27**	**44**	P	**P**	**08 44 06.3**	**0.0**
	0.8nm,0.3s,baz=237,slow=8.0,SNR=5.0						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**66.21**	**104**	P	**P**	**08 44 26.0**	**+0.4**
	0.4nm,0.7s,baz=232,slow=5.9,SNR=2.3						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**68.21**	**101**	P	**P**	**08 44 37.9**	**-0.4**
	0.5nm,0.8s,baz=242,slow=5.5,SNR=2.6						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**83.88**	**13**	P	**P**	**08 46 06.7**	**0.0**
	1.4nm,1.0s,baz=205,slow=5.8,SNR=5.5						
	1.4nm,1.0s						
BVAR	**Borovoye Array**	**85.01**	**7**	P	**P**	**08 46 13.0**	**+0.5**
	1.8nm,0.7s,baz=174,slow=5.8,SNR=9.4						
	1.8nm,0.7s						
YKA	**Yellowknife Ar**	**148.85**	**354**	PKPbc	**PKPbc**	**08 53 23.7**	**-0.6**
	0.7nm,0.7s,baz=354,slow=3.0,SNR=3.9						

IDC 10 08:34:22.2±2.4, 53°.95N×86°.43E, h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=20.1km s-min=12.0km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**271**	I	I	08 40 40.0	
	baz=90,slow=313,SNR=1.4						
ZALV	**Zalesovo Beam**	**0.95**	**271**	Pg	Pg	08 34 39.5	-1.1
	0.9nm,0.3s,baz=85,slow=16,SNR=7.3						
ZALV				Lg	Lg	08 34 54.1	
	4.4nm,0.3s,baz=91,slow=35,SNR=11						
KURBB	**Kurchatov Arra**	**5.88**	**239**	Pn	Pn	08 35 51.5	+1.0
	0.2nm,0.3s,baz=58,slow=13,SNR=6.6						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**7.63**	**202**	Pn	Pn	08 36 15.8	+1.2
	0.3nm,0.3s,baz=24,slow=13,SNR=18						
MKAR				Lg	Lg	08 38 23.4	
	0.1nm,0.3s,baz=24,slow=32,SNR=1.3						
	0.6nm,0.2s						

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*IDC **10** 08:37:12.6±0.8, 31°.67S×58°.12E, h0km, mb3.9/10, mbtmp3.9/10, Error ellipse: s-maj=29.9km s-min=21.8km az=89.0*
ISC 10 08:37:15.3±0.8, 31°.7S±0°.2×58°.1E±0°.2, h17km, n14, σ0s61/11, mb3.9/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.27**	**197**	T	T	08 56 07.9	
	baz=21,slow=75,SNR=8.2						
H04N1	**CROZET ISLANDS**	**15.28**	**197**	T	T	08 56 09.0	
	baz=21,slow=75,SNR=6.7						
H04N3	**CROZET ISLANDS**	**15.29**	**197**	T	T	08 56 07.3	
	baz=21,slow=75,SNR=8.1						
SNAA	**Sanae**	**51.20**	**201**	P	**P**	**08 46 17.5**	**+0.1**
	1.5nm,1.1s,baz=85,slow=11,SNR=3.2						
	1.5nm,1.1s						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**08 47 10.3**	**-0.1**
	2.0nm,0.6s,baz=266,slow=1.8,SNR=16						
	2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.38**	**44**	P	**P**	**08 47 44.0**	**0.0**
	1.4nm,0.3s,baz=236,slow=7.8,SNR=6.0						
	1.4nm,0.3s						
ASAR	**Alice Springs**	**66.39**	**104**	P	**P**	**08 48 03.9**	**+0.2**
	0.3nm,0.4s,baz=236,slow=6.5,SNR=6.1						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**68.39**	**101**	P	**P**	**08 48 16.2**	**-0.2**
	0.6nm,0.9s,baz=240,slow=5.8,SNR=2.5						
	0.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**70.05**	**300**	P	**P**	**08 48 26.9**	**+0.3**
	0.8nm,0.9s,baz=104,slow=5.8,SNR=3.7						
	0.8nm,0.9s						
BRTR	**Keskin Array B**	**74.59**	**341**	P	**P**	**08 48 52.7**	**-0.7**
	0.6nm,0.7s,baz=114,slow=3.6,SNR=2.9						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**81.10**	**17**	P	**P**	**08 49 28.8**	**-0.5**
	0.4nm,0.6s,baz=225,slow=7.5,SNR=3.8						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**83.91**	**13**	P	**P**	**08 49 44.3**	**+0.5**
	1.5nm,0.9s,baz=208,slow=6.2,SNR=7.0						
	1.5nm,0.9s						
BVAR	**Borovoye Array**	**85.02**	**7**	P	**P**	**08 49 50.3**	**+0.9**
	3.0nm,0.8s,baz=186,slow=5.7,SNR=13						
	3.0nm,0.8s						
YKA	**Yellowknife Ar**	**148.81**	**353**	PKPbc	**PKPbc**	**08 57 00.1**	**-1.0**
	0.7nm,0.8s,baz=0.8,slow=4.3,SNR=2.5						

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*IDC **10** 08:39:07.3±1.2, 31°.65S×58°.38E, h0km, mb4.1/7, mbtmp4.1/7, Error ellipse: s-maj=44.8km s-min=27.6km az=80.0*
ISC 10 08:39:09.3±1.3, 31°.7S±0°.2×58°.3E±0°.4, h14km, n11, σ0s56/8, mb4.1/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.35**	**197**	T	T	08 58 51.0	
	baz=22						
H04N1	**CROZET ISLANDS**	**15.35**	**197**	T	T	08 58 48.9	
	baz=22						
H04N3	**CROZET ISLANDS**	**15.36**	**197**	T	T	08 58 46.4	
	baz=22						
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**08 49 05.2**	**+0.2**
	0.9nm,0.6s,baz=278,slow=1.3,SNR=5.7						
	0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.25**	**44**	P	**P**	**08 49 37.8**	**+0.1**
	2.4nm,0.3s,baz=231,slow=6.5,SNR=4.8						
	2.4nm,0.3s						
ASAR	**Alice Springs**	**66.23**	**104**	P	**P**	**08 49 57.1**	**-0.1**
	0.9nm,0.6s,baz=242,slow=6.0,SNR=11						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**68.23**	**101**	P	**P**	**08 50 09.9**	**0.0**
	1.0nm,0.7s,baz=241,slow=5.7,SNR=6.8						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**81.02**	**16**	P	**P**	**08 51 23.1**	**-0.4**
	0.4nm,0.8s,baz=204,slow=3.2,SNR=3.7						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**83.84**	**13**	P	**P**	**08 51 38.4**	**+0.4**
	0.3nm,0.3s,baz=218,slow=5.9,SNR=4.1						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**84.97**	**7**	P	**P**	**08 51 44.4**	**+0.7**
	2.3nm,0.7s,baz=183,slow=5.8,SNR=9.5						
	2.3nm,0.7s						
YKA	**Yellowknife Ar**	**148.81**	**354**	PKPbc	**PKPbc**	**08 58 54.8**	**-0.8**
	1.6nm,0.8s,baz=359,slow=4.2,SNR=3.1						

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*IDC **10** 08:40:48.1±1.9, 34°.06S×58°.83E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=67.8km s-min=33.8km az=27.0*
ISC 10 08:40:49.9±1.8, 34°.1S±0°.4×58°.8E±0°.3, h10km, n6, σ0s79/6, mb3.9/6, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**64.70**	**43**	P	**P**	**08 51 28.9**	**+0.6**
	1.7nm,0.3s,baz=222,slow=8.0,SNR=4.9						
	1.7nm,0.3s						
ASAR	**Alice Springs**	**65.25**	**103**	P	**P**	**08 51 32.3**	**+0.2**
	0.3nm,0.6s,baz=236,slow=6.6,SNR=2.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**67.39**	**99**	P	**P**	**08 51 45.4**	**-0.4**
	0.4nm,0.7s,baz=240,slow=6.9,SNR=2.0						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**71.77**	**301**	P	**P**	**08 52 12.9**	**+0.2**
	0.5nm,0.9s,baz=123,slow=5.3,SNR=2.7						
	0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**86.09**	**12**	P	**P**	**08 53 29.3**	**-1.1**
	1.0nm,0.9s,baz=207,slow=5.9,SNR=5.6						
	1.0nm,0.9s						
BVAR	**Borovoye Array**	**87.30**	**7**	P	**P**	**08 53 36.4**	**+0.1**
	1.8nm,0.7s,baz=184,slow=4.5,SNR=7.1						
	1.8nm,0.7s						

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*IDC **10** 08:44:12.8±0.4, 31°.67S×58°.26E, h0km, mb4.7/27, mbtmp4.7/28, ML4.3/1, MS4.2/39, Error ellipse: s-maj=17.9km s-min=12.7km az=72.0*
*MOS **10** 08:44:12.3±0.8, 31°.72S×58°.22E, h8km, mb5.2/54, Error ellipse: s-maj=12.9km s-min=5.8km az=94.5*
*BJI **10** 08:44:13.5±0.0, 31°.70S×58°.20E, h10km, mb5.0/43, mB5.4/12, Ms5.1/11, Ms7 4.7/15*
*NEIC **10** 08:44:14.7±1.5, 31°.69S±0°.08×58°.2E±0°.1, h10km±1km, mb5.1/76, Error ellipse: s-maj=16.5km s-min=14.3km az=80.0*
*GCMT **10** 08:44:15.7±0.2, 31°.65S±0°.01×58°.10E±0°.02, h12km, MW5.1/124, Moment Tensor Solution. s65,c81; s124,c202; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.41±.11; $M_{\theta\theta}$6.04±.09; $M_{\phi\phi}$0.37±.11; $M_{r\theta}$0.04±.35; $M_{\theta\phi}$0.32±.10; $M_{\phi r}$1.89±.42; Best double couple: $M_0$6.48100×10^{16} NP1:ϕ_s253.00000°, δ48.00000°, λ-110.00000°. NP2:ϕ_s101.00000°, δ46.00000°, λ-70.00000°. Principal axes: T 6.0600, Plg1.0000°, Azm357.0000°; N 0.8420, Plg15.0000°, Azm266.0000°; P -6.9010, Plg75.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 08:44:15.6±0.3, 31°.64S±0°.06×58°.14E±0°.06, h17km, n555, σ0s95/535, mb5.1/136, MS4.4/51, 17C-2D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.65**	**348**	Pn	**Pn**	**08 46 44.5**	**-3.0**
FOMA	**Nahampoana Res**	**11.86**	**301**	Pn	**Pn**	**08 47 06.3**	**+2.4**
VOI	**Vohitsoka**	**14.01**	**311**	Pn	**Pn**	**08 47 33.3**	**-0.1**
H04N2	**CROZET ISLANDS**	**15.31**	**197**	T	T	09 03 53.3	
	baz=22,slow=75						
H04N1	**CROZET ISLANDS**	**15.31**	**197**	T	T	09 03 46.4	
	baz=22,slow=75						
H04N3	**CROZET ISLANDS**	**15.33**	**197**	T	T	09 03 44.3	
	baz=22,slow=75						
ABPO	**Ambohimpanom**	**15.96**	**319**	Pn	**Pn**	**08 48 00.8**	**+1.2**
ABPO	**Ambohimpanom**	**15.96**	**319**	P	**Pn**	**08 48 00.8**	**+1.2**
ABPO				pmax	pmax		
	comp=Z,39nm,1.3s						
OPO	**Ambohidratompo**	**16.34**	**320**	Pn	**Pn**	**08 48 06.5**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=136,slow=8.8,SNR=12						
OPO				Sn	**Sn**	**08 50 57.5**	**-8.1**
	comp=Z,0.1nm,0.3s,baz=18,slow=19,SNR=1.9						
OPO				LR	LR	08 53 01.5	
	comp=Z,1μm,19.1s,baz=10,slow=32						
	comp=Z,31nm,1.0s						
POGA	**Pongola**	**23.38**	**274**	P	**P**	**08 49 23.9**	**+0.5**
H08S1	**Diego Carcia H**	**27.36**	**32**	T	T	09 18 21.3	
	baz=206,slow=76,SNR=35						
H08S2	**Diego Garcia H**	**27.37**	**32**	T	T	09 18 15.5	
	baz=206,slow=76,SNR=29						
H08S3	**Diego Garcia H**	**27.38**	**32**	T	T	09 18 24.2	
	baz=206,slow=76,SNR=36						
BOSA	**Boshof**	**28.54**	**267**	LR	LR	09 00 10.9	
	comp=Z,283nm,19.5s,baz=106,slow=33						
MATP	**Matopo**	**28.79**	**286**	LR	LR	09 00 10.0	
	comp=Z,272nm,20.3s,baz=94,slow=33						
LBTB	**Lobatse**	**29.32**	**275**	P	**P**	**08 50 16.6**	**-0.9**
LBTB	**Lobatse**	**29.32**	**275**	P	**P**	**08 50 16.6**	**-0.9**
LBTB				pmax	pmax		
	comp=Z,15nm,1.4s						
SUR	**Sutherland**	**31.56**	**259**	LR	LR	09 01 05.4	
	comp=Z,721nm,20.9s,baz=130,slow=32						
LSZ	**Lusaka**	**31.79**	**294**	P	**P**	**08 50 39.2**	**-0.3**
LSZ				IAmb	IAmb	08 50 48.5	
	comp=Z,33nm,1.8s						
LSZ	**Lusaka**	**31.79**	**294**	P	**P**	**08 50 39.2**	**-0.3**
LSZ				pmax	pmax		
	comp=Z,33nm,1.8s						
KIBK	**Kibwezi**	**34.76**	**323**	P	**P**	**08 51 06.4**	**+1.2**
MAW	**Mawson**	**36.11**	**177**	P	**P**	**08 51 16.5**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=0.2,slow=13,SNR=5.5						
MAW				LR	LR	09 02 13.8	
	comp=Z,925nm,21.8s,baz=332,slow=30						
	comp=Z,4.0nm,0.9s						
KMBO	**Kilima Mbogo**	**36.20**	**323**	P	**P**	**08 51 19.1**	**+1.3**
KMBO	**Kilima Mbogo**	**36.20**	**323**	P	**P**	**08 51 19.2**	**+1.3**
KMBO				pmax	pmax		
	comp=Z,15nm,1.5s						
WIN	**Windhoek**	**37.45**	**274**	P	**P**	**08 51 28.2**	**-0.3**
WIN	**Windhoek**	**37.45**	**274**	P	**P**	**08 51 28.2**	**-0.3**
WIN				pmax	pmax		
	comp=Z,27nm,1.7s						
TSUM	**Tsumeb**	**38.45**	**279**	P	**P**	**08 51 37.3**	**+0.4**
TSUM	**Tsumeb**	**38.45**	**279**	LR	LR	09 05 44.8	
	comp=Z,491nm,20.9s,baz=150,slow=34						
PALK	**Pallekele**	**44.30**	**33**	LR	LR	09 06 45.4	
	comp=Z,285nm,19.0s,baz=302,slow=31						
FURI	**Furi**	**44.40**	**332**	LR	LR	09 07 53.9	
	comp=Z,309nm,21.5s,baz=177,slow=32						
ELIB	**Princess Elisa**	**44.41**	**195**	*d*P	**P**	**08 52 23.4**	**-1.7**
	comp=Z,4.9nm,1.3s						
ELIB				*d*PP	**PcP**	**08 54 08.6**	**0.0**
ATD	**Arta Tunnel**	**45.35**	**339**	LR	LR	09 08 10.0	
	comp=Z,42nm,21.3s,baz=149,slow=32						

H01W2 Cape Leeuwin H 46.42 110 T T 09 41 47.9
baz=257
H01W3 Cape Leeuwin H 46.42 110 T T 09 41 47.9
baz=257
H01W1 Cape Leeuwin H 46.44 110 T T 09 41 49.2
baz=257
NVL N'lazarevskaya 46.55 199 *e*P P 08 52 47.5 +5.7
NVL *e*S **S 08 59 31.2 +1.8**
NVL pmax pmax
comp=Z,9.0nm,0.9s
NVL MLR MLR
comp=Z,417nm,18.0s
NWAO Narrogin (SRO) 49.40 108 LR LR 09 09 27.5
comp=Z,165nm,19.0s,baz=125,slow=31
MORW Morawa 49.53 103 P **P 08 53 05.2 -0.4**
MORW IAmb IAmb 08 54 41.0
comp=Z,37nm,1.9s
TROLL Troll, Antarti 49.77 200 ⇑P P 08 53 00.9 -6.1
comp=Z,90nm,0.8s
GIRL Giralia 50.26 94 P **P 08 53 11.8 +0.7**
SNAA Sanae 51.24 201 P **P 08 53 17.7 -0.2**
SNAA Sanae 51.24 201 ⇑P **P 08 53 17.0 -0.9**
comp=Z,75nm,0.8s
SNAA Sanae 51.24 201 P **P 08 53 17.4 -0.6**
comp=Z,3.3nm,0.8s,baz=108,slow=5.5,SNR=12
SNAA LR LR 09 10 09.3
comp=Z,531nm,21.5s,baz=103,slow=30
comp=Z,3.3nm,0.8s
SNAA Sanae 51.24 201 *i*P **P 08 53 17.0 -0.9**
SNAA pmax pmax
comp=Z,7.0nm,1.0s
VNA2 Neumayer--Watz 52.47 202 ⇑P **P 08 53 25.9 -1.1**
comp=Z,2.4nm,0.6s,baz=79,slow=1.6
HYB Hyderabad 52.56 25 *e*P **P 08 53 29.4 +1.0**
VNA3 Neumayer Olymp 53.26 202 ⇑P **P 08 53 32.6 -0.3**
comp=Z,6.6nm,0.8s
PSA00 Pilbara Seismi 55.45 96 P **P 08 53 48.2 -1.3**
PSA00 IAmb IAmb 08 54 30.2
comp=Z,18nm,1.4s
MBWA Marble Bar 55.52 95 P **P 08 53 49.4 -0.7**
RAYN Ar Rayn 56.16 346 P **P 08 53 55.0 +0.5**
RAYN IAmb IAmb 08 54 05.6
comp=Z,32nm,1.6s
RAYN Ar Rayn 56.16 346 P **P 08 53 55.0 +0.5**
RAYN pmax pmax
comp=Z,32nm,1.6s
QSPA South Pole Qui 58.53 180 P **P 08 54 10.2 -0.7**
QSPA IAmb IAmb 08 54 20.0
comp=Z,28nm,1.1s
QSPA South Pole Qui 58.53 180 P **P 08 54 10.8 -0.1**
comp=Z,9.5nm,0.6s,baz=264,slow=2.0,SNR=85
QSPA LR LR 09 16 08.9
comp=Z,597nm,21.5s,baz=270,slow=33
comp=Z,9.5nm,0.6s
FITZ Fitzroy Crossi 61.86 95 P **P 08 54 33.8 -0.5**
VNDA Vanda 62.26 166 P **P 08 54 35.5 -0.5**
VNDA Vanda 62.26 166 P **P 08 54 35.6 -0.3**
comp=Z,2.8nm,0.9s,baz=262,slow=7.8,SNR=10
VNDA LR LR 09 18 35.2
comp=Z,428nm,21.8s,baz=244,slow=33
comp=Z,2.8nm,0.9s
SBA Scott Base 63.10 167 P **P 08 54 41.4 -0.2**
SBA IAmb IAmb 08 54 52.0
comp=Z,23nm,1.4s
SBA Scott Base 63.10 167 P **P 08 54 41.4 -0.2**
SBA pmax pmax
comp=Z,23nm,1.5s
KAPI Kappang 63.30 79 P **P 08 54 43.1 -0.7**
comp=Z,9.3nm,0.7s,baz=244,slow=3.5,SNR=2.9
comp=Z,9.3nm,0.7s
KAPI Kappang 63.30 79 *i*P **P 08 54 42.4 -1.5**
KAPI pmax pmax
comp=Z,11nm,0.9s
CM31 Chiang Mai Arr 63.35 44 P **P 08 54 43.9 -0.2**
CMAR Chiang Mai Arr 63.35 44 P **P 08 54 44.0 0.0**
CMAR Chiang Mai Arr 63.35 44 P **P 08 54 43.8 -0.3**
comp=Z,17nm,0.8s,baz=230,slow=7.1,SNR=58
CMAR LR LR 09 17 07.9
comp=Z,330nm,22.0s,baz=230,slow=31
comp=Z,17nm,0.8s
CMAR Chiang Mai Arr 63.35 44 P **P 08 54 44.0 0.0**
CHTO Chiang Mai 63.63 44 P **P 08 54 45.7 -0.2**
CHTO IAmb IAmb 08 54 46.9
comp=Z,17nm,1.1s
CHTO Chiang Mai 63.63 44 P **P 08 54 45.7 -0.2**
CHTO pmax pmax
comp=Z,17nm,1.2s
PHRA Phrae 64.15 45 P **P 08 54 49.5 +0.3**
EIL Elat 64.83 338 LR LR 09 18 21.6
comp=Z,314nm,21.7s,baz=214,slow=32
SHL Shillong 65.38 33 P **P 08 54 57.0 -0.4**
SHL Shillong 65.38 33 P **P 08 54 57.0 -0.4**
SHL pmax pmax
comp=Z,83nm,1.6s
CRAI Chiangrai 65.57 44 P **P 08 54 58.8 +0.3**
CRAI IAmb IAmb 08 54 59.7
comp=Z,14nm,1.2s
ASAR Alice Springs 66.38 104 P **P 08 55 02.8 -1.2**
ASAR Alice Springs 66.38 104 P **P 08 55 03.2 -0.8**
comp=Z,14nm,0.7s,baz=238,slow=5.9,SNR=169
ASAR LR LR 09 19 13.7
comp=Z,108nm,21.7s,baz=255,slow=32
comp=Z,14nm,0.7s
AS31 Alice Springs 66.38 104 P **P 08 55 02.7 -1.2**
KBL Kabul 66.62 10 P **P 08 55 05.9 +0.6**
KBL Kabul 66.62 10 P **P 08 55 05.9 +0.6**
KBL pmax pmax
comp=Z,51nm,1.7s
TOLI2 Tolitoli 67.56 74 P **P 08 55 10.1 -1.3**
TOLI2 IAmb IAmb 08 55 12.4
comp=Z,24nm,1.0s
MMAI Mount Meron Ar 67.80 339 P **P 08 55 13.5 +1.0**
comp=Z,0.6nm,0.3s,baz=152,slow=7.8,SNR=6.1
MMAI LR LR 09 22 35.7
comp=Z,125nm,19.1s,baz=107,slow=34
comp=Z,0.6nm,0.3s
WRA Warramunga Arr 68.39 101 P **P 08 55 15.6 -1.1**
WRA Warramunga Arr 68.39 101 P **P 08 55 15.9 -0.8**
comp=Z,18nm,0.7s,baz=242,slow=5.4,SNR=85
WRA LR LR 09 21 08.5
comp=Z,201nm,19.8s,baz=326,slow=32
comp=Z,18nm,0.7s
WB2 Warramunga Arr 68.40 101 P **P 08 55 15.5 -1.2**
WB2 IAmb IAmb 08 55 17.3
comp=Z,25nm,0.9s
WRAB Tennant Creek 68.40 101 P **P 08 55 15.8 -1.0**
WRAB Tennant Creek 68.40 101 *i*P **P 08 55 15.4 -1.3**
WRAB pmax pmax
comp=Z,32nm,0.9s
WB0 Warramunga Arr 68.51 101 P **P 08 55 16.2 -1.2**
WB0 IAmb IAmb 08 55 17.8
comp=Z,22nm,0.8s
SLVN Son La 68.54 46 P **P 08 55 17.6 +0.1**
SLVN IAmb IAmb 08 55 19.1
comp=Z,15nm,1.0s
WR0 Warramunga Arr 68.55 101 P **P 08 55 16.2 -1.4**
WR0 IAmb IAmb 08 57 35.7
comp=Z,21nm,0.9s
TORD Torodi Ar. Bea 70.04 300 P **P 08 55 27.1 +0.3**
comp=Z,4.4nm,1.0s,baz=88,slow=5.7,SNR=14
TORD LR LR 09 26 01.8
comp=Z,544nm,19.8s,baz=130,slow=36
comp=Z,4.4nm,1.0s
LKRN Lenkeran, Azer 70.53 352 P **P 08 55 29.8 +0.6**
SIMJ Simiganj 70.67 9 P **P 08 55 30.9 +0.5**
QIZ Qiongzhong 70.68 52 P P 08 55 37.3 +6.7
QIZ S **S 09 04 47.8 +3.5**
QIZ pmax pmax
comp=Z,30nm,1.7s
QIZ LR LR
comp=Z,550nm,17.1s
QIZ LR LR
comp=Z,350nm,11.8s
QIZ LR LR
comp=Z,500nm,21.4s
CHGR Chuyangaron 70.69 9 P **P 08 55 30.3 -0.1**
CHGR Chuyangaron 70.69 9 P **P 08 55 30.3 -0.1**
CHGR pmax pmax
comp=Z,82nm,1.3s
KMI Kunming 70.73 42 ⇑P **P 08 55 31.2 +0.1**
KMI pP sP 08 55 36.5 -0.4
KMI pmax pmax
comp=Z,14nm,1.0s
KMI LR LR
comp=Z,350nm,17.7s
GAR Garm 71.19 10 P **P 08 55 33.4 -0.1**

GAR IAmb IAmb 08 55 34.6
comp=Z,26nm,1.3s
PZH PanZhiHua 71.23 41 P **P 08 55 36.8 +2.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,210nm,6.9s
NAX Nakhchivan 71.43 350 P **P 08 55 34.6 -0.2**
DRK Karamyk 71.89 11 P **P 08 55 38.1 +0.2**
BTK Batken 72.30 10 P **P 08 55 39.7 -0.4**
BTK IAmb IAmb 08 55 50.3
comp=Z,61nm,1.8s
BTK Batken 72.30 10 P **P 08 55 39.7 -0.4**
BTK pmax pmax
comp=Z,61nm,1.8s
GNI Garni 72.50 349 P **P 08 55 42.6 +1.3**
GNI Garni 72.50 349 *ce*P **P 08 55 41.9 +0.6**
GNI pmax pmax
comp=Z,40nm,2.5s
SMAI San Martin Ant 72.57 199 P **P 08 55 41.0 -0.3**
SMAI IAmb IAmb 08 55 51.2
comp=Z,27nm,1.2s
KSH Kashi 72.71 14 P **P 08 55 40.3 -2.3**
KSH sP sP 08 55 48.3 0.0
KSH pmax pmax
comp=Z,19nm,1.0s
KSH LR LR
comp=Z,560nm,21.0s
KSH LR LR
comp=Z,380nm,17.9s
KSH LR LR
comp=Z,630nm,22.0s
ARPR Arapgir-MALATY 72.74 344 P **P 08 55 44.1 +1.3**
ARPR IAmb IAmb 08 55 45.6
comp=Z,22nm,1.2s
GANJ Ganja 72.75 351 P **P 08 55 43.9 +1.2**
KARP Karpathos 72.89 334 P **P 08 55 44.0 +0.3**
BNN Bunyan 73.14 342 P **P 08 55 46.2 +1.1**
BNN IAmb IAmb 08 55 47.3
comp=Z,26nm,1.0s
SEKA Sheki 73.19 351 P **P 08 55 46.5 +1.2**
IDI Anoyia 73.54 332 LR LR 09 26 10.0
comp=Z,90nm,21.7s,baz=117,slow=34
ARSB Arslanbob 73.88 12 P **P 08 55 50.2 +0.7**
ARSB Arslanbob 73.88 12 P **P 08 55 50.2 +0.7**
ARSB pmax pmax
comp=Z,4.0nm,1.1s
PMSA Palmer Station 73.92 202 LR LR 09 21 21.4
comp=Z,346nm,19.9s,baz=122,slow=30
IUG Iuzhnay 74.23 9 *e*P **P 08 55 52.1 +0.6**
comp=Z,21nm,1.0s,baz=9.0
IUG Iuzhnay 74.23 9 *e*P **P 08 55 52.1 +0.6**
IUG pmax pmax
comp=Z,21nm,1.0s
CHM Chimkent 74.35 9 *e*P **P 08 55 52.9 +0.8**
comp=Z,10nm,0.7s,baz=8.7
CHM Chimkent 74.35 9 *e*P **P 08 55 52.8 +0.8**
CHM pmax pmax
comp=Z,10.0nm,0.7s
BRTR Keskin Array B 74.55 341 P **P 08 55 53.4 0.0**
BRTR Keskin Array B 74.55 341 P **P 08 55 53.2 -0.2**
comp=Z,5.2nm,0.9s,baz=169,slow=7.1,SNR=24
comp=Z,5.2nm,0.9s
BRTR Keskin Array B 74.55 341 *i* P **P 08 55 54.0 +0.6**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BR131 Keskin Array S 74.56 341 P **P 08 55 53.7 +0.3**
BR131 Keskin Array S 74.56 341 *i* P **P 08 55 53.0 -0.4**
MAK Makhachkala 74.87 352 *e*P P 08 55 50.2 -4.8
MAK *e* 08 58 40.9
MAK *e*S **S 09 05 26.1 -5.0**
MAK pmax pmax
comp=Z,177nm,1.4s
MAK MLR MLR
comp=Z,204nm,16.0s
BRLS Borolday 75.08 9 *e*P **P 08 55 54.8 -1.4**
baz=8.6
BRLS Borolday 75.08 9 *e*P **P 08 55 54.8 -1.4**
ONI Oni 75.09 349 P **P 08 55 57.2 +0.8**
ONI Oni 75.09 349 P **P 08 55 57.2 +0.8**
ONI pmax pmax
comp=Z,9.0nm,1.0s
TARG Taragay, Kyrgy 75.22 15 P **P 08 55 57.8 +0.2**
TARG Taragay, Kyrgy 75.22 15 P **P 08 55 57.8 +0.2**
TARG pmax pmax
comp=Z,8.0nm,1.1s
KK31 Karatay Array 75.24 9 P **P 08 55 58.1 +1.0**
KK31 IAmb IAmb 08 55 59.5
comp=Z,22nm,1.1s
KK31 Karatay Array 75.24 9 P **P 08 55 58.1 +1.0**
KK31 pmax pmax
comp=Z,22nm,1.2s
KKAR Karatay Array 75.24 9 P **P 08 55 57.9 +0.7**
KKAR Karatay Array 75.24 9 P **P 08 55 58.1 +1.0**
KKAR IAmb IAmb 08 55 59.5
comp=Z,22nm,1.1s
KKAR Karatay Array 75.24 9 P **P 08 55 58.1 +1.0**
KKAR pmax pmax
comp=Z,22nm,1.2s
AAK Ala-Archa 75.42 12 P **P 08 55 59.4 +1.0**
AAK IAmb IAmb 08 56 01.1
comp=Z,50nm,1.6s
AAK Ala-Archa 75.42 12 P **P 08 55 59.6 +1.1**
comp=Z,11nm,1.0s,baz=197,slow=7.1,SNR=16
AAK LR LR 09 27 48.7
comp=Z,83nm,18.3s,baz=196,slow=35
comp=Z,11nm,1.0s
AAK Ala-Archa 75.42 12 *ce*P **P 08 55 59.8 +1.4**
AAK pmax pmax
comp=Z,52nm,2.5s
CD2 Chengdu 75.76 39 P **P 08 55 59.6 -0.9**
CD2 pmax pmax
comp=Z,20nm,0.5s
SGDS Sogindy 76.24 12 *e*P **P 08 56 03.6 +0.7**
baz=12
SGDS Sogindy 76.24 12 *e*P **P 08 56 03.6 +0.7**
KBZ Khabaz 76.29 349 P **P 08 56 04.0 +1.0**
comp=Z,3.7nm,1.1s,baz=196,slow=1.3,SNR=9.3
comp=Z,3.7nm,1.1s
KBZ Khabaz 76.29 349 *ce*P **P 08 56 05.0 +1.9**
KBZ pmax pmax
comp=Z,19nm,2.5s
TNSS Tian-Shan 76.29 14 *e*P **P 08 56 03.9 +0.2**
baz=14
TNSS Tian-Shan 76.29 14 *e*P **P 08 56 03.8 +0.2**
SHA1 Shidzhatmaz 76.34 349 *ce*P **P 08 56 05.7 +2.0**
MDOK Medeo 76.43 14 *e*P **P 08 56 04.5 +0.4**
baz=14
MDOK Medeo 76.43 14 *e*P **P 08 56 04.5 +0.4**
AAA Alma-Ata 76.45 14 *e*P **P 08 56 04.7 +0.6**
baz=14
AAA Alma-Ata 76.45 14 *e*P **P 08 56 04.7 +0.6**
KIV Kislovodsk 76.54 349 *e*P **P 08 56 05.0 +0.3**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,170nm,18.0s
SATY Saty 76.62 15 *e*P **P 08 56 05.6 +0.4**
comp=Z,11nm,1.0s,baz=15
SATY Saty 76.62 15 *e*P **P 08 56 05.6 +0.4**
SATY pmax pmax
comp=Z,11nm,1.0s
SOC Sochi 76.73 346 *e*P **P 08 56 05.2 -0.4**
SOC *e* 08 58 58.0
SOC *e*PPP PPP 09 00 44.9
SOC *e*S **S 09 05 53.9 +2.2**
SOC *e* 09 10 52.4
SOC MLR MLR
comp=Z,89nm,16.0s
ZHN Zhinishke 76.73 15 *e*P **P 08 56 06.2 +0.3**
baz=15
ZHN Zhinishke 76.73 15 *e*P **P 08 56 06.1 +0.3**
UZB Uzynbulak 76.85 16 *e*P **P 08 56 07.0 +0.5**
comp=Z,13nm,1.0s,baz=15
UZB Uzynbulak 76.85 16 *e*P **P 08 56 07.0 +0.5**
UZB pmax pmax
comp=Z,13nm,1.0s
SHLS Shalkode 76.96 16 *e*P **P 08 56 08.4 +1.3**
comp=Z,10nm,1.0s,baz=16
SHLS Shalkode 76.96 16 *e*P **P 08 56 08.4 +1.3**
SHLS pmax pmax
comp=Z,10.0nm,1.0s
KPKS Kokpek 77.07 15 *e*P **P 08 56 08.0 +0.2**
comp=Z,9.1nm,0.9s,baz=15
KPKS Kokpek 77.07 15 *e*P **P 08 56 07.9 +0.2**
KPKS pmax pmax
comp=Z,9.0nm,0.9s
CHKK Chushkaly 77.08 14 *e*P **P 08 56 07.8 +0.1**
baz=14
CHKK Chushkaly 77.08 14 *e*P **P 08 56 07.7 +0.1**
BTLS Baital 77.68 11 *e*P **P 08 56 11.5 +0.6**
baz=11
BTLS Baital 77.68 11 *e*P **P 08 56 11.5 +0.6**
AGG Agios Georgios 77.79 332 P **P 08 56 11.6 -0.1**
AGG IAmb IAmb 08 56 13.2
comp=Z,17nm,1.0s
AGG Agios Georgios 77.79 332 P **P 08 56 11.6 -0.1**
AGG pmax pmax
comp=Z,17nm,1.0s
CTA Charters Tower 78.20 106 P **P 08 56 13.8 -0.7**
comp=Z,0.4nm,0.8s,baz=359,slow=8.0,SNR=3.7
CTA LR LR 09 26 56.7
comp=Z,15nm,19.9s,baz=260,slow=33
TDK Taldyqorghan 78.48 15 *e*P **P 08 56 15.5 +0.1**
comp=Z,10nm,0.6s,baz=14
TDK Taldyqorghan 78.48 15 *e*P **P 08 56 15.5 +0.1**
TDK pmax pmax
comp=Z,10.0nm,0.6s
LIT Litokhoron 78.65 333 P **P 08 56 16.9 +0.4**
LIT IAmb IAmb 08 56 17.9
comp=Z,15nm,1.0s
LIT Litokhoron 78.65 333 P **P 08 56 16.9 +0.4**
LIT pmax pmax
comp=Z,15nm,1.0s
SIM Simferopol' 79.30 343 *e*P **P 08 56 21.3 +1.5**
SIM pmax pmax
comp=Z,34nm,1.1s
WMQ Urumqi 79.81 21 *e*P **P 08 56 23.9 +1.1**
WMQ sP sP 08 56 29.2 +0.6
WMQ PcP **pwP 08 56 34.4 +1.8**
WMQ pmax pmax
comp=Z,17nm,1.9s
WMQ LR LR
comp=Z,550nm,22.1s
WMQ LR LR
comp=Z,220nm,18.5s
LZH Lanzhou 79.84 36 *e*P **P 08 56 22.8 -0.5**
LZH sP PcP 08 56 30.8 0.0
LZH pmax pmax
comp=Z,15nm,1.5s
ABKAR Akbulak array 80.55 1 P **P 08 56 26.7 +0.2**
ABKAR Akbulak array 80.55 1 P **P 08 56 27.1 +0.6**
ABKAR IAmb IAmb 08 56 28.3
comp=Z,26nm,1.1s
GTA Gaotai 80.59 31 *e*P **P 08 56 27.9 +0.7**
GTA pP pwP 08 56 35.9 -1.0
GTA pmax pmax
comp=Z,16nm,1.1s
XAN Xi'an 80.97 41 ⇑P **P 08 56 29.3 +0.1**
XAN pP PcP 08 56 37.3 +1.6
XAN pmax pmax
comp=Z,31nm,1.3s
MAKZ Makanchi 81.00 16 P **P 08 56 29.3 +0.3**
MAKZ IAmb IAmb 08 56 30.6
comp=Z,20nm,1.4s
MAKZ Makanchi 81.00 16 P **P 08 56 29.3 +0.3**
MAKZ pmax pmax
comp=Z,20nm,1.4s
MK31 Makanchi Array 81.06 17 P **P 08 56 29.6 +0.3**
MK31 IAmb IAmb 08 56 30.9
comp=Z,30nm,1.8s
MK31 Makanchi Array 81.06 17 *ce*P **P 08 56 29.8 +0.5**
MKAR Makanchi Array 81.06 17 P **P 08 56 29.2 -0.2**
MKAR Makanchi Array 81.06 17 P **P 08 56 29.5 +0.1**
comp=Z,4.1nm,0.9s,baz=205,slow=5.4,SNR=29
MKAR LR LR 09 29 37.4
comp=Z,176nm,21.1s,baz=223,slow=34
comp=Z,4.1nm,0.9s
MKAR Makanchi Array 81.06 17 *i* P **P 08 56 29.8 +0.5**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
KEST Kesra 81.16 322 P **P 08 56 31.9 +1.7**
KEST IAmb IAmb 08 56 34.2
comp=Z,30nm,1.6s
KEST Kesra 81.16 322 P **P 08 56 31.0 +0.8**
comp=Z,6.6nm,1.1s,baz=214,slow=3.2,SNR=5.2
comp=Z,6.6nm,1.1s
PUK Puka 81.33 332 P **P 08 56 31.5 +0.5**
PUK IAmb IAmb 08 56 41.2
comp=Z,34nm,1.4s
AKTO Aktyubinsk 81.71 360 P **P 08 56 33.2 +0.5**
comp=Z,4.2nm,0.9s,baz=181,slow=4.6,SNR=14
comp=Z,4.2nm,0.9s
MLR Muntele Rosu 82.14 338 P **P 08 56 35.4 +0.2**
MLR IAmb IAmb 08 56 36.7
comp=Z,21nm,1.1s
MLR Muntele Rosu 82.14 338 P **P 08 56 35.4 +0.2**
MLR pmax pmax
comp=Z,21nm,1.1s
VRI Vrincioaia 82.23 338 P **P 08 56 36.0 +0.5**
VRI pmax pmax
comp=Z,39nm,1.1s
VRI Vrincioaia 82.23 338 P **P 08 56 36.0 +0.5**
ZSN Zaisan 82.32 18 *e*P **P 08 56 37.0 +1.0**
comp=Z,9.7nm,1.0s,baz=18
ZSN Zaisan 82.32 18 *e*P **P 08 56 37.0 +1.0**
ZSN pmax pmax
comp=Z,10.0nm,1.0s
VOIR 82.39 337 P **P 08 56 36.2 -0.3**
VOIR pmax pmax
comp=Z,13nm,1.2s
RPZ Rata Peaks 83.19 138 LR LR 09 25 39.6
comp=Z,544nm,19.6s,baz=176,slow=30
LYN LuoYang 83.35 42 *e*P **P 08 56 42.7 +1.1**
LYN pmax pmax
comp=Z,15nm,0.6s
BZS Buzias 83.73 335 P **P 08 56 43.9 +0.6**
BZS pmax pmax
comp=Z,9.0nm,1.7s
VRH Novokhopyorsk 83.74 350 *e*P **P 08 56 43.5 +0.3**
VRH pmax pmax
comp=Z,25nm,0.3s
KURBB Kurchatov Arra 83.87 13 P **P 08 56 44.5 +0.7**
comp=Z,22nm,1.1s,baz=206,slow=5.5,SNR=64
comp=Z,22nm,1.1s
VORD Divnogorie 83.91 348 *e*P **P 08 56 42.0 -2.0**
VORD pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 83.97 13 P **P 08 56 45.2 +0.8**
KURK Kurchatov 83.97 13 *ce*P **P 08 56 45.4 +1.0**
KURK pmax pmax
comp=Z,55nm,1.3s
SEM Semipalatinsk 84.00 14 *e*P **P 08 56 45.5 +0.6**
comp=Z,11nm,1.0s,baz=14
SEM Semipalatinsk 84.00 14 *e*P **P 08 56 45.4 +0.6**
SEM pmax pmax
comp=Z,11nm,1.0s
VSR Storozhevoye 84.17 348 *e*P **P 08 56 42.9 -2.5**
VSR pmax pmax
comp=Z,10.0nm,1.1s
BELG Belogornoye 84.18 354 *i* P **P 08 56 46.0 +0.6**
BELG pmax pmax
comp=Z,6.0nm,1.1s
BUR08 Bucovina Ar. S 84.29 338 P **P 08 56 46.4 +0.1**
BUR08 IAmb IAmb 08 56 48.4
comp=Z,10nm,1.2s
PMG Port Moresby 84.31 97 LR LR 09 31 02.5
comp=Z,84nm,19.4s,baz=246,slow=33
VORR Voronezh 84.61 348 *e*P **P 08 56 47.8 +0.2**
VORR pmax pmax
comp=Z,59nm,0.4s
BVAR Borovoye Array 84.98 7 P **P 08 56 50.1 +0.6**
comp=Z,25nm,0.9s,baz=174,slow=5.2,SNR=76
comp=Z,25nm,0.9s
BRVK Borovoye 85.00 7 P **P 08 56 50.2 +0.6**
BRVK Borovoye 85.00 7 *ce*P **P 08 56 50.6 +1.0**
BRVK pmax pmax
comp=Z,46nm,1.3s
NJ2 Nanjing 85.49 48 *e*P **P 08 56 53.9 +1.4**
NJ2 pmax pmax
comp=Z,12nm,0.6s
LPSR Galich'ya Gora 85.55 348 *e*P **P 08 56 50.7 -1.6**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
KIEV Kiev 85.87 342 P **P 08 56 54.0 +0.1**
KIEV IAmb IAmb 08 57 03.0
comp=Z,15nm,1.4s
KIEV Kiev 85.87 342 P **P 08 56 54.0 +0.1**
KIEV pmax pmax
comp=Z,15nm,1.4s
AKASG Malin Array Be 85.87 342 P **P 08 56 54.1 +0.1**
comp=Z,1.2nm,0.4s,baz=161,slow=4.3,SNR=3.9
AKASG LR LR 09 35 30.9
comp=Z,54nm,18.4s,baz=136,slow=36
comp=Z,1.2nm,0.4s
AKBB Malin Array Si 85.87 342 *i* P **P 08 56 53.6 -0.3**
AKBB pmax pmax
comp=Z,27nm,2.5s
BTO Baotou 86.42 37 *e*P **P 08 56 57.1 0.0**
BTO pP **pP 08 57 02.3 +0.9**
BTO sP **sP 08 57 04.5 +1.6**
BTO S **S 09 07 34.8 +2.5**
BTO pmax pmax
comp=Z,38nm,1.0s
BTO pmax pmax
comp=Z,580nm,5.6s
BTO LR LR
comp=Z,600nm,7.0s
BTO LR LR
comp=Z,740nm,6.9s
BTO LR LR
comp=Z,540nm,10.3s
HNS HongShan 86.64 42 ⇑P **P 08 56 58.6 +0.5**
HNS pmax pmax
comp=Z,32nm,1.1s
SOKA Soboth 87.12 332 *i* P **P 08 57 00.9 +0.6**
comp=Z,9.8nm,1.4s,SNR=5.6
VYHS Vyhne 87.17 335 *e*P **P 08 57 01.0 +0.6**
VYHS Vyhne 87.17 335 *e*P **P 08 57 01.0 +0.6**
OBKA Obir 87.18 332 *e*P **P 08 57 01.5 +0.9**
comp=Z,13nm,1.3s
TIA Tai'an 87.23 44 P **P 08 57 00.7 -0.3**
TIA pmax pmax
comp=Z,7.0nm,1.3s
RNPP5 Staryi Chortor 87.27 340 P **P 08 57 00.7 -0.1**
ARSA Arzberg 87.39 333 *e*P **P 08 57 02.6 +1.0**
comp=Z,0.2nm,0.3s
HHC Hu-ho-hao-te 87.40 38 *e*P **P 08 57 01.5 -0.3**
HHC pP pP 08 57 06.8 +0.7
HHC sP sP 08 57 09.7 +2.0
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,160nm,4.8s
NIE Niedzica 87.44 336 *e*P **P 08 57 02.5 +0.7**
RONA Rosalia, Austr 87.46 333 *i* P **P 08 57 03.1 +1.2**
comp=Z,18nm,1.4s,SNR=6.4
TEOL Teolo 87.48 329 P **P 08 57 02.9 +0.9**
PRED Cave del Predi 87.53 331 P **P 08 57 01.4 -0.8**
PRED IAmb IAmb 08 57 04.2
comp=Z,22nm,1.8s
ZST Bratislava 87.56 334 *e*P **P 08 57 02.2 -0.1**
ZST Bratislava 87.56 334 *e*P **P 08 57 02.2 -0.1**
MODS Modra-Piesok 87.64 334 *e*P **P 08 57 03.1 +0.4**
MODS Modra-Piesok 87.64 334 *e*P **P 08 57 03.1 +0.4**
MYKA Terra Mystica 87.65 331 *e*P **P 08 57 03.8 +1.0**
comp=Z,5.9nm,1.3s
ARU Arti 87.72 0 P **P 08 57 03.3 +0.5**
ARU Arti 87.72 0 P **P 08 57 03.1 +0.3**
comp=Z,3.2nm,0.2s,baz=166,slow=3.5,SNR=17
ARU LR LR 09 35 51.9
comp=Z,54nm,18.9s,baz=174,slow=35
comp=Z,3.2nm,0.2s
ARU Arti 87.72 0 *ce*P **P 08 57 03.9 +1.1**
ARU pmax pmax
comp=Z,62nm,2.5s
STAL STALIGIAL 87.74 330 P **P 08 57 03.7 +0.4**
STAL IAmb IAmb 08 57 05.0
comp=Z,11nm,1.2s
CONA Conrad Observa 87.81 333 *i* P **P 08 57 04.6 +0.9**
comp=Z,25nm,1.3s,SNR=13
JAVC Velka Javorina 87.90 335 *e*P **P 08 57 05.5 +1.5**
JAVC *e* 08 57 13.1
CTI Castel Tesino 88.03 330 P **P 08 57 05.3 +0.6**
CTI Castel Tesino 88.03 330 P **P 08 57 05.3 +0.6**
CTI pmax pmax
comp=Z,36nm,1.6s
KBA Koelnbreinsper 88.13 331 *i* P **P 08 57 06.2 +1.0**
comp=Z,16nm,1.4s,SNR=8.5
ABTA Abfaltersbach 88.21 331 *i* P **P 08 57 07.1 +1.6**
comp=Z,28nm,1.4s,SNR=8.7
OJC Ojcow 88.30 337 *e*P **P 08 57 05.5 -0.3**
OJC Ojcow 88.30 337 P **P 08 57 05.9 +0.1**
OJC IAmb IAmb 08 57 07.0
comp=Z,34nm,1.5s
OJC Ojcow 88.30 337 P **P 08 57 05.9 +0.1**
OJC pmax pmax
comp=Z,34nm,1.5s
ZALV Zalesovo Beam 88.31 15 P **P 08 57 04.9 -0.8**
comp=Z,4.0nm,0.7s,baz=192,slow=5.5,SNR=6.3
ZALV LR LR 09 35 08.2
comp=Z,137nm,18.5s,baz=190,slow=35
comp=Z,4.0nm,0.7s
OBN Obninsk 88.37 348 *e*P **P 08 57 06.7 +0.8**
OBN *e* 09 00 35.1
OBN *e*PPP PPP 09 02 30.9
OBN pmax pmax
comp=Z,36nm,1.3s
OBN MLR MLR
comp=Z,163nm,19.0s
MOA Molln 88.38 332 *i* P **P 08 57 07.0 +0.8**
comp=Z,20nm,1.3s,SNR=7.2
BIOA Bad Ischl, Aus 88.50 332 *i* P **P 08 57 07.8 +1.0**
comp=Z,13nm,1.1s
KRUC Moravsky 88.54 334 *e*P **P 08 57 06.7 -0.2**
KRUC *e* 08 57 14.8
VRAC Vranov 88.67 334 *e*P **P 08 57 08.0 +0.4**
VRAC *e* 08 57 15.6
VRAC Vranov 88.67 334 LR LR 09 37 08.3
comp=Z,23nm,18.9s,baz=157,slow=36
LESA Schwarzleotal 88.68 331 *e*P **P 08 57 07.8 +0.1**
comp=Z,4.6nm,0.5s
MORC Moravsky Berou 88.71 335 P **P 08 57 07.7 -0.1**
MORC IAmb IAmb 08 57 17.1
comp=Z,19nm,1.4s
MORC Moravsky Berou 88.71 335 *e*P **P 08 57 08.1 +0.3**
MORC *e* 08 57 16.0
MORC Moravsky Berou 88.71 335 P **P 08 57 07.7 -0.1**
MORC pmax pmax
comp=Z,19nm,1.4s
MOS Moscow 88.78 349 *e*P **P 08 57 06.5 -1.3**
WTTA Wattenberg 88.99 330 *i* P **P 08 57 10.4 +1.1**
comp=Z,6.8nm,0.5s
WATA Walderalm 89.07 330 *i* P **P 08 57 11.0 +1.4**
comp=Z,27nm,1.3s
SQTA Sankt Quirin 89.13 330 *i* P **P 08 57 11.2 +1.2**
comp=Z,21nm,1.0s,SNR=6.0
FETA Feichten 89.18 330 *i* P **P 08 57 11.0 +0.8**
comp=Z,20nm,1.1s,SNR=8.7
TUE Stuetta 89.36 329 P **P 08 57 11.6 +0.4**
TUE IAmb IAmb 08 57 20.5
comp=Z,12nm,1.1s
GEC2 GERESS Array S 89.40 332 P **P 08 57 10.9 -0.2**
GERES GERESS Array B 89.40 332 P **P 08 57 11.0 -0.1**
comp=Z,4.5nm,0.3s,baz=137,slow=13,SNR=1.7
comp=Z,4.5nm,0.3s
RETA Reutte 89.53 330 *i* P **P 08 57 12.5 +0.8**
comp=Z,20nm,1.4s
KHC Kasperske Hory 89.68 333 P **P 08 57 11.8 -0.5**
KHC Kasperske Hory 89.68 333 *ce*P **P 08 57 11.5 -0.8**
KHC pmax pmax
comp=Z,23nm,1.7s
DAVA Damuels 89.75 329 *i* P **P 08 57 13.9 +1.1**
comp=Z,6.9nm,0.7s
KSP Ksiaz 90.05 335 *e*P **P 08 57 14.2 +0.2**
KIRV Kirov 90.17 355 P **P 08 57 14.1 -0.2**
comp=Z,11nm,0.5s,baz=129,slow=8.2,SNR=5.7
comp=Z,11nm,0.5s
SONM Songino Array 90.18 30 P **P 08 57 13.9 -0.9**
SONM Songino Array 90.18 30 P **P 08 57 14.2 -0.6**
comp=Z,3.6nm,0.9s,baz=208,slow=3.8,SNR=15
SONM LR LR 09 34 54.4
comp=Z,383nm,20.4s,baz=226,slow=34
comp=Z,3.6nm,0.9s
URZ Urewera 90.19 136 LR LR 09 29 48.9
comp=Z,383nm,20.3s,baz=316,slow=30
RCBR Riachuelo 90.41 263 LR LR 09 30 52.3
comp=Z,139nm,21.4s,baz=151,slow=31
ULN Ulaanbaatar 90.49 31 *ce*P **P 08 57 15.6 -0.7**
ULN pmax pmax
comp=Z,11nm,1.2s
SUW Suwalki 90.50 340 *e*P **P 08 57 16.7 +0.7**
BRG Berggiesshubel 90.94 334 *e*P **P 08 57 19.3 +1.2**
BRG Amp 08 57 21.2
comp=Z,7.2nm,1.2s
BRG Berggiesshubel 90.94 334 P P 08 57 27.8 +10
BRG Amp 08 57 28.8

comp=Z,7.9nm,1.2s
BRG Amp 09 34 11.0
comp=Z,0.1nm,21.3s
BRG Berggiesshubel 90.94 334 *e*P **P 08 57 19.3 +1.2**
BRG 08 57 27.7
BRG pmax pmax
comp=Z,7.0nm,1.2s
ESDC Sonseca Array 91.37 317 P **P 08 57 22.0 +1.6**
comp=Z,4.1nm,1.0s,baz=124,slow=3.5,SNR=22
ESDC LR LR 09 38 57.9
comp=Z,149nm,20.5s,baz=137,slow=36
comp=Z,4.1nm,1.0s
CLL Collm 91.64 334 *e*P **P 08 57 22.0 +0.7**
comp=Z,49nm,2.3s
CLL *ex* x 08 57 29.0
CLL *ex* x 08 57 40.0
CLL Collm 91.64 334 *e*P **P 08 57 22.0 +0.7**
CLL *e* 08 57 29.0
CLL pmax pmax
comp=Z,49nm,2.3s
DZM Mont Dzumac 93.07 118 *e*SS SS 09 14 43.5 -5.6
comp=Z,143nm,28.2s
DZM Mont Dzumac 93.07 118 *e*LR LR 09 27 20.9
comp=Z,227nm,25.1s
DZM Mont Dzumac 93.07 118 LR LR 09 37 33.7
comp=Z,118nm,18.5s,baz=258,slow=34
GUMO Guam 94.28 77 LR LR 09 39 20.9
comp=Z,39nm,18.0s,baz=96,slow=35
KSRS Korea Array 94.68 49 P **P 08 57 34.6 -1.1**
comp=Z,1.5nm,0.8s,baz=243,slow=4.1,SNR=5.5
KSRS LR LR 09 38 53.4
comp=Z,120nm,19.8s,baz=240,slow=35
comp=Z,1.5nm,0.8s
HNR Honiara 95.01 104 LR LR 09 36 45.7
comp=Z,2μm,19.3s,baz=193,slow=33
BDFB Brasilia 95.09 248 LR LR 09 32 11.8
comp=Z,163nm,20.5s,baz=149,slow=30
CPUP Villa Florida 95.67 235 LR LR 09 33 57.3
comp=Z,133nm,19.7s,baz=171,slow=31
FINES FINESS Array B 96.34 345 P **P 08 57 42.7 0.0**
comp=Z,1.4nm,0.9s,baz=183,slow=15,SNR=2.4
comp=Z,1.4nm,0.9s
HFS Hagfors 98.46 339 LR LR 09 40 58.3
comp=Z,88nm,20.0s,baz=124,slow=35
YSS Yuzh-Sakhalins 109.00 46 *e*P **Pdif 08 58 40.1 +0.6**
TBI Tubuai 119.28 151 *e*LR LR 09 39 28.4
comp=Z,1μm,37.8s
PPT2 Papeete2 124.30 148 *e*SS SS 09 21 51.9 +3.1
comp=Z,318nm,27.0s
PPT2 Papeete2 124.30 148 *e*LR LR 09 41 37.5
PPT2 *e*LR LR 09 41 43.5
comp=Z,204nm,25.8s
BILL Bilibino 125.70 26 *e*PKIKP **PKPdf 09 03 15.4 +0.2**
BILL *e* 09 05 08.7
BILL *e*PPP PPP 09 07 49.9
BILL pmax pmax
comp=Z,4.0nm,1.1s
BILL MLR MLR
comp=Z,105nm,17.0s
SOCE Pocosol 139.59 247 **PKPdf 09 03 41.3 -1.8**
MLY Manley 142.15 20 PKPdf **PKPdf 09 03 45.7 -0.4**
G29M Pine Creek 143.40 11 PKPab 09 03 45.1 +0.8
M20K Styx River 143.62 24 PKPab 09 03 45.7 +0.2
SSPA Standing Stone 143.68 297 PKPab 09 03 46.2 -0.1
N19K Bonanza Creek 143.81 27 PKPdf PKPbc 09 03 47.3 +0.4
G31M Satah River 143.91 8 PKPdf **PKPab 09 03 46.0 -0.2**
J25K Salcha River, 143.92 17 **PKPab 09 03 46.5 -0.1**
EPYK Eagle Plains 144.10 10 **PKPab 09 03 47.2 +0.1**
SKT Skwentna 144.11 23 PKPdf **PKPab 09 03 46.8 -0.5**
O18K Koktuh Hills 144.12 28 PKPdf **PKPab 09 03 47.6 +0.3**
WVNY West Valley, N 144.17 300 PKPdf **PKPab 09 03 47.9 -0.2**
O19K Port Alsworth 144.27 27 **PKPab 09 03 47.9 +0.1**
SADO Sadowa 144.36 304 **PKPab 09 03 48.2 -0.5**
J26L Joseph Creek 144.45 16 PKPdf **PKPab 09 03 48.9 +0.4**
DHY Denali Highway 144.61 20 PKPdf **PKPab 09 03 49.1 -0.1**
DHY Denali Highway 144.61 20 P **PKPab 09 03 49.2 -0.1**
baz=320,SNR=7.7
SUA Susitna One 144.74 24 PKPdf **PKPab 09 03 49.6 -0.1**
SUA Susitna One 144.74 24 P **PKPab 09 03 49.4 -0.3**
baz=314,SNR=13
M22K Willow 144.74 23 P **PKPab 09 03 49.3 -0.2**
baz=316,SNR=14
EGAK Eagle 144.75 14 **PKPab 09 03 49.6 +0.2**
EGAK Eagle 144.75 14 P **PKPab 09 03 49.7 +0.2**
baz=331,SNR=12
Q17K Contact Creek 144.76 31 P **PKPab 09 03 49.2 -0.7**
baz=304
I29M Ogilvie Camp, 144.77 12 **PKPab 09 03 49.0 -0.6**
I29M Ogilvie Camp, 144.77 12 P **PKPab 09 03 49.6 0.0**
baz=335,SNR=36
SCRK Sand Creek 144.79 17 PKPdf **PKPab 09 03 49.9 +0.1**
SCRK Sand Creek 144.79 17 P PKPbc 09 03 50.4 +0.5
baz=326,SNR=22
WAT6 Susitna Watana 144.88 21 P **PKPbc 09 03 50.0 -0.3**
baz=320,SNR=5.1
DWPF Disney Wildern 144.90 275 P **PKPab 09 03 50.4 -0.8**
baz=106
R17L Mt. Peulik Vol 144.90 32 P **PKPbc 09 03 49.9 -0.4**
baz=303
Q18K Katmai Hardscr 144.92 30 P **PKPbc 09 03 49.7 -0.7**
baz=306
NHSC New Hope 144.93 284 P **PKPab 09 03 50.3 -0.8**
baz=99
O20K Slope Mountain 144.99 27 P **PKPbc 09 03 50.0 -0.6**
baz=310
P19K Oil Pt 145.03 27 P **PKPbc 09 03 50.2 -0.5**
baz=309
CAPN Captain Cook N 145.08 25 P **PKPbc 09 03 50.2 -0.5**
baz=313
MCWV Mont Chateau 145.18 295 P **PKPbc 09 03 51.6 -0.2**
baz=90
PMR Palmer 145.19 23 **PKPbc 09 03 50.4 -0.7**
PMR Palmer 145.19 23 P **PKPbc 09 03 50.7 -0.4**
baz=317,SNR=9.6
PMR Palmer 145.19 23 PKIKP **PKPbc 09 03 50.4 -0.7**
K27K Chicken 145.19 15 **PKPbc 09 03 51.3 +0.2**
K27K Chicken 145.19 15 P **PKPdf 09 03 51.6 +0.2**
baz=329,SNR=30
ERPA Erie 145.22 299 P **PKPbc 09 03 51.2 -0.6**
baz=86
I30M Mount Dempster 145.22 11 **PKPbc 09 03 50.7 -0.5**
I30M Mount Dempster 145.22 11 P **PKPbc 09 03 51.2 -0.1**
baz=338,SNR=56
PAX Paxson 145.23 19 P **PKPab 09 03 51.9 +0.5**
baz=323,SNR=40
SML Sawmill 145.28 22 **PKPbc 09 03 50.7 -0.8**
SML Sawmill 145.28 22 P **PKPdf 09 03 51.7 0.0**
baz=318,SNR=7.3
Q19K Cape Douglas, 145.32 29 P **PKPbc 09 03 51.9 +0.2**
baz=308
RC01 Rabbit Creek A 145.35 24 P **PKPdf 09 03 51.7 -0.1**
baz=315,SNR=6.5
M23K Glacier View 145.49 21 P **PKPdf 09 03 52.1 +0.1**
baz=319,SNR=7.3
KNK Knik Glacier 145.54 22 P **PKPab 09 03 52.7 +0.1**
baz=318
BLA Blacksburg 145.57 291 P **PKPdf 09 03 52.7 -0.2**
baz=93
SCM Sheep Creek Mo 145.58 21 P **PKPbc 09 03 52.7 +0.3**
baz=319,SNR=5.7
J29N Klondike Camp 145.62 12 P **PKPab 09 03 53.0 +0.2**
baz=335
HOM Homer 145.65 27 P **PKPbc 09 03 52.7 +0.1**
baz=311
M24K Tolsona, Glenn 145.71 20 P **PKPbc 09 03 53.3 +0.4**
baz=321
DAWY Dawson 145.74 14 **PKPdf 09 03 52.6 +0.2**
DAWY Dawson 145.74 14 P **PKPbc 09 03 53.2 +0.3**
baz=333,SNR=34
L26K Log Cabin Wild 145.74 17 **PKPdf 09 03 52.6 +0.2**
L26K Log Cabin Wild 145.74 17 P **PKPbc 09 03 53.3 +0.4**
baz=326,SNR=6.9
M53A WI Miller and 145.77 298 P **PKPbc 09 03 53.5 -0.1**
baz=87
HARP HAARP 145.77 19 P **PKPab 09 03 53.5 +0.1**
baz=323
R18K Karluk 145.79 31 P **PKPbc 09 03 53.3 +0.2**
baz=305
J30M Hart River 145.83 11 PKPdf **PKPbc 09 03 53.2 0.0**
J30M Hart River 145.83 11 P **PKPbc 09 03 53.5 +0.3**
baz=338,SNR=41
BRSE Bradley Lake S 145.93 26 P **PKPdf 09 03 53.1 +0.3**
baz=313
Q20K Shuyak Island 146.03 28 P **PKPbc 09 03 54.1 +0.3**
baz=309
L27K Beaver Creek, 146.08 16 P **PKPab 09 03 54.5 0.0**
baz=328,SNR=20
BCAR Beaver Creek A 146.09 16 PKPdf **PKPdf 09 03 53.2 +0.2**
SEW Seward 146.15 25 P **PKPab 09 03 54.8 0.0**
baz=315
CHIR Chirikof Islan 146.21 34 P **PKPbc 09 03 54.6 +0.2**
baz=301
O53A New Philadelph 146.23 296 **PKPbc 09 03 54.9 -0.2**
O53A New Philadelph 146.23 296 P **PKPbc 09 03 55.3 +0.3**
baz=88
KLU Klutina 146.27 21 P **PKPbc 09 03 55.1 +0.5**
baz=321,SNR=5.5
K29M Barlow Dome 146.30 12 **PKPbc 09 03 54.6 0.0**
K29M Barlow Dome 146.30 12 P **PKPbc 09 03 54.8 +0.1**
baz=335,SNR=15
M26K Nabesna, AK 146.35 18 P **PKPbc 09 03 55.4 +0.6**
baz=326
GLI Glacier Island 146.38 22 P **PKPab 09 03 55.8 +0.1**
baz=319
KDAK Kodiak Island 146.47 30 P **PKPbc 09 03 55.8 +0.6**
baz=308
SII Sitkinak Islan 146.49 32 P **PKPbc 09 03 55.9 +0.6**
baz=304
OHAK Old Harbor 146.50 31 P **PKPab 09 03 56.1 -0.1**
baz=306
N25K Chitina, Valde 146.57 20 **PKPbc 09 03 56.2 +0.7**
N25K Chitina, Valde 146.57 20 P **PKPbc 09 03 56.2 +0.7**
baz=323,SNR=12
M27K Edge Creek, AK 146.67 17 P **PKPbc 09 03 56.4 +0.5**
baz=328,SNR=5.1
O52A Adamsville 146.71 296 **PKPdf 09 03 54.8 +0.1**
L29M L29M 146.85 13 P **PKPbc 09 03 56.7 +0.5**
baz=334
GLB Gilahina Butte 146.92 19 **PKPbc 09 03 56.8 +0.3**
P23K Montague Islan 146.94 23 P **PKPbc 09 03 56.8 +0.4**
baz=318
P52A Corning 146.95 295 **PKPbc 09 03 56.3 -0.9**
P52A Corning 146.95 295 P **PKPbc 09 03 57.2 +0.1**
baz=89
FCC Fort Churchill 147.01 334 **PKPbc 09 03 56.1 -0.5**
FCC Fort Churchill 147.01 334 PKP2 **PKPbc 09 03 56.1 -0.5**
EYAK Cordova Ski Ar 147.06 22 P **PKPbc 09 03 57.3 +0.5**
baz=320
BMRM Bremner River 147.08 20 P **PKPbc 09 03 57.2 +0.3**
baz=323
MCARA McCarthy VSAT 147.19 19 P **PKPbc 09 03 57.7 +0.6**
baz=325
M29M Somme Creek 147.38 14 **PKPbc 09 03 57.8 0.0**
M29M Somme Creek 147.38 14 P **PKPbc 09 03 58.3 +0.5**
baz=333
TIGA Tifton 147.49 280 P **PKPbc 09 03 58.6 -0.3**
baz=101
YUK3 Moose Creek 147.52 16 P **PKPbc 09 03 58.5 +0.2**
baz=330
ACSO Alum Creek Sta 147.58 296 P **PKPbc 09 03 59.1 +0.2**
baz=87
M30M Minto, Yukon 147.59 13 P **PKPbc 09 03 58.8 +0.5**
baz=336
CRQE Cirque 147.69 19 P **PKPbc 09 03 59.1 +0.4**
baz=325
GOGA Godfrey 147.70 284 P **PKPbc 09 03 58.9 -0.5**
baz=98
KAIM Kayak Island 147.96 21 P **PKPbc 09 03 59.3 0.0**
baz=322
CTG Chitna Glacier 147.99 18 P **PKPbc 09 04 00.2 +0.6**
baz=327
TZTN Tazewell 148.04 289 P **PKPbc 09 04 00.2 -0.1**
baz=93
YUK8 Steele Glacier 148.11 16 P **PKPbc 09 04 00.2 +0.2**
baz=330
BGLC Bering Glacier 148.15 20 P **PKPbc 09 03 60.0 +0.3**
baz=324
M31M Drury Creek, Y 148.37 11 P **PKPbc 09 04 00.2 -0.1**
baz=339
WRGLY Wrigley 148.38 1 P **PKPbc 09 04 00.4 +0.2**
baz=357
O28M Mount Upton 148.45 17 P **PKPbc 09 04 01.0 +0.1**
baz=329
MESA MESA 148.49 19 P **PKPbc 09 04 01.3 +0.4**
baz=326
FARO Faro, Yukon 148.51 10 P **PKPbc 09 04 01.1 +0.4**
baz=341
N30M Aishikik Lake 148.55 14 P **PKPbc 09 04 01.7 +0.8**
baz=334
YUK6 Outpost Mounta 148.74 15 P **PKPbc 09 04 02.2 +0.6**
baz=332
YKA Yellowknife Ar 148.78 354 PKPbc **PKPbc 09 04 00.6 -0.7**
comp=Z,9.8nm,0.9s,baz=5.7,slow=3.2,SNR=31
N31M Braeburn, Yuko 148.79 13 P **PKPbc 09 04 01.4 0.0**
baz=337
P49A Miami Univ. Ec 148.95 295 P **PKPbc 09 04 02.7 +0.2**
baz=87
PINM Pinnacle 149.01 18 P **PKPbc 09 04 02.4 +0.3**
baz=328
HYT Haines Junctio 149.04 15 P **PKPbc 09 04 02.6 +0.4**
baz=333
O48B Farmland 149.24 297 P **PKPbc 09 04 03.2 0.0**
baz=86
O29M Mount Kennedy 149.25 16 P **PKPbc 09 04 03.1 +0.3**
baz=331
O30N Mendenhall 149.38 14 P **PKPbc 09 04 03.3 +0.3**
baz=336
N32M Quiet Lake 149.57 11 P **PKPbc 09 04 03.5 +0.1**
baz=341
PNL Peninsula 149.60 18 P **PKPbc 09 04 03.8 +0.3**
baz=329
P30M Million Dollar 149.79 15 P **PKPbc 09 04 04.3 +0.3**
baz=334
TGTN Hyland Airport 149.81 6 P **PKPbc 09 04 04.6 +0.6**
baz=349
P29M Windy Craggy 150.05 16 P **PKPbc 09 04 04.9 +0.3**
baz=332
WCI Wyandotte Cave 150.24 293 P **PKPbc 09 04 05.3 -0.4**
baz=88
P33M Teslin, Yukon 150.50 11 P **PKPbc 09 04 05.9 +0.2**
baz=341
PLBC Pleasant Camp 150.52 15 P **PKPbc 09 04 05.8 +0.2**
baz=334
LRAL Lakeview Retre 150.59 282 P **PKPbc 09 04 06.1 -0.6**
baz=97
SFIN Lafayette 150.71 297 P **PKPbc 09 04 07.0 +0.2**
baz=84
SKAG Skagway 150.74 14 P **PKPbc 09 04 06.3 +0.1**
baz=336
P32M Atlin 150.93 12 P **PKiKP 09 04 07.4 +0.1**
baz=339
L44A Lake County Fo 151.06 301 P **PKPbc 09 04 07.2 -0.3**
baz=80
WTLY Watson Lake, Y 151.15 7 P **PKPbc 09 04 07.3 +0.1**
baz=348
M44A Midewin, Midew 151.28 299 PKPdf **PKPdf 09 03 59.6 -2.5**
M44A **PKPbc 09 04 07.5 -0.5**
M44A **PKPab 09 04 15.7 -0.4**
KOTAN Kotaneelee Air 151.47 2 P **PKiKP 09 04 08.2 -0.1**
baz=356
WVT Waverly 151.48 288 P **PKPbc 09 04 08.2 -0.4**
baz=91
R33M Jennings River 151.57 10 P **PKiKP 09 04 08.7 0.0**
baz=343
R31K City Hall, Gus 151.60 15 P **PKiKP 09 04 08.7 +0.1**
baz=334
Q32M Nakina River 151.78 11 P **PKiKP 09 04 09.5 +0.2**
baz=341
EYMN Ely 151.78 314 PKPdf **PKPdf 09 04 01.4 -1.2**
EYMN Ely 151.78 314 P **PKiKP 09 04 09.5 +0.1**
baz=66
S31K Pelican 151.90 16 P **PKiKP 09 04 10.1 +0.9**
baz=333
HDIL Hopedale 152.34 298 P **PKiKP 09 04 11.7 +0.9**
baz=82
JFWS Jewell Farm 152.59 303 P **PKPbc 09 04 10.8 -0.2**
baz=76
DLBC Dease Lake 152.63 9 **PKPbc 09 04 10.3 -0.4**
DLBC Dease Lake 152.63 9 P **PKiKP 09 04 11.5 +0.6**
baz=345
TOAD Toad River Com 152.69 4 P **PKiKP 09 04 11.3 +0.4**
baz=354
OXF Oxford 152.72 285 P **PKPbc 09 04 11.1 -0.5**
baz=93
S32K Killisnoo 152.72 15 P **PKiKP 09 04 11.3 +0.3**
baz=336
SIT Sitka 152.93 16 P **PKPbc 09 04 11.4 +0.2**
baz=334
FFC Flin Flon 152.93 334 **PKPbc 09 04 10.4 -1.0**
FFC Flin Flon 152.93 334 PKIKP **PKPbc 09 04 10.4 -1.0**
CGM3 Cape Girardeau 152.94 291 **PKiKP 09 04 12.2 +0.1**
CGM3 **PKPab 09 04 21.2 -2.0**
S34M Telegraph Cree 152.97 11 P **PKiKP 09 04 12.0 +0.5**
baz=342
ULM Lac du Bonnet 153.18 321 PKPdf **PKPdf 09 04 03.0 -1.6**
ULM Lac du Bonnet 153.18 321 PKP **PKPdf 09 04 04.0 -0.6**
comp=Z,2.5nm,1.1s,baz=353,slow=5.4,SNR=3.9
ULM PKPbc **sPKPdf 09 04 11.3 +0.8**
comp=Z,7.8nm,0.9s,baz=36,slow=4.0,SNR=12
ULM PKPab **PKPab 09 04 23.6 -0.1**
comp=Z,4.0nm,0.8s,baz=24,slow=2.2,SNR=4.6
VBMS Vicksburg 153.43 280 P **PKiKP 09 04 13.5 +0.2**
baz=97
PBMO Poplar Bluff 153.57 290 PKPdf **PKPdf 09 04 03.8 -1.8**
PBMO **PKPab 09 04 26.0 +0.1**
SPMN Marine on St. 153.66 309 P **PKiKP 09 04 13.8 +0.4**
baz=69
T35M Bob Quinn 154.00 10 P **PKiKP 09 04 14.7 +1.0**
baz=343
CCM Cathedral Cave 154.14 293 P **PKiKP 09 04 15.3 +0.7**
baz=85
WRAK Wrangell Islan 154.16 13 P **PKiKP 09 04 14.7 +0.7**
baz=339
AGMN Agassiz Nation 154.22 318 P **PKPab 09 04 28.8 +0.5**
baz=59
CRAG Craig 154.88 15 P **PKPab 09 04 31.6 +0.9**
baz=337
FCAR Ozark Folk Cen 154.96 288 PKPdf **PKPdf 09 04 06.0 -1.6**
FCAR **PKPab 09 04 31.4 -0.5**
SCIA State Center 154.97 302 P **PKPab 09 04 32.5 +0.8**
baz=75
V35K Ketchikan 155.33 13 P **PKPab 09 04 33.3 +0.6**
baz=340
MIAR Mount Ida 156.16 285 P **PKPab 09 04 36.5 -0.5**
baz=91
MDND Maddock 156.57 320 P **PKPab 09 04 38.0 -0.4**
baz=54
ECSD EROS Data Cent 156.75 308 P **PKPab 09 04 38.6 -0.7**
baz=67
NATX Nacogdoches 156.87 278 P **PKPab 09 04 40.1 -0.1**
baz=97
GRNB Grenville Isla 157.05 12 PKPdf **PKPdf 09 04 08.7 -1.1**
GRNB **PKPab 09 04 40.0 -0.1**
BRLDA Berland Lookou 157.33 353 PKPdf **PKPdf 09 04 08.2 -2.1**
BRLDA **PKPab 09 04 42.6 +1.1**
TUL3 Leonard 157.94 288 P **PKPab 09 04 43.1 -1.6**
baz=86
SUSD Miller 157.97 312 P **PKPab 09 04 44.7 +0.2**
baz=62
KSU1 Kansas State U 158.15 297 P **PKPab 09 04 46.3 +0.9**
baz=78
DGMT Dagmar 158.51 327 P **PKPab 09 04 47.9 +1.2**
baz=45
BGNE Belgrade 158.65 304 P **PKPab 09 04 49.6 +1.9**
baz=70
435B Jarrell 159.22 274 P **PKPab 09 04 50.1 -0.4**
baz=99
WHTX Lake Whitney, 159.26 277 P **PKPab 09 04 51.2 +0.7**
baz=96
833A Chaparral WMA, 160.26 266 P **PKPab 09 04 54.9 -0.1**
baz=105
WMOK Wichita Mounta 160.44 285 P **PKPab 09 04 55.0 -0.6**
baz=88
CBKS Cedar Bluff 160.58 298 P **PKPab 09 04 56.4 +0.2**
baz=75
JCT Junction City 161.06 272 P **PKPab 09 04 58.3 -0.2**
baz=99
ABTX Abilene, Hawle 161.16 279 P **PKPab 09 04 59.0 +0.1**
baz=93
EGMT Eagleton 161.22 334 P **PKPab 09 04 59.5 +1.0**
baz=34
RSSD Black Hills 161.25 317 P **PKPab 09 05 00.2 +1.2**
baz=54
OGNE Ogallala 161.54 306 P **PKPab 09 05 01.2 +0.9**
baz=66
KSCO Kaye Shedlock' 162.68 300 P **PKPab 09 05 04.7 -0.7**
baz=71
AMTX Amarillo 162.81 286 P **PKPab 09 05 05.5 -0.6**
baz=85
NEW Newport 163.01 349 PKPdf **PKPdf 09 04 15.4 -1.3**
NEW **PKPab 09 05 07.2 +0.9**
NEW Newport 163.01 349 P **PKPab 09 05 06.8 +0.6**
baz=14
NEW Newport 163.01 349 PKIKP **PKPdf 09 04 15.4 -1.3**
RLMT Red Lodge 163.33 327 P **PKPab 09 05 08.0 -0.1**
baz=40
K22A Casper 163.58 316 P **PKPab 09 05 08.9 -0.4**
baz=53
MSO Missoula 163.65 340 P **PKPab 09 05 09.0 -0.2**
baz=24
MSTX Muleshoe 163.78 283 P **PKPab 09 05 10.5 +0.1**
baz=87
BOZ Bozeman (W) 163.95 333 P **PKPab 09 05 11.6 +0.9**
baz=33
TXAR Lajitas Array 164.14 266 PKP **PKPdf 09 04 18.1 -0.4**
comp=Z,1.2nm,1.1s,baz=8.5,slow=1.8,SNR=7.3
TXAR PKPab **PKPab 09 05 12.6 +0.5**
comp=Z,1.8nm,1.2s,baz=114,slow=4.2,SNR=4.5
N23A Red Feather La 164.20 310 P **PKPab 09 05 12.8 +0.6**
baz=59
H17A Grant Village 164.49 328 P **PKPab 09 05 13.5 +0.3**
baz=38
ISCO Idaho Springs 164.51 306 P **PKPab 09 05 14.4 +0.8**
baz=63
Q24A Divide 164.53 303 P **PKPab 09 05 12.7 -1.1**
baz=67
T25A Trinidad 164.59 296 P **PKPab 09 05 15.0 +1.0**
baz=74
BW06 Boulder Array 165.20 322 P **PKPab 09 05 15.7 -0.7**
baz=45
PD31 Pinedale Array 165.20 322 **PKPdf 09 04 17.8 -1.3**
PD31 PKPab **PKPab 09 05 15.8 -0.6**
PDAR Pinedale Array 165.20 322 **PKPdf 09 04 17.4 -1.7**
PDAR PKPab **PKPab 09 05 15.8 -0.6**
PDAR Pinedale Array 165.20 322 PKP **PKPdf 09 04 18.8 -0.3**
comp=Z,1.5nm,0.9s,baz=137,slow=3.0,SNR=12
PDAR PKPab **PKPab 09 05 16.3 -0.1**
comp=Z,1.8nm,1.1s,baz=48,slow=4.8,SNR=4.9
SDCO Great Sand Dun 165.23 299 P **PKPab 09 05 16.6 -0.3**
baz=70
O20A White River Ci 166.09 311 P **PKPab 09 05 17.5 -2.9**
baz=57
S22A 4UR Ranch, Cre 166.22 300 P **PKPab 09 05 20.5 -0.7**
baz=68
ANMO Albuquerque 166.70 288 P **PKPab 09 05 22.4 -0.9**
baz=80
HLID Hailey 166.72 336 P **PKPab 09 05 21.7 -1.2**
baz=28
HWUT Hardware Ranch 167.07 323 PKPdf **PKPdf 09 04 20.6 0.0**
HWUT PKPab **PKPab 09 05 24.4 -0.3**
MVCO Mesa Verde 167.65 300 P **PKPab 09 05 26.4 -1.1**
baz=67
121A Cookes Peak, D 168.03 278 P **PKPab 09 05 29.9 +0.6**
baz=90
DUG Dugway, Tooele 168.75 322 P **PKPab 09 05 33.2 +1.1**
baz=43
W18A Petrified Fore 169.28 292 P **PKPab 09 05 34.1 -0.7**
baz=75
WUAZ Wupatki 170.43 297 P **PKPab 09 05 39.6 -0.2**
baz=69
TUC Tucson 170.56 277 P **PKPab 09 05 43.0 +2.6**
baz=89
R11B Troy Canyon, C 171.56 324 P **PKPab 09 05 44.5 0.0**
baz=39
214A Organ Pipe Nat 172.29 275 P **PKPab 09 05 47.1 -1.0**
baz=90
NVAR Mina Array Bea 172.62 338 PKP **PKPdf 09 04 24.8 +0.8**
comp=Z,0.6nm,0.7s,baz=59,slow=4.1,SNR=6.1
NVAR PKPab **PKPab 09 05 48.8 -0.5**
comp=Z,0.9nm,0.9s,baz=40,slow=5.8,SNR=8.3
TPNV Topopah Spring 172.96 320 P **PKPab 09 05 48.5 -2.4**
baz=43
PDMCI Parker Dam,Lak 172.99 294 P **PKPab 09 05 50.4 -0.5**
baz=70
NEE2 Needles Airpor 173.17 299 P **PKPab 09 05 51.2 -0.5**
baz=65
IRM Iron Mountain 173.82 296 P **PKPab 09 05 52.3 -2.4**
baz=68
GLA Glamis 173.88 285 P **PKPab 09 05 53.6 -1.4**
baz=79
GMRC Granite Mounta 173.93 303 P **PKPab 09 05 54.7 -0.5**
baz=61
BC3 Big Chuckawall 174.23 292 P **PKPab 09 05 57.1 +0.4**
baz=72
CWC Cottonwood Cre 174.27 328 P **PKPab 09 05 57.6 +1.0**
baz=34
MPMC Manual Prospec 174.28 322 P **PKPab 09 05 56.6 -0.1**
baz=40
HEC Hector,Ludlow 174.38 306 P **PKPab 09 05 56.9 -0.3**

baz=57
GSC Goldstone, Bar 174.41 312 P PKPab 09 05 55.4 -1.9
baz=50
BELC Belle Mtn. Jos 174.53 297 P PKPab 09 05 57.1 -0.9
baz=66
SWSC Sam W. Stewart 174.70 286 P PKPab 09 05 58.3 -0.4
baz=78
RRX Edison Barstow 174.80 310 P PKPab 09 05 58.8 -0.2
baz=53
VOG Valley Oaks Go 174.89 337 P PKPab 09 05 58.6 -0.5
baz=24
IKP In-Ko-Pah, Jac 175.02 283 P PKPab 09 05 58.4 -1.8
baz=80
TPFO Pinon Flats 175.03 295 P PKPab 09 06 01.6 +1.4
baz=68
PFO Pinyon Flats O 175.03 295 P PKPab 09 06 01.6 +1.4
baz=68
ISA Isabella, Lake 175.09 326 P PKPab 09 06 01.6 +1.4
baz=36
MONP2 Monument Peak 175.22 287 P PKPab 09 06 00.7 -0.6
baz=77
EDW2 Edwards Air Fo 175.42 316 P PKPab 09 05 59.4 -2.3
baz=46
ARVC Arvin 175.69 325 P PKPab 09 06 03.0 +0.3
baz=36
109C Camp Elliot, M 175.78 288 P PKPab 09 06 03.3 -0.1
baz=74
SBC Santa Barbara 176.67 328 P PKPab 09 06 10.2 +3.2
baz=33

RSNC 10 08:52:35.9±0.0, 7°N±1°×7°4W±°, h110km±2km, M2.2, mb3.9, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMM10	El Carmen	0.19	284	P	Pn	08 52 50.5	-0.8
VMM10				S	Sn	08 53 02.1	-0.7
VMM09	Lebrija	0.47	32	P	Pn	08 52 52.1	-0.7
VMM09				S	Sn	08 53 04.9	-0.5
VMM07	Puerto Wilches	0.71	334	P	Pn	08 52 54.4	+0.1
VMM07				S	Sn	08 53 08.5	+0.3
EZNC	La Esperanza	0.93	14	P	Pn	08 52 55.5	-0.9
EZNC				S	Sn	08 53 10.3	-1.6
PTBC	PUERTO BERRIO,	0.93	259	P	Pn	08 52 54.8	-1.6
PTBC				S	Sn	08 53 09.4	-2.4
PAMC	Pamplona, Colo	1.04	54	P	Pn	08 52 56.9	-1.1
PAMC				S	Sn	08 53 14.0	-0.6
SPBC	San Pablo de B	1.19	207	P	Pn	08 52 58.3	-0.9
SPBC				S	Sn	08 53 15.8	-1.0
ZARC	Zaragoza, Cauc	1.52	300	P	Pn	08 53 03.0	+0.1
ZARC				S	Sn	08 53 24.6	+1.1
OCAC	Ocana	1.52	8	P	Pn	08 53 01.8	-1.4
OCAC				S	Sn	08 53 22.3	-1.6
NORC	Norcasia	1.75	229	P	Pn	08 53 05.0	-0.8
NORC				S	Sn	08 53 27.1	-1.5
TAMC	Tame, Arauca	1.76	99	P	Pn	08 53 05.3	-0.6
TAMC				S	Sn	08 53 27.1	-1.7
AGCC	Aguachica	1.78	359	P	Pn	08 53 05.2	-1.0
AGCC				S	Sn	08 53 28.2	-1.1
CHIC	Chingaza	2.09	185	P	Pn	08 53 10.6	+0.2
CHIC				S	Sn	08 53 37.9	+1.2
UREC	San Jos de Ur	2.23	298	P	Pn	08 53 10.8	-1.0
UREC				S	Sn	08 53 37.7	-1.6
GUY2C	Guyana, Caldas	2.35	231	P	Pn	08 53 14.3	+0.5
GUY2C				S	Sn	08 53 44.6	+1.8
VILC	Villavicencio,	2.59	183	P	Pn	08 53 15.4	-1.4
PTGC	Puerto Gaitan,	2.87	151	P	Pn	08 53 18.7	-1.5
PTGC				S	Sn	08 53 52.5	-1.8
ORTC	Ortega, Tolima	3.27	211	P	Pn	08 53 26.0	+0.4
ORTC				S	Sn	08 54 05.8	+1.9
PLMC	San Jos del P	3.27	237	P	Pn	08 53 25.4	-0.2
PLMC				S	Sn	08 54 05.1	+1.2
PRAC	Prado	3.27	204	P	Pn	08 53 25.8	+0.2
PRAC				S	Sn	08 54 06.0	+2.0
SJCC	San Jacinto, C	3.55	333	P	Pn	08 53 28.2	-1.1
SJCC				S	Sn	08 54 07.4	-3.2
CRJC	Cerrejon, Guaj	4.32	9	P	Pn	08 53 38.5	-1.2
CRJC				S	Sn	08 54 28.0	-1.2
URIC	Uribia, Colomb	5.18	17	P	Pn	08 53 49.2	-2.0
URIC				S	Sn	08 54 46.7	-3.1

*IDC **10** 08:53:43.6±0.8, 5°.46S×133°.89E, h0km, mb4.2/4, mbtmp4.2/7, ML3.7/4, Error ellipse: s-maj=49.0km s-min=19.7km az=66.0*
*NEIC **10** 08:53:44.1±1.7, 5°.37S±0°.08×134°.0E±0°.1, h7km±5km, mb4.6/12, Error ellipse: s-maj=15.7km s-min=10.5km az=73.0*
*DJA **10** 08:53:46.5±0.5, 5°S±4°×13°4E±°, h10km, M4.7/7, mb4.7/6, mB5.3/3, MLv4.8/7, Mw(mB)4.8/3*

ISC 10 08:53:47.9±0.5, 5°44S±0°.06×133°.84E±0°.08, h32km, n60, σ1°89/62, mb4.3/8, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	1.77	356	P	Pn	08 54 14.9	-1.4
FAKI	Fak Fak	2.96	328	P	Pn	08 54 31.7	-1.0
FAKI	Fak Fak	2.96	328		Pn	08 54 32.0	-0.7
FAKI	Fak Fak	2.96	328	P	Pn	08 54 31.7	-1.0
FAKI				S	Sn	08 55 04.0	-3.2
BNDI	Bandanaira	4.03	283	P	Pn	08 54 48.9	+1.6
BNDI	Bandanaira	4.03	283	P	Pn	08 54 48.3	+1.0
SWI	Sorong	5.22	330	P	Pn	08 55 03.4	-0.4
	61nm,0.6s,3μm0.9nm						
NLAI	Namlea	7.07	288	P	Pn	08 55 32.8	+3.6
KDU	Kakadu	7.33	191	P	Pn	08 55 34.5	+1.7
TABU	Tabubil	7.35	89	P	Pn	08 55 35.3	+2.2
JAY	Jayapura	7.43	67	P	Pn	08 55 35.2	+0.9
DRS	Darwin Rock St	7.53	202	P	Pn	08 55 39.3	+3.8
MTN	Manton Dam	7.83	200	P	Pn	08 55 41.3	+1.7
MTN	Manton Dam	7.83	200		Pn	08 55 41.7	+2.0
SANI	Sanana	8.53	293	P	Pn	08 55 48.1	-1.1
SANI	Sanana	8.53	293	P	Pn	08 55 47.7	-1.5
	64nm,0.6s						
SOEI	Soe	10.41	245		Pn	08 56 15.3	+0.1
SOEI	Soe	10.41	245	P	Pn	08 56 15.9	+0.7
COEN	Coen	12.50	133	Pn	Pn	08 56 41.9	-1.8
KAPI	Kappang	14.04	271	Pn	Pn	08 57 06.3	+1.7
	0.4nm,0.3s,baz=99,slow=14,SNR=1.0						
	3.1nm,0.4s						
WB0	Warramunga Arr	14.26	178		Pn	08 57 05.0	-2.6
WRAB	Tennant Creek	14.42	178		Pn	08 57 08.8	-1.1
WRA	Warramunga Arr	14.43	178		Pn	08 57 06.2	-3.8
WRA	Warramunga Arr	14.43	178	Pn	Pn	08 57 07.4	-2.6
	0.4nm,0.3s,baz=356,slow=13,SNR=16						
WRA				Sn	Sn	08 59 42.6	-6.4
	0.4nm,0.3s,baz=167,slow=11,SNR=2.1						
	2.5nm,0.8s						
WB2	Warramunga Arr	14.43	178		Pn	08 57 07.2	-2.8
WR0	Warramunga Arr	14.45	177		Pn	08 57 07.9	-2.4
FITZ	Fitzroy Crossi	14.92	212		Pn	08 57 14.7	-1.9
QIS	Mount Isa	16.04	160	P	P	08 57 35.1	+0.7
	11nm,2.1s						
MTSU	Mount Surprise	16.25	142	P	P	08 57 38.0	+1.3
AS01	Alice Springs	18.12	180	P	P	08 57 59.0	+1.6
AS31	Alice Springs	18.12	180	P	Pn	08 57 56.7	-0.6
ASAR	Alice Springs	18.12	180	P	Pn	08 57 56.9	-0.4
ASAR	Alice Springs	18.12	180	P	Pn	08 57 55.9	-1.5
	0.8nm,0.3s,baz=2.0,slow=10,SNR=24						
ASAR				S	Sn	09 01 06.8	-12
	0.6nm,0.7s,baz=19,slow=23,SNR=1.2						
	10nm,0.8s						
CTA	Charters Tower	18.92	141	P	P	08 58 05.2	-0.9
	baz=321,slow=10,SNR=8.1						
CTAO	Charters Tower	18.92	141	P	Pn	08 58 08.4	+1.5
CTAO	Charters Tower	18.92	141	P	Pn	08 58 08.1	+1.1
CTAO				IAmb	IAmb	08 58 11.9	
	comp=Z,43nm,1.4s						
WRKA	Warakurna	20.20	195	P	P	08 58 21.8	+1.6
MBWA	Marble Bar	20.77	220	P	P	08 58 28.3	+2.0
PSA00	Pilbara Seismi	21.00	219	P	P	08 58 28.9	+0.1
PSA00				IAmb	IAmb	08 58 56.5	
	comp=Z,18nm,1.1s						
OOD	Oodnadatta	22.30	176	P	P	08 58 44.6	+1.9
MULG	Mulgathing	24.71	180	P	P	08 59 09.0	+2.7
LCRK	Leigh Creek	25.22	171	P	P	08 59 12.4	+1.5
FORT	Forrest	25.79	191	P	P	08 59 19.2	+3.2
FORT	Forrest	25.79	191	P	P	08 59 17.1	+1.1
FORT				IAmb	IAmb	08 59 35.3	
	comp=Z,14nm,0.6s						
BBOO	Buckleboo	27.31	176	P	P	08 59 29.8	0.0
BBOO				IAmb	IAmb	08 59 34.8	
	comp=Z,22nm,1.4s						
WAKE	Wake Island	40.58	52	P	P	09 01 21.9	-2.9
MK31	Makanchi Array	69.09	325	P	P	09 04 51.1	+0.3
MK31				IAmb	IAmb	09 05 06.0	
	comp=Z,2.4nm,1.1s						
MKAR	Makanchi Array	69.09	325	P	P	09 04 50.4	-0.4
MKAR	Makanchi Array	69.09	325	P	P	09 04 51.9	+1.1
	comp=Z,1.3nm,0.7s,baz=120,slow=7.8,SNR=12						
	comp=Z,1.3nm,0.7s						
KURBB	Kurchatov Arra	73.24	327	P	P	09 05 16.2	+0.4
	comp=Z,1.0nm,0.7s,baz=124,slow=5.1,SNR=7.6						
	comp=Z,1.0nm,0.7s						
VNDA	Vanda	73.56	174	P	P	09 05 17.3	0.0
VNDA	Vanda	73.56	174	P	P	09 05 17.8	+0.5
	comp=Z,1.5nm,0.8s,baz=308,slow=6.6,SNR=7.6						
	comp=Z,1.5nm,0.8s						
ABKAR	Akbulak array	83.70	321	P	P	09 06 13.3	-0.2
J16K	Anvik River	84.13	24	P	P	09 06 15.8	+0.3
QSPA	South Pole Qui	84.53	180	P	P	09 06 18.4	+0.8
QSPA				IAmb	IAmb	09 06 19.8	
	comp=Z,10nm,1.4s						
QSPA	South Pole Qui	84.53	180	P	P	09 06 18.4	+0.8
	comp=Z,3.2nm,0.7s,baz=290,slow=1.1,SNR=23						
	comp=Z,3.2nm,0.7s						
TXAR	Lajitas Array	120.85	59	PKP	PKiKP	09 12 37.9	+0.1
	comp=Z,0.3nm,0.9s,baz=242,slow=1.9,SNR=3.4						
TORD	Torodi Ar. Bea	132.22	283	PKP	PKiKP	09 13 00.9	+0.1
	comp=Z,0.6nm,0.7s,baz=107,slow=1.7,SNR=3.2						
CPUP	Villa Florida	146.62	162	PKPbc	PKPab	09 13 28.0	0.0
	comp=Z,7.7nm,0.9s,baz=240,slow=1.4,SNR=9.7						
LPAZ	La Paz	149.36	135	PKPbc	PKiKP	09 13 36.7	+0.1
	comp=Z,2.9nm,0.8s,baz=238,slow=2.0,SNR=11						

*IDC **10** 08:59:38.4±0.8, 32°.4S×58°.72E, h0km, mb4.0/10, mbtmp4.0/10, Error ellipse: s-maj=26.8km s-min=21.9km az=76.0*

ISC 10 08:59:40.0±0.8, 32°.4S±0°.2×58°.7E±0°.2, h10km, n20, σ0°80/11, mb4.1/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	14.74	199	T	T	09 19 11.9	
	baz=21,slow=75						
H04N1	CROZET ISLANDS	14.75	199	T	T	09 19 14.1	
	baz=21,slow=75						
H04N3	CROZET ISLANDS	14.76	199	T	T	09 19 14.3	
	baz=21,slow=75						
H08S1	Diego Carcia H	27.76	31	T	T	09 33 52.5	
	baz=207,slow=76						
H08S2	Diego Garcia H	27.77	31	T	T	09 33 53.4	
	baz=207,slow=76						
H08S3	Diego Garcia H	27.78	31	T	T	09 33 53.1	
	baz=207,slow=76						
H01W2	Cape Leeuwin H	45.74	109	T	T	09 57 51.1	
	baz=257,slow=75						
H01W3	Cape Leeuwin H	45.75	109	T	T	09 58 01.8	
	baz=257,slow=75						
H01W1	Cape Leeuwin H	45.76	109	T	T	09 57 59.9	
	baz=257,slow=75						
SNAA	Sanae	50.70	201	P	P	09 08 39.5	+0.2
	0.5nm,0.7s,baz=54,slow=14,SNR=1.9						
	0.5nm,0.7s						
QSPA	South Pole Qui	57.78	180	P	P	09 09 31.6	+0.5
	1.4nm,0.8s,baz=290,slow=1.7,SNR=8.2						
	1.4nm,0.8s						
CMAR	Chiang Mai Arr	63.58	43	P	P	09 10 11.4	+0.4
	2.1nm,0.4s,baz=234,slow=7.0,SNR=9.4						
	2.1nm,0.4s						
ASAR	Alice Springs	65.76	104	P	P	09 10 24.9	-0.6
	1.2nm,0.7s,baz=238,slow=5.9,SNR=18						
	1.2nm,0.7s						
WRA	Warramunga Arr	67.80	100	P	P	09 10 37.3	-1.2
	1.4nm,0.7s,baz=242,slow=5.4,SNR=9.4						
	1.4nm,0.7s						
TORD	Torodi Ar. Bea	70.81	300	P	P	09 10 56.3	-0.7
	0.8nm,0.8s,baz=117,slow=4.5,SNR=4.9						
	0.8nm,0.8s						
BRTR	Keskin Array B	75.41	340	P	P	09 11 23.3	-0.6
	0.8nm,0.7s,baz=168,slow=8.5,SNR=5.0						
	0.8nm,0.7s						
MKAR	Makanchi Array	81.64	16	P	P	09 11 58.0	+0.1
	0.4nm,0.6s,baz=235,slow=4.3,SNR=4.5						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	84.49	13	P	P	09 12 13.4	+0.9
	0.6nm,0.2s,baz=204,slow=5.4,SNR=4.9						
	0.6nm,0.2s						
BVAR	Borovoye Array	85.66	7	P	P	09 12 19.5	+1.1
	4.0nm,0.8s,baz=167,slow=7.0,SNR=6.0						
	4.0nm,0.8s						
YKA	Yellowknife Ar	149.57	354	PKPbc	PKPbc	09 19 29.2	+0.4
	1.8nm,0.8s,baz=22,slow=2.6,SNR=5.5						

IDC 10 09:00:35.9±2.9, 53°.68N×87°.09E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=27.9km s-min=16.9km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.37	282	I	I	09 08 30.0	
	baz=101,slow=309,SNR=2.4						
ZALV	Zalesovo Beam	1.37	282	Pg	Pg	09 01 00.7	-1.5
	0.7nm,0.3s,baz=100,slow=18,SNR=7.1						
ZALV				Lg	Lg	09 01 19.9	
	0.9nm,0.3s,baz=101,slow=30,SNR=6.2						
KURBB	Kurchatov Arra	6.09	243	Pn	Pn	09 02 08.3	+1.1
	baz=61,slow=14,SNR=3.9						
	0.3nm,0.4s						
MKAR	Makanchi Array	7.55	206	Pn	Pn	09 02 28.2	+1.0
	0.1nm,0.3s,baz=19,slow=15,SNR=1.9						
	0.1nm,0.4s						

IDC 10 09:01:57.1±2.2, 33°.23S×55°.93E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=69.8km s-min=41.8km az=104.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	56.94	180	P	P	09 11 43.9	0.0
	0.8nm,0.7s,baz=270,slow=2.7,SNR=5.1						
	0.8nm,0.7s						
ASAR	Alice Springs	67.80	104	P	P	09 12 57.6	+0.4
	0.3nm,0.7s,baz=230,slow=7.0,SNR=1.9						
	0.3nm,0.7s						
WRA	Warramunga Arr	69.92	101	P	P	09 13 10.1	-0.3
	0.6nm,0.9s,baz=250,slow=5.6,SNR=2.1						
	0.6nm,0.9s						
MKAR	Makanchi Array	83.13	18	P	P	09 14 24.5	0.0
	0.5nm,0.5s,baz=215,slow=11,SNR=2.1						
	0.5nm,0.5s						

*IDC **10** 09:04:02.7±0.9, 31°.73S×58°.19E, h0km, mb4.0/8, mbtmp4.0/8, Error ellipse: s-maj=33.7km s-min=25.9km az=66.0*

ISC 10 09:04:05.3±1.0, 31°.7S±0°.2×58°.1E±0°.2, h17km, n15, σ0°73/9, mb4.1/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.23	197	T	T	09 22 51.9	
	baz=23						
H04N1	CROZET ISLANDS	15.24	197	T	T	09 22 53.0	
	baz=23						
H04N3	CROZET ISLANDS	15.25	197	T	T	09 22 54.2	
	baz=23						
H08S1	Diego Carcia H	27.43	32	T	T	09 38 13.6	
	baz=210						
H08S2	Diego Garcia H	27.44	32	T	T	09 38 14.1	
	baz=210						
H08S3	Diego Garcia H	27.45	32	T	T	09 38 15.1	
	baz=210						
QSPA	South Pole Qui	58.45	180	P	P	09 14 00.5	+0.5
	1.3nm,0.7s,baz=259,slow=1.1,SNR=9.9						
	1.3nm,0.7s						
CMAR	Chiang Mai Arr	63.41	44	P	P	09 14 34.0	-0.1
	0.8nm,0.3s,baz=226,slow=7.3,SNR=1.4						
	0.8nm,0.3s						
ASAR	Alice Springs	66.36	104	P	P	09 14 53.1	-0.4
	1.1nm,0.8s,baz=241,slow=5.9,SNR=13						
	1.1nm,0.8s						
WRA	Warramunga Arr	68.36	101	P	P	09 15 05.8	-0.4
	0.7nm,0.7s,baz=241,slow=5.5,SNR=6.8						
	0.7nm,0.7s						
TORD	Torodi Ar. Bea	70.09	300	P	P	09 15 16.4	-0.5
	0.5nm,0.8s,baz=123,slow=4.4,SNR=3.0						
	0.5nm,0.8s						
MKAR	Makanchi Array	81.14	17	P	P	09 16 19.6	+0.1
	0.3nm,0.7s,baz=201,slow=7.7,SNR=1.8						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	83.95	13	P	P	09 16 35.0	+1.0
	2.5nm,0.2s,baz=209,slow=4.3,SNR=1.9						
	2.5nm,0.2s						
BVAR	Borovoye Array	85.06	7	P	P	09 16 40.5	+0.8
	2.5nm,0.8s,baz=178,slow=4.5,SNR=7.9						
	2.5nm,0.9s						
YKA	Yellowknife Ar	148.86	353	PKPbc	PKPbc	09 23 50.4	-0.8
	1.2nm,0.9s,baz=27,slow=3.3,SNR=3.9						

*IDC **10** 09:09:29.7±1.1, 31°.80S×58°.14E, h0km, mb3.8/6, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=43.3km s-min=27.4km az=47.0*
*NEIC **10** 09:09:31.6±2.6, 31°.7S±0°.1×58°.0E±0°.2, h10km±1km, mb4.3/11, Error ellipse: s-maj=25.2km s-min=17.0km az=87.0*

ISC 10 09:09:30.4±0.5, 31°.74S±0°.10×58°.0E±0°.1, h10km, n37, σ1°04/36, mb4.2/12, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.73	349	Pn	Pn	09 12 05.2	+1.0
H04N2	CROZET ISLANDS	15.17	197	T	T	09 28 23.3	
	baz=21						
H04N1	CROZET ISLANDS	15.18	197	T	T	09 28 24.7	
	baz=21						
H04N3	CROZET ISLANDS	15.19	197	T	T	09 28 24.1	
	baz=21						
OPO	Ambohidratompo	16.34	321	Pn	P	09 13 22.6	-0.4
	baz=280,slow=21,SNR=1.4						
	2.0nm,0.6s						
H08S1	Diego Carcia H	27.52	32	T	T	09 43 40.3	
	baz=210,slow=76						
H08S2	Diego Garcia H	27.53	33	T	T	09 43 41.3	
	baz=210						
H08S3	Diego Garcia H	27.54	32	T	T	09 43 42.3	
	baz=210,slow=76						
TSUM	Tsumeb	38.33	279	P	P	09 16 50.2	-1.6
TSUM				IAmb	IAmb	09 17 19.3	
	comp=Z,7.9nm,1.4s						
MBAR	Mbarara	40.27	315	P	P	09 17 08.0	0.0
SNAA	Sanae	51.09	201	P	P	09 18 32.5	-0.3
SNAA				IAmb	IAmb	09 18 52.9	
	comp=Z,5.3nm,1.5s						
RAYN	Ar Rayn	56.23	346	P	P	09 19 11.8	+0.8
RAYN				IAmb	IAmb	09 19 22.6	
	comp=Z,2.6nm,1.1s						
SRIT	Nakonsritamara	56.49	52	P	P	09 19 10.7	-2.3
QSPA	South Pole Qui	58.43	180	P	P	09 19 27.1	+1.0
QSPA				IAmb	IAmb	09 19 41.6	
	comp=Z,2.9nm,1.2s						
QSPA	South Pole Qui	58.43	180	P	P	09 19 26.9	+0.8
	comp=Z,0.7nm,0.6s,baz=245,slow=3.4,SNR=1.8						
	comp=Z,0.7nm,0.6s						
SBA	Scott Base	63.03	167	P	P	09 19 58.3	+1.2
SBA				IAmb	IAmb	09 19 58.4	
	comp=Z,7.0nm,1.4s						
ASAR	Alice Springs	66.49	104	P	P	09 20 20.6	0.0
	comp=Z,0.3nm,0.6s,baz=242,slow=5.9,SNR=5.7						
	comp=Z,0.3nm,0.6s						
WRA	Warramunga Arr	68.50	101	P	P	09 20 33.1	-0.3
	comp=Z,0.3nm,0.7s,baz=244,slow=5.8,SNR=2.1						
	comp=Z,0.3nm,0.7s						
TORD	Torodi Ar. Bea	69.98	300	P	P	09 20 43.9	+1.5
	comp=Z,0.5nm,0.9s,baz=118,slow=8.3,SNR=2.4						
	comp=Z,0.5nm,0.9s						
KKAR	Karatay Array	75.36	9	P	P	09 21 14.2	+0.3
AAK	Ala-Archa	75.56	13	P	P	09 21 15.3	+0.1
AAK				IAmb	IAmb	09 21 39.7	
	comp=Z,3.4nm,0.5s						
ABKAR	Akbulak array	80.66	1	P	P	09 21 44.6	+1.5
MK31	Makanchi Array	81.20	17	P	P	09 21 45.1	-1.0
MK31				IAmb	IAmb	09 22 11.2	
	comp=Z,2.9nm,1.1s						
MKAR	Makanchi Array	81.20	17	P	P	09 21 46.0	-0.1
KURBB	Kurchatov Arra	84.00	13	P	P	09 22 01.6	+1.1
	comp=Z,0.9nm,0.9s,baz=208,slow=5.9,SNR=3.6						
	comp=Z,0.9nm,0.9s						
BVAR	Borovoye Array	85.10	7	P	P	09 22 07.5	+1.5
	comp=Z,2.1nm,0.8s,baz=160,slow=4.6,SNR=7.5						
	comp=Z,2.1nm,0.8s						
EGAK	Eagle	144.88	14	PKPdf	PKPdf	09 29 08.3	+1.4
I30M	Mount Dempster	145.35	11	PKPbc	PKPab	09 29 08.7	+0.8
M24K	Tolsona, Glenn	145.86	20		PKPab	09 29 10.5	+0.7
KAIM	Kayak Island	148.11	21	PKPbc	PKPbc	09 29 14.8	-0.9
ISLE	Juniper Island	148.17	19	PKPbc	PKiKP	09 29 17.4	-0.3
U49A	Red Boiling Sp	149.74	289	PKPbc	PKPbc	09 29 20.4	-0.2
KAN13	South Haven SW	159.09	291	PKPdf	PKPdf	09 29 29.3	+0.4
KAN13				PKPab	PKPab	09 30 04.4	-1.3
KAN09	Caldwell North	159.19	292	PKPdf	PKPdf	09 29 28.8	-0.2
KAN09					pPKPab	09 30 07.5	-0.7
YMP	Mirror Lake Pl	164.04	328	PKPdf	PKPdf	09 29 32.6	-1.6
YMP				PKPab	PKPab	09 30 25.9	-1.4
E03A	Lebam	165.17	4	PKPdf	PKPdf	09 29 34.4	-0.3
E03A				PKPab	PKPab	09 30 30.2	-1.6
PDAR	Pinedale Array	165.20	322	PKPdf	PKPdf	09 29 35.0	-0.2
PDAR				PKPab	PKPab	09 30 31.6	-0.9

IDC 10 09:10:05.4±3.5, 54°.28N×86°.68E, h0km, mbtmp2.8/2, ML2.8/1, Error ellipse: s-maj=28.6km s-min=16.9km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.14	254	I	I	09 17 40.0	
	baz=72,slow=308,SNR=1.1						
ZALV	Zalesovo Beam	1.14	254	Pg	Pg	09 10 25.6	-1.7
	1.2nm,0.3s,baz=72,slow=16,SNR=6.8						
ZALV				Lg	Lg	09 10 43.5	
	1.1nm,0.3s,baz=77,slow=28,SNR=5.8						
KURBB	Kurchatov Arra	6.18	237	Pn	Pn	09 11 39.2	+1.4
	0.5nm,0.4s,baz=54,slow=13,SNR=1.4						
MKAR	Makanchi Array	7.99	202	Pn	Pn	09 12 03.8	+1.0
	0.1nm,0.3s,baz=18,slow=15,SNR=4.1						
	0.2nm,0.4s						

*IDC **10** 09:11:34.5±0.7, 31°.72S×58°.23E, h0km, mb4.0/11, mbtmp4.0/12, ML3.6/1, Error ellipse: s-maj=27.2km s-min=20.6km az=72.0*
*NEIC **10** 09:11:36.9±1.3, 31°.64S±0°.05×58°.0E±0°.2, h10km±1km, mb4.5/9, Error ellipse: s-maj=29.9km s-min=8.6km az=276.0*

ISC 10 09:11:37.7±0.6, 31°.6S±0°.1×58°.2E±0°.2, h17km, n45, σ0°93/37, mb4.1/13, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.66	347	Pn	Pn	09 14 07.0	-2.8
H04N2	CROZET ISLANDS	15.34	197	T	T	09 30 29.0	
	baz=19						
H04N1	CROZET ISLANDS	15.34	197	T	T	09 30 30.8	
	baz=19						
H04N3	CROZET ISLANDS	15.36	197	T	T	09 30 29.0	
	baz=

comp=Z,0.4nm,0.6s,baz=236,slow=6.4,SNR=6.7
comp=Z,0.4nm,0.6s
WRA Warramunga Arr 68.32 101 P **P** **09 22 37.9 -0.5**
comp=Z,0.5nm,0.7s,baz=241,slow=5.3,SNR=5.3
comp=Z,0.5nm,0.7s
WB0 Warramunga Arr 68.44 100 P **P** **09 22 38.1 -1.1**
TORD Torodi Ar. Bea 70.10 300 P **P** **09 22 48.7 -0.6**
comp=Z,1.0nm,0.9s,baz=118,slow=6.4,SNR=4.6
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 74.57 341 P **P** **09 23 15.3 -0.4**
BRTR Keskin Array B 74.57 341 P **P** **09 23 15.4 -0.3**
comp=Z,0.9nm,0.9s,baz=179,slow=6.2,SNR=4.4
comp=Z,0.9nm,0.9s
KK31 Karatay Array 75.22 9 P **P** **09 23 19.7 +0.5**
KKAR Karatay Array 75.22 9 P **P** **09 23 19.6 +0.4**
AAK Ala-Archa 75.41 12 P **P** **09 23 19.9 -0.5**
AAK IAmb IAmb 09 23 27.7
comp=Z,2.9nm,0.7s
BOOM Boomskoye usch 75.54 13 P **P** **09 23 22.6 +1.4**
BOOM IAmb IAmb 09 23 48.0
comp=Z,4.3nm,1.3s
PRZ Przheval'sk 76.05 15 P **P** **09 23 26.1 +1.9**
ABKAR Akbulak array 80.54 1 P **P** **09 23 49.2 +0.6**
MK31 Makanchi Array 81.03 16 P **P** **09 23 51.9 +0.5**
MKAR Makanchi Array 81.03 16 P **P** **09 23 52.2 +0.9**
MKAR Makanchi Array 81.03 16 P **P** **09 23 50.9 -0.5**
comp=Z,0.7nm,0.8s,baz=215,slow=4.0,SNR=3.9
comp=Z,0.7nm,0.8s
KURBB Kurchatov Arra 83.84 13 P **P** **09 24 06.1 +0.2**
comp=Z,2.0nm,0.9s,baz=206,slow=5.6,SNR=7.6
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 84.97 7 P **P** **09 24 12.4 +0.8**
comp=Z,3.2nm,0.8s,baz=193,slow=6.1,SNR=11
comp=Z,3.2nm,0.8s
ESDC Sonseca Array 91.41 317 P **P** **09 24 44.1 +1.3**
comp=Z,0.3nm,0.5s,baz=129,slow=1.8,SNR=4.2
comp=Z,0.3nm,0.5s
H29M Whitestone 143.96 11 PKPdf PKPbc 09 31 09.6 +0.4
I28M Miner Creek 144.37 13 PKPdf **PKPab** **09 31 10.7 +0.4**
T57A Hurt 144.69 291 PKPdf **PKPab** **09 31 12.4 +0.1**
SUA Susitna One 144.70 24 PKPdf **PKPab** **09 31 12.0 +0.3**
EGAK Eagle 144.72 14 PKPdf PKPbc 09 31 12.2 +0.5
I29M Ogilvie Camp, 144.75 12 PKPdf **PKPab** **09 31 11.9 +0.2**
SCRK Sand Creek 144.76 17 PKPdf **PKPdf** **09 31 13.0 0.0**
PMR Palmer 145.15 23 PKPbc **PKPdf** **09 31 14.0 +0.5**
K27K Chicken 145.17 16 PKPbc **PKPdf** **09 31 14.1 +0.6**
I30M Mount Dempster 145.20 11 PKPbc **PKPab** **09 31 13.7 +0.2**
L27K Beaver Creek, 146.06 16 PKPbc **PKPab** **09 31 17.1 +0.5**
YKA Yellowknife Ar 148.78 354 PKPbc **PKPdf** **09 31 21.3 +1.7**
comp=Z,0.8nm,0.8s,baz=8.3,slow=3.9,SNR=3.4

IDC 10 09:12:57.8±1.8, 31°.85S×58°.05E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=58.2km s-min=41.3km az=124.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.09**	**197**	T	T	09 31 08.3	
	baz=22,slow=74						
H04N1	**CROZET ISLANDS**	**15.09**	**197**	T	T	09 31 13.6	
	baz=22,slow=74						
H04N3	**CROZET ISLANDS**	**15.11**	**197**	T	T	09 31 06.7	
	baz=22						
H08S1	**Diego Carcia H**	**27.58**	**32**	T	T	09 47 06.2	
	baz=213						
H08S2	**Diego Garcia H**	**27.59**	**32**	T	T	09 47 04.6	
	baz=213						
H08S3	**Diego Garcia H**	**27.60**	**32**	T	T	09 47 06.3	
	baz=213						
SNAA	**Sanae**	**51.01**	**201**	P	P	09 22 01.1	-0.1
	0.6nm,0.8s,baz=81,slow=12,SNR=1.6						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**66.40**	**104**	P	P	09 23 49.2	+0.1
	0.5nm,0.8s,baz=245,slow=4.4,SNR=4.1						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**68.42**	**101**	P	P	09 24 01.8	-0.1
	0.5nm,0.7s,baz=242,slow=6.1,SNR=1.9						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**81.28**	**17**	P	P	09 25 15.6	0.0
	0.2nm,0.6s,baz=217,slow=6.9,SNR=2.0						
	0.2nm,0.6s						

*IDC **10** 09:15:12.1±0.6, 31°.67S×58°.24E, h0km, mb4.2/15, mbtmp4.2/16, ML3.9/1, MS3.8/23, Error ellipse: s-maj=24.0km s-min=16.2km az=83.0*
*GCMT **10** 09:15:14.5±0.4, 31°.45S±0°.03×58°.36E±0°.04, h22km±1km, MW4.9/76, Moment Tensor Solution. s12,c12; s76,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.23±.29; $M_{\theta\theta}$2.21±.18; $M_{\phi\phi}$0.02±.18; $M_{r\theta}$1.59±.23; $M_{\phi\phi}$0.97±.11; $M_{\theta r}$-1.73±.34; Best double couple: $M_0$3.27400×10^{16} NP1:ϕ_s282.00000°, δ65.00000°, λ-57.00000°. NP2: ϕ_s=45.00000°, δ41.00000°, λ-139.00000°. Principal axes: T 2.7970, Plg14.0000°, Azm349.0000°; N 0.9550, Plg30.0000°, Azm87.0000°; P -3.7510, Plg57.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 09:15:14.5±1.5, 31°.6S±0°.1×58°.1E±0°.2, h10km±1km, mb4.9/39 Error ellipse: s-maj=23.4km s-min=19.7km az=270.0*

ISC 10 09:15:15.0±0.4, 31°.68S±0°.09×58°.2E±0°.1, h17km, n118, σ0s81/97, mb4.7/44, MS3.9/22, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.29**	**197**	T	T	09 34 37.4	
	baz=22,slow=75,SNR=34						
H04N1	**CROZET ISLANDS**	**15.29**	**197**	T	T	09 34 38.6	
	baz=22,slow=75,SNR=34						
H04N3	**CROZET ISLANDS**	**15.30**	**197**	T	T	09 34 42.1	
	baz=22,slow=75,SNR=40						
OPO	**Ambohidratompo**	**16.41**	**320**	Pn	**Pn**	**09 19 04.5**	**-0.2**
	baz=78,slow=14,SNR=1.5						
OPO				Sn	Sn	09 21 54.9	-12
	baz=124,slow=22,SNR=0.9						
OPO				LR	LR	09 24 00.8	
	comp=Z,258nm,20.2s,baz=0.5,slow=32						
	2.9nm,0.7s						
H08S1	**Diego Carcia H**	**27.37**	**32**	T	T	09 49 16.2	
	baz=206,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**27.38**	**32**	T	T	09 49 18.7	
	baz=206,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**27.39**	**32**	T	T	09 49 18.3	
	baz=206,slow=76,SNR=15						
BOSA	**Boshof**	**28.59**	**268**	LR	LR	09 31 30.8	
	comp=Z,72nm,19.2s,baz=90,slow=34						
SUR	**Sutherland**	**31.60**	**259**	LR	LR	09 32 42.6	
	comp=Z,175nm,18.1s,baz=98,slow=33						
MAW	**Mawson**	**36.06**	**177**	P	**P**	**09 22 15.4**	**+0.2**
	0.8nm,0.6s,baz=309,slow=16,SNR=1.8						
MAW				LR	LR	09 33 12.4	
	comp=Z,234nm,21.3s,baz=331,slow=30						
	0.8nm,0.6s						
TSUM	**Tsumeb**	**38.51**	**279**	LR	LR	09 36 52.3	
	comp=Z,155nm,20.0s,baz=159,slow=34						
PALK	**Pallekele**	**44.30**	**33**	LR	LR	09 38 44.7	
	comp=Z,69nm,19.6s,baz=260,slow=32						
FURI	**Furi**	**44.46**	**332**	LR	LR	09 40 47.8	
	comp=Z,72nm,19.3s,baz=170,slow=34						
ATD	**Arta Tunnel**	**45.41**	**339**	LR	LR	09 39 08.4	
	comp=Z,16nm,21.4s,baz=200,slow=32						
NWAO	**Narrogin (SRO)**	**49.34**	**108**	LR	LR	09 40 25.6	
	comp=Z,89nm,18.7s,baz=230,slow=31						
SNAA	**Sanae**	**51.21**	**201**	P	**P**	**09 24 16.9**	**-0.2**
SNAA				IAmb	IAmb	09 24 47.1	
	comp=Z,21nm,2.0s						
SNAA	**Sanae**	**51.21**	**201**	P	**P**	**09 24 16.7**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=58,slow=3.5,SNR=4.5						
	comp=Z,1.2nm,0.9s						
RPSI	**Rantau Prapat**	**51.62**	**56**	P	**P**	**09 24 20.9**	**+0.1**
RPSI				IAmb	IAmb	09 24 29.2	
	comp=Z,19nm,1.2s						
PSA00	**Pilbara Seismi**	**55.40**	**96**	P	**P**	**09 24 48.5**	**-0.1**
PSA00				IAmb	IAmb	09 25 38.8	
	comp=Z,8.1nm,1.1s						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**09 25 10.4**	**+0.4**
QSPA				IAmb	IAmb	09 25 19.1	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**09 25 10.0**	**0.0**
	comp=Z,3.3nm,0.8s,baz=273,slow=3.6,SNR=16						
QSPA				LR	LR	09 47 18.2	
	comp=Z,170nm,20.2s,baz=265,slow=33						
	comp=Z,3.3nm,0.8s						
VNDA	**Vanda**	**62.20**	**166**	P	**P**	**09 25 34.9**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=281,slow=6.6,SNR=2.7						
VNDA				LR	LR	09 50 38.4	
	comp=Z,101nm,19.0s,baz=248,slow=34						
	comp=Z,0.7nm,0.8s						
SBA	**Scott Base**	**63.05**	**167**	P	**P**	**09 25 41.5**	**+0.8**
SBA				IAmb	IAmb	09 25 47.3	
	comp=Z,13nm,0.8s						
CM31	**Chiang Mai Arr**	**63.35**	**44**	P	**P**	**09 25 43.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**63.35**	**44**	P	**P**	**09 25 43.5**	**0.0**
	comp=Z,3.5nm,0.3s,baz=230,slow=6.8,SNR=28						
	comp=Z,3.5nm,0.3s						
CHTO	**Chiang Mai**	**63.62**	**44**	P	**P**	**09 25 44.9**	**-0.3**
CHTO				IAmb	IAmb	09 25 47.9	
	comp=Z,9.2nm,1.2s						
EIL	**Elat**	**64.89**	**338**	LR	LR	09 50 18.4	
	comp=Z,75nm,20.0s,baz=245,slow=32						
SHL	**Shillong**	**65.39**	**33**	P	**P**	**09 25 56.6**	**-0.2**
CRAI	**Chiangrai**	**65.57**	**44**	P	**P**	**09 25 58.5**	**+0.6**
CRAI				IAmb	IAmb	09 25 59.6	
	comp=Z,18nm,1.6s						
ASAR	**Alice Springs**	**66.33**	**104**	P	**P**	**09 26 02.8**	**-0.2**
ASAR	**Alice Springs**	**66.33**	**104**	P	**P**	**09 26 02.5**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=238,slow=6.0,SNR=27						
	comp=Z,2.3nm,0.7s						
AS31	**Alice Springs**	**66.33**	**104**	P	**P**	**09 26 02.8**	**-0.3**
WRA	**Warramunga Arr**	**68.33**	**101**	P	**P**	**09 26 15.6**	**-0.1**
WRA	**Warramunga Arr**	**68.33**	**101**	P	**P**	**09 26 15.3**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=242,slow=5.4,SNR=17						
	comp=Z,3.6nm,0.8s						
WB0	**Warramunga Arr**	**68.45**	**100**	P	**P**	**09 26 16.5**	**0.0**
WB0				IAmb	IAmb	09 26 17.2	
	comp=Z,22nm,1.4s						
TORD	**Torodi Ar. Bea**	**70.11**	**300**	P	**P**	**09 26 26.1**	**-0.5**
	comp=Z,1.1nm,1.1s,baz=120,slow=8.8,SNR=3.1						
TORD				LR	LR	09 57 57.4	
	comp=Z,168nm,18.1s,baz=140,slow=37						
	comp=Z,1.1nm,1.1s						
SIMJ	**Simiganj**	**70.70**	**9**	P	**P**	**09 26 30.5**	**+0.5**
SIMJ				IAmb	IAmb	09 26 32.2	
	comp=Z,16nm,1.2s						
CHGR	**Chuyangaron**	**70.72**	**9**	P	**P**	**09 26 29.8**	**-0.2**
CHGR				IAmb	IAmb	09 26 31.6	
	comp=Z,20nm,1.1s						
GAR	**Garm**	**71.22**	**10**	P	**P**	**09 26 32.5**	**-0.5**
BTK	**Batken**	**72.33**	**10**	P	**P**	**09 26 40.0**	**+0.4**
BTK				IAmb	IAmb	09 26 41.5	
	comp=Z,9.7nm,1.3s						
TNTI	**Ternate**	**72.78**	**78**	P	**P**	**09 26 43.7**	**+0.8**
PMSA	**Palmer Station**	**73.90**	**202**	LR	LR	09 52 22.0	
	comp=Z,124nm,20.0s,baz=117,slow=30						
ARSB	**Arslanbob**	**73.92**	**12**	P	**P**	**09 26 48.9**	**-0.2**
BR131	**Keskin Array S**	**74.61**	**341**	P	**P**	**09 26 52.7**	**-0.5**
BRTR	**Keskin Array B**	**74.61**	**341**	P	**P**	**09 26 53.0**	**-0.1**
	comp=Z,1.5nm,1.0s,baz=162,slow=6.1,SNR=6.5						
	comp=Z,1.5nm,1.0s						
ONI	**Oni**	**75.14**	**349**	P	**P**	**09 26 56.9**	**+0.8**
ONI				IAmb	IAmb	09 26 57.8	
	comp=Z,16nm,1.7s						
KK31	**Karatay Array**	**75.27**	**9**	P	**P**	**09 26 57.4**	**+0.6**
KK31				IAmb	IAmb	09 26 58.5	
	comp=Z,8.3nm,1.1s						
KKAR	**Karatay Array**	**75.27**	**9**	P	**P**	**09 26 57.3**	**+0.5**
AAK	**Ala-Archa**	**75.46**	**12**	P	**P**	**09 26 59.2**	**+1.2**
AAK				IAmb	IAmb	09 27 00.0	
	comp=Z,19nm,1.6s						
BOOM	**Boomskoye usch**	**75.59**	**13**	P	**P**	**09 26 59.6**	**+0.8**
PRZ	**Przheval'sk**	**76.10**	**15**	P	**P**	**09 27 03.4**	**+1.7**
BZK	**Bozkurt**	**76.59**	**342**	P	**P**	**09 27 04.5**	**+0.2**
ABKAR	**Akbulak array**	**80.59**	**1**	P	**P**	**09 27 26.1**	**0.0**
MAKZ	**Makanchi**	**81.02**	**16**	P	**P**	**09 27 28.8**	**+0.2**
MK31	**Makanchi Array**	**81.08**	**16**	P	**P**	**09 27 29.0**	**+0.1**
MK31				IAmb	IAmb	09 27 30.9	
	comp=Z,10nm,1.6s						
MKAR	**Makanchi Array**	**81.08**	**16**	P	**P**	**09 27 28.8**	**-0.1**
MKAR	**Makanchi Array**	**81.08**	**16**	P	**P**	**09 27 28.5**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=210,slow=6.4,SNR=9.2						
MKAR				LR	LR	10 00 46.7	
	comp=Z,56nm,18.4s,baz=168,slow=34						
	comp=Z,1.2nm,0.8s						
AKTO	**Aktyubinsk**	**81.75**	**360**	LR	LR	10 01 29.8	
	comp=Z,71nm,20.4s,baz=246,slow=34						
MLR	**Muntele Rosu**	**82.20**	**338**	P	**P**	**09 27 35.1**	**+0.2**
MLR				IAmb	IAmb	09 27 35.7	
	comp=Z,10nm,1.3s						
RPZ	**Rata Peaks**	**83.12**	**138**	LR	LR	09 56 54.9	
	comp=Z,122nm,19.8s,baz=132,slow=30						
KURBB	**Kurchatov Arra**	**83.90**	**13**	P	**P**	**09 27 43.6**	**+0.2**
	comp=Z,6.4nm,1.0s,baz=205,slow=5.5,SNR=26						
	comp=Z,6.4nm,1.0s						
KURK	**Kurchatov**	**84.00**	**13**	P	**P**	**09 27 44.5**	**+0.6**
KURK				IAmb	IAmb	09 27 45.5	
	comp=Z,17nm,1.1s						
BURAR	**Bucovina Array**	**84.32**	**338**	P	**P**	**09 27 46.5**	**+0.7**
BVAR	**Borovoye Array**	**85.02**	**7**	P	**P**	**09 27 49.6**	**+0.5**
	comp=Z,8.6nm,0.9s,baz=180,slow=5.9,SNR=21						
BVAR				LR	LR	10 03 57.5	
	comp=Z,58nm,18.7s,baz=193,slow=34						
	comp=Z,8.6nm,0.9s						
SOKA	**Soboth**	**87.18**	**332**	*e*P	**P**	**09 28 01.6**	**+1.6**
	comp=Z,1.5nm,0.6s						
OBKA	**Obir**	**87.24**	**331**	*e*P	**P**	**09 28 02.2**	**+1.9**
	comp=Z,5.6nm,1.2s						
MDT	**Midelt**	**87.35**	**311**	LR	LR	10 07 44.8	
	comp=Z,173nm,18.2s,baz=161,slow=36						
RONA	**Rosalia, Austr**	**87.52**	**333**	*i* P	**P**	**09 28 02.7**	**+1.1**
	comp=Z,3.7nm,0.8s						
ARU	**Arti**	**87.76**	**0**	P	**P**	**09 28 03.1**	**+0.7**
ARU				IAmb	IAmb	09 28 03.8	
	comp=Z,10nm,1.2s						
ARU	**Arti**	**87.76**	**0**	LR	LR	10 06 02.7	
	comp=Z,39nm,18.5s,baz=184,slow=35						
CONA	**Conrad Observa**	**87.88**	**333**	*i* P	**P**	**09 28 04.1**	**+0.8**
	comp=Z,8.0nm,1.3s						
KBA	**Koelnbreinsper**	**88.19**	**331**	*i* P	**P**	**09 28 06.0**	**+1.0**
	comp=Z,5.3nm,1.2s						
ABTA	**Abfaltersbach**	**88.27**	**331**	*e*P	**P**	**09 28 06.6**	**+1.3**
	comp=Z,2.3nm,0.7s						
ZAA0	**Zalesovo Array**	**88.34**	**15**	P	**P**	**09 28 05.2**	**0.0**
ZAA0				IAmb	IAmb	09 28 05.5	
	comp=Z,6.1nm,1.3s						
ZALV	**Zalesovo Beam**	**88.34**	**15**	P	**P**	**09 28 04.3**	**-1.0**
ZALV	**Zalesovo Beam**	**88.34**	**15**	P	**P**	**09 28 03.5**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=225,slow=5.9,SNR=4.8						
	comp=Z,0.6nm,0.4s						
MOA	**Molln**	**88.44**	**332**	*i* P	**P**	**09 28 06.2**	**+0.3**
	comp=Z,2.3nm,0.4s						
WATA	**Walderalm**	**89.13**	**330**	*e*P	**P**	**09 28 10.2**	**+0.8**
	comp=Z,2.7nm,0.4s						
SQTA	**Sankt Quirin**	**89.20**	**330**	*e*P	**P**	**09 28 11.9**	**+2.2**
	comp=Z,3.1nm,0.5s						
FETA	**Feichten**	**89.25**	**330**	*i* P	**P**	**09 28 10.3**	**+0.4**
	comp=Z,4.3nm,0.9s						
TUE	**Stuetta**	**89.42**	**329**	P	**P**	**09 28 10.7**	**-0.1**
TUE				IAmb	IAmb	09 28 12.5	
	comp=Z,5.4nm,1.2s						
DAVOX	**Davos/Dischmat**	**89.43**	**329**	LR	LR	10 10 20.1	
	comp=Z,32nm,18.0s,baz=260,slow=37						
GERES	**GERESS Array B**	**89.46**	**332**	P	**P**	**09 28 10.8**	**0.0**
DAVA	**Damuels**	**89.82**	**329**	*i* P	**P**	**09 28 12.9**	**+0.3**
	comp=Z,5.1nm,0.9s						
SONM	**Songino Array**	**90.19**	**30**	P	**P**	**09 28 13.5**	**-0.8**
SONM	**Songino Array**	**90.19**	**30**	P	**P**	**09 28 14.1**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=204,slow=3.3,SNR=6.1						
	comp=Z,1.3nm,0.8s						
ULN	**Ulaanbaatar**	**90.50**	**30**	P	**P**	**09 28 15.5**	**-0.3**
ESDC	**Sonseca Array**	**91.43**	**317**	P	**P**	**09 28 20.9**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=104,slow=3.6,SNR=7.1						
ESDC				LR	LR	10 10 19.1	
	comp=Z,57nm,18.8s,baz=132,slow=36						
	comp=Z,0.8nm,0.8s						
NOA	**NORSAR Array B**	**99.99**	**339**	LR	LR	10 12 52.9	
	comp=Z,21nm,20.6s,baz=70,slow=35						
ILAR	**Eielson Array**	**143.43**	**18**	PKhKP	PKPpre	09 34 43.9	
	comp=Z,0.4nm,0.9s,baz=324,slow=4.4,SNR=4.9						
ILAR				PKP	**PKPdf**	**09 34 48.8**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=10,slow=2.1,SNR=5.7						
H29M	**Whitestone**	**144.01**	**11**	PKPdf	PKPbc	09 34 46.6	0.0
O18K	**Koktuh Hills**	**144.14**	**28**	PKPdf	PKPbc	09 34 47.8	+0.5
P18K	**Big Mountain,**	**144.40**	**29**	PKPdf	**PKPab**	**09 34 47.9**	**+0.1**
I28M	**Miner Creek**	**144.43**	**13**	PKPdf	**PKPab**	**09 34 48.0**	**+0.1**
J26L	**Joseph Creek**	**144.48**	**16**	PKPdf	PKPbc	09 34 48.7	+0.4
DHY	**Denali Highway**	**144.63**	**20**	PKPdf	**PKPab**	**09 34 48.8**	**+0.1**
T57A	**Hurt**	**144.68**	**291**	PKPdf	PKPbc	09 34 50.1	+0.4
SUA	**Susitna One**	**144.76**	**24**	PKPdf	**PKPab**	**09 34 49.2**	**0.0**
M22K	**Willow**	**144.76**	**23**	PKPdf	PKPbc	09 34 49.0	0.0
EGAK	**Eagle**	**144.78**	**14**	PKPdf	**PKPab**	**09 34 48.3**	**-0.6**
I29M	**Ogilvie Camp,**	**144.80**	**12**	PKPdf	**PKPab**	**09 34 48.8**	**-0.3**
SCRK	**Sand Creek**	**144.81**	**17**	PKPdf	**PKPdf**	**09 34 50.1**	**-0.3**
K27K	**Chicken**	**145.22**	**16**	PKPbc	**PKPdf**	**09 34 51.5**	**+0.6**
PAX	**Paxson**	**145.25**	**19**	PKPbc	**PKPdf**	**09 34 51.8**	**+0.7**
SML	**Sawmill**	**145.31**	**22**	PKPbc	**PKPbc**	**09 34 50.3**	**-0.7**
RC01	**Rabbit Creek A**	**145.37**	**24**	PKPbc	**PKPab**	**09 34 51.2**	**-0.1**
J29N	**Klondike Camp**	**145.65**	**13**		**PKPab**	**09 34 53.2**	**+0.9**
O54A	**Avella**	**145.65**	**296**		**PKPdf**	**09 34 52.7**	**+0.3**
J30M	**Hart River**	**145.86**	**11**	PKPbc	**PKPab**	**09 34 53.1**	**-0.1**
O53A	**New Philadelph**	**146.29**	**296**	PKPbc	**PKPbc**	**09 34 55.3**	**+0.6**
K29M	**Barlow Dome**	**146.33**	**13**	PKPbc	**PKPbc**	**09 34 54.3**	**+0.1**
FCC	**Fort Churchill**	**147.07**	**334**	PKPbc	**PKPbc**	**09 34 56.2**	**0.0**
YKA	**Yellowknife Ar**	**148.83**	**354**	PKPbc	**PKPbc**	**09 35 00.3**	**-0.6**
	comp=Z,2.8nm,0.9s,baz=0.7,slow=2.8,SNR=9.8						
I07A	**Izee**	**167.49**	**352**	PKPdf	**PKPdf**	**09 35 18.4**	**-1.7**
I07A				PKPab	**PKPab**	**09 36 25.8**	**+0.2**
PV05	**Paradox Valley**	**167.78**	**305**	PKPdf	**PKPdf**	**09 35 19.6**	**-1.1**
PV05					**PKPab**	**09 36 27.3**	**-0.1**
BGU	**Big Grassy Mou**	**168.38**	**325**	PKPdf	**PKPdf**	**09 35 19.4**	**-1.5**
BGU				PKPab	**PKPab**	**09 36 28.1**	**-1.7**
K02D	**Willamette Mer**	**168.91**	**7**	PKPdf	**PKPdf**	**09 35 18.6**	**-2.5**
K02D				PKPab	**PKPab**	**09 36 29.9**	**-1.9**
DUN6	**Lazy B Ranch**	**169.18**	**278**	PKPdf	**PKPdf**	**09 35 23.2**	**+1.6**
DUN6				PKPab	**PKPab**	**09 36 33.2**	**-0.5**

*IDC **10** 09:22:05.9±0.6, 31°.68S×58°.19E, h0km, mb4.2/15, mbtmp4.3/16, ML4.2/1, Error ellipse: s-maj=23.0km s-min=17.2km az=72.0*
*NEIC **10** 09:22:09.1±2.4, 31°.6S±0°.1×58°.18E±0°.06, h10km±1km, mb4.8/20, Error ellipse: s-maj=18.7km s-min=5.2km az=201.0*

ISC 10 09:22:09.0±0.4, 31°.56S±0°.09×58°.16E±0°.09, h17km, n99, σ1s09/89, mb4.7/32, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.58**	**348**	Pn	**Pn**	**09 24 39.0**	**-1.0**
FOMA	**Nahampoana Res**	**11.83**	**301**	Pn	**Pn**	**09 24 58.3**	**+1.3**
VOI	**Vohitsoka**	**13.97**	**311**	Pn	**Pn**	**09 25 27.2**	**+0.8**
H04N2	**CROZET ISLANDS**	**15.39**	**197**	T	T	09 41 43.8	
	baz=21,slow=74						
H04N1	**CROZET ISLANDS**	**15.40**	**197**	T	T	09 41 53.0	
	baz=21,slow=74						
H04N3	**CROZET ISLANDS**	**15.41**	**197**	T	T	09 41 47.0	
	baz=21						
ABPO	**Ambohimpanom**	**15.91**	**319**		**P**	**09 25 55.1**	**-0.8**
OPO	**Ambohidratompo**	**16.29**	**320**	Pn	**P**	**09 25 59.4**	**-0.8**
	0.1nm,0.3s,baz=155,slow=13,SNR=5.1						
OPO				Sn	**Sn**	**09 28 53.1**	**-4.7**
	baz=284,slow=22,SNR=1.4						
	10nm,0.9s						
H08S1	**Diego Carcia H**	**27.28**	**32**	T	T	09 56 19.6	
	baz=207,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**27.29**	**32**	T	T	09 56 18.0	
	baz=207,slow=76,SNR=10						
H08S3	**Diego Garcia H**	**27.30**	**32**	T	T	09 56 17.7	
	baz=207,slow=76,SNR=16						
SNAA	**Sanae**	**51.32**	**201**	P	**P**	**09 31 12.9**	**+0.9**
SNAA				IAmb	IAmb	09 32 59.1	
	comp=Z,19nm,1.9s						
SNAA	**Sanae**	**51.32**	**201**	P	**P**	**09 31 10.4**	**-1.5**
	comp=Z,1.3nm,0.9s,baz=78,slow=4.2,SNR=3.7						
	comp=Z,1.3nm,0.9s						
KULM	**Kulim**	**54.61**	**56**	P	**P**	**09 31 36.8**	**-0.2**
PSA00	**Pilbara Seismi**	**55.44**	**96**	P	**P**	**09 31 41.9**	**-1.1**
PSA00				IAmb	IAmb	09 33 21.2	
	comp=Z,7.1nm,1.1s						
MBWA	**Marble Bar**	**55.51**	**95**	P	**P**	**09 31 43.0**	**-0.5**
QSPA	**South Pole Qui**	**58.61**	**180**	P	**P**	**09 32 04.4**	**-0.5**
QSPA				IAmb	IAmb	09 32 15.7	
	comp=Z,13nm,1.3s						
QSPA	**South Pole Qui**	**58.61**	**180**	P	**P**	**09 32 03.7**	**-1.2**
	comp=Z,2.1nm,0.5s,baz=253,slow=2.6,SNR=25						
	comp=Z,2.1nm,0.5s						
VNDA	**Vanda**	**62.33**	**166**	P	**P**	**09 32 29.1**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=283,slow=6.5,SNR=2.3						
	comp=Z,0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.28**	**44**	P	**P**	**09 32 37.2**	**+0.2**
	comp=Z,5.1nm,0.6s,baz=230,slow=7.0,SNR=20						
	comp=Z,5.1nm,0.6s						
BBOO	**Buckleboo**	**64.43**	**114**	P	**P**	**09 32 45.0**	**+0.4**
KNRA	**Kununurra**	**65.61**	**94**	P	**P**	**09 32 51.8**	**-0.6**
ASAR	**Alice Springs**	**66.38**	**104**	P	**P**	**09 32 57.0**	**-0.4**
ASAR	**Alice Springs**	**66.38**	**104**	P	**P**	**09 32 56.5**	**-0.9**
	comp=Z,

comp=Z,0.6nm,0.6s
ILAR Eielson Array 143.32 18 PKhKP PKPpre 09 41 38.0
comp=Z,0.7nm,0.9s,baz=322,slow=4.4,SNR=4.9
H29M Whitestone 143.89 11 PKPdf PKPbc 09 41 40.8 +0.5
EPYK Eagle Plains 144.02 10 PKPdf PKPbc 09 41 41.1 +0.3
SKT Skwentna 144.03 23 PKPdf PKPbc 09 41 40.5 -0.3
O18K Koktuh Hills 144.04 28 PKPdf PKPbc 09 41 41.8 +0.8
WVNY West Valley, N 144.15 300 PKPdf **PKPdf 09 41 42.7 -1.1**
I28M Miner Creek 144.31 13 PKPdf PKPbc 09 41 42.0 +0.2
DHY Denali Highway 144.53 20 PKPdf **PKPdf 09 41 43.5 -0.5**
T57A Hurt 144.61 291 PKPdf **PKPdf 09 41 44.0 -0.7**
SUA Susitna One 144.66 24 PKPdf **PKPdf 09 41 43.4 -0.7**
M22K Willow 144.66 23 PKPdf **PKPdf 09 41 43.3 -0.6**
I29M Ogilvie Camp, 144.69 12 PKPdf **PKPdf 09 41 43.3 -0.7**
SCRK Sand Creek 144.71 17 PKPdf **PKPdf 09 41 44.1 -0.1**
GHO Glory Hole Cre 145.04 22 PKPbc **PKPdf 09 41 45.3 +0.6**
PMR Palmer 145.10 23 PKPbc **PKPdf 09 41 44.6 -0.2**
K27K Chicken 145.11 15 PKPbc **PKPdf 09 41 45.2 +0.4**
I30M Mount Dempster 145.14 11 PKPbc **PKPbc 09 41 44.3 -0.2**
PAX Paxson 145.14 19 PKPbc **PKPdf 09 41 45.1 +0.2**
MCWV Mont Chateau 145.17 295 PKPbc **PKPbc 09 41 44.9 -0.3**
DAWY Dawson 145.66 14 PKPbc **PKPab 09 41 47.1 +0.7**
L26K Log Cabin Wild 145.66 17 **PKPab 09 41 46.9 +0.5**
J30M Hart River 145.75 11 **PKPab 09 41 47.2 +0.4**
M53A WI Miller and 145.75 298 PKPbc **PKPab 09 41 47.5 +0.2**
Q54A Coxs Mills 145.94 294 PKPbc **PKPab 09 41 48.0 -0.2**
L27K Beaver Creek, 146.00 16 PKPbc **PKPab 09 41 48.5 +0.8**
BCAR Beaver Creek A 146.01 16 PKPbc **PKPab 09 41 48.5 +0.8**
O53A New Philadelph 146.21 296 PKPbc **PKPab 09 41 49.6 +0.4**
K29M Barlow Dome 146.22 12 PKPbc **PKPab 09 41 48.3 -0.3**
L29M L29M 146.77 13 PKPbc **PKPab 09 41 50.3 -0.3**
M29M Somme Creek 147.30 14 PKPbc **PKPab 09 41 52.3 -0.5**
V53A Saluda 147.39 288 PKPbc **PKPbc 09 41 51.6 -0.4**
YKA Yellowknife Ar 148.70 354 PKPbc **PKPbc 09 41 54.4 -0.1**
comp=Z,3.5nm,0.8s,baz=2.9,slow=2.6,SNR=16
O30N Mendenhall 149.30 14 PKPbc **PKiKP 09 41 57.0 -0.4**
O30N PKPab **sPKPbc 09 42 02.1 -0.5**
WVT Waverly 151.47 289 PKPbc **PKiKP 09 42 02.1 -0.5**
WVT PKPab **PKPab 09 42 09.9 -0.7**
Q32M Nakina River 151.70 11 PKPbc **PKiKP 09 42 02.9 +0.3**
EYMN Ely 151.74 314 PKPbc **PKiKP 09 42 03.1 +0.3**
ULM Lac du Bonnet 153.13 322 PKPbc **PKPbc 09 42 04.1 -1.3**
comp=Z,1.5nm,0.7s,baz=93,slow=2.4,SNR=6.1
BOZ Bozeman (W) 163.89 333 PKPab **PKPab 09 43 04.8 +1.0**
TXAR Lajitas Array 164.17 267 PKP **PKPdf 09 42 12.1 +0.2**
comp=Z,0.1nm,0.5s,baz=134,slow=3.9,SNR=2.7
PDAR Pinedale Array 165.15 322 PKPab **PKPab 09 43 09.2 -0.5**
comp=Z,0.1nm,0.3s,baz=69,slow=5.1,SNR=2.6

IDC 10 09:23:37.7±3.0, 54°.19N×86°.32E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=22.7km s-min=13.4km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**255**	I	I	09 29 20.0	
	baz=75,slow=313,SNR=1.0						
ZALV	**Zalesovo Beam**	**0.92**	**255**	Pg	Pg	09 23 53.7	-1.5
	0.8nm,0.3s,baz=71,slow=17,SNR=5.5						
ZALV				Lg	Lg	09 24 08.7	
	1.6nm,0.3s,baz=75,slow=30,SNR=7.3						
KURBB	**Kurchatov Arra**	**5.96**	**236**	Pn	Pn	09 25 08.1	+1.1
	baz=54,slow=13,SNR=2.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**7.84**	**201**	Pn	Pn	09 25 34.1	+1.2
	0.1nm,0.3s,baz=25,slow=14,SNR=2.3						
	0.1nm,0.3s						

*IDC **10** 09:26:39.8±0.8, 31°.69S×58°.30E, h0km, mb4.0/10, mbtmp4.0/10, Error ellipse: s-maj=30.5km s-min=22.8km az=59.0*
*NEIC **10** 09:26:42.5±2.5, 31°.5S±0°.1×58°.1E±0°.2, h10km±1km, mb4.8/9, Error ellipse: s-maj=22.7km s-min=20.5km az=94.0*

ISC 10 09:26:42.4±0.7, 31°.7S±0°.1×58°.0E±0°.1, h17km, n39, σ1§05/32, mb4.2/13, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.68**	**348**	Pn	**Pn**	**09 29 14.3**	**-0.4**
FOMA	**Nahampoana Res**	**11.81**	**302**	Pn	**Pn**	**09 29 28.9**	**-1.1**
ROCAM	**Rodrigues Isla**	**12.81**	**23**	Pn	**Pn**	**09 29 44.4**	**+0.7**
VOI	**Vohitsoka**	**13.97**	**311**	Pn	**Pn**	**09 29 58.0**	**-1.8**
H04N2	**CROZET ISLANDS**	**15.25**	**197**	T	T	09 46 13.2	
	baz=22,slow=75,SNR=4.3						
H04N1	**CROZET ISLANDS**	**15.25**	**197**	T	T	09 46 11.2	
	baz=22,slow=75,SNR=3.8						
H04N3	**CROZET ISLANDS**	**15.27**	**197**	T	T	09 46 09.0	
	baz=22,slow=75,SNR=4.3						
H08S1	**Diego Carcia H**	**27.44**	**32**	T	T	10 00 49.9	
	baz=207,slow=76,SNR=4.0						
H08S2	**Diego Garcia H**	**27.45**	**32**	T	T	10 00 52.5	
	baz=207,slow=76,SNR=3.5						
H08S3	**Diego Garcia H**	**27.46**	**32**	T	T	10 00 52.5	
	baz=207,slow=76,SNR=3.8						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**09 36 38.3**	**+0.9**
QSPA				IAmb	IAmb	09 36 48.7	
	comp=Z,7.1nm,1.4s						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**09 36 37.7**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=233,slow=1.3,SNR=16						
	comp=Z,1.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.44**	**44**	P	**P**	**09 37 11.1**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=235,slow=6.9,SNR=4.9						
	comp=Z,1.4nm,0.3s						
ASAR	**Alice Springs**	**66.45**	**104**	P	**P**	**09 37 31.0**	**-0.2**
ASAR	**Alice Springs**	**66.45**	**104**	P	**P**	**09 37 29.4**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=239,slow=6.0,SNR=11						
	comp=Z,0.6nm,0.6s						
WRA	**Warramunga Arr**	**68.46**	**101**	P	**P**	**09 37 43.0**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=241,slow=5.7,SNR=6.3						
	comp=Z,0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**69.99**	**300**	P	**P**	**09 37 54.3**	**+1.0**
	comp=Z,1.1nm,1.0s,baz=137,slow=2.0,SNR=4.2						
	comp=Z,1.1nm,1.0s						
SIMJ	**Simiganj**	**70.72**	**9**	P	**P**	**09 37 57.2**	**-0.3**
SIMJ				IAmb	IAmb	09 38 08.2	
	comp=Z,11nm,1.4s						
CHGR	**Chuyangaron**	**70.74**	**9**	P	**P**	**09 37 59.5**	**+2.0**
CHGR				IAmb	IAmb	09 37 59.8	
	comp=Z,8.4nm,1.0s						
QIZ	**Qiongzhong**	**70.77**	**52**	P	**P**	**09 37 57.2**	**-0.8**
BRTR	**Keskin Array B**	**74.57**	**341**	P	**P**	**09 38 21.2**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=183,slow=5.3,SNR=2.2						
	comp=Z,0.4nm,0.5s						
KK31	**Karatay Array**	**75.29**	**9**	P	**P**	**09 38 25.1**	**+0.8**
KKAR	**Karatay Array**	**75.29**	**9**	P	**P**	**09 38 24.5**	**+0.2**
PRZ	**Przheval'sk**	**76.14**	**15**	P	**P**	**09 38 29.8**	**+0.4**
PRZ				IAmb	IAmb	09 38 41.2	
	comp=Z,8.1nm,0.5s						
ABKAR	**Akbulak array**	**80.59**	**1**	P	**P**	**09 38 54.0**	**+0.5**
MK31	**Makanchi Array**	**81.12**	**17**	P	**P**	**09 38 55.2**	**-1.3**
MKAR	**Makanchi Array**	**81.12**	**17**	P	**P**	**09 38 55.0**	**-1.5**
MKAR	**Makanchi Array**	**81.12**	**17**	P	**P**	**09 38 54.5**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=188,slow=5.2,SNR=3.0						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**83.93**	**13**	P	**P**	**09 39 11.7**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=205,slow=6.0,SNR=7.9						
	comp=Z,1.6nm,0.9s						
BVAR	**Borovoye Array**	**85.03**	**7**	P	**P**	**09 39 17.4**	**+0.9**
	comp=Z,3.0nm,0.9s,baz=163,slow=5.6,SNR=11						
	comp=Z,3.0nm,0.9s						
ESDC	**Sonseca Array**	**91.34**	**317**	P	**P**	**09 39 48.5**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=146,slow=3.4,SNR=4.3						
	comp=Z,0.3nm,0.4s						
I29M	**Ogilvie Camp,**	**144.83**	**12**	PKPdf	PKPbc	09 46 16.8	+0.1
I30M	**Mount Dempster**	**145.28**	**11**	PKPbc	**PKPbc**	**09 46 17.7**	**-0.6**
BCAR	**Beaver Creek A**	**146.15**	**16**	PKPbc	**PKPab**	**09 46 22.4**	**+0.8**
K29M	**Barlow Dome**	**146.36**	**12**	PKPdf	**PKPdf**	**09 46 20.6**	**+0.2**
YKA	**Yellowknife Ar**	**148.81**	**353**	PKPbc	**PKPbc**	**09 46 27.4**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=6.5,slow=4.0,SNR=3.5						
UNM	**Universidad Na**	**156.10**	**244**	PKPab	**PKPab**	**09 47 04.1**	**-0.2**
GC02	**Grant County #**	**159.44**	**291**	PKPab	**PKPab**	**09 47 18.6**	**+0.5**
KAN14	**Manchester OK**	**159.51**	**291**	PKPab	**PKPab**	**09 47 17.2**	**-1.2**

*IDC **10** 09:35:48.6±0.7, 31°.69S×58°.19E, h0km, mb4.1/10, mbtmp4.1/11, ML4.1/1, MS3.6/13, Error ellipse: s-maj=24.9km s-min=20.1km az=69.0*
*NEIC **10** 09:35:50.8±1.9, 31°.7S±0°.1×58°.0E±0°.1, h10km±1km, mb4.7/19, Error ellipse: s-maj=21.7km s-min=18.8km az=193.0*

ISC 10 09:35:50.3±0.5, 31°.8S±0°.1×58°.0E±0°.1, h10km, n83, σ0§66/58, mb4.6/19, MS3.6/14, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.18**	**197**	T	T	09 55 13.0	
	baz=22,slow=75,SNR=11						
H04N1	**CROZET ISLANDS**	**15.18**	**197**	T	T	09 55 19.0	
	baz=22,slow=75,SNR=10						
H04N3	**CROZET ISLANDS**	**15.19**	**197**	T	T	09 55 12.4	
	baz=22,slow=75,SNR=9.8						
OPO	**Ambohidratompo**	**16.38**	**321**	Pn	**Pn**	**09 39 40.9**	**+0.3**
	0.1nm,0.3s,baz=144,slow=14,SNR=2.4						
	6.6nm,1.0s						
H08S1	**Diego Carcia H**	**27.51**	**32**	T	T	10 09 59.2	
	baz=207,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**27.51**	**32**	T	T	10 09 59.8	
	baz=207,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**27.52**	**32**	T	T	10 10 00.6	
	baz=207,slow=76,SNR=10						
BOSA	**Boshof**	**28.45**	**268**	LR	LR	09 51 50.5	
	comp=Z,55nm,18.0s,baz=68,slow=34						
SUR	**Sutherland**	**31.45**	**259**	LR	LR	09 52 50.9	
	comp=Z,109nm,19.2s,baz=103,slow=32						
MAW	**Mawson**	**36.00**	**177**	LR	LR	09 53 38.5	
	comp=Z,120nm,22.0s,baz=317,slow=30						
FURI	**Furi**	**44.46**	**332**	LR	LR	10 00 03.6	
	comp=Z,55nm,18.6s,baz=174,slow=33						
ATD	**Arta Tunnel**	**45.43**	**339**	LR	LR	09 59 55.9	
	comp=Z,5.2nm,18.9s,baz=229,slow=32						
SNAA	**Sanae**	**51.10**	**201**	P	**P**	**09 44 53.6**	**+0.9**
SNAA	**Sanae**	**51.10**	**201**	P	**P**	**09 44 53.5**	**+0.7**
	0.9nm,0.8s,baz=105,slow=7.6,SNR=4.2						
SNAA				LR	LR	10 01 33.3	
	comp=Z,75nm,20.2s,baz=130,slow=30						
	0.9nm,0.8s						
WSAR	**Wadi Sarin**	**54.68**	**1**	LR	LR	10 04 25.4	
	comp=Z,108nm,18.2s,baz=216,slow=31						
PSA00	**Pilbara Seismi**	**55.53**	**96**	P	**P**	**09 45 26.0**	**0.0**
PSA00				IAmb	IAmb	09 46 09.2	
	comp=Z,8.9nm,1.1s						
UOSS	**Minazif**	**56.41**	**358**	P	**P**	**09 45 31.4**	**-0.7**
UOSS				IAmb	IAmb	09 45 42.5	
	comp=Z,19nm,1.3s						
QSPA	**South Pole Qui**	**58.41**	**180**	P	**P**	**09 45 46.1**	**+0.1**
QSPA				IAmb	IAmb	09 45 56.6	
	comp=Z,4.8nm,1.1s						
QSPA	**South Pole Qui**	**58.41**	**180**	P	**P**	**09 45 46.3**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=265,slow=3.1,SNR=11						
QSPA				LR	LR	10 09 07.4	
	comp=Z,94nm,18.4s,baz=259,slow=34						
	comp=Z,1.9nm,0.7s						
SHEL	**Horse Pasture**	**59.66**	**269**	P	**P**	**09 45 53.2**	**-2.0**
VNDA	**Vanda**	**62.17**	**166**	LR	LR	10 11 24.6	
	comp=Z,64nm,18.6s,baz=259,slow=34						
CMAR	**Chiang Mai Arr**	**63.49**	**44**	P	**P**	**09 46 19.8**	**-1.1**
	comp=Z,2.1nm,0.4s,baz=232,slow=7.3,SNR=12						
CMAR				LR	LR	10 08 55.5	
	comp=Z,34nm,21.6s,baz=80,slow=31						
	comp=Z,2.1nm,0.4s						
EIL	**Elat**	**64.90**	**338**	LR	LR	10 09 59.0	
	comp=Z,46nm,21.9s,baz=249,slow=32						
KNRA	**Kununurra**	**65.70**	**94**	P	**P**	**09 46 34.9**	**-0.5**
ASAR	**Alice Springs**	**66.44**	**104**	P	**P**	**09 46 39.7**	**-0.5**
ASAR	**Alice Springs**	**66.44**	**104**	P	**P**	**09 46 39.3**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=240,slow=5.9,SNR=52						
	comp=Z,2.3nm,0.6s						
AS31	**Alice Springs**	**66.44**	**104**	P	**P**	**09 46 39.6**	**-0.7**
MMAI	**Mount Meron Ar**	**67.87**	**340**	LR	LR	10 11 17.2	
	comp=Z,36nm,20.9s,baz=113,slow=31						
WRA	**Warramunga Arr**	**68.45**	**101**	P	**P**	**09 46 51.9**	**-1.1**
WRA	**Warramunga Arr**	**68.45**	**101**	P	**P**	**09 46 52.1**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=241,slow=5.5,SNR=21						
	comp=Z,2.1nm,0.6s						
WB2	**Warramunga Arr**	**68.46**	**101**	P	**P**	**09 46 52.7**	**-0.3**
WB2				IAmb	IAmb	09 47 02.8	
	comp=Z,16nm,1.4s						
WB0	**Warramunga Arr**	**68.58**	**101**	P	**P**	**09 46 53.2**	**-0.5**
WB0				IAmb	IAmb	09 46 56.3	
	comp=Z,4.1nm,0.9s						
WR0	**Warramunga Arr**	**68.61**	**101**	P	**P**	**09 46 53.4**	**-0.5**
WR0				IAmb	IAmb	09 47 10.2	
	comp=Z,9.0nm,1.1s						
MTN	**Manton Dam**	**69.07**	**92**	P	**P**	**09 46 56.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**70.03**	**300**	P	**P**	**09 47 03.2**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=108,slow=5.6,SNR=5.8						
	comp=Z,1.2nm,0.9s						
GNI	**Garni**	**72.59**	**349**	LR	LR	10 15 58.1	
	comp=Z,38nm,21.5s,baz=188,slow=33						
BRTR	**Keskin Array B**	**74.64**	**341**	P	**P**	**09 47 29.6**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=204,slow=3.2,SNR=2.7						
	comp=Z,0.7nm,0.8s						
MLR	**Muntele Rosu**	**82.22**	**338**	P	**P**	**09 48 11.7**	**+0.2**
MLR				IAmb	IAmb	09 48 13.1	
	comp=Z,2.3nm,0.7s						
KURBB	**Kurchatov Arra**	**84.00**	**13**	P	**P**	**09 48 19.9**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=208,slow=5.7,SNR=7.3						
	comp=Z,1.2nm,0.7s						
NRCA	**Norcia**	**84.90**	**329**	P	**P**	**09 48 26.1**	**+0.7**
NRCA				IAmb	IAmb	09 48 35.0	
	comp=Z,14nm,1.5s						
BVAR	**Borovoye Array**	**85.11**	**7**	P	**P**	**09 48 26.1**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=176,slow=4.5,SNR=15						
	comp=Z,3.6nm,0.8s						
BRVK	**Borovoye**	**85.13**	**7**	P	**P**	**09 48 26.6**	**+0.5**
BRVK				IAmb	IAmb	09 48 27.3	
	comp=Z,2.4nm,0.7s						
ZAA0	**Zalesovo Array**	**88.45**	**15**	P	**P**	**09 48 42.4**	**+0.2**
ZAA0				IAmb	IAmb	09 49 21.4	
	comp=Z,1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**88.45**	**15**	P	**P**	**09 48 42.8**	**+0.6**
ILAR	**Eielson Array**	**143.54**	**18**	PKhKP	PKPpre	09 55 19.9	
	comp=Z,0.3nm,0.8s,baz=303,slow=5.2,SNR=2.4						
ILAR				PKP	**PKPdf**	**09 55 24.7**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=358,slow=3.0,SNR=4.3						
N19K	**Bonanza Creek**	**143.96**	**27**	PKPdf	PKPbc	09 55 23.9	+0.6
I26K	**Coal Creek Min**	**143.99**	**15**	PKPdf	PKPbc	09 55 23.9	+0.8
G31M	**Satah River**	**144.04**	**8**	PKPdf	**PKPab**	**09 55 23.0**	**+0.3**
H29M	**Whitestone**	**144.11**	**11**	PKPdf	**PKPab**	**09 55 23.3**	**+0.3**
WVNY	**West Valley, N**	**144.16**	**300**	PKPdf	PKPbc	09 55 24.9	+0.5
EPYK	**Eagle Plains**	**144.23**	**10**	PKPdf	PKPbc	09 55 24.5	+0.6
SKT	**Skwentna**	**144.25**	**24**	PKPdf	**PKPab**	**09 55 23.5**	**-0.2**
O18K	**Koktuh Hills**	**144.26**	**28**	PKPdf	PKPbc	09 55 24.6	+0.4
I28M	**Miner Creek**	**144.53**	**13**	PKPdf	**PKPab**	**09 55 25.0**	**+0.2**
T57A	**Hurt**	**144.58**	**290**	PKPdf	PKPbc	09 55 26.6	+0.7
J26L	**Joseph Creek**	**144.58**	**16**	PKPdf	**PKPab**	**09 55 25.0**	**0.0**
Q56A	**Snyder Ridge,**	**144.63**	**294**	PKPdf	PKPbc	09 55 26.5	+0.4
SUA	**Susitna One**	**144.88**	**24**	PKPdf	**PKPab**	**09 55 26.3**	**+0.1**
EGAK	**Eagle**	**144.88**	**14**	PKPdf	**PKPab**	**09 55 25.3**	**-0.6**
I29M	**Ogilvie Camp,**	**144.90**	**12**		**PKPab**	**09 55 25.9**	**-0.1**
SCRK	**Sand Creek**	**144.92**	**17**	PKPdf	PKPbc	09 55 26.8	+0.5
PMR	**Palmer**	**145.32**	**23**	PKPbc	**PKPbc**	**09 55 27.8**	**+0.3**
I30M	**Mount Dempster**	**145.35**	**11**	PKPbc	**PKPbc**	**09 55 27.7**	**0.0**
PAX	**Paxson**	**145.36**	**19**	PKPbc	**PKPab**	**09 55 28.7**	**+0.8**
RC01	**Rabbit Creek A**	**145.49**	**24**		**PKPdf**	**09 55 28.1**	**+0.1**
SCM	**Sheep Creek Mo**	**145.72**	**21**		**PKPab**	**09 55 29.9**	**+0.7**
M24K	**Tolsona, Glenn**	**145.85**	**20**		**PKPab**	**09 55 30.5**	**+0.8**
J30M	**Hart River**	**145.96**	**11**	PKPbc	**PKPbc**	**09 55 30.0**	**+0.4**
O53A	**New Philadelph**	**146.20**	**296**	PKPab	**PKPbc**	**09 55 31.3**	**+0.4**
L27K	**Beaver Creek,**	**146.22**	**16**	PKPbc	**PKPab**	**09 55 31.3**	**+0.3**
BCAR	**Beaver Creek A**	**146.22**	**16**	PKPbc	**PKPab**	**09 55 31.2**	**+0.1**
K29M	**Barlow Dome**	**146.43**	**12**	PKPbc	**PKPbc**	**09 55 31.3**	**+0.3**
YKA	**Yellowknife Ar**	**148.88**	**353**	PKPbc	**PKPbc**	**09 55 36.7**	**-0.8**
YKA	**Yellowknife Ar**	**148.88**	**353**	PKPbc	**PKPbc**	**09 55 37.0**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=355,slow=2.9,SNR=10						
BCPM	**Bancas Point**	**149.43**	**17**	PKPbc	**PKPbc**	**09 55 38.9**	**-0.1**
ULM	**Lac du Bonnet**	**153.22**	**321**	PKPbc	**PKPbc**	**09 55 46.5**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=358,slow=4.0,SNR=2.9						

KRSC 10 09:35:52.7±1.1, 55°.91N×163°.25E, h20km±12km, MI3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.38**	**321**	*e*P	Pb	09 36 01.0	+0.2
KBTR				*e*S	Sb	09 36 05.9	-0.3
KBG	**Krutoberegovo**	**0.46**	**319**	*e*P	Pb	09 36 02.1	0.0
SRKR	**Sorokina**	**1.38**	**304**	*e*P	Pb	09 36 18.3	+0.5
ZLN	**Zelenaya**	**1.38**	**275**	*e*P	Pb	09 36 18.5	+0.7
CIRR	**Tsirk**	**1.42**	**279**	*e*P	Pb	09 36 18.7	+0.1
BZGR	**Bezymyannyi-Gr**	**1.44**	**272**	*e*P	Pb	09 36 19.0	+0.2
LGNR	**Loginova**	**1.45**	**278**	*e*P	Pb	09 36 19.5	+0.4
LGNR				*e*S	Sb	09 36 38.3	+1.1
KLY	**Klyuchi**	**1.51**	**287**	*e*P	Pn	09 36 18.0	-0.5
KLY				*e*S	Sn	09 36 36.5	-1.1
BZP	**Bezymyannyi-Pe**	**1.53**	**271**	*e*P	Pb	09 36 20.0	-0.4
KRSR	**Krestovskiy**	**1.54**	**283**	*e*P	Pb	09 36 19.8	-0.7
KRSR				*e*S	Sb	09 36 39.8	+0.2
BZWR	**Bezymyannyi-We**	**1.55**	**273**	*e*P	Pb	09 36 20.9	+0.1
BZMR	**Bezymyannaya**	**1.55**	**272**	*e*P	Pb	09 36 20.7	-0.2
MKZ	**Mys Kozlova**	**1.61**	**213**	*e*P	Pb	09 36 21.3	-0.5
KIRR	**Kirishev**	**1.64**	**273**	*e*P	Pb	09 36 22.0	-0.2
KIRR				*e*S	Sb	09 36 43.3	+0.8
BKI	**Bering**	**1.70**	**113**	*e*S	Sb	09 36 45.2	+1.0
KPT	**Kopyto**	**1.70**	**273**	*e*P	Pb	09 36 23.1	-0.2
KMNR	**Kamenistaya**	**1.71**	**266**	*e*P	Pb	09 36 23.4	0.0
KMNR				*e*S	Sb	09 36 44.4	0.0
TUMD	**Tumrok D**	**1.77**	**248**	*e*P	Pb	09 36 23.9	-0.6
TUMR	**Tumrok**	**1.87**	**252**	*e*P	Pb	09 36 25.8	-0.5
TUMR				*e*S	Sb	09 36 49.7	+0.5
KOZ	**Kozyrevsk**	**1.90**	**276**	*e*P	Pb	09 36 26.6	-0.1
KOZ				*e*S	Sb	09 36 50.8	+0.8
SRDR	**Sredinnyy**	**2.02**	**283**	*e*P	Pb	09 36 28.0	-0.8
SRDR				*e*S	Sb	09 36 53.6	+0.1
ESO	**Esso**	**2.56**	**272**	*e*P	Pn	09 36 35.2	+2.2
OSSR	**Ossora**	**3.35**	**358**	*e*P	Pn	09 36 45.5	+1.6
NLC	**Nalytchevo**	**3.56**	**221**	*e*S	Sn	09 37 30.2	+2.0
AVH	**Avacha**	**3.73**	**227**	*e*P	Pn	09 36 52.6	+3.4
UGLR	**Uglovaya**	**3.74**	**225**	*e*P	Pn	09 36 52.3	+3.0
KOK	**Koryaka**	**3.75**	**228**	*e*P	Pn	09 36 53.9	-4.4
GNL	**Ganaly**	**3.79**	**236**	*e*P	Pn	09 36 53.8	+3.8
DALK	**Dalny**	**3.90**	**224**	*e*S	Sn	09 37 37.8	+1.2
PET	**Petropavlovsk**	**3.94**	**225**	*e*S	Sn	09 37 39.3	+1.7
ASAK	**Asacha**	**4.73**	**224**	*e*P	Pn	09 37 08.2	+5.3

*IDC **10** 09:36:09.8±0.6, 18°.07S×72°.46W, h0km, mb4.1/12, mbtmp4.1/16, ML4.0/4, MS3.7/11, Error ellipse: s-maj=24.7km s-min=14.6km az=58.0*
*NEIC **10** 09:36:12.1±2.4, 18°.31S±0°.05×72°.52W±0°.08, h19km±4km, mb4.6/95, Mwr4.4/13, Mwr4.5(GUC), Error ellipse: s-maj=10.5km s-min=7.0km az=99.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.73; $M_{\theta\theta}$-3.48; $M_{\varphi\varphi}$0.76; $M_{r\theta}$-2.04; $M_{\theta\varphi}$3.68; $M_{\varphi r}$-0.10; Fault plane solution: $M_0$4.86000×10^{15} NP1:φ_0s159.71000°, δ65.39000°, λ154.60000°. NP2:φ_0s260.90000°, δ67.05000°, λ26.89000°. Principal axes: T 3.0249, Plg35.0000°, Azm121.0000°; N 2.5850, Plg55.0000°, Azm298.0000°; P -5.6099, Plg1.0000°, Azm30.0000°;*
*GUC **10** 09:36:12.2±0.4, 18°.16S×72°.43W, h15km, ML4.5*
*NEIC **10** 09:36:13.3, 18°.33S×72°.52W, h26km*
*VAO **10** 09:36:14.0±1.5, 18°.23S×72°.46W, h54km±8km, mb4.4*

ISC 10 09:36:13.3±0.4, 18°.26S±0°.05×72°.53W±0°.06, h35km, n189, σ1§53/173, mb4.5/54, MS3.8/7, 6C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**2.08**	**93**		**Pn**	**09 36 44.7**	**-1.0**
AP01	**Chacalluta**	**2.08**	**93**	*e*P	**Pn**	**09 36 44.7**	**-1.0**
AP01				IAML		09 37 11.3	
	comp=N,8μm,0.3s						
PX02	**IPOC Station P**	**2.32**	**108**	*i*P	**Pn**	**09 36 47.9**	**-1.2**
PX02				IAML		09 37 15.5	
	comp=N,2μm,0.4s						
PB18	**Visviri**	**2.97**	**78**		**Pn**	**09 37 00.1**	**+1.6**
PB18	**Visviri**	**2.97**	**78**	*i*P	**Pn**	**09 37 00.2**	**+1.6**
PB11	**IPOC Station P**	**3.10**	**119**	Pn	**Pn**	**09 37 00.4**	**+0.5**
PB11	**IPOC Station P**	**3.10**	**119** ⇑	*i*

AQDB Aquidauana 16.03 101 *eP* **P 09 39 56.0 -3.3**
H03N1 Juan Fernandez 16.17 200 Pn **P 09 39 58.2 -2.3**
baz=109,slow=14
H03N1 T T 09 59 04.9
baz=20,slow=73,SNR=7.2
H03N2 Juan Fernandez 16.18 200 Pn **P 09 39 58.1 -2.4**
baz=109,slow=14
H03N2 T T 09 59 05.0
baz=20,slow=73,SNR=7.9
CPUP Villa Florida 16.19 122 Pn **P 09 39 57.6 -3.4**
CPUP Villa Florida 16.19 122 Pn **Pn 09 39 56.5 -1.6**
comp=Z,0.2nm,0.3s,baz=303,slow=12,SNR=3.0
CPUP LR LR 09 46 58.7
comp=Z,120nm,20.6s,baz=293,slow=40
H03N3 Juan Fernandez 16.19 200 Pn **P 09 39 57.9 -2.8**
baz=109,slow=14
H03N3 T T 09 58 34.4
baz=20,slow=73,SNR=5.4
SALV Santo Antonio 16.26 84 *eP* **Pn 09 39 58.5 -0.6**
VA04 Juan Fernndez 16.33 199 Pn **Pn 09 39 59.4 -0.5**
H03S3 Juan Fernandez 16.52 199 Pn **P 09 40 03.9 -0.5**
baz=17,slow=20
H03S1 Juan Fernandez 16.54 199 Pn **P 09 40 03.7 -0.8**
baz=17,slow=20
H03S2 Juan Fernandez 16.54 199 Pn **P 09 40 03.8 -0.8**
baz=17,slow=20
TEFE Tefe 16.57 29 *eP* **Pn 09 40 02.1 -1.0**
PDRB Porto dos Gac 16.62 69 *eP* **P 09 40 03.3 -2.7**
SLOR San Lorenzo - 18.38 341 P **Pn 09 40 25.1 -0.9**
ANTS Antisana-Sarah 18.50 342 P **P 09 40 26.0 -1.3**
MACA Manacapuru-AM 18.96 39 **P 09 40 29.8 -1.9**
MACA IAmb IAmb 09 40 42.8
comp=Z,28nm,0.8s
MACA Manacapuru-AM 18.96 39 *eP* **P 09 40 29.2 -2.5**
OTAV Otavalo 19.28 342 P **P 09 40 34.5 -1.2**
PTGB Pitanga 20.08 112 *eP* Pn 09 40 43.2 -2.8
TBOT Tacuaremb 20.09 135 *eP* **P 09 40 42.2 -1.7**
NPGB Novo Progresso 20.09 59 *eP* **P 09 40 42.3 -1.8**
PCMB Pacaembu 20.26 103 *eP* Pn 09 40 45.4 -2.7
LDASE Londrina, Braz 20.64 108 *eP* Pn 09 40 49.6 -2.9
ITAB Concordia 20.80 119 P Pn 09 40 51.3 -3.0
ITAB IAmb IAmb 09 41 17.6
comp=Z,52nm,1.5s
GO06 Curarrehue 21.27 178 P **P 09 40 54.9 -1.8**
SNDB Serra Nova Dou 21.42 76 *eP* **P 09 40 57.4 -1.0**
ITTB Itaituba 21.45 52 *eP* **P 09 40 56.9 -1.9**
PLTB Pedras Altas 21.75 132 P **P 09 41 00.2 -1.7**
PLTB IAmb IAmb 09 41 27.2
comp=Z,22nm,1.3s
ROSC El Rosal 23.02 355 P **P 09 41 16.9 +1.0**
comp=Z,4.1nm,0.4s,baz=119,slow=19,SNR=1.9
ROSC LR LR 09 51 47.1
comp=Z,359nm,21.7s,baz=116,slow=41
comp=Z,4.1nm,0.4s
BDFB Brasília 23.59 87 P **P 09 41 23.8 +2.6**
comp=Z,2.7nm,0.4s,baz=274,slow=12,SNR=5.8
BDFB LR LR 09 50 12.2
comp=Z,65nm,21.4s,baz=307,slow=36
comp=Z,2.7nm,0.4s
BOAV Boa Vista 23.68 31 P **P 09 41 21.3 -0.7**
BAUV El Baul 27.39 10 P **P 09 41 54.6 -1.0**
MDP Montagnes des 30.39 42 LR LR 09 55 17.3
comp=Z,154nm,18.4s,baz=150,slow=38
BOAB BOACO BROADBAND 30.15 336 P **P 09 42 49.2 +2.6**
EMPR Esperanza - Ma 36.98 9 P **P 09 43 18.2 -1.3**
SDDR Presa de Saban 37.03 2 P **P 09 43 21.0 +1.0**
RCBR Riachuelo 37.80 76 LR LR 10 00 51.2
comp=Z,74nm,18.5s,baz=333,slow=39
TEIG Tepich 41.25 337 LR LR 10 01 44.9
comp=Z,133nm,21.3s,baz=323,slow=37
TX31 Lajitas Ar. Si 56.05 327 P **P 09 45 49.7 +0.6**
TXAR Lajitas Array 56.05 327 P **P 09 45 49.6 +0.5**
comp=Z,0.3nm,0.4s,baz=153,slow=8.1,SNR=11
comp=Z,0.3nm,0.4s
OZNA Ozona 56.10 330 P **P 09 45 50.1 +0.8**
MIAR Mount Ida 56.20 339 P **P 09 45 49.8 -0.1**
ABTX Abilene, Hawle 56.86 333 P **P 09 45 55.5 +0.8**
X37A Clayton 56.87 338 P **P 09 45 56.1 +1.5**
X37A IAmb IAmb 09 45 56.7
comp=Z,11nm,1.4s
MNHN Monahans 57.23 329 P **P 09 45 58.6 +1.3**
MNHN IAmb IAmb 09 45 59.1
comp=Z,7.9nm,1.2s
ODSA Odessa 57.77 330 P **P 09 46 01.5 +0.3**
SN07 Snyder 07 57.81 332 P **P 09 46 01.8 +0.4**
SN07 IAmb IAmb 09 46 02.8
comp=Z,7.2nm,1.2s
S44A Carbondale 57.84 344 P **P 09 46 01.7 +0.3**
VHRN Van Horn 57.90 327 P **P 09 46 02.1 0.0**
VHRN IAmb IAmb 09 46 04.7
comp=Z,6.2nm,1.4s
HHAR Hobbs 57.90 340 P **P 09 46 02.4 +0.5**
POST Post 58.06 331 P **P 09 46 03.9 +0.7**
POST IAmb IAmb 09 46 16.3
comp=Z,4.7nm,0.9s
TUL3 Leonard 58.20 338 P **P 09 46 04.2 +0.2**
DKNS Dickens 58.31 332 P **P 09 46 05.4 +0.6**
DKNS IAmb IAmb 09 46 17.9
comp=Z,4.2nm,0.9s
OLIL Olney 58.54 346 P **P 09 46 05.8 -0.5**
OK029 Liberty Lake 58.72 336 P **P 09 46 08.1 +0.4**
SMWD Samnorwood 59.24 334 P **P 09 46 12.1 +0.8**
T35A Sooner Cattle 59.36 338 P **P 09 46 13.1 +1.0**
T35A IAmb IAmb 09 46 14.4
comp=Z,5.7nm,1.0s
MSTX Muleshoe 59.40 331 P **P 09 46 13.1 +0.6**
MSTX IAmb IAmb 09 46 14.0
comp=Z,7.3nm,1.2s
BLOK Blackwell 59.48 337 P **P 09 46 13.8 +0.9**
319A Douglas 60.67 324 P **P 09 46 23.0 +1.7**
319A IAmb IAmb 09 46 24.1
comp=Z,7.2nm,1.1s
SDCO Great Sand Dun 63.76 331 P **P 09 46 43.6 +1.5**
X16A Lo Mia Camp, P 64.15 325 P **P 09 46 46.9 +2.3**
X16A IAmb IAmb 09 46 47.8
comp=Z,4.1nm,1.0s
S22A 4UR Ranch, Cre 64.38 330 P **P 09 46 48.1 +1.9**
S22A IAmb IAmb 09 46 53.0
comp=Z,6.5nm,1.5s
E62A Clayton Lake 64.63 2 P **P 09 46 49.4 +2.2**
ECSD EROS Data Cent 65.52 341 P **P 09 46 53.9 +0.8**
ECSD IAmb IAmb 09 46 55.9
comp=Z,8.6nm,1.4s
K30B Basset 65.56 338 P **P 09 46 55.0 +1.5**
SMCO Snowmass 65.59 331 P **P 09 46 55.6 +1.5**
SMCO IAmb IAmb 09 46 57.0
comp=Z,3.4nm,1.0s
SNAA Sanae 66.44 161 P **P 09 47 01.7 +2.9**
comp=Z,2.7nm,0.9s,baz=286,slow=9.1,SNR=11
comp=Z,2.7nm,0.9s
KNB Kanab 66.83 326 IAmb IAmb 09 47 05.6
comp=Z,6.9nm,1.2s
P18A Preston Nutter 67.50 329 P **P 09 47 07.3 +1.1**
P18A IAmb IAmb 09 47 09.8
comp=Z,6.3nm,1.3s
CCUT Cedar City 67.52 326 P **P 09 47 08.1 +1.8**
CCUT IAmb IAmb 09 47 10.3
comp=Z,5.0nm,1.0s
MSU Marysvale 67.61 327 P **P 09 47 06.3 -0.5**
MVU Marysvale 67.62 327 P **P 09 47 07.7 +0.7**
RWWY Rawlins 67.73 333 P **P 09 47 08.9 +1.4**
RWWY IAmb IAmb 09 47 29.9
comp=Z,6.3nm,1.3s
SHPR Sheep Range 67.74 324 P **P 09 47 10.1 +2.5**
SHPR IAmb IAmb 09 47 11.2
comp=Z,4.0nm,1.4s
BSUT Blindstream Ca 68.45 330 IAmb IAmb 09 47 15.4
comp=Z,3.0nm,0.8s
MPU Maple Canyon 68.48 329 P **P 09 47 11.7 -0.6**
MPU IAmb IAmb 09 47 15.3
comp=Z,4.5nm,1.0s
PSUT Pine Spring 68.50 326 P **P 09 47 12.1 -0.3**
PSUT IAmb IAmb 09 47 16.0
comp=Z,5.1nm,1.0s
WCT Wildcat Mounta 68.77 323 IAmb IAmb 09 47 17.3
comp=Z,5.6nm,1.2s
JLU Jordanelle 68.84 329 P **P 09 47 16.6 +2.1**
SPR3 Spring Creek 3 69.10 326 IAmb IAmb 09 47 19.4
comp=Z,5.1nm,1.1s
DUG Dugway, Tooele 69.20 328 P **P 09 47 19.1 +2.4**
R11B Troy Canyon, C 69.30 325 P **P 09 47 19.9 +2.6**
R11B IAmb IAmb 09 47 21.1
comp=Z,5.3nm,1.4s
PDAR Pinedale Array 69.64 332 P **P 09 47 20.2 +0.8**
comp=Z,0.3nm,0.5s,baz=180,slow=7.1,SNR=4.9
comp=Z,0.3nm,0.5s
HWUT Hardware Ranch 69.66 330 IAmb IAmb 09 47 24.7
comp=Z,5.3nm,1.1s
BGU Big Grassy Mou 69.86 328 P **P 09 47 20.7 -0.1**
ELK Elko 70.85 327 P **P 09 47 28.8 +1.9**
ELK IAmb IAmb 09 47 29.9
comp=Z,3.7nm,1.1s
LHV Little Huntoon 70.86 323 IAmb IAmb 09 47 30.8
comp=Z,6.5nm,1.1s
NVAR Mina Array Bea 70.86 323 P **P 09 47 28.5 +1.5**
NVAR Mina Array Bea 70.86 323 P **P 09 47 28.7 +1.6**
comp=Z,1.5nm,1.0s,baz=136,slow=6.5,SNR=7.7
comp=Z,1.5nm,1.0s
FXWY Fox Creek 70.98 331 IAmb IAmb 09 47 30.9
comp=Z,4.1nm,1.2s
IMW Indian Meadow 71.15 332 IAmb IAmb 09 47 31.6
comp=Z,6.7nm,1.4s
KVN Kaiserville 71.18 324 P **P 09 47 28.3 -0.6**
KVN IAmb IAmb 09 47 32.2
comp=Z,4.2nm,1.2s
FLWY Flagg Ranch 71.19 332 P **P 09 47 30.0 +1.2**
ULM Lac du Bonnet 71.25 344 P **P 09 47 27.8 -1.0**
comp=Z,0.9nm,0.4s,baz=143,slow=5.1,SNR=3.3
comp=Z,0.9nm,0.4s
QSPA South Pole Qui 71.92 180 P **P 09 47 36.1 +3.2**
comp=Z,0.9nm,0.4s,baz=168,slow=3.5,SNR=15
comp=Z,0.9nm,0.4s
PNTR Pine Nut 72.05 323 IAmb IAmb 09 47 38.0
comp=Z,6.1nm,1.1s
PAHR Pah Rah Range 72.35 324 IAmb IAmb 09 47 39.7
comp=Z,6.3nm,1.0s
HLID Hailey 72.52 329 P **P 09 47 38.7 +1.9**
HLID IAmb IAmb 09 47 40.3
comp=Z,4.0nm,1.1s
BOZ Bozeman (W) 72.78 332 P **P 09 47 38.7 +0.5**
BOZ IAmb IAmb 09 47 41.2
comp=Z,4.6nm,1.2s
MFID Camas Ranch 73.10 329 IAmb IAmb 09 47 43.8
comp=Z,8.4nm,1.1s
BPMT Black Pine Rid 74.24 332 P **P 09 47 49.4 +2.4**
BMO Blue Mountains 74.88 329 P **P 09 47 51.7 +1.2**
BMO IAmb IAmb 09 47 53.4
comp=Z,5.4nm,1.3s
YBH Yreka Blue Hor 75.58 324 LR LR 10 21 33.5
comp=Z,166nm,20.3s,baz=75,slow=36
J05D Fort Rock, OR 75.81 326 P **P 09 47 58.7 +2.8**
J05D IAmb IAmb 09 48 00.1
comp=Z,7.6nm,1.4s
PINE Pine Mountain 75.99 326 P **P 09 47 57.7 +0.6**
PINE IAmb IAmb 09 48 01.0
comp=Z,5.4nm,1.1s
KRMB Red Mountain 76.13 323 P **P 09 47 57.6 -0.2**
KRMB IAmb IAmb 09 48 05.3
comp=Z,5.2nm,1.2s
KSXB Camp Six Broad 76.31 323 P **P 09 47 59.3 +0.5**
KSXB IAmb IAmb 09 48 00.6
comp=Z,8.7nm,1.4s
I05D Terrebonne, OR 76.58 326 P **P 09 48 03.4 +3.2**
I05D IAmb IAmb 09 48 03.5
comp=Z,5.5nm,1.0s
K02D Willamette Mer 76.75 324 P **P 09 48 01.2 -0.1**
COR Corvallis 77.79 326 P **P 09 48 08.9 +2.0**
LTY Liberty 78.23 329 P **P 09 48 09.5 +0.1**
TORD Torodi Ar. Bea 79.55 72 P **P 09 48 17.1 -0.2**
comp=Z,1.5nm,0.7s,baz=256,slow=5.2,SNR=15
comp=Z,1.5nm,0.7s
ESDC Sonseca Array 85.98 46 P **P 09 48 52.0 +1.8**
ESDC IAmb IAmb 09 48 53.1
comp=Z,3.3nm,1.1s
ESDC Sonseca Array 85.98 46 P **P 09 48 51.8 +1.6**
comp=Z,1.6nm,0.7s,baz=253,slow=4.5,SNR=7.4
comp=Z,1.6nm,0.7s
YKA Yellowknife Ar 87.04 342 P **P 09 48 57.0 +2.3**
YKA Yellowknife Ar 87.04 342 P **P 09 48 55.5 +0.7**
comp=Z,1.5nm,0.8s,baz=136,slow=5.0,SNR=6.7
comp=Z,1.5nm,0.8s
MAW Mawson 88.38 164 P **P 09 49 04.0 +2.8**
comp=Z,0.9nm,0.6s,baz=264,slow=6.7,SNR=2.4
comp=Z,0.9nm,0.6s
INK Inuvik 96.76 341 LR LR 10 37 07.3
comp=Z,97nm,19.3s,baz=172,slow=38
ASAR Alice Springs 130.99 213 PKP **PKiKP 09 55 23.3 +0.3**
comp=Z,0.9nm,0.9s,baz=133,slow=1.7,SNR=6.1
WRA Warramunga Arr 133.78 216 PKP **PKiKP 09 55 29.6 +0.8**
comp=Z,0.4nm,0.5s,baz=139,slow=1.5,SNR=8.5
ZALV Zalesovo Beam 140.31 21 PKP **PKiKP 09 55 40.7 -0.2**
comp=Z,0.4nm,0.3s,baz=14,slow=3.1,SNR=3.9
MKAR Makanchi Array 144.79 30 PKP **PKPdf 09 55 46.9 +0.2**
comp=Z,1.7nm,0.9s,baz=318,slow=1.6,SNR=9.3
MJAR Matsushiro Arr 147.39 310 PKPbc **PKiKP 09 55 56.0 -0.1**
comp=Z,5.2nm,1.0s,baz=46,slow=0.2,SNR=15
SONM Songino Array 150.49 1 PKPbc **PKiKP 09 56 03.6 +1.4**
comp=Z,2.8nm,0.8s,baz=338,slow=1.8,SNR=12
KSRS Korea Array 153.79 321 PKP **PKPbc 09 56 04.0 -5.1**
comp=Z,1.1nm,0.7s,baz=69,slow=4.2,SNR=4.2
KSRS PKPbc **sPKPdf 09 56 11.7 -1.9**
comp=Z,1.6nm,1.0s,baz=56,slow=4.6,SNR=2.9
KSRS PKPab **PKPab 09 56 22.2 +0.3**
comp=Z,0.3nm,0.3s,baz=56,slow=5.0,SNR=1.4

IDC 10 09:36:34.7±3.1, 53°.56N×87°.81E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=27.9km s-min=18.1km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**284**	I	I	09 48 10.0	
	0.1nm,0.8s,baz=98,slow=307,SNR=6.2						
ZALV	**Zalesovo Beam**	**1.81**	**284**	Pn	Pn	09 37 06.5	-0.7
	0.9nm,0.3s,baz=106,slow=13,SNR=12						
ZALV				Lg	Lg	09 37 32.5	
	1.0nm,0.3s,baz=102,slow=26,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.43**	**246**	Pn	Pn	09 38 11.1	+0.6
	baz=63,slow=14,SNR=5.6						
KURBB				Lg	Lg	09 39 58.0	
	baz=61,slow=29,SNR=1.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	Pn	09 38 28.8	+1.6
	0.1nm,0.3s,baz=26,slow=12,SNR=2.4						
MKAR				Lg	Lg	09 40 34.6	
	0.1nm,0.3s,baz=28,slow=31,SNR=2.3						
	0.1nm,0.4s						

*AFAD **10** 09:39:16.3±0.0, 41°.18N×28°.35E, h7km±5km, ML1.1*

ISK 10 09:39:12.6, 41°.26N×28°.71E, h0km, ML1.7/18, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGKT	**Bogazkoy**	**0.09**	**148**	Pg	Pg	09 39 14.9	+0.5
BGKT				Sg	Sg	09 39 17.3	+1.7
CTKS	**Kestanelik-??a**	**0.15**	**261**	Pg	Pg	09 39 16.5	+1.0
ELBA	**Catalca**	**0.24**	**241**	P	Pg	09 39 17.4	+0.3
ELBA				S	Sg	09 39 21.1	+0.9
ELBA				*i* AML	AML	09 39 27.0	
	comp=N,65nm,0.8s						
ELBA				*i* AML	AML	09 39 29.0	
	comp=E,62nm,0.9s						
ISK	**Istanbul-Kandi**	**0.33**	**126**	Pg	Pg	09 39 19.7	+0.8
KAVV	**Kandilli-Istan**	**0.33**	**126**	Pg	Pg	09 39 19.5	+0.6
SLVT	**Silivri**	**0.38**	**265**	Pg	Pg	09 39 20.3	+0.5
CTYL	**Yalıkoy Yolu**	**0.38**	**304**	Pg	Pg	09 39 20.1	+0.2
CTYL				Sg	Sg	09 39 26.5	+1.7
ARMT	**Armutlu**	**0.70**	**170**	Pg	Pg	09 39 26.5	+0.4
SILT	**Sile**	**0.71**	**98**	Pg	Pg	09 39 26.9	+0.6
SILT				Sg	Sb	09 39 37.3	-1.0
VIZE	**Kirklareli, Vi**	**0.72**	**296**	P	Pg	09 39 26.7	+0.2
VIZE				S	Sg	09 39 36.1	+0.2
VIZE				*i* AML	AML	09 39 43.0	
	comp=N,20nm,0.3s						
YLV	**Yalova**	**0.86**	**144**	Pg	Pg	09 39 29.5	+0.5
SEMS	**Kocaeli-K¶rfe**	**0.87**	**116**	P	Pg	09 39 26.3	-3.0
SEMS				S	Sg	09 39 41.6	+1.0
SEMS				*i* AML	AML	09 39 47.0	
	comp=E,11nm,0.9s						
SEMS				*i* AML	AML	09 39 53.0	
	comp=N,12nm,0.8s						
MRMT	**Marmara Adasi**	**1.07**	**232**	Pg	Pb	09 39 33.6	-0.4
EDC	**Edincik**	**1.12**	**215**	Pn	Pb	09 39 34.5	-0.3
ARMN	**Kirklareli, Me**	**1.13**	**303**	P	Pg	09 39 34.0	-0.3
ARMN				S	Sg	09 39 48.9	-0.1
ARMN				*i* AML	AML	09 39 53.0	
	comp=N,16nm,0.6s						
ARMN				*i* AML	AML	09 39 57.0	
	comp=E,17nm,0.6s						
KAND	**Kocaeli-Kandir**	**1.13**	**98**	P	Pg	09 39 34.1	-0.2
KAND				S	Sg	09 39 48.5	-0.5
KAND				*i* AML	AML	09 40 04.0	
	comp=E,51nm,0.6s						
KAND				*i* AML	AML	09 40 06.0	
	comp=N,15nm,0.7s						
HISA	**Bilecik-Osmane**	**1.22**	**130**	P	Pg	09 39 35.5	-0.5
HISA				S	Sn	09 39 53.6	-0.5
HISA				*i* AML	AML	09 40 01.0	
	comp=E,28nm,1.0s						
HISA				*i* AML	AML	09 40 06.0	
	comp=N,20nm,0.6s						
ORLT	**Orhaneli**	**1.22**	**173**	Pn	Pn	09 39 37.1	+0.1
KAYN	**Sakarya, Kayna**	**1.27**	**103**	P	Pg	09 39 36.5	-0.4
KAYN				S	Sg	09 39 52.4	-0.9
KAYN				*i* AML	AML	09 39 57.0	
	comp=E,10nm,0.2s						
KAYN				*i* AML	AML	09 39 57.0	
	comp=N,13nm,0.6s						
RKY	**Sarkoy-Tekirda**	**1.29**	**244**	Pn	Pg	09 39 37.1	-0.3
KIRK	**Kırklareli**	**1.32**	**294**	P	Pg	09 39 37.1	-0.7
KIRK				S	Sg	09 39 53.2	-1.6
KIRK				*i* AML	AML	09 39 58.0	
	comp=N,13nm,0.5s						
KIRK				*i* AML	AML	09 39 58.0	
	comp=E,5.7nm,0.5s						
SAUV	**Serdivan-Sakar**	**1.33**	**112**	Pn	Pg	09 39 38.0	-0.1
CAVI	**Cavuskoy**	**1.36**	**140**	Pn	Pg	09 39 38.4	-0.4
KRBG	**Karabiga-Canak**	**1.38**	**231**	Pn	Pg	09 39 38.8	-0.2
SUSR	**Susurluk-Balik**	**1.38**	**200**	Pn	Pg	09 39 37.9	-1.2
GEYV	**SAKARYA_Geyve**	**1.43**	**122**	P	Pb	09 39 57.5	+17
GEYV				S	Sb	09 39 59.1	+0.1
GEYV				*i* AML	AML	09 40 00.0	
	comp=N,72nm,0.4s						
GEYV				*i* AML	AML	09 40 01.0	
	comp=E,40nm,0.4s						

IDC 10 09:42:10.1±3.1, 31°.59S×58°.05E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=97.3km s-min=35.8km az=118.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.34**	**197**	T	T	10 01 05.7	
	baz=21,slow=75,SNR=6.9						
H04N1	**CROZET ISLANDS**	**15.34**	**197**	T	T	10 01 06.1	
	baz=21,slow=75,SNR=7.6						
H04N3	**CROZET ISLANDS**	**15.36**	**197**	T	T	10 01 04.8	
	baz=21,slow=75,SNR=6.5						
H08S1	**Diego Carcia H**	**27.36**	**33**	T	T	10 16 21.7	
	baz=215,slow=76,SNR=7.7						
H08S2	**Diego Garcia H**	**27.37**	**33**	T	T	10 16 22.9	
	baz=215,slow=76,SNR=9.1						
H08S3	**Diego Garcia H**	**27.38**	**33**	T	T	10 16 23.4	
	baz=215,slow=76,SNR=7.2						
QSPA	**South Pole Qui**	**58.58**	**180**	P	P	09 52 08.4	-0.1
	1.3nm,0.7s,baz=284,slow=1.6,SNR=11						
	1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.37**	**44**	P	P	09 52 41.5	+0.1
	0.8nm,0.3s,baz=232,slow=8.9,SNR=2.4						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**66.47**	**104**	P	P	09 53 02.3	+0.6
	0.2nm,0.5s,baz=242,slow=6.8,SNR=1.0						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**68.47**	**101**	P	P	09 53 13.9	-0.6
	0.4nm,0.8s,baz=247,slow=6.1,SNR=1.0						
	0.4nm,0.8s						

IDC 10 09:51:55.0±3.3, 31°.46S×58°.00E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=100.8km s-min=41.7km az=115.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.71**	**180**	P	P	10 01 54.3	0.0
	0.3nm,0.6s,baz=239,slow=3.6,SNR=1.0						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.31**	**44**	P	P	10 02 25.9	0.0
	1.1nm,0.3s,baz=224,slow=7.6,SNR=1.3						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**66.54**	**104**	P	P	10 02 47.0	-0.2
	0.3nm,0.9s,baz=234,slow=6.0,SNR=2.2						
	0.3nm,0.9s						
WRA	**Warramunga Arr**	**68.54**	**101**	P	P	10 03 00.1	+0.3
	0.3nm,0.7s,baz=246,slow=5.1,SNR=1.6						
	0.3nm,0.7s						

IDC 10 09:52:58.2±3.1, 31°.87S×58°.52E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=93.6km s-min=40.2km az=113.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.30**	**180**	P	P	10 02 54.6	0.0
	1.1nm,1.0s,baz=270,slow=4.0,SNR=1.9						
	1.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**63.29**	**44**	P	P	10 03 29.0	0.0
	0.8nm,0.3s,baz=237,slow=8.4,SNR=4.3						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**66.01**	**104**	P	P	10 03 46.9	0.0
	0.5nm,0.9s,baz=239,slow=7.2,SNR=4.6						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**68.02**	**100**	P	P	10 03 59.8	+0.1
	0.4nm,0.9s,baz=244,slow=5.5,SNR=1.6						
	0.4nm,0.9s						

*IDC **10** 09:54:22.6±0.7, 31°.72S×58°.28E, h0km, mb3.9/12, mbtmp3.9/13, ML3.5/1, Error ellipse: s-maj=27.1km s-min=19.4km az=77.0*

*NEIC **10** 09:54:25.4±2.5, 31°.62S±0°.07×57°.9E±0°.2, h10km±1km, mb4.7/12, Error ellipse: s-maj=30.8km s-min=11.3km az=269.0*

ISC 10 09:54:25.7±0.6, 31°.7S±0°.1×58°.1E±0°.1, h17km, n47, σ0 95/38, mb4.0/16, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.24**	**197**	T	T	10 13 17.6	
	baz=21,slow=75,SNR=4.1						
H04N1	**CROZET ISLANDS**	**15.24**	**197**	T	T	10 13 18.9	
	baz=21,slow=75,SNR=8.7						
H04N3	**CROZET ISLANDS**	**15.26**	**197**	T	T	10 13 17.3	
	baz=21,slow=75,SNR=5.8						
OPO	**Ambohidratompo**	**16.35**	**320**	Pn	**Pn**	**09 58 15.1**	**+0.4**
	baz=90,slow=20,SNR=3.3						
	6.5nm,0.9s						
H08S1	**Diego Carcia H**	**27.44**	**32**	T	T	10 28 33.7	
	baz=207,slow=76,SNR=1.0						
H08S2	**Diego Garcia H**	**27.45**	**32**	T	T	10 28 34.8	
	baz=207,slow=76,SNR=0.7						
H08S3	**Diego Garcia H**	**27.46**	**32**	T	T	10 28 34.7	
	baz=207,slow=76,SNR=8.1						
H01W2	**Cape Leeuwin H**	**46.45**	**110**	T	T	10 52 30.0	
	baz=255						
H01W3	**Cape Leeuwin H**	**46.46**	**110**	T	T	10 52 34.4	
	baz=255						
H01W1	**Cape Leeuwin H**	**46.47**	**110**	T	T	10 52 32.7	
	baz=255						
SNAA	**Sanae**	**51.16**	**201**	P	**P**	**10 03 26.9**	**-0.6**
	0.8nm,1.0s,baz=77,slow=9.7,SNR=2.1						
	0.8nm,1.0s						
PSA00	**Pilbara Seismi**	**55.50**	**96**	P	**P**	**10 04 02.3**	**+2.2**
PSA00				IAmb	IAmb	10 04 40.5	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**58.47**	**180**	P	**P**	**10 04 21.4**	**+0.8**
QSPA	**South Pole Qui**	**58.47**	**180**	P	**P**	**10 04 20.5**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=262,slow=3.6,SNR=7.7						
	comp=Z,0.9nm,0.6s						
VNDA	**Vanda**	**62.22**	**166**	P	**P**	**10 04 46.6**	**+0.8**
	comp=Z,1.1nm,1.1s,baz=151,slow=11,SNR=1.4						
	comp=Z,1.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**63.43**	**44**	P	**P**	**10 04 54.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**63.43**	**44**	P	**P**	**10 04 54.4**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=233,slow=7.4,SNR=6.6						
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**66.42**	**104**	P	**P**	**10 05 11.0**	**-3.4**
	comp=Z,0.7nm,0.8s,baz=243,slow=6.3,SNR=5.9						
	comp=Z,0.7nm,0.8s						
WRA	**Warramunga Arr**	**68.43**	**101**	P	**P**	**10 05 25.7**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=239,slow=5.5,SNR=3.9						
	comp=Z,0.8nm,0.9s						
WB0	**Warramunga Arr**	**68.56**	**101**	P	**P**	**10 05 27.1**	**-0.7**
WR0	**Warramunga Arr**	**68.59**	**101**	P	**P**	**10 05 28.9**	**+0.8**

TORD Torodi Ar. Bea 70.02 300 P **P 10 05 36.4 -0.5**
comp=Z,0.8nm,0.9s,baz=125,slow=7.0,SNR=4.3
comp=Z,0.8nm,0.9s
SIMJ Simiganj 70.73 9 P **P 10 05 41.4 +0.6**
SIMJ IAmb IAmb 10 05 42.8
comp=Z,5.5nm,1.1s
CHGR Chuyangaron 70.75 9 P **P 10 05 40.5 -0.5**
BRTR Keskin Array B 74.59 341 P **P 10 06 03.5 -0.2**
comp=Z,0.6nm,0.8s,baz=174,slow=12,SNR=4.3
comp=Z,0.6nm,0.8s
KK31 Karatay Array 75.31 9 P **P 10 06 08.0 +0.3**
KKAR Karatay Array 75.31 9 P **P 10 06 07.3 -0.4**
BOOM Boomskoye usch 75.63 14 P **P 10 06 09.4 -0.4**
MKAR Makanchi Array 81.13 17 P **P 10 06 39.7 -0.2**
comp=Z,0.3nm,0.5s,baz=204,slow=4.8,SNR=3.8
comp=Z,0.3nm,0.5s
KURBB Kurchatov Arra 83.93 13 P **P 10 06 54.4 0.0**
comp=Z,1.9nm,0.9s,baz=208,slow=5.8,SNR=10
comp=Z,1.9nm,0.9s
KURK Kurchatov 84.04 13 P **P 10 06 55.4 +0.5**
KURK IAmb IAmb 10 06 56.7
comp=Z,8.3nm,1.4s
BVAR Borovoye Array 85.05 7 P **P 10 07 00.4 +0.5**
comp=Z,3.3nm,0.8s,baz=177,slow=5.3,SNR=16
comp=Z,3.3nm,0.8s
BRVK Borovoye 85.07 7 P **P 10 07 00.1 0.0**
BRVK IAmb IAmb 10 07 01.2
comp=Z,3.5nm,0.9s
ESDC Sonseca Array 91.37 317 P **P 10 07 31.9 +1.3**
comp=Z,0.5nm,0.8s,baz=152,slow=5.8,SNR=2.6
comp=Z,0.5nm,0.8s
SPU Mount Spurr 144.55 25 PKPdf **PKPab 10 13 59.1 0.0**
SUA Susitna One 144.81 24 PKPdf **PKPab 10 13 59.3 -0.8**
I29M Ogilvie Camp, 144.84 12 PKPdf **PKPab 10 13 59.5 -0.5**
SCRK Sand Creek 144.86 17 PKPdf **PKPdf 10 14 00.8 -0.3**
K27K Chicken 145.26 15 **PKPdf 10 14 02.4 +0.7**
I30M Mount Dempster 145.29 11 **PKPbc 10 14 01.5 -0.1**
PAX Paxson 145.30 19 PKPbc **PKPab 10 14 02.3 +0.4**
DAWY Dawson 145.81 14 PKPdf **PKPab 10 14 04.0 +0.3**
J30M Hart River 145.90 11 PKPbc **PKPab 10 14 04.1 0.0**
BCAR Beaver Creek A 146.16 16 PKPbc **PKPab 10 14 05.2 +0.2**
P52A Corning 146.92 295 PKPbc **PKPbc 10 14 07.0 -0.3**
SNH Sunshine Point 148.30 20 PKPab **PKPab 10 14 14.8 +1.3**
YKA Yellowknife Ar 148.83 353 PKPbc **PKPbc 10 14 09.9 -1.6**
comp=Z,1.2nm,0.8s,baz=10.0,slow=3.0,SNR=5.0

*IDC **10** 09:55:02.3±3.0,28°.71S×177°.43W,h62km±17km,mb3.5/4, mbtmp3.8/4,Error ellipse: s-maj=41.5km s-min=17.2km az=38.0*
*NEIC **10** 09:55:07.9±0.8,28°.91S±0°.09×177°.8W±0°.2,h77km±5km, mb4.7/14,Error ellipse: s-maj=19.5km s-min=13.4km az=92.0*
ISC 10 09:55:03.4±0.8,**28°.63S**±0°.10×**177°.6W**±0°.1,**h50km,n28,**
σ1°44/26,mb4.5/11,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.67**	**202**		**Pn**	**09 55 17.6**	**+0.8**
RAO				Sn	**Sn**	09 55 29.3	+2.8
RAO	**Raoul Island**	**0.67**	**202**	P	**Pn**	**09 55 17.8**	**+1.0**
	1μm,0.3s,baz=42,slow=22,SNR=26						
RAO				S	**Sn**	**09 55 28.5**	**+2.0**
	6μm,0.5s,baz=36,slow=21,SNR=17						
RAO				LR	LR	09 55 36.0	
	comp=Z,227nm,19.4s,baz=240,slow=49						
BBOO	**Buckleboo**	**39.79**	**252**	P	**P**	**10 02 31.8**	**+0.1**
BBOO				IAmb	IAmb	10 02 47.8	
	comp=Z,21nm,1.5s						
AS31	**Alice Springs**	**43.56**	**265**	P	**P**	**10 03 02.4**	**-0.3**
ASAR	**Alice Springs**	**43.56**	**265**	P	**P**	**10 03 01.2**	**-1.5**
ASAR	**Alice Springs**	**43.56**	**265**	P	**P**	**10 03 01.8**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=100,slow=6.7,SNR=23						
	comp=Z,0.7nm,0.4s						
WR0	**Warramunga Arr**	**44.20**	**270**	P	**P**	**10 03 07.5**	**-0.3**
WR0				IAmb	IAmb	10 03 23.6	
	comp=Z,16nm,1.5s						
WB2	**Warramunga Arr**	**44.38**	**270**	P	**P**	**10 03 09.1**	**-0.2**
WB2				IAmb	IAmb	10 03 29.6	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**44.39**	**270**	P	**P**	**10 03 08.1**	**-1.2**
WRA	**Warramunga Arr**	**44.39**	**270**	P	**P**	**10 03 08.6**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=110,slow=7.7,SNR=23						
	comp=Z,0.8nm,0.5s						
WB0	**Warramunga Arr**	**44.40**	**270**	P	**P**	**10 03 09.3**	**-0.1**
WB0				IAmb	IAmb	10 03 34.4	
	comp=Z,8.1nm,1.4s						
FORT	**Forrest**	**46.84**	**253**	P	**P**	**10 03 27.2**	**-1.3**
FORT				IAmb	IAmb	10 03 53.2	
	comp=Z,21nm,1.2s						
VNDA	**Vanda**	**49.88**	**186**	P	**P**	**10 03 50.7**	**-0.6**
WAKE	**Wake Island**	**49.99**	**340**	P	**P**	**10 03 55.1**	**+2.4**
KNRA	**Kununurra**	**50.92**	**273**	P	**P**	**10 03 59.8**	**-0.1**
KNRA				IAmb	IAmb	10 04 12.1	
	comp=Z,19nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.71**	**268**	P	**P**	**10 04 13.2**	**-0.1**
VA02	**Isla de Pascua**	**59.51**	**106**	P	**P**	**10 05 02.7**	**+1.0**
QSPA	**South Pole Qui**	**61.48**	**180**	P	**P**	**10 05 14.1**	**-0.6**
QSPA				IAmb	IAmb	10 05 37.9	
	comp=Z,4.7nm,1.4s						
QSPA	**South Pole Qui**	**61.48**	**180**	P	**P**	**10 05 13.4**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=66,slow=18,SNR=1.0						
	comp=Z,0.5nm,0.7s						
MAW	**Mawson**	**74.08**	**200**	P	**P**	**10 06 29.8**	**-3.9**
	comp=Z,1.3nm,0.7s,baz=100,slow=12,SNR=3.7						
	comp=Z,1.3nm,0.7s						
H03S2	**Juan Fernandez**	**81.17**	**124**	T	T	11 36 56.9	
	baz=240,slow=74,SNR=7.9						
H03S1	**Juan Fernandez**	**81.18**	**124**	T	T	11 37 00.1	
	baz=240,slow=74,SNR=6.4						
H03S3	**Juan Fernandez**	**81.19**	**124**	T	T	11 36 57.1	
	baz=240,slow=74,SNR=7.3						
VA06	**Catapilco**	**87.33**	**126**	P	**P**	**10 07 45.5**	**+0.3**
VA06				IAmb	IAmb	10 08 11.1	
	comp=Z,14nm,1.1s						
FINES	**FINESS Array B**	**143.59**	**341**	PKP	PKPab	10 14 26.6	-1.9
	comp=Z,0.6nm,0.6s,baz=2.9,slow=2.8,SNR=1.7						
NC303	**NORSAR Array S**	**146.85**	**352**	PKPbc	**PKPbc**	**10 14 40.6**	**+1.1**
NC204	**NORSAR Array S**	**146.87**	**353**	PKPbc	**PKPbc**	**10 14 40.7**	**+1.1**
HFS	**Hagfors**	**147.57**	**349**	PKPbc	**PKPdf**	**10 14 38.3**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=349,slow=2.9,SNR=3.7						

IDC 10 09:55:36.8±2.3,**30°.86S**×**59°.67E,h0km,mb3.7**/5, **mbtmp3.7**/5,**Error ellipse: s-maj=72.5km s-min=37.5km az=89.0,Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**61.88**	**43**	P	P	10 05 58.1	-0.1
	0.9nm,0.5s,baz=234,slow=12,SNR=2.3						
	0.9nm,0.5s						
VNDA	**Vanda**	**62.70**	**166**	P	P	10 06 02.9	0.0
	0.7nm,0.7s,baz=250,slow=18,SNR=3.5						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**65.30**	**104**	P	P	10 06 20.9	0.0
	0.5nm,0.8s,baz=242,slow=6.4,SNR=4.1						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**67.24**	**100**	P	P	10 06 33.4	+0.1
	0.5nm,0.8s,baz=240,slow=6.0,SNR=1.8						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**82.82**	**12**	P	P	10 08 02.6	+0.1
	0.2nm,0.3s,baz=193,slow=3.8,SNR=1.4						
	0.2nm,0.3s						

*IDC **10** 09:59:53.4±0.7,31°.71S×58°.29E,h0km,mb4.0/12, mbtmp4.0/13,ML4.0/1,Error ellipse: s-maj=26.3km s-min=20.9km az=76.0*
*NEIC **10** 09:59:55.5±1.6,31°.8S±0°.1×57°.9E±0°.1,h10km±1km, mb4.7/19,Error ellipse: s-maj=21.1km s-min=15.1km az=183.0*
ISC 10 09:59:55.0±0.5,**31°.8S**±0°.1×**58°.0E**±0°.1,**h10km,n56,**
σ0°96/45,mb4.5/20,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.16**	**197**	T	T	10 18 47.6	
	baz=21,slow=75,SNR=17						
H04N1	**CROZET ISLANDS**	**15.16**	**197**	T	T	10 18 48.7	
	baz=21,slow=75,SNR=18						
H04N3	**CROZET ISLANDS**	**15.17**	**197**	T	T	10 18 47.5	
	baz=21,slow=75,SNR=31						
OPO	**Ambohidratompo**	**16.40**	**321**	Pn	**P**	**10 03 47.7**	**-0.6**
	0.1nm,0.3s,baz=145,slow=18,SNR=1.3						
	1.7nm,0.4s						
SOE	**Somerset East**	**27.43**	**259**	P	**P**	**10 05 39.3**	**-1.7**
SOE				IAmb	IAmb	10 05 42.1	
	comp=Z,25nm,1.4s						
H08S1	**Diego Garcia H**	**27.52**	**32**	T	T	10 34 03.7	
	baz=207,slow=76,SNR=17						
H08S2	**Diego Garcia H**	**27.53**	**32**	T	T	10 34 04.9	
	baz=207,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**27.54**	**32**	T	T	10 34 06.4	
	baz=207,slow=76,SNR=12						
MNCI	**Minicoy**	**42.34**	**22**	P	**P**	**10 07 49.8**	**+0.5**
H01W2	**Cape Leeuwin H**	**46.45**	**110**	T	T	10 58 00.5	
	baz=257,slow=75,SNR=6.4						
H01W3	**Cape Leeuwin H**	**46.45**	**110**	T	T	10 58 03.2	
	baz=257,slow=75,SNR=7.0						
H01W1	**Cape Leeuwin H**	**46.47**	**110**	T	T	10 58 01.1	
	baz=257,slow=75,SNR=6.1						
SNAA	**Sanae**	**51.08**	**201**	P	**P**	**10 08 57.9**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=48,slow=15,SNR=2.7						
	comp=Z,1.2nm,0.9s						
QSPA	**South Pole Qui**	**58.39**	**180**	P	**P**	**10 09 51.7**	**+1.3**
QSPA				IAmb	IAmb	10 09 52.7	
	comp=Z,7.0nm,1.4s						
QSPA	**South Pole Qui**	**58.39**	**180**	P	**P**	**10 09 51.1**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=272,slow=1.4,SNR=8.9						
	comp=Z,1.7nm,0.8s						
SHEL	**Horse Pasture**	**59.66**	**269**	P	**P**	**10 09 57.6**	**-2.2**
VNDA	**Vanda**	**62.14**	**166**	P	**P**	**10 10 16.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**63.51**	**44**	P	**P**	**10 10 24.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**63.51**	**44**	P	**P**	**10 10 24.4**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=229,slow=7.5,SNR=12						
	comp=Z,2.7nm,0.8s						
SOEI	**Soe**	**64.74**	**86**	P	**P**	**10 10 34.4**	**+0.4**
ASAR	**Alice Springs**	**66.43**	**104**	P	**P**	**10 10 43.8**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=240,slow=6.0,SNR=7.8						
	comp=Z,0.5nm,0.7s						
AS31	**Alice Springs**	**66.43**	**104**	P	**P**	**10 10 43.9**	**-0.8**
WRA	**Warramunga Arr**	**68.44**	**101**	P	**P**	**10 10 56.5**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=241,slow=5.4,SNR=2.2						
	comp=Z,0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**70.04**	**300**	P	**P**	**10 11 08.2**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=107,slow=5.0,SNR=4.1						
	comp=Z,0.8nm,0.9s						
SIMJ	**Simiganj**	**70.81**	**9**	P	**P**	**10 11 11.9**	**+0.2**
SIMJ				IAmb	IAmb	10 11 13.6	
	comp=Z,11nm,1.4s						
KARP	**Karpathos**	**72.98**	**334**	P	**P**	**10 11 26.4**	**+1.7**
BRTR	**Keskin Array B**	**74.66**	**341**	P	**P**	**10 11 33.9**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=156,slow=9.5,SNR=4.8						
	comp=Z,0.9nm,0.9s						
TARG	**Taragay, Kyrgy**	**75.38**	**15**	P	**P**	**10 11 40.1**	**+1.1**
KK31	**Karatay Array**	**75.39**	**9**	P	**P**	**10 11 39.0**	**+0.4**
KK31				IAmb	IAmb	10 11 39.8	
	comp=Z,5.4nm,1.1s						
KKAR	**Karatay Array**	**75.39**	**9**	P	**P**	**10 11 39.1**	**+0.5**
BOOM	**Boomskoye usch**	**75.71**	**14**	P	**P**	**10 11 39.9**	**-0.7**
BOOM				IAmb	IAmb	10 11 41.7	
	comp=Z,4.8nm,1.2s						
PRZ	**Przheval'sk**	**76.23**	**15**	P	**P**	**10 11 44.6**	**+1.0**
PRZ				IAmb	IAmb	10 11 45.4	
	comp=Z,17nm,1.1s						
ABKAR	**Akbulak array**	**80.69**	**1**	P	**P**	**10 12 08.1**	**+0.3**
MKAR	**Makanchi Array**	**81.21**	**17**	P	**P**	**10 12 09.3**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=184,slow=8.3,SNR=4.6						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**84.02**	**13**	P	**P**	**10 12 24.9**	**-0.2**
	comp=Z,2.9nm,1.0s,baz=207,slow=5.9,SNR=12						
	comp=Z,2.9nm,1.0s						
KURK	**Kurchatov**	**84.12**	**13**	P	**P**	**10 12 25.7**	**0.0**
KURK				IAmb	IAmb	10 12 26.8	
	comp=Z,5.8nm,1.1s						
BURAR	**Bucovina Array**	**84.36**	**338**	P	**P**	**10 12 27.8**	**+0.7**
BUR08	**Bucovina Ar. S**	**84.39**	**338**	P	**P**	**10 12 27.8**	**+0.5**
BUR08				IAmb	IAmb	10 12 49.4	
	comp=Z,4.3nm,1.4s						
BVAR	**Borovoye Array**	**85.13**	**7**	P	**P**	**10 12 31.1**	**+0.3**
	comp=Z,4.4nm,0.8s,baz=178,slow=5.8,SNR=20						
	comp=Z,4.4nm,0.8s						
BRVK	**Borovoye**	**85.15**	**7**	P	**P**	**10 12 31.3**	**+0.5**
BRVK				IAmb	IAmb	10 12 32.0	
	comp=Z,6.3nm,1.1s						
SONM	**Songino Array**	**90.34**	**30**	P	**P**	**10 12 55.3**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=266,slow=4.2,SNR=2.9						
	comp=Z,0.3nm,0.3s						
ESDC	**Sonseca Array**	**91.41**	**317**	P	**P**	**10 13 03.2**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=129,slow=1.8,SNR=5.5						
	comp=Z,0.4nm,0.3s						
J55A	**Hilton**	**143.55**	**301**	PKPdf	**PKPdf**	**10 19 28.9**	**-0.8**
ILAR	**Eielson Array**	**143.56**	**18**	PKP	**PKiKP**	**10 19 30.8**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=336,slow=2.0,SNR=3.7						
H29M	**Whitestone**	**144.13**	**11**	PKPdf	PKPbc	10 19 27.9	-0.2
SUA	**Susitna One**	**144.90**	**24**	PKPbc	**PKPab**	**10 19 30.6**	**-0.2**
EGAK	**Eagle**	**144.90**	**14**	PKPbc		10 19 30.9	+0.2
I29M	**Ogilvie Camp,**	**144.92**	**12**	PKPbc	**PKPab**	**10 19 30.4**	**-0.4**
P19K	**Oil Pt**	**145.19**	**28**	PKPbc	**PKPdf**	**10 19 32.1**	**-0.1**
K27K	**Chicken**	**145.35**	**15**	PKPbc	**PKPdf**	**10 19 33.0**	**+0.7**
I30M	**Mount Dempster**	**145.37**	**11**	PKPbc	**PKPab**	**10 19 32.6**	**+0.1**
J30M	**Hart River**	**145.98**	**11**	PKPbc	**PKPab**	**10 19 34.8**	**0.0**
L27K	**Beaver Creek,**	**146.24**	**16**	PKPbc	**PKPab**	**10 19 35.8**	**+0.1**
BCAR	**Beaver Creek A**	**146.24**	**16**	PKPbc	**PKPab**	**10 19 35.8**	**+0.1**
RAGM	**Ragged Mountai**	**147.67**	**21**	PKPbc	**PKiKP**	**10 19 40.1**	**-1.0**
YKA	**Yellowknife Ar**	**148.91**	**353**	PKPbc	**PKPdf**	**10 19 39.6**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=12,slow=3.7,SNR=4.9						

*HEL **10** 10:00:17.7±0.2,64°.67N×30°.75E,h0km,ML2.0,Suspected explosion*
*IDC **10** 10:00:17.6±2.3,64°.61N×31°.44E,h0km,mbtmp3.0/3, ML2.0/3,Error ellipse: s-maj=31.8km s-min=9.8km az=103.0*
*KOLA **10** 10:00:19.1,64°.60N×31°.65E,h0km,ML1.9,Error ellipse: s-maj=58.5km s-min=15.5km az=100.0,Karelia*
ISC 10 10:00:17.2±0.9,**64°.68N**±0°.03×**30°.88E**±0°.04,**h0km,n34,**
σ1°68/53,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.62**	**222**	PG	**Pg**	**10 00 28.4**	**-0.6**
RMF				MSG		10 00 36.1	
	comp=Z,28nm,0.2s						
KU6	**Riekki**	**1.42**	**343**	PG	**Pn**	**10 00 43.3**	**-0.8**
	baz=165						
KU6				MSG		10 00 60.0	
	comp=Z,13nm,0.2s						
KU6				SG	**Sg**	**10 01 01.5**	**-1.1**
MSF	**Maaselka**	**1.46**	**329**	PN	**Pn**	**10 00 43.8**	**-0.9**
	baz=148						
MSF				SN	**Sg**	**10 01 03.4**	**-0.6**
OLKF	**Oulanka, Finla**	**1.76**	**340**	PG	**Pn**	**10 00 49.4**	**+0.5**
OLKF				MSG		10 01 09.8	
	comp=Z,10nm,0.2s						
OLKF				SN	**Sb**	**10 01 13.4**	**+0.5**
JOF	**Joensuu**	**1.78**	**174**	*e*P	**Pn**	**10 00 49.5**	**+0.4**
JOF	**Joensuu**	**1.78**	**174**	PG	**Pn**	**10 00 49.4**	**+0.4**
JOF				SG	**Sg**	**10 01 14.6**	**+0.4**
NIF	**Nilsia**	**1.87**	**228**	PG	**Pn**	**10 00 50.6**	**+0.3**
OUL	**Oulu**	**2.16**	**283**	PG	**Pn**	**10 00 55.4**	**+1.0**
	baz=95						
OUL				SG	**Sn**	**10 01 22.3**	**+0.4**
RANF	**Ranua**	**2.18**	**310**	PG	**Pn**	**10 00 55.7**	**+1.1**
RANF				SG	**Sn**	**10 01 24.0**	**+1.8**
OBF4	**Vikkela, Lumij**	**2.48**	**276**	PG	**Pn**	**10 01 00.7**	**+2.0**
	baz=86						
OBF4				MSG		10 01 29.2	
	comp=Z,7.8nm,0.2s						
OBF4				SG	**Sb**	**10 01 33.8**	**+0.3**
OUF	**Merijarvi**	**2.67**	**266**	PB	**Pn**	**10 01 02.1**	**+0.7**
	baz=78						
OUF				MSG		10 01 34.9	
	comp=Z,11nm,0.2s						
OUF				SG	**Sb**	**10 01 37.2**	**-1.9**
RNF	**Rovaniemi**	**2.80**	**316**	PB	**Pn**	**10 01 05.5**	**+2.4**
RNF				SG	**Sb**	**10 01 42.5**	**-0.2**
OBF0	**Syolatti, Pyha**	**2.87**	**269**	PB	**Pn**	**10 01 06.6**	**+2.5**
OBF0				MSG		10 01 40.6	
	comp=Z,7.1nm,0.2s						
OBF0				SG	**Sb**	**10 01 43.9**	**-0.8**
SUF	**Sumiainen**	**2.88**	**229**	PG	**Pn**	**10 01 07.0**	**+2.8**
	baz=40						
SUF				MSG		10 01 41.1	
	comp=Z,3.3nm,0.2s						
APA0	**Apatity Array**	**3.07**	**15**	P	**Pn**	**10 01 08.2**	**+1.4**
APA0				S	**Sn**	**10 01 46.2**	**+2.1**
TOF	**Tornio**	**3.08**	**300**	PB	**Pn**	**10 01 08.6**	**+1.6**
TOF				MSG		10 01 46.8	
	comp=Z,3.1nm,0.2s						
TOF				SG	**Sb**	**10 01 51.4**	**+0.5**
VRF	**Varrio**	**3.13**	**351**	PB	**Pn**	**10 01 09.7**	**+2.1**
VRF				MSG		10 01 49.4	
	comp=Z,3.5nm,0.2s						
VRF				SG	**Sb**	**10 01 53.5**	**+1.3**
KAF	**Kangasniemi**	**3.29**	**221**	PB	**Pb**	**10 01 14.4**	**-2.0**
	baz=33						
SGF	**Sodankyl**	**3.29**	**329**	SG	**Sb**	**10 01 55.7**	**-1.3**
LVZ	**Lovozero**	**3.58**	**24**	SN	**Sn**	**10 01 58.8**	**+2.0**
KEF	**Keuruu**	**3.69**	**230**	*e*P	**Pn**	**10 01 17.2**	**+1.8**
KEF	**Keuruu**	**3.69**	**230**	PB	**Pn**	**10 01 17.9**	**+2.5**
KEF				SB	**Sn**	**10 02 01.9**	**+2.4**
FINES	**FINESS Array B**	**3.91**	**216**	Pn	**Pn**	**10 01 19.4**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=36,slow=13,SNR=6.8						
FINES				Pg	**Pb**	**10 01 27.1**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=33,slow=16,SNR=12						
FINES				Sn	**Sn**	**10 02 06.6**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=33,slow=22,SNR=3.8						
FINES				Lg	Lg	10 02 18.5	
	comp=Z,1.3nm,0.3s,baz=39,slow=29,SNR=19						
	comp=Z,0.4nm,0.2s						
VAF	**Ylistaro**	**3.98**	**249**	*e*P	**Pn**	**10 01 20.6**	**+1.3**
VAF	**Ylistaro**	**3.98**	**249**	PB	**Pb**	**10 01 24.9**	**-3.3**
	baz=66						
VAF				SG	**Sb**	**10 02 18.2**	**+1.4**
BURU	**Burvik**	**4.09**	**273**	PG	**Pb**	**10 01 30.7**	**+0.8**
UMAU	**Umeaa**	**4.51**	**264**	PN	**Pn**	**10 01 26.0**	**-0.7**
	baz=74						
UMAU				SG	**Sb**	**10 02 34.9**	**+2.9**
HEF	**Hetta**	**4.73**	**326**	SG	**Sb**	**10 02 42.8**	**+4.7**
TERR	**Teriberka**	**4.84**	**18**	S	**Sn**	**10 02 25.6**	**-2.1**
PRVG	**Vayda Guba**	**5.12**	**5**	S	**Sn**	**10 02 34.0**	**-0.6**
ARCES	**ARCESS Array B**	**5.31**	**339**	Pn	**Pn**	**10 01 37.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=153,slow=16,SNR=12						
ARCES				Sn	**Sn**	**10 02 38.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=156,slow=23,SNR=2.7						
ARCES				Lg	Lg	10 02 59.0	
	comp=Z,0.5nm,0.3s,baz=143,slow=35,SNR=5.8						
	comp=Z,0.4nm,0.2s						
RAF	**Rauma**	**5.55**	**233**	*e*P	**Pn**	**10 01 41.2**	**+0.3**
I37NO	**I37NO**	**6.54**	**318**	I	I	10 37 00.0	
	baz=129,slow=318,SNR=11						
HFS	**Hagfors**	**9.17**	**248**	Pn	**Pn**	**10 02 29.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=56,slow=11,SNR=5.4						
HFS				Sn	**Sn**	**10 04 11.5**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=53,slow=24,SNR=2.8						
HFS				Lg	Lg	10 05 01.2	
	comp=Z,0.3nm,0.3s,baz=62,slow=31,SNR=4.6						
	comp=Z,1.4nm,0.7s						

*IDC **10** 10:01:57.3±1.1,31°.74S×58°.32E,h0km,mb4.0/9, mbtmp4.0/10,ML3.9/1,Error ellipse: s-maj=40.5km s-min=24.4km az=59.0*
*NEIC **10** 10:02:00.3±2.5,31°.6S±0°.1×58°.4E±0°.2,h10km±1km, mb4.5/9,Error ellipse: s-maj=25.9km s-min=18.9km az=245.0*
ISC 10 10:01:59.5±0.6,**31°.6S**±0°.1×**58°.3E**±0°.1,**h14km,n56,**
σ0°84/47,mb4.2/12,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.67**	**347**	Pn	**Pn**	**10 04 31.6**	**-0.5**
FOMA	**Nahampoana Res**	**11.96**	**301**	Pn	**Pn**	**10 04 50.1**	**+0.5**
VOI	**Vohitsoka**	**14.10**	**311**	Pn	**Pn**	**10 05 18.9**	**-0.2**
H04N2	**CROZET ISLANDS**	**15.36**	**197**	T	T	10 21 29.9	
	baz=21						
H04N1	**CROZET ISLANDS**	**15.36**	**197**	T	T	10 21 21.7	
	baz=21						
H04N3	**CROZET ISLANDS**	**15.38**	**197**	T	T	10 21 31.3	
	baz=21						
ABPO	**Ambohimpanom**	**16.04**	**319**	Pn	**Pn**	**10 05 46.0**	**+1.2**
ABPO				IAmb	IAmb	10 06 03.9	
	comp=Z,18nm,1.2s						
OPO	**Ambohidratompo**	**16.42**	**320**	Pn	**P**	**10 05 52.0**	**-0.5**
	baz=141,slow=16,SNR=1.6						
	comp=Z,4.0nm,0.8s						
H08S1	**Diego Garcia H**	**27.28**	**32**	T	T	10 36 08.5	
	baz=206						
H08S2	**Diego Garcia H**	**27.29**	**32**	T	T	10 36 07.3	
	baz=206						
H08S3	**Diego Garcia H**	**27.30**	**32**	T	T	10 36 09.0	
	baz=206						
H01W2	**Cape Leeuwin H**	**46.30**	**110**	T	T	11 00 10.7	
	baz=257						
H01W3	**Cape Leeuwin H**	**46.30**	**110**	T	T	11 00 09.9	
	baz=257						
H01W1	**Cape Leeuwin H**	**46.32**	**110**	T	T	11 00 12.1	
	baz=257						
QSPA	**South Pole Qui**	**58.54**	**180**	P	**P**	**10 11 56.7**	**+1.4**
QSPA				IAmb	IAmb	10 12 05.3	
	comp=Z,2.4nm,0.9s						
QSPA	**South Pole Qui**	**58.54**	**180**	P	**P**	**10 11 54.6**	**-0.8**
	comp=Z,1.2nm,1.0s,baz=248,slow=1.9,SNR=2.2						
	comp=Z,1.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**63.25**	**44**	P	**P**	**10 12 28.4**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=230,slow=7.3,SNR=8.8						
	comp=Z,1.7nm,0.6s						
BBOO	**Buckleboo**	**64.30**	**114**	P	**P**	**10 12 34.2**	**-0.4**
ASAR	**Alice Springs**	**66.26**	**104**	P	**P**	**10 12 48.0**	**+0.4**
ASAR	**Alice Springs**	**66.26**	**104**	P

Error ellipse: s-maj=15.5km s-min=8.7km az=29.0

ISC 10 10:07:20.2±0.7, 37°32'N±0'07×20°84W±0°04, h10km, n44, σ2°74/53, 1D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**3.39**	**266**	*eP*	**Pg**	**10 08 26.0**	**+0.9**
PSMN				*eS*	**Sb**	**10 09 00.9**	**-0.7**
PSMN				A	A	10 09 06.8	
58nm,0.2s							
PSMA	**Santa Maria**	**3.44**	**266**	*eP*	**Pg**	**10 08 26.2**	**+0.1**
PSMA				*eS*	**Sb**	**10 09 01.7**	**-1.3**
PSMA				A	A	10 09 06.2	
83nm,0.1s							
BART	**Pico Bartolome**	**3.47**	**279**	*eP*	**Pg**	**10 08 28.5**	**+1.9**
BART				*eS*	**Sb**	**10 09 06.0**	**+2.1**
BART				A	A	10 09 19.6	
38nm,0.4s							
PGRON	**Lagoa das Cont**	**3.63**	**278**	*eP*	**Pg**	**10 08 30.9**	**+1.2**
PGRON				*eS*	**Sb**	**10 09 09.7**	**+1.1**
CMLA	**Cha da Macela**	**3.75**	**278**	*eP*	**Pg**	**10 08 31.6**	**-0.4**
CMLA				*eS*	**Sb**	**10 09 12.2**	**+0.3**
CMLA				A	A	10 09 18.4	
86nm,0.5s							
PSET	**Sete Cidades**	**3.91**	**279**	*eS*	**Sb**	**10 09 15.9**	**-0.6**
PSCM	**Serra do Cume**	**5.14**	**287**	*eP*	**Pb**	**10 08 51.5**	**+1.3**
PSCM				*eS*	**Sb**	**10 09 48.0**	**-4.1**
PAGU	**Agualva, Azore**	**5.21**	**288**	*eP*	**Pb**	**10 08 52.3**	**+1.0**
ADH	**Angra Heroismo**	**5.22**	**287**	*eP*	**Pb**	**10 08 50.9**	**-0.6**
PSBA	**Serra de Santa**	**5.32**	**288**	*eP*	**Pb**	**10 08 53.9**	**+0.7**
PMOZ	**Porto Moniz, M**	**5.39**	**145**	*eP*	**Pb**	**10 08 54.3**	**-0.2**
PMOZ				*eS*	**Sn**	**10 09 48.5**	**+5.6**
PMOZ				A	A	10 09 59.2	
43nm,0.6s							
PMOZ	**Porto Moniz, M**	**5.39**	**145**	P	**Pb**	**10 08 50.3**	**-4.2**
PMAR	**Madeira**	**5.61**	**144**	*eP*	**Pb**	**10 08 57.2**	**-1.0**
PMAR				*eS*	**Sn**	**10 09 53.4**	**+5.1**
PMAR				A	A	10 10 06.6	
97nm,0.1s							
PMAR	**Madeira**	**5.61**	**144**	P	**Pb**	**10 08 55.6**	**-2.6**
PMAR	**Madeira**	**5.61**	**144**	S	**Sn**	**10 09 50.8**	**+2.5**
PMPS	**Porto Santo**	**5.63**	**138**	*eP*	**Pb**	**10 08 56.3**	**-2.3**
PMPS				*eS*	**Sn**	**10 09 51.9**	**+3.2**
PMPS				A	A	10 10 02.6	
20nm,0.3s							
FUL	**Funchal**	**5.68**	**144**	*eP*	**Pb**	**10 08 57.9**	**-1.4**
ROSA	**Rosais**	**6.01**	**286**	*eP*	**Pb**	**10 09 03.0**	**-1.9**
PICO	**Pico**	**6.11**	**283**	*eP*	**Pb**	**10 09 04.6**	**-2.1**
PMAFR	**Mafra**	**9.25**	**76**	*eS*	**Sn**	**10 11 20.0**	**+2.2**
PMAFR				A	A	10 11 26.0	
33nm,0.2s							
PACT	**Alcochete**	**9.58**	**78**	*eS*	**Sn**	**10 11 29.3**	**+3.5**
PFVI	**Vila Bisbo**	**9.59**	**87**	*eS*	**Sn**	**10 11 27.6**	**+1.6**
PFVI				A	A	10 11 32.8	
6.0nm,0.4s							
PTEO	**Sao Teotonio**	**9.64**	**85**	*eS*	**Sn**	**10 11 26.8**	**-0.5**
PTEO				A	A	10 11 31.4	
10nm,0.5s							
PSBE	**So Bento**	**9.71**	**73**	*eS*	**Sn**	**10 11 32.2**	**+3.3**
MORF	**Marmelete**	**9.71**	**86**	*eS*	**Sn**	**10 11 30.1**	**+1.0**
MORF				A	A	10 11 35.7	
4.4nm,0.1s							
PNCL	**Nicolau / Gran**	**9.79**	**82**	*eS*	**Sn**	**10 11 30.5**	**-0.4**
PNCL				A	A	10 11 36.1	
9.5nm,0.5s							
PCAS	**Casmilo, Conde**	**10.03**	**70**	*eS*	**Sn**	**10 11 36.4**	**-0.4**
PCAS				A	A	10 11 51.4	
4.4nm,0.5s							
PMTG	**Montargil**	**10.08**	**76**	*eS*	**Sn**	**10 11 37.1**	**-1.1**
PMTG				A	A	10 11 43.3	
5.1nm,0.3s							
EVO	**Evora**	**10.21**	**79**	*eS*	**Sn**	**10 11 41.7**	**+0.5**
EVO				A	A	10 11 45.6	
8.7nm,0.1s							
PVAQ	**Vaqueiros**	**10.45**	**86**	P	**Pn**	**10 09 51.6**	**+1.6**
PVAQ	**Vaqueiros**	**10.45**	**86**	S	**Sn**	**10 11 39.5**	**-7.7**
PESTR	**Estremoz**	**10.56**	**78**	*eS*	**Sn**	**10 11 50.2**	**+0.3**
PESTR				A	A	10 11 54.6	
7.4nm,0.4s							
PESTR	**Estremoz**	**10.56**	**78**	P	**Pn**	**10 09 53.0**	**+1.4**
PESTR	**Estremoz**	**10.56**	**78**	S	**Sn**	**10 11 41.9**	**-8.0**
PVIS	**Viseu**	**10.63**	**67**	*eS*	**Sn**	**10 11 52.1**	**+0.5**
PVIS				A	A	10 11 55.6	
6.8nm,0.3s							
PGAV	**Gavieira, Arco**	**10.74**	**61**	*eP*	Pn	10 10 06.0	+12
PGAV				*eS*	**Sn**	**10 11 52.2**	**-2.3**
PGAV				A	A	10 11 57.8	
17nm,0.5s							
PCBR	**Castelo Branco**	**10.76**	**72**	*eS*	**Sn**	**10 11 54.8**	**0.0**
PCBR				A	A	10 12 04.1	
4.6nm,0.4s							
PMRV	**Marv??o**	**10.77**	**75**	*eS*	**Sn**	**10 11 55.4**	**+0.4**
PMRV				A	A	10 11 59.4	
7.8nm,0.4s							
PCAB	**Cabril**	**10.82**	**62**	*eS*	**Sn**	**10 11 56.1**	**-0.3**
PCAB				A	A	10 11 58.9	
8.6nm,0.1s							
POLO	**Lamas de Olo**	**10.88**	**64**	*eS*	**Sn**	**10 11 57.0**	**-0.9**
POLO				A	A	10 12 01.2	
1.6nm,0.3s							
PBAR	**Barrancos**	**10.96**	**81**	*eS*	**Sn**	**10 11 58.9**	**-0.9**
PBAR				A	A	10 12 03.4	
4.8nm,0.5s							
PBRG	**Braganca**	**11.77**	**63**	*eS*	**Sn**	**10 12 19.1**	**-0.3**
PBRG				A	A	10 12 20.5	
3.9nm,0.2s							
OUZM	**OUZ**	**13.30**	**115**	P	**Pn**	**10 10 29.8**	**+0.7**
OUZM	**OUZ**	**13.30**	**115**	S	**Sn**	**10 12 49.4**	**-7.7**

IDC 10 10:10:11.9±2.0, 3°89N×126°54E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=193.5km s-min=23.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.89**	**162**	P	P	10 15 36.7	+0.1
0.7nm,0.7s,baz=342,slow=10,SNR=7.2							
0.7nm,0.7s							
ASAR	**Alice Springs**	**28.31**	**166**	P	P	10 16 07.3	-0.2
0.5nm,1.0s,baz=344,slow=6.9,SNR=2.4							
0.5nm,1.0s							
MKAR	**Makanchi Array**	**57.32**	**325**	P	P	10 20 01.0	-0.7
0.2nm,0.3s,baz=117,slow=7.1,SNR=4.9							
0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**61.50**	**327**	P	P	10 20 31.3	+0.8
0.2nm,0.3s,baz=115,slow=6.7,SNR=2.0							
0.2nm,0.3s							

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*IDC **10** 10:10:09.5±1.0, 31°67S×58°38E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=35.3km s-min=27.4km az=79.0*

ISC 10 10:10:11.7±1.0, 31°7S±0°2×58°4E±0°2, h14km, n9, σ1°16/9, mb3.8/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**10 20 07.7**	**+0.4**
0.7nm,0.6s,baz=264,slow=9.9,SNR=7.7							
0.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.23**	**44**	P	**P**	**10 20 39.6**	**-0.2**
0.7nm,0.3s,baz=229,slow=8.2,SNR=6.3							
0.7nm,0.3s							
ASAR	**Alice Springs**	**66.18**	**104**	P	**P**	**10 20 58.6**	**-0.7**
0.3nm,0.9s,baz=252,slow=4.8,SNR=1.8							
0.3nm,0.9s							
WRA	**Warramunga Arr**	**68.19**	**101**	P	**P**	**10 21 12.5**	**+0.5**
0.3nm,0.9s,baz=246,slow=5.0,SNR=1.9							
0.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**70.23**	**300**	P	**P**	**10 21 24.6**	**0.0**
0.5nm,0.8s,baz=101,slow=7.5,SNR=2.9							
0.5nm,0.8s							
MKAR	**Makanchi Array**	**81.02**	**16**	P	**P**	**10 22 26.2**	**+0.5**
0.4nm,0.8s,baz=233,slow=6.2,SNR=3.6							
0.4nm,0.8s							
KURBB	**Kurchatov Arra**	**83.84**	**13**	P	**P**	**10 22 40.9**	**+0.6**
0.9nm,0.8s,baz=205,slow=6.7,SNR=5.4							
0.9nm,0.8s							
BVAR	**Borovoye Array**	**84.98**	**7**	P	**P**	**10 22 47.3**	**+1.2**
1.7nm,0.8s,baz=186,slow=5.5,SNR=7.1							
1.7nm,0.8s							
YKA	**Yellowknife Ar**	**148.82**	**354**	PKPbc	**PKPbc**	**10 29 55.8**	**-2.3**
0.5nm,0.6s,baz=353,slow=3.7,SNR=2.5							

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*IDC **10** 10:11:09.0±1.0, 31°68S×58°31E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=39.5km s-min=24.0km az=101.0*

*NEIC **10** 10:11:11.3±1.5, 31°70S±0°04×58°1E±0°2, h10km±1km, mb4.1/4, Error ellipse: s-maj=27.9km s-min=6.9km az=89.0*

ISC 10 10:11:11.5±0.6, 31°7S±0°1×58°1E±0°1, h17km, n34, σ0°83/22, mb4.0/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.68**	**348**	Pn	**Pn**	**10 13 43.7**	**-0.1**
FOMA	**Nahampoana Res**	**11.84**	**301**	Pn	**Pn**	**10 13 58.5**	**-1.1**
H04N2	**CROZET ISLANDS**	**15.27**	**197**	T	T	10 30 39.4	
baz=22,slow=75,SNR=5.1							
H04N1	**CROZET ISLANDS**	**15.28**	**197**	T	T	10 30 37.1	
baz=22,slow=75,SNR=5.2							
H04N3	**CROZET ISLANDS**	**15.29**	**197**	T	T	10 30 38.2	
baz=22,slow=75,SNR=4.8							
H08S1	**Diego Carcia H**	**27.41**	**32**	T	T	10 45 19.8	
baz=215,slow=76,SNR=5.7							
H08S2	**Diego Garcia H**	**27.41**	**32**	T	T	10 45 20.9	
baz=215,slow=76,SNR=8.7							
H08S3	**Diego Garcia H**	**27.43**	**32**	T	T	10 45 21.2	
baz=215,slow=76,SNR=5.9							
H01W2	**Cape Leeuwin H**	**46.44**	**110**	T	T	11 09 19.9	
baz=258,slow=74							
H01W3	**Cape Leeuwin H**	**46.45**	**110**	T	T	11 09 18.1	
baz=258,slow=74							
H01W1	**Cape Leeuwin H**	**46.46**	**110**	T	T	11 09 23.3	
baz=258							
SNAA	**Sanae**	**51.20**	**201**	P	**P**	**10 20 14.4**	**+0.9**
SNAA	**Sanae**	**51.20**	**201**	P	**P**	**10 20 14.3**	**+0.7**
0.4nm,0.5s,baz=75,slow=15,SNR=1.9							
0.4nm,0.5s							
PSA00	**Pilbara Seismi**	**55.49**	**96**	P	**P**	**10 20 45.0**	**-0.8**
QSPA	**South Pole Qui**	**58.50**	**180**	P	**P**	**10 21 07.3**	**+0.7**
QSPA				IAmb	IAmb	10 21 07.4	
comp=Z,1.8nm,0.8s							
QSPA	**South Pole Qui**	**58.50**	**180**	P	**P**	**10 21 06.7**	**0.0**
comp=Z,1.0nm,0.6s,baz=265,slow=3.0,SNR=9.1							
comp=Z,1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.40**	**44**	P	**P**	**10 21 39.9**	**-0.4**
comp=Z,1.2nm,0.4s,baz=228,slow=7.3,SNR=5.8							
comp=Z,1.2nm,0.4s							
ASAR	**Alice Springs**	**66.41**	**104**	P	**P**	**10 21 59.4**	**-0.7**
comp=Z,0.4nm,0.6s,baz=243,slow=5.8,SNR=7.0							
comp=Z,0.4nm,0.6s							
WRA	**Warramunga Arr**	**68.42**	**101**	P	**P**	**10 22 11.7**	**-1.1**
comp=Z,0.5nm,0.7s,baz=244,slow=5.6,SNR=6.5							
comp=Z,0.5nm,0.7s							
KK31	**Karatay Array**	**75.28**	**9**	P	**P**	**10 22 54.2**	**+0.9**
KK31				IAmb	IAmb	10 23 03.8	
comp=Z,2.4nm,1.2s							
KKAR	**Karatay Array**	**75.28**	**9**	P	**P**	**10 22 54.5**	**+1.2**
ABKAR	**Akbulak array**	**80.58**	**1**	P	**P**	**10 23 23.8**	**+1.1**
MKAR	**Makanchi Array**	**81.10**	**17**	P	**P**	**10 23 26.0**	**+0.4**
comp=Z,0.2nm,0.5s,baz=184,slow=5.8,SNR=2.2							
comp=Z,0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**83.90**	**13**	P	**P**	**10 23 40.4**	**+0.5**
comp=Z,0.9nm,0.8s,baz=208,slow=5.9,SNR=2.8							
comp=Z,0.9nm,0.8s							
BVAR	**Borovoye Array**	**85.02**	**7**	P	**P**	**10 23 45.8**	**+0.2**
comp=Z,1.2nm,0.7s,baz=172,slow=4.0,SNR=4.5							
comp=Z,1.2nm,0.7s							
I28M	**Miner Creek**	**144.43**	**13**	PKPdf	PKPbc	10 30 45.1	+0.4
SUA	**Susitna One**	**144.78**	**24**	PKPdf	PKPbc	10 30 46.2	+0.3
I29M	**Ogilvie Camp,**	**144.81**	**12**	PKPdf	PKPbc	10 30 45.9	+0.2
SCRK	**Sand Creek**	**144.83**	**17**	PKPdf	**PKPdf**	**10 30 47.0**	**0.0**
ERPA	**Erie**	**145.20**	**299**	PKPbc	**PKPbc**	**10 30 47.0**	**-0.7**
K27K	**Chicken**	**145.23**	**15**	PKPbc	**PKPdf**	**10 30 48.6**	**+1.2**
I30M	**Mount Dempster**	**145.26**	**11**	PKPbc	**PKPdf**	**10 30 48.1**	**+0.5**
M29M	**Somme Creek**	**147.42**	**14**	PKPbc	**PKPab**	**10 30 55.0**	**-0.8**
YKA	**Yellowknife Ar**	**148.80**	**353**	PKPbc	**PKPbc**	**10 30 56.4**	**-0.9**
comp=Z,0.6nm,0.8s,baz=7.5,slow=4.2,SNR=2.0							

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*IDC **10** 10:11:41.0±1.6, 31°74S×58°30E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=59.0km s-min=29.4km az=32.0*

ISC 10 10:11:43.2±1.7, 31°8S±0°4×58°3E±0°3, h14km, n8, σ0°62/8, mb4.1/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**63.34**	**44**	P	**P**	**10 22 11.7**	**-0.3**
1.2nm,0.3s,baz=226,slow=7.5,SNR=6.1							
1.2nm,0.3s							
ASAR	**Alice Springs**	**66.23**	**104**	P	**P**	**10 22 31.1**	**+0.1**
1.2nm,0.8s,baz=240,slow=5.9,SNR=10							
1.2nm,0.8s							
WRA	**Warramunga Arr**	**68.23**	**101**	P	**P**	**10 22 43.8**	**0.0**
1.2nm,0.8s,baz=242,slow=5.7,SNR=5.3							
1.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**70.21**	**300**	P	**P**	**10 22 56.0**	**+0.1**
0.6nm,0.8s,baz=148,slow=6.2,SNR=2.4							
0.6nm,0.8s							
MKAR	**Makanchi Array**	**81.12**	**16**	P	**P**	**10 23 59.0**	**+1.2**
0.3nm,0.5s,baz=206,slow=6.0,SNR=2.6							
0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**83.94**	**13**	P	**P**	**10 24 12.3**	**0.0**
0.6nm,0.8s,baz=206,slow=6.2,SNR=2.8							
0.6nm,0.8s							
BVAR	**Borovoye Array**	**85.07**	**7**	P	**P**	**10 24 17.6**	**-0.4**
1.0nm,0.5s,baz=154,slow=4.4,SNR=5.4							
1.0nm,0.5s							
YKA	**Yellowknife Ar**	**148.90**	**354**	PKPbc	**PKPbc**	**10 31 29.3**	**-0.4**
0.6nm,0.7s,baz=355,slow=2.9,SNR=3.1							

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*IDC **10** 10:20:53.1±0.6, 31°69S×58°26E, h0km, mb4.2/14, mbtmp4.2/15, ML3.9/1, Error ellipse: s-maj=23.7km s-min=18.8km az=74.0*

*NEIC **10** 10:20:55.3±2.1, 31°7S±0°1×58°2E±0°1, h10km±1km, mb4.8/25, Error ellipse: s-maj=20.2km s-min=15.0km az=188.0*

ISC 10 10:20:56.0±0.5, 31°6S±0°1×58°1E±0°1, h17km, n91, σ1°27/79, mb4.7/39, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**13.96**	**311**	Pn	**Pn**	**10 24 15.9**	**+2.7**
H04N2	**CROZET ISLANDS**	**15.34**	**197**	T	T	10 39 51.5	
baz=21,slow=75,SNR=28							
H04N1	**CROZET ISLANDS**	**15.34**	**197**	T	T	10 40 06.3	
baz=21,slow=75,SNR=28							
H04N3	**CROZET ISLANDS**	**15.35**	**197**	T	T	10 40 09.1	
baz=21,slow=75,SNR=34							
ABPO	**Ambohimpanom**	**15.90**	**319**	P	**P**	**10 24 42.6**	**-0.3**
OPO	**Ambohidratompo**	**16.29**	**320**	Pn	**P**	**10 24 47.3**	**+0.2**
baz=155,slow=15,SNR=2.9							
OPO				Sn	**Sn**	**10 27 37.0**	**-7.7**
0.1nm,0.3s,baz=137,slow=19,SNR=3.1							
4.7nm,0.6s							
H08S1	**Diego Carcia H**	**27.35**	**32**	T	T	10 55 03.1	
baz=215,slow=76,SNR=11							
H08S2	**Diego Garcia H**	**27.36**	**32**	T	T	10 55 04.0	
baz=215,slow=76,SNR=11							
H08S3	**Diego Garcia H**	**27.37**	**32**	T	T	10 55 04.9	
baz=215,slow=76,SNR=15							
H01W2	**Cape Leeuwin H**	**46.47**	**110**	T	T	11 19 10.0	
baz=257,slow=75,SNR=6.0							
H01W3	**Cape Leeuwin H**	**46.47**	**110**	T	T	11 19 12.1	
baz=257,slow=75,SNR=7.1							
H01W1	**Cape Leeuwin H**	**46.49**	**110**	T	T	11 19 03.2	
baz=257,slow=75,SNR=5.5							
SNAA	**Sanae**	**51.26**	**201**	P	**P**	**10 29 58.1**	**-0.4**
SNAA	**Sanae**	**51.26**	**201**	P	**P**	**10 29 57.4**	**-1.1**
1.5nm,0.9s,baz=102,slow=8.8,SNR=5.9							
1.5nm,0.9s							
QSPA	**South Pole Qui**	**58.57**	**180**	P	**P**	**10 30 51.3**	**-0.3**
QSPA				IAmb	IAmb	10 30 53.0	
comp=Z,4.2nm,0.8s							
QSPA	**South Pole Qui**	**58.57**	**180**	P	**P**	**10 30 51.0**	**-0.5**
comp=Z,3.3nm,0.7s,baz=286,slow=2.8,SNR=30							
comp=Z,3.3nm,0.7s							
FITZ	**Fitzroy Crossi**	**61.90**	**95**	P	**P**	**10 31 14.2**	**-0.7**
VNDA	**Vanda**	**62.30**	**166**	P	**P**	**10 31 16.6**	**-0.1**
CM31	**Chiang Mai Arr**	**63.35**	**44**	P	**P**	**10 31 23.7**	**-0.8**
CM31				IAmb	IAmb	10 31 25.1	
comp=Z,4.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**63.35**	**44**	P	**P**	**10 31 23.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**63.35**	**44**	P	**P**	**10 31 24.4**	**0.0**
comp=Z,3.3nm,0.7s,baz=226,slow=7.3,SNR=16							
comp=Z,3.3nm,0.7s							
KNRA	**Kununurra**	**65.67**	**94**	P	**P**	**10 31 39.1**	**-0.7**
ASAR	**Alice Springs**	**66.43**	**104**	P	**P**	**10 31 43.8**	**-0.9**
ASAR	**Alice Springs**	**66.43**	**104**	P	**P**	**10 31 43.5**	**-1.1**
comp=Z,0.7nm,0.7s,baz=240,slow=5.9,SNR=10							
comp=Z,0.7nm,0.7s							
WRA	**Warramunga Arr**	**68.43**	**101**	P	**P**	**10 31 56.3**	**-1.0**
comp=Z,1.3nm,0.8s,baz=245,slow=5.6,SNR=7.2							
comp=Z,1.3nm,0.8s							
WB2	**Warramunga Arr**	**68.44**	**101**	P	**P**	**10 31 57.5**	**+0.1**
WB2				IAmb	IAmb	10 32 12.4	
comp=Z,8.6nm,1.2s							
WB0	**Warramunga Arr**	**68.56**	**101**	P	**P**	**10 31 57.3**	**-0.8**
WB0				IAmb	IAmb	10 32 32.5	
comp=Z,12nm,1.4s							
WR0	**Warramunga Arr**	**68.59**	**101**	P	**P**	**10 31 57.7**	**-0.7**
WR0				IAmb	IAmb	10 32 20.4	
comp=Z,12nm,1.4s							
TORD	**Torodi Ar. Bea**	**69.99**	**300**	P	**P**	**10 32 07.9**	**+1.0**
comp=Z,1.8nm,0.9s,baz=107,slow=5.5,SNR=8.5							
comp=Z,1.8nm,0.9s							
SIMJ	**Simiganj**	**70.63**	**9**	P	**P**	**10 32 11.8**	**+1.2**
CHGR	**Chuyangaron**	**70.65**	**9**	P	**P**	**10 32 11.8**	**+1.1**
GAR	**Garm**	**71.16**	**10**	P	**P**	**10 32 15.2**	**+1.5**
GAR				IAmb	IAmb	10 32 34.2	
comp=Z,9.5nm,1.0s							
BR131	**Keskin Array S**	**74.51**	**341**	P	**P**	**10 32 33.4**	**-0.2**
BRTR	**Keskin Array B**	**74.51**	**341**	P	**P**	**10 32 34.1**	**+0.5**
BRTR	**Keskin Array B**	**74.51**	**341**	P	**P**	**10 32 33.8**	**+0.2**
comp=Z,1.4nm,0.8s,baz=169,slow=7.4,SNR=7.7							
comp=Z,1.4nm,0.8s							
KK31	**Karatay Array**	**75.21**	**9**	P	**P**	**10 32 37.8**	**+0.4**
KKAR	**Karatay Array**	**75.21**	**9**	P	**P**	**10 32 38.0**	**+0.6**
ABKAR	**Akbulak array**	**80.51**	**1**	P	**P**	**10 33 07.6**	**+0.8**
MK31	**Makanchi Array**	**81.03**	**17**	P	**P**	**10 33 10.2**	**+0.5**
MKAR	**Makanchi Array**	**81.03**	**17**	P	**P**	**10 33 10.1**	**+0.4**
MKAR	**Makanchi Array**	**81.03**	**17**	P	**P**	**10 33 09.8**	**+0.2**
comp=Z,1.0nm,0.7s,baz=212,slow=5.7,SNR=6.3							
comp=Z,1.0nm,0.7s							
KURBB	**Kurchatov Arra**	**83.84**	**13**	P	**P**	**10 33 24.8**	**+0.6**
comp=Z,5.3nm,1.0s,baz=207,slow=5.6,SNR=16							
comp=Z,5.3nm,1.0s							
KURK	**Kurchatov**	**83.94**	**13**	P	**P**	**10 33 25.7**	**+1.0**
KURK				IAmb	IAmb	10 33 26.9	
comp=Z,8.1nm,1.0s							
BVAR	**Borovoye Array**	**84.95**	**7**	P	**P**	**10 33 30.6**	**+0.9**
comp=Z,10nm,1.0s,baz=176,slow=4.5,SNR=20							
comp=Z,10nm,1.0s							
KIEV	**Kiev**	**85.82**	**342**	P	**P**	**10 33 33.4**	**-0.7**
KIEV				IAmb	IAmb	10 33 35.1	
comp=Z,10nm,1.4s							
AKASG	**Malin Array Be**	**85.83**	**342**	P	**P**	**10 33 33.9**	**-0.2**
comp=Z,0.7nm,0.4s,baz=161,slow=4.3,SNR=2.6							
comp=Z,0.7nm,0.4s							
AKBB	**Malin Array Si**	**85.83**	**342**	P	**P**	**10 33 33.5**	**-0.6**
AKBB				IAmb	IAmb	10 33 35.1	
comp=Z,10nm,1.4s							
OBKA	**Obir**	**87.13**	**332**	*eP*	**P**	**10 33 42.1**	**+1.3**
comp=Z,1.7nm,0.5s							
ARSA	**Arzberg**	**87.34**	**333**	*eP*	**P**	**10 33 43.3**	**+1.5**
comp=Z,4.2nm,1.1s							
RONA	**Rosalia, Austr**	**87.41**	**333**	*eP*	**P**	**10 33 43.5**	**+1.5**
comp=Z,4.0nm,1.0s							
ARU	**Arti**	**87.68**	**0**	P	**P**	**10 33 44.0**	**+1.0**
ARU				IAmb	IAmb	10 33 45.5	
comp=Z,4.3nm,0.7s							
CONA	**Conrad Observa**	**87.76**	**333**	*i P*	**P**	**10 33 44.8**	**+1.0**
comp=Z,4.8nm,1.1s							
KBA	**Koelnbreinsper**	**88.08**	**331**	*i P*	**P**	**10 33 45.7**	**+0.3**
comp=Z,3.1nm,0.9s							
ABTA	**Abfaltersbach**	**88.16**	**331**	*eP*	**P**	**10 33 46.0**	**+0.3**
comp=Z,5.3nm,0.8s							
ZAA0	**Zalesovo Array**	**88.29**	**15**	P	**P**	**10 33 45.2**	**-0.8**
ZAA0				IAmb	IAmb	10 33 46.4	
comp=Z,3.9nm,1.1s							
ZALV	**Zalesovo Beam**	**88.29**	**15**	P	**P**	**10 33 45.2**	**-0.8**
ZALV	**Zalesovo Beam**	**88.29**	**15**	P	**P**	**10 33 44.2**	**-1.8**
comp=Z,1.1nm,0.7s,baz=199,slow=3.1,SNR=4.7							
comp=Z,1.1nm,0.7s							
MOA	**Molln**	**88.32**	**332**	*eP*	**P**	**10 33 47.7**	**+1.3**
comp=Z,2.7nm,0.8s							
LESA	**Schwarzleotal**	**88.63**	**331**	*eP*	**P**	**10 33 48.4**	**+0.5**
comp=Z,2.5nm,0.7s							
WTTA	**Wattenberg**	**88.94**	**330**	*i P*	**P**	**10 33 50.5**	**+1.0**
comp=Z,3.9nm,0.5s							
WATA	**Walderalm**	**89.02**	**330**	*i P*	**P**	**10 33 50.0**	**+0.2**
comp=Z,4.2nm,0.5s							
SQTA	**Sankt Quirin**	**89.08**	**330**	*i P*	**P**	**10 33 51.0**	**+0.9**
comp=Z,3.7nm,0.6s							
FETA	**Feichten**	**89.13**	**330**	*eP*	**P**	**10 33 51.5**	**+1.1**
comp=Z,6.3nm,1.2s							
TUE	**Stuetta**	**89.31**	**329**	P	**P**	**10 33 52.4**	**+1.1**
TUE				IAmb	IAmb	10 33 53.3	
comp=Z,6.1nm,1.4s							
RETA	**Reutte**	**89.48**	**330**	*i P*	**P**	**10 33 53.0**	**+1.0**
comp=Z,3.4nm,0.5s			

LBZ				S	Sg	10 23 36.1	+0.2
FDCS	Fairlie Distri	0.42	99	P	Pb	10 23 32.8	0.0
FDCS				S	Sb	10 23 38.9	-0.1
FOZ	Fox Glacier	0.59	328	Pg	Pg	10 23 35.1	-0.3
FOZ				Sg	Sg	10 23 42.8	-0.5
FOZ	Fox Glacier	0.59	328	P	Pg	10 23 35.2	-0.3
FOZ				S	Sg	10 23 42.9	-0.4
FGPS	Fox Glacier Pa	0.60	344	P	Pg	10 23 34.3	-1.1
FGPS				S	Sg	10 23 41.8	-1.6
TMZ	Timaru	0.65	123	P	Pg	10 23 36.7	+0.4
TMZ				S	Sn	10 23 49.3	+1.1
FJDS	Franz Josef DO	0.65	356	P	Pg	10 23 35.2	-1.2
FJDS				S	Sg	10 23 43.1	-1.9
RPZ	Rata Peaks	0.67	61	P	Pg	10 23 36.5	-0.2
RPZ	Rata Peaks	0.67	61	Pg	Pg	10 23 36.5	-0.2
RPZ				Sg	Sg	10 23 44.6	-1.0
RPZ	Rata Peaks	0.67	61	Pg	Pg	10 23 36.6	-0.1
	comp=N,159nm,0.3s,baz=246,slow=6.9,SNR=780						
RPZ				Lg	Lg	10 23 44.0	
	comp=N,940nm,0.3s,baz=243,slow=2.6,SNR=31						
RPZ	Rata Peaks	0.67	61	P	Pg	10 23 36.7	-0.1
RPZ				S	Sg	10 23 45.7	+0.1
ARCZ	Arundel	0.68	83	P	Pg	10 23 37.2	+0.3
ARCZ				S	Sg	10 23 45.9	+0.1
GCSZ	Gaunt Creek Bo	0.72	4	P	Pg	10 23 37.5	-0.2
GCSZ				S	Sg	10 23 47.3	-0.1
GCSZ	Gaunt Creek Bo	0.72	4	P	Pg	10 23 37.6	-0.2
GCSZ				S	Sb	10 23 47.6	0.0
MECS	Makarora Emerg	0.76	255	P	Pg	10 23 38.1	-0.4
MECS				S	Sg	10 23 47.7	-0.8
WHFS	Whataroa Fire	0.78	6	P	Pg	10 23 38.7	-0.1
WHFS				S	Sb	10 23 49.3	+0.1
MAYC	Mayfield Schoo	0.87	76	P	Pb	10 23 41.3	+0.8
MAYC				S	Sn	10 23 56.0	+2.2
MSMC	Mount Somers S	0.90	69	P	Pg	10 23 40.4	-0.7
MSMC				S	Sn	10 23 55.7	+1.3
HAFS	Harihari Fire	0.92	14	P	Pn	10 23 43.1	+1.2
WVZ	Waitaha Valley	1.02	20	P	Pg	10 23 42.7	-0.8
ODZ	Otahua Downs	1.05	164	P	Pg	10 23 42.9	-1.0
ODZ	Otahua Downs	1.05	164	Pg	Pg	10 23 42.9	-1.0
ODZ				Sg	Sg	10 23 56.5	-1.1
ODZ				IAML		10 23 58.0	
	comp=E,2μm,0.6s						
ODZ	Otahua Downs	1.05	164	P	Pg	10 23 43.0	-0.9
ODZ				S	Sg	10 23 57.6	0.0
JCZ	Jackson Bay	1.06	268	P	Pg	10 23 43.8	-0.3
JCZ	Jackson Bay	1.06	268	P	Pg	10 23 43.8	-0.3
MHCZ	Mount Hutt	1.08	63	P	Pg	10 23 44.4	-0.2
WACZ	Wakanui South	1.15	86	P	Pb	10 23 45.9	+0.7
WKZ	Wanaka	1.19	228		Pg	10 23 45.4	-1.1
WKZ				Sg	Sg	10 24 00.5	-1.5
WKZ				IAML		10 24 10.8	
	comp=E,1μm,0.8s						
WKZ				IAML		10 24 11.8	
	comp=N,1μm,0.7s						
WKZ	Wanaka	1.19	228	P	Pg	10 23 45.7	-0.8
EAZ	Earnscleugh	1.37	209	P	Pn	10 23 48.1	-0.1
RACZ	Rakaia	1.40	78	P	Pn	10 23 49.2	+0.6
OXZ	Oxford	1.48	62		Pn	10 23 50.0	+0.3
OXZ				Sn	Sb	10 24 10.5	+1.1
OXZ				IAML		10 24 17.3	
	comp=E,972nm,0.7s						
OXZ	Oxford	1.48	62	P	Pn	10 23 50.1	+0.3
INZ	Inchbonnie	1.57	34	Pn	Pn	10 23 51.9	+0.9
INZ				IAML		10 24 17.0	
	comp=N,645nm,0.4s						
INZ	Inchbonnie	1.57	34	P	Pn	10 23 52.1	+1.1
MQZ	McQueen's Vall	1.77	80	Pn	Pn	10 23 54.6	+0.9
MQZ				IAML		10 24 28.6	
	comp=E,675nm,0.5s						
MQZ				IAML		10 24 30.1	
	comp=N,649nm,0.6s						
MQZ	McQueen's Vall	1.77	80	P	Pn	10 23 54.0	+0.3
MSZ	Milford Sound	1.78	248	P	Pn	10 23 55.7	+1.9
HHSZ	Highcliff Hill	1.86	173	P	Pb	10 23 58.0	+0.6
AKCZ	Akaroa Harbour	1.93	86	P	Pn	10 23 56.4	+0.5
LTZ	Lake Taylor	1.94	50	Pn	Pn	10 23 57.0	+1.0
LTZ	Lake Taylor	1.94	50	P	Pn	10 23 57.2	+1.2
AMCZ	Amberley	1.94	65	Pn	Pn	10 23 56.8	+0.7
AMCZ	Amberley	1.94	65	P	Pn	10 23 57.0	+0.9
TUZ	Tuapeka	1.97	193	P	Pn	10 23 56.2	-0.2
MLZ	Mavora Lakes	2.02	228	Pn	Pn	10 23 59.0	+1.8
MLZ				IAML		10 24 29.7	
	comp=N,501nm,0.9s						
MLZ				IAML		10 24 30.3	
	comp=E,524nm,0.6s						
MLZ	Mavora Lakes	2.02	228	P	Pn	10 23 57.8	+0.6
OKCZ	Okains Bay	2.06	82	P	Pn	10 23 58.6	+0.9
GVZ	Greta Valley S	2.29	63	Pn	Pn	10 24 01.3	+0.4
GVZ				IAML		10 24 47.4	
	comp=E,383nm,1.2s						
GVZ	Greta Valley S	2.29	63	P	Pn	10 24 01.5	+0.7
WHZ	Wether Hill Ro	2.47	221	Pn	Pn	10 24 04.2	+0.8
WHZ				IAML		10 24 48.9	
	comp=E,294nm,0.7s						
WHZ	Wether Hill Ro	2.47	221	P	Pn	10 24 03.1	-0.3
DSZ	Denniston Nort	2.56	27	Pn	Pn	10 24 05.4	+0.8
DSZ				IAML		10 24 46.2	
	comp=E,280nm,1.0s						
DSZ	Denniston Nort	2.56	27	P	Pn	10 24 05.9	+1.3
SYZ	Scrubby Hill	2.62	197	P	Pn	10 24 07.8	+2.4
SYZ	Scrubby Hill	2.62	197	P	Pn	10 24 07.2	+1.8
DCZ	Deep Cove	2.63	236	Pn	Pn	10 24 06.2	+0.7
DCZ	Deep Cove	2.63	236	P	Pn	10 24 06.3	+0.8
KHZ	Kahutara	2.90	57	P	Pn	10 24 10.2	+1.0
KHZ	Kahutara	2.90	57	Pn	Pn	10 24 10.0	+0.8
KHZ	Kahutara	2.90	57	P	Pn	10 24 09.9	+0.8
THZ	Tophouse	3.00	42	Pn	Pn	10 24 11.5	+0.9
THZ	Tophouse	3.00	42	P	Pn	10 24 11.9	+1.3
APZ	The Paps	3.22	209	P	Pn	10 24 13.0	-0.6
MRNZ	Matariki Terra	3.22	36	Pn	Pn	10 24 15.1	+1.5
MRNZ	Matariki Terra	3.22	36	P	Pn	10 24 15.5	+1.8
BSWZ	Blackbirch Sta	3.53	50	Pn	Pn	10 24 19.2	+1.3
BSWZ	Blackbirch Sta	3.53	50	P	Pn	10 24 20.0	+2.1
TKNZ	Takaka Hill	3.61	35	Pn	Pn	10 24 18.8	-0.2
TKNZ	Takaka Hill	3.61	35	P	Pn	10 24 19.7	+0.7
QRZ	Quartz Range	3.63	29	P	Pn	10 24 20.6	+1.4
QRZ	Quartz Range	3.63	29	Pn	Pn	10 24 20.4	+1.2
QRZ	Quartz Range	3.63	29	P	Pn	10 24 20.4	+1.2
NNZ	Nelson	3.64	40	Pn	Pn	10 24 20.8	+1.4
NNZ	Nelson	3.64	40	P	Pn	10 24 21.0	+1.6
CMWZ	Cape Campbell	3.70	53	P	Pn	10 24 23.4	+3.2
TUWZ	Tuamarina	3.77	47	Pn	Pn	10 24 21.6	+0.5
TUWZ	Tuamarina	3.77	47	P	Pn	10 24 22.0	+0.8
TCW	Tory Channel	4.10	48	Pn	Pn	10 24 25.5	-0.2
TCW	Tory Channel	4.10	48	P	Pn	10 24 26.8	+1.1
DUWZ	D'Urville Isla	4.22	41	P	Pn	10 24 29.4	+1.9
SNZO	South Karori	4.27	52	P	Pn	10 24 28.9	+0.9
SNZO	South Karori	4.27	52	Pn	Pn	10 24 28.7	+0.7
BHW	Baring Head	4.30	54	Pn	Pn	10 24 28.9	+0.5
BHW	Baring Head	4.30	54	P	Pn	10 24 29.3	+0.8
WEL	Wellington	4.32	52	P	Pn	10 24 29.8	+1.1
PLWZ	Palliser	4.43	58	Pn	Pn	10 24 30.6	+0.3
PLWZ	Palliser	4.43	58	P	Pn	10 24 30.8	+0.5
MSWZ	Moikau Station	4.52	56	Pn	Pn	10 24 31.5	0.0
MSWZ	Moikau Station	4.52	56	P	Pn	10 24 31.8	+0.3
PAWZ	Paruwai Farm	4.65	57	P	Pn	10 24 33.3	0.0
KIW	Kapiti Island	4.69	49	P	Pn	10 24 34.2	+0.4
MTW	Mount Morrison	4.83	55	P	Pn	10 24 35.7	0.0
OGWZ	Otaki Gorge	4.86	50	P	Pn	10 24 35.0	-1.1
HOWZ	Holdsworth Sta	5.00	53	P	Pn	10 24 38.4	+0.3
TMWZ	Te Maipa	5.09	57	P	Pn	10 24 39.1	-0.3
MRZ	Mangatainoka R	5.19	51	Pn	Pn	10 24 40.1	-0.6
MRZ	Mangatainoka R	5.19	51	P	Pn	10 24 40.5	-0.2
TIWZ	Tintock	5.29	54	P	Pn	10 24 42.4	+0.3
NMEZ	Namu Road	5.36	32	P	Pn	10 24 46.8	+3.8
NBEZ	Newall Road No	5.48	31	P	Pn	10 24 47.6	+2.9
PRWZ	Pori Road	5.49	53	P	Pn	10 24 45.1	+0.3
KHEZ	Kahui Hut	5.51	32	P	Pn	10 24 48.4	+3.2
KHEZ	Kahui Hut	5.51	32	P	Pn	10 24 48.2	+3.0
LREZ	Lake Rotokare	5.53	36	P	Pn	10 24 50.5	+5.2
PREZ	Palmer Road	5.53	33	P	Pn	10 24 48.9	+3.5
WAZ	Wanganui	5.55	41	P	Pn	10 24 50.2	+4.6
BFZ	Birch Farm	5.56	55	P	Pn	10 24 45.7	-0.2
BFZ	Birch Farm	5.56	55	Pn	Pn	10 24 45.4	-0.5
BFZ	Birch Farm	5.56	55	P	Pn	10 24 45.5	-0.4
NEZ	North Egmont	5.56	32	P	Pn	10 24 49.8	+3.8
PKE	Pukeiti	5.59	31	P	Pn	10 24 50.2	+4.0
DREZ	Durham Road	5.68	33	P	Pn	10 24 50.7	+3.3
DVHZ	Dannevirke	5.77	52	P	Pn	10 24 48.7	0.0
MHEZ	Mangahewa	5.82	33	P	Pn	10 24 53.8	+4.4
ANWZ	Angora Road	5.84	54	P	Pn	10 24 49.5	-0.1
VRZ	Vera Road	5.96	36	P	Pn	10 24 53.4	+2.2
PNHZ	Pukenui	6.05	49	P	Pn	10 24 52.5	-0.1
PKVZ	Pokaka	6.09	41	P	Pn	10 24 58.7	+5.6
WNVZ	Wahianoa	6.18	42	P	Pn	10 24 57.2	+2.8
MAVZ	Matarangi	6.21	42	P	Pn	10 25 02.1	+7.2
FWVZ	Far West T-bar	6.21	42	P	Pn	10 25 01.6	+6.7
COVZ	Chateau Observ	6.25	41	P	Pn	10 25 01.9	+6.5
TUVZ	Tukino	6.25	42	P	Pn	10 24 58.2	+2.8
NGZ	Ngauruhoe	6.30	41	P	Pn	10 24 59.3	+3.2
TWVZ	Taurewa	6.30	40	P	Pn	10 25 01.6	+5.5
KRHZ	Kereru	6.34	48	P	Pn	10 24 56.7	+0.2
OTVZ	Oturere	6.34	42	P	Pn	10 24 59.5	+2.8
NNVZ	North Ngauruho	6.34	41	P	Pn	10 24 59.3	+2.7
WTVZ	West Tongariro	6.34	41	P	Pn	10 25 03.3	+6.6
PXZ	Pawanui	6.34	53	P	Pn	10 24 55.5	-1.0
ETVZ	East Tongariro	6.38	42	P	Pn	10 24 59.7	+2.5
KAHZ	Kahuranaki	6.51	52	P	Pn	10 24 58.6	-0.3
HIZ	Hauiti	6.52	34	P	Pn	10 25 02.4	+3.5
HIZ	Hauiti	6.52	34	Pn	Pn	10 24 58.2	-0.7
HIZ	Hauiti	6.52	34	P	Pn	10 25 01.0	+2.1
RATZ	Rangitukua	6.62	41	P	Pn	10 25 07.4	+7.0
BKZ	Black Stump Fm	6.75	46	P	Pn	10 25 02.5	+0.3
BKZ	Black Stump Fm	6.75	46	Pn	Pn	10 25 02.4	+0.2
BKZ	Black Stump Fm	6.75	46	P	Pn	10 25 02.5	+0.3
TLZ	Tolley Road	6.96	37	P	Pn	10 25 07.9	+2.9
NMHZ	Naumai	6.96	47	P	Pn	10 25 05.1	-0.1
PRGZ	Paritu Road	7.68	51	P	Pn	10 25 13.3	-1.6
AWAZ	Awhitu Peninsu	7.72	27	P	Pn	10 25 18.7	+3.2
URZ	Urewera	7.75	44	Pn	Pn	10 25 14.0	-1.9
	comp=E,0.7nm,0.3s,baz=265,slow=17,SNR=1.8						
URZ				Sn	Sn	10 26 37.0	-6.3
	comp=E,0.5nm,0.3s,baz=291,slow=6.4,SNR=2.4						
	comp=E,6.3nm,0.5s						
MKAZ	Moumakai	7.87	30	P	Pn	10 25 21.0	+3.5
MWZ	Matawai	7.91	46	P	Pn	10 25 16.9	-1.2
ETAZ	East Tamaki Re	7.92	28	P	Pn	10 25 21.5	+3.3
MBAZ	Motutapu North	8.08	28	P	Pn	10 25 24.5	+4.2
WIAZ	Waiheke Island	8.14	29	P	Pn	10 25 24.6	+3.4
TWGZ	Tauwhareparae	8.26	48	P	Pn	10 25 22.1	-0.8
KUZ	Kuaotunu	8.39	32	P	Pn	10 25 27.4	+2.8
KUZ	Kuaotunu	8.39	32	P	Pn	10 25 27.2	+2.6
HAZ	Te Kaha	8.48	45	P	Pn	10 25 24.9	-0.9
WCZ	Waipu Caves	8.68	23	P	Pn	10 25 30.6	+2.1
OUZ	Omahuta	9.18	17	P	Pn	10 25 37.5	+2.1
OUZ	Omahuta	9.18	17	P	Pn	10 25 37.6	+2.2
ASAR	Alice Springs	35.99	292	P	P	10 30 22.9	-1.0
	comp=E,0.2nm,0.7s,baz=132,slow=8.0,SNR=1.7						
	comp=E,0.2nm,0.7s						
WRA	Warramunga Arr	38.33	297	P	P	10 30 43.1	-0.8
	comp=E,0.2nm,0.5s,baz=135,slow=7.8,SNR=9.4						
	comp=E,0.2nm,0.5s						
TORD	Torodi Ar. Bea	147.69	201	PKPbc	PKiKP	10 43 11.6	+1.7
	comp=E,0.6nm,0.8s,baz=160,slow=2.8,SNR=2.9						
ARCES	ARCESS Array B	148.82	337	PKPbc	PKPbc	10 43 10.4	+1.2
	comp=E,0.3nm,0.3s,baz=79,slow=1.9,SNR=6.1						

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*BJI **10** 10:26:18.0±0.0,31°.74S×58°.08E,h7km,mb5.2/61, mB5.7/35,Ms5.4/42,Ms7 5.1/41*
*MOS **10** 10:26:19.9±0.8,31°.65S×58°.38E,h10km,mb5.6/115, MS4.9/26,Error ellipse: s-maj=9.2km s-min=4.2km az=101.0*
*IDC **10** 10:26:19.6±0.4,31°.67S×58°.28E,h0km,mb5.0/28, mbtmp4.9/29,ML4.9/1,MS4.8/44,Error ellipse: s-maj=15.0km s-min=11.9km az=72.0*
*NEIC **10** 10:26:22.2,31°.50S×57°.89E,h22km,Moment Tensor Solution. Duration: 3s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.34; $M_{\theta\theta}$2.53; $M_{\phi\phi}$-0.19; $M_{r\theta}$-1.82; $M_{\theta\phi}$0.61; $M_{\phi r}$0.03; Fault plane solution: M_o3.10000×10^{17} NP1:ϕ_s86.29000°, δ63.18000°,λ-81.63000°. NP2:ϕ_s248.22000°,δ28.00000°, λ-106.07000°. Principal axes: T 3.2282, Plg18.0000°, Azm170.0000°; N -0.2649, Plg7.0000°, Azm262.0000°; P -2.9634, Plg71.0000°, Azm14.0000°;*
*NEIC **10** 10:26:22.4±2.3,31°.60S±0°.08×58°.35E±0°.07,h10km±1km, mb5.5/139,Ms_20 5.2/502,Mww5.6/19 Error ellipse: s-maj=14.5km s-min=9.8km az=164.0*
*GCMT **10** 10:26:22.4±0.1,31°.64S×58°.07E,h12km,MW5.5/150, Moment Tensor Solution. s114,c182; s150,c310; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.99±.02; $M_{\theta\theta}$1.91±.02; $M_{\phi\phi}$0.07±.02; $M_{r\theta}$0.29±.05; $M_{\theta\phi}$0.27±.02; $M_{\phi r}$0.37±.06; Best double couple: M_o2.02400×10^{17} NP1:ϕ_s253.00000°,δ51.00000°, λ-101.00000°. NP2:ϕ_s90.00000°,δ41.00000°, λ-77.00000°. Principal axes: T 1.9780, Plg5.0000°, Azm351.0000°; N 0.0880, Plg9.0000°, Azm260.0000°; P -2.0700, Plg80.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 10:26:22.2,31°.60S×58°.36E,h22km*
*BGR **10** 10:26:25.8,30°.87S×58°.37E,h33km,mb5.0,Ms4.7, Hypocentre not reviewed by the ISC*

ISC 10 10:26:20.2±0.3,31°.69S±0°.04×58°.29E±0°.05,h4km±1km, h4km:pP-P,n1247,σ1s23/1069,mb5.4/279,MS5.2/335, 50C-25D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.73	347	Pn	Pn	10 28 50.5	-4.4
FOMA	Nahampoana Res	12.00	301	Pn	Pn	10 29 12.1	0.0
VOI	Vohitsoka	14.15	311	Pn	Pn	10 29 40.0	-1.6
VOI	Vohitsoka	14.15	311	eP	Pn	10 29 40.9	-0.7
H04N2	CROZET ISLANDS	15.30	197	T	T	10 45 45.0	
	baz=22,slow=75						
H04N1	CROZET ISLANDS	15.30	197	T	T	10 45 46.8	
	baz=22,slow=75						
H04N3	CROZET ISLANDS	15.32	197	T	T	10 45 50.4	
	baz=22,slow=75						
ABPO	Ambohimpanom	16.09	319		Pn	10 30 07.7	+0.2
ABPO	Ambohimpanom	16.09	319	eP	Pn	10 30 09.0	+1.5
ABPO	Ambohimpanom	16.09	319	P	Pn	10 30 07.7	+0.2
ABPO				pmax	pmax		
	comp=Z,78nm,1.0s						
OPO	Ambohidratompo	16.47	320	Pn	Pn	10 30 12.9	+0.5
	comp=Z,0.4nm,0.3s,baz=140,slow=11,SNR=19						
OPO				Sn	Sn	10 33 02.3	-14
	comp=Z,0.3nm,0.3s,baz=143,slow=10,SNR=5.2						
OPO				LR	LR	10 35 07.9	
	comp=Z,4μm,18.6s,baz=14,slow=32						
	comp=Z,20nm,0.5s						
POGA	Pongola	23.51	274	P	P	10 31 31.3	-0.2
POGA				IAmb	IAmb	10 31 33.5	
	comp=Z,98nm,0.9s						
POGA	Pongola	23.51	274	eP	P	10 31 31.2	-0.2
POGA				IAmb	IAmb	10 31 33.1	
	comp=Z,97nm,0.9s						
PMBG	Pietermaritzbu	23.99	268	eP	P	10 31 35.0	-1.1
PMBG				IAmb	IAmb	10 31 43.9	
	comp=Z,161nm,1.4s						
KSTD	Kokstad	24.80	265	eP	P	10 31 43.3	-0.3
NWCL	Newcastle	24.95	272	eP	P	10 31 43.6	-1.4
NWCL				IAmb	IAmb	10 31 46.1	
	comp=Z,30nm,1.1s						
MOPA	Mopani	25.14	282	eP	P	10 31 45.7	-0.8
MOPA				IAmb	IAmb	10 31 48.5	
	comp=Z,97nm,0.9s						
PILG	Pilgrimsrest,	25.16	279	eP	P	10 31 45.4	-1.6
PILG				IAmb	IAmb	10 31 55.9	
	comp=Z,78nm,0.9s						
HOED	Hoedspruit, Li	25.17	280	eP	P	10 31 45.8	-1.0
HOED				IAmb	IAmb	10 31 55.7	
	comp=Z,54nm,1.2s						
DULL	Dullstroom, Mp	25.45	277	eP	P	10 31 50.0	+0.4
DULL				IAmb	IAmb	10 31 58.6	
	comp=Z,68nm,1.1s						
CHIPN	CHIPINGE	25.66	290	eP	P	10 31 51.7	+0.3
SNKL	Senekal, Frees	26.61	269	eP	P	10 31 58.6	-1.5
SNKL				IAmb	IAmb	10 32 07.3	
	comp=Z,376nm,2.5s						
RUST	Rust De Winter	26.90	276	eP	P	10 32 02.2	-0.4
RUST				IAmb	IAmb	10 32 17.6	
	comp=Z,113nm,2.0s						
GRHM	Grahamstown, E	26.92	258	P	P	10 32 03.8	+1.1
GRHM				IAmb	IAmb	10 32 12.5	
	comp=Z,100nm,1.5s						
GRHM	Grahamstown, E	26.92	258	eP	P	10 32 03.0	+0.4
GRHM				IAmb	IAmb	10 32 11.0	
	comp=Z,254nm,2.0s						
WTBG	Waterberg Wild	26.97	279	eP	P	10 32 02.2	-1.1
WTBG				IAmb	IAmb	10 32 10.2	
	comp=Z,28nm,0.9s						
TSWA	Tswaing Meteor	27.21	276	eP	P	10 32 04.8	-0.5
TSWA				IAmb	IAmb	10 32 18.9	
	comp=Z,198nm,2.4s						
H08S1	Diego Carcia H	27.34	32	T	T	11 00 31.3	
	baz=215,slow=76						
PRYS	Parys	27.34	272	eP	P	10 32 05.8	-0.8
PRYS				IAmb	IAmb	10 32 13.6	
	comp=Z,17nm,0.9s						
H08S2	Diego Garcia H	27.34	32	T	T	11 00 30.4	
	baz=215,slow=76						
H08S3	Diego Garcia H	27.36	32	T	T	11 00 33.0	
	baz=215,slow=76						
HRAO	HartRAO	27.39	274	eP	P	10 32 07.0	0.0
NYAT	Nyati, Northwe	27.66	275	eP	P	10 32 08.9	-0.6
NYAT				IAmb	IAmb	10 32 14.6	
	comp=Z,44nm,0.9s						
LEPH	Lephalale, Lim	28.02	279	eP	P	10 32 10.3	-2.4
LEPH				IAmb	IAmb	10 32 14.3	
	comp=Z,38nm,1.0s						
NHAM	Northam, North	28.03	276	eP	P	10 32 12.3	-0.5
NHAM				IAmb	IAmb	10 32 14.6	
	comp=Z,25nm,0.8s						
HVD	Gariep Dam	28.03	264	eP	P	10 32 11.2	-1.6
HVD				IAmb	IAmb	10 32 20.9	
	comp=Z,81nm,1.4s						
GRAF	Camdeboo Natio	28.61	260	eP	P	10 32 16.6	-1.3
GRAF				IAmb	IAmb	10 32 25.7	
	comp=Z,63nm,1.4s						
MTLB	Matlabas, Limp	28.66	278	eP	P	10 32 16.4	-1.9
MTLB				IAmb	IAmb	10 32 20.0	
	comp=Z,30nm,1.1s						
BOSA	Boshof	28.67	268	P	P	10 32 18.3	-0.2
BOSA	Boshof	28.67	268	P	P	10 32 18.2	-0.2
	comp=Z,7.3nm,0.8s,baz=109,slow=9.4,SNR=12						
BOSA				LR	LR	10 41 46.9	
	comp=Z,1μm,20.2s,baz=108,slow=32						
	comp=Z,7.3nm,0.8s						
BOSA	Boshof	28.67	268	P	P	10 32 18.3	-0.2
BOSA				pmax	pmax		
	comp=Z,28nm,1.3s						
MATP	Matopo	28.93	286	LR	LR	10 42 06.9	
	comp=Z,1μm,21.1s,baz=112,slow=33						
SWZ	Schweizer	28.99	270	eP	P	10 32 18.7	-2.7
SWZ				IAmb	IAmb	10 32 27.4	
	comp=Z,56nm,1.6s						
BFON	Badsfontein, M	29.36	261	eP	P	10 32 23.5	-1.0
BFON				IAmb	IAmb	10 32 25.4	
	comp=Z,48nm,1.3s						
ROOI	Rooidraai Farm	29.37	259	eP	P	10 32 22.1	-2.5
ROOI				IAmb	IAmb	10 32 26.1	
	comp=Z,410nm,2.7s						
LBTB	Lobatse	29.46	275	P	P	10 32 25.0	-0.4
LBTB	Lobatse	29.46	275	eP	P	10 32 23.8	-1.6
LBTB				IAmb	IAmb	10 32 32.1	
	comp=Z,40nm,1.2s						
LBTB	Lobatse	29.46	275	P	P	10 32 25.0	-0.4
LBTB				pmax	pmax		
	comp=Z,37nm,1.3s						
KRI	Karoi	29.92	293	eP	P	10 32 22.4	-7.2
BRAK	Brakfontein	30.03	260	eP	P	10 32 27.8	-2.6
BRAK				IAmb	IAmb	10 32 31.3	
	comp=Z,86nm,1.5s						
MERW	Merweville	31.04	258	eP	P	10 32 37.8	-1.6
MERW				IAmb	IAmb	10 32 40.4	
	comp=Z,64nm,1.3s						
FRAZ	Fraserburg	31.25	260	eP	P	10 32 39.3	-2.0
FRAZ				IAmb	IAmb	10 32 42.4	
	comp=Z,60nm,1.3s						
SUR	Sutherland	31.68	259	P	P	10 32 44.8	-0.3
SUR				IAmb	IAmb	10 32 54.2	
	comp=Z,94nm,1.7s						
SUR	Sutherland	31.68	259	eP	P	10 32 44.5	-0.6
SUR	Sutherland	31.68	259	LR	LR	10 43 11.4	
	comp=Z,2μm,20.7s,baz=112,slow=32						
MATJ	Matjiesfontein	31.74	257	eP	P	10 32 45.0	-0.6
MATJ				IAmb	IAmb	10 32 46.6	
	comp=Z,60nm,1.1s						
LSZ	Lusaka	31.94	294	P	P	10 32 47.5	+0.1
LSZ	Lusaka	31.94	294	P	P	10 32 47.5	+0.1
LSZ				pmax	pmax		
	comp=Z,24nm,1.1s						
LSZ				MLR	MLR		
	comp=Z,3μm,20.0s						
ELIM	Elim	32.28	254	eP	P	10 32 48.7	-1.5
ELIM				IAmb	IAmb	10 32 51.2	
	comp=Z,83nm,1.1s						
KEIM	Keimoes	32.30	265	eP	P	10 32 48.8	-1.6
KEIM				IAmb	IAmb	10 32 50.9	
	comp=Z,64nm,1.3s						
CVNA	Calvinia	32.71	260	eP	P	10 32 52.4	-1.7
CVNA	

comp=Z,4μm,21.0s
NVL N'lazarevskaya 46.54 199 *e*P **P** **10 34 47.5 -1.0**
NVL *e*S **S** **10 41 32.5 -4.8**
NVL pmax pmax
comp=Z,28nm,1.2s
NVL MLR MLR
comp=Z,887nm,17.0s
NWAO Narrogin (SRO) 49.25 108 LR LR 10 51 14.1
comp=Z,701nm,20.1s,baz=258,slow=30
MORW Morawa 49.39 103 P **P** **10 35 10.0 -1.2**
TROLL Troll, Antarti 49.76 200 ⇑P **P** **10 35 13.4 -0.2**
comp=Z,414nm,1.0s
SNAA Sanae 51.23 201 P **P** **10 35 24.5 -0.1**
SNAA IAMs_20 IAMs_20 10 51 53.9
comp=Z,2μm,22.0s
SNAA Sanae 51.23 201 ⇑P **P** **10 35 24.5 -0.1**
comp=Z,403nm,0.9s
SNAA Sanae 51.23 201 P **P** **10 35 24.0 -0.6**
comp=Z,16nm,0.8s,baz=86,slow=6.1,SNR=34
SNAA LR LR 10 52 15.7
comp=Z,2μm,21.5s,baz=100,slow=30
comp=Z,16nm,0.8s
SNAA Sanae 51.23 201 P **P** **10 35 24.5 -0.1**
SNAA pmax pmax
comp=Z,18nm,0.9s
RPSI Rantau Prapat 51.55 56 P **P** **10 35 25.7 -1.9**
PSI Prapat 51.62 56 P **P** **10 35 25.7 -2.7**
PSI pmax pmax
comp=Z,39nm,1.2s
MEEK Meekatharra 52.34 101 P **P** **10 35 33.9 +0.3**
VNA2 Neumayer--Watz 52.47 202 ⇑P **P** **10 35 33.6 -0.2**
comp=Z,18nm,0.8s,baz=84,slow=5.8
HYB Hyderabad 52.56 25 *e*P **P** **10 35 35.7 +0.6**
VNA1 Neumayer--Stat 52.70 203 ⇑P **P** **10 35 35.7 +0.2**
comp=Z,12nm,1.2s
VNA3 Neumayer Olymp 53.26 202 ⇑P **P** **10 35 39.4 -0.3**
comp=Z,34nm,0.8s
VNA3 ⇓PcP **PcP** **10 36 46.5 -0.8**
comp=Z,5.1nm,0.8s
KULM Kulim 54.59 55 P **P** **10 35 49.5 -0.6**
KULM IAmb IAmb 10 36 10.6
comp=Z,103nm,1.9s
WSAR Wadi Sarin 54.62 0 P **P** **10 35 50.9 +0.8**
comp=Z,11nm,0.9s,baz=214,slow=6.4,SNR=2.6
WSAR LR LR 10 53 23.9
comp=Z,2μm,21.7s,baz=203,slow=30
comp=Z,11nm,0.9s
PSA00 Pilbara Seismi 55.31 96 P **P** **10 35 55.7 +0.4**
PSA00 Pilbara Seismi 55.31 96 P **P** **10 35 54.5 -0.8**
MBWA Marble Bar 55.39 95 P **P** **10 35 56.4 +0.5**
MBWA Marble Bar 55.39 95 P **P** **10 35 56.1 +0.3**
MBWA IAmb IAmb 10 36 11.1
comp=Z,40nm,1.4s
RAYN Ar Rayn 56.25 346 P **P** **10 36 01.5 -0.4**
RAYN Ar Rayn 56.25 346 IAMs_20 IAMs_20 10 55 46.6
comp=Z,2μm,22.0s
RAYN Ar Rayn 56.25 346 P **P** **10 36 02.3 +0.4**
RAYN pmax pmax
comp=Z,30nm,1.2s
UOSS Minazif 56.35 358 IAMs_20 IAMs_20 10 55 08.0
comp=Z,2μm,21.0s
JAGI Jajag, Banyuwa 56.65 79 P **P** **10 36 04.1 -0.9**
QSPA South Pole Qui 58.48 180 P **P** **10 36 17.4 +0.2**
QSPA IAmb IAmb 10 36 19.9
comp=Z,102nm,1.4s
QSPA South Pole Qui 58.48 180 IAMs_20 IAMs_20 10 58 05.0
comp=Z,2μm,20.0s
QSPA South Pole Qui 58.48 180 P **P** **10 36 17.4 +0.2**
comp=Z,27nm,0.7s,baz=91,slow=0.9,SNR=165
QSPA LR LR 10 58 15.5
comp=Z,2μm,21.4s,baz=270,slow=33
comp=Z,27nm,0.7s
FORT Forrest 58.67 109 P **P** **10 36 20.3 +1.3**
FORT Forrest 58.67 109 P **P** **10 36 18.6 -0.4**
FORT IAmb IAmb 10 36 37.0
comp=Z,50nm,1.1s
PLAI Plampang 59.50 81 P **P** **10 36 28.6 +3.6**
BELA Belgrano 2 59.88 194 P **P** **10 36 26.6 0.0**
WRKA Warakurna 61.02 103 P **P** **10 36 35.7 +0.4**
SBUM Sibu 61.36 67 P **P** **10 36 36.1 -1.6**
FITZ Fitzroy Crossi 61.73 95 P **P** **10 36 40.4 +0.3**
FITZ Fitzroy Crossi 61.73 95 P **P** **10 36 39.7 -0.4**
VNDA Vanda 62.17 166 P **P** **10 36 43.0 +0.8**
VNDA IAmb IAmb 10 36 59.9
comp=Z,64nm,1.6s
VNDA Vanda 62.17 166 P **P** **10 36 43.0 +0.8**
comp=Z,5.7nm,0.9s,baz=262,slow=8.1,SNR=16
VNDA LR LR 11 00 41.5
comp=Z,2μm,21.7s,baz=244,slow=33
VNDA PKP2bc 11 05 57.5
comp=Z,0.6nm,0.3s,baz=66,slow=5.2,SNR=6.8
comp=Z,5.7nm,0.9s
EDFI Ende, Flores 62.85 83 P **P** **10 36 48.7 +0.9**
comp=Z,42nm,1.7s,comp=Z,1μm
SBA Scott Base 63.02 167 P **P** **10 36 49.6 +1.8**
SBA Scott Base 63.02 167 P **P** **10 36 49.6 +1.8**
SBA pmax pmax
comp=Z,115nm,1.8s
KAPI Kappang 63.18 79 P **P** **10 36 49.0 -0.9**
KAPI IAmb IAmb 10 36 50.3
comp=Z,28nm,1.1s
KAPI Kappang 63.18 79 LR LR 11 02 33.0
comp=Z,73nm,18.3s,baz=248,slow=34
KAPI Kappang 63.18 79 *i*P **P** **10 36 48.9 -1.0**
CM31 Chiang Mai Arr 63.30 44 P **P** **10 36 50.6 +0.1**
CMAR Chiang Mai Arr 63.30 44 P **P** **10 36 50.4 0.0**
CMAR Chiang Mai Arr 63.30 44 P **P** **10 36 50.6 +0.1**
comp=Z,20nm,0.7s,baz=230,slow=7.0,SNR=91
CMAR LR LR 10 59 25.7
comp=Z,1μm,21.7s,baz=225,slow=31
comp=Z,20nm,0.7s
MMRI Maumere 63.37 84 P **P** **10 36 53.2 +2.1**
MMRI Maumere 63.37 84 P **P** **10 36 51.2 0.0**
MMRI Maumere 63.37 84 P **P** **10 36 53.8 +2.7**
CHTO Chiang Mai 63.57 44 P **P** **10 36 52.1 -0.1**
CHTO IAmb IAmb 10 37 02.2
comp=Z,69nm,1.4s
CHTO Chiang Mai 63.57 44 P **P** **10 36 52.2 -0.1**
CHTO pmax pmax
comp=Z,69nm,1.4s
MULG Mulgathing 63.66 111 P **P** **10 36 52.8 -0.1**
PHRA Phrae 64.09 45 P **P** **10 36 56.1 +0.4**
BBOO Buckleboo 64.28 114 P **P** **10 36 57.4 +0.5**
BBOO Buckleboo 64.28 114 P **P** **10 36 57.4 +0.5**
EIL Elat 64.93 338 LR LR 11 00 28.3
comp=Z,1μm,21.4s,baz=158,slow=32
SHL Shillong 65.36 33 P **P** **10 37 03.8 -0.2**
SHL IAMs_20 IAMs_20 11 02 55.7
comp=Z,2μm,20.0s
SHL Shillong 65.36 33 P **P** **10 37 03.8 -0.2**
SHL pmax pmax
comp=Z,161nm,1.5s
KNRA Kununurra 65.49 94 P **P** **10 37 04.5 -0.5**
KNRA IAmb IAmb 10 37 07.4
comp=Z,34nm,0.9s
CRAI Chiangrai 65.52 44 P **P** **10 37 05.0 0.0**
CRAI IAmb IAmb 10 37 15.1
comp=Z,38nm,1.2s
HRA Herat 65.83 4 P **P** **10 37 06.1 -0.9**
HRA IAmb IAmb 10 37 15.4
comp=Z,28nm,1.2s
OOD Oodnadatta 65.96 109 P **P** **10 37 08.8 +0.9**
ASAR Alice Springs 66.24 104 P **P** **10 37 09.3 -0.5**
ASAR Alice Springs 66.24 104 P **P** **10 37 09.7 -0.2**
comp=Z,20nm,0.7s,baz=241,slow=5.8,SNR=218
ASAR LR LR 11 01 54.4
comp=Z,382nm,20.9s,baz=257,slow=32
ASAR PKPPKP **P'P'df** **11 05 42.9 -4.7**
comp=Z,1.0nm,0.9s,baz=49,slow=3.3,SNR=6.0
comp=Z,20nm,0.7s
AS31 Alice Springs 66.24 104 P **P** **10 37 09.6 -0.2**
HTT Hallett 66.25 116 P **P** **10 37 10.5 +0.7**
GHAJ Ghor Haditha 66.25 339 IAMs_20 IAMs_20 11 01 49.5
comp=Z,1μm,20.0s
AS01 Alice Springs 66.28 104 P **P** **10 37 10.0 -0.1**
NIL Nilore 66.51 14 P **P** **10 37 11.0 -0.1**
NIL Nilore 66.51 14 P **P** **10 37 11.0 -0.1**
NIL pmax pmax
comp=Z,166nm,2.0s
KBL Kabul 66.65 10 P **P** **10 37 11.9 -0.3**
KBL Kabul 66.65 10 P **P** **10 37 11.9 -0.3**
KBL pmax pmax
comp=Z,155nm,2.0s
LCRK Leigh Creek 66.90 112 P **P** **10 37 14.5 +0.6**
ARPS Mount Arapiles 67.14 120 P **P** **10 37 16.0 +0.7**

LUWI Luwuk 67.87 77 P **P** **10 37 21.3 +1.1**
MMAI Mount Meron Ar 67.89 339 P **P** **10 37 20.2 +0.2**
comp=Z,3.4nm,0.6s,baz=149,slow=12,SNR=8.9
MMAI LR LR 11 05 01.4
comp=Z,588nm,18.1s,baz=110,slow=34
comp=Z,3.4nm,0.6s
WRA Warramunga Arr 68.25 101 P **P** **10 37 22.7 +0.1**
WRA Warramunga Arr 68.25 101 P **P** **10 37 22.5 -0.1**
comp=Z,28nm,0.9s,baz=242,slow=5.4,SNR=95
WRA LR LR 11 03 25.9
comp=Z,742nm,20.2s,baz=292,slow=33
WRA PKPPKP **P'P'df** **11 05 39.3 -4.5**
comp=Z,1.2nm,1.1s,baz=57,slow=3.4,SNR=5.9
comp=Z,28nm,0.9s
WRA Warramunga Arr 68.25 101 P **P** **10 37 22.7 +0.1**
WRA pmax pmax
comp=Z,9.0nm,1.7s
WB2 Warramunga Arr 68.25 101 P **P** **10 37 22.2 -0.4**
WB2 IAmb IAmb 10 37 23.8
comp=Z,60nm,1.1s
TNCH TengChong 68.26 39 P **P** **10 37 24.2 +1.6**
TNCH pP pwP 10 37 28.6 +0.3
TNCH sP pP 10 37 30.8 +8.5
TNCH S **S** **10 46 26.6 +2.5**
TNCH pmax pmax
comp=Z,35nm,1.3s
TNCH pmax pmax
comp=Z,310nm,4.4s
TNCH LR LR
comp=Z,650nm,18.9s
TNCH LR LR
comp=Z,370nm,18.1s
TNCH LR LR
comp=Z,1μm,21.4s
WRAB Tennant Creek 68.26 101 P **P** **10 37 22.7 +0.1**
WRAB IAmb IAmb 10 37 23.8
comp=Z,54nm,1.1s
WRAB Tennant Creek 68.26 101 P **P** **10 37 22.7 +0.1**
WRAB pmax pmax
comp=Z,54nm,1.1s
WB0 Warramunga Arr 68.37 100 P **P** **10 37 23.3 -0.1**
WB0 IAmb IAmb 10 37 24.4
comp=Z,55nm,1.1s
WR0 Warramunga Arr 68.41 101 IAmb IAmb 10 37 26.0
comp=Z,27nm,0.8s
SLVN Son La 68.48 46 P **P** **10 37 24.0 +0.1**
SLVN IAmb IAmb 10 37 34.4
comp=Z,27nm,1.0s
LSA Lhasa 68.57 30 IAMs_20 IAMs_20 11 02 43.0
comp=Z,2μm,20.0s
DRS Darwin Rock St 68.85 92 P **P** **10 37 26.8 +0.4**
STKA Stephens Creek 68.94 115 P **P** **10 37 27.4 +0.7**
STKA Stephens Creek 68.94 115 P **P** **10 37 27.2 +0.4**
STKA Stephens Creek 68.94 115 P **P** **10 37 27.1 +0.4**
comp=Z,12nm,0.9s,baz=254,slow=5.9,SNR=21
STKA LR LR 11 02 32.6
comp=Z,590nm,18.3s,baz=227,slow=32
STKA PKPPKP **P'P'df** **11 05 38.5 -5.3**
comp=Z,2.1nm,0.9s,baz=88,slow=1.1,SNR=4.2
comp=Z,12nm,0.9s
INKA Innaminka 70.04 111 P **P** **10 37 34.5 +0.9**
KDU Kakadu 70.07 93 P **P** **10 37 33.9 0.0**
TOA0 Torodi Ar. Sit 70.19 300 P **P** **10 37 34.6 +0.1**
TOA0 IAmb IAmb 10 37 43.8
comp=Z,36nm,1.2s
TORD Torodi Ar. Bea 70.19 300 P **P** **10 37 34.0 -0.6**
comp=Z,15nm,0.9s,baz=125,slow=5.2,SNR=33
comp=Z,15nm,0.9s
CSS Mathiatis 70.33 338 P **P** **10 37 35.2 +0.2**
CSS IAmb IAmb 10 37 45.8
comp=Z,76nm,1.5s
LKRN Lenkeran, Azer 70.60 352 P **P** **10 37 37.3 +0.8**
QIZ Qiongzhong 70.61 52 P **P** **10 37 37.5 +0.5**
QIZ S **S** **10 46 52.0 +0.3**
QIZ SS **SS** **10 51 27.8 +4.1**
QIZ LR LR
comp=Z,670nm,17.9s
QIZ LR LR
comp=Z,610nm,17.1s
QIZ LR LR
comp=Z,860nm,22.1s
KMI Kunming 70.68 42 ⇑P **P** **10 37 37.9 +0.3**
KMI sP pwP 10 37 46.2 +2.9
KMI pmax pmax
comp=Z,21nm,1.5s
KMI pmax pmax
comp=Z,290nm,5.4s
KMI LR LR
comp=Z,490nm,18.1s
KMI LR LR
comp=Z,890nm,16.2s
KMI LR LR
comp=Z,930nm,21.7s
SIMJ Simiganj 70.70 9 P **P** **10 37 38.0 +0.6**
SIMJ IAMs_20 IAMs_20 11 06 22.1
comp=Z,1μm,20.0s
CHGR Chuyangaron 70.72 9 P **P** **10 37 37.9 +0.5**
CHGR Chuyangaron 70.72 9 P **P** **10 37 37.9 +0.5**
CHGR pmax pmax
comp=Z,242nm,1.4s
KIC Kosan Boka 70.93 290 ⇑*i*P **P** **10 37 39.7 +0.5**
comp=Z,38nm,0.7s
LIC Lamto 71.08 290 ⇑*i*P **P** **10 37 40.6 +0.5**
comp=Z,58nm,0.9s
PZH PanZhiHua 71.19 41 P **P** **10 37 40.1 -0.4**
PZH S **S** **10 47 01.2 +2.8**
PZH pmax pmax
comp=Z,50nm,1.2s
PZH pmax pmax
comp=Z,370nm,5.9s
PZH LR LR
comp=Z,1μm,19.1s
PZH LR LR
comp=Z,1μm,19.1s
PZH LR LR
comp=Z,1μm,24.5s
DBIC Dimbokro 71.21 291 P **P** **10 37 41.2 +0.3**
DBIC IAmb IAmb 10 37 50.7
comp=Z,43nm,1.1s
DBIC Dimbokro 71.21 291 P **P** **10 37 41.4 +0.6**
comp=Z,22nm,0.9s,baz=121,slow=6.6,SNR=13
DBIC LR LR 11 05 51.1
comp=Z,971nm,21.8s,baz=120,slow=33
comp=Z,22nm,0.9s
GAR Garm 71.22 10 IAmb IAmb 10 37 49.8
comp=Z,77nm,1.5s
GAZ Gaziantep 71.29 342 IAmb IAmb 10 37 52.0
comp=Z,66nm,1.4s
TIC Toumodi 71.32 290 ⇑*i*P **P** **10 37 42.1 +0.6**
comp=Z,18nm,0.7s
NAX Nakhchivan 71.50 350 P **P** **10 37 42.9 +0.8**
DRK Karamyk 71.92 11 P **P** **10 37 45.1 +0.3**
DRK IAMs_20 IAMs_20 11 08 09.3
comp=Z,1μm,18.0s
DRK Karamyk 71.92 11 P **P** **10 37 45.1 +0.3**
DRK pmax pmax
comp=Z,70nm,0.3s
CMSA Cobar Meteorol 72.23 116 P **P** **10 37 47.4 +0.6**
BTK Batken 72.33 10 P **P** **10 37 46.8 -0.3**
BTK IAMs_20 IAMs_20 11 06 45.1
comp=Z,1μm,20.0s
BTK Batken 72.33 10 P **P** **10 37 46.8 -0.3**
BTK pmax pmax
comp=Z,211nm,2.0s
QIS Mount Isa 72.35 104 P **P** **10 37 48.4 +0.7**
SMAI San Martin Ant 72.56 199 P **P** **10 37 48.9 +0.9**
SMAI IAmb IAmb 10 38 04.7
comp=Z,54nm,1.1s
GNI Garni 72.58 349 P **P** **10 37 48.4 -0.2**
GNI Garni 72.58 349 IAMs_20 IAMs_20 11 06 27.4
comp=Z,1μm,21.0s
GNI Garni 72.58 349 LR LR 11 06 28.7
comp=Z,1μm,21.9s,baz=164,slow=33
GNI Garni 72.58 349 *ce*P **P** **10 37 49.9 +1.3**
GNI pmax pmax
comp=Z,64nm,1.6s
GNI Garni 72.58 349 P **P** **10 37 50.7 +2.1**
comp=Z,54nm,2.3s,comp=Z,1μm
KSH Kashi 72.73 14 P **P** **10 37 47.0 -2.5**
KSH sP pwP 10 37 54.8 -0.4
KSH PcP **PcP** **10 38 01.9 -4.9**
KSH pmax pmax
comp=Z,25nm,0.9s
KSH pmax pmax
comp=Z,260nm,4.0s
KSH LR LR

comp=Z,1μm,21.6s
KSH LR LR
comp=Z,920nm,17.2s
KSH LR LR
comp=Z,2μm,21.3s
GANJ Ganja 72.82 350 P **P** **10 37 51.1 +1.2**
ARPR Arapgir-MALATY 72.83 344 P **P** **10 37 50.3 +0.1**
ARPR IAMs_20 IAMs_20 11 06 08.4
comp=Z,1μm,21.0s
MNGR Mingechevir, A 72.84 351 P **P** **10 37 50.9 +0.9**
KARP Karpathos 73.00 334 P **P** **10 37 50.7 -0.4**
KARP Karpathos 73.00 334 P **P** **10 37 52.4 +1.3**
comp=Z,120nm,1.1s,comp=Z,1μm
YNG Young 73.02 120 P **P** **10 37 52.6 +1.1**
OHH Osh 73.10 12 P **P** **10 37 52.4 +0.8**
OHH pmax pmax
comp=Z,67nm,1.3s
SEKA Sheki 73.26 351 P **P** **10 37 53.1 +0.6**
QLP Quilpie 73.34 111 P **P** **10 37 54.2 +0.7**
IDI Anoyia 73.65 332 P **P** **10 37 56.1 +1.1**
IDI IAmb IAmb 10 38 06.0
comp=Z,107nm,1.6s
IDI Anoyia 73.65 332 P **P** **10 37 55.4 +0.4**
IDI Anoyia 73.65 332 LR LR 11 11 09.3
comp=Z,402nm,19.4s,baz=132,slow=36
ARSB Arslanbob 73.91 11 P **P** **10 37 56.3 -0.2**
ARSB Arslanbob 73.91 11 P **P** **10 37 56.3 -0.2**
ARSB pmax pmax
comp=Z,19nm,1.5s
PMSA Palmer Station 73.92 202 LR LR 11 04 01.4
comp=Z,772nm,21.6s,baz=148,slow=31
GYA Guiyang 73.98 44 ⇓P **P** **10 38 00.9 +3.7**
GYA S **S** **10 47 29.2 -1.2**
GYA pmax pmax
comp=Z,17nm,1.7s
GYA pmax pmax
comp=Z,560nm,8.2s
GYA LR LR
comp=Z,630nm,8.4s
GYA LR LR
comp=Z,500nm,8.8s
GYA LR LR
comp=Z,400nm,16.4s
YER Yerkesik 74.00 335 P **P** **10 37 57.3 +0.3**
TRLG Trialeti 74.04 349 P **P** **10 37 58.6 +1.4**
TAM Tamanrasset 74.06 310 P **P** **10 37 58.6 +0.8**
TAM IAMs_20 IAMs_20 11 11 03.0
comp=Z,1μm,19.0s
TAM Tamanrasset 74.06 310 P **P** **10 37 58.6 +0.8**
TAM pmax pmax
comp=Z,17nm,1.3s
TAM MLR MLR
comp=Z,1μm,19.0s
ARK Arkit 74.20 11 P **P** **10 37 58.7 +0.6**
ARK pmax pmax
comp=Z,23nm,1.8s
IUG Iuzhnay 74.27 9 *e*P **P** **10 37 58.6 +0.1**
comp=Z,54nm,1.0s,baz=8.9
IUG *e*S **S** **10 47 33.8 +0.8**
baz=8.9
IUG Iuzhnay 74.27 9 *e*P **P** **10 37 58.5 +0.1**
IUG *e*S **S** **10 47 33.7 +0.8**
IUG pmax pmax
comp=Z,54nm,1.0s
SANT Santorini 74.37 333 P **P** **10 37 58.9 -0.2**
SANT IAmb IAmb 10 38 02.2
comp=Z,77nm,1.1s
CHM Chimkent 74.38 9 *e*P **P** **10 37 59.4 +0.4**
baz=8.6
CHM Chimkent 74.38 9 *e*P **P** **10 37 59.4 +0.4**
BR131 Keskin Array S 74.65 341 P **P** **10 38 00.7 -0.1**
BR131 IAmb IAmb 10 38 02.3
comp=Z,63nm,1.7s
BR131 Keskin Array S 74.65 341 P **P** **10 38 00.7 -0.1**
BR131 pmax pmax
comp=Z,63nm,1.7s
BRTR Keskin Array B 74.65 341 P **P** **10 38 00.3 -0.5**
comp=Z,9.5nm,0.8s,baz=168,slow=7.6,SNR=39
BRTR LR LR 11 07 04.0
comp=Z,436nm,21.0s,baz=147,slow=33
comp=Z,9.5nm,0.8s
BRTR Keskin Array B 74.65 341 P **P** **10 38 00.4 -0.4**
DAV Davao City (W) 74.77 72 LR LR 11 08 20.2
comp=Z,172nm,18.4s,baz=220,slow=34
MAK Makhachkala 74.95 352 *e*P P 10 37 57.4 -4.8
MAK *e*PPP PPP 10 42 33.3
MAK *e*S **S** **10 47 34.6 -5.6**
MAK *e*SS **SS** **10 52 26.1 -3.3**
MAK *e*SSS SSS 10 55 45.0
MAK pmax pmax
comp=Z,110nm,1.0s
MAK MLR MLR
comp=Z,569nm,16.0s
UCH Uchtor 75.06 12 P **P** **10 38 04.5 +1.0**
SNR=9.8
SWI Sorong 75.08 82 P **P** **10 38 05.5 +1.7**
SWI Sorong 75.08 82 P **P** **10 38 05.1 +1.3**
SWI pmax pmax
comp=Z,71nm,0.9s
BRLS Borolday 75.11 9 *e*P **P** **10 38 01.6 -1.7**
baz=8.5
BRLS Borolday 75.11 9 *e*P **P** **10 38 01.6 -1.7**
ONI Oni 75.17 349 IAmb IAmb 10 38 14.9
comp=Z,108nm,1.9s
ONI IAMs_20 IAMs_20 11 11 60.0
comp=Z,968nm,18.0s
TARG Taragay, Kyrgy 75.24 15 IAMs_20 IAMs_20 11 08 38.2
comp=Z,1μm,20.0s
TARG Taragay, Kyrgy 75.24 15 P **P** **10 38 05.0 +0.5**
TARG pmax pmax
comp=Z,15nm,1.2s
KK31 Karatay Array 75.27 9 P **P** **10 38 04.4 +0.2**
KK31 IAmb IAmb 10 38 14.6
comp=Z,69nm,1.3s
KK31 Karatay Array 75.27 9 *i*P **P** **10 38 04.6 +0.4**
KKAR Karatay Array 75.27 9 P **P** **10 38 04.8 +0.6**
KKAR IAmb IAmb 10 38 14.6
comp=Z,68nm,1.3s
KKAR Karatay Array 75.27 9 P **P** **10 38 04.8 +0.6**
KKAR pmax pmax
comp=Z,68nm,1.3s
EKS2 Erkin-Say 75.35 12 P **P** **10 38 05.9 +1.1**
SNR=11
ULHL Ulahol 75.41 14 P **P** **10 38 05.9 +0.7**
SNR=9.2
AAK Ala-Archa 75.45 12 P **P** **10 38 06.8 +1.4**
SNR=8.5
AAK Ala-Archa 75.45 12 P **P** **10 38 06.0 +0.6**
AAK IAmb IAmb 10 38 16.3
comp=Z,64nm,1.4s
AAK Ala-Archa 75.45 12 IAMs_20 IAMs_20 11 07 38.7
comp=Z,1μm,22.0s
AAK Ala-Archa 75.45 12 P **P** **10 38 06.4 +1.0**
comp=Z,14nm,0.9s,baz=192,slow=6.4,SNR=26
AAK LR LR 11 08 03.2
comp=Z,1μm,21.9s,baz=194,slow=33
comp=Z,14nm,0.9s
AAK Ala-Archa 75.45 12 *i*P **P** **10 38 05.7 +0.3**
AAK pmax pmax
comp=Z,63nm,1.4s
KBK Karagaybulak 75.55 13 P **P** **10 38 06.5 +0.5**
SNR=7.4
BOOM Boomskoye usch 75.58 13 P **P** **10 38 06.5 +0.4**
BOOM IAmb IAmb 10 38 16.5
comp=Z,38nm,1.2s
BOOM Boomskoye usch 75.58 13 P **P** **10 38 06.6 +0.4**
BOOM pmax pmax
comp=Z,38nm,1.2s
FRU1 Bishkek 75.64 12 IAMs_20 IAMs_20 11 07 47.9
comp=Z,1μm,22.0s
GOMU GeErMu 75.72 30 P **P** **10 38 07.8 +0.5**
GOMU S **S** **10 47 48.5 -1.4**
GOMU LR LR
comp=Z,1μm,20.2s
GOMU LR LR
comp=Z,1μm,20.4s
GOMU LR LR
comp=Z,3μm,19.4s
CD2 Chengdu 75.72 39 P **P** **10 38 07.1 0.0**
CD2 pmax pmax
comp=Z,30nm,0.5s
TKM2 Tokmak 2 75.93 13 P **P** **10 38 08.3 +0.1**
SNR=14
TKM2 Tokmak 2 75.93 13 *i*P **P** **10 38 07.5 -0.7**
TKM2 pmax pmax
comp=Z,10.0nm,1.0s

DIKM Dikmen 76.01 342 ⇑P **P** **10 38 08.2 -0.1**
USP Ospenovka 76.06 12 P **P** **10 38 09.0 +0.2**
SNR=6.1
SGDS Sogindy 76.26 12 *e*P **P** **10 38 10.0 +0.1**
baz=12
SGDS Sogindy 76.26 12 *e*P **P** **10 38 10.0 +0.1**
TNSS Tian-Shan 76.31 14 *e*P **P** **10 38 10.6 0.0**
baz=14
TNSS Tian-Shan 76.31 14 *e*P **P** **10 38 10.6 0.0**
KBZ Khabaz 76.37 349 P **P** **10 38 10.2 -0.1**
comp=Z,7.0nm,1.0s,baz=201,slow=3.1,SNR=17
KBZ LR LR 11 11 50.6
comp=Z,738nm,18.3s,baz=170,slow=36
comp=Z,7.0nm,1.0s
KBZ Khabaz 76.37 349 *ce*P **P** **10 38 11.1 +0.8**
KBZ pmax pmax
comp=Z,37nm,1.5s
SHA1 Shidzhatmaz 76.42 348 *ce*P **P** **10 38 11.9 +0.9**
MDOK Medeo 76.45 14 *e*P **P** **10 38 11.3 +0.2**
baz=14
MDOK *e*S **S** **10 47 57.8 +0.5**
baz=14
MDOK LR LR 11 09 41.7
comp=Z,229nm,15.9s,baz=14
MDOK Medeo 76.45 14 *e*P **P** **10 38 11.3 +0.2**
MDOK *e*S **S** **10 47 57.7 +0.5**
MDOK MLR MLR
comp=Z,229nm,16.0s
AAA Alma-Ata 76.47 14 *e*P **P** **10 38 11.4 +0.3**
comp=Z,21nm,0.5s,baz=14
AAA Alma-Ata 76.47 14 *e*P **P** **10 38 11.3 +0.3**
AAA pmax pmax
comp=Z,21nm,0.5s
ITM Ithomi 76.49 331 P **P** **10 38 11.2 0.0**
ITM IAmb IAmb 10 38 13.2
comp=Z,24nm,0.9s
KVAR Kislovodsk Arr 76.62 348 LR LR 11 11 16.4
comp=Z,327nm,20.6s,slow=35
KIV Kislovodsk 76.62 348 P **P** **10 38 12.3 +0.3**
KIV IAmb IAmb 10 38 23.1
comp=Z,27nm,0.8s
KIV Kislovodsk 76.62 348 *e*P **P** **10 38 12.6 +0.6**
KIV *e*S **S** **10 48 00.4 +1.4**
KIV *e*SS **SS** **10 52 57.2 +2.2**
KIV pmax pmax
comp=Z,25nm,1.0s
KIV MLR MLR
comp=Z,658nm,18.0s
KIV Kislovodsk 76.62 348 P **P** **10 38 12.1 +0.1**
VSLR Vesyoloye 76.64 346 *i* P **P** **10 38 12.4 +0.5**
VSLR pmax pmax
comp=Z,54nm,1.0s
SATY Saty 76.64 15 *e*P **P** **10 38 12.3 +0.1**
comp=Z,37nm,1.1s,baz=15
SATY *e*S **S** **10 47 59.9 +0.5**
baz=15
SATY Saty 76.64 15 *e*P **P** **10 38 12.2 +0.1**
SATY *e*S **S** **10 47 59.8 +0.5**
SATY pmax pmax
comp=Z,37nm,1.1s
ZHN Zhinishke 76.75 15 *e*P **P** **10 38 12.8 +0.1**
baz=15
ZHN Zhinishke 76.75 15 *e*P **P** **10 38 12.8 +0.1**
SOC Sochi 76.82 346 *e*P **P** **10 38 08.8 -4.1**
SOC *e* 10 41 00.6
SOC *e*PPP PPP 10 42 54.8
SOC *e*S **S** **10 47 54.4 -6.5**
SOC *e*SS **SS** **10 52 51.4 -6.4**
SOC MLR MLR
comp=Z,421nm,19.0s
UZB Uzynbulak 76.86 15 *e*P **P** **10 38 13.5 +0.1**
comp=Z,30nm,0.9s,baz=15
UZB Uzynbulak 76.86 15 *e*P **P** **10 38 13.5 +0.1**
UZB pmax pmax
comp=Z,30nm,0.9s
SHLS Shalkode 76.97 16 *e*P **P** **10 38 14.8 +0.8**
comp=Z,30nm,1.1s,baz=16
SHLS Shalkode 76.97 16 *e*P **P** **10 38 14.8 +0.8**
SHLS pmax pmax
comp=Z,30nm,1.1s
EDC Edincik 77.02 337 P **P** **10 38 14.8 +0.6**
EZN Ezine 77.09 335 P **P** **10 38 15.3 +0.8**
EZN Ezine 77.09 335 P **P** **10 38 15.3 +0.8**
comp=Z,30nm,1.4s,comp=Z,777nm
KPKS Kokpek 77.09 15 *e*P **P** **10 38 14.5 -0.1**
comp=Z,31nm,1.0s,baz=15
KPKS Kokpek 77.09 15 *e*P **P** **10 38 14.5 -0.1**
KPKS pmax pmax
comp=Z,31nm,1.0s
CHKK Chushkaly 77.10 14 *e*P **P** **10 38 14.4 -0.2**
baz=14
CHKK Chushkaly 77.10 14 *e*P **P** **10 38 14.4 -0.2**
PDGK Podgornoye 77.14 16 P **P** **10 38 14.4 -0.6**
ARMA Armidale 77.26 118 P **P** **10 38 17.2 +1.0**
ARMA Armidale 77.26 118 P **P** **10 38 16.5 +0.3**
ISK Istanbul-Kandi 77.27 338 P **P** **10 38 14.7 -0.8**
ISK pmax pmax
comp=Z,38nm,0.9s
MTSU Mount Surprise 77.41 104 P **P** **10 38 18.3 +1.2**
ARXS Arharly 77.62 14 *e*P **P** **10 38 16.6 -0.9**
GOF Gofitskoye 77.64 349 *ce*P **P** **10 38 18.5 +1.0**
LABN Labinsk 77.64 347 *e*P **P** **10 38 16.6 -0.9**
LABN *e**PP **pP** **10 38 19.3 +2.1**
LABN *e*S **S** **10 48 11.0 +1.2**
LABN pmax pmax
comp=Z,30nm,0.4s
BTLS Baital 77.70 11 *e*P **P** **10 38 17.8 -0.1**
comp=Z,20nm,1.0s,baz=11
BTLS *e*S **S** **10 48 11.0 +0.5**
baz=11
BTLS Baital 77.70 11 *e*P **P** **10 38 17.8 -0.1**
BTLS *e*S **S** **10 48 11.0 +0.5**
BTLS pmax pmax
comp=Z,20nm,1.0s
AGG Agios Georgios 77.90 332 P **P** **10 38 18.9 -0.3**
AGG IAmb IAmb 10 38 20.7
comp=Z,41nm,1.1s
AGG Agios Georgios 77.90 332 P **P** **10 38 18.9 -0.3**
AGG pmax pmax
comp=Z,41nm,1.1s
CTA Charters Tower 78.05 106 LR LR 11 09 13.2
comp=Z,53nm,20.2s,baz=244,slow=33
ALN Alexandroupoli 78.14 336 P **P** **10 38 19.3 -1.1**
ALN IAmb IAmb 10 38 21.9
comp=Z,91nm,1.8s
ALN Alexandroupoli 78.14 336 P **P** **10 38 19.3 -1.1**
ALN pmax pmax
comp=Z,91nm,1.8s
ALN MLR MLR
comp=Z,500nm,21.0s
TATN Tataouine 78.25 320 IAMs_20 IAMs_20 11 13 58.3
comp=Z,1μm,19.0s
ANN Anapa 78.46 345 *e*P **P** **10 38 20.1 -2.0**
ANN *e**PP **pP** **10 38 23.5 +1.7**
ANN *e*S **S** **10 48 17.6 -1.0**
ANN pmax pmax
comp=Z,31nm,0.9s
TDK Taldygorghan 78.50 14 *e*P **P** **10 38 22.3 -0.1**
comp=Z,18nm,0.4s,baz=14
TDK LR LR 11 10 32.8
comp=Z,531nm,16.9s,baz=14
TDK Taldyqorghan 78.50 14 *e*P **P** **10 38 22.2 -0.1**
TDK pmax pmax
comp=Z,18nm,0.4s
RDO Rodhopi 78.54 335 P **P** **10 38 22.3 -0.3**
RDO IAmb IAmb 10 38 31.9
comp=Z,50nm,1.6s
ERBR Yeremizino-Bor 78.72 347 *e*P **P** **10 38 21.1 -2.4**
ERBR *e**PP **pP** **10 38 24.7 +1.5**
ERBR pmax pmax
comp=Z,21nm,0.5s
LIT Litokhoron 78.76 333 P **P** **10 38 23.8 -0.1**
LIT IAmb IAmb 10 38 25.3
comp=Z,142nm,1.8s
LIT Litokhoron 78.76 333 P **P** **10 38 23.8 -0.1**
LIT pmax pmax
comp=Z,143nm,1.8s
SIM Simferopol' 79.39 343 *e*P **P** **10 38 27.6 +0.4**
SIM pmax pmax
comp=Z,56nm,1.0s
FNA Florina 79.78 332 P **P** **10 38 29.0 -0.5**
FNA IAmb IAmb 10 38 31.2
comp=Z,82nm,1.9s
FNA Florina 79.78 332 P **P** **10 38 29.0 -0.5**
FNA pmax pmax
comp=Z,82nm,1.9s
LZH Lanzhou 79.81 36 ⇓P **P** **10 38 29.8 -0.1**
LZH sP PcP 10 38 39.1 +1.5
LZH pmax pmax
comp=Z,19nm,1.4s
LZH LR LR
comp=Z,610nm,15.1s
LZH LR LR
comp=Z,410nm,13.7s
LZH LR LR
comp=Z,600nm,16.2s
WMQ Urumqi 79.81 21 *e*P **P** **10 38 32.1 +2.5**
WMQ sP PcP 10 38 38.6 +1.3
WMQ S **S** **10 48 34.2 +0.9**
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ pmax pmax
comp=Z,350nm,3.6s
WMQ LR LR
comp=Z,980nm,20.7s
WMQ LR LR
comp=Z,740nm,21.9s
WMQ LR LR
comp=Z,1μm,20.7s
ELND Elena 79.99 336 P **P** **10 38 30.4 -0.2**
CEL Celeste 80.03 327 P **P** **10 38 31.5 +0.6**
CEL IAMs_20 IAMs_20 11 13 44.9
comp=Z,969nm,21.0s
VAE Valguarnera 80.09 326 LR LR 11 14 02.7
comp=Z,902nm,20.8s,baz=119,slow=36
TIP Timpagrande 80.38 328 ⇓P **P** **10 38 33.2 +0.4**
TIP Timpagrande 80.38 328 P **P** **10 38 33.2 +0.4**
TIP Timpagrande 80.38 328 P **P** **10 38 33.6 +0.8**
comp=Z,18nm,2.1s,comp=Z,424nm
TIRR Tirgusor 80.54 339 IAMs_20 IAMs_20 11 08 39.6
comp=Z,1μm,19.0s
GTA Gaotai 80.57 31 *e*P **P** **10 38 34.2 +0.3**
GTA sP PcP 10 38 42.5 +1.8
GTA pmax pmax
comp=Z,19nm,1.0s
GTA LR LR
comp=Z,640nm,19.5s
GTA LR LR
comp=Z,640nm,17.9s
GTA LR LR
comp=Z,930nm,20.3s
AB31 Akbulak array 80.60 1 P **P** **10 38 32.8 -0.8**
ABKAR Akbulak array 80.60 1 P **P** **10 38 33.3 -0.3**
TIR Tirane 80.87 332 IAMs_20 IAMs_20 11 13 02.8
comp=Z,1μm,22.0s
TPGR Topolog 80.89 339 ⇑P **P** **10 38 35.0 -0.3**
HARR Harsova 80.90 339 ⇑P **P** **10 38 35.3 0.0**
HARR Harsova 80.90 339 P **P** **10 38 35.3 0.0**
XAN Xi'an 80.92 41 ⇓P **P** **10 38 35.3 -0.5**
XAN pP PcP 10 38 43.2 +0.9
XAN pmax pmax
comp=Z,42nm,1.3s
MAKZ Makanchi 81.01 16 P **P** **10 38 35.4 -0.5**
MAKZ Makanchi 81.01 16 P **P** **10 38 35.4 -0.5**
MAKZ pmax pmax
comp=Z,31nm,1.1s
MK31 Makanchi Array 81.07 16 P **P** **10 38 36.0 -0.3**
MK31 IAmb IAmb 10 38 39.5
comp=Z,83nm,1.8s
MK31 Makanchi Array 81.07 16 *i* P **P** **10 38 35.5 -0.8**
MK31 pmax pmax
comp=Z,27nm,1.0s
MKAR Makanchi Array 81.07 16 P **P** **10 38 36.1 -0.1**
MKAR Makanchi Array 81.07 16 P **P** **10 38 36.0 -0.2**
comp=Z,6.2nm,0.7s,baz=213,slow=5.6,SNR=36
MKAR PKKPbc **PKKPbc** **10 57 13.8 -1.4**
comp=Z,0.3nm,0.7s,baz=29,slow=2.8,SNR=3.7
comp=Z,6.2nm,0.7s
CFR Carcaliu 81.27 339 ⇓P **P** **10 38 37.1 -0.2**
CFR Carcaliu 81.27 339 P **P** **10 38 37.0 -0.2**
KEST Kesra 81.28 322 P **P** **10 38 37.7 0.0**
KEST Kesra 81.28 322 P **P** **10 38 39.4 +1.6**
comp=Z,7.0nm,0.8s,baz=90,slow=4.6,SNR=6.6
comp=Z,7.0nm,0.8s
PUK Puka 81.44 332 P **P** **10 38 39.1 +0.7**
PUK IAmb IAmb 10 38 48.5
comp=Z,56nm,1.2s
WHN Wuhan 81.59 46 ⇑P **P** **10 38 39.8 +0.5**
WHN sP **PcP** **10 38 47.3 +2.1**
WHN pmax pmax
comp=Z,82nm,1.1s
MATE Matera 81.61 329 ⇓P **P** **10 38 39.4 +0.2**
ISR Istrita 81.72 338 ⇑P **P** **10 38 40.2 +0.4**
ISR Istrita 81.72 338 P **P** **10 38 40.1 +0.4**
NEHR Nehoiu 82.07 338 ⇓P **P** **10 38 42.1 +0.5**
BOVS Bovan 82.10 334 ⇑P **P** **10 38 41.3 -0.5**
SPBR Spulber 82.22 338 ⇑P **P** **10 38 42.1 -0.3**
MLR Muntele Rosu 82.24 338 ⇑P **P** **10 38 42.5 -0.2**
MLR Muntele Rosu 82.24 338 LR LR 11 14 17.4
comp=Z,490nm,19.6s,baz=159,slow=35
MLR Muntele Rosu 82.24 338 P **P** **10 38 42.4 -0.2**
VRI Vrincioaia 82.33 338 ⇑P **P** **10 38 43.1 +0.1**
VRI Vrincioaia 82.33 338 P **P** **10 38 43.0 +0.1**
ZSN Zaisan 82.33 18 *e*P **P** **10 38 43.3 +0.4**
comp=Z,35nm,1.2s,baz=18
ZSN Zaisan 82.33 18 *e*P **P** **10 38 43.2 +0.4**
ZSN pmax pmax
comp=Z,35nm,1.2s
PLOR Plostina 82.34 338 ⇑P **P** **10 38 43.1 0.0**
PLOR Plostina 82.34 338 P **P** **10 38 43.0 0.0**
COVR Voineasa-Covas 82.47 338 ⇑P **P** **10 38 43.0 -0.7**
VOIR 82.49 337 ⇑P **P** **10 38 43.3 -0.6**
VOIR 82.49 337 P **P** **10 38 43.2 -0.6**
ARR Arges 82.57 337 ⇑P **P** **10 38 44.0 -0.2**
MILM Milestii Mici 82.64 340 ⇓P **P** **10 38 44.1 -0.3**
MILM Milestii Mici 82.64 340 *i*/P **P** **10 38 44.0 -0.5**
comp=Z,300nm,2.2s
MILM Milestii Mici 82.64 340 *d*/P **P** **10 38 44.0 -0.5**
MILM *e* 10 38 51.0
MILM *e* 10 41 53.0
MILM pmax pmax
comp=Z,300nm,2.2s
TURR Turia 82.72 338 ⇑P **P** **10 38 44.4 -0.6**
OZUR 82.83 338 ⇑P **P** **10 38 44.7 -0.8**
DOPR Dopca 82.84 338 ⇓P **P** **10 38 44.8 -0.8**
ONER Baraj Valea Uz 82.85 338 ⇓P **P** **10 38 45.0 -0.6**
HERR Herculane 82.91 335 ⇑P **P** **10 38 45.8 -0.2**
LOT Lotru 82.93 336 ⇑P **P** **10 38 45.7 -0.5**
RPZ Rata Peaks 83.06 138 LR LR 11 07 37.0
comp=Z,2μm,20.8s,baz=219,slow=30
MDVR Moldovita 83.08 335 ⇑P **P** **10 38 46.9 0.0**
GZR Gura Zlata 83.23 336 ⇓P **P** **10 38 47.0 -0.7**
GZR Gura Zlata 83.23 336 P **P** **10 38 46.9 -0.7**
LYN LuoYang 83.30 42 *e*P **P** **10 38 49.0 +0.8**
LYN sP pwP 10 38 57.4 +3.5
LYN pmax pmax
comp=Z,19nm,0.9s
LYN pmax pmax
comp=Z,2μm,5.7s
LYN LR LR
comp=Z,1μm,23.4s
LYN LR LR
comp=Z,1μm,8.3s
LYN LR LR
comp=Z,2μm,21.4s
SURR Surduc 83.77 335 ⇑P **P** **10 38 50.5 +0.2**
VRH Novokhopyorsk 83.82 350 *e*P **P** **10 38 51.4 +1.0**
VRH pmax pmax
comp=Z,45nm,0.8s
BZS Buzias 83.83 335 ⇑P **P** **10 38 50.8 +0.1**
BZS Buzias 83.83 335 P **P** **10 38 50.7 +0.1**
SORM Soroca 83.88 340 ⇑P **P** **10 38 49.9 -1.0**
SORM Soroca 83.88 340 P **P** **10 38 49.8 -1.0**
KURBB Kurchatov Arra 83.89 13 P **P** **10 38 51.1 +0.3**
comp=Z,23nm,0.9s,baz=207,slow=5.8,SNR=86
comp=Z,23nm,0.9s
KURBB Kurchatov Arra 83.89 13 P **P** **10 38 50.4 -0.4**
INTR Introdacqua 83.95 328 P **P** **10 38 51.1 -0.3**
INTR IAmb IAmb 10 39 00.2
comp=Z,27nm,1.1s
VORD Divnogorie 83.99 348 *e*P **P** **10 38 50.1 -1.2**
VORD pmax pmax
comp=Z,20nm,1.0s
KURK Kurchatov 84.00 13 P **P** **10 38 51.6 +0.3**
KURK Kurchatov 84.00 13 *ce*P **P** **10 38 51.5 +0.2**
KURK pmax pmax
comp=Z,98nm,1.4s
SEM Semipalatinsk 84.02 14 *e*P **P** **10 38 52.0 +0.1**
comp=Z,21nm,1.0s,baz=14
SEM LR LR 11 12 40.7
comp=Z,240nm,16.3s,baz=14
SEM Semipalatinsk 84.02 14 *e*P **P** **10 38 51.9 +0.1**
SEM pmax pmax
comp=Z,21nm,1.0s
ARCR ARCALIA 84.17 337 ⇑P **P** **10 38 52.2 -0.2**
PMG Port Moresby 84.17 97 LR LR 11 13 29.1
comp=Z,349nm,19.4s,baz=232,slow=34
MARR Marisel-Cluj 84.22 337 ⇓P **P** **10 38 52.7 -0.1**
BELG Belogornoye 84.25 353 LR LR 11 18 29.6
comp=Z,594nm,18.7s,baz=157,slow=37
BELG Belogornoye 84.25 353 *i* P **P** **10 38 52.1 -0.5**
BELG pmax pmax
comp=Z,8.0nm,0.9s
VSR Storozhevoye 84.25 348 *e*P **P** **10 38 52.0 -0.7**
VSR pmax pmax
comp=Z,50nm,1.1s
BURAR Bucovina Array 84.36 338 ⇑P **P** **10 38 54.0 +0.6**
BURAR Bucovina Array 84.36 338 P **P** **10 38 53.5 0.0**
BURAR Bucovina Array 84.36 338 P **P** **10 38 53.5 0.0**
BURAR pmax pmax
comp=Z,10.0nm,0.9s
SIRR Siria 84.38 335 ⇓P **P** **10 38 53.4 0.0**
BUR08 Bucovina Ar. S 84.39 338 P **P** **10 38 53.7 +0.1**
DRGR 84.46 336 ⇑P **P** **10 38 53.4 -0.6**
DRGR 84.46 336 P **P** **10 38 53.3 -0.6**
CAMP Campotosto 84.59 328 P **P** **10 38 54.4 -0.4**
CAMP IAmb IAmb 10 39 03.7
comp=Z,30nm,1.2s
VORR Voronezh 84.69 348 *e*P **P** **10 38 55.7 +0.9**
VORR pmax pmax
comp=Z,66nm,0.5s
NRCA Norcia 84.96 328 P **P** **10 38 56.0 -0.5**
NRCA IAmb IAmb 10 39 05.5
comp=Z,28nm,1.4s
BVA0 Borovoye Array 85.02 7 *i* P **P** **10 38 56.1 -0.4**
BVAR Borovoye Array 85.02 7 P **P** **10 38 56.8 +0.3**
comp=Z,39nm,0.8s,baz=177,slow=5.3,SNR=125
BVAR LR LR 11 16 41.5
comp=Z,622nm,18.2s,baz=190,slow=36
comp=Z,39nm,0.8s
CESX Cesi 85.02 328 P **P** **10 38 57.3 +0.5**
CESX IAmb IAmb 10 39 05.8
comp=Z,74nm,1.9s
BRVK Borovoye 85.04 7 P **P** **10 38 56.6 0.0**
BRVK Borovoye 85.04 7 IAMs_20 IAMs_20 11 15 21.0
comp=Z,882nm,20.0s
BRVK Borovoye 85.04 7 *ce*P **P** **10 38 56.9 +0.3**
BRVK pmax pmax
comp=Z,93nm,1.3s
GUMA Gualdo di Mace 85.04 329 P **P** **10 38 56.8 -0.1**
GUMA IAmb IAmb 10 39 11.3
comp=Z,32nm,1.2s
GUMA IAMs_20 IAMs_20 11 20 34.7
comp=Z,453nm,21.0s
BBTS Babate 85.16 290 LR LR 11 15 10.0
comp=Z,329nm,18.6s,baz=342,slow=34
NJ2 Nanjing 85.43 48 *e*P **P** **10 38 59.3 +0.2**
NJ2 sP **pwP** **10 39 07.7 +2.9**
NJ2 pmax pmax
comp=Z,19nm,0.6s
NJ2 pmax pmax
comp=Z,1μm,4.7s
MORH Mrgy, Hungar 85.44 334 ⇑P **P** **10 38 58.7 -0.1**
LPSR Galich'ya Gora 85.63 348 *e*P **P** **10 38 57.7 -1.8**
LPSR pmax pmax
comp=Z,30nm,1.2s
KIEV Kiev 85.97 342 ⇑P **P** **10 39 00.8 -0.4**
KIEV Kiev 85.97 342 P **P** **10 39 00.5 -0.8**
KIEV IAmb IAmb 10 39 02.7
comp=Z,34nm,1.3s
KIEV Kiev 85.97 342 P **P** **10 39 00.8 -0.4**
AKASG Malin Array Be 85.97 342 P **P** **10 39 00.4 -0.8**
AKASG IAmb IAmb 10 39 03.9
comp=Z,58nm,1.8s
AKASG Malin Array Be 85.97 342 P **P** **10 39 00.2 -1.0**
comp=Z,4.7nm,0.7s,baz=172,slow=4.5,SNR=14
comp=Z,4.7nm,0.7s
AKASG Malin Array Be 85.97 342 *ce*P **P** **10 39 00.9 -0.4**
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 85.97 342 P **P** **10 39 00.6 -0.7**
AKBB IAmb IAmb 10 39 02.7
comp=Z,38nm,1.3s
AKBB Malin Array Si 85.97 342 *ce*P **P** **10 39 00.7 -0.6**
AKBB pmax pmax
comp=Z,33nm,1.3s
TUWZ Tuamarina 86.15 137 P **P** **10 39 02.4 -0.3**
BTO Baotou 86.38 37 *e*P **P** **10 39 04.3 +0.5**
BTO pP **pwP** **10 39 09.9 +0.4**
BTO sP **PcP** **10 39 12.6 +6.4**
BTO PP **PP** **10 42 31.7 +6.3**
BTO S **S** **10 49 39.9 -0.3**
BTO SS **SS** **10 55 18.7 -2.1**
BTO pmax pmax
comp=Z,49nm,0.5s
BTO pmax pmax
comp=Z,810nm,7.2s
BTO LR LR
comp=Z,880nm,15.0s
BTO LR LR
comp=Z,660nm,9.6s
BTO LR LR
comp=Z,1μm,14.7s
GBRS Gornja Briga 86.39 331 *e*P **P** **10 39 04.5 +0.9**
PSZ Piszkesteto 86.41 335 P **P** **10 39 03.1 -0.5**
PSZ Piszkesteto 86.41 335 P **P** **10 39 03.1 -0.5**
PSZ pmax pmax
comp=Z,34nm,1.7s
PSZ MLR MLR
comp=Z,300nm,20.0s
KOLS Kolonicke sedl 86.47 337 *e*P **P** **10 39 05.8 +2.0**
KOLS Kolonicke sedl 86.47 337 *e*P **P** **10 39 05.8 +2.0**
HNS HongShan 86.60 42 ⇓P **P** **10 39 04.6 -0.1**
HNS pmax pmax
comp=Z,48nm,1.0s
HNS LR LR
comp=Z,860nm,18.8s
HNS LR LR
comp=Z,550nm,18.0s
HNS LR LR
comp=Z,870nm,24.1s
VISS Visnje 86.60 331 *e*P **P** **10 39 05.6 +1.0**
PGF Pioggiola 86.64 326 *e*P **P** **10 39 05.4 +0.4**
PGF pmax pmax
comp=Z,22nm,1.2s
LVV L'vov 86.67 339 *e*P **P** **10 39 05.4 +0.6**
LVV *e*S **S** **10 49 41.4 -1.0**
LVV MLR MLR
comp=Z,300nm,17.0s
CRVS Cervenica-Dubn 86.71 337 *e*P **P** **10 39 05.9 +0.9**
CRVS pmax pmax
comp=Z,341nm,3.0s
CRVS Cervenica-Dubn 86.71 337 *e*P **P** **10 39 05.9 +0.9**
VNDS Vrh nad Dolski 86.90 331 *e*P **P** **10 39 07.1 +1.1**
SRO Srobarova 86.90 334 *e*P **P** **10 39 07.8 +1.9**
SRO Srobarova 86.90 334 *e*P **P** **10 39 07.8 +1.9**
KWP Kalwaria Pacla 86.93 338 *e*P **P** **10 39 07.4 +1.3**
KWP *e*L L 11 09 06.9
comp=Z,1μm,40.2s
MAHO Mahon 87.06 321 IAMs_20 IAMs_20 11 18 03.7
comp=Z,948nm,20.0s
MAHO Mahon 87.06 321 P **P** **10 39 08.6 +1.7**
ZCCA Zocca 87.11 328 P **P** **10 39 07.8 +0.7**
ZCCA IAmb IAmb 10 39 09.6
comp=Z,31nm,0.8s
TIA Tai'an 87.17 44 P **P** **10 39 07.5 -0.1**
TIA pmax pmax
comp=Z,11nm,1.5s
VLC Villacollemand 87.23 328 P **P** **10 39 06.9 -0.8**
SOKA Soboth 87.23 332 *i* P **P** **10 39 08.9 +1.2**
comp=Z,14nm,1.1s,SNR=11
SABO M.te Sabotino 87.26 331 IAmb IAmb 10 39 18.1
comp=Z,89nm,1.6s
SABO IAMs_20 IAMs_20 11 18 58.0
comp=Z,403nm,22.0s
VYHS Vyhne 87.28 335 *e*P **P** **10 39 08.6 +0.8**
VYHS pmax pmax
comp=Z,54nm,1.7s
VYHS Vyhne 87.28 335 *e*P **P** **10 39 08.6 +0.8**
OBKA Obir 87.29 331 *i* P **P** **10 39 08.4 +0.4**
comp=Z,20nm,0.9s,SNR=11
HHC Hu-ho-hao-te 87.36 37 ⇑*i*P **P** **10 39 09.0 +0.5**
HHC sP pwP 10 39 17.3 +3.0
HHC PP **PP** **10 42 34.0 +0.7**

HHC S **S** **10 49 46.5 -3.2**
HHC pmax pmax
comp=Z,34nm,1.4s
HHC pmax pmax
comp=Z,220nm,4.3s
HHC LR LR
comp=Z,420nm,18.6s
HHC LR LR
comp=Z,240nm,16.7s
HHC LR LR
comp=Z,410nm,19.2s
SOP Sopron 87.45 333 P **P** **10 39 10.0 +1.4**
SOP pmax pmax
comp=Z,18nm,0.8s
ARSA Arzberg 87.50 332 *i* P **P** **10 39 08.9 -0.1**
comp=Z,14nm,1.4s,SNR=6.2
NIE Niedzica 87.55 336 *e*P **P** **10 39 10.1 +1.0**
NIE *e*L L 11 09 29.4
comp=Z,484nm,40.7s
NIE Niedzica 87.55 336 P **P** **10 39 09.8 +0.7**
NIE pmax pmax
comp=Z,11nm,1.7s
RONA Rosalia, Austr 87.57 333 *e*P **P** **10 39 09.1 -0.2**
comp=Z,21nm,0.9s,SNR=14
TEOL Teolo 87.59 329 P **P** **10 39 10.3 +0.9**
LANS Liptovska Anna 87.61 336 *e*P **P** **10 39 09.9 +0.5**
LANS pmax pmax
comp=Z,11nm,1.2s
LANS Liptovska Anna 87.61 336 *e*P **P** **10 39 09.9 +0.5**
CHAS Isla Isabel II 87.62 314 P **P** **10 39 10.7 +1.0**
PRED Cave del Predi 87.64 331 IAmb IAmb 10 39 17.8
comp=Z,35nm,1.6s
ZST Bratislava 87.67 334 *e*P **P** **10 39 09.7 0.0**
ZST pmax pmax
comp=Z,1μm,3.1s
ZST Bratislava 87.67 334 *e*P **P** **10 39 09.7 0.0**
ETOS Mallorca 87.75 321 P **P** **10 39 11.9 +1.6**
MODS Modra-Piesok 87.75 334 *e*P **P** **10 39 10.0 -0.1**
MODS pmax pmax
comp=Z,92nm,1.3s
MODS Modra-Piesok 87.75 334 *e*P **P** **10 39 10.0 -0.1**
MYKA Terra Mystica 87.76 331 *i* P **P** **10 39 11.0 +0.7**
comp=Z,11nm,1.2s
ARU Arti 87.77 0 P **P** **10 39 10.2 +0.2**
ARU Arti 87.77 0*ce*P **P** **10 39 10.4 +0.5**
ARU pmax pmax
comp=Z,89nm,1.7s
SMOL Smolenice 87.81 334 *e*P **P** **10 39 11.1 +0.8**
STAL STALIGIAL 87.85 330 P **P** **10 39 10.5 -0.2**
CONA Conrad Observa 87.92 333 *i* P **P** **10 39 10.8 -0.2**
comp=Z,35nm,1.4s,SNR=26
TIO Tiouine 87.95 308 P **P** **10 39 11.0 -0.6**
JAVC Velka Javorina 88.01 335 *e*P **P** **10 39 11.3 -0.1**
EMLI Melilla 88.01 314 P **P** **10 39 12.9 +1.3**
EIBI Ibiza 88.04 319 P **P** **10 39 13.2 +1.5**
SVE Sverdlovsk 88.19 1 *e*P **P** **10 39 13.2 +1.3**
SVE pmax pmax
comp=Z,74nm,1.7s
IFR Ifrane 88.20 312 P **P** **10 39 14.3 +1.5**
KBA Koelnbreinsper 88.24 331 *i* P **P** **10 39 13.9 +1.3**
comp=Z,26nm,1.4s,SNR=15
KBA Koelnbreinsper 88.24 331 P **P** **10 39 12.9 +0.2**
KBA pmax pmax
comp=Z,31nm,2.2s
ABTA Abfaltersbach 88.32 330 *i* P **P** **10 39 13.4 +0.4**
comp=Z,35nm,1.1s,SNR=20
ZAA0 Zalesovo Array 88.33 15 P **P** **10 39 11.6 -1.1**
ZAA0 IAmb IAmb 10 39 21.6
comp=Z,28nm,1.1s
ZALV Zalesovo Beam 88.33 15 P **P** **10 39 11.7 -0.9**
ZALV Zalesovo Beam 88.33 15 P **P** **10 39 11.4 -1.2**
comp=Z,9.5nm,0.8s,baz=205,slow=3.8,SNR=29
comp=Z,9.5nm,0.8s
CART Cartagena 88.38 317 P **P** **10 39 12.2 -1.1**
CART IAMs_20 IAMs_20 11 17 23.9
comp=Z,1μm,21.0s
CART Cartagena 88.38 317 P **P** **10 39 13.9 +0.6**
SBF Sospel 88.38 326 *e*P **P** **10 39 13.3 0.0**
SBF pmax pmax
comp=Z,16nm,0.8s
OJC Ojcow 88.40 336 *e*P **P** **10 39 12.3 -0.8**
OJC *e*L L 11 09 45.6
comp=Z,1μm,45.4s
OJC Ojcow 88.40 336 P **P** **10 39 12.8 -0.3**
OJC Ojcow 88.40 336 P **P** **10 39 12.8 -0.3**
OJC pmax pmax
comp=Z,105nm,1.8s
OBN Obninsk 88.45 348 *e*P **P** **10 39 13.7 +0.6**
OBN *e* 10 42 41.5
OBN *e*PPP PPP 10 44 37.3
OBN *e*S **SKSac** **10 49 42.1 -0.3**
OBN pmax pmax
comp=Z,121nm,1.7s
OBN MLR MLR
comp=Z,596nm,19.0s
EALB Alboran 88.49 315 P **P** **10 39 14.3 +0.5**
MOA Molln 88.49 332 *e*P **P** **10 39 13.6 0.0**
comp=Z,27nm,1.0s,SNR=15
BIOA Bad Ischl, Aus 88.61 332 *i* P **P** **10 39 14.2 0.0**
comp=Z,32nm,1.5s,SNR=8.6
KRUC Moravsky 88.65 334 *e*P **P** **10 39 13.1 -1.2**
KRUC *e* 10 39 22.3
KRUC Moravsky 88.65 334 P **P** **10 39 13.7 -0.6**
KRUC pmax pmax
comp=Z,35nm,1.1s
ENIJ Nijar 88.68 316 P **P** **10 39 16.4 +1.6**
EMUR La Murta 88.69 317 P **P** **10 39 15.8 +1.0**
PVLZ Peæn de 88.76 313 P **P** **10 39 15.8 +0.7**
VRAC Vranov 88.78 334 ⇓P **P** **10 39 15.5 +0.5**
VRAC Vranov 88.78 334 *e*P **P** **10 39 14.4 -0.5**
VRAC *e* 10 39 23.4
VRAC Vranov 88.78 334 P **P** **10 39 15.4 +0.5**
LESA Schwarzleotal 88.79 331 *i* P **P** **10 39 14.8 -0.4**
comp=Z,21nm,0.8s
MORC Moravsky Berou 88.82 335 ⇑P **P** **10 39 15.1 -0.1**
MORC Moravsky Berou 88.82 335 P **P** **10 39 15.0 -0.1**
MORC IAmb IAmb 10 39 16.9
comp=Z,20nm,1.1s
MORC Moravsky Berou 88.82 335 *e*P **P** **10 39 14.6 -0.5**
MORC *e* 10 39 23.6
MORC Moravsky Berou 88.82 335 P **P** **10 39 15.1 -0.1**
TLOR Lorca, Murcia 88.83 317 P **P** **10 39 16.7 +1.2**
MOS Moscow 88.86 348 *e*P **P** **10 39 15.2 +0.1**
MOS pmax pmax
comp=Z,90nm,1.6s
RJOB Jochberg 88.99 331 *e*P 10 39 15.9
comp=Z,10nm,0.8s,baz=141,slow=4.6
EBER Berja 89.03 315 P **P** **10 39 19.0 +2.3**
WTTA Wattenberg 89.10 330 *i* P **P** **10 39 16.8 +0.1**
comp=Z,32nm,0.9s
WTTA Wattenberg 89.10 330 P **P** **10 39 16.8 +0.1**
WTTA pmax pmax
comp=Z,44nm,1.1s
WATA Walderalm 89.18 330 *i* P **P** **10 39 16.8 -0.2**
comp=Z,19nm,1.1s,SNR=9.0
BJT Baijiatuau 89.24 41 IAMs_20 IAMs_20 11 15 39.6
comp=Z,815nm,21.0s
SQTA Sankt Quirin 89.25 330 *i* P **P** **10 39 17.7 +0.4**
comp=Z,29nm,0.7s,SNR=18
CKRC Cesky Krumlov 89.25 333 *e*SKS **SKSac** **10 49 42.5 -5.2**
CKRC AMS AMS 11 15 30.0
comp=Z,500nm,26.0s
FETA Feichten 89.30 330 *i* P **P** **10 39 17.7 +0.1**
comp=Z,20nm,0.8s,SNR=20
KRLC Kraliky 89.34 335 *e*P **P** **10 39 17.4 -0.2**
KRLC Kraliky 89.34 335 *e*P **P** **10 39 17.4 -0.2**
MBDF Montbardon 89.34 326 *e*P **P** **10 39 18.4 +0.5**
MBDF pmax pmax
comp=Z,25nm,0.9s
ELGU Los Guajares, 89.46 315 P **P** **10 39 18.0 -0.5**
TUE Stuetta 89.48 329 P **P** **10 39 18.5 -0.1**
TUE IAmb IAmb 10 39 20.4
comp=Z,20nm,0.8s
GEC2 GERESS Array S 89.51 332 *e*P 10 39 18.1
comp=Z,5.2nm,0.9s,baz=141,slow=4.6
GEC2 GERESS Array S 89.51 332 P **P** **10 39 17.9 -0.6**
GEC2 IAmb IAmb 10 39 27.3
comp=Z,33nm,1.5s
GERES GERESS Array B 89.51 332 P **P** **10 39 17.8 -0.6**
GERES GERESS Array B 89.51 332 P **P** **10 39 17.6 -0.9**
comp=Z,3.6nm,0.7s,baz=144,slow=5.0,SNR=14
comp=Z,3.6nm,0.7s
GERES GERESS Array B 89.51 332 P **P** **10 39 17.8 -0.6**
AVE Averroes 89.54 310 IAMs_20 IAMs_20 11 18 43.0
comp=Z,762nm,20.0s

AVE Averroes 89.54 310 P **P** **10 39 20.2 +1.4**
EQTA Presa de Quent 89.57 315 P **P** **10 39 20.2 +1.2**
EJON La Jonquera 89.62 322 P **P** **10 39 19.7 +0.6**
BNI Bardonecchia 89.63 326 P **P** **10 39 18.4 -0.8**
BNI Bardonecchia 89.63 326 P **P** **10 39 18.4 -0.8**
BNI pmax pmax
comp=Z,17nm,1.2s
BNI MLR MLR
comp=Z,500nm,19.0s
RETA Reutte 89.65 330 *i* P **P** **10 39 19.3 +0.2**
comp=Z,17nm,0.9s,SNR=12
ECHE Chera 89.72 318 P **P** **10 39 21.4 +1.7**
DPC Dobruska-Polom 89.74 335 *e*P **P** **10 39 19.5 +0.1**
DPC AMS AMS 11 14 40.0
comp=Z,500nm,25.5s
DPC Dobruska-Polom 89.74 335 *e*P **P** **10 39 19.5 +0.1**
DPC MLR MLR
comp=Z,500nm,25.5s
MNK Minsk 89.76 343 *i* P **P** **10 39 18.7 -0.7**
MNK *i* 10 42 52.0
MNK *i* PPP PPP 10 44 48.7
MNK *i* S **SKSac** **10 49 49.0 -1.3**
MNK *i* SS **SS** **10 56 11.2 +1.9**
MNK *i* SSS SSS 10 59 48.4
MNK pmax pmax
comp=Z,35nm,0.9s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK MLR MLR
comp=E,112nm,16.0s
MNK MLR MLR
comp=N,197nm,18.0s
MNK MLR MLR
comp=Z,373nm,18.0s
KHC Kasperske Hory 89.79 332 P **P** **10 39 18.4 -1.3**
KHC IAmb IAmb 10 39 28.6
comp=Z,31nm,1.5s
KHC Kasperske Hory 89.79 332 *e*P **P** **10 39 19.0 -0.7**
KHC *e*SKS **SKSac** **10 49 49.8 -1.0**
KHC AMS AMS 11 17 40.0
comp=Z,400nm,24.1s
KHC Kasperske Hory 89.79 332*ce*P **P** **10 39 19.1 -0.7**
KHC pmax pmax
comp=Z,51nm,1.7s
ZVC Zvikov 89.80 333 AMS AMS 11 18 30.0
comp=Z,400nm,21.4s
DAVA Damuels 89.87 329 *i* P **P** **10 39 20.2 -0.1**
comp=Z,18nm,0.8s,SNR=7.9
EMAL Malaga-Limoner 89.87 314 P **P** **10 39 21.0 +0.6**
ORIF Oris-en-Rattie 89.91 326 *e*P **P** **10 39 20.7 +0.2**
ORIF pmax pmax
comp=Z,6.0nm,0.8s
LPG La Plagne 89.93 327 *e*P **P** **10 39 20.3 -0.5**
LPG pmax pmax
comp=Z,11nm,1.0s
OSTC Ostas 89.94 335 *e*P **P** **10 39 20.8 +0.4**
OSTC AMS AMS 11 17 30.0
comp=Z,500nm,23.2s
OSTC Ostas 89.94 335 *e*P **P** **10 39 20.8 +0.4**
OSTC MLR MLR
comp=Z,500nm,23.2s
LPL La Plagne 89.95 327 *e*P **P** **10 39 20.8 0.0**
LPL pmax pmax
comp=Z,3.0nm,0.3s
GOPC GO Pecny, Ondr 89.95 334 AMS AMS 11 15 30.0
comp=Z,600nm,26.9s
FUR Furstenfeldbru 89.96 331 *e*P 10 39 21.3
comp=Z,44nm,0.8s,baz=141,slow=4.6
FUR Furstenfeldbru 89.96 331 P **P** **10 39 21.5 +1.0**
FUR pmax pmax
comp=Z,124nm,1.3s
UBR Ueberruh 90.07 330 *e*P 10 39 21.7
comp=Z,28nm,0.9s,baz=141,slow=4.6
WET Wettzell 90.08 332 *e*P 10 39 20.6
comp=Z,7.4nm,1.0s,baz=141,slow=4.6
WET Wettzell 90.08 332 P **P** **10 39 20.8 -0.2**
WET pmax pmax
comp=Z,17nm,1.5s
PRU Pruhonice 90.11 333 AMS AMS 11 15 20.0
comp=Z,700nm,31.6s
PRU Pruhonice 90.11 333 P **P** **10 39 21.0 -0.1**
PRU pmax pmax
comp=Z,16nm,1.7s
KSP Ksiaz 90.15 335 *e*P **P** **10 39 22.6 +1.3**
KSP *e*L L 11 17 35.4
comp=Z,534nm,23.7s
KSP Ksiaz 90.15 335 P **P** **10 39 22.1 +0.8**
KSP pmax pmax
comp=Z,21nm,1.7s
SONM Songino Array 90.16 30 P **P** **10 39 21.0 -0.6**
SONM IAmb IAmb 10 39 31.0
comp=Z,27nm,1.2s
SONM Songino Array 90.16 30 P **P** **10 39 21.3 -0.3**
comp=Z,5.9nm,0.8s,baz=211,slow=4.9,SNR=22
comp=Z,5.9nm,0.8s
PRA Prague 90.21 333 AMS AMS 11 15 20.0
comp=Z,600nm,24.9s
KIRV Kirov 90.24 355 LR LR 11 21 53.9
comp=Z,656nm,18.0s,baz=177,slow=37
KIRV Kirov 90.24 355*ce*P **P** **10 39 21.6 +0.1**
VIVF Saint-Julien-l 90.45 325 *e*P **P** **10 39 23.6 +0.7**
VIVF pmax pmax
comp=Z,23nm,1.3s
ULN Ulaanbaatar 90.47 30 P **P** **10 39 22.7 -0.3**
ULN IAmb IAmb 10 39 32.2
comp=Z,23nm,1.1s
ULN Ulaanbaatar 90.47 30 IAMs_20 IAMs_20 11 17 19.7
comp=Z,929nm,19.0s
ULN Ulaanbaatar 90.47 30*ce*P **P** **10 39 22.5 -0.6**
ULN pmax pmax
comp=Z,21nm,1.7s
PVCC Panska Ves 90.53 334 AMS AMS 11 21 30.0
comp=Z,300nm,18.8s
PVCC Panska Ves 90.53 334 P **P** **10 39 23.7 +0.6**
PVCC pmax pmax
comp=Z,27nm,1.2s
RCBR Riachuelo 90.53 263 LR LR 11 12 38.5
comp=Z,334nm,20.7s,baz=138,slow=31
LIJA Lijar 90.56 314 P **P** **10 39 25.2 +1.5**
CEST Esterri de Car 90.58 322 P **P** **10 39 23.5 -0.2**
CEST IAmb IAmb 10 39 41.0
comp=Z,63nm,1.5s
CEST IAMs_20 IAMs_20 11 19 04.7
comp=Z,885nm,21.0s
MTLF Montolieu 90.60 323 *e*P **P** **10 39 24.1 +0.5**
MTLF pmax pmax
comp=Z,36nm,1.2s
SUW Suwalki 90.60 340 *e*P **P** **10 39 21.8 -1.5**
SUW *e*L L 11 13 49.2
comp=Z,453nm,29.1s
SUW Suwalki 90.60 340 P **P** **10 39 23.4 +0.1**
SUW Suwalki 90.60 340 P **P** **10 39 23.4 +0.1**
SUW pmax pmax
comp=Z,45nm,0.8s
SUW MLR MLR
comp=Z,400nm,20.0s
SSB Saint Sauveur 90.82 325 P **P** **10 39 26.7 +2.1**
SSB pmax pmax
comp=Z,10.0nm,2.8s
ROTZ Rotzenmuhle 90.84 332 *e*P 10 39 24.1
comp=Z,1.4nm,1.1s,baz=141,slow=4.6
SLE Schleitheim 90.84 329 P **P** **10 39 24.9 +0.3**
SLE pmax pmax
comp=Z,35nm,1.3s
ZAK Zakamensk 90.90 27 *e*P **P** **10 39 24.0 -0.9**
ZAK pmax pmax
comp=Z,10.0nm,1.6s
HSKC Hora Svate Kat 91.03 333 AMS AMS 11 25 40.0
comp=Z,400nm,16.6s
BRG Berggiesshubel 91.05 334 *e*P 10 39 25.6
comp=Z,7.4nm,1.0s,baz=141,slow=4.6
BRG Berggiesshubel 91.05 334 *e*P **P** **10 39 25.7 +0.3**
BRG Amp 10 39 28.0
comp=Z,33nm,1.5s
BRG Berggiesshubel 91.05 334 P P 10 39 35.1 +10
BRG Amp 10 39 36.2
comp=Z,28nm,1.4s
BRG Berggiesshubel 91.05 334 S S 10 50 33.0 +9.5
BRG Berggiesshubel 91.05 334 SS SS 10 56 33.0 +5.0
BRG Amp 11 16 22.0
comp=E,0.2nm,23.7s
BRG Amp 11 16 29.0
comp=Z,0.5nm,24.3s
BRG Amp 11 16 38.0
comp=N,0.3nm,16.7s
BRG Berggiesshubel 91.05 334 *e*P **P** **10 39 25.7 +0.3**

BRG SS SS 10 56 33.0 +5.0
BRG pmax pmax
comp=Z,33nm,1.5s
MANZ Manzenberg 91.05 332 *e*P 10 39 26.0
comp=Z,1.4nm,0.9s,baz=141,slow=4.6
TRQA Tornquist 91.05 223 P **P** **10 39 25.6 -0.5**
TRQA IAMs_20 IAMs_20 11 11 09.9
comp=Z,1μm,21.0s
TRQA Tornquist 91.05 223 P **P** **10 39 25.6 -0.5**
TRQA pmax pmax
comp=Z,14nm,1.1s
CABF La Chapelle 91.06 327 *e*P **P** **10 39 26.0 +0.2**
CABF pmax pmax
comp=Z,28nm,1.4s
GRF Grafenberg Arr 91.17 332 *e*L 11 20 24.2
comp=Z,256nm,21.5s
STU Stuttgart 91.30 330 *e*P 10 39 27.6
comp=Z,28nm,0.7s,baz=141,slow=4.6
STU Stuttgart 91.31 330 P **P** **10 39 27.1 +0.4**
STU IAmb IAmb 10 39 36.5
comp=Z,58nm,1.5s
STU Stuttgart 91.31 330 P **P** **10 39 27.1 +0.4**
STU pmax pmax
comp=Z,58nm,1.5s
STU MLR MLR
comp=Z,500nm,20.0s
BFO Black Forest 91.34 329 *e*P 10 39 27.2
comp=Z,8.3nm,0.9s,baz=141,slow=4.6
BFO Black Forest 91.34 329 P **P** **10 39 26.7 -0.2**
BFO IAmb IAmb 10 39 29.2
comp=Z,19nm,1.1s
BFO Black Forest 91.34 329 P **P** **10 39 26.7 -0.2**
BFO pmax pmax
comp=Z,19nm,1.1s
EPF Esparros 91.36 322 *e*P **P** **10 39 27.8 +0.6**
EPF pmax pmax
comp=Z,37nm,1.7s
ESBB Sonseca Array 91.50 317 P **P** **10 39 27.0 -0.9**
ESBB IAmb IAmb 10 39 38.6
comp=Z,25nm,1.3s
ESDC Sonseca Array 91.50 317 P **P** **10 39 28.1 +0.2**
ESDC IAmb IAmb 10 39 31.0
comp=Z,25nm,1.3s
ESDC Sonseca Array 91.50 317 P **P** **10 39 28.1 +0.2**
comp=Z,11nm,1.1s,baz=124,slow=3.3,SNR=40
comp=Z,11nm,1.1s
UCM Universidad Co 91.50 318 P **P** **10 39 29.2 +1.3**
HINF Hinteralfeld 91.61 328 *e*P **P** **10 39 27.6 -0.6**
HINF pmax pmax
comp=Z,46nm,1.9s
PAB San Pablo 91.64 317 P **P** **10 39 30.0 +1.4**
PAB IAmb IAmb 10 39 31.7
comp=Z,19nm,1.2s
PAB San Pablo 91.64 317 P **P** **10 39 30.0 +1.4**
PAB pmax pmax
comp=Z,19nm,1.2s
PAB MLR MLR
comp=Z,600nm,19.0s
CLL Collm 91.75 333 *e*P **P** **10 39 30.0 +1.3**
CLL *e* 10 39 37.0
CLL *e* 10 50 00.0
CLL *e*S **S** **10 50 32.0 +2.1**
ETSF Etsaut 91.75 321 *e*P **P** **10 39 29.9 +0.8**
ETSF pmax pmax
comp=Z,18nm,1.6s
MOX Moxa 91.76 332 *e*L 11 25 20.8
comp=Z,291nm,20.6s
MOX Moxa 91.76 332 P **P** **10 39 31.1 +2.3**
MOX pmax pmax
comp=Z,11nm,1.9s
ECH Echery 91.77 329 P **P** **10 39 29.0 +0.1**
ECH Echery 91.77 329 P **P** **10 39 29.0 +0.1**
ECH pmax pmax
comp=Z,17nm,1.4s
ECH MLR MLR
comp=Z,400nm,19.0s
CAF Calviac 91.80 324 *e*P **P** **10 39 29.7 +0.6**
CAF pmax pmax
comp=Z,19nm,1.1s
CDF Champ du Feu 91.87 329 *e*P **P** **10 39 28.8 -0.7**
CDF pmax pmax
comp=Z,30nm,1.6s
XLT XiLinHaoTe 91.88 38 *e*P **P** **10 39 29.4 -0.2**
XLT sP pwP 10 39 37.2 +1.8
XLT pmax pmax
comp=Z,11nm,0.9s
HAU Haudompre 91.98 328 *e*P **P** **10 39 30.9 +1.0**
HAU pmax pmax
comp=Z,39nm,1.6s
NEUB Neuenburg 92.14 333 *e*P 10 39 30.5
comp=Z,11nm,0.9s,baz=141,slow=4.6
SMF Signal de Mont 92.15 326 *e*P **P** **10 39 30.4 -0.3**
SMF pmax pmax
comp=Z,36nm,1.7s
SJPF Ste Jean 92.26 321 *e*P **P** **10 39 33.3 +2.0**
SJPF pmax pmax
comp=Z,44nm,1.6s
PVAQ Vaqueiros 92.31 313 *e*P **P** **10 39 33.4 +1.8**
comp=Z,36nm,1.6s
PVAQ Vaqueiros 92.31 313 *e*PP **PP** **10 43 15.8 +3.2**
PVAQ *e*SKSac **SKSac** **10 50 06.8 +1.1**
PVAQ *e*SS **SS** **10 56 55.6 +8.9**
PVAQ Vaqueiros 92.31 313 *e*LR LR 11 11 05.7
comp=Z,586nm,20.0s
PBDV Barranco-do-Ve 92.34 313 *e*P **P** **10 39 33.6 +1.8**
RJF Les Rejaudoux 92.34 324 *e*P **P** **10 39 31.9 +0.3**
RJF pmax pmax
comp=Z,13nm,0.9s
AVF Avril sur Loir 92.49 326 *e*P **P** **10 39 31.9 -0.3**
AVF pmax pmax
comp=Z,16nm,1.2s
BGF Bois d'Agland 92.56 325 *e*P **P** **10 39 32.7 +0.1**
BGF pmax pmax
comp=Z,7.0nm,0.6s
JANB Januaria 92.56 251 *e*P **P** **10 39 32.9 -0.7**
LOR Lormes 92.59 326 *e*P **P** **10 39 32.7 0.0**
LOR pmax pmax
comp=Z,13nm,1.4s
PCVE Castro Verde 92.65 313 *e*P **P** **10 39 35.7 +2.5**
comp=Z,74nm,1.6s
PCVE Castro Verde 92.65 313 *e*PP **PP** **10 43 15.2 -0.1**
TCF Toulx Ste Croi 92.68 325 *e*P **P** **10 39 33.4 +0.2**
TCF pmax pmax
comp=Z,16nm,1.3s
TNS Taunus Mts 92.73 331 *e*P 10 39 33.0
comp=Z,6.5nm,1.0s,baz=141,slow=4.6
PBEJ Beja 92.79 314 *e*P **P** **10 39 35.9 +2.0**
comp=Z,37nm,1.7s
MACI Morro de la Ar 92.81 302 IAMs_20 IAMs_20 11 19 36.2
comp=Z,1μm,22.0s
MORF Marmelete 92.83 313 P **P** **10 39 35.0 +0.9**
MORF IAmb IAmb 10 39 37.4
comp=Z,31nm,1.2s
MORF IAMs_20 IAMs_20 11 21 54.9
comp=Z,720nm,20.0s
MORF Marmelete 92.83 313 *e*P **P** **10 39 35.6 +1.5**
comp=Z,28nm,1.2s
MORF Marmelete 92.83 313 *e*PP **PP** **10 43 18.7 +1.9**
MORF Marmelete 92.83 313 *e*P **P** **10 39 34.4 +0.3**
MORF IAMs_20 IAMs_20 11 22 13.3
comp=Z,913nm,21.0s
MORF Marmelete 92.83 313 P **P** **10 39 35.0 +0.9**
MORF pmax pmax
comp=Z,31nm,1.2s
MORF MLR MLR
comp=Z,700nm,20.0s
PFVI Vila Bisbo 92.83 313 IAMs_20 IAMs_20 11 22 12.0
comp=Z,824nm,21.0s
PFVI Vila Bisbo 92.83 313 *e*P **P** **10 39 34.9 +0.8**
MESJ Messejana 92.89 313 *e*P **P** **10 39 36.4 +2.1**
comp=Z,43nm,1.7s
MESJ Messejana 92.89 313 *e*P **P** **10 39 34.7 +0.4**
MESJ IAMs_20 IAMs_20 11 22 52.5
comp=Z,626nm,17.2s
MESJ Messejana 92.89 313 *e*P **P** **10 39 34.7 +0.4**
DZM Mont Dzumac 92.92 118 *e*SS SS 10 56 52.2 -2.9
comp=Z,495nm,26.6s
DZM Mont Dzumac 92.92 118 *e*LR LR 11 09 18.2
comp=Z,934nm,24.5s
DZM Mont Dzumac 92.92 118 LR LR 11 13 55.2
comp=Z,400nm,20.8s,baz=224,slow=31
PTEO Sao Teotonio 93.02 313 *e*P **P** **10 39 37.1 +2.2**
PESTR Estremoz 93.14 314 IAMs_20 IAMs_20 11 20 29.1
comp=Z,1μm,21.0s
PESTR Estremoz 93.14 314 *e*P **P** **10 39 37.4 +1.9**
comp=Z,23nm,2.1s

PESTR Estremoz 93.14 314 *e*PP **PP 10 43 20.9 +1.7**
CLZ Clausthal 93.19 333 *e*P 10 39 37.3
comp=Z,8.5nm,1.1s,baz=141,slow=4.6
EVO Evora 93.19 314 *e*P **P 10 39 37.7 +2.0**
comp=Z,37nm,1.7s
EVO Evora 93.19 314 P **P 10 39 37.1 +1.4**
FLTG Flechtingen 93.23 333 *e*P 10 39 35.7
comp=Z,7.1nm,1.0s,baz=141,slow=4.6
PNCL Nicolau / Gran 93.25 313 *e*P **P 10 39 38.4 +2.4**
comp=Z,30nm,2.2s
WLF Walferdange 93.29 329 *e*P 10 39 35.9
comp=Z,10nm,0.9s,baz=141,slow=4.6
WLF Walferdange 93.29 329 P **P 10 39 34.5 -1.4**
WLF IAmb IAmb 10 39 38.7
comp=Z,14nm,0.9s
WLF Walferdange 93.29 329 P **P 10 39 34.5 -1.4**
WLF pmax pmax
comp=Z,14nm,0.9s
WLF MLR MLR
comp=Z,400nm,21.0s
PMRV Marv??o 93.37 315 *e*P **P 10 39 38.6 +2.0**
comp=Z,19nm,1.7s
PMRV Marv??o 93.37 315 *e*SKSac **SKSac 10 50 16.1 +4.5**
PMRV *e*SS SS 10 57 13.5 +11
PMRV Marv??o 93.37 315 *e*LR LR 11 11 30.4
comp=Z,672nm,18.0s
AHRW Bad Neuenahr-A 93.54 330 *e*P 10 39 36.4
comp=Z,7.5nm,0.7s,baz=141,slow=4.6
VSU Vasula 93.61 344 *ce*P **P 10 39 37.4 +0.3**
VSU pmax pmax
comp=Z,16nm,0.7s
PMTG Montargil 93.66 314 *e*P **P 10 39 39.8 +2.0**
comp=Z,26nm,1.8s
PCBR Castelo Branco 93.68 315 *e*P **P 10 39 39.7 +1.8**
comp=Z,14nm,1.7s
PCBR Castelo Branco 93.68 315 *e*PP **PP 10 43 24.2 +0.8**
NRDL Niedersach Rie 93.79 333 *e*P 10 39 38.3
comp=Z,4.1nm,0.9s,baz=141,slow=4.6
CLF Chambon-Foret 93.89 326 IAMs_20 IAMs_20 11 22 53.0
comp=Z,640nm,19.0s
JNU Nakatsue 94.03 53 LR LR 11 19 28.7
comp=Z,236nm,20.5s,baz=238,slow=34
MEM Membach 94.05 330 *d*P **P 10 39 39.5 +0.1**
RCHB Rochefort 94.06 329 *d*P **P 10 39 41.2 +1.8**
MTE Manteigas 94.07 316 *e*P **P 10 39 41.1 +1.3**
MTE Manteigas 94.07 316 *e*SKSac **SKSac 10 50 19.9 +4.4**
MTE *e*SS **SS 10 57 20.2 +8.1**
MTE Manteigas 94.07 316 *e*LR LR 11 13 17.5
comp=Z,1µm,18.0s
GUMO Guam 94.16 77 LR LR 11 16 59.1
comp=Z,54nm,20.6s,baz=123,slow=32
GIVF Givet 94.20 329 *e*P **P 10 39 39.9 -0.1**
GIVF pmax pmax
comp=Z,18nm,1.0s
DOU Dourbes 94.30 329 *d*P **P 10 39 40.7 +0.2**
BMRD Maredsous 94.37 329 *d*P **P 10 39 42.2 +1.3**
PCAS Casmilo, Conde 94.43 315 *e*P **P 10 39 43.4 +2.0**
comp=Z,22nm,1.7s
BAIF Baives 94.44 328 *e*P **P 10 39 41.1 0.0**
BAIF pmax pmax
comp=Z,25nm,1.3s
PVIS Viseu 94.48 316 *e*P **P 10 39 43.6 +1.9**
comp=Z,14nm,2.3s
PBRG Braganca 94.48 317 *e*P **P 10 39 43.3 +1.6**
comp=Z,16nm,1.7s
SDBA SAO DESIDERIO 94.50 253 *e*P **P 10 39 41.7 -0.7**
KSAR Wonju Array Be 94.58 48 P **P 10 39 40.6 -1.5**
KSAR Wonju Array Be 94.58 48 P **P 10 39 40.6 -1.5**
KSRS Korea Array 94.61 48 P **P 10 39 41.6 -0.7**
comp=Z,2.7nm,0.8s,baz=238,slow=4.9,SNR=8.5
KSRS LR LR 11 21 00.6
comp=Z,288nm,19.9s,baz=235,slow=35
comp=Z,2.7nm,0.8s
POLO Lamas de Olo 94.83 316 *e*P **P 10 39 45.3 +2.0**
comp=Z,16nm,1.8s
HNR Honiara 94.86 104 LR LR 11 18 41.9
comp=Z,5µm,19.8s,baz=226,slow=33
BDFB Brasilia 95.19 248 LR LR 11 14 18.2
comp=Z,556nm,20.7s,baz=139,slow=30
PGAV Gavieira, Arco 95.47 317 *e*P **P 10 39 48.1 +1.8**
PGAV Gavieira, Arco 95.47 317 *e*LR LR 11 13 32.7
comp=Z,659nm,20.0s
FLN La Foliniere 95.72 325 *e*P **P 10 39 46.5 -0.5**
FLN pmax pmax
comp=Z,12nm,1.0s
CPUP Villa Florida 95.75 234 P **P 10 39 48.1 +0.1**
comp=Z,4.1nm,1.0s,baz=42,slow=3.7,SNR=3.6
comp=Z,4.1nm,1.0s
PMOZ Porto Moniz, M 95.87 305 *e*PP PP 10 43 23.3 -17
PMOZ Porto Moniz, M 95.87 305 *e*LR LR 11 12 08.0
comp=Z,929nm,22.0s
FINES FINESS Array B 96.43 345 P **P 10 39 49.0 -0.9**
comp=Z,2.8nm,0.9s,baz=130,slow=4.3,SNR=6.0
comp=Z,2.8nm,0.9s
FINES FINESS Array B 96.43 345 *i*P **P 10 39 50.2 +0.3**
FINES pmax pmax
comp=Z,3.0nm,0.9s
SMTB Santa Maria do 98.66 254 *e*P **P 10 40 00.3 -1.0**
APA Apatity 100.72 351 ||*i*P **Pdif 10 40 01.0 -8.1**
APA pmax pmax
comp=Z,3.0nm,0.8s
KEV Kevo 103.68 349 IAMs_20 IAMs_20 11 27 05.4
comp=Z,679nm,22.0s
YSS Yuzh-Sakhalins 108.94 46 *e*P **Pdif 10 40 47.6 +1.5**
YAK Yakutsk 109.44 28 IAMs_20 IAMs_20 11 30 12.3
comp=Z,676nm,18.0s
SAML Samuel 111.04 245 IAMs_20 IAMs_20 11 23 44.9
comp=Z,900nm,21.0s
MACA Manacapuru-AM 112.56 251 IAMs_20 IAMs_20 11 26 47.7
comp=Z,487nm,19.0s
KBS Kingsbay 113.53 351 IAMs_20 IAMs_20 11 30 34.2
comp=Z,564nm,21.0s
TIXI Tiksi 113.96 19 IAMs_20 IAMs_20 11 31 48.3
comp=Z,900nm,21.0s
TBI Tubuai 119.16 151 *e*SS SS 11 02 53.0 +1.9
comp=Z,2µm,29.2s
TBI Tubuai 119.16 151 *e*LR LR 11 21 26.0
comp=Z,5µm,35.8s
TBI *e*LR LR 11 21 29.4
comp=Z,1µm,29.8s
PET Petropavlovsk 120.61 44 **PKPdf 10 45 12.2 -0.5**
PET Petropavlovsk 120.61 44 PKIKP **PKPdf 10 45 12.1 -0.7**
PPT2 Papeete2 124.18 147 *e*SS SS 11 03 54.7 -0.8
comp=Z,836nm,29.0s
PPT2 Papeete2 124.18 147 *e*LR LR 11 23 43.5
comp=Z,666nm,37.5s
PPT2 *e*LR LR 11 23 53.0
comp=Z,722nm,25.2s
BILL Bilibino 125.69 26 *e*PKIKP **PKPdf 10 45 22.1 0.0**
BILL *e* 10 47 13.5
BILL *e*PPP PPP 10 49 55.5
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,332nm,19.0s
SDV Santo Domingo 127.55 256 IAMs_20 IAMs_20 11 33 58.1
comp=Z,476nm,20.0s
TULM Tulcn-Chalpat 128.35 242 IAMs_20 IAMs_20 11 36 44.5
comp=Z,510nm,19.0s
HAL Halifax 133.44 303 IAMs_20 IAMs_20 11 42 52.5
comp=Z,634nm,20.0s
RES Resolute Bay 134.93 350 IAMs_20 IAMs_20 11 49 15.8
comp=Z,355nm,19.0s
BATG Bathurst New B 135.27 307 IAMs_20 IAMs_20 11 44 57.6
comp=Z,541nm,20.0s
GGN Saint George 135.77 304 IAMs_20 IAMs_20 11 43 13.2
comp=Z,673nm,21.0s
RDOG Red Dog Mine 136.51 21 IAMs_20 IAMs_20 11 45 32.7
comp=Z,588nm,22.0s
C19K Lookout Ridge 136.83 19 IAMs_20 IAMs_20 11 48 11.0
comp=Z,438nm,19.0s
B20K Meade River 136.86 17 IAMs_20 IAMs_20 11 47 53.7
comp=Z,492nm,20.0s
D62A Allapoint, All 137.31 307 IAMs_20 IAMs_20 11 46 04.6
comp=Z,596nm,20.0s
F63A Nahmakanta, Br 137.37 305 IAMs_20 IAMs_20 11 43 55.5
comp=Z,647nm,20.0s
D19K Kuna River 137.64 19 IAMs_20 IAMs_20 11 48 37.3
comp=Z,477nm,20.0s
WVL Waterville 137.76 303 IAMs_20 IAMs_20 11 46 49.0
comp=Z,607nm,19.0s
B21K Ikpikpuk River 137.76 16 PKPdf **PKPdf 10 45 45.9 +1.0**
B21K IAMs_20 IAMs_20 11 49 47.5
comp=Z,490nm,20.0s
CHIV Chivirico 137.87 265 IAMs_20 IAMs_20 11 54 19.5
comp=Z,330nm,19.0s
G62A West of Eustis 138.38 304 IAMs_20 IAMs_20 11 45 31.3
comp=Z,574nm,20.0s
I63A Otisfield 138.42 302 IAMs_20 IAMs_20 11 43 22.5
comp=Z,475nm,21.0s
C23K Itkillik River 138.51 15 IAMs_20 IAMs_20 11 47 56.3
comp=Z,681nm,22.0s
E19K Redstone River 138.58 20 IAMs_20 IAMs_20 11 48 17.2
comp=Z,664nm,21.0s
LDAQ Lac Daran 138.75 308 IAMs_20 IAMs_20 11 44 40.5
comp=Z,613nm,21.0s
D22K Ayikyak River 138.78 16 IAMs_20 IAMs_20 11 50 18.3
comp=Z,550nm,22.0s
F19K Shaleruckik Mo 138.83 21 PKPdf **PKPdf 10 45 46.5 -0.4**
F19K IAMs_20 IAMs_20 11 49 36.9
comp=Z,397nm,20.0s
WES Weston 138.92 300 IAMs_20 IAMs_20 11 48 10.1
comp=Z,535nm,20.0s
I62A Tamworth 138.96 302 IAMs_20 IAMs_20 11 43 25.9
comp=Z,538nm,22.0s
F20K Avaraart Lake 139.29 20 IAMs_20 IAMs_20 11 49 40.9
comp=Z,634nm,21.0s
LBNH Lisbon 139.39 303 IAMs_20 IAMs_20 11 47 17.0
comp=Z,554nm,20.0s
M63A Gales Ferry 139.43 298 IAMs_20 IAMs_20 11 51 11.6
comp=Z,513nm,18.0s
D24K Happy Valley 139.44 15 IAMs_20 IAMs_20 11 48 33.8
comp=Z,423nm,20.0s
G19K Purcell Mounta 139.49 21 IAMs_20 IAMs_20 11 49 38.3
comp=Z,515nm,20.0s
E22K Anaktuvuk Pass 139.55 17 PKPdf **PKPdf 10 45 49.0 +0.7**
E22K IAMs_20 IAMs_20 11 50 18.7
comp=Z,542nm,22.0s
A36M Sachs Harbour 139.60 2 IAMs_20 IAMs_20 11 51 27.9
comp=Z,515nm,20.0s
K62A Royalston 139.60 300 IAMs_20 IAMs_20 11 45 14.1
comp=Z,470nm,20.0s
HNH Hanover 139.65 302 IAMs_20 IAMs_20 11 41 21.1
comp=Z,528nm,22.0s
TOLK Toolik Lake Re 139.69 15 PKPdf **PKPdf 10 45 49.9 +1.4**
TOLK IAMs_20 IAMs_20 11 48 57.3
comp=Z,414nm,20.0s
F21K Alatna River 139.79 19 PKPdf **PKPdf 10 45 49.2 +0.5**
F21K IAMs_20 IAMs_20 11 47 56.2
comp=Z,476nm,22.0s
J61A Chester 139.84 301 IAMs_20 IAMs_20 11 46 14.4
comp=Z,475nm,19.0s
L61B Northampton 139.93 300 IAMs_20 IAMs_20 11 47 48.8
comp=Z,406nm,20.0s
VT1 Waterbury 139.98 303 IAMs_20 IAMs_20 11 47 54.7
comp=Z,614nm,20.0s
J16K Anvik River 140.02 26 PKPdf **PKPdf 10 45 51.0 +1.8**
YLE Yale 140.09 298 IAMs_20 IAMs_20 11 48 18.9
comp=Z,571nm,19.0s
K15K Wolf Creek Mou 140.19 28 IAMs_20 IAMs_20 11 48 32.2
comp=Z,602nm,21.0s
E24K Your Creek 140.38 15 IAMs_20 IAMs_20 11 52 39.7
comp=Z,431nm,21.0s
N62A Caumsett State 140.48 297 IAMs_20 IAMs_20 11 48 03.5
comp=Z,467nm,19.0s
MNTQ Montreal, Queb 140.55 305 IAMs_20 IAMs_20 11 44 20.5
comp=Z,418nm,21.0s
PAL Palisades 140.81 297 IAMs_20 IAMs_20 11 48 22.4
comp=Z,497nm,20.0s
D27M Malcolm River 140.84 11 PKPdf **PKPdf 10 45 49.8 -0.8**
F24K Squaw Lake 140.97 16 IAMs_20 IAMs_20 11 53 51.1
comp=Z,426nm,20.0s
E25K Arctic Village 140.98 14 PKPdf **PKPdf 10 45 50.8 -0.1**
NCB Newcomb 141.05 302 IAMs_20 IAMs_20 11 46 56.0
comp=Z,570nm,20.0s
TRNY Table Rock, Ra 141.06 298 IAMs_20 IAMs_20 11 48 47.8
comp=Z,599nm,20.0s
G23K Bananza Creek 141.09 17 IAMs_20 IAMs_20 11 49 57.3
comp=Z,388nm,20.0s
H21K Melozitna Rive 141.11 20 IAMs_20 IAMs_20 11 49 21.0
comp=Z,410nm,21.0s
I20K Naaghedeneel 141.20 22 IAMs_20 IAMs_20 11 52 29.6
comp=Z,406nm,20.0s
J59A Pisco 141.26 301 IAMs_20 IAMs_20 11 49 01.9
comp=Z,565nm,20.0s
BRNJ Basking Ridge 141.30 297 IAMs_20 IAMs_20 11 53 18.4
comp=Z,546nm,20.0s
ODNJ Ogdensburg 141.34 298 IAMs_20 IAMs_20 11 48 56.4
comp=Z,525nm,19.0s
P61A Hammonton 141.43 295 IAMs_20 IAMs_20 11 40 18.0
comp=Z,586nm,22.0s
L59A Wilton 141.68 299 IAMs_20 IAMs_20 11 47 53.2
comp=Z,454nm,20.0s
J20K Nowinta River 141.73 22 IAMs_20 IAMs_20 11 51 11.5
comp=Z,469nm,22.0s
WBO Williamsburg 141.75 304 IAMs_20 IAMs_20 11 49 00.3
comp=Z,514nm,20.0s
J58A Remsen 141.84 301 IAMs_20 IAMs_20 11 49 28.1
comp=Z,505nm,20.0s
H23K Yukon River 141.89 18 IAMs_20 IAMs_20 11 51 45.6
comp=Z,541nm,22.0s
LUPA Lehigh Univers 141.91 297 IAMs_20 IAMs_20 11 52 28.5
comp=Z,386nm,19.0s
MLY Manley 142.16 20 IAMs_20 IAMs_20 11 51 33.8
comp=Z,408nm,19.0s
KSPA Keystone Colle 142.22 298 IAMs_20 IAMs_20 11 50 00.6
comp=Z,628nm,20.0s
C36M Paulatuk 142.28 1 IAMs_20 IAMs_20 11 52 58.6
comp=Z,381nm,22.0s
M17K Holitna River 142.30 27 IAMs_20 IAMs_20 11 49 26.0
comp=Z,589nm,22.0s
K20K Telida 142.31 23 IAMs_20 IAMs_20 11 51 56.8
comp=Z,521nm,21.0s
H24K Noodor Dome 142.31 17 PKPdf **PKPdf 10 45 52.4 -1.0**
FYU Fort Yukon 142.35 15 IAMs_20 IAMs_20 11 46 46.7
comp=Z,409nm,18.0s
BINY Binghamton 142.38 299 PKPdf **PKPdf 10 45 55.8 +1.6**
BINY IAMs_20 IAMs_20 11 50 45.7
comp=Z,519nm,18.0s
I23K Minto, Yukon-K 142.46 19 IAMs_20 IAMs_20 11 52 30.7
comp=Z,548nm,21.0s
MVL Millersville 142.64 296 IAMs_20 IAMs_20 11 41 07.0
comp=Z,446nm,22.0s
INK Inuvik 142.71 7 IAMs_20 IAMs_20 11 53 32.9
comp=Z,397nm,21.0s
INK Inuvik 142.71 7 PKhKP PKPpre 10 45 49.7
comp=Z,5.5nm,0.9s,baz=254,slow=1.0,SNR=10.0
K57A Scipio Center 142.76 300 IAMs_20 IAMs_20 11 48 19.6
comp=Z,561nm,20.0s
BPAW Bear Paw Mtn. 142.77 21 IAMs_20 IAMs_20 11 52 33.0
comp=Z,423nm,22.0s
G27K Doyon Strip 142.88 13 IAMs_20 IAMs_20 11 51 50.7
comp=Z,343nm,20.0s
N58A Sunbury 142.94 297 IAMs_20 IAMs_20 11 50 04.6
comp=Z,515nm,20.0s
NEA2 Nenana 142.96 19 IAMs_20 IAMs_20 11 49 28.0
comp=Z,410nm,20.0s
J56A Wolcott 142.99 301 IAMs_20 IAMs_20 11 50 02.5
comp=Z,568nm,20.0s
POKR Poker Plat Res 143.00 18 IAMs_20 IAMs_20 11 52 38.9
comp=Z,530nm,20.0s
COLA College 143.08 18 IAMs_20 IAMs_20 11 52 21.0
comp=Z,378nm,19.0s
BWN Browne 143.17 20 IAMs_20 IAMs_20 11 55 40.7
comp=Z,340nm,20.0s
M57A Sunshine Farm, 143.25 298 IAMs_20 IAMs_20 11 50 42.8
comp=Z,620nm,20.0s
WRH Wood River Hil 143.33 19 IAMs_20 IAMs_20 11 55 04.6
comp=Z,381nm,20.0s
CAMR Camarioca 143.33 267 IAMs_20 IAMs_20 11 57 15.3
comp=Z,644nm,18.0s
ILAR Eielson Array 143.42 18 PKhKP PKPpre 10 45 51.5
comp=Z,3.0nm,0.8s,baz=315,slow=3.6,SNR=22
ILAR PP **PP 10 49 06.7 0.0**
comp=Z,1.3nm,1.0s,baz=316,slow=3.8,SNR=2.9
L56A Greenwood 143.55 299 IAMs_20 IAMs_20 11 51 56.7
comp=Z,523nm,19.0s
Y60A Bolivia 143.59 286 IAMs_20 IAMs_20 11 49 13.1
comp=Z,593nm,20.0s
HDA Harding Lake 143.69 18 IAMs_20 IAMs_20 11 52 50.1
comp=Z,377nm,19.0s
J55A Hilton 143.69 301 IAMs_20 IAMs_20 11 50 42.0
comp=Z,490nm,19.0s
R58B Mineral 143.74 292 IAMs_20 IAMs_20 11 45 07.4
comp=Z,416nm,22.0s
SSPA Standing Stone 143.83 297 IAMs_20 IAMs_20 11 50 44.2
comp=Z,432nm,20.0s
RND Reindeer 143.93 20 IAMs_20 IAMs_20 11 53 26.5
comp=Z,414nm,21.0s
J25K Salcha River, 143.93 17 IAMs_20 IAMs_20 11 50 15.5
comp=Z,353nm,20.0s
CUT Chulitna 144.22 22 IAMs_20 IAMs_20 11 53 06.5
comp=Z,451nm,20.0s
J54A Appleton 144.29 301 IAMs_20 IAMs_20 11 50 59.9
comp=Z,441nm,19.0s
WVNY West Valley, N 144.32 300 IAMs_20 IAMs_20 11 49 16.8
comp=Z,596nm,22.0s
P18K Big Mountain, 144.37 29 PKPdf **PKPab 10 45 54.9 -0.3**
I28M Miner Creek 144.42 13 PKPdf **PKPab 10 45 55.4 +0.1**
J26L Joseph Creek 144.46 16 PKPdf **PKPab 10 45 55.9 +0.4**
J26L IAMs_20 IAMs_20 11 52 05.5
comp=Z,384nm,21.0s
SADO Sadowa 144.50 304 IAMs_20 IAMs_20 11 46 48.3
comp=Z,499nm,20.0s
SADO Sadowa 144.50 304 PKP **PKPab 10 45 55.6 -0.5**
comp=Z,18nm,1.0s,baz=102,slow=2.5,SNR=10
S57A Dark Hollow, R 144.58 292 IAMs_20 IAMs_20 11 50 32.7
comp=Z,467nm,20.0s
SOR Soroa 144.62 265 PKPdf **PKPab 10 45 57.6 +0.4**
SOR Soroa 144.62 265 PKIKP **PKPab 10 45 57.6 +0.4**
SUA Susitna One 144.73 24 IAMs_20 IAMs_20 11 53 33.0
comp=Z,463nm,21.0s
SUA Susitna One 144.73 24 P **PKPab 10 45 56.4 -0.2**
baz=314,SNR=52
M22K Willow 144.74 23 IAMs_20 IAMs_20 11 54 56.2
comp=Z,406nm,18.0s
M22K Willow 144.74 23 P **PKPab 10 45 56.2 -0.2**
baz=315,SNR=20
Q17K Contact Creek 144.74 31 P **PKPab 10 45 56.0 -0.7**
baz=304,SNR=5.6
EGAK Eagle 144.76 14 P **PKPab 10 45 56.1 -0.3**
baz=330,SNR=30
T57A Hurt 144.77 290 PKPdf **PKPab 10 45 57.3 0.0**
I29M Ogilvie Camp, 144.80 12 P **PKPab 10 45 56.2 -0.4**
baz=335,SNR=69
SCRK Sand Creek 144.80 17 PKPdf **PKPab 10 45 57.0 +0.2**
SCRK IAMs_20 IAMs_20 11 50 52.5
comp=Z,378nm,22.0s
SCRK Sand Creek 144.80 17 P **PKPab 10 45 56.7 0.0**
baz=326,SNR=73
Q56A Snyder Ridge, 144.81 294 PKPdf **PKPab 10 45 57.1 -0.4**
R17L Mt. Peulik Vol 144.88 32 P **PKPab 10 45 57.4 +0.3**
baz=303
WAT6 Susitna Watana 144.88 21 P **PKPab 10 45 56.8 -0.4**
baz=319,SNR=29
Q18K Katmai Hardscr 144.90 30 P **PKPab 10 45 57.3 0.0**
baz=306,SNR=7.4
O20K Slope Mountain 144.98 27 P **PKPab 10 45 57.3 -0.2**
baz=310
P19K Oil Pt 145.02 28 P **PKPab 10 45 57.8 +0.2**
baz=309
DWPF Disney Wildern 145.04 275 P **PKPbc 10 45 58.4 -0.1**
baz=106
NHSC New Hope 145.07 284 PKPbc **PKPbc 10 45 58.8 +0.3**
NHSC New Hope 145.07 284 P **PKPbc 10 45 58.1 -0.4**
baz=99
CAPN Captain Cook N 145.07 25 P PKPbc 10 45 58.0 +0.4
baz=313
GHO Glory Hole Cre 145.12 22 **PKPbc 10 45 58.2 +0.3**
PMR Palmer 145.18 23 PKPbc **PKPbc 10 45 58.0 0.0**
PMR IAMs_20 IAMs_20 11 51 11.9
comp=Z,493nm,22.0s
PMR Palmer 145.18 23 P **PKPbc 10 45 57.5 -0.4**
baz=317,SNR=29
PMR Palmer 145.18 23 PKIKP **PKPbc 10 45 58.0 0.0**
PMR MLR MLR
comp=Z,500nm,22.0s
W57A Gilead 145.19 287 **PKPbc 10 45 58.5 -0.4**
K27K Chicken 145.21 16 PKPbc **PKPdf 10 45 58.9 +0.5**
K27K IAMs_20 IAMs_20 11 53 59.3
comp=Z,362nm,20.0s
K27K Chicken 145.21 16 P **PKPbc 10 45 58.3 +0.3**
baz=329
PAX Paxson 145.24 19 P **PKPbc 10 45 58.4 +0.1**
baz=323,SNR=73
I30M Mount Dempster 145.25 11 PKPbc **PKPbc 10 45 57.9 -0.3**
I30M Mount Dempster 145.25 11 P **PKPbc 10 45 57.8 -0.5**
baz=338,SNR=167
SML Sawmill 145.28 22 IAMs_20 IAMs_20 11 54 17.5
comp=Z,344nm,19.0s
SML Sawmill 145.28 22 P **PKPbc 10 45 58.1 -0.3**
baz=318,SNR=23
Q19K Cape Douglas, 145.30 29 P **PKPbc 10 45 58.3 -0.2**
baz=308
MCWV Mont Chateau 145.33 295 PKPbc **PKPbc 10 45 58.6 -0.6**
MCWV Mont Chateau 145.33 295 P **PKPbc 10 45 59.1 0.0**
baz=90
RC01 Rabbit Creek A 145.34 24 IAMs_20 IAMs_20 11 53 29.1
comp=Z,515nm,20.0s
RC01 Rabbit Creek A 145.34 24 P **PKPbc 10 45 58.6 +0.1**
baz=315,SNR=12
ERPA Erie 145.36 299 IAMs_20 IAMs_20 11 53 46.5
comp=Z,453nm,18.0s
ERPA Erie 145.36 299 P **PKPbc 10 45 58.5 -0.7**
baz=86,SNR=8.1
M23K Glacier View 145.49 22 P **PKPbc 10 45 58.9 -0.1**
baz=319,SNR=20
KNK Knik Glacier 145.54 22 IAMs_20 IAMs_20 11 55 28.2
comp=Z,461nm,20.0s
KNK Knik Glacier 145.54 22 P **PKPdf 10 45 59.3 +0.3**
baz=317,SNR=7.4
SCM Sheep Creek Mo 145.58 21 P **PKPdf 10 45 59.3 +0.1**
baz=319,SNR=14
HOM Homer 145.63 27 P **PKPdf 10 45 59.7 +0.5**
baz=311
J29N Klondike Camp 145.64 13 P **PKPdf 10 45 59.8 +0.6**
baz=335,SNR=11
BLA Blacksburg 145.71 291 P **PKPdf 10 46 00.4 +0.2**
baz=93
M24K Tolsona, Glenn 145.72 20 P **PKPdf 10 46 00.1 +0.7**
baz=321
MENT Mentasta 145.73 18 IAMs_20 IAMs_20 11 50 45.1
comp=Z,508nm,22.0s
L26K Log Cabin Wild 145.75 17 IAMs_20 IAMs_20 11 51 19.6
comp=Z,546nm,22.0s
L26K Log Cabin Wild 145.75 17 P **PKPdf 10 46 00.1 +0.8**
baz=326,SNR=21
DAWY Dawson 145.76 14 IAMs_20 IAMs_20 12 03 39.7
comp=Z,335nm,20.0s
DAWY Dawson 145.76 14 P **PKPdf 10 45 59.8 +0.4**
baz=333,SNR=55
R18K Karluk 145.77 31 P **PKPdf 10 45 59.9 +0.4**
baz=305
O22K Cooper Landing 145.78 24 P **PKPdf 10 45 59.8 +0.4**
baz=315
HARP HAARP 145.78 19 P **PKPbc 10 46 00.6 +0.7**
baz=323,SNR=8.3
J30M Hart River 145.86 11 P **PKPdf 10 45 59.6 0.0**
baz=337,SNR=86
M53A Wl Miller and 145.91 298 IAMs_20 IAMs_20 11 52 16.2
comp=Z,564nm,20.0s
M53A Wl Miller and 145.91 298 P **PKPdf 10 46 00.4 +0.1**
baz=87,SNR=11
BRSE Bradley Lake S 145.92 26 P **PKPdf 10 46 00.6 +0.8**
baz=312
Q20K Shuyak Island 146.01 29 P **PKPdf 10 46 00.8 +1.0**
baz=309
N53A Lisbon 146.06 297 PKPdf **PKPdf 10 46 01.3 +0.7**
N53A IAMs_20 IAMs_20 11 50 55.4
comp=Z,425nm,20.0s
Q54A Coxs Mills 146.09 294 PKPdf **PKPdf 10 46 01.3 +0.7**
L27K Beaver Creek, 146.10 16 IAMs_20 IAMs_20 11 53 13.7
comp=Z,346nm,21.0s
L27K Beaver Creek, 146.10 16 P **PKPdf 10 46 01.0 +1.0**
baz=328,SNR=49
BCAR Beaver Creek A 146.10 16 PKPdf **PKPdf 10 46 00.3 +0.3**
JSC Jenkinsville 146.13 285 PKPdf **PKPdf 10 46 01.3 +0.4**
JSC Jenkinsville 146.13 285 PKP2 **PKPdf 10 46 01.3 +0.4**
SEW Seward 146.14 25 PKPdf **PKPdf 10 46 00.8 +0.8**
SEW Seward 146.14 25 P **PKPbc 10 46 01.1 +0.2**
baz=315
CHIR Chirikof Islan 146.18 34 P **PKPbc 10 46 01.4 +0.2**
baz=301
KLU Klutina 146.27 21 PKPdf **PKPbc 10 46 02.1 +0.6**
KLU Klutina 146.27 21 P **PKPbc 10 46 01.6 +0.1**
baz=321,SNR=16
KMSC Kings Mountain 146.28 287 P **PKPdf 10 46 02.1 +1.0**
baz=96
K29M Barlow Dome 146.32 13 P **PKPbc 10 46 01.7 +0.1**
baz=335,SNR=45
M26K Nabesna, AK 146.36 18 IAMs_20 IAMs_20 11 53 24.8
comp=Z,380nm,20.0s
M26K Nabesna, AK 146.36 18 P **PKPbc 10 46 01.8 0.0**
baz=326,SNR=12
O53A New Philadelph 146.37 296 IAMs_20 IAMs_20 11 57 14.6
comp=Z,451nm,19.0s
O53A New Philadelph 146.37 296 P **PKPdf 10 46 02.2 +1.1**
baz=88
GLI Glacier Island 146.38 22 P **PKPbc 10 46 01.8 +0.1**
baz=319
M52A Chesterland 146.42 299 IAMs_20 IAMs_20 11 52 59.6
comp=Z,376nm,19.0s

S54A	Dingess, Beckl	146.44	292			PKPdf	10 46 02.4	+1.0
KDAK	Kodiak Island	146.45	30	P		PKPbc	10 46 02.5	+0.5
	baz=308							
SII	Sitkinak Islan	146.46	33	P		PKPbc	10 46 02.2	0.0
	baz=304							
OHAK	Old Harbor	146.48	31	P		PKPbc	10 46 02.5	+0.4
	baz=306							
P53A	Whipple	146.52	295	PKPbc		PKPbc	10 46 02.9	0.0
N25K	Chitina, Valde	146.57	20	IAMs_20		IAMs_20	12 05 27.5	
	comp=Z,343nm,18.0s							
N25K	Chitina, Valde	146.57	20	P		PKPbc	10 46 02.9	+0.5
	baz=323,SNR=42							
M27K	Edge Creek, AK	146.68	17	IAMs_20		IAMs_20	11 54 53.3	
	comp=Z,442nm,20.0s							
M27K	Edge Creek, AK	146.68	17	P		PKPbc	10 46 02.8	0.0
	baz=328,SNR=17							
O52A	Adamsville	146.85	296	IAMs_20		IAMs_20	11 57 45.4	
	comp=Z,369nm,19.0s							
L29M	L29M	146.87	14	P		PKPbc	10 46 03.3	+0.1
	baz=334,SNR=19							
P23K	Montague Islan	146.93	24	P		PKPbc	10 46 03.6	+0.3
	baz=317							
HODGE	Hodges	146.94	285	IAMs_20		IAMs_20	11 49 02.9	
	comp=Z,517nm,20.0s							
EYAK	Cordova Ski Ar	147.06	22	P		PKPbc	10 46 03.8	+0.2
	baz=320							
BMRM	Bremner River	147.08	20	P		PKPbc	10 46 03.7	-0.1
	baz=322							
P52A	Corning	147.09	295	IAMs_20		IAMs_20	11 57 41.9	
	comp=Z,358nm,20.0s							
P52A	Corning	147.09	295	P		PKPbc	10 46 04.1	-0.3
	baz=88							
FCC	Fort Churchill	147.12	334	PKPdf		PKPdf	10 46 02.5	+0.8
FCC				IAMs_20		IAMs_20	11 52 30.6	
	comp=Z,461nm,20.0s							
FCC	Fort Churchill	147.12	334	PKP2		PKPdf	10 46 02.5	+0.8
FCC				MLR		MLR		
	comp=Z,500nm,20.0s							
MCARA	McCarthy VSAT	147.20	19	P		PKPbc	10 46 04.1	0.0
	baz=325							
VRDI	Verde Repeater	147.21	19			PKPbc	10 46 04.8	+0.4
Q52A	Bidwell	147.21	294	IAMs_20		IAMs_20	11 52 59.1	
	comp=Z,429nm,21.0s							
N51A	Ashland	147.22	297	IAMs_20		IAMs_20	11 52 37.0	
	comp=Z,560nm,19.0s							
I49A	Point Hope	147.23	303	IAMs_20		IAMs_20	11 51 12.6	
	comp=Z,441nm,20.0s							
M29M	Somme Creek	147.40	14	P		PKPbc	10 46 04.8	0.0
	baz=333,SNR=45							
154A	Montrose	147.43	282	IAMs_20		IAMs_20	11 46 22.9	
	comp=Z,488nm,20.0s							
YUK3	Moose Creek	147.53	17	P		PKPbc	10 46 05.0	-0.3
	baz=329							
M30M	Minto, Yukon	147.62	13	IAMs_20		IAMs_20	12 04 36.8	
	comp=Z,352nm,20.0s							
M30M	Minto, Yukon	147.62	13	P		PKPbc	10 46 05.3	+0.1
	baz=336,SNR=9.2							
TIGA	Tifton	147.63	280	P		PKPbc	10 46 06.0	-0.2
	baz=100							
M50A	Fremont	147.69	298	IAMs_20		IAMs_20	11 55 17.3	
	comp=Z,369nm,19.0s							
CRQE	Cirque	147.70	20	P		PKPbc	10 46 05.5	-0.1
	baz=324							
Q23K	Middleton Isla	147.71	24	P		PKPbc	10 46 05.8	+0.4
	baz=318							
ACSO	Alum Creek Sta	147.72	296	IAMs_20		IAMs_20	11 47 27.5	
	comp=Z,404nm,22.0s							
ACSO	Alum Creek Sta	147.72	296	P		PKPbc	10 46 06.3	+0.1
	baz=87							
P51A	Williamsport	147.81	295	IAMs_20		IAMs_20	12 00 22.0	
	comp=Z,334nm,18.0s							
GOGA	Godfrey	147.84	283	P		PKPbc	10 46 06.2	-0.5
	baz=97							
KAIM	Kayak Island	147.96	22	P		PKPbc	10 46 06.8	+0.6
	baz=322							
TEIG	Tepich	147.97	257			PKPdf	10 46 06.5	+2.2
TEIG	Tepich	147.97	257	PKPbc		PKPdf	10 46 06.3	+2.0
	comp=Z,66nm,0.8s,baz=58,slow=2.2,SNR=36							
CTG	Chitna Glacier	148.00	18	P		PKPbc	10 46 06.4	0.0
	baz=327							
CTGM	Chitina Glacie	148.00	18	IAMs_20		IAMs_20	11 52 31.1	
	comp=Z,423nm,22.0s							
AAM	Ann Arbor	148.06	300	IAMs_20		IAMs_20	11 52 48.7	
	comp=Z,572nm,20.0s							
AAM	Ann Arbor	148.06	300	P		PKPbc	10 46 06.6	-0.4
	baz=83							
YUK8	Steele Glacier	148.12	16	P		PKPbc	10 46 06.6	-0.3
	baz=330,SNR=8.0							
TZTN	Tazewell	148.18	289	P		PKPbc	10 46 07.3	-0.3
	baz=92							
V52A	Sevierville	148.18	288	PKPbc		PKPbc	10 46 06.6	-0.9
LOGN	Logan Glacier	148.21	18	PKPbc		PKPbc	10 46 06.7	-0.3
LOGN				IAMs_20		IAMs_20	11 53 11.6	
	comp=Z,410nm,21.0s							
TKL	Tuckaleechee C	148.31	288	PKPbc		PKPbc	10 46 08.5	+0.6
TKL	Tuckaleechee C	148.31	288	PKPbc		PKPbc	10 46 07.4	-0.5
	comp=Z,12nm,0.8s,baz=130,slow=6.5,SNR=6.8							
TKL	Tuckaleechee C	148.31	288	PKP2		PKPbc	10 46 08.5	+0.6
GLMI	Grayling	148.34	305	P		PKPbc	10 46 07.6	-0.1
	baz=78							
Y52A	Lilburn	148.39	284	IAMs_20		IAMs_20	11 49 37.3	
	comp=Z,482nm,21.0s							
M31M	Drury Creek, Y	148.39	11	PKPbc		PKPbc	10 46 06.9	-0.4
M31M				IAMs_20		IAMs_20	11 56 53.3	
	comp=Z,330nm,20.0s							
M31M	Drury Creek, Y	148.39	11	P		PKPbc	10 46 06.3	-1.0
	baz=339,SNR=8.2							
W52A	Murphy	148.40	287	PKPbc		PKPbc	10 46 07.5	-0.7
WRGLY	Wrigley	148.43	2	IAMs_20		IAMs_20	11 57 20.2	
	comp=Z,401nm,21.0s							
WRGLY	Wrigley	148.43	2	P		PKPbc	10 46 07.0	-0.3
	baz=357							
O28M	Mount Upton	148.46	17	P		PKPbc	10 46 07.7	-0.2
	baz=329							
MESA	MESA	148.49	19	P		PKPbc	10 46 07.8	-0.1
	baz=326							
FARO	Faro, Yukon	148.54	10	P		PKPbc	10 46 06.8	-0.9
	baz=341							
N30M	Aishikik Lake	148.57	14	P		PKPbc	10 46 07.9	0.0
	baz=334,SNR=9.9							
N49A	Columbus Grove	148.59	298	IAMs_20		IAMs_20	11 54 18.2	
	comp=Z,404nm,20.0s							
L48A	N Adams	148.67	300	PKPbc		PKPbc	10 46 08.1	-0.6
YUK6	Outpost Mounta	148.75	16	P		PKPbc	10 46 08.1	-0.5
	baz=332							
O49A	Covington	148.76	296	IAMs_20		IAMs_20	11 53 17.9	
	comp=Z,408nm,21.0s							
J47A	Sunmer	148.78	302	IAMs_20		IAMs_20	11 52 07.5	
	comp=Z,549nm,21.0s							
152A	Waverly Hall	148.78	282	IAMs_20		IAMs_20	11 46 07.8	
	comp=Z,528nm,22.0s							
N31M	Braeburn, Yuko	148.81	13	IAMs_20		IAMs_20	11 57 31.3	
	comp=Z,363nm,22.0s							
N31M	Braeburn, Yuko	148.81	13	P		PKPbc	10 46 07.6	-0.8
	baz=336,SNR=22							
R50A	Paris	148.83	293	IAMs_20		IAMs_20	11 53 16.2	
	comp=Z,456nm,19.0s							
YKA	Yellowknife Ar	148.85	354	PKPbc		PKPbc	10 46 07.8	-0.6
	comp=Z,30nm,0.8s,baz=3.1,slow=2.6,SNR=76							
PINM	Pinnacle	149.03	18	P		PKPbc	10 46 08.5	-0.5
	baz=328							
HYT	Haines Junctio	149.05	15	P		PKPbc	10 46 08.6	-0.6
	baz=333,SNR=22							
P49A	Miami Univ. Ec	149.09	295	IAMs_20		IAMs_20	11 53 24.8	
	comp=Z,445nm,21.0s							
P49A	Miami Univ. Ec	149.09	295	P		PKPbc	10 46 08.5	-1.2
	baz=87							
T50A	Nancy	149.23	290	IAMs_20		IAMs_20	11 50 47.1	
	comp=Z,448nm,21.0s							
O29M	Mount Kennedy	149.27	16	IAMs_20		IAMs_20	11 56 19.6	
	comp=Z,513nm,19.0s							
O29M	Mount Kennedy	149.27	16	P		PKPbc	10 46 08.9	-0.8
	baz=331							
O48B	Farmland	149.38	297	IAMs_20		IAMs_20	11 59 16.3	
	comp=Z,384nm,19.0s							
O48B	Farmland	149.38	297	P		PKPbc	10 46 09.6	-0.9
	baz=85,SNR=7.5							
O30N	Mendenhall	149.40	14	IAMs_20		IAMs_20	11 57 00.1	
	comp=Z,347nm,20.0s							
O30N	Mendenhall	149.40	14	P		PKPbc	10 46 09.1	-0.8
	baz=335,SNR=14							
E43A	Lone Tree Farm	149.59	309	IAMs_20		IAMs_20	11 56 04.1	
	comp=Z,443nm,18.0s							
N32M	Quiet Lake	149.60	11	IAMs_20		IAMs_20	11 59 39.1	
	comp=Z,417nm,21.0s							
N32M	Quiet Lake	149.60	11	P		PKPbc	10 46 09.4	-1.0
	baz=341							
PNL	Peninsula	149.62	18	P		PKPbc	10 46 10.0	-0.5
	baz=329							
I45A	Fountain	149.64	304	IAMs_20		IAMs_20	11 50 50.1	
	comp=Z,609nm,22.0s							
FPAL	Fort Paine	149.73	285	IAMs_20		IAMs_20	11 50 59.8	
	comp=Z,569nm,21.0s							
N47A	Urbana	149.73	298	IAMs_20		IAMs_20	11 51 19.4	
	comp=Z,426nm,20.0s							
TGTN	Hyland Airport	149.85	6	P		PKPbc	10 46 10.6	-0.4
	baz=349							
250A	Grady	149.97	280	IAMs_20		IAMs_20	11 51 11.5	
	comp=Z,386nm,22.0s							
P29M	Windy Craggy	150.06	16	P		PKPbc	10 46 11.4	-0.2
	baz=332							
Y49A	Blount Mountai	150.33	284	IAMs_20		IAMs_20	11 57 54.7	
	comp=Z,538nm,20.0s							
WCI	Wyandotte Cave	150.38	293	PKPdf		PKPdf	10 46 07.9	+0.2
WCI	Wyandotte Cave	150.38	293	IAMs_20		IAMs_20	11 53 35.2	
	comp=Z,433nm,18.0s							
WCI	Wyandotte Cave	150.38	293	P		PKPbc	10 46 11.6	-1.3
	baz=88							
WCI	Wyandotte Cave	150.38	293	PKIKP		PKPdf	10 46 07.9	+0.2
BRAL	Brewton	150.50	278	P		PKPbc	10 46 12.6	-0.9
	baz=100							
BLO	Bloomington	150.51	295	IAMs_20		IAMs_20	11 48 13.5	
	comp=Z,406nm,20.0s							
F42A	Maple Grove Fa	150.52	308	PKPdf		PKPdf	10 46 06.6	-1.1
F42A				PKPbc		pPKPbc	10 46 13.2	+0.4
F42A						PKPab	10 46 21.1	+1.4
P33M	Teslin, Yukon	150.53	11	PKPdf		PKPdf	10 46 07.0	-0.3
P33M						pPKPbc	10 46 12.4	0.0
P33M						PKPab	10 46 21.0	+1.6
P33M	Teslin, Yukon	150.53	11	P		PKPbc	10 46 12.2	-0.5
	baz=340							
PLBC	Pleasant Camp	150.54	15	P		PKPbc	10 46 12.6	-0.1
	baz=334							
LRAL	Lakeview Retre	150.73	282	IAMs_20		IAMs_20	11 47 18.4	
	comp=Z,441nm,21.0s							
LRAL	Lakeview Retre	150.73	282	P		PKPbc	10 46 14.3	+0.3
	baz=97							
SKAG	Skagway	150.76	14			PKPbc	10 46 13.8	+0.7
SKAG				PKPab		PKPab	10 46 21.5	+1.3
SKAG				IAMs_20		IAMs_20	11 55 39.9	
	comp=Z,348nm,21.0s							
SKAG	Skagway	150.76	14	P		PKPbc	10 46 13.1	0.0
	baz=336,SNR=8.3							
SFIN	Lafayette	150.85	297	IAMs_20		IAMs_20	11 57 55.0	
	comp=Z,519nm,19.0s							
SFIN	Lafayette	150.85	297	P		PKPbc	10 46 14.0	0.0
	baz=84							
P32M	Attlin	150.96	13	P		PKPbc	10 46 13.2	-0.5
	baz=339,SNR=13							
P46A	Rosedale	151.01	295	IAMs_20		IAMs_20	11 55 26.4	
	comp=Z,444nm,20.0s							
COWI	Conover	151.09	309	IAMs_20		IAMs_20	11 56 40.7	
	comp=Z,415nm,20.0s							
WTLY	Watson Lake, Y	151.18	7	IAMs_20		IAMs_20	12 00 43.0	
	comp=Z,397nm,19.0s							
WTLY	Watson Lake, Y	151.18	7	P		PKPbc	10 46 14.8	+0.6
	baz=347							
L44A	Lake County Fo	151.20	301	P		PKPbc	10 46 14.6	-0.1
	baz=80							
K43A	Burlington	151.41	302	IAMs_20		IAMs_20	11 53 47.1	
	comp=Z,596nm,21.0s							
USIN	University of	151.47	292	IAMs_20		IAMs_20	11 56 49.1	
	comp=Z,330nm,20.0s							
R33M	Jennings River	151.60	10	IAMs_20		IAMs_20	12 01 54.1	
	comp=Z,387nm,21.0s							
R33M	Jennings River	151.60	10	P		PKPbc	10 46 15.2	-0.1
	baz=343							
R31K	City Hall, Gus	151.62	16	P		PKPbc	10 46 14.8	-0.3
	baz=334							
WVT	Waverly	151.62	288	P		PKPbc	10 46 15.4	-0.5
	baz=91							
Z47A	Carrollton	151.64	282	IAMs_20		IAMs_20	11 59 25.5	
	comp=Z,448nm,19.0s							
OLIL	Olney	151.77	294	IAMs_20		IAMs_20	11 47 36.8	
	comp=Z,438nm,22.0s							
Q32M	Nakina River	151.81	12	IAMs_20		IAMs_20	11 56 35.6	
	comp=Z,372nm,20.0s							
Q32M	Nakina River	151.81	12	P		PKPbc	10 46 16.3	+0.4
	baz=341,SNR=8.8							
S31K	Pelican	151.91	16	P		PKiKP	10 46 16.7	+0.5
	baz=333							
EYMN	Ely	151.92	314	IAMs_20		IAMs_20	11 55 36.0	
	comp=Z,458nm,20.0s							
EYMN	Ely	151.92	314	P		PKPbc	10 46 16.4	+0.1
	baz=65							
R32K	Eaglecrest	152.02	14	P		PKiKP	10 46 17.2	+0.8
	baz=336							
JIS	Juneau Island	152.04	14	IAMs_20		IAMs_20	12 02 46.8	
	comp=Z,402nm,22.0s							
G40A	Rib Lake	152.06	308	IAMs_20		IAMs_20	11 56 09.5	
	comp=Z,591nm,21.0s							
LIRD	Liard River Hi	152.12	5	P		PKPbc	10 46 16.9	+0.5
	baz=352							
T45A	Paducah	152.28	290	IAMs_20		IAMs_20	11 52 58.7	
	comp=Z,488nm,21.0s							
Q44A	Meyer Farm, Va	152.47	294	IAMs_20		IAMs_20	11 55 15.3	
	comp=Z,480nm,21.0s							
HDIL	Hopedale	152.49	298	IAMs_20		IAMs_20	11 58 24.3	
	comp=Z,568nm,21.0s							
HDIL	Hopedale	152.49	298	P		PKPbc	10 46 17.8	0.0
	baz=81							
DLBC	Dease Lake	152.66	10	P		PKPbc	10 46 17.6	0.0
	baz=344							
DLBC	Dease Lake	152.66	10	PKPbc		PKPbc	10 46 17.3	-0.3
	comp=Z,9.5nm,0.8s,baz=290,slow=4.7,SNR=17							
JFWS	Jewell Farm	152.74	303	IAMs_20		IAMs_20	11 52 32.2	
	comp=Z,541nm,20.0s							
JFWS	Jewell Farm	152.74	303	P		PKPbc	10 46 17.9	-0.3
	baz=76,SNR=6.4							
TOAD	Toad River Com	152.74	4	P		PKPbc	10 46 17.2	-0.5
	baz=353							
S32K	Killisnoo	152.74	15	P		PKPbc	10 46 17.7	0.0
	baz=336							
S44A	Carbondale	152.74	292	IAMs_20		IAMs_20	12 04 42.8	
	comp=Z,419nm,20.0s							
HICK	Hickman	152.76	289	IAMs_20		IAMs_20	11 55 20.4	
	comp=Z,523nm,20.0s							
P43A	Skaggs, Pawnee	152.78	296	IAMs_20		IAMs_20	11 53 04.4	
	comp=Z,387nm,21.0s							
OXF	Oxford	152.86	285	P		PKPbc	10 46 18.4	-0.3
	baz=93							
SIT	Sitka	152.94	16	P		PKPbc	10 46 17.8	-0.3
	baz=334							
S34M	Telegraph Cree	153.00	11	IAMs_20		IAMs_20	11 57 34.9	
	comp=Z,367nm,21.0s							
S34M	Telegraph Cree	153.00	11	P		PKPbc	10 46 18.5	+0.2
	baz=342,SNR=8.8							
FFC	Flin Flon	153.04	334	PKPdf		PKPdf	10 46 09.6	-1.6
FFC				PKPbc		pPKPbc	10 46 18.0	-0.1
FFC				PKPab		sPKPab	10 46 27.1	-2.4
FFC	Flin Flon	153.04	334	IAMs_20		IAMs_20	11 52 59.0	
	comp=Z,453nm,21.0s							
FFC	Flin Flon	153.04	334	PKIKP		PKPdf	10 46 09.6	-1.6
FFC							10 46 18.0	
FFC							10 46 27.1	
CGM3	Cape Girardeau	153.08	291	IAMs_20		IAMs_20	11 54 51.8	
	comp=Z,456nm,21.0s							
PVMO	Portageville	153.14	289	IAMs_20		IAMs_20	11 55 13.5	
	comp=Z,509nm,20.0s							
PARMO	Parma	153.18	289	IAMs_20		IAMs_20	11 55 42.5	
	comp=Z,516nm,21.0s							
ULM	Lac du Bonnet	153.31	321	PKP		PKPdf	10 46 11.1	-0.6
	comp=Z,4.1nm,0.8s,baz=140,slow=1.9,SNR=8.7							
ULM				PKPbc		sPKPbc	10 46 18.5	-0.3
	comp=Z,28nm,0.8s,baz=50,slow=3.8,SNR=28							
VBMS	Vicksburg	153.57	279	P		PKPbc	10 46 19.8	-0.6
	baz=97							
FVM	French Village	153.65	292	IAMs_20		IAMs_20	11 48 20.7	
	comp=Z,384nm,22.0s							
SPMN	Marine on St.	153.80	309	P		PKPbc	10 46 20.1	-0.4
	baz=69							
T35M	Bob Quinn	154.03	11	IAMs_20		IAMs_20	12 00 37.3	
	comp=Z,524nm,20.0s							
T35M	Bob Quinn	154.03	11	P		PKPbc	10 46 21.0	+0.4
	baz=343							
WRAK	Wrangell Islan	154.19	14	P		PKiKP	10 46 21.9	+0.9
	baz=339							
CCM	Cathedral Cave	154.29	293	IAMs_20		IAMs_20	11 48 41.6	
	comp=Z,431nm,21.0s							
CCM	Cathedral Cave	154.29	293	P		PKPbc	10 46 21.8	0.0
	baz=85							
U33K	Whale Pass	154.31	15	P		PKiKP	10 46 21.8	+0.6
	baz=337							
LCAR	Lake Charles	154.32	288	IAMs_20		IAMs_20	11 56 08.9	
	comp=Z,483nm,21.0s							
AGMN	Agassiz Nation	154.35	318	P		PKPbc	10 46 22.1	+0.5
	baz=59							
143A	Socs Landing,	154.38	280	IAMs_20		IAMs_20	11 55 12.1	
	comp=Z,538nm,20.0s							
P40A	Paris	154.73	296	IAMs_20		IAMs_20	11 56 10.9	
	comp=Z,376nm,20.0s							
CRAG	Craig	154.90	15	P		PKiKP	10 46 23.3	+0.8
	baz=337							
R40A	Maddies Statio	155.07	293	IAMs_20		IAMs_20	11 58 05.1	
	comp=Z,403nm,20.0s							
U35K	Hyder	155.09	11	IAMs_20		IAMs_20	11 59 20.2	
	comp=Z,497nm,21.0s							
U35K	Hyder	155.09	11	P		PKPdf	10 46 23.4	+9.4
	baz=343							
FCAR	Ozark Folk Cen	155.11	288	IAMs_20		IAMs_20	11 57 03.8	
	comp=Z,513nm,20.0s							
SCIA	State Center	155.11	302	P		PKPdf	10 46 24.3	+10
	baz=75							
MGMO	Mountain Grove	155.17	291	IAMs_20		IAMs_20	11 56 53.1	
	comp=Z,499nm,20.0s							
WHAR	Wooly Hollow	155.25	286	PKPdf		PKPdf	10 46 11.4	-3.5
WHAR				PKPab		PKPab	10 46 40.4	+0.4
V35K	Ketchikan	155.35	14	P		PKPab	10 46 40.6	+1.0
	baz=339							
S39A	Bolivar	155.96	292	IAMs_20		IAMs_20	11 53 23.9	
	comp=Z,451nm,21.0s							
MIAR	Mount Ida	156.30	284	P		PKPab	10 46 44.5	0.0
	baz=91							
HHAR	Hobbs	156.56	289	IAMs_20		IAMs_20	11 56 22.2	
	comp=Z,498nm,20.0s							
MDND	Maddock	156.69	320	P		PKPab	10 46 45.6	-0.1
	baz=54							
ECSD	EROS Data Cent	156.89	308	P		PKPab	10 46 47.1	+0.3
	baz=67							
U38A	Gravette	156.91	289	IAMs_20		IAMs_20	11 58 38.4	
	comp=Z,495nm,20.0s							
NATX	Nacogdoches	157.01	277	IAMs_20		IAMs_20	11 55 07.1	
	comp=Z,443nm,20.0s							
NATX	Nacogdoches	157.01	277	P		PKPab	10 46 48.4	+0.8
	baz=97							
BRLDA	Berland Lookou	157.40	353	IAMs_20		IAMs_20	12 06 11.7	
	comp=Z,369nm,20.0s							
HKT	Hockley	157.72	272	IAMs_20		IAMs_20	12 07 26.5	
	comp=Z,374nm,20.0s							
TUL3	Leonard	158.08	288	P		PKPab	10 46 51.8	-0.4
	baz=86							
SUSD	Miller	158.11	312	P		PKPab	10 46 51.6	-0.4
	baz=62							
KSU1	Kansas State U	158.29	297	IAMs_20		IAMs_20	11 59 02.0	
	comp=Z,462nm,20.0s							
KSU1	Kansas State U	158.29	297	P		PKPab	10 46 52.8	-0.2
	baz=78							
T35A	Sooner Cattle	158.57	291	IAMs_20		IAMs_20	11 56 40.2	
	comp=Z,436nm,21.0s							
DGMT	Dagmar	158.63	327	P		PKPab	10 46 53.3	-0.8
	baz=44							
BGNE	Belgrade	158.79	304	P		PKPab	10 46 55.0	-0.1
	baz=70							
OK051	E0350 and S346	158.87	290	IAMs_20		IAMs_20	12 02 55.3	
	comp=Z,484nm,19.0s							
BBB	Bella Bella	158.99	11	IAMs_20		IAMs_20	12 01 01.5	
	comp=Z,452nm,20.0s							
W35A	Tecumseh	159.00	286	IAMs_20		IAMs_20	12 07 59.1	
	comp=Z,360nm,20.0s							
Z35A	Perchaven, San	159.32	281	IAMs_20		IAMs_20	12 05 24.0	
	comp=Z,345nm,20.0s							
435B	Jarrell	159.36	274	IAMs_20		IAMs_20	12 07 13.5	
	comp=Z,394nm,21.0s							
435B	Jarrell	159.36	274	P		PKPab	10 46 57.8	-0.1
	baz=98							
WHTX	Lake Whitney,	159.40	277	P		PKPab	10 46 57.9	-0.2
	baz=95							
FW06	Azle	159.56	280	IAMs_20		IAMs_20	12 02 36.4	
	comp=Z,398nm,20.0s							
FW07	Weatherford	159.74	279	IAMs_20		IAMs_20	11 57 21.2	
	comp=Z,473nm,21.0s							
CROK	Carrier	159.79	290	IAMs_20		IAMs_20	11 58 42.6	
	comp=Z,518nm,21.0s							
833A	Chaparral WMA,	160.39	266	P		PKPab	10 47 02.0	-0.5
	baz=105							
WMOK	Wichita Mounta	160.59	285	PKPdf		PKPdf	10 46 19.7	-1.9
WMOK				PKPab		PKPab	10 47 02.2	-1.0
WMOK	Wichita Mounta	160.59	285	P		PKPab	10 47 03.1	-0.1
	baz=87							
WMOK	Wichita Mounta	160.59	285	PKP2		PKPab	10 47 02.2	-1.0
WMOK							11 46 19.7	
BRDY	Brady	160.63	275	PKPdf		PKPdf	10 46 21.6	-0.1
BRDY				PKPab		sPKPab	10 47 02.3	-0.7
CBKS	Cedar Bluff	160.73	298	PKPab		PKPab	10 47 03.5	-0.2
CBKS	Cedar Bluff	160.73	298	P		PKPab	10 47 04.1	+0.4
	baz=75,SNR=6.3							
CBKS	Cedar Bluff	160.73	298	PKP2		PKPab	10 47 03.5	-0.2
LAO	LASA Array	160.86	326	PKPdf		PKPdf	10 46 21.6	+0.1
LAO				PKPab		PKPab	10 47 04.1	+0.2
JCT	Junction City	161.20	272	P		PKPab	10 47 06.8	+0.8
	baz=99							
ABTX	Abilene, Hawle	161.30	279	PKPdf		PKPdf	10 46 22.2	-0.2
ABTX				PKPab		sPKPab	10 47 04.5	-1.4
ABTX	Abilene, Hawle	161

T25A	Trinidad	164.73 296	P	PKPab	10 47 23.0 +1.5
	baz=74				
FLWY	Flagg Ranch	164.90 328	PKPdf	PKPdf	10 46 26.1 +0.3
FLWY				PKPab	10 47 23.2 +1.3
LON	Longmire	164.96 0	PKPdf	PKPdf	10 46 26.5 +1.0
LON			PKPab	PKPab	10 47 20.5 -1.3
LON	Longmire	164.96 0	PKP2	PKPab	10 47 20.5 -1.3
MOOW	Moose Ponds	165.18 327	PKPdf	PKPdf	10 46 25.8 -0.2
MOOW			PKPab	PKPab	10 47 23.2 0.0
PDAR	Pinedale Array	165.33 322	PKPdf	PKPdf	10 46 24.9 -1.2
PDAR			PKPab	sPKPab	10 47 22.2 -1.2
PDAR	Pinedale Array	165.33 322	PKP	PKPdf	10 46 25.4 -0.8
	comp=Z,4.3nm,0.9s,baz=114,slow=4.4,SNR=23				
PDAR			PKPab	sPKPab	10 47 22.2 -1.2
	comp=Z,3.6nm,1.0s,baz=67,slow=5.0,SNR=5.7				
PDAR			PP	PP	10 51 11.4 +0.9
	comp=Z,1.3nm,1.0s,baz=60,slow=5.3,SNR=4.9				
BW06	Boulder Array	165.33 322	P	PKPab	10 47 24.4 +0.5
	baz=45				
SDCO	Great Sand Dun	165.38 299	PKPdf	PKPdf	10 46 25.9 -0.6
SDCO			PKPab	PKPab	10 47 24.9 +0.5
SDCO	Great Sand Dun	165.38 299	P	PKPab	10 47 25.2 +0.8
	baz=70,SNR=6.1				
AHID	Auburn Hatcher	166.10 326	PKPdf	PKPdf	10 46 27.1 +0.3
AHID			PKPab	PKPab	10 47 27.2 0.0
O20A	White River Ci	166.23 311	PKPdf	PKPdf	10 46 27.2 +0.3
O20A			PKPab	pPKPab	10 47 27.6 0.0
O20A	White River Ci	166.23 311	P	PKPab	10 47 28.1 +0.2
	baz=56				
S22A	4UR Ranch, Cre	166.36 300	PKPdf	PKPdf	10 46 26.5 -0.7
S22A			PKPab	sPKPab	10 47 27.2 -1.1
S22A	4UR Ranch, Cre	166.36 300	P	PKPab	10 47 29.9 +1.1
	baz=68,SNR=5.8				
HLID	Hailey	166.82 336	PKPdf	PKPdf	10 46 25.7 -1.5
HLID			PKPab	sPKPab	10 47 29.3 -0.6
HLID	Hailey	166.82 336	P	PKPab	10 47 30.6 +0.3
	baz=28				
ANMO	Albuquerque	166.84 288	P	PKPab	10 47 31.8 +1.0
	baz=80				
HWUT	Hardware Ranch	167.20 323	PKPdf	PKPdf	10 46 27.5 -0.1
HWUT			PKPab	sPKPab	10 47 31.1 -0.5
Y22D	IRIS PASSCAL I	167.35 285	P	PKPab	10 47 34.6 +1.6
	baz=83				
MFID	Camas Ranch	167.41 340	PKPdf	PKPdf	10 46 27.6 0.0
MFID			PKPab	PKPab	10 47 33.1 +0.4
I07A	Izee	167.51 353	PKPdf	PKPdf	10 46 26.9 -0.8
I07A			PKPab	pPKPab	10 47 32.5 -0.3
HVU	Hansel Valley	167.65 327	PKPdf	PKPdf	10 46 29.6 +1.7
HVU			PKPab	PKPab	10 47 34.4 +0.4
HVU	Hansel Valley	167.65 327	PKIKP	PKPdf	10 46 29.6 +1.7
MVCO	Mesa Verde	167.79 300	P	PKPab	10 47 36.1 +1.1
	baz=66,SNR=5.8				
PINE	Pine Mountain	167.91 357	PKPdf	PKPdf	10 46 28.7 +0.6
PINE			PKPab	PKPab	10 47 35.6 +0.6
121A	Cookes Peak, D	168.16 278	P	PKPab	10 47 38.2 +1.4
	baz=89				
BGU	Big Grassy Mou	168.44 325	PKPdf	PKPdf	10 46 30.9 +2.4
BGU			PKPab	pPKPab	10 47 37.0 -0.2
DUG	Dugway, Tooele	168.87 322	P	PKPab	10 47 40.3 +0.8
	baz=42				
WVOR	Wild Horse Val	169.00 348	PKPdf	PKPdf	10 46 28.5 -0.3
WVOR			PKPab	PKPab	10 47 39.3 -0.5
WVOR	Wild Horse Val	169.00 348	PKP2	PKPab	10 47 39.3 -0.5
WVOR					11 46 28.5
W18A	Petrified Fore	169.43 292	P	PKPab	10 47 42.7 +0.4
	baz=74				
ELK	Elko	169.57 332	PKPdf	PKPdf	10 46 29.0 -0.3
ELK			PKPab	PKPab	10 47 42.8 +0.2
ELK	Elko	169.57 332	PKP2	PKPab	10 47 42.8 +0.2
ELK					11 46 29.0
KSXB	Camp Six Broad	169.73 9	PKPdf	PKPdf	10 46 29.0 -0.1
KSXB			PKPab	PKPab	10 47 43.1 +0.1
WUAZ	Wupatki	170.58 297	P	PKPab	10 47 48.7 +1.3
	baz=68				
TUC	Tucson	170.70 277	P	PKPab	10 47 49.3 +1.4
	baz=88				
SZCU	Shurtz Canyon	170.78 312	PKPdf	PKPdf	10 46 28.6 -1.5
SZCU			PKPab	PKPab	10 47 48.4 +0.3
U15A	North Rim	170.87 304	PKPdf	PKPdf	10 46 29.1 -1.2
U15A			PKPab	pPKPab	10 47 48.6 +0.2
X16A	Lo Mia Camp, P	170.97 290	PKPdf	PKPdf	10 46 28.4 -1.8
X16A			PKPab	PKPab	10 47 49.5 +0.4
R11B	Troy Canyon, C	171.68 325	P	PKPab	10 47 52.9 +0.9
	baz=38,SNR=13				
214A	Organ Pipe Nat	172.43 274	PKPdf	PKPdf	10 46 29.4 -1.4
214A			PKPab	pPKPab	10 47 55.4 +0.2
214A	Organ Pipe Nat	172.43 274	P	PKPab	10 47 55.7 +0.2
	baz=90				
W13A	Hualapai Mount	172.63 300	PKPdf	PKPdf	10 46 29.2 -1.8
W13A			PKPab	sPKPab	10 47 54.2 -1.8
NVAR	Mina Array Bea	172.72 338	PKP	PKPdf	10 46 32.6 +1.7
	comp=Z,2.0nm,0.8s,baz=178,slow=1.2,SNR=14				
NVAR			PKPab	pPKPab	10 47 56.0 -0.2
	comp=Z,4.0nm,1.0s,baz=43,slow=4.9,SNR=11				
NVAR			PP	PP	10 51 50.7 +3.3
	comp=Z,0.4nm,0.8s,baz=21,slow=5.2,SNR=2.5				
TPNV	Topopah Spring	173.08 321	P	PKPab	10 47 58.7 +0.5
	baz=41				
PDMCI	Parker Dam,Lak	173.13 294	P	PKPab	10 47 58.8 +0.3
	baz=69				
GRAC	Grapevine Rang	173.61 327	P	PKPab	10 48 01.5 +1.2
	baz=34				
BLYC	Blythe	173.61 291	PKPdf	PKPdf	10 46 33.3 +2.2
BLYC			PKPab	sPKPab	10 47 58.9 -1.3
MLAC	Mammoth, Mammt	173.62 339	P	PKPab	10 48 00.9 +0.3
	baz=22				
FURC	Furnace Creek,	173.77 321	P	PKPab	10 48 01.7 +0.6
	baz=40				
SHOC	Shoshone, Teco	173.83 314	P	PKPab	10 48 02.9 +1.5
	baz=48				
TUQ	Turquoise Moun	173.90 309	P	PKPab	10 48 03.0 +1.0
	baz=53				
IRM	Iron Mountain	173.96 296	P	PKPab	10 48 03.2 +1.0
	baz=67				
GLA	Glamis	174.02 285	P	PKPab	10 48 03.8 +1.2
	baz=78				
GMRC	Granite Mounta	174.07 303	P	PKPab	10 48 03.8 +1.0
	baz=59				
BC3	Big Chuckawall	174.38 292	P	PKPab	10 48 04.7 +0.5
	baz=70				
CWC	Cottonwood Cre	174.39 329	P	PKPab	10 48 04.4 +0.4
	baz=32				
MPMC	Manual Prospec	174.41 322	P	PKPab	10 48 04.8 +0.6
	baz=39				
HEC	Hector,Ludlow	174.52 306	P	PKPab	10 48 05.5 +0.8
	baz=56				
GSC	Goldstone, Bar	174.55 313	P	PKPab	10 48 05.8 +1.0
	baz=49				
BELC	Belle Mtn. Jos	174.67 297	P	PKPab	10 48 05.9 +0.3
	baz=65				
SWSC	Sam W. Stewart	174.84 286	P	PKPab	10 48 06.7 +0.6
	baz=76				
RRX	Edison Barstow	174.94 310	P	PKPab	10 48 08.3 +1.9
	baz=51				
VOG	Valley Oaks Go	175.00 338	P	PKPab	10 48 08.5 +2.1
	baz=22				
YUH	Yuha Desert	175.00 283	PKPdf	PKPdf	10 46 31.7 +0.1
YUH			PKPab	sPKPab	10 48 06.3 -0.1
IKP	In-Ko-Pah, Jac	175.16 283	P	PKPab	10 48 09.0 +1.3
	baz=79				
TPFO	Pinon Flats	175.18 295	P	PKPab	10 48 08.8 +1.0
	baz=67				
PFO	Pinyon Flats O	175.18 295	PKPdf	PKPdf	10 46 31.4 -0.5
PFO			PKPab	sPKPab	10 48 06.5 -0.8
PFO	Pinyon Flats O	175.18 295	P	PKPab	10 48 08.8 +1.0
	baz=67				
PFO	Pinyon Flats O	175.18 295	PKIKP	PKPdf	10 46 31.4 -0.5
PFO					10 48 06.5
ISA	Isabella, Lake	175.21 327	P	PKPab	10 48 09.0 +1.4
	baz=34,SNR=8.7				
BBRC	Big Bear Solar	175.23 304	P	PKPab	10 48 09.4 +1.3
	baz=57				
MONP2	Monument Peak	175.37 286	P	PKPab	10 48 09.6 +0.8
	baz=75				
EDW2	Edwards Air Fo	175.55 317	P	PKPab	10 48 11.5 +2.3
	baz=44				
MURC	Murrieta	175.75 298	P	PKPab	10 48 11.2 +1.0
	baz=63				
BFSC	Mount Baldy Ra	175.75 308	P	PKPab	10 48 11.7 +1.5
	baz=53				
ARVC	Arvin	175.81 326	P	PKPab	10 48 11.7 +1.6
	baz=34				
ELS	Elsinore Mount	175.90 300	PKPdf	PKPdf	10 46 31.9 0.0
ELS			PKPab	pPKPab	10 48 10.6 +0.1
109C	Camp Elliot, M	175.92 288	P	PKPab	10 48 10.9 -0.1
	baz=73				
SMMC	Simmler	176.12 339	P	PKPab	10 48 11.8 +0.3
	baz=21				
OSI	Osito Audit: C	176.16 320	P	PKPab	10 48 12.6 +0.7
	baz=40				
DECC	Green Verdugo	176.18 313	P	PKPab	10 48 12.8 +0.8
	baz=47				
PKM	Mcpherson Peak	176.44 334	P	PKPab	10 48 14.9 +1.7
	baz=26				
CIS	Catalina Islan	176.74 302	P	PKPab	10 48 16.1 +1.5
	baz=57				
SBC	Santa Barbara	176.79 329	P	PKPab	10 48 14.2 -0.3
	baz=30				

*IDC **10** 10:29:00.7±0.8, 31.°65S×58.°26E, h0km, mb4.4/13, mbtmp4.4/14, ML4.1/1, Error ellipse: s-maj=30.3km s-min=20.1km az=66.0*
*NEIC **10** 10:29:04.1±2.8, 31.°48S±0.°07×58.°2E±0.°2, h10km±1km, mb4.9/11, Error ellipse: s-maj=25.4km s-min=10.9km az=256.0*

ISC 10 10:29:03.7±0.5, **31.°50S**±0.°10×**58.°0E**±0.°1, **h17**km, **n71**, σ1°**26**/57, **mb4.7**/19, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.50	348	Pn	Pn	10 31 33.2	-0.3
H04N2	CROZET ISLANDS	15.42	197	T	T	10 48 31.4	
	baz=22						
H04N1	CROZET ISLANDS	15.43	197	T	T	10 48 35.0	
	baz=22						
H04N3	CROZET ISLANDS	15.44	197	T	T	10 48 32.2	
	baz=22						
OPO	Ambohidratompo	16.18	320	Pn	Pn	10 32 50.9	+0.4
	0.1nm,0.3s,baz=116,slow=19,SNR=1.0						
OPO				Sn	Sn	10 35 43.5	-6.3
	baz=179,slow=20,SNR=1.3						
	3.6nm,0.7s						
H08S1	Diego Garcia H	27.29	33	T	T	11 03 11.2	
	baz=209						
H08S2	Diego Garcia H	27.29	33	T	T	11 03 10.5	
	baz=209						
H08S3	Diego Garcia H	27.31	33	T	T	11 03 12.8	
	baz=209						
BOSA	Boshof	28.47	267	P	P	10 34 59.2	+1.1
BOSA				IAmb	IAmb	10 34 59.6	
	comp=Z,40nm,2.0s						
H01W2	Cape Leeuwin H	46.54	110	T	T	11 26 37.8	
	baz=258						
H01W3	Cape Leeuwin H	46.55	110	T	T	11 26 41.8	
	baz=258						
H01W1	Cape Leeuwin H	46.56	110	T	T	11 26 41.2	
	baz=258						
SNAA	Sanae	51.34	201	P	P	10 38 06.2	-0.6
	comp=Z,2.7nm,1.0s,baz=235,slow=11,SNR=1.9						
	comp=Z,2.7nm,1.0s						
QSPA	South Pole Qui	58.67	180	P	P	10 38 59.3	-0.7
QSPA				IAmb	IAmb	10 39 11.1	
	comp=Z,20nm,1.2s						
QSPA	South Pole Qui	58.67	180	P	P	10 38 59.0	-1.0
	comp=Z,1.8nm,0.5s,baz=88,slow=20,SNR=1.5						
	comp=Z,1.8nm,0.5s						
CM31	Chiang Mai Arr	63.30	44	P	P	10 39 32.1	+0.3
CM31				IAmb	IAmb	10 39 32.8	
	comp=Z,10nm,0.8s						
CMAR	Chiang Mai Arr	63.30	44	P	P	10 39 32.1	+0.3
CMAR	Chiang Mai Arr	63.30	44	P	P	10 39 31.9	0.0
	comp=Z,4.7nm,0.7s,baz=228,slow=7.2,SNR=7.6						
	comp=Z,4.7nm,0.7s						
CHTO	Chiang Mai	63.58	44	P	P	10 39 33.1	-0.5
CHTO				IAmb	IAmb	10 39 41.8	
	comp=Z,14nm,1.6s						
ASAR	Alice Springs	66.50	104	P	P	10 39 51.4	-1.3
ASAR	Alice Springs	66.50	104	P	P	10 39 51.0	-1.8
	comp=Z,4.3nm,0.7s,baz=240,slow=6.0,SNR=12						
	comp=Z,4.3nm,0.7s						
AS31	Alice Springs	66.50	104	P	P	10 39 51.4	-1.4
WRA	Warramunga Arr	68.49	101	P	P	10 40 04.7	-0.7
WRA	Warramunga Arr	68.49	101	P	P	10 40 03.8	-1.6
	comp=Z,4.4nm,0.7s,baz=241,slow=5.7,SNR=8.3						
	comp=Z,4.4nm,0.7s						
WB2	Warramunga Arr	68.50	101	P	P	10 40 04.4	-1.0
WRAB	Tennant Creek	68.50	101	P	P	10 40 04.5	-1.0
WRAB				IAmb	IAmb	10 40 04.5	
	comp=Z,6.8nm,0.7s						
WB0	Warramunga Arr	68.61	101	P	P	10 40 05.0	-1.2
WR0	Warramunga Arr	68.65	101	P	P	10 40 05.1	-1.3
WR0				IAmb	IAmb	10 41 21.4	
	comp=Z,13nm,1.2s						
STKA	Stephens Creek	69.22	115	P	P	10 40 07.8	-2.0
	comp=Z,2.4nm,0.7s,baz=253,slow=9.1,SNR=3.5						
	comp=Z,2.4nm,0.7s						
BRTR	Keskin Array B	74.39	341	P	P	10 40 42.0	+1.4
	comp=Z,1.7nm,0.8s,baz=156,slow=7.6,SNR=4.6						
	comp=Z,1.7nm,0.8s						
KKAR	Karatay Array	75.11	9	P	P	10 40 44.8	+0.2
KKAR				IAmb	IAmb	10 41 12.1	
	comp=Z,13nm,1.8s						
KBZ	Khabaz	76.13	349	P	P	10 40 51.4	+1.1
	comp=Z,1.6nm,0.9s,baz=82,slow=18,SNR=1.7						
	comp=Z,1.6nm,0.9s						
ABKAR	Akbulak array	80.41	1	P	P	10 41 15.3	+1.5
MK31	Makanchi Array	80.94	17	P	P	10 41 17.9	+1.1
MKAR	Makanchi Array	80.94	17	P	P	10 41 18.0	+1.1
MKAR	Makanchi Array	80.94	17	P	P	10 41 17.6	+0.7
	comp=Z,1.0nm,0.6s,baz=202,slow=7.3,SNR=4.8						
	comp=Z,1.0nm,0.6s						
KURBB	Kurchatov Arra	83.75	13	P	P	10 41 32.3	+1.0
	comp=Z,4.0nm,1.0s,baz=208,slow=5.7,SNR=4.4						
	comp=Z,4.0nm,1.0s						
BVAR	Borovoye Array	84.85	7	P	P	10 41 38.3	+1.4
	comp=Z,7.3nm,0.8s,baz=180,slow=4.4,SNR=6.0						
	comp=Z,7.3nm,0.8s						
AKASG	Malin Array Be	85.72	342	P	P	10 41 41.5	+0.2
	comp=Z,1.1nm,0.5s,baz=163,slow=4.4,SNR=2.6						
	comp=Z,1.1nm,0.5s						
ZALV	Zalesovo Beam	88.20	15	P	P	10 41 52.1	-1.1
	comp=Z,0.9nm,0.4s,baz=204,slow=3.2,SNR=3.3						
	comp=Z,0.9nm,0.4s						
EPYK	Eagle Plains	143.97	10	PKPdf	PKPbc	10 48 35.9	+0.6
O18K	Koktuh Hills	144.03	28	PKPdf	PKPdf	10 48 36.6	-1.0
I28M	Miner Creek	144.28	13	PKPdf	PKPbc	10 48 36.8	+0.5
V58A	Windy Hill, Pi	144.29	289	PKPdf	PKPbc	10 48 38.0	+0.8
J26L	Joseph Creek	144.34	16	PKPdf	PKPdf	10 48 37.4	-0.8
T57A	Hurt	144.50	291	PKPdf	PKPdf	10 48 39.0	-0.2
DHY	Denali Highway	144.50	20	PKPdf	PKPdf	10 48 38.1	-0.4
Q56A	Snyder Ridge,	144.54	294	PKPdf	PKPbc	10 48 38.5	+0.6
EGAK	Eagle	144.63	14	PKPdf	PKPbc	10 48 37.7	+0.4
SUA	Susitna One	144.64	24	PKPdf	PKPbc	10 48 38.0	+0.4
I29M	Ogilvie Camp,	144.65	12	PKPdf	PKPbc	10 48 37.7	+0.3
SCRK	Sand Creek	144.68	17	PKPdf	PKPdf	10 48 38.6	-0.2
GHO	Glory Hole Cre	145.02	22		PKPdf	10 48 39.9	+0.5
K27K	Chicken	145.08	15	PKPbc	PKPdf	10 48 40.2	+0.9
PMR	Palmer	145.09	22	PKPbc	PKPdf	10 48 39.7	+0.4
I30M	Mount Dempster	145.10	11	PKPbc	PKPdf	10 48 39.5	0.0
PAX	Paxson	145.12	19	PKPbc	PKPdf	10 48 40.3	+0.8
SML	Sawmill	145.18	22	PKPbc	PKPdf	10 48 40.0	+0.4
RC01	Rabbit Creek A	145.25	23	PKPbc	PKPdf	10 48 40.1	+0.4
SCM	Sheep Creek Mo	145.47	21	PKPbc	PKPab	10 48 41.4	+0.9
DAWY	Dawson	145.62	13		PKPab	10 48 41.6	+0.7
M53A	WI Miller and	145.63	299	PKPbc	PKPab	10 48 42.4	+0.8
J30M	Hart River	145.71	11		PKPab	10 48 42.1	+0.8
L27K	Beaver Creek,	145.97	16	PKPbc	PKPab	10 48 42.9	+0.6
BCAR	Beaver Creek A	145.98	16	PKPbc	PKPab	10 48 43.1	+0.8
K29M	Barlow Dome	146.18	12	PKPbc	PKPab	10 48 43.2	+0.1
N25K	Chitina, Valde	146.46	19	PKPbc	PKPab	10 48 45.1	+0.9
FCC	Fort Churchill	146.85	334	PKPbc	PKPbc	10 48 45.1	+0.8
M29M	Somme Creek	147.26	14	PKPbc	PKPab	10 48 46.8	-0.5
YKA	Yellowknife Ar	148.63	353	PKPbc	PKPbc	10 48 48.3	-0.7
	comp=Z,0.8nm,0.5s,baz=358,slow=2.5,SNR=5.5						
214A	Organ Pipe Nat	172.19	276	PKPdf	PKPdf	10 49 12.1	+0.2
214A				PKPab	PKPab	10 50 36.8	+1.1

*SOME **10** 10:29:52.6, 43.°60N×69.°75E*

NNC 10 10:29:53.4±2.1, **43.°70N×69.°76E**, **h0**km, **mb3.6**, **mpv3.2**, **5C**, **Error ellipse: s-maj=14.7km s-min=5.3km az=135.0, Suspected Mining explosion., Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	Borolday	0.67	175	P	Pn	10 30 09.7	-0.5
	5.4nm,0.2s						
BRLS				S	Sn	10 30 21.7	+0.2
	28nm,0.2s						
KK31	Karatay Array	0.81	137	⇑P		Pg	10 30 08.7 -0.3
	0.9nm,0.2s,baz=319,slow=17,SNR=119						
KK31				⇑S		Sb	10 30 20.8 -1.0
	13nm,0.3s,baz=323,slow=33,SNR=24						
IUG	Iuzhnay	1.57	173	P		Pn	10 30 22.8 +0.2
	32nm,0.5s						
IUG				S		Sb	10 30 44.4 +0.7
	67nm,0.4s						
MRKS	Merke	2.71	109	Pg		Pg	10 30 44.3 -1.0
	3.3nm,0.3s						
MRKS				Lg		Lg	10 31 20.9
	12nm,0.4s						
SGDS	Sogindy	3.55	92	Pg		Pg	10 30 59.3 -2.1
	1.5nm,0.2s						
SGDS				Lg		Lg	10 31 46.4
	5.2nm,0.1s						
AAK	Ala-Archa	3.62	105	Pg		Pb	10 30 59.2 +0.8
	1.7nm,0.3s						
AAK				⇑Lg		Lg	10 31 50.7
	4.6nm,0.4s						
TKM2	Tokmak 2	4.33	98	⇑Pg		Pb	10 31 11.9 +1.4
	1.8nm,0.7s						
TKM2				⇑Lg		Lg	10 32 11.6
	3.6nm,0.5s						
DGS	Degeres	4.40	94	Pg		Pb	10 31 14.6 +3.0
	2.9nm,0.4s						
DGS				Lg		Lg	10 32 12.7
	9.6nm,0.7s						
TNSS	Tian-Shan	5.28	95	Pg		Pg	10 31 32.0 -2.6
	1.6nm,0.5s						
TNSS				Lg		Lg	10 32 41.8
	4.5nm,0.7s						
MDOK	Medeo	5.33	93	Pg		Pg	10 31 32.9 -2.7
	2.5nm,0.4s						
MDOK				Lg		Lg	10 32 44.1
	4.3nm,0.6s						
ARXS	Arharly	5.84	82	Pg		Pg	10 31 42.6 -2.8
	0.6nm,0.3s						
ARXS				Lg		Lg	10 33 00.9
	6.5nm,0.4s						
BLB	Baldybastay	6.31	83	Pg		Pb	10 31 47.0 +2.9
	4.4nm,0.5s						
BLB				Lg		Lg	10 33 09.1
	6.5nm,0.5s						

*IDC **10** 10:33:54.9±0.6, 31.°68S×58.°30E, h0km, mb4.2/13, mbtmp4.2/14, ML3.9/1, Error ellipse: s-maj=23.8km s-min=17.4km az=82.0*
*NEIC **10** 10:33:56.6±2.2, 31.°6S±0.°1×58.°3E±0.°1, h10km±1km, mb4.7/16, Error ellipse: s-maj=21.7km s-min=17.4km az=250.0*

ISC 10 10:33:56.5±0.4, **31.°60S**±0.°09×**58.°3E**±0.°1, **h14**km, **n59**, σ1°**16**/55, **mb4.6**/19, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.64	347	Pn	Pn	10 36 26.8	-1.9
H04N2	CROZET ISLANDS	15.38	197	T	T	10 53 24.4	
	baz=21						
H04N1	CROZET ISLANDS	15.39	197	T	T	10 53 23.9	
	baz=21						
H04N3	CROZET ISLANDS	15.40	197	T	T	10 53 22.7	
	baz=21						
OPO	Ambohidratompo	16.39	320	Pn	Pn	10 37 48.1	+1.7
	baz=143,slow=16,SNR=2.9						
	10nm,1.0s						
H08S1	Diego Carcia H	27.27	32	T	T	11 08 04.3	
	baz=215,slow=76,SNR=31						
H08S2	Diego Garcia H	27.27	32	T	T	11 08 04.9	
	baz=215,slow=76,SNR=22						
H08S3	Diego Garcia H	27.29	32	T	T	11 08 05.7	
	baz=215,slow=76,SNR=29						
MAW	Mawson	36.14	177	P	P	10 40 58.7	+0.8
	2.0nm,1.0s,baz=359,slow=2.7,SNR=2.5						
	2.0nm,1.0s						
H01W2	Cape Leeuwin H	46.32	110	T	T	11 32 02.3	
	baz=257						
H01W3	Cape Leeuwin H	46.33	110	T	T	11 32 02.5	
	baz=257						
H01W1	Cape Leeuwin H	46.34	110	T	T	11 32 03.5	
	baz=257						
SNAA	Sanae	51.31	201	P	P	10 42 59.8	-0.2
SNAA				IAmb	IAmb	10 43 20.4	
	comp=Z,7.5nm,1.5s						
SNAA	Sanae	51.31	201	P	P	10 42 59.7	-0.2
	comp=Z,2.2nm,0.9s,baz=64,slow=5.7,SNR=7.0						
	comp=Z,2.2nm,0.9s						
PSA00	Pilbara Seismi	55.34	96	P	P	10 43 30.4	+0.3
PSA00				IAmb	IAmb	10 44 08.4	
	comp=Z,17nm,1.2s						
QSPA	South Pole Qui	58.57	180	P	P	10 43 53.0	+0.5
QSPA				IAmb	IAmb	10 44 01.0	
	comp=Z,3.8nm,0.7s						
QSPA	South Pole Qui	58.57	180	P	P	10 43 52.5	-0.1
	comp=Z,3.0nm,0.6s,baz=272,slow=10,SNR=21						
	comp=Z,3.0nm,0.6s						
SHEL	Horse Pasture	59.87	269	P	P	10 44 02.1	0.0
CMAR	Chiang Mai Arr	63.24	44	P	P	10 44 26.0	+1.3
	comp=Z,3.1nm,0.7s,baz=235,slow=7.4,SNR=16						
	comp=Z,3.1nm,0.7s						
ASAR	Alice Springs	66.28	104	P	P	10 44 45.2	+0.5
ASAR	Alice Springs	66.28	104	P	P	10 44 44.8	+0.1
	comp=Z,2.7nm,0.8s,baz=238,slow=6.0,SNR=30						
	comp=Z,2.7nm,0.8s						
AS31	Alice Springs	66.28	104	P	P	10 44 45.2	+0.5
TOLI2	Tolitoli	67.43	74	P	P	10 44 51.2	-0.9
WRA	Warramunga Arr	68.28	101	P	P	10 44 56.4	-1.0
WRA	Warramunga Arr	68.28	101	P	P	10 44 57.7	+0.3
	comp=Z,3.2nm,0.8s,baz=242,slow=5.4,SNR=14						
	comp=Z,3.2nm,0.8s						
WB2	Warramunga Arr	68.28	101	P	P	10 44 58.0	+0.6
WB2				IAmb	IAmb	10 45 18.0	
	comp=Z,10.0nm,1.2s						
WB0	Warramunga Arr	68.40	100	P	P	10 44 58.9	+0.7
WB0				IAmb	IAmb	10 44 59.3	
	comp=Z,6.4nm,0.9s						
WR0	Warramunga Arr	68.44	101	P	P	10 44 57.0	-1.4
WR0				IAmb	IAmb	10 44 58.6	
	comp=Z,8.1nm,1.3s						
STKA	Stephens Creek	68.99	115	P	P	10 45 02.1	+0.4
STKA	Stephens Creek	68.99	115	P	P	10 45 02.2	+0.4
	comp=Z,2.3nm,0.9s,baz=258,slow=7.5,SNR=3.4						
	comp=Z,2.3nm,0.9s						
TORD	Torodi Ar. Bea	70.13	300	P	P	10 45 09.6	+0.8
	com

HHAR	Hobbs	156.52 289	PKPdf	PKPdf	10 53 48.6	-2.6
HHAR			PKPab	PKPab	10 54 20.7	+0.7
237A	Washetta, Mont	157.98 278	PKPdf	PKPdf	10 53 49.6	-3.5
237A			PKPab	PKPab	10 54 27.4	+1.0
TUL3	Leonard	158.04 288	PKPdf	PKPdf	10 53 51.8	-1.2
TUL3			PKPab	PKPab	10 54 25.2	-1.4
TREL	Terrell	158.28 280	PKPdf	PKPdf	10 53 50.6	-2.8
TREL			PKPab	PKPab	10 54 26.2	-1.6

*IDC **10** 10:41:21.9±0.9, 31°.71S×58°.35E, $h0^{km}$, mb4.1/7, mbtmp4.1/7, Error ellipse: s-maj=32.7km s-min=26.3km az=73.0*

ISC 10 10:41:24.0±1.0, 31°.7S±0°.2×58°.3E±0°.2, h14km, n17, σ0§37/8, mb4.4/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.29	197	T	T	11 00 42.8	
	baz=22,slow=74,SNR=16						
H04N1	CROZET ISLANDS	15.29	197	T	T	11 00 55.4	
	baz=22,slow=74,SNR=16						
H04N3	CROZET ISLANDS	15.31	197	T	T	11 00 43.6	
	baz=22,slow=74,SNR=15						
H08S1	Diego Garcia H	27.34	32	T	T	11 15 30.9	
	baz=214,slow=76,SNR=8.3						
H08S2	Diego Garcia H	27.35	32	T	T	11 15 31.4	
	baz=214,slow=76,SNR=9.4						
H08S3	Diego Garcia H	27.36	32	T	T	11 15 33.2	
	baz=214,slow=76,SNR=8.4						
H01W2	Cape Leeuwin H	46.26	110	T	T	11 39 03.1	
	baz=258,slow=74,SNR=4.5						
H01W3	Cape Leeuwin H	46.27	110	T	T	11 39 02.6	
	baz=258,slow=74,SNR=4.0						
H01W1	Cape Leeuwin H	46.28	110	T	T	11 39 01.6	
	baz=258						
QSPA	South Pole Qui	58.46	180	P	P	10 51 19.4	+0.1
	2.1nm,0.6s,baz=273,slow=1.7,SNR=25						
	2.1nm,0.6s						
CMAR	Chiang Mai Arr	63.30	44	P	P	10 51 52.8	+0.2
	1.2nm,0.3s,baz=226,slow=7.3,SNR=5.5						
	1.2nm,0.3s						
ASAR	Alice Springs	66.23	104	P	P	10 52 11.7	-0.2
	0.4nm,0.6s,baz=246,slow=6.0,SNR=7.3						
	0.4nm,0.6s						
WRA	Warramunga Arr	68.23	101	P	P	10 52 24.4	-0.2
	0.5nm,0.6s,baz=241,slow=6.0,SNR=2.5						
	0.5nm,0.6s						
TORD	Torodi Ar. Bea	70.20	300	P	P	10 52 36.5	-0.2
	0.7nm,0.8s,baz=113,slow=5.5,SNR=4.3						
	0.7nm,0.8s						
KURBB	Kurchatov Arra	83.90	13	P	P	10 53 52.6	-0.3
	1.3nm,0.2s,baz=210,slow=5.5,SNR=5.3						
	1.3nm,0.2s						
BVAR	Borovoye Array	85.03	7	P	P	10 53 58.6	+0.1
	1.9nm,0.8s,baz=163,slow=5.9,SNR=9.4						
	1.9nm,0.8s						
YKA	Yellowknife Ar	148.86	354	PKPbc	PKiKP	11 01 12.4	+0.6
	1.0nm,0.8s,baz=2.2,slow=4.2,SNR=4.4						

*IDC **10** 10:52:05.9±1.2, 31°.72S×58°.18E, $h0^{km}$, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=43.5km s-min=26.0km az=72.0*

ISC 10 10:52:08.7±1.2, 31°.7S±0°.2×58°.2E±0°.3, h17km, n18, σ0§71/9, mb3.9/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.24	197	T	T	11 11 04.7	
	baz=21,slow=75						
H04N1	CROZET ISLANDS	15.24	197	T	T	11 11 04.1	
	baz=21,slow=75						
H04N3	CROZET ISLANDS	15.26	197	T	T	11 11 01.9	
	baz=21,slow=75						
H08S1	Diego Garcia H	27.42	32	T	T	11 26 18.7	
	baz=206						
H08S2	Diego Garcia H	27.42	32	T	T	11 26 16.1	
	baz=206						
H08S3	Diego Garcia H	27.44	32	T	T	11 26 16.3	
	baz=206						
H01W2	Cape Leeuwin H	46.36	110	T	T	11 50 15.6	
	baz=256						
H01W3	Cape Leeuwin H	46.36	110	T	T	11 50 14.5	
	baz=256						
H01W1	Cape Leeuwin H	46.37	110	T	T	11 50 17.5	
	baz=256						
QSPA	South Pole Qui	58.44	180	P	P	11 02 03.8	+0.4
	1.2nm,0.8s,baz=273,slow=1.5,SNR=5.1						
	1.2nm,0.8s						
CMAR	Chiang Mai Arr	63.39	44	P	P	11 02 38.0	+0.5
	1.0nm,0.6s,baz=230,slow=7.0,SNR=4.9						
	1.0nm,0.6s						
ASAR	Alice Springs	66.33	104	P	P	11 02 56.2	-0.5
	0.7nm,0.9s,baz=238,slow=5.8,SNR=6.0						
	0.7nm,0.9s						
WRA	Warramunga Arr	68.33	101	P	P	11 03 08.8	-0.7
	0.5nm,0.8s,baz=245,slow=6.3,SNR=2.6						
	0.5nm,0.8s						
BRTR	Keskin Array B	74.65	341	P	P	11 03 46.4	-0.8
	0.3nm,0.4s,baz=177,slow=7.2,SNR=1.4						
	0.3nm,0.4s						
KBZ	Khabaz	76.38	349	P	P	11 03 56.0	-0.7
	0.6nm,0.5s,baz=90,slow=7.1,SNR=1.8						
	0.6nm,0.5s						
MKAR	Makanchi Array	81.13	17	P	P	11 04 23.2	+0.3
	0.2nm,0.6s,baz=216,slow=7.1,SNR=2.4						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	83.94	13	P	P	11 04 38.0	+0.6
	5.0nm,0.2s,baz=208,slow=5.8,SNR=4.1						
BVAR	Borovoye Array	85.06	7	P	P	11 04 43.6	+0.6
	1.1nm,0.6s,baz=176,slow=4.5,SNR=6.5						
	1.1nm,0.6s						

*IDC **10** 11:01:21.6±3.0, 31°.74S×58°.32E, $h0^{km}$, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=89.0km s-min=36.9km az=119.0*

*NEIC **10** 11:01:23.4±2.0, 31°.8S±0°.1×59°.0E±0°.1, $h10^{km}\pm1^{km}$, mb4.5/14, Error ellipse: s-maj=22.7km s-min=19.7km az=175.0*

ISC 10 11:01:22.6±0.5, 31°.8S±0°.1×58°.9E±0°.1, h10km, n27, σ1§46/28, mb4.2/11, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	29.18	267	P	P	11 07 23.2	-1.2
BOSA				IAmb	IAmb	11 07 50.7	
	comp=Z,9.8nm,0.6s						
TSUM	Tsumeb	39.12	279	P	P	11 08 51.7	+1.2
MBAR	Mbarara	40.85	314	P	P	11 09 04.5	-0.5
MBAR				IAmb	IAmb	11 09 33.4	
	comp=Z,5.0nm,1.2s						
MORW	Morawa	48.87	102	P	P	11 10 07.3	-1.3
GSI	Gunungsitoli	49.23	56	P	P	11 10 09.8	-1.7
RPSI	Rantau Prapat	51.16	56	P	P	11 10 25.4	-0.7
RPSI				IAmb	IAmb	11 10 33.2	
	comp=Z,17nm,1.4s						
SNAA	Sanae	51.35	201	P	P	11 10 26.2	-0.7
SNAA				IAmb	IAmb	11 10 43.7	
	comp=Z,3.7nm,1.4s						
PSA00	Pilbara Seismi	54.79	95	P	P	11 10 51.6	-1.3
QSPA	South Pole Qui	58.41	180	P	P	11 11 19.4	+1.2
QSPA				IAmb	IAmb	11 11 35.7	
	comp=Z,5.8nm,1.5s						
QSPA	South Pole Qui	58.41	180	P	P	11 11 18.9	+0.7
	comp=Z,0.7nm,0.6s,baz=282,slow=1.9,SNR=7.4						
	comp=Z,0.7nm,0.6s						
SBUM	Sibu	60.91	66	P	P	11 11 35.4	-0.5
SBUM				IAmb	IAmb	11 12 00.8	
	comp=Z,5.0nm,1.3s						
SBA	Scott Base	62.83	167	P	P	11 11 48.2	+0.2
SBA				IAmb	IAmb	11 12 32.2	
	comp=Z,6.5nm,1.4s						
CMAR	Chiang Mai Arr	62.99	43	P	P	11 11 52.5	+2.7
	comp=Z,0.3nm,0.3s,baz=246,slow=8.8,SNR=1.5						
	comp=Z,0.3nm,0.3s						
ASAR	Alice Springs	65.72	104	P	P	11 12 07.1	-0.8
ASAR	Alice Springs	65.72	104	P	P	11 12 11.3	+3.5
	comp=Z,0.6nm,0.6s,baz=237,slow=6.3,SNR=11						
	comp=Z,0.6nm,0.6s						
AS31	Alice Springs	65.72	104	P	P	11 12 08.0	+0.2
WRA	Warramunga Arr	67.72	100	P	P	11 12 19.7	-0.9
WRA	Warramunga Arr	67.72	100	P	P	11 12 24.7	+4.1
	comp=Z,0.7nm,0.7s,baz=241,slow=5.1,SNR=3.7						
	comp=Z,0.7nm,0.7s						
WB2	Warramunga Arr	67.73	100	P	P	11 12 20.2	-0.5
WB2				IAmb	IAmb	11 13 04.3	
	comp=Z,5.7nm,1.1s						
KKAR	Karatay Array	75.26	9	P	P	11 13 05.3	-0.1
J26L	Joseph Creek	144.38	16	PKPdf	PKPdf	11 20 58.0	-0.4
SUA	Susitna One	144.58	24	PKPdf	PKPdf	11 20 58.1	-0.7
I30M	Mount Dempster	145.22	11	PKPbc	PKPdf	11 21 00.2	+0.4
BCAR	Beaver Creek A	146.02	17	PKPbc	PKPab	11 21 02.9	+0.4
K30B	Basset	159.77	309	PKPab	PKPab	11 22 01.6	+0.9
POST	Post	163.40	280	PKPdf	PKPdf	11 21 24.8	-1.0
POST				PKPab	PKPab	11 22 16.8	-0.1
C03A	Quillayute Air	163.62	8	PKPab	PKPab	11 22 16.8	-0.3

IDC 10 11:02:37.6±1.9, 31°.69S×58°.28E, $h0^{km}$, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=60.2km s-min=37.0km az=95.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.29	197	T	T	11 21 38.8	
	baz=22						
H04N1	CROZET ISLANDS	15.30	197	T	T	11 21 38.8	
	baz=22						
H04N3	CROZET ISLANDS	15.31	197	T	T	11 21 38.3	
	baz=22						
H01W2	Cape Leeuwin H	46.29	110	T	T	12 00 53.9	
	baz=255						
H01W3	Cape Leeuwin H	46.30	110	T	T	12 00 54.9	
	baz=255						
H01W1	Cape Leeuwin H	46.31	110	T	T	12 00 54.6	
	baz=255						
QSPA	South Pole Qui	58.48	180	P	P	11 12 35.5	+0.3
	0.7nm,0.8s,baz=268,slow=5.2,SNR=1.3						
	0.7nm,0.8s						
CMAR	Chiang Mai Arr	63.31	44	P	P	11 13 09.2	+0.7
	0.5nm,0.3s,baz=230,slow=9.3,SNR=1.7						
	0.5nm,0.3s						
ASAR	Alice Springs	66.25	104	P	P	11 13 27.8	-0.1
	0.5nm,0.8s,baz=241,slow=6.4,SNR=5.4						
	0.5nm,0.8s						
WRA	Warramunga Arr	68.26	101	P	P	11 13 40.4	-0.2
	0.4nm,0.6s,baz=236,slow=6.0,SNR=2.3						
	0.4nm,0.6s						
BVAR	Borovoye Array	85.02	7	P	P	11 15 13.9	-0.6
	0.3nm,0.4s,baz=199,slow=3.1,SNR=3.9						
	0.3nm,0.4s						

*IDC **10** 11:05:06.0±0.8, 31°.73S×58°.31E, $h0^{km}$, mb4.1/11, mbtmp4.1/12, ML3.8/1, MS3.8/1, Error ellipse: s-maj=29.4km s-min=20.9km az=53.0*

*NEIC **10** 11:05:08.9±1.3, 31°.74S±0°.04×58°.3E±0°.2, $h10^{km}\pm1^{km}$, mb4.4/7, Error ellipse: s-maj=30.1km s-min=7.3km az=266.0*

ISC 10 11:05:08.3±0.7, 31°.6S±0°.1×58°.2E±0°.1, h10km, n46, σ1§52/38, mb4.3/14, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.63	348	Pn	Pn	11 07 42.5	+1.8
FOMA	Nahampoana Res	11.88	301	Pn	Pn	11 07 59.9	+2.2
H04N2	CROZET ISLANDS	15.36	197	T	T	11 24 35.3	
	baz=21,slow=75,SNR=10						
H04N1	CROZET ISLANDS	15.36	197	T	T	11 24 27.0	
	baz=21,slow=75,SNR=10						
H04N3	CROZET ISLANDS	15.38	197	T	T	11 24 31.2	
	baz=21,slow=75,SNR=11						
ABPO	Ambohimpanom	15.96	319	Pn	Pn	11 08 55.2	+2.1
ABPO				IAmb	IAmb	11 09 07.8	
	comp=Z,8.0nm,0.9s						
OPO	Ambohidratompo	16.34	320	Pn	Pn	11 09 00.6	+2.6
	baz=164,slow=18,SNR=2.9						
OPO				Sn	Sn	11 11 53.5	-6.1
	baz=216,slow=19,SNR=2.5						
	comp=Z,11nm,1.1s						
H08S1	Diego Carcia H	27.31	32	T	T	11 39 15.2	
	baz=207,slow=76,SNR=6.2						
H08S2	Diego Garcia H	27.32	32	T	T	11 39 16.3	
	baz=207,slow=76,SNR=6.5						
H08S3	Diego Garcia H	27.33	32	T	T	11 39 16.7	
	baz=207,slow=76,SNR=6.9						
MAW	Mawson	36.14	177	LR	LR	11 22 42.8	
	comp=Z,148nm,20.3s,baz=3.5,slow=29						
H01W2	Cape Leeuwin H	46.39	110	T	T	12 03 22.8	
	baz=257,slow=75,SNR=7.2						
H01W3	Cape Leeuwin H	46.40	110	T	T	12 03 27.7	
	baz=257,slow=75,SNR=6.3						
H01W1	Cape Leeuwin H	46.41	110	T	T	12 03 30.5	
	baz=257,slow=75,SNR=6.8						
QSPA	South Pole Qui	58.57	180	P	P	11 15 04.5	-0.5
QSPA				IAmb	IAmb	11 15 15.1	
	comp=Z,5.9nm,1.1s						
QSPA	South Pole Qui	58.57	180	P	P	11 15 03.7	-1.3
	comp=Z,1.2nm,0.7s,baz=271,slow=2.0,SNR=12						
	comp=Z,1.2nm,0.7s						
CMAR	Chiang Mai Arr	63.29	44	P	P	11 15 36.9	-0.6
	comp=Z,1.1nm,0.5s,baz=226,slow=7.1,SNR=7.8						
	comp=Z,1.1nm,0.5s						
ASAR	Alice Springs	66.35	104	P	P	11 15 56.7	-0.9
ASAR	Alice Springs	66.35	104	P	P	11 15 56.3	-1.3
	comp=Z,1.5nm,0.8s,baz=238,slow=6.0,SNR=16						
	comp=Z,1.5nm,0.8s						
AS31	Alice Springs	66.35	104	P	P	11 15 56.9	-0.7
AS31				IAmb	IAmb	11 16 04.0	
	comp=Z,0.8nm,1.0s						
WRA	Warramunga Arr	68.35	101	P	P	11 16 08.8	-1.4
WRA	Warramunga Arr	68.35	101	P	P	11 16 08.2	-2.1
	comp=Z,2.1nm,0.9s,baz=242,slow=6.4,SNR=8.1						
	comp=Z,2.1nm,0.9s						
WB2	Warramunga Arr	68.36	101	P	P	11 16 08.8	-1.5
WB0	Warramunga Arr	68.47	101	P	P	11 16 10.1	-0.9
WB0				IAmb	IAmb	11 16 13.0	
	comp=Z,15nm,1.4s						
WR0	Warramunga Arr	68.51	101	P	P	11 16 10.7	-0.5
WR0				IAmb	IAmb	11 16 19.8	
	comp=Z,12nm,1.5s						
TORD	Torodi Ar. Bea	70.06	300	P	P	11 16 20.3	-0.5
	comp=Z,1.0nm,0.9s,baz=108,slow=5.3,SNR=4.8						
	comp=Z,1.0nm,0.9s						
BRTR	Keskin Array B	74.53	341	P	P	11 16 47.0	-0.2
	comp=Z,0.5nm,0.6s,baz=158,slow=8.0,SNR=4.4						
	comp=Z,0.5nm,0.6s						
ABKAR	Akbulak array	80.51	1	P	P	11 17 21.2	+1.0
MKAR	Makanchi Array	81.01	17	P	P	11 17 22.9	-0.1
	comp=Z,0.5nm,0.8s,baz=206,slow=8.1,SNR=5.7						
	comp=Z,0.5nm,0.8s						
KURBB	Kurchatov Arra	83.82	13	P	P	11 17 37.7	+0.2
	comp=Z,2.0nm,0.7s,baz=206,slow=5.4,SNR=9.8						
	comp=Z,2.0nm,0.7s						
BVAR	Borovoye Array	84.94	7	P	P	11 17 43.5	+0.4
	comp=Z,3.1nm,0.8s,baz=160,slow=4.7,SNR=14						
	comp=Z,3.1nm,0.8s						
ZALV	Zalesovo Beam	88.27	15	P	P	11 17 58.9	-0.4
	comp=Z,0.4nm,0.3s,baz=256,slow=5.8,SNR=1.9						
	comp=Z,0.4nm,0.3s						
ESDC	Sonseca Array	91.37	317	P	P	11 18 14.5	+0.2
	comp=Z,0.9nm,0.7s,baz=76,slow=6.8,SNR=2.7						
	comp=Z,0.9nm,0.7s						
ILAR	Eielson Array	143.36	18	PKP	PKPdf	11 24 42.5	+0.4
	comp=Z,0.3nm,0.9s,baz=320,slow=2.7,SNR=2.8						
SUA	Susitna One	144.69	24	PKPdf	PKPab	11 24 43.5	+0.1
EGAK	Eagle	144.70	14	PKPdf	PKPab	11 24 43.5	+0.3
I29M	Ogilvie Camp,	144.73	12	PKPdf	PKPab	11 24 43.5	+0.1
SCRK	Sand Creek	144.74	17	PKPdf	PKPab	11 24 44.2	+0.7
GHO	Glory Hole Cre	145.07	22		PKPbc	11 24 44.2	-0.5
K27K	Chicken	145.15	15		PKPbc	11 24 45.6	+0.8
I30M	Mount Dempster	145.18	11		PKPbc	11 24 44.9	-0.1
L27K	Beaver Creek,	146.04	16	PKPdf	PKPbc	11 24 48.4	+0.7
BCAR	Beaver Creek A	146.04	16	PKPdf	PKPbc	11 24 48.3	+0.6
MESA	MESA	148.44	19		PKPbc	11 24 56.3	+1.6
YKA	Yellowknife Ar	148.75	354	PKPbc	PKPbc	11 24 54.6	-0.5
	comp=Z,1.4nm,0.8s,baz=48,slow=4.4,SNR=5.9						
DLBC	Dease Lake	152.59	9	PKPdf	PKPdf	11 24 58.7	+1.2
DLBC				PKPab	PKPab	11 25 16.2	+1.2

IDC 10 11:06:08.4±2.2, 31°.89S×58°.52E, $h0^{km}$, mb3.6/4, mbtmp3.6/4, MS3.7/1, Error ellipse: s-maj=67.9km s-min=43.8km az=98.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FURI	Furi	44.78	332	LR	LR	11 32 05.3	
	comp=Z,73nm,18.2s,baz=330,slow=35						
QSPA	South Pole Qui	58.28	180	P	P	11 16 04.6	0.0
	2.1nm,1.1s,baz=270,slow=2.0,SNR=1.4						
	2.1nm,1.1s						
ASAR	Alice Springs	66.00	104	P	P	11 16 57.2	+0.1
	0.3nm,0.5s,baz=238,slow=5.8,SNR=1.5						
	0.3nm,0.5s						
WRA	Warramunga Arr	68.02	100	P	P	11 17 09.8	-0.1
	0.3nm,0.7s,baz=243,slow=5.5,SNR=1.9						
	0.3nm,0.7s						
MKAR	Makanchi Array	81.21	16	P	P	11 18 25.8	+0.1
	0.2nm,0.5s,baz=190,slow=4.4,SNR=2.2						
	0.2nm,0.5s						

*ANF **10** 11:08:36.6±0.1, 33°.99N×117°.59W, $h10^{km}\pm1^{km}$, ML3.7/38, Error ellipse: s-maj=1.2km s-min=1.1km az=8.0*

*NEIC **10** 11:08:37.0±1.0, 34°.010N±0°.006×117°.577W±0°.008, $h5^{km}\pm1^{km}$, Error ellipse: s-maj=1.0km s-min=0.9km az=142.0*

*PAS **10** 11:08:37.4±1.0, 34°.011N±0°.006×117°.585W±0°.008, $h4^{km}$, ML3.6/345, ML3.4/96(NEIC), Error ellipse: s-maj=0.9km s-min=0.9km az=51.0*

ISC 10 11:08:37.5±0.8, 34°.00N±0°.01×117°.59W±0°.01, h16km±4km, n179, σ0§95/263, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSC	Mira Loma	0.02	73		Pg	11 08 38.9	-1.5
CHNC	Chino	0.08	271		Pg	11 08 39.3	-1.4
CRNC	Corona	0.12	169		Pg	11 08 40.2	-1.0
CRNC					Sg	11 08 42.2	-1.4
FON	Fontana	0.16	51		Pg	11 08 43.1	+1.4
RVR	Riverside	0.18	91		Pg	11 08 43.5	+1.6
PSRC	Puddingstone R	0.20	297		Pg	11 08 44.6	+2.2
RSBC	Riverside Bore	0.22	96		Pg	11 08 41.7	-0.9
RSBC					Sg	11 08 45.2	-0.7
SS2	San Sevaine	0.22	19		Pg	11 08 41.7	-0.9
SSK	Sunset Peak	0.23	338		Pg	11 08 41.9	-1.0
CLTC	Calectric	0.24	67		Pg	11 08 42.4	-0.6
CLTC					Sg	11 08 46.4	-0.3
BFSC	Mount Baldy Ra	0.25	346		Pg	11 08 42.0	-1.1
BFSC					Sg	11 08 45.8	-1.1
BFSC	Mount Baldy Ra	0.25	346	P	Pg	11 08 41.6	-1.5
	baz=165,SNR=1000						
BFSC				S	Sg	11 08 45.2	-1.8
	baz=165						
CFSC	Central Fire S	0.28	67		Pg	11 08 43.0	-0.5
CFSC					Sg	11 08 47.2	-0.3
CFSC	Central Fire S	0.28	67		Pg	11 08 42.7	-0.8
PEM	Pine Mountain	0.29	306		Pg	11 08 43.0	-0.7
FULC	Fullerton	0.30	246		Pb	11 08 44.5	-0.1
FULC					Sb	11 08 50.0	+0.7
HLNC	Highland	0.33	68		Pg	11 08 44.0	-0.4
HLNC					Sg	11 08 48.8	-0.3
RHC	Rose Hills Cem	0.35	271		Pg	11 08 44.5	-0.3
CSP	Cedar Springs	0.35	32		Pg	11 08 44.1	-0.8
PEC	Perris	0.37	106		Sg	11 08 49.3	-1.1
ELS	Elsinore Mount	0.37	159		Pg	11 08 44.8	-0.5
ELS				IAML		11 08 50.4	
	comp=N,4μm,0.3s						
ELS				IAML		11 08 50.5	
	comp=E,4μm,0.2s						
ELS	Elsinore Mount	0.37	159		Sg	11 08 50.2	-0.3
XTL	Crystal Lake,	0.37	323		Pg	11 08 44.5	-0.8
BREC	Barre Substati	0.38	240		Pb	11 08 46.0	+0.1
BREC					Sb	11 08 52.6	+1.1
CFT	Crafton Hills	0.40	85		Pg	11 08 45.3	-0.4
CFT					Sg	11 08 51.2	0.0
SVD	Seven Oaks Dam	0.42	75		Pg	11 08 45.6	-0.5
SVD					Sg	11 08 51.9	0.0
GVRC	Garvey Reservo	0.44	277		Pg	11 08 46.2	-0.3
GVRC					Sb	11 08 53.7	+0.3
DLAC	Del Amo	0.45	251		Pb	11 08 47.4	+0.3
DLAC					Sb	11 08 55.1	+1.6
MWC	Mount Wilson	0.45	300		Pg	11 08 45.9	-0.8
MWC					Sg	11 08 52.1	-0.7
CACC	Caltech Cellar	0.46	288		Pg	11 08 46.2	-0.6
CACC					Sg	11 08 52.6	-0.5
CRPC	Caltech Rob'n	0.47	287		Pg	11 08 46.4	-0.5
CRPC	Caltech Rob'n	0.47	287		Sg	11 08 53.0	-0.2
CBCC	Caltech Broad	0.47	288		Pg	11 08 46.4	-0.6
CBCC					Sg	11 08 53.1	-0.2
GSA	Caltech--GSA	0.47	287		Pg	11 08 46.3	-0.6
GSA					Sg	11 08 53.0	-0.3
CHFC	Chilao Flat St	0.49	313		Pg	11 08 46.5	-1.0
CHFC					Sg	11 08 53.2	-0.9
HOLC	Holcomb Ridge	0.51	335		Pg	11 08 46.7	-1.0
HOLC					Sg	11 08 53.5	-1.0
BBSC	Beaumont Base	0.51	98		Pg	11 08 47.4	-0.3
BBSC					Sb	11 08 55.0	-0.4
MURC	Murrieta	0.51	140		Pg	11 08 47.1	-0.7
MURC					Sg	11 08 54.2	-0.5
MURC	Murrieta	0.51	140	P	Pg	11 08 47.1	-0.7
	baz=322,SNR=166						
MURC				S	Sg	11 08 54.1	-0.5
	baz=322						
PASC	Pasadena Art C	0.53	289	Pg	Pg	11 08 47.1	-0.9
PASC				Sg	Sg	11 08 54.2	-0.8
JNH	Juniper Hills	0.54	326		Pg	11 08 47.3	-1.0
JNH					Sg	11 08 54.4	-1.2
WTT2	Watts, South G	0.56	265		Pb	11 08 49.1	+0.2
WTT2					Sb	11 08 58.3	+1.7
HMTC	Hemet	0.56	120		Pg	11 08 48.0	-0.8
HMTC					Sg	11 08 55.7	-0.6
ADO	Adelanto Recei	0.57	13		Pg	11 08 48.1	-0.6
ADO					Sg	11 08 56.1	-0.2
USC	University of	0.58	272		Pg	11 08 48.9	-0.1
USC					Sg	11 08 55.9	-0.8
DGR	Domenigoni Val	0.59	126		Pg	11 08 48.4	-0.8
DGR					Sg	11 08 56.4	-0.8
BACC	Bachelor Mtn.	0.60	130		Pg	11 08 48.5	-0.8
BACC					Sg	11 08 56.4	-0.8
VTV	Victorville	0.60	21		Pg	11 08 48.5	-0.9
VTV					Sg	11 08 56.5	-1.0
GR2C	Griffith Obs.	0.60	282		Pg	11 08 48.5	-1.0
GR2C					Sg	11 08 56.8	-0.7
BBRC	Big Bear Solar	0.61	64		Pg	11 08 49.1	-0.6
BBRC					Sg	11 08 57.6	-0.3
BBRC	Big Bear Solar	0.61	64	P	Pg	11 08 49.1	-0.6
	baz=246,SNR=654						
BBRC				S	Sg	11 08 57.2	-0.7
	baz=246						
POB	Polly

GORC					Sg	11 09 05.6	-1.1
ALPC	**Antelope**	**0.91**	**320**		**Pg**	**11 08 53.9**	**-1.3**
ALPC					**Sg**	**11 09 05.7**	**-1.4**
CIS	**Catalina Islan**	**0.91**	**229**	P	**Pg**	**11 08 54.3**	**-0.9**
	baz=48,SNR=65						
CIS				S	**Sg**	**11 09 07.2**	**+0.1**
	baz=48						
EDW2	**Edwards Air Fo**	**0.94**	**339**	P	**Pg**	**11 08 54.7**	**-1.1**
	baz=159,SNR=340						
EDW2				S	**Sg**	**11 09 07.0**	**-1.2**
	baz=159						
RRX	**Edison Barstow**	**1.00**	**29**	P	**Pg**	**11 08 56.0**	**-0.9**
	baz=209,SNR=16						
RRX				S	**Sb**	**11 09 09.7**	**+0.2**
	baz=209						
PFO	**Pinyon Flats O**	**1.02**	**112**		**Pg**	**11 08 55.9**	**-1.3**
PFO				Sg	**Sg**	**11 09 10.0**	**-0.5**
PFO				IAML		11 09 11.5	
	comp=E,786nm,0.4s						
PFO				IAML		11 09 11.8	
	comp=E,998nm,0.4s						
PFO	**Pinyon Flats O**	**1.02**	**112**	P	**Pg**	**11 08 55.9**	**-1.3**
	baz=293,SNR=219						
PFO				S	**Sg**	**11 09 09.6**	**-0.9**
	baz=293						
PMD	**Palm Desert**	**1.07**	**109**		**Pg**	**11 08 56.7**	**-1.5**
PMD				Sg	**Sg**	**11 09 11.3**	**-0.8**
PMD				IAML		11 09 13.4	
	comp=E,866nm,0.1s						
PMD				IAML		11 09 15.1	
	comp=N,792nm,0.7s						
OSI	**Osito Audit: C**	**1.12**	**304**	P	**Pg**	**11 08 57.6**	**-1.6**
	baz=122,SNR=13						
OSI				S	**Sb**	**11 09 13.8**	**+0.7**
	baz=122						
109C	**Camp Elliot, M**	**1.18**	**160**		**Pg**	**11 08 58.4**	**-1.8**
109C				Sg	**Sg**	**11 09 13.8**	**-1.9**
109C	**Camp Elliot, M**	**1.18**	**160**	P	**Pg**	**11 08 58.4**	**-1.8**
	baz=340,SNR=51						
109C				S	**Sg**	**11 09 13.8**	**-1.9**
	baz=340						
CCAC	**Calif City Air**	**1.21**	**343**		**Pg**	**11 08 59.5**	**-1.3**
SCI2	**San Clemente I**	**1.29**	**219**	P	**Pn**	**11 09 00.7**	**-0.3**
	baz=38,SNR=63						
SCI2				S	**Sg**	**11 09 17.4**	**-1.9**
	baz=38						
BELC	**Belle Mtn. Jos**	**1.32**	**89**	P	**Pn**	**11 09 01.6**	**+0.2**
	baz=271,SNR=1000						
BELC				S	**Sb**	**11 09 19.7**	**+0.9**
	baz=271						
HEC	**Hector,Ludlow**	**1.33**	**51**	P	**Pn**	**11 09 01.8**	**+0.3**
	baz=232,SNR=260						
HEC				S	**Sn**	**11 09 20.1**	**+1.2**
	baz=232						
GSC	**Goldstone, Bar**	**1.45**	**26**		**Pn**	**11 09 03.9**	**+0.7**
GSC	**Goldstone, Bar**	**1.45**	**26**	Pb	**Pn**	**11 09 04.0**	**+0.7**
	baz=207,SNR=332						
GSC				S	**Sb**	**11 09 22.9**	**+0.3**
	baz=207						
MONP2	**Monument Peak**	**1.47**	**138**	P	**Pn**	**11 09 04.0**	**+0.4**
	baz=319,SNR=168						
MONP2				S	**Sb**	**11 09 22.7**	**-0.5**
	baz=319						
LRMC	**Laurel Mtn Rad**	**1.48**	**357**	Pb	**Pn**	**11 09 04.5**	**+0.8**
	baz=177,SNR=137						
LRMC				S	**Sn**	**11 09 23.9**	**+1.1**
	baz=177						
BAR	**Barrett**	**1.52**	**149**		**Pn**	**11 09 04.2**	**+0.1**
BAR				IAML		11 09 24.8	
	comp=N,797nm,0.2s						
ARVC	**Arvin**	**1.52**	**318**	P	**Pn**	**11 09 04.1**	**0.0**
	baz=137,SNR=43						
ARVC				S	**Sb**	**11 09 25.1**	**+0.6**
	baz=137						
TJX	**Tijuana**	**1.55**	**163**		**Pn**	**11 09 05.0**	**+0.6**
TKX	**Tecate**	**1.65**	**150**		**Pn**	**11 09 05.9**	**+0.1**
SCZ2	**Santa Cruz Isl**	**1.70**	**270**	Pg	**Pb**	**11 09 09.1**	**+0.7**
	baz=89						
SCZ2				S	**Sn**	**11 09 27.8**	**-0.2**
	baz=89						
BCW	**Bitter Crk WRg**	**1.78**	**302**		**Pn**	**11 09 08.2**	**+0.5**
GMRC	**Granite Mounta**	**1.78**	**63**	P	**Pn**	**11 09 07.7**	**0.0**
	baz=245,SNR=283						
GMRC				Sb	**Sg**	**11 09 33.4**	**-1.4**
	baz=245						
SNCC	**San Nicolas Is**	**1.78**	**246**		**Pn**	**11 09 06.9**	**-0.7**
SNCC				IAML		11 09 31.4	
	comp=N,331nm,0.5s						
SNCC				IAML		11 09 34.1	
	comp=E,349nm,0.5s						
SNCC	**San Nicolas Is**	**1.78**	**246**	P	**Pn**	**11 09 07.0**	**-0.7**
	baz=64						
SNCC				S	**Sn**	**11 09 28.7**	**-1.2**
	baz=64						
BC3	**Big Chuckawall**	**1.81**	**100**	P	**Pn**	**11 09 08.2**	**+0.1**
	baz=282,SNR=104						
BC3				Sb	**Sb**	**11 09 34.0**	**+1.2**
	baz=282						
ISA	**Isabella, Lake**	**1.81**	**337**		**Pn**	**11 09 08.8**	**+0.6**
ISA				IAML		11 09 36.6	
	comp=N,237nm,0.4s						
ISA				IAML		11 09 37.4	
	comp=E,324nm,0.5s						
ISA	**Isabella, Lake**	**1.81**	**337**	P	**Pn**	**11 09 08.7**	**+0.5**
	baz=156,SNR=123						
ISA				S	**Sn**	**11 09 32.2**	**+1.3**
	baz=156						
SBC	**Santa Barbara**	**1.81**	**285**	P	**Pn**	**11 09 08.0**	**-0.1**
	baz=103,SNR=9.0						
SBC				S	**Sn**	**11 09 31.8**	**+1.0**
	baz=103						
SWSC	**Sam W. Stewart**	**1.83**	**125**	P	**Pn**	**11 09 08.0**	**-0.3**
	baz=306,SNR=139						
SWSC				Sb	**Sb**	**11 09 34.8**	**+1.5**
	baz=306						
IKP	**In-Ko-Pah, Jac**	**1.83**	**137**	P	**Pn**	**11 09 08.7**	**+0.3**
	baz=318						
IKP				Sb	**Sb**	**11 09 34.3**	**+1.0**
	baz=318						
CBX	**Cerro Bola**	**1.85**	**155**		**Pn**	**11 09 09.7**	**+0.9**
RMX	**La Rumorosa**	**1.88**	**137**		**Pn**	**11 09 10.9**	**+1.7**
RMX				IAML		11 09 40.2	
	comp=E,440nm,0.6s						
RMX				IAML		11 09 42.2	
	comp=N,311nm,0.4s						
YUH	**Yuha Desert**	**1.94**	**134**		**Pn**	**11 09 10.2**	**+0.3**
YUH				IAML		11 09 39.2	
	comp=N,289nm,0.7s						
YUH				IAML		11 09 39.9	
	comp=E,293nm,0.9s						
TUQ	**Turquoise Moun**	**1.98**	**43**	P	**Pn**	**11 09 10.7**	**+0.1**
	baz=224,SNR=101						
TUQ				Sb	**Sg**	**11 09 39.6**	**-1.8**
	baz=224						
IRM	**Iron Mountain**	**2.03**	**85**	P	**Pn**	**11 09 11.0**	**-0.2**
	baz=266,SNR=184						
IRM				S	**Sn**	**11 09 36.6**	**+0.3**
	baz=266						
PKM	**Mcpherson Peak**	**2.04**	**296**	P	**Pn**	**11 09 11.9**	**+0.5**
	baz=115,SNR=22						
PKM				Sb	**Sg**	**11 09 41.5**	**-1.8**
	baz=115						
MPMC	**Manual Prospec**	**2.06**	**2**	P	**Pn**	**11 09 12.1**	**+0.4**
	baz=182,SNR=154						
MPMC				Sb	**Sg**	**11 09 42.3**	**-1.4**
	baz=182						
SHOC	**Shoshone, Teco**	**2.18**	**29**	Sb	**Sg**	**11 09 45.8**	**-1.9**
	baz=210						
VES	**Vestal, Richgr**	**2.21**	**327**	S	**Sn**	**11 09 42.5**	**+1.9**
	baz=146						
CCX	**Cicese**	**2.26**	**160**		**Pn**	**11 09 15.1**	**+0.9**
CCX				IAML		11 09 48.2	
	comp=N,302nm,0.4s						
CCX				IAML		11 09 53.4	
	comp=E,191nm,0.7s						
GWY	**Greenwater Val**	**2.31**	**19**		**Pn**	**11 09 15.6**	**+0.5**
GWY				IAML		11 09 57.1	
	comp=N,254nm,0.8s						
GWY				IAML		11 09 58.6	
	comp=E,274nm,0.6s						
SMMC	**Simmler**	**2.38**	**304**	P	**Pn**	**11 09 16.6**	**+0.7**
	baz=123						
SMMC				S	**Sn**	**11 09 46.3**	**+1.4**
	baz=123						
ESJX	**Sierra Juarez**	**2.42**	**145**		**Pn**	**11 09 18.0**	**+1.4**
ESJX				IAML		11 09 53.5	
	comp=E,269nm,0.7s						
CWC	**Cottonwood Cre**	**2.47**	**351**	Sb	**Sg**	**11 09 54.5**	**-2.4**
	baz=170						
CPBX	**Cerro Prieto**	**2.48**	**129**	Pn	**Pn**	**11 09 18.0**	**+0.7**
GLA	**Glamis**	**2.49**	**111**		**Pn**	**11 09 17.4**	**-0.1**
GLA				IAML		11 09 59.5	
	comp=N,142nm,0.6s						
GLA				IAML		11 10 00.6	
	comp=E,193nm,0.7s						
GLA	**Glamis**	**2.49**	**111**	P	**Pn**	**11 09 17.3**	**-0.2**
	baz=293						
GLA				Sb	**Sb**	**11 09 54.4**	**+2.0**
	baz=293						
BLYC	**Blythe**	**2.56**	**95**	Pn	**Pn**	**11 09 18.2**	**-0.2**
BLYC				IAML		11 09 59.9	
	comp=E,123nm,0.4s						
BLYC				IAML		11 10 00.9	
	comp=N,166nm,0.5s						
NEE2	**Needles Airpor**	**2.57**	**72**	P	**Pn**	**11 09 19.1**	**+0.6**
	baz=254,SNR=33						
V12A	**Nelson**	**2.84**	**52**	Pn	**Pn**	**11 09 22.9**	**+0.6**
V12A				IAML		11 10 09.4	
	comp=N,138nm,0.8s						
V12A				IAML		11 10 14.2	
	comp=E,105nm,1.1s						
WCT	**Wildcat Mounta**	**2.90**	**15**		**Pn**	**11 09 24.1**	**+1.0**
GRAC	**Grapevine Rang**	**3.00**	**3**	Pn	**Pn**	**11 09 26.0**	**+1.6**
GRAC				IAML		11 10 21.2	
	comp=E,100nm,0.4s						
GRAC				IAML		11 10 27.2	
	comp=N,99nm,1.0s						
GRAC	**Grapevine Rang**	**3.00**	**3**	P	**Pn**	**11 09 25.8**	**+1.3**
	baz=184						
VTX	**Valle De La Tr**	**3.01**	**149**	Pn	**Pn**	**11 09 27.4**	**+2.7**
VTX				IAML		11 10 11.4	
	comp=E,135nm,0.8s						
VTX				IAML		11 10 14.5	
	comp=N,100nm,0.8s						
TPNV	**Topopah Spring**	**3.14**	**20**	P	**Pn**	**11 09 27.9**	**+1.4**
	baz=201,SNR=16						
SHPR	**Sheep Range**	**3.19**	**38**		**Pn**	**11 09 28.0**	**+0.8**
W13A	**Hualapai Mount**	**3.25**	**69**		**Pn**	**11 09 28.9**	**+0.9**
W13A				IAML		11 10 25.8	
	comp=N,66nm,0.5s						
GMN	**Gold Mountain**	**3.31**	**5**	Pn	**Pn**	**11 09 30.4**	**+1.5**
DSP	**Deep Springs**	**3.38**	**355**		**Pn**	**11 09 31.8**	**+2.2**
113A	**Mohawk Valley,**	**3.42**	**110**	Pn	**Pn**	**11 09 30.3**	**+0.1**
PMPB	**Monarch Peak**	**3.44**	**311**	Pn	**Pn**	**11 09 30.9**	**+0.3**
PMPB				IAML		11 10 35.1	
	comp=N,63nm,1.0s						
PMPB				IAML		11 10 35.8	
	comp=E,55nm,2.2s						
SFX	**San Felipe**	**3.75**	**141**	Pn	**Pn**	**11 09 35.2**	**+0.5**
SFX				IAML		11 10 37.6	
	comp=N,68nm,0.6s						
Y14A	**Wickenburg**	**3.81**	**90**		**Pn**	**11 09 36.3**	**+0.7**
Y14A				IAML		11 10 38.0	
	comp=N,38nm,0.4s						
BBGB	**Big Mountain B**	**3.82**	**313**	Pn	**Pn**	**11 09 35.6**	**-0.2**
BBGB				IAML		11 10 43.9	
	comp=E,99nm,0.8s						
MDPB	**Devils Postpil**	**3.82**	**342**		**Pn**	**11 09 36.6**	**+0.6**
MDPB				IAML		11 10 40.8	
	comp=E,92nm,1.1s						
MDPB				IAML		11 10 41.7	
	comp=N,80nm,0.8s						
S11A	**Rachel**	**3.93**	**22**	Pn	**Pn**	**11 09 37.0**	**-0.4**
S11A				IAML		11 10 46.2	
	comp=E,76nm,0.8s						
PRN	**Pahroc Range**	**3.98**	**31**		**Pn**	**11 09 38.7**	**+0.7**
PRN				IAML		11 10 57.6	
	comp=N,74nm,0.8s						
PRN				IAML		11 11 01.5	
	comp=E,68nm,0.9s						
TPH	**Tonopah**	**4.08**	**4**	Pn	**Pn**	**11 09 39.0**	**-0.4**
TPH				IAML		11 11 16.1	
	comp=E,67nm,1.1s						
SAO	**San Andreas Ge**	**4.19**	**312**	Pn	**Pn**	**11 09 42.4**	**+1.6**
LHV	**Little Huntoon**	**4.31**	**350**	Pn	**Pn**	**11 09 42.2**	**-0.2**
NV11	**Mina Array Sit**	**4.45**	**354**	Pn	**Pn**	**11 09 44.3**	**-0.2**
NVAR	**Mina Array Bea**	**4.46**	**353**	Pn	**Pn**	**11 09 43.8**	**-0.9**
214A	**Organ Pipe Nat**	**4.50**	**116**	Pn	**Pn**	**11 09 44.5**	**-0.6**
CMB	**Columbia Colle**	**4.62**	**331**	Pn	**Pn**	**11 09 46.5**	**-0.2**
CMB				IAML		11 11 03.2	
	comp=E,20nm,1.0s						
R11B	**Troy Canyon, C**	**4.63**	**20**	Pn	**Pn**	**11 09 46.7**	**-0.3**
LCMT	**Little Creek M**	**4.65**	**48**		**Pn**	**11 09 47.6**	**+0.4**
RYN	**Ryan**	**4.68**	**351**	Pn	**Pn**	**11 09 47.7**	**0.0**
WAKR	**Walker**	**4.74**	**342**	Pn	**Pn**	**11 09 48.8**	**+0.2**
KNB	**Kanab**	**4.92**	**51**		**Pn**	**11 09 51.5**	**+0.5**
CCUT	**Cedar City**	**4.94**	**43**		**Pn**	**11 09 51.1**	**-0.1**
U15A	**North Rim**	**4.97**	**59**	Pn	**Pn**	**11 09 53.0**	**+1.3**
KVN	**Kaiserville**	**5.06**	**355**		**Pn**	**11 09 53.4**	**+0.5**
X16A	**Lo Mia Camp, P**	**5.11**	**84**	Pn	**Pn**	**11 09 53.8**	**+0.1**
SZCU	**Shurtz Canyon**	**5.12**	**44**	Pn	**Pn**	**11 09 53.5**	**-0.3**
YERR	**Yerington**	**5.15**	**346**	Pn	**Pn**	**11 09 53.0**	**-1.2**
PNTR	**Pine Nut**	**5.33**	**343**	Pn	**Pn**	**11 09 55.4**	**-1.3**
WUAZ	**Wupatki**	**5.33**	**72**	Pn	**Pn**	**11 09 56.3**	**-0.4**
WUAZ				IAML		11 11 31.7	
	comp=E,18nm,0.7s						
WUAZ				IAML		11 11 40.8	
	comp=E,18nm,0.7s						
EMB	**Emerald Bay**	**5.36**	**339**	Pn	**Pn**	**11 09 56.5**	**-0.7**
PSUT	**Pine Spring**	**5.44**	**33**	Pn	**Pn**	**11 09 58.6**	**+0.5**
PKCU	**Pink Cliffs**	**5.50**	**50**	Pn	**Pn**	**11 09 58.9**	**-0.2**
SPR3	**Spring Creek 3**	**5.64**	**27**	Pn	**Pn**	**11 10 00.9**	**-0.1**
PAHR	**Pah Rah Range**	**5.88**	**346**	Pn	**Pn**	**11 10 04.3**	**+0.2**
TUC	**Tucson**	**5.95**	**105**	Pn	**Pn**	**11 10 05.3**	**+0.3**
MTPU	**Mount Pierson**	**5.95**	**46**	Pn	**Pn**	**11 10 06.5**	**+1.1**
TCRU	**Three Creeks R**	**6.20**	**41**	Pn	**Pn**	**11 10 08.3**	**-0.3**
MVU	**Marysvale**	**6.25**	**42**	Pn	**Pn**	**11 10 09.3**	**0.0**
MSU	**Marysvale**	**6.28**	**43**	Pn	**Pn**	**11 10 09.9**	**+0.3**
X18A	**Snowflake**	**6.35**	**83**		**Pn**	**11 10 11.7**	**+1.1**
ELK	**Elko**	**6.99**	**15**	Pn	**Pn**	**11 10 19.8**	**+0.3**
DUN6	**Lazy B Ranch**	**7.26**	**99**	Pn	**Pn**	**11 10 24.1**	**+1.0**
DUG	**Dugway, Tooele**	**7.27**	**30**	Pn	**Pn**	**11 10 23.6**	**+0.4**
O02D	**Mt. Diablo Mer**	**7.43**	**328**	Pn	**Pn**	**11 10 25.8**	**+0.4**
MVCO	**Mesa Verde**	**8.07**	**64**	Pn	**Pn**	**11 10 34.4**	**+0.1**
121A	**Cookes Peak, D**	**8.34**	**97**	Pn	**Pn**	**11 10 39.9**	**+2.0**
PDAR	**Pinedale Array**	**10.78**	**33**	Pn	**Pn**	**11 11 12.8**	**+1.4**

*IDC **10** 11:09:44.1±0.9, 31°.73S×58°.29E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=34.0km s-min=25.6km az=51.0*
*NEIC **10** 11:09:46.3±2.7, 31°.6S±0°.1×58°.0E±0°.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=30.9km s-min=19.1km az=94.0*

ISC 10 11:09:46.7±0.6, **31°.7S**±0°.1×**58°.0E**±0°.1, **h17**km, **n38**, σ1°**08**/32, **mb4.2**/13, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.66**	**349**	Pn	**Pn**	**11 12 19.6**	**+0.8**
FOMA	**Nahampoana Res**	**11.75**	**302**	Pn	**Pn**	**11 12 31.1**	**-2.5**
H04N2	**CROZET ISLANDS**	**15.23**	**196**	T	T	11 29 16.6	
	baz=19						
H04N1	**CROZET ISLANDS**	**15.23**	**197**	T	T	11 29 18.6	
	baz=19						
H04N3	**CROZET ISLANDS**	**15.25**	**197**	T	T	11 29 14.2	
	baz=19						
H01W2	**Cape Leeuwin H**	**46.55**	**110**	T	T	12 07 54.5	
	baz=258						
H01W3	**Cape Leeuwin H**	**46.55**	**110**	T	T	12 07 53.8	
	baz=258						
H01W1	**Cape Leeuwin H**	**46.57**	**110**	T	T	12 07 53.6	
	baz=258						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**11 19 41.9**	**+0.2**
QSPA				IAmb	IAmb	11 19 56.0	
	comp=Z,8.8nm,1.5s						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**11 19 41.5**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=261,slow=5.0,SNR=1.5						
	comp=Z,0.6nm,0.8s						
BELA	**Belgrano 2**	**59.83**	**194**	P	**P**	**11 19 53.0**	**+2.4**
CMAR	**Chiang Mai Arr**	**63.48**	**44**	P	**P**	**11 20 15.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**63.48**	**44**	P	**P**	**11 20 15.3**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=231,slow=7.4,SNR=5.8						
	comp=Z,1.2nm,0.7s						
CHTO	**Chiang Mai**	**63.76**	**44**	P	**P**	**11 20 16.4**	**-1.4**
CHTO				IAmb	IAmb	11 20 16.6	
	comp=Z,3.3nm,1.0s						
ASAR	**Alice Springs**	**66.52**	**104**	P	**P**	**11 20 34.1**	**-1.8**
	comp=Z,0.6nm,1.0s,baz=249,slow=6.0,SNR=8.0						
	comp=Z,0.6nm,1.0s						
WRA	**Warramunga Arr**	**68.53**	**101**	P	**P**	**11 20 47.1**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=240,slow=5.5,SNR=4.7						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**69.93**	**300**	P	**P**	**11 20 59.1**	**+1.8**
	comp=Z,0.9nm,1.0s,baz=111,slow=6.5,SNR=3.8						
	comp=Z,0.9nm,1.0s						
BRTR	**Keskin Array B**	**74.54**	**341**	P	**P**	**11 21 24.4**	**-0.1**
BRTR	**Keskin Array B**	**74.54**	**341**	P	**P**	**11 21 25.4**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=197,slow=4.5,SNR=1.8						
	comp=Z,0.3nm,0.4s						
KK31	**Karatay Array**	**75.30**	**9**	P	**P**	**11 21 30.2**	**+1.6**
KK31				IAmb	IAmb	11 21 30.3	
	comp=Z,2.8nm,1.1s						
KKAR	**Karatay Array**	**75.30**	**9**	P	**P**	**11 21 29.5**	**+0.9**
BOOM	**Boomskoye usch**	**75.63**	**14**	P	**P**	**11 21 31.0**	**+0.2**
BOOM				IAmb	IAmb	11 21 32.2	
	comp=Z,2.5nm,1.0s						
ABKAR	**Akbulak array**	**80.59**	**1**	P	**P**	**11 21 58.0**	**+0.1**
MK31	**Makanchi Array**	**81.14**	**17**	P	**P**	**11 22 00.8**	**0.0**
MKAR	**Makanchi Array**	**81.14**	**17**	P	**P**	**11 22 00.8**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=201,slow=8.7,SNR=4.6						
	comp=Z,0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**83.94**	**13**	P	**P**	**11 22 15.7**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=210,slow=5.5,SNR=6.9						
	comp=Z,0.9nm,0.3s						
KURK	**Kurchatov**	**84.04**	**13**	P	**P**	**11 22 16.4**	**+0.5**
KURK				IAmb	IAmb	11 22 17.9	
	comp=Z,5.6nm,1.2s						
BVAR	**Borovoye Array**	**85.04**	**7**	P	**P**	**11 22 21.4**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=174,slow=4.2,SNR=11						
	comp=Z,2.4nm,0.8s						
BRVK	**Borovoye**	**85.06**	**7**	P	**P**	**11 22 21.4**	**+0.4**
SUA	**Susitna One**	**144.83**	**24**	PKPdf	**PKPdf**	**11 29 21.3**	**-0.9**
I29M	**Ogilvie Camp,**	**144.84**	**12**	PKPdf	**PKPdf**	**11 29 21.2**	**-0.7**
I30M	**Mount Dempster**	**145.29**	**11**		**PKPdf**	**11 29 23.0**	**+0.2**
BCAR	**Beaver Creek A**	**146.17**	**16**	PKPbc	**PKPab**	**11 29 26.1**	**0.0**
K29M	**Barlow Dome**	**146.37**	**12**	PKPbc	**PKPab**	**11 29 26.4**	**-0.5**
GLI	**Glacier Island**	**146.47**	**22**	PKPbc	**PKiKP**	**11 29 27.7**	**-1.5**
YKA	**Yellowknife Ar**	**148.80**	**353**	PKPbc	**PKPbc**	**11 29 32.2**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=4.1,slow=4.1,SNR=4.5						
TXAR	**Lajitas Array**	**163.99**	**266**	PKP	**PKPdf**	**11 29 49.9**	**+0.4**
	baz=354,slow=7.3,SNR=2.8						
PDAR	**Pinedale Array**	**165.14**	**322**	PKP	**PKPdf**	**11 29 50.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=57,slow=3.3,SNR=1.7						

*IDC **10** 11:11:16.1±0.8, 31°.72S×58°.31E, h0km, mb4.0/10, mbtmp4.0/11, ML4.1/1, Error ellipse: s-maj=30.9km s-min=21.1km az=54.0*

ISC 10 11:11:17.5±0.8, **31°.6S**±0°.2×**58°.0E**±0°.2, **h10**km, **n22**, σ1°**77**/13, **mb4.2**/10, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.32**	**197**	T	T	11 30 40.3	
	baz=22,slow=74,SNR=4.3						
H04N1	**CROZET ISLANDS**	**15.32**	**197**	T	T	11 30 37.9	
	baz=22,slow=74,SNR=4.3						
H04N3	**CROZET ISLANDS**	**15.34**	**197**	T	T	11 30 36.1	
	baz=22,slow=74,SNR=3.8						
OPO	**Ambohidratompo**	**16.27**	**320**	Pn	**P**	**11 15 10.1**	**+0.7**
	0.1nm,0.3s,baz=160,slow=14,SNR=3.9						
OPO				Sn	**Sn**	**11 18 02.8**	**-4.3**
	baz=46,slow=20,SNR=1.5						
	3.1nm,0.5s						
H08S1	**Diego Carcia H**	**27.38**	**32**	T	T	11 45 29.9	
	baz=213						
H08S2	**Diego Garcia H**	**27.39**	**33**	T	T	11 45 31.5	
	baz=213						
H08S3	**Diego Garcia H**	**27.40**	**32**	T	T	11 45 27.4	
	baz=213						
H01W2	**Cape Leeuwin H**	**46.50**	**110**	T	T	12 08 57.1	
	baz=255						
H01W3	**Cape Leeuwin H**	**46.51**	**110**	T	T	12 08 57.5	
	baz=255						
H01W1	**Cape Leeuwin H**	**46.52**	**110**	T	T	12 08 58.5	
	baz=255						
QSPA	**South Pole Qui**	**58.56**	**180**	P	**P**	**11 21 13.9**	**-0.2**
	1.9nm,0.7s,baz=290,slow=1.6,SNR=18						
	1.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.38**	**44**	P	**P**	**11 21 47.1**	**-0.2**
	1.0nm,0.6s,baz=235,slow=6.7,SNR=5.4						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**66.47**	**104**	P	**P**	**11 22 06.0**	**-1.6**
	1.6nm,0.7s,baz=238,slow=6.0,SNR=23						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**68.47**	**101**	P	**P**	**11 22 18.8**	**-1.5**
	1.5nm,0.7s,baz=241,slow=5.6,SNR=12						
	1.5nm,0.7s						
STKA	**Stephens Creek**	**69.17**	**115**	P	**P**	**11 22 23.5**	**-1.0**
	1.8nm,0.9s,baz=286,slow=12,SNR=3.4						
	1.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**69.96**	**300**	P	**P**	**11 22 30.6**	**+1.2**
	0.6nm,0.9s,baz=124,slow=2.6,SNR=3.0						
	0.6nm,0.9s						
BRTR	**Keskin Array B**	**74.50**	**341**	P	**P**	**11 22 57.2**	**+1.0**
	0.5nm,0.7s,baz=126,slow=7.3,SNR=2.4						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**81.05**	**17**	P	**P**	**11 23 34.3**	**+1.9**
	0.3nm,0.6s,baz=180,slow=5.2,SNR=2.6						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**84.96**	**7**	P	**P**	**11 23 53.3**	**+0.8**
	1.3nm,0.7s,baz=177,slow=5.3,SNR=6.2						
	1.3nm,0.7s						
SONM	**Songino Array**	**90.19**	**30**	P	**P**	**11 24 18.2**	**+0.1**
	0.5nm,0.4s,baz=270,slow=2.9,SNR=1.9						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**143.40**	**18**	PKP	PKPbc	11 30 49.6	+0.9
	0.1nm,0.6s,baz=318,slow=4.9,SNR=2.7						
YKA	**Yellowknife Ar**	**148.74**	**353**	PKPbc	**PKPbc**	**11 31 04.1**	**-0.2**
	1.3nm,0.8s,baz=1.6,

0.1nm,0.6s,baz=163,slow=5.4,SNR=1.7
0.1nm,0.6s
KURBB **Kurchatov Arra 83.87 13** P **P 11 31 05.1 0.0**
0.9nm,0.2s,baz=218,slow=7.9,SNR=1.5
0.9nm,0.2s
BVAR **Borovoye Array 85.00 7** P **P 11 31 11.0 +0.2**
0.7nm,0.6s,baz=180,slow=7.4,SNR=4.4
0.7nm,0.6s

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*IDC **10** 11:18:42.1±0.6,31°.70S×58°.33E,h0km,mb4.0/13, mbtmp4.0/14,ML3.8/1,Error ellipse: s-maj=22.4km s-min=18.0km az=71.0*
*NEIC **10** 11:18:44.7±1.7,31°.5S±0°.1×58°.2E±0°.2,h10km±1km, mb4.4/6,Error ellipse: s-maj=31.8km s-min=18.1km az=79.0*
ISC 10 11:18:43.8±0.5,**31°.58S**±0°.09×**58°.2E**±0°.1,**h10**km,**n39,**
σ1°**15**/31,**mb4.1**/15,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.60**	**348**	Pn	**Pn**	**11 21 14.8**	**-1.0**
H04N2	**CROZET ISLANDS**	**15.38**	**197**	T	T	11 38 01.4	
baz=22,slow=74,SNR=12							
H04N1	**CROZET ISLANDS**	**15.38**	**197**	T	T	11 38 02.4	
baz=22,slow=74,SNR=11							
H04N3	**CROZET ISLANDS**	**15.39**	**197**	T	T	11 38 00.3	
baz=22,slow=74,SNR=14							
OPO	**Ambohidratompo**	**16.31**	**320**	Pn	**P**	**11 22 35.8**	**-0.4**
baz=153,slow=19,SNR=2.0							
OPO				Sn	**Sn**	**11 25 30.3**	**-4.1**
baz=217,slow=20,SNR=1.3							
3.5nm,0.7s							
POGA	**Pongola**	**23.40**	**274**	P	**P**	**11 23 54.0**	**+1.1**
POGA				IAmb	IAmb	11 24 25.8	
comp=Z,12nm,1.1s							
H08S1	**Diego Carcia H**	**27.30**	**32**	T	T	11 52 51.5	
baz=206,slow=76,SNR=8.2							
H08S2	**Diego Garcia H**	**27.30**	**32**	T	T	11 52 52.1	
baz=206,slow=76,SNR=8.2							
H08S3	**Diego Garcia H**	**27.32**	**32**	T	T	11 52 53.0	
baz=206,slow=76,SNR=8.5							
MATP	**Matopo**	**28.80**	**285**	P	**P**	**11 24 43.5**	**+1.3**
comp=Z,0.8nm,0.6s,baz=97,slow=5.7,SNR=4.3							
comp=Z,0.8nm,0.6s							
MAW	**Mawson**	**36.17**	**177**	P	**P**	**11 25 45.4**	**-0.6**
comp=Z,2.1nm,0.8s,baz=18,slow=3.2,SNR=3.8							
comp=Z,2.1nm,0.8s							
H01W2	**Cape Leeuwin H**	**46.42**	**110**	T	T	12 16 24.7	
baz=257,slow=75,SNR=14							
H01W3	**Cape Leeuwin H**	**46.42**	**110**	T	T	12 16 25.1	
baz=257,slow=75,SNR=14							
H01W1	**Cape Leeuwin H**	**46.43**	**110**	T	T	12 16 26.0	
baz=257,slow=75,SNR=12							
SNAA	**Sanae**	**51.30**	**201**	P	**P**	**11 27 47.5**	**-0.3**
SNAA				IAmb	IAmb	11 27 50.2	
comp=Z,5.3nm,1.3s							
SNAA	**Sanae**	**51.30**	**201**	P	**P**	**11 27 46.6**	**-1.1**
comp=Z,1.1nm,0.8s,baz=51,slow=8.7,SNR=3.6							
comp=Z,1.1nm,0.8s							
QSPA	**South Pole Qui**	**58.59**	**180**	P	**P**	**11 28 40.4**	**-0.3**
QSPA				IAmb	IAmb	11 28 40.8	
comp=Z,4.3nm,0.8s							
QSPA	**South Pole Qui**	**58.59**	**180**	P	**P**	**11 28 39.6**	**-1.0**
comp=Z,3.6nm,0.7s,baz=263,slow=1.5,SNR=22							
comp=Z,3.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**63.29**	**44**	P	**P**	**11 29 12.8**	**-0.2**
comp=Z,1.1nm,0.5s,baz=232,slow=7.3,SNR=6.3							
comp=Z,1.1nm,0.5s							
ASAR	**Alice Springs**	**66.37**	**104**	P	**P**	**11 29 32.3**	**-0.9**
comp=Z,0.6nm,0.6s,baz=242,slow=5.9,SNR=6.9							
comp=Z,0.6nm,0.6s							
WRA	**Warramunga Arr**	**68.37**	**101**	P	**P**	**11 29 44.8**	**-1.2**
comp=Z,0.7nm,0.7s,baz=241,slow=5.2,SNR=4.2							
comp=Z,0.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**70.03**	**300**	P	**P**	**11 29 56.6**	**+0.5**
comp=Z,1.0nm,0.8s,baz=111,slow=4.7,SNR=5.3							
comp=Z,1.0nm,0.8s							
BRTR	**Keskin Array B**	**74.50**	**341**	P	**P**	**11 30 22.4**	**-0.1**
BRTR	**Keskin Array B**	**74.50**	**341**	P	**P**	**11 30 23.2**	**+0.7**
comp=Z,0.8nm,0.7s,baz=177,slow=6.2,SNR=4.1							
comp=Z,0.8nm,0.7s							
KK31	**Karatay Array**	**75.17**	**9**	P	**P**	**11 30 27.2**	**+1.0**
KKAR	**Karatay Array**	**75.17**	**9**	P	**P**	**11 30 27.2**	**+1.1**
ABKAR	**Akbulak array**	**80.48**	**1**	P	**P**	**11 30 56.2**	**+0.7**
MKAR	**Makanchi Array**	**80.99**	**17**	P	**P**	**11 30 58.7**	**+0.4**
comp=Z,0.5nm,0.8s,baz=217,slow=5.9,SNR=4.8							
comp=Z,0.5nm,0.8s							
MLR	**Muntele Rosu**	**82.09**	**338**	P	**P**	**11 31 04.6**	**+0.2**
MLR				IAmb	IAmb	11 31 05.2	
comp=Z,2.5nm,0.6s							
KURBB	**Kurchatov Arra**	**83.80**	**13**	P	**P**	**11 31 13.6**	**+0.7**
comp=Z,0.7nm,0.3s,baz=205,slow=5.9,SNR=5.3							
comp=Z,0.7nm,0.3s							
BVAR	**Borovoye Array**	**84.92**	**7**	P	**P**	**11 31 18.8**	**+0.3**
comp=Z,2.9nm,0.8s,baz=175,slow=5.2,SNR=13							
comp=Z,2.9nm,0.8s							
ESDC	**Sonseca Array**	**91.34**	**317**	P	**P**	**11 31 51.9**	**+2.2**
comp=Z,0.8nm,0.9s,baz=130,slow=2.3,SNR=4.4							
comp=Z,0.8nm,0.9s							
K57A	**Scipio Center**	**142.61**	**300**	PKPdf	**PKPdf**	**11 38 16.6**	**-0.4**
ILAR	**Eielson Array**	**143.34**	**18**	PKP	**PKPdf**	**11 38 18.2**	**+0.6**
comp=Z,0.2nm,0.8s,baz=331,slow=2.2,SNR=1.9							
SUA	**Susitna One**	**144.67**	**24**	PKPdf	**PKPab**	**11 38 19.1**	**+0.3**
KEKH	**Kekaha**	**145.01**	**96**		**PKPab**	**11 38 19.9**	**-1.3**
I30M	**Mount Dempster**	**145.16**	**11**	PKPbc	**PKPbc**	**11 38 21.0**	**+0.5**
DHH	**Diamond Head**	**146.33**	**99**	PKPbc	**PKPdf**	**11 38 23.9**	**-0.1**
YKA	**Yellowknife Ar**	**148.72**	**354**	PKPbc	**PKPbc**	**11 38 30.3**	**-0.2**
comp=Z,1.5nm,0.8s,baz=7.5,slow=3.0,SNR=4.3							

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*IDC **10** 11:24:16.2±1.1,31°.55S×58°.50E,h0km,mb3.7/6, mbtmp3.8/7,ML3.8/1,Error ellipse: s-maj=39.0km s-min=28.3km az=43.0*
ISC 10 11:24:18.3±1.0,**31°.5S**±0°.2×**58°.4E**±0°.2,**h14**km,**n13,**
σ0°**60**/7,**mb3.8**/6,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.39**	**319**	Pn	**P**	**11 28 10.9**	**-0.2**
baz=134,slow=22,SNR=1.9							
3.7nm,0.8s							
H08S1	**Diego Carcia H**	**27.12**	**32**	T	T	11 58 25.7	
baz=207,slow=76,SNR=4.5							
H08S2	**Diego Carcia H**	**27.13**	**32**	T	T	11 58 26.5	
baz=207,slow=76,SNR=5.0							
H08S3	**Diego Carcia H**	**27.14**	**32**	T	T	11 58 27.2	
baz=207,slow=76,SNR=4.4							
H01W2	**Cape Leeuwin H**	**46.24**	**110**	T	T	12 22 33.3	
baz=256							
H01W3	**Cape Leeuwin H**	**46.25**	**110**	T	T	12 22 35.0	
baz=256							
H01W1	**Cape Leeuwin H**	**46.26**	**110**	T	T	12 22 35.6	
baz=256							
QSPA	**South Pole Qui**	**58.66**	**180**	P	**P**	**11 34 15.5**	**+0.4**
1.2nm,1.1s,baz=270,slow=5.1,SNR=2.0							
1.2nm,1.1s							
CMAR	**Chiang Mai Arr**	**63.09**	**44**	P	**P**	**11 34 46.0**	**+0.4**
0.8nm,0.4s,baz=224,slow=7.6,SNR=1.7							
0.8nm,0.4s							
ASAR	**Alice Springs**	**66.19**	**104**	P	**P**	**11 35 05.2**	**-0.7**
0.5nm,0.9s,baz=242,slow=5.5,SNR=5.8							
0.5nm,0.9s							
WRA	**Warramunga Arr**	**68.18**	**101**	P	**P**	**11 35 18.1**	**-0.5**
0.4nm,0.6s,baz=242,slow=5.3,SNR=2.1							
0.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**70.18**	**300**	P	**P**	**11 35 30.6**	**-0.3**
0.3nm,0.8s,baz=145,slow=5.3,SNR=2.1							
0.3nm,0.8s							
BVAR	**Borovoye Array**	**84.82**	**7**	P	**P**	**11 36 52.4**	**+0.4**
1.0nm,0.8s,baz=180,slow=4.4,SNR=4.8							
1.0nm,0.8s							

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*IDC **10** 11:30:05.3±0.5,31°.66S×58°.32E,h0km,mb4.3/19, mbtmp4.3/20,ML3.7/1,MS3.9/20,Error ellipse: s-maj=20.4km s-min=14.6km az=71.0*
*BJI **10** 11:30:07.0±0.0,31°.60S×58°.30E,h17km,mb4.7/22, mB5.5/6,Ms5.0/1,Ms7 4.6/2*
*NEIC **10** 11:30:07.7±1.8,31°.6S±0°.1×58°.3E±0°.1,h10km±1km, mb4.9/53,Error ellipse: s-maj=20.8km s-min=18.0km az=238.0*
*GCMT **10** 11:30:08.7±0.4,31°.66S±0°.03×57°.95E±0°.06,h19km±1km, MW4.9/73,Moment Tensor Solution. s19,c19; s73,c84; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-2.64±.24; $M_{\theta\theta}$2.26±.16; $M_{\phi\phi}$0.37±.15; $M_{r\theta}$0.30±.31; $M_{\theta\phi}$-0.12±.10; $M_{r\phi}$1.69±.41; Best double couple: $M_0$2.84600×10^16^ NP1:ϕ_s249.00000°,δ53.00000°,λ-121.00000°. NP2: ϕ_s114.00000°,δ47.00000°,λ-56.00000°. Principal axes: T 2.2780, Plg3.0000°, Azm1.0000°; N 1.1330, Plg24.0000°, Azm269.0000°; P -3.4150, Plg66.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 11:30:07.5±0.4,**31°.66S**±0°.09×**58°.26E**±0°.10,**h14**km,**n156,**
σ1°**00**/141,**mb4.8**/61,**MS3.9**/21,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.32**	**197**	T	T	11 49 39.2	
baz=22,slow=75,SNR=18							
H04N1	**CROZET ISLANDS**	**15.32**	**197**	T	T	11 49 38.1	
baz=22,slow=75,SNR=56							
H04N3	**CROZET ISLANDS**	**15.34**	**197**	T	T	11 49 53.1	
baz=22,slow=75,SNR=24							
OPO	**Ambohidratompo**	**16.43**	**320**	Pn	**Pn**	**11 33 58.5**	**+0.7**
baz=120,slow=20,SNR=2.8							
OPO				Sn	Sn	11 36 51.3	-8.8
0.1nm,0.3s,baz=148,slow=19,SNR=1.7							
OPO				LR	LR	11 39 02.7	
comp=Z,246nm,21.1s,baz=24,slow=33							
5.7nm,0.9s							
POGA	**Pongola**	**23.48**	**274**	P	**P**	**11 35 16.2**	**-0.6**
H08S1	**Diego Carcia H**	**27.33**	**32**	T	T	12 04 14.3	
baz=207,slow=76,SNR=18							
H08S2	**Diego Garcia H**	**27.33**	**32**	T	T	12 04 15.1	
baz=207,slow=76,SNR=18							
H08S3	**Diego Garcia H**	**27.35**	**32**	T	T	12 04 32.5	
baz=207,slow=76,SNR=16							
BOSA	**Boshof**	**28.64**	**267**	LR	LR	11 44 46.5	
comp=Z,83nm,20.6s,baz=85,slow=31							
SUR	**Sutherland**	**31.65**	**259**	LR	LR	11 47 04.9	
comp=Z,194nm,19.6s,baz=78,slow=32							
MAW	**Mawson**	**36.08**	**177**	P	**P**	**11 37 08.1**	**-0.2**
3.2nm,1.0s,baz=65,slow=4.1,SNR=2.6							
MAW				LR	LR	11 48 23.7	
comp=Z,218nm,18.8s,baz=344,slow=30							
3.2nm,1.0s							
TSUM	**Tsumeb**	**38.56**	**279**	LR	LR	11 51 14.8	
comp=Z,170nm,21.0s,baz=345,slow=33							
PALK	**Pallekele**	**44.26**	**33**	LR	LR	11 52 16.6	
comp=Z,116nm,19.9s,baz=310,slow=30							
FURI	**Furi**	**44.47**	**332**	LR	LR	11 55 12.9	
comp=Z,89nm,20.2s,baz=150,slow=34							
ATD	**Arta Tunnel**	**45.41**	**339**	LR	LR	11 54 11.4	
comp=Z,11nm,19.7s,baz=192,slow=32							
H01W2	**Cape Leeuwin H**	**46.32**	**110**	T	T	12 28 21.6	
baz=257,slow=75,SNR=15							
H01W3	**Cape Leeuwin H**	**46.32**	**110**	T	T	12 28 15.1	
baz=257,slow=75,SNR=16							
H01W1	**Cape Leeuwin H**	**46.33**	**110**	T	T	12 28 16.1	
baz=257,slow=75,SNR=12							
MORW	**Morawa**	**49.42**	**103**	P	**P**	**11 38 57.2**	**+0.1**
MORW				IAmb	IAmb	11 39 07.7	
comp=Z,19nm,1.5s							
SNAA	**Sanae**	**51.25**	**201**	P	**P**	**11 39 11.8**	**+1.4**
SNAA				IAmb	IAmb	11 39 25.1	
comp=Z,27nm,2.0s							
SNAA	**Sanae**	**51.25**	**201**	P	**P**	**11 39 11.0**	**+0.6**
comp=Z,21nm,0.6s							
SNAA	**Sanae**	**51.25**	**201**	P	**P**	**11 39 10.8**	**+0.3**
comp=Z,1.2nm,0.7s,baz=91,slow=3.8,SNR=5.5							
comp=Z,1.2nm,0.7s							
VNA3	**Neumayer Olymp**	**53.28**	**202**	P	**P**	**11 39 25.6**	**+0.2**
comp=Z,2.2nm,0.8s							
WSAR	**Wadi Sarin**	**54.59**	**0**	LR	LR	11 57 18.5	
comp=Z,141nm,20.6s,baz=190,slow=30							
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**11 40 03.0**	**-0.2**
comp=Z,2.5nm,0.7s,baz=264,slow=1.9,SNR=19							
QSPA				LR	LR	12 02 47.4	
comp=Z,141nm,18.6s,baz=258,slow=34							
comp=Z,2.5nm,0.7s							
VNDA	**Vanda**	**62.21**	**166**	P	**P**	**11 40 30.0**	**+1.9**
VNDA				IAmb	IAmb	11 40 37.6	
comp=Z,15nm,1.7s							
VNDA	**Vanda**	**62.21**	**166**	P	**P**	**11 40 28.1**	**0.0**
comp=Z,0.5nm,0.8s,baz=256,slow=4.4,SNR=3.6							
VNDA				LR	LR	12 04 02.9	
comp=Z,155nm,22.0s,baz=234,slow=33							
comp=Z,0.5nm,0.8s							
BKB	**Balikpapan**	**62.93**	**73**	P	**P**	**11 40 33.3**	**-0.5**
CM31	**Chiang Mai Arr**	**63.29**	**44**	P	**P**	**11 40 36.7**	**+0.7**
CM31				IAmb	IAmb	11 40 37.2	
comp=Z,12nm,0.8s							
CMAR	**Chiang Mai Arr**	**63.29**	**44**	P	**P**	**11 40 36.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**63.29**	**44**	P	**P**	**11 40 36.0**	**-0.1**
comp=Z,4.6nm,0.7s,baz=231,slow=7.1,SNR=21							
CMAR				LR	LR	12 03 20.2	
comp=Z,74nm,21.2s,baz=215,slow=32							
comp=Z,4.6nm,0.7s							
EIL	**Elat**	**64.89**	**338**	LR	LR	12 05 12.8	
comp=Z,65nm,20.4s,baz=62,slow=32							
SHL	**Shillong**	**65.35**	**33**	P	**P**	**11 40 50.0**	**+0.5**
ASAR	**Alice Springs**	**66.28**	**104**	P	**P**	**11 40 55.3**	**-0.3**
ASAR	**Alice Springs**	**66.28**	**104**	P	**P**	**11 40 55.2**	**-0.5**
comp=Z,2.1nm,0.6s,baz=240,slow=5.9,SNR=25							
comp=Z,2.1nm,0.6s							
AS31	**Alice Springs**	**66.28**	**104**	P	**P**	**11 40 55.3**	**-0.4**
NIL	**Nilore**	**66.48**	**14**	P	**P**	**11 40 56.0**	**-0.6**
NIL				IAmb	IAmb	11 41 11.5	
comp=Z,19nm,1.4s							
KBL	**Kabul**	**66.63**	**10**	P	**P**	**11 40 55.6**	**-2.1**
KBL				IAmb	IAmb	11 40 59.3	
comp=Z,5.3nm,0.8s							
MMAI	**Mount Meron Ar**	**67.85**	**339**	LR	LR	12 08 17.4	
comp=Z,68nm,18.5s,baz=100,slow=34							
WRA	**Warramunga Arr**	**68.28**	**101**	P	**P**	**11 41 06.3**	**-2.1**
WRA	**Warramunga Arr**	**68.28**	**101**	P	**P**	**11 41 08.1**	**-0.3**
comp=Z,3.2nm,0.8s,baz=241,slow=5.6,SNR=13							
comp=Z,3.2nm,0.8s							
WB2	**Warramunga Arr**	**68.29**	**101**	P	**P**	**11 41 07.8**	**-0.7**
WB2				IAmb	IAmb	11 41 17.6	
comp=Z,8.5nm,1.1s							
WRAB	**Tennant Creek**	**68.29**	**101**	P	**P**	**11 41 07.7**	**-0.8**
WRAB				IAmb	IAmb	11 42 44.0	
comp=Z,14nm,1.4s							
WB0	**Warramunga Arr**	**68.41**	**100**	P	**P**	**11 41 09.0**	**-0.1**
STKA	**Stephens Creek**	**68.98**	**115**	P	**P**	**11 41 12.6**	**0.0**
comp=Z,2.5nm,1.1s,baz=146,slow=4.2,SNR=2.3							
comp=Z,2.5nm,1.1s							
TORD	**Torodi Ar. Bea**	**70.14**	**300**	P	**P**	**11 41 20.1**	**+0.3**
comp=Z,2.7nm,0.9s,baz=143,slow=2.5,SNR=12							
TORD				LR	LR	12 12 02.7	
comp=Z,226nm,18.5s,baz=134,slow=36							
comp=Z,2.7nm,0.9s							
MCQ	**Macquarie Isla**	**70.61**	**143**	P	**P**	**11 41 22.9**	**+0.7**
SIMJ	**Simiganj**	**70.67**	**9**	P	**P**	**11 41 23.6**	**+0.8**
SIMJ				IAmb	IAmb	11 41 26.3	
comp=Z,11nm,1.0s							
CHGR	**Chuyangaron**	**70.69**	**9**	P	**P**	**11 41 23.3**	**+0.5**
DBIC	**Dimbokro**	**71.17**	**291**	LR	LR	12 09 35.1	
comp=Z,104nm,20.1s,baz=138,slow=33							
PZH	**PanZhiHua**	**71.18**	**41**	P	**P**	**11 41 22.7**	**-3.4**
PZH				pmax	pmax		
comp=Z,10.0nm,0.9s							
PZH				pmax	pmax		
comp=Z,150nm,7.5s							
GAR	**Garm**	**71.19**	**10**	P	**P**	**11 41 25.6**	**-0.3**
GAR				IAmb	IAmb	11 42 14.6	
comp=Z,7.3nm,0.9s							
BTK	**Batken**	**72.30**	**10**	P	**P**	**11 41 29.3**	**-3.2**
BTK				IAmb	IAmb	11 41 34.6	
comp=Z,8.7nm,1.2s							
GNI	**Garni**	**72.54**	**349**	LR	LR	12 10 22.8	
comp=Z,91nm,21.4s,baz=186,slow=33							
KSH	**Kashi**	**72.70**	**14**	P	**P**	**11 41 32.7**	**-2.2**
KSH				sP	sP	11 41 40.4	+1.6
KSH				PcP	**pwP**	**11 41 46.9**	**+2.1**
KSH				pmax	pmax		
comp=Z,9.0nm,0.6s							
ARPR	**Arapgir-MALATY**	**72.79**	**344**	P	**P**	**11 41 34.4**	**-1.1**
ARPR				IAmb	IAmb	11 41 37.7	
comp=Z,15nm,1.4s							
ARSB	**Arslanbob**	**73.88**	**11**	P	**P**	**11 41 42.7**	**+0.8**
BR131	**Keskin Array S**	**74.61**	**341**	P	**P**	**11 41 46.6**	**+0.5**
BRTR	**Keskin Array B**	**74.61**	**341**	P	**P**	**11 41 45.4**	**-0.8**
BRTR	**Keskin Array B**	**74.61**	**341**	P	**P**	**11 41 46.5**	**+0.4**
comp=Z,3.1nm,1.0s,baz=169,slow=7.4,SNR=12							
BRTR				LR	LR	12 10 38.2	
comp=Z,49nm,21.1s,baz=126,slow=33							
comp=Z,3.1nm,1.0s							
ONI	**Oni**	**75.13**	**349**	P	**P**	**11 41 48.3**	**-0.7**
TARG	**Taragay, Kyrgy**	**75.22**	**15**	P	**P**	**11 41 48.6**	**-1.3**
KK31	**Karatay Array**	**75.24**	**9**	P	**P**	**11 41 50.4**	**+0.8**
KK31				IAmb	IAmb	11 41 51.6	
comp=Z,7.7nm,1.1s							
KKAR	**Karatay Array**	**75.24**	**9**	P	**P**	**11 41 50.0**	**+0.4**
AAK	**Ala-Archa**	**75.42**	**12**	P	**P**	**11 41 51.0**	**+0.2**
AAK				IAmb	IAmb	11 41 53.2	
comp=Z,20nm,1.6s							
AAK	**Ala-Archa**	**75.42**	**12**	LR	LR	12 14 10.1	
comp=Z,61nm,18.0s,baz=175,slow=35							
PRZ	**Przheval'sk**	**76.07**	**15**	P	**P**	**11 41 55.9**	**+1.4**
KBZ	**Khabaz**	**76.33**	**349**	P	**P**	**11 41 56.2**	**+0.5**
comp=Z,1.8nm,0.8s,baz=199,slow=7.0,SNR=3.0							
KBZ				LR	LR	12 15 36.3	
comp=Z,71nm,18.8s,baz=148,slow=36							
comp=Z,1.8nm,0.8s							
KIV	**Kislovodsk**	**76.59**	**349**	P	**P**	**11 41 57.9**	**+0.6**
KIV				IAmb	IAmb	11 41 59.2	
comp=Z,6.0nm,0.6s							
WMQ	**Urumqi**	**79.80**	**21**	*e*P	P	11 42 20.3	+5.2
WMQ				LR	LR		
comp=Z,120nm,18.3s							
ABKAR	**Akbulak array**	**80.57**	**1**	P	**P**	**11 42 19.4**	**+0.4**
MAKZ	**Makanchi**	**80.99**	**16**	P	**P**	**11 42 22.1**	**+0.7**
MK31	**Makanchi Array**	**81.05**	**16**	P	**P**	**11 42 21.7**	**0.0**
MKAR	**Makanchi Array**	**81.05**	**16**	P	**P**	**11 42 22.0**	**+0.3**
MKAR	**Makanchi Array**	**81.05**	**16**	P	**P**	**11 42 22.0**	**+0.3**
comp=Z,1.6nm,0.9s,baz=216,slow=6.0,SNR=6.7							
comp=Z,1.6nm,0.9s							
KEST	**Kesra**	**81.24**	**322**	LR	LR	12 20 07.7	
comp=Z,108nm,18.4s,baz=238,slow=37							
MLR	**Muntele Rosu**	**82.20**	**338**	P	**P**	**11 42 28.0**	**+0.1**
MLR				IAmb	IAmb	11 42 28.8	
comp=Z,7.7nm,1.0s							
KURBB	**Kurchatov Arra**	**83.86**	**13**	P	**P**	**11 42 37.0**	**+0.7**
comp=Z,4.1nm,0.6s,baz=205,slow=5.5,SNR=27							
comp=Z,4.1nm,0.6s							
INTR	**Introdacqua**	**83.91**	**328**	P	**P**	**11 42 36.6**	**-0.3**
INTR				IAmb	IAmb	11 42 37.9	
comp=Z,7.4nm,1.0s							
KURK	**Kurchatov**	**83.97**	**13**	P	**P**	**11 42 37.1**	**+0.3**
BURAR	**Bucovina Array**	**84.32**	**338**	P	**P**	**11 42 39.1**	**+0.4**
BUR08	**Bucovina Ar. S**	**84.35**	**338**	P	**P**	**11 42 39.6**	**+0.6**
BVAR	**Borovoye Array**	**84.99**	**7**	P	**P**	**11 42 42.4**	**+0.4**
comp=Z,1.1nm,0.9s,baz=172,slow=4.5,SNR=32							
comp=Z,1.1nm,0.9s							
BRVK	**Borovoye**	**85.01**	**7**	P	**P**	**11 42 42.6**	**+0.6**
BRVK				IAmb	IAmb	11 42 43.6	
comp=Z,14nm,1.1s							
NJ2	**Nanjing**	**85.43**	**48**	*e*P	**P**	**11 42 46.1**	**+1.5**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.5s							
KIEV	**Kiev**	**85.92**	**342**	P	**P**	**11 42 46.5**	**-0.1**
KIEV				IAmb	IAmb	11 42 47.2	
comp=Z,10nm,1.4s							
AKASG	**Malin Array Be**	**85.93**	**342**	P	**P**	**11 42 46.1**	**-0.5**
comp=Z,0.3nm,0.3s,baz=151,slow=3.6,SNR=4.0							
comp=Z,0.3nm,0.3s							
AKBB	**Malin Array Si**	**85.93**	**342**	P	**P**	**11 42 46.5**	**-0.1**
AKBB				IAmb	IAmb	11 42 47.1	
comp=Z,12nm,1.4s							
SOKA	**Soboth**	**87.19**	**332**	*i* P	**P**	**11 42 53.4**	**+0.4**
comp=Z,6.0nm,1.3s							
HHC	**Hu-ho-hao-te**	**87.35**	**38**	*e*P	**P**	**11 42 53.9**	**-0.1**
HHC				pmax	pmax		
comp=Z,11nm,0.5s							
HHC				pmax	pmax		
comp=Z,190nm,5.4s							
ARSA	**Arzberg**	**87.46**	**332**	*e*P	**P**	**11 42 55.1**	**+0.8**
comp=Z,3.2nm,0.9s							
RONA	**Rosalia, Austr**	**87.53**	**333**	*e*P	**P**	**11 42 55.7**	**+1.1**
comp=Z,7.3nm,1.0s							
TEOL	**Teolo**	**87.55**	**329**	P	**P**	**11 42 55.9**	**+1.1**
MODS	**Modra-Piesok**	**87.71**	**334**	*e*P	**P**	**11 42 55.5**	**+0.1**
CONA	**Conrad Observa**	**87.88**	**333**	*i* P	**P**	**11 42 56.8**	**+0.5**
comp=Z,9.3nm,1.2s							
JAVC	**Velka Javorina**	**87.97**	**335**	*e*P	**P**	**11 42 57.4**	**+0.7**
CTI	**Castel Tesino**	**88.10**	**330**	P	**P**	**11 42 58.6**	**+1.2**
CTI				IAmb	IAmb	11 42 59.2	
comp=Z,7.8nm,1.1s							
KBA	**Koelnbreinsper**	**88.20**	**331**	*i* P	**P**	**11 42 59.5**	**+1.5**
comp=Z,5.5nm,1.4s							
ABTA	**Abfaltersbach**	**88.28**	**330**	*i* P	**P**	**11 42 59.2**	**+0.9**
comp=Z,8.2nm,0.9s							
ZAA0	**Zalesovo Array**	**88.31**	**15**	P	**P**	**11 42 56.8**	**-1.3**
ZAA0				IAmb	IAmb	11 42 59.5	
comp=Z,5.3nm,1.1s							
ZALV	**Zalesovo Beam**	**88.31**	**15**	P	**P**	**11 42 57.1**	**-1.0**
ZALV	**Zalesovo Beam**	**88.31**	**15**	P	**P**	**11 42 57.5**	**-0.6**
comp=Z,4.3nm,1.0s,baz=209,slow=2.7,SNR=8.7							
comp=Z,4.3nm,1.0s							
OJC	**Ojcow**	**88.36**	**336**	P	**P**	**11 42 58.6**	**+0.1**
OJC		

MGMO	Mountain Grove	155.13 291	PKPab	PKPab	11 50 24.6	-0.4
DEOK	Depew	158.62 288	PKPab	PKPab	11 50 39.7	-0.3
LAO	LASA Array	160.82 326	PKPdf	PKPdf	11 50 05.5	-1.4
LAO			PKPab	PKPab	11 50 50.0	+0.7
JCT	Junction City	161.17 272	PKPab	PKPab	11 50 51.0	-0.4
NEW	Newport	163.05 349	PKPdf	PKPdf	11 50 07.7	-1.5
NEW			PKPab	PKPab	11 50 58.5	-0.3
B08A	Colville Reser	163.22 354	PKPdf	PKPdf	11 50 07.7	-1.6
B08A			PKPab	PKPab	11 50 58.6	-1.0
TXAR	Lajitas Array	164.25 266	PKP	PKPdf	11 50 10.0	-1.0
	comp=Z,0.5nm,1.0s,baz=143,slow=2.5,SNR=3.9					
TXAR			PKPab	PKPab	11 51 05.2	+0.2
	comp=Z,0.2nm,0.6s,baz=81,slow=5.6,SNR=3.5					
PDAR	Pinedale Array	165.28 322	PKPdf	PKPdf	11 50 10.0	-1.6
PDAR			PKPab	PKPab	11 51 08.8	-0.4
PDAR	Pinedale Array	165.28 322	PKP	PKPdf	11 50 10.7	-0.9
	comp=Z,0.1nm,0.3s,baz=64,slow=3.4,SNR=3.6					
PDAR			PKPab	PKPab	11 51 08.9	-0.3
	comp=Z,0.2nm,0.6s,baz=46,slow=4.3,SNR=4.2					
I07A	Izee	167.47 353	PKPab	PKPab	11 51 20.2	+1.6
P18A	Preston Nutter	167.73 314	PKPdf	PKPdf	11 50 11.8	-2.0
P18A			PKPab	PKPab	11 51 20.7	+0.4
ELK	Elko	169.53 332	PKPdf	PKPdf	11 50 11.4	-3.3
ELK			PKPab	PKPab	11 51 26.8	-1.2
U15A	North Rim	170.83 304	PKPab	PKPab	11 51 33.4	-0.7
Y14A	Wickenburg	172.30 289	PKPab	PKPab	11 51 41.9	+1.5
NVAR	Mina Array Bea	172.68 338	PKPab	PKPab	11 51 41.4	-0.6
	comp=Z,1.0nm,1.0s,baz=52,slow=7.8,SNR=5.6					

*IDC **10** 11:32:39.7±1.3, 40.°30N×143.°53E, h0km, mb3.7/10, mbtmp3.8/13, ML3.5/3, MS4.1/2, Error ellipse: s-maj=31.9km s-min=18.6km az=101.0*
*NIED **10** 11:32:41.5, 40.°31N×143.°29E, h6km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=4.44; $M_{\theta\theta}$=6.80; $M_{r\theta}$=2.36; $M_{r\phi}$=0.58; $M_{\theta\phi}$=-0.41; $M_{\phi\phi}$=0.79; Fault plane solution: M_0=5.80000×10^14^ NP1: ϕ_s=255.00000°, δ=51.00000°, λ=-115.00000°. NP2: ϕ_s=111.00000°, δ=45.00000°, λ=-63.00000°.*
*JMA **10** 11:32:41.5±0.3, 40.°3N±0.°5×143.°3E±0.°8, h6km±2km, MV4.1/33, FAR E OFF SANRIKU*
*NEIC **10** 11:32:43.6±1.7, 40.°40N±0.°05×143.°29E±0.°05, h10km±1km, mb4.3/22, Error ellipse: s-maj=9.2km s-min=7.2km az=182.0*
ISC 10 11:32:41.3±3.8, 40.°31N±0.°04×143.°29E±0.°08, h5km±23km, n66, σ1°68/68, mb4.2/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.15	252	P	Pb	11 33 03.4	-0.3
JTH				S	Sb	11 33 18.6	-0.4
JKEN	Kujiedanarisaw	1.21	266	eP	Pn	11 33 04.6	-0.3
MIYJ	Miyakonagasawa	1.34	237	P	Pn	11 33 06.4	-0.4
MIYJ				S	Sb	11 33 24.3	-0.2
JANG	Nango	1.35	273	P	Pn	11 33 06.5	-0.4
JANG				S	Sb	11 33 24.5	-0.3
ERM	Erimo	1.71	357		Pn	11 33 11.6	-0.2
JEM	Erimo	1.71	357	P	Pn	11 33 11.5	-0.3
JOM	Ohasama	1.75	242	P	Pn	11 33 12.8	+0.5
JTM	Tenmabayashi	1.75	287		Pn	11 33 13.2	+0.8
JTM	Tenmabayashi	1.75	287	P	Pn	11 33 13.2	+0.8
JTM				S	Sb	11 33 35.6	-0.7
JOT	Ohata	2.01	303	P	Pn	11 33 16.8	+0.9
JOT				S	Sb	11 33 42.6	-1.0
JAH	Hinai	2.03	267	P	Pb	11 33 17.6	-1.1
JAH				eS	Sb	11 33 44.6	+0.3
JMK	Ichinoseki	2.09	230	P	Pn	11 33 17.9	+0.8
JMK				eS	Sb	11 33 44.5	-1.6
JRG	Rokugo	2.23	247	P	Pb	11 33 21.2	-1.0
JKB	Kayabe	2.32	314	eS	Sb	11 33 50.8	-1.9
JMM	Marumori	3.12	219		Pn	11 33 32.1	+1.0
JKA	Kamikawa-asahi	3.84	353		Pn	11 33 42.0	+0.9
ASAJ	Asahikawa	3.84	353	Pn	Pn	11 33 42.4	+1.3
	3.6nm,0.3s,baz=231,slow=10.0,SNR=34						
ASAJ				Sn	Sn	11 34 26.6	0.0
	1.9nm,0.3s,baz=193,slow=22,SNR=4.5						
	7.1nm,0.3s						
MAJO	Matsushiro	5.48	228		Pn	11 34 06.8	+3.2
MJAR	Matsushiro Arr	5.48	228	Pn	Pn	11 34 05.8	+2.1
	0.3nm,0.3s,baz=40,slow=12,SNR=23						
MJAR				Sn	Sn	11 35 11.8	+4.8
	baz=34,slow=14						
	4.6nm,0.5s						
MJB9	Matsu-Tunnel	5.48	228		Pn	11 34 07.9	+4.2
JGF	Kuroka	6.63	227		Pn	11 34 24.1	+4.6
JHJ	Hachijo jima 2	7.71	202	Pn	Pn	11 34 33.6	-0.6
	4.8nm,0.3s,baz=57,slow=22,SNR=2.3						
JHJ				Sn	Sn	11 35 54.6	-7.2
	8.3nm,0.3s,baz=71,slow=23,SNR=7.0						
	34nm,0.5s						
USA0B	Ussuriysk Arra	9.23	299	Pn	Pn	11 34 53.5	-1.6
JOW	Kunigami	18.32	227	LR	LR	11 44 11.9	
	comp=Z,284nm,21.3s,baz=124,slow=38						
SONM	Songino Array	27.35	298	P	P	11 38 28.2	+0.9
	0.6nm,0.5s,baz=111,slow=8.2,SNR=2.1						
	0.6nm,0.5s						
H11N2	WAKE ISLAND Hy	28.80	128	T	T	12 08 42.2	
	baz=321,slow=75,SNR=41						
H11N1	WAKE ISLAND Hy	28.81	128	T	T	12 08 47.5	
	baz=321,slow=75,SNR=37						
H11N3	WAKE ISLAND Hy	28.82	128	T	T	12 08 48.1	
	baz=321,slow=75,SNR=43						
H11S1	WAKE ISLAND Hy	29.63	130	T	T	12 09 49.7	
	baz=322,slow=76,SNR=9.7						
H11S3	WAKE ISLAND Hy	29.64	130	T	T	12 09 46.0	
	baz=322,slow=76,SNR=10						
H11S2	WAKE ISLAND Hy	29.65	130	T	T	12 09 54.6	
	baz=322,slow=76,SNR=7.2						
ZALV	Zalesovo Beam	40.87	310	P	P	11 40 24.2	+0.2
	0.7nm,0.5s,baz=83,slow=11,SNR=2.4						
	0.7nm,0.5s						
D19K	Kuna River	41.77	28	P	P	11 40 31.9	+0.7
E19K	Redstone River	41.90	30	P	P	11 40 33.2	+0.8
E19K				IAmb	IAmb	11 40 51.0	
	comp=Z,9.6nm,1.4s						
H19K	Roundabout Mou	41.94	33	P	P	11 40 33.0	+0.3
B20K	Meade River	42.41	26	P	P	11 40 35.7	-0.6
B20K				IAmb	IAmb	11 41 05.5	
	comp=Z,13nm,1.5s						
J20K	Nowinta River	42.81	35	P	P	11 40 41.5	+1.7
J20K				IAmb	IAmb	11 40 58.4	
	comp=Z,10.0nm,1.5s						
IMAR	Indian Mountai	43.10	32	P	P	11 40 42.0	0.0
MK31	Makanchi Array	43.70	300	P	P	11 40 48.0	+0.8
MKAR	Makanchi Array	43.70	300	P	P	11 40 47.5	+0.2
MKAR	Makanchi Array	43.70	300	P	P	11 40 47.0	-0.3
	comp=Z,0.7nm,0.8s,baz=85,slow=10,SNR=2.1						
	comp=Z,0.7nm,0.8s						
MAKZ	Makanchi	43.91	300	P	P	11 40 50.0	+1.1
MAKZ				IAmb	IAmb	11 41 28.2	
	comp=Z,8.0nm,1.4s						
E22K	Anaktuvuk Pass	44.03	29	P	P	11 40 50.1	+0.5
E22K				IAmb	IAmb	11 40 58.8	
	comp=Z,7.8nm,1.4s						
H23K	Yukon River	44.82	33	P	P	11 40 56.6	+0.7
PMR	Palmer	45.14	39	P	P	11 40 58.8	+0.3
KURBB	Kurchatov Arra	45.21	306	P	P	11 40 57.9	-1.3
	comp=Z,1.4nm,0.2s,baz=80,slow=8.7,SNR=5.1						
	comp=Z,1.4nm,0.2s						
E24K	Your Creek	45.27	29	P	P	11 41 01.0	+1.5
E24K				IAmb	IAmb	11 41 12.4	
	comp=Z,3.9nm,1.3s						
ILAR	Eielson Array	45.96	34	P	P	11 41 02.8	-2.1
	comp=Z,0.2nm,0.7s,baz=264,slow=5.3,SNR=2.0						
	comp=Z,0.2nm,0.7s						
SCRK	Sand Creek	47.28	35	P	P	11 41 14.9	-0.5
SCRK				IAmb	IAmb	11 41 28.6	
	comp=Z,2.2nm,1.0s						
MCARA	McCarthy VSAT	48.07	38	P	P	11 41 21.8	+0.3
K27K	Chicken	48.11	35	P	P	11 41 21.7	0.0
K27K				IAmb	IAmb	11 41 24.5	
	comp=Z,6.0nm,1.5s						
I28M	Miner Creek	48.81	33	P	P	11 41 25.8	-1.4
E29M	Blow River	49.20	29	P	P	11 41 31.2	+1.2
E29M				IAmb	IAmb	11 41 48.1	
	comp=Z,3.2nm,1.1s						
BVAR	Borovoye Array	49.51	311	P	P	11 41 32.6	0.0
	comp=Z,0.5nm,0.4s,baz=68,slow=9.0,SNR=2.6						
	comp=Z,0.5nm,0.4s						
G30M	tAoh Zraii Nji	50.05	30	P	P	11 41 37.8	+1.2
G30M				IAmb	IAmb	11 42 11.5	
	comp=Z,5.1nm,1.4s						
I30M	Mount Dempster	50.32	33	P	P	11 41 39.7	+0.9
I30M				IAmb	IAmb	11 41 47.5	
	comp=Z,2.0nm,0.7s						
INK	Inuvik	50.81	28	P	P	11 41 43.1	+0.9
INK				IAmb	IAmb	11 42 13.2	
	comp=Z,5.2nm,1.4s						
HYT	Haines Junctio	50.81	38	P	P	11 41 43.1	+0.6
G31M	Satah River	50.81	30	P	P	11 41 43.7	+1.4
N31M	Braeburn, Yuko	51.45	37	P	P	11 41 48.3	+1.1
PBA	Port Blair	52.74	252	P	P	11 41 58.9	+1.6
WRA	Warramunga Arr	60.52	190	P	P	11 42 51.5	-0.9
	comp=Z,0.5nm,0.6s,baz=7.6,slow=6.9,SNR=4.9						
	comp=Z,0.5nm,0.6s						
FINES	FINESS Array B	66.60	332	P	P	11 43 32.8	+0.5
	comp=Z,1.3nm,0.7s,baz=43,slow=10,SNR=4.2						
	comp=Z,1.3nm,0.7s						
HFS	Hagfors	71.70	336	P	P	11 44 03.3	-0.6
	comp=Z,0.6nm,0.7s,baz=74,slow=11,SNR=1.3						
	comp=Z,0.6nm,0.7s						
NOA	NORSAR Array B	71.73	338	P	P	11 44 04.6	+0.4
	comp=Z,0.3nm,0.5s,baz=38,slow=5.7,SNR=1.6						
	comp=Z,0.3nm,0.5s						
SCHQ	Schefferville	81.79	17	LR	LR	12 24 50.4	
	comp=Z,234nm,18.9s,baz=275,slow=38						

*IDC **10** 11:33:38.4±0.9, 31.°68S×58.°38E, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=28.7km s-min=26.9km az=87.0*
*NEIC **10** 11:33:40.6±1.3, 31.°8S±0.°2×58.°4E±0.°1, h10km±1km, mb4.7/3, Error ellipse: s-maj=32.7km s-min=11.5km az=198.0*
ISC 10 11:33:40.8±0.7, 31.°7S±0.°2×58.°4E±0.°2, h14km, n28, σ0°71/22, mb4.1/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.31	198	T	T	11 53 21.5	
	baz=22,slow=74						
H04N1	CROZET ISLANDS	15.31	198	T	T	11 53 24.8	
	baz=22,slow=74						
H04N3	CROZET ISLANDS	15.32	198	T	T	11 53 17.6	
	baz=22						
BOSA	Boshof	28.77	268	P	P	11 39 38.0	-0.4
	2.0nm,1.0s,baz=84,slow=5.3,SNR=2.8						
	2.0nm,1.0s						
H01W2	Cape Leeuwin H	46.17	110	T	T	12 32 02.7	
	baz=258						
H01W3	Cape Leeuwin H	46.17	110	T	T	12 31 48.3	
	baz=258						
H01W1	Cape Leeuwin H	46.19	110	T	T	12 31 59.3	
	baz=258						
QSPA	South Pole Qui	58.45	180	P	P	11 43 36.1	0.0
QSPA				IAmb	IAmb	11 44 10.3	
	comp=Z,4.5nm,1.3s						
QSPA	South Pole Qui	58.45	180	P	P	11 43 36.0	0.0
	comp=Z,0.7nm,0.7s,baz=335,slow=1.9,SNR=6.5						
	comp=Z,0.7nm,0.7s						
CMAR	Chiang Mai Arr	63.24	44	P	P	11 44 08.9	-0.1
	comp=Z,1.3nm,0.7s,baz=233,slow=7.4,SNR=6.3						
	comp=Z,1.3nm,0.7s						
ASAR	Alice Springs	66.13	104	P	P	11 44 27.6	-0.6
ASAR	Alice Springs	66.13	104	P	P	11 44 28.2	+0.1
	comp=Z,1.0nm,0.7s,baz=240,slow=5.9,SNR=12						
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	68.14	101	P	P	11 44 41.0	+0.1
	comp=Z,1.0nm,0.7s,baz=240,slow=5.5,SNR=5.2						
	comp=Z,1.0nm,0.7s						
WB0	Warramunga Arr	68.26	100	P	P	11 44 40.8	-0.9
WB0				IAmb	IAmb	11 44 51.0	
	comp=Z,10nm,1.3s						
MKAR	Makanchi Array	81.06	16	P	P	11 45 54.9	-0.2
	comp=Z,0.1nm,0.3s,baz=201,slow=5.2,SNR=2.4						
	comp=Z,0.1nm,0.3s						
KURBB	Kurchatov Arra	83.89	13	P	P	11 46 09.3	-0.5
	comp=Z,0.8nm,0.7s,baz=204,slow=5.1,SNR=4.1						
	comp=Z,0.8nm,0.7s						
BVAR	Borovoye Array	85.03	7	P	P	11 46 15.0	-0.4
	comp=Z,2.0nm,0.8s,baz=163,slow=5.7,SNR=8.2						
	comp=Z,2.0nm,0.8s						
ZALV	Zalesovo Beam	88.33	15	P	P	11 46 31.2	-0.3
	comp=Z,0.3nm,0.2s,baz=176,slow=8.7,SNR=2.2						
	comp=Z,0.3nm,0.2s						
I28M	Miner Creek	144.42	13	PKPdf	PKPab	11 53 13.9	-0.3
SUA	Susitna One	144.71	24	PKPdf	PKPab	11 53 14.7	-0.7
EGAK	Eagle	144.76	14	PKPdf	PKPab	11 53 15.7	+0.4
SCRK	Sand Creek	144.79	17	PKPdf	PKPab	11 53 16.0	+0.4
K27K	Chicken	145.21	16	PKPbc	PKPbc	11 53 17.3	+0.4
I30M	Mount Dempster	145.25	11	PKPbc	PKPbc	11 53 17.0	-0.2
J30M	Hart River	145.86	11	PKPbc	PKPdf	11 53 19.2	+0.7
BCAR	Beaver Creek A	146.10	16	PKPbc	PKPdf	11 53 19.9	+1.0
M29M	Somne Creek	147.40	15	PKPbc	PKPdf	11 53 23.4	+2.2
P43A	Skaggs, Pawnee	152.89	296	PKPab	PKPab	11 53 48.7	0.0

*IDC **10** 11:35:24.4±1.3, 31.°66S×58.°29E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=53.2km s-min=29.8km az=68.0*
ISC 10 11:35:26.7±1.2, 31.°7S±0.°2×58.°3E±0.°4, h14km, n7, σ0°44/7, mb3.8/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	58.48	180	P	P	11 45 22.2	0.0
	0.9nm,0.9s,baz=162,slow=19,SNR=1.8						
	0.9nm,0.9s						
ASAR	Alice Springs	66.25	104	P	P	11 46 14.7	-0.1
	0.4nm,0.7s,baz=241,slow=5.5,SNR=5.2						
	0.4nm,0.7s						
WRA	Warramunga Arr	68.25	101	P	P	11 46 27.5	0.0
	0.5nm,0.8s,baz=246,slow=6.1,SNR=1.8						
	0.5nm,0.8s						
BRTR	Keskin Array B	74.65	341	P	P	11 47 05.4	-0.2
	0.2nm,0.3s,baz=151,slow=6.6,SNR=1.7						
	0.2nm,0.3s						
MKAR	Makanchi Array	81.07	16	P	P	11 47 41.0	-0.1
	0.2nm,0.7s,baz=220,slow=3.4,SNR=1.4						
	0.2nm,0.7s						
KURBB	Kurchatov Arra	83.89	13	P	P	11 47 54.9	-0.7
	0.2nm,0.3s,baz=224,slow=5.2,SNR=2.3						
	0.2nm,0.3s						
BVAR	Borovoye Array	85.02	7	P	P	11 48 01.8	+0.5
	0.8nm,0.8s,baz=186,slow=6.5,SNR=1.9						
	0.8nm,0.8s						

*IDC **10** 11:36:24.0±0.9, 31.°68S×58.°23E, h0km, mb3.9/9, mbtmp3.9/10, ML3.7/1, Error ellipse: s-maj=33.5km s-min=24.2km az=56.0*
ISC 10 11:36:26.8±0.9, 31.°7S±0.°2×58.°2E±0.°2, h17km, n15, σ0°49/12, mb4.0/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.29	197	T	T	11 55 18.6	
	baz=20						
H04N1	CROZET ISLANDS	15.29	197	T	T	11 55 22.5	
	baz=20						
H04N3	CROZET ISLANDS	15.30	197	T	T	11 55 20.6	
	baz=20						
OPO	Ambohidratompo	16.42	320	Pn	Pn	11 40 16.9	+0.2
	baz=144,slow=13,SNR=1.4						
	2.1nm,0.7s						
QSPA	South Pole Qui	58.48	180	P	P	11 46 22.2	+0.4
	1.9nm,1.0s,baz=245,slow=4.4,SNR=5.2						
	1.9nm,1.0s						
CMAR	Chiang Mai Arr	63.34	44	P	P	11 46 55.2	0.0
	1.2nm,0.7s,baz=228,slow=7.5,SNR=8.3						
	1.2nm,0.7s						
ASAR	Alice Springs	66.31	104	P	P	11 47 14.4	-0.3
	0.6nm,0.8s,baz=246,slow=5.2,SNR=5.2						
	0.6nm,0.8s						
WRA	Warramunga Arr	68.31	101	P	P	11 47 27.1	-0.3
	0.8nm,0.8s,baz=242,slow=5.0,SNR=4.2						
	0.8nm,0.8s						
TORD	Torodi Ar. Bea	70.12	300	P	P	11 47 37.9	-0.7
	0.3nm,0.9s,baz=162,slow=1.4,SNR=1.8						
	0.3nm,0.9s						
BRTR	Keskin Array B	74.62	341	P	P	11 48 05.4	+0.4
	0.6nm,0.6s,baz=157,slow=7.8,SNR=2.6						
	0.6nm,0.6s						
MKAR	Makanchi Array	81.08	16	P	P	11 48 40.8	+0.1
	0.3nm,0.6s,baz=157,slow=7.8,SNR=2.8						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	83.90	13	P	P	11 48 55.6	+0.4
	1.6nm,0.9s,baz=205,slow=5.8,SNR=7.6						
	1.6nm,0.9s						
BVAR	Borovoye Array	85.02	7	P	P	11 49 00.9	0.0
	2.8nm,0.8s,baz=181,slow=5.9,SNR=12						
	2.8nm,0.8s						
ILAR	Eielson Array	143.43	18	PKP	PKPdf	11 55 59.9	+0.4
	0.2nm,0.6s,baz=278,slow=6.3,SNR=2.0						
YKA	Yellowknife Ar	148.83	354	PKPbc	PKPbc	11 56 11.8	-0.9
	0.5nm,0.7s,baz=20,slow=2.0,SNR=4.5						

*IDC **10** 11:37:16.4±1.1, 31.°59S×58.°48E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=47.2km s-min=23.1km az=93.0*
*NEIC **10** 11:37:18.4±1.7, 31.°55S±0.°08×58.°5E±0.°2, h10km±1km, mb4.5/9, Error ellipse: s-maj=26.0km s-min=12.0km az=257.0*
ISC 10 11:37:18.2±0.6, 31.°6S±0.°1×58.°5E±0.°1, h14km, n36, σ0°68/30, mb4.2/11, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.63	346	Pn	Pn	11 39 48.5	-1.7
ABPO	Ambohimpanom	16.07	318	Pn	Pn	11 41 04.6	+0.6
ABPO				IAmb	IAmb	11 41 39.9	
	comp=Z,33nm,1.5s						
MAW	Mawson	36.18	177	P	P	11 44 20.9	+0.9
	comp=Z,1.5nm,0.3s,baz=50,slow=8.1,SNR=9.8						
	comp=Z,1.5nm,0.3s						
PALK	Pallekele	44.08	33	P	P	11 45 26.1	+0.1
H01W2	Cape Leeuwin H	46.20	110	T	T	12 34 36.2	
	baz=256						
H01W3	Cape Leeuwin H	46.20	110	T	T	12 34 45.4	
	baz=256						
H01W1	Cape Leeuwin H	46.22	110	T	T	12 34 40.5	
	baz=256						
PSA00	Pilbara Seismi	55.20	96	P	P	11 46 50.8	-0.1
PSA00				IAmb	IAmb	11 46 51.9	
	comp=Z,11nm,1.2s						
QSPA	South Pole Qui	58.62	180	P	P	11 47 13.8	-0.8
QSPA				IAmb	IAmb	11 47 30.8	
	comp=Z,5.3nm,1.4s						
QSPA	South Pole Qui	58.62	180	P	P	11 47 13.5	-1.2
	comp=Z,0.8nm,0.8s,baz=251,slow=5.3,SNR=1.5						
	comp=Z,0.8nm,0.8s						
CMAR	Chiang Mai Arr	63.10	44	P	P	11 47 46.6	+1.1
	comp=Z,1.1nm,0.7s,baz=233,slow=6.5,SNR=5.5						
	comp=Z,1.1nm,0.7s						
ASAR	Alice Springs	66.15	104	P	P	11 48 05.7	+0.2
ASAR	Alice Springs	66.15	104	P	P	11 48 05.5	0.0
	comp=Z,0.3nm,0.5s,baz=247,slow=5.9,SNR=4.6						
	comp=Z,0.3nm,0.5s						
AS31	Alice Springs	66.15	104	P	P	11 48 05.4	-0.2
NIL	Nilore	66.34	13	P	P	11 48 06.7	+0.3
WRA	Warramunga Arr	68.14	101	P	P	11 48 18.2	-0.1
	comp=Z,0.5nm,0.8s,baz=243,slow=5.5,SNR=2.3						
	comp=Z,0.5nm,0.8s						
WB0	Warramunga Arr	68.27	100	P	P	11 48 18.7	-0.3
WB0				IAmb	IAmb	11 48 41.1	
	comp=Z,12nm,1.4s						
STKA	Stephens Creek	68.88	115	P	P	11 48 21.4	-1.3
TORD	Torodi Ar. Bea	70.23	300	P	P	11 48 30.3	-0.8
TORD				IAmb	IAmb	11 48 43.0	
	comp=Z,3.2nm,1.5s						
KKAR	Karatay Array	75.11	9	P	P	11 48 59.8	+0.3
ABKAR	Akbulak array	80.45	1	P	P	11 49 29.8	+0.6
MKAR	Makanchi Array	80.90	16	P	P	11 49 32.2	+0.5
	comp=Z,0.4nm,0.9s,baz=193,slow=5.9,SNR=2.2						
	comp=Z,0.4nm,0.9s						
KURBB	Kurchatov Arra	83.72	13	P	P	11 49 47.0	+0.7
	comp=Z,0.6nm,0.6s,baz=203,slow=5.3,SNR=3.0						
	comp=Z,0.6nm,0.6s						
BVAR	Borovoye Array	84.86	7	P	P	11 49 52.8	+0.7
	comp=Z,1.6nm,0.8s,baz=174,slow=3.0,SNR=6.0						
	comp=Z,1.6nm,0.8s						
061Z	Ochoppi	144.05	271	PKPdf	PKPbc	11 56 51.8	+0.1
J26L	Joseph Creek	144.29	16	PKPdf	PKPbc	11 56 52.1	+0.6
CNBA	Chernabura Isl	144.47	38	PKPdf	PKPdf	11 56 53.9	+0.4
SUA	Susitna One	144.55	24	PKPdf	PKPbc	11 56 52.7	+0.3
EGAK	Eagle	144.59	14	PKPdf	PKPdf	11 56 53.7	+0.2
I29M	Ogilvie Camp,	144.63	12	PKPdf	PKPab	11 56 52.4	+0.1
I30M	Mount Dempster	145.09	11	PKPbc	PKPbc	11 56 54.0	0.0
BCAR	Beaver Creek A	145.93	16	PKPbc	PKPab	11 56 57.5	+0.4
L29M	L29M	146.70	14	PKPbc	PKPab	11 56 59.6	-0.5
154A	Montrose	147.52	282	PKPbc	PKPbc	11 57 02.7	+0.6
YKA	Yellowknife Ar	148.72	354	PKPbc	PKPbc	11 57 04.0	-0.3
	comp=Z,0.4nm,0.6s,baz=13,slow=4.2,SNR=2.0						
Y49A	Blount Mountai	150.43	284	PKPbc	PKPbc	11 57 09.5	0.0

IDC 10 11:38:08.2±1.4, 31.°66S×58.°01E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=105.3km s-min=34.9km az=100.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	46.52	110	T	T	12 36 26.9	
	baz=256						
H01W3	Cape Leeuwin H	46.52	110	T	T	12 36 24.1	
	baz=256						
H01W1	Cape Leeuwin H	46.53	110	T	T	12 36 30.2	
	baz=256						
QSPA	South Pole Qui	58.51	180	P	P	11 48 06.2	+0.1
	1.3nm,1.0s,baz=249,slow=3.3,SNR=1.8						
	1.3nm,1.0s						
CMAR	Chiang Mai Arr	63.44	44	P	P	11 48 39.8	-0.2
	0.5nm,0.5s,baz=220,slow=8.3,SNR=1.8						
	0.5nm,0.5s						
MKAR	Makanchi Array	81.11	17	P	P	11 50 25.4	+0.4
	0.2nm,0.5s,baz=212,slow=5.1,SNR=2.0						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	83.91	13	P	P	11 50 39.8	+0.3
	0.5nm,0.8s,baz=207,slow=5

*GUC **10** 11:44:33.1±0.8, 17°.46S×69°.89W, h137km±5km, ML3.6*
*IDC **10** 11:44:38.3±7.3, 14°.32S×68°.37W, h63km±85km, mb3.7/3, mbtmp4.0/3, Error ellipse: s-maj=77.2km s-min=33.6km az=37.0*

ISC 10 11:44:33.5±1.0, **17°.47S**±0°.07×**69°.9W**±0°.1, **h140**km±7km, **n11**, σ1°**33**/17, **mb4.1**/3, **4D, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.42**	**106**	⇓*i*P	**Pn**	**11 44 54.3**	**+0.2**
PB18				*e*S	**Sn**	**11 45 09.9**	**+0.4**
AP01	**Chacalluta**	**0.99**	**205**	*e*P	**Pn**	**11 44 57.3**	**+0.1**
AP01				*e*S	**Sn**	**11 45 14.8**	**-0.5**
LPAZ	**La Paz**	**2.07**	**56**	P	**Pn**	**11 45 09.8**	**+0.3**
	18nm,0.3s,baz=347,slow=9.8,SNR=90						
LPAZ				S	**Sn**	**11 45 34.5**	**-2.5**
	4.6nm,0.4s,baz=30,slow=14,SNR=4.7						
LPAZ	**La Paz**	**2.07**	**56**	⇓*i*P	**Pn**	**11 45 09.8**	**+0.3**
GO01	**Chusmiza**	**2.29**	**163**	⇓*i*P	**Pn**	**11 45 13.2**	**+1.2**
GO01				*e*S	**Sn**	**11 45 43.2**	**+1.6**
GO01				IAML		11 45 45.5	
	comp=E,327nm,0.1s						
PB11	**IPOC Station P**	**2.29**	**174**	⇓*e*P	**Pn**	**11 45 12.1**	**+0.4**
PB11				*e*S	**Sn**	**11 45 41.0**	**-0.1**
PB11				IAML		11 45 43.0	
	comp=N,153nm,0.4s						
TA01	**Diego Aracena**	**3.09**	**185**	*e*P	**Pn**	**11 45 21.0**	**-0.6**
TA01				*e*S	**Sn**	**11 45 55.8**	**-3.1**
TA01				IAML		11 45 58.4	
	comp=E,58nm,0.2s						
PATCX	**Punta Patache**	**3.34**	**184**	*e*P	**Pn**	**11 45 24.7**	**-0.3**
TXAR	**Lajitas Array**	**56.81**	**325**	P	**P**	**11 54 04.8**	**+1.3**
	comp=E,0.1nm,0.7s,baz=144,slow=7.8,SNR=2.2						
	comp=E,0.1nm,0.7s						
DBIC	**Dimbokro**	**68.56**	**75**	P	**P**	**11 55 21.1**	**-0.4**
	comp=E,3.2nm,0.6s,baz=223,slow=7.2,SNR=3.5						
	comp=E,3.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.94**	**72**	P	**P**	**11 56 10.8**	**-0.2**
	comp=E,1.5nm,0.4s,baz=263,slow=5.1,SNR=18						
	comp=E,1.5nm,0.4s						

*IDC **10** 11:44:52.9±0.7, 57°.88S×25°.67W, h59km±6km, mb4.1/10, mbtmp4.4/11, Error ellipse: s-maj=26.4km s-min=14.6km az=74.0*
*NEIC **10** 11:44:52.3±2.1, 57°.91S±0°.08×25°.8W±0°.2, h52km±6km, mb4.6/37, Error ellipse: s-maj=14.8km s-min=10.5km az=54.0*

ISC 10 11:44:51.6±0.4, **57°.96S**±0°.07×**25°.76W**±0°.09, **h50**km, **n76**, σ1°**43**/70, **mb4.6**/24, **8C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.04**	**297**	Pn	Pn	11 46 37.6	+5.8
HOPE				Sn	**Sn**	**11 47 48.4**	**-2.0**
VNA1	**Neumayer--Stat**	**14.72**	**157**	⇑P	**Pn**	**11 48 17.1**	**+0.7**
	comp=Z,4.0nm,0.2s						
VNA1				⇑S	Sn	11 50 47.8	-10
	comp=Z,2.5nm,0.8s						
VNA3	**Neumayer Olymp**	**14.92**	**160**	⇑P	**Pn**	**11 48 19.3**	**+0.3**
	comp=Z,3.5nm,0.2s						
VNA3				⇑S	Sn	11 50 47.9	-15
	comp=Z,0.6nm,0.4s						
VNA2	**Neumayer--Watz**	**15.12**	**157**	⇑P	**Pn**	**11 48 21.5**	**-0.1**
	comp=Z,2.8nm,0.2s,baz=322,slow=13						
VNA2				⇑S	Sn	11 50 54.6	-13
	comp=Z,0.3nm,0.3s,baz=323,slow=19						
SNAA	**Sanae**	**16.67**	**155**		**P**	**11 48 42.6**	**-0.5**
SNAA	**Sanae**	**16.67**	**155**	⇑P	**P**	**11 48 42.6**	**-0.5**
	comp=Z,90nm,0.4s						
SNAA	**Sanae**	**16.67**	**155**	P	**P**	**11 48 42.4**	**-0.7**
	comp=Z,3.6nm,0.3s,baz=318,slow=15,SNR=41						
SNAA				S	**Sn**	**11 51 38.1**	**-7.2**
	comp=Z,0.8nm,0.5s,baz=24,slow=20,SNR=1.6						
TROLL	**Troll, Antarti**	**18.18**	**152**	⇑P	**Pn**	**11 49 01.9**	**+1.8**
	comp=Z,89nm,0.2s						
PMSA	**Palmer Station**	**19.31**	**233**	P	**P**	**11 49 11.0**	**-1.0**
BELA	**Belgrano 2**	**20.23**	**185**	P	**P**	**11 49 22.9**	**+0.9**
GO09	**Cerro Castillo**	**27.32**	**264**	P	**P**	**11 50 32.8**	**+1.5**
GO08	**Villa O'Higgin**	**29.04**	**269**	P	**P**	**11 50 47.0**	**+0.5**
GO08				IAmb	IAmb	11 51 06.0	
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**	**32.28**	**180**	P	**P**	**11 51 17.0**	**+1.8**
QSPA				IAmb	IAmb	11 51 17.8	
	comp=Z,14nm,1.3s						
QSPA	**South Pole Qui**	**32.28**	**180**	P	**P**	**11 51 16.7**	**+1.5**
	comp=Z,3.1nm,0.7s,baz=210,slow=8.6,SNR=26						
	comp=Z,3.1nm,0.7s						
PLTB	**Pedras Altas**	**32.36**	**312**	P	**P**	**11 51 16.8**	**+0.7**
PLTB				IAmb	IAmb	11 51 19.8	
	comp=Z,25nm,1.4s						
LR04	**Corral**	**35.26**	**280**	P	**P**	**11 51 42.4**	**+1.3**
MAW	**Mawson**	**38.15**	**142**	P	**P**	**11 52 06.1**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=240,slow=8.1,SNR=2.0						
	comp=Z,1.0nm,0.5s						
MT09	**Talagante**	**38.66**	**289**	P	**P**	**11 52 09.7**	**-0.5**
MT09				IAmb	IAmb	11 52 44.1	
	comp=Z,11nm,1.2s						
CPUP	**Villa Florida**	**38.66**	**311**	P	**P**	**11 52 09.6**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=61,slow=5.1,SNR=1.8						
	comp=Z,0.9nm,0.4s						
MT02	**Curacav**	**39.15**	**289**	P	**P**	**11 52 11.8**	**-2.3**
MT02				IAmb	IAmb	11 52 55.6	
	comp=Z,11nm,1.2s						
CO01	**Juntas del Tor**	**41.29**	**293**	P	**P**	**11 52 34.1**	**+2.0**
CO06	**Fray Jorge**	**41.48**	**291**	P	**P**	**11 52 32.9**	**-0.5**
CO06				IAmb	IAmb	11 52 33.8	
	comp=Z,16nm,1.2s						
AC05	**El Transito**	**42.32**	**294**	P	**P**	**11 52 41.4**	**+1.0**
LCO	**Las Campanas**	**42.38**	**293**	P	**P**	**11 52 41.7**	**+0.6**
SBA	**Scott Base**	**44.22**	**184**	P	**P**	**11 52 57.3**	**+2.3**
VNDA	**Vanda**	**44.69**	**182**	P	**P**	**11 53 00.6**	**+1.9**
VNDA	**Vanda**	**44.69**	**182**	P	**P**	**11 53 00.7**	**+1.9**
	comp=Z,3.3nm,0.7s,baz=192,slow=6.5,SNR=17						
	comp=Z,3.3nm,0.7s						
GO02	**Mina Guanaco**	**45.07**	**298**	P	**P**	**11 53 03.6**	**+0.8**
GO02				IAmb	IAmb	11 53 17.5	
	comp=Z,10nm,1.2s						
BDFB	**Brasilia**	**45.41**	**329**	P	**P**	**11 53 04.1**	**-1.2**
BDFB				IAmb	IAmb	11 53 07.2	
	comp=Z,5.5nm,0.7s						
BDFB	**Brasilia**	**45.41**	**329**	P	**P**	**11 53 06.2**	**+0.9**
	comp=Z,4.9nm,0.7s,baz=163,slow=4.9,SNR=5.8						
	comp=Z,4.9nm,0.7s						
PB14	**IPOC Station P**	**45.91**	**297**	P	**P**	**11 53 07.0**	**-2.4**
PB14				IAmb	IAmb	11 53 28.1	
	comp=Z,12nm,1.5s						
H04S2	**CROZET ISLANDS**	**46.08**	**111**	T	T	12 43 41.7	
	baz=225,slow=75,SNR=33						
H04S3	**CROZET ISLANDS**	**46.09**	**111**	T	T	12 43 42.9	
	baz=225,slow=75,SNR=20						
H04S1	**CROZET ISLANDS**	**46.10**	**111**	T	T	12 43 42.6	
	baz=225,slow=75,SNR=18						
LVC	**Limon Verde**	**46.94**	**300**	P	**P**	**11 53 17.4**	**-0.2**
PB04	**IPOC Station P**	**47.75**	**299**	P	**P**	**11 53 21.1**	**-2.6**
PB09	**IPOC Station P**	**47.80**	**300**	P	**P**	**11 53 23.3**	**-0.7**
PB09				IAmb	IAmb	11 53 40.1	
	comp=Z,10nm,1.5s						
PATCX	**Punta Patache**	**49.06**	**300**	P	**P**	**11 53 33.2**	**-0.4**
PTLB	**Pontes e Lacer**	**49.22**	**316**	P	**P**	**11 53 34.2**	**-0.5**
PTLB				IAmb	IAmb	11 53 35.9	
	comp=Z,4.5nm,0.8s						
GO01	**Chusmiza**	**49.62**	**302**	P	**P**	**11 53 38.5**	**+0.1**
GO01				IAmb	IAmb	11 53 51.4	
	comp=Z,9.1nm,1.5s						
H10S2	**ASCENSION HYDR**	**49.64**	**14**	T	T	12 47 19.9	
	baz=187						
H10S3	**ASCENSION HYDR**	**49.64**	**14**	T	T	12 47 20.4	
	baz=33						
PB11	**IPOC Station P**	**49.75**	**301**	P	**P**	**11 53 38.4**	**-0.6**
PB11				IAmb	IAmb	11 54 12.4	
	comp=Z,8.6nm,1.0s						
H10N1	**ASCENSION HYDR**	**50.75**	**14**	T	T	12 48 43.7	
	baz=184						
H10N3	**ASCENSION HYDR**	**50.76**	**14**	T	T	12 48 45.7	
	baz=184						
H10N2	**ASCENSION HYDR**	**50.77**	**14**	T	T	12 48 45.3	
	baz=184						
VILB	**Vilhena**	**51.90**	**316**	P	**P**	**11 53 54.7**	**-0.4**
VILB				IAmb	IAmb	11 54 06.6	
	comp=Z,8.3nm,0.8s						
LPAZ	**La Paz**	**52.12**	**305**	P	**P**	**11 53 57.3**	**-0.1**
LPAZ				IAmb	IAmb	11 53 59.6	
	comp=Z,2.5nm,0.6s						
LPAZ	**La Paz**	**52.12**	**305**	P	**P**	**11 53 57.2**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=174,slow=6.8,SNR=8.8						
	comp=Z,2.0nm,0.4s						
SAML	**Samuel**	**56.70**	**314**		**P**	**11 54 29.7**	**-0.2**
ETMB	**Extrema**	**57.11**	**310**	P	**P**	**11 54 31.8**	**-0.9**
LSZ	**Lusaka**	**58.38**	**66**	P	**P**	**11 54 41.7**	**-0.1**
MACA	**Manacapuru-AM**	**61.14**	**319**	P	**P**	**11 54 60.0**	**-0.6**
BOAV	**Boa Vista**	**66.27**	**322**	P	**P**	**11 55 34.1**	**-0.3**
BOAV				IAmb	IAmb	11 55 34.7	
	comp=Z,5.2nm,0.6s						
DBIC	**Dimbokro**	**66.61**	**23**	P	**P**	**11 55 36.8**	**+0.3**
DBIC				IAmb	IAmb	11 55 36.9	
	comp=E,6.3nm,0.8s						
DBIC	**Dimbokro**	**66.61**	**23**	P	**P**	**11 55 36.4**	**-0.1**
	comp=E,2.8nm,0.4s,baz=160,slow=8.1,SNR=4.3						
	comp=E,2.8nm,0.4s						
TOA0	**Torodi Ar. Sit**	**74.36**	**28**	P	**P**	**11 56 24.3**	**+0.6**
TOA0				IAmb	IAmb	11 56 24.9	
	comp=Z,13nm,1.2s						
TORD	**Torodi Ar. Bea**	**74.36**	**28**	P	**P**	**11 56 24.2**	**+0.5**
TORD				IAmb	IAmb	11 56 41.1	
	comp=Z,4.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.36**	**28**	P	**P**	**11 56 24.1**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=200,slow=5.8,SNR=30						
TORD				pP	**pwP**	**11 56 40.3**	**-1.1**
	comp=Z,3.9nm,0.5s,baz=200,slow=6.0,SNR=10						
	comp=Z,3.4nm,0.6s						
PCRV	**Puerto La Cruz**	**74.93**	**320**	P	**P**	**11 56 28.4**	**+1.3**
	comp=Z,6.7nm,0.6s,baz=164,slow=9.0,SNR=2.9						
	comp=Z,6.7nm,0.6s						
H08S1	**Diego Carcia H**	**87.93**	**101**	T	T	13 36 17.7	
	baz=206,slow=75,SNR=6.3						
H08S2	**Diego Garcia H**	**87.94**	**101**	T	T	13 36 16.2	
	baz=206,slow=75,SNR=7.8						
H08S3	**Diego Garcia H**	**87.95**	**101**	T	T	13 36 15.6	
	baz=206,slow=75,SNR=7.0						
ASAR	**Alice Springs**	**96.92**	**161**	P	**P**	**11 58 16.1**	**-1.3**
ASAR	**Alice Springs**	**96.92**	**161**	P	**P**	**11 58 17.1**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=195,slow=3.4,SNR=8.2						
	comp=Z,1.0nm,0.5s						
PFO	**Pinyon Flats O**	**118.14**	**289**	PKP	**PKiKP**	**12 03 33.0**	**+0.6**
	comp=Z,1.7nm,1.0s,baz=180,slow=1.4,SNR=2.7						
PDAR	**Pinedale Array**	**122.01**	**300**	PKP	**PKPdf**	**12 03 38.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=117,slow=5.8,SNR=6.5						
ULM	**Lac du Bonnet**	**122.16**	**315**	PKP	**PKPdf**	**12 03 38.0**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=55,slow=3.2,SNR=3.1						
NVAR	**Mina Array Bea**	**122.84**	**291**	PKP	**PKiKP**	**12 03 42.6**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=152,slow=3.4,SNR=5.7						
FINES	**FINESS Array B**	**125.72**	**28**	PKP	**PKPdf**	**12 03 45.3**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=243,slow=1.6,SNR=4.5						
FINES				pPKP	**pPKPdf**	**12 04 02.3**	**+2.4**
	comp=Z,1.3nm,0.8s,baz=220,slow=3.6,SNR=2.8						
ARCES	**ARCESS Array B**	**132.43**	**22**	PKP	**PKPdf**	**12 03 58.0**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=202,slow=1.3,SNR=6.4						
MKAR	**Makanchi Array**	**136.74**	**72**	PKP	**PKPdf**	**12 04 06.9**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=263,slow=1.2,SNR=1.5						
KURBB	**Kurchatov Arra**	**137.40**	**66**	PKP	**PKPdf**	**12 04 07.8**	**-0.5**
	comp=Z,0.4nm,0.2s,baz=206,slow=0.1,SNR=2.7						
YKA	**Yellowknife Ar**	**138.11**	**316**	PKP	**PKPdf**	**12 04 09.1**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=123,slow=2.3,SNR=15						
YKA				pPKP	**sPKPdf**	**12 04 27.5**	**-0.9**
	comp=Z,1.5nm,1.0s,baz=117,slow=2.9,SNR=3.2						
SONM	**Songino Array**	**150.03**	**89**	PKPbc	**PKPbc**	**12 04 35.2**	**-0.4**
	comp=Z,2.5nm,0.4s,baz=236,slow=3.2,SNR=9.8						
SONM				pPKPbc	**sPKPdf**	**12 04 51.6**	**+1.9**
	comp=Z,1.6nm,0.6s,baz=207,slow=1.6,SNR=3.7						
ILAR	**Eielson Array**	**151.95**	**309**	PKPbc	**PKPbc**	**12 04 38.2**	**-1.1**
	comp=Z,10nm,0.8s,baz=143,slow=2.8,SNR=68						

*NEIC **10** 11:47:01.8±2.6, 31°.38S±0°.06×58°.3E±0°.2, h10km±1km, mb4.8/9, Error ellipse: s-maj=22.7km s-min=7.4km az=254.0*
*IDC **10** 11:47:02.3±1.5, 31°.70S×58°.40E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=50.1km s-min=38.3km az=68.0*

ISC 10 11:47:01.0±0.6, **31°.4S**±0°.1×**58°.3E**±0°.1, **h10**km, **n30**, σ1°**74**/33, **mb4.7**/9, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.48**	**347**	Pn	**Pn**	**11 49 31.1**	**-0.3**
NWAO	**Narrogin (SRO)**	**49.37**	**108**	P	**P**	**11 55 49.9**	**-0.9**
NWAO				IAmb	IAmb	11 56 17.5	
	comp=Z,20nm,1.4s						
LHMI	**Lhok Sumawe**	**51.88**	**52**	P	**P**	**11 56 08.5**	**-1.4**
QSPA	**South Pole Qui**	**58.73**	**180**	P	**P**	**11 56 60.0**	**+1.2**
QSPA	**South Pole Qui**	**58.73**	**180**	P	**P**	**11 56 59.9**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=260,slow=4.7,SNR=5.7						
	comp=Z,1.0nm,0.7s						
SHEL	**Horse Pasture**	**59.84**	**269**	P	**P**	**11 57 06.7**	**-0.4**
VNDA	**Vanda**	**62.42**	**166**	P	**P**	**11 57 23.8**	**+0.2**
BBOO	**Buckleboo**	**64.41**	**114**	P	**P**	**11 57 37.5**	**0.0**
BBOO				IAmb	IAmb	11 57 57.1	
	comp=Z,14nm,1.4s						
ASAR	**Alice Springs**	**66.34**	**104**	P	**P**	**11 57 51.7**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=237,slow=5.8,SNR=5.1						
	comp=Z,0.7nm,0.7s						
WRA	**Warramunga Arr**	**68.33**	**101**	P	**P**	**11 58 05.1**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=240,slow=5.3,SNR=2.9						
	comp=Z,0.5nm,0.7s						
WB2	**Warramunga Arr**	**68.34**	**101**	P	**P**	**11 58 02.2**	**-0.7**
WB2				IAmb	IAmb	11 58 02.4	
	comp=Z,6.0nm,1.1s						
WRAB	**Tennant Creek**	**68.34**	**101**	IAmb	IAmb	11 58 02.0	
	comp=Z,5.3nm,1.0s						
WRAB				P	**P**	**11 58 02.2**	**-0.7**
WR0	**Warramunga Arr**	**68.49**	**101**	P	**P**	**11 58 03.4**	**-0.4**
WR0				IAmb	IAmb	11 58 11.5	
	comp=Z,7.7nm,1.4s						
BRTR	**Keskin Array B**	**74.40**	**341**	P	**P**	**11 58 43.9**	**+4.8**
	comp=Z,0.3nm,0.4s,baz=159,slow=8.6,SNR=1.4						
	comp=Z,0.3nm,0.4s						
KLU	**Klutina**	**146.05**	**21**	PKPbc	**PKPab**	**12 06 41.5**	**+0.4**
N25K	**Chitina, Valde**	**146.35**	**20**	PKPdf	**PKPdf**	**12 06 40.8**	**+0.6**
DIV	**Divide**	**146.38**	**21**	PKPbc	**PKPab**	**12 06 42.5**	**+0.2**
HODGE	**Hodges**	**146.84**	**286**	PKPab	**PKPbc**	**12 06 45.1**	**+1.5**
KPA	**Kalaupapa**	**146.94**	**99**	PKPab	**PKPbc**	**12 06 45.1**	**+1.0**
RAGM	**Ragged Mountai**	**147.30**	**21**	PKPab	**PKPab**	**12 06 46.4**	**+0.5**
SUCK	**Suckling Hills**	**147.82**	**21**	PKPdf	**PKPdf**	**12 06 42.6**	**0.0**
S51A	**Beattyville**	**148.12**	**292**	PKPab	**PKPab**	**12 06 50.2**	**+0.3**
USIN	**University of**	**151.34**	**293**	PKPab	**PKPab**	**12 07 02.9**	**-0.2**
WVT	**Waverly**	**151.51**	**289**	PKPab	**PKPab**	**12 07 03.4**	**-0.4**
OXF	**Oxford**	**152.75**	**285**	PKPab	**PKPab**	**12 07 09.6**	**+0.5**
U33K	**Whale Pass**	**154.08**	**15**	PKPab	**PKPab**	**12 07 14.2**	**+0.4**
EMB	**Emerald Bay**	**172.36**	**350**	PKPdf	**PKPdf**	**12 07 08.5**	**-2.0**
EMB				PKPab	**PKPab**	**12 08 32.7**	**-2.0**
NVAR	**Mina Array Bea**	**172.48**	**339**	PKPdf	**PKPdf**	**12 07 08.7**	**-1.9**
NVAR				PKPab	**PKPab**	**12 08 32.7**	**-2.5**
PIX	**Pinacate**	**172.91**	**273**	PKPab	**PKPab**	**12 08 34.3**	**-3.0**
RMX	**La Rumorosa**	**175.04**	**285**	PKPdf	**PKPdf**	**12 07 08.8**	**-2.8**
RMX				PKPab	**PKPab**	**12 08 43.1**	**-3.9**

*IDC **10** 11:51:17.4±0.8, 6°.91N×73°.12W, h148km±9km, mb3.3/5, mbtmp3.9/11, MS3.8/1, Error ellipse: s-maj=18.6km s-min=8.5km az=129.0*
*RSNC **10** 11:51:19.6±0.0, 7°.N±1°.×7°.3W±°, h146km±3km, M3.7, mb4.1, mB5.1, ML3.3, Mw(mB)4.5*

ISC 10 11:51:17.7±0.7, **6°.86N**±0°.03×**73°.11W**±0°.03, **h154**km±6km, **n49**, σ1°**67**/84, **mb3.7**/5, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.62**	**41**	P	**Pn**	**11 51 41.3**	**+0.6**
PAMC				S	**Sn**	**11 51 58.5**	**+0.3**
PTBC	**PUERTO BERRIO,**	**1.37**	**256**	P	**Pn**	**11 51 45.0**	**-1.3**
PTBC				S	**Sn**	**11 52 06.2**	**-1.9**
TAMC	**Tame, Arauca**	**1.38**	**108**	P	**Pn**	**11 51 46.9**	**+0.6**
TAMC				S	**Sn**	**11 52 08.5**	**+0.2**
OCAC	**Ocana**	**1.38**	**351**	P	**Pn**	**11 51 46.6**	**+0.1**
OCAC				S	**Sn**	**11 52 09.0**	**+0.4**
SPBC	**San Pablo de B**	**1.54**	**218**	P	**Pn**	**11 51 47.5**	**-0.5**
SPBC				S	**Sn**	**11 52 09.8**	**-1.5**
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	P	**Pn**	**11 51 51.2**	**0.0**
ZARC				S	**Sn**	**11 52 16.4**	**-0.6**
NORC	**Norcasia**	**2.17**	**234**	P	**Pn**	**11 51 54.6**	**-0.5**
NORC				S	**Sn**	**11 52 22.3**	**-1.6**
CHIC	**Chingaza**	**2.30**	**196**	P	**Pn**	**11 51 56.9**	**-0.2**
CHIC				S	**Sn**	**11 52 26.1**	**-1.3**
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**11 51 58.4**	**+0.9**
	156nm,0.4s,baz=56,slow=15,SNR=91						
ROSC				S	**Sn**	**11 52 27.8**	**-0.3**
	672nm,0.4s,baz=345,slow=22,SNR=11						
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**11 51 58.2**	**+0.7**
ROSC				S	**Sn**	**11 52 28.8**	**+0.7**
UREC	**San Jos de Ur**	**2.56**	**290**	P	**Pn**	**11 51 58.2**	**-1.5**
UREC				S	**Sn**	**11 52 29.1**	**-3.0**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	P	**Pn**	**11 52 02.7**	**-0.1**
GUY2C				S	**Sn**	**11 52 40.3**	**+2.7**
VILC	**Villavicencio,**	**2.79**	**192**	P	**Pn**	**11 52 01.9**	**-0.9**
VILC				S	**Sn**	**11 52 36.2**	**-1.5**
PTGC	**Puerto Gaitan,**	**2.82**	**160**	P	**Pn**	**11 52 01.6**	**-1.4**
PTGC				S	**Sn**	**11 52 35.0**	**-3.1**
RECRC	**Villamaria, Ca**	**2.92**	**230**	P	**Pn**	**11 52 06.0**	**+1.2**
RECRC				S	**Sn**	**11 52 43.5**	**+2.4**
NIZA	**Niza - Manizal**	**2.95**	**233**	P	**Pn**	**11 52 08.2**	**+3.3**
NIZA				S	**Sn**	**11 52 45.2**	**+3.8**
DBBC	**Dabeiba**	**3.08**	**273**	P	**Pn**	**11 52 05.9**	**-0.4**
DBBC				S	**Sn**	**11 52 41.8**	**-2.1**
SDV	**Santo Domingo**	**3.17**	**51**	P	**Pn**	**11 52 08.2**	**+0.6**
	88nm,0.3s,baz=235,slow=13,SNR=25						
SDV				S	**Sn**	**11 52 44.8**	**-1.4**
	27nm,0.4s,baz=289,slow=16,SNR=3.3						
SDV	**Santo Domingo**	**3.17**	**51**	P	**Pn**	**11 52 07.9**	**+0.3**
SDV				S	**Sn**	**11 52 45.4**	**-0.8**
ARGC	**Ariguani, Magd**	**3.18**	**339**	P	**Pn**	**11 52 08.8**	**+1.3**
ARGC				S	**Sn**	**11 52 48.3**	**+2.2**
ANIL	**Santa Ana**	**3.28**	**224**	P	**Pn**	**11 52 09.3**	**+0.2**
ANIL				S	**Sn**	**11 52 49.0**	**+0.2**
APAC	**Apartado, Choc**	**3.59**	**287**	P	**Pn**	**11 52 12.4**	**-0.3**
APAC				S	**Sn**	**11 52 53.6**	**-1.9**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**11 52 11.7**	**-1.2**
PRAC				S	**Sn**	**11 52 53.6**	**-2.1**
ORTC	**Ortega, Tolima**	**3.62**	**216**	P	**Pn**	**11 52 12.7**	**-0.5**
ORTC				S	**Sn**	**11 52 55.7**	**-0.7**
SJCC	**San Jacinto, C**	**3.64**	**326**	P	**Pn**	**11 52 12.2**	**-1.3**
SJCC				S	**Sn**	**11 52 53.6**	**-3.2**
PLMC	**San Jos del P**	**3.71**	**238**	P	**Pn**	**11 52 14.0**	**-0.3**
PLMC				S	**Sn**	**11 52 56.0**	**-2.3**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**11 52 18.8**	**-1.1**
CRJC				S	**Sn**	**11 53 06.4**	**-2.0**
YOTC	**Yotoco, Valle**	**4.31**	**229**	P	**Pn**	**11 52 21.0**	**-1.2**
YOTC				S	**Sn**	**11 53 11.1**	**-1.3**
GUVC	**San Jose del G**	**4.32**	**174**	P	**Pn**	**11 52 20.6**	**-1.7**
GUVC				S	**Sn**	**11 53 10.1**	**-2.5**
CAPC	**Capurgana**	**4.55**	**293**	P	**Pn**	**11 52 25.2**	**-0.1**
CAPC				S	**Sn**	**11 53 14.2**	**-3.8**
PIZC	**Pizarro, Choco**	**4.63**	**246**	P	**Pn**	**11 52 26.9**	**+0.6**
PIZC				S	**Sn**	**11 53 20.1**	**+0.4**
BETC	**Betania**	**4.76**	**209**	P	**Pn**	**11 52 26.0**	**-2.1**
BETC				S	**Sn**	**11 53 19.6**	**-3.4**
URIC	**Uribia, Colomb**	**4.93**	**13**	P	**Pn**	**11 52 28.9**	**-1.4**
URIC				S	**Sn**	**11 53 25.3**	**-1.7**
MALC	**Bahia Malaga**	**5.07**	**236**	P	**Pn**	**11 52 32.7**	**+0.6**
JAMC	**Jamundi, Valle**	**5.07**	**225**	P	**Pn**	**11 52 31.3**	**-1.1**
	17nm,0.4s,695nm						
JAMC				S	**Sn**	**11 53 27.8**	**-2.8**
	17nm,0.4s,695nm						
GARC	**Garzon, Huila**	**5.22**	**207**	P	**Pn**	**11 52 32.5**	**-1.8**
GARC				S	**Sn**	**11 53 29.6**	**-4.5**
POPC	**Popayan, Colom**	**5.57**	**220**	P	**Pn**	**11 52 38.6**	**-0.4**
	10nm,0.5s						
POPC				S	**Sn**	**11 53 42.7**	**+0.1**
	10nm,0.5s						
BBAC	**Balboa, Cauca**	**6.33**	**221**	P	**Pn**	**11 52 49.6**	**+0.5**
PCRV	**Puerto La Cruz**	**9.01**	**68**	P	**Pn**	**11 53 24.3**	**-0.3**
	1.8nm,0.3s,baz=297,slow=6.8,SNR=1.8						
JTS	**Las Juntas de**	**12.19**	**287**	P	**Pn**	**11 54 07.8**	**+1.4**
	1.9nm,0.3s,baz=114,slow=20,SNR=1.7						
NNA	**Nana**	**19.09**	**191**	P	**P**	**11

comp=Z,2.6nm,0.7s,baz=230,slow=7.4,SNR=14
comp=Z,2.6nm,0.7s
SOEI Soe 64.59 86 P P 12 04 59.2 -0.2
ASAR Alice Springs 66.31 104 P P 12 05 09.9 -0.4
comp=Z,0.8nm,0.7s,baz=241,slow=6.2,SNR=7.3
comp=Z,0.8nm,0.7s
WRA Warramunga Arr 68.32 101 P P 12 05 22.9 -0.2
comp=Z,1.0nm,0.8s,baz=240,slow=5.6,SNR=6.5
comp=Z,1.0nm,0.8s
WB2 Warramunga Arr 68.33 101 P P 12 05 24.2 +1.1
WB2 IAmb IAmb 12 05 40.7
comp=Z,9.9nm,1.2s
WB0 Warramunga Arr 68.44 100 P P 12 05 23.7 -0.1
WB0 IAmb IAmb 12 05 49.0
comp=Z,8.8nm,1.3s
TORD Torodi Ar. Bea 70.11 300 P P 12 05 34.6 +0.5
comp=Z,1.0nm,0.8s,baz=114,slow=4.7,SNR=4.8
comp=Z,1.0nm,0.8s
SIMJ Simiganj 70.67 9 P P 12 05 39.0 +1.8
SIMJ IAmb IAmb 12 05 39.7
comp=Z,6.6nm,1.1s
BRTR Keskin Array B 74.59 341 P P 12 06 01.0 +0.5
BRTR Keskin Array B 74.59 341 P P 12 06 00.5 0.0
comp=Z,1.1nm,0.9s,baz=186,slow=2.5,SNR=5.3
comp=Z,1.1nm,0.9s
KK31 Karatay Array 75.24 9 P P 12 06 04.8 +0.8
KK31 IAmb IAmb 12 06 06.0
comp=Z,3.5nm,0.9s
KKAR Karatay Array 75.24 9 P P 12 06 04.7 +0.7
KBZ Khabaz 76.31 349 P P 12 06 08.9 -1.1
comp=Z,0.3nm,0.3s,baz=243,slow=2.3,SNR=1.7
comp=Z,0.3nm,0.3s
ABKAR Akbulak array 80.56 1 P P 12 06 34.2 +0.8
MAKZ Makanchi 80.99 16 P P 12 06 36.5 +0.8
MAKZ IAmb IAmb 12 06 39.5
comp=Z,6.1nm,1.5s
MK31 Makanchi Array 81.05 16 P P 12 06 36.7 +0.6
MKAR Makanchi Array 81.05 16 P P 12 06 35.6 -0.5
MKAR Makanchi Array 81.05 16 P P 12 06 35.9 -0.2
comp=Z,1.1nm,0.9s,baz=212,slow=5.1,SNR=5.3
comp=Z,1.1nm,0.9s
KURBB Kurchatov Arra 83.86 13 P P 12 06 51.5 +0.8
comp=Z,2.5nm,0.8s,baz=205,slow=5.5,SNR=9.6
comp=Z,2.5nm,0.8s
BRVK Borovoye 85.00 7 P P 12 06 56.5 +0.1
BRVK IAmb IAmb 12 06 58.7
comp=Z,5.1nm,0.9s
AKASG Malin Array Be 85.91 342 P P 12 07 00.1 -0.8
comp=Z,1.2nm,0.6s,baz=168,slow=4.7,SNR=1.5
comp=Z,1.2nm,0.6s
ZALV Zalesovo Beam 88.30 15 P P 12 07 11.3 -1.1
comp=Z,0.4nm,0.3s,baz=184,slow=5.9,SNR=3.5
comp=Z,0.4nm,0.3s
SONM Songino Array 90.15 30 P P 12 07 21.5 -0.1
comp=Z,0.4nm,0.5s,baz=219,slow=0.8,SNR=2.2
comp=Z,0.4nm,0.5s
ESDC Sonseca Array 91.42 317 P P 12 07 28.9 +1.4
comp=Z,1.3nm,1.1s,baz=138,slow=2.8,SNR=5.8
comp=Z,1.3nm,1.1s
ILAR Eielson Array 143.39 18 PKPdf PKiKP 12 13 57.2 -1.2
I28M Miner Creek 144.39 13 PKPdf PKPdf 12 13 55.9 -1.1
SPU Mount Spurr 144.45 25 PKPdf PKPdf 12 13 56.3 -0.8
EGAK Eagle 144.74 14 PKPdf PKPdf 12 13 57.2 -0.2
SCRK Sand Creek 144.78 17 PKPdf PKPdf 12 13 57.9 +0.1
K27K Chicken 145.19 16 PKPbc PKPdf 12 13 58.8 +0.5
PAX Paxson 145.21 19 PKPbc PKPdf 12 13 59.5 +1.1
I30M Mount Dempster 145.22 11 PKPbc PKPdf 12 13 58.7 +0.3
J30M Hart River 145.83 11 PKPab 12 14 01.1 +0.6
L27K Beaver Creek, 146.07 16 PKPbc PKPab 12 14 01.6 +0.3
BCAR Beaver Creek A 146.08 16 PKPbc PKPab 12 14 02.0 +0.6
KLU Klutina 146.25 21 PKiKP 12 14 04.0 -0.5
K29M Barlow Dome 146.29 13 PKPbc PKPab 12 14 02.1 -0.2
M29M Somme Creek 147.37 14 PKPbc PKPbc 12 14 05.0 +0.4
YKA Yellowknife Ar 148.80 354 PKPbc PKPdf 12 14 05.7 +1.4
comp=Z,2.0nm,0.8s,baz=359,slow=2.5,SNR=6.2
ULM Lac du Bonnet 153.23 321 PKPbc PKPbc 12 14 18.6 -0.4
comp=Z,0.6nm,0.5s,baz=36,slow=8.7,SNR=2.1
ULM PKPab PKPab 12 14 30.3 -0.5
comp=Z,1.3nm,0.7s,baz=45,slow=7.1,SNR=2.9
HOLB Holberg 160.45 12 PKPab PKPab 12 15 04.2 +2.4
WISH Wishkah 164.48 5 PKPab PKPab 12 15 18.6 -0.9
RWWY Rawlins 164.62 315 PKPdf PKPdf 12 14 23.4 -2.1
RWWY PKPab PKPab 12 15 20.1 -0.7
MXC Moxie City 165.05 356 PKPab PKPab 12 15 19.5 -2.5
PDAR Pinedale Array 165.25 322 PKP PKPdf 12 14 26.7 +0.7
comp=Z,0.1nm,0.3s,baz=59,slow=2.3,SNR=1.2
PDAR PKPab PKPab 12 15 23.2 -0.3
comp=Z,0.1nm,0.3s,baz=101,slow=4.7,SNR=2.0
NVAR Mina Array Bea 172.66 338 PKPab PKPab 12 15 54.7 -1.5
comp=Z,0.2nm,0.6s,baz=66,slow=3.1,SNR=2.3

*IDC **10** 11:56:19.7±0.8,31°.65S×58°.27E,h0km,mb4.1/11,*
mbtmp4.1/12,MLJ3.9/1,Error ellipse: s-maj=29.6km
s-min=21.6km az=53.0
*NEIC **10** 11:56:22.8±2.2,31°.6S±0°.1×58°.2E±0°.2,h10km±1km,*
mb4.5/20,Error ellipse: s-maj=28.5km s-min=18.2km
az=250.0
ISC 10 11:56:23.2±0.6,31°.5S±0°.1×58°.1E±0°.1,h17km,n61,
σ1§16/49,mb4.3/16,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.51**	**348**	Pn	**Pn**	**11 58 52.4**	**-0.8**
H04N2	**CROZET ISLANDS**	**15.43**	**197**	T	T	12 15 14.3	
baz=23							
H04N1	**CROZET ISLANDS**	**15.43**	**197**	T	T	12 15 14.6	
baz=23							
H04N3	**CROZET ISLANDS**	**15.45**	**197**	T	T	12 15 13.3	
baz=23							
OPO	**Ambohidratompo**	**16.21**	**320**	Pn	**P**	**12 00 13.5**	**+0.2**
baz=136,slow=18,SNR=1.9							
OPO				Sn	**Sn**	**12 03 06.0**	**-3.8**
0.1nm,0.3s,baz=110,slow=22,SNR=2.0							
2.9nm,0.5s							
H08S1	**Diego Garcia H**	**27.27**	**33**	T	T	12 30 32.7	
baz=210							
H08S2	**Diego Garcia H**	**27.28**	**33**	T	T	12 30 30.0	
baz=210							
H08S3	**Diego Garcia H**	**27.29**	**33**	T	T	12 30 31.8	
baz=210							
H01W2	**Cape Leeuwin H**	**46.51**	**110**	T	T	12 54 02.0	
baz=256							
H01W3	**Cape Leeuwin H**	**46.52**	**110**	T	T	12 54 02.8	
baz=256							
H01W1	**Cape Leeuwin H**	**46.53**	**110**	T	T	12 54 04.0	
baz=256							
QSPA	**South Pole Qui**	**58.67**	**180**	P	**P**	**12 06 18.0**	**-1.4**
QSPA	**South Pole Qui**	**58.67**	**180**	P	**P**	**12 06 17.7**	**-1.7**
1.2nm,0.6s,baz=221,slow=9.3,SNR=11							
1.2nm,0.6s							
SHEL	**Horse Pasture**	**59.70**	**269**	P	**P**	**12 06 27.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**63.28**	**44**	P	**P**	**12 06 50.5**	**-0.6**
2.5nm,0.6s,baz=233,slow=7.2,SNR=12							
2.5nm,0.6s							
ASAR	**Alice Springs**	**66.46**	**104**	P	**P**	**12 07 10.3**	**-1.7**
ASAR	**Alice Springs**	**66.46**	**104**	P	**P**	**12 07 09.9**	**-2.1**
1.2nm,0.6s,baz=238,slow=6.0,SNR=14							
1.2nm,0.6s							
AS31	**Alice Springs**	**66.46**	**104**	P	**P**	**12 07 12.3**	**+0.3**
WRA	**Warramunga Arr**	**68.46**	**101**	P	**P**	**12 07 23.0**	**-1.7**
1.7nm,0.8s,baz=241,slow=5.6,SNR=7.8							
1.7nm,0.8s							
WB2	**Warramunga Arr**	**68.47**	**101**	P	**P**	**12 07 23.4**	**-1.3**
WB0	**Warramunga Arr**	**68.58**	**101**	P	**P**	**12 07 24.5**	**-1.0**
WR0	**Warramunga Arr**	**68.62**	**101**	P	**P**	**12 07 24.2**	**-1.5**
WR0				IAmb	IAmb	12 07 35.2	
comp=Z,4.6nm,1.1s							
TORD	**Torodi Ar. Bea**	**69.93**	**300**	P	**P**	**12 07 33.9**	**+0.2**
comp=Z,0.5nm,0.8s,baz=134,slow=4.2,SNR=2.8							
comp=Z,0.5nm,0.8s							
SIMJ	**Simiganj**	**70.54**	**9**	P	**P**	**12 07 38.2**	**+1.1**
SIMJ				IAmb	IAmb	12 07 40.2	
comp=Z,5.5nm,1.1s							
ARSB	**Arslanbob**	**73.76**	**12**	P	**P**	**12 07 57.1**	**+0.8**
BR131	**Keskin Array S**	**74.41**	**341**	P	**P**	**12 08 01.2**	**+1.1**
BRTR	**Keskin Array B**	**74.41**	**341**	P	**P**	**12 08 00.4**	**+0.2**
BRTR	**Keskin Array B**	**74.41**	**341**	P	**P**	**12 07 59.8**	**-0.4**
comp=Z,0.9nm,0.8s,baz=148,slow=7.3,SNR=4.4							
comp=Z,0.9nm,0.8s							
KK31	**Karatay Array**	**75.11**	**9**	P	**P**	**12 08 05.4**	**+1.4**
KK31				IAmb	IAmb	12 08 05.8	
comp=Z,3.3nm,1.0s							
KKAR	**Karatay Array**	**75.11**	**9**	P	**P**	**12 08 05.0**	**+1.0**
PRZ	**Przheval'sk**	**75.95**	**15**	P	**P**	**12 08 11.4**	**+2.3**
WHZ	**Wether Hill Ro**	**80.25**	**138**	P	**P**	**12 08 33.4**	**+0.5**
ABKAR	**Akbulak array**	**80.41**	**1**	P	**P**	**12 08 33.7**	**+0.4**
MAKZ	**Makanchi**	**80.88**	**16**	P	**P**	**12 08 35.6**	**-0.3**
MAKZ				IAmb	IAmb	12 08 39.4	
comp=Z,6.4nm,1.4s							
MK31	**Makanchi Array**	**80.94**	**17**	P	**P**	**12 08 36.7**	**+0.4**
MKAR	**Makanchi Array**	**80.94**	**17**	P	**P**	**12 08 37.9**	**+1.6**
MKAR	**Makanchi Array**	**80.94**	**17**	P	**P**	**12 08 36.5**	**+0.2**
comp=Z,0.4nm,0.5s,baz=198,slow=7.6,SNR=4.1							
comp=Z,0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**83.74**	**13**	P	**P**	**12 08 51.0**	**+0.2**
comp=Z,2.3nm,0.2s,baz=207,slow=5.4,SNR=8.6							
comp=Z,2.3nm,0.2s							
KURK	**Kurchatov**	**83.85**	**13**	P	**P**	**12 08 52.1**	**+0.8**
KURK				IAmb	IAmb	12 08 52.9	
comp=Z,6.4nm,1.1s							
BURAR	**Bucovina Array**	**84.11**	**338**	P	**P**	**12 08 54.4**	**+1.5**
BRVK	**Borovoye**	**84.87**	**7**	P	**P**	**12 08 57.0**	**+0.5**
ZALV	**Zalesovo Beam**	**88.19**	**15**	P	**P**	**12 09 12.4**	**-0.3**
ZALV	**Zalesovo Beam**	**88.19**	**15**	P	**P**	**12 09 11.4**	**-1.3**
comp=Z,0.4nm,0.4s,baz=214,slow=6.6,SNR=3.7							
comp=Z,0.4nm,0.4s							
SONM	**Songino Array**	**90.08**	**30**	P	**P**	**12 09 21.7**	**-0.2**
SONM				IAmb	IAmb	12 10 05.4	
comp=Z,2.6nm,1.3s							
SONM	**Songino Array**	**90.08**	**30**	P	**P**	**12 09 21.9**	**0.0**
comp=Z,0.7nm,0.7s,baz=201,slow=6.2,SNR=1.8							
comp=Z,0.7nm,0.7s							
ESDC	**Sonseca Array**	**91.24**	**317**	P	**P**	**12 09 29.7**	**+2.2**
ESDC				IAmb	IAmb	12 10 09.9	
comp=Z,2.1nm,1.1s							
ESDC	**Sonseca Array**	**91.24**	**317**	P	**P**	**12 09 28.3**	**+0.8**
comp=Z,1.0nm,1.0s,baz=135,slow=3.2,SNR=5.6							
comp=Z,1.0nm,1.0s							
ILAR	**Eielson Array**	**143.29**	**18**	PKP	PKPbc	12 15 54.1	+1.4
comp=Z,0.4nm,0.8s,baz=281,slow=2.1,SNR=3.6							
T57A	**Hurt**	**144.53**	**291**	PKPdf	PKPbc	12 15 57.9	+0.5
EGAK	**Eagle**	**144.62**	**14**	PKPdf	PKPbc	12 15 56.7	-0.1
SUA	**Susitna One**	**144.63**	**24**	PKPdf	**PKPab**	**12 15 56.9**	**0.0**
SCRK	**Sand Creek**	**144.67**	**17**	PKPdf	PKPbc	12 15 57.5	+0.4
K27K	**Chicken**	**145.07**	**15**	PKPbc	**PKPdf**	**12 15 59.0**	**+0.3**
I30M	**Mount Dempster**	**145.09**	**11**	PKPbc	**PKPab**	**12 15 58.5**	**0.0**
PAX	**Paxson**	**145.11**	**19**	PKPbc	**PKPdf**	**12 15 59.1**	**0.0**
Q19K	**Cape Douglas,**	**145.22**	**29**	PKPbc	**PKPbc**	**12 15 58.9**	**-0.1**
J30M	**Hart River**	**145.70**	**11**		**PKPab**	**12 16 00.9**	**+0.2**
L27K	**Beaver Creek,**	**145.96**	**16**	PKPbc	**PKPab**	**12 16 01.8**	**+0.1**
BCAR	**Beaver Creek A**	**145.97**	**16**	PKPbc	**PKPab**	**12 16 01.9**	**+0.2**
K29M	**Barlow Dome**	**146.17**	**12**	PKPbc	**PKPbc**	**12 16 01.7**	**-0.2**
YKA	**Yellowknife Ar**	**148.64**	**353**	PKPbc	**PKPbc**	**12 16 08.2**	**-0.3**
comp=Z,1.4nm,0.7s,baz=355,slow=2.4,SNR=6.1							

*NEIC **10** 11:56:35.9±0.6,36°.842N±0°.010×97°.71W±0°.01,h5km±1km,*
Error ellipse: s-maj=2.5km s-min=1.6km az=359.0
TUL 10 11:56:36±0.7,36°.848N±0°.009×97.70W±0°.01,h8km±4km,
ML3.1,mb_Lg2.6/59(NEIC),ML2.9/52(NEIC),Error
ellipse: s-maj=1.6km s-min=1.2km az=56.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.13**	**272**	Pg	Pg	11 56 39.1	+0.3
GC02				Sg	Sg	11 56 41.2	+0.4
KAN17	**Caldwell West**	**0.20**	**345**		Pg	11 56 40.7	+0.5
KAN17				Sg	Sg	11 56 43.8	+0.9
KAN17				IAML		11 56 44.0	
comp=E,3μm,0.3s							
KAN14	**Manchester OK**	**0.24**	**297**		Pg	11 56 41.2	+0.4
KAN14				Sg	Sg	11 56 44.7	+0.6
KAN14				IAML		11 56 44.8	
comp=E,2μm,0.2s							
KAN13	**South Haven SW**	**0.24**	**47**	Pg	Pg	11 56 41.4	+0.5
KAN13				Sg	Sg	11 56 45.1	+0.9
KAN05	**Bluff City Nor**	**0.29**	**332**	Pg	Pg	11 56 42.4	+0.5
KAN05				Sg	Sg	11 56 46.6	+0.8
KAN05				IAML		11 56 48.2	
comp=E,1μm,0.2s							
KAN05				IAML		11 56 48.7	
comp=N,1μm,0.2s							
KAN09	**Caldwell North**	**0.29**	**13**	Pg	Pg	11 56 42.3	+0.5
KAN09				Sg	Sg	11 56 46.7	+0.9
KAN09				IAML		11 56 47.3	
comp=N,1μm,0.2s							
KAN09				IAML		11 56 48.5	
comp=E,2μm,0.3s							
KAN01	**Argonia South**	**0.31**	**351**		Pg	11 56 42.6	+0.5
KAN01				Sg	Sg	11 56 47.2	+1.0
KAN01				IAML		11 56 47.3	
comp=E,2μm,0.3s							
BLOK	**Blackwell**	**0.40**	**103**	Pg	Pg	11 56 44.0	+0.3
CROK	**Carrier**	**0.41**	**214**		Pg	11 56 44.2	+0.2
CROK				Sg	Sg	11 56 50.0	+0.5
OK032	**Salt Plains WL**	**0.41**	**264**		Pg	11 56 44.3	+0.2
OK032				Sg	Sg	11 56 50.0	+0.5
OK032				IAML		11 56 50.1	
comp=E,1μm,0.2s							
OK032				IAML		11 56 51.8	
comp=E,978nm,0.2s							
KAN06	**Argonia West S**	**0.42**	**342**		Pg	11 56 44.7	+0.5
KAN06				Sg	Sg	11 56 50.5	+0.8
KAN08	**Anthony NE Sta**	**0.44**	**330**		Pg	11 56 45.0	+0.5
KAN08				Sg	Sg	11 56 51.1	+0.9
KAN08				IAML		11 56 53.0	
comp=E,789nm,0.4s							
KAN12	**Harper NE Stat**	**0.51**	**332**		Pg	11 56 46.2	+0.3
KAN12				Sg	Sg	11 56 53.6	+1.0
KAN12				IAML		11 56 55.4	
comp=N,824nm,0.4s							
OK048	**Pawnee Station**	**0.74**	**125**	Pg	Pg	11 56 50.3	0.0
OK048				Sg	Sg	11 57 00.2	+0.2
OK048				IAML		11 57 02.3	
comp=N,359nm,0.4s							
OK051	**E0350 and S346**	**0.77**	**116**	Pg	Pg	11 56 50.8	-0.1
OK051				Sg	Sg	11 57 01.2	+0.3
OK051				IAML		11 57 01.5	
comp=N,533nm,0.2s							
OK051				IAML		11 57 08.1	
comp=N,472nm,0.2s							
OK035	**E0210 Rd and N**	**0.82**	**261**	Pg	Pg	11 56 51.7	-0.2
OK035				Sg	Sg	11 57 02.2	-0.4
OK035				IAML		11 57 09.2	
comp=N,412nm,0.3s							
OK035				IAML		11 57 09.5	
comp=N,434nm,0.3s							
OK038	**West end E0370**	**0.92**	**247**		Pg	11 56 53.2	-0.5
OK038				Sg	Sg	11 57 06.0	+0.4
T35A	**Sooner Cattle**	**0.95**	**86**	Pg	Pg	11 56 54.2	-0.1
T35A				Sg	Sg	11 57 06.8	+0.1
NOKA	**Waynoka**	**1.01**	**258**	Pg	Pg	11 56 55.0	-0.4
NOKA				IAML		11 57 14.7	
comp=N,398nm,0.3s							
NOKA				IAML		11 57 18.9	
comp=E,318nm,0.2s							
OK029	**Liberty Lake**	**1.07**	**169**		Pg	11 56 56.1	-0.3
OK029				IAML		11 57 14.9	
comp=E,207nm,0.4s							
OK029				IAML		11 57 14.9	
comp=E,340nm,0.4s							
OK052	**Battle Ridge R**	**1.12**	**139**	Pg	Pg	11 56 56.5	-0.9
OK031	**S. Brethren Rd**	**1.13**	**142**		Pg	11 56 57.3	-0.4
OK031				IAML		11 57 13.4	
comp=E,253nm,0.2s							
U32A	**Winter Ranch,**	**1.15**	**246**	Pg	Pg	11 56 57.6	-0.4
U32A				IAML		11 57 13.6	
comp=N,284nm,0.2s							
U32A				IAML		11 57 17.5	
comp=E,250nm,0.1s							
ADOK	**Arcadia Dam**	**1.22**	**167**		Pb	11 56 59.0	-0.4
DEOK	**Depew**	**1.40**	**136**		Pn	11 57 01.2	-0.5
CSTR	**Hydro, Custer**	**1.44**	**214**		Pn	11 57 02.3	-0.1
OKCSW	**OKLAHOMA CITY**	**1.46**	**172**		Pn	11 57 02.9	+0.2
ELIS	**Ellis County**	**1.59**	**241**		Pn	11 57 04.0	-0.5
FNO	**Franklin**	**1.61**	**171**		Pn	11 57 05.3	+0.6
R32A	**Long Quarter,**	**1.77**	**333**	Pn	Pb	11 57 07.8	-0.8
TUL3	**Leonard**	**1.80**	**121**	Pn	Pn	11 57 07.8	+0.4
TUL3				IAmb_Lg		11 57 34.6	
comp=Z,32nm,0.9s							
W35A	**Tecumseh**	**1.82**	**158**		Pn	11 57 07.7	+0.1
W35A				IAmb_Lg		11 57 35.5	
comp=Z,27nm,0.7s							
X34A	**Smith Ranch, M**	**2.25**	**183**	Pn	Pn	11 57 13.3	-0.2
RLO	**Rose Lookout**	**2.26**	**107**	Pn	Pn	11 57 14.6	+0.9
WMOK	**Wichita Mounta**	**2.28**	**203**	Pn	Pn	11 57 14.5	+0.5
WMOK				IAmb_Lg		11 57 48.1	
comp=Z,16nm,0.8s							
KSU1	**Kansas State U**	**2.41**	**21**	Pn	Pn	11 57 15.1	-0.6
KSU1				IAmb_Lg		11 57 55.6	
comp=Z,18nm,0.9s							
U38A	**Gravette**	**2.69**	**98**	Pn	Pn	11 57 20.1	+0.4
SMWD	**Samnorwood**	**2.70**	**231**	Pn	Pn	11 57 20.1	+0.4
LOOK	**Love County**	**2.88**	**171**	Pn	Pn	11 57 22.6	+0.3
X37A	**Clayton**	**2.94**	**139**	Pn	Pn	11 57 21.4	-1.7
X37A				IAmb_Lg		11 58 17.1	
comp=Z,26nm,0.9s							
HHAR	**Hobbs**	**3.08**	**99**	Pn	Pn	11 57 26.2	+1.3
Z35A	**Perchaven, San**	**3.53**	**174**	Pn	Pn	11 57 30.7	-0.4
S39A	**Bolivar**	**3.59**	**75**	Pn	Pn	11 57 32.6	+0.7
S39A				IAmb_Lg		11 58 37.3	
comp=Z,9.3nm,0.8s							
AMTX	**Amarillo**	**3.78**	**240**	Pn	Pn	11 57 33.9	-0.8
AMTX				IAmb_Lg		11 58 45.3	
comp=Z,15nm,0.8s							
FW03	**Perrin-Whitt E**	**3.81**	**185**	Pn	Pn	11 57 34.5	-0.5
FW06	**Azle**	**3.87**	**178**	Pn	Pn	11 57 35.2	-0.6
PLPT	**Palo Pinto**	**4.06**	**187**	Pn	Pn	11 57 38.2	-0.2
MIAR	**Mount Ida**	**4.07**	**123**	Pn	Pn	11 57 37.7	-0.8
MIAR				IAmb_Lg		11 58 45.7	
comp=Z,20nm,0.7s							
RTBA	**Rita Blanca**	**4.07**	**266**	Pn	Pn	11 57 40.3	+1.6
RTBA				IAmb_Lg		11 58 49.1	
comp=Z,8.6nm,0.9s							
DKNS	**Dickens**	**4.13**	**221**	Pn	Pn	11 57 39.5	+0.1
DKNS				IAmb_Lg		11 58 49.1	
comp=Z,11nm,0.7s							
P38A	**Dawn**	**4.29**	**49**	Pn	Pn	11 57 40.6	-1.0
MGMO	**Mountain Grove**	**4.36**	**84**	Pn	Pn	11 57 43.9	+1.3
MGMO				IAmb_Lg		11 58 54.9	
comp=Z,16nm,0.9s							
KSCO	**Kaye Shedlock'**	**4.46**	**300**	IAmb_Lg		11 59 06.0	
comp=Z,15nm,0.8s							
ABTX	**Abilene, Hawle**	**4.51**	**201**	Pn	Pn	11 57 43.2	-1.4
R40A	**Maddies Statio**	**4.55**	**70**	Pn	Pn	11 57 44.3	-0.8
R40A				IAmb_Lg		11 59 01.4	
comp=Z,10.0nm,0.7s							
SN07	**Snyder 07**	**4.57**	**216**	Pn	Pn	11 57 44.8	-0.8
X40A	**Basin Creek Fa**	**4.61**	**119**	Pn	Pn	11 57 45.9	-0.1
WHAR	**Wooly Hollow**	**4.65**	**108**	IAmb_Lg		11 59 10.3	
comp=Z,14nm,0.8s							
SN05	**Snyder 5**	**4.75**	**214**	IAmb_Lg		11 59 11.7	
comp=Z,12nm,0.9s							
UALR	**University of**	**4.82**	**114**	IAmb_Lg		11 59 11.2	
comp=Z,12nm,1.0s							
POST	**Post**	**4.90**	**221**	Pn	Pn	11 57 49.1	-0.9
POST				IAmb_Lg		11 59 17.4	
comp=Z,6.9nm,0.7s							
MSTX	**Muleshoe**	**5.04**	**237**	Pn	Pn	11 57 50.1	-1.9
MSTX				IAmb_Lg		11 59 24.8	
comp=Z,7.4nm,0.8s							
P40A	**Paris**	**5.19**	**57**	IAmb_Lg		11 59 22.8	
comp=Z,12nm,0.8s							
L34A	**Svendsen Farm,**	**5.21**	**11**	IAmb_Lg		11 59 25.9	
comp=Z,16nm,0.7s							
CCM	**Cathedral Cave**	**5.27**	**75**	IAmb_Lg		11 59 25.4	
comp=Z,10nm,0.8s							
T42A	**Van Buren**	**5.29**	**86**	IAmb_Lg		11 59 29.3	
comp=Z,6.2nm,0.8s							
Z41A	**Richland Creek**	**5.38**	**130**	IAmb_Lg		11 59 25.6	
comp=Z,15nm,0.7s							
T25A	**Trinidad**	**5.38**	**275**	IAmb_Lg		11 59 30.9	
comp=Z,8.2nm,0.8s							
PBMO	**Poplar Bluff**	**5.83**	**89**	IAmb_Lg		11 59 52.6	
comp=Z,5.9nm,0.7s							
435B	**Jarrell**	**6.05**	**179**	IAmb_Lg		11 59 57.8	
comp=Z,9.8nm,0.8s							
S44A	**Carbondale**	**6.79**	**80**	IAmb_Lg		12 00 15.8	
comp=Z,10nm,0.7s							
ISCO	**Idaho Springs**	**6.88**	**298**	IAmb_Lg		12 00 17.1	
comp=Z,4.3nm,0.8s							
P43A	**Skaggs, Pawnee**	**7.01**	**64**	IAmb_Lg		12 00 28.8	
comp=Z,11nm,0.7s							
N23A	**Red Feather La**	**7.59**	**305**	IAmb_Lg		12 00 42.6	
comp=Z,7.1nm,0.8s							

*IDC **10** 11:56:59.7±0.6,31°.66S×58°.35E,h0km,mb4.2/14,*
mbtmp4.2/15,MLJ4.3/1,Error ellipse: s-maj=24.3km
s-min=18.1km az=77.0
*NEIC **10** 11:57:01.7±2.9,31°.64S±0°.05×58°.3E±0°.2,h10km±1km,*
mb4.5/13,Error ellipse: s-maj=24.1km s-min=6.7km
az=254.0
ISC 10 11:57:01.2±0.5,31°.55S±0°.09×58°.3E±0°.1,h10km,n60,
σ1§19/52,mb4.3/20,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.60**	**347**	Pn	**Pn**	**11 59 32.0**	**-1.3**
H04N2	**CROZET ISLANDS**	**15.43**	**197**	T	T	12 16 18.6	
baz=22,slow=75,SNR=7.6							
H04N1	**CROZET ISLANDS**	**15.43**	**197**	T	T	12 16 19.7	
baz=22,slow=75,SNR=9.5							
H04N3	**CROZET ISLANDS**	**15.45**	**197**	T	T	12 16 21.4	
baz=22,slow=75,SNR=8.9							
OPO	**Ambohidratompo**	**16.36**	**320**	Pn	**Pn**	**12 00 54.1**	**+2.9**
0.1nm,0.3s,baz=149,slow=13,SNR=5.2							
OPO				Sn	**Sn**	**12 03 48.0**	**-4.9**
0.1nm,0.3s,baz=127,slow=20,SNR=2.9							
5.6nm,0.6s							
POGA	**Pongola**	**23.50**	**273**	P	**P**	**12 02 11.4**	**+0.1**
POGA				IAmb	IAmb	12 02 12.3	
comp=Z,11nm,0.8s							
H08S1	**Diego Garcia H**	**27.22**	**32**	T	T	12 31 12.0	
baz=206,slow=76,SNR=23							
H08S2	**Diego Garcia H**	**27.23**	**32**	T	T	12 31 12.8	
baz=206,slow=76,SNR=17							
H08S3	**Diego Garcia H**	**27.24**	**32**	T	T	12 31 16.8	
baz=206,slow=76,SNR=26			

KURBB **Kurchatov Arra** 83.76 13 P **P** 12 09 31.0 +0.9
comp=Z,2.5nm,0.3s,baz=206,slow=5.8,SNR=6.2
comp=Z,2.5nm,0.3s
BRVK **Borovoye** 84.90 7 P **P** 12 09 36.2 +0.4
BRVK IAmb IAmb 12 09 37.7
comp=Z,5.2nm,0.9s
AKASG **Malin Array Be** 85.83 342 P **P** 12 09 40.8 +0.2
comp=Z,0.5nm,0.4s,baz=186,slow=6.5,SNR=1.1
comp=Z,0.5nm,0.4s
ZALV **Zalesovo Beam** 88.20 15 P **P** 12 09 51.8 -0.1
comp=Z,0.3nm,0.3s,baz=178,slow=7.1,SNR=1.5
comp=Z,0.3nm,0.3s
SONM **Songino Array** 90.04 30 P **P** 12 10 01.2 +0.2
comp=Z,0.8nm,0.8s,baz=245,slow=9.4,SNR=2.2
comp=Z,0.8nm,0.8s
ESDC **Sonseca Array** 91.39 317 P **P** 12 10 09.1 +1.7
comp=Z,1.4nm,0.9s,baz=111,slow=2.7,SNR=6.7
comp=Z,1.4nm,0.9s
ILAR **Eielson Array** 143.29 18 PKP **PKPdf** 12 16 36.1 +1.2
comp=Z,0.4nm,0.9s,baz=295,slow=1.7,SNR=5.4
H29M **Whitestone** 143.87 11 PKPdf PKPab 12 16 34.1 +1.1
SKT **Skwentna** 143.98 24 PKPdf **PKPab** 12 16 33.6 +0.1
O18K **Koktuh Hills** 143.99 28 PKPdf PKPbc 12 16 35.2 +1.0
CHGN **Chignik** 144.48 35 PKPdf **PKPab** 12 16 36.2 +0.7
K27K **Chicken** 145.08 16 PKPbc **PKPdf** 12 16 38.6 +0.6
I30M **Mount Dempster** 145.12 11 PKPbc **PKPbc** 12 16 38.4 +0.6
DAWY **Dawson** 145.63 14 PKPbc **PKPbc** 12 16 39.9 +0.6
J30M **Hart River** 145.72 11 **PKPbc** 12 16 40.6 +0.9
L27K **Beaver Creek,** 145.97 16 PKPbc **PKPbc** 12 16 41.1 +0.7
BCAR **Beaver Creek A** 145.97 16 PKPbc **PKPbc** 12 16 41.0 +0.6
FCC **Fort Churchill** 147.00 334 PKPbc **PKPbc** 12 16 43.8 +0.4
M29M **Somme Creek** 147.27 14 PKPbc **PKPbc** 12 16 45.1 +0.8
YKA **Yellowknife Ar** 148.71 354 PKPbc **PKPbc** 12 16 47.7 -0.2
comp=Z,2.5nm,0.8s,baz=5.2,slow=2.6,SNR=8.4
HYT **Haines Junctio** 148.92 15 PKPbc **PKPbc** 12 16 49.0 +0.3
BCPM **Bancas Point** 149.18 18 PKPbc **PKPbc** 12 16 50.0 +0.8
EYMN **Ely** 151.82 314 PKPbc **PKPbc** 12 16 56.3 +0.4
ULM **Lac du Bonnet** 153.19 322 PKPbc **PKPbc** 12 16 59.0 +0.2
comp=Z,1.7nm,0.7s,baz=21,slow=7.4,SNR=4.2
HG4B **Hotspring** 158.15 16 PKPdf **PKPdf** 12 16 55.9 -2.1
HG4B PKPab **PKPab** 12 17 30.6 -1.1
BBB **Bella Bella** 158.86 11 PKPdf **PKPdf** 12 16 57.9 -0.9
BBB PKPab **PKPab** 12 17 35.2 +0.4

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*IDC **10** 12:01:41.8±1.0,31°.74S×58°.16E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=34.5km s-min=31.0km az=19.0*

ISC 10 12:01:43.6±0.9,31°.8S±0°.2×58°.2E±0°.2, h10km, n15, σ0°97/9, mb3.8/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.21	197	T	T	12 20 40.8	
baz=20							
H04N1	CROZET ISLANDS	15.21	197	T	T	12 20 41.6	
baz=20							
H04N3	CROZET ISLANDS	15.23	197	T	T	12 20 40.7	
baz=20							
H08S1	Diego Carcia H	27.44	32	T	T	12 35 52.8	
baz=211							
H08S2	Diego Garcia H	27.45	32	T	T	12 35 53.5	
baz=211							
H08S3	Diego Garcia H	27.46	32	T	T	12 35 54.2	
baz=211							
QSPA	South Pole Qui	58.41	180	P	**P**	12 11 40.0	+0.8
0.9nm,0.8s,baz=295,slow=2.5,SNR=1.6							
0.9nm,0.8s							
CMAR	Chiang Mai Arr	63.41	44	P	**P**	12 12 13.7	+0.1
0.5nm,0.3s,baz=230,slow=6.9,SNR=6.3							
0.5nm,0.3s							
ASAR	Alice Springs	66.32	104	P	**P**	12 12 32.4	-0.3
0.5nm,0.7s,baz=236,slow=5.0,SNR=3.4							
WRA	Warramunga Arr	68.33	101	P	**P**	12 12 44.9	-0.5
0.3nm,0.7s,baz=239,slow=5.8,SNR=2.3							
0.3nm,0.7s							
TORD	Torodi Ar. Bea	70.13	300	P	**P**	12 12 56.5	0.0
0.5nm,0.8s,baz=134,slow=4.2,SNR=2.8							
0.5nm,0.8s							
KURBB	Kurchatov Arra	83.97	13	P	**P**	12 14 13.5	0.0
0.5nm,0.2s,baz=209,slow=5.8,SNR=4.6							
0.5nm,0.2s							
BSD	Bornholm Skovb	94.14	337	*i* P	**P**	12 15 03.0	+1.1
YKA	Yellowknife Ar	148.90	354	PKPbc	**PKPbc**	12 21 30.4	-0.3
0.6nm,0.8s,baz=346,slow=1.3,SNR=2.5							
TXAR	Lajitas Array	164.17	266	PKPab	**PKPab**	12 22 39.6	-1.8
0.2nm,0.8s,baz=90,slow=1.8,SNR=1.4							

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*IDC **10** 12:02:47.3±0.8,31°.72S×58°.23E, h0km, mb4.2/11, mbtmp4.2/11, Error ellipse: s-maj=29.3km s-min=20.8km az=51.0*

*NEIC **10** 12:02:50.0±1.8,31°.7S±0°.1×58°.2E±0°.2, h10km±1km, mb4.6/10, Error ellipse: s-maj=29.6km s-min=16.9km az=262.0*

ISC 10 12:02:49.8±0.6,31°.7S±0°.1×58°.2E±0°.2, h17km, n62, σ0°74/55, mb4.5/15, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.73	348	Pn	**Pn**	12 05 21.9	-1.0
H08S1	Diego Carcia H	27.40	32	T	T	12 36 48.5	
baz=206							
H08S2	Diego Garcia H	27.41	32	T	T	12 36 49.2	
baz=206							
H08S3	Diego Garcia H	27.42	32	T	T	12 36 51.0	
baz=206							
H01W2	Cape Leeuwin H	46.36	110	T	T	13 00 25.9	
baz=258							
H01W3	Cape Leeuwin H	46.37	110	T	T	13 00 26.3	
baz=258							
H01W1	Cape Leeuwin H	46.38	110	T	T	13 00 27.2	
baz=258							
PSA00	Pilbara Seismi	55.41	96	P	**P**	12 12 22.2	-1.2
PSA00				IAmb	IAmb	12 12 41.0	
comp=Z,9.3nm,1.2s							
MBWA	Marble Bar	55.48	95	P	**P**	12 12 23.4	-0.6
MBWA				IAmb	IAmb	12 12 36.5	
comp=Z,14nm,1.2s							
QSPA	South Pole Qui	58.46	180	P	**P**	12 12 45.6	+0.9
QSPA				IAmb	IAmb	12 13 04.1	
comp=Z,7.8nm,1.4s							
QSPA	South Pole Qui	58.46	180	P	**P**	12 12 45.1	+0.4
comp=Z,1.3nm,0.5s,baz=282,slow=1.3,SNR=12							
comp=Z,1.3nm,0.5s							
CMAR	Chiang Mai Arr	63.37	44	P	**P**	12 13 19.0	+0.6
comp=Z,3.2nm,0.8s,baz=232,slow=7.2,SNR=14							
comp=Z,3.2nm,0.8s							
ASAR	Alice Springs	66.33	104	P	**P**	12 13 37.5	-0.3
comp=Z,3.2nm,0.8s,baz=238,slow=6.1,SNR=18							
comp=Z,3.2nm,0.8s							
WRA	Warramunga Arr	68.33	101	P	**P**	12 13 51.0	+0.5
WRA	Warramunga Arr	68.33	101	P	**P**	12 13 50.5	-0.1
comp=Z,3.2nm,0.7s,baz=242,slow=5.5,SNR=18							
comp=Z,3.2nm,0.7s							
WB2	Warramunga Arr	68.34	101	P	**P**	12 13 51.2	+0.5
WB0	Warramunga Arr	68.46	100	P	**P**	12 13 51.8	+0.4
WB0				IAmb	IAmb	12 13 52.4	
comp=Z,4.9nm,0.8s							
WR0	Warramunga Arr	68.50	101	P	**P**	12 13 51.9	+0.3
STKA	Stephens Creek	69.02	115	P	**P**	12 13 54.8	+0.1
STKA	Stephens Creek	69.02	115	P	**P**	12 13 55.0	+0.3
comp=Z,2.9nm,0.8s,baz=255,slow=6.2,SNR=4.4							
comp=Z,2.9nm,0.8s							
TORD	Torodi Ar. Bea	70.11	300	P	**P**	12 14 01.8	+0.3
comp=Z,0.6nm,0.8s,baz=96,slow=3.5,SNR=2.6							
comp=Z,0.6nm,0.8s							
BRTR	Keskin Array B	74.63	341	P	**P**	12 14 28.7	+0.5
BRTR	Keskin Array B	74.63	341	P	**P**	12 14 28.4	+0.2
comp=Z,0.4nm,0.5s,baz=160,slow=8.9,SNR=3.8							
comp=Z,0.4nm,0.5s							
KK31	Karatay Array	75.30	9	P	**P**	12 14 33.0	+1.2
KK31				IAmb	IAmb	12 14 33.8	
comp=Z,1.9nm,1.1s							
KKAR	Karatay Array	75.30	9	P	**P**	12 14 32.9	+1.1
ABKAR	Akbulak array	80.61	1	P	**P**	12 15 02.0	+0.9
KURBB	Kurchatov Arra	83.92	13	P	**P**	12 15 19.0	+0.6
comp=Z,2.1nm,0.9s,baz=202,slow=5.8,SNR=6.4							
comp=Z,2.1nm,0.9s							
BVAR	Borovoye Array	85.04	7	P	**P**	12 15 24.8	+0.8
comp=Z,3.2nm,0.8s,baz=183,slow=5.8,SNR=12							
comp=Z,3.2nm,0.8s							
SONM	Songino Array	90.22	30	P	**P**	12 15 48.9	-0.4
comp=Z,0.8nm,0.8s,baz=190,slow=7.3,SNR=4.5							
comp=Z,0.8nm,0.8s							
ESDC	Sonseca Array	91.44	317	P	**P**	12 15 56.1	+1.0
comp=Z,0.6nm,0.7s,baz=140,slow=6.7,SNR=4.0							
comp=Z,0.6nm,0.7s							
H29M	Whitestone	144.04	11	PKPdf	PKPbc	12 22 22.1	+0.5
SKT	Skwentna	144.15	24	PKPdf	PKPbc	12 22 21.9	-0.2
O18K	Koktuh Hills	144.16	28	PKPdf	**PKPdf**	12 22 23.4	-0.7
P18K	Big Mountain,	144.43	29	PKPdf	**PKPdf**	12 22 24.0	-0.6
I28M	Miner Creek	144.45	13	PKPdf	**PKPdf**	12 22 23.6	-0.9
J26L	Joseph Creek	144.50	16	PKPdf	**PKPdf**	12 22 24.3	-0.3
DHY	Denali Highway	144.66	20	PKPdf	**PKPdf**	12 22 24.2	-0.8
T57A	Hurt	144.68	290	PKPdf	**PKPdf**	12 22 25.2	-0.4
SUA	Susitna One	144.78	24	PKPdf	**PKPdf**	12 22 24.7	-0.5
EGAK	Eagle	144.80	14	PKPdf	**PKPdf**	12 22 24.7	-0.2
SCRK	Sand Creek	144.84	17	PKPdf	**PKPdf**	12 22 25.4	+0.2
KEKH	Kekaha	144.98	97		**PKPbc**	12 22 25.3	-0.6
GHO	Glory Hole Cre	145.17	22	PKPbc	**PKPdf**	12 22 26.7	+0.9
PMR	Palmer	145.23	23	PKPbc	**PKPbc**	12 22 25.0	-0.4
MCWV	Mont Chateau	145.25	295	PKPbc	**PKPab**	12 22 25.8	-0.6
K27K	Chicken	145.25	16	PKPbc	**PKPab**	12 22 26.9	+1.3
PAX	Paxson	145.28	19	PKPbc	**PKPab**	12 22 26.6	+0.7
I30M	Mount Dempster	145.28	11	PKPbc	**PKPab**	12 22 26.3	+0.4
ERPA	Erie	145.28	299	PKPbc	**PKPbc**	12 22 24.0	-2.3
MENT	Mentasta	145.77	18		**PKPab**	12 22 28.8	+1.1
L26K	Log Cabin Wild	145.79	17		**PKPab**	12 22 27.9	+0.1
DAWY	Dawson	145.79	14	PKPbc	**PKPab**	12 22 28.2	+0.5
J30M	Hart River	145.89	11	PKPbc	**PKPab**	12 22 28.7	+0.5
L27K	Beaver Creek,	146.14	16	PKPbc	**PKPab**	12 22 29.5	+0.5
BCAR	Beaver Creek A	146.14	16	PKPbc	**PKPab**	12 22 29.5	+0.5
M29M	Somme Creek	147.44	14	PKPbc	**PKPab**	12 22 33.3	-0.9
YKA	Yellowknife Ar	148.85	354	PKPbc	**PKiKP**	12 22 36.3	-0.8
YKA	Yellowknife Ar	148.85	354	PKPbc	**PKPbc**	12 22 35.6	-0.1
comp=Z,1.6nm,0.8s,baz=0.6,slow=2.4,SNR=7.5							
HYT	Haines Junctio	149.09	15	PKPbc	**PKiKP**	12 22 37.5	-0.4
O29M	Mount Kennedy	149.31	16	PKPbc	**PKiKP**	12 22 37.8	-0.5
Q32M	Nakina River	151.84	11	PKPdf	**PKPdf**	12 22 36.4	-0.5
Q32M				PKPab	**PKPab**	12 22 52.8	+0.4
ULM	Lac du Bonnet	153.26	321	PKPbc	**PKPbc**	12 22 46.0	-0.5
comp=Z,1.0nm,0.6s,baz=197,slow=5.4,SNR=3.1							

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*BJI **10** 12:04:05.0±0.0,31°.60S×58°.20E, h5km, mb4.8/27, mB5.3/8, Ms4.8/1, Ms7 4.5/6*

*IDC **10** 12:04:05.9±0.5,31°.63S×58°.36E, h0km, mb4.5/21, mbtmp4.5/22, ML4.3/1, MS4.0/6, Error ellipse: s-maj=18.2km s-min=14.8km az=60.0*

*MOS **10** 12:04:06.1±0.7,31°.64S×58°.33E, h9km, mb4.9/39, Error ellipse: s-maj=14.5km s-min=7.3km az=100.1*

*GCMT **10** 12:04:08.5±0.3,31°.64S±0°.02×58°.05E±0°.05, h19km±1km, MW5.0/95, Moment Tensor Solution. s25,c27; s95,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.89±.26; $M_{\theta\theta}$=3.22±.16; $M_{\phi\phi}$=0.67±.15; $M_{r\theta}$=0.31±.29; $M_{\phi\theta}$=-0.41±.10; $M_{r\phi}$=1.17±.41; Best double couple: M_0=3.73900×10^{16} NP1:ϕ_s=265.00000°, δ=48.00000°, λ=-109.00000°. NP2: ϕ_s=112.00000°, δ=46.00000°, λ=-70.00000°. Principal axes: T 3.2850, Plg1.0000°, Azm8.0000°; N 0.9130, Plg14.0000°, Azm278.0000°; P -4.1930, Plg76.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **10** 12:04:08.5±1.9,31°.60S±0°.09×58°.2E±0°.1, h10km±1km, mb4.9/71 Error ellipse: s-maj=16.5km s-min=15.0km az=254.0*

ISC 10 12:04:08.9±0.3,31°.60S±0°.06×58°.14E±0°.07, h17km, n404, σ1°97/404, mb4.8/97, MS3.9/9, 4C-1D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.61	348	Pn	**Pn**	12 06 38.3	-2.0
FOMA	Nahampoana Res	11.84	301	Pn	**Pn**	12 06 54.8	-2.1
VOI	Vohitsoka	13.98	311	Pn	**Pn**	12 07 26.6	+0.2
H04N2	CROZET ISLANDS	15.35	197	T	T	12 23 46.4	
baz=22,slow=75,SNR=7.4							
H04N1	CROZET ISLANDS	15.36	197	T	T	12 23 44.8	
baz=22,slow=75,SNR=4.7							
H04N3	CROZET ISLANDS	15.37	197	T	T	12 23 46.9	
baz=22,slow=75,SNR=6.0							
ABPO	Ambohimpanom	15.93	319		**P**	12 07 55.2	-0.8
ABPO	Ambohimpanom	15.93	319	P	**P**	12 07 55.2	-0.8
ABPO				pmax	pmax		
comp=Z,42nm,1.5s							
OPO	Ambohidratompo	16.31	320	Pn	**P**	12 08 00.5	+0.2
comp=Z,0.1nm,0.3s,baz=129,slow=16,SNR=3.5							
OPO				Sn	**Sn**	12 10 53.3	-4.8
comp=Z,0.2nm,0.3s,baz=295,slow=22,SNR=2.7							
OPO				LR	LR	12 13 13.7	
comp=Z,251nm,19.2s,baz=14,slow=33							
comp=Z,6.2nm,0.7s							
POGA	Pongola	23.38	274	P	**P**	12 09 16.3	-0.4
H08S1	Diego Carcia H	27.33	32	T	T	12 38 09.2	
baz=207,slow=76							
H08S2	Diego Garcia H	27.33	32	T	T	12 38 09.9	
baz=207,slow=76							
H08S3	Diego Garcia H	27.35	32	T	T	12 38 11.7	
baz=207,slow=76							
BOSA	Boshof	28.54	267	P	**P**	12 10 03.2	-0.7
BOSA	Boshof	28.54	267	P	**P**	12 10 05.9	+1.9
comp=Z,1.4nm,0.7s,baz=111,slow=14,SNR=3.0							
BOSA				LR	LR	12 19 35.3	
comp=Z,127nm,20.3s,baz=122,slow=32							
comp=Z,1.4nm,0.7s							
LBTB	Lobatse	29.32	275	P	**P**	12 10 10.8	-0.1
LBTB	Lobatse	29.32	275	P	**P**	12 10 10.8	-0.1
LBTB				pmax	pmax		
comp=Z,10.0nm,1.3s							
SUR	Sutherland	31.57	259	P	**P**	12 10 29.8	-0.9
SUR				IAmb	IAmb	12 10 35.8	
comp=Z,55nm,1.7s							
LSZ	Lusaka	31.78	294	P	**P**	12 10 31.7	-0.9
LSZ	Lusaka	31.78	294	P	**P**	12 10 31.7	-0.9
LSZ				pmax	pmax		
comp=Z,5.0nm,0.9s							
MAW	Mawson	36.15	177	P	**P**	12 11 11.6	+1.7
comp=Z,2.1nm,0.6s,baz=359,slow=7.4,SNR=2.9							
MAW				PcP	**PcP**	12 13 34.5	-0.7
comp=Z,1.6nm,0.6s,baz=337,slow=5.3,SNR=4.2							
TSUM	Tsumeb	38.45	279	P	**P**	12 11 30.9	+0.8
TSUM	Tsumeb	38.45	279	LR	LR	12 25 48.4	
comp=Z,174nm,21.5s,baz=148,slow=34							
PALK	Pallekele	44.26	33	LR	LR	12 26 38.6	
comp=Z,133nm,20.1s,baz=306,slow=31							
H01W2	Cape Leeuwin H	46.43	110	T	T	13 01 43.1	
baz=257,slow=75,SNR=12							
H01W3	Cape Leeuwin H	46.44	110	T	T	13 01 46.4	
baz=257,slow=75							
H01W1	Cape Leeuwin H	46.45	110	T	T	13 01 44.8	
baz=257,slow=75,SNR=11							
TROLL	Troll, Antarti	49.81	200	⇑P	**P**	12 12 59.8	-0.7
comp=Z,37nm,0.8s							
SNAA	Sanae	51.27	201	P	**P**	12 13 12.4	+0.9
SNAA	Sanae	51.27	201	⇑P	**P**	12 13 11.3	-0.3
comp=Z,31nm,0.7s							
SNAA	Sanae	51.27	201	P	**P**	12 13 10.5	-1.0
comp=Z,2.1nm,0.8s,baz=74,slow=9.1,SNR=6.8							
comp=Z,2.1nm,0.8s							
SNAA	Sanae	51.27	201	P	**P**	12 13 12.4	+0.9
SNAA				pmax	pmax		
comp=Z,14nm,1.6s							
VNA2	Neumayer--Watz	52.51	202	⇑P	**P**	12 13 20.7	0.0
comp=Z,1.7nm,0.6s,baz=84,slow=5.5							
VNA3	Neumayer Olymp	53.30	202	⇑P	**P**	12 13 26.2	-0.3
comp=Z,2.1nm,0.8s							
PSA00	Pilbara Seismi	55.45	96	P	**P**	12 13 40.6	-2.2
PSA00				IAmb	IAmb	12 15 15.0	
comp=Z,10nm,1.2s							
MBWA	Marble Bar	55.53	95	P	**P**	12 13 41.1	-2.3
RAYN	Ar Rayn	56.13	346	P	**P**	12 13 47.3	-0.2
RAYN	Ar Rayn	56.13	346	P	**P**	12 13 47.3	-0.2
RAYN				pmax	pmax		
comp=Z,5.0nm,0.9s							
QSPA	South Pole Qui	58.57	180	P	**P**	12 14 04.5	+0.1
QSPA				IAmb	IAmb	12 14 15.6	
comp=Z,11nm,1.0s							
QSPA	South Pole Qui	58.57	180	P	**P**	12 14 03.7	-0.7
comp=Z,5.4nm,0.8s,baz=253,slow=1.4,SNR=17							
comp=Z,5.4nm,0.8s							
FITZ	Fitzroy Crossi	61.86	95	P	**P**	12 14 26.2	-1.4
VNDA	Vanda	62.30	166	P	**P**	12 14 30.7	+1.1
VNDA				IAmb	IAmb	12 14 50.5	
comp=Z,11nm,1.6s							
VNDA	Vanda	62.30	166	P	**P**	12 14 30.4	+0.9
comp=Z,1.9nm,0.9s,baz=231,slow=6.6,SNR=6.6							
comp=Z,1.9nm,0.9s							
VNDA	Vanda	62.30	166	P	**P**	12 14 30.7	+1.1
VNDA				pmax	pmax		
comp=Z,11nm,1.6s							
SBA	Scott Base	63.14	167	P	**P**	12 14 36.2	+1.0
SBA				IAmb	IAmb	12 16 42.9	
comp=Z,6.2nm,0.5s							
SBA	Scott Base	63.14	167	P	**P**	12 14 36.2	+1.0
SBA				pmax	pmax		
comp=Z,6.0nm,0.5s							
CM31	Chiang Mai Arr	63.32	44	P	**P**	12 14 37.0	-0.2
CMAR	Chiang Mai Arr	63.32	44	P	**P**	12 14 36.7	-0.4
comp=Z,11nm,0.8s,baz=229,slow=7.3,SNR=38							
comp=Z,11nm,0.8s							
CHTO	Chiang Mai	63.60	44	P	**P**	12 14 38.2	-0.8
CHTO				IAmb	IAmb	12 14 47.7	
comp=Z,5.2nm,0.9s							
CHTO	Chiang Mai	63.60	44	P	**P**	12 14 38.2	-0.8
CHTO				pmax	pmax		
comp=Z,5.0nm,1.0s							
PHRA	Phrae	64.12	45	P	**P**	12 14 42.1	-0.2
BBOO	Buckleboo	64.43	114	P	**P**	12 14 43.7	-0.7
SHL	Shillong	65.35	34	P	**P**	12 14 50.7	+0.2
SHL	Shillong	65.35	34	P	**P**	12 14 50.7	+0.2
SHL				pmax	pmax		
comp=Z,16nm,0.4s							
CRAI	Chiangrai	65.54	44	P	**P**	12 14 51.4	-0.2
CRAI				IAmb	IAmb	12 14 52.3	
comp=Z,4.6nm,0.8s							
ASAR	Alice Springs	66.39	104	P	**P**	12 14 55.5	-1.9
comp=Z,5.2nm,0.7s,baz=238,slow=6.0,SNR=4.8							
comp=Z,5.2nm,0.7s							
KBL	Kabul	66.58	10	P	**P**	12 14 59.6	+1.3
KBL				IAmb	IAmb	12 15 00.0	
comp=Z,8.0nm,0.8s							
KBL	Kabul	66.58	10	P	**P**	12 14 59.6	+1.3
KBL				pmax	pmax		
comp=Z,8.0nm,0.9s							
WRA	Warramunga Arr	68.39	101	P	**P**	12 15 09.3	-0.7
WRA	Warramunga Arr	68.39	101	P	**P**	12 15 08.5	-1.5
comp=Z,7.1nm,0.8s,baz=242,slow=5.5,SNR=22							
comp=Z,7.1nm,0.8s							
WRA	Warramunga Arr	68.39	101	P	**P**	12 15 09.3	-0.7
WRA				pmax	pmax		
comp=Z,1.0nm,1.4s							
WB2	Warramunga Arr	68.40	101	P	**P**	12 15 09.2	-0.9
WB2				IAmb	IAmb	12 15 09.9	
comp=Z,10nm,0.9s							
WRAB	Tennant Creek	68.41	101	P	**P**	12 15 09.2	-0.9
WRAB				IAmb	IAmb	12 15 11.6	
comp=Z,11nm,0.8s							
WRAB	Tennant Creek	68.41	101	*i* P	**P**	12 15 09.3	-0.8
WRAB				pmax	pmax		
comp=Z,12nm,0.9s							
WB0	Warramunga Arr	68.52	101	P	**P**	12 15 09.8	-1.0
WB0				IAmb	IAmb	12 15 19.9	
comp=Z,22nm,1.2s							
WR0	Warramunga Arr	68.55	101	P	**P**	12 15 09.9	-1.1
WR0				IAmb	IAmb	12 15 20.1	
comp=Z,12nm,1.2s							
STKA	Stephens Creek	69.10	115	P	**P**	12 15 13.5	-0.7
STKA	Stephens Creek	69.10	115	P	**P**	12 15 12.6	-1.6
comp=Z,1.8nm,0.6s,baz=234,slow=8.7,SNR=5.1							
comp=Z,1.8nm,0.6s							
STKA	Stephens Creek	69.10	115	P	**P**	12 15 13.5	-0.7
STKA				pmax	pmax		
comp=Z,1.0nm,1.0s							
TOA0	Torodi Ar. Sit	70.02	300	P	**P**	12 15 21.4	+1.4
TOA0				IAmb	IAmb	12 15 21.8	
comp=Z,11nm,1.2s							
TORD	Torodi Ar. Bea	70.02	300	P	**P**	12 15 21.3	+1.2
TORD				IAmb	IAmb	12 15 21.7	
comp=Z,9.7nm,1.2s							
TORD	Torodi Ar. Bea	70.02	300	P	**P**	12 15 20.5	+0.4
comp=Z,3.3nm,0.9s,baz=116,slow=5.6,SNR=15							
comp=Z,3.3nm,0.9s							
SIMJ	Simiganj	70.62	9		**P**	12 15 24.4	+1.1
SIMJ				IAmb	IAmb	12 15 25.8	
comp=Z,23nm,1.2s							
CHGR	Chuyangaron	70.64	9		**P**	12 15 24.1	+0.8
CHGR	Chuyangaron	70.64	9	P	**P**	12 15 24.2	+0.8
CHGR				pmax	pmax		
comp=Z,25nm,1.0s							
DBIC	Dimbokro	71.05	291	P	**P**	12 15 27.0	+0.7
comp=Z,3.6nm,0.9s,baz=72,slow=9.6,SNR=1.5							
comp=Z,3.6nm,0.9s							
GAR	Garm	71.14	10	P	**P**	12 15 26.8	+0.3
GAR				IAmb	IAmb	12 15 27.4	
comp=Z,5.7nm,0.8s							
PZH	PanZhiHua	71.20	41	P	**P**	12 15 30.1	+3.0
PZH				pmax	pmax		
comp=Z,20nm,0.9s							
PZH				pmax	pmax		
comp=Z,160nm,6.5s							
BTK	Batken	72.26	10	P	**P**	12 15 34.3	+1.2
BTK	Batken	72.26	10	P	**P**	12 15 34.3	+1.2
BTK				pmax	pmax		
comp=Z,5.0nm,0.9s							
KSH	Kashi	72.67	14	P	**P**	12 15 33.1	-2.5
KSH				sP	sP	12 15 41.6	-0.4
KSH				PcP	**PcP**	12 15 50.7	-2.3
KSH				pmax	pmax		
comp=Z,15nm,0.9s							
ARPR	Arapgir-MALATY	72.70	344	P	**P**	12 15 37.8	+1.9
ARPR				IAmb	IAmb	12 15 38.4	
comp=Z,7.5nm,0.8s							
KARP	Karpathos	72.85	334	P	**P**	12 15 38.4	+1.7
KARP	Karpathos	72.85	334	P	**P**	12 15 38.0	+1.3
comp=Z,54nm,1.1s							
ARSB	Arslanbob	73.84	12	P	**P**	12 15 42.9

EZN Ezine 76.95 335 P P 12 16 01.0 +0.8
EZN Ezine 76.95 335 P P 12 16 01.0 +0.8
AGG Agios Georgios 77.75 332 P P 12 16 05.6 +0.8
AGG IAmb IAmb 12 16 06.6
comp=Z,8.8nm,0.9s
AGG Agios Georgios 77.75 332 P P 12 16 05.6 +0.8
AGG pmax pmax
comp=Z,9.0nm,0.9s
ALN Alexandroupoli 78.00 336 P P 12 16 07.4 +1.3
ALN IAmb IAmb 12 16 08.6
comp=Z,12nm,1.2s
ALN Alexandroupoli 78.00 336 P P 12 16 07.4 +1.3
ALN pmax pmax
comp=Z,12nm,1.2s
LIT Litokhoron 78.62 333 P P 12 16 10.1 +0.5
LIT IAmb IAmb 12 16 11.3
comp=Z,9.4nm,0.8s
LIT Litokhoron 78.62 333 P P 12 16 10.1 +0.5
LIT pmax pmax
comp=Z,9.0nm,0.8s
FNA Florina 79.64 332 P P 12 16 14.8 -0.4
FNA IAmb IAmb 12 16 15.9
comp=Z,28nm,1.9s
FNA Florina 79.64 332 P P 12 16 14.8 -0.4
FNA pmax pmax
comp=Z,28nm,1.9s
WMQ Urumqi 79.77 21 *e*P **P 12 16 17.9 +2.0**
WMQ PcP **pwP 12 16 26.5 +2.2**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ LR LR
comp=Z,100nm,20.7s
LZH Lanzhou 79.81 36 *e*P P 12 16 05.8 -11
LZH pP pP 12 16 12.2 -8.4
LZH pmax pmax
comp=Z,22nm,1.3s
ABKAR Akbulak array 80.51 1 P P 12 16 20.4 +0.8
ABKAR IAmb IAmb 12 16 21.1
comp=Z,17nm,1.1s
GTA Gaotai 80.56 31 *e*P **P 12 16 20.5 +0.2**
GTA pP sP 12 16 25.2 -1.6
GTA pmax pmax
comp=Z,8.0nm,0.7s
MAKZ Makanchi 80.95 16 P P 12 16 22.4 +0.3
MAKZ IAmb IAmb 12 16 23.3
comp=Z,13nm,1.6s
MAKZ Makanchi 80.95 16 P P 12 16 22.4 +0.3
MAKZ pmax pmax
comp=Z,13nm,1.6s
MK31 Makanchi Array 81.02 17 P P 12 16 22.7 +0.2
MK31 Makanchi Array 81.02 17 *i* P **P 12 16 22.4 0.0**
MKAR Makanchi Array 81.02 17 P P 12 16 22.1 -0.3
comp=Z,4.0nm,1.0s,baz=212,slow=6.6,SNR=9.0
comp=Z,4.0nm,1.0s
MKAR Makanchi Array 81.02 17 *i* P **P 12 16 22.6 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
KEST Kesra 81.13 322 P P 12 16 25.4 +2.1
comp=Z,3.9nm,0.8s,baz=63,slow=2.3,SNR=4.3
comp=Z,3.9nm,0.8s
PUK Puka 81.30 332 P P 12 16 25.5 +1.4
PUK IAmb IAmb 12 18 11.8
comp=Z,40nm,1.7s
MG01 Puerto William 82.07 208 P P 12 16 28.7 +0.6
MLR Muntele Rosu 82.10 338 P P 12 16 28.7 +0.4
MLR Muntele Rosu 82.10 338 P P 12 16 28.7 +0.4
MLR pmax pmax
comp=Z,58nm,1.9s
MLR Muntele Rosu 82.10 338 P P 12 16 28.8 +0.4
comp=Z,12nm,1.4s
VRI Vrincioaia 82.19 338 P P 12 16 29.1 +0.5
comp=Z,33nm,0.7s
PLOR5 Plostina Array 82.19 338 P P 12 16 29.1 +0.4
comp=Z,34nm,0.8s
PLOR5 pP **PcP 12 16 33.6 -0.4**
comp=Z,34nm,0.8s
PLOR3 Plostina Array 82.20 338 P P 12 16 29.2 +0.4
PLTM Poltava 83.52 345 P P 12 16 36.2 +0.8
BZS Buzias 83.69 335 P P 12 16 37.2 +0.8
BZS pmax pmax
comp=Z,8.0nm,1.5s
VRH Novokhopyorsk 83.70 350 *e*P **P 12 16 34.6 -1.7**
VRH pmax pmax
comp=Z,10.0nm,1.2s
KURBB Kurchatov Arra 83.83 13 P P 12 16 37.3 +0.3
comp=Z,11nm,1.0s,baz=206,slow=5.6,SNR=24
comp=Z,11nm,1.0s
VORD Divnogorie 83.87 348 *e*P **P 12 16 34.3 -2.9**
VORD pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 83.93 13 P P 12 16 38.3 +0.8
KURK Kurchatov 83.93 13 *i* P **P 12 16 37.7 +0.2**
KURK pmax pmax
comp=Z,24nm,1.1s
VSR Storozhevoye 84.14 348 *e*P **P 12 16 34.9 -3.6**
VSR pmax pmax
comp=Z,10.0nm,1.1s
BELG Belogornoye 84.14 354 *i* P **P 12 16 39.0 +0.5**
BELG pmax pmax
comp=Z,3.0nm,0.8s
BURAR Bucovina Array 84.22 338 P P 12 16 40.2 +1.0
BURAR Bucovina Array 84.22 338 P P 12 16 40.2 +1.0
BURAR pmax pmax
comp=Z,3.0nm,0.9s
BUR08 Bucovina Ar. S 84.25 338 P P 12 16 40.0 +0.6
NRCA Norcia 84.81 328 P P 12 16 42.8 +0.5
NRCA IAmb IAmb 12 16 43.3
comp=Z,7.0nm,1.2s
BVAR Borovoye Array 84.94 7 P P 12 16 43.0 +0.5
comp=Z,14nm,0.8s,baz=200,slow=5.4,SNR=38
comp=Z,14nm,0.8s
BRVK Borovoye 84.96 7 P P 12 16 43.4 +0.7
BRVK Borovoye 84.96 7 *i* P **P 12 16 43.0 +0.3**
BRVK pmax pmax
comp=Z,20nm,1.0s
NJ2 Nanjing 85.46 48 *e*P **P 12 16 47.4 +1.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
KIEV Kiev 85.83 342 P P 12 16 47.0 0.0
KIEV pmax pmax
comp=Z,8.0nm,1.2s
AKASG Malin Array Be 85.84 342 P P 12 16 46.9 -0.1
comp=Z,1.5nm,0.5s,baz=172,slow=4.4,SNR=7.1
comp=Z,1.5nm,0.5s
AKASG Malin Array Be 85.84 342 *e*P **P 12 16 47.2 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 85.84 342 *i* P **P 12 16 47.7 +0.6**
AKBB pmax pmax
comp=Z,5.0nm,0.6s
VYHS Vyhne 87.14 335 *e*P **P 12 16 55.0 +1.4**
VYHS Vyhne 87.14 335 *e*P **P 12 16 55.0 +1.4**
HHC Hu-ho-hao-te 87.36 38 *e*P **P 12 16 55.4 +0.4**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,140nm,4.5s
ZST Bratislava 87.53 334 *e*P **P 12 16 56.2 +0.8**
ZST Bratislava 87.53 334 *e*P **P 12 16 56.2 +0.8**
MODS Modra-Piesok 87.61 334 *e*P **P 12 16 56.1 +0.3**
MODS Modra-Piesok 87.61 334 *e*P **P 12 16 56.1 +0.3**
ARU Arti 87.68 0 P P 12 16 56.8 +0.9
ARU IAmb IAmb 12 16 57.5
comp=Z,17nm,1.1s
ARU Arti 87.68 0 *d i*P **P 12 16 56.7 +0.8**
ARU 12 20 18.5
ARU S **SKSac 12 27 24.8 +2.1**
ARU SS **SS 12 33 26.4 +2.3**
ARU pmax pmax
comp=Z,18nm,1.1s
JAVC Velka Javorina 87.87 335 *e*P **P 12 16 58.4 +1.3**
CTI Castel Tesino 87.99 330 P P 12 16 59.5 +1.6
CTI IAmb IAmb 12 17 00.0
comp=Z,14nm,1.2s
CTI Castel Tesino 87.99 330 P P 12 16 59.5 +1.6
CTI pmax pmax
comp=Z,14nm,1.2s
OJC Ojcow 88.26 337 P P 12 16 59.4 +0.5
OJC IAmb IAmb 12 16 59.9
comp=Z,13nm,1.2s
OJC Ojcow 88.26 337 P P 12 16 59.4 +0.5
OJC pmax pmax
comp=Z,13nm,1.2s
ZAA0 Zalesovo Array 88.27 15 P P 12 16 58.2 -0.6
ZAA0 IAmb IAmb 12 16 59.6
comp=Z,5.8nm,1.1s
ZALV Zalesovo Beam 88.27 15 P P 12 16 57.7 -1.1
ZALV Zalesovo Beam 88.27 15 P P 12 16 57.4 -1.4
comp=Z,2.8nm,0.8s,baz=215,slow=4.6,SNR=10.0
comp=Z,2.8nm,0.8s
ZALV Zalesovo Beam 88.27 15 *e*P **P 12 16 57.7 -1.1**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 88.33 348 *e*P **P 12 17 00.1 +1.1**
OBN *e* 12 20 26.4
OBN *e*PPP PPP 12 22 33.3
OBN pmax pmax
comp=Z,31nm,1.4s
OBN MLR MLR
comp=Z,105nm,18.0s
KRUC Moravsky 88.51 334 *e*P **P 12 17 00.0 -0.1**
KRUC Moravsky 88.51 334 P **P 12 16 59.9 -0.1**
KRUC pmax pmax
comp=Z,9.0nm,1.2s
JOW Kunigami 88.57 57 LR LR 12 51 47.9
comp=Z,506nm,18.8s,baz=94,slow=32
MORC Moravsky Berou 88.68 335 *e*P **P 12 17 01.1 +0.2**
MORC Moravsky Berou 88.68 335 P **P 12 17 01.2 +0.3**
MORC pmax pmax
comp=Z,6.0nm,1.5s
WTTA Wattenberg 88.95 330 P P 12 17 03.3 +0.8
WTTA pmax pmax
comp=Z,20nm,0.8s
TUE Stuetta 89.33 329 P P 12 17 05.0 +0.7
TUE IAmb IAmb 12 17 05.6
comp=Z,5.6nm,0.8s
GEC2 GERESS Array S 89.36 332 P P 12 17 04.1 -0.1
GERES GERESS Array B 89.36 332 P P 12 17 04.5 +0.2
comp=Z,0.5nm,0.2s,baz=157,slow=0.7,SNR=4.2
comp=Z,0.5nm,0.2s
DPC Dobruska-Polom 89.59 335 P P 12 17 05.4 +0.2
DPC pmax pmax
comp=Z,4.0nm,1.2s
KSP Ksiaz 90.01 335 P P 12 17 08.0 +0.9
KSP pmax pmax
comp=Z,7.0nm,2.1s
SONM Songino Array 90.14 30 P P 12 17 07.1 -0.9
comp=Z,2.4nm,1.0s,baz=197,slow=4.4,SNR=8.0
comp=Z,2.4nm,1.0s
ULN Ulaanbaatar 90.45 30 *i* P **P 12 17 08.5 -0.9**
ULN pmax pmax
comp=Z,3.0nm,0.9s
SLE Schleitheim 90.69 329 P P 12 17 11.7 +1.3
SLE pmax pmax
comp=Z,11nm,1.1s
ESBB Sonseca Array 91.34 317 P P 12 17 12.8 -0.8
ESBB IAmb IAmb 12 17 16.4
comp=Z,6.5nm,1.1s
ESDC Sonseca Array 91.34 317 P P 12 17 14.8 +1.2
ESDC IAmb IAmb 12 17 16.4
comp=Z,4.4nm,1.1s
ESDC Sonseca Array 91.34 317 P P 12 17 14.9 +1.2
comp=Z,3.3nm,1.0s,baz=137,slow=2.7,SNR=17
comp=Z,3.3nm,1.0s
MESJ Messejana 92.73 313 P P 12 17 20.8 +0.8
MESJ Messejana 92.73 313 P P 12 17 20.8 +0.8
MESJ pmax pmax
comp=Z,19nm,1.0s
DZM Mont Dzumac 93.09 118 *e*LR LR 12 47 09.9
comp=Z,208nm,21.4s
NOA NORSAR Array B 99.89 339 LR LR 13 01 35.8
comp=Z,42nm,20.9s,baz=320,slow=34
BILL Bilibino 125.66 26 *e*PKIKP **PKiKP 12 23 08.3 -0.6**
BILL *e* 12 25 05.8
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,57nm,17.0s
ILAR Eielson Array 143.37 18 PKhKP PKPpre 12 23 37.7
comp=Z,0.9nm,0.9s,baz=304,slow=3.5,SNR=8.0
N19K Bonanza Creek 143.78 27 PKPdf PKPbc 12 23 40.0 -0.1
O18K Koktuh Hills 144.08 28 PKPdf **PKPdf 12 23 42.0 -1.0**
O19K Port Alsworth 144.23 27 PKPdf PKPbc 12 23 41.3 0.0
I28M Miner Creek 144.35 13 PKPdf PKPbc 12 23 41.5 -0.3
K24K Donnelly Dome 144.43 18 P **PKPdf 12 23 44.6 +1.1**
baz=323
DHY Denali Highway 144.57 20 P PKiKP 12 23 45.1 -2.5
baz=320
CHGN Chignik 144.58 35 P PKiKP 12 23 45.1 -2.4
baz=299
CHNA Chernabura Isl 144.66 38 P PKPbc 12 23 42.5 -0.4
baz=295
SUA Susitna One 144.70 24 PKPdf **PKPdf 12 23 42.9 -1.2**
SUA Susitna One 144.70 24 P PKPbc 12 23 42.3 -0.7
baz=314,SNR=9.7
M22K Willow 144.70 23 P PKPbc 12 23 42.2 -0.6
baz=316,SNR=7.2
EGAK Eagle 144.70 14 P PKPbc 12 23 42.2 -0.5
baz=331,SNR=6.3
Q17K Contact Creek 144.73 31 P PKPbc 12 23 42.7 -0.5
baz=304
I29M Ogilvie Camp, 144.73 12 P **PKPab 12 23 42.2 -0.6**
baz=335,SNR=15
SCRK Sand Creek 144.75 17 P PKPbc 12 23 42.9 -0.2
baz=326,SNR=11
WAT6 Susitna Watana 144.84 21 P PKPbc 12 23 43.1 -0.4
baz=320,SNR=5.1
Q18K Katmai Hardscr 144.88 30 P PKPdf 12 23 43.5 -1.0
baz=306
DWPF Disney Wildern 144.90 275 P PKPdf 12 23 44.6 -0.7
baz=106
NHSC New Hope 144.92 284 P PKPab 12 23 44.4 0.0
baz=99
O20K Slope Mountain 144.96 27 P PKPdf 12 23 44.0 -0.5
baz=310
P19K Oil Pt 145.00 27 P PKPdf 12 23 44.2 -0.4
baz=309
CAPN Captain Cook N 145.04 25 P PKPdf 12 23 44.0 -0.5
baz=313
PMR Palmer 145.15 23 P PKPdf 12 23 44.2 -0.5
baz=317,SNR=6.7
K27K Chicken 145.15 15 P PKPdf 12 23 44.5 -0.2
baz=329
MCWV Mont Chateau 145.17 295 P PKPdf 12 23 45.8 +0.4
baz=90
I30M Mount Dempster 145.18 11 P PKPbc 12 23 43.9 -0.6
baz=338,SNR=29
PAX Paxson 145.19 19 P PKPdf 12 23 44.7 -0.2
baz=323,SNR=16
ERPA Erie 145.20 300 P PKPdf 12 23 45.2 -0.2
baz=86
SML Sawmill 145.25 22 P PKPdf 12 23 44.8 -0.2
baz=318
Q19K Cape Douglas, 145.28 29 P PKPdf 12 23 45.1 0.0
baz=308
RC01 Rabbit Creek A 145.31 24 P PKPdf 12 23 45.1 +0.1
baz=315
M23K Glacier View 145.45 21 P PKPab 12 23 45.4 -0.1
baz=319
KNK Knik Glacier 145.50 22 P PKPab 12 23 45.3 -0.4
baz=318
SCM Sheep Creek Mo 145.54 21 P PKPab 12 23 45.4 -0.5
baz=320
J29N Klondike Camp 145.57 12 P PKPab 12 23 45.8 -0.1
baz=335
HOM Homer 145.61 27 P PKPab 12 23 46.2 +0.2
baz=311
M24K Tolsona, Glenn 145.67 20 P PKPab 12 23 46.7 +0.3
baz=321
DAWY Dawson 145.70 14 P PKPab 12 23 45.7 -0.7
baz=333,SNR=13
L26K Log Cabin Wild 145.70 17 P PKPab 12 23 46.4 0.0
baz=326
HARP HAARP 145.73 19 P PKPab 12 23 46.4 -0.1
baz=323
O22K Cooper Landing 145.75 24 P PKPab 12 23 46.1 -0.4
baz=315
M53A WI Miller and 145.75 298 P PKPab 12 23 47.7 +0.4
baz=87
R18K Karluk 145.75 31 P PKPbc 12 23 45.7 -0.6
baz=305
J30M Hart River 145.79 11 P PKPbc 12 23 45.9 -0.5
baz=338,SNR=12
BRSE Bradley Lake S 145.89 26 P PKPbc 12 23 46.2 -0.5
baz=313
Q54A Coxs Mills 145.93 294 PKPdf **PKPab 12 23 47.5 -0.5**
Q20K Shuyak Island 145.99 28 P **PKPab 12 23 47.7 +0.2**
baz=309
L27K Beaver Creek, 146.04 16 PKPab 12 23 48.1 +0.4
L27K Beaver Creek, 146.04 16 P **PKPab 12 23 47.4 -0.3**
baz=328,SNR=8.4
BCAR Beaver Creek A 146.05 16 PKPdf **PKPab 12 23 47.0 -0.8**
SEW Seward 146.11 25 P **PKPab 12 23 48.0 +0.1**
baz=315
KMSC Kings Mountain 146.13 287 P **PKPab 12 23 48.6 -0.3**
baz=96
CHIR Chirikof Islan 146.18 34 P **PKPab 12 23 47.8 -0.6**
baz=302
O53A New Philadelph 146.21 296 P **PKPab 12 23 48.7 -0.4**
baz=88
KLU Klutina 146.23 21 P **PKPab 12 23 47.6 -0.9**
baz=321
K29M Barlow Dome 146.26 12 P **PKPab 12 23 48.3 -0.3**
baz=335,SNR=8.4
M26K Nabesna, AK 146.31 18 P **PKPab 12 23 48.3 -0.5**
baz=326
GLI Glacier Island 146.34 22 P **PKPbc 12 23 47.7 -0.3**
baz=319
KDAK Kodiak Island 146.43 30 P **PKPab 12 23 48.5 -0.8**
baz=308
SII Sitkinak Islan 146.45 32 P **PKPbc 12 23 48.1 -0.4**
baz=304
OHAK Old Harbor 146.47 31 P **PKPab 12 23 48.7 -0.7**
baz=306
N25K Chitina, Valde 146.53 20 P **PKPab 12 23 48.6 -1.1**
baz=323,SNR=11
M27K Edge Creek, AK 146.63 17 P **PKPab 12 23 49.3 -0.8**
baz=328
L29M L29M 146.81 13 P **PKPab 12 23 49.5 -1.2**
baz=334
P23K Montague Islan 146.90 23 P **PKPab 12 23 49.7 -1.3**
baz=318
P52A Corning 146.93 295 P **PKPbc 12 23 50.3 -0.1**
baz=88
FCC Fort Churchill 146.98 334 PKPbc 12 23 49.8 0.0
FCC Fort Churchill 146.98 334 PKP2 **PKPbc 12 23 49.8 0.0**
EYAK Cordova Ski Ar 147.02 22 P **PKPab 12 23 50.4 -1.1**
baz=320
BMRM Bremner River 147.04 20 P **PKPbc 12 23 50.1 0.0**
baz=323
MCARA McCarthy VSAT 147.15 19 P **PKPbc 12 23 50.2 -0.2**
baz=325
M29M Somme Creek 147.34 14 P **PKPbc 12 23 50.9 0.0**
baz=333
YUK3 Moose Creek 147.48 16 P **PKPbc 12 23 51.1 -0.5**
baz=330
M30M Minto, Yukon 147.55 13 P **PKPbc 12 23 51.3 -0.2**
baz=336
ACSO Alum Creek Sta 147.56 296 P **PKPbc 12 23 52.0 -0.2**
baz=87
Q23K Middleton Isla 147.68 23 P **PKPbc 12 23 51.9 +0.1**
baz=318
GOGA Godfrey 147.69 284 P **PKPbc 12 23 52.1 -0.6**
baz=97
TEIG Tepich 147.86 258 PKPbc **PKPbc 12 23 53.4 -0.1**
CTG Chitna Glacier 147.95 18 P **PKPbc 12 23 52.8 +0.1**
baz=327
YUK8 Steele Glacier 148.07 16 P **PKPbc 12 23 52.8 -0.4**
baz=330
M31M Drury Creek, Y 148.33 11 P **PKPbc 12 23 52.9 -0.6**
baz=339
MESA MESA 148.44 19 P **PKPbc 12 23 53.6 -0.5**
baz=326
FARO Faro, Yukon 148.47 10 P **PKiKP 12 23 54.1 -1.4**
baz=341
N30M Aishikik Lake 148.51 14 P **PKPbc 12 23 54.2 +0.1**
baz=334
YKA Yellowknife Ar 148.74 354 PKPbc 12 23 54.2 -0.3
YKA Yellowknife Ar 148.74 354 PKPbc **PKPbc 12 23 53.6 -0.9**
comp=Z,10nm,1.0s,baz=4.0,slow=2.6,SNR=18
HYT Haines Junctio 149.00 15 P **PKPbc 12 23 55.2 -0.2**
baz=333
O29M Mount Kennedy 149.22 16 P **PKPbc 12 23 55.8 -0.2**
baz=331
O48B Farmland 149.22 297 P **PKPbc 12 23 56.6 +0.1**
baz=85
O30N Mendenhall 149.34 14 P **PKPbc 12 23 55.8 -0.4**
baz=336
E43A Lone Tree Farm 149.42 309 PKPdf **PKPdf 12 23 50.2 -2.1**
E43A PKPbc **PKiKP 12 23 56.9 -0.9**
N32M Quiet Lake 149.53 11 P **PKiKP 12 23 57.6 -0.1**
baz=341
PNL Peninsula 149.56 18 P **PKiKP 12 23 57.7 -0.1**
baz=329
P30M Million Dollar 149.75 15 P **PKiKP 12 23 58.1 -0.1**
baz=334
U49A Red Boiling Sp 149.82 289 PKPbc **PKiKP 12 23 58.1 -0.9**
250A Grady 149.82 280 PKPbc **PKPbc 12 23 57.9 -0.3**
SWET Sewanee 149.89 287 PKPbc **PKPbc 12 23 57.8 -0.5**
P29M Windy Craggy 150.01 16 P **PKiKP 12 23 59.3 +0.6**
baz=332
CLTN Cedars of Leba 150.26 288 PKPbc **PKPbc 12 23 59.1 0.0**
P33M Teslin, Yukon 150.46 11 P **PKiKP 12 23 60.0 +0.3**
baz=341
PLBC Pleasant Camp 150.48 15 P **PKiKP 12 24 00.0 +0.4**
baz=334
LRAL Lakeview Retre 150.58 282 P **PKiKP 12 24 00.5 -0.2**
baz=97
SKAG Skagway 150.70 14 P **PKiKP 12 24 00.6 +0.5**
baz=336
P32M Atlin 150.89 12 P **PKiKP 12 24 00.2 -0.4**
baz=339
WVT Waverly 151.47 288 P **PKiKP 12 24 03.0 +0.6**
baz=91
R33M Jennings River 151.53 10 P **PKiKP 12 24 02.8 +0.8**
baz=343
Q32M Nakina River 151.74 11 P **PKiKP 12 24 03.8 +1.2**
baz=341
EYMN Ely 151.76 314 PKiKP 12 24 02.7 0.0
EYMN Ely 151.76 314 P **PKiKP 12 24 03.8 +1.1**
baz=65
S31K Pelican 151.85 16 P **PKiKP 12 24 03.7 +1.2**
baz=333
R32K Eaglecrest 151.96 14 P **PKiKP 12 24 04.6 +1.8**
baz=336
HDIL Hopedale 152.33 298 P **PKiKP 12 24 05.8 +1.7**
baz=81
JFWS Jewell Farm 152.57 303 P **PKiKP 12 24 06.2 +1.7**
baz=76
DLBC Dease Lake 152.59 9 P **PKiKP 12 24 06.0 +1.8**
baz=344
S32K Killisnoo 152.68 15 P **PKiKP 12 24 06.1 +1.9**
baz=336
OXF Oxford 152.71 285 P **PKiKP 12 24 06.7 +1.6**
baz=93
SIT Sitka 152.89 16 P **PKiKP 12 24 06.6 +2.0**
baz=334
FFC Flin Flon 152.90 334 PKPdf **PKPdf 12 23 55.5 -1.8**
FFC PKPbc **sPKPdf 12 24 02.9 -0.3**
FFC PKPab **PKPab 12 24 15.5 -0.3**
FFC Flin Flon 152.90 334 PKIKP **PKPdf 12 23 55.5 -1.8**
FFC 12 24 02.9
FFC 12 24 15.5
S34M Telegraph Cree 152.93 11 P **PKiKP 12 24 06.8 +2.1**
baz=342
ULM Lac du Bonnet 153.15 321 PKPdf **PKPdf 12 23 57.3 -0.5**
ULM PKPbc **PKiKP 12 24 05.0 -0.4**
ULM PKPab **PKPab 12 24 16.6 -0.3**
ULM Lac du Bonnet 153.15 321 PKPbc **PKPbc 12 24 04.6 -0.7**
comp=Z,3.2nm,0.7s,baz=42,slow=2.8,SNR=8.7
ULM Lac du Bonnet 153.15 321 PKIKP **PKiKP 12 24 05.0 -0.4**
ULM 12 24 16.6
VBMS Vicksburg 153.43 280 P **PKiKP 12 24 07.9 +1.4**
baz=97
T35M Bob Quinn 153.96 10 P **PKiKP 12 24 08.1 +1.2**
baz=343
T42A Van Buren 154.08 291 PKPdf **PKPdf 12 23 57.0 -2.7**
T42A PKPab **PKPab 12 24 21.7 +0.3**
WRAK Wrangell Islan 154.12 13 P **PKiKP 12 24 08.6 +1.4**
baz=339
CCM Cathedral Cave 154.13 293 P **PKPab 12 24 23.0 +1.5**
baz=85
LCAR Lake Charles 154.16 288 PKPdf **PKPdf 12 23 58.6 -1.2**
LCAR PKPab **PKPab 12 24 21.7 0.0**
AGMN Agassiz Nation 154.19 318 PKPdf **PKPdf 12 24 00.5 +1.1**
AGMN PKPab **PKPab 12 24 21.2 -0.2**
AGMN Agassiz Nation 154.19 318 P **PKPab 12 24 22.1 +0.7**
baz=59
U33K Whale Pass 154.25 15 P **PKiKP 12 24 09.5 +2.0**
baz=337
R40A Maddies Statio 154.91 294 PKPdf **PKPdf 12 23 59.6 -1.1**
R40A PKPab **PKPab 12 24 24.4 -0.5**
MGMO Mountain Grove 155.01 291 PKPdf **PKPdf 12 23 59.1 -1.9**
MGMO PKPab **PKPab 12 24 25.1 -0.3**
V35K Ketchikan 155.29 13 P **PKPab 12 24 27.8 +2.0**
baz=340
MIAR Mount Ida 156.15 285 P **PKPab 12 24 30.1 -0.1**
baz=91
ECSD EROS Data Cent 156.73 309 P **PKPab 12 24 31.5 -1.0**

	baz=67						
NATX	Nacogdoches	156.87 278	P		PKPab	12 24 33.9	+0.4
	baz=97						
BRLDA	Berland Lookou	157.29 353	PKPab		PKPab	12 24 35.1	+0.5
237A	Washetta, Mont	157.87 278	PKPdf		PKPdf	12 24 04.0	-0.8
237A					PKPab	12 24 38.6	+0.8
TUL3	Leonard	157.93 288	P		PKPab	12 24 36.8	-1.1
	baz=86						
SUSD	Miller	157.95 312	P		PKPab	12 24 36.3	-1.4
	baz=62						
KSU1	Kansas State U	158.13 297	P		PKPab	12 24 37.8	-0.9
	baz=77						
DGMT	Dagmar	158.48 327	P		PKPab	12 24 40.7	+0.8
	baz=44						
833A	Chaparral WMA,	160.27 266	P		PKPab	12 24 48.0	-0.4
	baz=105						
WMOK	Wichita Mounta	160.43 285	P		PKPab	12 24 49.9	+1.0
	baz=87						
CBKS	Cedar Bluff	160.57 298	P		PKPab	12 24 50.5	+1.1
	baz=75						
EGMT	Eagleton	161.18 334	P		PKPab	12 24 52.2	+0.5
	baz=33						
RSSD	Black Hills	161.22 317	P		PKPab	12 24 54.1	+1.9
	baz=54						
AMTX	Amarillo	162.80 286	P		PKPab	12 25 00.1	+0.7
	baz=84						
NEW	Newport	162.97 349	P		PKPab	12 24 58.3	-1.1
	baz=14						
RLMT	Red Lodge	163.30 328	P		PKPab	12 25 01.1	-0.1
	baz=40						
K22A	Casper	163.56 316	P		PKPab	12 25 03.1	+0.7
	baz=52						
MSO	Missoula	163.61 340	P		PKPab	12 25 02.9	+0.5
	baz=24						
MSTX	Muleshoe	163.77 283	P		PKPab	12 25 03.9	+0.2
	baz=87						
BOZ	Bozeman (W)	163.91 333	P		PKPab	12 25 04.9	+1.1
	baz=33						
TXAR	Lajitas Array	164.15 267	PKP		PKPdf	12 24 10.3	-1.4
	comp=Z,0.5nm,0.9s,baz=120,slow=3.2,SNR=3.8						
TXAR			PKPab		PKPab	12 25 06.0	+0.5
	comp=Z,0.2nm,0.7s,baz=104,slow=7.5,SNR=2.2						
N23A	Red Feather La	164.18 310	P		PKPab	12 25 06.1	+0.7
	baz=59						
H17A	Grant Village	164.45 328	P		PKPab	12 25 06.4	0.0
	baz=38						
ISCO	Idaho Springs	164.48 306	P		PKPab	12 25 06.3	-0.6
	baz=63						
Q24A	Divide	164.51 303	P		PKPab	12 25 07.9	+0.9
	baz=66						
T25A	Trinidad	164.57 296	P		PKPab	12 25 08.7	+1.4
	baz=74						
BW06	Boulder Array	165.17 322	P		PKPab	12 25 09.6	0.0
	baz=45						
PDAR	Pinedale Array	165.17 322	PKP		PKPdf	12 24 11.9	-0.5
	comp=Z,0.8nm,0.9s,baz=106,slow=2.9,SNR=5.7						
PDAR			PKPab		PKPab	12 25 09.4	-0.1
	comp=Z,0.3nm,0.5s,baz=54,slow=6.1,SNR=4.2						
SDCO	Great Sand Dun	165.21 299	P		PKPab	12 25 10.8	+0.7
	baz=70						
O20A	White River Ci	166.06 311	P		PKPab	12 25 12.3	-1.3
	baz=56						
S22A	4UR Ranch, Cre	166.20 300	P		PKPab	12 25 14.0	-0.4
	baz=68						
HLID	Hailey	166.68 336	P		PKPab	12 25 16.0	-0.1
	baz=28						
ANMO	Albuquerque	166.69 289	P		PKPab	12 25 17.3	+0.7
	baz=79						
MVCO	Mesa Verde	167.63 301	P		PKPab	12 25 22.0	+1.3
	baz=66						
DUG	Dugway, Tooele	168.72 322	P		PKPab	12 25 26.9	+1.7
	baz=43						
ELK	Elko	169.42 331	PKPab		PKPab	12 25 28.6	+0.2
ELK	Elko	169.42 331	PKP2		PKPab	12 25 28.6	+0.2
MSU	Marysvale	169.49 314	PKPdf		PKPdf	12 24 15.1	-0.6
MSU			PKPab		PKPab	12 25 26.6	-2.2
MSU	Marysvale	169.49 314	PKP2		PKPab	12 25 26.6	-2.2
MSU						13 24 15.1	
WUAZ	Wupatki	170.42 297	P		PKPab	12 25 31.9	-1.2
	baz=68						
U15A	North Rim	170.71 304	PKPdf		PKPdf	12 24 14.6	-1.9
U15A			PKPab		PKPab	12 25 34.9	+0.4
KNB	Kanab	170.78 308	PKPdf		PKPdf	12 24 15.0	-1.4
KNB			PKPab		PKPab	12 25 34.7	+0.1
KNB	Kanab	170.78 308	PKIKP		PKPdf	12 24 15.0	-1.4
KNB						12 25 34.7	
R11B	Troy Canyon, C	171.52 324	P		PKPab	12 25 38.1	+0.4
	baz=38						
NVAR	Mina Array Bea	172.59 338	PKP		PKPdf	12 24 18.6	+1.3
	comp=Z,0.2nm,0.5s,baz=256,slow=1.9,SNR=1.9						
NVAR			PKPab		PKPab	12 25 42.0	-0.4
	comp=Z,0.6nm,0.8s,baz=46,slow=4.4,SNR=4.8						
TPNV	Topopah Spring	172.92 321	P		PKPab	12 25 46.1	+2.1
	baz=42						
SHOC	Shoshone, Teco	173.67 314	P		PKPab	12 25 48.2	+1.0
	baz=48						
GWY	Greenwater Val	173.71 318	PKPdf		PKPdf	12 24 15.9	-1.8
GWY			PKPab		PKPab	12 25 45.8	-1.7
TUQ	Turquoise Moun	173.74 309	P		PKPab	12 25 48.2	+0.6
	baz=53						
TIN	Tinemaha, Big	173.78 332	P		PKPab	12 25 48.4	+0.8
	baz=29						
IRM	Iron Mountain	173.80 296	P		PKPab	12 25 48.9	+1.0
	baz=66						
GMRC	Granite Mounta	173.91 303	P		PKPab	12 25 49.8	+1.3
	baz=59						
CWC	Cottonwood Cre	174.24 328	P		PKPab	12 25 50.2	+0.4
	baz=33						
MPMC	Manual Prospec	174.25 322	P		PKPab	12 25 51.2	+1.3
	baz=39						
HEC	Hector,Ludlow	174.36 306	P		PKPab	12 25 51.4	+1.0
	baz=55						
GSC	Goldstone, Bar	174.39 313	P		PKPab	12 25 51.9	+1.4
	baz=49						
BELC	Belle Mtn. Jos	174.51 297	P		PKPab	12 25 51.7	+0.5
	baz=64						
LRMC	Laurel Mtn Rad	174.79 319	P		PKPab	12 25 53.1	+0.9
	baz=42						
IKP	In-Ko-Pah, Jac	175.01 284	P		PKPab	12 25 55.3	+1.8
	baz=78						
TPFO	Pinon Flats	175.02 295	P		PKPab	12 25 54.3	+0.9
	baz=66						
PFO	Pinyon Flats O	175.02 295	P		PKPab	12 25 54.8	+1.3
	baz=66						
ISA	Isabella, Lake	175.06 326	PKPdf		PKPdf	12 24 15.8	-2.3
ISA			PKPab		PKPab	12 25 51.9	-1.5
ISA	Isabella, Lake	175.06 326	P		PKPab	12 25 53.9	+0.6
	baz=34						
ISA	Isabella, Lake	175.06 326	PKIKP		PKPdf	12 24 15.8	-2.3
ISA						12 25 51.9	
VES	Vestal, Richgr	175.18 332	P		PKPab	12 25 55.5	+1.8
	baz=28						
MONP2	Monument Peak	175.21 287	P		PKPab	12 25 56.7	+2.2
	baz=75						
EDW2	Edwards Air Fo	175.39 316	P		PKPab	12 25 55.6	+0.7
	baz=44						
BFSC	Mount Baldy Ra	175.59 308	P		PKPab	12 25 55.0	-1.0
	baz=53						

*IDC **10** 12:13:33.1±1.7, 31°.88S×58°.79E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=58.8km s-min=37.5km az=80.0, Southwest Indian Ridge*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	27.27	31	T	T	12 47 54.1	
	baz=206,slow=75,SNR=7.1						
H08S2	Diego Garcia H	27.28	31	T	T	12 47 55.1	
	baz=206,slow=75,SNR=5.8						
H08S3	Diego Garcia H	27.29	31	T	T	12 47 55.1	
	baz=206,slow=75,SNR=4.8						
QSPA	South Pole Qui	58.29	180	P	P	12 23 29.5	0.0
	0.7nm,0.8s,baz=268,slow=5.1,SNR=2.2						
	0.7nm,0.8s						
ASAR	Alice Springs	65.79	104	P	P	12 24 20.4	0.0
	0.2nm,0.6s,baz=240,slow=5.5,SNR=4.6						
	0.2nm,0.6s						
WRA	Warramunga Arr	67.80	100	P	P	12 24 33.3	0.0
	0.5nm,0.8s,baz=245,slow=5.6,SNR=2.5						
	0.5nm,0.8s						
BVAR	Borovoye Array	85.15	7	P	P	12 26 10.9	+0.2
	0.8nm,0.7s,baz=219,slow=39,SNR=4.6						
	0.8nm,0.7s						
ZALV	Zalesovo Beam	88.39	15	P	P	12 26 26.2	-0.3
	0.2nm,0.2s,baz=187,slow=5.8,SNR=1.4						
	0.2nm,0.2s						

*IDC **10** 12:18:28.8±0.7, 31°.66S×58°.33E, h0km, mb4.0/13, mbtmp4.0/13, MS3.6/2, Error ellipse: s-maj=28.0km s-min=20.1km az=66.0*

*NEIC **10** 12:18:32.4±2.5, 31°.5S±0°.1×58°.5E±0°.1, h10km±1km, mb4.7/17, Error ellipse: s-maj=21.8km s-min=15.5km az=37.0*

ISC 10 12:18:31.4±0.5, **31°.6S**±0°.1×**58°.3E**±0°.2, **h14**km, **n62**, σ0**99**/51, **mb4.4**/19, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.68	347	Pn	Pn	12 21 02.9	-1.2
H04N2	CROZET ISLANDS	15.37	197	T	T	12 37 23.4	
	baz=21,slow=75,SNR=16						
H04N1	CROZET ISLANDS	15.37	197	T	T	12 37 24.3	
	baz=21,slow=75,SNR=17						
H04N3	CROZET ISLANDS	15.38	197	T	T	12 37 22.7	
	baz=21,slow=75,SNR=15						
H08S1	Diego Carcia H	27.27	32	T	T	12 53 15.0	
	baz=207,slow=76,SNR=7.5						
H08S2	Diego Garcia H	27.28	32	T	T	12 53 09.0	
	baz=207,slow=76,SNR=10.0						
H08S3	Diego Garcia H	27.29	32	T	T	12 53 18.0	
	baz=207,slow=76,SNR=7.9						
BOSA	Boshof	28.70	267	LR	LR	12 33 09.0	
	comp=Z,85nm,20.9s,baz=129,slow=31						
FURI	Furi	44.47	332	LR	LR	12 43 13.7	
	comp=Z,78nm,18.9s,baz=166,slow=33						
H01W2	Cape Leeuwin H	46.27	110	T	T	13 16 49.8	
	baz=257,slow=75,SNR=11						
H01W3	Cape Leeuwin H	46.27	110	T	T	13 17 12.2	
	baz=257,slow=75,SNR=11						
H01W1	Cape Leeuwin H	46.28	110	T	T	13 16 45.7	
	baz=257,slow=75,SNR=14						
QSPA	South Pole Qui	58.54	180	P	P	12 28 27.9	+0.7
QSPA				IAmb	IAmb	12 28 39.2	
	comp=Z,14nm,1.4s						
QSPA	South Pole Qui	58.54	180	P	P	12 28 26.4	-0.8
	comp=Z,2.5nm,0.9s,baz=237,slow=6.7,SNR=9.9						
	comp=Z,2.5nm,0.9s						
VNDA	Vanda	62.23	166	P	P	12 28 52.0	0.0
	comp=Z,0.3nm,0.6s,baz=280,slow=7.0,SNR=2.5						
	comp=Z,0.3nm,0.6s						
CMAR	Chiang Mai Arr	63.23	44	P	P	12 29 00.0	+0.5
	comp=Z,1.3nm,0.6s,baz=237,slow=6.4,SNR=6.6						
	comp=Z,1.3nm,0.6s						
KNRA	Kununurra	65.46	94	P	P	12 29 15.4	+1.1
ASAR	Alice Springs	66.22	104	P	P	12 29 18.7	-0.5
	comp=Z,0.8nm,0.7s,baz=237,slow=6.0,SNR=8.6						
	comp=Z,0.8nm,0.7s						
WRA	Warramunga Arr	68.22	101	P	P	12 29 31.1	-0.8
	comp=Z,1.6nm,1.0s,baz=241,slow=5.7,SNR=8.3						
	comp=Z,1.6nm,1.0s						
WB2	Warramunga Arr	68.23	101	P	P	12 29 32.4	+0.4
WB2				IAmb	IAmb	12 29 35.5	
	comp=Z,10nm,1.4s						
WRAB	Tennant Creek	68.24	101	P	P	12 29 31.5	-0.5
WRAB				IAmb	IAmb	12 29 53.7	
	comp=Z,9.4nm,1.3s						
WB0	Warramunga Arr	68.35	100	P	P	12 29 31.6	-1.2
WB0				IAmb	IAmb	12 29 55.4	
	comp=Z,7.7nm,1.3s						
WR0	Warramunga Arr	68.39	101	P	P	12 29 33.1	+0.2
WR0				IAmb	IAmb	12 30 01.1	
	comp=Z,9.7nm,1.2s						
TORD	Torodi Ar. Bea	70.18	300	P	P	12 29 44.9	+0.9
TORD	Torodi Ar. Bea	70.18	300	P	P	12 29 43.3	-0.7
	comp=Z,2.2nm,1.0s,baz=111,slow=7.1,SNR=6.7						
	comp=Z,2.2nm,1.0s						
SIMJ	Simiganj	70.63	9	P	P	12 29 45.7	-0.7
CHGR	Chuyangaron	70.65	9	P	P	12 29 46.6	+0.1
BRTR	Keskin Array B	74.60	340	P	P	12 30 08.9	-1.1
	comp=Z,0.8nm,0.8s,baz=153,slow=4.4,SNR=5.1						
	comp=Z,0.8nm,0.8s						
BR131	Keskin Array S	74.60	340	P	P	12 30 10.2	+0.2
ONI	Oni	75.11	349	P	P	12 30 14.1	+1.2
ONI				IAmb	IAmb	12 30 35.4	
	comp=Z,5.9nm,1.3s						
KK31	Karatay Array	75.21	9	P	P	12 30 14.6	+1.3
KK31				IAmb	IAmb	12 30 16.3	
	comp=Z,9.0nm,1.4s						
KKAR	Karatay Array	75.21	9	P	P	12 30 14.3	+1.0
PRZ	Przheval'sk	76.03	15	P	P	12 30 20.3	+2.1
ABKAR	Akbulak array	80.54	1	P	P	12 30 43.6	+0.9
MAKZ	Makanchi	80.94	16	P	P	12 30 46.1	+1.1
MK31	Makanchi Array	81.00	16	P	P	12 30 46.0	+0.7
MKAR	Makanchi Array	81.00	16	P	P	12 30 45.8	+0.4
MKAR	Makanchi Array	81.00	16	P	P	12 30 45.1	-0.3
	comp=Z,0.3nm,0.6s,baz=193,slow=5.9,SNR=4.7						
	comp=Z,0.3nm,0.6s						
KURBB	Kurchatov Arra	83.82	13	P	P	12 31 00.0	+0.1
	comp=Z,4.4nm,1.2s,baz=206,slow=5.4,SNR=15						
	comp=Z,4.4nm,1.2s						
BVAR	Borovoye Array	84.95	7	P	P	12 31 06.3	+0.6
	comp=Z,2.6nm,0.8s,baz=182,slow=4.0,SNR=12						
	comp=Z,2.6nm,0.8s						
ZALV	Zalesovo Beam	88.26	15	P	P	12 31 20.0	-1.7
	comp=Z,0.4nm,0.4s,baz=194,slow=3.0,SNR=3.6						
	comp=Z,0.4nm,0.4s						
GERES	GERESS Array B	89.47	332	P	P	12 31 27.9	+0.2
SONM	Songino Array	90.09	30	P	P	12 31 29.7	-1.0
	comp=Z,0.2nm,0.4s,baz=224,slow=4.0,SNR=1.6						
	comp=Z,0.2nm,0.4s						
ESDC	Sonseca Array	91.48	317	P	P	12 31 38.9	+1.6
ESDC				IAmb	IAmb	12 31 39.7	
	comp=Z,2.6nm,1.2s						
ESDC	Sonseca Array	91.48	317	P	P	12 31 38.1	+0.8
	comp=Z,1.4nm,1.0s,baz=136,slow=3.8,SNR=6.3						
	comp=Z,1.4nm,1.0s						
SOR	Soroa	144.66	265		PKPbc	12 38 07.3	+0.4
SUA	Susitna One	144.66	24	PKPdf	PKPbc	12 38 06.2	+0.3
EGAK	Eagle	144.70	14	PKPdf	PKiKP	12 38 09.3	-1.3
T57A	Hurt	144.78	291		PKPdf	12 38 08.8	+1.0
Y58A	Scranton	144.78	285		PKPab	12 38 07.0	+0.1
K27K	Chicken	145.14	16	PKPbc	PKPdf	12 38 08.2	+0.6
PAX	Paxson	145.17	19	PKPbc	PKPdf	12 38 08.5	+0.7
I30M	Mount Dempster	145.18	11	PKPbc	PKPdf	12 38 07.7	-0.1
KNK	Knik Glacier	145.47	22	PKPbc	PKPab	12 38 10.1	+1.5
DAWY	Dawson	145.69	14	PKPbc	PKPab	12 38 10.6	+1.2
J30M	Hart River	145.79	11		PKPab	12 38 10.0	+0.1
BCAR	Beaver Creek A	146.04	16	PKPbc	PKPab	12 38 11.2	+0.5
FCC	Fort Churchill	147.08	334	PKPdf	PKPbc	12 38 13.3	+0.1
P52A	Corning	147.10	295	PKPbc	PKPbc	12 38 14.8	+0.9
YKA	Yellowknife Ar	148.79	354	PKPbc	PKPbc	12 38 17.9	+0.3
	comp=Z,3.2nm,1.1s,baz=11,slow=3.3,SNR=7.8						
ZAIG	Zacatecas	160.87	247	PKPdf	PKPdf	12 38 29.7	-2.2
ZAIG				PKPab	PKPab	12 39 14.7	+0.3
RSSD	Black Hills	161.36	317	PKPdf	PKPdf	12 38 30.1	-1.6
RSSD				PKPab	PKPab	12 39 14.4	-1.4

*IDC **10** 12:19:04.2±1.4, 31°.70S×58°.35E, h0km, mb4.1/6, mbtmp4.1/6, Error ellipse: s-maj=47.1km s-min=31.7km az=79.0*

*NEIC **10** 12:19:05.6±2.9, 31°.60S±0°.10×58°.33E±0°.04, h10km±1km, mb4.8/21, Error ellipse: s-maj=16.7km s-min=6.1km az=179.0*

ISC 10 12:19:04.4±0.5, **31°.63S**±0°.10×**58°.24E**±0°.10, **h10**km, **n49**, σ1**28**/50, **mb4.7**/16, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.67	347	Pn	Pn	12 21 35.4	-2.1
DGAR	Diego Garcia	27.51	32	P	P	12 24 49.0	-2.2
BOSA	Boshof	28.63	267	P	P	12 24 59.9	-1.5
BOSA				IAmb	IAmb	12 25 09.1	
	comp=Z,5.9nm,1.2s						
MBAR	Mbarara	40.36	315	P	P	12 26 42.7	-0.1
NWAO	Narrogin (SRO)	49.31	108	P	P	12 27 51.9	-1.9
NWAO				IAmb	IAmb	12 27 54.7	
	comp=Z,24nm,1.4s						
SNAA	Sanae	51.27	201	P	P	12 28 07.6	-0.5
PSA00	Pilbara Seismi	55.36	96	P	P	12 28 38.2	-0.7
PSA00				IAmb	IAmb	12 28 40.4	
	comp=Z,5.8nm,0.8s						
QSPA	South Pole Qui	58.53	180	P	P	12 29 01.6	+0.7
QSPA				IAmb	IAmb	12 29 13.3	
	comp=Z,5.4nm,1.2s						
QSPA	South Pole Qui	58.53	180	P	P	12 29 02.0	+1.1
	comp=Z,0.9nm,0.6s,baz=302,slow=0.6,SNR=1.5						
	comp=Z,0.9nm,0.6s						
FORT	Forrest	58.73	109	P	P	12 29 02.4	-0.2
FORT				IAmb	IAmb	12 29 04.2	
	comp=Z,18nm,1.3s						
SHEL	Horse Pasture	59.84	269	P	P	12 29 11.5	+1.0
BKB	Balikpapan	62.93	74	P	P	12 29 31.5	+0.1
CMAR	Chiang Mai Arr	63.28	44	P	P	12 29 35.2	+1.7
	comp=Z,2.1nm,0.8s,baz=233,slow=6.8,SNR=7.6						
	comp=Z,2.1nm,0.8s						
BBOO	Buckleboo	64.34	114	P	P	12 29 40.9	+0.3
BBOO				IAmb	IAmb	12 30 02.9	
	comp=Z,16nm,1.4s						
ASAR	Alice Springs	66.30	104	P	P	12 29 54.4	+1.0
ASAR	Alice Springs	66.30	104	P	P	12 29 54.1	+0.7
	comp=Z,1.2nm,0.6s,baz=238,slow=6.0,SNR=10						
	comp=Z,1.2nm,0.6s						
AS31	Alice Springs	66.30	104	P	P	12 29 54.0	+0.6
KBL	Kabul	66.61	10	P	P	12 29 56.2	+1.1
KBL				IAmb	IAmb	12 30 01.4	
	comp=Z,3.6nm,0.5s						
HOPE	Hope Point	67.57	219	P	P	12 30 00.9	0.0
LUWI	Luwuk	67.90	77	P	P	12 30 02.0	-1.6
WRA	Warramunga Arr	68.30	101	P	P	12 30 04.5	-1.6
WRA	Warramunga Arr	68.30	101	P	P	12 30 06.8	+0.7
	comp=Z,1.1nm,0.7s,baz=242,slow=5.7,SNR=6.0						
	comp=Z,1.1nm,0.7s						
WB2	Warramunga Arr	68.31	101	P	P	12 30 06.7	+0.5
WB2				IAmb	IAmb	12 30 11.8	
	comp=Z,6.1nm,1.2s						
WB0	Warramunga Arr	68.42	100	P	P	12 30 07.6	+0.7
WB0				IAmb	IAmb	12 30 21.4	
	comp=Z,21nm,1.5s						
WR0	Warramunga Arr	68.46	101	P	P	12 30 05.5	-1.7
WR0				IAmb	IAmb	12 30 30.9	
	comp=Z,11nm,1.4s						
BR131	Keskin Array S	74.58	341	P	P	12 30 43.6	0.0
BRTR	Keskin Array B	74.58	341	P	P	12 30 43.6	0.0
ABKAR	Akbulak array	80.54	1	P	P	12 31 18.9	+2.4
MK31	Makanchi Array	81.03	16	P	P	12 31 19.8	+0.6
MKAR	Makanchi Array	81.03	16	P	P	12 31 20.0	+0.8
SSLB	Suanglung	81.44	55	P	P	12 31 21.4	-0.5
SSLB				IAmb	IAmb	12 31 36.5	
	comp=Z,29nm,1.2s						
KURBB	Kurchatov Arra	83.84	13	P	P	12 31 35.2	+1.4
	comp=Z,0.6nm,0.6s,baz=198,slow=5.8,SNR=2.0						
	comp=Z,0.6nm,0.6s						
BVAR	Borovoye Array	84.97	7	P	P	12 31 41.1	+1.6
	comp=Z,1.6nm,0.7s,baz=180,slow=5.9,SNR=3.6						
	comp=Z,1.6nm,0.7s						
H29M	Whitestone	143.96	11	PKPdf	PKPbc	12 38 38.8	+1.6
SKT	Skwentna	144.07	24	PKPdf	PKPab	12 38 38.3	+1.1
P18K	Big Mountain,	144.34	29	PKPdf	PKPdf	12 38 41.0	+0.8
SUA	Susitna One	144.70	24	PKPdf	PKPbc	12 38 41.3	+1.5
SCRK	Sand Creek	144.76	17	PKPdf	PKPdf	12 38 42.2	+1.3
K27K	Chicken	145.17	16	PKPbc	PKPdf	12 38 43.4	+2.0
I30M	Mount Dempster	145.20	11	PKPbc	PKPdf	12 38 42.8	+1.1
J30M	Hart River	145.81	11		PKPab	12 38 45.2	+1.6
L27K	Beaver Creek,	146.05	16	PKPbc	PKPab	12 38 45.6	+1.1
BCAR	Beaver Creek A	146.06	16	PKPbc	PKPab	12 38 45.9	+1.3
YKA	Yellowknife Ar	148.78	354	PKPbc	PKPbc	12 38 52.5	+1.2
	comp=Z,1.1nm,0.8s,baz=51,slow=3.2,SNR=4.7						
MDND	Maddock	156.62	320	PKPab	PKPab	12 39 26.5	-2.1
MSTX	Muleshoe	163.87	283	PKPdf	PKPdf	12 39 07.6	-0.6
MSTX				PKPab	PKPab	12 40 00.6	-0.2
BPMT	Black Pine Rid	163.88	339	PKPdf	PKPdf	12 39 06.2	-1.8
BPMT				PKPab	PKPab	12 40 00.2	-0.4
D05A	Enumclaw	164.47	1	PKPab	PKPab	12 40 02.0	-0.6
LON	Longmire	164.90	0	PKPdf	PKPdf	12 39 06.8	-1.8
LON				PKPab	PKPab	12 40 06.5	+1.8

*IDC **10** 12:22:24.3±0.9, 31°.69S×58°.39E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=33.0km s-min=26.8km az=101.0*

ISC 10 12:22:26.5±0.9, **31°.7S**±0°.2×**58°.4E**±0°.2, **h14**km, **n14**, σ0**75**/8, **mb3.8**/8, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	27.30	32	T	T	12 56 35.4	
	baz=204						
H08S2	Diego Garcia H	27.31	32	T	T	12 56 35.5	
	baz=204						
H08S3	Diego Garcia H	27.32	32	T	T	12 56 38.6	
	baz=204						
H01W2	Cape Leeuwin H	46.21	110	T	T	13 20 35.4	
	baz=256						
H01W3	Cape Leeuwin H	46.22	110	T	T	13 20 38.9	
	baz=256						
H01W1	Cape Leeuwin H	46.23	110	T	T	13 20 34.5	
	baz=256						
SNAA	Sanae	51.26	201	P	P	12 31 28.8	-0.7
	0.5nm,0.7s,baz=158,slow=5.4,SNR=1.5						
	0.5nm,0.7s						
QSPA	South Pole Qui	58.48	180	P	P	12 32 22.6	+0.7
	0.6nm,0.6s,baz=306,slow=2.4,SNR=1.8						
	0.6nm,0.6s						
CMAR	Chiang Mai Arr	63.25	44	P	P	12 32 53.9	-0.8
	1.1nm,0.7s,baz=224,slow=6.7,SNR=5.9						
	1.1nm,0.7s						
ASAR	Alice Springs	66.17	104	P	P	12 33 13.8	-0.1
	0.3nm,0.6s,baz=242,slow=5.7,SNR=4.3						
	0.3nm,0.6s						
WRA	Warramunga Arr	68.18	101	P	P	12 33 26.9	+0.2
	0.6nm,1.0s,baz=242,slow=5.6,SNR=2.0						
	0.6nm,1.0s						
TORD	Torodi Ar. Bea	70.24	300	P	P	12 33 39.3	-0.2
	0.4nm,0.8s,baz=126,slow=3.7,SNR=2.3						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	83.87	13	P	P	12 34 55.7	+0.5
	0.3nm,0.3s,baz=207,slow=5.8,SNR=4.2						
	0.3nm,0.3s						
BVAR	Borovoye Array	85.01	7	P	P	12 35 01.9	+0.9
	1.6nm,0.8s,baz=183,slow=5.8,SNR=6.3						
	1.6nm,0.8s						

*IDC **10** 12:28:57.2±0.5, 7°.45S×154°.49E, h0km, mb4.9/18, mbtmp4.9/18, ML3.4/1, MS3.9/27, Error ellipse: s-maj=22.7km s-min=13.8km az=94.0*

*MOS **10** 12:28:58.6±0.9, 7

comp=Z,1μmcomp=Z,44nm,0.8s
TABU Tabubil 13.39 278 P Pn 12 32 14.1 +3.7
AUAYR Ayr State High 13.93 209 P Pn 12 32 18.0 +0.3
TV1H Townsville Har 13.96 212 P Pn 12 32 19.6 +1.4
comp=Z,33nm,0.7s
MTSU Mount Surprise 14.57 222 P Pn 12 32 28.6 +2.0
MTSU Mount Surprise 14.57 222 P Pn 12 32 27.1 +0.5
comp=Z,161nmcomp=Z,40nm,1.3s
JAY Jayapura 14.59 289 P Pn 12 32 25.8 -1.1
comp=Z,33nm,1.0s
CTA Charters Tower 14.93 212 P Pn 12 32 31.8 +0.4
CTA Charters Tower 14.93 212 Pn **Pn 12 32 30.7 -0.7**
comp=Z,0.1nm,0.3s,baz=33,slow=13,SNR=23
CTA LR LR 12 37 46.3
comp=Z,50nm,19.2s,baz=26,slow=36
CTA Charters Tower 14.93 212 P Pn 12 32 31.4 0.0
comp=Z,5.1nm,0.9s
CTAO Charters Tower 14.93 212 P Pn 12 32 31.9 +0.5
CTAO Charters Tower 14.93 212 Pn **Pn 12 32 31.2 -0.2**
CTAO Charters Tower 14.93 212 P Pn 12 32 31.2 -0.2
GENI Genyem 15.07 288 P P 12 32 36.1 -2.2
GENI Genyem 15.07 288 P Pn 12 32 35.1 +1.8
comp=Z,66nm,1.1s
KOUNC Koumac, New Ca 16.12 145 Pn **Pn 12 32 45.4 -1.5**
RK1H Rockhampton Ha 16.35 193 P Pn 12 32 49.7 0.0
LIFNC LIFOU 18.11 138 Pn 12 33 10.5 -1.2
EIDS Eidsvold 18.16 190 P P 12 33 13.0 +0.6
EIDS Eidsvold 18.16 190 P Pn 12 33 12.1 -0.1
EIDS Eidsvold 18.16 190 P P 12 33 13.4 +1.1
comp=Z,757nmcomp=Z,26nm,0.9s
NOUC Port Laguerre 18.50 143 P Pn 12 33 16.9 +0.4
DZM Mont Dzumac 18.56 143 P P 12 33 16.9 0.0
DZM Mont Dzumac 18.56 143 *eP* **Pn 12 33 23.3 +6.0**
comp=Z,120nm,1.2s
DZM *e*LR LR 12 37 40.7
comp=Z,2μm,24.4s
DZM Mont Dzumac 18.56 143 P P 12 33 17.0 0.0
DZM Mont Dzumac 18.56 143 P Pn 12 33 23.5 +6.2
comp=Z,32nm,0.9s,baz=10,slow=8.1,SNR=8.8
OUENC Ouen Island, N 19.07 143 P P 12 33 20.1 -2.2
QIS Mount Isa 19.47 226 P P 12 33 27.0 +0.1
QIS Mount Isa 19.47 226 P P 12 33 26.6 -0.3
comp=Z,975nmcomp=Z,109nm,0.8s
RMQ Roma 19.75 195 P P 12 33 30.8 +1.0
comp=Z,384nmcomp=Z,48nm,1.1s
AUWSH Wavell State H 19.93 184 P P 12 33 33.0 +1.2
TARA Tarawa 20.32 65 P P 12 33 36.7 +0.5
QLP Quilpie 21.43 206 P P 12 33 48.8 +0.8
QLP Quilpie 21.43 206 P P 12 33 48.1 +0.1
comp=Z,126nm,1.4s
KDU Kakadu 22.32 255 P P 12 33 59.4 +1.6
KDU Kakadu 22.32 255 P P 12 33 56.4 -1.4
comp=Z,94nm,1.3s
FAKI Fak Fak 22.62 280 P P 12 34 02.9 +2.0
FAKI Fak Fak 22.62 280 P P 12 34 01.1 +0.2
FAKI IAmb IAmb 12 34 11.8
comp=Z,93nm,1.1s
AULRC Lightning Ridg 22.75 195 P P 12 34 02.0 -0.1
GUMO Guam 22.96 335 P P 12 34 02.8 -1.6
GUMO Guam 22.96 335 LR LR 12 41 57.2
comp=Z,212nm,21.8s,baz=156,slow=34
GUMO Guam 22.96 335 P P 12 34 02.8 -1.6
GUMO pmax pmax
comp=Z,205nm,0.8s
WR0 Warramunga Arr 23.04 235 P P 12 34 04.0 -1.3
WR0 IAmb IAmb 12 34 06.0
comp=Z,48nm,0.8s
ARMA Armidale 23.05 186 P P 12 34 04.9 -0.4
ARMA Armidale 23.05 186 P P 12 34 04.8 -0.5
ARMA Armidale 23.05 186 P P 12 34 04.9 -0.4
comp=Z,41nm,1.4s
WB0 Warramunga Arr 23.06 236 P P 12 34 04.5 -1.0
WB0 IAmb IAmb 12 34 20.5
comp=Z,60nm,1.1s
WRAB Tennant Creek 23.18 236 P P 12 34 05.7 -1.0
WRAB IAmb IAmb 12 34 18.9
comp=Z,53nm,0.8s
WRAB Tennant Creek 23.18 236 *i* P **P 12 34 04.9 -1.8**
WRAB pmax pmax
comp=Z,32nm,0.8s
WB2 Warramunga Arr 23.18 235 P P 12 34 05.7 -1.1
WB2 Warramunga Arr 23.18 235 P P 12 34 05.5 -1.2
WRA Warramunga Arr 23.19 235 P P 12 34 04.5 -2.3
WRA Warramunga Arr 23.19 235 P P 12 34 04.9 -1.9
comp=Z,32nm,0.7s,baz=60,slow=9.6,SNR=141
WRA PcP **PcP 12 37 54.5 -0.1**
comp=Z,3.6nm,0.6s,baz=58,slow=2.3,SNR=7.2
comp=Z,32nm,0.7s
WRA Warramunga Arr 23.19 235 *i* P **P 12 34 04.0 -2.8**
WRA pmax pmax
comp=Z,33nm,0.6s
MTN Manton Dam 23.64 255 P P 12 34 12.9 +1.7
MTN Manton Dam 23.64 255 P P 12 34 10.4 -0.8
MTN Manton Dam 23.64 255 P P 12 34 10.7 -0.5
comp=Z,35nm,1.1s
DRS Darwin Rock St 23.79 256 P P 12 34 12.9 +0.3
AUPHS Peel High Scho 23.81 188 P P 12 34 12.6 -0.1
INKA Innaminka 24.06 211 P P 12 34 14.9 -0.2
SWI Sorong 24.08 285 P P 12 34 15.2 -0.2
SWI pmax pmax
comp=Z,81nm,0.9s
MSVF Nonsavu 25.12 116 P P 12 34 24.9 0.0
MSVF Nonsavu 25.12 116 P P 12 34 23.6 -1.3
MSVF Nonsavu 25.12 116 P P 12 34 23.6 -1.3
MSVF pmax pmax
comp=Z,32nm,0.9s
AUDCS Dubbo College 25.29 192 P P 12 34 26.3 +0.1
CMSA Cobar Meteorol 25.38 198 P P 12 34 26.6 -0.4
CMSA Cobar Meteorol 25.38 198 P P 12 34 26.2 -0.8
comp=Z,59nm,1.0s
AS01 Alice Springs 25.51 228 P P 12 34 28.0 -0.3
comp=Z,25nm,1.0s
AS31 Alice Springs 25.54 228 P P 12 34 27.6 -1.1
AS31 Alice Springs 25.54 228 P P 12 34 27.1 -1.5
comp=Z,9.1nm,1.0s
ASAR Alice Springs 25.54 228 P P 12 34 27.3 -1.3
ASAR Alice Springs 25.54 228 P P 12 34 27.0 -1.7
comp=Z,10.0nm,0.8s,baz=61,slow=9.0,SNR=95
ASAR PcP **PcP 12 38 00.0 +0.3**
comp=Z,1.8nm,0.8s,baz=54,slow=4.7,SNR=3.4
ASAR ScP **ScP 12 41 38.4 +1.3**
comp=Z,1.6nm,1.1s,baz=81,slow=2.9,SNR=5.0
comp=Z,10.0nm,0.8s
ASAR Alice Springs 25.54 228 P P 12 34 27.3 -1.3
KNRA Kununurra 26.51 250 P P 12 34 35.8 -1.7
KNRA IAmb IAmb 12 35 12.7
comp=Z,31nm,0.8s
KNRA Kununurra 26.51 250 P P 12 34 37.4 -0.1
comp=Z,42nm,1.0s
OOD Oodnadatta 27.00 219 P P 12 34 40.8 -0.9
STKA Stephens Creek 27.16 205 P P 12 34 41.6 -1.6
STKA Stephens Creek 27.16 205 P P 12 34 41.9 -1.2
STKA Stephens Creek 27.16 205 P P 12 34 40.5 -2.6
comp=Z,13nm,0.8s,baz=12,slow=9.1,SNR=18
STKA LR LR 12 45 12.7
comp=Z,516nm,19.1s,baz=5.7,slow=36
comp=Z,13nm,0.8s
STKA Stephens Creek 27.16 205 P P 12 34 41.9 -1.2
STKA pmax pmax
comp=Z,4.0nm,0.9s
STKA Stephens Creek 27.16 205 P P 12 34 41.5 -1.6
comp=Z,5.6nm,0.8s
LCRK Leigh Creek 27.55 212 P P 12 34 45.5 -1.1
CAN Canberra 28.23 190 P P 12 34 50.0 -2.8
CAN Canberra 28.23 190 P P 12 34 50.0 -2.8
CAN pmax pmax
comp=Z,44nm,1.5s
FITZ Fitzroy Crossi 30.05 247 P P 12 35 08.1 -1.0
BBOO Buckleboo 30.54 212 P P 12 35 11.3 -1.8
BBOO IAmb IAmb 12 36 17.6
comp=Z,79nm,1.9s
WRKA Warakurna 30.57 232 P P 12 35 12.0 -1.7
WRKA Warakurna 30.57 232 P P 12 35 11.9 -1.7
comp=Z,30nm,0.9s
GHSS Government Hou 31.05 206 P P 12 35 17.9 +0.3
TOO Toolangi 31.12 194 P P 12 35 16.1 -2.2
TOO IAmb IAmb 12 35 18.3
comp=Z,38nm,1.6s
TOO Toolangi 31.12 194 P P 12 35 16.1 -2.2
TOO pmax pmax
comp=Z,38nm,1.6s
MMRI Maumere 31.98 266 P P 12 35 26.4 +0.3
MMRI Maumere 31.98 266 P P 12 35 25.1 -1.0
DAV Davao City (W) 32.25 296 LR LR 12 45 51.0
comp=Z,206nm,21.6s,baz=154,slow=31

FORT Forrest 33.96 223 P P 12 35 42.5 -0.7
FORT Forrest 33.96 223 P P 12 35 42.1 -1.2
FORT IAmb IAmb 12 35 42.3
comp=Z,28nm,0.7s
FORT Forrest 33.96 223 P P 12 35 41.2 -2.0
comp=Z,40nm,1.1s
KAPI Kappang 34.64 272 P P 12 35 50.7 +1.4
KAPI Kappang 34.64 272 P P 12 35 49.7 +0.4
KAPI IAmb IAmb 12 36 20.4
comp=Z,38nm,0.8s
KAPI Kappang 34.64 272 P P 12 35 49.7 +0.4
KAPI pmax pmax
comp=Z,38nm,0.9s
TAU Tasmania Unive 35.92 189 P P 12 36 01.2 +1.3
TAU Tasmania Unive 35.92 189 P P 12 36 01.2 +1.3
TAU pmax pmax
comp=Z,117nm,1.7s
MBWA Marble Bar 36.27 244 P P 12 36 03.1 -0.1
MBWA Marble Bar 36.27 244 P P 12 36 02.1 -1.1
MBWA Marble Bar 36.27 244 P P 12 36 02.0 -1.3
comp=Z,23nm,0.9s
PSA00 Pilbara Seismi 36.29 243 P P 12 36 04.2 +0.8
PSA00 Pilbara Seismi 36.29 243 P P 12 36 02.4 -1.0
PSA00 Pilbara Seismi 36.29 243 P P 12 36 02.7 -0.7
PSA00 IAmb IAmb 12 36 25.9
comp=Z,20nm,1.4s
PSA00 Pilbara Seismi 36.29 243 P P 12 36 02.2 -1.2
comp=Z,25nm,1.2s
PSAC1 Pilbara Seismi 36.31 244 P P 12 36 03.0 -0.7
comp=Z,25nm,1.1s
JCJ Chichijima 36.33 341 LR LR 12 48 34.7
comp=Z,179nm,21.9s,baz=151,slow=32
RTZ Ruatahuna 37.09 150 P P 12 36 11.0 +0.9
RTZ IAmb IAmb 12 37 21.6
comp=Z,42nm,1.2s
MYLDM Lahad Datu 38.05 288 P P 12 36 18.5 +0.1
LTZ Lake Taylor 38.55 159 P P 12 36 20.7 -1.6
LTZ IAmb IAmb 12 37 04.5
comp=Z,124nm,1.7s
KMBL Kambalda 38.67 228 P P 12 36 22.4 -1.1
RPZ Rata Peaks 38.95 161 P P 12 36 26.5 +0.8
RPZ Rata Peaks 38.95 161 LR LR 12 50 07.1
comp=Z,361nm,19.3s,baz=326,slow=33
MEEK Meekatharra 39.09 236 P P 12 36 27.7 +0.6
MEEK Meekatharra 39.09 236 P P 12 36 26.1 -1.0
JAGI Jajag, Banyuwa 39.98 266 P P 12 36 33.8 -0.8
JAGI Jajag, Banyuwa 39.98 266 P P 12 36 32.9 -1.8
KLBR Kellerberrin 41.86 230 P P 12 36 48.4 -1.5
KLBR Kellerberrin 41.86 230 P P 12 36 47.7 -2.2
comp=Z,46nm,0.9s
MORW Morawa 42.13 234 P P 12 36 50.2 -1.9
JOW Kunigami 42.50 324 P P 12 36 54.1 -1.0
JHJ2 Mitsune 42.66 342 P P 12 36 54.9 -1.3
JHJ Hachijo jima 2 42.67 342 LR LR 12 53 02.3
comp=Z,124nm,20.2s,baz=145,slow=34
SBUM Sibu 43.33 282 P P 12 37 01.2 -0.8
UGM Wanagama 43.59 266 P P 12 37 04.0 -0.3
MIDW Midway 44.63 36 P P 12 37 12.5 +0.4
YULB Yu-li 44.63 314 P P 12 37 11.6 -0.7
JMN Monobe 45.36 336 P P 12 37 19.1 +1.1
JMN Monobe 45.36 336 P P 12 37 18.2 +0.2
YHNB Yeheng 45.39 316 P P 12 37 18.9 +0.5
INU Inuyama 45.62 340 P P 12 37 19.5 -0.5
INU Inuyama 45.62 340 P P 12 37 19.3 -0.7
JGF Kuroka 45.74 340 P P 12 37 21.7 +0.7
JGF Kuroka 45.74 340 P P 12 37 20.5 -0.5
JGF IAmb IAmb 12 37 22.4
comp=Z,34nm,1.3s
JNU Nakatsue 46.16 332 P P 12 37 25.3 +1.0
JNU Nakatsue 46.16 332 P P 12 37 22.9 -1.4
RAR Rarotonga 46.19 112 LR LR 12 54 09.1
comp=Z,57nm,19.2s,baz=276,slow=33
MJAR Matsushiro Arr 46.33 342 P P 12 37 23.7 -1.9
comp=Z,11nm,0.9s,baz=166,slow=8.0,SNR=26
MJAR LR LR 12 54 40.4
comp=Z,118nm,20.5s,baz=206,slow=33
comp=Z,11nm,0.9s
MAJO Matsushiro 46.33 342 P P 12 37 24.8 -0.8
MAJO Matsushiro 46.33 342 P P 12 37 24.7 -0.8
MAJO IAmb IAmb 12 37 25.3
comp=Z,40nm,1.3s
MAJO Matsushiro 46.33 342 *i* P **P 12 37 24.3 -1.3**
MAJO pmax pmax
comp=Z,25nm,1.1s
MJB9 Matsu-Tunnel 46.33 342 P P 12 37 25.9 +0.3
MJB9 IAmb IAmb 12 37 26.3
comp=Z,39nm,1.3s
JMM Marumori 46.83 345 P P 12 37 29.9 +0.5
JTM Tenmabayashi 49.53 347 P P 12 37 50.3 0.0
JTM Tenmabayashi 49.53 347 P P 12 37 50.1 -0.2
ERM Erimo 50.27 349 *ce*P **P 12 37 55.5 -0.4**
ERM pmax pmax
comp=Z,18nm,1.3s
TJN Taejon 50.47 331 P P 12 37 58.6 +1.1
TJN Taejon 50.47 331 P P 12 37 57.9 +0.4
TJN Taejon 50.47 331 *ce*P **P 12 37 58.3 +0.8**
KSRS Korea Array 51.09 333 P P 12 38 02.1 0.0
comp=Z,18nm,0.7s,baz=149,slow=7.5,SNR=67
KSRS PcP **PcP 12 39 17.9 +0.2**
comp=Z,2.7nm,0.7s,baz=164,slow=3.7,SNR=5.0
KSRS LR LR 12 57 04.3
comp=Z,68nm,21.6s,baz=150,slow=33
comp=Z,18nm,0.7s
KSAR Wonju Array Be 51.10 333 P P 12 38 02.3 +0.1
KSAR PcP **PcP 12 39 18.3 +0.7**
KSAR Wonju Array Be 51.10 333 P P 12 38 02.3 +0.1
KS19 Wonju Array Si 51.15 333 P P 12 38 02.5 -0.1
KS19 IAmb IAmb 12 38 03.6
comp=Z,27nm,0.9s
KS19 PcP **PcP 12 39 18.2 +0.3**
QIZ Qiongzhong 51.27 302 P P 12 38 05.0 +1.2
QIZ S **S 12 45 19.3 -1.8**
QIZ pmax pmax
comp=Z,32nm,0.8s
QIZ LR LR
comp=Z,350nm,14.7s
QIZ LR LR
comp=Z,370nm,18.8s
QIZ LR LR
comp=Z,470nm,17.0s
QIZ Qiongzhong 51.27 302 P P 12 38 05.1 +1.2
QIZ IAmb IAmb 12 38 05.8
comp=Z,24nm,0.8s
MYKOM Kota Tinggi 51.37 278 P P 12 38 04.4 -0.3
MYKOM IAmb IAmb 12 38 05.6
comp=Z,32nm,1.1s
INCN Inchon 51.71 332 P P 12 38 07.7 +0.9
INCN Inchon 51.71 332 P P 12 38 07.3 +0.6
INCN Inchon 51.71 332 P P 12 38 07.4 +0.6
INCN pmax pmax
comp=Z,92nm,1.0s
NJ2 Nanjing 51.94 321 *e*P **P 12 38 10.8 +2.2**
NJ2 pmax pmax
comp=Z,14nm,0.5s
JKA Kamikawa-asahi 52.41 349 P P 12 38 12.4 +0.6
ASAJ Asahikawa 52.41 349 LR LR 12 58 13.9
comp=Z,94nm,20.8s,baz=183,slow=34
ASAJ Asahikawa 52.41 349 P P 12 38 12.4 +0.5
ASAJ pmax pmax
comp=Z,44nm,0.8s
GULI GuiLin 53.87 309 P P 12 38 24.4 +1.4
GULI pmax pmax
comp=Z,30nm,1.3s
WHN Wuhan 53.91 316 ⇑P **P 12 38 24.1 +0.9**
WHN pmax pmax
comp=Z,120nm,1.1s
MSHR Mys Shultsa 54.12 339 *ce*P **P 12 38 24.7 +0.2**
MSHR pmax pmax
comp=Z,20nm,1.8s
PSTR Posyet 54.31 339 *i* P **P 12 38 26.0 +0.1**
VLA Vladivostok 54.34 340 *i* P **P 12 38 27.0 +0.9**
VLA pmax pmax
comp=Z,64nm,1.0s
YSS Yuzh-Sakhalins 55.13 350 P P 12 38 32.1 +0.4
YSS Yuzh-Sakhalins 55.13 350 P P 12 38 31.9 +0.2
YSS Yuzh-Sakhalins 55.13 350 *eP* **P 12 38 31.7 0.0**
YSS *e*S **S 12 46 07.1 -5.5**
YSS pmax pmax
comp=Z,100nm,2.5s
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS MLR MLR
comp=Z,200nm,15.0s
KULM Kulim 55.21 282 P P 12 38 31.5 -1.4

KULM IAmb IAmb 12 38 43.0
comp=Z,42nm,1.2s
USA0B Ussuriysk Arra 55.26 340 P P 12 38 33.2 +0.5
USA0B Ussuriysk Arra 55.26 340 *i* P **P 12 38 32.9 +0.2**
USRK Ussuriysk Ar. 55.26 340 P P 12 38 32.8 0.0
comp=Z,27nm,0.8s,baz=171,slow=8.2,SNR=58
USRK LR LR 13 01 22.2
comp=Z,65nm,19.0s,baz=188,slow=35
comp=Z,27nm,0.8s
DL2 Dalian 55.28 329 P P 12 38 33.5 +0.6
DL2 pmax pmax
comp=Z,140nm,0.8s
PPT Papeete 55.33 106 LR LR 12 59 41.5
comp=Z,77nm,18.6s,baz=266,slow=33
PPT2 Papeete2 55.33 106 *e*LQ LQ 12 52 26.3
comp=Z,276nm,24.0s
PPT2 *e*LR LR 12 54 42.5
comp=Z,259nm,26.8s
PPT2 *e*LR LR 12 54 43.4
comp=Z,166nm,26.8s
TIA Tai'an 55.82 324 P P 12 38 37.1 +0.2
TIA pmax pmax
comp=Z,36nm,1.0s
TBI Tubuai 55.95 113 *e*LQ LQ 12 52 34.3
comp=Z,3μm,33.2s
TBI *e*LR LR 12 54 57.9
comp=Z,843nm,37.5s
TBI *e*LR LR 12 55 03.6
comp=Z,2μm,31.5s
HLP Hilina Pali 56.09 61 P P 12 38 40.4 +1.1
MDJ Mudanjiang 56.45 339 P P 12 38 41.9 +0.6
MDJ Mudanjiang 56.45 339 P P 12 38 41.4 +0.1
MDJ pmax pmax
comp=Z,28nm,1.5s
NAYO Nakonayok 57.02 292 P P 12 38 46.2 +0.4
ENH Enshi 57.18 313 P P 12 38 47.6 +0.8
SLVN Son La 57.29 301 P P 12 38 48.8 +1.1
SLVN IAmb IAmb 12 38 49.3
comp=Z,20nm,1.0s
GYA Guiyang 57.33 308 ⇓P **P 12 38 49.1 +1.1**
GYA pmax pmax
comp=Z,23nm,1.0s
CN2 Changchun 57.37 335 *e*P **P 12 38 47.8 0.0**
CN2 pmax pmax
comp=Z,20nm,1.2s
LYN LuoYang 57.62 319 ⇓P **P 12 38 50.3 +0.5**
LYN S **S 12 46 48.6 +2.4**
LYN sS sS 12 47 09.4 +10
LYN pmax pmax
comp=Z,53nm,1.1s
LYN pmax pmax
comp=Z,550nm,8.3s
LYN LR LR
comp=Z,1μm,6.5s
LYN LR LR
comp=Z,750nm,9.7s
LYN LR LR
comp=Z,1μm,7.3s
HNS HongShan 58.05 323 ⇑P **P 12 38 53.2 +0.5**
HNS pmax pmax
comp=Z,76nm,1.1s
BNX BinXian 58.22 338 ⇓P **P 12 38 53.9 +0.2**
BNX pmax pmax
comp=Z,51nm,1.2s
TYV Tymovskoe 58.94 351 *e*P **P 12 38 59.0 +0.4**
TYV pmax pmax
comp=Z,20nm,0.8s
TYV pmax pmax
comp=Z,100nm,5.6s
BJT Baijiatuau 58.99 326 P **P 12 39 00.5 +1.3**
BJI Beijing 59.00 326 P **P 12 38 59.4 +0.1**
BJI sP pwP 12 39 17.5 +3.7
BJI pmax pmax
comp=Z,9.0nm,1.4s
PHRA Phrae 59.41 296 P **P 12 39 04.0 +1.4**
XAN Xi'an 59.68 317 ⇑P **P 12 39 04.0 -0.2**
XAN pmax pmax
comp=Z,59nm,1.1s
KLR Kul'dur 59.82 343 LR LR 13 03 12.5
comp=Z,81nm,21.3s,baz=186,slow=34
KLR Kul'dur 59.82 343 *ce*P **P 12 39 05.1 +0.3**
KLR pmax pmax
comp=Z,28nm,1.0s
KMI Kunming 59.86 305 ⇑P **P 12 39 05.4 -0.4**
KMI pmax pmax
comp=Z,36nm,1.1s
CRAI Chiangrai 59.91 298 P **P 12 39 07.0 +1.1**
GRNR Gornyy 60.03 347 ⇑*i*P **P 12 39 06.4 +0.2**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
PET Petropavlovsk 60.30 3 P **P 12 39 08.6 +0.6**
comp=Z,77nm,1.3s
PET Petropavlovsk 60.30 3 P **P 12 39 08.0 +0.1**
PET IAmb IAmb 12 39 08.2
comp=Z,12nm,0.7s
PET Petropavlovsk 60.30 3 *e*P **P 12 39 07.6 -0.4**
PET *e*S **S 12 47 20.3 +0.1**
PET pmax pmax
comp=Z,19nm,0.8s
CM31 Chiang Mai Arr 60.54 296 P **P 12 39 11.2 +0.9**
CM31 IAmb IAmb 12 39 12.4
comp=Z,25nm,0.8s
CMAR Chiang Mai Arr 60.54 296 P **P 12 39 10.6 +0.3**
CMAR Chiang Mai Arr 60.54 296 P **P 12 39 11.2 +0.9**
comp=Z,13nm,0.8s,baz=118,slow=5.2,SNR=69
comp=Z,13nm,0.8s
CHTO Chiang Mai 60.66 296 P **P 12 39 11.5 +0.4**
CHTO IAmb IAmb 12 39 12.8
comp=Z,33nm,1.1s
CHTO Chiang Mai 60.66 296 P **P 12 39 11.5 +0.4**
CHTO pmax pmax
comp=Z,33nm,1.1s
PZH PanZhiHua 61.27 306 P **P 12 39 15.3 0.0**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,140nm,6.3s
CD2 Chengdu 61.73 311 P **P 12 39 18.7 +0.5**
CD2 pmax pmax
comp=Z,110nm,0.6s
XLT XiLinHaoTe 61.77 329 *e*P **P 12 39 18.5 +0.2**
XLT pmax pmax
comp=Z,150nm,0.7s
HEH HeiHe 62.07 341 *e*P **P 12 39 19.2 -0.8**
HEH pmax pmax
comp=Z,20nm,0.9s
HEH pmax pmax
comp=Z,180nm,5.5s
HHC Hu-ho-hao-te 62.15 324 ⇑*i*P **P 12 39 21.6 +0.7**
HHC pP pwP 12 39 31.8 -3.8
HHC pmax pmax
comp=Z,27nm,1.2s
HHC pmax pmax
comp=Z,100nm,3.6s
SHEM Shemya Is, Ala 62.19 13 LR LR 13 01 56.3
comp=Z,180nm,21.3s,baz=198,slow=32
AMKA Amchitka 62.33 17 P **P 12 39 21.9 +0.2**
BTO Baotou 62.90 323 *e*P **P 12 39 27.6 +1.7**
BTO pP **pwP 12 39 41.9 +1.2**
BTO sP sP 12 39 46.5 +10
BTO PP **PP 12 41 47.4 +2.7**
BTO S **S 12 47 56.8 +2.8**
BTO pmax pmax
comp=Z,24nm,0.8s
BTO pmax pmax
comp=Z,310nm,7.1s
BTO LR LR
comp=Z,680nm,9.5s
BTO LR LR
comp=Z,600nm,6.4s
BTO LR LR
comp=Z,340nm,9.4s
TNCH TengChong 63.31 303 ⇑P **P 12 39 29.7 +0.7**
TNCH pmax pmax
comp=Z,62nm,0.9s
KIWB Kanaga Island 63.84 19 P **P 12 39 32.1 +0.4**
HIA Hailar 64.10 335 P **P 12 39 34.2 +0.6**
LZH Lanzhou 64.28 316 ⇑P **P 12 39 36.8 +1.6**
LZH pP pwP 12 39 55.2 +6.4
LZH pmax pmax
comp=Z,76nm,1.6s
ZEA Zeya 65.13 343 *e*P **P 12 39 40.7 +0.6**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,1.0s

MA2	Magadan	66.84	358	*ce*P		P	12 39 50.3 -0.7
MA2				pmax		pmax	
comp=Z,40nm,1.1s							
NIKH	Nikolski High	67.71	23	P		P	12 39 57.5 +0.8
baz=220							
GTA	Gaotai	68.72	317	*e*P		P	12 40 04.6 +1.1
GTA				sP		PcP	12 40 23.5 -4.7
GTA				pmax		pmax	
comp=Z,27nm,1.2s							
SHL	Shillong	69.10	301	P		P	12 40 06.0 -0.2
SHL	Shillong	69.10	301	P		P	12 40 06.0 -0.2
SHL				pmax		pmax	
comp=Z,69nm,0.9s							
ULN	Ulaanbaatar	69.10	328	P		P	12 40 07.0 +1.2
ULN	Ulaanbaatar	69.10	328	*ce*P		P	12 40 06.9 +1.2
ULN				pmax		pmax	
comp=Z,60nm,1.1s							
UNV	Unalaska Valle	69.29	23	P		P	12 40 07.7 +1.2
baz=222							
SONM	Songino Array	69.43	328	P		P	12 40 08.9 +1.1
SONM	Songino Array	69.43	328	P		P	12 40 08.6 +0.8
comp=Z,42nm,0.9s,baz=134,slow=5.7,SNR=156							
comp=Z,42nm,0.9s							
SONM	Songino Array	69.43	328	P		P	12 40 08.9 +1.1
SONM				pmax		pmax	
comp=Z,58nm,1.0s							
SEY	Seymchan	70.16	359	*ce*P		P	12 40 10.7 -1.0
SEY				pmax		pmax	
comp=Z,9.0nm,1.0s							
VNDA	Vanda	70.18	178	P		P	12 40 12.0 +0.3
VNDA	Vanda	70.18	178	P		P	12 40 11.4 -0.3
comp=Z,2.4nm,1.0s,baz=320,slow=5.9,SNR=6.7							
VNDA				LR		LR	13 06 27.8
comp=Z,91nm,18.1s,baz=278,slow=32							
comp=Z,2.4nm,1.0s							
VNDA	Vanda	70.18	178	P		P	12 40 12.0 +0.3
VNDA				pmax		pmax	
comp=Z,5.0nm,0.9s							
SPIA	Saint Paul Isl	70.51	19	P		P	12 40 14.7 +0.8
baz=217							
FALS	False Pass	71.27	24	P		P	12 40 19.1 +0.5
baz=224							
YAK	Yakutsk	71.86	348	P		P	12 40 22.4 +0.4
YAK	Yakutsk	71.86	348	LR		LR	13 07 33.0
comp=Z,70nm,21.8s,baz=198,slow=32							
YAK	Yakutsk	71.86	348	*c i*P		P	12 40 22.1 +0.1
YAK				*e**PP		sP	12 40 31.6 -0.9
YAK				*e*			12 40 36.7
YAK				*e*			12 42 57.0
YAK				*e*PPP		PPP	12 44 50.9
YAK				*e*S		S	12 49 42.2 +1.6
YAK				*e*SS		SS	12 54 20.1 +2.6
YAK				pmax		pmax	
comp=Z,71nm,0.9s							
YAK				pmax		pmax	
comp=N,13nm,0.9s							
YAK				pmax		pmax	
comp=E,12nm,1.6s							
YAK				pmax		pmax	
comp=Z,102nm,3.9s							
YAK				pmax		pmax	
comp=N,73nm,4.3s							
YAK				pmax		pmax	
comp=E,44nm,4.8s							
YAK				smax		smax	
comp=E,94nm,3.6s							
YAK				smax		smax	
comp=N,46nm,3.3s							
S12K	Black Hills	72.42	24	P		P	12 40 25.6 0.0
baz=226							
ZAK	Zakamensk	72.60	328	*e*P		P	12 40 27.0 +0.1
ZAK				pmax		pmax	
comp=Z,35nm,1.2s							
SDPT	Sand Point	72.82	25	P		P	12 40 28.1 +0.2
baz=227							
BOD	Bodaibo	72.83	339	*e*P		P	12 40 27.7 -0.2
BOD				pmax		pmax	
comp=Z,22nm,1.5s							
CHNA	Chernabura Isl	72.85	26	P		P	12 40 27.9 -0.2
baz=228							
IRK	Irkutsk	73.21	330	*e*P		P	12 40 29.4 -0.9
IRK				pmax		pmax	
comp=Z,48nm,1.6s							
S14K	Fog Glacier	73.84	25	P		P	12 40 33.2 -0.8
baz=228							
CHGN	Chignik	74.33	25	P		P	12 40 37.1 +0.4
baz=229							
M11K	Mekoryuk	74.33	19	P		P	12 40 37.4 +0.7
baz=221							
MOY	Mondy	74.52	329	*e*P		P	12 40 38.6 +0.5
MOY				pmax		pmax	
comp=Z,33nm,1.8s							
O14K	Tigyukauivet M	75.21	22	P		P	12 40 42.7 +0.9
O14K	Tigyukauivet M	75.21	22	P		P	12 40 42.3 +0.5
baz=226							
CHIR	Chirikof Islan	75.22	26	P		P	12 40 42.1 +0.2
baz=232							
M13K	Dall Lake	75.30	20	P		P	12 40 42.3 0.0
baz=224							
O15K	Ungalikthiuk R	75.69	22	P		P	12 40 44.8 +0.2
baz=227							
BILL	Bilibino	75.73	5	P		P	12 40 44.9 +0.2
BILL	Bilibino	75.73	5	*ce*P		P	12 40 45.2 +0.6
BILL				*e*			12 40 55.1
BILL				*e*			12 43 34.3
BILL				*e*PPP		PPP	12 45 22.7
BILL				pmax		pmax	
comp=Z,41nm,0.9s							
BILL				MLR		MLR	
comp=Z,67nm,17.0s							
M14K	Bethel	76.02	20	P		P	12 40 47.5 +1.1
baz=225							
R17L	Mt. Peulik Vol	76.05	25	P		P	12 40 47.1 +0.5
baz=231,SNR=10							
L14K	Kuka Creek	76.20	20	IAmb		IAmb	12 40 56.6
comp=Z,26nm,1.1s							
L14K	Kuka Creek	76.20	20	P		P	12 40 48.4 +1.0
baz=224							
N15K	Kwethluk River	76.28	21	P		P	12 40 48.1 +0.3
N15K				IAmb		IAmb	12 40 49.6
comp=Z,22nm,0.8s							
N15K	Kwethluk River	76.28	21	P		P	12 40 48.2 +0.3
baz=227							
P16K	Nushagak River	76.30	23	P		P	12 40 47.8 -0.2
baz=229							
SII	Sitkinak Islan	76.31	26	P		P	12 40 47.7 -0.5
SII	Sitkinak Islan	76.31	26	P		P	12 40 48.1 -0.1
SII	Sitkinak Islan	76.31	26	P		P	12 40 48.4 +0.2
baz=233							
M15K	Kasigluk River	76.43	21	P		P	12 40 48.9 +0.1
baz=226,SNR=5.2							
Q16K	King Salmon	76.60	24	P		P	12 40 49.3 -0.3
baz=230							
O16K	Kokwok River B	76.63	23	P		P	12 40 50.2 +0.3
baz=229							
Q17K	Contact Creek	76.64	24	P		P	12 40 50.0 -0.1
baz=231,SNR=13							
R18K	Karluk	76.81	25	P		P	12 40 51.6 +0.6
baz=232							
ACHA	Angle Creek He	76.84	25	P		P	12 40 50.9 -0.3
ACHA				IAmb		IAmb	12 40 52.0
comp=Z,23nm,0.8s							
L15K	Ungalak Mounta	76.84	20	P		P	12 40 52.2 +1.2
baz=225							
J14K	Nanvaranak Lak	76.95	18	P		P	12 40 52.0 +0.5
J14K				IAmb		IAmb	12 40 53.7
comp=Z,27nm,0.9s							
J14K	Nanvaranak Lak	76.95	18	P		P	12 40 52.6 +1.0
baz=223							
N16K	Nishlik Lake	76.97	22	P		P	12 40 52.6 +0.7
baz=228,SNR=6.7							
P17K	Kvichak River	77.02	24	P		P	12 40 51.8 -0.2
baz=230							
OHAK	Old Harbor	77.11	26	P		P	12 40 53.3 +0.7
OHAK	Old Harbor	77.11	26	P		P	12 40 52.9 +0.3
OHAK	Old Harbor	77.11	26	P		P	12 40 52.6 0.0
baz=234,SNR=5.7							
O17K	Koliganek Bris	77.13	23	P		P	12 40 52.9 +0.2
baz=230,SNR=5.7							
Q18K	Katmai Hardscr	77.25	24	P		P	12 40 53.1 -0.4
baz=232,SNR=25							
K15K	Wolf Creek Mou	77.27	19	IAmb		IAmb	12 40 55.4
comp=Z,35nm,0.9s							
K15K	Wolf Creek Mou	77.27	19	P		P	12 40 53.6 +0.1
baz=225,SNR=6.8							
M16K	Timber Creek	77.27	21	P		P	12 40 54.4 +0.9
M16K	Timber Creek	77.27	21	P		P	12 40 53.6 +0.1
baz=228,SNR=12							
L16K	Owhat River	77.56	21	P		P	12 40 55.6 +0.5
L16K				IAmb		IAmb	12 40 56.5
comp=Z,17nm,0.8s							
L16K	Owhat River	77.56	21	P		P	12 40 55.2 +0.1
baz=227,SNR=5.9							
N17K	Nushagak Hills	77.59	22	IAmb		IAmb	12 41 05.6
comp=Z,49nm,1.4s							
N17K	Nushagak Hills	77.59	22	P		P	12 40 55.2 -0.1
baz=229,SNR=6.1							
P18K	Big Mountain,	77.62	24	P		P	12 40 54.9 -0.7
P18K				IAmb		IAmb	12 40 57.0
comp=Z,16nm,1.0s							
P18K	Big Mountain,	77.62	24	P		P	12 40 56.2 +0.7
baz=231							
KDAK	Kodiak Island	77.75	26	P		P	12 40 56.8 +0.7
KDAK	Kodiak Island	77.75	26	P		P	12 40 56.9 +0.7
baz=234							
KDAK	Kodiak Island	77.75	26	*i* P		P	12 40 57.0 +0.8
KDAK				pmax		pmax	
comp=Z,57nm,0.8s							
ANM	Nome	77.76	17	P		P	12 40 57.1 +0.9
baz=221							
TNA	Tin City	77.85	15	P		P	12 40 57.4 +0.9
baz=218							
O18K	Koktuh Hills	77.92	23	P		P	12 40 57.0 -0.1
O18K				IAmb		IAmb	12 40 58.1
comp=Z,15nm,0.8s							
O18K	Koktuh Hills	77.92	23	P		P	12 40 57.6 +0.4
baz=231							
Q19K	Cape Douglas,	77.98	25	P		P	12 40 57.2 -0.3
baz=233							
M17K	Holitna River	78.07	21	IAmb		IAmb	12 41 00.2
comp=Z,26nm,0.9s							
M17K	Holitna River	78.07	21	P		P	12 40 57.8 -0.2
baz=229,SNR=7.4							
N18K	Kilae Creek	78.18	23	P		P	12 40 59.0 +0.5
baz=230,SNR=18							
L17K	Donlin	78.25	21	P		P	12 40 59.9 +1.0
baz=228,SNR=9.3							
J16K	Anvik River	78.27	19	P		P	12 41 00.5 +1.5
J16K				IAmb		IAmb	12 41 08.0
comp=Z,48nm,1.2s							
J16K	Anvik River	78.27	19	P		P	12 41 00.3 +1.3
baz=226,SNR=6.1							
Q20K	Shuyak Island	78.31	25	P		P	12 40 60.0 +0.7
baz=234							
G15K	Niukluk	78.46	17	P		P	12 41 00.2 +0.1
baz=222							
O19K	Port Alsworth	78.48	23	P		P	12 41 00.7 +0.5
baz=232							
SVW2	Sparrevohn	78.56	22	P		P	12 41 01.6 +0.9
SVW2	Sparrevohn	78.56	22	IAmb		IAmb	12 41 13.0
comp=Z,18nm,0.9s							
P19K	Oil Pt	78.59	24	P		P	12 41 00.8 -0.1
P19K	Oil Pt	78.59	24	P		P	12 41 01.0 +0.2
baz=233,SNR=6.6							
K17K	Iditarod	78.64	20	IAmb		IAmb	12 41 03.1
comp=Z,36nm,0.9s							
K17K	Iditarod	78.64	20	P		P	12 41 01.9 +0.9
baz=228,SNR=8.9							
I17K	Unalakleet	78.66	19	P		P	12 41 02.2 +1.0
baz=225							
M18K	Stony River	78.72	22	P		P	12 41 02.5 +0.9
baz=230,SNR=6.9							
H16K	Elim	78.73	18	P		P	12 41 02.2 +0.7
baz=224							
N19K	Bonanza Creek	78.80	23	P		P	12 41 02.3 +0.2
N19K				IAmb		IAmb	12 41 03.6
comp=Z,16nm,0.8s							
N19K	Bonanza Creek	78.80	23	P		P	12 41 01.9 -0.2
baz=232,SNR=8.1							
WMQ	Urumqi	78.81	317	*e*P		P	12 41 03.8 +1.3
WMQ				PcP		PcP	12 41 11.5 +0.3
WMQ				pmax		pmax	
comp=Z,14nm,0.6s							
F15K	North Star Dit	78.83	16	P		P	12 41 02.5 +0.4
baz=221							
J17K	VABM Dome	78.84	19	P		P	12 41 03.2 +1.1
J17K				IAmb		IAmb	12 41 04.2
comp=Z,23nm,0.8s							
J17K	VABM Dome	78.84	19	P		P	12 41 02.7 +0.5
baz=227,SNR=11							
L18K	Granite Mounta	78.88	21	P		P	12 41 03.6 +1.2
L18K				IAmb		IAmb	12 41 04.5
comp=Z,33nm,0.8s							
L18K	Granite Mounta	78.88	21	P		P	12 41 03.2 +0.8
baz=230,SNR=19							
HYB	Hyderabad	78.96	289	*e*P		P	12 41 02.6 -1.2
O20K	Slope Mountain	79.09	24	P		P	12 41 03.5 -0.1
baz=234							
G16K	Koyuk River	79.24	17	P		P	12 41 05.3 +1.0
G16K				IAmb		IAmb	12 41 06.1
comp=Z,16nm,0.8s							
G16K	Koyuk River	79.24	17	P		P	12 41 05.0 +0.7
baz=224							
HOM	Homer	79.24	25	P		P	12 41 05.0 +0.6
baz=235,SNR=8.2							
RSO	Redoubt South	79.26	24	P		P	12 41 04.3 -0.5
M19K	Big River Lodg	79.51	22	P		P	12 41 06.8 +0.9
baz=232							
L19K	White Mountain	79.52	22	IAmb		IAmb	12 41 07.7
comp=Z,33nm,0.8s							
L19K	White Mountain	79.52	22	P		P	12 41 06.8 +0.9
baz=231,SNR=18							
BRLK	Bradley Lake	79.62	25	P		P	12 41 06.5 0.0
BRLK				IAmb		IAmb	12 41 07.5
comp=Z,36nm,0.8s							
H17K	Granite Mounta	79.64	18	P		P	12 41 06.7 +0.1
H17K	Granite Mounta	79.64	18	P		P	12 41 07.1 +0.6
baz=226							
BRSE	Bradley Lake S	79.66	25	P		P	12 41 06.8 0.0
baz=235							
J18K	Innoko River	79.68	20	P		P	12 41 07.3 +0.6
baz=229,SNR=11							
N20K	Mount Spurr	79.92	23	P		P	12 41 08.7 +0.5
baz=234							
SPCR	Spurr Chakacha	79.92	23	P		P	12 41 08.1 0.0
baz=234							
M20K	Styx River	79.97	22	P		P	12 41 09.3 +0.8
M20K				IAmb		IAmb	12 41 09.9
comp=Z,18nm,0.8s							
M20K	Styx River	79.97	22	P		P	12 41 08.9 +0.4
baz=233,SNR=8.3							
L20K	Farewell, AK	80.06	22	P		P	12 41 09.3 +0.5
baz=232,SNR=11							
CAPN	Captain Cook N	80.08	24	P		P	12 41 09.0 +0.1
baz=235							
H18K	Honhosa River	80.27	18	P		P	12 41 11.1 +1.1
baz=228							
F17K	Baldwin Pennin	80.31	17	P		P	12 41 10.9 +0.9
baz=225							
J19K	Poorman	80.40	20	P		P	12 41 11.5 +0.9
baz=230,SNR=8.1							
SEW	Seward	80.41	25	P		P	12 41 11.5 +0.8
baz=236							
GCSA	Galena City Sc	80.47	19	P		P	12 41 11.5 +0.6
baz=229							
O22K	Cooper Landing	80.50	25	P		P	12 41 11.0 -0.2
O22K	Cooper Landing	80.50	25	P		P	12 41 12.0 +0.8
baz=236							
K20K	Telida	80.53	21	P		P	12 41 11.5 +0.2
K20K	Telida	80.53	21	P		P	12 41 12.0 +0.6
baz=232							
E17K	Hotham Inlet	80.61	16	P		P	12 41 10.5 -1.2
baz=224							
SKT	Skwentna	80.64	23	P		P	12 41 11.0 -1.0
SKT	Skwentna	80.64	23	P		P	12 41 11.1 -0.9
baz=234,SNR=5.2							
SUA	Susitna One	80.65	23	P		P	12 41 11.9 -0.2
SUA				IAmb		IAmb	12 41 12.8
comp=Z,33nm,0.8s							
SUA	Susitna One	80.65	23	P		P	12 41 11.2 -0.9
baz=235,SNR=10							
G18K	Tagagawik	80.69	18	P		P	12 41 12.2 +0.1
G18K	Tagagawik	80.69	18	P		P	12 41 11.7 -0.5
baz=227							
D17K	Noatak River	80.73	15	P		P	12 41 12.5 +0.2
baz=223							
RC01	Rabbit Creek A	80.84	24	IAmb		IAmb	12 41 13.9
comp=Z,31nm,0.8s							
RC01	Rabbit Creek A	80.84	24	P		P	12 41 12.8 -0.2
baz=236,SNR=5.8							
F18K	Selawik	80.88	17	P		P	12 41 13.3 +0.2
baz=226							
PPLA	Purkeypile	80.93	22	P		P	12 41 14.0 +0.3
baz=234							
J20K	Nowinta River	81.02	20	P		P	12 41 14.6 +0.7
J20K				IAmb		IAmb	12 41 15.7
comp=Z,18nm,0.8s							
J20K	Nowinta River	81.02	20	P		P	12 41 14.1 +0.2
baz=232,SNR=18							
RDOG	Red Dog Mine	81.04	15	P		P	12 41 14.1 +0.1
baz=223							
M22K	Willow	81.06	23	P		P	12 41 13.8 -0.3
baz=236							
H19K	Roundabout Mou	81.12	19	IAmb		IAmb	12 41 16.0
comp=Z,34nm,0.9s							
H19K	Roundabout Mou	81.12	19	P		P	12 41 14.6 +0.2
baz=229,SNR=17							
E18K	Tukpahlearik C	81.19	16	P		P	12 41 15.0 +0.2
baz=225							
C17K	DeLong Mountai	81.28	15	P		P	12 41 15.4 +0.1
baz=222							
CAST	Castle Rocks	81.28	21	P		P	12 41 15.0 -0.3
baz=234							
I20K	Naaghedeneel	81.29	20	P		P	12 41 16.2 +0.9
I20K				IAmb		IAmb	12 41 17.2
comp=Z,38nm,1.0s							
I20K	Naaghedeneel	81.29	20	P		P	12 41 15.7 +0.3
baz=231							
G19K	Purcell Mounta	81.33	18	P		P	12 41 16.2 +0.6
G19K				IAmb		IAmb	12 41 17.2
comp=Z,26nm,1.1s							
G19K	Purcell Mounta	81.33	18	P		P	12 41 15.6 +0.1
baz=229,SNR=12							
PMR	Palmer	81.36	24	P		P	12 41 16.0 +0.2
PMR	Palmer	81.36	24	P		P	12 41 15.9 +0.2
PMR				IAmb		IAmb	12 41 16.6
comp=Z,24nm,0.8s							
PMR	Palmer	81.36	24	P		P	12 41 15.8 +0.1
baz=237,SNR=8.9							
PMR	Palmer	81.36	24	P		P	12 41 16.0 +0.2
PMR				pmax		pmax	
comp=Z,24nm,0.8s							
CUT	Chulitna	81.37	23	P		P	12 41 15.4 -0.4
baz=236							
Q23K	Middleton Isla	81.38	26	P		P	12 41 15.4 -0.4
baz=239							
CHUM	Lake Minchumin	81.48	21	P		P	12 41 16.5 +0.2
baz=233							
KNK	Knik Glacier	81.53	24	P		P	12 41 16.8 +0.1
baz=237							
GHO	Glory Hole Cre	81.54	24	IAmb		IAmb	12 41 17.8
comp=Z,30nm,0.9s							
F19K	Shaleruckik Mo	81.59	17	P		P	12 41 17.2 +0.4
baz=228							
H20K	Anotleneega Mo	81.60	19	P		P	12 41 16.9 -0.1
baz=231,SNR=8.8							
SML	Sawmill	81.80	24	P		P	12 41 18.2 0.0
baz=237,SNR=8.3							
GLI	Glacier Island	81.81	25	P		P	12 41 17.9 -0.3
baz=239							
C18K	Utukok River	81.91	15	P		P	12 41 18.4 -0.2
baz=224							
ZSN	Zaisan	81.96	320	*e*P		P	12 41 19.4 0.0
baz=320							
ZSN	Zaisan	81.96	320	*e*P		P	12 41 19.3 0.0
M23K	Glacier View	82.03	24	P		P	12 41 18.9 -0.4
baz=238							
BPAW	Bear Paw Mtn.	82.08	21	P		P	12 41 18.7 -0.9
BPAW	Bear Paw Mtn.	82.08	21	P		P	12 41 19.1 -0.5
baz=235							
E19K	Redstone River	82.16	17	P		P	12 41 20.6 +0.7
E19K				IAmb		IAmb	12 41 21.7
comp=Z,27nm,0.8s							
E19K	Redstone River	82.16	17	P		P	12 41 20.3 +0.4
baz=228							
EYAK	Cordova Ski Ar	82.20	26	P		P	12 41 20.5 +0.3
baz=240							
SCM	Sheep Creek Mo	82.21	24	P		P	12 41 20.9 +0.5
SCM				IAmb		IAmb	12 41 28.4
comp=Z,34nm,1.0s							
SCM	Sheep Creek Mo	82.21	24	P		P	12 41 20.8 +0.4
baz=238,SNR=5.7							
SCM	Sheep Creek Mo	82.21	24	P		P	12 41 20.9 +0.5
SCM				pmax		pmax	
comp=Z,34nm,1.0s							
WAT1	Susitna Watana	82.27	23	P		P	12 41 20.7 +0.1
baz=237							
IMAR	Indian Mountai	82.27	19	P		P	12 41 21.2 +0.7
F20K	Avaraart Lake	82.33	18	P		P	12 41 21.5 +0.7
F20K				IAmb		IAmb	12 41 22.5
comp=Z,22nm,1.3s							
F20K	Avaraart Lake	82.33	18	P		P	12 41 21.3 +0.5
baz=230,SNR=8.1							
H21K	Melozitna Rive	82.38	19	P		P	12 41 21.9 +0.8
baz=233,SNR=6.4							
WAT6	Susitna Watana	82.45	23	P		P	12 41 21.3 -0.4
baz=238,SNR=7.2							
RND	Reindeer	82.47	22	P		P	12 41 21.4 -0.3
RND				IAmb		IAmb	12 41 22.0
comp=Z,20nm,0.8s							
RND	Reindeer	82.47	22	P		P	12 41 21.4 -0.3
RND				pmax		pmax	
comp=Z,20nm,0.8s							
KAIM	Kayak Island	82.47	26	P		P	12 41 22.4 +0.7
baz=241							
QSPA	South Pole Qui	82.56	180	P		P	12 41 21.7 -0.6
comp=Z,9.2nm,0.8s,baz=319,slow=0.6,SNR=20							
comp=Z,9.2nm,0.8s							
KLU	Klutina	82.61	25	P		P	12 41 22.7 +0.3
baz=240,SNR=9.7							
D19K	Kuna River	82.61	16	P		P	12 41 22.5 +0.2
baz=227							
MCK	McKinley	82.62	22	P		P	12 41 22.2 -0.2
baz=237,SNR=14							
C19K	Lookout Ridge	82.65	15	P		P	12 41 23.0 +0.5
C19K				IAmb		IAmb	12 41 23.8
comp=Z,14nm,0.8s							
C19K	Lookout Ridge	82.65	15	P		P	12 41 22.2 -0.2
baz=226,SNR=6.2							
G21K	Allakaket	82.68	19	P		P	12 41 22.9 +0.3
G21K				IAmb		IAmb	12 41 23.9
comp=Z,14nm,0.9s							
G21K	Allakaket	82.68	19	P		P	12 41 22.8 +0.1
baz=232							
MLY	Manley	82.71	20	P		P	12 41 22.9 0.0
MLY				IAmb		IAmb	12 41 23.7
comp=Z,11nm,0.7s							
MLY	Manley	82.71	20	P		P	12 41 23.1 +0.3
baz=235,SNR=10							
M24K	Tolsona, Glenn	82.82	24	P		P	12 41 24.9 +1.4
M24K	Tolsona, Glenn	82.82	24	P		P	12 41 23.7 +0.2
baz=239							
DHY	Denali Highway	82.85	23	P		P	12 41 23.7 -0.1
DHY				IAmb		IAmb	12 41 33.0
comp=Z,20nm,1.0s							
DHY	Denali Highway	82.85	23	P		P	12 41 24.0 +0.2
baz=238,SNR=11							
BMRM	Bremner River	82.90	25	P		P	12 41 24.3 +0.4
baz=241							
E20K	Nigu River	82.99	17	P		P	12 41 25.0 +0.8
baz=229							
H22K	Ishtalitna Cre	82.99	20	P		P	12 41 25.1 +0.9
baz=234,SNR=10							
NEA2	Nenana	83.05	21	P		P	12 41 24.1 -0.4
NEA2				IAmb		IAmb	12 41 24.7
comp=Z,15nm,0.8s							
NEA2	Nenana	83.05	21	P		P	12 41 23.7 -0.9
baz=236,SNR=15							
A19K	Wainwright	83.06	14	P		P	12 41 24.5 0.0
baz=224							
BGLC	Bering Glacier	83.07	26	P		P	12 41 25.3 +0.6
baz=242							
F21K	Alatna River	83.12	18	P		P	12 41 25.5 +0.6
baz=232,SNR=7.6							
D20K	Etivluk River	83.17	16	P		P	12 41 25.3 +0.1
baz=229							
N25K	Chitina, Valde	83.22	25	P		P	12 41 26.4 +0.8
N25K				IAmb		IAmb	12 41 34.8
comp=Z,21nm,1.0s							
N25K	Chitina, Valde	83.22	25	P		P	12 41 26.0 +0.3
baz=241,SNR=5.5							
I23K	Minto, Yukon-K	83.25	21	P		P	12 41 25.5 -0.1
I23K	Minto, Yukon-K	83.25	21	P		P	12 41 26.3 +0.7
baz=236							
WRH	Wood River Hil	83.33	22	P		P	12 41 25.3 -0.7
WRH				IAmb		IAmb	12 41 26.9
comp=Z,20nm,1.1s							
HARP	HAARP	83.38	24	P		P	12 41 27.2 +0.9
baz=240							
MK31	Makanchi Array	83.41	319	P		P	12 41 27.0 +0.2

MK31 IAmb IAmb 12 41 28.2
comp=Z,19nm,0.9s
MK31 Makanchi Array 83.41 319 *ce*P **P 12 41 26.9 0.0**
MKAR Makanchi Array 83.41 319 P **P 12 41 27.0 +0.1**
comp=Z,18nm,0.8s,baz=107,slow=5.5,SNR=122
comp=Z,18nm,0.8s
MKAR Makanchi Array 83.41 319 P **P 12 41 27.0 +0.1**
CRQE Cirque 83.45 26 P **P 12 41 27.1 +0.3**
baz=242
VRDI Verde Repeater 83.52 25 IAmb IAmb 12 41 36.6
comp=Z,24nm,1.0s
CCB Clear Creek Bu 83.53 21 P **P 12 41 26.6 -0.4**
CCB IAmb IAmb 12 41 27.0
comp=Z,12nm,0.9s
PAX Paxson 83.54 23 P **P 12 41 27.8 +0.6**
baz=240
MDM Murphy Dome 83.55 21 P **P 12 41 26.4 -0.8**
MDM IAmb IAmb 12 41 28.0
comp=Z,19nm,1.3s
G22K Bettles 83.56 19 P **P 12 41 27.7 +0.6**
baz=234
H23K Yukon River 83.57 20 IAmb IAmb 12 41 28.6
comp=Z,15nm,1.0s
H23K Yukon River 83.57 20 P **P 12 41 27.6 +0.3**
baz=236,SNR=10
MAKZ Makanchi 83.61 319 P **P 12 41 28.1 +0.2**
MAKZ Makanchi 83.61 319 P **P 12 41 28.1 +0.2**
MAKZ pmax pmax
comp=Z,35nm,1.0s
COLA College 83.64 21 P **P 12 41 26.9 -0.7**
COLA College 83.64 21 P **P 12 41 27.0 -0.5**
COLA College 83.64 21 P **P 12 41 27.2 -0.4**
baz=237
COLA College 83.64 21 *i*P **P 12 41 26.3 -1.3**
COLA pmax pmax
comp=Z,23nm,0.9s
MESA MESA 83.69 27 P **P 12 41 27.4 -0.8**
baz=243
F22K John River 83.70 18 P **P 12 41 28.2 +0.3**
baz=233
HDA Harding Lake 83.72 22 IAmb IAmb 12 41 53.1
comp=Z,9.5nm,0.8s
HDA Harding Lake 83.72 22 P **P 12 41 27.8 -0.2**
baz=238,SNR=5.7
E21K Killik River 83.74 17 P **P 12 41 28.3 +0.2**
baz=231
MCARA McCarthy VSAT 83.77 25 P **P 12 41 29.3 +0.9**
MCARA McCarthy VSAT 83.77 25 P **P 12 41 29.0 +0.6**
baz=242
MAW Mawson 83.83 203 P P 12 41 34.4 +5.8
comp=Z,6.4nm,1.1s,baz=78,slow=9.3,SNR=4.7
K24K Donnelly Dome 83.84 23 P **P 12 41 28.7 0.0**
baz=240
B20K Meade River 83.89 15 IAmb IAmb 12 41 29.6
comp=Z,14nm,0.8s
B20K Meade River 83.89 15 P **P 12 41 29.1 +0.4**
baz=228,SNR=6.6
G23K Bananza Creek 83.92 19 IAmb IAmb 12 41 30.5
comp=Z,11nm,0.9s
G23K Bananza Creek 83.92 19 P **P 12 41 29.2 +0.1**
baz=235,SNR=16
POKR Poker Plat Res 83.92 21 P **P 12 41 28.2 -0.9**
baz=238
IL31 83.93 22 P **P 12 41 28.2 -0.9**
IL31 IAmb IAmb 12 41 29.0
comp=Z,12nm,0.9s
ILAR Eielson Array 83.93 22 P **P 12 41 28.4 -0.7**
ILAR Eielson Array 83.93 22 P **P 12 41 27.8 -1.4**
comp=Z,8.0nm,0.9s,baz=256,slow=5.1,SNR=63
comp=Z,8.0nm,0.9s
ILAR Eielson Array 83.93 22 P **P 12 41 28.4 -0.7**
C21K Knifeblade Rid 83.96 16 P **P 12 41 29.8 +0.6**
baz=230,SNR=5.8
GRNC Granite Creek 84.03 26 IAmb IAmb 12 41 44.9
comp=Z,16nm,0.8s
H24K Noodor Dome 84.15 20 P **P 12 41 29.2 -1.0**
H24K Noodor Dome 84.15 20 P **P 12 41 29.9 -0.4**
baz=237
COLD Coldfoot 84.16 19 P **P 12 41 31.3 +1.1**
COLD IAmb IAmb 12 41 32.0
comp=Z,18nm,1.4s
COLD Coldfoot 84.16 19 P **P 12 41 30.3 +0.1**
baz=235,SNR=9.0
E22K Anaktuvuk Pass 84.19 18 P **P 12 41 30.6 +0.2**
E22K IAmb IAmb 12 41 41.3
comp=Z,10nm,0.8s
E22K Anaktuvuk Pass 84.19 18 P **P 12 41 30.4 0.0**
baz=233
MENT Mentasta 84.22 24 P **P 12 41 31.4 +0.8**
MENT Mentasta 84.22 24 P **P 12 41 31.5 +0.8**
MENT IAmb IAmb 12 41 32.1
comp=Z,9.5nm,0.7s
ZAA0 Zalesovo Array 84.26 326 P **P 12 41 29.9 -1.1**
ZALV Zalesovo Beam 84.26 326 P **P 12 41 29.9 -1.0**
ZALV Zalesovo Beam 84.26 326 P **P 12 41 30.0 -1.0**
comp=Z,26nm,0.7s,baz=112,slow=5.6,SNR=113
comp=Z,26nm,0.7s
ZALV Zalesovo Beam 84.26 326 *i*P **P 12 41 30.2 -0.8**
ZALV pmax pmax
comp=Z,26nm,0.7s
M26K Nabesna, AK 84.26 25 IAmb IAmb 12 41 55.7
comp=Z,39nm,1.7s
M26K Nabesna, AK 84.26 25 P **P 12 41 30.6 -0.4**
baz=242
SHLS Shalkode 84.27 315 *e*P **P 12 41 29.8 -1.8**
comp=Z,13nm,1.2s,baz=315
SHLS Shalkode 84.27 315 *e*P **P 12 41 29.7 -1.8**
SHLS pmax pmax
comp=Z,13nm,1.2s
B21K Ikpikpuk River 84.31 16 P **P 12 41 31.4 +0.5**
baz=231
CTG Chitna Glacier 84.31 26 P **P 12 41 31.5 +0.2**
baz=244,SNR=5.8
D22K Ayikyak River 84.38 17 P **P 12 41 32.1 +0.8**
D22K IAmb IAmb 12 41 33.3
comp=Z,29nm,1.2s
D22K Ayikyak River 84.38 17 P **P 12 41 32.0 +0.6**
baz=233,SNR=11
LOGN Logan Glacier 84.40 26 IAmb IAmb 12 41 46.9
comp=Z,16nm,0.8s
J25K Salcha River, 84.41 22 P **P 12 41 31.9 +0.3**
J25K IAmb IAmb 12 41 32.5
comp=Z,23nm,0.8s
J25K Salcha River, 84.41 22 P **P 12 41 31.6 -0.1**
baz=240,SNR=30
L26K Log Cabin Wild 84.42 24 IAmb IAmb 12 41 33.1
comp=Z,11nm,0.7s
L26K Log Cabin Wild 84.42 24 P **P 12 41 32.0 +0.4**
baz=242,SNR=9.5
PINM Pinnacle 84.42 27 P **P 12 41 32.0 +0.2**
baz=245
UZB Uzynbulak 84.58 315 *e*P **P 12 41 32.9 -0.3**
comp=Z,13nm,1.3s,baz=315
UZB Uzynbulak 84.58 315 *e*P **P 12 41 32.8 -0.3**
UZB pmax pmax
comp=Z,13nm,1.3s
SCRK Sand Creek 84.62 23 IAmb IAmb 12 41 34.0
comp=Z,11nm,0.8s
SCRK Sand Creek 84.62 23 P **P 12 41 32.9 +0.1**
baz=241,SNR=13
PNL Peninsula 84.63 28 P **P 12 41 33.4 +0.6**
baz=246
M27K Edge Creek, AK 84.71 25 P **P 12 41 34.6 +1.3**
M27K Edge Creek, AK 84.71 25 P **P 12 41 33.7 +0.4**
baz=243,SNR=12
O28M Mount Upton 84.73 27 P **P 12 41 33.8 +0.2**
baz=245,SNR=7.5
G24K Hadweenzic Riv 84.75 20 P **P 12 41 34.1 +0.8**
G24K IAmb IAmb 12 41 34.8
comp=Z,19nm,1.4s
G24K Hadweenzic Riv 84.75 20 P **P 12 41 33.7 +0.5**
baz=238,SNR=6.1
PRP Porcupine Dome 84.81 21 P **P 12 41 34.2 +0.5**
baz=240
E23K Chandalar 84.81 18 P **P 12 41 34.0 +0.4**
baz=236,SNR=13
A21K Barrow 84.90 14 P **P 12 41 34.0 +0.1**
baz=229,SNR=11
KPKS Kokpek 84.90 315 *e*P **P 12 41 34.6 -0.1**
baz=315
KPKS Kokpek 84.90 315 *e*P **P 12 41 34.5 -0.1**
SATY Saty 84.99 314 *e*P **P 12 41 35.0 -0.2**
baz=314
SATY Saty 84.99 314 *e*P **P 12 41 35.0 -0.2**
ZHN Zhinishke 85.00 315 *e*P **P 12 41 35.0 -0.2**
baz=314
ZHN Zhinishke 85.00 315 *e*P **P 12 41 35.0 -0.2**

D23K Nanushuk River 85.02 17 P **P 12 41 35.2 +0.7**
baz=234,SNR=21
J26L Joseph Creek 85.03 23 P **P 12 41 35.1 +0.2**
J26L IAmb IAmb 12 41 45.1
comp=Z,12nm,0.7s
J26L Joseph Creek 85.03 23 P **P 12 41 35.3 +0.5**
baz=241,SNR=10
L27K Beaver Creek, 85.05 24 IAmb IAmb 12 41 36.7
comp=Z,15nm,0.9s
L27K Beaver Creek, 85.05 24 P **P 12 41 35.5 +0.7**
baz=243,SNR=11
YUK3 Moose Creek 85.05 26 P **P 12 41 35.3 +0.2**
baz=244
F24K Squaw Lake 85.06 19 P **P 12 41 35.5 +0.7**
F24K IAmb IAmb 12 41 36.8
comp=Z,12nm,0.9s
F24K Squaw Lake 85.06 19 P **P 12 41 35.7 +0.9**
baz=237,SNR=11
BCAR Beaver Creek A 85.06 24 P **P 12 41 35.1 +0.2**
B22K Teshekpuk Lake 85.08 16 P **P 12 41 34.9 +0.1**
B22K IAmb IAmb 12 41 36.0
comp=Z,12nm,1.0s
B22K Teshekpuk Lake 85.08 16 P **P 12 41 35.3 +0.6**
baz=232
TARG Taragay, Kyrgy 85.09 313 IAmb IAmb 12 41 56.8
comp=Z,40nm,1.5s
TARG Taragay, Kyrgy 85.09 313 P **P 12 41 36.8 +0.8**
TARG pmax pmax
comp=Z,16nm,1.2s
H25L Birch Creek 85.09 21 P **P 12 41 35.2 +0.3**
baz=239
A22K Sinclair Lake 85.10 15 P **P 12 41 35.2 +0.4**
baz=230,SNR=7.8
YUK8 Steele Glacier 85.14 26 P **P 12 41 35.7 +0.1**
baz=245,SNR=5.4
TOLK Toolik Lake Re 85.16 18 P **P 12 41 35.7 +0.4**
TOLK IAmb IAmb 12 41 36.8
comp=Z,11nm,0.9s
TOLK Toolik Lake Re 85.16 18 P **P 12 41 36.0 +0.7**
baz=236,SNR=7.6
E24K Your Creek 85.17 18 P **P 12 41 36.2 +0.8**
E24K Your Creek 85.17 18 P **P 12 41 35.4 -0.1**
baz=237,SNR=5.4
G25K Bearman Lake 85.25 20 P **P 12 41 36.1 +0.4**
baz=239,SNR=8.4
O29M Mount Kennedy 85.26 27 IAmb IAmb 12 41 44.9
comp=Z,22nm,1.1s
O29M Mount Kennedy 85.26 27 P **P 12 41 36.2 +0.1**
baz=246
P29M Windy Craggy 85.38 28 P **P 12 41 37.2 +0.6**
baz=247
K27K Chicken 85.39 23 P **P 12 41 37.9 +1.5**
K27K IAmb IAmb 12 41 38.8
comp=Z,14nm,1.0s
K27K Chicken 85.39 23 P **P 12 41 37.2 +0.7**
baz=243
ANVS Anan'yevo 85.45 314 P **P 12 41 39.2 +1.7**
ANVS pmax pmax
comp=Z,10.0nm,0.6s
S31K Pelican 85.48 30 P **P 12 41 38.0 +1.0**
baz=248
TDK Taldyqorghan 85.50 316 *e*P **P 12 41 37.5 0.0**
comp=Z,8.3nm,0.6s,baz=316
TDK Taldyqorghan 85.50 316 *e*P **P 12 41 37.4 0.0**
TDK pmax pmax
comp=Z,8.0nm,0.6s
C23K Itkillik River 85.55 17 IAmb IAmb 12 41 39.0
comp=Z,27nm,1.1s
C23K Itkillik River 85.55 17 P **P 12 41 37.9 +0.8**
baz=234,SNR=13
I26K Coal Creek Min 85.57 22 P **P 12 41 37.6 +0.3**
I26K Coal Creek Min 85.57 22 P **P 12 41 37.8 +0.5**
baz=242,SNR=7.1
SIT Sitka 85.61 31 P **P 12 41 37.8 +0.2**
baz=249
YUK6 Outpost Mounta 85.62 27 P **P 12 41 38.2 +0.2**
baz=246
D24K Happy Valley 85.67 17 P **P 12 41 38.6 +0.8**
D24K IAmb IAmb 12 41 39.6
comp=Z,14nm,0.9s
D24K Happy Valley 85.67 17 P **P 12 41 38.6 +0.8**
baz=236,SNR=5.4
ARXS Arharly 85.69 315 *e*P **P 12 41 37.8 -0.8**
F25K Christian Rive 85.83 19 P **P 12 41 39.0 +0.4**
baz=239,SNR=7.9
R31K City Hall, Gus 85.88 30 P **P 12 41 39.5 +0.5**
baz=249
KSH Kashi 85.92 311 P **P 12 41 41.7 +1.8**
KSH pP pwP 12 41 55.4 +1.6
KSH pmax pmax
comp=Z,16nm,1.0s
P30M Million Dollar 85.94 28 P **P 12 41 40.0 +0.6**
baz=248
HYT Haines Junctio 85.96 27 P **P 12 41 40.0 +0.5**
baz=247,SNR=9.9
PLBC Pleasant Camp 85.97 29 P **P 12 41 39.9 +0.5**
baz=248
MDOK Medeo 85.98 314 *e*P **P 12 41 39.8 -0.3**
baz=314
MDOK Medeo 85.98 314 *e*P **P 12 41 39.8 -0.3**
C24K Franklin Bluff 86.03 17 P **P 12 41 40.2 +0.7**
baz=236
EGAK Eagle 86.08 23 IAmb IAmb 12 41 41.6
comp=Z,20nm,1.0s
EGAK Eagle 86.08 23 P **P 12 41 40.4 +0.5**
baz=244,SNR=18
BMAR Burnt Mountain 86.10 20 P **P 12 41 40.9 +0.9**
E25K Arctic Village 86.13 19 P **P 12 41 40.9 +0.8**
E25K IAmb IAmb 12 41 49.4
comp=Z,21nm,1.6s
E25K Arctic Village 86.13 19 P **P 12 41 40.8 +0.8**
baz=239,SNR=5.8
S32K Killisnoo 86.13 31 P **P 12 41 41.1 +0.8**
baz=250
G26K Porcupine Rive 86.14 20 P **P 12 41 41.2 +1.1**
baz=241,SNR=37
M29M Somme Creek 86.18 25 P **P 12 41 40.1 -0.5**
M29M Somme Creek 86.18 25 P **P 12 41 41.3 +0.7**
baz=246,SNR=6.1
CHKK Chushkaly 86.19 315 *e*P **P 12 41 40.5 -0.5**
baz=315
CHKK Chushkaly 86.19 315 *e*P **P 12 41 40.5 -0.5**
CRAG Craig 86.23 33 P **P 12 41 41.2 +0.4**
baz=251
I27K Kandik River 86.28 22 P **P 12 41 41.1 +0.2**
baz=243,SNR=20
F26K Sheenjek River 86.38 20 P **P 12 41 42.3 +0.9**
baz=241,SNR=13
N30M Aishikik Lake 86.39 27 P **P 12 41 42.1 +0.5**
baz=248
U33K Whale Pass 86.44 32 P **P 12 41 42.2 +0.4**
baz=251
R32K Eaglecrest 86.44 30 P **P 12 41 42.6 +0.8**
baz=250
SKAG Skagway 86.46 29 P **P 12 41 42.4 +0.6**
baz=249
DAWY Dawson 86.47 24 IAmb IAmb 12 41 44.0
comp=Z,15nm,1.1s
DAWY Dawson 86.47 24 P **P 12 41 42.6 +0.7**
baz=245,SNR=8.2
D25K Kavik River 86.50 18 P **P 12 41 42.0 +0.1**
baz=238,SNR=12
O30N Mendenhall 86.58 27 P **P 12 41 43.4 +0.9**
O30N IAmb IAmb 12 41 53.7
comp=Z,22nm,1.3s
O30N Mendenhall 86.58 27 P **P 12 41 43.0 +0.5**
baz=248
L29M L29M 86.59 25 P **P 12 41 43.6 +1.1**
L29M IAmb IAmb 12 41 44.7
comp=Z,24nm,1.0s
L29M L29M 86.59 25 P **P 12 41 43.4 +0.9**
baz=246,SNR=13
H27K Steamboat Moun 86.60 21 P **P 12 41 43.7 +1.2**
baz=243,SNR=20
G27K Doyon Strip 86.81 21 P **P 12 41 44.3 +0.8**
G27K Doyon Strip 86.81 21 P **P 12 41 44.4 +0.9**
baz=243,SNR=11
I28M Miner Creek 86.84 22 IAmb IAmb 12 41 53.0
comp=Z,9.7nm,0.8s
I28M Miner Creek 86.84 22 P **P 12 41 43.8 +0.1**
baz=245,SNR=9.9
NIL Nilore 86.85 304 P **P 12 41 43.8 -0.6**
NIL Nilore 86.85 304 P **P 12 41 43.8 -0.6**
NIL pmax pmax
comp=Z,32nm,1.0s
KURK Kurchatov 86.87 322 P **P 12 41 43.9 -0.2**
KURK IAmb IAmb 12 41 44.9
comp=Z,17nm,1.4s
KURK Kurchatov 86.87 322 *ce*P **P 12 41 44.4 +0.4**
KURK pmax pmax
comp=Z,12nm,1.3s
KURBB Kurchatov Arra 86.90 322 P **P 12 41 42.7 -1.5**
comp=Z,3.3nm,0.7s,baz=104,slow=4.2,SNR=24
KURBB PP **PP 12 45 08.2 +0.9**
comp=Z,0.7nm,0.2s,baz=110,slow=8.0,SNR=4.6
comp=Z,3.3nm,0.7s
WRAK Wrangell Islan 86.94 32 P **P 12 41 45.3 +1.1**
baz=252
M30M Minto, Yukon 86.94 26 IAmb IAmb 12 41 53.8
comp=Z,31nm,1.4s
M30M Minto, Yukon 86.94 26 P **P 12 41 44.7 +0.4**
baz=248,SNR=7.7
N31M Braeburn, Yuko 86.98 27 P **P 12 41 46.0 +1.5**
N31M Braeburn, Yuko 86.98 27 P **P 12 41 45.2 +0.8**
baz=249,SNR=5.1
V35K Ketchikan 87.00 33 P **P 12 41 45.5 +0.9**
baz=253
J29N Klondike Camp 87.09 24 P **P 12 41 46.7 +1.8**
J29N Klondike Camp 87.09 24 P **P 12 41 45.7 +0.8**
baz=246
K29M Barlow Dome 87.13 24 P **P 12 41 46.2 +1.0**
K29M Barlow Dome 87.13 24 P **P 12 41 46.0 +0.8**
baz=247,SNR=21
C26K Camden Bay 87.25 18 P **P 12 41 46.9 +1.5**
baz=240,SNR=25
P32M Atlin 87.28 29 P **P 12 41 46.4 +0.5**
baz=251
I29M Ogilvie Camp, 87.42 23 IAmb IAmb 12 41 48.0
comp=Z,21nm,1.0s
I29M Ogilvie Camp, 87.42 23 P **P 12 41 47.0 +0.5**
baz=246,SNR=14
E27K Coleen River 87.46 20 IAmb IAmb 12 41 55.5
comp=Z,17nm,0.9s
E27K Coleen River 87.46 20 P **P 12 41 47.3 +0.7**
baz=243,SNR=21
C27K Jago River 87.47 18 P **P 12 41 47.5 +1.0**
baz=241,SNR=11
AAK Ala-Archa 87.69 313 *ce*P **P 12 41 49.5 +1.0**
AAK pmax pmax
comp=Z,18nm,1.7s
H29M Whitestone 87.75 22 IAmb IAmb 12 42 36.9
comp=Z,19nm,1.2s
H29M Whitestone 87.75 22 P **P 12 41 49.2 +1.2**
baz=246
SGDS Sogindy 87.77 314 *e*P **P 12 41 48.4 -0.3**
baz=314
SGDS Sogindy 87.77 314 *e*P **P 12 41 48.4 -0.3**
Q32M Nakina River 87.78 30 P **P 12 41 49.3 +0.8**
baz=252
F28M Old Crow 87.79 20 P **P 12 41 49.1 +0.9**
F28M IAmb IAmb 12 41 56.9
comp=Z,9.7nm,0.9s
F28M Old Crow 87.79 20 P **P 12 41 49.3 +1.1**
baz=245,SNR=8.7
M31M Drury Creek, Y 87.85 26 P **P 12 41 49.0 +0.4**
M31M IAmb IAmb 12 41 56.9
comp=Z,15nm,0.9s
M31M Drury Creek, Y 87.85 26 P **P 12 41 49.3 +0.7**
baz=250
J30M Hart River 87.89 24 P **P 12 41 50.2 +1.3**
J30M Hart River 87.89 24 P **P 12 41 49.5 +0.6**
baz=248,SNR=22
P33M Teslin, Yukon 87.91 28 P **P 12 41 49.4 +0.4**
baz=251
S34M Telegraph Cree 88.03 31 IAmb IAmb 12 42 14.9
comp=Z,17nm,1.0s
S34M Telegraph Cree 88.03 31 P **P 12 41 50.0 +0.6**
baz=253
I30M Mount Dempster 88.12 23 P **P 12 41 50.5 +0.6**
I30M IAmb IAmb 12 41 58.4
comp=Z,21nm,1.0s
I30M Mount Dempster 88.12 23 P **P 12 41 50.5 +0.6**
baz=248,SNR=16
BBB Bella Bella 88.14 37 LR LR 13 17 48.2
comp=Z,133nm,18.3s,baz=276,slow=33
D27M Malcolm River 88.14 19 P **P 12 41 50.6 +0.7**
D27M Malcolm River 88.14 19 P **P 12 41 50.8 +0.9**
baz=244,SNR=8.5
G29M Pine Creek 88.16 21 P **P 12 41 50.7 +0.8**
G29M Pine Creek 88.16 21 P **P 12 41 50.9 +1.0**
baz=246,SNR=12
T35M Bob Quinn 88.21 32 P **P 12 41 50.6 +0.1**
baz=254
FARO Faro, Yukon 88.32 26 P **P 12 41 50.6 -0.3**
FARO IAmb IAmb 12 41 59.8
comp=Z,16nm,1.1s
FARO Faro, Yukon 88.32 26 P **P 12 41 51.1 +0.2**
baz=251
E28M Babbage River 88.33 20 P **P 12 41 51.8 +1.0**
E28M IAmb IAmb 12 41 59.8
comp=Z,32nm,1.6s
E28M Babbage River 88.33 20 P **P 12 41 51.5 +0.7**
baz=245,SNR=9.9
EPYK Eagle Plains 88.42 22 P **P 12 41 51.7 +0.5**
EPYK Eagle Plains 88.42 22 P **P 12 41 51.9 +0.6**
baz=248,SNR=16
BTLS Baital 88.51 316 *e*P **P 12 41 51.8 -0.4**
baz=316
BTLS Baital 88.51 316 *e*P **P 12 41 51.7 -0.4**
R33M Jennings River 88.55 30 IAmb IAmb 12 42 01.4
comp=Z,25nm,1.4s
R33M Jennings River 88.55 30 P **P 12 41 52.7 +0.6**
baz=253
DLBC Dease Lake 88.74 31 P **P 12 41 53.4 +0.4**
baz=254,SNR=6.8
DLBC Dease Lake 88.74 31 LR LR 13 16 39.5
comp=Z,34nm,19.4s,baz=282,slow=32
E29M Blow River 88.79 20 P **P 12 41 53.3 +0.4**
baz=246
G30M tAoh Zraii Nji 88.84 22 P **P 12 41 53.2 0.0**
G30M IAmb IAmb 12 42 02.1
comp=Z,18nm,1.2s
G30M tAoh Zraii Nji 88.84 22 P **P 12 41 53.4 +0.2**
baz=248,SNR=7.7
D28M Stokes Point 88.90 19 P **P 12 41 54.2 +0.9**
baz=246
NRIK Noril'sk 88.97 341 P **P 12 41 53.3 -0.4**
NRIK IAmb IAmb 12 41 53.8
comp=Z,12nm,0.8s
NRIK Noril'sk 88.97 341 P **P 12 41 52.6 -1.1**
comp=Z,8.1nm,0.6s,baz=120,slow=4.8,SNR=10
NRIK LR LR 13 20 36.8
comp=Z,68nm,20.8s,baz=270,slow=35
comp=Z,8.1nm,0.6s
NRIK Noril'sk 88.97 341 *ce*P **P 12 41 52.2 -1.5**
NRIK pmax pmax
comp=Z,15nm,0.9s
K02D Willamette Mer 89.00 47 P **P 12 41 53.5 -1.0**
O02D Mt. Diablo Mer 89.18 49 P **P 12 41 56.1 +0.7**
F30M Barrier River 89.23 21 P **P 12 41 55.1 +0.1**
baz=248
ARK Arkit 89.37 312 P **P 12 41 56.6 +0.2**
ARK pmax pmax
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 89.52 48 LR LR 13 14 41.6
comp=Z,161nm,21.8s,baz=289,slow=31
G31M Satah River 89.53 22 IAmb IAmb 12 42 22.1
comp=Z,14nm,0.9s
G31M Satah River 89.53 22 P **P 12 41 57.0 +0.7**
baz=250,SNR=5.9
WTLY Watson Lake, Y 89.80 29 P **P 12 41 58.4 +0.6**
baz=255
F31M Tsiigehtchic 89.91 21 P **P 12 41 58.2 +0.2**
baz=250
BTK Batken 89.92 310 P **P 12 41 57.4 -1.6**
BTK Batken 89.92 310 P **P 12 41 57.4 -1.6**
BTK pmax pmax
comp=Z,8.0nm,1.0s
TRKS Terek-Say 89.93 312 P **P 12 41 59.1 0.0**
TRKS pmax pmax
comp=Z,22nm,1.1s
INK Inuvik 90.27 21 P **P 12 42 00.6 +0.8**
baz=251
INK Inuvik 90.27 21 LR LR 13 22 21.2
comp=Z,58nm,18.2s,baz=186,slow=36
AFDM Forest Hills D 90.36 51 P **P 12 41 59.6 -1.4**
TGTN Hyland Airport 90.42 28 P **P 12 42 01.7 +1.0**
baz=255
SMMC Simmler 90.57 55 P **P 12 42 02.7 +0.7**
baz=261
SNCC San Nicolas Is 90.65 57 P **P 12 42 03.1 +0.7**
baz=262
PKM Mcpherson Peak 90.65 55 P **P 12 42 03.1 +0.5**
baz=262

KK31	Karatay Array	90.66	313	P	P	12 42 02.1	-0.1
KK31				IAmb	IAmb	12 42 10.6	
	comp=Z,23nm,1.6s						
KK31	Karatay Array	90.66	313	P	P	12 42 02.1	-0.1
KK31				pmax	pmax		
	comp=Z,23nm,1.6s						
KKAR	Karatay Array	90.66	313	P	P	12 42 02.0	-0.2
KKAR	Karatay Array	90.66	313	P	P	12 42 02.3	+0.1
KKAR				IAmb	IAmb	12 42 10.6	
	comp=Z,23nm,1.6s						
KKAR	Karatay Array	90.66	313	P	P	12 42 02.3	+0.1
KKAR				pmax	pmax		
	comp=Z,23nm,1.6s						
SCZ2	Santa Cruz Isl	90.67	56	P	P	12 42 02.8	+0.3
	baz=262						
SBC	Santa Barbara	90.67	56	P	P	12 42 02.7	+0.3
	baz=262						
IUG	luzhnay	90.85	312	*e*P	P	12 42 03.1	-0.2
	baz=312						
IUG	luzhnay	90.85	312	*e*P	P	12 42 03.1	-0.2
J05D	Fort Rock, OR	90.86	47	P	P	12 42 03.6	+0.3
LIRD	Liard River Hi	90.96	30	P	P	12 42 03.9	+0.7
	baz=257						
SIMJ	Simiganj	91.09	309	P	P	12 42 03.2	-1.3
BRLS	Borolday	91.13	313	*e*P	P	12 42 04.2	-0.2
	baz=313						
BRLS	Borolday	91.13	313	*e*P	P	12 42 04.2	-0.2
CHM	Chimkent	91.19	312	*e*P	P	12 42 04.6	-0.2
	baz=312						
CHM	Chimkent	91.19	312	*e*P	P	12 42 04.5	-0.2
VOG	Valley Oaks Go	91.21	54	P	P	12 42 04.9	0.0
	baz=262						
TOAD	Toad River Com	91.27	31	P	P	12 42 05.3	+0.6
	baz=258						
VES	Vestal, Richgr	91.38	54	P	P	12 42 06.2	+0.5
	baz=262						
SCI2	San Clemente I	91.42	57	P	P	12 42 06.9	+0.9
	baz=262						
OSI	Osito Audit: C	91.50	55	P	P	12 42 07.1	+0.7
	baz=262						
CIS	Catalina Islan	91.59	57	P	P	12 42 07.1	+0.3
	baz=262						
FMP	Fort Macarthur	91.73	56	P	P	12 42 08.0	+0.6
	baz=262						
ISA	Isabella, Lake	91.85	54	P	P	12 42 08.6	+0.6
	baz=262						
EDW2	Edwards Air Fo	92.13	55	P	P	12 42 09.6	+0.3
	baz=262						
LHV	Little Huntoon	92.17	52	IAmb	IAmb	12 42 36.0	
	comp=Z,15nm,1.2s						
RYN	Ryan	92.20	52	P	P	12 42 10.2	+0.5
I07A	Izee	92.22	46	P	P	12 42 09.6	0.0
TIN	Tinemaha, Big	92.23	53	P	P	12 42 10.9	+1.2
	baz=262						
CWC	Cottonwood Cre	92.27	54	P	P	12 42 11.1	+1.1
	baz=262						
BFSC	Mount Baldy Ra	92.32	56	P	P	12 42 11.8	+1.5
	baz=263						
BVAR	Borovoye Array	92.34	323	P	P	12 42 08.8	-0.9
	comp=Z,9.5nm,0.9s,baz=103,slow=6.2,SNR=15						
BVAR				LR	LR	13 23 54.4	
	comp=Z,40nm,21.8s,baz=111,slow=36						
	comp=Z,9.5nm,0.9s						
NVAR	Mina Array Bea	92.35	52	P	P	12 42 11.7	+1.2
NVAR	Mina Array Bea	92.35	52	P	P	12 42 10.9	+0.4
	comp=Z,3.6nm,0.8s,baz=254,slow=6.4,SNR=23						
	comp=Z,3.6nm,0.8s						
BRVK	Borovoye	92.41	323	P	P	12 42 09.1	-0.9
BRVK				IAmb	IAmb	12 42 10.5	
	comp=Z,11nm,1.1s						
BRVK	Borovoye	92.41	323	*ce*P	P	12 42 09.0	-1.1
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LRMC	Laurel Mtn Rad	92.46	55	P	P	12 42 12.7	+1.8
	baz=263						
NV11	Mina Array Sit	92.46	52	P	P	12 42 10.4	-0.5
NV11				IAmb	IAmb	12 42 29.2	
	comp=Z,15nm,1.2s						
DSP	Deep Springs	92.47	53	P	P	12 42 09.7	-1.0
DSP				IAmb	IAmb	12 42 36.8	
	comp=Z,11nm,1.3s						
KVN	Kaiserville	92.59	51	P	P	12 42 11.4	-0.1
KVN				IAmb	IAmb	12 42 37.0	
	comp=Z,12nm,1.2s						
KVN	Kaiserville	92.59	51	P	P	12 42 11.4	-0.1
KVN				pmax	pmax		
	comp=Z,12nm,1.2s						
MURC	Murrieta	92.63	57	P	P	12 42 13.3	+1.7
	baz=263						
MPMC	Manual Prospec	92.69	54	P	P	12 42 13.4	+1.4
	baz=263						
GRAC	Grapevine Rang	92.90	53	P	P	12 42 14.6	+1.8
	baz=263						
GSC	Goldstone, Bar	93.15	55	P	P	12 42 15.4	+1.4
	baz=263						
MONP2	Monument Peak	93.19	57	P	P	12 42 14.9	+0.5
	baz=263						
PFO	Pinyon Flats O	93.24	57	P	P	12 42 15.2	+0.7
	baz=263						
PFO	Pinyon Flats O	93.24	57	LR	LR	13 18 29.1	
	comp=Z,128nm,19.2s,baz=274,slow=32						
TPFO	Pinon Flats	93.24	57	P	P	12 42 15.5	+0.9
	baz=263						
FURC	Furnace Creek,	93.24	54	P	P	12 42 15.6	+1.3
	baz=263						
IKP	In-Ko-Pah, Jac	93.42	58	P	P	12 42 15.9	+0.6
	baz=263						
BMN	Battle Mountai	93.43	50	P	P	12 42 15.5	+0.2
BMN	Battle Mountai	93.43	50	P	P	12 42 15.5	+0.2
BMN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WCT	Wildcat Mounta	93.47	54	P	P	12 42 14.4	-1.1
HEC	Hector,Ludlow	93.48	55	P	P	12 42 16.3	+0.8
	baz=263						
SHOC	Shoshone, Teco	93.65	54	P	P	12 42 17.4	+1.2
	baz=264						
BELC	Belle Mtn. Jos	93.66	56	P	P	12 42 17.6	+1.1
	baz=264						
SWSC	Sam W. Stewart	93.71	57	P	P	12 42 17.5	+1.0
	baz=264						
TPNV	Topopah Spring	93.79	53	P	P	12 42 17.7	+0.7
	baz=264						
C36M	Paulatuk	93.86	21	P	P	12 42 17.6	+1.3
	baz=259						
TUQ	Turquoise Moun	93.88	55	P	P	12 42 17.8	+0.4
	baz=264						
GMRC	Granite Mounta	94.03	56	P	P	12 42 18.9	+0.8
	baz=264						
BC3	Big Chuckawall	94.08	57	P	P	12 42 19.0	+0.7
	baz=264						
NEW	Newport	94.38	42	P	P	12 42 20.5	+1.1
	baz=264						
NEW	Newport	94.38	42	LR	LR	13 18 47.1	
	comp=Z,137nm,19.9s,baz=274,slow=32						
IRM	Iron Mountain	94.38	56	P	P	12 42 20.7	+1.0
	baz=264						
R11B	Troy Canyon, C	94.46	52	P	P	12 42 20.9	+0.8
	baz=264						
GLA	Glamis	94.53	57	P	P	12 42 21.7	+1.3
	baz=264						
SHPR	Sheep Range	94.61	54	P	P	12 42 18.7	-2.2
BELA	Belgrano 2	94.69	178	P	P	12 42 17.0	-3.2
V12A	Nelson	94.78	55	P	P	12 42 19.0	-2.5
PRN	Pahroc Range	94.79	53	P	P	12 42 19.2	-2.4
NEE2	Needles Airpor	94.88	56	P	P	12 42 23.4	+1.5
	baz=264						
SPR3	Spring Creek 3	95.50	52	P	P	12 42 24.9	-0.1
SPR3				IAmb	IAmb	12 42 50.2	
	comp=Z,8.8nm,1.1s						
HLID	Hailey	95.82	47	P	P	12 42 27.5	+1.3
	baz=265						
CCUT	Cedar City	96.14	53	P	P	12 42 25.3	-2.5
LCMT	Little Creek M	96.19	54	P	P	12 42 27.2	-0.8
BPMT	Black Pine Rid	96.71	44	P	P	12 42 29.3	-1.0
YKA	Yellowknife Ar	96.92	28	P	P	12 42 31.0	+0.5
YKA	Yellowknife Ar	96.92	28	P	P	12 42 37.0	+6.6
	comp=Z,3.7nm,0.9s,baz=268,slow=4.6,SNR=15						
YKA	Yellowknife Ar	96.92	28	P	P	12 42 31.0	+0.5
NVL	N'lazarevskaya	98.08	192	*e*P	Pdif	12 42 52.8	+17
NVL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PDAR	Pinedale Array	99.33	48	P	Pdif	12 42 40.5	-1.6
	comp=Z,0.3nm,0.7s,baz=202,slow=1.5,SNR=3.8						
	comp=Z,0.3nm,0.7s						
ARU	Arti	99.42	326		Pdif	12 42 40.4	-1.5
ARU				IAmb	IAmb	12 42 40.9	
	comp=Z,8.6nm,1.0s						
ARU	Arti	99.42	326	LR	LR	13 27 55.4	
	comp=Z,77nm,20.8s,baz=108,slow=36						
ARU	Arti	99.42	326	*ce*P	Pdif	12 42 40.0	-1.9
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SPITS	Spitsbergen Ar	106.13	352	PKiKP	PKiKP	12 47 22.5	-0.4
	comp=Z,7.5nm,0.8s,baz=318,slow=1.9,SNR=4.5						
APA	Apatity	108.36	340	⇓*i*P	Pdif	12 43 22.7	+1.3
APA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ECSD	EROS Data Cent	108.71	46	P	PKiKP	12 47 28.9	+0.2
	baz=278						
ARCES	ARCESS Array B	109.85	343	PKiKP	PKiKP	12 47 31.1	+1.0
	comp=Z,2.2nm,0.8s,baz=6.5,slow=4.0,SNR=3.8						
KIV	Kislovodsk	110.80	314	*i* PKIKP	PKiKP	12 47 30.1	-2.6
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,48nm,21.0s						
EYMN	Ely	111.46	41	P	PKiKP	12 47 34.1	+0.4
	baz=283						
OBN	Obninsk	111.84	327	*i* PKIKP	PKiKP	12 47 33.9	-0.2
OBN				*e*		12 48 16.7	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	FINESS Array B	114.12	336	PKP	PKPdf	12 47 37.7	-0.7
	comp=Z,0.9nm,0.7s,baz=299,slow=2.9,SNR=4.0						
AKASG	Malin Array Be	117.60	324	PKP	PKPdf	12 47 44.7	-0.6
	comp=Z,3.1nm,0.5s,baz=49,slow=2.6,SNR=8.3						
AKBB	Malin Array Si	117.60	324	*c i* PKIKP	PKPdf	12 47 45.2	-0.2
BRTR	Keskin Array B	118.30	311	PKP	PKPdf	12 47 46.4	-0.9
	comp=Z,1.1nm,0.7s,baz=100,slow=2.2,SNR=5.4						
ACSO	Alum Creek Sta	119.37	48	P	PKiKP	12 47 49.6	+0.4
	baz=286						
BOSA	Boshof	119.39	231	PKP	PKPdf	12 47 49.2	-0.5
	comp=Z,2.2nm,0.7s,baz=109,slow=4.5,SNR=4.4						
NB2	NORSAR Subarra	119.93	340	PKPdf	PKPdf	12 47 48.9	-0.7
	comp=Z,0.8nm,0.6s,baz=45,slow=1.9						
NOA	NORSAR Array B	119.93	340	PKP	PKPdf	12 47 49.2	-0.4
	comp=Z,1.8nm,0.8s,baz=42,slow=1.7,SNR=7.5						
GOGA	Godfrey	120.66	56	P	PKPdf	12 47 51.6	-0.2
	baz=282						
M53A	WI Miller and	120.67	46	P	PKPdf	12 47 51.6	0.0
	baz=289						
ERPA	Erie	120.93	45	P	PKPdf	12 47 52.0	-0.1
	baz=290						
KMSC	Kings Mountain	121.98	53	P	PKPdf	12 47 54.3	0.0
	baz=285						
KOLS	Kolonicke sedl	122.42	325	*e*PKIKP	PKiKP	12 47 55.6	+0.7
KOLS	Kolonicke sedl	122.42	325	*e*PKP	PKiKP	12 47 55.6	+0.7
KOLS				*e*		12 55 29.4	
SSPA	Standing Stone	122.93	46	P	PKPdf	12 47 55.3	-0.6
	baz=291						
NHSC	New Hope	123.42	55	P	PKPdf	12 47 57.2	+0.1
	baz=284						
LONY	Lake Ozonia	123.60	40	P	PKPdf	12 47 56.8	-0.4
	baz=296						
BINY	Binghamton	123.67	44	P	PKPdf	12 47 57.2	-0.2
	baz=293						
MORC	Moravsky Berou	124.58	328	PKPdf	PKPdf	12 47 59.0	+0.1
MORC	Moravsky Berou	124.58	328	*e*PKP	PKPdf	12 47 58.8	-0.1
MORC	Moravsky Berou	124.58	328	PKIKP	PKPdf	12 47 59.0	+0.1
KRLC	Kraliky	124.81	328	*e*PKP	PKiKP	12 48 00.0	+0.3
KRLC	Kraliky	124.81	328	*e*PKIKP	PKiKP	12 48 00.0	+0.3
JAVC	Velka Javorina	125.03	327	*e*PKP	PKiKP	12 48 01.3	+1.1
BRNJ	Basking Ridge	125.25	45	PKPdf	PKPdf	12 48 00.7	+0.3
VRAC	Vranov	125.36	327	*e*PKP	PKPdf	12 48 00.9	+0.5
LBNH	Lisbon	125.47	40	P	PKPdf	12 48 00.2	-0.5
	baz=298						
MODS	Modra-Piesok	125.52	326	*e*PKIKP	PKPdf	12 48 00.9	+0.2
MODS	Modra-Piesok	125.52	326	*e*PKP	PKPdf	12 48 00.9	+0.2
PAL	Palisades	125.58	44	P	PKPdf	12 48 01.4	+0.4
	baz=294						
KRUC	Moravsky	125.61	327	*e*PKP	PKPdf	12 48 01.2	+0.4
BRG	Berggiesshubel	125.77	330	*i* PKP	PKPdf	12 48 01.7	+0.5
BRG				Amp		12 48 02.4	
	comp=Z,6.5nm,0.9s						
BRG	Berggiesshubel	125.77	330	*i* PKIKP	PKPdf	12 48 01.6	+0.5
BRG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
L61B	Northampton	125.80	42	P	PKPdf	12 48 01.4	0.0
	baz=296						
CLL	Collm	125.95	331	*i* PKPdf	PKPdf	12 48 01.6	+0.2
	comp=Z,7.0nm,0.8s						
CLL				*ex*	x	12 48 11.0	
CLL				*ex*	x	12 48 20.0	
CLL				AMS	AMS	12 54 00.0	
	comp=Z,100nm,19.9s						
CLL	Collm	125.95	331	*i* PKIKP	PKPdf	12 48 01.6	+0.2
CLL				*e*		12 48 11.0	
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PRA	Prague	126.03	329	*e*PKP	PKiKP	12 48 06.2	+4.2
PRA	Prague	126.03	329	*e*PKIKP	PKiKP	12 48 06.2	+4.2
RONA	Rosalia, Austr	126.45	326	*e*PKIKP	PKPdf	12 48 03.0	+0.4
	comp=Z,5.2nm,0.9s						
HRV	Adam Dziewonsk	126.51	42	P	PKPdf	12 48 03.0	+0.2
	baz=297						
CONA	Conrad Observa	126.56	326	*e*PKIKP	PKPdf	12 48 03.2	+0.3
	comp=Z,3.6nm,1.1s						
PKME	Peaks-Kenny Pk	126.60	38	P	PKPdf	12 48 02.5	-0.4
	baz=301						
FNA	Florina	126.75	316	PKPdf	PKPdf	12 48 02.8	-0.6
FNA	Florina	126.75	316	PKIKP	PKPdf	12 48 02.8	-0.6
CKRC	Cesky Krumlov	126.86	328	*e*PKP	PKiKP	12 48 04.1	+0.3
CKRC	Cesky Krumlov	126.86	328	*e*PKIKP	PKiKP	12 48 04.1	+0.3
KHC	Kasperske Hory	127.05	329	*e*PKP	PKiKP	12 48 04.4	+0.2
KHC	Kasperske Hory	127.05	329	*c i* PKIKP	PKiKP	12 48 04.6	+0.4
KHC				pmax	pmax		
	comp=Z,18nm,1.7s						
GERES	GERESS Array B	127.16	328	PKP	PKPdf	12 48 04.4	+0.5
	comp=Z,4.4nm,0.7s,baz=64,slow=3.1,SNR=12						
SOKA	Soboth	127.74	326	*e*PKiKP	PKPdf	12 48 05.0	-0.1
	comp=Z,5.1nm,1.1s						
MYKA	Terra Mystica	128.54	326	*e*PKiKP	PKPdf	12 48 06.4	-0.2
	comp=Z,3.0nm,0.7s						
LESA	Schwarzleotal	128.58	328	*e*PKiKP	PKPdf	12 48 06.4	-0.3
	comp=Z,4.8nm,0.5s						
EKA	Eskdalemuir Ar	129.01	344	PKP	PKPdf	12 48 07.3	+0.2
	comp=Z,0.3nm,0.4s,baz=35,slow=3.8,SNR=7.5						
ABTA	Abfaltersbach	129.09	327	*e*PKP	PKPdf	12 48 07.3	-0.4
	comp=Z,4.6nm,0.8s						
SQTA	Sankt Quirin	129.48	328	*e*PKiKP	PKPdf	12 48 09.0	+0.6
	comp=Z,2.1nm,0.4s						
FETA	Feichten	129.86	328	*e*PKiKP	PKPdf	12 48 09.7	+0.4
	comp=Z,2.6nm,0.6s						
TUE	Stuetta	130.94	328	PKPdf	PKPdf	12 48 11.2	-0.1
LPAZ	La Paz	131.67	119	PKP	PKiKP	12 48 15.7	+0.6
	comp=Z,2.1nm,0.9s,baz=24,slow=1.3,SNR=4.8						
CPUP	Villa Florida	134.39	138	PKP	PKPdf	12 48 18.3	+0.1
	comp=Z,1.9nm,0.7s,baz=40,slow=7.9,SNR=3.3						
ESDC	Sonseca Array	142.52	332	PKPdf	PKPdf	12 48 28.8	-4.0
ESDC	Sonseca Array	142.52	332	PKhKP	PKPpre	12 48 28.6	
	comp=Z,1.3nm,1.0s,baz=48,slow=1.9,SNR=8.3						
ESDC				PP	PP	12 51 37.2	-2.3
	comp=Z,1.2nm,0.9s,baz=29,slow=8.0,SNR=7.3						
ESDC				SKPbc	SKiKP	12 52 13.9	+3.8
	comp=Z,1.4nm,1.1s,baz=338,slow=1.5,SNR=4.5						
POLO	Lamas de Olo	142.70	338	*e*PKP	PKPdf	12 48 29.6	-3.5
PVIS	Viseu	143.31	337	*e*PKP	PKPbc	12 48 31.2	0.0
MTE	Manteigas	143.45	337	PKPdf	PKPbc	12 48 31.9	+0.3
MTE	Manteigas	143.45	337	*e*PKP	PKPbc	12 48 31.7	+0.1
PCBR	Castelo Branco	143.90	336	*e*PKP	PKPbc	12 48 33.4	+0.6
COI	Coimbra	143.95	338	PKPdf	PKPbc	12 48 34.1	+1.1
COI	Coimbra	143.95	338	PKIKP	PKPbc	12 48 34.1	+1.1
PMRV	Marv??o	144.22	336	*e*PKP	PKPbc	12 48 34.4	+0.5
BOAV	Boa Vista	144.75	96	PKPdf	PKPab	12 48 36.0	-0.2
PESTR	Estremoz	144.77	335	PKPdf	PKPab	12 48 35.9	+0.4
PESTR	Estremoz	144.77	335	*e*PKP	PKPab	12 48 35.0	-0.6
PMTG	Montargil	144.86	336	*e*PKP	PKPbc	12 48 36.2	+0.3
PBAR	Barrancos	145.12	334	*e*PKP	PKPab	12 48 37.4	+0.6
EVO	Evora	145.23	336	*e*PKP	PKPbc	12 48 35.4	-1.7
PBEJ	Beja	145.60	335	*e*PKP	PKPab	12 48 39.3	+0.7
PNCL	Nicolau / Gran	145.80	336	*e*PKP	PKPab	12 48 39.7	+0.4
MESJ	Messejana	145.91	335		PKPab	12 48 40.1	+0.4
MESJ	Messejana	145.91	335	*e*PKP	PKPab	12 48 39.9	+0.2
MESJ	Messejana	145.91	335	PKP2	PKPab	12 48 40.1	+0.4
PCVE	Castro Verde	146.01	335	*e*PKP	PKPbc	12 48 40.1	+0.5
PVAQ	Vaqueiros	146.06	334	PKPbc	PKPab	12 48 40.5	+0.1
PVAQ	Vaqueiros	146.06	334	*e*PKP	PKPbc	12 48 40.2	+0.4
PTEO	Sao Teotonio	146.37	336	*e*PKP	PKPbc	12 48 41.4	+0.7
TAM	Tamanrasset	146.50	301	PKPbc	PKPbc	12 48 41.7	0.0
TAM	Tamanrasset	146.50	301	PKP2	PKPbc	12 48 41.7	0.0
MORF	Marmelete	146.54	335	PKPbc	PKPab	12 48 42.4	+0.2
MORF	Marmelete	146.54	335	*e*PKP	PKPbc	12 48 42.0	+0.7
MORF	Marmelete	146.54	335	PKP2	PKPab	12 48 42.4	+0.2
PFVI	Vila Bisbo	146.76	335	*e*PKP	PKPab	12 48 43.0	0.0
BDFB	Brasilia	148.02	136	PKPbc	PKPbc	12 48 46.1	+0.1
BDFB	Brasilia	148.02	136	PKPbc	PKPbc	12 48 45.8	-0.2
	comp=Z,10nm,0.7s,baz=230,slow=2.1,SNR=13						
AVE	Averroes	149.28	329	PKPbc	PKPbc	12 48 49.1	+0.4
TOA0	Torodi Ar. Sit	152.68	284	PKPbc	PKPbc	12 48 56.9	-0.3
TORD	Torodi Ar. Bea	152.68	284	PKPbc	PKPbc	12 48 56.3	-0.8
DBIC	Dimbokro	159.52	269	PKPab	PKPab	12 49 36.6	-0.7
	comp=Z,10nm,0.7s,baz=85,slow=5.8,SNR=8.7						

IDC ***10*** *12:29:11.1±0.6, 31°.66S×58°.31E, h0km, mb4.1/12, mbtmp4.1/13, ML3.9/1, MS3.8/3, Error ellipse: s-maj=28.7km s-min=16.5km az=71.0*
NEIC ***10*** *12:29:13.6±1.4, 31°.7S±0°.1×58°.07E±0°.07, h10km±1km, mb4.7/11, Error ellipse: s-maj=18.3km s-min=9.0km az=158.0*

ISC 10 12:29:13.9±0.5, 31°.66S±0°.09×58°.0E±0°.1, h17km, n58, σ1°08/47, mb4.3/18, MS3.6/4, 2C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.65	349	Pn	Pn	12 31 45.1	-0.7
VOI	Vohitsoka	13.94	311	Pn	Pn	12 32 31.7	+0.9
H04N2	CROZET ISLANDS	15.26	197	T	T	12 48 13.7	
	baz=21,slow=75,SNR=42						
H04N1	CROZET ISLANDS	15.27	197	T	T	12 48 11.9	
	baz=21,slow=75,SNR=37						
H04N3	CROZET ISLANDS	15.28	197	T	T	12 48 10.1	
	baz=21,slow=75,SNR=36						
OPO	Ambohidratompo	16.28	321	Pn	P	12 33 05.6	+0.6
	baz=110,slow=7.5,SNR=3.8						
OPO				Sn	Sn	12 35 58.1	-4.4
	0.1nm,0.3s,baz=29,slow=6.3,SNR=1.5						
	6.1nm,0.8s						
H08S1	Diego Garcia H	27.44	33	T	T	13 03 23.9	
	baz=206,slow=76,SNR=14						
H08S2	Diego Garcia H	27.45	33	T	T	13 03 24.4	
	baz=206,slow=76,SNR=18						
H08S3	Diego Garcia H	27.46	33	T	T	13 03 25.8	
	baz=206,slow=76,SNR=20						
SUR	Sutherland	31.44	259	LR	LR	12 46 03.9	
	comp=Z,104nm,20.3s,baz=102,slow=32						
MAW	Mawson	36.10	177	P	P	12 36 14.8	+0.3
	2.2nm,0.8s,baz=4.7,slow=13,SNR=4.5						
MAW				LR	LR	12 46 50.5	
	comp=Z,162nm,20.0s,baz=338,slow=29						
	2.2nm,0.8s						
ATD	Arta Tunnel	45.33	339	LR	LR	12 52 55.7	
	comp=Z,5.5nm,20.3s,baz=236,slow=31						
H01W2	Cape Leeuwin H	46.52	110	T	T	13 26 53.7	
	baz=257,slow=75,SNR=29						
H01W3	Cape Leeuwin H	46.52	110	T	T	13 26 53.5	
	baz=257,slow=75,SNR=29						
H01W1	Cape Leeuwin H	46.54	110	T	T	13 26 54.4	
	baz=257,slow=75,SNR=27						
SNAA	Sanae	51.18	201	P	P	12 38 16.4	+0.6
SNAA	Sanae	51.18	201	⇑P	P	12 38 16.1	+0.3
	comp=Z,46nm,0.8s						
SNAA	Sanae	51.18	201	P	P	12 38 16.1	+0.3
	comp=Z,3.7nm,1.1s,baz=70,slow=7.5,SNR=6.4						
	comp=Z,3.7nm,1.1s						
VNA3	Neumayer Olymp	53.20	202	⇑P	P	12 38 29.8	-1.0
	comp=Z,2.4nm,0.8s						
SRIT	Nakonsritamara	56.42	52	P	P	12 38 56.1	+1.3
QSPA	South Pole Qui	58.51	180	P	P	12 39 09.4	+0.3
QSPA				IAmb	IAmb	12 39 13.6	
	comp=Z,5.9nm,0.9s						
QSPA	South Pole Qui	58.51	180	P	P	12 39 08.9	-0.2
	comp=Z,3.9nm,0.7s,baz=277,slow=1.7,SNR=30						
	comp=Z,3.9nm,0.7s						
VNDA	Vanda	62.27	166	P	P	12 39 33.5	-0.9
	comp=Z,0.8nm,0.7s,baz=258,slow=9.3,SNR=4.6						
	comp=Z,0.8nm,0.7s						
ASAR	Alice Springs	66.49	104	P	P	12 40 00.9	-2.0
	comp=Z,2.0nm,0.8s,baz=243,slow=5.5,SNR=7.2						
	comp=Z,2.0nm,0.8s						
AS31	Alice Springs	66.49	104	P	P	12 40 01.5	-1.4
WRA	Warramunga Arr	68.49	101	P	P	12 40 14.0	-1.6
	comp=Z,2.8nm,0.8s,baz=242,slow=5.9,SNR=5.7						
WRA				LR	LR	13 06 59.2	
	comp=Z,77nm,19.6s,baz=316,slow=33						
	comp=Z,2.8nm,0.8s						
WB2	Warramunga Arr	68.50	101	P	P	12 40 14.7	-1.0
WB2				IAmb	IAmb	12 40 26.2	
	comp=Z,14nm,1.4s						
TOA0	Torodi Ar. Sit	69.95	300	P	P	12 40 24.9	+0.3
TOA0				IAmb	IAmb	12 40 41.5	
	comp=Z,7.7nm,1.5s						
TORD	Torodi Ar. Bea	69.95	300	P	P	12 40 24.8	+0.1
	comp=Z,1.4nm,1.0s,baz=109,slow=4.1,SNR=4.6						
	comp=Z,1.4nm,1.0s						
SIMJ	Simiganj	70.70	9	P	P	12 40 29.8	+0.9
SIMJ				IAmb	IAmb	12 40 30.7	
	comp=Z,15nm,1.3s						
CHGR

comp=Z,0.9nm,0.6s
BBOO Buckleboo 43.59 242 P **P** **12 55 24.1 -0.4**
BBOO IAmb IAmb 12 55 46.3
comp=Z,11nm,1.2s
WR0 Warramunga Arr 44.95 260 P **P** **12 55 34.5 -0.7**
WR0 IAmb IAmb 12 55 48.8
comp=Z,16nm,1.5s
WB0 Warramunga Arr 45.11 261 P **P** **12 55 35.7 -0.8**
WB0 IAmb IAmb 12 55 50.7
comp=Z,14nm,1.4s
WB2 Warramunga Arr 45.13 260 P **P** **12 55 36.0 -0.6**
WB2 IAmb IAmb 12 55 48.9
comp=Z,16nm,1.5s
WRAB Tennant Creek 45.13 260 P **P** **12 55 35.9 -0.7**
WRAB IAmb IAmb 12 55 46.8
comp=Z,16nm,1.4s
WRA Warramunga Arr 45.14 260 P **P** **12 55 35.9 -0.8**
WRA Warramunga Arr 45.14 260 P **P** **12 55 35.7 -1.0**
comp=Z,1.4nm,0.5s,baz=98,slow=6.7,SNR=35
WRA PcP **PcP** **12 57 06.5 -0.3**
comp=Z,0.3nm,0.3s,baz=96,slow=3.3,SNR=8.5
comp=Z,1.4nm,0.5s
AS31 Alice Springs 45.21 255 P **P** **12 55 36.7 -0.6**
ASAR Alice Springs 45.21 255 P **P** **12 55 36.4 -0.9**
ASAR Alice Springs 45.21 255 P **P** **12 55 36.6 -0.6**
comp=Z,6.6nm,0.6s,baz=90,slow=8.5,SNR=169
ASAR PcP **PcP** **12 57 06.6 -0.4**
comp=Z,0.2nm,0.6s,baz=102,slow=3.9,SNR=1.7
comp=Z,6.6nm,0.6s
MTN Manton Dam 49.44 269 P **P** **12 56 06.9 -2.3**
FORT Forrest 50.26 245 P **P** **12 56 14.5 -0.5**
FORT IAmb IAmb 12 56 26.1
comp=Z,16nm,1.0s
KNRA Kununurra 51.07 265 P **P** **12 56 20.8 -0.3**
FITZ Fitzroy Crossi 53.55 261 P **P** **12 56 39.1 +0.2**
PSA00 Pilbara Seismi 58.34 256 P **P** **12 57 11.5 -0.7**
PSA00 IAmb IAmb 12 57 20.9
comp=Z,23nm,1.5s
MBWA Marble Bar 58.52 256 P **P** **12 57 12.8 -0.5**
QSPA South Pole Qui 71.32 180 P **P** **12 58 34.3 +0.7**
BRTR Keskin Array B 145.84 314 PKPbc **PKPbc** **13 06 48.6 0.0**
comp=Z,0.7nm,0.5s,baz=118,slow=5.3,SNR=2.5

*IDC **10** 12:52:53.2±0.5, 31°.70S×58°.32E, h0km, mb4.3/17, mbtmp4.3/17, Error ellipse: s-maj=25.4km s-min=14.8km az=85.0*
*NEIC **10** 12:52:55.5±1.2, 31°.7S±0°.1×58°.2E±0°.2, h10km±1km, mb4.7/34, Error ellipse: s-maj=24.1km s-min=17.2km az=253.0*
ISC 10 12:52:56.1±0.5, 31°.66S±0°.08×58°.1E±0°.1, h17km, n98, σ1§13/88, mb4.6/48, 4C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.67**	**348**	Pn	**Pn**	**12 55 28.8**	**+0.5**
FOMA	**Nahampoana Res**	**11.84**	**301**	Pn	**Pn**	**12 55 45.3**	**+1.1**
VOI	**Vohitsoka**	**14.00**	**311**	Pn	**Pn**	**12 56 13.5**	**-0.4**
H04N2	**CROZET ISLANDS**	**15.28**	**197**	T	T	13 11 48.8	
baz=21,slow=75,SNR=19							
H04N1	**CROZET ISLANDS**	**15.29**	**197**	T	T	13 11 50.0	
baz=21,slow=75,SNR=15							
H04N3	**CROZET ISLANDS**	**15.30**	**197**	T	T	13 11 49.3	
baz=21,slow=75,SNR=16							
ABPO	**Ambohimpanom**	**15.95**	**320**		**P**	**12 56 43.1**	**-0.4**
OPO	**Ambohidratompo**	**16.34**	**320**	Pn	**P**	**12 56 48.8**	**+0.9**
0.1nm,0.3s,baz=145,slow=18,SNR=3.8							
OPO				Sn	**Sn**	**12 59 39.8**	**-6.2**
0.1nm,0.3s,baz=194,slow=17,SNR=2.2							
H08S1	**Diego Carcia H**	**27.39**	**32**	T	T	13 27 06.4	
baz=207,slow=75,SNR=15							
H08S2	**Diego Garcia H**	**27.40**	**32**	T	T	13 27 07.7	
baz=207,slow=75,SNR=12							
H08S3	**Diego Garcia H**	**27.41**	**32**	T	T	13 27 09.0	
baz=207,slow=75,SNR=16							
MAW	**Mawson**	**36.09**	**177**	P	**P**	**12 59 56.0**	**-0.6**
4.6nm,0.8s,baz=34,slow=7.3,SNR=8.5							
4.6nm,0.8s							
H01W2	**Cape Leeuwin H**	**46.44**	**110**	T	T	13 51 05.2	
baz=257,slow=75,SNR=12							
H01W3	**Cape Leeuwin H**	**46.45**	**110**	T	T	13 51 17.1	
baz=257,slow=75,SNR=13							
H01W1	**Cape Leeuwin H**	**46.46**	**110**	T	T	13 51 16.7	
baz=257,slow=75,SNR=16							
TROLL	**Troll, Antarti**	**49.74**	**200**	⇑P	**P**	**13 01 47.1**	**-0.1**
comp=Z,58nm,0.8s							
SNAA	**Sanae**	**51.21**	**201**	P	**P**	**13 01 58.3**	**+0.1**
SNAA	**Sanae**	**51.21**	**201**	⇑P	**P**	**13 01 58.3**	**+0.1**
comp=Z,62nm,0.9s							
SNAA	**Sanae**	**51.21**	**201**	P	**P**	**13 01 57.8**	**-0.5**
comp=Z,2.6nm,0.8s,baz=86,slow=6.6,SNR=9.1							
comp=Z,2.6nm,0.8s							
VNA2	**Neumayer--Watz**	**52.44**	**202**	⇑P	**P**	**13 02 07.7**	**+0.3**
comp=Z,0.1nm,0.2s,baz=89,slow=6.4							
VNA3	**Neumayer Olymp**	**53.23**	**202**	⇑P	**P**	**13 02 13.1**	**-0.1**
comp=Z,4.4nm,0.8s							
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**13 02 51.6**	**+0.3**
QSPA				IAmb	IAmb	13 02 52.2	
comp=Z,7.0nm,0.7s							
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**13 02 50.8**	**-0.5**
comp=Z,6.1nm,0.6s,baz=261,slow=1.3,SNR=57							
comp=Z,6.1nm,0.6s							
VNDA	**Vanda**	**62.25**	**166**	P	**P**	**13 03 15.7**	**-0.8**
VNDA	**Vanda**	**62.25**	**166**	P	**P**	**13 03 16.1**	**-0.4**
comp=Z,1.6nm,0.9s,baz=270,slow=8.0,SNR=6.0							
comp=Z,1.6nm,0.9s							
SBA	**Scott Base**	**63.09**	**167**	P	**P**	**13 03 22.6**	**+0.5**
SBA				IAmb	IAmb	13 03 59.2	
comp=Z,4.5nm,1.4s							
CMAR	**Chiang Mai Arr**	**63.38**	**44**	P	**P**	**13 03 24.2**	**-0.6**
comp=Z,3.2nm,0.7s,baz=229,slow=7.0,SNR=19							
comp=Z,3.2nm,0.7s							
ASAR	**Alice Springs**	**66.41**	**104**	P	**P**	**13 03 43.3**	**-1.4**
comp=Z,1.3nm,0.7s,baz=238,slow=6.0,SNR=19							
comp=Z,1.3nm,0.7s							
AS31	**Alice Springs**	**66.41**	**104**	P	**P**	**13 03 43.9**	**-0.7**
WRA	**Warramunga Arr**	**68.41**	**101**	P	**P**	**13 03 55.9**	**-1.5**
comp=Z,1.7nm,0.8s,baz=240,slow=5.5,SNR=9.7							
comp=Z,1.7nm,0.8s							
WB2	**Warramunga Arr**	**68.42**	**101**	P	**P**	**13 03 55.5**	**-1.9**
WB2				IAmb	IAmb	13 04 05.7	
comp=Z,7.1nm,1.1s							
WB0	**Warramunga Arr**	**68.54**	**101**	P	**P**	**13 03 57.1**	**-1.1**
GNI	**Garni**	**72.51**	**349**	P	**P**	**13 04 24.6**	**+2.6**
TNTI	**Ternate**	**72.85**	**78**	P	**P**	**13 04 23.9**	**-0.5**
BRTR	**Keskin Array B**	**74.56**	**341**	P	**P**	**13 04 34.1**	**+0.1**
BRTR	**Keskin Array B**	**74.56**	**341**	P	**P**	**13 04 34.2**	**+0.2**
comp=Z,2.7nm,0.9s,baz=160,slow=7.7,SNR=11							
comp=Z,2.7nm,0.9s							
BR131	**Keskin Array S**	**74.56**	**341**	P	**P**	**13 04 34.5**	**+0.5**
KK31	**Karatay Array**	**75.26**	**9**	P	**P**	**13 04 38.9**	**+1.0**
KK31				IAmb	IAmb	13 04 39.6	
comp=Z,4.2nm,0.9s							
KKAR	**Karatay Array**	**75.26**	**9**	P	**P**	**13 04 38.9**	**+1.0**
AAK	**Ala-Archa**	**75.45**	**12**	P	**P**	**13 04 41.3**	**+2.2**
AAK				IAmb	IAmb	13 04 43.9	
comp=Z,4.9nm,1.1s							
PRZ	**Przheval'sk**	**76.10**	**15**	P	**P**	**13 04 44.8**	**+1.9**
KBZ	**Khabaz**	**76.30**	**349**	P	**P**	**13 04 44.9**	**+1.2**
comp=Z,0.7nm,0.4s,baz=243,slow=6.8,SNR=2.7							
comp=Z,0.7nm,0.4s							
WDD	**Wied Dalam**	**78.61**	**325**	P	**P**	**13 04 58.2**	**+1.4**
LIT	**Litokhoron**	**78.66**	**333**	P	**P**	**13 04 57.9**	**+0.8**
LIT				IAmb	IAmb	13 04 58.3	
comp=Z,7.5nm,0.9s							
FNA	**Florina**	**79.68**	**333**	P	**P**	**13 05 03.5**	**+0.9**
FNA				IAmb	IAmb	13 05 04.0	
comp=Z,8.5nm,1.2s							
ABKAR	**Akbulak array**	**80.57**	**1**	P	**P**	**13 05 07.6**	**+0.5**
MAKZ	**Makanchi**	**81.02**	**16**	P	**P**	**13 05 10.0**	**+0.3**
MK31	**Makanchi Array**	**81.08**	**17**	P	**P**	**13 05 10.3**	**+0.3**
MKAR	**Makanchi Array**	**81.08**	**17**	P	**P**	**13 05 09.9**	**-0.2**
comp=Z,1.1nm,0.8s,baz=194,slow=4.4,SNR=9.5							
comp=Z,1.1nm,0.8s							
KEST	**Kesra**	**81.16**	**322**	P	**P**	**13 05 11.8**	**+1.0**
KEST				IAmb	IAmb	13 05 14.5	
comp=Z,6.0nm,1.0s							
MLR	**Muntele Rosu**	**82.15**	**338**	P	**P**	**13 05 16.2**	**+0.4**
MLR				IAmb	IAmb	13 05 17.0	
comp=Z,4.6nm,0.6s							
INTR	**Introdacqua**	**83.84**	**328**	P	**P**	**13 05 25.2**	**+0.6**
INTR				IAmb	IAmb	13 05 25.2	
comp=Z,7.3nm,1.1s							
KURBB	**Kurchatov Arra**	**83.89**	**13**	P	**P**	**13 05 24.6**	**0.0**
comp=Z,4.0nm,0.9s,baz=206,slow=5.9,SNR=22							
comp=Z,4.0nm,0.9s							
KURK	**Kurchatov**	**84.00**	**13**	P	**P**	**13 05 25.8**	**+0.7**
KURK				IAmb	IAmb	13 05 26.6	
comp=Z,7.8nm,1.0s							
BURAR	**Bucovina Array**	**84.27**	**338**	P	**P**	**13 05 27.8**	**+1.2**
BUR08	**Bucovina Ar. S**	**84.30**	**338**	P	**P**	**13 05 27.7**	**+0.9**
BUR08				IAmb	IAmb	13 05 28.6	
comp=Z,2.9nm,1.1s							
BVAR	**Borovoye Array**	**85.00**	**7**	P	**P**	**13 05 30.8**	**+0.6**
comp=Z,6.8nm,0.8s,baz=174,slow=5.7,SNR=30							
comp=Z,6.8nm,0.8s							
BRVK	**Borovoye**	**85.03**	**7**	P	**P**	**13 05 31.1**	**+0.8**
BRVK				IAmb	IAmb	13 05 31.8	
comp=Z,7.5nm,0.9s							
KIEV	**Kiev**	**85.88**	**342**	P	**P**	**13 05 34.8**	**+0.3**
KIEV				IAmb	IAmb	13 05 34.8	
comp=Z,4.4nm,1.1s							
AKASG	**Malin Array Be**	**85.88**	**342**	P	**P**	**13 05 34.6**	**+0.1**
comp=Z,0.7nm,0.4s,baz=160,slow=4.0,SNR=2.3							
comp=Z,0.7nm,0.4s							
AKBB	**Malin Array Si**	**85.88**	**342**	P	**P**	**13 05 34.9**	**+0.4**
AKBB				IAmb	IAmb	13 05 35.5	
comp=Z,6.4nm,1.3s							
ZCCA	**Zocca**	**87.00**	**328**	P	**P**	**13 05 40.6**	**+0.3**
SOKA	**Soboth**	**87.12**	**332**	*eP*	**P**	**13 05 41.5**	**+0.6**
comp=Z,1.3nm,0.6s							
OBKA	**Obir**	**87.18**	**332**	*eP*	**P**	**13 05 42.7**	**+1.5**
comp=Z,1.5nm,0.5s							
RONA	**Rosalia, Austr**	**87.46**	**333**	*eP*	**P**	**13 05 43.3**	**+0.8**
comp=Z,5.7nm,1.2s							
MSSA	**Maissana**	**87.63**	**327**	P	**P**	**13 05 43.7**	**+0.3**
ARU	**Arti**	**87.74**	**0**	P	**P**	**13 05 44.2**	**+0.7**
ARU				IAmb	IAmb	13 05 44.5	
comp=Z,4.7nm,0.8s							
CONA	**Conrad Observa**	**87.82**	**333**	*eP*	**P**	**13 05 44.8**	**+0.6**
comp=Z,4.6nm,0.9s							
JAVC	**Velka Javorina**	**87.91**	**335**	*eP*	**P**	**13 05 45.8**	**+1.2**
KBA	**Koelnbreinsper**	**88.13**	**331**	*eP*	**P**	**13 05 46.8**	**+1.0**
comp=Z,6.7nm,1.4s							
ABTA	**Abfaltersbach**	**88.21**	**331**	*eP*	**P**	**13 05 47.5**	**+1.4**
comp=Z,4.7nm,1.0s							
ZALV	**Zalesovo Beam**	**88.34**	**15**	P	**P**	**13 05 45.0**	**-1.4**
comp=Z,1.0nm,0.7s,baz=208,slow=4.9,SNR=4.4							
comp=Z,1.0nm,0.7s							
MOA	**Molin**	**88.38**	**332**	*eP*	**P**	**13 05 47.6**	**+0.8**
comp=Z,4.8nm,1.3s							
KRUC	**Moravsky**	**88.55**	**334**	*eP*	**P**	**13 05 47.7**	**+0.2**
MORC	**Moravsky Berou**	**88.72**	**335**	P	**P**	**13 05 49.0**	**+0.7**
MORC				IAmb	IAmb	13 05 49.5	
comp=Z,7.0nm,1.4s							
MORC	**Moravsky Berou**	**88.72**	**335**	*eP*	**P**	**13 05 48.7**	**+0.3**
WATA	**Walderalm**	**89.07**	**330**	*eP*	**P**	**13 05 51.0**	**+0.8**
comp=Z,3.4nm,0.5s							
SQTA	**Sankt Quirin**	**89.14**	**330**	*eP*	**P**	**13 05 51.2**	**+0.7**
comp=Z,4.4nm,0.6s							
FETA	**Feichten**	**89.19**	**330**	*eP*	**P**	**13 05 52.1**	**+1.3**
comp=Z,4.4nm,0.8s							
TUE	**Stuetta**	**89.36**	**329**	P	**P**	**13 05 52.5**	**+0.8**
TUE				IAmb	IAmb	13 05 53.1	
comp=Z,3.9nm,0.7s							
GERES	**GERESS Array B**	**89.41**	**332**	P	**P**	**13 05 51.7**	**0.0**
comp=Z,0.4nm,0.2s,baz=138,slow=10,SNR=1.6							
comp=Z,0.4nm,0.2s							
RETA	**Reutte**	**89.53**	**330**	*eP*	**P**	**13 05 53.4**	**+1.1**
comp=Z,4.1nm,0.6s							
DAVA	**Damuels**	**89.76**	**329**	*eP*	**P**	**13 05 54.1**	**+0.7**
comp=Z,6.4nm,0.6s							
SONM	**Songino Array**	**90.21**	**30**	P	**P**	**13 05 54.6**	**-1.0**
comp=Z,0.7nm,0.8s,baz=221,slow=1.5,SNR=2.2							
comp=Z,0.7nm,0.8s							
ESDC	**Sonseca Array**	**91.36**	**317**	P	**P**	**13 06 02.5**	**+1.6**
comp=Z,1.4nm,0.9s,baz=138,slow=4.2,SNR=8.9							
comp=Z,1.4nm,0.9s							
H29M	**Whitestone**	**144.00**	**11**	PKPdf	PKPbc	13 12 28.0	+0.3
SUA	**Susitna One**	**144.77**	**24**	PKPdf	**PKPdf**	**13 12 30.7**	**-0.8**
EGAK	**Eagle**	**144.77**	**14**	PKPdf	**PKPdf**	**13 12 32.5**	**+1.3**
I29M	**Ogilvie Camp,**	**144.80**	**12**	PKPdf	PKPbc	13 12 30.1	-0.2
SCRK	**Sand Creek**	**144.81**	**17**	PKPdf	**PKPdf**	**13 12 31.2**	**-0.3**
K27K	**Chicken**	**145.22**	**15**	PKPbc	**PKPdf**	**13 12 32.8**	**+0.8**
I30M	**Mount Dempster**	**145.25**	**11**	PKPbc	**PKPdf**	**13 12 32.5**	**+0.2**
BCAR	**Beaver Creek A**	**146.12**	**16**	PKPbc	**PKPab**	**13 12 35.5**	**+0.3**
N25K	**Chitina, Valde**	**146.60**	**20**	PKPbc	**PKiKP**	**13 12 37.6**	**-1.3**
M29M	**Somme Creek**	**147.41**	**14**	PKPbc	**PKPab**	**13 12 39.2**	**-1.2**
YKA	**Yellowknife Ar**	**148.79**	**353**	PKPbc	**PKPbc**	**13 12 41.6**	**-0.3**
comp=Z,3.9nm,0.8s,baz=8.4,slow=3.7,SNR=14							
ULM	**Lac du Bonnet**	**153.18**	**321**	PKPbc	**PKPbc**	**13 12 51.3**	**-1.3**
comp=Z,1.4nm,0.7s,baz=22,slow=0.7,SNR=3.5							
NVAR	**Mina Array Bea**	**172.63**	**337**	PKPab	**PKPab**	**13 14 30.5**	**+0.6**
comp=Z,0.5nm,0.8s,baz=39,slow=5.8,SNR=4.0							

*IDC **10** 12:55:13.1±1.3, 31°.7S×58°.36E, h0km, mb4.0/8, mbtmp4.0/8, Error ellipse: s-maj=44.1km s-min=28.0km az=77.0*
*NEIC **10** 12:55:15.7±2.1, 31°.64S±0°.05×58°.3E±0°.3, h10km±1km, mb4.5/4, Error ellipse: s-maj=42.5km s-min=7.9km az=267.0*
ISC 10 12:55:15.2±0.9, 31°.7S±0°.2×58°.3E±0°.3, h14km, n32, σ0§50/26, mb4.2/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.29**	**197**	T	T	13 14 44.7	
baz=22							
H04N1	**CROZET ISLANDS**	**15.29**	**197**	T	T	13 14 49.3	
baz=22							
H04N3	**CROZET ISLANDS**	**15.31**	**197**	T	T	13 14 44.5	
baz=22							
H01W2	**Cape Leeuwin H**	**46.30**	**110**	T	T	13 53 26.4	
baz=261							
H01W3	**Cape Leeuwin H**	**46.31**	**110**	T	T	13 53 24.4	
baz=261							
H01W1	**Cape Leeuwin H**	**46.32**	**110**	T	T	13 53 31.8	
baz=261							
QSPA	**South Pole Qui**	**58.48**	**180**	P	**P**	**13 05 11.4**	**+0.8**
QSPA				IAmb	IAmb	13 05 40.9	
comp=Z,3.3nm,1.2s							
QSPA	**South Pole Qui**	**58.48**	**180**	P	**P**	**13 05 10.5**	**0.0**
comp=Z,1.4nm,0.7s,baz=297,slow=2.4,SNR=5.7							
comp=Z,1.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**63.31**	**44**	P	**P**	**13 05 43.9**	**0.0**
comp=Z,0.7nm,0.6s,baz=230,slow=8.5,SNR=3.2							
comp=Z,0.7nm,0.6s							
ASAR	**Alice Springs**	**66.27**	**104**	P	**P**	**13 06 03.6**	**+0.3**
ASAR	**Alice Springs**	**66.27**	**104**	P	**P**	**13 06 03.0**	**-0.2**
comp=Z,1.1nm,0.6s,baz=238,slow=6.0,SNR=15							
comp=Z,1.1nm,0.6s							
AS31	**Alice Springs**	**66.27**	**104**	P	**P**	**13 06 03.4**	**+0.1**
WRA	**Warramunga Arr**	**68.27**	**101**	P	**P**	**13 06 15.6**	**-0.4**
comp=Z,1.4nm,0.8s,baz=240,slow=5.6,SNR=8.1							
comp=Z,1.4nm,0.8s							
WB2	**Warramunga Arr**	**68.28**	**101**	P	**P**	**13 06 15.4**	**-0.7**
WB2				IAmb	IAmb	13 06 26.7	
comp=Z,7.8nm,1.2s							
WB0	**Warramunga Arr**	**68.40**	**100**	P	**P**	**13 06 17.1**	**+0.2**
STKA	**Stephens Creek**	**68.97**	**115**	P	**P**	**13 06 19.9**	**-0.2**
comp=Z,1.2nm,0.6s,baz=288,slow=13,SNR=3.2							
comp=Z,1.2nm,0.6s							
ABKAR	**Akbulak array**	**80.60**	**1**	P	**P**	**13 07 27.2**	**+0.4**
KURBB	**Kurchatov Arra**	**83.89**	**13**	P	**P**	**13 07 44.2**	**+0.2**
comp=Z,0.2nm,0.3s,baz=205,slow=4.1,SNR=2.5							
comp=Z,0.2nm,0.3s							
BVAR	**Borovoye Array**	**85.02**	**7**	P	**P**	**13 07 50.3**	**+0.6**
comp=Z,1.7nm,0.8s,baz=186,slow=7.2,SNR=5.6							
comp=Z,1.7nm,0.8s							
SONM	**Songino Array**	**90.17**	**30**	P	**P**	**13 08 14.4**	**-0.5**
comp=Z,0.2nm,0.4s,baz=180,slow=7.2,SNR=2.0							
comp=Z,0.2nm,0.4s							
SUA	**Susitna One**	**144.74**	**24**	PKPdf	**PKPab**	**13 14 50.2**	**+0.3**
EGAK	**Eagle**	**144.77**	**14**	PKPdf	**PKPab**	**13 14 49.8**	**+0.1**
SCRK	**Sand Creek**	**144.81**	**17**	PKPdf	**PKPdf**	**13 14 50.8**	**-0.3**
K27K	**Chicken**	**145.22**	**16**	PKPbc	**PKPab**	**13 14 52.4**	**+1.1**
I30M	**Mount Dempster**	**145.25**	**11**	PKPbc	**PKPbc**	**13 14 51.7**	**+0.2**
ERPA	**Erie**	**145.34**	**299**	PKPbc	**PKPbc**	**13 14 51.0**	**-1.3**
J30M	**Hart River**	**145.86**	**11**		**PKPab**	**13 14 54.1**	**+0.2**
L27K	**Beaver Creek,**	**146.10**	**16**	PKPbc	**PKPab**	**13 14 55.1**	**+0.4**
BCAR	**Beaver Creek A**	**146.11**	**16**	PKPbc	**PKPab**	**13 14 55.1**	**+0.3**
M27K	**Edge Creek, AK**	**146.69**	**17**	PKPbc	**PKPab**	**13 14 57.2**	**+0.1**
M29M	**Somme Creek**	**147.40**	**14**	PKPbc	**PKPbc**	**13 14 58.2**	**+0.2**
YKA	**Yellowknife Ar**	**148.84**	**354**	PKPbc	**PKPbc**	**13 15 01.5**	**-0.1**
comp=Z,0.6nm,0.8s,baz=357,slow=3.1,SNR=3.2							

*UCR **10** 12:57:24.9±0.7, 10°.73N×86°.58W, h1km±168km, MW4.3*
*IDC **10** 12:57:25.5±1.2, 11°.75N×85°.35W, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=91.1km s-min=12.1km az=71.0*
*CATAC **10** 12:57:27.5±0.9, 10°.77N×86°.59W, h19km±11km, ML3.9*
ISC 10 12:57:23.7±1.6, 10°.69N±0°.04×86°.55W±0°.06, h2km±9km, n61, σ1§00/70, mb3.5/5, 5C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELI1	**Hacienda Flor**	**0.98**	**93⇑**	*iP*	**Pn**	**12 57 45.7**	**+1.2**
LCRUZ	**La Cruz**	**0.98**	**67⇑**	*eP*	**Pn**	**12 57 45.5**	**+1.0**
DELF	**Filadelfia**	**1.00**	**104**	*eP*	**Pn**	**12 57 48.4**	**+3.5**
GPS3	**Bodega del ICE**	**1.16**	**87**	*eP*	**Pn**	**12 57 49.0**	**+1.9**
VRLE	**La Escondida,**	**1.16**	**85⇑**	*eP*	**Pn**	**12 57 47.7**	**+0.6**
NADN	**Granada**	**1.17**	**26**	*iP*	**Pn**	**12 57 47.6**	**+0.5**
NADN				*i*S	**Sn**	**12 58 03.3**	**-0.3**
NADN				IAML		12 58 11.7	
comp=Z,7μm,1.0s							
GPS2	**Hotel Rincn d**	**1.17**	**87**	*eP*	**Pn**	**12 57 48.0**	**+0.8**
VORI	**VORI**	**1.18**	**84⇑**	*eP*	**Pn**	**12 57 47.8**	**+0.3**
JAPN	**AI SSO del Vol**	**1.19**	**46**	*iP*	**Pn**	**12 57 48.3**	**+0.9**
JAPN				IAML		12 57 49.0	
comp=Z,2μm,1.0s							
NICO	**Nicoya**	**1.21**	**117**	*eP*	**Pn**	**12 57 48.8**	**+1.1**
MORN	**AI O del Volca**	**1.22**	**46**	*iP*	**Pn**	**12 57 48.3**	**+0.4**
MORN				IAML		12 58 10.3	
comp=Z,3μm,1.0s							
BAGA	**Bagaces**	**1.27**	**97**	*eP*	**Pn**	**12 57 49.2**	**+0.7**
RA5A7	**El Crucero**	**1.31**	**10**	*iP*	**Pn**	**12 57 50.0**	**+0.8**
RA5A7				IAML		12 58 27.0	
comp=Z,12μm,1.0s							
COLC	**Colonia**	**1.32**	**91**	*eP*	**Pn**	**12 57 49.7**	**+0.5**
MASN	**Masaya**	**1.34**	**17**	*iP*	**Pb**	**12 57 50.9**	**+1.2**
MASN				IAML		12 58 16.5	
comp=Z,510nm,1.0s							
CUI	**Cuipilapa**	**1.36**	**91**	*eP*	**Pb**	**12 57 50.2**	**+0.3**
MAS3	**AI N del Volca**	**1.37**	**15**	*iP*	**Pb**	**12 57 51.1**	**+0.9**
MAS3				*i*S	**Sn**	**12 58 09.0**	**+0.3**
MAS3				IAML		12 58 12.3	
comp=Z,2μm,1.0s							
RB28C	**Hialeah**	**1.45**	**10**	*iP*	**Pb**	**12 57 51.2**	**-0.2**
RB28C				IAML		12 58 19.3	
comp=Z,2μm,1.0s							
TISN	**Laguna Tiscapa**	**1.47**	**11**	*iP*	**Pg**	**12 57 51.8**	**-0.1**
TISN				IAML		12 58 18.5	
comp=Z,120nm,1.0s							
SAPS	**Ciudad Sandino**	**1.48**	**5**	*iP*	**Pg**	**12 57 52.0**	**0.0**
SAPS				*i*S	**Sg**	**12 58 11.3**	**+0.1**
SAPS				IAML		12 58 24.6	
comp=Z,2μm,1.0s							
COPN	**Copaltepe**	**1.48**	**358**	*iP*	**Pb**	**12 57 51.9**	**-0.1**
COPN				IAML		12 58 15.6	
comp=Z,3μm,1.0s							
WILN	**Americas 2**	**1.50**	**13**	*iP*	**Pg**	**12 57 53.1**	**+0.6**
WILN				*i*S	**Sb**	**12 58 11.4**	**-0.5**
WILN				IAML		12 58 39.4	
comp=Z,970nm,1.0s							
APQ2	**Apoyeque**	**1.51**	**8**	*iP*	**Pg**	**12 57 52.7**	**0.0**
APQ2				*i*S	**Sb**	**12 58 11.9**	**-0.3**
APQ2				IAML		12 58 17.3	
comp=Z,2μm,1.0s							
APYN	**Apoyeque**	**1.54**	**7**	*iP*	**Pg**	**12 57 54.2**	**+0.8**
APYN				IAML		12 58 18.1	
comp=Z,30nm,1.0s							
JUNT	**Juntas**	**1.61**	**104**	*eP*	**Pg**	**12 57 55.1**	**+0.5**
JTS	**Las Juntas de**	**1.62**	**104**	Pg	**Pn**	**12 57 53.2**	**-0.1**
comp=Z,21nm,0.3s,baz=315,slow=24,SNR=23							
JTS				Lg	Lg	12 58 13.8	
comp=Z,23nm,0.3s,baz=9.4,slow=14,SNR=7.3							
JTS	**Las Juntas de**	**1.62**	**104**	*eP*	**Pg**	**12 57 54.5**	**-0.2**
LEVN	**Ruinas Leon Vi**	**1.70**	**358**	*iP*	**Pn**	**12 57 55.0**	**+0.6**
LEVN				*i*S	**Sn**	**12 58 14.8**	**-2.0**
LEVN				IAML		12 58 24.3	
comp=Z,2μm,1.0s							
MOM2	**El Cardon**	**1.74**	**2**	*iP*	**Pn**	**12 57 55.5**	**+0.6**
MOM2				*i*S	**Sn**	**12 58 17.0**	**-0.7**
MOM2				IAML		12 58 24.0	
comp=Z,2μm,1.0s							
CNGA	**AI SSO del Vol**	**1.80**	**355**	*iP*	**Pn**	**12 57 55.5**	**-0.3**
CNGA				IAML		12 58 26.8	
comp=Z,890nm,1.0s							
CNGN	**Cerro Negro**	**1.80**	**355**	*iP*	**Pb**	**12 57 56.7**	**-0.8**
CNGN				IAML		12 58 37.3	
comp=Z,850nm,1.0s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**27.29**	**32**	T	T	13 39 26.2	
	baz=207,slow=75,SNR=5.9						
H08S2	**Diego Garcia H**	**27.30**	**32**	T	T	13 39 24.8	
	baz=207,slow=75,SNR=5.2						
H08S3	**Diego Garcia H**	**27.31**	**32**	T	T	13 39 28.7	
	baz=207,slow=75,SNR=5.0						
QSPA	**South Pole Qui**	**58.50**	**180**	P	**P**	**13 15 11.9**	**0.0**
	1.3nm,0.6s,baz=290,slow=4.6,SNR=8.4						
	1.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.24**	**44**	P	**P**	**13 15 44.5**	**-0.1**
	1.7nm,0.6s,baz=227,slow=6.1,SNR=11						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**66.20**	**104**	P	**P**	**13 16 03.8**	**-0.3**
	0.4nm,0.5s,baz=240,slow=5.4,SNR=7.8						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**68.20**	**101**	P	**P**	**13 16 17.6**	**+0.8**
	1.0nm,0.8s,baz=243,slow=5.8,SNR=4.9						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**81.04**	**16**	P	**P**	**13 17 30.0**	**-0.5**
	0.4nm,0.7s,baz=200,slow=3.8,SNR=3.6						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**83.86**	**13**	P	**P**	**13 17 46.0**	**+0.9**
	2.1nm,1.0s,baz=204,slow=5.7,SNR=11						
	2.1nm,1.0s						
BVAR	**Borovoye Array**	**84.99**	**7**	P	**P**	**13 17 50.5**	**-0.3**
	3.2nm,0.8s,baz=193,slow=5.8,SNR=12						
	3.2nm,0.8s						
ESDC	**Sonseca Array**	**91.52**	**317**	P	**P**	**13 18 23.1**	**+0.6**
	0.6nm,0.7s,baz=141,slow=6.3,SNR=4.8						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**148.83**	**354**	PKPbc	**PKPbc**	**13 25 01.1**	**-1.7**
	1.1nm,0.8s,baz=18,slow=2.4,SNR=4.5						

*NEIC **10** 13:06:29.8±1.1, 19°.406N±0°.006×155°.269W±0°.009, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.3km az=110.0*

HVO 10 13:06:29.3±0.8,**19°.415N**±0°.010×**155°.264W**±0°.008, **h1**km±3km,**ML3.6**/38,**ML2.9**/30(NEIC),**Error ellipse: s-maj=1.4km s-min=1.1km az=168.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**123**		Pg	13 06 29.6	0.0
HATHI	**Halema'uma'u T**	**0.01**	**19**		Pg	13 06 29.7	+0.1
SBLHI	**Steaming Bluff**	**0.01**	**343**		Pg	13 06 29.9	+0.2
KKO	**Keanakako`i**	**0.02**	**186**		Pg	13 06 30.0	+0.3
UWB	**Uwekahuna B**	**0.02**	**307**		Pg	13 06 29.9	+0.2
RIM	**Rim**	**0.02**	**206**		Pg	13 06 30.1	+0.4
UWE	**Uwekahuna**	**0.03**	**284**		Pg	13 06 30.3	+0.5
WRMHI	**West Rim**	**0.04**	**257**		Pg	13 06 30.5	+0.5
SDHHI	**Sand Hill**	**0.04**	**229**		Pg	13 06 30.6	+0.5
RSD	**Rainshed**	**0.05**	**345**		Pg	13 06 30.9	+0.6
RSD				IAML		13 06 31.5	
	comp=N,8μm,0.6s						
PUH	**Pauahi**	**0.06**	**132**		Pg	13 06 31.2	+0.8
KNHH	**Kane Nui o Ham**	**0.10**	**111**		Pg	13 06 31.9	+0.8
HLP	**Hilina Pali**	**0.12**	**199**		Pg	13 06 32.8	+1.1
HLP				IAML		13 06 35.3	
	comp=E,6μm,1.0s						
HLP				IAML		13 06 35.4	
	comp=N,6μm,1.0s						
STCH	**Steam Cracks**	**0.13**	**102**		Pg	13 06 32.6	+0.7
STCH				IAML		13 06 35.5	
	comp=E,8μm,1.4s						
STCH				IAML		13 06 35.7	
	comp=N,5μm,0.4s						
MLH	**Mauna Loa**	**0.14**	**305**		Pg	13 06 32.8	+0.8
MLH				IAML		13 06 36.3	
	comp=E,5μm,1.1s						
MLH				IAML		13 06 36.4	
	comp=N,4μm,0.6s						
NPOC	**North of Pu'u**	**0.15**	**98**		Pg	13 06 32.8	+0.7
HTC	**Hot Caves**	**0.22**	**216**		Pg	13 06 34.4	+1.0
JOKA	**Jonika Flow**	**0.25**	**86**		Pg	13 06 34.2	+0.3
JOKA				IAML		13 06 40.9	
	comp=N,2μm,1.1s						
JOKA				IAML		13 06 42.2	
	comp=E,3μm,1.3s						
HMH	**Humu'ula Sheep**	**0.28**	**312**		Pg	13 06 35.4	+0.8
HMH				IAML		13 06 44.3	
	comp=E,3μm,0.6s						
PAH	**Pahoa**	**0.31**	**75**	Pg	Pg	13 06 35.8	+0.6
MLOA	**Mauna Loa Obse**	**0.32**	**292**		Sg	13 06 41.5	+2.0
MLOA	**Mauna Loa Obse**	**0.32**	**292**	Pg	Pg	13 06 36.0	+0.6
MLOA	**Mauna Loa Obse**	**0.32**	**292**	IAML		13 06 44.7	
	comp=N,3μm,1.3s						
MLOA				IAML		13 06 45.8	
	comp=E,2μm,1.4s						
MWH	**Moku'aweowe**	**0.32**	**283**		Pg	13 06 36.5	+1.0
KHU	**Kahuku**	**0.37**	**243**		Pg	13 06 36.9	+0.5
ALEP	**Alea Permanent**	**0.38**	**289**		Sg	13 06 42.4	+0.8
POHA	**Pohakuloa**	**0.42**	**323**		Sg	13 06 44.2	+1.2
POHA	**Pohakuloa**	**0.42**	**323**		Pg	13 06 37.7	+0.2
POHA	**Pohakuloa**	**0.42**	**323**	IAML		13 06 45.9	
	comp=E,1μm,1.4s						
POHA				IAML		13 06 51.2	
	comp=E,1μm,1.7s						
HUH	**Hualalai**	**0.60**	**297**		Pg	13 06 41.4	+0.5
CPH	**Captain Cook**	**0.62**	**277**		Pg	13 06 41.1	-0.1
HPAH	**Hawaii Prepara**	**0.74**	**326**		Sg	13 06 52.4	-0.6
HPAH	**Hawaii Prepara**	**0.74**	**326**		Pg	13 06 42.5	-0.9
MHA	**Mahukona**	**0.98**	**322**	Pg	Pg	13 06 46.2	-1.8

*IDC **10** 13:06:58.5±1.0, 31°.71S×58°.22E, h0km, mb4.0/8, mbtmp4.0/8, Error ellipse: s-maj=41.3km s-min=24.9km az=81.0*

*NEIC **10** 13:07:00.1±2.1, 31°.8S±0°.1×57°.8E±0°.1, h10km±1km, mb4.5/5, Error ellipse: s-maj=20.3km s-min=18.6km az=57.0*

ISC 10 13:06:59.5±0.7,**31°.8S**±0°.1×**57°.9E**±0°.2,**h10**km,**n20,** σ0§**83**/20,**mb4.2**/10,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.74**	**349**	Pn	**Pn**	**13 09 33.2**	**-0.3**
MBAR	**Mbarara**	**40.26**	**315**	P	**P**	**13 14 35.6**	**-1.4**
MBAR				IAmb	IAmb	13 14 36.5	
	comp=Z,6.8nm,1.3s						
QSPA	**South Pole Qui**	**58.41**	**180**	P	**P**	**13 16 56.1**	**+1.0**
QSPA	**South Pole Qui**	**58.41**	**180**	P	**P**	**13 16 56.2**	**+1.1**
	comp=Z,2.7nm,0.7s,baz=270,slow=5.3,SNR=12						
	comp=Z,2.7nm,0.7s						
BELA	**Belgrano 2**	**59.74**	**194**	P	**P**	**13 17 03.1**	**-0.9**
BELA				IAmb	IAmb	13 17 03.6	
	comp=Z,6.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.56**	**44**	P	**P**	**13 17 29.8**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=226,slow=6.1,SNR=7.5						
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**66.52**	**104**	P	**P**	**13 17 49.0**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=235,slow=6.3,SNR=5.8						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**68.53**	**101**	P	**P**	**13 18 01.8**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=243,slow=5.4,SNR=2.9						
	comp=Z,0.5nm,0.7s						
BRTR	**Keskin Array B**	**74.61**	**341**	P	**P**	**13 18 39.4**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=152,slow=6.5,SNR=1.9						
	comp=Z,0.7nm,0.8s						
KKAR	**Karatay Array**	**75.39**	**9**	P	**P**	**13 18 44.5**	**+1.4**
ABKAR	**Akbulak array**	**80.68**	**1**	P	**P**	**13 19 12.5**	**+0.3**
MKAR	**Makanchi Array**	**81.23**	**17**	P	**P**	**13 19 15.1**	**-0.2**
MKAR	**Makanchi Array**	**81.23**	**17**	P	**P**	**13 19 15.6**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=213,slow=4.3,SNR=4.9						
	comp=Z,0.8nm,0.8s						
MLR	**Muntele Rosu**	**82.19**	**338**	P	**P**	**13 19 21.6**	**+1.1**
KURBB	**Kurchatov Arra**	**84.03**	**13**	P	**P**	**13 19 29.9**	**+0.2**
	comp=Z,1.8nm,1.0s,baz=204,slow=5.7,SNR=9.2						
	comp=Z,1.8nm,1.0s						
KURK	**Kurchatov**	**84.13**	**13**	P	**P**	**13 19 30.5**	**+0.2**
BVAR	**Borovoye Array**	**85.13**	**8**	P	**P**	**13 19 36.1**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=190,slow=4.4,SNR=10						
	comp=Z,2.7nm,0.7s						
I30M	**Mount Dempster**	**145.38**	**11**		**PKPab**	**13 26 37.3**	**+0.2**
J30M	**Hart River**	**145.99**	**11**		**PKPbc**	**13 26 38.9**	**+0.1**
YKA	**Yellowknife Ar**	**148.88**	**353**	PKPbc	**PKPbc**	**13 26 46.2**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=12,slow=2.8,SNR=3.7						

*IDC **10** 13:07:11.2±0.4, 31°.72S×58°.27E, h0km, mb4.5/21, mbtmp4.5/22, ML4.8/1, Error ellipse: s-maj=18.1km s-min=13.6km az=81.0*

*GCMT **10** 13:07:11.7±0.4, 31°.68S±0°.03×58°.06E±0°.07, h19km±1km, MW4.8/73, Moment Tensor Solution. s18,c18; s73,c82; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=2.45±.22; Mθθ 1.87±.15; Mφφ 0.58±.14; Mrθ 0.41±.33; Mrφ 0.12±.09; Mθφ 0.96±.44; Best double couple: M0 2.35300×1016 NP1:φs247.00000°, δ54.00000°, λ-108.00000°. NP2: φs96.00000°, δ40.00000°, λ-67.00000°. Principal axes: T 1.9480, Plg8.0000°, Azm350.0000°; N 0.8100, Plg15.0000°, Azm258.0000°; P -2.7580, Plg73.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **10** 13:07:12.7±1.4, 31°.68S±0°.09×58°.10E±0°.07, h10km±1km, mb4.8/24 Error ellipse: s-maj=17.2km s-min=6.3km az=34.0*

ISC 10 13:07:12.9±0.4,**31°.75S**±0°.08×**58°.11E**±0°.09,**h10**km,**n92,** σ1§**03**/85,**mb4.7**/47,**8C,Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.76**	**348**	Pn	Pn	13 09 43.1	-4.1
FOMA	**Nahampoana Res**	**11.90**	**302**	Pn	**Pn**	**13 10 03.0**	**+0.4**
VOI	**Vohitsoka**	**14.07**	**311**	Pn	**Pn**	**13 10 30.9**	**-1.6**
H04N2	**CROZET ISLANDS**	**15.20**	**197**	T	T	13 26 50.8	
	baz=22,slow=75,SNR=23						
H04N1	**CROZET ISLANDS**	**15.20**	**197**	T	T	13 26 50.7	
	baz=22,slow=75,SNR=19						
H04N3	**CROZET ISLANDS**	**15.21**	**197**	T	T	13 26 50.2	
	baz=22,slow=75,SNR=18						
CRZF	**Crozet Islands**	**15.43**	**196**	Pn	**Pn**	**13 10 51.5**	**+0.9**
ABPO	**Ambohimpanom**	**16.03**	**320**	P	**Pn**	**13 10 59.5**	**+0.8**
OPO	**Ambohidratompo**	**16.41**	**320**	Pn	**Pn**	**13 11 05.2**	**+1.6**
	0.3nm,0.3s,baz=141,slow=14,SNR=14						
OPO				Sn	Sn	13 13 54.3	-12
	0.1nm,0.3s,baz=184,slow=16,SNR=2.5						
	11nm,0.3s						
POGA	**Pongola**	**23.36**	**274**	P	**P**	**13 12 20.3**	**-1.3**
GRHM	**Grahamstown, E**	**26.75**	**258**	P	**P**	**13 12 52.0**	**-0.9**
GRHM				IAmb	IAmb	13 13 03.7	
	comp=Z,22nm,1.3s						
H08S1	**Diego Carcia H**	**27.47**	**32**	T	T	13 41 22.3	
	baz=206,slow=75,SNR=32						
H08S2	**Diego Garcia H**	**27.48**	**32**	T	T	13 41 19.7	
	baz=206,slow=75,SNR=32						
H08S3	**Diego Garcia H**	**27.49**	**32**	T	T	13 41 23.0	
	baz=206,slow=75,SNR=29						
BOSA	**Boshof**	**28.51**	**268**	P	**P**	**13 13 08.4**	**-0.3**
BOSA				IAmb	IAmb	13 13 23.4	
	comp=Z,16nm,1.5s						
BOSA	**Boshof**	**28.51**	**268**	P	**P**	**13 13 08.7**	**0.0**
	comp=Z,1.8nm,0.7s,baz=95,slow=9.5,SNR=3.8						
	comp=Z,1.8nm,0.7s						
LBTB	**Lobatse**	**29.31**	**275**	P	**P**	**13 13 15.6**	**-0.3**
LBTB				IAmb	IAmb	13 14 08.4	
	comp=Z,35nm,2.0s						
SUR	**Sutherland**	**31.51**	**259**	P	**P**	**13 13 33.5**	**-1.9**
SUR				IAmb	IAmb	13 13 34.2	
	comp=Z,35nm,1.5s						
MAW	**Mawson**	**36.00**	**177**	P	**P**	**13 14 13.2**	**-0.4**
	comp=Z,9.1nm,0.8s,baz=337,slow=7.5,SNR=14						
	comp=Z,9.1nm,0.8s						
H01W2	**Cape Leeuwin H**	**46.40**	**110**	T	T	14 04 52.5	
	baz=257,slow=75,SNR=23						
H01W3	**Cape Leeuwin H**	**46.41**	**110**	T	T	14 04 52.9	
	baz=257,slow=75,SNR=25						
H01W1	**Cape Leeuwin H**	**46.42**	**110**	T	T	14 04 53.8	
	baz=257,slow=75,SNR=22						
TROLL	**Troll, Antarti**	**49.66**	**200**	⇑P	**P**	**13 16 05.2**	**+0.7**
	comp=Z,116nm,0.8s						
SNAA	**Sanae**	**51.12**	**201**	P	**P**	**13 16 15.1**	**-0.4**
SNAA				IAmb	IAmb	13 16 17.2	
	comp=Z,9.8nm,1.0s						
SNAA	**Sanae**	**51.12**	**201**	⇑P	**P**	**13 16 15.3**	**-0.2**
	comp=Z,137nm,0.9s						
SNAA	**Sanae**	**51.12**	**201**	P	**P**	**13 16 15.3**	**-0.2**
	comp=Z,6.2nm,0.9s,baz=84,slow=8.0,SNR=18						
	comp=Z,6.2nm,0.9s						
VNA2	**Neumayer--Watz**	**52.36**	**202**	⇑P	**P**	**13 16 25.4**	**+0.8**
	comp=Z,7.4nm,0.8s,baz=84,slow=5.1						
VNA2				⇑PcP	**PcP**	**13 17 35.8**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=58,slow=3.9						
VNA1	**Neumayer--Stat**	**52.59**	**203**	⇑P	**P**	**13 16 27.1**	**+0.8**
	comp=Z,1.5nm,0.4s						
VNA3	**Neumayer Olymp**	**53.15**	**202**	⇑P	**P**	**13 16 31.1**	**+0.6**
	comp=Z,10nm,0.8s						
VNA3				⇑PcP	**PcP**	**13 17 38.2**	**-0.3**
	comp=Z,2.1nm,0.8s						
QSPA	**South Pole Qui**	**58.42**	**180**	P	**P**	**13 17 09.0**	**+0.5**
	comp=Z,12nm,0.6s,baz=267,slow=2.3,SNR=56						
	comp=Z,12nm,0.6s						
VNDA	**Vanda**	**62.15**	**166**	P	**P**	**13 17 34.1**	**+0.4**
VNDA	**Vanda**	**62.15**	**166**	P	**P**	**13 17 34.2**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=268,slow=12,SNR=8.0						
	comp=Z,1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.45**	**44**	P	**P**	**13 17 42.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**63.45**	**44**	P	**P**	**13 17 42.2**	**-0.9**
	comp=Z,7.6nm,0.8s,baz=228,slow=7.2,SNR=24						
	comp=Z,7.6nm,0.8s						
ASAR	**Alice Springs**	**66.38**	**104**	P	**P**	**13 18 00.8**	**-1.5**
	comp=Z,7.4nm,0.7s,baz=239,slow=6.0,SNR=4.8						
	comp=Z,7.4nm,0.7s						
AS31	**Alice Springs**	**66.38**	**104**	P	**P**	**13 18 01.1**	**-1.2**
AS31				IAmb	IAmb	13 18 01.9	
	comp=Z,3.0nm,0.7s						
MMAI	**Mount Meron Ar**	**67.89**	**340**	P	**P**	**13 18 12.3**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=159,slow=9.3,SNR=2.8						
	comp=Z,0.8nm,0.3s						
WRA	**Warramunga Arr**	**68.39**	**101**	P	**P**	**13 18 14.2**	**-0.9**
WRA	**Warramunga Arr**	**68.39**	**101**	P	**P**	**13 18 13.8**	**-1.4**
	comp=Z,8.0nm,0.7s,baz=242,slow=5.6,SNR=42						
	comp=Z,8.0nm,0.7s						
WB2	**Warramunga Arr**	**68.40**	**101**	P	**P**	**13 18 14.2**	**-0.9**
WRAB	**Tennant Creek**	**68.40**	**101**	P	**P**	**13 18 14.2**	**-1.0**
WRAB				IAmb	IAmb	13 18 15.2	
	comp=Z,12nm,0.9s						
WB0	**Warramunga Arr**	**68.51**	**100**	P	**P**	**13 18 14.9**	**-1.0**
WR0	**Warramunga Arr**	**68.55**	**101**	P	**P**	**13 18 15.1**	**-1.0**
WR0				IAmb	IAmb	13 18 15.6	
	comp=Z,5.2nm,0.7s						
STKA	**Stephens Creek**	**69.06**	**115**	P	**P**	**13 18 18.8**	**-0.3**
STKA	**Stephens Creek**	**69.06**	**115**	P	**P**	**13 18 18.9**	**-0.3**
	comp=Z,4.1nm,0.7s,baz=242,slow=6.2,SNR=10						
	comp=Z,4.1nm,0.7s						
SIMJ	**Simiganj**	**70.78**	**9**	P	**P**	**13 18 29.6**	**+0.1**
SIMJ				IAmb	IAmb	13 18 33.3	
	comp=Z,17nm,1.3s						
CHGR	**Chuyangaron**	**70.80**	**9**	P	**P**	**13 18 29.0**	**-0.5**
KMI	**Kunming**	**70.82**	**42**	⇑P	**P**	**13 18 32.1**	**+2.0**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
DBIC	**Dimbokro**	**71.08**	**291**	P	**P**	**13 18 33.3**	**+1.6**
	comp=Z,4.5nm,0.7s,baz=140,slow=6.0,SNR=3.9						
	comp=Z,4.5nm,0.7s						
PZH	**PanZhiHua**	**71.33**	**41**	P	**P**	**13 18 33.8**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,6.9s						
KSH	**Kashi**	**72.82**	**14**	P	**P**	**13 18 38.6**	**-3.1**
KSH				sP	sP	13 18 47.4	+3.1
KSH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KARP	**Karpathos**	**72.98**	**334**	P	**P**	**13 18 41.0**	**-1.6**
CAN	**Canberra**	**73.11**	**121**	P	**P**	**13 18 43.4**	**-0.3**
BRTR	**Keskin Array B**	**74.65**	**341**	P	**P**	**13 18 51.4**	**-1.1**
BRTR	**Keskin Array B**	**74.65**	**341**	P	**P**	**13 18 51.9**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=162,slow=9.1,SNR=7.6						
	comp=Z,1.6nm,0.7s						
KK31	**Karatay Array**	**75.35**	**9**	P	**P**	**13 18 56.3**	**0.0**
KK31				IAmb	IAmb	13 18 59.5	
	comp=Z,6.7nm,1.1s						
KKAR	**Karatay Array**	**75.35**	**9**	P	**P**	**13 18 56.2**	**-0.1**
KKAR	**Karatay Array**	**75.35**	**9**	P	**P**	**13 18 56.3**	**0.0**
KKAR				IAmb	IAmb	13 18 59.5	
	comp=Z,6.7nm,1.1s						
AAK	**Ala-Archa**	**75.54**	**12**	P	**P**	**13 18 57.4**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=197,slow=14,SNR=1.9						
	comp=Z,2.1nm,0.3s						
WMQ	**Urumqi**	**79.92**	**21**	*e*P	**P**	**13 19 23.0**	**+1.1**
ABKAR	**Akbulak array**	**80.66**	**1**	P	**P**	**13 19 25.3**	**-0.3**
GTA	**Gaotai**	**80.70**	**31**	*e*P	**P**	**13 19 25.9**	**-0.3**
GTA				sP	PcP	13 19 34.1	+1.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**81.17**	**17**	P	**P**	**13 19 28.3**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=208,slow=5.2,SNR=11						
	comp=Z,1.6nm,0.6s						
AKTO	**Aktyubinsk**	**81.82**	**360**	P	**P**	**13 19 32.1**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=198,slow=20,SNR=4.7						
	comp=Z,1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**83.98**	**13**	P	**P**	**13 19 42.8**	**-0.1**
	comp=Z,5.0nm,1.1s,baz=205,slow=5.4,SNR=13						
	comp=Z,5.0nm,1.1s						
BVAR	**Borovoye Array**	**85.10**	**7**	P	**P**	**13 19 48.5**	**0.0**
	comp=Z,5.6nm,0.8s,baz=194,slow=4.3,SNR=14						
	comp=Z,5.6nm,0.8s						
BRVK	**Borovoye**	**85.12**	**7**	P	**P**	**13 19 47.5**	**-1.1**
BRVK				IAmb	IAmb	13 19 58.2	
	comp=Z,9.2nm,0.9s						
NJ2	**Nanjing**	**85.58**	**48**	*e*P	**P**	**13 19 52.6**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SOKA	**Soboth**	**87.21**	**332**	*e*PcP	**PcP**	**13 20 02.5**	**+1.2**
	comp=Z,0.6nm,0.4s						
ARSA	**Arzberg**	**87.48**	**333**	*e*PcP	**PcP**	**13 20 04.0**	**+1.6**
	comp=Z,1.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**87.50**	**38**	*e*P	**P**	**13 20 03.1**	**+2.3**
HHC				sP	pwP	13 20 09.4	+1.1
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,230nm,6.4s						
RONA	**Rosalia, Austr**	**87.55**	**333**	*e*P	**P**	**13 20 01.8**	**+1.0**
	comp=Z,3.4nm,1.0s						
CONA	**Conrad Observa**	**87.91**	**333**	*e*P	**P**	**13 20 03.5**	**+1.0**
	comp=Z,2.9nm,1.0s						
KBA	**Koelnbreinsper**	**88.22**	**331**	*e*PcP	**P**	**13 20 05.9**	**+1.7**
	comp=Z,3.5nm,0.9s						
ABTA	**Abfaltersbach**	**88.30**	**331**	*e*P	**P**	**13 20 05.7**	**+1.2**
	comp=Z,1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**88.43**	**15**	P	**P**	**13 20 02.5**	**-2.2**
ZALV	**Zalesovo Beam**	**88.43**	**15**	P	**P**	**13 20 03.5**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=204,slow=3.2,SNR=5.0						
	comp=Z,0.7nm,0.4s						
MOA	**Molin**	**88.47**	**332**	*e*PcP	**PcP**	**13 20 07.4**	**+0.7**
	comp=Z,5.6nm,1.2s						
WTTA	**Wattenberg**	**89.08**	**330**	*i* P	**P**	**13 20 08.8**	**+0.6**
	comp=Z,4.4nm,0.6s						
SQTA	**Sankt Quirin**	**89.22**	**330**	*e*PcP	**PcP**	**13 20 11.3**	**+1.0**
	comp=Z,2.5nm,0.5s						
FETA	**Feichten**	**89.27**	**330**	*e*pP	pP	13 20 12.7	+1.7
	comp=Z,4.3nm,1.1s						
RETA	**Reutte**	**89.62**	**330**	*e*P	**P**	**13 20 10.8**	**+0.2**
	comp=Z,1.1nm,0.4s						
SONM	**Songino Array**	**90.29**	**30**	P	**P**	**13 20 12.9**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=229,slow=4.0,SNR=5.2						
	comp=Z,1.2nm,0.8s						
ESDC	**Sonseca Array**	**91.44**	**317**	P	**P**	**13 20 18.6**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=130,slow=4.0,SNR=7.0						
	comp=Z,0.8nm,0.9s						
CLL	**Collm**	**91.73**	**334**	*e*P	**P**	**13 20 20.0**	**-0.2**
KSRS	**Korea Array**	**94.77**	**49**	P	**P**	**13 20 33.7**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=247,slow=5.3,SNR=1.7						
	comp=Z,0.4nm,0.5s						
ILAR	**Eielson Array**	**143.52**	**18**	PKhKP	PKPpre	13 26 43.2	
	comp=Z,1.2nm,0.8s,baz=317,slow=3.6,SNR=8.8						
YKA	**Yellowknife Ar**	**148.89**	**353**	PKPbc	**PKPbc**	**13 26 59.4**	**-0.7**
	comp=Z,5.9nm,0.8s,baz=2.1,slow=2.7,SNR=18						
ULM	**Lac du Bonnet**	**153.25**	**321**	PKPbc	**PKPbc**	**13 27 10.2**	**-0.5**
	comp=Z,5.0nm,0.8s,baz=80,slow=3.5,SNR=9.2						
ULM				PKPab	**PKPab**	**13 27 20.7**	**-1.8**
	comp=Z,2.9nm,0.8s,baz=55,slow=3.7,SNR=3.5						
TXAR	**Lajitas Array**	**164.12**	**266**	PKP	**PKPdf**	**13 27 17.2**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=101,slow=2.8,SNR=4.5						
TXAR				PKPab	**PKPab**	**13 28 11.4**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=104,slow=3.8,SNR=5.1						
PDAR	**Pinedale Array**	**165.28**	**322**	PKP	**PKPdf**	**13 27 16.7**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=60,slow=2.2,SNR=6.6						
NVAR	**Mina Array Bea**	**172.72**	**337**	PKP	**PKPdf**	**13 27 23.2**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=7.1,slow=3.6,SNR=3.8						
NVAR				PKPab	**PKPab**	**13 28 49.1**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=12,slow=4.7,SNR=3.6						

*IDC **10** 13:11:59.3±0.6, 31°.60S×58°.33E, h0km, mb4.2/15, mbtmp4.2/16, ML4.3/1, MS3.6/1, Error ellipse: s-maj=23.0km s-min=16.6km az=80.0*

*NEIC **10** 13:12:01.6±1.5, 31°.6S±0°.1×58°.2E±0°.1, h10km±1km, mb4.5/10, Error ellipse: s-maj=22.4km s-min=18.3km az=228.0*

ISC 10 13:12:00.9±0.5,**31°.54S**±0°.09×**58°.23E**±0°.09,**h10**km,**n56,** σ1§**10**/47,**mb4.3**/19,**Southwest Indian Ridge**

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

comp=Z,0.9nm,0.5s,baz=219,slow=19,SNR=2.2
comp=Z,0.9nm,0.5s
KURBB Kurchatov Arra 83.75 13 P P 13 24 30.6 +0.9
comp=Z,2.8nm,1.0s,baz=204,slow=5.1,SNR=13
comp=Z,2.8nm,1.0s
KURK Kurchatov 83.86 13 P P 13 24 31.6 +1.3
BVAR Borovoye Array 84.87 7 P P 13 24 36.7 +1.3
comp=Z,3.6nm,0.8s,baz=189,slow=7.3,SNR=16
comp=Z,3.6nm,0.8s
BRVK Borovoye 84.89 7 P P 13 24 36.6 +1.1
BRVK IAmb IAmb 13 24 37.7
comp=Z,3.8nm,0.9s
ZALV Zalesovo Beam 88.20 15 P P 13 24 50.4 -1.2
comp=Z,0.3nm,0.3s,baz=216,slow=7.1,SNR=4.5
comp=Z,0.3nm,0.3s
SONM Songino Array 90.05 30 P P 13 24 59.6 -1.1
comp=Z,0.3nm,0.5s,baz=224,slow=6.0,SNR=3.9
comp=Z,0.3nm,0.5s
ESDC Sonseca Array 91.35 317 P P 13 25 07.9 +1.1
comp=Z,0.7nm,0.9s,baz=128,slow=2.0,SNR=5.4
comp=Z,0.7nm,0.9s
ILAR Eielson Array 143.29 18 PKhKP PKPpre 13 31 31.4
comp=Z,0.5nm,0.8s,baz=307,slow=3.6,SNR=4.4
J26L Joseph Creek 144.33 16 PKPdf 13 31 36.6 0.0
SUA Susitna One 144.61 24 PKPab 13 31 36.5 +0.7
EGAK Eagle 144.63 14 PKPbc 13 31 36.5 +0.8
SCRK Sand Creek 144.67 17 PKPdf 13 31 37.4 +0.2
I30M Mount Dempster 145.11 11 PKPbc 13 31 37.8 +0.4
J30M Hart River 145.72 11 PKPdf 13 31 39.4 +0.4
K29M Barlow Dome 146.18 12 PKPbc **PKPbc 13 31 41.6 +0.7**
YKA Yellowknife Ar 148.69 354 PKPbc **PKPbc 13 31 47.2 -0.3**
comp=Z,2.8nm,0.8s,baz=4.9,slow=2.6,SNR=12
ULM Lac du Bonnet 153.15 322 PKPbc **PKPbc 13 31 58.6 +0.1**
comp=Z,2.1nm,0.7s,baz=78,slow=3.0,SNR=4.4
TXAR Lajitas Array 164.23 267 PKP **PKPdf 13 32 06.1 +1.0**
comp=Z,0.6nm,1.0s,baz=123,slow=3.3,SNR=2.6
TXAR PKPab **PKPab 13 32 59.0 0.0**
comp=Z,0.2nm,0.7s,baz=90,slow=2.7,SNR=2.0
PDAR Pinedale Array 165.17 323 PKP **PKPdf 13 32 05.1 -0.5**
comp=Z,0.2nm,0.3s,baz=64,slow=4.1,SNR=4.8
PDAR PKPab **PKPab 13 33 01.9 -0.9**
comp=Z,0.2nm,0.5s,baz=25,slow=5.0,SNR=1.3

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*IDC **10** 13:13:34.1±1.4, 36°.67N×141°.57E, h0km, mb3.7/7, mbtmp3.6/8, ML2.7/1, MS3.4/1, Error ellipse: s-maj=29.2km s-min=26.8km az=28.0*
*JMA **10** 13:13:35.0±0.3, 36°.3N±0°.5×14°.2E±°, h38km, MV3.5/34, FAR E OFF IBARAKI PREF*
*NIED **10** 13:13:35.0, 36°.26N×141°.62E, h38km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.80; $M_{\theta\theta}$0.93; $M_{\phi\phi}$-1.73; $M_{r\theta}$1.78; $M_{\theta\phi}$0.66; $M_{\phi r}$1.24; Fault plane solution: $M_0$2.63000×10^{14} NP1:ϕ_s30.00000°, δ78.00000°, λ129.00000°. NP2:ϕ_s135.00000°, δ40.00000°, λ19.00000°.*
ISC 10 13:13:36.9±1.0, 36°.37N±0°.05×141°.43E±0°.08, h26km, n26, σ1°.39/23, mb3.6/8, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.68**	**268**	⇓*i*P	**Pn**	**13 13 50.6**	**-0.2**
JHYU				⇓S	**Sn**	**13 14 02.0**	**+1.5**
JHO	**Hitachi**	**0.73**	**289**	⇓*i*P	**Pn**	**13 13 51.4**	**-0.1**
JIHU	**Itakohorinouch**	**0.83**	**241**	P	**Pb**	**13 13 52.2**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.89**	**326**	*i*P	**Pn**	**13 13 54.0**	**+0.2**
JSMT	**Sammumatsuo**	**1.07**	**228**	*e*P	**Pn**	**13 13 55.6**	**-0.7**
JSMT				*e*S	**Sn**	**13 14 10.6**	**+0.3**
JFK	**Kawauchi**	**1.09**	**336**	*e*P	**Pb**	**13 13 56.7**	**-0.4**
JOTO	**OTAMA OYAMA**	**1.48**	**324**	P	**Pb**	**13 14 03.3**	**-0.4**
JOTO				*e*S	**Sb**	**13 14 24.2**	**+2.2**
JMM	**Marumori**	**1.58**	**341**	P	**Pb**	**13 14 03.9**	**-1.5**
JFY	**Yanaizu**	**1.72**	**307**	*e*P	**Pb**	**13 14 07.0**	**-0.9**
JKT	**Katashina**	**1.80**	**283**	*e*P	**Pb**	**13 14 07.5**	**-1.7**
MJAR	**Matsushiro Arr**	**2.60**	**275**	Pn	**Pn**	**13 14 18.5**	**+1.2**
	1.2nm,0.3s,baz=117,slow=8.7,SNR=37						
MJAR				Sn	**Sb**	**13 14 54.4**	**+0.1**
	1.3nm,0.3s,baz=124,slow=13,SNR=4.0						
	7.2nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**27.80**	**120**	T	T	13 48 39.7	
	baz=312,slow=75,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**27.81**	**120**	T	T	13 48 47.5	
	baz=312,slow=75,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**27.82**	**120**	T	T	13 48 40.7	
	baz=312,slow=75,SNR=8.4						
SONM	**Songino Array**	**28.17**	**305**	P	**P**	**13 19 27.8**	**+0.6**
	0.4nm,0.3s,baz=102,slow=7.2,SNR=2.5						
	0.4nm,0.3s						
H11S1	**WAKE ISLAND Hy**	**28.50**	**122**	T	T	13 49 17.5	
	baz=313,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.50**	**122**	T	T	13 49 17.4	
	baz=313,slow=75,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**28.51**	**122**	T	T	13 49 21.9	
	baz=313,slow=75,SNR=4.3						
LZH	**Lanzhou**	**30.20**	**281**	*e*P	**P**	**13 19 42.0**	**-3.3**
LZH				pP	pP	13 19 51.1	-1.6
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
ZALV	**Zalesovo Beam**	**42.37**	**313**	P	**P**	**13 21 28.3**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=102,slow=6.1,SNR=1.6						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**44.48**	**303**	P	**P**	**13 21 46.1**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=82,slow=10,SNR=3.7						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**46.42**	**308**	P	**P**	**13 22 01.4**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=86,slow=8.3,SNR=9.9						
	comp=Z,0.8nm,0.4s						
ILAR	**Eielson Array**	**50.05**	**32**	P	**P**	**13 22 28.0**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=274,slow=6.1,SNR=3.6						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**51.03**	**313**	P	**P**	**13 22 36.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=86,slow=10,SNR=2.3						
	comp=Z,0.4nm,0.4s						
WRA	**Warramunga Arr**	**56.41**	**188**	P	**P**	**13 23 19.4**	**+3.3**
	comp=Z,0.4nm,0.8s,baz=3.4,slow=7.4,SNR=6.7						
	comp=Z,0.4nm,0.8s						
DLBC	**Dease Lake**	**59.14**	**38**	LR	LR	13 54 47.4	
	comp=Z,29nm,18.7s,baz=344,slow=42						

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*IDC **10** 13:16:15.7±0.9, 31°.77S×58°.25E, h0km, mb4.0/6, mbtmp4.0/7, ML4.0/1, Error ellipse: s-maj=31.2km s-min=25.0km az=89.0*
ISC 10 13:16:17.0±0.8, 31°.8S±0°.2×58°.1E±0°.2, h10km, n15, σ1°.04/9, mb4.1/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.41**	**321**	Pn	**P**	**13 20 09.9**	**-0.5**
	0.1nm,0.3s,baz=132,slow=16,SNR=1.9						
	1.4nm,0.3s						
H08S1	**Diego Garcia H**	**27.48**	**32**	T	T	13 50 27.0	
	baz=207,slow=76,SNR=9.8						
H08S2	**Diego Garcia H**	**27.48**	**32**	T	T	13 50 27.5	
	baz=207,slow=76,SNR=9.6						
H08S3	**Diego Garcia H**	**27.50**	**32**	T	T	13 50 29.3	
	baz=207,slow=76,SNR=6.8						
MAW	**Mawson**	**36.00**	**177**	P	**P**	**13 23 17.1**	**-0.6**
	0.5nm,0.4s,baz=347,slow=14,SNR=1.4						
	0.5nm,0.4s						
H01W2	**Cape Leeuwin H**	**46.41**	**110**	T	T	14 13 57.2	
	baz=257						
H01W3	**Cape Leeuwin H**	**46.42**	**110**	T	T	14 14 04.0	
	baz=257						
H01W1	**Cape Leeuwin H**	**46.43**	**110**	T	T	14 14 00.2	
	baz=257						
QSPA	**South Pole Qui**	**58.42**	**180**	P	**P**	**13 26 14.0**	**+1.4**
	1.3nm,0.8s,baz=273,slow=2.1,SNR=9.9						
	1.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.45**	**44**	P	**P**	**13 26 47.3**	**0.0**
	1.1nm,0.5s,baz=222,slow=7.3,SNR=5.7						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**66.39**	**104**	P	**P**	**13 27 05.9**	**-0.6**
	1.2nm,0.7s,baz=239,slow=6.0,SNR=16						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**68.40**	**101**	P	**P**	**13 27 18.5**	**-0.7**
	1.1nm,0.7s,baz=242,slow=5.6,SNR=8.6						
	1.1nm,0.7s						
BVAR	**Borovoye Array**	**85.10**	**7**	P	**P**	**13 28 54.0**	**+1.4**
	1.1nm,0.8s,baz=165,slow=7.2,SNR=2.2						
	1.1nm,0.8s						
YKA	**Yellowknife Ar**	**148.89**	**353**	PKPbc	**PKPbc**	**13 36 03.4**	**-0.7**
	1.0nm,0.7s,baz=6.6,slow=2.7,SNR=4.3						
TXAR	**Lajitas Array**	**164.10**	**266**	PKPab	**PKPab**	**13 37 13.7**	**-0.8**
	0.1nm,0.5s,baz=90,slow=2.7,SNR=1.8						

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*IDC **10** 13:23:54.2±1.3, 43°.90N×86°.50E, h0km, mb3.7/7, mbtmp3.7/12, ML3.3/4, Error ellipse: s-maj=39.8km s-min=14.6km az=47.0*
*NNC **10** 13:23:55.8±3.3, 44°.04N×86°.56E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=27.2km s-min=20.5km az=84.0*
*SOME **10** 13:24:11.3, 44°.52N×85°.27E, h0km*
ISC 10 13:23:56.4±0.9, 43°.99N±0°.07×86°.73E±0°.06, h10km, n20, σ2°.24/31, mb3.9/6, 8C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.70**	**340**	*e*P	**Pg**	**13 25 08.1**	**+0.9**
	44nm,0.3s						
ZSN				*e*S	**Sb**	**13 25 52.0**	**+5.2**
	63nm,0.2s						
MK31	**Makanchi Array**	**4.20**	**313**	⇓Pn	**Pn**	**13 25 01.0**	**+0.5**
	5.4nm,0.4s,baz=135,slow=15,SNR=215						
MK31				⇓Pg	**Pb**	**13 25 12.2**	**+1.8**
	15nm,0.5s,baz=130,slow=16,SNR=19						
MK31				⇓Sn	**Sn**	**13 25 49.8**	**+0.2**
	33nm,0.6s,baz=137,slow=26,SNR=4.8						
MK31				⇓Lg	Lg	13 26 05.6	
	42nm,0.4s,baz=136,slow=30,SNR=9.4						
MKAR	**Makanchi Array**	**4.20**	**313**	Pn	**Pn**	**13 25 01.0**	**+0.5**
	5.2nm,0.3s,baz=137,slow=14,SNR=140						
MKAR				Sn	**Sn**	**13 25 49.7**	**0.0**
	14nm,0.3s,baz=133,slow=28,SNR=8.4						
MKAR				Lg	Lg	13 26 03.5	
	19nm,0.3s,baz=137,slow=30,SNR=7.6						
	6.7nm,0.3s						
MAKZ	**Makanchi**	**4.38**	**312**	⇑Pn	**Pn**	**13 25 03.0**	**+0.1**
	9.9nm,0.3s						
MAKZ				⇓Sn	**Sn**	**13 25 54.1**	**+0.1**
	47nm,0.6s						
MAKZ				⇑Lg	Lg	13 26 10.3	
	48nm,0.6s						
DJR	**Jarkent**	**5.00**	**276**	*e*P	**Pb**	**13 25 25.5**	**+1.4**
	13nm,0.2s						
DJR				*e*S	**Sb**	**13 26 23.4**	**-0.9**
	60nm,0.2s						
KPKS	**Kokpek**	**5.85**	**268**	*e*P	**Pb**	**13 25 42.0**	**+3.5**
	8.3nm,0.1s						
KPKS				*e*S	**Sb**	**13 26 53.6**	**+5.0**
	42nm,0.3s						
TKM2	**Tokmak 2**	**8.17**	**266**	⇑Pn	Pn	13 25 50.9	-4.3
	1.9nm,0.6s						
TKM2				⇓Sn	**Sn**	**13 27 28.0**	**+0.4**
	9.3nm,0.8s						
TKM2				⇑Lg	Lg	13 28 09.4	
	15nm,0.8s						
KURBB	**Kurchatov Arra**	**8.66**	**323**	Pn	**Pn**	**13 26 00.5**	**-1.2**
	0.2nm,0.3s,baz=134,slow=13,SNR=27						
KURBB				Sn	**Sn**	**13 27 36.7**	**-2.6**
	0.4nm,0.3s,baz=129,slow=29,SNR=6.8						
KURBB				Lg	Lg	13 28 26.6	
	0.5nm,0.3s,baz=141,slow=31,SNR=6.3						
	1.6nm,0.6s						
KURBB	**Kurchatov Arra**	**8.66**	**323**	⇑Pn	**Pn**	**13 25 58.8**	**-2.8**
	2.2nm,0.4s						
KURBB				⇓Sn	**Sn**	**13 27 37.0**	**-2.3**
	12nm,0.6s						
KURBB				⇓Lg	Lg	13 28 25.2	
	53nm,0.7s						
KURK	**Kurchatov**	**8.69**	**324**	⇑Pn	**Pn**	**13 26 00.2**	**-1.9**
	1.6nm,0.6s						
KURK				⇑Sn	**Sn**	**13 27 36.3**	**-3.7**
	4.2nm,0.4s						
KURK				⇑Lg	Lg	13 28 28.6	
	27nm,0.7s						
ZALV	**Zalesovo Beam**	**10.05**	**354**	Pn	**Pn**	**13 26 21.0**	**+0.3**
	0.7nm,0.3s,baz=179,slow=14,SNR=9.6						
ZALV				Sn	**Sn**	**13 28 11.8**	**-1.6**
	2.5nm,0.3s,baz=172,slow=23,SNR=16						
	1.8nm,0.3s						
BVAR	**Borovoye Array**	**14.08**	**316**	Pn	**Pn**	**13 27 13.5**	**-2.3**
	0.3nm,0.3s,baz=134,slow=8.3,SNR=2.3						
BVAR				Sn	Sn	13 29 43.6	-8.3
	0.1nm,0.3s,baz=120,slow=23,SNR=3.4						
BVAR				Lg	Lg	13 31 17.2	
	baz=117,slow=37,SNR=4.0						
SONM	**Songino Array**	**14.22**	**67**	Pn	**Pn**	**13 27 20.5**	**+2.7**
	0.1nm,0.3s,baz=260,slow=10,SNR=1.4						
	0.1nm,0.3s						
AKTO	**Aktyubinsk**	**20.46**	**298**	P	**P**	**13 28 33.9**	**0.0**
	1.5nm,0.6s,baz=105,slow=12,SNR=4.3						
	1.5nm,0.6s						
ARU	**Arti**	**21.72**	**315**	P	**P**	**13 28 46.4**	**-1.1**
	1.6nm,0.3s,baz=108,slow=19,SNR=3.9						
	1.6nm,0.3s						
BRTR	**Keskin Array B**	**39.20**	**283**	P	**P**	**13 31 22.8**	**-2.0**
	1.3nm,0.6s,baz=72,slow=9.3,SNR=0.1						
	1.3nm,0.6s						
HFS	**Hagfors**	**45.20**	**318**	P	**P**	**13 32 11.7**	**-1.5**
	0.8nm,0.5s,baz=78,slow=7.7,SNR=5.2						
	0.8nm,0.5s						
NOA	**NORSAR Array B**	**46.17**	**319**	P	**P**	**13 32 18.8**	**-2.2**
	0.9nm,0.8s,baz=76,slow=7.8,SNR=4.2						
	0.9nm,0.8s						
ESDC	**Sonseca Array**	**64.32**	**301**	P	**P**	**13 34 30.6**	**-1.5**
	0.4nm,0.5s,baz=52,slow=6.5,SNR=2.9						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**77.11**	**135**	P	**P**	**13 35 49.4**	**-0.6**
	0.8nm,0.8s,baz=339,slow=5.0,SNR=2.5						
	0.8nm,0.8s						

IDC 10 13:28:54.6±2.5, 6°.51S×129°.74E, h0km, mb3.6/1, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=159.2km s-min=33.1km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.08**	**162**	Pn	Pn	13 32 15.6	+0.1
	0.2nm,0.3s,baz=345,slow=13,SNR=12						
WRA				Sn	Sn	13 34 43.2	-9.4
	0.5nm,0.3s,baz=342,slow=25,SNR=10						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**17.52**	**167**	P	Pn	13 33 00.5	-0.1
	0.2nm,0.3s,baz=339,slow=9.6,SNR=13						
ASAR				S	Sn	13 36 01.4	-15
	0.5nm,0.6s,baz=350,slow=27,SNR=5.2						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**67.68**	**327**	P	P	13 39 53.7	0.0
	0.3nm,0.4s,baz=119,slow=7.7,SNR=2.5						
	0.3nm,0.4s						

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*IDC **10** 13:33:50.4±0.9, 31°.68S×58°.42E, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=36.5km s-min=25.0km az=72.0*
ISC 10 13:33:52.5±0.9, 31°.7S±0°.2×58°.4E±0°.3, h14km, n20, σ0°.93/11, mb4.1/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.32**	**198**	T	T	13 53 24.9	
	baz=22,slow=75,SNR=5.6						
H04N1	**CROZET ISLANDS**	**15.32**	**198**	T	T	13 53 24.7	
	baz=22,slow=75,SNR=6.7						
H04N3	**CROZET ISLANDS**	**15.34**	**198**	T	T	13 53 23.1	
	baz=22,slow=75,SNR=5.9						
H08S1	**Diego Garcia H**	**27.29**	**32**	T	T	14 08 03.0	
	baz=206,slow=76,SNR=14						
H08S2	**Diego Garcia H**	**27.30**	**32**	T	T	14 08 03.5	
	baz=206,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**27.31**	**32**	T	T	14 08 04.6	
	baz=206,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**46.18**	**110**	T	T	14 31 32.5	
	baz=257,slow=75,SNR=5.9						
H01W3	**Cape Leeuwin H**	**46.19**	**110**	T	T	14 31 32.8	
	baz=257,slow=75						
H01W1	**Cape Leeuwin H**	**46.20**	**110**	T	T	14 31 28.6	
	baz=257,slow=75,SNR=5.6						
QSPA	**South Pole Qui**	**58.47**	**180**	P	**P**	**13 43 47.9**	**+0.1**
	1.6nm,0.8s,baz=270,slow=1.0,SNR=10						
	1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.23**	**44**	P	**P**	**13 44 21.1**	**+0.5**
	1.1nm,0.8s,baz=222,slow=9.3,SNR=5.6						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**66.14**	**104**	P	**P**	**13 44 39.8**	**0.0**
	0.5nm,0.7s,baz=241,slow=5.8,SNR=6.8						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**68.14**	**101**	P	**P**	**13 44 52.9**	**+0.4**
	1.1nm,0.9s,baz=239,slow=5.2,SNR=3.6						
	1.1nm,0.9s						
BRTR	**Keskin Array B**	**74.69**	**340**	P	**P**	**13 45 31.7**	**+0.1**
	0.6nm,0.8s,baz=163,slow=5.9,SNR=3.9						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**81.05**	**16**	P	**P**	**13 46 06.1**	**-0.6**
	0.5nm,0.8s,baz=212,slow=5.1,SNR=2.8						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**83.88**	**13**	P	**P**	**13 46 21.7**	**+0.4**
	1.2nm,1.0s,baz=188,slow=3.6,SNR=2.2						
	1.2nm,1.0s						
BVAR	**Borovoye Array**	**85.01**	**7**	P	**P**	**13 46 26.5**	**-0.6**
	1.8nm,0.8s,baz=169,slow=8.8,SNR=6.1						
	1.8nm,0.8s						
ESDC	**Sonseca Array**	**91.57**	**317**	P	**P**	**13 46 59.7**	**+0.9**
	0.5nm,0.6s,baz=142,slow=4.4,SNR=4.8						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**143.39**	**18**	PKP	**PKiKP**	**13 53 26.8**	**-2.2**
	0.2nm,0.7s,baz=316,slow=3.8,SNR=2.3						
YKA	**Yellowknife Ar**	**148.87**	**354**	PKPbc	**PKPbc**	**13 53 38.7**	**-0.2**
	1.2nm,0.7s,baz=6.3,slow=2.8,SNR=4.2						

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*NNC **10** 13:36:17.8±2.9, 48°.58N×77°.91E, h0km, mb2.8, mpv2.3, Error ellipse: s-maj=33.9km s-min=9.9km az=71.0, Suspected Mining explosion.*
ISC 10 13:36:13.8±1.3, 48°.17N±0°.08×77°.62E±0°.09, h0km, n8, σ1°.48/7, 3C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.53**	**13**	⇑Pg	**Pn**	**13 36 55.8**	**-0.3**
	2.3nm,0.6s						
KURBB				⇓Lg	Lg	13 37 24.2	
	3.5nm,0.4s						
KURK	**Kurchatov**	**2.63**	**14**	⇓Pg	**Pn**	**13 36 58.0**	**+0.5**
	1.8nm,0.4s						
KURK				⇑Lg	Lg	13 37 26.9	
	2.7nm,0.6s						
MK31	**Makanchi Array**	**3.46**	**112**	Pg	**Pg**	**13 37 19.2**	**-0.8**
	0.1nm,0.3s,baz=305,slow=10,SNR=4.2						
MK31				⇑Lg	Lg	13 38 09.3	
	0.3nm,0.3s,baz=324,slow=27,SNR=5.7						
USP	**Ospenovka**	**5.37**	**205**	P	**Pg**	**13 37 55.3**	**-1.3**
	SNR=8.6						
TKM2	**Tokmak 2**	**5.44**	**196**	P	**Pg**	**13 37 56.1**	**-1.9**
	SNR=6.6						
CHMS	**Chumysh**	**5.55**	**202**	P	**Pb**	**13 37 53.0**	**+1.5**
	SNR=5.3						
EKS2	**Erkin-Say**	**6.13**	**208**	P	**Pn**	**13 37 46.4**	**+0.6**
	SNR=8.3						
UCH	**Uchtor**	**6.33**	**201**	P	Pn	13 37 43.1	-5.7
	SNR=7.8						

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*IDC **10** 13:37:49.7±0.5, 31°.64S×58°.34E, h0km, mb4.3/18, mbtmp4.3/19, ML4.3/1, MS3.8/24, Error ellipse: s-maj=20.9km s-min=14.8km az=75.0*
*NEIC **10** 13:37:51.8±1.6, 31°.65S±0°.10×58°.3E±0°.1, h10km±1km, mb4.6/21, Error ellipse: s-maj=18.8km s-min=16.2km az=260.0*
ISC 10 13:37:52.1±0.4, 31°.70S±0°.07×58°.30E±0°.09, h14km, n88, σ0°.75/62, mb4.6/29, MS3.9/25, 3C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.74**	**347**	Pn	Pn	13 40 20.2	-5.5
FOMA	**Nahampoana Res**	**12.01**	**301**	Pn	**Pn**	**13 40 42.9**	**+0.1**
ROCAM	**Rodrigues Isla**	**12.74**	**22**	Pn	**Pn**	**13 40 54.3**	**+1.5**
VOI	**Vohitsoka**	**14.16**	**311**	Pn	**Pn**	**13 41 13.9**	**+1.6**
H04N2	**CROZET ISLANDS**	**15.29**	**197**	T	T	13 56 46.8	
	baz=21,slow=75,SNR=7.1						
H04N1	**CROZET ISLANDS**	**15.30**	**197**	T	T	13 56 43.8	
	baz=21,slow=75,SNR=6.6						
H04N3	**CROZET ISLANDS**	**15.31**	**197**	T	T	13 56 40.4	
	baz=21,slow=75,SNR=6.5						
CRZF	**Crozet Islands**	**15.53**	**197**	Pn	**Pn**	**13 41 31.4**	**+0.8**
ABPO	**Ambohimpanom**	**16.10**	**319**	Pn	**Pn**	**13 41 37.6**	**-0.6**
OPO	**Ambohidratompo**	**16.48**	**320**	Pn	**Pn**	**13 41 44.2**	**+1.1**
	0.1nm,0.3s,baz=138,slow=15,SNR=3.8						
OPO				Sn	Sn	13 44 34.2	-12
	0.1nm,0.3s,baz=186,slow=19,SNR=1.9						
	4.8nm,0.5s						
POGA	**Pongola**	**23.52**	**274**	P	**P**	**13 43 00.5**	**-1.4**
POGA				IAmb	IAmb	13 43 02.8	
	comp=Z,13nm,0.8s						
H08S1	**Diego Garcia H**	**27.34**	**32**	T	T	14 12 02.5	
	baz=207,slow=76,SNR=8.5						
H08S2	**Diego Garcia H**	**27.35**	**32**	T	T	14 12 03.2	
	baz=207,slow=76,SNR=3.7						
H08S3	**Diego Garcia H**	**27.36**	**32**	T	T	14 12 04.0	
	baz=207,slow=76,SNR=8.9						
SUR	**Sutherland**	**31.68**	**259**	LR	LR	13 54 43.1	
	comp=Z,124nm,20.4s,baz=108,slow=32						
MAW	**Mawson**	**36.04**	**177**	P	**P**	**13 44 53.7**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=353,slow=17,SNR=2.7						
MAW				LR	LR	13 55 38.7	
	comp=Z,202nm,21.5s,baz=344,slow=30						
	comp=Z,2.4nm,0.9s						
TSUM	**Tsumeb**	**38.60**	**279**	P	**P**	**13 45 15.0**	**-0.1**
PALK	**Pallekele**	**44.27**	**33**	LR	LR	14 00 20.8	
	comp=Z,71nm,18.8s,baz=288,slow=31						
FURI	**Furi**	**44.52**	**332**	LR	LR	14 00 54.3	
	comp=Z,124nm,19.5s,baz=192,slow=31						
ATD	**Arta Tunnel**	**45.47**	**339**	LR	LR	14 01 36.4	
	comp=Z,9.2nm,20.8s,baz=162,slow=31						
H01W2	**Cape Leeuwin H**	**46.27**	**110**	T	T	14 35 57.1	
	baz=257,slow=75,SNR=6.5						
H01W3	**Cape Leeuwin H**	**46.27**	**110**	T	T	14 36 00.8	
	baz=257,slow=75,SNR=5.6						
H01W1	**Cape Leeuwin H**	**46.28**	**110**	T	T	14 35 59.3	
	baz=257,slow=75,SNR=5.9						
SNAA	**Sanae**	**51.23**	**201**	⇑P	**P**	**13 46 54.9**	**0.0**
	comp=Z,42nm,1.0s						
SNAA	**Sanae**	**51.23**	**201**	P	**P**	**13 46 54.2**	**-0.6**
	comp=Z,2.3nm,1.0s,baz=60,slow=9.9,SNR=5.3						
SNAA				LR	LR	14 03 35.3	
	comp=Z,146nm,21.8s,baz=93,slow=30						
	comp=Z,2.3nm,

comp=Z,1.6nm,0.8s,baz=152,slow=6.5,SNR=7.8
BRTR LR LR 14 21 02.9
comp=Z,18nm,18.7s,baz=138,slow=35
comp=Z,1.6nm,0.8s
ONI Oni 75.18 349 P P 13 49 34.4 +0.6
ONI IAmb IAmb 13 49 57.8
comp=Z,7.8nm,1.4s
KKAR Karatay Array 75.28 9 P P 13 49 34.8 +0.4
AAK Ala-Archa 75.45 12 LR LR 14 19 20.5
comp=Z,94nm,20.8s,baz=191,slow=33
KBZ Khabaz 76.38 349 P P 13 49 40.3 -0.3
comp=Z,0.8nm,0.5s,baz=190,slow=12,SNR=2.3
KBZ LR LR 14 23 09.5
comp=Z,33nm,18.3s,baz=148,slow=36
comp=Z,0.8nm,0.5s
LIT Litokhoron 78.77 333 P P 13 49 54.6 +0.5
LIT IAmb IAmb 13 49 54.9
comp=Z,4.5nm,0.8s
ABKAR Akbulak array 80.61 1 P P 13 50 02.9 -0.9
MAKZ Makanchi 81.01 16 P P 13 50 04.3 -1.8
MAKZ IAmb IAmb 13 50 07.3
comp=Z,8.0nm,1.4s
MK31 Makanchi Array 81.08 16 P P 13 50 06.2 -0.3
MKAR Makanchi Array 81.08 16 P P 13 50 05.4 -1.0
comp=Z,1.4nm,0.8s,baz=197,slow=4.5,SNR=8.8
comp=Z,1.4nm,0.8s
KEST Kesra 81.30 322 LR LR 14 28 24.3
comp=Z,42nm,18.4s,baz=236,slow=37
AKTO Aktyubinsk 81.77 360 LR LR 14 24 19.9
comp=Z,48nm,20.2s,baz=200,slow=34
MLR Muntele Rosu 82.25 338 P P 13 50 12.0 -0.8
MLR IAmb IAmb 13 50 13.5
comp=Z,4.6nm,0.8s
KURBB Kurchatov Arra 83.89 13 P P 13 50 21.1 +0.1
comp=Z,4.2nm,0.9s,baz=205,slow=5.3,SNR=23
KURBB LR LR 14 25 44.0
comp=Z,47nm,19.0s,baz=170,slow=34
comp=Z,4.2nm,0.9s
KURK Kurchatov 84.00 13 P P 13 50 21.9 +0.3
BELG Belogornoye 84.26 353 LR LR 14 29 30.6
comp=Z,42nm,19.7s,baz=194,slow=37
BURAR Bucovina Array 84.37 338 P P 13 50 23.8 +0.1
BVAR Borovoye Array 85.02 7 P P 13 50 26.8 +0.1
comp=Z,7.9nm,0.8s,baz=186,slow=7.2,SNR=28
BVAR LR LR 14 26 54.1
comp=Z,61nm,19.2s,baz=171,slow=35
comp=Z,7.9nm,0.8s
BRVK Borovoye 85.05 7 P P 13 50 27.2 +0.5
AKASG Malin Array Be 85.98 342 P P 13 50 31.1 -0.3
comp=Z,0.8nm,0.5s,baz=167,slow=4.6,SNR=2.1
comp=Z,0.8nm,0.5s
MDT Midelt 87.43 311 LR LR 14 30 35.2
comp=Z,75nm,18.1s,baz=152,slow=36
ZALV Zalesovo Beam 88.33 15 P P 13 50 41.2 -1.6
ZALV Zalesovo Beam 88.33 15 P P 13 50 40.6 -2.2
comp=Z,2.7nm,1.0s,baz=204,slow=3.2,SNR=7.4
ZALV LR LR 14 26 14.2
comp=Z,52nm,18.1s,baz=216,slow=33
comp=Z,2.7nm,1.0s
VRAC Vranov 88.79 334 LR LR 14 29 34.1
comp=Z,25nm,20.2s,baz=154,slow=35
MORC Moravsky Berou 88.83 335 P P 13 50 44.6 -0.7
MORC IAmb IAmb 13 50 46.1
comp=Z,9.3nm,1.5s
TUE Stuetta 89.49 329 P P 13 50 48.5 -0.3
TUE IAmb IAmb 13 50 49.2
comp=Z,3.6nm,0.8s
SONM Songino Array 90.16 30 P P 13 50 50.9 -0.9
comp=Z,1.2nm,0.9s,baz=224,slow=6.0,SNR=5.6
comp=Z,1.2nm,0.9s
ESDC Sonseca Array 91.51 317 P P 13 50 59.0 +0.8
ESDC IAmb IAmb 13 51 00.4
comp=Z,2.1nm,1.0s
ESDC Sonseca Array 91.51 317 P P 13 50 58.3 +0.2
comp=Z,1.7nm,0.9s,baz=137,slow=3.6,SNR=9.1
comp=Z,1.7nm,0.9s
JNU Nakatsue 94.02 53 LR LR 14 33 45.5
comp=Z,101nm,18.0s,baz=221,slow=36
RAO Raoul Island 99.20 133 P Pdif 13 51 35.1 +1.5
comp=Z,213nm,0.5s,baz=233,slow=20,SNR=2.3
NOA NORSAR Array B 100.04 339 LR LR 14 37 27.8
comp=Z,18nm,18.1s,baz=65,slow=36
ILAR Eielson Array 143.42 18 PKhKP PKPpre 13 57 18.4
comp=Z,0.3nm,0.8s,baz=324,slow=4.5,SNR=2.3
ILAR PKP PKPbc 13 57 23.5 +1.0
comp=Z,0.8nm,0.9s,baz=343,slow=2.8,SNR=5.8
O18K Koktuh Hills 144.11 28 PKPdf **PKPab 13 57 24.4 +0.1**
P18K Big Mountain, 144.37 29 PKPdf **PKPab 13 57 24.7 -0.6**
I28M Miner Creek 144.42 13 PKPdf **PKPab 13 57 25.6 +0.2**
J26L Joseph Creek 144.47 16 PKPdf PKPbc 13 57 26.2 +0.4
M55A Ridgway 144.49 298 PKPdf **PKPab 13 57 26.2 -0.1**
YKA Yellowknife Ar 148.85 354 PKPbc **PKPbc 13 57 37.9 -0.6**
comp=Z,4.5nm,0.8s,baz=13,slow=2.6,SNR=17
ULM Lac du Bonnet 153.32 321 PKPbc **PKPbc 13 57 48.8 -0.5**
comp=Z,3.6nm,0.9s,baz=79,slow=5.5,SNR=5.6
TXAR Lajitas Array 164.28 266 PKP **PKPdf 13 57 56.1 +0.5**
comp=Z,0.5nm,1.0s,baz=129,slow=1.3,SNR=4.1
TXAR PKPab **PKPab 13 58 50.1 +0.4**
comp=Z,0.4nm,0.8s,baz=120,slow=5.3,SNR=2.9
PDAR Pinedale Array 165.34 322 PKP **PKPdf 13 57 55.7 -0.6**
comp=Z,0.6nm,0.8s,baz=116,slow=3.3,SNR=5.5
PDAR PKPab **PKPab 13 58 53.8 -0.2**
comp=Z,0.3nm,0.9s,baz=79,slow=4.7,SNR=2.1

IDC 10 13:43:07.6±2.1, 31°.66S×58°.51E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=59.5km s-min=40.9km az=105.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.50**	**180**	P	P	13 53 05.5	0.0
	0.7nm,0.6s,baz=277,slow=1.3,SNR=5.0						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**66.07**	**104**	P	P	13 53 57.1	+0.3
	0.7nm,0.6s,baz=239,slow=6.1,SNR=13						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**68.07**	**100**	P	P	13 54 09.1	-0.4
	0.9nm,0.9s,baz=242,slow=5.6,SNR=6.5						
	0.9nm,0.9s						
MKAR	**Makanchi Array**	**80.99**	**16**	P	P	13 55 23.9	+0.1
	0.1nm,0.3s,baz=202,slow=3.7,SNR=1.1						
	0.1nm,0.3s						

*IDC **10** 13:43:20.8±0.6, 31°.66S×58°.33E, h0km, mb4.2/14, mbtmp4.2/15, ML4.2/1, Error ellipse: s-maj=26.5km s-min=17.3km az=81.0*
*NEIC **10** 13:43:23.2±1.1, 31°.5S±0°.1×58°.3E±0°.2, h10km±2km, mb4.6/11, Error ellipse: s-maj=23.7km s-min=23.1km az=231.0*

ISC 10 13:43:22.3±0.6, 31°.52S±0°.10×58°.2E±0°.1, h10km, n44, σ1§19/36, mb4.4/20, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.56**	**347**	Pn	**Pn**	13 45 53.2	**-0.7**
FOMA	**Nahampoana Res**	**11.86**	**301**	Pn	**Pn**	13 46 11.5	**0.0**
VOI	**Vohitsoka**	**13.99**	**310**	Pn	**Pn**	13 46 42.3	**+1.5**
H04N2	**CROZET ISLANDS**	**15.44**	**197**	T	T	14 02 48.7	
	baz=22,slow=75,SNR=50						
H04N1	**CROZET ISLANDS**	**15.45**	**197**	T	T	14 02 51.4	
	baz=22,slow=75,SNR=70						
H04N3	**CROZET ISLANDS**	**15.46**	**197**	T	T	14 02 43.6	
	baz=22,slow=75,SNR=52						
ABPO	**Ambohimpanom**	**15.92**	**319**	Pn	**Pn**	13 47 06.9	**+0.2**
OPO	**Ambohidratompo**	**16.30**	**320**	Pn	**P**	13 47 14.8	**+0.2**
	0.1nm,0.3s,baz=233,slow=11,SNR=2.7						
OPO				Sn	**Sn**	13 50 07.7	**-4.9**
	0.1nm,0.3s,baz=126,slow=8.8,SNR=2.7						
	2.5nm,0.4s						
POGA	**Pongola**	**23.44**	**273**	P	**P**	13 48 32.2	**+0.4**
POGA				IAmb	IAmb	13 48 58.3	
	comp=Z,15nm,1.2s						
H08S1	**Diego Garcia H**	**27.23**	**32**	T	T	14 17 32.5	
	baz=207,slow=76,SNR=14						
H08S2	**Diego Garcia H**	**27.24**	**32**	T	T	14 17 33.3	
	baz=207,slow=76,SNR=23						
H08S3	**Diego Garcia H**	**27.25**	**32**	T	T	14 17 32.9	
	baz=207,slow=76,SNR=21						
TSUM	**Tsumeb**	**38.51**	**279**	P	**P**	13 50 45.4	**+0.2**
TSUM				IAmb	IAmb	13 50 47.5	
	comp=Z,6.3nm,1.0s						
H01W2	**Cape Leeuwin H**	**46.39**	**110**	T	T	14 40 44.8	
	baz=258,slow=75						
H01W3	**Cape Leeuwin H**	**46.40**	**110**	T	T	14 41 29.5	
	baz=258						
H01W1	**Cape Leeuwin H**	**46.41**	**110**	T	T	14 40 45.7	
	baz=258,slow=75,SNR=16						
SNAA	**Sanae**	**51.37**	**201**	P	**P**	13 52 26.1	**-0.7**
	comp=Z,1.5nm,0.9s,baz=49,slow=6.2,SNR=4.2						
	comp=Z,1.5nm,0.9s						
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	13 53 18.5	**-1.1**
	comp=Z,3.0nm,0.7s,baz=268,slow=3.2,SNR=19						
	comp=Z,3.0nm,0.7s						
VNDA	**Vanda**	**62.35**	**166**	P	**P**	13 53 43.6	**-1.0**
	comp=Z,0.9nm,1.0s,baz=263,slow=9.7,SNR=2.5						
	comp=Z,0.9nm,1.0s						
CM31	**Chiang Mai Arr**	**63.22**	**44**	P	**P**	13 53 51.1	**+0.1**
CM31				IAmb	IAmb	13 54 31.9	
	comp=Z,9.8nm,1.2s						
CMAR	**Chiang Mai Arr**	**63.22**	**44**	P	**P**	13 53 50.3	**-0.7**
CMAR	**Chiang Mai Arr**	**63.22**	**44**	P	**P**	13 53 52.0	**+0.9**
	comp=Z,3.5nm,0.7s,baz=228,slow=7.2,SNR=22						
	comp=Z,3.5nm,0.7s						
ASAR	**Alice Springs**	**66.34**	**104**	P	**P**	13 54 10.8	**-0.7**
	comp=Z,0.9nm,0.7s,baz=241,slow=6.2,SNR=10						
	comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**68.34**	**101**	P	**P**	13 54 24.0	**-0.2**
	comp=Z,1.9nm,0.8s,baz=242,slow=5.5,SNR=7.7						
	comp=Z,1.9nm,0.8s						
SIMJ	**Simiganj**	**70.54**	**9**	P	**P**	13 54 37.8	**+0.3**
SIMJ				IAmb	IAmb	13 54 40.5	
	comp=Z,6.4nm,1.1s						
BRTR	**Keskin Array B**	**74.47**	**341**	P	**P**	13 55 01.0	**+0.1**
BRTR	**Keskin Array B**	**74.47**	**341**	P	**P**	13 55 01.4	**+0.6**
	comp=Z,1.7nm,0.8s,baz=165,slow=6.0,SNR=7.4						
	comp=Z,1.7nm,0.8s						
KK31	**Karatay Array**	**75.11**	**9**	P	**P**	13 55 04.1	**-0.2**
KK31				IAmb	IAmb	13 55 07.5	
	comp=Z,3.1nm,0.8s						
KKAR	**Karatay Array**	**75.11**	**9**	P	**P**	13 55 04.1	**-0.2**
AAK	**Ala-Archa**	**75.30**	**12**	P	**P**	13 55 06.0	**+0.3**
AAK				IAmb	IAmb	13 55 09.8	
	comp=Z,3.6nm,0.9s						
AAK	**Ala-Archa**	**75.30**	**12**	P	**P**	13 55 06.2	**+0.6**
	comp=Z,1.7nm,0.3s,baz=179,slow=4.9,SNR=5.5						
	comp=Z,1.7nm,0.3s						
ABKAR	**Akbulak array**	**80.43**	**1**	P	**P**	13 55 34.9	**+1.1**
MKAR	**Makanchi Array**	**80.93**	**16**	P	**P**	13 55 37.3	**+0.8**
	comp=Z,1.3nm,0.8s,baz=204,slow=6.8,SNR=7.3						
	comp=Z,1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**83.74**	**13**	P	**P**	13 55 51.9	**+0.8**
	comp=Z,4.2nm,1.0s,baz=205,slow=5.7,SNR=14						
	comp=Z,4.2nm,1.0s						
KURK	**Kurchatov**	**83.84**	**13**	P	**P**	13 55 52.3	**+0.6**
KURK				IAmb	IAmb	13 55 54.4	
	comp=Z,8.4nm,1.1s						
BURAR	**Bucovina Array**	**84.18**	**338**	P	**P**	13 55 53.9	**+0.3**
BVAR	**Borovoye Array**	**84.86**	**7**	P	**P**	13 55 57.8	**+1.0**
	comp=Z,6.1nm,0.8s,baz=178,slow=5.3,SNR=22						
	comp=Z,6.1nm,0.8s						
BRVK	**Borovoye**	**84.88**	**7**	P	**P**	13 55 58.0	**+1.1**
AKASG	**Malin Array Be**	**85.79**	**342**	P	**P**	13 56 01.1	**-0.3**
	comp=Z,1.1nm,0.4s,baz=152,slow=4.2,SNR=2.2						
	comp=Z,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**88.18**	**15**	P	**P**	13 56 12.7	**-0.3**
ZALV	**Zalesovo Beam**	**88.18**	**15**	P	**P**	13 56 11.7	**-1.3**
	comp=Z,1.1nm,0.8s,baz=208,slow=5.7,SNR=5.2						
	comp=Z,1.1nm,0.8s						
ESDC	**Sonseca Array**	**91.33**	**317**	P	**P**	13 56 30.8	**+2.6**
	comp=Z,1.3nm,0.8s,baz=122,slow=4.2,SNR=8.7						
	comp=Z,1.3nm,0.8s						
YKA	**Yellowknife Ar**	**148.67**	**354**	PKPbc	**PKPbc**	14 03 08.9	**0.0**
	comp=Z,3.3nm,0.8s,baz=14,slow=2.8,SNR=11						
PDAR	**Pinedale Array**	**165.16**	**323**	PKPab	**PKPab**	14 04 24.5	**+0.4**
	comp=Z,0.2nm,0.5s,baz=42,slow=1.5,SNR=2.1						

*IDC **10** 13:44:52.0±0.9, 31°.60S×58°.34E, h0km, mb4.1/11, mbtmp4.1/11, Error ellipse: s-maj=36.0km s-min=21.5km az=78.0*

ISC 10 13:44:54.2±0.9, 31°.6S±0°.1×58°.3E±0°.3, h14km, n13, σ0§66/13, mb4.3/11, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**36.13**	**177**	P	**P**	13 51 55.7	**+0.3**
	2.0nm,0.3s,baz=318,slow=14,SNR=3.7						
	2.0nm,0.3s						
QSPA	**South Pole Qui**	**58.55**	**180**	P	**P**	13 54 49.7	**-0.4**
	1.7nm,1.0s,baz=297,slow=2.8,SNR=2.0						
	1.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**63.23**	**44**	P	**P**	13 55 22.3	**0.0**
	2.0nm,0.8s,baz=219,slow=7.0,SNR=7.4						
	2.0nm,0.8s						
ASAR	**Alice Springs**	**66.25**	**104**	P	**P**	13 55 41.6	**-0.6**
	1.3nm,0.7s,baz=243,slow=5.8,SNR=10						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**68.25**	**101**	P	**P**	13 55 55.0	**+0.1**
	1.8nm,0.8s,baz=242,slow=5.5,SNR=6.3						
	1.8nm,0.8s						
STKA	**Stephens Creek**	**68.97**	**115**	P	**P**	13 55 59.6	**+0.4**
	1.6nm,0.8s,baz=261,slow=19,SNR=3.1						
	1.6nm,0.8s						
BRTR	**Keskin Array B**	**74.58**	**340**	P	**P**	13 56 32.6	**-0.1**
	0.5nm,0.6s,baz=179,slow=9.6,SNR=2.5						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**80.99**	**16**	P	**P**	13 57 06.8	**-1.3**
	0.3nm,0.7s,baz=212,slow=5.1,SNR=2.9						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**83.81**	**13**	P	**P**	13 57 23.5	**+0.8**
	1.9nm,1.0s,baz=200,slow=5.7,SNR=5.1						
	1.9nm,1.0s						
BVAR	**Borovoye Array**	**84.94**	**7**	P	**P**	13 57 28.5	**+0.2**
	3.4nm,0.9s,baz=183,slow=5.8,SNR=7.3						
	3.4nm,0.9s						
ZALV	**Zalesovo Beam**	**88.25**	**15**	P	**P**	13 57 45.2	**+0.7**
	0.6nm,0.7s,baz=182,slow=4.3,SNR=1.8						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**148.77**	**354**	PKPbc	**PKPbc**	14 04 39.6	**-0.7**
	1.2nm,0.8s,baz=13,slow=3.1,SNR=4.2						
TXAR	**Lajitas Array**	**164.28**	**266**	PKP	**PKPdf**	14 04 58.1	**+0.4**
	0.2nm,0.7s,baz=99,slow=4.7,SNR=2.0						

*IDC **10** 13:50:17.4±0.6, 31°.69S×58°.25E, h0km, mb4.3/14, mbtmp4.3/15, ML3.8/1, MS3.7/6, Error ellipse: s-maj=23.6km s-min=18.1km az=64.0*
*NEIC **10** 13:50:18.1±1.4, 31°.62S±0°.04×58°.3E±0°.1, h10km±1km, mb4.5/10, Error ellipse: s-maj=19.6km s-min=7.4km az=83.0*

ISC 10 13:50:19.3±0.5, 31°.51S±0°.09×58°.15E±0°.09, h17km, n48, σ1§74/37, mb4.3/18, MS3.7/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.54**	**348**	Pn	**Pn**	13 52 49.2	**-0.4**
FOMA	**Nahampoana Res**	**11.80**	**301**	Pn	**Pn**	13 53 08.5	**+1.6**
VOI	**Vohitsoka**	**13.94**	**311**	Pn	**Pn**	13 53 34.3	**-1.9**
H04N2	**CROZET ISLANDS**	**15.43**	**197**	T	T	14 09 48.7	
	baz=22,slow=74						
H04N1	**CROZET ISLANDS**	**15.44**	**197**	T	T	14 09 56.9	
	baz=22						
H04N3	**CROZET ISLANDS**	**15.45**	**197**	T	T	14 09 55.2	
	baz=22,slow=74						
CRZF	**Crozet Islands**	**15.67**	**196**		**P**	13 54 01.8	**-1.4**
CRZF				IAmb	IAmb	13 54 29.3	
	comp=Z,62nm,0.9s						
ABPO	**Ambohimpanom**	**15.87**	**319**	P	**P**	13 54 06.5	**+0.7**
OPO	**Ambohidratompo**	**16.26**	**320**	Pn	**P**	13 54 10.3	**+0.2**
	baz=165,slow=14,SNR=2.8						
OPO				Sn	**Sn**	13 57 01.5	**-5.7**
	comp=Z,0.1nm,0.3s,baz=139,slow=20,SNR=1.6						
	comp=Z,6.3nm,0.8s						
POGA	**Pongola**	**23.38**	**273**	P	**P**	13 55 27.5	**+0.3**
POGA				IAmb	IAmb	13 55 30.4	
	comp=Z,9.5nm,0.8s						
H08S1	**Diego Garcia H**	**27.25**	**32**	T	T	14 24 29.8	
	baz=206,slow=76,SNR=22						
H08S2	**Diego Garcia H**	**27.26**	**32**	T	T	14 24 28.3	
	baz=206,slow=76,SNR=20						
H08S3	**Diego Garcia H**	**27.27**	**32**	T	T	14 24 31.3	
	baz=206,slow=76,SNR=22						
SUR	**Sutherland**	**31.59**	**258**	LR	LR	14 06 48.3	
	comp=Z,116nm,21.9s,baz=110,slow=31						
MAW	**Mawson**	**36.23**	**177**	LR	LR	14 08 39.6	
	comp=Z,166nm,20.9s,baz=2.0,slow=31						
TSUM	**Tsumeb**	**38.45**	**279**	P	**P**	13 57 38.9	**-1.6**
TSUM				IAmb	IAmb	13 57 43.8	
	comp=Z,6.4nm,0.9s						
MBAR	**Mbarara**	**40.22**	**315**	P	**P**	13 57 53.9	**-1.5**
H01W2	**Cape Leeuwin H**	**46.45**	**110**	T	T	14 48 21.3	
	baz=257,slow=74,SNR=18						
H01W3	**Cape Leeuwin H**	**46.45**	**110**	T	T	14 48 25.2	
	baz=257,slow=74,SNR=22						
H01W1	**Cape Leeuwin H**	**46.47**	**110**	T	T	14 48 25.8	
	baz=257,slow=74,SNR=19						
SNAA	**Sanae**	**51.36**	**201**	P	**P**	13 59 22.4	**-0.1**
	comp=Z,1.5nm,0.9s,baz=66,slow=3.5,SNR=4.4						
SNAA				LR	LR	14 16 25.7	
	comp=Z,67nm,20.8s,baz=110,slow=31						
	comp=Z,1.5nm,0.9s						
WSAR	**Wadi Sarin**	**54.44**	**1**	LR	LR	14 18 26.8	
	comp=Z,64nm,20.8s,baz=210,slow=31						
PSA00	**Pilbara Seismi**	**55.45**	**96**	P	**P**	13 59 50.0	**-3.3**
QSPA	**South Pole Qui**	**58.65**	**180**	P	**P**	14 00 15.0	**-0.5**
QSPA				IAmb	IAmb	14 00 16.3	
	comp=Z,3.9nm,0.8s						
QSPA	**South Pole Qui**	**58.65**	**180**	P	**P**	14 00 15.0	**-0.5**
	comp=Z,3.7nm,0.8s,baz=274,slow=2.6,SNR=20						
QSPA				LR	LR	14 22 34.8	
	comp=Z,66nm,20.5s,baz=292,slow=33						
	comp=Z,3.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.25**	**44**	P	**P**	14 00 46.4	**-0.7**
CMAR	**Chiang Mai Arr**	**63.25**	**44**	P	**P**	14 00 48.7	**+1.6**
	comp=Z,3.0nm,0.7s,baz=224,slow=6.3,SNR=17						
CMAR				LR	LR	14 23 43.5	
	comp=Z,44nm,21.2s,baz=235,slow=32						
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**66.40**	**104**	P	**P**	14 01 06.3	**-1.5**
ASAR	**Alice Springs**	**66.40**	**104**	P	**P**	14 01 07.6	**-0.1**
	comp=Z,1.2nm,0.7s,baz=240,slow=6.0,SNR=19						
	comp=Z,1.2nm,0.7s						
WRA	**Warramunga Arr**	**68.40**	**101**	P	**P**	14 01 20.6	**+0.1**
	comp=Z,1.4nm,0.8s,baz=242,slow=5.7,SNR=10						
	comp=Z,1.4nm,0.8s						
STKA	**Stephens Creek**	**69.12**	**115**	P	**P**	14 01 25.5	**+0.7**
	comp=Z,2.0nm,0.9s,baz=228,slow=12,SNR=3.5						
	comp=Z,2.0nm,0.9s						
DBIC	**Dimbokro**	**71.03**	**291**	P	**P**	14 01 38.4	**+1.8**
	comp=Z,4.1nm,0.9s,baz=131,slow=11,SNR=2.0						
	comp=Z,4.1nm,0.9s						
BRTR	**Keskin Array B**	**74.44**	**341**	P	**P**	14 01 57.4	**+0.9**
BRTR	**Keskin Array B**	**74.44**	**341**	P	**P**	14 01 58.3	**+1.8**
	comp=Z,1.1nm,0.8s,baz=160,slow=9.0,SNR=6.0						
	comp=Z,1.1nm,0.8s						
KKAR	**Karatay Array**	**75.11**	**9**	P	**P**	14 02 00.5	**+0.3**
SNOP	**Sinop**	**76.16**	**343**	P	**P**	14 02 06.0	**-0.2**
SNOP				IAmb	IAmb	14 02 10.0	
	comp=Z,6.0nm,1.2s						
ABKAR	**Akbulak array**	**80.42**	**1**	P	**P**	14 02 31.3	**+1.8**
MAKZ	**Makanchi**	**80.87**	**16**	P	**P**	14 02 32.7	**+0.6**
MAKZ				IAmb	IAmb	14 02 35.0	
	comp=Z,4.9nm,1.4s						
TWG	**Pinlang**	**80.90**	**56**	P	**P**	14 02 30.4	**-2.3**
MKAR	**Makanchi Array**	**80.94**	**17**	P	**P**	14 02 33.2	**+0.8**
MKAR	**Makanchi Array**	**80.94**	**17**	P	**P**	14 02 34.1	**+1.7**
	comp=Z,0.9nm,0.8s,baz=199,slow=7.2,SNR=6.6						
	comp=Z,0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**83.74**	**13**	P	**P**	14 02 49.0	**+2.0**
	comp=Z,2.7nm,0.9s,baz=204,slow=5.3,SNR=14						
	comp=Z,2.7nm,0.9s						
BVAR	**Borovoye Array**	**84.86**	**7**	P	**P**	14 02 54.5	**+1.9**
	comp=Z,4.9nm,0.8s,baz=177,slow=5.6,SNR=16						
	comp=Z,4.9nm,0.8s						
ZALV	**Zalesovo Beam**	**88.19**	**15**	P	**P**	14 03 09.8	**+0.9**
	comp=Z,1.3nm,0.9s,baz=202,slow=3.1,SNR=4.0						
	comp=Z,1.3nm,0.9s						
GERES	**GERESS Array B**	**89.30**	**332**	P	**P**	14 03 15.8	**+1.5**
	comp=Z,2.7nm,0.3s,baz=127,slow=8.5,SNR=4.4						
	comp=Z,2.7nm,0.3s						
ESDC	**Sonseca Array**	**91.29**	**317**	P	**P**	14 03 26.2	**+2.4**
	comp=Z,1.4nm,0.9s,baz=133,slow=3.6,SNR=7.6						
	comp=Z,1.4nm,0.9s						
YKA	**Yellowknife Ar**	**148.66**	**354**	PKPbc	**PKPbc**	14 10 05.1	**+0.4**
	comp=Z,2.8nm,0.9s,baz=3.7,slow=2.4,SNR=6.4						
NVAR	**Mina Array Bea**	**172.51**	**338**	PKPab	**PKPab**	14 11 54.0	**+1.5**
	comp=Z,0.3nm,0.6s,baz=20,slow=2.9,SNR=2.3						

*NDI **10** 13:53:27.7±1.6, 29°.47N×69°.32E, h10km, ML3.5, MW4.5, mb4.4(NEIC)*
*IDC **10** 13:53:29.6±1.4, 29°.43N×69°.84E, h0km, mb3.5/5, mbtmp3.7/7, ML3.9/2, Error ellipse: s-maj=39.1km s-min=25.9km az=86.0*
*NEIC **10** 13:53:30.6±1.4, 29°.36N±0°.10×70°.0E±0°.1, h17km±4km, mb4.4/9, Error ellipse: s-maj=14.8km s-min=13.5km az=61.0*

ISC 10 13:53:30.0±0.7, 29°.41N±0°.07×69°.72E±0°.07, h10km, n28, σ1§43/30, mb3.5/7, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**5.15**	**354**	Pn	**Pn**	13 54 45.8	**-1.7**
NIL	**Nilore**	**5.20**	**35**		**Pn**	13 54 45.2	**-2.7**
AJM	**Ajmer**	**5.24**	**123**	*e*P	Pn	13 54 51.4	+2.8
AJM				*ex*	x	13 55 10.0	
AJM				*i x*	x	13 55 10.4	
AJM				*ex*	x	13 56 16.8	
AJM				IAML		13 56 29.2	
	comp=E,26nm,1.2s						
AJM				IAML		13 56 30.0	
	comp=N,54nm,1.0s						
THN	**Thein Dam**	**5.97**	**58**	*e*P	**Pn**	13 55 00.7	**+2.2**
THN				*i* x	x	13 55 11.1	
THN				*e*S	**Sn**	13 56 07.5	**+0.5**
THN				IAML		13 56 49.6	
	comp=E,56nm,0.9s						
THN				IAML		13 56 50.9	
	comp=N,48nm,0.9s						
KUDL	**Kundal**	**6.08**	**100**	*e*P	**Pn**	13 55 01.2	**+1.3**
KUDL				*e*S	**Sn**	13 56 10.1	**+0.6**
DHRM	**DHARAMSHALA**	**6.33**	**62**	*e*P	**Pn**	13 55 04.8	**+1.1**
DHRM				*e*S	**Sn**	13 56 16.9	**+0.7**
DHRM				IAML		13 56 55.6	
	comp=N,82nm,0.2s						
DHRM				IAML		13 57 00.0	
	comp=E,83nm,1.2s						
SMLA	**Simla**	**6.67**	**73**	*e*P	**Pn**	13 55 09.1	**+1.0**
SMLA				*e*S	**Sn**	13 56 24.3	**+0.2**
SMLA				IAML	

s-min=19.5km az=80.0

ISC 10 13:54:34.1±1.2, 12°.0N±0°.1×146°.2E±0°.2, h35km, n12, σ1§10/10, mb3.6/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.05**	**322**	Pn	**Pn**	**13 55 03.9**	**-2.1**
	19nm,0.3s,baz=142,slow=20,SNR=38						
GUMO				Sn	**Sn**	**13 55 31.2**	**+0.8**
	162nm,0.3s,baz=156,slow=20,SNR=16						
	55nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**20.84**	**69**	T	T	14 20 21.8	
	baz=254,slow=74,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**20.86**	**69**	T	T	14 20 18.7	
	baz=254						
H11S2	**WAKE ISLAND Hy**	**20.86**	**69**	T	T	14 20 15.9	
	baz=254,slow=74,SNR=6.3						
JNU	**Nakatsue**	**25.29**	**329**	P	**P**	**13 59 57.9**	**+0.5**
	4.4nm,0.7s,baz=150,slow=17,SNR=4.9						
	4.4nm,0.7s						
WRA	**Warramunga Arr**	**33.77**	**200**	P	**P**	**14 01 12.2**	**-0.6**
	0.5nm,0.8s,baz=28,slow=10.0,SNR=6.6						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**37.38**	**199**	P	**P**	**14 01 43.7**	**0.0**
	0.3nm,0.5s,baz=24,slow=9.2,SNR=2.1						
	0.3nm,0.5s						
SONM	**Songino Array**	**48.77**	**325**	P	**P**	**14 03 15.9**	**+0.2**
	0.2nm,0.3s,baz=122,slow=5.2,SNR=1.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**63.52**	**316**	P	**P**	**14 05 02.0**	**+1.0**
	0.2nm,0.5s,baz=94,slow=8.0,SNR=1.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**66.67**	**320**	P	**P**	**14 05 22.2**	**+0.9**
	0.7nm,0.7s,baz=107,slow=6.6,SNR=4.2						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**69.50**	**25**	P	**P**	**14 05 38.3**	**-0.5**
	0.3nm,0.6s,baz=261,slow=5.9,SNR=5.3						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**71.97**	**322**	P	**P**	**14 05 54.8**	**+0.7**
	0.9nm,0.7s,baz=107,slow=7.7,SNR=2.6						
	0.9nm,0.7s						

*IDC **10** 13:56:30.4±1.0, 31°.72S×58°.29E, h0km, mb3.9/8, mbtmp3.9/9, ML3.5/1, Error ellipse: s-maj=38.2km s-min=23.8km az=74.0*

*NEIC **10** 13:56:31.9±0.5, 31°.6S±0°.1×58°.2E±0°.1, h10km±2km, mb4.5/2, Error ellipse: s-maj=26.2km s-min=15.5km az=139.0*

ISC 10 13:56:31.8±0.8, 31°.6S±0°.1×58°.2E±0°.1, h10km, n26, σ1§10/18, mb4.2/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.59**	**348**	Pn	**Pn**	**13 59 03.9**	**+0.1**
FOMA	**Nahampoana Res**	**11.83**	**301**	Pn	**Pn**	**13 59 21.2**	**+0.5**
H04N2	**CROZET ISLANDS**	**15.38**	**197**	T	T	14 16 04.3	
	baz=22,slow=75,SNR=32						
H04N1	**CROZET ISLANDS**	**15.38**	**197**	T	T	14 16 06.0	
	baz=22,slow=75,SNR=30						
H04N3	**CROZET ISLANDS**	**15.40**	**197**	T	T	14 16 01.0	
	baz=22,slow=75,SNR=32						
OPO	**Ambohidratompo**	**16.30**	**320**	Pn	**P**	**14 00 24.1**	**+0.1**
	baz=155,slow=18,SNR=2.5						
OPO				Sn	**Sn**	**14 03 19.2**	**-2.8**
	0.1nm,0.3s,baz=139,slow=20,SNR=1.2						
	3.6nm,0.7s						
POGA	**Pongola**	**23.38**	**274**	P	**P**	**14 01 41.7**	**+0.9**
POGA				IAmb	IAmb	14 02 05.4	
	comp=Z,20nm,1.4s						
H08S1	**Diego Carcia H**	**27.30**	**32**	T	T	14 30 30.9	
	baz=206,slow=76,SNR=16						
H08S2	**Diego Garcia H**	**27.30**	**32**	T	T	14 30 24.8	
	baz=206,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**27.32**	**32**	T	T	14 30 34.4	
	baz=206,slow=76,SNR=19						
H01W2	**Cape Leeuwin H**	**46.43**	**110**	T	T	14 54 07.0	
	baz=257,slow=74,SNR=21						
H01W3	**Cape Leeuwin H**	**46.44**	**110**	T	T	14 54 05.3	
	baz=257,slow=74,SNR=19						
H01W1	**Cape Leeuwin H**	**46.45**	**110**	T	T	14 54 10.2	
	baz=257,slow=74,SNR=21						
QSPA	**South Pole Qui**	**58.60**	**180**	P	**P**	**14 06 28.1**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=285,slow=0.1,SNR=16						
	comp=Z,2.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.29**	**44**	P	**P**	**14 07 01.6**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=227,slow=7.2,SNR=5.0						
	comp=Z,0.6nm,0.4s						
ASAR	**Alice Springs**	**66.39**	**104**	P	**P**	**14 07 20.7**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=245,slow=6.3,SNR=4.4						
	comp=Z,0.4nm,0.8s						
WRA	**Warramunga Arr**	**68.39**	**101**	P	**P**	**14 07 32.7**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=244,slow=5.5,SNR=1.6						
	comp=Z,0.3nm,0.6s						
BRTR	**Keskin Array B**	**74.49**	**341**	P	**P**	**14 08 11.2**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=163,slow=6.9,SNR=4.9						
	comp=Z,0.9nm,0.7s						
KKAR	**Karatay Array**	**75.17**	**9**	P	**P**	**14 08 14.0**	**-0.2**
ABKAR	**Akbulak array**	**80.48**	**1**	P	**P**	**14 08 43.7**	**+0.1**
MKAR	**Makanchi Array**	**80.99**	**17**	P	**P**	**14 08 47.4**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=194,slow=5.3,SNR=2.1						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**83.80**	**13**	P	**P**	**14 09 02.0**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=204,slow=5.3,SNR=5.2						
	comp=Z,1.1nm,0.8s						
BVAR	**Borovoye Array**	**84.91**	**7**	P	**P**	**14 09 07.9**	**+1.4**
	comp=Z,1.9nm,0.8s,baz=201,slow=7.7,SNR=5.9						
	comp=Z,1.9nm,0.8s						
BRVK	**Borovoye**	**84.93**	**7**	P	**P**	**14 09 06.5**	**-0.2**
BRVK				IAmb	IAmb	14 09 08.8	
	comp=Z,3.2nm,0.8s						
I30M	**Mount Dempster**	**145.15**	**11**		**PKPbc**	**14 16 08.3**	**-0.2**
YKA	**Yellowknife Ar**	**148.71**	**354**	PKPbc	**PKPbc**	**14 16 17.5**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=7.7,slow=3.9,SNR=3.7						

*IDC **10** 13:58:20.2±0.7, 22°.88N×121°.04E, h0km, mb3.9/14, mbtmp3.9/15, ML3.2/1, MS3.5/4, Error ellipse: s-maj=29.2km s-min=15.1km az=65.0*

*ASIES **10** 13:58:20.6, 23°.07N×120°.99E, h4km, ML4.2, Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-3.40; $M_{\theta\theta}$0.44; $M_{\phi\phi}$2.94; $M_{r\theta}$-1.86; $M_{\theta\phi}$-1.75; $M_{\phi r}$1.34; Fault plane solution: $M_0$4.30208×10^{21} NP1: ϕ_s138.11000°, δ61.43000°, λ-105.66000°. NP2: ϕ_s348.48000°, δ32.26000°, λ-63.64000°. Principal axes: T Plg15.0560°, Azm239.5070°; N Plg13.7090°, Azm145.7440°; P Plg69.4130°, Azm15.2450°;*

*TAP **10** 13:58:20.6, 23°.07N×120°.99E, h4km, ML4.2, C*

*BJI **10** 13:58:21.0±0.0, 23°.09N×120°.86E, h4km, mb4.1/7, mB4.5/3, ML4.0/4, Ms4.2/1, Ms7 3.7/1*

*NEIC **10** 13:58:22.7±2.3, 23°.13N±0°.04×121°.00E±0°.08, h10km±1km, mb4.3/4, Error ellipse: s-maj=13.0km s-min=7.3km az=102.0*

ISC 10 13:58:21.0±0.9, 23°.06N±0°.01×120°.99E±0°.01, h5km±6km, n182, σ0§87/235, mb4.0/16, 36C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.13**	**11**	⇑*iP*	**Pg**	**13 58 23.7**	**0.0**
	baz=17						
ELDTW				*e*S	**Sg**	**13 58 25.4**	**-0.1**
	baz=17						
ECS	**Chishang**	**0.21**	**81**	⇑*iP*	**Pg**	**13 58 26.1**	**+0.9**
	baz=82						
ECS				*e*S	**Sg**	**13 58 29.7**	**+1.7**
	baz=82						
EHD	**Haiduan**	**0.22**	**66**	⇑*iP*	**Pg**	**13 58 25.7**	**+0.4**
	baz=62						
EHD				*e*S	**Sg**	**13 58 28.8**	**+0.6**
	baz=62						
STYH	**Taoyuan**	**0.23**	**299**	⇑*iP*	**Pg**	**13 58 25.6**	**+0.1**
	baz=299						
STYH				*e*S	**Sg**	**13 58 28.8**	**+0.4**
	baz=299						
TWG	**Pinlang**	**0.25**	**162**		**Pg**	**13 58 26.5**	**+0.6**
TWG	**Pinlang**	**0.25**	**162**	⇓*iP*	**Pg**	**13 58 26.5**	**+0.6**
	baz=160						
TWG				*e*S	**Sg**	**13 58 30.0**	**+0.9**
	baz=160						
TWGBT	**Beinan**	**0.26**	**161**	P	**Pg**	**13 58 26.5**	**+0.5**
TWGBT	**Beinan**	**0.26**	**161**	⇓*iP*	**Pg**	**13 58 26.5**	**+0.5**
	baz=160						
TWGBT				*e*S	**Sg**	**13 58 29.9**	**+0.6**
	baz=160						
EDH	**Donghe**	**0.30**	**107**	*e*P	**Pb**	**13 58 28.1**	**-0.8**
	baz=117						
EDH				S	**Sb**	**13 58 33.6**	**-0.6**
	baz=117						
FULB	**Fuli**	**0.31**	**64**	⇑*iP*	**Pb**	**13 58 28.2**	**-0.9**
	baz=65						
FULB				*e*S	**Sb**	**13 58 32.8**	**-1.7**
	baz=65						
SLGT	**Liugui**	**0.32**	**258**	⇑*iP*	**Pg**	**13 58 27.5**	**+0.3**
	baz=257						
SLGT				*e*S	**Sg**	**13 58 31.2**	**-0.3**
	baz=257						
TTN	**Taitung**	**0.34**	**155**	*e*P	**Pb**	**13 58 29.1**	**-0.4**
	baz=153						
TTN				S	**Sb**	**13 58 34.6**	**-0.6**
	baz=153						
CHKT	**Chengkung**	**0.35**	**84**	⇑P	**Pb**	**13 58 29.4**	**-0.2**
	baz=85						
CHKT				*e*S	**Sb**	**13 58 34.9**	**-0.6**
	baz=85						
SGST	**Jiashian**	**0.38**	**273**	⇑*iP*	**Pg**	**13 58 27.9**	**-0.4**
	baz=272						
SGST				*e*S	**Sg**	**13 58 32.8**	**-0.4**
	baz=272						
WTP	**Ta-pu**	**0.39**	**298**	*i*P	**Pb**	**13 58 29.3**	**-1.2**
	baz=298						
WTP				*e*S	**Sb**	**13 58 35.3**	**-1.6**
	baz=298						
CHKH	**Chenggong**	**0.40**	**71**	*e*P	**Pb**	**13 58 29.7**	**-0.8**
	baz=72						
CHKH				*e*S	**Sb**	**13 58 35.7**	**-1.2**
	baz=72						
TWF1	**Yuli**	**0.41**	**44**	⇑*iP*	**Pg**	**13 58 29.0**	**+0.2**
	baz=46						
TWF1				*i*S	**Sg**	**13 58 34.3**	**+0.1**
	baz=46						
TPUB	**Ta-pu**	**0.41**	**306**	P	**Pb**	**13 58 29.5**	**-1.2**
TPUB	**Ta-pu**	**0.41**	**306**	Pg	**Pb**	**13 58 29.6**	**-1.2**
TPUB	**Ta-pu**	**0.41**	**306**	⇑*iP*	**Pb**	**13 58 29.6**	**-1.2**
	baz=306						
TPUB				S	**Sb**	**13 58 35.5**	**-1.9**
	baz=306						
EYUL	**Yuli**	**0.42**	**47**	⇑*iP*	**Pg**	**13 58 29.4**	**+0.3**
	baz=47						
EYUL				*i*S	**Sg**	**13 58 34.7**	**+0.2**
	baz=47						
YUS	**Yu-Shan**	**0.43**	**355**	⇑*iP*	**Pg**	**13 58 29.2**	**-0.2**
	baz=357						
YUS				*e*S	**Sg**	**13 58 34.8**	**-0.3**
	baz=357						
YULB	**Yu-li**	**0.43**	**40**	P	**Pg**	**13 58 29.3**	**-0.1**
YULB	**Yu-li**	**0.43**	**40**	Pg	**Pg**	**13 58 29.2**	**-0.1**
YULB	**Yu-li**	**0.43**	**40**	⇑*iP*	**Pg**	**13 58 29.3**	**-0.1**
	baz=41						
YULB				*i*S	**Sg**	**13 58 34.8**	**-0.3**
	baz=41						
ECL	**Taimali**	**0.46**	**184**	⇑*iP*	**Pg**	**13 58 29.9**	**0.0**
	baz=182						
ECL				*e*S	**Sg**	**13 58 35.1**	**-0.8**
	baz=182						
SNST	**Tainan City**	**0.48**	**289**	⇑*iP*	**Pb**	**13 58 31.5**	**-0.4**
	baz=289						
SNST				*e*S	**Sb**	**13 58 39.2**	**-0.2**
	baz=289						
SCST	**Cishan**	**0.49**	**249**	⇑*iP*	**Pb**	**13 58 31.2**	**-0.9**
	baz=249						
ECBN	**Changbin**	**0.49**	**59**	⇑P	**Pb**	**13 58 32.1**	**-0.1**
	baz=48						
ECBN				*e*S	**Sb**	**13 58 39.5**	**-0.3**
	baz=48						
TWK	**Hsinying**	**0.51**	**294**	⇑*iP*	**Pb**	**13 58 31.9**	**-0.5**
	baz=294						
TWK				*e*S	**Sb**	**13 58 39.0**	**-1.1**
	baz=294						
WCKO	**Fanlu**	**0.52**	**317**	*i*P	**Pb**	**13 58 31.7**	**-0.9**
	baz=326						
WCKO				*e*S	**Sb**	**13 58 39.4**	**-1.0**
	baz=326						
EHY	**Hungye**	**0.54**	**34**	⇑*iP*	**Pg**	**13 58 31.1**	**-0.2**
	baz=36						
EHY				S	**Sg**	**13 58 38.0**	**-0.4**
	baz=36						
EHYH	**Wanrong**	**0.54**	**37**	⇑*iP*	**Pg**	**13 58 31.3**	**-0.1**
	baz=38						
EHYH				S	**Sg**	**13 58 38.1**	**-0.4**
	baz=38						
MASBT	**Mashibuluo**	**0.56**	**217**	⇑*iP*	**Pg**	**13 58 31.1**	**-0.5**
	baz=216						
MASBT				S	**Sg**	**13 58 38.1**	**-0.8**
	baz=216						
SGLT	**Jiouru**	**0.57**	**234**	⇑*iP*	**Pb**	**13 58 32.9**	**-0.6**
	baz=228						
SGLT				*e*S	**Sb**	**13 58 40.9**	**-0.9**
	baz=228						
TWM1	**Shoushan**	**0.57**	**246**	⇑*iP*	**Pb**	**13 58 33.4**	**-0.2**
	baz=245						
CHN3	**Shinhua**	**0.58**	**272**	⇑*iP*	**Pn**	**13 58 34.5**	**-1.4**
	baz=274						
LDUT	**Ludao**	**0.59**	**131**	*e*P	**Pb**	**13 58 33.0**	**-0.8**
	baz=131						
LDUT				*e*S	**Sb**	**13 58 42.4**	**0.0**
	baz=131						
HGSD	**Ruisui**	**0.59**	**43**	⇑*e*P	**Pb**	**13 58 32.9**	**-0.8**
	baz=33						
HGSD				*e*S	**Sg**	**13 58 40.8**	**+0.9**
	baz=33						
SHHT	**Tainan City**	**0.59**	**266**	⇑*iP*	**Pn**	**13 58 35.2**	**-0.9**
	baz=269						
SHHT				*e*S	**Sn**	**13 58 45.5**	**-0.7**
	baz=269						
CHN5	**Tsauling**	**0.61**	**332**	⇑*iP*	**Pb**	**13 58 33.3**	**-0.8**
	baz=332						
WHYT	**Xinyi Township**	**0.65**	**349**	*e*P	**Pb**	**13 58 33.7**	**-1.1**
	baz=358						
SSHA	**Shanhua**	**0.65**	**277**	*e*P	**Pn**	**13 58 35.9**	**-1.0**
	baz=291						
CHN2	**Minshiung**	**0.67**	**315**	*e*P	**Pb**	**13 58 35.1**	**0.0**
	baz=315						
SNJT	**Kaohsiung City**	**0.68**	**243**	*e*P	**Pn**	**13 58 37.4**	**+0.1**
	baz=242						
CHY	**Chiayi**	**0.68**	**310**	*e*P	**Pb**	**13 58 35.0**	**-0.3**
	baz=310						
EAST	**Anshuo**	**0.69**	**191**	⇑*iP*	**Pg**	**13 58 34.2**	**0.0**
	baz=190						
EAST				S	**Sg**	**13 58 42.9**	**-0.3**
	baz=190						
TAI1	**Yung-k'ang**	**0.70**	**269**	*e*P	**Pn**	**13 58 37.2**	**-0.3**
	baz=285						
VWDT	**VWDT**	**0.70**	**11**	⇑*iP*	**Pg**	**13 58 33.8**	**-0.8**
	baz=12						
VWDT				*e*S	**Sg**	**13 58 42.2**	**-1.5**
	baz=12						
TAW	**Tawu**	**0.70**	**187**	⇑P	**Pg**	**13 58 34.6**	**+0.1**
	baz=186						
TAW				*e*S	**Sg**	**13 58 43.7**	**0.0**
	baz=186						
ICHU	**Yijhu**	**0.72**	**295**	⇑*e*P	**Pb**	**13 58 36.3**	**+0.3**
	baz=294						
TAWH	**Dawu Township**	**0.72**	**188**	⇑*iP*	**Pg**	**13 58 34.9**	**0.0**
	baz=188						
SSLB	**Suanglung**	**0.72**	**357**	P	**Pg**	**13 58 34.6**	**-0.3**
SSLB	**Suanglung**	**0.72**	**357**	Pg	**Pg**	**13 58 34.2**	**-0.8**
SSLB	**Suanglung**	**0.72**	**357**	⇓P	**Pg**	**13 58 34.4**	**-0.5**
	baz=357						
WGK	**Gukeng**	**0.74**	**328**	*e*P	**Pb**	**13 58 36.6**	**+0.3**
	baz=328						
SCLT	**Jiali**	**0.74**	**279**	*e*P	**Pn**	**13 58 37.2**	**-0.9**
	baz=294						
SCLT				*e*S	**Sn**	**13 58 49.7**	**-0.2**
	baz=294						
WARBT	**Fenglin Townsh**	**0.75**	**29**	*e*P	**Pg**	**13 58 34.6**	**-0.8**
	baz=38						
WARBT				*e*S	**Sg**	**13 58 43.9**	**-1.2**
	baz=38						
WDLH	**Douliu**	**0.75**	**327**	*e*P	**Pb**	**13 58 36.9**	**+0.3**
	baz=326						
SCZT	**Fangliau**	**0.77**	**207**	⇑*iP*	**Pg**	**13 58 35.3**	**-0.4**
	baz=206						
CHN8	**Yiju**	**0.77**	**292**	*e*P	**Pb**	**13 58 37.1**	**+0.2**
	baz=292						
CHN8				*e*S	**Sn**	**13 58 49.2**	**-1.3**
	baz=292						
WJS	**Zhushan**	**0.80**	**342**	*e*P	**Pb**	**13 58 37.6**	**+0.3**
	baz=342						
KAU	**Kaohsiung**	**0.80**	**232**	*e*P	**Pn**	**13 58 39.6**	**+0.7**
	baz=231						
SMLT	**Sun Moon Lake**	**0.82**	**354**	⇓P	**Pg**	**13 58 36.8**	**-0.1**
WTK	**Tuku**	**0.83**	**319**	*e*P	**Pn**	**13 58 38.4**	**-1.0**
	baz=318						
TSCK	**Chigu Township**	**0.84**	**276**	*e*P	**Pn**	**13 58 39.8**	**+0.3**
	baz=292						
WSL	**Shuilin Townsh**	**0.84**	**303**	*e*P	**Pb**	**13 58 38.4**	**+0.3**
	baz=304						
WSL				*e*S	**Sn**	**13 58 51.8**	**-0.4**
	baz=304						
TYC	**Yuchr**	**0.85**	**352**	*e*P	**Pb**	**13 58 37.4**	**-0.8**
	baz=358						
ESL	**Shilin**	**0.85**	**28**	*e*P	**Pg**	**13 58 36.8**	**-0.6**
	baz=37						
ESL				*e*S	**Sg**	**13 58 48.0**	**-0.5**
	baz=37						
SLIU	**Shizi**	**0.86**	**192**	⇑P	**Pg**	**13 58 37.3**	**-0.2**
	baz=203						
WNT	**Mingjian**	**0.86**	**341**	*e*P	**Pn**	**13 58 39.0**	**-0.8**
	baz=341						
SHUL	**Shoufeng**	**0.90**	**36**	*e*P	**Pb**	**13 58 38.4**	**-0.6**
	baz=36						
OWD	**Renai**	**0.91**	**11**	*e*P	**Pg**	**13 58 37.3**	**-1.1**
WSF	**Szhu**	**0.91**	**309**	*e*P	**Pb**	**13 58 39.3**	**0.0**
	baz=310						
WSF				*e*S	**Sb**	**13 58 52.4**	**+0.7**
	baz=310						
WUSB	**Renai**	**0.94**	**7**	⇑*e*P	**Pg**	**13 58 37.8**	**-1.2**
	baz=357						
WCS	**Beigang Elemen**	**0.99**	**356**	*e*P	**Pn**	**13 58 40.9**	**-0.8**
	baz=5.0						
WRL	**Guolierlin Hig**	**1.01**	**326**	*e*P	**Pn**	**13 58 41.3**	**-0.6**
	baz=327						
WRL				*e*S	**Sn**	**13 58 56.4**	**0.0**
	baz=327						
CHGB	**Renai**	**1.01**	**10**	*e*P	**Pg**	**13 58 39.0**	**-1.4**
	baz=9.0						
ETM	**Tongmen**	**1.01**	**27**	*e*P	**Pg**	**13 58 39.6**	**-0.8**
	baz=40						
LXIB	**Xiulin Townshi**	**1.03**	**22**	*e*P	**Pg**	**13 58 40.2**	**-0.7**
	baz=23						
LXIB				*e*S	**Sg**	**13 58 54.4**	**+0.1**
	baz=23						
WTCT	**Ta-ch'eng**	**1.03**	**321**	*e*P	**Pb**	**13 58 41.0**	**-0.4**
	baz=322						
WTCT				*e*S	**Sn**	**13 58 55.9**	**-1.1**
	baz=322						
HWA	**Hwalien**	**1.07**	**32**	*e*P	**Pg**	**13 58 41.3**	**-0.3**
	baz=44						
HEN	**Hengchun**	**1.07**	**193**	*e*P	**Pn**	**13 58 42.6**	**-0.2**
	baz=201						
WHF	**Hehuan Shan**	**1.11**	**13**	*e*P	**Pg**	**13 58 42.0**	**-0.3**
	baz=28						
TWK1	**Hengchun**	**1.12**	**189**	*e*P	**Pn**	**13 58 43.1**	**-0.3**
	baz=179						
TWKBT	**Hengchun**	**1.13**	**188**	*e*P	**Pb**	**13 58 42.6**	**-0.3**
	baz=179						
TWD	**Chiawan**	**1.16**	**29**	*e*P	**Pg**	**13 58 42.9**	**-0.3**
	baz=36						
TWD				*i*S	**Sg**	**13 58 58.0**	**-0.2**
	baz=36						
LYUB	**Lan-yu**	**1.19**	**152**	*e*P	**Pg**	**13 58 40.2**	**-3.6**
	baz=152						
TDCB	**Techi**	**1.20**	**7**	*e*P	**Pg**	**13 58 42.7**	**-1.3**
	baz=353						
FUSS	**Fushou**	**1.21**	**11**	*e*P	**Pg**	**13 58 43.3**	**-0.8**
	baz=23						
FUSS				*e*S	**Sn**	**13 59 01.1**	**-0.6**
	baz=23						
WHP	**Taichung City**	**1.21**	**358**	P	**Pn**	**13 58 45.3**	**+0.6**
	baz=358						
ETL	**Fush Village**	**1.24**	**28**	*e*P	**Pg**	**13 58 43.7**	**-1.1**
	baz=37						
ETL				*e*S	**Sb**	**13 59 00.7**	**-0.5**
	baz=37						
NACB	**Ninganchiao**	**1.24**	**26**	P	**Pg**	**13 58 44.1**	**-0.7**
NACB	**Ninganchiao**	**1.24**	**26**	Pn	**Pg**	**13 58 43.5**	**-1.3**
NACB	**Ninganchiao**	**1.24**	**26**	*e*P	**Pg**	**13 58 43.8**	**-1.0**
	baz=27						
NACB				*e*S	**Sg**	**13 58 59.1**	**-1.7**
	baz=27						
WDGT	**Dungji**	**1.24**	**279**	⇑*iP*	**Pg**	**13 58 44.4**	**-0.4**
	baz=280						
WDGT				*e*S	**Sn**	**13 59 01.6**	**-0.6**
	baz=280						
TWQ1	**Liyutan**	**1.30**	**351**	*e*P	**Pb**	**13 58 46.7**	**+0.8**
	baz=353						
TWQ1				*e*S	**Sn**	**13 59 04.9**	**+1.3**
	baz=353						
WDJ	**Dajia District**	**1.32**	**346**	*e*P	**Pb**	**13 58 47.6**	**+1.3**
	baz=334						
NSY	**Sanyi**	**1.37**	**351**	*e*P	**Pg**	**13 58 48.3**	**+1.1**
	baz=340						
NSY				S	**Sn**	**13 59 08.5**	**+3.2**
	baz=340						
PHUB	**P'eng-hu**	**1.38**	**289**	*e*P	**Pn**	**13 58 46.3**	**-0.7**
	baz=290						
PHUB				S	**Sg**	**13 59 04.7**	**-0.7**
	baz=290						
NNSB	**Datong**	**1.41**	**15**	*i*P	**Pn**	**13 58 46.9**	**-0.6**
	baz=25						
NNSB				*e*S	**Sn**	**13 59 06.2**	**-0.3**
	baz=25						
PNG	**Penghu**	**1.41**	**291**	*e*P	**Pn**	**13 58 47.3**	**-0.1**
	baz=292						
PNG				*e*S	**Sb**	**13 59 05.5**	**-0.7**
	baz=292						
NNS	**Nan Shan**	**1.42**	**14**	*e*P	**Pb**	**13 58 47.7**	**-0.3**
	baz=25						
NNS				*e*S	**Sn**	**13 59 06.8**	**+0.1**
	baz=25						
EAHA	**Aohua**	**1.44**	**28**	*e*P	**Pn**	**13 58 47.3**	**-0.4**
	baz=29						
EAHA				*e*S	**Sb**	**13 59 06.0**	**-1.0**
	baz=29						
VCHM	**Qimei**	**1.44**	**276**	P	**Pn**	**13 58 47.2**	**-0.6**
	baz=275						
NMLH	**Miaoli**	**1.48**	**353**	*e*P	**Pg**	**13 58 50.6**	**+1.2**
	baz=355						
NMLH				*e*S	**Sg**	**13 59 11.0**	**+2.3**
	baz=355						
ENA	**Nanau**	**1.53**	**27**	*e*P	**Pn**	**13 58 48.9**	**-0.1**
	baz=28						
LATG	**Datong**	**1.55**	**18**	*e*P	**Pb**	**13 58 49.7**	**-0.6**
	baz=36						
EWUT	**Wuta**	**1.56**	**27**	*e*P	**Pb**	**13 58 49.6**	**-0.7**
	baz=28						
NSTT	**Nanjuang**	**1.56**	**0**	*e*P	**Pg**	**13 58 50.9**	**-0.1**
	baz=1.0						
NFF	**Wufeng Townshi**	**1.57**	**4**	*e*P	**Pg**	**13 58 51.4**	**+0.2**
	baz=7.0						
NFF				*e*S	**Sg**	**13 59 11.8**	**+0.4**
	baz=7.0						
LIOB	**Emei**	**1.58**	**1**	*e*P	**Pg**	**13 58 50.9**	**-0.4**
	baz=4.0						
LIOB				*e*S	**Sg**	**13 59 13.0**	**+1.2**
	baz=4.0						
NDT	**Datong Townshi**	**1.61**	**17**	*e*P	**Pg**	**13 58 51.1**	**-0.7**
	baz=33						
NDT				*e*S	**Sg**	**13 59 12.1**	**-0.7**
	baz=33						
EOS4	**EOS4**	**1.61**	**49**	*e*P	**Pn

baz=37
TWS1 Kuangyinshan 2.07 11 *e*P **Pb 13 58 58.4 -0.7**
baz=354
NWF Wu-fen Shan 2.13 20 *e*P **Pb 13 59 00.2 0.0**
baz=36
WFSB Wu-fen Shan 2.13 20 *e*P **Pb 13 59 00.2 +0.1**
baz=36
NTST Danshui 2.14 11 *e*P **Pg 13 59 01.0 -0.9**
baz=353
YM01 YM01 2.14 14 *e*P **Pb 13 58 59.4 -1.0**
baz=36
YM08 YM08 2.19 14 *e*P **Pb 13 59 00.3 -0.8**
baz=36
VWUC VWUC 2.38 324 *e*P **Pn 13 59 00.3 -0.4**
baz=324
PTMZ Houxiangcun 2.61 319 *e*P **Pn 13 59 02.9 -1.0**
baz=320
KNM Kinmen 2.70 300 *e*P **Pn 13 59 05.9 +0.8**
baz=299
KNMB Chin-men Tao 2.76 301 Pn **Pn 13 59 05.3 -0.6**
KNMB Chin-men Tao 2.76 301 *e*P **Pn 13 59 05.2 -0.8**
baz=301
ZPLA Ao Xicun 3.10 287 *e*P **Pn 13 59 09.4 -1.2**
baz=287
MHZQ Yeshan 3.51 330 *e*P **Pn 13 59 15.6 -0.7**
baz=330
LYJJ Jianjiangzhen 3.65 342 *e*P **Pn 13 59 17.5 -0.7**
baz=342
HKPS Hong Kong Po S 6.37 264 Pn **Pn 13 59 56.1 +0.5**
JNU Nakatsue 13.28 39 LR LR 14 06 25.4
comp=Z,80nm,20.8s,baz=222,slow=36
JMN Monobe 15.53 44 Pn **Pn 14 02 01.4 +0.6**
KSRS Korea Array 15.54 21 Pn **P 14 02 03.7 -1.6**
0.1nm,0.3s,baz=200,slow=11,SNR=4.9
1.0nm,0.8s
PZH PanZhiHua 17.81 285 P **Pn 14 02 28.5 -1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,6.1s
HHC Hu-ho-hao-te 19.43 338 *e*P **Pn 14 02 49.8 +0.3**
HHC pmax pmax
comp=Z,5.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,6.7s
JCJ Chichijima 19.61 74 LR LR 14 09 50.8
comp=Z,50nm,19.7s,baz=118,slow=35
MJAR Matsushiro Arr 20.05 44 P Pn 14 02 57.2 +0.3
2.4nm,0.9s,baz=228,slow=8.4,SNR=7.5
2.4nm,0.9s
CMAR Chiang Mai Arr 21.11 262 P **P 14 03 08.6 +1.9**
0.4nm,0.4s,baz=63,slow=8.2,SNR=5.0
0.4nm,0.4s
SONM Songino Array 27.34 338 P **P 14 04 07.9 +0.9**
0.7nm,0.7s,baz=148,slow=8.5,SNR=2.2
0.7nm,0.7s
HEH HeiHe 27.61 9 *e*P **P 14 04 10.0 +0.8**
WMQ Urumqi 34.31 315 *e*P **P 14 05 09.4 +0.9**
WMQ PP **PP 14 06 26.5 +0.4**
WMQ pmax pmax
comp=Z,16nm,0.7s
MKAR Makanchi Array 39.03 317 P **P 14 05 49.3 +0.7**
MKAR Makanchi Array 39.03 317 P **P 14 05 49.6 +1.0**
2.1nm,0.8s,baz=110,slow=10,SNR=12
MKAR PcP **PcP 14 07 59.4 +0.6**
0.8nm,0.9s,baz=100,slow=4.4,SNR=3.7
2.1nm,0.8s
ZAA0 Zalesovo Array 41.09 328 P **P 14 06 06.0 +0.3**
ZAA0 IAmb IAmb 14 06 10.1
comp=Z,5.0nm,1.0s
ZALV Zalesovo Beam 41.09 328 P **P 14 06 05.6 -0.1**
ZALV Zalesovo Beam 41.09 328 P **P 14 06 06.2 +0.5**
comp=Z,2.4nm,0.6s,baz=117,slow=8.3,SNR=8.6
comp=Z,2.4nm,0.6s
H11N1 WAKE ISLAND Hy 42.74 85 T T 14 51 37.3
baz=283,slow=74,SNR=8.3
H11N2 WAKE ISLAND Hy 42.74 85 T T 14 51 33.1
baz=283,slow=74,SNR=10
H11N3 WAKE ISLAND Hy 42.76 85 T T 14 51 37.7
baz=283,slow=74,SNR=10
H11S3 WAKE ISLAND Hy 42.84 87 T T 14 51 45.5
baz=284,slow=74,SNR=11
H11S1 WAKE ISLAND Hy 42.85 87 T T 14 51 47.0
baz=284,slow=74,SNR=7.4
H11S2 WAKE ISLAND Hy 42.85 87 T T 14 51 39.9
baz=284,slow=74,SNR=4.5
KURBB Kurchatov Arra 42.86 321 P **P 14 06 21.2 +1.1**
comp=Z,1.6nm,1.0s,baz=113,slow=7.2,SNR=5.5
comp=Z,1.6nm,1.0s
WRA Warramunga Arr 44.68 162 P **P 14 06 33.0 -2.1**
comp=Z,0.7nm,0.6s,baz=343,slow=8.5,SNR=8.9
WRA PcP **PcP 14 08 18.3 +0.6**
comp=Z,0.5nm,0.8s,baz=343,slow=3.5,SNR=2.1
comp=Z,0.7nm,0.6s
ASAR Alice Springs 48.11 164 P **P 14 07 00.2 -1.9**
comp=Z,0.4nm,0.4s,baz=346,slow=8.6,SNR=18
comp=Z,0.4nm,0.4s
ABKAR Abkulak array 54.10 315 P **P 14 07 46.3 -0.5**
STKA Stephens Creek 58.08 159 P **P 14 08 13.5 -1.9**
comp=Z,1.2nm,0.6s,baz=335,slow=14,SNR=3.0
comp=Z,1.2nm,0.6s
KBZ Khabaz 66.04 309 P **P 14 09 09.7 +0.9**
comp=Z,3.3nm,1.0s,baz=101,slow=5.2,SNR=4.6
comp=Z,3.3nm,1.0s
H21K Melozitna Rive 67.68 27 P **P 14 09 19.8 +0.8**
H21K IAmb IAmb 14 09 54.5
comp=Z,4.3nm,1.2s
ARCES ARCESS Array B 70.51 338 P **P 14 09 39.3 +2.9**
comp=Z,1.6nm,0.9s,baz=59,slow=7.5,SNR=1.3
comp=Z,1.6nm,0.9s
BMAR Burnt Mountain 70.62 24 P **P 14 09 38.0 +0.8**
FINES FINESS Array B 72.32 330 P **P 14 09 48.3 +0.8**
comp=Z,1.7nm,0.7s,baz=82,slow=10.0,SNR=4.6
comp=Z,1.7nm,0.7s
BCAR Beaver Creek A 72.90 28 P **P 14 09 52.5 +1.5**
BRTR Keskin Array B 73.69 307 P **P 14 09 57.5 +1.2**
comp=Z,0.7nm,0.7s,baz=72,slow=4.7,SNR=2.6
comp=Z,0.7nm,0.7s
NOA NORSAR Array B 79.13 332 P **P 14 10 26.1 -0.4**
comp=Z,0.7nm,0.8s,baz=60,slow=5.4,SNR=4.2
comp=Z,0.7nm,0.8s
FRB Frobisher Bay 93.16 4 LR LR 14 58 58.9
comp=Z,30nm,18.5s,baz=28,slow=39
MATP Matopo 99.94 252 LR LR 14 54 59.7
comp=Z,67nm,18.8s,baz=61,slow=34

*SJA **10** 14:00:08.9±1.0, 31°.61S×70°.26W, h104km±5km, ML3.3, MW3.5*
*GUC **10** 14:00:09.5±0.8, 31°.59S×70°.40W, h116km±5km, ML3.4*
ISC 10 14:00:09.3±1.4, 31°.58S±0°.02×70°.32W±0°.03, h112km±10km, n46, σ1ˢ17/83, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.69**	**302**	*e*P	**Pn**	**14 00 27.8**	**-0.2**
CO02				*e*S	**Sn**	**14 00 42.2**	**+0.3**
CO02				IAML		14 00 45.2	
comp=Z,681nm,0.2s							
CO02	**Combarbal**	**0.69**	**302**	⇑*i*P	**Pn**	**14 00 27.7**	**-0.2**
CO02				*e*S	**Sn**	**14 00 41.4**	**-0.6**
CO03	**El Pedregal**	**0.80**	**337**	*e*P	**Pn**	**14 00 28.9**	**0.0**
CO03				*e*S	**Sn**	**14 00 44.0**	**+0.5**
CO03				IAML		14 00 45.6	
comp=Z,781nm,0.2s							
CO03	**El Pedregal**	**0.80**	**337**	⇑*i*P	**Pn**	**14 00 28.7**	**-0.1**
CO03				*e*S	**Sn**	**14 00 43.3**	**-0.2**
CO03				IAML		14 00 46.0	
comp=E,2μm,0.2s							
RTLS	**Leoncito**	**0.90**	**105**	*e*P	**Pn**	**14 00 29.4**	**-0.6**
RTLS				*e*S	**Sn**	**14 00 44.6**	**-1.0**
VA03	**San Esteban**	**1.20**	**189**	*e*P	**Pn**	**14 00 32.8**	**-0.1**
VA03				IAML	**Sn**	**14 00 51.8**	**+1.0**
comp=Z,327nm,0.2s							
VA03				*e*S	**Sn**	**14 00 51.8**	**+1.0**
VA03	**San Esteban**	**1.20**	**189**	*e*P	**Pn**	**14 00 32.8**	**-0.1**
VA03				*e*S	**Sn**	**14 00 50.1**	**-0.7**
VA03				IAML		14 00 52.5	
comp=E,1μm,0.1s							
DOCA	**Reserva Natura**	**1.23**	**60**	*e*P	**Pn**	**14 00 33.2**	**-0.3**
DOCA				*e*S	**Sn**	**14 00 51.5**	**-0.3**
DOCA				IAML		14 00 52.0	
comp=Z,2μm,0.1s							
ZON	**Zonda**	**1.40**	**89**	*e*P	**Pn**	**14 00 34.9**	**-0.3**
ZON				*e*S	**Sn**	**14 00 52.4**	**-2.3**
ZON				IAML		14 00 56.0	
comp=Z,274nm,0.2s							
CO06	**Fray Jorge**	**1.44**	**308**	⇑*i*P	**Pn**	**14 00 35.2**	**-0.4**
CO06				*e*S	**Sn**	**14 00 54.8**	**-0.7**
CO06				IAML		14 01 04.1	
comp=E,325nm,0.2s							
GO04	**Tololo Observa**	**1.46**	**344**	*e*P	**Pn**	**14 00 36.1**	**0.0**
GO04				*e*S	**Sn**	**14 00 57.3**	**+1.1**
GO04	**Tololo Observa**	**1.46**	**344**	⇑*i*P	**Pn**	**14 00 35.9**	**-0.1**
GO04				*e*S	**Sn**	**14 00 55.6**	**-0.6**
GO04				IAML		14 00 57.5	
comp=E,2μm,0.4s							
ACCO	**Cerro Coronel**	**1.46**	**48**	*e*P	**Pn**	**14 00 36.3**	**+0.2**
ACCO				*e*S	**Sn**	**14 00 56.2**	**-0.2**
ROCH	**El Roble**	**1.51**	**203**	*e*P		14 00 36.4	
ROCH				*e*P	**Pn**	**14 00 36.2**	**-0.4**
ROCH				*e*S	**Sn**	**14 00 56.3**	**-1.0**
ROCH				*e*S		14 00 56.6	
ROCH				IAML		14 00 58.4	
comp=N,439nm,0.4s							
ROCH				IAML		14 00 58.4	
comp=N,214nm,0.3s							
ROC1	**El Roble**	**1.51**	**203**	*e*P	**Pn**	**14 00 36.0**	**-0.7**
ROC1				*e*S	**Sn**	**14 00 56.6**	**-0.9**
RTCV	**Cerro Valdivia**	**1.54**	**101**	*e*P	**Pn**	**14 00 36.4**	**-0.4**
AROD	**Rodeo**	**1.58**	**28**	*e*P	**Pn**	**14 00 38.6**	**+1.1**
AROD				*e*S	**Sn**	**14 01 00.4**	**+1.4**
PEL	**Peldehue**	**1.59**	**191**	*e*P	**Pn**	**14 00 37.4**	**0.0**
PEL				*e*S	**Sn**	**14 00 59.5**	**+0.7**
PEL	**Peldehue**	**1.59**	**191**	*e*P	**Pn**	**14 00 37.0**	**-0.4**
PEL				*e*S	**Sn**	**14 00 57.8**	**-1.0**
PEL				IAML		14 01 01.2	
comp=E,229nm,0.2s							
CO01	**Juntas del Tor**	**1.61**	**7**	*e*P	**Pn**	**14 00 38.7**	**+0.9**
CO01				*e*S	**Sn**	**14 01 00.9**	**+1.5**
CO01				IAML		14 01 01.9	
comp=Z,121nm,0.5s							
CO01	**Juntas del Tor**	**1.61**	**7**	*e*P	**Pn**	**14 00 38.8**	**+0.9**
CO01				*e*S	**Sn**	**14 00 59.5**	**+0.1**
CO01				IAML		14 01 01.8	
comp=E,210nm,0.5s							
ASAL	**Salagasta**	**1.62**	**129**	*e*P	**Pn**	**14 00 37.8**	**0.0**
ASAL				*e*S	**Sn**	**14 01 00.7**	**+1.3**
MT10	**Hacienda Santa**	**1.70**	**186**	*e*P	**Pn**	**14 00 38.9**	**+0.1**
MT10				*e*S	**Sn**	**14 01 00.9**	**-0.4**
MT10				IAML		14 01 04.1	
comp=N,838nm,0.2s							
ARCO	**CERRO ARCO**	**1.73**	**137**	*e*P	**Pn**	**14 00 39.7**	**+0.6**
ARCO				*e*S	**Sn**	**14 01 04.7**	**+2.9**
ARCO				IAML		14 01 07.2	
comp=Z,312nm,0.2s							
ACDV	**Cuesta del Vie**	**1.74**	**37**	*e*P	**Pn**	**14 00 40.1**	**+0.7**
ACDV				*e*S	**Sn**	**14 01 04.3**	**+2.1**
ACDV				IAML		14 01 05.6	
comp=Z,151nm,0.4s							
MT02	**Curacav**	**1.81**	**202**	*e*P	**Pn**	**14 00 39.4**	**-0.6**
MT02				*e*S	**Sn**	**14 01 02.9**	**-0.7**
MT02				IAML		14 01 10.6	
comp=Z,84nm,0.3s							
MT02	**Curacav**	**1.81**	**202**	*e*P	**Pn**	**14 00 39.5**	**-0.6**
MT02				*e*S	**Sn**	**14 01 02.3**	**-1.2**
VA01	**Torpederas**	**1.83**	**218**	*e*P	**Pn**	**14 00 41.2**	**+1.0**
VA01				*e*S	**Sn**	**14 01 09.4**	**+5.6**
CO05	**La Serena**	**1.83**	**334**	*e*P	**Pn**	**14 00 39.9**	**-0.4**
CO05				*e*S	**Sn**	**14 01 02.6**	**-1.3**
CO05				IAML		14 01 04.5	
comp=N,503nm,0.3s							
MT05	**Renca**	**1.84**	**191**	*e*P	**Pn**	**14 00 42.4**	**+1.9**
MT05				*e*S	**Sn**	**14 01 05.7**	**+1.4**
MT05				IAML		14 01 06.1	
comp=Z,228nm,0.3s							
MT03	**Universidad Ad**	**1.92**	**185**	*e*P	**Pn**	**14 00 42.0**	**+0.5**
MT03				*e*S	**Sn**	**14 01 06.7**	**+0.7**
MT03				IAML		14 01 09.1	
comp=Z,288nm,0.4s							
MT03	**Universidad Ad**	**1.92**	**185**	*e*P	**Pn**	**14 00 41.4**	**-0.1**
MT03				*e*S	**Sn**	**14 01 05.7**	**-0.3**
MT03				IAML		14 01 09.5	
comp=N,867nm,0.2s							
AAGR	**Agrelo**	**1.96**	**140**	*e*P	**Pn**	**14 00 43.0**	**+0.9**
AAGR				*e*S	**Sn**	**14 01 08.9**	**+1.9**
MT13	**San Alfonso**	**2.16**	**179**	*e*P	**Pn**	**14 00 44.8**	**+0.2**
LMEL	**Las Melosas**	**2.27**	**178**	*e*P	**Pn**	**14 00 46.2**	**+0.3**
MT01	**Popeta**	**2.41**	**199**	*e*P	**Pn**	**14 00 47.1**	**-0.5**
MT01				IAML		14 01 19.5	
comp=Z,66nm,0.2s							
AVIZ	**Vizcacheras**	**2.43**	**142**	*e*P	**Pn**	**14 00 48.4**	**+0.4**
AVIZ				*e*S	**Sn**	**14 01 19.1**	**+1.4**
LCO	**Las Campanas**	**2.58**	**353**	*e*P	**Pn**	**14 00 50.2**	**+0.1**
LCO				*e*S	**Sn**	**14 01 22.0**	**+0.6**
AVFE	**Valle Fertil**	**2.62**	**70**	*e*P	**Pn**	**14 00 50.3**	**-0.2**
AVFE				*e*S	**Sn**	**14 01 20.7**	**-1.4**
AVFE				IAML		14 01 22.5	
comp=Z,159nm,0.4s							
AC05	**El Transito**	**2.73**	**1**	*e*S	**Sn**	**14 01 25.4**	**+0.7**
BO01	**Tunca**	**2.88**	**193**	*e*S	**Sn**	**14 01 26.4**	**-1.6**
VCA	**Vinchina**	**3.37**	**33**	*e*S	Sn	14 01 26.9	-13
VCA				*e*S	Sn	14 01 26.9	-13
RFA	**San Rafael**	**3.54**	**154**	*e*S	Sn	14 01 32.2	-12
ACLC	**CERRO LA CRUZ**	**3.61**	**54**	*e*S	**Sn**	**14 01 46.6**	**+0.9**
GO05	**Huala**	**3.68**	**201**	*e*P	**Pn**	**14 01 02.9**	**-1.5**
TCA	**Tanti**	**4.90**	**89**	*e*P	**Pn**	**14 01 19.3**	**-1.5**
TCA				*e*P	**Pn**	**14 01 19.3**	**-1.5**
TCA				*e*P	**Pn**	**14 01 19.3**	**-1.5**
TCA				*e*P	**Pn**	**14 01 19.3**	**-1.5**
TCA				IAML		14 02 14.3	
comp=Z,39nm,1.4s							

*AUST **10** 14:05:21.4±0.2, 31°.S±2°.×12°.2E±°, h10km, mb3.8/4, Mjma4.9/7, ML3.2/8, MLv4.3/3, Error ellipse: s-maj=4.6km s-min=4.4km az=33.5*
*NOU **10** 14:05:22.5, 31.07S×121°.69E, h0km, MLv4.0/11, Western Australia*
ISC 10 14:05:22.7±0.8, 31°.10S±0°.05×121°.70E±0°.05, h16km, n33, σ1ˢ59/33, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBL	**Kambalda**	**0.30**	**150**	P	**Pg**	**14 05 28.6**	**-0.6**
KMBL	**Kambalda**	**0.30**	**150**	P	**Pg**	**14 05 28.7**	**-0.5**
KMBL				S	**Sg**	**14 05 31.7**	**-2.0**
KLBR	**Kellerberrin**	**3.41**	**261**	P	**Pn**	**14 06 16.6**	**+1.3**
KLBR	**Kellerberrin**	**3.41**	**261**	S	**Sn**	**14 06 55.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**4.21**	**243**	P	**Pn**	**14 06 29.1**	**+2.8**
NWAO	**Narrogin (SRO)**	**4.21**	**243**	P	**Pn**	**14 06 26.4**	**+0.2**
BLDU	**Ballidu**	**4.32**	**275**	P	**Pn**	**14 06 28.5**	**+0.7**
BLDU	**Ballidu**	**4.32**	**275**	P	**Pn**	**14 06 28.3**	**+0.5**
BLDU	**Ballidu**	**4.32**	**275**	S	**Sn**	**14 07 15.4**	**-2.5**
MUN	**Mundaring**	**4.77**	**258**	P	**Pn**	**14 06 34.6**	**+0.6**
MUN	**Mundaring**	**4.77**	**258**	P	**Pn**	**14 06 34.2**	**+0.3**
MEEK	**Meekatharra**	**5.21**	**328**	P	**Pn**	**14 06 41.6**	**+1.5**
MEEK	**Meekatharra**	**5.21**	**328**	P	**Pn**	**14 06 41.6**	**+1.5**
MEEK	**Meekatharra**	**5.21**	**328**	S	**Sn**	**14 07 40.1**	**+0.3**
RKGY	**Rocky Gully**	**5.29**	**227**	P	**Pn**	**14 06 43.7**	**+2.5**
RKGY	**Rocky Gully**	**5.29**	**227**	P	**Pn**	**14 06 42.9**	**+1.7**
comp=Z,27nm,1.0s,comp=Z,229nmcomp=Z,292μmcomp=Z,0.1nm							
RKGY	**Rocky Gully**	**5.29**	**227**	S	**Sn**	**14 07 42.1**	**+0.3**
MORW	**Morawa**	**5.31**	**291**	P	**Pn**	**14 06 42.4**	**+1.0**
MORW	**Morawa**	**5.31**	**291**	P	**Pn**	**14 06 42.6**	**+1.2**
FORT	**Forrest**	**5.47**	**88**	P	**Pn**	**14 06 45.9**	**+2.4**
FORT	**Forrest**	**5.47**	**88**	S	**Sn**	**14 07 45.7**	**-0.4**
FORT	**Forrest**	**5.47**	**88**	P	**Pn**	**14 06 46.0**	**+2.4**
WRKA	**Warakurna**	**8.39**	**46**	P	**Pn**	**14 07 27.3**	**+3.6**
PSAD1	**Pilbara Seismi**	**9.76**	**350**	P	**Pn**	**14 07 41.9**	**-0.5**
comp=Z,9.7nm,2.7s,comp=Z,1μmcomp=Z,0.1nm							
MBWA	**Marble Bar**	**10.06**	**349**	P	**Pn**	**14 07 46.7**	**+0.1**
MULG	**Mulgathing**	**10.67**	**89**	P	**Pn**	**14 07 56.5**	**+1.6**
comp=Z,12nm,2.2s							
MULG	**Mulgathing**	**10.67**	**89**	P	Pn	14 07 48.8	-6.1
GIRL	**Giralia**	**10.74**	**320**	P	**Pn**	**14 07 55.8**	**-0.2**
OOD	**Oodnadatta**	**12.62**	**78**	P	**Pn**	**14 08 22.8**	**+1.1**
comp=Z,5.4nm,1.5s							
OOD	**Oodnadatta**	**12.62**	**78**	P	**Pn**	**14 08 20.1**	**-1.5**
comp=Z,5.2nm,1.5s,comp=Z,1μm							
FITZ	**Fitzroy Crossi**	**13.43**	**16**	P	**Pn**	**14 08 31.9**	**-0.8**
WB2	**Warramunga Arr**	**15.92**	**49**	P	**Pn**	**14 09 04.0**	**-2.1**
KNRA	**Kununurra**	**16.66**	**24**	P	**Pn**	**14 09 14.3**	**-1.3**
comp=Z,16nm,2.5s,comp=Z,668nm							

*IDC **10** 14:15:59.4±1.3, 31°.67S×58°.33E, h0km, mb4.0/9, mbtmp4.0/9, Error ellipse: s-maj=44.8km s-min=26.4km az=72.0*
*NEIC **10** 14:16:00.6±0.8, 31°.6S±0°.1×58°.3E±0°.2, h10km±2km, mb4.6/7, Error ellipse: s-maj=31.2km s-min=17.1km az=253.0*
ISC 10 14:16:01.1±0.7, 31°.6S±0°.1×58°.3E±0°.1, h14km, n34, σ0ˢ84/25, mb4.2/13, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.65**	**347**	Pn	**Pn**	**14 18 31.6**	**-1.8**
FOMA	**Nahampoana Res**	**11.98**	**301**	Pn	**Pn**	**14 18 51.8**	**+0.4**
VOI	**Vohitsoka**	**14.11**	**310**	Pn	**Pn**	**14 19 19.8**	**-0.9**
H04N2	**CROZET ISLANDS**	**15.39**	**197**	T	T	14 35 30.3	
baz=21,slow=74							
H04N1	**CROZET ISLANDS**	**15.40**	**197**	T	T	14 35 32.4	
baz=21,slow=74							
H04N3	**CROZET ISLANDS**	**15.41**	**197**	T	T	14 35 30.9	
baz=21							
CRZF	**Crozet Islands**	**15.63**	**197**	P	**P**	**14 19 43.3**	**-1.7**
CRZF				IAmb	IAmb	14 20 20.5	
comp=Z,106nm,1.3s							
H08S1	**Diego Carcia H**	**27.24**	**32**	T	T	14 50 02.7	
baz=206,slow=76,SNR=8.7							
H08S2	**Diego Garcia H**	**27.25**	**32**	T	T	14 50 03.4	
baz=206,slow=76,SNR=4.7							
H08S3	**Diego Garcia H**	**27.26**	**32**	T	T	14 50 04.9	
baz=206,slow=76,SNR=4.5							
H01W2	**Cape Leeuwin H**	**46.28**	**110**	T	T	15 13 39.7	
baz=257,slow=75,SNR=12							
H01W3	**Cape Leeuwin H**	**46.28**	**110**	T	T	15 13 41.0	
baz=257,slow=75,SNR=12							
H01W1	**Cape Leeuwin H**	**46.30**	**110**	T	T	15 13 41.2	
baz=257,slow=75,SNR=13							
QSPA	**South Pole Qui**	**58.57**	**180**	P	**P**	**14 25 57.5**	**+0.3**
comp=Z,0.5nm,0.6s,baz=301,slow=5.6,SNR=1.4							
comp=Z,0.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.21**	**44**	P	**P**	**14 26 28.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**63.21**	**44**	P	**P**	**14 26 30.6**	**+1.4**
comp=Z,2.8nm,0.7s,baz=230,slow=7.1,SNR=18							
comp=Z,2.8nm,0.7s							
ASAR	**Alice Springs**	**66.23**	**104**	P	**P**	**14 26 48.9**	**-0.2**
ASAR	**Alice Springs**	**66.23**	**104**	P	**P**	**14 26 49.5**	**+0.5**
comp=Z,2.0nm,0.7s,baz=242,slow=6.0,SNR=39							
comp=Z,2.0nm,0.7s							
AS31	**Alice Springs**	**66.23**	**104**	P	**P**	**14 26 48.6**	**-0.4**
AS31				IAmb	IAmb	14 26 50.1	
comp=Z,0.6nm,0.7s							
WRA	**Warramunga Arr**	**68.23**	**101**	P	**P**	**14 27 02.2**	**+0.5**
comp=Z,2.0nm,0.8s,baz=242,slow=5.6,SNR=16							
comp=Z,2.0nm,0.8s							
WB2	**Warramunga Arr**	**68.24**	**101**	P	**P**	**14 27 01.2**	**-0.6**
WB0	**Warramunga Arr**	**68.36**	**100**	P	**P**	**14 27 02.5**	**0.0**
WB0				IAmb	IAmb	14 27 03.9	
comp=Z,5.2nm,0.9s							
WR0	**Warramunga Arr**	**68.39**	**101**	P	**P**	**14 27 02.3**	**-0.4**
WR0				IAmb	IAmb	14 27 17.0	
comp=Z,6.6nm,1.2s							
STKA	**Stephens Creek**	**68.95**	**115**	P	**P**	**14 27 05.8**	**-0.2**
STKA	**Stephens Creek**	**68.95**	**115**	P	**P**	**14 27 06.0**	**-0.1**
comp=Z,1.0nm,0.6s,baz=228,slow=3.6,SNR=3.3							
comp=Z,1.0nm,0.6s							
KKAR	**Karatay Array**	**75.18**	**9**	P	**P**	**14 27 43.4**	**+0.6**
ABKAR	**Akbulak array**	**80.51**	**1**	P	**P**	**14 28 13.1**	**+0.8**
MKAR	**Makanchi Array**	**80.98**	**16**	P	**P**	**14 28 15.8**	**+0.9**
MKAR	**Makanchi Array**	**80.98**	**16**	P	**P**	**14 28 15.6**	**+0.7**
comp=Z,0.5nm,0.7s,baz=216,slow=7.3,SNR=2.9							
comp=Z,0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**83.79**	**13**	P	**P**	**14 28 30.4**	**+0.9**
comp=Z,1.2nm,0.8s,baz=205,slow=6.0,SNR=9.4							
comp=Z,1.2nm,0.8s							
KURK	**Kurchatov**	**83.90**	**13**	P	**P**	**14 28 30.4**	**+0.4**
KURK				IAmb	IAmb	14 28 41.9	
comp=Z,3.2nm,1.1s							
ZALV	**Zalesovo Beam**	**88.23**	**15**	P	**P**	**14 28 51.5**	**+0.2**
comp=Z,0.3nm,0.4s,baz=207,slow=2.9,SNR=1.4							
comp=Z,0.3nm,0.4s							
SONM	**Songino Array**	**90.07**	**30**	P	**P**	**14 29 00.7**	**+0.4**
comp=Z,0.2nm,0.4s,baz=219,slow=3.7,SNR=1.9							
comp=Z,0.2nm,0.4s							
YKA	**Yellowknife Ar**	**148.76**	**354**	PKPbc	**PKiKP**	**14 35 48.0**	**-0.7**
comp=Z,1.6nm,0.8s,baz=1.2,slow=2.9,SNR=5.4							

IDC 10 14:21:26.3±3.2, 31°.86S×58°.38E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=90.0km s-min=41.5km az=115.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.31**	**180**	P	P	14 31 22.7	-0.1
0.6nm,0.8s,baz=281,slow=5.2,SNR=1.5							
0.6nm,0.8s							
CMAR	**Chiang Mai Arr**	**63.37**	**44**	P	P	14 31 57.4	-0.2
0.3nm,0.5s,baz=220,slow=6.7,SNR=1.4							
0.3nm,0.5s							
ASAR	**Alice Springs**	**66.13**	**104**	P	P	14 32 15.7	-0.2
0.4nm,0.7s,baz=243,slow=5.8,SNR=9.4							
0.4nm,0.7s							
WRA	**Warramunga Arr**	**68.14**	**100**	P	P	14 32 29.1	+0.4
0.5nm,0.7s,baz=241,slow=5.5,SNR=7.2							
0.5nm,0.7s							

*IDC **10** 14:21:39.4±1.3, 31°.67S×58°.29E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=46.6km s-min=29.1km az=88.0*
ISC 10 14:21:42.6±1.1, 31°.6S±0°.2×58°.5E±0°.3, h14km, n14, σ1ˢ19/8, mb4.1/7, 1C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.48**	**198**	T	T	14 40 58.9	
baz=22,slow=75,SNR=11							
H04N1	**CROZET ISLANDS**	**15.48**	**198**	T	T	14 41 01.5	
baz=22,slow=75,SNR=14							
H04N3	**CROZET ISLANDS**	**15.50**	**198**	T	T	14 40 59.4	
baz=22,slow=75,SNR=12							
H08S1	**Diego Carcia H**	**27.12**	**32**	T	T	14 55 36.8	
baz=206							
H08S2	**Diego Garcia H**	**27.13**	**32**	T	T	14 55 37.7	
baz=206							
H08S3	**Diego Garcia H**	**27.14**	**32**	T	T	14 55 38.3	
baz=206							
VNA3	**Neumayer Olymp**	**53.45**	**202**	⇑P	**P**	**14 31 03.4**	**+1.6**
comp=Z,1.2nm,0.2s							
QSPA	**South Pole Qui**	**58.60**	**180**	P	**P**	**14 31 37.2**	**-1.7**
comp=Z,0.5nm,0.6s,baz=272,slow=1.1,SNR=5.8							
comp=Z,0.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.06**	**44**	P	**P**	**14 32 10.2**	**+0.6**
comp=Z,1.3nm,0.7s,baz=

H08S1 Diego Carcia H 27.36 32 T T 14 57 32.0
baz=207,slow=76,SNR=6.4
H08S2 Diego Garcia H 27.37 32 T T 14 57 31.2
baz=207,slow=76,SNR=6.3
H08S3 Diego Garcia H 27.38 32 T T 14 57 32.7
baz=207,slow=76,SNR=6.8
H01W2 Cape Leeuwin H 46.30 110 T T 15 21 35.6
baz=257,slow=75,SNR=5.8
H01W3 Cape Leeuwin H 46.31 110 T T 15 21 37.1
baz=257,slow=75,SNR=5.4
H01W1 Cape Leeuwin H 46.32 110 T T 15 21 34.8
baz=257,slow=75,SNR=5.6
SNAA Sanae 51.22 201 P **P** **14 32 26.8 +0.1**
1.4nm,1.0s,baz=142,slow=6.4,SNR=2.5
1.4nm,1.0s
QSPA South Pole Qui 58.47 180 P **P** **14 33 19.5 +0.1**
QSPA South Pole Qui 58.47 180 P **P** **14 33 19.9 +0.6**
1.9nm,0.7s,baz=283,slow=2.2,SNR=15
1.9nm,0.7s
CMAR Chiang Mai Arr 63.32 44 P **P** **14 33 53.6 +0.9**
CMAR Chiang Mai Arr 63.32 44 P **P** **14 33 52.5 -0.2**
2.6nm,0.8s,baz=229,slow=7.4,SNR=15
2.6nm,0.8s
ASAR Alice Springs 66.27 104 P **P** **14 34 11.7 -0.5**
0.7nm,0.8s,baz=244,slow=5.9,SNR=10
0.7nm,0.8s
WRA Warramunga Arr 68.27 101 P **P** **14 34 23.8 -1.1**
0.7nm,0.9s,baz=247,slow=4.3,SNR=4.0
0.7nm,0.9s
TORD Torodi Ar. Bea 70.16 300 P **P** **14 34 36.4 -0.1**
1.4nm,0.9s,baz=110,slow=4.9,SNR=7.2
1.4nm,0.9s
BRTR Keskin Array B 74.65 341 P **P** **14 35 03.2 +0.2**
BRTR Keskin Array B 74.65 341 P **P** **14 35 03.0 0.0**
1.0nm,0.8s,baz=173,slow=12,SNR=5.5
1.0nm,0.8s
KKAR Karatay Array 75.28 9 P **P** **14 35 07.7 +1.3**
SCTE Santa Cesarea 80.37 330 P **P** **14 35 34.4 -0.3**
ABKAR Akbulak array 80.61 1 P **P** **14 35 36.2 +0.4**
ABKAR IAmb IAmb 14 35 37.0
comp=Z,6.7nm,1.4s
MKAR Makanchi Array 81.09 16 P **P** **14 35 38.5 +0.1**
MKAR Makanchi Array 81.09 16 P **P** **14 35 38.4 -0.1**
comp=Z,0.6nm,0.7s,baz=226,slow=4.9,SNR=5.7
comp=Z,0.6nm,0.7s
KURBB Kurchatov Arra 83.90 13 P **P** **14 35 53.1 +0.1**
comp=Z,2.3nm,0.9s,baz=206,slow=5.6,SNR=15
comp=Z,2.3nm,0.9s
KURK Kurchatov 84.01 13 P **P** **14 35 53.4 -0.1**
BRVK Borovoye 85.05 7 P **P** **14 35 59.4 +0.7**
BRVK IAmb IAmb 14 36 00.3
comp=Z,6.2nm,0.9s
AKASG Malin Array Be 85.96 342 P **P** **14 36 02.6 -0.8**
comp=Z,0.2nm,0.3s,baz=178,slow=4.0,SNR=1.5
comp=Z,0.2nm,0.3s
ZALV Zalesovo Beam 88.34 15 P **P** **14 36 14.7 -0.2**
comp=Z,0.5nm,0.6s,baz=126,slow=2.0,SNR=1.9
comp=Z,0.5nm,0.6s
ESDC Sonseca Array 91.48 317 P **P** **14 36 30.0 0.0**
comp=Z,0.6nm,0.7s,baz=98,slow=3.9,SNR=2.6
comp=Z,0.6nm,0.7s
YKA Yellowknife Ar 148.85 354 PKPbc **PKPbc** **14 43 10.2 -0.2**
comp=Z,1.1nm,0.7s,baz=344,slow=2.8,SNR=5.3

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*IDC **10** 14:26:05.0±1.6, 31°.97S×58°.01E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=53.3km s-min=36.2km az=90.0*

ISC 10 14:26:06.8±1.4, 31°.8S±0°.2×58°.1E±0°.4, h10km, n9, σ0°38/6, mb3.7/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.19**	**197**	T	T	14 44 33.4	
	baz=22						
H04N1	**CROZET ISLANDS**	**15.19**	**197**	T	T	14 44 35.6	
	baz=22						
H04N3	**CROZET ISLANDS**	**15.21**	**197**	T	T	14 44 35.7	
	baz=22						
QSPA	**South Pole Qui**	**58.42**	**180**	P	**P**	**14 36 02.7**	**+0.2**
	1.9nm,1.2s,baz=131,slow=6.3,SNR=2.1						
	1.9nm,1.2s						
CMAR	**Chiang Mai Arr**	**63.47**	**44**	P	**P**	**14 36 37.5**	**+0.3**
	0.7nm,0.3s,baz=222,slow=6.1,SNR=1.7						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**66.42**	**104**	P	**P**	**14 36 56.5**	**-0.1**
	0.5nm,0.9s,baz=238,slow=6.1,SNR=5.2						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**68.43**	**101**	P	**P**	**14 37 09.0**	**-0.3**
	0.5nm,1.0s,baz=232,slow=6.3,SNR=2.0						
	0.5nm,1.0s						
KURBB	**Kurchatov Arra**	**83.99**	**13**	P	**P**	**14 38 36.9**	**+0.1**
	0.4nm,0.8s,baz=200,slow=7.1,SNR=2.4						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**148.88**	**353**	PKPbc	**PKPbc**	**14 45 53.5**	**-0.5**
	0.4nm,0.6s,baz=358,slow=2.7,SNR=3.7						

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*IDC **10** 14:26:30.8±1.2, 31°.71S×58°.19E, h0km, mb4.0/8, mbtmp4.0/8, Error ellipse: s-maj=42.2km s-min=26.9km az=66.0*

*NEIC **10** 14:26:32.9±0.6, 31°.74S±0°.05×58°.1E±0°.3, h10km±1km, mb4.5/7, Error ellipse: s-maj=36.9km s-min=8.9km az=270.0*

ISC 10 14:26:33.6±0.8, 31°.7S±0°.1×58°.1E±0°.2, h17km, n31, σ0°78/22, mb4.3/11, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.70**	**348**	Pn	**Pn**	**14 29 04.7**	**-1.5**
H04N2	**CROZET ISLANDS**	**15.26**	**197**	T	T	14 45 56.4	
	baz=22,slow=75,SNR=6.8						
H04N1	**CROZET ISLANDS**	**15.26**	**197**	T	T	14 45 57.1	
	baz=22,slow=75,SNR=36						
H04N3	**CROZET ISLANDS**	**15.28**	**197**	T	T	14 45 57.3	
	baz=22,slow=75,SNR=38						
H08S1	**Diego Carcia H**	**27.41**	**32**	T	T	15 00 29.1	
	baz=206						
H08S2	**Diego Garcia H**	**27.42**	**32**	T	T	15 00 34.9	
	baz=206						
H08S3	**Diego Garcia H**	**27.43**	**32**	T	T	15 00 36.0	
	baz=206						
H01W2	**Cape Leeuwin H**	**46.41**	**110**	T	T	15 24 11.9	
	baz=255						
H01W3	**Cape Leeuwin H**	**46.42**	**110**	T	T	15 24 12.9	
	baz=255						
H01W1	**Cape Leeuwin H**	**46.43**	**110**	T	T	15 24 12.3	
	baz=255						
SNAA	**Sanae**	**51.19**	**201**	P	**P**	**14 35 35.5**	**-0.1**
SNAA				IAmb	IAmb	14 36 02.5	
	comp=Z,7.6nm,1.5s						
QSPA	**South Pole Qui**	**58.48**	**180**	P	**P**	**14 36 28.2**	**-0.3**
QSPA				IAmb	IAmb	14 36 39.9	
	comp=Z,5.6nm,1.4s						
QSPA	**South Pole Qui**	**58.48**	**180**	P	**P**	**14 36 28.7**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=277,slow=5.4,SNR=2.2						
	comp=Z,1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.39**	**44**	P	**P**	**14 37 02.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**63.39**	**44**	P	**P**	**14 37 02.8**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=235,slow=7.3,SNR=11						
	comp=Z,2.2nm,0.7s						
ASAR	**Alice Springs**	**66.38**	**104**	P	**P**	**14 37 21.0**	**-0.9**
ASAR	**Alice Springs**	**66.38**	**104**	P	**P**	**14 37 21.4**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=238,slow=6.0,SNR=20						
	comp=Z,1.6nm,0.7s						
WRA	**Warramunga Arr**	**68.39**	**101**	P	**P**	**14 37 34.0**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=241,slow=5.4,SNR=8.2						
	comp=Z,1.8nm,0.8s						
SIMJ	**Simiganj**	**70.72**	**9**	P	**P**	**14 37 50.2**	**+1.6**
SIMJ				IAmb	IAmb	14 37 52.0	
	comp=Z,6.5nm,1.2s						
BRTR	**Keskin Array B**	**74.60**	**341**	P	**P**	**14 38 12.3**	**+0.6**
BRTR	**Keskin Array B**	**74.60**	**341**	P	**P**	**14 38 11.8**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=153,slow=8.3,SNR=4.1						
	comp=Z,0.6nm,0.8s						
KKAR	**Karatay Array**	**75.29**	**9**	P	**P**	**14 38 16.5**	**+1.0**
ABKAR	**Akbulak array**	**80.60**	**1**	P	**P**	**14 38 45.3**	**+0.5**
MK31	**Makanchi Array**	**81.11**	**17**	P	**P**	**14 38 48.2**	**+0.6**
MKAR	**Makanchi Array**	**81.11**	**17**	P	**P**	**14 38 48.4**	**+0.7**
MKAR	**Makanchi Array**	**81.11**	**17**	P	**P**	**14 38 47.3**	**-0.3**
	comp=Z,1.1nm,1.1s,baz=68,slow=9.6,SNR=3.9						
	comp=Z,1.1nm,1.1s						
KURBB	**Kurchatov Arra**	**83.92**	**13**	P	**P**	**14 39 02.6**	**+0.5**
	comp=Z,2.3nm,1.0s,baz=206,slow=5.6,SNR=7.3						
	comp=Z,2.3nm,1.0s						
KURK	**Kurchatov**	**84.02**	**13**	P	**P**	**14 39 03.1**	**+0.5**
KURK				IAmb	IAmb	14 39 04.6	
	comp=Z,4.0nm,1.0s						
BRVK	**Borovoye**	**85.05**	**7**	P	**P**	**14 39 08.7**	**+0.8**
SONM	**Songino Array**	**90.23**	**30**	P	**P**	**14 39 32.2**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=197,slow=4.5,SNR=1.5						
	comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**148.83**	**353**	PKPbc	**PKPbc**	**14 46 18.9**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=25,slow=2.0,SNR=3.9						

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*IDC **10** 14:33:17.3±1.0, 62°.61N×22°.90E, h0km, mbtmp2.8/2, ML2.1/2, Error ellipse: s-maj=11.9km s-min=11.2km az=37.0*

*HEL **10** 14:33:17.5±0.1, 62°.64N×22°.67E, h0km, ML1.6, Explosion*

*UPP **10** 14:33:19.8±0.9, 62°.74N×22°.48E, h0km, ML2.0*

ISC 10 14:33:16.3±0.7, 62°.66N±0°.02×22°.75E±0°.02, h0km, n42, σ1°11/57, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.39**	**355**	PG	**Pg**	**14 33 24.4**	**+0.6**
	baz=176						
KPF	**Kankaanpaa**	**0.88**	**201**	PB	**Pg**	**14 33 33.3**	**0.0**
	baz=23						
KPF				SB	**Sg**	**14 33 45.2**	**+0.5**
KEF	**Keuruu**	**1.10**	**115**	PG	**Pg**	**14 33 37.6**	**+0.2**
	baz=292						
KEF				MSG		14 33 51.7	
	comp=Z,4.1nm,0.2s						
KEF				SB	**Sb**	**14 33 53.0**	**-0.1**
UMAU	**Umeaa**	**1.55**	**324**	P	**Pb**	**14 33 45.7**	**-0.2**
UMAU				S	**Sg**	**14 34 05.8**	**-0.2**
UMAU	**Umeaa**	**1.55**	**324**	PN	**Pb**	**14 33 45.6**	**-0.2**
UMAU				SN	**Sg**	**14 34 06.6**	**+0.6**
SUF	**Sumiainen**	**1.57**	**86**	PG	**Pb**	**14 33 46.2**	**0.0**
SUF				MSG		14 34 05.5	
	comp=Z,4.2nm,0.2s						
SUF				SN	**Sg**	**14 34 07.0**	**+0.3**
RAF	**Rauma**	**1.70**	**196**	PN	**Pb**	**14 33 48.1**	**-0.3**
	baz=18						
RAF				MSG		14 34 07.8	
	comp=Z,4.2nm,0.2s						
RAF				SN	**Sb**	**14 34 10.5**	**+0.1**
OBF8	**Ulkokalla**	**1.71**	**10**	PG	**Pg**	**14 33 49.1**	**0.0**
OBF8				MSG		14 34 09.3	
	comp=Z,3.2nm,0.2s						
OBF8				SN	**Sg**	**14 34 11.5**	**+0.2**
KAF	**Kangasniemi**	**1.74**	**107**	PG	**Pb**	**14 33 49.0**	**-0.2**
	baz=290						
KAF				MSG		14 34 10.4	
	comp=Z,6.5nm,0.2s						
KAF				SN	**Sg**	**14 34 12.2**	**-0.1**
HUSU	**Husum**	**1.75**	**295**	P	**Pb**	**14 33 49.2**	**-0.2**
HUSU	**Husum**	**1.75**	**295**	PG	**Pb**	**14 33 49.1**	**-0.2**
	baz=114						
HUSU				SN	**Sg**	**14 34 12.1**	**-0.5**
OUF	**Merijarvi**	**1.93**	**26**	PG	**Pb**	**14 33 52.7**	**+0.3**
OUF				MSG		14 34 15.8	
	comp=Z,4.1nm,0.2s						
OUF				SG	**Sg**	**14 34 18.2**	**-0.2**
OBF0	**Syolatti, Pyha**	**1.96**	**19**	MSG		14 34 16.6	
	comp=Z,2.6nm,0.2s						
OBF0				SG	**Sg**	**14 34 19.4**	**0.0**
ODEU	**Stanfors**	**1.98**	**334**	P	**Pb**	**14 33 52.7**	**-0.5**
ODEU				S	**Sb**	**14 34 18.6**	**+0.1**
FINES	**FINESS Array B**	**1.98**	**126**	Pn	**Pb**	**14 33 52.8**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=311,slow=15,SNR=13						
FINES				Sn	**Sb**	**14 34 19.1**	**+0.7**
	comp=Z,3.7nm,0.3s,baz=311,slow=28,SNR=31						
BURU	**Burvik**	**2.03**	**343**	P	**Pb**	**14 33 53.9**	**-0.2**
BURU	**Burvik**	**2.03**	**343**	PG	**Pb**	**14 33 53.7**	**-0.4**
	baz=160						
BURU				SG	**Sb**	**14 34 20.0**	**+0.2**
HEMU	**Hemsoen**	**2.18**	**273**	P	**Pb**	**14 33 55.5**	**-1.0**
HEMU	**Hemsoen**	**2.18**	**273**	PG	**Pb**	**14 33 55.1**	**-1.5**
HEMU				SG	**Sb**	**14 34 23.9**	**-0.1**
BREU	**Bredtraesk**	**2.26**	**305**	P	**Pb**	**14 33 57.6**	**-0.3**
SVAU	**Svanoeiden**	**2.33**	**324**	P	**Pb**	**14 33 58.3**	**-0.8**
NUR	**Nurmijrvi**	**2.34**	**156**	MSG		14 34 26.7	
	comp=Z,2.6nm,0.2s						
NUR				SG	**Sg**	**14 34 30.2**	**-1.1**
OBF4	**Vikkela, Lumij**	**2.41**	**25**	PG	**Pb**	**14 34 00.7**	**+0.2**
	baz=210						
OBF4				MSG		14 34 29.5	
	comp=Z,1.7nm,0.2s						
OBF4				SG	**Sg**	**14 34 32.3**	**-1.2**
NIF	**Nilsia**	**2.42**	**70**	SG	**Sb**	**14 34 30.9**	**-0.2**
MEF	**Metsahovi**	**2.57**	**161**	MSG		14 34 33.2	
	comp=Z,3.3nm,0.2s						
MEF				SG	**Sb**	**14 34 35.8**	**+0.5**
PVF	**Pernaja**	**2.59**	**144**	MSG		14 34 33.9	
	comp=Z,1.9nm,0.2s						
PVF				SG	**Sb**	**14 34 36.7**	**+0.9**
OUL	**Oulu**	**2.81**	**28**	SG	**Sb**	**14 34 43.2**	**+1.1**
AAL	**Aland**	**2.82**	**209**	SG	**Sb**	**14 34 42.3**	**-0.1**
RUF	**Ruokolahti**	**3.17**	**110**	SB	**Sb**	**14 34 52.5**	**-0.1**
KALU	**Kalix**	**3.23**	**4**	SG	**Sg**	**14 34 59.2**	**-0.7**
TOF	**Tornio**	**3.51**	**11**	SG	**Sg**	**14 35 07.2**	**-1.7**
RMF	**Romuvaara**	**3.59**	**61**	SN	**Sn**	**14 34 58.2**	**+2.1**
ERTU	**Ertsjaerv**	**3.92**	**357**	SN	**Sn**	**14 35 06.3**	**+1.9**
JOF	**Joensuu**	**3.94**	**82**	SG	**Sg**	**14 35 20.0**	**-2.8**
MSF	**Maaselka**	**4.26**	**37**	SG	**Sg**	**14 35 30.1**	**-3.1**
KU6	**Riekki**	**4.59**	**39**	SN	**Sn**	**14 35 21.4**	**+0.6**
KLF	**Kolari**	**4.63**	**6**	SN	**Sn**	**14 35 23.3**	**+1.6**
OLKF	**Oulanka, Finla**	**4.67**	**35**	SG	**Sg**	**14 35 42.2**	**-3.9**
HFS	**Hagfors**	**5.03**	**244**	Pn	**Pn**	**14 34 34.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=58,slow=12,SNR=1.7						
HFS				Sn	**Sn**	**14 35 31.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=75,slow=22,SNR=1.6						
HFS				Lg	Lg	14 35 50.1	
	comp=Z,0.4nm,0.3s,baz=66,slow=29,SNR=7.3						
	comp=Z,0.3nm,0.4s						
NOA	**NORSAR Array B**	**5.70**	**259**	Lg	Lg	14 36 09.5	
	baz=48,slow=23,SNR=1.4						
I37NO	**I37NO**	**6.67**	**347**	I	I	15 14 50.0	
	baz=164,slow=321,SNR=1.4						
ARCES	**ARCESS Array B**	**7.00**	**8**	Pn	**Pn**	**14 35 00.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=186,slow=15,SNR=1.7						
ARCES				Sn	**Sn**	**14 36 17.5**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=191,slow=23,SNR=2.2						
ARCES				Lg	Lg	14 36 52.2	
	comp=Z,0.1nm,0.3s,baz=194,slow=27,SNR=1.8						
	comp=Z,0.6nm,0.6s						

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*IDC **10** 14:35:25.4±0.4, 31°.66S×58°.30E, h0km, mb4.4/22, mbtmp4.4/23, ML4.6/1, MS4.0/14, Error ellipse: s-maj=17.6km s-min=13.6km az=61.0*

*NEIC **10** 14:35:27.4±1.2, 31°.61S±0°.10×58°.2E±0°.1, h10km±1km, mb4.9/37, Error ellipse: s-maj=17.7km s-min=16.6km az=245.0*

*GCMT **10** 14:35:27.4±0.3, 31°.67S±0°.02×58°.08E±0°.03, h13km±1km, MW4.9/91, Moment Tensor Solution. s34,c37; s91,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.99±.18; $M_{\theta\theta}$2.78±.13; $M_{\phi\phi}$0.20±.11; $M_{r\theta}$0.21±.29; $M_{\theta\phi}$-0.12±.08; $M_{r\phi}$1.38±.36; Best double couple: $M_0$3.15100×10^{16} NP1:ϕ_s253.00000°, δ50.00000°, λ-117.00000°. NP2: ϕ_s112.00000°, δ47.00000°, λ-61.00000°. Principal axes: T 2.7900, Plg2.0000°, Azm2.0000°; N 0.7200, Plg20.0000°, Azm271.0000°; P -3.5120, Plg69.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 14:35:28.3±0.3, 31°.59S±0°.07×58°.15E±0°.08, h17km, n276, σ1°15/248, mb4.7/45, MS4.0/15, 16C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.61**	**348**	Pn	**Pn**	**14 37 57.0**	**-2.7**
FOMA	**Nahampoana Res**	**11.84**	**301**	Pn	**Pn**	**14 38 16.7**	**+0.3**
VOI	**Vohitsoka**	**13.98**	**311**	Pn	**Pn**	**14 38 46.4**	**+0.5**
H04N2	**CROZET ISLANDS**	**15.36**	**197**	T	T	14 54 54.6	
	baz=21,slow=75,SNR=21						
H04N1	**CROZET ISLANDS**	**15.36**	**197**	T	T	14 54 55.7	
	baz=21,slow=75,SNR=31						
H04N3	**CROZET ISLANDS**	**15.38**	**197**	T	T	14 54 54.5	
	baz=21,slow=75,SNR=27						
ABPO	**Ambohimpanom**	**15.93**	**319**	P	**Pn**	**14 39 14.1**	**+2.2**
OPO	**Ambohidratompo**	**16.31**	**320**	Pn	**Pn**	**14 39 18.6**	**+1.8**
	0.2nm,0.3s,baz=144,slow=12,SNR=12						
OPO				Sn	**Sn**	**14 42 09.3**	**-8.2**
	0.3nm,0.3s,baz=275,slow=20,SNR=8.0						
	5.1nm,0.4s						
POGA	**Pongola**	**23.38**	**274**	P	**P**	**14 40 36.1**	**-0.1**
POGA				IAmb	IAmb	14 40 38.4	
	comp=Z,25nm,0.7s						
H08S1	**Diego Carcia H**	**27.32**	**32**	T	T	15 09 39.1	
	baz=206,slow=76,SNR=19						
H08S2	**Diego Garcia H**	**27.33**	**32**	T	T	15 09 36.1	
	baz=206,slow=76,SNR=32						
H08S3	**Diego Garcia H**	**27.34**	**32**	T	T	15 09 36.7	
	baz=206,slow=76,SNR=22						
BOSA	**Boshof**	**28.55**	**267**	P	**P**	**14 41 23.4**	**-0.1**
BOSA				IAmb	IAmb	14 41 57.3	
	comp=Z,29nm,1.9s						
BOSA	**Boshof**	**28.55**	**267**	P	**P**	**14 41 23.5**	**0.0**
	comp=Z,2.3nm,0.8s,baz=61,slow=8.0,SNR=4.6						
BOSA				LR	LR	14 50 44.6	
	comp=Z,127nm,20.5s,baz=97,slow=32						
	comp=Z,2.3nm,0.8s						
LBTB	**Lobatse**	**29.32**	**275**	P	**P**	**14 41 30.3**	**0.0**
LBTB				IAmb	IAmb	14 41 31.1	
	comp=Z,18nm,1.5s						
SUR	**Sutherland**	**31.57**	**259**	P	**P**	**14 41 49.1**	**-1.1**
SUR				IAmb	IAmb	14 42 09.5	
	comp=Z,44nm,1.6s						
SUR	**Sutherland**	**31.57**	**259**	LR	LR	14 52 28.3	
	comp=Z,330nm,19.7s,baz=112,slow=32						
KAAM	**Kaadhehdhoo**	**34.88**	**27**	P	**P**	**14 42 18.1**	**-0.8**
MAW	**Mawson**	**36.16**	**177**	P	**P**	**14 42 28.3**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=19,slow=6.9,SNR=5.5						
MAW				LR	LR	14 53 45.6	
	comp=Z,365nm,18.7s,baz=346,slow=30						
	comp=Z,3.5nm,0.7s						
TSUM	**Tsumeb**	**38.45**	**279**	P	**P**	**14 42 49.1**	**-0.5**
TSUM	**Tsumeb**	**38.45**	**279**	LR	LR	14 57 18.6	
	comp=Z,178nm,19.3s,baz=148,slow=34						
PALK	**Pallekele**	**44.25**	**33**	LR	LR	14 58 16.1	
	comp=Z,167nm,18.1s,baz=315,slow=31						
FURI	**Furi**	**44.36**	**332**	LR	LR	14 59 07.3	
	comp=Z,120nm,21.5s,baz=179,slow=32						
ATD	**Arta Tunnel**	**45.31**	**339**	LR	LR	14 59 23.0	
	comp=Z,19nm,20.7s,baz=167,slow=32						
H01W2	**Cape Leeuwin H**	**46.43**	**110**	T	T	15 33 34.5	
	baz=257,slow=75,SNR=37						
H01W3	**Cape Leeuwin H**	**46.43**	**110**	T	T	15 33 34.8	
	baz=257,slow=75,SNR=37						
H01W1	**Cape Leeuwin H**	**46.45**	**110**	T	T	15 33 35.7	
	baz=257,slow=75,SNR=36						
SNAA	**Sanae**	**51.28**	**201**	P	**P**	**14 44 30.7**	**-0.3**
SNAA	**Sanae**	**51.28**	**201**	⇑P	**P**	**14 44 30.7**	**-0.3**
	comp=Z,65nm,0.8s						
SNAA	**Sanae**	**51.28**	**201**	P	**P**	**14 44 30.2**	**-0.8**
	comp=Z,4.2nm,1.0s,baz=74,slow=5.8,SNR=12						
SNAA				LR	LR	15 01 21.2	
	comp=Z,261nm,21.6s,baz=38,slow=30						
	comp=Z,4.2nm,1.0s						
VNA2	**Neumayer-Watz**	**52.52**	**202**	⇑P	**P**	**14 44 40.1**	**0.0**
	comp=Z,4.3nm,0.8s,baz=89,slow=6.2						
VNA3	**Neumayer Olymp**	**53.31**	**202**	⇑P	**P**	**14 44 45.6**	**-0.3**
	comp=Z,4.9nm,0.8s						
WSAR	**Wadi Sarin**	**54.52**	**1**	LR	LR	15 03 09.5	
	comp=Z,218nm,19.5s,baz=212,slow=30						
QSPA	**South Pole Qui**	**58.58**	**180**	P	**P**	**14 45 23.7**	**-0.2**
	comp=Z,5.6nm,0.6s,baz=267,slow=1.4,SNR=90						
	comp=Z,5.6nm,0.6s						
VNDA	**Vanda**	**62.30**	**166**	P	**P**	**14 45 47.6**	**-1.5**
VNDA	**Vanda**	**62.30**	**166**	P	**P**	**14 45 48.5**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=264,slow=8.1,SNR=6.7						
	comp=Z,1.4nm,0.9s						
CM31	**Chiang Mai Arr**	**63.31**	**44**	P	**P**	**14 45 56.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**63.31**	**44**	P	**P**	**14 45 55.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**63.31**	**44**	P	**P**	**14 45 56.5**	**0.0**
	comp=Z,6.1nm,0.6s,baz=229,slow=7.2,SNR=43						
	comp=Z,6.1nm,0.6s						
BBOO	**Buckleboo**	**64.43**	**114**	P	**P**	**14 46 02.9**	**-0.9**
CRAI	**Chiangrai**	**65.53**	**44**	P	**P**	**14 46 11.0**	**0.0**
ASAR	**Alice Springs**	**66.39**	**104**	P	**P**	**14 46 15.4**	**-1.3**
	comp=Z,5.4nm,0.6s,baz=238,slow=6.0,SNR=140						
ASAR				LR	LR	15 10 57.8	
	comp=Z,49nm,19.4s,baz=232,slow=32						
	comp=Z,5.4nm,0.6s						
AS31	**Alice Springs**	**66.39**	**104**	P	**P**	**14 46 15.5**	**-1.2**
WRA	**Warramunga Arr**	**68.39**	**101**	P	**P**	**14 46 28.4**	**-1.0**
	comp=Z,5.9nm,0.7s,baz=240,slow=5.7,SNR=56						
	comp=Z,5.9nm,0.7s						
WB2	**Warramunga Arr**	**68.40**	**101**	P	**P**	**14 46 28.5**	**-0.9**
WRAB	**Tennant Creek**	**68.40**	**101**	P	**P**	**14 46 28.8**	**-0.7**
SLVN	**Son La**	**68.50**	**46**	P	**P**	**14 46 29.4**	**-0.6**
SLVN				IAmb	IAmb	14 46 31.5	
	comp=Z,11nm,1.0s						
WB0	**Warramunga Arr**	**68.51**	**101**	P	**P**	**14 46 28.5**	**-1.7**
WB0				IAmb	IAmb	14 46 30.0	
	comp=Z,19nm,1.2s						
STKA	**Stephens Creek**	**69.10**	**115**	P	**P**	**14 46 33.1**	**-0.5**
STKA	**Stephens Creek**	**69.10**	**115**	P	**P**	**14 46 32.8**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=276,slow=5.1,SNR=7.4						
	comp=Z,2.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**70.03**	**300**	P	**P**	**14 46 40.1**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=108,slow=5.0,SNR=13						
	comp=Z,3.1nm,0.8s						
SIMJ	**Simiganj**	**70.62**	**9**	P	**P**	**14 46 43.5**	**+0.7**
SIMJ				IAmb	IAmb	14 47 06.0	
	comp=Z,16nm,1.2s						
DBIC	**Dimbokro**	**71.06**	**291**	P	**P**	**14 46 47.2**	**+1.4**
DBIC	**Dimbokro**	**71.06**	**291**	P	**P**	**14 46 47.1**	**+1.4**
	comp=Z,5.1nm,0.7s,baz=102,slow=5.8,SNR=5.0						
	comp=Z,5.1nm,0.7s						
PZH	**PanZhiHua**	**71.19**	**41**	P	**P**	**14 46 48.1**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,170nm,7.5s						
KSH	**Kashi**	**72.66**	**14**	P	**P**	**14 46 52.9**	**-2.1**
KSH				sP	sP	14 47 01.1

RPZ	Rata Peaks	83.22	138	LR	LR	15 17 01.3	
	comp=Z,244nm,18.1s,baz=156,slow=30						
BZS	Buzias	83.69	335	⇑P	P	14 47 56.8	+1.0
KURBB	Kurchatov Arra	83.82	13	P	P	14 47 57.0	+0.6
	comp=Z,5.7nm,1.0s,baz=211,slow=5.8,SNR=28						
	comp=Z,5.7nm,1.0s						
KURK	Kurchatov	83.92	13	P	P	14 47 57.2	+0.3
KURK				IAmb	IAmb	14 47 58.7	
	comp=Z,13nm,1.2s						
MARR	Marisel-Cluj	84.08	337	⇑P	P	14 47 58.8	+0.9
BURAR	Bucovina Array	84.22	338	⇑P	P	14 48 00.0	+1.4
BURAR	Bucovina Array	84.22	338	P	P	14 47 59.4	+0.8
SIRR	Siria	84.23	336	⇑P	P	14 48 00.5	+1.9
BRVK	Borovoye	84.95	7	P	P	14 48 02.2	+0.2
BRVK				IAmb	IAmb	14 48 03.8	
	comp=Z,7.3nm,0.8s						
BBTS	Babate	85.00	290	LR	LR	15 23 27.9	
	comp=Z,73nm,18.8s,baz=324,slow=34						
NJ2	Nanjing	85.46	48	eP	P	14 48 06.2	+1.1
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KIEV	Kiev	85.83	342	⇑P	P	14 48 06.7	+0.3
KIEV	Kiev	85.83	342	P	P	14 48 06.5	0.0
KIEV				IAmb	IAmb	14 48 07.0	
	comp=Z,3.3nm,0.7s						
AKASG	Malin Array Be	85.83	342	P	P	14 48 06.4	0.0
	comp=Z,1.2nm,0.5s,baz=156,slow=4.4,SNR=3.3						
	comp=Z,1.2nm,0.5s						
AKBB	Malin Array Si	85.83	342	P	P	14 48 06.5	0.0
AKBB				IAmb	IAmb	14 48 07.0	
	comp=Z,3.6nm,0.7s						
HHC	Hu-ho-hao-te	87.36	38	eP	P	14 48 13.6	-0.8
HHC				sP	sP	14 48 20.0	-0.9
HHC				pmax	pmax		
	comp=Z,16nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,5.2s						
TEOL	Teolo	87.44	329	P	P	14 48 14.7	+0.2
LANS	Liptovska Anna	87.47	336	eP	P	14 48 16.7	+2.1
MODS	Modra-Piesok	87.61	334	eP	P	14 48 17.9	+2.6
ARU	Arti	87.67	0	P	P	14 48 15.0	-0.3
JAVC	Velka Javorina	87.86	335	eP	P	14 48 18.0	+1.5
ZALV	Zalesovo Beam	88.27	15	P	P	14 48 16.7	-1.5
ZALV	Zalesovo Beam	88.27	15	P	P	14 48 16.9	-1.3
	comp=Z,1.1nm,0.6s,baz=202,slow=6.2,SNR=6.7						
	comp=Z,1.1nm,0.6s						
KRUC	Moravsky	88.50	334	eP	P	14 48 19.8	+0.3
VRAC	Vranov	88.63	334	eP	P	14 48 20.2	+0.1
MORC	Moravsky Berou	88.67	335	P	P	14 48 20.4	+0.1
MORC				IAmb	IAmb	14 48 24.4	
	comp=Z,10nm,1.6s						
MORC	Moravsky Berou	88.67	335	eP	P	14 48 20.4	+0.1
FUORN	Ofenpass-Fuorn	89.04	329	P	P	14 48 22.8	+0.4
TUE	Stuetta	89.33	329	P	P	14 48 24.3	+0.6
TUE				IAmb	IAmb	14 48 28.2	
	comp=Z,4.3nm,0.9s						
DAVOX	Davos/Dischmat	89.33	329	P	P	14 48 24.5	+0.8
	comp=Z,4.1nm,0.6s,baz=178,slow=5.6,SNR=5.8						
	comp=Z,4.1nm,0.6s						
GERES	GERESS Array B	89.36	332	P	P	14 48 23.5	-0.2
	comp=Z,0.6nm,0.5s,baz=150,slow=8.8,SNR=3.5						
	comp=Z,0.6nm,0.5s						
SONM	Songino Array	90.14	30	P	P	14 48 26.5	-0.8
	comp=Z,1.7nm,1.0s,baz=222,slow=5.0,SNR=5.3						
	comp=Z,1.7nm,1.0s						
URZ	Urewera	90.22	136	LR	LR	15 21 42.3	
	comp=Z,199nm,19.6s,baz=279,slow=31						
ESDC	Sonseca Array	91.34	317	P	P	14 48 34.8	+1.7
	comp=Z,2.8nm,1.0s,baz=135,slow=3.8,SNR=14						
	comp=Z,2.8nm,1.0s						
DZM	Mont Dzumac	93.08	118	eLR	LR	15 18 35.4	
	comp=Z,98nm,21.8s						
PPT2	Papeete2	124.33	148	eLR	LR	15 33 05.2	
	comp=Z,82nm,25.0s						
ILAR	Eielson Array	143.36	18	PKhKP	PKPpre	14 54 57.2	
	comp=Z,1.0nm,0.7s,baz=315,slow=3.1,SNR=11						
O18K	Koktuh Hills	144.08	28	PKPdf	PKPbc	14 55 00.7	+0.3
WVNY	West Valley, N	144.16	300	PKPdf	PKPbc	14 55 01.2	0.0
M55A	Ridgway	144.32	298	PKPdf	PKPab	14 55 01.6	+0.2
I28M	Miner Creek	144.35	13	PKPdf	PKPab	14 55 00.8	0.0
DHY	Denali Highway	144.56	20	PKPdf	PKPbc	14 55 02.1	+0.1
DHY	Denali Highway	144.56	20	P	PKPab	14 55 01.7	-0.1
	baz=321						
T57A	Hurt	144.61	291	PKPdf	PKPbc	14 55 02.9	+0.1
SUA	Susitna One	144.69	24	PKPdf	PKPab	14 55 01.8	-0.4
SUA	Susitna One	144.69	24	P	PKPab	14 55 02.1	-0.2
	baz=314,SNR=7.3						
M22K	Willow	144.70	23	P	PKPab	14 55 01.8	-0.2
	baz=316						
EGAK	Eagle	144.70	14	P	PKPbc	14 55 02.3	+0.1
	baz=331						
Q17K	Contact Creek	144.72	31	P	PKPbc	14 55 02.8	+0.2
	baz=304						
I29M	Ogilvie Camp,	144.72	12	P	PKPbc	14 55 02.5	+0.2
	baz=335,SNR=16						
SCRK	Sand Creek	144.74	17	PKPdf	PKPbc	14 55 02.6	+0.1
SCRK	Sand Creek	144.74	17	P	PKPbc	14 55 02.8	+0.3
	baz=326,SNR=14						
WAT6	Susitna Watana	144.84	21	P	PKPab	14 55 02.7	-0.2
	baz=320,SNR=5.4						
PMR	Palmer	145.14	23	P	PKPdf	14 55 03.8	-0.2
	baz=317						
K27K	Chicken	145.15	15	P	PKPdf	14 55 04.4	+0.3
	baz=329						
I30M	Mount Dempster	145.17	11		PKPbc	14 55 03.4	-0.5
I30M	Mount Dempster	145.17	11	P	PKPbc	14 55 03.8	-0.1
	baz=338,SNR=33						
PAX	Paxson	145.18	19	P	PKPdf	14 55 04.6	+0.3
	baz=323,SNR=12						
SML	Sawmill	145.24	22	P	PKPdf	14 55 04.9	+0.5
	baz=318						
RC01	Rabbit Creek A	145.30	24	P	PKPab	14 55 04.7	+0.3
	baz=315						
M23K	Glacier View	145.44	21	P	PKPab	14 55 05.0	+0.2
	baz=319,SNR=5.7						
KNK	Knik Glacier	145.49	22	P	PKPab	14 55 05.3	+0.2
	baz=318						
SCM	Sheep Creek Mo	145.53	21	P	PKPab	14 55 06.0	+0.7
	baz=320						
J29N	Klondike Camp	145.57	12	P	PKPab	14 55 06.2	+0.8
	baz=335						
HOM	Homer	145.60	27	P	PKPab	14 55 06.3	+0.8
	baz=311						
DAWY	Dawson	145.69	14	P	PKPab	14 55 05.9	+0.1
	baz=333,SNR=6.1						
L26K	Log Cabin Wild	145.69	17	P	PKPab	14 55 06.1	+0.3
	baz=326						
M53A	WI Miller and	145.75	298	P	PKPbc	14 55 06.4	+0.1
	baz=87						
J30M	Hart River	145.78	11	PKPdf	PKPdf	14 55 05.4	+0.1
J30M	Hart River	145.78	11	P	PKPab	14 55 06.0	-0.2
	baz=338,SNR=13						
BRSE	Bradley Lake S	145.88	26	P	PKPab	14 55 06.4	-0.2
	baz=313						
Q20K	Shuyak Island	145.99	28	P	PKPab	14 55 06.6	-0.3
	baz=309						
L27K	Beaver Creek,	146.03	16	PKPbc	PKPab	14 55 07.0	-0.1
L27K	Beaver Creek,	146.03	16	P	PKPab	14 55 07.3	+0.2
	baz=328,SNR=11						
BCAR	Beaver Creek A	146.04	16		PKPbc	14 55 06.1	-0.4
CHIR	Chirikof Islan	146.17	34	P	PKPab	14 55 07.3	-0.4
	baz=302						
O53A	New Philadelph	146.21	296	P	PKPbc	14 55 08.1	+0.3
	baz=88						
KLU	Klutina	146.22	21	P	PKPab	14 55 07.5	-0.4
	baz=321						
K29M	Barlow Dome	146.25	12	PKPdf	PKPdf	14 55 06.1	-0.1
K29M	Barlow Dome	146.25	12	P	PKPab	14 55 07.7	-0.4
	baz=335,SNR=8.1						
M26K	Nabesna, AK	146.30	18	P	PKPab	14 55 07.8	-0.4
	baz=326						
GLI	Glacier Island	146.33	22	P	PKPab	14 55 08.6	+0.3
	baz=319						
KDAK	Kodiak Island	146.42	30	P	PKPab	14 55 08.6	0.0
	baz=308						
SII	Sitkinak Islan	146.44	32	P	PKPab	14 55 09.3	+0.5
	baz=304						
N25K	Chitina, Valde	146.52	20		PKPab	14 55 08.7	-0.4
N25K	Chitina, Valde	146.52	20	P	PKPab	14 55 09.1	0.0
	baz=323,SNR=9.2						
M27K	Edge Creek, AK	146.62	17	P	PKPbc	14 55 08.7	+0.3
	baz=328						
L29M	L29M	146.80	13	PKPbc	PKPbc	14 55 08.9	+0.1
L29M	L29M	146.80	13	P	PKPbc	14 55 09.2	+0.4
	baz=334						
P23K	Montague Islan	146.89	23	P	PKPbc	14 55 09.3	+0.3
	baz=318						
P52A	Corning	146.94	295	P	PKPbc	14 55 10.0	+0.1
	baz=88						
FCC	Fort Churchill	146.97	334		PKPbc	14 55 09.3	0.0
EYAK	Cordova Ski Ar	147.01	22	P	PKPbc	14 55 09.8	+0.5
	baz=320						
BMRM	Bremner River	147.03	20	P	PKPbc	14 55 09.9	+0.4
	baz=323						
MCARA	McCarthy VSAT	147.14	19	P	PKPbc	14 55 10.4	+0.7
	baz=325						
M29M	Somme Creek	147.33	14	PKPbc	PKPbc	14 55 10.8	+0.4
M29M	Somme Creek	147.33	14	P	PKPbc	14 55 10.8	+0.4
	baz=333,SNR=7.5						
YUK3	Moose Creek	147.47	16	P	PKPbc	14 55 11.3	+0.4
	baz=330						
M30M	Minto, Yukon	147.54	13	P	PKPbc	14 55 10.8	-0.1
	baz=336						
ACSO	Alum Creek Sta	147.57	296	P	PKPbc	14 55 11.3	-0.3
	baz=87						
Q23K	Middleton Isla	147.67	23	P	PKPbc	14 55 10.9	-0.3
	baz=318						
GOGA	Godfrey	147.69	284	P	PKPbc	14 55 11.5	-0.7
	baz=98						
TEIG	Tepich	147.87	258	PKPbc	PKPbc	14 55 12.4	-0.6
CTG	Chitna Glacier	147.94	18	P	PKPbc	14 55 12.6	+0.5
	baz=328						
YUK8	Steele Glacier	148.06	16	P	PKPbc	14 55 12.8	+0.2
	baz=330						
BGLC	Bering Glacier	148.10	20	P	PKPbc	14 55 12.7	+0.4
	baz=324						
N30M	Aishikik Lake	148.50	14	P	PKPbc	14 55 13.6	+0.1
	baz=334						
YUK6	Outpost Mounta	148.69	15	P	PKPbc	14 55 14.2	0.0
	baz=332						
YKA	Yellowknife Ar	148.73	354	PKPbc	PKPbc	14 55 13.8	-0.1
	comp=Z,7.4nm,0.9s,baz=360,slow=2.4,SNR=24						
N31M	Braeburn, Yuko	148.74	13	P	PKPbc	14 55 14.6	+0.6
	baz=337						
PINM	Pinnacle	148.97	18	P	PKPbc	14 55 15.0	+0.3
	baz=328						
HYT	Haines Junctio	148.99	15	P	PKPbc	14 55 15.1	+0.2
	baz=333						
O30N	Mendenhall	149.34	14	P	PKPbc	14 55 15.9	+0.3
	baz=336						
E43A	Lone Tree Farm	149.43	309		PKPbc	14 55 15.9	-0.3
N32M	Quiet Lake	149.52	11	P	PKPbc	14 55 15.8	-0.2
	baz=341						
PNL	Peninsula	149.56	18	P	PKPbc	14 55 16.2	+0.1
	baz=329						
P30M	Million Dollar	149.74	15	P	PKPbc	14 55 16.7	+0.1
	baz=334						
P29M	Windy Craggy	150.00	16	P	PKiKP	14 55 17.6	-0.5
	baz=332						
WCI	Wyandotte Cave	150.22	293	P	PKPbc	14 55 18.4	0.0
	baz=88						
P33M	Teslin, Yukon	150.46	11	P	PKPbc	14 55 18.3	-0.1
	baz=341						
LRAL	Lakeview Retre	150.58	282	P	PKPbc	14 55 19.3	-0.1
	baz=97						
SFIN	Lafayette	150.69	297	P	PKiKP	14 55 20.1	0.0
	baz=84						
SKAG	Skagway	150.69	14	P	PKiKP	14 55 19.2	-0.3
	baz=336						
P32M	Atlin	150.89	12	P	PKiKP	14 55 20.6	+0.6
	baz=339						
R33M	Jennings River	151.52	10	P	PKiKP	14 55 21.2	-0.2
	baz=343						
Q32M	Nakina River	151.74	11	P	PKPbc	14 55 21.5	-0.1
	baz=341						
EYMN	Ely	151.76	314		PKPbc	14 55 21.7	0.0
EYMN	Ely	151.76	314	P	PKiKP	14 55 22.0	-0.1
	baz=66						
S31K	Pelican	151.85	16	P	PKiKP	14 55 22.0	+0.1
	baz=333						
R32K	Eaglecrest	151.95	14	P	PKiKP	14 55 23.2	+1.1
	baz=336						
JFWS	Jewell Farm	152.57	303	P	PKPab	14 55 35.8	+1.5
	baz=76						
DLBC	Dease Lake	152.58	9	P	PKiKP	14 55 24.1	+0.5
	baz=345						
TOAD	Toad River Com	152.64	4	P	PKiKP	14 55 24.8	+1.2
	baz=354						
OXF	Oxford	152.71	285	P	PKPab	14 55 37.3	+2.2
	baz=93						
S34M	Telegraph Cree	152.92	11	P	PKPab	14 55 37.1	+2.0
	baz=342						
ULM	Lac du Bonnet	153.15	321	PKPbc	PKPbc	14 55 24.1	-0.7
	comp=Z,4.4nm,0.7s,baz=201,slow=6.4,SNR=3.0						
T35M	Bob Quinn	153.95	10	P	PKPab	14 55 38.7	-0.9
	baz=343						
T42A	Van Buren	154.08	291	PKPab	PKPab	14 55 40.7	-0.1
CCM	Cathedral Cave	154.13	293	P	PKPab	14 55 41.3	+0.3
	baz=85						
AGMN	Agassiz Nation	154.19	318	P	PKPab	14 55 42.1	+1.2
	baz=59						
U33K	Whale Pass	154.24	15	P	PKPab	14 55 40.1	-0.6
	baz=337						
CRAG	Craig	154.84	15	P	PKPab	14 55 44.3	+1.0
	baz=337						
R40A	Maddies Statio	154.91	294	PKPab	PKPab	14 55 44.3	0.0
SCIA	State Center	154.95	302	P	PKPab	14 55 46.2	+1.8
	baz=75						
V35K	Ketchikan	155.29	13	P	PKPab	14 55 47.7	+2.5
	baz=340						
MIAR	Mont Ida	156.15	285	P	PKPab	14 55 51.0	+1.3
	baz=91						
ECSD	EROS Data Cent	156.73	309	P	PKPab	14 55 53.0	+1.1
	baz=67						
TUL3	Leonard	157.93	288	P	PKPab	14 55 54.6	-2.8
	baz=86						
KSU1	Kansas State U	158.13	297	P	PKPab	14 55 56.7	-1.4
	baz=78						
DGMT	Dagmar	158.47	327	P	PKPab	14 55 58.5	-0.8
	baz=45						
435B	Jarrell	159.23	274	P	PKPab	14 56 00.2	-2.9
	baz=99						
WHTX	Lake Whitney,	159.26	278	P	PKPab	14 56 01.9	-1.3
	baz=96						
833A	Chaparral WMA,	160.27	266	P	PKPab	14 56 05.6	-2.2
	baz=105						
WMOK	Wichita Mounta	160.44	285	P	PKPab	14 56 07.1	-1.2
	baz=87						
CBKS	Cedar Bluff	160.57	298	P	PKPab	14 56 06.5	-2.3
	baz=75						
JCT	Junction City	161.07	272	P	PKPab	14 56 06.9	-4.4
	baz=99						
EGMT	Eagleton	161.18	334	P	PKPab	14 56 09.9	-1.2
	baz=34						
RSSD	Black Hills	161.22	317	P	PKPab	14 56 12.4	+0.7
	baz=54						
OGNE	Ogallala	161.52	306	P	PKPab	14 56 14.7	+1.8
	baz=66						
KSCO	Kaye Shedlock'	162.66	301	P	PKPab	14 56 16.7	-1.4
	baz=70						
AMTX	Amarillo	162.81	286	P	PKPab	14 56 17.7	-1.2
	baz=85						
NEW	Newport	162.96	349	P	PKPab	14 56 18.9	+0.1
	baz=14						
K22A	Casper	163.56	316	P	PKPab	14 56 21.3	-0.5
	baz=53						
MSO	Missoula	163.61	340	P	PKPab	14 56 22.8	+1.0
	baz=24						
MSTX	Muleshoe	163.78	283	P	PKPab	14 56 23.8	+0.6
	baz=87						
BOZ	Bozeman (W)	163.91	333	P	PKPab	14 56 24.1	+0.8
	baz=33						
TXAR	Lajitas Array	164.15	267	PKP	PKPdf	14 55 30.8	-0.4
	comp=Z,0.9nm,1.0s,baz=67,slow=4.2,SNR=5.8						
N23A	Red Feather La	164.18	310	P	PKPab	14 56 25.3	+0.5
	baz=59						
H17A	Grant Village	164.45	328	P	PKPab	14 56 26.5	+0.7
	baz=38						
Q24A	Divide	164.51	303	P	PKPab	14 56 26.6	+0.2
	baz=67						
T25A	Trinidad	164.57	296	P	PKPab	14 56 27.3	+0.6
	baz=74						
BW06	Boulder Array	165.17	322	P	PKPab	14 56 29.1	+0.1
	baz=45						
PDAR	Pinedale Array	165.17	322	PKP	PKPdf	14 55 30.2	-1.6
	comp=Z,0.8nm,0.8s,baz=270,slow=0.3,SNR=6.5						
PDAR				PKPab	PKPab	14 56 28.4	-0.6
	comp=Z,0.4nm,0.7s,baz=70,slow=4.9,SNR=3.8						
SDCO	Great Sand Dun	165.22	299	P	PKPab	14 56 29.6	+0.1
	baz=70						
S22A	4UR Ranch, Cre	166.20	301	P	PKPab	14 56 31.3	-2.6
	baz=68						
HLID	Hailey	166.68	336	P	PKPab	14 56 34.2	-1.3
	baz=28						
ANMO	Albuquerque	166.69	289	P	PKPab	14 56 35.8	-0.2
	baz=80						
MVCO	Mesa Verde	167.63	301	P	PKPab	14 56 37.5	-2.6
	baz=67						
121A	Cookes Peak, D	168.03	278	P	PKPab	14 56 41.0	-1.1
	baz=89						
DUG	Dugway, Tooele	168.72	322	P	PKPab	14 56 42.1	-2.6
	baz=43						
W18A	Petrified Fore	169.27	292	P	PKPab	14 56 43.7	-3.7
	baz=74						
WUAZ	Wupatki	170.42	297	P	PKPab	14 56 51.5	-1.0
	baz=69						
TUC	Tucson	170.57	277	P	PKPab	14 56 52.5	-0.7
	baz=89						
R11B	Troy Canyon, C	171.52	324	P	PKPab	14 56 57.8	+0.7
	baz=39						
214A	Organ Pipe Nat	172.29	275	P	PKPab	14 57 01.4	+0.6
	baz=90						
NVAR	Mina Array Bea	172.58	338	PKPab	PKPab	14 57 02.4	+0.6
	comp=Z,0.3nm,0.5s,baz=58,slow=2.2,SNR=2.3						
TPNV	Topopah Spring	172.92	321	P	PKPab	14 57 02.9	-0.5
	baz=42						
GRAC	Grapevine Rang	173.45	327	P	PKPab	14 57 06.1	+0.5
	baz=35						
IRM	Iron Mountain	173.80	296	P	PKPab	14 57 08.7	+1.4
	baz=67						
GLA	Glamis	173.88	286	P	PKPab	14 57 06.5	-1.3
	baz=78						
CWC	Cottonwood Cre	174.24	328	P	PKPab	14 57 10.8	+1.6
	baz=34						
MPMC	Manual Prospec	174.25	322	P	PKPab	14 57 10.5	+1.1
	baz=40						
HEC	Hector,Ludlow	174.36	306	P	PKPab	14 57 10.9	+1.0
	baz=56						
MONP2	Monument Peak	175.22	287	P	PKPab	14 57 15.0	+1.0
	baz=76						
EDW2	Edwards Air Fo	175.39	316	P	PKPab	14 57 15.7	+1.4
	baz=45						

*AEIC **10** 14:36:01.5±1.0,54°.4N±0°.1×164°.2W±0°.1,h89km±4km, Error ellipse: s-maj=18.6km s-min=5.0km az=150.0*

NEIC 10 14:36:00.4±0.9,54°.4N±0°.1×164°.1W±0°.1,h89km±5km, mb3.6/2,ML3.5/12,ML3.4(AEIC),Error ellipse: s-maj=18.6km s-min=5.1km az=150.0,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	0.29	289		Pn	14 36 13.9	+0.2
SSLS	Shishaldin Sou	0.34	11		Pn	14 36 13.8	-0.2
SSLS					Sn	14 36 24.0	-0.1
WECS	Westdahl Cape	0.42	292		Pn	14 36 14.4	0.0
ISLZ	Isanotski Laza	0.42	34		Pn	14 36 14.3	-0.2
ISLZ					Sn	14 36 24.9	0.0
WEBT	Westdahl Beart	0.43	300		Pn	14 36 14.3	-0.2
WEBT					Sn	14 36 25.1	+0.1
ISNN	Isanotski Nort	0.50	23		Pn	14 36 15.2	+0.2
FALS	False Pass	0.63	40		Pn	14 36 15.9	-0.2
FALS	False Pass	0.63	40		Sn	14 36 28.1	+0.4
AKSA	Akutan Strait	0.96	256		Pn	14 36 20.1	+0.6
AKSA					Sn	14 36 35.1	+1.3
AHB	Akutan Harbor	1.03	256		Pn	14 36 20.7	+0.3
HSB	Akutan Spr's B	1.07	260		Pn	14 36 20.9	+0.1
AKV	Akutan Volcano	1.11	258		Pn	14 36 21.7	+0.3
AKV					Sn	14 36 38.3	+1.1
ZRO	Akutan Zero	1.13	256		Pn	14 36 21.8	+0.3
UNV	Unalaska Valle	1.50	250		Pn	14 36 26.1	0.0
UNV					Sn	14 36 45.3	-0.2
MNAT	Makushin Natee	1.59	253		Pn	14 36 27.3	+0.1
PN7A	Pavlof North-7	1.62	48		Pn	14 36 28.0	+0.4
PS4A	Pavlof South-4	1.63	52		Pn	14 36 28.1	+0.4
MREP	Makushin Rep't	1.65	251		Pn	14 36 28.4	+0.4
PVV	Pavlof Volcano	1.67	52		Pn	14 36 28.7	+0.5
PS1A	Pavlof South-1	1.72	52		Pn	14 36 29.3	+0.4
PS1A					Sn	14 36 52.9	+2.3
S12K	Black Hills	1.78	41		Pn	14 36 29.4	-0.2
SDPT	Sand Point	2.32	64		Pn	14 36 36.8	+0.1
SDPT	Sand Point	2.32	64	IAML		14 37 10.9	
	comp=N,300nm,0.2s						
SDPT				IAML		14 37 12.8	
	comp=E,312nm,0.3s						
OKTU	Okmok Mt. Tuli	2.53	248		Pn	14 36 40.3	+0.8
CNBA	Chernabura Isl	2.67	79		Sn	14 37 16.9	+4.0
CNBA				IAML		14 37 23.2	
	comp=N,108nm,0.7s						
CNBA	Chernabura Isl	2.67	79		Pn	14 36 41.9	+0.5
NIKH	Nikolski High	3.15	245		Pn	14 36 48.1	+0.3
CLCO	Concord Point,	3.70	247		Pn	14 36 55.6	+0.3
CHGN	Chignik	3.78	57	Pn	Pn	14 36 57.1	+0.8
CHGN				IAML		14 37 50.8	
	comp=N,68nm,0.2s						
CHIR	Chirikof Islan	5.09	70		Pn	14 37 14.1	+0.1
O14K	Tigyukauivet M	5.13	17		Pn	14 37 14.1	-0.6
O14K	Tigyukauivet M	5.13	17	IAML		14 38 14.3	
	comp=E,24nm,2.9s						
O14K				IAML		14 38 57.6	
	comp=N,36nm,2.9s						
O15K	Ungalikthiuk R	5.36	24		Pn	14 37 17.3	-0.5
PLK4	Peulik 4	5.44	50		Pn	14 37 18.2	-0.7
P16K	Nushagak River	5.75	33		Pn	14 37 23.6	+0.5
M13K	Dall Lake	6.07	4	Pn	Pn	14 37 26.6	-0.8
O16K	Kokwok River B	6.18	30	Pn	Pn	14 37 29.1	+0.2
N15K	Kwethluk River	6.20	19		Pn	14 37 29.0	-0.2
ATKA	Atka Island	6.42	254		Pn	14 37 32.4	+0.2
M14K	Bethel	6.50	9		Pn	14 37 33.0	-0.1
M15K	Kasigluk River	6.60	15		Pn	14 37 33.6	-0.9
OHAK	Old Harbor	6.74	61		Pn	14 37 36.2	-0.2
L14K	Kuka Creek	7.03	6	Pn	Pn	14 37 39.7	-0.7
N17K	Nushagak Hills	7.21	28	Pn	Pn	14 37 42.4	-0.5
M16K	Timber Creek	7.21	20		Pn	14 37 41.9	-1.1
KDAK	Kodiak Island	7.30	57	Pn	Pn	14 37 43.6	-0.5
O18K	Koktuh Hills	7.32	38	Pn	Pn	14 37 44.6	+0.1
L15K	Ungalak Mounta	7.45	10		Pn	14 37 46.1	-0.1
SYI	Shuyak Island	7.75	52		Pn	14 37 49.9	-0.3
L16K	Owhat River	7.75	17		Pn	14 37 49.4	-0.9
ADK	Adak	7.96	257	Pn	Pn	14 37 52.8	-0.4
K15K	Wolf Creek Mou	8.05	9	Pn	Pn	14 37 54.4	0.0
N19K	Bonanza Creek	8.26	35	Pn	Pn	14 37 57.6	+0

0.6nm,0.9s,baz=252,slow=5.9,SNR=1.3
0.6nm,0.9s
BRTR Keskin Array B 74.63 341 P P 14 48 54.9 +0.2
0.5nm,0.6s,baz=160,slow=4.6,SNR=2.0
0.5nm,0.6s
MKAR Makanchi Array 81.06 16 P P 14 49 29.7 -0.4
0.4nm,0.8s,baz=210,slow=8.3,SNR=2.3
0.4nm,0.8s
KURBB Kurchatov Arra 83.88 13 P P 14 49 44.6 -0.1
0.8nm,0.9s,baz=207,slow=4.8,SNR=3.2
0.8nm,0.9s

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*IDC **10** 14:38:28.8±1.0, 31°.65S×58°.24E, h0km, mb4.0/9, mbtmp4.0/9, Error ellipse: s-maj=35.5km s-min=24.5km az=46.0*
ISC 10 14:38:31.5±0.9, 31°.7S±0°.2×58°.2E±0°.2, h17km, n19, σ0§80/10, mb4.1/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.32**	**197**	T	T	14 58 01.3	
baz=23,slow=74							
H04N1	**CROZET ISLANDS**	**15.32**	**197**	T	T	14 58 05.1	
baz=23,slow=74							
H04N3	**CROZET ISLANDS**	**15.34**	**197**	T	T	14 58 01.7	
baz=23							
H08S1	**Diego Carcia H**	**27.33**	**32**	T	T	15 12 33.2	
baz=205							
H08S2	**Diego Garcia H**	**27.34**	**32**	T	T	15 12 32.9	
baz=205							
H08S3	**Diego Garcia H**	**27.35**	**32**	T	T	15 12 33.0	
baz=205							
H01W2	**Cape Leeuwin H**	**46.33**	**110**	T	T	15 36 07.4	
baz=256							
H01W3	**Cape Leeuwin H**	**46.34**	**110**	T	T	15 36 08.1	
baz=256							
H01W1	**Cape Leeuwin H**	**46.35**	**110**	T	T	15 36 08.9	
baz=256							
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**14 48 26.7**	**0.0**
0.7nm,0.6s,baz=342,slow=1.3,SNR=1.7							
0.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.30**	**44**	P	**P**	**14 49 00.3**	**+0.7**
1.7nm,0.5s,baz=232,slow=7.3,SNR=8.1							
1.7nm,0.5s							
ASAR	**Alice Springs**	**66.29**	**104**	P	**P**	**14 49 19.1**	**-0.2**
1.1nm,0.7s,baz=241,slow=6.0,SNR=12							
1.1nm,0.7s							
WRA	**Warramunga Arr**	**68.30**	**101**	P	**P**	**14 49 32.3**	**+0.3**
1.2nm,0.8s,baz=241,slow=5.7,SNR=6.5							
1.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**70.13**	**300**	P	**P**	**14 49 44.3**	**+1.1**
0.9nm,0.9s,baz=134,slow=5.0,SNR=3.0							
0.9nm,0.9s							
BRTR	**Keskin Array B**	**74.60**	**341**	P	**P**	**14 50 08.8**	**-0.8**
0.6nm,0.7s,baz=181,slow=12,SNR=3.8							
0.6nm,0.7s							
MKAR	**Makanchi Array**	**81.05**	**16**	P	**P**	**14 50 45.2**	**0.0**
0.3nm,0.5s,baz=218,slow=6.8,SNR=3.2							
0.3nm,0.5s							
MLR	**Muntele Rosu**	**82.19**	**338**	P	**P**	**14 50 50.8**	**-0.6**
2.2nm,0.6s,baz=175,slow=3.2,SNR=3.5							
2.2nm,0.6s							
KURBB	**Kurchatov Arra**	**83.87**	**13**	P	**P**	**14 50 59.8**	**+0.1**
1.8nm,1.0s,baz=209,slow=5.9,SNR=7.1							
1.8nm,1.0s							
YKA	**Yellowknife Ar**	**148.81**	**354**	PKPbc	**PKiKP**	**14 58 17.4**	**-1.3**
1.1nm,0.8s,baz=15,slow=2.6,SNR=3.7							

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*IDC **10** 14:56:57.6±1.2, 0°.15N×99°.85E, h0km, mb3.7/7, mbtmp3.7/7, MS4.0/6, Error ellipse: s-maj=78.1km s-min=19.0km az=58.0*
*DJA **10** 14:57:13.6±0.3, 0°N±2°×10°0E±°, h127km±5km, M4.2/13, mb4.4/3, mB5.3/1, MLv4.2/13, Mw(mB)4.7/1*
ISC 10 14:57:13.6±0.8, 0°.21N±0°.05×99°.85E±0°.05, h134km±7km, n27, σ0§82/26, mb3.5/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**1.19**	**84**	P	**Pn**	**14 57 38.9**	**+0.2**
BKNI				S	**Sn**	**14 57 57.8**	**0.0**
PDSI	**Padang**	**1.27**	**151**	P	**Pn**	**14 57 40.4**	**+0.9**
PDSI				S	**Sn**	**14 57 59.2**	**-0.1**
PBSI	**Pulau Batu**	**1.59**	**261**	P	**Pn**	**14 57 43.5**	**+0.5**
PBSI				S	**Sn**	**14 58 04.9**	**-0.6**
SISI	**Saibi**	**1.71**	**207**	P	**Pn**	**14 57 44.4**	**+0.1**
SISI				S	**Sn**	**14 58 06.4**	**-1.4**
GSI	**Gunungsitoli**	**2.52**	**296**	P	**Pn**	**14 57 55.0**	**+0.7**
GSI				S	**Sn**	**14 58 24.3**	**-1.3**
PPSI	**Pulau Pagai**	**2.96**	**177**	P	**Pn**	**14 57 58.9**	**-0.9**
PPSI				S	**Sn**	**14 58 35.5**	**0.0**
SNSI	**Sinabang, Aceh**	**4.15**	**302**	P	**Pn**	**14 58 15.9**	**+0.5**
TPRI	**Tanjung Pinang**	**4.73**	**81**	P	**Pn**	**14 58 22.5**	**-0.6**
MLSI	**Meulaboh, Aceh**	**5.30**	**320**	P	**Pn**	**14 58 29.5**	**-1.3**
LHMI	**Lhok Sumawe**	**5.77**	**330**	P	**Pn**	**14 58 37.1**	**0.0**
77nm,1.3s							
H08S2	**Diego Garcia H**	**28.37**	**253**	T	T	15 30 39.5	
baz=73,slow=75,SNR=6.6							
H08S3	**Diego Garcia H**	**28.38**	**253**	T	T	15 30 38.8	
baz=73,slow=75,SNR=10							
H08S1	**Diego Garcia H**	**28.39**	**253**	T	T	15 30 39.9	
baz=73,slow=75,SNR=4.8							
WRA	**Warramunga Arr**	**39.27**	**123**	P	**P**	**15 04 28.3**	**-1.2**
0.3nm,0.5s,baz=308,slow=8.9,SNR=7.0							
WRA				PcP	**PcP**	**15 06 36.6**	**+0.7**
0.2nm,0.4s,baz=315,slow=2.6,SNR=6.7							
0.3nm,0.5s							
ASAR	**Alice Springs**	**40.69**	**128**	P	**P**	**15 04 40.1**	**-1.2**
0.3nm,0.4s,baz=297,slow=7.7,SNR=22							
ASAR				PcP	**PcP**	**15 06 41.0**	**+0.5**
0.2nm,0.4s,baz=316,slow=2.8,SNR=5.1							
0.3nm,0.4s							
KSRS	**Korea Array**	**45.22**	**32**	LR	LR	15 25 57.5	
comp=Z,102nm,18.6s,baz=245,slow=38							
SONM	**Songino Array**	**47.77**	**6**	LR	LR	15 26 16.5	
comp=Z,209nm,19.5s,baz=218,slow=37							
MKAR	**Makanchi Array**	**48.88**	**344**	P	**P**	**15 05 46.2**	**+0.6**
0.5nm,0.5s,baz=157,slow=8.2,SNR=8.7							
0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**53.40**	**343**	P	**P**	**15 06 19.5**	**+0.1**
0.3nm,0.5s,baz=157,slow=6.6,SNR=4.1							
0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**54.98**	**349**	P	**P**	**15 06 30.8**	**+0.1**
0.6nm,0.4s,baz=140,slow=5.6,SNR=3.6							
0.6nm,0.4s							
KLR	**Kul'dur**	**55.99**	**25**	LR	LR	15 33 30.6	
comp=Z,109nm,18.9s,baz=188,slow=39							
YAK	**Yakutsk**	**65.66**	**15**	LR	LR	15 37 23.6	
comp=Z,92nm,18.3s,baz=236,slow=37							
SEY	**Seymchan**	**73.65**	**22**	LR	LR	15 44 43.9	
comp=Z,115nm,18.5s,baz=162,slow=39							
TIXI	**Tiksi**	**73.71**	**9**	LR	LR	15 44 45.0	
comp=Z,64nm,18.7s,baz=270,slow=39							
VNDA	**Vanda**	**84.34**	**169**	P	**P**	**15 09 31.5**	**+1.3**
0.4nm,0.6s,baz=256,slow=0.7,SNR=5.6							
0.4nm,0.6s							
ARCES	**ARCESS Array B**	**84.36**	**340**	P	**P**	**15 09 31.0**	**+0.6**
1.1nm,0.8s,baz=104,slow=7.5,SNR=1.5							
1.1nm,0.8s							
TXAR	**Lajitas Array**	**143.02**	**35**	PKP	**PKPdf**	**15 16 31.8**	**-0.6**
0.1nm,0.5s,baz=318,slow=1.2,SNR=2.1							

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*IDC **10** 14:58:41.1±1.4, 31°.68S×58°.45E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=47.1km s-min=30.1km az=93.0*
ISC 10 14:58:43.3±1.4, 31°.7S±0°.2×58°.4E±0°.3, h14km, n16, σ0§55/7, mb4.0/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.35**	**198**	T	T	15 17 34.6	
baz=22,slow=75,SNR=83							
H04N1	**CROZET ISLANDS**	**15.35**	**198**	T	T	15 17 32.9	
baz=22,slow=75,SNR=310							
H04N3	**CROZET ISLANDS**	**15.36**	**198**	T	T	15 17 35.8	
baz=22,slow=75,SNR=107							
H08S1	**Diego Carcia H**	**27.26**	**32**	T	T	15 32 54.2	
baz=206							
H08S2	**Diego Garcia H**	**27.27**	**32**	T	T	15 32 54.7	
baz=206							
H08S3	**Diego Garcia H**	**27.28**	**32**	T	T	15 32 55.9	
baz=206							
H01W2	**Cape Leeuwin H**	**46.17**	**110**	T	T	15 56 53.5	
baz=256							
H01W3	**Cape Leeuwin H**	**46.17**	**110**	T	T	15 56 56.8	
baz=256							
H01W1	**Cape Leeuwin H**	**46.19**	**110**	T	T	15 56 55.8	
baz=256							
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**15 08 39.0**	**+0.2**
1.2nm,0.7s,baz=324,slow=0.5,SNR=11							
1.2nm,0.7s							
CMAR	**Chiang Mai Arr**	**63.20**	**44**	P	**P**	**15 09 11.4**	**+0.1**
1.0nm,0.7s,baz=237,slow=8.2,SNR=4.1							
1.0nm,0.7s							
ASAR	**Alice Springs**	**66.13**	**104**	P	**P**	**15 09 31.1**	**+0.6**
0.2nm,0.8s,baz=241,slow=6.1,SNR=4.7							
0.2nm,0.8s							
WRA	**Warramunga Arr**	**68.13**	**101**	P	**P**	**15 09 43.4**	**+0.2**
0.5nm,1.0s,baz=247,slow=5.1,SNR=2.0							
0.5nm,1.0s							
STKA	**Stephens Creek**	**68.84**	**115**	P	**P**	**15 09 46.8**	**-0.7**
2.3nm,1.0s,baz=248,slow=7.8,SNR=2.9							
2.3nm,1.0s							
KURBB	**Kurchatov Arra**	**83.85**	**13**	P	**P**	**15 11 12.1**	**+0.2**
0.7nm,0.8s,baz=210,slow=5.5,SNR=6.3							
0.7nm,0.8s							
YKA	**Yellowknife Ar**	**148.85**	**354**	PKPbc	**PKPbc**	**15 18 29.2**	**-0.5**
0.6nm,0.7s,baz=330,slow=2.1,SNR=3.8							

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*IDC **10** 15:03:45.5±1.6, 62°.34N×151°.49W, h63km±16km, mb3.6/10, mbtmp3.8/14, Error ellipse: s-maj=15.4km s-min=10.0km az=107.0*
*NEIC **10** 15:03:48.2±0.9, 62°.32N±0°.03×151°.27W±0°.07, h91km±7km, Error ellipse: s-maj=5.1km s-min=4.3km az=73.0*
*AEIC **10** 15:03:49.4±0.8, 62°.32N±0°.03×151°.19W±0°.07, h85km±3km, ML3.5, ML3.8/214(NEIC), Error ellipse: s-maj=5.3km s-min=4.5km az=50.0*
ISC 10 15:03:48.7±0.6, 62°.31N±0°.03×151°.22W±0°.03, h100km, n301, σ1§13/295, mb3.8/10, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.36**	**204**		**Pn**	**15 04 02.0**	**-1.7**
SKT	**Skwentna**	**0.36**	**204**		**Sn**	**15 04 12.2**	**-2.7**
SKT	**Skwentna**	**0.36**	**204**	P	**Pn**	**15 04 02.1**	**-1.6**
baz=25							
SKT				S	**Sn**	**15 04 12.2**	**-2.7**
baz=25							
CUT	**Chulitna**	**0.45**	**77**		**Pn**	**15 04 02.6**	**-1.6**
CUT	**Chulitna**	**0.45**	**77**		**Sn**	**15 04 13.8**	**-1.9**
CUT	**Chulitna**	**0.45**	**77**	P	**Pn**	**15 04 02.6**	**-1.6**
baz=259							
CUT				S	**Sn**	**15 04 13.8**	**-1.9**
baz=259							
PPLA	**Purkeypile**	**0.74**	**323**		**Sn**	**15 04 17.6**	**-2.5**
PPLA	**Purkeypile**	**0.74**	**323**		**Pn**	**15 04 05.3**	**-1.4**
PPLA	**Purkeypile**	**0.74**	**323**	P	**Pn**	**15 04 05.3**	**-1.4**
baz=141							
PPLA				S	**Sn**	**15 04 17.6**	**-2.5**
baz=141							
M22K	**Willow**	**0.76**	**137**		**Pn**	**15 04 05.3**	**-1.3**
M22K	**Willow**	**0.76**	**137**		**Sn**	**15 04 18.7**	**-1.5**
M22K	**Willow**	**0.76**	**137**	P	**Pn**	**15 04 05.4**	**-1.2**
baz=319							
M22K				S	**Sn**	**15 04 18.7**	**-1.5**
baz=319							
STLK	**Strandline Lak**	**0.86**	**200**		**Pn**	**15 04 06.6**	**-1.2**
SUA	**Susitna One**	**0.88**	**165**		**Pn**	**15 04 07.1**	**-0.9**
SUA				IAML		15 04 22.0	
comp=E,2μm,0.9s							
SUA				IAML		15 04 23.4	
comp=N,2μm,0.7s							
SUA	**Susitna One**	**0.88**	**165**		**Sn**	**15 04 20.9**	**-1.6**
SUA	**Susitna One**	**0.88**	**165**	P	**Pn**	**15 04 07.0**	**-0.9**
baz=346							
SUA				S	**Sn**	**15 04 20.9**	**-1.6**
baz=346							
M20K	**Styx River**	**1.00**	**245**		**Pn**	**15 04 07.8**	**-1.4**
M20K				IAML		15 04 23.2	
comp=N,2μm,0.3s							
M20K	**Styx River**	**1.00**	**245**		**Sn**	**15 04 22.5**	**-2.1**
M20K	**Styx River**	**1.00**	**245**	P	**Pn**	**15 04 07.8**	**-1.4**
baz=63							
M20K				S	**Sn**	**15 04 22.5**	**-2.1**
baz=63							
SPCG	**Spurr Capps Gl**	**1.09**	**201**		**Pn**	**15 04 09.2**	**-1.1**
SPCG					**Sn**	**15 04 24.6**	**-1.9**
SPCP	**Crater Peak Br**	**1.14**	**203**		**Pn**	**15 04 09.9**	**-0.9**
SPCP					**Sn**	**15 04 26.1**	**-1.4**
SPNN	**North Nagishla**	**1.18**	**217**		**Sn**	**15 04 27.4**	**-0.9**
CAST	**Castle Rocks**	**1.18**	**341**		**Pn**	**15 04 09.8**	**-1.3**
CAST				IAML		15 04 25.6	
comp=N,829nm,0.6s							
CAST				IAML		15 04 26.3	
comp=E,947nm,0.4s							
CAST	**Castle Rocks**	**1.18**	**341**	P	**Pn**	**15 04 09.9**	**-1.3**
baz=159							
SPU	**Mount Spurr**	**1.20**	**200**		**Sn**	**15 04 27.1**	**-1.4**
SPU	**Mount Spurr**	**1.20**	**200**		**Pn**	**15 04 10.4**	**-1.1**
SPU				IAML		15 04 28.7	
comp=N,837nm,0.6s							
GHO	**Glory Hole Cre**	**1.21**	**115**		**Pn**	**15 04 10.9**	**-0.7**
N20K	**Mount Spurr**	**1.21**	**203**	P	**Pn**	**15 04 10.6**	**-1.0**
baz=23							
WAT7	**Susitna Watana**	**1.22**	**63**		**Sn**	**15 04 27.0**	**-2.0**
PMR	**Palmer**	**1.22**	**125**	P	**Pn**	**15 04 10.1**	**-1.5**
PMR	**Palmer**	**1.22**	**125**		**Pn**	**15 04 10.5**	**-1.1**
PMR				IAML		15 04 29.7	
comp=E,1μm,0.4s							
PMR				IAML		15 04 30.6	
comp=N,1μm,0.4s							
PMR	**Palmer**	**1.22**	**125**	P	**Pn**	**15 04 10.5**	**-1.1**
baz=308							
L20K	**Farewell, AK**	**1.25**	**279**		**Pn**	**15 04 10.8**	**-1.2**
L20K	**Farewell, AK**	**1.25**	**279**	P	**Pn**	**15 04 10.8**	**-1.2**
baz=96							
KTH	**Kantishna Hill**	**1.26**	**6**		**Pn**	**15 04 11.1**	**-1.0**
KTH				IAML		15 04 29.1	
comp=E,1μm,0.5s							
KTH				IAML		15 04 29.5	
comp=N,1μm,0.4s							
FIS	**Fire Island**	**1.26**	**157**		**Pn**	**15 04 12.6**	**+0.5**
WAT1	**Susitna Watana**	**1.34**	**66**		**Pn**	**15 04 12.0**	**-1.1**
WAT1	**Susitna Watana**	**1.34**	**66**	P	**Pn**	**15 04 12.0**	**-1.1**
baz=248							
RC01	**Rabbit Creek A**	**1.41**	**149**		**Pn**	**15 04 12.6**	**-1.3**
RC01				IAML		15 04 33.2	
comp=N,1μm,0.3s							
RC01				IAML		15 04 36.5	
comp=E,2μm,0.4s							
RC01	**Rabbit Creek A**	**1.41**	**149**	P	**Pn**	**15 04 12.6**	**-1.3**
baz=331							
SML	**Sawmill**	**1.45**	**109**		**Pn**	**15 04 13.4**	**-1.0**
SML	**Sawmill**	**1.45**	**109**	P	**Pn**	**15 04 13.4**	**-1.0**
baz=292							
M19K	**Big River Lodg**	**1.55**	**256**		**Pn**	**15 04 14.4**	**-1.1**
M19K				IAML		15 04 36.0	
comp=E,633nm,0.5s							
M19K				IAML		15 04 36.2	
comp=N,805nm,0.4s							
M19K	**Big River Lodg**	**1.55**	**256**	P	**Pn**	**15 04 14.4**	**-1.1**
baz=73							
RND	**Reindeer**	**1.55**	**44**		**Pn**	**15 04 14.5**	**-1.1**
RND				IAML		15 04 35.6	
comp=N,1μm,0.4s							
RND				IAML		15 04 36.4	
comp=E,870nm,0.4s							
CAPN	**Captain Cook N**	**1.55**	**179**	Pn	**Pn**	**15 04 17.1**	**+1.5**
KNK	**Knik Glacier**	**1.59**	**123**		**Pn**	**15 04 15.0**	**-1.1**
KNK	**Knik Glacier**	**1.59**	**123**	P	**Pn**	**15 04 15.0**	**-1.1**
baz=306							
WAT6	**Susitna Watana**	**1.64**	**79**	P	**Pn**	**15 04 15.8**	**-1.1**
baz=262							
CHUM	**Lake Minchumin**	**1.66**	**343**		**Pn**	**15 04 16.0**	**-0.9**
CHUM	**Lake Minchumin**	**1.66**	**343**	P	**Pn**	**15 04 16.0**	**-0.9**
baz=162							
K20K	**Telida**	**1.68**	**310**		**Pn**	**15 04 16.2**	**-1.0**
K20K				IAML		15 04 37.5	
comp=N,654nm,0.6s							
K20K				IAML		15 04 38.1	
comp=E,676nm,0.8s							
K20K	**Telida**	**1.68**	**310**	P	**Pn**	**15 04 16.1**	**-1.0**
baz=127							
L19K	**White Mountain**	**1.71**	**267**	Pn	**Pn**	**15 04 16.6**	**-1.0**
L19K				IAML		15 04 39.3	
comp=N,957nm,0.9s							
L19K				IAML		15 04 39.8	
comp=E,802nm,0.8s							
L19K	**White Mountain**	**1.71**	**267**	P	**Pn**	**15 04 16.6**	**-1.0**
baz=84							
M23K	**Glacier View**	**1.73**	**106**	P	**Pn**	**15 04 16.4**	**-1.4**
baz=290							
MCK	**McKinley**	**1.77**	**35**		**Pn**	**15 04 17.4**	**-0.9**
MCK	**McKinley**	**1.77**	**35**	P	**Pn**	**15 04 17.6**	**-0.7**
baz=217							
BPAW	**Bear Paw Mtn.**	**1.80**	**3**		**Pn**	**15 04 17.4**	**-1.3**
BPAW				IAML		15 04 39.8	
comp=E,728nm,0.4s							
BPAW				IAML		15 04 40.4	
comp=N,574nm,0.8s							
BPAW	**Bear Paw Mtn.**	**1.80**	**3**	P	**Pn**	**15 04 17.4**	**-1.3**
baz=183							
RDT	**Redoubt**	**1.83**	**199**		**Pn**	**15 04 18.5**	**-0.7**
SLKM	**Skilak Lake**	**1.87**	**165**		**Pn**	**15 04 18.6**	**-1.0**
SCM	**Sheep Creek Mo**	**1.89**	**103**		**Pn**	**15 04 18.4**	**-1.5**
SCM	**Sheep Creek Mo**	**1.89**	**103**	P	**Pn**	**15 04 18.7**	**-1.3**
baz=287							
DHY	**Denali Highway**	**1.93**	**65**		**Pn**	**15 04 19.3**	**-1.2**
DHY				IAML		15 04 45.8	
comp=N,1μm,0.4s							
DHY	**Denali Highway**	**1.93**	**65**	P	**Pn**	**15 04 19.8**	**-0.7**
baz=248							
O22K	**Cooper Landing**	**1.97**	**158**		**Pn**	**15 04 19.7**	**-1.2**
O22K	**Cooper Landing**	**1.97**	**158**	P	**Pn**	**15 04 19.8**	**-1.1**
baz=340							
RSO	**Redoubt South**	**2.00**	**202**		**Pn**	**15 04 21.1**	**-0.3**
BWN	**Browne**	**2.03**	**22**		**Pn**	**15 04 21.1**	**-0.6**
BWN				IAML		15 05 14.1	
comp=E,465nm,1.1s							
BWN				IAML		15 05 24.5	
comp=N,560nm,0.7s							
N19K	**Bonanza Creek**	**2.17**	**228**	Pn	**Pn**	**15 04 23.0**	**-0.5**
N19K	**Bonanza Creek**	**2.17**	**228**	P	**Pn**	**15 04 23.1**	**-0.5**
baz=45							
J20K	**Nowinta River**	**2.29**	**326**	Pn	**Pn**	**15 04 24.1**	**-1.0**
J20K				IAML		15 04 52.9	
comp=E,528nm,0.8s							
J20K	**Nowinta River**	**2.29**	**326**	P	**Pn**	**15 04 24.1**	**-1.0**
baz=143							
M18K	**Stony River**	**2.33**	**251**	P	**Pn**	**15 04 25.0**	**-0.5**
baz=67							
O20K	**Slope Mountain**	**2.34**	**198**		**Pn**	**15 04 26.1**	**+0.4**
O20K	**Slope Mountain**	**2.34**	**198**	P	**Pn**	**15 04 26.1**	**+0.4**
baz=16							
M24K	**Tolsona, Glenn**	**2.37**	**93**		**Pn**	**15 04 25.4**	**-0.7**
M24K	**Tolsona, Glenn**	**2.37**	**93**	P	**Pn**	**15 04 25.4**	**-0.7**
baz=277							
SEW	**Seward**	**2.37**	**158**		**Pn**	**15 04 25.3**	**-0.8**
SEW	**Seward**	**2.37**	**158**	P	**Pn**	**15 04 25.5**	**-0.6**
baz=340							
SVW2	**Sparrevohn**	**2.41**	**242**	P	**Pn**	**15 04 25.8**	**-0.8**
SVW2	**Sparrevohn**	**2.41**	**242**		**Pn**	**15 04 25.8**	**-0.8**
SVW2				IAML		15 04 57.9	
comp=E,200nm,0.7s							
GLI	**Glacier Island**	**2.44**	**124**		**Pn**	**15 04 25.1**	**-1.9**
GLI	**Glacier Island**	**2.44**	**124**	P	**Pn**	**15 04 25.2**	**-1.8**
baz=308							
NEA2	**Nenana**	**2.49**	**22**		**Pn**	**15 04 26.3**	**-1.3**
NEA2				IAML		15 04 55.4	
comp=E,216nm,0.6s							
NEA2	**Nenana**	**2.49**	**22**	P	**Pn**	**15 04 26.3**	**-1.3**
baz=204							
ILSW	**Iliamna Southw**	**2.51**	**203**		**Pn**	**15 04 28.1**	**0.0**
L18K	**Granite Mounta**	**2.56**	**270**	Pn	**Pn**	**15 04 27.8**	**-0.8**
L18K				IAML		15 05 05.5	
comp=N,187nm,0.8s							
L18K	**Granite Mounta**	**2.56**	**270**	P	**Pn**	**15 04 27.9**	**-0.7**
baz=85							
BRSE	**Bradley Lake S**	**2.59**	**175**		**Pn**	**15 04 28.4**	**-0.5**
BRSE	**Bradley Lake S**	**2.59**	**175**	P	**Pn**	**15 04 28.4**	**-0.5**
baz=355							
WRH	**Wood River Hil**	**2.59**	**32**	Pn	**Pn**	**15 04 27.8**	**-1.1**
WRH				IAML		15 04 57.0	
comp=E,192nm,0.4s							
J19K	**Poorman**	**2.62**	**312**	Pn	**Pn**	**15 04 28.4**	**-0.9**
J19K				IAML		15 05 00.3	
comp=E,322nm,0.5s							
J19K				IAML		15 05 00.4	
comp=N,445nm,0.5s							
J19K	**Poorman**	**2.62**	**312**	P	**Pn**	**15 04 28.4**	**-0.9**
baz=128							
KLU	**Klutina**	**2.64**	**106**		**Pn**	**15 04 27.9**	**-1.8**
KLU				IAML		15 05 00.0	
comp=E,593nm,0.2s							
KLU	**Klutina**	**2.64**	**106**	P	**Pn**	**15 04 27.9**	**-1.8**
baz=291							
PAX	**Paxson**	**2.74**	**73**	P	**Pn**	**15 04 30.2**	**-0.8**
baz=259							
MLY	**Manley**	**2.74**	**4**	Pn	**Pn**	**15 04 30.0**	**-1.0**
MLY	**Manley**	**2.74**	**4**	P	**Pn**	**15 04 30.0**	**-1.0**
baz=184							
FID	**Port Fidalgo**	**2.76**	**122**		**Pn**	**15 04 29.2**	**-2.0**
J18K	**Innoko River**	**2.77**	**297**	Pn	**Pn**	**15 04 30.6**	**-0.7**
J18K				IAML		15 05 02.6	
comp=E,201nm,0.7s							
J18K				IAML		15 05 03.7	
comp=N,229nm,0.7s							
J18K	**Innoko River**	**2.77**	**297**	P	**Pn**	**15 04 30.8**	**-0.6**
baz=112							
N18K	**Kilae Creek**	**2.77**	**236**	Pn	**Pn**	**15 04 30.7**	**-0.7**
N18K	**Kilae Creek**	**2.77**	**236**	P	**Pn**	**15 04 30.9**	**-0.6**
baz=52							
CNPM	**China Poot**	**2.79**	**180**		**Pn**	**15 04 31.8**	**+0.1**
CNPM				IAML		15 05 11.8	
comp=E,552nm,0.5s							
CCB	**Clear Creek Bu**	**2.80**	**32**	Pn	**Pn**	**15 04 30.5**	**-1.2**
HARP	**HAARP**	**2.83**	**86**	P	**Pn**	**15 04 31.7**	**-0.4**
baz=271							
P19K	**Oil Pt**	**2.84**	**201**		**Pn**	**15 04 32.6**	**+0.2**
P19K				IAML		15 05 12.7	
comp=E,273nm,0.7s							
P19K				IAML		15 05 12.8	
comp=N,241nm,0.6s							
DIV	**Divide**	**2.85**	**112**		**Pn**	**15 04 30.3**	**-2.2**
HDA	**Harding Lake**	**2.85**	**41**		**Pn**	**15 04 31.3**	**-1.2**
HDA				IAML		15 05 03.9	
comp=E,354nm,0.4s							
HDA				IAML		15 05 04.8	
comp=N,366nm,0.7s							
HDA	**Harding Lake**	**2.85**	**41**	P	**Pn**	**15 04 31.4**	**-1.0**
baz=224							
I20K	**Naaghedeneel**	**2.89**	**331**		**Pn**	**15 04 32.1**	**-0.8**
I20K				IAML		15 05 38.9	
comp=N,512nm,0.8s							
I20K	**Naaghedeneel**	**2.89**	**331**	P	**Pn

comp=E,356nm,0.5s
N25K Chitina, Valde 3.21 100 P Pn 15 04 35.7 -1.6
baz=286
WACK Wrangell Chich 3.25 93 Pn 15 04 36.9 -1.1
POKR Poker Plat Res 3.28 29 Pn 15 04 37.2 -1.0
POKR Poker Plat Res 3.28 29 P Pn 15 04 37.3 -0.8
baz=212
K17K Iditarod 3.31 280 Pn **Pn 15 04 38.0 -0.5**
K17K IAML 15 05 17.4
comp=N,179nm,0.8s
K17K Iditarod 3.31 280 P Pn 15 04 38.3 -0.3
baz=94
L17K Donlin 3.32 270 P Pn 15 04 38.1 -0.5
baz=84
WAZA Wrangell Mount 3.32 91 Pn 15 04 38.3 -0.6
WASW Wrangell South 3.33 93 Pn 15 04 38.1 -1.0
N17K Nushagak Hills 3.38 241 Pn **Pn 15 04 39.0 -0.5**
N17K IAML 15 05 41.9
comp=E,94nm,0.7s
N17K IAML 15 05 57.9
comp=N,94nm,0.6s
N17K Nushagak Hills 3.38 241 P Pn 15 04 39.2 -0.3
baz=55
BMRM Bremner River 3.43 110 Pn 15 04 38.0 -2.2
BMRM Bremner River 3.43 110 P Pn 15 04 38.2 -2.0
baz=296
H21K Melozitna Rive 3.43 349 Pn **Pn 15 04 39.5 -0.7**
H21K Melozitna Rive 3.43 349 P Pn 15 04 39.5 -0.7
baz=167
J25K Salcha River, 3.50 46 Pn 15 04 40.2 -0.9
J25K IAML 15 05 28.4
comp=E,129nm,0.6s
J25K IAML 15 05 34.7
comp=N,122nm,0.8s
J25K Salcha River, 3.50 46 P Pn 15 04 40.2 -0.9
baz=231
GCSA Galena City Sc 3.52 316 P Pn 15 04 41.1 -0.2
baz=131
MENT Mentasta 3.52 76 P Pn 15 04 40.4 -1.0
MENT Mentasta 3.52 76 Pn 15 04 40.4 -1.0
P18K Big Mountain, 3.52 216 Pn **Pn 15 04 41.0 -0.5**
P18K Big Mountain, 3.52 216 P Pn 15 04 41.1 -0.3
baz=32
H20K Anotleneega Mo 3.58 335 P Pn 15 04 41.6 -0.6
baz=151
Q19K Cape Douglas, 3.60 200 Pn 15 04 43.0 +0.5
Q19K IAML 15 05 36.8
comp=N,237nm,0.8s
H22K Ishtalitna Cre 3.60 359 P Pn 15 04 41.8 -0.6
baz=179
H23K Yukon River 3.61 11 Pn 15 04 42.0 -0.5
H23K Yukon River 3.61 11 P Pn 15 04 41.9 -0.7
baz=192
GLB Gilahina Butte 3.62 101 Pn **Pn 15 04 40.9 -1.8**
GLB IAML 15 05 23.5
comp=N,258nm,0.9s
GLB IAML 15 05 27.5
comp=E,164nm,0.5s
SCRK Sand Creek 3.68 60 Pn **Pn 15 04 42.8 -0.9**
SCRK IAML 15 05 31.6
comp=N,162nm,0.3s
SCRK IAML 15 05 32.1
comp=E,116nm,0.5s
SCRK Sand Creek 3.68 60 P Pn 15 04 42.6 -1.1
baz=246
RAGM Ragged Mountai 3.69 119 Pn **Pn 15 04 42.8 -0.9**
L26K Log Cabin Wild 3.70 75 Pn 15 04 43.0 -0.8
Q23K Middleton Isla 3.74 138 Pn 15 04 43.9 -0.4
Q23K IAML 15 05 51.1
comp=N,188nm,1.3s
Q23K IAML 15 07 02.3
comp=E,194nm,1.4s
Q23K Middleton Isla 3.74 138 P Pn 15 04 44.2 -0.1
baz=323
MID Middleton Isla 3.75 138 P Pn 15 04 44.2 -0.2
MID Middleton Isla 3.75 138 Pn **Pn 15 04 44.1 -0.3**
MID IAML 15 06 56.6
comp=N,173nm,1.5s
MID IAML 15 07 02.3
comp=E,219nm,1.5s
SYI Shuyak Island 3.76 189 Pn 15 04 44.4 -0.1
SYI IAML 15 05 36.2
comp=E,100nm,0.7s
SYI IAML 15 05 38.3
comp=N,78nm,0.7s
Q20K Shuyak Island 3.76 189 P Pn 15 04 44.2 -0.4
baz=8.6
J17K VABM Dome 3.76 290 Pn **Pn 15 04 43.7 -0.9**
J17K IAML 15 05 25.7
comp=N,68nm,0.8s
J17K IAML 15 05 27.8
comp=E,80nm,1.0s
J17K VABM Dome 3.76 290 P Pn 15 04 43.9 -0.7
baz=103
O17K Koliganek Bris 3.83 231 Pn 15 04 45.2 -0.3
O17K Koliganek Bris 3.83 231 P Pn 15 04 45.2 -0.3
baz=46
H24K Noodor Dome 3.83 21 Pn **Pn 15 04 44.8 -0.9**
H24K Noodor Dome 3.83 21 P Pn 15 04 44.9 -0.7
baz=204
M26K Nabesna, AK 3.83 85 Pn **Pn 15 04 44.2 -1.4**
M26K IAML 15 05 46.8
comp=N,249nm,0.6s
M26K IAML 15 05 48.2
comp=E,197nm,0.5s
M26K Nabesna, AK 3.83 85 P Pn 15 04 44.3 -1.4
baz=272
VRDI Verde Repeater 3.85 103 Pn **Pn 15 04 44.3 -1.7**
VRDI IAML 15 05 49.8
comp=N,143nm,0.7s
VRDI IAML 15 05 53.7
comp=E,105nm,1.1s
IMAR Indian Mountai 3.85 344 Pn 15 04 44.7 -1.1
HMT Hamilton 3.89 117 Pn 15 04 44.6 -1.8
M16K Timber Creek 3.91 254 Pn 15 04 45.8 -0.8
M16K IAML 15 05 32.0
comp=E,89nm,0.8s
M16K Timber Creek 3.91 254 P Pn 15 04 45.9 -0.8
baz=67
L16K Owhat River 3.94 265 Pn **Pn 15 04 46.4 -0.6**
L16K IAML 15 05 31.9
comp=N,65nm,0.9s
L16K Owhat River 3.94 265 P Pn 15 04 46.5 -0.5
baz=78
H19K Roundabout Mou 3.97 327 Pn **Pn 15 04 46.8 -0.6**
H19K IAML 15 05 49.0
comp=N,58nm,0.8s
H19K IAML 15 06 00.0
comp=E,61nm,1.2s
H19K Roundabout Mou 3.97 327 P Pn 15 04 46.8 -0.6
baz=142
MCARA McCarthy VSAT 3.99 100 P Pn 15 04 46.4 -1.3
baz=287
P17K Kvichak River 4.04 222 Pn 15 04 48.0 -0.4
P17K Kvichak River 4.04 222 P Pn 15 04 48.0 -0.4
baz=37
N16K Nishlik Lake 4.07 246 P Pn 15 04 48.7 -0.1
baz=60
J26L Joseph Creek 4.08 54 Pn **Pn 15 04 48.5 -0.6**
J26L IAML 15 05 42.1
comp=E,206nm,0.4s
J26L Joseph Creek 4.08 54 P Pn 15 04 48.6 -0.4
baz=241
PRP Porcupine Dome 4.08 35 Pn 15 04 48.7 -0.4
PRP IAML 15 05 34.2
comp=N,92nm,0.5s
PRP IAML 15 05 53.0
comp=E,77nm,0.7s
PRP Porcupine Dome 4.08 35 P Pn 15 04 48.8 -0.3
baz=220
KAHC Katmai Hardscr 4.12 209 Pn 15 04 49.3 -0.3
Q18K Katmai Hardscr 4.12 209 P Pn 15 04 49.3 -0.3
baz=26
H18K Honhosa River 4.27 315 IAML 15 06 07.7
comp=N,51nm,0.8s
H18K IAML 15 06 09.7
comp=E,49nm,0.8s
O16K Kokwok River B 4.32 234 P Pn 15 04 51.8 -0.3
baz=48
G21K Allakaket 4.34 348 IAML 15 06 08.8
comp=E,46nm,0.8s
M27K Edge Creek, AK 4.36 85 IAML 15 06 06.5
comp=N,103nm,0.9s
M27K IAML 15 06 18.2
comp=E,74nm,1.1s
M27K Edge Creek, AK 4.36 85 P Pn 15 04 52.3 -0.4
baz=274
L27K Beaver Creek, 4.39 76 IAML 15 06 04.6
comp=E,44nm,0.6s
L27K IAML 15 06 05.0
comp=N,70nm,0.7s
L27K Beaver Creek, 4.39 76 P Pn 15 04 51.9 -1.3
baz=264
BCAR Beaver Creek A 4.41 76 Pn **Pn 15 04 52.1 -1.4**
J16K Anvik River 4.42 287 Pn **Pn 15 04 53.0 -0.5**
J16K IAML 15 06 10.2
comp=N,43nm,0.7s
J16K Anvik River 4.42 287 P Pn 15 04 53.0 -0.5
baz=98
G23K Bananza Creek 4.45 6 P Pn 15 04 53.8 -0.2
baz=187
K27K Chicken 4.49 63 IAML 15 05 51.7
comp=N,67nm,0.5s
K27K IAML 15 06 08.3
comp=E,55nm,0.9s
I17K Unalakleet 4.59 294 IAML 15 05 46.8
comp=E,50nm,0.6s
KDAK Kodiak Island 4.59 189 P **Pn 15 04 54.1 -1.8**
comp=E,2.9nm,0.4s,baz=57,slow=9.8,SNR=34
KDAK S **Sn 15 05 43.4 -4.5**
comp=E,15nm,0.5s,baz=165,slow=22,SNR=8.2
G19K Purcell Mounta 4.62 329 Pn **Pn 15 04 55.5 -0.7**
G19K Purcell Mounta 4.62 329 P Pn 15 04 55.4 -0.8
baz=144
ANCK Angle Creek 4.64 209 Pn 15 04 56.6 +0.1
I26K Coal Creek Min 4.67 46 Pn 15 04 56.8 0.0
I26K IAML 15 06 07.1
comp=N,75nm,0.5s
I26K IAML 15 06 13.7
comp=E,91nm,0.6s
CNTC Contact Creek 4.67 212 Pn 15 04 57.2 +0.2
Q17K Contact Creek 4.68 212 P Pn 15 04 57.2 +0.2
baz=28
P16K Nushagak River 4.68 228 Pn 15 04 57.1 +0.2
P16K Nushagak River 4.68 228 P Pn 15 04 57.1 +0.2
baz=42
H17K Granite Mounta 4.69 308 Pn 15 04 57.2 +0.1
H17K Granite Mounta 4.69 308 IAML 15 05 50.8
comp=N,71nm,0.7s
H17K IAML 15 05 53.2
comp=E,79nm,0.8s
H17K Granite Mounta 4.69 308 P Pn 15 04 57.2 +0.1
baz=120
N15K Kwethluk River 4.79 247 IAML 15 06 07.5
comp=N,54nm,1.1s
N15K IAML 15 06 19.9
comp=E,69nm,0.7s
N15K Kwethluk River 4.79 247 P Pn 15 04 58.6 0.0
baz=60
GRNC Granite Creek 4.80 105 IAML 15 05 54.2
comp=E,74nm,0.9s
GRNC IAML 15 06 15.7
comp=N,116nm,0.6s
K15K Wolf Creek Mou 4.81 274 P Pn 15 04 58.6 -0.2
baz=85
G18K Tagagawik 4.85 321 P Pn 15 04 59.2 -0.1
baz=134
L15K Ungalak Mounta 4.88 267 P Pn 15 04 59.2 -0.5
baz=78
CTG Chitna Glacier 4.90 102 P Pn 15 04 59.5 -0.6
baz=290
CTGM Chitina Glacie 4.90 102 IAML 15 05 57.7
comp=E,62nm,0.4s
CTGM IAML 15 05 57.9
comp=N,115nm,0.7s
G25K Bearman Lake 4.99 24 P Pn 15 05 00.9 -0.2
baz=208
FYU Fort Yukon 5.00 29 IAML 15 06 28.2
comp=N,49nm,1.3s
FYU IAML 15 06 36.8
comp=E,42nm,0.8s
F21K Alatna River 5.03 350 P Pn 15 05 01.9 +0.3
baz=168
YUK3 Moose Creek 5.09 91 P Pn 15 05 01.6 -1.2
baz=281
LOGN Logan Glacier 5.11 102 IAML 15 06 01.0
comp=E,86nm,0.5s
LOGN IAML 15 06 32.7
comp=N,66nm,0.9s
EGAK Eagle 5.13 57 IAML 15 06 26.8
comp=N,82nm,0.8s
EGAK IAML 15 06 31.5
comp=N,75nm,0.8s
EGAK Eagle 5.13 57 P Pn 15 05 02.2 -0.9
baz=246
F20K Avaraart Lake 5.14 340 IAML 15 06 02.3
comp=E,42nm,0.7s
F20K Avaraart Lake 5.14 340 P Pn 15 05 03.1 0.0
baz=156
F22K John River 5.24 356 P Pn 15 05 04.7 +0.1
baz=175
G17K Kiwalik Mounta 5.25 312 Pn 15 05 04.6 -0.1
G17K Kiwalik Mounta 5.25 312 P Pn 15 05 04.6 -0.1
baz=123
I27K Kandik River 5.37 48 P Pn 15 05 06.2 -0.2
baz=236
M14K Bethel 5.37 258 Pn 15 05 06.0 -0.4
M14K Bethel 5.37 258 IAML 15 06 35.9
comp=E,30nm,1.1s
M14K IAML 15 06 53.3
comp=N,28nm,1.4s
M14K Bethel 5.37 258 P Pn 15 05 06.0 -0.4
baz=68
F24K Squaw Lake 5.42 14 P Pn 15 05 07.0 0.0
baz=197
O28M Mount Upton 5.50 101 P Pn 15 05 08.2 -0.1
baz=291
L14K Kuka Creek 5.52 265 Pn 15 05 08.3 0.0
L14K Kuka Creek 5.52 265 P Pn 15 05 08.3 0.0
baz=75
G26K Porcupine Rive 5.65 31 Pn 15 05 09.1 -1.0
G26K Porcupine Rive 5.65 31 P Pn 15 05 09.1 -1.0
baz=218
J14K Nanvaranak Lak 5.73 280 P Pn 15 05 11.1 0.0
baz=89
PINM Pinnacle 5.75 108 P Pn 15 05 10.5 -1.0
baz=298
H27K Steamboat Moun 5.77 43 Pn 15 05 11.7 0.0
H27K Steamboat Moun 5.77 43 P Pn 15 05 11.7 0.0
baz=231
F25K Christian Rive 5.81 22 P Pn 15 05 12.2 -0.1
baz=207
E23K Chandalar 5.81 6 Pn 15 05 12.0 -0.4
E23K Chandalar 5.81 6 P Pn 15 05 12.0 -0.4
baz=187
BMAR Burnt Mountain 5.86 26 Pn **Pn 15 05 12.6 -0.5**
I28M Miner Creek 5.89 53 P Pn 15 05 13.0 -0.5
baz=243
E24K Your Creek 5.90 10 P Pn 15 05 13.8 +0.2
baz=192
M29M Somme Creek 5.94 83 P Pn 15 05 13.2 -0.9
baz=274
L29M L29M 6.08 77 P Pn 15 05 15.2 -0.8
baz=268
G27K Doyon Strip 6.11 38 P Pn 15 05 16.6 +0.2
baz=227
F26K Sheenjek River 6.18 26 Pn 15 05 16.4 -0.9
F26K Sheenjek River 6.18 26 P Pn 15 05 16.4 -0.9
baz=212
E25K Arctic Village 6.30 20 P Pn 15 05 18.9 -0.1
baz=205
PNL Peninsula 6.33 109 P Pn 15 05 18.9 -0.5
K29M Barlow Dome 6.41 70 P Pn 15 05 19.2 -1.3
baz=262
E17K Hotham Inlet 6.60 321 Pn 15 05 22.6 -0.3
E17K Hotham Inlet 6.60 321 P Pn 15 05 22.6 -0.3
baz=131
N30M Aishikik Lake 6.73 91 P Pn 15 05 23.1 -1.8
baz=284
H29M Whitestone 6.83 49 Pn 15 05 25.2 -0.9
H29M Whitestone 6.83 49 P Pn 15 05 25.2 -0.9
baz=241
J30M Hart River 7.05 65 Pn 15 05 28.3 -1.0
J30M Hart River 7.05 65 P Pn 15 05 28.3 -1.0
baz=258
P29M Windy Craggy 7.09 106 P Pn 15 05 29.1 -0.6
baz=298
D25K Kavik River 7.32 14 Pn 15 05 31.4 -1.3
D25K Kavik River 7.32 14 P Pn 15 05 31.4 -1.3
baz=198
D27M Malcolm River 8.12 27 Pn 15 05 42.3 -1.5
D27M Malcolm River 8.12 27 P Pn 15 05 42.3 -1.5
baz=216
F30M Barrier River 8.41 44 Pn 15 05 45.3 -2.4
F30M Barrier River 8.41 44 P Pn 15 05 45.3 -2.4
baz=238
G31M Satah River 8.61 50 P Pn 15 05 48.8 -1.4
baz=245
INK Inuvik 9.51 43 P Pn 15 06 01.6 -0.9
comp=N,3.3nm,0.5s,baz=242,slow=18,SNR=7.8
SIT Sitka 9.59 116 P Pn 15 06 02.0 -1.7
CRAG Craig 11.57 118 P Pn 15 06 30.2 -0.2
ATKA Atka Island 15.93 241 P P 15 07 29.2 +0.7
comp=N,56nm,2.9s
YKA Yellowknife Ar 16.82 73 P Pn 15 07 36.8 -1.0
comp=N,1.3nm,0.8s,baz=287,slow=11,SNR=3.7
ADK Adak 17.20 244 P P 15 07 43.5 +1.0
comp=N,27nm,2.6s
NVAR Mina Array Bea 31.21 125 P P 15 10 00.7 +2.2
comp=N,0.9nm,0.7s,baz=311,slow=9.4,SNR=6.9
comp=N,0.9nm,0.7s
PDAR Pinedale Array 31.22 109 P P 15 10 00.5 +1.9
comp=N,0.3nm,0.5s,baz=326,slow=3.8,SNR=5.7
comp=N,0.3nm,0.5s
ULM Lac du Bonnet 31.96 86 P P 15 10 05.3 +0.6
comp=N,1.1nm,0.5s,baz=312,slow=14,SNR=3.0
comp=N,1.1nm,0.5s
TXAR Lajitas Array 45.07 114 P P 15 11 56.6 +2.0
comp=N,0.5nm,0.6s,baz=318,slow=6.1,SNR=6.0
comp=N,0.5nm,0.6s
KSRS Korea Array 53.52 282 P P 15 12 59.7 +1.1
comp=N,0.9nm,0.5s,baz=33,slow=6.9,SNR=6.6
comp=N,0.9nm,0.5s
SONM Songino Array 54.14 306 P P 15 13 04.3 +1.2
comp=N,1.1nm,0.7s,baz=35,slow=9.3,SNR=5.7
comp=N,1.1nm,0.7s
ZALV Zalesovo Beam 56.02 324 P P 15 13 16.0 -0.4
comp=N,1.1nm,0.5s,baz=8.5,slow=8.2,SNR=5.1
comp=N,1.1nm,0.5s
KURBB Kurchatov Arra 60.70 326 P P 15 13 48.6 -0.4
comp=N,0.5nm,0.5s,baz=32,slow=6.8,SNR=4.2
comp=N,0.5nm,0.5s
MKAR Makanchi Array 63.16 322 P P 15 14 04.7 -0.8
comp=N,1.1nm,0.7s,baz=46,slow=7.7,SNR=12
comp=N,1.1nm,0.7s
AKASG Malin Array Be 67.34 360 P P 15 14 31.2 -1.1
comp=N,0.4nm,0.4s,baz=4.9,slow=6.2,SNR=1.5
comp=N,0.4nm,0.4s

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*IDC **10** 15:05:03.4±1.4, 31°.68S×58°.43E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=48.9km s-min=28.0km az=95.0*

ISC 10 15:05:05.7±1.7, 31°.7S±0°.2×58°.5E±0°.4, h14km, n15, σ0§62/6, mb4.0/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.35**	**198**	T	T	15 24 00.6	
baz=21,slow=75,SNR=45							
H04N1	**CROZET ISLANDS**	**15.36**	**198**	T	T	15 24 00.6	
baz=21,slow=75,SNR=201							
H04N3	**CROZET ISLANDS**	**15.37**	**198**	T	T	15 24 00.6	
baz=21,slow=75,SNR=328							
H08S1	**Diego Carcia H**	**27.25**	**32**	T	T	15 39 03.1	
baz=206,slow=76,SNR=9.2							
H08S2	**Diego Garcia H**	**27.26**	**32**	T	T	15 39 02.0	
baz=206,slow=76,SNR=12							
H08S3	**Diego Garcia H**	**27.27**	**32**	T	T	15 39 05.2	
baz=206,slow=76,SNR=12							
H01W2	**Cape Leeuwin H**	**46.16**	**110**	T	T	16 02 40.5	
baz=257,slow=74,SNR=9.3							
H01W3	**Cape Leeuwin H**	**46.16**	**110**	T	T	16 02 40.9	
baz=257,slow=74,SNR=8.5							
H01W1	**Cape Leeuwin H**	**46.17**	**110**	T	T	16 02 41.7	
baz=257,slow=74,SNR=11							
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**15 15 01.0**	**-0.2**
1.6nm,0.7s,baz=265,slow=2.0,SNR=15							
1.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**63.19**	**44**	P	**P**	**15 15 32.9**	**-0.7**
0.3nm,0.3s,baz=222,slow=7.8,SNR=4.3							
0.3nm,0.3s							
ASAR	**Alice Springs**	**66.11**	**104**	P	**P**	**15 15 53.0**	**+0.1**
1.1nm,0.7s,baz=239,slow=6.0,SNR=19							
1.1nm,0.7s							
WRA	**Warramunga Arr**	**68.12**	**101**	P	**P**	**15 16 06.1**	**+0.5**
1.2nm,0.8s,baz=240,slow=5.5,SNR=5.9							
1.2nm,0.8s							
MKAR	**Makanchi Array**	**81.02**	**16**	P	**P**	**15 17 20.2**	**+0.4**
0.4nm,0.9s,baz=194,slow=5.2,SNR=3.6							
0.4nm,0.9s							
KURBB	**Kurchatov Arra**	**83.85**	**13**	P	**P**	**15 17 34.8**	**+0.4**
0.8nm,0.8s,baz=204,slow=5.9,SNR=5.8							
0.8nm,0.8s							

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*IDC **10** 15:05:44.7±1.5, 31°.81S×58°.13E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=49.5km s-min=30.8km az=80.0*

ISC 10 15:05:46.1±1.4, 31°.8S±0°.2×58°.1E±0°.3, h10km, n8, σ0§66/8, mb3.9/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.36**	**180**	P	**P**	**15 15 41.3**	**-0.1**
1.0nm,1.0s,baz=197,slow=8.3,SNR=1.2							
1.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**63.52**	**44**	P	**P**	**15 16 16.5**	**-0.3**
0.5nm,0.3s,baz=235,slow=6.3,SNR=6.6							
0.5nm,0.3s							
ASAR	**Alice Springs**	**66.41**	**104**	P	**P**	**15 16 35.0**	**-0.7**
0.7nm,0.8s,baz=241,slow=6.0,SNR=7.7							
0.7nm,0.8s							
WRA	**Warramunga Arr**	**68.42**	**101**	P	**P**	**15 16 48.3**	**-0.3**
0.7nm,0.8s,baz=241,slow=5.6,SNR=2.4							
0.7nm,0.8s							
STKA	**Stephens Creek**	**69.08**	**115**	P	**P**	**15 16 53.3**	**+0.8**
0.7nm,0.4s,baz=269,slow=7.5,SNR=3.2							
0.7nm,0.4s							
MKAR	**Makanchi Array**	**81.24**	**17**	P	**P**	**15 18 02.6**	**+0.7**
0.2nm,0.8s,baz=184,slow=5.6,SNR=1.7							
0.2nm,0.8s							
KURBB	**Kurchatov Arra**	**84.04**	**13**	P	**P**	**15 18 16.6**	**+0.2**
0.4nm,0.8s,baz=187,slow=5.3,SNR=2.4							
0.4nm,0.8s							
YKA	**Yellowknife Ar**	**148.94**	**353**	PKPbc	**PKPbc**	**15 25 32.9**	**-0.5**
1.4nm,1.0s,baz=355,slow=3.4,SNR=2.7							

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*IDC **10** 15:18:29.0±0.7, 31°.69S×58°.30E, h0km, mb3.9/10, mbtmp4.0/11, ML3.9/1, Error ellipse: s-maj=26.4km s-min=20.4km az=69.0*

*NEIC **10** 15:18:31.0±0.8, 31°.7S±0°.1×58°.0E±0°.2, h10km±2km, mb4.3/5, Error ellipse: s-maj=27.4km s-min=18.9km az=92.0*

ISC 10 15:18:31.4±0.6, 31°.6S±0°.1×58°.0E±0°.1, h17km, n31, σ1§53/23, mb4.0/11, 2C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.59**	**348**	Pn	**Pn**	**15 21 02.0**	**-0.5**
FOMA	**Nahampoana Res**	**11.76**	**301**	Pn	**Pn**	**15 21 18.2**	**-0.2**
H04N2	**CROZET ISLANDS**	**15.34**	**197**	T	T	15 37 21.8	
baz=21,slow=75,SNR=21							
H04N1	**CROZET ISLANDS**	**15.34**	**197**	T	T	15 37 18.8	
baz=21,slow=75,SNR=24							
H04N3	**CROZET ISLANDS**	**15.35**	**197**	T	T	15 37 21.3	
baz=21,slow=75,SNR=5.2							
ABPO	**Ambohimpanom**	**15.87**	**320**	P	**P**	**15 22 18.4**	**+0.6**
ABPO				IAmb	IAmb	15 22 25.0	
comp=Z,12nm,1.1s							
OPO	**Ambohidratompo**	**16.25**	**320**	Pn	**P**	**15 22 22.4**	**+0.3**
baz=100,slow=22,SNR=6.1							
OPO				Sn	**Sn**	**15 25 14.4**	**-4.8**
baz=70,slow=5.6,SNR=2.0							
comp=Z,6.8nm,0.9s							
H08S1	**Diego Carcia H**	**27.36**	**33**	T	T	15 52 39.4	
baz=206,slow=76,SNR=6.3							
H08S2	**Diego Garcia H**	**27.37**	**33**	T	T	15 52 41.7	
baz=206,slow=76,SNR=5.4							
H08S3	**Diego Garcia H**	**27.38**	**33**	T	T	15 52 41.4	
baz=206,slow=76,SNR=5.7							
H01W2	**Cape Leeuwin H**	**46.51**	**110**	T	T	16 16 41.0	
baz=257,slow=75,SNR=2.9							
H01W3	**Cape Leeuwin H**	**46.52**	**110**	T	T	16 16 41.1	
baz=257,slow=75,SNR=2.9							
H01W1	**Cape Leeuwin H**	**46.53**	**110**	T	T	16 16 41.8	
baz=257,slow=75,SNR=2.6							
SNAA	**Sanae**	**51.25**	**201**	⇑P	**P**	**15 27 33.3**	**-0.5**
SNAA	**Sanae**	**51.25**	**201**	P	**P**	**15 27 33.5**	**-0.4**
comp=Z,1.6nm,0.9s,baz=88,slow=5.2,SNR=4.5							

comp=Z,1.6nm,0.9s
VNA3 Neumayer Olymp 53.28 202 ⇑P **P 15 27 48.1 -0.7**
QSPA South Pole Qui 58.58 180 P **P 15 28 26.3 -0.7**
QSPA IAmb IAmb 15 28 27.6
comp=Z,3.4nm,0.8s
QSPA South Pole Qui 58.58 180 P **P 15 28 27.0 0.0**
comp=Z,2.6nm,0.7s,baz=260,slow=1.3,SNR=21
comp=Z,2.6nm,0.7s
CMAR Chiang Mai Arr 63.37 44 P **P 15 29 00.1 +0.1**
comp=Z,0.8nm,0.7s,baz=223,slow=7.5,SNR=5.5
comp=Z,0.8nm,0.7s
ASAR Alice Springs 66.47 104 P **P 15 29 19.1 -1.2**
comp=Z,1.3nm,0.5s,baz=245,slow=5.4,SNR=12
comp=Z,1.3nm,0.5s
WRA Warramunga Arr 68.47 101 P **P 15 29 31.7 -1.3**
comp=Z,2.7nm,0.9s,baz=248,slow=5.5,SNR=4.7
comp=Z,2.7nm,0.9s
STKA Stephens Creek 69.18 115 P **P 15 29 36.4 -0.8**
comp=Z,3.5nm,1.0s,baz=307,slow=23,SNR=3.9
comp=Z,3.5nm,1.0s
TORD Torodi Ar. Bea 69.95 300 P **P 15 29 44.5 +2.4**
comp=Z,0.4nm,0.7s,baz=133,slow=6.3,SNR=2.4
comp=Z,0.4nm,0.7s
BRTR Keskin Array B 74.48 341 P **P 15 30 09.8 +1.0**
BRTR Keskin Array B 74.48 341 P **P 15 30 10.1 +1.2**
comp=Z,0.7nm,0.8s,baz=186,slow=9.9,SNR=5.9
comp=Z,0.7nm,0.8s
MKAR Makanchi Array 81.03 17 P **P 15 30 45.3 +0.3**
comp=Z,0.3nm,0.7s,baz=190,slow=4.4,SNR=2.8
comp=Z,0.3nm,0.7s
KURBB Kurchatov Arra 83.84 13 P **P 15 31 00.8 +1.3**
comp=Z,0.9nm,0.9s,baz=209,slow=5.4,SNR=4.7
comp=Z,0.9nm,0.9s
KURK Kurchatov 83.94 13 P **P 15 31 01.5 +1.5**
KURK IAmb IAmb 15 31 11.4
comp=Z,3.1nm,0.9s
BURAR Bucovina Array 84.19 338 P **P 15 31 03.2 +1.8**
ILAR Eielson Array 143.38 18 PKP **PKPdf 15 38 02.7 -1.3**
comp=Z,0.6nm,0.9s,baz=305,slow=3.2,SNR=3.3
YKA Yellowknife Ar 148.72 353 PKPbc **PKPbc 15 38 16.2 -0.8**
comp=Z,2.1nm,0.8s,baz=5.5,slow=2.3,SNR=7.2

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*IDC **10** 15:23:06.6±2.2, 5°.45N×125°.88E, h133km±35km, mb3.3/5, mbtmp3.7/5, Error ellipse: s-maj=176.0km s-min=16.3km az=66.0*

ISC 10 15:22:58.0±1.0, **4°.96N**±0°.08×**124°.70E**±0°.08, **h35**km, **n10**, σ1°**07**/14, **mb3.6/5, 1C-3D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.15**	**13**	⇓*i*P	**Pn**	**15 23 17.0**	**-0.8**
GSPH				*i* S	**Sn**	**15 23 32.0**	**-0.4**
KCP	**Kidapawan**	**2.08**	**11**	⇑*i*P	**Pn**	**15 23 30.7**	**+0.2**
KCP				*i* S	**Sn**	**15 23 56.5**	**+1.3**
DAV	**Davao City (W)**	**2.28**	**23**	P	**Pn**	**15 23 34.7**	**+1.5**
DAV	285nm,0.4s,baz=251,slow=4.0,SNR=3.5			S	**Sn**	**15 23 59.7**	**-0.3**
	271nm,0.3s,baz=101,slow=22,SNR=5.6						
ZCP	**Zamboanga City**	**3.26**	**307**	⇓*i*P	**Pn**	**15 23 47.7**	**+1.0**
ZCP				*i* S	**Sn**	**15 24 23.8**	**-0.6**
BIPH	**Bislig**	**3.61**	**27**	⇓*e*P	**Pn**	**15 23 51.7**	**+0.2**
BIPH				*e*S	Sn	15 24 11.8	-21
WRA	**Warramunga Arr**	**26.50**	**159**	P	**P**	**15 28 32.4**	**0.0**
	1.1nm,0.7s,baz=343,slow=9.9,SNR=11						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**29.83**	**163**	P	**P**	**15 29 02.5**	**+0.4**
	0.5nm,0.7s,baz=337,slow=7.0,SNR=14						
	0.5nm,0.7s						
STKA	**Stephens Creek**	**40.01**	**157**	P	**P**	**15 30 29.5**	**-0.2**
	2.3nm,0.8s,baz=345,slow=11,SNR=3.1						
	2.3nm,0.8s						
MKAR	**Makanchi Array**	**55.40**	**326**	P	**P**	**15 32 30.1**	**+1.1**
	0.3nm,0.5s,baz=126,slow=8.3,SNR=5.2						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**59.62**	**328**	P	**P**	**15 32 56.3**	**-2.2**
	0.3nm,0.5s,baz=122,slow=7.6,SNR=2.1						
	0.3nm,0.5s						

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*IDC **10** 15:29:48.9±0.8, 31°.72S×58°.47E, h0km, mb4.0/9, mbtmp4.0/10, ML3.5/1, Error ellipse: s-maj=30.4km s-min=21.9km az=86.0*
*NEIC **10** 15:29:52.1±1.6, 31°.4S±0°.1×58°.4E±0°.3, h10km±2km, mb4.1/1, Error ellipse: s-maj=41.6km s-min=25.1km az=85.0*

ISC 10 15:29:51.2±0.7, **31°.7S**±0°.1×**58°.4E**±0°.1, **h14**km, **n29**, σ1°**25**/18, **mb4.3/9, 1C, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.71**	**347**	Pn	**Pn**	**15 32 22.0**	**-2.3**
FOMA	**Nahampoana Res**	**12.05**	**301**	Pn	**Pn**	**15 32 41.0**	**-1.4**
ROCAM	**Rodrigues Isla**	**12.66**	**22**	Pn	Pn	15 32 47.3	-3.6
VOI	**Vohitsoka**	**14.18**	**310**	Pn	**Pn**	**15 33 11.1**	**-0.7**
H04N2	**CROZET ISLANDS**	**15.37**	**198**	T	T	15 49 24.2
	baz=22,slow=75,SNR=17						
H04N1	**CROZET ISLANDS**	**15.37**	**198**	T	T	15 49 22.1
	baz=22,slow=75,SNR=19						
H04N3	**CROZET ISLANDS**	**15.38**	**198**	T	T	15 49 22.1
	baz=22,slow=75,SNR=19						
ABPO	**Ambohimpanom**	**16.11**	**319**	Pn	**Pn**	**15 33 36.6**	**-0.9**
ABPO				IAmb	IAmb	15 33 55.3
	comp=Z,17nm,1.1s						
OPO	**Ambohidratompo**	**16.49**	**320**	Pn	**Pn**	**15 33 42.7**	**+0.3**
	baz=204,slow=10,SNR=1.6						
	comp=Z,4.1nm,1.0s						
H08S1	**Diego Carcia H**	**27.26**	**32**	T	T	16 03 51.6
	baz=206,slow=76,SNR=22						
H08S2	**Diego Garcia H**	**27.27**	**32**	T	T	16 03 50.0
	baz=206,slow=76,SNR=20						
H08S3	**Diego Garcia H**	**27.28**	**32**	T	T	16 03 53.1
	baz=206,slow=76,SNR=29						
H01W2	**Cape Leeuwin H**	**46.21**	**110**	T	T	16 27 24.6
	baz=257,slow=75,SNR=14						
H01W3	**Cape Leeuwin H**	**46.22**	**110**	T	T	16 27 27.5
	baz=257,slow=75,SNR=14						
H01W1	**Cape Leeuwin H**	**46.23**	**110**	T	T	16 27 26.0
	baz=257,slow=75,SNR=13						
SNAA	**Sanae**	**51.30**	**201**	P	**P**	**15 38 53.7**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=35,slow=3.8,SNR=2.0						
	comp=Z,0.8nm,0.9s						
VNA3	**Neumayer Olymp**	**53.33**	**202**	⇑P	**P**	**15 39 09.1**	**-0.4**
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**15 39 46.7**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=266,slow=1.8,SNR=28						
	comp=Z,2.7nm,0.6s						
VNDA	**Vanda**	**62.19**	**166**	P	**P**	**15 40 11.1**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=263,slow=11,SNR=3.8						
	comp=Z,0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.21**	**44**	P	**P**	**15 40 19.6**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=219,slow=7.0,SNR=2.1						
	comp=Z,1.7nm,0.7s						
ASAR	**Alice Springs**	**66.17**	**104**	P	**P**	**15 40 37.3**	**-1.3**
	comp=Z,2.9nm,0.7s,baz=250,slow=4.8,SNR=2.1						
	comp=Z,2.9nm,0.7s						
WRA	**Warramunga Arr**	**68.17**	**101**	P	**P**	**15 40 51.0**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=241,slow=4.7,SNR=2.2						
	comp=Z,2.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**70.24**	**300**	P	**P**	**15 41 04.8**	**+0.8**
	comp=Z,0.7nm,1.0s,baz=102,slow=6.1,SNR=3.0						
	comp=Z,0.7nm,1.0s						
ABKAR	**Akbulak array**	**80.56**	**1**	P	**P**	**15 42 03.0**	**+0.4**
MKAR	**Makanchi Array**	**81.01**	**16**	P	**P**	**15 42 06.0**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=212,slow=5.7,SNR=2.8						
	comp=Z,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**83.83**	**13**	P	**P**	**15 42 20.3**	**+0.6**
	comp=Z,1.3nm,0.2s,baz=204,slow=6.5,SNR=2.1						
	comp=Z,1.3nm,0.2s						
ILAR	**Eielson Array**	**143.35**	**18**	PKhKP	PKPpre	15 49 19.8
	comp=Z,0.3nm,0.7s,baz=300,slow=2.0,SNR=2.4						
YKA	**Yellowknife Ar**	**148.81**	**354**	PKPbc	**PKPdf**	**15 49 36.8**	**+3.2**
	comp=Z,0.6nm,0.5s,baz=3.1,slow=4.1,SNR=1.8						
ULM	**Lac du Bonnet**	**153.32**	**322**	PKPbc	**PKPbc**	**15 49 48.3**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=226,slow=4.1,SNR=3.0						

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*IDC **10** 15:31:05.2±0.7, 31°.68S×58°.23E, h0km, mb4.3/7, mbtmp4.3/8, ML4.1/1, Error ellipse: s-maj=28.4km s-min=22.5km az=76.0*
*NEIC **10** 15:31:07.2±1.6, 31°.67S±0°.06×58°.2E±0°.2, h10km±1km, mb4.8/8, Error ellipse: s-maj=29.5km s-min=9.4km az=101.0*

ISC 10 15:31:06.7±0.6, **31°.6S**±0°.1×**58°.3E**±0°.1, **h10**km, **n45**, σ1°**10**/38, **mb4.3**/10, **3C, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.67**	**347**	Pn	**Pn**	**15 33 36.8**	**-3.1**
FOMA	**Nahampoana Res**	**11.94**	**301**	Pn	**Pn**	**15 33 55.9**	**-1.2**
VOI	**Vohitsoka**	**14.09**	**311**	Pn	**Pn**	**15 34 26.5**	**-0.1**
ABPO	**Ambohimpanom**	**16.02**	**319**	Pn	**Pn**	**15 34 51.3**	**-1.2**
OPO	**Ambohidratompo**	**16.41**	**320**	Pn	**Pn**	**15 34 58.5**	**+1.1**
	0.1nm,0.3s,baz=144,slow=18,SNR=2.0						
	3.1nm,0.4s						
H08S1	**Diego Carcia H**	**27.31**	**32**	T	T	16 05 14.7
	baz=206,slow=76,SNR=5.6						
H08S2	**Diego Garcia H**	**27.32**	**32**	T	T	16 05 17.3
	baz=206,slow=76,SNR=5.9						
H08S3	**Diego Garcia H**	**27.33**	**32**	T	T	16 05 20.9
	baz=206,slow=76,SNR=4.8						
H01W2	**Cape Leeuwin H**	**46.33**	**110**	T	T	16 29 19.8
	baz=258,slow=74						
H01W3	**Cape Leeuwin H**	**46.33**	**110**	T	T	16 29 20.3
	baz=258,slow=74						
H01W1	**Cape Leeuwin H**	**46.34**	**110**	T	T	16 29 21.3
	baz=258						
SNAA	**Sanae**	**51.27**	**201**	⇑P	**P**	**15 40 06.1**	**-4.4**
	comp=Z,20nm,0.6s						
SNAA	**Sanae**	**51.27**	**201**	P	**P**	**15 40 09.7**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=51,slow=5.8,SNR=4.0						
	comp=Z,1.4nm,0.9s						
VNA2	**Neumayer--Watz**	**52.51**	**202**	⇑P	**P**	**15 40 20.1**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=85,slow=6.6						
VNA3	**Neumayer Olymp**	**53.30**	**202**	⇑P	**P**	**15 40 25.5**	**0.0**
	comp=Z,2.0nm,0.8s						
QSPA	**South Pole Qui**	**58.53**	**180**	P	**P**	**15 41 02.4**	**-0.8**
QSPA				IAmb	IAmb	15 42 38.8
	comp=Z,7.1nm,0.9s						
QSPA	**South Pole Qui**	**58.53**	**180**	P	**P**	**15 41 03.2**	**0.0**
	comp=Z,2.4nm,0.6s,baz=259,slow=0.9,SNR=12						
	comp=Z,2.4nm,0.6s						
CM31	**Chiang Mai Arr**	**63.28**	**44**	P	**P**	**15 41 36.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**63.28**	**44**	P	**P**	**15 41 35.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**63.28**	**44**	P	**P**	**15 41 36.1**	**+0.3**
	comp=Z,5.4nm,0.8s,baz=229,slow=7.1,SNR=14						
	comp=Z,5.4nm,0.8s						
CRAI	**Chiangrai**	**65.50**	**44**	P	**P**	**15 41 50.6**	**+0.2**
CRAI				IAmb	IAmb	15 42 08.0
	comp=Z,6.6nm,0.8s						
WRA	**Warramunga Arr**	**68.29**	**101**	P	**P**	**15 42 08.4**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=246,slow=6.3,SNR=6.0						
	comp=Z,4.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**70.13**	**300**	P	**P**	**15 42 19.1**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=114,slow=5.0,SNR=7.0						
	comp=Z,1.6nm,0.9s						
SIMJ	**Simiganj**	**70.65**	**9**	P	**P**	**15 42 23.5**	**+0.9**
BRTR	**Keskin Array B**	**74.59**	**341**	P	**P**	**15 42 46.0**	**0.0**
BRTR	**Keskin Array B**	**74.59**	**341**	P	**P**	**15 42 46.3**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=169,slow=7.2,SNR=7.6						
	comp=Z,1.4nm,0.8s						
KKAR	**Karatay Array**	**75.22**	**9**	P	**P**	**15 42 50.3**	**+0.9**
ABKAR	**Akbulak array**	**80.55**	**1**	P	**P**	**15 43 18.9**	**+0.1**
BURAR	**Bucovina Array**	**84.29**	**338**	P	**P**	**15 43 39.0**	**+0.4**
BRVK	**Borovoye**	**84.99**	**7**	P	**P**	**15 43 42.1**	**+0.3**
ESDC	**Sonseca Array**	**91.44**	**317**	P	**P**	**15 44 14.3**	**+1.2**
ESDC				IAmb	IAmb	15 45 50.4
	comp=Z,3.7nm,1.1s						
ESDC	**Sonseca Array**	**91.44**	**317**	P	**P**	**15 44 14.2**	**+1.0**
	comp=Z,1.9nm,1.1s,baz=125,slow=2.7,SNR=8.5						
	comp=Z,1.9nm,1.1s						
ILAR	**Eielson Array**	**143.37**	**18**	PKhKP	PKPpre	15 50 35.2
	comp=Z,0.2nm,0.6s,baz=299,slow=3.7,SNR=1.9						
SUA	**Susitna One**	**144.70**	**24**		**PKPab**	**15 50 41.8**	**-0.1**
I29M	**Ogilvie Camp,**	**144.75**	**12**		**PKPab**	**15 50 41.9**	**0.0**
SCRK	**Sand Creek**	**144.76**	**17**		**PKPab**	**15 50 42.5**	**+0.4**
K27K	**Chicken**	**145.17**	**16**		**PKPab**	**15 50 44.2**	**+0.7**
I30M	**Mount Dempster**	**145.20**	**11**		**PKPbc**	**15 50 43.3**	**-0.3**
DAWY	**Dawson**	**145.71**	**14**		**PKPdf**	**15 50 45.1**	**+0.4**
J30M	**Hart River**	**145.81**	**11**		**PKPdf**	**15 50 45.3**	**+0.3**
L27K	**Beaver Creek,**	**146.05**	**16**		**PKPdf**	**15 50 46.0**	**+0.7**
BCAR	**Beaver Creek A**	**146.06**	**16**	PKPbc	**PKPbc**	**15 50 47.0**	**+0.8**
K29M	**Barlow Dome**	**146.28**	**13**		**PKPbc**	**15 50 47.6**	**+0.6**
YKA	**Yellowknife Ar**	**148.79**	**354**	PKPbc	**PKPbc**	**15 50 53.4**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=4.7,slow=2.7,SNR=11						
ULM	**Lac du Bonnet**	**153.24**	**322**	PKPbc	**PKPbc**	**15 51 03.9**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=5.5,slow=1.6,SNR=4.9						

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*IDC **10** 15:32:39.6±0.6, 31°.67S×58°.17E, h0km, mb4.3/16, mbtmp4.3/17, ML4.1/1, MS3.8/5, Error ellipse: s-maj=24.5km s-min=17.2km az=77.0*
*NEIC **10** 15:32:41.7±1.6, 31°.8S±0°.1×58°.2E±0°.1, h10km±1km, mb4.9/31, Error ellipse: s-maj=23.4km s-min=20.2km az=210.0*
*GCMT **10** 15:32:41.7±0.4, 31°.61S±0°.03×57°.89E±0°.06, h28km, MW5.0/78, Moment Tensor Solution. s20,c20; s78,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.32±.30; $M_{\theta\theta}$3.29±.20; $M_{\phi\phi}$1.04±.20; $M_{r\theta}$0.48±.29; $M_{\theta\phi}$-0.18±.15; $M_{\phi r}$1.28±.33; Best double couple: $M_0$3.98400×10^{16} NP1:ϕ_s261.00000°, δ50.00000°, λ-107.00000°. NP2: ϕ_s106.00000°, δ43.00000°, λ-71.00000°. Principal axes: T 3.3250, Plg3.0000°, Azm3.0000°; N 1.3270, Plg13.0000°, Azm272.0000°; P -4.6430, Plg77.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 15:32:42.5±0.5, **31°.73S**±0°.10×**58°.2E**±0°.1, **h17**km, **n111**, σ0°**67**/92, **mb4.8**/47, **MS3.7**/4, **12C-1D, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**11.98**	**301**	Pn	**Pn**	**15 35 32.8**	**+0.4**
H04N2	**CROZET ISLANDS**	**15.25**	**197**	T	T	15 52 06.1
	baz=23						
H04N1	**CROZET ISLANDS**	**15.25**	**197**	T	T	15 52 08.9
	baz=23						
H04N3	**CROZET ISLANDS**	**15.26**	**197**	T	T	15 52 08.8
	baz=23						
ABPO	**Ambohimpanom**	**16.09**	**319**	Pn	**Pn**	**15 36 26.1**	**-2.0**
OPO	**Ambohidratompo**	**16.47**	**320**	Pn	**Pn**	**15 36 32.5**	**-0.5**
	0.1nm,0.3s,baz=83,slow=22,SNR=2.2						
OPO				Sn	Sn	15 39 19.5	-16
	baz=155,slow=20						
OPO				LR	LR	15 41 38.0
	comp=Z,228nm,20.4s,baz=17,slow=33						
	3.0nm,0.5s						
POGA	**Pongola**	**23.46**	**274**	P	**P**	**15 37 51.1**	**-0.1**
POGA				IAmb	IAmb	15 37 54.8
	comp=Z,50nm,1.8s						
H08S1	**Diego Carcia H**	**27.40**	**32**	T	T	16 06 52.2
	baz=206						
H08S2	**Diego Garcia H**	**27.41**	**32**	T	T	16 06 51.1
	baz=206						
H08S3	**Diego Garcia H**	**27.42**	**32**	T	T	16 06 53.7
	baz=206						
SOE	**Somerset East**	**27.60**	**259**	P	**P**	**15 38 29.1**	**0.0**
SOE				IAmb	IAmb	15 38 33.6
	comp=Z,31nm,1.5s						
BOSA	**Boshof**	**28.62**	**268**	LR	LR	15 48 06.3
	comp=Z,131nm,18.6s,baz=130,slow=32						
SUR	**Sutherland**	**31.62**	**259**	LR	LR	15 50 01.4
	comp=Z,210nm,18.7s,baz=113,slow=33						
TSUM	**Tsumeb**	**38.55**	**279**	P	**P**	**15 40 04.0**	**-0.5**
TSUM	**Tsumeb**	**38.55**	**279**	LR	LR	15 54 39.4
	comp=Z,202nm,18.2s,baz=148,slow=34						
FURI	**Furi**	**44.52**	**332**	LR	LR	15 57 15.6
	comp=Z,72nm,18.8s,baz=167,slow=33						
H01W2	**Cape Leeuwin H**	**46.31**	**110**	T	T	16 30 21.4
	baz=257,slow=74,SNR=5.1						
H01W3	**Cape Leeuwin H**	**46.31**	**110**	T	T	16 30 21.4
	baz=257,slow=74,SNR=2.8						
H01W1	**Cape Leeuwin H**	**46.33**	**110**	T	T	16 30 21.4
	baz=257,slow=74,SNR=1.1						
SNAA	**Sanae**	**51.18**	**201**	⇑P	**P**	**15 41 42.9**	**-1.4**
	comp=Z,29nm,0.6s						
SNAA	**Sanae**	**51.18**	**201**	P	**P**	**15 41 44.1**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=82,slow=7.1,SNR=6.1						
	comp=Z,2.0nm,0.8s						
VNA2	**Neumayer--Watz**	**52.42**	**202**	⇑P	**P**	**15 41 54.1**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=89,slow=7.2						
VNA3	**Neumayer Olymp**	**53.20**	**202**	⇑P	**P**	**15 41 59.1**	**-0.3**
	comp=Z,2.3nm,0.8s						
QSPA	**South Pole Qui**	**58.44**	**180**	P	**P**	**15 42 37.3**	**+0.2**
QSPA	**South Pole Qui**	**58.44**	**180**	P	**P**	**15 42 37.6**	**+0.5**
	comp=Z,7.4nm,0.9s,baz=278,slow=2.1,SNR=11						
	comp=Z,7.4nm,0.9s						
VNDA	**Vanda**	**62.15**	**166**	P	**P**	**15 43 02.9**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=258,slow=7.9,SNR=4.8						
	comp=Z,0.9nm,0.8s						
CM31	**Chiang Mai Arr**	**63.36**	**44**	P	**P**	**15 43 11.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**63.36**	**44**	P	**P**	**15 43 10.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**63.36**	**44**	P	**P**	**15 43 11.4**	**+0.4**
	comp=Z,6.5nm,0.8s,baz=230,slow=7.1,SNR=17						
	comp=Z,6.5nm,0.8s						
ASAR	**Alice Springs**	**66.28**	**104**	P	**P**	**15 43 30.0**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=243,slow=5.8,SNR=3.3						
	comp=Z,1.7nm,0.6s						
WRA	**Warramunga Arr**	**68.29**	**101**	P	**P**	**15 43 42.9**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=238,slow=5.2,SNR=3.4						
	comp=Z,2.4nm,0.9s						
TOA0	**Torodi Ar. Sit**	**70.16**	**300**	P	**P**	**15 43 54.9**	**+0.4**
TOA0				IAmb	IAmb	15 44 04.8
	comp=Z,26nm,1.9s						
TORD	**Torodi Ar. Bea**	**70.16**	**300**	P	**P**	**15 43 53.7**	**-0.8**
	comp=Z,2.8nm,0.9s,baz=124,slow=5.5,SNR=10						
	comp=Z,2.8nm,0.9s						
SIMJ	**Simiganj**	**70.75**	**9**	P	**P**	**15 43 58.3**	**+0.6**
SIMJ				IAmb	IAmb	15 44 04.2
	comp=Z,15nm,0.9s						
SIMJ	**Simiganj**	**70.75**	**9**	PcP	**P**	**15 43 58.6**	**+0.9**
BR131	**Keskin Array S**	**74.67**	**341**	P	**P**	**15 44 20.8**	**-0.2**
BRTR	**Keskin Array B**	**74.67**	**341**	P	**P**	**15 44 20.7**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=170,slow=7.5,SNR=14						
	comp=Z,2.8nm,0.9s						
KK31	**Karatay Array**	**75.32**	**9**	P	**P**	**15 44 25.6**	**+1.1**
KK31				IAmb	IAmb	15 44 34.7
	comp=Z,13nm,1.1s						
KKAR	**Karatay Array**	**75.32**	**9**	P	**P**	**15 44 25.5**	**+1.0**
KKAR	**Karatay Array**	**75.32**	**9**	P	**P**	**15 44 25.6**	**+1.1**
KKAR				IAmb	IAmb	15 44 34.7
	comp=Z,13nm,1.1s						
KBZ	**Khabaz**	**76.40**	**349**	P	**P**	**15 44 30.9**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=203,slow=2.3,SNR=3.7						
	comp=Z,1.6nm,0.8s						
AGG	**Agios Georgios**	**77.91**	**332**	P	**P**	**15 44 39.0**	**-0.3**
AGG				IAmb	IAmb	15 44 40.2
	comp=Z,19nm,1.2s						
LIT	**Litokhoron**	**78.78**	**333**	P	**P**	**15 44 43.8**	**-0.2**
LIT				IAmb	IAmb	15 44 45.4
	comp=Z,9.5nm,0.9s						
RAFF	**Raffo Rosso**	**79.92**	**326**	P	**P**	**15 44 50.9**	**+0.6**
RAFF				IAmb	IAmb	15 44 52.8
	comp=Z,14nm,0.9s						
ABKAR	**Akbulak array**	**80.64**	**1**	P	**P**	**15 44 54.1**	**+0.2**
MKAR	**Makanchi Array**	**81.12**	**16**	P	**P**	**15 44 56.4**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=179,slow=5.9,SNR=1.5						
	comp=Z,2.2nm,0.7s						
CFR	**Cercaliu**	**81.29**	**339**	⇑P	**P**	**15 44 57.8**	**+0.4**
MLR	**Muntele Rosu**	**82.26**	**338**	⇑P	**P**	**15 45 03.3**	**+0.6**
MLR	**Muntele Rosu**	**82.26**	**338**		**P**	**15 45 02.5**	**-0.2**
MLR				IAmb	IAmb	15 45 10.0
	comp=Z,10.0nm,1.1s						
VRI	**Vrincioaia**	**82.34**	**338**	⇑P	**P**	**15 45 03.5**	**+0.4**
PLOR	**Plostina**	**82.36**	**338**	⇑P	**P**	**15 45 03.5**	**+0.4**
COVR	**Voineasa-Covas**	**82.49**	**338**	⇑P	**P**	**15 45 03.7**	**-0.1**
VOIR		**82.51**	**337**	⇑P	**P**	**15 45 02.3**	**-1.7**
ARR	**Arges**	**82.58**	**337**	⇑P	**P**	**15 45 04.2**	**-0.2**
MDVR	**Moldovita**	**83.09**	**335**	⇓P	**P**	**15 45 07.4**	**+0.4**
KURBB	**Kurchatov Arra**	**83.94**	**13**	P	**P**	**15 45 11.1**	**0.0**
	comp=Z,3.3nm,0.2s,baz=204,slow=5.8,SNR=8.5						
	comp=Z,3.3nm,0.2s						
BURAR	**Bucovina Array**	**84.38**	**338**	P	**P**	**15 45 13.8**	**+0.2**
SIRR	**Siria**	**84.39**	**335**	⇑P	**P**	**15 45 14.3**	**+0.7**
BRVK	**Borovoye**	**85.09**	**7**	P	**P**	**15 45 16.9**	**+0.1**
MORH	**Mrgy, Hungar**	**85.45**	**334**	⇑P	**P**	**15 45 18.5**	**-0.4**
KIEV	**Kiev**	**85.99**	**342**	P	**P**	**15 45 21.1**	**-0.2**
KIEV				IAmb	IAmb	15 46 05.3
	comp=Z,9.0nm,1.0s						
AKASG	**Malin Array Be**	**85.99**	**342**	P	**P**	**15 45 20.1**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=169,slow=4.4,SNR=5.7						
	comp=Z,1.1nm,0.5s						
AKBB	**Malin Array Si**	**85.99**	**342**	P	**P**	**15 45 21.3**	**-0.1**
AKBB				IAmb	IAmb	15 46 05.3
	comp=Z,10.0nm,1.0s						
OBKA	**Obir**	**87.30**	**331**	*e*P	**P**	**15 45 28.2**	**+0.1**
	comp=Z,2.0nm,0.6s						
RONA	**Rosalia, Austr**	**87.58**	**333**	*e*P	**P**	**15 45 29.8**	**+0.4**
	comp=Z,5.2nm,0.9s						
TEOL	**Teolo**	**87.60**	**329**	P	**P**	**15 45 29.7**	**+0.3**
ARU	**Arti**	**87.81**	**0**		**P**	**15 45 30.6**	**+0.5**
CONA	**Conrad Observa**	**87.94**	**333**	*e*P	**P**	**15 45 31.4**	**+0.3**
	comp=Z,7.0nm,1.0s						
JAVC	**Velka Javorina**	**88.02**	**335**	*e*P	**P**	**15 45 32.5**	**+1.0**
CTI	**Castel Tesino**	**88.15**	**330**		**P**	**15 45 32.9**	**+0.7**
C

λ.77.00000°. NP2:φ:106.00000°, δ37.00000°, λ.108.00000°. Principal axes: T 0.8190, Plg76.0000°, Azm132.0000°; N -0.0500, Plg11.0000°, Azm271.0000°; P -0.7690, Plg9.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC **10** 15:33:21.4, 0.31N×122.11E, h200km

IDC **10** 15:33:21.5±0.6, 0.21N×122.10E, h208km±4km, mb4.4/32, mbtmp5.0/34, Error ellipse: s-maj=10.7km s-min=5.7km az=77.0

NEIC **10** 15:33:21.7±1.9, 0.29N±0.07×122.11E±0.07, h197km±2km, mb5.0/200, Mww5.1/30, Error ellipse: s-maj=10.6km s-min=8.4km az=45.0

DJA **10** 15:33:21.3±0.1, 0.7N±2.2×12.2E±.4, h193km±1km, M4.9/73, mb5.1/73, mB5.4/35, MLv5.3/16, Mw(mB)4.8/35, MwMwp4.9/12, Mwp5.2/12

MOS **10** 15:33:21.2±0.8, 0.29N×122.06E, h217km, mb5.0/43, Error ellipse: s-maj=8.9km s-min=4.6km az=118.8

NEIC **10** 15:33:21.4, 0.21N×122.11E, h200km, Moment Tensor Solution. Duration: 1:9 Moment tensor: Scale 10^{16}Nm; M_{rr}5.94; $M_{\theta\theta}$-5.69; $M_{\phi\phi}$-0.25; $M_{r\theta}$-2.30; $M_{\theta\phi}$1.05; $M_{\phi r}$-0.68; Fault plane solution: $M_0$6.38000×10^{16} NP1: φ:271.06000°, δ55.67000°, λ.79.28000°. NP2: φ:109.60000°, δ35.77000°, λ.105.23000°. Principal axes: T 6.4878, Plg77.0000°, Azm147.0000°; N -0.2236, Plg9.0000°, Azm277.0000°; P -6.2641, Plg10.0000°, Azm9.0000°;

ISC 10 15:33:21.6±0.3, 0.20N±0.03×122.05E±0.04, h207km±2km, h207km:pP-P,n944,σ1.18/979, mb5.0/218, 25C-10D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.29**	**339**	P	P		**Pn**	**15 33 46.6**	**-2.3**
MRSI					S		**S**	**15 34 07.1**	**-3.2**
GTOI	**Gorontalo**	**1.05**	**66**	P	P		**Pn**	**15 33 50.0**	**-2.4**
LUWI	**Luwuk**	**1.43**	**150**	P	P		**Pn**	**15 33 55.4**	**+0.1**
LUWI	**Luwuk**	**1.43**	**150**				**Pn**	**15 33 54.6**	**-0.7**
LUWI	**Luwuk**	**1.43**	**150**	P	Pn		**Pn**	**15 33 54.9**	**-0.4**
LUWI					S		**S**	**15 34 19.9**	**-1.4**
TOLI2	**Tolitoli**	**1.55**	**305**	P	Pn		**Pn**	**15 33 55.5**	**-0.9**
TOLI2	**Tolitoli**	**1.55**	**305**				**Pn**	**15 33 55.2**	**-1.2**
KMSI	**Cibinong**	**1.97**	**79**	P	Pn		**Pn**	**15 33 59.5**	**-0.8**
KMSI					S		**S**	**15 34 29.0**	**-0.9**
SANI	**Sanana**	**4.53**	**120**	P	P		**Pn**	**15 34 28.7**	**-1.6**
SANI	**Sanana**	**4.53**	**120**	P	P		**Pn**	**15 34 28.0**	**-2.2**
TNTI	**Ternate**	**5.35**	**84**	P	P		**Pn**	**15 34 39.2**	**-1.4**
TNTI	**Ternate**	**5.35**	**84**	Pn	Pn		**Pn**	**15 34 38.2**	**-2.4**
TNTI	**Ternate**	**5.35**	**84**	P	Pn		**Pn**	**15 34 38.7**	**-1.9**
	188nm,0.9s,1.2nm								
BKB	**Balikpapan**	**5.35**	**254**	Pn	Pn		**Pn**	**15 34 41.1**	**+0.5**
BKB	**Balikpapan**	**5.35**	**254**	P	Pn		**Pn**	**15 34 39.7**	**-1.0**
	185nm,0.7s,2.1nm								
BKB					S		**S**	**15 35 42.3**	**-0.5**
	185nm,0.7s,2.1nm								
LBMI	**Labuha**	**5.52**	**99**	P	Pn		**Pn**	**15 34 41.0**	**-1.8**
	413nm,0.7s,4μm								
KAPI	**Kappang**	**5.67**	**204**	P	Pn		**Pn**	**15 34 46.2**	**+1.5**
KAPI	**Kappang**	**5.67**	**204**	Pn	Pn		**Pn**	**15 34 45.6**	**+0.9**
KAPI	**Kappang**	**5.67**	**204**	P	Pn		**Pn**	**15 34 46.0**	**+1.3**
	967nm,1.0s,baz=35,slow=8.0,SNR=150								
KAPI					S		**S**	**15 35 52.8**	**+2.5**
	96nm,0.7s,baz=138,slow=16,SNR=1.0								
KAPI	**Kappang**	**5.67**	**204**	*i* P	Pn		**Pn**	**15 34 45.8**	**+1.1**
BBSI	**Bau Bau**	**5.68**	**175**	P	Pn		**Pn**	**15 34 46.4**	**+1.6**
BKSI	**Bulukumba**	**5.81**	**199**	P	Pn		**Pn**	**15 34 47.7**	**+1.1**
	1μm,1.0s,11μm2.9nm								
MYLDM	**Lahad Datu**	**6.08**	**324**	Pn	Pn		**Pn**	**15 34 51.1**	**+1.1**
GSPH	**General Santos**	**6.52**	**26**	⇑*i*P	Pn		**Pn**	**15 34 58.0**	**+2.2**
MTKI	**Muara Teweh, K**	**7.24**	**261**	P	Pn		**Pn**	**15 35 06.8**	**+1.8**
KCP	**Kidapawan**	**7.41**	**24**	⇑*i*P	Pn		**Pn**	**15 35 09.2**	**+1.9**
DAV	**Davao City (W)**	**7.68**	**27**	P	Pn		**Pn**	**15 35 12.4**	**+1.7**
DAV	**Davao City (W)**	**7.68**	**27**	P	Pn		**Pn**	**15 35 11.2**	**+0.5**
	164nm,0.4s,baz=143,slow=3.6,SNR=11								
DAV					S		**S**	**15 36 38.2**	**+0.6**
	156nm,0.6s,baz=53,slow=22,SNR=1.2								
MMRI	**Maumere**	**8.78**	**179**	P	Pn		**Pn**	**15 35 26.2**	**+1.2**
MMRI	**Maumere**	**8.78**	**179**	Pn	Pn		**Pn**	**15 35 25.9**	**+0.8**
MMRI	**Maumere**	**8.78**	**179**	P	Pn		**Pn**	**15 35 25.5**	**+0.5**
	174nm,1.0s,4μm5μm								
EDFI	**Ende, Flores**	**8.90**	**182**	P	Pn		**Pn**	**15 35 27.9**	**+1.2**
	251nm,1.0s,2μm								
BNDI	**Bandanaira**	**9.15**	**121**	P	Pn		**Pn**	**15 35 29.7**	**-0.1**
BNDI	**Bandanaira**	**9.15**	**121**	P	Pn		**Pn**	**15 35 31.9**	**+2.1**
SWI	**Sorong**	**9.27**	**97**	P	Pn		**Pn**	**15 35 31.6**	**+0.2**
SWI	**Sorong**	**9.27**	**97**	P	Pn		**Pn**	**15 35 32.3**	**+0.9**
SWI					pmax		pmax		
	comp=Z,46nm,0.7s								
TBP	**Tagbilaran**	**9.60**	**11**	⇓*e*P	Pn		**Pn**	**15 35 37.1**	**+1.5**
PLAI	**Plampang**	**9.93**	**205**	P	Pn		**Pn**	**15 35 42.1**	**+2.2**
PLAI	**Plampang**	**9.93**	**205**	P	Pn		**Pn**	**15 35 41.5**	**+1.6**
	comp=Z,183nm,1.0s,comp=Z,3μm								
SBUM	**Sibu**	**10.07**	**283**	Pn	Pn		**Pn**	**15 35 42.5**	**+0.7**
SOEI	**Soe**	**10.14**	**167**	P	Pn		**Pn**	**15 35 42.9**	**+0.2**
SOEI	**Soe**	**10.14**	**167**	Pn	Pn		**Pn**	**15 35 43.2**	**+0.6**
SOEI	**Soe**	**10.14**	**167**	P	Pn		**Pn**	**15 35 43.9**	**+1.2**
	comp=Z,281nm,1.1s,comp=Z,4μm								
TWSI	**Taliwang, Sumb**	**10.27**	**210**	P	Pn		**Pn**	**15 35 44.7**	**+0.5**
	comp=Z,159nm,1.2s,comp=Z,2μmcomp=Z,4μm								
BASI	**Baing, Sumba**	**10.46**	**188**	P	Pn		**Pn**	**15 35 47.9**	**+1.2**
	comp=Z,255nm,1.0s								
BATI	**Baumata**	**10.47**	**171**	P	Pn		**Pn**	**15 35 49.7**	**+2.9**
	comp=Z,353nm,1.0s,comp=Z,4μmcomp=Z,3μm								
FAKI	**Fak Fak**	**10.66**	**107**	Pn	Pn		**Pn**	**15 35 48.8**	**-0.5**
FAKI	**Fak Fak**	**10.66**	**107**	P	Pn		**Pn**	**15 35 49.4**	**+0.1**
PLP	**Palo**	**11.27**	**15**	⇓*e*P	Pn		**Pn**	**15 35 58.6**	**+1.5**
RCP	**Roxas**	**11.30**	**3**	⇓*i*P	Pn		**Pn**	**15 35 58.3**	**+0.8**
JAGI	**Jajag, Banyuwa**	**11.67**	**222**	P	Pn		**Pn**	**15 36 03.4**	**+1.2**
JAGI	**Jajag, Banyuwa**	**11.67**	**222**	P	P		**P**	**15 36 09.3**	**+2.1**
JAGI	**Jajag, Banyuwa**	**11.67**	**222**	P	P		**P**	**15 36 11.7**	**+4.5**
PWJI	**Pagerwojo**	**13.08**	**231**	P	Pn		**Pn**	**15 36 20.9**	**+1.0**
LQP	**Lukban**	**13.83**	**358**	⇓*e*P	P		**P**	**15 36 31.1**	**-0.3**
DRS	**Darwin Rock St**	**15.32**	**145**	P	P		**P**	**15 36 48.3**	**+0.6**
CMJI	**Cimerak**	**15.71**	**239**	P	Pn		**Pn**	**15 36 53.1**	**+0.9**
	comp=Z,122nm,1.2s								
MTN	**Manton Dam**	**15.79**	**146**	P	Pn		**Pn**	**15 36 53.3**	**+0.1**
MTN	**Manton Dam**	**15.79**	**146**				**Pn**	**15 36 53.1**	**-0.1**
MTN	**Manton Dam**	**15.79**	**146**	P	Pn		**Pn**	**15 36 53.0**	**-0.1**
	comp=Z,0.0nmcomp=Z,231nm,0.5s								
LEM	**Lembang**	**16.00**	**244**	P	Pn		**Pn**	**15 36 56.8**	**+0.9**
LEM	**Lembang**	**16.00**	**244**	P	Pn		**Pn**	**15 36 57.2**	**+1.3**
LEM					pmax		pmax		
	comp=Z,63nm,0.9s								
BBJI	**Bungbulang**	**16.25**	**242**	P	Pn		**Pn**	**15 37 00.8**	**+2.0**
KDU	**Kakadu**	**16.46**	**141**	P	Pn		**Pn**	**15 37 01.6**	**+0.4**
KDU	**Kakadu**	**16.46**	**141**	P	P		**P**	**15 37 00.5**	**+0.2**
	comp=Z,146nm,1.1s								
CNJI	**Cibinong**	**16.64**	**243**	P	Pn		**Pn**	**15 37 03.1**	**-0.4**
	comp=Z,97nm,1.2s								
DBJI	**Dramaga**	**16.68**	**246**	P	Pn		**Pn**	**15 37 05.0**	**+1.1**
KNRA	**Kununurra**	**17.12**	**157**	P	P		**P**	**15 37 07.9**	**+0.5**
	comp=Z,127nm,1.0s								
CVP	**Callao Caves**	**17.39**	**359**	⇑*e*P	Pn		**Pn**	**15 37 11.6**	**-0.6**
TPRI	**Tanjung Pinang**	**17.54**	**272**	P	Pn		**Pn**	**15 37 18.0**	**+4.0**
MYKOM	**Kota Tinggi**	**18.26**	**275**	P	Pn		**Pn**	**15 37 21.9**	**-0.6**
BTDF	**Bukit Timah Da**	**18.31**	**274**	P	Pn		**Pn**	**15 37 22.8**	**-0.3**
GENI	**Genyem**	**18.33**	**99**	P	Pn		**Pn**	**15 37 22.4**	**-0.9**
GENI	**Genyem**	**18.33**	**99**	P	Pn		**Pn**	**15 37 22.1**	**-1.2**
	comp=Z,99nm,0.9s,comp=Z,2μm								
KASI	**Kota Agung**	**18.43**	**252**	P	P		**P**	**15 37 22.3**	**+0.6**
	comp=Z,77nm,0.9s								
LWLI	**Liwa**	**18.70**	**254**	P	Pn		**Pn**	**15 37 27.9**	**+0.1**
	comp=Z,188nm,1.1s,comp=Z,4μm								
JAY	**Jayapura**	**18.85**	**98**	P	P		**P**	**15 37 25.9**	**-0.5**
	comp=Z,70nm,0.9s								
JAY	**Jayapura**	**18.85**	**98**	P	P		**P**	**15 37 26.9**	**+0.5**
JAY					pmax		pmax		
	comp=Z,70nm,0.9s								
TABU	**Tabubil**	**19.91**	**106**	P	Pn		**Pn**	**15 37 40.1**	**-2.0**
BKNI	**Bangkinang**	**21.01**	**270**	P	P		**P**	**15 37 51.8**	**+2.4**
MBWA	**Marble Bar**	**21.35**	**186**	P	P		**P**	**15 37 53.5**	**+0.6**
MBWA	**Marble Bar**	**21.35**	**186**	P	P		**P**	**15 37 51.6**	**-1.2**
MBWA	**Marble Bar**	**21.35**	**186**	P	P		**P**	**15 37 51.9**	**-0.9**
PDSI	**Padang**	**21.61**	**267**	P	P		**P**	**15 37 55.8**	**+0.1**
	comp=Z,171nm,0.9s,comp=Z,2μm								
PSAC1	**Pilbara Seismi**	**21.71**	**186**	P	P		**P**	**15 37 55.0**	**-1.6**
	comp=Z,66nm,0.9s								
PSA00	**Pilbara Seismi**	**21.75**	**186**	P	P		**P**	**15 37 58.6**	**+1.7**
PSA00	**Pilbara Seismi**	**21.75**	**186**	P	P		**P**	**15 37 55.5**	**-1.4**
PSA00	**Pilbara Seismi**	**21.75**	**186**	P	P		**P**	**15 37 55.8**	**-1.1**
	comp=Z,79nm,1.1s								
KULM	**Kulim**	**21.95**	**284**	P	P		**P**	**15 37 59.8**	**+0.8**
QIZ	**Qiongzhong**	**22.21**	**328**	P	P		**P**	**15 38 02.4**	**+1.0**
QIZ				S	S		**S**	**15 41 53.7**	**+3.1**
QIZ				pmax	pmax				
	comp=Z,24nm,1.6s								
PPSI	**Pulau Pagai**	**22.23**	**262**	P	P		**P**	**15 38 01.0**	**-0.6**
TPUB	**Ta-pu**	**23.00**	**357**	P	P		**P**	**15 38 10.9**	**+2.4**
SISI	**Saibi**	**23.01**	**266**	P	P		**P**	**15 38 08.3**	**-0.3**
	comp=Z,187nm,0.7s								
YULB	**Yu-li**	**23.06**	**358**	P	P		**P**	**15 38 08.2**	**-0.9**
WRAB	**Tennant Creek**	**23.36**	**150**	P	P		**P**	**15 38 11.8**	**0.0**
WRAB	**Tennant Creek**	**23.36**	**150**	*i* P	P		**P**	**15 38 12.3**	**+0.5**
WRAB					pmax		pmax		
	comp=Z,78nm,0.6s								
WRA	**Warramunga Arr**	**23.36**	**150**	P	P		**P**	**15 38 11.5**	**-0.3**
	comp=Z,91nm,0.9s,baz=324,slow=11,SNR=390								
WRA					pP		**pP**	**15 38 48.5**	**-1.1**
	comp=Z,10nm,0.7s,baz=324,slow=12,SNR=1.6								
WRA					PP		**PnPn**	**15 38 59.1**	**+5.8**
	comp=Z,25nm,0.6s,baz=329,slow=10.0,SNR=8.7								
WRA					PcP		**PcP**	**15 41 51.4**	**-1.2**
	comp=Z,6.0nm,0.8s,baz=330,slow=2.4,SNR=4.9								
WRA					ScP		**ScP**	**15 45 10.3**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=326,slow=2.6,SNR=3.4								
	comp=Z,91nm,0.9s								
WRA	**Warramunga Arr**	**23.36**	**150**	*i* P	P		**P**	**15 38 11.5**	**-0.3**
WRA					pmax		pmax		
	comp=Z,74nm,0.5s								
SSLB	**Suanglung**	**23.47**	**357**	P	P		**P**	**15 38 14.0**	**+1.3**
SSLB	**Suanglung**	**23.47**	**357**	P	P		**P**	**15 38 13.2**	**+0.5**
PBSI	**Pulau Batu**	**23.77**	**269**	P	P		**P**	**15 38 17.6**	**+2.0**
	comp=Z,175nm,2.5s								
SRIT	**Nakonsritamara**	**23.86**	**291**	P	P		**P**	**15 38 19.5**	**+3.1**
SRIT	**Nakonsritamara**	**23.86**	**291**	IAmb	IAmb			15 38 21.2	
	comp=Z,39nm,0.8s								
GIRL	**Giralia**	**23.95**	**198**	P	P		**P**	**15 38 19.7**	**+2.6**
GIRL	**Giralia**	**23.95**	**198**	P	P		**P**	**15 38 17.7**	**+0.6**
GIRL	**Giralia**	**23.95**	**198**	P	P		**P**	**15 38 17.7**	**+0.6**
	comp=Z,176nm,0.8s								
KCSI	**Kotacane, Aceh**	**24.48**	**278**	P	P		**P**	**15 38 21.9**	**-0.2**
	comp=Z,153nm,0.8s,comp=Z,2μm								
GSI	**Gunungsitoli**	**24.49**	**273**	P	P		**P**	**15 38 24.8**	**+2.6**
GSI	**Gunungsitoli**	**24.49**	**273**	P	P		**P**	**15 38 22.9**	**+0.7**
GSI	**Gunungsitoli**	**24.49**	**273**	P	P		**P**	**15 38 21.5**	**-0.7**
	comp=Z,106nm,0.8s								
NAYO	**Nakonayok**	**24.84**	**305**	P	P		**P**	**15 38 29.5**	**+4.2**
COEN	**Coen**	**25.21**	**125**	P	P		**P**	**15 38 30.4**	**+1.8**
COEN	**Coen**	**25.21**	**125**	P	P		**P**	**15 38 28.2**	**-0.4**
MANU	**Manus Island**	**25.41**	**95**	P	P		**P**	**15 38 32.2**	**+1.7**
MANU	**Manus Island**	**25.41**	**95**	P	P		**P**	**15 38 31.8**	**+1.4**
LHMI	**Lhok Sumawe**	**25.56**	**282**	P	P		**P**	**15 38 33.2**	**+1.4**
	comp=Z,184nm,1.2s								
WRKA	**Warakurna**	**25.81**	**167**	P	P		**P**	**15 38 34.4**	**+0.5**
WRKA	**Warakurna**	**25.81**	**167**	P	P		**P**	**15 38 34.1**	**+0.1**
	comp=Z,183nm,0.9s								
MLSI	**Meulaboh, Aceh**	**25.93**	**279**	P	P		**P**	**15 38 36.6**	**+1.4**
	comp=Z,137nm,0.9s								
AS31	**Alice Springs**	**26.37**	**155**	IAmb	IAmb			15 38 41.2	
	comp=Z,13nm,0.6s								
AS31	**Alice Springs**	**26.37**	**155**	P	P		**P**	**15 38 38.7**	**-0.3**
	comp=Z,16nm,0.5s								
ASAR	**Alice Springs**	**26.37**	**155**	P	P		**P**	**15 38 39.0**	**0.0**
ASAR	**Alice Springs**	**26.37**	**155**	P	P		**P**	**15 38 38.6**	**-0.4**
	comp=Z,25nm,0.6s,baz=341,slow=14,SNR=460								
ASAR					pP		**pP**	**15 39 19.8**	**-0.6**
	comp=Z,10nm,0.8s,baz=329,slow=8.0,SNR=2.9								
ASAR					PcP		**PcP**	**15 41 58.9**	**-0.4**
	comp=Z,7.6nm,0.3s,baz=346,slow=2.1,SNR=14								
ASAR					S		**S**	**15 42 54.4**	**-2.5**
	comp=Z,8.8nm,1.0s,baz=341,slow=20,SNR=9.3								
ASAR					ScP		**ScP**	**15 45 18.6**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=340,slow=2.8,SNR=8.5								
ASAR					ScS		**ScS**	**15 49 05.7**	**-4.7**
	comp=Z,0.3nm,0.8s,baz=329,slow=4.9,SNR=5.6								
	comp=Z,25nm,0.6s								
ASAR	**Alice Springs**	**26.37**	**155**	P	P		**P**	**15 38 39.0**	**0.0**
AS01	**Alice Springs**	**26.39**	**155**	P	P		**P**	**15 38 40.3**	**+1.1**
QIS	**Mount Isa**	**26.85**	**141**	P	P		**P**	**15 38 44.5**	**+1.2**
QIS	**Mount Isa**	**26.85**	**141**	P	P		**P**	**15 38 43.2**	**-0.1**
	comp=Z,76nm,0.8s								
MEEK	**Meekatharra**	**26.89**	**187**	P	P		**P**	**15 38 44.5**	**+0.9**
MEEK	**Meekatharra**	**26.89**	**187**	P	P		**P**	**15 38 42.9**	**-0.7**
	comp=Z,154nm,1.0s								
MTSU	**Mount Surprise**	**28.49**	**131**	P	P		**P**	**15 38 58.7**	**+0.8**
MTSU	**Mount Surprise**	**28.49**	**131**	P	P		**P**	**15 38 58.0**	**+0.2**
	comp=Z,23nm,0.9s								
CM31	**Chiang Mai Arr**	**29.05**	**310**	P	P		**P**	**15 39 03.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**29.05**	**310**	P	P		**P**	**15 39 05.0**	**+2.2**
CMAR					PcP		**PcP**	**15 42 06.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**29.05**	**310**	P	P		**P**	**15 39 04.9**	**+2.1**
	comp=Z,12nm,0.8s,baz=133,slow=6.8,SNR=56								
CMAR					PcP		**PcP**	**15 42 06.4**	**+0.5**
	comp=Z,6.3nm,0.9s,baz=147,slow=1.8,SNR=9.0								
CMAR					ScP		**ScP**	**15 45 28.5**	**+0.6**
	comp=Z,7.8nm,1.0s,baz=172,slow=2.3,SNR=18								
	comp=Z,12nm,0.8s								
CMAR	**Chiang Mai Arr**	**29.05**	**310**	P	P		**P**	**15 39 05.0**	**+2.2**
CMAR								15 42 06.6	
CRAI	**Chiangrai**	**29.09**	**314**	P	P		**P**	**15 39 03.4**	**+0.3**
CHTO	**Chiang Mai**	**29.26**	**311**	P	P		**P**	**15 39 05.9**	**+1.2**
CHTO					IAmb		IAmb	15 39 10.4	
	comp=Z,40nm,0.9s								
CHTO	**Chiang Mai**	**29.26**	**311**	P	P		**P**	**15 39 05.9**	**+1.2**
CHTO					pmax		pmax		
	comp=Z,40nm,1.0s								
MORW	**Morawa**	**29.67**	**191**	P	P		**P**	**15 39 08.8**	**+0.7**
MORW	**Morawa**	**29.67**	**191**	P	P		**P**	**15 39 07.4**	**-0.7**
	comp=Z,72nm,0.9s								
GYA	**Guiyang**	**30.02**	**332**	⇓P	P		**P**	**15 39 13.7**	**+2.3**
GYA					pmax		pmax		
	comp=Z,50nm,0.7s								
OOD	**Oodnadatta**	**30.76**	**156**	P	P		**P**	**15 39 19.4**	**+1.6**
KMI	**Kunming**	**31.02**	**324**	⇓P	P		**P**	**15 39 24.2**	**+3.9**
KMI					pmax		pmax		
	comp=Z,20nm,1.1s								
KMI					pmax		pmax		
	comp=Z,430nm,4.9s								
WHN	**Wuhan**	**31.05**	**347**	P	P		**P**	**15 39 23.5**	**+3.3**
BLDU	**Ballidu**	**31.07**	**189**	P	P		**P**	**15 39 22.7**	**+2.3**
BLDU	**Ballidu**	**31.07**	**189**	P	P		**P**	**15 39 19.6**	**-0.8**
	comp=Z,73nm,0.9s								
CTA	**Charters Tower**	**31.12**	**132**	P	P		**P**	**15 39 22.5**	**+1.4**
CTA	**Charters Tower**	**31.12**	**132**	P	P		**P**	**15 39 21.8**	**+0.8**
CTA	**Charters Tower**	**31.12**	**132**	P	P		**P**	**15 39 21.9**	**+0.8**
	comp=Z,2.7nm,0.9s								
CTAO	**Charters Tower**	**31.12**	**132**	P	P		**P**	**15 39 22.5**	**+1.4**
CTAO	**Charters Tower**	**31.12**	**132**	P	P		**P**	**15 39 21.6**	**+0.5**
CTAO					IAmb		IAmb	15 39 23.8	
	comp=Z,26nm,0.9s								
CTAO							**PcP**	**15 42 12.2**	**+1.0**
CTAO	**Charters Tower**	**31.12**	**132**	P	P		**P**	**15 39 21.6**	**+0.5**
CTAO								15 42 12.2	
CTAO					pmax		pmax		
	comp=Z,26nm,1.0s								
CTAO	**Charters Tower**	**31.12**	**132**	P	P		**P**	**15 39 21.9**	**+0.8**
CTAO					PcP		**PcP**	**15 42 11.3**	**0.0**
FORT	**Forrest**	**31.34**	**170**	P	P		**P**	**15 39 24.3**	**+1.5**
FORT	**Forrest**	**31.34**	**170**	P	P		**P**	**15 39 22.6**	**-0.1**
	comp=Z,257nm,0.8s								
KMBL	**Kambalda**	**31.40**	**180**	P	P		**P**	**15 39 24.1**	**+0.8**
KMBL	**Kambalda**	**31.40**	**180**	P	P		**P**	**15 39 23.3**	**-0.1**
	comp=Z,136nm,1.0s								
AUAYR	**Ayr State High**	**31.70**	**130**	P	P		**P**	**15 39 27.7**	**+1.6**
NJ2	**Nanjing**	**31.82**	**355**	*e*P	P		**P**	**15 39 29.1**	**+2.2**
NJ2					pmax		pmax		
	comp=Z,20nm,0.7s								
KLBR	**Kellerberrin**	**31.88**	**187**	P	P		**P**	**15 39 29.3**	**+1.8**
KLBR	**Kellerberrin**	**31.88**	**187**	P	P		**P**	**15 39 26.7**	**-0.8**
	comp=Z,113nm,1.0s								
ENH	**Enshi**	**32.20**	**339**	P	P		**P**	**15 39 33.6**	**+3.2**
ENH	**Enshi**	**32.20**	**339**				**PcP**	**15 42 13.9**	**-0.2**
ENH	**Enshi**	**32.20**	**339**	P	P		**P**	**15 39 32.1**	**+1.8**
ENH					PcP		**PcP**	**15 42 14.7**	**+0.7**
MULG	**Mulgathing**	**32.40**	**160**	P	P		**P**	**15 39 33.2**	**+1.1**
MUN	**Mundaring**	**32.48**	**189**	P	P		**P**	**15 39 34.4**	**+1.7**
MUN	**Mundaring**	**32.48**	**189**	P	P		**P**	**15 39 32.4**	**-0.3**
	comp=Z,23nm,1.2s								
PZH	**PanZhiHua**	**32.65**	**325**	P	P		**P**	**15 39 36.0**	**+1.6**
PZH					pmax		pmax		
	comp=Z,50nm,0.9s								
PZH					pmax		pmax		
	comp=Z,150nm,6.1s								
JCJ	**Chichijima**	**33.01**	**34**	P	P			15 39 31.0	-6.4
	comp=Z,114nm,0.6s,baz=281,slow=14,SNR=7.5								
JCJ					S		S	15 44 27.5	-13
	comp=Z,78nm,0.9s,baz=158,slow=20,SNR=2.4								
INKA	**Innaminka**	**33.08**	**149**	P	P		**P**	**15 39 39.5**	**+1.5**
NWAO	**Narrogin (SRO)**	**33.27**	**187**	P	P		**P**	**15 39 41.2**	**+1.7**
NWAO	**Narrogin (SRO)**	**33.27**	**187**	P	P		**P**	**15 39 40.1**	**+0.6**
NWAO	**Narrogin (SRO)**	**33.27**	**187**	P	P		**P**	**15 39 39.5**	**0.0**
NWAO					IAmb		IAmb	15 39 41.6	
	comp=Z,41nm,0.8s								
NWAO	**Narrogin (SRO)**	**33.27**	**187**	P	P		**P**	**15 39 39.5**	**0.0**
NWAO					pmax		pmax		
	comp=Z,41nm,0.9s								
NWAO	**Narrogin (SRO)**	**33.27**	**187**	P	P		**P**	**15 39 39.0**	**-0.5**
	comp=Z,195nm,1.1s								
NWAO	**Narrogin (SRO)**	**33.27**	**187**	P	P		**P**	**15 39 39.8**	**+0.3**
TNCH	**TengChong**	**33.57**	**319**	P	P		**P**	**15 39 45.1**	**+2.6**
TNCH					PcP		**PcP**	**15 42 19.1**	**+0.9**
TNCH					pmax		pmax		
	comp=Z,35nm,0.9s								
JNU	**Nakatsue**	**33.78**	**13**	P	P		**P**	**15 39 43.9**	**-0.1**
	comp=Z,7.2nm,0.9s,baz=146,slow=3.6,SNR=2.7								
JNU					PcP		**PcP**	**15 42 18.2**	**-0.2**
	comp=Z,5.5nm,0.8s,baz=309,slow=20,SNR=2.3								
	comp=Z,7.2nm,0.9s								
LCRK	**Leigh Creek**	**34.14**	**155**	P	P		**P**	**15 39 49.0**	**+1.9**
QLP	**Quilpie**	**34.15**	**143**	P	P		**P**	**15 39 48.9**	**+1.7**
QLP	**Quilpie**	**34.15**	**143**	P	P		**P**	**15 39 47.7**	**+0.5**
	comp=Z,67nm,1.1s								
RKGY	**Rocky Gully**	**34.96**	**187**	P	P		**P**	**15 39 56.9**	**+2.9**
RKGY	**Rocky Gully**	**34.96**	**187**	P	P		**P**	**15 39 55.2**	**+1.1**
	comp=Z,162nm,1.0s								
CD2	**Chengdu**	**35.13**	**332**	P	P		**P**	**15 39 56.3**	**+0.7**
CD2					pmax		pmax		
	comp=Z,70nm,0.6s								
LYN	**LuoYang**	**35.33**	**346**	*e*P	P		**P**	**15 39 59.0**	**+1.8**
LYN					sP		sP	15 41 04.0	+1.2
LYN					PcP		**PcP**	**15 42 24.2**	**+1.4**
LYN					S		**S**	**15 45 22.0**	**+6.1**
LYN					pmax		pmax		
	comp=Z,57nm,0.9s								
LYN					pmax		pmax		
	comp=Z,760nm,6.9s								
BBOO	**

CAN	**Canberra**	43.37	147	P	**P**	15 41 05.1	+1.3
	comp=Z,99nm,1.0s						
CAN	**Canberra**	43.37	147	P	**P**	15 41 05.0	+1.3
CAN				pP	**pP**	15 41 48.0	0.0
CAN				PcP	**PP**	15 42 50.2	+1.0
TOO	**Toolangi**	43.38	153	P	**P**	15 41 06.7	+3.0
TOO	**Toolangi**	43.38	153	P	**P**	15 41 05.2	+1.5
TOO				IAmb	IAmb	15 41 07.5	
	comp=Z,75nm,1.2s						
TOO	**Toolangi**	43.38	153	P	**P**	15 41 05.2	+1.5
TOO				pmax	pmax		
	comp=Z,75nm,1.3s						
TOO	**Toolangi**	43.38	153	P	**P**	15 41 05.5	+1.7
	comp=Z,53nm,1.2s						
CNB	**Canberra Magne**	43.57	147	P	**P**	15 41 06.9	+1.6
CNB	**Canberra Magne**	43.57	147	P	**P**	15 41 06.6	+1.3
	comp=Z,39nm,0.9s						
VLA	**Vladivostok**	43.63	10	*i* P	**P**	15 41 05.6	+0.1
XLT	**XiLinHaoTe**	43.83	354	*e*P	**P**	15 41 08.5	+1.2
XLT				sP	sP	15 42 13.0	-1.0
XLT				pmax	pmax		
	comp=Z,25nm,1.0s						
GOMU	**GeErMu**	43.84	328	P	**P**	15 41 10.0	+2.2
GOMU				pmax	pmax		
	comp=Z,42nm,0.9s						
JTM	**Tenmabayashi**	43.93	21	P	**P**	15 41 08.9	+0.9
JTM	**Tenmabayashi**	43.93	21	P	**P**	15 41 08.4	+0.4
JTM				IAmb	IAmb	15 41 09.1	
	comp=Z,27nm,0.8s						
GTA	**Gaotai**	44.00	335	⇓P	**P**	15 41 10.6	+1.8
GTA				pP	pP	15 41 53.9	+1.3
GTA				PcP	**PcP**	15 42 51.6	+0.9
GTA				ScP	**ScP**	15 46 22.2	-0.6
GTA				S	**S**	15 47 27.4	+2.3
GTA				pmax	pmax		
	comp=Z,68nm,0.8s						
USRK	**Ussuriysk Ar.**	44.69	10	P	**P**	15 41 13.8	-0.2
USRK	**Ussuriysk Ar.**	44.69	10	P	**P**	15 41 13.8	-0.2
	comp=Z,6.4nm,0.8s,baz=195,slow=5.9,SNR=10						
USRK				PcP	**PcP**	15 42 51.9	-0.8
	comp=Z,4.7nm,0.9s,baz=245,slow=4.1,SNR=4.7						
USRK				ScP	**ScP**	15 46 24.6	-0.7
	comp=Z,1.8nm,0.8s,baz=212,slow=4.9,SNR=4.5						
	comp=Z,6.4nm,0.8s						
USRK	**Ussuriysk Ar.**	44.69	10	P	**P**	15 41 13.8	-0.2
MDJ	**Mudanjiang**	44.73	8	P	**P**	15 41 14.3	0.0
MDJ				pmax	pmax		
	comp=Z,19nm,0.8s						
MDJ	**Mudanjiang**	44.73	8	P	**P**	15 41 14.2	0.0
MDJ				PcP	**PcP**	15 42 53.2	+0.4
MILA	**Mila**	44.77	149	P	**P**	15 41 13.7	-1.1
	comp=Z,26nm,1.4s						
HYB	**Hyderabad**	46.08	294	*e*P	**P**	15 41 26.2	+0.8
HYB				IVmB_BB		15 41 27.7	
	comp=Z,869nm,1.3s						
ASAJ	**Asahikawa**	47.40	20	P	**P**	15 41 35.2	+0.1
	comp=Z,24nm,0.7s,baz=230,slow=11,SNR=58						
	comp=Z,24nm,0.7s						
ASAJ	**Asahikawa**	47.40	20	P	**P**	15 41 35.0	-0.1
ASAJ				pmax	pmax		
	comp=Z,28nm,0.8s						
JKA	**Kamikawa-asahi**	47.40	20	P	**P**	15 41 35.0	-0.1
NOUC	**Port Laguerre**	48.48	120	P	**P**	15 41 45.4	+1.6
NOUC	**Port Laguerre**	48.48	120	P	**P**	15 41 43.8	0.0
TAU	**Tasmania Unive**	48.55	155	P	**P**	15 41 45.6	+1.7
TAU	**Tasmania Unive**	48.55	155	P	**P**	15 41 45.0	+1.2
TAU				IAmb	IAmb	15 41 47.5	
	comp=Z,89nm,1.2s						
TAU	**Tasmania Unive**	48.55	155	P	**P**	15 41 45.1	+1.2
TAU				pmax	pmax		
	comp=Z,89nm,1.3s						
DZM	**Mont Dzumac**	48.59	120	P	**P**	15 41 46.3	+1.6
DZM	**Mont Dzumac**	48.59	120	P	**P**	15 41 45.0	+0.2
DZM				IAmb	IAmb	15 41 48.2	
	comp=Z,45nm,1.1s						
DZM	**Mont Dzumac**	48.59	120	P	**P**	15 41 46.0	+1.3
DZM				pP	**pP**	15 42 30.6	+0.7
YATNC	**Mamie plateau,**	48.97	120	P	**P**	15 41 49.4	+1.9
ULN	**Ulaanbaatar**	49.23	347	P	**P**	15 41 49.2	0.0
ULN				IAmb	IAmb	15 41 51.5	
	comp=Z,42nm,0.8s						
ULN	**Ulaanbaatar**	49.23	347	*ce*P	**P**	15 41 49.4	+0.2
ULN				pmax	pmax		
	comp=Z,46nm,0.8s						
ULN	**Ulaanbaatar**	49.23	347	P	**P**	15 41 49.6	+0.4
ULN				pP	**pwP**	15 42 35.4	-1.1
ULN				PcP	**PcP**	15 43 09.2	+0.1
SONM	**Songino Array**	49.36	346	P	**P**	15 41 50.1	-0.1
SONM				IAmb	IAmb	15 41 52.3	
	comp=Z,37nm,0.8s						
SONM	**Songino Array**	49.36	346	P	**P**	15 41 50.8	+0.6
	comp=Z,37nm,0.8s,baz=163,slow=8.5,SNR=130						
SONM				pP	**pP**	15 42 34.9	-0.1
	comp=Z,7.4nm,0.8s,baz=170,slow=9.5,SNR=3.0						
SONM				PcP	**PcP**	15 43 08.8	-0.7
	comp=Z,16nm,0.9s,baz=163,slow=3.6,SNR=9.5						
SONM				ScP	**ScP**	15 46 43.3	-1.8
	comp=Z,0.4nm,0.4s,baz=151,slow=6.3,SNR=3.0						
	comp=Z,37nm,0.8s						
SONM	**Songino Array**	49.36	346	P	**P**	15 41 50.1	-0.1
SONM				pmax	pmax		
	comp=Z,37nm,0.8s						
KLR	**Kul'dur**	49.55	8	P	**P**	15 41 51.1	-0.3
	comp=Z,2.2nm,0.6s,baz=236,slow=2.8,SNR=14						
KLR				PcP	**PcP**	15 43 09.1	-0.8
	comp=Z,9.8nm,0.9s,baz=278,slow=5.8,SNR=12						
	comp=Z,2.2nm,0.6s						
KLR	**Kul'dur**	49.55	8	*e*P	**P**	15 41 50.0	-1.4
KLR				pmax	pmax		
	comp=Z,8.0nm,1.4s						
YSS	**Yuzh-Sakhalins**	49.96	18	P	**P**	15 41 57.1	+2.6
YSS	**Yuzh-Sakhalins**	49.96	18	P	**P**	15 41 53.5	-1.0
YSS	**Yuzh-Sakhalins**	49.96	18	*e*P	**P**	15 41 53.8	-0.7
YSS				*e*S	**S**	15 48 46.2	-2.6
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				pmax	pmax		
	comp=Z,100nm,4.0s						
HEH	**HeiHe**	50.07	4	*e*P	**P**	15 41 54.6	-0.7
HEH				pmax	pmax		
	comp=Z,17nm,0.7s						
GRNR	**Gornyy**	51.84	12	⇓*i*P	**P**	15 42 08.7	+0.2
GRNR				pmax	pmax		
	comp=Z,20nm,0.8s						
ZAK	**Zakamensk**	52.49	345	*e*P	**P**	15 42 12.5	-0.9
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WMQ	**Urumqi**	53.13	329	⇑*i*P	**P**	15 42 20.0	+1.8
WMQ				PcP	**sP**	15 43 26.1	-1.0
WMQ				pmax	pmax		
	comp=Z,73nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,83nm,3.7s						
ZEA	**Zeya**	53.53	4	*e*P	**P**	15 42 22.5	+1.7
ZEA				*e*		15 43 25.2	
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MOY	**Mondy**	54.27	344	*e*P	**P**	15 42 26.4	+0.1
MOY				pmax	pmax		
	comp=Z,20nm,1.4s						
NIL	**Nilore**	56.53	311	P	**P**	15 42 42.7	0.0
NIL				IAmb	IAmb	15 42 46.2	
	comp=Z,40nm,0.7s						
NIL	**Nilore**	56.53	311	P	**P**	15 42 42.7	0.0
NIL				pmax	pmax		
	comp=Z,40nm,0.7s						
NIL	**Nilore**	56.53	311	P	**P**	15 42 43.0	+0.3
NIL				pP	**pP**	15 43 28.2	-1.3
NIL				PcP	**PcP**	15 43 38.0	+1.1
ZSN	**Zaisan**	57.09	331	*e*P	**P**	15 42 46.3	0.0
	comp=Z,14nm,0.9s,baz=331						
ZSN	**Zaisan**	57.09	331	*e*P	**P**	15 42 46.3	0.0
ZSN				pmax	pmax		
	comp=Z,14nm,0.9s						
SHLS	**Shalkode**	57.24	324	*e*P	**P**	15 42 45.4	-2.3
	comp=Z,16nm,0.7s,baz=324						
SHLS	**Shalkode**	57.24	324	*e*P	**P**	15 42 45.3	-2.3
SHLS				pmax	pmax		
	comp=Z,16nm,0.7s						
PDGK	**Podgornoye**	57.32	324	P	**P**	15 42 47.9	-0.3
KSH	**Kashi**	57.40	319	P	**P**	15 42 50.4	+1.6
KSH				PcP	**PcP**	15 43 41.3	+1.0
KSH				pmax	pmax		
	comp=Z,44nm,0.8s						
UZB	**Uzynbulak**	57.49	324	*e*P	**P**	15 42 49.3	-0.1
	baz=324						
UZB	**Uzynbulak**	57.49	324	*e*P	**P**	15 42 49.3	-0.1
SATY	**Saty**	57.80	323	*e*P	**P**	15 42 51.6	0.0
	comp=Z,16nm,0.7s,baz=323						
SATY	**Saty**	57.80	323	*e*P	**P**	15 42 51.5	0.0
SATY				pmax	pmax		
	comp=Z,16nm,0.7s						
ZHN	**Zhinishke**	57.85	323	*e*P	**P**	15 42 51.9	0.0
	comp=Z,15nm,0.7s,baz=323						
ZHN	**Zhinishke**	57.85	323	*e*P	**P**	15 42 51.9	0.0
ZHN				pmax	pmax		
	comp=Z,15nm,0.7s						
MSVF	**Nonsavu**	57.87	111	P	**P**	15 42 51.5	-0.9
MSVF				IAmb	IAmb	15 42 56.3	
	comp=Z,41nm,0.8s						
MSVF	**Nonsavu**	57.87	111	P	**P**	15 42 51.5	-0.9
MSVF				pmax	pmax		
	comp=Z,41nm,0.9s						
MSVF	**Nonsavu**	57.87	111	P	**P**	15 42 54.3	+1.9
MSVF				PcP	**PcP**	15 43 45.0	+2.4
KPKS	**Kokpek**	57.88	324	*e*P	**P**	15 42 51.8	-0.2
	comp=Z,19nm,0.8s,baz=324						
KPKS	**Kokpek**	57.88	324	*e*P	**P**	15 42 51.8	-0.2
KPKS				pmax	pmax		
	comp=Z,19nm,0.8s						
MK31	**Makanchi Array**	57.94	329	IAmb	IAmb	15 42 54.6	
	comp=Z,34nm,0.8s						
MK31	**Makanchi Array**	57.94	329	*ce*P	**P**	15 42 52.8	+0.5
MKAR	**Makanchi Array**	57.94	329	P	**P**	15 42 52.3	-0.1
MKAR	**Makanchi Array**	57.94	329	P	**P**	15 42 52.9	+0.6
	comp=Z,37nm,0.7s,baz=128,slow=8.1,SNR=250						
MKAR				PcP	**PcP**	15 43 41.6	-0.5
	comp=Z,15nm,0.8s,baz=134,slow=5.2,SNR=11						
MKAR				ScP	**ScP**	15 47 20.5	-2.0
	comp=Z,3.0nm,1.0s,baz=116,slow=5.5,SNR=4.4						
MKAR				S	**S**	15 50 37.5	+1.5
	comp=Z,1.6nm,1.0s,baz=126,slow=24,SNR=5.7						
MKAR				PKPPKP	**P'P'df**	16 12 29.5	-3.5
	comp=Z,0.6nm,1.0s,baz=254,slow=2.7,SNR=2.9						
MKAR				PKP2bc		16 12 42.3	
	comp=Z,1.0nm,0.9s,baz=0.0,slow=0.6,SNR=4.5						
	comp=Z,37nm,0.7s						
MKAR	**Makanchi Array**	57.94	329	P	**P**	15 42 52.3	-0.1
MAKZ	**Makanchi**	58.12	329	P	**P**	15 42 53.2	-0.3
MAKZ				IAmb	IAmb	15 42 55.6	
	comp=Z,27nm,0.8s						
MAKZ	**Makanchi**	58.12	329	P	**P**	15 42 53.2	-0.3
MAKZ				pmax	pmax		
	comp=Z,27nm,0.8s						
MAKZ	**Makanchi**	58.12	329	P	**P**	15 42 53.8	+0.2
MAKZ				pP	**pP**	15 43 39.5	-0.9
MAKZ				PcP	**PcP**	15 43 42.2	-0.6
MAKZ				sP	**sP**	15 44 01.0	-2.1
TNSS	**Tian-Shan**	58.67	323	*e*P	**P**	15 42 57.6	-0.3
	baz=322						
TNSS	**Tian-Shan**	58.67	323	*e*P	**P**	15 42 57.6	-0.3
MDOK	**Medeo**	58.68	323	*e*P	**P**	15 42 57.6	-0.1
	baz=323						
MDOK	**Medeo**	58.68	323	*e*P	**P**	15 42 57.6	-0.1
ARXS	**Arharly**	58.82	324	*e*P	**P**	15 42 58.4	-0.1
TDK	**Taldyqorghan**	58.94	325	*e*P	**P**	15 42 59.2	-0.1
	comp=Z,12nm,0.4s,baz=325						
TDK	**Taldyqorghan**	58.94	325	*e*P	**P**	15 42 59.1	-0.1
TDK				pmax	pmax		
	comp=Z,12nm,0.4s						
CHKK	**Chushkaly**	59.11	323	*e*P	**P**	15 43 00.2	-0.2
	baz=323						
CHKK	**Chushkaly**	59.11	323	*e*P	**P**	15 43 00.2	-0.2
TKM2	**Tokmak 2**	59.44	322	P	**P**	15 43 03.4	+0.4
	SNR=16						
TKM2	**Tokmak 2**	59.44	322	P	**P**	15 43 02.8	-0.1
KBK	**Karagaybulak**	59.70	321	P	**P**	15 43 06.5	+1.8
	SNR=13						
UCH	**Uchtor**	59.75	321	P	**P**	15 43 06.8	+1.4
	SNR=15						
AAK	**Ala-Archa**	59.97	321	P	**P**	15 43 07.9	+1.4
	SNR=8.6						
AAK	**Ala-Archa**	59.97	321	P	**P**	15 43 07.0	+0.5
AAK				IAmb	IAmb	15 43 09.3	
	comp=Z,23nm,0.9s						
AAK	**Ala-Archa**	59.97	321	P	**P**	15 43 07.5	+0.9
	comp=Z,24nm,0.9s,baz=163,slow=5.0,SNR=16						
AAK				PcP	**PcP**	15 43 50.2	-0.3
	comp=Z,8.1nm,0.7s,baz=213,slow=3.2,SNR=3.9						
	comp=Z,24nm,0.9s						
AAK	**Ala-Archa**	59.97	321	*ce*P	**P**	15 43 08.2	+1.7
AAK				pmax	pmax		
	comp=Z,24nm,0.8s						
AAK	**Ala-Archa**	59.97	321	P	**P**	15 43 08.3	+1.8
AAK				PcP	**PcP**	15 43 51.5	+1.0
KBL	**Kabul**	60.08	310	P	**P**	15 43 07.1	-0.4
KBL	**Kabul**	60.08	310	P	**P**	15 43 07.1	-0.4
KBL				pmax	pmax		
	comp=Z,89nm,0.8s						
USP	**Ospenovka**	60.30	322	P	**P**	15 43 09.4	+0.8
	SNR=13						
SGDS	**Sogindy**	60.32	322	*e*P	**P**	15 43 08.7	-0.1
	baz=322						
SGDS	**Sogindy**	60.32	322	*e*P	**P**	15 43 08.6	-0.1
EKS2	**Erkin-Say**	60.44	321	P	**P**	15 43 11.0	+1.3
	SNR=11						
PET	**Petropavlovsk**	60.81	24	*e*P	**P**	15 43 11.8	+0.1
PET				*e**PP	**pP**	15 43 59.4	+0.7
PET				*e*S	**S**	15 51 12.6	+0.2
PET				pmax	pmax		
	comp=Z,21nm,1.2s						
BTK	**Batken**	61.13	317	IAmb	IAmb	15 43 18.7	
	comp=Z,17nm,0.8s						
BTK	**Batken**	61.13	317	P	**P**	15 43 15.1	+0.8
BTLS	**Baital**	61.52	323	*e*P	**P**	15 43 16.8	0.0
	baz=323						
BTLS	**Baital**	61.52	323	*e*P	**P**	15 43 16.7	0.0
CHGR	**Chuyangaron**	61.67	315	P	**P**	15 43 18.5	+0.5
ZAA0	**Zalesovo Array**	61.74	336	P	**P**	15 43 16.9	-1.0
ZALV	**Zalesovo Beam**	61.74	336	P	**P**	15 43 16.6	-1.4
ZALV	**Zalesovo Beam**	61.74	336	P	**P**	15 43 16.9	-1.0
	comp=Z,7.8nm,0.7s,baz=124,slow=5.6,SNR=26						
ZALV				pP	**pP**	15 44 03.8	-1.5
	comp=Z,3.7nm,0.7s,baz=129,slow=4.9,SNR=2.6						
ZALV				S	**S**	15 51 20.8	-3.4
	comp=Z,1.0nm,0.7s,baz=113,slow=11,SNR=2.2						
ZALV				PKP2bc		16 12 31.6	
	comp=Z,3.5nm,1.0s,baz=316,slow=4.1,SNR=8.3						
	comp=Z,7.8nm,0.7s						
ZALV	**Zalesovo Beam**	61.74	336	*i* P	**P**	15 43 17.0	-1.0
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.7s						
RPZ	**Rata Peaks**	61.76	142	P	**P**	15 43 19.2	+0.8
SIMJ	**Simiganj**	61.77	315	P	**P**	15 43 18.2	-0.5
SIMJ				IAmb	IAmb	15 43 21.6	
	comp=Z,32nm,1.0s						
SIMJ	**Simiganj**	61.77	315	P	**P**	15 43 18.7	-0.1
YAK	**Yakutsk**	61.94	4	P	**P**	15 43 18.4	-0.8
YAK	**Yakutsk**	61.94	4	*c i* P	**P**	15 43 18.8	-0.3
YAK				*e*		15 43 57.6	
YAK				*e**PP	**pP**	15 44 04.4	-1.6
YAK				*e*		15 45 36.4	
YAK				*e*PPP	PPP	15 47 07.1	
YAK				*e*S	**S**	15 51 26.3	0.0
YAK				*e**SS	**sS**	15 52 47.0	+0.4
YAK				*e*SS	**SS**	15 55 33.1	+0.5
YAK				pmax	pmax		
	comp=Z,72nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,70nm,4.3s						
YAK				pmax	pmax		
	comp=N,92nm,5.3s						
YAK				pmax	pmax		
	comp=E,66nm,4.0s						
YAK				smax	smax		
	comp=E,102nm,4.7s						
YAK				smax	smax		
	comp=N,196nm,5.8s						
YAK	**Yakutsk**	61.94	4	P	**P**	15 43 18.8	-0.3
KURBB	**Kurchatov Arra**	62.31	330	P	**P**	15 43 21.9	0.0
	comp=N,16nm,0.7s,baz=130,slow=5.7,SNR=56						
KURBB				PcP	**PcP**	15 43 58.5	-1.0
	comp=N,2.8nm,0.6s,baz=130,slow=5.0,SNR=3.4						
KURBB				pP	**pP**	15 44 09.2	-0.1
	comp=N,3.4nm,0.6s,baz=126,slow=6.2,SNR=1.6						
KURBB				ScP	**ScP**	15 47 39.5	-2.2
	comp=N,1.9nm,1.1s,baz=139,slow=4.9,SNR=2.0						
KURBB				S	**S**	15 51 31.4	-0.1
	comp=N,0.2nm,0.4s,baz=337,slow=19,SNR=1.4						
KURBB				PKPPKP	**P'P'df**	16 12 23.4	-2.6
	comp=N,1.3nm,0.9s,baz=294,slow=3.5,SNR=7.5						
KURBB				PKP2bc		16 12 33.1	
	comp=N,0.6nm,0.8s,baz=296,slow=3.6,SNR=5.0						
	comp=N,16nm,0.7s						
KURK	**Kurchatov**	62.33	330	P	**P**	15 43 21.2	-0.7
KURK	**Kurchatov**	62.33	330	*ce*P	**P**	15 43 21.9	0.0
KURK				pmax	pmax		
	comp=Z,40nm,0.8s						
KURK	**Kurchatov**	62.33	330	P	**P**	15 43 22.0	0.0
KURK				PcP	**PcP**	15 44 00.0	+0.4
KURK				pP	**pP**	15 44 08.4	-1.0
IUG	**Iuzhnay**	62.61	319	*e*P	**P**	15 43 24.2	0.0
	comp=Z,15nm,0.6s,baz=319						
IUG	**Iuzhnay**	62.61	319	*e*P	**P**	15 43 24.2	0.0
IUG				pmax	pmax		
	comp=Z,15nm,0.6s						
KKAR	**Karatay Array**	62.74	320	P	**P**	15 43 24.8	-0.1
KKAR	**Karatay Array**	62.74	320	P	**P**	15 43 24.8	-0.1
BRLS	**Borolday**	63.15	319	*e*P	**P**	15 43 27.4	-0.3
	baz=319						
BRLS	**Borolday**	63.15	319	*e*P	**P**	15 43 27.3	-0.3
BKZ	**Black Stump Fm**	63.27	135	P	**P**	15 43 29.4	+0.9
BKZ				IAmb	IAmb	15 43 31.6	
	comp=Z,34nm,0.9s						
MA2	**Magadan**	63.30	16	*ce*P	**P**	15 43 27.8	-0.4
MA2				pmax	pmax		
	comp=Z,30nm,0.7s						
MA2	**Magadan**	63.30	16	P	**P**	15 43 28.9	+0.7
	comp=Z,48nm,0.8s						
MA2	**Magadan**	63.30	16	P	**P**	15 43 28.9	+0.7
MA2				PcP	**PcP**	15 44 04.6	+1.2
RTZ	**Ruatahuna**	63.39	134	P	**P**	15 43 29.6	+0.2
WSAR	**Wadi Sarin**	65.61	295	P	**P**	15 43 43.9	0.0
	comp=Z,4.9nm,0.9s,baz=215,slow=4.4,SNR=1.8						
	comp=Z,4.9nm,0.9s						
SEY	**Seymchan**	66.55	15	*ce*P	**P**	15 43 49.1	0.0
SEY				pmax	pmax		
	comp=Z,13nm,0.9s						
CASY	**Casey**	66.85	185	P	**P**	15 43 51.9	+1.0
BRVK	**Borovoye**	67.89	329	*ce*P	**P**	15 43 57.1	-0.6
BRVK				pmax	pmax		
	comp=Z,20nm,1.3s						
BRVK	**Borovoye**	67.89	329	P	**P**	15 43 57.5	-0.2
BRVK				pP	**pP**	15 44 45.4	-0.6
DRV	**Dumont d'Urvil**	67.93	172	P	**P**	15 43 57.6	-0.1
DRV				PcP	**PcP**	15 44 23.4	+0.9
TIXI	**Tiksi**	71.47	2	P	**P**	15 44 18.1	-1.0
TIXI				PcP	**PcP**	15 44 36.5	-0.9
ABKAR	**Akbulak array**	71.99	322	P	**P**	15 44 21.8	-0.9
ABKAR	**Akbulak array**	71.99	322	IAmb	IAmb	15 44 55.4	
	comp=Z,8.3nm,1.0s						
NRIK	**Noril'sk**	72.79	348	P	**P**	15 44 26.1	-0.9
	comp=Z,8.2nm,0.6s,baz=131,slow=7.4,SNR=18						
	comp=Z,8.2nm,0.6s						
NRIK	**Noril'sk**	72.79	348	*ce*P	**P**	15 44 27.1	0.0
NRIK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BILL	**Bilibino**	74.17	16	*e*P	**P**	15 44 35.7	+0.6
BILL				*e*		15 44 49.4	
BILL				*e**PP	**pP**	15 45 23.5	-0.8
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	**Arti**	75.47	329	P	**P**	15 44 41.6	-1.2
ARU	**Arti**	75.47	329	*c i* P	**P**	15 44 42.1	-0.7
ARU				*PP	**pP**	15 45 29.8	-2.4
ARU						15 47 33.3	
ARU				S	**S**	15 54 05.5	-0.2
ARU				pmax	pmax		
	comp=Z,18nm,1.0s						
OPO	**Ambohidratompo**	75.72	251	P	**P**	15 44 44.3	-0.9
	comp=Z,7.9nm,0.8s,baz=71,slow=5.3,SNR=5.3						
	comp=Z,7.9nm,0.8s						
NIKH	**Nikolski High**	77.37	35	P	**P**	15 44 53.6	+0.1
	baz=253						
RAYN	**Ar Rayn**	77.59	294	P	**P**	15 44 54.1	-1.3
RAYN	**Ar Rayn**	77.59	294	P	**P**	15 44 54.2	-1.3
RAYN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
P08K	**Saint George I**	78.08	32	P	**P**	15 44 57.9	+0.6
	baz=252						
SEKA	**Sheki**	78.49	312	P	**P**	15 44 59.9	-0.2
MNGR	**Mingechevir, A**	78.50	312	P	**P**	15 45 00.3	+0.3
MAW	**Mawson**	78.87	200	P	**P**	15 45 00.8	-0.6
	comp=Z,9.7nm,1.0s,baz=62,slow=8.8,SNR=7.0						
	comp=Z,9.7nm,1.0s						
UNV	**Unalaska Valle**	78.97	35	P	**P**	15 45 02.8	+0.6
	baz=255						
GANJ	**Ganja**	79.05	311	P	**P**	15 45 03.3	+0.2
BELG	**Belogornoye**	80.37	323	*i* P	**P**	15 45 09.0	-0.8
BELG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VNDA	**Vanda**	80.58	172	P	**P**	15 45 10.4	-0.1
VNDA	**Vanda**	80.58	172	P	**P**	15 45 10.4	-0.1
	comp=Z,12nm,0.8s,baz=311,slow=6.3,SNR=46						
	comp=Z,12nm,0.8s						
VNDA	**Vanda**	80.58	172	P	**P**	15 45 10.4	-0.1
VNDA				pmax	pmax		
	comp=Z,16nm,0.9s						
KIRV	**Kirov**	80.83	330	*ce*P	**P**	15 45 11.5	-0.6
TRLG	**Trialeti**	80.84	312	P	**P**	15 45 13.5	+0.6
FALS	**False Pass**	80.96	34	P	**P**	15 45 13.4	+0.5
	baz=257						
SBA	**Scott Base**	81.54	171	P	**P**	15 45 16.6	+1.0
SBA	**Scott Base**	81.54	171	P	**P**	15 45 16.6	+1.0
SBA				pmax	pmax		
	comp=Z,19nm,1.0s						
TNA	**Tin City**	81.64	23	P	**P**	15 45 17.3	+1.1
	baz=252						
S12K	**Black Hills**	81.90	34	P	**P**	15 45 18.6	+0.8
	baz=258						
KBZ	**Khabaz**	82.02	314	P	**

O15K	Ungalikthiuk R	83.75	30	P	P	15 45 28.4	+1.2
	baz=260,SNR=7.0						
VRH	Novokhopyorsk	83.77	321	eP	P	15 45 27.0	-0.5
VRH				pmax	pmax		
	comp=Z,51nm,0.9s						
N15K	Kwethluk River	83.79	29	P	P	15 45 28.1	+0.7
	baz=260,SNR=16						
CHGN	Chignik	84.02	33	IAmb	IAmb	15 45 32.4	
	comp=Z,47nm,1.0s						
CHGN	Chignik	84.02	33	P	P	15 45 29.4	+0.7
	baz=261						
VSLR	Vesyoloye	84.06	314	i P	P	15 45 29.6	+0.4
VSLR				pmax	pmax		
	comp=Z,59nm,1.2s						
D17K	Noatak River	84.09	22	P	P	15 45 29.6	+0.8
	baz=256						
J16K	Anvik River	84.14	26	P	P	15 45 29.9	+0.7
	baz=259,SNR=8.7						
I17K	Unalakleet	84.22	26	P	P	15 45 30.3	+0.8
	baz=259						
RDOG	Red Dog Mine	84.25	21	P	P	15 45 30.6	+0.9
	baz=256						
C17K	DeLong Mountai	84.25	21	P	P	15 45 30.7	+1.0
	baz=256						
SOC	Sochi	84.30	314	eP	P	15 45 28.8	-1.6
SOC				e*SP	sP	15 46 41.5	-1.1
SOC				ePPP	PPP	15 50 38.5	
SOC				eS	SKSac	15 55 32.3	-2.0
SOC				eSS	SS	16 01 07.8	-5.4
SOC				pmax	pmax		
	comp=Z,21nm,0.7s						
L16K	Owhat River	84.36	28	IAmb	IAmb	15 45 33.6	
	comp=Z,25nm,1.1s						
L16K	Owhat River	84.36	28	P	P	15 45 31.2	+0.9
	baz=260						
E17K	Hotham Inlet	84.42	22	P	P	15 45 31.5	+1.0
	baz=257						
M16K	Timber Creek	84.49	29	IAmb	IAmb	15 45 34.3	
	comp=Z,32nm,1.2s						
M16K	Timber Creek	84.49	29	P	P	15 45 32.0	+1.1
	baz=260						
N16K	Nishlik Lake	84.49	29	P	P	15 45 32.4	+1.3
	baz=261,SNR=9.4						
F17K	Baldwin Pennin	84.51	23	P	P	15 45 31.9	+0.9
	baz=258						
G17K	Kiwalik Mounta	84.56	24	P	P	15 45 32.3	+1.1
	baz=258,SNR=5.4						
P16K	Nushagak River	84.66	31	P	P	15 45 32.9	+1.1
	baz=262						
O16K	Kokwok River B	84.69	30	IAmb	IAmb	15 45 34.2	
	comp=Z,27nm,0.9s						
O16K	Kokwok River B	84.69	30	P	P	15 45 32.9	+1.0
	baz=261,SNR=6.6						
H17K	Granite Mounta	84.75	25	IAmb	IAmb	15 45 34.7	
	comp=Z,23nm,0.8s						
H17K	Granite Mounta	84.75	25	P	P	15 45 33.3	+1.1
	baz=259,SNR=9.7						
J17K	VABM Dome	84.83	26	P	P	15 45 33.5	+0.9
	baz=260,SNR=5.5						
B18K	Kokolik River	84.94	20	P	P	15 45 34.2	+1.2
	baz=257						
E18K	Tukpahlearik C	84.96	22	P	P	15 45 34.5	+1.3
	baz=258						
L17K	Donlin	84.98	28	P	P	15 45 34.7	+1.3
	baz=261						
ARPR	Arapgir-MALATY	84.98	309	IAmb	IAmb	15 45 37.5	
	comp=Z,64nm,1.3s						
C18K	Utukok River	85.00	21	P	P	15 45 34.7	+1.2
	baz=258						
K17K	Iditarod	85.07	27	IAmb	IAmb	15 45 36.3	
	comp=Z,26nm,0.9s						
K17K	Iditarod	85.07	27	P	P	15 45 34.8	+1.0
	baz=261,SNR=6.3						
O17K	Koliganek Bris	85.21	30	P	P	15 45 35.7	+1.2
	baz=262						
VORD	Divnogorie	85.27	321	eP	P	15 45 34.0	-1.0
VORD				pmax	pmax		
	comp=Z,80nm,0.9s						
N17K	Nushagak Hills	85.27	29	P	P	15 45 35.8	+0.9
	baz=262						
M17K	Holitna River	85.28	28	P	P	15 45 35.8	+1.0
	baz=262						
R17L	Mt. Peulik Vol	85.32	32	P	P	15 45 35.2	0.0
	baz=263,SNR=18						
VSR	Storozhevoye	85.37	321	eP	P	15 45 34.3	-1.3
VSR				pmax	pmax		
	comp=Z,60nm,0.9s						
A19K	Wainwright	85.38	19	P	P	15 45 36.2	+1.0
	baz=258						
VORR	Voronezh	85.39	322	eP	P	15 45 35.3	-0.3
VORR				pmax	pmax		
	comp=Z,67nm,0.5s						
H18K	Honhosa River	85.44	25	P	P	15 45 36.4	+0.8
	baz=261						
G18K	Tagagawik	85.44	24	P	P	15 45 36.4	+0.7
	baz=260						
P17K	Kvichak River	85.47	31	P	P	15 45 36.1	+0.2
	baz=263						
CHIR	Chirikof Islan	85.51	34	P	P	15 45 36.6	+0.5
	baz=264						
Q17K	Contact Creek	85.64	32	P	P	15 45 36.6	-0.3
	baz=263,SNR=14						
LPSR	Galich'ya Gora	85.65	323	eP	P	15 45 35.5	-1.4
LPSR				pmax	pmax		
	comp=Z,40nm,0.9s						
C19K	Lookout Ridge	85.66	21	IAmb	IAmb	15 45 40.8	
	comp=Z,41nm,1.1s						
C19K	Lookout Ridge	85.66	21	P	P	15 45 37.6	+0.9
	baz=259,SNR=11						
L18K	Granite Mounta	85.74	28	P	P	15 45 37.8	+0.7
	baz=262,SNR=10.0						
GAZ	Gaziantep	85.75	307	IAmb	IAmb	15 45 39.8	
	comp=Z,22nm,0.9s						
J18K	Innoko River	85.89	26	IAmb	IAmb	15 45 39.6	
	comp=Z,14nm,0.8s						
J18K	Innoko River	85.89	26	P	P	15 45 38.1	+0.2
	baz=262,SNR=16						
N18K	Kilae Creek	85.93	29	P	P	15 45 38.8	+0.6
	baz=263						
F19K	Shaleruckik Mo	85.94	23	P	P	15 45 38.5	+0.4
	baz=261						
GCSA	Galena City Sc	86.00	25	P	P	15 45 38.9	+0.6
	baz=262,SNR=11						
M18K	Stony River	86.06	28	P	P	15 45 39.0	+0.3
	baz=263,SNR=7.1						
D19K	Kuna River	86.08	21	P	P	15 45 39.1	+0.3
	baz=261						
P18K	Big Mountain,	86.11	31	P	P	15 45 39.2	+0.1
	baz=264						
G19K	Purcell Mounta	86.11	24	IAmb	IAmb	15 45 42.3	
	comp=Z,24nm,0.8s						
G19K	Purcell Mounta	86.11	24	P	P	15 45 39.6	+0.7
	baz=262,SNR=19						
Q18K	Katmai Hardscr	86.14	31	P	P	15 45 39.4	0.0
	baz=264						
O18K	Koktuh Hills	86.17	30	IAmb	IAmb	15 45 41.0	
	comp=Z,18nm,0.8s						
O18K	Koktuh Hills	86.17	30	P	P	15 45 39.8	+0.4
	baz=264,SNR=6.0						
E19K	Redstone River	86.25	22	P	P	15 45 40.3	+0.7
	baz=262						
H19K	Roundabout Mou	86.29	24	IAmb	IAmb	15 45 42.1	
	comp=Z,44nm,0.9s						
H19K	Roundabout Mou	86.29	24	P	P	15 45 40.6	+0.9
	baz=262,SNR=24						
SII	Sitkinak Islan	86.39	33	P	P	15 45 40.9	+0.4
	baz=265,SNR=7.4						
J19K	Poorman	86.45	26	IAmb	IAmb	15 45 42.6	
	comp=Z,24nm,0.8s						
J19K	Poorman	86.45	26	P	P	15 45 41.2	+0.6
	baz=263,SNR=13						
L19K	White Mountain	86.59	28	P	P	15 45 41.5	+0.2
	baz=264,SNR=8.1						
N19K	Bonanza Creek	86.63	29	IAmb	IAmb	15 45 43.5	
	comp=Z,35nm,0.9s						
N19K	Bonanza Creek	86.63	29	P	P	15 45 42.1	+0.4
	baz=264,SNR=14						
O19K	Port Alsworth	86.65	30	P	P	15 45 41.9	+0.4
	baz=265						
B20K	Meade River	86.66	20	IAmb	IAmb	15 45 45.1	
	comp=Z,21nm,0.9s						
B20K	Meade River	86.66	20	P	P	15 45 42.3	+0.9
	baz=261,SNR=10						
D20K	Etivluk River	86.66	21	P	P	15 45 42.2	+0.7
	baz=262						
LODK	Lodwar	86.68	273	P	P	15 45 42.6	-0.3
MOS	Moscow	86.68	326	eP	P	15 45 41.4	-0.5
E20K	Nigu River	86.75	22	P	P	15 45 42.5	+0.4
	baz=262						
F20K	Avaraart Lake	86.77	23	P	P	15 45 42.7	+0.7
	baz=263,SNR=6.2						
M19K	Big River Lodg	86.78	28	P	P	15 45 42.6	+0.3
	baz=264						
Q19K	Cape Douglas,	86.88	31	P	P	15 45 42.6	-0.2
	baz=265						
OHAK	Old Harbor	86.93	33	IAmb	IAmb	15 45 44.5	
	comp=Z,23nm,0.7s						
OHAK	Old Harbor	86.93	33	P	P	15 45 43.4	+0.4
	baz=266						
H20K	Anotleneega Mo	86.93	24	P	P	15 45 43.3	+0.4
	baz=264,SNR=11						
A21K	Barrow	87.03	19	P	P	15 45 43.8	+0.6
	baz=262						
I20K	Naaghedeneel	87.03	25	IAmb	IAmb	15 45 45.5	
	comp=Z,38nm,0.9s						
I20K	Naaghedeneel	87.03	25	P	P	15 45 43.7	+0.4
	baz=264,SNR=6.6						
K20K	Telida	87.07	27	P	P	15 45 43.8	+0.2
	baz=265						
L20K	Farewell, AK	87.07	28	P	P	15 45 44.1	+0.4
	baz=265,SNR=7.3						
MMAI	Mount Meron Ar	87.07	303	P	P	15 45 44.1	-0.3
	comp=Z,3.6nm,0.6s,baz=138,slow=6.7,SNR=8.8						
	comp=Z,3.6nm,0.6s						
J20K	Nowinta River	87.11	26	IAmb	IAmb	15 45 45.4	
	comp=Z,19nm,0.8s						
J20K	Nowinta River	87.11	26	P	P	15 45 44.0	+0.2
	baz=264,SNR=15						
P19K	Oil Pt	87.15	30	P	P	15 45 44.4	+0.3
	baz=266						
OBN	Obninsk	87.24	325	eP	P	15 45 44.0	-0.5
OBN				e*PP	pP	15 46 34.4	-0.9
OBN				e		15 49 09.6	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KDAK	Kodiak Island	87.35	32	P	P	15 45 44.8	-0.2
KDAK				IAmb	IAmb	15 45 46.5	
	comp=Z,17nm,0.8s						
KDAK	Kodiak Island	87.35	32	P	P	15 45 45.2	+0.1
	baz=266						
KDAK	Kodiak Island	87.35	32	P	P	15 45 44.8	-0.2
KDAK				pmax	pmax		
	comp=Z,17nm,0.9s						
C21K	Knifeblade Rid	87.37	21	P	P	15 45 45.4	+0.5
	baz=264						
M20K	Styx River	87.37	28	P	P	15 45 45.0	-0.2
	baz=266,SNR=7.1						
IMAR	Indian Mountai	87.45	24	P	P	15 45 45.4	0.0
B21K	Ikpikpuk River	87.48	20	P	P	15 45 45.4	0.0
	baz=264,SNR=9.1						
O20K	Slope Mountain	87.48	30	P	P	15 45 45.6	-0.2
	baz=266						
Q20K	Shuyak Island	87.50	31	P	P	15 45 45.6	-0.1
	baz=266,SNR=5.1						
SYI	Shuyak Island	87.51	31	IAmb	IAmb	15 45 46.9	
	comp=Z,38nm,0.9s						
A22K	Sinclair Lake	87.52	19	P	P	15 45 45.9	+0.3
	baz=263,SNR=8.9						
E21K	Killik River	87.59	22	P	P	15 45 46.2	+0.2
	baz=264,SNR=6.2						
G21K	Allakaket	87.59	24	P	P	15 45 45.8	-0.2
	baz=265						
F21K	Alatna River	87.66	23	P	P	15 45 46.7	+0.3
	baz=265						
N20K	Mount Spurr	87.76	29	P	P	15 45 46.9	-0.2
	baz=266						
H21K	Melozitna Rive	87.81	24	IAmb	IAmb	15 45 49.1	
	comp=Z,20nm,1.1s						
H21K	Melozitna Rive	87.81	24	P	P	15 45 47.2	+0.1
	baz=266,SNR=15						
PPLA	Purkeypile	87.88	27	P	P	15 45 47.4	-0.2
	baz=266						
CHUM	Lake Minchumin	87.89	26	P	P	15 45 47.5	0.0
	baz=266						
B22K	Teshekpuk Lake	87.96	20	P	P	15 45 47.5	-0.1
	baz=265,SNR=7.5						
CAST	Castle Rocks	87.96	27	P	P	15 45 47.6	-0.3
	baz=266						
D22K	Ayikyak River	88.10	21	P	P	15 45 48.5	+0.1
	baz=266						
SKT	Skwentna	88.13	28	P	P	15 45 48.1	-0.5
	baz=267,SNR=6.9						
F22K	John River	88.19	23	P	P	15 45 49.6	+0.7
	baz=266,SNR=8.8						
H22K	Ishtalitna Cre	88.41	24	P	P	15 45 50.1	+0.1
	baz=267,SNR=11						
BRSE	Bradley Lake S	88.41	30	P	P	15 45 49.8	-0.2
	baz=268						
G22K	Bettles	88.41	23	P	P	15 45 50.2	+0.3
	baz=267						
SUA	Susitna One	88.48	29	IAmb	IAmb	15 45 50.9	
	comp=Z,24nm,0.9s						
SUA	Susitna One	88.48	29	P	P	15 45 50.1	-0.3
	baz=268						
BPAW	Bear Paw Mtn.	88.49	26	IAmb	IAmb	15 45 51.6	
	comp=Z,17nm,0.9s						
BPAW	Bear Paw Mtn.	88.49	26	P	P	15 45 50.6	+0.2
	baz=267,SNR=9.7						
MLY	Manley	88.64	25	IAmb	IAmb	15 45 52.6	
	comp=Z,28nm,0.9s						
MLY	Manley	88.64	25	P	P	15 45 50.6	-0.4
	baz=268,SNR=35						
BR131	Keskin Array S	88.64	310	IAmb	IAmb	15 45 52.7	
	comp=Z,14nm,0.9s						
BRTR	Keskin Array B	88.64	310	P	P	15 45 50.3	-1.5
BRTR	Keskin Array B	88.64	310	P	P	15 45 51.0	-0.7
	comp=Z,9.9nm,0.9s,baz=116,slow=5.6,SNR=32						
BRTR				PP	PP	15 49 22.0	-1.4
	comp=Z,2.0nm,0.8s,baz=120,slow=8.7,SNR=6.5						
	comp=Z,9.9nm,0.9s						
BRTR	Keskin Array B	88.64	310	P	P	15 45 50.3	-1.5
M22K	Willow	88.79	28	IAmb	IAmb	15 45 53.2	
	comp=Z,43nm,1.1s						
M22K	Willow	88.79	28	P	P	15 45 51.5	-0.3
	baz=268						
D23K	Nanushuk River	88.83	21	P	P	15 45 52.3	+0.5
	baz=268						
C23K	Itkillik River	88.89	20	IAmb	IAmb	15 45 54.8	
	comp=Z,18nm,1.1s						
C23K	Itkillik River	88.89	20	P	P	15 45 52.5	+0.5
	baz=268,SNR=11						
COLD	Coldfoot	88.94	23	P	P	15 45 52.2	-0.1
	baz=268,SNR=16						
RC01	Rabbit Creek A	88.96	29	P	P	15 45 52.4	-0.2
	baz=268						
G23K	Bananza Creek	88.99	23	IAmb	IAmb	15 45 55.0	
	comp=Z,26nm,0.9s						
G23K	Bananza Creek	88.99	23	P	P	15 45 52.8	+0.2
	baz=268,SNR=31						
SEW	Seward	89.07	30	P	P	15 45 52.8	-0.2
	baz=269						
H23K	Yukon River	89.16	24	IAmb	IAmb	15 45 55.5	
	comp=Z,23nm,0.8s						
H23K	Yukon River	89.16	24	P	P	15 45 53.4	-0.1
	baz=269,SNR=25						
E23K	Chandalar	89.19	22	P	P	15 45 53.7	+0.1
	baz=268,SNR=8.8						
TOLK	Toolik Lake Re	89.22	21	P	P	15 45 53.8	+0.1
	baz=269,SNR=8.4						
I23K	Minto, Yukon-K	89.22	25	IAmb	IAmb	15 45 55.4	
	comp=Z,31nm,0.9s						
I23K	Minto, Yukon-K	89.22	25	P	P	15 45 53.7	0.0
	baz=269,SNR=31						
PMR	Palmer	89.26	29	P	P	15 45 53.6	-0.3
	baz=269						
APA	Apatity	89.29	337	⇓i P	P	15 45 50.3	-3.7
APA				i *PP	pP	15 46 46.2	+1.1
APA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NEA2	Nenana	89.34	26	IAmb	IAmb	15 45 56.3	
	comp=Z,19nm,1.1s						
NEA2	Nenana	89.34	26	P	P	15 45 53.5	-0.8
	baz=269,SNR=9.6						
MCK	McKinley	89.38	26	P	P	15 45 53.8	-0.7
	baz=269,SNR=10						
RND	Reindeer	89.41	27	IAmb	IAmb	15 45 55.1	
	comp=Z,31nm,0.8s						
D24K	Happy Valley	89.50	21	IAmb	IAmb	15 45 57.7	
	comp=Z,20nm,1.2s						
D24K	Happy Valley	89.50	21	P	P	15 45 55.1	+0.1
	baz=269,SNR=6.1						
WAT1	Susitna Watana	89.55	27	P	P	15 45 55.2	-0.1
	baz=270						
C24K	Franklin Bluff	89.55	20	P	P	15 45 54.9	-0.2
	baz=269						
KNK	Knik Glacier	89.58	29	IAmb	IAmb	15 45 57.2	
	comp=Z,37nm,1.0s						
KNK	Knik Glacier	89.58	29	P	P	15 45 55.2	-0.3
	baz=270,SNR=6.3						
E24K	Your Creek	89.61	22	P	P	15 45 55.2	-0.4
	baz=270						
SML	Sawmill	89.64	28	P	P	15 45 55.3	-0.5
	baz=270,SNR=12						
WRH	Wood River Hil	89.76	26	IAmb	IAmb	15 45 56.8	
	comp=Z,14nm,0.9s						
F24K	Squaw Lake	89.84	23	IAmb	IAmb	15 46 00.4	
	comp=Z,26nm,1.8s						
F24K	Squaw Lake	89.84	23	P	P	15 45 56.3	-0.3
	baz=270						
H24K	Noodor Dome	89.85	24	IAmb	IAmb	15 45 59.6	
	comp=Z,18nm,0.9s						
H24K	Noodor Dome	89.85	24	P	P	15 45 56.4	-0.3
	baz=270,SNR=20						
CCB	Clear Creek Bu	89.88	26	IAmb	IAmb	15 45 57.7	
	comp=Z,25nm,1.3s						
WAT6	Susitna Watana	89.92	28	P	P	15 45 56.9	-0.4
	baz=270,SNR=16						
M23K	Glacier View	89.93	28	P	P	15 45 56.8	-0.3
	baz=270,SNR=7.4						
G24K	Hadweenzic Riv	90.00	23	P	P	15 45 57.3	0.0
	baz=270,SNR=12						
POKR	Poker Plat Res	90.04	25	P	P	15 45 57.5	0.0
	baz=271						
DHY	Denali Highway	90.08	27	IAmb	IAmb	15 45 59.0	
	comp=Z,16nm,0.8s						
DHY	Denali Highway	90.08	27	P	P	15 45 57.5	-0.5
	baz=271,SNR=14						
P23K	Montague Islan	90.10	30	P	P	15 45 57.6	-0.3
	baz=271						
SCM	Sheep Creek Mo	90.12	28	IAmb	IAmb	15 45 59.2	
	comp=Z,19nm,0.8s						
SCM	Sheep Creek Mo	90.12	28	P	P	15 45 57.9	-0.2
	baz=271						
QSPA	South Pole Qui	90.14	180	P	P	15 45 57.5	-0.5
	comp=Z,14nm,0.9s,baz=313,slow=2.2,SNR=21						
QSPA				S	SKSac	15 56 06.7	-2.4
	comp=Z,1.9nm,1.0s,baz=123,slow=20,SNR=13						
	comp=Z,14nm,0.9s						
JOF	Joensuu	90.16	333	eP	P	15 45 56.9	-1.2
HDA	Harding Lake	90.25	26	IAmb	IAmb	15 45 58.5	
	comp=Z,16nm,0.8s						
HDA	Harding Lake	90.25	26	P	P	15 45 57.7	-0.8
	baz=271,SNR=12						
IL31		90.27	25	IAmb	IAmb	15 45 58.5	
	comp=Z,27nm,1.8s						
ILAR	Eielson Array	90.27	25	P	P	15 45 57.0	-1.6
ILAR	Eielson Array	90.27	25	P	P	15 45 56.4	-2.3
	comp=Z,2.7nm,0.8s,baz=322,slow=6.2,SNR=21						
ILAR				PKKP	PKKPdf	16 03 25.4	+0.3
	comp=Z,0.7nm,0.8s,baz=135,slow=0.3,SNR=5.3						
	comp=Z,2.7nm,0.8s						
ILAR	Eielson Array	90.27	25	P	P	15 45 57.0	-1.6
D25K	Kavik River	90.37	21	P	P	15 45 58.8	-0.3
	baz=272,SNR=7.1						
POGA	Pongola	90.39	243	P	P	15 45 58.9	-1.1
POGA				IAmb	IAmb	15 46 01.2	
	comp=Z,14nm,0.8s						
G25K	Bearman Lake	90.55	23	P	P	15 46 00.1	+0.2
	baz=272,SNR=6.8						
Q23K	Middleton Isla	90.64	31	P	P	15 46 00.4	0.0
	baz=272						
M24K	Tolsona, Glenn	90.66	28	P	P	15 46 00.2	-0.3
	baz=272,SNR=7.8						
H25L	Birch Creek	90.68	24	P	P	15 46 00.6	+0.2
	baz=272,SNR=11						
F25K	Christian Rive	90.70	23	P	P	15 46 00.7	0.0
	baz=272,SNR=5.8						
E25K	Arctic Village	90.71	22	P	P	15 46 00.9	+0.2
	baz=272,SNR=9.8						
K24K	Donnelly Dome	90.78	26	P	P	15 46 01.5	+0.4
	baz=272						
KLU	Klutina	90.80	29	P	P	15 46 01.3	+0.1
	baz=272						
PRP	Porcupine Dome	90.83	25	P	P	15 46 01.8	+0.4
	baz=272						
C26K	Camden Bay	90.86	20	P	P	15 46 02.0	+0.8
	baz=273,SNR=5.3						
EYAK	Cordova Ski Ar	90.91	30	P	P	15 46 02.0	+0.3
	baz=272						
J25K	Salcha River,	90.93	26	P	P	15 46 00.7	-1.1
	baz=272,SNR=8.1						
PAX	Paxson	90.95	27	P	P	15 46 01.2	-0.8
	baz=272,SNR=6.8						
BMAR	Burnt Mountain	91.11	23	P	P	15 46 02.9	+0.4
HARP	HAARP	91.12	28	P	P	15 46 02.6	0.0
	baz=273						
F26K	Sheenjek River	91.27	22	P	P	15 46 03.3	+0.1
	baz=274						
C27K	Jago River	91.30	20	P	P	15 46 03.3	0.0
	baz=274,SNR=16						
MBAR	Mbarara	91.31	269	ceP	P	15 46 06.6	+1.8
MBAR				pmax	pmax		
	comp=Z,8.0nm,2.5s						
N25K	Chitina, Valde	91.42	29	IAmb	IAmb	15 46 05.5	
	comp=Z,16nm,0.9s						
N25K	Chitina, Valde	91.42	29	P	P	15 46 03.9	-0.3
	baz=273						
G26K	Porcupine Rive	91.45	23	P	P	15 46 04.1	+0.1
	baz=274,SNR=12						
BMRM	Bremner River	91.46	29	P	P	15 46 04.1	-0.1
	baz=273						
SCRK	Sand Creek	91.57	26	P	P	15 46 04.5	-0.3
	baz=274,SNR=5.5						
KAIM	Kayak Island	91.60	30	P	P	15 46 04.8	0.0
	baz=273						
AKASG	Malin Array Be	91.64	321	P	P	15 46 03.8	-1.4
AKASG	Malin Array Be	91.64	321	P	P	15 46 03.4	-1.9
	comp=Z,3.1nm,0.6s,baz=77,slow=4.4,SNR=11						
AKASG				PP	PP	15 49 44.5	-2.0
	comp=Z,1.0nm,0.6s,baz=57,slow=3.4,SNR=1.7						
AKASG				PKKP	PKKPdf	16 03 22.2	-0.2
	comp=Z,0.2nm,0.3s,baz=281,slow=3.4,SNR=1.5						
	comp=Z,3.1nm,0.6s						
AKASG	Malin Array Be	91.64	321	P	P	15 46 03.8	-1.4
AKASG				pmax	pmax		
	comp=Z,9.0nm,1.3s						
AKBB	Malin Array Si	91.64	321	ceP	P	15 46 04.1	-1.1
AKBB				pmax	pmax		
	comp=Z,11nm,1.0s						
KIEV	Kiev	91.65	321	P	P	15 46 03.2	-2.1
KIEV	Kiev	91.65	321	P	P	15 46 03.2	-2.1
KIEV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
J26L	Joseph Creek	91.72	26	IAmb	IAmb	15 46 06.7	
	comp=Z,12nm,0.9s						
J26L	Joseph Creek	91.72	26	P	P	15 46 05.5	+0.1
	baz=274,SNR=12						
MENT	Mentasta	91.75	27	IAmb	IAmb	15 46 07.2	
	comp=Z,9.6nm,0.9s						
I26K	Coal Creek Min	91.83	25	P	P	15 46 05.8	0.0
	baz=274						
L26K	Log Cabin Wild	91.92	27	IAmb	IAmb	15 46 07.6	
	comp=Z,12nm,1.1s						
L26K	Log Cabin Wild	91.92	27	P	P	15 46 06.3	0.0
	baz=274						
ARCES	ARCESS Array B	92.11	340	P	P	15 46 05.6	-1.5
	comp=Z,3.0nm,0.8s,baz=86,slow=5.7,SNR=9.5						
ARCES				PKKP	PKKPdf	16 03 22.4	+0.5
	comp=Z,1.8nm,1.0s,baz=321,slow=1.7,SNR=3.6						
	comp=Z,3.0nm,0.8s						
M26K	Nabesna, AK	92.13	28	P	P	15 46 07.7	+0.3
	baz=274						
E27K	Coleen River	92.18	22	IAmb	IAmb	15 46 09.4	
	comp=Z,13nm,1.1s						
E27K	Coleen River	92.18	22	P	P	15 46 07.4	0.0
	baz=276,SNR=14						
MCARA	McCarthy VSAT	92.19	29	IAmb	IAmb	15 46 10.7	
	comp=Z,26nm,1.0s						
MCARA	McCarthy VSAT	92.19	29	P	P	15 46 07.5	-0.1
	baz=274						
CRQE	Cirque	92.21	29

comp=Z,27nm,0.7s
MNK MLR MLR
comp=N,318nm,13.0s
MNK MLR MLR
comp=Z,153nm,13.0s
MNK MLR MLR
comp=E,58nm,12.0s
D27M Malcolm River 92.30 21 P P 15 46 08.2 +0.2
baz=277,SNR=13
G27K Doyon Strip 92.30 23 P P 15 46 07.8 -0.2
baz=276,SNR=9.8
K27K Chicken 92.40 26 IAmb IAmb 15 46 11.2
comp=Z,26nm,1.0s
K27K Chicken 92.40 26 P P 15 46 08.3 -0.2
baz=275
H27K Steamboat Moun 92.42 24 P P 15 46 08.5 -0.1
baz=276,SNR=19
I27K Kandik River 92.44 24 P P 15 46 08.7 0.0
baz=276,SNR=39
L27K Beaver Creek, 92.61 27 IAmb IAmb 15 46 11.8
comp=Z,22nm,0.9s
L27K Beaver Creek, 92.61 27 P P 15 46 09.6 +0.1
baz=276,SNR=18
VSU Vasula 92.62 328 *ce*P **P 15 46 09.5 0.0**
VSU pmax pmax
comp=Z,47nm,2.5s
BCAR Beaver Creek A 92.62 27 P P 15 46 09.7 +0.1
M27K Edge Creek, AK 92.65 28 IAmb IAmb 15 46 11.9
comp=Z,20nm,1.1s
M27K Edge Creek, AK 92.65 28 P P 15 46 09.6 -0.2
baz=276
FINES FINESS Array B 92.69 331 P P 15 46 08.2 -1.7
comp=Z,3.2nm,0.8s,baz=104,slow=5.9,SNR=12
comp=Z,3.2nm,0.8s
EGAK Eagle 92.72 25 P P 15 46 10.0 0.0
baz=276,SNR=6.4
MESA MESA 92.82 30 P P 15 46 10.5 -0.2
baz=275
E28M Babbage River 92.89 21 IAmb IAmb 15 46 12.6
comp=Z,13nm,1.0s
E28M Babbage River 92.89 21 P P 15 46 10.8 +0.1
baz=278,SNR=18
F28M Old Crow 92.90 22 IAmb IAmb 15 46 12.0
comp=Z,9.0nm,0.9s
F28M Old Crow 92.90 22 P P 15 46 10.6 -0.1
baz=278,SNR=8.8
SPITS Spitsbergen Ar 93.00 349 P P 15 46 09.3 -1.7
comp=Z,37nm,0.8s,baz=94,slow=7.6,SNR=9.6
comp=Z,37nm,0.8s
SPITS Spitsbergen Ar 93.00 349 P P 15 46 09.9 -1.1
SPITS pmax pmax
comp=Z,70nm,1.0s
CTG Chitna Glacier 93.04 29 P P 15 46 11.6 -0.1
baz=276,SNR=11
D28M Stokes Point 93.07 21 P P 15 46 11.9 +0.4
baz=279
I28M Miner Creek 93.16 24 P P 15 46 12.1 0.0
baz=277,SNR=44
KEF Keuruu 93.18 332 *e*P **P 15 46 10.9 -1.2**
YUK3 Moose Creek 93.38 28 P P 15 46 13.0 -0.3
baz=277
E29M Blow River 93.52 21 P P 15 46 13.4 -0.2
baz=279,SNR=6.8
DAWY Dawson 93.57 26 IAmb IAmb 15 46 15.7
comp=Z,16nm,0.9s
DAWY Dawson 93.57 26 P P 15 46 13.9 -0.1
baz=278,SNR=8.0
O28M Mount Upton 93.62 29 P P 15 46 14.3 -0.3
baz=277,SNR=9.9
PINM Pinnacle 93.67 30 P P 15 46 14.4 -0.1
baz=277
H29M Whitestone 93.69 24 IAmb IAmb 15 46 16.0
comp=Z,20nm,0.8s
H29M Whitestone 93.69 24 P P 15 46 14.5 +0.1
baz=279,SNR=16
G29M Pine Creek 93.71 23 P P 15 46 14.7 +0.1
baz=279,SNR=19
YUK8 Steele Glacier 93.77 29 P P 15 46 14.9 -0.2
baz=277,SNR=5.7
LSZ Lusaka 93.78 255 P P 15 46 14.6 -1.4
LSZ Lusaka 93.78 255 P P 15 46 14.6 -1.4
LSZ pmax pmax
comp=Z,24nm,0.7s
I29M Ogilvie Camp, 93.84 24 P P 15 46 14.9 -0.2
baz=279,SNR=28
VAF Ylistaro 94.08 333 *e*P **P 15 46 15.7 -0.5**
PNL Peninsula 94.16 30 P P 15 46 16.4 -0.3
baz=278
M29M Somme Creek 94.22 27 P P 15 46 16.8 -0.3
baz=278,SNR=28
L29M L29M 94.27 27 P P 15 46 17.1 0.0
baz=279,SNR=31
EPYK Eagle Plains 94.32 23 IAmb IAmb 15 46 18.5
comp=Z,19nm,0.9s
EPYK Eagle Plains 94.32 23 P P 15 46 17.0 -0.3
baz=280,SNR=11
G30M tAoh Zraii Nji 94.40 23 IAmb IAmb 15 46 18.6
comp=Z,12nm,1.0s
G30M tAoh Zraii Nji 94.40 23 P P 15 46 17.1 -0.6
baz=281,SNR=10
PABE Paberze 94.42 326 *e*P **P 15 46 17.5 -0.4**
K29M Barlow Dome 94.42 26 IAmb IAmb 15 46 19.8
comp=Z,15nm,0.8s
K29M Barlow Dome 94.42 26 P P 15 46 17.7 -0.3
baz=280,SNR=12
F30M Barrier River 94.44 22 P P 15 46 17.2 -0.6
baz=281,SNR=9.1
BURAR Bucovina Array 94.47 318 P P 15 46 17.6 -0.9
BURAR IAmb IAmb 15 46 19.8
comp=Z,9.8nm,0.9s
BURAR Bucovina Array 94.47 318 P P 15 46 17.6 -0.9
BURAR pmax pmax
comp=Z,10.0nm,0.9s
BUR08 Bucovina Ar. S 94.47 318 IAmb IAmb 15 46 19.6
comp=Z,9.1nm,0.9s
O29M Mount Kennedy 94.48 30 P P 15 46 18.0 -0.2
baz=278
YUK6 Outpost Mounta 94.49 29 P P 15 46 18.0 -0.5
baz=278
I30M Mount Dempster 94.67 24 IAmb IAmb 15 46 20.4
comp=Z,13nm,0.9s
I30M Mount Dempster 94.67 24 P P 15 46 18.5 -0.6
baz=281,SNR=17
J30M Hart River 94.81 25 IAmb IAmb 15 46 22.4
comp=Z,10nm,1.0s
J30M Hart River 94.81 25 P P 15 46 19.4 -0.3
baz=281,SNR=8.4
RAF Rauma 94.81 331 *e*P **P 15 46 18.3 -1.2**
HYT Haines Junctio 94.92 29 P P 15 46 20.2 -0.1
baz=279,SNR=18
M30M Minto, Yukon 94.96 27 P P 15 46 20.3 -0.1
baz=280,SNR=14
P29M Windy Craggy 95.00 30 P P 15 46 20.9 +0.3
baz=279,SNR=13
N30M Aishikik Lake 95.02 28 P P 15 46 20.7 +0.1
baz=280,SNR=14
INK Inuvik 95.13 21 IAmb IAmb 15 46 21.9
comp=Z,8.5nm,0.9s
INK Inuvik 95.13 21 P P 15 46 20.8 0.0
baz=284
G31M Satah River 95.16 23 IAmb IAmb 15 46 22.1
comp=Z,17nm,0.9s
G31M Satah River 95.16 23 P P 15 46 20.8 -0.3
baz=283,SNR=14
F31M Tsiigehtchic 95.25 22 IAmb IAmb 15 46 21.9
comp=Z,12nm,0.9s
F31M Tsiigehtchic 95.25 22 P P 15 46 21.0 -0.4
baz=283
P30M Million Dollar 95.30 30 P P 15 46 21.7 -0.3
baz=280
O30N Mendenhall 95.61 29 P P 15 46 23.1 -0.2
baz=280,SNR=9.3
N31M Braeburn, Yuko 95.63 28 P P 15 46 23.7 +0.3
baz=281,SNR=16
PLBC Pleasant Camp 95.71 30 P P 15 46 23.9 +0.1
baz=280
M31M Drury Creek, Y 96.13 27 IAmb IAmb 15 46 27.4
comp=Z,9.8nm,0.8s
M31M Drury Creek, Y 96.13 27 P P 15 46 26.2 +0.5
baz=282
SKAG Skagway 96.23 30 P P 15 46 26.0 -0.1
baz=281
KOLS Kolonicke sedl 96.28 319 *e*P **P 15 46 27.1 +0.5**
KOLS Kolonicke sedl 96.28 319 *e*PDIFF **P 15 46 27.1 +0.5**
FARO Faro, Yukon 96.60 27 P P 15 46 28.1 +0.3
baz=283
SIT Sitka 96.69 32 P P 15 46 28.6 +0.4
baz=281

A36M Sachs Harbour 96.70 17 IAmb IAmb 15 46 29.0
comp=Z,7.0nm,0.9s
A36M Sachs Harbour 96.70 17 P P 15 46 28.1 +0.1
baz=292
CRVS Cervenica-Dubn 96.81 319 *e*P **P 15 46 29.9 +0.9**
CRVS Cervenica-Dubn 96.81 319 *e*PDIFF **P 15 46 29.9 +0.9**
R32K Eaglecrest 96.88 31 P P 15 46 29.5 +0.4
baz=282
N32M Quiet Lake 96.97 28 P P 15 46 29.7 +0.2
baz=283
P32M Atlin 97.01 30 P P 15 46 29.7 0.0
baz=282
P33M Teslin, Yukon 97.31 29 P P 15 46 31.0 -0.1
baz=283
Q32M Nakina River 97.88 30 P Pdif 15 46 34.0 +0.2
baz=284
C36M Paulatuk 98.07 19 P Pdif 15 46 34.4 +0.3
baz=293
R33M Jennings River 98.42 30 IAmb IAmb 15 46 38.7
comp=Z,9.5nm,0.9s
R33M Jennings River 98.42 30 P P 15 46 35.9 -0.2
baz=285
WRAK Wrangell Islan 98.43 33 P Pdif 15 46 36.0 0.0
baz=283
S34M Telegraph Cree 98.71 31 IAmb IAmb 15 46 39.6
comp=Z,10nm,1.1s
S34M Telegraph Cree 98.71 31 P P 15 46 37.2 0.0
baz=284
HFS Hagfors 98.89 331 P P 15 46 35.7 -2.3
comp=Z,3.6nm,0.8s,baz=58,slow=5.4,SNR=7.3
HFS PP **PP 15 50 42.7 +0.5**
comp=Z,1.8nm,0.8s,baz=81,slow=10,SNR=3.5
comp=Z,3.6nm,0.8s
TROLL Troll, Antarti 99.00 196 ⇑Pdiff Pdif 15 46 39.7 +1.2
comp=Z,102nm,0.8s
DLBC Dease Lake 99.14 30 P Pdif 15 46 39.2 -0.1
baz=286
NB2 NORSAR Subarra 99.79 333 P Pdif 15 46 40.4 -1.7
comp=Z,2.3nm,0.8s,baz=74,slow=4.4
NB2 NORSAR Subarra 99.79 333 P Pdif 15 46 40.4 -1.7
baz=74,slow=4.4
NOA NORSAR Array B 99.79 333 P Pdif 15 46 40.4 -1.7
comp=Z,1.4nm,0.8s,baz=73,slow=4.5,SNR=6.6
NOA PP **PP 15 50 47.6 -1.4**
comp=Z,0.2nm,0.3s,baz=76,slow=7.3,SNR=3.5
comp=Z,1.4nm,0.8s
SNAA Sanae 100.62 195 ⇑Pdiff **Pdif 15 46 45.3 -0.2**
comp=Z,32nm,0.9s
SNAA Sanae 100.62 195 P Pdif 15 46 43.9 -1.7
comp=Z,1.2nm,0.8s,baz=117,slow=3.3,SNR=4.4
TOAD Toad River Com 101.41 29 P Pdif 15 46 49.4 +0.1
baz=290
CLL Collm 101.66 323 *i* PP **PKiKP 15 51 07.0 -6.0**
comp=Z,10.0nm,1.5s
GERES GERESS Array B 101.85 320 PP PP 15 51 07.0 +2.1
comp=Z,0.6nm,0.5s,baz=66,slow=2.5,SNR=3.8
GERES PKKPbc **PKKPbc 16 02 56.9 -1.3**
comp=Z,1.2nm,0.7s,baz=226,slow=4.0,SNR=3.5
YKA Yellowknife Ar 104.60 24 Pdiff **Pdif 15 47 00.6 -2.7**
comp=Z,1.3nm,0.8s,baz=294,slow=4.5,SNR=5.1
NEW Newport 109.86 38 P PKiKP 15 51 28.1 -0.2
baz=294
MSO Missoula 112.43 38 P PKiKP 15 51 32.7 -0.6
baz=296
NVAR Mina Array Bea 112.73 48 PKiKP **PKiKP 15 51 35.0 +0.6**
comp=Z,1.2nm,0.7s,baz=230,slow=1.8,SNR=9.7
NVAR PP **PP 15 52 22.7 -2.0**
comp=Z,0.3nm,0.7s,baz=281,slow=6.3,SNR=1.8
HLID Hailey 113.53 41 P PKiKP 15 51 35.2 -0.4
baz=295
CWC Cottonwood Cre 113.55 50 P PKiKP 15 51 35.3 -0.6
baz=289
OSI Osito Audit: C 113.62 52 P PKiKP 15 51 35.2 -0.7
baz=288
GRAC Grapevine Rang 113.91 49 P PKiKP 15 51 36.1 -0.3
baz=290
EDW2 Edwards Air Fo 114.11 51 P PKPdf 15 51 36.7 -0.2
baz=288
MPMC Manual Prospec 114.13 50 P PKPdf 15 51 36.6 -0.4
baz=289
LRMC Laurel Mtn Rad 114.17 51 P PKPdf 15 51 36.8 -0.3
baz=290
CIS Catalina Islan 114.23 53 P PKPdf 15 51 36.9 -0.2
baz=288
EGMT Eagleton 114.36 35 P PKPdf 15 51 36.9 -0.1
baz=300
BOZ Bozeman (W) 114.42 38 P PKiKP 15 51 37.5 +0.2
baz=298
FURC Furnace Creek, 114.47 49 P PKiKP 15 51 37.5 +0.2
baz=290
BFSC Mount Baldy Ra 114.58 52 P PKPdf 15 51 37.8 -0.1
baz=288
R11B Troy Canyon, C 114.75 47 P PKiKP 15 51 38.0 -0.2
baz=292
TPNV Topopah Spring 114.76 49 P PKiKP 15 51 37.8 -0.4
baz=291
GSC Goldstone, Bar 114.90 51 P PKiKP 15 51 38.1 -0.3
baz=290
SHOC Shoshone, Teco 115.11 50 P PKiKP 15 51 38.5 -0.2
baz=290
MURC Murrieta 115.14 52 P PKiKP 15 51 38.6 -0.3
baz=288
HEC Hector,Ludlow 115.42 51 P PKiKP 15 51 39.0 -0.4
baz=290
TUQ Turquoise Moun 115.53 50 P PKPdf 15 51 39.3 -0.4
baz=290
PFO Pinyon Flats O 115.72 52 P PKPdf 15 51 39.6 -0.5
baz=289
PFO Pinyon Flats O 115.72 52 PKP **PKPdf 15 51 38.9 -1.1**
comp=Z,2.1nm,0.8s,baz=173,slow=6.7,SNR=3.5
TPFO Pinon Flats 115.73 52 P PKPdf 15 51 39.7 -0.4
baz=289
BELC Belle Mtn. Jos 115.96 52 P PKPdf 15 51 40.1 -0.4
baz=289
GMRC Granite Mounta 115.96 51 P PKPdf 15 51 40.0 -0.5
baz=290
MONP2 Monument Peak 115.98 53 P PKPdf 15 51 40.0 -0.7
baz=289
DUG Dugway, Tooele 116.02 44 PKiKP 15 51 40.6 +0.1
DUG Dugway, Tooele 116.02 44 P PKPdf 15 51 40.0 -0.5
baz=295,SNR=5.0
DUG Dugway, Tooele 116.02 44 PKIKP **PKiKP 15 51 40.6 +0.1**
RLMT Red Lodge 116.11 38 P PKPdf 15 51 40.2 -0.4
baz=300
V12A Nelson 116.25 49 PKiKP 15 51 41.8 +0.8
HWUT Hardware Ranch 116.27 42 PKPdf 15 51 40.7 -0.2
IKP In-Ko-Pah, Jac 116.31 53 P PKPdf 15 51 41.0 -0.1
baz=289
SWSC Sam W. Stewart 116.46 53 P PKPdf 15 51 41.1 -0.2
baz=285
BC3 Big Chuckawall 116.50 52 P PKPdf 15 51 41.2 -0.4
baz=290
IRM Iron Mountain 116.57 51 P PKPdf 15 51 41.0 -0.6
baz=290
ESDC Sonseca Array 116.84 316 PKPdf **PKPdf 15 51 41.8 -0.2**
ESDC Sonseca Array 116.84 316 PKP **PKPdf 15 51 41.1 -0.9**
comp=Z,1.3nm,0.8s,baz=16,slow=3.6,SNR=8.9
ESDC PP **PP 15 52 51.6 -1.6**
comp=Z,1.1nm,0.9s,baz=55,slow=6.7,SNR=5.1
ESDC PKKPbc **PKKPbc 16 02 08.5 -1.4**
comp=Z,2.0nm,1.0s,baz=168,slow=1.5,SNR=5.1
ESDC PKKPab **PKKPab 16 02 14.6 +0.8**
comp=Z,3.0nm,1.1s,baz=271,slow=4.5,SNR=9.7
PDAR Pinedale Array 117.06 40 PKP **PKPdf 15 51 41.2 -1.3**
comp=Z,0.9nm,0.8s,baz=147,slow=3.0,SNR=8.6
PDAR PKKPbc **PKKPbc 16 02 06.8 -2.7**
comp=Z,0.7nm,0.8s,baz=98,slow=7.6,SNR=4.7
PDAR PKKPab **PKKPab 16 02 11.7 -1.3**
comp=Z,2.5nm,0.9s,baz=116,slow=6.8,SNR=8.9
GLA Glamis 117.20 52 P PKPdf 15 51 42.6 -0.2
baz=290
DGMT Dagmar 117.23 33 P PKiKP 15 51 42.7 +0.2
baz=306
PDMCI Parker Dam,Lak 117.30 51 P PKiKP 15 51 43.2 +0.2
baz=291
POLO Lamas de Olo 118.68 319 *e*PKPdf **PKiKP 15 51 46.4 +0.9**
PGAV Gavieira, Arco 118.70 320 *e*PKPdf **PKiKP 15 51 46.1 +0.5**
WUAZ Wupatki 118.95 48 P PKPdf 15 51 46.2 -0.1
baz=294,SNR=5.4
MTE Manteigas 118.97 318 *e*PKPdf **PKiKP 15 51 46.8 +0.7**
214A Organ Pipe Nat 119.17 53 P PKPdf 15 51 46.6 -0.1
baz=291
O20A White River Ci 119.18 42 P PKPdf 15 51 46.7 0.0
baz=298
PCBR Castelo Branco 119.19 317 *e*PKPdf **PKiKP 15 51 47.4 +0.9**
PMRV Marv??o 119.33 317 *e*PKPdf **PKiKP 15 51 47.4 +0.6**
TORD Torodi Ar. Bea 119.44 285 PKP **PKPdf 15 51 46.3 -1.2**
comp=Z,5.2nm,0.8s,baz=37,slow=2.6,SNR=22

TORD PKKPab **PKKPab 16 02 01.8 -0.6**
comp=Z,2.8nm,0.8s,baz=291,slow=3.5,SNR=11
PBAR Barrancos 119.65 315 *e*PKPdf **PKiKP 15 51 48.2 +0.8**
PESTR Estremoz 119.72 316 *e*PKPdf **PKiKP 15 51 48.4 +0.8**
RSSD Black Hills 119.81 37 P PKPdf 15 51 47.3 -0.5
baz=304
MDND Maddock 120.05 31 P PKiKP 15 51 48.1 +0.2
baz=310
PMTG Montargil 120.07 317 *e*PKPdf **PKiKP 15 51 48.9 +0.7**
ULM Lac du Bonnet 120.25 27 PKP **PKPdf 15 51 46.2 -1.9**
comp=Z,4.5nm,0.5s,baz=311,slow=3.8,SNR=9.7
PBEJ Beja 120.30 315 *e*PKPdf **PKiKP 15 51 50.0 +1.3**
W18A Petrified Fore 120.34 48 P PKiKP 15 51 49.1 0.0
baz=295
MVCO Mesa Verde 120.34 46 P PKPdf 15 51 48.5 -0.5
baz=297
PCVE Castro Verde 120.60 315 *e*PKPdf **PKiKP 15 51 50.0 +0.7**
MESJ Messejana 120.64 315 *e*PKPdf **PKiKP 15 51 50.2 +0.8**
MESJ Messejana 120.64 315 *e*PKPdf **PKiKP 15 51 50.0 +0.6**
TUC Tucson 120.64 52 PKPdf 15 51 49.0 -0.6
TUC Tucson 120.64 52 PKIKP **PKPdf 15 51 49.0 -0.6**
PNCL Nicolau / Gran 120.72 316 *e*PKPdf **PKiKP 15 51 50.2 +0.7**
ISCO Idaho Springs 121.11 42 P PKPdf 15 51 50.5 0.0
baz=300
MORF Marmelete 121.19 315 *e*PKPdf **PKiKP 15 51 51.6 +1.1**
MORF Marmelete 121.19 315 *e*PKPdf **PKiKP 15 51 51.1 +0.6**
S22A 4UR Ranch, Cre 121.28 44 P PKPdf 15 51 50.6 -0.2
baz=298
PFVI Vila Bisbo 121.39 315 *e*PKPdf **PKiKP 15 51 51.7 +0.9**
AGMN Agassiz Nation 121.61 29 P PKiKP 15 51 51.0 +0.1
baz=314
SDCO Great Sand Dun 122.20 44 P PKPdf 15 51 52.4 -0.3
baz=299
ANMO Albuquerque 122.84 47 PKPdf **PKiKP 15 51 54.1 +0.1**
ANMO Albuquerque 122.84 47 P PKPdf 15 51 53.6 -0.3
baz=297
ANMO Albuquerque 122.84 47 PKP **PKPdf 15 51 53.8 0.0**
comp=Z,4.4nm,0.8s,baz=313,slow=3.8,SNR=9.6
ANMO Albuquerque 122.84 47 PKIKP **PKiKP 15 51 54.1 +0.1**
121A Cookes Peak, D 122.89 50 P PKPdf 15 51 54.0 +0.1
baz=295
T25A Trinidad 123.26 44 P PKiKP 15 51 54.9 0.0
baz=300
EYMN Ely 123.90 27 P PKPdf 15 51 55.3 0.0
baz=318
ECSD EROS Data Cent 124.30 33 P PKPdf 15 51 56.0 -0.2
baz=311
SCHQ Schefferville 124.66 6 PKP **PKPdf 15 51 56.2 -0.2**
comp=Z,13nm,0.8s,baz=30,slow=2.6,SNR=13
BGNE Belgrade 124.91 36 P PKPdf 15 51 56.9 -0.5
baz=308
SPMN Marine on St. 125.27 30 P PKPdf 15 51 57.9 0.0
baz=316
CBKS Cedar Bluff 125.47 40 P PKPdf 15 51 58.7 +0.2
baz=305
MSTX Muleshoe 125.98 46 P PKiKP 15 52 00.0 -0.2
baz=300
AMTX Amarillo 126.30 45 P PKiKP 15 52 00.6 -0.2
baz=301
DBIC Dimbokro 126.59 278 PKP **PKPdf 15 52 00.3 -1.0**
comp=Z,6.6nm,0.8s,baz=144,slow=0.3,SNR=5.1
KSU1 Kansas State U 127.26 38 P PKPdf 15 52 01.9 0.0
baz=308
TXAR Lajitas Array 127.44 52 PKPdf **PKPdf 15 52 01.9 -0.8**
TXAR Lajitas Array 127.44 52 PKP **PKPdf 15 52 03.0 -0.2**
comp=Z,2.7nm,0.8s,baz=280,slow=1.0,SNR=24
TXAR Lajitas Array 127.44 52 PKIKP **PKPdf 15 52 01.9 -0.8**
JFWS Jewell Farm 128.21 30 P PKPdf 15 52 03.6 0.0
baz=317
WMOK Wichita Mounta 128.40 43 P PKPdf 15 52 04.3 +0.1
baz=304
ABTX Abilene, Hawle 128.92 46 P PKPdf 15 52 05.6 +0.3
baz=301
TUL3 Leonard 129.72 40 P PKiKP 15 52 07.2 -0.3
baz=307
JCT Junction City 129.89 49 P PKPdf 15 52 07.6 +0.4
baz=300
HDIL Hopedale 130.43 31 P PKiKP 15 52 08.4 -0.3
baz=317
WHTX Lake Whitney, 130.83 46 P PKiKP 15 52 09.4 -0.4
baz=303
CCM Cathedral Cave 131.12 35 PKPdf 15 52 08.9 -0.4
CCM Cathedral Cave 131.12 35 P PKPdf 15 52 09.6 +0.4
baz=313
CCM Cathedral Cave 131.12 35 PKIKP **PKPdf 15 52 08.9 -0.4**
833A Chaparral WMA, 131.24 51 P PKiKP 15 52 10.3 -0.4
baz=298
SFIN Lafayette 131.68 30 P PKPdf 15 52 10.6 +0.4
baz=319
MIAR Mount Ida 131.99 40 P PKPdf 15 52 11.5 +0.5
baz=309
NATX Nacogdoches 132.93 44 P PKPdf 15 52 13.2 +0.3
baz=305
LONY Lake Ozonia 132.98 16 P PKiKP 15 52 13.3 -0.6
baz=337
P49A Miami Univ. Ec 133.49 29 P PKPdf 15 52 13.9 +0.2
baz=322
PKME Peaks-Kenny Pk 133.62 11 P PKPdf 15 52 14.0 +0.3
baz=344
WCI Wyandotte Cave 133.71 31 P PKPdf 15 52 14.1 0.0
baz=319
M53A WI Miller and 133.72 24 P PKPdf 15 52 14.3 +0.2
baz=328
ACSO Alum Creek Sta 133.74 27 P PKPdf 15 52 14.4 +0.2
baz=324
LBNH Lisbon 134.03 14 P PKPdf 15 52 14.9 +0.3
baz=340
WVT Waverly 134.42 34 PKPdf 15 52 14.8 -0.7
WVT Waverly 134.42 34 P PKPdf 15 52 16.2 +0.7
baz=316
WVT Waverly 134.42 34 PKIKP **PKPdf 15 52 14.9 -0.7**
O53A New Philadelph 134.50 25 P PKPdf 15 52 16.1 +0.5
baz=326
P52A Corning 134.61 26 P PKPdf 15 52 16.2 +0.4
baz=325
OXF Oxford 134.62 37 P PKPdf 15 52 16.4 +0.5
baz=313
BINY Binghamton 134.76 19 P PKPdf 15 52 16.6 +0.5
baz=334
LL02 Futaleuf 135.43 166 PKiKP 15 52 18.4 -0.4
SSPA Standing Stone 135.49 22 PKPdf 15 52 17.1 -0.3
SSPA Standing Stone 135.49 22 P PKPdf 15 52 18.1 +0.6
baz=331
L61B Northampton 135.51 16 P PKiKP 15 52 18.5 -0.5
baz=339
HRV Adam Dziewonsk 135.75 14 P PKiKP 15 52 19.4 0.0
baz=340
LL01 San Ignacio de 136.04 165 PKiKP 15 52 19.5 -0.5
TZTN Tazewell 136.40 30 P PKiKP 15 52 20.8 -0.3
baz=321
PAL Palisades 136.50 18 P PKiKP 15 52 20.7 -0.3
baz=336
LRAL Lakeview Retre 137.09 37 P PKiKP 15 52 22.2 -0.3
baz=315
BLA Blacksburg 137.36 27 P PKiKP 15 52 22.8 -0.2
baz=326
KMSC Kings Mountain 138.61 29 P PKiKP 15 52 25.3 -0.3
baz=323
GOGA Godfrey 138.84 33 P PKiKP 15 52 25.8 -0.2
baz=319
GO06 Curarrehue 138.90 164 PKPdf **PKPdf 15 52 23.4 -0.5**
TIGA Tifton 140.24 35 P PKiKP 15 52 28.5 -0.5
baz=318
NHSC New Hope 140.81 30 P PKiKP 15 52 30.5 +0.4
baz=323
TEIG Tepich 144.04 54 PKPdf PKPbc 15 52 32.2 +0.3
SOR Soroa 146.58 45 PKPab **PKPbc 15 52 40.2 +0.7**
SOR Soroa 146.58 45 PKP2 **PKPbc 15 52 40.3 +0.7**
BBSR BB Station 146.98 11 PKPbc **PKPbc 15 52 39.7 -0.7**
GO04 Tololo Observa 147.78 159 PKPbc **PKPbc 15 52 42.4 -0.6**
TBOT Tacuaremb 148.63 183 *e*P **PKPdf 15 52 40.7 -0.2**
LCO Las Campanas 148.87 158 PKPbc 15 52 45.9 0.0
LCO Las Campanas 148.87 158 PKP2 **PKPbc 15 52 45.9 0.0**
PSAL Palomas, Salto 149.29 181 *e*P **PKPdf 15 52 42.2 +0.3**
CPSB Cacapava Do Su 149.66 188 *e*P **PKPdf 15 52 42.5 -0.1**
RODS Rosario do Sul 149.91 185 *e*P **PKPdf 15 52 42.9 -0.1**
ITQB Itaqui 150.67 182 PKPbc 15 52 50.0 +0.1
ITQB Itaqui 150.67 182 *e*P **PKPdf 15 52 43.9 -0.2**
ALGR Alto Alegre (B 151.18 189 *e*P **PKPdf 15 52 44.9 -0.2**
CRSM Crissiumal (Br 152.61 188 *e*P **PKPdf 15 52 47.1 0.0**
CPUP Villa Florida 154.02 181 PKP **PKPdf 15 52 48.5 -0.7**
comp=Z,4.9nm,1.0s,baz=190,slow=4.5,SNR=5.3
CPUP PKPbc **PKiKP 15 52 58.0 +0.6**
comp=Z,9.1nm,1.0s,baz=97,slow=0.8,SNR=5.6
LVC Limon Verde 155.31 155 PKPbc PKPdf 15 53 04.2 +13
comp=Z,4.5nm,0.7s,baz=233,slow=7.5,SNR=4.7

LVC			PKPab	**PKPab**	**15 53 18.2**	**+0.7**
	comp=Z,10.0nm,0.9s,baz=250,slow=2.8,SNR=5.3					
DIAM	**Diamantina, MG**	**157.19 217**	*eP*	**PKPdf**	**15 52 53.4**	**-0.5**
NNA	**Nana**	**157.90 123**	PKPab	**PKPab**	**15 53 27.9**	**-0.7**
	comp=Z,6.3nm,0.4s,baz=250,slow=9.1,SNR=4.9					
ATAH	**Atahualpa**	**158.48 109**		**PKPdf**	**15 52 56.4**	**+0.5**
ATAH				**PKPab**	**15 53 30.1**	**-1.7**
ATAH	**Atahualpa**	**158.48 109**	PKP	**PKPdf**	**15 52 56.4**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=143,slow=1.0,SNR=4.1					
ATAH			PKPab	**PKPab**	**15 53 30.1**	**-1.7**
	comp=Z,3.6nm,0.7s,baz=36,slow=4.2,SNR=2.0					
AQDB	**Aquidauana**	**159.73 186**	PKPab	**PKPab**	**15 53 36.2**	**+0.1**
LPAZ	**La Paz**	**161.13 148**	PKP	**PKPdf**	**15 52 59.3**	**+0.2**
	comp=Z,7.6nm,1.0s,baz=45,slow=1.9,SNR=15					
LPAZ			PKPab	**PKPab**	**15 53 42.8**	**-0.4**
	comp=Z,12nm,0.8s,baz=194,slow=2.8,SNR=13					
BDFB	**Brasilia**	**161.79 212**	PKP	**PKPdf**	**15 52 58.4**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=138,slow=8.4,SNR=3.9					
BDFB			PKPab	**PKPab**	**15 53 44.3**	**-1.2**
	comp=Z,8.1nm,0.8s,baz=159,slow=2.7,SNR=8.1					
SDBA	**SAO DESIDERIO**	**162.26 226**	*eP*	**PKPdf**	**15 52 59.2**	**-0.4**
ROSC	**El Rosal**	**162.90 73**	PKPab	**PKPab**	**15 53 51.5**	**+0.4**
	comp=Z,8.0nm,0.4s,baz=117,slow=20,SNR=3.5					
BBSD	**Serra de San D**	**162.92 171**	*eP*	**PKPdf**	**15 53 00.1**	**0.0**
SIV	**San Ignacio**	**164.01 169**	PKP	**PKPdf**	**15 53 01.1**	**0.0**
	comp=Z,4.0nm,0.8s,baz=226,slow=2.7,SNR=14					
SIV			PKPab	**pPKPdf**	**15 53 54.8**	**0.0**
	comp=Z,7.9nm,0.9s,baz=179,slow=4.1,SNR=14					
SALV	**Santo Antonio**	**164.24 188**	*eP*	**PKPdf**	**15 53 02.1**	**+0.8**
PTLB	**Pontes e Lacer**	**164.81 176**	PKPab	**PKPab**	**15 53 58.5**	**+0.1**
PTLB	**Pontes e Lacer**	**164.81 176**	*eP*	**PKPdf**	**15 53 02.3**	**+0.5**
VILB	**Vilhena**	**167.14 170**	*eP*	**PKPdf**	**15 53 04.4**	**+0.7**
ETMB	**Extrema**	**167.40 140**	*eP*	**PKPdf**	**15 53 04.0**	**+0.1**
SAML	**Samuel**	**169.87 149**	PKPab	**PKPab**	**15 54 21.4**	**+0.4**
SAML	**Samuel**	**169.87 149**	PKP2	**PKPab**	**15 54 21.4**	**+0.4**
NPGB	**Novo Progresso**	**172.73 201**	*eP*	**PKPdf**	**15 53 06.7**	**-0.2**
MCPB	**Macapa, AP**	**174.10 268**	*eP*	**PKPdf**	**15 53 07.9**	**+0.4**
ITTB	**Itaituba**	**175.31 208**	*eP*	**PKPdf**	**15 53 07.9**	**0.0**
BOAV	**Boa Vista**	**176.36 45**	*eP*	**PKPdf**	**15 53 07.6**	**-0.5**

TAP 10 15:37:42.6, 22°.51N×120°.95E, h11km±1km, ML1.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	**Taimali**	**0.09**	**0**	*i* P	Pg	15 37 45.9	+0.7
	baz=4.0						
ECL				*i* S	Sg	15 37 47.8	+0.8
	baz=4.0						
EAST	**Anshuo**	**0.16**	**218**	*i* P	Pb	15 37 47.2	-0.5
	baz=215						
EAST				*i* S	Sg	15 37 50.1	+1.3
	baz=215						
TAW	**Tawu**	**0.16**	**200**	*eP*	Pg	15 37 46.9	+0.7
	baz=197						
TAW				*eS*	Sg	15 37 50.1	+1.4
	baz=197						
TAWH	**Dawu Township**	**0.18**	**200**	*eP*	Pb	15 37 47.5	-0.5
	baz=200						
TAWH				*i* S	Sg	15 37 50.4	+1.2
	baz=200						
TTN	**Taitung**	**0.30**	**36**	*eP*	Pb	15 37 49.5	-0.6
	baz=37						
MASBT	**Mashibuluo**	**0.31**	**289**	P	Pb	15 37 50.2	-0.1
	baz=288						
MASBT				*eS*	Sb	15 37 54.8	-0.7
	baz=288						
SLIU	**Shizi**	**0.33**	**206**	*eP*	Pb	15 37 50.4	0.0
	baz=206						
SLIU				*eS*	Sb	15 37 55.2	-0.5
	baz=206						
TWGBT	**Beinan**	**0.33**	**21**	*eP*	Pb	15 37 50.2	-0.4
	baz=20						
TWGBT				*eS*	Sb	15 37 54.8	-1.1
	baz=20						
TWG	**Pinlang**	**0.33**	**19**	*eP*	Pg	15 37 49.8	+0.5
	baz=20						
TWG				*eS*	Sb	15 37 55.0	-0.9
	baz=20						
TWG	**Pinlang**	**0.33**	**19**	*eP*	Sg	15 37 55.0	+1.3
	baz=162						
SCZT	**Fangliau**	**0.34**	**246**	*eP*	Pb	15 37 50.4	-0.3
	baz=245						
SCZT				*eS*	Sb	15 37 55.6	-0.5
	baz=245						
SSD	**Sandimen**	**0.38**	**308**	*eP*	Pb	15 37 51.1	-0.3
	baz=308						
SSD				*eS*	Sb	15 37 56.7	-0.7
	baz=308						

TAP 10 15:37:49.3, 23°.08N×120°.99E, h2km, ML0.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.12**	**14**	*i* P	Pg	15 37 52.4	+0.8
	baz=17						
ELDTW				*i* S	Sg	15 37 54.3	+1.1
	baz=17						
ECS	**Chishang**	**0.21**	**85**	*eP*	Pg	15 37 54.2	+0.8
	baz=83						
ECS				S	Sg	15 37 58.6	+2.4
	baz=83						
EHD	**Haiduan**	**0.21**	**70**	*i* P	Pg	15 37 54.4	+1.0
	baz=57						
EHD				*eS*	Sg	15 37 57.0	+0.8
	baz=57						
STYH	**Taoyuan**	**0.22**	**296**	*eP*	Pg	15 37 54.1	+0.7
	baz=297						
STYH				S	Sg	15 37 57.6	+1.3
	baz=297						
STYT	**Tauyuan**	**0.23**	**293**	*i* P	Pg	15 37 54.5	+0.8
	baz=293						
STYT				*eS*	Sg	15 37 57.6	+0.9
	baz=293						
TWG	**Pinlang**	**0.27**	**163**	*eS*	Sg	15 37 58.8	+0.9
	baz=162						
TWGBT	**Beinan**	**0.27**	**161**	*eP*	Pg	15 37 55.5	+1.0
	baz=162						
TWGBT				*eS*	Sg	15 37 59.1	+1.1
	baz=162						
FULB	**Fuli**	**0.31**	**66**	*eP*	Pb	15 37 56.5	-1.0
	baz=51						
FULB				*eS*	Sb	15 38 02.0	-1.0
	baz=51						
EDH	**Donghe**	**0.31**	**109**	*eP*	Pg	15 37 56.3	+1.1
	baz=124						
WTP	**Ta-pu**	**0.38**	**296**	*eP*	Pb	15 37 57.9	-1.0
	baz=296						
TWF1	**Yuli**	**0.40**	**46**	*eP*	Pg	15 37 57.4	+0.5
	baz=46						
TWF1				*eS*	Sg	15 38 03.3	+1.2
	baz=46						
TPUB	**Ta-pu**	**0.40**	**304**	*eP*	Pg	15 37 57.9	+1.0
	baz=305						
TPUB				*eS*	Sg	15 38 03.7	+1.6
	baz=305						
YULB	**Yu-li**	**0.43**	**42**	*eP*	Pg	15 37 58.5	+1.0
	baz=41						
YULB				*eS*	Sg	15 38 04.3	+1.3
	baz=41						

*IDC **10** 15:38:26.5±2.8, 37°.33N×142°.42E, h0km, mb3.4/2, mbtmp3.4/4, ML2.7/2, Error ellipse: s-maj=46.4km s-min=34.2km az=61.0*
*JMA **10** 15:38:32.5±0.2, 37°.4N±0°.6×14°.2E±°, h38km±4km, MV3.1/32, E OFF FUKUSHIMA PREF*
ISC 10 15:38:27.4±2.2, 37°.33N±0°.05×142°.15E±0°.08, h2km±13km, n22, σ19°80/24, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.02**	**273**	*eP*	**Pg**	**15 38 48.3**	**+1.4**
JFK				*eS*	**Sg**	**15 38 59.1**	**-1.0**
JMST	**Minamisoumatoc**	**1.08**	**292**	P	**Pg**	**15 38 49.1**	**+1.0**
JMST				*eS*	**Sg**	**15 39 00.7**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.10**	**259**	*eP*	**Pg**	**15 38 49.6**	**+1.1**
JIKH	**Ishinomakikobu**	**1.12**	**331**	P	**Pb**	**15 38 50.4**	**+0.9**
JIKH				*eS*	**Sg**	**15 39 02.6**	**-0.9**
JMM	**Marumori**	**1.21**	**297**	P	**Pg**	**15 38 51.1**	**+0.6**
JMM				*eS*	**Sg**	**15 39 04.2**	**-1.9**
JIO	**Ouri**	**1.29**	**331**	P	**Pg**	**15 38 53.0**	**+0.9**
JIO				*eS*	**Sg**	**15 39 06.9**	**-2.0**
JOTO	**OTAMA OYAMA**	**1.47**	**280**	P	**Pn**	**15 38 55.6**	**+0.7**
JOTO				*eS*	**Sb**	**15 39 11.9**	**-2.5**
JOU	**Okura**	**1.57**	**312**	P	**Pn**	**15 38 57.1**	**+0.9**
JMK	**Ichinoseki**	**1.78**	**336**	*eP*	**Pn**	**15 39 00.5**	**+1.4**
JYS	**Shirataka**	**1.88**	**299**	*eP*	**Pn**	**15 39 01.6**	**+1.2**
JFY	**Yanaizu**	**1.95**	**273**	*eP*	**Pn**	**15 39 02.9**	**+1.4**
MJAR	**Matsushiro Arr**	**3.25**	**257**	Pn	**Pn**	**15 39 21.4**	**+1.9**
	0.2nm,0.3s,baz=73,slow=16,SNR=8.8						
MJAR				Sn	**Sn**	**15 40 02.3**	**+3.6**
	0.2nm,0.3s,baz=79,slow=26,SNR=5.4 0.7nm,0.4s						
JHJ	**Hachijo jima 2**	**4.62**	**205**	Pn	**Pn**	**15 39 39.2**	**+0.9**
	3.9nm,0.3s,baz=59,slow=9.6,SNR=1.8						
JHJ				Sn	**Sn**	**15 40 29.1**	**-3.4**
	4.7nm,0.3s,baz=52,slow=22,SNR=1.6 21nm,0.3s						
MDJ	**Mudanjiang**	**11.96**	**311**	P	**Pn**	**15 41 16.6**	**-2.1**
H11N2	**WAKE ISLAND Hy**	**27.80**	**122**	T	T	16 13 43.2	
	baz=315						
H11N1	**WAKE ISLAND Hy**	**27.81**	**122**	T	T	16 13 41.3	
	baz=315						
H11N3	**WAKE ISLAND Hy**	**27.82**	**122**	T	T	16 13 46.1	
	baz=315						
H11S1	**WAKE ISLAND Hy**	**28.53**	**124**	T	T	16 14 38.3	
	baz=317						
H11S3	**WAKE ISLAND Hy**	**28.53**	**124**	T	T	16 14 33.5	
	baz=317						
H11S2	**WAKE ISLAND Hy**	**28.55**	**124**	T	T	16 14 35.5	
	baz=317						
MKAR	**Makanchi Array**	**44.46**	**302**	P	**P**	**15 46 40.5**	**+0.7**
	0.3nm,0.5s,baz=86,slow=5.8,SNR=1.1 0.3nm,0.5s						
WRA	**Warramunga Arr**	**57.44**	**189**	P	**P**	**15 48 17.5**	**-0.1**
	0.4nm,0.8s,baz=24,slow=7.5,SNR=2.0 0.4nm,0.8s						

*IDC **10** 15:41:07.8±1.2, 31°.65S×58°.39E, h0km, mb3.8/6, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=39.4km s-min=27.3km az=72.0*
ISC 10 15:41:09.7±1.1, 31°.6S±0°.2×58°.3E±0°.2, h14km, n17, σ19°61/8, mb4.1/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.37**	**197**	T	T	16 00 38.6	
	baz=22,slow=75,SNR=19						
H04N1	**CROZET ISLANDS**	**15.37**	**197**	T	T	16 00 40.4	
	baz=22,slow=75,SNR=17						
H04N3	**CROZET ISLANDS**	**15.38**	**197**	T	T	16 00 46.1	
	baz=22,slow=75,SNR=11						
OPO	**Ambohidratompo**	**16.42**	**320**	Pn	**P**	**15 45 02.7**	**0.0**
	baz=127,slow=16,SNR=8.0 4.5nm,0.7s						
H08S1	**Diego Garcia H**	**27.27**	**32**	T	T	16 15 06.2	
	baz=206,slow=75,SNR=20						
H08S2	**Diego Garcia H**	**27.28**	**32**	T	T	16 15 06.0	
	baz=206,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**27.29**	**32**	T	T	16 15 08.2	
	baz=206,slow=75,SNR=23						
H01W2	**Cape Leeuwin H**	**46.29**	**110**	T	T	16 38 48.0	
	baz=257,slow=75,SNR=15						
H01W3	**Cape Leeuwin H**	**46.30**	**110**	T	T	16 38 46.8	
	baz=257,slow=75,SNR=15						
H01W1	**Cape Leeuwin H**	**46.31**	**110**	T	T	16 38 46.8	
	baz=257,slow=75,SNR=14						
QSPA	**South Pole Qui**	**58.55**	**180**	P	**P**	**15 51 05.4**	**-0.1**
	1.4nm,0.7s,baz=284,slow=2.5,SNR=6.7 1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.24**	**44**	P	**P**	**15 51 37.5**	**-0.4**
	0.7nm,0.6s,baz=238,slow=6.9,SNR=5.6 0.7nm,0.6s						
ASAR	**Alice Springs**	**66.25**	**104**	P	**P**	**15 51 58.1**	**+0.5**
	1.4nm,0.8s,baz=239,slow=6.2,SNR=20 1.4nm,0.8s						
WRA	**Warramunga Arr**	**68.25**	**101**	P	**P**	**15 52 10.2**	**-0.1**
	1.4nm,0.8s,baz=243,slow=5.4,SNR=6.8 1.4nm,0.8s						
MKAR	**Makanchi Array**	**81.00**	**16**	P	**P**	**15 53 23.1**	**-0.5**
	0.4nm,0.8s,baz=182,slow=7.2,SNR=2.6 0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**83.82**	**13**	P	**P**	**15 53 39.3**	**+1.1**
	0.2nm,0.5s,baz=212,slow=5.8,SNR=1.2 0.2nm,0.5s						
YKA	**Yellowknife Ar**	**148.78**	**354**	PKPbc	**PKPbc**	**16 00 55.6**	**-0.2**
	0.8nm,0.9s,baz=8.7,slow=2.7,SNR=4.0						

*IDC **10** 15:48:59.5±0.9, 31°.63S×58°.39E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=32.0km s-min=24.7km az=57.0*
*NEIC **10** 15:49:02.2±1.1, 31°.4S±0°.1×58°.33E±0°.08, h10km±1km, mb4.4/1, Error ellipse: s-maj=25.5km s-min=7.6km az=160.0*
ISC 10 15:49:01.8±0.8, 31°.5S±0°.1×58°.4E±0°.1, h14km, n27, σ0°95/18, mb4.0/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.57**	**347**	Pn	**Pn**	**15 51 31.0**	**-2.1**
FOMA	**Nahampoana Res**	**11.96**	**300**	Pn	**Pn**	**15 51 51.0**	**-0.9**
ROCAM	**Rodrigues Isla**	**12.54**	**22**	Pn	**Pn**	**15 51 59.0**	**-0.9**
H04N2	**CROZET ISLANDS**	**15.49**	**197**	T	T	16 08 29.0	
	baz=21,slow=75,SNR=3.7						
H04N1	**CROZET ISLANDS**	**15.49**	**197**	T	T	16 08 30.1	
	baz=21,slow=75,SNR=4.2						
H04N3	**CROZET ISLANDS**	**15.51**	**197**	T	T	16 08 28.9	
	baz=21,slow=75,SNR=3.8						
H08S1	**Diego Carcia H**	**27.15**	**32**	T	T	16 23 11.3	
	baz=207,slow=76,SNR=9.4						
H08S2	**Diego Garcia H**	**27.16**	**32**	T	T	16 23 10.1	
	baz=207,slow=76,SNR=6.7						
H08S3	**Diego Garcia H**	**27.17**	**32**	T	T	16 23 11.4	
	baz=207,slow=76,SNR=7.1						
H01W2	**Cape Leeuwin H**	**46.28**	**110**	T	T	16 47 13.7	
	baz=259						
H01W3	**Cape Leeuwin H**	**46.29**	**110**	T	T	16 47 11.0	
	baz=259						
H01W1	**Cape Leeuwin H**	**46.30**	**110**	T	T	16 47 12.1	
	baz=259						
QSPA	**South Pole Qui**	**58.66**	**180**	P	**P**	**15 58 57.9**	**-0.6**
	0.9nm,0.8s,baz=224,slow=1.6,SNR=7.1 0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.13**	**44**	P	**P**	**15 59 29.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**63.13**	**44**	P	**P**	**15 59 30.1**	**+0.9**
	1.4nm,0.7s,baz=228,slow=7.4,SNR=10 1.4nm,0.7s						
ASAR	**Alice Springs**	**66.23**	**104**	P	**P**	**15 59 48.1**	**-1.6**
ASAR	**Alice Springs**	**66.23**	**104**	P	**P**	**15 59 49.2**	**-0.5**
	0.8nm,0.7s,baz=239,slow=6.0,SNR=16 0.8nm,0.7s						
WRA	**Warramunga Arr**	**68.22**	**101**	P	**P**	**16 00 01.6**	**-0.8**
	1.3nm,0.8s,baz=240,slow=5.7,SNR=6.1 1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**70.14**	**300**	P	**P**	**16 00 14.3**	**+0.1**
	0.9nm,0.9s,baz=90,slow=4.3,SNR=3.9 0.9nm,0.9s						
BRTR	**Keskin Array B**	**74.50**	**340**	P	**P**	**16 00 40.7**	**+0.8**
	0.5nm,0.8s,baz=142,slow=5.4,SNR=2.3 0.5nm,0.8s						
KKAR	**Karatay Array**	**75.08**	**9**	P	**P**	**16 00 44.0**	**+1.0**
ABKAR	**Akbulak array**	**80.42**	**1**	P	**P**	**16 01 13.3**	**+0.8**
MKAR	**Makanchi Array**	**80.88**	**16**	P	**P**	**16 01 15.8**	**+0.6**
	0.6nm,0.9s,baz=190,slow=3.1,SNR=4.3 0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**83.70**	**13**	P	**P**	**16 01 29.9**	**+0.1**
	1.4nm,0.9s,baz=211,slow=5.8,SNR=8.0 1.4nm,0.9s						
BRVK	**Borovoye**	**84.85**	**7**	P	**P**	**16 01 36.1**	**+0.5**
BRVK				IAmb	IAmb	16 01 37.8	
	comp=Z,2.5nm,0.9s						
I30M	**Mount Dempster**	**145.06**	**11**		**PKPab**	**16 08 37.5**	**-0.1**
YKA	**Yellowknife Ar**	**148.67**	**354**	PKPbc	**PKPbc**	**16 08 48.0**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=357,slow=3.2,SNR=3.9						

*IDC **10** 15:54:24.1±0.5, 53°.38N×172°.76E, h0km, mb4.3/33, mbtmp4.3/35, ML4.2/1, MS3.3/3, Error ellipse: s-maj=13.3km s-min=9.8km az=177.0*
*NEIC **10** 15:54:25.4±1.8, 53°.35N±0°.08×172°.82E±0°.10, h10km±1km, mb4.6/155, ML4.2(AEIC), Error ellipse: s-maj=15.2km s-min=8.3km az=203.0*
*KRSC **10** 15:54:27.8±1.8, 53°.14N×172°.14E, h30km±59km, Ml4.5*
*MOS **10** 15:54:27.0±1.0, 53°.37N×172°.69E, h32km, mb4.8/35, Error ellipse: s-maj=7.4km s-min=4.7km az=39.6*
*AEIC **10** 15:54:28.9±11.0, 53°.3N±0°.1×172°.8E±0°.1, h138km±7km, Error ellipse: s-maj=18.5km s-min=10.7km az=164.0*

ISC 10 15:54:24.9±0.3, 53°.28N±0°.06×172°.80E±0°.03, h10km, n316, σ29°09/290, mb4.6/139, MS3.2/4, 3C-1D, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**0.96**	**125**	Pn	**Pg**	**15 54 43.8**	**+0.5**
	86nm,0.3s,baz=4.2,slow=1.6,SNR=67						
SHEM				Sn	**Sg**	**15 54 55.3**	**-0.5**
	436nm,0.3s,baz=198,slow=12,SNR=16						
LSNW	**Little Sitkin**	**3.72**	**108**		**Pn**	**15 55 23.7**	**+1.3**
LSNW					**Sn**	**15 56 02.8**	**-3.5**
LSSA	**Little Sitkin**	**3.73**	**109**		**Pn**	**15 55 23.9**	**+1.4**
LSPA	**Little Sitkin**	**3.76**	**108**		**Pn**	**15 55 24.0**	**+1.1**
LSPA					**Sn**	**15 56 03.6**	**-3.6**
CETU	**Semis' Tuman**	**4.29**	**105**		**Pn**	**15 55 30.6**	**+0.5**
CEAP	**Semis' Anvil P**	**4.32**	**105**		**Pn**	**15 55 31.4**	**+0.8**
CESW	**Semis' Southwe**	**4.35**	**106**		**Pn**	**15 55 31.7**	**+0.7**
CEPE	**Semis' Perret**	**4.38**	**105**		**Pn**	**15 55 32.1**	**+0.7**
CERB	**Semis' Cerberu**	**4.38**	**105**		**Sn**	**15 56 17.3**	**-5.1**
AMKA	**Amchitka**	**4.42**	**113**		**Sn**	**15 56 21.2**	**-2.3**
AMKA	**Amchitka**	**4.42**	**113**	Pn	**Pn**	**15 55 31.8**	**-0.2**
BKI	**Bering**	**4.45**	**298**	*eP*	**Pn**	**15 55 32.6**	**+0.3**
BKI				*eS*	**Sn**	**15 56 21.1**	**-2.9**
BKI	**Bering**	**4.45**	**298**	P	**Pn**	**15 55 32.6**	**+0.3**
BKI				S	**Sn**	**15 56 21.1**	**-2.9**
GANO	**Gareloi North**	**5.33**	**103**		**Pn**	**15 55 44.7**	**+0.3**
TASE	**Tanaga Southea**	**5.77**	**101**		**Pn**	**15 55 50.9**	**+0.3**
TAFP	**Tanaga Falls P**	**5.79**	**100**		**Pn**	**15 55 50.7**	**0.0**
TAFP					**Sn**	**15 56 51.8**	**-5.3**
KINC	**Kanaga Island**	**6.28**	**98**		**Pn**	**15 55 57.5**	**-0.1**
KIWB	**Kanaga Island**	**6.29**	**99**	Pn	**Pn**	**15 55 57.5**	**-0.1**
ADK	**Adak**	**6.56**	**98**		**Sn**	**15 57 09.6**	**-6.6**
ADK	**Adak**	**6.56**	**98**		**Pn**	**15 56 01.0**	**-0.4**
ADK	**Adak**	**6.56**	**98**	P	**Pn**	**15 56 01.0**	**-0.4**
GSCK	**Great Sitkin C**	**6.84**	**96**		**Pn**	**15 56 04.5**	**-0.6**
GSMY	**Great Sitkin M**	**6.89**	**96**		**Pn**	**15 56 05.5**	**-0.4**
BDR	**Baidarnaya**	**7.45**	**301**	*eS*	**Sn**	**15 57 38.6**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**7.52**	**296**	*eP*	**Pn**	**15 56 16.0**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**7.52**	**296**	P	**Pn**	**15 56 16.0**	**+1.4**
TUMD	**Tumrok D**	**7.52**	**290**	*eP*	**Pn**	**15 56 15.2**	**+0.7**
TUMD				*eS*	**Sn**	**15 57 37.6**	**-2.1**
BZP	**Bezymyannyi-Pe**	**7.59**	**295**	*eP*	**Pn**	**15 56 17.9**	**+2.2**
BZMR	**Bezymyannaya**	**7.63**	**295**	*eP*	**Pn**	**15 56 19.0**	**+2.9**
BZMR	**Bezymyannaya**	**7.63**	**295**	P	**Pn**	**15 56 19.0**	**+2.9**
BZWR	**Bezymyannyi-We**	**7.63**	**296**	*eP*	**Pn**	**15 56 18.8**	**+2.6**
BZWR	**Bezymyannyi-We**	**7.63**	**296**	P	**Pn**	**15 56 18.8**	**+2.6**
KLY	**Klyuchi**	**7.65**	**298**	*eP*	**Pn**	**15 56 16.9**	**+0.6**
KLY				*eS*	**Sn**	**15 57 37.1**	**-5.8**
KLY	**Klyuchi**	**7.65**	**298**	P	**Pn**	**15 56 16.9**	**+0.6**
KLY				S	**Sn**	**15 57 37.1**	**-5.8**
TUMR	**Tumrok**	**7.67**	**290**	*eP*	**Pn**	**15 56 18.7**	**+2.0**
TUMR				*eS*	**Sn**	**15 57 41.8**	**-1.9**
TUMR	**Tumrok**	**7.67**	**290**	P	**Pn**	**15 56 18.7**	**+2.0**
TUMR				S	**Sn**	**15 57 41.8**	**-1.9**
SPN	**Mys Shipunski**	**7.68**	**274**	*eP*	**Pn**	**15 56 16.8**	**+0.1**
SPN				*eS*	**Sn**	**15 57 37.1**	**-6.6**
SPN	**Mys Shipunski**	**7.68**	**274**	P	**Pn**	**15 56 16.8**	**+0.1**
SPN				S	**Sn**	**15 57 37.1**	**-6.6**
KIRR	**Kirishev**	**7.71**	**295**	*eP*	**Pn**	**15 56 19.1**	**+1.8**
KIRR	**Kirishev**	**7.71**	**295**	P	**Pn**	**15 56 19.1**	**+1.8**
KMNR	**Kamenistaya**	**7.72**	**294**	*eP*	**Pn**	**15 56 18.8**	**+1.5**
KMNR				*eS*	**Sn**	**15 57 43.1**	**-1.7**
KMNR	**Kamenistaya**	**7.72**	**294**	P	**Pn**	**15 56 18.8**	**+1.5**
KMNR				S	**Sn**	**15 57 43.1**	**-1.7**
KPT	**Kopyto**	**7.78**	**295**	*eP*	**Pn**	**15 56 20.1**	**+2.0**
KPT	**Kopyto**	**7.78**	**295**	P	**Pn**	**15 56 20.1**	**+2.0**
ATKA	**Atka Island**	**7.97**	**93**		**Sn**	**15 57 42.2**	**-8.5**
ATKA	**Atka Island**	**7.97**	**93**	Pn	**Pn**	**15 56 20.3**	**-0.3**
KOZ	**Kozyrevsk**	**7.99**	**296**	*eP*	**Pn**	**15 56 22.9**	**+1.9**
KOZ	**Kozyrevsk**	**7.99**	**296**	P	**Pn**	**15 56 22.9**	**+1.9**
KOFP	**Korovin Flat P**	**8.01**	**92**		**Pn**	**15 56 21.3**	**0.0**
NLC	**Nalytchevo**	**8.08**	**275**	*eP*	**Pn**	**15 56 22.5**	**+0.4**
NLC				*eS*	**Sn**	**15 57 47.4**	**-6.0**
NLC	**Nalytchevo**	**8.08**	**275**	P	**Pn**	**15 56 22.5**	**+0.4**
NLC				S	**Sn**	**15 57 47.4**	**-6.0**
SRDR	**Sredinnyy**	**8.15**	**297**	*eP*	**Pn**	**15 56 24.9**	**+1.7**
SRDR	**Sredinnyy**	**8.15**	**297**	P	**Pn**	**15 56 24.9**	**+1.7**
UGLR	**Uglovaya**	**8.39**	**275**	*eP*	**Pn**	**15 56 27.4**	**+0.9**
UGLR	**Uglovaya**	**8.39**	**275**	P	**Pn**	**15 56 27.4**	**+0.9**
SMAR	**Somma**	**8.39**	**275**	*eP*	**Pn**	**15 56 27.4**	**+0.7**
SMAR	**Somma**	**8.39**	**275**	P	**Pn**	**15 56 27.4**	**+0.7**
KRER	**Koryakskii**	**8.42**	**276**	*eP*	**Pn**	**15 56 27.8**	**+0.7**
KRER				*eS*	**Sn**	**15 57 56.7**	**-5.5**
KRER	**Koryakskii**	**8.42**	**276**	P	**Pn**	**15 56 27.8**	**+0.7**
KRER				S	**Sn**	**15 57 56.7**	**-5.5**
AVH	**Avacha**	**8.43**	**276**	*eP*	**Pn**	**15 56 28.0**	**+0.9**
AVH	**Avacha**	**8.43**	**276**	P	**Pn**	**15 56 28.0**	**+0.9**
DALK	**Dalny**	**8.45**	**274**	*eP*	**Pn**	**15 56 28.1**	**+0.8**
DALK				*eS*	**Sn**	**15 57 56.7**	**-5.9**
DALK	**Dalny**	**8.45**	**274**	P	**Pn**	**15 56 28.1**	**+0.8**
DALK				S	**Sn**	**15 57 56.7**	**-5.9**
KRX	**Arik**	**8.48**	**276**	*eP*	**Pn**	**15 56 28.3**	**+0.5**
KRX				*eS

YSS pmax pmax
comp=Z,20nm,0.6s
SPU Mount Spurr 20.38 53 IAmb IAmb 15 59 19.1
comp=Z,24nm,1.0s
C19K Lookout Ridge 20.40 28 IAmb IAmb 15 59 20.8
comp=Z,20nm,0.9s
CNPM China Poot 20.66 58 IAmb IAmb 15 59 23.3
comp=Z,29nm,0.8s
SKT Skwentna 20.73 51 P **P 15 59 05.1 -0.2**
SKT IAmb IAmb 15 59 22.2
comp=Z,26nm,1.0s
IMAR Indian Mountai 20.83 39 Pn Pn 15 59 07.6 -1.1
SUA Susitna One 21.04 53 IAmb IAmb 15 59 25.7
comp=Z,21nm,0.9s
F21K Alatna River 21.41 36 IAmb IAmb 15 59 26.1
comp=Z,14nm,0.9s
B20K Meade River 21.62 28 IAmb IAmb 15 59 16.8
comp=Z,26nm,0.8s
MLY Manley 21.72 43 P **P 15 59 15.9 0.0**
E21K Killik River 21.77 33 P **P 15 59 16.4 0.0**
JKA Kamikawa-asahi 21.80 257 **P 15 59 16.8 0.0**
JKA IAmb IAmb 15 59 21.9
comp=Z,20nm,0.7s
ASAJ Asahikawa 21.80 257 P **P 15 59 18.4 +1.6**
comp=Z,20nm,0.6s,baz=71,slow=8.0,SNR=39
ASAJ LR LR 16 06 48.6
comp=Z,80nm,20.7s,baz=125,slow=34
comp=Z,20nm,0.6s
ASAJ Asahikawa 21.80 257 P **P 15 59 16.8 0.0**
ASAJ pmax pmax
comp=Z,20nm,0.7s
BWN Browne 22.05 46 IAmb IAmb 15 59 25.3
comp=Z,40nm,1.0s
B21K Ikpikpuk River 22.15 30 IAmb IAmb 15 59 36.9
comp=Z,22nm,0.9s
RND Reindeer 22.18 48 IAmb IAmb 15 59 37.3
comp=Z,11nm,0.8s
GRNR Gornyy 22.37 278 ⇑ *i* P **P 15 59 24.3 +1.3**
GRNR pmax pmax
comp=Z,4.0nm,1.0s
D22K Ayikyak River 22.39 33 IAmb IAmb 15 59 36.5
comp=Z,34nm,1.4s
WRH Wood River Hil 22.69 45 IAmb IAmb 15 59 50.7
comp=Z,22nm,1.2s
SCM Sheep Creek Mo 22.70 52 IAmb IAmb 15 59 39.8
comp=Z,22nm,0.6s
B22K Teshekpuk Lake 22.87 29 IAmb IAmb 15 59 41.1
comp=Z,23nm,1.1s
COLA College 22.87 44 P **P 15 59 28.1 0.0**
COLA IAmb IAmb 15 59 32.1
comp=Z,16nm,0.7s
COLA College 22.87 44 *i* P **P 15 59 29.4 +1.3**
COLA pmax pmax
comp=Z,15nm,0.9s
H24K Noodor Dome 23.08 42 IAmb IAmb 15 59 46.6
comp=Z,13nm,1.2s
POKR Poker Plat Res 23.10 44 IAmb IAmb 15 59 47.9
comp=Z,13nm,0.9s
IL31 23.26 45 IAmb IAmb 15 59 34.4
comp=Z,8.9nm,0.8s
ILAR Eielson Array 23.26 45 P **P 15 59 33.3 +1.2**
ILAR Eielson Array 23.26 45 P **P 15 59 32.6 +0.5**
comp=Z,5.8nm,0.8s,baz=254,slow=8.8,SNR=54
comp=Z,5.8nm,0.8s
ILAR Eielson Array 23.26 45 *e*P **P 15 59 33.7 +1.6**
ILAR pmax pmax
comp=Z,6.0nm,0.8s
TOLK Toolik Lake Re 23.32 34 IAmb IAmb 15 59 58.6
comp=Z,16nm,1.2s
KLU Klutina 23.35 53 IAmb IAmb 15 59 47.1
comp=Z,38nm,1.4s
C23K Itkillik River 23.48 31 IAmb IAmb 15 59 47.9
comp=Z,12nm,0.8s
D24K Happy Valley 23.77 33 IAmb IAmb 15 59 49.8
comp=Z,12nm,0.9s
YAK Yakutsk 24.24 308 *e*P **P 15 59 40.0 -1.6**
YAK *e**PP **pwP 15 59 49.4 +1.5**
YAK *e*S **S 16 03 55.8 -3.9**
YAK pmax pmax
comp=Z,15nm,1.3s
YAK pmax pmax
comp=N,1.0nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.6s
YAK smax smax
comp=E,26nm,2.0s
YAK smax smax
comp=N,20nm,1.8s
FYU Fort Yukon 24.29 41 IAmb IAmb 15 59 57.5
comp=Z,21nm,1.3s
GLB Gilahina Butte 24.36 53 IAmb IAmb 15 59 55.0
comp=Z,14nm,0.7s
SCRK Sand Creek 24.40 47 IAmb IAmb 15 59 59.3
comp=Z,8.5nm,0.8s
MENT Mentasta 24.44 50 IAmb IAmb 15 59 59.1
comp=Z,9.4nm,0.8s
E25K Arctic Village 24.55 37 IAmb IAmb 16 00 01.4
comp=Z,7.3nm,0.8s
D25K Kavik River 24.64 34 IAmb IAmb 15 59 47.2
comp=Z,8.3nm,1.0s
BMAR Burnt Mountain 24.74 39 P **P 15 59 47.2 +1.1**
JTM Tenmabayashi 24.75 253 **P 15 59 47.4 +1.0**
JTM IAmb IAmb 15 59 53.9
comp=Z,24nm,1.1s
M27K Edge Creek, AK 25.27 51 IAmb IAmb 15 59 55.6
comp=Z,19nm,0.9s
L27K Beaver Creek, 25.31 49 IAmb IAmb 16 00 09.9
comp=Z,11nm,0.9s
BCAR Beaver Creek A 25.33 49 P **P 15 59 52.5 +1.0**
EGAK Eagle 25.69 45 IAmb IAmb 15 59 55.9
comp=Z,10nm,0.7s
KLR Kul'dur 25.75 278 LR LR 16 10 34.3
comp=Z,75nm,18.0s,baz=105,slow=38
KLR Kul'dur 25.75 278 *e*P **P 15 59 54.8 -0.6**
KLR pmax pmax
comp=Z,18nm,1.2s
DAWY Dawson 26.42 47 IAmb IAmb 16 00 03.8
comp=Z,15nm,1.3s
ZEA Zeya 26.74 290 *e*P **P 16 00 03.9 -0.4**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
G29M Pine Creek 27.17 41 IAmb IAmb 16 00 22.8
comp=Z,6.1nm,0.7s
K29M Barlow Dome 27.25 48 IAmb IAmb 16 00 22.8
comp=Z,11nm,0.9s
HYT Haines Junctio 27.45 54 IAmb IAmb 16 00 23.4
comp=Z,13nm,0.8s
HEH HeiHe 27.89 282 *e*P **P 16 00 13.8 -0.8**
HEH pmax pmax
comp=Z,19nm,0.7s
USRK Ussuriysk Ar. 28.06 268 P **P 16 00 16.6 +0.4**
comp=Z,1.3nm,0.5s,baz=62,slow=6.3,SNR=6.0
comp=Z,1.3nm,0.5s
G31M Satah River 28.65 41 IAmb IAmb 16 00 35.2
comp=Z,5.1nm,0.7s
MJA0 Matsu Arr-Jizo 29.27 249 *e*P **P 16 00 30.2 +3.1**
MJA0 pmax pmax
comp=Z,2.0nm,0.9s
MDJ Mudanjiang 29.27 270 P **P 16 00 27.3 +0.3**
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax
comp=Z,150nm,5.5s
MJAR Matsushiro Arr 29.29 249 P **P 16 00 28.9 +1.6**
comp=Z,1.4nm,0.7s,baz=14,slow=11,SNR=7.4
comp=Z,1.4nm,0.7s
MAJO Matsushiro 29.29 249 **P 16 00 29.6 +2.3**
MAJO IAmb IAmb 16 00 30.4
comp=Z,11nm,1.2s
MAJO Matsushiro 29.29 249 *i* P **P 16 00 29.6 +2.3**
MAJO pmax pmax
comp=Z,8.0nm,1.1s
BNX BinXian 29.99 274 ⇑ P **P 16 00 33.2 -0.2**
BNX pmax pmax
comp=Z,23nm,0.7s
CN2 Changchun 32.21 272 *e*P **P 16 00 52.8 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
C36M Paulatuk 32.44 36 IAmb IAmb 16 00 56.2
comp=Z,6.4nm,0.7s
H11N2 WAKE ISLAND Hy 33.80 190 T T 16 36 29.0
baz=6.2,slow=76,SNR=248
H11N3 WAKE ISLAND Hy 33.81 190 T T 16 36 30.0
baz=6.2,slow=76,SNR=315
H11N1 WAKE ISLAND Hy 33.82 190 T T 16 36 30.4
baz=6.2,slow=76,SNR=291
KSRS Korea Array 34.63 261 P **P 16 01 16.4 +2.4**
comp=Z,5.4nm,0.9s,baz=51,slow=9.1,SNR=15
KSRS LR LR 16 15 13.2
comp=Z,31nm,19.9s,baz=250,slow=36
comp=Z,5.4nm,0.9s
KSRS Korea Array 34.63 261 *e*P **P 16 01 16.7 +2.7**
KSRS pmax pmax
comp=Z,5.0nm,0.8s
H11S1 WAKE ISLAND Hy 35.03 190 T T 16 38 09.3
baz=5.8,slow=76,SNR=341
H11S3 WAKE ISLAND Hy 35.04 190 T T 16 38 10.4
baz=5.8,slow=76,SNR=231
H11S2 WAKE ISLAND Hy 35.05 190 T T 16 38 10.5
baz=5.8,slow=76,SNR=204
YKA Yellowknife Ar 37.66 46 P **P 16 01 40.5 +0.8**
comp=Z,3.9nm,0.7s,baz=288,slow=7.8,SNR=12
comp=Z,3.9nm,0.7s
YKA Yellowknife Ar 37.66 46 *e*P **P 16 01 40.9 +1.2**
YKA pmax pmax
comp=Z,4.0nm,0.7s
NRIK Noril'sk 40.07 327 P **P 16 01 59.9 0.0**
comp=Z,1.8nm,0.6s,baz=81,slow=5.1,SNR=4.3
comp=Z,1.8nm,0.6s
NRIK Noril'sk 40.07 327 *e*P **P 16 01 59.7 -0.1**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 40.77 290 *i* P **P 16 02 06.3 +0.2**
ULN pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 41.16 290 P **P 16 02 09.6 +0.3**
comp=Z,2.9nm,0.6s,baz=60,slow=7.8,SNR=15
SONM PcP **PcP 16 04 08.5 +0.2**
comp=Z,0.7nm,0.6s,baz=56,slow=3.8,SNR=2.8
comp=Z,2.9nm,0.6s
SONM Songino Array 41.16 290 *e*P **P 16 02 09.9 +0.6**
SONM pmax pmax
comp=Z,3.0nm,0.6s
B08A Colville Reser 41.69 68 P **P 16 02 13.4 -0.1**
B08A IAmb IAmb 16 02 26.4
comp=Z,9.8nm,0.8s
TIA Tai'an 41.91 269 P **P 16 02 17.0 +1.6**
TIA pmax pmax
comp=Z,9.0nm,1.0s
MOY Mondy 42.06 298 *e*P **P 16 02 17.1 +0.5**
HHC Hu-ho-hao-te 42.25 278 *e*P **P 16 02 18.7 +0.5**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,320nm,6.4s
J05D Fort Rock, OR 43.54 76 P **P 16 02 29.1 +0.4**
YBH Yreka Blue Hor 43.63 78 P **P 16 02 29.8 +0.5**
YBH IAmb IAmb 16 02 43.2
comp=Z,11nm,0.8s
YBH Yreka Blue Hor 43.63 78 P **P 16 02 30.8 +1.4**
comp=Z,3.9nm,0.8s,baz=244,slow=5.1,SNR=5.1
comp=Z,3.9nm,0.8s
I07A Izee 44.06 73 IAmb IAmb 16 02 45.9
comp=Z,6.2nm,1.0s
LYN LuoYang 45.83 271 *e*P **P 16 02 48.6 +1.7**
LYN pmax pmax
comp=Z,20nm,0.7s
LYN pmax pmax
comp=Z,970nm,7.2s
WHN Wuhan 47.51 266 P **P 16 03 01.1 +1.0**
SPITS Spitsbergen Ar 48.01 354 P **P 16 03 02.6 -0.8**
comp=Z,3.2nm,0.5s,baz=37,slow=7.3,SNR=8.3
comp=Z,3.2nm,0.5s
NVAR Mina Array Bea 48.33 79 P **P 16 03 07.8 +1.2**
comp=Z,0.3nm,0.4s,baz=296,slow=7.5,SNR=5.1
NVAR PcP **PcP 16 04 33.7 +0.5**
comp=Z,0.2nm,0.4s,baz=296,slow=2.9,SNR=1.8
comp=Z,0.3nm,0.4s
ELK Elko 48.61 74 IAmb IAmb 16 03 21.7
comp=Z,4.5nm,0.8s
ZALV Zalesovo Beam 48.89 308 P **P 16 03 09.6 -0.8**
comp=Z,0.9nm,0.6s,baz=38,slow=6.3,SNR=5.6
comp=Z,0.9nm,0.6s
ZALV Zalesovo Beam 48.89 308 *e*P **P 16 03 08.0 -2.4**
ZALV pmax pmax
comp=Z,1.0nm,0.7s
IMW Indian Meadow 49.03 68 IAmb IAmb 16 03 25.0
comp=Z,5.5nm,0.8s
R11B Troy Canyon, C 49.98 77 IAmb IAmb 16 03 32.0
comp=Z,6.5nm,0.9s
GTA Gaotai 50.08 285 *e*P **P 16 03 20.5 +0.6**
GTA sP pwP 16 03 31.5 +5.0
GTA pmax pmax
comp=Z,10.0nm,1.0s
SPR3 Spring Creek 3 50.28 75 IAmb IAmb 16 03 36.2
comp=Z,5.1nm,1.2s
DUG Dugway, Tooele 50.37 73 IAmb IAmb 16 03 35.2
comp=Z,8.2nm,0.9s
DUG Dugway, Tooele 50.37 73 P **P 16 03 24.2 +2.1**
DUG pmax pmax
comp=Z,12nm,1.0s
PD31 Pinedale Array 50.53 69 IAmb IAmb 16 03 35.9
comp=Z,5.5nm,0.7s
PDAR Pinedale Array 50.53 69 P **P 16 03 24.1 +0.7**
PDAR Pinedale Array 50.53 69 P **P 16 03 24.4 +1.0**
comp=Z,2.0nm,0.8s,baz=300,slow=3.1,SNR=14
comp=Z,2.0nm,0.8s
PRN Pahroc Range 50.93 78 IAmb IAmb 16 03 39.6
comp=Z,12nm,1.0s
MTPU Mount Pierson 52.17 75 IAmb IAmb 16 03 49.4
comp=Z,3.8nm,0.8s
RSSD Black Hills 52.68 64 P **P 16 03 40.5 +1.1**
RSSD pmax pmax
comp=Z,19nm,0.9s
ULM Lac du Bonnet 52.83 54 P **P 16 03 40.4 +0.3**
comp=Z,1.3nm,0.4s,baz=322,slow=7.5,SNR=3.8
comp=Z,1.3nm,0.4s
ULM Lac du Bonnet 52.83 54 *e*P **P 16 03 41.9 +1.8**
ULM pmax pmax
comp=Z,2.0nm,0.6s
U15A North Rim 53.21 76 IAmb IAmb 16 03 56.9
comp=Z,7.5nm,0.9s
KURK Kurchatov 53.88 308 P **P 16 03 47.4 -0.5**
KURK Kurchatov 53.88 308 *i* P **P 16 03 47.7 -0.2**
KURK pmax pmax
comp=Z,17nm,0.8s
KURBB Kurchatov Arra 53.99 308 P **P 16 03 48.2 -0.4**
comp=Z,10.0nm,0.8s,baz=50,slow=7.2,SNR=56
KURBB PcP **PcP 16 04 54.0 +0.3**
comp=Z,1.3nm,0.9s,baz=48,slow=5.6,SNR=1.6
comp=Z,10.0nm,0.8s
ISCO Idaho Springs 54.72 69 P **P 16 03 57.3 +2.7**
ISCO pmax pmax
comp=Z,8.0nm,1.5s
MK31 Makanchi Array 54.74 303 IAmb IAmb 16 03 53.8
comp=Z,2.5nm,0.8s
MK31 Makanchi Array 54.74 303 *i* P **P 16 03 53.4 -0.8**
MKAR Makanchi Array 54.74 303 P **P 16 03 53.1 -1.1**
MKAR Makanchi Array 54.74 303 P **P 16 03 53.2 -1.0**
comp=Z,3.2nm,0.7s,baz=50,slow=6.6,SNR=31
MKAR PcP **PcP 16 04 56.9 +0.2**
comp=Z,0.8nm,0.7s,baz=31,slow=5.3,SNR=2.2
comp=Z,3.2nm,0.7s
MAKZ Makanchi 54.88 303 P **P 16 03 54.0 -1.3**
MAKZ IAmb IAmb 16 03 55.2
comp=Z,5.6nm,0.9s
MAKZ Makanchi 54.88 303 P **P 16 03 54.0 -1.3**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
GYA Guiyang 55.10 268 ⇓ P **P 16 03 58.3 +1.1**
GYA pmax pmax
comp=Z,12nm,1.1s
ARCES ARCESS Array B 55.19 347 P **P 16 03 56.8 -0.4**
comp=Z,2.6nm,0.7s,baz=4.2,slow=6.6,SNR=4.7
comp=Z,2.6nm,0.7s
S22A 4UR Ranch, Cre 55.45 72 IAmb IAmb 16 04 13.7
comp=Z,10nm,0.9s
BRVK Borovoye 56.01 315 P **P 16 04 02.8 -0.5**
BRVK IAmb IAmb 16 04 03.4
comp=Z,4.6nm,0.6s
BRVK Borovoye 56.01 315 *i* P **P 16 04 02.8 -0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
SDCO Great Sand Dun 56.21 71 IAmb IAmb 16 04 18.9
comp=Z,14nm,1.2s
PZH PanZhiHua 58.02 272 P **P 16 04 18.9 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,8.8s
ARU Arti 58.13 323 P **P 16 04 17.9 -0.3**
ARU IAmb IAmb 16 04 19.1
comp=Z,8.2nm,0.8s
ARU Arti 58.13 323 *c i* P **P 16 04 17.9 -0.3**
ARU *PP **pwP 16 04 28.4 +3.6**
ARU S **S 16 12 15.9 -3.1**
ARU SS **SS 16 16 02.6 -7.0**
ARU pmax pmax
comp=Z,9.0nm,0.8s
KIRV Kirov 59.46 329 *i* P **P 16 04 28.0 +0.7**
VHRN Van Horn 61.49 76 P **P 16 04 42.7 +0.9**
VHRN IAmb IAmb 16 04 55.2
comp=Z,5.6nm,0.8s
SCHQ Schefferville 61.54 35 P **P 16 04 41.8 +0.2**
SCHQ Schefferville 61.54 35 P **P 16 04 42.2 +0.6**
comp=Z,5.6nm,0.8s,baz=311,slow=7.6,SNR=6.7
comp=Z,5.6nm,0.8s
AAK Ala-Archa 61.60 304 *i* P **P 16 04 42.7 +0.2**
AAK pmax pmax
comp=Z,10.0nm,1.0s
VALR Valaam 61.77 340 *i* P **P 16 04 43.1 0.0**
VALR pmax pmax
comp=Z,15nm,0.9s
WMOK Wichita Mounta 62.14 69 P **P 16 04 46.2 +0.1**
WMOK IAmb IAmb 16 04 59.0
comp=Z,7.4nm,0.9s
WMOK Wichita Mounta 62.14 69 P **P 16 04 46.2 +0.1**
WMOK pmax pmax
comp=Z,7.0nm,0.9s
ARLS Aral 62.26 303 P **P 16 04 47.7 +0.8**
ARLS pmax pmax
comp=Z,13nm,0.8s
P40A Paris 62.27 60 P **P 16 04 47.5 +0.7**
FINES FINESS Array B 62.61 343 P **P 16 04 48.4 -0.3**
comp=Z,2.9nm,0.7s,baz=35,slow=10,SNR=7.7
comp=Z,2.9nm,0.7s
AKTO Aktyubinsk 63.01 319 P **P 16 04 51.1 -0.5**
comp=Z,4.9nm,0.7s,baz=53,slow=6.0,SNR=13
comp=Z,4.9nm,0.7s
KSH Kashi 63.16 301 P **P 16 04 56.9 +4.0**
KSH pP pwP 16 05 07.3 +7.7
KSH sP PcP 16 05 16.3 -14
KSH pmax pmax
comp=Z,13nm,0.8s
ABKAR Akbulak array 63.17 317 P **P 16 04 52.6 0.0**
ABKAR Akbulak array 63.17 317 IAmb IAmb 16 04 53.1
comp=Z,2.7nm,0.7s
KKAR Karatay Array 63.20 307 P **P 16 04 52.7 -0.3**
KKAR Karatay Array 63.20 307 IAmb IAmb 16 04 53.8
comp=Z,7.0nm,0.8s
KKAR Karatay Array 63.20 307 P **P 16 04 52.7 -0.3**
TXAR Lajitas Array 63.33 76 P **P 16 04 54.8 +0.7**
TXAR Lajitas Array 63.33 76 P **P 16 04 55.8 +1.6**
comp=Z,2.2nm,0.6s,baz=303,slow=4.5,SNR=23
comp=Z,2.2nm,0.6s
TRKS Terek-Say 64.08 305 P **P 16 04 59.7 +0.7**
TRKS pmax pmax
comp=Z,5.0nm,1.2s
SHL Shillong 64.61 279 P **P 16 05 02.4 -0.3**
SHL Shillong 64.61 279 P **P 16 05 02.4 -0.3**
SHL pmax pmax
comp=Z,32nm,1.4s
NC204 NORSAR Array S 64.90 351 P **P 16 05 03.8 -0.1**
NC204 IAmb IAmb 16 05 04.7
comp=Z,6.9nm,0.9s
NC405 NORSAR Array S 64.96 350 IAmb IAmb 16 05 05.1
comp=Z,7.0nm,0.8s
NB2 NORSAR Subarra 65.08 350 P **P 16 05 05.1 0.0**
comp=Z,1.3nm,0.5s,baz=12,slow=6.5
NOA NORSAR Array B 65.08 350 P **P 16 05 05.0 0.0**
comp=Z,3.7nm,0.8s,baz=13,slow=6.5,SNR=14
comp=Z,3.7nm,0.8s
NORES NORESS Array B 65.35 350 P **P 16 05 07.1 +0.4**
BTK Batken 65.36 304 P **P 16 05 06.2 -1.1**
BTK pmax pmax
comp=Z,15nm,0.9s
CHTO Chiang Mai 65.51 269 P **P 16 05 09.1 +0.7**
CHTO IAmb IAmb 16 05 10.2
comp=Z,4.4nm,0.8s
CHTO Chiang Mai 65.51 269 P **P 16 05 09.1 +0.7**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
HFS Hagfors 65.70 349 P **P 16 05 08.6 -0.4**
comp=Z,3.5nm,0.5s,baz=45,slow=4.4,SNR=36
comp=Z,3.5nm,0.5s
CMAR Chiang Mai Arr 65.79 269 P **P 16 05 10.6 +0.4**
comp=Z,3.0nm,0.7s,baz=24,slow=7.3,SNR=18
comp=Z,3.0nm,0.7s
OBN Obninsk 66.09 334 *e*P **P 16 05 11.3 -0.2**
OBN *e**PP **pwP 16 05 22.2 +4.0**
OBN *e**SP sP 16 05 25.9 +11
OBN *e* 16 05 41.4
OBN *e* 16 07 34.4
OBN *e*PPP PPP 16 09 11.9
OBN pmax pmax
comp=Z,3.0nm,0.8s
CHGR Chuyangaron 67.26 304 P **P 16 05 19.7 +0.2**
CHGR pmax pmax
comp=Z,45nm,0.9s
SIMJ Simiganj 67.33 305 P **P 16 05 19.5 -0.5**
MNK Minsk 68.72 339 *i* P **P 16 05 26.6 -1.6**
MNK *i* 16 07 57.8
MNK *i* PPP PPP 16 09 37.1
MNK *i* S **S 16 14 27.0 -4.0**
MNK *i* SS **SS 16 18 52.3 -2.1**
MNK MLR MLR
comp=Z,76nm,13.0s
MNK MLR MLR
comp=N,122nm,16.0s
MNK MLR MLR
comp=E,89nm,15.0s
VSR Storozhevoye 68.83 331 *e*P **P 16 05 27.9 -1.1**
VSR pmax pmax
comp=Z,5.0nm,0.9s
VORD Divnogorie 69.02 331 *e*P **P 16 05 29.3 -0.8**
VORD pmax pmax
comp=Z,4.0nm,0.9s
NIL Nilore 69.03 298 **P 16 05 29.8 -0.7**
NIL Nilore 69.03 298 P **P 16 05 29.8 -0.7**
NIL pmax pmax
comp=Z,23nm,1.0s
KBL Kabul 70.52 302 P **P 16 05 38.8 -1.2**
KBL Kabul 70.52 302 P **P 16 05 38.8 -1.2**
KBL pmax pmax
comp=Z,11nm,0.7s
EKA Eskdalemuir Ar 71.70 358 P **P 16 05 47.0 +0.5**
comp=Z,2.2nm,0.6s,baz=11,slow=4.8,SNR=11
comp=Z,2.2nm,0.6s
AKASG Malin Array Be 71.95 337 P **P 16 05 48.0 -0.1**
comp=Z,1.9nm,0.5s,baz=28,slow=6.2,SNR=7.2
comp=Z,1.9nm,0.5s
AKASG Malin Array Be 71.95 337 P **P 16 05 48.0 -0.1**
AKBB Malin Array Si 71.95 337 P **P 16 05 47.5 -0.6**
AKBB IAmb IAmb 16 05 48.5
comp=Z,3.5nm,0.8s
AKBB Malin Array Si 71.95 337 *i* P **P 16 05 48.1 +0.1**
AKBB pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 71.96 337 P **P 16 05 47.6 -0.5**
KIEV IAmb IAmb 16 05 48.5
comp=Z,3.2nm,0.7s
KIEV Kiev 71.96 337 P **P 16 05 47.6 -0.5**
KIEV pmax pmax
comp=Z,3.0nm,0.7s
HRA Herat 74.03 306 IAmb IAmb 16 06 02.7
comp=Z,6.9nm,0.8s
KBZ Khabaz 74.24 325 P **P 16 06 02.9 +1.2**
comp=Z,4.0nm,0.9s,baz=85,slow=5.4,SNR=8.6
comp=Z,4.0nm,0.9s
KBZ Khabaz 74.24 325 *e*P **P 16 06 03.0 +1.2**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
SHA1 Shidzhatmaz 74.32 325 *i* P **P 16 06 03.6 +1.1**
CLL Collm 74.41 347 *e*P **P 16 06 01.0 -1.6**
KOLS Kolonicke sedl 75.14 340 *e*P **P 16 06 08.2 +1.3**
KOLS Kolonicke sedl 75.14 340 *e*P **P 16 06 08.2 +1.3**
BUR08 Bucovina Ar. S 75.74 338 IAmb IAmb 16 06 12.2
comp=Z,5.0nm,0.9s
BURAR Bucovina Array 75.77 338 P **P 16 06 11.1 +0.5**
BURAR IAmb IAmb 16 06 12.6
comp=Z,4.7nm,0.9s
BURAR Bucovina Array 75.77 338 P **P 16 06 11.1 +0.5**
BURAR pmax pmax
comp=Z,5.0nm,0.9s
GERES GERESS Array B 76.72 346 P **P 16 06 16.1 +0.1**
comp=Z,0.9nm,0.5s,baz=36,slow=5.0,SNR=4.0
comp=Z,0.9nm,0.5s
CONA Conrad Observa 77.28 344 *e*P **P 16 06 20.5 +1.3**
comp=Z,3.1nm,0.7s
RONA Rosalia, Austr 77.43 344 *e*P **P 16 06 21.5 +1.6**

	comp=Z,2.8nm,0.7s				
ARSA	**Arzberg**	**77.99 344**	*e*P	**P**	**16 06 24.3 +1.2**
	comp=Z,2.8nm,1.0s				
BZS	**Buzias**	**78.44 340**	P	**P**	**16 06 26.3 +0.7**
BZS			pmax	pmax	
	comp=Z,5.0nm,1.1s				
KBA	**Koelnbreinsper**	**78.49 346**	*e*P	**P**	**16 06 27.2 +1.1**
	comp=Z,3.5nm,0.7s				
KBA	**Koelnbreinsper**	**78.49 346**	P	**P**	**16 06 27.7 +1.6**
KBA			pmax	pmax	
	comp=Z,10.0nm,0.8s				
SOKA	**Soboth**	**78.63 345**	*e*P	**P**	**16 06 27.9 +1.2**
	comp=Z,2.5nm,0.5s				
SQTA	**Sankt Quirin**	**78.65 347**	*e*P	**P**	**16 06 27.7 +0.8**
	comp=Z,4.8nm,1.2s				
OBKA	**Obir**	**78.87 345**	*e*P	**P**	**16 06 29.3 +1.3**
	comp=Z,4.7nm,0.5s				
FETA	**Feichten**	**78.91 348**	*e*P	**P**	**16 06 29.3 +0.9**
	comp=Z,3.4nm,1.0s				
ABTA	**Abfaltersbach**	**78.94 346**	*e*P	**P**	**16 06 29.2 +0.8**
	comp=Z,4.8nm,1.1s				
PRED	**Cave del Predi**	**79.08 346**	IAmb	IAmb	16 06 30.2
	comp=Z,4.4nm,0.8s				
WRA	**Warramunga Arr**	**80.14 216**	P	**P**	**16 06 36.0 +0.9**
	comp=Z,3.2nm,0.8s,baz=28,slow=6.2,SNR=20				
	comp=Z,3.2nm,0.8s				
BR131	**Keskin Array S**	**80.87 329**	*i* P	**P**	**16 06 39.6 +0.5**
BRTR	**Keskin Array B**	**80.87 329**	P	**P**	**16 06 39.3 +0.3**
BRTR	**Keskin Array B**	**80.87 329**	P	**P**	**16 06 39.9 +0.8**
	comp=Z,1.6nm,0.7s,baz=82,slow=2.7,SNR=11				
	comp=Z,1.6nm,0.7s				
ASAR	**Alice Springs**	**83.72 215**	P	**P**	**16 06 55.2 +1.4**
	comp=Z,2.0nm,0.6s,baz=17,slow=5.2,SNR=52				
	comp=Z,2.0nm,0.6s				
ESDC	**Sonseca Array**	**87.38 358**	P	**P**	**16 07 11.4 -0.7**
	comp=Z,0.5nm,0.6s,baz=4.2,slow=5.2,SNR=6.0				
	comp=Z,0.5nm,0.6s				
STKA	**Stephens Creek**	**89.04 206**	P	**P**	**16 07 21.1 +1.4**
	comp=Z,3.4nm,0.6s,baz=323,slow=8.8,SNR=6.9				
	comp=Z,3.4nm,0.6s				
QSPA	**South Pole Qui**	**143.03 180**	PKhKP	PKPpre	16 13 54.2
	comp=Z,1.1nm,0.7s,baz=44,slow=0.7,SNR=10.0				
MAW	**Mawson**	**144.79 219**	PKP	**PKPab**	**16 13 59.2 -0.2**
	comp=Z,5.2nm,0.6s,baz=89,slow=3.0,SNR=6.8				

IDC 10 15:59:27.9±2.8, 31.°83S×58.°63E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=84.1km s-min=34.9km az=117.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.34 180**		P	P	16 09 24.4	-0.2
	0.8nm,0.6s,baz=271,slow=3.8,SNR=9.4						
	0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.19 43**		P	P	16 09 58.0	0.0
	0.4nm,0.3s,baz=240,slow=6.5,SNR=4.2						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**65.92 104**		P	P	16 10 16.4	+0.4
	1.3nm,0.8s,baz=241,slow=5.9,SNR=13						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**67.93 100**		P	P	16 10 28.4	-0.5
	1.1nm,0.8s,baz=249,slow=7.1,SNR=3.8						
	1.1nm,0.8s						

IDC 10 16:00:47.0±3.1, 31.°69S×58.°46E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=88.9km s-min=40.0km az=113.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.48 180**		P	P	16 10 44.6	0.0
	0.4nm,0.6s,baz=284,slow=5.2,SNR=1.2						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.19 44**		P	P	16 11 17.1	0.0
	0.6nm,0.5s,baz=234,slow=7.6,SNR=4.5						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**66.10 104**		P	P	16 11 36.4	+0.1
	0.5nm,0.5s,baz=243,slow=6.0,SNR=7.5						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**68.10 100**		P	P	16 11 49.0	-0.1
	0.6nm,0.8s,baz=246,slow=5.5,SNR=4.7						
	0.6nm,0.8s						

MOS ***10*** *16:05:07.9±0.9, 31.°66S×58.°30E, h10km, mb5.7/64, MS4.9/26, Error ellipse: s-maj=10.8km s-min=4.7km az=101.0*

BJI ***10*** *16:05:07.4±0.0, 31.°55S×58.°01E, h9km, mb5.2/65, mB5.8/35, Ms5.5/44, Ms7 5.3/43*

IDC ***10*** *16:05:08.2±0.4, 31.°63S×58.°26E, h0km, mb5.0/25, mbtmp5.0/26, ML4.7/1, MS4.8/59, Error ellipse: s-maj=14.0km s-min=12.1km az=51.0*

GCMT ***10*** *16:05:09.8±0.1, 31.°65S×58.°10E, h12km, MW5.5/148, Moment Tensor Solution. s112,c183; s148,c293; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}=2.19±.02; $M_{\theta\theta}$=2.13±.02; $M_{\phi\phi}$=0.05±.02; $M_{r\theta}$=0.26±.05; $M_{\theta\phi}$=0.18±.02; $M_{r\phi}$=0.50±.06; Best double couple: M_0=2.23600×10^{17} NP1:ϕ_s=254.00000°, δ50.00000°, λ=-105.00000°. NP2:ϕ_s=96.00000°, δ42.00000°, λ=-73.00000°. Principal axes: T 2.1650, Plg4.0000°, Azm354.0000°; N 0.1360, Plg11.0000°, Azm263.0000°; P -2.3070, Plg78.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***10*** *16:05:09.8±2.7, 31.°59S±0.°05×58.°2E±0.°1, h10km±1km, mb5.7/148, Ms_20 5.3/510, Mwb5.4/20, Mww5.6/39 Error ellipse: s-maj=15.5km s-min=9.2km az=86.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=1.22; $M_{\theta\theta}$=1.19; $M_{\phi\phi}$=0.03; $M_{r\theta}$=0.38; $M_{\theta\phi}$=0.06; $M_{r\phi}$=0.69; Fault plane solution: M_0=1.44000×10^{17} NP1: ϕ_s=243.54000°, δ59.19000°, λ=-115.08000°. NP2: ϕ_s=105.96000°, δ38.93000°, λ=-54.60000°. Principal axes: T 1.2704, Plg11.0000°, Azm351.0000°; N 0.2911, Plg21.0000°, Azm257.0000°; P -1.5615, Plg66.0000°, Azm107.0000°;*

NEIC ***10*** *16:05:09.8, 31.°60S×58.°13E, h16km*

NEIC ***10*** *16:05:09.8, 31.°60S×58.°15E, h10km*

NEIC ***10*** *16:05:09.8, 31.°80S×58.°25E, h16km, Moment Tensor Solution. Duration: 2s9 Moment tensor: Scale 10^{17}Nm; M_{rr}=2.41; $M_{\theta\theta}$=2.36; $M_{\phi\phi}$=0.05; $M_{r\theta}$=-1.71; $M_{\theta\phi}$=0.21; $M_{r\phi}$=-1.80; Fault plane solution: M_0=3.41000×10^{17} NP1:ϕ_s=58.72000°, δ68.50000°, λ=-108.86000°. NP2:ϕ_s=281.71000°, δ28.30000°, λ=-50.63000°. Principal axes: T 3.1224, Plg21.0000°, Azm163.0000°; N 0.5741, Plg17.0000°, Azm66.0000°; P -3.6964, Plg62.0000°, Azm300.0000°;*

ISC 10 16:05:09.9±0.5, 31.°77S±0.°04×58.°19E±0.°05, h13km±2km, h14km:pP-P, n1438, σ1°928/1159, mb5.5/270, MS5.2/353, 42C-37D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.79 348**		Pn	Pn	16 07 38.0	-6.2
RER	**Riviere de l'E**	**10.79 348**		P	Pn	16 07 36.5	-7.7
FOMA	**Nahampoana Res**	**11.97 302**		Pn	**Pn**	**16 07 56.2**	**-4.0**
FOMA	**Nahampoana Res**	**11.97 302**		P	**Pn**	**16 07 58.9**	**-1.3**
VOI	**Vohitsoka**	**14.13 311**		Pn	Pn	16 08 24.9	-5.0
VOI	**Vohitsoka**	**14.13 311**		*e*P	**Pn**	**16 08 29.1**	**-0.9**
VOI	**Vohitsoka**	**14.13 311**		P	**Pn**	**16 08 28.6**	**-1.3**
	SNR=6.7						
H04N2	**CROZET ISLANDS**	**15.20 197**		T	T	16 24 39.9	
	baz=21,slow=75,SNR=65						
H04N1	**CROZET ISLANDS**	**15.20 197**		T	T	16 24 36.9	
	baz=21,slow=75,SNR=55						
H04N3	**CROZET ISLANDS**	**15.22 197**		T	T	16 24 35.0	
	baz=21,slow=75,SNR=50						
ABPO	**Ambohimpanom**	**16.09 320**		P	**Pn**	**16 08 54.0**	**-2.1**
ABPO	**Ambohimpanom**	**16.09 320**		*e*P	**Pn**	**16 08 55.8**	**-0.2**
ABPO	**Ambohimpanom**	**16.09 320**		P	**Pn**	**16 08 54.0**	**-2.1**
ABPO				pmax	pmax		
	comp=Z,163nm,1.3s						
OPO	**Ambohidratompo**	**16.47 320**		**Pn**	**Pn**	**16 09 01.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=131,slow=11,SNR=12						
OPO				Sn	Sn	16 11 51.1	-13
	comp=Z,0.4nm,0.3s,baz=110,slow=20,SNR=6.9						
OPO				LR	LR	16 13 56.2	
	comp=Z,4μm,18.7s,baz=12,slow=32						
	comp=Z,68nm,0.9s						
PAF	**Port-aux-Franc**	**19.75 156**		P	**Pn**	**16 09 41.3**	**+0.5**
PAF	**Port-aux-Franc**	**19.75 156**		P	**Pn**	**16 09 41.3**	**+0.5**
PAF				pmax	pmax		
	comp=Z,2μm,2.0s						
TEMBE	**Tembe Elephant**	**22.91 275**	*e*P	**P**	**P**	**16 10 12.6**	**-1.0**
TEMBE				IAmb	IAmb	16 10 28.6	
	comp=Z,362nm,1.5s						
POGA	**Pongola**	**23.43 274**	P	**P**	**P**	**16 10 17.8**	**-1.1**
POGA	**Pongola**	**23.43 274**	*e*P	**P**	**P**	**16 10 18.2**	**-0.7**
POGA				IAmb	IAmb	16 10 20.1	
	comp=Z,666nm,2.1s						
PMBG	**Pietermaritzbu**	**23.90 268**	*e*P	**P**	**P**	**16 10 23.0**	**-0.5**
PMBG				IAmb	IAmb	16 10 25.5	
	comp=Z,392nm,1.8s						
KSTD	**Kokstad**	**24.71 265**	*e*P	**P**	**P**	**16 10 32.5**	**+1.5**
KSTD				IAmb	IAmb	16 10 34.5	
	comp=Z,225nm,1.9s						
NWCL	**Newcastle**	**24.87 272**	*e*P	**P**	**P**	**16 10 29.9**	**-2.5**
NWCL				IAmb	IAmb	16 10 48.7	
	comp=Z,274nm,2.3s						
MOPA	**Mopani**	**25.07 282**	*e*P	**P**	**P**	**16 10 33.5**	**-0.7**
MOPA				IAmb	IAmb	16 10 35.0	
	comp=Z,511nm,2.0s						
PILG	**Pilgrimsrest,**	**25.09 279**	*e*P	**P**	**P**	**16 10 34.3**	**-0.2**
PILG				IAmb	IAmb	16 10 38.9	
	comp=Z,59nm,1.0s						
HOED	**Hoedspruit, Li**	**25.10 280**	*e*P	**P**	**P**	**16 10 33.0**	**-1.4**
HOED				IAmb	IAmb	16 10 35.9	
	comp=Z,8.9nm,0.8s						
CRLN	**Carolina, Mapu**	**25.29 276**	*e*P	**P**	**P**	**16 10 35.8**	**-0.5**
CRLN				IAmb	IAmb	16 10 46.5	
	comp=Z,139nm,2.2s						
DULL	**Dullstroom, Mp**	**25.38 277**	*e*P	**P**	**P**	**16 10 35.4**	**-1.8**
DULL				IAmb	IAmb	16 10 46.9	
	comp=Z,339nm,2.1s						
CHIPN	**CHIPINGE**	**25.61 290**	*e*P	**P**	**P**	**16 10 39.3**	**+0.2**
SNKL	**Senekal, Frees**	**26.53 270**	*e*P	**P**	**P**	**16 10 48.1**	**+0.6**
SNKL				IAmb	IAmb	16 10 51.6	
	comp=Z,39nm,1.2s						
GRHM	**Grahamstown, E**	**26.82 258**	P	**P**	**P**	**16 10 49.7**	**-0.3**
GRHM				IAmb	IAmb	16 10 54.0	
	comp=Z,278nm,2.0s						
GRHM	**Grahamstown, E**	**26.82 258**	*e*P	**P**	**P**	**16 10 51.0**	**+1.0**
GRHM				IAmb	IAmb	16 10 52.2	
	comp=Z,582nm,2.5s						
WTBG	**Waterberg Wild**	**26.90 279**	*e*P	**P**	**P**	**16 10 48.9**	**-2.0**
WTBG				IAmb	IAmb	16 11 02.4	
	comp=Z,138nm,1.6s						
TSWA	**Tswaing Meteor**	**27.13 276**	*e*P	**P**	**P**	**16 10 52.2**	**-0.7**
TSWA				IAmb	IAmb	16 10 53.6	
	comp=Z,80nm,1.7s						
PRYS	**Parys**	**27.26 272**	*e*P	**P**	**P**	**16 10 51.7**	**-2.4**
PRYS				IAmb	IAmb	16 10 54.4	
	comp=Z,62nm,1.6s						
HRAO	**HartRAO**	**27.31 275**	*e*P	**P**	**P**	**16 10 53.2**	**-1.3**
H08S1	**Diego Garcia H**	**27.45 32**	T	T	T	16 39 16.8	
	baz=206,slow=76,SNR=69						
H08S2	**Diego Garcia H**	**27.45 32**	T	T	T	16 39 17.5	
	baz=206,slow=76,SNR=41						
H08S3	**Diego Garcia H**	**27.47 32**	T	T	T	16 39 19.0	
	baz=206,slow=76,SNR=56						
SOE	**Somerset East**	**27.56 259**	P	**P**	**P**	**16 10 54.7**	**-2.0**
NYAT	**Nyati, Northwe**	**27.59 276**	*e*P	**P**	**P**	**16 10 56.2**	**-0.8**
NYAT				IAmb	IAmb	16 10 57.6	
	comp=Z,219nm,2.0s						
DGAR	**Diego Garcia**	**27.64 32**	IAMs_20	IAMs_20		16 18 23.5	
	comp=Z,8μm,21.0s						
HVD	**Gariep Dam**	**27.94 264**	*e*P	**P**	**P**	**16 11 00.4**	**+0.2**
HVD				IAmb	IAmb	16 11 08.9	
	comp=Z,240nm,2.1s						
LEPH	**Lephalale, Lim**	**27.95 279**	*e*P	**P**	**P**	**16 10 58.6**	**-1.6**
LEPH				IAmb	IAmb	16 11 00.4	
	comp=Z,370nm,2.5s						
NHAM	**Northam, North**	**27.96 276**	*e*P	**P**	**P**	**16 10 59.7**	**-0.6**
NHAM				IAmb	IAmb	16 11 01.7	
	comp=Z,141nm,1.9s						
GRAF	**Camdeboo Natio**	**28.52 260**	*e*P	**P**	**P**	**16 11 04.1**	**-1.1**
GRAF				IAmb	IAmb	16 11 07.8	
	comp=Z,174nm,1.8s						
BOSA	**Boshof**	**28.58 268**	P	**P**	**P**	**16 11 04.3**	**-1.6**
BOSA				IAmb	IAmb	16 11 08.0	
	comp=Z,195nm,2.0s						
BOSA	**Boshof**	**28.58 268**	*e*P	**P**	**P**	**16 11 04.5**	**-1.4**
BOSA				IAmb	IAmb	16 11 07.5	
	comp=Z,195nm,2.0s						
BOSA	**Boshof**	**28.58 268**	P	**P**	**P**	**16 11 05.2**	**-0.7**
	comp=Z,5.1nm,1.0s,baz=99,slow=7.6,SNR=8.2						
BOSA				LR	LR	16 20 25.8	
	comp=Z,1μm,21.1s,baz=109,slow=32						
	comp=Z,5.1nm,1.0s						
MTLB	**Matlabas, Limp**	**28.59 278**	*e*P	**P**	**P**	**16 11 03.7**	**-2.3**
MTLB				IAmb	IAmb	16 11 06.0	
	comp=Z,297nm,2.5s						
MATP	**Matopo**	**28.87 286**	LR	LR		16 20 55.8	
	comp=Z,1μm,21.1s,baz=112,slow=33						
SWZ	**Schweizer**	**28.91 271**	*e*P	**P**	**P**	**16 11 06.0**	**-2.8**
SWZ				IAmb	IAmb	16 11 08.7	
	comp=Z,186nm,2.3s						
BFON	**Badsfontein, M**	**29.26 261**	*e*P	**P**	**P**	**16 11 11.6**	**-0.3**
BFON				IAmb	IAmb	16 11 27.0	
	comp=Z,3.7nm,0.8s						
ROOI	**Rooidraai Farm**	**29.27 259**	*e*P	**P**	**P**	**16 11 11.8**	**-0.1**
ROOI				IAmb	IAmb	16 11 22.4	
	comp=Z,46nm,1.4s						
LBTB	**Lobatse**	**29.38 275**	P	**P**	**P**	**16 11 11.1**	**-1.9**
LBTB	**Lobatse**	**29.38 275**	*e*P	**P**	**P**	**16 11 12.1**	**-0.8**
LBTB				IAmb	IAmb	16 11 26.7	
	comp=Z,172nm,2.0s						
LBTB	**Lobatse**	**29.38 275**	P	**P**	**P**	**16 11 11.1**	**-1.9**
LBTB				pmax	pmax		
	comp=Z,146nm,2.0s						
KRI	**Karoi**	**29.88 293**	*e*P	**P**	**P**	**16 11 16.9**	**-0.5**
BRAK	**Brakfontein**	**29.93 261**	*e*P	**P**	**P**	**16 11 17.7**	**-0.1**
BRAK				IAmb	IAmb	16 11 18.9	
	comp=Z,746nm,2.8s						
GRAN	**Grantham**	**30.45 259**	*e*P	**P**	**P**	**16 11 21.4**	**-1.0**
GRAN				IAmb	IAmb	16 11 25.2	
	comp=Z,23nm,1.4s						
MERW	**Merweville**	**30.94 258**	*e*P	**P**	**P**	**16 11 24.6**	**-2.1**
MERW				IAmb	IAmb	16 11 35.1	
	comp=Z,94nm,1.5s						
FRAZ	**Fraserburg**	**31.15 260**	*e*P	**P**	**P**	**16 11 29.0**	**+0.4**
FRAZ				IAmb	IAmb	16 11 31.3	
	comp=Z,174nm,1.8s						
SUR	**Sutherland**	**31.58 259**	P	**P**	**P**	**16 11 32.0**	**-0.5**
SUR				IAmb	IAmb	16 11 35.8	
	comp=Z,154nm,1.9s						
SUR	**Sutherland**	**31.58 259**	*e*P	**P**	**P**	**16 11 33.6**	**+1.2**
SUR				IAmb	IAmb	16 11 35.3	
	comp=Z,154nm,1.8s						
SUR	**Sutherland**	**31.58 259**	P	**P**	**P**	**16 11 32.2**	**-0.2**
	comp=Z,11nm,1.1s,baz=121,slow=10,SNR=5.2						
SUR				LR	LR	16 21 49.6	
	comp=Z,3μm,21.7s,baz=112,slow=32						
	comp=Z,11nm,1.1s						
SUR	**Sutherland**	**31.58 259**	P	**P**	**P**	**16 11 33.0**	**+0.6**
SUR				P	**P**	**16 11 33.0**	**+0.6**
MATJ	**Matjiesfontein**	**31.64 257**	*e*P	**P**	**P**	**16 11 31.8**	**-1.1**
LSZ	**Lusaka**	**31.89 294**	P	**P**	**P**	**16 11 35.1**	**-0.1**
LSZ				IAmb	IAmb	16 11 37.1	
	comp=Z,145nm,2.0s						
LSZ	**Lusaka**	**31.89 294**	P	**P**	**P**	**16 11 36.1**	**+0.9**
LSZ				P	**P**	**16 11 36.1**	**+0.9**
LSZ				S	**S**	**16 16 47.4**	**+1.4**
LSZ				S	**S**	**16 16 47.4**	**+1.4**
LSZ	**Lusaka**	**31.89 294**	P	**P**	**P**	**16 11 35.1**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,145nm,2.0s						
LSZ				MLR	MLR		
	comp=Z,3μm,20.0s						
ELIM	**Elim**	**32.17 254**	*e*P	**P**	**P**	**16 11 36.8**	**-0.7**
ELIM				IAmb	IAmb	16 11 38.6	
	comp=Z,451nm,2.3s						
KEIM	**Keimoes**	**32.21 266**	*e*P	**P**	**P**	**16 11 37.6**	**-0.3**
KEIM				IAmb	IAmb	16 11 46.2	
	comp=Z,82nm,1.5s						
CVNA	**Calvinia**	**32.61 260**	*e*P	**P**	**P**	**16 11 40.2**	**-1.3**
CVNA				IAmb	IAmb	16 11 49.3	
	comp=Z,56nm,1.4s						
CER	**Ceres**	**32.70 257**	*e*P	**P**	**P**	**16 11 41.8**	**-0.3**
CER				IAmb	IAmb	16 11 43.1	
	comp=Z,589nm,2.8s						
AUGR	**Augrabies**	**32.77 266**	*e*P	**P**	**P**	**16 11 42.0**	**-0.8**
AUGR				IAmb	IAmb	16 11 44.8	
	comp=Z,242nm,2.1s						
PRTV	**Porterville,We**	**32.91 257**	*e*P	**P**	**P**	**16 11 43.0**	**-0.9**
PRTV				IAmb	IAmb	16 11 45.1	
	comp=Z,484nm,2.6s						
KOMG	**Komaggas**	**34.89 262**	*e*P	**P**	**P**	**16 12 01.3**	**+0.1**
KOMG				IAmb	IAmb	16 12 01.8	
	comp=Z,833nm,3.0s						
KIBK	**Kibwezi**	**34.89 323**	P	**P**	**P**	**16 11 59.7**	**-1.6**
KIBK	**Kibwezi**	**34.89 323**	P	**P**	**P**	**16 12 02.1**	**+0.8**
KIBK	**Kibwezi**	**34.89 323**	P	**P**	**P**	**16 12 02.5**	**+1.2**
	SNR=10						
MAW	**Mawson**	**35.98 177**	P	**P**	**P**	**16 12 12.1**	**+2.2**
	comp=Z,17nm,1.0s,baz=19,slow=12,SNR=12						
MAW				LR	LR	16 23 08.0	
	comp=Z,4μm,21.6s,baz=344,slow=30						
	comp=Z,17nm,1.0s						
KMBO	**Kilima Mbogo**	**36.33 323**	P	**P**	**P**	**16 12 12.8**	**-1.1**
KMBO	**Kilima Mbogo**	**36.33 323**	*i* P	**P**	**P**	**16 12 15.8**	**+1.9**
	SNR=7.7						
KMBO	**Kilima Mbogo**	**36.33 323**	*e*P	**P**	**P**	**16 12 15.0**	**+1.1**
KMBO				IAmb	IAmb	16 12 17.7	
	comp=Z,7.6nm,0.8s						
KMBO	**Kilima Mbogo**	**36.33 323**	P	**P**	**P**	**16 12 14.5**	**+0.6**
KMBO				P	**P**	**16 12 14.5**	**+0.6**
KMBO				S	**S**	**16 17 54.6**	**-0.3**
KMBO				S	**S**	**16 17 54.6**	**-0.3**
KMBO	**Kilima Mbogo**	**36.33 323**	*e*P	P		16 12 04.0	-10
KMBO				*i* S	**S**	**16 18 02.4**	**+7.5**
KMBO	**Kilima Mbogo**	**36.33 323**	P	P	**P**	**16 12 12.8**	**-1.1**
KMBO				pmax	pmax		
	comp=Z,105nm,1.9s						
KMBO				MLR	MLR		
	comp=Z,2μm,18.0s						
WIN	**Windhoek**	**37.51 274**	P	**P**	**P**	**16 12 23.0**	**-0.8**
WIN	**Windhoek**	**37.51 274**	P	**P**	**P**	**16 12 23.0**	**-0.8**
WIN				pmax	pmax		
	comp=Z,25nm,1.1s						
WIN				MLR	MLR		
	comp=Z,900nm,20.0s						
TSUM	**Tsumeb**	**38.52 279**	P	**P**	**P**	**16 12 31.2**	**-1.1**
TSUM	**Tsumeb**	**38.52 279**	*e*P	**P**	**P**	**16 12 31.5**	**-0.8**
TSUM				IAmb	IAmb	16 12 34.8	
	comp=Z,461nm,2.4s						
TSUM	**Tsumeb**	**38.52 279**	P	**P**	**P**	**16 12 32.9**	**+0.5**
	comp=Z,17nm,0.9s,baz=122,slow=8.7,SNR=30						
TSUM				LR	LR	16 26 49.9	
	comp=Z,2μm,20.2s,baz=116,slow=34						
	comp=Z,17nm,0.9s						
MBAR	**Mbarara**	**40.42 315**	IAMs_20	IAMs_20		16 27 58.0	
	comp=Z,4μm,20.0s						
MBAR	**Mbarara**	**40.42 315**	*i* P	**P**	**P**	**16 12 49.0**	**+0.7**
MBAR				pmax	pmax		
	comp=Z,35nm,1.5s						
LODK	**Lodwar**	**41.19 324**	P	**P**	**P**	**16 12 56.5**	**+2.1**
	SNR=36						
ELIB	**Princess Elisa**	**44.30 195**	*d*P	**P**	**P**	**16 13 19.8**	**+0.7**
ELIB				*d*PP	**PcP**	**16 15 03.3**	**+0.1**
PALK	**Pallekele**	**44.38 33**	LR	LR		16 27 49.9	
	comp=Z,1μm,18.5s,baz=316,slow=31						
FURI	**Furi**	**44.54 332**	LR	LR		16 32 15.1	
	comp=Z,902nm,18.0s,baz=168,slow=37						
MALK	**Mahakanadarawa**	**45.30 32**	P	**P**	**P**	**16 13 28.0**	**+0.5**
ATD	**Arta Tunnel**	**45.49 339**	IAMs_20	IAMs_20		16 28 53.9	
	comp=Z,3μm,21.0s						
ATD	**Arta Tunnel**	**45.49 339**	LR	LR		16 29 05.0	
	comp=Z,168nm,21.3s,baz=149,slow=32						
ATD	**Arta Tunnel**	**45.49 339**	*e*P	P		16 13 19.2	-10
ATD				*e*S	**S**	**16 20 11.6**	**+0.9**
ATD				AMP		16 26 49.0	
	comp=N,4μm,18.5s						
H01W2	**Cape Leeuwin H**	**46.33 110**	T	T		17 03 17.7	
	baz=257,slow=75,SNR=86						
H01W3	**Cape Leeuwin H**	**46.34 110**	T	T		17 03 17.2	
	baz=257,slow=75,SNR=84						
H01W1	**Cape Leeuwin H**	**46.35 110**	T	T		17 03 18.2	
	baz=257,slow=75,SNR=74						
NVL	**N'lazarevskaya**	**46.44 199**	*e*P	**P**	**P**	**16 13 35.8**	**-0.1**
NVL				*e*S	**S**	**16 20 16.6**	**-6.5**
NVL				*e*SS	**SS**	**16 23 47.5**	**-1.0**
NVL				pmax	pmax		
	comp=Z,52nm,1.3s						
NVL				MLR	MLR		
	comp=Z,924nm,17.0s						
MUN	**Mundaring**	**48.73 106**	P	**P**	**P**	**16 13 54.0**	**-0.3**
	comp=Z,22nm,1.9s						
SISI	**Saibi**	**49.02 60**	P	**P**	**P**	**16 13 55.6**	**-1.1**
	comp=Z,109nm,2.2s						
PBSI	**Pulau Batu**	**49.30 58**	P	**P**	**P**	**16 13 59.2**	**+0.4**
	comp=Z,215nm,2.2s						
DMTO	**DMTO**	**49.30 356**	P	**P**	**P**	**16 13 59.7**	**+1.1**
DMTO				S	**S**	**16 21 04.3**	**-0.4**
NWAO	**Narrogin (SRO)**	**49.31 108**	P	**P**	**P**	**16 13 58.4**	**-0.3**
NWAO	**Narrogin (SRO)**	**49.31 108**	LR	LR		16 30 11.7	
	comp=Z,595nm,20.1s,baz=256,slow=30						
NWAO	**Narrogin (SRO)**	**49.31 108**	P	**P**	**P**	**16 13 54.6**	**-4.2**
NWAO				P	**P**	**16 13 54.6**	**-4.2**
NWAO	**Narrogin (SRO)**	**49.31 108**	P	**P**	**P**	**16 13 58.4**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,49nm,1.5s						
MORW	**Morawa**	**49.45 103**	P	**P**	**P**	**16 13 59.9**	**0.0**
	comp=Z,17nm,1.5s						
BLDU	**Ballidu**	**49.53 105**	P	**P**	**P**	**16 14 00.4**	**-0.1**
	comp=Z,34nm,2.5s						
SHAO	**Shalim**	**49.57 357**	P	**P**	**P**	**16 13 59.7**	**-1.0**
SHAO	**Shalim**	**49.57 357**	P	**P**	**P**	**16 14 00.1**	**-0.6**
SHAO				S	**S**	**16 21 06.6**	**-1.8**
WHFO	**Wadi Hawf**	**49.59 354**	P	**P**	**P**	**16 14 00.7**	**-0.1**
TROLL	**Troll, Antarti**	**49.66 200**	⇑P	**P**	**P**	**16 14 01.9**	**+0.9**
	comp=Z,0.7nm,0.1s						
GSI	**Gunungs

SNR=11
SMDO Samad 54.52 360 P **P 16 14 37.5 -0.1**
SNR=11
SMDO P **P 16 14 37.5 -0.1**
SNR=11
MZR Muzera 54.65 355 *i* P **P 16 14 38.5 +0.1**
SNR=9.6
MZR Muzera 54.65 355 P **P 16 14 38.8 +0.4**
MZR P **P 16 14 38.8 +0.4**
WSAR Wadi Sarin 54.70 0 LR LR 16 32 12.0
comp=Z,2µm,21.7s,baz=204,slow=30
KULM Kulim 54.70 55 P **P 16 14 39.3 +0.3**
ARQ Araqi 54.82 358 P **P 16 14 39.4 -0.3**
SNR=9.4
ARQ P **P 16 14 39.4 -0.3**
SNR=9.4
BIDO Bidbid 54.98 360 P **P 16 14 41.8 +1.1**
SNR=15
BIDO P **P 16 14 41.8 +1.1**
SNR=15
PWJI Pagerwojo 55.03 77 P **P 16 14 42.4 +0.9**
comp=Z,68nm,1.2s
HOQ Hoqain 55.04 359 P **P 16 14 40.6 -0.7**
SNR=9.5
HOQ P **P 16 14 40.6 -0.7**
SNR=9.5
PSAC1 Pilbara Seismi 55.38 96 P **P 16 14 42.4 -1.5**
comp=Z,51nm,2.0s
PSA00 Pilbara Seismi 55.39 96 P **P 16 14 43.3 -0.7**
PSA00 IAmb IAmb 16 15 00.4
comp=Z,101nm,1.6s
PSA00 Pilbara Seismi 55.39 96 P **P 16 14 43.6 -0.5**
comp=Z,51nm,1.6s
MBWA Marble Bar 55.47 95 P **P 16 14 43.7 -0.9**
MBWA Marble Bar 55.47 95 P **P 16 14 44.3 -0.3**
MBWA P **P 16 14 44.3 -0.3**
MBWA Marble Bar 55.47 95 P **P 16 14 43.8 -0.7**
comp=Z,50nm,1.2s
SOHO SOHO 55.61 358 *i* P **P 16 14 44.9 -0.4**
SNR=8.4
SOHO SOHO 55.61 358 P **P 16 14 45.2 -0.1**
SOHO P **P 16 14 45.2 -0.1**
ASUD Al Ashush, Dub 56.14 357 P **P 16 14 48.5 -0.7**
ASUD Al Ashush, Dub 56.14 357 P **P 16 14 49.3 +0.2**
ASHO Ashiyiah 56.17 358 *i* P **P 16 14 48.5 -0.9**
SNR=8.7
ASHO Ashiyiah 56.17 358 P **P 16 14 49.0 -0.4**
SNR=7.0
ASHO P **P 16 14 49.0 -0.4**
SNR=7.0
FAQ Al Faqa, Dubai 56.25 357 P **P 16 14 52.0 +2.1**
SNR=9.2
RAYN Ar Rayn 56.30 346 P **P 16 14 51.1 +0.7**
RAYN IAmb IAmb 16 14 59.7
comp=Z,198nm,1.8s
RAYN Ar Rayn 56.30 346 IAMs_20 IAMs_20 16 34 35.2
comp=Z,3µm,22.0s
RAYN Ar Rayn 56.30 346 *i* P **P 16 14 50.4 0.0**
SNR=20
RAYN Ar Rayn 56.30 346 P **P 16 14 51.7 +1.3**
RAYN Ar Rayn 56.30 346 P **P 16 14 51.3 +0.9**
HATD Hatta, Dubai 56.31 358 *i* P **P 16 14 49.8 -0.5**
SNR=5.1
HATD Hatta, Dubai 56.31 358 P **P 16 14 50.6 +0.2**
HATD P **P 16 14 50.6 +0.2**
UOSS Minazif 56.43 358 IAMs_20 IAMs_20 16 33 24.4
comp=Z,2µm,21.0s
UOSS Minazif 56.43 358 P **P 16 14 49.2 -2.0**
NAZ Nazwa, Dubai 56.49 357 *i* P **P 16 14 51.3 -0.3**
SNR=10
NAZ Nazwa, Dubai 56.49 357 P **P 16 14 51.9 +0.2**
SNR=13
SMRA Abu-Samra 56.64 352 P **P 16 14 52.8 +0.2**
JAGI Jajag, Banyuwa 56.75 79 P **P 16 14 53.9 +0.1**
JAGI IAmb IAmb 16 14 55.3
comp=Z,134nm,1.3s
MDH Madha 56.77 358 P **P 16 14 51.9 -1.8**
MDH Madha 56.77 358 P **P 16 14 53.0 -0.6**
MDH P **P 16 14 53.0 -0.6**
MSFE Esma-Masafi 56.84 358 *i* P **P 16 14 53.0 -1.1**
SNR=8.0
MASF Masafi 56.85 358 P **P 16 14 54.1 -0.2**
SNR=9.2
MASF P **P 16 14 54.1 -0.2**
SNR=9.2
SHME Shamm 57.53 358 P **P 16 14 58.1 -0.9**
SHME P **P 16 14 58.1 -0.9**
SHMA Al-Shehemyia 57.72 352 P **P 16 15 00.5 +0.2**
SAKB Bahrain 57.89 352 P **P 16 15 01.9 +0.4**
QSPA South Pole Qui 58.40 180 P **P 16 15 06.7 +1.8**
comp=Z,33nm,1.0s,baz=270,slow=6.6,SNR=30
QSPA LR LR 16 37 03.2
comp=Z,3µm,21.4s,baz=270,slow=33
comp=Z,33nm,1.0s
FORT Forrest 58.73 109 IAmb IAmb 16 15 09.8
comp=Z,111nm,1.4s
FORT Forrest 58.73 109 P **P 16 15 07.9 +0.4**
comp=Z,73nm,1.8s
TWSI Taliwang, Sumb 58.89 81 P **P 16 15 10.1 +1.2**
comp=Z,53nm,1.5s,comp=Z,922nm
STKI Sintang 59.43 69 P **P 16 15 15.4 +2.8**
PLAI Plampang 59.60 81 P **P 16 15 15.5 +1.7**
comp=Z,98nm,1.1s,comp=Z,2µm
BELA Belgrano 2 59.79 194 P **P 16 15 13.7 -0.5**
WRKA Warakurna 61.09 103 P **P 16 15 23.9 0.0**
comp=Z,126nm,0.9s
KBD Kabd 61.42 350 P **P 16 15 26.4 +0.6**
FITZ Fitzroy Crossi 61.80 95 P **P 16 15 27.7 -1.1**
VNDA Vanda 62.12 166 P **P 16 15 31.2 +1.3**
comp=Z,12nm,1.0s,baz=258,slow=7.9,SNR=30
VNDA LR LR 16 39 29.3
comp=Z,2µm,21.7s,baz=245,slow=33
comp=Z,12nm,1.0s
EDFI Ende, Flores 62.94 83 P **P 16 15 37.2 +0.7**
comp=Z,56nm,1.9s,comp=Z,1µm
SBA Scott Base 62.96 167 P **P 16 15 37.5 +1.9**
SBA IAmb IAmb 16 15 47.3
comp=Z,86nm,1.6s
SBA Scott Base 62.96 167 P **P 16 15 37.5 +1.9**
SBA pmax pmax
comp=Z,86nm,1.6s
SBA MLR MLR
comp=Z,3µm,19.0s
CM31 Chiang Mai Arr 63.41 44 IAmb IAmb 16 15 48.2
comp=Z,97nm,1.1s
CMAR Chiang Mai Arr 63.41 44 P **P 16 15 38.1 -1.2**
CMAR Chiang Mai Arr 63.41 44 P **P 16 15 38.9 -0.5**
comp=Z,28nm,1.0s,baz=230,slow=7.0,SNR=76
CMAR LR LR 16 38 13.8
comp=Z,1µm,22.0s,baz=225,slow=31
comp=Z,28nm,1.0s
MMRI Maumere 63.46 84 P **P 16 15 39.0 -0.8**
MMRI Maumere 63.46 84 P **P 16 15 40.7 +0.8**
CHTO Chiang Mai 63.69 44 P **P 16 15 40.2 -1.0**
CHTO IAmb IAmb 16 15 49.9
comp=Z,60nm,1.4s
CHTO IAMs_20 IAMs_20 16 38 41.7
comp=Z,1µm,20.0s
CHTO Chiang Mai 63.69 44 P **P 16 15 40.2 -1.0**
CHTO pmax pmax
comp=Z,60nm,1.4s
CHTO MLR MLR
comp=Z,2µm,20.0s
BBOO Buckleboo 64.32 114 IAmb IAmb 16 15 46.4
comp=Z,155nm,1.9s
BBOO Buckleboo 64.32 114 P **P 16 15 44.9 -0.4**
comp=Z,56nm,1.5s
SOEI Soe 64.61 86 P **P 16 15 48.5 +0.9**
SOEI IAmb IAmb 16 16 14.0
comp=Z,87nm,1.1s
SOEI Soe 64.61 86 P **P 16 15 48.4 +0.8**
comp=Z,76nm,1.1s
EIL Elat 64.97 338 LR LR 16 39 16.5
comp=Z,1µm,21.5s,baz=162,slow=32
UBPT Khong Chiam 65.13 51 IAmb IAmb 16 15 53.1
comp=Z,68nm,1.3s
SHL Shillong 65.47 33 IAMs_20 IAMs_20 16 41 43.8
comp=Z,2µm,20.0s
SHL Shillong 65.47 33 P **P 16 15 52.7 -0.2**
SNR=26
KNRA Kununurra 65.57 94 P **P 16 15 52.6 -1.0**
comp=Z,65nm,1.9s
CRAI Chiangrai 65.63 44 IAMs_20 IAMs_20 16 38 45.2
comp=Z,1µm,18.0s
HRA Herat 65.91 4 IAmb IAmb 16 16 05.3
comp=Z,73nm,1.6s

GHAJ Ghor Haditha 66.29 339 IAMs_20 IAMs_20 16 42 28.8
comp=Z,1µm,19.0s
HTT Hallett 66.29 116 P **P 16 15 58.2 0.0**
comp=Z,46nm,1.6s
ASAR Alice Springs 66.30 104 P **P 16 15 57.7 -0.7**
ASAR Alice Springs 66.30 104 P **P 16 15 58.0 -0.4**
comp=Z,43nm,0.8s,baz=238,slow=6.0,SNR=471
ASAR PKP2bc 16 44 35.5
comp=Z,4.6nm,1.2s,baz=59,slow=3.1,SNR=8.7
comp=Z,43nm,0.8s
NIL Nilore 66.60 14 P **P 16 15 58.2 -1.6**
NIL IAmb IAmb 16 16 08.1
comp=Z,118nm,1.5s
NIL Nilore 66.60 14 P **P 16 15 58.2 -1.6**
NIL pmax pmax
comp=Z,118nm,1.5s
NIL MLR MLR
comp=Z,1µm,19.0s
KBL Kabul 66.74 10 P **P 16 15 59.8 -1.2**
KBL IAmb IAmb 16 16 12.4
comp=Z,93nm,1.4s
KBL Kabul 66.74 10 P **P 16 16 01.8 +0.8**
SNR=42
KBL Kabul 66.74 10 P **P 16 15 59.8 -1.2**
KBL pmax pmax
comp=Z,93nm,1.4s
ARPS Mount Arapiles 67.17 120 P **P 16 16 04.2 +0.6**
comp=Z,53nm,0.9s
TOLI2 Tolitoli 67.54 74 IAmb IAmb 16 16 21.2
comp=Z,113nm,1.4s
MMAI Mount Meron Ar 67.94 339 P **P 16 16 09.3 +1.0**
comp=Z,7.4nm,0.9s,baz=128,slow=5.4,SNR=11
MMAI LR LR 16 43 49.6
comp=Z,581nm,18.1s,baz=108,slow=34
comp=Z,7.4nm,0.9s
LUWI Luwuk 67.97 77 P **P 16 16 08.0 -1.0**
WRA Warramunga Arr 68.31 101 P **P 16 16 10.7 -0.4**
WRA Warramunga Arr 68.31 101 P **P 16 16 10.9 -0.2**
comp=Z,54nm,0.8s,baz=241,slow=5.4,SNR=184
WRA LR LR 16 42 13.0
comp=Z,829nm,20.4s,baz=271,slow=33
WRA PKP2bc 16 44 25.9
comp=Z,2.8nm,1.1s,baz=59,slow=2.9,SNR=5.6
comp=Z,54nm,0.8s
WRAB Tennant Creek 68.33 101 P **P 16 16 10.9 -0.3**
WRAB IAmb IAmb 16 16 12.7
comp=Z,84nm,0.9s
WRAB Tennant Creek 68.33 101 *i* P **P 16 16 10.2 -1.0**
WRAB pmax pmax
comp=Z,71nm,0.9s
TNCH TengChong 68.37 39 P **P 16 16 11.7 +0.3**
TNCH S **S 16 25 12.4 -0.2**
TNCH pmax pmax
comp=Z,44nm,1.6s
TNCH pmax pmax
comp=Z,290nm,3.5s
TNCH LR LR
comp=Z,620nm,16.9s
TNCH LR LR
comp=Z,620nm,15.5s
TNCH LR LR
comp=Z,1µm,18.5s
WB0 Warramunga Arr 68.44 100 IAmb IAmb 16 16 13.2
comp=Z,88nm,0.9s
WR0 Warramunga Arr 68.47 101 IAmb IAmb 16 16 13.3
comp=Z,50nm,0.8s
SLVN Son La 68.59 46 P **P 16 16 11.8 -0.9**
SLVN IAmb IAmb 16 16 15.7
comp=Z,64nm,1.3s
LSA Lhasa 68.68 31 P **P 16 16 13.7 +0.1**
LSA pmax pmax
comp=Z,35nm,2.2s
STKA Stephens Creek 68.98 115 P **P 16 16 16.3 +1.2**
comp=Z,36nm,0.9s,baz=254,slow=4.9,SNR=43
STKA LR LR 16 40 09.3
comp=Z,591nm,20.1s,baz=260,slow=30
comp=Z,36nm,0.9s
TOO Toolangi 69.51 122 P **P 16 16 17.6 -0.8**
comp=Z,29nm,2.0s
SANI Sanana 70.10 80 P **P 16 16 19.9 -2.3**
TORD Torodi Ar. Bea 70.15 300 P **P 16 16 22.4 -0.1**
comp=Z,17nm,1.1s,baz=99,slow=4.0,SNR=26
TORD PP PP 16 18 47.0 -11
comp=Z,2.5nm,1.1s,baz=130,slow=5.8,SNR=4.3
comp=Z,17nm,1.1s
CSS Mathiatis 70.38 338 IAmb IAmb 16 16 32.7
comp=Z,145nm,1.6s
CSS Mathiatis 70.38 338 P **P 16 16 24.7 +1.3**
comp=Z,43nm,1.6s,comp=Z,973nm
LKRN Lenkeran, Azer 70.66 352 P **P 16 16 28.1 +3.1**
SIMJ Simiganj 70.79 9 P **P 16 16 25.5 -0.5**
SIMJ IAMs_20 IAMs_20 16 45 11.0
comp=Z,1µm,21.0s
KMI Kunming 70.79 42 ⇑P **P 16 16 26.3 -0.1**
KMI sP pwP 16 16 33.4 -1.8
KMI S **S 16 25 42.5 +1.3**
KMI pmax pmax
comp=Z,24nm,1.8s
KMI pmax pmax
comp=Z,400nm,4.8s
KMI LR LR
comp=Z,1µm,21.1s
KMI LR LR
comp=Z,1µm,14.7s
KMI LR LR
comp=Z,1µm,20.4s
CHGR Chuyangaron 70.81 9 P **P 16 16 26.1 +0.1**
KIC Kosan Boka 70.88 290⇑*i* P **P 16 16 28.4 +1.4**
comp=Z,23nm,0.7s
LIC Lamto 71.03 290⇓*e*P **P 16 16 28.7 +0.8**
comp=Z,37nm,1.0s
DBIC Dimbokro 71.16 291 P **P 16 16 28.5 -0.1**
DBIC IAmb IAmb 16 16 32.5
comp=Z,72nm,1.4s
DBIC Dimbokro 71.16 291 P **P 16 16 28.5 -0.1**
comp=Z,21nm,1.0s,baz=115,slow=8.6,SNR=8.3
DBIC LR LR 16 44 39.7
comp=Z,845nm,21.9s,baz=116,slow=33
comp=Z,21nm,1.0s
TIC Toumodi 71.27 291⇑*e*P **P 16 16 30.7 +1.4**
comp=Z,19nm,0.7s
PZH PanZhiHua 71.30 41 P **P 16 16 29.0 -0.3**
PZH S **S 16 25 47.0 +0.2**
PZH pmax pmax
comp=Z,40nm,1.2s
PZH pmax pmax
comp=Z,240nm,4.9s
PZH LR LR
comp=Z,840nm,16.7s
PZH LR LR
comp=Z,1µm,16.9s
PZH LR LR
comp=Z,870nm,17.7s
GAR Garm 71.31 10 IAmb IAmb 16 16 37.6
comp=Z,189nm,1.8s
GURO Guroymak-BITLI 71.56 347 IAmb IAmb 16 16 41.0
comp=Z,87nm,1.4s
NAX Nakhchivan 71.56 350 P **P 16 16 33.5 +2.9**
SMAI San Martin Ant 72.46 199 P **P 16 16 36.0 +0.4**
GNI Garni 72.64 349 P **P 16 16 37.3 +0.1**
GNI Garni 72.64 349 IAMs_20 IAMs_20 16 49 01.6
comp=Z,1µm,18.0s
GNI Garni 72.64 349 P **P 16 16 37.4 +0.3**
GNI Garni 72.64 349 LR LR 16 45 16.8
comp=Z,1µm,21.9s,baz=166,slow=33
GNI Garni 72.64 349 P **P 16 16 39.1 +2.1**
GNI P **P 16 16 39.1 +2.1**
GNI Garni 72.64 349 *i* P **P 16 16 37.2 +0.1**
GNI pmax pmax
comp=Z,160nm,1.9s
GNI Garni 72.64 349 P **P 16 16 38.3 +1.2**
comp=Z,70nm,1.5s,comp=Z,2µm
KSH Kashi 72.82 14 P **P 16 16 34.8 -3.4**
KSH sP sP 16 16 42.8 +0.4
KSH PcP **pwP 16 16 49.6 +2.6**
KSH pmax pmax
comp=Z,52nm,1.8s
KSH LR LR
comp=Z,1µm,20.3s
KSH LR LR
comp=Z,930nm,18.9s
KSH LR LR
comp=Z,2µm,23.4s
ARPR Arapgir-MALATY 72.88 344 IAMs_20 IAMs_20 16 44 57.5
comp=Z,1µm,21.0s
GANJ Ganja 72.89 351 P **P 16 16 41.4 +3.0**
MNGR Mingechevir, A 72.91 351 P **P 16 16 41.5 +3.1**

KARP Karpathos 73.03 334 P **P 16 16 40.5 +1.1**
comp=Z,111nm,1.1s,comp=Z,2µm
CAN Canberra 73.04 121 P **P 16 16 41.0 +1.2**
CAN IAmb IAmb 16 16 41.8
comp=Z,108nm,1.8s
CAN Canberra 73.04 121 P **P 16 16 40.0 +0.3**
CAN pmax pmax
comp=Z,108nm,1.8s
SEKA Sheki 73.32 351 P **P 16 16 43.9 +2.9**
IDI Anoyia 73.68 332 IAmb IAmb 16 16 53.0
comp=Z,142nm,1.4s
IDI Anoyia 73.68 332 P **P 16 16 41.7 -1.6**
PMSA Palmer Station 73.82 202 LR LR 16 42 27.1
comp=Z,1µm,20.4s,baz=122,slow=30
YER Yerkesik 74.03 336 P **P 16 16 45.0 -0.3**
TAM Tamanrasset 74.05 310 P **P 16 16 45.3 -0.5**
TAM IAMs_20 IAMs_20 16 49 51.3
comp=Z,1µm,19.0s
TAM Tamanrasset 74.05 310 P **P 16 16 45.3 -0.5**
TAM pmax pmax
comp=Z,39nm,1.5s
TAM MLR MLR
comp=Z,1µm,19.0s
GYA Guiyang 74.09 44 ⇓P **P 16 16 47.1 +1.1**
GYA S **SKiKP 16 26 14.5 +0.6**
GYA pmax pmax
comp=Z,24nm,1.2s
GYA pmax pmax
comp=Z,1µm,5.9s
GYA LR LR
comp=Z,470nm,5.6s
GYA LR LR
comp=Z,570nm,7.2s
GYA LR LR
comp=Z,1µm,8.7s
TRLG Trialeti 74.09 349 P **P 16 16 46.4 +0.7**
IUG Iuzhnay 74.36 9 *e*P **P 16 16 46.6 -0.5**
comp=Z,90nm,1.1s,baz=9.0
IUG *e*S **S 16 26 22.3 +1.2**
baz=9.0
IUG Iuzhnay 74.36 9 *e*P **P 16 16 46.6 -0.5**
IUG *e*S **S 16 26 22.2 +1.2**
IUG pmax pmax
comp=Z,91nm,1.1s
SANT Santorini 74.40 333 ⇑P **P 16 16 47.6 +0.2**
SANT Santorini 74.40 333 IAmb IAmb 16 16 57.0
comp=Z,152nm,1.3s
BCA Borcka 74.44 347 ⇓P **P 16 16 48.6 +1.1**
BATM Batumi 74.58 347 P **P 16 16 49.6 +1.3**
BR131 Keskin Array S 74.69 341 *i* P **P 16 16 48.4 -0.7**
BRTR Keskin Array B 74.69 341 P **P 16 16 48.1 -1.0**
BRTR Keskin Array B 74.69 341 P **P 16 16 48.5 -0.8**
comp=Z,9.8nm,1.0s,baz=159,slow=7.4,SNR=39
BRTR LR LR 16 45 52.2
comp=Z,506nm,21.2s,baz=146,slow=33
comp=Z,9.8nm,1.0s
BRTR Keskin Array B 74.69 341 *i* P **P 16 16 48.7 -0.5**
BRTR pmax pmax
comp=Z,10.0nm,1.0s
DAV Davao City (W) 74.87 72 LR LR 16 48 02.1
comp=Z,85nm,18.5s,baz=140,slow=34
APE Apeiranthos 74.98 333 ⇑P **P 16 16 51.6 +0.8**
APE Apeiranthos 74.98 333 P **P 16 16 51.6 +0.8**
MAK Makhachkala 75.01 352 *e*P **P 16 16 47.1 -3.6**
MAK *e*PPP PPP 16 21 25.9
MAK *e*S **S 16 26 22.5 -5.5**
MAK *e*SS **SS 16 31 21.5 +3.9**
MAK pmax pmax
comp=Z,244nm,1.7s
MAK MLR MLR
comp=Z,818nm,17.0s
ANTO Ankara 75.07 340 P **P 16 16 50.2 -1.1**
ANTO IAmb IAmb 16 17 00.3
comp=Z,146nm,1.8s
ANTO Ankara 75.07 340 P **P 16 16 50.2 -1.1**
ANTO pmax pmax
comp=Z,146nm,1.8s
ANTO MLR MLR
comp=Z,600nm,20.0s
ANTO Ankara 75.07 340 P **P 16 16 51.6 +0.3**
comp=Z,16nm,1.9s,comp=Z,426nm
KULA Kula-Manisa 75.14 336 P **P 16 16 52.1 +0.4**
UCH Uchtor 75.15 12 P **P 16 16 53.0 +0.9**
SNR=10
SWI Sorong 75.17 82 P **P 16 16 53.6 +1.2**
BRLS Borolday 75.20 9 *e*P **P 16 16 49.8 -2.0**
baz=8.6
BRLS Borolday 75.20 9 *e*P **P 16 16 49.8 -2.0**
ONI Oni 75.22 349 IAmb IAmb 16 17 01.8
comp=Z,192nm,1.8s
ONI Oni 75.22 349 P **P 16 16 52.7 +0.6**
KK31 Karatay Array 75.36 9 IAmb IAmb 16 17 02.4
comp=Z,203nm,1.6s
KK31 Karatay Array 75.36 9 *i* P **P 16 16 52.9 +0.1**
KKAR Karatay Array 75.36 9 P **P 16 16 52.6 -0.2**
KKAR Karatay Array 75.36 9 IAmb IAmb 16 17 02.4
comp=Z,202nm,1.6s
KKAR Karatay Array 75.36 9 P **P 16 16 52.6 -0.2**
EKS2 Erkin-Say 75.44 12 P **P 16 16 54.6 +1.2**
SNR=18
GULI GuiLin 75.51 48 P **P 16 16 55.0 +1.0**
GULI pmax pmax
comp=Z,30nm,2.0s
AAK Ala-Archa 75.54 12 P **P 16 16 55.2 +1.2**
SNR=9.1
AAK Ala-Archa 75.54 12 P **P 16 16 54.1 +0.1**
AAK IAmb IAmb 16 16 57.6
comp=Z,202nm,1.9s
AAK Ala-Archa 75.54 12 IAMs_20 IAMs_20 16 46 15.4
comp=Z,1µm,22.0s
AAK Ala-Archa 75.54 12 *i* P **P 16 16 54.1 +0.1**
SNR=9.1
AAK Ala-Archa 75.54 12 LR LR 16 47 02.1
comp=Z,1µm,21.8s,baz=190,slow=33
AAK Ala-Archa 75.54 12 *i* P **P 16 16 54.8 +0.8**
AAK pmax pmax
comp=Z,107nm,1.8s
KBK Karagaybulak 75.64 13 P **P 16 16 55.8 +1.1**
SNR=6.2
FRU1 Bishkek 75.73 12 IAMs_20 IAMs_20 16 46 36.6
comp=Z,1µm,22.0s
GOMU GeErMu 75.83 30 P **P 16 16 56.7 +0.6**
GOMU S **S 16 26 40.8 +2.6**
GOMU LR LR
comp=Z,3µm,17.7s
GOMU LR LR
comp=Z,3µm,17.1s
GOMU LR LR
comp=Z,3µm,19.9s
CD2 Chengdu 75.83 39 P **P 16 16 55.2 -0.6**
CD2 pmax pmax
comp=Z,50nm,0.9s
CHMS Chumysh 75.94 12 P **P 16 16 56.4 +0.2**
SNR=8.7
CHOS Chios island 75.95 334 P **P 16 16 56.5 +0.2**
TKM2 Tokmak 2 76.02 13 P **P 16 16 56.1 -0.8**
SNR=20
TKM2 Tokmak 2 76.02 13 *i* P **P 16 16 55.5 -1.3**
TKM2 pmax pmax
comp=Z,83nm,1.5s
DIKM Dikmen 76.06 342 ⇑P **P 16 16 57.6 +0.8**
USP Ospenovka 76.15 12 P **P 16 16 57.1 -0.2**
SNR=21
KRND KRANIDI 76.19 332 P **P 16 16 57.6 0.0**
SGDS Sogindy 76.36 12 *e*P **P 16 16 58.2 -0.4**
comp=Z,52nm,1.8s,baz=12
SGDS *e*S **S 16 26 44.1 +1.0**
baz=12
SGDS Sogindy 76.36 12 *e*P **P 16 16 58.1 -0.4**
SGDS *e*S **S 16 26 44.0 +1.0**
SGDS pmax pmax
comp=Z,52nm,1.8s
TNSS Tian-Shan 76.40 14 *e*P **P 16 16 58.4 -0.8**
baz=14
TNSS Tian-Shan 76.40 14 *e*P **P 16 16 58.4 -0.8**
KBZ Khabaz 76.43 349 P **P 16 16 59.4 +0.7**
comp=Z,6.9nm,1.0s,baz=162,slow=4.9,SNR=29
KBZ LR LR 16 50 38.6
comp=Z,802nm,18.2s,baz=166,slow=36
comp=Z,6.9nm,1.0s
KBZ Khabaz 76.43 349 *i* P **P 16 16 59.0 +0.2**
KBZ pmax pmax
comp=Z,57nm,1.9s
ATHU Athens Univers 76.44 333 P **P 16 16 59.6 +0.5**
SHA1 Shidzhatmaz 76.47 348 *i* P **P 16 16 59.8 +0.4**
DION Dionisos Attik 76.48 333 P **P 16 17 00.2 +0.9**

ITM	**Ithomi**	**76.51**	**331**	P	**P**	**16 17 00.0**	**+0.5**
MDOK	**Medeo**	**76.55**	**14**	*e*P	**P**	**16 16 59.5**	**-0.3**
	baz=14						
MDOK				*e*S	**S**	**16 26 46.4**	**+1.1**
	baz=14						
MDOK				LR	LR	16 49 10.4	
	comp=Z,229nm,16.8s,baz=14						
MDOK	**Medeo**	**76.55**	**14**	*e*P	**P**	**16 16 59.4**	**-0.3**
MDOK				*e*S	**S**	**16 26 46.4**	**+1.1**
MDOK				MLR	MLR		
	comp=Z,229nm,17.0s						
AAA	**Alma-Ata**	**76.56**	**14**	*e*P	**P**	**16 16 59.1**	**-0.6**
	comp=Z,62nm,1.1s,baz=14						
AAA	**Alma-Ata**	**76.56**	**14**	*e*P	**P**	**16 16 59.1**	**-0.6**
AAA				pmax	pmax		
	comp=Z,62nm,1.1s						
BZK	**Bozkurt**	**76.67**	**342**	⇑P	**P**	**16 17 01.0**	**+0.8**
KVAR	**Kislovodsk Arr**	**76.68**	**349**	LR	LR	16 50 43.1	
	comp=Z,442nm,18.6s,baz=108,slow=36						
KIV	**Kislovodsk**	**76.68**	**349**	P	**P**	**16 16 59.5**	**-0.9**
KIV	**Kislovodsk**	**76.68**	**349**	*i* P	**P**	**16 17 00.3**	**-0.1**
	SNR=21						
KIV	**Kislovodsk**	**76.68**	**349**	P	**P**	**16 17 01.6**	**+1.2**
KIV	**Kislovodsk**	**76.68**	**349**	*e*P	**P**	**16 17 00.3**	**-0.1**
KIV				*e*S	**S**	**16 26 47.8**	**+1.1**
KIV				*e*SS	**SS**	**16 31 44.5**	**+1.4**
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
KIV				MLR	MLR		
	comp=Z,661nm,18.0s						
VSLR	**Vesyoloye**	**76.69**	**347**	*i* P	**P**	**16 17 01.6**	**+1.3**
VSLR				pmax	pmax		
	comp=Z,63nm,1.2s						
SATY	**Saty**	**76.74**	**15**	*e*P	**P**	**16 17 00.6**	**-0.2**
	comp=Z,90nm,1.7s,baz=15						
SATY				*e*S	**S**	**16 26 48.3**	**+0.9**
	baz=15						
SATY	**Saty**	**76.74**	**15**	*e*P	**P**	**16 17 00.5**	**-0.2**
SATY				*e*S	**S**	**16 26 48.3**	**+0.9**
SATY				pmax	pmax		
	comp=Z,90nm,1.7s						
ZHN	**Zhinishke**	**76.85**	**15**	*e*P	**P**	**16 17 00.9**	**-0.5**
	comp=Z,57nm,1.2s,baz=15						
ZHN	**Zhinishke**	**76.85**	**15**	*e*P	**P**	**16 17 00.9**	**-0.5**
ZHN				pmax	pmax		
	comp=Z,57nm,1.2s						
SOC	**Sochi**	**76.87**	**346**	*d i*P	**P**	**16 17 00.4**	**-0.9**
SOC				*e*PPP	PPP	16 21 36.6	
SOC				*e*S	**S**	**16 26 43.5**	**-5.0**
SOC				pmax	pmax		
	comp=Z,43nm,1.1s						
SOC				MLR	MLR		
	comp=Z,245nm,12.0s						
UZB	**Uzynbulak**	**76.96**	**15**	*e*P	**P**	**16 17 01.6**	**-0.5**
	comp=Z,62nm,1.5s,baz=15						
UZB	**Uzynbulak**	**76.96**	**15**	*e*P	**P**	**16 17 01.6**	**-0.5**
UZB				pmax	pmax		
	comp=Z,62nm,1.5s						
EDC	**Edincik**	**77.06**	**337**	P	**P**	**16 17 02.5**	**0.0**
SHLS	**Shalkode**	**77.07**	**16**	*e*P	**P**	**16 17 03.1**	**+0.4**
	comp=Z,86nm,1.4s,baz=16						
SHLS	**Shalkode**	**77.07**	**16**	*e*P	**P**	**16 17 03.0**	**+0.4**
SHLS				pmax	pmax		
	comp=Z,86nm,1.4s						
EZN	**Ezine**	**77.12**	**335**	P	**P**	**16 17 03.2**	**+0.4**
KLV	**Kalavryta, Ach**	**77.16**	**332**	P	**P**	**16 17 02.9**	**-0.3**
KPKS	**Kokpek**	**77.19**	**15**	*e*P	**P**	**16 17 02.8**	**-0.4**
	comp=Z,79nm,1.6s,baz=15						
KPKS				*e*S	**S**	**16 26 53.0**	**+0.8**
	baz=15						
KPKS	**Kokpek**	**77.19**	**15**	*e*P	**P**	**16 17 02.8**	**-0.4**
KPKS				*e*S	**S**	**16 26 53.0**	**+0.8**
KPKS				pmax	pmax		
	comp=Z,79nm,1.6s						
CHKK	**Chushkaly**	**77.20**	**14**	*e*P	**P**	**16 17 02.1**	**-1.1**
	baz=14						
CHKK	**Chushkaly**	**77.20**	**14**	*e*P	**P**	**16 17 02.9**	**-0.3**
PDGK	**Podgornoye**	**77.24**	**16**	P	**P**	**16 17 02.7**	**-0.9**
ISK	**Istanbul-Kandi**	**77.31**	**338**	P	**P**	**16 17 03.9**	**+0.1**
ISK	**Istanbul-Kandi**	**77.31**	**338**	P	**P**	**16 17 03.6**	**-0.2**
AOS	**Alonnisos**	**77.45**	**333**	P	**P**	**16 17 05.0**	**+0.3**
AXAR	**Agios Charalam**	**77.58**	**332**	P	**P**	**16 17 05.9**	**+0.5**
GOF	**Gofitskoye**	**77.69**	**349**	*ce*P	**P**	**16 17 06.4**	**+0.5**
LABN	**Labinsk**	**77.69**	**347**	*e*P	**P**	**16 17 04.5**	**-1.4**
LABN				*e**PP	**pP**	**16 17 07.7**	**-1.1**
LABN				*e*S	**S**	**16 26 57.5**	**+0.1**
LABN				pmax	pmax		
	comp=Z,91nm,1.2s						
LABN				MLR	MLR		
	comp=N,387nm,16.0s						
LABN				MLR	MLR		
	comp=E,632nm,18.0s						
LABN				MLR	MLR		
	comp=Z,347nm,17.0s						
ARXS	**Arharly**	**77.71**	**14**	*e*P	**P**	**16 17 05.2**	**-1.0**
BTLS	**Baital**	**77.80**	**11**	*e*P	**P**	**16 17 06.2**	**-0.3**
	comp=Z,58nm,1.5s,baz=11						
BTLS				*e*S	**S**	**16 27 00.1**	**+1.6**
	baz=11						
BTLS	**Baital**	**77.80**	**11**	*e*P	**P**	**16 17 06.1**	**-0.3**
BTLS				*e*S	**S**	**16 27 00.1**	**+1.6**
BTLS				pmax	pmax		
	comp=Z,58nm,1.5s						
PVO	**Paravola**	**77.90**	**331**	P	**P**	**16 17 08.8**	**+1.6**
AGG	**Agios Georgios**	**77.93**	**332**	IAmb	IAmb	16 17 16.1	
	comp=Z,98nm,1.3s						
AGG	**Agios Georgios**	**77.93**	**332**	P	**P**	**16 17 07.2**	**-0.2**
SMTH	**Samothraki Isl**	**77.98**	**335**	P	**P**	**16 17 07.8**	**+0.2**
MAKR	**Makrakomi, Fth**	**78.00**	**332**	P	**P**	**16 17 08.7**	**+0.9**
EVR	**Evrytania**	**78.05**	**332**	P	**P**	**16 17 10.3**	**+2.1**
CTAO	**Charters Tower**	**78.11**	**106**	P	**P**	**16 17 09.1**	**+0.1**
CTAO				IAmb	IAmb	16 17 12.4	
	comp=Z,92nm,1.8s						
CTAO	**Charters Tower**	**78.11**	**106**	P	**P**	**16 17 09.1**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,92nm,1.8s						
CTAO				MLR	MLR		
	comp=Z,800nm,19.0s						
FSK	**Fiskardo**	**78.17**	**331**	P	**P**	**16 17 09.6**	**+0.9**
ALN	**Alexandroupoli**	**78.17**	**336**	IAmb	IAmb	16 17 17.5	
	comp=Z,75nm,1.4s						
ALN	**Alexandroupoli**	**78.17**	**336**	P	**P**	**16 17 08.5**	**-0.2**
ALN	**Alexandroupoli**	**78.17**	**336**	P	**P**	**16 17 08.5**	**-0.2**
PAIG	**Paliouri**	**78.18**	**334**	P	**P**	**16 17 08.4**	**-0.4**
TATN	**Tataouine**	**78.26**	**320**	IAMs_20	IAMs_20	16 52 37.5	
	comp=Z,1μm,19.0s						
THAS	**Thassos island**	**78.39**	**335**	P	**P**	**16 17 09.3**	**-0.6**
OUR	**Ouranopolis**	**78.42**	**334**	P	**P**	**16 17 09.4**	**-0.7**
ANN	**Anapa**	**78.52**	**345**	*e*P	**P**	**16 17 08.9**	**-1.5**
ANN				*e**PP	**pP**	**16 17 12.1**	**-1.2**
ANN				*e*S	**S**	**16 27 05.9**	**-0.3**
ANN				pmax	pmax		
	comp=Z,77nm,1.6s						
THL	**Klokotos Trika**	**78.52**	**332**	P	**P**	**16 17 10.4**	**-0.2**
RDO	**Rodhopi**	**78.57**	**335**	P	**P**	**16 17 11.3**	**+0.4**
ENH	**Enshi**	**78.58**	**44**	IAmb	IAmb	16 17 13.5	
	comp=Z,68nm,1.2s						
TDK	**Taldyqorghan**	**78.59**	**14**	*e*P	**P**	**16 17 11.0**	**+0.1**
	comp=Z,59nm,1.6s,baz=14						
TDK				LR	LR	16 49 25.8	
	comp=Z,634nm,16.5s,baz=14						
TDK	**Taldyqorghan**	**78.59**	**14**	*e*P	**P**	**16 17 11.0**	**+0.1**
TDK				pmax	pmax		
	comp=Z,59nm,1.6s						
PLG	**Polygyros**	**78.66**	**334**	P	**P**	**16 17 11.3**	**-0.2**
EDRB	**Edirne**	**78.77**	**337**	P	**P**	**16 17 11.7**	**-0.3**
ERBR	**Yeremizino-Bor**	**78.78**	**347**	*e*P	**P**	**16 17 09.9**	**-2.0**
ERBR				*e**PP	**pP**	**16 17 12.6**	**-2.2**
ERBR				*e*S	**S**	**16 27 08.0**	**-1.0**
ERBR				pmax	pmax		
	comp=Z,64nm,0.6s						
LIT	**Litokhoron**	**78.79**	**333**	IAmb	IAmb	16 17 20.9	
	comp=Z,71nm,1.3s						
LIT	**Litokhoron**	**78.79**	**333**	P	**P**	**16 17 11.6**	**-0.6**
KAVA	**Kavala**	**78.81**	**335**	P	**P**	**16 17 11.8**	**-0.4**
HORT	**Hortiatis**	**78.99**	**334**	P	**P**	**16 17 12.8**	**-0.5**
KPRO	**Kipourio**	**79.11**	**332**	P	**P**	**16 17 14.8**	**+0.8**
NVR	**Nevrokopi**	**79.36**	**334**	P	**P**	**16 17 15.6**	**+0.4**
JMB	**Yambol**	**79.42**	**337**	⇓*i*P	**P**	**16 17 15.4**	**-0.1**
SIM	**Simferopol'**	**79.44**	**343**	*e*P	**P**	**16 17 16.0**	**+0.5**
SIM				*e*S	**S**	**16 27 19.7**	**+3.6**
SIM				pmax	pmax		
	comp=Z,101nm,1.3s						
MMB	**Musomishta**	**79.57**	**334**	⇓*i*P	**P**	**16 17 16.2**	**-0.2**
PRD	**Provadia**	**79.73**	**338**	⇓*i*P	**P**	**16 17 17.5**	**+0.4**
VAY	**Valandovo**	**79.81**	**334**	*i* P	**P**	**16 17 17.8**	**+0.2**
FNA	**Florina**	**79.81**	**332**	IAmb	IAmb	16 17 26.6	
	comp=Z,102nm,1.6s						
WMQ	**Urumqi**	**79.92**	**21**	⇓*i*P	**P**	**16 17 18.7**	**+0.4**
WMQ				pP	PcP	16 17 26.2	+0.4
WMQ				PP	**PP**	**16 20 22.5**	**+2.1**
WMQ				S	**S**	**16 27 20.9**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,50nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,310nm,3.6s						
WMQ				LR	LR		
	comp=Z,1μm,21.7s						
WMQ				LR	LR		
	comp=Z,840nm,18.1s						
WMQ				LR	LR		
	comp=Z,1μm,21.7s						
LZH	**Lanzhou**	**79.92**	**36**	⇑P	**P**	**16 17 18.7**	**+0.1**
LZH				pP	PcP	16 17 25.9	-0.2
LZH				pmax	pmax		
	comp=Z,24nm,1.5s						
LZH				LR	LR		
	comp=Z,1μm,14.4s						
LZH				LR	LR		
	comp=Z,1μm,14.4s						
LZH				LR	LR		
	comp=Z,930nm,13.4s						
RAFF	**Raffo Rosso**	**79.93**	**326**	IAmb	IAmb	16 17 29.4	
	comp=Z,92nm,1.2s						
ELND	**Elena**	**80.03**	**337**	⇓P	**P**	**16 17 19.3**	**+0.5**
KKB	**Krupnik**	**80.05**	**334**	⇓*i*P	**P**	**16 17 18.4**	**-0.6**
VAE	**Valguarnera**	**80.11**	**326**	LR	LR	16 52 51.1	
	comp=Z,898nm,20.8s,baz=118,slow=36						
PGB	**Panagyurishte**	**80.26**	**335**	⇓*i*P	**P**	**16 17 19.7**	**-0.4**
STIP	**Stip**	**80.28**	**333**	*i* P	**P**	**16 17 19.4**	**-0.8**
SZH	**Strazhitsa**	**80.29**	**337**	⇓*i*P	**P**	**16 17 20.5**	**+0.3**
OHR	**Ohrid**	**80.32**	**332**	*i* P	**P**	**16 17 21.8**	**+1.3**
TIP	**Timpagrande**	**80.41**	**329**	⇑P	**P**	**16 17 21.9**	**+0.8**
AB31	**Akbulak array**	**80.68**	**1**	P	**P**	**16 17 20.9**	**-1.2**
ABKAR	**Akbulak array**	**80.68**	**1**	P	**P**	**16 17 21.3**	**-0.8**
ABKAR	**Akbulak array**	**80.68**	**1**	IAmb	IAmb	16 17 31.2	
	comp=Z,227nm,1.6s						
GTA	**Gaotai**	**80.68**	**31**	⇓P	**P**	**16 17 22.4**	**-0.2**
GTA				sP	PcP	16 17 30.1	+0.8
GTA				S	**S**	**16 27 27.3**	**-2.4**
GTA				pmax	pmax		
	comp=Z,36nm,2.2s						
GTA				pmax	pmax		
	comp=Z,500nm,6.8s						
GTA				LR	LR		
	comp=Z,950nm,19.1s						
GTA				LR	LR		
	comp=Z,830nm,18.3s						
GTA				LR	LR		
	comp=Z,1μm,16.7s						
VTS	**Vitosha**	**80.69**	**335**	⇓*i*P	**P**	**16 17 21.8**	**-0.8**
SKO	**Skopje**	**80.80**	**333**	*i* P	**P**	**16 17 23.2**	**+0.2**
TIR	**Tirane**	**80.89**	**332**	IAmb	IAmb	16 17 33.2	
	comp=Z,178nm,1.5s						
TIR				IAMs_20	IAMs_20	16 52 03.1	
	comp=Z,1μm,22.0s						
TIR	**Tirane**	**80.89**	**332**	P	**P**	**16 17 27.3**	**+3.8**
HARR	**Harsova**	**80.94**	**339**	⇑P	**P**	**16 17 24.2**	**+0.5**
HARR	**Harsova**	**80.94**	**339**	P	**P**	**16 17 24.1**	**+0.5**
XAN	**Xi'an**	**81.04**	**41**	⇑P	**P**	**16 17 24.1**	**-0.4**
XAN				pP	pwP	16 17 35.8	+2.4
XAN				pmax	pmax		
	comp=Z,60nm,2.4s						
MAKZ	**Makanchi**	**81.11**	**16**	P	**P**	**16 17 23.7**	**-0.9**
MAKZ	**Makanchi**	**81.11**	**16**	P	**P**	**16 17 24.4**	**-0.1**
MPEP	**Malo Peshtene**	**81.15**	**335**	*i* P	**P**	**16 17 24.4**	**-0.4**
MK31	**Makanchi Array**	**81.17**	**16**	*i* P	**P**	**16 17 24.3**	**-0.6**
MK31				pmax	pmax		
	comp=Z,58nm,1.4s						
MKAR	**Makanchi Array**	**81.17**	**16**	P	**P**	**16 17 23.8**	**-1.1**
MKAR	**Makanchi Array**	**81.17**	**16**	P	**P**	**16 17 24.3**	**-0.6**
	comp=Z,11nm,0.9s,baz=233,slow=5.1,SNR=36						
MKAR				LR	LR	16 50 42.6	
	comp=Z,634nm,21.0s,baz=204,slow=34						
	comp=Z,11nm,0.9s						
KEST	**Kesra**	**81.29**	**322**	IAmb	IAmb	16 17 37.1	
	comp=Z,139nm,1.6s						
KEST	**Kesra**	**81.29**	**322**	P	**P**	**16 17 27.5**	**+1.6**
	comp=Z,12nm,1.0s,baz=138,slow=5.1,SNR=14						
KEST				LR	LR	16 54 00.2	
	comp=Z,1μm,19.8s,baz=90,slow=36						
	comp=Z,12nm,1.0s						
CFR	**Carcaliu**	**81.31**	**339**	⇑P	**P**	**16 17 25.7**	**+0.1**
CFR	**Carcaliu**	**81.31**	**339**	P	**P**	**16 17 25.6**	**+0.1**
SSLB	**Suanglung**	**81.55**	**55**	IAmb	IAmb	16 17 31.6	
	comp=Z,64nm,1.2s						
VALD	**Valchedram**	**81.55**	**335**	*i* P	**P**	**16 17 27.1**	**+0.2**
MATE	**Matera**	**81.64**	**329**	⇓P	**P**	**16 17 27.8**	**+0.4**
WHN	**Wuhan**	**81.70**	**46**	P	**P**	**16 17 28.7**	**+0.7**
WHN				pmax	pmax		
	comp=Z,100nm,1.2s						
ISR	**Istrita**	**81.76**	**338**	⇑P	**P**	**16 17 29.2**	**+1.2**
ISR	**Istrita**	**81.76**	**338**	P	**P**	**16 17 29.2**	**+1.2**
AKTO	**Aktyubinsk**	**81.84**	**360**	LR	LR	16 51 48.9	
	comp=Z,427nm,21.9s,baz=202,slow=34						
NEHR	**Nehoiu**	**82.11**	**338**	⇑P	**P**	**16 17 30.4**	**+0.5**
BOVS	**Bovan**	**82.13**	**334**	⇑P	**P**	**16 17 29.8**	**-0.2**
SPBR	**Spulber**	**82.25**	**338**	⇓P	**P**	**16 17 31.1**	**+0.4**
MLR	**Muntele Rosu**	**82.28**	**338**	⇑P	**P**	**16 17 31.5**	**+0.6**
MLR	**Muntele Rosu**	**82.28**	**338**	IAmb	IAmb	16 17 39.6	
	comp=Z,121nm,1.3s						
MLR	**Muntele Rosu**	**82.28**	**338**	LR	LR	16 53 05.6	
	comp=Z,474nm,19.6s,baz=151,slow=35						
MLR	**Muntele Rosu**	**82.28**	**338**	P	**P**	**16 17 31.5**	**+0.6**
MLR	**Muntele Rosu**	**82.28**	**338**	P	**P**	**16 17 30.9**	**0.0**
	comp=Z,77nm,1.6s,comp=Z,1μm						
JAY	**Jayapura**	**82.31**	**88**	P	**P**	**16 17 33.4**	**+1.6**
USHA	**Ushuaia**	**82.34**	**208**	LR	LR	16 47 50.3	
	comp=Z,887nm,20.7s,baz=145,slow=31						
VRI	**Vrincioaia**	**82.37**	**338**	⇑P	**P**	**16 17 31.3**	**+0.1**
VRI	**Vrincioaia**	**82.37**	**338**	P	**P**	**16 17 31.3**	**+0.1**
VRI	**Vrincioaia**	**82.37**	**338**	P	**P**	**16 17 31.3**	**+0.1**
	comp=Z,106nm,1.9s,comp=Z,2μm						
PLOR5	**Plostina Array**	**82.37**	**338**	P	**P**	**16 17 30.9**	**-0.3**
	comp=Z,108nm,1.7s,comp=Z,2μm						
PLOR	**Plostina**	**82.38**	**338**	⇑P	**P**	**16 17 31.4**	**+0.1**
PLOR	**Plostina**	**82.38**	**338**	P	**P**	**16 17 31.4**	**+0.1**
PLOR3	**Plostina Array**	**82.38**	**338**	P	**P**	**16 17 30.7**	**-0.6**
	comp=Z,84nm,1.8s,comp=Z,1μm						
ZSN	**Zaisan**	**82.43**	**18**	*e*P	**P**	**16 17 31.8**	**+0.2**
	comp=Z,52nm,1.7s,baz=18						
ZSN	**Zaisan**	**82.43**	**18**	*e*P	**P**	**16 17 31.7**	**+0.2**
ZSN				pmax	pmax		
	comp=Z,52nm,1.7s						
COVR	**Voineasa-Covas**	**82.51**	**338**	⇑P	**P**	**16 17 31.5**	**-0.5**
VOIR		**82.53**	**337**	⇑P	**P**	**16 17 31.8**	**-0.3**
VOIR		**82.53**	**337**	P	**P**	**16 17 31.8**	**-0.3**
ARR	**Arges**	**82.60**	**337**	⇑P	**P**	**16 17 32.6**	**+0.1**
MILM	**Milestii Mici**	**82.69**	**340**	⇓P	**P**	**16 17 33.0**	**+0.2**
MILM	**Milestii Mici**	**82.69**	**340**	⇓*i*P	**P**	**16 17 32.0**	**-0.8**
	comp=Z,390nm,2.2s						
MILM				M	M	16 17 41.0	
	comp=Z,460nm,2.2s						
MILM	**Milestii Mici**	**82.69**	**340**	*e*PP	PP	16 20 39.0	-4.1
MILM				*i* S	**S**	**16 27 47.0**	**-2.8**
MILM	**Milestii Mici**	**82.69**	**340**	*d i*P	**P**	**16 17 32.0**	**-0.8**
MILM				*i*		16 17 39.0	
MILM				*e*		16 20 39.0	
MILM				*i* S	**S**	**16 27 47.0**	**-2.8**
MILM				*e*PS	**PnS**	**16 28 32.0**	**-8.7**
MILM				pmax	pmax		
	comp=Z,390nm,2.2s						
MILM				pmax	pmax		
	comp=N,170nm,2.8s						
MILM				pmax	pmax		
	comp=N,460nm,2.2s						
KIS	**Kishinev**	**82.76**	**340**	⇓*i*P	**P**	**16 17 32.7**	**-0.5**
	comp=N,220nm,2.1s						
KIS				M	M	16 17 41.5	
	comp=N,200nm,1.8s						
KIS				*e*L	L	16 45 30.0	
KIS				LRM	MLR	16 50 18.0	
	comp=N,150nm,23.0s						
KIS	**Kishinev**	**82.76**	**340**	*d i*P	**P**	**16 17 32.7**	**-0.5**
KIS				*i*		16 17 40.0	
KIS				pmax	pmax		
	comp=Z,220nm,2.1s						
KIS				pmax	pmax		
	comp=Z,200nm,1.8s						
OZUR		**82.87**	**338**	⇑P	**P**	**16 17 33.6**	**-0.2**
PAOL	**Paolisi**	**82.89**	**328**	IAmb	IAmb	16 17 42.1	
	comp=Z,96nm,1.6s						
ONER	**Baraj Valea Uz**	**82.89**	**338**	⇑P	**P**	**16 17 34.1**	**+0.2**
HERR	**Herculane**	**82.94**	**335**	⇑P	**P**	**16 17 34.8**	**+0.6**
SGRT	**San Giovanni R**	**82.95**	**329**	IAmb	IAmb	16 17 43.0	
	comp=Z,84nm,1.5s						
RPZ	**Rata Peaks**	**83.06**	**138**	LR	LR	16 46 24.4	
	comp=Z,2μm,20.9s,baz=227,slow=30						
MDVR	**Moldovita**	**83.11**	**335**	⇑P	**P**	**16 17 35.2**	**+0.1**
GZR	**Gura Zlata**	**83.26**	**336**	⇑P	**P**	**16 17 36.1**	**+0.2**
GZR	**Gura Zlata**	**83.26**	**336**	P	**P**	**16 17 36.1**	**+0.2**
LYN	**LuoYang**	**83.41**	**42**	P	**P**	**16 17 37.7**	**+0.8**
LYN				sP	pwP	16 17 45.0	-0.8
LYN				S	**S**	**16 27 54.8**	**-3.0**
LYN				sS	ScS	16 28 10.4	-0.9
LYN				pmax	pmax		
	comp=Z,38nm,1.5s						
LYN				pmax	pmax		
	comp=Z,1μm,4.7s						
LYN				LR	LR		
	comp=Z,2μm,16.9s						
LYN				LR	LR		
	comp=Z,1μm,8.3s						
LYN				LR	LR		
	comp=Z,2μm,23.3s						
DEV	**Deva**	**83.64**	**336**	⇑P	**P**	**16 17 38.3**	**+0.5**
DEV	**Deva**	**83.64**	**336**	P	**P**	**16 17 38.2**	**+0.5**
SURR	**Surduc**	**83.80**	**336**	⇑P	**P**	**16 17 38.7**	**+0.1**
BZS	**Buzias**	**83.86**	**335**	⇑P	**P**	**16 17 39.6**	**+0.7**
BZS	**Buzias**	**83.86**	**335**	P	**P**	**16 17 39.6**	**+0.7**
VRH	**Novokhopyorsk**	**83.88**	**350**	*e*P	**P**	**16 17 38.0**	**-0.8**
VRH				pmax	pmax		
	comp=Z,51nm,1.3s						
SORM	**Soroca**	**83.92**	**340**	⇑P	**P**	**16 17 38.9**	**-0.3**
SORM	**Soroca**	**83.92**	**340**	P	**P**	**16 17 38.8**	**-0.3**
INTR	**Introdacqua**	**83.97**	**328**	IAmb	IAmb	16 17 48.9	
	comp=Z,63nm,1.3s						
KURBB	**Kurchatov Arra**	**83.98**	**13**	P	**P**	**16 17 39.3**	**-0.1**
	comp=Z,33nm,1.0s,baz=205,slow=5.4,SNR=88						
KURBB				LR	LR	16 53 04.4	
	comp=Z,471nm,19.1s,baz=205,slow=34						
	comp=Z,33nm,1.0s						
VORD	**Divnogorie**	**84.05**	**348**	*e*P	**P**	**16 17 38.9**	**-0.8**
VORD				pmax	pmax		
	comp=Z,20nm,0.3s						
KURK	**Kurchatov**	**84.09**	**13**	P	**P**	**16 17 39.4**	**-0.5**
KURK	**Kurchatov**	**84.09**	**13**	P	**P**	**16 17 41.2**	**+1.3**
KURK	**Kurchatov**	**84.09**	**13**	*i* P	**P**	**16 17 39.9**	**0.0**
KURK				pmax	pmax		
	comp=Z,73nm,1.2s						
FRGS	**Fruska Gora**	**84.14**	**334**	⇑P	**P**	**16 17 40.8**	**+0.4**
FRGS	**Fruska Gora**	**84.14**	**334**	P	**P**	**16 17 40.5**	**+0.1**
	comp=Z,39nm,1.9s,comp=Z,733nm						
ARCR	**ARCALIA**	**84.21**	**338**	⇑P	**P**	**16 17 41.7**	**+1.1**
PMG	**Port Moresby**	**84.25**	**97**	LR	LR	16 52 16.8	
	comp=Z,316nm,20.1s,baz=290,slow=34						
MARR	**Marisel-Cluj**	**84.26**	**337**	⇑P	**P**	**16 17 41.6**	**+0.6**
VSR	**Storozhevoye**	**84.31**	**348**	*e*P	**P**	**16 17 38.2**	**-2.8**
VSR				pmax	pmax		
	comp=Z,60nm,1.3s						
BELG	**Belogornoye**	**84.31**	**354**	LR	LR	16 57 18.0	
	comp=Z,641nm,18.7s,baz=143,slow=37						
BELG	**Belogornoye**	**84.31**	**354**	*i* P	**P**	**16 17 40.6**	**-0.4**
BELG				pmax	pmax		
	comp=Z,30nm,2.0s						
LTZ	**Lake Taylor**	**84.33**	**138**	P	**P**	**16 17 42.7**	**+0.9**
LTZ				IAmb	IAmb	16 17 44.2	
	comp=Z,82nm,1.1s						
BURAR	**Bucovina Array**	**84.40**	**338**	⇑P	**P**	**16 17 42.4**	**+0.7**
BURAR	**Bucovina Array**	**84.40**	**338**	P	**P**	**16 17 41.2**	**-0.5**
BURAR	**Bucovina Array**	**84.40**	**338**	P	**P**	**16 17 42.4**	**+0.7**
SIRR	**Siria**	**84.41**	**335**	⇑P	**P**	**16 17 41.8**	**+0.1**
BUR08	**Bucovina Ar. S**	**84.43**	**338**	IAmb	IAmb	16 17 51.3	
	comp=Z,58nm,1.5s						
DRGR		**84.50**	**336**	⇓P	**P**	**16 17 42.3**	**+0.1**
DRGR		**84.50**	**336**	P	**P**	**16 17 42.3**	**+0.1**
CAMP	**Campotosto**	**84.61**	**328**	IAmb	IAmb	16 17 45.3	
	comp=Z,152nm,1.9s						
VORR	**Voronezh**	**84.74**	**348**	*e*P	**P**	**16 17 43.1**	**-0.1**
VORR				pmax	pmax		
	comp=Z,50nm,0.4s						
NRCA	**Norcia**	**84.98**	**328**	IAmb	IAmb	16 17 53.3	
	comp=Z,44nm,1.3s						
CESX	**Cesi**	**85.04**	**328**	IAmb	IAmb	16 17 53.7	
	comp=Z,105nm,1.9s						
GUMA	**Gualdo di Mace**	**85.06**	**329**	IAMs_20	IAMs_20	16 59 32.4	
	comp=Z,448nm,20.0s						
BBTS	**Babate**	**85.10**	**290**	LR	LR	16 53 31.1	
	comp=Z,326nm,18.9s,baz=352,slow=34						
BVA0	**Borovoye Array**	**85.10**	**7**	*i* P	**P**	**16 17 43.9**	**-1.1**
BVAR	**Borovoye Array**	**85.10**	**7**	LR	LR	16 55 29.7	
	comp=Z,764nm,18.2s,baz=183,slow=36						
BRVK	**Borovoye**	**85.12**	**7**	P	**P**	**16 17 44.6**	**-0.5**
BRVK	**Borovoye**	**85.12**	**7**	IAMs_20	IAMs_20	16 54 09.8	
	comp=Z,962nm,20.0s						
BRVK	**Borovoye**	**85.12**	**7**	P	**P**	**16 17 45.6**	**+0.5**
BRVK	**Borovoye**	**85.12**

HNS pmax pmax
comp=Z,58nm,1.3s
HNS LR LR
comp=Z,1µm,20.2s
HNS LR LR
comp=Z,1µm,21.4s
LVV L'vov 86.71 339 *e*P **P 16 17 51.7 -1.4**
LVV *e*S **S 16 28 24.1 -5.7**
LVV MLR MLR
comp=Z,300nm,18.0s
CRVS Cervenica-Dubn 86.75 337 *e*P **P 16 17 53.8 +0.5**
CRVS pmax pmax
comp=Z,143nm,1.8s
CRVS Cervenica-Dubn 86.75 337 *e*P **P 16 17 53.8 +0.5**
SRO Srobarova 86.93 334 *e*P **P 16 17 54.9 +0.7**
SRO pmax pmax
comp=Z,178nm,1.9s
SRO Srobarova 86.93 334 *e*P **P 16 17 54.9 +0.7**
KWP Kalwaria Pacla 86.97 338 *e*P **P 16 17 55.0 +0.7**
KWP *e*L L 16 47 55.1
comp=Z,1µm,41.3s
KWP Kalwaria Pacla 86.97 338 IAmb IAmb 16 18 04.5
comp=Z,132nm,1.8s
MAHO Mahon 87.07 321 IAmb IAmb 16 18 00.9
comp=Z,62nm,1.2s
MAHO IAMs_20 IAMs_20 16 56 51.8
comp=Z,1µm,19.0s
MAHO Mahon 87.07 321 P **P 16 17 55.5 +0.5**
PERS Pernice 87.19 332 *i* P **P 16 17 55.4 -0.2**
VLC Villacollemand 87.25 328 P **P 16 17 53.5 -2.4**
SOKA Soboth 87.26 332 *e*P **P 16 17 55.7 -0.2**
comp=Z,31nm,1.8s,SNR=26
SABO M.te Sabotino 87.28 331 IAmb IAmb 16 18 05.0
comp=Z,195nm,1.6s
SABO IAMs_20 IAMs_20 16 57 34.4
comp=Z,371nm,21.0s
TIA Tai'an 87.29 44 P **P 16 17 56.1 -0.1**
TIA pmax pmax
comp=Z,18nm,1.2s
VYHS Vyhne 87.31 335 *e*P **P 16 17 56.2 +0.2**
VYHS pmax pmax
comp=Z,91nm,1.8s
VYHS Vyhne 87.31 335 *e*P **P 16 17 56.2 +0.2**
OBKA Obir 87.32 331 *e*P **P 16 17 56.4 +0.2**
comp=Z,38nm,1.7s,SNR=26
MDT Midelt 87.41 311 LR LR 16 57 41.8
comp=Z,2µm,19.2s,baz=151,slow=36
RNPP5 Staryi Chortor 87.41 340 P **P 16 17 56.1 -0.3**
HHC Hu-ho-hao-te 87.47 38 ⇓*i* P **P 16 17 57.2 +0.1**
HHC sP pwP 16 18 04.7 -1.4
HHC PP **PP 16 21 22.1 -0.2**
HHC S **S 16 28 37.6 -0.2**
HHC SS **SS 16 34 25.8 +1.9**
HHC pmax pmax
comp=Z,37nm,0.9s
HHC pmax pmax
comp=Z,190nm,3.9s
HHC LR LR
comp=Z,440nm,18.2s
HHC LR LR
comp=Z,350nm,15.1s
HHC LR LR
comp=Z,460nm,18.6s
SOP Sopron 87.48 333 P **P 16 17 58.4 +1.6**
ARSA Arzberg 87.53 332 *e*P **P 16 17 56.9 -0.3**
comp=Z,22nm,1.6s,SNR=9.5
NIE Niedzica 87.58 336 *e*P **P 16 17 58.1 +0.7**
NIE *e*L L 16 48 16.9
comp=Z,516nm,40.3s
NIE Niedzica 87.58 336 P **P 16 17 58.8 +1.5**
RONA Rosalia, Austr 87.60 333 *e*P **P 16 17 57.2 -0.3**
comp=Z,41nm,1.8s,SNR=28
CHAS Isla Isabel II 87.61 314 P **P 16 17 59.0 +1.3**
LANS Liptovska Anna 87.64 336 *e*P **P 16 17 58.6 +0.9**
LANS pmax pmax
comp=Z,86nm,2.7s
LANS Liptovska Anna 87.64 336 *e*P **P 16 17 58.6 +0.9**
ZST Bratislava 87.70 334 *e*P **P 16 17 57.7 -0.2**
ZST pmax pmax
comp=Z,217nm,1.5s
ZST Bratislava 87.70 334 *e*P **P 16 17 57.7 -0.2**
ETOS Mallorca 87.75 321 P **P 16 17 59.2 +0.8**
MSSA Maissana 87.77 327 IAmb IAmb 16 18 07.5
comp=Z,47nm,1.4s
MODS Modra-Piesok 87.78 334 *e*P **P 16 17 58.2 -0.1**
MODS pmax pmax
comp=Z,167nm,1.5s
MODS Modra-Piesok 87.78 334 *e*P **P 16 17 58.2 -0.1**
MYKA Terra Mystica 87.79 331 *e*P **P 16 17 58.1 -0.3**
comp=Z,26nm,1.6s,SNR=11
SMOL Smolenice 87.84 334 *e*P **P 16 17 59.0 +0.4**
ARU Arti 87.85 0 P **P 16 17 57.0 -1.4**
ARU Arti 87.85 0 LR LR 16 57 33.8
comp=Z,196nm,18.1s,baz=170,slow=36
ARU Arti 87.85 0 *d i* P **P 16 17 58.3 -0.1**
ARU 16 21 19.9
ARU S **SKSac 16 28 25.5 -0.3**
ARU SS **SS 16 34 24.6 -3.9**
ARU pmax pmax
comp=Z,151nm,1.8s
ARU MLR MLR
comp=Z,708nm,22.0s
STAL STALIGIAL 87.88 330 IAmb IAmb 16 18 13.9
comp=Z,36nm,1.3s
TIO Tiouine 87.93 309 P **P 16 17 59.6 0.0**
CONA Conrad Observa 87.95 333 *e*P **P 16 17 58.9 -0.3**
comp=Z,48nm,1.4s,SNR=44
EMLI Melilla 88.00 314 P **P 16 18 01.7 +2.1**
EIBI Ibiza 88.04 319 P **P 16 18 01.0 +1.3**
JAVC Velka Javorina 88.04 335 *e*P **P 16 17 59.9 +0.3**
JAVC *e* 16 18 08.1
IFR Ifrane 88.19 312 P **P 16 18 02.0 +1.2**
KBA Koelnbreinsper 88.27 331 *e*P **P 16 18 00.6 -0.3**
comp=Z,30nm,1.5s,SNR=9.6
ABTA Abfaltersbach 88.35 331 *e*P **P 16 18 01.4 +0.3**
comp=Z,47nm,1.5s,SNR=38
CART Cartagena 88.38 317 IAMs_20 IAMs_20 16 55 59.4
comp=Z,928nm,21.0s
CART Cartagena 88.38 317 P **P 16 18 02.1 +0.8**
ZALV Zalesovo Beam 88.42 15 P **P 16 17 59.0 -2.1**
ZALV Zalesovo Beam 88.42 15 P **P 16 17 59.7 -1.5**
comp=Z,19nm,1.1s,baz=215,slow=4.7,SNR=25
ZALV LR LR 16 54 40.5
comp=Z,713nm,20.9s,baz=202,slow=34
comp=Z,19nm,1.1s
ZALV Zalesovo Beam 88.42 15 *i* P **P 16 17 59.9 -1.3**
ZALV pmax pmax
comp=Z,19nm,1.1s
OJC Ojcow 88.44 336 *e*P **P 16 18 00.7 -0.6**
OJC *e*S **S 16 28 48.7 +2.4**
OJC *e*L L 16 48 38.5
comp=Z,1µm,44.6s
OJC Ojcow 88.44 336 P **P 16 18 00.8 -0.6**
OJC Ojcow 88.44 336 P **P 16 18 00.8 -0.6**
EALB Alboran 88.48 315 P **P 16 18 03.3 +1.4**
OBN Obninsk 88.50 348 P **P 16 17 59.8 -1.7**
OBN Obninsk 88.50 348 LR LR 16 57 58.8
comp=Z,633nm,19.2s,baz=168,slow=36
OBN Obninsk 88.50 348 *e*P **P 16 18 00.9 -0.6**
OBN *e**PP **pP 16 18 04.6 +0.2**
OBN *e* 16 21 29.4
OBN *e*PPP PPP 16 23 24.2
OBN pmax pmax
comp=Z,57nm,1.3s
OBN MLR MLR
comp=Z,681nm,19.0s
MOA Molln 88.51 332 *e*P **P 16 18 01.6 -0.2**
comp=Z,24nm,1.2s,SNR=14
BIOA Bad Ischl, Aus 88.64 332 *e*P **P 16 18 01.9 -0.5**
comp=Z,47nm,2.0s,SNR=23
ENIJ Nijar 88.67 316 P **P 16 18 04.1 +1.3**
KRUC Moravsky 88.68 334 *e*P **P 16 18 01.9 -0.6**
KRUC *e* 16 18 09.9
OKC Ostrava-Krasne 88.69 335 AMS AMS 16 54 50.0
comp=Z,300nm,19.3s
OKC Ostrava-Krasne 88.69 335 P **P 16 18 03.3 +0.8**
EMUR La Murta 88.69 317 P **P 16 18 04.1 +1.2**
PVLZ Peæn de 88.75 313 P **P 16 18 05.8 +2.7**
VRAC Vranov 88.81 334 ⇓P **P 16 18 03.3 +0.2**
VRAC Vranov 88.81 334 *e*P **P 16 18 03.0 -0.1**
VRAC *e* 16 18 10.5
VRAC Vranov 88.81 334 LR LR 16 58 53.8
comp=Z,77nm,19.2s,baz=150,slow=36
VRAC Vranov 88.81 334 P **P 16 18 03.3 +0.2**
LESA Schwarzleotal 88.82 331 *e*P **P 16 18 02.9 -0.4**
comp=Z,63nm,1.8s
TLOR Lorca, Murcia 88.83 317 P **P 16 18 05.8 +2.3**
MORC Moravsky Berou 88.85 335 ⇓P **P 16 18 03.8 +0.4**
MORC Moravsky Berou 88.85 335 IAmb IAmb 16 18 12.2
comp=Z,80nm,1.5s
MORC Moravsky Berou 88.85 335 *e*P **P 16 18 03.1 -0.3**
MORC *e* 16 18 10.8
MORC Moravsky Berou 88.85 335 P **P 16 18 03.7 +0.4**
MOS Moscow 88.92 349 *e*P **P 16 18 01.3 -2.1**
MOS *e* 16 21 35.8
MOS *e*S **SKSac 16 28 29.2 -2.9**
MOS pmax pmax
comp=Z,215nm,1.7s
EBER Berja 89.03 315 P **P 16 18 06.1 +1.4**
WTTA Wattenberg 89.12 330 *e*P **P 16 18 04.9 0.0**
comp=Z,45nm,1.3s,SNR=24
WATA Walderalm 89.21 330 *e*P **P 16 18 05.0 -0.3**
comp=Z,31nm,1.2s,SNR=20
FUORN Ofenpass-Fuorn 89.21 329 IAmb IAmb 16 18 14.9
comp=Z,113nm,1.6s
SQTA Sankt Quirin 89.27 330 *e*P **P 16 18 05.7 +0.2**
comp=Z,40nm,1.4s,SNR=22
CKRC Cesky Krumlov 89.28 333 AMS AMS 16 59 30.0
comp=Z,200nm,18.4s
FETA Feichten 89.32 330 *e*P **P 16 18 06.1 +0.3**
comp=Z,32nm,1.2s,SNR=29
BJI Beijing 89.37 41 P **P 16 18 05.9 -0.1**
BJI sP **pwP 16 18 13.2 -1.7**
BJI SKS **SKSac 16 28 32.5 -3.1**
BJI S **S 16 28 54.8 -0.7**
BJI pmax pmax
comp=Z,6.0nm,2.1s
BJI pmax pmax
comp=Z,200nm,5.2s
BJI LR LR
comp=Z,350nm,21.2s
BJI LR LR
comp=Z,260nm,21.9s
BJI LR LR
comp=Z,610nm,21.3s
KRLC Kraliky 89.38 335 *e*P **P 16 18 02.6 -3.2**
KRLC *e*pP **PcP 16 18 07.6 +0.4**
KRLC AMS AMS 16 55 20.0
comp=Z,600nm,20.1s
KRLC Kraliky 89.38 335 *e*P **P 16 18 02.6 -3.2**
KRLC *e* 16 18 07.6
KRLC MLR MLR
comp=Z,600nm,20.1s
ELGU Los Guajares, 89.45 315 P **P 16 18 07.1 +0.6**
BEL Belsk 89.49 338 *e*P **P 16 18 06.0 -0.2**
BEL *e*L L 16 49 04.0
comp=Z,934nm,38.1s
TUE Stuetta 89.50 329 IAmb IAmb 16 18 15.7
comp=Z,38nm,1.1s
DAVOX Davos/Dischmat 89.50 329 LR LR 17 00 22.3
comp=Z,241nm,20.2s,baz=88,slow=37
AVE Averroes 89.52 310 IAMs_20 IAMs_20 16 58 42.1
comp=Z,845nm,19.0s
AVE Averroes 89.52 310 P **P 16 18 07.4 +0.5**
GEC2 GERESS Array S 89.54 332 IAmb IAmb 16 18 15.2
comp=Z,75nm,1.7s
GERES GERESS Array B 89.54 332 P **P 16 18 05.2 -1.5**
GERES GERESS Array B 89.54 332 P **P 16 18 06.2 -0.5**
comp=Z,2.5nm,0.8s,baz=79,slow=2.9,SNR=8.9
GERES LR LR 16 59 34.5
comp=Z,142nm,19.2s,baz=145,slow=36
comp=Z,2.5nm,0.8s
RETA Reutte 89.67 330 *e*P **P 16 18 07.5 +0.2**
comp=Z,30nm,1.3s,SNR=24
DPC Dobruska-Polom 89.77 335 *e*P **P 16 18 08.4 +0.7**
DPC *e*SKS **SKSac 16 28 39.4 +1.8**
DPC Dobruska-Polom 89.77 335 *e*P **P 16 18 08.4 +0.7**
DPC *e* 16 28 39.4
MNK Minsk 89.81 343 *i* P **P 16 18 07.7 0.0**
MNK *i* 16 21 39.6
MNK *i* PPP PPP 16 23 36.7
MNK *i* S **SKSac 16 28 37.8 +0.3**
MNK *i* SS **SS 16 34 58.5 +1.3**
MNK *i* SSS SSS 16 38 35.1
MNK pmax pmax
comp=Z,29nm,1.0s
MNK pmax pmax
comp=N,16nm,1.4s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK MLR MLR
comp=E,131nm,16.0s
MNK MLR MLR
comp=Z,401nm,17.0s
MNK MLR MLR
comp=N,197nm,16.0s
KHC Kasperske Hory 89.82 333 IAmb IAmb 16 18 16.4
comp=Z,51nm,1.5s
KHC Kasperske Hory 89.82 333 *e*P **P 16 18 06.5 -1.5**
KHC *e*SKS **SKSac 16 28 38.7 +0.8**
KHC AMS AMS 17 05 10.0
comp=Z,300nm,18.7s
KHC Kasperske Hory 89.82 333 *i* P **P 16 18 06.4 -1.5**
KHC pmax pmax
comp=Z,9.0nm,0.8s
ZVC Zvikov 89.83 333 *e*P **P 16 18 08.1 +0.2**
EMAL Malaga-Limoner 89.87 315 P **P 16 18 09.4 +1.0**
DAVA Damuels 89.89 329 *e*P **P 16 18 08.4 0.0**
comp=Z,12nm,0.7s,SNR=10
OSTC Ostas 89.98 335 *e*SKS **SKSac 16 28 38.6 -0.2**
OSTC AMS AMS 16 56 00.0
comp=Z,600nm,27.8s
UPC Upice 90.01 335 *e*P **P 16 18 10.0 +1.3**
UPC Upice 90.01 335 *e*P **P 16 18 10.0 +1.3**
CHVC Chvalec 90.06 335 *e*P **P 16 18 09.7 +0.7**
CHVC *e*P **PcP 16 18 09.9 -0.3**
CHVC Chvalec 90.06 335 *e*P **P 16 18 09.7 +0.7**
URZ Urewera 90.07 136 LR LR 16 51 15.4
comp=Z,2µm,21.0s,baz=302,slow=31
PRU Pruhonice 90.14 334 *e*SKS **SKSac 16 28 30.2 -9.4**
PRU AMS AMS 16 54 00.0
comp=Z,600nm,26.6s
KSP Ksiaz 90.19 335 *e*P **P 16 18 09.9 +0.4**
KSP *e*L L 16 52 59.4
comp=Z,538nm,31.2s
KSP Ksiaz 90.19 335 P **P 16 18 10.6 +1.1**
PRA Prague 90.24 334 *e*P **P 16 18 11.2 +1.4**
PRA AMS AMS 16 54 10.0
comp=Z,600nm,26.4s
PRA Prague 90.24 334 *e*P **P 16 18 11.2 +1.4**
PRA MLR MLR
comp=Z,600nm,26.4s
SONM Songino Array 90.27 30 P **P 16 18 08.3 -1.8**
SONM Songino Array 90.27 30 P **P 16 18 09.5 -0.7**
comp=Z,9.8nm,1.1s,baz=213,slow=4.1,SNR=24
SONM LR LR 16 55 49.6
comp=Z,1µm,20.8s,baz=196,slow=34
comp=Z,9.8nm,1.1s
KIRV Kirov 90.31 355 LR LR 17 00 42.0
comp=Z,679nm,18.2s,baz=161,slow=37
RCBR Riachuelo 90.44 263 LR LR 16 51 27.1
comp=Z,420nm,21.0s,baz=147,slow=31
LIJA Lijar 90.56 314 P **P 16 18 12.2 +0.5**
ULN Ulaanbaatar 90.57 30 P **P 16 18 09.9 -1.8**
ULN Ulaanbaatar 90.57 30 IAMs_20 IAMs_20 16 56 07.8
comp=Z,1µm,19.0s
ULN Ulaanbaatar 90.57 30 P **P 16 18 10.8 -0.8**
ULN Ulaanbaatar 90.57 30 *i* P **P 16 18 10.3 -1.3**
ULN pmax pmax
comp=Z,25nm,1.2s
CEST Esterri de Car 90.59 322 IAMs_20 IAMs_20 16 58 02.5
comp=Z,859nm,20.0s
SUW Suwalki 90.64 340 *e*P **P 16 18 11.1 -0.5**
SUW *e*S **S 16 29 05.4 -1.3**
SUW *e*L L 16 49 19.3
comp=Z,959nm,49.8s
ZAK Zakamensk 91.00 27 *e*P **P 16 18 11.9 -1.6**
ZAK pmax pmax
comp=Z,12nm,1.6s
HSKC Hora Svate Kat 91.06 333 AMS AMS 17 04 30.0
comp=Z,500nm,20.9s
BRG Berggiesshubel 91.08 334 *i* P **P 16 18 14.5 +0.8**
BRG Amp 16 18 17.7
comp=Z,37nm,1.4s
BRG Berggiesshubel 91.08 334 P P 16 18 22.9 +9.2
BRG Amp 16 18 24.0
comp=Z,52nm,1.5s
BRG Berggiesshubel 91.08 334 SKS S 16 28 48.0 -23
BRG Berggiesshubel 91.08 334 *i* P **P 16 18 14.5 +0.8**
BRG 16 18 22.8
BRG 16 28 48.0
BRG S **S 16 29 14.0 +3.2**
BRG SS **SS 16 35 15.0 -0.7**
BRG pmax pmax
comp=Z,37nm,1.4s
MOY Mondy 91.19 25 *e*P **P 16 18 13.5 -0.8**
MOY pmax pmax
comp=Z,37nm,2.4s
GRFO Grafenberg 91.20 332 P **P 16 18 13.5 -0.8**
GRFO Grafenberg 91.20 332 P **P 16 18 13.5 -0.8**
GRFO pmax pmax
comp=Z,179nm,1.6s
GRFO MLR MLR
comp=Z,300nm,19.0s
STU Stuttgart 91.33 330 P **P 16 18 18.4 +3.5**
BFO Black Forest 91.36 329 P **P 16 18 14.1 -1.0**
BFO IAmb IAmb 16 18 24.6
comp=Z,83nm,1.6s
BFO Black Forest 91.36 329 P **P 16 18 14.1 -1.0**
BFO pmax pmax
comp=Z,83nm,1.6s
ESBB Sonseca Array 91.50 317 IAmb IAmb 16 18 26.5
comp=Z,37nm,1.3s
ESDC Sonseca Array 91.50 317 P **P 16 18 14.9 -1.1**
ESDC IAmb IAmb 16 18 26.4
comp=Z,35nm,1.4s
ESDC Sonseca Array 91.50 317 P **P 16 18 17.6 +1.6**
comp=Z,11nm,1.1s,baz=124,slow=3.6,SNR=34
ESDC LR LR 16 59 52.9
comp=Z,626nm,20.5s,baz=136,slow=36
comp=Z,11nm,1.1s
UCM Universidad Co 91.50 318 P **P 16 18 16.6 +0.6**
PAB San Pablo 91.64 317 P **P 16 18 16.7 0.0**
CLL Collm 91.78 334 *i* P **P 16 18 17.7 +0.8**
CLL *i* 16 18 24.4
CLL *e* 16 28 48.0
CLL *e*S **S 16 29 19.0 +1.8**
CLL pmax pmax
comp=Z,154nm,2.3s
GKP Gorka Klasztor 91.86 337 *e*P **P 16 18 17.4 +0.1**
GKP *e*L L 16 50 13.6
comp=Z,1µm,40.9s
XLT XiLinHaoTe 91.99 38 *e*P **P 16 18 17.2 -1.0**
XLT PP **PP 16 22 04.0 +5.7**
XLT pmax pmax
comp=Z,12nm,0.8s
XLT LR LR
comp=Z,470nm,21.8s
XLT LR LR
comp=Z,530nm,18.0s
PVAQ Vaqueiros 92.30 313 *e*P **P 16 18 21.8 +2.1**
comp=Z,66nm,1.8s
PVAQ Vaqueiros 92.30 313 *e*PP **PP 16 22 04.5 +3.8**
PVAQ *e*SKSac **SKSac 16 28 58.3 +5.7**
PVAQ Vaqueiros 92.30 313 *e*LR LR 16 49 39.9
comp=Z,614nm,22.0s
PBDV Barranco-do-Ve 92.33 313 *e*P **P 16 18 22.2 +2.3**
comp=Z,78nm,1.9s
PBAR Barrancos 92.36 314 *e*P **P 16 18 21.6 +1.6**
comp=Z,22nm,1.9s
JANB Januaria 92.46 251 *e*P **P 16 18 20.7 -0.4**
PCVE Castro Verde 92.64 313 *e*P **P 16 18 22.1 +0.8**
comp=Z,111nm,1.6s
MACI Morro de la Ar 92.78 302 IAMs_20 IAMs_20 16 59 09.9
comp=Z,1µm,20.0s
PBEJ Beja 92.78 314 *e*P **P 16 18 24.0 +2.1**
comp=Z,70nm,1.8s
PSAL Palomas, Salto 92.80 231 *e*P **P 16 18 23.3 +0.9**
MORF Marmelete 92.82 313 IAmb IAmb 16 18 25.0
comp=Z,40nm,1.3s
MORF IAMs_20 IAMs_20 17 00 47.1
comp=Z,827nm,21.0s
MORF Marmelete 92.82 313 *e*P **P 16 18 23.0 +0.9**
comp=Z,49nm,1.4s
MORF Marmelete 92.82 313 *e*P **P 16 18 22.2 0.0**
MORF IAmb IAmb 16 18 25.3
comp=Z,27nm,1.1s
MORF Marmelete 92.82 313 *e*P **P 16 18 22.2 0.0**
PFVI Vila Bisbo 92.82 313 *e*P **P 16 18 24.5 +2.4**
comp=Z,66nm,1.4s
IRK Irkutsk 92.86 26 *e*P **P 16 18 20.7 -1.2**
IRK pmax pmax
comp=Z,61nm,1.7s
MESJ Messejana 92.88 313 IAmb IAmb 16 18 33.4
comp=Z,70nm,1.6s
MESJ Messejana 92.88 313 *e*P **P 16 18 23.6 +1.2**
comp=Z,63nm,1.8s
MESJ Messejana 92.88 313 *e*P **P 16 18 22.3 0.0**
MESJ IAmb IAmb 16 18 27.5
comp=Z,264nm,2.5s
MESJ *e*SS SS 16 35 41.5 -0.6
MESJ Messejana 92.88 313 *e*P **P 16 18 22.3 0.0**
MESJ *e*SS SS 16 35 41.5 -0.6
DZM Mont Dzumac 92.96 118 *e*SS SS 16 35 45.9 +3.0
comp=Z,581nm,24.8s
DZM Mont Dzumac 92.96 118 *e*LR LR 16 48 15.8
comp=Z,783nm,25.2s
PTEO Sao Teotonio 93.01 313 *e*P **P 16 18 25.1 +2.1**
PESTR Estremoz 93.14 315 IAMs_20 IAMs_20 16 59 16.5
comp=Z,1µm,21.0s
PESTR Estremoz 93.14 315 *e*P **P 16 18 24.8 +1.3**
comp=Z,51nm,2.0s
EVO Evora 93.18 314 *e*P **P 16 18 25.6 +1.9**
comp=Z,70nm,1.8s
EVO Evora 93.18 314 P **P 16 18 25.1 +1.4**
PNCL Nicolau / Gran 93.24 313 *e*P **P 16 18 25.1 +1.1**
comp=Z,40nm,1.6s
WLF Walferdange 93.31 329 IAmb IAmb 16 18 33.4
comp=Z,25nm,1.1s
WLF Walferdange 93.31 329 *d*P **P 16 18 24.7 +0.6**
PMRV Marv??o 93.37 315 *e*P **P 16 18 24.9 +0.3**
comp=Z,32nm,1.8s
PMRV Marv??o 93.37 315 *e*PP **PP 16 22 13.0 +3.9**
PMRV Marv??o 93.37 315 *e*LR LR 16 50 42.6
comp=Z,685nm,20.0s
PMTG Montargil 93.65 314 *e*P **P 16 18 27.2 +1.3**
comp=Z,48nm,1.8s
VSU Vasula 93.66 344 *i* P **P 16 18 25.2 -0.2**
PCBR Castelo Branco 93.68 315 *e*P **P 16 18 27.5 +1.5**
comp=Z,23nm,1.8s
CLF Chambon-Foret 93.90 326 IAmb IAmb 16 18 36.9
comp=Z,66nm,1.4s
BTNL Ternell 94.01 330 *d*P **P 16 18 29.9 +2.6**
MTE Manteigas 94.07 316 *e*PP PP 16 22 33.0 +18
MTE *e*SKSac SKSac 16 28 50.0 -12
MTE Manteigas 94.07 316 *e*LR LR 16 52 15.8
comp=Z,1µm,18.0s
MEM Membach 94.08 330 *d*P **P 16 18 28.1 +0.6**
RCHB Rochefort 94.08 329 *d*P **P 16 18 28.3 +0.8**
JNU Nakatsue 94.14 53 LR LR 16 58 26.3
comp=Z,343nm,20.0s,baz=237,slow=34
BCLA Clavier 94.24 329 *d*P **P 16 18 28.7 +0.4**
PSBE So Bento 94.27 314 *e*P **P 16 18 31.0 +2.2**
DOU Dourbes 94.32 329 *d*P **P 16 18 29.4 +0.8**
PCAS Casmilo, Conde 94.42 315 *e*P **P 16 18 31.9 +2.5**
PVIS Viseu 94.47 316 *e*P **P 16 18 31.9 +2.2**
comp=Z,31nm,1.7s
PBRG Braganca 94.48 317 *e*P **P 16 18 31.9 +2.2**
comp=Z,30nm,1.5s
KSAR Wonju Array Be 94.70 49 P **P 16 18 29.3 -1.4**
KSAR Wonju Array Be 94.70 49 P **P 16 18 29.3 -1.4**
KSRS Korea Array 94.73 49 P **P 16 18 29.7 -1.1**
comp=Z,4.0nm,1.0s,baz=243,slow=4.7,SNR=9.3
KSRS LR LR 16 59 38.6
comp=Z,368nm,20.4s,baz=240,slow=35
comp=Z,4.0nm,1.0s
BDFB Brasilia 95.09 248 LR LR 16 53 06.2
comp=Z,666nm,20.6s,baz=139,slow=30
VALR Valaam 95.42 347 *i* P **P 16 18 32.4 -1.0**
VALR pmax pmax
comp=Z,12nm,1.3s
PGAV Gavieira, Arco 95.47 317 *e*PP **PP 16 22 24.7 -0.9**
PGAV *e*SKSac **SKSac 16 29 08.9 -1.0**
PGAV Gavieira, Arco 95.47 317 *e*LR LR 16 52 54.8
comp=Z,676nm,22.0s
CPUP Villa Florida 95.64 234 LR LR 16 54 41.5
comp=Z,551nm,20.9s,baz=154,slow=31
PMOZ Porto Moniz, M 95.84 305 *e*PP **PP 16 22 32.7 +4.0**
PMOZ Porto Moniz, M 95.84 305 *e*LR LR 16 50 39.8
comp=Z,850nm,22.0s
CIT Chita 96.47 31 *e*P **P 16 18 37.4 -1.1**
CIT *e* 16 18 45.4
CIT pmax pmax
comp=Z,58nm,2.2s
CN2 Changchun 97.06 42 *e*P Pdif 16 18 42.6 +1.2

CN2				pmax	pmax			
	comp=Z,10.0nm,1.5s							
CN2				LR	LR			
	comp=Z,500nm,18.0s							
CN2				LR	LR			
	comp=Z,400nm,18.0s							
CN2				LR	LR			
	comp=Z,600nm,21.0s							
HFS	**Hagfors**	**98.60**	**339**	LR	LR	17 02 22.7		
	comp=Z,262nm,19.7s,baz=122,slow=35							
MT13	**San Alfonso**	**98.74**	**221**	IAMs_20	IAMs_20	16 54 26.9		
	comp=Z,847nm,21.0s							
RAO	**Raoul Island**	**99.22**	**133**	LR	LR	16 56 53.3		
	comp=Z,426nm,18.9s,baz=162,slow=31							
VA03	**San Esteban**	**99.61**	**222**	IAMs_20	IAMs_20	16 59 04.0		
	comp=Z,1µm,20.0s							
NOA	**NORSAR Array B**	**100.07**	**339**	LR	LR	17 02 38.7		
	comp=Z,330nm,22.0s,baz=135,slow=34							
APA	**Apatity**	**100.78**	**351**	*jiP*		**Pdif**	**16 18 53.2**	**-4.2**
APA				*i*			16 23 07.0	
APA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MJAR	**Matsushiro Arr**	**101.05**	**54**	P		**Pdif**	**16 18 57.8**	**-1.6**
	comp=Z,2.8nm,1.0s,baz=226,slow=6.9,SNR=6.0							
HEH	**HeiHe**	**101.99**	**38**	Pdif		**Pdif**	**16 19 02.9**	**-0.3**
HEH				LR	LR			
	comp=Z,440nm,16.6s							
HEH				LR	LR			
	comp=Z,630nm,18.7s							
HEH				LR	LR			
	comp=Z,1µm,17.6s							
NRIK	**Noril'sk**	**103.08**	**10**	P		**Pdif**	**16 19 08.9**	**+1.3**
	comp=Z,0.6nm,0.4s,baz=229,slow=7.3,SNR=4.4							
KEV	**Kevo**	**103.74**	**349**	IAMs_20	IAMs_20	17 06 04.2		
	comp=Z,729nm,21.0s							
VILB	**Vilhena**	**106.15**	**243**	IAMs_20	IAMs_20	16 58 42.3		
	comp=Z,945nm,22.0s							
TA02	**Huaiquique**	**108.39**	**231**	IAMs_20	IAMs_20	17 10 37.7		
	comp=Z,615nm,18.0s							
YAK	**Yakutsk**	**109.55**	**28**	IAMs_20	IAMs_20	17 08 59.5		
	comp=Z,813nm,20.0s							
SAML	**Samuel**	**110.93**	**245**	IAMs_20	IAMs_20	17 02 22.9		
	comp=Z,1µm,22.0s							
TBI	**Tubuai**	**119.14**	**151**	*e*SS	SS	16 41 37.1		-0.8
	comp=Z,2µm,29.2s							
TBI	**Tubuai**	**119.14**	**151**	*e*LR	LR	17 00 20.6		
	comp=Z,1µm,37.5s							
TBI				*e*LR	LR	17 00 23.7		
	comp=Z,5µm,36.0s							
SEY	**Seymchan**	**119.63**	**32**	*e*PKIKP	**PKPdf**	**16 23 57.7**	**-0.9**	
SEY				pmax	pmax			
	comp=Z,7.0nm,1.1s							
NRS	**Narsarsuaq**	**123.74**	**325**	IAMs_20	IAMs_20	17 12 40.0		
	comp=Z,462nm,19.0s							
PPT2	**Papeete2**	**124.16**	**148**	*e*SS	SS	16 42 39.8		-2.6
	comp=Z,942nm,28.5s							
PPT2	**Papeete2**	**124.16**	**148**	*e*LR	LR	17 02 39.9		
	comp=Z,661nm,26.8s							
PPT2				*e*LR	LR	17 02 48.0		
	comp=Z,892nm,26.0s							
SMRT	**St. Maarten**	**125.59**	**270**	IAMs_20	IAMs_20	17 17 57.2		
	comp=Z,425nm,18.0s							
BILL	**Bilibino**	**125.79**	**26**	*e*PKIKP	**PKPdf**	**16 24 10.4**	**0.0**	
BILL				*e*		16 26 00.6		
BILL				*e*PPP	PPP	16 28 41.4		
BILL				pmax	pmax			
	comp=Z,8.0nm,1.3s							
BILL				MLR	MLR			
	comp=Z,357nm,19.0s							
SDV	**Santo Domingo**	**127.45**	**256**	IAMs_20	IAMs_20	17 12 16.0		
	comp=Z,663nm,22.0s							
ANTS	**Antisana-Sarah**	**127.73**	**241**	IAMs_20	IAMs_20	17 11 06.3		
	comp=Z,597nm,22.0s							
TULM	**Tulcn-Chalpat**	**128.24**	**242**	IAMs_20	IAMs_20	17 15 23.9		
	comp=Z,633nm,20.0s							
HAL	**Halifax**	**133.41**	**303**	IAMs_20	IAMs_20	17 21 30.1		
	comp=Z,694nm,20.0s							
LMN	**Caledonia Moun**	**134.34**	**305**	IAMs_20	IAMs_20	17 19 58.7		
	comp=Z,746nm,21.0s							
BATG	**Bathurst New B**	**135.25**	**307**	IAMs_20	IAMs_20	17 23 45.4		
	comp=Z,485nm,20.0s							
C16K	**Lisburne Hills**	**135.74**	**22**	P	**PKPdf**	**16 24 29.6**	**+0.5**	
	baz=303							
A19K	**Wainwright**	**135.83**	**18**	P	**PKPdf**	**16 24 29.5**	**+0.3**	
	baz=310							
B18K	**Kokolik River**	**136.16**	**19**	P	**PKiKP**	**16 24 30.8**	**-0.8**	
	baz=308							
A21K	**Barrow**	**136.16**	**15**	P	**PKPdf**	**16 24 30.6**	**+0.7**	
	baz=316							
TNA	**Tin City**	**136.23**	**26**	P	**PKPdf**	**16 24 30.9**	**+0.7**	
	baz=298							
G65A	**Princeton**	**136.25**	**304**	IAMs_20	IAMs_20	17 24 20.4		
	comp=Z,680nm,20.0s							
C17K	**DeLong Mountai**	**136.29**	**21**	P	**PKPdf**	**16 24 31.1**	**+0.8**	
	baz=306							
RDOG	**Red Dog Mine**	**136.62**	**21**	IAMs_20	IAMs_20	17 26 24.0		
	comp=Z,510nm,21.0s							
RDOG	**Red Dog Mine**	**136.62**	**21**	P	**PKPdf**	**16 24 31.7**	**+0.8**	
	baz=306							
A22K	**Sinclair Lake**	**136.76**	**15**	P	**PKiKP**	**16 24 32.3**	**-0.5**	
	baz=317							
D17K	**Noatak River**	**136.77**	**22**	P	**PKPdf**	**16 24 31.5**	**+0.4**	
	baz=305							
C18K	**Utukok River**	**136.77**	**20**	P	**PKPdf**	**16 24 31.5**	**+0.3**	
	baz=308							
F14K	**Arctic Creek**	**136.85**	**25**	P	**PKPdf**	**16 24 31.7**	**+0.3**	
	baz=299							
C19K	**Lookout Ridge**	**136.93**	**19**	IAMs_20	IAMs_20	17 27 07.2		
	comp=Z,534nm,20.0s							
C19K	**Lookout Ridge**	**136.93**	**19**	P	**PKPdf**	**16 24 32.0**	**+0.5**	
	baz=310							
B20K	**Meade River**	**136.96**	**17**	IAMs_20	IAMs_20	17 26 52.8		
	comp=Z,626nm,21.0s							
B20K	**Meade River**	**136.96**	**17**	P	**PKPdf**	**16 24 32.1**	**+0.7**	
	baz=314							
D62A	**Allapoint, All**	**137.29**	**307**	IAMs_20	IAMs_20	17 24 53.3		
	comp=Z,610nm,21.0s							
F15K	**North Star Dit**	**137.34**	**25**	P	**PKiKP**	**16 24 33.3**	**-0.8**	
	baz=301							
PKME	**Peaks-Kenny Pk**	**137.48**	**304**	IAMs_20	IAMs_20	17 24 33.7		
	comp=Z,584nm,20.0s							
PKME	**Peaks-Kenny Pk**	**137.48**	**304**	P	**PKPdf**	**16 24 33.6**	**+0.5**	
	baz=90							
E17K	**Hotham Inlet**	**137.52**	**22**	P	**PKPdf**	**16 24 32.5**	**0.0**	
	baz=306							
B22K	**Teshekpuk Lake**	**137.60**	**15**		**PKPdf**	**16 24 32.3**	**-0.3**	
B22K	**Teshekpuk Lake**	**137.60**	**15**	P	**PKPdf**	**16 24 33.1**	**+0.5**	
	baz=319							
ANM	**Nome**	**137.65**	**26**	P	**PKPdf**	**16 24 33.2**	**+0.4**	
	baz=300							
E18K	**Tukpahlearik C**	**137.70**	**21**	P	**PKPdf**	**16 24 33.2**	**+0.3**	
	baz=308							
WVL	**Waterville**	**137.73**	**303**	IAMs_20	IAMs_20	17 25 46.7		
	comp=Z,587nm,19.0s							
D19K	**Kuna River**	**137.74**	**19**	IAMs_20	IAMs_20	17 27 25.5		
	comp=Z,530nm,21.0s							
D19K	**Kuna River**	**137.74**	**19**	P	**PKPdf**	**16 24 33.8**	**+0.9**	
	baz=312							
CHIV	**Chivirico**	**137.78**	**265**	IAMs_20	IAMs_20	17 31 49.4		
	comp=Z,348nm,21.0s							
B21K	**Ikpikpuk River**	**137.86**	**16**	IAMs_20	IAMs_20	17 28 47.5		
	comp=Z,531nm,21.0s							
B21K	**Ikpikpuk River**	**137.86**	**16**	P	**PKPdf**	**16 24 33.8**	**+0.7**	
	baz=317							
G15K	**Niukluk**	**137.93**	**25**	P	**PKPdf**	**16 24 33.9**	**+0.5**	
	baz=302							
D20K	**Etivluk River**	**138.00**	**18**	P	**PKPdf**	**16 24 34.4**	**+1.0**	
	baz=314							
F17K	**Baldwin Pennin**	**138.08**	**22**	P	**PKiKP**	**16 24 34.6**	**-0.9**	
	baz=306							
C21K	**Knifeblade Rid**	**138.16**	**17**	P	**PKiKP**	**16 24 34.9**	**-0.8**	
	baz=316							
G16K	**Koyuk River**	**138.31**	**24**	P	**PKiKP**	**16 24 35.2**	**-0.9**	
	baz=304							
SPIA	**Saint Paul Isl**	**138.34**	**38**	P	**PKPdf**	**16 24 35.2**	**+1.0**	
	baz=287							
G62A	**West of Eustis**	**138.35**	**304**	IAMs_20	IAMs_20	17 24 30.9		
	comp=Z,556nm,22.0s							
I63A	**Otisfield**	**138.39**	**302**	IAMs_20	IAMs_20	17 21 26.0		
	comp=Z,511nm,22.0s							
E20K	**Nigu River**	**138.43**	**18**	P	**PKPdf**	**16 24 35.1**	**+0.8**	
	baz=314							
F18K	**Selawik**	**138.50**	**22**	P	**PKiKP**	**16 24 35.4**	**-1.0**	
	baz=308							
C23K	**Itkillik River**	**138.61**	**15**	P	**PKPdf**	**16 24 35.5**	**+1.0**	
	baz=322							
E19K	**Redstone River**	**138.68**	**20**	P	**PKPdf**	**16 24 35.5**	**+0.8**	
	baz=312							
LDAQ	**Lac Daran**	**138.73**	**308**	IAMs_20	IAMs_20	17 24 25.4		
	comp=Z,610nm,21.0s							
H16K	**Elim**	**138.77**	**25**	P	**PKiKP**	**16 24 36.1**	**-1.0**	
	baz=303							
G17K	**Kiwalik Mounta**	**138.84**	**23**	P	**PKPdf**	**16 24 35.8**	**+0.8**	
	baz=306							
D22K	**Ayikyak River**	**138.87**	**16**	IAMs_20	IAMs_20	17 30 32.3		
	comp=Z,543nm,20.0s							
D22K	**Ayikyak River**	**138.87**	**16**	P	**PKPdf**	**16 24 35.6**	**+0.6**	
	baz=318							
P08K	**Saint George I**	**138.88**	**38**	P	**PKiKP**	**16 24 36.4**	**-1.0**	
	baz=287							
E21K	**Killik River**	**138.88**	**17**	PKPdf	**PKPdf**	**16 24 35.0**	**-0.1**	
E21K				IAMs_20	IAMs_20	17 31 08.5		
	comp=Z,416nm,20.0s							
E21K	**Killik River**	**138.88**	**17**	P	**PKPdf**	**16 24 36.0**	**+0.9**	
	baz=317							
WES	**Wiesten**	**138.89**	**300**	IAMs_20	IAMs_20	17 27 00.6		
	comp=Z,524nm,19.0s							
I62A	**Tamworth**	**138.93**	**302**	IAMs_20	IAMs_20	17 23 00.4		
	comp=Z,495nm,21.0s							
F19K	**Shaleruckik Mo**	**138.93**	**21**	IAMs_20	IAMs_20	17 28 36.1		
	comp=Z,454nm,20.0s							
F19K	**Shaleruckik Mo**	**138.93**	**21**	P	**PKiKP**	**16 24 36.6**	**-0.8**	
	baz=311							
HRV	**Adam Dziewonsk**	**139.07**	**300**	P	**PKPdf**	**16 24 37.1**	**+0.9**	
	baz=92							
C24K	**Franklin Bluff**	**139.10**	**14**	P	**PKiKP**	**16 24 37.0**	**-0.5**	
	baz=324							
M11K	**Mekoryuk**	**139.20**	**32**	P	**PKPdf**	**16 24 35.3**	**-0.5**	
	baz=294							
G18K	**Tagagawik**	**139.26**	**22**	P	**PKPdf**	**16 24 35.7**	**0.0**	
	baz=309							
J14K	**Nanvaranak Lak**	**139.26**	**28**	P	**PKPdf**	**16 24 35.6**	**-0.2**	
	baz=300							
D23K	**Nanushuk River**	**139.28**	**15**	P	**PKPdf**	**16 24 36.0**	**+0.2**	
	baz=321							
LBNH	**Lisbon**	**139.36**	**302**	IAMs_20	IAMs_20	17 26 06.6		
	comp=Z,579nm,20.0s							
LBNH	**Lisbon**	**139.36**	**302**	P	**PKPdf**	**16 24 35.1**	**-1.5**	
	baz=89							
M63A	**Gales Ferry**	**139.39**	**298**	IAMs_20	IAMs_20	17 29 60.0		
	comp=Z,502nm,18.0s							
F20K	**Avaraart Lake**	**139.39**	**20**	P	**PKPdf**	**16 24 35.3**	**-0.6**	
	baz=313							
H17K	**Granite Mounta**	**139.42**	**24**	P	**PKPdf**	**16 24 34.9**	**-1.1**	
	baz=306							
D24K	**Happy Valley**	**139.54**	**15**	IAMs_20	IAMs_20	17 27 09.7		
	comp=Z,492nm,21.0s							
D24K	**Happy Valley**	**139.54**	**15**	P	**PKPdf**	**16 24 35.2**	**-1.0**	
	baz=324							
K62A	**Royalston**	**139.57**	**300**	IAMs_20	IAMs_20	17 23 52.6		
	comp=Z,457nm,20.0s							
G19K	**Purcell Mounta**	**139.59**	**21**	IAMs_20	IAMs_20	17 28 26.7		
	comp=Z,538nm,20.0s							
G19K	**Purcell Mounta**	**139.59**	**21**	P	**PKPdf**	**16 24 36.1**	**-0.2**	
	baz=311							
HNH	**Hanover**	**139.62**	**302**	IAMs_20	IAMs_20	17 22 56.7		
	comp=Z,489nm,22.0s							
C26K	**Camden Bay**	**139.67**	**12**	P	**PKPdf**	**16 24 35.9**	**-0.5**	
	baz=329							
A36M	**Sachs Harbour**	**139.68**	**2**	IAMs_20	IAMs_20	17 30 15.8		
	comp=Z,563nm,20.0s							
A36M	**Sachs Harbour**	**139.68**	**2**	P	**PKPdf**	**16 24 36.2**	**-0.1**	
	baz=356							
I17K	**Unalakleet**	**139.75**	**25**	P	**PKPdf**	**16 24 36.8**	**+0.2**	
	baz=304							
TOLK	**Toolik Lake Re**	**139.78**	**15**	IAMs_20	IAMs_20	17 29 40.3		
	comp=Z,495nm,20.0s							
TOLK	**Toolik Lake Re**	**139.78**	**15**	P	**PKPdf**	**16 24 36.5**	**-0.3**	
	baz=322							
J61A	**Chester**	**139.81**	**301**	IAMs_20	IAMs_20	17 25 02.9		
	comp=Z,509nm,19.0s							
H18K	**Honhosa River**	**139.81**	**23**	P	**PKPdf**	**16 24 36.0**	**-0.8**	
	baz=308							
F21K	**Alatna River**	**139.89**	**19**	IAMs_20	IAMs_20	17 26 56.4		
	comp=Z,497nm,22.0s							
F21K	**Alatna River**	**139.89**	**19**	P	**PKPdf**	**16 24 36.3**	**-0.6**	
	baz=316							
L61B	**Northampton**	**139.90**	**300**	IAMs_20	IAMs_20	17 23 40.2		
	comp=Z,411nm,20.0s							
L61B	**Northampton**	**139.90**	**300**	P	**PKPdf**	**16 24 36.9**	**-0.7**	
	baz=91							
D25K	**Kavik River**	**139.90**	**13**	P	**PKPdf**	**16 24 36.4**	**-0.5**	
	baz=327							
VT1	**Waterbury**	**139.95**	**303**	IAMs_20	IAMs_20	17 26 23.3		
	comp=Z,635nm,20.0s							
F22K	**John River**	**140.03**	**18**	P	**PKPdf**	**16 24 36.9**	**-0.2**	
	baz=318							
YLE	**Yale**	**140.05**	**298**	IAMs_20	IAMs_20	17 27 35.4		
	comp=Z,500nm,19.0s							
J16K	**Anvik River**	**140.12**	**26**	P	**PKPdf**	**16 24 37.1**	**-0.3**	
	baz=304							
C27K	**Jago River**	**140.13**	**12**	P	**PKPdf**	**16 24 37.1**	**-0.2**	
	baz=330							
H19K	**Roundabout Mou**	**140.19**	**22**	IAMs_20	IAMs_20	17 30 43.8		
	comp=Z,406nm,20.0s							
H19K	**Roundabout Mou**	**140.19**	**22**	P	**PKPdf**	**16 24 37.2**	**-0.2**	
	baz=311							
NIKH	**Nikolski High**	**140.20**	**44**	P	**PKPdf**	**16 24 36.7**	**-1.1**	
	baz=283							
E23K	**Chandalar**	**140.23**	**16**	P	**PKPdf**	**16 24 37.5**	**-0.1**	
	baz=322							
K15K	**Wolf Creek Mou**	**140.30**	**28**	P	**PKPdf**	**16 24 36.8**	**-1.0**	
	baz=302							
L14K	**Kuka Creek**	**140.31**	**30**	P	**PKPdf**	**16 24 37.9**	**+0.1**	
	baz=299							
G21K	**Allakaket**	**140.39**	**19**	IAMs_20	IAMs_20	17 29 38.6		
	comp=Z,397nm,20.0s							
G21K	**Allakaket**	**140.39**	**19**	P	**PKPdf**	**16 24 38.0**	**+0.1**	
	baz=316							
N62A	**Caumsett State**	**140.44**	**297**	IAMs_20	IAMs_20	17 26 50.9		
	comp=Z,479nm,19.0s							
M13K	**Dall Lake**	**140.46**	**31**	P	**PKPdf**	**16 24 37.4**	**-0.6**	
	baz=298							
E24K	**Your Creek**	**140.48**	**15**	IAMs_20	IAMs_20	17 30 14.8		
	comp=Z,511nm,21.0s							
E24K	**Your Creek**	**140.48**	**15**	P	**PKPdf**	**16 24 37.1**	**-0.9**	
	baz=323							
GCSA	**Galena City Sc**	**140.56**	**23**	P	**PKPdf**	**16 24 37.8**	**-0.3**	
	baz=310							
J17K	**VABM Dome**	**140.62**	**25**	P	**PKPdf**	**16 24 38.6**	**+0.3**	
	baz=306							
L15K	**Ungalak Mounta**	**140.64**	**29**	P	**PKPdf**	**16 24 38.6**	**+0.3**	
	baz=301							
G22K	**Bettles**	**140.64**	**18**	P	**PKPdf**	**16 24 38.6**	**+0.4**	
	baz=318							
IMAR	**Indian Mountai**	**140.70**	**20**		**PKPdf**	**16 24 38.5**	**+0.1**	
H20K	**Arolleneega Mo**	**140.71**	**21**	P	**PKPdf**	**16 24 38.7**	**+0.3**	
	baz=313							
COLD	**Coldfoot**	**140.74**	**17**	P	**PKPdf**	**16 24 39.0**	**+0.6**	
	baz=320							
PAL	**Palisades**	**140.77**	**297**	IAMs_20	IAMs_20	17 27 08.8		
	comp=Z,551nm,20.0s							
PAL	**Palisades**	**140.77**	**297**	P	**PKPdf**	**16 24 38.9**	**-0.3**	
	baz=92							
M14K	**Bethel**	**140.91**	**30**	P	**PKPdf**	**16 24 39.4**	**+0.6**	
	baz=300							
D27M	**Malcolm River**	**140.93**	**11**	P	**PKPdf**	**16 24 39.1**	**+0.3**	
	baz=334							
NCB	**Newcomb**	**141.02**	**302**	IAMs_20	IAMs_20	17 25 54.6		
	comp=Z,519nm,20.0s							
TRNY	**Table Rock, Ra**	**141.02**	**298**	IAMs_20	IAMs_20	17 27 28.2		
	comp=Z,604nm,20.0s							
F24K	**Squaw Lake**	**141.06**	**16**	IAMs_20	IAMs_20	17 28 14.3		
	comp=Z,595nm,22.0s							
F24K	**Squaw Lake**	**141.06**	**16**	P	**PKPdf**	**16 24 39.5**	**+0.5**	
	baz=324							
E25K	**Arctic Village**	**141.07**	**14**	P	**PKPdf**	**16 24 39.9**	**+0.8**	
	baz=327							
D28M	**Stokes Point**	**141.18**	**9**	P	**PKPdf**	**16 24 39.2**	**+0.1**	
	baz=337							
G23K	**Bananza Creek**	**141.18**	**17**	IAMs_20	IAMs_20	17 30 18.6		
	comp=Z,412nm,18.0s							
G23K	**Bananza Creek**	**141.18**	**17**	P	**PKPdf**	**16 24 39.5**	**+0.2**	
	baz=320							
H21K	**Melozitna Rive**	**141.21**	**20**	IAMs_20	IAMs_20	17 27 59.3		
	comp=Z,447nm,21.0s							
H21K	**Melozitna Rive**	**141.21**	**20**	P	**PKPdf**	**16 24 39.5**	**+0.1**	
	baz=316							
LONY	**Lake Ozonia**	**141.25**	**303**	P	**PKPdf**	**16 24 40.2**	**+0.1**	
	baz=87							
ODNJ	**Ogdensburg**	**141.30**	**297**	IAMs_20	IAMs_20	17 27 35.8		
	comp=Z,533nm,20.0s							
I20K	**Naaghedeneel**	**141.30**	**22**	IAMs_20	IAMs_20	17 31 38.0		
	comp=Z,405nm,21.0s							
I20K	**Naaghedeneel**	**141.30**	**22**	P	**PKPdf**	**16 24 40.1**	**+0.7**	
	baz=313							
K17K	**Iditarod**	**141.31**	**26**	IAMs_20	IAMs_20	17 28 15.7		
	comp=Z,621nm,21.0s							
K17K	**Iditarod**	**141.31**	**26**	P	**PKPdf**	**16 24 39.7**	**+0.1**	
	baz=306							
UNV	**Unalaska Valle**	**141.33**	**42**	P	**PKPdf**	**16 24 39.8**	**0.0**	
	baz=287							
J18K	**Innoko River**	**141.43**	**24**	IAMs_20	IAMs_20	17 29 17.6		
	comp=Z,401nm,21.0s							
J18K	**Innoko River**	**141.43**	**24**	P	**PKPdf**	**16 24 40.2**	**+0.5**	
	baz=309							
L16K	**Owhat River**	**141.43**	**28**	IAMs_20	IAMs_20	17 28 27.0		
	comp=Z,674nm,21.0s							
L16K	**Owhat River**	**141.43**	**28**	P	**PKPdf**	**16 24 40.1**	**+0.4**	
	baz=304							
N14K	**Kuskokwak Cree**	**141.43**	**31**	P	**PKPdf**	**16 24 40.0**	**+0.2**	
	baz=299							
H22K	**Ishtalitna Cre**	**141.44**	**19**	P	**PKPdf**	**16 24 40.5**	**+0.7**	
	baz=318							
J19K	**Poorman**	**141.47**	**23**	IAMs_20	IAMs_20	17 30 39.5		
	comp=Z,512nm,20.0s							
J19K	**Poorman**	**141.47**	**23**	P	**PKPdf**	**16 24 40.9**	**+1.1**	
	baz=311							
M15K	**Kasigluk River**	**141.47**	**30**	P	**PKPdf**	**16 24 40.3**	**+0.4**	
	baz=301							
F25K	**Christian Rive**	**141.50**	**14**	P	**PKPdf**	**16 24 40.1**	**+0.2**	
	baz=327							
L59A	**Walton**	**141.65**	**299**	IAMs_20	IAMs_20	17 26 32.6		
	comp=Z,516nm,20.0s							
L17K	**Donlin**	**141.65**	**27**	P	**PKPdf**	**16 24 40.2**	**0.0**	
	baz=306							
WBO	**Williamsburg**	**141.72**	**304**	IAMs_20	IAMs_20	17 27 47.0		
	comp=Z,520nm,18.0s							
F26K	**Sheenjek River**	**141.72**	**14**	P	**PKPdf**	**16 24 40.8**	**+0.6**	
	baz=329							
E28M	**Babbage River**	**141.73**	**10**	IAMs_20	IAMs_20	17 27 40.4		
	comp=Z,416nm,22.0s							
E28M	**Babbage River**	**141.73**	**10**	P	**PKPdf**	**16 24 40.4**	**+0.2**	
	baz=335							
E27K	**Coleen River**	**141.77**	**12**	P	**PKPdf**	**16 24 41.2**	**+0.9**	
	baz=332							
J58A	**Remsen**	**141.80**	**301**	IAMs_20	IAMs_20	17 28 06.6		
	comp=Z,483nm,21.0s							
G24K	**Hadweenzic Riv**	**141.82**	**16**	IAMs_20	IAMs_20	17 32 19.9		
	comp=Z,360nm,18.0s							
G24K	**Hadweenzic Riv**	**141.82**	**16**	P	**PKPdf**	**16 24 41.0**	**+0.6**	
	baz=324							
J20K	**Nowinta River**	**141.83**	**22**	IAMs_20	IAMs_20	17 30 01.0		
	comp=Z,553nm,20.0s							
J20K	**Nowinta River**	**141.83**	**22**	P	**PKPdf**	**16 24 41.3**	**+0.9**	
	baz=313							
LUPA	**Lehigh Univers**	**141.87**	**297**	IAMs_20	IAMs_20	17 27 16.9		
	comp=Z,409nm,21.0s							
O14K	**Tigyukauivet M**	**141.94**	**32**	P	**PKPdf**	**16 24 40.9**	**+0.2**	
	baz=299							
H23K	**Yukon River**	**141.99**	**18**	IAMs_20	IAMs_20	17 30 33.8		
	comp=Z,610nm,21.0s							
H23K	**Yukon River**	**141.99**	**18**	P	**PKPdf**	**16 24 41.0**	**+0.2**	
	baz=320							
N15K	**Kwethluk River**	**142.00**	**30**	P	**PKPdf**	**16 24 40.8**	**-0.1**	
	baz=301							
M16K	**Timber Creek**	**142.02**	**29**	IAMs_20	IAMs_20	17 28 43.7		
	comp=Z,629nm,20.0s							
M16K	**Timber Creek**	**142.02**	**29**	P	**PKPdf**	**16 24 40.9**	**+0.1**	
	baz=304							
G25K	**Bearman Lake**	**142.09**	**15**	P	**PKPdf**	**16 24 40.9**	**+0.1**	
	baz=325							
E29M	**Blow River**	**142.17**	**10**	IAMs_20	IAMs_20	17 27 20.9		
	comp=Z,471nm,22.0s							
E29M	**Blow River**	**142.17**	**10**	P	**PKPdf**	**16 24 41.1**	**+0.2**	
	baz=338							
KSPA	**Keystone Colle**	**142.19**	**298**	IAMs_20	IAMs_20	17 28 40.1		
	comp=Z,578nm,20.0s							
L18K	**Granite Mounta**	**142.21**	**26**	P	**PKPdf**	**16 24 41.5**	**+0.3**	
	baz=308							
MLY	**Manley**	**142.26**	**20**	IAMs_20	IAMs_20	17 30 24.0		
	comp=Z,468nm,19.0s							
MLY	**Manley**	**142.26**	**20**	P	**PKPdf**	**16 24 41.3**	**0.0**	
	baz=318,SNR=6.5							
BINY	**Binghamton**	**142.35**	**299**	IAMs_20	IAMs_20	17 33 41.2		
	comp=Z,565nm,19.0s							
BINY	**Binghamton**	**142.35**	**299**	P	**PKPdf**	**16 24 41.3**	**-0.8**	
	baz=89							
C36M	**Paulatuk**	**142.35**	**1**	IAMs_20	IAMs_20	17 31 46.4		
	comp=Z,432nm,20.0s							
C36M	**Paulatuk**	**142.35**	**1**	P	**PKPdf**	**16 24 41.4**	**+0.2**	
	baz=357							
N16K	**Nishlik Lake**	**142.40**	**29**	P	**PKPdf**	**16 24 41.6**	**0.0**	
	baz=303							
K20K	**Telida**	**142.41**	**23**	IAMs_20	IAMs_20	17 30 56.4		
	comp=Z,577nm,19.0s							
K20K	**Telida**	**142.41**	**23**	P	**PKPdf**	**16 24 41.4**	**-0.2**	
	baz=312							
M17K	**Holitna River**	**142.41**	**27**	IAMs_20	IAMs_20	17 27 31.9

CAMR **Camarioca** 143.24 267 IAMs_20 IAMs_20 17 31 12.1
comp=Z,639nm,20.0s
PRP **Porcupine Dome** 143.25 16 P PKPbc 16 24 40.1 -0.1
baz=325
M19K **Big River Lodg** 143.25 25 IAMs_20 IAMs_20 17 30 37.8
comp=Z,548nm,20.0s
M19K **Big River Lodg** 143.25 25 P PKPbc 16 24 40.4 +0.3
baz=310
KTH **Kantishna Hill** 143.29 21 IAMs_20 IAMs_20 17 32 02.5
comp=Z,625nm,20.0s
PPLA **Purkeypile** 143.35 23 P PKPbc 16 24 40.3 -0.2
baz=314
CNNC **Cliffs of the** 143.44 288 P PKPbc 16 24 41.6 +0.2
baz=97
N18K **Kilae Creek** 143.44 28 P PKPbc 16 24 40.4 -0.3
baz=307
O17K **Koliganek Bris** 143.48 29 P PKPbc 16 24 40.7 -0.1
baz=304
P16K **Nushagak River** 143.51 31 P PKPbc 16 24 40.9 +0.1
baz=302
H27K **Steamboat Moun** 143.51 13 P PKPbc 16 24 40.6 -0.1
baz=331,SNR=11
ILAR **Eielson Array** 143.51 18 PKhKP PKPpre 16 24 39.1
comp=Z,3.8nm,0.9s,baz=313,slow=3.0,SNR=21
G29M **Pine Creek** 143.52 11 IAMs_20 IAMs_20 17 32 35.7
comp=Z,370nm,20.0s
G29M **Pine Creek** 143.52 11 P PKPbc 16 24 40.4 -0.3
baz=337,SNR=9.4
L56A **Greenwood** 143.52 299 IAMs_20 IAMs_20 17 30 26.1
comp=Z,475nm,19.0s
F31M **Tsiigehtchic** 143.60 8 P PKPbc 16 24 40.6 -0.3
baz=343,SNR=9.1
J55A **Hilton** 143.65 301 IAMs_20 IAMs_20 17 29 21.5
comp=Z,543nm,20.0s
M20K **Styx River** 143.72 25 IAMs_20 IAMs_20 17 29 43.3
comp=Z,510nm,20.0s
M20K **Styx River** 143.72 25 P PKPbc 16 24 41.4 -0.2
baz=312,SNR=13
G30M **tAoh Zraii Nji** 143.72 10 P PKPab 16 24 40.4 -0.2
baz=339,SNR=13
MCK **McKinley** 143.76 20 P PKPab 16 24 41.0 +0.2
baz=319
SSPA **Standing Stone** 143.78 297 IAMs_20 IAMs_20 17 20 41.6
comp=Z,479nm,22.0s
SSPA **Standing Stone** 143.78 297 P PKPab 16 24 41.1 -0.5
baz=90
HDA **Harding Lake** 143.79 18 IAMs_20 IAMs_20 17 31 47.2
comp=Z,392nm,19.0s
HDA **Harding Lake** 143.79 18 P PKPab 16 24 39.8 -1.1
baz=322
N19K **Bonanza Creek** 143.91 27 P PKPab 16 24 41.5 -0.1
baz=309,SNR=16
I26K **Coal Creek Min** 143.97 15 P PKPab 16 24 41.6 +0.1
baz=328
RND **Reindeer** 144.03 20 IAMs_20 IAMs_20 17 32 14.7
comp=Z,456nm,20.0s
J25K **Salcha River,** 144.03 17 IAMs_20 IAMs_20 17 29 03.6
comp=Z,397nm,21.0s
J25K **Salcha River,** 144.03 17 P **PKPab** **16 24 41.5 -0.3**
baz=325,SNR=22
G31M **Satah River** 144.03 8 P **PKPab** **16 24 41.6 -0.1**
baz=342,SNR=27
I27K **Kandik River** 144.04 14 P **PKPab** **16 24 42.0 +0.1**
baz=331,SNR=21
SDPT **Sand Point** 144.09 37 P **PKPab** **16 24 41.4 -0.8**
baz=295
P17K **Kvichak River** 144.09 30 P PKPbc 16 24 42.8 +0.3
baz=305,SNR=11
H29M **Whitestone** 144.09 11 P PKPbc 16 24 42.3 -0.1
baz=336,SNR=16
S14K **Fog Glacier** 144.14 36 P **PKPab** **16 24 41.5 -1.0**
baz=297
SKT **Skwentna** 144.21 24 IAMs_20 IAMs_20 17 31 49.9
comp=Z,477nm,21.0s
SKT **Skwentna** 144.21 24 P **PKPab** **16 24 42.1 -0.4**
baz=314,SNR=16
O18K **Koktuh Hills** 144.21 28 P PKPbc 16 24 43.0 0.0
baz=307,SNR=22
EPYK **Eagle Plains** 144.22 10 IAMs_20 IAMs_20 17 33 48.1
comp=Z,372nm,20.0s
EPYK **Eagle Plains** 144.22 10 P **PKPab** **16 24 42.5 0.0**
baz=338,SNR=37
J54A **Appleton** 144.25 301 IAMs_20 IAMs_20 17 29 57.4
comp=Z,452nm,20.0s
WVNY **West Valley, N** 144.28 300 IAMs_20 IAMs_20 17 30 25.3
comp=Z,521nm,19.0s
Q16K **King Salmon** 144.28 31 P **PKPab** **16 24 42.5 -0.3**
baz=304
CUT **Chulitna** 144.33 22 IAMs_20 IAMs_20 17 31 52.9
comp=Z,487nm,21.0s
CUT **Chulitna** 144.33 22 P **PKPab** **16 24 42.4 -0.6**
baz=316
M55A **Ridgway** 144.44 298 IAMs_20 IAMs_20 17 29 33.6
comp=Z,543nm,20.0s
SADO **Sadowa** 144.48 304 IAMs_20 IAMs_20 17 25 56.9
comp=Z,520nm,21.0s
P18K **Big Mountain,** 144.48 29 P **PKPab** **16 24 42.8 -0.9**
baz=306,SNR=9.8
N20K **Mount Spurr** 144.50 25 P **PKPab** **16 24 42.1 -1.7**
baz=312,SNR=8.0
SPCR **Spurr Chakacha** 144.50 25 P **PKPab** **16 24 37.9 -5.9**
baz=312,SNR=7.4
I28M **Miner Creek** 144.51 13 P **PKPab** **16 24 43.4 -0.3**
baz=333,SNR=17
SOR **Soroa** 144.53 265 PKPdf PKPbc 16 24 45.8 +0.6
SOR **Soroa** 144.53 265 PKIKP PKPbc 16 24 45.8 +0.7
WAT1 **Susitna Watana** 144.55 21 P **PKPab** **16 24 42.0 -1.9**
baz=319
J26L **Joseph Creek** 144.56 16 P **PKPab** **16 24 42.7 -1.2**
baz=327,SNR=38
K24K **Donnelly Dome** 144.58 18 P PKPbc 16 24 44.3 +0.2
baz=324,SNR=8.7
CHGN **Chignik** 144.70 35 P **PKPab** **16 24 42.9 -1.6**
baz=299
DHY **Denali Highway** 144.71 20 P **PKPab** **16 24 43.1 -1.4**
baz=321,SNR=27
CHNA **Chernabura Isl** 144.77 38 P **PKPab** **16 24 43.5 -1.2**
baz=296
SUA **Susitna One** 144.84 24 IAMs_20 IAMs_20 17 32 21.5
comp=Z,516nm,21.0s
SUA **Susitna One** 144.84 24 P **PKPab** **16 24 44.7 -0.3**
baz=314,SNR=37
M22K **Willow** 144.84 23 IAMs_20 IAMs_20 17 32 50.7
comp=Z,539nm,22.0s
M22K **Willow** 144.84 23 P **PKPab** **16 24 44.2 -0.6**
baz=316,SNR=22
Q17K **Contact Creek** 144.85 31 P **PKPab** **16 24 43.9 -1.2**
baz=304,SNR=5.1
EGAK **Eagle** 144.86 14 P **PKPab** **16 24 44.6 -0.2**
baz=331,SNR=35
I29M **Ogilvie Camp,** 144.89 12 IAMs_20 IAMs_20 17 41 06.9
comp=Z,358nm,18.0s
I29M **Ogilvie Camp,** 144.89 12 P **PKPab** **16 24 44.5 -0.5**
baz=335,SNR=78
SCRK **Sand Creek** 144.90 17 P **PKPab** **16 24 44.3 -0.9**
baz=326,SNR=67
DWPF **Disney Wildern** 144.96 275 PKPbc 16 24 46.6 +0.3
DWPF **Disney Wildern** 144.96 275 P **PKPab** **16 24 44.9 -1.4**
baz=106
WAT6 **Susitna Watana** 144.99 21 P PKPbc 16 24 44.1 -1.5
baz=320,SNR=28
R17L **Mt. Peulik Vol** 144.99 32 P PKPbc 16 24 44.8 -0.8
baz=303
NHSC **New Hope** 145.00 284 P **PKPbc** **16 24 45.8 -0.6**
baz=99
Q18K **Katmai Hardscr** 145.01 30 P **PKPbc** **16 24 44.8 -0.9**
baz=306
O20K **Slope Mountain** 145.09 27 P **PKPbc** **16 24 44.9 -1.0**
baz=310
P19K **Oil Pt** 145.13 28 P **PKPbc** **16 24 45.2 -0.8**
baz=309
CAPN **Captain Cook N** 145.18 25 P **PKPbc** **16 24 45.5 -0.5**
baz=313
GHO **Glory Hole Cre** 145.22 22 IAMs_20 IAMs_20 17 24 31.6
comp=Z,517nm,21.0s
MCWV **Mont Chateau** 145.28 295 IAMs_20 IAMs_20 17 25 18.5
comp=Z,392nm,19.0s
MCWV **Mont Chateau** 145.28 295 P **PKPbc** **16 24 46.4 -0.7**
baz=90
PMR **Palmer** 145.29 23 IAMs_20 IAMs_20 17 34 06.3
comp=Z,382nm,19.0s
PMR **Palmer** 145.29 23 P **PKPbc** **16 24 45.8 -0.5**
baz=317,SNR=8.8
K27K **Chicken** 145.31 16 IAMs_20 IAMs_20 17 32 48.3
comp=Z,407nm,21.0s
K27K **Chicken** 145.31 16 P **PKPbc** **16 24 46.3 -0.1**
baz=329
Y57A **Sumter** 145.32 285 IAMs_20 IAMs_20 17 29 40.5
comp=Z,574nm,20.0s
ERPA **Erie** 145.32 299 IAMs_20 IAMs_20 17 31 06.0
comp=Z,448nm,20.0s
ERPA **Erie** 145.32 299 P **PKPbc** **16 24 46.3 -0.8**
baz=86
PAX **Paxson** 145.33 19 P **PKPdf** **16 24 47.0 +0.3**
baz=323,SNR=91
I30M **Mount Dempster** 145.34 11 P **PKPbc** **16 24 46.1 -0.5**
baz=338,SNR=152
SML **Sawmill** 145.39 22 P **PKPbc** **16 24 45.9 -0.8**
baz=318,SNR=24
Q19K **Cape Douglas,** 145.41 29 P **PKPbc** **16 24 44.7 -2.1**
baz=308
RC01 **Rabbit Creek A** 145.45 24 IAMs_20 IAMs_20 17 32 16.7
comp=Z,512nm,20.0s
RC01 **Rabbit Creek A** 145.45 24 P **PKPdf** **16 24 45.0 -1.9**
baz=316,SNR=13
R55A **Marlinton** 145.47 293 IAMs_20 IAMs_20 17 30 36.5
comp=Z,446nm,19.0s
M23K **Glacier View** 145.59 22 P **PKPdf** **16 24 45.4 -1.7**
baz=319,SNR=19
KNK **Knik Glacier** 145.64 22 IAMs_20 IAMs_20 17 34 15.6
comp=Z,458nm,20.0s
KNK **Knik Glacier** 145.64 22 P **PKPdf** **16 24 45.6 -1.7**
baz=318
BLA **Blacksburg** 145.66 291 IAMs_20 IAMs_20 17 29 09.9
comp=Z,570nm,19.0s
BLA **Blacksburg** 145.66 291 P **PKPdf** **16 24 48.2 +0.1**
baz=93
SCM **Sheep Creek Mo** 145.68 21 P **PKPdf** **16 24 47.1 -0.3**
baz=320,SNR=12
J29N **Klondike Camp** 145.73 13 IAMs_20 IAMs_20 17 31 52.2
comp=Z,415nm,21.0s
J29N **Klondike Camp** 145.73 13 P **PKPbc** **16 24 47.9 +0.1**
baz=335,SNR=10.0
HOM **Homer** 145.74 27 P **PKPdf** **16 24 47.1 -0.3**
baz=311
M24K **Tolsona, Glenn** 145.82 20 P **PKPbc** **16 24 47.9 -0.2**
baz=322
MENT **Mentasta** 145.83 18 IAMs_20 IAMs_20 17 31 11.1
comp=Z,490nm,22.0s
L26K **Log Cabin Wild** 145.85 17 IAMs_20 IAMs_20 17 30 17.8
comp=Z,581nm,22.0s
L26K **Log Cabin Wild** 145.85 17 P **PKPbc** **16 24 48.2 0.0**
baz=326,SNR=20
DAWY **Dawson** 145.85 14 P **PKPbc** **16 24 47.9 -0.2**
baz=333,SNR=40
M53A **WI Miller and** 145.87 298 IAMs_20 IAMs_20 17 30 54.6
comp=Z,564nm,20.0s
M53A **WI Miller and** 145.87 298 P **PKPdf** **16 24 48.0 -0.3**
baz=87
HARP **HAARP** 145.88 19 P **PKPab** **16 24 48.9 +0.2**
baz=323,SNR=5.9
O22K **Cooper Landing** 145.88 24 P **PKPab** **16 24 48.5 -0.2**
baz=315
J30M **Hart River** 145.95 11 P **PKPdf** **16 24 48.2 +0.3**
baz=338,SNR=74
N53A **Lisbon** 146.02 297 IAMs_20 IAMs_20 17 30 22.8
comp=Z,463nm,21.0s
BRSE **Bradley Lake S** 146.03 26 P **PKPdf** **16 24 48.2 +0.2**
baz=313
Q20K **Shuyak Island** 146.12 29 P **PKPbc** **16 24 48.9 -0.1**
baz=309
SYI **Shuyak Island** 146.12 29 PKPdf **PKPbc** **16 24 49.0 0.0**
L27K **Beaver Creek,** 146.19 16 IAMs_20 IAMs_20 17 31 39.8
comp=Z,442nm,21.0s
L27K **Beaver Creek,** 146.19 16 P **PKPbc** **16 24 49.5 +0.3**
baz=329,SNR=40
BCAR **Beaver Creek A** 146.20 16 PKPdf **PKPdf** **16 24 48.2 0.0**
KMSC **Kings Mountain** 146.23 287 P **PKPdf** **16 24 49.2 +0.1**
baz=96,SNR=6.5
SEW **Seward** 146.25 25 P **PKPbc** **16 24 49.3 0.0**
baz=315
CHIR **Chirikof Islan** 146.29 34 P **PKPbc** **16 24 49.5 -0.2**
baz=302
O53A **New Philadelph** 146.33 296 IAMs_20 IAMs_20 17 29 05.9
comp=Z,422nm,20.0s
O53A **New Philadelph** 146.33 296 P **PKPbc** **16 24 49.9 -0.4**
baz=88
KLU **Klutina** 146.37 21 P **PKPbc** **16 24 49.3 -0.6**
baz=321,SNR=24
K29M **Barlow Dome** 146.41 13 P **PKPbc** **16 24 49.5 -0.5**
baz=336,SNR=44
M26K **Nabesna, AK** 146.46 18 IAMs_20 IAMs_20 17 32 21.1
comp=Z,421nm,20.0s
M26K **Nabesna, AK** 146.46 18 P **PKPbc** **16 24 49.6 -0.5**
baz=326,SNR=8.0
P53A **Whipple** 146.48 295 IAMs_20 IAMs_20 17 31 24.1
comp=Z,404nm,20.0s
GLI **Glacier Island** 146.48 22 P **PKPdf** **16 24 48.5 -0.2**
baz=319
KDAK **Kodiak Island** 146.56 30 **PKPbc** **16 24 50.9 +0.5**
KDAK **Kodiak Island** 146.56 30 P **PKPbc** **16 24 49.9 -0.5**
baz=308
KDAK **Kodiak Island** 146.56 30 PKP2 **PKPbc** **16 24 50.9 +0.5**
SII **Sitkinak Islan** 146.57 33 P **PKPbc** **16 24 50.1 -0.4**
baz=304
OHAK **Old Harbor** 146.59 31 P **PKPdf** **16 24 49.7 +0.8**
baz=306
N25K **Chitina, Valde** 146.67 20 IAMs_20 IAMs_20 17 30 05.8
comp=Z,447nm,21.0s
N25K **Chitina, Valde** 146.67 20 P **PKPab** **16 24 51.5 -0.3**
baz=323,SNR=40
FID **Port Fidalgo** 146.77 22 IAMs_20 IAMs_20 17 30 59.0
comp=Z,388nm,20.0s
M27K **Edge Creek, AK** 146.78 17 IAMs_20 IAMs_20 17 33 40.4
comp=Z,510nm,19.0s
M27K **Edge Creek, AK** 146.78 17 P **PKPbc** **16 24 51.5 +0.4**
baz=328,SNR=22
HODGE **Hodges** 146.88 285 IAMs_20 IAMs_20 17 26 14.9
comp=Z,560nm,21.0s
L29M **L29M** 146.96 14 P **PKPbc** **16 24 51.6 +0.1**
baz=334,SNR=28
GLB **Gilahina Butte** 147.03 19 IAMs_20 IAMs_20 17 33 09.0
comp=Z,371nm,20.0s
P23K **Montague Islan** 147.03 24 P **PKPbc** **16 24 51.2 -0.4**
baz=318
HIN **Hinchinbrook I** 147.04 22 IAMs_20 IAMs_20 17 33 45.3
comp=Z,493nm,20.0s
P52A **Corning** 147.05 295 IAMs_20 IAMs_20 17 27 05.2
comp=Z,389nm,21.0s
P52A **Corning** 147.05 295 P **PKPbc** **16 24 51.5 -0.9**
baz=88
FCC **Fort Churchill** 147.15 333 **PKPbc** **16 24 51.8 -0.2**
FCC IAMs_20 IAMs_20 17 31 20.1
comp=Z,481nm,21.0s
FCC **Fort Churchill** 147.15 333 PKP2 **PKPbc** **16 24 51.8 -0.2**
FCC MLR MLR
comp=Z,500nm,21.0s
EYAK **Cordova Ski Ar** 147.16 22 P **PKPdf** **16 24 50.8 +1.1**
baz=321
Q52A **Bidwell** 147.16 294 IAMs_20 IAMs_20 17 31 17.3
comp=Z,472nm,21.0s
BMRM **Bremner River** 147.18 20 P **PKPbc** **16 24 51.4 -0.8**
baz=323,SNR=11
N51A **Ashland** 147.18 297 IAMs_20 IAMs_20 17 31 25.4
comp=Z,495nm,20.0s
I49A **Point Hope** 147.20 303 IAMs_20 IAMs_20 17 29 51.2
comp=Z,416nm,21.0s
MCARA **McCarthy VSAT** 147.30 19 P **PKPbc** **16 24 52.4 +0.1**
baz=325,SNR=21
VRDI **Verde Repeater** 147.31 19 IAMs_20 IAMs_20 17 34 55.3
comp=Z,358nm,20.0s
154A **Montrose** 147.36 282 IAMs_20 IAMs_20 17 25 32.8
comp=Z,599nm,20.0s
M29M **Somme Creek** 147.49 14 P **PKPbc** **16 24 53.0 -0.1**
baz=333
TIGA **Tifton** 147.56 280 P **PKPdf** **16 24 52.4 +1.0**
baz=101
YUK3 **Moose Creek** 147.63 16 P **PKPbc** **16 24 53.4 -0.2**
baz=330,SNR=15
M50A **Fremont** 147.65 298 IAMs_20 IAMs_20 17 33 02.7
comp=Z,373nm,20.0s
ACSO **Alum Creek Sta** 147.68 296 P **PKPdf** **16 24 51.0 -0.4**
baz=87
M30M **Minto, Yukon** 147.71 13 P **PKPbc** **16 24 52.4 -1.2**
baz=336,SNR=11
P51A **Williamsport** 147.77 295 IAMs_20 IAMs_20 17 38 06.3
comp=Z,357nm,18.0s
GOGA **Godfrey** 147.77 283 IAMs_20 IAMs_20 17 29 25.8
comp=Z,556nm,22.0s
GOGA **Godfrey** 147.77 283 P **PKPdf** **16 24 51.0 -0.7**
baz=98
CRQE **Cirque** 147.80 20 P **PKPdf** **16 24 52.2 +1.1**
baz=325
Q23K **Middleton Isla** 147.82 23 P **PKPdf** **16 24 51.8 +1.0**
baz=319
TGL **Tana Glacier** 147.87 19 IAMs_20 IAMs_20 17 34 40.2
comp=Z,421nm,19.0s
TEIG **Tepich** 147.87 257 IAMs_20 IAMs_20 17 38 34.1
comp=Z,432nm,21.0s
TEIG **Tepich** 147.87 257 PKPbc **PKPbc** **16 24 55.2 +0.1**
comp=Z,43nm,1.0s,baz=37,slow=2.0,SNR=13
Q51A **Peebles** 148.00 294 IAMs_20 IAMs_20 17 30 33.5
comp=Z,408nm,21.0s
AAM **Ann Arbor** 148.02 300 P **PKPdf** **16 24 52.3 +0.4**
baz=83
KAIM **Kayak Island** 148.06 21 P **PKPbc** **16 24 52.9 -1.6**
baz=322
CTG **Chitna Glacier** 148.10 18 P **PKPdf** **16 24 52.7 +1.2**
baz=328,SNR=11
CTGM **Chitina Glacie** 148.10 18 IAMs_20 IAMs_20 17 30 57.2
comp=Z,537nm,22.0s
TZTN **Tazewell** 148.13 289 P **PKPdf** **16 24 52.3 +0.1**
baz=92
GRNC **Granite Creek** 148.19 19 IAMs_20 IAMs_20 17 23 54.5
comp=Z,372nm,18.0s
YUK8 **Steele Glacier** 148.22 16 P **PKPdf** **16 24 52.3 +0.4**
baz=330
TKL **Tuckaleechee C** 148.26 288 PKPbc **PKPbc** **16 24 55.4 -0.4**
comp=Z,16nm,1.1s,baz=100,slow=6.3,SNR=3.5
LOGN **Logan Glacier** 148.31 18 IAMs_20 IAMs_20 17 26 03.7
comp=Z,502nm,22.0s
GLMI **Grayling** 148.32 305 P **PKPdf** **16 24 52.7 +0.5**
baz=78
YUK4 **Talbot Arm** 148.43 15 P **PKPdf** **16 24 52.9 +0.7**
baz=332
M31M **Drury Creek, Y** 148.49 11 IAMs_20 IAMs_20 17 37 17.9
comp=Z,368nm,20.0s
M31M **Drury Creek, Y** 148.49 11 P **PKPdf** **16 24 53.6 +1.6**
baz=339,SNR=8.5
WRGLY **Wrigley** 148.51 1 P **PKPdf** **16 24 53.4 +1.4**
baz=357
N49A **Columbus Grove** 148.55 298 IAMs_20 IAMs_20 17 31 20.5
comp=Z,466nm,21.0s
O28M **Mount Upton** 148.56 17 P **PKPdf** **16 24 53.5 +1.0**
baz=329,SNR=12
MESA **MESA** 148.59 19 P **PKPdf** **16 24 53.5 +1.0**
baz=326
FARO **Faro, Yukon** 148.63 10 P **PKPdf** **16 24 53.5 +1.2**
baz=341
N30M **Aishikik Lake** 148.67 14 P **PKPbc** **16 24 54.7 -1.5**
baz=335,SNR=6.9
O49A **Covington** 148.72 296 IAMs_20 IAMs_20 17 36 30.2
comp=Z,449nm,19.0s
J47A **Sunmer** 148.74 302 IAMs_20 IAMs_20 17 30 38.1
comp=Z,582nm,20.0s
R50A **Paris** 148.78 292 IAMs_20 IAMs_20 17 32 03.3
comp=Z,454nm,20.0s
YUK6 **Outpost Mounta** 148.85 16 P **PKPbc** **16 24 55.0 -1.9**
baz=332
N31M **Braeburn, Yuko** 148.90 13 P **PKPdf** **16 24 54.5 +1.8**
baz=337,SNR=10
YKA **Yellowknife Ar** 148.91 354 PKP **PKPdf** **16 24 52.2 -0.4**
comp=Z,18nm,0.7s,baz=352,slow=2.7,SNR=9.9
YKA PKPbc **PKPbc** **16 24 56.4 -0.2**
comp=Z,45nm,1.1s,baz=2.1,slow=2.5,SNR=49
CCIG **Comitan** 148.96 247 IAMs_20 IAMs_20 17 30 14.9
comp=Z,474nm,21.0s
P49A **Miami Univ. Ec** 149.05 295 IAMs_20 IAMs_20 17 29 52.1
comp=Z,369nm,19.0s
P49A **Miami Univ. Ec** 149.05 295 P **PKPdf** **16 24 55.6 +2.0**
baz=87
PINM **Pinnacle** 149.12 18 P **PKPbc** **16 24 55.6 -1.7**
baz=328
HYT **Haines Junctio** 149.15 15 P **PKPbc** **16 24 55.6 -1.8**
baz=334,SNR=16
O48B **Farmland** 149.34 296 IAMs_20 IAMs_20 17 31 03.6
comp=Z,389nm,20.0s
O48B **Farmland** 149.34 296 P **PKPbc** **16 24 56.4 -2.0**
baz=85
O29M **Mount Kennedy** 149.37 16 IAMs_20 IAMs_20 17 34 57.8
comp=Z,563nm,20.0s
O29M **Mount Kennedy** 149.37 16 P **PKPbc** **16 24 56.6 -1.4**
baz=331
R49A **Shelbyville** 149.45 293 IAMs_20 IAMs_20 17 32 49.9
comp=Z,496nm,21.0s
O30N **Mendenhall** 149.50 14 IAMs_20 IAMs_20 17 35 37.9
comp=Z,365nm,20.0s
O30N **Mendenhall** 149.50 14 P **PKPbc** **16 24 56.6 -1.6**
baz=336,SNR=8.2
E43A **Lone Tree Farm** 149.57 309 IAMs_20 IAMs_20 17 28 22.0
comp=Z,500nm,22.0s
P48A **Milroy** 149.60 295 IAMs_20 IAMs_20 17 33 24.7
comp=Z,400nm,19.0s
I45A **Fountain** 149.61 304 IAMs_20 IAMs_20 17 33 41.8
comp=Z,528nm,20.0s
FPAL **Fort Paine** 149.67 285 IAMs_20 IAMs_20 17 30 29.8
comp=Z,569nm,21.0s
N32M **Quiet Lake** 149.69 11 P **PKPbc** **16 24 57.5 -1.2**
baz=341
N47A **Urbana** 149.69 298 IAMs_20 IAMs_20 17 30 19.8
comp=Z,452nm,20.0s
PNL **Peninsula** 149.71 18 P **PKPbc** **16 24 57.0 -1.8**
baz=330
250A **Grady** 149.90 280 IAMs_20 IAMs_20 17 35 49.3
comp=Z,379nm,18.0s
P30M **Million Dollar** 149.90 15 P **PKPdf** **16 24 56.4 +2.0**
baz=334,SNR=7.0
TGTN **Hyland Airport** 149.93 6 P **PKPdf** **16 24 56.1 +1.7**
baz=349
P29M **Windy Craggy** 150.16 16 P **PKPdf** **16 24 57.2 +2.5**
baz=332
WCI **Wyandotte Cave** 150.33 292 PKPdf **PKPdf** **16 24 55.3 -0.4**
WCI **Wyandotte Cave** 150.33 292 IAMs_20 IAMs_20 17 32 24.4
comp=Z,504nm,21.0s
WCI **Wyandotte Cave** 150.33 292 P **PKPdf** **16 24 57.2 +1.6**
baz=88
WCI **Wyandotte Cave** 150.33 292 PKIKP **PKPdf** **16 24 55.3 -0.4**
WCI MLR MLR
comp=Z,500nm,21.0s
BRAL **Brewton** 150.42 278 P **PKPdf** **16 24 56.9 +0.9**
baz=100
BLO **Bloomington** 150.47 294 IAMs_20 IAMs_20 17 46 03.7
comp=Z,500nm,22.0s
H43A **Windswept, Lux** 150.59 305 PKPdf **PKPdf** **16 24 55.6 -0.3**
P33M **Teslin, Yukon** 150.62 11 P **PKPdf** **16 24 56.6 +1.1**
baz=341
PLBC **Pleasant Camp** 150.63 15 P **PKPdf** **16 24 56.5 +1.1**
baz=334,SNR=5.5
LRAL **Lakeview Retre** 150.66 282 IAMs_20 IAMs_20 17 33 14.4
comp=Z,493nm,20.0s
LRAL **Lakeview Retre** 150.66 282 P **PKPdf** **16 24 56.7 +0.4**
baz=97,SNR=6.0
SFIN **Lafayette** 150.81 297 P **PKPdf** **16 24 56.7 +0.4**
baz=84
SKAG **Skagway** 150.85 14 IAMs_20 IAMs_20 17 37 25.7
comp=Z,367nm,20.0s
SKAG **Skagway** 150.85 14 P **PKPdf** **16 24 57.1 +1.3**
baz=336
P46A **Rosedale** 150.96 295 IAMs_20 IAMs_20 17 27 40.7
comp=Z,446nm,19.0s
T47A **Sharon Grove** 150.99 290 IAMs_20 IAMs_20 17 32 56.2
comp=Z,600nm,21.0s
P32M **Atlin** 151.05 13 IAMs_20 IAMs_20 17 36 38.9
comp=Z,378nm,20.0s
P32M **Atlin** 151.05 13 P **PKPdf** **16 24 56.4 +0.2**
baz=339,SNR=9.8
COWI **Conover** 151.07 309 IAMs_20 IAMs_20 17 38 11.7
comp=Z,421nm,18.0s
L44A **Lake County Fo** 151.16 301 IAMs_20 IAMs_20 17 35 22.3
comp=Z,559nm,22.0s
L44A **Lake County Fo** 151.16 301 P **PKPdf** **16 24 56.8 0.0**
baz=80
WTLY **Watson Lake, Y** 151.27 7 P **PKPdf** **16 24 56.8 +0.4**
baz=348
K43A **Burlington** 151.37 302 IAMs_20 IAMs_20 17 36 04.7
comp=Z,538nm,20.0s
USIN **University of** 151.42 292 IAMs_20 IAMs_20 17 35 56.3
comp=Z,448nm,19.0s
WVT **Waverly** 151.57 288 **PKPbc** **16 25 03.2 -0.6**
WVT **Waverly** 151.57 288 P **PKPdf** **16 24 56.9 -0.7**
baz=91
WVT **Waverly** 151.57 288 PKIKP **PKPbc** **16 25 03.2 -0.6**
WVT MLR MLR
comp=Z,700nm,20.0s
Z47A **Carrollton** 151.57 282 IAMs_20 IAMs_20 17 38 04.4
comp=Z,449nm,20.0s
KOTAN **Kotaneelee Air** 151.59 2 P **PKPdf** **16 24 57.5 +0.6**
baz=356
R33M **Jennings River** 151.69 10 IAMs_20 IAMs_20 17 40 43.7
comp=Z,384nm,21.0s
R33M **Jennings River** 151.69 10 P **PKPdf** **16 24 56.1 -1.1**
baz=344,SNR=13
R31K **City Hall, Gus** 151.72 16 P **PKPdf** **16 24 56.6 -0.5**
baz=335

OLIL	Olney	151.72	294	IAMs_20	IAMs_20	17 34 49.1		
	comp=Z,432nm,20.0s							
Q32M	Nakina River	151.90	12	IAMs_20	IAMs_20	17 40 36.1		
	comp=Z,423nm,22.0s							
Q32M	Nakina River	151.90	12	P	PKPdf	16 24 57.2	-0.4	
	baz=341,SNR=8.5							
EYMN	Ely	151.91	314	P	PKPdf	16 24 57.7	-0.1	
	baz=66							
S31K	Pelican	152.01	16	P	PKPdf	16 24 57.2	-0.3	
	baz=333							
G40A	Rib Lake	152.03	308	IAMs_20	IAMs_20	17 34 57.4		
	comp=Z,553nm,20.0s							
R32K	Eaglecrest	152.11	14	P	PKPdf	16 24 58.2	+0.4	
	baz=337							
LIRD	Liard River Hi	152.21	5	P	PKPdf	16 24 58.1	+0.2	
	baz=352							
146A	Union	152.33	281	IAMs_20	IAMs_20	17 30 50.7		
	comp=Z,516nm,22.0s							
Q44A	Meyer Farm, Va	152.42	294	IAMs_20	IAMs_20	17 34 03.5		
	comp=Z,564nm,22.0s							
HDIL	Hopedale	152.45	298	IAMs_20	IAMs_20	17 37 13.8		
	comp=Z,430nm,19.0s							
HDIL	Hopedale	152.45	298	P	PKPdf	16 24 57.6	-1.2	
	baz=82							
S44A	Carbondale	152.69	292	IAMs_20	IAMs_20	17 31 52.9		
	comp=Z,425nm,22.0s							
HICK	Hickman	152.70	289	IAMs_20	IAMs_20	17 34 09.6		
	comp=Z,521nm,20.0s							
JFWS	Jewell Farm	152.71	303	IAMs_20	IAMs_20	17 31 30.8		
	comp=Z,598nm,21.0s							
JFWS	Jewell Farm	152.71	303	P	PKPdf	16 24 58.0	-1.2	
	baz=76							
P43A	Skaggs, Pawnee	152.74	296	IAMs_20	IAMs_20	17 31 52.5		
	comp=Z,453nm,21.0s							
DLBC	Dease Lake	152.75	9	P	PKPdf	16 24 59.1	+0.3	
	baz=345							
HALT	Halls	152.79	288	IAMs_20	IAMs_20	17 30 55.1		
	comp=Z,601nm,22.0s							
OXF	Oxford	152.80	285	P	PKPdf	16 24 58.1	-1.4	
	baz=93							
TOAD	Toad River Com	152.82	4	P	PKPdf	16 24 57.8	-1.0	
	baz=354							
S32K	Killisnoo	152.84	15	P	PKPdf	16 24 58.5	-0.3	
	baz=336							
CGM3	Cape Girardeau	153.03	291	IAMs_20	IAMs_20	17 33 42.0		
	comp=Z,496nm,22.0s							
SIT	Sitka	153.04	16	P	PKPdf	16 24 58.2	-0.9	
	baz=334							
FFC	Flin Flon	153.07	334	PKPbc	PKPbc	16 25 06.3	-0.3	
FFC	Flin Flon	153.07	334	IAMs_20	IAMs_20	17 31 47.6		
	comp=Z,491nm,21.0s							
FFC	Flin Flon	153.07	334	PKIKP	PKPbc	16 25 06.3	-0.3	
FFC				MLR	MLR			
	comp=Z,500nm,21.0s							
S34M	Telegraph Cree	153.09	11	IAMs_20	IAMs_20	17 36 23.6		
	comp=Z,405nm,21.0s							
S34M	Telegraph Cree	153.09	11	P	PKPdf	16 24 59.0	-0.2	
	baz=342							
PARMO	Parma	153.12	289	IAMs_20	IAMs_20	17 34 50.6		
	comp=Z,479nm,20.0s							
ULM	Lac du Bonnet	153.31	321	PKP	PKPdf	16 24 59.3	-0.4	
	comp=Z,6.2nm,0.9s,baz=68,slow=3.3,SNR=8.1							
ULM				PKPbc	PKPbc	16 25 07.3	0.0	
	comp=Z,21nm,1.0s,baz=56,slow=2.8,SNR=16							
ULM				PKPab	PKPab	16 25 18.2	-1.0	
	comp=Z,36nm,1.2s,baz=20,slow=2.5,SNR=9.4							
SLM	Saint Louis	153.40	294	IAMs_20	IAMs_20	17 36 49.4		
	comp=Z,400nm,20.0s							
VBMS	Vicksburg	153.50	279	IAMs_20	IAMs_20	17 29 38.9		
	comp=Z,553nm,21.0s							
VBMS	Vicksburg	153.50	279	P	PKPdf	16 25 00.4	-0.2	
	baz=97							
N41A	Harden Midland	153.60	298	IAMs_20	IAMs_20	17 35 53.0		
	comp=Z,576nm,21.0s							
L40A	Anamosa	153.60	302	IAMs_20	IAMs_20	17 33 11.7		
	comp=Z,561nm,20.0s							
SPMN	Marine on St.	153.78	309	IAMs_20	IAMs_20	17 47 58.5		
	comp=Z,478nm,21.0s							
SPMN	Marine on St.	153.78	309	P	PKPdf	16 25 00.9	+0.3	
	baz=69							
T35M	Bob Quinn	154.12	11	IAMs_20	IAMs_20	17 39 26.9		
	comp=Z,491nm,21.0s							
T35M	Bob Quinn	154.12	11	P	PKPdf	16 25 00.5	-0.3	
	baz=344							
T42A	Van Buren	154.18	290	IAMs_20	IAMs_20	17 34 44.6		
	comp=Z,549nm,21.0s							
CCM	Cathedral Cave	154.24	293	IAMs_20	IAMs_20	17 37 50.8		
	comp=Z,454nm,20.0s							
CCM	Cathedral Cave	154.24	293	P	PKPdf	16 25 01.8	+0.3	
	baz=85							
LCAR	Lake Charles	154.26	288	IAMs_20	IAMs_20	17 33 22.0		
	comp=Z,465nm,21.0s							
WRAK	Wrangell Islan	154.28	14	P	PKPdf	16 25 01.7	+0.8	
	baz=339							
AGMN	Agassiz Nation	154.35	318	P	PKPdf	16 25 01.2	-0.1	
	baz=59							
U33K	Whale Pass	154.40	15	P	PKPdf	16 25 01.5	+0.5	
	baz=338							
P40A	Paris	154.69	296	IAMs_20	IAMs_20	17 34 59.3		
	comp=Z,363nm,20.0s							
CRAG	Craig	155.00	15	P	PKPdf	16 25 02.5	+0.6	
	baz=337							
R40A	Maddies Statio	155.02	293	PKPab	PKPab	16 25 26.0	-1.0	
R40A				IAMs_20	IAMs_20	17 36 53.3		
	comp=Z,441nm,20.0s							
FCAR	Ozark Folk Cen	155.05	288	IAMs_20	IAMs_20	17 35 52.9		
	comp=Z,525nm,20.0s							
SCIA	State Center	155.08	302	IAMs_20	IAMs_20	17 37 41.9		
	comp=Z,478nm,20.0s							
SCIA	State Center	155.08	302	P	PKPdf	16 25 01.3	-1.2	
	baz=75							
MGMO	Mountain Grove	155.12	291	IAMs_20	IAMs_20	17 35 49.3		
	comp=Z,537nm,21.0s							
U35K	Hyder	155.18	11	IAMs_20	IAMs_20	17 38 19.9		
	comp=Z,571nm,21.0s							
U35K	Hyder	155.18	11	P	PKPdf	16 25 01.2	-1.0	
	baz=343							
V35K	Ketchikan	155.45	14	IAMs_20	IAMs_20	17 42 12.2		
	comp=Z,524nm,22.0s							
V35K	Ketchikan	155.45	14	P	PKPdf	16 25 02.3	-0.2	
	baz=340							
X40A	Basin Creek Fa	155.62	284	IAMs_20	IAMs_20	17 32 03.4		
	comp=Z,599nm,22.0s							
S39A	Bolivar	155.91	292	IAMs_20	IAMs_20	17 32 23.0		
	comp=Z,447nm,22.0s							
MIAR	Mount Ida	156.24	284	P	PKPdf	16 25 03.8	-0.5	
	baz=91							
MDND	Maddock	156.70	320	P	PKPdf	16 25 03.8	-0.7	
	baz=54							
ECSD	EROS Data Cent	156.87	308	P	PKPdf	16 25 05.1	+0.3	
	baz=67							
NATX	Nacogdoches	156.94	277	P	PKPdf	16 25 05.1	-0.2	
	baz=97							
HKT	Hockley	157.64	272	IAMs_20	IAMs_20	17 47 07.3		
	comp=Z,488nm,19.0s							
TUL3	Leonard	158.03	288	P	PKPdf	16 25 06.3	-0.2	
	baz=86							
SUSD	Miller	158.10	312	P	PKPdf	16 25 06.0	-0.4	
	baz=62							
KSU1	Kansas State U	158.25	297	IAMs_20	IAMs_20	17 37 51.4		
	comp=Z,537nm,21.0s							
KSU1	Kansas State U	158.25	297	P	PKPdf	16 25 06.2	-0.5	
	baz=78							
DGMT	Dagmar	158.65	326	P	PKPdf	16 25 07.0	0.0	
	baz=45							
BGNE	Belgrade	158.76	304	P	PKPdf	16 25 05.7	-1.6	
	baz=70							
OK052	Battle Ridge R	158.84	288	IAMs_20	IAMs_20	17 36 10.1		
	comp=Z,465nm,20.0s							
BBB	Bella Bella	159.08	11	IAMs_20	IAMs_20	17 41 45.0		
	comp=Z,492nm,22.0s							
Z35A	Perchaven, San	159.25	281	IAMs_20	IAMs_20	17 44 22.9		
	comp=Z,460nm,20.0s							
435B	Jarrell	159.28	274	IAMs_20	IAMs_20	17 46 01.3		
	comp=Z,453nm,19.0s							
435B	Jarrell	159.28	274	P	PKPdf	16 25 08.7	+0.5	
	baz=99							
WHTX	Lake Whitney,	159.33	277	P	PKPdf	16 25 08.5	+0.3	
	baz=96							
FW07	Weatherford	159.66	279	IAMs_20	IAMs_20	17 32 34.1		
	comp=Z,353nm,20.0s							
CROK	Carrier	159.74	290	IAMs_20	IAMs_20	17 37 21.8		
	comp=Z,513nm,20.0s							
833A	Chaparral WMA,	160.30	266	P	PKPdf	16 25 09.4	0.0	
	baz=105							
WMOK	Wichita Mounta	160.52	285	PKPab	PKPab	16 25 50.5	-0.4	
WMOK	Wichita Mounta	160.52	285	P	PKPdf	16 25 09.4	-0.1	
	baz=87							
WMOK	Wichita Mounta	160.52	285	PKP2	PKPab	16 25 50.5	-0.4	
CBKS	Cedar Bluff	160.69	297	P	PKPdf	16 25 09.3	-0.3	
	baz=75							
JCT	Junction City	161.12	272	P	PKPdf	16 25 10.2	-0.1	
	baz=99							
ABTX	Abilene, Hawle	161.22	278	P	PKPdf	16 25 09.9	-0.4	
	baz=93							
EGMT	Eagleton	161.35	334	P	PKPdf	16 25 09.7	-0.4	
	baz=34							
RSSD	Black Hills	161.38	316	P	PKPdf	16 25 09.7	-0.7	
	baz=54							
OGNE	Ogallala	161.66	305	P	PKPdf	16 25 08.8	-1.9	
	baz=66							
KSCO	Kaye Shedlock'	162.79	300	P	PKPdf	16 25 11.6	-0.3	
	baz=71							
AMTX	Amarillo	162.90	286	P	PKPdf	16 25 11.3	-0.8	
	baz=85							
NEW	Newport	163.14	349		PKPdf	16 25 11.5	-0.4	
NEW				PKPab	PKPab	16 26 01.7	-0.1	
NEW	Newport	163.14	349	P	PKPdf	16 25 11.4	-0.4	
	baz=14							
NEW	Newport	163.14	349	PKP2	PKPab	16 26 01.7	-0.1	
NEW						17 25 11.5		
LYMT	Lyon Mountain	163.15	337	PKPab	PKPab	16 26 01.4	-0.8	
OVMT	Ovando	163.29	339	PKPab	PKPab	16 26 02.1	-0.6	
RLMT	Red Lodge	163.47	327	P	PKPdf	16 25 12.6	+0.1	
	baz=40							
K22A	Casper	163.71	316	PKPab	PKPab	16 26 04.0	-0.8	
K22A	Casper	163.71	316	P	PKPdf	16 25 12.2	-0.4	
	baz=53							
MSO	Missoula	163.79	340	P	PKPdf	16 25 12.3	-0.3	
	baz=24							
MSTX	Muleshoe	163.86	283	P	PKPdf	16 25 12.4	-0.7	
	baz=87							
BPMT	Black Pine Rid	163.99	339	PKPab	PKPab	16 26 05.7	-0.2	
BOZ	Bozeman (W)	164.09	333	P	PKPdf	16 25 12.8	-0.1	
	baz=33							
TXAR	Lajitas Array	164.18	266		PKPdf	16 25 13.2	-0.2	
TXAR	Lajitas Array	164.18	266	PKP	PKPdf	16 25 14.2	+0.8	
	comp=Z,4.4nm,1.1s,baz=169,slow=1.3,SNR=16							
TXAR				PKPab	PKPab	16 26 08.0	+0.7	
	comp=Z,4.8nm,1.1s,baz=112,slow=5.6,SNR=7.5							
TXAR	Lajitas Array	164.18	266	PKIKP	PKPdf	16 25 13.2	-0.2	
N23A	Red Feather La	164.32	310	P	PKPdf	16 25 12.5	-0.9	
	baz=59							
H17A	Grant Village	164.62	328	P	PKPdf	16 25 13.7	+0.2	
	baz=38							
ISCO	Idaho Springs	164.62	306	P	PKPdf	16 25 13.9	+0.1	
	baz=63							
Q24A	Divide	164.64	302	P	PKPdf	16 25 14.0	+0.2	
	baz=57							
T25A	Trinidad	164.69	295	P	PKPdf	16 25 13.9	+0.1	
	baz=74							
BW06	Boulder Array	165.34	322	P	PKPdf	16 25 14.0	-0.2	
	baz=45							
PDAR	Pinedale Array	165.34	322		PKPdf	16 25 13.3	-0.9	
PDAR	Pinedale Array	165.34	322	PKP	PKPdf	16 25 13.8	-0.4	
	comp=Z,4.1nm,1.0s,baz=119,slow=1.9,SNR=23							
PDAR				PKPab	PKPab	16 26 11.2	-0.8	
	comp=Z,2.5nm,1.0s,baz=70,slow=4.9,SNR=4.1							
PDAR				PP	PP	16 29 56.2	-2.3	
	comp=Z,0.3nm,0.3s,baz=92,slow=7.3,SNR=2.6							
SDCO	Great Sand Dun	165.34	298	P	PKPdf	16 25 14.6	+0.1	
	baz=70							
O20A	White River Ci	166.21	311	P	PKPdf	16 25 14.9	0.0	
	baz=56							
S22A	4UR Ranch, Cre	166.32	300	P	PKPdf	16 25 15.8	+0.6	
	baz=68							
ANMO	Albuquerque	166.78	288	P	PKPdf	16 25 16.1	+0.5	
	baz=80							
ANMO	Albuquerque	166.78	288	PKP	PKPdf	16 25 16.9	+1.3	
	comp=Z,2.1nm,1.0s,baz=238,slow=3.8,SNR=9.2							
ANMO				PKPab	PKPab	16 26 18.8	+0.1	
	comp=Z,4.9nm,1.1s,baz=200,slow=6.1,SNR=5.5							
ANMO				PP	PP	16 30 07.8	+0.8	
	comp=Z,0.5nm,0.4s,baz=78,slow=9.3,SNR=1.9							
HLID	Hailey	166.86	336	P	PKPdf	16 25 15.7	+0.4	
	baz=29							
HWUT	Hardware Ranch	167.21	323	PKPab	PKPab	16 26 19.6	-0.6	
Y22D	IRIS PASSCAL I	167.28	284	P	PKPdf	16 25 14.3	-1.6	
	baz=83							
BSUT	Blindstream Ca	167.51	318	PKPab	PKPab	16 26 21.1	-0.7	
MVCO	Mesa Verde	167.76	300	P	PKPdf	16 25 16.5	+0.2	
	baz=67							
121A	Cookes Peak, D	168.09	277	P	PKPdf	16 25 16.5	0.0	
	baz=89							
DUG	Dugway, Tooele	168.88	322	P	PKPdf	16 25 17.4	+0.7	
	baz=43							
W18A	Petrified Fore	169.38	292	P	PKPdf	16 25 17.6	+0.3	
	baz=74							
WUAZ	Wupatki	170.53	296	P	PKPdf	16 25 18.6	+0.7	
	baz=69							
TUC	Tucson	170.63	276	P	PKPdf	16 25 18.8	+0.8	
	baz=89							
R11B	Troy Canyon, C	171.69	324	P	PKPdf	16 25 19.4	+0.9	
	baz=39							
KVN	Kaiserville	172.13	338	PKPab	PKPab	16 26 41.4	-0.6	
KVN	Kaiserville	172.13	338	PKP2	PKPab	16 26 41.4	-0.6	
214A	Organ Pipe Nat	172.35	274	P	PKPdf	16 25 19.9	+1.1	
	baz=90							
NVAR	Mina Array Bea	172.76	338	PKP	PKPdf	16 25 21.3	+2.3	
	comp=Z,3.1nm,1.1s,baz=178,slow=1.9,SNR=11							
NVAR				PKPab	PKPab	16 26 44.9	0.0	
	comp=Z,5.2nm,1.1s,baz=52,slow=6.0,SNR=10							
NVAR				PP	PP	16 30 37.1	+1.4	
	comp=Z,0.2nm,0.4s,baz=40,slow=1.5,SNR=1.7							
PDMCI	Parker Dam,Lak	173.09	293	P	PKPdf	16 25 21.2	+2.3	
	baz=70,SNR=6.1							
TPNV	Topopah Spring	173.09	320	P	PKPdf	16 25 20.9	+1.8	
	baz=42							
NEE2	Needles Airpor	173.28	298	P	PKPdf	16 25 20.4	+1.4	
	baz=64							
GRAC	Grapevine Rang	173.62	326	P	PKPdf	16 25 20.7	+1.6	
	baz=36							
MLAC	Mammoth, Mammo	173.66	338	P	PKPdf	16 25 22.1	+2.7	
	baz=23							
FURC	Furnace Creek,	173.77	320	P	PKPdf	16 25 22.2	+3.1	
	baz=42,SNR=5.1							
SHOC	Shoshone, Teco	173.82	313	P	PKPdf	16 25 21.6	+2.4	
	baz=49							
TUQ	Turquoise Moun	173.88	308	P	PKPdf	16 25 22.1	+2.7	
	baz=54,SNR=8.9							
IRM	Iron Mountain	173.92	295	P	PKPdf	16 25 22.0	+2.7	
	baz=68,SNR=8.1							
TIN	Tinemaha, Big	173.96	332	P	PKPdf	16 25 21.4	+2.1	
	baz=30							
GLA	Glamis	173.96	284	P	PKPdf	16 25 21.5	+2.1	
	baz=78							
GMRC	Granite Mounta	174.04	302	P	PKPdf	16 25 22.3	+2.9	
	baz=60,SNR=18							
BC3	Big Chuckawall	174.32	291	P	PKPdf	16 25 21.4	+1.8	
	baz=71,SNR=9.7							
CWC	Cottonwood Cre	174.41	327	P	PKPdf	16 25 21.6	+2.0	
	baz=34							
MPMC	Manual Prospec	174.42	321	P	PKPdf	16 25 21.9	+2.2	
	baz=40,SNR=12							
HEC	Hector,Ludlow	174.50	305	P	PKPdf	16 25 22.5	+2.9	
	baz=57,SNR=9.8							
GSC	Goldstone, Bar	174.54	312	P	PKPdf	16 25 22.3	+2.7	
	baz=50,SNR=7.5							
BELC	Belle Mtn. Jos	174.63	296	P	PKPdf	16 25 22.6	+2.9	
	baz=66,SNR=7.6							
SWSC	Sam W. Stewart	174.78	285	P	PKPdf	16 25 22.1	+2.5	
	baz=77							
RRX	Edison Barstow	174.92	309	P	PKPdf	16 25 21.8	+2.2	
	baz=52							
LRMC	Laurel Mtn Rad	174.95	318	P	PKPdf	16 25 22.4	+2.6	
	baz=43,SNR=12							
IKP	In-Ko-Pah, Jac	175.09	282	P	PKPdf	16 25 22.3	+2.5	
	baz=79							
TPFO	Pinon Flats	175.13	294	P	PKPdf	16 25 21.3	+1.4	
	baz=68							
PFO	Pinyon Flats O	175.13	294	P	PKPdf	16 25 21.3	+1.4	
	baz=68							
PFO	Pinyon Flats O	175.13	294	PKP	PKPdf	16 25 22.4	+2.5	
	comp=Z,4.4nm,1.0s,baz=258,slow=1.4,SNR=7.7							
PFO				PKPab	PKPab	16 26 56.2	+0.6	
	comp=Z,2.8nm,0.7s,baz=45,slow=5.6,SNR=4.5							
BBRC	Big Bear Solar	175.20	303	P	PKPdf	16 25 19.6	-0.4	
	baz=59							
ISA	Isabella, Lake	175.22	325	P	PKPdf	16 25 21.2	+1.4	
	baz=36							
MONP2	Monument Peak	175.31	285	P	PKPdf	16 25 20.4	+0.4	
	baz=76							
VES	Vestal, Richgr	175.35	332	P	PKPdf	16 25 20.2	+0.5	
	baz=29							
EDW2	Edwards Air Fo	175.55	315	P	PKPdf	16 25 21.7	+1.9	
	baz=46							
MURC	Murrieta	175.71	296	P	PKPdf	16 25 21.8	+1.9	
	baz=64							
BFSC	Mount Baldy Ra	175.73	306	P	PKPdf	16 25 21.3	+1.3	
	baz=54							
ARVC	Arvin	175.83	324	P	PKPdf	16 25 21.8	+2.0	
	baz=36							
109C	Camp Elliot, M	175.87	287	P	PKPdf	16 25 21.6	+1.7	
	baz=74							
SMMC	Simmler	176.15	337	P	PKPdf	16 25 20.6	+0.7	
	baz=23							
OSI	Osito Audit: C	176.16	319	P	PKPdf	16 25 21.6	+1.7	
	baz=42							
DECC	Green Verdugo	176.17	311	P	PKPdf	16 25 21.2	+1.2	
	baz=49							
FMP	Fort Macarthur	176.46	304	P	PKPdf	16 25 21.1	+1.2	
	baz=56							
PKM	Mcpherson Peak	176.47	332	P	PKPdf	16 25 19.7	-0.5	
	baz=28							
CIS	Catalina Islan	176.71	301	P	PKPdf	16 25 20.9	+0.8	
	baz=59							
SBC	Santa Barbara	176.81	327	P	PKPdf	16 25 20.8	+0.8	
	baz=33							
SCI2	San Clemente I	176.99	295	P	PKPdf	16 25 20.4	+0.3	
	baz=65							
SCZ2	Santa Cruz Isl	177.12	321	P	PKPdf	16 25 20.9	+0.8	
	baz=38							
SNCC	San Nicolas Is	177.57	308	P	PKPdf	16 25 20.1	-0.1	
	baz=51							

RSNC 10 16:13:16.0±0.0, 10°N±1°×7°3W±°, h116km±2km, M2.7, mb3.6, ML2.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	Cerrejon, Guaj	0.69	12	P	Pn	16 13 34.0	-1.0
CRJC				S	Sn	16 13 48.3	-1.0
ARGC	Ariguani, Magd	1.29	248	P	Pn	16 13 40.6	-0.2
ARGC				S	Sn	16 14 00.1	+0.5
URIC	Uribia, Colomb	1.69	37	P	Pn	16 13 44.0	-1.5
URIC				S	Sn	16 14 06.0	-2.0
OCAC	Ocana	2.11	188	P	Pn	16 13 49.2	-1.6
OCAC				S	Sn	16 14 15.0	-2.4
SJCC	San Jacinto, C	2.16	258	P	Pn	16 13 50.3	-1.1
SJCC				S	Sn	16 14 18.4	-0.1
SDV	Santo Domingo	2.77	121	P	Pn	16 13 58.9	-0.5
SDV				S	Sn	16 14 29.9	-2.8
PAMC	Pamplona, Colo	3.00	174	P	Pn	16 14 00.9	-1.8
PAMC				S	Sn	16 14 36.6	-1.9
ZARC	Zaragoza, Cauc	3.36	213	P	Pn	16 14 05.2	-1.7
ZARC				S	Sn	16 14 43.8	-2.5
UREC	San Jos de Ur	3.57	224	P	Pn	16 14 09.7	0.0
LCBC	Los crdobas,	3.61	246	P	Pn	16 14 08.2	-2.0
LCBC				S	Sn	16 14 48.0	-4.2
PTBC	PUERTO BERRIO,	4.03	201	P	Pn	16 14 15.8	-0.1
PTBC				S	Sn	16 15 00.0	-2.4
TAMC	Tame, Arauca	4.07	162	P	Pn	16 14 15.4	-1.1
TAMC				S	Sn	16 15 00.3	-3.0
DBBC	Dabeiba	4.56	224	P	Pn	16 14 22.3	-0.8
DBBC				S	Sn	16 15 07.9	-7.3
CAPC	Capurgana	4.59	249	P	Pn	16 14 19.3	-4.1
SPBC	San Pablo de B	4.77	193	P	Pn	16 14 25.2	-0.8
SPBC				S	Sn	16 15 17.6	-2.7
NORC	Norcasia	5.08	201	P	Pn	16 14 28.3	-1.8
	8.2nm,1.1s						
GUY2C	Guyana, Caldas	5.58	205	P	Pn	16 14 36.4	-0.9
	7.7nm,0.6s						
PLMC	San Jos del P	6.29	211	P	Pn	16 14 45.9	-0.5

*IDC **10** 16:22:23.6±2.7, 3°83N×127°03E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=239.2km s-min=26.7km az=66.0*

ISC 10 16:22:24.4±2.1, 4°1N±0°5×12°8E±°, h10km, n5, σ1°69/5, mb2.9/3, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	5.99	340	⇑iP	Pg	16 24 19.6	+0.3
MSLP	Maasin	6.55	336	⇓eP	Pg	16 24 29.7	-0.4
WRA	Warramunga Arr	24.82	165	P	P	16 27 45.0	-2.1
	0.1nm,0.3s,baz=342,slow=10,SNR=5.1						
	0.1nm,0.3s						
ASAR	Alice Springs	28.31	168	P	P	16 28 19.6	+1.1
	0.1nm,0.6s,baz=344,slow=11,SNR=1.2						
	0.1nm,0.6s						
MKAR	Makanchi Array	57.73	325	P	P	16 32 15.6	0.0
	1.4nm,0.9s,baz=117,slow=6.7,SNR=8.4						
	1.4nm,0.9s						

*IDC **10** 16:22:44.2±0.9, 31°70S×58°34E, h0km, mb4.0/7, mbtmp4.0/7, MS3.9/1, Error ellipse: s-maj=32.8km s-min=25.5km az=45.0*

ISC 10 16:22:46.4±0.9, 31°7S±0°2×58°3E±0°2, h14km, n18, σ0°57/8, mb4.0/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.30	197	T	T	16 42 18.8	
	baz=22,slow=75,SNR=12						
H04N1	CROZET ISLANDS	15.31	198	T	T	16 42 20.8	
	baz=22,slow=75,SNR=12						
H04N3	CROZET ISLANDS	15.32	197	T	T	16 42 19.7	
	baz=22,slow=75,SNR=16						
H08S1	Diego Garcia H	27.32	32	T	T	16 56 42.9	
	baz=206,slow=76,SNR=11						
H08S2	Diego Garcia H	27.33	32	T	T	16 56 46.5	
	baz=206,slow=76,SNR=8.4						
H08S3	Diego Garcia H	27.34	32	T	T	16 56 45.0	
	baz=206,slow=76,SNR=13						
H01W2	Cape Leeuwin H	46.23	110	T	T	17 20 25.2	
	baz=257,slow=75,SNR=8.9						
H01W3	Cape

cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

IDC ***10*** *16:24:18.3*$_{\pm}$*3.0, 9°.80N×125°.45E, h28*^{km}*±20*^{km}*, mb4.7/33, mbtmp4.8/33, MS4.3/11 Error ellipse: s-maj=21.1km s-min=10.3km az=72.0*

BJI ***10*** *16:24:18.9*$_{\pm}$*0.0, 9°.44N×125°.58E, h58*^{km}*, mb4.8/67, mB5.4/33, Ms4.8/39, Ms7 4.5/39*

MOS ***10*** *16:24:19.5*$_{\pm}$*0.9, 9°.81N×125°.27E, h48*^{km}*, mb5.3/56, Error ellipse: s-maj=9.2km s-min=4.3km az=115.0*

DJA ***10*** *16:24:20.3*$_{\pm}$*0.5, 10°.N±2°.×12°.6E±°, h39*^{km}*±4*^{km}*, M5.2/73, mb5.2/73, mB5.6/37, MLv5.8/5, Mw(mB)5.0/37, MwMwp5.3/6, Mwp5.5/6*

NEIC ***10*** *16:24:21.3*$_{\pm}$*1.7, 9°.78N±0°.07×125°.33E±0°.08, h43*^{km}*±5*^{km}*, mb5.2/227, Mww5.1/12, Error ellipse: s-maj=11.4km s-min=9.7km az=96.0*

NEIC ***10*** *16:24:22.3, 10°.36N×124°.61E, h70*^{km}*, Moment Tensor Solution. Duration: 2*^{s}*0 Moment tensor: Scale 10*^{16}*Nm; M*$_{rr}$*1.01; M*$_{\theta\theta}$*-3.87; M*$_{\phi\phi}$*2.86; M*$_{r\theta}$*-1.86; M*$_{\theta\phi}$*-4.96; M*$_{\phi r}$*0.34; Fault plane solution: M*$_{0}$*6.28000×10*^{16} *NP1: ϕ*$_{s}$*286.38000°, δ87.68000°, λ162.04000°. NP2: ϕ*$_{s}$*17.13000°, δ72.06000°, λ2.44000°. Principal axes: T 5.7837, Plg14.0000°, Azm240.0000°; N 1.0019, Plg72.0000°, Azm99.0000°; P -6.7856, Plg11.0000°, Azm333.0000°;*

NEIC ***10*** *16:24:22.3, 9°.76N×125°.32E, h70*^{km}

ISC 10 16:24:19.2$_{\pm}$**0.3, 9.78N**$_{\pm}$**0°.02×125°.39E**$_{\pm}$**0°.03, h31**^{km}$_{\pm}$**1**^{km}**, h31**^{km}**:pP-P, n996,** σ**1**^{s}**59/954, mb5.1/246, MS4.5/29, 51C-30D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.10**	**91**	*i* S	**Sb**	**16 24 22.3**	**-6.1**
MSLP	**Maasin**	**0.63**	**304**	*e*S	**Sb**	**16 24 39.9**	**-0.6**
GLSP	**General Luna,**	**0.72**	**90**	⇓*e*P	**Pb**	**16 24 29.8**	**-3.6**
GLSP				*i* S	**Sb**	**16 24 40.2**	**-2.9**
BUTP	**Butuan**	**0.84**	**164**	⇓*e*P	**Pb**	**16 24 32.5**	**-2.9**
BUTP				*e*S	**Sn**	**16 24 48.0**	**+1.8**
PLP	**Palo**	**1.43**	**344**	⇓*e*P	**Pn**	**16 24 41.6**	**-1.5**
PLP				*e*S	**Sb**	**16 25 04.5**	**+1.3**
OCLP	**Ormoc**	**1.48**	**329**	⇓*e*P	**Pn**	**16 24 43.1**	**-0.5**
OCLP				*i* S	**Sb**	**16 25 06.3**	**+1.9**
LLP	**Lapu-Lapu**	**1.50**	**291**	⇑*e*P	**Pn**	**16 24 42.7**	**-1.4**
LLP				*i* S	**Sn**	**16 25 02.3**	**-0.3**
TBP	**Tagbilaran**	**1.51**	**267**	⇑*i*P	**Pn**	**16 24 43.0**	**-1.2**
TBP				*i* S	**Sn**	**16 25 02.5**	**-0.3**
BESP	**Borongan**	**1.81**	**1**	⇑*e*P	**Pn**	**16 24 47.3**	**-1.0**
BESP				*e*S	**Sb**	**16 25 17.2**	**+3.2**
BIPH	**Bislig**	**1.85**	**149**	⇓*i*P	**Pn**	**16 24 47.8**	**-1.1**
BIPH				*i* S	**Sn**	**16 25 12.5**	**+1.3**
BUKP	**Musuan**	**1.92**	**190**	⇑*e*P	**Pn**	**16 24 48.7**	**-1.1**
BUKP				*e*S	**Sn**	**16 25 14.2**	**+1.3**
DMPH	**Davao City--Mi**	**2.69**	**178**	⇑*e*P	**Pn**	**16 25 01.3**	**+1.0**
DMPH				*e*S	Sb	16 25 49.0	+10
DAV	**Davao City (W)**	**2.70**	**176**	P	**Pn**	**16 25 02.7**	**+2.1**
DAV	**Davao City (W)**	**2.70**	**176**	Pn	**Pn**	**16 25 02.8**	**+2.3**
DAV	**Davao City (W)**	**2.70**	**176**	Pn	**Pn**	**16 25 03.2**	**+2.6**
	144nm,0.3s,baz=62,slow=3.1,SNR=46						
DAV	**Davao City (W)**	**2.70**	**176**	⇓*e*P	**Pb**	**16 25 05.0**	**-1.9**
KCP	**Kidapawan**	**2.77**	**186**	⇓*e*P	**Pn**	**16 25 01.2**	**-0.4**
KCP				*e*S	**Sn**	**16 25 32.7**	**-1.4**
CNP	**Cataman**	**2.80**	**345**	⇑*e*P	**Pn**	**16 25 02.9**	**+0.9**
CNP				*e*S	**Sb**	**16 25 40.0**	**-2.6**
MATI	**Mati**	**2.95**	**163**	⇓*e*P	**Pn**	**16 25 04.1**	**+0.2**
MATI				*e*S	**Sb**	**16 25 45.5**	**-1.2**
MMPH	**Masbate**	**3.09**	**326**	⇑*e*P	**Pn**	**16 25 07.4**	**+1.5**
RCP	**Roxas**	**3.15**	**304**	⇓*e*P	**Pn**	**16 25 07.9**	**+1.2**
RCP				*i* S	**Sn**	**16 25 45.7**	**+2.6**
SKMP	**Bagumbayan, Su**	**3.35**	**195**	⇑*e*P	**Pn**	**16 25 09.2**	**-0.3**
SKMP				*e*S	**Sn**	**16 25 51.0**	**+2.8**
JAP	**San Jose, Anti**	**3.52**	**286**	⇑*e*P	**Pn**	**16 25 12.2**	**+0.4**
DDMP	**Don Marcelino,**	**3.67**	**175**	⇑*e*P	**Pn**	**16 25 14.8**	**+0.9**
DDMP				*e*S	**Sn**	**16 25 58.6**	**+2.5**
GSPH	**General Santos**	**3.70**	**187**	⇑*i*P	**Pn**	**16 25 17.8**	**+3.4**
IBAJ	**Ibajay, Aklan**	**3.76**	**303**	⇑*e*P	**Pn**	**16 25 17.1**	**+2.1**
PVCP	**Virac**	**3.98**	**342**	⇓*e*P	**Pn**	**16 25 18.4**	**+0.3**
PVCP				*e*S	**Sb**	**16 26 12.5**	**-3.9**
OTRP	**Odiongan**	**4.19**	**308**	⇓*e*P	**Pn**	**16 25 21.6**	**+0.7**
OTRP				*e*S	**Sn**	**16 26 12.9**	**+4.0**
ZCP	**Zamboanga City**	**4.34**	**229**	⇑*e*P	**Pn**	**16 25 26.2**	**+3.2**
SJMP	**San Jose**	**4.97**	**303**	⇓*e*P	**Pn**	**16 25 33.8**	**+2.1**
SJMP				*e*S	**Sn**	**16 26 32.6**	**+4.5**
JCNP	**Jose Panganiba**	**5.20**	**330**	⇓*e*P	**Pn**	**16 25 37.9**	**+3.1**
JCNP				*e*S	**Sn**	**16 26 37.8**	**+4.0**
LQP	**Lukban**	**5.72**	**319**	⇑*e*P	**Pn**	**16 25 44.5**	**+2.2**
POLP	**Polilio Island**	**5.96**	**326**	⇓*e*P	**Pn**	**16 25 48.9**	**+3.5**
ENPP	**El Nido**	**6.04**	**284**	⇓*e*P	**Pn**	**16 25 46.9**	**+0.5**
ENPP				*e*S	Sn	16 27 04.1	+10
PCPS	**Palayan City**	**6.43**	**319**	⇑*e*P	Pb	16 26 03.7	-6.7
QVP	**Quezon City--P**	**6.45**	**319**	⇑*e*P	**Pn**	**16 25 55.6**	**+3.6**
PPR	**Puerto Princes**	**6.57**	**271**	⇓*i*P	**Pn**	**16 25 54.4**	**+0.7**
SMPP	**San Manuel, Pa**	**7.82**	**325**	⇓*e*P	**Pn**	**16 26 12.4**	**+1.4**
SMPP				*e*S	Sn	16 27 51.5	+13
CAUP	**Cauayan**	**7.92**	**334**	⇑*e*P	**Pn**	**16 26 14.3**	**+2.1**
CAUP				*e*S	Sn	16 27 50.6	+10
MYLDM	**Lahad Datu**	**8.22**	**237**	Pn	**Pn**	**16 26 17.0**	**+0.6**
BOLP	**Bolinao**	**8.46**	**321**	⇑*e*P	Pn	16 26 25.5	+5.9
SAMP	**Sagada Mountai**	**8.47**	**329**	⇑*e*P	**Pn**	**16 26 21.7**	**+2.0**
SAMP				*e*S	**Sn**	**16 27 50.8**	**-3.6**
CVP	**Callao Caves**	**8.60**	**337**	⇑*e*P	**Pn**	**16 26 22.6**	**+0.9**
SGCP	**Gonzaga**	**9.01**	**339**	⇓*e*P	**Pn**	**16 26 27.4**	**+0.1**
ABRA	**Dolores**	**9.04**	**330**	⇓*e*P	**Pn**	**16 26 30.2**	**+2.5**
ABRA				*e*S	**Sn**	**16 28 01.7**	**-6.8**
TNTI	**Ternate**	**9.16**	**168**	P	**Pn**	**16 26 32.3**	**+2.9**
TNTI	**Ternate**	**9.16**	**168**	Pn	**Pn**	**16 26 31.3**	**+1.9**
TNTI	**Ternate**	**9.16**	**168**	P	**Pn**	**16 26 32.9**	**+3.5**
	203nm,1.1s,3μm						
KMSI	**Cibinong**	**9.26**	**189**	P	Pn	16 26 36.2	+5.6
GTOI	**Gorontalo**	**9.39**	**195**	P	**Pn**	**16 26 36.2**	**+3.7**
	112nm,1.1s						
TOLI2	**Tolitoli**	**9.76**	**208**	Pn	**Pn**	**16 26 38.8**	**+1.3**
MRSI	**Marisa**	**9.86**	**201**	P	**Pn**	**16 26 43.1**	**+4.2**
	89nm,0.8s						
LBMI	**Labuha**	**10.56**	**168**	P	**Pn**	**16 26 51.9**	**+3.3**
	324nm,1.4s,4μm						
LUWI	**Luwuk**	**11.07**	**194**	P	**Pn**	**16 26 57.6**	**+2.2**
LUWI	**Luwuk**	**11.07**	**194**	Pn	**Pn**	**16 26 57.0**	**+1.5**
LUWI	**Luwuk**	**11.07**	**194**	P	Pn	16 27 01.2	+5.8
SANI	**Sanana**	**11.77**	**177**	P	**Pn**	**16 27 04.3**	**-0.8**
SANI	**Sanana**	**11.77**	**177**	P	**Pn**	**16 27 07.3**	**+2.2**
	182nm,0.8s,1μm						
SWI	**Sorong**	**12.08**	**151**	P	**Pn**	**16 27 10.9**	**+1.5**
	119nm,0.9s,1μm						
TPUB	**Ta-pu**	**14.19**	**342**	P	**P**	**16 27 42.8**	**-2.4**
TPUB	**Ta-pu**	**14.19**	**342**	Pn	**Pn**	**16 27 41.2**	**+3.0**
FAKI	**Fak Fak**	**14.35**	**151**	P	**Pn**	**16 27 43.0**	**+2.7**
FAKI	**Fak Fak**	**14.35**	**151**	Pn	**Pn**	**16 27 41.5**	**+1.2**
FAKI	**Fak Fak**	**14.35**	**151**	P	**Pn**	**16 27 42.3**	**+2.0**
	166nm,0.8s,2μm						
SSLB	**Suanglung**	**14.56**	**344**	P	**P**	**16 27 48.8**	**-0.5**
SSLB	**Suanglung**	**14.56**	**344**	Pn	**Pn**	**16 27 45.5**	**+2.4**
MTKI	**Muara Teweh, K**	**14.92**	**225**	P	**P**	**16 27 53.5**	**+0.1**
SBUM	**Sibu**	**14.98**	**242**		**Pn**	**16 27 48.7**	**-0.1**
KAPI	**Kappang**	**15.74**	**201**	P	**P**	**16 28 00.9**	**-1.5**
KAPI	**Kappang**	**15.74**	**201**		**P**	**16 28 01.5**	**-0.9**
KAPI	**Kappang**	**15.74**	**201**	Pn	**P**	**16 28 02.9**	**+0.5**
	1.1nm,0.3s,baz=47,slow=17,SNR=5.9						
KAPI	**Kappang**	**15.74**	**201**	P	**P**	**16 28 01.5**	**-0.9**
KAPI				pmax	pmax		
	comp=Z,52nm,1.1s						
QZH	**Quanzhou**	**16.41**	**338**	*e*P	**P**	**16 28 10.2**	**+0.4**
STKI	**Sintang**	**16.88**	**236**	P	**P**	**16 28 18.3**	**+3.2**
	comp=Z,137nm,1.3s,comp=Z,6μm						
JOW	**Kunigami**	**17.18**	**9**	LR	LR	16 34 32.6	
	comp=Z,923nm,18.5s,baz=126,slow=36						
QIZ	**Qiongzhong**	**17.63**	**303**	P	**Pn**	**16 28 22.8**	**+0.1**
QIZ				S	**Sn**	**16 31 39.1**	**+0.8**
QIZ				pmax	pmax		
	comp=Z,850nm,7.6s						
QIZ				LR	LR		
	comp=Z,1μm,15.3s						
QIZ				LR	LR		
	comp=Z,940nm,15.5s						
QIZ				LR	LR		
	comp=Z,2μm,15.7s						
MMRI	**Maumere**	**18.57**	**190**	P	**Pn**	**16 28 37.7**	**+3.6**
MMRI	**Maumere**	**18.57**	**190**	P	**Pn**	**16 28 34.7**	**+0.6**
MMRI	**Maumere**	**18.57**	**190**	P	**Pn**	**16 28 37.1**	**+3.0**
	comp=Z,144nm,1.6s,comp=Z,2μm						
SAUI	**Saumlaki**	**18.60**	**161**	P	**Pn**	**16 28 36.5**	**+1.9**
EDFI	**Ende, Flores**	**18.78**	**191**	P	**Pn**	**16 28 39.8**	**+3.0**
	comp=Z,69nm,0.9s						
GENI	**Genyem**	**19.18**	**129**	P	**Pn**	**16 28 43.0**	**+1.4**
GENI	**Genyem**	**19.18**	**129**	P	**Pn**	**16 28 42.9**	**+1.4**
	comp=Z,132nm,0.8s,comp=Z,3μmcomp=Z,3μm						
GUMO	**Guam**	**19.44**	**77**	LR	LR	16 36 34.1	
	comp=Z,487nm,18.4s,baz=242,slow=38						
SOEI	**Soe**	**19.44**	**183**	P	**Pn**	**16 28 47.3**	**+2.5**
SOEI	**Soe**	**19.44**	**183**	P	**Pn**	**16 28 44.3**	**-0.5**
SOEI				IAmb	IAmb	16 28 56.2	
	comp=Z,242nm,1.5s						
SOEI	**Soe**	**19.44**	**183**	P	**Pn**	**16 28 46.7**	**+1.9**
	comp=Z,241nm,1.1s,comp=Z,2μm						
JAY	**Jayapura**	**19.54**	**128**	P	**Pn**	**16 28 46.7**	**+0.8**
JAY	**Jayapura**	**19.54**	**128**	P	**Pn**	**16 28 45.8**	**-0.1**
JAY				pmax	pmax		
	comp=Z,43nm,1.1s						
BATI	**Baumata**	**19.93**	**185**	P	**Pn**	**16 28 52.6**	**+2.1**
	comp=Z,305nm,0.9s,comp=Z,3μm						
PLAI	**Plampang**	**19.98**	**203**	P	**Pn**	**16 28 52.0**	**+0.9**
PLAI	**Plampang**	**19.98**	**203**	P	**Pn**	**16 28 53.5**	**+2.4**
	comp=Z,88nm,1.0s						
UBPT	**Khong Chiam**	**20.19**	**288**	P	Pn	16 28 53.0	-0.6
UBPT	**Khong Chiam**	**20.19**	**288**	P	**P**	**16 28 52.4**	**+0.8**
UBPT				IAmb	IAmb	16 29 03.6	
	comp=Z,240nm,2.0s						
TWSI	**Taliwang, Sumb**	**20.26**	**205**	P	Pn	16 28 55.1	+0.8
	comp=Z,107nm,1.1s,comp=Z,1μm						
GRJI	**Gresik**	**20.99**	**218**	P	**P**	**16 29 02.2**	**+2.0**
	comp=Z,369nm,1.1s						
GULI	**GuiLin**	**21.02**	**319**	P	**P**	**16 29 01.9**	**+1.5**
GULI				S	**S**	**16 32 50.9**	**-2.1**
GULI				pmax	pmax		
	comp=Z,70nm,1.5s						
GULI				pmax	pmax		
	comp=Z,2μm,5.4s						
GULI				LR	LR		
	comp=Z,2μm,18.2s						
GULI				LR	LR		
	comp=Z,2μm,19.5s						
GULI				LR	LR		
	comp=Z,2μm,17.0s						
JAGI	**Jajag, Banyuwa**	**21.31**	**212**	P	**P**	**16 29 05.2**	**+1.6**
JAGI	**Jajag, Banyuwa**	**21.31**	**212**	P	**P**	**16 29 04.1**	**+0.5**
JAGI				IAmb	IAmb	16 29 24.1	
	comp=Z,138nm,1.2s						
JAGI	**Jajag, Banyuwa**	**21.31**	**212**	P	**P**	**16 29 05.6**	**+2.0**
	comp=Z,114nm,1.4s						
TABU	**Tabubil**	**21.73**	**133**	P	**P**	**16 29 09.8**	**+1.6**
PWJI	**Pagerwojo**	**22.27**	**218**	P	**P**	**16 29 16.7**	**+2.8**
	comp=Z,62nm,1.1s						
TPRI	**Tanjung Pinang**	**22.55**	**248**	P	**P**	**16 29 20.3**	**+3.4**
PPBI	**Pangkal Pinang**	**22.55**	**239**	P	**P**	**16 29 20.9**	**+3.9**
DRS	**Darwin Rock St**	**22.74**	**166**	P	**P**	**16 29 20.3**	**+1.4**
MYKOM	**Kota Tinggi**	**22.84**	**251**	P	**P**	**16 29 19.6**	**-0.4**
NJ2	**Nanjing**	**22.97**	**346**	*e*P	**P**	**16 29 22.7**	**+1.5**
NJ2				pP	**sP**	**16 29 34.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
UGM	**Wanagama**	**22.98**	**221**	P	**P**	**16 29 25.0**	**+3.5**
	comp=Z,205nm,1.9s						
BTDF	**Bukit Timah Da**	**23.07**	**250**	P	**P**	**16 29 23.2**	**+0.8**
WHN	**Wuhan**	**23.08**	**335**	P	**P**	**16 29 27.0**	**+4.7**
MTN	**Manton Dam**	**23.19**	**166**	P	**P**	**16 29 26.2**	**+2.7**
MTN	**Manton Dam**	**23.19**	**166**	P	**P**	**16 29 23.0**	**-0.6**
MTN				IAmb	IAmb	16 29 30.7	
	comp=Z,62nm,0.8s						
MTN	**Manton Dam**	**23.19**	**166**	P	**P**	**16 29 23.5**	**0.0**
	comp=Z,68nm,0.9s						
KDU	**Kakadu**	**23.41**	**162**	P	**P**	**16 29 26.5**	**+0.8**
KDU	**Kakadu**	**23.41**	**162**	P	**P**	**16 29 26.4**	**+0.8**
	comp=Z,93nm,0.9s						
JCJ	**Chichijima**	**23.41**	**40**	LR	LR	16 37 49.4	
	comp=Z,445nm,19.9s,baz=244,slow=35						
SLVN	**Son La**	**23.64**	**302**	P	**P**	**16 29 27.6**	**-0.3**
JNU	**Nakatsue**	**23.77**	**11**	P	**P**	**16 29 32.7**	**+3.6**
JNU	**Nakatsue**	**23.77**	**11**	P	**P**	**16 29 28.6**	**-0.5**
JNU	**Nakatsue**	**23.77**	**11**	LR	LR	16 38 09.3	
	comp=Z,460nm,21.5s,baz=197,slow=35						
NAYO	**Nakonayok**	**23.96**	**283**	P	**P**	**16 29 31.6**	**+0.6**
LEM	**Lembang**	**24.20**	**228**	P	**P**	**16 29 36.7**	**+3.3**
	comp=Z,59nm,1.0s						
GYA	**Guiyang**	**24.27**	**316**	⇓P	**P**	**16 29 36.4**	**+2.4**
GYA				pP	sP	16 29 50.1	+3.7
GYA				S	**S**	**16 33 58.1**	**+7.1**
GYA				pmax	pmax		
	comp=Z,15nm,0.6s						
GYA				pmax	pmax		
	comp=Z,1μm,4.8s						
GYA				LR	LR		
	comp=Z,1μm,17.5s						
GYA				LR	LR		
	comp=Z,1μm,17.1s						
GYA				LR	LR		
	comp=Z,950nm,15.1s						
BBJI	**Bungbulang**	**24.61**	**227**	P	**P**	**16 29 38.7**	**+1.6**
DBJI	**Dramaga**	**24.66**	**230**	P	**P**	**16 29 40.6**	**+3.1**
	comp=Z,73nm,0.7s						
MANU	**Manus Island**	**24.84**	**117**	P	**P**	**16 29 44.7**	**+5.6**
JTU	**Tsushima**	**24.90**	**8**	P	**P**	**16 29 44.7**	**+5.3**
KULM	**Kulim**	**24.93**	**261**	P	**P**	**16 29 39.4**	**-0.4**
JMN	**Monobe**	**25.08**	**17**	P	**P**	**16 29 48.0**	**+6.9**
JMN	**Monobe**	**25.08**	**17**	P	**P**	**16 29 42.1**	**+1.0**
JMN				IAmb	IAmb	16 29 53.8	
	comp=Z,77nm,1.0s						
ENH	**Enshi**	**25.21**	**326**	P	**P**	**16 29 43.8**	**+1.4**
ENH	**Enshi**	**25.21**	**326**	P	**P**	**16 29 42.4**	**0.0**
ENH				IAmb	IAmb	16 29 52.8	
	comp=Z,44nm,1.0s						
KNRA	**Kununurra**	**25.52**	**172**	P	**P**	**16 29 43.9**	**-1.2**
	comp=Z,70nm,1.1s						
KASI	**Kota Agung**	**25.78**	**235**	P	**P**	**16 29 51.8**	**+4.2**
	comp=Z,56nm,1.0s						
LWLI	**Liwa**	**25.84**	**236**	P	**P**	**16 29 50.9**	**+2.6**
KMI	**Kunming**	**26.39**	**308**	⇓P	**P**	**16 29 54.9**	**+1.6**
KMI				S	**S**	**16 34 20.0**	**-4.9**
KMI				pmax	pmax		
	comp=Z,26nm,0.9s						
KMI				pmax	pmax		
	comp=Z,500nm,5.5s						
KMI				LR	LR		
	comp=Z,1μm,21.1s						
KMI				LR	LR		
	comp=Z,1μm,14.7s						
KMI				LR	LR		
	comp=Z,2μm,19.8s						
TJN	**Taejon**	**26.54**	**4**	P	P	16 30 01.2	+7.0
TJN	**Taejon**	**26.54**	**4**	P	**P**	**16 29 55.3**	**+1.1**
TJN	**Taejon**	**26.54**	**4**	*i* P	**P**	**16 29 55.6**	**+1.4**
JHJ	**Hachijo jima 2**	**26.75**	**28**	LR	LR	16 38 45.7	
	comp=Z,387nm,20.8s,baz=245,slow=32						
PDSI	**Padang**	**27.00**	**248**	P	**P**	**16 29 58.3**	**-0.4**
CM31	**Chiang Mai Arr**	**27.03**	**292**	IAmb	IAmb	16 30 10.0	
	comp=Z,47nm,1.2s						
CMAR	**Chiang Mai Arr**	**27.03**	**292**	P	**P**	**16 29 58.4**	**-0.5**
CMAR					**PcP**	**16 33 19.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**27.03**	**292**	P	**P**	**16 30 00.1**	**+1.1**
	comp=Z,11nm,0.9s,baz=105,slow=6.8,SNR=54						
CMAR				PcP	**PcP**	**16 33 20.4**	**+0.4**
	comp=Z,4.2nm,0.9s,baz=73,slow=1.1,SNR=9.3						
CMAR				ScP	**ScP**	**16 36 58.3**	**+0.1**
	comp=Z,1.6nm,1.0s,baz=104,slow=1.6,SNR=5.1						
	comp=Z,11nm,0.9s						
CHTO	**Chiang Mai**	**27.12**	**292**	P	**P**	**16 29 59.3**	**-0.5**
CHTO	**Chiang Mai**	**27.12**	**292**	P	**P**	**16 29 59.3**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,18nm,1.1s						
LYN	**LuoYang**	**27.35**	**336**	P	**P**	**16 30 02.6**	**+1.1**
LYN				pP	sP	16 30 17.4	+3.1
LYN				sP	pP	16 30 22.7	+12
LYN				S	**S**	**16 34 37.4**	**-2.1**
LYN				sS	sS	16 35 05.4	+11
LYN				pmax	pmax		
	comp=Z,36nm,0.7s						
LYN				pmax	pmax		
	comp=Z,880nm,5.5s						
LYN				LR	LR		
	comp=Z,2μm,16.9s						
LYN				LR	LR		
	comp=Z,1μm,8.4s						
LYN				LR	LR		
	comp=Z,2μm,20.8s						
TIA	**Tai'an**	**27.36**	**345**	P	**P**	**16 30 04.8**	**+3.1**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
INU	**Inuyama**	**27.57**	**21**	P	**P**	**16 30 09.4**	**+5.9**
KSAR	**Wonju Array Be**	**27.63**	**4**	P	**P**	**16 30 03.3**	**-0.7**
KSAR	**Wonju Array Be**	**27.63**	**4**	P	**P**	**16 30 03.3**	**-0.7**
KSRS	**Korea Array**	**27.64**	**4**	P	**P**	**16 30 04.0**	**-0.1**
	comp=Z,7.4nm,0.6s,baz=184,slow=10.0,SNR=20						
KSRS				PcP	**PcP**	**16 33 20.9**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=186,slow=2.2,SNR=5.4						
KSRS				ScP	**ScP**	**16 36 58.5**	**-1.2**
	comp=Z,2.2nm,1.0s,baz=203,slow=3.3,SNR=4.3						
	comp=Z,7.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.70**	**179**	P	**P**	**16 30 04.8**	**0.0**
FITZ	**Fitzroy Crossi**	**27.70**	**179**	P	**P**	**16 30 03.4**	**-1.4**
PZH	**PanZhiHua**	**27.87**	**310**	P	**P**	**16 30 07.2**	**+0.7**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,170nm,7.9s						
JGF	**Kuroka**	**27.92**	**21**	P	**P**	**16 30 09.2**	**+2.5**
KCSI	**Kotacane, Aceh**	**28.12**	**259**	P	**P**	**16 30 08.1**	**-0.6**
SISI	**Saibi**	**28.42**	**249**	P	**P**	**16 30 11.8**	**+0.5**
	comp=Z,82nm,1.4s						
XAN	**Xi'an**	**28.48**	**330**	P	**P**	**16 30 11.2**	**-0.6**
XAN				pmax	pmax		
	comp=Z,22nm,0.8s						
PMG	**Port Moresby**	**28.86**	**131**	P	**P**	**16 30 18.0**	**+2.8**
	comp=Z,24nm,0.8s,baz=289,slow=11,SNR=3.6						
GSI	**Gunungsitoli**	**28.91**	**255**	P	**P**	**16 30 16.3**	**+0.5**
GSI	**Gunungsitoli**	**28.91**	**255**	P	**P**	**16 30 14.5**	**-1.3**
GSI				IAmb	IAmb	16 30 23.7	
	comp=Z,86nm,1.2s						
GSI	**Gunungsitoli**	**28.91**	**255**	P	**P**	**16 30 17.9**	**+2.1**
	comp=Z,62nm,0.9s						
MAJO	**Matsushiro**	**29.07**	**22**	P	P	16 30 22.8	+5.9
MJAR	**Matsushiro Arr**	**29.07**	**22**	P	**P**	**16 30 14.7**	**-2.1**
	comp=Z,3.7nm,0.9s,baz=197,slow=8.8,SNR=7.2						
MJAR				LR	LR	16 40 21.1	
	comp=Z,848nm,20.7s,baz=211,slow=33						
	comp=Z,3.7nm,0.9s						
HNS	**HongShan**	**29.14**	**342**	⇑P	**P**	**16 30 17.4**	**-0.1**
HNS				S	**S**	**16 35 00.0**	**-7.6**
HNS				pmax	pmax		
	comp=Z,24nm,1.3s						
HNS				LR	LR		
	comp=Z,720nm,13.0s						
HNS				LR	LR		
	comp=Z,1μm,12.8s						
HNS				LR	LR		
	comp=Z,880nm,14.3s						
COEN	**Coen**	**29.45**	**143**	P	**P**	**16 30 20.6**	**+0.1**
COEN	**Coen**	**29.45**	**143**	P	**P**	**16 30 19.6**	**-0.9**
COEN	**Coen**	**29.45**	**143**	P	**P**	**16 30 19.4**	**-1.1**
	comp=Z,73nm,1.1s						
TNCH	**TengChong**	**29.70**	**304**	P	**P**	**16 30 23.9**	**+1.0**
TNCH				pmax	pmax		
	comp=Z,56nm,1.3s						
TNCH				pmax	pmax		
	comp=Z,300nm,4.1s						
TIY	**Taiyuan**	**30.16**	**339**	P	**P**	**16 30 30.0**	**+3.4**
TIY				pmax	pmax		
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**30.82**	**163**	P	**P**	**16 30 31.7**	**-0.9**
WRA	**Warramunga Arr**	**30.82**	**163**	P	**P**	**16 30 30.8**	**-1.8**
	comp=Z,2.4nm,0.6s,baz=348,slow=9.5,SNR=17						
	comp=Z,2.4nm,0.6s						
WRA	**Warramunga Arr**	**30.82**	**163**	*i* P	**P**	**16 30 32.0**	**-0.6**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BJT	**Baijiatuau**	**31.21**	**346**	P	**P**	**16 30 36.7**	**+0.9**
BJT	**Baijiatuau**	**31.21**	**346**	P	**P**	**16 30 35.3**	**-0.4**
BJT	**Baijiatuau**	**31.21**	**346**	P	**P**	**16 30 35.3**	**-0.4**
BJT				pmax	pmax		
	comp=Z,20nm,0.9s						
BJT	**Baijiatuau**	**31.21**	**346**	P	**P**	**16 30 39.1**	**+3.3**
BJT				pP	**sP**	**16 30 48.5**	**+0.1**
JMM	**Marumori**	**31.21**	**24**	P	P	16 30 40.5	+4.7
JMM	**Marumori**	**31.21**	**24**	IAmb	IAmb	16 30 45.2	
	comp=Z,24nm,0

USA0B **Ussuriysk Arra** 34.76 8 *i* P P 16 31 06.8 +0.1
USRK **Ussuriysk Ar.** 34.76 8 P P 16 31 06.7 0.0
USRK **Ussuriysk Ar.** 34.76 8 P P 16 31 06.5 -0.2
comp=Z,18nm,0.7s,baz=191,slow=7.6,SNR=30
comp=Z,18nm,0.7s
USRK **Ussuriysk Ar.** 34.76 8 P P 16 31 06.7 0.0
MDJ **Mudanjiang** 34.90 5 P P 16 31 10.1 +2.2
MDJ pmax pmax
comp=Z,23nm,1.0s
MDJ pmax pmax
comp=Z,150nm,3.6s
MDJ **Mudanjiang** 34.90 5 IAmb IAmb 16 31 14.1
comp=Z,41nm,1.3s
XLT **XiLinHaoTe** 34.94 348 *e*P P 16 31 08.1 -0.3
XLT pmax pmax
comp=Z,8.0nm,0.7s
XLT LR LR
comp=Z,49nm,16.1s
XLT LR LR
comp=Z,440nm,17.7s
XLT LR LR
comp=Z,460nm,23.7s
TV1H **Townsville Har** 35.75 144 P P 16 31 15.7 +0.2
BNX **BinXian** 35.87 2 ⇑P P 16 31 16.6 +0.4
BNX pmax pmax
comp=Z,21nm,0.9s
CTA **Charters Tower** 36.09 145 P P 16 31 22.7 +4.2
CTA **Charters Tower** 36.09 145 P P 16 31 18.5 0.0
comp=Z,1.6nm,0.8s,baz=330,slow=10.0,SNR=7.3
comp=Z,1.6nm,0.8s
CTA **Charters Tower** 36.09 145 P P 16 31 18.8 +0.3
comp=Z,5.8nm,1.2s
CTAO **Charters Tower** 36.09 145 P P 16 31 23.1 +4.6
CTAO **Charters Tower** 36.09 145 P P 16 31 20.2 +1.8
AUAYR **Ayr State High** 36.36 143 P P 16 31 22.2 +1.5
TEY **Ternei** 36.43 13 *e*P P 16 31 21.0 0.0
MEEK **Meekatharra** 36.80 190 P P 16 31 24.2 -0.2
MEEK **Meekatharra** 36.80 190 P P 16 31 21.6 -2.8
LSA **Lhasa** 37.61 307 P P 16 31 33.2 +1.3
LSA pmax pmax
comp=Z,31nm,1.3s
GOMU **GeErMu** 38.22 318 P P 16 31 43.4 +6.6
OOD **Oodnadatta** 38.66 165 P P 16 31 40.2 +0.1
MORW **Morawa** 39.66 193 P P 16 31 50.8 +2.3
MORW **Morawa** 39.66 193 IAmb IAmb 16 31 58.5
comp=Z,95nm,1.9s
MORW **Morawa** 39.66 193 P P 16 31 48.8 +0.3
comp=Z,20nm,0.8s
KLR **Kul'dur** 39.68 7*ce*P P 16 31 48.5 +0.1
KLR pmax pmax
comp=Z,10.0nm,0.6s
YSS **Yuzh-Sakhalins** 39.88 19 P P 16 31 51.9 +1.9
YSS **Yuzh-Sakhalins** 39.88 19 *e*P P 16 31 52.3 +2.3
YSS *e*S S 16 37 52.8 0.0
YSS pmax pmax
comp=Z,10.0nm,0.6s
YSS pmax pmax
comp=Z,100nm,3.2s
YSS MLR MLR
comp=Z,300nm,16.0s
INKA **Innaminka** 40.16 159 P P 16 31 54.6 +2.0
HEH **HeiHe** 40.38 2 *e*P P 16 31 53.8 -0.4
HEH pmax pmax
comp=Z,28nm,1.2s
HEH LR LR
comp=Z,640nm,18.7s
HEH LR LR
comp=Z,420nm,16.1s
HEH LR LR
comp=Z,770nm,17.6s
FORT **Forrest** 40.41 176 P P 16 31 56.0 +1.4
FORT **Forrest** 40.41 176 P P 16 31 54.8 +0.1
FORT **Forrest** 40.41 176 P P 16 31 53.3 -1.3
comp=Z,0.0nmcomp=Z,66nm,0.6s
QLP **Quilpie** 40.52 154 P P 16 31 55.3 -0.3
QLP **Quilpie** 40.52 154 P P 16 31 54.1 -1.6
comp=Z,72nm,1.2s
MULG **Mulgathing** 40.70 168 P P 16 31 57.1 +0.1
H11S3 **WAKE ISLAND Hy** 40.89 73 T T 17 14 54.5
baz=261,slow=74,SNR=37
H11S1 **WAKE ISLAND Hy** 40.90 73 T T 17 14 55.0
baz=261,slow=74,SNR=24
H11S2 **WAKE ISLAND Hy** 40.90 73 T T 17 14 59.4
baz=261,slow=74,SNR=23
ULN **Ulaanbaatar** 40.99 341 P P 16 31 59.2 -0.3
ULN **Ulaanbaatar** 40.99 341 *ce*P P 16 31 59.5 0.0
ULN pmax pmax
comp=Z,17nm,0.9s
ULN **Ulaanbaatar** 40.99 341 P P 16 31 59.6 0.0
BLDU **Ballidu** 41.02 191 P P 16 31 59.6 -0.1
BLDU **Ballidu** 41.02 191 P P 16 31 59.1 -0.6
comp=Z,18nm,1.3s
KMBL **Kambalda** 41.05 185 P P 16 31 59.7 -0.3
KMBL **Kambalda** 41.05 185 P P 16 31 58.9 -1.1
comp=Z,68nm,1.2s
RK1H **Rockhampton Ha** 41.11 144 P P 16 32 04.5 +4.0
SONM **Songino Array** 41.18 341 P P 16 32 00.9 0.0
SONM **Songino Array** 41.18 341 P P 16 32 00.7 -0.3
comp=Z,4.8nm,0.9s,baz=162,slow=8.5,SNR=15
comp=Z,4.8nm,0.9s
SONM **Songino Array** 41.18 341 P P 16 32 01.0 0.0
SONM pmax pmax
comp=Z,19nm,1.4s
H11N1 **WAKE ISLAND Hy** 41.23 71 T T 17 15 28.0
baz=265,slow=74,SNR=100
H11N2 **WAKE ISLAND Hy** 41.24 71 T T 17 15 28.7
baz=265,slow=74,SNR=80
H11N3 **WAKE ISLAND Hy** 41.25 71 T T 17 15 29.5
baz=265,slow=74,SNR=90
UGL **Uglegorsk** 41.58 17 *e*P P 16 32 04.6 +0.6
UGL pmax pmax
comp=Z,60nm,1.0s
KLBR **Kellerberrin** 41.78 190 P P 16 32 06.3 +0.3
KLBR **Kellerberrin** 41.78 190 P P 16 32 04.9 -1.1
comp=Z,47nm,0.8s
LCRK **Leigh Creek** 41.85 163 P P 16 32 08.3 +1.8
GRNR **Gornyy** 41.86 10⇑*i*P P 16 32 07.2 +0.8
GRNR pmax pmax
comp=Z,2.0nm,1.0s
MUN **Mundaring** 42.44 192 P P 16 32 12.7 +1.4
MUN **Mundaring** 42.44 192 P P 16 32 10.8 -0.5
comp=Z,31nm,0.9s
EIDS **Eidsvold** 42.98 145 P P 16 32 18.3 +2.5
EIDS **Eidsvold** 42.98 145 P P 16 32 14.8 -0.9
EIDS IAmb IAmb 16 32 21.3
comp=Z,30nm,1.0s
EIDS **Eidsvold** 42.98 145 P P 16 32 15.5 -0.2
comp=Z,33nm,1.2s
NWAO **Narrogin (SRO)** 43.18 190 P P 16 32 18.3 +1.0
NWAO **Narrogin (SRO)** 43.18 190 P P 16 32 18.0 +0.7
NWAO **Narrogin (SRO)** 43.18 190 P P 16 32 16.9 -0.3
NWAO IAmb IAmb 16 32 18.8
comp=Z,46nm,0.9s
NWAO **Narrogin (SRO)** 43.18 190 P P 16 32 16.9 -0.3
NWAO pmax pmax
comp=Z,46nm,0.9s
NWAO **Narrogin (SRO)** 43.18 190 P P 16 32 17.2 0.0
comp=Z,223nm,0.9s
NWAO **Narrogin (SRO)** 43.18 190 P P 16 32 17.9 +0.7
NWAO pP sP 16 32 28.2 -1.9
CIT **Chita** 43.21 349 *e*P P 16 32 20.1 +2.7
CIT *e* 16 32 32.7
CIT *e* 16 32 37.2
CIT *e* 16 34 41.7
CIT pmax pmax
comp=Z,87nm,1.9s
TYV **Tymovskoe** 43.36 16 *e*P P 16 32 22.8 +4.3
TYV pmax pmax
comp=Z,100nm,3.6s
TYV pmax pmax
comp=Z,7.0nm,1.0s
BBOO **Buckleboo** 43.56 167 P P 16 32 20.8 +0.4
BBOO **Buckleboo** 43.56 167 P P 16 32 19.5 -0.8
BBOO IAmb IAmb 16 32 33.2
comp=Z,31nm,0.7s
BBOO **Buckleboo** 43.56 167 P P 16 32 20.6 +0.3
comp=Z,53nm,0.7s
ZEA **Zeya** 43.86 2 *e*P P 16 32 21.9 -0.6
ZEA pmax pmax
comp=Z,10.0nm,1.1s
WHYH **Whyalla** 44.13 165 P P 16 32 27.4 +2.5
STKA **Stephens Creek** 44.23 160 P P 16 32 25.5 -0.2
STKA **Stephens Creek** 44.23 160 P P 16 32 25.6 -0.2
comp=Z,13nm,0.7s,baz=339,slow=8.4,SNR=23
comp=Z,13nm,0.7s
STKA **Stephens Creek** 44.23 160 P P 16 32 25.1 -0.7
comp=Z,7.1nm,1.2s
PALK **Pallekele** 44.24 270 LR LR 16 51 34.1
comp=Z,153nm,18.8s,baz=175,slow=37
ZAK **Zakamensk** 44.41 340 *e*P P 16 32 29.2 +2.0
ZAK pmax pmax
comp=Z,6.0nm,1.2s
AULRC **Lightning Ridg** 44.65 152 P P 16 32 29.2 0.0
HTT **Hallett** 44.86 164 P P 16 32 32.9 +2.1
HTT **Hallett** 44.86 164 P P 16 32 32.8 +1.9
RKGY **Rocky Gully** 44.86 190 P P 16 32 32.6 +1.8
RKGY **Rocky Gully** 44.86 190 P P 16 32 30.2 -0.6
comp=Z,105nm,0.9s
CMSA **Cobar Meteorol** 45.45 155 P P 16 32 37.6 +2.1
CMSA **Cobar Meteorol** 45.45 155 P P 16 32 35.5 0.0
comp=Z,30nm,0.9s
AUWSH **Wavell State H** 45.66 145 P P 16 32 42.3 +5.2
MOY **Mondy** 46.28 339 *e*P P 16 32 45.8 +3.8
MOY pmax pmax
comp=Z,39nm,3.4s
WMQ **Urumqi** 47.08 323 *e*P P 16 32 50.2 +1.9
WMQ LR LR
comp=Z,1μm,15.1s
WMQ LR LR
comp=Z,840nm,20.5s
WMQ LR LR
comp=Z,1μm,19.9s
ARMA **Armidale** 47.26 149 P P 16 32 52.5 +2.6
ARMA **Armidale** 47.26 149 P P 16 32 50.0 +0.1
ARMA **Armidale** 47.26 149 P P 16 32 48.5 -1.3
comp=Z,55nm,1.2s
AUDCS **Dubbo College** 47.31 153 P P 16 32 53.3 +3.2
AUPHS **Peel High Scho** 47.44 150 P P 16 32 55.2 +4.1
BOD **Bodaibo** 48.72 352 *e*P P 16 33 03.7 +3.0
BOD pmax pmax
comp=Z,23nm,1.1s
ARPS **Mount Arapiles** 48.82 162 P P 16 33 02.1 +0.4
comp=Z,38nm,0.9s
YNG **Young** 48.97 155 P P 16 33 05.8 +2.9
YNG **Young** 48.97 155 P P 16 33 02.9 0.0
comp=Z,199nm,1.2s
SYDH **Sydney Hard Ro** 49.56 152 P P 16 33 10.9 +3.5
CAN **Canberra** 50.10 155 P P 16 33 13.7 +2.1
CAN **Canberra** 50.10 155 P P 16 33 14.0 +2.4
CAN **Canberra** 50.10 155 P P 16 33 10.3 -1.3
comp=Z,78nm,1.2s
CAN **Canberra** 50.10 155 P P 16 33 13.5 +1.9
CAN pP sP 16 33 23.8 -1.0
WOLH **Wollongong Har** 50.16 152 P P 16 33 15.2 +3.3
CNB **Canberra Magne** 50.25 154 P P 16 33 14.1 +1.4
CNB **Canberra Magne** 50.25 154 P P 16 33 13.0 +0.2
comp=Z,91nm,1.0s
TOO **Toolangi** 50.73 159 P P 16 33 18.7 +2.4
TOO **Toolangi** 50.73 159 P P 16 33 17.4 +1.1
TOO IAmb IAmb 16 33 23.0
comp=Z,22nm,0.9s
TOO **Toolangi** 50.73 159 P P 16 33 17.4 +1.1
TOO pmax pmax
comp=Z,22nm,0.9s
TOO **Toolangi** 50.73 159 P P 16 33 18.7 +2.4
ZSN **Zaisan** 50.77 325 *e*P P 16 33 16.3 -0.1
baz=325
ZSN **Zaisan** 50.77 325 *e*P P 16 33 16.3 -0.1
AUUHS **Ulladulla High** 50.77 153 P P 16 33 20.3 +3.8
PET **Petropavlovsk** 50.77 25 P P 16 33 19.6 +3.3
PET **Petropavlovsk** 50.77 25 P P 16 33 17.1 +0.8
PET IAmb IAmb 16 33 25.7
comp=Z,24nm,0.9s
PET **Petropavlovsk** 50.77 25 *e*P P 16 33 18.5 +2.2
PET *e**PP sP 16 33 33.9 +4.4
PET *e*S S 16 40 31.7 +1.8
PET pmax pmax
comp=Z,30nm,0.9s
PET **Petropavlovsk** 50.77 25 P P 16 33 18.7 +2.4
comp=Z,29nm,1.1s
PET **Petropavlovsk** 50.77 25 P P 16 33 18.5 +2.2
PET PcP PcP 16 34 32.6 -0.4
DZM **Mont Dzumac** 51.21 129 IAmb IAmb 16 33 28.8
comp=Z,25nm,0.9s
DZM **Mont Dzumac** 51.21 129 P P 16 33 20.9 +0.7
MK31 **Makanchi Array** 51.89 323 P P 16 33 24.7 -0.2
MK31 **Makanchi Array** 51.89 323 *ce*P P 16 33 25.2 +0.3
MKAR **Makanchi Array** 51.89 323 P P 16 33 24.8 -0.2
comp=Z,12nm,0.7s,baz=121,slow=8.2,SNR=56
MKAR PcP PcP 16 34 36.9 -0.5
comp=Z,5.3nm,0.7s,baz=119,slow=3.3,SNR=3.5
comp=Z,12nm,0.7s
SHLS **Shalkode** 51.92 318 *e*P P 16 33 23.1 -2.2
comp=Z,10.0nm,0.9s,baz=318
SHLS **Shalkode** 51.92 318 *e*P P 16 33 23.1 -2.2
SHLS pmax pmax
comp=Z,10.0nm,0.9s
MAKZ **Makanchi** 52.09 323 P P 16 33 26.0 -0.4
MAKZ IAmb IAmb 16 33 29.0
comp=Z,13nm,0.8s
MAKZ **Makanchi** 52.09 323 P P 16 33 26.0 -0.4
MAKZ pmax pmax
comp=Z,13nm,0.8s
MAKZ **Makanchi** 52.09 323 P P 16 33 26.3 -0.1
MAKZ pP sP 16 33 36.5 -2.6
UZB **Uzynbulak** 52.21 318 *e*P P 16 33 27.1 -0.4
comp=Z,12nm,1.2s,baz=318
UZB **Uzynbulak** 52.21 318 *e*P P 16 33 27.0 -0.4
UZB pmax pmax
comp=Z,12nm,1.2s
YAK **Yakutsk** 52.25 3 P P 16 33 26.5 -0.7
YAK **Yakutsk** 52.25 3 *e*P P 16 33 26.5 -0.7
YAK *e**PP sP 16 33 40.7 +0.7
YAK *e* 16 34 36.7
YAK *e* 16 35 23.6
YAK *e*PPP PPP 16 36 29.6
YAK *e*S S 16 40 47.6 -2.3
YAK *e**SS sS 16 41 12.2 +7.0
YAK *e* 16 43 04.2
YAK *e*SS SS 16 44 26.7 -1.0
YAK *e*SSS SSS 16 46 11.0
YAK pmax pmax
comp=Z,73nm,1.0s
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.6s
YAK pmax pmax
comp=Z,130nm,6.1s
YAK pmax pmax
comp=N,76nm,3.8s
YAK pmax pmax
comp=E,93nm,4.4s
YAK smax smax
comp=N,84nm,3.3s
YAK smax smax
comp=E,46nm,2.7s
KPKS **Kokpek** 52.57 318 *e*P P 16 33 29.7 -0.5
comp=E,10nm,1.0s,baz=318
KPKS **Kokpek** 52.57 318 *e*P P 16 33 29.6 -0.5
KPKS pmax pmax
comp=Z,10.0nm,1.0s
SATY **Saty** 52.58 318 *e*P P 16 33 30.0 -0.3
baz=318
SATY **Saty** 52.58 318 *e*P P 16 33 29.9 -0.3
ZHN **Zhinishke** 52.61 318 *e*P P 16 33 29.8 -0.6
baz=318
ZHN **Zhinishke** 52.61 318 *e*P P 16 33 29.8 -0.6
KSH **Kashi** 52.92 313 P P 16 33 35.2 +2.4
KSH pP sP 16 33 52.4 +6.8
KSH PcP PcP 16 34 41.7 +0.2
KSH pmax pmax
comp=Z,12nm,1.2s
KSH LR LR
comp=Z,750nm,18.6s
KSH LR LR
comp=Z,610nm,19.9s
KSH LR LR
comp=Z,680nm,22.7s
NIL **Nilore** 53.30 305 P P 16 33 35.5 0.0
NIL **Nilore** 53.30 305 P P 16 33 35.5 0.0
NIL pmax pmax
comp=Z,76nm,1.0s
NIL **Nilore** 53.30 305 P P 16 33 36.5 +0.9
TDK **Taldyqorghan** 53.42 320 *e*P P 16 33 35.9 -0.3
comp=Z,6.9nm,0.5s,baz=320
TDK **Taldyqorghan** 53.42 320 *e*P P 16 33 35.9 -0.3
TDK pmax pmax
comp=Z,7.0nm,0.5s
ARXS **Arharly** 53.45 319 *e*P P 16 33 35.6 -0.9
MDOK **Medeo** 53.53 317 *e*P P 16 33 36.6 -0.7
baz=317
MDOK **Medeo** 53.53 317 *e*P P 16 33 36.5 -0.7
AAA **Alma-Ata** 53.64 317 *e*P P 16 33 37.3 -0.7
comp=Z,8.2nm,0.7s,baz=317
AAA **Alma-Ata** 53.64 317 *e*P P 16 33 37.2 -0.7
AAA pmax pmax
comp=Z,8.0nm,0.7s
CHKK **Chushkaly** 53.85 318 *e*P P 16 33 39.0 -0.4
baz=318
CHKK **Chushkaly** 53.85 318 *e*P P 16 33 39.0 -0.4
ZALV **Zalesovo Beam** 54.64 332 P P 16 33 43.1 -1.8
ZALV **Zalesovo Beam** 54.64 332 P P 16 33 43.9 -1.0
comp=Z,6.9nm,0.8s,baz=123,slow=5.6,SNR=20
ZALV PcP PcP 16 34 47.8 +0.2
comp=Z,2.8nm,0.7s,baz=134,slow=6.2,SNR=3.5
comp=Z,6.9nm,0.8s
ZALV **Zalesovo Beam** 54.64 332 *i*P P 16 33 45.7 +0.8
ZALV pmax pmax
comp=Z,7.0nm,0.8s
AAK **Ala-Archa** 55.06 316 P P 16 33 47.6 -0.8
AAK IAmb IAmb 16 33 55.4
comp=Z,60nm,1.9s
AAK **Ala-Archa** 55.06 316*ce*P P 16 33 49.6 +1.2
AAK pmax pmax
comp=Z,15nm,1.6s
SGDS **Sogindy** 55.27 317 *e*P P 16 33 49.6 -0.2
baz=317
SGDS **Sogindy** 55.27 317 *e*P P 16 33 49.6 -0.2
KURK **Kurchatov** 55.98 326 P P 16 33 53.8 -0.8
KURK **Kurchatov** 55.98 326*ce*P P 16 33 54.7 +0.1
KURK pmax pmax
comp=Z,54nm,1.3s
KURK **Kurchatov** 55.98 326 P P 16 33 54.1 -0.5
KURBB **Kurchatov Arra** 55.98 326 P P 16 33 54.1 -0.5
comp=Z,15nm,0.7s,baz=125,slow=6.4,SNR=46
comp=Z,15nm,0.7s
BTLS **Baital** 56.25 318 *e*P P 16 33 56.4 -0.3
baz=318
BTLS **Baital** 56.25 318 *e*P P 16 33 56.4 -0.3
SEY **Seymchan** 56.50 14*ce*P P 16 33 58.8 +0.7
SEY pmax pmax
comp=Z,13nm,1.2s
BTK **Batken** 56.86 312 P P 16 34 01.5 +0.3
KBL **Kabul** 56.90 305 P P 16 34 01.1 -0.7
KBL IAmb IAmb 16 34 03.2
comp=Z,24nm,0.8s
KBL **Kabul** 56.90 305 P P 16 34 01.1 -0.7
KBL pmax pmax
comp=Z,24nm,0.9s
SIMJ **Simiganj** 57.84 310 P P 16 34 08.0 -0.3
SIMJ **Simiganj** 57.84 310 P P 16 34 08.7 +0.4
SIMJ PcP PcP 16 34 59.3 -1.3
KK31 **Karatay Array** 57.98 315 IAmb IAmb 16 34 15.2
comp=Z,36nm,1.4s
KKAR **Karatay Array** 57.98 315 P P 16 34 08.7 -0.3
KKAR **Karatay Array** 57.98 315 IAmb IAmb 16 34 15.2
comp=Z,36nm,1.4s
KKAR **Karatay Array** 57.98 315 P P 16 34 08.7 -0.3
IUG **Iuzhnay** 58.03 314 *e*P P 16 34 09.0 -0.5
comp=Z,13nm,1.2s,baz=314
IUG **Iuzhnay** 58.03 314 *e*P P 16 34 09.0 -0.5
IUG pmax pmax
comp=Z,13nm,1.2s
BRLS **Boroldaу** 58.43 315 *e*P P 16 34 12.2 0.0
comp=Z,7.0nm,1.1s,baz=314
BRLS **Boroldaу** 58.43 315 *e*P P 16 34 12.1 0.0
BRLS pmax pmax
comp=Z,7.0nm,1.1s
BRVK **Borovoye** 61.65 326 P P 16 34 34.6 +0.6
BRVK IAmb IAmb 16 34 35.8
comp=Z,24nm,0.9s
BRVK **Borovoye** 61.65 326*ce*P P 16 34 34.0 0.0
BRVK pmax pmax
comp=Z,36nm,1.3s
BRVK **Borovoye** 61.65 326 P P 16 34 34.7 +0.6
BRVK pP sP 16 34 44.9 -2.3
BRVK PcP PcP 16 35 14.5 -0.8
TIXI **Tiksi** 61.85 1 P P 16 34 35.8 +0.8
HRA **Herat** 62.41 304 IAmb IAmb 16 34 41.0
comp=Z,23nm,1.1s
BILL **Bilibino** 64.10 16 P P 16 34 50.5 +0.4
BILL IAmb IAmb 16 35 00.9
comp=Z,34nm,1.3s
BILL **Bilibino** 64.10 16 *e*P P 16 34 50.1 0.0
BILL *e* 16 34 59.9
BILL *e* 16 35 26.1
BILL *e* 16 37 14.5
BILL *e*PPP PPP 16 38 43.6
BILL pmax pmax
comp=Z,37nm,2.5s
NRIK **Noril'sk** 64.27 346 P P 16 34 50.5 -0.7
comp=Z,6.7nm,0.7s,baz=119,slow=5.8,SNR=8.7
NRIK LR LR 17 06 12.7
comp=Z,922nm,20.0s,baz=188,slow=39
comp=Z,6.7nm,0.7s
NRIK **Noril'sk** 64.27 346*ce*P P 16 34 50.6 -0.5
NIKH **Nikolski High** 67.71 37 P P 16 35 13.7 +0.1
baz=256
BKZ **Black Stump Fm** 67.98 139 P P 16 35 15.7 +0.2
RTZ **Ruatahuna** 67.99 139 P P 16 35 15.5 -0.1
SPIA **Saint Paul Isl** 68.05 32 P P 16 35 15.7 +0.1
baz=253
P08K **Saint George I** 68.25 33 P P 16 35 17.2 +0.3
baz=254
ARU **Arti** 69.16 327 P P 16 35 21.5 -1.1
ARU IAmb IAmb 16 35 23.2
comp=Z,18nm,0.8s
ARU **Arti** 69.16 327*d i*P P 16 35 22.4 -0.1
ARU 16 35 44.0
ARU 16 37 55.2
ARU S S 16 44 26.1 0.0
ARU SS SS 16 48 44.3 -8.2
ARU pmax pmax
comp=Z,21nm,0.8s
ARU **Arti** 69.16 327 P P 16 35 22.1 -0.4
comp=Z,25nm,1.0s
ARU **Arti** 69.16 327 P P 16 35 21.8 -0.7
ARU pP sP 16 35 32.1 -3.7
UNV **Unalaska Valle** 69.28 36 P P 16 35 24.6 +1.2
baz=258
M11K **Mekoryuk** 70.93 29 P P 16 35 32.9 -0.4
baz=256
FALS **False Pass** 71.25 35 P P 16 35 35.4 +0.1
baz=260
TNA **Tin City** 71.59 24 P P 16 35 37.1 -0.1
baz=253
S12K **Black Hills** 72.15 35 P P 16 35 40.9 +0.1
baz=261
F14K **Arctic Creek** 72.20 24 P P 16 35 41.6 +0.7
baz=254
M13K **Dall Lake** 72.32 30 P P 16 35 41.7 0.0
baz=258
ANM **Nome** 72.35 25 P P 16 35 41.7 -0.1
baz=255
J14K **Nanvaranak Lak** 72.71 27 P P 16 35 43.6 -0.3
baz=258
L14K **Kuka Creek** 72.82 29 IAmb IAmb 16 35 49.9
comp=Z,38nm,1.1s
L14K **Kuka Creek** 72.82 29 P P 16 35 45.2 +0.6
baz=259,SNR=7.4
F15K **North Star Dit** 72.94 24 P P 16 35 46.0 +0.7
baz=256
SDPT **Sand Point** 72.99 35 P P 16 35 45.9 +0.1
baz=262
G15K **Niukluk** 73.01 25 P P 16 35 46.3 +0.6
baz=256
N14K **Kuskokwak Cree** 73.05 30 P P 16 35 46.8 +0.8
baz=260
M14K **Bethel** 73.06 29 IAmb IAmb 16 35 49.9
comp=Z,27nm,0.8s
M14K **Bethel** 73.06 29 P P 16 35 46.7 +0.7
baz=260
O14K **Tigyukauivet M** 73.14 31 P P 16 35 47.3 +0.7
baz=261
CHNA **Chernabura Isl** 73.44 36 P P 16 35 49.2 +0.8
baz=263
L15K **Ungalak Mounta** 73.45 28 P P 16 35 49.4 +1.0
baz=260
LKRN **Lenkeran, Azer** 73.52 307 P P 16 35 48.4 -0.8
K15K **Wolf Creek Mou** 73.54 28 P P 16 35 49.3 +0.4
baz=260
M15K **Kasigluk River** 73.66 30 P P 16 35 50.8 +1.2
baz=261
H16K **Elim** 73.68 25 P P 16 35 50.7 +1.0
baz=258

G16K	Koyuk River	73.79	25	P	P	16 35 51.5	+1.1
	baz=258						
O15K	Ungalikthiuk R	73.86	31	P	P	16 35 51.9	+1.0
	baz=262						
N15K	Kwethluk River	73.87	30	IAmb	IAmb	16 35 55.8	
	comp=Z,41nm,1.1s						
N15K	Kwethluk River	73.87	30	P	P	16 35 51.7	+0.8
	baz=261						
D17K	Noatak River	74.02	22	P	P	16 35 52.1	+0.5
	baz=257						
J16K	Anvik River	74.14	27	IAmb	IAmb	16 36 11.8	
	comp=Z,44nm,1.6s						
J16K	Anvik River	74.14	27	P	P	16 35 52.7	+0.3
	baz=260						
RDOG	Red Dog Mine	74.17	22	P	P	16 35 52.8	+0.3
	baz=257						
C17K	DeLong Mountai	74.17	21	P	P	16 35 52.9	+0.3
	baz=256						
I17K	Unalakleet	74.20	26	P	P	16 35 53.4	+0.7
	baz=260						
CHGN	Chignik	74.26	34	P	P	16 35 54.3	+1.1
	baz=264						
E17K	Hotham Inlet	74.36	23	P	P	16 35 55.5	+1.9
	baz=258						
KIRV	Kirov	74.40	328	P	P	16 35 53.8	-0.1
	comp=Z,28nm,0.7s,baz=358,slow=1.2,SNR=8.9						
	comp=Z,28nm,0.7s						
L16K	Owhat River	74.40	29	IAmb	IAmb	16 35 57.6	
	comp=Z,16nm,0.9s						
L16K	Owhat River	74.40	29	P	P	16 35 55.2	+1.3
	baz=262,SNR=5.9						
F17K	Baldwin Pennin	74.45	24	P	P	16 35 55.6	+1.5
	baz=259						
G17K	Kiwalik Mounta	74.51	25	P	P	16 35 55.7	+1.2
	baz=259						
M16K	Timber Creek	74.55	29	IAmb	IAmb	16 35 58.5	
	comp=Z,26nm,1.0s						
M16K	Timber Creek	74.55	29	P	P	16 35 55.7	+0.9
	baz=262,SNR=6.8						
N16K	Nishlik Lake	74.57	30	P	P	16 35 55.7	+0.8
	baz=262,SNR=6.5						
H17K	Granite Mounta	74.72	25	IAmb	IAmb	16 35 59.0	
	comp=Z,21nm,1.0s						
H17K	Granite Mounta	74.72	25	P	P	16 35 56.8	+1.1
	baz=260,SNR=6.4						
SEKA	Sheki	74.75	310	P	P	16 35 55.1	-1.4
P16K	Nushagak River	74.78	31	P	P	16 35 56.1	-0.1
	baz=264						
O16K	Kokwok River B	74.80	31	IAmb	IAmb	16 36 01.1	
	comp=Z,39nm,1.2s						
O16K	Kokwok River B	74.80	31	P	P	16 35 56.9	+0.7
	baz=263,SNR=6.1						
J17K	VABM Dome	74.83	27	IAmb	IAmb	16 36 09.1	
	comp=Z,18nm,0.9s						
J17K	VABM Dome	74.83	27	P	P	16 35 56.6	+0.1
	baz=262,SNR=7.1						
BELG	Belogornoye	74.85	322	*i* P	P	16 35 55.5	-1.2
BELG				pmax	pmax		
	comp=Z,12nm,0.9s						
B18K	Kokolik River	74.86	21	P	P	16 35 56.8	+0.3
	baz=257						
E18K	Tukpahlearik C	74.89	23	IAmb	IAmb	16 36 13.1	
	comp=Z,15nm,0.8s						
E18K	Tukpahlearik C	74.89	23	P	P	16 35 57.2	+0.5
	baz=259						
C18K	Utukok River	74.92	21	IAmb	IAmb	16 36 10.6	
	comp=Z,18nm,1.1s						
C18K	Utukok River	74.92	21	P	P	16 35 57.9	+0.9
	baz=258						
L17K	Donlin	75.01	28	P	P	16 35 58.6	+1.1
	baz=262,SNR=7.2						
K17K	Iditarod	75.09	28	IAmb	IAmb	16 36 02.6	
	comp=Z,43nm,1.2s						
K17K	Iditarod	75.09	28	P	P	16 35 59.2	+1.3
	baz=262,SNR=8.4						
F18K	Selawik	75.11	24	P	P	16 35 58.5	+0.6
	baz=260						
O17K	Koliganek Bris	75.32	31	P	P	16 36 00.5	+1.2
	baz=264						
M17K	Holitna River	75.33	29	IAmb	IAmb	16 36 03.5	
	comp=Z,25nm,0.9s						
M17K	Holitna River	75.33	29	P	P	16 35 60.0	+0.7
	baz=264,SNR=6.0						
N17K	Nushagak Hills	75.35	30	IAmb	IAmb	16 36 03.8	
	comp=Z,21nm,1.1s						
N17K	Nushagak Hills	75.35	30	P	P	16 36 00.6	+1.1
	baz=264,SNR=8.6						
G18K	Tagagawik	75.39	24	IAmb	IAmb	16 36 03.3	
	comp=Z,24nm,1.3s						
G18K	Tagagawik	75.39	24	P	P	16 35 59.2	-0.4
	baz=261						
H18K	Honnosa River	75.40	25	P	P	16 36 00.6	+0.9
	baz=262						
GANJ	Ganja	75.42	309	P	P	16 35 59.3	-1.0
R17L	Mt. Peulik Vol	75.50	33	P	P	16 36 01.5	+1.0
	baz=265						
C19K	Lookout Ridge	75.58	21	IAmb	IAmb	16 36 07.8	
	comp=Z,25nm,0.9s						
C19K	Lookout Ridge	75.58	21	P	P	16 36 02.2	+1.5
	baz=260,SNR=7.9						
P17K	Kvichak River	75.60	31	P	P	16 36 01.9	+1.0
	baz=265						
L18K	Granite Mounta	75.77	28	P	P	16 36 02.8	+1.0
	baz=264,SNR=5.9						
Q17K	Contact Creek	75.81	32	P	P	16 36 02.7	+0.5
	baz=266						
F19K	Shaleruckik Mo	75.89	23	P	P	16 36 02.6	+0.2
	baz=262						
J18K	Innoko River	75.90	27	P	P	16 36 03.1	+0.5
	baz=264						
GCSA	Galena City Sc	75.97	26	P	P	16 36 03.8	+0.8
	baz=263						
N18K	Kilae Creek	76.00	30	P	P	16 36 03.7	+0.5
N18K				IAmb	IAmb	16 36 08.5	
	comp=Z,19nm,1.1s						
N18K	Kilae Creek	76.00	30	P	P	16 36 04.5	+1.3
	baz=265,SNR=5.4						
D19K	Kuna River	76.01	22	P	P	16 36 04.0	+0.9
	baz=261						
G19K	Purcell Mounta	76.06	24	P	P	16 36 04.1	+0.7
	baz=263						
M18K	Stony River	76.11	29	P	P	16 36 04.9	+1.1
	baz=265,SNR=5.6						
E19K	Redstone River	76.18	23	P	P	16 36 04.5	+0.4
	baz=262						
H19K	Roundabout Mou	76.25	25	P	P	16 36 05.0	+0.5
	baz=263,SNR=12						
O18K	Koktuh Hills	76.28	31	P	P	16 36 05.8	+1.0
	baz=266,SNR=12						
Q18K	Katmai Hardscr	76.29	32	P	P	16 36 05.4	+0.3
	baz=266						
J19K	Poorman	76.44	26	P	P	16 36 06.3	+0.7
	baz=264,SNR=5.6						
B20K	Meade River	76.57	20	IAmb	IAmb	16 36 09.5	
	comp=Z,20nm,0.8s						
B20K	Meade River	76.57	20	P	P	16 36 06.7	+0.4
	baz=262,SNR=11						
D20K	Etivluk River	76.58	22	P	P	16 36 06.8	+0.4
	baz=262						
L19K	White Mountain	76.62	28	IAmb	IAmb	16 36 12.2	
	comp=Z,12nm,0.8s						
L19K	White Mountain	76.62	28	P	P	16 36 07.4	+0.7
	baz=266						
GNI	Garni	76.64	309	P	P	16 36 07.5	+0.1
GNI	Garni	76.64	309	*ce*P	P	16 36 07.7	+0.3
GNI				pmax	pmax		
	comp=Z,46nm,1.0s						
E20K	Nigu River	76.68	22	P	P	16 36 07.7	+0.7
	baz=263						
N19K	Bonanza Creek	76.70	30	IAmb	IAmb	16 36 11.6	
	comp=Z,16nm,1.0s						
N19K	Bonanza Creek	76.70	30	P	P	16 36 08.1	+0.8
	baz=266,SNR=5.7						
F20K	Avaraart Lake	76.71	23	IAmb	IAmb	16 36 30.8	
	comp=Z,16nm,1.1s						
F20K	Avaraart Lake	76.71	23	P	P	16 36 08.5	+1.4
	baz=264,SNR=10.0						
M19K	Big River Lodg	76.82	29	P	P	16 36 08.8	+0.9
	baz=266						
H20K	Anotleneega Mo	76.89	25	P	P	16 36 08.8	+0.6
	baz=265,SNR=16						
A21K	Barrow	76.94	19	P	P	16 36 08.9	+0.7
	baz=262,SNR=8.5						
RAYN	Ar Rayn	76.95	292	P	P	16 36 08.7	-0.7
RAYN				IAmb	IAmb	16 36 13.8	
	comp=Z,26nm,0.8s						
RAYN	Ar Rayn	76.95	292	P	P	16 36 09.3	-0.1
I20K	Naaghedeneel	77.00	26	P	P	16 36 09.7	+0.9
	baz=265						
Q19K	Cape Douglas,	77.02	32	P	P	16 36 10.2	+1.2
	baz=267						
K20K	Telida	77.07	27	P	P	16 36 10.0	+0.8
	baz=266						
J20K	Nowinta River	77.10	26	IAmb	IAmb	16 36 14.5	
	comp=Z,20nm,1.2s						
J20K	Nowinta River	77.10	26	P	P	16 36 10.1	+0.8
	baz=266,SNR=8.6						
L20K	Farewell, AK	77.10	28	P	P	16 36 10.1	+0.7
	baz=266						
OHAK	Old Harbor	77.14	33	IAmb	IAmb	16 36 15.2	
	comp=Z,20nm,0.9s						
OHAK	Old Harbor	77.14	33	P	P	16 36 10.0	+0.3
	baz=268						
P19K	Oil Pt	77.26	31	P	P	16 36 11.1	+0.7
	baz=268						
C21K	Knifeblade Rid	77.29	21	P	P	16 36 11.0	+0.7
	baz=264,SNR=5.2						
B21K	Ikpikpuk River	77.40	21	P	P	16 36 11.8	+0.8
	baz=264,SNR=25						
IMAR	Indian Mountai	77.40	24	P	P	16 36 10.9	-0.1
M20K	Styx River	77.42	29	IAmb	IAmb	16 36 16.1	
	comp=Z,42nm,1.6s						
M20K	Styx River	77.42	29	P	P	16 36 11.6	+0.4
	baz=267						
A22K	Sinclair Lake	77.43	19	P	P	16 36 11.8	+0.8
	baz=263,SNR=21						
E21K	Killik River	77.52	22	IAmb	IAmb	16 36 17.9	
	comp=Z,16nm,0.9s						
E21K	Killik River	77.52	22	P	P	16 36 12.1	+0.4
	baz=265,SNR=16						
ONI	Oni	77.53	312	IAmb	IAmb	16 36 14.8	
	comp=Z,28nm,1.1s						
KDAK	Kodiak Island	77.54	33	P	P	16 36 12.5	+0.6
KDAK				IAmb	IAmb	16 36 18.9	
	comp=Z,39nm,1.2s						
KDAK	Kodiak Island	77.54	33	P	P	16 36 12.2	+0.3
	baz=269						
KDAK	Kodiak Island	77.54	33	P	P	16 36 12.5	+0.6
KDAK				pmax	pmax		
	comp=Z,39nm,1.3s						
G21K	Allakaket	77.54	24	P	P	16 36 11.8	+0.1
	baz=266						
O20K	Slope Mountain	77.59	31	P	P	16 36 12.5	+0.2
	baz=268						
F21K	Alatna River	77.60	23	P	P	16 36 12.5	+0.4
	baz=266						
Q20K	Shuyak Island	77.66	32	P	P	16 36 13.3	+0.8
	baz=269						
GOF	Gofitskoye	77.75	314	*ce*P	P	16 36 13.8	+0.4
H21K	Melozitna River	77.77	25	IAmb	IAmb	16 36 26.2	
	comp=Z,18nm,1.1s						
H21K	Melozitna River	77.77	25	P	P	16 36 13.6	+0.5
	baz=267,SNR=11						
N20K	Mount Spurr	77.83	29	P	P	16 36 13.7	+0.1
	baz=268						
B22K	Teshekpuk Lake	77.88	20	P	P	16 36 14.2	+0.6
	baz=265,SNR=12						
CHUM	Lake Minchumin	77.88	27	P	P	16 36 14.2	+0.5
	baz=268						
PPLA	Purkeypile	77.90	28	P	P	16 36 14.1	+0.1
	baz=268						
KBZ	Khabaz	77.90	313	P	P	16 36 13.9	-0.3
	comp=Z,16nm,0.9s,baz=87,slow=3.1,SNR=28						
	comp=Z,16nm,0.9s						
KBZ	Khabaz	77.90	313	*ce*P	P	16 36 13.6	-0.6
KBZ				pmax	pmax		
	comp=Z,32nm,1.1s						
CAST	Castle Rocks	77.97	27	P	P	16 36 14.1	-0.1
	baz=268						
D22K	Ayikyak River	78.02	22	P	P	16 36 14.4	-0.1
	baz=266						
KIV	Kislovodsk	78.05	313	⇑P	P	16 36 15.3	+0.2
KIV	Kislovodsk	78.05	313	P	P	16 36 15.4	+0.2
KIV	Kislovodsk	78.05	313	*e*P	P	16 36 14.6	-0.6
KIV				pmax	pmax		
	comp=Z,45nm,1.0s						
KIV				MLR	MLR		
	comp=Z,181nm,18.0s						
KIV	Kislovodsk	78.05	313	P	P	16 36 15.1	-0.1
	comp=Z,44nm,0.9s,comp=Z,447nm						
HOM	Homer	78.07	31	P	P	16 36 14.9	+0.1
	baz=269						
SHA1	Shidzhatmaz	78.07	313	*i* P	P	16 36 14.3	-1.2
F22K	John River	78.12	23	P	P	16 36 16.0	+0.9
	baz=267,SNR=12						
SKT	Skwentna	78.17	29	IAmb	IAmb	16 36 43.3	
	comp=Z,51nm,2.0s						
SKT	Skwentna	78.17	29	P	P	16 36 15.0	-0.4
	baz=269						
G22K	Bettles	78.36	24	P	P	16 36 16.6	+0.3
	baz=268						
H22K	Ishtalitna Cre	78.37	25	P	P	16 36 17.2	+0.8
	baz=268,SNR=14						
BPAW	Bear Paw Mtn.	78.48	26	IAmb	IAmb	16 36 22.2	
	comp=Z,22nm,0.8s						
BPAW	Bear Paw Mtn.	78.48	26	P	P	16 36 17.3	+0.3
	baz=269,SNR=16						
VRH	Novokhopyorsk	78.49	320	*e*P	P	16 36 15.7	-1.6
VRH				pmax	pmax		
	comp=Z,21nm,0.6s						
BRSE	Bradley Lake S	78.53	31	P	P	16 36 17.3	-0.1
	baz=270						
SUA	Susitna One	78.54	29	IAmb	IAmb	16 36 22.6	
	comp=Z,27nm,0.9s						
SUA	Susitna One	78.54	29	P	P	16 36 17.3	-0.3
	baz=269						
MLY	Manley	78.61	26	IAmb	IAmb	16 36 23.0	
	comp=Z,14nm,0.8s						
MLY	Manley	78.61	26	P	P	16 36 18.2	+0.5
	baz=269,SNR=15						
D23K	Nanushuk River	78.75	21	P	P	16 36 19.9	+1.5
	baz=268						
C23K	Itkillik River	78.81	21	P	P	16 36 18.8	+0.1
	baz=268,SNR=30						
M22K	Willow	78.84	29	P	P	16 36 19.0	0.0
	baz=270						
COLD	Coldfoot	78.88	23	P	P	16 36 19.4	+0.2
	baz=269,SNR=15						
G23K	Bananza Creek	78.94	24	P	P	16 36 20.2	+0.6
	baz=269,SNR=9.9						
BCA	Borcka	78.95	310	⇑P	P	16 36 18.6	-1.5
RC01	Rabbit Creek A	79.03	30	P	P	16 36 19.8	-0.3
	baz=270						
E23K	Chandalar	79.12	22	P	P	16 36 20.6	0.0
	baz=269,SNR=26						
H23K	Yukon River	79.12	25	P	P	16 36 20.2	-0.4
	baz=270,SNR=12						
TOLK	Toolik Lake Re	79.14	22	P	P	16 36 20.4	-0.3
	baz=269,SNR=12						
SEW	Seward	79.17	31	P	P	16 36 20.3	-0.6
	baz=271						
I23K	Minto, Yukon-K	79.19	25	P	P	16 36 21.6	+0.7
	baz=270,SNR=7.8						
PMR	Palmer	79.31	29	P	P	16 36 21.7	+0.1
	baz=271						
NEA2	Nenana	79.32	26	IAmb	IAmb	16 36 27.4	
	comp=Z,15nm,0.8s						
NEA2	Nenana	79.32	26	P	P	16 36 22.2	+0.6
	baz=270,SNR=14						
MCK	McKinley	79.38	27	P	P	16 36 21.6	-0.5
	baz=271,SNR=8.1						
MCK	McKinley	79.38	27	P	P	16 36 22.6	+0.6
RND	Reindeer	79.42	27	IAmb	IAmb	16 36 50.8	
	comp=Z,28nm,1.4s						
RND	Reindeer	79.42	27	P	P	16 36 22.8	+0.5
D24K	Happy Valley	79.42	21	IAmb	IAmb	16 36 46.2	
	comp=Z,17nm,0.8s						
D24K	Happy Valley	79.42	21	P	P	16 36 22.4	+0.3
	baz=270,SNR=12						
C24K	Franklin Bluff	79.47	21	P	P	16 36 22.8	+0.5
	baz=270						
E24K	Your Creek	79.54	22	IAmb	IAmb	16 36 28.0	
	comp=Z,35nm,1.6s						
E24K	Your Creek	79.54	22	P	P	16 36 23.1	+0.3
	baz=270,SNR=13						
WAT1	Susitna Watana	79.57	28	P	P	16 36 23.7	+0.7
	baz=271						
KNK	Knik Glacier	79.64	29	P	P	16 36 23.8	+0.3
	baz=271						
SML	Sawmill	79.69	29	IAmb	IAmb	16 36 54.1	
	comp=Z,35nm,1.1s						
SML	Sawmill	79.69	29	P	P	16 36 23.4	-0.4
	baz=271						
F24K	Squaw Lake	79.78	23	IAmb	IAmb	16 36 29.4	
	comp=Z,14nm,0.8s						
F24K	Squaw Lake	79.78	23	P	P	16 36 23.9	-0.2
	baz=271,SNR=19						
H24K	Noodor Dome	79.81	25	P	P	16 36 25.1	+0.8
	baz=271,SNR=18						
COLA	College	79.84	26	*i* P	P	16 36 24.5	+0.1
COLA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WAT6	Susitna Watana	79.95	28	P	P	16 36 25.4	+0.2
	baz=272,SNR=9.0						
G24K	Hadweenzic Riv	79.95	24	P	P	16 36 25.2	+0.2
	baz=271,SNR=8.7						
M23K	Glacier View	79.98	29	P	P	16 36 25.9	+0.6
	baz=272						
VSLR	Vesyoloye	79.99	313	*i* P	P	16 36 25.6	-0.1
VSLR				pmax	pmax		
	comp=Z,56nm,1.2s						
POKR	Poker Plat Res	80.01	25	P	P	16 36 26.3	+1.0
	baz=272						
VORD	Divnogorie	80.03	320	*e*P	P	16 36 23.4	-2.3
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORR	Voronezh	80.04	321	*e*P	P	16 36 22.5	-3.3
VORR				pmax	pmax		
	comp=Z,30nm,0.4s						
VSR	Storozhevoye	80.09	320	*e*P	P	16 36 23.4	-2.7
VSR				pmax	pmax		
	comp=Z,30nm,1.4s						
DHY	Denali Highway	80.10	27	P	P	16 36 26.7	+0.6
	baz=272,SNR=7.0						
LPSR	Galich'ya Gora	80.16	322	*e*P	P	16 36 24.3	-2.1
LPSR				pmax	pmax		
	comp=Z,50nm,1.4s						
SCM	Sheep Creek Mo	80.17	29	IAmb	IAmb	16 36 33.3	
	comp=Z,23nm,0.9s						
SCM	Sheep Creek Mo	80.17	29	P	P	16 36 27.3	+0.9
	baz=272						
SOC	Sochi	80.21	313	*e*P	P	16 36 24.1	-2.8
SOC				*e*		16 39 31.2	
SOC				*e*S	S	16 46 25.5	-4.6
SOC				*e*SS	SS	16 51 35.3	-5.8
SOC				pmax	pmax		
	comp=Z,19nm,0.8s						
HDA	Harding Lake	80.24	26	IAmb	IAmb	16 36 28.9	
	comp=Z,54nm,1.7s						
HDA	Harding Lake	80.24	26	P	P	16 36 27.1	+0.5
	baz=272,SNR=6.9						
ILAR	Eielson Array	80.25	26	P	P	16 36 26.6	-0.1
ILAR	Eielson Array	80.25	26	P	P	16 36 25.7	-1.0
	comp=Z,3.5nm,0.8s,baz=252,slow=3.7,SNR=25						
	comp=Z,3.5nm,0.8s						
ILAR	Eielson Array	80.25	26	P	P	16 36 26.6	-0.1
D25K	Kavik River	80.29	21	P	P	16 36 26.9	0.0
	baz=272,SNR=16						
G25K	Bearman Lake	80.49	24	P	P	16 36 28.2	+0.3
	baz=273,SNR=9.3						
H25L	Birch Creek	80.63	24	P	P	16 36 29.2	+0.5
	baz=273,SNR=7.6						
F25K	Christian Rive	80.63	23	P	P	16 36 29.3	+0.6
	baz=273,SNR=12						
E25K	Arctic Village	80.64	22	P	P	16 36 29.3	+0.6
	baz=273,SNR=14						
M24K	Tolsona, Glenn	80.70	28	IAmb	IAmb	16 36 36.5	
	comp=Z,38nm,0.9s						
M24K	Tolsona, Glenn	80.70	28	P	P	16 36 29.9	+0.7
	baz=273						
MOS	Moscow	80.74	325	*e*P	P	16 36 27.4	-2.0
Q23K	Middleton Isla	80.77	31	P	P	16 36 30.2	+0.7
	baz=274						
C26K	Camden Bay	80.78	20	P	P	16 36 30.1	+0.7
	baz=273						
K24K	Donnelly Dome	80.78	27	P	P	16 36 31.0	+1.4
	baz=273						
PRP	Porcupine Dome	80.79	25	P	P	16 36 30.2	+0.4
	baz=273						
KLU	Klutina	80.85	29	P	P	16 36 30.9	+0.8
	baz=274						
J25K	Salcha River,	80.91	26	P	P	16 36 31.0	+0.7
	baz=274						
PAX	Paxson	80.97	28	P	P	16 36 31.0	+0.3
	baz=274						
EYAK	Cordova Ski Ar	81.00	30	P	P	16 36 32.0	+1.3
	baz=274						
BMAR	Burnt Mountain	81.05	23	P	P	16 36 31.7	+0.7
HARP	HAARP	81.15	28	P	P	16 36 32.0	+0.4
	baz=274						
F26K	Sheenjek River	81.20	23	P	P	16 36 32.3	+0.6
	baz=274,SNR=5.6						
C27K	Jago River	81.22	21	P	P	16 36 32.8	+1.0
	baz=274,SNR=16						
OBN	Obninsk	81.39	324	P	P	16 36 31.6	-1.2
	comp=Z,7.6nm,0.3s,baz=90,slow=5.5,SNR=7.6						
	comp=Z,7.6nm,0.3s						
OBN	Obninsk	81.39	324	*e*P	P	16 36 31.8	-1.1
OBN				*e*		16 39 38.1	
OBN				*e*PPP	PPP	16 41 29.1	
OBN				pmax	pmax		
	comp=Z,27nm,1.3s						
OBN				MLR	MLR		
	comp=Z,185nm,18.0s						
G26K	Porcupine Rive	81.40	23	P	P	16 36 33.3	+0.6
	baz=275,SNR=9.1						
N25K	Chitina, Valde	81.48	29	P	P	16 36 33.7	+0.3
	baz=275						
BMRM	Bremner River	81.53	30	P	P	16 36 33.4	-0.2
	baz=275						
SCRK	Sand Creek	81.56	26	P	P	16 36 33.6	-0.2
	baz=275						
ARPR	Arapgir-MALATY	81.64	308	IAmb	IAmb	16 36 39.6	
	comp=Z,31nm,1.0s						
J26L	Joseph Creek	81.70	26	P	P	16 36 34.4	-0.1
	baz=275						
ANN	Anapa	81.75	314	*e*P	P	16 36 33.9	-1.1
ANN				*e**PP	sP	16 36 46.8	-1.7
ANN				*e*		16 39 38.3	
ANN				*e*S	S	16 46 45.8	-0.2
ANN				pmax	pmax		
	comp=Z,56nm,1.1s						
MENT	Mentasta	81.77	28	IAmb	IAmb	16 36 42.2	
	comp=Z,18nm,0.9s						
APA	Apatity	81.79	337	⇓*i* P	P	16 36 32.4	-2.4
APA				pmax	pmax		
	comp=Z,12nm,1.1s						
I26K	Coal Creek Min	81.80	25	P	P	16 36 35.5	+0.6
	baz=276						
GLB	Gilahina Butte	81.87	29	IAmb	IAmb	16 36 48.2	
	comp=Z,22nm,1.0s						
L26K	Log Cabin Wild	81.93	27	P	P	16 36 36.1	+0.4
	baz=276						
OPO	Anbohidratompo	82.09	250	P	P	16 36 37.0	-0.5
	comp=Z,6.5nm,0.8s,baz=288,slow=1.3,SNR=4.2						
	comp=Z,6.5nm,0.8s						
E27K	Coleen River	82.11	22	IAmb	IAmb	16 36 44.2	
	comp=Z,14nm,0.9s						
E27K	Coleen River	82.11	22	P	P	16 36 37.3	+0.8
	baz=276,SNR=19						
M26K	Nabesna, AK	82.16	28	IAmb	IAmb	16 36 41.7	
	comp=Z,22nm,1.2s						
M26K	Nabesna, AK	82.16	28	P	P	16 36 37.2	+0.3
	baz=276						
D27M	Malcolm River	82.22	21	IAmb	IAmb	16 36 45.6	
	comp=Z,19nm,0.8s						
D27M	Malcolm River	82.22	21	P	P	16 36 37.4	+0.3
	baz=277,SNR=27						
G27K	Doyon Strip	82.25	24	P	P	16 36 37.6	+0.3
	baz=277						
MCARA	McCarthy VSAT	82.25	29	P	P	16 36 38.2	+0.8
	baz=276						
BGLC	Bering Glacier	82.26	30	P	P	16 36 37.8	+0.4
	baz=276						
CRQE	Cirque	82.28	30	P	P	16 36 38.1	+0.4
	baz=276						
H27K	Steamboat Moun	82.37	24	P	P	16 36 38.3	+0.4
	baz=277						
K27K	Chicken	82.39	26	IAmb	IAmb	16 36 46.1	
	comp=Z,24nm,0.9s						
K27K	Chicken	82.39	26	P	P	16 36 38.3	+0.3
	baz=277						
I27K	Kandik River	82.40	25	P	P	16 36 38.5	+0.3
	baz=277,SNR=32						
L27K	Beaver Creek,	82.62	27	P	P	16 36 39.6	+0.3
	baz=277,SNR=13						
BCAR	Beaver Creek A	82.64	27	P	P	16 36 39.9	+0.5
M27K	Edge Creek, AK	82.68	28	IAmb	IAmb	16 36 47.1	

E28M	Babbage River	82.82	22	P	P	16 36 40.4	+0.2	
	baz=278,SNR=11							
F28M	Old Crow	82.83	23	IAmb	IAmb	16 36 43.4		
	comp=Z,12nm,0.7s							
F28M	Old Crow	82.83	23	P	P	16 36 40.4	0.0	
	baz=278,SNR=12							
MESA	MESA	82.91	30	P	P	16 36 40.7	-0.4	
	baz=277							
D28M	Stokes Point	82.99	21	P	P	16 36 40.4	-0.6	
	baz=279							
CTG	Chitna Glacier	83.11	29	P	P	16 36 41.5	-0.5	
	baz=278,SNR=6.6							
I28M	Miner Creek	83.12	25	IAmb	IAmb	16 36 47.3		
	comp=Z,26nm,1.1s							
I28M	Miner Creek	83.12	25	P	P	16 36 42.2	+0.2	
	baz=278,SNR=16							
JOF	Joensuu	83.22	333	eP	P	16 36 42.0	-0.4	
YUK3	Moose Creek	83.42	29	P	P	16 36 43.3	-0.4	
	baz=278							
E29M	Blow River	83.45	22	P	P	16 36 43.6	+0.2	
	baz=280							
DAWY	Dawson	83.56	26	IAmb	IAmb	16 36 57.9		
	comp=Z,24nm,1.1s							
DAWY	Dawson	83.56	26	P	P	16 36 44.4	+0.3	
	baz=279,SNR=8.4							
H29M	Whitestone	83.63	24	IAmb	IAmb	16 36 47.4		
	comp=Z,14nm,0.8s							
H29M	Whitestone	83.63	24	P	P	16 36 44.6	+0.1	
	baz=280,SNR=11							
VALR	Valaam	83.65	331	i P	P	16 36 43.8	-0.8	
VALR				pmax	pmax			
	comp=Z,29nm,1.0s							
G29M	Pine Creek	83.65	23	P	P	16 36 44.8	+0.2	
	baz=280,SNR=25							
DIKM	Dikmen	83.68	311	⇑P	P	16 36 44.6	-0.6	
O28M	Mount Upton	83.69	29	P	P	16 36 45.3	+0.1	
	baz=279							
PINM	Pinnacle	83.77	30	P	P	16 36 45.4	+0.1	
	baz=279							
I29M	Ogilvie Camp,	83.81	25	IAmb	IAmb	16 36 53.5		
	comp=Z,14nm,1.0s							
I29M	Ogilvie Camp,	83.81	25	P	P	16 36 45.3	0.0	
	baz=280,SNR=16							
YUK8	Steele Glacier	83.82	29	P	P	16 36 45.7	-0.2	
	baz=279							
J29N	Klondike Camp	84.00	26	IAmb	IAmb	16 36 52.0		
	comp=Z,30nm,1.1s							
J29N	Klondike Camp	84.00	26	P	P	16 36 46.8	+0.3	
	baz=280							
SIM	Simferopol'	84.07	314	eP	P	16 36 46.5	-0.6	
SIM				pmax	pmax			
	comp=Z,34nm,0.8s							
M29M	Somme Creek	84.24	28	IAmb	IAmb	16 36 55.5		
	comp=Z,20nm,0.9s							
M29M	Somme Creek	84.24	28	P	P	16 36 47.0	-0.8	
	baz=280,SNR=13							
PNL	Peninsula	84.26	31	P	P	16 36 48.2	+0.4	
	baz=280							
EPYK	Eagle Plains	84.26	24	IAmb	IAmb	16 36 52.2		
	comp=Z,32nm,1.1s							
EPYK	Eagle Plains	84.26	24	P	P	16 36 47.3	-0.4	
	baz=281,SNR=16							
L29M	L29M	84.27	27	P	P	16 36 48.4	+0.6	
	baz=280,SNR=25							
SPITS	Spitsbergen Ar	84.32	349	P	P	16 36 46.4	-1.3	
	comp=Z,11nm,0.8s,baz=83,slow=15,SNR=1.4							
	comp=Z,11nm,0.8s							
G30M	tAoh Zraii Nji	84.34	23	IAmb	IAmb	16 36 54.2		
	comp=Z,16nm,1.0s							
G30M	tAoh Zraii Nji	84.34	23	P	P	16 36 47.7	-0.4	
	baz=282,SNR=11							
ARCES	ARCESS Array B	84.35	340	P	P	16 36 47.7	-0.3	
ARCES				IAmb	IAmb	16 36 48.9		
	comp=Z,28nm,1.2s							
ARCES	ARCESS Array B	84.35	340	P	P	16 36 48.1	+0.1	
	comp=Z,10nm,0.9s,baz=59,slow=7.5,SNR=13							
	comp=Z,10nm,0.9s							
F30M	Barrier River	84.37	22	P	P	16 36 48.2	0.0	
	baz=282,SNR=21							
K29M	Barlow Dome	84.41	26	IAmb	IAmb	16 36 55.3		
	comp=Z,13nm,0.8s							
K29M	Barlow Dome	84.41	26	P	P	16 36 47.9	-0.7	
	baz=281,SNR=15							
YUK6	Outpost Mounta	84.55	29	P	P	16 36 49.1	-0.4	
	baz=280							
O29M	Mount Kennedy	84.56	30	P	P	16 36 49.1	-0.4	
	baz=280							
BZK	Bozkurt	84.57	311	⇑P	P	16 36 49.2	-0.5	
BZK	Bozkurt	84.57	311	P	P	16 36 49.3	-0.4	
	comp=Z,37nm,0.8s,comp=Z,515nm							
I30M	Mount Dempster	84.63	25	P	P	16 36 49.7	0.0	
	baz=282,SNR=43							
MMAI	Mount Meron Ar	84.74	302	P	P	16 36 51.9	+1.1	
	comp=Z,20nm,1.1s,baz=92,slow=12,SNR=16							
	comp=Z,20nm,1.1s							
J30M	Hart River	84.78	25	IAmb	IAmb	16 36 55.6		
	comp=Z,13nm,1.0s							
J30M	Hart River	84.78	25	P	P	16 36 49.5	-0.9	
	baz=282,SNR=9.2							
M30M	Minto, Yukon	84.98	27	IAmb	IAmb	16 36 56.9		
	comp=Z,26nm,1.1s							
M30M	Minto, Yukon	84.98	27	P	P	16 36 51.0	-0.4	
	baz=282,SNR=10							
HYT	Haines Junctio	84.98	29	IAmb	IAmb	16 36 57.5		
	comp=Z,20nm,0.9s							
HYT	Haines Junctio	84.98	29	P	P	16 36 52.0	+0.4	
	baz=281,SNR=9.1							
INK	Inuvik	85.05	21	IAmb	IAmb	16 36 57.4		
	comp=Z,22nm,1.0s							
INK	Inuvik	85.05	21	P	P	16 36 51.1	-0.4	
	baz=284,SNR=17							
INK	Inuvik	85.05	21	P	P	16 36 52.4	+0.9	
N30M	Aishikik Lake	85.06	29	IAmb	IAmb	16 36 59.4		
	comp=Z,27nm,1.1s							
N30M	Aishikik Lake	85.06	29	P	P	16 36 51.8	-0.1	
	baz=281,SNR=6.7							
P29M	Windy Craggy	85.10	30	P	P	16 36 52.1	0.0	
	baz=281							
G31M	Satah River	85.10	23	IAmb	IAmb	16 36 57.9		
	comp=Z,19nm,1.0s							
G31M	Satah River	85.10	23	P	P	16 36 51.5	-0.3	
	baz=283,SNR=10							
BR131	Keskin Array S	85.17	309	IAmb	IAmb	16 36 53.0		
	comp=Z,12nm,0.9s							
BRTR	Keskin Array B	85.17	309	P	P	16 36 51.9	-1.1	
	comp=Z,8.0nm,0.8s,baz=102,slow=5.2,SNR=45							
	comp=Z,8.0nm,0.8s							
F31M	Tsiigehtchic	85.18	22	IAmb	IAmb	16 36 54.2		
	comp=Z,17nm,0.8s							
F31M	Tsiigehtchic	85.18	22	P	P	16 36 52.1	-0.1	
	baz=284,SNR=7.4							
P30M	Million Dollar	85.39	30	P	P	16 36 53.5	0.0	
	baz=282							
N31M	Braeburn, Yuko	85.67	28	P	P	16 36 54.8	-0.1	
	baz=282							
O30N	Mendenhall	85.67	29	IAmb	IAmb	16 37 00.1		
	comp=Z,13nm,1.1s							
O30N	Mendenhall	85.67	29	P	P	16 36 54.9	0.0	
	baz=282							
PLBC	Pleasant Camp	85.82	30	P	P	16 36 55.6	+0.1	
	baz=282							
FINES	FINESS Array B	85.91	332	P	P	16 36 54.9	-1.1	
	comp=Z,28nm,1.0s,baz=54,slow=19,SNR=39							
	comp=Z,28nm,1.0s							
CSS	Mathiatis	86.15	305	P	P	16 36 57.9	+0.1	
M31M	Drury Creek, Y	86.15	28	P	P	16 36 57.1	-0.1	
	baz=284							
VSU	Vasula	86.24	329	i P	P	16 36 55.8	-1.8	
KEF	Keuruu	86.30	332	eP	P	16 36 56.5	-1.4	
AKASG	Malin Array Be	86.39	321	P	P	16 36 57.2	-1.4	
AKASG	Malin Array Be	86.39	321	P	P	16 36 57.0	-1.6	
	comp=Z,15nm,0.9s,baz=67,slow=4.4,SNR=34							
	comp=Z,15nm,0.9s							
AKASG	Malin Array Be	86.39	321	i P	P	16 36 57.5	-1.1	
AKASG				pmax	pmax			
	comp=Z,16nm,0.9s							
AKBB	Malin Array Si	86.39	321	⇑i P	P	16 36 56.7	-1.9	
AKBB				pmax	pmax			
	comp=Z,39nm,1.1s							
ARBE	Arbavere	86.40	330	eP	P	16 36 57.3	-1.1	
KIEV	Kiev	86.40	321	⇑P	P	16 36 57.5	-1.1	
KIEV	Kiev	86.40	321	P	P	16 36 57.3	-1.3	
KIEV	Kiev	86.40	321	P	P	16 36 57.5	-1.1	
MNK	Minsk	86.45	325	i P	P	16 36 57.9	-0.8	
MNK				i *PP	sP	16 37 12.2	0.0	
MNK				i		16 40 18.8		
MNK				i PPP	PPP	16 42 13.0		
MNK				i S	SKSac	16 47 19.3	-3.7	
MNK				i SS	SS	16 53 11.0	-1.7	
MNK				i SSS	SSS	16 56 44.0		
MNK				pmax	pmax			
	comp=Z,19nm,0.9s							
MNK				pmax	pmax			
	comp=N,7.0nm,0.8s							
MNK				pmax	pmax			
	comp=E,7.0nm,0.9s							
MNK				MLR	MLR			
	comp=N,206nm,18.0s							
MNK				MLR	MLR			
	comp=E,89nm,17.0s							
MNK				MLR	MLR			
	comp=Z,237nm,16.0s							
FARO	Faro, Yukon	86.62	27	P	P	16 36 59.2	-0.3	
	baz=284,SNR=11							
A36M	Sachs Harbour	86.63	17	P	P	16 36 59.6	+0.3	
	baz=291							
SIT	Sitka	86.88	33	P	P	16 37 00.6	-0.2	
	baz=283							
MEF	Metsahovi	87.00	331	eP	P	16 37 00.2	-1.1	
N32M	Quiet Lake	87.01	28	P	P	16 37 01.6	+0.1	
	baz=285							
R32K	Eaglecrest	87.02	31	P	P	16 37 01.7	+0.2	
	baz=284							
VAF	Ylistaro	87.06	334	eP	P	16 37 01.6	0.0	
P32M	Atlin	87.10	30	P	P	16 37 01.3	-0.6	
	baz=284							
S32K	Kiilisnoo	87.17	32	P	P	16 37 01.4	-0.8	
	baz=284							
P33M	Teslin, Yukon	87.38	29	IAmb	IAmb	16 39 18.7		
	comp=Z,37nm,1.9s							
P33M	Teslin, Yukon	87.38	29	P	P	16 37 02.7	-0.6	
	baz=285							
MILM	Milestii Mici	87.39	317	eP	P	16 37 03.0	-0.5	
	comp=Z,4.6nm,0.2s							
MILM				eL	L	17 21 12.0		
MILM				LRM	MLR	17 21 42.0		
	comp=Z,150nm,15.5s							
MILM	Milestii Mici	87.39	317	eP	P	16 37 03.0	-0.5	
MILM				pmax	pmax			
	comp=Z,5.0nm,0.2s							
MILM				MLR	MLR			
	comp=Z,150nm,15.5s							
MMPY	Sheldon Lake,	87.45	27	IAmb	IAmb	16 37 10.0		
	comp=Z,18nm,1.5s							
MMPY	Sheldon Lake,	87.45	27	P	P	16 37 02.7	-0.9	
	baz=286							
MTSE	Matsula	87.66	329	eP	P	16 37 03.4	-1.1	
Q32M	Nakina River	87.98	30	P	P	16 37 05.3	-1.1	
	baz=286							
C36M	Paulatuk	87.98	19	IAmb	IAmb	16 37 15.9		
	comp=Z,10nm,0.8s							
C36M	Paulatuk	87.98	19	P	P	16 37 04.8	-1.1	
	baz=293							
RAF	Rauma	88.03	332	eP	P	16 37 04.8	-1.4	
CFR	Carcaliu	88.21	315	⇓P	P	16 37 06.6	-0.8	
CFR	Carcaliu	88.21	315	P	P	16 37 06.6	-0.8	
PPT	Papeete	88.24	108	LR	LR	17 12 17.3		
	comp=Z,245nm,18.7s,baz=200,slow=33							
U33K	Whale Pass	88.29	33	P	P	16 37 06.9	-0.6	
	baz=285							
KMBO	Kilima Mbogo	88.36	269	P	P	16 37 08.1	-1.0	
KMBO				IAmb	IAmb	16 37 10.8		
	comp=Z,22nm,1.2s							
KMBO	Kilima Mbogo	88.36	269	P	P	16 37 08.1	-1.0	
KMBO				pmax	pmax			
	comp=Z,22nm,1.2s							
PABE	Paberze	88.41	326	eP	P	16 37 07.0	-1.1	
CRAG	Craig	88.45	34	P	P	16 37 07.9	-0.5	
	baz=285							
HARR	Harsova	88.45	315	⇓P	P	16 37 08.3	-0.3	
HARR	Harsova	88.45	315	P	P	16 37 08.3	-0.3	
R33M	Jennings River	88.50	30	P	P	16 37 08.2	-0.5	
	baz=287							
WRAK	Wrangell Islan	88.62	33	P	P	16 37 08.7	-0.5	
	baz=286							
TESR	Tescani	88.93	317	⇑P	P	16 37 10.3	-0.6	
MAW	Mawson	88.95	200	P	P	16 37 08.4	-1.9	
	comp=Z,2.7nm,0.9s,baz=88,slow=14,SNR=1.9							
	comp=Z,2.7nm,0.9s							
VRI	Vrincioaia	89.03	316	⇑P	P	16 37 10.7	-0.6	
VRI	Vrincioaia	89.03	316	P	P	16 37 10.7	-0.6	
SPBR	Spulber	89.04	316	⇓P	P	16 37 11.1	-0.3	
AAL	Aland	89.12	331	eP	P	16 37 09.6	-1.8	
SUW	Suwalki	89.24	325	eP	P	16 37 10.4	-1.8	
DLBC	Dease Lake	89.25	31	P	P	16 37 11.7	-0.5	
	baz=288							
V35K	Ketchikan	89.32	34	P	P	16 37 12.4	-0.1	
	baz=286							
WTLY	Watson Lake, Y	89.33	29	P	P	16 37 14.0	+1.5	
	baz=289							
TURR	Turia	89.47	317	⇓P	P	16 37 13.3	-0.2	
VNDA	Vanda	89.56	173	P	P	16 37 12.2	-0.8	
VNDA				IAmb	IAmb	16 37 13.9		
	comp=Z,24nm,1.4s							
VNDA	Vanda	89.56	173	P	P	16 37 12.5	-0.5	
	comp=Z,5.5nm,0.8s,baz=320,slow=6.5,SNR=23							
	comp=Z,5.5nm,0.8s							
T35M	Bob Quinn	89.57	32	P	P	16 37 15.5	+1.8	
	baz=287							
BURAR	Bucovina Array	89.63	318	⇑P	P	16 37 13.7	-0.6	
BURAR	Bucovina Array	89.63	318	P	P	16 37 13.1	-1.2	
BURAR				IAmb	IAmb	16 37 18.8		
	comp=Z,13nm,0.8s							
BURAR	Bucovina Array	89.63	318	P	P	16 37 13.6	-0.6	
BUR08	Bucovina Ar. S	89.63	318	IAmb	IAmb	16 37 18.9		
	comp=Z,11nm,0.9s							
MLR	Muntele Rosu	89.65	316	⇑P	P	16 37 13.4	-1.0	
MLR	Muntele Rosu	89.65	316	IAmb	IAmb	16 37 14.5		
	comp=Z,8.9nm,1.1s							
MLR	Muntele Rosu	89.65	316	P	P	16 37 13.4	-1.0	
U35K	Hyder	90.01	33	P	P	16 37 17.5	+1.9	
	baz=288							
UPP	Uppsala	90.35	331	eP	P	16 37 15.8	-1.4	
SBA	Scott Base	90.47	172	P	P	16 37 17.7	+0.4	
SBA	Scott Base	90.47	172	P	P	16 37 17.7	+0.4	
SBA				pmax	pmax			
	comp=Z,10.0nm,0.5s							
WRGLY	Wrigley	90.60	25	IAmb	IAmb	16 37 25.0		
	comp=Z,9.3nm,1.0s							
WRGLY	Wrigley	90.60	25	P	P	16 37 19.4	+1.1	
	baz=293							
KWP	Kalwaria Pacla	90.72	321	eP	P	16 37 19.0	-0.2	
KOLS	Kolonicke sedl	91.18	320	eP	P	16 37 21.2	-0.1	
KOLS				pmax	pmax			
	comp=Z,9.0nm,1.5s							
KOLS	Kolonicke sedl	91.18	320	eP	P	16 37 21.2	-0.1	
MARR	Marisel-Cluj	91.25	318	⇑P	P	16 37 20.9	-0.9	
VIKU	Vikbolandet	91.27	330	eP	P	16 37 20.2	-1.3	
TOAD	Toad River Com	91.48	29	P	P	16 37 23.3	+0.8	
	baz=292							
CRVS	Cervenica-Dubn	91.70	320	eP	P	16 37 23.5	-0.3	
CRVS				pmax	pmax			
	comp=Z,42nm,1.1s							
CRVS	Cervenica-Dubn	91.70	320	eP	P	16 37 23.5	-0.3	
HFS	Hagfors	92.08	332	P	P	16 37 23.8	-1.4	
	comp=Z,8.5nm,0.8s,baz=46,slow=6.4,SNR=18							
	comp=Z,8.5nm,0.8s							
NIE	Niedzica	92.28	321	eP	P	16 37 26.2	-0.2	
SIRR	Siria	92.33	318	⇑P	P	16 37 25.9	-0.8	
OJC	Ojcow	92.34	322	eP	P	16 37 25.6	-1.1	
OJC	Ojcow	92.34	322	IAmb	IAmb	16 37 26.9		
	comp=Z,11nm,1.0s							
NC405	NORSAR Array S	92.56	334	IAmb	IAmb	16 37 26.5		
	comp=Z,14nm,1.1s							
MDVR	Moldovita	92.72	316	⇓P	P	16 37 27.8	-0.8	
NB2	NORSAR Subarra	92.81	334	P	P	16 37 26.3	-2.3	
	comp=Z,7.8nm,1.0s,baz=65,slow=4.6							
NB2	NORSAR Subarra	92.81	334	P	P	16 37 26.3	-2.3	
	baz=65,slow=4.6							
NOA	NORSAR Array B	92.81	334	P	P	16 37 26.2	-2.5	
	comp=Z,4.6nm,0.9s,baz=64,slow=4.6,SNR=11							
NOA				LR	LR	17 23 20.2		
	comp=Z,242nm,19.2s,baz=90,slow=38							
	comp=Z,4.6nm,0.9s							
NC204	NORSAR Array S	92.90	334	IAmb	IAmb	16 37 28.7		
	comp=Z,9.9nm,1.1s							
PSZ	Piszkesteto	93.00	320	⇓P	P	16 37 29.2	-0.7	
PSZ	Piszkesteto	93.00	320	P	P	16 37 29.1	-0.7	
LIT	Litokhoron	93.47	311	IAmb	IAmb	16 37 30.7		
	comp=Z,18nm,1.3s							
VYHS	Vyhne	93.48	320	eP	P	16 37 30.8	-1.2	
VYHS				pmax	pmax			
	comp=Z,7.0nm,1.4s							
VYHS	Vyhne	93.48	320	eP	P	16 37 30.8	-1.2	
MORC	Moravsky Berou	93.86	322	⇑P	P	16 37 33.2	-0.6	
MORC	Moravsky Berou	93.86	322	eP	P	16 37 33.2	-0.6	
MORC	Moravsky Berou	93.86	322	P	P	16 37 33.1	-0.6	
JAVC	Velka Javorina	94.09	321	eP	P	16 37 35.3	+0.5	
KSP	Ksiaz	94.24	323	eP	P	16 37 33.7	-1.7	
MODS	Modra-Piesok	94.50	321	eP	P	16 37 36.0	-0.7	
MODS				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MODS	Modra-Piesok	94.50	321	eP	P	16 37 36.0	-0.7	
YKA	Yellowknife Ar	94.55	24	P	P	16 37 36.4	-0.1	
	comp=Z,3.7nm,0.9s,baz=301,slow=4.6,SNR=12							
	comp=Z,3.7nm,0.9s							
YKA	Yellowknife Ar	94.55	24	i P	P	16 37 37.2	+0.7	
YKA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
VRAC	Vranov	94.60	322	⇑P	P	16 37 36.9	-0.2	
VRAC	Vranov	94.60	322	eP	P	16 37 36.5	-0.6	
VRAC	Vranov	94.60	322	P	P	16 37 36.7	-0.4	
	comp=Z,5.8nm,0.9s,baz=78,slow=5.4,SNR=8.4							
	comp=Z,5.8nm,0.9s							
VRAC	Vranov	94.60	322	P	P	16 37 36.9	-0.2	
KRUC	Moravsky	94.81	321	eP	P	16 37 37.2	-0.9	
RONA	Rosalia, Austr	95.36	320	ePcP	P	16 37 40.2	-0.5	
	comp=Z,4.0nm,1.1s							
CONA	Conrad Observa	95.55	320	ePcP	P	16 37 41.0	-0.6	
	comp=Z,6.7nm,1.4s							
BRG	Berggiesshubel	95.61	324	eP	P	16 37 41.5	-0.2	
BRG				Amp		16 37 45.4		
	comp=Z,5.5nm,1.0s							
BRG				Amp		16 54 58.0		
	comp=N,0.4nm,26.4s							
BRG				Amp		16 55 05.0		
	comp=Z,0.5nm,26.4s							
BRG				Amp		16 55 11.0		
	comp=E,0.2nm,23.4s							
BRG	Berggiesshubel	95.61	324	eP	P	16 37 41.4	-0.2	
BRG				pmax	pmax			
	comp=Z,6.0nm,1.0s							
BRG				MLR	MLR			
	comp=N,444nm,26.4s							
BRG				MLR	MLR			
	comp=Z,510nm,26.4s							
BRG				MLR	MLR			
	comp=E,218nm,23.4s							
CLL	Collm	95.98	324	i P	P	16 37 42.0	-1.3	
	comp=Z,8.0nm,1.2s							
CLL				i x	x	16 37 47.4		
	comp=Z,17nm,1.8s							
CLL	Collm	95.98	324	i P	P	16 37 42.0	-1.3	
CLL				e*PP	sP	16 38 00.0	+3.2	
CLL				pmax	pmax			
	comp=Z,8.0nm,1.2s							
ARSA	Arzberg	96.01	320	ePcP	P	16 37 43.1	-0.5	
	comp=Z,4.0nm,1.3s							
ZVC	Zvikov	96.02	322	eP	P	16 37 43.1	-0.4	
CKRC	Cesky Krumlov	96.18	322	eP	P	16 37 43.9	-0.4	
CKRC	Cesky Krumlov	96.18	322	eP	P	16 37 43.9	-0.4	
KHC	Kasperske Hory	96.50	322	IAmb	IAmb	16 37 46.7		
	comp=Z,8.6nm,1.3s							
KHC	Kasperske Hory	96.50	322	eP	P	16 37 45.7	-0.1	
KHC	Kasperske Hory	96.50	322	eP	P	16 37 45.7	-0.1	
SOKA	Soboth	96.53	319	eP	P	16 37 44.4	-1.6	
	comp=Z,1.9nm,1.0s							
GEC2	GERESS Array S	96.54	322	IAmb	IAmb	16 37 46.2		
	comp=Z,8.6nm,1.1s							
GERES	GERESS Array B	96.54	322	P	P	16 37 44.7	-1.4	
GERES	GERESS Array B	96.54	322	P	P	16 37 45.2	-0.9	
	comp=Z,4.5nm,0.9s,baz=47,slow=5.9,SNR=14							
	comp=Z,4.5nm,0.9s							
MOA	Molln	96.58	321	ePcP	P	16 37 45.7	-0.4	
	comp=Z,12nm,1.0s							
OBKA	Obir	96.90	319	ePcP	P	16 37 47.3	-0.5	
	comp=Z,0.9nm,0.4s							
BIOA	Bad Ischl, Aus	97.03	321	eP	P	16 37 47.0	-1.3	
	comp=Z,5.6nm,1.1s							
KBA	Koelnbreinsper	97.45	320	eP	P	16 37 48.4	-1.9	
	comp=Z,4.5nm,1.3s							
POGA	Pongola	97.67	244	P	P	16 37 49.7	-1.8	
ABTA	Abfaltersbach	98.10	320	eP	P	16 37 51.1	-2.0	
	comp=Z,3.9nm,0.9s							
WTTA	Wattenberg	98.44	321	ePdiff	P	16 37 53.0	-1.8	
	comp=Z,7.9nm,1.0s							
WATA	Walderalm	98.45	321	ePdiff	P	16 37 53.5	-1.2	
	comp=Z,7.1nm,1.0s							
SQTA	Sankt Quirin	98.73	321	ePdiff	P	16 37 54.3	-1.7	
	comp=Z,3.5nm,0.6s							
CEL	Celeste	98.91	311	IAmb	IAmb	16 37 58.2		
	comp=Z,12nm,1.1s							
FETA	Feichten	99.11	321	ePdiff	Pdif	16 37 56.4	-1.3	
	comp=Z,4.3nm,1.0s							
DAVA	Damuels	99.52	321	ePdiff	Pdif	16 37 58.9	-0.7	
	comp=Z,6.4nm,1.1s							
QSPA	South Pole Qui	99.65	180	P	Pdif	16 37 59.3	-0.3	
	comp=Z,1.7nm,1.0s,baz=279,slow=1.4,SNR=6.6							
QSPA				LR	LR	17 25 17.0		
	comp=Z,45nm,18.3s,baz=326,slow=37							
	comp=Z,1.7nm,1.0s							
DAVOX	Davos/Dischmat	99.74	321	P	Pdif	16 38 00.1	-0.5	
	comp=Z,3.2nm,0.8s,baz=326,slow=9.0,SNR=5.3							
	comp=Z,3.2nm,0.8s							
NEW	Newport	100.27	37	P	Pdif	16 38 02.3	-0.4	
	baz=297							
MSO	Missoula	102.85	37	P	Pdif	16 38 12.8	-1.6	
	baz=300							
PKM	Mcpherson Peak	104.10	50	P	Pdif	16 38 18.8	-1.4	
	baz=293							
HLID	Hailey	104.15	40	P	Pdif	16 38 19.1	-1.2	
	baz=299							
SCZ2	Santa Cruz Isl	104.58	51	P	Pdif	16 38 21.6	-0.6	
	baz=293							
EGMT	Eagleton	104.66	35	P	Pdif	16 38 21.7	-0.6	
	baz=303							
ARVC	Arvin	104.75	50	P	Pdif	16 38 22.3	-0.6	
	baz=294							
ISA	Isabella, Lake	104.81	49	P	Pdif	16 38 23.2	0.0	
	baz=294							
BOZ	Bozeman (W)	104.86	38	P	Pdif	16 38 23.3	-0.1	
	baz=301							
SNCC	San Nicolas Is	104.95	52	P	Pdif	16 38 23.1	-0.8	
	baz=293							
MPMC	Manual Prospec	105.38	48	P	PKiKP	16 42 39.3

baz=296
SWSC Sam W. Stewart 107.94 51 P PKiKP 16 42 42.7 -1.6
baz=295
GLA Glamis 108.63 50 P PKiKP 16 42 44.3 -1.4
baz=296
TROLL Troll, Antarti 109.07 196 ⇑PKiKP PKiKP 16 42 43.8 -1.6
comp=Z,57nm,0.7s
K22A Casper 109.55 38 P PKiKP 16 42 46.0 -1.3
baz=305
O20A White River Ci 109.86 41 P PKiKP 16 42 47.2 -0.8
baz=303
WUAZ Wupatki 110.06 47 P PKiKP 16 42 47.6 -0.8
baz=299
RSSD Black Hills 110.16 36 P PKiKP 16 42 47.7 -0.8
baz=307
214A Organ Pipe Nat 110.64 51 P PKiKP 16 42 49.6 +0.1
baz=297
SNAA Sanae 110.68 195 ⇑PKiKP PKiKP 16 42 49.8 +1.4
comp=Z,110nm,1.2s
SNAA Sanae 110.68 195 PKKPab PKKPab 16 53 56.4 -1.2
comp=Z,1.4nm,0.8s,baz=34,slow=4.4,SNR=5.6
N23A Red Feather La 110.90 39 P PKiKP 16 42 50.4 +0.3
baz=305
MVCO Mesa Verde 111.23 44 P PKiKP 16 42 50.3 -0.4
baz=302
W18A Petrified Fore 111.43 46 P PKiKP 16 42 50.9 -0.2
baz=300
AGMN Agassiz Nation 111.66 28 P PKiKP 16 42 51.8 +0.9
baz=316
ISCO Idaho Springs 111.73 40 P PKiKP 16 42 51.6 -0.1
baz=305
TUC Tucson 112.01 49 P PKiKP 16 42 52.6 +0.4
baz=298
VNA2 Neumayer--Watz 112.31 195 ⇑PKiKP PKiKP 16 42 50.4 -1.1
comp=Z,4.0nm,0.8s,baz=102,slow=1.5
VNA3 Neumayer Olymp 112.67 194 ⇓PKiKP PKiKP 16 42 51.0 -1.1
comp=Z,2.4nm,0.8s
SDCO Great Sand Dun 112.95 42 P PKiKP 16 42 54.1 +0.1
baz=304
ANMO Albuquerque 113.82 45 P PKiKP 16 42 54.9 -0.8
baz=302
EYMN Ely 113.89 26 P PKiKP 16 42 54.7 -0.5
baz=320
T25A Trinidad 114.01 42 P PKiKP 16 42 55.4 -0.6
baz=305
121A Cookes Peak, D 114.12 48 P PKPdf 16 42 55.7 -0.6
baz=300
ECSD EROS Data Cent 114.50 32 P PKiKP 16 42 56.3 -0.2
baz=314
BGNE Belgrade 115.23 35 P PKPdf 16 42 58.2 +0.2
baz=312
SPMN Marine on St. 115.34 29 P PKiKP 16 42 58.1 0.0
baz=318
CBKS Cedar Bluff 115.97 38 P PKiKP 16 42 58.8 -0.7
baz=309
MSTX Muleshoe 116.90 44 P PKPdf 16 43 00.0 -1.5
baz=305
AMTX Amarillo 117.11 43 P PKPdf 16 43 01.4 -0.5
baz=306
SCIA State Center 117.56 32 P PKPdf 16 43 01.8 -0.6
baz=316
JFWS Jewell Farm 118.29 29 P PKPdf 16 43 02.2 -1.6
baz=319
TXAR Lajitas Array 118.80 49 PKP PKPdf 16 43 05.2 -0.1
comp=Z,0.5nm,0.6s,baz=248,slow=1.3,SNR=6.9
TXAR PKKPbc PKKPbc 16 53 19.6 -1.5
comp=Z,0.6nm,1.0s,baz=139,slow=5.9,SNR=2.4
WMOK Wichita Mounta 119.11 41 P PKPdf 16 43 05.2 -0.5
baz=308
TORD Torodi Ar. Bea 119.64 291 PKP PKPdf 16 43 05.4 -1.7
comp=Z,6.3nm,0.8s,baz=40,slow=2.8,SNR=37
TORD PKKPbc PKKPbc 16 53 17.1 -0.5
comp=Z,1.2nm,0.8s,baz=277,slow=3.9,SNR=5.9
ABTX Abilene, Hawle 119.81 43 P PKPdf 16 43 04.7 -2.3
baz=307
TUL3 Leonard 120.24 38 P PKPdf 16 43 06.6 -1.2
baz=312
S39A Bolivar 120.49 35 PKPdf PKPdf 16 43 06.8 -1.4
HDIL Hopedale 120.54 30 P PKPdf 16 43 06.7 -1.5
baz=320
JCT Junction City 120.96 46 P PKPdf 16 43 07.7 -1.7
baz=306
CCM Cathedral Cave 121.38 33 P PKPdf 16 43 08.8 -1.1
baz=317
WHTX Lake Whitney, 121.67 43 P PKPdf 16 43 09.4 -1.2
baz=308
SFIN Lafayette 121.75 29 P PKPdf 16 43 10.3 -0.2
baz=322
833A Chaparral WMA, 122.48 47 P PKPdf 16 43 10.4 -1.9
baz=305
MIAR Mount Ida 122.50 38 P PKPdf 16 43 11.9 -0.2
baz=313
O48B Farmland 122.75 28 P PKPdf 16 43 11.3 -1.2
baz=324
LONY Lake Ozonia 122.91 17 P PKPdf 16 43 10.8 -1.9
baz=336
P49A Miami Univ. Ec 123.53 28 P PKPdf 16 43 12.5 -1.4
baz=324
PKME Peaks-Kenny Pk 123.63 12 P PKPdf 16 43 11.9 -2.0
baz=343
M53A Wi Miller and 123.67 23 P PKPdf 16 43 12.3 -1.9
baz=329
ACSO Alum Creek Sta 123.73 26 P PKPdf 16 43 13.6 -0.7
baz=326
WCI Wyandotte Cave 123.81 30 P PKPdf 16 43 13.5 -1.0
baz=322
J58A Remsen 123.85 18 PKPdf 16 43 13.3 -1.2
LBNH Lisbon 123.98 15 P PKPdf 16 43 12.2 -1.5
baz=339
O53A New Philadelph 124.46 25 P PKPdf 16 43 15.0 -0.7
baz=328
P52A Corning 124.59 26 P PKPdf 16 43 15.5 -0.5
baz=327
WVT Waverly 124.64 33 PKPdf 16 43 15.6 -0.6
WVT Waverly 124.64 33 P PKPdf 16 43 16.0 -0.1
baz=319
WVT Waverly 124.64 33 PKIKP PKPdf 16 43 15.6 -0.6
BINY Binghamton 124.68 19 P PKPdf 16 43 15.5 -0.6
baz=334
OXF Oxford 124.97 35 P PKPdf 16 43 16.0 -0.9
baz=317
SSPA Standing Stone 125.42 22 P PKPdf 16 43 17.1 -0.5
baz=332
L61B Northampton 125.45 16 P PKPdf 16 43 15.8 -1.8
baz=338
HRV Adam Dziewonsk 125.70 15 P PKPdf 16 43 16.6 -1.4
baz=339
PAL Palisades 126.42 18 P PKPdf 16 43 18.9 -0.5
baz=336
TZTN Tazewell 126.48 29 P PKPdf 16 43 18.9 -0.8
baz=324
BLA Blacksburg 127.35 26 P PKPdf 16 43 20.6 -0.8
baz=328
DBIC Dimbokro 127.81 286 PKP PKPdf 16 43 21.6 -1.2
comp=Z,2.2nm,0.7s,baz=81,slow=1.9,SNR=5.0
BRAL Brewton 128.76 36 P PKPdf 16 43 24.0 -0.2
baz=318
GOGA Godfrey 129.01 31 P PKPdf 16 43 24.2 -0.4
baz=322
TIGA Tifton 130.49 33 P PKPdf 16 43 27.3 -0.2
baz=321
NHSC New Hope 130.88 29 P PKPdf 16 43 27.8 -0.4
baz=326
DWPF Disney Wildern 134.25 34 P PKPdf 16 43 34.1 -0.5
baz=322
GO06 Curarrehue 146.73 156 PKPbc 16 43 58.1 -0.4
TRQA Tornquist 151.08 168 PKPbc 16 44 08.5 -1.1
TRQA Tornquist 151.08 168 PKIKP PKPbc 16 44 08.5 -1.1
BO01 Tunca 151.23 151 PKPbc 16 44 08.9 -1.2
MT02 Curacav 152.11 149 PKPbc 16 44 11.2 -1.0
CPUP Villa Florida 163.34 171 PKP PKPdf 16 44 18.9 -0.7
comp=Z,2.9nm,0.9s,baz=63,slow=2.3,SNR=3.3
CPUP PKPab PKPab 16 45 11.3 +1.2
comp=Z,1.3nm,0.4s,baz=153,slow=1.7,SNR=4.2
CMC01 Camacan, BA 164.27 248 *eP* PKPdf 16 44 19.7 -0.9
LPAZ La Paz 165.33 118 PKP PKPdf 16 44 22.1 -0.2
comp=Z,4.0nm,1.1s,baz=32,slow=0.8,SNR=7.6
ETMB Extrema 168.56 91 *eP* PKPdf 16 44 24.9 +0.9
MCPB Macapa, AP 170.30 345 *eP* PKPdf 16 44 23.8 -1.4
BBSD Serra de San D 170.61 142 *eP* PKPdf 16 44 24.2 -1.0
SAML Samuel 171.50 85 *eP* PKPdf 16 44 25.2 -0.5
SMTB Santa Maria do 173.01 277 *eP* PKPdf 16 44 23.6 -2.8
ITTB Itaituba 174.50 12 *eP* PKPdf 16 44 23.9 -3.1

ROM 10 16:24:46.2±0.0, 43°.146N±0°.003×12°.821E±0°.004, h9km, ML1.3/20, 1D, Error ellipse: s-maj=0.4km

s-min=0.1km az=46.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SEF1	**Sefro**	**0.09**	**90**	P	Pg		16 24 49.0	+0.4
MML1	**Montelago di S**	**0.12**	**106**	P	Pg		16 24 49.4	+0.5
MML1				S	Sg		16 24 51.7	+0.8
ATCC	**AVT- Casa Cast**	**0.14**	**286**	⇓P	Pg		16 24 49.6	+0.4
ATCC				S	Sg		16 24 52.5	+1.0
ATCC				AML	AML			
	comp=E,200μm,0.5s							
ATCC				AML	AML			
	comp=N,170μm,1.3s							
ATCC				AML	AML			
	comp=E,200μm,1.5s							
ATCC				AML	AML			
	comp=N,170μm,0.7s							
SNTG	**Esanatoglia**	**0.14**	**39**	P	Pg		16 24 49.8	+0.5
SNTG				S	Sg		16 24 52.5	+1.0
SNTG				AML	AML			
	comp=E,208μm,0.2s							
SNTG				AML	AML			
	comp=N,191μm,0.5s							
CESI	**CESI - Serrava**	**0.15**	**157**	P	Pg		16 24 50.0	+0.5
CESI				S	Sg		16 24 52.8	+0.9
CESI				AML	AML			
	comp=E,160μm,0.3s							
CESI				AML	AML			
	comp=N,130μm,0.1s							
FOSV	**Fossato di Vic**	**0.15**	**344**	P	Pg		16 24 50.0	+0.4
FOSV				S	Sg		16 24 52.8	+0.9
FOSV				AML	AML			
	comp=N,220μm,1.6s							
FOSV				AML	AML			
	comp=E,238μm,0.9s							
FOSV				AML	AML			
	comp=E,238μm,1.1s							
FOSV				AML	AML			
	comp=N,220μm,0.4s							
MURB	**Monte Urbino**	**0.25**	**298**	P	Pg		16 24 51.8	+0.6
MURB				S	Sg		16 24 56.5	+2.0
MURB				AML	AML			
	comp=E,230μm,0.2s							
MURB				AML	AML			
	comp=N,196μm,0.2s							
MURB				AML	AML			
	comp=E,230μm,1.8s							
FEMA	**Monte Fema**	**0.25**	**138**	P	Pg		16 24 52.0	+0.7
FRON	**Frontone**	**0.38**	**349**	P	Pg		16 24 54.1	+0.5
FRON				AML	AML			
	comp=E,42μm,1.4s							
FRON				AML	AML			
	comp=N,49μm,1.5s							
FRON				AML	AML			
	comp=E,42μm,0.6s							
FRON				AML	AML			
	comp=N,49μm,0.5s							
NRCA	**Norcia**	**0.38**	**145**	P	Pg		16 24 54.1	+0.4
NRCA				S	Sb		16 25 00.7	-0.5
NRCA				AML	AML			
	comp=N,89μm,1.0s							
NRCA				AML	AML			
	comp=E,99μm,0.1s							
ATVO	**AVT- Monte Val**	**0.38**	**308**	P	Pg		16 24 54.1	+0.3
ATVO				S	Sb		16 25 00.7	-0.6
ATVO				AML	AML			
	comp=N,32μm,0.3s							
ATVO				AML	AML			
	comp=E,35μm,0.2s							
MOMA	**Monte Martano**	**0.39**	**208**	P	Pb		16 24 54.6	-0.7
ATPI	**Pietralunga -**	**0.43**	**315**	P	Pg		16 24 55.0	+0.4
ATPI				S	Sb		16 25 02.3	-0.3
PIEI	**Pieia**	**0.44**	**332**	P	Pg		16 24 55.3	+0.4
PIEI				AML	AML			
	comp=N,21μm,0.3s							
PIEI				AML	AML			
	comp=E,35μm,0.1s							
MMO1	**Montemonaco**	**0.45**	**123**	P	Pg		16 24 55.4	+0.5

IDC 10 16:31:47.5±3.1, 31°.82S×58°.42E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=91.4km s-min=37.6km az=118.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.35**	**180**	P	P	P	16 41 44.3	0.0
	1.7nm,0.8s,baz=256,slow=2.1,SNR=6.4							
	1.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**63.31**	**44**	P	P		16 42 18.5	0.0
	0.4nm,0.5s,baz=234,slow=6.0,SNR=3.0							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**66.11**	**104**	P	P		16 42 36.9	0.0
	0.5nm,0.8s,baz=233,slow=5.7,SNR=7.8							
	0.5nm,0.8s							
WRA	**Warramunga Arr**	**68.12**	**100**	P	P		16 42 49.7	0.0
	0.4nm,0.7s,baz=241,slow=5.8,SNR=2.0							
	0.4nm,0.7s							

IDC 10 16:56:15.9±32.0, 31°.68S×59°.16E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=838.9km s-min=59.5km az=75.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**62.78**	**43**	P	P	P	17 06 43.2	-0.1
	0.7nm,0.7s,baz=226,slow=6.5,SNR=5.6							
	0.7nm,0.7s							
ASAR	**Alice Springs**	**65.53**	**104**	P	P		17 07 01.2	-0.3
	0.4nm,0.6s,baz=242,slow=6.1,SNR=13							
	0.4nm,0.6s							
WRA	**Warramunga Arr**	**67.52**	**100**	P	P		17 07 14.9	+0.6
	0.6nm,0.8s,baz=242,slow=5.8,SNR=1.9							
	0.6nm,0.8s							

*HEL **10** 17:00:55.7±0.3, 67°.12N×20°.51E, h0km, ML2.1, Explosion*
*UPP **10** 17:00:58.7±0.1, 67°.05N×20°.95E, h0km, ML2.2, Unknown*
*IDC **10** 17:00:59.4±1.0, 67°.10N×21°.14E, h0km, mbtmp2.7/4, ML1.9/3, Error ellipse: s-maj=25.1km s-min=8.8km az=117.0*
*BER **10** 17:01:00.7±1.6, 66°.89N×21°.26E, h0km, ML1.8, Suspected explosion*

ISC 10 17:00:59.0±0.7, 67°.07N±0°.02×20°.91E±0°.02, h0km, n51, σ1849/70, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.14**	**291**	P	**Pg**		**17 01 02.1**	**+0.4**
DUNU				S	**Sg**		**17 01 04.7**	**+1.1**
MASU	**Masugnsbyn**	**0.57**	**47**	P	**Pg**		**17 01 09.7**	**-0.3**
ERTU	**Ertsjaerv**	**0.72**	**135**	P	**Pg**		**17 01 11.9**	**-0.9**
ERTU	**Ertsjaerv**	**0.72**	**135**	PG	**Pg**		**17 01 11.7**	**-1.2**
	baz=308							
ERTU				SB	**Sg**		**17 01 23.8**	**+1.6**
HARU	**Harads**	**0.91**	**178**	P	**Pg**		**17 01 15.3**	**-1.1**
RATU	**Laukkuluspa**	**0.91**	**327**	P	**Pg**		**17 01 16.0**	**-0.4**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**		**17 01 15.9**	**-0.6**
SALU	**Saltoluokta**	**0.99**	**289**	P	**Pg**		**17 01 17.6**	**-0.3**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**		**17 01 18.5**	**-1.0**
LANU	**Lannavaara**	**1.07**	**22**	PN	**Pg**		**17 01 18.4**	**-1.0**
KOVU	**Salmi**	**1.19**	**346**	P	**Pg**		**17 01 21.3**	**-0.5**
KLF	**Kolari**	**1.20**	**81**	PN	**Pg**		**17 01 20.8**	**-1.2**
	baz=268							
KLF				MSG			17 01 36.4	
	comp=Z,26nm,0.2s							
KLF				SB	**Sg**		**17 01 38.1**	**+0.6**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**		**17 01 27.0**	**-0.9**
KALU	**Kalix**	**1.56**	**140**	PN	**Pn**		**17 01 27.0**	**-0.9**
KALU				SN	**Sn**		**17 01 49.6**	**+0.8**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**		**17 01 27.6**	**-0.8**
TOF	**Tornio**	**1.69**	**125**	PG	**Pn**		**17 01 29.2**	**-0.5**
TOF				MSG			17 01 50.9	
	comp=Z,20nm,0.2s							
TOF				SG	**Sn**		**17 01 53.0**	**+1.0**
HEF	**Hetta**	**1.70**	**37**	*eP*	**Pn**		**17 01 29.9**	**0.0**
HEF				*eS*	**Sb**		**17 01 53.0**	**-0.1**
RNF	**Rovaniemi**	**2.07**	**101**	PG	**Pn**		**17 01 35.4**	**+0.4**
RNF				SG	**Sb**		**17 02 04.2**	**+0.6**
KTK1	**Kautokeino**	**2.14**	**23**	*eP*	**Pb**		**17 01 37.4**	**-1.1**
KTK1				*eS*	**Sb**		**17 02 05.2**	**-0.3**
KTK1				IAML			17 02 08.8	
	comp=Z,11nm,0.2s							
I37NO	**I37NO**	**2.19**	**338**	I	I		17 14 25.0	
	comp=Z,0.1nm,0.4s,baz=157,slow=332,SNR=8.3							
FAUS	**Fauske**	**2.21**	**281**	*eP*	**Pb**		**17 01 38.5**	**-1.3**
FAUS				IAML			17 02 11.1	
	comp=Z,12nm,0.3s							
SGF	**Sodankyl**	**2.21**	**78**	PG	**Pn**		**17 01 37.7**	**+0.8**
SGF				SG	**Sb**		**17 02 08.5**	**+0.7**
STEI	**Steigen**	**2.35**	**294**	*eP*	**Pb**		**17 01 40.4**	**-1.6**
BURU	**Burvik**	**2.50**	**175**	PG	**Pn**		**17 01 41.5**	**+0.6**
BURU				SG	**Sb**		**17 02 16.7**	**+0.6**
RANF	**Ranua**	**2.58**	**112**	PB	**Pn**		**17 01 41.9**	**0.0**
	baz=296							
RANF				SG	**Sb**		**17 02 17.9**	**-0.3**
MOR8	**Moi Rana**	**2.73**	**254**	*eP*	**Pn**		**17 01 44.5**	**+0.4**
OBF4	**Vikkela, Lumij**	**2.84**	**141**	PB	**Pn**		**17 01 46.4**	**+0.8**
	baz=322							
OBF4				MSG			17 02 23.3	
	comp=Z,4.1nm,0.2s							
OUL	**Oulu**	**2.84**	**132**	PB	**Pn**		**17 01 46.5**	**+0.9**
OUL				SG	**Sb**		**17 02 27.6**	**+1.7**
OBF0	**Syolatti, Pyha**	**2.92**	**151**	PB	**Pn**		**17 01 47.6**	**+0.9**
OBF0				MSG			17 02 25.4	
	comp=Z,5.1nm,0.2s							
OBF8	**Ulkokalla**	**2.94**	**158**	PG	**Pn**		**17 01 49.8**	**+2.9**
OBF8				MSG			17 02 25.4	
	comp=Z,5.4nm,0.2s							
ARA0	**ARCESS Array S**	**3.01**	**32**	PG	**Pb**		**17 01 50.9**	**-2.4**
	baz=215							
ARA0				SB	**Sn**		**17 02 26.7**	**+2.2**
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**		**17 01 47.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=215,slow=14,SNR=30							
ARCES				Sn	**Sn**		**17 02 22.9**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=214,slow=21,SNR=9.6							
	comp=Z,1.0nm,0.2s							
OUF	**Merijarvi**	**3.14**	**148**	PB	**Pn**		**17 01 50.5**	**+0.9**
RAJF	**Raja-Jooseppi**	**3.15**	**60**	PB	**Pn**		**17 01 50.8**	**+1.1**
RAJF				SG	**Sb**		**17 02 37.1**	**+2.6**
UMAU	**Umeaa**	**3.20**	**182**	PB	**Pn**		**17 01 51.1**	**+0.6**
	baz=1.0							
OLKF	**Oulanka, Finla**	**3.46**	**99**	PN	**Pn**		**17 01 54.7**	**+0.7**
OLKF				SG	**Sb**		**17 02 46.7**	**+3.2**
MSF	**Maaselka**	**3.46**	**106**	PB	**Pn**		**17 01 55.7**	**+1.6**
	baz=291							
MSF				SG	**Sb**		**17 02 47.5**	**+3.9**
KEV	**Kevo**	**3.51**	**37**	*eP*	**Pn**		**17 01 55.2**	**+0.5**
KEV	**Kevo**	**3.51**	**37**	PB	**Pn**		**17 01 55.5**	**+0.7**
KEV				SB	**Sn**		**17 02 39.5**	**+2.6**
KU6	**Riekki**	**3.74**	**102**	PN	**Pn**		**17 01 58.0**	**+0.2**
HUSU	**Husum**	**3.81**	**192**	PB	**Pn**		**17 01 59.4**	**+0.6**
VAF	**Ylistaro**	**4.11**	**169**	*eP*	**Pn**		**17 02 03.8**	**+0.8**
VAF	**Ylistaro**	**4.11**	**169**	PB	**Pn**		**17 02 07.0**	**+4.0**
HEMU	**Hemsoen**	**4.58**	**197**	PB	**Pn**		**17 02 12.3**	**+2.9**
KEF	**Keuruu**	**5.21**	**159**	*eP*	**Pn**		**17 02 19.6**	**+1.6**
JOF	**Joensuu**	**6.06**	**129**	*eP*	**Pn**		**17 02 30.6**	**+0.9**
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**		**17 02 30.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=343,slow=14,SNR=7.4							
FINES				Sn	**Sn**		**17 03 37.3**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=345,slow=23,SNR=5.4							
	comp=Z,0.4nm,0.5s							
RAF	**Rauma**	**6.08**	**176**	*eP*	**Pn**		**17 02 29.7**	**-0.3**
AAL	**Aland**	**6.93**	**184**	*eP*	**Pn**		**17 02 38.5**	**-3.1**
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**		**17 02 47.8**	**-0.2**
	comp=Z,0.1nm,0.2s,baz=21,slow=18,SNR=1.0							
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**		**17 02 51.1**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=20,slow=14,SNR=1.8							
HFS				Sn	**Sn**		**17 04 17.1**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=36,slow=25,SNR=1.8							
	comp=Z,0.6nm,0.7s							

IDC 10 17:07:26.8±72.0, 31°.61S×59°.16E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=1847.0km s-min=60.6km az=75.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**62.73**	**43**	P	P	P	17 17 53.8	-0.1
	0.7nm,0.5s,baz=224,slow=6.3,SNR=6.4							
	0.7nm,0.5s							
ASAR	**Alice Springs**	**65.54**	**104**	P	P		17 18 12.1	-0.4
	0.3nm,0.8s,baz=241,slow=6.6,SNR=4.6							
	0.3nm,0.8s							
WRA	**Warramunga Arr**	**67.53**	**100**	P	P		17 18 25.7	+0.5
	0.2nm,0.5s,baz=241,slow=5.8,SNR=4.5							
	0.2nm,0.5s							

IDC 10 17:24:46.8±4.7, 47°.74N×92°.64W, h0km, mbtmp2.2/1, ML0.8/1, Error ellipse: s-maj=77.1km s-min=28.6km az=51.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.29**	**321**	Pn	Pn		17 25 38.5	-1.1
	0.2nm,0.3s,baz=139,slow=15,SNR=1.3							
ULM				Lg	Lg		17 26 28.4	
	2.2nm,0.3s,baz=55,slow=16,SNR=25							
	0.4nm,0.3s							
I10CA	**LAC DU BONNET**	**3.32**	**319**	I	I		17 45 10.0	
	baz=137,slow=313,SNR=3.7							
I56US	**NEWPORT INFRASI**	**6.38**	**281**	I	I		19 07 40.0	
	baz=85,slow=318,SNR=1.6							

*IDC **10** 17:37:58.7±1.3, 36°.89N×23°.76E, h0km, mb3.6/5, mbtmp3.6/8, ML3.3/3, Error ellipse: s-maj=24.8km s-min=17.8km az=52.0*
*THE **10** 17:38:01.8, 36°.92N×23°.80E, h6km±1km, ML3.5/11, Error ellipse: s-maj=1.4km s-min=0.7km az=115.0*
*ATH **10** 17:38:01.4, 36°.92N×23°.80E, h17km±2km, ML3.5/12, Manual Solution by I.Dede This location: 2020/07/03 22:59:27 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*ISK **10** 17:38:02.9, 36°.73N×23°.63E, h8km, ML3.4/14*

ISC 10 17:38:00.8±1.1, 36°.87N±0°.02×23°.76E±0°.02, h14km±8km, n76, σ0983/96, mb3.6/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YDRA	**Hydra**	**0.53**	**334**	P	**Pb**		**17 38 11.7**	**-0.2**
MHLO	**Agia Marina, M**	**0.55**	**109**	P	**Pb**		**17 38 12.8**	**+0.6**
MHLO				S	**Sb**		**17 38 20.6**	**+0.7**
	10μm,0.4s							
MHLO	**Agia Marina, M**	**0.55**	**109**	P	**Pb**		**17 38 12.1**	**-0.1**
MHLO				S	**Sb**		**17 38 19.6**	**-0.3**
MNVA	**Monemvasia**	**0.60**	**253**	P	**Pn**		**17 38 14.4**	**-0.5**
MNVA				S	**Sn**		**17 38 24.2**	**-0.3**
VLI	**Veliai**	**0.67**	**257**	P	**Pn**		**17 38 15.5**	**-0.4**
VLI				S	**Sb**		**17 38 24.9**	**+1.4**
	3μm,0.6s							
VLI	**Veliai**	**0.67**	**257**	P	**Pn**		**17 38 15.4**	**-0.5**
VLI				S	**Sn**		**17 38 25.7**	**-0.5**
KRND	**KRANIDI**	**0.70**	**317**	P	**Pb**		**17 38 15.3**	**+0.5**
KRND				S	**Sn**		**17 38 25.8**	**-1.2**
	4μm,0.6s							
KRND	**KRANIDI**	**0.70**	**317**	P	**Pb**		**17 38 15.2**	**+0.3**
KRND				S	**Sb**		**17 38 25.5**	**+1.2**
VLY	**Voula,Athens**	**0.98**	**2**	P	**Pb**		**17 38 19.3**	**-0.3**
VLY				S	**Sb**		**17 38 32.8**	**+0.4**
	5μm,0.5s							
VLY	**Voula,Athens**	**0.98**	**2**	P	**Pn**		**17 38 20.1**	**0.0**
VLY				S	**Sb**		**17 38 32.5**	**+0.1**
ANKY	**Antikythira Is**	**1.07**	**200**	P	**Pn**		**17 38 22.0**	**+0.7**
ANKY	**Antikythira Is**	**1.07**	**200**	P	**Pn**		**17 38 22.3**	**+1.0**
ATHU	**Athens Univers**	**1.09**	**1**	P	**Pg**		**17 38 21.2**	**-0.7**
ATHU				S	**Sb**		**17 38 36.0**	**+0.4**
	925nm,0.6s							
ATHU	**Athens Univers**	**1.09**	**1**	P	**Pg**		**17 38 21.3**	**-0.7**
ATH	**Athens Observa**	**1.10**	**358**	P	**Pb**		**17 38 21.6**	**0.0**
ATH				S	**Sn**		**17 38 37.1**	**+0.4**
	2μm,0.5s							
ATH	**Athens Observa**	**1.10**	**358**	P	**Pg**		**17 38 21.3**	**-0.7**
PTL	**Penteli**	**1.18**	**4**	P	**Pb**		**17 38 22.6**	**-0.4**
PTL				S	**Sn**		**17 38 38.8**	**0.0**
	2μm,0.5s							
DION	**Dionisos Attik**	**1.21**	**7**	P	**Pg**		**17 38 24.3**	**+0.1**
DION				S	**Sn**		**17 38 39.7**	**+0.1**
	4μm,1.0s							
DION	**Dionisos Attik**	**1.21**	**7**	P	**Pb**		**17 38 22.7**	**-0.9**
LOUT	**Loutraki**	**1.28**	**331**	P	**Pg**		**17 38 24.9**	**-0.5**
LOUT				S	**Sn**		**17 38 41.8**	**+0.7**
	1μm,0.6s							
LOUT	**Loutraki**	**1.28**	**331**	P	**Pg**		**17 38 24.8**	**-0.6**
RODP	**Rodopos**	**1.31**	**180**	Pn	**Pg**		**17 38 25.8**	**-0.2**
RODP				Sn	**Sb**		**17 38 42.3**	**+0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSA	Tinos	1.31	59	P	Pn	17 38 24.2	-0.4
VILL	Villia	1.34	345	P	Pn	17 38 25.3	+0.2
VILL				S	Sg	17 38 44.6	+0.6
	3μm,0.7s						
CHAN	Chania	1.37	170	P	Pb	17 38 26.4	+0.2
VIL2	Platees	1.39	344	P	Pn	17 38 25.3	-0.5
IMMV	Iera Moni Meta	1.42	173	Pn	Pg	17 38 27.7	-0.4
IMMV				Sn	Sg	17 38 46.1	-0.5
IMMV	Iera Moni Meta	1.42	173	P	Pb	17 38 27.1	+0.1
APE	Apeiranthos	1.44	82	P	Pn	17 38 26.0	-0.4
APE	Apeiranthos	1.44	82	P	Pn	17 38 26.2	-0.2
SANT	Santorini	1.46	109	Pn	Pg	17 38 30.9	+2.0
ITM	Ithomi	1.50	282	Pn	Pg	17 38 29.7	+0.1
ITM				Sn	Sg	17 38 49.6	+0.6
ITM	Ithomi	1.50	282	P	Pg	17 38 29.5	0.0
ITM	Ithomi	1.50	282	P	Pg	17 38 29.5	0.0
GUR	Goura	1.55	314	P	Pb	17 38 29.1	-0.2
GUR	Goura	1.55	314	P	Pb	17 38 29.2	-0.1
PYL	PYLOS	1.61	271	P	Pg	17 38 31.5	-0.3
PYL	PYLOS	1.61	271	P	Pb	17 38 29.7	-0.7
KNDR	Palaiochora Ch	1.64	182	Pn	Pb	17 38 30.4	-0.3
KLV	Kalavryta, Ach	1.73	313	P	Pb	17 38 32.1	-0.3
KYMI	Kymi, Euboea I	1.78	9	P	Pn	17 38 31.3	+0.2
KYMI				S	Sb	17 38 55.3	-0.1
	948nm,1.3s						
KYMI	Kymi, Euboea I	1.78	9	P	Pn	17 38 31.1	0.0
IDI	Anoyia	1.83	149	Pn	Pb	17 38 34.1	+0.1
IDI	Anoyia	1.83	149	P	Pn	17 38 32.6	+0.8
IDI	Anoyia	1.83	149	Pn	Pn	17 38 32.6	+0.8
	3.8nm,0.3s,baz=270,slow=11,SNR=29						
IDI				Sn	Sn	17 38 55.0	+0.2
	14nm,0.3s,baz=275,slow=23,SNR=5.7						
KALE	Kalithea	1.99	320	P	Pn	17 38 35.1	+1.1
GVD	Gavdhos	2.04	172	Pn	Pb	17 38 36.6	-1.1
AXAR	Agios Charalam	2.08	336	P	Pn	17 38 36.1	+0.8
SKY	Skiros Island	2.10	17	P	Pn	17 38 35.3	-0.2
EFP	Efpalio	2.14	317	P	Pb	17 38 37.7	-1.6
RLS	Riolos of Patr	2.17	304	P	Pb	17 38 38.7	-1.2
ANX	Ano Chora	2.25	320	P	Pn	17 38 39.2	+1.5
AOS	Alonnisos	2.30	2	P	Pn	17 38 37.7	-0.5
CHOS	Chios island	2.37	50	P	Pn	17 38 39.3	0.0
AGG	Agios Georgios	2.42	333	P	Pn	17 38 41.5	+1.5
NEO	Neokhori	2.47	350	P	Pn	17 38 41.3	+0.7
MAKR	Makrakomi, Fth	2.49	330	P	Pn	17 38 42.9	+1.9
MAKR	Makrakomi, Fth	2.49	330	P	Pn	17 38 42.8	+1.9
ZKR	Zakros	2.66	131	Pn	Pb	17 38 46.9	-1.2
BODT	Bodrum	2.85	85	Pn	Pb	17 38 51.7	+0.2
SIGR	SIGRI	2.87	35	Pn	Pb	17 38 52.8	+1.1
GCAM	G?zelcaml?	2.90	72	Pn	Pb	17 38 52.5	+0.3
THL	Klokotos Trika	3.02	334	P	Pn	17 38 49.5	+1.4
KARP	Karpathos	3.06	115	Pn	Pb	17 38 53.3	-1.7
LIT	Litokhoron	3.37	343	P	Pn	17 38 53.8	+0.7
AYDB	Zeytinkoy-Aydi	3.46	71	Pn	Pb	17 39 00.7	-1.3
YER	Yerkesik	3.63	84	Pn	Pb	17 39 02.8	-2.0
ODEM	Odemis-Izmir	3.71	66	Pn	Pb	17 39 04.3	-1.8
BRTR	Keskin Array B	8.28	67	Pn	Pn	17 40 01.3	+0.8
	0.1nm,0.3s,baz=225,slow=14,SNR=1.5						
	0.3nm,0.5s						
MLR	Muntele Rosu	8.77	10	Pn	Pn	17 40 09.1	+1.9
	0.3nm,0.3s,baz=306,slow=18,SNR=4.6						
	1.7nm,0.6s						
KBZ	Khabaz	16.11	59	Pn	P	17 41 51.0	+1.0
	0.1nm,0.3s,baz=248,slow=5.4,SNR=4.6						
	3.3nm,0.9s						
ESDC	Sonseca Array	21.91	286	P	P	17 42 54.0	+0.4
	1.0nm,0.7s,baz=69,slow=10.0,SNR=8.7						
	1.0nm,0.7s						
HFS	Hagfors	24.16	348	P	P	17 43 15.5	-0.7
	1.7nm,0.7s,baz=145,slow=10,SNR=5.8						
	1.7nm,0.7s						
FINES	FINESS Array B	24.64	3	P	P	17 43 19.6	-0.9
	1.1nm,0.7s,baz=177,slow=11,SNR=4.6						
	1.1nm,0.7s						
EKA	Eskdalemuir Ar	25.99	324	P	P	17 43 32.7	-0.2
	1.6nm,0.8s,baz=115,slow=9.5,SNR=4.9						
	1.6nm,0.8s						
MKAR	Makanchi Array	43.81	58	P	P	17 46 05.5	-0.6
	0.6nm,0.5s,baz=265,slow=8.9,SNR=7.8						
	0.6nm,0.5s						

*IDC **10** 17:44:56.0±0.6, 31°.67S×58°.26E, h0km, mb4.2/16, mbtmp4.2/16, MS3.5/5, Error ellipse: s-maj=25.5km s-min=15.9km az=84.0*
*NEIC **10** 17:44:56.9±1.2, 31°.7S±0°.1×58°.1E±0°.1, h10km±1km, mb4.7/38, Error ellipse: s-maj=23.5km s-min=15.0km az=236.0*
ISC 10 17:44:58.5±0.5, 31°.62S±0°.09×58°.1E±0°.1, h17km, n117, σ1§09/103, mb4.7/54, MS3.6/5, 16C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	Nahampoana Res	11.82	301	Pn	Pn	17 47 46.9	+0.5
VOI	Vohitsoka	13.98	311	Pn	Pn	17 48 17.4	+1.4
H04N2	CROZET ISLANDS	15.32	197	T	T	18 04 15.4	
	baz=23,slow=74,SNR=131						
H04N1	CROZET ISLANDS	15.32	197	T	T	18 04 16.4	
	baz=23,slow=74,SNR=125						
H04N3	CROZET ISLANDS	15.34	197	T	T	18 04 15.3	
	baz=23,slow=74,SNR=142						
ABPO	Ambohimpanom	15.93	319		P	17 48 45.3	-0.4
OPO	Ambohidratompo	16.31	320	Sn	Sn	17 51 43.9	-3.9
	baz=317,slow=19,SNR=1.6						
OPO				LR	LR	17 53 33.5	
	comp=Z,130nm,21.3s,baz=11,slow=32						
H08S1	Diego Garcia H	27.36	32	T	T	18 19 01.3	
	baz=206,slow=76,SNR=12						
H08S2	Diego Garcia H	27.37	32	T	T	18 19 05.3	
	baz=206,slow=76,SNR=17						
H08S3	Diego Garcia H	27.38	32	T	T	18 19 07.6	
	baz=206,slow=76,SNR=29						
DGAR	Diego Garcia	27.56	32	P	P	17 50 42.9	-1.8
BOSA	Boshof	28.51	267	LR	LR	17 59 38.1	
	comp=Z,55nm,19.7s,baz=69,slow=31						
SUR	Sutherland	31.53	259	LR	LR	18 01 49.7	
	comp=Z,132nm,20.3s,baz=104,slow=32						
MAW	Mawson	36.13	177	P	P	17 52 00.3	+1.0
	2.1nm,0.7s,baz=321,slow=16,SNR=2.2						
MAW				LR	LR	18 03 18.8	
	comp=Z,129nm,19.8s,baz=335,slow=31						
	2.1nm,0.7s						
TSUM	Tsumeb	38.42	279	LR	LR	18 06 15.6	
	comp=Z,91nm,19.2s,baz=92,slow=33						
H01W2	Cape Leeuwin H	46.45	110	T	T	18 42 34.1	
	baz=257,slow=75,SNR=45						
H01W3	Cape Leeuwin H	46.46	110	T	T	18 42 34.4	
	baz=257,slow=75,SNR=39						
H01W1	Cape Leeuwin H	46.47	110	T	T	18 42 35.0	
	baz=257,slow=75,SNR=44						
SNAA	Sanae	51.24	201	P	P	17 53 59.5	-1.3
SNAA	Sanae	51.24	201	P	P	17 54 00.5	-0.4
	1.9nm,0.9s,baz=64,slow=6.7,SNR=6.3						
	1.9nm,0.9s						
VNA2	Neumayer--Watz	52.48	202	⇑P	P	17 54 10.0	0.0
	comp=Z,1.7nm,0.6s,baz=78,slow=6.3						
VNA3	Neumayer Olymp	53.27	202	⇑P	P	17 54 15.7	-0.2
	comp=Z,1.8nm,0.8s						
QSPA	South Pole Qui	58.55	180	P	P	17 54 52.7	-1.2
QSPA				IAmb	IAmb	17 55 05.0	
	comp=Z,5.4nm,1.0s						
QSPA	South Pole Qui	58.55	180	P	P	17 54 54.0	+0.1
	comp=Z,2.4nm,0.6s,baz=270,slow=1.9,SNR=38						
	comp=Z,2.4nm,0.6s						
VNDA	Vanda	62.28	166	P	P	17 55 18.4	-0.6
	comp=Z,1.0nm,1.0s,baz=256,slow=8.6,SNR=2.5						
	comp=Z,1.0nm,1.0s						
CM31	Chiang Mai Arr	63.36	44	P	P	17 55 26.2	-0.8
CMAR	Chiang Mai Arr	63.36	44		P	17 55 26.6	-0.4
CMAR	Chiang Mai Arr	63.36	44	P	P	17 55 27.2	+0.2
	comp=Z,7.7nm,0.8s,baz=230,slow=7.2,SNR=51						
	comp=Z,7.7nm,0.8s						
ASAR	Alice Springs	66.41	104	P	P	17 55 45.9	-1.2
ASAR	Alice Springs	66.41	104	P	P	17 55 46.1	-1.0
	comp=Z,2.1nm,0.7s,baz=238,slow=6.1,SNR=33						
	comp=Z,2.1nm,0.7s						
AS31	Alice Springs	66.41	104	P	P	17 55 45.5	-1.6
WRA	Warramunga Arr	68.42	101	P	P	17 55 59.3	-0.5
	comp=Z,3.0nm,0.8s,baz=243,slow=5.6,SNR=12						
	comp=Z,3.0nm,0.8s						
WB2	Warramunga Arr	68.42	101	P	P	17 55 59.1	-0.7
WB2				IAmb	IAmb	17 56 08.2	
	comp=Z,14nm,1.4s						
WB0	Warramunga Arr	68.54	101	P	P	17 55 58.6	-1.9
WB0				IAmb	IAmb	17 56 00.8	
	comp=Z,6.7nm,1.0s						
SLVN	Son La	68.55	46	P	P	17 56 00.0	-0.4
SLVN				IAmb	IAmb	17 56 01.8	
	comp=Z,4.9nm,0.9s						
SIMJ	Simiganj	70.66	9	P	P	17 56 12.7	-0.5
CHGR	Chuyangaron	70.67	9	P	P	17 56 12.9	-0.4
PZH	PanZhiHua	71.24	41	P	P	17 56 20.1	+3.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,130nm,5.3s						
BTK	Batken	72.29	10	P	P	17 56 22.0	-1.0
BTK				IAmb	IAmb	17 56 24.8	
	comp=Z,7.7nm,1.3s						
KSH	Kashi	72.70	14	P	P	17 56 23.2	-2.3
KSH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ARPR	Arapgir-MALATY	72.72	344	P	P	17 56 26.1	+0.5
ARPR				IAmb	IAmb	17 56 28.6	
	comp=Z,11nm,1.4s						
BNN	Bunyan	73.11	342	P	P	17 56 28.1	+0.1
ARSB	Arslanbob	73.87	12	P	P	17 56 32.4	0.0
BR131	Keskin Array S	74.53	341	P	P	17 56 36.1	-0.1
BRTR	Keskin Array B	74.53	341	P	P	17 56 35.6	-0.6
BRTR	Keskin Array B	74.53	341	P	P	17 56 36.8	+0.6
	comp=Z,2.1nm,0.9s,baz=170,slow=7.5,SNR=13						
	comp=Z,2.1nm,0.9s						
ONI	Oni	75.07	349	P	P	17 56 39.4	+0.2
ONI				IAmb	IAmb	17 56 42.6	
	comp=Z,6.6nm,1.2s						
KK31	Karatay Array	75.23	9	P	P	17 56 40.0	0.0
KK31				IAmb	IAmb	17 56 42.4	
	comp=Z,5.7nm,0.8s						
KKAR	Karatay Array	75.23	9	P	P	17 56 40.9	+0.8
KKAR				IAmb	IAmb	17 56 42.4	
	comp=Z,5.7nm,0.8s						
KKAR	Karatay Array	75.23	9	P	P	17 56 40.5	+0.5
BOOM	Boomskoye usch	75.55	14	P	P	17 56 42.5	+0.4
BOOM				IAmb	IAmb	17 56 44.1	
	comp=Z,10nm,1.1s						
KBZ	Khabaz	76.27	349	P	P	17 56 47.4	+1.5
	comp=Z,1.1nm,0.6s,baz=35,slow=2.8,SNR=4.9						
	comp=Z,1.1nm,0.6s						
LIT	Litokhoron	78.63	333	P	P	17 56 59.2	-0.1
LIT				IAmb	IAmb	17 57 01.0	
	comp=Z,8.2nm,1.0s						
WMQ	Urumqi	79.81	21	*eP*	P	17 57 07.7	+2.0
WMQ				LR	LR		
	comp=Z,63nm,16.7s						
ABKAR	Akbulak array	80.53	1	P	P	17 57 09.9	+0.6
ABKAR	Akbulak array	80.53	1	P	P	17 57 09.4	0.0
ABKAR				IAmb	IAmb	17 57 11.2	
	comp=Z,14nm,1.2s						
GTA	Gaotai	80.59	31	*eP*	P	17 57 10.9	+0.8
GTA				pP	pwP	17 57 18.4	-1.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MAKZ	Makanchi	80.99	16	P	P	17 57 12.0	+0.1
MK31	Makanchi Array	81.05	17	P	P	17 57 11.7	-0.5
MKAR	Makanchi Array	81.05	17	P	P	17 57 11.6	-0.7
MKAR	Makanchi Array	81.05	17	P	P	17 57 12.8	+0.6
	comp=Z,2.1nm,0.9s,baz=212,slow=6.7,SNR=14						
	comp=Z,2.1nm,0.9s						
CFR	Carcaliu	81.15	339	⇑P	P	17 57 13.8	+1.0
MLR	Muntele Rosu	82.12	338	⇑P	P	17 57 19.1	+1.0
MLR	Muntele Rosu	82.12	338	P	P	17 57 17.7	-0.3
MLR				IAmb	IAmb	17 57 21.3	
	comp=Z,7.7nm,1.1s						
VRI	Vrincioaia	82.20	338	⇑P	P	17 57 19.5	+1.2
PLOR	Plostina	82.22	338	⇑P	P	17 57 19.6	+1.1
COVR	Voineasa-Covas	82.35	338	⇑P	P	17 57 19.4	+0.3
VOIR		82.36	337	⇑P	P	17 57 19.8	+0.5
HERR	Herculane	82.78	335	⇑P	P	17 57 22.5	+1.2
MDVR	Moldovita	82.95	335	⇑P	P	17 57 23.0	+0.7
SURR	Surduc	83.64	336	⇑P	P	17 57 26.3	+0.5
BZS	Buzias	83.70	335	⇑P	P	17 57 27.4	+1.3
KURBB	Kurchatov Arra	83.86	13	P	P	17 57 27.7	+1.0
	comp=Z,7.6nm,1.0s,baz=207,slow=5.8,SNR=29						
	comp=Z,7.6nm,1.0s						
KURK	Kurchatov	83.96	13		P	17 57 27.5	+0.2
MARR	Marisel-Cluj	84.09	337	⇑P	P	17 57 29.3	+1.1
BURAR	Bucovina Array	84.23	338	⇑P	P	17 57 30.2	+1.3
BURAR	Bucovina Array	84.23	338	P	P	17 57 29.3	+0.4
SIRR	Siria	84.25	336	⇑P	P	17 57 30.1	+1.3
BRVK	Borovoye	84.99	7	P	P	17 57 32.5	+0.1
NJ2	Nanjing	85.50	48	*eP*	P	17 57 37.3	+1.8
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KIEV	Kiev	85.85	342	⇑P	P	17 57 37.4	+0.6
KIEV	Kiev	85.85	342	P	P	17 57 35.8	-1.0
KIEV				IAmb	IAmb	17 57 38.3	
	comp=Z,5.8nm,1.2s						
AKASG	Malin Array Be	85.85	342	P	P	17 57 37.0	+0.2
	comp=Z,1.4nm,0.6s,baz=159,slow=4.5,SNR=3.1						
	comp=Z,1.4nm,0.6s						
AKBB	Malin Array Si	85.85	342	P	P	17 57 36.0	-0.7
AKBB				IAmb	IAmb	17 57 38.2	
	comp=Z,6.5nm,1.2s						
OBKA	Obir	87.15	332	*eP*	P	17 57 44.8	+1.4
	comp=Z,1.9nm,0.6s						
HHC	Hu-ho-hao-te	87.40	38	*eP*	P	17 57 44.8	0.0
HHC				sP	pwP	17 57 52.8	-1.9
HHC				pmax	pmax		
	comp=Z,19nm,0.5s						
HHC				pmax	pmax		
	comp=Z,160nm,4.7s						
RONA	Rosalia, Austr	87.43	333	*eP*	P	17 57 46.8	+2.2
	comp=Z,3.7nm,0.9s						
ARU	Arti	87.70	0	P	P	17 57 45.6	0.0
ARU				IAmb	IAmb	17 57 47.1	
	comp=Z,5.7nm,0.8s						
CONA	Conrad Observa	87.79	333	*eP*	P	17 57 47.2	+0.7
	comp=Z,5.1nm,0.9s						
JAVC	Velka Javorina	87.88	335	*eP*	P	17 57 48.7	+1.9
CTI	Castel Tesino	88.00	330	P	P	17 57 47.9	+0.3
CTI				IAmb	IAmb	17 57 50.1	
	comp=Z,5.2nm,0.8s						
KBA	Koelnbreinsper	88.10	331	*eP*	P	17 57 49.5	+1.4
	comp=Z,4.9nm,1.2s						
ABTA	Abfaltersbach	88.19	331	*eP*	P	17 57 49.9	+1.6
	comp=Z,7.4nm,1.1s						
ZAA0	Zalesovo Array	88.31	15	P	P	17 57 47.6	-1.0
ZAA0				IAmb	IAmb	17 57 49.3	
	comp=Z,3.7nm,1.0s						
ZALV	Zalesovo Beam	88.31	15		P	17 57 47.4	-1.2
ZALV	Zalesovo Beam	88.31	15	P	P	17 57 48.0	-0.6
	comp=Z,1.7nm,0.9s,baz=199,slow=4.1,SNR=7.6						
	comp=Z,1.7nm,0.9s						
MOA	Molln	88.35	332	*eP*	P	17 57 50.0	+1.0
	comp=Z,3.2nm,0.7s						
KRUC	Moravsky	88.52	334	*eP*	P	17 57 50.1	+0.4
VRAC	Vranov	88.65	334	*eP*	P	17 57 51.0	+0.6
LESA	Schwarzleotal	88.65	331	*i P*	P	17 57 51.3	+0.7
	comp=Z,6.5nm,0.7s						
MORC	Moravsky Berou	88.69	335	*eP*	P	17 57 51.2	+0.6
WTTA	Wattenberg	88.96	330	*eP*	P	17 57 53.2	+1.1
	comp=Z,3.7nm,0.5s						
WATA	Walderalm	89.04	330	*eP*	P	17 57 52.8	+0.3
	comp=Z,4.6nm,0.7s						
FUORN	Ofenpass-Fuorn	89.05	329	P	P	17 57 51.5	-1.1
FUORN				IAmb	IAmb	17 57 55.1	
	comp=Z,3.1nm,0.9s						
SQTA	Sankt Quirin	89.11	330	*eP*	P	17 57 53.5	+0.8
	comp=Z,4.8nm,0.7s						
FETA	Feichten	89.16	330	*eP*	P	17 57 54.4	+1.4
	comp=Z,4.8nm,0.9s						
GERES	GERESS Array B	89.38	332	P	P	17 57 54.2	+0.3
	comp=Z,0.6nm,0.7s,baz=142,slow=5.0,SNR=3.8						
	comp=Z,0.6nm,0.7s						
RETA	Reutte	89.51	330	*eP*	P	17 57 55.6	+1.1
	comp=Z,4.6nm,0.7s						
DAVA	Damuels	89.73	329	*eP*	P	17 57 55.1	-0.6
	comp=Z,4.9nm,1.0s						
SONM	Songino Array	90.18	30	P	P	17 57 57.5	-0.3
	comp=Z,1.4nm,1.0s,baz=228,slow=4.1,SNR=5.3						
	comp=Z,1.4nm,1.0s						
ULN	Ulaanbaatar	90.49	31	P	P	17 57 57.6	-1.6
ESDC	Sonseca Array	91.34	317	P	P	17 58 03.2	-0.1
ESDC				IAmb	IAmb	17 58 06.5	
	comp=Z,3.0nm,1.1s						
ESDC	Sonseca Array	91.34	317	P	P	17 58 05.0	+1.7
	comp=Z,2.2nm,1.1s,baz=125,slow=3.3,SNR=10						
	comp=Z,2.2nm,1.1s						
PPT2	Papeete2	124.32	148	*e*LR	LR	18 42 24.2	
	comp=Z,42nm,23.5s						
ILAR	Eielson Array	143.40	18	PKhKP	PKPpre	18 04 28.1	
	comp=Z,0.4nm,0.7s,baz=328,slow=3.2,SNR=2.7						
YKA	Yellowknife Ar	148.76	353	PKPbc	PKiKP	18 04 44.6	-1.0
	comp=Z,2.7nm,0.8s,baz=0.0,slow=2.7,SNR=11						
ULM	Lac du Bonnet	153.15	321	PKPbc	PKPbc	18 04 54.2	-0.7
	comp=Z,0.5nm,0.3s,baz=53,slow=5.1,SNR=4.6						

IDC 10 17:48:40.4±2.7, 31°.73S×58°.52E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=80.9km s-min=33.8km az=114.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	58.44	180	P	P	17 58 37.8	0.0
	0.8nm,0.6s,baz=258,slow=2.8,SNR=8.3						
	0.8nm,0.6s						
CMAR	Chiang Mai Arr	63.19	44	P	P	17 59 10.4	-0.1
	1.2nm,0.6s,baz=225,slow=6.8,SNR=7.4						
	1.2nm,0.6s						
ASAR	Alice Springs	66.05	104	P	P	17 59 29.1	-0.2
	0.8nm,0.7s,baz=230,slow=6.4,SNR=10						
	0.8nm,0.7s						
WRA	Warramunga Arr	68.05	100	P	P	17 59 42.5	+0.4
	1.4nm,0.9s,baz=237,slow=5.2,SNR=4.5						
	1.4nm,0.9s						

*SJA **10** 17:49:45.9±0.7, 23°.97S×66°.80W, h223km±6km, ML4.2, MW3.8*
*IDC **10** 17:49:47.8±1.6, 23°.88S×66°.75W, h199km±20km, mb3.5/2, mbtmp3.9/6, MS3.5/1, Error ellipse: s-maj=28.2km s-min=17.2km az=124.0*
*GUC **10** 17:49:49.2±0.6, 23°.92S×67°.23W, h221km±6km, ML3.8*
ISC 10 17:49:47.6±0.8, 23°.97S±0°.04×66°.84W±0°.04, h205km±7km, n41, σ1§48/65, 1C-4D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.42	122	*eP*	Pn	17 50 21.7	+0.5
SLA	San Lorenzo	1.42	122	⇓*iP*	Pn	17 50 21.7	+0.5
AF01	San Pedro de A	1.60	309	*eP*	Pn	17 50 24.6	+1.6
AF01				*e*S	Sn	17 50 51.8	+1.5
AF01				IAML		17 50 55.1	
	comp=N,346nm,0.6s						
AZAP	Zapla	1.64	99	*eP*	Pn	17 50 23.1	-0.1
YJA	Yavi	2.16	34	*eP*	Pn	17 50 29.3	+0.6
YJA				*e*S	Sn	17 51 01.1	+0.6
FSA	Cafayete	2.27	160	*eP*	Pn	17 50 29.4	0.0
LVC	Limon Verde	2.34	305	*eP*	Pn	17 50 31.4	+1.0
LVC				*e*S	Sn	17 51 04.9	+1.1
LVC	Limon Verde	2.34	305	P	Pn	17 50 31.5	+1.0
	comp=N,51nm,0.3s,baz=163,slow=6.3,SNR=250						
LVC				S	Sn	17 51 03.6	-0.2
	comp=N,93nm,0.3s,baz=262,slow=19,SNR=40						
LVC	Limon Verde	2.34	305	⇓*iP*	Pn	17 50 31.3	+0.8
LVC				*e*S	Sn	17 51 03.4	-0.4
LVC				IAML		17 51 05.5	
	comp=N,665nm,0.2s						
PB15	IPOC Station P	2.54	287	*eP*	Pn	17 50 33.4	+1.1
PB15				*e*S	Sn	17 51 07.4	+0.2
PB15				IAML		17 51 14.1	
	comp=Z,2μm,0.2s						
PB15	IPOC Station P	2.54	287	⇓*iP*	Pn	17 50 33.2	+0.9
PB15				*e*S	Sn	17 51 06.3	-1.0
ALOL	LOMAS DE OLMED	2.62	87	*eP*	Pn	17 50 33.0	-0.1
PB06	IPOC Station P	2.81	296	*eP*	Pn	17 50 36.1	+0.6
PB06				*e*S	Sn	17 51 12.7	-0.2
PB06				IAML		17 51 16.1	
	comp=Z,421nm,0.2s						
PB06	IPOC Station P	2.81	296	⇓*iP*	Pn	17 50 36.2	+0.7
PB06				*e*S	Sn	17 51 11.6	-1.2
PB09	IPOC Station P	3.10	314	*eP*	Pn	17 50 27.5	-11
PB09				*e*S	Sn	17 51 19.2	+0.2
PB09				IAML		17 51 21.4	
	comp=Z,394nm,0.3s						
PB09	IPOC Station P	3.10	314	*eP*	Pn	17 50 39.9	+1.0
PB09				*e*S	Sn	17 51 18.2	-0.7
PB09				IAML		17 51 21.8	
	comp=N,235nm,0.3s						
AHML	Horco Molle	3.11	154	*eP*	Pn	17 50 39.2	+0.4
AHML				*e*S	Sn	17 51 12.7	-6.3
PB14	IPOC Station P	3.32	258	*eP*	Pn	17 50 42.0	+0.5
PB14				*e*S	Sn	17 51 23.1	-0.7
PB14	IPOC Station P	3.32	258	*eP*	Pn	17 50 41.8	+0.2
PB14				*e*S	Sn	17 51 22.7	-1.1
PB14				IAML		17 51 25.3	
	comp=E,86nm,0.2s						
PB10	IPOC Station P	3.44	277	*eP*	Pn	17 50 43.1	+0.5
PB10				*e*S	Sn	17 51 24.4	-1.4
PB10				IAML		17 51 27.4	
	comp=Z,161nm,0.3s						
PB10	IPOC Station P	3.44	277	⇓*eP*	Pn	17 50 43.1	+0.5
PB10				*e*S	Sn	17 51 23.4	-2.4
PB04	IPOC Station P	3.46	297	*eP*	Pn	17 50 43.1	-0.1
PB04				*e*S	Sn	17 51 25.5	-1.1
PB04				IAML		17 51 26.7	
	comp=Z,358nm,0.1s						
PB04	IPOC Station P	3.46	297	*eP*	Pn	17 50 43.5	+0.4
PB04				*e*S	Sn	17 51 24.4	-2.2
PB01	IPOC Station P	3.81	319	*eP*

Plg3.0000°, Azm274.0000°; P -2.5840, Plg86.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 10 18:03:32.1±0.5, 31°.52S±0°.08×58°.29E±0°.09, h14km, n94, σ19°34/73, mb4.7/39, MS3.8/21, 1C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.57	347	Pn	Pn	18 06 00.9	-2.4
VOI	Vohitsoka	14.04	310	Pn	Pn	18 06 52.4	+1.7
H04N2	CROZET ISLANDS	15.46	197	T	T	18 23 00.8	
	baz=22,slow=75,SNR=269						
H04N1	CROZET ISLANDS	15.46	197	T	T	18 23 02.4	
	baz=22,slow=75,SNR=282						
H04N3	CROZET ISLANDS	15.48	197	T	T	18 22 59.8	
	baz=22,slow=75,SNR=324						
ABPO	Ambohimpanom	15.96	319	P	Pn	18 07 18.2	+1.8
OPO	Ambohidratompo	16.34	320	Pn	P	18 07 25.7	+1.4
	baz=144,slow=19,SNR=2.8						
OPO				Sn	Sn	18 10 15.8	-6.8
	baz=288,slow=20,SNR=2.2						
POGA	Pongola	23.50	273	P	P	18 08 40.2	-1.4
POGA				IAmb	IAmb	18 08 43.3	
	comp=Z,13nm,0.8s						
H08S1	Diego Carcia H	27.20	32	T	T	18 37 32.0	
	baz=206,slow=75,SNR=12						
H08S2	Diego Garcia H	27.20	32	T	T	18 37 31.3	
	baz=206,slow=75,SNR=17						
H08S3	Diego Garcia H	27.21	32	T	T	18 37 34.0	
	baz=206,slow=75,SNR=22						
BOSA	Boshof	28.68	267	LR	LR	18 19 20.5	
	comp=Z,65nm,18.6s,baz=116,slow=33						
LBTB	Lobatse	29.44	274	P	P	18 09 34.4	-1.2
LBTB				IAmb	IAmb	18 09 45.1	
	comp=Z,11nm,1.4s						
SUR	Sutherland	31.71	258	LR	LR	18 20 13.2	
	comp=Z,215nm,20.9s,baz=114,slow=32						
MAW	Mawson	36.22	177	P	P	18 10 34.1	0.0
	comp=Z,3.5nm,0.8s,baz=327,slow=9.9,SNR=4.2						
MAW				LR	LR	18 21 18.6	
	comp=Z,199nm,20.6s,baz=340,slow=30						
	comp=Z,3.5nm,0.8s						
TSUM	Tsumeb	38.57	279	P	P	18 10 54.6	-0.1
TSUM				IAmb	IAmb	18 10 56.7	
	comp=Z,11nm,0.9s						
TSUM	Tsumeb	38.57	279	LR	LR	18 25 02.9	
	comp=Z,100nm,18.9s,baz=116,slow=33						
PALK	Pallekele	44.13	33	LR	LR	18 26 11.3	
	comp=Z,96nm,18.1s,baz=319,slow=31						
FURI	Furi	44.36	332	LR	LR	18 28 39.4	
	comp=Z,44nm,20.0s,baz=164,slow=34						
ATD	Arta Tunnel	45.30	338	LR	LR	18 27 38.2	
	comp=Z,7.0nm,20.9s,baz=158,slow=32						
H01W2	Cape Leeuwin H	46.34	110	T	T	19 01 08.3	
	baz=257,slow=75,SNR=20						
H01W3	Cape Leeuwin H	46.34	110	T	T	19 01 07.2	
	baz=257,slow=75,SNR=17						
H01W1	Cape Leeuwin H	46.35	110	T	T	19 01 07.2	
	baz=257,slow=75,SNR=20						
SNAA	Sanae	51.39	201	P	P	18 12 35.4	-0.6
SNAA				IAmb	IAmb	18 12 48.8	
	comp=Z,8.6nm,1.5s						
SNAA	Sanae	51.39	201	P	P	18 12 35.5	-0.6
	comp=Z,23nm,0.8s						
SNAA	Sanae	51.39	201	P	P	18 12 35.6	-0.5
	comp=Z,1.7nm,0.9s,baz=28,slow=16,SNR=5.6						
SNAA				LR	LR	18 29 25.9	
	comp=Z,151nm,21.4s,baz=2.0,slow=30						
	comp=Z,1.7nm,0.9s						
VNA3	Neumayer Olymp	53.42	202	⇑P	P	18 12 49.7	-1.4
	comp=Z,3.2nm,0.9s						
WSAR	Wadi Sarin	54.45	0	LR	LR	18 30 44.0	
	comp=Z,117nm,20.9s,baz=172,slow=30						
QSPA	South Pole Qui	58.64	180		P	18 13 27.7	-1.0
QSPA				IAmb	IAmb	18 13 41.2	
	comp=Z,8.7nm,1.1s						
QSPA	South Pole Qui	58.64	180	P	P	18 13 27.9	-0.8
	comp=Z,3.0nm,0.6s,baz=270,slow=1.6,SNR=38						
QSPA				LR	LR	18 35 25.4	
	comp=Z,118nm,21.2s,baz=247,slow=33						
	comp=Z,3.0nm,0.6s						
VNDA	Vanda	62.34	166	P	P	18 13 52.2	-1.3
	comp=Z,1.6nm,1.1s,baz=297,slow=6.8,SNR=6.6						
VNDA				LR	LR	18 38 13.8	
	comp=Z,49nm,20.1s,baz=251,slow=34						
	comp=Z,1.6nm,1.1s						
CM31	Chiang Mai Arr	63.18	44	P	P	18 13 59.2	-0.7
CMAR	Chiang Mai Arr	63.18	44		P	18 13 59.4	-0.4
CMAR	Chiang Mai Arr	63.18	44	P	P	18 14 00.9	+1.1
	comp=Z,3.5nm,0.7s,baz=229,slow=7.0,SNR=29						
CMAR				LR	LR	18 36 34.6	
	comp=Z,69nm,21.4s,baz=230,slow=31						
	comp=Z,3.5nm,0.7s						
EIL	Elat	64.78	338	LR	LR	18 37 39.5	
	comp=Z,60nm,19.8s,baz=272,slow=32						
ASAR	Alice Springs	66.28	104	P	P	18 14 19.8	-0.5
	comp=Z,4.2nm,0.7s,baz=238,slow=6.1,SNR=63						
	comp=Z,4.2nm,0.7s						
AS31	Alice Springs	66.28	104	P	P	18 14 19.3	-1.1
AS31				IAmb	IAmb	18 14 20.4	
	comp=Z,1.7nm,0.6s						
MMAI	Mount Meron Ar	67.74	339	LR	LR	18 42 12.1	
	comp=Z,48nm,18.8s,baz=128,slow=34						
WRA	Warramunga Arr	68.28	101	P	P	18 14 32.5	-0.4
WRA	Warramunga Arr	68.28	101	P	P	18 14 32.6	-0.3
	comp=Z,5.2nm,0.7s,baz=242,slow=5.6,SNR=21						
	comp=Z,5.2nm,0.7s						
WB0	Warramunga Arr	68.40	100	P	P	18 14 33.1	-0.7
STKA	Stephens Creek	69.01	115	P	P	18 14 37.1	-0.2
STKA	Stephens Creek	69.01	115	P	P	18 14 37.0	-0.4
	comp=Z,2.9nm,0.7s,baz=292,slow=6.2,SNR=6.4						
	comp=Z,2.9nm,0.7s						
TOA0	Torodi Ar. Sit	70.10	300	P	P	18 14 44.5	+0.3
TOA0				IAmb	IAmb	18 14 46.1	
	comp=Z,7.1nm,1.1s						
SIMJ	Simiganj	70.53	9	P	P	18 14 47.6	+1.1
SIMJ				IAmb	IAmb	18 15 05.4	
	comp=Z,6.4nm,1.1s						
CHGR	Chuyangaron	70.55	9	P	P	18 14 46.4	-0.2
GNI	Garni	72.41	349	LR	LR	18 43 49.0	
	comp=Z,130nm,20.7s,baz=340,slow=33						
BNN	Bunyan	73.07	342	P	P	18 15 02.1	+0.3
PMSA	Palmer Station	74.08	202	LR	LR	18 40 52.6	
	comp=Z,117nm,21.2s,baz=263,slow=30						
BRTR	Keskin Array B	74.49	340	P	P	18 15 10.6	+0.6
BRTR	Keskin Array B	74.49	340	P	P	18 15 11.2	+1.2
	comp=Z,1.6nm,0.8s,baz=157,slow=6.6,SNR=9.4						
BRTR				LR	LR	18 43 50.7	
	comp=Z,64nm,21.2s,baz=319,slow=32						
	comp=Z,1.6nm,0.8s						
BR131	Keskin Array S	74.49	340	P	P	18 15 10.4	+0.3
BR131				IAmb	IAmb	18 15 11.9	
	comp=Z,2.9nm,0.9s						
KK31	Karatay Array	75.11	9	P	P	18 15 14.2	+0.8
KKAR	Karatay Array	75.11	9	P	P	18 15 13.8	+0.4
KKAR				IAmb	IAmb	18 15 16.2	
	comp=Z,2.5nm,0.8s						
AAK	Ala-Archa	75.29	12	LR	LR	18 44 26.7	
	comp=Z,95nm,21.6s,baz=203,slow=33						
ABKAR	Akbulak array	80.43	1	P	P	18 15 44.1	+1.3
ABKAR	Akbulak array	80.43	1	P	P	18 15 43.9	+1.0
ABKAR				IAmb	IAmb	18 15 45.1	
	comp=Z,8.7nm,1.2s						
MAKZ	Makanchi	80.85	16	P	P	18 15 46.3	+1.1
MK31	Makanchi Array	80.91	16	P	P	18 15 45.3	-0.2
MKAR	Makanchi Array	80.91	16	P	P	18 15 46.0	+0.5
	comp=Z,1.1nm,0.9s,baz=197,slow=3.8,SNR=8.4						
	comp=Z,1.1nm,0.9s						
KURBB	Kurchatov Arra	83.73	13	P	P	18 16 01.5	+1.4
	comp=Z,4.4nm,1.0s,baz=207,slow=5.8,SNR=20						
	comp=Z,4.4nm,1.0s						
KURK	Kurchatov	83.83	13	P	P	18 16 01.8	+1.1
BURAR	Bucovina Array	84.20	338	P	P	18 16 04.0	+1.2
BVAR	Borovoye Array	84.85	7	LR	LR	18 53 41.0	
	comp=Z,54nm,18.5s,baz=227,slow=35						
BRVK	Borovoye	84.87	7	P	P	18 16 07.2	+1.3
BRVK				IAmb	IAmb	18 16 08.3	
	comp=Z,4.9nm,0.8s						
MDT	Midelt	87.31	311	LR	LR	18 56 15.8	
	comp=Z,80nm,18.1s,baz=159,slow=36						
TEOL	Teolo	87.45	329	P	P	18 16 20.5	+1.7
ARU	Arti	87.60	0	P	P	18 16 19.3	0.0
ARU				IAmb	IAmb	18 16 21.5	
	comp=Z,4.5nm,1.0s						
CONA	Conrad Observa	87.77	333	*e*P	P	18 16 21.7	+1.3
	comp=Z,4.4nm,1.0s						
JAVC	Velka Javorina	87.86	335	*e*P	P	18 16 22.7	+1.9
CTI	Castel Tesino	88.00	330	P	P	18 16 21.3	-0.2
CTI				IAmb	IAmb	18 16 24.2	
	comp=Z,4.3nm,0.9s						
KBA	Koelnbreinsper	88.09	331	*e*P	P	18 16 24.2	+2.1
	comp=Z,1.2nm,0.5s						
ZALV	Zalesovo Beam	88.17	15	P	P	18 16 21.2	-0.8
ZALV	Zalesovo Beam	88.17	15	P	P	18 16 21.5	-0.5
	comp=Z,0.4nm,0.3s,baz=208,slow=5.0,SNR=5.7						
	comp=Z,0.4nm,0.3s						
ABTA	Abfaltersbach	88.18	330	*e*P	P	18 16 24.1	+1.8
	comp=Z,5.7nm,0.9s						
MOA	Molln	88.34	332	*e*P	P	18 16 24.2	+1.1
	comp=Z,3.7nm,0.9s						
KRUC	Moravsky	88.50	334	*e*P	P	18 16 24.6	+0.9
LESA	Schwarzleotal	88.64	331	*e*P	P	18 16 25.4	+0.9
	comp=Z,2.5nm,0.7s						
MORC	Moravsky Berou	88.67	335	P	P	18 16 24.8	+0.2
MORC				IAmb	IAmb	18 16 26.5	
	comp=Z,8.0nm,1.5s						
MORC	Moravsky Berou	88.67	335	*e*P	P	18 16 25.5	+0.9
WTTA	Wattenberg	88.95	330	*e*P	P	18 16 27.5	+1.3
	comp=Z,4.5nm,0.5s						
WATA	Walderalm	89.03	330	*e*P	P	18 16 27.7	+1.2
	comp=Z,3.5nm,0.5s						
SQTA	Sankt Quirin	89.10	330	*e*P	P	18 16 28.0	+1.3
	comp=Z,4.3nm,0.6s						
FETA	Feichten	89.15	330	*e*P	P	18 16 28.2	+1.1
	comp=Z,5.4nm,1.0s						
GERES	GERESS Array B	89.36	332	P	P	18 16 28.5	+0.6
	comp=Z,0.8nm,0.9s,baz=114,slow=6.6,SNR=3.8						
	comp=Z,0.8nm,0.9s						
RETA	Reutte	89.50	330	*e*P	P	18 16 29.9	+1.3
	comp=Z,7.6nm,1.1s						
DAVA	Damuels	89.72	329	*e*P	P	18 16 30.9	+1.2
	comp=Z,3.5nm,0.6s						
SONM	Songino Array	90.02	30	P	P	18 16 31.0	-0.1
	comp=Z,0.7nm,0.5s,baz=224,slow=4.1,SNR=5.0						
	comp=Z,0.7nm,0.5s						
ESDC	Sonseca Array	91.38	317	P	P	18 16 39.4	+1.9
ESDC				IAmb	IAmb	18 16 40.6	
	comp=Z,2.8nm,1.0s						
ESDC	Sonseca Array	91.38	317	P	P	18 16 39.2	+1.7
	comp=Z,2.1nm,0.9s,baz=134,slow=3.2,SNR=12						
	comp=Z,2.1nm,0.9s						
JNU	Nakatsue	93.93	53	LR	LR	18 57 12.3	
	comp=Z,33nm,18.5s,baz=221,slow=34						
YKA	Yellowknife Ar	148.68	354	PKPbc	PKPbc	18 23 18.6	+0.5
	comp=Z,3.8nm,0.8s,baz=358,slow=2.6,SNR=12						
ULM	Lac du Bonnet	153.17	322	PKPbc	PKPbc	18 23 29.3	+0.2
	comp=Z,4.5nm,0.8s,baz=37,slow=3.7,SNR=7.7						
ULM				PKPab	PKPab	18 23 39.7	-1.1
	comp=Z,3.9nm,0.9s,baz=107,slow=3.4,SNR=6.2						
TXAR	Lajitas Array	164.28	267	PKP	PKPdf	18 23 36.0	+0.4
	comp=Z,0.5nm,0.9s,baz=289,slow=2.8,SNR=3.6						
TXAR				PKPab	PKPab	18 24 30.5	+0.8
	comp=Z,0.7nm,1.1s,baz=140,slow=5.8,SNR=4.4						

IDC 10 18:13:59.4±4.1, 18°.63S×173°.87W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=267.0km s-min=32.2km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CTA	Charters Tower	37.59	261	P	P	18 21 16.6	+0.6
	0.8nm,1.1s,baz=93,slow=11,SNR=2.3						
	0.8nm,1.1s						
WRA	Warramunga Arr	48.75	260	P	P	18 22 45.9	-0.4
	1.1nm,0.3s,baz=97,slow=7.4,SNR=49						
	1.1nm,0.3s						
ASAR	Alice Springs	48.76	255	P	P	18 22 46.1	-0.2
	1.1nm,0.5s,baz=89,slow=7.9,SNR=27						
	1.1nm,0.5s						
NVAR	Mina Array Bea	77.02	42	P	P	18 25 54.6	+0.1
	0.2nm,0.4s,baz=230,slow=5.6,SNR=1.6						
	0.2nm,0.4s						

TAP 10 18:16:45.9, 23°.05N×120°.99E, h5km±1km, ML1.2, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ELDTW	Lidau	0.14	11	⇑*i*P	Pg	18 16 49.9	+1.0
	baz=14						
ELDTW				*i* S	Sg	18 16 51.7	+0.9
	baz=14						
ECS	Chishang	0.22	78	*e*P	Pg	18 16 51.9	+1.7
	baz=78						
ECS				*e*S	Sg	18 16 55.7	+2.6
	baz=78						
ECS	Chishang	0.22	78	*e*P	Sg	18 16 55.7	+2.7
	baz=80						
EHD	Haiduan	0.22	64	*e*P	Pg	18 16 51.7	+1.4
	baz=63						
EHD				*e*S	Sg	18 16 54.7	+1.4
	baz=63						
STYH	Taoyuan	0.23	302	P	Pg	18 16 51.7	+1.3
	baz=304						
STYH				*e*S	Sg	18 16 55.1	+1.6
	baz=304						
STYT	Tauyuan	0.24	298	P	Pg	18 16 52.0	+1.3
	baz=298						
STYT				*i* S	Sg	18 16 55.2	+1.4
	baz=298						
TWG	Pinlang	0.24	161	P	Pg	18 16 52.5	+1.9
	baz=159						
TWG				S	Sg	18 16 56.0	+2.2
	baz=159						
TWGBT	Beinan	0.25	160	P	Pg	18 16 52.4	+1.7
	baz=159						
TWGBT				*i* S	Sg	18 16 56.0	+2.0
	baz=159						
TWGBT	Beinan	0.25	160	*e*P	Sg	18 16 55.8	+1.8
	baz=161						
FULB	Fuli	0.32	62	*e*P	Pb	18 16 53.7	-0.4
	baz=62						
FULB				*e*S	Sb	18 16 59.5	-0.1
	baz=62						
SLGT	Liugui	0.32	260	P	Pb	18 16 54.2	+0.1
	baz=259						
SLGT				S	Sb	18 16 58.2	-1.5
	baz=259						
WTP	Ta-pu	0.40	300	P	Pb	18 16 55.5	0.0
	baz=299						
WTP				*e*S	Sb	18 17 01.7	-0.2
	baz=299						
TPUB	Ta-pu	0.41	307	P	Pb	18 16 56.0	+0.3
	baz=307						
TPUB				*e*S	Sb	18 17 02.3	-0.1
	baz=307						
TWF1	Yuli	0.41	43	P	Pb	18 16 55.2	-0.5
	baz=44						
TWF1				*e*S	Sg	18 17 00.5	+1.1
	baz=44						
EYUL	Yuli	0.42	46	*e*P	Pb	18 16 55.4	-0.5
	baz=45						
YULB	Yu-li	0.44	40	P	Pb	18 16 55.7	-0.5
	baz=39						
YULB				*e*S	Sg	18 17 00.9	+0.6
	baz=39						
ECL	Taimali	0.45	184	*e*P	Pb	18 16 55.7	-0.6
	baz=183						
TWK	Hsinying	0.51	295	*e*P	Pb	18 16 57.6	+0.2
	baz=295						
TWK				*e*S	Sb	18 17 04.6	-0.5
	baz=295						
MASBT	Mashibuluo	0.55	217	*e*P	Pg	18 16 57.0	+0.6
	baz=216						
EHY	Hungye	0.55	34	*e*P	Pg	18 16 57.1	+0.6
	baz=34						
HGSD	Ruisui	0.59	42	*e*P	Pb	18 16 58.7	-0.1
	baz=42						
HGSD				*e*S	Sb	18 17 07.9	+0.3
	baz=42						

TAP 10 18:16:49.7, 23°.06N×120°.99E, h10km±1km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ELDTW	Lidau	0.13	11	*i* P	Pb	18 16 53.9	-0.5
	baz=14						
ELDTW				*i* S	Sg	18 16 55.9	+0.8
	baz=14						
ECS	Chishang	0.21	80	*e*S	Sg	18 16 59.7	+2.5
	baz=80						
EHD	Haiduan	0.22	66	*e*P	Pb	18 16 55.4	-0.4
	baz=66						
EHD				*e*S	Sg	18 16 58.8	+1.5
	baz=66						
STYH	Taoyuan	0.23	299	*e*P	Pb	18 16 55.8	-0.1
	baz=301						
STYH				S	Sg	18 16 59.2	+1.7
	baz=301						
STYT	Tauyuan	0.24	295	*e*P	Pb	18 16 55.8	-0.4
	baz=295						
STYT				S	Sg	18 16 59.4	+1.4
	baz=295						
TWG	Pinlang	0.25	163	*e*P	Pb	18 16 56.6	+0.3
	baz=161						
TWG				*e*S	Sg	18 16 59.9	+1.7
	baz=161						
TWGBT	Beinan	0.26	161	*e*S	Sb	18 17 00.1	-0.8
	baz=161						
SLGT	Liugui	0.32	258	*e*P	Pb	18 16 57.5	-0.1
	baz=258						
SLGT				*e*S	Sb	18 17 01.9	-1.0
	baz=258						
WTP	Ta-pu	0.39	298	*e*P	Pb	18 16 59.2	+0.4
	baz=298						
WTP				*e*S	Sb	18 17 05.2	+0.3
	baz=298						
TWF1	Yuli	0.41	44	*e*P	Pb	18 16 59.4	+0.4
	baz=45						
TWF1				*e*S	Sb	18 17 04.5	-0.8
	baz=45						
TPUB	Ta-pu	0.41	306	*e*P	Pb	18 16 58.7	-0.4
	baz=305						
YULB	Yu-li	0.43	40	*e*P	Pb	18 16 59.2	-0.3
	baz=40						
YULB				*e*S	Sb	18 17 05.3	-0.8
	baz=40						
SSD	Sandimen	0.46	227	*e*P	Pb	18 16 59.3	-0.5
	baz=225						
ECL	Taimali	0.46	184	*e*P	Pg	18 16 59.3	+0.5
	baz=183						
EHY	Hungye	0.54	34	*e*P	Pb	18 17 01.4	+0.1
	baz=35						
MASBT	Mashibuluo	0.56	217	P	Pb	18 17 01.3	-0.3
	baz=216						
MASBT				*e*S	Sb	18 17 08.7	-0.8
	baz=216						

*IDC **10** 18:27:13.0±0.7, 31°.66S×58°.29E, h0km, mb4.1/12, mbtmp4.2/13, ML4.3/1, Error ellipse: s-maj=26.1km s-min=16.7km az=85.0*
*NEIC **10** 18:27:14.5±0.8, 31°.70S±0°.09×58°.2E±0°.1, h10km±1km, mb4.5/15, Error ellipse: s-maj=23.4km s-min=4.5km az=229.0*

ISC 10 18:27:15.5±0.5, 31°.60S±0°.09×58°.2E±0°.1, h17km, n46, σ0°96/37, mb4.3/18, 2C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.63	347	Pn	Pn	18 29 45.3	-1.9
FOMA	Nahampoana Res	11.90	301	Pn	Pn	18 30 05.0	+0.5
VOI	Vohitsoka	14.04	311	Pn	Pn	18 30 31.9	-1.9
H04N2	CROZET ISLANDS	15.37	197	T	T	18 46 47.3	
	baz=23,slow=75,SNR=74						
H04N1	CROZET ISLANDS	15.38	197	T	T	18 46 46.0	
	baz=23,slow=75,SNR=73						
H04N3	CROZET ISLANDS	15.39	197	T	T	18 46 44.8	
	baz=23,slow=75,SNR=77						
ABPO	Ambohimpanom	15.98	319	Pn	Pn	18 30 59.8	+0.1
ABPO				IAmb	IAmb	18 31 21.8	
	comp=Z,32nm,1.4s						
OPO	Ambohidratompo	16.36	320	Pn	P	18 31 07.3	-0.1
	comp=Z,0.1nm,0.3s,baz=148,slow=13,SNR=9.0						
	comp=Z,10nm,0.8s						
MSEY	Mahe Island	26.91	354	P	P	18 32 55.5	-0.4
H08S1	Diego Garcia H	27.29	32	T	T	19 01 16.6	
	baz=206,slow=76,SNR=15						
H08S2	Diego Garcia H	27.30	32	T	T	19 01 16.4	
	baz=206,slow=76,SNR=15						
H08S3	Diego Garcia H	27.31	32	T	T	19 01 19.0	
	baz=206,slow=76,SNR=16						
MAW	Mawson	36.15	177	P	P	18 34 17.8	+1.3
	comp=Z,2.0nm,0.6s,baz=345,slow=11,SNR=4.0						
	comp=Z,2.0nm,0.6s						
H01W2	Cape Leeuwin H	46.36	110	T	T	19 24 54.6	
	baz=257,slow=74,SNR=41						
H01W3	Cape Leeuwin H	46.37	110	T	T	19 24 54.6	
	baz=257,slow=74,SNR=38						
H01W1	Cape Leeuwin H	46.38	110	T	T	19 24 55.6	
	baz=257,slow=74,SNR=35						
SNAA	Sanae	51.30	201	P	P	18 36 16.5	-1.9
SNAA				IAmb	IAmb	18 36 18.8	
	comp=Z,3.5nm,1.0s						
SNAA	Sanae	51.30	201	⇑P	P	18 36 17.7	-0.6
	comp=Z,51nm,0.9s						
SNAA	Sanae	51.30	201	P	P	18 36 17.7	-0.6
	comp=Z,2.1nm,0.8s,baz=82,slow=6.2,SNR=6.7						
	comp=Z,2.1nm,0.8s						
VNA3	Neumayer Olymp	53.33	202	⇑P	P	18 36 32.7	-0.6
	comp=Z,2.7nm,0.7s						
QSPA	South Pole Qui	58.57	180	P	P	18 37 11.0	-0.1
QSPA				IAmb	IAmb	18 37 11.9	
	comp=Z,6.2nm,0.7s						
QSPA	South Pole Qui	58.57	180	P	P	18 37 10.7	-0.4
	comp=Z,5.3nm,0.6s,baz=266,slow=1.5,SNR=44						
	comp=Z,5.3nm,0.6s						
VNDA	Vanda	62.28	166	P	P	18 37 35.5	-0.6
	comp=Z,0.9nm,0.8s,baz=250,slow=10,SNR=4.9						
	comp=Z,0.9nm,0.8s						
CMAR	Chiang Mai Arr	63.27	44	P	P	18 37 44.0	+0.6
	comp=Z,3.2nm,0.8s,baz=228,slow=7.2,SNR=16						
	comp=Z,3.2nm,0.8s						
KNRA	Kununurra	65.55	94	P	P	18 37 58.0	-0.6
ASAR	Alice Springs	66.32	104	P	P	18 38 02.9	-0.6
ASAR	Alice Springs	66.32	104	P	P	18 38 03.0	-0.6
	comp=Z,3.0nm,0.7s,baz=239,slow=6.0,SNR=51						
	comp=Z,3.0nm,0.7s						
AS31	Alice Springs	66.32	104	P	P	18 38 02.8	-0.7
AS31				IAmb	IAmb	18 38 03.6	
	comp=Z,1.2nm,0.6s						
MMAI	Mount Meron Ar	67.78	339	P	P	18 38 13.1	+0.7
	comp=Z,0.7nm,0.4s,baz=141,slow=9.3,SNR=1.9						
	comp=Z,0.7nm,0.4s						
WRA	Warramunga Arr	68.32	101	P	P	18 38 15.9	-0.3
	comp=Z,2.9nm,0.7s,baz=241,slow=5.6,SNR=27						
	comp=Z,2.9nm,0.7s						
WB2	Warramunga Arr	68.33	101	P	P	18 38 15.8	-0.5
WB2				IAmb	IAmb	18 38 33.1	
	comp=Z,6.4nm,1.1s						
WB0	Warramunga Arr	68.44	101	P	P	18 38 16.4	-0.6
STKA	Stephens Creek	69.03	115	P	P	18 38 20.3	-0.2
STKA	Stephens Creek	69.03	115	P	P	18 38 20.6	+0.1
	comp=Z,1.6nm,0.6s,baz=223,slow=5.2,SNR=4.3						
	comp=Z,1.6nm,0.6s						
BRTR	Keskin Array B	74.54	341	P	P	18 38 53.7	+0.4
	comp=Z,0.7nm,0.7s,baz=175,slow=6.2,SNR=5.1						
	comp=Z,0.7nm,0.7s						
KKAR	Karatay Array	75.19	9	P	P	18 38 58.3	+1.5
KKAR	Karatay Array	75.19	9	P	P	18 38 58.4	+1.6
KKAR				IAmb	IAm

*RHSSO **10** 18:32:29.1±0.3, 42°.35N×18°.96E, h6km±1km, ML2.5/15*

ISC 10 18:32:29.4±0.8, **42°.38N**±0°.02×**18°.94E**±0°.02, **h11**km±5km, **n70**, σ0s**96**/131, **11C-10D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUM	**Brajici-Budva**	**0.09**	**206**	⇑*i*Pg	**Pg**	**18 32 31.4**	**-0.6**
BUM				*i* Sg	**Sg**	**18 32 33.9**	**0.0**
CEME	**Cevo**	**0.17**	**353**	⇑*i*Pg	**Pg**	**18 32 33.4**	**+0.1**
CEME				*i* Sg	**Sg**	**18 32 37.0**	**+1.1**
PDG	**Podgorica**	**0.24**	**77**	*e*Pg	**Pg**	**18 32 33.7**	**-0.6**
PDG				*e*Sg	**Sg**	**18 32 37.9**	**+0.3**
PDG	**Podgorica**	**0.24**	**77**	⇑*i*Pg	**Pg**	**18 32 33.7**	**-0.6**
PDG				*e*Sg	**Sg**	**18 32 37.8**	**+0.2**
PDG	**Podgorica**	**0.24**	**77**	⇑*i*Pg	**Pg**	**18 32 33.7**	**-0.6**
PDG				*i* Sg	**Sg**	**18 32 38.5**	**+0.9**
DRME	**Dracevica, Mon**	**0.26**	**137**	*e*Pg	**Pg**	**18 32 33.7**	**-1.1**
DRME				*e*Sg	**Sg**	**18 32 37.8**	**-0.6**
DRME	**Dracevica, Mon**	**0.26**	**137**	⇑*i*Pg	**Pg**	**18 32 33.7**	**-1.1**
DRME				*e*Sg	**Sg**	**18 32 37.7**	**-0.6**
DRME	**Dracevica, Mon**	**0.26**	**137**	⇑*i*Pg	**Pg**	**18 32 33.7**	**-1.1**
DRME				*i* Sg	**Sg**	**18 32 37.9**	**-0.5**
NKME	**Niksic**	**0.39**	**1**	⇓*i*Pg	**Pg**	**18 32 36.4**	**-0.8**
NKME				*i* Sg	**Sb**	**18 32 43.4**	**-1.1**
TREB	**Trebinje**	**0.56**	**308**	*e*Pg	**Pg**	**18 32 39.4**	**-0.9**
TREB				*e*Sg	**Sb**	**18 32 49.0**	**-0.2**
TREB	**Trebinje**	**0.56**	**308**	⇓*i*Pg	**Pg**	**18 32 39.3**	**-1.0**
TREB				*e*Sg	**Sg**	**18 32 48.3**	**+0.7**
BRY	**Bratogost**	**0.60**	**330**	⇓*i*Pg	**Pg**	**18 32 40.5**	**-0.7**
BRY				*e*Sg	**Sg**	**18 32 49.5**	**+0.3**
BRY	**Bratogost**	**0.60**	**330**	⇑*i*Pg	**Pg**	**18 32 40.7**	**-0.5**
BRY				*i* Sg	**Sg**	**18 32 49.8**	**+0.6**
KOME	**Kolasin**	**0.63**	**42**	*e*Pg	**Pg**	**18 32 40.9**	**-0.8**
KOME				*e*Sg	**Sb**	**18 32 51.1**	**-0.5**
KOME	**Kolasin**	**0.63**	**42**	⇓*i*Pg	**Pg**	**18 32 41.0**	**-0.8**
KOME				*i* Sg	**Sb**	**18 32 51.4**	**-0.2**
DBRK	**Dubrovnik**	**0.66**	**297**	*e*Pg	**Pg**	**18 32 41.0**	**-1.2**
DBRK				Sg	**Sb**	**18 32 52.4**	**+0.2**
PUK	**Puka**	**0.78**	**115**	P	**Pg**	**18 32 42.9**	**-1.6**
	baz=115						
PUK				S	**Sg**	**18 32 54.5**	**-0.2**
	baz=115						
PUK				AMP			
	comp=N,1.2nm,0.1s,baz=115						
PVY	**Plav**	**0.78**	**74**	*e*Pg	**Pg**	**18 32 44.1**	**-0.5**
PVY				*e*Sg	**Sb**	**18 32 56.0**	**+0.2**
PVY	**Plav**	**0.78**	**74**	⇓*i*Pg	**Pg**	**18 32 44.1**	**-0.5**
PVY				*i* Sg	**Sb**	**18 32 56.3**	**+0.5**
UPM	**Unac-Piva**	**0.83**	**358**	⇓*i*Pg	**Pg**	**18 32 44.1**	**-1.4**
UPM				*e*Sg	**Sb**	**18 32 56.5**	**-0.7**
UPM	**Unac-Piva**	**0.83**	**358**	⇓*i*Pg	**Pg**	**18 32 44.0**	**-1.4**
UPM				*i* Sg	**Sb**	**18 32 57.8**	**+0.6**
BCI	**Bajram Curri**	**0.83**	**90**	P	**Pg**	**18 32 44.0**	**-1.6**
	baz=89						
BCI				S	**Sg**	**18 32 55.2**	**-1.2**
	baz=89						
BCI				AMP			
	comp=E,0.8nm,0.3s,baz=89						
KLINJ	**Klinje**	**0.83**	**342**	*e*Pg	**Pg**	**18 32 44.8**	**-0.8**
KLINJ				*e*Sg	**Sb**	**18 32 57.3**	**-0.1**
BEY	**Berane**	**0.86**	**54**	*e*Pg	**Pg**	**18 32 45.6**	**-0.4**
BEY				*e*Sg	**Sg**	**18 32 56.8**	**-0.4**
IVA	**Berane**	**0.86**	**54**	⇑*i*Pg	**Pg**	**18 32 45.2**	**-0.8**
IVA				*i* Sg	**Sn**	**18 32 59.4**	**-0.8**
PLE	**Pljevlja**	**1.01**	**19**	*e*Pg	**Pg**	**18 32 48.4**	**-0.5**
PLE				*e*Sg	**Sb**	**18 33 02.8**	**+0.5**
PLE	**Pljevlja**	**1.01**	**19**	⇓*i*Pg	**Pg**	**18 32 47.7**	**-1.2**
PLE				*i* Sg	**Sn**	**18 33 04.0**	**+0.1**
STON	**Ston**	**1.04**	**299**	*e*Pg	**Pg**	**18 32 47.5**	**-2.0**
STON				*e*Sg	**Sg**	**18 33 03.0**	**-0.1**
STON	**Ston**	**1.04**	**299**	*e*Pg	**Pg**	**18 32 47.2**	**-2.3**
STON	**Ston**	**1.04**	**299**	⇑*i*Pg	**Pg**	**18 32 47.6**	**-2.0**
STON				*e*Sg	**Sg**	**18 33 03.6**	**+0.5**
SJES	**Sjenica**	**1.16**	**40**	*e*Pg	**Pg**	**18 32 51.3**	**-0.5**
SJES				*e*Sg	**Sn**	**18 33 08.1**	**+0.3**
SJES	**Sjenica**	**1.16**	**40**	⇑*i*Pg	**Pg**	**18 32 50.2**	**-1.6**
SJES				*e*Sg	**Sb**	**18 33 06.9**	**+0.1**
TIR	**Tirane**	**1.24**	**146**	P	**Pg**	**18 32 51.0**	**-2.2**
	baz=146						
TIR				S	**Sg**	**18 33 08.5**	**-0.8**
	baz=146						
TIR				AMP			
	comp=E,0.4nm,0.3s,baz=146						
TIR	**Tirane**	**1.24**	**146**	*e*Pg	**Pg**	**18 32 53.3**	**+0.1**
TIR				*e*Sg	**Sg**	**18 33 09.4**	**+0.1**
RUDO	**Rudo**	**1.28**	**14**	*e*Pg	**Pg**	**18 32 52.6**	**-1.4**
RUDO				*e*Sg	**Sn**	**18 33 11.2**	**+0.7**
RUDO	**Rudo**	**1.28**	**14**	*e*Pg	**Pg**	**18 32 52.3**	**-1.7**
RUDO				*e*Sg	**Sn**	**18 33 11.0**	**+0.5**
IVAS	**Ivanjica**	**1.49**	**36**	*e*Pg	**Pn**	**18 32 56.2**	**-0.1**
IVAS				*e*Sg	**Sg**	**18 33 17.3**	**-0.1**
BBLS	**Lazi&#263i**	**1.53**	**13**	*e*Pn	**Pg**	**18 32 58.2**	**-0.5**
BBLS				*e*Sn	**Sg**	**18 33 19.7**	**+1.1**
BBLS	**Lazi&#263i**	**1.53**	**13**	⇑*i*Pn	**Pg**	**18 32 57.5**	**+0.7**
BBLS				*e*Sn	**Sg**	**18 33 17.9**	**-0.7**
MAKA	**Makarska**	**1.68**	**303**	*e*Pn	**Pn**	**18 32 58.8**	**0.0**
MAKA				Sn	**Sn**	**18 33 21.7**	**+1.3**
HAPS	**Han Pijesak,BI**	**1.71**	**0**	*e*Pn	**Pb**	**18 33 01.1**	**+0.1**
HAPS				*e*Sn	**Sb**	**18 33 23.0**	**+0.5**
HAPS	**Han Pijesak,BI**	**1.71**	**0**	⇓*i*Pn	**Pn**	**18 33 00.4**	**+1.1**
HAPS				*e*Sn	**Sb**	**18 33 22.6**	**+0.1**
RICI	**Ricice**	**1.74**	**311**	*e*Pn	**Pn**	**18 33 00.4**	**+0.8**
DIVS	**Divibare**	**1.88**	**24**	*e*Pn	**Pb**	**18 33 03.1**	**-0.8**
DIVS				*e*Sn	**Sn**	**18 33 26.6**	**+1.1**
GRUS	**Gruza**	**1.99**	**40**	*e*Pn	**Pn**	**18 33 04.0**	**+0.9**
GRUS				*e*Sn	**Sb**	**18 33 29.7**	**-0.8**
HVAR	**Hvar**	**2.00**	**294**	*e*Pn	**Pn**	**18 33 02.8**	**-0.4**
HVAR				Sn	**Sn**	**18 33 29.2**	**+0.9**
NOCI	**Noci**	**2.12**	**222**	P	**Pn**	**18 33 06.0**	**+1.1**
	baz=223						
NOCI				S	**Sn**	**18 33 33.5**	**+2.3**
	baz=223						
TRUS	**Trudelj**	**2.13**	**30**	*e*Pn	**Pn**	**18 33 05.8**	**+0.8**
TRUS				*e*Sn	**Sb**	**18 33 34.2**	**-0.4**
TEKS	**Tekeris**	**2.21**	**11**	*e*Pn	**Pn**	**18 33 06.9**	**+0.7**
TEKS				*e*Sn	**Sn**	**18 33 34.8**	**+1.3**
TEKS	**Tekeris**	**2.21**	**11**	*e*Pn	**Pn**	**18 33 06.4**	**+0.2**
TEKS				*e*Sn	**Sn**	**18 33 34.3**	**+0.8**
PRVS	**Prvonek**	**2.32**	**86**	*e*Pn	**Pn**	**18 33 08.6**	**+0.9**
PRVS				*e*Sn	**Sn**	**18 33 37.4**	**+1.2**
FNA	**Florina**	**2.42**	**130**	P	**Pn**	**18 33 09.4**	**+0.4**
	baz=130						
FNA				S	**Sn**	**18 33 41.0**	**+2.3**
	baz=130						
MGRS	**Mrkonjic Grad**	**2.45**	**327**	*e*Pn	**Pn**	**18 33 10.0**	**+0.6**
MGRS				*e*Sn	**Sn**	**18 33 41.2**	**+1.8**
KIJV	**Kijevo**	**2.47**	**312**	*e*Pn	**Pn**	**18 33 10.7**	**+1.1**
LSK	**Leskovik**	**2.55**	**150**	P	**Pn**	**18 33 12.0**	**+1.1**
	baz=150						
LSK				S	**Sn**	**18 33 44.5**	**+2.5**
	baz=150						
AVAS	**Avala Beograd**	**2.58**	**26**	*e*Pn	**Pn**	**18 33 11.4**	**+0.2**
AVAS				*e*Sn	**Sn**	**18 33 43.8**	**+1.1**
BLY	**Banja Luka**	**2.69**	**332**	*e*Pn	**Pn**	**18 33 13.6**	**+0.9**
BLY				*e*Sn	**Sn**	**18 33 46.9**	**+1.5**
ZIRJ	**Zirje**	**2.74**	**299**	*e*Pn	**Pn**	**18 33 13.6**	**+0.2**
A050A	**Klekovaca**	**2.74**	**321**	⇓*i*Pn	**Pn**	**18 33 14.7**	**+1.2**
A050A				*e*Sn	**Sn**	**18 33 48.2**	**+1.6**
MORI	**Morici**	**2.80**	**303**	*e*Pn	**Pn**	**18 33 15.0**	**+0.9**
FRGS	**Fruska Gora**	**2.85**	**12**	*e*Pn	**Pn**	**18 33 15.1**	**+0.2**
FRGS	**Fruska Gora**	**2.85**	**12**	*e*Pn	**Pn**	**18 33 15.1**	**+0.2**
FRGS				*e*Sn	**Sn**	**18 33 50.0**	**+0.8**
UDBI	**Udbina**	**3.16**	**314**	*e*Pn	**Pn**	**18 33 20.7**	**+1.5**
DUGI	**Dugi Otok**	**3.27**	**301**	*e*Pn	**Pn**	**18 33 19.4**	**-1.2**
VIRC	**Vir**	**3.42**	**305**	*e*Pn	**Pn**	**18 33 23.1**	**+0.3**
MORH	**Mrgy, Hungar**	**3.84**	**357**	*e*Pn	**Pn**	**18 33 28.5**	**0.0**
MORH				*e*Sn	**Sn**	**18 34 13.8**	**+0.1**
BOJS	**Bojanci**	**4.11**	**321**	*e*Pn	**Pn**	**18 33 32.8**	**+0.6**
BOJS				*e*Sn	**Sn**	**18 34 20.2**	**0.0**
CRES	**Cresnjev**	**4.26**	**325**	*e*Pn	**Pn**	**18 33 35.2**	**+0.8**
CRES				*e*Sn	**Sn**	**18 34 24.3**	**+0.2**
CEY	**Cerknica**	**4.68**	**317**	*e*Pn	**Pn**	**18 33 40.1**	**+0.1**
CEY				*e*Sn	**Sn**	**18 34 33.6**	**-0.7**
SKDS	**Skadanscina**	**4.76**	**313**	*e*Pn	**Pn**	**18 33 41.3**	**+0.1**
SKDS				*e*Sn	**Sn**	**18 34 35.1**	**-1.3**

*IDC **10** 18:34:53.2±0.9, 31°.62S×58°.36E, h0km, mb4.1/11, mbtmp4.1/11, Error ellipse: s-maj=33.5km s-min=20.0km az=82.0*

*NEIC **10** 18:34:54.6±1.7, 31°.5S±0°.1×58°.4E±0°.1, h10km±1km, mb4.5/11, Error ellipse: s-maj=24.8km s-min=4.8km az=223.0*

ISC 10 18:34:54.4±0.6, **31°.5S**±0°.1×**58°.3E**±0°.1, **h10**km, **n48**, σ1s**42**/37, **mb4.4**/15, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.50**	**347**	Pn	**Pn**	**18 37 24.0**	**-1.1**
FOMA	**Nahampoana Res**	**11.85**	**300**	Pn	**Pn**	**18 37 43.8**	**+0.4**
VOI	**Vohitsoka**	**13.96**	**310**	Pn	**Pn**	**18 38 13.2**	**+0.7**
H04N2	**CROZET ISLANDS**	**15.51**	**197**	T	T	18 54 33.2	
	baz=22,slow=75,SNR=13						
H04N1	**CROZET ISLANDS**	**15.51**	**197**	T	T	18 54 34.4	
	baz=22,slow=75,SNR=13						
H04N3	**CROZET ISLANDS**	**15.53**	**197**	T	T	18 54 33.2	
	baz=22,slow=75,SNR=13						
ABPO	**Ambohimpanom**	**15.89**	**319**	Pn	**Pn**	**18 38 40.2**	**+1.9**
OPO	**Ambohidratompo**	**16.27**	**319**	Pn	**P**	**18 38 49.2**	**+3.0**
	0.1nm,0.3s,baz=123,slow=17,SNR=4.0						
OPO				Sn	**Sn**	**18 41 38.3**	**-5.6**
	baz=342,slow=20,SNR=1.5						
H08S1	**Diego Carcia H**	**27.16**	**32**	T	T	19 08 52.9	
	baz=206,slow=76,SNR=13						
H08S2	**Diego Garcia H**	**27.17**	**32**	T	T	19 08 57.2	
	baz=206,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**27.18**	**32**	T	T	19 08 54.4	
	baz=206,slow=76,SNR=18						
MAW	**Mawson**	**36.28**	**177**	P	**P**	**18 41 57.3**	**-0.3**
	1.9nm,0.8s,baz=356,slow=13,SNR=2.5						
	1.9nm,0.8s						
H01W2	**Cape Leeuwin H**	**46.39**	**110**	T	T	19 32 29.3	
	baz=257,slow=74,SNR=10						
H01W3	**Cape Leeuwin H**	**46.40**	**110**	T	T	19 32 28.7	
	baz=257,slow=74,SNR=12						
H01W1	**Cape Leeuwin H**	**46.41**	**110**	T	T	19 32 30.4	
	baz=257,slow=74,SNR=9.7						
QSPA	**South Pole Qui**	**58.71**	**180**	P	**P**	**18 44 50.6**	**-1.5**
QSPA				IAmb	IAmb	18 45 01.3	
	comp=Z,4.8nm,1.2s						
QSPA	**South Pole Qui**	**58.71**	**180**	P	**P**	**18 44 51.2**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=274,slow=2.3,SNR=16						
	comp=Z,2.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.16**	**44**	P	**P**	**18 45 23.8**	**+1.1**
	comp=Z,3.6nm,0.9s,baz=230,slow=7.1,SNR=24						
	comp=Z,3.6nm,0.9s						
ASAR	**Alice Springs**	**66.33**	**104**	P	**P**	**18 45 42.3**	**-1.3**
ASAR	**Alice Springs**	**66.33**	**104**	P	**P**	**18 45 43.0**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=238,slow=6.1,SNR=33						
	comp=Z,2.8nm,0.7s						
AS31	**Alice Springs**	**66.34**	**104**	P	**P**	**18 45 42.6**	**-1.0**
AS31				IAmb	IAmb	18 45 43.4	
	comp=Z,0.9nm,0.6s						
TOLI2	**Tolitoli**	**67.41**	**74**	P	P	18 45 42.9	-7.6
WRA	**Warramunga Arr**	**68.33**	**101**	P	**P**	**18 45 55.8**	**-0.5**
	comp=Z,4.1nm,0.9s,baz=244,slow=5.8,SNR=16						
	comp=Z,4.1nm,0.9s						
WB2	**Warramunga Arr**	**68.34**	**101**	P	**P**	**18 45 55.1**	**-1.2**
WB0	**Warramunga Arr**	**68.45**	**101**	P	**P**	**18 45 55.7**	**-1.3**
STKA	**Stephens Creek**	**69.08**	**115**	P	**P**	**18 46 00.4**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=295,slow=5.3,SNR=3.6						
	comp=Z,2.5nm,0.8s						
BRTR	**Keskin Array B**	**74.42**	**341**	P	**P**	**18 46 31.5**	**-1.1**
BRTR	**Keskin Array B**	**74.42**	**341**	P	**P**	**18 46 33.8**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=153,slow=9.3,SNR=4.8						
	comp=Z,0.7nm,0.8s						
KKAR	**Karatay Array**	**75.05**	**9**	P	**P**	**18 46 37.2**	**+1.2**
ABKAR	**Akbulak array**	**80.37**	**1**	P	**P**	**18 47 05.5**	**0.0**
ABKAR	**Akbulak array**	**80.37**	**1**	P	**P**	**18 47 05.2**	**-0.3**
ABKAR				IAmb	IAmb	18 47 10.6	
	comp=Z,3.5nm,1.2s						
MAKZ	**Makanchi**	**80.80**	**16**	P	**P**	**18 47 08.0**	**0.0**
MKAR	**Makanchi Array**	**80.86**	**16**	P	**P**	**18 47 08.1**	**-0.2**
MKAR	**Makanchi Array**	**80.86**	**16**	P	**P**	**18 47 09.5**	**+1.2**
	comp=Z,0.9nm,1.0s,baz=191,slow=5.8,SNR=5.1						
	comp=Z,0.9nm,1.0s						
KURBB	**Kurchatov Arra**	**83.67**	**13**	P	**P**	**18 47 24.5**	**+1.7**
	comp=Z,0.7nm,0.2s,baz=207,slow=5.4,SNR=7.3						
	comp=Z,0.7nm,0.2s						
KURK	**Kurchatov**	**83.78**	**13**	P	**P**	**18 47 23.9**	**+0.5**
KURK				IAmb	IAmb	18 47 26.0	
	comp=Z,5.0nm,1.1s						
BRVK	**Borovoye**	**84.81**	**7**	P	**P**	**18 47 29.3**	**+0.7**
BRVK				IAmb	IAmb	18 47 31.2	
	comp=Z,3.1nm,0.9s						
ZALV	**Zalesovo Beam**	**88.11**	**15**	P	**P**	**18 47 46.4**	**+1.7**
	comp=Z,0.3nm,0.2s,baz=149,slow=3.5,SNR=3.6						
	comp=Z,0.3nm,0.2s						
SONM	**Songino Array**	**89.98**	**30**	P	**P**	**18 47 54.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=197,slow=4.5,SNR=2.0						
	comp=Z,0.1nm,0.3s						
I28M	**Miner Creek**	**144.20**	**13**	PKPdf	PKPbc	18 54 28.6	+0.6
SUA	**Susitna One**	**144.53**	**24**		**PKPab**	**18 54 29.0**	**0.0**
SCRK	**Sand Creek**	**144.59**	**17**		PKPbc	18 54 30.0	+0.7
K27K	**Chicken**	**145.00**	**15**		**PKPdf**	**18 54 31.6**	**+0.5**
I30M	**Mount Dempster**	**145.03**	**11**		**PKPbc**	**18 54 30.8**	**+0.1**
J30M	**Hart River**	**145.64**	**11**		**PKPdf**	**18 54 32.3**	**-0.1**
L27K	**Beaver Creek,**	**145.88**	**16**	PKPdf	**PKPbc**	**18 54 33.4**	**+0.1**
BCAR	**Beaver Creek A**	**145.89**	**16**	PKPdf	**PKPbc**	**18 54 33.4**	**0.0**
YKA	**Yellowknife Ar**	**148.61**	**354**	PKPbc	**PKPbc**	**18 54 40.7**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=354,slow=3.0,SNR=7.1						

*IDC **10** 18:41:36.2±0.4, 31°.72S×58°.34E, h0km, mb4.5/23, mbtmp4.5/24, ML4.5/1, MS3.9/35, Error ellipse: s-maj=17.1km s-min=13.2km az=62.0*

*GCMT **10** 18:41:36.8±0.4, 31°.73S±0°.02×57°.99E±0°.04, h30km±1km, MW5.1/70, Moment Tensor Solution. s18,c18; s70,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.29±.35; $M_{\theta\theta}$=4.08±.21; $M_{\phi\phi}$=-0.79±.24; $M_{r\theta}$=-1.05±.23; $M_{\theta\phi}$=-2.18±.17; $M_{r\phi}$=2.01±.34; Best double couple: M_0=4.83700×10^{16} NP1:ϕ_s=135.00000°, δ62.00000°, λ-59.00000°. NP2: ϕ_s=264.00000°, δ41.00000°, λ-134.00000°. Principal axes: T 5.2640, Plg12.0000°, Azm203.0000°; N -0.8550, Plg27.0000°, Azm299.0000°; P -4.4100, Plg60.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **10** 18:41:36.0±0.8, 31°.71S×58°.29E, h10km, mb5.1/62 Error ellipse: s-maj=12.4km s-min=5.2km az=98.7*

*BJI **10** 18:41:37.6±0.0, 31°.18S×58°.33E, h6km, mb4.8/26, mB5.3/6*

*NEIC **10** 18:41:37.8±1.1, 31°.68S±0°.09×58°.3E±0°.1, h10km±1km, mb5.0/97, Error ellipse: s-maj=17.2km s-min=13.1km az=217.0*

ISC 10 18:41:38.1±0.3, **31°.66S**±0°.07×**58°.28E**±0°.07, **h14**km, **n578**, σ0s**97**/531, **mb5.0**/144, **MS3.9**/39, **63C-9D, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.70**	**347**	Pn	**Pn**	**18 44 06.6**	**-4.5**
FOMA	**Nahampoana Res**	**11.97**	**301**	Pn	**Pn**	**18 44 25.1**	**-3.3**
VOI	**Vohitsoka**	**14.12**	**311**		**Pn**	**18 44 56.3**	**-1.5**
H04N2	**CROZET ISLANDS**	**15.32**	**197**	T	T	19 00 55.5	
	baz=22,slow=75,SNR=73						
H04N1	**CROZET ISLANDS**	**15.33**	**197**	T	T	19 00 56.6	
	baz=22,slow=75,SNR=72						
H04N3	**CROZET ISLANDS**	**15.34**	**197**	T	T	19 00 55.5	
	baz=22,slow=75,SNR=144						
ABPO	**Ambohimpanom**	**16.06**	**319**	P	**Pn**	**18 45 23.1**	**-0.6**
ABPO	**Ambohimpanom**	**16.06**	**319**	P	**Pn**	**18 45 23.1**	**-0.6**
ABPO				pmax	pmax		
	comp=Z,15nm,0.9s						
OPO	**Ambohidratompo**	**16.44**	**320**	Pn	**Pn**	**18 45 28.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=192,slow=12,SNR=7.3						
	comp=Z,4.8nm,0.5s						
POGA	**Pongola**	**23.50**	**274**	P	**P**	**18 46 47.2**	**-0.4**
POGA				IAmb	IAmb	18 46 49.4	
	comp=Z,27nm,0.8s						
GRHM	**Grahamstown, E**	**26.91**	**258**	P	**P**	**18 47 18.9**	**0.0**
GRHM				IAmb	IAmb	18 47 20.2	
	comp=Z,38nm,1.4s						
H08S1	**Diego Carcia H**	**27.32**	**32**	T	T	19 15 50.3	
	baz=206,slow=75,SNR=39						
H08S2	**Diego Garcia H**	**27.33**	**32**	T	T	19 15 50.9	
	baz=206,slow=75,SNR=30						
H08S3	**Diego Garcia H**	**27.34**	**32**	T	T	19 15 52.5	
	baz=206,slow=75,SNR=41						
BOSA	**Boshof**	**28.66**	**267**	P	**P**	**18 47 34.3**	**-0.3**
BOSA	**Boshof**	**28.66**	**267**	P	**P**	**18 47 34.4**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=128,slow=8.4,SNR=5.5						
BOSA				LR	LR	18 56 50.7	
	comp=Z,83nm,20.6s,baz=80,slow=32						
	comp=Z,1.8nm,0.7s						
LBTB	**Lobatse**	**29.45**	**275**	P	**P**	**18 47 40.9**	**-0.7**
LBTB	**Lobatse**	**29.45**	**275**	P	**P**	**18 47 40.9**	**-0.7**
LBTB				pmax	pmax		
	comp=Z,19nm,1.5s						
SUR	**Sutherland**	**31.67**	**259**	P	**P**	**18 48 00.9**	**-0.4**
SUR				IAmb	IAmb	18 48 21.7	
	comp=Z,27nm,1.5s						
SUR	**Sutherland**	**31.67**	**259**	LR	LR	18 58 18.2	
	comp=Z,177nm,21.2s,baz=114,slow=32						
LSZ	**Lusaka**	**31.92**	**294**	P	**P**	**18 48 03.1**	**-0.4**
LSZ				IAmb	IAmb	18 48 05.5	
	comp=Z,12nm,1.0s						
LSZ	**Lusaka**	**31.92**	**294**	P	**P**	**18 48 03.1**	**-0.4**
LSZ				pmax	pmax		
	comp=Z,12nm,1.0s						
MAW	**Mawson**	**36.08**	**177**	P	**P**	**18 48 37.5**	**-1.4**
	comp=Z,1.7nm,0.5s,baz=330,slow=15,SNR=2.2						
MAW				LR	LR	19 01 54.3	
	comp=Z,152nm,19.0s,baz=1.0,slow=34						
	comp=Z,1.7nm,0.5s						
TSUM	**Tsumeb**	**38.58**	**279**	P	**P**	**18 49 01.5**	**+0.6**
TSUM				IAmb	IAmb	18 49 02.8	
	comp=Z,19nm,0.8s						
TSUM	**Tsumeb**	**38.58**	**279**	LR	LR	19 03 35.8	
	comp=Z,223nm,18.4s,baz=121,slow=34						
LODK	**Lodwar**	**41.14**	**324**	P	**P**	**18 49 22.2**	**+0.1**
PALK	**Pallekele**	**44.25**	**33**	LR	LR	19 05 18.5	
	comp=Z,128nm,18.8s,baz=325,slow=32						
ELIB	**Princess Elisa**	**44.41**	**195**	*d*P	**P**	**18 49 48.8**	**+0.7**
	comp=Z,4.1nm,0.9s						
FURI	**Furi**	**44.48**	**332**	LR	LR	19 05 14.2	
	comp=Z,89nm,18.7s,baz=158,slow=32						
ATD	**Arta Tunnel**	**45.42**	**339**	LR	LR	19 05 32.5	
	comp=Z,9.3nm,21.2s,baz=166,slow=32						
H01W2	**Cape Leeuwin H**	**46.30**	**110**	T	T	19 39 13.8	
	baz=257,slow=74,SNR=73						
H01W3	**Cape Leeuwin H**	**46.30**	**110**	T	T	19 39 14.2	
	baz=257,slow=74,SNR=60						
H01W1	**Cape Leeuwin H**	**46.31**	**110**	T	T	19 39 15.1	
	baz=257,slow=74,SNR=74						
SNAA	**Sanae**	**51.26**	**201**	P	**P**	**18 50 40.5**	**-0.6**
SNAA	**Sanae**	**51.26**	**201**	⇑P	**P**	**18 50 40.9**	**-0.2**
	comp=Z,52nm,0.8s						
SNAA	**Sanae**	**51.26**	**201**	P	**P**	**18 50 40.8**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=79,slow=4.9,SNR=7.7						
SNAA				LR	LR	19 07 23.3	
	comp=Z,193nm,21.7s,baz=73,slow=30						
	comp=Z,2.3nm,0.8s						
SNAA	**Sanae**	**51.26**	**201**	*ce*P	**P**	**18 50 41.2**	**+0.2**
SNAA				pmax	pmax		
	comp=Z,6.0nm,1.7s						
HYB	**Hyderabad**	**52.53**	**25**	*e*P	**P**	**18 50 52.0**	**+1.0**
VNA3	**Neumayer Olymp**	**53.28**	**202**	⇑P	**P**	**18 50 56.5**	**+0.5**
	comp=Z,3.1nm,0.7s						
WSAR	**Wadi Sarin**	**54.59**	**0**	LR	LR	19 08 38.8	
	comp=Z,124nm,20.8s,baz=212,slow=30						
MBWA	**Marble Bar**	**55.40**	**95**	P	**P**	**18 51 10.8**	**-1.3**
MBWA				IAmb	IAmb	18 52 19.2	
	comp=Z,19nm,1.2s						
RAYN	**Ar Rayn**	**56.22**	**346**	P	**P**	**18 51 17.8**	**0.0**
RAYN	**Ar Rayn**	**56.22**	**346**	P	**P**	**18 51 17.8**	**0.0**
RAYN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SRIT	**Nakonsritamara**	**56.24**	**52**	P	**P**	**18 51 17.3**	**-0.8**
JAGI	**Jajag, Banyuwa**	**56.65**	**79**	P	**P**	**18 51 21.9**	**+0.7**
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**18 51 33.4**	**-

PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,5.7s
DBIC Dimbokro 71.19 291 P **P 18 52 56.4 -0.5**
DBIC Dimbokro 71.19 291 P **P 18 52 58.5 +1.7**
comp=Z,9.3nm,0.8s,baz=106,slow=7.3,SNR=7.3
DBIC LR LR 19 20 55.4
comp=Z,84nm,21.7s,baz=148,slow=33
comp=Z,9.3nm,0.8s
DBIC Dimbokro 71.19 291 ⇓P **P 18 52 58.3 +1.5**
GAR Garm 71.19 10 P **P 18 52 56.4 0.0**
GAR IAmb IAmb 18 52 57.7
comp=Z,14nm,1.1s
GAZ Gaziantep 71.26 342 P **P 18 52 57.0 +0.1**
GAZ IAmb IAmb 18 52 59.3
comp=Z,14nm,0.9s
GURO Guroymak-BITLI 71.48 347 P **P 18 52 59.5 +1.3**
GURO IAmb IAmb 18 53 02.5
comp=Z,6.5nm,0.8s
DRK Karamyk 71.89 11 P **P 18 53 01.2 +0.3**
DRK IAmb IAmb 18 53 02.5
comp=Z,11nm,0.8s
DRK Karamyk 71.89 11 P **P 18 53 01.2 +0.3**
DRK pmax pmax
comp=Z,11nm,0.8s
BTK Batken 72.30 10 P **P 18 53 04.4 +1.3**
BTK IAmb IAmb 18 53 05.5
comp=Z,6.0nm,0.8s
BTK Batken 72.30 10 P **P 18 53 04.4 +1.3**
BTK pmax pmax
comp=Z,6.0nm,0.8s
GNI Garni 72.55 349 P **P 18 53 05.2 +0.6**
GNI IAmb IAmb 18 53 07.6
comp=Z,20nm,1.2s
GNI Garni 72.55 349 LR LR 19 21 44.0
comp=Z,91nm,21.6s,baz=168,slow=33
GNI Garni 72.55 349*ce*P **P 18 53 04.0 -0.6**
GNI pmax pmax
comp=Z,7.0nm,0.9s
GNI Garni 72.55 349 P **P 18 53 06.2 +1.6**
comp=Z,14nm,0.9s
KSH Kashi 72.70 14 P **P 18 53 03.5 -2.0**
KSH pmax pmax
comp=Z,17nm,0.8s
ARPR Arapgir-MALATY 72.80 344 P **P 18 53 07.0 +0.8**
ARPR IAmb IAmb 18 53 08.8
comp=Z,14nm,1.0s
KARP Karpathos 72.96 334 P **P 18 53 07.3 +0.3**
KARP Karpathos 72.96 334 P **P 18 53 08.3 +1.3**
comp=Z,82nm,1.0s
OHH Osh 73.07 12 P **P 18 53 09.2 +1.6**
OHH pmax pmax
comp=Z,26nm,1.1s
BNN Bunyan 73.20 342 P **P 18 53 08.6 +0.1**
TRKS Terek-Say 73.79 10 P **P 18 53 12.8 +0.9**
TRKS pmax pmax
comp=Z,6.0nm,1.4s
ARSB Arslanbob 73.88 11 P **P 18 53 13.1 +0.6**
ARSB Arslanbob 73.88 11 P **P 18 53 13.1 +0.6**
ARSB pmax pmax
comp=Z,3.0nm,0.9s
TAM Tamanrasset 74.03 310 P **P 18 53 14.9 +1.1**
TAM Tamanrasset 74.03 310 P **P 18 53 14.9 +1.1**
TAM pmax pmax
comp=Z,4.0nm,1.0s
ARK Arkit 74.18 11 P **P 18 53 15.3 +1.2**
ARK pmax pmax
comp=Z,7.0nm,1.0s
IUG Iuzhnay 74.24 9 *e*P **P 18 53 15.2 +0.7**
comp=Z,7.7nm,0.7s,baz=8.9
IUG Iuzhnay 74.24 9 *e*P **P 18 53 15.2 +0.7**
IUG pmax pmax
comp=Z,8.0nm,0.7s
SANT Santorini 74.34 333 ⇓P **P 18 53 15.5 +0.4**
SANT Santorini 74.34 333 P **P 18 53 15.3 +0.2**
BCA Borcka 74.35 347 ⇑P **P 18 53 15.8 +0.8**
BR131 Keskin Array S 74.62 341 P **P 18 53 16.9 +0.1**
BR131 IAmb IAmb 18 53 18.2
comp=Z,8.5nm,0.8s
BR131 Keskin Array S 74.62 341 P **P 18 53 16.9 +0.1**
BR131 pmax pmax
comp=Z,8.0nm,0.9s
BRTR Keskin Array B 74.62 341 P **P 18 53 16.8 0.0**
BRTR Keskin Array B 74.62 341 P **P 18 53 17.5 +0.7**
comp=Z,5.7nm,0.8s,baz=165,slow=8.0,SNR=35
BRTR LR LR 19 23 00.9
comp=Z,35nm,19.9s,baz=134,slow=33
comp=Z,5.7nm,0.8s
ARLS Aral 74.64 12 P **P 18 53 18.4 +1.5**
ARLS pmax pmax
comp=Z,12nm,1.0s
APE Apeiranthos 74.92 333 ⇑P **P 18 53 18.8 +0.3**
APE Apeiranthos 74.92 333 P **P 18 53 18.8 +0.3**
ANTO Ankara 75.00 340 P **P 18 53 18.9 0.0**
ANTO IAmb IAmb 18 53 20.6
comp=Z,12nm,0.7s
ANTO Ankara 75.00 340 P **P 18 53 18.9 0.0**
ANTO pmax pmax
comp=Z,12nm,0.7s
BRLS Borolday 75.08 9 *e*P **P 18 53 18.2 -1.0**
baz=8.6
BRLS Borolday 75.08 9 *e*P **P 18 53 18.1 -1.1**
ONI Oni 75.14 349 P **P 18 53 19.2 -0.4**
ONI Oni 75.14 349 P **P 18 53 19.2 -0.4**
ONI pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 75.24 9 P **P 18 53 20.4 +0.3**
KK31 IAmb IAmb 18 53 22.6
comp=Z,11nm,0.9s
KK31 Karatay Array 75.24 9 P **P 18 53 20.5 +0.3**
KK31 pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 75.24 9 P **P 18 53 20.9 +0.8**
KKAR IAmb IAmb 18 53 22.6
comp=Z,11nm,0.9s
KKAR Karatay Array 75.24 9 P **P 18 53 20.6 +0.4**
KKAR Karatay Array 75.24 9 P **P 18 53 20.9 +0.8**
KKAR pmax pmax
comp=Z,11nm,1.0s
AAK Ala-Archa 75.42 12 P **P 18 53 21.1 -0.3**
AAK Ala-Archa 75.42 12 LR LR 19 23 06.8
comp=Z,105nm,21.8s,baz=190,slow=33
AAK Ala-Archa 75.42 12*ce*P **P 18 53 22.9 +1.5**
AAK pmax pmax
comp=Z,15nm,1.4s
BOOM Boomskoye usch 75.56 13 P **P 18 53 23.2 +1.0**
BOOM IAmb IAmb 18 53 24.3
comp=Z,12nm,1.1s
BOOM Boomskoye usch 75.56 13 P **P 18 53 23.2 +1.0**
BOOM pmax pmax
comp=Z,12nm,1.1s
FRU1 Bishkek 75.61 12 P **P 18 53 22.9 +0.5**
FRU1 IAmb IAmb 18 53 24.3
comp=Z,22nm,1.3s
FRU1 Bishkek 75.61 12 P **P 18 53 22.9 +0.5**
FRU1 pmax pmax
comp=Z,22nm,1.3s
DIKM Dikmen 75.98 342 ⇑P **P 18 53 24.8 +0.5**
DIKM Dikmen 75.98 342 P **P 18 53 25.2 +0.8**
comp=Z,13nm,0.8s
SGDS Sogindy 76.24 12 *e*P **P 18 53 26.7 +0.7**
baz=12
SGDS Sogindy 76.24 12 *e*P **P 18 53 26.6 +0.7**
TNSS Tian-Shan 76.28 14 *e*P **P 18 53 27.0 +0.4**
baz=14
TNSS Tian-Shan 76.28 14 *e*P **P 18 53 27.0 +0.4**
KBZ Khabaz 76.34 349 P **P 18 53 26.5 +0.2**
comp=Z,2.6nm,0.7s,baz=310,slow=3.6,SNR=7.0
KBZ LR LR 19 27 05.3
comp=Z,61nm,18.6s,baz=165,slow=36
comp=Z,2.6nm,0.7s
KBZ Khabaz 76.34 349*ce*P **P 18 53 27.8 +1.5**
KBZ pmax pmax
comp=Z,6.0nm,1.3s
SHA1 Shidzhatmaz 76.39 348*ce*P **P 18 53 28.8 +1.9**
MDOK Medeo 76.43 14 *e*P **P 18 53 28.1 +0.9**
baz=14
MDOK Medeo 76.43 14 *e*P **P 18 53 28.0 +0.9**
AAA Alma-Ata 76.44 14 *e*P **P 18 53 27.9 +0.8**
comp=Z,9.0nm,0.8s,baz=14
AAA Alma-Ata 76.44 14 *e*P **P 18 53 27.9 +0.8**
AAA pmax pmax
comp=Z,9.0nm,0.8s
KIV Kislovodsk 76.59 348 P **P 18 53 28.5 +0.6**
KIV IAmb IAmb 18 53 29.9
comp=Z,17nm,1.0s
KIV Kislovodsk 76.59 348 *e*P **P 18 53 29.1 +1.2**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,43nm,18.0s
KIV Kislovodsk 76.59 348 P **P 18 53 29.5 +1.6**
comp=Z,16nm,0.8s
VSLR Vesyoloye 76.61 346 *i* P **P 18 53 28.2 +0.3**
VSLR pmax pmax
comp=Z,23nm,1.0s
SATY Saty 76.62 15 *e*P **P 18 53 29.1 +0.9**
baz=15
SATY Saty 76.62 15 *e*P **P 18 53 29.0 +0.9**
YLV Yalova 76.69 338 P **P 18 53 29.6 +1.1**
comp=Z,29nm,0.9s
SOC Sochi 76.79 346 *e*P **P 18 53 27.3 -1.6**
SOC *e*S **S 19 03 15.3 -0.3**
SOC *e*SS **SS 19 08 11.2 -1.3**
SOC *e*SSS SSS 19 11 37.0
SOC pmax pmax
comp=Z,5.0nm,0.6s
UZB Uzynbulak 76.84 15 *e*P **P 18 53 30.1 +0.7**
comp=Z,5.9nm,0.7s,baz=15
UZB Uzynbulak 76.84 15 *e*P **P 18 53 30.1 +0.7**
UZB pmax pmax
comp=Z,6.0nm,0.7s
SHLS Shalkode 76.95 16 *e*P **P 18 53 31.4 +1.4**
baz=16
SHLS Shalkode 76.95 16 *e*P **P 18 53 31.4 +1.4**
KPKS Kokpek 77.07 15 *e*P **P 18 53 31.4 +0.7**
baz=15
KPKS Kokpek 77.07 15 *e*P **P 18 53 31.3 +0.7**
CHKK Chushkaly 77.08 14 *e*P **P 18 53 31.6 +1.0**
baz=14
CHKK Chushkaly 77.08 14 *e*P **P 18 53 31.6 +1.0**
BTLS Baital 77.68 11 *e*P **P 18 53 34.6 +0.7**
baz=11
BTLS Baital 77.68 11 *e*P **P 18 53 34.6 +0.7**
AGG Agios Georgios 77.87 332 P **P 18 53 35.4 +0.2**
AGG IAmb IAmb 18 53 37.0
comp=Z,16nm,0.9s
AGG Agios Georgios 77.87 332 P **P 18 53 35.4 +0.2**
AGG pmax pmax
comp=Z,16nm,0.9s
ALN Alexandroupoli 78.11 336 P **P 18 53 36.7 +0.4**
ALN IAmb IAmb 18 53 37.8
comp=Z,8.9nm,0.8s
ALN Alexandroupoli 78.11 336 P **P 18 53 36.7 +0.4**
ALN pmax pmax
comp=Z,9.0nm,0.8s
TDK Taldyqorghan 78.47 14 *e*P **P 18 53 39.4 +1.0**
baz=14
TDK Taldyqorghan 78.47 14 *e*P **P 18 53 39.3 +1.0**
RDO Rodhopi 78.51 335 P **P 18 53 39.0 +0.5**
LIT Litokhoron 78.73 333 P **P 18 53 39.9 0.0**
LIT IAmb IAmb 18 53 41.7
comp=Z,15nm,0.8s
LIT Litokhoron 78.73 333 P **P 18 53 39.9 0.0**
LIT pmax pmax
comp=Z,15nm,0.8s
SIM Simferopol' 79.36 343 *e*P **P 18 53 44.3 +1.1**
SIM pmax pmax
comp=Z,38nm,1.3s
FNA Florina 79.75 332 P **P 18 53 45.8 +0.3**
FNA Florina 79.75 332 P **P 18 53 45.8 +0.3**
FNA pmax pmax
comp=Z,7.0nm,0.8s
WMQ Urumqi 79.79 21 P **P 18 53 47.0 +1.4**
WMQ pmax pmax
comp=Z,19nm,0.9s
RAFF Raffo Rosso 79.88 326 P **P 18 53 46.4 +0.2**
ELND Elena 79.96 336 ⇑P **P 18 53 47.4 +0.9**
TIP Timpagrande 80.35 328 ⇑P **P 18 53 49.9 +1.1**
GTA Gaotai 80.55 31 *e*P **P 18 53 50.3 +0.4**
GTA sP pwP 18 53 59.4 -0.2
GTA pmax pmax
comp=Z,7.0nm,1.0s
ABKAR Akbulak array 80.57 1 P **P 18 53 50.4 +0.8**
ABKAR IAmb IAmb 18 53 51.4
comp=Z,24nm,1.1s
ABKAR Akbulak array 80.57 1 P **P 18 53 49.8 +0.2**
TLBR Topalu 80.70 339 ⇑P **P 18 53 50.5 +0.1**
TPGR Topolog 80.86 339 ⇑P **P 18 53 51.9 +0.5**
HARR Harsova 80.86 339 ⇑P **P 18 53 51.7 +0.4**
HARR Harsova 80.86 339 ⇑P **P 18 53 51.7 +0.4**
MAKZ Makanchi 80.98 16 P **P 18 53 52.0 +0.1**
MAKZ Makanchi 80.98 16 ⇑P **P 18 53 52.9 +1.0**
MK31 Makanchi Array 81.05 16 P **P 18 53 52.7 +0.4**
MK31 Makanchi Array 81.05 16*ce*P **P 18 53 52.3 0.0**
MKAR Makanchi Array 81.05 16 P **P 18 53 52.4 +0.2**
MKAR Makanchi Array 81.05 16 P **P 18 53 52.7 +0.4**
comp=Z,3.7nm,0.9s,baz=216,slow=5.6,SNR=21
comp=Z,3.7nm,0.9s
CFR Carcaliu 81.24 339 ⇑P **P 18 53 54.2 +1.0**
CFR Carcaliu 81.24 339 ⇑P **P 18 53 54.2 +1.0**
KEST Kesra 81.25 322 P **P 18 53 56.0 +2.2**
comp=Z,3.9nm,0.7s,baz=216,slow=5.9,SNR=5.2
KEST LR LR 19 30 26.8
comp=Z,94nm,19.8s,baz=308,slow=36
comp=Z,3.9nm,0.7s
PUK Puka 81.41 332 P **P 18 53 55.6 +1.2**
PUK IAmb IAmb 18 53 56.7
comp=Z,12nm,0.8s
MATE Matera 81.58 329 ⇑P **P 18 53 56.4 +1.2**
AKTO Aktyubinsk 81.74 360 LR LR 19 27 19.0
comp=Z,58nm,22.0s,baz=160,slow=34
VARL Varlezi 81.98 339 ⇑P **P 18 53 58.3 +1.1**
NEHR Nehoiu 82.04 338 ⇑P **P 18 53 59.3 +1.7**
BOVS Bovan 82.07 334 ⇓P **P 18 53 58.0 +0.3**
MLR Muntele Rosu 82.21 338 ⇑P **P 18 53 59.2 +0.6**
MLR Muntele Rosu 82.21 338 P **P 18 53 59.0 +0.5**
MLR IAmb IAmb 18 54 00.0
comp=Z,13nm,0.7s
MLR Muntele Rosu 82.21 338 LR LR 19 30 11.4
comp=Z,38nm,18.1s,baz=151,slow=35
MLR Muntele Rosu 82.21 338 ⇑P **P 18 53 59.2 +0.6**
MLR Muntele Rosu 82.21 338 P **P 18 53 59.1 +0.5**
comp=Z,22nm,1.0s,comp=Z,202nm
VRI Vrincioaia 82.30 338 ⇑P **P 18 53 60.0 +1.1**
VRI Vrincioaia 82.30 338 ⇑P **P 18 54 00.0 +1.1**
PLOR5 Plostina Array 82.30 338 P **P 18 53 59.6 +0.7**
comp=Z,69nm,0.6s
ZSN Zaisan 82.30 18 *e*P **P 18 53 59.9 +1.0**
baz=18
ZSN Zaisan 82.30 18 *e*P **P 18 53 59.9 +1.0**
PLOR Plostina 82.31 338 ⇑P **P 18 53 59.5 +0.5**
PLOR Plostina 82.31 338 ⇑P **P 18 53 59.5 +0.5**
PLOR3 Plostina Array 82.31 338 P **P 18 53 59.4 +0.4**
comp=Z,57nm,0.7s
COVR Voineasa-Covas 82.44 338 ⇑P **P 18 53 59.9 +0.2**
VOIR 82.46 337 ⇑P **P 18 54 00.1 +0.3**
VOIR 82.46 337 ⇑P **P 18 54 00.1 +0.3**
VOIR 82.46 337 P **P 18 53 59.7 -0.1**
comp=Z,13nm,1.0s,comp=Z,342nm
ARR Arges 82.53 337 ⇑P **P 18 54 00.6 +0.4**
MILM Milestii Mici 82.61 340 ⇑P **P 18 54 00.9 +0.5**
MILM Milestii Mici 82.61 340 ⇑P **P 18 54 00.9 +0.5**
TURR Turia 82.69 338 ⇑P **P 18 54 01.3 +0.4**
OZUR 82.80 338 ⇑P **P 18 54 01.3 -0.2**
DOPR Dopca 82.81 338 ⇑P **P 18 54 01.7 +0.2**
ONER Baraj Valea Uz 82.82 338 ⇑P **P 18 54 01.5 -0.1**
HERR Herculane 82.88 335 ⇑P **P 18 54 02.5 +0.6**
TESR Tescani 82.90 339 ⇑P **P 18 54 02.0 +0.1**
LOT Lotru 82.90 336 ⇑P **P 18 54 02.5 +0.4**
MDVR Moldovita 83.05 335 ⇑P **P 18 54 03.1 +0.2**
GZR Gura Zlata 83.20 336 ⇑P **P 18 54 04.5 +0.9**
GZR Gura Zlata 83.20 336 ⇑P **P 18 54 04.5 +0.9**
SURR Surduc 83.74 335 ⇑P **P 18 54 07.1 +0.8**
VRH Novokhopyorsk 83.79 350 *e*P **P 18 54 06.5 +0.1**
VRH pmax pmax
comp=Z,16nm,0.6s
BZS Buzias 83.80 335 ⇑P **P 18 54 07.7 +1.1**
BZS Buzias 83.80 335 ⇑P **P 18 54 07.7 +1.1**
SORM Soroca 83.85 340 ⇓P **P 18 54 06.6 -0.2**
SORM Soroca 83.85 340 ⇓P **P 18 54 06.6 -0.2**
SORM Soroca 83.85 340 P **P 18 54 06.1 -0.7**
comp=Z,13nm,0.9s
KURBB Kurchatov Arra 83.86 13 P **P 18 54 08.1 +1.3**
comp=Z,10nm,0.9s,baz=206,slow=5.5,SNR=37
comp=Z,10nm,0.9s
INTR Introdacqua 83.92 328 P **P 18 54 08.0 +0.6**
INTR IAmb IAmb 18 54 09.2
comp=Z,13nm,1.1s
VORD Divnogorie 83.96 348 *e*P **P 18 54 07.0 -0.3**
VORD pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 83.97 13 P **P 18 54 08.3 +0.9**
KURK Kurchatov 83.97 13*ce*P **P 18 54 08.6 +1.3**
KURK pmax pmax
comp=Z,21nm,1.1s
ARCR ARCALIA 84.14 337 ⇑P **P 18 54 09.4 +1.1**
MARR Marisel-Cluj 84.19 337 ⇑P **P 18 54 09.4 +0.7**
BELG Belogornoye 84.22 353 *i* P **P 18 54 08.8 +0.3**
BELG pmax pmax
comp=Z,5.0nm,0.8s
VSR Storozhevoye 84.22 348 *e*P **P 18 54 08.4 -0.2**
VSR pmax pmax
comp=Z,20nm,1.2s
BURAR Bucovina Array 84.33 338 ⇑P **P 18 54 10.6 +1.2**
BURAR Bucovina Array 84.33 338 P **P 18 54 10.6 +1.2**
BURAR IAmb IAmb 18 54 11.3
comp=Z,4.4nm,0.8s
BURAR Bucovina Array 84.33 338 ⇑P **P 18 54 10.6 +1.2**
SIRR Siria 84.34 335 ⇑P **P 18 54 10.5 +1.1**
BUR08 Bucovina Ar. S 84.36 338 P **P 18 54 10.2 +0.6**
VORR Voronezh 84.66 348 *e*P **P 18 54 11.6 +0.8**
VORR pmax pmax
comp=Z,51nm,0.5s
KMPD K-Podol'skiy 84.79 339 P **P 18 54 11.2 -0.3**
BVAR Borovoye Array 84.99 7 LR LR 19 30 39.2
comp=Z,57nm,18.7s,baz=192,slow=35
BRVK Borovoye 85.01 7 P **P 18 54 13.0 +0.4**
BRVK Borovoye 85.01 7*ce*P **P 18 54 13.8 +1.2**
BRVK pmax pmax
comp=Z,22nm,1.0s
MORH Mrgy, Hungar 85.41 334 ⇑P **P 18 54 15.4 +0.7**
MORH Mrgy, Hungar 85.41 334 P **P 18 54 14.8 +0.1**
NJ2 Nanjing 85.42 48 *e*P **P 18 54 16.5 +1.4**
NJ2 pmax pmax
comp=Z,11nm,0.5s
LPSR Galich'ya Gora 85.60 348 *e*P **P 18 54 14.7 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
AK07 Malin Array Si 85.80 342 P **P 18 54 16.6 0.0**
AK08 Malin Array Si 85.87 342 P **P 18 54 16.9 0.0**
KIEV Kiev 85.93 342 ⇓P **P 18 54 17.5 +0.3**
KIEV Kiev 85.93 342 P **P 18 54 16.9 -0.3**
KIEV IAmb IAmb 18 54 18.4
comp=Z,16nm,1.2s
KIEV Kiev 85.93 342 ⇓P **P 18 54 17.5 +0.3**
AKASG Malin Array Be 85.94 342 P **P 18 54 17.4 +0.2**
comp=Z,2.2nm,0.5s,baz=164,slow=4.0,SNR=8.8
comp=Z,2.2nm,0.5s
AKBB Malin Array Si 85.94 342 P **P 18 54 16.9 -0.3**
AKBB IAmb IAmb 18 54 18.4
comp=Z,18nm,1.2s
AKBB Malin Array Si 85.94 342*ce*P **P 18 54 17.4 +0.2**
AKBB pmax pmax
comp=Z,8.0nm,0.6s
CRVS Cervenica-Dubn 86.68 337 *e*P **P 18 54 21.8 +0.8**
CRVS pmax pmax
comp=Z,13nm,1.3s
CRVS Cervenica-Dubn 86.68 337 *e*P **P 18 54 21.8 +0.8**
ZCCA Zocca 87.08 328 P **P 18 54 23.4 +0.3**
SOKA Soboth 87.20 332 *e*P **P 18 54 24.2 +0.5**
comp=Z,5.3nm,1.0s,SNR=6.2
SABO M.te Sabotino 87.23 331 P **P 18 54 24.4 +0.6**
SABO IAmb IAmb 18 54 26.2
comp=Z,18nm,1.4s
VYHS Vyhne 87.25 335 *e*P **P 18 54 24.4 +0.6**
VYHS pmax pmax
comp=Z,10.0nm,1.3s
VYHS Vyhne 87.25 335 *e*P **P 18 54 24.4 +0.6**
OBKA Obir 87.26 331 *e*P **P 18 54 24.9 +0.9**
comp=Z,5.6nm,0.8s,SNR=5.3
RNPP5 Staryi Chortor 87.33 340 P **P 18 54 23.5 -0.6**
HHC Hu-ho-hao-te 87.34 37 *e*P **P 18 54 25.6 +1.1**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,130nm,5.5s
MDT Midelt 87.39 111 LR LR 19 34 46.3
comp=Z,129nm,18.1s,baz=160,slow=36
ARSA Arzberg 87.47 332 *e*P **P 18 54 25.7 +0.8**
comp=Z,7.4nm,1.0s
NIE Niedzica 87.52 336 P **P 18 54 27.0 +1.9**
NIE pmax pmax
comp=Z,4.0nm,1.6s
RONA Rosalia, Austr 87.54 333 *e*P **P 18 54 25.9 +0.7**
comp=Z,3.8nm,0.6s,SNR=5.2
TEOL Teolo 87.56 329 P **P 18 54 25.8 +0.5**
LANS Liptovska Anna 87.58 336 *e*P **P 18 54 26.8 +1.4**
LANS pmax pmax
comp=Z,5.0nm,1.0s
LANS Liptovska Anna 87.58 336 *e*P **P 18 54 26.8 +1.4**
ZST Bratislava 87.64 334 *e*P **P 18 54 26.8 +1.2**
ZST Bratislava 87.64 334 *e*P **P 18 54 26.8 +1.2**
MODS Modra-Piesok 87.72 334 *e*P **P 18 54 26.7 +0.6**
MODS pmax pmax
comp=Z,37nm,1.2s
MODS Modra-Piesok 87.72 334 *e*P **P 18 54 26.7 +0.6**
ARU Arti 87.74 0 P **P 18 54 26.4 +0.5**
ARU Arti 87.74 0*d i*P **P 18 54 27.0 +1.1**
ARU S **SKSac 19 04 54.3 +1.2**
ARU pmax pmax
comp=Z,17nm,1.0s
CONA Conrad Observa 87.89 333 *e*P **P 18 54 27.5 +0.5**
comp=Z,11nm,0.9s,SNR=13
JAVC Velka Javorina 87.98 335 *e*P **P 18 54 28.9 +1.6**
CTI Castel Tesino 88.11 330 P **P 18 54 28.7 +0.6**
CTI Castel Tesino 88.11 330 P **P 18 54 28.7 +0.6**
CTI pmax pmax
comp=Z,11nm,0.9s
KBA Koelnbreinsper 88.21 331 *e*P **P 18 54 29.1 +0.5**
comp=Z,7.6nm,1.1s
KBA Koelnbreinsper 88.21 331 P **P 18 54 29.7 +1.1**
KBA pmax pmax
comp=Z,7.0nm,1.0s
ABTA Abfaltersbach 88.29 330 *e*P **P 18 54 30.1 +1.2**
comp=Z,16nm,0.9s,SNR=12
ZAA0 Zalesovo Array 88.30 15 P **P 18 54 27.7 -0.9**
ZAA0 IAmb IAmb 18 54 30.0
comp=Z,7.8nm,1.2s
ZALV Zalesovo Beam 88.30 15 P **P 18 54 27.5 -1.2**
ZALV Zalesovo Beam 88.30 15 P **P 18 54 27.9 -0.7**
comp=Z,4.0nm,0.9s,baz=222,slow=3.6,SNR=14
ZALV LR LR 19 31 06.3
comp=Z,45nm,20.0s,baz=167,slow=34
comp=Z,4.0nm,0.9s
OJC Ojcow 88.37 336 P **P 18 54 29.1 0.0**
OJC Ojcow 88.37 336 P **P 18 54 29.1 0.0**
OJC pmax pmax
comp=Z,17nm,1.2s
OBN Obninsk 88.42 348 LR LR 19 35 02.7
comp=Z,38nm,18.3s,baz=180,slow=36
OBN Obninsk 88.42 348 *e*P **P 18 54 30.0 +0.9**
OBN *e* 18 57 56.1
OBN *e*PPP PPP 18 59 52.6
OBN pmax pmax
comp=Z,16nm,1.0s
OBN MLR MLR
comp=Z,50nm,17.0s
MOA Molln 88.45 332 *e*P **P 18 54 30.4 +0.8**
comp=Z,9.8nm,0.9s
BIOA Bad Ischl, Aus 88.58 332 *e*P **P 18 54 30.7 +0.5**
comp=Z,5.1nm,0.7s,SNR=5.8
KRUC Moravsky 88.62 334 *e*P **P 18 54 30.7 +0.4**
KRUC Moravsky 88.62 334 P **P 18 54 30.6 +0.3**
KRUC pmax pmax
comp=Z,17nm,1.0s
OKC Ostrava-Krasne 88.62 335 P **P 18 54 30.6 +0.3**
OKC pmax pmax
comp=Z,17nm,0.9s
VRAC Vranov 88.75 334 *e*P **P 18 54 31.6 +0.7**
VRAC Vranov 88.75 334 LR LR 19 35 13.7
comp=Z,17nm,18.1s,baz=152,slow=36
LESA Schwarzleotal 88.76 331 *i* P **P 18 54 31.6 +0.5**
comp=Z,8.0nm,0.5s
MORC Moravsky Berou 88.79 335 ⇑P **P 18 54 31.9 +0.8**
MORC Moravsky Berou 88.79 335 P **P 18 54 30.8 -0.3**
MORC IAmb IAmb 18 54 32.5
comp=Z,15nm,1.4s
MORC Moravsky Berou 88.79 335 *e*P **P 18 54 31.5 +0.4**
MORC Moravsky Berou 88.79 335 ⇑P **P 18 54 31.9 +0.8**
MOS Moscow 88.83 348 *e*P **P 18 54 31.8 +0.8**
WTTA Wattenberg 89.07 330 *i* P **P 18 54 33.5 +0.8**
comp=Z,12nm,0.5s,SNR=11

WTTA	Wattenberg	89.07	330	P	P	18 54 33.5	+0.8
WTTA				pmax	pmax		
	comp=Z,31nm,0.8s						
WATA	Walderalm	89.15	330	*i* P	P	18 54 33.7	+0.7
	comp=Z,6.2nm,0.6s,SNR=5.3						
TREC	Trest	89.15	334	*e*P	P	18 54 33.2	+0.4
TREC	Trest	89.15	334	*e*P	P	18 54 33.2	+0.4
SQTA	Sankt Quirin	89.22	330	*i* P	P	18 54 34.3	+1.0
	comp=Z,15nm,0.7s,SNR=10						
FETA	Feichten	89.27	330	*i* P	P	18 54 34.7	+1.1
	comp=Z,13nm,0.9s,SNR=10						
TUE	Stuetta	89.45	329	P	P	18 54 34.5	0.0
TUE				IAmb	IAmb	18 54 36.1	
	comp=Z,8.6nm,0.8s						
GEC2	GERESS Array S	89.48	332	P	P	18 54 34.4	-0.1
GERES	GERESS Array B	89.48	332	P	P	18 54 33.9	-0.6
GERES	GERESS Array B	89.48	332	P	P	18 54 34.7	+0.3
	comp=Z,1.6nm,0.7s,baz=160,slow=4.3,SNR=11						
	comp=Z,1.6nm,0.7s						
RETA	Reutte	89.61	330	*i* P	P	18 54 36.1	+1.0
	comp=Z,5.3nm,0.6s,SNR=9.5						
DPC	Dobruska-Polom	89.71	335	*e*P	P	18 54 36.3	+0.9
DPC	Dobruska-Polom	89.71	335	*e*P	P	18 54 36.3	+0.9
KHC	Kasperske Hory	89.76	332	P	P	18 54 35.4	-0.3
KHC	Kasperske Hory	89.76	332	*e*P	P	18 54 36.0	+0.3
KHC	Kasperske Hory	89.76	332	*ce*P	P	18 54 35.3	-0.3
KHC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZVC	Zvikov	89.77	333	*e*P	P	18 54 35.9	+0.2
DAVA	Damuels	89.84	329	*e*P	P	18 54 36.9	+0.6
	comp=Z,10nm,0.6s,SNR=6.0						
FUR	Furstenfeldbru	89.93	331	P	P	18 54 36.3	-0.2
FUR				pmax	pmax		
	comp=Z,46nm,1.1s						
CHVC	Chvalec	90.00	335	*e*P	P	18 54 38.0	+1.2
CHVC	Chvalec	90.00	335	*e*P	P	18 54 38.0	+1.2
WET	Wettzell	90.05	332	P	P	18 54 37.5	+0.5
WET				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KSP	Ksiaz	90.12	335	P	P	18 54 38.2	+0.9
KSP				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SONM	Songino Array	90.14	30	P	P	18 54 37.8	+0.2
	comp=Z,2.1nm,0.8s,baz=213,slow=4.2,SNR=12						
SONM				LR	LR	19 32 36.2	
	comp=Z,77nm,18.4s,baz=217,slow=34						
	comp=Z,2.1nm,0.8s						
KIRV	Kirov	90.21	355	LR	LR	19 35 46.2	
	comp=Z,41nm,18.7s,baz=195,slow=36						
KIRV	Kirov	90.21	355	*i* P	P	18 54 38.0	+0.6
ULN	Ulaanbaatar	90.45	30	P	P	18 54 38.4	-0.7
ULN	Ulaanbaatar	90.45	30	*ce*P	P	18 54 38.4	-0.7
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PVCC	Panska Ves	90.50	334	P	P	18 54 40.5	+1.5
PVCC				pmax	pmax		
	comp=Z,13nm,1.1s						
SLE	Schleitheim	90.81	329	P	P	18 54 41.9	+1.3
SLE				pmax	pmax		
	comp=Z,13nm,1.2s						
BRG	Berggiesshubel	91.02	334	*e*P	P	18 54 42.7	+1.3
BRG				Amp		18 54 43.7	
	comp=Z,3.4nm,0.8s						
BRG	Berggiesshubel	91.02	334	*e*P	P	18 54 42.7	+1.3
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BFO	Black Forest	91.31	329	P	P	18 54 42.5	-0.4
BFO				IAmb	IAmb	18 54 45.0	
	comp=Z,12nm,1.3s						
BFO	Black Forest	91.31	329	P	P	18 54 42.6	-0.4
BFO				pmax	pmax		
	comp=Z,12nm,1.3s						
ESBB	Sonseca Array	91.47	317	P	P	18 54 44.4	+0.5
ESBB				IAmb	IAmb	18 54 46.9	
	comp=Z,8.2nm,0.9s						
ESDC	Sonseca Array	91.47	317	P	P	18 54 45.1	+1.2
ESDC				IAmb	IAmb	18 54 46.8	
	comp=Z,7.1nm,1.1s						
ESDC	Sonseca Array	91.47	317	P	P	18 54 45.9	+2.0
	comp=Z,5.3nm,1.0s,baz=124,slow=3.5,SNR=28						
ESDC				LR	LR	19 35 59.3	
	comp=Z,50nm,19.9s,baz=141,slow=36						
	comp=Z,5.3nm,1.0s						
PAB	San Pablo	91.61	317	P	P	18 54 45.0	+0.4
PAB				IAmb	IAmb	18 54 47.5	
	comp=Z,5.5nm,0.9s						
PAB	San Pablo	91.61	317	⇑P	P	18 54 45.3	+0.7
CLL	Collm	91.72	334	*i* P	P	18 54 45.6	+0.9
	comp=Z,8.0nm,1.4s						
CLL				*e*SKSac	SKSac	19 05 12.0	-4.6
CLL				*e*S	ScS	19 05 48.0	+0.8
CLL				*e*PS	PnS	19 07 00.0	+3.0
CLL				*e*SS	SS	19 12 24.0	+31
CLL	Collm	91.72	334	*i* P	P	18 54 45.6	+0.9
CLL				pmax	pmax		
	comp=Z,8.0nm,1.4s						
VSU	Vasula	93.58	344	*ce*P	P	18 54 54.3	+1.2
VSU				pmax	pmax		
	comp=Z,11nm,1.3s						
PLCA	Paso Flores	93.83	216	LR	LR	19 29 53.2	
	comp=Z,43nm,20.3s,baz=133,slow=31						
HNR	Honiara	94.88	104	LR	LR	19 34 35.1	
	comp=Z,4μm,19.5s,baz=349,slow=34						
BDFB	Brasilia	95.19	248	LR	LR	19 32 29.5	
	comp=Z,52nm,18.5s,baz=136,slow=32						
CPUP	Villa Florida	95.76	234	LR	LR	19 31 22.3	
	comp=Z,35nm,20.3s,baz=176,slow=31						
FINES	FINESS Array B	96.40	345	P	P	18 55 06.0	+0.1
	comp=Z,1.8nm,0.9s,baz=113,slow=3.2,SNR=3.0						
	comp=Z,1.8nm,0.9s						
PPT2	Papeete2	124.21	147	*e*LR	LR	19 39 11.4	
	comp=Z,45nm,24.2s						
BILL	Bilibino	125.67	26	*e*PKIKP	PKiKP	19 00 39.4	+0.8
BILL				*e*		19 02 31.7	
BILL				*e*PPP	PPP	19 05 11.5	
BILL				pmax	pmax		
	comp=Z,13nm,2.8s						
BILL				MLR	MLR		
	comp=Z,38nm,18.0s						
F21K	Alatna River	139.77	19	P	PKPdf	19 01 04.8	0.0
	baz=316						
D25K	Kavik River	139.78	13	P	PKPdf	19 01 04.1	-0.6
	baz=327						
F22K	John River	139.90	18	P	PKPdf	19 01 04.8	-0.2
	baz=318						
J16K	Anvik River	139.99	26	P	PKPdf	19 01 04.7	-0.5
	baz=304						
J19K	Poorman	141.34	23	P	PKPdf	19 01 06.5	-1.2
	baz=310						
E28M	Babbage River	141.61	10	P	PKPdf	19 01 05.1	-2.9
	baz=335						
G24K	Hadweenzic Riv	141.70	16	P	PKPdf	19 01 05.5	-2.7
	baz=323						
J20K	Nowinta River	141.71	22	P	PKPdf	19 01 06.4	-1.8
	baz=312						
O14K	Tigyukauivet M	141.81	32	P	PKPdf	19 01 07.3	-1.3
	baz=299						
H23K	Yukon River	141.87	18	P	PKPdf	19 01 08.3	-0.3
	baz=320						
N15K	Kwethluk River	141.87	30	P	PKPdf	19 01 08.3	-0.4
	baz=301						
M16K	Timber Creek	141.89	29	P	PKPdf	19 01 07.2	-1.5
	baz=303						
G25K	Bearman Lake	141.97	15	P	PKPdf	19 01 07.3	-1.3
	baz=325						
L18K	Granite Mounta	142.08	26	P	PKPdf	19 01 07.3	-1.7
	baz=307						
K20K	Telida	142.28	23	P	PKPdf	19 01 07.7	-1.7
	baz=312						
M17K	Holitna River	142.28	27	P	PKPdf	19 01 08.8	-0.6
	baz=306						
H24K	Noodor Dome	142.29	17	P	PKPdf	19 01 07.5	-1.9
	baz=322						
G26K	Porcupine Rive	142.31	14	P	PKPdf	19 01 08.2	-1.1
	baz=328						
BINY	Binghamton	142.36	299	P	PKPdf	19 01 09.6	-0.5
	baz=89						
I23K	Minto, Yukon-K	142.44	19	P	PKPdf	19 01 07.9	-1.6
	baz=320						
H25L	Birch Creek	142.44	16	P	PKPdf	19 01 08.4	-1.1
	baz=325						
F28M	Old Crow	142.46	11		PKPdf	19 01 06.8	-2.7
INK	Inuvik	142.68	7	P	PKPdf	19 01 06.8	-3.1
	baz=343						
BPAW	Bear Paw Mtn.	142.75	21	P	PKPdf	19 01 06.9	-3.3
	baz=316						
L19K	White Mountain	142.78	25	P	PKPdf	19 01 07.7	-2.6
	baz=310						
M18K	Stony River	142.85	26	P	PKPdf	19 01 08.2	-2.2
	baz=308						
G27K	Doyon Strip	142.86	13	P	PKPdf	19 01 08.2	-2.1
	baz=331						
CAST	Castle Rocks	142.89	22	P	PKPdf	19 01 08.5	-1.9
	baz=314						
L20K	Farewell, AK	142.93	24	P	PKPdf	19 01 08.6	-2.0
	baz=311						
O17K	Koliganek Bris	143.36	29	P	PKPdf	19 01 10.9	-0.4
	baz=304						
H27K	Steamboat Moun	143.39	13	P	PKPdf	19 01 10.7	-0.6
	baz=331						
ILAR	Eielson Array	143.39	18	PKhKP	PKPpre	19 01 07.6	
	comp=Z,0.5nm,0.7s,baz=340,slow=4.0,SNR=5.6						
M20K	Styx River	143.59	25	P	PKPdf	19 01 11.5	-0.3
	baz=312						
G30M	tAoh Zraii Nji	143.60	10	P	PKPdf	19 01 11.1	-0.6
	baz=339						
MCK	McKinley	143.63	20	P	PKPbc	19 01 10.2	+1.0
	baz=319						
HDA	Harding Lake	143.66	18	P	PKPbc	19 01 09.8	+0.6
	baz=322						
N19K	Bonanza Creek	143.78	27	P	PKPbc	19 01 10.2	+0.4
	baz=309						
SSPA	Standing Stone	143.80	297	P	PKPbc	19 01 10.1	-0.3
	baz=90						
I26K	Coal Creek Min	143.85	15	P	PKPbc	19 01 10.8	+1.1
	baz=328,SNR=5.1						
J25K	Salcha River,	143.91	17	P	PKPbc	19 01 10.6	+0.5
	baz=325						
G31M	Satah River	143.92	8	P	PKPbc	19 01 09.9	0.0
	baz=342,SNR=6.4						
I27K	Kandik River	143.92	14	P	PKPbc	19 01 10.1	+0.1
	baz=330						
P17K	Kvichak River	143.96	30	P	PKPbc	19 01 11.0	+0.8
	baz=304						
H29M	Whitestone	143.98	11	P	PKPbc	19 01 10.6	+0.5
	baz=336,SNR=5.1						
S14K	Fog Glacier	144.01	36	P	PKPab	19 01 09.4	-0.8
	baz=297						
SKT	Skwentna	144.08	24	P	PKPbc	19 01 10.5	-0.1
	baz=314						
O18K	Koktuh Hills	144.09	28		PKPbc	19 01 11.2	+0.5
O18K	Koktuh Hills	144.09	28	P	PKPbc	19 01 11.2	+0.6
	baz=307,SNR=5.7						
EPYK	Eagle Plains	144.10	10	P	PKPbc	19 01 11.3	+0.7
	baz=338,SNR=6.3						
CUT	Chulitna	144.20	22	P	PKPbc	19 01 11.2	+0.3
	baz=316						
WVNY	West Valley, N	144.29	300		PKPbc	19 01 11.8	-0.1
P18K	Big Mountain,	144.35	29	P	PKPbc	19 01 11.5	-0.1
	baz=306						
N20K	Mount Spurr	144.38	25	P	PKPab	19 01 09.7	-1.6
	baz=312						
SPCR	Spurr Chakacha	144.38	25	P	PKPbc	19 01 11.5	-0.1
	baz=312						
I28M	Miner Creek	144.39	13		PKPbc	19 01 11.6	0.0
I28M	Miner Creek	144.39	13	P	PKPab	19 01 11.3	0.0
	baz=333,SNR=5.6						
WAT1	Susitna Watana	144.43	21	P	PKPbc	19 01 12.1	+0.5
	baz=319						
J26L	Joseph Creek	144.44	16	P	PKPbc	19 01 11.8	+0.1
	baz=327,SNR=10						
K24K	Donnelly Dome	144.46	18	P	PKPbc	19 01 12.1	+0.3
	baz=323						
CHGN	Chignik	144.57	35	P	PKPab	19 01 11.3	-0.7
	baz=298						
DHY	Denali Highway	144.59	20	P	PKPab	19 01 11.1	-1.1
	baz=320						
CHNA	Chernabura Isl	144.64	38	P	PKPab	19 01 11.4	-0.9
	baz=295						
SUA	Susitna One	144.71	24	P	PKPab	19 01 12.2	-0.4
	baz=314,SNR=10.0						
M22K	Willow	144.72	23		PKPbc	19 01 12.5	0.0
M22K	Willow	144.72	23	P	PKPab	19 01 12.3	-0.1
	baz=315						
Q17K	Contact Creek	144.72	31	P	PKPab	19 01 12.1	-0.6
	baz=304						
EGAK	Eagle	144.74	14	P	PKPab	19 01 12.1	-0.3
	baz=331,SNR=6.3						
I29M	Ogilvie Camp,	144.77	12	P	PKPbc	19 01 12.9	+0.3
	baz=335,SNR=18						
SCRK	Sand Creek	144.78	17	P	PKPbc	19 01 12.9	+0.1
	baz=326,SNR=13						
R17L	Mt. Peulik Vol	144.86	32	P	PKPab	19 01 13.0	-0.2
	baz=303						
WAT6	Susitna Watana	144.86	21	P	PKPbc	19 01 13.2	0.0
	baz=320,SNR=8.0						
Q18K	Katmai Hardscr	144.88	30	P	PKPab	19 01 13.1	-0.2
	baz=306						
O20K	Slope Mountain	144.96	27	P	PKPab	19 01 12.6	-0.9
	baz=310						
P19K	Oil Pt	145.00	28	P	PKPbc	19 01 13.1	-0.4
	baz=309						
CAPN	Captain Cook N	145.05	25	P	PKPbc	19 01 13.0	-0.6
	baz=313						
NHSC	New Hope	145.05	284	P	PKPbc	19 01 13.4	-1.1
	baz=99						
PMR	Palmer	145.16	23	P	PKPbc	19 01 13.7	-0.3
	baz=317						
K27K	Chicken	145.19	16	P	PKPab	19 01 14.1	0.0
	baz=329						
PAX	Paxson	145.21	19	P	PKPdf	19 01 14.5	-0.1
	baz=323,SNR=18						
I30M	Mount Dempster	145.22	11		PKPbc	19 01 13.5	-0.8
I30M	Mount Dempster	145.22	11	P	PKPbc	19 01 14.0	-0.3
	baz=338,SNR=38						
SML	Sawmill	145.26	22	P	PKPbc	19 01 13.5	-0.9
	baz=318						
Q19K	Cape Douglas,	145.28	29	P	PKPdf	19 01 14.9	+0.1
	baz=308						
MCWV	Mont Chateau	145.31	295	P	PKPbc	19 01 13.3	-1.9
	baz=90						
RC01	Rabbit Creek A	145.32	24	P	PKPdf	19 01 14.7	0.0
	baz=315						
M23K	Glacier View	145.46	22	P	PKPdf	19 01 14.8	-0.2
	baz=319,SNR=5.1						
KNK	Knik Glacier	145.51	22	P	PKPdf	19 01 14.6	-0.4
	baz=317						
SCM	Sheep Creek Mo	145.56	21	P	PKPab	19 01 15.7	0.0
	baz=319						
J29N	Klondike Camp	145.61	13	P	PKPab	19 01 16.3	+0.6
	baz=335						
BLA	Blacksburg	145.69	291	P	PKPdf	19 01 16.0	-0.2
	baz=93						
M24K	Tolsona, Glenn	145.69	20	P	PKPdf	19 01 15.3	-0.1
	baz=321						
L26K	Log Cabin Wild	145.73	17	P	PKPab	19 01 16.7	+0.5
	baz=326						
DAWY	Dawson	145.73	14	P	PKPbc	19 01 15.6	-0.2
	baz=333,SNR=8.3						
R18K	Karluk	145.75	31	P	PKPab	19 01 16.3	0.0
	baz=305						
HARP	HAARP	145.75	19	P	PKPdf	19 01 15.2	-0.3
	baz=323						
J30M	Hart River	145.83	11		PKPbc	19 01 15.9	-0.3
J30M	Hart River	145.83	11	P	PKPdf	19 01 15.1	-0.6
	baz=338,SNR=9.9						
M53A	WI Miller and	145.89	298	P	PKPdf	19 01 15.7	-0.7
	baz=87						
BRSE	Bradley Lake S	145.90	26	P	PKPbc	19 01 16.3	-0.1
	baz=312						
Q20K	Shuyak Island	145.99	29	P	PKPbc	19 01 16.5	-0.2
	baz=309						
L27K	Beaver Creek,	146.07	16	P	PKPbc	19 01 17.1	+0.2
	baz=328,SNR=12						
SEW	Seward	146.12	25	P	PKPdf	19 01 15.8	-0.3
	baz=315						
KLU	Klutina	146.25	21	P	PKPdf	19 01 16.2	-0.2
	baz=321,SNR=5.3						
KMSC	Kings Mountain	146.27	287	P	PKPdf	19 01 17.0	-0.2
	baz=96						
K29M	Barlow Dome	146.30	13	P	PKPdf	19 01 16.3	-0.2
	baz=335						
M26K	Nabesna, AK	146.34	18	P	PKPdf	19 01 17.0	+0.5
	baz=326						
KDAK	Kodiak Island	146.43	30	P	PKPab	19 01 18.8	-0.1
	baz=308						
SII	Sitkinak Islan	146.44	33	P	PKPab	19 01 19.1	0.0
	baz=304						
N25K	Chitina, Valde	146.55	20	P	PKPbc	19 01 18.3	-0.1
	baz=323,SNR=6.0						
M27K	Edge Creek, AK	146.66	17	P	PKPbc	19 01 18.2	-0.5
	baz=328						
L29M	L29M	146.84	14	P	PKPbc	19 01 19.5	+0.3
	baz=334						
EYAK	Cordova Ski Ar	147.03	22	P	PKPbc	19 01 18.9	-0.8
	baz=320						
BMRM	Bremner River	147.06	20	P	PKPab	19 01 20.8	-0.6
	baz=322						
P52A	Corning	147.07	295	P	PKPbc	19 01 21.0	+0.5
	baz=88						
FCC	Fort Churchill	147.09	334		PKPdf	19 01 17.6	-0.1
FCC	Fort Churchill	147.09	334	PKIKP	PKPdf	19 01 17.7	-0.1
MCARA	McCarthy VSAT	147.17	19	P	PKPab	19 01 21.2	-0.6
	baz=325,SNR=5.2						
M29M	Somme Creek	147.37	14	P	PKPbc	19 01 21.5	+0.7
	baz=333						
YUK3	Moose Creek	147.51	17	P	PKPbc	19 01 21.7	+0.4
	baz=329						
M30M	Minto, Yukon	147.59	13	P	PKPbc	19 01 21.8	+0.5
	baz=336						
GOGA	Godfrey	147.82	283	P	PKPbc	19 01 23.1	+0.4
	baz=98						
CTG	Chitna Glacier	147.98	18	P	PKPbc	19 01 22.5	0.0
	baz=327						
M31M	Drury Creek, Y	148.37	11	P	PKPbc	19 01 22.9	-0.4
	baz=339						
WRGLY	Wrigley	148.40	2	P	PKPbc	19 01 22.8	-0.5
	baz=357						
MMPY	Sheldon Lake,	148.43	8	P	PKPbc	19 01 23.4	-0.1
	baz=344						
O28M	Mount Upton	148.44	17	P	PKPbc	19 01 23.3	-0.5
	baz=329						
FARO	Faro, Yukon	148.51	10	P	PKPbc	19 01 23.5	-0.2
	baz=341						
N30M	Aishikik Lake	148.55	14	P	PKPbc	19 01 23.3	-0.6
	baz=334						
N31M	Braeburn, Yuko	148.78	13	P	PKPbc	19 01 23.8	-0.6
	baz=336						
YKA	Yellowknife Ar	148.82	354	PKPbc	PKPbc	19 01 24.7	+0.3
	comp=Z,8.3nm,0.8s,baz=2.7,slow=2.6,SNR=25						
HYT	Haines Junctio	149.03	15	P	PKPbc	19 01 25.2	0.0
	baz=333						
O29M	Mount Kennedy	149.25	16	P	PKPbc	19 01 25.7	-0.1
	baz=331						
O30N	Mendenhall	149.38	14	P	PKPbc	19 01 26.0	0.0
	baz=336						
E43A	Lone Tree Farm	149.56	309		PKPdf	19 01 22.3	0.0
LRAL	Lakeview Retre	150.71	282	P	PKPbc	19 01 28.7	-1.3
	baz=97						
P32M	Atlin	150.93	13	P	PKPbc	19 01 27.5	-2.2
	baz=339						
R33M	Jennings River	151.57	10	P	PKiKP	19 01 31.6	-0.1
	baz=343						
WVT	Waverly	151.61	288	P	PKPbc	19 01 31.7	-0.2
	baz=91						
Q32M	Nakina River	151.78	12	P	PKiKP	19 01 32.6	+0.3
	baz=341						
S31K	Pelican	151.88	16	P	PKPbc	19 01 31.8	0.0
	baz=333						
EYMN	Ely	151.89	314	P	PKPbc	19 01 30.3	-1.9
	baz=66						
R32K	Eaglecrest	151.99	14	P	PKPbc	19 01 31.8	-0.4
	baz=336						
S34M	Telegraph Cree	152.97	11	P	PKiKP	19 01 36.4	+1.9
	baz=342						
ULM	Lac du Bonnet	153.28	322	PKPdf	PKPdf	19 01 27.0	-0.8
ULM					PKPbc	19 01 34.4	-0.9
ULM	Lac du Bonnet	153.28	322	PKPbc	PKiKP	19 01 35.3	-0.1
	comp=Z,6.8nm,0.8s,baz=42,slow=3.5,SNR=13						
ULM				PKPab	PKPab	19 01 47.1	0.0
	comp=Z,5.6nm,0.8s,baz=46,slow=5.0,SNR=6.7						
ULM	Lac du Bonnet	153.28	322	PKIKP	PKPbc	19 01 34.4	-0.9
SPMN	Marine on St.	153.78	309	P	PKPab	19 01 50.0	+0.5
	baz=69						
WRAK	Wrangell Islan	154.16	14	P	PKPab	19 01 51.0	+0.3
	baz=339						
CCM	Cathedral Cave	154.26	293	P	PKPab	19 01 52.6	+0.8
	baz=85						
U33K	Whale Pass	154.28	15	P	PKPab	19 01 51.4	+0.2
	baz=337						
AGMN	Agassiz Nation	154.32	318	P	PKPab	19 01 52.7	+1.0
	baz=59						
ECSD	EROS Data Cent	156.86	308	P	PKPab	19 02 02.2	-0.6
	baz=67						
NATX	Nacogdoches	157.00	277	P	PKPab	19 02 03.5	-0.2
	baz=97						
TUL3	Leonard	158.06	288	P	PKPab	19 02 07.1	-1.1
	baz=86						
DGMT	Dagmar	158.60	327	P	PKPab	19 02 10.8	+0.8
	baz=45						
WMOK	Wichita Mounta	160.57	285	P	PKPab	19 02 20.5	+1.3
	baz=87						
CBKS	Cedar Bluff	160.70	298	P	PKPab	19 02 21.6	+1.9
	baz=75						
JCT	Junction City	161.19	272	P	PKPab	19 02 22.3	+0.2
	baz=99						
EGMT	Eagleton	161.29	334	P	PKPab	19 02 20.8	-1.1
	baz=33						
NEW	Newport	163.05	349	P	PKPab	19 02 28.8	-0.6
	baz=14						
RLMT	Red Lodge	163.42	328	P	PKPab	19 02 29.7	-1.8
	baz=40						
MSO	Missoula	163.71	341	P	PKPab	19 02 31.3	-1.2
	baz=24						
MSTX	Muleshoe	163.90	283	P	PKPab	19 02 33.0	-0.9
	baz=87						
BOZ	Bozeman (W)	164.03	333	P	PKPab	19 02 32.2	-1.8
	baz=33						
TXAR	Lajitas Array	164.26	266	PKP	PKPdf	19 01 41.5	-0.1
	comp=Z,0.5nm,0.9s,baz=214,slow=1.0,SNR=4.0						
TXAR				PKPab	PKPab	19 02 36.6	+1.0
	comp=Z,0.4nm,0.7s,baz=105,slow=9.5,SNR=5.1						
N23A	Red Feather La	164.31	310	P	PKPab	19 02 34.1	-1.6
	baz=59						
ISCO	Idaho Springs	164.62	306	P	PKPab	19 02 35.5	-1.7
	baz=63						
Q24A	Divide	164.65	303	P	PKPab	19 02 37.7	+0.4
	baz=67						
T25A	Trinidad	164.71	296	P	PKPab	19 02 36.4	-1.1
	baz=74						
BW06	Boulder Array	165.30	322	P	PKPab	19 02 38.9	-1.0
	baz=45						
PDAR	Pinedale Array	165.30	322	PKP	PKPdf	19 01 41.8	-0.4
	comp=Z,0.7nm,0.8s,baz=158,slow=1.6,SNR=7.2						
PDAR				PKPab	PKPab	19 02 39.6	-0.2
	comp=Z,1.0nm,0.9s,baz=56,slow=3.9,SNR=5.9						
SDCO	Great Sand Dun	165.35	299	P	PKPab	19 02 39.6	-0.8
	baz=70						
O20A	White River Ci	166.20	311	P	PKPab	19 02 41.0	-2.9
	baz=56						
S22A	4UR Ranch, Cre	166.34	300	P	PKPab	19 02 43.3	-1.5
	baz=68						
HLID	Hailey	166.79	336	P	PKPab	19 02 45.0	-1.3
	baz=28						
ANMO	Albuquerque	166.82	288	P	PKPab	19 02 48.7	+1.8
	baz=80						
MVCO	Mesa Verde	167.77	300	P	PKPab	19 02 51.6	+0.6
	baz=67						
121A	Cookes Peak, D	168.15	278	P	PKPab	19 02 53.5	+0.7
	baz=90						
DUG	Dugway, Tooele	168.84	322	P	PKPab	19 02 54.8	-0.6
	baz=43						
WUAZ	Wupatki	170.55	297	P	PKPab	19 03 02.1	-1.3
	baz=69						
TUC	Tucson	170.69	277	P	PKPab	19 03 03.9	-0.1
	baz=89						
R11B	Troy Canyon, C	171.65	325	P	PKPab	19 03 08.8	+0.8
	baz=39

LRMC	Laurel Mtn Rad	174.92 320	P	PKPab	19 03 23.3	+0.8
	baz=43					
IKP	In-Ko-Pah, Jac	175.14 283	P	PKPab	19 03 21.4	-2.3
	baz=80					
TPFO	Pinon Flats	175.15 295	P	PKPab	19 03 22.1	-1.7
	baz=68					
PFO	Pinyon Flats O	175.16 295	P	PKPab	19 03 22.5	-1.3
	baz=68					
ISA	Isabella, Lake	175.18 327	P	PKPab	19 03 25.0	+1.4
	baz=35					
MONP2	Monument Peak	175.35 287	P	PKPab	19 03 24.2	-0.6
	baz=76					
EDW2	Edwards Air Fo	175.52 317	P	PKPab	19 03 25.4	+0.2
	baz=45					

*IDC **10** 18:50:21.0±1.3,31°.71S×58°.29E,h0km,mb3.9/6, mbtmp3.9/6,MS3.4/1,Error ellipse: s-maj=45.3km s-min=28.0km az=90.0*

ISC 10 18:50:23.2±1.4,31°.7S±0°.2×58°.3E±0°.4,h14km,n17, σ0°73/7,mb4.0/6,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.28	197	T	T	19 09 47.2	
	baz=22,slow=75,SNR=4.1						
H04N1	CROZET ISLANDS	15.28	197	T	T	19 09 52.2	
	baz=22,slow=75,SNR=4.2						
H04N3	CROZET ISLANDS	15.29	197	T	T	19 09 59.4	
	baz=22,slow=75,SNR=4.3						
OPO	Ambohidratompo	16.46	320	LR	LR	18 59 01.7	
	comp=Z,126nm,21.1s,baz=2.0,slow=32						
H08S1	Diego Carcia H	27.36	32	T	T	19 24 34.2	
	baz=207,slow=75,SNR=9.6						
H08S2	Diego Garcia H	27.37	32	T	T	19 24 36.5	
	baz=207,slow=75,SNR=3.9						
H08S3	Diego Garcia H	27.38	32	T	T	19 24 37.9	
	baz=207,slow=75,SNR=9.8						
H01W2	Cape Leeuwin H	46.30	110	T	T	19 48 32.7	
	baz=257,slow=75,SNR=5.5						
H01W3	Cape Leeuwin H	46.30	110	T	T	19 48 27.7	
	baz=257,slow=75,SNR=6.5						
H01W1	Cape Leeuwin H	46.32	110	T	T	19 48 32.5	
	baz=257,slow=75,SNR=7.1						
QSPA	South Pole Qui	58.46	180	P	P	19 00 18.7	+0.2
	1.0nm,0.7s,baz=269,slow=2.4,SNR=7.9						
	1.0nm,0.7s						
CMAR	Chiang Mai Arr	63.33	44	P	P	19 00 52.0	0.0
	1.9nm,0.8s,baz=230,slow=6.9,SNR=13						
	1.9nm,0.8s						
ASAR	Alice Springs	66.27	104	P	P	19 01 11.1	-0.2
	0.7nm,0.7s,baz=242,slow=6.0,SNR=12						
	0.7nm,0.7s						
WRA	Warramunga Arr	68.27	101	P	P	19 01 24.0	0.0
	0.8nm,0.9s,baz=246,slow=5.7,SNR=4.6						
	0.8nm,0.9s						
MKAR	Makanchi Array	81.09	16	P	P	19 02 37.7	+0.1
	0.5nm,0.8s,baz=196,slow=2.6,SNR=4.0						
	0.5nm,0.8s						
KURBB	Kurchatov Arra	83.91	13	P	P	19 02 53.0	+0.8
	1.3nm,0.9s,baz=209,slow=6.0,SNR=5.7						
	1.3nm,0.9s						
YKA	Yellowknife Ar	148.86	354	PKPbc	PKPbc	19 10 08.4	-1.2
	1.0nm,0.8s,baz=33,slow=2.0,SNR=4.6						

*GEN **10** 18:51:31.3,44°.14N×10°.63E,h14km,MI1.5*

ROM 10 18:51:31.3±0.1,44°.138N±0°.004×10°.619E±0°.004, h14km,ML1.6/28,4C-1D,Error ellipse: s-maj=0.4km s-min=0.1km az=196.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDI	Bagni Di Lucca	0.08	192	P	Pg	18 51 34.6	+0.3
BDI				S	Sg	18 51 36.9	+0.6
BDI				AML	AML		
	comp=E,1915μm,0.2s						
BDI				AML	AML		
	comp=N,1820μm,0.1s						
BDI				AML	AML		
	comp=E,2170μm,0.2s						
BDI				AML	AML		
	comp=N,2050μm,0.3s						
BDI	Bagni Di Lucca	0.08	192	P	Pg	18 51 34.6	+0.3
BDI				S	Sg	18 51 36.9	+0.6
POPM	Popiglio	0.14	133	⇓P	Pg	18 51 35.2	+0.3
POPM				S	Sb	18 51 38.0	-0.6
POPM				AML	AML		
	comp=E,941μm,1.5s						
POPM				AML	AML		
	comp=N,1220μm,0.2s						
POPM				AML	AML		
	comp=E,941μm,0.5s						
POPM	Popiglio	0.14	133	P	Pg	18 51 35.2	+0.3
POPM				S	Sb	18 51 38.0	-0.5
CARD	Cardoso	0.15	222	⇑P	Pg	18 51 35.4	+0.3
CARD				S	Sb	18 51 38.5	-0.4
CARD	Cardoso	0.15	222	P	Pg	18 51 35.5	+0.3
CARD				S	Sb	18 51 38.6	-0.3
SARO	Sassorosso	0.16	286	⇑P	Pg	18 51 35.6	+0.2
SARO				S	Sg	18 51 38.8	+0.6
SARO				AML	AML		
	comp=E,656μm,0.4s						
SARO				AML	AML		
	comp=E,656μm,0.4s						
SARO				AML	AML		
	comp=N,832μm,0.5s						
SARO				AML	AML		
	comp=E,656μm,1.6s						
SARO	Sassorosso	0.16	286	P	Pg	18 51 35.6	+0.2
SARO				S	Sg	18 51 38.8	+0.6
VLC	Villacollemand	0.17	277	⇑P	Pg	18 51 35.8	+0.3
VLC				S	Sb	18 51 39.0	-0.5
VLC				AML	AML		
	comp=E,438μm,0.5s						
VLC				AML	AML		
	comp=N,319μm,0.3s						
VLC				AML	AML		
	comp=E,480μm,0.5s						
VLC				AML	AML		
	comp=N,317μm,0.3s						
VLC	Villacollemand	0.17	277	P	Pg	18 51 35.8	+0.3
VLC				S	Sb	18 51 39.0	-0.5
GSCL	Gusciola	0.21	354	⇑P	Pg	18 51 36.4	+0.2
GSCL				S	Sg	18 51 39.8	+0.3
GSCL				AML	AML		
	comp=E,162μm,0.2s						
GSCL				AML	AML		
	comp=N,184μm,0.2s						
GSCL				AML	AML		
	comp=E,162μm,1.8s						
GSCL	Gusciola	0.21	354	P	Pg	18 51 36.4	+0.3
GSCL				S	Sg	18 51 39.9	+0.5
MAIM	Mastiano	0.24	202	P	Pg	18 51 36.9	+0.4
MAIM				S	Sb	18 51 41.0	-0.6
MAIM				AML	AML		
	comp=E,97μm,0.7s						
MAIM				AML	AML		
	comp=N,117μm,0.2s						
MAIM	Mastiano	0.24	202	P	Pg	18 51 36.9	+0.4
MAIM				S	Sb	18 51 41.2	-0.4
MTCR	Monte La Croce	0.29	112	P	Pg	18 51 37.6	0.0
MTCR				S	Sg	18 51 42.3	+0.5
MTCR				AML	AML		
	comp=E,216μm,0.2s						
MTCR				AML	AML		
	comp=N,196μm,0.5s						
MTCR				AML	AML		
	comp=E,217μm,0.2s						
MTCR	Monte La Croce	0.29	112	P	Pg	18 51 37.6	+0.1
MTCR				S	Sb	18 51 42.5	-0.7
ZCCA	Zocca	0.33	50	P	Pb	18 51 39.3	+0.2
ZCCA				S	Sb	18 51 44.3	0.0
ZCCA				AML	AML		
	comp=N,156μm,1.4s						
ZCCA				AML	AML		
	comp=E,124μm,0.4s						
ZCCA				AML	AML		
	comp=N,156μm,0.6s						
ZCCA	Zocca	0.33	50	P	Pb	18 51 39.3	+0.2
ZCCA				S	Sn	18 51 46.5	-2.0
EQUI	Equi	0.34	275	P	Pg	18 51 38.5	+0.3
EQUI				S	Sg	18 51 43.5	+0.6
EQUI				AML	AML		
	comp=E,98μm,1.1s						
EQUI				AML	AML		
	comp=E,98μm,0.9s						
EQUI				AML	AML		
	comp=N,94μm,0.3s						
EQUI	Equi	0.34	275	P	Pg	18 51 38.6	+0.4
EQUI				S	Sg	18 51 43.2	+0.3
FNVD	Fontana Vidola	0.36	85	P	Pg	18 51 38.7	0.0
FIVI	Fivizzano	0.37	286	P	Pb	18 51 39.7	0.0
FIVI				S	Sb	18 51 44.8	-0.4
MPPT	Montemurlo	0.38	118	P	Pg	18 51 39.3	+0.2
MPPT				S	Sb	18 51 45.1	-0.7
MPPT				AML	AML		
	comp=E,69μm,0.7s						
MPPT				AML	AML		
	comp=N,75μm,0.5s						
MPPT				AML	AML		
	comp=E,69μm,1.3s						
MOCL	Monte Cuccoli	0.42	108	P	Pg	18 51 39.8	0.0
MOCL				S	Sb	18 51 46.4	-0.5
MOCL				AML	AML		
	comp=N,86μm,1.3s						
MOCL				AML	AML		
	comp=E,101μm,0.3s						
MOCL				AML	AML		
	comp=N,86μm,0.7s						
CRMI	Carmignano	0.43	144	P	Pb	18 51 40.4	-0.3
CRMI				S	Sb	18 51 46.7	-0.4
CRMI				AML	AML		
	comp=E,31μm,1.4s						
CRMI				AML	AML		
	comp=N,40μm,1.0s						
CRMI				AML	AML		
	comp=E,31μm,0.6s						
GRAM	Graiana	0.53	312	P	Pg	18 51 42.0	+0.2
GRAM				S	Sb	18 51 50.0	0.0
SEI	Scarperia	0.54	99	P	Pg	18 51 41.8	-0.2
SEI				AML	AML		
	comp=E,138μm,0.3s						
SEI				AML	AML		
	comp=E,138μm,1.7s						
SEI				AML	AML		
	comp=N,174μm,0.6s						
SEI	Scarperia	0.54	99	S	Sb	18 51 50.3	+0.1
PLMA	Palmaria, Port	0.56	261	P	Pg	18 51 42.6	+0.2
PLMA				AML	AML		
	comp=E,86μm,0.7s						
PLMA				AML	AML		
	comp=N,81μm,0.3s						
PLMA				AML	AML		
	comp=E,86μm,1.3s						
PLMA	Palmaria, Port	0.56	261	P	Pb	18 51 42.7	-0.2
PLMA				S	Sg	18 51 50.2	+0.5
RUFI	Rufina	0.71	115	P	Pn	18 51 46.3	-0.6
RUFI				S	Sb	18 51 55.4	+0.4

*NEIC **10** 18:52:09.6±1.4,34°.98N±0°.02×97°.55W±0°.02,h5km±2km, Error ellipse: s-maj=3.0km s-min=3.0km az=135.0*

TUL 10 18:52:10.4±1.5,34°.99N±0°.02×97°.54W±0°.02,h6km±6km, ML2.5,mb_Lg2.3/21(NEIC),Error ellipse: s-maj=2.7km s-min=2.2km az=115.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.29	23	Pg	Pb	18 52 17.9	-0.2
X34A	Smith Ranch, M	0.46	212		Pg	18 52 19.7	+0.5
W35A	Tecumseh	0.57	73		Pg	18 52 21.4	0.0
ADOK	Arcadia Dam	0.68	12	Pg	Pg	18 52 23.7	+0.3
OK029	Liberty Lake	0.81	5	Pg	Pg	18 52 25.6	-0.4
LOOK	Love County	1.04	163		Pg	18 52 29.7	-0.6
WMOK	Wichita Mounta	1.05	257		Pg	18 52 29.4	-1.1
OK031	S. Brethren Rd	1.12	31	Pg	Pg	18 52 31.0	-0.9
CSTR	Hydro, Custer	1.15	305		Pg	18 52 31.1	-1.3
OK052	Battle Ridge R	1.17	31	Pg	Pg	18 52 31.4	-1.5
DEOK	Depew	1.20	45	Pg	Pg	18 52 32.3	-1.2
WTFS	Witchita Falls	1.44	212		Pn	18 52 36.0	-1.1
OK048	Pawnee Station	1.50	19		Pn	18 52 37.7	-0.3
CROK	Carrier	1.55	347		Pn	18 52 38.5	-0.2
OK051	E0350 and S346	1.62	21		Pn	18 52 39.4	-0.1
Z35A	Perchaven, San	1.67	172		Pn	18 52 40.0	-0.3
TUL3	Leonard	1.70	57	IAmb_Lg		18 53 06.3	
	comp=Z,13nm,0.9s						
OK038	West end E0370	1.78	327		Pn	18 52 41.7	-0.1
BLOK	Blackwell	1.79	8		Pn	18 52 42.0	+0.1
U32A	Winter Ranch,	1.83	320	Pn	Pn	18 52 41.8	-0.6
X37A	Clayton	1.83	102		Pn	18 52 43.2	+0.8
X37A				IAmb_Lg		18 53 10.4	
	comp=Z,17nm,0.8s						
ELIS	Ellis County	1.87	306	Pn	Pn	18 52 42.2	-0.8
GC02	Grant County #	1.88	352	Pn	Pn	18 52 42.4	-0.7
OK032	Salt Plains WL	1.89	343	Pn	Pn	18 52 42.4	-0.9
OK032				IAmb_Lg		18 53 12.2	
	comp=Z,15nm,1.0s						
OK035	E0210 Rd and N	1.96	331	Pn	Pn	18 52 42.3	-2.0
FW03	Perrin-Whitt E	1.99	193	Pn	Pn	18 52 44.4	-0.3
NOKA	Waynoka	1.99	326		Pn	18 52 45.6	+0.9
FW06	Azle	2.01	180	Pn	Pn	18 52 43.2	-1.7
KAN13	South Haven SW	2.02	1	Pn	Pn	18 52 43.0	-2.0
KAN17	Caldwell West	2.06	355	Pn	Pn	18 52 44.1	-1.5
T35A	Sooner Cattle	2.10	23	Pn	Pn	18 52 45.1	-1.0
KAN05	Bluff City Nor	2.13	353	Pn	Pn	18 52 46.3	-0.3
KAN09	Caldwell North	2.14	358	Pn	Pn	18 52 45.7	-1.1
SMWD	Samnorwood	2.22	274		Pn	18 52 47.0	-0.9
PLPT	Palo Pinto	2.27	197		Pn	18 52 49.2	+0.8
PLPT				IAmb_Lg		18 53 23.6	
	comp=Z,9.1nm,0.9s						
FW07	Weatherford	2.29	185	IAmb_Lg		18 53 22.8	
	comp=Z,14nm,0.9s						
RLO	Rose Lookout	2.36	60	Pn	Pn	18 52 49.2	-0.5
APMT	Aspermont	2.71	233	Pn	Pn	18 52 53.4	-1.2
DKNS	Dickens	3.10	246	Pn	Pn	18 52 57.5	-2.4
HHAR	Hobbs	3.20	65	Pn	Pn	18 52 59.2	-2.1
MIAR	Mount Ida	3.29	97	Pn	Pn	18 52 59.6	-2.9
MIAR				IAmb_Lg		18 54 02.3	
	comp=Z,5.5nm,0.8s						
237A	Washetta, Mont	3.31	154	Pn	Pn	18 52 58.8	-4.0
SN07	Snyder 07	3.37	237	Pn	Pn	18 53 00.1	-3.5
AMTX	Amarillo	3.40	269	Pn	Pn	18 53 03.4	-0.7
POST	Post	3.81	241	Pn	Pn	18 53 07.9	-1.8
BRDY	Brady	3.89	199		Pn	18 53 09.7	-1.2
X40A	Basin Creek Fa	3.91	96		Pn	18 53 09.9	-1.1
X40A				IAmb_Lg		18 54 22.7	
	comp=Z,9.4nm,0.8s						
CBKS	Cedar Bluff	4.20	336	Pn	Pn	18 53 14.1	-1.0
SGCY	Sterling City	4.29	225	Pn	Pn	18 53 15.2	-1.1
WHAR	Wooly Hollow	4.31	85	Pn	Pn	18 53 14.7	-1.9
S39A	Bolivar	4.34	50	Pn	Pn	18 53 15.8	-1.4
S39A				IAmb_Lg		18 54 30.4	
	comp=Z,5.3nm,0.9s						
RTBA	Rita Blanca	4.47	290	Pn	Pn	18 53 17.6	-1.2
FCAR	Ozark Folk Cen	4.51	77	Pn	Pn	18 53 18.8	-0.5
FCAR				IAmb_Lg		18 54 41.0	
	comp=Z,6.2nm,1.1s						
MGMO	Mountain Grove	4.79	62	Pn	Pn	18 53 21.2	-1.9
MGMO				IAmb_Lg		18 54 55.3	
	comp=Z,8.0nm,1.1s						
JCT	Junction City	4.88	204	Pn	Pn	18 53 21.6	-2.9
LCAR	Lake Charles	5.32	76	Pn	Pn	18 53 29.4	-1.0
LCAR				IAmb_Lg		18 55 07.9	
	comp=Z,6.5nm,0.8s						
R40A	Maddies Statio	5.37	51	Pn	Pn	18 53 28.9	-2.2
441A	DeRidder	5.59	138	Pn	Pn	18 53 32.2	-2.0
T42A	Van Buren	5.61	67	Pn	Pn	18 53 32.5	-1.8
CCM	Cathedral Cave	5.92	57	Pn	Pn	18 53 36.2	-2.5
T25A	Trinidad	5.96	293	Pn	Pn	18 53 38.4	-1.1

IDC 10 18:56:22.3±3.2,31°.75S×58°.47E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=92.5km s-min=41.4km az=115.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	58.42	180	P	P	19 06 19.3	-0.2
	2.0nm,1.2s,baz=270,slow=5.1,SNR=2.4						
	2.0nm,1.2s						
CMAR	Chiang Mai Arr	63.23	44	P	P	19 06 52.6	-0.1
	0.4nm,0.8s,baz=224,slow=7.6,SNR=2.2						
	0.4nm,0.8s						
ASAR	Alice Springs	66.08	104	P	P	19 07 11.6	+0.1
	0.2nm,0.5s,baz=243,slow=6.1,SNR=9.0						
	0.2nm,0.5s						
WRA	Warramunga Arr	68.09	100	P	P	19 07 24.5	+0.2
	0.6nm,0.7s,baz=246,slow=7.1,SNR=2.3						
	0.6nm,0.7s						

IDC 10 18:57:51.6±3.0,31°.75S×58°.51E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=86.4km s-min=37.8km az=116.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.29	198	T	T	19 17 36.4	
	baz=22,slow=75,SNR=4.1						
H04N1	CROZET ISLANDS	15.30	198	T	T	19 17 26.8	
	baz=22,slow=75,SNR=3.8						
H04N3	CROZET ISLANDS	15.31	198	T	T	19 17 28.1	
	baz=22,slow=75,SNR=3.3						
H01W2	Cape Leeuwin H	46.09	110	T	T	19 55 27.8	
	baz=257,slow=74,SNR=4.8						
H01W3	Cape Leeuwin H	46.09	110	T	T	19 55 27.8	
	baz=257						
H01W1	Cape Leeuwin H	46.10	110	T	T	19 55 29.1	
	baz=257,slow=74,SNR=5.2						
QSPA	South Pole Qui	58.41	180	P	P	19 07 48.8	0.0
	0.8nm,0.8s,baz=194,slow=2.5,SNR=5.0						
	0.8nm,0.8s						
CMAR	Chiang Mai Arr	63.22	44	P	P	19 08 21.9	0.0
	0.6nm,0.7s,baz=230,slow=6.9,SNR=3.9						
	0.6nm,0.7s						
ASAR	Alice Springs	66.05	104	P	P	19 08 40.7	+0.1
	0.5nm,0.7s,baz=242,slow=5.7,SNR=10						
	0.5nm,0.7s						
WRA	Warramunga Arr	68.06	100	P	P	19 08 53.4	0.0
	1.1nm,0.9s,baz=241,slow=5.7,SNR=5.5						
	1.1nm,0.9s						

*IDC **10** 19:03:55.3±0.7,31°.65S×58°.33E,h0km,mb4.0/11, mbtmp4.0/12,ML4.1/1,Error ellipse: s-maj=24.1km s-min=19.7km az=67.0*

*NEIC **10** 19:03:57.2±1.1,31°.5S±0°.1×58°.2E±0°.2,h10km±1km, mb4.4/17,Error ellipse: s-maj=26.6km s-min=16.5km az=239.0*

ISC 10 19:03:57.1±0.6,31°.5S±0°.1×58°.2E±0°.1,h10km,n46, σ1°33/38,mb4.3/17,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.52	347	Pn	Pn	19 06 26.1	-1.9
VOI	Vohitsoka	13.95	310	Pn	Pn	19 07 15.3	+0.3
H04N2	CROZET ISLANDS	15.47	197	T	T	19 24 35.1	
	baz=22,slow=75,SNR=88						
H04N1	CROZET ISLANDS	15.48	197	T	T	19 24 36.2	
	baz=22,slow=75,SNR=120						
H04N3	CROZET ISLANDS	15.49	197	T	T	19 24 35.0	
	baz=22,slow=75,SNR=86						
ABPO	Ambohimpanom	15.88	319	Pn	Pn	19 07 41.5	+0.6
ABPO				IAmb	IAmb	19 08 12.2	
	comp=Z,17nm,1.2s						
OPO	Ambohidratompo	16.26	320	Pn	P	19 07 49.3	+0.4
	comp=Z,0.1nm,0.3s,baz=145,slow=9.6,SNR=6.1						
OPO				Sn	Sn	19 10 41.6	-4.8
	comp=Z,0.1nm,0.3s,baz=342,slow=20,SNR=0.9						
	comp=Z,1.6nm,0.3s						
POGA	Pongola	23.42	273	P	P	19 09 06.0	-0.4
POGA				IAmb	IAmb	19 09 08.6	
	comp=Z,10nm,1.1s						
H08S1	Diego Carcia H	27.20	32	T	T	19 39 07.5	
	baz=206,slow=76,SNR=26						
H08S2	Diego Garcia H	27.21	32	T	T	19 39 06.6	
	baz=206,slow=76,SNR=17						
H08S3	Diego Garcia H	27.23	32	T	T	19 39 09.0	
	baz=206,slow=76,SNR=26						
H01W2	Cape Leeuwin H	46.42	110	T	T	20 02 43.5	
	baz=257,slow=75,SNR=29						
H01W3	Cape Leeuwin H	46.43	110	T	T	20 02 41.5	
	baz=257,slow=75,SNR=26						
H01W1	Cape Leeuwin H	46.44	110	T	T	20 02 44.5	
	baz=257,slow=75,SNR=26						
SNAA	Sanae	51.40	201	P	P	19 13 00.8	-0.9
	comp=Z,2.1nm,1.1s,baz=73,slow=7.6,SNR=4.2						
	comp=Z,2.1nm,1.1s						
QSPA	South Pole Qui	58.68	180	P	P	19 13 53.8	-0.8
QSPA				IAmb	IAmb	19 14 05.0	
	comp=Z,4.2nm,1.0s						
QSPA	South Pole Qui	58.68	180	P	P	19 13 53.4	-1.2
	comp=Z,2.4nm,0.9s,baz=272,slow=2.0,SNR=16						
	comp=Z,2.4nm,0.9s						
CMAR	Chiang Mai Arr	63.20	44	P	P	19 14 26.3	+0.6
	comp=Z,2.8nm,0.8s,baz=231,slow=7.1,SNR=20						
	comp=Z,2.8nm,0.8s						
ASAR	Alice Springs	66.37	104	P	P	19 14 45.1	-1.4
ASAR	Alice Springs	66.37	104	P	P	19 14 45.3	-1.2
	comp=Z,1.7nm,0.7s,baz=238,slow=5.9,SNR=30						
	comp=Z,1.7nm,0.7s						
AS31	Alice Springs	66.37	104	P	P	19 14 44.8	-1.7
WRA	Warramunga Arr	68.36	101	P	P	19 14 58.3	-0.9
	comp=Z,2.3nm,0.9s,baz=241,slow=5.6,SNR=11						
	comp=Z,2.3nm,0.9s						
WB2	Warramunga Arr	68.37	101	P	P	19 14 58.0	-1.2
WB0	Warramunga Arr	68.49	101	P	P	19 14 58.3	-1.6
TORD	Torodi Ar. Bea	70.01	300	P	P	19 15 10.3	+1.0
	comp=Z,1.1nm,0.9s,baz=103,slow=5.1,SNR=5.8						
	comp=Z,1.1nm,0.9s						
SIMJ	Simiganj	70.51	9	P	P	19 15 13.2	+1.2
CHGR	Chuyangaron	70.53	9	P	P	19 15 12.9	+0.9
BRTR	Keskin Array B	74.43	341	P	P	19 15 35.3	-0.1
BRTR	Keskin Array B	74.43	341	P	P	19 15 36.2	+0.9
	comp=Z,0.8nm,0.7s,baz=168,slow=7.0,SNR=5.1						
	comp=Z,0.8nm,0.7s						
KK31	Karatay Array	75.08	9	P	P	19 15 39.8	+0.8
KK31				IAmb	IAmb	19 15 44.3	
	comp=Z,1.5nm,0.7s						
KKAR	Karatay Array	75.08	9	P	P	19 15 39.8	+0.8
ABKAR	Akbulak array	80.39	1	P	P	19 16 08.9	+0.6
ABKAR				IAmb	IAmb	19 16 11.3	
	comp=Z,1.9nm,0.8s						
ABKAR	Akbulak array	80.39	1	P	P	19 16 08.7	+0.3
MAKZ	Makanchi	80.83	16	P	P	19 16 11.1	+0.3
MK31	Makanchi Array	80.90	17	P	P	19 16 11.4	+0.3
MKAR	Makanchi Array	80.90	17	P	P	19 16 11.3	+0.2
MKAR	Makanchi Array	80.90	17	P	P	19 16 11.7	+0.6
	comp=Z,0.5nm,0.8s,baz=194,slow=4.4,SNR=5.2						
	comp=Z,0.5nm,0.8s						
PUK	Puka	81.22	332	P	P	19 16 15.4	+2.4
PUK				IAmb	IAmb	19 16 35.1	
	comp=Z,6.3nm,1.2s						
KURBB	Kurchatov Arra	83.71	13	P	P	19 16 27.1	+1.4
	comp=Z,2.3nm,1.0s,baz=209,slow=5.7,SNR=13						
	comp=Z,2.3nm,1.0s						
KURK	Kurchatov	83.81	13	P	P	19 16 27.2	+1.0
KURK				IAmb	IAmb	19 16 28.4	
	comp=Z,3.7nm,1.1s						
BURAR	Bucovina Array	84.14	338	P	P	19 16 28.6	+0.4
BRVK	Borovoye	84.84	7		P	19 16 32.2	+0.8
BRVK				IAmb	IAmb	19 16 33.5	
	comp=Z,2.4nm,0.8s						
ZALV	Zalesovo Beam	88.15	15	P	P	19 16 46.8	-0.8
	comp=Z,0.3nm,0.3s,baz=204,slow=3.2,SNR=4.0						
	comp=Z,0.3nm,0.3s						
ESDC	Sonseca Array	91.29	317	P	P	19 17 04.2	+1.4
	comp=Z,0.8nm,0.9s,baz=143,slow=4.0,SNR=5.4						
	comp=Z,0.8nm,0.9s						
YKA	Yellowknife Ar	148.63	354	PKPbc	PKPbc	19 23 42.4	-1.3
	comp=Z,2.0nm,0.8s,baz=10.0,slow=2.6,SNR=6.1						
ULM	Lac du Bonnet	153.09	322	PKPbc	PKPbc	19 23 54.4	-0.2
	comp=Z,1.2nm,0.5s,baz=170,slow=6.1,SNR=3.5						

*IDC **10** 19:05:04.5±0.6,31°.68S×58°.32E,h0km,mb4.3/18, mbtmp4.3/19,ML4.2/1,MS3.5/6,Error ellipse: s-maj=23.1km s-min=16.7km az=78.0*

*GCMT **10** 19:05:04.6±

σ1°31/73, mb4.5/44, MS3.6/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.66**	**348**	Pn	Pn	19 07 36.0	-2.9
VOI	**Vohitsoka**	**14.02**	**311**	Pn	**Pn**	**19 08 25.1**	**+0.2**
ABPO	**Ambohimpanom**	**15.97**	**319**	Pn	**Pn**	**19 08 52.4**	**+1.4**
OPO	**Ambohidratompo**	**16.35**	**320**	Pn	**Pn**	**19 08 58.7**	**+2.9**
	0.1nm,0.3s,baz=142,slow=19,SNR=3.7						
OPO				Sn	**Sn**	**19 11 50.0**	**-7.1**
	0.1nm,0.3s,baz=204,slow=12,SNR=1.4						
OPO				LR	LR	19 13 43.9	
	comp=Z,182nm,21.8s,baz=22,slow=32 4.9nm,0.5s						
POGA	**Pongola**	**23.39**	**274**	P	**P**	**19 10 14.5**	**-0.3**
BOSA	**Boshof**	**28.55**	**267**	LR	LR	19 19 48.7	
	comp=Z,78nm,21.8s,baz=127,slow=31						
MAW	**Mawson**	**36.11**	**177**	P	**P**	**19 12 07.5**	**+0.1**
	2.2nm,0.6s,baz=330,slow=14,SNR=2.1 2.2nm,0.6s						
TSUM	**Tsumeb**	**38.46**	**279**	LR	LR	19 26 48.1	
	comp=Z,88nm,19.5s,baz=126,slow=34						
PALK	**Pallekele**	**44.29**	**33**	LR	LR	19 27 47.6	
	comp=Z,96nm,18.6s,baz=280,slow=31						
SNAA	**Sanae**	**51.24**	**201**	P	**P**	**19 14 07.4**	**-1.8**
SNAA	**Sanae**	**51.24**	**201**	P	**P**	**19 14 09.4**	**+0.2**
	2.4nm,0.9s,baz=98,slow=6.4,SNR=6.4 2.4nm,0.9s						
QSPA	**South Pole Qui**	**58.53**	**180**	P	**P**	**19 15 02.1**	**-0.1**
QSPA				IAmb	IAmb	19 15 03.4	
	comp=Z,6.1nm,0.8s						
QSPA	**South Pole Qui**	**58.53**	**180**	P	**P**	**19 15 02.6**	**+0.5**
	comp=Z,5.7nm,0.8s,baz=255,slow=3.1,SNR=7.6 comp=Z,5.7nm,0.8s						
CM31	**Chiang Mai Arr**	**63.34**	**44**	P	**P**	**19 15 34.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**63.34**	**44**	P	**P**	**19 15 34.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**63.34**	**44**	P	**P**	**19 15 35.2**	**0.0**
	comp=Z,4.8nm,0.8s,baz=231,slow=7.2,SNR=16 comp=Z,4.8nm,0.8s						
ASAR	**Alice Springs**	**66.37**	**104**	P	**P**	**19 15 53.0**	**-2.1**
ASAR	**Alice Springs**	**66.37**	**104**	P	**P**	**19 15 54.4**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=238,slow=5.8,SNR=14 comp=Z,2.0nm,0.7s						
AS31	**Alice Springs**	**66.37**	**104**	P	**P**	**19 15 52.9**	**-2.3**
KBL	**Kabul**	**66.62**	**10**	P	**P**	**19 15 56.9**	**+0.4**
KBL				IAmb	IAmb	19 15 58.9	
	comp=Z,5.0nm,0.7s						
WRA	**Warramunga Arr**	**68.37**	**101**	P	**P**	**19 16 07.2**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=241,slow=5.5,SNR=8.6 comp=Z,2.3nm,0.7s						
WB2	**Warramunga Arr**	**68.38**	**101**	P	**P**	**19 16 06.9**	**-1.0**
WB0	**Warramunga Arr**	**68.50**	**101**	P	**P**	**19 16 06.5**	**-2.1**
WB0				IAmb	IAmb	19 16 18.3	
	comp=Z,8.0nm,1.1s						
STKA	**Stephens Creek**	**69.07**	**115**	LR	LR	19 41 24.3	
	comp=Z,19nm,21.2s,baz=24,slow=32						
TOO	**Toolangi**	**69.61**	**122**	P	**P**	**19 16 14.0**	**-1.3**
TORD	**Torodi Ar. Bea**	**70.05**	**300**	P	**P**	**19 16 19.3**	**+1.1**
	comp=Z,1.5nm,1.0s,baz=112,slow=5.6,SNR=5.6 comp=Z,1.5nm,1.0s						
SIMJ	**Simiganj**	**70.67**	**9**	P	**P**	**19 16 22.4**	**+0.8**
SIMJ				IAmb	IAmb	19 16 23.8	
	comp=Z,4.8nm,0.9s						
CHGR	**Chuyangaron**	**70.69**	**9**	P	**P**	**19 16 22.4**	**+0.7**
ASCN	**Ascension**	**71.00**	**272**	P	**P**	**19 16 23.9**	**-0.2**
ARSB	**Arslanbob**	**73.88**	**12**	P	**P**	**19 16 41.8**	**+1.1**
BRTR	**Keskin Array B**	**74.56**	**341**	P	**P**	**19 16 44.3**	**-0.5**
BRTR	**Keskin Array B**	**74.56**	**341**	P	**P**	**19 16 44.7**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=159,slow=7.4,SNR=9.4 comp=Z,2.0nm,0.8s						
BR131	**Keskin Array S**	**74.56**	**341**	P	**P**	**19 16 44.9**	**+0.2**
KK31	**Karatay Array**	**75.24**	**9**	P	**P**	**19 16 48.4**	**0.0**
KK31				IAmb	IAmb	19 16 50.7	
	comp=Z,5.3nm,1.1s						
KKAR	**Karatay Array**	**75.24**	**9**	P	**P**	**19 16 48.4**	**0.0**
KKAR				IAmb	IAmb	19 16 50.7	
	comp=Z,5.3nm,1.1s						
KKAR	**Karatay Array**	**75.24**	**9**	P	**P**	**19 16 49.0**	**+0.6**
AAK	**Ala-Archa**	**75.43**	**12**	P	**P**	**19 16 51.6**	**+1.9**
	comp=Z,3.5nm,0.4s,baz=243,slow=2.3,SNR=2.1 comp=Z,3.5nm,0.4s						
AGG	**Agios Georgios**	**77.80**	**332**	P	**P**	**19 17 03.9**	**+0.8**
ABKAR	**Akbulak array**	**80.55**	**1**	P	**P**	**19 17 18.2**	**+0.4**
ABKAR				IAmb	IAmb	19 17 19.6	
	comp=Z,5.2nm,0.8s						
ABKAR	**Akbulak array**	**80.55**	**1**	P	**P**	**19 17 18.3**	**+0.5**
MAKZ	**Makanchi**	**81.00**	**16**	P	**P**	**19 17 20.5**	**+0.2**
MAKZ				IAmb	IAmb	19 17 21.3	
	comp=Z,5.2nm,1.4s						
MK31	**Makanchi Array**	**81.06**	**17**	P	**P**	**19 17 20.9**	**+0.3**
MKAR	**Makanchi Array**	**81.06**	**17**	P	**P**	**19 17 20.6**	**0.0**
MKAR	**Makanchi Array**	**81.06**	**17**	P	**P**	**19 17 20.9**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=209,slow=6.2,SNR=8.5 comp=Z,1.3nm,0.8s						
AKTO	**Aktyubinsk**	**81.72**	**360**	P	**P**	**19 17 25.1**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=278,slow=2.9,SNR=6.4 comp=Z,2.0nm,0.7s						
MLR	**Muntele Rosu**	**82.15**	**338**	P	**P**	**19 17 26.7**	**+0.2**
MLR				IAmb	IAmb	19 17 28.2	
	comp=Z,4.0nm,0.9s						
KURBB	**Kurchatov Arra**	**83.87**	**13**	P	**P**	**19 17 36.2**	**+1.1**
	comp=Z,4.2nm,0.9s,baz=205,slow=5.7,SNR=17						
KURBB				LR	LR	19 52 48.7	
	comp=Z,44nm,18.4s,baz=176,slow=34 comp=Z,4.2nm,0.9s						
KURK	**Kurchatov**	**83.97**	**13**	P	**P**	**19 17 36.2**	**+0.5**
BURAR	**Bucovina Array**	**84.27**	**338**	P	**P**	**19 17 38.6**	**+1.2**
BUR08	**Bucovina Ar. S**	**84.30**	**338**	P	**P**	**19 17 38.5**	**+1.0**
BUR08				IAmb	IAmb	19 17 39.8	
	comp=Z,2.3nm,1.0s						
BRVK	**Borovoye**	**85.00**	**7**	P	**P**	**19 17 41.5**	**+0.7**
BRVK				IAmb	IAmb	19 17 42.8	
	comp=Z,6.3nm,0.9s						
KIEV	**Kiev**	**85.88**	**342**	P	**P**	**19 17 44.6**	**-0.6**
KIEV				IAmb	IAmb	19 17 46.5	
	comp=Z,2.5nm,0.8s						
AKASG	**Malin Array Be**	**85.88**	**342**	P	**P**	**19 17 45.0**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=158,slow=4.1,SNR=3.2 comp=Z,0.9nm,0.5s						
AKBB	**Malin Array Si**	**85.88**	**342**	P	**P**	**19 17 44.5**	**-0.8**
AKBB				IAmb	IAmb	19 17 46.5	
	comp=Z,2.8nm,0.8s						
SOKA	**Soboth**	**87.13**	**332**	*eP*	**P**	**19 17 52.7**	**+1.1**
	comp=Z,1.8nm,1.1s						
ARSA	**Arzberg**	**87.40**	**332**	*eP*	**P**	**19 17 53.7**	**+0.8**
	comp=Z,2.2nm,0.9s						
ARU	**Arti**	**87.72**	**0**	P	**P**	**19 17 54.7**	**+0.6**
ARU				IAmb	IAmb	19 17 56.1	
	comp=Z,3.4nm,0.8s						
ARU	**Arti**	**87.72**	**0**	P	**P**	**19 17 55.2**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=299,slow=1.5,SNR=4.6 comp=Z,2.1nm,0.6s						
CONA	**Conrad Observa**	**87.82**	**333**	*eP*	**P**	**19 17 55.8**	**+0.9**
	comp=Z,4.4nm,1.0s						
ABTA	**Abfaltersbach**	**88.22**	**331**	*eP*	**P**	**19 17 57.8**	**+0.9**
	comp=Z,5.1nm,1.0s						
ZAA0	**Zalesovo Array**	**88.31**	**15**	P	**P**	**19 17 55.8**	**-1.2**
ZAA0				IAmb	IAmb	19 17 57.5	
	comp=Z,2.3nm,1.1s						
ZALV	**Zalesovo Beam**	**88.31**	**15**	P	**P**	**19 17 56.0**	**-1.0**
ZALV	**Zalesovo Beam**	**88.31**	**15**	P	**P**	**19 17 56.4**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=279,slow=2.8,SNR=4.7 comp=Z,0.9nm,0.6s						
MOA	**Molln**	**88.38**	**332**	*eP*	**P**	**19 17 58.0**	**+0.5**
	comp=Z,3.3nm,1.1s						
BIOA	**Bad Ischl, Aus**	**88.51**	**332**	*eP*	**P**	**19 17 58.7**	**+0.5**
	comp=Z,1.7nm,0.6s						
LESA	**Schwarzleotal**	**88.69**	**331**	*eP*	**P**	**19 17 59.9**	**+0.9**
	comp=Z,3.4nm,0.6s						
WTTA	**Wattenberg**	**89.00**	**330**	*eP*	**P**	**19 18 01.3**	**+0.7**
	comp=Z,4.8nm,0.6s						
WATA	**Walderalm**	**89.08**	**330**	*eP*	**P**	**19 18 01.7**	**+0.7**
	comp=Z,3.2nm,0.6s						
SQTA	**Sankt Quirin**	**89.14**	**330**	*eP*	**P**	**19 18 02.2**	**+1.0**
	comp=Z,6.2nm,0.8s						
FETA	**Feichten**	**89.19**	**330**	*eP*	**P**	**19 18 02.5**	**+0.9**
	comp=Z,5.2nm,1.0s						
GERES	**GERESS Array B**	**89.41**	**332**	P	**P**	**19 18 02.8**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=33,slow=2.3,SNR=3.1 comp=Z,0.8nm,0.8s						
RETA	**Reutte**	**89.54**	**330**	*eP*	**P**	**19 18 04.4**	**+1.3**
	comp=Z,4.9nm,1.2s						
DAVA	**Damuels**	**89.76**	**329**	*eP*	**P**	**19 18 05.5**	**+1.3**
	comp=Z,3.5nm,0.7s						
SONM	**Songino Array**	**90.18**	**30**	P	**P**	**19 18 06.3**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=223,slow=6.1,SNR=4.5 comp=Z,0.8nm,0.8s						
ESDC	**Sonseca Array**	**91.38**	**317**	P	**P**	**19 18 14.1**	**+2.3**
	comp=Z,1.2nm,1.0s,baz=133,slow=3.1,SNR=7.0 comp=Z,1.2nm,1.0s						
YKA	**Yellowknife Ar**	**148.78**	**354**	PKPbc	**PKPbc**	**19 24 52.6**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=8.8,slow=3.6,SNR=6.6						
ULM	**Lac du Bonnet**	**153.19**	**321**	PKPbc	**PKPbc**	**19 25 03.1**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=173,slow=3.9,SNR=3.7						

*IDC **10** 19:07:44.9±1.7, 31°.74S×58°.32E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=55.3km s-min=32.0km az=86.0*

ISC 10 19:07:47.2±1.7, 31°.7S±0°.2×58°.3E±0°.4, h14km, n15, σ0°12/6, mb4.1/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.26**	**197**	T	T	19 27 15.3	
	baz=22,slow=75,SNR=19						
H04N1	**CROZET ISLANDS**	**15.26**	**198**	T	T	19 27 16.3	
	baz=22,slow=75,SNR=16						
H04N3	**CROZET ISLANDS**	**15.28**	**197**	T	T	19 27 15.1	
	baz=22,slow=75,SNR=18						
H08S1	**Diego Carcia H**	**27.36**	**32**	T	T	19 41 48.0	
	baz=206,slow=75,SNR=11						
H08S2	**Diego Garcia H**	**27.37**	**32**	T	T	19 41 49.1	
	baz=206,slow=75,SNR=12						
H08S3	**Diego Garcia H**	**27.38**	**32**	T	T	19 41 49.9	
	baz=206,slow=75,SNR=15						
H01W2	**Cape Leeuwin H**	**46.24**	**110**	T	T	20 05 20.4	
	baz=256,SNR=11						
H01W3	**Cape Leeuwin H**	**46.24**	**110**	T	T	20 05 20.3	
	baz=256						
H01W1	**Cape Leeuwin H**	**46.26**	**110**	T	T	20 05 21.2	
	baz=256						
QSPA	**South Pole Qui**	**58.43**	**180**	P	**P**	**19 17 42.3**	**0.0**
	1.7nm,0.9s,baz=257,slow=7.4,SNR=2.8 1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.31**	**44**	P	**P**	**19 18 15.9**	**0.0**
	1.2nm,0.7s,baz=228,slow=7.0,SNR=6.5 1.2nm,0.7s						
ASAR	**Alice Springs**	**66.21**	**104**	P	**P**	**19 18 35.0**	**+0.1**
	1.0nm,0.7s,baz=238,slow=5.9,SNR=7.1 1.0nm,0.7s						
WRA	**Warramunga Arr**	**68.21**	**101**	P	**P**	**19 18 47.5**	**-0.1**
	1.8nm,1.0s,baz=237,slow=5.7,SNR=5.5 1.8nm,1.0s						
MKAR	**Makanchi Array**	**81.11**	**16**	P	**P**	**19 20 01.8**	**+0.1**
	0.2nm,0.5s,baz=215,slow=6.6,SNR=2.4 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**83.93**	**13**	P	**P**	**19 20 16.2**	**-0.1**
	1.4nm,1.1s,baz=204,slow=5.2,SNR=5.8 1.4nm,1.1s						

*NEIC **10** 19:18:05.9±1.1, 8°.74N±0°.08×82°.38W±0°.05, h10km±2km, ML2.9/12, Error ellipse: s-maj=15.3km s-min=5.6km az=203.0*
*UPA **10** 19:18:06.8±2.0, 8°.77N×82°.49W, h10km±3km, MD3.6, MW3.4*

ISC 10 19:18:06.8±0.8, 8°.75N±0°.03×82°.44W±0°.02, h14km±5km, n27, σ1°00/43, 6C-6D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNBQ3	**Los Naranjos,**	**0.04**	**1**	↑*iP*	**Pg**	**19 18 09.4**	**-0.2**
LNBQ3				*eS*	**Sg**	**19 18 10.9**	**-0.6**
BCO2	**Palmira**	**0.09**	**249**	↑*iP*	**Pg**	**19 18 10.2**	**+0.1**
BCO2				*eS*	**Sg**	**19 18 12.6**	**+0.3**
BRU2	**Volcan**	**0.25**	**280**		**Pg**	**19 18 12.1**	**-0.3**
BRU2				Sg	**Sg**	**19 18 15.6**	**-0.4**
BRU2				IAML		19 18 16.3	
	comp=E,2μm,0.3s						
BRU2				IAML		19 18 16.3	
	comp=N,1μm,0.5s						
BRU2	**Volcan**	**0.25**	**280**	↓*iP*	**Pg**	**19 18 12.1**	**-0.3**
BRU2				*eS*	**Sg**	**19 18 15.9**	**-0.2**
DVD	**David**	**0.31**	**182**	↑*iP*	**Pb**	**19 18 14.8**	**+0.5**
DVD				*eS*	**Sb**	**19 18 20.5**	**+1.4**
LOMA3	**Las Lomas, Chi**	**0.32**	**171**	↑*iP*	**Pb**	**19 18 15.0**	**+0.6**
LOCO3	**Loma Colorada,**	**0.34**	**176**	↑*eP*	**Pg**	**19 18 12.9**	**-0.9**
CHGR2	**Aguacate**	**0.35**	**58**	↓*iP*	**Pb**	**19 18 14.2**	**-0.7**
CHGR2				*eS*	**Sb**	**19 18 20.3**	**+0.1**
PEDE3	**Pedregal, Chir**	**0.37**	**177**	*eP*	**Pg**	**19 18 13.3**	**-1.0**
MLIR3	**Monte Lirio, C**	**0.38**	**276**	*eP*	**Pg**	**19 18 12.7**	**-1.9**
CNI2	**El Empalme, Bo**	**0.67**	**356**	↓*eP*	**Pg**	**19 18 19.5**	**-0.5**
CNI2				*eS*	**Sb**	**19 18 29.0**	**-0.4**
PTPM	**Petroterminale**	**0.69**	**219**	*eP*	**Pn**	**19 18 21.6**	**-0.6**
PTPM				*eS*	**Sb**	**19 18 30.2**	**0.0**
LIMO3	**Limones**	**0.77**	**213**	*eP*	**Pg**	**19 18 20.5**	**-1.4**
LIMO3				*eS*	**Sb**	**19 18 32.4**	**+0.1**
NANC3	**Nancito, Chiri**	**0.87**	**126**	↑*iP*	**Pb**	**19 18 23.8**	**+0.1**
NANC3				*i* S	**Sn**	**19 18 36.5**	**-0.6**
SAFE3	**Santa Fe, Vera**	**1.37**	**100**	↓*iP*	**Pg**	**19 18 32.4**	**-0.8**
SAFE3				*i* S	**Sg**	**19 18 50.5**	**-0.5**
MESA3	**La Mesa, Verag**	**1.38**	**116**	↓*eP*	**Pn**	**19 18 31.9**	**+0.2**
MESA3				*eS*	**Sn**	**19 18 50.3**	**+0.5**
GMAL	**Guarumal, Vera**	**1.55**	**129**	*eP*	**Pn**	**19 18 34.4**	**+0.4**
GMAL				*i* S	**Sn**	**19 18 53.9**	**0.0**
LCR2	**La Lucha 2**	**1.83**	**303**	Pn	**Pn**	**19 18 39.0**	**+0.9**
LCR2				Sn	**Sn**	**19 19 02.1**	**+1.0**
LCR2				IAML		19 19 03.4	
	comp=N,117nm,0.5s						
LCR2				IAML		19 19 03.6	
	comp=E,132nm,0.6s						
HDC	**Heredia**	**2.06**	**307**	Pn	**Pn**	**19 18 42.2**	**+1.0**
CHIT3	**Chitre**	**2.15**	**111**	↓*eP*	**Pb**	**19 18 44.7**	**-0.9**
CHIT3				*eS*	**Sn**	**19 19 09.9**	**+1.1**
AZU	**Azuero**	**2.35**	**114**	*eP*	**Pn**	**19 18 46.7**	**+1.7**
AZU				*i* S	**Sn**	**19 19 13.5**	**-0.1**
BCIP	**Isla Barro Col**	**2.61**	**81**		**Pn**	**19 18 47.3**	**-1.3**
BCIP				IAML		19 19 58.2	
	comp=E,50nm,3.0s						
BCIP	**Isla Barro Col**	**2.61**	**81**	*eP*	**Pn**	**19 18 50.5**	**+1.9**
FRIJ	**El Hiral**	**2.72**	**80**	*eP*	**Pn**	**19 18 52.3**	**+2.1**
JTS	**Las Juntas de**	**2.91**	**302**	Pn	**Pn**	**19 18 51.5**	**-1.3**
JTS	**Las Juntas de**	**2.91**	**302**	*eP*	**Pn**	**19 18 55.2**	**+2.5**
ESPN	**Las Esperanzas**	**3.88**	**332**	Pn	**Pn**	**19 19 06.1**	**0.0**
ESPN				IAML		19 20 09.2	
	comp=N,21nm,0.9s						

*IDC **10** 19:19:06.6±0.9, 10°.02N×140°.71E, h0km, mb3.7/7, mbtmp3.8/8, ML4.3/1, MS3.0/7, Error ellipse: s-maj=28.4km s-min=19.0km az=96.0*
*NEIC **10** 19:19:08.2±1.9, 10°.2N±0°.1×140°.3E±0°.1, h10km±1km, mb4.6/16, Error ellipse: s-maj=25.0km s-min=14.6km az=307.0*

ISC 10 19:19:10.3±0.6, 10°.12N±0°.09×140°.6E±0°.1, h26km, n33, σ1°61/30, mb4.2/14, MS3.0/5, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.45**	**50**	Pn	**Pn**	**19 20 29.8**	**-0.1**
GUMO	**Guam**	**5.45**	**50**	Pn	**Pn**	**19 20 30.5**	**+0.7**
	10nm,0.3s,baz=322,slow=8.2,SNR=9.6						
GUMO				Sn	**Sn**	**19 21 30.2**	**-1.6**
	20nm,0.3s,baz=330,slow=22,SNR=8.3						
GUMO				LR	LR	19 23 00.8	
	comp=Z,67nm,19.1s,baz=212,slow=43 36nm,0.4s						
DAV	**Davao City (W)**	**15.12**	**260**	LR	LR	19 27 36.9	
	comp=Z,38nm,20.4s,baz=108,slow=34						
FAKI	**Fak Fak**	**15.37**	**213**	Pn	**Pn**	**19 22 44.5**	**-1.1**
FAKI				IAmb	IAmb	19 23 15.3	
	comp=Z,57nm,1.4s						
JCJ	**Chichijima**	**16.96**	**5**	Pn	**Pn**	**19 23 01.1**	**-4.7**
PMG	**Port Moresby**	**20.48**	**161**	LR	LR	19 31 53.3	
	comp=Z,26nm,20.8s,baz=278,slow=38						
JHJ	**Hachijo jima 2**	**22.90**	**358**	LR	LR	19 31 43.6	
	comp=Z,61nm,19.4s,baz=229,slow=33						
JNU	**Nakatsue**	**24.57**	**340**	LR	LR	19 33 01.2	
	comp=Z,49nm,21.3s,baz=182,slow=34						
KNRA	**Kununurra**	**28.16**	**205**	P	**P**	**19 25 00.3**	**-0.3**
KNRA				IAmb	IAmb	19 25 17.8	
	comp=Z,25nm,1.4s						
KSRS	**Korea Array**	**29.50**	**339**	LR	LR	19 35 19.3	
	comp=Z,39nm,20.9s,baz=180,slow=33						
WB0	**Warramunga Arr**	**30.31**	**192**	P	**P**	**19 25 18.9**	**-0.9**
WB0				IAmb	IAmb	19 26 01.0	
	comp=Z,8.5nm,1.3s						
WB2	**Warramunga Arr**	**30.49**	**192**	P	**P**	**19 25 20.6**	**-0.7**
WB2				IAmb	IAmb	19 25 20.9	
	comp=Z,7.5nm,1.1s						
WRA	**Warramunga Arr**	**30.49**	**192**	P	**P**	**19 25 20.5**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=8.7,slow=9.7,SNR=13						
WRA				PcP	**PcP**	**19 28 20.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=358,slow=2.6,SNR=6.5 comp=Z,1.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**31.67**	**208**	P	**P**	**19 25 30.7**	**-1.0**
AS31	**Alice Springs**	**34.20**	**191**	P	**P**	**19 25 53.4**	**-0.5**
ASAR	**Alice Springs**	**34.20**	**191**	P	**P**	**19 25 52.8**	**-1.1**
ASAR	**Alice Springs**	**34.20**	**191**	P	**P**	**19 25 53.7**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=19,slow=12,SNR=33						
ASAR				PcP	**PcP**	**19 28 30.8**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=25,slow=2.6,SNR=6.8 comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.09**	**286**	P	**P**	**19 26 54.6**	**+2.4**
	comp=Z,1.1nm,0.6s,baz=91,slow=7.0,SNR=10 comp=Z,1.1nm,0.6s						
FORT	**Forrest**	**42.40**	**196**	P	**P**	**19 27 03.4**	**+0.7**
FORT				IAmb	IAmb	19 27 35.3	
	comp=Z,19nm,1.1s						
GSI	**Gunungsitoli**	**43.60**	**261**	P	**P**	**19 27 09.1**	**-3.7**
CAN	**Canberra**	**45.89**	**170**	P	**P**	**19 27 30.8**	**+0.1**
MSVF	**Nonsavu**	**46.23**	**127**	P	**P**	**19 27 34.5**	**+0.8**
SONM	**Songino Array**	**47.32**	**329**	P	**P**	**19 27 43.9**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=123,slow=10,SNR=2.8 comp=Z,0.2nm,0.3s						
PALK	**Pallekele**	**59.17**	**272**	LR	LR	19 56 15.5	
	comp=Z,24nm,18.9s,baz=215,slow=38						
MKAR	**Makanchi Array**	**61.14**	**318**	P	**P**	**19 29 23.4**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=90,slow=8.7,SNR=4.9 comp=Z,0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**64.61**	**321**	P	**P**	**19 29 46.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=105,slow=6.6,SNR=2.4 comp=Z,0.2nm,0.3s						
E19K	**Redstone River**	**70.24**	**21**	P	**P**	**19 30 21.6**	**+0.7**
E19K				IAmb	IAmb	19 30 32.2	
	comp=Z,5.2nm,1.1s						
J20K	**Nowinta River**	**70.30**	**25**	P	**P**	**19 30 22.8**	**+1.6**
D19K	**Kuna River**	**70.34**	**20**	P	**P**	**19 30 22.6**	**+1.2**
D19K				IAmb	IAmb	19 30 40.3	
	comp=Z,6.6nm,1.1s						
MLY	**Manley**	**71.95**	**25**	P	**P**	**19 30 32.3**	**+1.0**
ILAR	**Eielson Array**	**73.49**	**25**	P	**P**	**19 30 40.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=270,slow=6.1,SNR=2.1 comp=Z,0.2nm,0.5s						
BMAR	**Burnt Mountain**	**74.91**	**23**	P	**P**	**19 30 50.7**	**+2.0**
L29M	**L29M**	**77.11**	**27**	P	**P**	**19 31 03.1**	**+1.8**
L29M				IAmb	IAmb	19 31 13.6	
	comp=Z,3.2nm,0.9s						

IDC 10 19:21:13.1±21.0, 6°.13S×129°.76E, h185km±238km, mb3.0/1, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=129.8km s-min=98.8km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.44**	**162**	P	Pn	19 24 29.2	+0.1
	0.1nm,0.3s,baz=342,slow=10,SNR=5.3 0.5nm,1.1s						
ASAR	**Alice Springs**	**17.89**	**168**	P	P	19 25 08.8	-0.1
	baz=344,slow=10,SNR=4.3 0.1nm,0.4s						
MKAR	**Makanchi Array**	**67.37**	**327**	P	P	19 31 48.4	0.0
	0.4nm,0.7s,baz=133,slow=8.1,SNR=4.3 0.4nm,0.7s						

IDC 10 19:22:41.1±2.7, 31°.76S×58°.51E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=81.1km s-min=33.9km az=117.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.29**	**198**	T	T	19 42 09.8	
	baz=22,slow=75,SNR=19						
H04N1	**CROZET ISLANDS**	**15.29**	**198**	T	T	19 42 10.9	
	baz=22,slow=75,SNR=16						
H04N3	**CROZET ISLANDS**	**15.30**	**198**	T	T	19 42 09.7	
	baz=22,slow=75,SNR=18						
H01W2	**Cape Leeuwin H**	**46.08**	**110**	T	T	20 20 49.5	
	baz=256						
H01W3	**Cape Leeuwin H**	**46.08**	**110**	T	T	20 20 49.8	
	baz=256,SNR=3.6						
H01W1	**Cape Leeuwin H**	**46.09**	**110**	T	T	20 20 50.9	
	baz=256						
QSPA	**South Pole Qui**	**58.40**	**180**	P	P	19 32 38.2	0.0
	0.8nm,0.6s,baz=295,slow=1.7,SNR=11 0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.22**	**44**	P	P	19 33 11.4	0.0
	0.3nm,0.3s,baz=229,slow=8.1,SNR=5.1 0.3nm,0.3s						
ASAR	**Alice Springs**	**66.04**	**104**	P	P	19 33 30.2	+0.1
	1.3nm,0.7s,baz=243,slow=5.9,SNR=19 1.3nm,0.7s						
WRA	**Warramunga Arr**	**68.05**	**100**	P	P	19 33 42.8	-0.1
	1.0nm,0.7s,baz=244,slow=5.7,SNR=5.6 1.0nm

MKAR Makanchi Array 80.87 16 P P 19 37 18.5 +1.8
comp=Z,0.4nm,0.8s,baz=190,slow=4.9,SNR=3.8
comp=Z,0.4nm,0.8s
KURBB Kurchatov Arra 83.69 13 P P 19 37 33.6 +2.3
comp=Z,0.4nm,0.3s,baz=207,slow=5.9,SNR=4.6
comp=Z,0.4nm,0.3s
I30M Mount Dempster 145.05 11 PKPab 19 44 39.1 0.0

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*GII **10** 19:25:20.4±0.3, 32°.84N±0°.01×35°.587E±0°.008, h0km, Md2.3/5, Mws2.3/6, confirmed*
*GRAL **10** 19:25:22.1±0.3, 32°.84N×35°.49E, h0km±2km, MD3.1*
*JSO **10** 19:25:22, 32°.81N×35°.56E, h1km, ML2.4/13*
ISC 10 19:25:20.8±0.8, 32°.84N±0°.02×35°.58E±0°.03, h13km, n40, σ0°.49/44, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMA0B	Mount Meron ar	0.23	319	P	Pg	19 25 26.0	+0.1
MMA0B	Mount Meron ar	0.23	319	S	Sb	19 25 31.0	0.0
KSHT	Keshet	0.24	53	S	Sb	19 25 31.0	-0.2
KSHT	Keshet	0.24	53	P	Pg	19 25 26.2	+0.3
MMC7	Mount Meron ar	0.24	319	P	Pg	19 25 26.2	+0.1
BLGI	Bet Lehem HaGe	0.35	252	S	Sb	19 25 34.7	+0.5
BLGI	Bet Lehem HaGe	0.35	252	P	Pg	19 25 28.3	+0.4
GEM	Giv'at Ha'Em	0.38	10	S	Sb	19 25 35.6	+0.5
GEM	Giv'at Ha'Em	0.38	10	P	Pg	19 25 28.6	+0.2
HNTI	Hanita	0.42	305	S	Sb	19 25 36.9	+0.5
HNTI	Hanita	0.42	305	P	Pb	19 25 29.7	-0.4
MMLI	Mount Malkishu	0.42	199	S	Sb	19 25 37.1	+0.6
MMLI	Mount Malkishu	0.42	199	P	Pg	19 25 29.6	+0.4
NATI	Neve Ativ	0.44	17	P	Pg	19 25 29.9	+0.4
NATI				S	Sb	19 25 37.4	+0.5
NATI	Neve Ativ	0.44	17	P	Pg	19 25 29.6	+0.1
QRNJ	Al-Qirein	0.50	181	P	Pb	19 25 31.7	+0.2
SHBL	Chebaa	0.53	15	eP	Pb	19 25 31.9	-0.1
OFRI	`Ofer	0.55	247	P	Pb	19 25 32.4	+0.1
OFRI	`Ofer	0.55	247	S	Sb	19 25 41.1	+0.9
OFRI	`Ofer	0.55	247	P	Pb	19 25 32.0	-0.3
HMDT	Nahal Hemdat	0.59	185	P	Pb	19 25 32.7	-0.2
HMDT	Nahal Hemdat	0.59	185	S	Sb	19 25 42.6	+1.4
HMDT	Nahal Hemdat	0.59	185	P	Pb	19 25 32.9	-0.1
RCY	Rachaya	0.69	18	eP	Pb	19 25 34.8	0.0
RCY				eS	Sb	19 25 44.5	+0.2
QRWL	Qaraoun	0.71	7	eP	Pb	19 25 35.0	-0.1
QRWL				eS	Sb	19 25 44.5	-0.3
SLTI	Sal'it	0.75	218	P	Pb	19 25 35.9	+0.1
SLTI	Sal'it	0.75	218	S	Sn	19 25 47.4	-1.0
DQRL	Deir Qamar	0.86	359	eP	Pg	19 25 37.6	+0.1
DQRL				eS	Sg	19 25 49.1	+0.2
HSUJ	Al Zarqa	0.90	145	P	Pn	19 25 39.4	+0.3
ZAHL	Zahle	1.05	14	eP	Pg	19 25 41.1	+0.1
BHL	Bhannes	1.06	3	eP	Pb	19 25 41.2	+0.1
DSI	Dead Sea	1.28	188	P	Pn	19 25 44.2	-0.2
DSI	Dead Sea	1.28	188	P	Pn	19 25 44.2	-0.2
AMAZ	Amatzia	1.42	204	P	Pg	19 25 48.0	-0.1
HWQ	Hawqa	1.47	12	eP	Pb	19 25 48.3	+0.3
YTIR	Yattir	1.52	195	P	Pg	19 25 49.9	-0.2
YTIR	Yattir	1.52	195	P	Pb	19 25 49.6	+0.6
LISJ	El Lisan	1.60	183	P	Pg	19 25 51.3	-0.2
BEIL	Beino	1.77	16	eP	Pb	19 25 53.0	-0.2
PRNI	Paran	2.53	191	P	Pb	19 26 04.4	-1.7

IDC 10 19:31:44.6±1.4, 31°.81S×58°.68E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=54.5km s-min=30.8km az=98.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.29	198	T	T	19 51 20.5	
baz=22,slow=75,SNR=6.1							
H04N1	CROZET ISLANDS	15.29	198	T	T	19 51 22.7	
baz=22,slow=75,SNR=4.5							
H04N3	CROZET ISLANDS	15.31	198	T	T	19 51 18.3	
baz=22,slow=75,SNR=5.3							
H08S1	Diego Carcia H	27.26	31	T	T	20 05 40.9	
baz=206,slow=76,SNR=10							
H08S2	Diego Garcia H	27.27	31	T	T	20 05 44.9	
baz=206,slow=76,SNR=5.5							
H08S3	Diego Garcia H	27.28	31	T	T	20 05 45.3	
baz=206,slow=76,SNR=10							
H01W2	Cape Leeuwin H	45.93	110	T	T	20 29 19.6	
baz=257,slow=75,SNR=9.2							
H01W3	Cape Leeuwin H	45.93	110	T	T	20 29 20.0	
baz=257,slow=75,SNR=7.4							
H01W1	Cape Leeuwin H	45.94	110	T	T	20 29 20.9	
baz=257,slow=75,SNR=5.9							
QSPA	South Pole Qui	58.36	180	P	P	19 41 40.7	-0.7
0.9nm,0.9s,baz=271,slow=2.5,SNR=6.5							
0.9nm,0.9s							
CMAR	Chiang Mai Arr	63.15	43	P	P	19 42 14.1	-0.4
1.9nm,0.8s,baz=228,slow=7.5,SNR=11							
1.9nm,0.8s							
ASAR	Alice Springs	65.89	104	P	P	19 42 33.0	+0.5
0.4nm,0.7s,baz=238,slow=6.1,SNR=7.5							
0.4nm,0.7s							
KURBB	Kurchatov Arra	83.93	13	P	P	19 44 14.7	-1.3
1.4nm,1.0s,baz=208,slow=5.9,SNR=6.6							
1.4nm,1.0s							
YKA	Yellowknife Ar	149.00	354	PKPbc	PKiKP	19 51 35.5	+0.5
1.3nm,0.8s,baz=18,slow=5.6,SNR=4.6							

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*NOU **10** 19:32:27.5, 37°.50S×179°.63W, h0km, MLv3.9/6, East of North Island, N.Z.*
*WEL **10** 19:32:34.3±0.9, 38°S±7°×18°0E±°, h12km, M3.2/19, ML3.5/24, MLv3.2/19, Error ellipse: s-maj=0.0km s-min=0.0km az=164.0, confirmed*
ISC 10 19:32:32.5±3.5, 37°.56S±0°.07×179°.9E±0°.1, h4km±16km, n36, σ0°.73/46, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	1.20	257	P	Pn	19 32 56.8	+0.7
WMGZ				S	Sn	19 33 13.8	+1.0
MXZ	Matakaoa Point	1.26	270	P	Pb	19 32 56.7	-0.2
MXZ	Matakaoa Point	1.26	270	P	Pb	19 32 56.7	-0.2
MXZ				S	Sg	19 33 12.8	-0.3
PKGZ	Pakihiroa	1.48	257	P	Pn	19 33 00.1	+0.2
CNGZ	Carnagh Statio	1.62	235	P	Pb	19 33 03.1	+0.1
TWGZ	Tauwhareparae	1.63	247	P	Pb	19 33 03.2	-0.1
TWGZ				S	Sg	19 33 25.4	+0.4
HAZ	Te Kaha	1.69	263	P	Pn	19 33 03.1	+0.4
HAZ				S	Sn	19 33 24.3	-0.5
RUGZ	Raukumara Rang	1.80	256	P	Pn	19 33 04.9	+0.4
TKGZ	Te Karaka	1.84	241	P	Pn	19 33 05.7	+0.9
TKGZ				S	Sb	19 33 29.8	-0.2
MWZ	Matawai	2.02	247	P	Pn	19 33 07.8	+0.4
MWZ				S	Sn	19 33 32.9	-0.3
RIGZ	Rimuhau	2.03	235	P	Pn	19 33 08.2	+0.7
RIGZ				S	Sb	19 33 34.4	-1.2
PRGZ	Paritu Road	2.08	229	P	Pn	19 33 09.3	+1.0
RAGZ	Rawiri	2.17	244	P	Pn	19 33 10.2	+0.8
RAGZ				S	Sn	19 33 37.1	+0.3
MHGZ	Mahia Peninsul	2.23	224	P	Pn	19 33 11.1	+0.9
URZ	Urewera	2.31	252	P	Pn	19 33 12.4	+1.1
URZ	Urewera	2.31	252	P	Pn	19 33 12.2	+0.9
URZ				S	Sn	19 33 39.7	-0.4
SNGZ	Shannon Statio	2.35	238	P	Pn	19 33 12.9	+0.9
SNGZ				S	Sn	19 33 41.6	+0.3
RTZ	Ruatahuna	2.53	245	P	Pn	19 33 15.4	+1.0
RAHZ	Arahi	2.59	238	P	Pn	19 33 16.1	+0.8
MUGZ	Murupara	2.63	249	P	Pn	19 33 16.5	+0.7
MTHZ	Maungataniwha	2.73	241	P	Pn	19 33 17.8	+0.7
ARHZ	Aropaoanui	2.84	232	P	Pn	19 33 19.8	+1.1
UTU	Utuhina	2.99	257	P	Pn	19 33 21.1	+0.4
MRHZ	Matea Rd	3.02	244	P	Pn	19 33 21.6	+0.5
BKZ	Black Stump Fm	3.12	238	P	Pn	19 33 23.1	+0.6
BKZ	Black Stump Fm	3.12	238	P	Pn	19 33 23.0	+0.6
MCHZ	McNeill Hill	3.13	232	P	Pn	19 33 23.7	+1.0
KAHZ	Kahuranaki	3.25	226	P	Pn	19 33 24.4	+0.1
KUZ	Kuaotunu	3.43	283	P	Pn	19 33 26.0	-0.8
PRHZ	Porangahau	3.71	222	P	Pn	19 33 29.5	-1.1
PNHZ	Pukenui	3.72	230	P	Pn	19 33 30.2	-0.6
MKAZ	Moumakai	3.80	276	P	Pn	19 33 31.2	-0.6
BFZ	Birch Farm	4.21	221	P	Pn	19 33 36.4	-1.1
WCZ	Waipu Caves	4.74	288	P	Pn	19 33 45.0	+0.2
OUZ	Omahuta	5.52	293	P	Pn	19 33 56.9	+0.4
OUZ	Omahuta	5.59	293	P	Pn	19 33 57.6	+1.2

KRSC 10 19:34:40.9±1.9, 49°.55N×157°.01E, h15km±34km, Ml4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.27	334	eP	Pn	19 35 03.4	-0.7
SKR				eS	Sb	19 35 18.7	-2.0
KDTR	Khodutka, Kamc	2.37	16	eP	Pb	19 35 22.0	-1.1
KDTR				eS	Sb	19 35 51.4	-0.7
ASAK	Asacha	2.90	11	eP	Pb	19 35 29.4	-2.8
ASAK				eS	Sb	19 36 04.6	-2.8
MTVR	Mutnovka	3.03	14	eP	Pn	19 35 31.3	+3.0
MTVR				eS	Sn	19 36 07.8	+3.3
GRL	Gorelyy	3.08	12	eP	Pb	19 35 32.3	-3.1
GRL				eS	Sb	19 36 09.8	-3.1
KRMR	Karymshinskiy	3.36	12	eP	Pn	19 35 35.6	+2.8
KRMR				eS	Sb	19 36 17.2	-3.6
APC	Apacha	3.38	2	eP	Pn	19 35 35.6	+2.5
PET	Petropavlovsk	3.63	16	eP	Pn	19 35 39.6	+3.1
PET				eS	Sn	19 36 22.8	+3.8
DALK	Dalny	3.66	17	eP	Pn	19 35 40.1	+3.3
DALK				eS	Sn	19 36 23.7	+4.1
UGLR	Uglovaya	3.84	17	eP	Pn	19 35 43.1	+3.7
AVH	Avacha	3.88	16	eP	Pn	19 35 43.9	+4.0
KOK	Koryaka	3.89	15	eP	Pn	19 35 44.4	+4.3
SMAR	Somma	3.89	16	eP	Pn	19 35 43.9	+3.7
NLC	Nalytchevo	3.92	21	eP	Pn	19 35 42.4	+2.0
NLC				eS	Sn	19 36 27.4	+1.5
KRER	Koryakskii	3.92	15	eP	Pn	19 35 44.4	+3.8
KRER				eS	Sb	19 36 31.8	-5.1
KRX	Arik	3.95	14	eP	Pn	19 35 44.8	+3.8
KRX				eS	Sb	19 36 33.1	-4.8
SPN	Mys Shipunski	4.03	27	eP	Pn	19 35 45.8	+3.9
GNL	Ganaly	4.20	8	eP	Pn	19 35 47.2	+2.9
TUMR	Tumrok	6.06	17	eP	Pn	19 36 15.6	+5.7

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*HVO **10** 19:38:21.0±1.6, 19°.416N±0°.008×155°.275W±0°.006, h1km±3km, ML3.8/26, ML3.2/36(NEIC), Error ellipse: s-maj=1.2km s-min=0.8km az=178.0*
*NEIC **10** 19:38:21.7±1.5, 19°.412N±0°.007×155°.286W±0°.007, h5km±1km, Error ellipse: s-maj=1.0km s-min=0.8km az=213.0*
*IDC **10** 19:38:23.4±19.0, 19°.62N×155°.34W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=404.8km s-min=55.7km az=36.0*
ISC 10 19:38:21.1±1.2, 19°.45N±0°.02×155°.28W±0°.02, h0km±10km, n45, σ1°.62/52, mb3.8/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSD	Rainshed	0.02	352		Pg	19 38 22.2	+0.6
RSD				IAML		19 38 23.1	
comp=E,3μm,0.2s							
RSD				IAML		19 38 23.1	
comp=N,5μm,0.3s							
SBLHI	Steaming Bluff	0.02	159		Pg	19 38 22.4	+0.8
UWB	Uwekahuna B	0.02	186		Pg	19 38 22.4	+0.9
HATHI	Halema'uma'u T	0.03	149		Pg	19 38 21.2	-0.4
OBL	Observatory Le	0.03	196		Pg	19 38 22.2	+0.5
UWE	Uwekahuna	0.03	214		Pg	19 38 21.6	-0.1
BYL	Byron's Ledge	0.04	156		Pg	19 38 21.2	-0.6
WRMHI	West Rim	0.05	210		Pg	19 38 23.2	+1.2
KKO	Keanakako`i	0.05	169		Pg	19 38 22.8	+0.7
RIM	Rim	0.05	178		Pg	19 38 22.9	+0.8
SDHHI	Sand Hill	0.06	197		Pg	19 38 23.4	+1.2
PUH	Pauahi	0.09	142		Pg	19 38 22.9	0.0
MLH	Mauna Loa	0.12	295		Pg	19 38 23.9	+0.5
MLH					Sg	19 38 26.1	+1.2
MLH				IAML		19 38 27.1	
comp=N,14μm,0.6s							
MLH				IAML		19 38 27.3	
comp=E,18μm,0.5s							
KNHH	Kane Nui o Ham	0.12	123		Pg	19 38 23.2	-0.2
HLP	Hilina Pali	0.15	192		Pg	19 38 23.7	-0.4
HLP					Sg	19 38 25.8	-0.3
HLP				IAML		19 38 27.0	
comp=E,9μm,1.0s							
HLP				IAML		19 38 27.1	
comp=N,8μm,0.9s							
STCH	Steam Cracks	0.15	113		Pg	19 38 24.1	0.0
STCH					Sg	19 38 26.3	+0.2
STCH				IAML		19 38 27.1	
comp=E,9μm,1.0s							
STCH				IAML		19 38 28.1	
comp=N,7μm,0.6s							
NPOC	North of Pu'u	0.17	109		Pg	19 38 24.8	+0.5
JCUZ	Jacuzzi	0.17	111		Pg	19 38 26.1	+1.6
JCUZ					Sg	19 38 28.4	+1.6
HTC	Hot Caves	0.24	209		Pg	19 38 26.2	+0.6
HMH	Humu'ula Sheep	0.25	309		Pg	19 38 27.0	+1.1
HMH					Sg	19 38 30.1	+0.9
HMH				IAML		19 38 35.0	
comp=E,8μm,0.5s							
JOKA	Jonika Flow	0.26	93		Pg	19 38 25.9	-0.1
JOKA				IAML		19 38 32.9	
comp=E,6μm,1.2s							
JOKA				IAML		19 38 34.5	
comp=N,8μm,1.1s							
MLOA	Mauna Loa Obse	0.30	288		Pg	19 38 27.9	+1.1
MLOA					Sg	19 38 31.2	+0.5
MWH	Moku'aweowe	0.31	277		Pg	19 38 27.9	+0.9
PAH	Pahoa	0.31	81		Pg	19 38 28.1	+0.9
ALEP	Alea Permanent	0.36	285		Pg	19 38 29.3	+1.3
KHU	Kahuku	0.38	238	Pg	Pg	19 38 28.8	+0.5
KHU					Sg	19 38 34.4	+1.1
KHU				IAML		19 38 38.0	
comp=N,5μm,0.7s							
POHA	Pohakuloa	0.39	322		Sg	19 38 33.0	-0.8
POHA	Pohakuloa	0.39	322	Pg	Pg	19 38 29.8	+1.1
POHA				IAML		19 38 38.4	
comp=N,10μm,0.6s							
POHA				IAML		19 38 40.6	
comp=N,12μm,0.6s							
HPO	Honuapo	0.44	217		Pg	19 38 30.0	+0.4
HUH	Hualalai	0.58	294		Pg	19 38 32.5	+0.3
I59US	HAWAII INFRASO	0.60	284	Pg	Pg	19 38 33.9	+1.2
baz=116,slow=51							
CPH	Captain Cook	0.61	274		Pg	19 38 33.6	+0.8
HPAH	Hawaii Prepara	0.70	326		Pg	19 38 34.9	+0.2
KKH	Kailua Kona	0.73	287	Pg	Pg	19 38 34.5	-0.6
MHA	Mahukona	0.94	321	Pg	Pg	19 38 38.3	-1.0
HLK	Haleakala	1.59	325		Pn	19 38 47.4	-3.4
KHLH	Kahului Airpor	1.80	323		Pn	19 38 50.1	-3.4
KPA	Kalaupapa	2.36	318		Pn	19 38 57.8	-3.4
DHH	Diamond Head	2.98	308		Pn	19 39 06.1	-3.5
HON	Honolulu	3.17	307	Pn	Pn	19 39 08.8	-3.4
KIP	Kipapa	3.23	308	Pn	Pn	19 39 09.2	-3.9
KEKH	Kekaha	4.86	302	Pn	Pn	19 39 31.4	-4.1
PDAR	Pinedale Array	44.84	48	P	P	19 46 39.1	+1.7
comp=N,0.4nm,0.8s,baz=251,slow=5.6,SNR=2.9							
comp=N,0.4nm,0.8s							
ILAR	Eielson Array	45.65	5	P	P	19 46 43.9	+0.8
comp=N,0.9nm,0.8s,baz=196,slow=7.3,SNR=7.3							
comp=N,0.9nm,0.8s							
TXAR	Lajitas Array	47.70	68	P	P	19 47 02.0	+2.1
comp=N,1.6nm,0.8s,baz=254,slow=8.8,SNR=18							
comp=N,1.6nm,0.8s							

IDC 10 19:42:19.7±2.9, 31°.72S×58°.42E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=87.3km s-min=36.7km az=116.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.30	198	T	T	20 01 54.4	
baz=22,slow=75,SNR=5.8							
H04N1	CROZET ISLANDS	15.30	198	T	T	20 01 59.7	
baz=22,slow=75,SNR=6.5							
H04N3	CROZET ISLANDS	15.32	198	T	T	20 01 52.7	
baz=22,slow=75,SNR=6.0							
H08S1	Diego Carcia H	27.31	32	T	T	20 16 19.5	
baz=206,slow=76,SNR=6.6							
H08S2	Diego Garcia H	27.32	32	T	T	20 16 21.1	
baz=206,slow=76,SNR=3.5							
H08S3	Diego Garcia H	27.33	32	T	T	20 16 20.8	
baz=206,slow=76,SNR=6.5							
H01W2	Cape Leeuwin H	46.16	110	T	T	20 39 59.4	
baz=257,slow=74,SNR=7.6							
H01W3	Cape Leeuwin H	46.17	110	T	T	20 40 01.3	
baz=257,slow=74,SNR=7.7							
H01W1	Cape Leeuwin H	46.18	110	T	T	20 40 00.6	
baz=257,slow=74,SNR=7.7							
QSPA	South Pole Qui	58.44	180	P	P	19 52 17.2	0.0
1.8nm,1.1s,baz=255,slow=2.8,SNR=6.2							
1.8nm,1.1s							
CMAR	Chiang Mai Arr	63.24	44	P	P	19 52 50.2	0.0
0.4nm,0.6s,baz=232,slow=6.0,SNR=4.1							
0.4nm,0.6s							
ASAR	Alice Springs	66.13	104	P	P	19 53 09.2	0.0
0.6nm,0.7s,baz=239,slow=6.0,SNR=8.6							
0.6nm,0.7s							
WRA	Warramunga Arr	68.13	101	P	P	19 53 22.0	0.0
0.8nm,0.8s,baz=243,slow=5.3,SNR=4.0							
0.8nm,0.8s							

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*IDC **10** 19:57:57.3±1.2, 31°.67S×58°.47E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=40.6km s-min=31.0km az=88.0*
ISC 10 19:57:59.6±1.1, 31°.75±0°.2×58°.5E±0°.3, h14km, n15, σ0°.24/6, mb4.0/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.35	198	T	T	20 16 50.0	
baz=21,slow=75,SNR=12							
H04N1	CROZET ISLANDS	15.36	198	T	T	20 16 51.7	
baz=21,slow=75,SNR=12							
H04N3	CROZET ISLANDS	15.37	198	T	T	20 16 51.6	
baz=21,slow=75,SNR=12							
H08S1	Diego Carcia H	27.25	32	T	T	20 31 41.2	
baz=207,slow=76,SNR=8.4							
H08S2	Diego Garcia H	27.25	32	T	T	20 31 41.4	
baz=207,slow=76,SNR=6.6							
H08S3	Diego Garcia H	27.27	32	T	T	20 31 43.5	
baz=207,slow=76,SNR=8.4							
H01W2	Cape Leeuwin H	46.13	110	T	T	20 55 40.9	
baz=257,slow=75,SNR=6.3							
H01W3	Cape Leeuwin H	46.13	110	T	T	20 55 41.7	
baz=257,slow=75,SNR=5.8							
H01W1	Cape Leeuwin H	46.15	110	T	T	20 55 42.3	
baz=257,slow=75,SNR=5.3							
QSPA	South Pole Qui	58.48	180	P	P	20 07 54.9	-0.1
0.8nm,0.6s,baz=314,slow=0.5,SNR=5.7							
0.8nm,0.6s							
CMAR	Chiang Mai Arr	63.18	44	P	P	20 08 27.1	-0.2
1.2nm,0.5s,baz=232,slow=7.2,SNR=11							
1.2nm,0.5s							
ASAR	Alice Springs	66.09	104	P	P	20 08 46.7	+0.2
0.6nm,0.7s,baz=238,slow=5.5,SNR=6.4							
0.6nm,0.7s							
WRA	Warramunga Arr	68.09	100	P	P	20 08 59.5	+0.2
0.8nm,0.8s,baz=240,slow=5.5,SNR=3.3							
0.8nm,0.8s							
KURBB	Kurchatov Arra	83.85	13	P	P	20 10 28.2	0.0
1.1nm,0.9s,baz=210,slow=6.0,SNR=4.9							
1.1nm,0.9s							
ESDC	Sonseca Array	91.60	317	P	P	20 11 06.2	+0.1
0.5nm,0.8s,baz=116,slow=4.7,SNR=4.7							
0.5nm,0.8s							

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*DSN **10** 20:03:45.4±2.0, 28°.15N×54°.75E, h10km, ML3.3/7, Error ellipse: s-maj=44.2km s-min=19.4km az=73.0*
*IDC **10** 20:03:46.0±1.2, 27°.91N×55°.01E, h0km, mb3.7/8, mbtmp3.7/9, ML3.2/1, MS3.1/2, Error ellipse: s-maj=25.5km s-min=22.5km az=19.0*
*TEH **10** 20:03:47.6, 28°.03N×55°.09E, h11km±27km, ML3.8*
*OMAN **10** 20:03:48.8±0.3, 28°.14N×55°.04E, h10km, mb4.3/3, ml3.5/17, Error ellipse: s-maj=5.0km s-min=2.0km az=1.0*
ISC 10 20:03:50.8±0.7, 28°.04N±0°.04×55°.12E±0°.04, h26km, n77, σ1°.77/85, mb3.5/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.75	241	Pg	Pb	20 04 02.5	-2.8
GENO	Geno	1.13	124	Pg	Pn	20 04 10.1	-1.0
GENO				Sg	Sn	20 04 27.8	+1.9
IBND	Bandar-abas	1.39	115	Pg	Pn	20 04 15.0	+0.5
JHRM	Jahrom	1.44	289	Pg	Pb	20 04 16.0	-0.9
LMD1	Lamerd	1.86	249	Pn	Pb	20 04 22.0	-2.2
QIR1	Qir	1.88	284	Pn	Pb	20 04 22.4	-2.1
NGRK	Negar Kerman	2.14	41	Pn	Pn	20 04 26.4	+1.3
SHME	Shamm	2.18	155	P	Pn	20 04 24.1	-1.3
SHME	Shamm	2.18	155	P	Pn	20 04 24.9	-0.5
SHME				S	Sb	20 04 57.0	+0.9
KHNJ	Kahnooj	2.29	92	Pn	Pn	20 04 28.5	+1.6
BANOM	Banah	2.36	153	P	Pn	20 04 28.8	+1.0
BANOM				S	Sn	20 05 01.2	+5.3
TVBK	TV Kerman	2.42	36	Pn	Pn	20 04 30.7	+1.8
KHGB	Koh Gabri	2.62	27	Pn	Pb	20 04 33.5	-3.6
CHMN	Cheshme madani	2.79	49	Pn	Pn	20 04 36.4	+2.2
MASF	Masafi	2.81	160	P	Pn	20 04 35.2	+1.1
MSFE	Esma-Masafi	2.83	160	P	Pn	20 04 34.7	+0.4
MDH	Madha	2.93	159	P	Pn	20 04 35.8	+0.1
MDH	Madha	2.93	159	P	Pn	20 04 36.7	+1.1
NAZ	Nazwa, Dubai	3.08	171	P	Pn	20 04 39.8	+2.1
KRM1	Kerman Provinc	3.10	37	Pn	Pn	20 04 40.2	+2.1
KBAM	BAM	3.13	69	Pn	Pn	20 04 40.6	+2.1
UOSS	Minazif	3.23	162	P	Pn	20 04 38.1	-1.7
UOSS	Minazif	3.23	162	P	Pn	20 04 41.5	+1.7
FAQ	Al Faqa, Dubai	3.31	172	P	Pn	20 04 42.3	+1.4
HATD	Hatta, Dubai	3.33	164	P	Pn	20 04 43.3	+2.1
IMEH	Mehriz	3.37	353	Pn	Pn	20 04 43.8	+1.9
ASUD	Al Ashush, Dub	3.40	177	P	Pn	20 04 40.3	-1.9
ASUD	Al Ashush, Dub	3.40	177	P	Pn	20 04 45.8	+3.6
KAZ2	Kazeron-Fars-I	3.41	298	Pn	Pn	20 04 43.1	+0.8
DSBU	Dashti - Bushe	3.42	276	Pn	Pn	20 04 43.8	+1.4
ASHO	Ashiyiah	3.45	166	P	Pn	20 04 42.7	-0.1
ASHO				S	Sn	20 05 26.4	+3.5
ASHO	Ashiyiah	3.45	166	P	Pn	20 04 43.2	+0.4
SNR=7.2							
ASHO				S	Sn	20 05 26.3	+3.5
IBAF

MKAR Makanchi Array 28.35 41 P P 20 09 43.6 +1.0
0.3nm,0.6s,baz=234,slow=11,SNR=4.3
0.3nm,0.6s
KURBB Kurchatov Arra 28.70 32 P P 20 09 46.0 +0.5
0.5nm,0.6s,baz=230,slow=8.7,SNR=5.0
0.5nm,0.6s
OBN Obninsk 30.21 339 LR LR 20 23 21.4
comp=Z,36nm,18.1s,baz=328,slow=39
ZALV Zalesovo Beam 33.80 32 P P 20 10 30.2 -0.2
2.2nm,0.5s,baz=245,slow=8.4,SNR=12
2.2nm,0.5s
FINES FINESS Array B 38.61 338 P P 20 11 11.6 +0.1
0.5nm,0.5s,baz=142,slow=9.6,SNR=4.3
0.5nm,0.5s
HFS Hagfors 42.56 331 P P 20 11 43.8 -0.3
0.7nm,0.4s,baz=133,slow=10,SNR=6.5
0.7nm,0.4s
NB2 NORSAR Subarra 44.07 331 P P 20 11 56.3 -0.1
comp=Z,0.5nm,0.6s,baz=118,slow=8.6
NOA NORSAR Array B 44.07 331 P P 20 11 55.8 -0.6
comp=Z,0.6nm,0.7s,baz=109,slow=9.4,SNR=3.6
comp=Z,0.6nm,0.7s
TORD Torodi Ar. Bea 51.77 265 P P 20 12 54.5 -2.0
comp=Z,1.4nm,0.8s,baz=62,slow=7.8,SNR=9.4
comp=Z,1.4nm,0.8s

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*IDC **10** 20:07:48.1±0.9, 27°.71N×105°.64W, h0km, mb4.1/9, mbtmp4.0/13, ML3.6/4, MS3.5/20, Error ellipse: s-maj=17.9km s-min=9.4km az=141.0*
*NEIC **10** 20:07:48.5±1.8, 27°.75N±0°.04×105°.65W±0°.07, h10km±1km, mb4.2/66, Error ellipse: s-maj=11.2km s-min=6.1km az=270.0*
*MEX **10** 20:07:51.7±0.4, 27°.71N×105°.72W, h10km, MD4.7*
ISC 10 20:07:47.1±1.4, 27°.77N±0°.03×105°.67W±0°.04, h1km±10km, n215, σ2s09/200, mb4.3/17, MS3.6/14, 1C, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIG	**La Boquilla**	**0.32**	**134⇑**	*eP*	**Pb**	**20 07 55.8**	**+0.1**
	baz=301,slow=16						
BCIG				*eS*	**Sb**	20 08 00.6	-0.9
HPIG		**0.83**	**180**		**Pg**	20 08 04.2	+1.2
HPIG				Sg	**Sg**	20 08 14.1	+0.3
HPIG		**0.83**	**180**	*eP*	**Pg**	20 08 04.3	+1.3
HPIG				*eS*	**Sg**	20 08 15.0	+1.2
TX31	**Lajitas Ar. Si**	**2.35**	**48**	Pn	**Pn**	20 08 27.3	+0.3
TXAR	**Lajitas Array**	**2.35**	**48**	Pn	**Pn**	20 08 27.1	+0.1
TXAR	**Lajitas Array**	**2.35**	**48**	Pn	**Pn**	20 08 27.4	+0.4
	16nm,0.3s,baz=232,slow=12,SNR=324						
TXAR				Pg	**Pb**	20 08 31.6	+1.3
	51nm,0.3s,baz=226,slow=16,SNR=95						
TXAR				LR	LR	20 08 55.3	
	comp=Z,189nm,21.0s,baz=214,slow=28						
TXAR				Lg	Lg	20 09 03.6	
	150nm,0.3s,baz=224,slow=30,SNR=17						
	96nm,0.4s						
CSIG	**Choix**	**2.58**	**249**	*eP*	**Pn**	**20 08 28.9**	**-1.1**
CSIG				*eS*	**Sn**	20 08 58.6	-3.4
PDIG	**Papasquiaro**	**2.73**	**175**	*eP*	**Pn**	20 08 33.8	+1.5
PDIG				*eS*	**Sn**	20 09 04.2	-1.9
VHRN	**Van Horn**	**3.06**	**11**	Pn	**Pn**	20 08 37.1	+0.2
ALPN	**Alpine**	**3.15**	**34**	Pn	**Pn**	20 08 38.6	+0.7
SSIG	**Sanalona**	**3.22**	**205**	*eP*	**Pn**	20 08 39.0	+0.1
SSIG				*eS*	**Sn**	20 09 14.9	-3.0
CGIG		**3.28**	**323**	*eP*	**Pn**	20 08 37.0	-2.8
CGIG				*eS*	**Sn**	20 09 18.9	-0.7
TSIG	**Topolobambo**	**3.71**	**235**	*eP*	**Pn**	20 08 42.1	-3.4
TSIG				*eS*	**Sn**	20 09 25.8	-4.1
MCIG	**Muzquiz**	**3.71**	**87**	*eP*	**Pn**	20 08 46.5	+0.8
MCIG				*eS*	**Sb**	20 09 34.8	-4.2
SAND	**Sanderson**	**3.80**	**54**	Pn	**Pn**	20 08 47.5	+0.6
PECS	**Pecos**	**3.92**	**23**		**Pn**	20 08 49.2	+0.7
EPT	**El Paso**	**4.05**	**350**		**Pn**	20 08 50.9	+0.5
NZIG	**Nacozari, Sono**	**4.28**	**308**	*eP*	**Pn**	20 08 54.4	+0.9
NZIG				*eS*	**Sn**	20 09 42.9	-1.3
MNHN	**Monahans**	**4.37**	**35**		**Pn**	20 08 55.6	+0.9
GUYB	**Guaymas**	**4.61**	**273**	*eP*	**Pn**	20 08 57.0	-0.9
GUYB				*eS*	**Sn**	20 09 57.4	+5.3
MAIG	**Mazatlaan**	**4.61**	**189**	*eP*	**Pn**	20 08 59.4	+1.4
MAIG				*eS*	**Sn**	20 09 48.4	-3.9
DRIO	**Del Rio**	**4.74**	**68**	Pn	**Pn**	20 09 00.3	+0.6
319A	**Douglas**	**4.78**	**320**	Pn	**Pn**	20 09 01.1	+0.8
HSIG		**4.81**	**286**	Pn	**Pn**	20 09 02.7	+1.9
HSIG		**4.81**	**286**	*eP*	**Pn**	20 09 00.3	-0.5
HSIG				*eS*	**Sn**	20 09 52.5	-4.7
OZNA	**Ozona**	**5.06**	**51**	Pn	**Pn**	20 09 04.8	+0.6
121A	**Cookes Peak, D**	**5.09**	**339**		**Pn**	20 09 05.0	+0.3
121A	**Cookes Peak, D**	**5.09**	**339**	*eP*	**Pn**	20 09 05.5	+0.8
121A				*i* S	**Sn**	20 10 09.2	+4.9
ODSA	**Odessa**	**5.11**	**31**	Pn	**Pn**	20 09 05.3	+0.4
MNIG	**Monterrey**	**5.27**	**113**	*eP*	**Pn**	20 09 08.4	+1.2
MNIG				*eS*	**Sn**	20 10 13.7	+5.1
833A	**Chaparral WMA,**	**5.58**	**83**		**Pn**	20 09 11.7	+0.5
SLBS	**Sierra La Lagu**	**5.60**	**224**	*eP*	**Pn**	20 09 12.0	+0.3
SLBS				*eS*	**Sn**	20 10 22.9	+6.1
DUN6	**Lazy B Ranch**	**5.61**	**329**		**Pn**	20 09 12.0	+0.2
SGCY	**Sterling City**	**5.71**	**43**	Pn	**Pn**	20 09 12.0	-1.2
ZAIG	**Zacatecas**	**5.72**	**150**	Pn	**Pn**	20 09 12.8	-0.6
ZAIG	**Zacatecas**	**5.72**	**150**	*eP*	**Pn**	20 09 10.6	-2.8
ZAIG				*eS*	**Sn**	20 10 15.9	-4.0
JCT	**Junction City**	**5.80**	**61**		**Pn**	20 09 13.4	-0.9
JCT	**Junction City**	**5.80**	**61**	*eP*	Pn	20 09 04.1	-10
JCT				*i* S	**Sn**	20 10 27.2	+5.6
HNDO	**Hondo**	**5.88**	**71**		**Pn**	20 09 15.3	-0.2
LNIG	**Linares**	**6.26**	**116**	*eP*	**Pn**	20 09 19.8	-0.8
LNIG				*eS*	**Sn**	20 10 31.2	-1.7
HBVL	**Hebbronville**	**6.26**	**95**	Pn	**Pn**	20 09 22.0	+1.3
TUC	**Tucson**	**6.33**	**317**	Pn	**Pn**	20 09 22.1	+0.4
TUC	**Tucson**	**6.33**	**317**	*eP*	**Pn**	20 09 21.7	0.0
TUC				*eS*	**Sn**	20 10 35.4	+0.6
Y22D	**IRIS PASSCAL I**	**6.38**	**351**		**Pn**	20 09 22.7	+0.3
POST	**Post**	**6.39**	**33**		**Pn**	20 09 23.2	+0.8
LAPR	**La Primavera**	**6.42**	**297**	*eS*	**Sn**	20 10 45.0	+8.2
AAIG	**Aguscalientes**	**6.50**	**152**	*eP*	**Pn**	20 09 22.1	-2.1
AAIG				*eS*	**Sn**	20 10 43.2	+4.0
SN05	**Snyder 5**	**6.56**	**38**		**Pn**	20 09 24.5	-0.3
MSTX	**Muleshoe**	**6.66**	**21**	Pn	**Pn**	20 09 25.7	-0.6
SN07	**Snyder 07**	**6.72**	**37**		**Pn**	20 09 27.8	+0.8
ANIG	**Ahuacatlan**	**6.77**	**171**	*eP*	Pn	20 09 35.8	+8.1
ANIG				*eS*	**Sn**	20 10 50.2	+4.7
BRDY	**Brady**	**6.79**	**57**	Pn	**Pn**	20 09 28.8	+1.0
KVTX	**Kingsville**	**6.90**	**90**	*eP*	**Pn**	20 09 31.6	+2.2
KVTX				*eS*	Sn	20 10 57.7	+9.0
ABTX	**Abilene, Hawle**	**7.11**	**46**		**Pn**	20 09 33.0	+0.6
DKNS	**Dickens**	**7.16**	**34**	Pn	**Pn**	20 09 33.9	+0.9
ANMO	**Albuquerque**	**7.19**	**355**		**Pn**	20 09 33.7	+0.2
ANMO	**Albuquerque**	**7.19**	**355**	Pn	**Pn**	20 09 34.5	+1.0
	0.2nm,0.3s,baz=242,slow=15,SNR=3.4						
ANMO				Sn	Sn	20 11 05.8	+10
	0.8nm,0.3s,baz=267,slow=18,SNR=1.7						
ANMO				LR	LR	20 12 49.9	
	comp=Z,187nm,18.5s,baz=263,slow=42						
	1.0nm,0.3s						
APMT	**Aspermont**	**7.32**	**39**	Pn	**Pn**	20 09 35.3	+0.1
214A	**Organ Pipe Nat**	**7.47**	**306**		**Pn**	20 09 37.8	+0.4
214A	**Organ Pipe Nat**	**7.47**	**306**	*eP*	**Pn**	20 09 38.8	+1.5
214A				*i* S	**Sn**	20 11 04.8	+2.0
GTIG	**Gomez Farias**	**7.51**	**127**	*eP*	Pn	20 09 41.8	+3.9
GTIG				*eS*	Sn	20 11 10.1	+6.2
X18A	**Snowflake**	**7.67**	**333**		**Pn**	20 09 40.8	+0.6
435B	**Jarrell**	**7.67**	**65**	Pn	**Pn**	20 09 38.0	-2.1
PIX	**Pinacate**	**7.76**	**301**		**Pn**	20 09 43.1	+1.9
RPIG	**Rio Verde**	**7.81**	**137**	*eP*	Pg	20 10 11.7	-5.0
RPIG				*eS*	**Sn**	20 11 09.7	-1.6
MLDN	**Muldoon**	**7.81**	**73**	Pn	**Pn**	20 09 42.2	+0.3
AMTX	**Amarillo**	**7.87**	**25**		**Pn**	20 09 43.1	+0.3
PLPT	**Palo Pinto**	**8.10**	**50**		**Pn**	20 09 45.0	-1.0
CJM	**Chamela**	**8.25**	**176**	*eS*	Sn	20 11 33.7	+12
X16A	**Lo Mia Camp, P**	**8.27**	**325**	Pn	**Pn**	20 09 49.2	+0.8
WHTX	**Lake Whitney,**	**8.28**	**57**	Pn	**Pn**	20 09 47.4	-0.9
FW07	**Weatherford**	**8.41**	**52**	Pn	**Pn**	20 09 49.0	-1.1
FW03	**Perrin-Whitt E**	**8.41**	**49**	Pn	**Pn**	20 09 49.0	-1.1
SOMAC	**Volcano de Col**	**8.42**	**167**	*eS*	**Sn**	20 11 23.7	-2.9
INCO	**Volcan de Coli**	**8.42**	**167**	*eS*	**Sn**	20 11 23.7	-3.0
FW13	**Cleburne**	**8.47**	**55**	Pn	**Pn**	20 09 49.7	-1.3
MNGA	**Volcan de Coli**	**8.48**	**167**	*eS*	**Sn**	20 11 25.1	-2.7
JRQG	**Juriquilla Cam**	**8.50**	**145**	Pn	**Pn**	20 09 50.0	-1.6
JRQG	**Juriquilla Cam**	**8.50**	**145**	*eS*	**Sn**	20 11 29.3	+1.1
CEGR	**Campo Tres**	**8.51**	**168**	*eP*	**Pn**	20 09 52.1	+0.5
CEGR				*eS*	**Sn**	20 11 25.6	-2.8
113A	**Mohawk Valley,**	**8.59**	**307**	Pn	**Pn**	20 09 53.4	+0.8
WTFS	**Witchita Falls**	**8.61**	**44**		**Pn**	20 09 52.9	0.0
SMWD	**Samnorwood**	**8.66**	**31**	Pn	**Pn**	20 09 53.2	-0.4
FW14	**Alvarado**	**8.67**	**56**	Pn	**Pn**	20 09 52.8	-0.9
COIG	**Colima**	**8.74**	**168**	*eS*	**Sn**	20 11 31.2	-3.0
Y14A	**Wickenburg**	**8.80**	**316**		**Pn**	20 09 55.6	0.0
HKT	**Hockley**	**8.89**	**74**	Pn	**Pn**	20 09 55.0	-1.8
CDAR	**Ciudad de Arme**	**8.92**	**170**	*eS*	**Sn**	20 11 36.7	-1.6
FW16	**Waxahatchie**	**8.93**	**56**	Pn	**Pn**	20 09 55.9	-1.4
RTBA	**Rita Blanca**	**8.99**	**15**	Pn	**Pn**	20 09 59.0	+0.8
WMOK	**Wichita Mounta**	**9.11**	**39**		**Pn**	20 09 58.9	-0.8
WUAZ	**Wupatki**	**9.12**	**329**	Pn	**Pn**	20 10 00.4	+0.3
SPIG	**San Pedro Mart**	**9.14**	**293**	*eP*	Pn	20 10 05.5	+5.0
SPIG				*eS*	**Sn**	20 11 43.2	-1.1
ACIG	**Acambay**	**9.39**	**144**	*eS*	Sn	20 12 04.7	+14
T25A	**Trinidad**	**9.40**	**6**	Pn	**Pn**	20 10 03.9	-0.1
X34A	**Smith Ranch, M**	**9.56**	**43**	Pn	**Pn**	20 10 04.5	-1.4
LOOK	**Love County**	**9.57**	**48**	Pn	**Pn**	20 10 04.3	-1.8
DEIG	**Demacu**	**9.59**	**139**	*eS*	**Sn**	20 11 49.3	-5.9
BLYC	**Blythe**	**9.67**	**310**	Pn	**Pn**	20 10 06.5	-0.9
MVCO	**Mesa Verde**	**9.71**	**346**	Pn	**Pn**	20 10 07.1	-1.1
ELIS	**Ellis County**	**9.83**	**31**	Pn	**Pn**	20 10 09.3	-0.4
CSTR	**Hydro, Custer**	**9.85**	**35**	Pn	**Pn**	20 10 08.1	-1.7
ESJX	**Sierra Juarez**	**9.87**	**298**	Pn	**Pn**	20 10 10.3	0.0
SDCO	**Great Sand Dun**	**9.95**	**1**		**Pn**	20 10 11.3	-0.2
S22A	**4UR Ranch, Cre**	**10.00**	**355**		**Pn**	20 10 12.2	+0.1
U32A	**Winter Ranch,**	**10.28**	**32**	Pn	**Pn**	20 10 17.2	+1.5
U15A	**North Rim**	**10.29**	**329**	Pn	**Pn**	20 10 19.0	+2.8
OK038	**West end E0370**	**10.48**	**32**	Pn	**Pn**	20 10 17.7	-0.9
W35A	**Tecumseh**	**10.51**	**43**	Pn	**Pn**	20 10 18.4	-0.5
NOKA	**Waynoka**	**10.52**	**31**	Pn	**Pn**	20 10 17.0	-2.1
OK029	**Liberty Lake**	**10.62**	**39**	Pn	**Pn**	20 10 20.5	+0.1
ARIG	**Puente Sto Nin**	**10.64**	**151**	*eS*	**Sn**	20 12 22.4	+1.7
ZIIG	**Zihuatanejo**	**10.83**	**158**	*eS*	Sn	20 12 32.4	+7.0
PFO	**Pinyon Flats O**	**10.96**	**305**	LR	LR	20 14 17.7	
	comp=Z,108nm,20.9s,baz=104,slow=35						
HMU	**Henry Mountain**	**11.00**	**339**	Pn	**Pn**	20 10 24.6	-1.2
KNB	**Kanab**	**11.02**	**329**		**Pn**	20 10 26.6	+0.5
OK052	**Battle Ridge R**	**11.13**	**40**	Pn	**Pn**	20 10 27.0	-0.4
X37A	**Clayton**	**11.13**	**50**	Pn	**Pn**	20 10 28.0	+0.6
PKCU	**Pink Cliffs**	**11.15**	**332**	Pn	**Pn**	20 10 28.9	+0.9
Q24A	**Divide**	**11.17**	**2**	Pn	**Pn**	20 10 30.5	+2.2
KAN14	**Manchester OK**	**11.24**	**33**	Pn	**Pn**	20 10 28.3	-0.6
OK048	**Pawnee Station**	**11.36**	**38**		**Pn**	20 10 28.4	-2.1
MTPU	**Mount Pierson**	**11.61**	**334**		**Pn**	20 10 36.9	+2.6
CCUT	**Cedar City**	**11.70**	**328**	Pn	**Pn**	20 10 38.2	+2.7
SHPR	**Sheep Range**	**11.85**	**320**	Pn	**Pn**	20 10 40.0	+2.6
T35A	**Sooner Cattle**	**11.96**	**38**	Pn	**Pn**	20 10 38.0	-0.8
GWY	**Greenwater Val**	**12.54**	**315**	Pn	**Pn**	20 10 47.9	+1.0
U38A	**Gravette**	**12.88**	**45**	Pn	**Pn**	20 10 49.3	-2.1
HHAR	**Hobbs**	**13.07**	**47**	Pn	**Pn**	20 10 51.5	-2.4
SPR3	**Spring Creek 3**	**13.32**	**329**		**Pn**	20 10 56.3	-1.4
FCAR	**Ozark Folk Cen**	**14.07**	**51**		**Pn**	20 11 05.6	-2.0
DSP	**Deep Springs**	**14.10**	**316**	Pn	**Pn**	20 11 09.2	+1.2
TPH	**Tonopah**	**14.12**	**320**		**Pn**	20 11 08.3	-0.2
S39A	**Bolivar**	**14.34**	**43**	Pn	**Pn**	20 11 09.6	-1.7
MGMO	**Mountain Grove**	**14.67**	**47**		**Pn**	20 11 12.7	-3.1
K22A	**Casper**	**14.86**	**358**		**Pn**	20 11 17.1	-1.5
NV11	**Mina Array Sit**	**14.90**	**319**		**Pn**	20 11 16.7	-2.3
NVAR	**Mina Array Bea**	**14.99**	**318**	Pn	**P**	20 11 24.9	-1.1
	0.2nm,0.3s,baz=140,slow=13,SNR=11						
NVAR				LR	LR	20 17 11.7	
	comp=Z,130nm,20.0s,baz=140,slow=38						
	1.9nm,0.8s						
ELK	**Elko**	**15.15**	**331**	Pn	**Pn**	20 11 18.1	-4.4
KVN	**Kaiserville**	**15.29**	**321**		**Pn**	20 11 21.3	-3.1
PD31	**Pinedale Array**	**15.29**	**349**		**Pn**	20 11 20.1	-4.2
PDAR	**Pinedale Array**	**15.29**	**349**		**Pn**	20 11 21.0	-3.4
PDAR	**Pinedale Array**	**15.29**	**349**	Pn	**P**	20 11 28.4	-1.1
	baz=186,slow=12,SNR=5.2						
	0.6nm,0.9s						
R40A	**Maddies Statio**	**15.36**	**44**	Pn	**Pn**	20 11 22.2	-2.9
R40A				IAmb	IAmb	20 11 26.6	
	comp=Z,11nm,0.8s						
T42A	**Van Buren**	**15.38**	**49**		**Pn**	20 11 21.3	-3.9
P38A	**Dawn**	**15.53**	**37**	IAmb	IAmb	20 11 37.2	
	comp=Z,17nm,1.1s						
AHID	**Auburn Hatcher**	**15.60**	**345**	IAmb	IAmb	20 11 38.7	
	comp=Z,10nm,1.0s						
WAKR	**Walker**	**15.71**	**316**	IAmb	IAmb	20 11 41.6	
	comp=Z,10nm,1.0s						
CCM	**Cathedral Cave**	**15.85**	**46**		**Pn**	20 11 26.9	-4.6
CCM				IAmb	IAmb	20 11 40.3	
	comp=Z,14nm,0.9s						
YERR	**Yerington**	**15.90**	**318**	IAmb	IAmb	20 11 44.2	
	comp=Z,9.7nm,1.0s						
REDW	**Red Top Meadow**	**16.11**	**346**		**Pn**	20 11 33.4	-1.7
P40A	**Paris**	**16.29**	**40**	IAmb	IAmb	20 11 45.4	
	comp=Z,12nm,0.9s						
FVM	**French Village**	**16.34**	**48**	IAmb	IAmb	20 11 46.4	
	comp=Z,22nm,0.9s						
RSSD	**Black Hills**	**16.37**	**4**		**Pn**	20 11 34.6	-3.7
CGM3	**Cape Girardeau**	**16.49**	**51**	IAmb	IAmb	20 11 48.8	
	comp=Z,11nm,1.0s						
FLWY	**Flagg Ranch**	**16.77**	**347**		**Pn**	20 11 39.4	-4.1
FLWY				IAmb	IAmb	20 11 51.9	
	comp=Z,14nm,1.4s						
S44A	**Carbondale**	**16.97**	**50**	IAmb	IAmb	20 11 53.0	
	comp=Z,23nm,0.9s						
ECSD	**EROS Data Cent**	**17.52**	**22**	IAmb	IAmb	20 11 59.0	
	comp=Z,15nm,1.2s						
TEIG	**Tepich**	**17.57**	**112**	LR	LR	20 20 15.7	
	comp=Z,65nm,18.2s,baz=55,slow=43						
N41A	**Harden Midland**	**17.76**	**40**	P	**Pn**	20 11 52.3	-3.3
N41A				IAmb	IAmb	20 12 01.7	
	comp=Z,16nm,0.8s						
T47A	**Sharon Grove**	**18.15**	**55**	IAmb	IAmb	20 12 07.2	
	comp=Z,10nm,0.7s						
OLIL	**Olney**	**18.29**	**49**	P	**Pn**	20 11 59.2	-2.9
SWET	**Sewanee**	**18.38**	**61**	IAmb	IAmb	20 12 09.0	
	comp=Z,8.9nm,0.6s						
L40A	**Anamosa**	**18.50**	**36**	IAmb	IAmb	20 12 10.1	
	comp=Z,18nm,0.9s						
J08A	**Circle Bar Ran**	**18.68**	**330**	P	**P**	20 12 06.0	-0.8
I37A	**Lemond, Waseca**	**18.98**	**28**	IAmb	IAmb	20 12 18.3	
	comp=Z,16nm,0.9s						
PLID	**Pearl Lake**	**19.15**	**337**	P	**P**	20 12 11.6	-0.4
F33A	**5 Mile Ranch,**	**19.51**	**20**	P	**P**	20 12 13.9	-1.8
F33A				IAmb	IAmb	20 12 20.8	
	comp=Z,21nm,1.1s						
BPMT	**Black Pine Rid**	**19.62**	**344**	P	**P**	20 12 17.0	-0.2
YBH	**Yreka Blue Hor**	**19.70**	**319**	LR	LR	20 19 27.7	
	comp=Z,133nm,20.4s,baz=167,slow=35						
I07A	**Izee**	**19.71**	**329**	IAmb	IAmb	20 12 26.0	
	comp=Z,11nm,1.3s						
SFIN	**Lafayette**	**19.82**	**46**	IAmb	IAmb	20 12 29.4	
	comp=Z,12nm,0.8s						
TKL	**Tuckaleechee C**	**20.19**	**62**	P	**P**	20 12 23.7	+0.4
	comp=Z,8.2nm,0.8s,baz=231,slow=6.2,SNR=2.4						
TKL				LR	LR	20 21 20.0	
	comp=Z,120nm,19.2s,baz=244,slow=40						
	comp=Z,8.2nm,0.8s						
F10A	**Beach Ranch, E**	**20.35**	**336**	P	**P**	20 12 25.0	+0.1
F10A				IAmb	IAmb	20 12 38.8	
	comp=Z,5.6nm,0.8s						
G08A	**Pilot Rock**	**20.44**	**332**	P	**P**	20 12 26.3	+0.3
G08A				IAmb	IAmb	20 12 32.8	
	comp=Z,9.7nm,1.2s						
P48A	**Milroy**	**20.45**	**50**	P	**P**	20 12 26.0	0.0
P48A				IAmb	IAmb	20 12 30.8	
	comp=Z,16nm,0.7s						
O48B	**Farmland**	**21.02**	**48**	P	**P**	20 12 31.8	-0.4
G40A	**Rib Lake**	**21.37**	**31**	IAmb	IAmb	20 12 41.4	
	comp=Z,8.9nm,0.8s						
O49A	**Covington**	**21.53**	**49**	P	**P**	20 12 36.8	-1.0
O49A				IAmb	IAmb	20 12 40.0	
	comp=Z,13nm,0.8s						
E38A	**The Farm, Brul**	**21.85**	**27**	IAmb	IAmb	20 12 49.5	
	comp=Z,22nm,1.1s						
AGMN	**Agassiz Nation**	**21.87**	**18**	P	**P**	20 12 41.1	-0.1
AGMN				IAmb	IAmb	20 12 47.5	
	comp=Z,14nm,0.9s						
EYMN	**Ely**	**22.97**	**25**	P	**P**	20 12 51.8	-1.3
E03A	**Lebam**	**23.45**	**328**	P	**P**	20 12 56.7	-1.2
D41A	**Chassel**	**23.47**	**30**	P	**P**	20 12 58.1	0.0
ULM	**Lac du Bonnet**	**23.66**	**16**	IAmb	IAmb	20 13 26.1	
	comp=Z,8.1nm,1.2s						
ULM	**Lac du Bonnet**	**23.66**	**16**	P	**P**	20 13 00.7	+0.7
	comp=Z,2.1nm,0.6s,baz=193,slow=6.9,SNR=4.5						
	comp=Z,2.1nm,0.6s						
E43A	**Lone Tree Farm**	**23.71**	**33**	P	**P**	20 12 59.3	-1.2
E43A				IAmb	IAmb	20 13 05.2	
	comp=Z,9.3nm,0.9s						
JTS	**Las Juntas de**	**26.11**	**128**	LR	LR	20 23 49.8	
	comp=Z,65nm,18.6s,baz=257,slow=37						
SSPA	**Standing Stone**	**26.20**	**53**	P	**P**	20 13 23.4	+0.1
SADO	**Sadowa**	**27.12**	**44**	LR	LR	20 23 32.3	
	comp=Z,52nm,20.5s,baz=120,slow=35						
SDV	**Santo Domingo**	**38.00**	**113**	LR	LR	20 34 24.0	
	comp=Z,31nm,18.3s,baz=198,slow=42						
SCHQ	**Schefferville**	**38.98**	**35**	LR	LR	20 32 04.7	
	comp=Z,162nm,18.5s,baz=267,slow=37						
K29M	**Barlow Dome**	**41.49**	**339**	IAmb	IAmb	20 15 46.5	
	comp=Z,7.3nm,1.2s						
FRB	**Frobisher Bay**	**43.17**	**23**	LR	LR	20 33 59.2	
	comp=Z,90nm,20.7s,baz=193,slow=36						
G29M	**Pine Creek**	**43.85**	**342**	IAmb	IAmb	20 16 03.8	
	comp=Z,6.4nm,1.0s						
F28M	**Old Crow**	**44.86**	**342**	P	**P**	20 16 03.3	+0.6
ILAR	**Eielson Array**	**45.22**	**337**	P	**P**	20 16 07.8	+2.2
	comp=Z,1.5nm,1.0s,baz=141,slow=6.7,SNR=9.5						
	comp=Z,1.5nm,1.0s						
E27K	**Coleen River**	**45.73**	**342**	P	**P**	20 16 11.2	+1.6
D27M	**Malcolm River**	**46.30**	**343**	P	**P**	20 16 14.5	+0.4
BPAW	**Bear Paw Mtn.**	**46.37**	**334**	P	**P**	20 16 15.4	+0.7
RES	**Resolute Bay**	**47.30**	**4**	LR	LR	20 37 40.1	
	comp=Z,60nm,18.9s,baz=356,slow=38						
D25K	**Kavik River**	**47.79**	**342**	P	**P**	20 16 26.0	+0.2
D25K				IAmb	IAmb	20 16 35.3	
	comp=Z,3.5nm,0.9s						
F21K	**Alatna River**	**48.81**	**337**	P	**P**	20 16 33.6	0.0
F21K				IAmb	IAmb	20 16 39.9	
	comp=Z,3.2nm,0.9s						
SFJD	**Kangerlussuaq**	**51.27**	**24**	LR	LR	20 39 02.4	
	comp=Z,68nm,18.5s,baz=260,slow=36						
PPT	**Papeete**	**61.97**	**229**	LR	LR	20 38 44.5	
	comp=Z,39nm,20.9s,baz=352,slow=30						
BORG	**Borgarnes**	**62.86**	**29**	LR	LR	20 45 20.6	
	comp=Z,83nm,18.5s,baz=215,slow=36						
SPITS	**Spitsbergen Ar**	**69.11**	**11**	LR	LR	20 51 05.7	
	comp=Z,38nm,20.6s,baz=263,slow=38						
CPUP	**Villa Florida**	**71.09**	**135**	P	**P**	20 19 07.8	+0.6
	comp=Z,3.0nm,0.7s,baz=324,slow=7.4,SNR=4.7						
	comp=Z,3.0nm,0.7s						
PLCA	**Paso Flores**	**75.55**	**153**	P	**P**	20 19 34.1	+0.7
	comp=Z,1.5nm,0.8s,baz=324,slow=12,SNR=3.9						
	comp=Z,1.5nm,0.8s						
NOA	**NORSAR Array B**	**77.89**	**26**	P	**P**	20 19 49.4	+3.0
	comp=Z,0.8nm,0.7s,baz=304,slow=5.7,SNR=5.5						
NOA				LR	LR	20 54 28.1	
	comp=Z,34nm,18.8s,baz=330,slow=36						
	comp=Z,0.8nm,0.7s						
HFS	**Hagfors**	**79.41**	**26**	P	**P**	20 19 57.8	+3.0
	comp=Z,2.2nm,0.8s,baz=305,slow=5.2,SNR=4.5						
HFS				LR	LR	20 55 24.3	
	comp=Z,44nm,18.3s,baz=325,slow=36						
	comp=Z,2.2nm,0.8

KRND S **Sb** **20 20 01.2 +0.7**
260nm,0.5s
KRND KRANIDI 1.67 61 P **Pn** **20 19 39.5 +1.6**
KRND S **Sn** **20 19 59.2 +0.1**
VLS Valsamata 1.68 340 P **Pb** **20 19 40.7 +0.7**
VLS S **Sg** **20 20 04.3 +0.8**
238nm,0.3s
VLS Valsamata 1.68 340 P **Pb** **20 19 40.7 +0.7**
VLS S **Sg** **20 20 02.7 -0.8**
ANKY Antikythira Is 1.77 114 P **Pb** **20 19 41.6 +0.1**
ALIK Aliki, Aigiali 1.78 21 P **Pb** **20 19 42.7 +1.1**
DMLN Damoulianata-K 1.80 336 P **Pb** **20 19 42.9 +0.9**
EFP Efpalio 1.89 14 P **Pb** **20 19 44.0 +0.6**
EFP Efpalio 1.89 14 P **Pb** **20 19 44.1 +0.6**
KALE Kalithea 1.91 20 P **Pb** **20 19 44.7 +0.8**
LOUT Loutraki 1.92 43 P **Pn** **20 19 43.1 +1.6**
PVO Paravola 2.02 5 P **Pb** **20 19 45.9 +0.1**
PVO Paravola 2.02 5 P **Pn** **20 19 45.0 +2.1**
ANX Ano Chora 2.05 14 P **Pb** **20 19 46.9 +0.6**
NYDR Nydri-Lefkada 2.17 347 P **Pn** **20 19 47.0 +2.2**
VILL Víllia 2.23 45 P **Pn** **20 19 46.6 +0.8**
LKD2 Lefkada island 2.25 347 P **Pb** **20 19 49.6 -0.1**
LKD2 Lefkada island 2.25 347 P **Pb** **20 19 49.8 +0.2**
TSLK Tsoukalades, L 2.28 347 P **Pn** **20 19 49.0 +2.6**
VLY Voula,Athens 2.34 57 P **Pn** **20 19 48.4 +1.0**
VLY Voula,Athens 2.34 57 P **Pn** **20 19 48.3 +1.0**
AXAR Agios Charalam 2.41 26 P **Pn** **20 19 50.9 +2.6**
IMMV Iera Moni Meta 2.44 117 P **Pn** **20 19 51.7 +3.0**
MAKR Makrakomi, Fth 2.50 15 P **Pb** **20 19 53.3 -0.6**
PTL Penteli 2.50 54 P **Pn** **20 19 50.2 +0.8**
PTL Penteli 2.50 54 P **Pn** **20 19 50.3 +0.8**
AGG Agios Georgios 2.55 18 P **Pn** **20 19 53.0 +2.8**
AGG Agios Georgios 2.55 18 P **Pn** **20 19 52.5 +2.4**
DION Dionisos Attik 2.56 54 P **Pn** **20 19 52.4 +2.1**
KYMI Kymi, Euboea I 3.00 47 P **Pn** **20 19 57.1 +0.7**
THL Klokotos Trika 3.01 10 P **Pn** **20 19 59.1 +2.6**
THL Klokotos Trika 3.01 10 P **Pn** **20 19 58.7 +2.2**
TYRN Tyrnavos 3.19 13 P **Pn** **20 20 01.2 +2.3**
AOS Alonnisos 3.27 38 P **Pn** **20 20 00.9 +0.8**
KPRO Kipourio 3.35 1 P **Pn** **20 20 04.9 +3.7**
KPRO Kipourio 3.35 1 P **Pn** **20 20 04.4 +3.1**
LSK Leskovik 3.59 351 P **Pn** **20 20 06.9 +2.4**
LIT Litokhoron 3.62 14 P **Pn** **20 20 07.0 +2.2**
NEST Nestorio 3.81 357 P **Pn** **20 20 11.2 +3.6**
DBRK Dubrovnik 6.54 339 *e*Pn **Pn** **20 20 45.2 +0.3**
DBRK Sn **Sn** **20 21 52.5 -6.6**
STON Ston 6.85 337 *e*Pn **Pn** **20 20 49.1 -0.1**
MAKA Makarska 7.45 335 *i* Pn **Pn** **20 20 58.3 +0.9**
MAKA Sn **Sn** **20 22 16.3 -5.2**
HVAR Hvar 7.56 332 *e*Pn **Pn** **20 20 59.8 +0.9**
ZIRJ Zirje 8.27 330 *e*Pn **Pn** **20 21 09.4 +0.7**
KIJV Kijevo 8.29 335 *e*Pn **Pn** **20 21 09.8 +0.8**
MORI Morici 8.43 331 *e*Pn **Pn** **20 21 11.6 +0.8**
DUGI Dugi Otok 8.79 329 *e*Pn **Pn** **20 21 17.5 +1.7**
VIRC Vir 9.04 330 *e*Pn **Pn** **20 21 20.0 +0.7**
HFS Hagfors 24.06 351 P **P** **20 24 21.9 -1.8**
1.8nm,0.8s,baz=156,slow=11,SNR=5.7
1.8nm,0.8s
BELG Belogornoye 24.34 41 P **P** **20 24 26.0 -0.2**
11nm,0.7s,baz=334,slow=2.9,SNR=10.0
11nm,0.7s
FINES FINESS Array B 25.05 5 P **P** **20 24 31.9 -0.8**
0.6nm,0.5s,baz=157,slow=10,SNR=6.7
0.6nm,0.5s
NOA NORSAR Array B 25.29 348 P **P** **20 24 35.7 +0.8**
0.3nm,0.7s,baz=157,slow=9.0,SNR=2.2
NOA LR LR 20 35 56.8
comp=Z,12nm,18.9s,baz=205,slow=40
0.3nm,0.7s
MKAR Makanchi Array 45.61 57 P **P** **20 27 28.5 -0.3**
0.2nm,0.4s,baz=274,slow=6.5,SNR=2.1
0.2nm,0.4s
ZALV Zalesovo Beam 46.29 47 P **P** **20 27 32.0 -2.0**
0.8nm,0.5s,baz=268,slow=9.5,SNR=3.9
0.8nm,0.5s

IDC 10 20:24:34.5±3.0, 31°.67S×58°.41E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=87.1km s-min=35.9km az=119.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**58.50**	**180**	P	P	20 34 32.3	0.0
	0.8nm,0.6s,baz=274,slow=1.8,SNR=9.1						
	0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.21**	**44**	P	P	20 35 04.6	-0.1
	0.6nm,0.8s,baz=226,slow=7.5,SNR=3.2						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**66.15**	**104**	P	P	20 35 24.1	0.0
	0.6nm,0.7s,baz=238,slow=5.9,SNR=11						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**68.15**	**101**	P	P	20 35 36.9	+0.1
	0.8nm,0.9s,baz=241,slow=6.1,SNR=5.0						
	0.8nm,0.9s						

IDC 10 20:35:14.9±2.8, 31°.80S×58°.74E, h0km, mb3.8/4, mbtmp3.8/4, MS3.4/10, Error ellipse: s-maj=83.7km s-min=35.5km az=114.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.31**	**199**	T	T	20 54 41.2	
	baz=22,slow=75,SNR=43						
H04N1	**CROZET ISLANDS**	**15.31**	**199**	T	T	20 54 50.4	
	baz=22,slow=75,SNR=38						
H04N3	**CROZET ISLANDS**	**15.33**	**199**	T	T	20 54 48.1	
	baz=22,slow=75,SNR=45						
OPO	**Ambohidratompo**	**16.80**	**319**	LR	LR	20 44 18.7	
	comp=Z,74nm,20.7s,baz=351,slow=32						
H08S1	**Diego Garcia H**	**27.23**	**31**	T	T	21 09 21.1	
	baz=207,slow=75,SNR=9.6						
H08S2	**Diego Garcia H**	**27.24**	**31**	T	T	21 09 16.0	
	baz=207,slow=75,SNR=8.8						
H08S3	**Diego Garcia H**	**27.25**	**31**	T	T	21 09 17.4	
	baz=207,slow=75,SNR=9.9						
SUR	**Sutherland**	**32.03**	**259**	LR	LR	20 51 43.0	
	comp=Z,75nm,20.3s,baz=110,slow=31						
MAW	**Mawson**	**35.92**	**177**	LR	LR	20 53 22.6	
	comp=Z,90nm,21.0s,baz=340,slow=30						
PALK	**Pallekele**	**44.16**	**32**	LR	LR	20 59 00.6	
	comp=Z,61nm,19.0s,baz=180,slow=32						
FURI	**Furi**	**44.79**	**331**	LR	LR	20 59 59.1	
	comp=Z,20nm,19.6s,baz=166,slow=33						
H01W2	**Cape Leeuwin H**	**45.88**	**110**	T	T	21 32 52.7	
	baz=257,slow=75,SNR=9.9						
H01W3	**Cape Leeuwin H**	**45.89**	**110**	T	T	21 32 53.1	
	baz=257,slow=75,SNR=10						
H01W1	**Cape Leeuwin H**	**45.90**	**110**	T	T	21 32 54.3	
	baz=257,slow=75,SNR=8.7						
QSPA	**South Pole Qui**	**58.36**	**180**	P	P	20 45 11.8	0.0
	0.7nm,0.6s,baz=253,slow=4.2,SNR=6.1						
QSPA				LR	LR	21 08 06.9	
	comp=Z,45nm,18.5s,baz=258,slow=34						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.12**	**43**	P	P	20 45 44.5	0.0
	0.8nm,0.7s,baz=233,slow=7.5,SNR=6.0						
CMAR				LR	LR	21 07 55.6	
	comp=Z,33nm,22.0s,baz=245,slow=31						
	0.8nm,0.7s						
EIL	**Elat**	**65.18**	**337**	LR	LR	21 10 21.4	
	comp=Z,38nm,18.6s,baz=248,slow=32						
ASAR	**Alice Springs**	**65.85**	**104**	P	P	20 46 03.2	+0.6
	0.6nm,0.7s,baz=243,slow=5.8,SNR=7.7						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**67.85**	**100**	P	P	20 46 14.7	-0.7
	1.0nm,0.9s,baz=239,slow=6.0,SNR=4.7						
	1.0nm,0.9s						
MMAI	**Mount Meron Ar**	**68.13**	**339**	LR	LR	21 11 39.5	
	comp=Z,20nm,20.5s,baz=77,slow=32						
AAK	**Ala-Archa**	**75.48**	**12**	LR	LR	21 16 54.6	
	comp=Z,48nm,18.8s,baz=183,slow=33						

IDC 10 20:48:32.1±2.8, 31°.68S×58°.45E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=85.4km s-min=35.3km az=113.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.35**	**198**	T	T	21 08 02.7	
	baz=21,slow=75,SNR=4.1						
H04N1	**CROZET ISLANDS**	**15.35**	**198**	T	T	21 08 02.5	
	baz=21,slow=75,SNR=4.1						
H04N3	**CROZET ISLANDS**	**15.37**	**198**	T	T	21 08 02.8	
	baz=21,slow=75,SNR=4.3						
H08S1	**Diego Garcia H**	**27.26**	**32**	T	T	21 22 42.1	
	baz=207,slow=75,SNR=4.7						
H08S2	**Diego Garcia H**	**27.27**	**32**	T	T	21 22 42.5	
	baz=207,slow=75,SNR=3.4						
H08S3	**Diego Garcia H**	**27.28**	**32**	T	T	21 22 44.8	
	baz=207,slow=75,SNR=5.2						
QSPA	**South Pole Qui**	**58.49**	**180**	P	P	20 58 29.8	0.0
	0.6nm,0.7s,baz=232,slow=1.6,SNR=5.5						
	0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.20**	**44**	P	P	20 59 02.3	0.0
	0.4nm,0.5s,baz=234,slow=6.2,SNR=3.0						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**66.11**	**104**	P	P	20 59 21.4	-0.2
	0.4nm,0.7s,baz=236,slow=5.8,SNR=7.0						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**68.12**	**101**	P	P	20 59 34.5	+0.3
	0.5nm,0.8s,baz=247,slow=5.1,SNR=2.2						
	0.5nm,0.8s						

IDC 10 20:59:58.1±2.1, 31°.78S×58°.50E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=68.8km s-min=27.1km az=124.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.27**	**198**	T	T	21 19 17.3	
	baz=22,slow=75,SNR=13						
H04N1	**CROZET ISLANDS**	**15.27**	**198**	T	T	21 19 19.3	
	baz=22,slow=75,SNR=14						
H04N3	**CROZET ISLANDS**	**15.29**	**198**	T	T	21 19 21.0	
	baz=22,slow=75,SNR=14						
H08S1	**Diego Garcia H**	**27.32**	**31**	T	T	21 33 54.7	
	baz=207,slow=76,SNR=9.0						
H08S2	**Diego Garcia H**	**27.33**	**31**	T	T	21 33 56.4	
	baz=207						
H08S3	**Diego Garcia H**	**27.34**	**31**	T	T	21 33 59.3	
	baz=207,slow=76,SNR=6.8						
H01W2	**Cape Leeuwin H**	**46.08**	**110**	T	T	21 57 31.4	
	baz=257,slow=75,SNR=5.9						
H01W3	**Cape Leeuwin H**	**46.09**	**110**	T	T	21 57 32.7	
	baz=257,slow=75,SNR=6.1						
H01W1	**Cape Leeuwin H**	**46.10**	**110**	T	T	21 57 33.6	
	baz=257,slow=75,SNR=5.8						
SNAA	**Sanae**	**51.22**	**201**	P	P	21 09 02.6	-0.4
	0.7nm,0.5s,baz=348,slow=20,SNR=1.9						
	0.7nm,0.5s						
QSPA	**South Pole Qui**	**58.39**	**180**	P	P	21 09 55.3	+0.2
	1.7nm,0.6s,baz=270,slow=1.4,SNR=20						
	1.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.24**	**44**	P	P	21 10 28.6	0.0
	1.0nm,0.7s,baz=230,slow=7.9,SNR=7.9						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**66.05**	**104**	P	P	21 10 47.0	-0.1
	0.7nm,0.6s,baz=236,slow=6.2,SNR=10						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**68.06**	**100**	P	P	21 10 60.0	+0.1
	1.2nm,0.9s,baz=243,slow=5.7,SNR=5.0						
	1.2nm,0.9s						

IDC 10 21:06:11.2±1.6, 31°.63S×58°.59E, h0km, mb3.8/4, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=44.5km s-min=34.6km az=100.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.44**	**198**	T	T	21 25 42.5	
	baz=22,slow=75,SNR=4.5						
H04N1	**CROZET ISLANDS**	**15.44**	**198**	T	T	21 25 42.6	
	baz=22,slow=75,SNR=3.6						
H04N3	**CROZET ISLANDS**	**15.46**	**198**	T	T	21 25 40.5	
	baz=22,slow=75,SNR=3.9						
OPO	**Ambohidratompo**	**16.58**	**319**	Pn	Pn	21 10 06.5	+1.2
	baz=126,slow=19,SNR=2.1						
OPO				Sn	Sn	21 12 59.1	-11
	baz=227,slow=14,SNR=1.9						
	3.9nm,0.9s						
H08S1	**Diego Garcia H**	**27.15**	**31**	T	T	21 40 21.9	
	baz=207,slow=75,SNR=5.9						
H08S2	**Diego Garcia H**	**27.16**	**31**	T	T	21 40 21.9	
	baz=207,slow=75,SNR=5.6						
H08S3	**Diego Garcia H**	**27.17**	**31**	T	T	21 40 23.4	
	baz=207,slow=75,SNR=5.9						
H01W2	**Cape Leeuwin H**	**46.06**	**110**	T	T	22 04 21.5	
	baz=258						
H01W3	**Cape Leeuwin H**	**46.07**	**110**	T	T	22 04 11.2	
	baz=258						
H01W1	**Cape Leeuwin H**	**46.08**	**110**	T	T	22 04 07.3	
	baz=258						
QSPA	**South Pole Qui**	**58.54**	**180**	P	P	21 16 09.0	-0.3
	2.7nm,1.1s,baz=326,slow=3.6,SNR=9.6						
	2.7nm,1.1s						
CMAR	**Chiang Mai Arr**	**63.08**	**44**	P	P	21 16 39.7	-0.9
	0.4nm,0.3s,baz=216,slow=7.1,SNR=2.3						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**66.01**	**104**	P	P	21 17 00.2	+0.3
	0.6nm,0.7s,baz=237,slow=5.5,SNR=6.1						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**68.01**	**100**	P	P	21 17 13.2	+0.5
	0.8nm,0.8s,baz=239,slow=5.6,SNR=4.6						
	0.8nm,0.8s						

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*IDC **10** 21:09:58.6±0.9, 31°.66S×58°.38E, h0km, mb4.0/8, mbtmp4.0/9, ML4.1/1, MS3.4/2, Error ellipse: s-maj=29.9km s-min=22.1km az=56.0*
*NEIC **10** 21:10:00.4±1.8, 31°.6S±0°.1×58°.5E±0°.1, h10km±1km, mb4.3/13, Error ellipse: s-maj=23.0km s-min=18.7km az=234.0*
ISC 10 21:10:00.7±0.6, **31°.5S**±0°.1×**58°.5E**±0°.1, **h14**km, **n40**, σ0s**91**/30, **mb4.2**/13, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.62**	**346**	Pn	**Pn**	**21 12 30.5**	**-2.0**
VOI	**Vohitsoka**	**14.15**	**310**	Pn	**Pn**	**21 13 20.7**	**-0.2**
H04N2	**CROZET ISLANDS**	**15.48**	**198**	T	T	21 29 29.6	
	baz=22,slow=75,SNR=67						
H04N1	**CROZET ISLANDS**	**15.49**	**198**	T	T	21 29 31.7	
	baz=22,slow=75,SNR=54						
H04N3	**CROZET ISLANDS**	**15.50**	**198**	T	T	21 29 30.6	
	baz=22,slow=75,SNR=62						
ABPO	**Ambohimpanom**	**16.06**	**318**	Pn	**Pn**	**21 13 47.8**	**+1.4**
ABPO				IAmb	IAmb	21 14 03.0	
	comp=Z,25nm,1.4s						
OPO	**Ambohidratompo**	**16.44**	**319**	Pn	**P**	**21 13 53.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=136,slow=16,SNR=6.4						
OPO				Sn	Sn	21 16 42.7	-11
	baz=133,slow=13,SNR=1.3						
OPO				LR	LR	21 18 39.3	
	comp=Z,133nm,20.2s,baz=359,slow=32						
	comp=Z,2.8nm,0.8s						
H08S1	**Diego Garcia H**	**27.14**	**32**	T	T	21 43 58.6	
	baz=206,slow=75,SNR=82						
H08S2	**Diego Garcia H**	**27.15**	**32**	T	T	21 44 00.2	
	baz=206,slow=75,SNR=50						
H08S3	**Diego Garcia H**	**27.16**	**32**	T	T	21 44 00.1	
	baz=206,slow=75,SNR=93						
LBTB	**Lobatse**	**29.58**	**274**	P	**P**	**21 16 04.5**	**-0.9**
LBTB				IAmb	IAmb	21 16 13.1	
	comp=Z,4.4nm,1.1s						
SUR	**Sutherland**	**31.84**	**258**	LR	LR	21 26 54.2	
	comp=Z,67nm,19.9s,baz=118,slow=32						
H01W2	**Cape Leeuwin H**	**46.20**	**110**	T	T	22 07 33.8	
	baz=257,slow=75,SNR=63						
H01W3	**Cape Leeuwin H**	**46.20**	**110**	T	T	22 07 34.3	
	baz=257,slow=75,SNR=69						
H01W1	**Cape Leeuwin H**	**46.22**	**110**	T	T	22 07 35.2	
	baz=257,slow=75,SNR=70						
SNAA	**Sanae**	**51.42**	**201**	P	**P**	**21 19 04.4**	**-0.5**
QSPA	**South Pole Qui**	**58.63**	**180**	P	**P**	**21 19 56.7**	**-0.4**
QSPA				IAmb	IAmb	21 19 60.0	
	comp=Z,4.1nm,0.9s						
QSPA	**South Pole Qui**	**58.63**	**180**	P	**P**	**21 19 56.6**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=279,slow=2.0,SNR=20						
	comp=Z,2.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.09**	**44**	P	**P**	**21 20 27.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**63.09**	**44**	P	**P**	**21 20 29.4**	**+1.4**
	comp=Z,1.8nm,0.6s,baz=232,slow=6.6,SNR=16						
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**66.14**	**104**	P	**P**	**21 20 47.5**	**-0.5**
ASAR	**Alice Springs**	**66.14**	**104**	P	**P**	**21 20 48.5**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=239,slow=6.0,SNR=32						
	comp=Z,1.8nm,0.6s						
AS31	**Alice Springs**	**66.15**	**104**	P	**P**	**21 20 48.4**	**+0.4**
AS31				IAmb	IAmb	21 20 49.1	
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**68.14**	**101**	P	**P**	**21 20 58.3**	**-2.4**
WRA	**Warramunga Arr**	**68.14**	**101**	P	**P**	**21 21 01.1**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=242,slow=5.7,SNR=17						
	comp=Z,2.0nm,0.7s						
WB2	**Warramunga Arr**	**68.15**	**101**	P	**P**	**21 21 01.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**70.23**	**300**	P	**P**	**21 21 13.6**	**0.0**
TORD	**Torodi Ar. Bea**	**70.23**	**300**	P	**P**	**21 21 14.1**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=116,slow=5.0,SNR=3.3						
	comp=Z,0.5nm,0.9s						
SIMJ	**Simiganj**	**70.53**	**9**	P	**P**	**21 21 14.7**	**-0.3**
SIMJ				IAmb	IAmb	21 21 28.4	
	comp=Z,4.6nm,1.1s						
DBIC	**Dimbokro**	**71.28**	**290**	P	**P**	**21 21 20.6**	**+0.6**
BRTR	**Keskin Array B**	**74.55**	**340**	P	**P**	**21 21 39.3**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=143,slow=9.0,SNR=2.0						
	comp=Z,0.3nm,0.5s						
KKAR	**Karatay Array**	**75.10**	**9**	P	**P**	**21 21 42.5**	**+0.5**
ABKAR	**Akbulak array**	**80.45**	**1**	P	**P**	**21 22 12.6**	**+1.0**
ABKAR	**Akbulak array**	**80.45**	**1**	P	**P**	**21 22 12.3**	**+0.7**
ABKAR				IAmb	IAmb	21 22 13.7	
	comp=Z,3.2nm,1.4s						
MK31	**Makanchi Array**	**80.89**	**16**	P	**P**	**21 22 13.8**	**-0.3**
MKAR	**Makanchi Array**	**80.89**	**16**	P	**P**	**21 22 15.0**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=207,slow=5.2,SNR=4.8						
	comp=Z,0.5nm,0.8s						
MLR	**Muntele Rosu**	**82.16**	**338**	P	**P**	**21 22 21.5**	**+0.6**
MLR				IAmb	IAmb	21 22 33.6	
	comp=Z,4.4nm,1.2s						
KURBB	**Kurchatov Arra**	**83.71**	**13**	P	**P**	**21 22 29.6**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=209,slow=5.9,SNR=5.1						
	comp=Z,1.2nm,0.9s						
ZALV	**Zalesovo Beam**	**88.15**	**15**	P	**P**	**21 22 50.4**	**-0.1**
YKA	**Yellowknife Ar**	**148.71**	**354**	PKPbc	**PKPbc**	**21 29 46.0**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=356,slow=2.9,SNR=4.2						

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*NEIC **10** 21:10:23.0±1.2, 19°.397N±0°.006×155°.269W±0°.009, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.6km az=137.0*
HVO 10 21:10:22.6±0.9, **19°.414N**±0°.006×**155°.260W**±0°.009, **h0**km±4km, **ML3.6**/36, **ML3.0**/34(NEIC), **Error ellipse: s-maj=1.1km s-min=1.0km az=71.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.00**	**187**		Pg	21 10 23.1	+0.2
HATHI	**Halema'uma'u T**	**0.01**	**352**		Pg	21 10 23.2	+0.3
SBLHI	**Steaming Bluff**	**0.01**	**328**		Pg	21 10 23.2	+0.2
KKO	**Keanakako'i**	**0.02**	**200**		Pg	21 10 23.4	+0.4
UWB	**Uwekahuna B**	**0.02**	**301**		Pg	21 10 23.3	+0.2
OBL	**Observatory Le**	**0.02**	**278**		Pg	21 10 23.4	+0.3
RIM	**Rim**	**0.02**	**216**		Pg	21 10 23.5	+0.4
UWE	**Uwekahuna**	**0.03**	**282**		Pg	21 10 23.7	+0.4
WRMHI	**West Rim**	**0.04**	**259**		Pg	21 10 24.0	+0.6
SDHHI	**Sand Hill**	**0.04**	**233**		Pg	21 10 23.9	+0.5
RSD	**Rainshed**	**0.05**	**340**		Pg	21 10 24.2	+0.6
PUH	**Pauahi**	**0.06**	**134**		Pg	21 10 24.6	+0.9
KNHH	**Kane Nui o Ham**	**0.09**	**112**		Pg	21 10 25.3	+0.9
HLP	**Hilina Pali**	**0.13**	**201**		Pg	21 10 25.9	+0.9
HLP				IAML		21 10 28.3	
	comp=E,3μm,0.9s						
HLP				IAML		21 10 29.0	
	comp=N,6μm,1.0s						
STCH	**Steam Cracks**	**0.13**	**103**		Pg	21 10 25.8	+0.7
STCH				IAML		21 10 29.0	
	comp=E,7μm,1.2s						
STCH				IAML		21 10 29.2	
	comp=N,5μm,0.5s						
MLH	**Mauna Loa**	**0.14**	**304**		Pg	21 10 26.4	+1.1
MLH				IAML		21 10 29.8	
	comp=E,5μm,1.1s						
MLH				IAML		21 10 29.9	
	comp=N,5μm,0.4s						
JOKA	**Jonika Flow**	**0.24**	**85**		Pg	21 10 27.6	+0.4
JOKA				IAML		21 10 32.7	
	comp=N,2μm,1.0s						
JOKA				IAML		21 10 35.7	
	comp=E,3μm,1.2s						
HMH	**Humu'ula Sheep**	**0.28**	**312**		Pg	21 10 29.0	+1.0
HMH				IAML		21 10 37.8	
	comp=N,3μm,0.7s						
HMH				IAML		21 10 38.2	
	comp=E,3μm,0.7s						
PAH	**Pahoa**	**0.31**	**75**	Pg	Pg	21 10 29.4	+0.9
MLOA	**Mauna Loa Obse**	**0.32**	**292**	Pg	Pg	21 10 29.5	+0.7
MLOA				IAML		21 10 38.6	
	comp=E,2μm,1.4s						
MWH	**Moku'aweowe**	**0.33**	**283**		Pg	21 10 29.9	+1.0
KHU	**Kahuku**	**0.38**	**244**		Pg	21 10 30.8	+1.0
KHU					Sg	21 10 34.5	-0.1
KHU				IAML		21 10 38.2	
	comp=N,2μm,0.9s						
KHU				IAML		21 10 38.4	
	comp=E,1μm,0.7s						
HPO	**Honuapo**	**0.43**	**221**		Pg	21 10 31.6	+0.8
POHA	**Pohakuloa**	**0.43**	**323**		Pg	21 10 31.3	+0.4
POHA					Sg	21 10 36.8	+0.4
HUH	**Hualalai**	**0.61**	**296**		Pg	21 10 35.0	+0.7
HPAH	**Hawaii Prepara**	**0.74**	**326**		Pg	21 10 36.2	-0.6
HPAH					Sg	21 10 45.7	-0.7

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*IDC **10** 21:18:44.9±2.5, 6°.08S×148°.16E, h110km±21km, mb3.4/3, mbtmp4.0/5, MS3.3/1, Error ellipse: s-maj=55.6km s-min=14.5km az=121.0*
ISC 10 21:18:43.8±1.4, **6°.0S**±0°.2×**148°.1E**±0°.3, **h100**km, **n6**, σ1s**52**/9, **mb3.5**/3, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.54**	**195**	P	**Pn**	**21 19 37.2**	**+0.4**
	225nm,0.7s,baz=30,slow=14,SNR=22						
PMG				S	**Sn**	**21 20 17.0**	**-0.7**
	212nm,0.9s,baz=37,slow=20,SNR=6.1						
WRA	**Warramunga Arr**	**19.27**	**223**	P	**P**	**21 23 01.9**	**+1.2**
	4.9nm,0.4s,baz=48,slow=11,SNR=75						
WRA				S	**S**	**21 26 31.2**	**-2.6**
	1.3nm,0.8s,baz=48,slow=21,SNR=4.7						
ASAR	**Alice Springs**	**22.27**	**216**	P	**P**	**21 23 34.5**	**+1.6**
	1.9nm,0.5s,baz=52,slow=8.8,SNR=50						
ASAR				S	**S**	**21 27 32.0**	**+0.5**
	1.1nm,0.7s,baz=37,slow=18,SNR=7.3						
ASAR				LR	LR	21 33 22.3	
	comp=Z,74nm,18.3s,baz=46,slow=40						

H08S2 Diego Garcia H 27.22 32 T T 22 00 10.9
baz=207,slow=75,SNR=21
H08S3 Diego Garcia T 27.23 32 T T 22 00 11.5
baz=207,slow=75,SNR=38
H01W2 Cape Leeuwin H 46.44 110 T T 22 24 09.1
baz=257,slow=75,SNR=30
H01W3 Cape Leeuwin H 46.44 110 T T 22 24 10.5
baz=257,slow=75,SNR=30
H01W1 Cape Leeuwin H 46.45 110 T T 22 24 11.4
baz=257,slow=75,SNR=25
SNAA Sanae 51.40 201 P **P** **21 35 04.3 -0.8**
1.2nm,0.8s,baz=40,slow=4.1,SNR=2.7
1.2nm,0.8s
QSPA South Pole Qui 58.69 180 P **P** **21 35 57.3 -0.7**
QSPA IAmb IAmb 21 36 06.1
comp=Z,12nm,1.3s
QSPA South Pole Qui 58.69 180 P **P** **21 35 57.0 -0.9**
comp=Z,5.3nm,1.1s,baz=274,slow=1.8,SNR=21
comp=Z,5.3nm,1.1s
VNDA Vanda 62.40 166 P **P** **21 36 22.1 -0.9**
comp=Z,0.5nm,0.5s,baz=244,slow=8.1,SNR=3.5
comp=Z,0.5nm,0.5s
CM31 Chiang Mai Arr 63.21 44 P **P** **21 36 29.1 0.0**
CMAR Chiang Mai Arr 63.21 44 P **P** **21 36 29.1 0.0**
CMAR Chiang Mai Arr 63.21 44 P **P** **21 36 30.0 +0.9**
comp=Z,3.1nm,0.8s,baz=227,slow=7.1,SNR=16
comp=Z,3.1nm,0.8s
ASAR Alice Springs 66.38 104 P **P** **21 36 49.0 -1.0**
ASAR Alice Springs 66.38 104 P **P** **21 36 48.5 -1.4**
comp=Z,2.3nm,0.8s,baz=238,slow=6.0,SNR=18
comp=Z,2.3nm,0.8s
AS31 Alice Springs 66.38 104 P **P** **21 36 48.6 -1.4**
WRA Warramunga Arr 68.38 101 P **P** **21 37 01.6 -1.0**
comp=Z,2.9nm,0.8s,baz=241,slow=5.6,SNR=14
comp=Z,2.9nm,0.8s
WB2 Warramunga Arr 68.39 101 P **P** **21 37 01.0 -1.7**
TOA0 Torodi Ar. Sit 70.00 300 P **P** **21 37 12.3 -0.3**
TOA0 IAmb IAmb 21 37 17.5
comp=Z,3.8nm,1.1s
TORD Torodi Ar. Bea 70.00 300 P **P** **21 37 12.7 +0.1**
TORD IAmb IAmb 21 37 15.6
comp=Z,2.6nm,1.1s
TORD Torodi Ar. Bea 70.00 300 P **P** **21 37 14.2 +1.7**
comp=Z,1.1nm,0.8s,baz=127,slow=5.3,SNR=6.2
comp=Z,1.1nm,0.8s
CHGR Chuyangaron 70.52 9 P **P** **21 37 16.0 +0.6**
BRTR Keskin Array B 74.42 341 P **P** **21 37 38.1 -0.6**
BRTR Keskin Array B 74.42 341 P **P** **21 37 40.1 +1.4**
comp=Z,0.7nm,0.8s,baz=160,slow=7.8,SNR=3.9
comp=Z,0.7nm,0.8s
KK31 Karatay Array 75.08 9 P **P** **21 37 43.1 +0.8**
KK31 IAmb IAmb 21 37 50.9
comp=Z,2.7nm,0.9s
KKAR Karatay Array 75.08 9 P **P** **21 37 43.6 +1.4**
ABKAR Abkulak array 80.39 1 P **P** **21 38 12.4 +0.8**
ABKAR Abkulak array 80.39 1 P **P** **21 38 12.4 +0.8**
ABKAR IAmb IAmb 21 38 14.3
comp=Z,4.9nm,1.3s
MK31 Makanchi Array 80.90 17 P **P** **21 38 14.7 +0.2**
MK31 IAmb IAmb 21 38 19.1
comp=Z,3.1nm,1.2s
MKAR Makanchi Array 80.90 17 P **P** **21 38 14.7 +0.2**
MKAR Makanchi Array 80.90 17 P **P** **21 38 15.7 +1.2**
comp=Z,1.4nm,1.0s,baz=197,slow=5.9,SNR=6.9
comp=Z,1.4nm,1.0s
MLR Muntele Rosu 82.01 338 P **P** **21 38 20.0 -0.6**
MLR IAmb IAmb 21 38 35.0
comp=Z,10nm,1.5s
KURBB Kurchatov Arra 83.70 13 P **P** **21 38 30.4 +1.3**
comp=Z,2.8nm,1.0s,baz=206,slow=5.8,SNR=17
comp=Z,2.8nm,1.0s
KURK Kurchatov 83.81 13 P **P** **21 38 30.4 +0.8**
KURK IAmb IAmb 21 38 32.1
comp=Z,4.8nm,1.0s
BURAR Bucovina Array 84.13 338 P **P** **21 38 31.8 +0.3**
RONA Rosalia, Austr 87.34 333 *eP* **P** **21 38 49.0 +1.7**
comp=Z,3.6nm,1.2s
CONA Conrad Observa 87.69 333 *eP* **P** **21 38 50.7 +1.7**
comp=Z,1.8nm,0.8s
ZAA0 Zalesovo Array 88.15 15 P **P** **21 38 50.8 -0.2**
ZAA0 IAmb IAmb 21 38 52.2
comp=Z,2.8nm,1.0s
ZALV Zalesovo Beam 88.15 15 P **P** **21 38 50.2 -0.8**
ZALV Zalesovo Beam 88.15 15 P **P** **21 38 50.5 -0.4**
comp=Z,0.4nm,0.4s,baz=208,slow=2.8,SNR=4.2
comp=Z,0.4nm,0.4s
MOA Molln 88.26 332 *eP* **P** **21 38 52.3 +0.6**
comp=Z,4.3nm,1.7s
BIOA Bad Ischl, Aus 88.38 332 *eP* **P** **21 38 54.3 +2.0**
comp=Z,0.5nm,0.3s
LESA Schwarzleotal 88.56 331 *eP* **P** **21 38 54.6 +1.4**
comp=Z,0.9nm,0.5s
WTTA Wattenberg 88.87 330 *eP* **P** **21 38 56.6 +1.8**
comp=Z,4.3nm,0.8s
SQTA Sankt Quirin 89.02 330 *eP* **P** **21 38 57.1 +1.7**
comp=Z,4.5nm,0.8s
FETA Feichten 89.07 330 *eP* **P** **21 38 57.2 +1.5**
comp=Z,1.7nm,0.8s
SONM Songino Array 90.03 30 P **P** **21 38 60.0 -0.2**
comp=Z,0.6nm,0.8s,baz=225,slow=6.1,SNR=3.9
comp=Z,0.6nm,0.8s
ESDC Sonseca Array 91.28 317 P **P** **21 39 07.6 +1.5**
comp=Z,1.3nm,0.9s,baz=122,slow=3.2,SNR=7.4
comp=Z,1.3nm,0.9s
YKA Yellowknife Ar 148.63 354 PKPbc **PKPbc** **21 45 47.2 +0.3**
comp=Z,2.3nm,0.8s,baz=6.8,slow=2.5,SNR=7.3
ULM Lac du Bonnet 153.08 322 PKPbc **PKPbc** **21 45 57.2 -0.7**
comp=Z,0.4nm,0.3s,baz=71,slow=5.3,SNR=4.4

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*IDC **10** 21:29:11.7±0.6,31°.71S×58°.36E,h0km,mb4.2/14, mbtmp4.2/15,ML4.2/1,MS3.7/27,Error ellipse: s-maj=23.0km s-min=17.5km az=69.0*
*NEIC **10** 21:29:13.2±1.2,31°.6S±0°.1×58°.3E±0°.1,h10km±1km, mb4.6/25,Error ellipse: s-maj=21.3km s-min=17.1km az=232.0*
ISC 10 21:29:13.5±0.5,31°.61S±0°.09×58°.32E±0°.10,h14km,n87, σ0999/60,mb4.5/31,MS3.7/27,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**10.66**	**347**	Pn	**Pn**	**21 31 42.8**	**-3.3**
FOMA	**Nahampoana Res**	**11.98**	**301**	Pn	**Pn**	**21 32 02.6**	**-1.3**
VOI	**Vohitsoka**	**14.12**	**310**	Pn	**Pn**	**21 32 31.8**	**-1.5**
H04N2	**CROZET ISLANDS**	**15.38**	**197**	T	T	21 48 38.9	
baz=22,slow=75,SNR=3.3							
H04N1	**CROZET ISLANDS**	**15.38**	**197**	T	T	21 48 43.6	
baz=22,slow=75,SNR=3.6							
H04N3	**CROZET ISLANDS**	**15.40**	**197**	T	T	21 48 42.5	
baz=22,slow=75,SNR=3.7							
ABPO	**Ambohimpanom**	**16.05**	**319**	Pn	**Pn**	**21 32 58.5**	**-0.5**
ABPO				IAmb	IAmb	21 33 20.1	
comp=Z,38nm,1.4s							
OPO	**Ambohidratompo**	**16.43**	**320**	Pn	**P**	**21 33 06.2**	**-0.4**
comp=Z,0.1nm,0.3s,baz=91,slow=22,SNR=6.3							
OPO				Sn	Sn	21 35 55.4	-11
baz=318,slow=22,SNR=2.0							
OPO				LR	LR	21 38 02.0	
comp=Z,190nm,21.5s,baz=350,slow=32							
comp=Z,11nm,0.9s							
POGA	**Pongola**	**23.53**	**274**	P	**P**	**21 34 22.1**	**-1.3**
H08S1	**Diego Carcia H**	**27.26**	**32**	T	T	22 03 20.9	
baz=207,slow=75,SNR=13							
H08S2	**Diego Garcia H**	**27.27**	**32**	T	T	22 03 23.4	
baz=207,slow=75,SNR=13							
H08S3	**Diego Garcia H**	**27.28**	**32**	T	T	22 03 25.2	
baz=207,slow=75,SNR=25							
BOSA	**Boshof**	**28.70**	**267**	LR	LR	21 44 29.9	
comp=Z,41nm,20.3s,baz=136,slow=32							
SUR	**Sutherland**	**31.72**	**259**	LR	LR	21 46 42.8	
comp=Z,107nm,18.6s,baz=106,slow=33							
MAW	**Mawson**	**36.12**	**177**	LR	LR	21 49 09.9	
comp=Z,117nm,18.9s,baz=344,slow=33							
TSUM	**Tsumeb**	**38.61**	**279**	P	**P**	**21 36 35.5**	**-1.0**
TSUM	**Tsumeb**	**38.61**	**279**	LR	LR	21 50 42.6	
comp=Z,72nm,19.1s,baz=128,slow=33							
PALK	**Pallekele**	**44.19**	**33**	LR	LR	21 52 02.9	
comp=Z,65nm,18.6s,baz=298,slow=31							
FURI	**Furi**	**44.45**	**332**	LR	LR	21 52 27.3	
comp=Z,69nm,20.3s,baz=166,slow=31							
ATD	**Arta Tunnel**	**45.39**	**338**	LR	LR	21 52 58.7	
comp=Z,7.6nm,21.0s,baz=167,slow=31							
H01W2	**Cape Leeuwin H**	**46.28**	**110**	T	T	22 27 25.8	
baz=257,slow=74,SNR=26							
H01W3	**Cape Leeuwin H**	**46.28**	**110**	T	T	22 27 25.5	
baz=257,slow=74,SNR=3.4							
H01W1	**Cape Leeuwin H**	**46.30**	**110**	T	T	22 27 24.3	
baz=257,slow=74,SNR=3.9							
SNAA	**Sanae**	**51.31**	**201**	P	**P**	**21 38 16.3**	**-0.6**
comp=Z,3.8nm,1.1s,baz=52,slow=10,SNR=4.2							
SNAA				LR	LR	21 55 57.8	
comp=Z,75nm,19.6s,baz=120,slow=31							
comp=Z,3.8nm,1.1s							
WSAR	**Wadi Sarin**	**54.54**	**0**	LR	LR	21 57 34.2	
comp=Z,98nm,19.3s,baz=216,slow=31							
QSPA	**South Pole Qui**	**58.55**	**180**	P	**P**	**21 39 09.5**	**0.0**
QSPA				IAmb	IAmb	21 39 20.2	
comp=Z,11nm,1.1s							
QSPA	**South Pole Qui**	**58.55**	**180**	P	**P**	**21 39 09.1**	**-0.3**
comp=Z,2.8nm,0.8s,baz=271,slow=1.6,SNR=13							
QSPA				LR	LR	22 02 38.8	
comp=Z,102nm,18.1s,baz=252,slow=34							
comp=Z,2.8nm,0.8s							
VNDA	**Vanda**	**62.24**	**166**	P	**P**	**21 39 34.7**	**+0.4**
VNDA				IAmb	IAmb	21 40 09.2	
comp=Z,6.1nm,1.5s							
VNDA	**Vanda**	**62.24**	**166**	P	**P**	**21 39 34.9**	**+0.5**
comp=Z,1.0nm,1.0s,baz=255,slow=9.2,SNR=3.3							
comp=Z,1.0nm,1.0s							
CM31	**Chiang Mai Arr**	**63.22**	**44**	P	**P**	**21 39 41.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**63.22**	**44**	P	**P**	**21 39 41.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**63.22**	**44**	P	**P**	**21 39 42.5**	**+0.8**
comp=Z,4.2nm,0.9s,baz=229,slow=6.9,SNR=15							
CMAR				LR	LR	22 02 16.7	
comp=Z,63nm,21.5s,baz=215,slow=31							
comp=Z,4.2nm,0.9s							
EIL	**Elat**	**64.87**	**338**	LR	LR	22 04 09.0	
comp=Z,58nm,18.7s,baz=74,slow=32							
ASAR	**Alice Springs**	**66.23**	**104**	P	**P**	**21 40 00.3**	**-1.1**
ASAR	**Alice Springs**	**66.23**	**104**	P	**P**	**21 40 01.8**	**+0.3**
comp=Z,3.1nm,0.8s,baz=241,slow=6.0,SNR=23							
ASAR				LR	LR	22 06 27.6	
comp=Z,28nm,19.6s,baz=126,slow=34							
comp=Z,3.1nm,0.8s							
AS31	**Alice Springs**	**66.24**	**104**	P	**P**	**21 40 00.0**	**-1.4**
MMAI	**Mount Meron Ar**	**67.83**	**339**	LR	LR	22 07 35.7	
comp=Z,46nm,18.2s,baz=112,slow=34							
WRA	**Warramunga Arr**	**68.23**	**101**	P	**P**	**21 40 14.4**	**+0.3**
WRA	**Warramunga Arr**	**68.23**	**101**	P	**P**	**21 40 14.2**	**0.0**
comp=Z,4.8nm,0.8s,baz=241,slow=5.5,SNR=17							
comp=Z,4.8nm,0.8s							
WB2	**Warramunga Arr**	**68.24**	**101**	P	**P**	**21 40 13.8**	**-0.4**
STKA	**Stephens Creek**	**68.95**	**115**	P	**P**	**21 40 18.4**	**0.0**
TOA0	**Torodi Ar. Sit**	**70.17**	**300**	P	**P**	**21 40 27.7**	**+1.6**
TOA0				IAmb	IAmb	21 40 36.0	
comp=Z,6.8nm,1.3s							
TORD	**Torodi Ar. Bea**	**70.17**	**300**	P	**P**	**21 40 26.3**	**+0.2**
TORD				IAmb	IAmb	21 40 35.9	
comp=Z,4.6nm,1.2s							
TORD	**Torodi Ar. Bea**	**70.17**	**300**	P	**P**	**21 40 26.6**	**+0.5**
comp=Z,1.8nm,1.0s,baz=103,slow=6.2,SNR=6.0							
TORD				LR	LR	22 11 00.4	
comp=Z,138nm,18.6s,baz=137,slow=36							
comp=Z,1.8nm,1.0s							
MCQ	**Macquarie Isla**	**70.62**	**143**	P	**P**	**21 40 26.6**	**-1.6**
SIMJ	**Simiganj**	**70.62**	**9**	P	**P**	**21 40 27.4**	**-1.0**
SIMJ				IAmb	IAmb	21 40 47.1	
comp=Z,8.2nm,1.2s							
DBIC	**Dimbokro**	**71.20**	**291**	LR	LR	22 08 53.8	
comp=Z,41nm,20.6s,baz=142,slow=33							
PMSA	**Palmer Station**	**74.00**	**202**	LR	LR	22 06 39.2	
comp=Z,79nm,20.4s,baz=230,slow=30							
BR131	**Keskin Array S**	**74.59**	**340**	P	**P**	**21 40 52.0**	**-0.1**
BRTR	**Keskin Array B**	**74.59**	**340**	P	**P**	**21 40 51.8**	**-0.3**
BRTR	**Keskin Array B**	**74.59**	**340**	P	**P**	**21 40 52.6**	**+0.5**
comp=Z,1.4nm,0.8s,baz=170,slow=7.5,SNR=7.4							
BRTR				LR	LR	22 10 57.0	
comp=Z,14nm,20.1s,baz=124,slow=34							
comp=Z,1.4nm,0.8s							
KK31	**Karatay Array**	**75.19**	**9**	P	**P**	**21 40 55.7**	**+0.4**
KK31				IAmb	IAmb	21 41 08.2	
comp=Z,4.4nm,1.2s							
KKAR	**Karatay Array**	**75.19**	**9**	P	**P**	**21 40 56.2**	**+0.9**
AAK	**Ala-Archa**	**75.37**	**12**	LR	LR	22 10 55.4	
comp=Z,61nm,22.0s,baz=202,slow=33							
VAE	**Valguarnera**	**80.04**	**326**	LR	LR	22 15 19.7	
comp=Z,42nm,20.9s,baz=130,slow=34							
ABKAR	**Abkulak array**	**80.52**	**1**	P	**P**	**21 41 25.5**	**+0.7**
ABKAR	**Abkulak array**	**80.52**	**1**	P	**P**	**21 41 25.4**	**+0.5**
ABKAR				IAmb	IAmb	21 41 27.0	
comp=Z,4.7nm,1.1s							
MAKZ	**Makanchi**	**80.93**	**16**	P	**P**	**21 41 27.9**	**+0.7**
MAKZ				IAmb	IAmb	21 41 39.9	
comp=Z,3.8nm,1.2s							
MKAR	**Makanchi Array**	**80.99**	**16**	P	**P**	**21 41 28.1**	**+0.7**
MKAR	**Makanchi Array**	**80.99**	**16**	P	**P**	**21 41 28.6**	**+1.1**
comp=Z,1.2nm,0.9s,baz=182,slow=3.6,SNR=9.0							
MKAR				LR	LR	22 13 48.2	
comp=Z,52nm,21.7s,baz=225,slow=33							
comp=Z,1.2nm,0.9s							
KEST	**Kesra**	**81.24**	**322**	P	**P**	**21 41 31.1**	**+2.0**
comp=Z,2.2nm,0.9s,baz=155,slow=4.5,SNR=2.6							
comp=Z,2.2nm,0.9s							
AKTO	**Aktyubinsk**	**81.69**	**360**	LR	LR	22 15 41.6	
comp=Z,31nm,20.1s,baz=22,slow=34							
KURBB	**Kurchatov Arra**	**83.81**	**13**	P	**P**	**21 41 43.5**	**+1.5**
comp=Z,3.5nm,1.0s,baz=204,slow=5.6,SNR=14							
comp=Z,3.5nm,1.0s							
KURK	**Kurchatov**	**83.91**	**13**	P	**P**	**21 41 43.6**	**+1.0**
KURK				IAmb	IAmb	21 41 45.0	
comp=Z,7.7nm,1.1s							
BURAR	**Bucovina Array**	**84.30**	**338**	P	**P**	**21 41 45.1**	**+0.3**
BRVK	**Borovoye**	**84.96**	**7**	P	**P**	**21 41 48.1**	**+0.3**
AKASG	**Malin Array Be**	**85.90**	**342**	LR	LR	22 20 40.3	
comp=Z,22nm,18.1s,baz=146,slow=36							
MDT	**Midelt**	**87.39**	**311**	LR	LR	22 21 55.3	
comp=Z,70nm,18.0s,baz=154,slow=36							
RONA	**Rosalia, Austr**	**87.51**	**333**	*eP*	**P**	**21 42 01.4**	**+0.8**
comp=Z,5.2nm,1.6s							
ARU	**Arti**	**87.69**	**0**	LR	LR	22 18 27.7	
comp=Z,16nm,19.1s,baz=170,slow=34							
CONA	**Conrad Observa**	**87.86**	**333**	*eP*	**P**	**21 42 03.5**	**+1.1**
comp=Z,5.5nm,1.2s							
ZAA0	**Zalesovo Array**	**88.25**	**15**	P	**P**	**21 42 03.6**	**-0.3**
ZAA0				IAmb	IAmb	21 42 13.5	
comp=Z,2.4nm,0.9s							
ZALV	**Zalesovo Beam**	**88.25**	**15**	P	**P**	**21 42 03.8**	**0.0**
ZALV	**Zalesovo Beam**	**88.25**	**15**	P	**P**	**21 42 03.6**	**-0.3**
comp=Z,0.6nm,0.5s,baz=212,slow=5.1,SNR=5.6							
ZALV				LR	LR	22 18 33.8	
comp=Z,49nm,19.0s,baz=211,slow=34							
comp=Z,0.6nm,0.5s							
ABTA	**Abfaltersbach**	**88.27**	**330**	*eP*	**P**	**21 42 06.1**	**+1.8**
comp=Z,3.8nm,1.0s							
OJC	**Ojcow**	**88.34**	**336**	P	**P**	**21 42 04.6**	**+0.2**
OJC				IAmb	IAmb	21 42 13.0	
comp=Z,2.3nm,0.8s							
LESA	**Schwarzleotal**	**88.74**	**331**	*eP*	**P**	**21 42 06.9**	**+0.4**
comp=Z,4.6nm,1.0s							
WTTA	**Wattenberg**	**89.05**	**330**	*eP*	**P**	**21 42 08.4**	**+0.3**
comp=Z,1.5nm,0.5s							
WATA	**Walderalm**	**89.13**	**330**	*eP*	**P**	**21 42 09.3**	**+0.9**
comp=Z,6.5nm,1.3s							
SQTA	**Sankt Quirin**	**89.19**	**330**	*eP*	**P**	**21 42 09.7**	**+1.1**
comp=Z,3.0nm,0.7s							
FETA	**Feichten**	**89.24**	**330**	*eP*	**P**	**21 42 10.1**	**+1.1**
comp=Z,3.0nm,1.0s							
RETA	**Reutte**	**89.59**	**330**	*eP*	**P**	**21 42 11.5**	**+1.1**
comp=Z,1.5nm,0.8s							
SONM	**Songino Array**	**90.08**	**30**	P	**P**	**21 42 13.0**	**+0.2**
comp=Z,1.3nm,1.0s,baz=224,slow=4.1,SNR=5.0							
SONM				LR	LR	22 20 14.1	
comp=Z,67nm,19.2s,baz=163,slow=34							
comp=Z,1.3nm,1.0s							
ESDC	**Sonseca Array**	**91.46**	**317**	P	**P**	**21 42 21.2**	**+1.9**
comp=Z,1.6nm,1.0s,baz=126,slow=3.6,SNR=8.1							
comp=Z,1.6nm,1.0s							
ILAR	**Eielson Array**	**143.33**	**18**	PKP	**PKPdf**	**21 48 45.6**	**-1.0**
comp=Z,0.9nm,1.0s,baz=308,slow=4.0,SNR=4.7							
YKA	**Yellowknife Ar**	**148.77**	**354**	PKPbc	**PKPbc**	**21 49 00.2**	**+0.5**
comp=Z,3.3nm,0.9s,baz=0.2,slow=2.7,SNR=9.9							
ULM	**Lac du Bonnet**	**153.26**	**322**	PKPbc	**PKPbc**	**21 49 10.3**	**-0.4**
comp=Z,1.3nm,0.6s,baz=324,slow=3.9,SNR=3.8							

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*IDC **10** 21:43:55.8±1.0,39°.39S×175°.48E,h81km±10km,mb4.5/9, mbtmp4.8/10,MS3.5/11,Error ellipse: s-maj=16.7km s-min=8.9km az=129.0*
*NOU **10** 21:43:57.2,39°.46S×175°.48E,h87km,mb5.3/43,North Island, New Zealand*
*NEIC **10** 21:43:57.1,39°.39S×175°.56E,h80km,Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^16Nm; Mrr=0.57; Mθθ0.86; Mφφ-0.29; Mrθ0.05; Mθφ-2.84; Mφr-0.77; Fault plane solution: M0 3.01000×10^16 NP1: φs353.36000°,δ85.33000°,λ-16.24000°. NP2:φs84.72000°, δ73.82000°,λ-175.13000°. Principal axes: T 3.2554, Plg8.0000°, Azm40.0000°; N -0.4908, Plg73.0000°, Azm158.0000°; P -2.7646, Plg15.0000°, Azm308.0000°;*
*NEIC **10** 21:43:57.0±1.6,39°.40S±0°.02×175°.49E±0°.07,h84km±4km, mb5.3/35,Mwr4.9/39,Mww4.9/6 Error ellipse: s-maj=7.6km s-min=1.9km az=102.0,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=0.15; Mθθ2.05; Mφφ-1.90; Mrθ0.29; Mθφ-0.79; Mφr-1.17; Fault plane solution: M0 2.45000×10^16 NP1:φs324.34000°, δ82.08000°,λ-27.48000°. NP2:φs58.44000°,δ62.81000°, λ-171.09000°. Principal axes: T 2.3206, Plg13.0000°, Azm14.0000°; N 0.2404, Plg61.0000°, Azm130.0000°; P -2.5610, Plg25.0000°, Azm278.0000°;*
*NEIC **10** 21:43:57.1,39°.39S×175°.44E,h84km*
*NEIC **10** 21:43:57.1,39°.39S×175°.43E,h80km*
*WEL **10** 21:43:58.9±0.5,39°.3S±3°.×17°.5E±°,h75km±6km,M4.9/119, ML5.1/46,MLv4.9/119,Error ellipse: s-maj=0.0km s-min=0.0km az=157.8,confirmed*
*GCMT **10** 21:44:02.0±0.4,39°.48S±0°.02×175°.46E±0°.03,h63km±3km, MW5.0/75,Moment Tensor Solution. s16,c17; s75,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.08±.23; Mθθ3.55±.17; Mφφ-2.47±.20; Mrθ0.63±.12; Mθφ-0.50±.13; Mφr-1.92±.12; Best double couple: M0 3.77600×10^16 NP1:φs315.00000°,δ74.00000°,λ-34.00000°. NP2: φs55.00000°,δ58.00000°,λ-161.00000°. Principal axes: T 3.7340, Plg10.0000°, Azm8.0000°; N 0.0830, Plg53.0000°, Azm112.0000°; P -3.8170, Plg35.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 21:43:57.7±0.5,39°.41S±0°.03×175°.48E±0°.03,h93km±4km, n392,σ1s34/412,mb5.2/54,5C-1D,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTVZ	**Mangateitei**	**0.02**	**347**	P	**Pn**	**21 44 10.5**	**-0.4**
MTVZ				S	**Sn**	**21 44 20.0**	**-0.6**
TRVZ	**Turoa**	**0.12**	**27**	P	**Pn**	**21 44 10.7**	**-0.5**
TRVZ				S	**Sn**	**21 44 19.9**	**-1.3**
WNVZ	**Wahianoa**	**0.12**	**50**	P	**Pn**	**21 44 10.7**	**-0.4**
WNVZ				S	**Sn**	**21 44 19.7**	**-1.4**
WHVZ	**Whangaehu Hut**	**0.15**	**35**	P	**Pn**	**21 44 11.0**	**-0.3**
WHVZ				S	**Sn**	**21 44 19.5**	**-1.8**
MAVZ	**Matarangi**	**0.15**	**26**	P	**Pn**	**21 44 10.8**	**-0.6**
MAVZ				S	**Sn**	**21 44 20.2**	**-1.3**
PKVZ	**Pokaka**	**0.15**	**319**	P	**Pn**	**21 44 10.5**	**-0.6**
PKVZ				S	**Sn**	**21 44 19.7**	**-1.3**
FWVZ	**Far West T-bar**	**0.16**	**22**	P	**Pn**	**21 44 10.8**	**-0.6**
TUVZ	**Tukino**	**0.19**	**45**	P	**Pn**	**21 44 11.1**	**-0.2**
COVZ	**Chateau Observ**	**0.21**	**14**	P	**Pn**	**21 44 10.7**	**-0.7**
MOVZ	**Moawhango**	**0.21**	**91**	P	**Pn**	**21 44 10.8**	**-0.5**
MOVZ				S	**Sn**	**21 44 19.9**	**-1.5**
NGZ	**Ngauruhoe**	**0.25**	**23**	P	**Pn**	**21 44 11.1**	**-0.5**
SNVZ	**South Ngauruho**	**0.25**	**30**	P	**Pn**	**21 44 11.3**	**-0.3**
OTVZ	**Oturere**	**0.28**	**31**	P	**Pn**	**21 44 11.3**	**-0.4**
NNVZ	**North Ngauruho**	**0.29**	**22**	P	**Pn**	**21 44 11.2**	**-0.6**
WTVZ	**West Tongariro**	**0.30**	**17**	P	**Pn**	**21 44 11.1**	**-0.6**
ETVZ	**East Tongariro**	**0.33**	**34**	P	**Pn**	**21 44 11.5**	**-0.4**
TWVZ	**Taurewa**	**0.34**	**355**	P	**Pn**	**21 44 11.0**	**-0.9**
KRVZ	**Karewarewa**	**0.34**	**22**	P	**Pn**	**21 44 11.2**	**-0.7**
TMVZ	**Te Maari**	**0.34**	**31**	P	**Pn**	**21 44 11.6**	**-0.3**
NTVZ	**North Tongarir**	**0.34**	**27**	P	**Pn**	**21 44 11.6**	**-0.4**
KATZ	**Kakaramea**	**0.46**	**22**	P	**Pn**	**21 44 12.2**	**-0.5**
WAZ	**Wanganui**	**0.52**	**227**	P	**Pn**	**21 44 13.3**	**+0.4**
RITZ	**Rihia Road**	**0.52**	**35**	P	**Pn**	**21 44 12.8**	**-0.3**
RATZ	**Rangitukua**	**0.58**	**23**	P	**Pn**	**21 44 12.9**	**-0.7**
VRZ	**Vera Road**	**0.62**	**296**	P	**Pn**	**21 44 13.4**	**-0.4**
VRZ				S	**Sn**	**21 44 25.3**	**-0.6**
HATZ	**Hinemaiaia**	**0.70**	**43**	P	**Pn**	**21 44 13.9**	**-0.8**
HATZ				S	**Sn**	**21 44 25.3**	**-1.9**
WATZ	**Wairara**	**0.72**	**16**	P	**Pn**	**21 44 14.4**	**-0.4**
WATZ				S	**Sn**	**21 44 26.3**	**-1.3**
KRHZ	**Kereru**	**0.73**	**109**	P	**Pn**	**21 44 15.5**	**+0.6**
KWHZ	**Kaweka Forest**	**0.73**	**92**	P	**Pn**	**21 44 15.4**	**+0.4**
TSZ	**Takapari Road**	**0.75**	**150**	P	**Pn**	**21 44 17.1**	**+2.1**
PNHZ	**Pukenui**	**0.75**	**133**	P	**Pn**	**21 44 16.7**	**+1.6**
OHWZ	**Ohakea**	**0.81**	**189**	P	**Pn**	**21 44 17.2**	**+1.6**
BKZ	**Black Stump Fm**	**0.82**	**73**	P	**Pn**	**21 44 15.7**	**-0.1**
BKZ	**Black Stump Fm**	**0.82**	**73**			**21 44 15.5**	**-0.3**
BKZ				Sn	**Sn**	**21 44 28.2**	**-1.2**
BKZ	**Black Stump Fm**	**0.82**	**73**	P	**Pn**	**21 44 15.6**	**-0.3**
WHTZ	**Whakaora**	**0.83**	**27**	P	**Pn**	**21 44 15.9**	**0.0**
LREZ	**Lake Rotokare**	**0.83**	**266**	P	**Pn**	**21 44 16.2**	**+0.4**
MRHZ	**Matea Rd**	**0.93**	**52**	P	**Pn**	**21 44 16.3**	**-0.7**
MCHZ	**McNeill Hill**	**0.95**	**93**	P	**Pn**	**21 44 19.3**	**+2.2**
KUTZ	**Kaahu Road**	**0.95**	**17**	P	**Pn**	**21 44 16.7**	**-0.5**
MHEZ	**Mangahewa**	**0.95**	**290**	P	**Pn**	**21 44 17.5**	**+0.4**
MHEZ				S	**Sn**	**21 44 32.3**	**+0.6**
WPHZ	**Waipukurau**	**0.99**	**132**	P	**Pn**	**21 44 20.1**	**+2.5**
POWZ	**Post Office Ro**	**1.01**	**167**	P	**Pn**	**21 44 18.4**	**+0.6**
DREZ	**Durham Road**	**1.01**	**282**	P	**Pn**	**21 44 18.1**	**+0.3**
DREZ				S	**Sn**	**21 44 33.7**	**+0.8**
HIZ	**Hauiti

TOZ	Tahuroa Road	1.67	1	P	Pn	21 44 25.1	-0.7
MARZ	Manawahe	1.70	34	P	Pn	21 44 26.4	+0.1
URZ	Urewera	1.71	49	P	Pn	21 44 25.7	-0.6
URZ	Urewera	1.71	49	P	Pn	21 44 25.4	-0.9
	541nm,0.3s,baz=330,slow=4.2,SNR=537						
URZ				S	Sn	21 44 44.9	-3.2
	11μm,0.8s,baz=320,slow=9.1,SNR=29						
URZ				LR	LR	21 45 03.5	
	comp=Z,2μm,18.9s,baz=314,slow=40						
URZ	Urewera	1.71	49	P	Pn	21 44 25.6	-0.8
TMWZ	Te Maipa	1.73	170	P	Pn	21 44 26.9	+0.3
KNZ	Kokohu	1.75	78	P	Pn	21 44 26.1	-0.6
MTW	Mount Morrison	1.75	179	P	Pn	21 44 26.8	0.0
RAGZ	Rawiri	1.76	60	P	Pn	21 44 26.9	-0.2
OPRZ	Ohinepanea	1.77	29	P	Pn	21 44 26.9	-0.2
TGRZ	Tauranga	1.78	20	P	Pn	21 44 27.2	-0.1
DUWZ	D'Urville Isla	1.83	220	P	Pn	21 44 27.7	-0.3
MHGZ	Mahia Peninsul	1.90	83	P	Pn	21 44 28.6	-0.2
RIGZ	Rimuhau	1.91	69	P	Pn	21 44 28.7	-0.3
MWZ	Matawai	1.93	57	P	Pn	21 44 28.3	-0.9
PRGZ	Paritu Road	1.93	76	P	Pn	21 44 28.6	-0.6
WHRZ	Whale Island	1.94	38	P	Pn	21 44 29.8	+0.5
WEL	Wellington	1.95	196	P	Pn	21 44 29.3	-0.2
PAWZ	Paruwai Farm	1.98	181	P	Pn	21 44 29.5	-0.3
SNZO	South Karori	1.99	197	P	Pn	21 44 29.6	-0.3
SNZO	South Karori	1.99	197	Pn	Pn	21 44 29.4	-0.5
TRWZ	Traveller	2.00	175	P	Pn	21 44 29.9	-0.2
MSWZ	Moikau Station	2.02	185	Pn	Pn	21 44 29.9	-0.4
MSWZ	Moikau Station	2.02	185	P	Pn	21 44 30.0	-0.3
TCW	Tory Channel	2.02	207	Pn	Pn	21 44 29.9	-0.4
TCW	Tory Channel	2.02	207	P	Pn	21 44 30.1	-0.3
BHW	Baring Head	2.05	193		Pn	21 44 30.2	-0.5
BHW	Baring Head	2.05	193	P	Pn	21 44 30.4	-0.4
TKGZ	Te Karaka	2.09	63	P	Pn	21 44 30.9	-0.2
PLWZ	Palliser	2.17	184	Pn	Pn	21 44 31.6	-0.7
PLWZ	Palliser	2.17	184	P	Pn	21 44 31.7	-0.6
RUGZ	Raukumara Rang	2.24	51	P	Pn	21 44 32.0	-1.3
WIZ	White Island	2.31	36	P	Pn	21 44 33.6	-0.5
TWGZ	Tauwhareparae	2.31	59	P	Pn	21 44 33.7	-0.4
MKAZ	Moumakai	2.31	354	P	Pn	21 44 33.4	-0.8
CNGZ	Carnagh Station	2.32	67	P	Pn	21 44 33.8	-0.5
TUWZ	Tuamarina	2.34	210	Pn	Pn	21 44 33.7	-0.7
TUWZ	Tuamarina	2.34	210	P	Pn	21 44 33.8	-0.7
KBAZ	Karaka Road Bo	2.35	348	P	Pn	21 44 34.5	-0.2
NNZ	Nelson	2.42	221	Pn	Pn	21 44 34.7	-0.8
NNZ	Nelson	2.42	221	P	Pn	21 44 34.8	-0.8
AWAZ	Awhitu Peninsu	2.43	344	P	Pn	21 44 35.5	-0.2
HAZ	Te Kaha	2.44	48	P	Pn	21 44 34.4	-1.5
ETAZ	East Tamaki Re	2.49	350	P	Pn	21 44 36.0	-0.5
TKNZ	Takaka Hill	2.52	229	Pn	Pn	21 44 36.1	-0.8
TKNZ	Takaka Hill	2.52	229	P	Pn	21 44 36.2	-0.8
CMWZ	Cape Campbell	2.53	202	Pn	Pn	21 44 37.0	-0.1
CMWZ	Cape Campbell	2.53	202	P	Pn	21 44 37.0	-0.1
PKGZ	Pakihiroa	2.54	54	P	Pn	21 44 36.4	-0.8
PUZ	Puketiti	2.55	59	P	Pn	21 44 36.0	-1.3
WTAZ	Waiatarua	2.57	344	P	Pn	21 44 37.5	-0.1
EPAZ	Eden Park BICE	2.59	347	P	Pn	21 44 37.6	-0.2
BSWZ	Blackbirch Sta	2.61	207	Pn	Pn	21 44 37.2	-0.9
BSWZ	Blackbirch Sta	2.61	207	P	Pn	21 44 37.3	-0.9
HBAZ	Herne Bay Bore	2.62	347	P	Pn	21 44 37.9	-0.3
WIAZ	Waiheke Island	2.62	354	P	Pn	21 44 37.6	-0.7
KUZ	Kuaotunu	2.66	4	P	Pn	21 44 38.1	-0.7
KUZ	Kuaotunu	2.66	4	P	Pn	21 44 38.0	-0.7
QRZ	Quartz Range	2.67	237	P	Pn	21 44 38.1	-0.8
QRZ	Quartz Range	2.67	237		Pn	21 44 38.0	-0.9
QRZ	Quartz Range	2.67	237	P	Pn	21 44 37.8	-1.1
MBAZ	Motutapu North	2.67	350	P	Pn	21 44 38.4	-0.5
RVAZ	Riverhead Bore	2.73	345	P	Pn	21 44 39.5	-0.2
WMGZ	Waiomatatini S	2.79	56	P	Pn	21 44 39.3	-1.3
ABAZ	Army Bay	2.85	349	P	Pn	21 44 41.0	-0.2
MRNZ	Matariki Terra	2.88	225	Pn	Pn	21 44 40.6	-1.1
MRNZ	Matariki Terra	2.88	225	P	Pn	21 44 40.7	-0.9
MXZ	Matakaoa Point	2.88	51	P	Pn	21 44 41.3	-0.5
MXZ	Matakaoa Point	2.88	51	Pn	Pn	21 44 40.7	-1.0
MXZ	Matakaoa Point	2.88	51	P	Pn	21 44 40.8	-1.0
THZ	Tophouse	3.06	219	Pn	Pn	21 44 43.2	-1.0
THZ	Tophouse	3.06	219	P	Pn	21 44 43.1	-1.1
GRZ	Great Barrier	3.15	360	P	Pn	21 44 44.4	-1.0
KHZ	Kahutara	3.35	205	P	Pn	21 44 46.8	-1.1
KHZ	Kahutara	3.35	205	Pn	Pn	21 44 46.7	-1.3
KHZ	Kahutara	3.35	205	P	Pn	21 44 46.7	-1.3
WCZ	Waipu Caves	3.58	345	P	Pn	21 44 50.6	-0.4
DSZ	Denniston Nort	3.64	229		Pn	21 44 50.3	-1.7
DSZ	Denniston Nort	3.64	229	P	Pn	21 44 50.3	-1.7
GVZ	Greta Valley S	4.01	207		Pn	21 44 54.7	-2.2
GVZ	Greta Valley S	4.01	207	P	Pn	21 44 54.9	-2.0
LTZ	Lake Taylor	4.15	215	Pn	Pn	21 44 56.5	-2.4
LTZ	Lake Taylor	4.15	215	P	Pn	21 44 56.5	-2.4
AMCZ	Amberley	4.33	209		Pn	21 44 58.7	-2.5
AMCZ	Amberley	4.33	209	P	Pn	21 44 58.7	-2.5
OUZ	Omahuta	4.44	340	P	Pn	21 45 02.4	-0.4
OUZ	Omahuta	4.44	340	P	Pn	21 45 02.6	-0.2
INZ	Inchbonnie	4.50	221		Pn	21 45 01.2	-2.3
INZ	Inchbonnie	4.50	221	P	Pn	21 45 01.3	-2.3
OKCZ	Okains Bay	4.68	202	P	Pn	21 45 03.4	-2.6
OXZ	Oxford	4.69	212		Pn	21 45 02.7	-3.5
MQZ	McQueen's Vall	4.79	205	Pn	Pn	21 45 03.9	-3.6
WVZ	Waitaha Valley	5.12	223	P	Pn	21 45 09.4	-2.5
RPZ	Rata Peaks	5.43	216	P	Pn	21 45 14.0	-2.3
RPZ	Rata Peaks	5.43	216	Pn	Pn	21 45 13.1	-3.2
RPZ	Rata Peaks	5.43	216	P	Pn	21 45 14.5	-1.8
	68nm,0.5s,baz=37,slow=1.7,SNR=67						
RPZ				S	Sn	21 46 11.9	-5.6
	562nm,0.6s,baz=130,slow=23,SNR=33						
RPZ				LR	LR	21 47 38.1	
	comp=Z,857nm,21.4s,baz=15,slow=41						
RPZ	Rata Peaks	5.43	216	P	Pn	21 45 13.5	-2.7
GCSZ	Gaunt Creek Bo	5.50	223	P	Pn	21 45 15.4	-1.7
ARCZ	Arundel	5.56	214	P	Pn	21 45 15.9	-2.1
FOZ	Fox Glacier	5.92	224	Pn	Pn	21 45 19.4	-3.5
LBZ	Lake Benmore	6.35	217	Pn	Pn	21 45 25.2	-3.5
LBZ	Lake Benmore	6.35	217	P	Pn	21 45 26.1	-2.6
ODZ	Otahua Downs	6.68	211	P	Pn	21 45 30.6	-2.5
ODZ	Otahua Downs	6.68	211		Pn	21 45 29.0	-4.1
JCZ	Jackson Bay	6.84	225	P	Pn	21 45 33.1	-2.3
WKZ	Wanaka	7.24	219	Pn	Pn	21 45 37.4	-3.4
CTZ	Chatham Island	7.34	129	P	Pn	21 45 41.3	-0.8
CTZ	Chatham Island	7.34	129	Pn	Pn	21 45 41.1	-1.0
CTZ	Chatham Island	7.34	129	P	Pn	21 45 41.4	-0.7
MSZ	Milford Sound	7.70	224	P	Pn	21 45 46.2	-0.8
MLZ	Mavora Lakes	8.07	220		Pn	21 45 50.2	-1.9
MLZ	Mavora Lakes	8.07	220	P	Pn	21 45 51.1	-1.0
SYZ	Scrubby Hill	8.51	211	P	Pn	21 45 55.8	-2.2
WHZ	Wether Hill Ro	8.53	218	Pn	Pn	21 45 55.5	-2.8
DCZ	Deep Cove	8.63	223	Pn	Pn	21 45 56.0	-3.7
DCZ	Deep Cove	8.63	223	P	Pn	21 46 03.3	+3.6
PYZ	Puysegur Point	9.35	221	Pn	Pn	21 46 07.7	-1.7
RAO	Raoul Island	11.50	30	LR	LR	21 50 03.1	
	comp=Z,116nm,21.5s,baz=176,slow=32						
DZM	Mont Dzumac	18.92	333	*e*LR	LR	21 52 40.0	
	323nm,24.6s						
DZM	Mont Dzumac	18.92	333	LR	LR	21 55 27.9	
	comp=Z,136nm,20.1s,baz=62,slow=37						
MILA	Mila	20.79	268	P	P	21 48 33.1	+1.7
CNB	Canberra Magne	21.13	273	P	P	21 48 35.8	+0.8
	comp=Z,21nm,1.2s						
TAU	Tasmania Unive	21.45	251	P	P	21 48 37.9	-0.3
ARMA	Armidale	21.46	287	P	P	21 48 39.7	+1.0
MSVF	Nonsavu	21.71	7	P	P	21 48 39.6	-1.7
TOO	Toolangi	23.50	265	P	P	21 49 00.5	+1.3
TOO	Toolangi	23.50	265	P	P	21 48 59.3	+0.1
TOO	Toolangi	23.50	265	P	P	21 48 55.4	-3.9
EIDS	Eidsvold	24.81	297	P	P	21 49 11.6	+0.5
EIDS	Eidsvold	24.81	297	P	P	21 49 12.6	+1.5
	comp=Z,33nm,1.2s						
CMSA	Cobar Meteorol	25.41	279	P	P	21 49 17.3	+0.7
	comp=Z,22nm,1.2s						
RAR	Rarotonga	27.88	57	LR	LR	21 58 02.8	
	comp=Z,54nm,21.6s,baz=122,slow=30						
STKA	Stephens Creek	28.42	275	P	P	21 49 44.5	+1.0
STKA	Stephens Creek	28.42	275	P	P	21 49 44.3	+0.7
	comp=Z,8.2nm,0.7s,baz=100,slow=9.7,SNR=18						
STKA				LR	LR	22 00 10.0	
	comp=Z,105nm,18.1s,baz=67,slow=34						
	comp=Z,8.2nm,0.7s						
STKA	Stephens Creek	28.42	275	P	P	21 49 44.6	+1.0
	comp=Z,4.0nm,0.8s						
HTT	Hallett	29.87	270	P	P	21 49 57.4	+1.0
CTAO	Charters Tower	31.64	299	P	P	21 50 12.9	+0.9
LCRK	Leigh Creek	31.65	275	P	P	21 50 12.8	+0.8
BBOO	Buckleboo	32.33	269	P	P	21 50 18.0	0.0
BBOO	Buckleboo	32.33	269	P	P	21 50 17.8	-0.2
BBOO				IAmb	IAmb	21 50 19.0	
	comp=Z,26nm,0.7s						
BBOO	Buckleboo	32.33	269	P	P	21 50 18.1	0.0
	comp=Z,39nm,0.6s						
TBI	Tubuai	33.70	72	*e*LR	LR	21 59 30.4	
	comp=Z,954nm,35.2s						
DRV	Dumont d'Urvil	33.77	205	P	P	21 50 31.6	+1.6
OOD	Oodnadatta	34.85	277	P	P	21 50 40.4	+0.5
MULG	Mulgathing	34.94	272	P	P	21 50 40.5	-0.1
QIS	Mount Isa	36.00	291	P	P	21 50 50.9	+1.1
QIS	Mount Isa	36.00	291	P	P	21 50 50.9	+1.1
	comp=Z,28nm,1.1s						
PPT2	Papeete2	37.28	64	*e*S	S	21 56 42.8	+1.3
	comp=Z,33nm,23.5s						
PPT2				*e*LR	LR	22 01 06.7	
	comp=Z,309nm,33.0s						
PPT2				*e*LR	LR	22 01 08.5	
	comp=Z,145nm,34.2s						
COEN	Coen	38.06	303	P	P	21 51 08.4	+1.0
COEN	Coen	38.06	303	P	P	21 51 07.4	+0.1
COEN				IAmb	IAmb	21 51 09.2	
	comp=Z,39nm,1.1s						
COEN	Coen	38.06	303	P	P	21 51 08.4	+1.0
	comp=Z,38nm,1.9s						
AS01	Alice Springs	38.35	282	P	P	21 51 10.2	+0.4
AS31	Alice Springs	38.39	282	P	P	21 51 10.1	0.0
AS31	Alice Springs	38.39	282	P	P	21 51 10.3	+0.2
	comp=Z,20nm,0.8s						
ASAR	Alice Springs	38.39	282	P	P	21 51 09.9	-0.2
ASAR	Alice Springs	38.39	282	P	P	21 51 10.2	+0.1
	comp=Z,47nm,0.9s,baz=134,slow=9.4,SNR=289						
ASAR				PcP	PcP	21 53 19.9	-2.0
	comp=Z,4.7nm,0.6s,baz=123,slow=3.7,SNR=8.6						
	comp=Z,47nm,0.9s						
VNDA	Vanda	38.66	185	P	P	21 51 12.2	+0.6
VNDA	Vanda	38.66	185	P	P	21 51 17.4	+5.8
PMG	Port Moresby	39.14	312	P	P	21 51 16.8	+0.5
PMG				IAmb	IAmb	21 51 19.1	
	comp=Z,74nm,1.1s						
PMG	Port Moresby	39.14	312	P	P	21 51 18.3	+2.0
FORT	Forrest	39.36	268	P	P	21 51 18.1	0.0
FORT	Forrest	39.36	268	P	P	21 51 17.3	-0.8
FORT				IAmb	IAmb	21 51 18.9	
	comp=Z,120nm,1.2s						
FORT	Forrest	39.36	268	P	P	21 51 17.9	-0.2
	comp=Z,90nm,0.9s						
WR0	Warramunga Arr	40.08	287	P	P	21 51 24.1	-0.1
WR0				IAmb	IAmb	21 51 25.3	
	comp=Z,76nm,1.4s						
WRA	Warramunga Arr	40.24	287	P	P	21 51 24.4	-1.1
WRA	Warramunga Arr	40.24	287	P	P	21 51 25.4	-0.1
	comp=Z,27nm,0.6s,baz=126,slow=8.2,SNR=464						
WRA				PcP	PcP	21 53 26.9	-0.8
	comp=Z,1.8nm,0.6s,baz=128,slow=3.2,SNR=1.1						
	comp=Z,27nm,0.6s						
WRKA	Warakurna	41.95	275	P	P	21 51 38.5	-0.9
WRKA	Warakurna	41.95	275	P	P	21 51 38.4	-1.1
	comp=Z,79nm,1.0s						
CCD	Concordia, Ant	42.81	197	P	P	21 51 48.0	+1.8
CCD				PcP	PcP	21 53 35.9	+0.2
CCD				ScP	ScP	21 57 15.1	-3.0
KMBL	Kambalda	43.88	263	P	P	21 51 54.6	-0.3
KMBL	Kambalda	43.88	263	P	P	21 51 54.5	-0.5
	comp=Z,80nm,1.2s						
CASY	Casey	44.69	211	P	P	21 52 00.7	-0.1
CASY				IAmb	IAmb	21 52 02.1	
	comp=Z,20nm,0.8s						
CASY	Casey	44.69	211	P	P	21 52 01.0	+0.1
NWAO	Narrogin (SRO)	46.77	259	P	P	21 52 17.2	-0.5
NWAO	Narrogin (SRO)	46.77	259	P	P	21 52 16.9	-0.9
NWAO				IAmb	IAmb	21 52 17.7	
	comp=Z,13nm,0.7s						
NWAO	Narrogin (SRO)	46.77	259	P	P	21 52 16.4	-1.3
KLBR	Kellerberrin	46.95	261	P	P	21 52 18.6	-0.6
KLBR	Kellerberrin	46.95	261	P	P	21 52 18.2	-1.0
	comp=Z,96nm,0.8s						
KNRA	Kununurra	47.04	287	P	P	21 52 20.4	+0.4
KNRA				IAmb	IAmb	21 52 22.7	
	comp=Z,56nm,0.6s						
KNRA	Kununurra	47.04	287	P	P	21 52 20.6	+0.6
	comp=Z,79nm,0.6s						
MTN	Manton Dam	47.15	292	P	P	21 52 21.0	+0.1
MTN	Manton Dam	47.15	292	P	P	21 52 20.7	-0.2
MTN				IAmb	IAmb	21 52 21.8	
	comp=Z,57nm,0.6s						
MTN	Manton Dam	47.15	292	P	P	21 52 21.0	+0.1
	comp=Z,87nm,0.9s						
FITZ	Fitzroy Crossi	47.89	282	P	P	21 52 26.5	-0.1
MUN	Mundaring	47.96	260	P	P	21 52 26.8	-0.2
MUN	Mundaring	47.96	260	P	P	21 52 26.6	-0.3
	comp=Z,53nm,0.8s						
BLDU	Ballidu	48.19	262	P	P	21 52 27.8	-1.0
BLDU	Ballidu	48.19	262	P	P	21 52 28.0	-0.8
	comp=Z,45nm,1.9s						
JAY	Jayapura	48.44	310	P	P	21 52 31.2	+0.3
	comp=Z,24nm,1.1s						
MEEK	Meekatharra	48.62	267	P	P	21 52 31.1	-1.1
MEEK	Meekatharra	48.62	267	P	P	21 52 31.2	-1.1
	comp=Z,85nm,0.8s						
MORW	Morawa	49.42	263	P	P	21 52 37.5	-0.8
MORW	Morawa	49.42	263	P	P	21 52 37.1	-1.1
MORW				IAmb	IAmb	21 52 38.5	
	comp=Z,29nm,0.8s						
MORW	Morawa	49.42	263	P	P	21 52 37.5	-0.8
	comp=Z,44nm,0.9s						
PSA00	Pilbara Seismi	50.34	274	P	P	21 52 44.3	-1.0
PSA00	Pilbara Seismi	50.34	274	P	P	21 52 43.7	-1.5
PSA00				IAmb	IAmb	21 52 44.6	
	comp=Z,15nm,0.8s						
PSA00	Pilbara Seismi	50.34	274	P	P	21 52 44.1	-1.1
	comp=Z,27nm,1.4s						
MBWA	Marble Bar	50.66	274	P	P	21 52 46.4	-1.3
MBWA				IAmb	IAmb	21 52 47.1	
	comp=Z,12nm,0.7s						
MBWA	Marble Bar	50.66	274	P	P	21 52 46.4	-1.3
MBWA				PcP	PcP	21 54 03.7	-0.1
QSPA	South Pole Qui	50.72	180	P	P	21 52 49.8	+2.1
QSPA				IAmb	IAmb	21 52 57.7	
	comp=Z,33nm,0.6s						
QSPA	South Pole Qui	50.72	180	P	P	21 52 49.0	+1.3
	comp=Z,4.8nm,0.8s,baz=20,slow=1.7,SNR=42						
	comp=Z,4.8nm,0.8s						
FAKI	Fak Fak	53.43	302	P	P	21 53 07.3	-0.9
FAKI	Fak Fak	53.43	302	P	P	21 53 07.5	-0.8
GIRL	Giralia	54.10	269	P	P	21 53 13.2	+0.1
GIRL	Giralia	54.10	269	P	P	21 53 12.3	-0.8
SOEI	Soe	54.21	289	P	P	21 53 14.6	+0.6
SOEI	Soe	54.21	289	P	P	21 53 15.9	+1.8
	comp=Z,88nm,1.0s						
BATI	Baumata	54.35	288	P	P	21 53 15.1	+0.1
	comp=Z,49nm,1.0s						
SWI	Sorong	55.62	302	P	P	21 53 24.2	+0.1
	comp=Z,50nm,1.2s,comp=Z,946nm						
MMRI	Maumere	56.44	288	P	P	21 53 29.2	-0.7
MMRI	Maumere	56.44	288	P	P	21 53 30.2	+0.2
	comp=Z,99nm,1.3s						
BASI	Baing, Sumba	56.63	285	P	P	21 53 32.1	+0.8
EDFI	Ende, Flores	56.77	288	P	P	21 53 32.3	-0.1
	comp=Z,20nm,1.1s						
SANI	Sanana	58.30	297	P	P	21 53 43.1	+0.1
TNTI	Ternate	59.42	300	P	P	21 53 48.2	-2.5
TNTI				IAmb	IAmb	21 55 36.9	
	comp=Z,23nm,0.8s						
PLAI	Plampang	59.63	284	P	P	21 53 53.6	+1.4
GUMO	Guam	59.95	325	LR	LR	22 17 39.5	
	comp=Z,16nm,19.1s,baz=99,slow=34						
TWSI	Taliwang, Sumb	60.36	284	P	P	21 53 59.0	+1.8
KAPI	Kappang	60.69	289	LR	LR	22 21 30.2	
	comp=Z,50nm,18.1s,baz=89,slow=37						
LUWI	Luwuk	61.26	295	P	P	21 54 02.7	-0.6
LUWI	Luwuk	61.26	295	P	P	21 54 03.7	+0.4
BELA	Belgrano 2	61.56	173	P	P	21 54 05.5	+1.1
BELA				IAmb	IAmb	21 54 13.7	
	comp=Z,22nm,0.7s						
JAGI	Jajag, Banyuwa	62.59	282	P	P	21 54 12.2	-0.1
TOLI2	Tolitoli	64.18	295	P	P	21 54 23.3	+0.6
TOLI2	Tolitoli	64.18	295	P	P	21 54 22.2	-0.5
TOLI2				IAmb	IAmb	21 54 25.2	
	comp=Z,13nm,0.7s						
UGM	Wanagama	65.71	280	P	P	21 54 32.9	+0.2
UGM	Wanagama	65.71	280	P	P	21 54 32.0	-0.7
BBJI	Bungbulang	68.19	278	P	P	21 54 48.2	-0.3
LEM	Lembang	68.62	279	P	P	21 54 51.9	+0.7
	comp=Z,73nm,1.0s						
MYLDM	Lahad Datu	68.67	296	P	P	21 54 50.6	-0.7
MYLDM				IAmb	IAmb	21 55 03.8	
	comp=Z,152nm,2.0s						
TROLL	Troll, Antarti	68.78	182	⇑P	P	21 54 52.9	+1.5
	comp=Z,339nm,0.6s						
SNAA	Sanae	69.22	181	P	P	21 54 54.6	+0.6
SNAA	Sanae	69.22	181	⇑P	P	21 54 54.4	+0.4
	comp=Z,48nm,0.7s						
SNAA	Sanae	69.22	181	P	P	21 54 54.7	+0.7
	comp=Z,4.6nm,0.7s,baz=193,slow=4.1,SNR=16						
	comp=Z,4.6nm,0.7s						
DBJI	Dramaga	69.45	279	P	P	21 54 56.8	+0.6
VNA3	Neumayer Olymp	69.60	178	⇑P	P	21 54 57.1	+0.8
	comp=Z,14nm,0.8s						
VNA2	Neumayer--Watz	69.96	179	⇑P	P	21 54 55.2	-3.3
	comp=Z,17nm,0.8s,baz=173,slow=5.5						
VNA1	Neumayer--Stat	70.22	179	⇑P	P	21 54 58.7	-1.3
	comp=Z,3.8nm,0.3s						
GSI	Gunungsitoli	81.49	279	P	P	21 56 05.9	+0.9
GSI	Gunungsitoli	81.49	279	P	P	21 56 04.9	-0.2
GSI				IAmb	IAmb	21 56 07.9	
	comp=Z,69nm,1.0s						
GSI	Gunungsitoli	81.49	279	P	P	21 56 07.3	+2.3
KULM	Kulim	81.72	284	P	P	21 56 05.6	-0.7
KULM				IAmb	IAmb	21 56 17.4	
	comp=Z,30nm,1.4s						
MJAR	Matsushiro Arr	83.01	331	P	P	21 56 11.7	-0.8
	comp=Z,3.0nm,0.9s,baz=160,slow=5.4,SNR=8.9						
	comp=Z,3.0nm,0.9s						
MAJO	Matsushiro	83.01	331	P	P	21 56 11.7	-0.7
KSRS	Korea Array	88.09	324	P	P	21 56 38.2	+0.7
	comp=Z,5.2nm,0.8s,baz=144,slow=5.6,SNR=19						
	comp=Z,5.2nm,0.8s						
KSAR	Wonju Array Be	88.10	324	P	P	21 56 37.6	0.0
NJ2	Nanjing	88.39	315	*e*P	P	21 56 41.2	+2.1
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
CMAR	Chiang Mai Arr	91.59	293	P	P	21 56 54.2	-0.2
CMAR	Chiang Mai Arr	91.59	293	P	P	21 56 54.8	+0.5
	comp=Z,3.7nm,0.9s,baz=150,slow=3.4,SNR=20						
CMAR				LR	LR	22 40 00.1	
	comp=Z,16nm,21.7s,baz=200,slow=37						
	comp=Z,3.7nm,0.9s						
GYA	Guiyang	91.67	303	⇓P	P	21 56 55.2	+0.5
GYA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
USRK	Ussuriysk Ar.	92.00	330	P	P	21 56 55.4	-0.2
USRK	Ussuriysk Ar.	92.00	330	P	P	21 56 56.1	+0.5
	comp=Z,2.5nm,0.8s,baz=99,slow=7.4,SNR=5.5						
	comp=Z,2.5nm,0.8s						
LVC	Limon Verde	93.89	123	LR	LR	22 30 34.2	
	comp=Z,33nm,21.4s,baz=223,slow=30						
CN2	Changchun	94.34	326	*e*P	P	21 57 08.9	+2.5
PZH	PanZhiHua	94.94	300	P	P	21 57 10.4	+0.6
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,190nm,6.5s						
TIY	Taiyuan	96.12	315	P	P	21 57 18.5	+3.7
TIY				pmax	pmax		
	comp=Z,16nm,0.5s						
ATAH	Atahualpa	97.79	106	LR	LR	22 32 09.6	
	comp=Z,32nm,19.1s,baz=202,slow=30						
PALK	Pallekele	98.25	273	LR	LR	22 38 25.8	
	comp=Z,34nm,18.7s,baz=248,slow=33						
HHC	Hu-ho-hao-te	98.83	316	*e*P	P	21 57 27.0	0.0
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,4.0s						
BTO	Baotou	99.49	315	*e*P	Pdif	21 57 35.4	+5.5
BTO				S	S	22 09 01.7	+7.2
BTO				pmax	pmax		
	comp=Z,11nm,0.6s						
BTO				LR	LR		
	comp=Z,490nm,5.5s						
WMQ	Urumqi	114.49	307	*e*PKP	PKPdf	22 02 27.3	+0.9
MKAR	Makanchi Array	119.27	308	PKP	PKPdf	22 02 32.9	-2.6
	comp=Z,

ABPO Ambohimpanom 15.80 319 Pn Pn 21 50 37.4 0.0
OPO Ambohidratompo 16.18 320 Pn **P 21 50 47.9 +2.3**
baz=92,slow=23,SNR=2.4
OPO Sn **Sn 21 53 39.9 -2.0**
baz=70,slow=22,SNR=1.7
3.5nm,0.7s
H08S1 Diego Carcia H 27.15 32 T T 22 20 56.8
baz=206,slow=75,SNR=17
H08S2 Diego Garcia H 27.16 33 T T 22 20 56.5
baz=206,slow=75,SNR=19
H08S3 Diego Garcia H 27.17 32 T T 22 20 57.7
baz=206,slow=75,SNR=22
BOSA Boshof 28.58 267 LR LR 22 02 01.6
comp=Z,44nm,18.3s,baz=53,slow=32
SUR Sutherland 31.63 258 LR LR 22 03 36.6
comp=Z,108nm,19.6s,baz=116,slow=32
MAW Mawson 36.35 177 LR LR 22 04 40.3
comp=Z,79nm,20.3s,baz=14,slow=30
PALK Pallekele 44.08 33 LR LR 22 08 27.1
comp=Z,46nm,18.2s,baz=345,slow=29
FURI Furi 44.20 332 LR LR 22 09 56.7
comp=Z,64nm,20.3s,baz=167,slow=31
ATD Arta Tunnel 45.14 339 LR LR 22 11 19.8
comp=Z,4.6nm,18.1s,baz=180,slow=32
H01W2 Cape Leeuwin H 46.48 110 T T 22 44 33.7
baz=257,slow=74,SNR=13
H01W3 Cape Leeuwin H 46.48 110 T T 22 44 34.4
baz=257,slow=74,SNR=14
H01W1 Cape Leeuwin H 46.49 110 T T 22 44 35.3
baz=257,slow=74,SNR=11
SNAA Sanae 51.47 201 LR LR 22 13 18.8
comp=Z,63nm,20.8s,baz=120,slow=31
WSAR Wadi Sarin 54.33 1 LR LR 22 14 46.2
comp=Z,67nm,21.3s,baz=212,slow=31
QSPA South Pole Qui 58.77 180 P **P 21 56 51.2 -1.5**
QSPA IAmb IAmb 21 56 53.0
comp=Z,7.7nm,1.2s
QSPA South Pole Qui 58.77 180 P **P 21 56 52.5 -0.3**
comp=Z,2.5nm,0.9s,baz=279,slow=2.7,SNR=4.3
QSPA LR LR 22 18 47.7
comp=Z,80nm,20.9s,baz=287,slow=33
comp=Z,2.5nm,0.9s
VNDA Vanda 62.48 166 LR LR 22 21 14.4
comp=Z,47nm,21.2s,baz=258,slow=33
CMAR Chiang Mai Arr 63.16 44 P **P 21 57 22.9 0.0**
CMAR Chiang Mai Arr 63.16 44 P **P 21 57 23.9 +0.9**
comp=Z,4.4nm,0.8s,baz=232,slow=7.1,SNR=25
CMAR LR LR 22 20 57.7
comp=Z,26nm,19.0s,baz=155,slow=32
comp=Z,4.4nm,0.8s
EIL Elat 64.62 338 LR LR 22 22 54.4
comp=Z,39nm,18.3s,baz=67,slow=33
ASAR Alice Springs 66.41 104 P **P 21 57 42.6 -1.7**
ASAR Alice Springs 66.41 104 P **P 21 57 43.0 -1.3**
comp=Z,2.7nm,0.8s,baz=240,slow=5.9,SNR=15
comp=Z,2.7nm,0.8s
MMAI Mount Meron Ar 67.58 339 LR LR 22 22 41.1
comp=Z,16nm,21.4s,baz=122,slow=32
WRA Warramunga Arr 68.40 101 P 21 57 55.6 -1.3
WRA Warramunga Arr 68.40 101 P **P 21 57 55.7 -1.3**
comp=Z,3.0nm,0.8s,baz=242,slow=5.5,SNR=10.0
comp=Z,3.0nm,0.8s
WB0 Warramunga Arr 68.53 101 P **P 21 57 55.9 -1.9**
TORD Torodi Ar. Bea 69.95 300 P **P 21 58 08.3 +1.9**
comp=Z,0.3nm,0.7s,baz=105,slow=6.7,SNR=2.8
TORD LR LR 22 28 42.4
comp=Z,70nm,19.0s,baz=146,slow=36
comp=Z,0.3nm,0.7s
SIMJ Simiganj 70.43 9 P **P 21 58 10.2 +1.1**
SIMJ IAmb IAmb 21 58 16.9
comp=Z,4.9nm,1.1s
GNI Garni 72.27 349 LR LR 22 27 12.4
comp=Z,39nm,21.6s,baz=165,slow=33
BR131 Keskin Array S 74.34 341 P **P 21 58 32.6 +0.2**
BR131 IAmb IAmb 21 58 35.3
comp=Z,2.4nm,1.1s
BRTR Keskin Array B 74.34 341 P **P 21 58 33.0 +0.6**
BRTR Keskin Array B 74.34 341 P **P 21 58 34.1 +1.7**
comp=Z,0.8nm,0.9s,baz=152,slow=5.6,SNR=4.5
comp=Z,0.8nm,0.9s
KK31 Karatay Array 75.00 9 P **P 21 58 37.2 +1.2**
KK31 IAmb IAmb 21 58 39.2
comp=Z,3.3nm,1.0s
KKAR Karatay Array 75.00 9 P **P 21 58 37.5 +1.4**
AAK Ala-Archa 75.19 12 LR LR 22 28 34.9
comp=Z,68nm,19.4s,baz=181,slow=33
KBZ Khabaz 76.06 349 LR LR 22 32 13.9
comp=Z,19nm,18.1s,baz=142,slow=36
ABKAR Abkulak array 80.31 1 P **P 21 59 06.9 +1.4**
ABKAR Abkulak array 80.31 1 P **P 21 59 06.7 +1.2**
ABKAR IAmb IAmb 21 59 08.1
comp=Z,4.7nm,1.2s
MK31 Makanchi Array 80.82 17 P **P 21 59 09.0 +0.7**
MKAR Makanchi Array 80.82 17 P **P 21 59 08.8 +0.5**
MKAR Makanchi Array 80.82 17 P **P 21 59 09.2 +0.9**
comp=Z,0.8nm,0.9s,baz=202,slow=6.1,SNR=6.0
MKAR LR LR 22 32 38.2
comp=Z,25nm,19.2s,baz=220,slow=34
comp=Z,0.8nm,0.9s
KURBB Kurchatov Arra 83.63 13 P **P 21 59 24.1 +1.3**
comp=Z,2.8nm,0.9s,baz=204,slow=5.8,SNR=11
comp=Z,2.8nm,0.9s
KURK Kurchatov 83.73 13 P **P 21 59 23.4 -0.1**
BRVK Borovoye 84.76 7 P **P 21 59 29.6 +1.0**
BRVK IAmb IAmb 21 59 31.3
comp=Z,4.8nm,1.0s
ZALV Zalesovo Beam 88.08 15 P **P 21 59 43.8 -1.1**
comp=Z,0.4nm,0.4s,baz=223,slow=5.9,SNR=3.8
comp=Z,0.4nm,0.4s
SONM Songino Array 89.96 30 P **P 21 59 53.9 -0.2**
comp=Z,1.0nm,0.9s,baz=224,slow=6.2,SNR=4.3
comp=Z,1.0nm,0.9s
ILAR Eielson Array 143.17 18 PKP **PKiKP 22 06 29.9 -1.5**
comp=Z,0.4nm,0.9s,baz=306,slow=3.0,SNR=4.7
YKA Yellowknife Ar 148.54 354 PKPbc **PKPbc 22 06 41.1 +0.2**
comp=Z,2.4nm,0.9s,baz=6.1,slow=2.5,SNR=7.2

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*IDC **10** 21:51:54.6±1.3, 15°.08S×173°.21W, h0km, mb3.7/5, mbtmp3.7/5, MS3.5/4, Error ellipse: s-maj=55.3km s-min=26.9km az=128.0*
ISC 10 21:51:59.1±1.2, 15°.1S±0°.3×173°.2W±0°.3, h29km, n9, σ0§38/6, mb3.6/5, MS3.5/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.60**	**199**	P	**P**	**21 57 17.0**	**+0.2**
	8.8nm,0.6s,baz=18,slow=4.5,SNR=9.0						
	8.8nm,0.6s						
WRA	**Warramunga Arr**	**50.07**	**257**	P	**P**	**22 00 51.6**	**-0.2**
	0.5nm,0.9s,baz=97,slow=7.6,SNR=2.5						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**50.36**	**252**	P	**P**	**22 00 54.0**	**0.0**
	0.5nm,0.6s,baz=85,slow=7.9,SNR=6.3						
ASAR				LR	LR	22 20 00.8	
	comp=Z,56nm,18.8s,baz=90,slow=34						
	0.5nm,0.6s						
MA2	**Magadan**	**79.93**	**342**	LR	LR	22 36 03.1	
	comp=Z,16nm,19.6s,baz=137,slow=33						
PDAR	**Pinedale Array**	**81.93**	**42**	P	**P**	**22 04 16.1**	**-0.4**
	0.3nm,0.5s,baz=208,slow=6.7,SNR=3.9						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**82.12**	**11**	P	**P**	**22 04 17.1**	**+0.5**
	0.3nm,0.7s,baz=227,slow=6.7,SNR=4.1						
	0.3nm,0.7s						
NNA	**Nana**	**92.96**	**103**	LR	LR	22 36 05.6	
	comp=Z,9.8nm,18.7s,baz=156,slow=28						
LPAZ	**La Paz**	**99.75**	**110**	LR	LR	22 41 07.4	
	comp=Z,42nm,20.9s,baz=232,slow=30						
BRTR	**Keskin Array B**	**146.03**	**321**	PKPbc	**PKPdf**	**22 11 35.8**	**-0.1**
	0.9nm,0.8s,baz=58,slow=4.8,SNR=2.6						

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*IDC **10** 22:19:08.5±1.3, 31°.70S×58°.42E, h0km, mb4.0/5, mbtmp4.1/6, ML3.6/1, Error ellipse: s-maj=40.6km s-min=28.8km az=85.0*
ISC 10 22:19:09.1±1.1, 31°.6S±0°.2×58°.0E±0°.2, h10km, n15, σ1§75/7, mb4.1/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.35**	**197**	T	T	22 38 42.2	
	baz=22,slow=75,SNR=9.7						
H04N1	**CROZET ISLANDS**	**15.35**	**197**	T	T	22 38 38.8	
	baz=22,slow=75,SNR=10						
H04N3	**CROZET ISLANDS**	**15.37**	**197**	T	T	22 38 38.2	
	baz=22,slow=75,SNR=9.6						
OPO	**Ambohidratompo**	**16.23**	**320**	Pn	**P**	**22 23 01.7**	**+1.1**
	baz=150,slow=16,SNR=3.2						
OPO				Sn	**Sn**	**22 25 55.5**	**-2.2**
	baz=124,slow=16,SNR=2.6						
	8.4nm,1.0s						
H08S1	**Diego Carcia H**	**27.36**	**33**	T	T	22 53 08.6	
	baz=206,slow=76,SNR=13						
H08S2	**Diego Garcia H**	**27.36**	**33**	T	T	22 53 11.1	
	baz=206,slow=76,SNR=7.2						
H08S3	**Diego Garcia H**	**27.38**	**33**	T	T	22 53 18.5	
	baz=206,slow=76,SNR=9.8						
H01W2	**Cape Leeuwin H**	**46.53**	**110**	T	T	23 16 57.5	
	baz=257,slow=75,SNR=6.4						
H01W3	**Cape Leeuwin H**	**46.54**	**110**	T	T	23 16 51.1	
	baz=257,slow=75,SNR=7.1						
H01W1	**Cape Leeuwin H**	**46.55**	**110**	T	T	23 17 13.4	
	baz=257,slow=75,SNR=6.4						
QSPA	**South Pole Qui**	**58.60**	**180**	P	**P**	**22 29 06.3**	**+0.3**
	1.1nm,0.6s,baz=295,slow=1.6,SNR=12						
	1.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.37**	**44**	P	**P**	**22 29 39.5**	**+0.7**
	1.2nm,0.3s,baz=224,slow=8.2,SNR=5.2						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**66.49**	**104**	P	**P**	**22 29 57.9**	**-1.4**
	0.8nm,0.7s,baz=239,slow=6.4,SNR=8.5						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**68.49**	**101**	P	**P**	**22 30 10.5**	**-1.5**
	1.1nm,0.8s,baz=240,slow=5.9,SNR=6.3						
	1.1nm,0.8s						
BVAR	**Borovoye Array**	**84.93**	**7**	P	**P**	**22 31 45.0**	**+1.1**
	0.8nm,0.7s,baz=180,slow=4.3,SNR=5.5						
	0.8nm,0.7s						

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*IDC **10** 22:33:44.0±1.0, 31°.69S×58°.40E, h0km, mb3.9/8, mbtmp3.9/9, ML3.9/1, MS3.3/7, Error ellipse: s-maj=33.5km s-min=25.9km az=58.0*
*NEIC **10** 22:33:45.4±0.6, 31°.70S±0°.08×58°.2E±0°.2, h10km±1km, mb4.5/7, Error ellipse: s-maj=34.2km s-min=13.2km az=264.0*
ISC 10 22:33:45.1±0.7, 31°.6S±0°.1×58°.2E±0°.1, h10km, n35, σ1§70/21, mb4.2/12, MS3.3/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**14.01**	**311**	Pn	**Pn**	**22 37 04.9**	**+1.1**
H04N2	**CROZET ISLANDS**	**15.35**	**197**	T	T	22 52 40.6	
	baz=22,SNR=60						
H04N1	**CROZET ISLANDS**	**15.35**	**197**	T	T	22 52 41.7	
	baz=22,slow=74,SNR=65						
H04N3	**CROZET ISLANDS**	**15.37**	**197**	T	T	22 53 13.1	
	baz=22,slow=74,SNR=70						
ABPO	**Ambohimpanom**	**15.95**	**319**	Pn	**Pn**	**22 37 30.4**	**+0.5**
OPO	**Ambohidratompo**	**16.34**	**320**	Pn	**P**	**22 37 38.9**	**+1.2**
	baz=333,slow=22,SNR=2.6						
OPO				Sn	**Sn**	**22 40 30.5**	**-5.8**
	baz=112,slow=16,SNR=1.5						
OPO				LR	LR	22 42 44.5	
	comp=Z,72nm,20.8s,baz=6.5,slow=33						
	4.6nm,0.8s						
H08S1	**Diego Carcia H**	**27.32**	**32**	T	T	23 07 56.0	
	baz=207,slow=75,SNR=14						
H08S2	**Diego Garcia H**	**27.33**	**32**	T	T	23 07 56.8	
	baz=207,slow=75,SNR=8.5						
H08S3	**Diego Garcia H**	**27.34**	**32**	T	T	23 07 57.8	
	baz=207,slow=75,SNR=15						
BOSA	**Boshof**	**28.57**	**267**	LR	LR	22 49 33.3	
	comp=Z,53nm,18.5s,baz=114,slow=33						
KAAM	**Kaadhehdhoo**	**34.88**	**27**	P	**P**	**22 40 36.9**	**+0.1**
KAAM				IAmb	IAmb	22 40 42.9	
	comp=Z,45nm,0.9s						
MAW	**Mawson**	**36.14**	**177**	LR	LR	22 51 53.3	
	comp=Z,76nm,20.1s,baz=12,slow=30						
FURI	**Furi**	**44.38**	**332**	LR	LR	22 57 25.5	
	comp=Z,38nm,18.7s,baz=196,slow=32						
H01W2	**Cape Leeuwin H**	**46.41**	**110**	T	T	23 31 37.8	
	baz=257,slow=75,SNR=4.4						
H01W3	**Cape Leeuwin H**	**46.41**	**110**	T	T	23 31 44.0	
	baz=257,slow=75,SNR=4.0						
H01W1	**Cape Leeuwin H**	**46.42**	**110**	T	T	23 31 29.9	
	baz=257,slow=75,SNR=4.3						
QSPA	**South Pole Qui**	**58.56**	**180**	P	**P**	**22 43 41.7**	**0.0**
QSPA				IAmb	IAmb	22 44 02.9	
	comp=Z,6.7nm,1.4s						
QSPA	**South Pole Qui**	**58.56**	**180**	P	**P**	**22 43 41.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=287,slow=1.0,SNR=5.9						
	comp=Z,0.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**61.84**	**95**	P	**P**	**22 44 02.7**	**-2.0**
VNDA	**Vanda**	**62.28**	**166**	P	**P**	**22 44 05.4**	**-1.4**
VNDA				IAmb	IAmb	22 44 09.8	
	comp=Z,2.2nm,1.1s						
VNDA	**Vanda**	**62.28**	**166**	LR	LR	23 08 51.5	
	comp=Z,14nm,18.6s,baz=262,slow=34						
CMAR	**Chiang Mai Arr**	**63.31**	**44**	P	**P**	**22 44 14.6**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=233,slow=6.7,SNR=5.4						
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**66.36**	**104**	P	**P**	**22 44 33.6**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=242,slow=5.6,SNR=5.6						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	**68.36**	**101**	P	**P**	**22 44 46.6**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=242,slow=5.5,SNR=3.2						
	comp=Z,1.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**70.05**	**300**	P	**P**	**22 44 59.3**	**+1.7**
	comp=Z,0.8nm,1.0s,baz=101,slow=7.5,SNR=3.7						
	comp=Z,0.8nm,1.0s						
GNI	**Garni**	**72.47**	**349**	LR	LR	23 16 48.1	
	comp=Z,15nm,18.4s,baz=150,slow=36						
SMAI	**San Martin Ant**	**72.61**	**199**	P	**P**	**22 45 12.1**	**-0.1**
SMAI				IAmb	IAmb	22 45 13.7	
	comp=Z,5.2nm,1.0s						
AAK	**Ala-Archa**	**75.39**	**12**	LR	LR	23 16 46.5	
	comp=Z,23nm,18.5s,baz=180,slow=34						
ABKAR	**Abkulak array**	**80.52**	**1**	P	**P**	**22 45 57.9**	**+0.9**
MKAR	**Makanchi Array**	**81.02**	**17**	P	**P**	**22 46 00.6**	**+0.8**
MKAR	**Makanchi Array**	**81.02**	**17**	P	**P**	**22 46 01.1**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=186,slow=3.7,SNR=3.9						
	comp=Z,0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**83.83**	**13**	P	**P**	**22 46 15.6**	**+1.2**
	comp=Z,1.4nm,1.0s,baz=201,slow=5.1,SNR=5.1						
	comp=Z,1.4nm,1.0s						
BRVK	**Borovoye**	**84.97**	**7**	P	**P**	**22 46 20.7**	**+0.7**
BRVK				IAmb	IAmb	22 46 22.4	
	comp=Z,3.0nm,1.1s						
ZALV	**Zalesovo Beam**	**88.28**	**15**	P	**P**	**22 46 35.4**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=205,slow=6.4,SNR=1.7						
	comp=Z,0.3nm,0.4s						
YKA	**Yellowknife Ar**	**148.75**	**354**	PKPbc	**PKPbc**	**22 53 31.5**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=12,slow=2.6,SNR=3.9						

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*NEIC **10** 22:53:08.4±1.1, 34°.76S±0°.06×73°.98W±0°.04, h15km±5km, mb4.3/5, ML3.9(GUC), Error ellipse: s-maj=8.0km s-min=5.2km az=177.0*
*GUC **10** 22:53:09.4±0.7, 34°.87S×73°.87W, h21km±5km, ML3.9*
ISC 10 22:53:07.7±1.0, 34°.78S±0°.05×73°.96W±0°.07, h10km, n45, σ0§85/53, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.69**	**98**		**Pn**	**22 53 37.0**	**-0.2**
GO05				Sn	**Sn**	**22 53 56.8**	**-2.2**
GO05	**Huala**	**1.69**	**98**	⇑iP	**Pn**	**22 53 36.9**	**-0.4**
GO05				eS	**Sn**	**22 53 56.6**	**-2.3**
GO05				IAML		22 53 57.7	
	comp=N,2μm,0.2s						
VA05	**Santo Domingo**	**2.25**	**61**		**Pn**	**22 53 44.6**	**-0.3**
VA05				Sn	**Sn**	**22 54 11.7**	**-1.0**
VA05	**Santo Domingo**	**2.25**	**61**	eP	**Pn**	**22 53 44.5**	**-0.3**
VA05				eS	**Sn**	**22 54 10.6**	**-2.1**
VA05				IAML		22 54 13.9	
	comp=N,961nm,0.4s						
ML02	**Panimavida**	**2.30**	**116**		**Pn**	**22 53 46.5**	**+0.8**
ML02				Sn	**Sn**	**22 54 14.3**	**+0.3**
ML02	**Panimavida**	**2.30**	**116**	eP	**Pn**	**22 53 45.2**	**-0.4**
ML02				eS	**Sn**	**22 54 12.5**	**-1.5**
ML02				IAML		22 54 15.1	
	comp=E,732nm,0.6s						
BO01	**Tunca**	**2.41**	**81**		**Pn**	**22 53 47.1**	**0.0**
BO01	**Tunca**	**2.41**	**81**	eP	**Pn**	**22 53 47.0**	**-0.2**
BO01				eS	**Sn**	**22 54 16.1**	**-0.6**
MT01	**Popeta**	**2.43**	**69**		**Pn**	**22 53 46.9**	**-0.5**
MT01	**Popeta**	**2.43**	**69**	⇓iP	**Pn**	**22 53 46.8**	**-0.6**
MT01				IAML		22 54 15.8	
	comp=N,502nm,0.4s						
VA01	**Torpederas**	**2.61**	**48**	Pn	**Pn**	**22 53 48.9**	**-0.9**
BO02	**Sierra Bellavi**	**2.62**	**91**		**Pn**	**22 53 50.7**	**+0.5**
BO02	**Sierra Bellavi**	**2.62**	**91**	⇑iP	**Pn**	**22 53 50.6**	**+0.5**
BO02				IAML		22 54 23.5	
	comp=N,844nm,0.2s						
MT09	**Talagante**	**2.66**	**69**		**Pn**	**22 53 50.4**	**-0.4**
MT09	**Talagante**	**2.66**	**69**	eP	**Pn**	**22 53 50.3**	**-0.4**
MT09				IAML		22 54 24.5	
	comp=E,447nm,0.2s						
MT02	**Curacav**	**2.80**	**58**		**Pn**	**22 53 52.0**	**-0.5**
MT02	**Curacav**	**2.80**	**58**	eP	**Pn**	**22 53 52.0**	**-0.5**
BI02	**San Fabin de**	**2.88**	**131**	eP	**Pn**	**22 53 53.6**	**-0.1**
MT05	**Renca**	**3.02**	**64**	Pn	**Pn**	**22 53 56.5**	**+1.0**
MT12	**Pirque**	**3.02**	**71**	eP	**Pn**	**22 53 56.0**	**+0.5**
MT12				eS	**Sn**	**22 54 31.7**	**-0.1**
MT12				IAML		22 54 33.6	
	comp=N,580nm,0.5s						
MT03	**Universidad Ad**	**3.14**	**67**	Pn	**Pn**	**22 53 57.4**	**+0.1**
VA06	**Catapilco**	**3.14**	**46**		**Pn**	**22 53 56.4**	**-0.8**
PEL	**Peldehue**	**3.18**	**60**		**Pn**	**22 53 58.2**	**+0.4**
MT13	**San Alfonso**	**3.22**	**72**		**Pn**	**22 53 58.4**	**0.0**
LMEL	**Las Melosas**	**3.25**	**74**		**Pn**	**22 53 58.9**	**0.0**
FCH	**Farellones**	**3.38**	**66**	eP	**Pn**	**22 54 01.3**	**+0.5**
VA03	**San Esteban**	**3.48**	**56**		**Pn**	**22 54 02.1**	**+0.1**
VA04	**Juan Fernndez**	**4.19**	**284**	Pn	**Pn**	**22 54 10.7**	**-0.9**
CO03	**El Pedregal**	**4.80**	**36**		**Pn**	**22 54 20.1**	**-0.1**
LR03	**Panguipulli**	**5.01**	**166**		**Pn**	**22 54 21.6**	**-1.3**
LR04	**Corral**	**5.11**	**175**	Pn	**Pn**	**22 54 22.1**	**-2.1**
GO06	**Curarrehue**	**5.19**	**158**		**Pn**	**22 54 25.7**	**+0.2**
CO05	**La Serena**	**5.37**	**26**	Pn	**Pn**	**22 54 26.7**	**-1.1**
LR05	**Currie**	**5.66**	**165**		**Pn**	**22 54 31.8**	**0.0**
CO01	**Juntas del Tor**	**5.80**	**35**		**Pn**	**22 54 33.7**	**-0.3**
LL04	**Puerto Octay**	**6.24**	**169**		**Pn**	**22 54 39.6**	**-0.1**
LCO	**Las Campanas**	**6.39**	**27**	Pn	**Pn**	**22 54 41.9**	**-0.2**
PLCA	**Paso Flores**	**6.53**	**157**	Pn	**Pn**	**22 54 44.3**	**+0.5**
AC05	**El Transito**	**6.71**	**29**		**Pn**	**22 54 46.1**	**-0.3**
TRQA	**Tornquist**	**10.20**	**112**	Pn	**Pn**	**22 55 35.4**	**+1.4**
PB11	**IPOC Station P**	**15.44**	**15**	Pn	**Pn**	**22 56 45.5**	**-0.3**
PB11				IAmb	IAmb	22 56 57.6	
	comp=Z,9.3nm,0.9s						
BOAV	**Boa Vista**	**39.08**	**22**	P	**P**	**23 00 35.4**	**+0.4**
BAUV	**El Baul**	**43.85**	**8**	P	**P**	**23 01 14.6**	**+0.5**
SNAA	**Sanae**	**51.47**	**157**	P	**P**	**23 02 13.1**	**+0.2**
SNAA				IAmb	IAmb	23 02 14.4	
	comp=Z,5.8nm,1.3s						
TORD	**Torodi Ar. Bea**	**85.97**	**71**	P	**P**	**23 05 49.4**	**+0.9**
TORD				IAmb	IAmb	23 05 51.9	
	comp=Z,3.3nm,1.4s						

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*GII **10** 23:04:15.6±0.3, 32°.87N±0°.01×35°.574E±0°.007, h0km, Md2.4/3, Mws2.4/7, confirmed*
*GRAL **10** 23:04:17.4±0.3, 32°.83N×35°.61E, h0km±2km, MD2.9*
*JSO **10** 23:04:17, 32°.88N×35°.57E, h4km, ML2.5/14*
ISC 10 23:04:16.2±0.9, 32°.86N±0°.02×35°.59E±0°.03, h14km±8km, n42, σ0§43/47, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSHT	**Keshet**	**0.22**	**57**	S	**Sb**	**23 04 25.7**	**-0.3**
KSHT	**Keshet**	**0.22**	**57**	P	**Pg**	**23 04 21.4**	**+0.3**
MMA0B	**Mount Meron ar**	**0.22**	**314**	P	**Pg**	**23 04 20.5**	**-0.6**
MMA0B	**Mount Meron ar**	**0.22**	**314**	S	**Sg**	**23 04 24.6**	**+0.2**
MMC7	**Mount Meron ar**	**0.23**	**314**	P	**Pg**	**23 04 20.7**	**-0.6**
GEM	**Giv'at Ha'Em**	**0.35**	**10**	P	**Pg**	**23 04 23.5**	**+0.1**
GEM				S	**Sb**	**23 04 30.3**	**+0.5**
GEM	**Giv'at Ha'Em**	**0.35**	**10**	S	**Sb**	**23 04 30.0**	**+0.2**
GEM	**Giv'at Ha'Em**	**0.35**	**10**	P	**Pg**	**23 04 23.3**	**-0.1**
BLGI	**Bet Lehem HaGe**	**0.36**	**249**	P	**Pg**	**23 04 23.9**	**+0.4**
BLGI	**Bet Lehem HaGe**	**0.36**	**249**	P	**Pg**	**23 04 23.5**	**0.0**
BLGI	**Bet Lehem HaGe**	**0.36**	**249**	S	**Sb**	**23 04 30.0**	**0.0**
HNTI	**Hanita**	**0.41**	**302**	P	**Pb**	**23 04 26.0**	**+0.6**
HNTI	**Hanita**	**0.41**	**302**	S	**Sb**	**23 04 31.5**	**-0.1**
HNTI	**Hanita**	**0.41**	**302**	P	**Pg**	**23 04 24.4**	**-0.1**
NATI	**Neve Ativ**	**0.42**	**17**	P	**Pg**	**23 04 24.4**	**-0.2**
NATI	**Neve Ativ**	**0.42**	**17**	S	**Sb**	**23 04 31.7**	**+0.1**
NATI	**Neve Ativ**	**0.42**	**17**	P	**Pg**	**23 04 24.3**	**-0.2**
MMLI	**Mount Malkishu**	**0.45**	**199**	S	**Sb**	**23 04 33.2**	**+0.8**
MMLI	**Mount Malkishu**	**0.45**	**199**	P	**Pg**	**23 04 25.3**	**+0.2**
SHBL	**Chebaa**	**0.50**	**15**	eP	**Pb**	**23 04 26.9**	**-0.1**
SHBL				eS	**Sb**	**23 04 34.1**	**-0.1**
QRNJ	**Al-Qirein**	**0.52**	**182**	P	**Pn**	**23 04 29.1**	**-0.2**
OFRI	**`Ofer**	**0.56**	**245**	P	**Pb**	**23 04 27.8**	**-0.1**
OFRI	**`Ofer**	**0.56**	**245**	S	**Sb**	**23 04 36.4**	**+0.5**
OFRI	**`Ofer**	**0.56**	**245**	P	**Pb**	**23 04 27.7**	**-0.2**
HMDT	**Nahal Hemdat**	**0.61**	**185**	P	**Pg**	**23 04 28.4**	**+0.3**
HMDT	**Nahal Hemdat**	**0.61**	**185**	S	**Sb**	**23 04 38.1**	**+1.0**
HMDT	**Nahal Hemdat**	**0.61**	**185**	P	**Pb**	**23 04 28.6**	**-0.1**
RCY	**Rachaya**	**0.67**	**18**	eP	**Pb**	**23 04 29.8**	**+0.1**
RCY				eS	**Sb**	**23 04 39.1**	**+0.1**
QRWL	**Qaraoun**	**0.69**	**6**	eP	**Pb**	**23 04 30.3**	**+0.2**
SLTI	**Sal'it**	**0.77**	**217**	P	**Pg**	**23 04 31.3**	**+0.1**
SLTI	**Sal'it**	**0.77**	**217**	S	**Sn**	**23 04 43.3**	**-0.9**
DQRL	**Deir Qamar**	**0.84**	**359**	eP	**Pb**	**23 04 32.2**	**+0.5**
DQRL				eS	**Sb**	**23 04 44.7**	**+0.7**
HSUJ	**Al Zarqa**	**0.91**	**146**	P	**Pn**	**23 04 34.5**	**-0.2**
ZAHL	**Zahle**	**1.02**	**14**	eP	**Pn**	**23 04 36.4**	**0.0**
BHL	**Bhannes**	**1.04**	**3**	eP	**Pn**	**23 04 36.8**	**+0.2**
DSI	**Dead Sea**	**1.30**	**188**	P	**Pg**	**23 04 41.2**	**0.0**
DSI	**Dead Sea**	**1.30**	**188**	P	**Pn**	**23 04 40.1**	**+0.1**
AMAZ	**Amatzia**	**1.44**	**204**	P	**Pb**	**23 04 43.4**	**+0.5**
HWQ	**Hawqa**	**1.44**	**12**	eP	**Pb**	**23 04 43.5**	**+0.5**
YTIR	**Yattir**	**1.55**	**195**	P	**Pb**	**23 04 44.6**	**-0.1**
YTIR				S	**Sg**	**23 05 06.3**	**+0.2**
BEIL	**Beino**	**1.75**	**16**	eP	**Pb**	**23 04 48.0**	**-0.1**
PRNI	**Paran**	**2.55**	**191**	P	**Pb**	**23 05 00.5**	**-1.3**

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*IDC **10** 23:08:58.6±1.2, 31°.67S×58°.43E, h0km, mb3.8/7, mbtmp3.8/8, ML4.1/1, Error ellipse: s-maj=

*NEIC **10** 23:18:04.1±1.5, 48°.02N±0°.03×119°.88W±0°.02, h5km±1km, Error ellipse: s-maj=4.2km s-min=3.0km az=11.0*

PNSN 10 23:18:04.4, 48°.01N×119°.89W, h0km, MD2.4, Fault plane solution: NP1:φs285.00000°, δ90.00000°, λ90.00000°., Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHW2	**Dyer Hill 2**	**0.08**	**109**		Pg	23 18 06.0	0.0
CBSW	**Chelan Butte S**	**0.23**	**207**		Pg	23 18 08.6	-0.2
CBSW					Sg	23 18 11.9	+0.1
NLW	**Nelson Butte**	**0.31**	**283**		Pg	23 18 10.1	-0.2
WTV	**Wenatchee Ridg**	**0.32**	**188**		Pg	23 18 10.3	-0.2
SAW	**Saint Andrews**	**0.45**	**133**		Pg	23 18 12.7	-0.3
SLFW	**Sugar Loaf**	**0.50**	**240**		Pg	23 18 13.8	-0.2
ETW	**Entiat**	**0.51**	**216**		Pg	23 18 13.7	-0.4
B08A	**Colville Reser**	**0.51**	**47**		Pg	23 18 13.5	-0.6
B08A					Sg	23 18 20.0	-0.7
WRW	**Wenatchee Ridg**	**0.69**	**257**		Pg	23 18 17.7	+0.2
LTY	**Liberty**	**0.92**	**215**	Pg	Pg	23 18 21.3	-0.8
LTY				IAML		23 18 36.7	
	comp=N,72nm,0.3s						
OD2	**Odessa Site #2**	**1.01**	**128**		Pg	23 18 22.9	-0.8
FHE	**Frenchman Hill**	**1.09**	**166**		Pg	23 18 25.0	-0.3
FHE					Sb	23 18 40.5	-0.5
C09A	**Chrisman Ranch**	**1.10**	**100**	Pg	Pg	23 18 25.1	-0.4
D08A	**Wollman Farm,**	**1.16**	**145**	Pg	Pg	23 18 25.4	-1.2
D08A				IAML		23 18 43.0	
	comp=N,123nm,0.1s						
RPW	**Rockport**	**1.17**	**292**		Pg	23 18 25.6	-1.2
EBG	**Ellensburg**	**1.20**	**203**		Pb	23 18 27.8	-0.1
WAH2	**Wahluke Slope**	**1.28**	**170**		Pg	23 18 28.5	-0.3
LOCW	**Locke Island**	**1.33**	**166**		Pg	23 18 29.2	-0.7
JCW	**Jim Creek**	**1.38**	**278**		Pg	23 18 29.7	-1.2
MDW	**Midway**	**1.40**	**176**		Pn	23 18 31.1	-0.1
GBB	**Gable Butte**	**1.42**	**173**		Pn	23 18 31.2	-0.2
OT3	**Othello 3**	**1.42**	**161**		Pn	23 18 30.6	-0.8
RATT	**Rattlesnake La**	**1.42**	**246**		Pn	23 18 30.9	-0.6
NAC	**Naches**	**1.43**	**207**		Pn	23 18 31.3	-0.3
GBL	**Gable Mountain**	**1.44**	**168**		Pn	23 18 31.8	0.0
E07A	**Sunnyside**	**1.45**	**179**	Pn	Pn	23 18 30.7	-1.3
MXC	**Moxie City**	**1.46**	**191**	Pn	Pn	23 18 31.2	-0.8
MXC				IAML		23 18 52.4	
	comp=N,48nm,0.7s						
MXC				IAML		23 18 52.8	
	comp=E,102nm,0.7s						
BENWA	**Benson Ranch**	**1.50**	**176**		Pb	23 18 33.0	-0.1
MJ2	**May Junction 2**	**1.50**	**166**		Pn	23 18 28.4	-4.1
MBW	**Mount Baker**	**1.55**	**301**		Pn	23 18 32.6	-0.8
SNIWA	**Snively Ranch**	**1.56**	**174**		Pb	23 18 33.9	-0.1
E08A	**Dider Farm, El**	**1.62**	**159**	Pn	Pn	23 18 33.5	-0.7
E08A				IAML		23 18 56.6	
	comp=E,52nm,0.3s						
E08A				IAML		23 19 02.5	
	comp=N,31nm,0.2s						
FMW	**Mount Fremont**	**1.62**	**229**		Pn	23 18 34.1	-0.3
RSW	**Rattlesnake Hi**	**1.63**	**173**		Pb	23 18 35.1	-0.3
HAWA	**Hanford**	**1.64**	**171**	Pn	Pn	23 18 33.2	-1.2
HAWA				IAML		23 18 57.8	
	comp=N,50nm,0.3s						
HAWA				IAML		23 18 59.0	
	comp=N,29nm,0.2s						
D05A	**Enumclaw**	**1.64**	**241**	Pn	Pn	23 18 33.4	-1.1
D05A				IAML		23 18 58.4	
	comp=N,48nm,0.4s						
D05A				IAML		23 19 01.6	
	comp=E,34nm,0.8s						
OBSR	**Observation Ro**	**1.72**	**230**		Pb	23 18 36.5	-0.5
LON	**Longmire**	**1.82**	**227**	Pn	Pn	23 18 35.8	-1.2
LON				IAML		23 19 03.2	
	comp=E,33nm,0.7s						
LON				IAML		23 19 03.2	
	comp=N,28nm,0.4s						
NEW	**Newport**	**1.87**	**81**	Pn	Pn	23 18 36.2	-1.4
E09A	**Wood Farm, Sta**	**1.91**	**141**	Pn	Pn	23 18 38.3	+0.2
E09A				IAML		23 19 06.9	
	comp=N,55nm,0.1s						
E09A				IAML		23 19 08.3	
	comp=E,51nm,0.1s						
GNW	**Green Mountain**	**2.03**	**258**	Pn	Pn	23 18 38.8	-1.1
B013	**Quilcene**	**2.04**	**266**		Pg	23 18 43.7	+0.2
F10A	**Beach Ranch, E**	**2.73**	**137**	Pn	Pn	23 18 48.1	-1.5
G08A	**Pilot Rock**	**2.80**	**166**	Pn	Pn	23 18 50.5	0.0
G06A	**Carlson Farm,**	**2.83**	**191**	Pn	Pn	23 18 50.2	-0.6
PALME	**Palmer Lift, M**	**2.94**	**206**		Pb	23 18 59.0	+1.3
B926	**Mesachie Lake**	**2.94**	**288**		Pg	23 19 00.1	-0.6
I07A	**Izee**	**3.94**	**176**	Pn	Pn	23 19 05.8	-0.4
PLID	**Pearl Lake**	**3.97**	**136**	Pn	Pn	23 19 06.8	+0.1
PLID				IAML		23 20 17.0	
	comp=E,4.8nm,0.9s						
PLID				IAML		23 20 22.8	
	comp=E,3.5nm,1.9s						

*AEIC **10** 23:21:14.2±1.5, 51°.24N±0°.06×178°.45W±0°.06, h26km±8km, Error ellipse: s-maj=9.3km s-min=4.6km az=161.0*

NEIC 10 23:21:14.2±1.5, 51°.27N±0°.08×178°.50W±0°.06, h26km±13km, mb3.8/10, ML3.5(AEIC), **Error ellipse: s-maj=11.5km s-min=5.5km az=183.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.52**	**341**		Pn	23 21 26.0	+0.1
GAEA	**Gareloi East**	**0.53**	**343**		Pn	23 21 26.1	0.0
GANO	**Gareloi North**	**0.58**	**341**		Pn	23 21 26.5	-0.3
TASE	**Tanaga Southea**	**0.63**	**27**		Pb	23 21 27.0	+0.3
TANO	**Tanaga North**	**0.69**	**20**		Pn	23 21 28.1	-0.2
TAFP	**Tanaga Falls P**	**0.71**	**27**		Pb	23 21 27.9	0.0
TAFP					Sn	23 21 38.0	-0.5
KIWB	**Kanaga Island**	**1.02**	**55**		Pn	23 21 31.9	-0.9
KICM	**Kanaga Island**	**1.04**	**51**		Pn	23 21 32.6	-0.5
KIRH	**Kanaga Island**	**1.08**	**54**		Pn	23 21 33.0	-0.6
KINC	**Kanaga Island**	**1.08**	**52**		Pn	23 21 33.1	-0.6
ADK	**Adak**	**1.29**	**61**	Pn	Pn	23 21 35.3	-1.2
ADK					Sn	23 21 52.1	-0.8
CEPE	**Semis' Perret**	**1.35**	**302**		Pn	23 21 37.3	0.0
CESW	**Semis' Southwe**	**1.36**	**298**		Pn	23 21 37.4	-0.1
AMKA	**Amchitka**	**1.38**	**275**	Pn	Pn	23 21 36.5	-1.3
CEAP	**Semis' Anvil P**	**1.40**	**302**		Pn	23 21 38.3	+0.3
GSCK	**Great Sitkin C**	**1.63**	**62**		Pn	23 21 41.2	-0.1
GSTD	**Great Sitkin T**	**1.66**	**61**		Sn	23 22 02.5	+0.3
GSMY	**Great Sitkin M**	**1.71**	**62**		Pn	23 21 42.2	-0.1
GSTR	**Great Sitkin T**	**1.73**	**61**	Pn	Pn	23 21 42.9	+0.3
LSSE	**Little Sitkin**	**1.94**	**291**		Pn	23 21 46.7	+1.2
LSPA	**Little Sitkin**	**1.95**	**292**		Pn	23 21 46.0	+0.5
LSNW	**Little Sitkin**	**1.99**	**292**		Pn	23 21 47.0	+0.9
ATKA	**Atka Island**	**2.83**	**69**	Pn	Pn	23 21 57.7	0.0
ATKA				Sn	Sn	23 22 31.0	+0.1
KOKL	**Mount Kliuchef**	**2.87**	**67**		Pn	23 21 59.1	+0.8
KOFP	**Korovin Flat P**	**2.91**	**68**		Pn	23 21 59.9	+1.0
NIKH	**Nikolski High**	**6.18**	**70**	Pn	Pn	23 22 45.2	+1.6
UNV	**Unalaska Valle**	**7.75**	**66**	Pn	Pn	23 23 06.1	+0.9
N18K	**Kilae Creek**	**15.69**	**44**	Pn	Pn	23 24 53.6	+0.4
N18K				IAmb	IAmb	23 25 33.9	
	comp=Z,12nm,1.2s						
L18K	**Granite Mounta**	**16.13**	**39**	P	P	23 25 02.1	+0.2
L18K				IAmb	IAmb	23 25 25.2	
	comp=Z,6.5nm,1.4s						
KDAK	**Kodiak Island**	**16.32**	**56**	Pn	Pn	23 24 57.3	-4.0
N19K	**Bonanza Creek**	**16.37**	**45**	P	P	23 25 04.5	-0.2
N19K				IAmb	IAmb	23 25 20.5	
	comp=Z,18nm,1.4s						
CNPM	**China Poot**	**17.44**	**51**		Pn	23 25 14.3	-1.1
SKT	**Skwentna**	**18.15**	**43**		Pn	23 25 23.6	-0.5
SKT				IAmb	IAmb	23 25 27.5	
	comp=Z,7.0nm,1.2s						
CAST	**Castle Rocks**	**18.56**	**39**	P	Pn	23 25 30.0	+0.9
G21K	**Allakaket**	**19.77**	**30**	P	P	23 25 41.4	-0.6
DHY	**Denali Highway**	**20.35**	**43**	P	P	23 25 46.9	-1.5
DHY				IAmb	IAmb	23 26 27.7	
	comp=Z,4.1nm,1.2s						
H24K	**Noodor Dome**	**21.31**	**35**	P	P	23 25 59.2	+0.5
H24K				IAmb	IAmb	23 26 10.2	
	comp=Z,5.1nm,1.4s						

*IDC **10** 23:23:07.3±0.6, 54°.04N×169°.90E, h0km, mb4.1/33, mbtmp4.1/35, ML4.5/2, MS3.7/38, Error ellipse: s-maj=16.5km s-min=10.8km az=174.0*

*KRSC **10** 23:23:09.2±1.9, 53°.68N×169°.59E, h66km±49km, Ml4.9*

*MOS **10** 23:23:10.0±1.1, 53°.86N×169°.74E, h35km, mb4.7/31, MS3.7/8, Error ellipse: s-maj=6.8km s-min=5.1km az=33.6*

*GCMT **10** 23:23:11.8±0.2, 54°.01N±0°.02×169°.80E±0°.02, h22km±1km, MW4.9/108, Moment Tensor Solution. s34,c43; s108,c160; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.14±.12; $M_{\theta\theta}$-2.81±.10; $M_{\phi\phi}$2.67±.09; $M_{r\theta}$0.29±.16; $M_{\theta\phi}$-0.72±.09; $M_{\phi r}$1.11±.16; Best double couple: M_o3.05700×10^{16} NP1:φs39.00000°, δ82.00000°, λ20.00000°. NP2:φs306.00000°, δ70.00000°, λ172.00000°. Principal axes: T 3.1440, Plg20.0000°, Azm264.0000°; N -0.1710, Plg68.0000°, Azm59.0000°; P -2.9690, Plg8.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **10** 23:23:11.8±2.1, 53°.9N±0°.1×169°.81E±0°.08, h33km±5km, mb4.7/148 Error ellipse: s-maj=17.5km s-min=6.1km az=192.0*

ISC 10 23:23:11.2±0.4, 53°.77N±0°.06×169°.80E±0°.03, h35km, n671, σ1§35/611, mb4.6/125, MS3.8/44, 5C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.66**	**304**	*e*P	**Pn**	**23 23 50.9**	**-0.7**
BKI				*e*S	**Sn**	**23 24 21.7**	**-0.7**
BKI	**Bering**	**2.66**	**304**	PN	**Pn**	**23 23 50.8**	**-0.7**
BKI				S	**Sn**	**23 24 21.1**	**-1.3**
SHEM	**Shemya Is, Ala**	**2.78**	**110**	Pn	**Pn**	**23 23 53.0**	**-0.2**
	230nm,0.3s,baz=342,slow=3.2,SNR=77						
SHEM				Sn	**Sn**	**23 24 27.9**	**+2.3**
	485nm,0.3s,baz=117,slow=23,SNR=20						
SHEM				LR	LR	23 24 51.0	
	comp=Z,2μm,18.1s,baz=176,slow=37						
	574nm,0.3s						
KBTR	**Krutoberegovo**	**4.71**	**304**	*e*P	**Pn**	**23 24 19.4**	**-0.2**
MKZ	**Mys Kozlova**	**4.81**	**283**	*e*P	**Pn**	**23 24 20.4**	**-0.6**
MKZ				*e*S	**Sn**	**23 25 12.7**	**-2.8**
MKZ	**Mys Kozlova**	**4.81**	**283**	PN	**Pn**	**23 24 20.4**	**-0.6**
TUMD	**Tumrok D**	**5.67**	**288**	*e*P	**Pn**	**23 24 32.2**	**-0.6**
TUMD				*e*S	**Sn**	**23 25 34.3**	**-2.3**
BZGR	**Bezymyannyi-Gr**	**5.69**	**296**	*e*P	**Pn**	**23 24 34.0**	**+0.8**
BZGR				*e*S	**Sn**	**23 25 37.6**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**5.69**	**296**	PN	**Pn**	**23 24 33.2**	**-0.1**
BZP	**Bezymyannyi-Pe**	**5.77**	**296**	*e*P	**Pn**	**23 24 35.0**	**+0.6**
BZMR	**Bezymyannaya**	**5.80**	**296**	*e*P	**Pn**	**23 24 35.7**	**+0.9**
BZMR				*e*S	**Sn**	**23 25 40.2**	**+0.1**
BZMR	**Bezymyannaya**	**5.80**	**296**	PN	**Pn**	**23 24 35.7**	**+0.9**
BZWR	**Bezymyannyi-We**	**5.81**	**296**	*e*P	**Pn**	**23 24 35.6**	**+0.7**
BZWR				*e*S	**Sn**	**23 25 40.8**	**+0.5**
BZWR	**Bezymyannyi-We**	**5.81**	**296**	PN	**Pn**	**23 24 35.8**	**+0.9**
TUMR	**Tumrok**	**5.83**	**289**	*e*P	**Pn**	**23 24 35.5**	**+0.4**
TUMR				*e*S	**Sn**	**23 25 37.9**	**-2.8**
TUMR	**Tumrok**	**5.83**	**289**	PN	**Pn**	**23 24 35.5**	**+0.4**
KLY	**Klyuchi**	**5.84**	**300**	*e*P	**Pn**	**23 24 35.5**	**+0.3**
KLY				*e*S	**Sn**	**23 25 37.8**	**-3.1**
KLY	**Klyuchi**	**5.84**	**300**	PN	**Pn**	**23 24 35.8**	**+0.5**
KRSR	**Krestovskiy**	**5.86**	**298**	*e*P	**Pn**	**23 24 36.1**	**+0.6**
KRSR				*e*S	**Sn**	**23 25 41.7**	**+0.3**
KRSR	**Krestovskiy**	**5.86**	**298**	PN	**Pn**	**23 24 36.2**	**+0.6**
KIRR	**Kirishev**	**5.88**	**296**	*e*P	**Pn**	**23 24 37.2**	**+1.3**
KIRR				*e*S	**Sn**	**23 25 42.5**	**+0.3**
KIRR	**Kirishev**	**5.88**	**296**	PN	**Pn**	**23 24 37.1**	**+1.1**
KMNR	**Kamenistaya**	**5.88**	**294**	*e*P	**Pn**	**23 24 36.7**	**+0.8**
KMNR				*e*S	**Sn**	**23 25 42.2**	**+0.1**
KMNR	**Kamenistaya**	**5.88**	**294**	PN	**Pn**	**23 24 37.0**	**+1.1**
SPN	**Mys Shipunski**	**5.89**	**267**	*e*P	**Pn**	**23 24 35.4**	**-0.4**
SPN				*e*S	**Sn**	**23 25 38.2**	**-3.8**
SPN	**Mys Shipunski**	**5.89**	**267**	PN	**Pn**	**23 24 35.6**	**-0.2**
KPT	**Kopyto**	**5.95**	**296**	*e*P	**Pn**	**23 24 37.9**	**+1.1**
KPT				*e*S	**Sn**	**23 25 43.8**	**0.0**
KPT	**Kopyto**	**5.95**	**296**	PN	**Pn**	**23 24 37.7**	**+0.8**
KII	**Karymskiy**	**6.13**	**277**	*e*P	**Pn**	**23 24 38.9**	**-0.4**
KII				*e*S	**Sn**	**23 25 46.5**	**-1.6**
KII	**Karymskiy**	**6.13**	**277**	PN	**Pn**	**23 24 39.0**	**-0.2**
KOZ	**Kozyrevsk**	**6.17**	**296**	*e*P	**Pn**	**23 24 41.0**	**+1.2**
KOZ				*e*S	**Sn**	**23 25 49.1**	**+0.2**
KOZ	**Kozyrevsk**	**6.17**	**296**	PN	**Pn**	**23 24 40.9**	**+1.2**
AMKA	**Amchitka**	**6.27**	**109**	Pn	**Pn**	**23 24 41.1**	**0.0**
NLC	**Nalytchevo**	**6.28**	**269**	*e*P	**Pn**	**23 24 40.8**	**-0.4**
NLC				*e*S	**Sn**	**23 25 47.7**	**-3.8**
NLC	**Nalytchevo**	**6.28**	**269**	PN	**Pn**	**23 24 40.9**	**-0.3**
SRDR	**Sredinnyy**	**6.33**	**298**	*e*P	**Pn**	**23 24 43.9**	**+1.8**
SRDR	**Sredinnyy**	**6.33**	**298**	PN	**Pn**	**23 24 44.0**	**+1.9**
UGLR	**Uglovaya**	**6.58**	**270**	*e*P	**Pn**	**23 24 45.6**	**+0.2**
UGLR	**Uglovaya**	**6.58**	**270**	PN	**Pn**	**23 24 45.7**	**+0.2**
SMAR	**Somma**	**6.58**	**270**	*e*P	**Pn**	**23 24 45.4**	**-0.3**
SMAR	**Somma**	**6.58**	**270**	PN	**Pn**	**23 24 45.5**	**-0.1**
KRER	**Koryakskii**	**6.61**	**270**	*e*P	**Pn**	**23 24 46.2**	**+0.2**
KRER				*e*S	**Sn**	**23 25 58.2**	**-1.8**
KRER	**Koryakskii**	**6.61**	**270**	PN	**Pn**	**23 24 46.2**	**+0.2**
AVH	**Avacha**	**6.62**	**270**	*e*P	**Pn**	**23 24 46.2**	**+0.2**
AVH	**Avacha**	**6.62**	**270**	PN	**Pn**	**23 24 46.2**	**+0.2**
DALK	**Dalny**	**6.65**	**268**	*e*P	**Pn**	**23 24 46.3**	**-0.1**
DALK	**Dalny**	**6.65**	**268**	PN	**Pn**	**23 24 46.2**	**-0.1**
KRX	**Arik**	**6.66**	**271**	*e*P	**Pn**	**23 24 46.4**	**-0.2**
KRX	**Arik**	**6.66**	**271**	PN	**Pn**	**23 24 46.6**	**0.0**
KOK	**Koryaka**	**6.68**	**270**	*e*P	**Pn**	**23 24 46.8**	**0.0**
KOK	**Koryaka**	**6.68**	**270**	PN	**Pn**	**23 24 46.9**	**+0.1**
PET	**Petropavlovsk**	**6.71**	**268**	Pn	**Pn**	**23 24 46.9**	**-0.3**
PET	**Petropavlovsk**	**6.71**	**268**	*e*P	**Pn**	**23 24 47.3**	**+0.2**
PET				*e*S	**Sn**	**23 25 59.1**	**-3.2**
PET	**Petropavlovsk**	**6.71**	**268**	*e*PN	**Pn**	**23 24 47.4**	**+0.2**
PET				pmax	pmax		
	comp=Z,95nm,0.3s						
PET				MLR	MLR		
	comp=Z,800nm,13.0s						
PET				MLR	MLR		
	comp=Z,600nm,14.0s						
PET	**Petropavlovsk**	**6.71**	**268**	P	**Pn**	**23 24 47.4**	**+0.2**
	comp=Z,106nm,1.2s,comp=Z,2μmcomp=Z,0.4nm						
ESO	**Esso**	**6.77**	**293**	*e*P	**Pn**	**23 24 48.0**	**+0.1**
ESO				*e*S	**Sn**	**23 26 01.3**	**-2.4**
ESO	**Esso**	**6.77**	**293**	PN	**Pn**	**23 24 48.5**	**+0.6**
TILK	**Tilichiki**	**6.98**	**345**	*e*P	**Pn**	**23 24 50.5**	**-0.3**
TILK	**Tilichiki**	**6.98**	**345**	PN	**Pn**	**23 24 50.0**	**-0.8**
GNL	**Ganaly**	**7.04**	**274**	*e*P	**Pn**	**23 24 52.5**	**+0.7**
GNL	**Ganaly**	**7.04**	**274**	PN	**Pn**	**23 24 52.2**	**+0.4**
KRMR	**Karymshinskiy**	**7.06**	**267**	*e*P	**Pn**	**23 24 52.0**	**0.0**
KRMR				*e*S	**Sn**	**23 26 07.4**	**-3.5**
KRMR	**Karymshinskiy**	**7.06**	**267**	PN	**Pn**	**23 24 51.9**	**0.0**
MTVR	**Mutnovka**	**7.11**	**264**	*e*P	**Pn**	**23 24 52.7**	**-0.1**
MTVR				*e*S	**Sn**	**23 26 07.9**	**-4.5**
MTVR	**Mutnovka**	**7.11**	**264**	PN	**Pn**	**23 24 52.6**	**-0.2**
GRL	**Gorelyy**	**7.16**	**265**	*e*P	**Pn**	**23 24 54.3**	**+0.8**
GRL	**Gorelyy**	**7.16**	**265**	PN	**Pn**	**23 24 54.3**	**+0.8**
ASAK	**Asacha**	**7.31**	**264**	*e*P	**Pn**	**23 24 55.8**	**+0.4**
ASAK	**Asacha**	**7.31**	**264**	PN	**Pn**	**23 24 55.9**	**+0.5**
KDTR	**Khodutka, Kamc**	**7.38**	**259**	*e*P	**Pn**	**23 24 56.0**	**-0.3**
KDTR				*e*S	**Sn**	**23 26 12.5**	**-6.2**
KDTR	**Khodutka, Kamc**	**7.38**	**259**	PN	**Pn**	**23 24 56.0**	**-0.3**
APC	**Apacha**	**7.62**	**269**	*e*P	**Pn**	**23 25 00.5**	**+1.0**
APC	**Apacha**	**7.62**	**269**	PN	**Pn**	**23 25 00.6**	**+1.0**
KIWB	**Kanaga Island**	**8.13**	**98**	Pn	**Pn**	**23 25 04.3**	**-2.4**
ADK	**Adak**	**8.40**	**98**	Pn	**Pn**	**23 25 07.4**	**-2.9**
ADK	**Adak**	**8.40**	**98**	PN	**Pn**	**23 25 07.4**	**-2.9**
GSTR	**Great Sitkin T**	**8.71**	**95**	Pn	**Pn**	**23 25 13.6**	**-0.9**
SKR	**Severo-Kuril's**	**8.95**	**255**	*e*P	**Pn**	**23 25 17.8**	**-0.1**
SKR	**Severo-Kuril's**	**8.95**	**255**	*e*PN	**Pn**	**23 25 17.1**	**-0.8**
SKR				MLR	MLR		
	comp=Z,900nm,14.0s						
ATKA	**Atka Island**	**9.78**	**93**	Pn	**Pn**	**23 25 27.4**	**-1.7**
SPIA	**Saint Paul Isl**	**11.81**	**65**	P	**Pn**	**23 25 57.0**	**+0.1**
	comp=Z,262						
MA2	**Magadan**	**11.95**	**307**	LR	LR	23 30 24.9	
	comp=Z,305nm,18.9s,baz=138,slow=37						
P08K	**Saint George I**	**12.13**	**68**	P	**Pn**	**23 26 01.6**	**+0.3**
	baz=266						
NIKH	**Nikolski High**	**12.76**	**85**	P	**Pn**	**23 26 09.5**	**-0.5**
	baz=283						
SEY	**Seymchan**	**12.91**	**322**	Pn	**Pn**	**23 26 09.5**	**-2.5**
	comp=Z,0.8nm,0.3s,baz=4.7,slow=22,SNR=2.6						
	comp=Z,2.1nm,0.2s						
SEY	**Seymchan**	**12.91**	**322**	*e*PN	**Pn**	**23 26 08.5**	**-3.5**
SEY				pmax	pmax		
	comp=Z,11nm,1.4s						
UNV	**Unalaska Valle**	**13.99**	**80**	P	**Pn**	**23 26 26.5**	**-0.1**
	baz=280						
LVA	**Lava Point**	**14.21**	**79**	Pn	**Pn**	**23 26 30.2**	**+0.5**
BILL	**Bilibino**	**14.42**	**355**	*e*P	**Pn**	**23 26 30.6**	**-1.8**
BILL				pmax	pmax		
	comp=Z,39nm,2.7s						
BILL				MLR	MLR		
	comp=Z,527nm,17.0s						
M11K	**Mekoryuk**	**14.57**	**53**	P	**Pn**	**23 26 35.5**	**+1.0**
	baz=254						
FALS	**False Pass**	**15.63**	**75**	P	**Pn**	**23 26 48.7**	**+0.1**
	baz=278						
OKH	**Okha**	**15.90**	**280**	*de*P	**P**	**23 26 54.3**	**-1.0**
OKH				*e*S	**Sn**	**23 29 39.4**	**-7.5**
OKH				MLR	MLR		
	comp=Z,500nm,15.0s						
OKH				MLR	MLR		
	comp=E,1μm,13.0s						
OKH				MLR	MLR		
	comp=N,700nm,12.0s						
M13K	**Dall Lake**	**15.95**	**55**		**P**	**23 26 55.8**	**-0.1**
M13K				IAmb	IAmb	23 26 56.2	
	comp=Z,37nm,0.9s						
M13K	**Dall Lake**	**15.95**	**55**	P	**P**	**23 26 53.8**	**-2.1**
	baz=258						
TNA	**Tin City**	**16.19**	**34**	P	**P**	**23 26 57.4**	**-1.1**
	baz=234						
S12K	**Black Hills**	**16.32**	**72**	Pn	**P**	**23 26 57.7**	**-2.4**
S12K	**Black Hills**	**16.32**	**72**	P	**P**	**23 26 57.6**	**-2.4**
	baz=275						
L14K	**Kuka Creek**	**16.49**	**52**	Pn	**Pn**	**23 26 58.0**	**-1.5**
L14K	**Kuka Creek**	**16.49**	**52**	P	**P**	**23 27 00.9**	**-1.0**
	baz=255						
J14K	**Nanvaranak Lak**	**16.53**	**47**		**P**	**23 27 00.9**	**-1.4**
J14K	**Nanvaranak Lak**	**16.53**	**47**	P	**P**	**23 27 01.3**	**-1.0**
	baz=250						
N14K	**Kuskokwak Cree**	**16.67**	**57**	P	**P**	**23 27 03.0**	**-0.9**
	baz=261						
M14K	**Bethel**	**16.69**	**54**	Pn	**Pn**	**23 27 00.8**	**-1.2**
M14K				IAmb	IAmb	23 27 24.0	
	comp=Z,82nm,1.0s						
M14K	**Bethel**	**16.69**	**54**	P	**P**	**23 27 03.2**	**-0.9**
	baz=258						
O14K	**Tigyukauivet M**	**16.80**	**59**	Pn	**P**	**23 27 03.6**	**-1.6**
O14K	**Tigyukauivet M**	**16.80**	**59**	P	**P**	**23 27 03.9**	**-1.4**
	baz=264						
TYV	**Tymovskoe**	**16.81**	**271**	*e*P	**P**	**23 27 07.1**	**+1.6**
TYV				pmax	pmax		
	comp=Z,200nm,3.1s						
TYV				pmax	pmax		
	comp=Z,10.0nm,1.3s						
L15K	**Ungalak Mounta**	**17.13**	**51**	P	**P**	**23 27 09.0**	**+0.1**
	baz=256						
SDPT	**Sand Point**	**17.25**	**73**	P	**P**	**23 27 08.9**	**-1.4**
	baz=278						
G15K	**Niukluk**	**17.27**	**39**	P	**P**	**23 27 10.8**	**+0.4**
	baz=242						
K15K	**Wolf Creek Mou**	**17.27**	**49**		**P**	**23 27 11.0**	**+0.5**
K15K				IAmb	IAmb	23 27 31.2	
	comp=Z,60nm,1.2s						
K15K	**Wolf Creek Mou**	**17.27**	**49**	P	**P**	**23 27 10.3**	**-0.2**
	baz=254						
M15K	**Kasigluk River**	**17.30**	**55**	P	**P**	**23 27 10.3**	**-0.4**
	baz=260						
F15K	**North Star Dit**	**17.40**	**37**	P	**P**	**23 27 13.0**	**+1.1**
	baz=239						
N15K	**Kwethluk River**	**17.50**	**56**	P	**P**	**23 27 13.3**	**+0.2**
	baz=262						
O15K	**Ungalikthiuk R**	**17.53**	**60**	P	**P**	**23 27 13.1**	**-0.3**
	baz=266						
S14K	**Fog Glacier**	**17.67**	**69**	P	**P**	**23 27 14.6**	**-0.5**
	baz=275						
H16K	**Elim**	**17.80**	**41**	P	**P**	**23 27 17.5**	**+1.2**
	baz=246						
CHNA	**Chernabura Isl**	**17.83**	**74**	P	**P**	**23 27 17.1**	**+0.4**
	baz=280						
UGL	**Uglegorsk**	**17.86**	**266**	*e*P	**P**	**23 27 18.0**	**+0.9**
UGL				pmax	pmax		
	comp=E,600nm,5.0s						
UGL				pmax	pmax		
	comp=Z,700nm,5.5s						
J16K	**Anvik River**	**17.98**	**46**		**P**	**23 27 19.7**	**+1.4**
J16K	**Anvik River**	**17.98**	**46**	P	**P**	**23 27 19.9**	**+1.6**
	baz=252						
L16K	**Owhat River**	**18.07**	**52**		**P**	**23 27 20.

ACHA IAmb IAmb 23 27 56.6
comp=Z,29nm,1.1s
P18K Big Mountain, 19.89 60 P **Pn 23 27 39.6 -1.6**
baz=269
O18K Koktuh Hills 19.92 58 P **Pn 23 27 39.8 -1.6**
baz=268
GCSA Galena City Sc 19.99 44 P **Pn 23 27 40.8 -1.3**
baz=253
Q18K Katmai Hardscr 20.01 62 P **Pn 23 27 41.2 -1.4**
baz=272
C18K Utukok River 20.12 31 P **Pn 23 27 42.7 -1.1**
C18K Utukok River 20.12 31 P **Pn 23 27 43.0 -0.7**
baz=237
ASAJ Asahikawa 20.20 253 P Pn 23 27 45.7 +0.9
comp=Z,10nm,0.8s,baz=45,slow=13,SNR=2.0
ASAJ LR LR 23 35 42.7
comp=Z,212nm,19.5s,baz=10,slow=37
comp=Z,10nm,0.8s
L19K White Mountain 20.30 51 P Pn 23 27 44.1 -1.8
L19K IAmb IAmb 23 28 00.7
comp=Z,32nm,1.1s
L19K White Mountain 20.30 51 P Pn 23 27 44.6 -1.3
baz=262
J19K Poorman 20.31 46 IAmb IAmb 23 27 58.1
comp=Z,24nm,0.9s
J19K Poorman 20.31 46 P Pn 23 27 44.4 -1.6
baz=256,SNR=12
N19K Bonanza Creek 20.33 55 P Pn 23 27 44.4 -1.9
N19K Bonanza Creek 20.33 55 P Pn 23 27 44.9 -1.4
baz=266,SNR=5.6
B18K Kokolik River 20.35 29 P Pn 23 27 45.4 -0.9
baz=234
G19K Purcell Mounta 20.38 40 IAmb IAmb 23 28 06.6
comp=Z,26nm,1.1s
G19K Purcell Mounta 20.38 40 P Pn 23 27 45.0 -1.7
baz=249,SNR=5.4
F19K Shaleruckik Mo 20.39 38 P Pn 23 27 45.7 -1.2
baz=246
H19K Roundabout Mou 20.41 42 IAmb IAmb 23 28 06.7
comp=Z,44nm,0.9s
H19K Roundabout Mou 20.41 42 P Pn 23 27 45.4 -1.6
baz=251,SNR=12
M19K Big River Lodg 20.48 52 P Pn 23 27 46.2 -1.8
M19K Big River Lodg 20.48 52 P Pn 23 27 46.5 -1.5
baz=263
GRNR Gornyy 20.54 275 ⇓*i*P Pn 23 27 48.6 -0.1
GRNR pmax pmax
comp=Z,10.0nm,1.3s
GRNR MLR MLR
comp=E,460nm,16.0s
GRNR MLR MLR
comp=Z,260nm,14.0s
Q19K Cape Douglas, 20.71 61 P Pn 23 27 48.1 -2.6
baz=272
L20K Farewell, AK 20.80 51 P Pn 23 27 49.9 -1.8
baz=262,SNR=8.8
E19K Redstone River 20.84 36 P Pn 23 27 51.1 -1.1
E19K Redstone River 20.84 36 P Pn 23 27 50.5 -1.7
baz=245,SNR=12
K20K Telida 20.85 48 IAmb IAmb 23 28 10.9
comp=Z,20nm,0.7s
K20K Telida 20.85 48 P Pn 23 27 50.3 -2.0
baz=260,SNR=6.5
C19K Lookout Ridge 20.86 31 P Pn 23 27 50.1 -2.3
baz=238
P19K Oil Pt 20.91 59 IAmb IAmb 23 28 03.6
comp=Z,37nm,0.9s
P19K Oil Pt 20.91 59 P Pn 23 27 50.3 -2.8
baz=270
J20K Nowinta River 20.99 46 IAmb IAmb 23 28 05.2
comp=Z,47nm,1.0s
J20K Nowinta River 20.99 46 P Pn 23 27 50.9 -2.9
baz=258,SNR=27
I20K Naaghedeneel 20.99 44 P **P 23 27 49.2 -1.9**
baz=256
D19K Kuna River 21.01 33 IAmb IAmb 23 28 20.3
comp=Z,26nm,1.0s
D19K Kuna River 21.01 33 P 23 27 51.7
baz=242
OHAK Old Harbor 21.02 66 P **P 23 27 51.0 -0.4**
baz=277
H20K Anotleneega Mo 21.02 42 P 23 27 52.1
baz=253,SNR=26
M20K Styx River 21.07 53 P 23 27 52.4
baz=264
RSO Redoubt South 21.16 57 P **P 23 27 53.1 -0.2**
F20K Avaraart Lake 21.22 38 P **P 23 27 53.7 +0.2**
F20K Avaraart Lake 21.22 38 P **P 23 27 54.8 +1.3**
baz=248
O20K Slope Mountain 21.22 58 P **P 23 27 54.4 +0.7**
baz=270
KDAK Kodiak Island 21.34 64 P **P 23 27 55.4 +0.5**
baz=276
KDAK Kodiak Island 21.34 64 P **P 23 27 54.0 -0.9**
comp=Z,5.2nm,0.8s,baz=293,slow=7.7,SNR=1.9
comp=Z,5.2nm,0.8s
KDAK Kodiak Island 21.34 64 *i*P **P 23 27 58.2 +3.3**
KDAK pmax pmax
comp=Z,14nm,1.0s
Q20K Shuyak Island 21.38 62 P **P 23 27 56.2 +1.0**
baz=274
SYI Shuyak Island 21.38 62 P **P 23 27 55.3 0.0**
SYI IAmb IAmb 23 28 18.6
comp=Z,49nm,1.1s
N20K Mount Spurr 21.46 55 P **P 23 27 57.1 +0.8**
baz=267
SPCR Spurr Chakacha 21.46 55 P **P 23 27 56.9 +0.6**
baz=267
E20K Nigu River 21.54 35 P **P 23 27 58.5 +1.5**
baz=245
D20K Etivluk River 21.60 33 P **P 23 27 59.0 +1.3**
baz=243
IMAR Indian Mountai 21.61 41 P **P 23 27 57.9 +0.1**
PPLA Purkeypile 21.63 50 P **P 23 27 58.9 +0.8**
baz=263
CHUM Lake Minchumin 21.72 47 P **P 23 27 60.0 +1.0**
baz=260
HOM Homer 21.72 59 P **P 23 27 59.1 +0.1**
baz=272
CAST Castle Rocks 21.75 49 P **P 23 27 59.5 +0.2**
baz=262
SKT Skwentna 21.84 52 P **P 23 28 01.1 +0.8**
SKT IAmb IAmb 23 28 13.6
comp=Z,47nm,1.2s
SKT Skwentna 21.84 52 P **P 23 28 00.7 +0.4**
baz=266,SNR=7.5
G21K Allakaket 21.86 40 IAmb IAmb 23 28 30.6
comp=Z,22nm,0.8s
G21K Allakaket 21.86 40 P **P 23 28 01.5 +1.0**
baz=252
H21K Melozitna Rive 21.90 42 IAmb IAmb 23 28 21.2
comp=Z,28nm,1.0s
H21K Melozitna Rive 21.90 42 P **P 23 28 01.5 +0.7**
baz=255
CNPM China Poot 21.93 59 P **P 23 28 01.1 -0.1**
CNPM IAmb IAmb 23 28 12.6
comp=Z,57nm,1.3s
B20K Meade River 22.06 30 P **P 23 28 03.3 +0.9**
baz=240
F21K Alatna River 22.10 38 P **P 23 28 03.0 0.0**
baz=251
I21K Tanana 22.12 44 P **P 23 28 03.1 0.0**
baz=257
BRSE Bradley Lake S 22.17 59 P **P 23 28 04.1 +0.2**
baz=272
SUA Susitna One 22.18 54 P **P 23 28 03.6 -0.4**
baz=268
BPAW Bear Paw Mtn. 22.33 47 P **P 23 28 05.7 +0.1**
BPAW IAmb IAmb 23 28 29.7
comp=Z,20nm,0.9s
BPAW Bear Paw Mtn. 22.33 47 P **P 23 28 05.9 +0.3**
baz=261,SNR=12
E21K Killik River 22.37 35 P **P 23 28 07.0 +1.1**
baz=247
C21K Knifeblade Rid 22.39 33 P **P 23 28 06.7 +0.6**
baz=245
H22K Ishtalitna Cre 22.53 42 P **P 23 28 07.8 +0.1**
baz=256
YAK Yakutsk 22.53 308 LR LR 23 36 38.8
comp=Z,139nm,19.0s,baz=94,slow=36
YAK Yakutsk 22.53 308 *eP* **P 23 28 09.0 +1.4**
YAK *e**PP **sP 23 28 17.8 -2.8**
YAK *e* 23 28 31.6
YAK *e* 23 32 04.0
YAK *e*S **S 23 32 12.2 +0.1**
YAK *e**SS **sS 23 32 27.3 +0.1**
YAK *e* 23 39 24.5
YAK pmax pmax
comp=Z,58nm,1.0s
YAK pmax pmax
comp=E,25nm,1.4s
YAK pmax pmax
comp=N,13nm,1.4s
YAK pmax pmax
comp=Z,58nm,1.0s
YAK pmax pmax
comp=E,35nm,1.5s
YAK pmax pmax
comp=N,14nm,1.6s
YAK smax smax
comp=E,145nm,2.8s
YAK smax smax
comp=N,51nm,2.7s
YAK MLR MLR
comp=Z,362nm,15.0s
YAK MLR MLR
comp=E,329nm,14.0s
YAK MLR MLR
comp=N,346nm,19.0s
MLY Manley 22.60 45 IAmb IAmb 23 28 26.2
comp=Z,26nm,1.2s
MLY Manley 22.60 45 P **P 23 28 09.2 +0.8**
baz=259,SNR=8.7
B21K Ikpikpuk River 22.65 32 P **P 23 28 09.9 +1.1**
baz=244
F22K John River 22.67 38 P **P 23 28 09.8 +0.7**
baz=252
G22K Bettles 22.74 40 P **P 23 28 10.3 +0.5**
baz=254
A21K Barrow 22.90 27 P **P 23 28 12.7 +1.3**
baz=238
D22K Ayikyak River 22.97 34 P **P 23 28 11.3 -1.0**
D22K Ayikyak River 22.97 34 P **P 23 28 13.3 +1.0**
baz=248
E22K Anaktuvuk Pass 23.01 37 P **P 23 28 13.6 +1.0**
baz=251
MCK McKinley 23.18 48 P **P 23 28 15.1 +0.7**
baz=264
MCK McKinley 23.18 48 P **P 23 28 14.1 -0.3**
RND Reindeer 23.19 49 P **P 23 28 14.0 -0.5**
RND IAmb IAmb 23 28 26.3
comp=Z,22nm,0.9s
RND Reindeer 23.19 49 P **P 23 28 14.0 -0.5**
RND pmax pmax
comp=Z,22nm,0.9s
A22K Sinclair Lake 23.19 29 P **P 23 28 15.2 +0.8**
baz=240
I23K Minto, Yukon-K 23.20 45 IAmb IAmb 23 28 34.0
comp=Z,18nm,0.9s
I23K Minto, Yukon-K 23.20 45 P **P 23 28 14.5 0.0**
baz=260
NEA2 Nenana 23.23 46 IAmb IAmb 23 28 28.9
comp=Z,17nm,0.8s
NEA2 Nenana 23.23 46 P **P 23 28 14.8 -0.1**
baz=262
H23K Yukon River 23.25 43 P **P 23 28 16.5 +1.5**
H23K Yukon River 23.25 43 P **P 23 28 15.2 +0.1**
baz=259
G23K Bananza Creek 23.25 41 P **P 23 28 15.6 +0.4**
baz=256
KNK Knik Glacier 23.28 54 P **P 23 28 13.8 -1.6**
baz=270
WAT1 Susitna Watana 23.28 51 P **P 23 28 15.4 0.0**
baz=267
COLD Coldfoot 23.32 39 P **P 23 28 16.2 +0.5**
baz=255
B22K Teshekpuk Lake 23.34 31 P **P 23 28 16.6 +0.8**
baz=244
SML Sawmill 23.34 53 IAmb IAmb 23 28 27.9
comp=Z,38nm,1.1s
SML Sawmill 23.34 53 P **P 23 28 16.1 0.0**
baz=269
M23K Glacier View 23.63 53 P **P 23 28 18.7 -0.1**
baz=270
MDM Murphy Dome 23.64 45 IAmb IAmb 23 28 37.2
comp=Z,14nm,0.7s
WAT6 Susitna Watana 23.64 51 P **P 23 28 19.3 +0.2**
baz=268
D23K Nanushuk River 23.68 35 P **P 23 28 20.0 +0.9**
baz=250
E23K Chandalar 23.77 37 P **P 23 28 20.5 +0.4**
baz=254
CCB Clear Creek Bu 23.78 46 IAmb IAmb 23 28 31.9
comp=Z,45nm,1.2s
COLA College 23.79 45 P **P 23 28 20.2 +0.1**
COLA College 23.79 45 P **P 23 28 20.7 +0.5**
baz=263
COLA College 23.79 45 *i*P **P 23 28 20.3 +0.1**
COLA pmax pmax
comp=Z,31nm,2.5s
SCM Sheep Creek Mo 23.82 53 IAmb IAmb 23 28 40.4
comp=Z,26nm,1.0s
SCM Sheep Creek Mo 23.82 53 P **P 23 28 20.4 -0.3**
baz=270
DHY Denali Highway 23.83 50 P **P 23 28 20.0 -0.8**
DHY IAmb IAmb 23 28 31.9
comp=Z,25nm,1.0s
DHY Denali Highway 23.83 50 P **P 23 28 21.0 +0.2**
baz=267
P23K Montague Islan 23.84 58 P **P 23 28 20.5 -0.3**
baz=273
KLR Kul'dur 23.92 275 LR LR 23 39 03.3
comp=Z,203nm,18.2s,baz=60,slow=40
KLR Kul'dur 23.92 275 *eP* **P 23 28 20.3 -1.3**
KLR pmax pmax
comp=Z,22nm,1.7s
H24K Noodor Dome 23.92 43 IAmb IAmb 23 28 40.9
comp=Z,22nm,1.1s
H24K Noodor Dome 23.92 43 P **P 23 28 22.1 +0.5**
baz=260
GLI Glacier Island 23.95 55 P **P 23 28 21.8 +0.1**
baz=272
TOLK Toolik Lake Re 23.95 36 IAmb IAmb 23 28 33.8
comp=Z,20nm,0.7s
TOLK Toolik Lake Re 23.95 36 P **P 23 28 22.1 +0.2**
baz=252
POKR Poker Plat Res 24.00 45 P **P 23 28 22.2 0.0**
baz=262
C23K Itkillik River 24.01 33 IAmb IAmb 23 28 45.0
comp=Z,32nm,1.1s
C23K Itkillik River 24.01 33 P **P 23 28 22.2 -0.1**
baz=248
HDA Harding Lake 24.12 47 P **P 23 28 24.0 +0.6**
baz=265
E24K Your Creek 24.18 38 IAmb IAmb 23 28 45.0
comp=Z,14nm,0.8s
E24K Your Creek 24.18 38 P **P 23 28 24.3 +0.4**
baz=255
IL31 24.18 46 IAmb IAmb 23 28 42.9
comp=Z,16nm,0.8s
ILAR Eielson Array 24.18 46 P **P 23 28 22.2 -1.7**
ILAR Eielson Array 24.18 46 P **P 23 28 23.0 -0.9**
comp=Z,3.5nm,0.9s,baz=255,slow=8.2,SNR=21
ILAR LR LR 23 38 14.1
comp=Z,118nm,18.1s,baz=248,slow=38
comp=Z,3.5nm,0.9s
ILAR Eielson Array 24.18 46 P **P 23 28 22.2 -1.7**
G24K Hadweenzic Riv 24.24 41 P **P 23 28 25.7 +1.2**
baz=259
F24K Squaw Lake 24.26 39 P **P 23 28 26.1 +1.5**
baz=257
M24K Tolsona, Glenn 24.36 52 P **P 23 28 26.4 +0.8**
M24K Tolsona, Glenn 24.36 52 P **P 23 28 26.2 +0.6**
baz=270
D24K Happy Valley 24.37 35 P **P 23 28 26.7 +1.1**
baz=252
Q23K Middleton Isla 24.42 59 P **P 23 28 26.4 +0.3**
baz=276
KLU Klutina 24.49 54 P **P 23 28 27.7 +0.9**
baz=272
K24K Donnelly Dome 24.59 48 P **P 23 28 28.3 +0.6**
baz=267
C24K Franklin Bluff 24.59 34 P **P 23 28 29.3 +1.7**
baz=251
EYAK Cordova Ski Ar 24.63 56 P **P 23 28 28.3 +0.4**
baz=274
PAX Paxson 24.70 50 P **P 23 28 28.8 +0.1**
baz=269,SNR=10
G25K Bearman Lake 24.79 41 P **P 23 28 30.0 +0.6**
baz=260
J25K Salcha River, 24.82 46 P **P 23 28 29.6 -0.1**
baz=266
H25L Birch Creek 24.82 42 P **P 23 28 30.2 +0.6**
baz=262,SNR=6.7
HARP HAARP 24.84 52 P **P 23 28 29.4 -0.5**
baz=271
PRP Porcupine Dome 24.84 44 IAmb IAmb 23 28 49.7
comp=Z,19nm,0.9s
PRP Porcupine Dome 24.84 44 P **P 23 28 30.5 +0.5**
baz=264,SNR=11
ZEA Zeya 24.89 287 *eP* **P 23 28 36.2 +5.8**
ZEA MLR MLR
comp=N,200nm,16.0s
FYU Fort Yukon 25.10 42 P **P 23 28 33.3 +1.2**
F25K Christian Rive 25.12 39 P **P 23 28 33.6 +1.2**
baz=259,SNR=16
N25K Chitina, Valde 25.12 54 P **P 23 28 33.1 +0.6**
baz=273
TIXI Tiksi 25.13 331 LR LR 23 39 02.1
comp=N,176nm,18.4s,baz=166,slow=38
BMRM Bremner River 25.16 55 P **P 23 28 33.4 +0.5**
baz=274
E25K Arctic Village 25.25 38 P **P 23 28 35.0 +1.4**
baz=258
D25K Kavik River 25.26 35 IAmb IAmb 23 28 44.7
comp=Z,16nm,0.7s
D25K Kavik River 25.26 35 P **P 23 28 33.9 +0.3**
baz=255
SCRK Sand Creek 25.39 48 IAmb IAmb 23 28 45.9
comp=Z,17nm,1.0s
SCRK Sand Creek 25.39 48 P **P 23 28 35.1 +0.1**
baz=268,SNR=9.6
BMAR Burnt Mountain 25.49 40 P **P 23 28 36.7 +0.9**
GLB Gilahina Butte 25.51 54 P **P 23 28 35.7 -0.3**
GLB IAmb IAmb 23 28 54.7
comp=Z,36nm,1.3s
J26L Joseph Creek 25.59 47 P **P 23 28 37.7 +1.0**
baz=268
L26K Log Cabin Wild 25.66 50 P **P 23 28 38.2 +0.8**
L26K IAmb IAmb 23 28 52.7
comp=Z,31nm,1.5s
L26K Log Cabin Wild 25.66 50 P **P 23 28 37.8 +0.4**
baz=271
VRDI Verde Repeater 25.70 54 P **P 23 28 37.1 -0.8**
F26K Sheenjek River 25.70 39 P **P 23 28 38.9 +1.2**
baz=260
G26K Porcupine Rive 25.72 41 P **P 23 28 39.3 +1.5**
baz=262,SNR=19
I26K Coal Creek Min 25.81 45 P **P 23 28 39.8 +1.1**
baz=266
M26K Nabesna, AK 25.84 52 P **P 23 28 40.4 +1.3**
baz=273
BGLC Bering Glacier 25.89 57 P **P 23 28 42.3 +2.9**
baz=277
MCARA McCarthy VSAT 25.89 54 P **P 23 28 40.2 +0.8**
baz=275
C26K Camden Bay 25.91 34 P **P 23 28 40.6 +1.2**
baz=255
CRQE Cirque 25.91 55 P **P 23 28 40.1 +0.4**
baz=276
HEH HeiHe 26.04 280 *eP* **P 23 28 41.0 +0.1**
HEH pmax pmax
comp=Z,15nm,0.9s
HEH LR LR
comp=Z,1μm,16.3s
HEH LR LR
comp=Z,570nm,14.4s
HEH LR LR
comp=Z,540nm,12.8s
K27K Chicken 26.23 48 P **P 23 28 44.5 +2.0**
baz=270
C27K Jago River 26.24 35 P **P 23 28 43.4 +0.8**
baz=257
USRK Ussuriysk Ar. 26.31 264 P **P 23 28 44.3 +1.0**
comp=Z,3.7nm,0.8s,baz=53,slow=13,SNR=4.0
USRK LR LR 23 41 08.3
comp=Z,164nm,18.2s,baz=50,slow=41
comp=Z,3.7nm,0.8s
L27K Beaver Creek, 26.36 50 IAmb IAmb 23 28 55.2
comp=Z,29nm,1.1s
L27K Beaver Creek, 26.36 50 P **P 23 28 44.8 +1.1**
baz=272,SNR=6.4
M27K Edge Creek, AK 26.37 52 P **P 23 28 45.1 +1.2**
baz=274
BCAR Beaver Creek A 26.38 50 P **P 23 28 43.6 -0.3**
I27K Kandik River 26.47 44 P **P 23 28 47.3 +2.6**
baz=267
G27K Doyon Strip 26.54 42 P **P 23 28 45.9 +0.6**
G27K IAmb IAmb 23 29 00.3
comp=Z,21nm,1.4s
G27K Doyon Strip 26.54 42 P **P 23 28 48.0 +2.7**
baz=265,SNR=7.5
MESA MESA 26.54 57 P **P 23 28 46.5 +1.0**
baz=278
H27K Steamboat Moun 26.55 43 P **P 23 28 48.5 +3.2**
baz=266,SNR=10
EGAK Eagle 26.64 46 IAmb IAmb 23 29 05.7
comp=Z,22nm,0.8s
EGAK Eagle 26.64 46 P **P 23 28 48.4 +2.3**
baz=269
E27K Coleen River 26.73 39 P **P 23 28 50.8 +3.8**
baz=262
CTG Chitna Glacier 26.74 55 P **P 23 28 49.7 +2.4**
baz=277
CTGM Chitina Glacie 26.75 55 P **P 23 28 46.4 -0.9**
CTGM IAmb IAmb 23 29 00.8
comp=Z,22nm,1.0s
YUK3 Moose Creek 27.08 53 P **P 23 28 52.5 +2.1**
baz=276
D27M Malcolm River 27.12 36 P **P 23 28 52.2 +1.7**
baz=261
I28M Miner Creek 27.16 45 P **P 23 28 53.2 +2.2**
baz=269
F28M Old Crow 27.31 40 P **P 23 28 52.1 -0.1**
F28M Old Crow 27.31 40 P **P 23 28 54.4 +2.2**
baz=265
O28M Mount Upton 27.32 55 P **P 23 28 54.1 +1.4**
baz=278
PINM Pinnacle 27.39 56 P **P 23 28 55.5 +2.4**
baz=279
DAWY Dawson 27.41 48 P **P 23 28 53.0 -0.2**
DAWY IAmb IAmb 23 29 11.5
comp=Z,16nm,1.0s
DAWY Dawson 27.41 48 P **P 23 28 54.8 +1.7**
baz=272
MDJ Mudanjiang 27.50 267 P **P 23 28 57.1 +3.1**
MDJ pmax pmax
comp=Z,7.0nm,0.7s
E28M Babbage River 27.54 38 P **P 23 28 55.8 +1.6**
baz=263
H29M Whitestone 27.82 43 IAmb IAmb 23 29 15.4
comp=Z,17nm,1.0s
H29M Whitestone 27.82 43 P **P 23 28 58.2 +1.4**
baz=269
MAJO Matsushiro 27.84 245 *i*P **P 23 29 00.7 +3.5**
MAJO pmax pmax
comp=Z,10.0nm,1.3s
MJAR Matsushiro Arr 27.84 245 P **P 23 29 00.2 +3.0**
comp=Z,0.8nm,0.3s,baz=27,slow=9.4,SNR=6.4
MJAR LR LR 23 40 12.8
comp=Z,101nm,21.7s,baz=42,slow=37
comp=Z,0.8nm,0.3s
I29M Ogilvie Camp, 27.84 45 P **P 23 28 59.0 +2.0**
baz=271
PSTR Posyet 27.92 263 *i*P **P 23 28 59.7 +1.9**
M29M Somme Creek 27.94 51 P **P 23 29 01.7 +3.7**
M29M Somme Creek 27.94 51 P **P 23 29 00.8 +2.8**
baz=276
G29M Pine Creek 27.98 42 P **P 23 28 58.6 +0.4**
G29M IAmb IAmb 23 29 25.2
comp=Z,17nm,1.0s
G29M Pine Creek 27.98 42 P **P 23 29 00.8 +2.6**
baz=268
L29M L29M 28.03 50 P **P 23 28 59.3 +0.6**
L29M L29M 28.03 50 P **P 23 29 01.1 +2.3**
baz=275
E29M Blow River 28.12 38 P **P 23 29 00.8 +1.5**
baz=265
BNX BinXian 28.18 271 ⇑P **P 23 29 02.2 +2.1**
BNX pmax pmax
comp=Z,7.0nm,0.6s
YUK6 Outpost Mounta 28.19 54 P **P 23 29 01.1 +0.8**
baz=279
O29M Mount Kennedy 28.19 56 P **P 23 29 00.5 +0.3**
baz=280
K29M Barlow Dome 28.25 48 IAmb IAmb 23 29 21.6
comp=Z,16nm,0.9s
K29M Barlow Dome 28.25 48 P **P 23 29 00.4 -0.3**
baz=274
EPYK Eagle Plains 28.49 43 P **P 23 29 03.7 +1.0**
baz=270
HYT Haines Junctio 28.62 54 P **P 23 29 03.4 -0.6**

HYT IAmb IAmb 23 29 15.5
comp=Z,19nm,0.8s
HYT Haines Junctio 28.62 54 P **P 23 29 04.8 +0.8**
baz=280,SNR=5.8
I30M Mount Dempster 28.66 45 P **P 23 29 03.6 -0.8**
I30M Mount Dempster 28.66 45 P **P 23 29 04.9 +0.6**
baz=273
G30M tAoh Zraii Nji 28.69 41 P **P 23 29 05.8 +1.3**
baz=270
M30M Minto, Yukon 28.70 51 P **P 23 29 04.9 +0.2**
baz=277
J30M Hart River 28.71 47 P **P 23 29 06.2 +1.3**
baz=274
F30M Barrier River 28.87 40 P **P 23 29 07.8 +1.8**
baz=269
P30M Million Dollar 29.01 56 P **P 23 29 09.0 +1.5**
baz=282
O30N Mendenhall 29.31 54 P **P 23 29 10.7 +0.6**
baz=281
N31M Braeburn, Yuko 29.33 53 P **P 23 29 12.2 +2.0**
baz=280
PLBC Pleasant Camp 29.45 57 P **P 23 29 12.9 +1.7**
baz=283
G31M Satah River 29.46 42 P **P 23 29 13.6 +2.4**
baz=272
F31M Tsiigehtchic 29.66 41 P **P 23 29 15.6 +2.7**
baz=271
JHJ Hachijo jima 2 29.66 238 LR LR 23 42 22.6
comp=Z,40nm,19.0s,baz=86,slow=39
INK Inuvik 29.73 39 LR LR 23 41 21.0
comp=Z,224nm,20.7s,baz=196,slow=37
M31M Drury Creek, Y 29.86 51 P **P 23 29 14.8 -0.1**
M31M Drury Creek, Y 29.86 51 P **P 23 29 16.7 +1.8**
baz=280
CN2 Changchun 30.41 269 *e*P **P 23 29 20.2 +0.3**
CN2 *e*S **S 23 34 17.4 -0.8**
SIT Sitka 30.61 61 P **P 23 29 23.5 +2.0**
baz=288
R32K Eaglecrest 30.67 59 P **P 23 29 23.2 +1.2**
baz=286
P32M Atlin 30.73 56 P **P 23 29 22.0 -0.6**
baz=285
S32K Killisnoo 30.88 60 P **P 23 29 25.0 +1.2**
baz=288
P33M Teslin, Yukon 31.01 55 P **P 23 29 26.1 +0.9**
P33M Teslin, Yukon 31.01 55 P **P 23 29 26.3 +1.2**
baz=284,SNR=6.7
MMPY Sheldon Lake, 31.22 50 P **P 23 29 27.6 +0.7**
baz=281
Q32M Nakina River 31.61 57 P **P 23 29 30.1 -0.5**
baz=287
U33K Whale Pass 32.07 62 P **P 23 29 33.0 -1.3**
baz=290
R33M Jennings River 32.13 56 P **P 23 29 33.8 -1.2**
baz=287
CRAG Craig 32.30 63 P **P 23 29 36.2 -0.2**
baz=291
WRAK Wrangell Islan 32.37 61 P **P 23 29 36.8 -0.1**
baz=290
A36M Sachs Harbour 32.54 32 P **P 23 29 37.4 -0.9**
A36M IAmb IAmb 23 30 03.8
comp=Z,10nm,0.8s
DLBC Dease Lake 32.88 57 P **P 23 29 40.9 -0.7**
baz=289
KSRS Korea Array 32.96 258 P **P 23 29 44.4 +2.1**
comp=Z,2.2nm,0.9s,baz=52,slow=8.4,SNR=7.3
KSRS LR LR 23 43 05.6
comp=Z,70nm,20.8s,baz=50,slow=36
comp=Z,2.2nm,0.9s
KSRS Korea Array 32.96 258 *e*P P 23 29 47.4 +5.1
KSRS pmax pmax
comp=Z,5.0nm,0.9s
C36M Paulatuk 33.11 36 P **P 23 29 43.5 +0.2**
baz=276
V35K Ketchikan 33.15 63 P **P 23 29 44.5 +0.7**
baz=292
T35M Bob Quinn 33.26 60 P **P 23 29 44.6 -0.2**
baz=291
JCJ Chichijima 33.54 228 LR LR 23 41 31.7
comp=Z,47nm,20.7s,baz=116,slow=33
JNU Nakatsue 34.39 249 LR LR 23 43 45.8
comp=Z,85nm,20.7s,baz=61,slow=36
BBB Bella Bella 36.37 67 LR LR 23 45 21.9
comp=Z,158nm,19.2s,baz=316,slow=37
YKA Yellowknife Ar 38.62 46 P **P 23 30 30.0 -0.5**
comp=Z,0.7nm,0.7s,baz=295,slow=8.1,SNR=5.4
comp=Z,0.7nm,0.7s
YKA Yellowknife Ar 38.62 46 P **P 23 30 30.0 -0.5**
NRIK Noril'sk 38.67 326 P **P 23 30 30.4 -0.5**
comp=Z,0.6nm,0.4s,baz=45,slow=2.9,SNR=1.6
NRIK LR LR 23 47 44.2
comp=Z,176nm,18.7s,baz=64,slow=38
comp=Z,0.6nm,0.4s
NRIK Noril'sk 38.67 326 *ce*P **P 23 30 32.4 +1.5**
NRIK pmax pmax
comp=Z,6.0nm,1.3s
ULN Ulaanbaatar 38.92 288 P **P 23 30 34.3 +0.8**
ULN Ulaanbaatar 38.92 288 *i* P **P 23 30 33.4 -0.1**
ULN pmax pmax
comp=Z,7.0nm,1.3s
SONM Songino Array 39.31 288 P **P 23 30 37.3 +0.6**
SONM Songino Array 39.31 288 P **P 23 30 37.8 +1.1**
comp=Z,2.2nm,0.6s,baz=59,slow=8.1,SNR=21
SONM LR LR 23 48 15.8
comp=Z,371nm,18.3s,baz=67,slow=38
comp=Z,2.2nm,0.6s
SONM Songino Array 39.31 288 P **P 23 30 37.3 +0.6**
SONM pmax pmax
comp=Z,3.0nm,1.0s
ZAK Zakamensk 39.68 293 *e*P **P 23 30 39.5 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
NLWA Neilton Lookou 41.20 71 P **P 23 30 53.7 +1.5**
NLWA IAmb IAmb 23 31 05.9
comp=Z,17nm,1.1s
NJ2 Nanjing 42.05 260 *e*P **P 23 30 59.4 +0.2**
NJ2 pmax pmax
comp=Z,15nm,0.5s
LTY Liberty 43.06 69 P **P 23 31 09.4 +2.0**
B08A Colville Reser 43.16 67 P **P 23 31 08.4 +0.2**
B08A IAmb IAmb 23 31 20.3
comp=Z,22nm,1.4s
C09A Chrisman Ranch 44.06 67 P **P 23 31 17.3 +1.9**
C09A IAmb IAmb 23 31 34.6
comp=Z,12nm,1.2s
NEW Newport 44.42 66 P **P 23 31 19.4 +1.1**
NEW IAmb IAmb 23 31 30.1
comp=Z,16nm,1.5s
NEW Newport 44.42 66 P **P 23 31 16.4 -1.9**
baz=306
NEW Newport 44.42 66 LR LR 23 49 06.9
comp=Z,140nm,19.9s,baz=293,slow=35
NEW Newport 44.42 66 P **P 23 31 19.4 +1.1**
NEW pmax pmax
comp=Z,16nm,1.5s
J05D Fort Rock, OR 45.14 74 P **P 23 31 25.5 +1.3**
J05D IAmb IAmb 23 31 41.6
comp=Z,12nm,1.0s
YBH Yreka Blue Hor 45.27 77 LR LR 23 49 06.7
comp=Z,159nm,19.9s,baz=302,slow=34
MSO Missoula 47.01 66 P **P 23 31 37.4 -1.4**
baz=308
ZALV Zalesovo Beam 47.17 307 P **P 23 31 40.9 +1.0**
ZALV Zalesovo Beam 47.17 307 P **P 23 31 40.4 +0.6**
comp=Z,0.3nm,0.3s,baz=46,slow=4.2,SNR=2.6
ZALV LR LR 23 51 50.3
comp=Z,184nm,19.4s,baz=26,slow=37
comp=Z,0.3nm,0.3s
SPITS Spitsbergen Ar 47.31 353 P **P 23 31 40.0 -0.7**
comp=Z,8.2nm,0.9s,baz=18,slow=15,SNR=1.2
SPITS LR LR 23 51 52.5
comp=Z,74nm,19.7s,baz=352,slow=37
comp=Z,8.2nm,0.9s
SPITS Spitsbergen Ar 47.31 353 P **P 23 31 40.0 -0.7**
HLID Hailey 48.80 69 P **P 23 31 51.3 -1.6**
baz=310
BOZ Bozeman (W) 49.03 66 P **P 23 31 53.3 -1.2**
baz=310
NVAR Mina Array Bea 49.98 77 P **P 23 32 02.4 +0.4**
comp=Z,0.6nm,0.5s,baz=304,slow=8.5,SNR=6.3
NVAR LR LR 23 51 52.3
comp=Z,86nm,18.6s,baz=278,slow=34
comp=Z,0.6nm,0.5s
RLMT Red Lodge 50.61 65 P **P 23 32 04.7 -1.9**
baz=311
R11B Troy Canyon, C 51.60 75 P **P 23 32 12.7 -1.4**
baz=313,SNR=6.2

ISA Isabella, Lake 51.78 80 P **P 23 32 12.3 -3.1**
baz=314
DUG Dugway, Tooele 51.93 72 P **P 23 32 14.9 -1.5**
baz=313
ARVC Arvin 51.94 81 P **P 23 32 14.7 -1.7**
baz=315
BW06 Boulder Array 52.01 67 P **P 23 32 15.2 -1.9**
baz=312
PDAR Pinedale Array 52.01 67 P **P 23 32 16.7 -0.4**
PDAR Pinedale Array 52.01 67 P **P 23 32 17.4 +0.3**
comp=Z,0.9nm,0.7s,baz=352,slow=3.0,SNR=8.2
PDAR LR LR 23 55 60.0
comp=Z,68nm,18.1s,baz=330,slow=38
comp=Z,0.9nm,0.7s
MPMC Manual Prospec 52.08 79 P **P 23 32 16.0 -1.7**
baz=314
WMQ Urumqi 52.10 295 *e*P **P 23 32 18.9 +1.3**
WMQ LR LR
comp=Z,1μm,17.5s
WMQ LR LR
comp=Z,1μm,20.5s
WMQ LR LR
comp=Z,360nm,22.3s
KURK Kurchatov 52.16 306 P **P 23 32 16.6 -1.2**
KURK Kurchatov 52.16 306 *i* P **P 23 32 17.5 -0.3**
KURK pmax pmax
comp=Z,15nm,1.0s
TPNV Topopah Spring 52.18 77 P **P 23 32 17.6 -0.8**
baz=314
SCZ2 Santa Cruz Isl 52.27 82 P **P 23 32 18.2 -0.7**
baz=315
KURBB Kurchatov Arra 52.27 306 P **P 23 32 18.8 +0.2**
comp=Z,12nm,1.2s,baz=48,slow=7.5,SNR=4.1
comp=Z,12nm,1.2s
SUMG Summit 52.42 10 P **P 23 32 19.9 -0.1**
SUMG IAmb IAmb 23 32 33.9
comp=Z,16nm,1.2s
SUMG Summit 52.42 10 P **P 23 32 19.9 -0.1**
SUMG pmax pmax
comp=Z,16nm,1.2s
SUMG Summit 52.42 10 *i* P **P 23 32 20.0 0.0**
PSUT Pine Spring 52.47 74 P **P 23 32 20.6 +0.1**
EDW2 Edwards Air Fo 52.60 80 P **P 23 32 20.2 -1.3**
baz=315
SNCC San Nicolas Is 52.86 83 P **P 23 32 23.2 0.0**
baz=316
MK31 Makanchi Array 52.96 301 *i* P **P 23 32 22.6 -1.2**
MKAR Makanchi Array 52.96 301 P **P 23 32 23.1 -0.8**
MKAR Makanchi Array 52.96 301 P **P 23 32 23.5 -0.3**
comp=Z,1.2nm,0.5s,baz=49,slow=6.5,SNR=12
comp=Z,1.2nm,0.5s
MKAR Makanchi Array 52.96 301 *e*P **P 23 32 23.0 -0.8**
MAKZ Makanchi 53.11 301 P **P 23 32 23.9 -1.0**
MAKZ Makanchi 53.11 301 P **P 23 32 23.9 -1.0**
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
BFSC Mount Baldy Ra 53.25 80 P **P 23 32 25.5 -0.8**
baz=315
TUQ Turquoise Moun 53.42 78 P **P 23 32 25.9 -1.6**
baz=315
HEC Hector,Ludlow 53.61 79 P **P 23 32 26.5 -2.3**
baz=315
MDND Maddock 53.80 57 P **P 23 32 30.7 +0.7**
MDND Maddock 53.80 57 P **P 23 32 27.2 -2.7**
baz=313
SRU San Rafael Swe 53.96 71 IAmb IAmb 23 32 44.2
comp=Z,8.2nm,0.8s
ULM Lac du Bonnet 53.96 52 P **P 23 32 30.3 -0.8**
ULM IAmb IAmb 23 32 42.6
comp=Z,7.9nm,0.8s
ULM Lac du Bonnet 53.96 52 P **P 23 32 31.1 0.0**
comp=Z,1.0nm,0.4s,baz=287,slow=6.7,SNR=4.4
ULM LR LR 23 58 28.0
comp=Z,164nm,18.1s,baz=324,slow=40
comp=Z,1.0nm,0.4s
ULM Lac du Bonnet 53.96 52 *e*P P 23 32 35.0 +3.9
ULM pmax pmax
comp=Z,3.0nm,0.7s
MURC Murrieta 53.98 81 P **P 23 32 30.0 -1.5**
baz=316
RSSD Black Hills 54.06 63 P **P 23 32 32.9 +0.7**
RSSD Black Hills 54.06 63 P **P 23 32 32.9 +0.7**
RSSD pmax pmax
comp=Z,33nm,0.5s
ARCES ARCESS Array B 54.28 345 P **P 23 32 32.9 -0.3**
comp=Z,1.5nm,0.6s,baz=14,slow=10,SNR=5.4
ARCES LR LR 23 57 10.2
comp=Z,86nm,19.0s,baz=37,slow=38
comp=Z,1.5nm,0.6s
ARCES ARCESS Array B 54.28 345 *e*P **P 23 32 34.9 +1.7**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 54.36 313 P **P 23 32 33.9 -0.1**
comp=Z,12nm,0.6s,baz=45,slow=7.6,SNR=65
comp=Z,12nm,0.6s
BRVK Borovoye 54.38 313 P **P 23 32 33.8 -0.3**
BRVK Borovoye 54.38 313 P **P 23 32 33.8 -0.3**
BRVK pmax pmax
comp=Z,14nm,0.7s
FRB Frobisher Bay 54.39 28 LR LR 23 57 49.6
comp=Z,102nm,19.6s,baz=292,slow=38
BELC Belle Mtn. Jos 54.39 79 P **P 23 32 34.5 -0.2**
baz=316
PFO Pinyon Flats O 54.40 80 P **P 23 32 32.8 -1.9**
baz=316
PFO Pinyon Flats O 54.40 80 LR LR 23 55 28.9
comp=Z,80nm,18.1s,baz=314,slow=36
TPFO Pinon Flats 54.41 80 P **P 23 32 32.2 -2.5**
baz=316
O20A White River Ci 54.52 69 P **P 23 32 33.7 -1.9**
baz=314
109C Camp Elliot, M 54.54 81 P **P 23 32 34.9 -0.6**
baz=316
IRM Iron Mountain 54.78 79 P **P 23 32 35.2 -2.1**
baz=316
U15A North Rim 54.82 75 P **P 23 32 37.5 -0.4**
MONP2 Monument Peak 54.93 81 P **P 23 32 36.9 -1.7**
baz=316
BC3 Big Chuckawall 54.95 79 P **P 23 32 36.8 -1.9**
baz=316
N23A Red Feather La 55.26 67 P **P 23 32 40.8 -0.2**
baz=314
SWSC Sam W. Stewart 55.26 80 P **P 23 32 39.0 -1.7**
baz=316
IKP In-Ko-Pah, Jac 55.29 81 P **P 23 32 39.2 -1.9**
baz=316
AGMN Agassiz Nation 55.31 54 P **P 23 32 40.6 -0.3**
AGMN Agassiz Nation 55.31 54 P **P 23 32 40.9 0.0**
baz=314
JMIC Jan Mayen 55.54 359 LR LR 23 57 15.5
comp=Z,43nm,18.1s,baz=240,slow=37
GLA Glamis 55.75 79 P **P 23 32 42.6 -1.7**
baz=316
SFJD Kangerlussuaq 55.78 18 LR LR 23 59 43.3
comp=Z,76nm,18.9s,baz=318,slow=40
ISCO Idaho Springs 56.20 67 IAmb IAmb 23 33 01.9
comp=Z,4.6nm,0.8s
ISCO Idaho Springs 56.20 67 P **P 23 32 47.6 -0.3**
baz=315
PZH PanZhiHua 56.23 270 P **P 23 32 50.7 +2.8**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,180nm,5.7s
VTX Valle De La Tr 56.39 82 P **P 23 32 47.2 -1.8**
MVCO Mesa Verde 56.42 71 P **P 23 32 47.5 -1.8**
baz=315
SUSD Miller 56.47 59 P **P 23 32 48.0 -1.3**
baz=315
ARU Arti 56.66 322 P **P 23 32 49.6 -0.7**
ARU Arti 56.66 322 *i* P **P 23 32 50.1 -0.3**
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 56.66 322 P **P 23 32 51.3 +0.9**
comp=Z,12nm,0.7s
S22A 4UR Ranch, Cre 56.98 70 P **P 23 32 51.4 -2.0**
baz=316
OGNE Ogallala 57.33 64 P **P 23 32 54.7 -0.8**
baz=315
EYMN Ely 57.63 52 P **P 23 32 56.8 -0.6**
baz=316,SNR=6.7
214A Organ Pipe Nat 57.72 79 P **P 23 32 57.4 -0.9**
baz=317
SDCO Great Sand Dun 57.72 69 P **P 23 32 57.4 -1.1**
baz=316
ECSD EROS Data Cent 58.16 58 IAmb IAmb 23 33 12.4
comp=Z,4.6nm,0.8s

TUC Tucson 58.64 77 P **P 23 33 03.6 -1.2**
baz=317
T25A Trinidad 58.76 69 P **P 23 33 04.7 -1.0**
baz=316
ANMO Albuquerque 59.20 72 LR LR 23 58 24.2
comp=Z,110nm,19.4s,baz=59,slow=36
AAK Ala-Archa 59.83 302 *ce*P **P 23 33 15.3 +2.3**
AAK pmax pmax
comp=Z,3.0nm,0.9s
CBKS Cedar Bluff 60.09 64 P **P 23 33 13.0 -1.7**
baz=317
319A Douglas 60.19 77 P **P 23 33 15.1 -0.5**
319A IAmb IAmb 23 33 28.2
comp=Z,6.5nm,0.8s
121A Cookes Peak, D 60.20 75 P **P 23 33 13.8 -1.9**
baz=318
E43A Lone Tree Farm 60.87 51 P **P 23 33 21.1 +1.3**
KSH Kashi 61.36 298 P P 23 33 27.6 +4.2
KSH sP sP 23 33 39.6 +2.1
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH LR LR
comp=Z,380nm,16.8s
KSH LR LR
comp=Z,550nm,18.9s
KK31 Karatay Array 61.46 305 P **P 23 33 23.4 -0.5**
KK31 IAmb IAmb 23 33 29.0
comp=Z,5.8nm,1.2s
KK31 Karatay Array 61.46 305 P **P 23 33 23.4 -0.5**
KK31 pmax pmax
comp=Z,6.0nm,1.3s
KKAR Karatay Array 61.46 305 P **P 23 33 22.7 -1.2**
KKAR IAmb IAmb 23 33 28.9
comp=Z,5.8nm,1.2s
KKAR Karatay Array 61.46 305 P **P 23 33 22.7 -1.2**
BORG Borgarnes 61.50 5 LR LR 23 58 55.1
comp=Z,66nm,21.2s,baz=340,slow=35
KSU1 Kansas State U 61.54 62 P **P 23 33 23.1 -1.3**
baz=318
ABKAR Akbulak array 61.59 316 P **P 23 33 23.8 -0.8**
ABKAR IAmb IAmb 23 33 32.4
comp=Z,11nm,1.4s
FINES FINESS Array B 61.59 341 P **P 23 33 23.7 -0.7**
comp=Z,1.3nm,0.8s,baz=39,slow=7.5,SNR=3.3
FINES LR LR 00 01 53.6
comp=Z,64nm,21.9s,baz=76,slow=38
comp=Z,1.3nm,0.8s
SCHQ Schefferville 62.13 33 P **P 23 33 27.7 -0.5**
comp=Z,2.4nm,0.9s,baz=308,slow=12,SNR=2.5
comp=Z,2.4nm,0.9s
VHRN Van Horn 63.09 74 P **P 23 33 35.1 0.0**
VHRN IAmb IAmb 23 33 47.5
comp=Z,3.8nm,0.7s
HNR Honiara 63.51 191 LR LR 23 59 19.8
comp=Z,794nm,18.9s,baz=350,slow=34
BTK Batken 63.59 302 P **P 23 33 39.7 +1.4**
L44A Lake County Fo 63.61 54 P **P 23 33 37.4 -0.9**
baz=320
WMOK Wichita Mounta 63.61 67 P **P 23 33 38.0 -0.3**
WMOK IAmb IAmb 23 33 50.5
comp=Z,4.8nm,0.7s
WMOK Wichita Mounta 63.61 67 P **P 23 33 38.2 -0.2**
baz=319
WMOK Wichita Mounta 63.61 67 P **P 23 33 38.1 -0.3**
WMOK pmax pmax
comp=Z,5.0nm,0.7s
BELG Belogornoye 63.76 325 *i* P **P 23 33 39.0 0.0**
BELG pmax pmax
comp=Z,2.0nm,0.8s
APMT Aspermont 63.93 69 P **P 23 33 40.0 -0.6**
APMT IAmb IAmb 23 33 52.0
comp=Z,6.1nm,0.7s
CMAR Chiang Mai Arr 64.03 266 P **P 23 33 43.1 +1.8**
comp=Z,1.9nm,0.3s,baz=28,slow=7.3,SNR=6.6
comp=Z,1.9nm,0.3s
HDIL Hopedale 64.17 56 P **P 23 33 41.9 0.0**
baz=320
NB2 NORSAR Subarra 64.28 349 P **P 23 33 41.5 -0.9**
comp=Z,8.7nm,1.1s,baz=15,slow=6.9
NOA NORSAR Array B 64.28 349 P **P 23 33 41.9 -0.5**
comp=Z,0.9nm,0.5s,baz=16,slow=6.6,SNR=14
NOA LR LR 00 03 10.1
comp=Z,28nm,19.7s,baz=155,slow=38
comp=Z,0.9nm,0.5s
TUL3 Leonard 64.35 64 P **P 23 33 41.4 -1.8**
baz=319
NORES NORESS Array B 64.53 348 P **P 23 33 44.3 +0.3**
ABTX Abilene, Hawle 64.72 69 P **P 23 33 45.3 -0.4**
baz=319
HFS Hagfors 64.84 347 P **P 23 33 45.3 -0.7**
comp=Z,1.1nm,0.5s,baz=32,slow=3.7,SNR=13
comp=Z,1.1nm,0.5s
OBN Obninsk 64.84 332 *e*P **P 23 33 47.6 +1.5**
OBN *e* 23 34 19.0
OBN *e* 23 36 06.8
OBN *e*PPP PPP 23 37 39.1
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,81nm,23.0s
TXAR Lajitas Array 64.94 74 P **P 23 33 47.5 +0.3**
TXAR Lajitas Array 64.94 74 P **P 23 33 47.6 +0.4**
comp=Z,1.7nm,0.6s,baz=306,slow=4.6,SNR=18
TXAR LR LR 00 02 03.8
comp=Z,46nm,18.5s,baz=327,slow=36
comp=Z,1.7nm,0.6s
TXAR Lajitas Array 64.94 74 P **P 23 33 47.5 +0.3**
LPIG La Paz 65.04 83 LR LR 23 58 27.6
comp=Z,40nm,21.3s,baz=264,slow=33
CCM Cathedral Cave 65.10 59 P **P 23 33 46.3 -1.7**
baz=320
SFIN Lafayette 65.38 55 P **P 23 33 48.7 -1.1**
baz=321
SADO Sadowa 65.61 47 LR LR 00 03 11.0
comp=Z,94nm,21.7s,baz=339,slow=37
BRDY Brady 66.09 69 P **P 23 33 55.1 +0.5**
BRDY IAmb IAmb 23 34 06.2
comp=Z,3.2nm,0.7s
JCT Junction City 66.26 71 P **P 23 33 54.7 -1.0**
baz=320
LPSR Galich'ya Gora 66.37 330 *e*P **P 23 33 55.6 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
WHTX Lake Whitney, 66.41 68 P **P 23 33 55.6 -0.9**
baz=320
O48B Farmland 66.41 54 P **P 23 33 55.3 -1.2**
baz=322
MIAR Mount Ida 66.56 63 P **P 23 33 57.5 0.0**
MIAR IAmb IAmb 23 34 09.2
comp=Z,5.2nm,0.7s
MIAR Mount Ida 66.56 63 P **P 23 33 57.2 -0.3**
baz=320
MIAR Mount Ida 66.56 63 P **P 23 33 57.5 0.0**
MIAR pmax pmax
comp=Z,5.0nm,0.7s
P49A Miami Univ. Ec 67.19 54 P **P 23 34 00.6 -0.9**
baz=322
435B Jarrell 67.26 69 P **P 23 34 00.8 -1.2**
baz=320
ERPA Erie 67.35 49 P **P 23 34 01.0 -1.4**
baz=323
WCI Wyandotte Cave 67.44 56 P **P 23 34 02.2 -0.9**
baz=322
ACSO Alum Creek Sta 67.46 52 P **P 23 34 02.4 -0.8**
baz=322
VSR Storozhevoye 67.51 329 *e*P **P 23 34 02.3 -1.0**
VSR pmax pmax
comp=Z,3.0nm,0.6s
M53A WI Miller and 67.58 50 P **P 23 34 02.7 -1.2**
baz=323
MNK Minsk 67.59 337 *i* P **P 23 34 03.1 -0.6**
MNK *i* 23 36 29.8
MNK *i* PPP PPP 23 38 10.4
MNK *i* S **S 23 42 58.1 +0.4**
MNK *i* SS **SS 23 47 18.4 +0.8**
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,9.0nm,0.9s
MNK pmax pmax
comp=N,9.0nm,1.1s
LONY Lake Ozonia 67.66 44 P **P 23 34 03.2 -1.1**
baz=325
VORD Divnogorie 67.69 329 *e*P **P 23 34 03.9 -0.5**
VORD pmax pmax
comp=Z,3.0nm,0.6s
O52A Adamsville 68.09 52 P **P 23 34 07.4 +0.3**

NATX	Nacogdoches	68.11	66	P		P	23 34 06.5 -0.9
	baz=321						
833A	Chaparral WMA,	68.13	72	P		P	23 34 05.9 -1.6
	baz=320						
O53A	New Philadelph	68.28	51	P		P	23 34 07.4 -0.9
	baz=323						
WVT	Waverly	68.31	58	P		P	23 34 07.6 -1.0
	baz=322						
P52A	Corning	68.34	52	P		P	23 34 08.5 -0.2
	baz=323						
OXF	Oxford	68.77	60	P		P	23 34 11.2 -0.2
OXF	Oxford	68.77	60	P		P	23 34 11.1 -0.3
	baz=322						
OXF	Oxford	68.77	60	P		P	23 34 11.2 -0.2
OXF							
	comp=Z,16nm,0.8s			pmax	pmax		
BINY	Binghamton	69.04	47	P		P	23 34 12.2 -0.9
	baz=325						
LBNH	Lisbon	69.06	43	P		P	23 34 11.8 -1.3
	baz=326						
PKME	Peaks-Kenny Pk	69.24	40	P		P	23 34 13.5 -0.6
	baz=327						
MCWV	Mont Chateau	69.38	51	P		P	23 34 14.6 -0.6
	baz=324						
SSPA	Standing Stone	69.48	49	P		P	23 34 14.5 -1.2
	baz=324						
TZTN	Tazewell	70.11	55	P		P	23 34 18.7 -1.0
	baz=323						
L61B	Northampton	70.23	44	P		P	23 34 18.9 -1.4
	baz=326						
HRV	Adam Dziewonsk	70.65	43	P		P	23 34 21.8 -1.1
	baz=327						
TKL	Tuckaleechee C	70.71	56	LR		LR	00 06 32.6
	comp=Z,135nm,18.4s,baz=334,slow=37						
AKASG	Malin Array Be	70.76	335	P		P	23 34 23.1 -0.3
	comp=Z,1.3nm,0.5s,baz=27,slow=6.4,SNR=3.7						
	comp=Z,1.3nm,0.5s						
EKA	Eskdalemuir Ar	71.11	356	P		P	23 34 25.4 0.0
	comp=Z,2.3nm,0.9s,baz=11,slow=5.2,SNR=8.2						
	comp=Z,2.3nm,0.9s						
LRAL	Lakeview Retre	71.17	60	P		P	23 34 25.3 -0.9
	baz=323						
HRA	Herat	72.28	304	P		P	23 34 33.5 +0.4
BRAL	Brewton	72.62	61	P		P	23 34 33.5 -1.4
	baz=323						
KIV	Kislovodsk	72.67	323	*e*P		P	23 34 34.8 -0.3
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KBZ	Khabaz	72.79	323	P		P	23 34 36.4 +0.7
	comp=Z,2.5nm,0.8s,baz=71,slow=1.9,SNR=6.4						
	comp=Z,2.5nm,0.8s						
KBZ	Khabaz	72.79	323	*e*P		P	23 34 37.0 +1.3
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SHA1	Shidzhatmaz	72.87	323⇑	*e*P		P	23 34 42.8 +6.3
KWP	Kalwaria Pacla	73.30	338	P		P	23 34 40.1 +1.4
KWP	Kalwaria Pacla	73.30	338	P		P	23 34 40.1 +1.4
KWP				pmax	pmax		
	comp=Z,14nm,1.0s						
KWP	Kalwaria Pacla	73.30	338	P		P	23 34 41.0 +2.3
CLL	Collm	73.50	345	*e*P		P	23 34 42.0 +2.2
CLL				*ex*		x	23 35 02.0
CLL				*e*PS		PnS	23 44 42.0 +0.4
CLL				*e*SS		SS	23 48 48.0 -0.2
CLL				*e*(SSS)			23 51 42.0
CLL				*ex*		x	23 53 06.0
CLL				AMS		AMS	00 09 00.0
	comp=Z,100nm,19.7s						
CLL	Collm	73.50	345	*e*P		P	23 34 42.0 +2.2
KOLS	Kolonicke sedl	74.05	338	*e*P		P	23 34 49.6 +6.5
TIGA	Tifton	74.17	58	P		P	23 34 43.0 -1.1
	baz=324						
MORC	Moravsky Berou	74.21	342	*e*P		P	23 34 42.2 -1.8
NHSC	New Hope	74.52	55	P		P	23 34 44.6 -1.4
	baz=325						
BUR08	Bucovina Ar. S	74.59	336	P		P	23 34 46.2 -0.2
BURAR	Bucovina Array	74.62	336	P		P	23 34 46.5 0.0
BURAR	Bucovina Array	74.62	336	P		P	23 34 46.5 0.0
BURAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VRAC	Vranov	74.83	342	*e*P		P	23 34 45.7 -1.9
KRUC	Moravsky	75.11	342	*e*P		P	23 34 46.9 -2.3
VYHS	Vyhne	75.19	340	*e*P		P	23 34 56.9 +7.2
GNI	Garni	75.20	320⇑	*e*P		P	23 34 58.1 +8.0
GNI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
DZM	Mont Dzumac	75.58	183	*e*LR		LR	23 58 07.7
	comp=Z,199nm,25.7s						
GERES	GERESS Array B	75.78	344	P		P	23 34 53.2 0.0
GERES	GERESS Array B	75.78	344	P		P	23 34 53.7 +0.5
	comp=Z,1.1nm,0.8s,baz=24,slow=7.6,SNR=3.6						
	comp=Z,1.1nm,0.8s						
GERES	GERESS Array B	75.78	344	P		P	23 34 53.2 0.0
CONA	Conrad Observa	76.29	342	*e*pP		pP	23 35 01.9 -4.4
	comp=Z,2.9nm,1.1s						
RONA	Rosalia, Austr	76.44	342	*e*pP		pP	23 35 00.9 -6.2
	comp=Z,2.7nm,0.8s						
BIOA	Bad Ischl, Aus	76.91	344	*e*P		P	23 35 00.7 +1.2
	comp=Z,2.3nm,0.8s						
ARSA	Arzberg	77.01	342	*e*P		P	23 35 02.6 +2.5
	comp=Z,2.7nm,1.3s						
LESA	Schwarzleotal	77.33	344	*e*P		P	23 35 05.0 +3.1
	comp=Z,1.4nm,0.6s						
KBA	Koelnbreinsper	77.55	344	*e*P		P	23 35 05.7 +2.4
	comp=Z,5.8nm,0.9s						
KBA	Koelnbreinsper	77.55	344	P		P	23 35 06.4 +3.1
KBA				pmax	pmax		
	comp=Z,16nm,1.3s						
SOKA	Soboth	77.65	343	*e*P		P	23 35 04.7 +0.9
	comp=Z,3.5nm,1.1s						
SQTA	Sankt Quirin	77.75	345	*e*P		P	23 35 04.7 +0.3
	comp=Z,3.1nm,1.3s						
OBKA	Obir	77.90	343	*e*P		P	23 35 05.2 0.0
	comp=Z,5.7nm,0.9s						
DWPF	Disney Wildern	77.96	59	P		P	23 35 04.6 -1.1
	baz=325						
ABTA	Abfaltersbach	78.01	344	*e*P		P	23 35 04.8 -0.9
	comp=Z,5.4nm,1.7s						
FETA	Feichten	78.02	346	*e*P		P	23 35 06.3 +0.4
	comp=Z,2.7nm,1.1s						
PPT2	Papeete2	79.16	141	*e*LR		LR	23 59 39.1
	comp=Z,250nm,24.8s						
PPT2				*e*LR		LR	23 59 41.3
	comp=Z,224nm,25.5s						
BRTR	Keskin Array B	79.51	327	P		P	23 35 14.3 +0.1
BRTR	Keskin Array B	79.51	327	P		P	23 35 15.1 +0.9
	comp=Z,0.4nm,0.6s,baz=30,slow=4.0,SNR=3.1						
	comp=Z,0.4nm,0.6s						
BRTR	Keskin Array B	79.51	327	P		P	23 35 14.3 +0.1
WRA	Warramunga Arr	79.52	214	P		P	23 35 17.1 +3.0
	comp=Z,0.6nm,0.7s,baz=27,slow=6.4,SNR=2.7						
	comp=Z,0.6nm,0.7s						
ASAR	Alice Springs	83.13	213	P		P	23 35 36.5 +3.2
	comp=Z,0.8nm,0.6s,baz=19,slow=5.2,SNR=3.1						
	comp=Z,0.8nm,0.6s						
ASAR	Alice Springs	83.13	213	*e*P		P	23 35 40.9 +7.7
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PALK	Pallekele	83.66	274	LR		LR	00 18 00.8
	comp=Z,56nm,19.5s,baz=105,slow=39						
TBI	Tubuai	84.48	143	*e*LR		LR	00 02 01.6
	comp=Z,772nm,29.0s						
MMAI	Mount Meron Ar	84.98	323	P		P	23 35 43.7 +0.9
	comp=Z,0.8nm,0.5s,baz=42,slow=4.5,SNR=2.8						
	comp=Z,0.8nm,0.5s						
ESDC	Sonseca Array	86.77	355	P		P	23 35 51.7 +0.2
	comp=Z,0.3nm,0.5s,baz=356,slow=4.7,SNR=3.0						
	comp=Z,0.3nm,0.5s						
QSPA	South Pole Qui	143.52	180	PKhKP		PKPpre	23 42 38.1
	comp=Z,3.7nm,0.8s,baz=36,slow=1.6,SNR=5.1						
BOSA	Boshof	143.96	300	PKP		PKiKP	23 42 45.5 -0.7
	comp=Z,1.0nm,0.6s,baz=51,slow=5.2,SNR=3.7						

MOS ***10*** *23:27:59.5±0.8, 31°.69S×58°.33E, h10km, mb5.4/56, Error ellipse: s-maj=11.5km s-min=5.1km az=102.4*
IDC ***10*** *23:27:59.6±0.4, 31°.67S×58°.34E, h0km, mb4.9/25, mbtmp4.8/26, ML5.2/1, MS4.3/51, Error ellipse: s-maj=16.2km s-min=12.4km az=63.0*
NEIC ***10*** *23:28:01.4±2.0, 31°.65S±0°.06×58°.4E±0°.1, h10km±1km, mb5.2/119, Error ellipse: s-maj=15.7km s-min=9.9km az=113.0*
GCMT ***10*** *23:28:01.4±0.2, 31°.71S±0°.01×58°.08E±0°.02, h12km, MW5.2/125, Moment Tensor Solution. s64,c92; s125,c222; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=5.97±.11; Mθθ=6.00±.09; Mφφ=-0.02±.11; Mrθ=1.09±.30; Mrφ=-0.73±.10; Mθφ=3.73±.36; Best double couple: M0=7.00900×10^16 NP1:φ=252.00000°, δ=54.00000°, λ=-123.00000°. NP2:φ=120.00000°, δ=47.00000°, λ=-53.00000°. Principal axes: T 6.1290, Plg=4.0000°, Azm=4.0000°; N 1.7610, Plg=26.0000°, Azm=273.0000°; P -7.8890, Plg=64.0000°, Azm=102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 23:28:01.1±0.2, 31°.66S±0°.05×58°.25E±0°.06, h10km, n950, σ1§18/894, mb5.2/172, MS4.4/64, 83C-9D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.69	347	Pn	Pn	23 30 30.8	-3.7
RER	Riviere de l'E	10.69	347	P	Pn	23 30 31.6	-2.9
FOMA	Nahampoana Res	11.95	301	Pn	Pn	23 30 50.1	-1.5
FOMA	Nahampoana Res	11.95	301	P	Pn	23 30 52.9	+1.3
VOI	Vohitsoka	14.10	311	Pn	Pn	23 31 20.7	-0.4
VOI	Vohitsoka	14.10	311	P	Pn	23 31 21.3	+0.2
	SNR=5.1						
H04N2	CROZET ISLANDS	15.32	197	T	T	23 47 30.8	
	baz=22,slow=75,SNR=407						
H04N1	CROZET ISLANDS	15.32	197	T	T	23 47 31.3	
	baz=22,slow=75,SNR=334						
H04N3	CROZET ISLANDS	15.34	197	T	T	23 47 34.9	
	baz=22,slow=75,SNR=290						
ABPO	Ambohimpanom	16.04	319	Pn	Pn	23 31 46.7	-0.3
ABPO	Ambohimpanom	16.04	319	P	Pn	23 31 46.7	-0.3
ABPO				pmax	pmax		
	comp=Z,93nm,0.9s						
OPO	Ambohidratompo	16.42	320	Pn	Pn	23 31 51.3	-0.6
	comp=Z,0.8nm,0.3s,baz=150,slow=12,SNR=29						
OPO				Sn	Sn	23 34 43.7	-11
	comp=Z,0.4nm,0.3s,baz=24,slow=19,SNR=5.6						
OPO				LR	LR	23 36 41.1	
	comp=Z,1μm,18.2s,baz=12,slow=32						
	comp=Z,39nm,1.0s						
POGA	Pongola	23.47	274	P	P	23 33 10.1	-1.0
POGA				IAmb	IAmb	23 33 15.2	
	comp=Z,43nm,0.8s						
GRHM	Grahamstown, E	26.89	258	P	P	23 33 42.1	-0.2
H08S1	Diego Garcia H	27.33	32	T	T	00 01 59.8	
	baz=206,slow=76,SNR=139						
H08S2	Diego Garcia H	27.34	32	T	T	00 02 01.8	
	baz=206,slow=76,SNR=124						
H08S3	Diego Garcia H	27.35	32	T	T	00 02 02.5	
	baz=206,slow=76,SNR=145						
DGAR	Diego Garcia	27.52	32	P	P	23 33 46.1	-1.9
BOSA	Boshof	28.64	267	P	P	23 33 57.8	-0.3
BOSA				IAmb	IAmb	23 34 19.6	
	comp=Z,61nm,2.0s						
BOSA	Boshof	28.64	267	P	P	23 33 58.0	-0.1
	comp=Z,3.4nm,0.8s,baz=98,slow=8.7,SNR=9.4						
BOSA				LR	LR	23 44 01.3	
	comp=Z,313nm,18.5s,baz=112,slow=34						
	comp=Z,3.4nm,0.8s						
MATP	Matopo	28.89	286	LR	LR	23 44 24.3	
	comp=Z,253nm,20.5s,baz=80,slow=34						
LBTB	Lobatse	29.42	275	P	P	23 34 04.9	-0.2
LBTB	Lobatse	29.42	275	P	P	23 34 04.9	-0.2
LBTB				pmax	pmax		
	comp=Z,30nm,1.7s						
SUR	Sutherland	31.65	259	LR	LR	23 44 42.9	
	comp=Z,795nm,21.4s,baz=112,slow=32						
LSZ	Lusaka	31.89	294	P	P	23 34 26.7	-0.2
LSZ	Lusaka	31.89	294	P	P	23 34 27.6	+0.7
LSZ	Lusaka	31.89	294	P	P	23 34 26.7	-0.2
LSZ				pmax	pmax		
	comp=Z,15nm,1.0s						
KIBK	Kibwezi	34.83	323	P	P	23 34 52.7	+0.1
KIBK				IAmb	IAmb	23 34 55.7	
	comp=Z,58nm,1.4s						
KIBK	Kibwezi	34.83	323	P	P	23 34 54.2	+1.6
	SNR=5.5						
MAW	Mawson	36.08	177	P	P	23 35 02.7	+0.1
	comp=Z,16nm,0.9s,baz=356,slow=11,SNR=8.5						
MAW				LR	LR	23 45 47.3	
	comp=Z,994nm,21.9s,baz=344,slow=30						
	comp=Z,16nm,0.9s						
MAW	Mawson	36.08	177	P	P	23 34 59.3	-3.4
KMBO	Kilima Mbogo	36.27	323	P	P	23 35 06.0	+0.9
KMBO	Kilima Mbogo	36.27	323	*i* P	P	23 35 06.9	+1.7
	SNR=7.2						
KMBO	Kilima Mbogo	36.27	323	P	P	23 35 06.9	+1.7
KMBO				P	P	23 35 06.9	+1.7
KMBO	Kilima Mbogo	36.27	323	P	P	23 35 06.0	+0.9
KMBO				pmax	pmax		
	comp=Z,21nm,1.4s						
WIN	Windhoek	37.55	274	P	P	23 35 16.5	+0.6
WIN	Windhoek	37.55	274	P	P	23 35 16.5	+0.6
WIN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TSUM	Tsumeb	38.55	279	P	P	23 35 23.9	-0.4
TSUM	Tsumeb	38.55	279	LR	LR	23 50 07.2	
	comp=Z,564nm,18.7s,baz=146,slow=34						
MBAR	Mbarara	40.38	315	P	P	23 35 42.1	+2.4
MBAR	Mbarara	40.38	315	*i* P	P	23 35 41.4	+1.7
MBAR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
LODK	Lodwar	41.13	324	P	P	23 35 46.7	+1.0
LODK	Lodwar	41.13	324	P	P	23 35 48.3	+2.6
	SNR=12						
PALK	Pallekele	44.26	33	LR	LR	23 50 34.4	
	comp=Z,370nm,19.4s,baz=314,slow=31						
PALK	Pallekele	44.26	33	P	P	23 36 10.2	-0.9
ELIB	Princess Elisa	44.41	195	*d*P	P	23 36 12.0	+0.2
	comp=Z,13nm,1.2s						
ELIB				*d*PP	PP	23 37 55.8	+0.6
FURI	Furi	44.46	332	LR	LR	23 54 51.8	
	comp=Z,233nm,18.2s,baz=164,slow=36						
ATD	Arta Tunnel	45.41	339	P	P	23 36 21.4	+1.2
ATD				IAmb	IAmb	23 36 23.1	
	comp=Z,45nm,1.2s						
ATD	Arta Tunnel	45.41	339	LR	LR	23 51 59.8	
	comp=Z,40nm,21.2s,baz=158,slow=32						
H01W2	Cape Leeuwin H	46.32	110	T	T	00 25 40.3	
	baz=257,slow=75,SNR=155						
H01W3	Cape Leeuwin H	46.33	110	T	T	00 25 36.8	
	baz=257,slow=75,SNR=135						
H01W1	Cape Leeuwin H	46.34	110	T	T	00 25 37.7	
	baz=257,slow=75,SNR=159						
NVL	N'Iazarevskaya	46.56	199	*e*P	P	23 36 27.9	-0.7
NVL				*e*S	S	23 43 10.8	-6.1
NVL				pmax	pmax		
	comp=Z,36nm,1.1s						
ABTO	Aybut	48.96	354	P	P	23 36 47.9	0.0
DMTO	DMTO	49.19	356	P	P	23 36 49.3	-0.3
NWAO	Narrogin (SRO)	49.30	108	LR	LR	23 54 35.7	
	comp=Z,183nm,18.3s,baz=343,slow=32						
NWAO	Narrogin (SRO)	49.30	108	P	P	23 36 51.7	+1.3
SHAO	Shalim	49.46	357	P	P	23 36 52.2	+0.6
WHFO	Wadi Hawf	49.48	354	P	P	23 36 52.4	+0.6
WHFO				P	P	23 36 52.4	+0.6
TROLL	Troll, Antarti	49.78	200	⇑P	P	23 36 54.4	+0.7
	comp=Z,342nm,0.8s						
TROLL				⇑PcP	PcP	23 38 14.4	0.0
	comp=Z,230nm,0.8s						
DOK	Doka	50.15	355	P	P	23 36 57.1	+0.3
DOK				P	P	23 36 57.1	+0.3
SNAA	Sanae	51.25	201	P	P	23 37 04.1	-0.6
SNAA				IAmb	IAmb	23 37 06.2	
	comp=Z,26nm,1.0s						
SNAA	Sanae	51.25	201	⇑P	P	23 37 04.9	+0.2
	comp=Z,387nm,0.9s						
SNAA	Sanae	51.25	201	P	P	23 37 04.4	-0.3
	comp=Z,17nm,0.9s,baz=79,slow=6.7,SNR=49						
SNAA				LR	LR	23 53 54.1	
	comp=Z,680nm,21.4s,baz=102,slow=30						
	comp=Z,17nm,0.9s						
SNAA	Sanae	51.25	201	*c*eP	P	23 37 03.2	-1.5
SNAA				pmax	pmax		
	comp=Z,25nm,0.8s						
MHTO	MHTO	52.35	360	P	P	23 37 13.2	-0.1
MHTO				P	P	23 37 13.2	-0.1
MEEK	Meekatharra	52.38	101	P	P	23 37 13.7	-0.1
	comp=Z,30nm,1.1s						
VNA2	Neumayer--Watz	52.49	202	⇑P	P	23 37 14.8	+1.0
	comp=Z,21nm,0.8s,baz=87,slow=6.2						
VNA2				⇑PcP	PcP	23 38 24.8	+0.5
	comp=Z,7.6nm,0.8s,baz=86,slow=5.8						
HYB	Hyderabad	52.54	25	*e*P	P	23 37 14.6	-0.3
VNA1	Neumayer--Stat	52.72	203	⇑P	P	23 37 16.5	+1.0
	comp=Z,13nm,1.1s						
VNA3	Neumayer Olymp	53.28	202	⇑P	P	23 37 19.9	+0.2
	comp=Z,25nm,0.8s						
VNA3				⇑PcP	PcP	23 38 27.7	+0.4
	comp=Z,8.2nm,0.8s						
JLN	Jalan Bani Buh	53.52	1	P	P	23 37 22.3	+0.4
KMBL	Kambalda	53.52	108	P	P	23 37 22.0	-0.1
	comp=Z,27nm,1.4s						
JMDO	Jabal Madar	53.72	360	P	P	23 37 24.3	+0.8
WBK	Wadi Bani Khal	53.97	1	P	P	23 37 25.8	+0.6
BSY	Bisya	54.10	359	P	P	23 37 26.4	+0.2
BSY				P	P	23 37 26.4	+0.2
SMDO	Samad	54.41	360	P	P	23 37 28.8	+0.2
SMDO				P	P	23 37 28.8	+0.2
MZR	Muzera	54.54	355	*i* P	P	23 37 29.8	+0.3
	SNR=19						
MZR	Muzera	54.54	355	P	P	23 37 29.9	+0.5
	SNR=5.1						
MZR				P	P	23 37 29.9	+0.5
	SNR=5.1						
WSAR	Wadi Sarin	54.59	0	LR	LR	23 55 16.1	
	comp=Z,492nm,20.8s,baz=202,slow=30						
ARQ	Araqi	54.71	358	P	P	23 37 30.9	+0.3
ARQ				P	P	23 37 30.9	+0.3
BIDO	Bidbid	54.87	360	P	P	23 37 32.6	+0.9
	SNR=7.4						
BIDO				P	P	23 37 32.6	+0.9
	SNR=7.4						
HOQ	Hoqain	54.94	359	P	P	23 37 32.3	0.0
HOQ				P	P	23 37 32.3	0.0
PWJI	Pagerwojo	54.96	77	P	P	23 37 36.0	+3.3
MZWR	Madinat Zayed	55.27	355	P	P	23 37 35.6	+1.0
MZWR				P	P	23 37 35.6	+1.0
MBWA	Marble Bar	55.43	95	P	P	23 37 35.1	-1.0
MBWA				IAmb	IAmb	23 37 36.9	
	comp=Z,28nm,1.0s						
MBWA	Marble Bar	55.43	95	P	P	23 37 36.2	+0.2
MBWA				P	P	23 37 36.2	+0.2
MBWA	Marble Bar	55.43	95	P	P	23 37 36.0	-0.1
	comp=Z,36nm,1.5s						
ALNE	Al Ain	55.45	357	*i* P	P	23 37 36.3	+0.3
	SNR=8.0						
ALNE	Al Ain	55.45	357	P	P	23 37 36.7	+0.7
SOHO	SOHO	55.50	358	*i* P	P	23 37 35.3	-1.0
	SNR=9.2						
SOHO	SOHO	55.50	358	P	P	23 37 36.6	+0.3
SOHO				P	P	23 37 36.6	+0.3
GHWR	Ruwais	55.55	354	P	P	23 37 37.7	+1.1
GHWR				P	P	23 37 37.7	+1.1
SLWR	Sila	55.77	353	P	P	23 37 39.1	+0.9
SLWR				P	P	23 37 39.1	+0.9
AJN	Ajban	55.99	356	P	P	23 37 40.5	+0.7
AJN				P	P	23 37 40.5	+0.7
ASUD	Al Ashush, Dub	56.04	357	*i* P	P	23 37 40.4	+0.3
	SNR=8.3						
ASUD	Al Ashush, Dub	56.04	357	P	P	23 37 40.6	+0.5
ASUD				P	P	23 37 40.6	+0.5
ASHO	Ashiyiah	56.06	358	*i* P	P	23 37 39.7	-0.7
	SNR=17						
ASHO	Ashiyiah	56.06	358	P	P	23 37 40.9	+0.5
	SNR=7.4						
ASHO				P	P	23 37 40.9	+0.5
	SNR=7.4						
FAQ	Al Faqa, Dubai	56.14	357	*i* P	P	23 37 40.7	-0.2
	SNR=7.4						
FAQ	Al Faqa, Dubai	56.14	357	P	P	23 37 41.6	+0.7
HATD	Hatta, Dubai	56.20	358	*i* P	P	23 37 41.1	-0.2
	SNR=8.2						
HATD	Hatta, Dubai	56.20	358	P	P	23 37 41.9	+0.5
HATD				P	P	23 37 41.9	+0.5
RAYN	Ar Rayn	56.21	346	P	P	23 37 42.0	+0.6
RAYN				IAmb	IAmb	23 37 43.7	
	comp=Z,30nm,1.0s						
RAYN	Ar Rayn	56.21	346	*i* P	P	23 37 41.9	+0.5
	SNR=14						
RAYN	Ar Rayn	56.21	346	P	P	23 37 42.4	+1.0
RAYN	Ar Rayn	56.21	346	P	P	23 37 42.1	+0.6
RAYN				pmax	pmax		
	comp=Z,30nm,1.0s						
UOSS	Minazif	56.32	358	P	P	23 37 42.1	-0.1
UOSS				P	P	23 37 42.1	-0.1
NAZ	Nazwa, Dubai	56.38	357	*i* P	P	23 37 42.8	+0.1
	SNR=8.5						
NAZ	Nazwa, Dubai	56.38	357	P	P	23 37 43.4	+0.8
	SNR=7.9						
TRNA	Turayna	56.48	352	P	P	23 37 43.0	-0.3
JRN	Qarnain Island	56.52	354	P	P	23 37 44.2	+0.6
SMRA	Abu-Samra	56.53	352	P	P	23 37 44.6	+0.9
MDH	Madha	56.67	358	P	P	23 37 43.6	-1.1
MDH	Madha	56.67	358	P	P	23 37 44.0	-0.7
MDH				P	P	23 37 44.0	-0.7
MSFE	Esma-Masafi	56.73	358	*i* P	P	23 37 45.0	-0.2
	SNR=16						
MASF	Masafi	56.74	358	P	P	23 37 45.4	+0.2
	SNR=5.6						
MASF				P	P	23 37 45.4	+0.2
	SNR=5.6						
SHME	Shamm	57.42	358	P	P	23 37 49.3	-0.7
SHME				P	P	23 37 49.3	-0.7
SHMA	Al-Shehemyia	57.62	352	P	P	23 37 51.9	+0.5
QSPA	South Pole Qui	58.51	180	P	P	23 37 56.5	-0.9
QSPA	South Pole Qui	58.51	180	P	P	23 37 57.3	-0.1
	comp=Z,32nm,0.7s,baz=269,slow=1.2,SNR=243						
QSPA				LR	LR	23 59 53.5	
	comp=Z,669nm,21.4s,baz=272,slow=33						
	comp=Z,32nm,0.7s						
FORT	Forrest	58.72	109	P	P	23 37 59.9	+0.6
	comp=Z,23nm,1.0s						
BELA	Belgrano 2	59.90	194	P	P	23 38 07.3	+0.6
BELA				IAmb	IAmb	23 39 53.4	
	comp=Z,14nm,0.9s						
WRKA	Warakurna	61.07	103	P	P	23 38 16.0	+0.4
	comp=Z,57nm,1.1s						
KBD	Kabd	61.33	349	P	P	23 38 18.0	+1.1
FITZ	Fitzroy Crossi	61.77	95	P	P	23 38 18.7	-1.6
FITZ	Fitzroy Crossi	61.77	95	P	P	23 38 20.5	+0.3
VNDA	Vanda	62.21	166	P	P	23 38 21.9	-0.5
VNDA				IAmb	IAmb	23 38 24.2	
	comp=Z,23nm,1.1s						
VNDA	Vanda	62.21	166	P	P	23 38 21.9	-0.5
	comp=Z,11nm,0.9s,baz=262,slow=8.0,SNR=39						
VNDA				LR	LR	00 02 19.7	
	comp=Z,432nm,21.9s,baz=248,slow=33						
	comp=Z,11nm,0.9s						
SBA	Scott Base	63.06	167	P	P	23 38 28.9	+0.9
SBA				IAmb	IAmb	23 38 30.3	
	comp=Z,30nm,1.3s						
SBA	Scott Base	63.06	167

NIL	**Nilore**	**66.48**	**14**	P	**P**	**23 38 49.3**	**-1.6**
NIL				pmax	pmax			
	comp=Z,12nm,0.8s							
KBL	**Kabul**	**66.63**	**10**	P	**P**	**23 38 52.1**	**+0.1**
KBL				IAmb	IAmb	23 38 54.0		
	comp=Z,19nm,0.8s							
KBL	**Kabul**	**66.63**	**10**	P	**P**	**23 38 53.1**	**+1.1**
	SNR=12							
KBL				P	**P**	**23 38 53.1**	**+1.1**
	SNR=12							
KBL	**Kabul**	**66.63**	**10**	P	**P**	**23 38 52.1**	**+0.1**
KBL				pmax	pmax			
	comp=Z,19nm,0.9s							
TOLI2	**Tolitoli**	**67.47**	**74**	P	**P**	**23 38 56.9**	**-0.7**
MMAI	**Mount Meron Ar**	**67.85**	**339**	P	**P**	**23 39 00.3**	**+0.7**
	comp=Z,5.7nm,0.5s,baz=139,slow=7.7,SNR=16							
MMAI				LR	LR	00 06 44.3		
	comp=Z,145nm,18.1s,baz=116,slow=34							
	comp=Z,5.7nm,0.5s							
WRA	**Warramunga Arr**	**68.29**	**101**	P	**P**	**23 39 01.9**	**-0.8**
WRA	**Warramunga Arr**	**68.29**	**101**	P	**P**	**23 39 02.4**	**-0.4**
	comp=Z,26nm,0.8s,baz=242,slow=5.6,SNR=93							
	comp=Z,26nm,0.8s							
WRAB	**Tennant Creek**	**68.30**	**101**	*i* P	**P**	**23 39 02.3**	**-0.5**
WRAB				pmax	pmax			
	comp=Z,22nm,0.8s							
WR0	**Warramunga Arr**	**68.45**	**101**	P	**P**	**23 39 03.0**	**-0.8**
WR0				IAmb	IAmb	23 39 04.6		
	comp=Z,26nm,0.9s							
STKA	**Stephens Creek**	**68.99**	**115**	P	**P**	**23 39 05.8**	**-1.2**
STKA	**Stephens Creek**	**68.99**	**115**	P	**P**	**23 39 06.8**	**-0.1**
	comp=Z,25nm,1.1s,baz=246,slow=3.8,SNR=20							
STKA				LR	LR	00 02 57.1		
	comp=Z,133nm,20.6s,baz=216,slow=30							
	comp=Z,25nm,1.1s							
STKA	**Stephens Creek**	**68.99**	**115**	P	**P**	**23 39 07.2**	**+0.3**
	comp=Z,7.5nm,1.1s							
TORD	**Torodi Ar. Bea**	**70.14**	**300**	P	**P**	**23 39 14.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**70.14**	**300**	P	**P**	**23 39 14.5**	**+0.4**
	comp=Z,7.0nm,0.8s,baz=113,slow=6.2,SNR=22							
TORD				PP	**PP**	**23 41 42.9**	**-6.6**
	comp=Z,1.4nm,0.7s,baz=119,slow=9.3,SNR=4.3							
TORD				LR	LR	00 10 40.0		
	comp=Z,486nm,18.1s,baz=128,slow=36							
	comp=Z,7.0nm,0.8s							
CSS	**Mathiatis**	**70.29**	**338**	P	**P**	**23 39 14.2**	**-0.5**
CSS				IAmb	IAmb	23 39 31.4		
	comp=Z,36nm,1.2s							
SIMJ	**Simiganj**	**70.67**	**9**	P	**P**	**23 39 17.3**	**+0.3**
KMI	**Kunming**	**70.68**	**42**	⇑P	**P**	**23 39 19.2**	**+1.7**
KMI				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KIC	**Kosan Boka**	**70.89**	**290**	⇑*e*P	**P**	**23 39 20.0**	**+1.2**
	comp=Z,12nm,0.7s							
LIC	**Lamto**	**71.04**	**290**	⇑*e*P	**P**	**23 39 20.8**	**+1.1**
	comp=Z,16nm,0.7s							
DBIC	**Dimbokro**	**71.16**	**291**	IAmb	IAmb	23 39 24.9		
	comp=Z,22nm,1.0s							
DBIC	**Dimbokro**	**71.16**	**291**	P	**P**	**23 39 21.6**	**+1.1**
	comp=Z,13nm,0.9s,baz=118,slow=8.6,SNR=8.7							
DBIC				LR	LR	00 07 26.9		
	comp=Z,143nm,21.6s,baz=139,slow=33							
	comp=Z,13nm,0.9s							
PZH	**PanZhiHua**	**71.18**	**41**	P	**P**	**23 39 19.6**	**-0.8**
PZH				pmax	pmax			
	comp=Z,20nm,1.0s							
PZH				pmax	pmax			
	comp=Z,220nm,5.5s							
GAR	**Garm**	**71.19**	**10**	IAmb	IAmb	23 39 31.6		
	comp=Z,42nm,1.4s							
GAZ	**Gaziantep**	**71.25**	**342**	IAmb	IAmb	23 39 22.9		
	comp=Z,32nm,1.0s							
TIC	**Toumodi**	**71.28**	**290**	⇑*e*P	**P**	**23 39 22.4**	**+1.2**
	comp=Z,9.8nm,0.7s							
GURO	**Guroymak-BITLI**	**71.47**	**347**	P	**P**	**23 39 22.8**	**+0.9**
GURO				IAmb	IAmb	23 39 24.9		
	comp=Z,18nm,1.2s							
DRK	**Karamyk**	**71.89**	**11**	P	**P**	**23 39 23.8**	**-0.8**
DRK	**Karamyk**	**71.89**	**11**	P	**P**	**23 39 23.8**	**-0.8**
DRK				pmax	pmax			
	comp=Z,38nm,0.4s							
CMSA	**Cobar Meteorol**	**72.28**	**116**	P	**P**	**23 39 27.8**	**+0.8**
	comp=Z,37nm,1.4s							
BTK	**Batken**	**72.30**	**10**	IAmb	IAmb	23 39 31.0		
	comp=Z,22nm,1.0s							
BTK	**Batken**	**72.30**	**10**	P	**P**	**23 39 27.5**	**+0.7**
QIS	**Mount Isa**	**72.40**	**104**	P	**P**	**23 39 27.9**	**0.0**
	comp=Z,32nm,1.1s							
GNI	**Garni**	**72.54**	**349**	P	**P**	**23 39 28.6**	**+0.4**
GNI	**Garni**	**72.54**	**349**	P	**P**	**23 39 29.9**	**+1.6**
GNI	**Garni**	**72.54**	**349**	P	**P**	**23 39 30.1**	**+1.9**
GNI				P	**P**	**23 39 30.1**	**+1.9**
GNI	**Garni**	**72.54**	**349**	*ce*P	**P**	**23 39 29.5**	**+1.2**
GNI				pmax	pmax			
	comp=Z,51nm,1.2s							
GNI	**Garni**	**72.54**	**349**	P	**P**	**23 39 29.7**	**+1.4**
	comp=Z,44nm,1.5s,comp=Z,564nm							
SMAI	**San Martin Ant**	**72.58**	**199**	P	**P**	**23 39 28.5**	**+0.4**
KSH	**Kashi**	**72.70**	**14**	P	**P**	**23 39 26.4**	**-2.9**
KSH				sP	pwP	23 39 36.1	-1.8
KSH				PcP	**PcP**	**23 39 42.6**	**-4.0**
KSH				pmax	pmax			
	comp=Z,31nm,0.9s							
KSH				LR	LR			
	comp=Z,380nm,17.5s							
KSH				LR	LR			
	comp=Z,560nm,19.6s							
ARPR	**Arapgir-MALATY**	**72.79**	**344**	IAmb	IAmb	23 39 34.9		
	comp=Z,46nm,1.3s							
KARP	**Karpathos**	**72.95**	**334**	P	**P**	**23 39 31.9**	**+1.2**
	comp=Z,134nm,1.0s							
CAN	**Canberra**	**73.05**	**121**	P	**P**	**23 39 31.6**	**0.0**
YNG	**Young**	**73.07**	**120**	P	**P**	**23 39 31.7**	**0.0**
	comp=Z,90nm,0.9s							
QLP	**Quilpie**	**73.39**	**111**	P	**P**	**23 39 33.6**	**0.0**
	comp=Z,0.0nmcomp=Z,55nm,1.0s							
IDI	**Anoyia**	**73.60**	**332**	LR	LR	00 13 02.9		
	comp=Z,119nm,19.0s,baz=122,slow=37							
PMSA	**Palmer Station**	**73.94**	**202**	LR	LR	00 04 53.8		
	comp=Z,383nm,19.9s,baz=86,slow=30							
GYA	**Guiyang**	**73.98**	**44**	⇓P	**P**	**23 39 39.0**	**+1.9**
GYA				pmax	pmax			
	comp=Z,14nm,1.1s							
TAM	**Tamanrasset**	**74.01**	**310**	P	**P**	**23 39 37.8**	**+0.4**
TAM	**Tamanrasset**	**74.01**	**310**	P	**P**	**23 39 37.8**	**+0.4**
TAM				pmax	pmax			
	comp=Z,9.0nm,1.3s							
IUG	**Iuzhnay**	**74.24**	**9**	*e*P	**P**	**23 39 38.2**	**-0.1**
	comp=Z,28nm,1.1s,baz=9.0							
IUG	**Iuzhnay**	**74.24**	**9**	*e*P	**P**	**23 39 38.1**	**-0.1**
IUG				pmax	pmax			
	comp=Z,28nm,1.1s							
SANT	**Santorini**	**74.32**	**333**	⇑P	**P**	**23 39 38.8**	**0.0**
THR6	**Thira Island,**	**74.33**	**333**	P	**P**	**23 39 39.8**	**+1.1**
BCA	**Borcka**	**74.34**	**347**	⇑P	**P**	**23 39 39.0**	**+0.3**
THR9	**Santorini-Faro**	**74.35**	**333**	P	**P**	**23 39 39.9**	**+1.1**
THR3	**Thira Island,**	**74.38**	**333**	P	**P**	**23 39 39.9**	**+0.9**
THR5	**Thira Island,**	**74.41**	**333**	P	**P**	**23 39 40.1**	**+0.9**
BR131	**Keskin Array S**	**74.61**	**341**	*i* P	**P**	**23 39 40.1**	**-0.4**
BRTR	**Keskin Array B**	**74.61**	**341**	P	**P**	**23 39 39.9**	**-0.6**
BRTR	**Keskin Array B**	**74.61**	**341**	P	**P**	**23 39 40.4**	**-0.1**
	comp=Z,8.0nm,0.8s,baz=166,slow=7.9,SNR=50							
BRTR				LR	LR	00 08 46.8		
	comp=Z,117nm,21.5s,baz=130,slow=33							
	comp=Z,8.0nm,0.8s							
DAV	**Davao City (W)**	**74.79**	**72**	LR	LR	00 07 35.8		
	comp=Z,72nm,20.0s,baz=264,slow=32							
APE	**Apeiranthos**	**74.91**	**333**	⇑P	**P**	**23 39 42.7**	**+0.5**
APE	**Apeiranthos**	**74.91**	**333**	*i* P	**P**	**23 39 43.1**	**+1.0**
APE				pmax	pmax			
	comp=Z,41nm,0.9s							
MAK	**Makhachkala**	**74.91**	**352**	*c i* P	**P**	**23 39 38.9**	**-3.0**
MAK				*e*S	**S**	**23 49 15.0**	**-4.0**
MAK				pmax	pmax			
	comp=Z,116nm,1.2s							
MAK				MLR	MLR			
	comp=Z,252nm,13.0s							
ANTO	**Ankara**	**74.98**	**340**	P	**P**	**23 39 42.5**	**-0.1**
ANTO				IAmb	IAmb	23 39 44.3		
	comp=Z,22nm,1.1s							
ANTO	**Ankara**	**74.98**	**340**	P	**P**	**23 39 43.5**	**+0.9**
ANTO	**Ankara**	**74.98**	**340**	P	**P**	**23 39 42.5**	**-0.1**
ANTO				pmax	pmax			
	comp=Z,22nm,1.1s							
ANTO	**Ankara**	**74.98**	**340**	P	**P**	**23 39 42.9**	**+0.4**
	comp=Z,10nm,1.2s							
UCH	**Uchtor**	**75.03**	**12**	P	**P**	**23 39 44.7**	**+1.5**
	SNR=9.2							
BRLS	**Borolday**	**75.08**	**9**	*e*P	**P**	**23 39 41.2**	**-1.9**
	baz=8.6							
BRLS	**Borolday**	**75.08**	**9**	*e*P	**P**	**23 39 41.1**	**-1.9**
SWI	**Sorong**	**75.11**	**82**	P	**P**	**23 39 45.4**	**+1.6**
ONI	**Oni**	**75.13**	**349**	IAmb	IAmb	23 39 47.4		
	comp=Z,18nm,1.1s							
KKAR	**Karatay Array**	**75.24**	**9**	P	**P**	**23 39 44.4**	**+0.5**
KKAR	**Karatay Array**	**75.24**	**9**	P	**P**	**23 39 44.4**	**+0.5**
EKS2	**Erkin-Say**	**75.32**	**12**	P	**P**	**23 39 45.9**	**+1.4**
	SNR=18							
AAK	**Ala-Archa**	**75.42**	**12**	P	**P**	**23 39 47.1**	**+1.9**
	SNR=6.5							
AAK	**Ala-Archa**	**75.42**	**12**	P	**P**	**23 39 45.5**	**+0.3**
AAK				IAmb	IAmb	23 39 47.8		
	comp=Z,32nm,1.2s							
AAK	**Ala-Archa**	**75.42**	**12**	*i* P	**P**	**23 39 45.3**	**+0.2**
	SNR=6.3							
AAK	**Ala-Archa**	**75.42**	**12**	LR	LR	00 09 45.1		
	comp=Z,385nm,21.9s,baz=211,slow=33							
AAK	**Ala-Archa**	**75.42**	**12**	P	**P**	**23 39 46.9**	**+1.8**
AAK				P	**P**	**23 39 46.9**	**+1.8**
AAK	**Ala-Archa**	**75.42**	**12**	*ce*P	**P**	**23 39 45.9**	**+0.8**
AAK				pmax	pmax			
	comp=Z,29nm,1.2s							
KBK	**Karagaybulak**	**75.53**	**13**	P	**P**	**23 39 47.0**	**+1.2**
	SNR=8.6							
FRU1	**Bishkek**	**75.62**	**12**	IAmb	IAmb	23 39 56.0		
	comp=Z,20nm,0.9s							
GOMU	**GeErMu**	**75.71**	**30**	P	**P**	**23 39 48.8**	**+1.6**
GOMU				S	**S**	**23 49 25.8**	**-3.2**
GOMU				LR	LR			
	comp=Z,540nm,20.4s							
GOMU				LR	LR			
	comp=Z,440nm,20.4s							
GOMU				LR	LR			
	comp=Z,830nm,19.7s							
TKM2	**Tokmak 2**	**75.91**	**13**	P	**P**	**23 39 49.2**	**+1.2**
	SNR=8.5							
NCK	**Nalchik**	**75.99**	**349**	*i* P	**P**	**23 39 48.8**	**+0.7**
NCK				pmax	pmax			
	comp=Z,19nm,1.0s							
USP	**Ospenovka**	**76.04**	**12**	P	**P**	**23 39 49.1**	**+0.6**
	SNR=16							
SGDS	**Sogindy**	**76.24**	**12**	*e*P	**P**	**23 39 49.6**	**0.0**
	baz=12							
SGDS	**Sogindy**	**76.24**	**12**	*e*P	**P**	**23 39 49.6**	**0.0**
VLY	**Voula,Athens**	**76.26**	**333**	P	**P**	**23 39 50.3**	**+0.5**
TNSS	**Tian-Shan**	**76.29**	**14**	*e*P	**P**	**23 39 50.4**	**0.0**
	baz=14							
TNSS	**Tian-Shan**	**76.29**	**14**	*e*P	**P**	**23 39 50.3**	**0.0**
KBZ	**Khabaz**	**76.33**	**349**	P	**P**	**23 39 51.0**	**+1.0**
	comp=Z,6.5nm,0.9s,baz=174,slow=3.7,SNR=16							
KBZ				LR	LR	00 11 28.0		
	comp=Z,183nm,21.0s,baz=174,slow=34							
	comp=Z,6.5nm,0.9s							
KBZ	**Khabaz**	**76.33**	**349**	*ce*P	**P**	**23 39 50.8**	**+0.8**
KBZ				pmax	pmax			
	comp=Z,19nm,1.3s							
SHA1	**Shidzhatmaz**	**76.38**	**348**	*ce*P	**P**	**23 39 51.9**	**+1.3**
DION	**Dionisos Attik**	**76.41**	**333**	P	**P**	**23 39 52.1**	**+1.4**
PTL	**Penteli**	**76.41**	**333**	P	**P**	**23 39 51.1**	**+0.4**
MDOK	**Medeo**	**76.43**	**14**	*e*P	**P**	**23 39 51.0**	**+0.1**
	baz=14							
MDOK	**Medeo**	**76.43**	**14**	*e*P	**P**	**23 39 50.9**	**+0.1**
KIV	**Kislovodsk**	**76.58**	**349**	⇓P	**P**	**23 39 51.6**	**0.0**
KIV	**Kislovodsk**	**76.58**	**349**	P	**P**	**23 39 51.7**	**+0.1**
KIV				IAmb	IAmb	23 39 55.4		
	comp=Z,27nm,0.8s							
KIV	**Kislovodsk**	**76.58**	**349**	*i* P	**P**	**23 39 51.9**	**+0.3**
	SNR=13							
KIV	**Kislovodsk**	**76.58**	**349**	P	**P**	**23 39 52.7**	**+1.0**
KIV				P	**P**	**23 39 52.7**	**+1.0**
KIV	**Kislovodsk**	**76.58**	**349**	*e*P	**P**	**23 39 51.9**	**+0.3**
KIV				*e*S	**S**	**23 49 39.9**	**+2.2**
KIV				*e*SS	**SS**	**23 54 36.7**	**+2.9**
KIV				pmax	pmax			
	comp=Z,26nm,1.0s							
KIV				MLR	MLR			
	comp=Z,198nm,18.0s							
KIV	**Kislovodsk**	**76.58**	**349**	P	**P**	**23 39 52.2**	**+0.6**
VSLR	**Vesyoloye**	**76.60**	**346**	*i* P	**P**	**23 39 52.3**	**+0.7**
VSLR				pmax	pmax			
	comp=Z,50nm,1.1s							
SATY	**Saty**	**76.62**	**15**	*e*P	**P**	**23 39 52.1**	**+0.2**
	comp=Z,17nm,1.4s,baz=15							
SATY	**Saty**	**76.62**	**15**	*e*P	**P**	**23 39 52.1**	**+0.2**
SATY				pmax	pmax			
	comp=Z,17nm,1.4s							
SOC	**Sochi**	**76.78**	**346**	*e*P	**P**	**23 39 48.7**	**-3.9**
SOC				*e*		23 42 44.2		
SOC				*e*PPP	PPP	23 44 30.0		
SOC				*e*S	**S**	**23 49 34.8**	**-4.8**
SOC				*e*SSS	SSS	23 58 01.0		
SOC				MLR	MLR			
	comp=Z,142nm,17.0s							
UZB	**Uzynbulak**	**76.84**	**15**	*e*P	**P**	**23 39 53.4**	**+0.1**
	comp=Z,17nm,1.0s,baz=15							
UZB	**Uzynbulak**	**76.84**	**15**	*e*P	**P**	**23 39 53.3**	**+0.1**
UZB				pmax	pmax			
	comp=Z,17nm,1.0s							
SHLS	**Shalkode**	**76.95**	**16**	*e*P	**P**	**23 39 54.8**	**+1.0**
	comp=Z,26nm,1.3s,baz=16							
SHLS	**Shalkode**	**76.95**	**16**	*e*P	**P**	**23 39 54.8**	**+1.0**
SHLS				pmax	pmax			
	comp=Z,26nm,1.3s							
KPKS	**Kokpek**	**77.07**	**15**	*e*P	**P**	**23 39 54.4**	**0.0**
	comp=Z,11nm,0.9s,baz=15							
KPKS				*e*S	**S**	**23 49 44.4**	**+1.3**
	baz=15							
KPKS	**Kokpek**	**77.07**	**15**	*e*P	**P**	**23 39 54.4**	**0.0**
KPKS				*e*S	**S**	**23 49 44.3**	**+1.2**
KPKS				pmax	pmax			
	comp=Z,11nm,0.9s							
ARMA	**Armidale**	**77.31**	**118**	IAmb	IAmb	23 40 00.2		
	comp=Z,32nm,1.2s							
ARMA	**Armidale**	**77.31**	**118**	P	**P**	**23 39 57.3**	**+1.0**
	comp=Z,26nm,1.4s							
AOS	**Alonnisos**	**77.37**	**333**	P	**P**	**23 39 56.0**	**-0.1**
MTSU	**Mount Surprise**	**77.45**	**104**	P	**P**	**23 39 57.7**	**+0.5**
	comp=Z,12nm,0.9s							
ARXS	**Arharly**	**77.60**	**14**	*e*P	**P**	**23 39 56.7**	**-0.6**
GOF	**Gofitskoye**	**77.60**	**349**	*ce*P	**P**	**23 39 57.3**	**+0.1**
LABN	**Labinsk**	**77.60**	**347**	*e*P	**P**	**23 39 54.7**	**-2.5**
LABN				*e**PP	**pP**	**23 39 58.6**	**-0.5**
LABN				*e*S	**S**	**23 49 46.9**	**-1.7**
LABN				pmax	pmax			
	comp=Z,50nm,1.5s							
BTLS	**Baital**	**77.68**	**11**	*e*P	**P**	**23 39 57.7**	**0.0**
	baz=11							
BTLS				*e*S	**S**	**23 49 50.7**	**+1.3**
	baz=11							
BTLS	**Baital**	**77.68**	**11**	*e*P	**P**	**23 39 57.6**	**0.0**
BTLS				*e*S	**S**	**23 49 50.7**	**+1.3**
NEO	**Neokhori**	**77.75**	**333**	P	**P**	**23 39 58.1**	**-0.1**
AGG	**Agios Georgios**	**77.85**	**332**	P	**P**	**23 39 58.1**	**-0.7**
AGG				IAmb	IAmb	23 40 00.2		
	comp=Z,29nm,1.0s							
AGG	**Agios Georgios**	**77.85**	**332**	P	**P**	**23 39 59.0**	**+0.2**
AGG	**Agios Georgios**	**77.85**	**332**	P	**P**	**23 39 58.1**	**-0.7**
AGG				pmax	pmax			
	comp=Z,29nm,1.0s							
EVR	**Evrytania**	**77.97**	**332**	P	**P**	**23 40 01.4**	**+1.9**
ALN	**Alexandroupoli**	**78.09**	**336**	IAmb	IAmb	23 40 01.4		
	comp=Z,13nm,0.8s							
ALN	**Alexandroupoli**	**78.09**	**336**	P	**P**	**23 40 00.1**	**+0.1**
CTA	**Charters Tower**	**78.10**	**106**	LR	LR	00 12 07.4		
	comp=Z,8.8nm,18.2s,baz=265,slow=34							
PAIG	**Paliouri**	**78.11**	**334**	P	**P**	**23 40 00.2**	**+0.1**
ANN	**Anapa**	**78.42**	**345**	*e*P	**P**	**23 39 59.2**	**-2.5**
ANN				*e**PP	**pP**	**23 40 02.5**	**-1.1**
ANN				*e*S	**S**	**23 49 55.5**	**-1.9**
ANN				pmax	pmax			
	comp=Z,37nm,0.9s							
THL	**Klokotos Trika**	**78.44**	**332**	P	**P**	**23 40 02.4**	**+0.4**
TYRN	**Tyrnavos**	**78.48**	**332**	P	**P**	**23 40 02.6**	**+0.4**
ERBR	**Yeremizino-Bor**	**78.68**	**347**	*e*P	**P**	**23 40 00.3**	**-2.9**
ERBR				*e**PP	**pP**	**23 40 03.6**	**-1.4**
ERBR				*e*S	**S**	**23 49 57.8**	**-2.3**
ERBR				pmax	pmax			
	comp=Z,64nm,1.0s							
EDRB	**Edirne**	**78.69**	**337**	P	**P**	**23 40 03.7**	**+0.4**
LIT	**Litokhoron**	**78.72**	**333**	P	**P**	**23 40 02.9**	**-0.7**
LIT				IAmb	IAmb	23 40 04.9		
	comp=Z,22nm,0.9s							
LIT	**Litokhoron**	**78.72**	**333**	P	**P**	**23 40 03.7**	**+0.2**
LIT	**Litokhoron**	**78.72**	**333**	P	**P**	**23 40 02.9**	**-0.7**
LIT				pmax	pmax			
	comp=Z,22nm,0.9s							
JAN	**Janina**	**78.99**	**331**	P	**P**	**23 40 08.4**	**+3.3**
NVR	**Nevrokopi**	**79.28**	**334**	P	**P**	**23 40 07.5**	**+0.9**
SIM	**Simferopol'**	**79.35**	**343**	*e*P	**P**	**23 40 07.4**	**+0.6**
SIM				*e*S	**SKSac**	**23 50 17.2**	**-5.6**
SIM				pmax	pmax			
	comp=Z,51nm,1.2s							
EIDS	**Eidsvold**	**79.37**	**113**	IAmb	IAmb	23 40 09.1		
	comp=Z,46nm,1.4s							
EIDS	**Eidsvold**	**79.37**	**113**	P	**P**	**23 40 07.7**	**+0.1**
	comp=Z,29nm,1.7s							
VAY	**Valandovo**	**79.74**	**333**	*i* P	P	23 40 04.5	-4.5
FNA	**Florina**	**79.74**	**332**	P	**P**	**23 40 09.3**	**+0.1**
WMQ	**Urumqi**	**79.80**	**21**	*e*P	**P**	**23 40 11.7**	**+2.3**
WMQ				sP	pwP	23 40 17.8	-0.3
WMQ				pmax	pmax			
	comp=Z,14nm,1.1s							
WMQ				LR	LR			
	comp=Z,300nm,16.7s							
WMQ				LR	LR			
	comp=Z,240nm,17.9s							
WMQ				LR	LR			
	comp=Z,250nm,20.5s							
LZH	**Lanzhou**	**79.80**	**36**	⇑P	**P**	**23 40 11.1**	**+1.3**
LZH				sP	pwP	23 40 19.8	+1.4
LZH				S	S	23 50 02.4	-10
LZH				pmax	pmax			
	comp=Z,22nm,1.5s							
KBN	**Korca**	**79.84**	**332**	IAmb	IAmb	23 40 12.2		
	comp=Z,25nm,1.2s							
RAFF	**Raffo Rosso**	**79.86**	**326**	IAmb	IAmb	23 40 22.2		
	comp=Z,37nm,1.1s							
ELND	**Elena**	**79.95**	**336**	⇑P	**P**	**23 40 10.4**	**+0.3**
VAE	**Valguarnera**	**80.04**	**326**	LR	LR	00 15 36.1		
	comp=Z,222nm,20.3s,baz=130,slow=36							
STIP	**Stip**	**80.20**	**333**	*i* P	**P**	**23 40 11.1**	**-0.4**
OHR	**Ohrid**	**80.25**	**332**	*i* P	**P**	**23 40 14.2**	**+2.4**
TIP	**Timpagrande**	**80.34**	**329**	⇑P	**P**	**23 40 12.2**	**-0.3**
ICOR	**Ion Corvin**	**80.38**	**338**	⇑P	**P**	**23 40 12.6**	**+0.2**
GTA	**Gaotai**	**80.56**	**31**	*e*P	**P**	**23 40 14.1**	**+0.4**
GTA				sP	pwP	23 40 23.2	+0.8
GTA				pmax	pmax			
	comp=Z,7.0nm,1.5s							
GTA				LR	LR			
	comp=Z,350nm,17.9s							
GTA				LR	LR			
	comp=Z,340nm,14.7s							
GTA				LR	LR			
	comp=Z,410nm,15.1s							
ABKAR	**Akbulak array**	**80.57**	**1**	P	**P**	**23 40 13.0**	**-0.4**
ABKAR				IAmb	IAmb	23 40 15.1		
	comp=Z,34nm,1.0s							
SKO	**Skopje**	**80.73**	**333**	*i* P	**P**	**23 40 14.7**	**+0.3**
TPGR	**Topolog**	**80.85**	**339**	⇑P	**P**	**23 40 14.9**	**-0.1**
HARR	**Harsova**	**80.85**	**339**	⇑P	**P**	**23 40 14.9**	**-0.1**
HARR	**Harsova**	**80.85**	**339**	P	**P**	**23 40 14.8**	**-0.1**
MAKZ	**Makanchi**	**80.99**	**16**	P	**P**	**23 40 15.7**	**0.0**
MAKZ				IAmb	IAmb	23 40 19.0		
	comp=Z,46nm,1.6s							
MAKZ	**Makanchi**	**80.99**	**16**	P	**P**	**23 40 15.7**	**0.0**
MAKZ				pmax	pmax			
	comp=Z,46nm,1.7s							
MK31	**Makanchi Array**	**81.05**	**16**	IAmb	IAmb	23 40 19.3		
	comp=Z,25nm,1.5s							
MK31	**Makanchi Array**	**81.05**	**16**	*ce*P	**P**	**23 40 16.3**	**+0.3**
MKAR	**Makanchi Array**	**81.05**	**16**	P	**P**	**23 40 15.5**	**-0.6**
MKAR	**Makanchi Array**	**81.05**	**16**	P	**P**	**23 40 16.1**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=202,slow=6.7,SNR=28							
MKAR				LR	LR	00 13 25.4		
	comp=Z,184nm,21.0s,baz=220,slow=34							
	comp=Z,2.8nm,0.6s							
CFR	**Carcaliu**	**81.23**	**339**	⇑P	**P**	**23 40 17.2**	**+0.3**
CFR	**Carcaliu**	**81.23**	**339**	P	**P**	**23 40 17.2**	**+0.3**
KEST	**Kesra**	**81.23**	**322**	IAmb	IAmb	23 40 22.9		
	comp=Z,72nm,1.9s							
KEST	**Kesra**	**81.23**	**322**	P	**P**	**23 40 19.1**	**+1.7**
	comp=Z,5.6nm,0.8s,baz=154,slow=3.0,SNR=11							
	comp=Z,5.6nm,0.8s							
PUK	**Puka**	**81.39**	**332**	P	**P**	**23 40 18.6**	**+0.5**
PUK				IAmb	IAmb	23 40 22.2		
	comp=Z,15nm,0.8s							
CUC	**Castrocucco**	**81.42**	**328**	P	**P**	**23 40 16.5**	**-1.7**
MATE	**Matera**	**81.56**	**329**	⇑P	**P**	**23 40 19.6**	**+0.7**
WHN	**Wuhan**	**81.59**	**46**	P	**P**	**23 40 23.1**	**+3.9**
HUMR	**Humele**	**81.67**	**337**	⇑P	**P**	**23 40 19.7**	**+0.4**
ISR	**Istrita**	**81.67**	**338**	⇑P	**P**	**23 40 20.0**	**+0.6**
ISR	**Istrita**	**81.67**	**338**	P	**P**	**23 40 20.0**	**+0.6**
SLCR	**Slobozia Conac**	**81.71**	**339**	⇑P	**P**	**23 40 20.0**	**+0.5**
AKTO	**Aktyubinsk**	**81.73**	**360**	LR	LR	00 16 19.0		
	comp=Z,124nm,18.1s,baz=129,slow=36							
BAIL	**Bailesti**	**81.79**	**335**	⇑P	**P**	**23 40 19.3**	**-0.6**
VLDR	**Vladesti**

SORM Soroca 83.83 340 ⇑P P 23 40 29.9 -0.6
SORM Soroca 83.83 340 P P 23 40 29.8 -0.6
KURBB Kurchatov Arra 83.86 13 P P 23 40 31.2 +0.6
comp=Z,19nm,1.0s,baz=206,slow=5.7,SNR=62
KURBB LR LR 00 15 57.5
comp=Z,132nm,18.6s,baz=162,slow=34
comp=Z,19nm,1.0s
INTR Introdacqua 83.90 328 IAmb IAmb 23 40 32.3
comp=Z,14nm,1.0s
VORD Divnogorie 83.95 348 eP P 23 40 30.6 -0.4
KURK Kurchatov 83.97 13 P P 23 40 30.2 -0.9
KURK Kurchatov 83.97 13 P P 23 40 31.9 +0.8
KURK P P 23 40 31.9 +0.8
KURK Kurchatov 83.97 13ceP P 23 40 31.7 +0.6
KURK pmax pmax
comp=Z,82nm,1.7s
FRGS Fruska Gora 84.06 334 ⇑P P 23 40 32.1 +0.3
ARCR ARCALIA 84.12 337 ⇑P P 23 40 32.5 +0.5
BELG Belogornoye 84.21 353 LR LR 00 20 21.3
comp=Z,180nm,18.5s,baz=93,slow=37
BELG Belogornoye 84.21 353 i P P 23 40 32.0 -0.2
BELG pmax pmax
comp=Z,12nm,0.9s
PMG Port Moresby 84.21 97 LR LR 00 15 30.4
comp=Z,65nm,18.4s,baz=170,slow=34
VSR Storozhevoye 84.22 348 eP P 23 40 31.6 -0.7
BURAR Bucovina Array 84.31 338 ⇑P P 23 40 33.8 +0.6
BURAR Bucovina Array 84.31 338 P P 23 40 33.1 0.0
BURAR Bucovina Array 84.31 338 P P 23 40 33.7 +0.6
SIRR Siria 84.33 335 ⇑P P 23 40 33.3 +0.2
BUR08 Bucovina Ar. S 84.34 338 IAmb IAmb 23 40 35.3
comp=Z,25nm,1.6s
DRGR 84.42 336 ⇑P P 23 40 33.8 +0.2
DRGR 84.42 336 P P 23 40 33.8 +0.2
CAMP Campotosto 84.54 328 IAmb IAmb 23 40 38.4
comp=Z,40nm,1.7s
VORR Voronezh 84.65 348 eP P 23 40 34.7 +0.2
VORR pmax pmax
comp=Z,49nm,1.0s
NRCA Norcia 84.91 328 IAmb IAmb 23 40 37.4
comp=Z,20nm,1.4s
BVAR Borovoye Array 84.99 7 LR LR 00 18 23.7
comp=Z,211nm,18.1s,baz=186,slow=36
BRVK Borovoye 85.01 7 P P 23 40 35.9 -0.4
BRVK Borovoye 85.01 7 P P 23 40 37.0 +0.7
BRVK Borovoye 85.01 7ceP P 23 40 36.9 +0.6
BRVK pmax pmax
comp=Z,48nm,1.7s
BBTS Babate 85.11 290 LR LR 00 19 12.8
comp=Z,88nm,18.0s,baz=328,slow=36
MORH Mrgy, Hungar 85.39 334 ⇑P P 23 40 38.4 0.0
NJ2 Nanjing 85.44 48 eP P 23 40 39.6 +0.6
NJ2 pmax pmax
comp=Z,13nm,0.6s
LPSR Galich'ya Gora 85.59 348 eP P 23 40 39.0 -0.2
KIEV Kiev 85.92 342 ⇓P P 23 40 41.0 +0.1
KIEV Kiev 85.92 342 P P 23 40 39.6 -1.3
KIEV IAmb IAmb 23 40 41.9
comp=Z,23nm,1.2s
KIEV Kiev 85.92 342 i P P 23 40 40.7 -0.2
SNR=11
KIEV Kiev 85.92 342 P P 23 40 41.0 +0.1
AKASG Malin Array Be 85.92 342 P P 23 40 40.8 -0.2
comp=Z,3.6nm,0.5s,baz=167,slow=4.1,SNR=16
comp=Z,3.6nm,0.5s
AKASG Malin Array Be 85.92 342ceP P 23 40 40.7 -0.2
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 85.92 342 IAmb IAmb 23 40 41.5
comp=Z,23nm,1.2s
AKBB Malin Array Si 85.92 342ceP P 23 40 40.7 -0.2
AKBB pmax pmax
comp=Z,11nm,0.6s
PSZ Piszkesteto 86.37 335 ⇓P P 23 40 43.4 0.0
PSZ Piszkesteto 86.37 335 P P 23 40 43.3 0.0
KOLS Kolonicke sedl 86.42 337 eP P 23 40 44.4 +0.9
KOLS pmax pmax
comp=Z,7.0nm,0.7s
KOLS Kolonicke sedl 86.42 337 eP P 23 40 44.4 +0.9
HNS HongShan 86.60 42 ⇑P P 23 40 44.7 +0.1
HNS pmax pmax
comp=Z,33nm,1.2s
CRVS Cervenica-Dubn 86.67 337 eP P 23 40 45.2 +0.5
CRVS pmax pmax
comp=Z,31nm,1.4s
CRVS Cervenica-Dubn 86.67 337 eP P 23 40 45.2 +0.5
SRO Srobarova 86.85 334 eP P 23 40 46.8 +1.2
SRO Srobarova 86.85 334 eP P 23 40 46.8 +1.2
KWP Kalwaria Pacla 86.88 338 eP P 23 40 43.9 -1.8
KWP Kalwaria Pacla 86.88 338 IAmb IAmb 23 40 50.2
comp=Z,41nm,1.8s
TIA Tai'an 87.17 44 P P 23 40 49.8 +2.3
TIA pmax pmax
comp=Z,9.0nm,1.3s
SOKA Soboth 87.19 332 eP P 23 40 47.6 +0.2
comp=Z,11nm,1.4s,SNR=5.9
VYHS Vyhne 87.23 335 eP P 23 40 47.5 0.0
VYHS pmax pmax
comp=Z,29nm,1.7s
VYHS Vyhne 87.23 335 eP P 23 40 47.5 0.0
OBKA Obir 87.24 331 eP P 23 40 47.9 +0.3
comp=Z,12nm,1.4s
RNPP5 Staryi Chortor 87.32 340 P P 23 40 48.3 +0.5
HHC Hu-ho-hao-te 87.35 38 eP P 23 40 51.0 +2.6
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,170nm,4.5s
SOP Sopron 87.41 333 P P 23 40 49.1 +0.8
ARSA Arzberg 87.45 332 eP P 23 40 49.1 +0.5
comp=Z,10nm,1.1s,SNR=5.9
NIE Niedzica 87.50 336 eP P 23 40 49.5 +0.7
NIE Niedzica 87.50 336 P P 23 40 51.2 +2.4
RONA Rosalia, Austr 87.52 333 eP P 23 40 49.0 +0.1
comp=Z,15nm,1.2s,SNR=8.9
LANS Liptovska Anna 87.56 336 eP P 23 40 49.9 +0.8
LANS pmax pmax
comp=Z,8.0nm,1.2s
LANS Liptovska Anna 87.56 336 eP P 23 40 49.9 +0.8
ZST Bratislava 87.62 334 eP P 23 40 49.8 +0.5
ZST Bratislava 87.62 334 eP P 23 40 49.8 +0.5
NAN01 Guarapari, ES 87.66 251 eP P 23 40 52.4 +2.0
MODS Modra-Piesok 87.70 334 eP P 23 40 49.8 +0.1
MODS pmax pmax
comp=Z,57nm,1.3s
MODS Modra-Piesok 87.70 334 eP P 23 40 49.8 +0.1
ARU Arti 87.74 0 P P 23 40 49.5 -0.2
ARU Arti 87.74 0c i P P 23 40 50.3 +0.7
ARU 23 44 15.5
ARU S SKSac 23 51 18.4 +1.1
ARU pmax pmax
comp=Z,23nm,0.9s
SMOL Smolenice 87.77 334 eP P 23 40 51.0 +1.0
CONA Conrad Observa 87.88 333 eP P 23 40 50.9 +0.2
comp=Z,22nm,1.1s,SNR=18
JAVC Velka Javorina 87.96 335 eP P 23 40 52.0 +1.0
CTI Castel Tesino 88.09 330 IAmb IAmb 23 41 03.8
comp=Z,31nm,1.3s
KBA Koelnbreinsper 88.19 331 eP P 23 40 52.2 -0.1
comp=Z,12nm,1.1s,SNR=6.5
ABTA Abfaltersbach 88.28 330 eP P 23 40 53.1 +0.5
comp=Z,24nm,1.1s,SNR=8.0
ZAA0 Zalesovo Array 88.31 15 IAmb IAmb 23 41 01.6
comp=Z,10nm,0.9s
ZALV Zalesovo Beam 88.31 15 P P 23 40 50.2 -2.2
ZALV Zalesovo Beam 88.31 15 P P 23 40 51.3 -1.1
comp=Z,6.1nm,0.8s,baz=204,slow=3.3,SNR=14
comp=Z,6.1nm,0.8s
OJC Ojcow 88.35 336 eP P 23 40 52.1 -0.6
OJC Ojcow 88.35 336 P P 23 40 53.2 +0.4
OBN Obninsk 88.41 348 LR LR 00 21 11.3
comp=Z,162nm,18.4s,baz=176,slow=36
OBN Obninsk 88.41 348ceP P 23 40 53.3 +0.5
OBN e 23 41 00.3
OBN e 23 44 21.5
OBN pmax pmax
comp=Z,63nm,1.7s
OBN MLR MLR
comp=Z,182nm,18.0s
MOA Molln 88.44 332 eP P 23 40 53.3 +0.1
comp=Z,12nm,0.9s,SNR=11
CMC01 Camacan, BA 88.49 253 eP P 23 40 57.1 +2.8
BIOA Bad Ischl, Aus 88.56 332 eP P 23 40 53.6 -0.2
comp=Z,8.0nm,0.6s
KRUC Moravsky 88.60 334 eP P 23 40 53.8 -0.2

VRAC Vranov 88.73 334 ⇑P P 23 40 54.0 -0.6
VRAC Vranov 88.73 334 eP P 23 40 54.3 -0.3
VRAC Vranov 88.73 334 P P 23 40 54.0 -0.6
LESA Schwarzleotal 88.75 331 eP P 23 40 54.6 -0.2
comp=Z,11nm,0.5s
MORC Moravsky Berou 88.77 335 ⇑P P 23 40 54.9 +0.1
MORC Moravsky Berou 88.77 335 IAmb IAmb 23 40 58.0
comp=Z,20nm,1.4s
MORC Moravsky Berou 88.77 335 eP P 23 40 54.7 -0.1
MORC Moravsky Berou 88.77 335 P P 23 40 54.9 +0.1
MOS Moscow 88.82 349 eP P 23 40 54.0 -0.8
MOS pmax pmax
comp=Z,65nm,1.8s
WTTA Wattenberg 89.05 330 i P P 23 40 56.6 +0.2
comp=Z,18nm,0.5s,SNR=8.7
WATA Walderalm 89.14 330 eP P 23 40 56.7 0.0
comp=Z,15nm,0.6s,SNR=6.5
TREC Trest 89.14 334 eP P 23 40 56.4 -0.1
TREC Trest 89.14 334 eP P 23 40 56.4 -0.1
FUORN Ofenpass-Fuorn 89.14 329 IAmb IAmb 23 41 07.9
comp=Z,17nm,1.1s
SQTA Sankt Quirin 89.20 330 i P P 23 40 57.1 +0.2
comp=Z,28nm,1.1s,SNR=12
CKRC Cesky Krumlov 89.20 333 AMS AMS 00 17 30.0
comp=Z,100nm,16.7s
FETA Feichten 89.25 330 i P P 23 40 57.7 +0.4
comp=Z,18nm,0.9s,SNR=13
KRLC Kraliky 89.30 335 eP P 23 40 56.8 -0.5
KRLC Kraliky 89.30 335 eP P 23 40 56.8 -0.5
TUE Stuetta 89.43 329 IAmb IAmb 23 41 02.6
comp=Z,12nm,0.8s
DAVOX Davos/Dischmat 89.43 329 LR LR 00 23 47.7
comp=Z,44nm,19.4s,baz=109,slow=37
GERES GERESS Array B 89.46 332 P P 23 40 57.1 -1.1
GERES GERESS Array B 89.46 332 P P 23 40 57.8 -0.3
comp=Z,2.4nm,0.7s,baz=145,slow=4.9,SNR=12
GERES LR LR 00 20 40.8
comp=Z,60nm,21.6s,baz=138,slow=35
comp=Z,2.4nm,0.7s
BNI Bardonecchia 89.58 326 IAmb IAmb 23 41 07.4
comp=Z,22nm,1.5s
RETA Reutte 89.60 330 i P P 23 40 59.1 +0.3
comp=Z,12nm,0.7s,SNR=8.4
DPC Dobruska-Polom 89.69 335 eP P 23 40 59.4 +0.3
DPC Dobruska-Polom 89.69 335 eP P 23 40 59.4 +0.3
MNK Minsk 89.72 343 i P P 23 40 57.4 -1.6
MNK i 23 44 30.3
MNK i PPP PPP 23 46 25.7
MNK i S SKSac 23 51 27.5 -1.7
MNK i SS SS 23 57 49.7 +1.8
MNK i SSS SSS 00 01 26.3
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK MLR MLR
comp=Z,135nm,18.0s
MNK MLR MLR
comp=N,85nm,15.0s
KHC Kasperske Hory 89.74 332 eP P 23 40 59.1 -0.3
KHC AMS AMS 00 26 10.0
comp=N,100nm,13.9s
KHC Kasperske Hory 89.74 332 eP P 23 40 59.1 -0.3
KHC MLR MLR
comp=Z,100nm,13.9s
ZVC Zvikov 89.75 333 eP P 23 40 59.4 +0.1
DAVA Damuels 89.82 329 eP P 23 41 00.0 +0.1
comp=Z,12nm,0.6s,SNR=8.4
OSTC Ostas 89.90 335 eP P 23 41 00.6 +0.6
OSTC AMS AMS 00 15 40.0
comp=Z,200nm,18.4s
OSTC Ostas 89.90 335 eP P 23 41 00.6 +0.6
OSTC MLR MLR
comp=Z,200nm,18.4s
GOPC GO Pecny, Ondr 89.91 334 eP P 23 41 02.6 +2.5
GOPC GO Pecny, Ondr 89.91 334 eP P 23 41 02.6 +2.5
UPC Upice 89.93 335 AMS AMS 00 15 40.0
comp=Z,200nm,22.1s
CHVC Chvalec 89.98 335 eP P 23 41 01.1 +0.7
CHVC Chvalec 89.98 335 eP P 23 41 01.1 +0.7
PRU Pruhonice 90.06 334 eP P 23 41 01.5 +0.7
PRU Pruhonice 90.06 334 eP P 23 41 01.5 +0.7
KSP Ksiaz 90.11 335 eP P 23 41 01.3 +0.4
KSP Ksiaz 90.11 335 P P 23 41 02.4 +1.4
SONM Songino Array 90.15 30 P P 23 41 00.8 -0.6
SONM Songino Array 90.15 30 P P 23 41 00.4 -1.0
comp=Z,4.2nm,0.9s,baz=213,slow=3.5,SNR=20
SONM LR LR 00 18 52.6
comp=Z,398nm,19.6s,baz=218,slow=34
comp=Z,4.2nm,0.9s
SONM Songino Array 90.15 30 P P 23 41 00.8 -0.6
SONM pmax pmax
comp=Z,6.0nm,0.9s
KIRV Kirov 90.20 355 LR LR 00 23 45.7
comp=Z,148nm,18.4s,baz=178,slow=37
KIRV Kirov 90.20 355ceP P 23 41 01.5 +0.3
ULN Ulaanbaatar 90.45 30 P P 23 41 02.0 -0.9
ULN Ulaanbaatar 90.45 30 P P 23 41 03.5 +0.6
ULN P P 23 41 03.5 +0.6
ULN Ulaanbaatar 90.45 30ceP P 23 41 02.7 -0.2
ULN pmax pmax
comp=Z,10.0nm,1.1s
RCBR Riachuelo 90.50 263 LR LR 00 13 05.3
comp=Z,120nm,21.9s,baz=153,slow=30
CEST Esterri de Car 90.53 322 IAmb IAmb 23 41 08.7
comp=Z,22nm,1.0s
SUW Suwalki 90.56 340 eP P 23 41 01.9 -1.0
BRG Berggiesshubel 91.00 334 eP P 23 41 06.3 +1.2
BRG Amp 23 41 08.0
comp=Z,8.0nm,1.2s
BRG Berggiesshubel 91.00 334 Amp 23 41 18.3
comp=Z,11nm,1.2s
BRG Berggiesshubel 91.00 334 eP P 23 41 06.3 +1.2
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG Berggiesshubel 91.00 334 P P 23 41 16.0 +11
GRA1 Grafenberg Arr 91.13 332 IAmb IAmb 23 41 17.6
comp=Z,23nm,1.2s
GRFO Grafenberg 91.13 332 P P 23 41 05.4 -0.4
GRFO IAmb IAmb 23 41 17.5
comp=Z,25nm,1.2s
GRFO Grafenberg 91.13 332 P P 23 41 05.4 -0.4
GRFO pmax pmax
comp=Z,25nm,1.2s
BFO Black Forest 91.30 329 P P 23 41 06.2 -0.4
BFO IAmb IAmb 23 41 18.3
comp=Z,8.4nm,1.0s
BFO Black Forest 91.30 329 P P 23 41 06.2 -0.4
BFO pmax pmax
comp=Z,8.0nm,1.0s
ESDC Sonseca Array 91.45 317 P P 23 41 07.1 -0.5
ESDC Sonseca Array 91.45 317 P P 23 41 08.6 +1.0
comp=Z,5.6nm,0.9s,baz=131,slow=3.6,SNR=20
ESDC LR LR 00 22 47.6
comp=Z,174nm,19.6s,baz=120,slow=36
comp=Z,5.6nm,0.9s
PAB San Pablo 91.59 317 P P 23 41 09.4 +1.1
PAB IAmb IAmb 23 41 13.0
comp=Z,8.6nm,0.9s
PAB San Pablo 91.59 317 P P 23 41 09.4 +1.1
PAB pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 91.70 334 P P 23 41 08.0 -0.3
CLL Collm 91.70 334 ⇑i P P 23 41 10.5 +2.1
CLL e 23 51 39.0
CLL eS S 23 52 09.0 +0.4
CLL pmax pmax
comp=Z,58nm,2.3s
GKP Gorka Klasztor 91.78 337 eP P 23 41 08.6 -0.1
PVAQ Vaqueiros 92.25 313 eLR LR 00 13 58.0
comp=Z,145nm,18.0s
DZM Mont Dzumac 92.97 118 eSS SS 23 58 24.6 -11
comp=Z,199nm,25.7s
DZM Mont Dzumac 92.97 118 eLR LR 00 11 06.1
comp=Z,210nm,22.9s
DZM Mont Dzumac 92.97 118 LR LR 00 17 06.1
comp=Z,164nm,19.4s,baz=320,slow=32
PMRV Marv??o 93.32 315 eS S 23 52 35.6 +12
PMRV Marv??o 93.32 315 eLR LR 00 15 35.8
comp=Z,139nm,18.0s
VSU Vasula 93.57 344ceP P 23 41 18.1 +1.3
VSU pmax pmax
comp=Z,13nm,1.3s
PLCA Paso Flores 93.82 216 LR LR 00 18 25.5
comp=Z,159nm,18.7s,baz=138,slow=32

MTE Manteigas 94.02 316 eS S 23 52 42.6 +13
MTE Manteigas 94.02 316 eLR LR 00 15 46.4
comp=Z,257nm,18.0s
JNU Nakatsue 94.04 53 LR LR 00 20 59.1
comp=Z,82nm,19.9s,baz=240,slow=34
SDBA SAO DESIDERIO 94.48 253 eP P 23 41 24.5 +2.2
KSRS Korea Array 94.62 48 P P 23 41 22.1 0.0
comp=Z,1.1nm,0.7s,baz=227,slow=5.0,SNR=6.6
KSRS LR LR 00 22 42.1
comp=Z,93nm,19.9s,baz=240,slow=35
comp=Z,1.1nm,0.7s
HNR Honiara 94.91 104 LR LR 00 19 01.7
comp=Z,1μm,19.8s,baz=352,slow=32
BDFB Brasilia 95.17 248 LR LR 00 15 57.8
comp=Z,171nm,20.0s,baz=137,slow=30
PGAV Gavieira, Arco 95.43 317 eS S 23 52 54.3 +12
PGAV Gavieira, Arco 95.43 317 eLR LR 00 21 38.9
comp=Z,152nm,18.0s
CPUP Villa Florida 95.74 234 LR LR 00 17 43.1
comp=Z,163nm,20.4s,baz=146,slow=31
FINES FINESS Array B 96.39 345 P P 23 41 28.5 -1.1
comp=Z,1.1nm,0.7s,baz=134,slow=4.0,SNR=4.0
FINES PP PP 23 45 22.1 -1.8
comp=Z,1.0nm,0.8s,baz=115,slow=9.4,SNR=4.1
comp=Z,1.1nm,0.7s
FINES FINESS Array B 96.39 345 i P P 23 41 30.1 +0.5
FINES pmax pmax
comp=Z,1.0nm,0.7s
CN2 Changchun 96.95 42 eP P 23 41 36.5 +3.9
HFS Hagfors 98.51 339 P P 23 41 38.4 -0.9
comp=Z,1.0nm,0.8s,baz=183,slow=2.7,SNR=2.2
HFS LR LR 00 24 37.1
comp=Z,73nm,21.4s,baz=122,slow=34
comp=Z,1.0nm,0.8s
JCJ Chichijima 98.99 64 LR LR 00 21 39.0
comp=Z,37nm,21.9s,baz=105,slow=32
ARCES ARCESS Array B 103.69 349 Pdiff Pdif 23 42 02.1 0.0
comp=Z,2.0nm,0.8s,baz=150,slow=2.0,SNR=4.6
BORG Borgarnes 113.93 333 i PKIKP PKiKP 23 46 42.4 +3.0
TBI Tubuai 119.21 151 eLR LR 00 23 12.4
comp=Z,890nm,29.2s
PPT2 Papeete2 124.23 147 eLR LR 00 25 22.2
comp=Z,193nm,36.2s
PPT2 eLR LR 00 25 29.1
comp=Z,173nm,24.5s
BILL Bilibino 125.67 26 ePKIKP PKPdf 23 47 02.1 +0.2
BILL e 23 48 59.8
BILL ePPP PPP 23 51 38.5
BILL pmax pmax
comp=Z,4.0nm,1.2s
BILL MLR MLR
comp=Z,100nm,18.0s
OTAV Otavalo 128.52 241 eP PKiKP 23 47 11.4 +1.1
C16K Lisburne Hills 135.62 22 P PKPdf 23 47 17.7 -3.1
baz=303
A19K Wainwright 135.71 18 P PKPdf 23 47 17.8 -3.0
baz=309
B18K Kokolik River 136.04 19 P PKPdf 23 47 19.8 -1.7
baz=308
A21K Barrow 136.04 15 P PKPdf 23 47 18.7 -2.7
baz=315
TNA Tin City 136.11 26 P PKPdf 23 47 19.7 -2.0
baz=297
C17K DeLong Mountai 136.17 21 P PKPdf 23 47 20.7 -1.1
baz=305
A22K Sinclair Lake 136.65 15 P PKPdf 23 47 19.0 -3.5
baz=317
D17K Noatak River 136.65 22 P PKPdf 23 47 21.2 -1.5
baz=305
C18K Utukok River 136.65 20 P PKPdf 23 47 20.1 -2.7
baz=308
F14K Arctic Creek 136.73 25 P PKPdf 23 47 21.3 -1.6
baz=299
C19K Lookout Ridge 136.81 19 P PKPdf 23 47 21.5 -1.6
baz=310
B20K Meade River 136.84 17 P PKPdf 23 47 20.9 -2.1
baz=314
F15K North Star Dit 137.22 24 P PKPdf 23 47 21.8 -2.1
baz=301
E17K Hotham Inlet 137.40 22 P PKPdf 23 47 21.9 -2.2
baz=306
PKME Peaks-Kenny Pk 137.46 304 P PKPdf 23 47 22.3 -2.6
baz=90
ANM Nome 137.53 26 P PKPdf 23 47 22.7 -1.7
baz=299
D19K Kuna River 137.62 19 P PKPdf 23 47 21.8 -2.7
baz=311
B21K Ikpikpuk River 137.74 16 P PKPdf 23 47 22.8 -1.8
baz=316
D20K Etivluk River 137.88 18 P PKPdf 23 47 23.6 -1.4
baz=313
F17K Baldwin Pennin 137.97 22 P PKPdf 23 47 24.4 -0.7
baz=306
C21K Knifeblade Rid 138.04 17 P PKPdf 23 47 23.4 -1.9
baz=316
G16K Koyuk River 138.19 24 P PKPdf 23 47 24.4 -1.2
baz=304
SPIA Saint Paul Isl 138.23 38 P PKPdf 23 47 26.4 +0.5
baz=286
E20K Nigu River 138.31 18 P PKPdf 23 47 25.3 -0.6
baz=313
F18K Selawik 138.38 22 P PKPdf 23 47 25.4 -0.5
baz=308
C23K Itkillik River 138.49 15 P PKPdf 23 47 25.4 -0.6
baz=322
E19K Redstone River 138.56 20 P PKPdf 23 47 25.3 -1.0
baz=312
H16K Elim 138.65 25 P PKPdf 23 47 24.2 -2.3
baz=303
G17K Kiwalik Mounta 138.72 23 P PKPdf 23 47 25.6 -1.0
baz=306
D22K Ayikyak River 138.76 16 P PKPdf 23 47 26.1 -0.5
baz=318
E21K Killik River 138.76 17 P PKPdf 23 47 25.9 -0.8
baz=316
P08K Saint George I 138.76 38 P PKPdf 23 47 26.1 -0.8
baz=287
F19K Shaleruckik Mo 138.81 21 P PKPdf 23 47 26.0 -0.7
baz=310
C24K Franklin Bluff 138.99 14 P PKPdf 23 47 26.1 -0.9
baz=324
HRV Adam Dziewonsk 139.05 300 P PKPdf 23 47 27.3 -0.6
baz=92
M11K Mekoryuk 139.09 32 P PKPdf 23 47 26.2 -1.1
baz=294
G18K Tagagawik 139.14 22 P PKPdf 23 47 27.0 -0.4
baz=308
J14K Nanvaranak Lak 139.14 28 P PKPdf 23 47 26.6 -0.8
baz=300
D23K Nanushuk River 139.16 15 P PKPdf 23 47 27.3 -0.1
baz=321
F20K Avaraart Lake 139.27 20 P PKPdf 23 47 27.2 -0.3
baz=313
H17K Granite Mounta 139.30 24 P PKPdf 23 47 27.5 -0.2
baz=306
LBNH Lisbon 139.34 303 P PKPdf 23 47 27.2 -1.2
baz=89
D24K Happy Valley 139.42 15 P PKPdf 23 47 27.5 -0.3
baz=323
G19K Purcell Mounta 139.47 21 P PKPdf 23 47 26.9 -1.0
baz=310
E22K Anaktuvuk Pass 139.53 17 P PKPdf 23 47 27.3 -0.8
baz=319
C26K Camden Bay 139.55 12 P PKPdf 23 47 27.1 -0.9
baz=329
A36M Sachs Harbour 139.57 2 P PKPdf 23 47 26.7 -1.2
baz=355
I17K Unalakleet 139.63 25 P PKPdf 23 47 27.0 -1.3
baz=304
TOLK Toolik Lake Re 139.67 15 P PKPdf 23 47 27.1 -1.2
baz=322
H18K Honhosa River 139.69 23 P PKPdf 23 47 27.1 -1.3
baz=308
F21K Alatna River 139.77 18 P PKPdf 23 47 27.9 -0.6
baz=316
D25K Kavik River 139.78 13 P PKPdf 23 47 28.2 -0.4
baz=326
L61B Northampton 139.88 300 P PKPdf 23 47 27.1 -2.4
baz=91
F22K John River 139.91 18 P PKPdf 23 47 28.6 -0.1
baz=318
J16K Anvik River 140.00 26 P PKPdf 23 47 28.8 -0.2
baz=304
C27K Jago River 140.01 12 P PKPdf 23 47 29.9 +1.0
baz=330
H19K Roundabout Mou 140.07 22 P PKPdf 23 47 29.3 +0.3
baz=311
NIKH Nikolski High 140.09 44 P PKPdf 23 47 28.9 -0.5

baz=283
E23K Chandalar 140.12 16 P PKPdf 23 47 27.2 -2.0
baz=322
K15K Wolf Creek Mou 140.18 28 P PKPdf 23 47 30.2 +0.8
baz=302
L14K Kuka Creek 140.19 30 P PKPdf 23 47 30.2 +0.8
baz=299
G21K Aliakaket 140.28 19 P PKPdf 23 47 29.7 +0.3
baz=315
M13K Dall Lake 140.35 31 P PKPdf 23 47 29.6 -0.1
baz=297
E24K Your Creek 140.36 15 P PKPdf 23 47 29.4 -0.2
baz=323
J17K VABM Dome 140.50 25 P PKiKP 23 47 31.4 -1.1
baz=306
L15K Ungalak Mounta 140.52 29 P PKPdf 23 47 30.8 +0.8
baz=301
G22K Bettles 140.52 18 P PKPdf 23 47 30.8 +1.0
baz=318
IMAR Indian Mountai 140.58 20 PKPdf 23 47 28.1 -1.9
H20K Anotleneega Mo 140.59 21 P PKPdf 23 47 30.7 +0.7
baz=313
COLD Coldfoot 140.62 17 P PKPdf 23 47 30.5 +0.5
baz=320
PAL Palisades 140.76 298 P PKPdf 23 47 30.8 -0.2
baz=92
M14K Bethel 140.79 30 P PKPdf 23 47 30.4 -0.1
baz=299
D27M Malcolm River 140.81 11 P PKPdf 23 47 31.1 +0.7
baz=334
F24K Squaw Lake 140.95 16 P PKPdf 23 47 31.8 +1.1
baz=323
D28M Stokes Point 141.06 10 P PKPdf 23 47 30.0 -0.7
baz=336
G23K Bananza Creek 141.06 17 P PKPdf 23 47 30.9 0.0
baz=320
H21K Melozitna Rive 141.09 20 P PKPdf 23 47 30.7 -0.2
baz=316
I20K Naaghedeneel 141.19 22 P PKPdf 23 47 32.2 +1.1
baz=313
K17K Iditarod 141.19 26 P PKPdf 23 47 32.0 +0.8
baz=306
UNV Unalaska Valle 141.22 42 P PKPdf 23 47 31.4 -0.1
baz=286
LONY Lake Ozonia 141.23 303 P PKPdf 23 47 30.5 -1.3
baz=87
J18K Innoko River 141.31 24 P PKPdf 23 47 30.4 -1.0
baz=308
N14K Kuskokwak Cree 141.31 31 P PKPdf 23 47 30.2 -1.2
baz=299
L16K Owhat River 141.31 28 P PKPdf 23 47 30.2 -1.2
baz=303
H22K Ishtalitna Cre 141.32 19 P PKPdf 23 47 30.9 -0.5
baz=318
J19K Poorman 141.35 23 P PKPdf 23 47 30.9 -0.5
baz=310
M15K Kasigluk River 141.36 30 P PKPdf 23 47 30.7 -0.8
baz=301
F25K Christian Rive 141.38 14 P PKPdf 23 47 30.8 -0.7
baz=326
L17K Donlin 141.53 27 P PKPdf 23 47 30.6 -1.2
baz=305
F26K Sheenjek River 141.60 14 P PKPdf 23 47 30.7 -1.1
baz=328
E28M Babbage River 141.61 10 P PKPdf 23 47 32.5 +0.7
baz=335
E27K Coleen River 141.65 12 P PKPdf 23 47 32.6 +0.7
baz=332
I21K Tanana 141.67 20 P PKPdf 23 47 31.1 -0.9
baz=316
G24K Hadweenzic Riv 141.70 16 P PKPdf 23 47 31.8 -0.2
baz=323
J20K Nowinta River 141.71 22 P PKPdf 23 47 31.8 -0.3
baz=312
O14K Tigyukauivet M 141.82 32 P PKPdf 23 47 31.5 -0.8
baz=299
H23K Yukon River 141.87 18 P PKPdf 23 47 31.9 -0.5
baz=320
M16K Timber Creek 141.90 29 P PKPdf 23 47 30.6 -1.9
baz=303
G25K Bearman Lake 141.97 15 P PKPdf 23 47 32.0 -0.4
baz=325
E29M Blow River 142.05 10 P PKPdf 23 47 31.1 -1.5
baz=337
L18K Granite Mounta 142.09 26 P PKPdf 23 47 32.2 -0.5
baz=307
MLY Manley 142.14 20 P PKPdf 23 47 33.4 +0.5
baz=318
C36M Paulatuk 142.24 1 P PKPdf 23 47 31.7 -1.1
baz=357
N16K Nishlik Lake 142.28 29 P PKPdf 23 47 33.9 +0.7
baz=303
K20K Telida 142.29 23 P PKPdf 23 47 33.7 +0.5
baz=312
M17K Holitna River 142.29 27 P PKPdf 23 47 31.9 -1.2
baz=306
H24K Noodor Dome 142.29 17 P PKPdf 23 47 33.3 +0.1
baz=322
G26K Porcupine Rive 142.31 14 P PKPdf 23 47 32.2 -0.8
baz=328
BINY Binghamton 142.33 299 P PKPdf 23 47 31.0 -2.9
baz=89
I23K Minto, Yukon-K 142.44 19 P PKPdf 23 47 32.0 -1.3
baz=320
H25L Birch Creek 142.44 16 P PKPdf 23 47 32.6 -0.6
baz=325
F28M Old Crow 142.46 11 P PKPdf 23 47 30.1 -3.3
baz=334
CHUM Lake Minchumin 142.50 22 P PKPdf 23 47 31.0 -2.5
baz=314
O15K Ungalikthiuk R 142.50 31 P PKPdf 23 47 31.2 -2.4
baz=300
INK Inuvik 142.68 7 P PKPdf 23 47 31.5 -2.1
baz=343
BPAW Bear Paw Mtn. 142.75 21 P PKPdf 23 47 31.7 -2.3
baz=316
L19K White Mountain 142.79 25 P PKPdf 23 47 32.4 -1.7
baz=310
G27K Doyon Strip 142.86 13 P PKPdf 23 47 32.5 -1.6
baz=331
M18K Stony River 142.86 26 P PKPdf 23 47 29.2 -5.0
baz=308
N17K Nushagak Hills 142.90 28 P PKPdf 23 47 32.6 -1.7
baz=305
CAST Castle Rocks 142.90 22 PKPpre 23 47 30.1
CAST Castle Rocks 142.90 22 P PKPdf 23 47 32.6 -1.7
baz=314
L20K Farewell, AK 142.94 24 P PKPdf 23 47 32.0 -2.4
baz=311
NEA2 Nenana 142.94 19 P PKPdf 23 47 33.7 -0.5
baz=319
POKR Poker Plat Res 142.98 18 P PKPdf 23 47 34.4 +0.1
baz=322
S12K Black Hills 143.00 37 P PKPdf 23 47 31.9 -2.8
baz=294
O16K Kokwok River B 143.04 30 P PKPdf 23 47 31.5 -3.0
baz=303
F30M Barrier River 143.07 9 P PKPbc 23 47 32.2 +1.0
baz=340
PRP Porcupine Dome 143.13 16 PKPdf PKPbc 23 47 32.7 +1.0
PRP Porcupine Dome 143.13 16 P PKPdf 23 47 33.4 -1.3
baz=325
M19K Big River Lodg 143.13 25 P PKPbc 23 47 33.2 +1.6
baz=310
PPLA Purkeypile 143.23 23 P PKPbc 23 47 33.4 +1.4
baz=314
N18K Kilae Creek 143.33 28 P PKPbc 23 47 33.5 +1.3
baz=307
O17K Koliganek Bris 143.37 29 P PKPdf 23 47 34.7 -0.4
baz=304
P16K Nushagak River 143.39 31 P PKPdf 23 47 34.5 -0.6
baz=302
H27K Steamboat Moun 143.39 13 P PKPdf 23 47 35.2 +0.1
baz=331
ILAR Eielson Array 143.40 18 PKPpre 23 47 30.3
ILAR Eielson Array 143.40 18 PKhKP PKPpre 23 47 31.1
comp=Z,0.9nm,0.7s,baz=321,slow=4.1,SNR=6.8
ILAR Eielson Array 143.40 18 PKHKP PKPpre 23 47 30.3
G29M Pine Creek 143.40 11 P PKPbc 23 47 33.7 +1.5
baz=336
F31M Tsiigehtchic 143.49 8 P PKPdf 23 47 34.4 -0.7
baz=343,SNR=6.0
M20K Styx River 143.60 25 P PKPbc 23 47 34.0 +1.0
baz=312
G30M tAoh Zraii Nji 143.60 10 P PKPbc 23 47 33.8 +1.0
baz=339
MCK McKinley 143.64 20 P PKPbc 23 47 34.3 +1.3
baz=319

HDA Harding Lake 143.67 18 P PKPbc 23 47 34.3 +1.3
baz=322
SSPA Standing Stone 143.78 297 PKPdf PKPab 23 47 33.0 -0.4
SSPA Standing Stone 143.78 297 P PKPbc 23 47 35.4 +1.3
baz=90
N19K Bonanza Creek 143.79 27 P PKPdf 23 47 35.0 -1.0
baz=309
I26K Coal Creek Min 143.85 15 P PKPbc 23 47 34.7 +1.1
baz=328
J25K Salcha River, 143.91 17 P PKPdf 23 47 35.2 -0.9
baz=324,SNR=6.7
G31M Satah River 143.92 8 P PKPbc 23 47 33.5 -0.1
baz=342,SNR=13
I27K Kandik River 143.92 14 P PKPdf 23 47 35.2 -0.8
baz=330
P17K Kvichak River 143.97 30 P PKPdf 23 47 35.3 -0.9
baz=304
SDPT Sand Point 143.97 37 P PKPbc 23 47 34.4 +0.3
baz=295
H29M Whitestone 143.98 11 P PKPbc 23 47 34.0 +0.1
baz=335,SNR=8.4
S14K Fog Glacier 144.03 36 P PKPbc 23 47 34.7 +0.3
baz=297
SKT Skwentna 144.09 24 P PKPab 23 47 33.5 -0.4
baz=314,SNR=7.5
O18K Koktuh Hills 144.09 28 P PKPdf 23 47 36.0 -0.4
baz=307,SNR=13
EPYK Eagle Plains 144.10 10 P PKPab 23 47 33.8 0.0
baz=338,SNR=12
CUT Chulitna 144.21 22 P PKPbc 23 47 34.6 -0.1
baz=316
WVNY West Valley, N 144.27 300 PKPdf PKPab 23 47 34.5 -0.7
P18K Big Mountain, 144.36 29 P PKPbc 23 47 35.5 +0.2
baz=306
N20K Mount Spurr 144.38 25 P PKPbc 23 47 35.8 +0.4
baz=312
I28M Miner Creek 144.39 13 P PKPab 23 47 35.1 +0.1
baz=333
WAT1 Susitna Watana 144.43 21 P PKPdf 23 47 36.7 -0.2
baz=318
J26L Joseph Creek 144.44 16 P PKPbc 23 47 35.9 +0.3
baz=327,SNR=13
CHGN Chignik 144.58 35 P PKPdf 23 47 37.9 +0.6
baz=298
SOR Soroa 144.59 265 PKPdf PKPab 23 47 37.4 +0.5
SOR Soroa 144.59 265 PKIKP PKPab 23 47 37.4 +0.5
DHY Denali Highway 144.59 20 PKPdf PKPab 23 47 35.7 -0.2
DHY Denali Highway 144.59 20 P PKPbc 23 47 36.2 +0.1
baz=320,SNR=6.9
CHNA Chernabura Isl 144.65 38 P PKPab 23 47 36.0 -0.1
baz=295
SUA Susitna One 144.72 24 P PKPbc 23 47 36.8 +0.3
baz=314,SNR=9.0
M22K Willow 144.72 23 P PKPab 23 47 36.3 +0.1
baz=315
Q17K Contact Creek 144.73 31 P PKPbc 23 47 37.0 +0.3
baz=304
EGAK Eagle 144.74 14 P PKPbc 23 47 36.8 +0.5
baz=330
I29M Ogilvie Camp, 144.77 12 P PKPab 23 47 36.2 -0.1
baz=335,SNR=18
SCRK Sand Creek 144.78 17 P PKPbc 23 47 36.9 +0.2
baz=326,SNR=21
WAT6 Susitna Watana 144.87 21 P PKPbc 23 47 37.4 +0.3
baz=319,SNR=13
R17L Mt. Peulik Vol 144.87 32 P PKPbc 23 47 37.4 +0.4
baz=303
Q18K Katmai Hardscr 144.89 30 P PKPab 23 47 36.6 -0.5
baz=306
O20K Slope Mountain 144.97 27 P PKPab 23 47 36.9 -0.4
baz=310
DWPF Disney Wildern 145.00 275 P PKPbc 23 47 38.8 +0.5
baz=106
ACHA Angle Creek He 145.01 31 PKPdf PKPab 23 47 37.2 -0.2
P19K Oil Pt 145.01 28 P PKPbc 23 47 37.7 +0.3
baz=309
NHSC New Hope 145.03 284 P PKPbc 23 47 38.7 +0.4
baz=99
CAPN Captain Cook N 145.06 25 P PKPdf 23 47 38.0 0.0
baz=313
PMR Palmer 145.17 23 P PKPdf 23 47 38.6 +0.5
baz=317
K27K Chicken 145.19 16 P PKPdf 23 47 38.5 +0.3
baz=329
PAX Paxson 145.22 19 P PKPdf 23 47 38.8 +0.4
baz=323,SNR=36
I30M Mount Dempster 145.22 11 P PKPbc 23 47 37.6 -0.4
baz=338,SNR=96
SML Sawmill 145.27 22 P PKPdf 23 47 40.1 +1.6
baz=318,SNR=12
MCWV Mont Chateau 145.28 295 P PKPab 23 47 39.9 +0.9
baz=90
Q19K Cape Douglas, 145.29 29 P PKPdf 23 47 39.0 +0.5
baz=308
ERPA Erie 145.31 299 P PKPab 23 47 40.0 +0.9
baz=86
RC01 Rabbit Creek A 145.33 24 P PKPdf 23 47 39.1 +0.6
baz=315
M23K Glacier View 145.47 22 P PKPbc 23 47 37.8 -1.0
baz=319,SNR=5.3
KNK Knik Glacier 145.52 22 P PKiKP 23 47 41.3 -1.6
baz=317
SCM Sheep Creek Mo 145.56 21 P PKPab 23 47 40.5 +1.1
baz=319
J29N Klondike Camp 145.61 13 P PKPab 23 47 40.9 +1.4
baz=335
HOM Homer 145.62 27 P PKPab 23 47 40.7 +1.1
baz=311
BLA Blacksburg 145.66 291 PKPdf PKPdf 23 47 38.9 -1.0
BLA Blacksburg 145.66 291 P PKPdf 23 47 40.4 +0.5
baz=93
BLA Blacksburg 145.66 291 PKP2 PKPdf 23 47 38.9 -1.0
M24K Tolsona, Glenn 145.70 20 P PKPab 23 47 40.0 +0.1
baz=321
L26K Log Cabin Wild 145.73 17 P PKPab 23 47 40.5 +0.5
baz=326
DAWY Dawson 145.74 14 P PKPab 23 47 40.8 +0.8
baz=333,SNR=13
R18K Karluk 145.76 31 P PKPdf 23 47 39.6 +0.3
baz=305
HARP HAARP 145.76 19 P PKPab 23 47 40.3 +0.2
baz=323
O22K Cooper Landing 145.76 24 P PKPab 23 47 40.1 0.0
baz=315
J30M Hart River 145.83 11 P PKPab 23 47 40.5 +0.1
baz=337,SNR=41
M53A WI Miller and 145.86 298 P PKPdf 23 47 40.7 +0.7
baz=87
BRSE Bradley Lake S 145.91 26 P PKPbc 23 47 40.1 -0.1
baz=312
Q20K Shuyak Island 146.00 28 P PKPab 23 47 40.9 -0.1
baz=309
L27K Beaver Creek, 146.08 16 P PKPab 23 47 41.5 +0.3
baz=328,SNR=20
BCAR Beaver Creek A 146.08 16 PKPdf PKPdf 23 47 39.8 0.0
SEW Seward 146.13 25 P PKPab 23 47 41.6 +0.1
baz=315
CHIR Chirikof Islan 146.18 34 P PKPdf 23 47 40.5 +0.5
baz=301
KMSC Kings Mountain 146.24 287 P PKPab 23 47 43.3 +0.6
baz=96
KLU Klutina 146.25 21 P PKPbc 23 47 41.6 +0.2
baz=321
K29M Barlow Dome 146.30 13 P PKPbc 23 47 41.3 -0.2
baz=335,SNR=22
O53A New Philadelph 146.32 296 P PKPbc 23 47 42.6 +0.5
baz=88
M26K Nabesna, AK 146.34 18 P PKPab 23 47 42.1 -0.2
baz=326
GLI Glacier Island 146.36 22 P PKPab 23 47 42.2 -0.2
baz=319
KDAK Kodiak Island 146.44 30 P PKPab 23 47 42.9 +0.2
baz=308
SII Sitkinak Islan 146.45 33 P PKPbc 23 47 41.4 -0.5
baz=304
OHAK Old Harbor 146.47 31 P PKPab 23 47 42.8 -0.1
baz=306
N25K Chitina, Valde 146.55 20 P PKPab 23 47 43.1 -0.1
baz=323,SNR=19
M27K Edge Creek, AK 146.66 17 P PKPab 23 47 43.5 -0.2
baz=328,SNR=7.6
L29M L29M 146.85 14 P PKPbc 23 47 43.2 +0.2
baz=334
P23K Montague Islan 146.92 23 P PKPbc 23 47 43.5 +0.4
baz=317
EYAK Cordova Ski Ar 147.04 22 P PKPab 23 47 44.4 -0.6
baz=320
P52A Corning 147.05 295 P PKPab 23 47 45.5 -0.2

baz=88
BMRM Bremner River 147.06 20 P PKPbc 23 47 44.4 +0.8
baz=322
FCC Fort Churchill 147.07 334 PKPbc 23 47 43.3 -0.3
FCC Fort Churchill 147.07 334 PKP2 PKPbc 23 47 43.3 -0.3
MCARA McCarthy VSAT 147.18 19 P PKPab 23 47 45.0 -0.5
baz=325
M29M Somme Creek 147.38 14 P PKPab 23 47 45.8 -0.6
baz=333
YUK3 Moose Creek 147.51 16 P PKPbc 23 47 45.4 +0.3
baz=329
TIGA Tifton 147.59 280 P PKPbc 23 47 45.1 -0.8
baz=101
M30M Minto, Yukon 147.59 13 P PKPbc 23 47 46.0 +0.9
baz=336
ACSO Alum Creek Sta 147.68 296 P PKPdf 23 47 44.6 +1.5
baz=87
CRQE Cirque 147.68 20 P PKPbc 23 47 46.1 +0.7
baz=324
Q23K Middleton Isla 147.70 23 P PKPbc 23 47 45.0 -0.3
baz=318
GOGA Godfrey 147.79 284 P PKPdf 23 47 45.0 +1.5
baz=98
TEIG Tepich 147.94 257 PKPbc 23 47 46.7 -0.5
KAIM Kayak Island 147.94 21 P PKPdf 23 47 42.6 -0.3
baz=322
CTG Chitna Glacier 147.98 18 P PKPdf 23 47 44.8 +1.7
baz=327
Q51A Peebles 148.00 294 PKPbc PKPbc 23 47 45.9 -0.9
YUK8 Steele Glacier 148.10 16 P PKPbc 23 47 47.7 +0.9
baz=330
TZTN Tazewell 148.14 289 P PKPbc 23 47 47.3 0.0
baz=92
M31M Drury Creek, Y 148.37 11 P PKPbc 23 47 47.0 -0.1
baz=339
WRGLY Wrigley 148.40 1 P PKPbc 23 47 47.9 +0.9
baz=357
MMPY Sheldon Lake, 148.43 8 PKPbc PKPbc 23 47 47.8 +0.5
MMPY Sheldon Lake, 148.43 8 P PKiKP 23 47 49.1 +0.2
baz=344
O28M Mount Upton 148.44 17 P PKiKP 23 47 49.5 +0.3
baz=329
MESA MESA 148.47 19 P PKPbc 23 47 47.2 -0.5
baz=326
N30M Aishikik Lake 148.55 14 P PKPbc 23 47 47.5 -0.1
baz=334
YUK6 Outpost Mounta 148.73 16 P PKPbc 23 47 47.1 -1.2
baz=332
N31M Braeburn, Yuko 148.79 13 P PKiKP 23 47 49.4 -0.2
baz=336
YKA Yellowknife Ar 148.81 354 PKPdf PKPdf 23 47 43.9 -0.3
YKA Yellowknife Ar 148.81 354 PKPbc PKPbc 23 47 47.8 -0.4
comp=Z,12nm,0.8s,baz=1.5,slow=2.7,SNR=44
YKA Yellowknife Ar 148.81 354 c PKP2 PKPbc 23 47 48.2 +0.1
YKA pmax pmax
comp=Z,12nm,0.8s
PINM Pinnacle 149.00 18 P PKPbc 23 47 49.5 +0.7
baz=328
HYT Haines Junctio 149.03 15 P PKPbc 23 47 49.4 +0.4
baz=333
P49A Miami Univ. Ec 149.05 295 P PKPbc 23 47 49.8 +0.3
baz=87
O29M Mount Kennedy 149.25 16 P PKPbc 23 47 50.1 +0.6
baz=331
O48B Farmland 149.34 297 P PKPbc 23 47 50.1 -0.1
baz=85
O30N Mendenhall 149.38 14 P PKPbc 23 47 50.1 +0.4
baz=335
PNL Peninsula 149.59 18 P PKPbc 23 47 50.0 -0.2
baz=329
P30M Million Dollar 149.78 15 P PKPbc 23 47 51.0 +0.2
baz=334
P29M Windy Craggy 150.04 16 P PKPbc 23 47 51.4 0.0
baz=332
WCI Wyandotte Cave 150.33 293 PKPdf 23 47 46.7 -0.8
WCI PKPbc 23 47 52.5 -0.2
WCI Wyandotte Cave 150.33 293 P PKPbc 23 47 52.1 -0.6
baz=88
WCI Wyandotte Cave 150.33 293 PKIKP PKPdf 23 47 46.7 -0.8
WCI 23 47 52.5
BRAL Brewton 150.45 278 P PKiKP 23 47 54.0 +0.1
baz=100
P33M Teslin, Yukon 150.51 11 P PKiKP 23 47 53.2 0.0
baz=340
PLBC Pleasant Camp 150.51 15 P PKPbc 23 47 52.8 +0.4
baz=334
LRAL Lakeview Retre 150.69 282 P PKPbc 23 47 53.7 0.0
baz=97
SFIN Lafayette 150.80 297 P PKPbc 23 47 52.8 -0.9
baz=84
P32M Atlin 150.93 13 P PKPbc 23 47 53.6 +0.1
baz=338
L44A Lake County Fo 151.15 301 P PKPbc 23 47 53.8 -0.7
baz=80
KOTAN Kotaneelee Air 151.48 2 P PKPbc 23 47 54.9 +0.2
baz=356
R33M Jennings River 151.58 10 P PKiKP 23 47 55.7 +0.2
baz=343
WVT Waverly 151.58 288 PKPbc 23 47 53.9 -1.8
WVT Waverly 151.58 288 P PKPbc 23 47 55.3 -0.4
baz=91
WVT Waverly 151.58 288 PKIKP PKPbc 23 47 53.9 -1.8
Q32M Nakina River 151.78 12 P PKiKP 23 47 56.9 +0.8
baz=341
EYMN Ely 151.87 314 P PKPbc 23 47 56.3 +0.3
baz=66
S31K Pelican 151.89 16 P PKPbc 23 47 53.6 -2.1
baz=333
HDIL Hopedale 152.44 298 P PKPbc 23 47 56.8 -0.7
baz=81
DLBC Dease Lake 152.63 9 P PKiKP 23 47 58.4 +0.7
baz=344
JFWS Jewell Farm 152.69 303 P PKiKP 23 47 58.9 +0.7
baz=76
TOAD Toad River Com 152.71 4 P PKiKP 23 47 58.1 +0.3
baz=353
OXF Oxford 152.81 285 P PKPbc 23 47 58.4 -0.1
baz=93
Y45A Yeager Farm, C 152.88 283 PKPbc PKPbc 23 47 57.1 -1.6
SIT Sitka 152.92 16 P PKPbc 23 47 57.3 -0.7
baz=334
S34M Telegraph Cree 152.97 11 P PKPbc 23 47 58.0 -0.1
baz=342
FFC Flin Flon 152.99 334 PKPbc 23 47 57.5 -0.8
FFC PKPab 23 48 08.9 -0.7
FFC Flin Flon 152.99 334 PKIKP PKPbc 23 47 57.5 -0.8
FFC 23 48 08.9
ULM Lac du Bonnet 153.26 321 PKPdf PKPdf 23 47 50.3 -1.2
ULM PKPbc 23 47 57.9 -1.1
ULM PKPab 23 48 11.3 +0.5
ULM Lac du Bonnet 153.26 321 PKPbc PKPbc 23 47 58.3 -0.7
comp=Z,13nm,0.8s,baz=50,slow=2.9,SNR=27
ULM Lac du Bonnet 153.26 321 PKIKP PKPdf 23 47 50.3 -1.2
ULM 23 47 57.9
SPMN Marine on St. 153.75 309 P PKPbc 23 48 00.6 +0.4
baz=69
T35M Bob Quinn 154.00 11 P PKPbc 23 48 00.6 +0.1
baz=343
WRAK Wrangell Islan 154.16 14 P PKPbc 23 47 58.2 -2.5
baz=339
CCM Cathedral Cave 154.24 293 PKPbc 23 47 59.0 -2.6
CCM PKPab 23 48 13.1 -2.3
CCM Cathedral Cave 154.24 293 P PKPbc 23 47 58.9 -2.6
baz=85
U33K Whale Pass 154.28 15 P PKPbc 23 47 58.6 -2.4
baz=337
AGMN Agassiz Nation 154.30 318 P PKPbc 23 48 01.6 +0.3
baz=59
CRAG Craig 154.88 15 P PKPbc 23 48 02.0 -0.2
baz=336
CBKS Cedar Bluff 160.68 298 P PKPdf 23 48 00.7 -0.7
baz=75
JCT Junction City 161.16 272 P PKPdf 23 48 01.2 -1.0
baz=99
AMTX Amarillo 162.91 286 P PKPdf 23 48 03.2 -0.7
baz=85
NEW Newport 163.04 349 PKPab PKPab 23 48 52.8 -0.4
NEW Newport 163.04 349 P PKPdf 23 48 02.8 -0.7
baz=13
NEW Newport 163.04 349 PKP2 PKPab 23 48 52.8 -0.4
RLMT Red Lodge 163.40 328 P PKPdf 23 48 04.5 +0.3
baz=40
MSO Missoula 163.70 341 P PKPdf 23 48 04.7 +0.5
baz=24
MSTX Muleshoe 163.88 283 P PKPdf 23 48 05.0 +0.1
baz=87
BOZ Bozeman (W) 164.01 333 P PKPdf 23 48 04.6 -0.1

baz=33
TXAR Lajitas Array 164.24 266 PKP **PKPdf 23 48 05.4 +0.1**
comp=Z,1.8nm,1.0s,baz=90,slow=1.8,SNR=6.8
TXAR PKPab **PKPab 23 49 00.3 +1.0**
comp=Z,1.4nm,0.8s,baz=112,slow=5.6,SNR=8.2
N23A Red Feather La 164.29 310 P **PKPdf 23 48 04.7 -0.5**
baz=59
H17A Grant Village 164.56 329 P **PKPdf 23 48 03.6 -1.7**
baz=38
ISCO Idaho Springs 164.60 306 P **PKPdf 23 48 04.8 -0.8**
baz=63
Q24A Divide 164.62 303 P **PKPdf 23 48 04.8 -0.8**
baz=66
T25A Trinidad 164.68 296 P **PKPdf 23 48 04.9 -0.8**
baz=74
BW06 Boulder Array 165.28 322 P **PKPdf 23 48 05.8 -0.2**
baz=45
PDAR Pinedale Array 165.28 322 **PKPdf 23 48 05.1 -0.9**
PDAR Pinedale Array 165.28 322 PKP **PKPdf 23 48 06.0 0.0**
comp=Z,2.4nm,0.9s,baz=129,slow=2.1,SNR=16
PDAR PKPab **PKPab 23 49 04.2 +0.7**
comp=Z,0.5nm,0.5s,baz=72,slow=4.8,SNR=4.2
SDCO Great Sand Dun 165.33 299 P **PKPdf 23 48 06.1 -0.2**
baz=70
O20A White River Ci 166.18 311 P **PKPdf 23 48 07.0 +0.2**
baz=56
S22A 4UR Ranch, Cre 166.31 300 P **PKPdf 23 48 06.2 -0.8**
baz=68
HLID Hailey 166.78 336 P **PKPdf 23 48 06.5 -0.5**
baz=28
ANMO Albuquerque 166.79 288 P **PKPdf 23 48 05.9 -1.4**
baz=80
MVCO Mesa Verde 167.74 300 P **PKPdf 23 48 07.1 -1.0**
baz=67
121A Cookes Peak, D 168.12 278 P **PKPdf 23 48 07.1 -1.2**
baz=89
DUG Dugway, Tooele 168.82 322 P **PKPdf 23 48 06.7 -1.9**
baz=43
W18A Petrified Fore 169.38 292 P **PKPdf 23 48 08.0 -1.2**
baz=74
ELK Elko 169.52 332 PKPab **PKPab 23 49 22.2 0.0**
ELK Elko 169.52 332 PKP2 **PKPab 23 49 22.2 0.0**
TUC Tucson 170.66 277 P **PKPdf 23 48 08.7 -1.1**
baz=89
R11B Troy Canyon, C 171.63 325 P **PKPdf 23 48 09.6 -0.6**
baz=38
214A Organ Pipe Nat 172.39 275 P **PKPdf 23 48 09.8 -0.8**
baz=90
NVAR Mina Array Bea 172.68 338 PKPdf **PKPdf 23 48 11.7 +1.0**
NVAR Mina Array Bea 172.68 338 PKP **PKPdf 23 48 12.2 +1.4**
comp=Z,0.7nm,0.7s,baz=184,slow=2.5,SNR=5.5
TPNV Topopah Spring 173.03 321 P **PKPdf 23 48 09.2 -1.7**
baz=42
NEE2 Needles Airpor 173.27 299 P **PKPdf 23 48 09.9 -0.9**
baz=64
DSP Deep Springs 173.50 332 PKPab **PKPab 23 49 40.1 +0.4**
MLAC Mammoth, Mammo 173.58 339 P **PKPdf 23 48 09.6 -1.6**
baz=22
FURC Furnace Creek, 173.72 321 P **PKPdf 23 48 13.1 +2.2**
baz=41
SHOC Shoshone, Teco 173.78 314 P **PKPdf 23 48 12.5 +1.5**
baz=48
TUQ Turquoise Moun 173.85 309 P **PKPdf 23 48 14.3 +3.1**
baz=53
IRM Iron Mountain 173.91 296 P **PKPdf 23 48 13.9 +2.7**
baz=67
GLA Glamis 173.98 285 P **PKPdf 23 48 13.9 +2.7**
baz=78
GMRC Granite Mounta 174.02 303 P **PKPdf 23 48 13.7 +2.4**
baz=60
BC3 Big Chuckawall 174.33 292 P **PKPdf 23 48 13.2 +1.8**
baz=71
CWC Cottonwood Cre 174.34 328 P **PKPdf 23 48 13.4 +2.0**
baz=33
MPMC Manual Prospec 174.36 322 P **PKPdf 23 48 13.4 +1.9**
baz=39
HEC Hector,Ludlow 174.47 306 P **PKPdf 23 48 13.8 +2.5**
baz=56
GSC Goldstone, Bar 174.50 313 P **PKPdf 23 48 13.9 +2.5**
baz=49
BELC Belle Mtn. Jos 174.62 297 P **PKPdf 23 48 13.9 +2.4**
baz=65
SWSC Sam W. Stewart 174.80 286 P **PKPdf 23 48 13.5 +2.1**
baz=77
LRMC Laurel Mtn Rad 174.90 319 P **PKPdf 23 48 14.4 +2.9**
baz=42
IKP In-Ko-Pah, Jac 175.12 283 P **PKPdf 23 48 11.2 -0.4**
baz=79
TPFO Pinon Flats 175.13 295 P **PKPdf 23 48 13.2 +1.5**
baz=67
PFO Pinyon Flats O 175.13 295 P **PKPdf 23 48 13.4 +1.7**
baz=67
ISA Isabella, Lake 175.16 327 P **PKPdf 23 48 14.3 +2.7**
baz=34
MONP2 Monument Peak 175.32 287 P **PKPdf 23 48 12.1 +0.3**
baz=76
EDW2 Edwards Air Fo 175.50 317 P **PKPdf 23 48 14.4 +2.7**
baz=44
MURC Murrieta 175.70 298 P **PKPdf 23 48 12.7 +1.0**
baz=64
MOUN Mount Baldy Ra 175.71 308 P **PKPdf 23 48 13.5 +1.7**
baz=53
ARVC Arvin 175.77 326 P **PKPdf 23 48 12.5 +0.9**
baz=35
109C Camp Elliot, M 175.88 289 P **PKPdf 23 48 12.1 +0.4**
baz=73
PKM Mcpherson Peak 176.39 334 P **PKPdf 23 48 12.6 +0.6**
baz=26
CIS Catalina Islan 176.69 303 P **PKPdf 23 48 11.1 -0.8**
baz=58
SBC Santa Barbara 176.74 329 P **PKPdf 23 48 11.6 -0.2**
baz=31
SCI2 San Clemente I 176.99 297 P **PKPdf 23 48 11.6 -0.3**
baz=64
SCZ2 Santa Cruz Isl 177.07 323 P **PKPdf 23 48 11.9 -0.1**
baz=36
SNCC San Nicolas Is 177.54 311 P **PKPdf 23 48 11.3 -0.7**
baz=49

RHSSO 10 23:39:05.2±0.5, 42°.74N×18°.51E, h6km±3km, ML1.3/3, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TREB	**Trebinje**	**0.12**	**261**	*e*Pg	Pg	23 39 07.9	+0.2
TREB				*e*Sg	Sg	23 39 10.8	+1.5
BRY	**Bratogost**	**0.17**	**8**	↑*i*Pg	Pg	23 39 09.0	+0.3
BRY				*e*Sg	Sg	23 39 11.8	+0.8
DBRK	**Dubrovnik**	**0.27**	**256**	*e*Pg	Pg	23 39 09.9	-0.6
DBRK				Sg	Sg	23 39 14.5	+0.4
KLINJ	**Klinje**	**0.44**	**8**	*e*Pg	Pg	23 39 13.2	-0.5
KLINJ				*e*Sg	Sg	23 39 19.9	+0.4
UPM	**Unac-Piva**	**0.55**	**32**	*e*Pg	Pg	23 39 15.3	-0.6
UPM				*e*Sg	Sg	23 39 23.7	+0.6
STON	**Ston**	**0.61**	**283**	*e*Pg	Pg	23 39 15.0	-1.9
STON				Sg	Sg	23 39 25.4	+0.5
STON	**Ston**	**0.61**	**283**	↑*i*Pg	Pg	23 39 15.9	-1.0
STON				*e*Sg	Sg	23 39 25.1	+0.3
DRME	**Dracevica, Mon**	**0.74**	**137**	*e*Sg	Sg	23 39 29.1	0.0
RUDO	**Rudo**	**1.08**	**35**	*e*Pg	Pg	23 39 24.8	-1.2
RUDO				*e*Sg	Sg	23 39 39.5	-0.6
MAKA	**Makarska**	**1.22**	**297**	Sg	Sg	23 39 44.3	-0.2
RICI	**Ricice**	**1.26**	**307**	Sg	Sn	23 39 46.6	-0.1
HVAR	**Hvar**	**1.57**	**287**	Sn	Sn	23 39 54.0	-0.4

*IDC **10** 23:40:43.0±1.1, 14°.47N×144°.97E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=29.5km s-min=16.1km az=75.0*
*NEIC **10** 23:40:47.7±1.5, 14°.43N±0°.06×145°.6E±0°.4, h46km±16km, mb4.2/8, Error ellipse: s-maj=53.1km s-min=4.2km az=98.0*
ISC 10 23:40:46.0±1.7, 14°.39N±0°.10×145°.4E±0°.4, h35km, n18, σ1°.20/18, mb4.1/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.95**	**213**	Pn	**Pn**	**23 41 02.0**	**-0.7**
	103nm,0.3s,baz=5.0,slow=24,SNR=21						
JTM	**Tenmabayashi**	**26.57**	**353**	P	**P**	**23 46 20.7**	**0.0**
KSRS	**Korea Array**	**27.74**	**329**	P	**P**	**23 46 31.4**	**+0.1**
	0.7nm,0.5s,baz=149,slow=9.4,SNR=2.8						
	0.7nm,0.5s						
WRAB	**Tennant Creek**	**35.79**	**198**	P	**P**	**23 47 43.2**	**+1.1**
WB2	**Warramunga Arr**	**35.80**	**198**	P	**P**	**23 47 41.7**	**-0.4**
WB2				IAmb	IAmb	23 47 53.0	
	comp=Z,9.2nm,1.2s						
WRA	**Warramunga Arr**	**35.81**	**198**	P	**P**	**23 47 45.1**	**+2.9**
	comp=Z,0.5nm,0.8s,baz=22,slow=9.0,SNR=2.5						
	comp=Z,0.5nm,0.8s						
STKA	**Stephens Creek**	**46.14**	**184**	P	**P**	**23 49 06.3**	**-0.8**
SONM	**Songino Array**	**46.39**	**324**	P	**P**	**23 49 08.3**	**-0.8**
SONM				IAmb	IAmb	23 49 10.0	
	comp=Z,1.1nm,0.7s						
SONM	**Songino Array**	**46.39**	**324**	P	**P**	**23 49 09.4**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=140,slow=7.1,SNR=9.7						
	comp=Z,1.1nm,0.6s						
MK31	**Makanchi Array**	**61.28**	**316**	P	**P**	**23 50 59.0**	**+1.1**
MK31				IAmb	IAmb	23 51 00.0	
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**61.28**	**316**	P	**P**	**23 50 58.7**	**+0.8**
MKAR	**Makanchi Array**	**61.28**	**316**	P	**P**	**23 50 59.3**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=92,slow=8.6,SNR=16						
	comp=Z,1.5nm,0.6s						
ZALV	**Zalesovo Beam**	**61.28**	**324**	P	**P**	**23 50 56.6**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=114,slow=7.1,SNR=3.7						
	comp=Z,0.8nm,0.6s						
MAKZ	**Makanchi**	**61.50**	**316**	P	**P**	**23 50 59.9**	**+0.5**
MAKZ				IAmb	IAmb	23 51 01.5	
	comp=Z,2.3nm,0.7s						
KURBB	**Kurchatov Arra**	**64.36**	**319**	P	**P**	**23 51 18.0**	**-0.2**
	comp=Z,3.5nm,0.6s,baz=98,slow=7.0,SNR=36						
	comp=Z,3.5nm,0.6s						
KKAR	**Karatay Array**	**69.32**	**311**	P	**P**	**23 51 51.6**	**+1.5**
BVAR	**Borovoye Array**	**69.63**	**322**	P	**P**	**23 51 51.0**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=106,slow=7.6,SNR=10						
	comp=Z,1.3nm,0.6s						
ABKAR	**Akbulak array**	**76.31**	**318**	P	**P**	**23 52 30.0**	**-1.3**

*IDC **10** 23:44:42.8±1.4, 31°.70S×58°.44E, h0km, mb4.0/6, mbtmp4.0/6, MS4.0/1, Error ellipse: s-maj=47.0km s-min=27.9km az=93.0*
ISC 10 23:44:45.1±1.6, 31°.7S±0°.2×58°.4E±0°.4, h14km, n16, σ0°.18/6, mb4.1/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.32**	**198**	T	T	00 04 18.5	
	baz=22						
H04N1	**CROZET ISLANDS**	**15.33**	**198**	T	T	00 04 19.6	
	baz=22						
H04N3	**CROZET ISLANDS**	**15.34**	**198**	T	T	00 04 18.3	
	baz=22						
H08S1	**Diego Carcia H**	**27.28**	**32**	T	T	00 18 48.1	
	baz=206,slow=76,SNR=17						
H08S2	**Diego Garcia H**	**27.29**	**32**	T	T	00 18 45.7	
	baz=206,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**27.30**	**32**	T	T	00 18 46.9	
	baz=206,slow=76,SNR=17						
H01W2	**Cape Leeuwin H**	**46.16**	**110**	T	T	00 42 18.9	
	baz=257,slow=74,SNR=10						
H01W3	**Cape Leeuwin H**	**46.16**	**110**	T	T	00 42 22.4	
	baz=257,slow=74,SNR=12						
H01W1	**Cape Leeuwin H**	**46.18**	**110**	T	T	00 42 18.2	
	baz=257,slow=74,SNR=12						
WSAR	**Wadi Sarin**	**54.63**	**0**	LR	LR	00 14 15.2	
	comp=Z,146nm,19.4s,baz=76,slow=32						
QSPA	**South Pole Qui**	**58.46**	**180**	P	**P**	**23 54 40.5**	**0.0**
	1.1nm,0.6s,baz=270,slow=1.7,SNR=16						
	1.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.22**	**44**	P	**P**	**23 55 13.2**	**0.0**
	0.8nm,0.5s,baz=230,slow=7.0,SNR=5.4						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**66.12**	**104**	P	**P**	**23 55 32.1**	**-0.2**
	1.1nm,0.6s,baz=238,slow=6.0,SNR=13						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**68.12**	**101**	P	**P**	**23 55 45.2**	**+0.1**
	1.4nm,0.7s,baz=240,slow=6.0,SNR=6.7						
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**83.88**	**13**	P	**P**	**23 57 14.0**	**+0.1**
	0.5nm,0.5s,baz=204,slow=5.8,SNR=4.5						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**85.02**	**7**	P	**P**	**23 57 19.5**	**-0.2**
	0.6nm,0.5s,baz=183,slow=5.9,SNR=5.3						
	0.6nm,0.5s						

GII 11 00:09:10.4±0.2, 32°.872N±0°.001×35°.557E±0°.001, h5km, Mws1.1, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIR	**Sapir Facility**	**0.02**	**243**	P	Pg	00 09 11.0	-0.2
SPIR				S	Sg	00 09 12.2	+0.3
KNHM	**Kefar Nahum**	**0.02**	**59**	P	Pg	00 09 10.9	-0.5
KNHM				S	Sg	00 09 11.7	-0.4
AMID	**Amiad**	**0.06**	**345**	P	Pg	00 09 11.9	+0.1
HDNS	**Had-Ness**	**0.09**	**52**	P	Pg	00 09 12.4	+0.1
HDNS				S	Sg	00 09 14.5	+0.9
TVER	**Teveria**	**0.09**	**189**	P	Pg	00 09 12.2	-0.1
TVER				S	Sg	00 09 14.3	+0.6
RMOT	**Ramot**	**0.09**	**103**	P	Pg	00 09 12.3	-0.1
RMOT				S	Sg	00 09 14.3	+0.6
RSPN	**Rosh Pina**	**0.10**	**355**	P	Pg	00 09 12.5	0.0
RSPN				S	Sg	00 09 14.3	+0.4
ZEFT	**Zefat**	**0.11**	**331**	P	Pg	00 09 12.7	0.0
ZEFT				S	Sg	00 09 15.1	+0.8
ENGV	**Ein-Gev**	**0.11**	**143**	P	Pg	00 09 12.1	-0.6
ENGV				S	Sg	00 09 15.4	+1.1
MMA0B	**Mount Meron ar**	**0.19**	**318**	P	Pg	00 09 14.3	+0.1
MMA0B	**Mount Meron ar**	**0.19**	**318**	S	Sg	00 09 18.0	+1.2
KSHT	**Keshet**	**0.24**	**63**	S	Sg	00 09 19.3	+1.1
KSHT	**Keshet**	**0.24**	**63**	P	Pg	00 09 15.1	+0.1
GEM	**Giv'at Ha'Em**	**0.35**	**15**	P	Pg	00 09 17.5	+0.4
GEM	**Giv'at Ha'Em**	**0.35**	**15**	S	Sb	00 09 23.6	-1.4
GEM	**Giv'at Ha'Em**	**0.35**	**15**	P	Pg	00 09 17.4	+0.3
HNTI	**Hanita**	**0.38**	**303**	P	Pg	00 09 17.7	-0.1
HNTI	**Hanita**	**0.38**	**303**	S	Sb	00 09 25.0	-1.0
HNTI	**Hanita**	**0.38**	**303**	P	Pg	00 09 17.9	+0.1
HNTI	**Hanita**	**0.38**	**303**	S	Sb	00 09 25.0	-1.0
MMLI	**Mount Malkishu**	**0.45**	**195**	P	Pg	00 09 19.4	+0.4
MMLI	**Mount Malkishu**	**0.45**	**195**	S	Sb	00 09 26.5	-1.3
MMLI	**Mount Malkishu**	**0.45**	**195**	P	Pg	00 09 19.4	+0.4
MMLI	**Mount Malkishu**	**0.45**	**195**	S	Sb	00 09 26.5	-1.3
HMDT	**Nahal Hemdat**	**0.62**	**182**	P	Pg	00 09 22.1	-0.2
HMDT	**Nahal Hemdat**	**0.62**	**182**	S	Sb	00 09 31.6	-1.0
HMDT	**Nahal Hemdat**	**0.62**	**182**	P	Pg	00 09 22.3	0.0
HMDT	**Nahal Hemdat**	**0.62**	**182**	S	Sb	00 09 31.6	-1.0

GII 11 00:10:01.9±0.1, 32°.860N±0°.001×35°.564E±0°.001, h4km, Mws0.6, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIR	**Sapir Facility**	**0.02**	**283**	P	Pg	00 10 02.8	+0.1
SPIR				S	Sg	00 10 03.9	+0.6
KNHM	**Kefar Nahum**	**0.03**	**28**	P	Pg	00 10 02.9	+0.1
KNHM				S	Sg	00 10 03.8	+0.3
RMOT	**Ramot**	**0.09**	**96**	P	Pg	00 10 04.1	+0.4
RMOT				S	Sg	00 10 05.8	+0.9
HDNS	**Had-Ness**	**0.09**	**44**	P	Pg	00 10 04.4	+0.5
HDNS				S	Sg	00 10 06.3	+1.1
MMA0B	**Mount Meron ar**	**0.21**	**319**	P	Pg	00 10 06.6	+0.6
MMA0B	**Mount Meron ar**	**0.21**	**319**	S	Sg	00 10 10.2	+1.5
KSHT	**Keshet**	**0.24**	**60**	S	Sg	00 10 11.2	+1.4
KSHT	**Keshet**	**0.24**	**60**	P	Pg	00 10 06.8	+0.2

*NEIC **11** 00:10:44.4±1.1, 19°.393N±0°.010×155°.266W±0°.006, h5km±1km, Error ellipse: s-maj=1.9km s-min=1.6km az=334.0*
HVO 11 00:10:44.2±0.7, 19°.402N±0°.007×155°.267W±0°.008, h0km±3km, ML3.5/36, ML2.9/31(NEIC), Error ellipse: s-maj=1.1km s-min=1.0km az=215.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.01**	**165**		Pg	00 10 44.6	+0.1
RIM	**Rim**	**0.01**	**223**		Pg	00 10 44.6	+0.1
BYL	**Byron's Ledge**	**0.01**	**35**		Pg	00 10 44.6	0.0
HATHI	**Halema'uma'u T**	**0.02**	**16**	Pg	Pg	00 10 44.9	+0.2
OBL	**Observatory Le**	**0.02**	**314**		Pg	00 10 45.0	+0.3
SBLHI	**Steaming Bluff**	**0.03**	**358**		Pg	00 10 45.2	+0.4
UWB	**Uwekahuna B**	**0.03**	**336**		Pg	00 10 45.2	+0.4
SDHHI	**Sand Hill**	**0.03**	**243**		Pg	00 10 45.2	+0.5
UWE	**Uwekahuna**	**0.03**	**308**	Pg	Pg	00 10 45.2	+0.3
WRMHI	**West Rim**	**0.03**	**278**		Pg	00 10 45.4	+0.6
PUH	**Pauahi**	**0.06**	**120**	Pg	Pg	00 10 45.6	+0.3
PUH				IAML		00 10 46.6	
	comp=E,11μm,0.7s						
PUH				IAML		00 10 46.8	
	comp=N,13μm,0.2s						
RSD	**Rainshed**	**0.06**	**350**	Pg	Pg	00 10 45.8	+0.3
RSD				IAML		00 10 46.9	
	comp=N,4μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.10**	**104**	Pg	Pg	00 10 46.5	+0.4
HLP	**Hilina Pali**	**0.11**	**200**	Pg	Pg	00 10 46.8	+0.4
HLP				IAML		00 10 49.3	
	comp=E,6μm,0.9s						
HLP				IAML		00 10 49.4	
	comp=N,7μm,1.3s						
STCH	**Steam Cracks**	**0.14**	**97**	Pg	Pg	00 10 47.2	+0.4
STCH				IAML		00 10 50.3	
	comp=N,5μm,0.7s						
MLH	**Mauna Loa**	**0.14**	**309**	Pg	Pg	00 10 48.1	+1.0
MLH				IAML		00 10 51.4	
	comp=N,2μm,0.7s						
MLH				IAML		00 10 51.4	
	comp=E,5μm,1.1s						
NPOC	**North of Pu'u**	**0.15**	**94**		Pg	00 10 47.8	+0.7
JCUZ	**Jacuzzi**	**0.16**	**97**		Pg	00 10 47.9	+0.6
HTC	**Hot Caves**	**0.20**	**217**		Pg	00 10 48.9	+0.8
JOKA	**Jonika Flow**	**0.25**	**83**	Pg	Pg	00 10 49.4	+0.3
JOKA				IAML		00 10 56.6	
	comp=N,3μm,0.8s						
JOKA				IAML		00 10 57.0	
	comp=E,2μm,0.8s						
HMH	**Humu'ula Sheep**	**0.28**	**314**	Pg	Pg	00 10 49.7	0.0
HMH					Sg	00 10 53.3	-0.1
HMH				IAML		00 10 58.8	
	comp=N,2μm,0.7s						
HMH				IAML		00 10 59.1	
	comp=E,2μm,1.6s						
PAH	**Pahoa**	**0.32**	**73**	Pg	Pg	00 10 50.6	+0.3
MLOA	**Mauna Loa Obse**	**0.32**	**295**	Pg	Pg	00 10 51.2	+0.8
MLOA				Sg	Sg	00 10 54.6	+0.1
MLOA				IAML		00 10 57.2	
	comp=N,2μm,0.8s						
MLOA				IAML		00 11 00.0	
	comp=E,3μm,0.9s						
MWH	**Moku'aweowe**	**0.32**	**285**	Pg	Pg	00 10 51.4	+1.0
KHU	**Kahuku**	**0.36**	**245**	Pg	Pg	00 10 51.8	+0.6
ALEP	**Alea Permanent**	**0.38**	**291**		Pg	00 10 52.1	+0.6
ALEP					Sg	00 10 58.3	+1.8
HPO	**Honuapo**	**0.41**	**221**	Pg	Pg	00 10 52.3	+0.1
POHA	**Pohakuloa**	**0.43**	**325**	Pg	Pg	00 10 53.1	+0.5
POHA	**Pohakuloa**	**0.43**	**325**	IAML		00 11 03.6	
	comp=E,2μm,0.6s						
HUH	**Hualalai**	**0.60**	**298**	Pg	Pg	00 10 56.7	+0.9
CPH	**Captain Cook**	**0.62**	**278**		Pg	00 10 54.9	-1.2
HPAH	**Hawaii Prepara**	**0.74**	**327**	Pg	Pg	00 10 57.9	-0.7
MHA	**Mahukona**	**0.98**	**323**	Pg	Pg	00 11 01.0	-2.1

IDC 11 00:11:45.2±1.6, 31°.86S×58°.66E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=57.4km s-min=31.8km az=109.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.23**	**198**	T	T	00 31 11.2	
	baz=21,slow=75,SNR=31						
H04N1	**CROZET ISLANDS**	**15.24**	**198**	T	T	00 31 12.3	
	baz=21,slow=75,SNR=26						
H04N3	**CROZET ISLANDS**	**15.25**	**198**	T	T	00 31 11.0	
	baz=21,slow=75,SNR=30						
H08S1	**Diego Carcia H**	**27.32**	**31**	T	T	00 45 52.8	
	baz=207,slow=76,SNR=18						
H08S2	**Diego Garcia H**	**27.33**	**31**	T	T	00 45 53.5	
	baz=207,slow=76,SNR=9.2						
H08S3	**Diego Garcia H**	**27.34**	**31**	T	T	00 45 54.3	
	baz=207,slow=76,SNR=18						
H01W2	**Cape Leeuwin H**	**45.92**	**110**	T	T	01 09 51.0	
	baz=257,slow=75,SNR=11						
H01W3	**Cape Leeuwin H**	**45.93**	**109**	T	T	01 09 54.0	
	baz=257,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**45.94**	**110**	T	T	01 09 55.0	
	baz=257,slow=75,SNR=11						
QSPA	**South Pole Qui**	**58.30**	**180**	P	P	00 21 41.1	-0.6
	2.1nm,0.6s,baz=256,slow=0.5,SNR=18						
	2.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.20**	**43**	P	P	00 22 14.1	-1.4
	1.4nm,0.5s,baz=225,slow=8.0,SNR=7.2						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**65.89**	**104**	P	P	00 22 34.2	+1.0
	0.2nm,0.4s,baz=232,slow=5.7,SNR=2.4						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**67.91**	**100**	P	P	00 22 46.2	+0.1
	0.4nm,0.7s,baz=238,slow=4.8,SNR=1.6						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**149.05**	**354**	PKPbc	PKiKP	00 31 35.7	-0.1
	0.9nm,0.7s,baz=35,slow=5.2,SNR=4.8						

IDC 11 00:18:02.1±4.7, 2°.64N×90°.11E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=164.4km s-min=32.1km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**20.33**	**240**	T	T	00 43 50.6	
	baz=60,slow=75,SNR=14						
H08S2	**Diego Garcia H**	**20.33**	**240**	T	T	00 43 48.6	
	baz=60,slow=75,SNR=6.6						
H08S1	**Diego Garcia H**	**20.34**	**240**	T	T	00 43 45.1	
	baz=60,slow=75,SNR=7.3						
MKAR	**Makanchi Array**	**44.50**	**352**	P	P	00 26 15.5	+0.2
	0.6nm,0.6s,baz=163,slow=7.0,SNR=3.7						
	0.6nm,0.6s						
SONM	**Songino Array**	**47.17**	**15**	P	P	00 26 36.5	0.0
	1.2nm,0.6s,baz=189,slow=8.2,SNR=3.9						
	1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**48.80**	**350**	P	P	00 26 48.3	-0.6
	0.3nm,0.6s,baz=174,slow=7.3,SNR=3.0						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**48.86**	**119**	P	P	00 26 49.8	-0.1
	0.6nm,0.7s,baz=295,slow=8.8,SNR=4.1						
	0.6nm,0.7s						

IDC 11 00:19:58.2±22.0, 18°.52N×143°.88E, h0km, mb4.0/5, mbtmp4.0/5, MS3.9/3, Error ellipse: s-maj=706.2km s-min=106.2km az=6.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.00**	**169**	LR	LR	00 22 51.3	
	comp=Z,78nm,20.1s,baz=104,slow=35						
MKAR	**Makanchi Array**	**57.34**	**314**	P	P	00 29 48.5	+0.3
	0.3nm,0.5s,baz=91,slow=10.0,SNR=4.5						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**60.30**	**318**	P	P	00 30 08.3	-0.3
	1.1nm,0.6s,baz=94,slow=7.7,SNR=18						
	1.1nm,0.6s						
BVAR	**Borovoye Array**	**65.51**	**320**	P	P	00 30 43.4	+0.1
	1.4nm,0.4s,baz=95,slow=7.8,SNR=12						
	1.4nm,0.4s						
YBH	**Yreka Blue Hor**	**80.38**	**49**	LR	LR	01 08 26.6	
	comp=Z,79nm,18.0s,baz=90,slow=36						
ARCES	**ARCESS Array B**	**82.12**	**342**	P	P	00 32 20.8	+0.4
	3.2nm,0.9s,baz=64,slow=8.2,SNR=4.8						
	3.2nm,0.9s						
NVAR	**Mina Array Bea**	**84.60**	**51**	LR	LR	01 05 23.1	
	comp=Z,129nm,19.1s,baz=144,slow=32						
FINES	**FINESS Array B**	**86.31**	**335**	P	P	00 32 41.5	-0.3
	0.3nm,0.4s,baz=68,slow=4.8,SNR=7.5						
	0.3nm,0.4s						
**

0.6nm,0.8s
ZALV Zalesovo Beam 19.90 3 P **P 00 29 12.2 0.0**
0.1nm,0.3s,baz=181,slow=12,SNR=2.3
0.4nm,0.4s
SONM Songino Array 22.20 45 P **P 00 29 37.0 -0.2**
0.9nm,0.9s,baz=241,slow=11,SNR=3.6
0.9nm,0.9s
FINES FINESS Array B 45.08 325 P **P 00 32 56.3 +0.2**
1.0nm,0.8s,baz=176,slow=5.4,SNR=5.3
1.0nm,0.8s
HFS Hagfors 51.03 323 P **P 00 33 42.7 +0.5**
1.2nm,0.7s,baz=81,slow=9.6,SNR=9.4
1.2nm,0.7s
NB2 NORSAR Subarra 52.22 324 P **P 00 33 51.0 0.0**
comp=Z,0.4nm,0.6s,baz=87,slow=7.4
NOA NORSAR Array B 52.22 324 P **P 00 33 51.1 0.0**
comp=Z,0.3nm,0.6s,baz=87,slow=7.4,SNR=5.0
comp=Z,0.3nm,0.6s
WRA Warramunga Arr 72.54 130 P **P 00 36 07.5 0.0**
comp=Z,0.8nm,0.7s,baz=325,slow=6.2,SNR=6.2
comp=Z,0.8nm,0.7s

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*IDC **11** 00:26:29.3±0.9, 31°.66S×58°.32E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=34.5km s-min=25.6km az=58.0*

ISC 11 00:26:31.6±0.9, 31°.7S±0°.2×58°.3E±0°.2, h14km, n15, σ0°70/9, mb4.0/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**27.30**	**32**	T	T	01 00 40.4	
	baz=206,slow=76,SNR=8.0						
H08S2	**Diego Garcia H**	**27.31**	**32**	T	T	01 00 40.2	
	baz=206,slow=76,SNR=6.8						
H08S3	**Diego Garcia H**	**27.32**	**32**	T	T	01 00 40.8	
	baz=206,slow=76,SNR=7.2						
H01W2	**Cape Leeuwin H**	**46.27**	**110**	T	T	01 24 06.6	
	baz=257,slow=75,SNR=4.4						
H01W3	**Cape Leeuwin H**	**46.27**	**110**	T	T	01 24 06.0	
	baz=257,slow=75,SNR=4.5						
H01W1	**Cape Leeuwin H**	**46.29**	**110**	T	T	01 24 06.7	
	baz=257,slow=75,SNR=4.4						
QSPA	**South Pole Qui**	**58.50**	**180**	P	**P**	**00 36 27.5 +0.3**	
	0.5nm,0.7s,baz=255,slow=1.7,SNR=6.6						
	0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.26**	**44**	P	**P**	**00 37 00.4 +0.5**	
	1.5nm,0.8s,baz=213,slow=6.5,SNR=5.0						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**66.23**	**104**	P	**P**	**00 37 19.2 -0.2**	
	0.8nm,0.7s,baz=234,slow=6.2,SNR=6.0						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**68.23**	**101**	P	**P**	**00 37 31.9 -0.2**	
	0.9nm,0.7s,baz=241,slow=5.4,SNR=4.6						
	0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**70.19**	**300**	P	**P**	**00 37 44.3 +0.1**	
	0.7nm,1.0s,baz=138,slow=3.9,SNR=2.8						
	0.7nm,1.0s						
BRTR	**Keskin Array B**	**74.63**	**340**	P	**P**	**00 38 10.3 0.0**	
	0.4nm,0.5s,baz=177,slow=4.7,SNR=4.2						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**83.86**	**13**	P	**P**	**00 39 00.4 +0.1**	
	1.0nm,0.8s,baz=205,slow=5.5,SNR=2.7						
	1.0nm,0.8s						
BVAR	**Borovoye Array**	**84.99**	**7**	P	**P**	**00 39 06.5 +0.5**	
	1.9nm,0.8s,baz=190,slow=4.5,SNR=9.9						
	1.9nm,0.8s						
YKA	**Yellowknife Ar**	**148.82**	**354**	PKPbc	**PKPbc**	**00 46 16.4 -1.5**	
	1.0nm,0.8s,baz=2.0,slow=2.8,SNR=5.0						

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*IDC **11** 00:28:09.9±0.7, 36°.34N×138°.28E, h199km±3km, mb3.2/7, mbtmp3.7/9, Error ellipse: s-maj=29.8km s-min=15.6km az=63.0*

*JMA **11** 00:28:10.7±0.2, 36°.3N±0°.8×13°.8E±°, h200km±1km, MV2.7/35, EASTERN NAGANO PREF*

ISC 11 00:28:10.1±0.7, 36°.33N±0°.05×138°.17E±0°.06, h200km±5km, n33, σ0°69/43, mb3.3/7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.10**	**324**	P	**Pn**	**00 28 37.1 +0.7**	
JNG				S	**Sn**	**00 28 56.7 -0.2**	
MAJO	**Matsushiro**	**0.22**	**7**	P	**Pn**	**00 28 37.0 +0.6**	
MAT	**Matsushiro**	**0.22**	**7**	P	**Pn**	**00 28 37.0 +0.6**	
MAT				*e*S	**Sn**	**00 28 56.3 -0.8**	
MJAR	**Matsushiro Arr**	**0.22**	**8**	P	**Pn**	**00 28 36.6 +0.2**	
	10nm,0.4s,baz=178,slow=1.8,SNR=27						
MJAR				S	**Sn**	**00 28 57.4 +0.3**	
	6.1nm,0.6s,baz=48,slow=29,SNR=13						
JRY	**Ryogami san**	**0.67**	**117**	*i* P	**Pn**	**00 28 38.4 +0.5**	
JRY				*e*S	**Sn**	**00 28 59.5 +0.1**	
JYN	**Shimob**	**0.88**	**160**	*i* P	**Pn**	**00 28 39.6 +0.4**	
JYN				*e*S	**Sn**	**00 29 02.2 +0.5**	
JGF	**Kuroka**	**0.98**	**223**	P	**Pn**	**00 28 40.9 +1.1**	
JAG	**Ashikaga**	**1.04**	**84**	*i* P	**Pn**	**00 28 40.5 +0.4**	
JAG				S	**Sn**	**00 29 02.8 -0.5**	
JOD2	**Odawara 2**	**1.29**	**145**	*i* P	**Pn**	**00 28 42.6 +0.5**	
JOD2				S	**Sn**	**00 29 07.5 +0.6**	
JSZ	**Suzu**	**1.30**	**330**	P	**Pn**	**00 28 42.5 +0.5**	
JSZ				*e*S	**Sn**	**00 29 06.8 -0.1**	
JYTA	**Yamagatataniai**	**1.38**	**238**	P	**Pn**	**00 28 43.1 +0.4**	
JSD	**Sado**	**1.71**	**2**	*i* P	**Pn**	**00 28 46.4 +0.7**	
JSD				S	**Sn**	**00 29 13.1 -0.5**	
JNS	**Sasagawa**	**1.75**	**31**	P	**Pn**	**00 28 47.0 +0.9**	
JHG	**Hegura jima**	**1.82**	**327**	*e*S	**Sn**	**00 29 15.7 +0.3**	
JOTO	**OTAMA OYAMA**	**2.12**	**54**	P	**Pn**	**00 28 51.2 +1.4**	
JIE	**Ise**	**2.27**	**212**	P	**Pn**	**00 28 51.8 +0.4**	
JAW	**Awa shima**	**2.29**	**22**	P	**Pn**	**00 28 52.6 +1.0**	
JWT	**Wachi**	**2.48**	**246**	P	**Pn**	**00 28 53.9 +0.1**	
JMM	**Marumori**	**2.60**	**53**	P	**Pn**	**00 28 56.0 +1.0**	
BSO1	**Boso 1**	**2.83**	**125**	P	**Pn**	**00 28 57.1 -0.1**	
BSO1				*e*S	**Sn**	**00 29 34.6 +0.6**	
JHJ	**Hachijo jima 2**	**3.46**	**157**	P	**Pn**	**00 29 05.3 +0.1**	
	45nm,0.3s,baz=325,slow=23,SNR=7.0						
JHJ2	**Mitsune**	**3.48**	**157**	P	**Pn**	**00 29 05.9 +0.4**	
JTM	**Tenmabayashi**	**5.00**	**26**	P	**Pn**	**00 29 25.7 +1.3**	
	33nm,1.6s						
ERM	**Erimo**	**6.88**	**33**	P	**Pn**	**00 29 48.0 -0.5**	
	61nm,1.2s						
JEM	**Erimo**	**6.88**	**33**	P	**Pn**	**00 29 48.1 -0.4**	
	44nm,1.2s						
KLR	**Kul'dur**	**13.72**	**342**	P	**Pn**	**00 31 14.9 -1.4**	
	0.7nm,0.3s,baz=230,slow=8.2,SNR=4.8						
MKAR	**Makanchi Array**	**42.29**	**302**	P	**P**	**00 35 44.4 +0.6**	
	0.3nm,0.4s,baz=98,slow=10.0,SNR=5.6						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**44.39**	**308**	P	**P**	**00 36 00.8 +0.3**	
	0.9nm,0.4s,baz=86,slow=8.2,SNR=15						
	0.9nm,0.4s						
BVAR	**Borovoye Array**	**49.12**	**312**	P	**P**	**00 36 37.8 +0.6**	
	0.5nm,0.4s,baz=85,slow=7.4,SNR=5.7						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**56.08**	**184**	P	**P**	**00 37 28.1 -0.3**	
	0.2nm,0.3s,baz=360,slow=7.6,SNR=6.5						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**68.21**	**331**	P	**P**	**00 38 48.6 +0.1**	
	0.7nm,0.8s,baz=39,slow=7.3,SNR=3.6						
	0.7nm,0.8s						
HFS	**Hagfors**	**73.63**	**335**	P	**P**	**00 39 21.9 +0.7**	
	0.8nm,0.8s,baz=70,slow=4.7,SNR=1.9						
	0.8nm,0.8s						
NVAR	**Mina Array Bea**	**77.48**	**51**	P	**P**	**00 39 42.6 -1.1**	
	0.2nm,0.4s,baz=270,slow=5.4,SNR=1.9						
	0.2nm,0.4s						

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*BJI **11** 00:33:37.0±0.0, 31°.63S×58°.07E, h9km, mb5.0/40, mB5.5/13, Ms5.0/15, Ms7 4.7/18*

*MOS **11** 00:33:38.1±0.8, 31°.62S×58°.40E, h10km, mb5.3/54, MS4.3/5, Error ellipse: s-maj=12.6km s-min=5.3km az=99.4*

*IDC **11** 00:33:38.3±0.4, 31°.66S×58°.35E, h0km, mb4.8/25, mbtmp4.8/26, ML4.6/1, MS4.2/51, Error ellipse: s-maj=16.2km s-min=12.3km az=64.0*

*NEIC **11** 00:33:40.7±1.9, 31°.54S±0°.09×58°.4E±0°.1, h10km±1km, mb5.2/121, Error ellipse: s-maj=16.6km s-min=13.6km az=232.0*

*GCMT **11** 00:33:40.7±0.2, 31°.66S±0°.01×58°.14E±0°.02, h12km, MW5.2/127, Moment Tensor Solution. s63,c86; s127,c225; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=6.10±.11; $M_{\theta\theta}$6.29±.09; $M_{\phi\phi}$-0.18±.11; $M_{r\theta}$1.27±.28; $M_{\theta\phi}$0.91±.10; $M_{\phi r}$2.34±.37; Best double couple: M_0=6.79900×10^{16} NP1:ϕ_s=245.00000°, δ=55.00000°, λ=-111.00000°. NP2:ϕ_s=99.00000°, δ=40.00000°, λ=-63.00000°. Principal axes: T 6.6210, Plg7.0000°, Azm350.0000°; N 0.3600, Plg17.0000°, Azm258.0000°; P -6.9760, Plg71.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **11** 00:33:42.7, 30°.99S×59°.25E, h33km, mb4.9, Hypocentre not reviewed by the ISC*

ISC 11 00:33:38.4±0.4, 31°.69S±0°.05×58°.34E±0°.06, h2km±2km, h3km:pP-P, n747, σ1°.00/696, mb5.2/158, MS4.4/60, 63C-12D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.74**	**347**		**Pn**	**00 36 09.5 -3.8**	
FOMA	**Nahampoana Res**	**12.03**	**301**	Pn	**Pn**	**00 36 32.0 +1.2**	
VOI	**Vohitsoka**	**14.17**	**311**	Pn	**Pn**	**00 36 59.0 -1.3**	
H04N2	**CROZET ISLANDS**	**15.32**	**197**	T	T	00 53 08.1	
	baz=22,slow=75,SNR=473						
H04N1	**CROZET ISLANDS**	**15.32**	**197**	T	T	00 53 09.2	
	baz=22,slow=75,SNR=423						
H04N3	**CROZET ISLANDS**	**15.33**	**197**	T	T	00 53 08.0	
	baz=22,slow=75,SNR=431						
ABPO	**Ambohimpanom**	**16.11**	**319**	Pn	**Pn**	**00 37 26.8 +0.6**	
ABPO	**Ambohimpanom**	**16.11**	**319**	P	**Pn**	**00 37 26.8 +0.6**	
ABPO				pmax	pmax		
	comp=Z,63nm,1.6s						
OPO	**Ambohidratompo**	**16.49**	**320**	Pn	**Pn**	**00 37 31.7 +0.6**	
	comp=Z,0.2nm,0.3s,baz=136,slow=13,SNR=12						
OPO				Sn	Sn	00 40 21.9 -13	
	comp=Z,0.3nm,0.3s,baz=326,slow=13,SNR=7.8						
OPO				LR	LR	00 43 12.7	
	comp=Z,402nm,18.5s,baz=14,slow=35						
	comp=Z,8.0nm,0.4s						
POGA	**Pongola**	**23.55**	**274**	P	**P**	**00 38 49.1 -1.1**	
POGA				IAmb	IAmb	00 38 51.3	
	comp=Z,43nm,0.7s						
GRHM	**Grahamstown, E**	**26.96**	**258**	P	**P**	**00 39 18.4 -2.9**	
GRHM				IAmb	IAmb	00 39 40.8	
	comp=Z,73nm,1.7s						
H08S1	**Diego Carcia H**	**27.31**	**32**	T	T	01 07 38.9	
	baz=206,slow=76,SNR=82						
H08S2	**Diego Garcia H**	**27.32**	**32**	T	T	01 07 39.7	
	baz=206,slow=76,SNR=102						
H08S3	**Diego Garcia H**	**27.33**	**32**	T	T	01 07 40.9	
	baz=206,slow=76,SNR=220						
BOSA	**Boshof**	**28.71**	**267**	P	**P**	**00 39 36.3 -0.9**	
BOSA	**Boshof**	**28.71**	**267**	P	**P**	**00 39 36.1 -1.1**	
	comp=Z,2.9nm,0.8s,baz=99,slow=11,SNR=6.6						
	comp=Z,2.9nm,0.8s						
MATP	**Matopo**	**28.97**	**286**	LR	LR	00 49 16.3	
	comp=Z,329nm,21.9s,baz=78,slow=32						
LBTB	**Lobatse**	**29.50**	**275**	P	**P**	**00 39 42.2 -1.9**	
LBTB	**Lobatse**	**29.50**	**275**	P	**P**	**00 39 42.3 -1.9**	
LBTB				pmax	pmax		
	comp=Z,22nm,1.2s						
SUR	**Sutherland**	**31.72**	**259**	P	**P**	**00 40 03.0 -0.8**	
SUR				IAmb	IAmb	00 40 25.3	
	comp=Z,86nm,1.9s						
LSZ	**Lusaka**	**31.97**	**294**	P	**P**	**00 40 05.0 -1.1**	
LSZ	**Lusaka**	**31.97**	**294**	P	**P**	**00 40 05.0 -1.1**	
LSZ				pmax	pmax		
	comp=Z,17nm,1.0s						
KIBK	**Kibwezi**	**34.90**	**323**	P	**P**	**00 40 30.5 -1.1**	
KIBK				IAmb	IAmb	00 40 48.2	
	comp=Z,31nm,1.5s						
MAW	**Mawson**	**36.05**	**177**	P	**P**	**00 40 41.3 +0.4**	
	comp=Z,8.7nm,0.7s,baz=331,slow=10,SNR=7.8						
MAW				LR	LR	00 51 39.1	
	comp=Z,962nm,21.9s,baz=352,slow=30						
	comp=Z,8.7nm,0.7s						
WIN	**Windhoek**	**37.63**	**274**	P	**P**	**00 40 55.5 +0.4**	
WIN	**Windhoek**	**37.63**	**274**	P	**P**	**00 40 55.5 +0.4**	
WIN				pmax	pmax		
	comp=Z,18nm,1.3s						
TSUM	**Tsumeb**	**38.63**	**279**	P	**P**	**00 41 03.1 -0.4**	
TSUM				IAmb	IAmb	00 41 04.7	
	comp=Z,39nm,0.9s						
TSUM	**Tsumeb**	**38.63**	**279**	LR	LR	00 55 39.0	
	comp=Z,379nm,18.1s,baz=140,slow=34						
MBAR	**Mbarara**	**40.46**	**314**	*i* P	**P**	**00 41 18.5 -0.2**	
LODK	**Lodwar**	**41.19**	**324**	P	**P**	**00 41 24.9 +0.3**	
PALK	**Pallekele**	**44.24**	**33**	LR	LR	00 56 19.4	
	comp=Z,285nm,18.2s,baz=315,slow=31						
ELIB	**Princess Elisa**	**44.41**	**195**	*d*P	**P**	**00 41 50.2 0.0**	
	comp=Z,6.9nm,1.0s						
ELIB				*d*PP	**PcP**	**00 43 29.8 -4.1**	
FURI	**Furi**	**44.52**	**332**	LR	LR	01 00 55.2	
	comp=Z,219nm,18.1s,baz=185,slow=37						
ATD	**Arta Tunnel**	**45.46**	**338**	LR	LR	00 57 36.1	
	comp=Z,41nm,21.2s,baz=168,slow=32						
H01W2	**Cape Leeuwin H**	**46.24**	**110**	T	T	01 31 20.0	
	baz=257,slow=75,SNR=246						
H01W3	**Cape Leeuwin H**	**46.25**	**110**	T	T	01 31 20.3	
	baz=257,slow=75,SNR=265						
H01W1	**Cape Leeuwin H**	**46.26**	**110**	T	T	01 31 21.2	
	baz=257,slow=75,SNR=284						
NVL	**N'lazarevskaya**	**46.56**	**199**	*e*P	**P**	**00 42 09.0 +1.9**	
NVL				*e*S	**S**	**00 48 56.2 0.0**	
NVL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NVL				MLR	MLR		
	comp=Z,363nm,18.0s						
NWAO	**Narrogin (SRO)**	**49.22**	**108**	LR	LR	00 58 10.7	
	comp=Z,135nm,20.6s,baz=274,slow=30						
TROLL	**Troll, Antarti**	**49.78**	**200**	⇑P	**P**	**00 42 32.0 -0.2**	
	comp=Z,53nm,0.7s						
GIRL	**Giralia**	**50.08**	**94**	P	**P**	**00 42 36.0 +1.1**	
SNAA	**Sanae**	**51.25**	**201**	P	**P**	**00 42 42.7 -0.5**	
SNAA	**Sanae**	**51.25**	**201**	⇑P	**P**	**00 42 43.0 -0.2**	
	comp=Z,111nm,0.9s						
SNAA	**Sanae**	**51.25**	**201**	P	**P**	**00 42 43.1 -0.1**	
	comp=Z,7.4nm,1.1s,baz=82,slow=9.2,SNR=11						
SNAA				LR	LR	00 59 35.4	
	comp=Z,582nm,21.4s,baz=112,slow=30						
	comp=Z,7.4nm,1.1s						
SNAA	**Sanae**	**51.25**	**201**	P	**P**	**00 42 42.7 -0.5**	
SNAA				pmax	pmax		
	comp=Z,11nm,1.1s						
VNA2	**Neumayer--Watz**	**52.49**	**202**	⇑P	**P**	**00 42 52.4 0.0**	
	comp=Z,5.7nm,0.7s,baz=90,slow=6.8						
VNA2				⇑x	x	00 44 02.2	
	comp=Z,3.5nm,0.8s,baz=63,slow=3.8						
HYB	**Hyderabad**	**52.54**	**25**	*e*P	**P**	**00 42 53.5 +0.2**	
VNA1	**Neumayer--Stat**	**52.72**	**203**	⇑P	**P**	**00 42 54.4 +0.3**	
	comp=Z,1.8nm,0.6s						
VNA3	**Neumayer Olymp**	**53.28**	**202**	⇑P	**P**	**00 42 57.8 -0.4**	
	comp=Z,7.0nm,0.8s						
MZR	**Muzera**	**54.58**	**355**	P	**P**	**00 43 08.2 0.0**	
WSAR	**Wadi Sarin**	**54.62**	**0**	LR	LR	01 00 42.2	
	comp=Z,474nm,21.3s,baz=202,slow=30						
PWJI	**Pagerwojo**	**54.90**	**77**	P	**P**	**00 43 11.7 +0.9**	
ALNE	**Al Ain**	**55.48**	**357**	P	**P**	**00 43 14.9 +0.1**	
ASUD	**Al Ashush, Dub**	**56.07**	**357**	P	**P**	**00 43 18.9 0.0**	
ASHO	**Ashiyiah**	**56.09**	**358**	P	**P**	**00 43 18.7 -0.4**	
HATD	**Hatta, Dubai**	**56.23**	**358**	P	**P**	**00 43 19.7 -0.4**	
RAYN	**Ar Rayn**	**56.26**	**346**	P	**P**	**00 43 20.2 -0.1**	
RAYN				IAmb	IAmb	00 43 23.2	
	comp=Z,49nm,1.8s						
RAYN	**Ar Rayn**	**56.26**	**346**	P	**P**	**00 43 20.8 +0.5**	
RAYN	**Ar Rayn**	**56.26**	**346**	P	**P**	**00 43 20.2 -0.1**	
RAYN				pmax	pmax		
	comp=Z,49nm,1.8s						
UOSS	**Minazif**	**56.35**	**358**	P	**P**	**00 43 19.2 -1.7**	
UOSS				IAmb	IAmb	00 43 52.2	
	comp=Z,18nm,1.1s						
UOSS	**Minazif**	**56.35**	**358**	P	**P**	**00 43 20.0 -0.9**	
NAZ	**Nazwa, Dubai**	**56.41**	**357**	P	**P**	**00 43 21.3 -0.1**	
MSFE	**Esma-Masafi**	**56.76**	**358**	P	**P**	**00 43 23.6 -0.3**	
QSPA	**South Pole Qui**	**58.48**	**180**	P	**P**	**00 43 35.9 +0.2**	
QSPA				IAmb	IAmb	00 43 44.5	
	comp=Z,22nm,0.9s						
QSPA	**South Pole Qui**	**58.48**	**180**	P	**P**	**00 43 36.2 +0.4**	
	comp=Z,7.4nm,0.6s,baz=263,slow=1.2,SNR=68						
QSPA				LR	LR	01 05 44.8	
	comp=Z,601nm,20.5s,baz=266,slow=33						
	comp=Z,7.4nm,0.6s						
PLAI	**Plampang**	**59.46**	**81**	P	**P**	**00 43 44.5 +1.4**	
FITZ	**Fitzroy Crossi**	**61.69**	**95**	P	**P**	**00 43 59.5 +1.2**	
VNDA	**Vanda**	**62.17**	**166**	P	**P**	**00 44 01.6 +1.0**	
	comp=Z,4.9nm,0.9s,baz=257,slow=7.9,SNR=19						
VNDA				LR	LR	01 08 00.5	
	comp=Z,417nm,22.0s,baz=247,slow=33						
	comp=Z,4.9nm,0.9s						
EDFI	**Ende, Flores**	**62.81**	**83**	P	**P**	**00 44 05.6 -0.4**	
	comp=Z,15nm,1.1s						
SBA	**Scott Base**	**63.01**	**167**	P	**P**	**00 44 08.2 +2.0**	
SBA				IAmb	IAmb	00 44 12.5	
	comp=Z,30nm,1.7s						
SBA	**Scott Base**	**63.01**	**167**	P	**P**	**00 44 08.2 +2.0**	
SBA				pmax	pmax		
	comp=Z,30nm,1.7s						
CM31	**Chiang Mai Arr**	**63.27**	**44**	P	**P**	**00 44 08.5 -0.2**	
CMAR	**Chiang Mai Arr**	**63.27**	**44**	P	**P**	**00 44 08.0 -0.7**	
CMAR	**Chiang Mai Arr**	**63.27**	**44**	P	**P**	**00 44 09.1 +0.4**	
	comp=Z,23nm,0.8s,baz=230,slow=6.7,SNR=61						
CMAR				LR	LR	01 06 31.9	
	comp=Z,310nm,21.8s,baz=225,slow=31						
	comp=Z,23nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.27**	**44**	P	**P**	**00 44 08.0 -0.7**	
CHTO	**Chiang Mai**	**63.54**	**44**	P	**P**	**00 44 08.7 -1.8**	
CHTO				IAmb	IAmb	00 44 12.6	
	comp=Z,16nm,1.1s						
CHTO	**Chiang Mai**	**63.54**	**44**	P	**P**	**00 44 08.7 -1.8**	
CHTO				pmax	pmax		
	comp=Z,16nm,1.1s						
EIL	**Elat**	**64.94**	**338**	LR	LR	01 07 47.5	
	comp=Z,275nm,21.4s,baz=200,slow=32						
CRAI	**Chiangrai**	**65.48**	**44**	P	**P**	**00 44 22.6 -0.6**	
CRAI				IAmb	IAmb	00 44 25.5	
	comp=Z,16nm,1.0s						
HRA	**Herat**	**65.83**	**4**	P	**P**	**00 44 24.4 -1.0**	
ASAR	**Alice Springs**	**66.20**	**104**	P	**P**	**00 44 28.1 0.0**	
	comp=Z,16nm,0.8s,baz=239,slow=5.6,SNR=47						
ASAR				PKPPKP	**P'P'df**	**01 13 01.3 -4.8**	
	comp=Z,0.6nm,0.8s,baz=38,slow=4.7,SNR=3.7						
	comp=Z,16nm,0.8s						
AS31	**Alice Springs**	**66.20**	**104**	P	**P**	**00 44 27.3 -0.8**	
NIL	**Nilore**	**66.49**	**14**	P	**P**	**00 44 28.5 -0.9**	
NIL				IAmb	IAmb	00 44 29.9	
	comp=Z,22nm,1.4s						
NIL	**Nilore**	**66.49**	**14**	P	**P**	**00 44 28.5 -0.9**	
NIL				pmax	pmax		
	comp=Z,22nm,1.4s						
KBL	**Kabul**	**66.64**	**10**	P	**P**	**00 44 30.3 -0.3**	
KBL				IAmb	IAmb	00 44 34.5	
	comp=Z,12nm,0.8s						
KBL	**Kabul**	**66.64**	**10**	P	**P**	**00 44 30.3 -0.3**	
KBL				pmax	pmax		
	comp=Z,12nm,0.8s						
TOLI2	**Tolitoli**	**67.40**	**74**	P	**P**	**00 44 34.7 -1.0**	
MMAI	**Mount Meron Ar**	**67.90**	**339**	P	**P**	**00 44 39.3 +0.9**	
	comp=Z,4.6nm,0.7s,baz=148,slow=9.7,SNR=12						
MMAI				LR	LR	01 12 20.4	
	comp=Z,132nm,18.2s,baz=108,slow=34						
	comp=Z,4.6nm,0.7s						
WRA	**Warramunga Arr**	**68.21**	**101**	P	**P**	**00 44 40.8 0.0**	
WRA	**Warramunga Arr**	**68.21**	**101**	P	**P**	**00 44 40.8 0.0**	
	comp=Z,25nm,0.9s,baz=242,slow=5.6,SNR=43						
	comp=Z,25nm,0.9s						
WRA	**Warramunga Arr**	**68.21**	**101**	P	**P**	**00 44 40.8 0.0**	
WRA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
WB2	**Warramunga Arr**	**68.22**	**101**	P	**P**	**00 44 40.1 -0.7**	
WRAB	**Tennant Creek**	**68.22**	**101**	P	**P**	**00 44 38.5 -2.3**	
WRAB	**Tennant Creek**	**68.22**	**101**	*i* P	**P**	**00 44 37.8 -3.0**	
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s						
WB0	**Warramunga Arr**	**68.33**	**100**	P	**P**	**00 44 40.9 -0.7**	
WR0	**Warramunga Arr**	**68.37**	**101**	P	**P**	**00 44 41.2 -0.6**	
WR0				IAmb	IAmb	00 44 51.9	
	comp=Z,17nm,0.9s						
SLVN	**Son La**	**68.45**	**46**	P	**P**	**00 44 41.9 -0.2**	
SLVN				IAmb	IAmb	00 44 44.9	
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**68.91**	**115**	P	**P**	**00 44 44.5 -0.5**	
STKA	**Stephens Creek**	**68.91**	**115**	P	**P**	**00 44 45.6 +0.6**	
	comp=Z,13nm,0.9s,baz=259,slow=5.9,SNR=13						
STKA				LR	LR	01 08 28.0	
	comp=Z,124nm,21.7s,baz=215,slow=30						
	comp=Z,13nm,0.9s						
STKA	**Stephens Creek**	**68.91**	**115**	P	**P**	**00 44 44.5 -0.5**	
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TOA0	**Torodi Ar. Sit**	**70.22**	**300**	P	**P**	**00 44 53.2 +0.1**	
TOA0				IAmb	IAmb	00 44 54.2	
	comp=Z,14nm,0.9s						
TORD	**Torodi Ar. Bea**	**70.22**	**300**	P	**P**	**00 44 52.7 -0.5**	
TORD				IAmb	IAmb	00 44 54.2	
	comp=Z,15nm,1.0s						
TORD	**Torodi Ar. Bea**	**70.22**	**300**	P	**P**	**00 44 53.3 +0.2**	
	comp=Z,9.5nm,0.9s,baz=117,slow=5.4,SNR=47						
TORD				LR	LR	01 15 28.2	
	comp=Z,569nm,19.6s,baz=130,slow=36						
	comp=Z,9.5nm,0.9s						
QIZ	**Qiongzhong**	**70.57**	**52**	P	**P**	**00 44 55.4 +0.2**	
QIZ				S	**S**	**00 54 11.8 +1.9**	
QIZ				LR	LR		
	comp=Z,400nm,13.5s						
QIZ				LR	LR		
	comp=Z,400nm,14.1s						
QIZ				LR	LR		
	comp=Z,370nm,20.0s						
KMI	**Kunming**	**70.65**	**42**	⇓P	**P**	**00 44 56.5 +0.7**	
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SIMJ	**Simiganj**	**70.69**	**9**	P	**P**	**00 44 55.7 0.0**	
CHGR	**Chuyangaron**	**70.71**	**9**	P	**P**	**00 44 55.9 +0.2**	
CHGR	**Chuyangaron**	**70.71**	**9**	P	**P**	**00 44 55.9 +0.2**	
CHGR				pmax	pmax		
	comp=Z,53nm,1.1s						
PZH	**PanZhiHua**	**71.16**	**41**	P	**P**	**

comp=Z,18nm,0.9s
SANT **Santorini** 74.38 333 ⇑P P 00 45 17.7 0.0
BCA **Borcka** 74.39 347 ⇑P P 00 45 18.2 +0.7
BR131 **Keskin Array S** 74.66 340 *i* P P 00 45 18.9 -0.4
BRTR **Keskin Array B** 74.66 340 P P 00 45 18.6 -0.7
BRTR **Keskin Array B** 74.66 340 P P 00 45 19.1 -0.1
comp=Z,6.7nm,0.8s,baz=162,slow=7.7,SNR=47
comp=Z,6.7nm,0.8s
BRTR **Keskin Array B** 74.66 340 *i* P P 00 45 18.8 -0.5
BRTR pmax pmax
comp=Z,7.0nm,0.8s
DAV **Davao City (W)** 74.73 72 LR LR 01 14 28.3
comp=Z,31nm,20.9s,baz=189,slow=33
APE **Apeiranthos** 74.97 333 ⇑P P 00 45 21.4 +0.4
APE **Apeiranthos** 74.97 333 P P 00 45 21.4 +0.4
ANTO **Ankara** 75.03 340 ⇑P P 00 45 22.0 +0.6
ANTO **Ankara** 75.03 340 P P 00 45 21.5 +0.1
ANTO IAmb IAmb 00 45 22.5
comp=Z,14nm,0.8s
ANTO **Ankara** 75.03 340 P P 00 45 21.5 +0.1
ANTO pmax pmax
comp=Z,14nm,0.9s
ANTO **Ankara** 75.03 340 P P 00 45 21.5 +0.1
comp=Z,8.9nm,1.3s
SWI **Sorong** 75.04 82 P P 00 45 22.9 +0.9
UCH **Uchtor** 75.04 12 P P 00 45 22.9 +1.0
SNR=9.0
BRLS **Borolday** 75.10 9 *e*P P 00 45 20.0 -1.7
baz=8.5
BRLS **Borolday** 75.10 9 *e*P P 00 45 19.9 -1.7
KK31 **Karatay Array** 75.26 9 IAmb IAmb 00 45 24.3
comp=Z,16nm,0.9s
KK31 **Karatay Array** 75.26 9 *i* P P 00 45 22.8 +0.3
KKAR **Karatay Array** 75.26 9 P P 00 45 22.3 -0.2
KKAR **Karatay Array** 75.26 9 IAmb IAmb 00 45 24.3
comp=Z,16nm,0.9s
KKAR **Karatay Array** 75.26 9 P P 00 45 22.3 -0.2
EKS2 **Erkin-Say** 75.33 12 P P 00 45 24.6 +1.5
SNR=16
AAK **Ala-Archa** 75.44 12 P P 00 45 24.5 +0.8
SNR=7.0
AAK **Ala-Archa** 75.44 12 P P 00 45 24.1 +0.4
AAK IAmb IAmb 00 45 26.5
comp=Z,19nm,0.9s
AAK **Ala-Archa** 75.44 12 P P 00 45 24.3 +0.6
AAK **Ala-Archa** 75.44 12 LR LR 01 18 01.4
comp=Z,104nm,18.2s,baz=208,slow=35
AAK **Ala-Archa** 75.44 12 P P 00 45 24.1 +0.4
AAK pmax pmax
comp=Z,19nm,1.0s
KBK **Karagaybulak** 75.54 13 P P 00 45 25.3 +0.9
SNR=8.1
BOOM **Boomskoye usch** 75.57 13 IAmb IAmb 00 45 27.3
comp=Z,24nm,1.1s
TKM2 **Tokmak 2** 75.92 13 P P 00 45 26.9 +0.4
SNR=13
TKM2 **Tokmak 2** 75.92 13 P P 00 45 26.2 -0.3
NCK **Nalchik** 76.03 349 *i* P P 00 45 27.5 +0.6
NCK pmax pmax
comp=Z,14nm,0.9s
USP **Ospenovka** 76.05 12 P P 00 45 27.7 +0.6
SNR=14
SGDS **Sogindy** 76.25 12 *e*P P 00 45 28.3 0.0
baz=12
SGDS **Sogindy** 76.25 12 *e*P P 00 45 28.2 0.0
KBZ **Khabaz** 76.37 349 P P 00 45 29.5 +0.7
comp=Z,5.6nm,0.9s,baz=235,slow=2.4,SNR=12
KBZ LR LR 01 19 09.0
comp=Z,152nm,18.3s,baz=166,slow=36
comp=Z,5.6nm,0.9s
KBZ **Khabaz** 76.37 349 *ce*P P 00 45 29.7 +0.9
KBZ pmax pmax
comp=Z,7.0nm,0.9s
SHA1 **Shidzhatmaz** 76.42 348 *ce*P P 00 45 30.2 +0.8
MDOK **Medeo** 76.44 14 *e*P P 00 45 29.7 +0.2
baz=14
MDOK **Medeo** 76.44 14 *e*P P 00 45 29.6 +0.2
KVAR **Kislovodsk Arr** 76.62 348 LR LR 01 19 04.9
comp=Z,88nm,19.4s,baz=94,slow=36
KIV **Kislovodsk** 76.63 348 ⇑P P 00 45 30.9 +0.5
KIV **Kislovodsk** 76.63 348 P P 00 45 30.5 +0.1
KIV IAmb IAmb 00 45 33.6
comp=Z,22nm,0.9s
KIV **Kislovodsk** 76.63 348 P P 00 45 30.9 +0.5
SATY **Saty** 76.63 15 *e*P P 00 45 30.8 +0.3
comp=Z,10nm,0.8s,baz=15
SATY **Saty** 76.63 15 *e*P P 00 45 30.8 +0.3
SATY pmax pmax
comp=Z,10.0nm,0.8s
VSLR **Vesyoloye** 76.64 346 *i* P P 00 45 30.6 +0.2
VSLR pmax pmax
comp=Z,54nm,1.3s
SOC **Sochi** 76.82 346 *e*P P 00 45 30.3 -1.1
SOC *e* 00 48 22.6
SOC *e*PPP PPP 00 50 10.0
SOC *e*S S 00 55 19.5 0.0
SOC MLR MLR
comp=Z,105nm,18.0s
UZB **Uzynbulak** 76.85 15 *e*P P 00 45 31.9 +0.2
comp=Z,14nm,0.9s,baz=15
UZB **Uzynbulak** 76.85 15 *e*P P 00 45 31.9 +0.2
UZB pmax pmax
comp=Z,14nm,0.9s
SHLS **Shalkode** 76.96 16 *e*P P 00 45 33.0 +0.6
comp=Z,12nm,0.9s,baz=16
SHLS **Shalkode** 76.96 16 *e*P P 00 45 32.9 +0.6
SHLS pmax pmax
comp=Z,12nm,0.9s
KPKS **Kokpek** 77.08 15 *e*P P 00 45 33.0 +0.1
baz=15
KPKS *e*S S 00 55 22.9 +0.4
baz=15
KPKS **Kokpek** 77.08 15 *e*P P 00 45 33.0 +0.1
KPKS *e*S S 00 55 22.9 +0.4
CHKK **Chushkaly** 77.09 14 *e*P P 00 45 32.9 -0.1
baz=14
CHKK **Chushkaly** 77.09 14 *e*P P 00 45 32.8 -0.1
PDGK **Podgornoye** 77.13 16 P P 00 45 32.9 -0.4
ARXS **Arharly** 77.60 14 *e*P P 00 45 35.0 -0.9
GOF **Gofitskoye** 77.64 349 *ce*P P 00 45 36.2 +0.3
LABN **Labinsk** 77.64 347 *e*P P 00 45 34.6 -1.4
LABN *e*S S 00 55 28.6 +0.2
LABN pmax pmax
comp=Z,17nm,0.5s
BTLS **Baital** 77.69 11 *e*P P 00 45 36.6 +0.3
baz=11
BTLS *e*S S 00 55 29.9 +0.9
baz=11
BTLS **Baital** 77.69 11 *e*P P 00 45 36.5 +0.3
BTLS *e*S S 00 55 29.8 +0.9
ANX **Ano Chora** 77.71 332 P P 00 45 34.6 -2.0
AGG **Agios Georgios** 77.91 332 IAmb IAmb 00 45 38.9
comp=Z,28nm,1.0s
AGG **Agios Georgios** 77.91 332 P P 00 45 37.1 -0.6
ALN **Alexandroupoli** 78.15 336 IAmb IAmb 00 45 39.7
comp=Z,14nm,0.9s
TATN **Tataouine** 78.27 320 IAmb IAmb 00 45 43.7
comp=Z,26nm,1.4s
ANN **Anapa** 78.47 345 *e*P P 00 45 41.1 +0.6
ANN *e*S S 00 55 38.3 +1.1
ANN pmax pmax
comp=Z,46nm,0.9s
ANN pmax pmax
comp=Z,169nm,2.5s
ANN MLR MLR
comp=Z,154nm,18.0s
THL **Klokotos Trika** 78.50 332 P P 00 45 40.2 -0.7
TYRN **Tyrnavos** 78.54 332 P P 00 45 39.8 -1.3
RDO **Rodhopi** 78.55 335 P P 00 45 40.2 -0.8
ERBR **Yeremizino-Bor** 78.72 347 *e*P P 00 45 41.5 -0.4
ERBR *e*S S 00 55 39.1 -0.9
ERBR pmax pmax
comp=Z,40nm,0.8s
EDRB **Edirne** 78.75 336 P P 00 45 41.4 -0.8
LIT **Litokhoron** 78.78 333 IAmb IAmb 00 45 43.1
comp=Z,20nm,0.8s
LIT **Litokhoron** 78.78 333 P P 00 45 40.8 -1.6
KDZ **Kurdzhali** 79.04 335 *i* P P 00 45 44.1 +0.3
RZN **Rozhen** 79.31 335 P P 00 45 46.2 +0.7
NVR **Nevrokopi** 79.33 334 P P 00 45 45.4 -0.1
SIM **Simferopol'** 79.39 343 *e*P P 00 45 46.2 +0.6
SIM 00 46 00.0
SIM pmax pmax
comp=Z,53nm,1.3s
MMB **Musomishta** 79.55 334 *i* P P 00 45 46.6 0.0

PLD **Plovdiv** 79.71 335 P P 00 45 47.0 -0.4
VAY **Valandovo** 79.79 333 *i* P P 00 45 48.0 +0.1
WMQ **Urumqi** 79.80 21 *e*P P 00 45 48.7 +0.7
WMQ LR LR
comp=Z,310nm,19.1s
WMQ LR LR
comp=Z,220nm,21.7s
WMQ LR LR
comp=Z,250nm,21.7s
KBN **Korca** 79.90 332 IAmb IAmb 00 45 50.4
comp=Z,18nm,1.1s
RAFF **Raffo Rosso** 79.93 326 P P 00 45 48.7 -0.1
RAFF IAmb IAmb 00 45 51.0
comp=Z,37nm,0.9s
ELND **Elena** 80.00 336 ⇑P P 00 45 48.6 -0.4
VAE **Valguarnera** 80.11 326 LR LR 01 21 22.5
comp=Z,211nm,20.7s,baz=126,slow=36
STIP **Stip** 80.26 333 *i* P P 00 45 50.0 -0.5
OHR **Ohrid** 80.31 332 *i* P P 00 45 52.1 +1.3
TIP **Timpagrande** 80.40 328 ⇑P P 00 45 51.2 -0.1
GTA **Gaotai** 80.54 31 P P 00 45 52.6 +0.4
GTA pP PcP 00 46 01.1 +2.0
GTA pmax pmax
comp=Z,16nm,1.5s
GTA LR LR
comp=Z,260nm,20.7s
GTA LR LR
comp=Z,220nm,13.9s
GTA LR LR
comp=Z,350nm,16.3s
AB31 **Akbulak array** 80.59 1 P P 00 45 51.7 -0.3
ABKAR **Akbulak array** 80.59 1 P P 00 45 51.8 -0.2
ABKAR IAmb IAmb 00 45 53.3
comp=Z,48nm,1.3s
TLBR **Topalu** 80.74 339 ⇓P P 00 45 52.4 -0.5
SKO **Skopje** 80.79 333 *i* P P 00 45 53.4 +0.2
TIR **Tirane** 80.88 332 ⇑P P 00 45 54.1 +0.3
TIR **Tirane** 80.88 332 IAmb IAmb 00 45 55.4
comp=Z,29nm,1.0s
TIR **Tirane** 80.88 332 P P 00 45 54.0 +0.3
XAN **Xi'an** 80.89 41 P P 00 45 53.9 -0.2
XAN pP pwP 00 45 58.3 -1.2
XAN pmax pmax
comp=Z,26nm,1.2s
HARR **Harsova** 80.91 339 ⇑P P 00 45 53.4 -0.4
HARR **Harsova** 80.91 339 P P 00 45 53.3 -0.4
MAKZ **Makanchi** 80.99 16 P P 00 45 53.4 -0.9
MAKZ **Makanchi** 80.99 16 P P 00 45 53.4 -0.9
MAKZ pmax pmax
comp=Z,11nm,1.0s
MK31 **Makanchi Array** 81.06 16 *i* P P 00 45 54.0 -0.6
MKAR **Makanchi Array** 81.06 16 P P 00 45 54.7 +0.1
comp=Z,8.8nm,0.9s,baz=205,slow=5.4,SNR=31
MKAR LR LR 01 19 13.5
comp=Z,133nm,21.9s,baz=230,slow=34
comp=Z,8.8nm,0.9s
SGRR **Singureni** 81.12 337 ⇑P P 00 45 55.1 +0.1
MPEP **Malo Peshtene** 81.13 335 *i* P P 00 45 54.8 -0.2
CFR **Carcaliu** 81.28 339 ⇑P P 00 45 55.3 -0.4
CFR **Carcaliu** 81.28 339 P P 00 45 55.3 -0.4
KEST **Kesra** 81.30 322 P P 00 45 56.8 +0.5
KEST IAmb IAmb 00 45 59.4
comp=Z,16nm,0.9s
KEST **Kesra** 81.30 322 P P 00 45 58.3 +2.0
comp=Z,8.9nm,0.8s,baz=153,slow=3.0,SNR=11
KEST LR LR 01 22 31.3
comp=Z,314nm,19.7s,baz=116,slow=36
comp=Z,8.9nm,0.8s
PUK **Puka** 81.45 332 IAmb IAmb 00 45 59.4
comp=Z,16nm,0.7s
VALD **Valchedram** 81.53 335 P P 00 45 56.7 -0.4
WHN **Wuhan** 81.56 46 P P 00 45 59.3 +1.7
MATE **Matera** 81.63 329 ⇑P P 00 45 57.8 +0.1
HUMR **Humele** 81.72 337 ⇑P P 00 45 58.0 -0.1
ISR **Istrita** 81.73 338 ⇑P P 00 45 58.4 +0.1
ISR **Istrita** 81.73 338 P P 00 45 58.3 +0.1
SCTR **Scanteiesti** 81.77 339 ⇑P P 00 45 58.6 +0.3
BAIL **Bailesti** 81.84 335 ⇑P P 00 45 59.0 +0.2
VLDR **Vladesti** 81.90 339 ⇑P P 00 45 58.5 -0.5
VARL **Varlezi** 82.02 339 ⇓P P 00 45 60.0 +0.3
SPBR **Spulber** 82.22 338 ⇓P P 00 46 01.5 +0.7
MLR **Muntele Rosu** 82.25 338 ⇑P P 00 46 01.1 0.0
MLR **Muntele Rosu** 82.25 338 IAmb IAmb 00 46 01.9
comp=Z,18nm,0.8s
MLR **Muntele Rosu** 82.25 338 LR LR 01 21 36.7
comp=Z,102nm,19.7s,baz=158,slow=35
MLR **Muntele Rosu** 82.25 338 P P 00 46 01.1 0.0
GHRR 82.30 339 ⇑P P 00 46 01.6 +0.5
ZSN **Zaisan** 82.31 18 *e*P P 00 46 01.6 +0.4
baz=18
ZSN *e*S S 00 56 18.6 +1.0
baz=18
ZSN **Zaisan** 82.31 18 *e*P P 00 46 01.6 +0.4
ZSN *e*S S 00 56 18.6 +1.0
VRI **Vrincioaia** 82.33 338 ⇑P P 00 46 01.2 -0.2
VRI **Vrincioaia** 82.33 338 P P 00 46 01.1 -0.2
PLOR **Plostina** 82.35 338 ⇑P P 00 46 01.0 -0.5
PLOR **Plostina** 82.35 338 P P 00 46 01.0 -0.5
COVR **Voineasa-Covas** 82.48 338 ⇑P P 00 46 01.4 -0.8
VOIR 82.50 337 ⇑P P 00 46 01.3 -1.0
VOIR 82.50 337 P P 00 46 01.3 -1.0
ARR **Arges** 82.58 337 ⇑P P 00 46 01.9 -0.8
MILM **Milestii Mici** 82.65 340 ⇑P P 00 46 01.8 -1.1
MILM **Milestii Mici** 82.65 340 ⇓*i*P P 00 46 02.0 -0.9
comp=Z,70nm,1.2s
MILM **Milestii Mici** 82.65 340 *d i*P P 00 46 02.0 -0.9
MILM pmax pmax
comp=Z,70nm,1.2s
KIS **Kishinev** 82.72 340 *e*P P 00 46 02.0 -1.3
comp=Z,40nm,0.9s
TURR **Turia** 82.73 338 ⇑P P 00 46 02.3 -1.1
OZUR 82.84 338 ⇓P P 00 46 03.3 -0.7
DOPR **Dopca** 82.86 338 ⇑P P 00 46 03.5 -0.6
ONER **Baraj Valea Uz** 82.86 338 ⇑P P 00 46 03.3 -0.8
BOSR **Bodos** 82.86 338 ⇑P P 00 46 03.4 -0.7
PAOL **Paolisi** 82.88 328 P P 00 46 03.0 -1.4
PAOL IAmb IAmb 00 46 05.2
comp=Z,18nm,1.3s
HERR **Herculane** 82.92 335 ⇑P P 00 46 03.7 -0.7
TESR **Tescani** 82.94 339 ⇑P P 00 46 03.8 -0.6
LOT **Lotru** 82.94 336 ⇑P P 00 46 03.6 -1.1
RPZ **Rata Peaks** 83.03 138 LR LR 01 16 07.9
comp=Z,586nm,18.6s,baz=184,slow=31
STON **Ston** 83.04 331 *i* P P 00 46 04.5 -0.5
MDVR **Moldovita** 83.09 335 ⇑P P 00 46 05.1 -0.2
GZR **Gura Zlata** 83.24 336 ⇑P P 00 46 06.3 +0.1
GZR **Gura Zlata** 83.24 336 P P 00 46 06.2 +0.1
DEV **Deva** 83.62 336 ⇑P P 00 46 08.1 +0.1
DEV **Deva** 83.62 336 P P 00 46 08.1 +0.1
MAKA **Makarska** 83.66 331 *i* P P 00 46 08.0 -0.2
SURR **Surduc** 83.78 335 ⇑P P 00 46 08.6 -0.2
RICI **Ricice** 83.78 331 *i* P P 00 46 08.6 -0.3
VRH **Novokhopyorsk** 83.82 350 *e*P P 00 46 08.3 -0.6
VRH pmax pmax
comp=Z,45nm,0.8s
BZS **Buzias** 83.84 335 ⇑P P 00 46 08.7 -0.5
BZS **Buzias** 83.84 335 P P 00 46 08.6 -0.5
KURBB **Kurchatov Arra** 83.88 13 P P 00 46 09.7 +0.5
comp=Z,28nm,1.1s,baz=206,slow=5.6,SNR=68
KURBB LR LR 01 21 33.7
comp=Z,93nm,18.6s,baz=168,slow=34
comp=Z,28nm,1.1s
INTR **Introdacqua** 83.97 328 IAmb IAmb 00 46 10.5
comp=Z,22nm,1.1s
KURK **Kurchatov** 83.98 13 P P 00 46 09.4 -0.3
KURK **Kurchatov** 83.98 13 P P 00 46 09.4 -0.3
KURK pmax pmax
comp=Z,47nm,1.1s
VORD **Divnogorie** 84.00 348 *e*P P 00 46 07.1 -2.7
VORD pmax pmax
comp=Z,20nm,1.0s
ARCR **ARCALIA** 84.18 337 ⇑P P 00 46 10.5 -0.3
MARR **Marisel-Cluj** 84.23 336 ⇑P P 00 46 10.6 -0.7
BELG **Belogornoye** 84.25 353 LR LR 01 25 48.4
comp=Z,169nm,18.7s,baz=140,slow=37
BELG **Belogornoye** 84.25 353 *i* P P 00 46 10.8 -0.2
BELG pmax pmax
comp=Z,8.0nm,0.9s
VSR **Storozhevoye** 84.26 348 *e*P P 00 46 07.5 -3.6
VSR pmax pmax
comp=Z,20nm,1.1s
BURAR **Bucovina Array** 84.37 338 ⇑P P 00 46 12.3 +0.4
BURAR **Bucovina Array** 84.37 338 P P 00 46 11.6 -0.3
BURAR IAmb IAmb 00 46 13.1

comp=Z,7.5nm,0.8s
BURAR **Bucovina Array** 84.37 338 P P 00 46 12.3 +0.4
SIRR **Siria** 84.39 335 ⇑P P 00 46 11.4 -0.5
BUR08 **Bucovina Ar. S** 84.40 338 IAmb IAmb 00 46 13.6
comp=Z,18nm,1.4s
DRGR 84.47 336 ⇑P P 00 46 12.1 -0.4
DRGR 84.47 336 P P 00 46 12.0 -0.4
KIJV **Kijevo** 84.50 331 *i* P P 00 46 12.2 -0.3
CAMP **Campotosto** 84.61 328 IAmb IAmb 00 46 13.4
comp=Z,7.8nm,0.9s
MORI **Morici** 84.68 331 *i* P P 00 46 12.7 -0.8
VORR **Voronezh** 84.69 348 *e*P P 00 46 11.6 -1.7
VORR pmax pmax
comp=Z,20nm,1.0s
NRCA **Norcia** 84.97 328 IAmb IAmb 00 46 16.9
comp=Z,11nm,1.1s
BVA0 **Borovoye Array** 85.01 7 *i* P P 00 46 14.8 -0.1
BVAR **Borovoye Array** 85.01 7 P P 00 46 15.4 +0.5
comp=Z,31nm,0.9s,baz=174,slow=5.2,SNR=109
BVAR LR LR 01 24 08.5
comp=Z,172nm,18.0s,baz=188,slow=36
comp=Z,31nm,0.9s
BRVK **Borovoye** 85.03 7 P P 00 46 14.5 -0.5
BRVK **Borovoye** 85.03 7 *ce*P P 00 46 15.5 +0.5
BRVK pmax pmax
comp=Z,39nm,1.1s
DUGI **Dugi Otok** 85.06 330 *i* P P 00 46 14.5 -0.8
UDBI **Udbina** 85.20 331 *i* P P 00 46 16.1 -0.1
NJ2 **Nanjing** 85.40 48 *e*P P 00 46 18.8 +1.5
NJ2 sP pwP 00 46 23.4 +0.7
NJ2 pmax pmax
comp=Z,26nm,0.6s
NJ2 pmax pmax
comp=Z,1μm,4.0s
MORH **Mrgy, Hungar** 85.45 334 ⇑P P 00 46 16.1 -1.1
KIEV **Kiev** 85.97 342 ⇑P P 00 46 19.3 -0.4
KIEV **Kiev** 85.97 342 P P 00 46 18.6 -1.1
KIEV IAmb IAmb 00 46 20.2
comp=Z,21nm,1.3s
KIEV **Kiev** 85.97 342 P P 00 46 18.6 -1.1
KIEV pmax pmax
comp=Z,21nm,1.3s
AKASG **Malin Array Be** 85.97 342 P P 00 46 19.4 -0.4
comp=Z,3.2nm,0.5s,baz=166,slow=4.0,SNR=13
AKASG LR LR 01 24 47.5
comp=Z,44nm,19.2s,baz=134,slow=36
comp=Z,3.2nm,0.5s
AKASG **Malin Array Be** 85.97 342 *i* P P 00 46 19.2 -0.5
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB **Malin Array Si** 85.97 342 IAmb IAmb 00 46 20.2
comp=Z,23nm,1.3s
AKBB **Malin Array Si** 85.97 342 *ce*P P 00 46 19.3 -0.4
AKBB pmax pmax
comp=Z,16nm,1.2s
BTO **Baotou** 86.36 37 *e*P P 00 46 22.0 0.0
BTO pP PcP 00 46 26.1 +1.6
BTO sP pwP 00 46 29.2 +1.8
BTO PP PP 00 49 40.5 -3.1
BTO S S 00 56 58.7 +0.1
BTO pmax pmax
comp=Z,27nm,1.1s
BTO pmax pmax
comp=Z,650nm,4.8s
BTO LR LR
comp=Z,300nm,6.0s
BTO LR LR
comp=Z,460nm,5.7s
BTO LR LR
comp=Z,260nm,4.9s
KOLS **Kolonicke sedl** 86.47 337 *e*P P 00 46 22.4 +0.1
KOLS pmax pmax
comp=Z,16nm,1.8s
KOLS **Kolonicke sedl** 86.47 337 *e*P P 00 46 22.4 +0.1
HNS **HongShan** 86.57 42 ⇓P P 00 46 23.0 0.0
HNS pmax pmax
comp=Z,31nm,1.2s
CRVS **Cervenica-Dubn** 86.72 337 *e*P P 00 46 23.6 +0.1
CRVS pmax pmax
comp=Z,26nm,1.5s
CRVS **Cervenica-Dubn** 86.72 337 *e*P P 00 46 23.6 +0.1
SRO **Srobarova** 86.91 334 *e*P P 00 46 25.4 +1.0
SRO pmax pmax
comp=Z,17nm,1.2s
SRO **Srobarova** 86.91 334 *e*P P 00 46 25.4 +1.0
KWP **Kalwaria Pacla** 86.94 338 *e*P P 00 46 25.2 +0.7
SOKA **Soboth** 87.25 332 *e*P P 00 46 26.3 +0.1
comp=Z,2.9nm,0.7s
VYHS **Vyhne** 87.29 335 *e*P P 00 46 26.2 -0.1
VYHS pmax pmax
comp=Z,11nm,1.1s
VYHS **Vyhne** 87.29 335 *e*P P 00 46 26.2 -0.1
OBKA **Obir** 87.30 331 *e*P P 00 46 26.4 -0.1
comp=Z,4.5nm,0.7s
HHC **Hu-ho-hao-te** 87.33 37 ⇑*i*P P 00 46 26.2 -0.6
HHC sP pwP 00 46 33.0 +0.8
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,180nm,4.5s
RNPP5 **Staryi Chortor** 87.37 340 P P 00 46 25.9 -0.7
MDT **Midelt** 87.44 311 LR LR 01 26 13.3
comp=Z,375nm,19.3s,baz=148,slow=36
ARSA **Arzberg** 87.51 332 *i* P P 00 46 27.4 0.0
comp=Z,4.0nm,0.7s,SNR=5.4
NIE **Niedzica** 87.56 336 *e*P P 00 46 27.6 0.0
RONA **Rosalia, Austr** 87.58 333 *i* P P 00 46 27.6 -0.1
comp=Z,17nm,0.8s,SNR=9.4
LANS **Liptovska Anna** 87.62 336 *e*P P 00 46 28.4 +0.5
LANS pmax pmax
comp=Z,10.0nm,1.2s
LANS **Liptovska Anna** 87.62 336 *e*P P 00 46 28.4 +0.5
ZST **Bratislava** 87.68 334 *e*P P 00 46 28.2 +0.1
ZST **Bratislava** 87.68 334 *e*P P 00 46 28.1 0.0
MODS **Modra-Piesok** 87.76 334 *e*P P 00 46 28.5 -0.1
MODS pmax pmax
comp=Z,58nm,1.2s
MODS **Modra-Piesok** 87.76 334 *e*P P 00 46 28.5 -0.1
ARU **Arti** 87.77 0 P P 00 46 28.5 +0.2
ARU **Arti** 87.77 0 LR LR 01 25 06.7
comp=Z,53nm,19.1s,baz=173,slow=35
ARU **Arti** 87.77 0 *d i*P P 00 46 28.5 +0.2
ARU S SKSac 00 56 55.9 -1.0
ARU SS SS 01 02 57.0 -1.7
ARU pmax pmax
comp=Z,50nm,1.6s
CONA **Conrad Observa** 87.94 333 *e*P P 00 46 29.3 -0.2
comp=Z,34nm,1.0s,SNR=15
JAVC **Velka Javorina** 88.02 334 *e*P P 00 46 30.3 +0.5
CTI **Castel Tesino** 88.16 330 IAmb IAmb 00 46 32.3
comp=Z,15nm,0.9s
KBA **Koelnbreinsper** 88.25 331 *i* P P 00 46 31.4 +0.3
comp=Z,2.9nm,0.7s,SNR=7.5
ZAA0 **Zalesovo Array** 88.31 15 IAmb IAmb 00 46 31.8
comp=Z,15nm,1.1s
ZALV **Zalesovo Beam** 88.31 15 P P 00 46 29.2 -1.8
ZALV **Zalesovo Beam** 88.31 15 P P 00 46 29.6 -1.3
comp=Z,9.6nm,0.9s,baz=205,slow=3.1,SNR=31
ZALV LR LR 01 23 10.3
comp=Z,151nm,20.7s,baz=170,slow=34
comp=Z,9.6nm,0.9s
ABTA **Abfaltersbach** 88.34 330 *i* P P 00 46 31.9 +0.5
comp=Z,11nm,0.9s,SNR=7.3
MAUC **Maruska** 88.39 335 *e*P P 00 46 31.9 +0.4
OJC **Ojcow** 88.41 336 *e*P P 00 46 31.0 -0.5
OBN **Obninsk** 88.45 348 LR LR 01 26 19.4
comp=Z,141nm,19.4s,baz=172,slow=36
OBN **Obninsk** 88.45 348 *d i*P P 00 46 31.8 +0.2
OBN *e* 00 50 05.9
OBN *i* S S 00 57 21.3 +3.6
OBN pmax pmax
comp=Z,36nm,1.2s
OBN MLR MLR
comp=Z,157nm,18.0s
MOA **Molln** 88.50 332 *i* P P 00 46 32.0 -0.1
comp=Z,7.0nm,0.7s,SNR=12
BIOA **Bad Ischl, Aus** 88.62 332 *i* P P 00 46 32.5 -0.2
comp=Z,3.0nm,0.4s,SNR=5.9
KRUC **Moravsky** 88.66 334 *e*P P 00 46 32.2 -0.6
VRAC **Vranov** 88.79 334 ⇑P P 00 46 33.4 -0.1
VRAC **Vranov** 88.79 334 *e*P P 00 46 32.7 -0.7
VRAC **Vranov** 88.79 334 P P 00 46 33.3 -0.1
LESA **Schwarzleotal** 88.81 331 *e*P P 00 46 33.2 -0.4
comp=Z,13nm,0.5s
MORC **Moravsky Berou** 88.83 335 ⇑P P 00 46 33.2 -0.5

MORC Moravsky Berou 88.83 335 IAmb IAmb 00 46 35.1
comp=Z,14nm,1.1s
MORC Moravsky Berou 88.83 335 *eP* **P** **00 46 33.3 -0.3**
MORC Moravsky Berou 88.83 335 P **P** **00 46 33.1 -0.5**
MOS Moscow 88.86 348 *eP* **P** **00 46 33.0 -0.5**
MOS pmax pmax
comp=Z,32nm,1.1s
RJOB Jochberg 89.00 331 *eP* 00 46 34.5
comp=Z,10.0nm,1.0s,baz=140,slow=4.6
WTTA Wattenberg 89.11 330 *i* P **P** **00 46 35.0 -0.2**
comp=Z,15nm,0.5s,SNR=17
TREC Trest 89.19 334 *eP* **P** **00 46 35.1 -0.2**
TREC Trest 89.19 334 *eP* **P** **00 46 35.1 -0.2**
WATA Walderalm 89.20 330 *i* P **P** **00 46 35.3 -0.2**
comp=Z,8.2nm,0.6s,SNR=13
FUORN Ofenpass-Fuorn 89.20 329 IAmb IAmb 00 46 37.2
comp=Z,13nm,1.1s
SQTA Sankt Quirin 89.26 330 *i* P **P** **00 46 35.9 +0.1**
comp=Z,19nm,0.7s,SNR=17
CKRC Cesky Krumlov 89.26 333 *eP* **P** **00 46 36.9 +1.2**
CKRC Cesky Krumlov 89.26 333 *eP* **P** **00 46 36.9 +1.2**
FETA Feichten 89.31 330 *i* P **P** **00 46 36.6 +0.5**
comp=Z,14nm,1.0s,SNR=17
KRLC Kraliky 89.35 335 *eP* **P** **00 46 36.1 0.0**
KRLC Kraliky 89.35 335 *eP* **P** **00 46 36.1 0.0**
TUE Stuetta 89.49 329 IAmb IAmb 00 46 39.2
comp=Z,17nm,0.8s
DAVOX Davos/Dischmat 89.50 329 LR LR 01 29 14.1
comp=Z,52nm,20.0s,baz=120,slow=37
GEC2 GERESS Array S 89.52 332 *eP* 00 46 36.6
comp=Z,3.8nm,0.8s,baz=140,slow=4.6
GERES GERESS Array B 89.52 332 P **P** **00 46 35.5 -1.4**
GERES GERESS Array B 89.52 332 P **P** **00 46 36.5 -0.4**
comp=Z,2.5nm,0.7s,baz=134,slow=3.9,SNR=13
GERES LR LR 01 29 31.0
comp=Z,33nm,18.5s,baz=134,slow=38
comp=Z,2.5nm,0.7s
BNI Bardonecchia 89.65 326 IAmb IAmb 00 46 44.8
comp=Z,8.0nm,0.9s
RETA Reutte 89.66 330 *i* P **P** **00 46 37.8 +0.2**
comp=Z,9.4nm,0.7s,SNR=8.2
MNK Minsk 89.77 343 *i* P **P** **00 46 37.4 -0.4**
MNK *i* 00 50 09.5
MNK *i* PPP PPP 00 52 06.2
MNK *i* S **SKSac** **00 57 07.2 -1.7**
MNK *i* SS **SS** **01 03 33.5 +5.6**
MNK pmax pmax
comp=Z,25nm,0.9s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK pmax pmax
comp=N,16nm,1.1s
MNK MLR MLR
comp=E,56nm,20.0s
MNK MLR MLR
comp=Z,95nm,19.0s
KHC Kasperske Hory 89.80 332 *eP* **P** **00 46 37.2 -1.0**
KHC AMS AMS 01 23 50.0
comp=Z,100nm,21.0s
KHC Kasperske Hory 89.80 332 *ceP* **P** **00 46 36.6 -1.6**
KHC pmax pmax
comp=Z,20nm,1.2s
ZVC Zvikov 89.81 333 *eP* **P** **00 46 38.0 -0.2**
DAVA Damuels 89.89 329 *i* P **P** **00 46 38.9 +0.1**
comp=Z,11nm,0.6s,SNR=8.6
GOPC GO Pecny, Ondr 89.96 334 *eP* **P** **00 46 39.1 +0.2**
GOPC GO Pecny, Ondr 89.96 334 *eP* **P** **00 46 39.1 +0.2**
GOPC *e* 00 57 23.8
GOPC MLR MLR
comp=Z,900nm,18.4s
FUR Furstenfeldbru 89.97 331 *eP* 00 46 40.1
comp=Z,34nm,0.8s,baz=140,slow=4.6
URZ Urewera 90.04 136 LR LR 01 19 34.8
comp=Z,423nm,20.9s,baz=298,slow=31
CHVC Chvalec 90.04 335 *eP* **P** **00 46 39.3 0.0**
CHVC Chvalec 90.04 335 *eP* **P** **00 46 39.3 0.0**
WET Wettzell 90.09 332 *eP* 00 46 39.2
comp=Z,4.4nm,0.9s,baz=140,slow=4.6
UBR Ueberruh 90.09 330 *eP* 00 46 40.0
comp=Z,32nm,1.0s,baz=140,slow=4.6
PRU Pruhonice 90.12 333 *eP* **P** **00 46 40.0 +0.4**
PRU Pruhonice 90.12 333 *eP* **P** **00 46 40.0 +0.4**
SONM Songino Array 90.14 30 P **P** **00 46 38.7 -1.2**
SONM Songino Array 90.14 30 P **P** **00 46 39.5 -0.4**
comp=Z,4.3nm,1.0s,baz=220,slow=4.0,SNR=18
SONM LR LR 01 24 18.9
comp=Z,325nm,20.8s,baz=226,slow=34
comp=Z,4.3nm,1.0s
SONM Songino Array 90.14 30 P **P** **00 46 38.7 -1.2**
SONM pmax pmax
comp=Z,5.0nm,1.0s
KSP Ksiaz 90.16 335 *eP* **P** **00 46 39.9 +0.2**
KIRV Kirov 90.24 355 LR LR 01 29 21.4
comp=Z,150nm,18.1s,baz=180,slow=37
KIRV Kirov 90.24 355 *ceP* **P** **00 46 39.4 -0.5**
ULN Ulaanbaatar 90.44 30 P **P** **00 46 40.3 -1.1**
ULN Ulaanbaatar 90.44 30 *ceP* **P** **00 46 40.8 -0.6**
ULN pmax pmax
comp=Z,9.0nm,1.2s
RCBR Riachuelo 90.57 263 LR LR 01 19 49.6
comp=Z,92nm,21.2s,baz=333,slow=31
CEST Esterri de Car 90.60 322 IAmb IAmb 00 46 45.1
comp=Z,19nm,1.0s
SUW Suwalki 90.61 340 *eP* **P** **00 46 41.4 -0.3**
ROTZ Rotzenmuhle 90.85 332 *eP* 00 46 40.8
comp=Z,5.6nm,1.6s,baz=140,slow=4.6
BRG Berggiesshubel 91.06 334 *eP* 00 46 44.3
comp=Z,12nm,1.2s,baz=140,slow=4.6
BRG Berggiesshubel 91.06 334 *eP* **P** **00 46 44.5 +0.5**
BRG Amp 00 46 46.2
comp=Z,8.7nm,1.1s
BRG Amp 01 23 31.0
comp=N,0.1nm,15.6s
BRG Amp 01 23 36.0
comp=Z,0.1nm,18.3s
BRG Amp 01 23 55.0
comp=E,0.0nm,16.6s
BRG Berggiesshubel 91.06 334 *eP* **P** **00 46 44.4 +0.5**
BRG pmax pmax
comp=Z,9.0nm,1.1s
MANZ Manzenberg 91.06 332 *eP* 00 46 43.9
comp=Z,1.1nm,0.9s,baz=140,slow=4.6
GRF Grafenberg Arr 91.19 332 *eP* 00 46 45.0
comp=Z,5.3nm,0.9s,baz=140,slow=4.6
TANN Tannenbergstha 91.26 333 *eP* 00 46 45.2
comp=Z,6.7nm,1.2s,baz=140,slow=4.6
STU Stuttgart 91.32 330 *eP* 00 46 45.0
comp=Z,21nm,0.8s,baz=140,slow=4.6
BFO Black Forest 91.36 329 *eP* 00 46 45.6
comp=Z,5.8nm,1.0s,baz=140,slow=4.6
BFO Black Forest 91.36 329 P **P** **00 46 44.1 -1.4**
BFO IAmb IAmb 00 46 47.5
comp=Z,14nm,1.2s
BFO Black Forest 91.36 329 P **P** **00 46 44.1 -1.4**
BFO pmax pmax
comp=Z,14nm,1.2s
ESBB Sonseca Array 91.52 317 IAmb IAmb 00 46 48.7
comp=Z,14nm,1.1s
ESDC Sonseca Array 91.52 317 P **P** **00 46 47.0 +0.5**
ESDC IAmb IAmb 00 46 49.3
comp=Z,20nm,1.2s
ESDC Sonseca Array 91.52 317 P **P** **00 46 47.9 +1.4**
comp=Z,12nm,1.1s,baz=125,slow=3.5,SNR=46
ESDC LR LR 01 28 13.9
comp=Z,142nm,20.9s,baz=136,slow=36
comp=Z,12nm,1.1s
PAB San Pablo 91.66 317 P **P** **00 46 47.8 +0.6**
PAB IAmb IAmb 00 46 49.3
comp=Z,13nm,1.0s
PAB San Pablo 91.66 317 P **P** **00 46 47.8 +0.6**
PAB pmax pmax
comp=Z,13nm,1.0s
CLL Collm 91.76 333 *eP* 00 46 47.7
comp=Z,2.0nm,0.8s,baz=140,slow=4.6
CLL Collm 91.76 333 *i* P **P** **00 46 47.1 -0.1**
CLL *eS* **S** **00 57 54.0 +5.4**
CLL pmax pmax
comp=Z,21nm,2.0s
MOX Moxa 91.78 332 *eP* 00 46 47.7
comp=Z,3.2nm,1.0s,baz=140,slow=4.6
ECH Echery 91.79 329 IAmb IAmb 00 46 49.1
comp=Z,10nm,1.4s
GKP Gorka Klasztor 91.84 337 *eP* **P** **00 46 47.6 +0.1**
XLT XiLinHaoTe 91.85 38 *eP* **P** **00 46 47.5 -0.4**
XLT pP pwP 00 46 52.4 -0.9
XLT sP PcP 00 46 56.0 +7.2
XLT pmax pmax
comp=Z,9.0nm,0.9s
NEUB Neuenburg 92.16 333 *eP* 00 46 48.3
comp=Z,7.7nm,0.9s,baz=140,slow=4.6
PVAQ Vaqueiros 92.33 313 *eLR* LR 01 22 14.7
comp=Z,161nm,20.0s
PBDV Barranco-do-Ve 92.36 313 *eP* **P** **00 46 50.9 +0.5**
comp=Z,55nm,1.6s
PBAR Barrancos 92.39 314 *eP* **P** **00 46 52.2 +1.7**
PCVE Castro Verde 92.67 313 *epP* **P** **00 46 54.1 +2.3**
TNS Taunus Mts 92.74 331 *eP* 00 46 52.4
comp=Z,4.0nm,0.9s,baz=140,slow=4.6
PBEJ Beja 92.81 314 *epP* **P** **00 46 56.4 +4.0**
MORF Marmelete 92.85 313 *epP* **P** **00 46 54.6 +1.9**
DZM Mont Dzumac 92.89 118 *eSS* SS 01 04 11.0 -2.2
comp=Z,183nm,23.4s
DZM Mont Dzumac 92.89 118 *eLR* LR 01 16 43.8
comp=Z,204nm,22.5s
DZM Mont Dzumac 92.89 118 LR LR 01 21 01.7
comp=Z,135nm,20.2s,baz=212,slow=31
MESJ Messejana 92.91 313 *epP* **P** **00 46 56.9 +4.0**
CLZ Clausthal 93.20 333 *eP* 00 46 54.2
comp=Z,3.2nm,0.8s,baz=140,slow=4.6
EVO Evora 93.22 314 *eP* **P** **00 46 55.4 +1.1**
FLTG Flechtingen 93.24 333 *eP* 00 46 54.0
comp=Z,7.0nm,1.1s,baz=140,slow=4.6
PNCL Nicolau / Gran 93.27 313 *eP* **P** **00 46 56.2 +1.7**
comp=Z,19nm,1.5s
WLF Walferdange 93.31 329 *eP* 00 46 55.0
comp=Z,8.6nm,0.9s,baz=140,slow=4.6
PMRV Marv??o 93.40 315 *eP* **P** **00 46 55.7 +0.6**
comp=Z,11nm,1.3s
VSU Vasula 93.61 344 *ceP* **P** **00 46 56.4 +0.9**
VSU pmax pmax
comp=Z,20nm,1.7s
PMTG Montargil 93.68 314 *epP* **P** **00 47 00.0 +3.6**
NRDL Niedersach Rie 93.81 333 *eP* 00 46 57.0
comp=Z,4.3nm,1.0s,baz=140,slow=4.6
PLCA Paso Flores 93.84 216 LR LR 01 21 22.5
comp=Z,159nm,21.8s,baz=134,slow=30
CLF Chambon-Foret 93.90 326 P **P** **00 46 57.1 0.0**
JNU Nakatsue 93.99 53 LR LR 01 26 34.7
comp=Z,68nm,20.7s,baz=248,slow=34
MTE Manteigas 94.10 316 *eS* **S** **00 58 10.9 +0.9**
MTE Manteigas 94.10 316 *eLQ* LQ 01 19 04.0
MTE *eLR* LR 01 21 21.5
comp=Z,247nm,18.0s
BUG Bochum--Univer 94.15 331 *eP* 00 46 56.7
comp=Z,7.3nm,1.0s,baz=140,slow=4.6
PBRG Braganca 94.51 317 *epP* **P** **00 47 02.9 +2.7**
KSRS Korea Array 94.58 48 P **P** **00 46 59.5 -1.0**
comp=Z,1.1nm,0.6s,baz=234,slow=4.9,SNR=6.9
KSRS LR LR 01 27 46.9
comp=Z,87nm,20.9s,baz=255,slow=34
comp=Z,1.1nm,0.6s
IBBN Ibbenburen 94.60 332 *eP* 00 47 01.1
comp=Z,4.3nm,0.9s,baz=140,slow=4.6
PVRL Vila Real 94.75 316 *epP* **P** **00 47 04.8 +3.5**
BDFB Brasilia 95.23 248 LR LR 01 22 27.1
comp=Z,134nm,19.6s,baz=138,slow=31
PGAV Gavieira, Arco 95.50 317 *eLQ* LQ 01 26 12.1
PGAV *eLR* LR 01 26 43.1
comp=Z,158nm,22.0s
CPUP Villa Florida 95.78 234 LR LR 01 23 24.0
comp=Z,110nm,20.3s,baz=168,slow=31
FINES FINESS Array B 96.43 345 P **P** **00 47 08.2 -0.2**
comp=Z,1.7nm,0.8s,baz=145,slow=7.0,SNR=5.4
comp=Z,1.7nm,0.8s
FINES FINESS Array B 96.43 345 *i* P **P** **00 47 07.5 -0.9**
FINES pmax pmax
comp=Z,2.0nm,0.9s
CN2 Changchun 96.92 42 *eP* **P** **00 47 13.0 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
HFS Hagfors 98.57 339 LR LR 01 30 53.6
comp=Z,70nm,19.2s,baz=131,slow=35
NOA NORSAR Array B 100.04 339 P **Pdif** **00 47 23.2 -1.4**
comp=Z,0.5nm,0.9s,baz=127,slow=3.9,SNR=3.6
TBI Tubuai 119.15 151 *eSS* SS 01 10 11.4 +1.9
comp=Z,739nm,29.0s
TBI Tubuai 119.15 151 *eLR* LR 01 28 53.4
comp=Z,1μm,36.0s
PPT2 Papeete2 124.16 147 *eSS* SS 01 11 11.2 -2.7
comp=Z,166nm,32.0s
PPT2 Papeete2 124.16 147 *eLR* LR 01 31 03.2
comp=Z,204nm,38.0s
PPT2 *eLR* LR 01 31 08.5
comp=Z,186nm,26.5s
OTAV Otavalo 128.57 241 **PKPdf** **00 52 48.7 +0.3**
OTAV Otavalo 128.57 241 PKIKP **PKPdf** **00 52 48.7 +0.3**
OTAV Otavalo 128.57 241 *eP* **PKiKP** **00 52 49.4 +0.3**
D23K Nanushuk River 139.17 16 P **PKPdf** **00 53 06.0 0.0**
baz=321
TOLK Toolik Lake Re 139.67 15 P **PKPdf** **00 53 07.3 +0.3**
baz=322
F22K John River 139.91 18 P **PKiKP** **00 53 09.7 -0.1**
baz=318
C27K Jago River 140.03 12 P **PKiKP** **00 53 09.3 -0.6**
baz=330
E24K Your Creek 140.37 15 P **PKPdf** **00 53 06.9 -1.3**
baz=323
L15K Ungalak Mounta 140.50 29 P **PKPdf** **00 53 08.4 -0.1**
baz=301
G22K Bettles 140.52 18 P **PKPdf** **00 53 09.0 +0.6**
baz=318
IMAR Indian Mountai 140.58 20 PKPdf **PKPdf** **00 53 07.6 -1.0**
G23K Bananza Creek 141.07 17 P **PKPdf** **00 53 08.2 -1.3**
baz=320
E28M Babbage River 141.63 10 P **PKPdf** **00 53 09.9 -0.5**
baz=335
J20K Nowinta River 141.71 22 P **PKPdf** **00 53 10.9 +0.3**
baz=312
H23K Yukon River 141.87 18 PKPdf **PKPdf** **00 53 11.0 +0.1**
H23K Yukon River 141.87 18 P **PKPdf** **00 53 11.2 +0.2**
baz=320
MLY Manley 142.14 20 P **PKPdf** **00 53 12.1 +0.6**
baz=318
M17K Holitna River 142.28 27 P **PKPdf** **00 53 11.1 -0.6**
baz=306
K20K Telida 142.28 23 P **PKPdf** **00 53 11.3 -0.4**
baz=312
G26K Porcupine Rive 142.32 14 P **PKPdf** **00 53 11.8 +0.1**
baz=328
BINY Binghamton 142.41 299 P **PKPdf** **00 53 11.4 -1.3**
baz=89
INK Inuvik 142.70 7 P **PKPdf** **00 53 08.6 -3.6**
baz=343
BPAW Bear Paw Mtn. 142.75 21 P **PKPdf** **00 53 09.5 -3.0**
baz=316
L19K White Mountain 142.78 25 PKPpre PKPpre 00 53 07.6
L19K White Mountain 142.78 25 P **PKPdf** **00 53 10.2 -2.5**
baz=310
M18K Stony River 142.85 26 P **PKPdf** **00 53 10.3 -2.4**
baz=308
CAST Castle Rocks 142.90 22 P **PKPdf** **00 53 09.8 -3.0**
baz=314
L20K Farewell, AK 142.93 24 P **PKPdf** **00 53 09.3 -3.7**
baz=311
M19K Big River Lodg 143.12 25 P PKPbc 00 53 10.4 +0.2
baz=310
PRP Porcupine Dome 143.14 16 P PKPbc 00 53 10.4 +0.2
baz=325
PPLA Purkeypile 143.23 23 P PKPab 00 53 09.8 +0.5
baz=314
N18K Kilae Creek 143.32 28 P PKPbc 00 53 10.7 0.0
baz=307
ILAR Eielson Array 143.40 18 PKPpre 00 53 08.5
ILAR Eielson Array 143.40 18 PKhKP PKPpre 00 53 09.7
comp=Z,3.7nm,1.1s,baz=324,slow=3.5,SNR=11
ILAR PP **PP** **00 56 23.1 -1.9**
comp=Z,1.3nm,1.1s,baz=290,slow=3.4,SNR=4.7
ILAR Eielson Array 143.40 18 PKHKP PKPpre 00 53 08.5
H27K Steamboat Moun 143.40 13 P PKPab 00 53 10.3 +0.5
baz=331
G29M Pine Creek 143.41 11 P PKPab 00 53 10.3 +0.5
baz=336
F31M Tsiigehtchic 143.50 8 P PKPab 00 53 10.4 +0.4
baz=342
L56A Greenwood 143.58 299 PKPpre PKPpre 00 53 10.3
M20K Styx River 143.59 25 P PKPab 00 53 10.4 -0.3
baz=312
G30M tAoh Zraii Nji 143.62 10 P PKPab 00 53 10.4 -0.2
baz=339
MCK McKinley 143.64 20 P PKPab 00 53 11.1 +0.3
baz=319
N19K Bonanza Creek 143.78 27 P **PKPdf** **00 53 14.2 -0.3**
baz=309,SNR=11
SSPA Standing Stone 143.86 297 PKPpre PKPpre 00 53 11.4
SSPA Standing Stone 143.86 297 P PKPab 00 53 12.3 0.0
baz=90
I26K Coal Creek Min 143.86 15 P **PKPdf** **00 53 15.1 +0.7**
baz=328,SNR=7.8
J25K Salcha River, 143.91 17 P **PKPdf** **00 53 14.2 -0.5**
baz=324,SNR=10.0
I27K Kandik River 143.93 14 P **PKPdf** **00 53 15.0 +0.4**
baz=330,SNR=11
G31M Satah River 143.93 8 P **PKPdf** **00 53 14.5 0.0**
baz=342,SNR=8.3
P17K Kvichak River 143.95 30 P **PKPdf** **00 53 14.8 +0.1**
baz=304
H29M Whitestone 143.99 11 P **PKPdf** **00 53 14.9 +0.3**
baz=335,SNR=7.6
O18K Koktuh Hills 144.08 28 P **PKPdf** **00 53 15.0 0.0**
baz=307,SNR=11
SKT Skwentna 144.08 24 P **PKPdf** **00 53 14.7 -0.2**
baz=314,SNR=9.2
EPYK Eagle Plains 144.12 10 P **PKPdf** **00 53 15.1 +0.2**
baz=338,SNR=13
J26L Joseph Creek 144.45 16 PKPdf **PKPab** **00 53 13.2 -0.7**
CHNA Chernabura Isl 144.63 38 P **PKPab** **00 53 14.8 +0.2**
baz=295
SOR Soroa 144.66 265 PKPdf **PKPab** **00 53 15.6 -0.2**
SOR Soroa 144.66 265 PKIKP **PKPab** **00 53 15.6 -0.2**
SUA Susitna One 144.71 24 P **PKPab** **00 53 14.5 -0.5**
baz=314,SNR=17
Q17K Contact Creek 144.72 31 P **PKPab** **00 53 14.9 -0.2**
baz=304
M22K Willow 144.72 23 P **PKPab** **00 53 14.5 -0.2**
baz=315,SNR=10
EGAK Eagle 144.75 14 P **PKPab** **00 53 14.2 -0.6**
baz=330,SNR=12
I29M Ogilvie Camp, 144.78 12 P **PKPab** **00 53 14.6 -0.4**
baz=335,SNR=27
SCRK Sand Creek 144.78 17 P PKPbc 00 53 15.4 +0.2
baz=326,SNR=36
R17L Mt. Peulik Vol 144.85 32 P **PKPab** **00 53 15.6 +0.1**
baz=303
WAT6 Susitna Watana 144.87 21 P **PKPab** **00 53 15.4 -0.1**
baz=319,SNR=19
Q18K Katmai Hardscr 144.88 30 P **PKPab** **00 53 15.4 -0.2**
baz=306
O20K Slope Mountain 144.96 27 P **PKPab** **00 53 15.8 -0.1**
baz=310
P19K Oil Pt 145.00 28 PKPdf **PKPab** **00 53 14.6 -1.4**
P19K Oil Pt 145.00 28 P **PKPab** **00 53 16.1 +0.2**
baz=309
CAPN Captain Cook N 145.05 25 P PKPbc 00 53 16.2 +0.2
baz=313
NHSC New Hope 145.10 284 P **PKPbc** **00 53 16.5 -0.6**
baz=99
PMR Palmer 145.16 23 P **PKPbc** **00 53 16.0 -0.3**
baz=317,SNR=9.1
K27K Chicken 145.19 16 P **PKPab** **00 53 16.7 +0.2**
baz=329
PAX Paxson 145.22 19 P **PKPbc** **00 53 16.7 +0.1**
baz=323,SNR=70
I30M Mount Dempster 145.24 11 P **PKPbc** **00 53 16.3 -0.3**
baz=338,SNR=70
SML Sawmill 145.26 22 P **PKPbc** **00 53 16.7 0.0**
baz=318,SNR=13
RC01 Rabbit Creek A 145.32 24 P **PKPbc** **00 53 16.4 -0.5**
baz=315,SNR=6.6
MCWV Mont Chateau 145.36 295 P **PKPbc** **00 53 17.3 -0.4**
baz=90
ERPA Erie 145.39 299 P **PKPbc** **00 53 17.0 -0.8**
baz=86
M23K Glacier View 145.47 22 P **PKPbc** **00 53 17.2 -0.1**
baz=319,SNR=14
KNK Knik Glacier 145.52 23 P **PKPbc** **00 53 17.5 0.0**
baz=317
ALLY Alegheny Colle 145.53 299 PKPdf **PKPdf** **00 53 17.7 -0.4**
SCM Sheep Creek Mo 145.56 21 P **PKPab** **00 53 18.0 0.0**
baz=319,SNR=7.1
HOM Homer 145.61 27 P **PKPdf** **00 53 17.7 +0.2**
baz=311
J29N Klondike Camp 145.62 13 P **PKPbc** **00 53 18.1 +0.2**
baz=335
M24K Tolsona, Glenn 145.70 20 P **PKPab** **00 53 18.6 +0.1**
baz=321
L26K Log Cabin Wild 145.74 17 P **PKPdf** **00 53 18.1 +0.3**
baz=326
R18K Karluk 145.74 31 P **PKPdf** **00 53 17.8 0.0**
baz=305
DAWY Dawson 145.74 14 P **PKPbc** **00 53 18.4 +0.2**
baz=333,SNR=24
BLA Blacksburg 145.75 291 PKPdf **PKPdf** **00 53 18.2 -0.4**
BLA Blacksburg 145.75 291 P **PKPdf** **00 53 18.8 +0.2**
baz=93
BLA Blacksburg 145.75 291 PKP2 **PKPdf** **00 53 18.3 -0.4**
O22K Cooper Landing 145.76 24 P **PKPab** **00 53 18.8 +0.2**
baz=315
HARP HAARP 145.76 19 P **PKPbc** **00 53 18.5 +0.2**
baz=323
J30M Hart River 145.84 11 P **PKPdf** **00 53 18.5 +0.4**
baz=337,SNR=21
BRSE Bradley Lake S 145.90 26 P **PKPdf** **00 53 18.3 +0.1**
baz=312
M53A WI Miller and 145.94 298 P **PKPdf** **00 53 18.8 0.0**
baz=86
Q20K Shuyak Island 145.99 29 P **PKPdf** **00 53 18.8 +0.5**
baz=309
L27K Beaver Creek, 146.08 16 P **PKPdf** **00 53 18.6 +0.2**
baz=328,SNR=17
BCAR Beaver Creek A 146.09 16 PKPdf **PKPdf** **00 53 17.8 -0.6**
SEW Seward 146.12 25 P **PKPdf** **00 53 18.9 +0.4**
baz=315
KLU Klutina 146.25 21 P **PKPdf** **00 53 19.5 +0.8**
baz=321,SNR=9.9
K29M Barlow Dome 146.31 13 P **PKPbc** **00 53 20.0 -0.1**
baz=335,SNR=24
KMSC Kings Mountain 146.32 287 P **PKPdf** **00 53 20.0 +0.4**
baz=96
M26K Nabesna, AK 146.34 18 PKPdf **PKPdf** **00 53 19.5 +0.6**
M26K Nabesna, AK 146.34 18 P **PKPbc** **00 53 20.0 -0.1**
baz=326
O53A New Philadelph 146.40 296 P **PKPbc** **00 53 21.1 +0.2**
baz=88
N25K Chitina, Valde 146.56 20 P **PKPab** **00 53 21.5 -0.3**
baz=323,SNR=20
M27K Edge Creek, AK 146.67 17 P **PKPbc** **00 53 21.6 +0.4**
baz=328,SNR=7.2
L29M L29M 146.86 14 P **PKPab** **00 53 22.5 -0.4**
baz=334
O52A Adamsville 146.88 296 PKPdf **PKPdf** **00 53 20.3 -0.1**
P23K Montague Islan 146.91 24 P **PKPbc** **00 53 22.2 +0.5**
baz=317
EYAK Cordova Ski Ar 147.04 22 P **PKPbc** **00 53 22.9 +0.8**
baz=320
BMRM Bremner River 147.06 20 P **PKPbc** **00 53 22.6 +0.4**
baz=322,SNR=6.6
P52A Corning 147.13 295 P **PKPbc** **00 53 22.6 -0.4**
baz=88
FCC Fort Churchill 147.13 334 PKPdf **PKPdf** **00 53 21.2 +1.0**
FCC Fort Churchill 147.13 334 PKP2 **PKPdf** **00 53 21.2 +1.0**
MCARA McCarthy VSAT 147.18 19 P **PKPbc** **00 53 22.9 +0.4**
baz=325
M29M Somme Creek 147.38 14 **PKPbc** **00 53 23.0 -0.1**
M29M Somme Creek 147.38 14 P **PKPbc** **00 53 23.6 +0.4**
baz=333
YUK3 Moose Creek 147.51 17 P **PKPbc** **00 53 24.0 +0.4**
baz=329
M30M Minto, Yukon 147.60 13 P **PKPbc** **00 53 23.9 +0.3**
baz=336
CRQE Cirque 147.68 20 P **PKPbc** **00 53 24.0 0.0**
baz=324
ACSO Alum Creek Sta 147.76 296 P **PKPbc** **00 53 24.1 -0.6**
baz=87
GOGA Godfrey 147.88 283 P **PKPbc** **00 53 24.5 -0.7**
baz=97
KAIM Kayak Island 147.94 22 P **PKPbc** **00 53 24.5 -0.1**
baz=322
CTG Chitna Glacier 147.98 18 P **PKPbc** **00 53 24.9 +0.1**
baz=327
CTGM Chitina Glacie 147.99 18 PKPbc **PKPbc** **00 53 24.9 0.0**
TEIG Tepich 148.01 257 PKPbc **PKPbc** **00 53 25.4 -0.5**
TKL Tuckaleechee C 148.35 288 **PKiKP** **00 53 28.7 +0.6**
TKL Tuckaleechee C 148.35 288 PKP2 **PKiKP** **00 53 28.7 +0.6**
M31M Drury Creek, Y 148.38 11 P **PKPbc** **00 53 25.5 -0.2**
baz=339
WRGLY Wrigley 148.42 2 P **PKPbc** **00 53 25.3 -0.4**
baz=357
MMPY Sheldon Lake, 148.44 8 P **PKPbc** **00 53 25.9 0.0**
baz=344
O28M Mount Upton 148.45 17 P **PKPbc** **00 53 26.7 +0.5**

	baz=329						
MESA	MESA	148.47	19	P	PKPbc	00 53 26.8	+0.6
	baz=326						
FARO	Faro, Yukon	148.52	10	P	PKPbc	00 53 26.6	+0.6
	baz=341						
N30M	Aishikik Lake	148.56	14	P	PKPbc	00 53 26.6	+0.4
	baz=334						
L48A	N Adams	148.70	300	PKPbc	PKPbc	00 53 27.2	0.0
YUK6	Outpost Mounta	148.74	16	P	PKPbc	00 53 27.1	+0.2
	baz=332						
N31M	Braeburn, Yuko	148.79	13	P	PKPbc	00 53 26.7	-0.1
	baz=336						
YKA	Yellowknife Ar	148.85	354	PKPdf	PKPdf	00 53 21.0	-1.9
YKA				PKPbc	sPKPbc	00 53 26.1	+0.4
YKA	Yellowknife Ar	148.85	354	PKPbc	PKPbc	00 53 26.5	-0.3
	comp=Z,12nm,0.9s,baz=0.5,slow=2.7,SNR=47						
PINM	Pinnacle	149.01	18	P	PKPbc	00 53 27.5	+0.1
	baz=328						
HYT	Haines Junctio	149.04	15	P	PKPbc	00 53 27.9	+0.4
	baz=333						
P49A	Miami Univ. Ec	149.13	295	P	PKPbc	00 53 28.2	-0.1
	baz=87						
O30N	Mendenhall	149.39	14	P	PKPbc	00 53 29.1	+0.7
	baz=335						
O48B	Farmland	149.41	297	P	PKPbc	00 53 28.8	-0.2
	baz=85						
N32M	Quiet Lake	149.59	11	P	PKPbc	00 53 29.1	+0.3
	baz=341						
PNL	Peninsula	149.60	18	P	PKPbc	00 53 29.2	+0.3
	baz=329						
E43A	Lone Tree Farm	149.61	309	PKPdf	PKPdf	00 53 23.1	-1.6
E43A				PKPbc	sPKPbc	00 53 28.6	+0.5
P30M	Million Dollar	149.79	15	P	PKPbc	00 53 29.8	+0.5
	baz=334						
TGTN	Hyland Airport	149.84	6	P	PKiKP	00 53 30.4	0.0
	baz=349						
P29M	Windy Craggy	150.05	16	P	PKPbc	00 53 30.4	+0.5
	baz=332						
SWET	Sewanee	150.08	287	PKPbc	PKPbc	00 53 29.9	-0.9
WCI	Wyandotte Cave	150.41	293	PKPbc	PKPbc	00 53 29.6	-1.9
WCI	Wyandotte Cave	150.41	293	P	PKPbc	00 53 30.8	-0.7
	baz=88						
WCI	Wyandotte Cave	150.41	293	PKIKP	PKPbc	00 53 29.6	-1.9
P33M	Teslin, Yukon	150.52	11	P	PKPbc	00 53 31.1	0.0
	baz=340						
PLBC	Pleasant Camp	150.52	15	P	PKPbc	00 53 31.3	+0.3
	baz=334						
BRAL	Brewton	150.53	278	P	PKPbc	00 53 32.5	+0.5
	baz=100						
H43A	Windswept, Lux	150.64	305	PKPbc	PKPbc	00 53 30.6	-1.2
H43A					sPKPab	00 53 38.1	+0.5
SKAG	Skagway	150.74	14	P	PKiKP	00 53 32.4	+0.2
	baz=336						
LRAL	Lakeview Retre	150.76	282	P	PKPbc	00 53 32.9	+0.5
	baz=97						
X48A	Hartselle	150.94	285		PKPbc	00 53 30.9	-2.0
P32M	Atlin	150.94	13	P	PKiKP	00 53 33.3	+0.6
	baz=338						
L44A	Lake County Fo	151.23	301	P	PKiKP	00 53 34.3	+0.5
	baz=79						
R33M	Jennings River	151.59	10	P	PKiKP	00 53 34.3	+0.1
	baz=343						
WVT	Waverly	151.66	288	P	PKPbc	00 53 33.6	-0.9
	baz=91						
Z47A	Carrollton	151.68	282		PKPbc	00 53 34.4	-0.2
Z47A					sPKPab	00 53 42.9	+0.7
Q32M	Nakina River	151.79	12	P	PKPbc	00 53 34.7	+0.4
	baz=341						
S31K	Pelican	151.89	17	P	PKiKP	00 53 35.4	+0.8
	baz=333						
EYMN	Ely	151.94	314	PKPdf	PKPdf	00 53 27.9	-0.3
EYMN					sPKPbc	00 53 33.9	+0.2
EYMN					sPKPab	00 53 42.5	-0.4
EYMN	Ely	151.94	314	P	PKiKP	00 53 35.5	+0.3
	baz=65						
R32K	Eaglecrest	152.00	15	P	PKiKP	00 53 35.3	+0.5
	baz=336						
LIRD	Liard River Hi	152.11	5	P	PKiKP	00 53 35.6	+0.5
	baz=352						
HDIL	Hopedale	152.52	298		PKPab	00 53 46.2	-0.5
HDIL	Hopedale	152.52	298	P	PKiKP	00 53 37.0	+0.5
	baz=81						
L42A	Oliver, Polo	152.54	301	PKPab	PKPab	00 53 45.5	-1.2
DLBC	Dease Lake	152.65	10	P	PKiKP	00 53 36.8	+0.5
	baz=344						
S32K	Killisnoo	152.73	15	P	PKiKP	00 53 37.3	+1.0
	baz=336						
TOAD	Toad River Com	152.73	4	P	PKiKP	00 53 37.2	+0.8
	baz=353						
JFWS	Jewell Farm	152.76	303	P	PKPbc	00 53 37.0	+0.3
	baz=76						
OXF	Oxford	152.90	285	P	PKPbc	00 53 37.4	+0.1
	baz=93						
SIT	Sitka	152.92	16	P	PKiKP	00 53 37.9	+1.1
	baz=334						
S34M	Telegraph Cree	152.98	11	P	PKiKP	00 53 37.7	+0.8
	baz=342						
FFC	Flin Flon	153.05	334		PKPbc	00 53 35.9	-1.1
FFC	Flin Flon	153.05	334	PKIKP	PKPbc	00 53 35.9	-1.1
ULM	Lac du Bonnet	153.32	322	PKP	PKPdf	00 53 29.1	-1.1
	comp=Z,3.5nm,1.1s,baz=140,slow=0.8,SNR=5.0						
ULM				PKPbc	sPKPbc	00 53 37.2	+0.6
	comp=Z,10nm,0.8s,baz=69,slow=3.6,SNR=16						
VBMS	Vicksburg	153.61	279	P	PKPbc	00 53 39.1	+0.2
	baz=97						
SPMN	Marine on St.	153.83	309	P	PKiKP	00 53 39.5	+0.4
	baz=68						
T35M	Bob Quinn	154.02	11	P	PKiKP	00 53 39.3	+0.2
	baz=343						
WRAK	Wrangell Islan	154.17	14	P	PKiKP	00 53 40.1	+0.7
	baz=339						
CCM	Cathedral Cave	154.32	293	PKPbc	PKPbc	00 53 39.1	-1.1
CCM				PKPab	PKPab	00 53 53.2	-1.2
CCM	Cathedral Cave	154.32	293	P	PKPbc	00 53 40.3	0.0
	baz=84						
CCM	Cathedral Cave	154.32	293	PKP2	PKPab	00 53 53.2	-1.2
LCAR	Lake Charles	154.35	288		PKPab	00 53 53.2	-1.3
AGMN	Agassiz Nation	154.37	318	P	PKPbc	00 53 40.3	+0.3
	baz=59						
CRAG	Craig	154.88	15	P	PKPbc	00 53 40.9	+0.1
	baz=337						
V35K	Ketchikan	155.34	14	P	PKPab	00 53 58.7	+0.6
	baz=339						
S39A	Bolivar	155.99	292	PKPab	PKPab	00 53 59.7	-1.8
MIAR	Mount Ida	156.33	285	P	PKPab	00 54 02.8	-0.3
	baz=91						
ECSD	EROS Data Cent	156.92	308	PKPab	PKPab	00 54 03.8	-1.5
ECSD	EROS Data Cent	156.92	308	P	PKPab	00 54 05.3	-0.1
	baz=67						
NATX	Nacogdoches	157.05	277	P	PKPab	00 54 06.2	-0.1
	baz=97						
TUL3	Leonard	158.12	288	P	PKPab	00 54 10.4	-0.3
	baz=86						
SUSD	Miller	158.14	312	P	PKPab	00 54 09.7	-0.9
	baz=62						
OK048	Pawnee Station	159.00	290	PKPab	PKPab	00 54 13.2	-1.4
WHTX	Lake Whitney,	159.44	277	P	PKPab	00 54 17.0	+0.4
	baz=95						
KAN14	Manchester OK	159.75	292	PKPab	PKPab	00 54 16.6	-1.2
833A	Chaparral WMA,	160.43	266	P	PKPab	00 54 19.1	-1.9
	baz=105						
WMOK	Wichita Mounta	160.62	285	P	PKPab	00 54 21.1	-0.6
	baz=87						
CBKS	Cedar Bluff	160.76	298	P	PKPab	00 54 22.3	+0.1
	baz=74						
JCT	Junction City	161.24	272	P	PKPab	00 54 24.0	-0.6
	baz=99						
ABTX	Abilene, Hawle	161.33	279	P	PKPab	00 54 24.9	-0.1
	baz=93						
RSSD	Black Hills	161.41	317	PKPab	PKPab	00 54 24.8	-0.3
RSSD	Black Hills	161.41	317	P	PKPab	00 54 25.6	+0.6
	baz=54						
RSSD	Black Hills	161.41	317	PKP2	PKPab	00 54 24.8	-0.3
OZNA	Ozona	162.43	273	PKPdf	PKPdf	00 53 41.8	-0.3
OZNA				PKPab	pPKPab	00 54 29.6	+0.6
NEW	Newport	163.09	350	P	PKPab	00 54 32.2	+0.3
	baz=13						
B08A	Colville Reser	163.25	355		PKPab	00 54 31.1	-1.5
RLMT	Red Lodge	163.47	328	P	PKPab	00 54 32.8	-1.1
	baz=40						
K22A	Casper	163.74	317	P	PKPab	00 54 34.8	-0.4
	baz=52						
MSO	Missoula	163.75	341	P	PKPab	00 54 33.7	-1.3
	baz=24						
MSTX	Muleshoe	163.96	283	P	PKPab	00 54 36.2	-0.3
	baz=86						
BPMT	Black Pine Rid	163.96	339		PKPab	00 54 34.6	-1.6
BOZ	Bozeman (W)	164.07	334		PKPdf	00 53 42.8	-0.5
BOZ				PKPab	PKPab	00 54 36.0	-0.5
BOZ	Bozeman (W)	164.07	334	P	PKPab	00 54 37.6	+1.0
	baz=32						
BOZ	Bozeman (W)	164.07	334	PKP2	PKPab	00 54 36.0	-0.5
BOZ						01 53 42.8	
TXAR	Lajitas Array	164.31	266		PKPdf	00 53 42.5	-1.5
TXAR	Lajitas Array	164.31	266	PKP	PKPdf	00 53 43.7	-0.2
	comp=Z,2.0nm,1.0s,baz=132,slow=1.9,SNR=8.2						
TXAR				PKPab	PKPab	00 54 38.4	+0.3
	comp=Z,2.3nm,1.1s,baz=116,slow=5.7,SNR=5.5						
N23A	Red Feather La	164.37	310	P	PKPab	00 54 38.1	-0.2
	baz=58						
H17A	Grant Village	164.62	329	P	PKPab	00 54 39.8	+0.7
	baz=38						
ISCO	Idaho Springs	164.67	306	P	PKPab	00 54 40.0	+0.4
	baz=62						
RWWY	Rawlins	164.72	315		PKPab	00 54 37.2	-2.5
T25A	Trinidad	164.76	296	P	PKPab	00 54 41.1	+1.0
	baz=74						
BW06	Boulder Array	165.35	322	P	PKPab	00 54 41.9	-0.4
	baz=44						
PD31	Pinedale Array	165.35	322	PKPdf	PKPdf	00 53 43.2	-1.4
PD31				PKPab	sPKPab	00 54 40.9	-0.4
PDAR	Pinedale Array	165.35	322	PKPdf	PKPdf	00 53 42.4	-2.3
PDAR				PKPab	sPKPab	00 54 40.9	-0.4
PDAR	Pinedale Array	165.35	322	PKP	PKPdf	00 53 43.9	-0.7
	comp=Z,3.4nm,1.1s,baz=132,slow=2.2,SNR=14						
PDAR				PKPab	sPKPab	00 54 41.3	0.0
	comp=Z,1.7nm,0.8s,baz=66,slow=5.0,SNR=8.2						
PDAR				PP	PP	00 58 29.3	+0.3
	comp=Z,0.8nm,0.9s,baz=36,slow=5.5,SNR=5.3						
SDCO	Great Sand Dun	165.41	299	P	PKPab	00 54 42.8	-0.2
	baz=70						
PLID	Pearl Lake	165.91	343	PKPab	PKPab	00 54 42.6	-2.1
O20A	White River Ci	166.25	312	P	PKPab	00 54 46.5	0.0
	baz=56						
S22A	4UR Ranch, Cre	166.39	300	P	PKPab	00 54 48.7	+1.4
	baz=67						
HLID	Hailey	166.83	336	P	PKPab	00 54 49.8	+1.0
	baz=28						
ANMO	Albuquerque	166.88	288	PKPab	PKPab	00 54 48.6	-0.8
ANMO	Albuquerque	166.88	288	P	PKPab	00 54 49.7	+0.2
	baz=79						
ANMO	Albuquerque	166.88	288	PKP2	PKPab	00 54 48.6	-0.8
HWUT	Hardware Ranch	167.21	324	PKPab	PKPab	00 54 49.1	-1.5
MVCO	Mesa Verde	167.82	300	P	PKPab	00 54 53.7	+0.2
	baz=66						
SPUT	South Promonto	167.88	325	PKPab	PKPab	00 54 52.9	-0.6
121A	Cookes Peak, D	168.20	278	P	PKPab	00 54 55.4	0.0
	baz=89						
SRU	San Rafael Swe	168.28	312	PKPab	PKPab	00 54 54.7	-0.7
SRU	San Rafael Swe	168.28	312	PKP2	PKPab	00 54 54.7	-0.7
NLU	North Lily Min	168.67	319	PKPab	PKPab	00 54 56.6	-0.5
DUG	Dugway, Tooele	168.89	322	P	PKPab	00 54 58.4	+0.5
	baz=42						
R11B	Troy Canyon, C	171.69	325	P	PKPab	00 55 11.3	+0.8
	baz=38						
214A	Organ Pipe Nat	172.46	274	P	PKPab	00 55 13.1	-1.0
	baz=89						
NVAR	Mina Array Bea	172.73	339	PKPdf	PKPdf	00 53 50.5	+1.1
NVAR				PKPab	sPKPab	00 55 14.0	+0.1
NVAR	Mina Array Bea	172.73	339	PKP	PKPdf	00 53 50.8	+1.4
	comp=Z,0.5nm,0.7s,baz=117,slow=0.7,SNR=5.4						
NVAR				PKPab	PKPab	00 55 15.4	+0.4
	comp=Z,1.9nm,0.8s,baz=36,slow=5.2,SNR=11						
TPNV	Topopah Spring	173.10	321	P	PKPab	00 55 16.8	0.0
	baz=41						
FURC	Furnace Creek,	173.79	321	P	PKPab	00 55 20.8	+1.3
	baz=40						
SHOC	Shoshone, Teco	173.85	315	P	PKPab	00 55 20.3	+0.3
	baz=47						
TUQ	Turquoise Moun	173.92	310	P	PKPab	00 55 20.1	-0.4
	baz=52						
IRM	Iron Mountain	173.99	296	P	PKPab	00 55 20.9	+0.1
	baz=66						
GMRC	Granite Mounta	174.10	303	P	PKPab	00 55 21.9	+0.6
	baz=59						
BC3	Big Chuckawall	174.41	292	P	PKPab	00 55 23.3	+0.6
	baz=70						
MPMC	Manual Prospec	174.43	323	P	PKPab	00 55 22.0	-0.7
	baz=38						
BELC	Belle Mtn. Jos	174.70	297	P	PKPab	00 55 23.8	-0.3
	baz=64						
LRMC	Laurel Mtn Rad	174.97	320	P	PKPab	00 55 25.8	+0.7
	baz=41						
IKP	In-Ko-Pah, Jac	175.19	283	P	PKPab	00 55 27.8	+1.5
	baz=78						
TPFO	Pinon Flats	175.21	295	P	PKPab	00 55 27.6	+1.2
	baz=66						
PFO	Pinyon Flats O	175.21	295	P	PKPab	00 55 27.4	+1.0
	baz=66						
ISA	Isabella, Lake	175.23	327	P	PKPab	00 55 27.2	+1.1
	baz=33						
MONP2	Monument Peak	175.40	287	P	PKPab	00 55 29.5	+2.2
	baz=74						

IDC 11 01:08:58.9±51.0, 16°.17S×174°.84W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=960.1km s-min=181.5km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.45	240	P	P	01 16 55.7	-0.2
	1.0nm,0.3s,baz=78,slow=8.9,SNR=4.5						
	1.0nm,0.3s						
WRA	Warramunga Arr	48.32	258	P	P	01 17 42.2	-0.4
	0.6nm,0.4s,baz=93,slow=7.1,SNR=9.5						
	0.6nm,0.4s						
ASAR	Alice Springs	48.56	253	P	P	01 17 44.5	+0.1
	6.4nm,0.6s,baz=88,slow=8.4,SNR=64						
	6.4nm,0.6s						

IDC 11 01:11:15.1±0.9, 31°.68S×58°.41E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=36.6km s-min=24.8km az=66.0

ISC 11 01:11:17.3±1.0, 31°.7S±0°.2×58°.4E±0°.3, h14km, n17, σ0°67/8, mb4.0/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.34	198	T	T	01 30 33.7	
	baz=22,slow=75,SNR=21						
H04N1	CROZET ISLANDS	15.34	198	T	T	01 30 34.8	
	baz=22,slow=75,SNR=21						
H04N3	CROZET ISLANDS	15.36	198	T	T	01 30 33.6	
	baz=22,slow=75,SNR=23						
H08S1	Diego Carcia H	27.28	32	T	T	01 45 29.3	
	baz=207,slow=75,SNR=11						
H08S2	Diego Garcia H	27.29	32	T	T	01 45 25.7	
	baz=207,slow=75,SNR=7.9						
H08S3	Diego Garcia H	27.30	32	T	T	01 45 27.0	
	baz=207,slow=75,SNR=12						
H01W2	Cape Leeuwin H	46.21	110	T	T	02 08 52.1	
	baz=257						
H01W3	Cape Leeuwin H	46.21	110	T	T	02 08 50.4	
	baz=257						
H01W1	Cape Leeuwin H	46.23	110	T	T	02 08 53.9	
	baz=257,SNR=6.7						
QSPA	South Pole Qui	58.49	180	P	P	01 21 13.1	+0.3
	1.7nm,0.7s,baz=275,slow=1.7,SNR=18						
	1.7nm,0.7s						
ASAR	Alice Springs	66.17	104	P	P	01 22 04.1	-0.7
	0.5nm,0.6s,baz=247,slow=5.3,SNR=5.0						
	0.5nm,0.6s						
WRA	Warramunga Arr	68.17	101	P	P	01 22 17.4	-0.1
	1.3nm,0.9s,baz=250,slow=5.5,SNR=5.0						
	1.3nm,0.9s						
TORD	Torodi Ar. Bea	70.25	300	P	P	01 22 30.0	-0.3
	0.4nm,0.8s,baz=142,slow=3.5,SNR=3.0						
	0.4nm,0.8s						
BRTR	Keskin Array B	74.66	340	P	P	01 22 55.7	-0.5
	0.4nm,0.8s,baz=178,slow=4.3,SNR=2.6						
	0.4nm,0.8s						
MKAR	Makanchi Array	81.03	16	P	P	01 23 31.5	+0.1
	0.3nm,0.7s,baz=206,slow=9.2,SNR=2.9						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	83.85	13	P	P	01 23 46.5	+0.5
	1.5nm,0.2s,baz=207,slow=5.8,SNR=4.3						
	1.5nm,0.2s						
BVAR	Borovoye Array	84.99	7	P	P	01 23 52.8	+1.1
	1.9nm,0.9s,baz=172,slow=4.0,SNR=8.2						
	1.9nm,0.9s						

IDC 11 01:17:08.4±1.0, 31°.68S×58°.29E, h0km, mb3.8/5, mbtmp3.8/5, MS3.4/1, Error ellipse: s-maj=41.6km s-min=30.6km az=50.0

ISC 11 01:17:10.6±1.0, 31°.7S±0°.2×58°.3E±0°.3, h14km, n10, σ0°60/6, mb3.9/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.30	197	T	T	01 36 32.1	
	baz=22,slow=74,SNR=5.2						
H04N1	CROZET ISLANDS	15.31	197	T	T	01 36 28.8	
	baz=22,slow=74,SNR=5.2						
H04N3	CROZET ISLANDS	15.32	197	T	T	01 36 33.1	
	baz=22,slow=74,SNR=4.9						
TSUM	Tsumeb	38.56	279	LR	LR	01 37 51.8	
	comp=Z,52nm,18.3s,baz=349,slow=32						
QSPA	South Pole Qui	58.49	180	P	P	01 27 06.4	+0.3
	0.6nm,0.6s,baz=133,slow=1.3,SNR=6.6						
	0.6nm,0.6s						
ASAR	Alice Springs	66.27	104	P	P	01 27 58.3	-0.5
	0.6nm,0.6s,baz=239,slow=6.2,SNR=4.9						
	0.6nm,0.6s						
WRA	Warramunga Arr	68.28	101	P	P	01 28 11.3	-0.2
	0.6nm,0.6s,baz=244,slow=5.7,SNR=3.4						
	0.6nm,0.6s						
TORD	Torodi Ar. Bea	70.15	300	P	P	01 28 22.6	-0.4
	0.4nm,0.8s,baz=128,slow=4.2,SNR=2.5						
	0.4nm,0.8s						
BVAR	Borovoye Array	85.01	7	P	P	01 29 45.8	+0.7
	1.6nm,0.8s,baz=176,slow=5.7,SNR=7.8						
	1.6nm,0.8s						
YKA	Yellowknife Ar	148.83	354	PKPbc	PKPbc	01 36 56.7	-0.2
	1.0nm,0.9s,baz=357,slow=3.2,SNR=2.9						

IDC 11 01:29:32.7±0.7, 49°.89N×88°.35E, h0km, mb4.0/13, mbtmp4.2/21, ML4.0/8, MS3.4/13, Error ellipse: s-maj=11.7km s-min=9.8km az=147.0
NNC 11 01:29:33.6±1.3, 49°.94N×88°.26E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=12.4km s-min=7.1km az=103.0
MOS 11 01:29:34.1±1.6, 49°.87N×88°.06E, h17km, mb4.5/10, Error ellipse: s-maj=6.7km s-min=5.4km az=73.4
ASRS 11 01:29:37.5±0.3, 50°.N±2°×8°.8E±°, h10km, MLh4.8/16, Error ellipse: s-maj=3.8km s-min=3.0km az=131.6, confirmed
NEIC 11 01:29:39.7±2.4, 49°.91N±0°.04×88°.0E±0°.1, h43km±6km, mb4.3/46, Error ellipse: s-maj=12.2km s-min=5.8km az=95.0

ISC 11 01:29:36.1±0.5, 49°.95N±0°.03×88°.05E±0°.03, h15km±3km, n198, σ2°09/240, mb4.3/38, MS3.5/8, 39C-18D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	Chagan-Uzun	0.24	53	⇓P	Pg	01 29 38.4	-3.2
CUR				S	Sg	01 29 42.0	-3.3
AKAR	Aktash	0.46	323	⇓P	Pg	01 29 43.8	-1.5
AKAR				S	Sg	01 29 50.4	-1.1
AKAR	Aktash	0.46	323	PG	Pg	01 29 43.8	-1.5
AKAR						01 29 50.7	
DGZ	Jazzator, Alta	0.47	238	⇑P	Pg	01 29 42.8	-2.8
DGZ				S	Sg	01 29 47.5	-4.4
DGZ	Jazzator, Alta	0.47	238	PG	Pg	01 29 42.8	-2.8
DGZ						01 29 49.2	
CHBI	Chibit, Altay	0.50	316	⇓P	Pg	01 29 44.5	-1.6
CHBI				S	Sg	01 29 52.0	-0.9
ULGR	Ulagan, Altay	0.67	355	⇓P	Pg	01 29 49.2	-0.1
ULGR				S	Sb	01 29 58.8	-0.1
ULGR	Ulagan, Altay	0.67	355	PG	Pg	01 29 49.1	-0.2
ULGR						01 29 58.7	
TEL	Teeli	1.74	51	⇓P	Pn	01 30 04.6	-1.3
TEL				S	Sn	01 30 27.4	-0.5
TEL	Teeli	1.74	51	PN	Pn	01 30 04.7	-1.2
TEL						01 30 27.6	
ELDR	Elanda	1.78	316	⇑P	Pn	01 30 06.9	+0.6
ELDR				S	Sb	01 30 30.3	-0.2
ELDR	Elanda	1.78	316	PN	Pb	01 30 07.8	-0.6
ELDR						01 30 32.9	
YALR	Yailyu, Altay	1.84	352	⇓P	Pn	01 30 07.4	+0.1
YALR				S	Sn	01 30 30.2	-0.1
ARTR	Artybash	1.91	346	⇓P	Pn	01 30 08.7	+0.5
ARTR				S	Sb	01 30 34.8	+0.4
ARTR	Artybash	1.91	346	PN	Pb	01 30 10.8	+0.1
ARTR						01 30 37.3	
UKR	Ust'-Kan	2.31	296	P	Pb	01 30 16.0	-1.6
UKR				S	Sb	01 30 46.2	+0.2
GALT	Gorno-Altaysk,	2.41	327	P	Pb	01 30 18.8	-0.3
GALT	Gorno-Altaysk,	2.41	327	PN	Pb	01 30 19.7	+0.5
GALT						01 30 52.9	
TASR	Tashtagol	2.81	358	S	Sb	01 30 59.8	-0.6
DJO	Djoy, Khakassi	3.46	34	⇓P	Pn	01 30 31.0	+1.5
ELT	Eltsovka	3.50	342	⇑P	Pn	01 30 32.2	+2.2
ELT				S	Sb	01 31 16.8	-3.3
DJOS	Djoyskaya Sosn	3.54	35	P	Pn	01 30 31.8	+1.3
CERR	Cheremushki	3.59	35	P	Pn	01 30 30.6	-0.7
VEH	Verkhnyaya Baz	3.60	22	P	Pn	01 30 34.0	+2.6
VEH				S	Sn	01 31 11.4	-2.2
KIYZ	Kiyzas, Kuzbas	3.62	357	P	Pn	01 30 34.1	+2.5
KIYZ				S	Sn	01 31 16.2	+2.2
LUZB	Luzhba, Kemero	3.75	8	P	Pn	01 30 35.5	+2.0
VCHU	Verkh-Chumysh,	4.13	347	S	Sn	01 31 31.1	+4.4
ARTR	Aradan	4.28	50	P	Pn	01 30 42.8	+2.0
KOTO	Kotino, Kuzbas	4.30	351	P	Pn	01 30 44.5	+3.6
KOTO				S	Sn	01 31 35.6	+4.8
BJR3	Bachatsky-3 (S	4.44	345	⇓P	Pn	01 30 46.9	+4.1
ZAA0	Zalesovo Array	4.47	335		Pn	01 30 44.7	+1.4
ZAA0	Zalesovo Array	4.47	335	⇑Pn	Pn	01 30 44.5	+1.2
	6.3nm,0.5s						
ZAA0				⇓Pg	Pb	01 30 55.9	+1.6
	11nm,0.6s						
ZAA0				⇑Lg	Lg	01 31 55.5	
	102nm,0.8s						
ZALV	Zalesovo Beam	4.47	335		Pn	01 30 45.0	+1.6
ZALV	Zalesovo Beam	4.47	335	Pn	Pn	01 30 44.8	+1.5
	25nm,0.3s,baz=154,slow=13,SNR=172						
ZALV				Pg	Pb	01 30 55.4	+1.1
	17nm,0.3s,baz=153,slow=17,SNR=14						
ZALV				Sn	Sn	01 31 39.6	+4.6
	20nm,0.3s,baz=155,slow=23,SNR=5.2						
ZALV				Lg	Lg	01 31 57.6	
	31nm,0.3s,baz=161,slow=23,SNR=5.7						
ZALV				LR	LR

NVS S **Sn** **01 32 08.1 +2.5**
NVSII Novosibirsk 5.71 331 P **Pn** **01 31 00.9 +0.6**
NVSII S **Sn** **01 32 08.1 +2.5**
NHES Novosibirsk, N 5.81 330 P **Pn** **01 31 03.7 +2.0**
NHES S **Sn** **01 32 08.3 +0.4**
KURK Kurchatov 6.08 281 **Pn** **01 31 06.3 +0.8**
KURK Kurchatov 6.08 281 ⇓Pn **Pn** **01 31 06.9 +1.5**
80nm,0.6s
KURK ⇑Sn **Sn** **01 32 19.6 +4.7**
104nm,0.7s
KURK ⇑Lg Lg 01 32 51.5
646nm,0.8s
KURK Kurchatov 6.08 281 ⇑P **Pn** **01 31 07.0 +1.6**
KURK S **Sn** **01 32 16.7 +1.9**
KURK Kurchatov 6.08 281 PN **Pn** **01 31 07.9 +2.4**
KURK 01 32 21.8
KURBB Kurchatov Arra 6.14 280 Pn **Pn** **01 31 07.9 +1.8**
4.9nm,0.3s,baz=90,slow=14,SNR=357
KURBB Sn **Sn** **01 32 21.8 +5.7**
3.7nm,0.3s,baz=88,slow=27,SNR=6.9
KURBB Lg Lg 01 32 50.9
5.3nm,0.3s,baz=101,slow=34,SNR=7.7
KURBB LR LR 01 33 37.6
comp=Z,250nm,19.2s,baz=172,slow=39
125nm,0.8s
KURBB Kurchatov Arra 6.14 280 ⇑Pn **Pn** **01 31 08.0 +1.8**
77nm,0.4s
KURBB ⇑Sn **Sn** **01 32 22.4 +6.3**
274nm,0.6s
KURBB ⇓Lg Lg 01 32 53.5
1000nm,0.8s
WMQ Urumqi 6.14 182 Pn **Pn** **01 31 11.0 +4.7**
WMQ Sn **Sn** **01 32 18.5 +2.2**
WMQ smax smax
comp=N,210nm,0.9s
WMQ smax smax
comp=E,210nm,0.9s
WMQ LR LR
comp=N,560nm,9.9s
WMQ LR LR
comp=E,450nm,8.5s
WMQ LR LR
comp=Z,330nm,13.1s
MINR Mina 6.22 35 P Pn 01 31 12.2 +4.8
SHTK Zheleznogorsk- 7.21 25 P **Pn** **01 31 24.4 +3.5**
GZLN Zheleznogorsk 7.30 26 S **Sn** **01 32 45.7 +1.1**
PDGK Podgornoye 8.86 225 ⇑Pn **Pn** **01 31 43.1 -0.6**
22nm,0.8s
PDGK ⇑Lg Lg 01 34 15.1
131nm,0.8s
PDGK Podgornoye 8.86 225 P **Pn** **01 31 43.0 -0.6**
MDOK Medeo 10.17 232 Pn **Pn** **01 32 00.2 -1.4**
3.6nm,0.4s
MDOK Lg Lg 01 34 57.2
121nm,1.4s
KNDC Almaty 10.17 233 ⇓Pn **Pn** **01 32 00.8 -0.8**
29nm,0.6s
KNDC ⇑Lg Lg 01 34 59.7
235nm,1.1s
KNDC Almaty 10.17 233 P **Pn** **01 32 00.8 -0.8**
TARG Taragay, Kyrgy 10.88 225 Pn **Pn** **01 32 14.2 +2.5**
TARG Taragay, Kyrgy 10.88 225 P **Pn** **01 32 14.2 +2.5**
TKM2 Tokmak 2 11.09 235 ⇓Pn **Pn** **01 32 15.0 +0.6**
8.9nm,0.8s
TKM2 ⇑Lg Lg 01 35 28.9
76nm,1.1s
TKM2 Tokmak 2 11.09 235 P **Pn** **01 32 15.0 +0.6**
BOOM Boomskoye usch 11.22 233 Pn **Pn** **01 32 16.2 +0.2**
BOOM Boomskoye usch 11.22 233 P **Pn** **01 32 16.2 +0.2**
BVA0 Borovoye Array 11.43 292 ⇑Pn **Pn** **01 32 17.7 -1.0**
11nm,0.6s,baz=105,slow=15,SNR=46
BVA0 Borovoye Array 11.43 292 *eP* **Pn** **01 32 18.1 -0.6**
BVA0 *i* 01 34 20.9
BVAR Borovoye Array 11.43 292 Pn **Pn** **01 32 18.4 -0.3**
0.5nm,0.3s,baz=101,slow=14,SNR=44
BVAR LR LR 01 36 55.9
comp=Z,135nm,21.7s,baz=87,slow=38
7.5nm,0.4s
BRVK Borovoye 11.50 292 Pn **Pn** **01 32 18.6 -1.0**
BRVK Borovoye 11.50 292 ⇑Pn **Pn** **01 32 18.7 -0.9**
14nm,0.7s
BRVK Borovoye 11.50 292 *ceP* **Pn** **01 32 18.9 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
CHMS Chumysh 11.50 238 ⇑Pn **Pn** **01 32 21.5 +1.8**
comp=Z,4.8nm,0.6s
CHMS ⇑Sn **Sn** **01 34 32.9 +5.1**
comp=Z,30nm,0.8s
CHMS ⇑Lg Lg 01 35 38.8
comp=Z,54nm,1.1s
CHMS Chumysh 11.50 238 P **Pn** **01 32 21.5 +1.8**
CHMS S **Sn** **01 34 32.9 +5.1**
AAK Ala-Archa 11.88 237 Pn **Pn** **01 32 26.1 +1.0**
AAK Ala-Archa 11.88 237 Pn **Pn** **01 32 24.1 -1.0**
comp=Z,3.2nm,0.3s,baz=85,slow=7.5,SNR=6.9
AAK Sn **Sn** **01 34 33.8 -3.6**
comp=Z,0.3nm,0.3s,baz=68,slow=24,SNR=6.4
AAK Lg Lg 01 35 47.8
comp=Z,0.7nm,0.3s,baz=220,slow=22,SNR=4.2
AAK LR LR 01 37 11.8
comp=Z,136nm,19.8s,baz=37,slow=38
comp=Z,6.2nm,0.4s
AAK Ala-Archa 11.88 237 ⇑Pn **Pn** **01 32 25.0 0.0**
comp=Z,4.5nm,0.5s
AAK ⇓Sn **Sn** **01 34 44.6 +7.2**
comp=Z,23nm,0.8s
AAK ⇑Lg Lg 01 35 51.7
comp=Z,24nm,0.9s
AAK Ala-Archa 11.88 237 *ceP* **Pn** **01 32 27.1 +2.0**
AAK pmax pmax
comp=Z,5.0nm,0.6s
SONM Songino Array 12.26 93 Pn **Pn** **01 32 30.9 +0.7**
SONM Songino Array 12.26 93 Pn **Pn** **01 32 31.1 +0.8**
comp=Z,0.2nm,0.3s,baz=282,slow=15,SNR=18
SONM Pg Pg 01 33 14.7
comp=Z,0.3nm,0.3s,baz=288,slow=17,SNR=2.8
SONM Lg Lg 01 35 56.3
comp=Z,0.5nm,0.3s,baz=281,slow=32,SNR=6.3
SONM LR LR 01 37 25.0
comp=Z,216nm,18.4s,baz=274,slow=39
SONM Songino Array 12.26 93 P **Pn** **01 32 30.9 +0.7**
ULN Ulaanbaatar 12.68 92 *ceP* **Pn** **01 32 35.8 -0.1**
ULN pmax pmax
comp=Z,5.0nm,2.5s
GTA Gaotai 13.44 137 *eP* **P** **01 32 59.4 +3.7**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA LR LR
comp=N,560nm,9.2s
GTA LR LR
comp=E,780nm,11.2s
GTA LR LR
comp=Z,320nm,8.4s
ARSB Arslanbob 13.60 236 Pn **Pn** **01 32 49.9 +1.3**
ARSB Arslanbob 13.60 236 P **Pn** **01 32 49.9 +1.3**
KK31 Karatay Array 13.86 247 Pn **Pn** **01 32 49.7 -2.3**
KK31 Karatay Array 13.86 247 ⇑Pn **Pn** **01 32 50.8 -1.2**
comp=Z,3.3nm,0.5s,baz=39,slow=11,SNR=43
KK31 ⇑Sn **Sn** **01 35 29.6 +4.0**
comp=Z,18nm,0.8s,baz=54,slow=22,SNR=12
KK31 ⇑Lg Lg 01 36 59.4
comp=Z,30nm,0.8s,baz=56,slow=28,SNR=4.6
KK31 Karatay Array 13.86 247 P **Pn** **01 32 49.9 -2.1**
KK31 *e* 01 35 21.8
KKAR Karatay Array 13.86 247 Pn **Pn** **01 32 49.7 -2.3**
KKAR Karatay Array 13.86 247 P **Pn** **01 32 49.7 -2.3**
BTK Batken 15.66 237 Pn **Pn** **01 33 14.9 -1.4**
BTK Batken 15.66 237 P **Pn** **01 33 14.9 -1.4**
BTK pmax pmax
comp=Z,6.0nm,0.8s
GAR Garm 16.69 236 Pn **Pn** **01 33 27.1 -2.3**
GAR IAmb IAmb 01 33 37.0
comp=Z,22nm,0.9s
CHGR Chuyangaron 17.56 237 Pn **Pn** **01 33 37.9 -2.5**
CHGR Chuyangaron 17.56 237 P **Pn** **01 33 37.9 -2.5**
CHGR pmax pmax
comp=Z,12nm,0.7s
SIMJ Simiganj 17.64 237 Pn **Pn** **01 33 39.2 -2.2**
AB31 Akbulak array 18.19 279 ⇓Pn **Pn** **01 33 47.2 -0.7**
comp=Z,4.8nm,0.7s
AB31 Akbulak array 18.19 279 P **Pn** **01 33 47.2 -0.7**
ABKAR Akbulak array 18.19 279 P **Pn** **01 33 47.0 -1.0**
ABKAR Akbulak array 18.19 279 P **Pn** **01 33 46.8 -1.1**
ABKAR IAmb IAmb 01 33 50.8
comp=Z,6.4nm,0.8s
ARU Arti 18.72 302 P **P** **01 33 52.6 -1.3**

ARU IAmb IAmb 01 33 57.4
comp=Z,11nm,0.6s
ARU Arti 18.72 302 P **Pn** **01 33 55.2 +0.9**
baz=101,slow=5.9,SNR=17
ARU S **Sn** **01 37 16.8 -6.4**
comp=Z,6.6nm,0.6s,baz=113,slow=23,SNR=5.4
comp=Z,9.1nm,0.5s
ARU Arti 18.72 302 *c iP* **Pn** **01 33 54.7 +0.4**
ARU S **S** **01 37 25.1 -1.3**
ARU pmax pmax
comp=Z,9.0nm,0.6s
HHC Hu-ho-hao-te 18.79 110 *eP* **Pn** **01 33 57.0 +1.6**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,71nm,4.2s
AKTO Aktyubinsk 19.18 283 P **P** **01 33 58.9 -0.1**
comp=Z,1.1nm,0.3s,baz=88,slow=9.2,SNR=54
comp=Z,17nm,0.7s
NRIK Noril'sk 19.45 359 P **P** **01 34 02.1 +0.3**
NRIK Noril'sk 19.45 359 P **P** **01 34 02.0 +0.2**
comp=Z,0.7nm,0.3s,baz=166,slow=11,SNR=3.9
NRIK LR LR 01 42 11.0
comp=Z,312nm,18.6s,baz=162,slow=39
comp=Z,2.4nm,0.5s
NRIK Noril'sk 19.45 359 *ceP* **Pn** **01 34 02.9 -0.1**
NRIK pmax pmax
comp=Z,11nm,1.4s
NIL Nilore 19.61 219 P **P** **01 34 03.0 -0.9**
NIL IAmb IAmb 01 34 08.5
comp=Z,12nm,0.8s
NIL Nilore 19.61 219 P **P** **01 34 03.0 -0.9**
NIL pmax pmax
comp=Z,12nm,0.8s
XLT XiLinHaoTe 20.01 97 *eP* **P** **01 34 07.5 -0.7**
XLT pmax pmax
comp=Z,8.0nm,0.6s
KBL Kabul 20.77 229 P **P** **01 34 15.2 -1.4**
KBL Kabul 20.77 229 P **P** **01 34 15.3 -1.4**
KBL pmax pmax
comp=Z,5.0nm,0.7s
KIRV Kirov 23.85 306 *ceP* **P** **01 34 49.2 +0.7**
HRA Herat 24.48 240 P **P** **01 34 54.1 -0.7**
HEH HeiHe 25.05 74 *eP* **P** **01 35 01.2 +1.6**
HEH pmax pmax
comp=Z,8.0nm,0.9s
BELG Belogornoye 25.23 291 *i P* **P** **01 35 01.3 +0.2**
BELG pmax pmax
comp=Z,7.0nm,1.0s
PZH PanZhiHua 25.68 151 P **P** **01 35 08.8 +3.2**
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.5s
YAK Yakutsk 25.73 46 *eP* **P** **01 35 06.6 +1.0**
YAK *e*PP* **pP** **01 35 11.3 +0.6**
YAK *e* 01 35 41.8
YAK *e* 01 38 36.1
YAK *eS* **S** **01 39 35.4 +1.7**
YAK *e*SS* **sS** **01 39 46.6 +4.4**
YAK *e* 01 46 01.8
YAK pmax pmax
comp=Z,13nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,106nm,3.8s
YAK pmax pmax
comp=N,59nm,4.2s
YAK pmax pmax
comp=E,80nm,4.3s
YAK smax smax
comp=E,54nm,3.5s
TIXI Tiksi 28.49 26 P **P** **01 35 31.7 +1.5**
TIXI IAmb IAmb 01 35 33.7
comp=Z,4.5nm,0.8s
TIXI Tiksi 28.49 26 *i P* **P** **01 35 32.1 +1.8**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
MAK Makhachkala 28.51 272 *eP* **P** **01 35 28.4 -2.4**
MAK *eS* **S** **01 40 14.6 -3.2**
MAK MLR MLR
comp=Z,156nm,12.0s
VSR Storozhevoye 30.61 291 *eP* **P** **01 35 46.7 -2.6**
VSR pmax pmax
comp=Z,5.0nm,0.7s
KSRS Korea Array 31.04 98 LR LR 01 49 18.6
comp=Z,110nm,18.1s,baz=290,slow=38
CMAR Chiang Mai Arr 32.62 161 LR LR 01 50 52.7
comp=Z,21nm,20.2s,baz=180,slow=39
GURO Guroymak-BITLI 34.36 269 P **P** **01 36 22.6 +0.1**
FINES FINESS Array B 35.38 313 P **P** **01 36 31.2 +0.5**
comp=Z,2.2nm,0.7s,baz=79,slow=9.9,SNR=9.0
comp=Z,2.2nm,0.7s
FINES FINESS Array B 35.38 313 *i P* **P** **01 36 30.8 0.0**
FINES pmax pmax
comp=Z,2.0nm,0.7s
JNU Nakatsue 35.64 102 LR LR 01 51 58.2
comp=Z,116nm,18.6s,baz=308,slow=38
AKASG Malin Array Be 36.70 294 P **P** **01 36 42.0 -0.2**
comp=Z,0.8nm,0.4s,baz=62,slow=9.2,SNR=3.3
AKASG LR LR 01 52 50.8
comp=Z,80nm,18.1s,baz=58,slow=38
comp=Z,0.8nm,0.4s
AKBB Malin Array Si 36.70 294 *ceP* **P** **01 36 42.8 +0.6**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 39.12 276 P **P** **01 37 02.5 -0.4**
BR131 Keskin Array S 39.12 276 P **P** **01 37 02.5 -0.4**
BR131 pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 39.12 276 P **P** **01 37 02.6 -0.3**
BRTR Keskin Array B 39.12 276 P **P** **01 37 03.5 +0.5**
comp=Z,1.8nm,0.7s,baz=69,slow=6.6,SNR=12
comp=Z,1.8nm,0.7s
BRTR Keskin Array B 39.12 276 P **P** **01 37 02.6 -0.4**
BUR08 Bucovina Ar. S 40.38 292 P **P** **01 37 12.9 -0.4**
BUR08 IAmb IAmb 01 37 20.6
comp=Z,6.1nm,1.4s
BURAR Bucovina Array 40.39 292 P **P** **01 37 12.7 -0.7**
HFS Hagfors 41.58 313 P **P** **01 37 23.3 +0.5**
comp=Z,7.3nm,0.8s,baz=77,slow=9.3,SNR=20
comp=Z,7.3nm,0.8s
MMAI Mount Meron Ar 41.99 267 LR LR 01 57 38.1
comp=Z,65nm,20.1s,baz=8.5,slow=40
CRVS Cervenica-Dubn 42.02 295 *eP* **P** **01 37 25.3 -1.3**
CRVS Cervenica-Dubn 42.02 295 *eP* **P** **01 37 25.3 -1.3**
NC405 NORSAR Array S 42.15 315 P **P** **01 37 27.6 +0.1**
NC405 IAmb IAmb 01 37 29.8
comp=Z,7.0nm,0.7s
RAYN Ar Rayn 42.29 247 P **P** **01 37 27.0 -2.1**
RAYN IAmb IAmb 01 37 37.3
comp=Z,2.8nm,0.7s
RAYN Ar Rayn 42.29 247 P **P** **01 37 27.0 -2.1**
RAYN pmax pmax
comp=Z,3.0nm,0.7s
NC602 NORSAR Array S 42.36 315 P **P** **01 37 29.7 +0.5**
NC602 IAmb IAmb 01 37 31.3
comp=Z,4.1nm,0.7s
NB2 NORSAR Subarra 42.40 315 P **P** **01 37 29.2 -0.4**
comp=Z,2.8nm,0.8s,baz=66,slow=7.9
NOA NORSAR Array B 42.40 315 P **P** **01 37 30.1 +0.5**
comp=Z,2.0nm,0.8s,baz=65,slow=7.8,SNR=24
comp=Z,2.0nm,0.8s
NAO01 NORSAR Array S 42.62 315 P **P** **01 37 31.0 -0.4**
NAO01 IAmb IAmb 01 37 33.2
comp=Z,4.6nm,0.8s
CLL Collm 45.66 302 P **P** **01 37 55.4 -0.4**
CLL IAmb IAmb 01 38 03.8
comp=Z,4.0nm,0.6s
CLL Collm 45.66 302 *i P* **P** **01 37 56.4 +0.6**
comp=Z,5.0nm,0.9s
CLL *i* x x 01 38 03.3
CLL *i* PcP **PcP** **01 39 33.2 -0.5**
CLL *ex* x 01 39 37.0
CLL *eP* **PP** **01 39 43.0 +0.5**
CLL *e*PPP 01 40 32.0
CLL *e*PcS **PcS** **01 43 29.0 +1.4**
CLL Collm 45.66 302 *i P* **P** **01 37 56.4 +0.6**
CLL *e*PP* **pP** **01 38 01.0 -0.3**
CLL *i *SP* **sP** **01 38 03.3 -0.1**
CLL *i* 01 39 33.2
CLL pmax pmax
comp=Z,5.0nm,0.9s
GERES GERESS Array B 46.51 299 P **P** **01 38 01.2 -1.5**
GERES GERESS Array B 46.51 299 P **P** **01 38 01.2 -1.5**

JCJ Chichijima 46.91 98 LR LR 01 57 27.8
comp=Z,42nm,20.3s,baz=98,slow=36
FUORN Ofenpass-Fuorn 49.66 298 P **P** **01 38 27.1 -0.1**
FUORN IAmb IAmb 01 38 39.2
comp=Z,2.7nm,0.7s
EKA Eskdalemuir Ar 51.78 313 P **P** **01 38 42.4 -0.4**
comp=Z,0.8nm,0.5s,baz=80,slow=6.0,SNR=11
comp=Z,0.8nm,0.5s
E18K Tukpahlearik C 52.17 27 P **P** **01 38 45.6 +0.1**
E19K Redstone River 53.12 26 P **P** **01 38 51.3 -1.3**
E19K IAmb IAmb 01 39 00.1
comp=Z,4.8nm,1.1s
E22K Anaktuvuk Pass 54.10 24 P **P** **01 38 59.6 -0.3**
E22K IAmb IAmb 01 39 12.0
comp=Z,3.7nm,1.1s
F21K Alatna River 54.32 25 P **P** **01 39 02.0 +0.6**
F21K IAmb IAmb 01 39 12.1
comp=Z,4.1nm,1.3s
K13K Kusilvak Mount 54.43 34 P **P** **01 39 03.1 +1.0**
IMAR Indian Mountai 55.14 26 P **P** **01 39 07.9 +0.6**
J17K VABM Dome 55.35 30 P **P** **01 39 11.1 +2.3**
D27M Malcolm River 55.79 19 P **P** **01 39 11.4 -0.6**
D27M IAmb IAmb 01 39 16.9
comp=Z,3.4nm,1.1s
J18K Innoko River 56.06 29 P **P** **01 39 14.4 +0.5**
J18K IAmb IAmb 01 39 16.4
comp=Z,3.0nm,0.8s
K17K Iditarod 56.08 31 P **P** **01 39 14.7 +0.6**
BMAR Burnt Mountain 56.44 22 P **P** **01 39 16.2 -0.4**
E29M Blow River 57.13 18 P **P** **01 39 21.9 +0.4**
E29M IAmb IAmb 01 39 31.2
comp=Z,2.8nm,0.8s
CEST Esterri de Car 57.22 299 P **P** **01 39 22.7 +0.1**
CEST IAmb IAmb 01 39 54.3
comp=Z,8.9nm,1.4s
WRH Wood River Hil 57.86 25 P **P** **01 39 27.2 +0.6**
WRH IAmb IAmb 01 39 51.8
comp=Z,5.8nm,1.5s
ILAR Eielson Array 57.95 24 P **P** **01 39 26.4 -0.9**
comp=Z,0.7nm,0.8s,baz=320,slow=5.4,SNR=5.1
comp=Z,0.7nm,0.8s
SKT Skwentna 58.77 28 P **P** **01 39 33.0 -0.2**
G31M Satah River 59.12 18 P **P** **01 39 34.4 -1.0**
G31M IAmb IAmb 01 40 10.9
comp=Z,1.8nm,1.0s
RSO Redoubt South 59.54 30 P **P** **01 39 36.5 -2.2**
I30M Mount Dempster 60.14 20 P **P** **01 39 43.3 +0.6**
I30M IAmb IAmb 01 40 01.2
comp=Z,1.9nm,0.9s
SCM Sheep Creek Mo 60.15 27 P **P** **01 39 44.1 +1.4**
SCM Sheep Creek Mo 60.15 27 P **P** **01 39 44.1 +1.4**
SCM pmax pmax
comp=Z,20nm,1.3s
ESDC Sonseca Array 62.10 299 P **P** **01 39 56.2 0.0**
ESDC IAmb IAmb 01 39 57.4
comp=Z,1.7nm,0.9s
ESDC Sonseca Array 62.10 299 P **P** **01 39 56.5 +0.3**
comp=Z,2.7nm,0.9s,baz=42,slow=6.5,SNR=20
ESDC LR LR 02 05 47.3
comp=Z,23nm,19.4s,baz=70,slow=35
comp=Z,2.7nm,0.9s
SCHQ Schefferville 73.49 345 P **P** **01 41 06.7 -0.9**
comp=Z,2.4nm,0.8s,baz=49,slow=11,SNR=3.1
comp=Z,2.4nm,0.8s
FFC Flin Flon 75.36 6 P **P** **01 41 18.1 -0.4**
FFC IAmb IAmb 01 41 19.9
comp=Z,3.7nm,1.2s
FFC Flin Flon 75.36 6 P **P** **01 41 18.1 -0.4**
FFC pmax pmax
comp=Z,4.0nm,1.2s
FITZ Fitzroy Crossi 75.46 143 P **P** **01 41 18.4 -1.0**
TORD Torodi Ar. Bea 77.73 276 P **P** **01 41 31.5 -1.0**
TORD Torodi Ar. Bea 77.73 276 P **P** **01 41 31.8 -0.7**
comp=Z,1.3nm,0.8s,baz=34,slow=8.1,SNR=9.1
comp=Z,1.3nm,0.8s
WRA Warramunga Arr 80.73 136 P **P** **01 41 46.7 -2.0**
comp=Z,0.8nm,0.6s,baz=340,slow=5.7,SNR=11
comp=Z,0.8nm,0.6s
WR0 Warramunga Arr 80.83 136 P **P** **01 41 48.1 -1.2**
ASAR Alice Springs 83.81 139 P **P** **01 42 03.5 -1.2**
comp=Z,0.7nm,0.6s,baz=334,slow=5.2,SNR=7.4
comp=Z,0.7nm,0.6s
PDAR Pinedale Array 86.38 13 P **P** **01 42 17.4 -0.6**
comp=Z,0.4nm,0.6s,baz=50,slow=3.0,SNR=5.0
comp=Z,0.4nm,0.6s
CPUP Villa Florida 144.47 299 PKP **PKPab** **01 49 09.1 -0.9**
comp=Z,2.4nm,0.6s,baz=5.7,slow=5.0,SNR=6.1

AEIC ***11*** *01:31:34.1±2.2,53.06N±0.04×166.98W±0.06,h26km±7km, Error ellipse: s-maj=7.5km s-min=3.8km az=147.0*
NEIC ***11*** *01:31:34.6±2.1,53.11N±0.04×167.03W±0.06,h28km±7km, mb3.6/26,ML3.5/10,ML3.3(AEIC), Error ellipse: s-maj=6.9km s-min=3.5km az=142.0*

ISC 11 01:31:33.4±2.0,53.02N±0.09×166.95W±0.06,
h25km±14km,n92,σ1.91/99, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKER	**Okmok East Rim**	**0.80**	**304**		**Pb**	**01 31 48.7**	**+0.1**
OKNC	**Okmok New Cone**	**0.83**	**303**		**Pn**	**01 31 49.0**	**-0.5**
OKNC					**Sb**	**01 32 00.1**	**+0.1**
OKCE	**Okmok Cone E**	**0.84**	**300**		**Pn**	**01 31 49.3**	**-0.3**
OKCE					**Sn**	**01 32 00.9**	**-0.2**
OKSP	**Okmok Steeple**	**0.84**	**287**		**Pn**	**01 31 49.0**	**-0.6**
UNV	**Unalaska Valle**	**0.87**	**18**		**Pn**	**01 31 48.7**	**-1.4**
UNV	**Unalaska Valle**	**0.87**	**18**		**Sb**	**01 32 00.1**	**-1.0**
OKWE	**Okmok W'ng Wal**	**0.90**	**301**		**Pn**	**01 31 50.0**	**-0.4**
MSW	**Makushin Switc**	**0.91**	**6**		**Pn**	**01 31 50.0**	**-0.6**
MTBL	**Makushin Table**	**0.97**	**10**		**Pn**	**01 31 51.2**	**-0.2**
MTBL					**Sn**	**01 32 03.8**	**-0.7**
NIKH	**Nikolski High**	**1.15**	**269**		**Pn**	**01 31 52.8**	**-1.0**
ZRO	**Akutan Zero**	**1.23**	**28**		**Pn**	**01 31 54.4**	**-0.5**
AKRB	**Akutan Reef Bi**	**1.23**	**25**		**Pn**	**01 31 55.1**	**+0.1**
AKRB					**Sn**	**01 32 11.1**	**+0.2**
AKBBA	**Akutan Broad B**	**1.24**	**29**		**Pn**	**01 31 54.9**	**-0.2**
AKV	**Akutan Volcano**	**1.26**	**27**		**Pn**	**01 31 55.4**	**-0.1**
LVA	**Lava Point**	**1.27**	**25**	Pn	**Pn**	**01 31 54.8**	**-0.7**
LVA					**Sn**	**01 32 11.5**	**-0.3**
LVA				IAML		01 32 12.5	
comp=E,1μm,0.5s							
AHB	**Akutan Harbor**	**1.29**	**31**		**Pn**	**01 31 55.5**	**-0.3**
AKLV	**Akutan Long Va**	**1.29**	**27**		**Pn**	**01 31 55.5**	**-0.4**
AKGG	**Akutan Green G**	**1.32**	**25**		**Pn**	**01 31 56.0**	**-0.1**
AKGG					**Sb**	**01 32 13.6**	**-0.3**
AKSA	**Akutan Strait**	**1.35**	**33**		**Pn**	**01 31 56.5**	**0.0**
AKSA	**Akutan Strait**	**1.35**	**33**		**Pn**	**01 31 56.6**	**0.0**
CLCO	**Concord Point,**	**1.69**	**263**		**Pn**	**01 32 01.5**	**+0.2**
CLCO					**Sn**	**01 32 22.5**	**+0.3**
CLES	**Cleveland East**	**1.79**	**265**		**Pn**	**01 32 03.0**	**+0.3**
CLES	**Cleveland East**	**1.79**	**265**	Pn	**Pn**	**01 32 01.6**	**-1.1**
CLES	**Cleveland East**	**1.79**	**265**	IAML		01 32 32.5	
comp=N,696nm,0.7s							
WESE	**West Dahl East**	**2.03**	**43**		**Pn**	**01 32 07.0**	**+1.0**
WEBT	**Westdahl Beart**	**2.05**	**39**		**Pn**	**01 32 07.2**	**+1.1**
WEBT					**Sn**	**01 32 32.9**	**+1.9**
SSLS	**Shishaldin Sou**	**2.44**	**45**		**Pn**	**01 32 12.7**	**+1.1**
ISLZ	**Isanotski Laza**	**2.57**	**47**		**Pn**	**01 32 14.9**	**+1.5**
ISNN	**Isanotski Nort**	**2.61**	**45**		**Pn**	**01 32 16.0**	**+2.0**
S12K	**Black Hills**	**3.93**	**45**	Pn	**Pn**	**01 32 30.5**	**-1.5**
S12K				IAML		01 33 50.0	
comp=N,59nm,1.4s							
S12K				IAML		01 33 52.6	
comp=E,72nm,1.3s							
ATKA	**Atka Island**	**4.49**	**262**	Pn	**Pn**	**01 32 41.6**	**+1.9**
ATKA				IAML		01 33 51.7	
comp=E,31nm,1.3s							
CNBA	**Chernabura Isl**	**4.71**	**65**	Pn	**Pn**	**01 32 41.4**	**-1.3**
CNBA				IAML		01 34 09.2	
comp=E,25nm,1.5s							
CHGN	**Chignik**	**5.95**	**53**	Pn	**Pn**	**01 33 00.2**	**+0.5**
ADK	**Adak**	**6.06**	**263**	Pn	**Pn**	**01 33 02.7**	**+1.5**
KIWB	**Kanaga Island**	**6.35**	**264**	Pn	**Pn**	**01 33 04.9**	**-0.3**
O14K	**Tigyukauivet M**	**7.01**	**25**	Pn	**Pn**	**01 33 16.7**	**+2.4**
N15K	**Kwethluk River**	**8.10**	**25**	Pn	**Pn**	**01 33 32.1**	**+2.8**
O16K	**Kokwok River B**	**8.22**	**33**	Pn	**Pn**	**01 33 33.2**	**+2.3**
AMKA	**Amchitka**	**8.61**	**265**	Pn	**Pn**	**01 33 37.2**	**+1.0**
L14K	**Kuka Creek**	**8.66**	**14**	Pn	**Pn**	**01 33 38.6**	**+1.7**
K13K	**Kusilvak Mount**	**9.03**	**7**	Pn	**Pn**	**01 33 44.3**	**+2.4**
M16K	**Timber Creek**	**9.13**	**25**	Pn	**Pn**	**01 33 45.4**	**+2.1**
N17K	**Nushagak Hills**	**9.23**	**32**	Pn	**Pn**	**01 33 47.1**	**+2.4**
O18K	**Koktuh Hills**	**9.44**	**39**	Pn	**Pn**	**01 33 51.2**	**+3.6**
KDAK	**Kodiak Island**	**9.46**	**54**	Pn	**Pn**	**01 33 50.3**	**+2.5**
Q19K	**Cape Douglas,**	**9.52**	**46**	Pn	**Pn**	**01 33 48.3**	**-0.4**

L16K	Owhat River	9.60	22	Pn	Pn	01 33 51.7	+2.0
K15K	Wolf Creek Mou	9.74	15	Pn	Pn	01 33 53.6	+1.9
M17K	Holitna River	9.85	28	Pn	Pn	01 33 54.5	+1.2
N19K	Bonanza Creek	10.35	36	Pn	Pn	01 34 04.2	+4.1
L18K	Granite Mounta	10.73	27	Pn	Pn	01 34 07.7	+2.5
K17K	Iditarod	10.75	22	Pn	Pn	01 34 07.2	+1.7
M19K	Big River Lodg	11.16	32	Pn	Pn	01 34 12.9	+1.7
J17K	VABM Dome	11.20	19	Pn	Pn	01 34 11.2	-0.4
L19K	White Mountain	11.23	30	Pn	Pn	01 34 13.1	+1.0
K20K	Telida	12.37	28	Pn	Pn	01 34 29.1	+1.5
J19K	Poorman	12.47	24	Pn	Pn	01 34 29.7	+0.7
J20K	Nowinta River	12.99	26	Pn	Pn	01 34 37.7	+1.5
SCM	Sheep Creek Mo	13.72	42	Pn	Pn	01 34 45.3	-0.8
KLU	Klutina	14.14	45	Pn	Pn	01 34 48.8	-3.0
RAGM	Ragged Mountai	14.23	50	Pn	Pn	01 34 50.2	-2.9
H21K	Melozitna Rive	14.53	24	P	P	01 35 03.5	0.0
IMAR	Indian Mountai	14.58	22	P	P	01 35 04.5	+0.6
MLY	Manley	14.59	28	P	P	01 35 02.2	-1.9
GLB	Gilahina Butte	15.03	47		Pn	01 35 02.5	-1.4
G21K	Allakaket	15.08	21	P	P	01 35 10.9	+1.4
G21K				IAmb	IAmb	01 35 53.0	
	comp=Z,4.7nm,1.4s						
E19K	Redstone River	15.24	14	Pn	Pn	01 35 07.8	+1.2
J25K	Salcha River,	16.01	35	Pn	Pn	01 35 16.2	-0.4
G23K	Bananza Creek	16.06	25	Pn	Pn	01 35 17.8	+0.6
G23K				IAmb	IAmb	01 35 38.6	
	comp=Z,4.0nm,1.4s						
SCRK	Sand Creek	16.15	38	Pn	Pn	01 35 19.2	+0.7
M27K	Edge Creek, AK	16.24	45	Pn	Pn	01 35 19.4	-0.2
M27K				IAmb	IAmb	01 35 43.8	
	comp=Z,9.0nm,1.4s						
BCAR	Beaver Creek A	16.57	43	Pn	Pn	01 35 22.9	-0.9
J26L	Joseph Creek	16.59	37	Pn	Pn	01 35 23.9	-0.1
J26L				IAmb	IAmb	01 36 00.9	
	comp=Z,3.7nm,1.3s						
I26K	Coal Creek Min	17.18	35	Pn	Pn	01 35 31.3	-0.1
HYT	Haines Junctio	17.74	52	Pn	Pn	01 35 37.4	-1.1
HYT				IAmb	IAmb	01 36 01.8	
	comp=Z,9.0nm,1.3s						
M29M	Somme Creek	17.75	47		Pn	01 35 38.9	+0.3
M29M				IAmb	IAmb	01 36 18.7	
	comp=Z,3.8nm,1.2s						
BMAR	Burnt Mountain	18.05	28	Pn	Pn	01 35 39.8	-2.4
N30M	Aishikik Lake	18.09	50		Pn	01 35 41.9	-0.7
N30M				IAmb	IAmb	01 35 56.9	
	comp=Z,4.1nm,1.0s						
L29M	L29M	18.12	45	Pn	Pn	01 35 41.9	-1.1
L29M				IAmb	IAmb	01 36 02.5	
	comp=Z,6.7nm,1.4s						
E25K	Arctic Village	18.26	26		P	01 35 46.4	+1.6
I28M	Miner Creek	18.40	37	P	P	01 35 46.4	0.0
O30N	Mendenhall	18.41	53	P	Pn	01 35 48.9	+2.4
C23K	Itkillik River	18.48	18	P	P	01 35 47.4	+0.3
C23K				IAmb	IAmb	01 36 27.0	
	comp=Z,2.5nm,0.8s						
G27K	Doyon Strip	18.55	32	P	P	01 35 46.9	-1.1
K29M	Barlow Dome	18.64	43	P	P	01 35 48.2	-0.9
K29M				IAmb	IAmb	01 36 12.7	
	comp=Z,9.1nm,1.5s						
J30M	Hart River	19.40	41	P	Pn	01 35 58.6	+0.1
J30M				IAmb	IAmb	01 36 41.6	
	comp=Z,6.1nm,1.4s						
M31M	Drury Creek, Y	19.51	49	P	Pn	01 36 00.4	+0.6
I30M	Mount Dempster	19.64	40	P	P	01 36 00.8	+0.9
I30M				IAmb	IAmb	01 36 19.2	
	comp=Z,3.4nm,1.4s						
G29M	Pine Creek	19.81	34	P	P	01 35 59.7	-1.9
G29M				IAmb	IAmb	01 36 15.6	
	comp=Z,4.2nm,1.1s						
FARO	Faro, Yukon	19.99	49	P	P	01 36 04.3	+0.6
MMPY	Sheldon Lake,	21.02	49	P	P	01 36 14.7	-0.1
MMPY				IAmb	IAmb	01 36 16.1	
	comp=Z,4.4nm,1.3s						
G31M	Satah River	21.13	36	P	P	01 36 16.2	+0.4

*IDC **11** 02:12:26.9±1.6, 32°.11S×178°.48W, h0km, mb3.8/3, mbtmp3.8/4, ML3.7/1, MS3.4/1, Error ellipse: s-maj=41.6km s-min=36.1km az=83.0*

ISC 11 02:12:37.1±1.3, 32°.5S±0°.1×178°.9W±0°.3, h61km, n7, σ2s16/8, mb3.8/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.65	209	Pn	Pn	02 14 10.9	-1.2
	1.4nm,0.3s,baz=327,slow=3.9,SNR=6.2						
URZ				Sn	Sn	02 15 27.6	+1.2
	1.4nm,0.3s,baz=282,slow=20,SNR=3.7						
	2.7nm,0.3s						
ASAR	Alice Springs	42.31	270	P	P	02 20 25.4	+0.2
	0.5nm,0.4s,baz=107,slow=7.7,SNR=6.3						
ASAR				LR	LR	02 38 01.2	
	comp=Z,45nm,18.7s,baz=112,slow=36						
	0.5nm,0.4s						
WRA	Warramunga Arr	43.49	275	P	P	02 20 34.5	-0.2
	1.4nm,0.4s,baz=114,slow=7.9,SNR=16						
	1.4nm,0.4s						
QSPA	South Pole Qui	57.64	180	P	P	02 22 21.5	+0.7
	0.7nm,0.8s,baz=251,slow=2.1,SNR=1.6						
	0.7nm,0.8s						
FINES	FINESS Array B	146.82	338	PKPbc	PKPdf	02 32 08.8	-0.9
	0.8nm,0.6s,baz=45,slow=4.7,SNR=7.3						
NB2	NORSAR Subarra	150.67	350	PKP	PKPab	02 32 32.1	+3.4
	comp=Z,0.5nm,0.7s,baz=24,slow=3.1						
HFS	Hagfors	151.11	347	PKPbc	PKPbc	02 32 19.8	-2.7
	comp=Z,0.9nm,0.8s,baz=49,slow=6.5,SNR=2.1						

*IDC **11** 02:22:17.4±0.5, 31°.69S×58°.33E, h0km, mb4.5/21, mbtmp4.5/22, ML4.5/1, MS3.7/28, Error ellipse: s-maj=19.9km s-min=13.2km az=72.0*
*NEIC **11** 02:22:19.0±1.3, 31°.65S±0°.07×58°.26E±0°.10, h10km±1km, mb4.8/50, Error ellipse: s-maj=16.8km s-min=6.6km az=126.0*

ISC 11 02:22:18.8±0.4, 31°.66S±0°.07×58°.24E±0°.09, h10km, n149, σ0s87/126, mb4.8/65, MS3.8/28, 21C-2D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.70	347	Pn	Pn	02 24 49.4	-2.9
FOMA	Nahampoana Res	11.95	301	Pn	Pn	02 25 09.0	-0.2
VOI	Vohitsoka	14.10	311	Pn	Pn	02 25 38.2	-0.6
H04N2	CROZET ISLANDS	15.31	197	T	T	02 41 12.4	
	baz=22,slow=74,SNR=968						
H04N1	CROZET ISLANDS	15.32	197	T	T	02 41 12.4	
	baz=22,slow=74,SNR=1162						
H04N3	CROZET ISLANDS	15.33	197	T	T	02 41 10.7	
	baz=22,slow=74,SNR=1173						
ABPO	Ambohimpanom	16.04	319	Pn	Pn	02 26 05.8	+1.1
OPO	Ambohidratompo	16.42	320	Pn	P	02 26 11.9	-0.5
	0.2nm,0.3s,baz=128,slow=13,SNR=16						
OPO				Sn	Sn	02 28 56.8	-15
	baz=319,slow=20,SNR=1.4						
OPO				LR	LR	02 31 00.1	
	comp=Z,212nm,20.6s,baz=12,slow=32						
	21nm,0.8s						
POGA	Pongola	23.47	274	P	P	02 27 27.5	-1.2
POGA				IAmb	IAmb	02 27 30.9	
	comp=Z,35nm,1.7s						
H08S1	Diego Garcia H	27.33	32	T	T	02 56 29.2	
	baz=206,slow=76,SNR=53						
H08S2	Diego Garcia H	27.34	32	T	T	02 56 31.7	
	baz=206,slow=76,SNR=58						
H08S3	Diego Garcia H	27.35	32	T	T	02 56 32.5	
	baz=206,slow=76,SNR=53						
SUR	Sutherland	31.64	259	LR	LR	02 38 44.7	
	comp=Z,72nm,21.4s,baz=125,slow=31						
LSZ	Lusaka	31.89	294	P	P	02 28 44.4	-0.3
MAW	Mawson	36.08	177	P	P	02 29 20.2	-0.1
	comp=Z,12nm,1.1s,baz=346,slow=11,SNR=5.7						
MAW				LR	LR	02 40 02.9	
	comp=Z,146nm,21.4s,baz=29,slow=30						
	comp=Z,12nm,1.1s						
TSUM	Tsumeb	38.55	279	P	P	02 29 41.3	-0.7
TSUM				IAmb	IAmb	02 30 06.1	
	comp=Z,30nm,1.9s						
TSUM	Tsumeb	38.55	279	LR	LR	02 44 35.5	
	comp=Z,39nm,19.1s,baz=153,slow=35						
PALK	Pallekele	44.27	33	LR	LR	02 44 44.4	
	comp=Z,118nm,18.6s,baz=317,slow=30						
FURI	Furi	44.46	332	LR	LR	02 46 11.2	
	comp=Z,71nm,18.5s,baz=168,slow=32						
TROLL	Troll, Antarti	49.78	200	⇑P	P	02 31 11.1	-0.2
	comp=Z,140nm,0.8s						
SNAA	Sanae	51.25	201	P	P	02 31 21.9	-0.5
SNAA				IAmb	IAmb	02 31 23.1	
	comp=Z,8.9nm,1.0s						
SNAA	Sanae	51.25	201	⇑P	P	02 31 22.1	-0.2
	comp=Z,144nm,0.9s						
SNAA	Sanae	51.25	201	P	P	02 31 22.2	-0.2
	comp=Z,6.3nm,0.9s,baz=93,slow=4.6,SNR=20						
SNAA				LR	LR	02 47 58.0	
	comp=Z,117nm,21.5s,baz=102,slow=30						
	comp=Z,6.3nm,0.9s						
VNA2	Neumayer--Watz	52.48	202	⇑P	P	02 31 31.6	0.0
	comp=Z,8.2nm,0.8s,baz=83,slow=6.0						
VNA1	Neumayer--Stat	52.71	203	⇑P	P	02 31 33.4	+0.2
	comp=Z,4.6nm,1.0s						
VNA3	Neumayer Olymp	53.27	202	⇑P	P	02 31 37.1	-0.3
	comp=Z,10nm,0.8s						
WSAR	Wadi Sarin	54.59	0	LR	LR	02 49 24.3	
	comp=Z,89nm,20.3s,baz=213,slow=30						
RAYN	Ar Rayn	56.21	346	P	P	02 31 58.7	-0.5
RAYN				IAmb	IAmb	02 32 00.8	
	comp=Z,6.7nm,0.8s						
QSPA	South Pole Qui	58.51	180	P	P	02 32 14.7	-0.4
QSPA	South Pole Qui	58.51	180	P	P	02 32 15.3	+0.2
	comp=Z,13nm,0.6s,baz=265,slow=2.1,SNR=135						
	comp=Z,13nm,0.6s						
BELA	Belgrano 2	59.90	194	P	P	02 32 24.0	-0.4
VNDA	Vanda	62.21	166	P	P	02 32 39.8	-0.3
VNDA				IAmb	IAmb	02 32 41.1	
	comp=Z,7.4nm,1.1s						
VNDA	Vanda	62.21	166	P	P	02 32 40.2	+0.2
	comp=Z,3.5nm,0.9s,baz=264,slow=6.4,SNR=11						
	comp=Z,3.5nm,0.9s						
CM31	Chiang Mai Arr	63.30	44	P	P	02 32 49.8	+1.6
CMAR	Chiang Mai Arr	63.30	44	P	P	02 32 48.1	0.0
CMAR	Chiang Mai Arr	63.30	44	P	P	02 32 48.8	+0.6
	comp=Z,9.7nm,0.8s,baz=231,slow=6.9,SNR=26						
CMAR				LR	LR	02 58 27.8	
	comp=Z,53nm,18.0s,baz=170,slow=34						
	comp=Z,9.7nm,0.8s						
EIL	Elat	64.89	338	LR	LR	02 56 40.0	
	comp=Z,63nm,20.3s,baz=249,slow=32						
SHL	Shillong	65.35	33	P	P	02 33 01.1	-0.6
HRA	Herat	65.81	4	P	P	02 33 03.6	-0.8
HRA				IAmb	IAmb	02 33 08.4	
	comp=Z,6.5nm,1.1s						
ASAR	Alice Springs	66.29	104	P	P	02 33 06.7	-1.0
ASAR	Alice Springs	66.29	104	P	P	02 33 07.2	-0.5
	comp=Z,6.2nm,0.7s,baz=237,slow=6.0,SNR=68						
	comp=Z,6.2nm,0.7s						
AS31	Alice Springs	66.29	104	P	P	02 33 07.0	-0.8
KBL	Kabul	66.63	10	P	P	02 33 10.3	+0.6
KBL				IAmb	IAmb	02 33 11.2	
	comp=Z,9.1nm,0.8s						
MMAI	Mount Meron Ar	67.85	339	P	P	02 33 18.4	+1.1
	comp=Z,3.7nm,0.7s,baz=156,slow=11,SNR=8.1						
MMAI				LR	LR	03 00 35.4	
	comp=Z,44nm,18.0s,baz=94,slow=34						
	comp=Z,3.7nm,0.7s						
WRA	Warramunga Arr	68.29	101	P	P	02 33 19.7	-0.7
WRA	Warramunga Arr	68.29	101	P	P	02 33 19.8	-0.6
	comp=Z,7.2nm,0.8s,baz=242,slow=5.5,SNR=35						
	comp=Z,7.2nm,0.8s						
WB2	Warramunga Arr	68.30	101	P	P	02 33 19.8	-0.7
WB2				IAmb	IAmb	02 33 20.9	
	comp=Z,10.0nm,0.9s						
WB0	Warramunga Arr	68.42	100	P	P	02 33 20.2	-1.0
WB0				IAmb	IAmb	02 33 21.5	
	comp=Z,9.3nm,0.8s						
WR0	Warramunga Arr	68.45	101	P	P	02 33 19.9	-1.6
WR0				IAmb	IAmb	02 33 21.6	
	comp=Z,9.2nm,0.9s						
SLVN	Son La	68.49	46	P	P	02 33 20.9	-0.6
STKA	Stephens Creek	68.99	115	P	P	02 33 23.8	-0.8
STKA	Stephens Creek	68.99	115	P	P	02 33 24.5	-0.2
	comp=Z,6.0nm,0.8s,baz=247,slow=6.3,SNR=8.2						
	comp=Z,6.0nm,0.8s						
TOO	Toolangi	69.53	122	P	P	02 33 28.1	+0.1
TORD	Torodi Ar. Bea	70.14	300	P	P	02 33 31.9	+0.1
	comp=Z,1.4nm,1.0s,baz=140,slow=6.4,SNR=5.5						
TORD				LR	LR	03 04 09.8	
	comp=Z,147nm,18.5s,baz=134,slow=36						
	comp=Z,1.4nm,1.0s						
SIMJ	Simiganj	70.68	9	P	P	02 33 34.4	-0.4
SIMJ				IAmb	IAmb	02 33 37.0	
	comp=Z,16nm,1.1s						
CHGR	Chuyangaron	70.69	9	P	P	02 33 34.8	0.0
DBIC	Dimbokro	71.16	291	LR	LR	03 04 17.1	
	comp=Z,28nm,18.2s,baz=176,slow=35						
PZH	PanZhiHua	71.19	41	P	P	02 33 41.1	+2.9
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,4.3s						
GAZ	Gaziantep	71.25	342	P	P	02 33 38.5	+0.3
GAZ				IAmb	IAmb	02 33 40.0	
	comp=Z,8.7nm,1.0s						
GURO	Guroymak-BITLI	71.47	347	P	P	02 33 39.7	+0.1
DRK	Karamyk	71.89	11	P	P	02 33 42.7	+0.3
GNI	Garni	72.54	349	P	P	02 33 46.1	+0.1
GNI	Garni	72.54	349	LR	LR	03 02 41.7	
	comp=Z,71nm,21.7s,baz=190,slow=33						
KSH	Kashi	72.71	14	P	P	02 33 44.5	-2.5
KSH				sP	sP	02 33 51.7	+2.7
KSH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ARPR	Arapgir-MALATY	72.79	344	P	P	02 33 47.6	+0.1
ARPR				IAmb	IAmb	02 33 49.5	
	comp=Z,19nm,1.4s						
BNN	Bunyan	73.19	342	P	P	02 33 49.4	-0.5
ARSB	Arslanbob	73.89	12	P	P	02 33 52.2	-1.7
BRTR	Keskin Array B	74.61	341	P	P	02 33 57.0	-1.2
BRTR	Keskin Array B	74.61	341	P	P	02 33 58.1	0.0
	comp=Z,2.7nm,0.8s,baz=162,slow=6.0,SNR=16						
BRTR				LR	LR	03 03 05.5	
	comp=Z,18nm,21.0s,baz=144,slow=33						
	comp=Z,2.7nm,0.8s						
BR131	Keskin Array S	74.61	341	P	P	02 33 57.5	-0.7
KK31	Karatay Array	75.25	9	P	P	02 34 01.7	+0.1
KK31				IAmb	IAmb	02 34 03.4	
	comp=Z,6.9nm,0.9s						
KKAR	Karatay Array	75.25	9	P	P	02 34 01.7	+0.1
KKAR				IAmb	IAmb	02 34 03.4	
	comp=Z,6.8nm,0.9s						
AAK	Ala-Archa	75.43	12	P	P	02 34 03.0	+0.1
AAK				IAmb	IAmb	02 34 06.5	
	comp=Z,7.2nm,0.9s						
AAK	Ala-Archa	75.43	12	LR	LR	03 04 05.3	
	comp=Z,75nm,21.1s,baz=214,slow=33						
KBZ	Khabaz	76.33	349	P	P	02 34 08.2	+0.4
	comp=Z,2.6nm,0.9s,baz=216,slow=1.6,SNR=5.6						
KBZ				LR	LR	03 09 00.8	
	comp=Z,58nm,18.1s,baz=152,slow=37						
	comp=Z,2.6nm,0.9s						
KIV	Kislovodsk	76.59	349	P	P	02 34 08.8	-0.5
KIV				IAmb	IAmb	02 34 14.2	
	comp=Z,9.9nm,0.8s						
AGG	Agios Georgios	77.85	332	P	P	02 34 16.4	-0.1
AGG				IAmb	IAmb	02 34 17.8	
	comp=Z,8.5nm,1.0s						
LIT	Litokhoron	78.72	333	P	P	02 34 19.5	-1.8
LIT				IAmb	IAmb	02 34 31.3	
	comp=Z,8.7nm,1.0s						
WMQ	Urumqi	79.80	21	eP	P	02 34 29.0	+1.8
WMQ				LR	LR		
	comp=Z,64nm,17.1s						
LZH	Lanzhou	79.81	36	eP	P	02 34 27.6	+0.1
LZH				pP	PcP	02 34 36.0	+0.9
LZH				pmax	pmax		
	comp=Z,20nm,1.5s						
ELND	Elena	79.95	336	⇑P	P	02 34 26.6	-1.2
VAE	Valguarnera	80.05	326	LR	LR	03 10 55.5	
	comp=Z,49nm,18.1s,baz=97,slow=36						
ICOR	Ion Corvin	80.38	338	⇑P	P	02 34 22.7	-7.4
ABKAR	Akbulak array	80.57	1	P	P	02 34 31.0	0.0
ABKAR				IAmb	IAmb	02 34 32.2	
	comp=Z,8.7nm,0.9s						
MAKZ	Makanchi	80.99	16	P	P	02 34 33.1	-0.3
MAKZ				IAmb	IAmb	02 34 37.5	
	comp=Z,17nm,1.8s						
MK31	Makanchi Array	81.06	16	P	P	02 34 33.1	-0.7
MKAR	Makanchi Array	81.06	16	P	P	02 34 33.2	-0.6
MKAR	Makanchi Array	81.06	16	P	P	02 34 33.8	+0.1
	comp=Z,1.1nm,0.7s,baz=211,slow=4.2,SNR=10						
	comp=Z,1.1nm,0.7s						
CFR	Carcaliu	81.23	339	⇑P	P	02 34 34.6	0.0
KEST	Kesra	81.23	322	P	P	02 34 36.1	+1.0
	comp=Z,2.9nm,0.8s,baz=307,slow=3.7,SNR=4.0						
KEST				LR	LR	03 11 03.7	
	comp=Z,58nm,19.6s,baz=294,slow=36						
	comp=Z,2.9nm,0.8s						
AKTO	Aktyubinsk	81.74	360	LR	LR	03 07 52.4	
	comp=Z,59nm,21.8s,baz=272,slow=34						
MLR	Muntele Rosu	82.20	338	⇑P	P	02 34 39.9	-0.1
MLR	Muntele Rosu	82.20	338	P	P	02 34 39.8	-0.1
MLR				IAmb	IAmb	02 34 51.5	
	comp=Z,9.3nm,1.1s						
VRI	Vrincioaia	82.28	338	⇑P	P	02 34 40.4	+0.1
PLOR	Plostina	82.30	338	⇑P	P	02 34 42.7	+2.4
COVR	Voineasa-Covas	82.43	338	⇓P	P	02 34 39.2	-1.8
VOIR		82.44	337	⇑P	P	02 34 40.5	-0.7
HERR	Herculane	82.87	335	⇑P	P	02 34 42.8	-0.5
MDVR	Moldovita	83.03	335	⇑P	P	02 34 43.6	-0.6
LYN	LuoYang	83.31	42	P	P	02 34 52.0	+6.2
LYN				pmax	pmax		
	comp=Z,16nm,0.6s						
LYN				pmax	pmax		
	comp=Z,1μm,5.2s						
BZS	Buzias	83.79	335	⇑P	P	02 34 48.0	0.0
SORM	Soroca	83.84	340	⇑P	P	02 34 47.3	-0.9
KURBB	Kurchatov Arra	83.87	13	P	P	02 34 48.9	+0.6
	comp=Z,3.5nm,0.9s,baz=207,slow=6.0,SNR=19						
KURBB				LR	LR	03 08 24.8	
	comp=Z,34nm,21.8s,baz=174,slow=33						
	comp=Z,3.5nm,0.9s						
KURK	Kurchatov	83.97	13	P	P	02 34 49.1	+0.3
KURK				IAmb	IAmb	02 34 59.7	
	comp=Z,7.0nm,0.9s						
MARR	Marisel-Cluj	84.18	337	⇑P	P	02 34 50.4	+0.2
BELG	Belogornoye	84.21	353	LR	LR	03 14 40.5	
	comp=Z,40nm,18.0s,baz=137,slow=37						
BURAR	Bucovina Array	84.31	338	⇑P	P	02 34 51.3	+0.5
BURAR	Bucovina Array	84.31	338	P	P	02 34 50.0	-0.8
SIRR	Siria	84.33	335	⇑P	P	02 34 51.6	+0.8
BUR08	Bucovina Ar. S	84.35	338	P	P	02 34 50.3	-0.6
BUR08				IAmb	IAmb	02 35 15.2	
	comp=Z,16nm,1.9s						
DRGR		84.42	336	⇑P	P	02 34 51.3	0.0
BVAR	Borovoye Array	84.99	7	P	P	02 34 54.9	+0.9
	comp=Z,6.7nm,0.8s,baz=180,slow=4.4,SNR=28						
BVAR				LR	LR	03 12 34.8	
	comp=Z,38nm,18.0s,baz=181,slow=36						
	comp=Z,6.7nm,0.8s						
BRVK	Borovoye	85.02	7	P	P	02 34 53.7	-0.4
BRVK				IAmb	IAmb	02 34 57.8	
	comp=Z,9.0nm,0.9s						
NJ2	Nanjing	85.44	48	eP	P	02 34 57.7	+1.0
NJ2				pmax	pmax		
	comp=Z,19nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,970nm,4.5s						
KIEV	Kiev	85.92	342	⇑P	P	02 34 58.3	-0.3
AKASG	Malin Array Be	85.93	342	P	P	02 34 58.6	0.0
	comp=Z,0.6nm,0.4s,baz=152,slow=4.2,SNR=2.3						
	comp=Z,0.6nm,0.4s						
HHC	Hu-ho-hao-te	87.36	38	eP	P	02 35 05.5	-0.6
HHC				sP	pwP	02 35 15.5	+0.7
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,37nm,4.4s						
MDT	Midelt	87.37	311	LR	LR	03 14 46.1	
	comp=Z,118nm,18.6s,baz=140,slow=36						
ARSA	Arzberg	87.46	332	eP	P	02 35 08.0	+1.7
	comp=Z,4.2nm,1.3s						
RONA	Rosalia, Austr	87.52	333	eP	P	02 35 07.4	+0.8
	comp=Z,5.0nm,1.3s						
MODS	Modra-Piesok	87.71	334	eP	P	02 35 07.9	+0.5
ARU	Arti	87.74	0	LR	LR	03 10 15.4	
	comp=Z,20nm,21.6s,baz=180,slow=33						
CONA	Conrad Observa	87.88	333	eP	P	02 35 08.4	0.0
	comp=Z,3.2nm,0.9s						
JAVC	Velka Javorina	87.97	335	eP	P	02 35 09.0	+0.3
ABTA	Abfaltersbach	88.28	330	eP	P	02 35 11.2	+0.9
	comp=Z,4.2nm,1.1s						
ZALV	Zalesovo Beam	88.31	15	P	P	02 35 09.6	-0.5
	comp=Z,0.7nm,0.3s,baz=204,slow=3.3,SNR=5.4						
ZALV				LR	LR	03 11 52.4	
	comp=Z,32nm,20.4s,baz=296,slow=34						
	comp=Z,0.7nm,0.3s						
BIOA	Bad Ischl, Aus	88.57	332	eP	P	02 35 12.3	+0.7
	comp=Z,7.7nm,1.1s						
KRUC	Moravsky	88.61	334	eP	P	02 35 11.5	-0.2
LESA	Schwarzleotal	88.75	331	eP	P	02 35 12.3	-0.2
	comp=Z,4.7nm,0.7s						
MORC	Moravsky Berou	88.78	335	⇓P	P	02 35 13.0	+0.5
MORC	Moravsky Berou	88.78	335	eP	P	02 35 11.9	-0.6
WTTA	Wattenberg	89.05	330	eP	P	02 35 14.1	+0.1
	comp=Z,3.2nm,0.5s						
WATA	Walderalm	89.14	330	eP	P	02 35 14.9	+0.5
	comp=Z,5.7nm,1.2s						
SQTA	Sankt Quirin	89.20	330	eP	P	02 35 15.2	+0.6
	comp=Z,6.5nm,0.8s						
FETA	Feichten	89.25	330	eP	P	02 35 14.7	-0.3
	comp=Z,4.8nm,0.9s						
GERES	GERESS Array B	89.47	332	P	P	02 35 15.4	-0.4
	comp=Z,1.2nm,0.8s,baz=149,slow=11,SNR=4.1						
	comp=Z,1.2nm,0.8s						
RETA	Reutte	89.60	330	eP	P	02 35 16.8	+0.3
	comp=Z,6.1nm,1.0s						
DAVA	Damuels	89.82	329	eP	P	02 35 17.7	+0.1
	comp=Z,5.3nm,1.1s						
SONM	Songino Array	90.16	30	P	P	02 35 19.1	-0.1
	comp=Z,0.8nm,0.8s,baz=232,slow=6.8,SNR=5.3						
SONM				LR	LR	03 13 22.0	
	comp=Z,84nm,18.5s,baz=156,slow=34						
	com

comp=N,8μm,1.2s
KNHH Kane Nui o Ham 0.11 104 Pg Pg 02 35 38.5 +1.0
MLH Mauna Loa 0.13 313 Pg Pg 02 35 38.9 +1.0
MLH IAML 02 35 41.5
comp=N,3μm,0.4s
MLH IAML 02 35 41.6
comp=E,3μm,0.9s
STCH Steam Cracks 0.15 98 Pg Pg 02 35 38.9 +0.6
NPOC North of Pu'u 0.17 95 Pg 02 35 39.5 +0.9
JCUZ Jacuzzi 0.18 97 Pg 02 35 39.7 +1.0
HTC Hot Caves 0.20 212 Pg 02 35 39.8 +0.7
JOKA Jonika Flow 0.27 84 Pg Pg 02 35 41.3 +0.9
JOKA IAML 02 35 47.4
comp=E,3μm,1.4s
HMH Humu'ula Sheep 0.27 316 Pg Pg 02 35 41.6 +1.1
HMH IAML 02 35 49.7
comp=N,3μm,1.3s
HMH IAML 02 35 49.9
comp=E,3μm,0.7s
MLOA Mauna Loa Obse 0.30 295 Pg Pg 02 35 41.9 +0.8
MLOA IAML 02 35 50.4
comp=E,2μm,0.8s
MWH Moku'aweowe 0.30 285 Pg Pg 02 35 42.2 +1.0
PAH Pahoa 0.33 75 Pg Pb 02 35 43.2 -0.9
KHU Kahuku 0.35 243 Pg Pg 02 35 42.8 +0.7
KHU IAML 02 35 51.4
comp=N,2μm,0.9s
KHU IAML 02 35 52.8
comp=E,3μm,1.1s
ALEP Alea Permanent 0.36 292 Pg 02 35 43.0 +0.7
ALEP Sg 02 35 48.0 +1.0
HPO Honuapo 0.41 219 Pg Pg 02 35 43.3 +0.2
POHA Pohakuloa 0.42 326 Pg Pg 02 35 43.8 +0.4
POHA Sg 02 35 50.3 +1.5
HUH Hualalai 0.59 298 Pg Pb 02 35 48.0 -0.6
CPH Captain Cook 0.60 278 Pg 02 35 47.7 +0.8
HPAH Hawaii Prepara 0.73 328 Pg Pg 02 35 48.8 -0.6
HPAH Sg Sg 02 35 58.1 -0.7
MHA Mahukona 0.97 323 Pg Pg 02 35 52.2 -1.7

IDC 11 02:48:08.5±1.9, 16°.64S×178°.19W, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=119.2km s-min=24.5km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.08**	**258**	P	P	02 56 26.8	0.0
	0.7nm,0.2s,baz=91,slow=8.0,SNR=30						
	0.7nm,0.2s						
ASAR	**Alice Springs**	**45.35**	**253**	P	P	02 56 28.6	-0.3
	7.8nm,0.6s,baz=88,slow=8.5,SNR=114						
	7.8nm,0.6s						
ILAR	**Eielson Array**	**84.61**	**13**	P	P	03 00 44.3	+0.8
	0.3nm,0.5s,baz=228,slow=4.8,SNR=7.6						
	0.3nm,0.5s						
TXAR	**Lajitas Array**	**85.14**	**58**	P	P	03 00 47.6	+0.6
	0.3nm,0.7s,baz=224,slow=6.4,SNR=6.7						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**86.29**	**43**	P	P	03 00 50.9	-1.8
	0.4nm,0.6s,baz=226,slow=5.9,SNR=3.7						
	0.4nm,0.6s						

*IDC **11** 03:03:05.8±1.9, 65°.64S×175°.39W, h0km, mb3.8/4, mbtmp3.8/5, ML3.1/1, MS3.6/6, Error ellipse: s-maj=70.2km s-min=24.9km az=66.0*

ISC 11 03:03:07.2±1.6, 65°.7S±0°.2×175°.4W±0°.3, h10km, n14, σ0=48/7, mb3.7/4, MS3.6/5, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.74**	**201**	Pn	**Pn**	**03 06 21.2**	**-0.3**
	0.1nm,0.3s,baz=26,slow=12,SNR=12						
VNDA				LR	LR	03 10 29.1	
	comp=Z,200nm,21.1s,baz=42,slow=32						
	2.1nm,0.7s						
QSPA	**South Pole Qui**	**24.44**	**180**	P	**P**	**03 08 26.2**	**+0.4**
	1.7nm,0.9s,baz=17,slow=1.3,SNR=4.2						
QSPA				LR	LR	03 17 04.7	
	comp=Z,94nm,18.2s,baz=359,slow=34						
	1.7nm,0.9s						
URZ	**Urewera**	**27.77**	**347**	LR	LR	03 17 38.0	
	comp=Z,178nm,20.0s,baz=226,slow=31						
SNAA	**Sanae**	**42.85**	**177**	P	**P**	**03 11 05.0**	**+0.3**
	1.6nm,1.0s,baz=152,slow=7.8,SNR=4.2						
	1.6nm,1.0s						
DZM	**Mont Dzumac**	**45.13**	**336**	LR	LR	03 29 31.4	
	comp=Z,120nm,19.0s,baz=49,slow=35						
RAR	**Rarotonga**	**45.58**	**21**	LR	LR	03 25 04.8	
	comp=Z,67nm,20.1s,baz=257,slow=29						
ASAR	**Alice Springs**	**52.83**	**297**	P	**P**	**03 12 23.1**	**+0.4**
	0.6nm,0.6s,baz=159,slow=7.6,SNR=8.6						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**56.08**	**299**	P	**P**	**03 12 46.2**	**0.0**
	1.5nm,0.8s,baz=160,slow=6.3,SNR=6.5						
	1.5nm,0.8s						
H03S2	**Juan Fernandez**	**62.27**	**111**	T	T	04 21 48.0	
	baz=206,slow=74,SNR=51						
H03S1	**Juan Fernandez**	**62.27**	**111**	T	T	04 21 46.7	
	baz=206,slow=74,SNR=52						
H03S3	**Juan Fernandez**	**62.28**	**111**	T	T	04 21 44.1	
	baz=206,slow=74,SNR=48						
SUR	**Sutherland**	**81.48**	**194**	LR	LR	03 50 28.5	
	comp=Z,31nm,18.6s,baz=124,slow=35						
ILAR	**Eielson Array**	**131.76**	**16**	PKP	**PKPdf**	**03 22 18.0**	**-0.5**
	0.3nm,0.7s,baz=224,slow=2.5,SNR=4.5						
BRTR	**Keskin Array B**	**149.18**	**227**	PKPbc	**PKPbc**	**03 22 54.7**	**-0.3**
	0.5nm,0.6s,baz=157,slow=3.5,SNR=3.7						

*ISN **11** 03:06:46.9±0.6, 33°.26N×46°.10E, h17km±3km, ML2.9*
*TEH **11** 03:06:47.0, 33°.33N×46°.10E, h11km, ML2.9*

ISC 11 03:06:46.9±1.2, 33°.29N±0°.05×46°.10E±0°.06, h19km, n9, σ0=66/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.23**	**218**	*e*Pg	**Pb**	**03 06 52.0**	**0.0**
	baz=45						
IBDR				*e*Sg	**Sb**	**03 06 55.0**	**-0.3**
IBDR				AML	AML	03 07 09.7	
	comp=N,448nm,0.4s						
IBDR				AML	AML	03 07 11.5	
	comp=E,338nm,0.7s						
ILBA	**Ilam Banvizeh**	**0.35**	**15**	Pg	**Pg**	**03 06 53.3**	**-1.0**
GLG1	**Gilan-e-Gharb**	**0.84**	**349**	Pg	**Pb**	**03 07 02.9**	**+0.1**
IGHG	**Ghaleghazi**	**1.11**	**21**	Pg	**Pb**	**03 07 08.1**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.26**	**38**	Pg	**Pb**	**03 07 11.0**	**+0.9**
IDHR	**Dehrash**	**1.43**	**10**	Pg	**Pb**	**03 07 13.2**	**+0.2**
BHD	**Baghdad**	**1.44**	**270**	*e*Pn	**Pb**	**03 07 14.0**	**+0.9**
BHD				*e*Sn	**Sg**	**03 07 34.0**	**+0.6**
BHD				AML	AML	03 08 00.0	
	comp=E,19nm,0.8s						
IKFM	**Kafar-mosalman**	**1.48**	**80**	Pg	**Pg**	**03 07 15.2**	**-0.2**
ILIN	**Lien**	**1.78**	**24**	Pg	**Pb**	**03 07 19.1**	**+0.1**

*IDC **11** 03:07:13.2±0.5, 31°.69S×58°.18E, h0km, mb4.5/24, mbtmp4.5/25, ML4.2/1, MS4.1/58, Error ellipse: s-maj=18.0km s-min=13.8km az=56.0*
*MOS **11** 03:07:13.3±0.8, 31°.69S×58°.25E, h10km, mb5.2/45, MS4.3/7, Error ellipse: s-maj=14.4km s-min=6.3km az=98.9*
*BJI **11** 03:07:14.0±0.0, 31°.60S×58°.20E, h10km, mb4.9/36, mB5.4/14, Ms5.0/14, Ms7 4.7/16*
*NEIC **11** 03:07:15.7±1.9, 31°.66S±0°.10×58°.22E±0°.08, h10km±1km, mb5.1/65, Error ellipse: s-maj=16.5km s-min=11.3km az=180.0*
*GCMT **11** 03:07:15.7±0.2, 31°.67S±0°.01×58°.06E±0°.02, h12km, MW5.1/127, Moment Tensor Solution. s66,c77; s127,c192; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}=4.63±.09; $M_{\theta\theta}$=4.50±.07; $M_{\phi\phi}$=0.12±.09; $M_{r\theta}$=0.69±.24; $M_{r\phi}$=0.43±.08; $M_{\theta\phi}$=1.64±.33; Best double couple: M_0=4.89800×10^16 NP1:ϕ_s=248.00000°, δ=53.00000°, λ=-111.00000°. NP2:ϕ_s=100.00000°, δ=42.00000°, λ=-65.00000°. Principal axes: T 4.6250, Plg6.0000°, Azm352.0000°; N 0.5430, Plg16.0000°, Azm261.0000°; P -5.1700, Plg73.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 03:07:16.1±0.3, 31°.68S±0°.06×58°.10E±0°.07, h17km, n570, σ0=96/514, mb5.0/113, MS4.3/69, 43C-10D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**11.86**	**302**	Pn	**Pn**	**03 10 05.0**	**+0.6**
VOI	**Vohitsoka**	**14.02**	**311**		**Pn**	**03 10 33.9**	**-0.2**
H04N2	**CROZET ISLANDS**	**15.26**	**197**	T	T	03 26 42.3	
	baz=21,slow=75,SNR=252						
H04N1	**CROZET ISLANDS**	**15.27**	**197**	T	T	03 26 43.4	
	baz=21,slow=75,SNR=314						
H04N3	**CROZET ISLANDS**	**15.28**	**197**	T	T	03 26 38.6	
	baz=21,slow=75,SNR=258						
CRZF	**Crozet Islands**	**15.50**	**196**	Pn	**Pn**	**03 10 54.2**	**+0.4**
CRZF				IAmb	IAmb	03 10 55.2	
	comp=Z,98nm,1.1s						
ABPO	**Ambohimpanom**	**15.97**	**320**	P	**Pn**	**03 11 01.4**	**+1.1**
ABPO	**Ambohimpanom**	**15.97**	**320**	P	**Pn**	**03 11 01.4**	**+1.1**
ABPO				pmax	pmax		
	comp=Z,25nm,1.3s						
OPO	**Ambohidratompo**	**16.36**	**320**	Pn	**Pn**	**03 11 05.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=300,slow=20,SNR=2.7						
OPO				Sn	Sn	03 13 56.9	-10
	comp=Z,0.1nm,0.3s,baz=227,slow=19,SNR=4.5						
OPO				LR	LR	03 16 30.0	
	comp=Z,595nm,19.1s,baz=14,slow=34						
	comp=Z,5.0nm,0.6s						
POGA	**Pongola**	**23.35**	**274**	P	**P**	**03 12 24.5**	**+0.8**
POGA				IAmb	IAmb	03 12 33.3	
	comp=Z,75nm,1.8s						
H08S1	**Diego Carcia H**	**27.41**	**32**	T	T	03 41 23.4	
	baz=207,slow=76,SNR=79						
H08S2	**Diego Garcia H**	**27.42**	**32**	T	T	03 41 24.3	
	baz=207,slow=76,SNR=42						
H08S3	**Diego Garcia H**	**27.43**	**32**	T	T	03 41 24.4	
	baz=207,slow=76,SNR=75						
BOSA	**Boshof**	**28.51**	**268**	P	**P**	**03 13 10.7**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=117,slow=9.4,SNR=3.1						
BOSA				LR	LR	03 23 11.1	
	comp=Z,231nm,18.8s,baz=114,slow=34						
	comp=Z,1.6nm,0.9s						
MATP	**Matopo**	**28.77**	**286**	LR	LR	03 23 12.1	
	comp=Z,259nm,21.5s,baz=86,slow=33						
SUR	**Sutherland**	**31.52**	**259**	LR	LR	03 24 25.0	
	comp=Z,622nm,19.2s,baz=116,slow=33						
LSZ	**Lusaka**	**31.79**	**294**	P	**P**	**03 13 40.1**	**+0.2**
LSZ	**Lusaka**	**31.79**	**294**	P	**P**	**03 13 40.1**	**+0.2**
LSZ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TSUM	**Tsumeb**	**38.43**	**279**	P	**P**	**03 14 37.7**	**+0.5**
TSUM	**Tsumeb**	**38.43**	**279**	LR	LR	03 28 54.9	
	comp=Z,360nm,20.2s,baz=141,slow=34						
LODK	**Lodwar**	**41.07**	**324**	P	**P**	**03 14 58.4**	**-0.7**
PALK	**Pallekele**	**44.35**	**33**	LR	LR	03 30 04.9	
	comp=Z,236nm,18.1s,baz=314,slow=31						
ELIB	**Princess Elisa**	**44.36**	**195**	*d*P	**P**	**03 15 25.9**	**+0.6**
	comp=Z,4.2nm,1.2s						
ELIB				*d*PP	**PP**	**03 17 05.6**	**-2.9**
FURI	**Furi**	**44.42**	**332**	LR	LR	03 30 53.7	
	comp=Z,229nm,20.4s,baz=168,slow=32						
ATD	**Arta Tunnel**	**45.38**	**339**	LR	LR	03 31 10.5	
	comp=Z,34nm,21.4s,baz=154,slow=32						
H01W2	**Cape Leeuwin H**	**46.43**	**110**	T	T	04 05 21.4	
	baz=257,slow=75,SNR=65						
H01W3	**Cape Leeuwin H**	**46.44**	**110**	T	T	04 05 21.9	
	baz=257,slow=75,SNR=59						
H01W1	**Cape Leeuwin H**	**46.45**	**110**	T	T	04 05 23.1	
	baz=257,slow=75,SNR=63						
NWAO	**Narrogin (SRO)**	**49.41**	**108**	LR	LR	03 32 16.4	
	comp=Z,132nm,20.0s,baz=329,slow=30						
SNAA	**Sanae**	**51.19**	**201**	⇑P	**P**	**03 16 17.7**	**-0.3**
	comp=Z,50nm,0.7s						
SNAA	**Sanae**	**51.19**	**201**	P	**P**	**03 16 17.0**	**-1.1**
	comp=Z,2.6nm,0.9s,baz=101,slow=6.1,SNR=11						
SNAA				LR	LR	03 33 08.7	
	comp=Z,434nm,21.5s,baz=107,slow=30						
	comp=Z,2.6nm,0.9s						
SNAA	**Sanae**	**51.19**	**201**	P	**P**	**03 16 17.0**	**-1.1**
HYB	**Hyderabad**	**52.61**	**25**	*e*P	**P**	**03 16 29.2**	**0.0**
VNA3	**Neumayer Olymp**	**53.21**	**202**	⇑P	**P**	**03 16 32.8**	**-0.2**
	comp=Z,4.1nm,0.8s						
WSAR	**Wadi Sarin**	**54.61**	**1**	LR	LR	03 34 17.7	
	comp=Z,445nm,21.9s,baz=203,slow=30						
RAYN	**Ar Rayn**	**56.20**	**346**	P	**P**	**03 16 56.0**	**+0.7**
RAYN				IAmb	IAmb	03 17 05.2	
	comp=Z,47nm,1.8s						
RAYN	**Ar Rayn**	**56.20**	**346**	P	**P**	**03 16 56.0**	**+0.7**
RAYN				pmax	pmax		
	comp=Z,47nm,1.8s						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**03 17 11.2**	**+0.1**
QSPA				IAmb	IAmb	03 17 20.2	
	comp=Z,58nm,1.8s						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**03 17 11.8**	**+0.7**
	comp=Z,4.7nm,0.6s,baz=216,slow=0.2,SNR=58						
QSPA				LR	LR	03 39 08.5	
	comp=Z,492nm,21.3s,baz=270,slow=33						
	comp=Z,4.7nm,0.6s						
VNDA	**Vanda**	**62.22**	**166**	P	**P**	**03 17 37.1**	**+0.8**
VNDA				IAmb	IAmb	03 17 45.5	
	comp=Z,16nm,1.5s						
VNDA	**Vanda**	**62.22**	**166**	P	**P**	**03 17 36.9**	**+0.6**
	comp=Z,2.5nm,1.1s,baz=261,slow=10.0,SNR=5.2						
VNDA				LR	LR	03 41 34.5	
	comp=Z,343nm,21.7s,baz=246,slow=33						
	comp=Z,2.5nm,1.1s						
VNDA	**Vanda**	**62.22**	**166**	P	**P**	**03 17 37.1**	**+0.8**
VNDA				pmax	pmax		
	comp=Z,16nm,1.5s						
CM31	**Chiang Mai Arr**	**63.40**	**44**	P	**P**	**03 17 44.3**	**-0.5**
CM31				IAmb	IAmb	03 17 45.8	
	comp=Z,18nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.40**	**44**	P	**P**	**03 17 44.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**63.40**	**44**	P	**P**	**03 17 44.5**	**-0.4**
	comp=Z,11nm,0.6s,baz=229,slow=7.2,SNR=52						
CMAR				LR	LR	03 40 19.0	
	comp=Z,267nm,21.6s,baz=225,slow=31						
	comp=Z,11nm,0.6s						
CHTO	**Chiang Mai**	**63.68**	**44**	P	**P**	**03 17 45.4**	**-1.3**
CHTO				IAmb	IAmb	03 17 47.8	
	comp=Z,34nm,1.7s						
CHTO	**Chiang Mai**	**63.68**	**44**	P	**P**	**03 17 45.4**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,34nm,1.7s						
EIL	**Elat**	**64.86**	**338**	LR	LR	03 41 22.0	
	comp=Z,240nm,21.7s,baz=220,slow=32						
SHL	**Shillong**	**65.44**	**34**	P	**P**	**03 17 57.6**	**-0.7**
SHL	**Shillong**	**65.44**	**34**	P	**P**	**03 17 57.6**	**-0.7**
SHL				pmax	pmax		
	comp=Z,98nm,1.8s						
CRAI	**Chiangrai**	**65.62**	**44**	P	**P**	**03 17 58.4**	**-0.9**
CRAI				IAmb	IAmb	03 17 59.8	
	comp=Z,6.4nm,0.8s						
ASAR	**Alice Springs**	**66.40**	**104**	P	**P**	**03 18 03.3**	**-1.3**
ASAR	**Alice Springs**	**66.40**	**104**	P	**P**	**03 18 03.8**	**-0.8**
	comp=Z,6.2nm,0.6s,baz=237,slow=6.1,SNR=92						
ASAR				LR	LR	03 42 46.6	
	comp=Z,82nm,20.6s,baz=254,slow=32						
	comp=Z,6.2nm,0.6s						
AS31	**Alice Springs**	**66.40**	**104**	P	**P**	**03 18 03.4**	**-1.2**
KBL	**Kabul**	**66.67**	**10**	P	**P**	**03 18 06.0**	**-0.1**
KBL				IAmb	IAmb	03 18 08.3	
	comp=Z,9.3nm,0.7s						
KBL	**Kabul**	**66.67**	**10**	P	**P**	**03 18 06.0**	**-0.1**
KBL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TOLI2	**Tolitoli**	**67.59**	**74**	P	**P**	**03 18 11.1**	**-1.1**
MMAI	**Mount Meron Ar**	**67.83**	**340**	P	**P**	**03 18 13.2**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=157,slow=7.8,SNR=4.8						
MMAI				LR	LR	03 45 55.0	
	comp=Z,110nm,18.3s,baz=108,slow=34						
	comp=Z,0.6nm,0.4s						
WRA	**Warramunga Arr**	**68.41**	**101**	P	**P**	**03 18 16.3**	**-1.0**
WRA	**Warramunga Arr**	**68.41**	**101**	P	**P**	**03 18 16.7**	**-0.6**
	comp=Z,6.0nm,0.7s,baz=242,slow=5.3,SNR=36						
WRA				LR	LR	03 43 46.9	
	comp=Z,129nm,20.5s,baz=319,slow=32						
	comp=Z,6.0nm,0.7s						
WB2	**Warramunga Arr**	**68.42**	**101**	P	**P**	**03 18 16.6**	**-0.7**
WRAB	**Tennant Creek**	**68.42**	**101**	P	**P**	**03 18 16.6**	**-0.8**
WRAB	**Tennant Creek**	**68.42**	**101**	*i* P	**P**	**03 18 16.0**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WB0	**Warramunga Arr**	**68.53**	**101**	P	**P**	**03 18 17.1**	**-1.0**
WB0				IAmb	IAmb	03 18 17.9	
	comp=Z,11nm,0.8s						
WR0	**Warramunga Arr**	**68.57**	**101**	P	**P**	**03 18 17.7**	**-0.6**
WR0				IAmb	IAmb	03 18 18.0	
	comp=Z,7.5nm,0.8s						
STKA	**Stephens Creek**	**69.09**	**115**	P	**P**	**03 18 21.2**	**-0.2**
	comp=Z,3.9nm,0.7s,baz=256,slow=4.9,SNR=8.1						
STKA				LR	LR	03 43 17.0	
	comp=Z,101nm,21.7s,baz=209,slow=31						
	comp=Z,3.9nm,0.7s						
STKA	**Stephens Creek**	**69.09**	**115**	*e*P	**P**	**03 18 21.4**	**0.0**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TOA0	**Torodi Ar. Sit**	**70.04**	**300**	P	**P**	**03 18 27.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**70.04**	**300**	P	**P**	**03 18 28.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**70.04**	**300**	P	**P**	**03 18 27.6**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=119,slow=5.3,SNR=20						
TORD				LR	LR	03 49 12.0	
	comp=Z,482nm,19.6s,baz=136,slow=36						
	comp=Z,3.9nm,0.9s						
SIMJ	**Simiganj**	**70.71**	**9**	P	**P**	**03 18 31.4**	**+0.3**
QIZ	**Qiongzhong**	**70.73**	**52**	P	**P**	**03 18 31.8**	**+0.3**
QIZ				S	**S**	**03 27 48.3**	**+2.9**
QIZ				LR	LR		
	comp=Z,310nm,14.5s						
QIZ				LR	LR		
	comp=Z,520nm,9.4s						
QIZ				LR	LR		
	comp=Z,330nm,16.1s						
CHGR	**Chuyangaron**	**70.73**	**9**	P	**P**	**03 18 31.6**	**+0.4**
CHGR	**Chuyangaron**	**70.73**	**9**	P	**P**	**03 18 31.6**	**+0.4**
CHGR				pmax	pmax		
	comp=Z,132nm,1.7s						
KMI	**Kunming**	**70.78**	**42**	⇑P	**P**	**03 18 32.2**	**+0.3**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DBIC	**Dimbokro**	**71.05**	**291**	P	**P**	**03 18 34.4**	**+0.8**
	comp=Z,8.5nm,0.9s,baz=152,slow=4.3,SNR=5.8						
DBIC				LR	LR	03 46 34.0	
	comp=Z,181nm,21.9s,baz=134,slow=33						
	comp=Z,8.5nm,0.9s						
DBIC	**Dimbokro**	**71.05**	**291**	P	**P**	**03 18 34.9**	**+1.3**
PZH	**PanZhiHua**	**71.28**	**41**	P	**P**	**03 18 37.6**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
GURO	**Guroymak-BITLI**	**71.46**	**347**	P	**P**	**03 18 36.7**	**+1.0**
GURO				IAmb	IAmb	03 18 40.6	
	comp=Z,22nm,1.6s						
BTK	**Batken**	**72.34**	**10**	P	**P**	**03 18 41.2**	**+0.3**
BTK				IAmb	IAmb	03 18 43.4	
	comp=Z,56nm,1.8s						
BTK	**Batken**	**72.34**	**10**	P	**P**	**03 18 41.2**	**+0.3**
BTK				pmax	pmax		
	comp=Z,56nm,1.8s						
GNI	**Garni**	**72.53**	**349**	LR	LR	03 47 22.3	
	comp=Z,284nm,21.8s,baz=167,slow=33						
GNI	**Garni**	**72.53**	**349**	*ce*P	**P**	**03 18 42.9**	**+0.8**
GNI				pmax	pmax		
	comp=Z,39nm,2.5s						
GNI	**Garni**	**72.53**	**349**	P	**P**	**03 18 41.8**	**-0.3**
	comp=Z,16nm,2.2s,comp=Z,412nm						
KSH	**Kashi**	**72.76**	**14**	P	**P**	**03 18 40.9**	**-2.5**
KSH				sP	sP	03 18 48.9	-0.2
KSH				PcP	**pwP**	**03 18 55.1**	**+2.0**
KSH				pmax	pmax		
	comp=Z,18nm,0.7s						
KSH				LR	LR		
	comp=Z,420nm,21.0s						
KSH				LR	LR		
	comp=Z,280nm,19.6s						
KSH				LR	LR		
	comp=Z,510nm,21.3s						
ARPR	**Arapgir-MALATY**	**72.78**	**344**	P	**P**	**03 18 43.6**	**+0.1**
PMSA	**Palmer Station**	**73.87**	**202**	LR	LR	03 45 15.7	
	comp=Z,180nm,21.7s,baz=120,slow=31						
ARSB	**Arslanbob**	**73.93**	**12**	P	**P**	**03 18 50.3**	**0.0**
ARSB				IAmb	IAmb	03 18 52.4	
	comp=Z,20nm,2.0s						
ARSB	**Arslanbob**	**73.93**	**12**	P	**P**	**03 18 50.3**	**0.0**
ARSB				pmax	pmax		
	comp=Z,20nm,2.0s						
BR131	**Keskin Array S**	**74.59**	**341**	P	**P**	**03 18 54.0**	**-0.2**
BR131	**Keskin Array S**	**74.59**	**341**	P	**P**	**03 18 54.0**	**-0.2**
BR131				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRTR	**Keskin Array B**	**74.59**	**341**	P	**P**	**03 18 54.4**	**+0.3**
BRTR	**Keskin Array B**	**74.59**	**341**	P	**P**	**03 18 54.2**	**+0.1**
	comp=Z,2.9nm,0.9s,baz=160,slow=7.3,SNR=18						
BRTR				LR	LR	03 47 47.0	
	comp=Z,137nm,21.9s,baz=142,slow=33						
	comp=Z,2.9nm,0.9s						
BRTR	**Keskin Array B**	**74.59**	**341**	*ce*P	**P**	**03 18 54.5**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAK	**Makhachkala**	**74.91**	**352**	*e*P	P	03 18 50.9	-4.8
MAK				*e*S	**S**	**03 28 27.9**	**-4.2**
MAK				*e*SS	**SS**	**03 33 16.2**	**-5.2**
MAK				*e*SSS	SSS	03 36 34.5	
MAK				pmax	pmax		
	comp=Z,83nm,1.1s						
MAK				MLR	MLR		
	comp=Z,132nm,17.0s						
DAV	**Davao City (W)**	**74.92**	**72**	LR	LR	03 50 56.3	
	comp=Z,26nm,19.6s,baz=344,slow=35						
ONI	**Oni**	**75.12**	**349**	P	**P**	**03 18 57.5**	**+0.4**
ONI				IAmb	IAmb	03 18 59.6	
	comp=Z,44nm,2.0s						
ONI	**Oni**	**75.12**	**349**	P	**P**	**03 18 57.5**	**+0.4**
ONI				pmax	pmax		
	comp=Z,44nm,2.0s						
KK31	**Karatay Array**	**75.29**	**9**	P	**P**	**03 18 58.8**	**+0.8**
KK31	**Karatay Array**	**75.29**	**9**	P	**P**	**03 18 58.8**	**+0.8**
KK31				pmax	pmax		
	comp=Z,73nm,1.9s						
KKAR	**Karatay Array**	**75.29**	**9**	P	**P**	**03 18 58.6**	**+0.6**
KKAR	**Karatay Array**	**75.29**	**9**	P	**P**	**03 18 58.5**	**+0.6**
KKAR	**Karatay Array**	**75.29**	**9**	P	**P**	**03 18 58.6**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,73nm,1.9s						
AAK	**Ala-Archa**	**75.47**	**12**	P	**P**	**03 18 59.6**	**+0.4**
AAK				IAmb	IAmb	03 19 01.9	
	comp=Z,40nm,1.6s						
AAK	**Ala-Archa**	**75.47**	**12**	LR	LR	03 49 07.9	
	comp=Z,247nm,21.8s,baz=192,slow=33						
AAK	**Ala-Archa**	**75.47**	**12**	*ce*P	**P**	**03 19 00.3**	**+1.1**
AAK				pmax	pmax		
	comp=Z,18nm,1.2s						
BOOM	**Boomskoye usch**	**75.61**	**14**	P	**P**	**03 19 00.3**	**+0.3**
BOOM	**Boomskoye usch**	**75.61**	**14**	P	**P**	**03 19 00.3**	**+0.3**
BOOM				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PRZ	**Przheval'sk**	**76.12**	**15**	P	**P**	**03 19 04.5**	**+1.5**

LABN pmax pmax
comp=Z,15nm,0.3s
LABN MLR MLR
comp=Z,167nm,13.0s
ARXS Arharly 77.65 14 *eP* **P 03 19 10.4 -1.0**
BTLS Baital 77.72 11 *eP* **P 03 19 10.7 -1.0**
AGG Agios Georgios 77.81 332 P **P 03 19 12.3 -0.1**
AGG IAmb IAmb 03 19 13.8
comp=Z,10nm,1.0s
AGG Agios Georgios 77.81 332 P **P 03 19 12.3 -0.1**
AGG pmax pmax
comp=Z,11nm,1.0s
CTA Charters Tower 78.21 106 LR LR 03 50 05.6
comp=Z,8.9nm,19.8s,baz=262,slow=33
ANN Anapa 78.41 345 *eP* **P 03 19 14.1 -1.4**
ANN *eS* **S 03 29 09.2 -1.1**
ANN pmax pmax
comp=Z,34nm,1.4s
ANN MLR MLR
comp=Z,160nm,19.0s
ERBR Yeremizino-Bor 78.67 348 *eP* **P 03 19 16.1 -0.8**
ERBR *eS* **S 03 29 13.8 +0.7**
ERBR pmax pmax
comp=Z,14nm,0.5s
LIT Litokhoron 78.68 333 P **P 03 19 17.6 +0.5**
LIT IAmb IAmb 03 19 18.4
comp=Z,14nm,0.9s
LIT Litokhoron 78.68 333 P **P 03 19 17.6 +0.5**
LIT pmax pmax
comp=Z,14nm,0.9s
SIM Simferopol' 79.33 343 *eP* **P 03 19 21.0 +0.5**
SIM *PP **PcP 03 19 28.0 -0.7**
SIM 03 19 31.0
SIM pmax pmax
comp=Z,12nm,0.7s
SIM MLR MLR
comp=Z,130nm,19.0s
SIM pmax pmax
comp=Z,15nm,0.7s
SIM MLR MLR
comp=Z,80nm,18.0s
FNA Florina 79.70 333 P **P 03 19 22.9 +0.1**
FNA Florina 79.70 333 P **P 03 19 22.9 +0.1**
FNA pmax pmax
comp=Z,7.0nm,1.0s
WMQ Urumqi 79.86 21 *eP* **P 03 19 24.4 +0.8**
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ LR LR
comp=Z,310nm,13.7s
WMQ LR LR
comp=Z,250nm,18.1s
WMQ LR LR
comp=Z,270nm,20.3s
LZH Lanzhou 79.89 36 *eP* P 03 19 29.8 +5.7
LZH pmax pmax
comp=Z,21nm,1.6s
ELND Elena 79.92 337 ⇑P **P 03 19 24.0 +0.2**
VAE Valguarnera 79.99 326 LR LR 03 54 56.8
comp=Z,190nm,21.0s,baz=128,slow=36
ABKAR Akbulak array 80.59 1 P **P 03 19 27.7 +0.5**
ABKAR Akbulak array 80.59 1 P **P 03 19 27.7 +0.5**
ABKAR IAmb IAmb 03 19 29.0
comp=Z,47nm,1.7s
GTA Gaotai 80.64 31 P **P 03 19 28.2 +0.2**
GTA pP pwP 03 19 36.2 -1.5
GTA pmax pmax
comp=Z,13nm,1.4s
GTA LR LR
comp=Z,210nm,19.1s
GTA LR LR
comp=Z,210nm,21.5s
GTA LR LR
comp=Z,280nm,19.5s
HARR Harsova 80.83 339 ⇑P **P 03 19 28.9 +0.3**
HARR Harsova 80.83 339 P **P 03 19 28.9 +0.3**
TPGR Topolog 80.83 339 ⇑P **P 03 19 28.4 -0.3**
XAN Xi'an 81.02 41 *eP* **P 03 19 31.5 +1.5**
XAN pP sP 03 19 35.1 -0.8
XAN pmax pmax
comp=Z,14nm,0.9s
MAKZ Makanchi 81.04 16 P **P 03 19 30.1 +0.3**
MAKZ IAmb IAmb 03 19 32.3
comp=Z,29nm,1.8s
MAKZ Makanchi 81.04 16 P **P 03 19 30.1 +0.3**
MAKZ pmax pmax
comp=Z,29nm,1.8s
MK31 Makanchi Array 81.11 17 P **P 03 19 30.4 +0.3**
MK31 IAmb IAmb 03 19 31.7
comp=Z,32nm,1.9s
MK31 Makanchi Array 81.11 17 P **P 03 19 30.5 +0.3**
MK31 pmax pmax
comp=Z,32nm,2.0s
MKAR Makanchi Array 81.11 17 P **P 03 19 30.4 +0.2**
MKAR Makanchi Array 81.11 17 P **P 03 19 30.1 -0.1**
comp=Z,2.2nm,0.7s,baz=228,slow=4.6,SNR=24
MKAR LR LR 03 52 48.2
comp=Z,128nm,20.4s,baz=219,slow=34
comp=Z,2.2nm,0.7s
KEST Kesra 81.17 322 P **P 03 19 31.9 +1.1**
KEST IAmb IAmb 03 20 43.6
comp=Z,19nm,1.4s
KEST Kesra 81.17 322 P **P 03 19 31.0 +0.1**
comp=Z,5.1nm,1.1s,baz=120,slow=11,SNR=4.2
KEST LR LR 03 56 05.4
comp=Z,264nm,19.8s,baz=108,slow=36
comp=Z,5.1nm,1.1s
CFR Carcaliu 81.20 339 ⇑P **P 03 19 31.3 +0.6**
CFR Carcaliu 81.20 339 P **P 03 19 31.2 +0.6**
PUK Puka 81.36 332 P **P 03 19 32.3 +0.6**
PUK IAmb IAmb 03 19 33.3
comp=Z,10nm,1.0s
ISR Istrita 81.65 338 P **P 03 19 33.0 -0.1**
AKTO Aktyubinsk 81.75 360 LR LR 03 53 43.5
comp=Z,110nm,21.8s,baz=230,slow=34
BISRR Bisoca 81.98 338 ⇑P **P 03 19 35.9 +1.0**
MLR Muntele Rosu 82.17 338 ⇑P **P 03 19 36.5 +0.5**
MLR Muntele Rosu 82.17 338 P **P 03 19 36.4 +0.5**
MLR Muntele Rosu 82.17 338 P **P 03 19 36.1 +0.2**
comp=Z,7.2nm,0.8s,baz=170,slow=2.7,SNR=16
MLR LR LR 03 55 20.9
comp=Z,102nm,19.3s,baz=150,slow=35
comp=Z,7.2nm,0.8s
MLR Muntele Rosu 82.17 338 P **P 03 19 36.4 +0.5**
MLR pmax pmax
comp=Z,77nm,1.9s
MLR Muntele Rosu 82.17 338 P **P 03 19 35.9 0.0**
comp=Z,18nm,1.6s,comp=Z,240nm
GHRR 82.22 339 P **P 03 19 36.0 0.0**
VRI Vrincioaia 82.26 338 ⇑P **P 03 19 37.1 +0.9**
VRI Vrincioaia 82.26 338 P **P 03 19 37.1 +0.9**
VRI Vrincioaia 82.26 338 P **P 03 19 36.3 +0.1**
comp=Z,45nm,0.8s,comp=Z,421nm
PLOR5 Plostina Array 82.26 338 P **P 03 19 36.2 0.0**
comp=Z,45nm,0.8s
PLOR Plostina 82.27 338 ⇑P **P 03 19 37.0 +0.6**
PLOR Plostina 82.27 338 P **P 03 19 36.9 +0.6**
PLOR3 Plostina Array 82.27 338 P **P 03 19 36.5 +0.2**
comp=Z,40nm,1.0s
COVR Voineasa-Covas 82.40 338 ⇓P **P 03 19 36.9 -0.1**
VOIR 82.42 337 ⇑P **P 03 19 37.2 +0.1**
VOIR 82.42 337 P **P 03 19 37.2 +0.1**
VOIR 82.42 337 P **P 03 19 37.1 0.0**
comp=Z,12nm,1.2s
ARR Arges 82.49 337 ⇓P **P 03 19 37.4 -0.1**
MILM Milestii Mici 82.58 340 ⇓*iP* **P 03 19 38.0 +0.2**
comp=Z,180nm,3.3s
MILM Milestii Mici 82.58 340 *diP* **P 03 19 38.0 +0.2**
MILM pmax pmax
comp=Z,180nm,3.3s
KIS Kishinev 82.65 340 *eP* **P 03 19 38.6 +0.4**
comp=Z,50nm,2.7s
TURR Turia 82.65 338 ⇑P **P 03 19 38.4 +0.1**
OZUR 82.76 338 ⇑P **P 03 19 38.7 -0.2**
ONER Baraj Valea Uz 82.78 338 ⇑P **P 03 19 39.2 +0.2**
HERR Herculane 82.83 335 ⇑P **P 03 19 39.9 +0.7**
LOT Lotru 82.86 336 ⇑P **P 03 19 39.7 +0.2**
TESR Tescani 82.86 339 ⇑P **P 03 19 39.2 -0.2**
MDVR Moldovita 83.00 335 ⇑P **P 03 19 40.3 +0.1**
GZR Gura Zlata 83.15 336 ⇑P **P 03 19 41.4 +0.5**
GZR Gura Zlata 83.15 336 P **P 03 19 41.4 +0.5**
SURR Surduc 83.69 336 ⇑P **P 03 19 44.5 +0.9**
BZS Buzias 83.75 335 ⇓P **P 03 19 44.3 +0.3**
BZS Buzias 83.75 335 P **P 03 19 44.2 +0.3**
VRH Novokhopyorsk 83.78 350 *eP* **P 03 19 43.5 -0.4**
VRH pmax pmax
comp=Z,27nm,1.0s
SORM Soroca 83.81 340 ⇑P **P 03 19 43.7 -0.4**
SORM Soroca 83.81 340 P **P 03 19 43.7 -0.4**
KURBB Kurchatov Arra 83.91 13 P **P 03 19 45.3 +0.7**
comp=Z,7.6nm,0.8s,baz=206,slow=5.4,SNR=44
KURBB LR LR 03 55 09.5
comp=Z,94nm,19.1s,baz=168,slow=34
comp=Z,7.6nm,0.8s
VORD Divnogorie 83.95 348 *eP* **P 03 19 44.0 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.9s
KURK Kurchatov 84.02 13 P **P 03 19 45.5 +0.4**
KURK Kurchatov 84.02 13 *ceP* **P 03 19 45.8 +0.7**
KURK pmax pmax
comp=Z,37nm,1.3s
ARCR ARCALIA 84.10 338 ⇑P **P 03 19 46.9 +1.2**
MARR Marisel-Cluj 84.15 337 ⇑P **P 03 19 46.0 -0.1**
VSR Storozhevoye 84.21 348 *eP* **P 03 19 45.1 -1.0**
VSR pmax pmax
comp=Z,20nm,1.7s
BELG Belogornoye 84.22 354 LR LR 03 59 23.3
comp=Z,133nm,18.8s,baz=144,slow=37
BELG Belogornoye 84.22 354 *i* P **P 03 19 46.2 +0.1**
BELG pmax pmax
comp=Z,10.0nm,1.8s
BURAR Bucovina Array 84.29 338 ⇑P **P 03 19 47.8 +1.0**
BURAR Bucovina Array 84.29 338 P **P 03 19 47.4 +0.6**
BURAR Bucovina Array 84.29 338 P **P 03 19 47.7 +1.0**
SIRR Siria 84.30 336 ⇑P **P 03 19 47.5 +0.8**
BUR08 Bucovina Ar. S 84.32 338 P **P 03 19 47.5 +0.6**
BUR08 IAmb IAmb 03 19 49.0
comp=Z,24nm,1.8s
PMG Port Moresby 84.33 98 LR LR 03 54 23.0
comp=Z,98nm,19.0s,baz=190,slow=34
DRGR 84.39 336 ⇑P **P 03 19 47.5 +0.2**
DRGR 84.39 336 P **P 03 19 47.4 +0.2**
VORR Voronezh 84.64 348 *eP* **P 03 19 48.2 -0.1**
VORR pmax pmax
comp=Z,16nm,1.5s
BBTS Babate 85.00 290 LR LR 03 55 45.4
comp=Z,70nm,18.8s,baz=343,slow=34
BVAR Borovoye Array 85.03 7 P **P 03 19 51.1 +0.9**
comp=Z,15nm,0.7s,baz=177,slow=5.5,SNR=91
BVAR LR LR 03 57 35.1
comp=Z,154nm,18.2s,baz=190,slow=36
comp=Z,15nm,0.7s
BRVK Borovoye 85.05 7 P **P 03 19 50.9 +0.6**
BRVK Borovoye 85.05 7 *ceP* **P 03 19 50.0 -0.3**
BRVK pmax pmax
comp=Z,36nm,1.3s
MORH Mrgy, Hungar 85.36 334 ⇑P **P 03 19 52.5 +0.5**
NJ2 Nanjing 85.54 48 *eP* **P 03 19 54.7 +1.4**
NJ2 sP **sP 03 19 59.4 +0.2**
NJ2 pmax pmax
comp=Z,20nm,0.5s
LPSR Galich'ya Gora 85.58 348 *eP* **P 03 19 52.3 -0.7**
LPSR pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 85.91 342 ⇑P **P 03 19 54.8 +0.1**
KIEV Kiev 85.91 342 P **P 03 19 54.6 0.0**
KIEV IAmb IAmb 03 19 55.0
comp=Z,5.3nm,0.7s
KIEV Kiev 85.91 342 P **P 03 19 54.6 0.0**
KIEV pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 85.91 342 P **P 03 19 54.2 -0.4**
comp=Z,2.0nm,0.6s,baz=165,slow=3.7,SNR=9.3
AKASG LR LR 03 58 22.0
comp=Z,40nm,18.9s,baz=148,slow=36
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 85.91 342 *ceP* **P 03 19 54.5 -0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 85.91 342 P **P 03 19 54.6 0.0**
AKBB IAmb IAmb 03 19 55.0
comp=Z,5.9nm,0.7s
AKBB Malin Array Si 85.91 342 *ceP* **P 03 19 54.2 -0.4**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
BTO Baotou 86.47 37 *eP* **P 03 19 59.1 +1.3**
BTO pP **sP 03 20 03.2 -0.5**
BTO sP **pwP 03 20 07.4 -0.1**
BTO PP **PP 03 23 23.8 +3.9**
BTO S **S 03 30 37.6 +4.3**
BTO pmax pmax
comp=Z,29nm,0.9s
BTO LR LR
comp=Z,660nm,5.0s
BTO LR LR
comp=Z,330nm,5.7s
BTO LR LR
comp=Z,380nm,4.8s
CRVS Cervenica-Dubn 86.64 337 *eP* **P 03 19 59.1 +0.8**
CRVS Cervenica-Dubn 86.64 337 *eP* **P 03 19 59.1 +0.8**
HNS HongShan 86.69 42 ⇓P **P 03 19 58.9 +0.1**
HNS pmax pmax
comp=Z,18nm,1.1s
KWP Kalwaria Pacla 86.86 338 *eP* **P 03 20 00.4 +1.0**
VYHS Vyhne 87.20 335 *eP* **P 03 20 01.4 +0.3**
VYHS Vyhne 87.20 335 *eP* **P 03 20 01.4 +0.3**
MDT Midelt 87.29 311 LR LR 03 59 56.6
comp=Z,347nm,19.0s,baz=146,slow=36
ARSA Arzberg 87.42 333 *eP* **P 03 20 02.8 +0.6**
comp=Z,6.8nm,1.3s
HHC Hu-ho-hao-te 87.45 38 *eP* **P 03 20 03.0 +0.4**
HHC sP pwP 03 20 12.5 +0.2
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,160nm,5.6s
NIE Niedzica 87.47 336 *eP* **P 03 20 03.6 +1.2**
RONA Rosalia, Austr 87.48 333 *eP* **P 03 20 03.4 +0.9**
comp=Z,16nm,1.5s
TEOL Teolo 87.50 329 P **P 03 20 03.3 +0.7**
LANS Liptovska Anna 87.53 336 *eP* **P 03 20 03.8 +1.1**
LANS Liptovska Anna 87.53 336 *eP* **P 03 20 03.8 +1.1**
MODS Modra-Piesok 87.67 334 *eP* **P 03 20 03.8 +0.4**
MODS Modra-Piesok 87.67 334 *eP* **P 03 20 03.8 +0.4**
ARU Arti 87.76 0 P **P 03 20 03.9 +0.4**
ARU Arti 87.76 0 LR LR 03 59 20.8
comp=Z,46nm,18.3s,baz=174,slow=36
ARU Arti 87.76 0 *diP* **P 03 20 04.3 +0.8**
ARU S **SKSac 03 30 31.4 +1.0**
ARU pmax pmax
comp=Z,47nm,2.0s
CONA Conrad Observa 87.84 333 *eP* **P 03 20 05.1 +0.8**
comp=Z,24nm,1.6s
JAVC Velka Javorina 87.93 335 *eP* **P 03 20 05.5 +0.9**
KBA Koelnbreinsper 88.15 331 *eP* **P 03 20 06.3 +0.4**
comp=Z,9.7nm,1.2s
ABTA Abfaltersbach 88.23 331 *eP* **P 03 20 07.3 +1.1**
comp=Z,15nm,1.0s,SNR=5.9
OJC Ojcow 88.33 337 *eP* **P 03 20 05.6 -0.8**
OJC Ojcow 88.33 337 P **P 03 20 06.3 -0.1**
OJC IAmb IAmb 03 20 07.7
comp=Z,36nm,1.8s
OJC Ojcow 88.33 337 P **P 03 20 06.3 -0.1**
OJC pmax pmax
comp=Z,36nm,1.8s
ZAA0 Zalesovo Array 88.36 15 P **P 03 20 05.2 -1.2**
ZALV Zalesovo Beam 88.36 15 P **P 03 20 05.2 -1.3**
ZALV Zalesovo Beam 88.36 15 P **P 03 20 05.3 -1.1**
comp=Z,2.8nm,0.8s,baz=224,slow=4.1,SNR=11
ZALV LR LR 03 56 45.5
comp=Z,139nm,20.5s,baz=226,slow=34
comp=Z,2.8nm,0.8s
ZALV Zalesovo Beam 88.36 15 *eP* **P 03 20 05.5 -0.9**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
MOA Molln 88.40 332 *eP* **P 03 20 07.6 +0.8**
comp=Z,9.4nm,1.1s
OBN Obninsk 88.40 348 LR LR 04 00 13.8
comp=Z,137nm,18.9s,baz=175,slow=36
OBN Obninsk 88.40 348 *deP* **P 03 20 07.1 +0.5**
OBN *e* 03 23 35.7
OBN *i* S **S 03 30 47.9 -3.0**
OBN *e*SS **SS 03 36 39.9 -2.0**
OBN pmax pmax
comp=Z,21nm,1.5s
OBN MLR MLR
comp=Z,141nm,19.0s
BIOA Bad Ischl, Aus 88.53 332 *eP* **P 03 20 08.1 +0.7**
comp=Z,3.9nm,0.5s
KRUC Moravsky 88.57 334 *eP* **P 03 20 07.6 0.0**
VRAC Vranov 88.70 334 *eP* **P 03 20 08.0 -0.2**
VRAC Vranov 88.70 334 P **P 03 20 08.0 -0.2**
comp=Z,0.9nm,0.4s,baz=163,slow=11,SNR=4.2
VRAC LR LR 04 00 49.8
comp=Z,30nm,18.9s,baz=163,slow=36
comp=Z,0.9nm,0.4s
LESA Schwarzleotal 88.70 331 *eP* **P 03 20 08.7 +0.3**
comp=Z,9.5nm,0.7s
MORC Moravsky Berou 88.74 335 ⇑P **P 03 20 09.0 +0.5**
MORC Moravsky Berou 88.74 335 P **P 03 20 08.8 +0.4**
MORC IAmb IAmb 03 20 09.9
comp=Z,24nm,1.7s
MORC Moravsky Berou 88.74 335 *eP* **P 03 20 08.4 0.0**
MORC Moravsky Berou 88.74 335 P **P 03 20 08.8 +0.4**
MORC pmax pmax
comp=Z,24nm,1.7s
MOS Moscow 88.81 349 *eP* **P 03 20 08.2 -0.3**
WTTA Wattenberg 89.01 330 *eP* **P 03 20 10.6 +0.6**
comp=Z,20nm,1.1s,SNR=8.2
FUORN Ofenpass-Fuorn 89.10 329 P **P 03 20 10.7 +0.2**
SQTA Sankt Quirin 89.16 330 *eP* **P 03 20 11.3 +0.7**
comp=Z,14nm,0.8s,SNR=6.4
FETA Feichten 89.21 330 *eP* **P 03 20 11.7 +0.9**
comp=Z,14nm,1.0s,SNR=11
TUE Stuetta 89.39 329 P **P 03 20 11.4 -0.3**
TUE IAmb IAmb 03 20 12.8
comp=Z,7.5nm,0.9s
DAVOX Davos/Dischmat 89.39 329 LR LR 04 02 17.5
comp=Z,58nm,20.2s,baz=98,slow=37
GERES GERESS Array B 89.43 332 P **P 03 20 11.4 -0.3**
comp=Z,1.1nm,0.7s,baz=132,slow=3.8,SNR=4.5
GERES LR LR 04 01 39.9
comp=Z,45nm,19.7s,baz=127,slow=36
comp=Z,1.1nm,0.7s
GERES GERESS Array B 89.43 332 *eP* **P 03 20 11.8 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.8s
RETA Reutte 89.56 330 *eP* **P 03 20 13.1 +0.8**
comp=Z,4.9nm,0.6s
KHC Kasperske Hory 89.70 333 P **P 03 20 12.2 -0.8**
KHC IAmb IAmb 03 20 14.1
comp=Z,24nm,1.8s
KHC Kasperske Hory 89.70 333 *eP* **P 03 20 13.0 0.0**
KHC Kasperske Hory 89.70 333 *ceP* **P 03 20 13.6 +0.6**
KHC pmax pmax
comp=Z,25nm,1.7s
MNK Minsk 89.70 343 *i* P **P 03 20 10.1 -2.6**
MNK *i* 03 23 41.8
MNK *i* S **SKSac 03 30 40.1 -1.9**
MNK *i* SS **SS 03 36 59.5 -1.4**
MNK *i* SSS SSS 03 40 35.2
MNK pmax pmax
comp=Z,11nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK MLR MLR
comp=E,66nm,20.0s
MNK MLR MLR
comp=N,183nm,21.0s
MNK MLR MLR
comp=Z,129nm,17.0s
DAVA Damuels 89.78 329 *i* P **P 03 20 14.1 +0.6**
comp=Z,6.7nm,0.7s
KSP Ksiaz 90.07 335 *eP* **P 03 20 15.5 +0.9**
URZ Urewera 90.18 136 LR LR 03 53 09.9
comp=Z,330nm,20.9s,baz=338,slow=31
KIRV Kirov 90.22 355 LR LR 04 02 47.1
comp=Z,138nm,18.2s,baz=177,slow=37
SONM Songino Array 90.23 30 P **P 03 20 14.4 -1.2**
SONM Songino Array 90.23 30 P **P 03 20 15.1 -0.5**
comp=Z,1.8nm,0.8s,baz=209,slow=4.4,SNR=10
SONM LR LR 03 57 55.3
comp=Z,306nm,20.5s,baz=230,slow=34
comp=Z,1.8nm,0.8s
SONM Songino Array 90.23 30 *eP* **P 03 20 15.3 -0.3**
SONM pmax pmax
comp=Z,2.0nm,0.8s
RCBR Riachuelo 90.37 263 LR LR 03 53 32.9
comp=Z,102nm,21.3s,baz=335,slow=31
ULN Ulaanbaatar 90.54 31 P **P 03 20 16.1 -0.9**
ULN Ulaanbaatar 90.54 31 *ceP* **P 03 20 16.6 -0.4**
ULN pmax pmax
comp=Z,8.0nm,1.3s
BRG Berggiesshubel 90.97 334 *eP* **P 03 20 19.8 +1.0**
BRG Amp 03 20 21.0
comp=Z,6.8nm,1.1s
BRG Berggiesshubel 90.97 334 *eP* **P 03 20 19.7 +1.0**
BRG pmax pmax
comp=Z,7.0nm,1.1s
ESDC Sonseca Array 91.38 317 P **P 03 20 22.4 +1.3**
ESDC IAmb IAmb 03 20 24.0
comp=Z,6.6nm,1.2s
ESDC Sonseca Array 91.38 317 P **P 03 20 22.3 +1.3**
comp=Z,2.7nm,1.0s,baz=129,slow=3.2,SNR=15
ESDC LR LR 04 01 58.7
comp=Z,137nm,20.5s,baz=136,slow=36
comp=Z,2.7nm,1.0s
PAB San Pablo 91.52 317 P **P 03 20 23.0 +1.3**
CLL Collm 91.67 334 *i* P **P 03 20 22.4 +0.4**
CLL *e* 03 30 55.0
CLL *e*S **S 03 31 20.0 -1.3**
CLL pmax pmax
comp=Z,16nm,1.8s
XLT XiLinHaoTe 91.97 38 *eP* **P 03 20 23.6 -0.1**
XLT sP sP 03 20 29.8 +0.2
DZM Mont Dzumac 93.07 118 *e*LR LR 03 50 16.8
comp=Z,173nm,21.7s
JNU Nakatsue 94.15 53 LR LR 04 00 31.8
comp=Z,69nm,19.4s,baz=251,slow=34
KSRS Korea Array 94.73 49 LR LR 04 01 54.1
comp=Z,80nm,19.7s,baz=235,slow=35
BDFB Brasilia 95.05 248 LR LR 03 55 01.4
comp=Z,164nm,21.9s,baz=142,slow=30
CPUP Villa Florida 95.62 235 LR LR 03 56 57.0
comp=Z,115nm,19.8s,baz=168,slow=31
CN2 Changchun 97.05 42 *eP* **P 03 20 48.3 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
HFS Hagfors 98.49 339 LR LR 04 04 18.6
comp=Z,57nm,19.7s,baz=131,slow=35
JCJ Chichijima 99.11 64 LR LR 04 04 11.8
comp=Z,27nm,19.7s,baz=110,slow=34
NOA NORSAR Array B 99.96 339 LR LR 04 04 44.2
comp=Z,71nm,21.9s,baz=155,slow=34
TBI Tubuai 119.25 151 *e*LR LR 04 02 30.5
comp=Z,815nm,31.2s
PPT2 Papeete2 124.27 148 *e*LR LR 04 04 42.2
comp=Z,103nm,38.5s
PPT2 *e*LR LR 04 04 46.8
comp=Z,158nm,25.5s
D20K Etivluk River 137.94 18 P **PKPdf 03 26 38.5 -0.4**
baz=313
F17K Baldwin Pennin 138.03 22 P **PKPdf 03 26 39.0 0.0**
baz=306
C21K Knifeblade Rid 138.09 17 P **PKPdf 03 26 39.3 +0.2**
baz=316
F18K Selawik 138.45 22 P **PKPdf 03 26 40.4 +0.7**
baz=308
C23K Itkillik River 138.54 15 P **PKPdf 03 26 39.8 -0.1**
baz=322
E19K Redstone River 138.62 20 P **PKPdf 03 26 40.1 0.0**
baz=312
D22K Ayikyak River 138.81 16 P **PKPdf 03 26 40.5 0.0**
baz=318
E21K Killik River 138.82 17 P **PKPdf 03 26 40.3 -0.2**
baz=316
C24K Franklin Bluff 139.04 14 P **PKPdf 03 26 40.5 -0.3**
baz=324
J14K Nanvaranak Lak 139.22 28 P **PKPdf 03 26 41.9 +0.6**
baz=300
D24K Happy Valley 139.47 14 P **PKPdf 03 26 41.4 -0.3**
baz=323
E22K Anaktuvuk Pass 139.59 17 P **PKPdf 03 26 41.7 -0.3**
baz=319
C26K Camden Bay 139.60 12 P **PKPdf 03 26 41.9 +0.1**
baz=329
TOLK Toolik Lake Re 139.72 15 P **PKPdf 03 26 42.0 -0.1**
baz=322
H18K Honhosa River 139.76 23 P **PKPdf 03 26 42.6 +0.3**
baz=308
C27K Jago River 140.06 12 P **PKPdf 03 26 43.0 +0.3**
baz=330
GCSA Galena City Sc 140.51 23 P **PKPdf 03 26 43.1 -0.5**
baz=310
COLD Coldfoot 140.68 17 P **PKPdf 03 26 43.1 -0.8**
baz=320
D27M Malcolm River 140.85 11 P **PKPdf 03 26 44.1 -0.2**

	baz=334							
M14K	Bethel	140.87	30	P		PKPdf	03 26 43.2	-1.2
	baz=300							
F24K	Squaw Lake	141.00	16	P		PKPdf	03 26 43.3	-1.2
	baz=324							
E25K	Arctic Village	141.00	14	P		PKPdf	03 26 43.0	-1.5
	baz=327							
M15K	Kasigluk River	141.44	30	P		PKPdf	03 26 43.7	-1.7
	baz=301							
H23K	Yukon River	141.93	18	P		PKPdf	03 26 44.4	-1.8
	baz=320							
N15K	Kwethluk River	141.96	30	P		PKPdf	03 26 44.0	-2.4
	baz=301							
MLY	Manley	142.20	20	P		PKPdf	03 26 44.2	-2.6
	baz=318							
K20K	Telida	142.36	23	P		PKPdf	03 26 45.4	-1.6
	baz=312							
H25L	Birch Creek	142.50	16	P		PKPdf	03 26 43.8	-3.4
	baz=325							
F28M	Old Crow	142.50	11	P		PKPdf	03 26 43.6	-3.6
	baz=334							
INK	Inuvik	142.72	7	P		PKPdf	03 26 44.0	-3.5
	baz=343							
BPAW	Bear Paw Mtn.	142.82	21	P		PKPdf	03 26 44.3	-3.5
	baz=317							
L19K	White Mountain	142.86	25	P		PKPdf	03 26 44.7	-3.2
	baz=310							
G27K	Doyon Strip	142.91	13	P		PKPdf	03 26 44.9	-3.0
	baz=331							
CAST	Castle Rocks	142.97	22	P		PKPdf	03 26 44.8	-3.3
	baz=314							
L20K	Farewell, AK	143.01	24	P		PKPdf	03 26 45.2	-3.0
	baz=311							
F30M	Barrier River	143.11	9	P		PKPbc	03 26 45.1	-0.1
	baz=340							
PRP	Porcupine Dome	143.19	16	P		PKPbc	03 26 45.6	+0.1
	baz=325							
M19K	Big River Lodg	143.21	25	P		PKPdf	03 26 47.0	-1.6
	baz=310							
PPLA	Purkeypile	143.30	23	P		PKPbc	03 26 46.2	+0.2
	baz=314							
N18K	Kilae Creek	143.40	27	P		PKPbc	03 26 45.4	-0.7
	baz=307							
H27K	Steamboat Moun	143.44	13	P		PKPbc	03 26 46.3	+0.2
	baz=331							
G29M	Pine Creek	143.44	11	P		PKPbc	03 26 46.5	+0.4
	baz=336							
ILAR	Eielson Array	143.45	18	PKhKP		PKPpre	03 26 44.8	
	comp=Z,1.1nm,0.8s,baz=281,slow=2.8,SNR=7.4							
G30M	tAoh Zraii Nji	143.65	9	P		PKPbc	03 26 47.3	+0.6
	baz=339							
M20K	Styx River	143.67	24	P		PKPbc	03 26 46.5	-0.5
	baz=312							
SSPA	Standing Stone	143.68	297	P		PKPab	03 26 46.8	0.0
	baz=90							
N19K	Bonanza Creek	143.87	27	PKPdf		PKPbc	03 26 48.0	+0.4
N19K	Bonanza Creek	143.87	27	P		PKPab	03 26 46.8	-0.2
	baz=309							
I26K	Coal Creek Min	143.91	15			PKPbc	03 26 47.5	0.0
I26K	Coal Creek Min	143.91	15	P		PKPbc	03 26 47.5	0.0
	baz=328							
G31M	Satah River	143.96	8			PKPpre	03 26 46.9	
G31M	Satah River	143.96	8	P		PKPbc	03 26 47.3	-0.2
	baz=342,SNR=5.9							
J25K	Salcha River,	143.97	17			PKPab	03 26 46.7	-0.5
J25K	Salcha River,	143.97	17	P		PKPab	03 26 47.0	-0.2
	baz=325,SNR=5.6							
I27K	Kandik River	143.97	14	P		PKPbc	03 26 47.9	+0.2
	baz=331,SNR=5.4							
H29M	Whitestone	144.02	11			PKPpre	03 26 47.0	
H29M	Whitestone	144.02	11	P		PKPab	03 26 47.1	-0.2
	baz=336,SNR=7.4							
P17K	Kvichak River	144.05	30	P		PKPbc	03 26 47.8	-0.2
	baz=304							
EPYK	Eagle Plains	144.15	10	P		PKPab	03 26 47.7	-0.1
	baz=338,SNR=9.3							
SKT	Skwentna	144.16	24	PKPdf		PKPab	03 26 47.7	-0.3
SKT	Skwentna	144.16	24	P		PKPab	03 26 47.5	-0.4
	baz=314,SNR=5.2							
O18K	Koktuh Hills	144.17	28	PKPdf		PKPbc	03 26 48.7	+0.3
O18K	Koktuh Hills	144.17	28	P		PKPbc	03 26 48.8	+0.3
	baz=307,SNR=5.8							
O19K	Port Alsworth	144.32	27	P		PKPbc	03 26 48.9	0.0
	baz=308							
M55A	Ridgway	144.33	298	PKPdf		PKPbc	03 26 50.0	+0.4
P18K	Big Mountain,	144.44	29	P		PKPab	03 26 48.7	-0.4
	baz=306							
I28M	Miner Creek	144.44	13	PKPdf		PKPab	03 26 49.0	0.0
I28M	Miner Creek	144.44	13	P		PKPab	03 26 48.6	-0.4
	baz=333,SNR=5.7							
N20K	Mount Spurr	144.46	25	P		PKPab	03 26 47.9	-1.2
	baz=312							
J26L	Joseph Creek	144.50	16	PKPdf		PKPbc	03 26 50.0	+0.5
J26L	Joseph Creek	144.50	16	P		PKPbc	03 26 49.5	0.0
	baz=327,SNR=9.6							
WAT1	Susitna Watana	144.50	21	P		PKPab	03 26 47.9	-1.3
	baz=319							
SPU	Mount Spurr	144.52	25			PKPab	03 26 49.1	-0.2
T57A	Hurt	144.61	291	PKPdf		PKPab	03 26 50.6	+0.2
DHY	Denali Highway	144.66	20	PKPdf		PKPbc	03 26 50.5	+0.4
DHY	Denali Highway	144.66	20	P		PKPbc	03 26 50.0	-0.1
	baz=321,SNR=6.8							
CHNA	Chernabura Isl	144.75	38	P		PKPab	03 26 49.4	-0.8
	baz=295							
SUA	Susitna One	144.79	24			PKPbc	03 26 50.7	+0.2
SUA	Susitna One	144.79	24	P		PKPab	03 26 50.1	-0.3
	baz=314							
M22K	Willow	144.79	23	P		PKPab	03 26 49.7	-0.5
	baz=316,SNR=5.2							
EGAK	Eagle	144.79	14			PKPdf	03 26 50.7	-0.5
EGAK	Eagle	144.79	14	P		PKPbc	03 26 50.3	0.0
	baz=331,SNR=8.3							
Q17K	Contact Creek	144.81	31	P		PKPab	03 26 49.6	-1.0
	baz=304							
I29M	Ogilvie Camp,	144.82	12	P		PKPab	03 26 50.1	-0.2
	baz=335,SNR=24							
SCRK	Sand Creek	144.84	17	PKPdf		PKPdf	03 26 51.5	0.0
SCRK	Sand Creek	144.84	17	P		PKPdf	03 26 51.0	-0.5
	baz=326,SNR=18							
DWPF	Disney Wildern	144.88	275	P		PKPbc	03 26 51.4	-0.3
	baz=106							
NHSC	New Hope	144.91	284	P		PKPbc	03 26 51.9	+0.3
	baz=99							
WAT6	Susitna Watana	144.93	21	P		PKPab	03 26 50.6	-0.3
	baz=320,SNR=6.5							
O20K	Slope Mountain	145.04	27	P		PKPbc	03 26 50.9	-0.4
	baz=310							
P19K	Oil Pt	145.09	27	P		PKPab	03 26 51.5	0.0
	baz=309							
CAPN	Captain Cook N	145.13	25	P		PKPdf	03 26 51.6	-0.2
	baz=313							
GHO	Glory Hole Cre	145.17	22			PKPbc	03 26 51.1	-0.6
PMR	Palmer	145.24	23			PKPbc	03 26 51.5	-0.2
PMR	Palmer	145.24	23	P		PKPdf	03 26 52.1	+0.1
	baz=317,SNR=6.7							
PMR	Palmer	145.24	23	PKIKP		PKPbc	03 26 51.5	-0.2
K27K	Chicken	145.24	15			PKPdf	03 26 52.2	+0.2
K27K	Chicken	145.24	15	P		PKPdf	03 26 52.2	+0.2
	baz=329							
I30M	Mount Dempster	145.27	11			PKPbc	03 26 51.8	-0.1
I30M	Mount Dempster	145.27	11	P		PKPbc	03 26 51.9	-0.1
	baz=338,SNR=44							
PAX	Paxson	145.28	19	P		PKPab	03 26 52.0	-0.1
	baz=323,SNR=21							
SML	Sawmill	145.33	22			PKPbc	03 26 52.0	-0.2
SML	Sawmill	145.33	22	P		PKPbc	03 26 52.1	-0.1
	baz=318,SNR=11							
R55A	Marlinton	145.37	293			PKPab	03 26 53.7	+0.5
Q19K	Cape Douglas,	145.37	29	P		PKPbc	03 26 51.7	-0.6
	baz=308							
RC01	Rabbit Creek A	145.40	24	P		PKPbc	03 26 51.2	-1.1
	baz=315							
U56A	King	145.47	289			PKPab	03 26 54.0	+0.5
M23K	Glacier View	145.53	21	P		PKPdf	03 26 52.5	-0.1
	baz=319							
BLA	Blacksburg	145.56	291	P		PKPdf	03 26 52.6	-0.9
	baz=93							
O54A	Avella	145.58	296			PKPab	03 26 54.6	+0.7
KNK	Knik Glacier	145.59	22	P		PKPbc	03 26 52.7	-0.2
	baz=318							
SCM	Sheep Creek Mo	145.63	21			PKPab	03 26 53.4	-0.1
SCM	Sheep Creek Mo	145.63	21	P		PKPab	03 26 53.7	+0.2
	baz=320							
SCM	Sheep Creek Mo	145.63	21	PKIKP		PKPab	03 26 53.4	-0.1
J29N	Klondike Camp	145.66	12			PKPab	03 26 53.8	+0.3
J29N	Klondike Camp	145.66	12	P		PKPab	03 26 53.6	+0.1
	baz=335							
M24K	Tolsona, Glenn	145.76	20	P		PKPab	03 26 53.7	-0.2
	baz=321							
M53A	WI Miller and	145.76	298	P		PKPdf	03 26 53.7	+0.1
	baz=87							
MENT	Mentasta	145.77	18			PKPab	03 26 54.6	+0.7
DAWY	Dawson	145.79	14			PKPab	03 26 54.0	0.0
DAWY	Dawson	145.79	14	P		PKPab	03 26 53.9	0.0
	baz=333,SNR=20							
L26K	Log Cabin Wild	145.79	17			PKPab	03 26 54.3	+0.3
L26K	Log Cabin Wild	145.79	17	P		PKPab	03 26 53.9	0.0
	baz=326							
HARP	HAARP	145.82	19	P		PKPab	03 26 54.0	-0.1
	baz=323							
R18K	Karluk	145.84	31	P		PKPab	03 26 53.8	-0.4
	baz=305							
J30M	Hart River	145.88	11	PKPdf		PKPbc	03 26 53.6	-0.2
J30M	Hart River	145.88	11	P		PKPbc	03 26 53.7	-0.2
	baz=338,SNR=18							
Q54A	Coxs Mills	145.94	294			PKPbc	03 26 54.6	-0.1
JSC	Jenkinsville	145.97	286			PKPbc	03 26 55.1	+0.1
JSC	Jenkinsville	145.97	286	PKP2		PKPbc	03 26 55.1	+0.1
BRSE	Bradley Lake S	145.98	26	P		PKPbc	03 26 54.3	0.0
	baz=313							
V55A	Taylorsville	146.10	288			PKPdf	03 26 55.0	+0.7
L27K	Beaver Creek,	146.13	16	PKPdf		PKPab	03 26 55.0	-0.3
L27K	Beaver Creek,	146.13	16	P		PKPbc	03 26 54.5	-0.1
	baz=328,SNR=10							
BCAR	Beaver Creek A	146.14	16	PKPdf		PKPbc	03 26 54.5	-0.1
O53A	New Philadelph	146.22	296	P		PKPbc	03 26 55.5	0.0
	baz=88							
CHIR	Chirikof Islan	146.26	34	P		PKPbc	03 26 54.7	-0.4
	baz=302							
KLU	Klutina	146.32	21			PKPab	03 26 55.7	-0.3
KLU	Klutina	146.32	21	P		PKPbc	03 26 54.7	-0.5
	baz=321							
K29M	Barlow Dome	146.35	12			PKPbc	03 26 55.4	+0.1
K29M	Barlow Dome	146.35	12	P		PKPab	03 26 55.7	-0.4
	baz=335,SNR=10							
M26K	Nabesna, AK	146.40	18	P		PKPbc	03 26 55.1	-0.4
	baz=326							
GLI	Glacier Island	146.43	22	P		PKPbc	03 26 54.9	-0.6
	baz=319							
KDAK	Kodiak Island	146.52	30	P		PKPbc	03 26 56.0	+0.2
	baz=308							
SII	Sitkinak Islan	146.54	32	P		PKPab	03 26 56.3	-0.7
	baz=304							
OHAK	Old Harbor	146.56	31	P		PKPbc	03 26 55.6	-0.4
	baz=306							
N25K	Chitina, Valde	146.62	20			PKPbc	03 26 55.6	-0.5
N25K	Chitina, Valde	146.62	20	P		PKPbc	03 26 56.2	+0.1
	baz=323,SNR=8.4							
U54A	Nelsons Funny	146.64	289			PKPdf	03 26 56.0	+0.6
O52A	Adamsville	146.70	296			PKPdf	03 26 55.6	+0.3
M27K	Edge Creek, AK	146.72	17	P		PKPbc	03 26 56.8	+0.3
	baz=328							
L29M	L29M	146.90	13	PKPdf		PKPbc	03 26 56.2	-0.6
L29M	L29M	146.90	13	P		PKPbc	03 26 57.2	+0.3
	baz=334,SNR=5.3							
P52A	Corning	146.94	295			PKPbc	03 26 57.0	-0.6
P52A	Corning	146.94	295	P		PKPbc	03 26 57.3	-0.4
	baz=88							
GLB	Gilahina Butte	146.97	19			PKPbc	03 26 56.8	-0.4
FCC	Fort Churchill	147.04	333			PKPdf	03 26 55.9	+0.7
FCC	Fort Churchill	147.04	333	PKP2		PKPdf	03 26 55.9	+0.7
BMRM	Bremner River	147.13	20	P		PKPbc	03 26 57.4	-0.1
	baz=323							
MCARA	McCarthy VSAT	147.24	19	P		PKPbc	03 26 57.8	0.0
	baz=325							
M29M	Somme Creek	147.43	14			PKPbc	03 26 57.5	-0.9
M29M	Somme Creek	147.43	14	P		PKPbc	03 26 58.8	+0.4
	baz=333							
ACSO	Alum Creek Sta	147.57	296	P		PKPbc	03 26 59.7	+0.3
	baz=87							
M30M	Minto, Yukon	147.64	13	P		PKPbc	03 26 59.6	+0.7
	baz=336							
P51A	Williamsport	147.66	295			PKPdf	03 26 58.3	+1.5
TZTN	Tazewell	148.03	289	P		PKPbc	03 27 00.7	-0.1
	baz=93							
M31M	Drury Creek, Y	148.41	11			PKPdf	03 26 59.0	+1.6
M31M	Drury Creek, Y	148.41	11	P		PKPbc	03 27 00.4	-0.5
	baz=339							
WRGLY	Wrigley	148.42	1			PKPbc	03 26 59.2	-1.7
N49A	Columbus Grove	148.44	298			PKPdf	03 26 59.8	+1.7
MMPY	Sheldon Lake,	148.47	8	P		PKPbc	03 27 00.9	-0.2
	baz=344							
O28M	Mount Upton	148.50	17	P		PKPbc	03 27 01.4	-0.2
	baz=329							
MESA	MESA	148.53	19	P		PKPbc	03 27 01.9	+0.3
	baz=326							
N30M	Aishikik Lake	148.60	14	P		PKiKP	03 27 02.3	-0.7
	baz=334							
O49A	Covington	148.61	296	PKPdf		PKPdf	03 26 59.3	+0.8
YUK6	Outpost Mounta	148.79	15	P		PKPbc	03 27 02.3	+0.1
	baz=332							
YKA	Yellowknife Ar	148.82	353			PKPbc	03 27 01.5	-0.4
YKA	Yellowknife Ar	148.82	353	PKPbc		PKPbc	03 27 01.1	-0.8
	comp=Z,6.7nm,0.8s,baz=2.8,slow=2.7,SNR=33							
YKA	Yellowknife Ar	148.82	353	*c iPKP2*		PKPbc	03 27 01.7	-0.2
YKA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
N31M	Braeburn, Yuko	148.84	13	P		PKiKP	03 27 02.8	-0.7
	baz=337							
HYT	Haines Junctio	149.09	15	PKPdf		PKPdf	03 27 00.3	+1.6
HYT	Haines Junctio	149.09	15	P		PKPbc	03 27 03.2	+0.4
	baz=333							
E43A	Lone Tree Farm	149.45	309	PKPdf		PKPdf	03 26 59.9	+0.3
FPAL	Fort Paine	149.57	285			PKPbc	03 27 05.2	+0.4
250A	Grady	149.81	280			PKPbc	03 27 05.3	-0.1
U49A	Red Boiling Sp	149.82	289			PKPbc	03 27 04.7	-0.6
SWET	Sewanee	149.89	287			PKPbc	03 27 05.0	-0.6
CLTN	Cedars of Leba	150.25	288			PKPbc	03 27 06.7	+0.4
D41A	Chassel	150.27	311			PKPbc	03 27 05.9	-0.1
PLBC	Pleasant Camp	150.57	15	P		PKPbc	03 27 05.5	-0.8
	baz=334							
T47A	Sharon Grove	150.89	290			PKPbc	03 27 07.6	-0.2
COWI	Conover	150.96	309			PKiKP	03 27 08.6	+0.3
L44A	Lake County Fo	151.06	301	P		PKPbc	03 27 07.8	-0.2
	baz=80							
WVT	Waverly	151.47	288			PKPbc	03 27 07.8	-1.3
WVT	Waverly	151.47	288	P		PKPbc	03 27 08.5	-0.7
	baz=91							
WVT	Waverly	151.47	288	PKIKP		PKPbc	03 27 07.9	-1.3
R33M	Jennings River	151.62	10	P		PKiKP	03 27 09.2	-0.2
	baz=343							
PLAL	Pickwick Lake	151.63	286			PKPbc	03 27 09.2	-0.4
EYMN	Ely	151.79	314			PKPbc	03 27 09.9	+0.3
EYMN	Ely	151.79	314	P		PKPbc	03 27 09.2	-0.4
	baz=66							
Q32M	Nakina River	151.83	11	P		PKPbc	03 27 09.2	-0.4
	baz=341							
G40A	Rib Lake	151.92	308			PKPbc	03 27 10.1	+0.2
G40A						PKPab	03 27 19.7	+0.5
S31K	Pelican	151.94	16	P		PKPbc	03 27 09.0	-0.5
	baz=333							
R32K	Eaglecrest	152.04	14	P		PKPbc	03 27 09.5	-0.3
	baz=336							
HDIL	Hopedale	152.34	298	P		PKPab	03 27 21.3	+0.2
	baz=82							
JFWS	Jewell Farm	152.59	303	P		PKPab	03 27 22.7	+0.6
	baz=76							
DLBC	Dease Lake	152.68	9			PKPab	03 27 22.7	+0.7
DLBC	Dease Lake	152.68	9	P		PKPab	03 27 22.4	+0.5
	baz=345							
OXF	Oxford	152.70	285	P		PKPab	03 27 23.2	+0.4
	baz=93							
Y45A	Yeager Farm, C	152.77	283			PKPab	03 27 22.4	-0.7
FFC	Flin Flon	152.96	334	PKPab		PKPab	03 27 23.5	+0.3
ULM	Lac du Bonnet	153.20	321			PKPbc	03 27 12.4	-0.2
ULM	Lac du Bonnet	153.20	321	PKPbc		PKPbc	03 27 11.6	-1.0
	comp=Z,4.1nm,0.8s,baz=63,slow=2.0,SNR=8.1							
SPMN	Marine on St.	153.67	309	P		PKPab	03 27 25.9	-0.6
	baz=69							
T35M	Bob Quinn	154.05	10	P		PKPab	03 27 27.3	-0.5
	baz=343							
CCM	Cathedral Cave	154.13	293			PKPab	03 27 29.0	+0.2
CCM	Cathedral Cave	154.13	293	P		PKPab	03 27 28.2	-0.6
	baz=85							
CCM	Cathedral Cave	154.13	293	PKP2		PKPab	03 27 29.0	+0.2
LCAR	Lake Charles	154.16	288			PKPab	03 27 28.9	-0.1
AGMN	Agassiz Nation	154.23	318			PKPab	03 27 29.8	+0.9
AGMN	Agassiz Nation	154.23	318	P		PKPab	03 27 29.4	+0.6
	baz=59							
R40A	Maddies Statio	154.91	293	PKPab		PKPab	03 27 32.4	+0.3
MGMO	Mountain Grove	155.01	291			PKPab	03 27 32.9	+0.3
V35K	Ketchikan	155.38	13	P		PKPab	03 27 34.6	+1.2
	baz=340							
ECSD	EROS Data Cent	156.76	308	P		PKPab	03 27 40.7	+0.9
	baz=67							
BRLDA	Berland Lookou	157.37	353			PKPab	03 27 42.8	+0.6
833A	Chaparral WMA,	160.23	266	P		PKPab	03 27 54.4	-1.0
	baz=105							
WMOK	Wichita Mounta	160.43	285	P		PKPab	03 27 56.7	+0.6
	baz=87							
RSSD	Black Hills	161.26	317	P		PKPab	03 27 58.6	-1.0
	baz=54							
NEW	Newport	163.04	349	PKPab		PKPab	03 28 07.2	+0.3
NEW	Newport	163.04	349	P		PKPab	03 28 07.4	+0.5
	baz=14							
NEW	Newport	163.04	349	PKP2		PKPab	03 28 07.2	+0.3
RLMT	Red Lodge	163.35	327	P		PKPab	03 28 09.9	+1.2
	baz=40							
K22A	Casper	163.59	316	P		PKPab	03 28 09.6	-0.2
	baz=53							
MSO	Missoula	163.68	340	P		PKPab	03 28 10.0	+0.1
	baz=24							
MSTX	Muleshoe	163.76	283	P		PKPab	03 28 11.2	+0.3
	baz=87							
BPMT	Black Pine Rid	163.88	339			PKPab	03 28 10.7	-0.3
BOZ	Bozeman (W)	163.98	333	P		PKPab	03 28 11.6	+0.3
	baz=33							
ISCO	Idaho Springs	164.51	306	P		PKPab	03 28 13.8	-0.4
	baz=63							
BW06	Boulder Array	165.22	322	P		PKPab	03 28 16.4	-0.6
	baz=45							
PDAR	Pinedale Array	165.22	322			PKPdf	03 27 18.3	-1.4
PDAR	Pinedale Array	165.22	322	PKP		PKPdf	03 27 16.8	-2.9
	comp=Z,0.6nm,0.8s,baz=170,slow=2.6,SNR=7.6							
PDAR				PKPab		PKPab	03 28 17.0	0.0
	comp=Z,0.5nm,0.8s,baz=83,slow=4.9,SNR=4.1							
SDCO	Great Sand Dun	165.23	299	P		PKPab	03 28 18.3	+0.9
	baz=70							
S22A	4UR Ranch, Cre	166.22	300	P		PKPab	03 28 22.5	+0.8
	baz=68							
ANMO	Albuquerque	166.68	288	P		PKPab	03 28 23.1	-0.7
	baz=80							
HWUT	Hardware Ranch	167.09	323			PKPab	03 28 25.0	-0.2
MFID	Camas Ranch	167.34	339	PKPab		PKPab	03 28 26.4	+0.2
MVCO	Mesa Verde	167.65	300	P		PKPab	03 28 30.6	+2.6
	baz=67							
P18A	Preston Nutter	167.65	313			PKPab	03 28 27.6	-0.4
DUG	Dugway, Tooele	168.76	322	P		PKPab	03 28 33.0	+0.3
	baz=43							
R11B	Troy Canyon, C	171.57	324	PKPab		PKPab	03 28 45.0	-0.2
R11B	Troy Canyon, C	171.57	324	P		PKPab	03 28 45.8	+0.6
	baz=39							
214A	Organ Pipe Nat	172.26	274	P		PKPab	03 28 49.4	+1.0
	baz=90							
NVAR	Mina Array Bea	172.65	337	PKPab		PKPab	03 28 50.7	+0.8
	comp=Z,0.3nm,0.5s,baz=60,slow=7.0,SNR=3.9							
TPNV	Topopah Spring	172.97	320	P		PKPab	03 28 52.5	+1.1
	baz=42							
GRAC	Grapevine Rang	173.51	326	P		PKPab	03 28 54.6	+1.0
	baz=36							
MPMC	Manual Prospec	174.30	321	P		PKPab	03 28 57.4	0.0
	baz=40							

*IDC **11** 03:16:16.5±5.1, 23.°50S×68.°66W, h0km, mb3.5/1, mbtmp3.3/2, ML3.1/1, Error ellipse: s-maj=154.4km s-min=57.3km az=72.0*
*SJA **11** 03:16:31.6±0.7, 22.°43S×68.°57W, h116km±3km, ML3.2, MW3.6*
*GUC **11** 03:16:33.2±0.7, 22.°34S×68.°64W, h115km±4km, ML3.3*
ISC 11 03:16:33.3±1.0, 22.°40S±0.°04×68.°59W±0.°05, h111km±7km, n31, σ0.95/51, 8C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.36	234	eP	Pn	03 16 49.7	-0.3
LVC				eS	Sn	03 17 02.6	+0.1
LVC				IAML		03 17 03.0	
	comp=Z,1μm,0.1s						
LVC	Limon Verde	0.36	234	⇓iP	Pn	03 16 49.8	-0.3
LVC				i S	Sn	03 17 01.5	-0.9
AF01	San Pedro de A	0.67	146	eP	Pn	03 16 50.9	-1.0
AF01	San Pedro de A	0.67	146	⇓iP	Pn	03 16 52.4	+0.5
AF01				i S	Sn	03 17 06.9	+0.9
AF01				IAML		03 17 07.8	
	comp=N,3μm,0.3s						
PB09	IPOC Station P	0.85	315	eP	Pn	03 16 53.6	+0.2
PB09				eS	Sn	03 17 09.1	+0.7
PB09				IAML		03 17 09.4	
	comp=Z,874nm,0.5s						
PB09	IPOC Station P	0.85	315	⇑iP	Pn	03 16 53.6	+0.2
PB09				i S	Sn	03 17 08.6	+0.2
PB09				IAML		03 17 10.1	
	comp=E,926nm,0.5s						
PB06	IPOC Station P	0.96	251	eP	Pn	03 16 54.0	-0.3
PB06				eS	Sn	03 17 10.4	+0.1
PB06				IAML		03 17 16.3	
	comp=Z,615nm,0.2s						
PB06	IPOC Station P	0.96	251	⇑iP	Pn	03 16 54.2	-0.1
PB06				i S	Sn	03 17 09.9	-0.4
PB15	IPOC Station P	1.15	225	eP	Pn	03 16 56.7	+0.3
PB15				eS	Sn	03 17 14.8	+1.0
PB15				eS		03 17 14.8	
PB15	IPOC Station P	1.15	225	⇑iP	Pn	03 16 56.7	+0.3
PB15				i S	Sn	03 17 14.6	+0.7
PB04	IPOC Station P	1.44	272	eP	Pn	03 16 59.4	-0.4
PB04				eS	Sn	03 17 20.0	+0.3

comp=N,0.2nm,0.5s,baz=261,slow=6.1,SNR=6.5
comp=N,0.2nm,0.5s
MKAR Makanchi Array 146.18 37 PKPbc **PKPbc 03 36 00.6 -0.1**
comp=N,0.4nm,0.7s,baz=330,slow=4.0,SNR=3.8

VAO 11 03:20:57.3±1.1, 8°.90S×74°.50W, h152km±5km, mb4.1, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.12**	**57**	*e*P	Pn	03 21 34.9	+0.9
CZSB				*e*S	Sn	03 22 03.1	+0.9
TBTG	**Tabatinga, AM**	**6.53**	**45**	*e*P	Pn	03 22 30.1	-1.1
ETMB	**Extrema**	**8.22**	**97**	*e*P	Pn	03 22 52.8	-0.9
LPAZ	**La Paz**	**9.62**	**140**	*e*P	Pn	03 23 12.1	-0.8
TEFE	**Tefe**	**11.17**	**62**	*e*P	Pn	03 23 32.6	-0.2
PTLB	**Pontes e Lacer**	**16.36**	**115**	*e*S	Sn	03 27 41.2	+0.1
SNDB	**Serra Nova Dou**	**23.02**	**100**	*e*P	P	03 25 50.5	+1.3
SNDB				*e*S	S	03 29 49.3	+0.8

IDC 11 03:29:55.9±1.0, 15°.05S×173°.94W, h0km, mb3.9/6, mbtmp3.9/6, MS3.5/5, Error ellipse: s-maj=50.1km s-min=22.7km az=145.0
NEIC 11 03:30:06.0±0.7, 15°.5S±0°.1×173°.6W±0°.2, h90km±8km, mb4.2/26, Error ellipse: s-maj=22.8km s-min=18.4km az=57.0
ISC 11 03:30:06.9±0.7, 15°.6S±0°.1×173°.6W±0°.1, h100km, n39, σ0°78/34, mb4.2/19, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.95**	**135**		**Pn**	**03 31 18.1**	**-0.8**
RAR	**Rarotonga**	**14.29**	**115**	LR	LR	03 37 31.3	
comp=Z,54nm,19.6s,baz=336,slow=31							
PPT	**Papeete**	**23.14**	**98**	LR	LR	03 41 32.8	
comp=Z,39nm,20.7s,baz=296,slow=30							
RPZ	**Rata Peaks**	**30.90**	**202**	LR	LR	03 48 38.5	
comp=Z,401nm,19.4s,baz=162,slow=36							
WB0	**Warramunga Arr**	**49.53**	**257**	P	**P**	**03 38 48.1**	**+0.2**
WB0				IAmb	IAmb	03 39 07.2	
comp=Z,7.4nm,1.2s							
WB2	**Warramunga Arr**	**49.56**	**257**	P	**P**	**03 38 47.0**	**-1.1**
WRA	**Warramunga Arr**	**49.57**	**257**	P	**P**	**03 38 47.5**	**-0.7**
WRA	**Warramunga Arr**	**49.57**	**257**	P	**P**	**03 38 47.9**	**-0.3**
comp=Z,0.7nm,0.6s,baz=90,slow=7.4,SNR=16							
comp=Z,0.7nm,0.6s							
AS31	**Alice Springs**	**49.82**	**252**	P	**P**	**03 38 50.1**	**0.0**
AS31				IAmb	IAmb	03 38 51.2	
comp=Z,2.2nm,0.7s							
ASAR	**Alice Springs**	**49.83**	**252**	P	**P**	**03 38 49.9**	**-0.2**
ASAR	**Alice Springs**	**49.83**	**252**	P	**P**	**03 38 50.2**	**+0.1**
comp=Z,8.1nm,0.7s,baz=84,slow=8.5,SNR=74							
ASAR				LR	LR	03 57 55.7	
comp=Z,57nm,20.1s,baz=85,slow=34							
comp=Z,8.1nm,0.7s							
SBA	**Scott Base**	**63.02**	**185**	P	**P**	**03 40 24.0**	**+1.2**
SBA				IAmb	IAmb	03 40 36.3	
comp=Z,5.9nm,1.5s							
VNDA	**Vanda**	**63.15**	**186**	P	**P**	**03 40 23.5**	**-0.1**
VNDA				IAmb	IAmb	03 40 49.2	
comp=Z,3.2nm,1.4s							
QSPA	**South Pole Qui**	**74.44**	**180**	P	P	03 41 39.0	+5.0
comp=Z,1.4nm,0.9s,baz=27,slow=2.3,SNR=2.7							
comp=Z,1.4nm,0.9s							
NVAR	**Mina Array Bea**	**74.64**	**42**	P	**P**	**03 41 36.7**	**+1.0**
comp=Z,1.5nm,0.8s,baz=226,slow=9.9,SNR=8.3							
comp=Z,1.5nm,0.8s							
NV11	**Mina Array Sit**	**74.73**	**42**	P	**P**	**03 41 34.1**	**-2.0**
J16K	**Anvik River**	**79.29**	**6**	P	**P**	**03 42 00.9**	**0.0**
K20K	**Telida**	**80.17**	**9**	P	**P**	**03 42 05.5**	**-0.2**
K20K				IAmb	IAmb	03 42 30.4	
comp=Z,5.4nm,1.4s							
TXAR	**Lajitas Array**	**80.92**	**56**	P	**P**	**03 42 12.3**	**+1.7**
comp=Z,0.4nm,1.0s,baz=219,slow=7.0,SNR=4.8							
comp=Z,0.4nm,1.0s							
G16K	**Koyuk River**	**81.21**	**5**	P	**P**	**03 42 11.2**	**+0.1**
WRH	**Wood River Hil**	**82.20**	**11**	P	**P**	**03 42 16.3**	**-0.1**
WRH				IAmb	IAmb	03 42 34.9	
comp=Z,7.3nm,1.4s							
CCB	**Clear Creek Bu**	**82.41**	**11**	P	**P**	**03 42 16.7**	**-0.8**
CCB				IAmb	IAmb	03 42 17.4	
comp=Z,2.7nm,0.8s							
G19K	**Purcell Mounta**	**82.45**	**7**	P	**P**	**03 42 17.3**	**-0.3**
G19K				IAmb	IAmb	03 42 33.6	
comp=Z,3.6nm,1.2s							
SCRK	**Sand Creek**	**82.56**	**13**	P	**P**	**03 42 17.7**	**-0.8**
SCRK				IAmb	IAmb	03 42 18.8	
comp=Z,2.3nm,0.9s							
ILAR	**Eielson Array**	**82.69**	**11**	P	**P**	**03 42 17.9**	**-1.1**
comp=Z,0.4nm,0.6s,baz=242,slow=7.7,SNR=8.7							
comp=Z,0.4nm,0.6s							
IMAR	**Indian Mountai**	**82.71**	**8**	P	**P**	**03 42 18.7**	**-0.3**
F19K	**Shaleruckik Mo**	**83.04**	**6**	P	**P**	**03 42 20.4**	**-0.3**
F19K				IAmb	IAmb	03 42 56.3	
comp=Z,4.8nm,1.3s							
PRP	**Porcupine Dome**	**83.62**	**11**	P	**P**	**03 42 23.4**	**-0.5**
E19K	**Redstone River**	**83.70**	**6**	P	**P**	**03 42 24.1**	**0.0**
E19K				IAmb	IAmb	03 42 48.2	
comp=Z,3.2nm,1.1s							
G23K	**Bananza Creek**	**83.93**	**9**	P	**P**	**03 42 25.1**	**-0.2**
D19K	**Kuna River**	**84.62**	**6**	P	**P**	**03 42 28.8**	**0.0**
I28M	**Miner Creek**	**84.72**	**13**	P	**P**	**03 42 29.1**	**-0.3**
J30M	**Hart River**	**84.86**	**15**	P	**P**	**03 42 29.7**	**-0.5**
GO09	**Cerro Castillo**	**84.87**	**142**	P	**P**	**03 42 31.0**	**+0.4**
E22K	**Anaktuvuk Pass**	**85.00**	**8**	P	**P**	**03 42 28.9**	**-1.8**
E22K				IAmb	IAmb	03 42 31.7	
comp=Z,3.0nm,0.9s							
C19K	**Lookout Ridge**	**85.08**	**5**	P	**P**	**03 42 31.0**	**-0.1**
I30M	**Mount Dempster**	**85.37**	**15**	P	**P**	**03 42 32.6**	**-0.1**
I30M				IAmb	IAmb	03 42 33.5	
comp=Z,2.9nm,1.1s							
ATAH	**Atahualpa**	**93.12**	**98**	LR	LR	04 16 44.2	
comp=Z,65nm,20.4s,baz=155,slow=30							
BRTR	**Keskin Array B**	**146.17**	**321**	PKPbc	**PKPab**	**03 49 36.7**	**-0.1**
comp=Z,0.5nm,0.7s,baz=76,slow=6.1,SNR=2.5							

CATAC 11 03:31:47.0±1.2, 12°.91N×88°.75W, h27km±9km, ML3.5
SNET 11 03:31:47.8±1.1, 12°.93N×88°.79W, h39km±52km, ML3.4
ISC 11 03:31:47.8±1.5, 12°.92N±0°.05×88°.78W±0°.03, h33km±4km, n49, σ0°70/81, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.62**	**359**	*e*S	**Sn**	**03 32 09.7**	**+0.6**
TECO	**Alcaldia de Te**	**0.62**	**359**	*i*P	**Pb**	**03 32 00.3**	**0.0**
TECO				*i*S	**Sn**	**03 32 10.1**	**+1.1**
TECO				IAML		03 32 10.2	
comp=Z,2μm,1.0s							
TECA	**Tecapa**	**0.63**	**25**	||*i*P	**Pb**	**03 32 00.8**	**+0.1**
RANC	**El Ranchito**	**0.70**	**43**	*i*P	**Pn**	**03 31 58.3**	**-3.2**
RANC				*i*S	**Sn**	**03 32 12.4**	**+1.2**
RANC				IAML		03 32 14.7	
comp=Z,1μm,1.0s							
PACA	**Pacayal**	**0.70**	**39**	*e*P	**Pb**	**03 32 01.8**	**0.0**
PACA	**Pacayal**	**0.70**	**39**	*i*P	**Pb**	**03 32 01.8**	**0.0**
PACA				*i*S	**Sn**	**03 32 12.5**	**+1.2**
PACA				IAML		03 32 15.9	
comp=Z,12μm,1.0s							
COEG	**Centro de Oper**	**0.71**	**352**	*e*P	**Pb**	**03 32 01.3**	**-0.5**
COEG				*e*S	**Sb**	**03 32 11.8**	**+0.5**
COEG				IAML		03 32 15.2	
comp=Z,2μm,0.3s							
COEG	**Centro de Oper**	**0.71**	**352**	*i*P	**Pb**	**03 32 01.4**	**-0.5**
COEG				*i*S	**Sb**	**03 32 11.6**	**+0.2**
COEG				IAML		03 32 15.6	
comp=Z,2μm,1.0s							
UESV	**Universidad de**	**0.71**	**359**	*i*P	**Pb**	**03 32 01.6**	**-0.4**
UESV				*i*S	**Sb**	**03 32 12.5**	**+0.9**
UESV				IAML		03 32 55.9	
comp=Z,6μm,1.0s							
PQSS	**Presa 15 de Se**	**0.73**	**17**	*e*P	**Pb**	**03 32 02.1**	**-0.1**
PQSS	**Presa 15 de Se**	**0.73**	**17**	*i*P	**Pb**	**03 32 02.0**	**-0.2**
PQSS				*i*S	**Sb**	**03 32 13.4**	**+1.4**
PQSS				IAML		03 32 15.2	
comp=Z,4μm,1.0s							
BLLM	**Bellamira**	**0.74**	**45**	*e*P	**Pn**	**03 32 01.7**	**-0.3**
INTP	**Intipuca**	**0.76**	**68**	*e*P	**Pn**	**03 32 01.9**	**-0.3**
INTP				*e*S	**Sb**	**03 32 13.0**	**+0.3**
LFRS	**El Faro**	**0.76**	**338**	*e*P	**Pn**	**03 32 02.0**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.78**	**3**	*e*P	**Pb**	**03 32 02.7**	**-0.4**
SCLA				*e*S	**Sb**	**03 32 14.9**	**+1.5**
SCLA	**Alcaldia de Sa**	**0.78**	**3**	*i*P	**Pb**	**03 32 03.0**	**-0.1**
SCLA				*i*S	**Sb**	**03 32 15.6**	**+2.2**
SCLA				IAML		03 32 16.2	
comp=Z,750nm,1.0s							
PANCS	**Alcalda de**	**0.80**	**330**	*i*P	**Pn**	**03 32 02.4**	**-0.3**
PANCS				*i*S	**Sn**	**03 32 13.2**	**-0.3**
PANCS				IAML		03 32 13.7	
comp=Z,2μm,1.0s							
CNRM	**Centro Naciona**	**0.81**	**47**	*i*P	**Pb**	**03 32 02.7**	**-0.8**
CNRM				*i*S	**Sb**	**03 32 14.3**	**+0.2**
CNRM				IAML		03 32 17.4	
comp=Z,4μm,1.0s							
LOMA	**Loma Larga**	**0.82**	**332**	*e*P	**Pn**	**03 32 02.9**	**-0.3**
LOMA				*e*S	**Sb**	**03 32 14.5**	**-0.1**
LOMA	**Loma Larga**	**0.82**	**332**	*i*P	**Pn**	**03 32 03.0**	**-0.2**
LOMA				*i*S	**Sb**	**03 32 14.7**	**+0.1**
LOMA				IAML		03 32 17.2	
comp=Z,2μm,1.0s							
IGN	**Direccin Gen**	**0.88**	**334**	*i*P	**Pn**	**03 32 03.7**	**-0.2**
IGN				*i*S	**Sb**	**03 32 16.4**	**+0.2**
IGN				IAML		03 32 16.7	
comp=Z,6μm,1.0s							
SNET	**Serv Nac Est T**	**0.89**	**330**	*e*S	**Sb**	**03 32 15.8**	**-0.5**
SNET				IAML		03 32 17.1	
comp=Z,987nm,0.3s							
SNET	**Serv Nac Est T**	**0.89**	**330**	*i*P	**Pn**	**03 32 03.9**	**-0.1**
SNET				*i*S	**Sb**	**03 32 15.9**	**-0.5**
SNET				IAML		03 32 18.7	
comp=Z,3μm,1.0s							
ITCA	**Escuela Especi**	**0.90**	**327**	*i*P	**Pn**	**03 32 04.1**	**-0.1**
ITCA				*i*S	**Sb**	**03 32 16.6**	**-0.2**
ITCA				IAML		03 32 19.1	
comp=Z,2μm,1.0s							
UEES	**Universidad Ev**	**0.91**	**330**	*i*P	**Pn**	**03 32 04.2**	**-0.2**
UEES				*i*S	**Sb**	**03 32 17.2**	**0.0**
UEES				IAML		03 32 19.7	
comp=Z,850nm,1.0s							
LCND	**La Caada**	**0.95**	**66**	*e*P	**Pn**	**03 32 04.6**	**-0.1**
LCND				*e*S	**Sb**	**03 32 17.9**	**-0.1**
LCND				IAML		03 32 20.2	
comp=Z,911nm,0.2s							
LCND	**La Caada**	**0.95**	**66**	*i*P	**Pn**	**03 32 04.5**	**-0.3**
LCND				*i*S	**Sn**	**03 32 17.0**	**-0.1**
LCND				IAML		03 32 20.1	
comp=Z,980nm,1.0s							
PIC2	**El Picacho**	**0.95**	**330**	*e*P	**Pn**	**03 32 05.1**	**+0.1**
PMON	**Piamonte**	**0.95**	**326**	*i*P	**Pn**	**03 32 04.8**	**-0.1**
PMON				*i*S	**Sb**	**03 32 18.2**	**0.0**
PMON				IAML		03 32 21.1	
comp=Z,2μm,1.0s							
BOQS	**Boqueron**	**0.95**	**329**	*e*S	**Sb**	**03 32 17.8**	**-0.6**
CNCH	**Conchagua**	**0.98**	**69**	*e*P	**Pn**	**03 32 05.0**	**-0.4**
CNCH				*e*S	**Sb**	**03 32 19.0**	**-0.2**
CNCH	**Conchagua**	**0.98**	**69**	*i*P	**Pn**	**03 32 05.0**	**-0.4**
CNCH				*i*S	**Sb**	**03 32 18.7**	**-0.5**
CNCH				IAML		03 32 22.8	
comp=Z,1μm,1.0s							
JAYA	**Jayaque - finc**	**0.98**	**318**	*e*P	**Pn**	**03 32 05.5**	**+0.1**
JAYA				*e*S	**Sn**	**03 32 18.5**	**+0.1**
JAYA	**Jayaque - finc**	**0.98**	**318**	*i*P	**Pn**	**03 32 05.5**	**+0.1**
JAYA				*i*S	**Sn**	**03 32 18.4**	**+0.1**
JAYA				IAML		03 32 22.7	
comp=Z,2μm,1.0s							
QUEZ	**Alcaldia de Qu**	**1.03**	**332**	*i*P	**Pn**	**03 32 06.0**	**0.0**
QUEZ				*i*S	**Sb**	**03 32 20.3**	**-0.2**
QUEZ				IAML		03 32 27.5	
comp=Z,3μm,1.0s							
AMPH	**Amapala**	**1.15**	**71**	*e*P	**Pn**	**03 32 07.3**	**-0.2**
AMPH				*e*S	**Sb**	**03 32 23.3**	**-0.4**
CEVE	**Cerro Verde**	**1.23**	**318**	IAML		03 32 30.5	
comp=Z,765nm,0.3s							
LLGN	**La Laguna**	**1.25**	**352**	*i*P	**Pn**	**03 32 08.8**	**-0.2**
LLGN				*i*S	**Sb**	**03 32 25.4**	**-1.4**
LLGN				IAML		03 32 28.4	
comp=Z,390nm,1.0s							
NUBE	**Las Nubes**	**1.38**	**315**	*e*P	**Pn**	**03 32 10.9**	**-0.1**
NUBE				*e*S	**Sn**	**03 32 27.9**	**-0.3**
NUBE	**Las Nubes**	**1.38**	**315**	*i*P	**Pn**	**03 32 10.8**	**-0.1**
NUBE				*i*S	**Sn**	**03 32 28.0**	**-0.2**
NUBE				IAML		03 32 29.0	
comp=Z,760nm,1.0s							
MTO3	**Montecristo**	**1.58**	**339**	*i*P	**Pn**	**03 32 13.5**	**-0.2**
MTO3				*i*S	**Sn**	**03 32 33.5**	**+0.4**
MTO3				IAML		03 32 37.4	
comp=Z,92nm,1.0s							
PKGN	**Cerro Pekin**	**1.77**	**98**	*i*P	**Pn**	**03 32 15.5**	**-0.6**
PKGN				*i*S	**Sn**	**03 32 37.6**	**+0.1**
PKGN				IAML		03 32 39.4	
comp=Z,1μm,1.0s							
PACN	**Al O del Volca**	**1.98**	**102**	*i*P	**Pn**	**03 32 18.4**	**-0.6**
PACN				*i*S	**Sn**	**03 32 42.7**	**0.0**
PACN				IAML		03 32 59.1	
comp=Z,250nm,1.0s							
ILCN	**San Idelfonso**	**2.05**	**99**	*i*P	**Pn**	**03 32 19.3**	**-0.7**
ILCN				IAML		03 32 49.7	
comp=Z,49nm,1.0s							
CNGA	**Al SSO del Vol**	**2.07**	**101**	*i*P	**Pn**	**03 32 18.6**	**-1.6**
CNGA				IAML		03 32 47.1	
comp=Z,260nm,1.0s							
CNGN	**Cerro Negro**	**2.07**	**101**	*i*P	**Pn**	**03 32 20.1**	**-0.2**
CNGN				IAML		03 32 51.1	
comp=Z,190nm,1.0s							
MACN	**El Madrono**	**2.10**	**102**	*i*P	**Pn**	**03 32 20.1**	**-0.6**
MACN				IAML		03 32 56.4	
comp=Z,85nm,1.0s							
LIMN	**Finca el Limon**	**2.35**	**86**	*i*P	**Pn**	**03 32 23.6**	**-0.6**
LIMN				IAML		03 32 52.0	
comp=Z,49nm,1.0s							
OMEN	**Al SSO del Vol**	**3.38**	**114**	*i*P	**Pb**	**03 32 48.5**	**+1.4**

IDC 11 03:41:34.1±2.8, 31°.59S×68°.71W, h85km±25km, mb3.4/2, mbtmp3.8/5, Error ellipse: s-maj=43.2km s-min=27.0km az=90.0
SJA 11 03:41:35.5±0.8, 31°.60S×68°.69W, h119km±3km, ML3.5, MW3.6
ISC 11 03:41:36.6±0.8, 31°.62S±0°.03×68°.72W±0°.03, h115km±6km, n40, σ1°50/61, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.08**	**29**	*e*P	**Pn**	**03 41 51.9**	**-0.5**
ZON				*e*S	**Sn**	**03 42 05.3**	**+1.0**
ZON				IAML		03 42 05.6	
comp=Z,857nm,0.2s							
SJA	**San Juan**	**0.16**	**58**	*e*P	**Pn**	**03 41 52.3**	**-0.2**
SJA				IAML		03 42 07.3	
comp=Z,924nm,0.4s							
RTCV	**Cerro Valdivia**	**0.29**	**148**	*e*P	**Pn**	**03 41 52.9**	**-0.1**
RTCV				*e*S	**Sn**	**03 42 06.4**	**+1.1**
RTLS	**Leoncito**	**0.52**	**249**	*e*P	**Pn**	**03 41 54.7**	**+0.3**
RTLS				*e*S	**Sn**	**03 42 08.7**	**+0.8**
DOCA	**Reserva Natura**	**0.73**	**335**	*e*P	**Pn**	**03 41 55.8**	**-0.3**
ACCO	**Cerro Coronel**	**1.07**	**344**	*e*P	**Pn**	**03 41 59.5**	**+0.2**
AVFE	**Valle Fertil**	**1.45**	**49**	*e*P	**Pn**	**03 42 02.9**	**-0.2**
AVFE				*e*S	**Sn**	**03 42 22.7**	**-0.5**
AVFE				IAML		03 42 23.2	
comp=Z,410nm,0.3s							
ACDV	**Cuesta del Vie**	**1.48**	**347**	*e*P	**Pn**	**03 42 04.0**	**+0.3**
ACDV				*e*S	**Sn**	**03 42 24.6**	**+0.5**
ACDV				IAML		03 42 25.3	
comp=Z,718nm,0.5s							
AROD	**Rodeo**	**1.58**	**336**	*e*P	**Pn**	**03 42 05.7**	**+0.6**
AROD				*e*S	**Sn**	**03 42 26.9**	**+0.3**
ACHE	**Chepes**	**1.82**	**76**	*e*P	**Pn**	**03 42 07.8**	**+0.2**
CO03	**El Pedregal**	**1.85**	**294**	*e*P	**Pn**	**03 42 09.2**	**+1.2**
CO03				*e*S	**Sn**	**03 42 34.1**	**+2.1**
CO03				IAML		03 42 37.0	
comp=Z,392nm,0.2s							
VA03	**San Esteban**	**1.93**	**233**	*e*P	**Pn**	**03 42 09.8**	**+0.8**
VA03				*e*S	Sn	03 42 20.7	-13
VA03				IAML		03 42 42.7	
comp=Z,232nm,0.9s							
CO02	**Combarbal**	**1.99**	**281**	*e*P	**Pn**	**03 42 10.5**	**+0.8**
CO02				*e*S	**Sn**	**03 42 31.3**	**-3.8**
CO02				IAML		03 42 42.9	
comp=Z,668nm,0.5s							
CO01	**Juntas del Tor**	**2.01**	**324**	*e*P	**Pn**	**03 42 11.7**	**+1.5**
CO01				*e*S	**Sn**	**03 42 37.8**	**+1.9**
CO01				IAML		03 42 38.9	
comp=Z,162nm,0.6s							
PEL	**Peldehue**	**2.25**	**227**	*e*P	**Pn**	**03 42 14.8**	**+1.8**
PEL				*e*S	**Sn**	**03 42 44.1**	**+3.2**
GO04	**Tololo Observa**	**2.29**	**308**	*e*P	**Pn**	**03 42 09.2**	**-4.5**
GO04				*e*P	**Pn**	**03 42 14.3**	**+0.6**
GO04				*e*S	**Sn**	**03 42 39.2**	**-2.9**
ROC1	**El Roble**	**2.37**	**234**	*e*P	**Pn**	**03 42 15.0**	**+0.3**
ROC1				*e*S	**Sn**	**03 42 45.1**	**+1.2**
MT03	**Universidad Ad**	**2.41**	**218**	*e*P	**Pn**	**03 42 12.2**	**-2.9**
MT03				*e*S	**Sn**	**03 42 42.4**	**-2.1**
MT03				IAML		03 42 52.3	
comp=Z,153nm,0.7s							
MT05	**Renca**	**2.46**	**223**	*e*P	**Pn**	**03 42 19.0**	**+3.3**
MT05				*e*S	**Sn**	**03 42 44.2**	**-1.5**
MT05				IAML		03 42 53.2	
comp=Z,170nm,0.3s							
MT13	**San Alfonso**	**2.50**	**211**	*e*P	**Pn**	**03 42 18.5**	**+2.2**
LMEL	**Las Melosas**	**2.55**	**209**	*e*P	**Pn**	**03 42 18.2**	**+1.2**
MT02	**Curacav**	**2.62**	**231**	*e*P	**Pn**	**03 42 18.0**	**+0.3**
MT02				*e*S	**Sn**	**03 42 50.0**	**+0.6**
MT02				IAML		03 42 51.6	
comp=Z,71nm,0.6s							
ACLC	**CERRO LA CRUZ**	**2.67**	**35**	*e*P	**Pn**	**03 42 18.6**	**+0.1**
ACLC				*e*S	**Sn**	**03 42 50.9**	**+0.2**
ACLC				IAML		03 42 52.5	
comp=Z,149nm,0.2s							
MRA	**San Martin**	**2.68**	**108**	*e*P	**Pn**	**03 42 18.9**	**+0.4**
MRA				IAML		03 42 51.2	
comp=Z,248nm,0.2s							
MRA				*e*S	**Sn**	**03 42 51.2**	**+0.4**
VCA	**Vinchina**	**2.90**	**9**	*e*P	**Pn**	**03 42 22.4**	**+0.8**
VCA				*e*S	**Sn**	**03 42 57.0**	**+0.7**
VCA				IAML		03 43 00.8	
comp=Z,218nm,0.2s							
AC05	**El Transito**	**3.08**	**334**	*e*P	**Pn**	**03 42 25.0**	**+1.1**
AC05				*e*S	**Sn**	**03 43 01.5**	**+1.2**
AC05				IAML		03 43 03.1	
comp=Z,75nm,0.6s							
MT01	**Popeta**	**3.09**	**223**	*e*P	**Pn**	**03 42 23.4**	**-0.5**
MT01				*e*S	**Sn**	**03 43 00.2**	**-0.2**
MT01				IAML		03 43 06.4	
comp=Z,53nm,0.2s							
LCO	**Las Campanas**	**3.11**	**326**	*e*P	**Pn**	**03 42 24.7**	**+0.3**
LCO				*e*S	**Sn**	**03 43 01.4**	**+0.1**
LCO				IAML		03 43 40.1	
comp=Z,184nm,0.6s							
RFA	**San Rafael**	**3.15**	**176**	*e*P	**Pn**	**03 42 24.8**	**0.0**
RFA				*e*S	Sn	03 42 50.3	-12
RFA				IAML		03 43 03.2	
comp=Z,223nm,0.3s							
TCA	**Tanti**	**3.54**	**87**	*e*P	**Pn**	**03 42 29.6**	**-0.3**
CYA	**Choya**	**4.05**	**39**	IAML		03 44 09.2	
comp=Z,51nm,0.5s							
LVC	**Limon Verde**	**8.97**	**359**	P	**Pn**	**03 43 40.5**	**-3.1**
comp=Z,5.9nm,0.3s,baz=193,slow=9.0,SNR=14							
LVC				S	Sn	03 45 11.5	-12
comp=Z,1.9nm,0.4s,baz=183,slow=17,SNR=1.3							
PLCA	**Paso Flores**	**9.22**	**189**	P	**Pn**	**03 43 44.7**	**-1.8**
comp=Z,0.4nm,0.3s,baz=15,slow=11,SNR=4.8							
LPAZ	**La Paz**	**15.27**	**2**	P	**P**	**03 45 08.0**	**-1.0**
comp=Z,1.5nm,0.7s,baz=193,slow=7.6,SNR=9.1							
SIV	**San Ignacio**	**17.05**	**26**	P	**P**	**03 45 27.4**	**-0.6**
comp=Z,0.7nm,0.2s,baz=208,slow=16,SNR=7.5							
TXAR	**Lajitas Array**	**69.12**	**328**	P	**P**	**03 52 31.3**	**+0.8**
comp=Z,0.2nm,0.5s,baz=166,slow=8.6,SNR=5.1							
comp=Z,0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**80.76**	**68**	P	**P**	**03 53 38.4**	**+0.8**
comp=Z,1.4nm,0.7s,baz=250,slow=3.6,SNR=21							
comp=Z,1.4nm,0.7s							
KURBB	**Kurchatov Arra**	**149.23**	**42**	PKPbc	**PKiKP**	**04 01 12.4**	**0.0**
comp=Z,0.6nm,0.2s,baz=293,slow=3.1,SNR=1.9							
ZALV	**Zalesovo Beam**	**150.72**	**33**	PKPbc	**PKiKP**	**04 01 15.8**	**+0.4**
comp=Z,2.5nm,0.5s,baz=298,slow=1.6,SNR=8.8							
MKAR	**Makanchi Array**	**153.10**	**47**	PKPbc	**PKiKP**	**04 01 20.9**	**+0.3**
comp=Z,0.6nm,0.8s,baz=270,slow=1.2,SNR=4.7							

IDC 11 03:43:22.0±1.2, 31°.73S×58°.32E, h0km, mb4.0/7, mbtmp4.0/7, MS3.4/1, Error ellipse: s-maj=45.8km s-min=28.2km az=81.0
NEIC 11 03:43:22.2±1.1, 31°.7S±0°.1×58°.26E±0°.06, h10km±1km, mb4.8/17, Error ellipse: s-maj=20.3km s-min=8.0km az=166.0
ISC 11 03:43:22.0±0.7, 31°.7S±0°.1×58°.1E±0°.1, h10km, n34, σ1°13/28, mb4.5/15, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.73**	**348**	Pn	**Pn**	**03 45 55.1**	**-0.8**
FOMA	**Nahampoana Res**	**11.89**	**302**	Pn	**Pn**	**03 46 10.5**	**-1.2**
ROCAM	**Rodrigues Isla**	**12.81**	**23**	Pn	Pn	03 46 19.9	-4.4
H08S1	**Diego Carcia H**	**27.44**	**32**	T	T	04 17 18.8	
baz=206,slow=76,SNR=9.3							
H08S2	**Diego Garcia H**	**27.45**	**32**	T	T	04 17 19.5	
baz=206							
H08S3	**Diego Garcia H**	**27.46**	**32**	T	T	04 17 21.2	
baz=206,slow=76,SNR=8.9							
MAW	**Mawson**	**36.03**	**177**	LR	LR	04 01 19.6	
comp=Z,54nm,19.9s,baz=96,slow=30							
RAYN	**Ar Rayn**	**56.24**	**346**	P	**P**	**03 53 02.4**	**-0.2**
RAYN				IAmb	IAmb	03 53 03.2	
comp=Z,24nm,1.9s							
QSPA	**South Pole Qui**	**58.45**	**180**	P	**P

ISC 11 03:45:24.2±0.7, 31°.6S±0°.1×58°.2E±0°.1, h17km, n38, σ0s97/29, mb4.6/16, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	Vohitsoka	14.02	311	Pn	Pn	03 48 41.9	-0.3
H04N2	CROZET ISLANDS	15.36	197	T	T	04 04 12.1	
baz=21,slow=75,SNR=50							
H04N1	CROZET ISLANDS	15.36	197	T	T	04 04 12.9	
baz=21,slow=75,SNR=61							
H04N3	CROZET ISLANDS	15.38	197	T	T	04 04 15.2	
baz=21,slow=75,SNR=70							
OPO	Ambohidratompo	16.34	320	Pn	P	03 49 16.2	+0.2
baz=330,slow=8.1,SNR=2.7							
5.0nm,0.8s							
MSEY	Mahe Island	26.91	354	P	P	03 51 03.2	-1.4
MSEY				IAmb	IAmb	03 51 09.6	
comp=Z,40nm,1.4s							
H08S1	Diego Carcia H	27.31	32	T	T	04 19 31.8	
baz=206,slow=76,SNR=4.9							
H08S2	Diego Garcia H	27.32	32	T	T	04 19 32.3	
baz=206							
H08S3	Diego Garcia H	27.33	32	T	T	04 19 35.0	
baz=206,slow=76,SNR=5.5							
BOSA	Boshof	28.59	267	P	P	03 51 19.8	+0.1
BOSA				IAmb	IAmb	03 51 35.5	
comp=Z,18nm,1.6s							
MATP	Matopo	28.82	285	P	P	03 51 23.1	+1.4
comp=Z,0.4nm,0.6s,baz=150,slow=8.1,SNR=1.8							
comp=Z,0.4nm,0.6s							
KMBO	Kilima Mbogo	36.20	323	P	P	03 52 26.1	-0.4
KMBO				IAmb	IAmb	03 52 30.9	
comp=Z,12nm,1.6s							
H01W2	Cape Leeuwin H	46.39	110	T	T	04 43 29.4	
baz=257,slow=75,SNR=3.3							
H01W3	Cape Leeuwin H	46.39	110	T	T	04 43 28.6	
baz=257,slow=75,SNR=2.5							
H01W1	Cape Leeuwin H	46.41	110	T	T	04 43 29.6	
baz=257,slow=75,SNR=3.3							
PSA00	Pilbara Seismi	55.41	96	P	P	03 54 57.2	-0.6
QSPA	South Pole Qui	58.56	180	P	P	03 55 19.9	+0.2
QSPA	South Pole Qui	58.56	180	P	P	03 55 20.1	+0.4
comp=Z,1.3nm,0.6s,baz=302,slow=2.3,SNR=12							
comp=Z,1.3nm,0.6s							
CMAR	Chiang Mai Arr	63.29	44	P	P	03 55 53.1	+0.9
comp=Z,1.6nm,0.3s,baz=234,slow=6.8,SNR=7.8							
comp=Z,1.6nm,0.3s							
ASAR	Alice Springs	66.34	104	P	P	03 56 11.9	-0.4
ASAR	Alice Springs	66.34	104	P	P	03 56 12.1	-0.2
comp=Z,0.8nm,0.7s,baz=234,slow=6.1,SNR=7.6							
comp=Z,0.8nm,0.7s							
WRA	Warramunga Arr	68.35	101	P	P	03 56 25.1	0.0
comp=Z,1.0nm,0.8s,baz=243,slow=5.7,SNR=7.1							
comp=Z,1.0nm,0.8s							
WB2	Warramunga Arr	68.36	101	P	P	03 56 25.0	-0.1
WB2				IAmb	IAmb	03 56 42.8	
comp=Z,13nm,1.4s							
WB0	Warramunga Arr	68.47	101	P	P	03 56 25.5	-0.3
WB0				IAmb	IAmb	03 56 44.1	
comp=Z,8.4nm,1.2s							
WR0	Warramunga Arr	68.51	101	P	P	03 56 25.3	-0.7
LSA	Lhasa	68.54	31	P	P	03 56 25.9	-0.5
TOO	Toolangi	69.60	122	P	P	03 56 32.4	-0.2
TOA0	Torodi Ar. Sit	70.07	300	P	P	03 56 35.4	-0.2
TOA0				IAmb	IAmb	03 56 43.8	
comp=Z,9.3nm,1.7s							
TORD	Torodi Ar. Bea	70.07	300	P	P	03 56 33.5	-2.1
TORD				IAmb	IAmb	03 56 45.0	
comp=Z,11nm,2.0s							
BRTR	Keskin Array B	74.54	341	P	P	03 57 02.6	+0.6
comp=Z,0.7nm,0.8s,baz=171,slow=10,SNR=3.6							
comp=Z,0.7nm,0.8s							
ANTO	Ankara	74.91	340	P	P	03 57 04.0	-0.1
ANTO				IAmb	IAmb	03 57 06.6	
comp=Z,4.5nm,0.7s							
KKAR	Karatay Array	75.20	9	P	P	03 57 05.8	+0.3
AAK	Ala-Archa	75.38	12	P	P	03 57 05.4	-1.4
ABKAR	Akbulak array	80.51	1	P	P	03 57 35.7	+0.8
ABKAR	Akbulak array	80.51	1	P	P	03 57 35.4	+0.5
ABKAR				IAmb	IAmb	03 57 36.9	
comp=Z,5.5nm,1.4s							
MKAR	Makanchi Array	81.01	17	P	P	03 57 40.5	+2.8
comp=Z,0.7nm,0.8s,baz=172,slow=3.2,SNR=4.6							
comp=Z,0.7nm,0.8s							
BVAR	Borovoye Array	84.94	7	P	P	03 57 59.4	+1.5
comp=Z,3.0nm,0.7s,baz=176,slow=5.8,SNR=12							
comp=Z,3.0nm,0.7s							
YKA	Yellowknife Ar	148.75	354	PKPbc	PKPbc	04 05 10.0	+0.1
comp=Z,0.9nm,0.8s,baz=352,slow=2.6,SNR=5.8							

JMA 11 03:48:37.1±0.2, 31°.N±2°.×13°.9E±°, h529km, MV3.9/20, NEAR TORISHIMA IS
IDC 11 03:48:43.0±1.3, 30°.48N×138°.51E, h452km±14km, mb3.1/16, mbtmp4.0/21, Error ellipse: s-maj=17.8km s-min=11.2km az=88.0

ISC 11 03:48:41.3±0.6, 30°.49N±0°.07×138°.86E±0°.09, h450km, n36, σ2s51/38, mb3.4/16, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	2.11	21	eP	P	03 49 45.2	+2.8
JHCJ	Hachijojimakas	2.69	17	eP	P	03 49 48.3	+2.3
JHJ	Hachijo jima 2	2.73	17	P	P	03 49 48.5	+2.2
82nm,0.3s,baz=319,slow=23,SNR=23							
JHJ				S	S	03 50 31.1	-8.2
271nm,0.3s,baz=95,slow=23,SNR=9.7							
JHJ2	Mitsune	2.73	17	eP	P	03 49 48.6	+2.3
TTO4	TONANKAI O.B.S	3.68	343	eP	P	03 49 55.8	+2.5
JIE	Ise	4.29	336	eP	P	03 50 01.1	+2.2
CBIJ	Chichi jima	4.47	138	eP	P	03 50 01.7	+0.9
CBIJ				eS	S	03 51 04.5	-0.9
JCJ	Chichijima	4.47	138	P	P	03 49 57.1	-3.7
54nm,0.6s,baz=329,slow=22,SNR=8.0							
JCJ				S	S	03 51 00.2	-5.2
119nm,0.3s,baz=283,slow=22,SNR=19							
JYT	Yasato	5.83	11	eS	S	03 51 25.6	-3.7
JAG	Ashikaga	5.94	5	eS	S	03 51 26.9	-4.4
JHO	Hitachi	6.27	13	eS	S	03 51 35.1	-2.5
JHS	Saijyo	6.60	314	eP	P	03 50 22.1	+0.3
JSJ	Shimokoshiki	7.93	281	eP	P	03 50 34.7	-1.2
JMK	Ichinoseki	8.66	12	eS	S	03 52 20.6	-3.6
JOW	Kunigami	9.98	251	P	P	03 50 57.8	-0.5
42nm,1.0s,baz=342,slow=5.9,SNR=4.2							
KSRS	Korea Array	11.42	310	P	P	03 51 13.6	-0.2
1.9nm,0.6s,baz=126,slow=11,SNR=7.0							
USRK	Ussuriysk Ar.	14.72	340	P	P	03 51 50.0	+0.7
2.2nm,0.4s,baz=165,slow=12,SNR=10							
KLR	Kul'dur	19.47	346	P	P	03 52 39.5	+1.8
4.6nm,0.6s,baz=142,slow=6.8,SNR=17							
SONM	Songino Array	30.25	314	P	P	03 54 13.6	-0.3
0.4nm,0.6s,baz=128,slow=7.4,SNR=2.4							
0.4nm,0.6s							
CMAR	Chiang Mai Arr	38.06	261	P	P	03 55 19.1	-1.1
1.3nm,0.3s,baz=58,slow=6.1,SNR=6.1							
1.3nm,0.3s							
MKAR	Makanchi Array	46.08	307	P	P	03 56 23.0	-0.3
0.2nm,0.5s,baz=86,slow=8.0,SNR=2.9							
0.2nm,0.5s							
NRIK	Noril'sk	48.42	338	P	P	03 56 41.0	+0.3
2.5nm,0.5s,baz=103,slow=11,SNR=3.6							
2.5nm,0.5s							
KURBB	Kurchatov Arra	48.59	312	P	P	03 56 40.6	-1.6
0.4nm,0.3s,baz=91,slow=7.9,SNR=5.0							
0.4nm,0.3s							
WRA	Warramunga Arr	50.33	186	P	P	03 56 56.6	+1.1
0.7nm,0.4s,baz=0.5,slow=7.8,SNR=22							
0.7nm,0.4s							
BVAR	Borovoye Array	53.58	316	P	P	03 57 18.9	+0.3
0.7nm,0.3s,baz=98,slow=9.2,SNR=6.0							
0.7nm,0.3s							
ASAR	Alice Springs	54.06	186	P	P	03 57 23.6	+1.1
0.4nm,0.4s,baz=2.7,slow=6.3,SNR=7.1							
0.4nm,0.4s							
ILAR	Eielson Array	56.18	30	P	P	03 57 39.4	+2.6
0.2nm,0.6s,baz=243,slow=3.9,SNR=5.3							
0.2nm,0.6s							
ARCES	ARCESS Array B	69.37	340	P	P	03 59 03.8	+1.5
1.4nm,0.4s,baz=68,slow=8.8,SNR=26							
1.4nm,0.4s							
YKA	Yellowknife Ar	70.54	28	P	P	03 59 10.4	+1.0
0.5nm,0.8s,baz=295,slow=5.3,SNR=3.6							
0.5nm,0.8s							
FINES	FINESS Array B	73.61	332	P	P	03 59 27.9	+0.7
2.2nm,0.5s,baz=54,slow=7.1,SNR=6.5							
2.2nm,0.5s							
HFS	Hagfors	79.14	335	P	P	03 59 58.5	+0.6
1.9nm,0.4s,baz=101,slow=4.7,SNR=43							
1.9nm,0.4s							
NB2	NORSAR Subarra	79.37	337	P	P	03 59 59.8	+0.7
comp=Z,0.8nm,0.5s,baz=45,slow=5.1							
NOA	NORSAR Array B	79.37	337	P	P	03 59 59.9	+0.7
comp=Z,1.2nm,0.7s,baz=45,slow=5.0,SNR=10							
comp=Z,1.2nm,0.7s							
NVAR	Mina Array Bea	80.69	51	P	P	04 00 10.6	+3.9
comp=Z,0.3nm,0.5s,baz=262,slow=5.3,SNR=2.3							
comp=Z,0.3nm,0.5s							
BRTR	Keskin Array B	81.56	311	P	P	04 00 12.1	+0.8
comp=Z,0.5nm,0.7s,baz=72,slow=4.0,SNR=3.5							
comp=Z,0.5nm,0.7s							
TORD	Torodi Ar. Bea	120.16	310	PKP	PKiKP	04 06 40.9	0.0
comp=Z,0.2nm,0.6s,baz=51,slow=2.4,SNR=1.3							

IDC 11 03:48:48.1±2.7, 18°.96S×177°.16W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=263.5km s-min=35.2km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.62	260	P	P	03 57 10.4	-0.2
1.0nm,0.4s,baz=98,slow=7.5,SNR=20							
1.0nm,0.4s							
ASAR	Alice Springs	45.66	255	P	P	03 57 10.9	0.0
2.4nm,0.6s,baz=88,slow=8.1,SNR=25							
2.4nm,0.6s							
TXAR	Lajitas Array	85.56	57	P	P	04 01 28.8	0.0
0.1nm,0.6s,baz=220,slow=5.4,SNR=2.4							
0.1nm,0.6s							

IDC 11 03:49:25.3±5.8, 35°.58N×140°.37E, h70km±36km, mb3.6/6, mbtmp3.9/8, ML3.6/2, MS3.8/2, Error ellipse: s-maj=98.0km s-min=17.8km az=66.0
JMA 11 03:49:25.3±0.2, 35°.6N±0°.6×140°.1E±0°.9, h69km±2km, MV3.2/34, CENTRAL CHIBA PREF
JMA Felt I J1 at CENTRAL CHIBA PREF .

ISC 11 03:49:26.0±0.9, 35°.56N±0°.06×140°.15E±0°.07, h71km±7km, n27, σ1s00/24, mb3.8/6, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.15	163	P	Pn	03 49 36.2	-0.3
JCN				S	Sn	03 49 44.8	+0.7
JSMT	Sammumatsuo	0.26	72	P	Pn	03 49 36.3	-0.6
TOK	Tokyo	0.34	292	P	Pn	03 49 37.5	+0.1
TOK				eS	Sn	03 49 46.8	+0.9
BSO3	Boso 3	0.81	159	||/P	Pn	03 49 41.5	-0.5
BSO3				||X		03 49 55.4
JOD2	Odawara 2	0.92	251	||/P	Pn	03 49 42.5	-0.9
JOD2				||S	Sn	03 49 55.0	-1.5
JAG	Ashikaga	1.03	327	||/P	Pn	03 49 44.1	-0.8
JAG				||S	Sn	03 49 57.7	-1.3
JRY	Ryogami san	1.11	295	||/P	Pn	03 49 45.7	-0.2
BSO1	Boso 1	1.13	143	P	Pn	03 49 44.8	-0.8
JFNN	Fujinakano	1.25	253	P	Pn	03 49 47.2	-0.5
JFNN				S	Sn	03 50 03.2	-0.8
JYN	Shimob	1.31	268	||/P	Pn	03 49 47.9	-0.6
MJAR	Matsushiro Arr	1.85	302	P	Pn	03 49 55.6	0.0
54nm,0.6s,baz=98,slow=15,SNR=124							
MJAR				LR	LR	03 50 39.4	
comp=Z,62nm,18.6s,baz=217,slow=37							
JHJ	Hachijo jima 2	2.46	187	P	Pn	03 50 04.5	+0.7
57nm,0.3s,baz=150,slow=21,SNR=13							
97nm,0.3s							
KSRS	Korea Array	10.02	284	P	Pn	03 51 49.9	+2.9
0.3nm,0.3s,baz=99,slow=14,SNR=3.2							
1.5nm,0.8s							
SONM	Songino Array	27.80	307	P	P	03 55 08.1	-0.3
0.3nm,0.4s,baz=108,slow=9.5,SNR=2.6							
0.3nm,0.4s							
H11N2	WAKE ISLAND Hy	28.34	117	T	T	04 25 03.4	
baz=309,slow=75,SNR=14							
H11N1	WAKE ISLAND Hy	28.34	117	T	T	04 25 03.6	
baz=309,slow=75,SNR=13							
H11N3	WAKE ISLAND Hy	28.36	117	T	T	04 24 58.8	
baz=309,slow=75,SNR=13							
H11S1	WAKE ISLAND Hy	28.98	119	T	T	04 25 23.7	
baz=311,SNR=7.4							
H11S3	WAKE ISLAND Hy	28.98	119	T	T	04 25 19.3	
baz=311							
H11S2	WAKE ISLAND Hy	29.00	119	T	T	04 25 24.6	
baz=311							
TIXI	Tiksi	36.64	354	LR	LR	04 12 52.0	
comp=Z,187nm,21.0s,baz=239,slow=38							
ZALV	Zalesovo Beam	42.17	314	P	P	03 57 11.6	+0.3
0.5nm,0.3s,baz=78,slow=7.7,SNR=1.8							
0.5nm,0.3s							
MKAR	Makanchi Array	44.05	303	P	P	03 57 27.5	+0.8
0.6nm,0.6s,baz=89,slow=9.8,SNR=7.6							
0.6nm,0.6s							
KURBB	Kurchatov Arra	46.12	309	P	P	03 57 43.6	+0.7
1.9nm,0.2s,baz=85,slow=7.8,SNR=6.5							
1.9nm,0.2s							
WRA	Warramunga Arr	55.47	187	P	P	03 58 52.6	-0.9
0.7nm,0.4s,baz=0.9,slow=7.6,SNR=13							
0.7nm,0.4s							
FINES	FINESS Array B	69.64	332	P	P	04 00 27.5	+0.1
1.0nm,0.7s,baz=89,slow=6.1,SNR=3.0							
1.0nm,0.7s							
TXAR	Lajitas Array	91.83	52	LR	LR	04 39 04.7	
comp=Z,39nm,21.5s,baz=39,slow=32							

IDC 11 04:07:39.6±0.7, 31°.73S×58°.26E, h0km, mb4.3/11, mbtmp4.3/12, ML4.5/1, Error ellipse: s-maj=24.1km s-min=18.7km az=68.0
NEIC 11 04:07:41.1±1.0, 31°.60S±0°.10×58°.2E±0°.1, h10km±1km, mb4.5/11, Error ellipse: s-maj=21.6km s-min=16.0km az=250.0

ISC 11 04:07:40.9±0.6, 31°.52S±0°.09×58°.13E±0°.10, h10km, n41, σ1s89/32, mb4.5/16, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.53	348	Pn	Pn	04 10 11.5	-0.5
FOMA	Nahampoana Res	11.79	301	Pn	Pn	04 10 30.7	+1.5
VOI	Vohitsoka	13.93	311		Pn	04 11 00.6	+2.0
H04N2	CROZET ISLANDS	15.43	197	T	T	04 26 33.8	
baz=21,slow=75,SNR=75							
H04N1	CROZET ISLANDS	15.43	197	T	T	04 26 34.9	
baz=21,slow=75,SNR=64							
H04N3	CROZET ISLANDS	15.44	197	T	T	04 26 33.7	
baz=21,slow=75,SNR=77							
ABPO	Ambohimpanom	15.87	319		Pn	04 11 27.6	+3.1
ABPO				IAmb	IAmb	04 11 32.5	
comp=Z,14nm,0.9s							
OPO	Ambohidratompo	16.25	320	Pn	P	04 11 32.7	+0.1
comp=Z,0.2nm,0.3s,baz=138,slow=12,SNR=9.0							
OPO				Sn	Sn	04 14 22.4	-7.5
comp=Z,0.1nm,0.3s,baz=331,slow=19,SNR=1.6							
comp=Z,5.8nm,0.4s							
H08S1	Diego Garcia H	27.26	32	T	T	04 41 48.9	
baz=206,slow=75,SNR=56							
H08S2	Diego Garcia H	27.27	32	T	T	04 41 50.8	
baz=206,slow=75,SNR=24							
H08S3	Diego Garcia H	27.28	32	T	T	04 41 50.3	
baz=206,slow=75,SNR=47							
DGAR	Diego Garcia	27.46	32	P	P	04 13 26.8	-0.4
BOSA	Boshof	28.54	267	P	P	04 13 36.7	-0.4
BOSA				IAmb	IAmb	04 13 57.8	
comp=Z,9.3nm,1.4s							
SUR	Sutherland	31.58	258	P	P	04 14 02.9	-1.0
SUR				IAmb	IAmb	04 14 22.8	
comp=Z,18nm,1.3s							
H01W2	Cape Leeuwin H	46.46	110	T	T	05 05 46.7	
baz=257,slow=75,SNR=37							
H01W3	Cape Leeuwin H	46.47	110	T	T	05 05 47.1	
baz=257,slow=75,SNR=38							
H01W1	Cape Leeuwin H	46.48	110	T	T	05 05 48.0	
baz=257,slow=75,SNR=40							
SNAA	Sanae	51.35	201	P	P	04 16 44.3	-0.9
comp=Z,2.5nm,0.9s,baz=69,slow=5.9,SNR=7.8							
comp=Z,2.5nm,0.9s							
QSPA	South Pole Qui	58.65	180	P	P	04 17 37.5	-0.7
QSPA				IAmb	IAmb	04 17 37.7	
comp=Z,5.1nm,0.7s							
QSPA	South Pole Qui	58.65	180	P	P	04 17 37.6	-0.5
comp=Z,4.8nm,0.6s,baz=267,slow=1.1,SNR=65							
comp=Z,4.8nm,0.6s							
BELA	Belgrano 2	60.02	194	P	P	04 17 47.3	0.0
BELA				IAmb	IAmb	04 18 17.1	
comp=Z,4.1nm,1.3s							
CMAR	Chiang Mai Arr	63.26	44	P	P	04 18 10.9	+1.0
comp=Z,1.9nm,0.3s,baz=228,slow=7.6,SNR=7.7							
comp=Z,1.9nm,0.3s							
ASAR	Alice Springs	66.42	104	P	P	04 18 29.6	-1.0
comp=Z,3.6nm,0.7s,baz=238,slow=6.1,SNR=33							
comp=Z,3.6nm,0.7s							
WRA	Warramunga Arr	68.41	101	P	P	04 18 41.8	-1.5
WRA	Warramunga Arr	68.41	101	P	P	04 18 42.5	-0.7
comp=Z,3.8nm,0.7s,baz=241,slow=5.6,SNR=22							
comp=Z,3.8nm,0.7s							
WB2	Warramunga Arr	68.42	101	P	P	04 18 42.0	-1.3
WB0	Warramunga Arr	68.53	101	P	P	04 18 43.0	-1.1
WB0				IAmb	IAmb	04 18 43.9	
comp=Z,7.3nm,0.9s							
STKA	Stephens Creek	69.14	115	P	P	04 18 46.2	-1.4
comp=Z,1.8nm,0.6s,baz=266,slow=7.5,SNR=4.0							
comp=Z,1.8nm,0.6s							
TORD	Torodi Ar. Bea	69.98	300	P	P	04 18 54.1	+1.2
comp=Z,0.9nm,0.9s,baz=103,slow=5.7,SNR=4.3							
comp=Z,0.9nm,0.9s							
BRTR	Keskin Array B	74.44	341	P	P	04 19 20.0	+0.8
BRTR	Keskin Array B	74.44	341	P	P	04 19 20.6	+1.4
comp=Z,0.8nm,0.7s,baz=165,slow=7.0,SNR=6.2							
comp=Z,0.8nm,0.7s							
ABKAR	Akbulak array	80.43	1	P	P	04 19 53.0	+0.7
ABKAR	Akbulak array	80.43	1	P	P	04 19 53.0	+0.7
ABKAR				IAmb	IAmb	04 20 03.5	
comp=Z,3.7nm,1.1s							
MK31	Makanchi Array	80.94	17	P	P	04 19 56.2	+1.0
MKAR	Makanchi Array	80.94	17	P	P	04 19 56.4	+1.2
MKAR	Makanchi Array	80.94	17	P	P	04 19 57.9	+2.7
comp=Z,0.8nm,0.7s,baz=215,slow=5.7,SNR=7.4							
comp=Z,0.8nm,0.7s							
KURBB	Kurchatov Arra	83.75	13	P	P	04 20 10.7	+1.0
comp=Z,1.9nm,0.2s,baz=200,slow=5.4,SNR=5.9							
comp=Z,1.9nm,0.2s							
BVAR	Borovoye Array	84.86	7	P	P	04 20 17.2	+1.9
comp=Z,2.2nm,0.7s,baz=189,slow=6.8,SNR=11							
comp=Z,2.2nm,0.7s							
ILAR	Eielson Array	143.29	18	PKhKP	PKPpre	04 27 09.9	
comp=Z,0.6nm,0.8s,baz=286,slow=3.2,SNR=4.3							
YKA	Yellowknife Ar	148.66	354	PKPbc	PKPbc	04 27 27.6	+0.1
comp=Z,2.5nm,0.8s,baz=1.8,slow=2.5,SNR=18							
ULM	Lac du Bonnet	153.08	322	PKPbc	PKPbc	04 27 38.1	-0.3
comp=Z,1.9nm,0.9s,baz=73,slow=5.4,SNR=3.8							

IDC 11 04:15:42.4±0.8, 31°.74S×58°.27E, h0km, mb4.1/11, mbtmp4.1/11, Error ellipse: s-maj=30.7km s-min=23.9km az=57.0
NEIC 11 04:15:44.2±1.4, 31°.8S±0°.1×58°.3E±0°.2, h10km±1km, mb4.7/26, Error ellipse: s-maj=25.3km s-min=18.4km az=252.0

ISC 11 04:15:43.9±0.6, 31°.8S±0°.1×58°.3E±0°.1, h10km, n48, σ0s70/42, mb4.5/23, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.83	347	Pn	Pn	04 18 20.5	+1.4
VOI	Vohitsoka	14.19	311	Pn	Pn	04 19 03.8	-1.3
H04N2	CROZET ISLANDS	15.19	197	T	T	04 35 11.7	
baz=21,slow=75,SNR=3.4							
H04N1	CROZET ISLANDS	15.20	197	T	T	04 35 11.3	
baz=21,slow=75,SNR=3.9							
H04N3	CROZET ISLANDS	15.21	197	T	T	04 35 10.1	
baz=21,slow=75,SNR=4.4							
H08S1	Diego Garcia H	27.44	32	T	T	04 49 53.0	
baz=208,slow=76,SNR=11							
H08S2	Diego Garcia H	27.45	32	T	T	04 49 56.0	
baz=208							
H08S3	Diego Garcia H	27.46	32	T	T	04 49 54.6	
baz=208,slow=76,SNR=9.3							
QSPA	South Pole Qui	58.37	180	P	P	04 25 39.8	+0.5
QSPA				IAmb	IAmb	04 25 50.5	
comp=Z,6.9nm,1.2s							
QSPA	South Pole Qui	58.37	180	P	P	04 25 40.0	+0.8
comp=Z,3.7nm,1.2s,baz=275,slow=2.8,SNR=7.4							
comp=Z,3.7nm,1.2s							
VNDA	Vanda	62.08	166	P	P	04 26 05.1	+0.8
VNDA				IAmb	IAmb	04 26 14.2	
comp=Z,5.6nm,1.5s							
CMAR	Chiang Mai Arr	63.39	44	P	P	04 26 13.3	-0.5
CMAR	Chiang Mai Arr	63.39	44	P	P	04 26 13.9	+0.2
comp=Z,1.4nm,0.3s,baz=231,slow=7.0,SNR=7.5							
comp=Z,1.4nm,0.3s							
CHTO	Chiang Mai	63.67	44	P	P	04 26 15.8	+0.2
CHTO				IAmb	IAmb	04 26 28.7	
comp=Z,8.4nm,1.4s							
SOEI	Soe	64.56	86	P	P	04 26 20.9	-1.0
SHL	Shillong	65.46	33	P	P	04 26 26.8	-0.6
SHL				IAmb	IAmb	04 26 34.6	
comp=Z,11nm,1.3s							
ASAR	Alice Springs	66.25	104	P	P	04 26 32.1	-0.4
comp=Z,0.9nm,0.9s,baz=226,slow=7.4,SNR=4.7							
comp=Z,0.9nm,0.9s							
TOLI2	Tolitoli	67.50	74	P	P	04 26 40.4	-0.2
WRA	Warramunga Arr	68.26	101	P	P	04 26 45.4	+0.1
comp=Z,0.9nm,0.8s,baz=242,slow=5.6,SNR=5.3							
comp=Z,0.9nm,0.8s							
WB2	Warramunga Arr	68.27	101	P	P	04 26 44.5	-0.9
WB0	Warramunga Arr	68.38	100	P	P	04 26 45.4	-0.7
WB0				IAmb	IAmb	04 26 46.8	
comp=Z,11nm,1.4s							
TOA0	Torodi Ar. Sit	70.21	300	P	P	04 26 58.0	+0.7
TOA0				IAmb	IAmb	04 27 17.9	
comp=Z,4.7nm,1.4s							
TORD	Torodi Ar. Bea	70.21	300	P	P	04 26 56.9	-0.5
comp=Z,0.8nm,0.9s,baz=126,slow=2.9,SNR=4.6							
comp=Z,0.8nm,0.9s							
SIMJ	Simiganj	70.81	9	P	P	04 27 01.1	+0.4
SIMJ				IAmb	IAmb	04 27 01.9	
comp=Z,4.7nm,1.0s	

mbtmp4.1/11, MS3.8/13, Error ellipse: s-maj=29.5km s-min=20.3km az=75.0
NEIC ***11*** *04:24:20.4±1.7, 31°.8S±0°.1×57°.4E±0°.2, h10km±1km, mb4.7/32, Error ellipse: s-maj=22.8km s-min=16.9km az=260.0*
GCMT ***11*** *04:24:21.5±0.4, 31°.62S±0°.02×58°.41E±0°.06, h15km±1km, MW4.8/82, Moment Tensor Solution. s21,c21; s82,c101; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-2.13±.18; $M_{\theta\theta}$1.78±.12; $M_{\phi\phi}$0.34±.12; $M_{r\theta}$-0.14±.23; $M_{\theta\phi}$0.21±.09; $M_{\phi r}$-1.36±.38; Best double couple: M_0=2.29100×10^16 NP1:ϕ_s=280.00000°, δ=43.00000°, λ-56.00000°. Principal axes: T 1.8510, Plg7.0000°, Azm166.0000°; N 0.8780, Plg23.0000°, Azm73.0000°; P -2.7310, Plg66.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 04:24:20.0±0.5, 31°.68S±0°.09×57°.8E±0°.1, h10km, n69, σ1§56/43, mb4.6/24, MS3.8/14, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.65**	**349**	Pn	**Pn**	**04 26 52.0**	**-0.8**
H04N2	**CROZET ISLANDS**	**15.20**	**196**	T	T	04 43 51.6	
	baz=22,slow=75,SNR=111						
H04N1	**CROZET ISLANDS**	**15.20**	**196**	T	T	04 43 54.1	
	baz=22,slow=75,SNR=88						
H04N3	**CROZET ISLANDS**	**15.21**	**196**	T	T	04 43 52.9	
	baz=22,slow=75,SNR=106						
H08S1	**Diego Carcia H**	**27.54**	**33**	T	T	04 58 21.3	
	baz=206,slow=76,SNR=65						
H08S2	**Diego Garcia H**	**27.55**	**33**	T	T	04 58 22.1	
	baz=206,slow=76,SNR=27						
H08S3	**Diego Garcia H**	**27.56**	**33**	T	T	04 58 22.8	
	baz=206,slow=76,SNR=52						
BOSA	**Boshof**	**28.28**	**268**	LR	LR	04 39 26.0	
	comp=Z,71nm,21.1s,baz=134,slow=32						
SUR	**Sutherland**	**31.30**	**259**	LR	LR	04 41 40.7	
	comp=Z,193nm,18.9s,baz=119,slow=33						
MAW	**Mawson**	**36.08**	**177**	LR	LR	04 42 08.5	
	comp=Z,275nm,21.3s,baz=1.5,slow=30						
TSUM	**Tsumeb**	**38.21**	**279**	LR	LR	04 45 38.7	
	comp=Z,139nm,20.5s,baz=152,slow=33						
FURI	**Furi**	**44.32**	**332**	LR	LR	04 49 19.7	
	comp=Z,100nm,18.5s,baz=130,slow=34						
PALK	**Pallekele**	**44.47**	**33**	LR	LR	04 46 40.9	
	comp=Z,101nm,18.1s,baz=313,slow=30						
ATD	**Arta Tunnel**	**45.30**	**339**	LR	LR	04 48 05.0	
	comp=Z,9.9nm,21.1s,baz=184,slow=31						
H01W2	**Cape Leeuwin H**	**46.65**	**110**	T	T	05 21 60.0	
	baz=257,slow=74,SNR=42						
H01W3	**Cape Leeuwin H**	**46.65**	**110**	T	T	05 22 03.1	
	baz=257,slow=74,SNR=37						
H01W1	**Cape Leeuwin H**	**46.66**	**110**	T	T	05 22 00.7	
	baz=257,slow=74,SNR=32						
MORW	**Morawa**	**49.77**	**103**	P	P	04 33 17.3	+4.4
MORW				IAmb	IAmb	04 33 55.3	
	comp=Z,15nm,1.3s						
SNAA	**Sanae**	**51.10**	**201**	P	**P**	**04 33 21.0**	**-1.5**
SNAA				IAmb	IAmb	04 33 26.0	
	comp=Z,5.5nm,1.3s						
SNAA	**Sanae**	**51.10**	**201**	LR	LR	04 50 46.4	
	comp=Z,98nm,20.3s,baz=320,slow=31						
WSAR	**Wadi Sarin**	**54.62**	**1**	LR	LR	04 51 22.2	
	comp=Z,116nm,21.5s,baz=196,slow=30						
MBWA	**Marble Bar**	**55.78**	**95**	P	**P**	**04 33 58.3**	**+0.9**
MBWA				IAmb	IAmb	04 34 36.1	
	comp=Z,19nm,1.4s						
RAYN	**Ar Rayn**	**56.15**	**346**	P	**P**	**04 33 59.7**	**-0.2**
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**04 34 16.5**	**+0.3**
QSPA				IAmb	IAmb	04 34 34.0	
	comp=Z,5.9nm,1.2s						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**04 34 17.1**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=304,slow=0.3,SNR=16						
	comp=Z,1.7nm,0.7s						
FORT	**Forrest**	**59.04**	**109**	P	P	04 34 23.2	+2.8
SHEL	**Horse Pasture**	**59.49**	**269**	P	P	04 34 20.6	-3.1
VNDA	**Vanda**	**62.28**	**166**	P	**P**	**04 34 40.2**	**-1.5**
VNDA				IAmb	IAmb	04 35 18.2	
	comp=Z,7.0nm,1.5s						
VNDA	**Vanda**	**62.28**	**166**	P	**P**	**04 34 42.6**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=276,slow=10,SNR=3.8						
	comp=Z,0.6nm,0.8s						
SBA	**Scott Base**	**63.11**	**167**	P	**P**	**04 34 46.0**	**-1.3**
SBA				IAmb	IAmb	04 35 01.2	
	comp=Z,10nm,1.5s						
CMAR	**Chiang Mai Arr**	**63.56**	**44**	P	**P**	**04 34 47.8**	**-3.2**
CMAR	**Chiang Mai Arr**	**63.56**	**44**	P	**P**	**04 34 50.5**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=236,slow=7.4,SNR=8.9						
CMAR				LR	LR	04 57 01.4	
	comp=Z,71nm,21.3s,baz=235,slow=31						
	comp=Z,1.4nm,0.3s						
ASAR	**Alice Springs**	**66.62**	**104**	P	**P**	**04 35 09.3**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=237,slow=6.2,SNR=12						
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**68.63**	**101**	P	P	04 35 25.8	+2.0
WRA	**Warramunga Arr**	**68.63**	**101**	P	**P**	**04 35 22.4**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=243,slow=5.5,SNR=8.4						
	comp=Z,1.1nm,0.6s						
WB2	**Warramunga Arr**	**68.64**	**101**	P	P	04 35 25.9	+2.0
TORD	**Torodi Ar. Bea**	**69.84**	**300**	P	**P**	**04 35 34.5**	**+3.3**
	comp=Z,0.7nm,0.8s,baz=134,slow=4.4,SNR=4.1						
TORD				LR	LR	05 05 57.4	
	comp=Z,190nm,19.4s,baz=138,slow=36						
	comp=Z,0.7nm,0.8s						
SIMJ	**Simiganj**	**70.75**	**9**	P	**P**	**04 35 38.2**	**+1.8**
SIMJ				IAmb	IAmb	04 35 40.8	
	comp=Z,8.7nm,1.2s						
CHGR	**Chuyangaron**	**70.77**	**9**	P	**P**	**04 35 37.4**	**+0.9**
CHGR				IAmb	IAmb	04 35 54.1	
	comp=Z,9.5nm,0.8s						
DBIC	**Dimbokro**	**70.84**	**291**	LR	LR	05 04 13.8	
	comp=Z,44nm,21.6s,baz=134,slow=34						
BTK	**Batken**	**72.39**	**10**	P	**P**	**04 35 46.7**	**+0.5**
BTK				IAmb	IAmb	04 35 52.3	
	comp=Z,13nm,1.4s						
GNI	**Garni**	**72.49**	**350**	LR	LR	05 04 38.8	
	comp=Z,80nm,21.6s,baz=192,slow=33						
CAN	**Canberra**	**73.34**	**121**	P	**P**	**04 35 53.9**	**+1.7**
PMSA	**Palmer Station**	**73.78**	**202**	P	**P**	**04 35 52.6**	**-1.6**
BRTR	**Keskin Array B**	**74.51**	**341**	P	**P**	**04 35 58.9**	**+0.1**
BRTR	**Keskin Array B**	**74.51**	**341**	P	**P**	**04 36 00.6**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=167,slow=7.0,SNR=3.7						
	comp=Z,0.7nm,0.7s						
KK31	**Karatay Array**	**75.33**	**10**	P	**P**	**04 36 03.6**	**+0.4**
KKAR	**Karatay Array**	**75.33**	**10**	P	**P**	**04 36 05.0**	**+1.8**
KKAR	**Karatay Array**	**75.33**	**10**	P	**P**	**04 36 04.3**	**+1.0**
KKAR				IAmb	IAmb	04 36 06.6	
	comp=Z,3.0nm,1.0s						
AAK	**Ala-Archa**	**75.52**	**13**	P	**P**	**04 36 06.2**	**+1.6**
AAK				IAmb	IAmb	04 36 07.5	
	comp=Z,4.7nm,1.0s						
KBZ	**Khabaz**	**76.28**	**349**	LR	LR	05 09 40.2	
	comp=Z,47nm,18.7s,baz=162,slow=36						
ABKAR	**Akbulak array**	**80.60**	**1**	P	**P**	**04 36 34.1**	**+1.7**
ABKAR	**Akbulak array**	**80.60**	**1**	P	**P**	**04 36 33.2**	**+0.8**
ABKAR				IAmb	IAmb	04 36 35.5	
	comp=Z,4.9nm,1.1s						
KEST	**Kesra**	**81.03**	**322**	P	**P**	**04 36 31.6**	**-3.6**
MAKZ	**Makanchi**	**81.11**	**17**	P	**P**	**04 36 35.6**	**+0.4**
MK31	**Makanchi Array**	**81.17**	**17**	P	**P**	**04 36 33.1**	**-2.5**
MKAR	**Makanchi Array**	**81.17**	**17**	P	**P**	**04 36 36.8**	**+1.2**
MKAR	**Makanchi Array**	**81.17**	**17**	P	**P**	**04 36 36.0**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=163,slow=4.7,SNR=6.2						
	comp=Z,1.2nm,0.9s						
MLR	**Muntele Rosu**	**82.09**	**338**	P	**P**	**04 36 42.0**	**+1.5**
MLR				IAmb	IAmb	04 37 11.0	
	comp=Z,6.0nm,1.4s						
LHI	**Lord Howe Isla**	**82.52**	**122**	P	**P**	**04 36 44.0**	**+0.8**
KURBB	**Kurchatov Arra**	**83.97**	**13**	P	**P**	**04 36 51.0**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=206,slow=5.5,SNR=10						
	comp=Z,1.6nm,0.3s						
KURK	**Kurchatov**	**84.07**	**13**	P	**P**	**04 36 51.8**	**+1.3**
KURK				IAmb	IAmb	04 36 53.5	
	comp=Z,6.1nm,1.0s						
OXZ	**Oxford**	**84.13**	**138**	P	**P**	**04 36 53.5**	**+2.2**
BURAR	**Bucovina Array**	**84.20**	**338**	P	**P**	**04 36 52.0**	**+0.6**
BUR08	**Bucovina Ar. S**	**84.24**	**338**	P	**P**	**04 36 51.8**	**+0.1**
BUR08				IAmb	IAmb	04 37 27.5	
	comp=Z,6.2nm,1.4s						
BVAR	**Borovoye Array**	**85.06**	**8**	P	**P**	**04 36 56.4**	**+0.9**
	comp=Z,4.6nm,0.8s,baz=181,slow=5.9,SNR=16						
	comp=Z,4.6nm,0.8s						
BRVK	**Borovoye**	**85.08**	**8**	P	**P**	**04 36 56.5**	**+0.9**
BRVK				IAmb	IAmb	04 36 58.6	
	comp=Z,6.5nm,1.1s						
SONM	**Songino Array**	**90.35**	**30**	P	**P**	**04 37 19.3**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=204,slow=3.2,SNR=3.6						
	comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**148.79**	**353**	PKPbc	**PKPbc**	**04 44 06.5**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=4.7,slow=2.4,SNR=9.7						

IDC ***11*** *04:27:28.1±1.4, 31°.67S×58°.26E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=45.4km s-min=31.2km az=94.0*

ISC 11 04:27:30.8±1.4, 31°.7S±0°.2×58°.2E±0°.4, h17km, n12, σ0§68/6, mb4.2/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**27.35**	**32**	T	T	05 01 27.5	
	baz=206,slow=76,SNR=20						
H08S2	**Diego Garcia H**	**27.36**	**32**	T	T	05 01 26.7	
	baz=206,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**27.37**	**32**	T	T	05 01 30.3	
	baz=206,slow=76,SNR=17						
H01W2	**Cape Leeuwin H**	**46.33**	**110**	T	T	05 25 06.1	
	baz=257,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**46.33**	**110**	T	T	05 25 01.2	
	baz=257,slow=75,SNR=12						
H01W1	**Cape Leeuwin H**	**46.34**	**110**	T	T	05 25 06.9	
	baz=257,slow=75,SNR=10						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**04 37 26.1**	**+0.2**
	1.4nm,0.7s,baz=287,slow=2.0,SNR=12						
	1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.32**	**44**	P	**P**	**04 37 59.2**	**+0.1**
	0.9nm,0.3s,baz=232,slow=5.6,SNR=1.9						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**66.29**	**104**	P	**P**	**04 38 18.5**	**-0.1**
	0.8nm,0.6s,baz=239,slow=5.6,SNR=9.1						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**68.30**	**101**	P	**P**	**04 38 31.2**	**-0.1**
	0.6nm,0.7s,baz=242,slow=5.7,SNR=9.1						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**85.01**	**7**	P	**P**	**04 40 05.3**	**+0.5**
	1.1nm,0.8s,baz=150,slow=6.5,SNR=5.0						
	1.1nm,0.8s						
YKA	**Yellowknife Ar**	**148.83**	**354**	PKPbc	**PKPbc**	**04 47 15.7**	**-1.0**
	0.8nm,0.8s,baz=9.1,slow=3.6,SNR=3.5						

IDC ***11*** *04:29:13.0±0.8, 22°.76S×171°.50E, h0km, mb4.2/9, mbtmp4.1/10, ML3.5/1, MS3.5/7, Error ellipse: s-maj=24.6km s-min=24.4km az=3.0*
NEIC ***11*** *04:29:14.9±1.2, 22°.8S±0°.1×171°.48E±0°.04, h13km±5km, mb4.6/11, Error ellipse: s-maj=16.6km s-min=4.7km az=186.0*

ISC 11 04:29:14.3±0.5, 22°.8S±0°.1×171°.44E±0°.07, h10km, n50, σ1§12/45, mb4.5/14, MS3.4/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**3.69**	**272**	Pn	**Pn**	**04 30 12.0**	**+0.6**
LIFNC	**LIFOU**	**4.38**	**296**	Pn	**Pn**	**04 30 21.7**	**+0.8**
ONTNC	**Ouen Toro**	**4.63**	**275**	Pn	**Pn**	**04 30 23.7**	**-0.7**
DZM	**Mont Dzumac**	**4.67**	**278**	Pn	**Pn**	**04 30 26.3**	**+1.3**
	1.9nm,0.3s,baz=113,slow=13,SNR=73						
DZM				Sn	**Sn**	**04 31 16.8**	**-2.7**
	2.8nm,0.3s,baz=310,slow=23,SNR=6.3						
DZM				LR	LR	04 31 55.5	
	comp=Z,195nm,21.9s,baz=60,slow=34						
	14nm,0.6s						
KOUNC	**Koumac, New Ca**	**7.01**	**287**		**Pn**	**04 30 58.8**	**+1.7**
MSVF	**Nonsavu**	**7.98**	**52**		**Pn**	**04 31 09.1**	**-1.5**
URZ	**Urewera**	**16.18**	**164**	Pn	**P**	**04 33 05.5**	**+0.6**
	0.2nm,0.3s,baz=56,slow=9.9,SNR=6.0						
URZ				LR	LR	04 37 56.3	
	comp=Z,291nm,20.8s,baz=58,slow=32						
RPZ	**Rata Peaks**	**20.88**	**181**	LR	LR	04 41 01.9	
	comp=Z,251nm,18.2s,baz=336,slow=34						
CTA	**Charters Tower**	**23.59**	**272**	LR	LR	04 43 04.5	
	comp=Z,8.1nm,19.8s,baz=108,slow=35						
RAR	**Rarotonga**	**26.72**	**92**	P	**P**	**04 34 53.1**	**-1.0**
RAR	**Rarotonga**	**26.72**	**92**	LR	LR	04 44 30.1	
	comp=Z,32nm,18.6s,baz=258,slow=34						
STKA	**Stephens Creek**	**27.94**	**245**	LR	LR	04 45 32.5	
	comp=Z,125nm,18.3s,baz=37,slow=35						
ASAR	**Alice Springs**	**34.44**	**261**	P	**P**	**04 36 02.9**	**+0.5**
	2.5nm,0.8s,baz=90,slow=9.1,SNR=21						
	2.5nm,0.8s						
WB0	**Warramunga Arr**	**34.59**	**268**	P	**P**	**04 36 01.0**	**-2.7**
WB0				IAmb	IAmb	04 36 04.1	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**34.60**	**268**	P	**P**	**04 36 03.1**	**-0.6**
WB2				IAmb	IAmb	04 36 03.3	
	comp=Z,17nm,1.5s						
WRA	**Warramunga Arr**	**34.61**	**268**	P	**P**	**04 36 03.1**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=98,slow=8.3,SNR=8.4						
	comp=Z,0.4nm,0.5s						
FORT	**Forrest**	**39.34**	**249**	P	**P**	**04 36 43.3**	**-0.6**
FORT				IAmb	IAmb	04 36 55.5	
	comp=Z,14nm,1.1s						
MTN	**Manton Dam**	**39.51**	**277**	P	**P**	**04 36 45.2**	**-0.3**
MTN				IAmb	IAmb	04 36 57.7	
	comp=Z,18nm,1.2s						
FITZ	**Fitzroy Crossi**	**43.04**	**268**	P	**P**	**04 37 13.1**	**-1.4**
MBWA	**Marble Bar**	**47.78**	**262**	P	**P**	**04 37 50.9**	**-1.2**
NWAO	**Narrogin (SRO)**	**48.52**	**246**	LR	LR	04 58 28.9	
	comp=Z,93nm,18.9s,baz=217,slow=36						
VNDA	**Vanda**	**54.99**	**183**	P	**P**	**04 38 46.1**	**+0.8**
VNDA	**Vanda**	**54.99**	**183**	P	**P**	**04 38 45.4**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=360,slow=7.0,SNR=2.1						
	comp=Z,0.6nm,0.8s						
SBA	**Scott Base**	**55.17**	**181**	P	**P**	**04 38 46.4**	**-0.2**
SBA				IAmb	IAmb	04 39 03.1	
	comp=Z,5.5nm,0.9s						
QSPA	**South Pole Qui**	**67.29**	**180**	P	**P**	**04 40 09.1**	**0.0**
QSPA				IAmb	IAmb	04 40 10.1	
	comp=Z,5.0nm,0.8s						
QSPA	**South Pole Qui**	**67.29**	**180**	P	**P**	**04 40 09.8**	**+0.7**
	comp=Z,5.3nm,0.9s,baz=27,slow=1.0,SNR=14						
	comp=Z,5.3nm,0.9s						
ASAJ	**Asahikawa**	**71.63**	**339**	LR	LR	05 11 07.4	
	comp=Z,13nm,18.2s,baz=168,slow=35						
KSRS	**Korea Array**	**72.57**	**325**	P	**P**	**04 40 42.5**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=135,slow=7.2,SNR=5.5						
	comp=Z,0.8nm,0.4s						
BELA	**Belgrano 2**	**78.40**	**175**	P	**P**	**04 41 13.8**	**-0.9**
SDPT	**Sand Point**	**81.43**	**16**	P	**P**	**04 41 31.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**81.82**	**294**	P	**P**	**04 41 36.2**	**+2.1**
	comp=Z,1.2nm,0.3s,baz=145,slow=3.9,SNR=10						
	comp=Z,1.2nm,0.3s						
NVAR	**Mina Array Bea**	**89.63**	**48**	P	**P**	**04 42 13.3**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=226,slow=8.4,SNR=19						
	comp=Z,2.2nm,0.7s						
SONM	**Songino Array**	**91.27**	**322**	P	**P**	**04 42 20.4**	**+0.4**
	comp=Z,2.5nm,1.0s,baz=140,slow=5.4,SNR=10						
	comp=Z,2.5nm,1.0s						
ILAR	**Eielson Array**	**93.01**	**17**	P	**P**	**04 42 25.8**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=237,slow=5.7,SNR=4.7						
	comp=Z,0.4nm,0.7s						
DPC	**Dobruska-Polom**	**146.30**	**331**	*e*PKP	**PKPbc**	**04 48 55.7**	**+0.6**
EKA	**Eskdalemuir Ar**	**147.24**	**354**	PKPbc	**PKPdf**	**04 48 56.3**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=3.8,slow=3.2,SNR=4.5						
PRU	**Pruhonice**	**147.35**	**332**	*e*PKP	**PKPbc**	**04 48 58.6**	**+0.5**
ZVC	**Zvikov**	**147.91**	**332**	*e*PKP	**PKPbc**	**04 49 00.0**	**+0.4**
RONA	**Rosalia, Austr**	**148.16**	**327**	*i* PKP	**PKPbc**	**04 49 00.7**	**+0.2**
	comp=Z,7.0nm,0.6s						
CONA	**Conrad Observa**	**148.22**	**328**	*i* PKP	**PKPbc**	**04 49 00.9**	**+0.3**
	comp=Z,4.2nm,0.7s						
KHC	**Kasperske Hory**	**148.41**	**332**	*e*PKP	**PKPdf**	**04 49 00.0**	**+2.5**
GERES	**GERESS Array B**	**148.57**	**331**	PKPbc	**PKPbc**	**04 49 01.6**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=90,slow=0.1,SNR=13						
SOKA	**Soboth**	**149.49**	**327**	*e*PKP	**PKPbc**	**04 49 03.1**	**-0.7**
	comp=Z,8.8nm,1.0s						
KBA	**Koelnbreinsper**	**150.03**	**329**	*e*PKP	**PKPbc**	**04 49 04.3**	**-1.1**
	comp=Z,8.3nm,1.1s						
LESA	**Schwarzleotal**	**150.09**	**330**	*e*PKP	**PKPbc**	**04 49 04.3**	**-1.0**
	comp=Z,4.1nm,0.5s						
MYKA	**Terra Mystica**	**150.21**	**328**	*e*PKP	**PKPbc**	**04 49 04.7**	**-1.0**
	comp=Z,3.7nm,0.5s						
WATA	**Walderalm**	**150.64**	**331**	*e*PKP	**PKPbc**	**04 49 06.2**	**-0.6**
	comp=Z,6.6nm,0.7s						
ABTA	**Abfaltersbach**	**150.66**	**330**	*e*PKP	**PKPbc**	**04 49 05.8**	**-0.9**
	comp=Z,6.2nm,0.7s						
WTTA	**Wattenberg**	**150.67**	**331**	*e*PKP	**PKPbc**	**04 49 06.4**	**-0.5**
	comp=Z,5.7nm,0.8s						
SQTA	**Sankt Quirin**	**150.89**	**332**	*e*PKP	**PKPbc**	**04 49 06.6**	**-0.7**
	comp=Z,7.4nm,1.1s						

TEH ***11*** *04:29:58.5, 37°.27N×54°.50E, h15km±20km, ML3.5*

ISC 11 04:29:59.2±0.8, 37°.27N±0°.05×54°.46E±0°.03, h10km, n32, σ1§85/37, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.75**	**90**	Pg	**Pb**	**04 30 13.9**	**-0.5**
IGLO	**Ghaloghah**	**0.92**	**214**	Pg	**Pn**	**04 30 18.2**	**-0.2**
IGLO				Sg	**Sn**	**04 30 30.8**	**-1.0**
MRVT	**Maraveh tapeh**	**1.35**	**73**	Pg	**Pg**	**04 30 25.2**	**0.0**
MRVT				Sg	**Sg**	**04 30 42.9**	**+0.2**
IALA	**Alasht**	**1.78**	**229**	Pg	**Pg**	**04 30 32.6**	**-0.8**
IANJ	**Anjilo**	**1.85**	**194**	Pn	**Pb**	**04 30 33.5**	**+0.2**
IPRN	**Peran**	**1.99**	**240**	Pn	**Pb**	**04 30 35.0**	**-0.6**
IFIR	**Firoozkooh**	**2.13**	**221**	Pn	**Pb**	**04 30 37.3**	**-0.8**
ILAS	**Lasjerd**	**2.24**	**213**	Pn	**Pb**	**04 30 38.8**	**-1.1**
MZPU	**Pul - Mazandar**	**2.46**	**251**	Pn	**Pb**	**04 30 42.2**	**-1.6**
IDMV	**Damavand**	**2.59**	**230**	Pn	**Pb**	**04 30 43.9**	**-2.0**
SBZV	**Sabzevar**	**2.67**	**108**	Pn	**Pb**	**04 30 43.9**	**-3.4**
KLST	**Kelardasht - M**	**2.83**	**256**	Pn	**Pn**	**04 30 46.8**	**+2.0**
IVRN	**Varamin**	**3.17**	**225**	Pn	**Pn**	**04 30 51.3**	**+2.1**
ISFB	**Sefidab**	**3.42**	**213**	Pn	**Pn**	**04 30 54.5**	**+1.7**
IPAY	**Payeh**	**3.73**	**101**	Pn	**Pn**	**04 30 58.5**	**+1.5**
KRSH	**Karshahi**	**3.80**	**211**	Pn	**Pn**	**04 30 59.9**	**+1.9**
IKRD	**Kardeh**	**4.07**	**95**	Pn	**Pn**	**04 31 03.3**	**+1.5**
ANAR	**Anarak**	**4.11**	**189**	Pn	**Pn**	**04 31 03.7**	**+1.5**
TKDS	**Koohdasht(Taba**	**4.24**	**148**	Pn	**Pn**	**04 31 05.4**	**+1.4**
TPRV	**Parvadeh(Tabas**	**4.61**	**156**	Pn	**Pn**	**04 31 10.5**	**+1.5**
TBJM	**Torbat-e-JAM**	**5.14**	**111**	Pn	**Pn**	**04 31 17.2**	**+0.7**
AFRZ	**Afriz**	**5.34**	**135**	Pn	**Pn**	**04 31 20.5**	**+1.4**
ISAD	**Sadrabad**	**5.38**	**187**	Pn	**Pn**	**04 31 21.2**	**+1.4**
GRMI	**Germi**	**5.41**	**289**	Pn	**Pn**	**04 31 21.6**	**+1.5**
IRAM	**Ramesheh**	**5.71**	**198**	Pn	**Pn**	**04 31 26.5**	**+2.2**
IBAF	**Bafgh**	**5.74**	**171**	Pn	**Pn**	**04 31 26.2**	**+1.6**
IMEH	**Mehriz**	**5.86**	**179**	Pn	**Pn**	**04 31 28.2**	**+1.7**
IHRS	**Heris**	**5.97**	**282**	Pn	**Pn**	**04 31 29.6**	**+1.7**
VSHL	**Vashlovani**	**7.40**	**305**	P	**Pn**	**04 31 49.9**	**+2.5**
VSHL				S	**Sn**	**04 33 10.0**	**-1.4**
DGRG	**David-gareji**	**8.19**	**303**	P	**Pn**	**04 32 00.2**	**+2.1**
DGRG				S	**Sn**	**04 33 30.1**	**-0.6**
CHRG	**Chargali**	**8.91**	**308**	P	**Pn**	**04 32 11.1**	**+3.0**
CHRG				S	**Sn**	**04 33 44.0**	**-4.6**
SHTL	**Shatili**	**8.95**	**310**	P	**Pn**	**04 32 11.0**	**+2.4**

NEIC ***11*** *04:36:38.5±0.9, 35°.952N±0°.009×97°.765W±0°.009, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.8km az=337.0*

TUL 11 04:36:38.8±1.0, 35°.954N±0°.010×97°.764W±0°.009, h5km±5km, ML2.8, mb_Lg2.6/84(NEIC), ML3.0/66(NEIC), Error ellipse: s-maj=1.5km s-min=0.8km az=146.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.30**	**122**	Pg	Pg	04 36 45.0	+0.4
OK029				Sg	Sg	04 36 49.4	+0.9
ADOK	**Arcadia Dam**	**0.44**	**133**	Pg	Pg	04 36 47.6	+0.3
ADOK				Sg	Sg	04 36 53.9	+0.9
CROK	**Carrier**	**0.58**	**342**	Pg	Pg	04 36 50.2	+0.2
CROK				Sg	Sg	04 36 58.2	+0.8
CROK				IAML		04 36 58.7	
	comp=E,1μm,0.3s						
CROK				IAML		04 37 03.4	
	comp=N,1μm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.61**	**154**	Pg	Pg	04 36 50.5	0.0
OKCSW				Sg	Sg	04 36 59.1	+0.7
OKCSW				IAML		04 36 59.7	
	comp=E,627nm,0.2s						
OK031	**S. Brethren Rd**	**0.75**	**90**	Pg	Pg	04 36 53.2	0.0
OK031				IAML		04 37 04.1	
	comp=E,688nm,0.2s						
OK031				IAML		04 37 05.6	
	comp=E,416nm,0.2s						
FNO	**Franklin**	**0.76**	**157**	Pg	Pg	04 36 53.2	-0.1
FNO				IAML		04 37 06.6	
	comp=E,728nm,0.5s

comp=Z,20nm,0.7s
DKNS Dickens 3.46 230 Pn 04 37 32.6 -0.8
DKNS IAmb_Lg 04 38 36.1
comp=Z,18nm,1.0s
Z38A Mt. Pleasant 3.53 139 Pn 04 37 33.9 -0.4
Z38A IAmb_Lg 04 38 33.2
comp=Z,11nm,0.7s
FW16 Waxahatchie 3.54 168 IAmb_Lg 04 38 33.5
comp=Z,21nm,0.8s
ABTX Abilene, Hawle 3.67 206 Pn 04 37 36.4 +0.2
ABTX IAmb_Lg 04 38 39.7
comp=Z,14nm,0.9s
MIAR Mount Ida 3.70 111 Pn Pn 04 37 37.3 +0.6
SN07 Snyder 07 3.85 223 Pn Pn 04 37 39.1 +0.4
SN07 IAmb_Lg 04 38 44.6
comp=Z,12nm,0.8s
S39A Bolivar 3.96 63 Pn 04 37 40.3 +0.1
S39A IAmb_Lg 04 38 43.7
comp=Z,11nm,0.8s
SN05 Snyder 5 4.01 221 IAmb_Lg 04 38 50.6
comp=Z,13nm,0.8s
RTBA Rita Blanca 4.05 278 Pn 04 37 41.4 -0.2
RTBA IAmb_Lg 04 38 57.6
comp=Z,10nm,0.8s
POST Post 4.22 228 Pn Pn 04 37 43.3 -0.5
POST IAmb_Lg 04 38 57.3
comp=Z,12nm,0.8s
237A Washetta, Mont 4.26 157 IAmb_Lg 04 39 03.3
comp=Z,14nm,0.7s
X40A Basin Creek Fa 4.29 108 Pn Pn 04 37 44.5 -0.2
X40A IAmb_Lg 04 38 57.5
comp=Z,10nm,0.7s
WLAR White Oak Lake 4.44 119 Pn Pn 04 37 46.5 -0.3
WLAR IAmb_Lg 04 39 11.3
comp=Z,16nm,1.0s
WHAR Wooly Hollow 4.51 97 Pn Pn 04 37 47.6 -0.2
WHAR IAmb_Lg 04 39 08.7
comp=Z,14nm,0.7s
MSTX Muleshoe 4.56 246 Pn Pn 04 37 49.5 +0.9
MSTX IAmb_Lg 04 39 06.2
comp=Z,9.3nm,0.9s
FCAR Ozark Folk Cen 4.58 89 Pn Pn 04 37 47.7 -1.0
FCAR IAmb_Lg 04 39 01.9
comp=Z,14nm,0.7s
MGMO Mountain Grove 4.58 73 Pn Pn 04 37 48.0 -0.7
UALR University of 4.58 103 Pn Pn 04 37 48.7 0.0
BRDY Brady 4.77 193 Pn Pn 04 37 50.5 -0.9
SGCY Sterling City 4.90 216 Pn Pn 04 37 51.2 -2.0
SGCY IAmb_Lg 04 39 24.2
comp=Z,14nm,1.0s
KSCO Kaye Shedlock' 4.93 310 Pn Pn 04 37 53.0 -0.6
P38A Dawn 4.97 41 IAmb_Lg 04 39 20.5
comp=Z,13nm,0.8s
R40A Maddies Statio 4.97 60 Pn Pn 04 37 52.9 -1.2
R40A IAmb_Lg 04 39 14.2
comp=Z,12nm,1.0s
N35A Tabor 5.17 18 Pn Pn 04 37 56.4 -0.5
CCAR Cane Creek 5.33 111 IAmb_Lg 04 39 26.9
comp=Z,14nm,0.9s
LCAR Lake Charles 5.36 87 IAmb_Lg 04 39 31.6
comp=Z,13nm,0.8s
T25A Trinidad 5.48 284 IAmb_Lg 04 39 36.1
comp=Z,9.1nm,0.8s
T42A Van Buren 5.48 77 Pn Pn 04 38 00.4 -0.7
T42A IAmb_Lg 04 39 39.1
comp=Z,13nm,0.9s
CCM Cathedral Cave 5.62 66 IAmb_Lg 04 39 43.8
comp=Z,18nm,0.8s
JCT Junction City 5.72 198 IAmb_Lg 04 39 45.5
comp=Z,16nm,0.8s
OZNA Ozona 5.75 210 Pn Pn 04 38 04.4 -0.5
N38A Joes South For 6.00 35 IAmb_Lg 04 39 51.8
comp=Z,13nm,0.8s
L34A Svendsen Farm, 6.10 10 IAmb_Lg 04 40 05.9
comp=Z,17nm,0.7s
MNHN Monahans 6.21 224 IAmb_Lg 04 40 00.8
comp=Z,5.7nm,0.7s
FVM French Village 6.21 69 IAmb_Lg 04 40 06.8
comp=Z,16nm,0.8s
HNDO Hondo 6.53 192 IAmb_Lg 04 40 13.4
comp=Z,12nm,1.0s
CGM3 Cape Girardeau 6.66 76 IAmb_Lg 04 40 07.2
comp=Z,9.8nm,0.8s
PECS Pecos 6.84 230 IAmb_Lg 04 40 18.6
comp=Z,5.5nm,0.8s
SCIA State Center 6.92 29 IAmb_Lg 04 40 35.4
comp=Z,13nm,0.8s
DRIO Del Rio 6.94 201 IAmb_Lg 04 40 34.4
comp=Z,6.9nm,1.0s
SAND Sanderson 7.01 213 IAmb_Lg 04 40 29.0
comp=Z,7.8nm,0.9s
VHRN Van Horn 7.94 232 IAmb_Lg 04 40 57.9
comp=Z,4.0nm,0.9s
N23A Red Feather La 8.09 310 IAmb_Lg 04 41 10.1
comp=Z,7.2nm,0.9s
RSSD Black Hills 9.47 331 IAmb_Lg 04 41 54.0
comp=Z,6.3nm,0.9s

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*IDC **11** 04:37:21.8±0.9, 12°.80N×57°.49E, h0km, mb4.0/14, mbtmp4.0/15, ML3.1/1, MS3.9/2, Error ellipse: s-maj=23.8km s-min=18.9km az=27.0*
*NEIC **11** 04:37:25.3±1.7, 13°.0N±0°.1×57°.7E±0°.1, h10km±1km, mb4.4/18, Error ellipse: s-maj=22.7km s-min=18.9km az=252.0*
ISC 11 04:37:25.1±0.7, 12°.9N±0°.1×57°.60E±0°.10, h17km, n41, σ1§10/40, mb4.2/24, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**10.31**	**5**	Pn	**Pn**	**04 39 53.3**	**+0.9**
	0.1nm,0.3s,baz=216,slow=19,SNR=1.0 3.8nm,0.7s						
UOSS	**Minazif**	**12.04**	**354**	Pn	**Pn**	**04 40 16.2**	**+0.2**
RAYN	**Ar Rayn**	**15.58**	**314**	Pn	**Pn**	**04 41 04.8**	**+0.6**
RAYN				IAmb	IAmb	04 41 07.3	
comp=Z,12nm,1.1s							
HRA	**Herat**	**21.79**	**10**	P	**P**	**04 42 14.4**	**-2.0**
HRA				IAmb	IAmb	04 42 23.6	
comp=Z,19nm,1.1s							
KMBO	**Kilima Mbogo**	**24.54**	**237**	P	**P**	**04 42 44.6**	**+0.2**
KMBO				IAmb	IAmb	04 42 49.5	
comp=Z,11nm,1.5s							
BRTR	**Keskin Array B**	**34.05**	**326**	P	**P**	**04 44 09.7**	**+1.0**
comp=Z,0.6nm,0.7s,baz=138,slow=11,SNR=3.7 comp=Z,0.6nm,0.7s							
MAKZ	**Makanchi**	**39.52**	**26**	P	**P**	**04 44 54.0**	**-0.9**
MAKZ				IAmb	IAmb	04 44 59.4	
comp=Z,5.0nm,1.0s							
MK31	**Makanchi Array**	**39.64**	**27**	P	**P**	**04 44 56.5**	**+0.4**
MKAR	**Makanchi Array**	**39.64**	**27**	P	**P**	**04 44 56.9**	**+0.8**
MKAR	**Makanchi Array**	**39.64**	**27**	P	**P**	**04 44 56.7**	**+0.6**
comp=Z,1.2nm,0.8s,baz=214,slow=9.4,SNR=9.5 comp=Z,1.2nm,0.8s							
ITM	**Ithomi**	**39.98**	**314**	P	**P**	**04 45 00.3**	**+1.3**
ITM				IAmb	IAmb	04 45 10.7	
comp=Z,25nm,1.3s							
CMAR	**Chiang Mai Arr**	**40.12**	**77**	P	**P**	**04 45 01.4**	**+1.0**
comp=Z,3.5nm,0.8s,baz=275,slow=8.9,SNR=11 comp=Z,3.5nm,0.8s							
AGG	**Agios Georgios**	**40.59**	**316**	P	**P**	**04 45 05.2**	**+1.2**
AGG				IAmb	IAmb	04 45 21.9	
comp=Z,9.7nm,1.5s							
BVAR	**Borovoye Array**	**41.29**	**12**	P	**P**	**04 45 10.3**	**+0.7**
comp=Z,1.0nm,0.6s,baz=197,slow=4.6,SNR=5.2 comp=Z,1.0nm,0.6s							
KURBB	**Kurchatov Arra**	**41.30**	**20**	P	**P**	**04 45 09.9**	**+0.3**
comp=Z,2.5nm,0.7s,baz=218,slow=8.0,SNR=9.6 comp=Z,2.5nm,0.7s							
PHRA	**Phrae**	**41.34**	**77**	P	**P**	**04 45 09.9**	**-0.5**
BURAR	**Bucovina Array**	**43.89**	**328**	P	**P**	**04 45 31.9**	**+1.0**
BUR08	**Bucovina Ar. S**	**43.92**	**329**	P	**P**	**04 45 32.9**	**+1.7**
ZAA0	**Zalesovo Array**	**46.24**	**22**	P	**P**	**04 45 49.0**	**-0.3**
ZAA0				IAmb	IAmb	04 45 52.1	
comp=Z,4.9nm,0.9s							
ZALV	**Zalesovo Beam**	**46.24**	**22**	P	**P**	**04 45 49.0**	**-0.3**
ZALV	**Zalesovo Beam**	**46.24**	**22**	P	**P**	**04 45 49.3**	**0.0**
comp=Z,4.4nm,0.8s,baz=222,slow=8.4,SNR=14 comp=Z,4.4nm,0.8s							
CLL	**Collm**	**52.50**	**326**	*e*P	**P**	**04 46 38.0**	**+0.8**
SONM	**Songino Array**	**53.35**	**39**	P	**P**	**04 46 44.2**	**+0.4**
comp=Z,0.7nm,0.8s,baz=234,slow=8.6,SNR=5.0 comp=Z,0.7nm,0.8s							
FINES	**FINESS Array B**	**53.55**	**342**	P	**P**	**04 46 43.8**	**-0.9**
FINES	**FINESS Array B**	**53.55**	**342**	P	**P**	**04 46 44.0**	**-0.8**
comp=Z,2.0nm,0.8s,baz=111,slow=8.4,SNR=6.6 comp=Z,2.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**54.36**	**277**	P	**P**	**04 46 48.8**	**-2.7**
comp=Z,0.4nm,0.9s,baz=76,slow=6.1,SNR=2.8							
TORD				PcP	**PcP**	**04 47 56.7**	**+1.3**
comp=Z,0.7nm,0.9s,baz=76,slow=5.4,SNR=3.1 comp=Z,0.4nm,0.9s							
NB201	**NORSAR Array S**	**58.55**	**336**	P	**P**	**04 47 22.0**	**+1.4**
NB201				IAmb	IAmb	04 47 35.5	
comp=Z,6.0nm,1.1s							
NRIK	**Noril'sk**	**59.50**	**12**	P	**P**	**04 47 26.8**	**-0.3**
comp=Z,1.9nm,0.5s,baz=272,slow=6.4,SNR=3.9 comp=Z,1.9nm,0.5s							
MDT	**Midelt**	**59.82**	**300**	LR	LR	05 16 22.5	
comp=Z,128nm,18.3s,baz=122,slow=39							
ESDC	**Sonseca Array**	**60.02**	**308**	P	**P**	**04 47 31.3**	**0.0**
comp=Z,1.2nm,0.9s,baz=81,slow=6.0,SNR=7.2 comp=Z,1.2nm,0.9s							
EKA	**Eskdalemuir Ar**	**62.97**	**326**	P	**P**	**04 47 49.2**	**-1.6**
comp=Z,1.5nm,0.7s,baz=112,slow=6.7,SNR=6.4 comp=Z,1.5nm,0.7s							
KSRS	**Korea Array**	**66.69**	**55**	P	**P**	**04 48 13.2**	**-2.1**
comp=Z,0.5nm,0.5s,baz=266,slow=6.7,SNR=5.3							
KLR	**Kul'dur**	**69.98**	**42**	LR	LR	05 21 21.3	
comp=Z,54nm,19.4s,baz=340,slow=38							
PSA00	**Pilbara Seismi**	**70.04**	**119**	P	**P**	**04 48 38.5**	**+2.0**
PSA00				IAmb	IAmb	04 48 54.3	
comp=Z,11nm,1.4s							
WB0	**Warramunga Arr**	**82.24**	**112**	P	**P**	**04 49 45.1**	**-1.0**
WB0				IAmb	IAmb	04 49 45.8	
comp=Z,6.4nm,1.1s							
WRA	**Warramunga Arr**	**82.24**	**112**	P	**P**	**04 49 45.4**	**-0.7**
WRA	**Warramunga Arr**	**82.24**	**112**	P	**P**	**04 49 45.7**	**-0.4**
comp=Z,2.0nm,0.9s,baz=296,slow=4.4,SNR=14 comp=Z,2.0nm,0.9s							
WB2	**Warramunga Arr**	**82.25**	**112**	P	**P**	**04 49 45.6**	**-0.6**
WR0	**Warramunga Arr**	**82.42**	**112**	P	**P**	**04 49 46.4**	**-0.7**
ASAR	**Alice Springs**	**82.94**	**116**	P	**P**	**04 49 49.2**	**-0.5**
comp=Z,2.2nm,0.7s,baz=290,slow=5.1,SNR=16 comp=Z,2.2nm,0.7s							
BBOO	**Buckleboo**	**87.45**	**124**	P	**P**	**04 50 12.6**	**+0.4**

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*IDC **11** 04:40:04.6±0.9, 31°.71S×58°.35E, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=34.0km s-min=25.3km az=63.0*
*NEIC **11** 04:40:05.4±1.9, 31°.5S±0°.1×58°.4E±0°.1, h10km±1km, mb4.4/11, Error ellipse: s-maj=26.0km s-min=4.7km az=229.0*
ISC 11 04:40:06.3±0.8, 31°.5S±0°.1×58°.3E±0°.1, h14km, n33, σ1§23/24, mb4.1/15, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.57**	**347**	Pn	**Pn**	**04 42 36.7**	**-0.9**
VOI	**Vohitsoka**	**14.05**	**310**	Pn	**Pn**	**04 43 25.5**	**+0.4**
H04N2	**CROZET ISLANDS**	**15.46**	**197**	T	T	04 59 24.0	
baz=22,slow=74,SNR=22							
H04N1	**CROZET ISLANDS**	**15.47**	**197**	T	T	04 59 22.9	
baz=22,slow=74,SNR=23							
H04N3	**CROZET ISLANDS**	**15.48**	**197**	T	T	04 59 23.8	
baz=22,slow=74,SNR=24							
ABPO	**Ambohimpanom**	**15.97**	**319**	Pn	**Pn**	**04 43 49.7**	**-1.1**
MSEY	**Mahe Island**	**26.84**	**354**	P	**P**	**04 45 45.2**	**-1.4**
H08S1	**Diego Garcia H**	**27.18**	**32**	T	T	05 14 10.1	
baz=206,slow=75,SNR=20							
H08S2	**Diego Garcia H**	**27.19**	**32**	T	T	05 14 07.8	
baz=206,slow=75,SNR=10							
H08S3	**Diego Garcia H**	**27.20**	**32**	T	T	05 14 05.5	
baz=206,slow=75,SNR=17							
LBTB	**Lobatse**	**29.46**	**274**	P	**P**	**04 46 10.5**	**+0.5**
LBTB				IAmb	IAmb	04 46 13.1	
comp=Z,5.1nm,1.1s							
H01W2	**Cape Leeuwin H**	**46.32**	**110**	T	T	05 37 41.9	
baz=258,slow=75,SNR=12							
H01W3	**Cape Leeuwin H**	**46.32**	**110**	T	T	05 37 42.2	
baz=258,SNR=13							
H01W1	**Cape Leeuwin H**	**46.33**	**110**	T	T	05 37 43.6	
baz=258,slow=75,SNR=12							
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**04 50 02.5**	**-0.4**
QSPA				IAmb	IAmb	04 50 08.9	
comp=Z,3.3nm,1.2s							
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**04 50 02.3**	**-0.6**
comp=Z,0.6nm,0.6s,baz=254,slow=3.2,SNR=6.9 comp=Z,0.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.16**	**44**	P	**P**	**04 50 35.5**	**+1.6**
comp=Z,1.3nm,0.4s,baz=226,slow=6.7,SNR=4.7 comp=Z,1.3nm,0.4s							
ASAR	**Alice Springs**	**66.26**	**104**	P	**P**	**04 50 54.0**	**-0.5**
comp=Z,0.6nm,0.5s,baz=241,slow=6.2,SNR=5.0 comp=Z,0.6nm,0.5s							
WRA	**Warramunga Arr**	**68.26**	**101**	P	**P**	**04 51 07.4**	**+0.3**
comp=Z,1.2nm,0.9s,baz=241,slow=5.6,SNR=5.3 comp=Z,1.2nm,0.9s							
WB2	**Warramunga Arr**	**68.27**	**101**	P	**P**	**04 51 05.4**	**-1.7**
WB2				IAmb	IAmb	04 51 10.1	
comp=Z,5.0nm,1.1s							
WB0	**Warramunga Arr**	**68.38**	**100**	P	**P**	**04 51 06.9**	**-1.0**
WB0				IAmb	IAmb	04 51 13.4	
comp=Z,4.8nm,1.1s							
TOA0	**Torodi Ar. Sit**	**70.12**	**300**	P	**P**	**04 51 17.0**	**-1.5**
TOA0				IAmb	IAmb	04 51 20.5	
comp=Z,2.1nm,1.2s							
TORD	**Torodi Ar. Bea**	**70.12**	**300**	P	**P**	**04 51 17.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**70.12**	**300**	P	**P**	**04 51 19.8**	**+1.3**
comp=Z,0.4nm,0.8s,baz=123,slow=3.7,SNR=2.3 comp=Z,0.4nm,0.8s							
SIMJ	**Simiganj**	**70.53**	**9**	P	**P**	**04 51 20.0**	**-0.6**
SIMJ				IAmb	IAmb	04 51 29.1	
comp=Z,8.1nm,1.4s							
ELL	**Elmali**	**72.94**	**336**	P	**P**	**04 51 33.3**	**-1.9**
BR131	**Keskin Array S**	**74.50**	**340**	P	**P**	**04 51 44.6**	**+0.3**
BRTR	**Keskin Array B**	**74.50**	**340**	P	**P**	**04 51 45.5**	**+1.2**
comp=Z,0.6nm,0.8s,baz=157,slow=7.8,SNR=2.4 comp=Z,0.6nm,0.8s							
ONI	**Oni**	**75.00**	**349**	P	**P**	**04 51 45.7**	**-1.4**
ONI				IAmb	IAmb	04 51 53.2	
comp=Z,2.8nm,1.1s							
MKAR	**Makanchi Array**	**80.91**	**16**	P	**P**	**04 52 21.2**	**+1.5**
comp=Z,0.3nm,0.6s,baz=185,slow=5.2,SNR=3.7 comp=Z,0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**83.72**	**13**	P	**P**	**04 52 36.3**	**+2.0**
comp=Z,0.9nm,0.7s,baz=202,slow=5.8,SNR=4.3 comp=Z,0.9nm,0.7s							
BVAR	**Borovoye Array**	**84.85**	**7**	P	**P**	**04 52 41.4**	**+1.4**
comp=Z,2.0nm,0.8s,baz=157,slow=4.2,SNR=8.1 comp=Z,2.0nm,0.8s							
YKA	**Yellowknife Ar**	**148.68**	**354**	PKPbc	**PKiKP**	**04 59 53.1**	**-0.6**
comp=Z,0.9nm,0.8s,baz=3.0,slow=2.6,SNR=8.3							

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*IDC **11** 05:00:41.3±0.4, 31°.62S×58°.32E, h0km, mb4.7/25, mbtmp4.7/26, ML4.9/1, MS4.5/48, Error ellipse: s-maj=16.0km s-min=12.7km az=66.0*
*MOS **11** 05:00:41.3±0.8, 31°.61S×58°.30E, h10km, mb5.3/50, MS4.6/8, Error ellipse: s-maj=12.1km s-min=5.8km az=98.5*
*GCMT **11** 05:00:43.3±0.1, 31°.63S±0°.01×58°.14E±0°.01, h12km, MW5.3/139, Moment Tensor Solution. s98, c155; s139, c260; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.09±.01; $M_{\theta\theta}$ 1.09±.01; $M_{\phi\phi}$ 0.00±.01; $M_{r\theta}$ 0.22±.03; $M_{\theta\phi}$-0.01±.01; $M_{\phi r}$ 0.28±.04; Best double couple: $M_0$1.14600×10^{17} NP1:ϕ_s257.00000°, δ52.00000°, λ-107.00000°. NP2:ϕ_s103.00000°, δ41.00000°, λ-69.00000°. Principal axes: T 1.1130, Plg6.0000°, Azm359.0000°; N 0.0650, Plg13.0000°, Azm267.0000°; P -1.1790, Plg75.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **11** 05:00:43.3, 31°.83S×58°.14E, h12km, Moment Tensor Solution. Duration: 2§4 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.01; $M_{\theta\theta}$0.91; $M_{\phi\phi}$0.10; $M_{r\theta}$-1.11; $M_{\theta\phi}$0.11; $M_{\phi r}$0.21; Fault plane solution: $M_0$1.49000×10^{17} NP1:ϕ_s95.68000°, δ70.03000°, λ-81.92000°. NP2:ϕ_s253.09000°, δ21.48000°, λ-111.16000°. Principal axes: T 1.4188, Plg25.0000°, Azm179.0000°; N 0.1358, Plg8.0000°, Azm273.0000°; P -1.5546, Plg64.0000°, Azm19.0000°;*
*NEIC **11** 05:00:43.4±1.6, 31°.63S±0°.09×58°.3E±0°.1, h10km±1km, mb5.3/82, Mww5.4/25 Error ellipse: s-maj=15.9km s-min=14.6km az=229.0*
*BJI **11** 05:00:43.0±0.0, 31°.28S×58°.33E, h12km, mb4.9/42, mB5.5/23, Ms5.2/30, Ms7 4.9/32*
*NEIC **11** 05:00:43.3, 31°.63S×58°.26E, h12km*
ISC 11 05:00:42.7±0.3, 31°.66S±0°.05×58°.22E±0°.06, h10km, n564, σ1§10/542, mb5.2/163, MS4.6/64, 44C-14D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.69**	**347**	Pn	**Pn**	**05 03 12.4**	**-3.6**
FOMA	**Nahampoana Res**	**11.93**	**301**	Pn	**Pn**	**05 03 32.3**	**-0.6**
ROCAM	**Rodrigues Isla**	**12.73**	**23**	Pn	**Pn**	**05 03 43.8**	**0.0**
VOI	**Vohitsoka**	**14.08**	**311**	Pn	**Pn**	**05 04 02.2**	**-0.2**
H04N2	**CROZET ISLANDS**	**15.31**	**197**	T	T	05 20 10.6	
baz=22,slow=75,SNR=444							
H04N1	**CROZET ISLANDS**	**15.31**	**197**	T	T	05 20 11.8	
baz=22,slow=75,SNR=502							
H04N3	**CROZET ISLANDS**	**15.33**	**197**	T	T	05 20 10.7	
baz=22,slow=75,SNR=540							
ABPO	**Ambohimpanom**	**16.02**	**319**		**Pn**	**05 04 29.5**	**+1.1**
ABPO	**Ambohimpanom**	**16.02**	**319**	P	**Pn**	**05 04 29.5**	**+1.1**
ABPO				pmax	pmax		
comp=Z,137nm,1.4s							
OPO	**Ambohidratompo**	**16.41**	**320**	Pn	**Pn**	**05 04 34.8**	**+1.5**
comp=Z,0.4nm,0.3s,baz=149,slow=12,SNR=21							
OPO				Sn	Sn	05 07 23.1	-13
comp=Z,0.2nm,0.3s,baz=151,slow=15,SNR=5.7							
OPO				LR	LR	05 09 30.9	
comp=Z,2μm,21.2s,baz=16,slow=32 comp=Z,34nm,1.1s							
POGA	**Pongola**	**23.45**	**274**	P	**P**	**05 05 52.2**	**-0.1**
GRHM	**Grahamstown, E**	**26.86**	**258**	P	**P**	**05 06 23.4**	**-0.2**
GRHM				IAmb	IAmb	05 06 39.8	
comp=Z,63nm,1.4s							
H08S1	**Diego Carcia H**	**27.34**	**32**	T	T	05 34 51.7	
baz=206,slow=75,SNR=220							
H08S2	**Diego Garcia H**	**27.35**	**32**	T	T	05 34 53.4	
baz=206,slow=75,SNR=192							
H08S3	**Diego Garcia H**	**27.36**	**32**	T	T	05 34 52.4	
baz=206,slow=75,SNR=249							
BOSA	**Boshof**	**28.61**	**267**	P	**P**	**05 06 38.9**	**-0.6**
BOSA	**Boshof**	**28.61**	**267**	P	**P**	**05 06 39.1**	**-0.3**
comp=Z,2.6nm,0.7s,baz=108,slow=8.5,SNR=7.8							
BOSA				LR	LR	05 16 00.4	
comp=Z,449nm,21.5s,baz=116,slow=32 comp=Z,2.6nm,0.7s							
MATP	**Matopo**	**28.86**	**286**	LR	LR	05 16 29.8	
comp=Z,520nm,21.2s,baz=102,slow=33							
LBTB	**Lobatse**	**29.39**	**275**	P	**P**	**05 06 45.1**	**-1.2**
LBTB				IAmb	IAmb	05 06 55.4	
comp=Z,64nm,1.9s							
LBTB	**Lobatse**	**29.39**	**275**	P	**P**	**05 06 45.2**	**-1.2**
LBTB				pmax	pmax		
comp=Z,64nm,1.9s							
SUR	**Sutherland**	**31.62**	**259**	P	**P**	**05 07 05.0**	**-1.1**
SUR				IAmb	IAmb	05 07 09.3	
comp=Z,46nm,1.5s							
SUR	**Sutherland**	**31.62**	**259**	LR	LR	05 17 24.0	
comp=Z,2μm,21.6s,baz=112,slow=32							
LSZ	**Lusaka**	**31.87**	**294**	P	**P**	**05 07 08.3**	**0.0**
LSZ	**Lusaka**	**31.87**	**294**	P	**P**	**05 07 08.3**	**0.0**
LSZ				pmax	pmax		
comp=Z,18nm,1.3s							
KIBK	**Kibwezi**	**34.82**	**323**	P	**P**	**05 07 33.7**	**-0.3**
KIBK				IAmb	IAmb	05 07 46.7	
comp=Z,38nm,1.4s							
MAW	**Mawson**	**36.08**	**177**	P	**P**	**05 07 46.0**	**+1.8**
comp=Z,4.2nm,0.8s,baz=0.8,slow=10,SNR=4.7							
MAW				LR	LR	05 18 41.4	
comp=Z,2μm,21.8s,baz=352,slow=30 comp=Z,4.2nm,0.8s							
KMBO	**Kilima Mbogo**	**36.26**	**323**	P	**P**	**05 07 46.1**	**-0.5**
KMBO	**Kilima Mbogo**	**36.26**	**323**	P	**P**	**05 07 46.1**	**-0.5**
KMBO				pmax	pmax		
comp=Z,42nm,1.7s							
WIN	**Windhoek**	**37.52**	**274**	P	**P**	**05 07 57.7**	**+0.4**
WIN	**Windhoek**	**37.52**	**274**	P	**P**	**05 07 57.7**	**+0.4**
WIN				pmax	pmax		
comp=Z,33nm,1.5s							
TSUM	**Tsumeb**	**38.53**	**279**	P	**P**	**05 08 06.0**	**+0.3**
TSUM				IAmb	IAmb	05 08 09.3	
comp=Z,115nm,1.6s							
TSUM	**Tsumeb**	**38.53**	**279**	LR	LR	05 22 23.5	
comp=Z,710nm,20.1s,baz=142,slow=34							
LODK	**Lodwar**	**41.12**	**324**	P	**P**	**05 08 27.4**	**+0.3**
PALK	**Pallekele**	**44.28**	**33**	LR	LR	05 23 22.6	
comp=Z,554nm,18.2s,baz=313,slow=31							
ELIB	**Princess Elisa**	**44.40**	**195**	*d*P	**P**	**05 08 53.7**	**+0.4**
comp=Z,4.7nm,1.2s							
ELIB				*d*PP	**PP**	**05 10 37.0**	**+0.4**
FURI	**Furi**	**44.45**	**332**	LR	LR	05 25 58.1	
comp=Z,408nm,19.0s,baz=168,slow=34							
ATD	**Arta Tunnel**	**45.41**	**339**	LR	LR	05 24 38.5	
comp=Z,76nm,21.3s,baz=156,slow=32							
CASY	**Casey**	**46.48**	**154**	P	**P**	**05 09 10.9**	**+1.3**
CASY				IAmb	IAmb	05 09 16.1	
comp=Z,32nm,1.5s							
NVL	**N'lazarevskaya**	**46.55**	**199**	*e*P	**P**	**05 09 06.8**	**-3.3**
NVL				*e*S	**S**	**05 15 50.6**	**-7.7**
NVL				pmax	pmax		
comp=Z,6.0nm,0.7s							
NVL				MLR	MLR		
comp=Z,471nm,17.0s							
NWAO	**Narrogin (SRO)**	**49.32**	**108**	LR	LR	05 25 45.3	
comp=Z,253nm,21.6s,baz=260,slow=30							
TROLL	**Troll, Antarti**	**49.77**	**200**	⇑P	**P**	**05 09 35.4**	**+0.3**
comp=Z,147nm,0.8s							
PDSI	**Padang**	**50.25**	**61**	P	**P**	**05 09 40.0**	**+0.6**
SNAA	**Sanae**	**51.24**	**201**	P	**P**	**05 09 46.4**	**+0.3**
SNAA	**Sanae**	**51.24**	**201**	⇑P	**P**	**05 09 46.4**	**+0.3**
comp=Z,98nm,0.8s							
SNAA	**Sanae**	**51.24**	**201**	P	**P**	**05 09 46.5**	**+0.4**
comp=Z,4.4nm,0.8s,baz=78,slow=5.1,SNR=17							
SNAA				LR	LR	05 26 37.5	
comp=Z,1μm,21.5s,baz=109,slow=30 comp=Z,4.4nm,0.8s							
VNA2	**Neumayer--Watz**	**52.48**	**202**	⇑P	**P**	**05 09 55.3**	**-0.1**
comp=Z,7.2nm,0.7s,baz=84,slow=5.0							
HYB	**Hyderabad**	**52.56**	**25**	*e*P	**P**	**05 09 56.7**	**+0.2**
VNA3	**Neumayer Olymp**	**53.27**	**202**	⇑P	**P**	**05 10 00.5**	**-0.6**
comp=Z,12nm,0.8s							
WSAR	**Wadi Sarin**	**54.59**	**0**	LR	LR	05 27 45.1	
comp=Z,971nm,21.5s,baz=200,slow=30							
PWJI	**Pagerwojo**	**54.99**	**77**	P	**P**	**05 10 14.2**	**-0.3**
comp=Z,43nm,1.1s							
RAYN	**Ar Rayn**	**56.21**	**346**	P	**P**	**05 10 23.4**	**+0.4**
RAYN				IAmb	IAmb	05 10 33.2	
comp=Z,52nm,1.4s							
RAYN	**Ar Rayn**	**56.21**	**346**	P	**P**	**05 10 23.4**	**+0.4**
RAYN				pmax	pmax		
comp=Z,52nm,1.4s							
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**05 10 39.2**	**+0.3**
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**05 10 39.1**	**+0.2**
comp=Z,9.0nm,0.6s,baz=265,slow=2.6,SNR=61							
QSPA				LR	LR	05 32

SHL IAmb IAmb 05 11 29.2
comp=Z,32nm,1.2s
SHL Shillong 65.36 33 P **P 05 11 24.8 -0.7**
SHL pmax pmax
comp=Z,32nm,1.2s
CRAI Chiangrai 65.54 44 P **P 05 11 26.1 -0.4**
CRAI IAmb IAmb 05 11 38.0
comp=Z,21nm,1.4s
HRA Herat 65.81 4 P **P 05 11 27.6 -0.7**
HRA IAmb IAmb 05 11 38.8
comp=Z,26nm,1.4s
ASAR Alice Springs 66.31 104 P **P 05 11 30.7 -1.0**
ASAR Alice Springs 66.31 104 P **P 05 11 31.1 -0.6**
comp=Z,12nm,0.9s,baz=239,slow=6.0,SNR=50
ASAR LR LR 05 36 45.4
comp=Z,146nm,19.7s,baz=260,slow=33
ASAR PKP2bc **P'P'df 05 40 06.8 -1.9**
comp=Z,0.4nm,0.9s,baz=69,slow=3.1,SNR=2.2
comp=Z,12nm,0.9s
AS31 Alice Springs 66.31 104 P **P 05 11 30.1 -1.6**
KBL Kabul 66.64 10 P **P 05 11 33.6 0.0**
KBL IAmb IAmb 05 11 46.1
comp=Z,29nm,1.2s
KBL Kabul 66.64 10 P **P 05 11 33.6 0.0**
KBL pmax pmax
comp=Z,29nm,1.2s
MMAI Mount Meron Ar 67.84 339 P **P 05 11 41.6 +0.5**
comp=Z,2.1nm,0.6s,baz=167,slow=7.7,SNR=4.9
MMAI LR LR 05 39 22.8
comp=Z,252nm,18.2s,baz=108,slow=34
comp=Z,2.1nm,0.6s
WRA Warramunga Arr 68.31 101 P **P 05 11 44.1 -0.3**
WRA Warramunga Arr 68.31 101 P **P 05 11 44.1 -0.3**
comp=Z,17nm,0.9s,baz=242,slow=5.5,SNR=45
WRA LR LR 05 37 55.9
comp=Z,274nm,20.0s,baz=238,slow=33
comp=Z,17nm,0.9s
WRA Warramunga Arr 68.31 101 P **P 05 11 44.1 -0.3**
WRA pmax pmax
comp=Z,5.0nm,1.6s
WRAB Tennant Creek 68.32 101 P **P 05 11 44.0 -0.5**
WRAB IAmb IAmb 05 11 54.1
comp=Z,37nm,1.1s
WRAB Tennant Creek 68.32 101 P **P 05 11 44.0 -0.5**
WRAB pmax pmax
comp=Z,37nm,1.1s
WB0 Warramunga Arr 68.43 100 P **P 05 11 44.4 -0.8**
WB0 IAmb IAmb 05 11 54.6
comp=Z,34nm,1.1s
WR0 Warramunga Arr 68.47 101 IAmb IAmb 05 11 54.9
comp=Z,22nm,1.0s
LSA Lhasa 68.58 31 P **P 05 11 47.5 +1.2**
LSA pmax pmax
comp=Z,10.0nm,0.8s
STKA Stephens Creek 69.01 115 P **P 05 11 48.8 +0.2**
STKA Stephens Creek 69.01 115 P **P 05 11 48.8 +0.2**
comp=Z,11nm,1.0s,baz=238,slow=6.8,SNR=10
STKA LR LR 05 36 02.5
comp=Z,237nm,18.8s,baz=220,slow=31
comp=Z,11nm,1.0s
STKA Stephens Creek 69.01 115 P **P 05 11 48.8 +0.2**
STKA pmax pmax
comp=Z,6.0nm,1.3s
TOA0 Torodi Ar. Sit 70.12 300 IAmb IAmb 05 11 58.9
comp=Z,29nm,1.4s
TORD Torodi Ar. Bea 70.12 300 P **P 05 11 55.6 0.0**
TORD IAmb IAmb 05 11 58.9
comp=Z,23nm,1.4s
TORD Torodi Ar. Bea 70.12 300 P **P 05 11 56.2 +0.6**
comp=Z,4.5nm,0.8s,baz=118,slow=5.4,SNR=29
comp=Z,4.5nm,0.8s
QIZ Qiongzhong 70.64 52 P **P 05 11 59.2 +0.6**
QIZ S **S 05 21 15.4 +2.6**
QIZ LR LR
comp=Z,600nm,22.6s
QIZ LR LR
comp=Z,410nm,13.9s
QIZ LR LR
comp=Z,510nm,25.0s
SIMJ Simiganj 70.68 9 P **P 05 11 58.9 +0.2**
KMI Kunming 70.69 42 ⇑P **P 05 11 59.2 +0.1**
KMI pmax pmax
comp=Z,8.0nm,0.8s
CHGR Chuyangaron 70.70 9 P **P 05 11 58.5 -0.2**
CHGR Chuyangaron 70.70 9 P **P 05 11 58.5 -0.2**
CHGR pmax pmax
comp=Z,104nm,1.2s
DBIC Dimbokro 71.14 291 P **P 05 12 01.9 0.0**
DBIC IAmb IAmb 05 12 06.0
comp=Z,45nm,1.4s
DBIC Dimbokro 71.14 291 P **P 05 12 03.3 +1.5**
comp=Z,10nm,0.9s,baz=110,slow=7.8,SNR=9.5
comp=Z,10nm,0.9s
DBIC Dimbokro 71.14 291 ⇑P **P 05 12 03.4 +1.6**
GAR Garm 71.20 10 P **P 05 12 01.6 -0.2**
GAR IAmb IAmb 05 12 23.4
comp=Z,38nm,1.4s
PZH PanZhiHua 71.20 41 P **P 05 12 01.4 -0.7**
PZH pmax pmax
comp=Z,10.0nm,1.5s
PZH pmax pmax
comp=Z,200nm,4.7s
GAZ Gaziantep 71.24 342 P **P 05 12 02.4 +0.3**
GAZ IAmb IAmb 05 12 12.6
comp=Z,36nm,1.1s
GURO Guroymak-BITLI 71.46 347 P **P 05 12 04.0 +0.6**
GURO IAmb IAmb 05 12 14.6
comp=Z,39nm,1.4s
GNI Garni 72.54 349 LR LR 05 40 50.1
comp=Z,619nm,21.9s,baz=164,slow=33
GNI Garni 72.54 349 *i P* **P 05 12 10.9 +1.1**
GNI pmax pmax
comp=Z,12nm,1.0s
KSH Kashi 72.71 14 P **P 05 12 08.0 -2.9**
KSH sP pwP 05 12 16.7 -1.8
KSH PcP **PcP 05 12 24.0 -4.2**
KSH S **S 05 21 30.1 -6.2**
KSH pmax pmax
comp=Z,17nm,0.8s
KSH pmax pmax
comp=Z,180nm,3.9s
KSH LR LR
comp=Z,790nm,20.6s
KSH LR LR
comp=Z,560nm,17.5s
KSH LR LR
comp=Z,1μm,22.7s
ARPR Arapgir-MALATY 72.78 344 P **P 05 12 12.3 +1.0**
KARP Karpathos 72.94 334 P **P 05 12 11.8 -0.4**
comp=Z,85nm,1.1s
IDI Anoyia 73.59 332 LR LR 05 45 31.7
comp=Z,186nm,19.1s,baz=129,slow=37
PMSA Palmer Station 73.93 202 LR LR 05 37 24.6
comp=Z,691nm,20.2s,baz=121,slow=30
TAM Tamanrasset 74.00 310 P **P 05 12 19.0 +0.2**
TAM Tamanrasset 74.00 310 P **P 05 12 19.0 +0.2**
TAM pmax pmax
comp=Z,24nm,1.9s
BCA Borcka 74.34 347 ⇑P **P 05 12 19.5 -0.7**
BRTR Keskin Array B 74.60 341 P **P 05 12 21.5 -0.5**
BRTR Keskin Array B 74.60 341 P **P 05 12 22.2 +0.2**
comp=Z,5.9nm,1.0s,baz=168,slow=7.3,SNR=19
BRTR LR LR 05 41 14.8
comp=Z,294nm,22.0s,baz=151,slow=33
comp=Z,5.9nm,1.0s
BRTR Keskin Array B 74.60 341 P **P 05 12 21.5 -0.5**
BR131 Keskin Array S 74.60 341 P **P 05 12 22.0 0.0**
BR131 IAmb IAmb 05 12 31.5
comp=Z,20nm,1.2s
BR131 Keskin Array S 74.60 341 P **P 05 12 22.0 0.0**
BR131 pmax pmax
comp=Z,20nm,1.2s
DAV Davao City (W) 74.81 72 LR LR 05 42 29.6
comp=Z,77nm,18.9s,baz=187,slow=34
APE Apeiranthos 74.90 333 ⇓P **P 05 12 23.4 -0.2**
APE Apeiranthos 74.90 333 P **P 05 12 23.4 -0.2**
MAK Makhachkala 74.91 352 *eP* P 05 12 17.5 -5.9
MAK *e*PPP PPP 05 16 52.1
MAK *e*S **SKiKP 05 21 51.7 +3.5**
MAK pmax pmax
comp=Z,34nm,0.3s
MAK MLR MLR
comp=Z,376nm,17.0s
BRLS Borolday 75.09 9 *eP* **P 05 12 22.9 -1.7**
baz=8.6
BRLS Borolday 75.09 9 *eP* **P 05 12 22.9 -1.7**

KK31 Karatay Array 75.25 9 P **P 05 12 25.8 +0.3**
KK31 IAmb IAmb 05 12 36.1
comp=Z,52nm,1.4s
KK31 Karatay Array 75.25 9 P **P 05 12 25.8 +0.3**
KK31 pmax pmax
comp=Z,53nm,1.5s
KKAR Karatay Array 75.25 9 P **P 05 12 25.4 -0.1**
KKAR Karatay Array 75.25 9 IAmb IAmb 05 12 36.0
comp=Z,52nm,1.4s
KKAR Karatay Array 75.25 9 P **P 05 12 25.4 -0.1**
AAK Ala-Archa 75.43 12 P **P 05 12 27.1 +0.4**
AAK Ala-Archa 75.43 12 LR LR 05 44 56.4
comp=Z,160nm,18.5s,baz=199,slow=35
AAK Ala-Archa 75.43 12*ceP* **P 05 12 28.1 +1.4**
AAK pmax pmax
comp=Z,45nm,2.5s
GOMU GeErMu 75.72 30 P **P 05 12 29.4 +0.6**
GOMU S **S 05 22 11.6 +0.9**
GOMU LR LR
comp=Z,660nm,19.0s
GOMU LR LR
comp=Z,650nm,19.6s
GOMU LR LR
comp=Z,1μm,19.0s
DIKM Dikmen 75.96 342 P **P 05 12 28.5 -1.1**
comp=Z,35nm,1.2s
SGDS Sogindy 76.25 12 *eP* **P 05 12 31.4 +0.1**
comp=Z,14nm,1.3s,baz=12
SGDS Sogindy 76.25 12 *eP* **P 05 12 31.3 +0.1**
SGDS pmax pmax
comp=Z,14nm,1.3s
TNSS Tian-Shan 76.30 14 *eP* **P 05 12 31.9 -0.1**
baz=14
TNSS Tian-Shan 76.30 14 *eP* **P 05 12 31.8 -0.1**
KBZ Khabaz 76.33 349 P **P 05 12 31.6 0.0**
comp=Z,4.1nm,1.1s,baz=127,slow=6.1,SNR=9.7
KBZ LR LR 05 46 11.8
comp=Z,327nm,18.2s,baz=171,slow=36
comp=Z,4.1nm,1.1s
KBZ Khabaz 76.33 349*ceP* **P 05 12 31.9 +0.4**
KBZ pmax pmax
comp=Z,28nm,2.3s
SHA1 Shidzhatmaz 76.38 348*ceP* **P 05 12 33.3 +1.1**
MDOK Medeo 76.44 14 *eP* **P 05 12 32.3 -0.2**
baz=14
MDOK *e*S **S 05 22 18.0 +0.1**
baz=14
MDOK Medeo 76.44 14 *eP* **P 05 12 32.2 -0.2**
MDOK *e*S **S 05 22 18.0 +0.1**
KVAR Kislovodsk Arr 76.58 349 LR LR 05 46 07.5
comp=Z,178nm,19.9s,slow=36
KIV Kislovodsk 76.58 349 ⇑P **P 05 12 33.7 +0.6**
KIV Kislovodsk 76.58 349 *eP* **P 05 12 33.4 +0.2**
KIV *e*S **S 05 22 20.3 +1.0**
KIV *e*SS **SS 05 27 16.6 +1.3**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,254nm,18.0s
KIV Kislovodsk 76.58 349 P **P 05 12 34.1 +0.9**
comp=Z,18nm,1.7s,comp=Z,403nm
VSLR Vesyoloye 76.59 346 *i P* **P 05 12 33.5 +0.4**
VSLR pmax pmax
comp=Z,26nm,1.3s
SATY Saty 76.63 15 *eP* **P 05 12 34.0 +0.4**
comp=Z,33nm,1.5s,baz=15
SATY Saty 76.63 15 *eP* **P 05 12 33.9 +0.4**
SATY pmax pmax
comp=Z,33nm,1.5s
ZHN Zhinishke 76.74 15 *eP* **P 05 12 34.0 -0.1**
baz=15
ZHN Zhinishke 76.74 15 *eP* **P 05 12 34.0 -0.1**
SOC Sochi 76.78 346 *eP* **P 05 12 34.7 +0.6**
SOC *e* 05 15 24.6
SOC *e*PPP PPP 05 17 11.0
SOC *e*S **S 05 22 23.6 +2.4**
SOC *e*SS **SS 05 27 19.6 +1.6**
SOC *e*SSS SSS 05 30 37.0
SOC MLR MLR
comp=Z,181nm,16.0s
UZB Uzynbulak 76.85 15 *eP* **P 05 12 35.1 +0.3**
comp=Z,25nm,1.4s,baz=15
UZB Uzynbulak 76.85 15 *eP* **P 05 12 35.1 +0.3**
UZB pmax pmax
comp=Z,25nm,1.4s
SHLS Shalkode 76.96 16 *eP* **P 05 12 36.4 +1.0**
baz=16
SHLS Shalkode 76.96 16 *eP* **P 05 12 36.4 +1.0**
KUU Kurty 77.00 13 *eP* **P 05 12 36.0 +0.6**
baz=13
KUU Kurty 77.00 13 *eP* **P 05 12 36.0 +0.6**
EZN Ezine 77.04 335 P **P 05 12 36.0 +0.3**
comp=Z,17nm,1.7s,comp=Z,641nm
KPKS Kokpek 77.08 15 *eP* **P 05 12 36.1 +0.1**
comp=Z,29nm,1.5s,baz=15
KPKS Kokpek 77.08 15 *eP* **P 05 12 36.1 +0.1**
KPKS pmax pmax
comp=Z,29nm,1.5s
CHKK Chushkaly 77.09 14 *eP* **P 05 12 36.1 +0.2**
baz=14
CHKK Chushkaly 77.09 14 *eP* **P 05 12 36.1 +0.2**
GOF Gofitskoye 77.60 349*ceP* **P 05 12 40.5 +1.8**
LABN Labinsk 77.60 347 *eP* **P 05 12 39.4 +0.7**
LABN *e*S **S 05 22 29.4 -0.7**
LABN pmax pmax
comp=Z,106nm,1.3s
LABN MLR MLR
comp=Z,239nm,15.0s
ARXS Arharly 77.61 14 *eP* **P 05 12 37.9 -1.0**
BTLS Baital 77.69 11 *eP* **P 05 12 39.5 +0.2**
comp=Z,18nm,1.5s,baz=11
BTLS *e*S **S 05 22 31.4 +0.3**
baz=11
BTLS Baital 77.69 11 *eP* **P 05 12 39.4 +0.2**
BTLS *e*S **S 05 22 31.3 +0.3**
BTLS pmax pmax
comp=Z,18nm,1.5s
AGG Agios Georgios 77.84 332 P **P 05 12 40.1 -0.2**
AGG IAmb IAmb 05 12 44.0
comp=Z,21nm,1.0s
AGG Agios Georgios 77.84 332 P **P 05 12 40.1 -0.2**
AGG pmax pmax
comp=Z,21nm,1.0s
CTA Charters Tower 78.12 106 LR LR 05 43 13.1
comp=Z,19nm,20.8s,baz=239,slow=33
ANN Anapa 78.42 345 *eP* **P 05 12 44.3 +1.0**
ANN *e*S **S 05 22 40.7 +1.8**
ANN *e*SS **SS 05 27 40.5 -2.2**
ANN pmax pmax
comp=Z,78nm,1.9s
ANN pmax pmax
comp=Z,120nm,1.6s
TDK Taldyqorghan 78.48 14 *eP* **P 05 12 43.6 -0.1**
comp=Z,7.1nm,0.5s,baz=14
TDK Taldyqorghan 78.48 14 *eP* **P 05 12 43.6 -0.1**
TDK pmax pmax
comp=Z,7.0nm,0.5s
ERBR Yeremizino-Bor 78.68 347 *eP* **P 05 12 43.8 -0.9**
ERBR *e*S **S 05 22 40.1 -1.6**
ERBR pmax pmax
comp=Z,30nm,0.6s
LIT Litokhoron 78.71 333 P **P 05 12 45.0 0.0**
LIT IAmb IAmb 05 12 54.5
comp=Z,34nm,1.2s
LIT Litokhoron 78.71 333 P **P 05 12 45.0 0.0**
LIT pmax pmax
comp=Z,34nm,1.2s
MMB Musomishta 79.48 334 P **P 05 12 49.4 +0.1**
PLD Plovdiv 79.65 335 P **P 05 12 50.0 -0.1**
WMQ Urumqi 79.81 21 *eP* **P 05 12 52.5 +1.5**
WMQ S **S 05 22 53.9 -0.1**
WMQ pmax pmax
comp=Z,16nm,1.3s
WMQ pmax pmax
comp=Z,230nm,3.7s
WMQ LR LR
comp=Z,550nm,19.7s
WMQ LR LR
comp=Z,450nm,21.1s
WMQ LR LR
comp=Z,520nm,20.7s
LZH Lanzhou 79.82 36 *eP* **P 05 12 53.0 +1.6**
LZH sP pwP 05 13 02.2 +3.2
LZH pmax pmax
comp=Z,12nm,1.5s

LZH LR LR
comp=Z,490nm,15.7s
LZH LR LR
comp=Z,230nm,15.6s
LZH LR LR
comp=Z,340nm,15.1s
RAFF Raffo Rosso 79.85 326 P **P 05 12 52.1 +0.8**
RAFF IAmb IAmb 05 12 57.0
comp=Z,22nm,0.8s
KKB Krupnik 79.97 334 P **P 05 12 51.1 -0.8**
TIP Timpagrande 80.33 329 P **P 05 12 54.6 +0.7**
comp=Z,9.2nm,2.3s,comp=Z,305nm
ABKAR Akbulak array 80.57 1 P **P 05 12 55.0 +0.1**
ABKAR Akbulak array 80.57 1 IAmb IAmb 05 13 04.9
comp=Z,44nm,1.4s
GTA Gaotai 80.58 31 P **P 05 12 55.4 0.0**
GTA pP pwP 05 13 03.7 +0.7
GTA pmax pmax
comp=Z,11nm,1.5s
GTA LR LR
comp=Z,390nm,20.3s
GTA LR LR
comp=Z,320nm,20.7s
GTA LR LR
comp=Z,550nm,20.3s
VTS Vitosha 80.60 335 P **P 05 12 55.0 -0.4**
TIR Tirane 80.81 332 P **P 05 12 56.5 +0.1**
comp=Z,26nm,0.8s,comp=Z,608nm
HARR Harsova 80.85 339 ⇓P **P 05 12 57.4 +0.9**
HARR Harsova 80.85 339 ⇓P **P 05 12 57.4 +0.9**
XAN Xi'an 80.94 41 P **P 05 12 56.9 -0.4**
XAN sP pwP 05 13 08.3 +3.3
XAN pmax pmax
comp=Z,20nm,1.1s
MAKZ Makanchi 81.00 16 P **P 05 12 55.7 -1.6**
MAKZ Makanchi 81.00 16 ⇑P **P 05 12 57.6 +0.3**
MK31 Makanchi Array 81.06 16*ceP* **P 05 12 57.7 +0.1**
MKAR Makanchi Array 81.06 16 P **P 05 12 57.6 0.0**
MKAR Makanchi Array 81.06 16 P **P 05 12 57.8 +0.2**
comp=Z,4.4nm,0.9s,baz=205,slow=5.4,SNR=25
MKAR LR LR 05 46 05.3
comp=Z,316nm,21.7s,baz=220,slow=34
comp=Z,4.4nm,0.9s
MKAR Makanchi Array 81.06 16 P **P 05 12 57.6 0.0**
MPEP Malo Peshtene 81.06 335 P P 05 12 49.1 -8.6
CFR Carcaliu 81.22 339 ⇑P **P 05 12 58.8 +0.4**
CFR Carcaliu 81.22 339 ⇑P **P 05 12 58.8 +0.4**
KEST Kesra 81.22 322 P **P 05 13 00.7 +1.9**
comp=Z,6.2nm,1.0s,baz=161,slow=7.0,SNR=8.4
comp=Z,6.2nm,1.0s
VALD Valchedram 81.46 335 P **P 05 12 58.6 -1.2**
ISR Istrita 81.67 338 P **P 05 13 01.4 +0.5**
comp=Z,34nm,2.2s
AKTO Aktyubinsk 81.74 360 LR LR 05 47 11.1
comp=Z,258nm,21.9s,baz=195,slow=34
PDG Podgorica 81.97 332 ⇑P **P 05 13 03.3 +0.8**
PDG Podgorica 81.97 332 IAmb IAmb 05 13 06.0
comp=Z,59nm,2.0s
BISRR Bisoca 82.00 338 P **P 05 13 02.5 -0.2**
comp=Z,41nm,2.5s,comp=Z,2μm
NEHR Nehoiu 82.02 338 ⇓P **P 05 13 02.0 -0.8**
BOVS Bovan 82.05 334 ⇑P **P 05 13 02.3 -0.5**
MLR Muntele Rosu 82.19 338 ⇑P **P 05 13 04.1 +0.3**
MLR Muntele Rosu 82.19 338 IAmb IAmb 05 13 13.3
comp=Z,62nm,1.5s
MLR Muntele Rosu 82.19 338 ⇑P **P 05 13 04.1 +0.3**
MLR Muntele Rosu 82.19 338 P **P 05 13 03.5 -0.3**
comp=Z,26nm,1.5s,comp=Z,370nm
VRI Vrincioaia 82.28 338 ⇑P **P 05 13 04.5 +0.4**
VRI Vrincioaia 82.28 338 ⇑P **P 05 13 04.5 +0.4**
VRI Vrincioaia 82.28 338 P **P 05 13 03.5 -0.6**
comp=Z,55nm,1.0s,comp=Z,663nm
PLOR5 Plostina Array 82.28 338 P **P 05 13 04.1 0.0**
comp=Z,52nm,0.8s,comp=Z,615nm
PLOR3 Plostina Array 82.29 338 P **P 05 13 03.9 -0.3**
comp=Z,45nm,0.8s
ZSN Zaisan 82.32 18 *eP* **P 05 13 04.0 -0.2**
baz=18
ZSN *e*S **SKSac 05 23 21.3 -3.6**
baz=18
ZSN Zaisan 82.32 18 *eP* **P 05 13 04.0 -0.2**
ZSN *e*S **SKSac 05 23 21.2 -3.6**
COVR Voineasa-Covas 82.42 338 ⇑P **P 05 13 04.4 -0.5**
VOIR 82.44 337 ⇑P **P 05 13 04.8 -0.2**
VOIR 82.44 337 ⇑P **P 05 13 04.8 -0.2**
VOIR 82.44 337 P **P 05 13 04.1 -0.9**
comp=Z,18nm,1.5s,comp=Z,378nm
ARR Arges 82.52 337 ⇓P **P 05 13 05.3 -0.1**
KIS Kishinev 82.67 340 P **P 05 13 05.2 -0.8**
comp=Z,60nm,0.4s
TURR Turia 82.67 338 ⇓P **P 05 13 05.9 -0.2**
OZUR 82.78 338 ⇓P **P 05 13 04.1 -2.6**
ONER Baraj Valea Uz 82.80 338 ⇑P **P 05 13 07.0 +0.2**
HERR Herculane 82.86 335 ⇑P **P 05 13 07.2 +0.1**
TESR Tescani 82.88 339 P **P 05 13 06.0 -1.2**
comp=Z,7.4nm,1.3s,comp=Z,397nm
MDVR Moldovita 83.03 335 ⇑P **P 05 13 08.6 +0.5**
RPZ Rata Peaks 83.12 138 LR LR 05 41 58.0
comp=Z,960nm,21.1s,baz=220,slow=30
SURR Surduc 83.72 335 ⇑P **P 05 13 12.0 +0.5**
BZS Buzias 83.78 335 ⇑P **P 05 13 12.3 +0.5**
BZS Buzias 83.78 335 ⇑P **P 05 13 12.3 +0.5**
VRH Novokhopyorsk 83.78 350 *eP* **P 05 13 10.6 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.6s
SORM Soroca 83.83 340 ⇑P **P 05 13 11.5 -0.5**
SORM Soroca 83.83 340 ⇑P **P 05 13 11.5 -0.5**
SORM Soroca 83.83 340 P **P 05 13 10.8 -1.2**
comp=Z,16nm,1.6s
KURBB Kurchatov Arra 83.87 13 P **P 05 13 12.8 +0.6**
comp=Z,14nm,1.0s,baz=206,slow=5.6,SNR=47
KURBB LR LR 05 48 37.1
comp=Z,212nm,19.0s,baz=172,slow=34
comp=Z,14nm,1.0s
VORD Divnogorie 83.95 348 *eP* **P 05 13 11.6 -0.9**
VORD pmax pmax
comp=Z,20nm,1.3s
KURK Kurchatov 83.98 13 P **P 05 13 12.8 +0.1**
KURK IAmb IAmb 05 13 17.1
comp=Z,42nm,1.3s
KURK Kurchatov 83.98 13*ceP* **P 05 13 13.0 +0.3**
KURK pmax pmax
comp=Z,74nm,2.5s
MARR Marisel-Cluj 84.17 337 ⇑P **P 05 13 14.3 +0.4**
BELG Belogornoye 84.21 353 LR LR 05 52 51.4
comp=Z,306nm,18.8s,baz=154,slow=37
BELG Belogornoye 84.21 353 *i P* **P 05 13 13.8 0.0**
BELG pmax pmax
comp=Z,5.0nm,0.8s
VSR Storozhevoye 84.21 348 *eP* **P 05 13 11.9 -2.0**
VSR pmax pmax
comp=Z,20nm,1.3s
PMG Port Moresby 84.24 97 LR LR 05 47 38.7
comp=Z,141nm,19.4s,baz=196,slow=34
BURAR Bucovina Array 84.31 338 ⇑P **P 05 13 15.6 +1.0**
BURAR Bucovina Array 84.31 338 P **P 05 13 15.3 +0.7**
SIRR Siria 84.32 335 ⇑P **P 05 13 15.2 +0.6**
BUR08 Bucovina Ar. S 84.34 338 IAmb IAmb 05 13 33.4
comp=Z,18nm,1.4s
VORR Voronezh 84.64 348 *eP* **P 05 13 15.9 -0.1**
VORR pmax pmax
comp=Z,15nm,0.5s
BVAR Borovoye Array 85.00 7 P **P 05 13 18.4 +0.6**
comp=Z,21nm,0.8s,baz=176,slow=4.5,SNR=83
BVAR LR LR 05 51 02.6
comp=Z,356nm,18.2s,baz=188,slow=36
comp=Z,21nm,0.8s
BRVK Borovoye 85.02 7 P **P 05 13 18.1 +0.2**
BRVK Borovoye 85.02 7*ceP* **P 05 13 17.3 -0.6**
BRVK pmax pmax
comp=Z,77nm,2.5s
MORH Mrgy, Hungar 85.38 334 ⇑P **P 05 13 20.0 +0.1**
MORH Mrgy, Hungar 85.38 334 P **P 05 13 19.4 -0.5**
NJ2 Nanjing 85.45 48 *eP* **P 05 13 22.2 +1.6**
NJ2 pmax pmax
comp=Z,24nm,0.8s
NJ2 pmax pmax
comp=Z,540nm,5.5s
LPSR Galich'ya Gora 85.59 348 *eP* P 05 13 16.0 -4.7
LPSR pmax pmax
comp=Z,30nm,1.8s
LUBAR Lubar, Ukraine 85.61 341 P **P 05 13 19.8 -1.1**
AK07 Malin Array Si 85.79 342 P **P 05 13 20.8 -1.0**
AK10 Malin Array Si 85.82 342 P **P 05 13 20.5 -1.5**
AK09 Malin Array Si 85.83 342 P **P 05 13 21.1 -0.9**

AK08	Malin Array Si	85.85 342	P	P	05 13 21.5	-0.6
KIEV	Kiev	85.92 342	P	P	05 13 22.2	-0.2
KIEV			IAmb	IAmb	05 13 31.0	
	comp=Z,14nm,1.2s					
KIEV	Kiev	85.92 342	P	P	05 13 22.2	-0.2
KIEV			pmax	pmax		
	comp=Z,14nm,1.2s					
KIEV	Kiev	85.92 342	P	P	05 13 21.3	-1.1
	comp=Z,51nm,2.4s,comp=Z,2µm					
KIEV			pP	pwP	05 13 30.3	+0.1
	comp=Z,51nm,2.4s,comp=Z,2µm					
AKASG	Malin Array Be	85.92 342	P	P	05 13 22.4	0.0
	comp=Z,1.2nm,0.4s,baz=170,slow=4.3,SNR=9.8					
	comp=Z,1.2nm,0.4s					
AKASG	Malin Array Be	85.92 342	*i* P	P	05 13 25.0	+2.6
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.6s					
AKBB	Malin Array Si	85.92 342	IAmb	IAmb	05 13 31.0	
	comp=Z,16nm,1.2s					
AKBB	Malin Array Si	85.92 342	*ce*P	P	05 13 21.0	-1.4
AKBB			pmax	pmax		
	comp=Z,4.0nm,0.6s					
AKBB	Malin Array Si	85.92 342	pP	pP	05 13 30.3	+6.0
BTO	Baotou	86.40 37	*e*P	P	05 13 25.0	-0.2
BTO			pP	PcP	05 13 29.9	+2.2
BTO			sP	pwP	05 13 31.6	-1.3
BTO			S	S	05 24 01.4	+0.3
BTO			pmax	pmax		
	comp=Z,22nm,0.9s					
BTO			pmax	pmax		
	comp=Z,290nm,4.6s					
BTO			LR	LR		
	comp=Z,760nm,11.5s					
BTO			LR	LR		
	comp=Z,400nm,6.0s					
BTO			LR	LR		
	comp=Z,420nm,13.1s					
KOLS	Kolonicke sedl	86.42 337	*e*P	P	05 13 25.4	+0.4
KOLS			pmax	pmax		
	comp=Z,4.0nm,0.8s					
KOLS	Kolonicke sedl	86.42 337	*e*P	P	05 13 25.4	+0.4
MI28	Mi28,Pidlybu	86.55 341	P	P	05 13 24.6	-0.9
MPLH	Magyarpolny	86.60 334	P	P	05 13 25.1	-0.8
	comp=Z,42nm,2.2s,comp=Z,898nm					
HNS	HongShan	86.61 42	⇓P	P	05 13 26.1	-0.1
HNS			pmax	pmax		
	comp=Z,22nm,1.1s					
HNS			LR	LR		
	comp=Z,670nm,17.8s					
HNS			LR	LR		
	comp=Z,660nm,21.4s					
CRVS	Cervenica-Dubn	86.66 337	*e*P	P	05 13 26.9	+0.7
CRVS			pmax	pmax		
	comp=Z,58nm,1.7s					
CRVS	Cervenica-Dubn	86.66 337	*e*P	P	05 13 26.9	+0.7
KWP	Kalwaria Pacla	86.88 338	*e*P	P	05 13 28.7	+1.4
KWP	Kalwaria Pacla	86.88 338	P	P	05 13 27.2	0.0
	comp=Z,12nm,2.5s					
SOKA	Soboth	87.18 332	*e*P	P	05 13 31.6	+2.7
	comp=Z,12nm,1.4s					
VYHS	Vyhne	87.23 335	*e*P	P	05 13 29.1	+0.1
VYHS			pmax	pmax		
	comp=Z,32nm,1.7s					
VYHS	Vyhne	87.23 335	*e*P	P	05 13 29.1	+0.1
OBKA	Obir	87.24 331	*e*P	P	05 13 31.9	+2.7
	comp=Z,23nm,1.4s					
RNPP5	Staryi Chortor	87.32 340	P	P	05 13 28.4	-0.9
HHC	Hu-ho-hao-te	87.37 38	⇑*i*P	P	05 13 30.5	+0.5
HHC			sP	pwP	05 13 38.5	+0.8
HHC			S	S	05 24 12.3	+1.8
HHC			pmax	pmax		
	comp=Z,8.0nm,0.6s					
HHC			pmax	pmax		
	comp=Z,290nm,4.8s					
HHC			LR	LR		
	comp=Z,250nm,14.1s					
HHC			LR	LR		
	comp=Z,190nm,15.5s					
ARSA	Arzberg	87.45 332	*e*P	P	05 13 30.4	+0.3
	comp=Z,19nm,1.5s					
NIE	Niedzica	87.50 336	*e*P	P	05 13 30.7	+0.4
NIE	Niedzica	87.50 336	P	P	05 13 30.5	+0.2
	comp=Z,5.5nm,1.9s,comp=Z,203nm					
RONA	Rosalia, Austr	87.51 333	*e*P	P	05 13 30.7	+0.3
	comp=Z,14nm,1.3s					
LANS	Liptovska Anna	87.56 336	*e*P	P	05 13 31.4	+0.8
LANS			pmax	pmax		
	comp=Z,8.0nm,1.1s					
LANS	Liptovska Anna	87.56 336	*e*P	P	05 13 31.4	+0.8
ZST	Bratislava	87.62 334	*e*P	P	05 13 30.9	+0.1
ZST	Bratislava	87.62 334	*e*P	P	05 13 30.9	+0.1
MODS	Modra-Piesok	87.70 334	*e*P	P	05 13 33.1	+1.9
MODS			pmax	pmax		
	comp=Z,40nm,1.2s					
MODS	Modra-Piesok	87.70 334	*e*P	P	05 13 33.1	+1.9
ARU	Arti	87.74 0	P	P	05 13 30.6	-0.6
ARU	Arti	87.74 0	LR	LR	05 52 09.8	
	comp=Z,90nm,19.2s,baz=175,slow=35					
ARU	Arti	87.74 0	*d i* P	P	05 13 31.5	+0.3
ARU			S	SKSac	05 23 59.2	+0.4
ARU			pmax	pmax		
	comp=Z,31nm,1.3s					
ARU			MLR	MLR		
	comp=Z,324nm,21.0s					
ARU	Arti	87.74 0	P	P	05 13 31.2	0.0
	comp=Z,24nm,2.2s,comp=Z,632nm					
CONA	Conrad Observa	87.87 333	*e*P	P	05 13 32.2	0.0
	comp=Z,14nm,1.0s,SNR=16					
JAVC	Velka Javorina	87.96 335	*e*P	P	05 13 33.1	+0.6
KBA	Koelnbreinsper	88.19 331	*e*P	P	05 13 35.4	+1.6
	comp=Z,12nm,1.3s					
ABTA	Abfaltersbach	88.27 330	*e*P	P	05 13 34.9	+0.8
	comp=Z,14nm,1.0s					
ZALV	Zalesovo Beam	88.32 15	P	P	05 13 32.1	-1.9
ZALV	Zalesovo Beam	88.32 15	P	P	05 13 32.6	-1.3
	comp=Z,3.7nm,0.9s,baz=222,slow=4.0,SNR=12					
ZALV			LR	LR	05 50 13.4	
	comp=Z,306nm,20.8s,baz=191,slow=34					
	comp=Z,3.7nm,0.9s					
ZALV	Zalesovo Beam	88.32 15	*i* P	P	05 13 32.9	-1.1
ZALV			pmax	pmax		
	comp=Z,4.0nm,0.9s					
OJC	Ojcow	88.35 336	*e*P	P	05 13 33.9	-0.4
OJC	Ojcow	88.35 336	IAmb	IAmb	05 13 43.6	
	comp=Z,32nm,1.4s					
OJC	Ojcow	88.35 336	P	P	05 13 33.4	-0.9
	comp=Z,17nm,1.4s,comp=Z,372nm					
OBN	Obninsk	88.41 348	LR	LR	05 53 31.9	
	comp=Z,280nm,19.2s,baz=178,slow=36					
OBN	Obninsk	88.41 348	*de*P	P	05 13 34.8	+0.4
OBN			*e*		05 17 01.9	
OBN			*e*PPP	PPP	05 19 00.2	
OBN			*i* S	S	05 24 13.0	-6.4
OBN			pmax	pmax		
	comp=Z,81nm,2.8s					
OBN			MLR	MLR		
	comp=Z,309nm,19.0s					
MOA	Molln	88.43 332	*e*P	P	05 13 34.9	+0.1
	comp=Z,15nm,1.4s,SNR=8.0					
BIOA	Bad Ischl, Aus	88.56 332	*e*P	P	05 13 34.7	-0.7
	comp=Z,4.7nm,0.5s					
KRUC	Moravsky	88.60 334	*e*P	P	05 13 35.0	-0.5
VRAC	Vranov	88.73 334	*e*P	P	05 13 35.2	-0.9
LESA	Schwarzleotal	88.74 331	*e*P	P	05 13 36.3	0.0
	comp=Z,14nm,0.6s					
MORC	Moravsky Berou	88.77 335	⇑P	P	05 13 36.6	+0.3
MORC	Moravsky Berou	88.77 335	P	P	05 13 35.5	-0.8
MORC			IAmb	IAmb	05 13 46.0	
	comp=Z,23nm,1.4s					
MORC	Moravsky Berou	88.77 335	*e*P	P	05 13 35.9	-0.4
MORC	Moravsky Berou	88.77 335	⇑P	P	05 13 36.6	+0.3
MOS	Moscow	88.82 349	*e*P	P	05 13 35.2	-1.1
MOS			pmax	pmax		
	comp=Z,30nm,0.7s					
WTTA	Wattenberg	89.05 330	*e*P	P	05 13 38.3	+0.4
	comp=Z,18nm,0.6s,SNR=6.6					
WATA	Walderalm	89.13 330	*e*P	P	05 13 38.4	+0.2
	comp=Z,12nm,0.7s					
FUORN	Ofenpass-Fuorn	89.13 329	IAmb	IAmb	05 13 42.9	
	comp=Z,24nm,1.4s					
SQTA	Sankt Quirin	89.19 330	*e*P	P	05 13 38.9	+0.5
	comp=Z,10nm,0.7s,SNR=6.5					
FETA	Feichten	89.24 330	*e*P	P	05 13 39.4	+0.6
	comp=Z,15nm,0.9s,SNR=6.2					
TUE	Stuetta	89.42 329	IAmb	IAmb	05 13 43.6	
	comp=Z,14nm,1.1s					
TUE	Stuetta	89.42 329	P	P	05 13 40.0	+0.3
	comp=Z,55nm,0.8s,comp=Z,1µm					
GERES	GERESS Array B	89.46 332	P	P	05 13 38.9	-0.7
GERES	GERESS Array B	89.46 332	P	P	05 13 38.6	-1.0
	comp=Z,1.7nm,0.6s,baz=117,slow=5.0,SNR=6.6					
	comp=Z,1.7nm,0.6s					
GERES	GERESS Array B	89.46 332	P	P	05 13 38.9	-0.7
RETA	Reutte	89.59 330	*i* P	P	05 13 40.8	+0.5
	comp=Z,8.4nm,0.8s,SNR=8.4					
DPC	Doruska-Polom	89.68 335	P	P	05 13 40.7	+0.1
	comp=Z,7.7nm,1.4s					
MNK	Minsk	89.72 343	*i* P	P	05 13 39.4	-1.2
MNK			*i*		05 17 11.2	
MNK			*i* S	SKSac	05 24 09.4	-1.3
MNK			pmax	pmax		
	comp=N,8.0nm,0.6s					
MNK			pmax	pmax		
	comp=E,3.0nm,0.7s					
MNK			pmax	pmax		
	comp=Z,17nm,1.0s					
MNK			MLR	MLR		
	comp=Z,206nm,18.0s					
MNK			MLR	MLR		
	comp=N,108nm,18.0s					
MNK			MLR	MLR		
	comp=E,74nm,17.0s					
KHC	Kasperske Hory	89.73 333	*e*P	P	05 13 40.2	-0.7
KHC	Kasperske Hory	89.73 333	*e*P	P	05 13 40.2	-0.7
KHC	Kasperske Hory	89.73 333	P	P	05 13 40.1	-0.8
	comp=E,8.2nm,1.7s					
DAVA	Damuels	89.81 329	*i* P	P	05 13 41.7	+0.3
	comp=E,14nm,0.8s					
OSTC	Ostas	89.89 335	*e*P	P	05 13 41.8	+0.3
OSTC	Ostas	89.89 335	*e*P	P	05 13 41.8	+0.3
KSP	Ksiaz	90.10 335	*e*P	P	05 13 43.1	+0.6
URZ	Urewera	90.13 136	LR	LR	05 46 38.0	
	comp=E,722nm,21.5s,baz=297,slow=31					
SONM	Songino Array	90.17 30	P	P	05 13 42.6	-0.4
	comp=E,3.1nm,0.9s,baz=212,slow=4.5,SNR=12					
SONM			LR	LR	05 51 22.3	
	comp=E,704nm,20.5s,baz=222,slow=34					
	comp=E,3.1nm,0.9s					
KIRV	Kirov	90.21 355	LR	LR	05 56 15.1	
	comp=E,301nm,18.1s,baz=179,slow=37					
ULN	Ulaanbaatar	90.47 30	P	P	05 13 43.4	-1.1
ULN	Ulaanbaatar	90.47 30	*ce*P	P	05 13 43.6	-0.9
ULN			pmax	pmax		
	comp=Z,22nm,2.5s					
CEST	Esterri de Car	90.52 322	P	P	05 13 46.4	+1.5
CEST			IAmb	IAmb	05 14 15.2	
	comp=Z,30nm,1.3s					
SUW	Suwalki	90.55 340	*e*P	P	05 13 44.5	0.0
ZAK	Zakamensk	90.90 27	*e*P	P	05 13 44.5	-1.8
ZAK			pmax	pmax		
	comp=Z,5.0nm,1.6s					
BRG	Berggiesshubel	90.99 334	*e*P	P	05 13 47.5	+0.8
BRG			Amp		05 13 51.9	
	comp=Z,15nm,1.3s					
BRG	Berggiesshubel	90.99 334	Amp		05 13 57.1	
	comp=Z,14nm,1.4s					
BRG	Berggiesshubel	90.99 334	*e*P	P	05 13 47.4	+0.8
BRG			pmax	pmax		
	comp=Z,15nm,1.3s					
BRG	Berggiesshubel	90.99 334	P	P	05 13 55.8	+9.2
ESDC	Sonseca Array	91.44 317	P	P	05 13 49.5	+0.4
ESDC			IAmb	IAmb	05 13 53.6	
	comp=Z,18nm,1.4s					
ESDC	Sonseca Array	91.44 317	P	P	05 13 49.7	+0.7
	comp=Z,4.1nm,0.9s,baz=122,slow=3.2,SNR=24					
	comp=Z,4.1nm,0.9s					
PAB	San Pablo	91.58 317	⇓P	P	05 13 51.5	+1.7
CLL	Collm	91.70 334	*i* P	P	05 13 50.7	+0.8
CLL			*e*		05 13 59.0	
CLL			*e*		05 24 16.0	
CLL			*e*S	S	05 24 52.0	+1.9
CLL			pmax	pmax		
	comp=Z,79nm,2.4s					
XLT	XiLinHaoTe	91.89 38	*e*P	P	05 13 51.8	+0.7
XLT			sP	pwP	05 14 01.2	+2.4
XLT			pmax	pmax		
	comp=Z,4.0nm,0.9s					
PVAQ	Vaqueiros	92.24 313	*e*P	P	05 13 54.2	+1.4
PBDV	Barranco-do-Ve	92.27 313	*e*P	P	05 13 55.0	+2.0
	comp=Z,60nm,1.6s					
PBAR	Barrancos	92.31 314	*e*P	P	05 13 56.0	+3.0
PCVE	Castro Verde	92.58 313	*e*P	P	05 13 56.1	+1.8
	comp=Z,37nm,1.6s					
PBEJ	Beja	92.72 314	*e*P	P	05 13 56.8	+1.8
	comp=Z,26nm,1.8s					
MORF	Marmelete	92.76 313	*e*P	P	05 13 57.6	+2.4
	comp=Z,35nm,1.5s					
PTEO	Sao Teotonio	92.96 313	*e*P	P	05 13 56.8	+0.8
	comp=Z,39nm,2.1s					
DZM	Mont Dzumac	92.99 118	*e*SS	SS	05 31 19.0	+2.1
	comp=Z,239nm,25.1s					
DZM	Mont Dzumac	92.99 118	*e*LR	LR	05 43 52.2	
	comp=Z,376nm,23.6s					
DZM	Mont Dzumac	92.99 118	LR	LR	05 47 31.5	
	comp=Z,192nm,21.5s,baz=230,slow=30					
PESTR	Estremoz	93.08 315	*e*P	P	05 13 58.2	+1.6
EVO	Evora	93.13 314	*e*P	P	05 13 59.3	+2.5
	comp=Z,23nm,1.9s					
PNCL	Nicolau / Gran	93.18 313	*e*P	P	05 13 58.5	+1.4
	comp=Z,22nm,1.7s					
PMRV	Marv??o	93.31 315	*e*P	P	05 13 59.4	+1.7
PMTG	Montargil	93.59 314	*e*P	P	05 13 59.0	+0.1
PCBR	Castelo Branco	93.62 315	*e*P	P	05 14 00.3	+1.2
	comp=Z,14nm,1.6s					
PLCA	Paso Flores	93.80 216	P	P	05 13 59.9	-0.4
	comp=Z,4.2nm,1.2s,baz=160,slow=4.0,SNR=3.0					
	comp=Z,4.2nm,1.2s					
JNU	Nakatsue	94.06 53	LR	LR	05 53 48.9	
	comp=Z,144nm,20.5s,baz=236,slow=34					
GUMO	Guam	94.21 77	LR	LR	05 51 18.9	
	comp=Z,23nm,20.6s,baz=144,slow=32					
BMRD	Maredsous	94.31 329	*d*P	P	05 14 03.0	+1.0
KSRS	Korea Array	94.64 48	P	P	05 14 02.8	-1.0
	comp=Z,0.6nm,0.3s,baz=270,slow=3.4,SNR=5.1					
KSRS			LR	LR	05 55 00.9	
	comp=Z,183nm,20.7s,baz=245,slow=34					
	comp=Z,0.6nm,0.3s					
HNR	Honiara	94.93 104	LR	LR	05 53 12.8	
	comp=Z,2µm,19.0s,baz=152,slow=33					
CN2	Changchun	96.97 42	*e*P	P	05 14 15.5	+1.2
CN2			pmax	pmax		
	comp=Z,10.0nm,0.8s					
JCJ	Chichijima	99.02 64	LR	LR	05 54 09.1	
	comp=Z,60nm,21.3s,baz=117,slow=32					
RAO	Raoul Island	99.28 133	LR	LR	05 52 44.2	
	comp=Z,174nm,19.3s,baz=170,slow=32					
TBI	Tubuai	119.22 151	*e*SS	SS	05 37 12.7	+0.1
	comp=Z,1µm,29.0s					
TBI	Tubuai	119.22 151	*e*LR	LR	05 55 59.0	
	comp=Z,2µm,36.2s					
PPT2	Papeete2	124.23 147	*e*SS	SS	05 38 19.2	+2.2
	comp=Z,442nm,27.2s					
PPT2	Papeete2	124.23 147	*e*LR	LR	05 58 13.3	
	comp=Z,377nm,25.2s					
PPT2			*e*LR	LR	05 58 15.0	
	comp=Z,331nm,37.5s					
TULM	Tulcn-Chalpat	128.31 242		PKPdf	05 19 48.7	-2.2
IMAR	Indian Mountai	140.59 20		PKPdf	05 20 10.8	-0.8
CAST	Castle Rocks	142.91 22		PKPpre	05 20 11.8	
ILAR	Eielson Array	143.41 18		PKPpre	05 20 11.6	
ILAR	Eielson Array	143.41 18	PKhKP	PKPpre	05 20 13.1	
	comp=Z,2.5nm,0.9s,baz=320,slow=4.4,SNR=11					
ILAR	Eielson Array	143.41 18	PKHKP	PKPpre	05 20 11.6	
SSPA	Standing Stone	143.76 297		PKPab	05 20 15.3	+0.4
SOR	Soroa	144.56 265		PKPab	05 20 19.1	+0.7
SOR	Soroa	144.56 265	PKIKP	PKPab	05 20 19.1	+0.7
CHGN	Chignik	144.60 35	P	PKPab	05 20 17.6	+0.1
	baz=299					
SUA	Susitna One	144.73 24	P	PKPab	05 20 17.3	-0.7
	baz=314,SNR=11					
M22K	Willow	144.74 23	P	PKPab	05 20 17.2	-0.6
	baz=316,SNR=10					
Q17K	Contact Creek	144.75 31	P	PKPab	05 20 16.8	-1.3
	baz=304					
EGAK	Eagle	144.75 14	P	PKPab	05 20 17.8	0.0
	baz=331,SNR=15					
I29M	Ogilvie Camp,	144.78 12	P	PKPab	05 20 17.5	-0.4
	baz=335,SNR=22					
SCRK	Sand Creek	144.79 17	P	PKPab	05 20 18.1	-0.1
	baz=326,SNR=17					
WAT6	Susitna Watana	144.88 21	P	PKPab	05 20 18.4	-0.2
	baz=320,SNR=18					
R17L	Mt. Peulik Vol	144.89 32	P	PKPab	05 20 18.4	-0.1
	baz=303					
Q18K	Katmai Hardscr	144.91 30	P	PKPab	05 20 18.0	-0.7
	baz=306					
DWPF	Disney Wildern	144.98 275	P	PKPbc	05 20 19.3	-0.4
	baz=106					
NHSC	New Hope	145.00 284	P	PKPbc	05 20 19.4	-0.3
	baz=99					
P19K	Oil Pt	145.02 28		PKPab	05 20 18.4	-0.6
P19K	Oil Pt	145.02 28	P	PKPab	05 20 18.9	0.0
	baz=309					
PMR	Palmer	145.18 23	P	PKPbc	05 20 18.7	-0.6
	baz=317,SNR=9.7					
K27K	Chicken	145.20 16	P	PKPbc	05 20 19.9	+0.5
	baz=329					
PAX	Paxson	145.23 19	P	PKPbc	05 20 19.6	0.0
	baz=323,SNR=25					
I30M	Mount Dempster	145.23 11	P	PKPbc	05 20 19.2	-0.4
	baz=338,SNR=60					
MCWV	Mont Chateau	145.26 295	P	PKPbc	05 20 20.3	-0.1
	baz=90					
SML	Sawmill	145.28 22		PKPbc	05 20 18.9	-0.9
SML	Sawmill	145.28 22	P	PKPbc	05 20 19.4	-0.4
	baz=318,SNR=6.9					
ERPA	Erie	145.29 299	P	PKPbc	05 20 20.4	0.0
	baz=86					
Q19K	Cape Douglas,	145.31 29	P	PKPbc	05 20 19.3	-0.6
	baz=308					
RC01	Rabbit Creek A	145.34 24	P	PKPbc	05 20 19.6	-0.3
	baz=315					
M23K	Glacier View	145.48 22	P	PKPbc	05 20 20.2	-0.2
	baz=319,SNR=7.8					
KNK	Knik Glacier	145.53 22	P	PKPdf	05 20 20.4	-0.1
	baz=317					
SCM	Sheep Creek Mo	145.57 21	P	PKPdf	05 20 20.6	0.0
	baz=319					
J29N	Klondike Camp	145.62 13	P	PKPdf	05 20 21.2	+0.6
	baz=335					
HOM	Homer	145.64 27	P	PKPdf	05 20 20.9	+0.3
	baz=311					
BLA	Blacksburg	145.64 291		PKPdf	05 20 21.8	+0.4
BLA	Blacksburg	145.64 291	P	PKPdf	05 20 21.7	+0.4
	baz=93					
BLA	Blacksburg	145.64 291	PKP2	PKPdf	05 20 21.8	+0.4
M24K	Tolsona, Glenn	145.71 20	P	PKPdf	05 20 21.3	+0.6
	baz=321					
MENT	Mentasta	145.72 18		PKPab	05 20 22.0	+0.5
L26K	Log Cabin Wild	145.74 17	P	PKPdf	05 20 21.3	+0.5
	baz=326,SNR=6.8					
DAWY	Dawson	145.75 14		PKPdf	05 20 20.9	+0.1
DAWY	Dawson	145.75 14	P	PKPbc	05 20 21.8	+0.6
	baz=333,SNR=8.8					
HARP	HAARP	145.77 19	P	PKPdf	05 20 21.5	+0.7
	baz=323					
R18K	Karluk	145.78 31	P	PKPdf	05 20 21.0	+0.1
	baz=305					
O22K	Cooper Landing	145.78 24	P	PKPdf	05 20 20.9	+0.1
	baz=315					
J30M	Hart River	145.84 11	P	PKPdf	05 20 21.1	+0.1
	baz=338,SNR=31					
M53A	WI Miller and	145.84 298	P	PKPdf	05 20 21.2	-0.4
	baz=87					
BRSE	Bradley Lake S	145.92 26	P	PKPdf	05 20 21.0	-0.1
	baz=313					
Q20K	Shuyak Island	146.02 28	P	PKPdf	05 20 21.7	+0.4
	baz=309					
L27K	Beaver Creek,	146.09 16	P	PKPdf	05 20 22.0	+0.6
	baz=328,SNR=27					
BCAR	Beaver Creek A	146.09 16	PKPdf	PKPdf	05 20 21.2	-0.1
SEW	Seward	146.14 25	P	PKPdf	05 20 22.1	+0.7
	baz=315					
CHIR	Chirikof Islan	146.19 34	P	PKPdf	05 20 22.7	+1.0
	baz=301					
KMSC	Kings Mountain	146.22 287	P	PKPdf	05 20 22.5	+0.1
	baz=96					
KLU	Klutina	146.27 21	P	PKPdf	05 20 22.7	+0.9
	baz=321,SNR=9.5					
O53A	New Philadelph	146.30 296	P	PKPdf	05 20 22.5	+0.2
	baz=88					
K29M	Barlow Dome	146.31 13	P	PKPbc	05 20 23.1	+0.1
	baz=335,SNR=29					
M26K	Nabesna, AK	146.35 18	P	PKPdf	05 20 22.9	+1.1
	baz=326					
KDAK	Kodiak Island	146.45 30	P	PKPbc	05 20 23.8	+0.4
	baz=308					
SII	Sitkinak Islan	146.47 32	P	PKPdf	05 20 22.5	+0.4
	baz=304					
OHAK	Old Harbor	146.49 31	P	PKPdf	05 20 23.3	+1.2
	baz=306					
N25K	Chitina, Valde	146.57 20	P	PKPbc	05 20 23.8	0.0
	baz=323,SNR=20					
M27K	Edge Creek, AK	146.67 17	P	PKPbc	05 20 24.2	+0.1
	baz=328					
L29M	L29M	146.86 14	P	PKPbc	05 20 24.5	0.0
	baz=334					
HODGE	Hodges	146.88 285		PKPdf	05 20 24.2	+0.6
P23K	Montague Islan	146.93 23	P	PKPbc	05 20 24.8	+0.1
	baz=318					
P52A	Corning	147.03 295	P	PKPdf	05 20 25.1	+1.5
	baz=88					
EYAK	Cordova Ski Ar	147.05 22	P	PKPbc	05 20 24.9	-0.2
	baz=320					
BMRM	Bremner River	147.07 20	P	PKPbc	05 20 24.9	-0.3
	baz=322					
MCARA	McCarthy VSAT	147.19 19	P	PKPbc	05 20 25.7	+0.2
	baz=325					
M29M	Somme Creek	147.38 14	P	PKPbc	05 20 26.3	+0.2
	baz=333					
YUK3	Moose Creek	147.52 16	P	PKPbc	05 20 26.5	-0.2
	baz=329					
TIGA	Tifton	147.56 280	P	PKPdf	05 20 26.5	+1.8
	baz=100					
M30M	Minto, Yukon	147.60 13	P	PKPbc	05 20 26.4	-0.2
	baz=336					
CRQE	Cirque	147.69 20	P	PKPbc	05 20 27.1	+0.1
	baz=325					
GOGA	Godfrey	147.77 284	P	PKPdf	05 20 26.8	+1.8
	baz=98					
TEIG	Tepich	147.92 257		PKPdf	05 20 27.3	+1.6
CTG	Chitna Glacier	147.99 18	P	PKPbc	05 20 28.0	+0.2
	baz=327					
M31M	Drury Creek, Y	148.38 11	P	PKPbc	05 20 28.0	-0.6
	baz=339					
WRGLY	Wrigley	148.40 1	P	PKPbc	05 20 28.6	0.0
	baz=357					
FARO	Faro, Yukon	148.52 10	P	PKPbc	05 20 28.1	-0.9
	baz=341					
N30M	Aishikik Lake	148.56 14	P	PKPbc	05 20 28.6	-0.6
	baz=334					
YUK6	Outpost Mounta	148.74 16	P	PKPbc	05 20 30.0	+0.1
	baz=332					
N31M	Braeburn, Yuko	148.79 13	P	PKPbc	05 20 29.8	0.0
	baz=336					
YKA	Yellowknife Ar	148.81 354	PKPdf	PKPdf	05 20 25.7	-0.1
YKA			PKPbc	PKPbc	05 20 29.8	+0.2
YKA			PKPab	sPKPab	05 20 36.4	+0.3
YKA	Yellowknife Ar	148.81 354	PKPbc	PKPbc	05 20 29.6	-0.1
	comp=Z,12nm,0.8s,baz=1.1,slow=2.6,SNR=49					
YKA	Yellowknife Ar	148.81 354	PKIKP	PKPdf	05 20 25.7	-0.1
YKA					05 20 29.8	
P49A	Miami Univ. Ec	149.03 295	P	PKPbc	05 20 30.1	-0.9
	baz=87					
HYT	Haines Junctio	149.04 15	P	PKPbc	05 20 30.7	+0.2
	baz=333					
O48B	Farmland	149.31 297	P	PKPbc	05 20 30.6	-1.1
	baz=85					
O30N	Mendenhall	149.39 14	P	PKPbc	05 20 31.2	-0.1
	baz=336					
N32M	Quiet Lake	149.58 11	P	PKPbc	05 20 31.0	-0.8
	baz=341					
P30M	Million Dollar	149.79 15	P	PKPbc	05 20 32.0	-0.3
	baz=334					
TGTN	Hyland Airport	149.83 6	P	PKPbc	05 20 31.8	-0.6
	baz=349					
P29M	Windy Craggy	150.05 16

SFIN	**Lafayette**	**150.78 297**	P	**PKPbc**	**05 20 35.5**	**+0.3**
	baz=84					
P32M	**Atlin**	**150.94 13**	P	**PKPbc**	**05 20 35.3**	**+0.2**
	baz=339					
WVT	**Waverly**	**151.56 288**		**PKPdf**	**05 20 34.0**	**+3.0**
WVT	**Waverly**	**151.56 288**	P	**PKPbc**	**05 20 36.5**	**-0.6**
	baz=91					
WVT	**Waverly**	**151.56 288**	PKIKP	**PKPdf**	**05 20 34.0**	**+3.0**
R33M	**Jennings River**	**151.58 10**	P	**PKPbc**	**05 20 37.2**	**+0.5**
	baz=343					
Q32M	**Nakina River**	**151.79 12**	P	**PKPbc**	**05 20 37.6**	**+0.3**
	baz=341					
EYMN	**Ely**	**151.85 314**	P	**PKPbc**	**05 20 37.4**	**-0.1**
	baz=66					
S31K	**Pelican**	**151.90 16**	P	**PKiKP**	**05 20 38.6**	**+1.0**
	baz=333					
DLBC	**Dease Lake**	**152.64 9**	P	**PKPbc**	**05 20 39.1**	**+0.1**
	baz=344					
JFWS	**Jewell Farm**	**152.67 303**	P	**PKiKP**	**05 20 40.8**	**+1.1**
	baz=76					
TOAD	**Toad River Com**	**152.71 4**	P	**PKiKP**	**05 20 40.5**	**+1.1**
	baz=354					
S32K	**Killisnoo**	**152.73 15**	P	**PKiKP**	**05 20 40.1**	**+0.8**
	baz=336					
OXF	**Oxford**	**152.79 285**	P	**PKPbc**	**05 20 40.6**	**+0.6**
	baz=93					
S34M	**Telegraph Cree**	**152.98 11**	P	**PKiKP**	**05 20 42.0**	**+2.1**
	baz=342					
FFC	**Flin Flon**	**152.99 334**	PKPdf	**PKPdf**	**05 20 32.1**	**-0.4**
FFC			PKPbc	**PKPbc**	**05 20 39.4**	**-0.4**
FFC			PKPab	**pPKPab**	**05 20 52.8**	**-0.2**
ULM	**Lac du Bonnet**	**153.25 321**	PKP	**PKPdf**	**05 20 32.2**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=57,slow=5.8,SNR=3.1					
ULM			PKPbc	**PKPbc**	**05 20 40.1**	**-0.4**
	comp=Z,8.1nm,0.8s,baz=88,slow=3.3,SNR=16					
SPMN	**Marine on St.**	**153.74 309**	P	**PKPab**	**05 20 54.5**	**-0.1**
	baz=69					
CCM	**Cathedral Cave**	**154.22 293**	PKPdf	**PKPdf**	**05 20 33.4**	**-1.4**
CCM				**PKPab**	**05 20 55.5**	**-1.4**
CCM	**Cathedral Cave**	**154.22 293**	P	**PKPab**	**05 20 55.8**	**-1.1**
	baz=85					
CCM	**Cathedral Cave**	**154.22 293**	PKP2	**PKPab**	**05 20 55.5**	**-1.4**
CCM					06 20 33.4	
AGMN	**Agassiz Nation**	**154.29 318**	P	**PKPab**	**05 20 57.4**	**+0.5**
	baz=59					
V35K	**Ketchikan**	**155.34 14**	P	**PKPab**	**05 21 01.5**	**+0.5**
	baz=340					
MIAR	**Mount Ida**	**156.23 285**	P	**PKPab**	**05 21 05.3**	**-0.4**
	baz=91					
ECSD	**EROS Data Cent**	**156.82 308**	P	**PKPab**	**05 21 07.8**	**-0.1**
	baz=67					
TUL3	**Leonard**	**158.01 288**	P	**PKPab**	**05 21 11.9**	**-1.4**
	baz=86					
DGMT	**Dagmar**	**158.57 327**	P	**PKPab**	**05 21 16.7**	**+1.4**
	baz=45					
WHTX	**Lake Whitney,**	**159.34 277**	P	**PKPab**	**05 21 18.9**	**-0.3**
	baz=95					
WMOK	**Wichita Mounta**	**160.52 285**	P	**PKPab**	**05 21 23.6**	**-0.7**
	baz=87					
CBKS	**Cedar Bluff**	**160.66 298**	P	**PKPab**	**05 21 24.4**	**-0.4**
	baz=75					
JCT	**Junction City**	**161.14 272**	P	**PKPab**	**05 21 26.6**	**-0.6**
	baz=99					
ABTX	**Abilene, Hawle**	**161.23 279**	P	**PKPab**	**05 21 27.7**	**+0.3**
	baz=93					
EGMT	**Eagleton**	**161.27 334**	P	**PKPab**	**05 21 27.9**	**+0.9**
	baz=33					
RSSD	**Black Hills**	**161.32 317**	P	**PKPab**	**05 21 29.3**	**+1.6**
	baz=54					
NEW	**Newport**	**163.04 349**	P	**PKPab**	**05 21 34.0**	**-0.7**
	baz=14					
RLMT	**Red Lodge**	**163.39 328**	P	**PKPab**	**05 21 37.1**	**+0.5**
	baz=40					
K22A	**Casper**	**163.65 316**	P	**PKPab**	**05 21 39.0**	**+1.1**
	baz=52					
MSO	**Missoula**	**163.70 341**	P	**PKPab**	**05 21 37.7**	**0.0**
	baz=24					
BOZ	**Bozeman (W)**	**164.01 333**		**PKPdf**	**05 20 46.6**	**+0.4**
BOZ				**PKPab**	**05 21 39.8**	**+0.6**
BOZ	**Bozeman (W)**	**164.01 333**	PKIKP	**PKPdf**	**05 20 46.6**	**+0.4**
TXAR	**Lajitas Array**	**164.22 266**	PKPab	**PKPab**	**05 21 40.6**	**-0.2**
TXAR	**Lajitas Array**	**164.22 266**	PKP	**PKPdf**	**05 20 47.0**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=203,slow=2.6,SNR=6.2					
TXAR			PKPab	**PKPab**	**05 21 41.4**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=122,slow=7.4,SNR=5.6					
TXAR	**Lajitas Array**	**164.22 266**	PKIKP	**PKPdf**	**05 20 47.0**	**+0.2**
N23A	**Red Feather La**	**164.27 310**	P	**PKPab**	**05 21 41.3**	**+0.5**
	baz=59					
BW06	**Boulder Array**	**165.27 322**	P	**PKPab**	**05 21 46.5**	**+1.5**
	baz=45					
PDAR	**Pinedale Array**	**165.27 322**		**PKPdf**	**05 20 45.3**	**-2.2**
PDAR	**Pinedale Array**	**165.27 322**	PKP	**PKPdf**	**05 20 46.6**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=111,slow=3.3,SNR=9.2					
PDAR			PKPab	**PKPab**	**05 21 44.5**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=86,slow=2.2,SNR=5.3					
SDCO	**Great Sand Dun**	**165.31 299**	P	**PKPab**	**05 21 45.4**	**-0.1**
	baz=70					
S22A	**4UR Ranch, Cre**	**166.29 300**	P	**PKPab**	**05 21 50.4**	**+0.5**
	baz=68					
ANMO	**Albuquerque**	**166.77 288**		**PKPab**	**05 21 51.3**	**-0.7**
ANMO	**Albuquerque**	**166.77 288**	P	**PKPab**	**05 21 53.2**	**+1.2**
	baz=80					
ANMO	**Albuquerque**	**166.77 288**	PKP2	**PKPab**	**05 21 51.3**	**-0.7**
HLID	**Hailey**	**166.77 336**	P	**PKPab**	**05 21 49.7**	**-1.7**
	baz=28					
MVCO	**Mesa Verde**	**167.72 300**	P	**PKPab**	**05 21 56.5**	**+0.4**
	baz=67					
121A	**Cookes Peak, D**	**168.10 278**	P	**PKPab**	**05 21 59.1**	**+1.2**
	baz=89					
R11B	**Troy Canyon, C**	**171.62 324**	P	**PKPab**	**05 22 10.5**	**-2.6**
	baz=38					
NVAR	**Mina Array Bea**	**172.67 338**		**PKPab**	**05 22 17.8**	**0.0**
NVAR	**Mina Array Bea**	**172.67 338**	PKP	**PKPdf**	**05 20 52.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=90,slow=4.4,SNR=4.9					
NVAR			PKPab	**PKPab**	**05 22 17.0**	**-0.8**
	comp=Z,1.5nm,1.0s,baz=33,slow=4.9,SNR=5.4					
TPNV	**Topopah Spring**	**173.02 321**	P	**PKPab**	**05 22 16.6**	**-2.7**
	baz=42					
GRAC	**Grapevine Rang**	**173.55 327**	P	**PKPab**	**05 22 17.6**	**-3.9**
	baz=35					
FURC	**Furnace Creek,**	**173.71 321**	P	**PKPab**	**05 22 23.7**	**+1.5**
	baz=41					
CWC	**Cottonwood Cre**	**174.33 328**	P	**PKPab**	**05 22 24.7**	**-0.5**
	baz=33					
MPMC	**Manual Prospec**	**174.35 322**	P	**PKPab**	**05 22 25.7**	**+0.4**
	baz=40					
TPFO	**Pinon Flats**	**175.11 295**	P	**PKPab**	**05 22 30.5**	**+1.7**
	baz=67					
PFO	**Pinyon Flats O**	**175.11 295**	P	**PKPab**	**05 22 29.6**	**+0.8**
	baz=67					
ISA	**Isabella, Lake**	**175.15 326**	P	**PKPab**	**05 22 30.2**	**+1.5**
	baz=35					

*HVO **11** 05:07:04.2±0.6, 19°.415N±0°.009×155°.277W±0°.007, h1km±4km, ML3.6/24, ML3.4/42(NEIC), Error ellipse: s-maj=1.5km s-min=0.6km az=209.0*
*IDC **11** 05:07:06.0±2.3, 19°.61N×155°.35W, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=77.6km s-min=15.5km az=168.0*
*NEIC **11** 05:07:05.2±0.7, 19°.41N±0°.01×155°.282W±0°.009, h2km±2km, Error ellipse: s-maj=1.6km s-min=1.2km az=190.0*

ISC 11 05:07:04.7±1.0, **19°.44N**±0°.03×**155°.29W**±0°.03, **h2**km±6km, **n35**, σ0=**97**/36, **mb3.5**/4, **Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.02**	**146**		**Pg**	**05 07 05.3**	**-0.1**
UWE	**Uwekahuna**	**0.02**	**184**	Pg	**Pg**	**05 07 05.5**	**0.0**
RSD	**Rainshed**	**0.02**	**33**	Pg	**Pg**	**05 07 06.3**	**+0.8**
RSD				IAML		05 07 06.6	
	comp=N,32μm,0.4s						
OBL	**Observatory Le**	**0.03**	**165**		**Pg**	**05 07 05.3**	**-0.2**
SBLHI	**Steaming Bluff**	**0.03**	**126**		**Pg**	**05 07 05.7**	**+0.2**
HATHI	**Halema'uma'u T**	**0.04**	**125**	Pg	**Pg**	**05 07 05.6**	**0.0**
WRMHI	**West Rim**	**0.04**	**193**		**Pg**	**05 07 06.2**	**+0.5**
BYL	**Byron's Ledge**	**0.04**	**136**		**Pg**	**05 07 05.5**	**-0.2**
RIM	**Rim**	**0.05**	**161**		**Pg**	**05 07 05.9**	**0.0**
KKO	**Keanakako`i**	**0.05**	**152**		**Pg**	**05 07 05.9**	**0.0**
SDHHI	**Sand Hill**	**0.05**	**183**		**Pg**	**05 07 06.5**	**+0.6**
PUH	**Pauahi**	**0.10**	**134**		**Pg**	**05 07 06.9**	**+0.2**
PUH				IAML		05 07 07.5	
	comp=E,30μm,0.8s						
MLH	**Mauna Loa**	**0.10**	**299**		**Pg**	**05 07 08.1**	**+1.2**
MLH				IAML		05 07 11.1	
	comp=E,24μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.13**	**119**		**Pg**	**05 07 07.9**	**+0.6**
HLP	**Hilina Pali**	**0.15**	**186**		**Pg**	**05 07 07.7**	**+0.1**
HLP				IAML		05 07 09.2	
	comp=E,8μm,0.8s						
HLP				IAML		05 07 09.7	
	comp=N,10μm,1.1s						
STCH	**Steam Cracks**	**0.17**	**110**		**Pg**	**05 07 08.3**	**+0.3**
STCH				IAML		05 07 11.7	
	comp=N,13μm,0.7s						
STCH				IAML		05 07 12.0	
	comp=E,18μm,0.8s						
NPOC	**North of Pu'u**	**0.18**	**106**		**Pg**	**05 07 08.1**	**-0.1**
NPOC					**Sg**	**05 07 11.3**	**+0.7**
JCUZ	**Jacuzzi**	**0.19**	**108**		**Pg**	**05 07 08.3**	**-0.1**
JCUZ					**Sg**	**05 07 11.7**	**+0.8**
HMH	**Humu'ula Sheep**	**0.24**	**311**		**Pg**	**05 07 10.5**	**+1.1**
HMH				IAML		05 07 16.0	
	comp=E,6μm,0.7s						
HMH				IAML		05 07 18.8	
	comp=N,10μm,0.6s						
JOKA	**Jonika Flow**	**0.27**	**92**		**Pg**	**05 07 10.0**	**0.0**
JOKA				IAML		05 07 17.6	
	comp=N,8μm,1.1s						
JOKA				IAML		05 07 17.8	
	comp=E,5μm,1.3s						
MLOA	**Mauna Loa Obse**	**0.28**	**289**	Pg	**Pg**	**05 07 11.2**	**+0.9**
MLOA				IAML		05 07 19.8	
	comp=E,9μm,1.0s						
MWH	**Moku'aweowe**	**0.29**	**278**		**Pg**	**05 07 11.2**	**+0.8**
PAH	**Pahoa**	**0.33**	**81**	Pg	**Pg**	**05 07 11.4**	**+0.4**
KHU	**Kahuku**	**0.36**	**237**	Pg	**Pg**	**05 07 11.8**	**0.0**
KHU				IAML		05 07 23.1	
	comp=E,4μm,0.8s						
KHU				IAML		05 07 23.2	
	comp=N,5μm,0.7s						
POHA	**Pohakuloa**	**0.39**	**324**		**Pg**	**05 07 12.6**	**+0.4**
POHA	**Pohakuloa**	**0.39**	**324**	IAML		05 07 20.1	
	comp=N,7μm,0.6s						
POHA				IAML		05 07 22.9	
	comp=N,8μm,0.7s						
I59US	**HAWAII INFRASO**	**0.59**	**285**	Pg	**Pg**	**05 07 15.8**	**-0.2**
	baz=114,slow=34						
HPAH	**Hawaii Prepara**	**0.70**	**327**	Pg	**Pg**	**05 07 17.4**	**-0.8**
HPAH				IAML		05 07 43.5	
	comp=N,3μm,1.1s						
MHA	**Mahukona**	**0.94**	**322**	Pg	**Pg**	**05 07 21.0**	**-1.8**
KHLH	**Kahului Airpor**	**1.80**	**324**	Pn	**Pn**	**05 07 33.5**	**-3.3**
KEKH	**Kekaha**	**4.85**	**302**	Pn	**Pn**	**05 08 17.0**	**-1.7**
NVAR	**Mina Array Bea**	**37.17**	**51**	P	**P**	**05 14 19.3**	**+1.8**
	comp=N,0.1nm,0.3s,baz=209,slow=9.2,SNR=1.8						
	comp=N,0.1nm,0.3s						
PDAR	**Pinedale Array**	**44.85**	**48**	P	**P**	**05 15 21.9**	**+1.2**
	comp=N,0.2nm,0.4s,baz=256,slow=11,SNR=2.0						
	comp=N,0.2nm,0.4s						
ILAR	**Eielson Array**	**45.65**	**5**	P	**P**	**05 15 26.2**	**-0.2**
	comp=N,0.6nm,0.9s,baz=187,slow=7.6,SNR=4.6						
	comp=N,0.6nm,0.9s						
TXAR	**Lajitas Array**	**47.72**	**68**	P	**P**	**05 15 44.2**	**+0.9**
	comp=N,1.3nm,0.9s,baz=250,slow=6.5,SNR=13						
	comp=N,1.3nm,0.9s						

ROM 11 05:10:55.1±0.1, **42°.977N**±0°.002×**13°.065E**±0°.003, **h9**km, **ML1.1**/6, **3C**, **Error ellipse: s-maj=0.2km s-min=0.1km az=9.0**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.12**	**283**	⇑P	Pg	05 10 58.3	+0.4
CESI				S	Sg	05 11 00.6	+0.7
CESI				AML	AML		
	comp=E,166μm,0.2s						
CESI				AML	AML		
	comp=N,192μm,0.2s						
CESI				AML	AML		
	comp=E,166μm,1.8s						
NRCA	**Norcia**	**0.15**	**166**	P	Pg	05 10 58.9	+0.5
NRCA				S	Sg	05 11 01.7	+1.0
NRCA				AML	AML		
	comp=N,79μm,0.2s						
NRCA				AML	AML		
	comp=E,80μm,0.2s						
CSP1	**Cessapalombo**	**0.15**	**42**	P	Pg	05 10 58.9	+0.4
CSP1				S	Sg	05 11 01.9	+1.0
MMO1	**Montemonaco**	**0.21**	**112**	⇑P	Pg	05 10 59.9	+0.5
MMO1				S	Sg	05 11 03.6	+1.3
GUMA	**Gualdo di Mace**	**0.22**	**67**	P	Pg	05 11 00.3	+0.8
GUMA				AML	AML		
	comp=E,98μm,0.5s						
GUMA				AML	AML		
	comp=N,103μm,1.0s						
MF5	**Montefalcone A**	**0.29**	**88**	⇑P	Pb	05 11 01.7	-0.8

LDG 11 05:11:32.8±0.1, **45°.43N×6°.33E**, **h2**km, **Md1.6**/2, **MI1.5**/2, **Error ellipse: s-maj=2.6km s-min=1.4km az=125.0**, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.29**	**73**	*e*Pg	Pg	05 11 38.5	0.0
LPL				*e*Sg	Sg	05 11 42.4	0.0
	3.9nm,0.2s						
LPG	**La Plagne**	**0.30**	**77**	*e*Pg	Pg	05 11 38.8	+0.1
LPG				*e*Sg	Sg	05 11 43.3	+0.6
	4.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.60**	**212**	*e*Pg	Pg	05 11 44.6	+0.2
ORIF				*e*Sg	Sg	05 11 51.9	-0.3
	2.5nm,0.2s						
CABF	**La Chapelle**	**1.19**	**352**	*e*Pg	Pg	05 11 55.0	-0.6
CABF	**La Chapelle**	**1.19**	**352**	*e*P	Pn	05 11 57.0	+0.4
CABF				*e*Sg	Sb	05 12 11.9	-0.2
	1.3nm,0.3s						
VIVF	**Saint-Julien-l**	**1.31**	**244**	*e*Sg	Sg	05 12 13.8	-1.0
	0.9nm,0.3s						

*IDC **11** 05:19:14.7±1.9, 13°.79S×71°.09W, h0km, mb3.9/2, mbtmp3.8/5, ML3.2/3, MS3.8/2, Error ellipse: s-maj=75.8km s-min=26.1km az=28.0*
*VAO **11** 05:19:19.1±0.6, 13°.75S×71°.69W, h61km±7km, mb4.0*

ISC 11 05:19:16.4±0.9, **13°.76S**±0°.09×**71°.18W**±0°.10, **h10**km, **n26**, σ2=**10**/19, **Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.88**	**131**	Pn	**Pn**	**05 20 14.7**	**-1.9**
	0.6nm,0.3s,baz=298,slow=4.6,SNR=33						
	4.6nm,0.5s						
LPAZ	**La Paz**	**3.88**	**131**	*e*P	**Pn**	**05 20 14.1**	**-2.6**
NNA	**Nana**	**5.79**	**287**	Pn	**Pn**	**05 20 43.8**	**+1.3**
	0.9nm,0.3s,baz=119,slow=13,SNR=1.9						
	4.3nm,0.5s						
CZSB	**Cruzeiro do Su**	**6.17**	**346**	*e*P	**Pn**	**05 20 46.3**	**-1.4**
ETMB	**Extrema**	**6.24**	**52**	*e*P	Pn	05 20 54.2	+5.5
LVC	**Limon Verde**	**9.07**	**167**	*e*P	**Pn**	**05 21 29.1**	**+1.4**
SAML	**Samuel**	**9.18**	**59**	*e*P	Pn	05 21 33.5	+4.5
TBTG	**Tabatinga, AM**	**9.59**	**8**	*e*P	**Pn**	**05 21 36.3**	**+1.7**
SIV	**San Ignacio**	**10.02**	**104**	Pn	**Pn**	**05 21 38.8**	**-1.7**
	0.1nm,0.3s,baz=266,slow=15,SNR=9.0						
	1.7nm,0.3s						
VILB	**Vilhena**	**10.72**	**87**	*e*P	Pn	05 21 55.8	+5.8
BBSD	**Serra de San D**	**10.75**	**110**	*e*P	Pn	05 21 56.9	+6.5
PTLB	**Pontes e Lacer**	**11.78**	**100**	*e*P	Pn	05 22 12.3	+7.8
TEFE	**Tefe**	**12.06**	**33**	*e*P	**Pn**	**05 22 11.0**	**+2.6**
PDRB	**Porto dos Gac**	**14.26**	**83**	*e*P	**P**	**05 22 44.7**	**-1.2**
MURT	**Porto Murtinho**	**15.12**	**123**	*e*P	**P**	**05 22 53.3**	**-2.2**
SALV	**Santo Antonio**	**15.13**	**100**	*e*P	**P**	**05 22 55.8**	**+0.3**
OTAV	**Otavalo**	**15.66**	**332**	*e*P	**Pn**	**05 22 53.8**	**-3.9**
NPGB	**Novo Progresso**	**16.93**	**68**	*e*P	**P**	**05 23 17.7**	**+2.2**
ITTB	**Itaituba**	**17.87**	**60**	*e*P	**P**	**05 23 28.1**	**+2.2**
ARAG	**Araguaiana, MT**	**18.83**	**98**	*e*P	**Pn**	**05 23 39.9**	**+2.8**
BOAV	**Boa Vista**	**19.22**	**34**	*e*P	**Pn**	**05 23 41.6**	**-0.1**
SNDB	**Serra Nova Dou**	**19.47**	**87**	*e*P	**Pn**	**05 23 46.7**	**+2.0**
RPN	**Rapa Nui**	**37.99**	**243**	LR	LR	05 38 27.9	
	comp=Z,124nm,18.1s,baz=347,slow=30						
NVAR	**Mina Array Bea**	**68.10**	**322**	LR	LR	06 01 25.0	
	comp=Z,74nm,18.6s,baz=104,slow=37						
TORD	**Torodi Ar. Bea**	**76.98**	**73**	P	**P**	**05 31 09.9**	**0.0**
	0.9nm,0.7s,baz=267,slow=4.7,SNR=5.1						
	0.9nm,0.7s						
YKA	**Yellowknife Ar**	**83.20**	**341**	P	**P**	**05 31 42.5**	**0.0**
	0.7nm,0.8s,baz=138,slow=5.2,SNR=5.3						
	0.7nm,0.8s						

*IDC **11** 05:31:23.8±1.7, 24°.25N×121°.22E, h0km, mb3.7/2, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=92.2km s-min=27.7km az=76.0*
*TAP **11** 05:31:24.5, 24°.76N×122°.41E, h16km, ML3.6, C*
*JMA **11** 05:31:25.4±0.1, 24°.7N±0°.5×122°.4E±0°.3, h22km±2km, MV2.5/10, NW OFF ISHIGAKIJIMA IS*

ISC 11 05:31:24.9±1.0, **24°.74N**±0°.02×**122°.41E**±0°.02, **h12**km±8km, **n75**, σ0=**78**/120, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.36**	**206**	*i* P	**Pg**	**05 31 32.4**	**+0.3**
	baz=211						
EOS2				*i* S	**Sb**	**05 31 38.6**	**-0.1**
	baz=211						
EGS		**0.44**	**283**	P	**Pb**	**05 31 34.1**	**-0.5**
	baz=281						
EOS3	**EOS3**	**0.46**	**190**	*i* P	**Pb**	**05 31 34.4**	**-0.4**
	baz=193						
EOS3				*i* S	**Sb**	**05 31 41.8**	**+0.2**
	baz=193						
TWB1	**Santiao Chiao**	**0.46**	**305**	*i* P	**Pb**	**05 31 34.2**	**-0.7**
	baz=303						
TWB1				*i* S	**Sg**	**05 31 39.8**	**-0.4**
	baz=303						
TWC	**Suao**	**0.53**	**255**	*i* P	**Pg**	**05 31 34.9**	**-0.2**
	baz=261						
TWC				*i* S	**Sb**	**05 31 42.9**	**-0.7**
	baz=261						
ESAO	**Su ao**	**0.54**	**252**	P	**Pg**	**05 31 35.0**	**-0.5**
	baz=251						
JYNG	**Yonagunijimaku**	**0.57**	**121**	P	**Pg**	**05 31 35.9**	**-0.1**
JYNG				S	**Sg**	**05 31 43.2**	**-0.3**
TIPB	**Shuangxi**	**0.58**	**293**	*i* P	**Pb**	**05 31 37.1**	**+0.2**
	baz=291						
TIPB				S	**Sb**	**05 31 45.4**	**+0.4**
	baz=291						
ILA	**Ilan**	**0.60**	**272**	P	**Pb**	**05 31 37.3**	**+0.1**
	baz=270						
ILA				S	**Sn**	**05 31 46.9**	**-1.9**
	baz=270						
YOJ	**Yonaguni jima**	**0.62**	**117**	*i* P	**Pb**	**05 31 36.9**	**-0.6**
	baz=118						
YOJ				*i* S	**Sg**	**05 31 45.0**	**0.0**
	baz=118						
YOJ	**Yonaguni jima**	**0.62**	**117**	P	**Pg**	**05 31 36.6**	**-0.2**
YOJ				*e*S	**Sg**	**05 31 44.5**	**-0.5**
EOS4	**EOS4**	**0.62**	**188**	*i* P	**Pb**	**05 31 37.3**	**-0.2**
	baz=183						
EOS4				*i* S	**Sb**	**05 31 46.9**	**+0.9**
	baz=183						
NDS	**Dongshan**	**0.64**	**260**	P	**Pg**	**05 31 37.2**	**-0.1**
	baz=252						
EWUT	**Wuta**	**0.65**	**243**	*e*P	**Pb**	**05 31 38.3**	**+0.3**
	baz=242						
NWF	**Wu-fen Shan**	**0.66**	**300**	*i* P	**Pb**	**05 31 38.3**	**0.0**
	baz=298						
NWF				*i* S	**Sb**	**05 31 47.6**	**+0.2**
	baz=298						
WFSB	**Wu-fen Shan**	**0.66**	**300**	*i* P	**Pb**	**05 31 37.7**	**-0.5**
	baz=298						
WFSB				*i* S	**Sb**	**05 31 47.5**	**+0.2**
	baz=298						
TWE	**Neicheng**	**0.67**	**268**	*i* P	**Pg**	**05 31 37.4**	**-0.6**
	baz=266						
TWE				S	**Sb**	**05 31 47.5**	**-0.3**
	baz=266						
ENA	**Nanau**	**0.68**	**243**	*i* P	**Pg**	**05 31 37.8**	**-0.4**
	baz=250						
ENA				S	**Sb**	**05 31 47.8**	**-0.3**
	baz=250						
TNOU	**National Taiwa**	**0.70**	**305**	P	**Pb**	**05 31 39.0**	**-0.1**
	baz=303						
TNOU				*i* S	**Sb**	**05 31 48.9**	**+0.2**
	baz=303						
EAHA	**Aohua**	**0.73**	**236**	P	**Pg**	**05 31 38.6**	**-0.5**
	baz=245						
EAHA				S	**Sb**	**05 31 49.6**	**0.0**
	baz=245						
FUSB	**Fushanzhiwuyua**	**0.75**	**271**	P	**Pg**	**05 31 38.7**	**-0.7**
	baz=270						
FUSB				S	**Sb**	**05 31 49.7**	**-0.3**
	baz=270						
ENTT	**Nioudou**	**0.77**	**263**	*i* P	**Pb**	**05 31 39.7**	**-0.6**
	baz=248						
ENTT				*i* S	**Sg**	**05 31 49.9**	**-0.1**
	baz=248						
TWA	**Mucha**	**0.79**	**288**	*i* P	**Pn**	**05 31 40.8**	**-1.0**
	baz=286						
TWA				*i* S	**Sg**	**05 31 51.2**	**+0.8**
	baz=286						
NWLT	**Wulai**	**0.82**	**273**	P	**Pn**	**05 31 41.1**	**-1.1**
	baz=271						
NWLT				S	**Sb**	**05 31 51.5**	**-0.7**
	baz=271						
NDT	**Datong Townshi**	**0.83**	**260**	P	**Pn**	**05 31 41.2**	**-1.1**
	baz=259						
NDT				S	**Sg**	**05 31 52.1**	**+0.5**
	baz=259						
LATG	**Datong**	**0.83**	**256**	*i* P	**Pn**	**05 31 41.5**	**-0.9**
	baz=254						
LATG				S	**Sg**	**05 31 52.5**	**+0.7**
	baz=254						
YM01	**YM01**	**0.86**	**298**	P	**Pn**	**05 31 41.7**	**-1.1**
	baz=296						
YM01				S	**Sn**	**05 31 53.6**	**-1.7**
	baz=296						
YM08	**YM08**	**0.86**	**301**	P	**Pg**	**05 31 41.5**	**-0.1**
	baz=299						
YM08				S	**Sg**	**05 31 53.2**	**+0.3**
	baz=299						
TWY	**Chenhua**	**0.91**	**306**	P	**Pn**	**05 31 42.7**	**-0.7**
	baz=304						
TWY				S	**Sn**	**05 31 55.1**	**-1.3**
	baz=304						
ANP	**Anpu**	**0.92**	**299**	*e*P	**Pn**	**05 31 43.1**	**-0.5**
	baz=297						
ANP				*e*S	**Sn**	**05 31 56.4**	**-0.5**
	baz=297						
ETL	**Fush Village**	**0.92**	**231**	P	**Pb**	**05 31 42.4**	**-0.4**
	baz=230						
NACB	**Ninganchiao**	**0.93**	**233**	*i* P	**Pb**	**05 31 41.6**	**-1.3**
	baz=232						
NACB				*i* S	**Sb**	**05 31 53.8**	**-1.4**
	baz=232						
YHNB	**Yeheng**	**0.94**	**266**	*i* P	**Pg**	**05 31 43.0**	**0.0**

baz=249
WHF *i* S **Sg** **05 32 03.9 +0.2**
baz=249
SHUL Shoufeng 1.23 219 P **Pg** **05 31 48.8 +0.3**
baz=201
TDCB Techi 1.24 247 P **Pg** **05 31 48.8 +0.1**
baz=246
TDCB S **Sb** **05 32 03.5 -0.7**
baz=246
LIOB Emei 1.27 266 *eP* **Pg** **05 31 49.6 +0.3**
baz=265
IRIF Iriomote-Funau 1.27 108 S **Sn** **05 32 04.9 -0.4**
ESL Shilin 1.28 224 P **Pg** **05 31 49.3 -0.2**
baz=223
ESL *eS* **Sg** **05 32 06.2 0.0**
baz=223
NSTT Nanjuang 1.28 265 P **Pg** **05 31 50.3 +0.8**
baz=264
NSTT S **Sg** **05 32 07.0 +0.7**
baz=264
CHGB Renai 1.31 239 P **Pg** **05 31 49.8 -0.3**
baz=247
CHGB *eS* **Sn** **05 32 06.6 -0.1**
baz=247
OWD Renai 1.37 235 P **Pb** **05 31 50.4 -0.1**
baz=240
OWD *eS* **Sg** **05 32 08.5 -0.6**
baz=240
WARBT Fenglin Townsh 1.38 223 *eP* **Pb** **05 31 50.2 -0.5**
baz=205
WUSB Renai 1.39 238 P **Pg** **05 31 51.5 -0.2**
baz=244
WUSB *eS* **Sg** **05 32 11.0 +1.2**
baz=244
WHP Taichung City 1.41 251 *eP* **Pg** **05 31 52.6 +0.6**
baz=263
WHP *eS* **Sg** **05 32 10.2 -0.1**
baz=263
VWDT VWDT 1.52 230 P **Pg** **05 31 53.3 -0.7**
baz=213
VWDT *eS* **Sb** **05 32 12.0 -0.1**
baz=213
WCS Beigang Elemen 1.53 244 *eP* **Pg** **05 31 53.8 -0.4**
baz=243
HGSD Ruisui 1.54 216 *eP* **Pb** **05 31 52.8 -0.4**
baz=201
TWQ1 Liyutan 1.54 256 P **Pg** **05 31 54.9 +0.4**
baz=273
JKRS Kuro-shima 1.54 109 *eS* **Sn** **05 32 09.7 -2.3**
SMLT Sun Moon Lake 1.62 238 P **Pg** **05 31 56.1 +0.1**
baz=224
JIJ Ishigaki jima 1.62 103 *eP* **Pn** **05 31 52.9 -0.4**
SSLB Suanglung 1.63 235 *eP* **Pb** **05 31 54.5 -0.4**
baz=218
TYC Yuchr 1.64 240 *eP* **Pb** **05 31 55.2 +0.1**
baz=226
YULB Yu-li 1.69 217 *eP* **Pn** **05 31 53.6 -0.5**
baz=217
TWF1 Yuli 1.72 216 *eP* **Pn** **05 31 54.4 -0.2**
baz=203
WHYT Xinyi Township 1.76 234 *eP* **Pb** **05 31 56.9 -0.2**
baz=219
FULB Fuli 1.84 214 *eP* **Pn** **05 31 56.7 +0.4**
baz=198
CHN5 Tsauling 1.95 235 *eP* **Pb** **05 32 00.3 0.0**
baz=216
TPUB Ta-pu 2.17 229 *eP* **Pb** **05 32 02.7 -1.4**
baz=212
WTP Ta-pu 2.22 228 *eP* **Pn** **05 32 02.5 +1.0**
baz=211
SLGT Liugui 2.37 223 *eP* **Pb** **05 32 06.2 -1.3**
baz=223
MASBT Mashibuluo 2.67 218 *eP* **Pb** **05 32 10.6 -2.0**
baz=217
KSRS Korea Array 13.52 19 Pn **P** **05 34 48.9 +3.3**
0.2nm,0.3s,baz=199,slow=11,SNR=7.0
1.5nm,0.7s
SONM Songino Array 26.31 335 P **P** **05 37 01.2 +0.8**
1.6nm,0.8s,baz=149,slow=9.9,SNR=9.0
1.6nm,0.8s
WRA Warramunga Arr 45.91 164 P **P** **05 39 47.0 -0.5**
0.4nm,0.5s,baz=346,slow=8.6,SNR=6.3
0.4nm,0.5s

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*NNC **11** 05:39:55.2±4.0, 54°.52N×87°.33E, h0km±33km, mb3.0, mpv2.8, Error ellipse: s-maj=38.9km s-min=26.9km az=40.0, Suspected Mining explosion.*

IDC 11 05:40:02.3±3.5, 54°.34N×86°.76E, h0km, mbtmp2.9/2, ML2.6/2, 8C-5D, Error ellipse: s-maj=31.1km s-min=19.4km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.21 252**		I	I	05 46 37.5	
	baz=69,slow=308,SNR=1.8						
ZAA0	**Zalesovo Array**	**1.21 252**		⇑Pn	Pg	05 40 23.4	-2.0
	0.1nm,0.3s						
ZAA0				⇑Sn	Sn	05 40 46.7	+3.2
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**1.21 252**		Pg	Pg	05 40 24.4	-1.0
	1.2nm,0.3s,baz=72,slow=17,SNR=12						
ZALV				Lg	Lg	05 40 41.7	
	1.5nm,0.3s,baz=70,slow=17,SNR=6.7						
KURK	**Kurchatov**	**6.15 237**		⇑Pn	Pn	05 41 34.3	0.0
	0.6nm,0.5s						
KURK				⇑Lg	Lg	05 43 22.9	
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**6.25 237**		Pn	Pn	05 41 36.9	+1.1
	0.1nm,0.3s,baz=54,slow=14,SNR=13						
	1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**6.25 237**		⇓Pn	Pn	05 41 36.5	+0.8
	3.0nm,0.7s						
KURBB				⇑Sn	Sn	05 42 49.2	+1.4
	1.8nm,0.5s						
KURBB				⇑Lg	Lg	05 43 25.0	
	2.4nm,0.8s						
MK31	**Makanchi Array**	**8.07 202**		⇓Pn	Pn	05 42 01.1	+0.3
	0.1nm,0.3s,baz=28,slow=14,SNR=4.9						
MK31				⇓Sn	Sn	05 43 32.3	-0.4
	0.2nm,0.5s,baz=24,slow=24						
MK31				⇓Lg	Lg	05 44 18.0	
	3.0nm,0.9s,baz=108,slow=30,SNR=3.5						
MKAR	**Makanchi Array**	**8.07 202**		Pn	Pn	05 42 01.2	+0.5
	0.1nm,0.3s,baz=26,slow=14,SNR=2.9						
	0.1nm,0.4s						
MAKZ	**Makanchi**	**8.13 204**		⇓Pn	Pn	05 41 59.1	-2.5
	0.8nm,0.5s						
MAKZ				⇑Sn	Sn	05 43 36.4	+2.4
	0.3nm,0.5s						
MAKZ				⇑Lg	Lg	05 44 22.7	
	3.0nm,1.2s						

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*NEIC **11** 05:45:57.1±1.7, 12°.30N±0°.04×57°.3E±0°.3, h10km±2km, mb4.4/12, Error ellipse: s-maj=41.6km s-min=6.3km az=263.0*

*IDC **11** 05:45:59.2±1.6, 12°.78N×57°.47E, h0km, mb4.0/13, mbtmp4.0/13, MS3.6/4, Error ellipse: s-maj=40.5km s-min=22.1km az=56.0*

ISC 11 05:46:00.2±1.5, 12°.7N±0°.2×57°.4E±0°.2, h10km, n31, σ0s82/28, mb4.1/18, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**10.54**	**6**	LR	LR	05 51 59.8	
	comp=Z,354nm,20.7s,baz=202,slow=34						
UOSS	**Minazif**	**12.23**	**355**		**Pn**	**05 48 55.9**	**+1.2**
RAYN	**Ar Rayn**	**15.61**	**315**		**Pn**	**05 49 39.7**	**-0.9**
FURI	**Furi**	**18.79**	**260**	LR	LR	05 57 10.0	
	comp=Z,121nm,18.1s,baz=66,slow=36						
HRA	**Herat**	**22.03**	**11**	P	**P**	**05 50 55.1**	**-0.2**
HRA				IAmb	IAmb	05 51 02.2	
	comp=Z,19nm,1.2s						
BTK	**Batken**	**29.70**	**21**	P	**P**	**05 52 06.3**	**-0.3**
BTK				IAmb	IAmb	05 52 10.8	
	comp=Z,9.1nm,1.1s						
KK31	**Karatay Array**	**32.34**	**18**	P	**P**	**05 52 31.0**	**+1.3**
KK31				IAmb	IAmb	05 52 33.2	
	comp=Z,3.9nm,1.1s						
KKAR	**Karatay Array**	**32.34**	**18**	P	**P**	**05 52 30.2**	**+0.4**
AAK	**Ala-Archa**	**33.30**	**23**	P	**P**	**05 52 38.8**	**+0.4**
AAK				IAmb	IAmb	05 52 43.6	
	comp=Z,5.5nm,0.9s						
AAK	**Ala-Archa**	**33.30**	**23**	LR	LR	06 07 05.3	
	comp=Z,123nm,19.6s,baz=236,slow=38						
BOOM	**Boomskoye usch**	**33.75**	**25**	P	**P**	**05 52 42.5**	**+0.2**
ABKAR	**Akbulak array**	**36.51**	**3**	P	**P**	**05 53 05.6**	**-0.1**
AKTO	**Aktyubinsk**	**37.63**	**1**	P	**P**	**05 53 15.4**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=200,slow=10,SNR=5.8						
	comp=Z,3.0nm,0.9s						
MAKZ	**Makanchi**	**39.79**	**26**	P	**P**	**05 53 33.4**	**-0.1**
MK31	**Makanchi Array**	**39.91**	**27**	P	**P**	**05 53 33.8**	**-0.7**
MKAR	**Makanchi Array**	**39.91**	**27**	P	**P**	**05 53 34.0**	**-0.5**
MKAR	**Makanchi Array**	**39.91**	**27**	P	**P**	**05 53 34.5**	**0.0**
	comp=Z,1.1nm,0.8s,baz=212,slow=7.0,SNR=8.6						
MKAR				LR	LR	06 11 14.0	
	comp=Z,54nm,19.1s,baz=228,slow=38						
	comp=Z,1.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.34**	**76**	P	**P**	**05 53 39.2**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=273,slow=9.2,SNR=8.0						
	comp=Z,1.5nm,0.3s						
BVAR	**Borovoye Array**	**41.54**	**12**	P	**P**	**05 53 47.0**	**-0.8**
	comp=Z,2.3nm,1.0s,baz=194,slow=5.6,SNR=5.6						
	comp=Z,2.3nm,1.0s						
KURBB	**Kurchatov Arra**	**41.56**	**20**	P	**P**	**05 53 48.5**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=217,slow=8.3,SNR=16						
	comp=Z,3.3nm,0.9s						
KURK	**Kurchatov**	**41.67**	**20**	P	**P**	**05 53 49.7**	**+0.8**
KURK				IAmb	IAmb	05 53 52.0	
	comp=Z,5.6nm,1.1s						
ZAA0	**Zalesovo Array**	**46.50**	**22**	P	**P**	**05 54 26.3**	**-1.4**
ZALV	**Zalesovo Beam**	**46.50**	**22**	P	**P**	**05 54 26.0**	**-1.6**
ZALV	**Zalesovo Beam**	**46.50**	**22**	P	**P**	**05 54 26.8**	**-0.8**
	comp=Z,4.8nm,0.9s,baz=224,slow=8.2,SNR=14						
	comp=Z,4.8nm,0.9s						
SONM	**Songino Array**	**53.63**	**39**	P	**P**	**05 55 21.0**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=249,slow=10,SNR=4.8						
	comp=Z,0.8nm,0.8s						
FINES	**FINESS Array B**	**53.70**	**342**	P	**P**	**05 55 22.6**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=152,slow=13,SNR=4.5						
	comp=Z,1.1nm,0.6s						
NRIK	**Noril'sk**	**59.75**	**12**	P	**P**	**05 56 05.4**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=228,slow=9.7,SNR=4.3						
	comp=Z,1.5nm,0.4s						
EKA	**Eskdalemuir Ar**	**63.05**	**326**	P	**P**	**05 56 27.6**	**0.0**
	comp=Z,1.1nm,0.7s,baz=119,slow=7.4,SNR=4.0						
	comp=Z,1.1nm,0.7s						
KSRS	**Korea Array**	**66.95**	**55**	P	**P**	**05 56 52.0**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=268,slow=8.1,SNR=4.2						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	**82.32**	**112**	P	**P**	**05 58 23.4**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=296,slow=4.4,SNR=8.5						
	comp=Z,0.9nm,0.8s						
ASAR	**Alice Springs**	**83.00**	**116**	P	**P**	**05 58 27.1**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=289,slow=5.1,SNR=12						
	comp=Z,1.4nm,0.8s						

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*IDC **11** 05:47:24.8±0.4, 1°.45S×15°.51W, h0km, mb4.7/34, mbtmp4.7/35, ML5.0/1, MS4.7/67, Error ellipse: s-maj=17.5km s-min=10.0km az=136.0*

*MOS **11** 05:47:24.6±1.0, 1°.47S×15°.49W, h10km, mb5.3/48, MS4.8/11, Error ellipse: s-maj=10.0km s-min=4.7km az=55.5*

*BJI **11** 05:47:24.9±0.0, 1°.44S×15°.65W, h10km, mb5.1/6, Ms5.2/8, Ms7 4.9/7*

*BGR **11** 05:47:25.6, 2°.34S×13°.96W, h36km±2km, mb5.2, Ms4.8, Hypocentre not reviewed by the ISC*

*NEIC **11** 05:47:27.0±2.3, 1°.49S±0°.07×15°.44W±0°.08, h10km±1km, mb5.2/235, Mwb5.2/8, Mww5.3/18, Error ellipse: s-maj=13.8km s-min=12.4km az=266.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.56; $M_{\theta\theta}$5.81; $M_{\phi\phi}$-6.37; $M_{r\theta}$-1.84; $M_{\theta\phi}$-5.73; $M_{\phi r}$-0.26; Fault plane solution: $M_0$8.58000×10^{16} NP1:ϕ_s246.14000°, δ85.83000°, λ167.63000°. NP2:ϕ_s337.05000°, δ77.67000°, λ4.26000°. Principal axes: T 8.4177, Plg12.0000°, Azm201.0000°; N 0.3132, Plg77.0000°, Azm48.0000°; P -8.7309, Plg6.0000°, Azm292.0000°;*

*NEIC **11** 05:47:27.2, 1°.50S×15°.39W, h30km*

*NEIC **11** 05:47:27.2, 1°.50S×15°.09W, h30km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.03; $M_{\theta\theta}$0.42; $M_{\phi\phi}$-0.46; $M_{r\theta}$0.03; $M_{\theta\phi}$-0.96; $M_{\phi r}$0.26; Fault plane solution: $M_0$1.09000×10^{17} NP1: ϕ_s167.28000°, δ86.39000°, λ-12.60000°. NP2: ϕ_s258.09000°, δ77.42000°, λ-176.30000°. Principal axes: T 1.0508, Plg6.0000°, Azm213.0000°; N 0.0699, Plg77.0000°, Azm332.0000°; P -1.1207, Plg11.0000°, Azm122.0000°;*

*NEIC **11** 05:47:27.2, 1°.50S×15°.39W, h10km*

*GCMT **11** 05:47:29.0±0.1, 1°.21S±0°.01×15°.44W±0°.01, h12km, MW5.3/149, Moment Tensor Solution. s117,c179; s149,c301; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.18±.01; $M_{\theta\theta}$0.61±.01; $M_{\phi\phi}$-0.43±.02; $M_{r\theta}$0.35±.04; $M_{\theta\phi}$-1.10±.01; $M_{\phi r}$0.38±.04; Best double couple: $M_0$1.33200×10^{17} NP1:ϕ_s260.00000°, δ77.00000°, λ-160.00000°. NP2:ϕ_s165.00000°, δ71.00000°, λ-14.00000°. Principal axes: T 1.3140, Plg4.0000°, Azm31.0000°; N 0.0350, Plg66.0000°, Azm293.0000°; P -1.3490, Plg23.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 05:47:26.4±0.3, 1°.49S±0°.05×15°.41W±0°.05, h12km, n609, σ1s59/492, mb5.1/223, MS4.8/88, 58C-22D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.36 172**		Pn	**Pn**	**05 49 00.2**	**+0.4**
	baz=348,slow=12						
H10N2				T	T	05 55 37.6	
	baz=352,slow=73,SNR=315						
H10N3	**ASCENSION HYDR**	**6.37 172**		Pn	**Pn**	**05 49 00.1**	**+0.1**
	baz=348,slow=12						
H10N3				T	T	05 55 33.4	
	baz=352,slow=73,SNR=407						
H10N1	**ASCENSION HYDR**	**6.38 172**		Pn	**Pn**	**05 48 59.9**	**-0.2**
	baz=348,slow=12						
H10N1				T	T	05 55 41.9	
	baz=352,slow=73,SNR=380						
ASCN	**Ascension**	**6.48 171**		Pn	**Pn**	**05 49 01.7**	**-0.1**
H10S3	**ASCENSION HYDR**	**7.45 174**		Pn	**Pn**	**05 49 15.6**	**+0.8**
H10S3				T	T	05 57 00.4	
	baz=27,slow=74,SNR=631						
H10S2	**ASCENSION HYDR**	**7.46 174**		Pn	**Pn**	**05 49 15.3**	**+0.4**
H10S2				T	T	05 56 55.9	
	baz=193,slow=74,SNR=232						
LIC	**Lamto**	**12.89**	**53**	*eP*	**Pn**	**05 50 26.9**	**-2.8**
TIC	**Toumodi**	**13.15**	**52**	*eP*	**Pn**	**05 50 29.7**	**-3.5**
	54nm,0.7s						
KIC	**Kosan Boka**	**13.20**	**54**	*eP*	**Pn**	**05 50 31.0**	**-2.9**
	65nm,0.6s						
DBIC	**Dimbokro**	**13.29**	**52**	Pn	**Pn**	**05 50 32.1**	**-3.1**
DBIC	**Dimbokro**	**13.29**	**52**	Pn	**Pn**	**05 50 32.6**	**-2.6**
	6.4nm,0.3s,baz=234,slow=12,SNR=76						
DBIC				Sn	Sn	05 52 50.6	-12
	3.1nm,0.3s,baz=50,slow=16,SNR=1.3						
DBIC				LR	LR	05 54 43.2	
	comp=Z,7μm,19.9s,baz=215,slow=33						
DBIC	**Dimbokro**	**13.29**	**52**	P	**Pn**	**05 50 32.1**	**-3.1**
MBO	**M'Bour**	**15.85**	**355**	Pn	**Pn**	**05 51 08.6**	**-1.0**
MBO				IAmb	IAmb	05 51 16.6	
	comp=Z,252nm,1.1s						
BBTS	**Babate**	**16.09**	**356**	Pn	**Pn**	**05 51 10.4**	**-2.2**
	comp=Z,6.2nm,0.3s,baz=313,slow=0.4,SNR=13						
BBTS				Sn	Sn	05 53 54.8	-16
	comp=Z,1.6nm,0.3s,baz=245,slow=19,SNR=1.7						
BBTS				LR	LR	05 56 50.3	
	comp=Z,6μm,19.6s,baz=60,slow=35						
	comp=Z,28nm,0.5s						
SACV	**Santiago Islan**	**18.26**	**334**	Pn	**Pn**	**05 51 37.6**	**-2.3**
RCBR	**Riachuelo**	**20.89**	**258**	P	**P**	**05 52 08.8**	**-0.1**
RCBR				IAmb	IAmb	05 52 20.4	
	comp=Z,118nm,1.6s						
RCBR	**Riachuelo**	**20.89**	**258**	P	**P**	**05 52 08.1**	**-0.8**
	comp=Z,23nm,1.0s,baz=63,slow=17,SNR=3.8						
RCBR				LR	LR	05 57 51.6	
	comp=Z,622nm,21.7s,baz=150,slow=30						
	comp=Z,23nm,1.0s						
RCBR	**Riachuelo**	**20.89**	**258**	P	**P**	**05 52 08.8**	**-0.1**
RCBR				pmax	pmax		
	comp=Z,118nm,1.6s						
RCBR	**Riachuelo**	**20.89**	**258**	*eP*	**P**	**05 52 09.2**	**+0.2**
NBAN	**Anadia - AL**	**22.28**	**248**	*eP*	**P**	**05 52 22.3**	**-1.5**
TOA0	**Torodi Ar. Sit**	**22.35**	**49**	P	**P**	**05 52 24.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**22.35**	**49**	P	**P**	**05 52 23.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**22.35**	**49**	P	**P**	**05 52 23.3**	**-1.3**
	comp=Z,114nm,0.8s,baz=259,slow=1.7,SNR=57						
TORD				S	**S**	**05 56 28.0**	**-2.2**
	comp=Z,8.6nm,0.8s,baz=238,slow=21,SNR=3.5						
TORD				LR	LR	06 00 07.2	
	comp=Z,5μm,19.6s,baz=228,slow=34						
	comp=Z,114nm,0.8s						
NBCL	**Cascavel-CE**	**23.01 263**		*eP*	**P**	**05 52 31.8**	**+0.3**
NBLA	**Lagarto - SE**	**24.14 246**		*eP*	**P**	**05 52 41.7**	**-1.0**
NBPB	**Pedra_Branca-C**	**24.45 260**		*eP*	**P**	**05 52 46.2**	**+0.6**
SDBA	**SAO DESIDERIO**	**31.17 248**		*eP*	**P**	**05 53 45.8**	**+0.1**
JANB	**Januaria**	**31.55 243**		*eP*	**P**	**05 53 48.5**	**-0.5**
TAM	**Tamanrasset**	**31.61**	**39**	P	**P**	**05 53 50.7**	**+1.2**
TAM				IAmb	IAmb	05 53 54.4	
	comp=Z,35nm,1.2s						
TAM	**Tamanrasset**	**31.61**	**39**	P	**P**	**05 53 50.7**	**+1.2**
TAM				pmax	pmax		
	comp=Z,35nm,1.2s						
TMAB	**Tom-Au,PA,Br**	**32.68 268**		*eP*	**P**	**05 53 59.6**	**+0.7**
SMTB	**Santa Maria do**	**32.85 256**		*eP*	**P**	**05 54 00.7**	**+0.2**
VAS01	**Vassouras-RJ**	**34.20 231**		*eP*	**P**	**05 54 13.4**	**+1.2**
PRPB	**Parauapebas**	**34.63 261**		*eP*	**P**	**05 54 15.7**	**-0.3**
PMNB	**Patos De Minas**	**34.82 239**		*eP*	**P**	**05 54 17.7**	**+0.1**
BDFB	**Brasilia**	**35.09 245**		P	**P**	**05 54 19.1**	**-0.9**
BDFB				IAmb	IAmb	05 54 21.0	
	comp=Z,38nm,1.2s						
BDFB	**Brasilia**	**35.09 245**		P	**P**	**05 54 19.6**	**-0.4**
	comp=Z,21nm,1.1s,baz=67,slow=13,SNR=12						
BDFB				LR	LR	06 08 17.3	
	comp=Z,640nm,18.1s,baz=79,slow=36						
	comp=Z,21nm,1.1s						
MDT	**Midelt**	**35.62**	**16**	LR	LR	06 08 36.1	
	comp=Z,2μm,19.6s,baz=196,slow=36						
IPMB	**Ipameri, GO**	**36.13 241**		*eP*	**P**	**05 54 28.4**	**-0.5**
PARB	**Paraibuna**	**36.46 231**		*eP*	**P**	**05 54 32.1**	**+0.4**
MCPB	**Macapa, AP**	**36.66 271**		*eP*	**P**	**05 54 33.4**	**0.0**
TSUM	**Tsumeb**	**36.79 121**		P	**P**	**05 54 34.8**	**+0.1**
TSUM	**Tsumeb**	**36.79 121**		LR	LR	06 06 36.3	
	comp=Z,1μm,21.6s,baz=326,slow=31						
SNDB	**Serra Nova Dou**	**37.07 252**		*eP*	**P**	**05 54 36.9**	**0.0**
MDP	**Montagnes des**	**37.76 280**		P	**P**	**05 54 41.9**	**-0.9**
	comp=Z,9.8nm,1.1s,baz=110,slow=14,SNR=6.9						
MDP				LR	LR	06 06 27.4	
	comp=Z,710nm,21.5s,baz=90,slow=30						
	comp=Z,9.8nm,1.1s						
WIN	**Windhoek**	**37.90 126**		P	**P**	**05 54 45.5**	**+1.5**
WIN				IAmb	IAmb	05 54 56.4	
	comp=Z,34nm,0.9s						
WIN	**Windhoek**	**37.90 126**		P	**P**	**05 54 45.5**	**+1.5**
WIN				pmax	pmax		
	comp=Z,34nm,0.9s						
ARAG	**Araguaiana, MT**	**38.56 246**		*eP*	**P**	**05 54 49.8**	**+0.3**
PFVI	**Vila Bisbo**	**38.91**	**8**	*eP*	**P**	**05 54 54.7**	**+2.6**
	comp=Z,59nm,1.7s						
PFVI	**Vila Bisbo**	**38.91**	**8**	*e*PP	PP	05 56 25.4	+4.0
MORF	**Marmelete**	**39.11**	**9**	*eP*	**P**	**05 54 55.2**	**+1.5**
	comp=Z,40nm,1.5s						
MORF	**Marmelete**	**39.11**	**9**	*e*PP	PP	05 56 27.6	+4.0
MORF	**Marmelete**	**39.11**	**9**	*eP*	**P**	**05 54 55.4**	**+1.5**
MORF				IAmb	IAmb	05 55 09.3	
	comp=Z,51nm,1.6s						
MORF				*e*PP	**PnPn**	**05 56 27.0**	**+0.9**
MORF	**Marmelete**	**39.11**	**9**	*eP*	**P**	**05 54 55.3**	**+1.5**
MORF				*e*		05 56 27.0	
PBDV	**Barranco-do-Ve**	**39.16**	**9**	*eP*	**P**	**05 54 55.7**	**+1.5**
	comp=Z,80nm,1.7s						
PTEO	**Sao Teotonio**	**39.33**	**8**	*eP*	**P**	**05 54 57.3**	**+1.7**
	comp=Z,64nm,1.9s						
PTEO	**Sao Teotonio**	**39.33**	**8**	*e*PP	PP	05 56 31.0	+5.0
PVAQ	**Vaqueiros**	**39.35**	**10**	P	**P**	**05 54 56.9**	**+1.1**
PVAQ	**Vaqueiros**	**39.35**	**10**	*eP*	**P**	**05 54 57.4**	**+1.6**
PVAQ	**Vaqueiros**	**39.35**	**10**	*e*PP	PP	05 56 32.1	+5.9
PCVE	**Castro Verde**	**39.52**	**9**	*eP*	**P**	**05 54 58.7**	**+1.5**
	comp=Z,36nm,1.6s						
PCVE	**Castro Verde**	**39.52**	**9**	*e*PP	PP	05 56 35.0	+6.9
FRTB	**Fartura**	**39.60 234**		*eP*	**P**	**05 54 58.9**	**+0.8**
MESJ	**Messejana**	**39.70**	**9**	P	**P**	**05 54 58.7**	**0.0**
MESJ	**Messejana**	**39.70**	**9**	*eP*	**P**	**05 55 00.2**	**+1.5**
MESJ	**Messejana**	**39.70**	**9**	*e*PP	PP	05 56 37.0	+7.0
MESJ	**Messejana**	**39.70**	**9**	*eP*	**P**	**05 55 00.2**	**+1.5**
MESJ				IAmb	IAmb	05 55 02.6	
	comp=Z,18nm,1.2s						
MESJ				*e*PP	**PnPn**	**05 56 33.3**	**+0.2**
MESJ	**Messejana**	**39.70**	**9**	*eP*	**P**	**05 55 00.2**	**+1.5**
PNCL	**Nicolau / Gran**	**39.92**	**8**	*eP*	**P**	**05 55 01.8**	**+1.3**
	comp=Z,27nm,1.5s						
PNCL	**Nicolau / Gran**	**39.92**	**8**	*e*PP	PP	05 56 39.9	+7.6
PBEJ	**Beja**	**39.94**	**9**	*eP*	**P**	**05 55 03.5**	**+2.9**
	comp=Z,32nm,1.8s						
PBEJ	**Beja**	**39.94**	**9**	*e*PP	PP	05 56 33.8	+1.2
NPGB	**Novo Progresso**	**40.20 261**		*eP*	**P**	**05 55 02.6**	**-0.6**
PBAR	**Barrancos**	**40.22**	**10**	*eP*	**P**	**05 55 04.6**	**+1.6**
	comp=Z,15nm,1.7s						
PBAR	**Barrancos**	**40.22**	**10**	*e*PP	PP	05 56 43.0	+7.3
ITTB	**Itaituba**	**40.37 265**		*eP*	**P**	**05 55 04.0**	**-0.6**
EVO	**Evora**	**40.41**	**9**	*eP*	**P**	**05 55 06.3**	**+1.8**
	comp=Z,37nm,2.0s						
LIS	**Lisbon**	**40.43**	**8**	*e*PP	PP	05 56 41.3	+3.4
PESTR	**Estremoz**	**40.80**	**9**	*e*PP	PP	05 56 50.0	+8.0
LDASE	**Londrina, Braz**	**40.88 235**		*eP*	**P**	**05 55 08.5**	**-0.3**
PMTG	**Montargil**	**40.90**	**9**	*eP*	**P**	**05 55 10.7**	**+2.1**
	comp=Z,23nm,1.6s						
CLDB	**Colider**	**41.16 255**		*eP*	**P**	**05 55 11.2**	**0.0**
PSBE	**So Bento**	**41.26**	**8**	*eP*	**P**	**05 55 14.0**	**+2.4**
	comp=Z,39nm,1.6s						
PMRV	**Marv??o**	**41.38**	**9**	*eP*	**P**	**05 55 15.0**	**+2.4**
	comp=Z,30nm,1.5s						
PCBR	**Castelo Branco**	**41.77**	**9**	*e*PP	PP	05 56 54.1	+1.6
PCAS	**Casmilo, Conde**	**41.83**	**8**	*eP*	**P**	**05 55 18.5**	**+2.3**
	comp=Z,53nm,1.5s						
TATN	**Tataouine**	**41.83**	**34**	P	**P**	**05 55 18.4**	**+2.0**
COI	**Coimbra**	**41.99**	**8**	*eP*	**P**	**05 55 20.7**	**+3.2**
PAB	**San Pablo**	**42.08**	**13**	P	**P**	**05 55 19.1**	**+0.7**
PAB	**San Pablo**	**42.08**	**13**	P	**P**	**05 55 19.1**	**+0.7**
PAB				pmax	pmax		
	comp=Z,30nm,1.2s						
SALV	**Santo Antonio**	**42.20 248**		*eP*	**P**	**05 55 19.6**	**+0.1**
PDRB	**Porto dos Gac**	**42.20 254**		*eP*	**P**	**05 55 19.9**	**+0.2**
ESDC	**Sonseca Array**	**42.29**	**13**	P	**P**	**05 55 19.9**	**-0.2**
ESDC	**Sonseca Array**	**42.29**	**13**	P	**P**	**05 55 20.1**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=241,slow=7.3,SNR=14						
ESDC				PP	**PP**	**05 56 55.0**	**-3.2**
	comp=Z,2.4nm,0.9s,baz=189,slow=12,SNR=5.0						
ESDC				LR

comp=Z,35nm,1.1s
MBAR Mbarara 46.15 89 P **P 05 55 53.9 +2.3**
MBAR pmax pmax
comp=Z,35nm,1.1s
CEST Esterri de Car 46.40 17 IAmb IAmb 05 56 07.2
comp=Z,50nm,1.4s
MATP Matopo 46.81 117 LR LR 06 13 14.8
comp=Z,814nm,19.6s,baz=251,slow=33
PLTB Pedras Altas 46.94 226 IAmb IAmb 05 55 59.8
comp=Z,28nm,1.2s
PLTB Pedras Altas 46.94 226 *e*P **P 05 55 58.3 +1.0**
BBSD Serra de San D 47.08 248 *e*P **P 05 55 59.1 +0.5**
PAPY Pozo Azul 47.10 238 *e*P **P 05 55 59.6 +0.9**
SIV San Ignacio 47.23 250 LR LR 06 14 47.7
comp=Z,1µm,19.0s,baz=98,slow=35
BOSA Boshof 47.24 129 P **P 05 55 59.8 0.0**
BOSA Boshof 47.24 129 P **P 05 56 00.7 +0.9**
comp=Z,31nm,0.9s,baz=304,slow=7.7,SNR=50
BOSA LR LR 06 13 41.4
comp=Z,683nm,18.6s,baz=290,slow=33
comp=Z,31nm,0.9s
CPUP Villa Florida 47.24 235 P **P 05 55 59.8 +0.1**
CPUP Villa Florida 47.24 235 P **P 05 55 59.6 0.0**
comp=Z,8.9nm,1.1s,baz=88,slow=8.8,SNR=7.7
CPUP LR LR 06 13 13.0
comp=Z,1µm,21.6s,baz=72,slow=33
comp=Z,8.9nm,1.1s
CPUP Villa Florida 47.24 235 P **P 05 55 59.8 +0.1**
CPUP pmax pmax
comp=Z,49nm,1.6s
CPUP Villa Florida 47.24 235 *e*P **P 05 56 00.4 +0.7**
RODS Rosario do Sul 47.39 229 *e*P **P 05 56 02.2 +1.4**
SAML Samuel 48.10 259 P **P 05 56 06.2 -0.4**
SAML IAmb IAmb 05 56 08.1
comp=Z,21nm,1.1s
SAML Samuel 48.10 259 P **P 05 56 06.2 -0.4**
SAML pmax pmax
comp=Z,21nm,1.1s
SAML Samuel 48.10 259 *e*P **P 05 56 06.3 -0.3**
ITQB Itaqui 48.15 230 *e*P **P 05 56 07.6 +0.9**
TBOT Tacuaremb 48.60 228 *e*P **P 05 56 10.7 +0.5**
CEL Celeste 48.97 33 P **P 05 56 14.3 +1.3**
comp=Z,58nm,0.9s,comp=Z,585nm
TEFE Tefe 49.21 267 *e*P **P 05 56 15.1 0.0**
PSAL Palomas, Salto 49.56 229 *e*P **P 05 56 18.3 +0.8**
TIP Timpagrande 50.10 33 ⇑P **P 05 56 22.8 +1.2**
TIP Timpagrande 50.10 33 IAmb IAmb 05 56 33.4
comp=Z,26nm,0.8s
TIP Timpagrande 50.10 33 P **P 05 56 22.3 +0.7**
comp=Z,33nm,0.9s,comp=Z,345nm
CUC Castrocucco 50.20 31 IAmb IAmb 05 56 27.1
comp=Z,81nm,2.0s
GRHM Grahamstown, E 50.32 134 P **P 05 56 23.4 +0.1**
GRHM IAmb IAmb 05 56 24.9
comp=Z,33nm,1.0s
BNI Bardonecchia 50.33 20 IAmb IAmb 05 56 28.1
comp=Z,27nm,1.1s
PCRV Puerto La Cruz 50.34 284 LR LR 06 16 01.3
comp=Z,266nm,19.4s,slow=34
CESX Cesi 50.64 27 IAmb IAmb 05 56 37.7
comp=Z,24nm,0.9s
INTR Introdacqua 50.78 28 IAmb IAmb 05 56 38.4
comp=Z,26nm,1.1s
CAMP Campotosto 50.96 27 IAmb IAmb 05 56 31.2
comp=Z,50nm,1.6s
LODK Lodwar 50.98 84 P **P 05 56 27.6 -1.1**
NRCA Norcia 51.06 27 IAmb IAmb 05 56 44.0
comp=Z,20nm,1.0s
MATE Matera 51.14 31 ⇓P **P 05 56 28.9 -0.4**
ETMB Extrema 51.17 259 IAmb IAmb 05 56 31.1
comp=Z,43nm,1.5s
ETMB Extrema 51.17 259 *e*P **P 05 56 29.4 -0.6**
ITM Ithomi 51.74 38 IAmb IAmb 05 56 46.8
comp=Z,38nm,0.9s
POGA Pongola 51.91 124 P **P 05 56 34.6 -0.8**
POGA IAmb IAmb 05 56 37.2
comp=Z,36nm,1.1s
IDI Anoyia 52.49 42 P **P 05 56 41.6 +1.9**
IDI Anoyia 52.49 42 LR LR 06 18 30.5
comp=Z,609nm,21.6s,baz=259,slow=36
TUE Stuetta 52.50 21 P **P 05 56 39.8 +0.1**
comp=Z,59nm,1.1s,comp=Z,1µm
KMBO Kilima Mbogo 52.65 90 P **P 05 56 43.6 +2.2**
KMBO Kilima Mbogo 52.65 90 P **P 05 56 43.6 +2.2**
KMBO pmax pmax
comp=Z,16nm,1.2s
FUORN Ofenpass-Fuorn 52.97 22 IAmb IAmb 05 56 53.8
comp=Z,49nm,1.6s
CTI Castel Tesino 53.03 23 IAmb IAmb 05 56 54.2
comp=Z,21nm,0.8s
AGG Agios Georgios 53.16 37 IAmb IAmb 05 57 16.1
comp=Z,21nm,1.0s
ECH Echery 53.26 19 IAmb IAmb 05 56 48.3
comp=Z,31nm,1.4s
DAVA Damuels 53.39 21 *e*P **P 05 56 45.8 -0.4**
comp=Z,52nm,0.9s,SNR=13
BAUV El Baul 53.45 282 P **P 05 56 46.7 -0.3**
FETA Feichten 53.48 22 *e*P **P 05 56 46.4 -0.4**
comp=Z,11nm,1.0s,SNR=9.3
OHR Ohrid 53.66 34 *i* P **P 05 56 51.8 +3.6**
BFO Black Forest 53.74 19 P **P 05 56 47.9 -0.6**
BFO IAmb IAmb 05 57 00.0
comp=Z,17nm,0.9s
BFO Black Forest 53.74 19 P **P 05 56 47.9 -0.6**
BFO pmax pmax
comp=Z,17nm,0.9s
BFO Black Forest 53.74 19 *e*P 05 56 48.6
comp=Z,24nm,1.1s,baz=211,slow=7.1
SABO M.te Sabotino 53.77 25 IAmb IAmb 05 57 48.8
comp=Z,318nm,2.0s
UBR Ueberruh 53.80 21 *e*P 05 56 48.9
comp=Z,40nm,0.8s,baz=211,slow=7.1
PUK Puka 53.81 32 IAmb IAmb 05 57 02.6
comp=Z,17nm,0.8s
SQTA Sankt Quirin 53.83 22 *e*P **P 05 56 48.9 -0.4**
comp=Z,23nm,0.9s,SNR=12
RETA Reutte 53.88 22 *e*P **P 05 56 49.1 -0.5**
comp=Z,3.7nm,0.6s
LPAZ La Paz 53.93 251 IAmb IAmb 05 56 53.6
comp=Z,38nm,1.9s
LPAZ La Paz 53.93 251 P **P 05 56 50.4 -0.8**
comp=Z,3.3nm,0.9s,baz=65,slow=6.7,SNR=12
LPAZ LR LR 06 18 50.1
comp=Z,1µm,20.1s,baz=87,slow=35
comp=Z,3.3nm,0.9s
LPAZ La Paz 53.93 251 *e*P **P 05 56 51.2 0.0**
ABTA Abfaltersbach 53.94 23 *e*P **P 05 56 51.2 +1.1**
comp=Z,30nm,1.8s
WTTA Wattenberg 54.02 23 *e*P **P 05 56 50.0 -0.8**
comp=Z,34nm,1.3s,SNR=8.1
WATA Walderalm 54.06 22 *e*P **P 05 56 49.8 -1.2**
comp=Z,11nm,1.0s
KARP Karpathos 54.17 43 P **P 05 56 53.1 +1.2**
KARP Karpathos 54.17 43 P **P 05 56 53.8 +1.9**
comp=Z,170nm,1.4s
DOU Dourbes 54.18 16 *d*P **P 05 56 52.1 +0.5**
DOU *d*PcP **PcP 05 57 58.0 +1.9**
WLF Walferdange 54.24 17 *e*P 05 56 52.6
comp=Z,24nm,1.2s,baz=211,slow=7.1
MYKA Terra Mystica 54.30 24 *e*P **P 05 56 54.6 +1.9**
comp=Z,17nm,1.0s
RCHB Rochefort 54.41 16 *d*P **P 05 56 53.5 +0.1**
STU Stuttgart 54.42 20 *e*P 05 56 53.1
comp=Z,73nm,0.3s,baz=211,slow=7.1
BMRD Maredsous 54.42 16 *d*P **P 05 56 53.6 +0.2**
TBTG Tabatinga, AM 54.49 266 IAmb IAmb 05 56 54.7
comp=Z,25nm,1.0s
TBTG Tabatinga, AM 54.49 266 *e*P **P 05 56 53.7 -0.9**
KBA Koelnbreinsper 54.54 24 *e*P **P 05 56 56.2 +1.6**
comp=Z,14nm,0.9s
LESA Schwarzleotal 54.56 23 *e*P **P 05 56 54.0 -0.6**
comp=Z,30nm,1.0s
OBKA Obir 54.59 25 P **P 05 56 53.5 -1.3**
comp=Z,21nm,1.6s
SKO Skopje 54.60 33 *i* P **P 05 56 57.0 +2.1**
FUR Furstenfeldbru 54.64 22 *e*P 05 56 55.0
baz=211,slow=7.1
BCLA Clavier 54.67 16 *d*P **P 05 56 56.0 +0.8**
STIP Stip 54.83 34 *i* P **P 05 56 59.3 +2.8**
RJOB Jochberg 54.86 23 *e*P 05 56 56.1
comp=Z,25nm,0.7s,baz=211,slow=7.1
FURI Furi 54.87 78 LR LR 06 18 13.6
comp=Z,319nm,21.2s,baz=268,slow=34
SOKA Soboth 54.92 25 *e*P **P 05 56 57.4 +0.1**
comp=Z,14nm,1.1s
BTNL Ternell 55.05 17 *d*P **P 05 56 59.2 +1.2**

BEBN Eben Emael 55.12 16 *d*P **P 05 56 59.7 +1.3**
AHRW Bad Neuenahr-A 55.29 17 *e*P 05 57 00.8
comp=Z,39nm,1.4s,baz=211,slow=7.1
TNS Taunus Mts 55.43 18 *e*P 05 57 01.0
comp=Z,76nm,1.9s,baz=211,slow=7.1
MOA Molln 55.54 24 *e*P **P 05 57 01.0 -0.6**
comp=Z,15nm,1.1s,SNR=9.3
ARSA Arzberg 55.58 25 *e*P **P 05 57 02.0 0.0**
comp=Z,16nm,1.5s
BOVS Bovan 55.88 32 ⇑P **P 05 57 05.3 +1.3**
GRF Grafenberg Arr 55.90 21 *e*P 05 57 03.9
comp=Z,19nm,0.6s,baz=211,slow=7.1
GRF *e*L 06 22 41.5
comp=Z,1µm,18.3s
FRGS Fruska Gora 55.98 29 ⇓P **P 05 57 06.3 +1.5**
FRGS Fruska Gora 55.98 29 P **P 05 57 05.3 +0.5**
comp=Z,12nm,1.2s,comp=Z,432nm
SDV Santo Domingo 55.98 282 LR LR 06 18 30.8
comp=Z,274nm,19.7s,baz=77,slow=33
SDV Santo Domingo 55.98 282 *e*P **P 05 57 06.8 +1.3**
LVC Limon Verde 55.99 244 P **P 05 57 04.0 -1.7**
comp=Z,37nm,0.6s,baz=96,slow=12,SNR=21
LVC LR LR 06 22 35.8
comp=Z,236nm,18.0s,baz=84,slow=38
comp=Z,37nm,0.6s
LVC Limon Verde 55.99 244 P **P 05 57 04.0 -1.7**
LVC Limon Verde 55.99 244 *i* S **P 05 57 04.0 -1.7**
WET Wettzell 56.04 22 *e*P 05 57 05.1
comp=Z,30nm,1.2s,baz=211,slow=7.1
TRQA Tornquist 56.05 224 P **P 05 57 04.5 -1.0**
TRQA IAmb IAmb 05 57 06.4
comp=Z,30nm,1.1s
TRQA Tornquist 56.05 224 P **P 05 57 04.5 -1.0**
TRQA pmax pmax
comp=Z,30nm,1.2s
EZN Ezine 56.09 38 P **P 05 57 06.7 +1.1**
comp=Z,20nm,0.8s,comp=Z,414nm
GEC2 GERESS Array S 56.11 23 *e*P 05 57 05.7
comp=Z,50nm,1.4s,baz=211,slow=7.1
GEC2 *ep*P 05 57 15.4
GEC2 GERESS Array S 56.12 23 IAmb IAmb 05 57 08.9
comp=Z,46nm,1.3s
GERES GERESS Array B 56.12 23 P **P 05 57 05.7 -0.1**
GERES GERESS Array B 56.12 23 P **P 05 57 05.5 -0.3**
comp=Z,8.9nm,0.9s,baz=212,slow=4.7,SNR=23
GERES LR LR 06 21 11.9
comp=Z,513nm,19.5s,baz=239,slow=36
comp=Z,8.9nm,0.9s
GERES GERESS Array B 56.12 23 P **P 05 57 05.7 -0.1**
BUG Bochum--Univer 56.14 17 *e*P 05 57 06.3
comp=Z,16nm,1.0s,baz=211,slow=7.1
MORH Mrgy, Hungar 56.19 28 ⇑P **P 05 57 06.5 +0.3**
MORH Mrgy, Hungar 56.19 28 P **P 05 57 07.3 +1.1**
comp=Z,8.4nm,1.3s,comp=Z,269nm
CONA Conrad Observa 56.26 25 *e*P **P 05 57 07.0 +0.2**
comp=Z,12nm,1.4s,SNR=13
RONA Rosalia, Austr 56.26 25 *e*P **P 05 57 07.4 +0.6**
comp=Z,26nm,1.1s,SNR=11
KASTN Kahler Asten 56.27 18 *e*P 05 57 07.2
comp=Z,52nm,1.8s,baz=211,slow=7.1
KASTN *ep*P 05 57 16.8
KHC Kasperske Hory 56.30 22 IAmb IAmb 05 57 10.1
comp=Z,31nm,1.4s
KHC Kasperske Hory 56.30 22 *e*P **P 05 57 08.9 +1.8**
KHC *ex* x 05 57 17.0
KHC *e*S **S 06 04 57.5 +0.5**
KHC AMS AMS 06 20 40.0
comp=Z,900nm,20.8s
KHC Kasperske Hory 56.30 22 *e*P **P 05 57 08.9 +1.8**
KHC *e* 05 57 17.0
KHC *e*S **S 06 04 57.5 +0.5**
KHC MLR MLR
comp=Z,900nm,20.8s
KHC Kasperske Hory 56.30 22 P **P 05 57 06.9 -0.2**
comp=Z,9.7nm,0.9s
ROTZ Rotzenmuhle 56.31 21 *e*P 05 57 06.9
comp=Z,12nm,1.8s,baz=211,slow=7.1
CKRC Cesky Krumlov 56.33 23 *e*P **P 05 57 08.0 +0.7**
CKRC *e*S **S 06 04 55.5 -1.9**
CKRC AMS AMS 06 22 50.0
comp=Z,900nm,15.5s
CKRC Cesky Krumlov 56.33 23 *e*P **P 05 57 08.0 +0.7**
CKRC *e*S **S 06 04 55.5 -1.9**
CKRC MLR MLR
comp=Z,900nm,15.5s
HMBC Humberstone 56.34 247 IAmb IAmb 05 57 07.0
comp=Z,15nm,1.0s
MPLH Magyarpolny 56.40 26 P **P 05 57 09.2 +1.5**
comp=Z,54nm,1.5s
RDO Rodhopi 56.41 36 IAmb IAmb 05 57 11.8
comp=Z,25nm,1.2s
UBBA Unterbreizbach 56.44 19 *e*P 05 57 08.4
comp=Z,33nm,1.4s,baz=211,slow=7.1
UBBA *ep*P 05 57 18.0
MANZ Manzenberg 56.46 21 *e*P 05 57 08.0
comp=Z,8.4nm,1.2s,baz=211,slow=7.1
MDVR Moldovita 56.67 31 ⇑P **P 05 57 11.6 +1.8**
ELL Elmali 56.69 43 P **P 05 57 11.3 +1.1**
ELL Elmali 56.69 43 P **P 05 57 11.3 +1.1**
ELL pmax pmax
comp=Z,100nm,0.9s
PATCX Punta Patache 56.70 246 IAmb IAmb 05 57 27.7
comp=Z,35nm,1.0s
ZVC Zvikov 56.78 23 *e*P **P 05 57 10.8 +0.3**
ZVC AMS AMS 06 21 00.0
comp=Z,700nm,17.9s
MOX Moxa 56.84 20 *e*P 05 57 10.8
comp=Z,33nm,1.4s,baz=211,slow=7.1
MOX *e*L 06 21 21.2
comp=Z,616nm,19.4s
PLN Plauen 56.89 21 *e*P 05 57 11.0
comp=Z,18nm,1.1s,baz=211,slow=7.1
TANN Tannenbergstha 56.94 21 *e*P 05 57 11.5
comp=Z,24nm,1.1s,baz=211,slow=7.1
TANN *ep*P 05 57 22.2
ZST Bratislava 56.99 25 *e*P **P 05 57 14.2 +2.3**
ZST pmax pmax
comp=Z,146nm,1.7s
ZST Bratislava 56.99 25 *e*P **P 05 57 14.2 +2.3**
IBBN Ibbenburen 57.05 17 *e*P 05 57 12.7
comp=Z,48nm,1.5s,baz=211,slow=7.1
GTTG Gottingen 57.05 19 *e*P 05 57 13.0
comp=Z,13nm,0.9s,baz=211,slow=7.1
HERR Herculane 57.10 31 ⇑P **P 05 57 14.8 +2.0**
EIL Elat 57.16 53 LR LR 06 21 26.9
comp=Z,1µm,21.0s,baz=246,slow=36
BZS Buzias 57.20 30 ⇑P **P 05 57 14.0 +0.5**
BZS Buzias 57.20 30 ⇑P **P 05 57 14.0 +0.5**
MODS Modra-Piesok 57.20 25 *e*P **P 05 57 14.0 +0.6**
MODS pmax pmax
comp=Z,85nm,1.7s
MODS Modra-Piesok 57.20 25 *e*P **P 05 57 14.0 +0.6**
KRUC Moravsky 57.36 24 *e*P **P 05 57 13.3 -1.3**
PRU Pruhonice 57.36 23 *e*S **S 06 05 10.4 -0.5**
PRU AMS AMS 06 21 20.0
comp=Z,1µm,21.1s
NEUB Neuenburg 57.37 20 *e*P 05 57 14.6
baz=211,slow=7.1
PRA Prague 57.39 22 *e*S **S 06 05 14.6 +3.4**
PRA AMS AMS 06 21 20.0
comp=Z,1µm,18.8s
GOPC GO Pecny, Ondr 57.40 23 *e*S **S 06 05 14.2 +2.8**
GOPC AMS AMS 06 21 20.0
comp=Z,900nm,18.4s
CZSB Cruzeiro do Su 57.40 262 *e*P **P 05 57 14.0 -1.4**
CLZ Clausthal 57.44 19 *e*P 05 57 15.2
comp=Z,7.9nm,1.0s,baz=211,slow=7.1
HSKC Hora Svate Kat 57.45 21 AMS AMS 06 25 00.0
comp=Z,700nm,15.3s
ESK Eskdalemuir 57.50 8 P **P 05 57 15.7 +0.3**
ESK IAmb IAmb 05 57 18.4
comp=Z,28nm,1.0s
ESK Eskdalemuir 57.50 8 P **P 05 57 15.7 +0.3**
ESK pmax pmax
comp=Z,28nm,1.0s
EKA Eskdalemuir Ar 57.52 8 P **P 05 57 16.1 +0.5**
comp=Z,8.2nm,0.8s,baz=190,slow=7.4,SNR=17
comp=Z,8.2nm,0.8s
SURR Surduc 57.55 30 ⇑P **P 05 57 17.5 +1.6**
GZR Gura Zlata 57.64 31 ⇑P **P 05 57 18.3 +1.7**
GZR Gura Zlata 57.64 31 ⇑P **P 05 57 18.3 +1.7**
VRAC Vranov 57.64 24 ⇑P **P 05 57 18.1 +1.6**
VRAC Vranov 57.64 24 *e*P **P 05 57 15.9 -0.6**
VRAC Vranov 57.64 24 LR LR 06 24 19.8
comp=Z,485nm,18.8s,baz=226,slow=38
VRAC Vranov 57.64 24 ⇑P **P 05 57 18.1 +1.6**

SIRR Siria 57.68 30 ⇓P **P 05 57 18.3 +1.5**
ELND Elena 57.71 35 ⇑P **P 05 57 19.2 +2.0**
JAVC Velka Javorina 57.74 25 *e*P **P 05 57 17.1 -0.2**
PVCC Panska Ves 57.81 22 *e*P **P 05 57 18.8 +1.1**
PVCC AMS AMS 06 21 50.0
comp=Z,900nm,18.4s
PVCC Panska Ves 57.81 22 *e*P **P 05 57 18.8 +1.1**
PVCC MLR MLR
comp=Z,900nm,18.4s
BRG Berggiesshubel 57.86 22 *e*P **P 05 57 18.4 +0.4**
BRG Amp 05 57 21.9
comp=Z,15nm,1.0s
BRG Berggiesshubel 57.86 22 P P 05 57 28.5 +10
BRG Amp 05 57 30.8
comp=Z,9.8nm,1.0s
BRG Berggiesshubel 57.86 22 S **S 06 05 23.0 +5.6**
BRG Amp 06 24 00.0
comp=E,0.4nm,14.8s
BRG Amp 06 24 02.0
comp=N,0.6nm,17.3s
BRG Amp 06 24 08.0
comp=Z,0.6nm,19.0s
BRG Berggiesshubel 57.86 22 *e*P **P 05 57 18.4 +0.4**
BRG 05 59 24.9
BRG S **S 06 05 23.0 +5.6**
BRG pmax pmax
comp=Z,15nm,1.0s
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG smax smax
comp=E,379nm,14.8s
BRG MLR MLR
comp=N,601nm,17.3s
BRG MLR MLR
comp=Z,609nm,19.0s
BRG Berggiesshubel 57.86 22 *e*P 05 57 17.8
comp=Z,27nm,1.3s,baz=211,slow=7.1
CLL Collm 57.88 21 *e*P 05 57 18.0
comp=Z,12nm,1.0s,baz=211,slow=7.1
CLL Collm 57.88 21 *i* P **P 05 57 18.5 +0.4**
CLL *i* 05 57 27.2
CLL *e*S **S 06 05 19.0 +1.4**
CLL pmax pmax
comp=Z,27nm,1.5s
CLL Collm 57.88 21 P **P 05 57 17.8 -0.3**
comp=Z,12nm,1.7s
RETH Rethem/Aller, 57.90 18 *e*P 05 57 19.2
comp=Z,88nm,2.0s,baz=211,slow=7.1
NRDL Niedersach Rie 57.92 18 *e*P 05 57 19.3
comp=Z,34nm,1.6s,baz=211,slow=7.1
VYHS Vyhne 57.97 26 *e*P **P 05 57 19.5 +0.6**
VYHS pmax pmax
comp=Z,30nm,1.3s
VYHS Vyhne 57.97 26 *e*P **P 05 57 19.4 +0.6**
PSZ Piszkesteto 58.02 27 ⇑P **P 05 57 20.1 +0.8**
PSZ Piszkesteto 58.02 27 IAmb IAmb 05 57 22.9
comp=Z,28nm,1.2s
PSZ Piszkesteto 58.02 27 ⇑P **P 05 57 20.1 +0.8**
FLTG Flechtingen 58.14 19 *e*P 05 57 20.1
comp=Z,13nm,1.0s,baz=211,slow=7.1
KRLC Kraliky 58.31 24 *e*P **P 05 57 22.5 +1.2**
KRLC Kraliky 58.31 24 *e*P **P 05 57 22.5 +1.2**
DPC Dobruska-Polom 58.34 23 *e*P **P 05 57 22.0 +0.5**
DPC *ex* x 05 57 29.4
DPC *e*S **S 06 05 25.7 +1.8**
DPC AMS AMS 06 24 20.0
comp=Z,500nm,15.5s
DPC Dobruska-Polom 58.34 23 *e*P **P 05 57 22.0 +0.5**
DPC *e* 05 57 29.4
DPC *e*S **S 06 05 25.7 +1.8**
DPC MLR MLR
comp=Z,500nm,15.5s
DPC Dobruska-Polom 58.34 23 P **P 05 57 21.2 -0.3**
comp=Z,15nm,1.0s
UPC Upice 58.35 23 AMS AMS 06 22 10.0
comp=Z,800nm,20.1s
MORC Moravsky Berou 58.39 24 ⇑P **P 05 57 22.0 +0.2**
MORC Moravsky Berou 58.39 24 *e*P **P 05 57 21.2 -0.6**
MORC Moravsky Berou 58.39 24 ⇑P **P 05 57 22.0 +0.2**
ZON Zonda 58.40 233 IAmb IAmb 05 57 52.5
comp=Z,50nm,1.8s
YLV Yalova 58.41 39 P **P 05 57 22.8 +0.6**
comp=Z,26nm,1.3s,comp=Z,325nm
CHVC Chvalec 58.43 23 AMS AMS 06 22 20.0
comp=Z,800nm,19.0s
OSTC Ostas 58.47 23 AMS AMS 06 22 20.0
comp=Z,700nm,20.8s
SDDR Presa de Saban 58.51 293 P **P 05 57 24.1 +0.9**
SDDR IAmb IAmb 05 57 37.3
comp=Z,24nm,1.0s
DRGR 58.56 30 ⇑P **P 05 57 24.3 +1.2**
DRGR 58.56 30 ⇑P **P 05 57 24.3 +1.2**
ARR Arges 58.59 32 ⇑P **P 05 57 25.0 +1.7**
MARR Marisel-Cluj 58.69 30 ⇑P **P 05 57 25.3 +1.3**
OKC Ostrava-Krasne 58.69 25 *e*S **S 06 05 30.8 +2.5**
OKC AMS AMS 06 23 20.0
comp=Z,500nm,15.8s
GORT1 Trebel 58.72 19 *e*P 05 57 24.9
comp=Z,78nm,1.3s,baz=211,slow=7.1
KSP Ksiaz 58.72 23 *e*P **P 05 57 23.7 -0.4**
KSP *e*S **S 06 05 34.8 +6.1**
LANS Liptovska Anna 58.74 26 *e*P **P 05 57 25.8 +1.5**
LANS Liptovska Anna 58.74 26 *e*P **P 05 57 25.8 +1.5**
AC05 El Transito 58.85 237 IAmb IAmb 05 57 39.4
comp=Z,16nm,1.1s
VOIR 58.86 32 ⇑P **P 05 57 25.7 +0.5**
VOIR 58.86 32 ⇑P **P 05 57 25.7 +0.5**
VOIR 58.86 32 P **P 05 57 26.4 +1.2**
comp=Z,32nm,0.9s
MMAI Mount Meron Ar 58.89 50 P **P 05 57 26.9 +1.2**
comp=Z,0.9nm,0.4s,baz=215,slow=7.1,SNR=4.0
MMAI LR LR 06 25 48.4
comp=Z,554nm,18.4s,baz=198,slow=39
comp=Z,0.9nm,0.4s
CJR Cluj-Napoca 58.95 30 ⇑P **P 05 57 27.6 +1.8**
CJR Cluj-Napoca 58.95 30 ⇑P **P 05 57 27.6 +1.8**
CO01 Juntas del Tor 59.05 236 IAmb IAmb 05 57 39.3
comp=Z,16nm,0.9s
RUE Ruedersdorf 59.12 20 *e*P 05 57 26.8
comp=Z,24nm,0.6s,baz=211,slow=7.1
ROSC El Rosal 59.19 276 P **P 05 57 29.7 +1.3**
comp=Z,22nm,0.6s,baz=140,slow=7.4,SNR=14
comp=Z,22nm,0.6s
BSEG Bad Segeberg 59.23 17 *e*P 05 57 27.6
comp=Z,22nm,1.0s,baz=211,slow=7.1
BSEG *ep*P 05 57 37.8
LCO Las Campanas 59.26 237 P **P 05 57 27.1 -1.5**
LCO Las Campanas 59.26 237 P **P 05 57 27.1 -1.5**
LCO pmax pmax
comp=Z,92nm,2.0s
NIE Niedzica 59.30 26 *e*P **P 05 57 29.5 +1.3**
NIE *e*S **S 06 05 40.8 +4.5**
NIE Niedzica 59.30 26 P **P 05 57 29.4 +1.3**
comp=Z,9.0nm,1.3s
ATD Arta Tunnel 59.32 76 LR LR 06 21 43.1
comp=Z,12nm,19.1s,baz=257,slow=35
MLR Muntele Rosu 59.37 33 ⇓P **P 05 57 29.7 +0.8**
MLR Muntele Rosu 59.37 33 LR LR 06 24 19.8
comp=Z,1µm,20.9s,baz=223,slow=37
MLR Muntele Rosu 59.37 33 ⇓P **P 05 57 29.7 +0.8**
MLR Muntele Rosu 59.37 33 P **P 05 57 29.9 +1.1**
comp=Z,52nm,1.2s,comp=Z,596nm
DOPR Dopca 59.38 32 ⇑P **P 05 57 29.9 +1.1**
CRVS Cervenica-Dubn 59.45 27 *e*P **P 05 57 30.2 +1.0**
CRVS pmax pmax
comp=Z,57nm,1.3s
CRVS Cervenica-Dubn 59.45 27 *e*P **P 05 57 30.2 +1.0**
ISR Istrita 59.46 33 ⇓P **P 05 57 31.7 +2.3**
ISR Istrita 59.46 33 P **P 05 57 31.7 +2.3**
ISR Istrita 59.46 33 P **P 05 57 29.9 +0.5**
comp=Z,39nm,0.9s,comp=Z,956nm
NEHR Nehoiu 59.52 33 ⇑P **P 05 57 31.7 +2.0**
OJC Ojcow 59.68 25 *e*P **P 05 57 30.5 -0.2**
OJC *e*S **S 06 05 47.1 +6.0**
OJC Ojcow 59.68 25 IAmb IAmb 05 57 33.9
comp=Z,16nm,0.9s
OJC Ojcow 59.68 25 P **P 05 57 30.8 +0.1**
OZUR 59.68 32 ⇑P **P 05 57 32.1 +1.3**
COVR Voineasa-Covas 59.74 33 ⇑P **P 05 57 32.6 +1.4**
TURR Turia 59.77 32 ⇓P **P 05 57 31.9 +0.5**
CO03 El Pedregal 59.80 235 IAmb IAmb 05 57 32.5
comp=Z,17nm,1.1s
BISRR Bisoca 59.83 33 P **P 05 57 33.3 +1.4**
comp=Z,134nm,0.8s,comp=Z,15µm
KOLS Kolonicke sedl 59.85 28 *e*P **P 05 57 33.5 +1.6**

KOLS pmax pmax
comp=Z,18nm,1.2s
KOLS Kolonicke sedl 59.85 28 *e*P **P 05 57 33.5 +1.6**
HARR Harsova 59.97 34 ⇑P **P 05 57 35.1 +2.3**
HARR Harsova 59.97 34 ⇑P **P 05 57 35.1 +2.3**
PLOR3 Plostina Array 59.98 33 P **P 05 57 32.8 -0.1**
comp=Z,42nm,1.0s
PLOR Plostina 59.98 33 ⇑P **P 05 57 33.1 +0.2**
PLOR Plostina 59.98 33 ⇑P **P 05 57 33.1 +0.2**
VRI Vrincioaia 60.04 33 ⇑P **P 05 57 33.5 +0.3**
VRI Vrincioaia 60.04 33 ⇑P **P 05 57 33.5 +0.3**
ONER Baraj Valea Uz 60.16 32 ⇓P **P 05 57 35.1 +1.0**
ANTO Ankara 60.25 41 P **P 05 57 36.0 +1.2**
ANTO Ankara 60.25 41 P **P 05 57 36.1 +1.2**
ANTO pmax pmax
comp=Z,28nm,0.8s
ANTO Ankara 60.25 41 P **P 05 57 36.8 +1.9**
comp=Z,20nm,0.9s
VA03 San Esteban 60.31 233 IAmb IAmb 05 58 12.9
comp=Z,15nm,0.9s
TPGR Topolog 60.35 35 ⇑P **P 05 57 36.7 +1.3**
BURAR Bucovina Array 60.38 30 ⇑P **P 05 57 35.6 0.0**
BURAR Bucovina Array 60.38 30 P **P 05 57 36.1 +0.4**
CFR Carcaliu 60.38 34 ⇓P **P 05 57 36.9 +1.3**
CFR Carcaliu 60.38 34 ⇓P **P 05 57 36.9 +1.3**
LMEL Las Melosas 60.40 231 IAmb IAmb 05 57 37.6
comp=Z,28nm,1.4s
TESR Tescani 60.40 32 ⇑P **P 05 57 37.7 +2.0**
TESR Tescani 60.40 32 P **P 05 57 36.3 +0.5**
comp=Z,22nm,0.7s
MT03 Universidad Ad 60.52 232 IAmb IAmb 05 57 48.9
comp=Z,27nm,0.9s
GHRR 60.53 33 P **P 05 57 36.7 +0.1**
BR131 Keskin Array S 60.74 42 P **P 05 57 39.0 +0.7**
BR131 Keskin Array S 60.74 42 P **P 05 57 39.0 +0.7**
BR131 pmax pmax
comp=Z,34nm,1.1s
BRTR Keskin Array B 60.74 42 P **P 05 57 39.4 +1.0**
BRTR Keskin Array B 60.74 42 P **P 05 57 39.7 +1.4**
comp=Z,14nm,0.9s,baz=242,slow=5.6,SNR=49
BRTR PP **PP 05 59 48.8 -3.6**
comp=Z,1.6nm,0.9s,baz=236,slow=6.8,SNR=2.1
BRTR LR LR 06 25 43.3
comp=Z,324nm,20.6s,baz=220,slow=38
comp=Z,14nm,0.9s
VA06 Catapilco 60.84 233 IAmb IAmb 05 57 49.9
comp=Z,21nm,0.9s
MT09 Talagante 60.99 232 IAmb IAmb 05 57 40.7
comp=Z,28nm,1.1s
MUD Monsted U'grnd 61.11 15 *i*P **P 05 57 39.0 -1.3**
BO02 Sierra Bellavi 61.17 231 IAmb IAmb 05 58 01.8
comp=Z,14nm,0.8s
BO01 Tunca 61.27 231 IAmb IAmb 05 57 51.0
comp=Z,26nm,1.1s
LVV L'vov 61.29 28 *e*P **P 05 57 42.9 +1.2**
LVV *e* 05 59 53.1
LVV *e*S **S 06 06 01.7 -0.1**
LVV MLR MLR
comp=E,1μm,17.0s
LVV MLR MLR
comp=N,500nm,18.0s
LVV MLR MLR
comp=Z,700nm,18.0s
NNA Nana 61.76 257 LR LR 06 25 54.1
comp=Z,273nm,18.1s,baz=73,slow=37
MILM Milestii Mici 61.82 33 *e*P **P 05 57 45.0 -0.3**
comp=Z,80nm,1.3s
MILM *e*ScP ScP 06 01 31.0 -57
MILM *e*L L 06 16 51.0
MILM LQM 06 26 11.0
comp=Z,400nm,18.5s
MILM LRM MLR 06 28 00.0
comp=Z,700nm,16.0s
MILM Milestii Mici 61.82 33 *e*P **P 05 57 45.0 -0.3**
MILM *e* 06 01 31.0
MILM pmax pmax
comp=Z,80nm,1.3s
GAZ Gaziantep 62.02 46 P **P 05 57 47.7 +0.8**
SORM Soroca 62.33 32 ⇓P **P 05 57 49.2 +0.5**
SORM Soroca 62.33 32 ⇓P **P 05 57 49.2 +0.5**
TULM Tulcn-Chalpat 62.41 272 IAmb IAmb 05 57 53.6
comp=Z,31nm,1.3s
ANTS Antisana-Sarah 62.76 270 P **P 05 57 53.2 +0.2**
ANTS IAmb IAmb 05 58 11.6
comp=Z,20nm,1.1s
IMBA Imbabura, San 62.80 271 P **P 05 57 53.7 +0.6**
ATAH Atahualpa 63.01 263 LR LR 06 26 12.5
comp=Z,368nm,18.9s,baz=101,slow=37
OTAV Otavalo 63.06 271 P **P 05 57 54.5 -0.3**
OTAV IAmb IAmb 05 58 14.8
comp=Z,11nm,1.1s
OTAV Otavalo 63.06 271 ⇑P **P 05 57 56.8 +2.0**
OTAV Otavalo 63.06 271 *e*P **P 05 57 55.4 +0.6**
RNPP5 Staryi Chortor 63.12 28 P **P 05 57 53.6 -0.3**
RNPP8 Varash 63.18 28 P **P 05 57 53.8 -0.5**
PLCA Paso Flores 63.19 224 P **P 05 57 54.8 +0.1**
comp=Z,2.4nm,0.9s,baz=34,slow=5.7,SNR=4.4
PLCA LR LR 06 20 56.6
comp=Z,935nm,21.8s,baz=74,slow=32
comp=Z,2.4nm,0.9s
RNPP9 Sopachiv 63.25 28 P **P 05 57 54.0 -0.8**
GO06 Curarrehue 63.40 226 P **P 05 57 55.5 -0.8**
GO06 IAmb IAmb 05 58 05.5
comp=Z,13nm,1.1s
MI28 Mi28,Pidlybu 63.77 29 P **P 05 57 57.3 -0.9**
SUW Suwalki 63.88 24 *e*P **P 05 57 58.5 -0.4**
SUW Suwalki 63.88 24 *e*P **P 05 57 59.6 +0.7**
LR05 Currie 64.02 225 P **P 05 57 59.7 -0.4**
KONO Kongsberg 64.04 14 P **P 05 58 00.0 +0.2**
KONO IAmb IAmb 05 58 02.9
comp=Z,23nm,1.1s
KONO Kongsberg 64.04 14*ce*P **P 05 58 00.2 +0.4**
KONO pmax pmax
comp=Z,39nm,1.7s
LMN Caledonia Moun 64.14 324 P **P 05 58 02.6 +1.8**
LMN IAmb IAmb 05 58 03.6
comp=Z,11nm,0.9s
RAYN Ar Rayn 64.17 63 ⇓P **P 05 58 04.6 +3.1**
AK13 Malin Array Si 64.24 30 P **P 05 58 01.2 -0.2**
AK07 Malin Array Si 64.28 30 P **P 05 58 01.2 -0.4**
KIEV Kiev 64.37 30 ⇑P **P 05 58 04.5 +2.3**
KIEV Kiev 64.37 30 P **P 05 58 01.5 -0.7**
KIEV Kiev 64.37 30 ⇑P **P 05 58 04.5 +2.3**
AKASG Malin Array Be 64.38 30 P **P 05 58 01.4 -0.8**
AKASG IAmb IAmb 05 58 13.8
comp=Z,34nm,1.4s
AKASG Malin Array Be 64.38 30 P **P 05 58 01.0 -1.2**
comp=Z,13nm,1.0s,baz=233,slow=6.8,SNR=19
AKASG LR LR 06 28 00.6
comp=Z,1μm,18.8s,baz=234,slow=38
comp=Z,13nm,1.0s
AKASG Malin Array Be 64.38 30 *i*P **P 05 58 01.5 -0.8**
AKASG pmax pmax
comp=Z,13nm,1.0s
AKBB Malin Array Si 64.38 30*ce*P **P 05 58 01.3 -1.0**
AKBB pmax pmax
comp=Z,51nm,1.3s
AKBB Malin Array Si 64.38 30 P **P 05 58 02.3 0.0**
VIKU Vikbolandet 65.00 18 *e*P **P 05 58 07.3 +1.2**
LL02 Futaleuf 65.05 222 P **P 05 58 06.0 -0.9**
PABE Paberze 65.27 23 *e*P **P 05 58 08.8 +0.8**
NC602 NORSAR Array S 65.46 14 IAmb IAmb 05 58 12.0
comp=Z,12nm,1.1s
HFS Hagfors 65.50 16 P **P 05 58 08.7 -0.7**
comp=Z,7.1nm,0.7s,baz=202,slow=6.4,SNR=15
comp=Z,7.1nm,0.7s
BATG Bathurst New B 65.63 325 P **P 05 58 12.0 +1.5**
BATG IAmb IAmb 05 58 13.7
comp=Z,16nm,1.0s
NB2 NORSAR Subarra 65.65 14 P **P 05 58 10.5 +0.1**
comp=Z,26nm,1.2s,baz=208,slow=6.9
NB2 NORSAR Subarra 65.65 14 P **P 05 58 10.5 +0.1**
baz=208,slow=6.9
NOA NORSAR Array B 65.65 14 P **P 05 58 10.4 +0.1**
comp=Z,8.3nm,1.0s,baz=208,slow=6.6,SNR=10
NOA LR LR 06 27 33.6
comp=Z,586nm,21.4s,baz=205,slow=37
comp=Z,8.3nm,1.0s
NB201 NORSAR Array S 65.67 14 IAmb IAmb 05 58 15.6
comp=Z,16nm,1.1s
NC204 NORSAR Array S 65.75 14 IAmb IAmb 05 58 14.6
comp=Z,24nm,1.1s
NC405 NORSAR Array S 65.83 14 IAmb IAmb 05 58 23.6
comp=Z,10nm,0.8s
GURO Guroymak-BITLI 66.06 46 P **P 05 58 14.6 +0.9**

MNK Minsk 66.21 26 *i*P **P 05 58 13.8 -0.3**
MNK *i* 06 00 48.1
MNK *i*S **S 06 07 03.5 +0.7**
MNK pmax pmax
comp=N,26nm,0.9s
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK pmax pmax
comp=Z,41nm,1.3s
MNK MLR MLR
comp=Z,1μm,21.0s
MNK MLR MLR
comp=E,278nm,19.0s
MNK MLR MLR
comp=N,556nm,18.0s
BORG Borgarnes 66.22 357 LR LR 06 24 32.3
comp=N,207nm,18.0s,baz=168,slow=34
UPP Uppsala 66.38 17 *e*P **P 05 58 15.4 +0.4**
SOC Sochi 66.57 41 *e*P **P 05 58 15.6 -1.0**
SOC *e* 06 00 40.8
SOC *e*PPP PPP 06 02 17.9
SOC *e*S **S 06 07 08.1 +0.5**
SOC *e*SS **SS 06 11 24.2 -0.8**
SOC *e*SSS SSS 06 14 27.0
SOC pmax pmax
comp=Z,19nm,0.8s
SOC MLR MLR
comp=Z,244nm,21.0s
VSLR Vesyoloye 66.72 41 *i*P **P 05 58 18.0 +0.4**
VSLR pmax pmax
comp=Z,58nm,1.0s
BCA Borcka 66.93 43 ⇑P **P 05 58 20.6 +1.6**
I62A Tamworth 67.22 319 IAmb IAmb 05 58 28.2
comp=Z,20nm,1.1s
AAL Aland 67.36 18 *e*P **P 05 58 22.0 +0.7**
MTSE Matsula 67.54 21 *e*P **P 05 58 23.2 +0.8**
VSU Vasula 68.43 22*ce*P **P 05 58 28.3 +0.3**
VSU pmax pmax
comp=Z,40nm,1.7s
SHA1 Shidzhatmaz 68.57 41*ce*P **P 05 58 31.7 +2.2**
RAF Rauma 68.58 18 *e*P **P 05 58 29.9 +1.0**
GNI Garni 68.61 46 LR LR 06 34 00.9
comp=Z,150nm,18.1s,baz=256,slow=41
GNI Garni 68.61 46 *i*P **P 05 58 30.6 +0.8**
GNI pmax pmax
comp=Z,22nm,1.2s
GNI Garni 68.61 46 P **P 05 58 31.3 +1.5**
comp=Z,28nm,1.0s,comp=Z,495nm
ONI Oni 68.64 43 IAmb IAmb 05 58 40.5
comp=Z,14nm,1.0s
KIV Kislovodsk 68.68 41 *e*P **P 05 58 30.5 +0.5**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV Kislovodsk 68.68 41 P **P 05 58 31.1 +1.1**
comp=Z,19nm,1.1s
KBZ Khabaz 68.72 41 P **P 05 58 30.8 +0.6**
comp=Z,19nm,0.9s,baz=219,slow=6.2,SNR=25
KBZ LR LR 06 30 38.4
comp=Z,194nm,21.6s,baz=257,slow=38
comp=Z,19nm,0.9s
ARBE Arbavere 68.84 21 *e*P **P 05 58 31.9 +1.3**
LDAQ Lac Daran 69.01 323 P **P 05 58 32.8 +0.8**
LDAQ IAmb IAmb 05 59 01.7
comp=Z,10nm,1.0s
VNA1 Neumayer--Stat 69.21 177 ⇑P **P 05 58 33.7 +1.1**
comp=Z,12nm,0.9s
VNA2 Neumayer--Watz 69.52 177 ⇑P **P 05 58 35.5 +0.9**
comp=Z,33nm,0.7s,baz=343,slow=5.9
VORD Divnogorie 69.81 33 *e*P **P 05 58 34.8 -1.9**
VORD pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 69.86 33 *e*P **P 05 58 34.3 -2.8**
VSR pmax pmax
comp=Z,40nm,1.1s
VORR Voronezh 70.11 33 *e*P **P 05 58 38.9 +0.3**
VORR *e* 05 58 46.3
VORR pmax pmax
comp=Z,110nm,0.4s
SCHQ Schefferville 70.15 331 P **P 05 58 38.2 -0.6**
comp=Z,6.2nm,1.0s,baz=124,slow=7.3,SNR=5.2
SCHQ LR LR 06 26 16.9
comp=Z,229nm,18.5s,baz=122,slow=33
comp=Z,6.2nm,1.0s
JTS Las Juntas de 70.17 281 LR LR 06 29 06.3
comp=Z,234nm,19.2s,baz=95,slow=36
FINES FINESS Array B 70.30 20 P **P 05 58 39.2 -0.3**
FINES FINESS Array B 70.30 20 P **P 05 58 39.6 +0.1**
comp=Z,10nm,0.8s,baz=202,slow=4.9,SNR=28
FINES LR LR 06 31 55.2
comp=Z,506nm,18.3s,baz=228,slow=38
comp=Z,10nm,0.8s
VAF Ylistaro 70.39 17 *e*P **P 05 58 41.7 +1.7**
KEF Keuruu 70.42 19 *e*P **P 05 58 41.6 +1.3**
LPSR Galich'ya Gora 70.43 32 *e*P **P 05 58 40.1 -0.4**
LPSR *e* 05 58 48.3
LPSR pmax pmax
comp=Z,30nm,0.9s
SNAA Sanae 70.53 176 P **P 05 58 41.3 +0.4**
SNAA IAmb IAmb 05 59 03.4
comp=Z,16nm,1.0s
SNAA Sanae 70.53 176 ⇑P **P 05 58 41.6 +0.7**
comp=Z,168nm,0.8s
SNAA Sanae 70.53 176 P **P 05 58 41.6 +0.7**
comp=Z,8.0nm,0.8s,baz=328,slow=5.7,SNR=27
SNAA LR LR 06 21 49.5
comp=Z,393nm,18.7s,baz=105,slow=29
comp=Z,8.0nm,0.8s
SNAA Sanae 70.53 176 *i*P **P 05 58 41.1 +0.1**
SNAA pmax pmax
comp=Z,13nm,1.0s
OBN Obninsk 70.57 29 LR LR 06 32 13.3
comp=Z,683nm,18.1s,baz=198,slow=38
OBN Obninsk 70.57 29*ce*P **P 05 58 42.6 +1.3**
OBN *e* 06 01 19.7
OBN *e*S **S 06 08 00.6 +5.9**
OBN pmax pmax
comp=Z,41nm,1.3s
OBN MLR MLR
comp=Z,955nm,17.0s
VRH Novokhopyorsk 71.26 34 *e*P **P 05 58 43.9 -1.7**
VRH pmax pmax
comp=Z,30nm,1.6s
TROLL Troll, Antarti 71.33 174 ⇑P **P 05 58 46.8 +1.0**
comp=Z,353nm,0.7s
NVL N'lazarevskaya 71.40 171 *e*P P 05 58 56.0 +10
NVL pmax pmax
comp=Z,16nm,0.8s
MOS Moscow 71.42 28 *e*P **P 05 58 45.9 -0.6**
MOS *e* 06 01 22.2
MOS *e* 06 03 11.5
MOS pmax pmax
comp=Z,36nm,0.6s
MOS MLR MLR
comp=Z,1μm,17.0s
MAK Makhachkala 71.55 44 *e*P P 05 58 42.4 -5.1
MAK *e*PPP PPP 06 03 07.0
MAK *e*S **S 06 07 58.7 -7.8**
MAK *e*SS **SS 06 12 37.4 -4.4**
MAK pmax pmax
comp=Z,93nm,1.0s
VALR Valaam 71.93 21 *i*P **P 05 58 50.6 +1.2**
VALR pmax pmax
comp=Z,35nm,1.2s
PMSA Palmer Station 72.15 200 LR LR 06 22 53.4
comp=Z,929nm,19.8s,baz=55,slow=30
JMIC Jan Mayen 72.49 2 LR LR 06 26 35.2
comp=Z,332nm,21.1s,baz=200,slow=32
BG3 Lake Jocassee 72.60 307 P **P 05 58 56.1 +2.1**
SADO Sadowa 72.72 318 LR LR 06 25 34.8
comp=Z,550nm,19.9s,baz=76,slow=32
JOF Joensuu 73.10 20 *e*P **P 05 58 57.9 +1.5**
TKL Tuckaleechee C 73.43 308 LR LR 06 24 12.1
comp=Z,332nm,21.1s,baz=96,slow=30
UOSS Minazif 74.02 64 P **P 05 59 02.9 +0.3**
UOSS IAmb IAmb 05 59 05.8
comp=Z,28nm,1.1s
X51A Calhoun 74.03 307 IAmb IAmb 05 59 14.9
comp=Z,15nm,0.9s
TEIG Tepich 74.47 291 LR LR 06 25 08.6
comp=Z,246nm,21.7s,baz=59,slow=30
ELIB Princess Elisa 74.48 168 *d*P **P 05 59 05.6 +1.1**
comp=Z,14nm,1.3s
BELG Belogornoye 75.09 34 LR LR 06 33 36.8
comp=Z,390nm,20.4s,baz=252,slow=37
BELG Belogornoye 75.09 34 *i*P **P 05 59 07.7 -0.5**
BELG pmax pmax

comp=Z,7.0nm,1.0s
U49A Red Boiling Sp 75.21 308 IAmb IAmb 05 59 21.2
comp=Z,16nm,1.1s
WSAR Wadi Sarin 75.96 66 LR LR 06 33 04.4
comp=Z,420nm,19.2s,baz=279,slow=36
ARCES ARCESS Array B 76.03 14 P **P 05 59 14.8 +1.5**
comp=Z,3.2nm,0.7s,baz=243,slow=4.0,SNR=10
ARCES LR LR 06 33 45.4
comp=Z,807nm,20.6s,baz=232,slow=37
comp=Z,3.2nm,0.7s
N47A Urbana 76.18 313 IAmb IAmb 05 59 26.2
comp=Z,21nm,0.9s
Z47A Carrollton 76.36 305 IAmb IAmb 05 59 19.6
comp=Z,15nm,0.9s
WVT Waverly 76.75 308 P **P 05 59 18.9 +0.8**
WVT Waverly 76.75 308 P **P 05 59 18.9 +0.8**
WVT pmax pmax
comp=Z,14nm,1.2s
APA Apatity 76.78 17 ⇓*i*P **P 05 59 18.1 +0.5**
APA *i* 05 59 35.0
APA *i*S **S 06 09 02.0 -2.4**
APA *i* 06 09 42.0
APA *i*PS PnS 06 09 59.0 +16
APA pmax pmax
comp=Z,6.0nm,1.0s
APA MLR MLR
comp=Z,1μm,21.0s
BELA Belgrano 2 77.01 184 P **P 05 59 17.8 -1.0**
BELA IAmb IAmb 05 59 31.0
comp=Z,12nm,0.9s
LVZ Lovozero 77.36 17*ce*P **P 05 59 23.8 +2.9**
LVZ pmax pmax
comp=Z,43nm,1.7s
LVZ Lovozero 77.36 17 P **P 05 59 21.6 +0.7**
comp=Z,20nm,1.2s
OLIL Olney 77.49 310 IAmb IAmb 05 59 35.2
comp=Z,33nm,1.1s
CCIG Comitan 77.69 287 IAmb IAmb 05 59 36.5
comp=Z,19nm,1.0s
KIRV Kirov 78.42 29 LR LR 06 36 22.6
comp=Z,811nm,19.4s,baz=257,slow=38
KIRV Kirov 78.42 29*ce*P **P 05 59 28.0 +1.1**
D41A Chassel 79.68 318 IAmb IAmb 05 59 45.0
comp=Z,22nm,1.0s
CCM Cathedral Cave 79.79 309 P **P 05 59 34.5 -0.4**
CCM Cathedral Cave 79.79 309 P **P 05 59 34.5 -0.4**
CCM pmax pmax
comp=Z,14nm,1.0s
JFWS Jewell Farm 79.95 314 P **P 05 59 35.3 -0.3**
JFWS Jewell Farm 79.95 314 P **P 05 59 35.3 -0.3**
JFWS pmax pmax
comp=Z,11nm,1.0s
MGMO Mountain Grove 80.44 308 IAmb IAmb 06 00 03.7
comp=Z,19nm,1.1s
AKTO Aktyubinsk 80.65 38 P **P 05 59 39.5 +0.2**
comp=Z,6.4nm,1.0s,baz=270,slow=6.0,SNR=6.5
AKTO LR LR 06 38 57.9
comp=Z,200nm,20.9s,baz=306,slow=38
comp=Z,6.4nm,1.0s
S39A Bolivar 81.35 308 IAmb IAmb 05 59 56.3
comp=Z,15nm,1.1s
ABKAR Akbulak array 81.60 40 P **P 05 59 44.6 +0.3**
ABKAR Akbulak array 81.60 40 IAmb IAmb 05 59 47.5
comp=Z,7.6nm,1.1s
P38A Dawn 81.81 310 IAmb IAmb 06 00 10.3
comp=Z,23nm,1.4s
I37A Lemond, Waseca 82.40 315 IAmb IAmb 05 59 59.0
comp=Z,13nm,1.1s
ARU Arti 82.42 33 P **P 05 59 48.1 -0.4**
ARU IAmb IAmb 05 59 59.5
comp=Z,14nm,0.9s
ARU Arti 82.42 33 P **P 05 59 48.5 +0.1**
comp=Z,3.0nm,0.3s,baz=249,slow=4.3,SNR=9.8
ARU LR LR 06 38 48.5
comp=Z,572nm,19.7s,baz=260,slow=37
comp=Z,3.0nm,0.3s
ARU Arti 82.42 33*c i*P **P 05 59 48.6 +0.1**
ARU 06 02 54.0
ARU S **S 06 10 07.6 +3.0**
ARU pmax pmax
comp=Z,12nm,1.0s
ARU MLR MLR
comp=Z,587nm,20.0s
ARU Arti 82.42 33 P **P 05 59 49.1 +0.6**
comp=Z,18nm,0.9s
T35A Sooner Cattle 83.77 307 IAmb IAmb 06 00 09.5
comp=Z,21nm,1.1s
QUOK Quay 83.84 306 IAmb IAmb 06 00 09.8
comp=Z,21nm,1.1s
OK031 S. Brethren Rd 83.93 306 IAmb IAmb 06 00 10.4
comp=Z,20nm,1.0s
OK051 E0350 and S346 83.98 307 IAmb IAmb 06 00 10.6
comp=Z,16nm,1.1s
MAW Mawson 84.16 158 LR LR 06 30 23.3
comp=Z,288nm,19.5s,baz=290,slow=31
HBVL Hebbronville 84.67 297 IAmb IAmb 06 00 14.7
comp=Z,12nm,1.2s
PLPT Palo Pinto 84.83 303 IAmb IAmb 06 00 25.8
comp=Z,21nm,1.4s
ULM Lac du Bonnet 85.04 321 P **P 06 00 01.5 -0.6**
ULM Lac du Bonnet 85.04 321 P **P 06 00 02.3 +0.3**
comp=Z,3.2nm,0.9s,baz=95,slow=2.7,SNR=4.9
ULM LR LR 06 31 44.2
comp=Z,407nm,21.4s,baz=80,slow=31
comp=Z,3.2nm,0.9s
HNDO Hondo 85.39 300 IAmb IAmb 06 00 30.2
comp=Z,14nm,1.2s
JCT Junction City 85.91 301 P **P 06 00 06.5 -0.4**
JCT IAmb IAmb 06 00 32.3
comp=Z,16nm,1.0s
JCT Junction City 85.91 301 P **P 06 00 06.5 -0.4**
JCT pmax pmax
comp=Z,15nm,1.0s
ABTX Abilene, Hawle 85.93 303 IAmb IAmb 06 00 32.7
comp=Z,23nm,1.2s
DRIO Del Rio 86.55 299 IAmb IAmb 06 00 35.2
comp=Z,12nm,1.0s
SIMJ Simiganj 86.56 51 P **P 06 00 09.9 -0.2**
SIMJ IAmb IAmb 06 00 13.6
comp=Z,12nm,1.2s
SMWD Samnorwood 86.61 305 IAmb IAmb 06 00 35.8
comp=Z,32nm,1.5s
SN07 Snyder 07 87.01 303 IAmb IAmb 06 00 38.1
comp=Z,22nm,1.3s
DKNS Dickens 87.08 304 IAmb IAmb 06 00 38.4
comp=Z,23nm,1.4s
OZNA Ozona 87.08 301 IAmb IAmb 06 00 26.7
comp=Z,14nm,1.0s
SGCY Sterling City 87.14 302 IAmb IAmb 06 00 33.0
comp=Z,14nm,1.0s
POST Post 87.52 303 P **P 06 00 14.5 -0.3**
POST IAmb IAmb 06 00 34.1
comp=Z,11nm,0.8s
BRLS Borolday 87.53 47 *e*P **P 06 00 13.8 -0.8**
baz=47
BRLS Borolday 87.53 47 *e*P **P 06 00 13.7 -0.8**
KKAR Karatay Array 88.03 47 P **P 06 00 16.7 -0.2**
KKAR IAmb IAmb 06 00 22.0
comp=Z,9.7nm,1.2s
KKAR Karatay Array 88.03 47 P **P 06 00 14.8 -2.1**
KKAR Karatay Array 88.03 47 P **P 06 00 14.8 -2.1**
KKAR 06 00 16.7
KKAR pmax pmax
comp=Z,10.0nm,1.2s
BTK Batken 88.06 50 IAmb IAmb 06 00 20.9
comp=Z,10nm,1.1s
BRVK Borovoye 88.59 37 P **P 06 00 20.0 +0.7**
BRVK Borovoye 88.59 37*ce*P **P 06 00 20.6 +1.3**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
QSPA South Pole Qui 88.59 180 P **P 06 00 19.6 +0.4**
QSPA South Pole Qui 88.59 180 P **P 06 00 20.0 +0.8**
comp=Z,2.7nm,0.8s,baz=202,slow=1.6,SNR=7.0
QSPA LR LR 06 34 01.3
comp=Z,386nm,19.1s,baz=206,slow=32
comp=Z,2.7nm,0.8s
MSTX Muleshoe 88.63 304 IAmb IAmb 06 00 46.0
comp=Z,21nm,1.1s
BVAR Borovoye Array 88.65 37 P **P 06 00 20.6 +1.0**
comp=Z,3.5nm,0.9s,baz=264,slow=3.0,SNR=13
BVAR LR LR 06 43 29.3
comp=Z,485nm,19.3s,baz=267,slow=38
comp=Z,3.5nm,0.9s
TXAR Lajitas Array 89.20 299 P **P 06 00 22.6 -0.2**
TXAR Lajitas Array 89.20 299 P **P 06 00 22.4 -0.4**
comp=Z,1.4nm,0.9s,baz=119,slow=13,SNR=13
TXAR LR LR 06 34 03.6

comp=Z,142nm,21.8s,baz=53,slow=31
comp=Z,1.4nm,0.9s
TXAR Lajitas Array 89.20 299 P **P 06 00 22.6 -0.2**
BTLS Baital 90.66 45 *e*P **P 06 00 29.4 +0.1**
baz=45
BTLS Baital 90.66 45 *e*P **P 06 00 29.3 +0.1**
Q24A Divide 90.72 309 IAmb IAmb 06 00 35.1
comp=Z,10nm,0.8s
AAK Ala-Archa 90.93 48 P **P 06 00 32.6 +1.8**
comp=Z,2.2nm,0.4s,baz=238,slow=3.2,SNR=6.3
AAK LR LR 06 46 34.5
comp=Z,202nm,18.4s,baz=281,slow=39
comp=Z,2.2nm,0.4s
AAK Ala-Archa 90.93 48 *ce*P **P 06 00 33.3 +2.6**
AAK pmax pmax
comp=Z,7.0nm,1.0s
SGDS Sogindy 91.05 47 *e*P **P 06 00 31.5 +0.3**
baz=47
SGDS Sogindy 91.05 47 *e*P **P 06 00 31.4 +0.3**
ISCO Idaho Springs 91.10 310 IAmb IAmb 06 00 57.5
comp=Z,15nm,1.7s
ANMO Albuquerque 91.70 305 P **P 06 00 35.9 +1.4**
ANMO Albuquerque 91.70 305 LR LR 06 36 26.9
comp=Z,529nm,20.8s,baz=150,slow=32
ANMO Albuquerque 91.70 305 P **P 06 00 35.9 +1.4**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
KSH Kashi 92.01 51 P **P 06 00 37.6 +1.8**
KSH sP pwP 06 00 44.6 -0.2
KSH pmax pmax
comp=Z,9.0nm,1.1s
S22A 4UR Ranch, Cre 92.03 308 IAmb IAmb 06 01 02.2
comp=Z,12nm,1.4s
NRN Naryn 92.04 49 IAmb IAmb 06 00 48.4
comp=Z,6.1nm,0.8s
TNSS Tian-Shan 92.74 47 *e*P **P 06 00 39.0 -0.4**
baz=47
TNSS Tian-Shan 92.74 47 *e*P **P 06 00 39.0 -0.4**
CHKK Chushkaly 92.76 46 *e*P **P 06 00 38.8 -0.2**
baz=46
CHKK Chushkaly 92.76 46 *e*P **P 06 00 38.8 -0.2**
MDOK Medeo 92.81 47 *e*P **P 06 00 39.3 -0.1**
baz=47
MDOK Medeo 92.81 47 *e*P **P 06 00 39.3 -0.1**
RPN Rapa Nui 92.82 243 LR LR 06 37 42.8
comp=Z,292nm,18.5s,baz=99,slow=32
TARG Taragay, Kyrgy 93.39 48 IAmb IAmb 06 00 46.2
comp=Z,13nm,1.3s
KURBB Kurchatov Arra 93.65 40 P **P 06 00 44.9 +2.0**
comp=Z,0.6nm,0.9s,baz=281,slow=5.6,SNR=5.4
KURBB PP **PP 06 04 24.0 -3.8**
comp=Z,2.2nm,1.1s,baz=280,slow=8.0,SNR=6.2
KURBB LR LR 06 46 34.8
comp=Z,384nm,20.9s,baz=204,slow=38
comp=Z,0.6nm,0.9s
KURK Kurchatov 93.71 39 P **P 06 00 44.9 +1.8**
TDK Taldyqorghan 93.75 45 *e*P **P 06 00 43.5 -0.1**
comp=Z,5.3nm,0.5s,baz=45
TDK Taldyqorghan 93.75 45 *e*P **P 06 00 43.4 -0.1**
TDK pmax pmax
comp=Z,5.0nm,0.5s
SATY Saty 93.81 47 *e*P **P 06 00 44.1 +0.1**
baz=47
SATY Saty 93.81 47 *e*P **P 06 00 44.0 +0.1**
KPKS Kokpek 94.00 47 *e*P **P 06 00 44.5 -0.4**
baz=47
KPKS Kokpek 94.00 47 *e*P **P 06 00 44.4 -0.4**
PDAR Pinedale Array 94.06 313 LR LR 06 37 48.5
comp=Z,387nm,21.9s,baz=94,slow=32
UZB Uzynbulak 94.25 47 *e*P **P 06 00 45.8 -0.3**
baz=47
UZB Uzynbulak 94.25 47 *e*P **P 06 00 45.8 -0.3**
SHLS Shalkode 94.58 47 *e*P **P 06 00 48.8 +1.3**
baz=47
SHLS Shalkode 94.58 47 *e*P **P 06 00 48.8 +1.3**
YKA Yellowknife Ar 95.57 333 P **P 06 00 51.8 +0.4**
comp=Z,0.5nm,0.8s,baz=88,slow=5.9,SNR=4.0
YKA LR LR 06 39 04.9
comp=Z,232nm,21.7s,baz=66,slow=32
comp=Z,0.5nm,0.8s
NRIK Noril'sk 95.96 20 LR LR 06 49 19.1
comp=Z,366nm,18.3s,baz=303,slow=39
PALK Pallekele 96.25 83 LR LR 06 41 34.9
comp=Z,276nm,19.6s,baz=12,slow=34
MK31 Makanchi Array 96.36 43 P **P 06 00 56.0 +0.5**
MK31 Makanchi Array 96.36 43 *ce*P **P 06 00 58.2 +2.8**
MKAR Makanchi Array 96.36 43 P **P 06 00 55.3 -0.2**
MKAR Makanchi Array 96.36 43 P **P 06 00 57.2 +1.8**
comp=Z,1.0nm,0.8s,baz=274,slow=4.7,SNR=9.2
MKAR LR LR 06 48 53.0
comp=Z,330nm,21.1s,baz=295,slow=38
comp=Z,1.0nm,0.8s
ZALV Zalesovo Beam 97.23 36 LR LR 06 48 37.1
comp=Z,357nm,19.1s,baz=310,slow=38
ZSN Zaisan 98.05 42 *e*P **P 06 01 03.0 0.0**
baz=42
ZSN Zaisan 98.05 42 *e*P **P 06 01 03.0 0.0**
NEW Newport 98.91 319 LR LR 06 41 56.9
comp=Z,318nm,18.9s,baz=76,slow=33
PFO Pinyon Flats O 100.03 304 LR LR 06 40 53.5
comp=Z,265nm,22.0s,baz=99,slow=32
WMQ Urumqi 100.48 46 *e*P **Pdif 06 01 16.1 +2.0**
WMQ LR LR
comp=Z,230nm,19.9s
WMQ LR LR
comp=Z,250nm,19.9s
WMQ LR LR
comp=Z,260nm,19.9s
SONM Songino Array 111.97 38 PP PP 06 06 36.0 -9.1
comp=Z,0.2nm,0.4s,baz=270,slow=4.2,SNR=1.9
PZH PanZhiHua 114.85 61 PKP **PKiKP 06 06 08.3 +0.2**
BTO Baotou 117.26 44 *e*PKP **PKPdf 06 06 07.9 -4.4**
BTO SKS **SKSdf 06 13 20.8 -3.8**
BTO SKKS **SKKSac 06 14 20.4 -3.7**
BTO LR LR
comp=Z,360nm,10.2s
HHC Hu-ho-hao-te 118.23 43 *e*PKP **PKPdf 06 06 08.4 -5.8**
GYA Guiyang 119.17 60 ⇑PKP **PKiKP 06 06 16.7 +0.2**
GYA PP **PP 06 07 40.2 +3.7**
GYA SKS **SKSdf 06 13 23.1 -5.8**
QIZ Qiongzhong 123.66 68 PKP **PKPdf 06 06 24.4 -0.7**
QIZ PP **PP 06 08 09.5 +2.2**
QIZ SS SS 06 24 57.5 +1.6
QIZ LR LR
comp=Z,350nm,19.2s
QIZ LR LR
comp=Z,300nm,17.6s
CN2 Changchun 125.40 34 *e*PKP **PKiKP 06 06 29.8 +1.7**
NJ2 Nanjing 127.31 50 *e*PKP **PKPdf 06 06 31.2 -0.5**
TBI Tubuai 128.95 238 *e*SS SS 06 25 49.1 -12
comp=Z,2μm,45.8s
TBI Tubuai 128.95 238 *e*LR LR 06 47 08.4
comp=Z,944nm,26.0s
TBI *e*LR LR 06 47 12.0
comp=Z,2μm,27.8s
PPT2 Papeete2 131.04 245 *e*SS SS 06 26 23.4 -4.4
comp=Z,228nm,30.2s
PPT2 Papeete2 131.04 245 *e*LR LR 06 48 08.7
comp=Z,259nm,25.0s
PPT2 *e*LR LR 06 48 10.8
comp=Z,316nm,21.8s
KHU Kahuku 137.23 297 PKPpre 06 06 43.4
KHU Kahuku 137.23 297 PKIKP **PKPdf 06 06 43.4 -7.7**
ASAR Alice Springs 141.07 132 PKPdf **PKPdf 06 06 53.1 -4.6**
ASAR Alice Springs 141.07 132 PKhKP PKPpre 06 06 53.3
comp=Z,2.2nm,0.9s,baz=222,slow=3.2,SNR=14
ASAR PKP **PKPdf 06 06 58.4 +0.6**
comp=Z,4.4nm,0.8s,baz=230,slow=2.7,SNR=15
AS31 Alice Springs 141.07 132 PKPdf **PKPdf 06 06 53.8 -4.0**
WRA Warramunga Arr 143.48 127 PKPdf PKPab 06 06 58.1 -0.2
WRA Warramunga Arr 143.48 127 PKP PKPbc 06 06 59.7 +0.5
comp=Z,2.6nm,0.9s,baz=242,slow=2.3,SNR=16
WB2 Warramunga Arr 143.49 127 PKPdf PKPbc 06 07 00.0 +0.7
WB0 Warramunga Arr 143.62 127 PKPdf PKPbc 06 07 00.7 +1.0
WR0 Warramunga Arr 143.63 127 PKPdf PKPbc 06 07 01.0 +1.3
DZM Mont Dzumac 156.51 184 *e*SS SS 06 31 20.8 +3.6
comp=Z,82nm,24.1s
DZM Mont Dzumac 156.51 184 *e*LR LR 06 59 56.8
comp=Z,288nm,21.8s

GUC 11 05:56:17.2±0.6, 22°.92S×70°.50W, h10km±6km, ML2.7, 2C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB10	**IPOC Station P**	**0.59**	**185**	⇑*i*P	Pg	05 56 28.3	-0.4
PB10				*i*S	Sg	05 56 36.7	+0.2
PB04	**IPOC Station P**	**0.67**	**29**	⇓*i*P	Pg	05 56 29.5	-0.7
PB04				*i*S	Sg	05 56 39.1	0.0
PB06	**IPOC Station P**	**0.89**	**76**	⇓*i*P	Pg	05 56 33.4	-0.9
PB06				*i*S	Sg	05 56 45.5	-0.4
PB15	**IPOC Station P**	**0.99**	**107**	⇓*i*P	Pg	05 56 35.3	-1.0
PB15				*i*S	Sg	05 56 49.0	-0.3
LVC	**Limon Verde**	**1.50**	**78**	⇑*i*P	Pn	05 56 43.9	-0.7
LVC				IAML		05 57 05.1	
122nm,0.7s							
PB09	**IPOC Station P**	**1.62**	**46**	*e*P	Pn	05 56 45.7	-0.3
AF01	**San Pedro de A**	**2.14**	**91**	*e*P	Pn	05 56 54.3	+1.0
AF01				IAML		05 57 32.1	
comp=E,88nm,0.2s							
HMBC	**Humberstone**	**2.69**	**12**	⇓*e*P	Pn	05 57 02.1	+1.4

IDC 11 05:59:58.3±2.8, 53°.94N×86°.67E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=22.8km s-min=13.0km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.10**	**271**	I	I	06 05 40.0	
baz=89,slow=304,SNR=1.2							
ZALV	**Zalesovo Beam**	**1.10**	**271**	Pg	Pg	06 00 18.6	-0.7
0.7nm,0.3s,baz=88,slow=17,SNR=7.1							
ZALV				Lg	Lg	06 00 34.6	
1.6nm,0.3s,baz=92,slow=29,SNR=7.9							
KURBB	**Kurchatov Arra**	**6.00**	**240**	Pn	Pn	06 01 29.1	+0.9
0.1nm,0.3s,baz=57,slow=13,SNR=6.7							
KURBB				Lg	Lg	06 03 09.2	
baz=66,slow=5.2,SNR=1.2							
0.4nm,0.5s							
MKAR	**Makanchi Array**	**7.68**	**203**	Pn	Pn	06 01 52.2	+0.8
0.1nm,0.3s,baz=17,slow=14,SNR=4.5							
MKAR				Sn	Sn	06 03 19.0	0.0
baz=12,slow=36,SNR=1.2							
MKAR				Lg	Lg	06 04 01.7	
0.1nm,0.3s,baz=62,slow=33,SNR=1.7							
0.1nm,0.3s							

IDC 11 06:21:31.1±12.0, 20°.20S×174°.27W, h186km±117km, mb3.4/4, mbtmp4.0/6, Error ellipse: s-maj=63.0km s-min=31.9km az=178.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.09**	**261**	P	P	06 25 29.9	+0.8
8.3nm,0.8s,baz=271,slow=23,SNR=2.1							
URZ	**Urewera**	**19.49**	**201**	P	P	06 25 43.3	-0.7
5.4nm,0.8s,baz=53,slow=5.1,SNR=2.2							
STKA	**Stephens Creek**	**41.07**	**244**	P	P	06 28 57.3	+0.6
1.1nm,0.5s,baz=117,slow=10,SNR=2.8							
1.1nm,0.5s							
ASAR	**Alice Springs**	**47.99**	**256**	P	P	06 29 51.7	0.0
2.5nm,0.7s,baz=84,slow=8.5,SNR=21							
2.5nm,0.7s							
WRA	**Warramunga Arr**	**48.11**	**261**	P	P	06 29 52.0	-0.6
1.2nm,0.5s,baz=97,slow=6.4,SNR=27							
1.2nm,0.5s							
TXAR	**Lajitas Array**	**83.97**	**56**	P	P	06 33 41.1	+0.2
0.4nm,1.0s,baz=216,slow=7.6,SNR=3.5							
0.4nm,1.0s							

*IDC **11** 06:30:22.8±3.4, 53°.58N×90°.68E, h0km, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=27.9km s-min=23.3km az=60.0*
*NNC **11** 06:30:26.5±3.3, 53°.54N×90°.55E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=26.5km s-min=21.4km az=84.0, Suspected Mining explosion.*

ISC 11 06:30:25.6±4.1, 53°.5N±0°.1×90°.6E±0°.2, h0km, n9, σ2s 44/14, 9C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.47**	**279**	I	I	06 51 55.0	
0.1nm,1.2s,baz=90,slow=312,SNR=15							
ZAA0	**Zalesovo Array**	**3.47**	**279**	⇓Pn	**Pn**	**06 31 22.9**	**+2.1**
0.3nm,0.4s							
ZAA0				⇑Lg	Lg	06 32 12.0	
2.7nm,0.8s							
ZALV	**Zalesovo Beam**	**3.47**	**279**	Pn	**Pn**	**06 31 20.2**	**-0.5**
0.9nm,0.3s,baz=96,slow=16,SNR=8.1							
ZALV				Lg	Lg	06 32 13.1	
3.3nm,0.3s,baz=90,slow=28,SNR=11							
1.7nm,0.4s							
KURK	**Kurchatov**	**7.90**	**254**	⇑Pn	**Pn**	**06 32 20.4**	**-1.2**
0.5nm,0.5s							
KURK				⇑Sn	**Sn**	**06 33 53.5**	**+1.9**
1.5nm,0.6s							
KURK				⇑Lg	Lg	06 34 38.5	
11nm,1.0s							
KURBB	**Kurchatov Arra**	**7.99**	**254**	Pn	**Pn**	**06 32 20.4**	**-2.4**
0.1nm,0.3s,baz=67,slow=15,SNR=7.1							
KURBB				Sn	**Sn**	**06 33 50.8**	**-3.1**
baz=65,slow=25,SNR=1.6							
KURBB				Lg	Lg	06 34 39.1	
baz=68,slow=29,SNR=4.0							
0.7nm,0.4s							
KURBB	**Kurchatov Arra**	**7.99**	**254**	⇑Pn	**Pn**	**06 32 20.8**	**-2.0**
1.1nm,0.4s							
KURBB				⇓Sn	**Sn**	**06 33 55.6**	**+1.7**
5.0nm,0.7s							
KURBB				⇑Lg	Lg	06 34 42.7	
21nm,1.0s							
MK31	**Makanchi Array**	**8.59**	**222**	⇑Pn	**Pn**	**06 32 30.6**	**-0.5**
0.1nm,0.3s,baz=36,slow=14,SNR=4.5							
MK31				⇓Sn	**Sn**	**06 34 13.7**	**+5.0**
0.3nm,0.5s,baz=45,slow=22,SNR=4.2							
MK31				⇓Lg	Lg	06 34 57.6	
2.6nm,0.9s,baz=49,slow=33,SNR=4.5							
MKAR	**Makanchi Array**	**8.59**	**222**	Pn	**Pn**	**06 32 30.2**	**-1.0**
0.1nm,0.3s,baz=36,slow=13,SNR=5.6							
MKAR				Sn	**Sn**	**06 34 06.4**	**-2.3**
0.1nm,0.3s,baz=43,slow=24,SNR=1.3							
MKAR				Lg	Lg	06 34 58.1	
0.1nm,0.3s,baz=42,slow=28,SNR=5.2							
0.2nm,0.3s							
MAKZ	**Makanchi**	**8.70**	**223**	⇓Pn	**Pn**	**06 32 32.7**	**0.0**
0.3nm,0.3s							
MAKZ				⇑Sn	**Sn**	**06 34 12.8**	**+1.3**
0.6nm,0.4s							
MAKZ				⇑Lg	Lg	06 35 01.8	
2.5nm,0.9s							

*IDC **11** 06:31:21.3±0.9, 31°.66S×58°.37E, h0km, mb3.9/7, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=34.6km s-min=25.2km az=52.0*

ISC 11 06:31:23.6±0.9, 31°.7S±0°.2×58°.4E±0°.2, h14km, n15, σ0s 53/9, mb4.0/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.35**	**197**	T	T	06 50 45.3	
baz=22,slow=75							
H04N1	**CROZET ISLANDS**	**15.35**	**198**	T	T	06 50 53.0	
baz=22,slow=75							
H04N3	**CROZET ISLANDS**	**15.36**	**197**	T	T	06 50 51.1	
baz=22,slow=75							
OPO	**Ambohidratompo**	**16.48**	**320**	Pn	**Pn**	**06 35 14.8**	**+0.2**
baz=155,slow=17,SNR=2.2							
3.0nm,0.9s							
H08S1	**Diego Garcia H**	**27.28**	**32**	T	T	07 05 34.1	
baz=206,slow=75							
H08S2	**Diego Garcia H**	**27.29**	**32**	T	T	07 05 32.6	
baz=206,slow=75							
H08S3	**Diego Garcia H**	**27.30**	**32**	T	T	07 05 36.0	
baz=206,slow=75							
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**06 41 19.5**	**+0.4**
0.6nm,0.6s,baz=277,slow=2.5,SNR=6.3							
0.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.23**	**44**	P	**P**	**06 41 51.7**	**-0.1**
0.6nm,0.3s,baz=224,slow=6.3,SNR=1.5							
0.6nm,0.3s							
ASAR	**Alice Springs**	**66.19**	**104**	P	**P**	**06 42 11.1**	**-0.2**
0.6nm,0.6s,baz=241,slow=6.2,SNR=9.0							
0.6nm,0.6s							
WRA	**Warramunga Arr**	**68.20**	**101**	P	**P**	**06 42 23.8**	**-0.2**
0.9nm,0.8s,baz=242,slow=5.3,SNR=4.2							
0.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**70.22**	**300**	P	**P**	**06 42 36.0**	**-0.4**
0.6nm,0.9s,baz=120,slow=6.0,SNR=3.5							
0.6nm,0.9s							
KURBB	**Kurchatov Arra**	**83.85**	**13**	P	**P**	**06 43 52.8**	**+0.6**
0.3nm,0.3s,baz=215,slow=6.3,SNR=4.2							
0.3nm,0.3s							
BVAR	**Borovoye Array**	**84.98**	**7**	P	**P**	**06 43 58.4**	**+0.5**
1.3nm,0.8s,baz=180,slow=2.9,SNR=7.2							
1.3nm,0.8s							
YKA	**Yellowknife Ar**	**148.82**	**354**	PKPbc	**PKPbc**	**06 51 09.0**	**-0.9**
0.7nm,0.7s,baz=6.5,slow=3.0,SNR=7.4							

*SOME **11** 06:40:45.9, 41°.30N×83°.00E, h15km*

NNC 11 06:40:47.6±2.0, 41°.51N×83°.07E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=30.8km s-min=13.4km az=35.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.79**	**315**	*e*P	Pb	06 41 38.9	+0.4
3.9nm,0.6s							
KTMS				*e*S	Sg	06 42 16.9	-0.4
6.7nm,0.3s							
KTMS	**Ketmen**	**2.79**	**315**	Pg	Pb	06 41 38.8	+0.4
3.9nm,0.6s							
KTMS				Lg	Lg	06 42 16.9	
6.7nm,0.3s							
SHLS	**Shalkode**	**3.14**	**303**	*e*P	Pn	06 41 40.6	+2.1
6.8nm,0.1s							
SHLS				*e*S	Sb	06 42 20.3	-3.0
68nm,0.4s							
SHLS	**Shalkode**	**3.14**	**303**	Pg	Pn	06 41 40.6	+2.1
6.8nm,0.1s							
SHLS				Lg	Lg	06 42 20.3	
68nm,0.4s							
PDGK	**Podgornoye**	**3.22**	**306**	Pg	Pb	06 41 46.1	+0.4
2.1nm,0.5s							
PDGK				Lg	Lg	06 42 29.6	
11nm,0.4s							
UZB	**Uzynbulak**	**3.42**	**300**	*e*P	Pb	06 41 49.2	+0.1
2.9nm,0.2s							
UZB				*e*S	Sg	06 42 34.9	-2.6
16nm,0.4s							
UZB	**Uzynbulak**	**3.42**	**300**	Pg	Pb	06 41 49.2	+0.1
2.9nm,0.2s							
UZB				Lg	Lg	06 42 34.9	
16nm,0.4s							
DJR	**Jarkent**	**3.71**	**321**	*e*P	Pg	06 41 56.7	-2.0
2.0nm,0.3s							
DJR				*e*S	Sg	06 42 47.7	+0.9
12nm,0.6s							
KPKS	**Kokpek**	**3.79**	**303**	*e*P	Pb	06 41 56.1	+0.7
3.3nm,0.2s							
KPKS				*e*S	Sg	06 42 46.4	-2.9
26nm,0.4s							
SATY	**Saty**	**3.79**	**296**	*e*P	Pb	06 41 56.9	+1.4
4.6nm,0.3s							
SATY				*e*S	Sg	06 42 48.0	-1.5
12nm,0.4s							
SATY	**Saty**	**3.79**	**296**	Pg	Pb	06 41 57.6	+2.1
4.6nm,0.3s							
SATY				Lg	Lg	06 42 48.8	
12nm,0.4s							
KURS	**Kuram**	**4.13**	**300**	*e*P	Pb	06 42 02.2	+1.1
2.3nm,0.4s							
KURS				*e*S	Sg	06 42 56.7	-3.5
4.8nm,0.4s							

*SOME **11** 06:44:32.5, 43°.80N×82°.37E, h15km*

NNC 11 06:44:33.5±3.0, 43°.78N×82°.38E, h15km±14km, mb3.7, mpv3.1, Error ellipse: s-maj=24.8km s-min=19.6km az=172.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.51**	**258**	*e*P	Pn	06 45 00.2	+0.1
1.7nm,0.4s							
KTMS				*e*S	Sb	06 45 20.3	-0.1
6.3nm,0.2s							
KTMS	**Ketmen**	**1.51**	**258**	P	Pn	06 45 00.0	-0.2
1.7nm,0.4s							
KTMS				S	Sb	06 45 20.3	-0.1
6.3nm,0.2s							
DJR	**Jarkent**	**1.94**	**287**	*e*P	Pg	06 45 10.3	-0.5
11nm,0.3s							
DJR				*e*S	Sg	06 45 37.8	+1.7
17nm,0.3s							
DJR	**Jarkent**	**1.94**	**287**	Pg	Pg	06 45 10.3	-0.5
12nm,0.3s							
DJR				Lg	Lg	06 45 37.8	
17nm,0.3s							
PDGK	**Podgornoye**	**2.15**	**259**	Pg	Pb	06 45 13.3	+1.1
3.7nm,0.4s							
PDGK				Lg	Lg	06 45 42.7	
7.3nm,0.5s							
SHLS	**Shalkode**	**2.21**	**255**	*e*P	Pn	06 45 09.9	+0.1
14nm,0.3s							
SHLS				*e*S	Sn	06 45 37.0	0.0
34nm,0.2s							
SHLS	**Shalkode**	**2.21**	**255**	Pg	Pn	06 45 09.9	+0.1
14nm,0.3s							
SHLS				Lg	Lg	06 45 37.0	
34nm,0.2s							
KNOS	**Konyrlen**	**2.38**	**285**	Pg	Pb	06 45 16.9	+0.7
1.5nm,0.8s							
KNOS				Lg	Lg	06 45 49.0	
8.2nm,0.3s							
KPKS	**Kokpek**	**2.70**	**265**	*e*P	Pb	06 45 22.3	+0.7
2.7nm,0.2s							
KPKS				*e*S	Sg	06 45 57.9	-2.4
5.0nm,0.2s							
KPKS	**Kokpek**	**2.70**	**265**	Pg	Pb	06 45 21.1	-0.5
KPKS				Lg	Lg	06 45 56.0	
BLB	**Baldybastay**	**2.83**	**278**	Pg	Pb	06 45 23.9	0.0
8.8nm,0.4s							
BLB				Lg	Lg	06 46 01.2	
3.4nm,0.3s							
SATY	**Saty**	**2.98**	**257**	*e*P	Pb	06 45 27.3	+0.9
5.0nm,0.3s							
SATY				*e*S	Sg	06 46 06.7	-2.6
7.8nm,0.2s							
SATY	**Saty**	**2.98**	**257**	Pg	Pb	06 45 27.3	+0.9
5.0nm,0.3s							
SATY				Lg	Lg	06 46 06.7	
7.8nm,0.2s							

IDC 11 06:58:22.9±4.1, 5°.21S×129°.78E, h339km±44km, mb3.1/2, mbtmp3.8/4, Error ellipse: s-maj=89.8km s-min=13.2km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.30**	**164**	P	P	07 01 41.3	-0.1
3.3nm,0.6s,baz=343,slow=12,SNR=27							
WRA				S	S	07 04 25.3	-0.8
0.4nm,0.6s,baz=342,slow=22,SNR=1.9							
ASAR	**Alice Springs**	**18.78**	**168**	P	P	07 02 18.9	+0.1
0.9nm,0.5s,baz=346,slow=11,SNR=14							
ASAR				S	S	07 05 35.0	+0.4
2.0nm,0.9s,baz=349,slow=22,SNR=9.2							
MKAR	**Makanchi Array**	**66.62**	**327**	P	P	07 08 37.8	0.0
0.4nm,0.5s,baz=108,slow=6.2,SNR=5.0							
0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**70.88**	**328**	P	P	07 09 03.6	0.0
0.5nm,0.5s,baz=125,slow=4.9,SNR=5.4							
0.5nm,0.5s							

*IDC **11** 06:58:40.8±1.8, 44°.86N×81°.62E, h0km, mb3.3/1, mbtmp3.4/6, ML2.8/5, Error ellipse: s-maj=23.6km s-min=12.0km az=132.0*
*NNC **11** 06:58:41.5±0.7, 44°.70N×81°.59E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=8.2km s-min=2.4km az=127.0*
*SOME **11** 06:58:41.8, 44°.58N×81°.63E, h15km*

ISC 11 06:58:39.2±1.4, 44°.60N±0°.04×81°.73E±0°.04, h3km±11km, n65, σ1s 98/90, 11C-12D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.41**	**260**	*e*P	**Pg**	**06 59 06.9**	**+0.7**
88nm,0.3s							
DJR				*e*S	**Sg**	**06 59 25.0**	**+0.4**
291nm,0.6s							
DJR	**Jarkent**	**1.41**	**260**	P	**Pg**	**06 59 06.9**	**+0.7**
88nm,0.3s							
DJR				S	**Sg**	**06 59 25.0**	**+0.4**

291nm,0.6s
KTMS Ketmen 1.52 221 *e*P **Pg 06 59 09.5 +1.2**
KTMS 14nm,0.1s *e*S **Sg 06 59 29.8 +1.9**
174nm,0.1s
KNOS Konyrlen 1.84 264 P **Pg 06 59 14.5 +0.1**
KNOS 1.3nm,0.8s S **Sg 06 59 37.9 -0.4**
274nm,0.5s
PDGK Podgornoye 2.05 233 Pg **Pg 06 59 19.1 +0.6**
PDGK 11nm,0.3s Lg Lg 06 59 45.6
54nm,0.3s
PDGK Podgornoye 2.05 233 ⇑Pn **Pb 06 59 16.8 -0.3**
PDGK 5.5nm,0.3s ⇓Sn **Sg 06 59 45.3 +0.2**
127nm,0.6s
SHLS Shalkode 2.18 230 *e*P **Pn 06 59 16.8 +0.4**
SHLS 44nm,0.1s *e*S **Sn 06 59 42.1 -1.9**
616nm,0.3s
SHLS Shalkode 2.18 230 Pg **Pn 06 59 16.8 +0.4**
SHLS 44nm,0.1s Lg Lg 06 59 43.7
616nm,0.3s
MAKZ Makanchi 2.22 4 ⇓Pn **Pn 06 59 17.4 +0.5**
MAKZ 6.1nm,0.3s ⇓Sn **Sb 06 59 45.8 -2.0**
83nm,0.4s
MK31 Makanchi Array 2.23 10 Pn **Pn 06 59 17.8 +0.7**
4.4nm,0.3s,baz=195,slow=13,SNR=884
MK31 ⇑Sn **Sb 06 59 46.8 -1.4**
67nm,0.5s,baz=196,slow=30,SNR=9.3
MKAR Makanchi Array 2.23 10 Pn **Pn 06 59 18.1 +1.0**
8.0nm,0.3s,baz=195,slow=17,SNR=192
MKAR Sn **Sn 06 59 44.8 -0.4**
56nm,0.3s,baz=194,slow=24,SNR=21
BLB Baldybastay 2.38 259 Pg **Pb 06 59 23.3 +0.6**
BLB 321nm,0.3s Lg Lg 06 59 54.3
202nm,0.2s
TDK Taldyqorghan 2.40 281 *e*P **Pb 06 59 23.8 +0.8**
TDK 176nm,0.3s *e*S **Sb 06 59 53.6 +0.6**
700nm,0.5s
TDK Taldyqorghan 2.40 281 Pg **Pb 06 59 23.8 +0.8**
TDK 176nm,0.3s Lg Lg 06 59 53.6
700nm,0.5s
UZB Uzynbulak 2.44 234 *e*P **Pb 06 59 24.7 +1.1**
UZB 7.1nm,0.3s *e*S **Sb 06 59 55.1 +1.0**
111nm,0.2s
UZB Uzynbulak 2.44 234 Pg **Pg 06 59 26.0 +0.2**
UZB 29nm,0.4s Lg Lg 06 59 56.1
111nm,0.3s
KPKS Kokpek 2.47 244 *e*P **Pb 06 59 25.3 +1.1**
KPKS 30nm,0.2s *e*S **Sb 06 59 56.6 +1.6**
275nm,0.5s
KPKS Kokpek 2.47 244 Pg **Pb 06 59 25.3 +1.1**
KPKS 30nm,0.2s Lg Lg 06 59 56.6
275nm,0.5s
ZHN Zhinishke 2.78 240 *e*P **Pg 06 59 31.2 -1.1**
ZHN 10nm,0.2s *e*S **Sg 07 00 06.3 -2.0**
284nm,0.2s
ZHN Zhinishke 2.78 240 Pg **Pg 06 59 31.2 -1.1**
ZHN 10nm,0.2s Lg Lg 07 00 06.3
284nm,0.2s
KURS Kuram 2.79 248 *e*P **Pg 06 59 32.7 0.0**
KURS 15nm,0.4s *e*S **Sg 07 00 08.9 0.0**
43nm,0.3s
KURS Kuram 2.79 248 Pg **Pg 06 59 32.7 0.0**
KURS 15nm,0.4s Lg Lg 07 00 08.9
43nm,0.3s
ARXS Arharly 2.82 264 *e*P **Pb 06 59 30.8 +0.6**
ARXS 29nm,0.4s *e*S **Sb 07 00 06.4 +1.2**
189nm,0.5s
ARXS Arharly 2.82 264 Pg **Pb 06 59 30.8 +0.6**
ARXS 29nm,0.4s Lg Lg 07 00 06.4
189nm,0.5s
SATY Saty 2.85 239 *e*P **Pg 06 59 32.7 -1.1**
SATY 13nm,0.2s *e*S **Sg 07 00 08.9 -1.9**
135nm,0.2s
SATY Saty 2.85 239 Pg **Pg 06 59 32.7 -1.1**
SATY 13nm,0.2s Lg Lg 07 00 08.9
135nm,0.2s
CHKK Chushkaly 3.49 259 *e*P **Pb 06 59 42.4 +0.9**
CHKK 3.4nm,0.3s *e*S **Sb 07 00 25.9 +1.7**
107nm,0.3s
CHKK Chushkaly 3.49 259 Pg **Pb 06 59 42.4 +0.9**
CHKK 3.4nm,0.3s Lg Lg 07 00 25.9
107nm,0.3s
ZSN Zaisan 3.60 36 *e*P **Pb 06 59 44.6 +1.2**
ZSN 20nm,0.4s *e*S **Sb 07 00 29.1 +1.8**
47nm,0.5s
ZSN Zaisan 3.60 36 Pg **Pb 06 59 44.6 +1.2**
ZSN 20nm,0.4s Lg Lg 07 00 29.1
47nm,0.5s
KOTS Kotyrbulak 3.60 249 *e*P **Pg 06 59 46.9 -1.2**
KOTS 18nm,0.3s *e*S **Sg 07 00 33.6 -1.3**
92nm,0.2s
KOTS Kotyrbulak 3.60 249 Pg **Pg 06 59 46.9 -1.2**
KOTS 18nm,0.3s Lg Lg 07 00 33.6
92nm,0.2s
MDOK Medeo 3.67 249 *e*P **Pg 06 59 47.8 -1.8**
MDOK 18nm,0.7s *e*S **Sg 07 00 34.6 -2.6**
85nm,0.7s
MDOK Medeo 3.67 249 ⇑Pg **Pg 06 59 48.2 -1.3**
MDOK 13nm,0.5s Pg Pb 06 59 49.5 +4.7
18nm,0.7s
MDOK ⇓Lg Lg 07 00 37.9
58nm,0.7s
MDOK Lg Lg 07 00 38.0
85nm,0.7s
KNDC Almaty 3.71 250 ⇓Pg **Pg 06 59 48.5 -1.7**
KNDC 27nm,0.5s Lg Lg 07 00 39.7
88nm,0.6s
KTBS Karatobe 3.74 258 *e*P **Pb 06 59 47.6 +1.8**
KTBS 20nm,0.4s *e*S **Sb 07 00 34.6 +3.1**
114nm,0.5s
KTBS Karatobe 3.74 258 Pg **Pb 06 59 47.6 +1.8**
KTBS 20nm,0.4s Lg Lg 07 00 34.6
114nm,0.5s
MTBS Maitube 4.10 251 *e*P **Pg 06 59 55.2 -2.5**
MTBS 8.8nm,0.3s *e*S **Sg 07 00 47.5 -3.5**
93nm,0.4s
MTBS Maitube 4.10 251 Pg **Pg 06 59 55.2 -2.5**
MTBS 8.8nm,0.3s Lg Lg 07 00 47.5
93nm,0.4s
KRBS Karabastau 4.45 260 *e*P **Pb 07 00 00.7 +2.8**
KRBS 5.7nm,0.6s *e*S **Sb 07 00 57.2 +5.2**
11nm,0.2s
KRBS Karabastau 4.45 260 Pg **Pb 06 59 59.7 +1.7**
KRBS 5.7nm,0.6s Lg Lg 07 00 55.3
0.6nm,0.7s
KST Kastek 4.45 252 *e*P **Pg 07 00 01.4 -3.0**
KST 12nm,0.4s *e*S **Sg 07 00 58.2 -3.9**
47nm,0.5s
KST Kastek 4.45 252 Pg **Pg 07 00 01.4 -3.0**
KST 12nm,0.4s Lg Lg 07 00 58.2
47nm,0.5s
DGS Degeres 4.51 255 *e*P **Pb 07 00 02.4 +3.4**
DGS 4.8nm,0.3s *e*S **Sg 07 01 00.1 -3.9**
68nm,0.5s
DGS Degeres 4.51 255 Pg **Pb 07 00 02.4 +3.4**
DGS 15nm,0.5s Lg Lg 07 01 00.1
68nm,0.5s
TKM2 Tokmak 2 4.75 251 ⇓Pg **Pg 07 00 07.5 -2.6**
TKM2 5.0nm,0.5s ⇓Lg Lg 07 01 10.0
15nm,0.5s
CHMS Chumysh 5.30 255 ⇓Pg **Pg 07 00 19.9 -0.7**
CHMS 4.3nm,0.5s ⇑Lg Lg 07 01 27.3
14nm,0.7s
BTLS Baital 5.48 277 *e*P **Pg 07 00 23.5 -0.7**
BTLS 2.7nm,0.4s *e*S **Sg 07 01 36.4 +1.1**
6.6nm,0.4s
BTLS Baital 5.48 277 Pg **Pg 07 00 23.5 -0.7**
BTLS 2.7nm,0.4s Lg Lg 07 01 36.4
7.6nm,0.8s
AAK Ala-Archa 5.61 252 Pn **Pn 07 00 09.0 +5.5**
AAK 0.5nm,0.3s,baz=76,slow=4.2,SNR=1.5 Lg Lg 07 01 36.1
1.4nm,0.3s,baz=204,slow=21,SNR=8.3
1.5nm,0.3s
AAK Ala-Archa 5.61 252 ⇑Pg **Pg 07 00 23.9 -2.6**
AAK 2.6nm,0.4s ⇑Lg Lg 07 01 38.1
8.0nm,0.6s
SEM Semipalatinsk 5.90 351 *e*P **Pg 07 00 32.5 +0.3**
SEM 4.4nm,0.3s *e*S **Sg 07 01 51.5 +2.9**
23nm,0.3s
SEM Semipalatinsk 5.90 351 Pg **Pg 07 00 32.5 +0.3**
SEM 4.4nm,0.3s Lg Lg 07 01 51.6
23nm,0.3s
KURBB Kurchatov Arra 6.41 341 Pn **Pn 07 00 13.2 -1.1**
KURBB 0.1nm,0.3s,baz=157,slow=13,SNR=6.4 Lg Lg 07 01 53.2
0.3nm,0.3s,baz=94,slow=14,SNR=1.7
0.4nm,0.3s
KURBB Kurchatov Arra 6.41 341 ⇑Pn **Pn 07 00 18.5 +4.2**
KURBB 5.1nm,0.5s ⇑Lg Lg 07 02 02.5
60nm,0.8s
MRKS Merke 6.44 256 *e*P **Pg 07 00 40.0 -2.5**
MRKS 1.4nm,0.1s *e*S **Sg 07 02 04.1 -1.7**
6.8nm,0.3s
MRKS Merke 6.44 256 Pg **Pg 07 00 38.5 -3.9**
MRKS 1.5nm,0.4s Lg Lg 07 02 01.8
12nm,0.7s
KURK Kurchatov 6.47 342 ⇑Pn **Pn 07 00 19.1 +3.9**
KURK 1.5nm,0.5s ⇓Lg Lg 07 02 03.0
29nm,0.8s
KK31 Karatay Array 8.24 264 ⇓Lg Lg 07 03 01.1
6.5nm,0.7s,baz=68,slow=28,SNR=5.3
ZALV Zalesovo Beam 9.58 11 Pn **Pn 07 00 57.1 -0.7**
ZALV 0.5nm,0.3s,baz=195,slow=13,SNR=5.3 Lg Lg 07 03 33.8
0.1nm,0.3s,baz=199,slow=22,SNR=2.2
1.3nm,0.3s
BVA0 Borovoye Array 11.26 323 ⇓Pn Pn 07 01 25.9 +5.1
BVA0 0.7nm,0.5s ⇑Lg Lg 07 04 39.1
6.4nm,0.9s,baz=132,slow=26,SNR=6.4
BVAR Borovoye Array 11.26 323 Pn **Pn 07 01 19.6 -1.2**
BVAR baz=128,slow=2.4,SNR=2.0 Lg Lg 07 04 26.6
0.1nm,0.3s,baz=132,slow=26,SNR=8.9
0.4nm,0.4s
BRVK Borovoye 11.33 322 ⇑Pn **Pn 07 01 25.9 +4.2**
BRVK 0.7nm,0.5s ⇓Lg Lg 07 04 35.2
2.6nm,0.7s
AKTO Aktyubinsk 17.01 298 Pn **Pn 07 02 34.8 -3.1**
0.1nm,0.3s,baz=82,slow=6.1,SNR=3.6
1.3nm,0.8s
ILAR Eielson Array 64.55 21 P **P 07 09 15.8 -1.2**
0.2nm,0.6s,baz=323,slow=6.0,SNR=2.9
0.2nm,0.6s

IDC 11 07:01:52.4±5.8, 12°.13S×169°.87E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=285.2km s-min=32.2km az=140.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.96**	**253**	P	P	07 08 46.8	+0.2
	0.3nm,0.5s,baz=84,slow=8.6,SNR=5.2						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**35.99**	**246**	P	P	07 08 55.0	-0.4
	0.5nm,0.5s,baz=76,slow=10,SNR=6.3						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**83.30**	**17**	P	P	07 14 20.7	0.0
	0.3nm,0.6s,baz=235,slow=5.1,SNR=9.3						
	0.3nm,0.6s						

RSNC 11 07:13:31.1±0.0, 5°N±1°×7°4W±°, h150km±3km, M1.9, mb3.9, ML1.9, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.52**	**318**	P	Pn	07 13 51.8	-0.9
SPBC				S	Sn	07 14 08.5	-0.6
CHIC	**Chingaza**	**0.63**	**181**	P	Pn	07 13 53.1	-0.6
CHIC				S	Sn	07 14 09.9	-1.0
ROSC	**El Rosal**	**0.73**	**235**	P	Pn	07 13 54.5	+0.2
ROSC				S	Sn	07 14 13.2	+1.3
CVER	**Cruz Verde, Cu**	**0.81**	**206**	P	Pn	07 13 54.8	-0.2
CVER				S	Sn	07 14 13.0	-0.2
NORC	**Norcasia**	**1.18**	**285**	P	Pn	07 13 56.7	-0.9
NORC				S	Sn	07 14 16.2	-1.6
PTBC	**PUERTO BERRIO,**	**1.47**	**330**	P	Pn	07 13 58.4	-2.0
PTBC				S	Sn	07 14 20.7	-2.1
GUY2C	**Guyana, Caldas**	**1.64**	**269**	P	Pn	07 14 02.3	-0.4
GUY2C				S	Sn	07 14 27.0	+0.3
PTGC	**Puerto Gaitan,**	**1.90**	**124**	P	Pn	07 14 04.1	-1.0
PTGC				S	Sn	07 14 29.5	-1.7
PRAC	**Prado**	**1.93**	**217**	P	Pn	07 14 04.6	-0.9
PRAC				S	Sn	07 14 30.8	-1.0
ORTC	**Ortega, Tolima**	**2.03**	**229**	P	Pn	07 14 05.6	-1.0
ORTC				S	Sn	07 14 32.8	-1.1
TAMC	**Tame, Arauca**	**2.25**	**59**	P	Pn	07 14 08.3	-0.9
TAMC				S	Sn	07 14 37.4	-1.1
ZARC	**Zaragoza, Cauc**	**2.49**	**333**	P	Pn	07 14 09.9	-2.2
ZARC				S	Sn	07 14 38.4	-5.4
OCAC	**Ocana**	**2.99**	**8**	P	Pn	07 14 17.5	-1.0
OCAC				S	Sn	07 14 54.3	-0.8
UREC	**San Jos de Ur**	**3.06**	**324**	P	Pn	07 14 16.1	-3.2
UREC				S	Sn	07 14 52.2	-4.4
SJCC	**San Jacinto, C**	**4.83**	**343**	P	Pn	07 14 38.4	-4.0
SJCC				S	Sn	07 15 31.9	-6.0
CAPC	**Capurgana**	**4.92**	**313**	P	Pn	07 14 42.7	-0.8
CAPC				S	Sn	07 15 41.9	+1.9
URIC	**Uribia, Colomb**	**6.62**	**15**	P	Pn	07 15 05.7	-0.5
URIC				S	Sn	07 16 09.0	-12

IDC 11 07:16:05.3±0.7, 32°.12S×58°.15E, h0km, mb4.0/11, mbtmp4.0/12, ML3.9/1, MS3.5/7, Error ellipse: s-maj=29.6km s-min=19.7km az=62.0
NEIC 11 07:16:05.1±1.3, 32°.3S±0°.1×57°.8E±0°.1, h10km±1km, mb4.6/15, Error ellipse: s-maj=20.5km s-min=17.4km az=221.0

ISC 11 07:16:05.5±0.6, 32°.2S±0°.1×57°.87E±0°.10, h10km, n47, σ1§32/35, mb4.3/16, MS3.5/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**11.97**	**304**	Pn	**Pn**	**07 18 53.4**	**-2.9**
ROCAM	**Rodrigues Isla**	**13.34**	**23**	Pn	**Pn**	**07 19 14.7**	**-0.4**
VOI	**Vohitsoka**	**14.22**	**313**	Pn	**Pn**	**07 19 28.1**	**+0.9**
H04N2	**CROZET ISLANDS**	**14.71**	**197**	T	T	07 35 39.7	
	baz=22,slow=75						
H04N1	**CROZET ISLANDS**	**14.71**	**197**	T	T	07 35 50.7	
	baz=22,slow=75						
H04N3	**CROZET ISLANDS**	**14.72**	**197**	T	T	07 35 49.8	
	baz=22,slow=75						
ABPO	**Ambohimpanom**	**16.25**	**321**	Pn	**Pn**	**07 19 54.2**	**+0.1**
OPO	**Ambohidratompo**	**16.64**	**322**	Pn	**P**	**07 20 01.6**	**+0.1**
	baz=150,slow=16,SNR=1.6						
OPO				Sn	Sn	07 22 53.2	-11
	baz=71,slow=22,SNR=2.0						
	2.8nm,0.7s						
GRHM	**Grahamstown, E**	**26.46**	**259**	P	**P**	**07 21 42.4**	**-0.4**
GRHM				IAmb	IAmb	07 21 47.8	
	comp=Z,21nm,1.3s						
H08S1	**Diego Garcia H**	**27.96**	**32**	T	T	07 50 13.7	
	baz=206,slow=75						
H08S2	**Diego Garcia H**	**27.97**	**32**	T	T	07 50 17.7	
	baz=206,slow=75						
H08S3	**Diego Garcia H**	**27.98**	**32**	T	T	07 50 11.8	
	baz=206,slow=75						
BOSA	**Boshof**	**28.29**	**269**	LR	LR	07 30 05.1	
	comp=Z,56nm,19.3s,baz=246,slow=29						
LBTB	**Lobatse**	**29.15**	**276**	P	**P**	**07 22 04.8**	**-2.2**
LBTB				IAmb	IAmb	07 22 14.3	
	comp=Z,9.7nm,1.4s						
MAW	**Mawson**	**35.56**	**177**	LR	LR	07 34 27.3	
	comp=Z,80nm,20.1s,baz=16,slow=31						
KMBO	**Kilima Mbogo**	**36.52**	**324**	P	**P**	**07 23 10.8**	**-0.8**
KMBO				IAmb	IAmb	07 23 18.9	
	comp=Z,6.9nm,0.8s						
FURI	**Furi**	**44.79**	**333**	LR	LR	07 43 13.6	
	comp=Z,29nm,18.2s,baz=188,slow=36						
SNAA	**Sanae**	**50.63**	**201**	LR	LR	07 41 41.5	
	comp=Z,55nm,21.4s,baz=86,slow=30						
QSPA	**South Pole Qui**	**57.97**	**180**	P	**P**	**07 25 57.4**	**-0.6**
QSPA				IAmb	IAmb	07 26 16.2	
	comp=Z,7.9nm,1.4s						
QSPA	**South Pole Qui**	**57.97**	**180**	P	**P**	**07 25 59.9**	**+1.9**
	comp=Z,2.0nm,1.2s,baz=288,slow=9.6,SNR=2.7						
	comp=Z,2.0nm,1.2s						
FORT	**Forrest**	**58.85**	**109**	P	**P**	**07 26 03.1**	**-1.4**
VNDA	**Vanda**	**61.76**	**166**	P	**P**	**07 26 22.0**	**-1.7**
VNDA				IAmb	IAmb	07 26 24.8	
	comp=Z,6.8nm,1.5s						
VNDA	**Vanda**	**61.76**	**166**	P	**P**	**07 26 23.6**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=74,slow=1.5,SNR=9.7						
	comp=Z,0.7nm,0.5s						
CM31	**Chiang Mai Arr**	**63.91**	**44**	P	**P**	**07 26 38.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**63.91**	**44**	P	**P**	**07 26 38.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**63.91**	**44**	P	**P**	**07 26 37.1**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=232,slow=7.1,SNR=7.7						
	comp=Z,1.2nm,0.3s						
ASAR	**Alice Springs**	**66.47**	**104**	P	**P**	**07 26 56.9**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=237,slow=6.1,SNR=11						
	comp=Z,1.2nm,0.7s						
TOLI2	**Tolitoli**	**67.93**	**74**	P	**P**	**07 27 04.3**	**-0.6**
WRA	**Warramunga Arr**	**68.50**	**101**	P	**P**	**07 27 09.6**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=241,slow=5.6,SNR=6.5						
	comp=Z,1.8nm,0.9s						
WB0	**Warramunga Arr**	**68.63**	**100**	P	**P**	**07 27 08.4**	**-0.9**
WR0	**Warramunga Arr**	**68.67**	**101**	P	**P**	**07 27 09.3**	**-0.2**
WR0				IAmb	IAmb	07 27 13.1	
	comp=Z,6.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**70.13**	**301**	P	**P**	**07 27 21.4**	**+3.0**
	comp=Z,0.9nm,0.9s,baz=117,slow=3.6,SNR=3.8						
TORD				LR	LR	07 58 26.6	
	comp=Z,44nm,18.2s,baz=133,slow=36						
	comp=Z,0.9nm,0.9s						
BRTR	**Keskin Array B**	**75.01**	**341**	P	**P**	**07 27 46.8**	**-0.4**
BRTR	**Keskin Array B**	**75.01**	**341**	P	**P**	**07 27 47.9**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=134,slow=3.6,SNR=4.2						
	comp=Z,1.1nm,0.8s						
KKAR	**Karatay Array**	**75.83**	**10**	P	**P**	**07 27 51.1**	**-0.5**
KBZ	**Khabaz**	**76.80**	**349**	LR	LR	08 00 53.7	
	comp=Z,32nm,19.6s,baz=36,slow=35						
ABKAR	**Akbulak array**	**81.12**	**1**	P	**P**	**07 28 20.5**	**-0.1**
MK31	**Makanchi Array**	**81.66**	**17**	P	**P**	**07 28 24.1**	**+0.5**
MKAR	**Makanchi Array**	**81.66**	**17**	P	**P**	**07 28 23.6**	**-0.1**
MKAR	**Makanchi Array**	**81.66**	**17**	P	**P**	**07 28 23.1**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=193,slow=3.7,SNR=3.7						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**84.47**	**13**	P	**P**	**07 28 38.7**	**+0.7**
	comp=Z,1.9nm,1.0s,baz=208,slow=5.7,SNR=13						
	comp=Z,1.9nm,1.0s						
KURK	**Kurchatov**	**84.57**	**13**	P	**P**	**07 28 38.4**	**-0.1**
KURK				IAmb	IAmb	07 28 40.4	
	comp=Z,3.9nm,1.1s						
BVAR	**Borovoye Array**	**85.57**	**8**	P	**P**	**07 28 44.4**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=163,slow=5.4,SNR=16						
	comp=Z,3.2nm,0.8s						
BRVK	**Borovoye**	**85.59**	**7**	P	**P**	**07 28 42.4**	**-1.2**
MDT	**Midelt**	**87.49**	**312**	LR	LR	08 07 28.2	
	comp=Z,33nm,18.6s,baz=154,slow=35						
ESDC	**Sonseca Array**	**91.63**	**317**	P	**P**	**07 29 16.1**	**+3.3**
	comp=Z,0.8nm,0.8s,baz=142,slow=6.5,SNR=4.1						
	comp=Z,0.8nm,0.8s						
YKA	**Yellowknife Ar**	**149.31**	**353**	PKPbc	**PKiKP**	**07 35 55.3**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=358,slow=2.8,SNR=12						

NEIC 11 07:16:49.8±0.5, 23°.8S±0°.2×179°.7W±0°.2, h518km±14km, mb4.4/17, Error ellipse: s-maj=29.1km s-min=22.6km az=48.0
IDC 11 07:16:51.5±6.9, 23°.69S×179°.92W, h529km±81km, mb3.3/6, mbtmp4.2/7, Error ellipse: s-maj=45.6km s-min=26.8km az=25.0

ISC 11 07:16:48.9±0.7, 23°.79S±0°.09×179°.9W±0°.1, h500km, n27, σ0§93/28, mb4.3/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.34**	**342**	P	**P**	**07 18 29.3**	**+0.6**
NIUE	**Niue**	**10.36**	**65**	P	**P**	**07 19 09.4**	**-0.8**
URZ	**Urewera**	**14.66**	**190**	P	**P**	**07 19 57.9**	**+2.6**
	3.1nm,0.6s,baz=30,slow=13,SNR=1.6						
URZ				S	**S**	**07 22 26.7**	**-2.4**
	6.4nm,0.8s,baz=97,slow=19,SNR=2.5						
TKNZ	**Takaka Hill**	**18.22**	**198**	P	**P**	**07 20 31.1**	**0.0**
LTZ	**Lake Taylor**	**20.04**	**197**	P	**P**	**07 20 49.0**	**+1.2**
ARMA	**Armidale**	**26.19**	**249**	P	**P**	**07 21 42.8**	**-0.3**
ARMA				IAmb	IAmb	07 22 08.7	
	comp=Z,14nm,1.4s						
EIDS	**Eidsvold**	**26.46**	**261**	P	**P**	**07 21 44.5**	**-0.9**
EIDS				IAmb	IAmb	07 21 48.0	
	comp=Z,18nm,1.4s						
CAN	**Canberra**	**29.32**	**240**	P	**P**	**07 22 11.0**	**+0.6**
CAN				IAmb	IAmb	07 22 28.5	
	comp=Z,20nm,1.5s						
CTA	**Charters Tower**	**31.61**	**270**	P	**P**	**07 22 31.4**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=93,slow=10,SNR=26						
	comp=Z,0.9nm,0.3s						
CTAO	**Charters Tower**	**31.61**	**270**	P	**P**	**07 22 31.2**	**+0.9**
TOO	**Toolangi**	**32.63**	**237**	P	**P**	**07 22 39.1**	**+0.4**
TOO				IAmb	IAmb	07 22 41.0	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**34.89**	**248**	P	**P**	**07 22 57.9**	**-0.1**
	comp=Z,4.0nm,1.0s,baz=99,slow=14,SNR=3.0						
	comp=Z,4.0nm,1.0s						
COEN	**Coen**	**36.23**	**279**	P	**P**	**07 23 09.1**	**-0.2**
COEN				IAmb	IAmb	07 23 20.4	
	comp=Z,27nm,1.4s						
BBOO	**Buckleboo**	**39.62**	**247**	P	**P**	**07 23 36.0**	**-0.7**
BBOO				IAmb	IAmb	07 23 41.5	
	comp=Z,14nm,1.3s						
AS31	**Alice Springs**	**42.19**	**260**	P	**P**	**07 23 57.2**	**-0.2**
ASAR	**Alice Springs**	**42.19**	**260**	P	**P**	**07 23 57.5**	**0.0**
	comp=Z,4.7nm,0.8s,baz=94,slow=7.8,SNR=29						
	comp=Z,4.7nm,0.8s						
WR0	**Warramunga Arr**	**42.37**	**266**	P	**P**	**07 23 58.6**	**-0.2**
WB2	**Warramunga Arr**	**42.54**	**266**	P	**P**	**07 24 00.0**	**-0.2**
WB2				IAmb	IAmb	07 24 00.5	
	comp=Z,5.6nm,0.6s						
WB0	**Warramunga Arr**	**42.55**	**266**	P	**P**	**07 24 00.0**	**-0.3**
WB0				IAmb	IAmb	07 24 00.6	
	comp=Z,7.4nm,0.7s						
WRA	**Warramunga Arr**	**42.55**	**266**	P	**P**	**07 23 59.5**	**-0.9**
WRA	**Warramunga Arr**	**42.55**	**266**	P	**P**	**07 23 59.9**	**-0.5**
	comp=Z,5.5nm,0.5s,baz=90,slow=6.0,SNR=97						
	comp=Z,5.5nm,0.5s						
FORT	**Forrest**	**46.48**	**249**	P	**P**	**07 24 30.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.98**	**265**	P	**P**	**07 25 03.7**	**-0.4**
VNDA	**Vanda**	**54.50**	**185**	P	**P**	**07 25 27.9**	**-0.6**
MORW	**Morawa**	**57.05**	**250**	P	**P**	**07 25 46.6**	**-0.3**
MORW				IAmb	IAmb	07 25 54.8	
	comp=Z,18nm,1.4s						
QSPA	**South Pole Qui**	**66.30**	**180**	P	**P**	**07 26 48.0**	**+1.1**
	comp=Z,2.3nm,1.0s,baz=345,slow=0.5,SNR=1.6						
	comp=Z,2.3nm,1.0s						
TXAR	**Lajitas Array**	**90.25**	**58**	P	**P**	**07 28 56.1**	**-0.1**

comp=Z,0.3nm,0.7s,baz=220,slow=6.8,SNR=5.9
comp=Z,0.3nm,0.7s

IDC 11 07:20:43.0±1.5,43°.56S×164°.47W,h0km,mb3.8/5, mbtmp3.9/6,ML4.4/1,Error ellipse: s-maj=46.8km s-min=25.8km az=49.0

ISC 11 07:20:45.3±1.5,43°.6S±0°.2×164°.5W±0°.2,h10km,n15, σ0ˢ.87/9,mb4.0/5,South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.88**	**285**	Pn	**Pn**	**07 24 16.5**	**+0.9**
	1.6nm,0.3s,baz=117,slow=4.5,SNR=10						
URZ				Sn	Sn	07 26 46.1	-14
	1.2nm,0.3s,baz=54,slow=19,SNR=2.6						
	6.9nm,0.4s						
VNDA	**Vanda**	**36.61**	**192**	P	**P**	**07 27 51.7**	**+0.6**
	2.2nm,0.9s,baz=31,slow=10,SNR=8.4						
	2.2nm,0.9s						
QSPA	**South Pole Qui**	**46.51**	**180**	P	**P**	**07 29 12.1**	**-0.4**
	3.0nm,1.0s,baz=85,slow=1.2,SNR=6.6						
	3.0nm,1.0s						
CTA	**Charters Tower**	**47.13**	**284**	P	**P**	**07 29 17.9**	**+0.2**
	0.3nm,0.9s,baz=103,slow=8.0,SNR=1.4						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**53.75**	**271**	P	**P**	**07 30 06.5**	**-1.3**
	1.4nm,0.8s,baz=126,slow=6.7,SNR=14						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**55.76**	**275**	P	**P**	**07 30 21.4**	**-0.9**
	0.7nm,0.7s,baz=127,slow=7.4,SNR=6.5						
	0.7nm,0.7s						
H03S2	**Juan Fernandez**	**64.68**	**113**	T	T	08 41 49.5	
	baz=233						
H03S1	**Juan Fernandez**	**64.69**	**113**	T	T	08 41 52.8	
	baz=233						
H03S3	**Juan Fernandez**	**64.70**	**113**	T	T	08 41 56.1	
	baz=233						
H03N3	**Juan Fernandez**	**64.91**	**113**	T	T	08 42 03.7	
	baz=236,slow=72						
H03N2	**Juan Fernandez**	**64.91**	**113**	T	T	08 42 00.9	
	baz=236,slow=72						
H03N1	**Juan Fernandez**	**64.93**	**113**	T	T	08 42 01.1	
	baz=236,slow=72						
KURBB	**Kurchatov Arra**	**137.71**	**302**	PKP	**PKPdf**	**07 40 09.6**	**+0.7**
	0.3nm,0.6s,baz=93,slow=1.2,SNR=1.9						
TORD	**Torodi Ar. Bea**	**147.38**	**154**	PKPbc	**PKPdf**	**07 40 27.4**	**+0.2**
	1.2nm,0.8s,baz=219,slow=1.4,SNR=6.0						
ARCES	**ARCESS Array B**	**153.53**	**352**	PKPbc	**PKiKP**	**07 40 42.7**	**-0.2**
	2.4nm,1.0s,baz=4.8,slow=1.1,SNR=5.4						

GUC 11 07:22:40.8±0.6,19°.87S×69°.62W,h13km±2km,ML4.1
NEIC 11 07:22:43.2±2.8,19°.98S±0°.04×70°.01W±0°.07,h23km±11km, mb4.0/4,ML4.1(GUC),Error ellipse: s-maj=9.2km s-min=4.6km az=106.0
IDC 11 07:22:48.1±2.3,19°.98S×69°.24W,h70km±21km,mb3.3/5, mbtmp3.7/8,MS2.4/2,Error ellipse: s-maj=34.1km s-min=18.2km az=96.0

ISC 11 07:22:40.2±0.9,19°.93S±0°.02×69°.65W±0°.03,h8km±7km, n53,σ1ˢ.31/65,mb3.8/4,6C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.17**	**357**		**Pg**	**07 22 44.2**	**+0.3**
PB11	**IPOC Station P**	**0.17**	**357**	*e*P	**Pg**	**07 22 44.0**	**+0.1**
PB11				*e*S	**Sg**	**07 22 46.2**	**-0.2**
PB11				IAML		07 22 47.0	
	comp=N,68μm,0.2s						
HMBC	**Humberstone**	**0.41**	**214**		**Pb**	**07 22 49.2**	**-0.7**
HMBC	**Humberstone**	**0.41**	**214**	*e*P	**Pb**	**07 22 49.1**	**-0.7**
HMBC				*i* S	**Sb**	**07 22 55.3**	**-1.0**
HMBC				IAML		07 22 55.8	
	comp=N,24μm,0.4s						
PX03	**IPOC Station P**	**0.47**	**178**	*e*P	**Pg**	**07 22 49.5**	**+0.1**
PX03				*e*S	**Sb**	**07 22 56.6**	**-1.3**
GO01	**Chusmiza**	**0.50**	**58**	⇓*i*P	**Pg**	**07 22 50.0**	**+0.1**
GO01				*e*S	**Sg**	**07 22 56.7**	**+0.1**
GO01				*i* S	**Sg**	**07 22 56.7**	**+0.1**
GO01				IAML		07 22 57.3	
	comp=N,27μm,0.2s						
TA02	**Huaiquique**	**0.57**	**234**		**Pg**	**07 22 51.9**	**+0.7**
TA02	**Huaiquique**	**0.57**	**234**	⇓*i*P	**Pg**	**07 22 51.9**	**+0.7**
TA02				*i* S	**Sg**	**07 22 59.9**	**+1.3**
TA02				IAML		07 23 01.6	
	comp=N,11μm,0.1s						
TA01	**Diego Aracena**	**0.81**	**219**		**Pg**	**07 22 55.9**	**+0.2**
TA01	**Diego Aracena**	**0.81**	**219**	⇑*i*P	**Pg**	**07 22 55.8**	**+0.1**
TA01				*i* S	**Sb**	**07 23 07.2**	**-0.2**
TA01				IAML		07 23 07.5	
	comp=E,15μm,0.2s						
PATCX	**Punta Patache**	**1.00**	**208**		**Pg**	**07 22 59.4**	**-0.2**
PATCX	**Punta Patache**	**1.00**	**208**	⇑*i*P	**Pg**	**07 22 59.3**	**-0.2**
PATCX				*i* S	**Sb**	**07 23 13.4**	**+0.1**
PATCX				IAML		07 23 14.5	
	comp=N,18μm,0.4s						
PX02	**IPOC Station P**	**1.10**	**331**	*e*P	**Pg**	**07 22 58.9**	**-2.4**
PX02				*i* S	**Sg**	**07 23 12.9**	**-2.7**
AP01	**Chacalluta**	**1.69**	**337**		**Pn**	**07 23 10.1**	**+0.2**
AP01	**Chacalluta**	**1.69**	**337**	*e*P	**Pn**	**07 23 09.5**	**-0.4**
AP01				*i* S	**Sn**	**07 23 32.0**	**+0.2**
AP01				IAML		07 23 37.1	
	comp=N,6μm,0.6s						
PB09	**IPOC Station P**	**1.89**	**169**		**Pb**	**07 23 14.9**	**-0.1**
PB09	**IPOC Station P**	**1.89**	**169**	⇑*i*P	**Pb**	**07 23 14.7**	**-0.4**
PB09				*i* S	**Sg**	**07 23 40.7**	**-0.3**
PB18	**Visviri**	**2.34**	**4**		**Pb**	**07 23 23.2**	**+0.3**
PB18	**Visviri**	**2.34**	**4**	⇑*i*P	**Pb**	**07 23 23.5**	**+0.6**
PB18				*i* S	**Sb**	**07 23 55.0**	**+2.9**
PB18				IAML		07 24 03.5	
	comp=N,702nm,0.7s						
PB04	**IPOC Station P**	**2.43**	**191**		**Pn**	**07 23 21.8**	**+1.4**
PB04	**IPOC Station P**	**2.43**	**191**	⇑*i*P	**Pn**	**07 23 21.7**	**+1.3**
PB04				*i* S	**Sb**	**07 23 53.6**	**-0.9**
PB04				IAML		07 23 58.6	
	comp=E,2μm,0.5s						
LVC	**Limon Verde**	**2.75**	**166**	P	**Pb**	**07 23 28.4**	**-1.5**
	comp=E,309nm,0.3s,baz=12,slow=8.8,SNR=439						
LVC				S	**Sb**	**07 24 03.6**	**-0.2**
	comp=E,307nm,0.4s,baz=210,slow=22,SNR=27						
LVC				LR	LR	07 24 22.2	
	comp=E,35nm,19.7s,baz=3.5,slow=36						
LVC	**Limon Verde**	**2.75**	**166**	⇑*i*P	**Pb**	**07 23 28.3**	**-1.5**
LVC				*i* S	**Sb**	**07 24 04.4**	**+0.5**
PB06	**IPOC Station P**	**2.76**	**179**		**Pn**	**07 23 26.8**	**+1.9**
PB06	**IPOC Station P**	**2.76**	**179**	*e*P	**Pn**	**07 23 26.4**	**+1.5**
PB06				IAML		07 24 05.7	
	comp=E,1μm,0.2s						
PB15	**IPOC Station P**	**3.26**	**177**		**Pn**	**07 23 34.7**	**+2.9**
PB15	**IPOC Station P**	**3.26**	**177**	*e*P	**Pn**	**07 23 34.7**	**+2.9**
AF01	**San Pedro de A**	**3.30**	**156**		**Pb**	**07 23 37.9**	**-1.3**
PB10	**IPOC Station P**	**3.66**	**193**	Pn	**Pn**	**07 23 37.5**	**+0.3**
PB10	**IPOC Station P**	**3.66**	**193**	*e*P	**Pn**	**07 23 37.3**	**+0.2**
LPAZ	**La Paz**	**3.90**	**22**	P	**Pb**	**07 23 46.2**	**-3.4**
	comp=E,12nm,0.6s,baz=186,slow=5.7,SNR=54						
LPAZ				LR	LR	07 25 49.9	
	comp=E,99nm,21.0s,baz=211,slow=48						
PB14	**IPOC Station P**	**4.72**	**188**		**Pn**	**07 23 51.4**	**-0.6**
AC01	**Pan de Azucar**	**6.25**	**188**	Pn	**Pn**	**07 24 11.5**	**-1.1**
AC06	**Mina Casimiro**	**7.42**	**185**	Pn	**Pn**	**07 24 28.8**	**0.0**
AC04	**Llanos de Chal**	**8.34**	**189**	Pn	**Pn**	**07 24 39.9**	**-1.5**
SIV	**San Ignacio**	**9.05**	**66**	P	**Pn**	**07 24 51.8**	**+0.6**
	comp=E,2.1nm,0.4s,baz=266,slow=9.3,SNR=6.6						
ETMB	**Extrema**	**10.59**	**19**		**Pn**	**07 25 15.7**	**+3.4**
PTLB	**Pontes e Lacer**	**10.96**	**68**	Pn	Pn	07 25 22.8	+5.5
VILB	**Vilhena**	**11.41**	**54**	Pn	Pn	07 25 29.1	+5.6
SAML	**Samuel**	**12.58**	**31**	Pn	Pn	07 25 45.0	+5.4
VA03	**San Esteban**	**12.80**	**183**		**Pn**	**07 25 41.7**	**-0.9**
CPUP	**Villa Florida**	**12.99**	**122**	P	**Pn**	**07 25 44.6**	**-0.5**
	comp=E,0.9nm,0.7s,baz=309,slow=14,SNR=1.6						
ITAB	**Concordia**	**17.61**	**118**	Pn	**P**	**07 26 47.7**	**+0.7**
ITAB				IAmb	IAmb	07 27 28.4	
	comp=Z,23nm,1.3s						
MACA	**Manacapuru-AM**	**18.82**	**29**	P	**Pn**	**07 27 02.5**	**+1.6**
MACA				IAmb	IAmb	07 27 05.3	
	comp=Z,5.7nm,0.7s						
GO06	**Curarrehue**	**19.65**	**184**	P	**P**	**07 27 08.4**	**-1.0**
PLCA	**Paso Flores**	**20.75**	**182**	P	**P**	**07 27 21.7**	**+0.3**
PLCA	**Paso Flores**	**20.75**	**182**	P	**P**	**07 27 22.1**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=357,slow=12,SNR=6.4						
	comp=Z,2.9nm,0.9s						
TXAR	**Lajitas Array**	**58.96**	**325**	P	**P**	**07 32 41.7**	**+1.4**
	comp=Z,0.1nm,0.7s,baz=145,slow=6.6,SNR=1.9						
	comp=Z,0.1nm,0.7s						
QSPA	**South Pole Qui**	**70.25**	**180**	P	**P**	**07 33 54.8**	**+1.1**
	comp=Z,1.8nm,1.1s,baz=170,slow=8.7,SNR=5.0						
	comp=Z,1.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**77.49**	**71**	P	**P**	**07 34 34.4**	**-2.4**
	comp=Z,0.4nm,0.4s,baz=251,slow=4.6,SNR=6.4						
	comp=Z,0.4nm,0.4s						
YKA	**Yellowknife Ar**	**89.49**	**341**	P	**P**	**07 35 37.5**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=140,slow=4.9,SNR=4.4						
	comp=Z,0.4nm,0.8s						
WRA	**Warramunga Arr**	**133.93**	**212**	PKP	**PKPdf**	**07 41 58.2**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=146,slow=1.9,SNR=1.2						
MKAR	**Makanchi Array**	**144.75**	**34**	PKP	**PKPab**	**07 42 16.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=300,slow=2.8,SNR=3.9						

NNC 11 07:35:39.1±5.5,53°.66N×88°.49E,h0km,mb3.1,mpv2.7, Error ellipse: s-maj=46.0km s-min=26.7km az=50.0, Suspected Mining explosion.
IDC 11 07:35:43.1±3.2,53°.77N×88°.10E,h0km,mbtmp3.0/2, ML2.7/2,Error ellipse: s-maj=25.4km s-min=17.1km az=58.0

ISC 11 07:35:42.9±4.0,53°.7N±0°.1×88°.2E±0°.2,h0km,n8,σ1ˢ.75/12, 7C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**278**	I	I	07 48 00.0	
	0.1nm,0.9s,baz=92,slow=314,SNR=4.1						
ZAA0	**Zalesovo Array**	**1.99**	**278**	⇓Pn	**Pn**	**07 36 16.9**	**-0.9**
	0.3nm,0.3s						
ZAA0				⇑Sn	**Sn**	**07 36 45.5**	**+2.1**
	4.9nm,0.8s						
ZALV	**Zalesovo Beam**	**1.99**	**278**	Pg	**Pn**	**07 36 17.9**	**+0.1**
	2.2nm,0.3s,baz=98,slow=9.1,SNR=22						
ZALV				Lg	Lg	07 36 45.1	
	2.9nm,0.3s,baz=94,slow=21,SNR=17						
KURK	**Kurchatov**	**6.58**	**247**	⇑Pn	**Pn**	**07 37 18.7**	**-2.1**
	0.6nm,0.5s						
KURK				⇑Lg	Lg	07 39 10.9	
	2.9nm,0.9s						
KURBB	**Kurchatov Arra**	**6.68**	**246**	Pn	**Pn**	**07 37 23.0**	**+0.9**
	0.2nm,0.3s,baz=63,slow=14,SNR=9.9						
KURBB				Sn	**Sn**	**07 38 38.4**	**-0.5**
	baz=59,slow=29						
KURBB				Lg	Lg	07 39 14.2	
	baz=68,slow=31,SNR=5.5						
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**6.68**	**246**	⇑Pn	**Pn**	**07 37 21.8**	**-0.3**
	0.7nm,0.3s						
KURBB				⇓Sn	**Sn**	**07 38 37.5**	**-1.3**
	2.2nm,0.6s						
KURBB				⇑Lg	Lg	07 39 16.5	
	4.1nm,0.8s						
MK31	**Makanchi Array**	**7.87**	**211**	⇑Pn	**Pn**	**07 37 35.9**	**-2.7**
	0.2nm,0.4s,baz=41,slow=15,SNR=4.5						
MK31				⇓Sn	**Sn**	**07 39 10.6**	**+2.2**
	0.5nm,0.7s,baz=85,slow=1.9,SNR=3.7						
MK31				⇑Lg	Lg	07 39 49.6	
	0.9nm,0.7s,baz=30,slow=36						
MKAR	**Makanchi Array**	**7.87**	**211**	Pn	**Pn**	**07 37 40.1**	**+1.5**
	0.1nm,0.3s,baz=30,slow=13,SNR=1.7						
MKAR				Sn	**Sn**	**07 39 09.1**	**+0.7**
	0.1nm,0.3s,baz=36,slow=27,SNR=3.2						
MKAR				Lg	Lg	07 39 51.6	
	baz=13,slow=30,SNR=1.8						
	0.2nm,0.4s						

IDC 11 07:47:44.5±3.9,6°.32S×150°.04E,h0km,mb3.3/2, mbtmp3.5/3,ML1.6/1,Error ellipse: s-maj=130.2km s-min=47.4km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.18**	**223**	Pn	Pn	07 48 49.1	-0.6
	2.8nm,0.3s,baz=35,slow=12,SNR=2.0						
	8.5nm,0.3s						
WRA	**Warramunga Arr**	**20.39**	**227**	P	P	07 52 23.5	+0.3
	1.6nm,0.5s,baz=52,slow=11,SNR=36						
	1.6nm,0.5s						
ASAR	**Alice Springs**	**23.20**	**220**	P	P	07 52 53.0	-0.3
	0.2nm,0.4s,baz=57,slow=9.0,SNR=2.2						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**148.09**	**285**	PKPbc	PKPbc	08 07 32.9	-0.5
	0.3nm,0.5s,baz=106,slow=2.2,SNR=2.7						

NOU 11 07:55:53.4,20°.22S×169°.59E,h0km,MLv3.8/8,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.92**	**229**	P	Pn	07 56 27.6	+0.2
LIFNC	**LIFOU**	**2.27**	**255**	P	Pn	07 56 31.4	-0.8
PINNC	**Pines Island,**	**3.11**	**220**	P	Pn	07 56 43.5	-0.2
YATNC	**Mamie plateau,**	**3.11**	**234**	P	Pn	07 56 42.6	-1.2
DZM	**Mont Dzumac**	**3.47**	**237**	P	Pn	07 56 48.5	-0.2
ONTNC	**Ouen Toro**	**3.59**	**234**	P	Pn	07 56 50.3	0.0
NOUC	**Port Laguerre**	**3.59**	**238**	P	Pn	07 56 50.9	+0.5
KOUNC	**Koumac, New Ca**	**4.99**	**265**	P	Pn	07 57 09.7	+0.1

NEIC 11 08:06:20.8±0.4,19°.23N±0°.03×155°.44W±0°.02,h39km±4km, Error ellipse: s-maj=4.8km s-min=2.6km az=180.0

HVO 11 08:06:22.1±0.8,19°.21N±0°.06×155°.41W±0°.07,h33km±7km, ML3.8/39,ML4.2/48(NEIC),Error ellipse: s-maj=11.1km s-min=7.9km az=125.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.03**	**19**		Pb	08 06 27.3	-0.3
HLP	**Hilina Pali**	**0.13**	**48**		Pn	08 06 27.7	+0.1
HLP					Sb	08 06 32.0	-0.2
HLP	**Hilina Pali**	**0.13**	**48**	IAML		08 06 32.6	
	comp=N,22μm,0.8s						
HLP				IAML		08 06 38.4	
	comp=E,28μm,0.6s						
HPO	**Honuapo**	**0.18**	**229**		Pn	08 06 27.8	-0.7
KHU	**Kahuku**	**0.20**	**280**	Pg	Pn	08 06 28.1	-0.8
KHU				IAML		08 06 32.8	
	comp=N,41μm,0.5s						
KHU				IAML		08 06 32.9	
	comp=E,27μm,0.3s						
SDHHI	**Sand Hill**	**0.21**	**31**		Pb	08 06 28.2	-0.8
SDHHI					Sn	08 06 32.7	-0.2
WRMHI	**West Rim**	**0.22**	**27**		Pn	08 06 32.8	+3.6
RIM	**Rim**	**0.22**	**34**		Pb	08 06 28.0	-1.1
RIM					Sn	08 06 32.8	-0.6
OBL	**Observatory Le**	**0.23**	**29**		Pb	08 06 28.4	-0.9
OBL					Sn	08 06 33.0	-0.7
UWE	**Uwekahuna**	**0.23**	**27**		Pb	08 06 28.4	-0.8
UWE					Sn	08 06 33.0	-0.7
UWE	**Uwekahuna**	**0.23**	**27**	IAML		08 06 38.2	
	comp=E,29μm,0.6s						
UWE				IAML		08 06 40.6	
	comp=N,31μm,0.4s						
PUH	**Pauahi**	**0.24**	**48**		Pb	08 06 28.4	-0.9
PUH	**Pauahi**	**0.24**	**48**	IAML		08 06 33.3	
	comp=E,19μm,0.5s						
PUH				IAML		08 06 33.5	
	comp=N,11μm,0.9s						
BYL	**Byron's Ledge**	**0.24**	**35**		Pb	08 06 28.3	-1.0
BYL					Sn	08 06 33.1	-0.9
BYL	**Byron's Ledge**	**0.24**	**35**	IAML		08 06 33.4	
	comp=N,17μm,0.6s						
BYL				IAML		08 06 38.6	
	comp=E,11μm,0.7s						
UWB	**Uwekahuna B**	**0.24**	**30**		Pb	08 06 28.4	-1.0
UWB					Sn	08 06 32.8	-1.2
HATHI	**Halema'uma'u T**	**0.25**	**33**		Pb	08 06 28.4	-1.0
HATHI					Sb	08 06 33.3	-1.0
HATHI	**Halema'uma'u T**	**0.25**	**33**	IAML		08 06 37.8	
	comp=E,20μm,0.9s						
HATHI				IAML		08 06 38.1	
	comp=N,20μm,0.8s						
SBLHI	**Steaming Bluff**	**0.25**	**31**		Pb	08 06 28.3	-1.1
SBLHI					Sb	08 06 33.1	-1.2
RSD	**Rainshed**	**0.28**	**26**		Sb	08 06 33.5	-1.4
RSD	**Rainshed**	**0.28**	**26**		Pb	08 06 28.8	-1.0
RSD	**Rainshed**	**0.28**	**26**	IAML		08 06 34.0	
	comp=N,10μm,0.7s						
RSD				IAML		08 06 37.9	
	comp=E,8μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.28**	**53**		Pb	08 06 28.9	-0.9
MLH	**Mauna Loa**	**0.28**	**4**		Pb	08 06 29.1	-0.8
MLH				IAML		08 06 34.4	
	comp=E,35μm,0.4s						
MLH				IAML		08 06 40.2	
	comp=N,27μm,0.5s						
MLH	**Mauna Loa**	**0.28**	**4**		Sb	08 06 34.1	-1.1
STCH	**Steam Cracks**	**0.32**	**57**		Sb	08 06 34.5	-1.1
STCH	**Steam Cracks**	**0.32**	**57**		Pb	08 06 29.2	-1.0
STCH	**Steam Cracks**	**0.32**	**57**	IAML		08 06 34.6	
	comp=E,9μm,0.6s						
STCH				IAML		08 06 34.8	
	comp=N,9μm,0.6s						
MWH	**Moku'aweowe**	**0.33**	**327**		Pb	08 06 29.6	-1.2
MWH	**Moku'aweowe**	**0.33**	**327**		Sb	08 06 34.6	-1.9
MLOA	**Mauna Loa Obse**	**0.36**	**334**	Pg	Pb	08 06 29.9	-1.2
MLOA				IAML		08 06 42.6	
	comp=E,11μm,0.3s						
HMH	**Humu'ula Sheep**	**0.40**	**350**		Pb	08 06 30.6	-0.8
HMH				IAML		08 06 37.4	
	comp=E,16μm,0.6s						
JOKA	**Jonika Flow**	**0.44**	**60**		Pb	08 06 30.5	-1.3
JOKA				IAML		08 06 37.4	
	comp=N,10μm,0.6s						
PAH	**Pahoa**	**0.52**	**57**		Pb	08 06 31.6	-1.4
POHA	**Pohakuloa**	**0.56**	**348**		Pb	08 06 32.0	-1.8
POHA				IAML		08 06 45.4	
	comp=N,20μm,0.4s						
POHA				IAML		08 06 47.6	
	comp=N,12μm,0.4s						
HUH	**Hualalai**	**0.62**	**319**		Pb	08 06 33.0	-1.8
HUH				IAML		08 06 53.5	
	comp=N,17μm,0.4s						
HPAH	**Hawaii Prepara**	**0.86**	**341**		Pn	08 06 35.8	-2.2
HPAH				IAML		08 06 46.2	
	comp=N,4μm,0.1s						
HPAH				IAML		08 06 46.5	
	comp=E,5μm,0.4s						
MHA	**Mahukona**	**1.08**	**334**		Pn	08 06 38.8	-2.2
KPA	**Kalaupapa**	**2.46**	**323**		Pn	08 06 57.1	-2.9
KIP	**Kipapa**	**3.29**	**312**		Pn	08 07 08.3	-3.2
KIP	**Kipapa**	**3.29**	**312**	IAML		08 07 47.1	
	comp=E,364nm,0.5s						

IDC 11 08:10:49.9±2.9,53°.85N×87°.02E,h0km,mbtmp2.8/2, ML2.7/2,Error ellipse: s-maj=27.0km s-min=15.8km az=65.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**275**	I	I	08 16 53.2	
	0.1nm,0.8s,baz=92,slow=312,SNR=4.3						
ZALV	**Zalesovo Beam**	**1.30**	**275**	Pg	Pg	08 11 14.2	-0.8
	0.6nm,0.3s,baz=93,slow=17,SNR=4.1						
ZALV				Lg	Lg	08 11 32.2	
	1.8nm,0.3s,baz=98,slow=32,SNR=12						
KURBB	**Kurchatov Arra**	**6.13**	**242**	Pn	Pn	08 12 22.2	+0.4
	0.1nm,0.3s,baz=60,slow=14,SNR=4.5						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.68**	**205**	Pn	Pn	08 12 44.3	+1.2
	0.2nm,0.3s,baz=25,slow=12,SNR=6.8						
MKAR				Lg	Lg	08 14 55.6	
	baz=33,slow=28,SNR=2.7						
	0.2nm,0.3s						

FUNV 11 08:21:04.7,10°.25N×62°.06W,h7km,MW3.4
TRN 11 08:21:07.1,10°.18N×62°.24W,h26km,MD3.6,North of the Paria peninsula.

ISC 11 08:21:03.4±3.3,10°.2N±0°.1×62°.22W±0°.08,h2km±24km,n18, σ1ˢ.15/25,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.67**	**43**	*e*P	**Pn**	**08 21 20.6**	**+0.7**
TRN	**Trinidad (W)**	**0.91**	**61**	*e*P	**Pn**	**08 21 24.6**	**+1.4**
GRFF	**Grenada Fort F**	**1.89**	**14**	*e*P	**Pb**	**08 21 38.8**	**+0.1**
GRFF				*e*S	**Sn**	**08 22 00.8**	**-0.3**
CUMV	**Cumana_UDO**	**1.96**	**277**	*e*P	**Pb**	**08 21 39.0**	**-0.7**
CUMV				*e*S	**Sb**	**08 22 05.9**	**+1.2**
GRGR	**Grenville**	**1.99**	**16**	*e*P	**Pn**	**08 21 39.3**	**+1.2**
GRGR				*e*S	**Sn**	**08 22 03.3**	**-0.3**
GRW	**Mount Saint Ca**	**2.02**	**16**	*e*S	**Sb**	**08 22 05.7**	**-0.8**
GRHS	**Sauteurs**	**2.08**	**16**	*e*P	**Pb**	**08 21 41.2**	**-0.7**
GRHS				*e*S	**Sn**	**08 22 04.9**	**-1.0**
GRSS	**Sisters**	**2.16**	**16**	*e*S	**Sn**	**08 22 08.3**	**+0.4**
PCRV	**Puerto La Cruz**	**2.38**	**269**	*e*P	**Pn**	**08 21 44.8**	**+1.3**
PCRV				*e*S	**Sn**	**08 22 14.9**	**+1.6**
PCRV	**Puerto La Cruz**	**2.38**	**269**	*e*P	**Pn**	**08 21 44.4**	**+0.9**
GCMP	**Grenada, Carri**	**2.39**	**19**	*e*P	**Pn**	**08 21 44.3**	**+0.7**
GCMP				*e*S	**Sn**	**08 22 13.8**	**+0.2**
SVB	**Belmont**	**3.19**	**17**	*e*P	**Pb**	**08 21 59.4**	**-1.4**
TACV	**Tcata**	**4.74**	**270**	*e*P	**Pn**	**08 22 17.2**	**+1.3**
TACV				*e*S	**Sn**	**08 23 10.4**	**-1.1**
CACV	**CAICARA DEL OR**	**5.01**	**239**	*e*P	Pn	08 22 15.1	-4.6
CACV				*e*S	Sn	08 23 07.4	-11
BENV	**Beln**	**5.30**	**268**	*e*P	**Pn**	**08 22 25.3**	**+1.5**
BENV				*e*S	**Sn**	**08 23 24.3**	**-1.2**
BAUV	**El Baul**	**5.88**	**258**	*e*P	**Pn**	**08 22 32.2**	**+0.6**
BAUV				*e*S	**Sn**	**08 23 37.6**	**-2.1**
BAUV	**El Baul**	**5.88**	**258**	*e*	**Pn**	**08 22 30.8**	**-0.8**
BAUV	**El Baul**	**5.88**	**258**	*e*	Sn	08 23 30.7	-9.0

TRN 11 08:21:40.1,15°.07N×60°.45W,h39km,MD3.6,2D, South-east of Dominica.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**0.50**	**235**	*e*P	Pn	08 21 51.7	+0.8
ILAM				*e*S	Sn	08 22 00.6	+2.2
SVN

TNTI Ternate 2.89 70 P **Pn 08 23 42.2 +1.0**
TNTI Ternate 2.89 70 Pn **Pn 08 23 41.6 +0.4**
TNTI Ternate 2.89 70 P **Pn 08 23 41.3 +0.1**
TOLI2 Tolitoli 4.10 289 Pn **Pn 08 23 55.7 -1.9**
MPSI Mapaga 4.79 277 P **Pn 08 24 05.1 -2.0**
BKSI Bulukumba 6.79 222 P **Pn 08 24 35.2 +0.8**
60nm,0.7s,1µm0.4nm
KAPI Kappang 6.82 226 P **Pn 08 24 36.7 +1.8**
KAPI Kappang 6.82 226 Pn **Pn 08 24 34.5 -0.4**
KAPI Kappang 6.82 226 P **Pn 08 24 35.0 +0.1**
24nm,0.4s,baz=23,slow=4.3,SNR=15
KAPI S **Sn 08 25 51.4 +0.1**
28nm,0.4s,baz=164,slow=19,SNR=7.0
KAPI LR LR 08 27 56.2
comp=Z,424nm,19.6s,baz=68,slow=44
DAV Davao City (W) 7.31 7 LR LR 08 27 51.8
comp=Z,677nm,20.7s,baz=184,slow=40
FAKI Fak Fak 8.05 109 P **Pn 08 24 51.2 -0.5**
MYLDM Lahad Datu 8.17 311 Pn **Pn 08 24 53.5 +0.1**
EDFI Ende, Flores 8.96 199 P **Pn 08 25 04.1 -0.2**
DRS Darwin Rock St 13.61 153 P **Pn 08 26 08.7 +1.2**
40nm,0.6s
MTN Manton Dam 14.08 153 P **Pn 08 26 14.9 +1.2**
MTN Manton Dam 14.08 153 Pn **Pn 08 26 13.6 -0.1**
KDU Kakadu 14.60 148 P **Pn 08 26 20.7 +0.2**
FITZ Fitzroy Crossi 17.78 177 P **Pn 08 27 02.0 +1.6**
42nm,0.9s
FITZ Fitzroy Crossi 17.78 177 P **P 08 27 00.6 +0.3**
BBJI Bungbulang 18.41 247 P **Pn 08 27 10.6 +2.4**
MBWA Marble Bar 21.35 193 P **P 08 27 39.4 +0.3**
WB0 Warramunga Arr 21.63 154 P **P 08 27 41.1 -1.1**
WRAB Tennant Creek 21.76 155 P **P 08 27 43.0 -0.6**
WRAB IAmb IAmb 08 28 05.8
comp=Z,31nm,0.8s
WRA Warramunga Arr 21.77 155 P **P 08 27 41.8 -1.8**
WRA Warramunga Arr 21.77 155 P **P 08 27 42.4 -1.2**
comp=Z,6.4nm,0.6s,baz=332,slow=11,SNR=62
WRA S **S 08 31 40.9 +0.1**
comp=Z,4.0nm,1.1s,baz=335,slow=16,SNR=7.1
comp=Z,6.4nm,0.6s
WB2 Warramunga Arr 21.77 155 P **P 08 27 42.4 -1.2**
WB2 IAmb IAmb 08 28 05.4
comp=Z,40nm,0.9s
WR0 Warramunga Arr 21.87 154 P **P 08 27 43.8 -0.8**
COEN Coen 22.85 127 P **P 08 27 55.0 -0.2**
TPUB Ta-pu 23.72 351 P **P 08 28 01.3 -2.0**
QIS Mount Isa 24.94 145 P **P 08 28 16.5 +2.0**
AS31 Alice Springs 24.96 160 P **P 08 28 14.9 +0.2**
ASAR Alice Springs 24.97 160 P **P 08 28 15.4 +0.7**
ASAR Alice Springs 24.97 160 P **P 08 28 15.1 +0.3**
comp=Z,9.0nm,0.8s,baz=325,slow=6.9,SNR=74
ASAR PcP **PcP 08 31 49.4 +0.8**
comp=Z,1.6nm,0.6s,baz=347,slow=1.7,SNR=9.1
ASAR S **S 08 32 36.0 +2.3**
comp=Z,0.6nm,0.9s,baz=358,slow=30,SNR=2.1
comp=Z,9.0nm,0.8s
AS01 Alice Springs 24.98 159 P **P 08 28 16.7 +1.8**
comp=Z,16nm,1.0s
JOW Kunigami 27.13 7 LR LR 08 39 02.1
comp=Z,64nm,21.5s,baz=92,slow=36
PHRA Phrae 30.37 309 P **P 08 29 03.6 +0.5**
FORT Forrest 30.55 174 P **P 08 29 03.6 -1.0**
CMAR Chiang Mai Arr 31.36 308 P **P 08 29 11.7 -0.2**
comp=Z,3.2nm,0.6s,baz=136,slow=7.2,SNR=14
CMAR PcP **PcP 08 32 04.5 0.0**
comp=Z,1.1nm,0.4s,baz=183,slow=0.8,SNR=2.0
CMAR LR LR 08 42 13.8
comp=Z,47nm,21.6s,baz=105,slow=37
comp=Z,3.2nm,0.6s
CHTO Chiang Mai 31.55 308 P **P 08 29 12.7 -0.8**
CHTO IAmb IAmb 08 29 15.2
comp=Z,16nm,0.9s
JCJ Chichijima 31.98 30 LR LR 08 39 43.5
comp=Z,33nm,20.5s,baz=101,slow=32
NJ2 Nanjing 32.58 351 *e*P **P 08 29 23.6 +1.3**
NJ2 sP **sP 08 29 46.4 +0.8**
NJ2 pmax pmax
comp=Z,25nm,0.6s
NWAO Narrogin (SRO) 33.27 191 LR LR 08 43 56.7
comp=Z,46nm,18.7s,baz=202,slow=38
JNU Nakatsue 33.69 9 P **P 08 29 32.0 0.0**
JNU IAmb IAmb 08 29 33.9
comp=Z,20nm,1.2s
BBOO Buckleboo 34.14 163 P **P 08 29 36.1 +0.1**
BBOO IAmb IAmb 08 30 53.8
comp=Z,39nm,1.7s
PZH PanZhiHua 34.55 322 P **P 08 29 41.7 +2.0**
PZH pmax pmax
comp=Z,9.0nm,0.7s
PZH pmax pmax
comp=Z,180nm,4.1s
STKA Stephens Creek 35.32 155 P **P 08 29 46.4 +0.3**
comp=Z,2.5nm,0.5s,baz=325,slow=9.8,SNR=6.6
STKA LR LR 08 45 48.5
comp=Z,98nm,18.9s,baz=19,slow=39
comp=Z,2.5nm,0.5s
XAN Xi'an 37.15 338 P **P 08 30 02.6 +0.8**
XAN pP pwP 08 30 19.3 -3.4
XAN pmax pmax
comp=Z,22nm,1.4s
INU Inuyama 37.23 17 P **P 08 30 02.7 +0.3**
KSRS Korea Array 37.62 4 P **P 08 30 05.1 -0.5**
comp=Z,1.1nm,0.5s,baz=180,slow=9.5,SNR=3.6
KSRS PcP **PcP 08 32 20.2 -1.8**
comp=Z,1.0nm,0.7s,baz=192,slow=3.5,SNR=4.5
KSRS LR LR 08 45 41.3
comp=Z,45nm,21.7s,baz=185,slow=36
comp=Z,1.1nm,0.5s
MAJO Matsushiro 38.69 18 P **P 08 30 14.2 -0.4**
MAJO IAmb IAmb 08 30 54.4
comp=Z,40nm,1.9s
MJAR Matsushiro Arr 38.69 18 P **P 08 30 13.6 -1.1**
comp=Z,4.3nm,0.7s,baz=192,slow=8.7,SNR=11
MJAR LR LR 08 47 23.8
comp=Z,14nm,19.4s,baz=186,slow=38
comp=Z,4.3nm,0.7s
MJB9 Matsu-Tunnel 38.70 18 P **P 08 30 13.5 -1.2**
MJB9 IAmb IAmb 08 30 55.4
comp=Z,39nm,1.9s
ARMA Armidale 39.48 142 P **P 08 30 22.0 +0.5**
ARMA IAmb IAmb 08 31 44.2
comp=Z,27nm,1.8s
LZH Lanzhou 40.99 334 *e*P **P 08 30 34.4 +0.4**
LZH pmax pmax
comp=Z,21nm,1.6s
CAN Canberra 41.64 150 P **P 08 30 40.6 +1.4**
CAN Canberra 41.64 150 P **P 08 30 41.6 +2.5**
CAN pP **pwP 08 30 58.6 -0.9**
HHC Hu-ho-hao-te 42.59 345 *e*P **P 08 30 48.6 +1.8**
HHC pP pwP 08 31 06.0 -2.0
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.8s
BTO Baotou 42.77 344 *e*P **P 08 30 51.7 +3.4**
BTO pP **pP 08 31 04.0 -0.3**
BTO sP **sP 08 31 13.5 +1.8**
BTO PP **PP 08 32 30.6 +1.8**
BTO S **S 08 37 14.4 +7.0**
BTO pmax pmax
comp=Z,19nm,0.6s
BTO pmax pmax
comp=Z,240nm,3.8s
BTO LR LR
comp=Z,230nm,5.6s
PALK Pallekele 44.47 281 LR LR 08 49 57.6
comp=Z,51nm,19.2s,baz=215,slow=36
XLT XiLinHaoTe 44.60 351 *e*P **P 08 31 04.6 +1.6**
XLT pP pP 08 31 20.5 +1.5
XLT sP sP 08 31 25.7 -0.7
XLT pmax pmax
comp=Z,9.0nm,0.8s
USA0B Ussuriysk Arra 44.72 7 P **P 08 31 03.5 -0.2**
USRK Ussuriysk Ar. 44.72 7 P **P 08 31 03.9 +0.2**
USRK Ussuriysk Ar. 44.72 7 P **P 08 31 03.3 -0.5**
comp=Z,5.2nm,0.6s,baz=186,slow=7.6,SNR=14
USRK LR LR 08 48 49.7
comp=Z,28nm,21.1s,baz=186,slow=35
comp=Z,5.2nm,0.6s
MDJ Mudanjiang 44.87 5 P **P 08 31 05.2 +0.2**
MDJ pmax pmax
comp=Z,14nm,0.9s
GTA Gaotai 45.53 333 P **P 08 31 11.5 +1.0**
GTA pP pwP 08 31 31.4 0.0
GTA pmax pmax
comp=Z,12nm,0.8s
NOUC Port Laguerre 46.01 121 P **P 08 31 15.1 +0.7**
NOUC pP **pwP 08 31 33.7 -1.3**
ASAJ Asahikawa 46.97 18 P **P 08 31 22.0 +0.5**
comp=Z,2.6nm,0.5s,baz=184,slow=14,SNR=2.8
ASAJ LR LR 08 50 21.0
comp=Z,17nm,21.6s,baz=162,slow=35
comp=Z,2.6nm,0.5s
KLR Kul'dur 49.65 6 P **P 08 31 42.0 0.0**
comp=Z,2.4nm,0.5s,baz=181,slow=5.4,SNR=11
KLR LR LR 08 53 56.5
comp=Z,25nm,20.6s,baz=240,slow=38
comp=Z,2.4nm,0.5s
ULN Ulaanbaatar 50.29 345 P **P 08 31 47.9 +0.7**
ULN Ulaanbaatar 50.29 345 P **P 08 31 48.1 +1.0**
HEH HeiHe 50.35 2 *e*P **P 08 31 47.3 0.0**
HEH pmax pmax
comp=Z,17nm,0.7s
SONM Songino Array 50.44 344 P **P 08 31 48.0 -0.3**
SONM Songino Array 50.44 344 P **P 08 31 47.3 -0.9**
comp=Z,4.3nm,0.7s,baz=163,slow=8.0,SNR=25
comp=Z,4.3nm,0.7s
WMQ Urumqi 54.86 328 *e*P **P 08 32 24.6 +3.7**
WMQ pmax pmax
comp=Z,37nm,0.7s
TARG Taragay, Kyrgy 59.39 321 IAmb IAmb 08 33 02.0
comp=Z,5.2nm,0.7s
KSH Kashi 59.46 318 P **P 08 32 54.4 +0.9**
KSH pmax pmax
comp=Z,9.0nm,0.9s
MK31 Makanchi Array 59.69 328 P **P 08 32 53.3 -1.5**
MK31 IAmb IAmb 08 32 56.1
comp=Z,6.9nm,0.7s
MKAR Makanchi Array 59.69 328 P **P 08 32 53.7 -1.1**
MKAR Makanchi Array 59.69 328 P **P 08 32 53.4 -1.4**
comp=Z,10.0nm,0.6s,baz=120,slow=7.9,SNR=68
MKAR PcP **PcP 08 33 39.8 -1.4**
comp=Z,3.7nm,0.7s,baz=124,slow=4.4,SNR=7.9
MKAR ScP **ScP 08 37 33.1 -3.1**
comp=Z,0.4nm,0.7s,baz=104,slow=4.6,SNR=2.7
MKAR LR LR 09 00 46.1
comp=Z,24nm,19.0s,baz=114,slow=38
comp=Z,10.0nm,0.6s
MAKZ Makanchi 59.86 327 P **P 08 32 54.9 -1.1**
MAKZ IAmb IAmb 08 32 56.8
comp=Z,7.8nm,0.7s
MAKZ Makanchi 59.86 327 P **P 08 32 54.5 -1.5**
NRN Naryn 60.39 320 P **P 08 32 58.2 -1.9**
AAK Ala-Archa 61.97 320 P **P 08 33 09.1 -1.4**
AAK IAmb IAmb 08 33 12.0
comp=Z,7.0nm,0.8s
AAK Ala-Archa 61.97 320 P **P 08 33 11.5 +1.0**
YAK Yakutsk 62.22 3 LR LR 09 02 55.7
comp=Z,19nm,18.1s,baz=196,slow=39
KBL Kabul 62.36 310 P **P 08 33 11.6 -1.8**
MA2 Magadan 63.03 15 LR LR 09 02 36.0
comp=Z,8.7nm,18.4s,baz=206,slow=38
ZALV Zalesovo Beam 63.22 335 P **P 08 33 16.5 -1.9**
ZALV Zalesovo Beam 63.22 335 P **P 08 33 16.2 -2.2**
comp=Z,4.4nm,0.5s,baz=128,slow=5.6,SNR=9.6
comp=Z,4.4nm,0.5s
KURBB Kurchatov Arra 64.00 329 P **P 08 33 21.9 -1.7**
comp=Z,9.4nm,0.6s,baz=133,slow=6.6,SNR=79
KURBB LR LR 09 03 45.8
comp=Z,21nm,18.2s,baz=176,slow=38
comp=Z,9.4nm,0.6s
KURK Kurchatov 64.01 329 P **P 08 33 21.6 -2.0**
KURK Kurchatov 64.01 329 P **P 08 33 22.0 -1.7**
KKAR Karatay Array 64.77 319 P **P 08 33 26.9 -2.0**
BVAR Borovoye Array 69.54 328 P **P 08 33 57.1 -1.7**
comp=Z,4.4nm,0.6s,baz=111,slow=6.5,SNR=24
comp=Z,4.4nm,0.6s
BRVK Borovoye 69.61 328 P **P 08 33 57.5 -1.8**
BRVK Borovoye 69.61 328 P **P 08 33 58.0 -1.3**
TIXI Tiksi 71.82 1 LR LR 09 06 35.9
comp=Z,31nm,21.6s,baz=141,slow=36
NRIK Noril'sk 73.78 347 IAmb IAmb 08 34 27.6
comp=Z,7.6nm,0.7s
NRIK Noril'sk 73.78 347 P **P 08 34 23.4 -0.6**
comp=Z,7.8nm,0.6s,baz=121,slow=5.4,SNR=13
comp=Z,7.8nm,0.6s
ABKAR Akbulak array 73.93 322 P **P 08 34 23.2 -2.0**
ABKAR Akbulak array 73.93 322 IAmb IAmb 08 34 26.5
comp=Z,5.4nm,0.7s
AKTO Aktyubinsk 75.49 323 LR LR 09 10 07.2
comp=Z,34nm,21.8s,baz=32,slow=38
NIKH Nikolski High 76.23 35 P **P 08 34 39.7 +1.3**
baz=251
SPIA Saint Paul Isl 76.94 30 P **P 08 34 43.5 +1.2**
baz=249
ARU Arti 77.19 329 P **P 08 34 41.1 -2.6**
ARU IAmb IAmb 08 34 44.6
comp=Z,7.0nm,0.6s
OPO Ambohidratompo 78.05 251 P **P 08 34 49.1 -0.4**
comp=Z,4.1nm,0.7s,baz=104,slow=5.9,SNR=5.4
comp=Z,4.1nm,0.7s
VNDA Vanda 79.79 172 P **P 08 34 58.4 +0.7**
comp=Z,0.9nm,0.7s,baz=304,slow=5.4,SNR=4.9
comp=Z,0.9nm,0.7s
FALS False Pass 79.86 34 P **P 08 34 58.8 +0.3**
baz=255
M11K Mekoryuk 80.02 28 P **P 08 34 60.0 +0.8**
baz=252
S12K Black Hills 80.82 33 P **P 08 35 03.9 +0.3**
baz=256
TNA Tin City 81.02 23 P **P 08 35 05.4 +0.9**
baz=249
K13K Kusilvak Mount 81.21 27 P **P 08 35 06.4 +0.9**
baz=253
M13K Dall Lake 81.38 29 P **P 08 35 07.0 +0.5**
baz=254
F14K Arctic Creek 81.61 23 P **P 08 35 08.7 +1.0**
baz=251
SDPT Sand Point 81.62 34 P **P 08 35 08.6 +0.7**
baz=257
ANM Nome 81.70 24 P **P 08 35 08.9 +0.8**
baz=252
J14K Nanvaranak Lak 81.94 26 P **P 08 35 09.3 0.0**
baz=254
L14K Kuka Creek 81.94 28 P **P 08 35 09.9 +0.5**
baz=255
CHNA Chernabura Isl 82.00 34 P **P 08 35 10.8 +0.9**
baz=258
N14K Kuskokwak Cree 82.06 29 P **P 08 35 10.0 0.0**
baz=256
O14K Tigyukauivet M 82.10 30 P **P 08 35 11.1 +0.8**
baz=256
M14K Bethel 82.13 28 P **P 08 35 11.2 +0.8**
baz=255
S14K Fog Glacier 82.33 33 P **P 08 35 12.7 +1.0**
baz=258
F15K North Star Dit 82.35 23 P **P 08 35 12.4 +0.8**
baz=252
G15K Niukluk 82.38 24 P **P 08 35 12.8 +1.1**
baz=253
L15K Ungalak Mounta 82.58 28 P **P 08 35 13.9 +1.1**
baz=256
K15K Wolf Creek Mou 82.72 27 IAmb IAmb 08 35 16.9
comp=Z,17nm,0.8s
K15K Wolf Creek Mou 82.72 27 P **P 08 35 14.3 +0.8**
baz=256,SNR=5.1
M15K Kasigluk River 82.72 29 P **P 08 35 14.6 +1.1**
baz=256
O15K Ungalikthiuk R 82.80 30 P **P 08 35 14.7 +0.7**
baz=257
N15K Kwethluk River 82.89 29 P **P 08 35 15.4 +0.9**
baz=257
C16K Lisburne Hills 82.90 21 P **P 08 35 15.5 +1.3**
baz=251
CHGN Chignik 82.95 33 P **P 08 35 15.8 +1.1**
baz=259
H16K Elim 83.02 25 P **P 08 35 16.5 +1.5**
baz=255
G16K Koyuk River 83.17 24 P **P 08 35 17.1 +1.3**
baz=254
J16K Anvik River 83.38 26 P **P 08 35 18.2 +1.3**
baz=256,SNR=8.1
I17K Unalakleet 83.48 25 IAmb IAmb 08 35 20.8
comp=Z,13nm,0.9s
I17K Unalakleet 83.48 25 P **P 08 35 18.6 +1.3**
baz=256,SNR=5.8
L16K Owhat River 83.53 28 P **P 08 35 18.7 +1.1**
baz=258,SNR=7.7
D17K Noatak River 83.54 21 P **P 08 35 19.5 +1.9**
baz=254
N16K Nishlik Lake 83.60 29 P **P 08 35 19.9 +1.8**
baz=258,SNR=7.2
M16K Timber Creek 83.62 28 P **P 08 35 19.7 +1.5**
baz=258,SNR=5.8
RDOG Red Dog Mine 83.70 21 IAmb IAmb 08 35 21.4
comp=Z,13nm,0.7s
RDOG Red Dog Mine 83.70 21 P **P 08 35 19.9 +1.4**
baz=254
C17K DeLong Mountai 83.73 21 P **P 08 35 19.9 +1.3**
baz=253
O16K Kokwok River B 83.75 30 P **P 08 35 20.3 +1.4**
baz=259
E17K Hotham Inlet 83.83 22 P **P 08 35 21.3 +2.2**
baz=255
F17K Baldwin Pennin 83.89 23 P **P 08 35 20.9 +1.5**
baz=255
G17K Kiwalik Mounta 83.89 24 P **P 08 35 20.9 +1.5**
baz=256,SNR=9.1
H17K Granite Mounta 84.06 24 P **P 08 35 22.0 +1.7**
baz=257,SNR=8.8
J17K VABM Dome 84.07 26 IAmb IAmb 08 35 24.2
comp=Z,10.0nm,0.8s
J17K VABM Dome 84.07 26 P **P 08 35 22.1 +1.7**
baz=258
L17K Donlin 84.16 27 P **P 08 35 22.7 +1.9**
baz=258
K17K Iditarod 84.28 27 P **P 08 35 21.8 +0.3**
K17K IAmb IAmb 08 35 25.4
comp=Z,17nm,1.1s
K17K Iditarod 84.28 27 P **P 08 35 23.4 +2.0**
baz=258,SNR=5.9
O17K Koliganek Bris 84.29 30 P **P 08 35 22.9 +1.4**
baz=260
Q16K King Salmon 84.32 31 P **P 08 35 22.6 +0.9**
baz=260
N17K Nushagak Hills 84.38 29 P **P 08 35 23.5 +1.5**
baz=260
E18K Tukpahlearik C 84.38 22 P **P 08 35 23.6 +1.7**
baz=256
CHIR Chirikof Islan 84.41 34 P **P 08 35 23.7 +1.4**
baz=261
M17K Holitna River 84.42 28 P **P 08 35 23.9 +1.7**
baz=259
B18K Kokolik River 84.45 20 P **P 08 35 24.0 +1.8**
baz=254
C18K Utukok River 84.47 21 IAmb IAmb 08 35 25.0
comp=Z,8.5nm,0.7s
C18K Utukok River 84.47 21 P **P 08 35 24.0 +1.5**
baz=255
P17K Kvichak River 84.52 30 P **P 08 35 24.0 +1.3**
baz=260
F18K Selawik 84.55 23 P **P 08 35 24.8 +2.1**
baz=257
Q17K Contact Creek 84.65 31 P **P 08 35 24.6 +1.1**
baz=261
H18K Honhosa River 84.75 24 P **P 08 35 25.1 +1.3**
baz=258
G18K Tagagawik 84.79 24 P **P 08 35 25.5 +1.5**
baz=258
L18K Granite Mounta 84.92 27 IAmb IAmb 08 35 28.0
comp=Z,6.1nm,0.7s
L18K Granite Mounta 84.92 27 P **P 08 35 26.1 +1.4**
baz=260,SNR=5.2
N18K Kilae Creek 85.03 29 P **P 08 35 27.1 +1.8**
baz=261
J18K Innoko River 85.13 26 P **P 08 35 27.0 +1.2**
baz=260
C19K Lookout Ridge 85.15 20 P **P 08 35 27.1 +1.3**
baz=257
P18K Big Mountain, 85.16 30 P **P 08 35 27.5 +1.5**
baz=261
Q18K Katmai Hardscr 85.16 31 P **P 08 35 27.2 +1.0**
baz=262
M18K Stony River 85.20 28 P **P 08 35 28.2 +2.0**
baz=261
O18K Koktuh Hills 85.24 30 P **P 08 35 28.6 +2.2**
baz=261
R18K Karluk 85.30 32 P **P 08 35 28.0 +1.3**
baz=262
F19K Shaleruckik Mo 85.33 23 P **P 08 35 28.1 +1.5**
baz=258
G19K Purcell Mounta 85.46 24 IAmb IAmb 08 35 29.8
comp=Z,6.9nm,0.6s
G19K Purcell Mounta 85.46 24 P **P 08 35 28.4 +1.1**
baz=259,SNR=8.0
D19K Kuna River 85.54 21 IAmb IAmb 08 35 31.3
comp=Z,7.2nm,0.9s
D19K Kuna River 85.54 21 P **P 08 35 28.9 +1.2**
baz=258
H19K Roundabout Mou 85.61 24 P **P 08 35 29.6 +1.6**
baz=260,SNR=8.5
E19K Redstone River 85.66 22 IAmb IAmb 08 35 32.9
comp=Z,11nm,0.8s
E19K Redstone River 85.66 22 P **P 08 35 30.1 +1.8**
baz=259,SNR=9.9
J19K Poorman 85.70 26 P **P 08 35 29.5 +0.9**
baz=261
N19K Bonanza Creek 85.74 29 IAmb IAmb 08 35 31.5
comp=Z,6.6nm,0.7s
N19K Bonanza Creek 85.74 29 P **P 08 35 29.7 +0.7**
baz=262
L19K White Mountain 85.76 28 P **P 08 35 30.1 +1.2**
baz=262
OHAK Old Harbor 85.88 33 P **P 08 35 30.5 +1.0**
baz=263
PPT2 Papeete2 85.89 108 *e*LR LR 09 02 43.0
comp=Z,27nm,23.5s
Q19K Cape Douglas, 85.90 31 P **P 08 35 30.9 +1.1**
baz=263
M19K Big River Lodg 85.94 28 P **P 08 35 30.5 +0.7**
baz=262
D20K Etivluk River 86.12 21 P **P 08 35 31.7 +1.0**
baz=260
F20K Avaraart Lake 86.16 23 P **P 08 35 31.6 +0.9**
baz=260
B20K Meade River 86.18 20 IAmb IAmb 08 35 34.0
comp=Z,11nm,0.9s
B20K Meade River 86.18 20 P **P 08 35 31.8 +1.0**
baz=259
E20K Nigu River 86.19 22 P **P 08 35 32.0 +1.0**
baz=260,SNR=8.1
P19K Oil Pt 86.20 30 P **P 08 35 32.0 +0.8**
baz=263
H20K Anotleneega Mo 86.25 24 P **P 08 35 32.1 +0.8**
baz=261
L20K Farewell, AK 86.25 27 P **P 08 35 32.1 +0.7**
baz=262
K20K Telida 86.28 27 P **P 08 35 32.8 +1.3**
baz=262
I20K Naaghedeneel 86.31 25 P **P 08 35 32.4 +0.8**
baz=262
KDAK Kodiak Island 86.33 32 LR LR 09 08 06.6
comp=Z,22nm,21.6s,baz=252,slow=31
J20K Nowinta River 86.36 26 IAmb IAmb 08 35 39.2
comp=Z,10nm,1.6s
J20K Nowinta River 86.36 26 P **P 08 35 32.9 +1.0**
baz=262
Q20K Shuyak Island 86.51 31 P **P 08 35 33.4 +0.7**
baz=264
M20K Styx River 86.52 28 P **P 08 35 33.1 +0.3**
baz=263
A21K Barrow 86.61 18 P **P 08 35 33.9 +1.0**
baz=259
IMAR Indian Mountai 86.78 24 P **P 08 35 34.0 +0.2**
C21K Knifeblade Rid 86.85 21 P **P 08 35 35.7 +1.5**
baz=261
G21K Allakaket 86.95 23 P **P 08 35 35.7 +1.0**
baz=262
B21K Ikpikpuk River 86.98 20 P **P 08 35 36.0 +1.2**
baz=261
E21K Killik River 87.04 21 P **P 08 35 36.6 +1.5**
baz=262
F21K Alatna River 87.05 23 P **P 08 35 36.0 +0.8**
baz=262
PPLA Purkeypile 87.08 27 P **P 08 35 36.4 +0.9**
baz=264
A22K Sinclair Lake 87.08 19 P **P 08 35 36.2 +1.0**
baz=261
H21K Melozitna Rive 87.12 24 P **P 08 35 36.8 +1.2**
baz=263
CAST Castle Rocks 87.18 27 P **P 08 35 36.7 +0.8**
baz=264
SKT Skwentna 87.29 28 P **P 08 35 37.1 +0.7**
baz=264
CAPN Captain Cook N 87.35 29 P **P 08 35 37.6 +1.0**
baz=265
I21K Tanana 87.41 25 IAmb IAmb 08 36 22.1
comp=Z,16nm,1.8s
I21K Tanana 87.41 25 P **P 08 35 38.3 +1.3**
baz=264
BRSE Bradley Lake S 87.47 30 P **P 08 35 38.3 +1.0**

	baz=265						
B22K	Teshekpuk Lake	87.49	20	P	P	08 35 38.7	+1.6
	baz=262						
F22K	John River	87.59	22	P	P	08 35 38.7	+1.0
	baz=264						
SUA	Susitna One	87.61	29	P	P	08 35 38.9	+0.8
	baz=265						
BPAW	Bear Paw Mtn.	87.73	26	P	P	08 35 39.5	+1.0
	baz=265						
H22K	Ishtalitna Cre	87.74	24	P	P	08 35 40.0	+1.5
	baz=264						
G22K	Bettles	87.79	23	P	P	08 35 40.0	+1.3
	baz=264,SNR=6.2						
MLY	Manley	87.92	25	P	P	08 35 40.2	+0.8
	baz=265,SNR=7.0						
RC01	Rabbit Creek A	88.07	29	P	P	08 35 41.1	+1.0
	baz=266						
SEW	Seward	88.14	30	P	P	08 35 41.0	+0.6
	baz=266						
D23K	Nanushuk River	88.29	21	P	P	08 35 42.0	+1.0
	baz=265						
COLD	Coldfoot	88.32	23	P	P	08 35 42.0	+0.7
	baz=266,SNR=8.3						
G23K	Bananza Creek	88.35	23	IAmb	IAmb	08 35 43.8	
	comp=Z,7.0nm,0.8s						
G23K	Bananza Creek	88.35	23	P	P	08 35 42.1	+0.7
	baz=266,SNR=11						
C23K	Itkillik River	88.39	20	IAmb	IAmb	08 35 43.4	
	comp=Z,4.5nm,0.8s						
C23K	Itkillik River	88.39	20	P	P	08 35 42.3	+0.8
	baz=265						
PMR	Palmer	88.39	29	P	P	08 35 42.5	+0.9
	baz=267						
H23K	Yukon River	88.48	24	P	P	08 35 42.3	+0.2
	baz=266,SNR=5.1						
I23K	Minto, Yukon-K	88.51	25	IAmb	IAmb	08 35 43.9	
	comp=Z,4.8nm,0.7s						
I23K	Minto, Yukon-K	88.51	25	P	P	08 35 43.1	+1.0
	baz=266,SNR=6.7						
NEA2	Nenana	88.60	26	P	P	08 35 43.2	+0.6
	baz=267						
E23K	Chandalar	88.61	22	P	P	08 35 42.8	+0.2
	baz=266,SNR=8.5						
MCK	McKinley	88.61	26	P	P	08 35 42.9	+0.2
	baz=267						
TOLK	Toolik Lake Re	88.67	21	P	P	08 35 43.5	+0.6
TOLK	Toolik Lake Re	88.67	21	P	P	08 35 43.2	+0.3
	baz=266						
KNK	Knik Glacier	88.70	29	P	P	08 35 43.6	+0.4
	baz=267						
SML	Sawmill	88.78	28	P	P	08 35 43.8	+0.2
	baz=267						
D24K	Happy Valley	88.97	21	P	P	08 35 44.8	+0.5
	baz=267						
E24K	Your Creek	89.03	22	P	P	08 35 45.1	+0.4
	baz=267						
C24K	Franklin Bluff	89.05	20	P	P	08 35 45.2	+0.7
	baz=267						
M23K	Glacier View	89.07	28	P	P	08 35 45.7	+0.8
	baz=268						
WAT6	Susitna Watana	89.10	28	P	P	08 35 45.6	+0.4
	baz=268						
H24K	Noodor Dome	89.17	24	IAmb	IAmb	08 35 47.9	
	comp=Z,7.5nm,1.4s						
H24K	Noodor Dome	89.17	24	P	P	08 35 46.5	+1.2
	baz=268						
F24K	Squaw Lake	89.23	23	P	P	08 35 46.1	+0.5
	baz=268						
SCM	Sheep Creek Mo	89.26	28	P	P	08 35 46.8	+1.0
	baz=268						
DHY	Denali Highway	89.28	27	P	P	08 35 46.8	+0.8
	baz=268						
G24K	Hadweenzic Riv	89.36	23	P	P	08 35 47.8	+1.7
	baz=268,SNR=5.6						
ILAR	Eielson Array	89.55	25	P	P	08 35 45.9	-1.2
	comp=Z,0.7nm,0.5s,baz=248,slow=4.6,SNR=19						
	comp=Z,0.7nm,0.5s						
QSPA	South Pole Qui	89.70	180	P	P	08 35 47.9	+0.1
	comp=Z,2.8nm,1.0s,baz=308,slow=1.5,SNR=3.7						
	comp=Z,2.8nm,1.0s						
M24K	Tolsona, Glenn	89.81	28	P	P	08 35 49.6	+1.2
	baz=269						
D25K	Kavik River	89.85	21	P	P	08 35 49.4	+1.0
	baz=269						
G25K	Bearman Lake	89.91	23	P	P	08 35 49.4	+0.7
	baz=269						
KLU	Klutina	89.92	29	P	P	08 35 49.9	+0.9
	baz=269						
H25L	Birch Creek	90.02	24	P	P	08 35 50.1	+0.9
	baz=270						
F25K	Christian Rive	90.10	23	P	P	08 35 50.8	+1.2
	baz=270						
E25K	Arctic Village	90.13	22	IAmb	IAmb	08 35 52.0	
	comp=Z,4.4nm,0.9s						
E25K	Arctic Village	90.13	22	P	P	08 35 50.6	+0.9
	baz=270,SNR=5.5						
PAX	Paxson	90.15	27	P	P	08 35 51.0	+1.1
	baz=270						
J25K	Salcha River,	90.20	26	P	P	08 35 51.2	+1.0
	baz=270						
BMAR	Burnt Mountain	90.51	23	P	P	08 35 51.4	-0.1
N25K	Chitina, Valde	90.56	29	P	P	08 35 52.6	+0.7
	baz=271						
BMRM	Bremner River	90.56	29	P	P	08 35 52.1	+0.2
	baz=271						
F26K	Sheenjek River	90.67	22	P	P	08 35 52.8	+0.5
	baz=271						
C27K	Jago River	90.79	20	P	P	08 35 53.6	+0.9
	baz=272,SNR=7.0						
SCRK	Sand Creek	90.81	26	P	P	08 35 54.3	+1.2
	baz=271						
G26K	Porcupine Rive	90.83	23	P	P	08 35 54.0	+1.1
	baz=271						
BRTR	Keskin Array B	90.93	310	P	P	08 35 52.7	-1.5
	comp=Z,0.7nm,0.8s,baz=97,slow=3.6,SNR=3.5						
	comp=Z,0.7nm,0.8s						
J26L	Joseph Creek	90.98	26	IAmb	IAmb	08 35 55.4	
	comp=Z,2.9nm,0.7s						
J26L	Joseph Creek	90.98	26	P	P	08 35 54.2	+0.4
	baz=272						
L26K	Log Cabin Wild	91.12	27	P	P	08 35 54.9	+0.5
	baz=272						
I26K	Coal Creek Min	91.13	25	IAmb	IAmb	08 35 55.8	
	comp=Z,4.0nm,1.1s						
I26K	Coal Creek Min	91.13	25	P	P	08 35 55.1	+0.7
	baz=272						
M26K	Nabesna, AK	91.30	28	P	P	08 35 56.6	+1.3
	baz=272						
CRQE	Cirque	91.31	29	P	P	08 35 56.1	+0.6
	baz=272						
MCARA	McCarthy VSAT	91.32	29	P	P	08 35 56.3	+1.0
	baz=272						
E27K	Coleen River	91.61	22	IAmb	IAmb	08 35 58.8	
	comp=Z,3.6nm,0.8s						
E27K	Coleen River	91.61	22	P	P	08 35 57.1	+0.5
	baz=274						
K27K	Chicken	91.65	26	IAmb	IAmb	08 36 00.2	
	comp=Z,3.8nm,0.8s						
K27K	Chicken	91.65	26	P	P	08 35 57.5	+0.7
	baz=273,SNR=5.8						
G27K	Doyon Strip	91.67	23	P	P	08 35 57.4	+0.5
	baz=273						
H27K	Steamboat Moun	91.76	24	P	P	08 35 58.1	+0.8
	baz=274						
I27K	Kandik River	91.76	24	P	P	08 35 58.3	+1.0
	baz=273						
D27M	Malcolm River	91.78	21	P	P	08 35 58.9	+1.5
	baz=274						
L27K	Beaver Creek,	91.81	27	IAmb	IAmb	08 35 59.9	
	comp=Z,4.0nm,0.7s						
L27K	Beaver Creek,	91.81	27	P	P	08 35 59.0	+1.4
	baz=273,SNR=5.3						
MESA	MESA	91.89	30	P	P	08 35 59.1	+0.8
	baz=273						
CTG	Chitna Glacier	92.15	29	P	P	08 36 00.4	+1.0
	baz=274						
F28M	Old Crow	92.31	22	IAmb	IAmb	08 36 01.8	
	comp=Z,5.8nm,0.8s						
F28M	Old Crow	92.31	22	P	P	08 36 01.2	+1.4
	baz=275,SNR=6.2						
E28M	Babbage River	92.34	21	IAmb	IAmb	08 36 02.0	
	comp=Z,5.6nm,1.2s						
E28M	Babbage River	92.34	21	P	P	08 36 01.1	+1.2
	baz=275						
I28M	Miner Creek	92.47	25	IAmb	IAmb	08 36 02.9	
	comp=Z,5.7nm,1.1s						
I28M	Miner Creek	92.47	25	P	P	08 36 02.0	+1.3
	baz=275						
DAWY	Dawson	92.82	26	P	P	08 36 03.2	+0.9
	baz=275						
E29M	Blow River	92.97	22	P	P	08 36 04.3	+1.5
	baz=277						
H29M	Whitestone	93.03	24	P	P	08 36 04.5	+1.3
	baz=276						
G29M	Pine Creek	93.09	23	P	P	08 36 04.5	+1.1
	baz=277,SNR=12						
I29M	Ogilvie Camp,	93.15	25	IAmb	IAmb	08 36 05.6	
	comp=Z,4.7nm,1.0s						
I29M	Ogilvie Camp,	93.15	25	P	P	08 36 05.0	+1.2
	baz=276,SNR=6.3						
M29M	Somme Creek	93.40	28	P	P	08 36 05.8	+0.7
	baz=276						
ARCES	ARCESS Array B	93.42	340	P	P	08 36 02.7	-2.2
	comp=Z,1.9nm,0.7s,baz=80,slow=6.8,SNR=5.5						
	comp=Z,1.9nm,0.7s						
L29M	L29M	93.48	27	P	P	08 36 06.2	+0.9
	baz=276,SNR=5.4						
O29M	Mount Kennedy	93.56	30	P	P	08 36 06.8	+0.8
	baz=276						
YUK6	Outpost Mounta	93.60	29	P	P	08 36 07.0	+0.8
	baz=276						
AKASG	Malin Array Be	93.63	321	LR	LR	09 23 50.5	
	comp=Z,19nm,18.2s,baz=84,slow=39						
K29M	Barlow Dome	93.67	26	P	P	08 36 07.0	+0.7
	baz=277						
EPYK	Eagle Plains	93.68	24	P	P	08 36 07.0	+0.9
	baz=278,SNR=7.5						
G30M	tAoh Zraii Nji	93.79	23	P	P	08 36 07.2	+0.5
	baz=278,SNR=6.9						
F30M	Barrier River	93.86	22	P	P	08 36 06.8	-0.2
	baz=279						
SPITS	Spitsbergen Ar	93.94	349	P	P	08 36 06.3	-0.9
	comp=Z,1.1nm,0.5s,baz=76,slow=9.4,SNR=4.3						
	comp=Z,1.1nm,0.5s						
I30M	Mount Dempster	93.98	25	P	P	08 36 08.7	+1.0
	baz=278						
HYT	Haines Junctio	94.03	29	P	P	08 36 08.8	+0.7
	baz=277						
P29M	Windy Craggy	94.06	30	P	P	08 36 08.5	+0.5
	baz=276						
J30M	Hart River	94.09	25	P	P	08 36 08.8	+0.5
	baz=278						
M30M	Minto, Yukon	94.15	27	P	P	08 36 08.4	-0.1
	baz=278,SNR=5.5						
N30M	Aishikik Lake	94.16	28	P	P	08 36 08.8	+0.2
	baz=277						
FINES	FINESS Array B	94.31	332	P	P	08 36 07.0	-2.1
	comp=Z,0.8nm,0.5s,baz=77,slow=8.7,SNR=4.9						
	comp=Z,0.8nm,0.5s						
P30M	Million Dollar	94.39	30	P	P	08 36 09.9	+0.3
	baz=277						
G31M	Satah River	94.56	23	P	P	08 36 10.5	+0.4
	baz=280						
INK	Inuvik	94.58	21	P	P	08 36 10.2	0.0
INK				IAmb	IAmb	08 36 11.4	
	comp=Z,7.6nm,1.4s						
INK	Inuvik	94.58	21	P	P	08 36 10.2	0.0
	baz=281						
F31M	Tsiigehtchic	94.66	22	P	P	08 36 10.6	0.0
	baz=281						
N31M	Braeburn, Yuko	94.78	28	P	P	08 36 11.8	+0.5
	baz=278						
M31M	Drury Creek, Y	95.31	28	P	P	08 36 14.9	+1.1
	baz=280						
FARO	Faro, Yukon	95.79	27	P	P	08 36 16.7	+0.8
	baz=281						
C36M	Paulatuk	97.61	19	P	P	08 36 24.0	0.0
C36M	Paulatuk	97.61	19	P	Pdif	08 36 24.4	+0.5
	baz=290						
TORD	Torodi Ar. Bea	122.06	285	PKP	PKPdf	08 41 44.5	-0.7
	comp=Z,1.2nm,0.6s,baz=54,slow=2.1,SNR=8.1						

PGC 11 08:38:17.5±0.0, 54°.33N×117°.71W, h3km, ML3.5/14,
162km Nne of Jasper, Alberta Alberta, Canada, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLDA	Berland Lookou	0.30	143	P	Pg	08 38 22.9	-0.4
BRLDA				S	Sg	08 38 27.1	0.0
SWHSA	Sweathouse Loo	0.80	44	P	Pg	08 38 31.8	-1.0
SWHSA				S	Sg	08 38 42.5	-0.6
BDMTA	Bald Mountain	0.85	305	P	Pg	08 38 33.1	-0.7
BDMTA				S	Sg	08 38 44.1	-0.8
WTMTA	White Mountain	1.63	328	P	Pn	08 38 46.6	-0.6
WTMTA				S	Sn	08 39 08.4	-0.2
STPRA	Salt Prairie L	1.72	38	P	Pn	08 38 47.9	-0.5
STPRA				S	Sn	08 39 10.2	-0.6
LGPLA	Lodgepole	1.85	130	Pg	Pn	08 38 50.4	+0.2
LGPLA				Sn	Sn	08 39 14.2	0.0
NBC4	NorthernBC 4	2.18	310	Pn	Pn	08 38 54.5	-0.1
NBC4				Sn	Sn	08 39 21.7	-0.5
NBC4				Sg	Sb	08 39 24.6	-0.3
BMTB	Bullhead Mount	3.06	306	Sn	Sn	08 39 43.4	-0.7
FSJB	Fort St James	3.85	275	Pn	Pn	08 39 16.8	-0.9
UBRB	Upper Baezaeko	4.06	252	Pn	Pn	08 39 19.5	-1.1
NBC5	NorthernBC 5	4.25	321	Pn	Pn	08 39 22.6	-0.6
NBC5				Sn	Sn	08 40 09.4	-3.9
LLLB	Lilloоet	4.52	216	Sg	Sg	08 40 37.9	-4.5
NBC6	NorthernBC 6	4.71	336	Pn	Pn	08 39 27.9	-1.5
NBC6				Sn	Sn	08 40 21.4	-3.2
FNSB	Fort Nelson	5.28	330	Pn	Pn	08 39 36.1	-1.1
FNSB				Sn	Sn	08 40 35.1	-3.3
HSPGA	Hill Springs,	5.58	152	Pn	Pn	08 39 41.1	-0.3
HNBB	Haney	5.88	213	Sg	Sg	08 41 19.4	-6.9
B08A	Colville Reser	6.07	190	Pn	Pn	08 39 47.7	-0.4
B08A				Sg	Sb	08 41 24.4	+7.7
TOAD	Toad River Com	6.15	321	Pn	Pn	08 39 47.7	-1.5
TOAD				Sn	Sn	08 40 54.4	-5.5
NBC1	NorthernBC 1	6.30	330	Pn	Pn	08 39 50.5	-0.6
NBC1				Sg	Sg	08 41 33.8	-5.7
GOBB	Galiano Island	6.48	216	Sg	Sb	08 41 36.9	+8.2
SNB	Saturna Island	6.52	214	Sg	Sg	08 41 39.0	-7.8
B010	North Saanich	6.72	215	Sg	Sg	08 41 45.5	-7.7
B009	North Saanich	6.72	215	Sg	Sg	08 41 45.8	-7.4
BSMT	Bassoo Peak	6.74	163	Pn	Pn	08 39 56.8	-0.8
GRIB	Gribbell Islan	6.84	266	Pn	Pn	08 39 58.0	-0.6
WOSB	Woss	6.86	236	Sg	Sg	08 41 49.5	-8.0
LIRD	Liard River Hi	6.86	321	Sn	Sn	08 41 11.7	-5.7
GDR	Gold River	6.86	232	Sg	Sg	08 41 49.9	-7.7
YBMT	Yellow Bay	6.88	159	Pn	Pn	08 39 58.6	-0.8
SYMB	Survey Mountai	6.92	216	Sg	Sg	08 41 51.1	-8.4
JTMT	Jette	6.94	160	Pn	Pn	08 39 59.2	-1.0
PHC	Port Hardy	6.95	242	Sg	Sg	08 41 53.1	-7.5
PTRF	Port Renfrew	7.15	219	Sg	Sg	08 42 00.0	-6.8
GRNB	Grenville Isla	7.22	271	Sg	Sg	08 42 01.1	-8.2
DLBC	Dease Lake	7.98	306	Sg	Sg	08 42 25.0	-8.3

IDC 11 08:43:29.7±1.8, 39°.71S×175°.90E, h40km±20km, mb3.2/2, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=44.5km s-min=8.9km az=128.0
WEL 11 08:43:33.8±0.2, 40°S±2°×17°6E±°, h37km±3km, M3.6/47, ML4.0/47, MLv3.6/47, Error ellipse: s-maj=0.0km s-min=0.0km az=67.6, confirmed
NOU 11 08:43:33.0, 39°.55S×175°.85E, h37km, MLv3.7/11, North Island, New Zealand

ISC 11 08:43:32.4±0.9, 39°.55S±0°.03×175°.79E±0°.03, h61km±5km, n158, σ1°.09/179, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THHS	Taihape Hospit	0.13	177	P	Pn	08 43 40.8	-0.9
THHS				S	Sn	08 43 47.2	-1.2
MOVZ	Moawhango	0.14	349	P	Pn	08 43 41.6	-0.2
MOVZ				S	Sn	08 43 47.5	-1.0
MNGS	Mangaweka Scho	0.26	179	P	Pn	08 43 43.0	+0.6
WNVZ	Wahianoa	0.26	326	P	Pn	08 43 42.8	+0.2
WNVZ				S	Sn	08 43 49.5	-0.3
MTVZ	Mangateitei	0.29	303	P	Pn	08 43 43.1	+0.5
MTVZ				S	Sn	08 43 50.4	+0.3
TUVZ	Tukino	0.30	340	P	Pn	08 43 43.1	+0.3
TUVZ				S	Sn	08 43 50.0	-0.3
WHVZ	Whangaehu Hut	0.30	330	P	Pn	08 43 43.2	+0.3
WHVZ				S	Sn	08 43 50.0	-0.5
TRVZ	Turoa	0.31	323	P	Pn	08 43 43.3	+0.4
TRVZ				S	Sn	08 43 50.2	-0.4
MAVZ	Matarangi	0.33	328	P	Pn	08 43 43.4	+0.2
MAVZ				S	Sn	08 43 50.5	-0.5
FWVZ	Far West T-bar	0.34	328	P	Pn	08 43 43.5	+0.3
SNVZ	South Ngauruho	0.38	342	P	Pn	08 43 43.8	+0.3
SNVZ				S	Sn	08 43 51.3	-0.1
OTVZ	Oturere	0.39	346	P	Pn	08 43 43.9	+0.4
OTVZ				S	Sn	08 43 51.5	-0.2
COVZ	Chateau Observ	0.40	331	P	Pn	08 43 44.0	+0.5
COVZ				S	Sn	08 43 51.4	-0.2
NGZ	Ngauruhoe	0.40	339	P	Pn	08 43 44.0	+0.4
NGZ				S	Sn	08 43 51.6	-0.1
ETVZ	East Tongariro	0.41	352	P	Pn	08 43 44.0	+0.2
ETVZ				S	Sn	08 43 51.4	-0.5
PKVZ	Pokaka	0.43	307	P	Pn	08 43 44.5	+0.7
PKVZ				S	Sn	08 43 52.4	+0.4
NNVZ	North Ngauruho	0.43	342	P	Pn	08 43 44.4	+0.5
TMVZ	Te Maari	0.43	351	P	Pn	08 43 44.2	+0.3
TMVZ				S	Sn	08 43 52.1	-0.1
NTVZ	North Tongarir	0.46	349	P	Pn	08 43 44.5	+0.4
NTVZ				S	Sn	08 43 52.4	-0.2
WTVZ	West Tongariro	0.46	340	P	Pn	08 43 44.6	+0.5
WTVZ				S	Sn	08 43 52.7	+0.1
KRHZ	Kereru	0.46	102	P	Pn	08 43 44.9	+0.9
KRHZ				S	Sn	08 43 54.3	+1.8
KRVZ	Karewarewa	0.47	346	P	Pn	08 43 44.6	+0.4
PNHZ	Pukenui	0.48	139	P	Pn	08 43 45.4	+1.1
PNHZ				S	Sn	08 43 54.9	+1.9
KWHZ	Kaweka Forest	0.51	76	P	Pn	08 43 45.3	+0.7
TSZ	Takapari Road	0.53	165	P	Pn	08 43 46.2	+1.4
TWVZ	Taurewa	0.55	330	P	Pn	08 43 45.4	+0.4
TWVZ				S	Sn	08 43 54.1	-0.2
RITZ	Rihia Road	0.57	6	P	Pn	08 43 45.7	+0.4
KATZ	Kakaramea	0.57	353	P	Pn	08 43 46.5	+1.1
WAZ	Wanganui	0.65	251	P	Pn	08 43 48.0	+1.8
BKZ	Black Stump Fm	0.67	55	P	Pn	08 43 46.3	0.0
BKZ	Black Stump Fm	0.67	55	P	Pn	08 43 46.5	+0.1
RATZ	Rangitukua	0.68	359	P	Pn	08 43 46.9	+0.4
HATZ	Hinemaiaia	0.70	20	P	Pn	08 43 46.2	-0.3
MCHZ	McNeill Hill	0.71	82	P	Pn	08 43 48.5	+1.7
WPHZ	Waipukurau	0.72	136	P	Pn	08 43 48.0	+1.1
OHWZ	Ohakea	0.75	209	P	Pn	08 43 49.6	+2.3
DVHZ	Dannevirke	0.81	159	P	Pn	08 43 49.2	+1.2
WATZ	Wairara	0.84	357	P	Pn	08 43 48.8	+0.3
POWZ	Post Office Ro	0.84	181	P	Pn	08 43 50.1	+1.6
MRHZ	Matea Rd	0.86	35	P	Pn	08 43 48.6	-0.1
KAHZ	Kahuranaki	0.88	107	P	Pn	08 43 49.8	+0.9
VRZ	Vera Road	0.90	297	P	Pn	08 43 50.1	+0.9
NMHZ	Naumai	0.91	61	P	Pn	08 43 50.9	+1.5
PXZ	Pawanui	0.96	121	P	Pn	08 43 51.2	+1.3
PRHZ	Porangahau	0.97	138	P	Pn	08 43 51.0	+0.9
ARHZ	Aropaoanui	0.98	74	P	Pn	08 43 51.5	+1.4
CKHZ	Cape Kidnapper	1.00	97	P	Pn	08 43 52.7	+2.2
PRWZ	Pori Road	1.02	172	P	Pn	08 43 52.3	+1.6
ANWZ	Angora Road	1.05	150	P	Pn	08 43 52.8	+1.7
KUTZ	Kaahu Road	1.06	2	P	Pn	08 43 52.1	+0.8
WPRZ	Whakapapatarin	1.07	16	P	Pn	08 43 51.6	+0.2
MTHZ	Maungataniwha	1.07	50	P	Pn	08 43 51.8	+0.4
ALRZ	Allen Road	1.07	24	P	Pn	08 43 51.4	-0.1
LREZ	Lake Rotokare	1.07	274	P	Pn	08 43 53.2	+1.8
MRZ	Mangatainoka R	1.12	188	P	Pn	08 43 53.4	+1.3
PRRZ	Plateau Road	1.15	24	P	Pn	08 43 52.4	0.0
BFZ	Birch Farm	1.19	163	P	Pn	08 43 53.8	+0.9
BFZ	Birch Farm	1.19	163	P	Pn	08 43 53.9	+1.0
RAHZ	Arahi	1.19	58	P	Pn	08 43 54.1	+1.1
WHHZ	Waihua	1.22	68	P	Pn	08 43 54.5	+1.2
HRRZ	Handcock Road	1.22	19	P	Pn	08 43 53.8	+0.4
GRRZ	Galatos Road	1.22	12	P	Pn	08 43 53.9	+0.5
MHEZ	Mangahewa	1.23	292	P	Pn	08 43 55.4	+1.9
TIWZ	Tintock	1.23	177	P	Pn	08 43 54.7	+1.2
TLZ	Tolley Road	1.23	351	P	Pn	08 43 53.6	0.0
HIZ	Hauiti	1.26	325	P	Pn	08 43 54.4	+0.5
HIZ	Hauiti	1.26	325	P	Pn	08 43 54.6	+0.7
PREZ	Palmer Road	1.28	279	P	Pn	08 43 56.4	+2.2
DREZ	Durham Road	1.28	286	P	Pn	08 43 56.1	+2.0
HSRZ	Hossack Road	1.28	16	P	Pn	08 43 54.8	+0.6
MUGZ	Murupara	1.31	36	P	Pn	08 43 54.2	-0.4
RTZ	Ruatahuna	1.31	45	P	Pn	08 43 54.9	+0.2
RRRZ	Republican Roa	1.33	25	P	Pn	08 43 54.9	0.0
NEZ	North Egmont	1.34	281	P	Pn	08 43 57.1	+2.0
OGWZ	Otaki Gorge	1.35	200	P	Pn	08 43 56.6	+1.5
HLRZ	Highlands Stat	1.36	19	P	Pn	08 43 56.2	+0.9
HOWZ	Holdsworth Sta	1.37	189	P	Pn	08 43 56.3	+0.9
KHEZ	Kahui Hut	1.40	280	P	Pn	08 43 57.9	+2.1
KHEZ	Kahui Hut	1.40	280	P	Pn	08 43 58.4	+2.7
CPWZ	Castlepoint	1.40	167	P	Pn	08 43 57.2	+1.4
UTU	Utuhina	1.40	13	P	Pn	08 43 56.8	+0.9
TARZ	Mount Tarawera	1.42	23	P	Pn	08 43 56.9	+0.7
SNGZ	Shannon Statio	1.43	58	P	Pn	08 43 57.1	+1.0
PKE	Pukeiti	1.44	284	P	Pn	08 43 58.6	+2.3
KIW	Kapiti Island	1.48	207	P	Pn	08 43 58.2	+1.4
NMEZ	Namu Road	1.48	275	P	Pn	08 43 59.2	+2.3
OMRZ	Omania	1.51	18	P	Pn	08 43 57.6	+0.4
NBEZ	Newall Road No	1.51	280	P	Pn	08 43 59.8	+2.6
KNZ	Kokohu	1.55	71	P	Pn	08 43 58.6	+0.8
TMWZ	Te Maipa	1.56	177	P	Pn	08 43 58.5	+0.6
KARZ	Kaharoa	1.56	13	P	Pn	08 43 59.9	+1.9
MTW	Mount Morrison	1.62	188	P	Pn	08 43 59.2	+0.4
RAGZ	Rawiri	1.65	51	P	Pn	08 44 00.6	+1.5
URZ	Urewera	1.65	39	P	Pn	08 43 58.7	-0.4
URZ	Urewera	1.65	39	P	Pn	08 43 58.9	-0.2
	85nm,0.3s,baz=321,slow=7.9,SNR=91						
URZ				S	Sn	08 44 18.0	-1.2
	377nm,0.4s,baz=99,slow=14,SNR=18						
URZ	Urewera	1.65	39	P	Pn	08 43 58.9	-0.2
CAW	Cannon Point	1.65	199	P	Pn	08 43 60.0	+0.8
MHGZ	Mahia Peninsul	1.69	77	P	Pn	08 44 00.6	+1.0
PRGZ	Paritu Road	1.74	70	P	Pn	08 44 01.1	+0.8
RIGZ	Rimuhau	1.75	62	P	Pn	08 44 01.3	+0.8
OPRZ	Ohinepanea	1.80	20	P	Pn	08 44 01.5	+0.3
MWZ	Matawai	1.82	49	P	Pn	08 44 01.6	+0.1
TOZ	Tahuroa Road	1.83	353	P	Pn	08 44 01.9	+0.4
TRWZ	Trave

CTZ	Chatham Island	7.06 129	P	Pn	08 45 12.9	-0.2
ASAR	Alice Springs	38.65 281	P	P	08 50 50.5	+0.3
	0.3nm,0.6s,baz=122,slow=6.0,SNR=4.1					
	0.3nm,0.6s					
WRA	Warramunga Arr	40.52 287	P	P	08 51 06.0	+0.4
	0.2nm,0.3s,baz=125,slow=8.2,SNR=17					
	0.2nm,0.3s					
ARCES	ARCESS Array B	146.08 342	PKPbc	PKPdf	09 03 04.0	+0.7
	2.3nm,0.9s,baz=48,slow=3.6,SNR=3.5					
TORD	Torodi Ar. Bea	153.19 193	PKPbc	PKPbc	09 03 22.8	-0.9
	0.2nm,0.5s,baz=133,slow=2.3,SNR=1.8					

*NEIC **11** 08:49:24.6±0.8, 19°.469N±0°.008×155°.304W±0°.007, h2km±4km, Error ellipse: s-maj=1.4km s-min=0.8km az=147.0*

HVO 11 08:49:24.5±1.3, 19°.42N±0°.01×155°.277W±0°.008, h1km±4km, ML3.7, ML3.3/36(NEIC), Error ellipse: s-maj=1.5km s-min=1.0km az=190.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	Observatory Le	0.01	283		Pg	08 49 25.6	+0.7
UWB	Uwekahuna B	0.01	354		Pg	08 49 25.6	+0.7
SBLHI	Steaming Bluff	0.01	38		Pg	08 49 25.9	+1.0
UWE	Uwekahuna	0.02	289	Pg	Pg	08 49 25.1	+0.1
BYL	Byron's Ledge	0.02	104	Pg	Pg	08 49 25.6	+0.7
HATHI	Halema'uma'u T	0.02	65	Pg	Pg	08 49 25.6	+0.6
KKO	Keanakako`i	0.02	150		Pg	08 49 26.4	+1.3
RIM	Rim	0.02	172		Pg	08 49 26.3	+1.2
WRMHI	West Rim	0.02	246		Pg	08 49 26.6	+1.5
SDHHI	Sand Hill	0.03	211		Pg	08 49 26.8	+1.7
RSD	Rainshed	0.05	359	Pg	Pg	08 49 25.6	+0.1
PUH	Pauahi	0.07	126	Pg	Pg	08 49 27.1	+1.2
PUH					Sg	08 49 27.2	+0.3
PUH				IAML		08 49 27.8	
	comp=E,17μm,0.9s						
PUH				IAML		08 49 28.3	
	comp=N,13μm,0.5s						
KNHH	Kane Nui o Ham	0.11	110		Pg	08 49 27.5	+0.9
HLP	Hilina Pali	0.12	194		Pg	08 49 28.0	+1.1
HLP	Hilina Pali	0.12	194	IAML		08 49 30.0	
	comp=E,6μm,0.9s						
HLP				IAML		08 49 30.8	
	comp=N,9μm,0.5s						
MLH	Mauna Loa	0.13	307	Pg	Pg	08 49 26.4	-0.7
MLH				IAML		08 49 30.8	
	comp=N,11μm,0.8s						
MLH				IAML		08 49 31.1	
	comp=E,12μm,0.3s						
STCH	Steam Cracks	0.15	102		Pg	08 49 28.2	+0.8
STCH				IAML		08 49 31.6	
	comp=N,12μm,0.7s						
STCH				IAML		08 49 31.9	
	comp=E,13μm,0.6s						
NPOC	North of Pu'u	0.16	98		Pg	08 49 28.5	+0.9
NPOC					Sg	08 49 31.5	+1.8
JCUZ	Jacuzzi	0.17	101		Pg	08 49 28.6	+0.8
JOKA	Jonika Flow	0.26	86		Pg	08 49 29.9	+0.5
JOKA	Jonika Flow	0.26	86	IAML		08 49 37.9	
	comp=E,3μm,0.9s						
JOKA				IAML		08 49 38.4	
	comp=N,10μm,0.9s						
MLOA	Mauna Loa Obse	0.31	293	IAML		08 49 39.1	
	comp=N,8μm,0.6s						
PAH	Pahoa	0.32	76		Pg	08 49 31.6	+0.9
KHU	Kahuku	0.36	242		Pg	08 49 31.9	+0.4
KHU	Kahuku	0.36	242	IAML		08 49 44.6	
	comp=E,4μm,0.7s						
ALEP	Alea Permanent	0.37	290		Pg	08 49 29.2	-2.4
POHA	Pohakuloa	0.42	325	Pg	Pg	08 49 33.0	+0.5
HPO	Honuapo	0.42	219		Pg	08 49 33.5	+0.9
HUH	Hualalai	0.59	297	Pg	Pb	08 49 36.9	-1.0
HPAH	Hawaii Prepara	0.73	327	Pg	Pg	08 49 37.7	-0.8
MHA	Mahukona	0.97	323		Pg	08 49 41.2	-1.9
HLK	Haleakala	1.62	326	Pn	Pn	08 49 50.3	-4.2
KHLH	Kahului Airpor	1.83	324		Pn	08 49 53.5	-3.6

IDC 11 09:00:15.6±3.6, 55°.61N×85°.96E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=30.1km s-min=24.2km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.79	202	I	I	09 12 00.0	
	baz=19,slow=316,SNR=1.9						
ZALV	Zalesovo Beam	1.79	202	Pg	Pn	09 00 46.5	-1.1
	1.7nm,0.3s,baz=23,slow=16,SNR=12						
ZALV				Lg	Lg	09 01 12.8	
	2.8nm,0.3s,baz=21,slow=28,SNR=18						
KURBB	Kurchatov Arra	6.70	225	Pn	Pn	09 01 55.3	+0.2
	0.1nm,0.3s,baz=44,slow=14,SNR=8.2						
	0.8nm,0.5s						
MKAR	Makanchi Array	9.12	196	Pn	Pn	09 02 28.3	0.0
	0.1nm,0.3s,baz=8.2,slow=13,SNR=2.1						
	0.1nm,0.5s						

IDC 11 09:10:13.3±4.6, 53°.62N×88°.02E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=50.8km s-min=24.8km az=76.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.93	281	I	I	09 21 52.1	
	baz=97,slow=311,SNR=1.5						
ZALV	Zalesovo Beam	1.93	281	Pn	Pn	09 10 47.0	-0.3
	1.2nm,0.3s,baz=98,slow=15,SNR=11						
ZALV				Sn	Sn	09 11 12.9	+0.6
	2.3nm,0.3s,baz=102,slow=26,SNR=11						
KURBB	Kurchatov Arra	6.57	247	Pn	Pn	09 11 51.8	+0.7
	baz=63,slow=14,SNR=2.6						
	0.4nm,0.5s						
MKAR	Makanchi Array	7.76	211	Pn	Pn	09 12 08.5	+1.1
	0.1nm,0.3s,baz=29,slow=13,SNR=2.3						
	0.1nm,0.3s						

IDC 11 09:10:25.9±1.5, 31°.70S×58°.46E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=51.1km s-min=38.5km az=82.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.34	198	T	T	09 29 52.9	
	baz=22						
H04N1	CROZET ISLANDS	15.34	198	T	T	09 29 53.9	
	baz=22						
H04N3	CROZET ISLANDS	15.36	198	T	T	09 29 53.4	
	baz=22						
H08S1	Diego Garcia H	27.27	32	T	T	09 44 36.3	
	baz=207,slow=76,SNR=8.0						
H08S2	Diego Garcia H	27.27	32	T	T	09 44 36.9	
	baz=207,slow=76,SNR=5.7						
H08S3	Diego Garcia H	27.29	32	T	T	09 44 39.4	
	baz=207,slow=76,SNR=7.3						
H01W2	Cape Leeuwin H	46.14	110	T	T	10 08 34.8	
	baz=255						
H01W3	Cape Leeuwin H	46.15	110	T	T	10 08 36.1	
	baz=255						
H01W1	Cape Leeuwin H	46.16	110	T	T	10 08 37.1	
	baz=255						
QSPA	South Pole Qui	58.47	180	P	P	09 20 23.6	0.0
	0.6nm,0.7s,baz=280,slow=7.7,SNR=5.7						
	0.6nm,0.7s						
ASAR	Alice Springs	66.10	104	P	P	09 21 15.2	-0.1
	0.6nm,0.7s,baz=240,slow=5.8,SNR=6.9						
	0.6nm,0.7s						
WRA	Warramunga Arr	68.10	100	P	P	09 21 28.1	+0.1
	0.5nm,0.8s,baz=240,slow=5.8,SNR=1.4						
	0.5nm,0.8s						
BVAR	Borovoye Array	85.00	7	P	P	09 23 03.0	+0.2
	0.5nm,0.5s,baz=173,slow=5.8,SNR=2.4						
	0.5nm,0.5s						
YKA	Yellowknife Ar	148.87	354	PKPbc	PKPbc	09 30 13.9	-0.8
	0.3nm,0.8s,baz=15,slow=2.6,SNR=4.4						

*IDC **11** 09:13:34.9±0.8, 12°.69N×44°.90W, h0km, mb3.9/11, mbtmp4.0/12, ML4.0/1, MS3.2/17, Error ellipse: s-maj=25.2km s-min=18.5km az=102.0*
*NEIC **11** 09:13:37.2±1.0, 12°.63N±0°.05×44°.9W±0°.2, h10km±2km, mb4.3/11, Error ellipse: s-maj=26.3km s-min=5.8km az=102.0*

ISC 11 09:13:36.4±0.7, 12°.7N±0°.1×44°.9W±0°.1, h10km, n42, σ0s61/23, mb4.1/16, MS3.2/16, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	Montagnes des	10.73	226	Pn	Pn	09 16 10.4	0.0
	1.1nm,0.3s,baz=31,slow=15,SNR=26						
MDP				Sn	Sn	09 17 57.4	-13
	0.2nm,0.3s,baz=338,slow=15,SNR=1.6						
MDP				LR	LR	09 19 41.9	
	comp=Z,106nm,20.1s,baz=32,slow=34						
	2.5nm,0.4s						
MPOM	Morne Pois Mar	15.63	278	Pn	Pn	09 17 17.1	+0.2
BIM	Bigot	15.84	279	Pn	Pn	09 17 20.8	+1.1
FDF	Fort de France	15.94	279	Pn	Pn	09 17 20.4	-0.6
FDF				IAmb	IAmb	09 17 33.2	
	comp=Z,45nm,0.9s						
BOAV	Boa Vista	18.55	238	P	Pn	09 17 53.9	+0.3
SJG	San Juan	21.20	287	LR	LR	09 25 25.1	
	comp=Z,37nm,21.8s,baz=72,slow=34						
BBTS	Babate	27.61	83	LR	LR	09 28 27.3	
	comp=Z,42nm,19.2s,baz=151,slow=32						
BDFB	Brasilia	28.30	186	LR	LR	09 31 02.1	
	comp=Z,37nm,18.1s,baz=146,slow=37						
ROSC	El Rosal	30.09	258	LR	LR	09 32 28.1	
	comp=Z,34nm,18.3s,baz=83,slow=38						
SIV	San Ignacio	32.67	210	LR	LR	09 32 33.7	
	comp=Z,38nm,21.6s,baz=122,slow=35						
H10N3	ASCENSION HYDR	36.43	122	T	T	09 59 10.9	
	baz=304						
H10N2	ASCENSION HYDR	36.43	122	T	T	09 59 16.0	
	baz=304,slow=74						
H10N1	ASCENSION HYDR	36.45	122	T	T	09 59 13.8	
	baz=304,slow=74						
LPAZ	La Paz	36.83	219	P	P	09 20 45.0	-0.6
LPAZ	La Paz	36.83	219	P	P	09 20 46.0	+0.3
	comp=Z,1.1nm,0.6s,baz=23,slow=7.4,SNR=6.3						
LPAZ				LR	LR	09 36 12.1	
	comp=Z,36nm,18.5s,baz=60,slow=37						
	comp=Z,1.1nm,0.6s						
H10S3	ASCENSION HYDR	36.92	124	T	T	09 59 45.4	
	baz=274						
H10S2	ASCENSION HYDR	36.94	124	T	T	09 59 57.4	
	baz=306						
ATAH	Atahualpa	38.68	241	LR	LR	09 37 25.1	
	comp=Z,78nm,20.4s,baz=56,slow=37						
DBIC	Dimbokro	39.87	95	LR	LR	09 36 17.5	
	comp=Z,26nm,18.4s,baz=296,slow=34						
NNA	Nana	40.07	234	LR	LR	09 36 51.9	
	comp=Z,28nm,20.7s,baz=106,slow=35						
CPUP	Villa Florida	40.61	197	P	P	09 21 16.1	-0.5
	comp=Z,1.2nm,0.7s,baz=87,slow=13,SNR=2.0						
	comp=Z,1.2nm,0.7s						
TKL	Tuckaleechee C	41.83	310	LR	LR	09 36 00.4	
	comp=Z,27nm,19.3s,baz=134,slow=32						
TORD	Torodi Ar. Bea	45.35	84	P	P	09 21 55.2	-0.1
	comp=Z,2.4nm,1.1s,baz=287,slow=7.5,SNR=5.8						
TORD				LR	LR	09 38 42.7	
	comp=Z,53nm,18.7s,baz=270,slow=33						
	comp=Z,2.4nm,1.1s						
SCHQ	Schefferville	45.45	342	P	P	09 21 56.0	+0.4
	comp=Z,1.3nm,0.6s,baz=145,slow=7.6,SNR=4.4						
	comp=Z,1.3nm,0.6s						
SAND	Sanderson	55.48	298	P	P	09 23 11.5	-0.4
SAND				IAmb	IAmb	09 23 19.5	
	comp=Z,2.3nm,0.9s						
ULM	Lac du Bonnet	55.84	323	P	P	09 23 12.5	-1.5
	comp=Z,1.1nm,0.5s,baz=109,slow=5.7,SNR=2.1						
	comp=Z,1.1nm,0.5s						
MSTX	Muleshoe	56.47	302	P	P	09 23 19.1	+0.1
MSTX				IAmb	IAmb	09 23 26.7	
	comp=Z,4.1nm,1.0s						
TXAR	Lajitas Array	56.78	297	P	P	09 23 21.1	-0.1
	comp=Z,0.9nm,0.7s,baz=118,slow=7.8,SNR=16						
	comp=Z,0.9nm,0.7s						
TX31	Lajitas Ar. Si	56.78	297	P	P	09 23 21.4	+0.1
TX31				IAmb	IAmb	09 23 22.9	
	comp=Z,1.0nm,0.7s						
ALPN	Alpine	56.83	298	P	P	09 23 22.1	+0.5
ALPN				IAmb	IAmb	09 23 29.5	
	comp=Z,2.8nm,0.9s						
VHRN	Van Horn	58.02	298	P	P	09 23 31.0	+1.0
VHRN				IAmb	IAmb	09 23 31.7	
	comp=Z,2.5nm,0.7s						
PLCA	Paso Flores	58.21	203	P	P	09 23 31.1	+0.1
PLCA				IAmb	IAmb	09 23 40.6	
	comp=Z,4.7nm,1.1s						
PLCA	Paso Flores	58.21	203	P	P	09 23 31.0	+0.1
	comp=Z,1.7nm,0.7s,baz=1.5,slow=7.1,SNR=6.3						
	comp=Z,1.7nm,0.7s						
ANMO	Albuquerque	59.61	303	LR	LR	09 46 56.1	
	comp=Z,40nm,21.5s,baz=186,slow=34						
PDAR	Pinedale Array	62.94	312	P	P	09 24 04.1	+0.5
	comp=Z,0.4nm,0.9s,baz=80,slow=10,SNR=2.4						
	comp=Z,0.4nm,0.9s						
HFS	Hagfors	63.68	28	P	P	09 24 08.3	+0.4
	comp=Z,1.5nm,0.8s,baz=195,slow=11,SNR=4.3						
	comp=Z,1.5nm,0.8s						
PFO	Pinyon Flats O	67.82	301	LR	LR	09 55 01.5	
	comp=Z,26nm,18.3s,baz=236,slow=37						
SPITS	Spitsbergen Ar	71.94	11	LR	LR	09 50 30.8	
	comp=Z,12nm,18.7s,baz=160,slow=31						
YBH	Yreka Blue Hor	72.63	310	LR	LR	09 54 24.9	
	comp=Z,16nm,21.9s,baz=72,slow=34						
BOSA	Boshof	79.18	123	LR	LR	09 53 57.8	
	comp=Z,46nm,18.1s,baz=96,slow=31						
ILAR	Eielson Array	83.69	335	P	P	09 26 04.8	-0.4
	comp=Z,1.2nm,0.9s,baz=64,slow=5.1,SNR=12						
	comp=Z,1.2nm,0.9s						
SNAA	Sanae	88.71	168	P	P	09 26 30.2	+0.5
	comp=Z,1.3nm,0.9s,baz=297,slow=9.0,SNR=2.7						
	comp=Z,1.3nm,0.9s						

*IDC **11** 09:21:26.0±1.4, 31°.87S×58°.13E, h0km, mb3.9/6, mbtmp3.9/6, MS3.3/3, Error ellipse: s-maj=48.2km s-min=31.8km az=79.0*

ISC 11 09:21:27.5±1.4, 31°.9S±0°.2×58°.1E±0°.4, h10km, n19, σ0s26/7, mb4.1/6, MS3.2/3, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.09	197	T	T	09 40 59.1	
	baz=22,slow=75,SNR=44						
H04N1	CROZET ISLANDS	15.09	197	T	T	09 41 05.7	
	baz=22,slow=75,SNR=37						
H04N3	CROZET ISLANDS	15.10	197	T	T	09 41 20.5	
	baz=22,slow=75,SNR=47						
H08S1	Diego Garcia H	27.57	32	T	T	09 55 31.5	
	baz=206,slow=76,SNR=8.3						
H08S2	Diego Garcia H	27.58	32	T	T	09 55 30.5	
	baz=206,slow=76,SNR=6.3						
H08S3	Diego Garcia H	27.59	32	T	T	09 55 35.0	
	baz=206,slow=76,SNR=8.2						
BOSA	Boshof	28.50	268	LR	LR	09 37 04.8	
	comp=Z,54nm,18.5s,baz=198,slow=33						
SUR	Sutherland	31.48	259	LR	LR	09 38 21.2	
	comp=Z,33nm,19.9s,baz=16,slow=32						
H01W2	Cape Leeuwin H	46.37	110	T	T	10 19 08.8	
	baz=257,slow=74,SNR=12						
H01W3	Cape Leeuwin H	46.38	110	T	T	10 19 09.2	
	baz=257,slow=74,SNR=9.2						
H01W1	Cape Leeuwin H	46.39	110	T	T	10 19 08.7	
	baz=257,slow=74,SNR=11						
QSPA	South Pole Qui	58.30	180	P	P	09 31 22.3	0.0
	0.4nm,0.5s,baz=297,slow=1.5,SNR=1.5						
	0.4nm,0.5s						
CMAR	Chiang Mai Arr	63.53	44	P	P	09 31 58.0	-0.2
	0.8nm,0.4s,baz=225,slow=5.7,SNR=5.4						
	0.8nm,0.4s						
ASAR	Alice Springs	66.36	104	P	P	09 32 17.0	+0.1
	0.6nm,0.6s,baz=229,slow=6.3,SNR=6.9						
	0.6nm,0.6s						
WRA	Warramunga Arr	68.37	101	P	P	09 32 29.7	+0.1
	0.9nm,0.8s,baz=246,slow=5.1,SNR=4.6						
	0.9nm,0.8s						
KURBB	Kurchatov Arra	84.09	13	P	P	09 33 58.3	+0.2
	1.0nm,0.8s,baz=201,slow=5.0,SNR=2.4						
	1.0nm,0.8s						
BVAR	Borovoye Array	85.21	7	P	P	09 34 04.0	+0.3
	1.4nm,0.6s,baz=174,slow=4.5,SNR=7.2						
	1.4nm,0.6s						
MDT	Midelt	87.41	311	LR	LR	10 13 33.4	
	comp=Z,22nm,18.0s,baz=160,slow=36						
YKA	Yellowknife Ar	149.00	353	PKPbc	PKPbc	09 41 14.7	-0.3
	0.8nm,0.8s,baz=357,slow=2.2,SNR=5.0						

*NNC **11** 09:21:43.2±3.4, 53°.46N×87°.92E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=28.4km s-min=13.2km az=63.0, Suspected Mining explosion.*
*IDC **11** 09:21:45.0±2.7, 53°.54N×87°.72E, h0km, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=26.8km s-min=15.8km az=86.0*

ISC 11 09:21:43.6±3.1, 53°.6N±0°.1×87°.8E±0°.2, h0km, n10, σ1s53/16, 8C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.80	283	I	I	09 33 20.0	
	0.1nm,0.8s,baz=98,slow=312,SNR=3.1						
ZAA0	Zalesovo Array	1.80	283	⇑Pn	Pn	09 22 15.6	-0.2
	0.9nm,0.4s						
ZAA0				⇑Sn	Sg	09 22 43.4	+2.0
	4.5nm,0.8s						
ZALV	Zalesovo Beam	1.80	283	Pn	Pb	09 22 16.2	-1.2
	5.2nm,0.3s,baz=98,slow=15,SNR=42						
ZALV				Sn	Sb	09 22 42.2	+1.7
	4.8nm,0.3s,baz=100,slow=25,SNR=14						
KURK	Kurchatov	6.33	247	⇑Pn	Pn	09 23 18.8	+0.6
	0.2nm,0.4s						
KURK				⇑Lg	Lg	09 25 03.6	
	3.7nm,0.9s						
KURBB	Kurchatov Arra	6.43	246	Pn	Pn	09 23 20.8	+1.3
	0.2nm,0.3s,baz=63,slow=14,SNR=12						
KURBB				Sn	Sn	09 24 30.6	-2.9
	baz=54,slow=21,SNR=1.2						
KURBB				Lg	Lg	09 25 07.5	
	0.1nm,0.3s,baz=65,slow=32,SNR=6.7						
	1.7nm,0.5s						
KURBB	Kurchatov Arra	6.43	246	⇑Pn	Pn	09 23 19.7	+0.2
	2.7nm,0.5s						
KURBB				⇓Sn	Sn	09 24 30.8	-2.8
	2.9nm,0.6s						
KURBB				⇓Lg	Lg	09 25 08.0	
	8.3nm,0.8s						
MK31	Makanchi Array	7.67	210	⇓Pn	Pn	09 23 36.8	+0.3
	0.1nm,0.3s,baz=36,slow=11,SNR=6.0						
MK31				⇑Sn	Sn	09 25 03.9	-0.1
	0.2nm,0.5s						
MK31				⇑Lg	Lg	09 25 46.7	
	4.8nm,1.0s,baz=45,slow=32,SNR=4.4						
MKAR	Makanchi Array	7.67	210	Pn	Pn	09 23 37.8	+1.3
	0.1nm,0.3s,baz=26,slow=12,SNR=6.3						
MKAR				Sn	Sn	09 25 04.3	+0.3
	0.2nm,0.3s,baz=31,slow=26,SNR=5.3						
MKAR				Lg	Lg	09 25 44.3	
	0.1nm,0.3s,baz=18,slow=32,SNR=2.8						
	0.2nm,0.3s						
MAKZ	Makanchi	7.75	211	⇑Pn	Pn	09 23 37.9	+0.4
	0.2nm,0.4s						
MAKZ				⇓Sn	Sn	09 25 04.9	-1.1
	0.4nm,0.5s						
MAKZ				⇓Lg	Lg	09 25 46.4	
	2.1nm,1.1s						
BVAR	Borovoye Array	10.43	274	Pn	Pn	09 24 14.8	+0.5
	baz=76,slow=18,SNR=2.8						
	0.5nm,0.4s						

*IDC **11** 09:26:32.2±3.4, 41°.27N×83°.66E, h0km, mbtmp3.1/5, ML2.6/5, Error ellipse: s-maj=29.2km s-min=25.6km az=172.0*
*NNC **11** 09:26:36.4±6.5, 41°.31N×84°.19E, h19km±25km, mb3.6, mpv3.4, Error ellipse: s-maj=47.6km s-min=18.9km az=135.0*
*SOME **11** 09:26:36.3, 41°.12N×83°.38E, h5km*

ISC 11 09:26:35.8±1.8, 41°.26N±0°.09×83°.54E±0°.06, h10km, n28, σ2s76/43, 10C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	3.57	303	eP	Pb	09 27 38.5	-0.7
	37nm,0.3s						
SHLS				eS	Sb	09 28 23.5	+0.8
	170nm,0.5s						
UZB	Uzynbulak	3.85	301	eP	Pg	09 27 48.1	-1.4
	10.0nm,0.4s						
UZB				eS	Sg	09 28 39.5	0.0
	39nm,0.4s						
DJR	Jarkent	4.13	319	eP	Pg	09 27 55.3	+0.4
	14nm,0.4s						
DJR				eS	Sg	09 28 52.5	+4.1
	41nm,0.4s						
SATY	Saty	4.22	297	eP	Pg	09 27 53.7	-2.9
	12nm,0.5s						
SATY				eS	Sg	09 28 49.2	-2.1
	61nm,0.5s						
KPKS	Kokpek	4.22	303	eP	Pg	09 27 54.5	-2.2
	8.0nm,0.2s						
KPKS				eS	Sg	09 28 50.3	-1.0
	102nm,0.5s						
ZHN	Zhinishke	4.24	298	eP	Pg	09 27 55.4	-1.7
	11nm,0.1s						
ZHN				eS	Sg	09 28 51.7	-0.4
	43nm,0.3s						
ARXS	Arharly	5.14	307	eP	Pb	09 28 10.3	+4.5
	5.3nm,0.4s						
ARXS				eS	Sg	09 29 18.2	-2.6
	24nm,0.5s						
MDOK	Medeo	5.18	294	eP	Pg	09 28 11.3	-3.8
	7.0nm,0.4s						
MDOK				eS	Sg	09 29 19.5	-2.7
	13nm,0.5s						
CHKK	Chushkaly	5.49	300	eP	Pg	09 28 19.7	-1.2
	0.9nm,0.1s						
CHKK				eS	Sg	09 29 33.6	+1.6
	20nm,0.4s						
MTBS	Maitube	5.60	292	eP	Pg	09 28 20.2	-2.9
	6.2nm,0.1s						
MTBS				eS	Sg	09 29 34.4	-1.2
	14nm,0.3s						
MK31	Makanchi Array	5.61	351	⇑Pn	Pn	09 27 59.8	+0.5
	0.2nm,0.2s,baz=145,slow=13,SNR=29						
MK31				⇓Pg	Pb	09 28 19.0	+5.2
	3.6nm,0.5s,baz=168,slow=16,SNR=13						
MK31				⇑Lg	Lg	09 29 34.4	
	50nm,0.6s,baz=165,slow=29,SNR=9.3						
MKAR	Makanchi Array	5.61	351	Pn	Pn	09 27 60.0	+0.7
	0.3nm,0.3s,baz=174,slow=15,SNR=19						
MKAR				Pg	Pb	09 28 15.4	+1.6
	1.0nm,0.3s,baz=177,slow=15,SNR=8.2						
MKAR				Sn	Sn	09 29 03.2	-0.6
	2.3nm,0.3s,baz=173,slow=26,SNR=5.1						
MKAR				Lg	Lg	09 29 33.1	
	7.8nm,0.3s,baz=170,slow=27,SNR=8.7						
	0.5nm,0.4s						
KTBS	Karatobe	5.63	298	eP	Pg	09 28 21.7	-2.0
	2.5nm,0.2s						
KTBS				eS	Sg	09 29 36.5	0.0
	34nm,0.4s						
MAKZ	Makanchi	5.66	349	⇓Pn	Pn	09 27 57.3	-2.7
	0.6nm,0.4s						
MAKZ				⇑Pg	Pb	09 28 19.5	+4.8
	1.6nm,0.3s						
MAKZ				⇑Lg	Lg	09 29 39.3	
	44nm,0.9s						
KST	Kastek	5.91	290	eP	Pg	09 28 24.9	-4.0
	2.8nm,0.2s						
KST				eS	Sg	09 29 42.6	-2.8
	18nm,0.4s						
DGS	Degeres	6.09	292	eP	Pg	09 28 29.4	-3.1
DGS				eS	Sg	09 29 51.0	-0.4
	14nm,0.5s						
TKM2	Tokmak 2	6.14	288	⇓

5.0nm,0.9s,baz=82,slow=27,SNR=4.5
KURBB Kurchatov Arra 9.99 341 Pn **Pn 09 28 57.3 -2.1**
baz=155,slow=13,SNR=2.7
KURBB Sn **Sn 09 30 48.9 -2.6**
0.1nm,0.3s,baz=164,slow=28,SNR=2.0
KURBB Lg Lg 09 31 50.3
0.1nm,0.3s,baz=143,slow=31,SNR=4.1
0.4nm,0.6s
KURBB Kurchatov Arra 9.99 341 ⇑Pn **Pn 09 29 03.6 +4.3**
0.5nm,0.7s
KURBB ⇓Lg Lg 09 31 59.1
22nm,0.7s
KURK Kurchatov 10.06 342 ⇑Pn **Pn 09 29 04.5 +4.3**
0.6nm,0.6s
KURK ⇓Lg Lg 09 31 59.6
15nm,0.7s
ZALV Zalesovo Beam 12.73 3 Pn Pn 09 29 34.1 -2.6
0.2nm,0.3s,baz=187,slow=10,SNR=2.0
ZALV Lg Lg 09 33 13.3
0.2nm,0.3s,baz=183,slow=23,SNR=1.6
0.5nm,0.4s
BVAR Borovoye Array 14.76 327 Pn **Pn 09 30 01.4 -3.0**
baz=144,slow=10,SNR=2.3
0.2nm,0.4s
SONM Songino Array 17.54 60 P **Pn 09 30 37.9 -2.5**
baz=257,slow=13,SNR=1.9
0.3nm,0.7s

IDC 11 09:28:58.9±2.0, 6°.93S×124°.17E, h0km, mb3.3/1, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=215.7km s-min=32.3km az=59.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.27**	**144**	Pn	P	09 32 50.9	-1.3
	baz=318,slow=13,SNR=2.2						
WRA				Sn	Sn	09 35 41.3	-8.9
	0.1nm,0.3s,baz=322,slow=24,SNR=6.3						
	0.7nm,1.1s						
ASAR	**Alice Springs**	**19.09**	**152**	P	P	09 33 22.4	-0.9
	0.1nm,0.3s,baz=330,slow=12,SNR=2.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**65.12**	**330**	P	P	09 39 41.6	0.0
	0.2nm,0.6s,baz=122,slow=7.4,SNR=1.7						
	0.2nm,0.6s						

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*IDC **11** 09:29:31.9±1.6, 31°.75S×58°.35E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=55.1km s-min=32.8km az=85.0*

ISC 11 09:29:33.5±1.6, 31°.8S±0°.2×58°.4E±0°.4, h10km, n15, σ0°.20/6, mb3.9/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.25**	**198**	T	T	09 49 00.6	
	baz=22,slow=75,SNR=11						
H04N1	**CROZET ISLANDS**	**15.25**	**198**	T	T	09 49 04.0	
	baz=22,slow=75,SNR=12						
H04N3	**CROZET ISLANDS**	**15.27**	**198**	T	T	09 49 00.8	
	baz=22,slow=75,SNR=12						
H08S1	**Diego Garcia H**	**27.37**	**32**	T	T	10 04 25.7	
	baz=200,slow=74						
H08S2	**Diego Garcia H**	**27.38**	**32**	T	T	10 04 25.3	
	baz=200,slow=74						
H08S3	**Diego Garcia H**	**27.39**	**32**	T	T	10 04 27.2	
	baz=200,slow=74						
H01W2	**Cape Leeuwin H**	**46.21**	**110**	T	T	10 27 10.5	
	baz=257,slow=75,SNR=9.6						
H01W3	**Cape Leeuwin H**	**46.21**	**110**	T	T	10 27 11.8	
	baz=257,slow=75,SNR=10						
H01W1	**Cape Leeuwin H**	**46.23**	**110**	T	T	10 27 12.7	
	baz=257,slow=75,SNR=8.4						
QSPA	**South Pole Qui**	**58.41**	**180**	P	**P**	**09 39 29.0**	**-0.1**
	0.6nm,0.7s,baz=270,slow=5.1,SNR=2.0						
	0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.31**	**44**	P	**P**	**09 40 02.6**	**-0.2**
	0.7nm,0.3s,baz=230,slow=7.0,SNR=4.7						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**66.18**	**104**	P	**P**	**09 40 21.8**	**+0.1**
	0.6nm,0.8s,baz=249,slow=6.2,SNR=3.4						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**68.19**	**101**	P	**P**	**09 40 34.6**	**+0.1**
	0.2nm,0.6s,baz=243,slow=5.5,SNR=4.7						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**83.94**	**13**	P	**P**	**09 42 03.6**	**+0.2**
	0.7nm,0.8s,baz=198,slow=5.6,SNR=4.1						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**85.08**	**7**	P	**P**	**09 42 09.0**	**0.0**
	1.0nm,0.7s,baz=182,slow=4.3,SNR=5.8						
	1.0nm,0.7s						

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*MOS **11** 09:38:54.4±1.0, 46°.68N×145°.28E, h375km, mb4.2/10, Error ellipse: s-maj=10.5km s-min=6.4km az=101.3*

*IDC **11** 09:38:55.6±0.9, 46°.75N×145°.15E, h368km±9km, mb3.5/25, mbtmp4.2/33, Error ellipse: s-maj=12.0km s-min=9.8km az=95.0*

*NEIC **11** 09:38:55.9±1.3, 46°.66N±0°.09×145°.2E±0°.2, h373km±9km, mb4.0/28, Error ellipse: s-maj=17.4km s-min=9.9km az=121.0*

*NIED **11** 09:38:56.5, 46°.25N×145°.16E, h389km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.12; $M_{\theta\theta}$=0.72; $M_{\phi\phi}$=-0.60; $M_{r\theta}$=0.66; $M_{\theta\phi}$=-0.38; $M_{\phi r}$=-0.48; Fault plane solution: M_0=1.12000×10^{15} NP1: ϕ_s=62.00000°, δ=85.00000°, λ=-133.00000°. NP2: ϕ_s=327.00000°, δ=43.00000°, λ=-7.00000°.*

*SKHL **11** 09:38:56.3±0.5, 46°.60N×145°.10E, h365km±4km, mb4.9/7, mbv4.8/5, msh4.7/3, msha5.1/6*

*JMA **11** 09:38:56.5±0.5, 46°.N±3°.×14°.5E±°, h389km, MV3.6/19, SOUTHERN SEA OF OKHOTSK*

ISC 11 09:38:55.1±0.5, 46°.55N±0°.04×145°.27E±0°.05, h371km±4km, n147, σ1°.44/178, mb4.0/47, 12C-2D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.77**	**284**	Pn	**Pn**	**09 39 48.0**	**+1.1**
YSS	**Yuzh-Sakhalins**	**1.77**	**284**	*e*P	**Pn**	**09 39 47.9**	**+1.1**
YSS				AMB	AMB	09 39 48.1	
	200nm,2.1s						
YSS				AMB	AMB	09 39 48.1	
	220nm,0.4s						
YSS				*e*S	**S**	**09 40 27.7**	**-0.9**
YSS				A	A	09 40 29.2	
	120nm,0.8s						
YSS				A	A	09 40 29.2	
	160nm,0.8s						
YSS	**Yuzh-Sakhalins**	**1.77**	**284**	α *i*PN	**Pn**	**09 39 47.9**	**+1.1**
YSS				*e*S	**S**	**09 40 27.7**	**-0.9**
YSS				pmax	pmax		
	comp=Z,200nm,2.1s						
YSS				pmax	pmax		
	comp=Z,220nm,0.4s						
YSS				smax	smax		
	comp=N,120nm,0.8s						
YSS				smax	smax		
	comp=E,160nm,0.9s						
KUR	**Kuril'sk**	**2.24**	**125**	*e*P	**Pn**	**09 39 51.6**	**+1.5**
KUR				AMB	AMB	09 39 52.4	
	comp=E,100nm,0.6s						
KUR				AMB	AMB	09 39 55.5	
	comp=E,1μm,3.0s						
KUR				*e*S	**S**	**09 40 36.8**	**+2.5**
KUR				A	A	09 40 38.2	
	comp=E,40nm,0.5s						
KUR				A	A	09 40 38.2	
	comp=E,60nm,0.5s						
KUR				A	A	09 40 44.9	
	comp=E,2μm,5.0s						
KUR				A	A	09 40 44.9	
	comp=E,2μm,5.0s						
KUR	**Kuril'sk**	**2.24**	**125**	*e*PN	**Pn**	**09 39 51.7**	**+1.6**
KUR				pmax	pmax		
	comp=Z,63nm,1.0s						
RUSJ	**Misakicho**	**2.45**	**180**	*e*PN	**Pn**	**09 39 53.2**	**+1.6**
RUSJ				S	**S**	**09 40 38.1**	**+0.9**
JSE	**Soyaes**	**2.46**	**231**	*e*P	**Pn**	**09 39 52.3**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**2.55**	**170**	*e*P	**Pn**	**09 39 53.8**	**+1.4**
YUK				AMB	AMB	09 39 55.5	
	comp=Z,320nm,0.2s						
YUK				*e*S	**S**	**09 40 40.0**	**+1.4**
YUK				A	A	09 40 44.8	
	comp=Z,1μm,2.0s						
YUK				A	A	09 40 44.8	
	comp=Z,1μm,2.0s						
YUK				A	A	09 40 50.3	
	comp=Z,270nm,0.5s						
YUK				A	A	09 40 50.3	
	comp=Z,320nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.55**	**170**	PN	**Pn**	**09 39 52.9**	**+0.5**
YUK				*e*S	**S**	**09 40 38.3**	**-0.3**
YUK				pmax	pmax		
	comp=N,48nm,0.2s						
YUK				pmax	pmax		
	comp=E,77nm,0.2s						
YUK				pmax	pmax		
	comp=Z,317nm,0.2s						
YUK				smax	smax		
	comp=E,321nm,0.5s						
YUK				smax	smax		
	comp=N,268nm,0.4s						
JRA	**Rausu**	**2.62**	**182**	P	**Pn**	**09 39 54.2**	**+1.2**
JTKR	**Abashiri--Toko**	**2.76**	**201**	*e*P	**Pn**	**09 39 55.2**	**+1.1**
SHO	**Shikotan**	**2.90**	**157**	*e*P	**Pn**	**09 39 54.6**	**-0.7**
SHO				AMB	AMB	09 39 55.7	
	comp=N,110nm,0.2s						
SHO				AMB	AMB	09 39 57.0	
	comp=N,470nm,2.0s						
SHO				*e*S	**S**	**09 40 41.6**	**-2.2**
SHO				A	A	09 40 42.6	
	comp=N,540nm,0.3s						
SHO				A	A	09 40 42.6	
	comp=N,500nm,0.3s						
SHO	**Shikotan**	**2.90**	**157**	*e*PN	**Pn**	**09 39 54.6**	**-0.7**
SHO				*e*S	**S**	**09 40 40.9**	**-2.9**
SHO				pmax	pmax		
	comp=N,15nm,0.2s						
SHO				pmax	pmax		
	comp=E,27nm,0.2s						
SHO				pmax	pmax		
	comp=Z,112nm,0.2s						
SHO				smax	smax		
	comp=N,541nm,0.3s						
SHO				smax	smax		
	comp=E,503nm,0.3s						
JKA	**Kamikawa-asahi**	**3.08**	**219**	Pn	**Pn**	**09 39 58.5**	**+1.7**
JKA	**Kamikawa-asahi**	**3.08**	**219**	*e*P	**Pn**	**09 39 58.3**	**+1.5**
ASAJ	**Asahikawa**	**3.08**	**219**	P	**Pn**	**09 39 58.3**	**+1.4**
	comp=E,27nm,0.7s,baz=352,slow=3.0,SNR=35						
ASAJ				S	**S**	**09 40 48.2**	**+1.6**
	comp=E,10nm,0.8s,baz=343,slow=19,SNR=1.2						
NMR	**Nemuro--Hokkai**	**3.20**	**174**	*e*P	**Pn**	**09 39 57.4**	**-0.5**
NMR	**Nemuro--Hokkai**	**3.20**	**174**	*e*PN	**Pn**	**09 39 57.3**	**-0.6**
NMR				S	**S**	**09 40 45.5**	**-3.0**
NEM2	**Nemuro 2**	**3.21**	**174**	P	**Pn**	**09 39 57.0**	**-0.9**
NEM2				S	**S**	**09 40 45.3**	**-3.3**
UGL	**Uglegorsk**	**3.32**	**321**	*i* P	**Pn**	**09 39 59.0**	**+0.2**
UGL				AMB	AMB	09 39 59.5	
	comp=E,390nm,0.5s						
UGL				*e*S	**S**	**09 40 48.6**	**-1.7**
UGL				A	A	09 40 49.0	
	comp=E,210nm,0.6s						
UGL				A	A	09 40 49.0	
	comp=E,180nm,0.6s						
UGL				A	A	09 40 49.0	
	comp=E,290nm,2.0s						
UGL				A	A	09 40 49.0	
	comp=E,620nm,2.0s						
UGL	**Uglegorsk**	**3.32**	**321**	⇑ *i*PN	**Pn**	**09 39 58.9**	**+0.2**
UGL				*e*S	**S**	**09 40 47.7**	**-2.6**
UGL				pmax	pmax		
	comp=Z,390nm,0.5s						
UGL				smax	smax		
	comp=N,210nm,0.7s						
UGL				smax	smax		
	comp=E,190nm,0.5s						
UGL				smax	smax		
	comp=N,550nm,2.0s						
UGL				smax	smax		
	comp=E,180nm,0.5s						
JAR	**Ashorobuto**	**3.43**	**199**	P	**Pn**	**09 40 00.8**	**+0.9**
AKK	**Akkeshi**	**3.55**	**185**	*e*P	**Pn**	**09 40 00.5**	**-0.6**
JAK	**Akkeshi**	**3.58**	**187**	P	**Pn**	**09 40 01.0**	**-0.4**
JAK				S	**S**	**09 40 52.2**	**-2.7**
JCH	**Churui**	**4.17**	**200**	P	**Pn**	**09 40 06.4**	**-0.7**
JCH				*e*S	**S**	**09 41 01.4**	**-4.0**
JEW	**Eniwo**	**4.60**	**218**	*e*P	**Pn**	**09 40 13.4**	**+1.8**
JEW				*e*S	**S**	**09 41 12.3**	**-1.1**
JNBK	**Urakawa-nobuka**	**4.64**	**204**	*e*P	**Pn**	**09 40 11.3**	**-0.6**
JNBK				*e*S	**S**	**09 41 09.9**	**-4.2**
TYV	**Tymovskoe**	**4.65**	**339**	*e*P	**Pn**	**09 40 11.3**	**-0.5**
TYV				AMB	AMB	09 40 11.5	
	comp=E,70nm,0.3s						
TYV				AMB	AMB	09 40 11.6	
	comp=E,100nm,2.1s						
TYV				*e*S	**S**	**09 41 14.7**	**+0.7**
TYV	**Tymovskoe**	**4.65**	**339**	*e*PN	**Pn**	**09 40 11.3**	**-0.5**
TYV				*e*S	**S**	**09 41 11.3**	**-2.7**
TYV				pmax	pmax		
	comp=Z,61nm,0.6s						
TYV				pmax	pmax		
	comp=Z,100nm,2.1s						
TYV				smax	smax		
	comp=N,100nm,2.0s						
TYV				smax	smax		
	comp=E,100nm,2.0s						
TYV				smax	smax		
	comp=N,13nm,1.4s						
TYV				smax	smax		
	comp=E,14nm,1.4s						
ERM	**Erimo**	**4.78**	**199**	Pn	**Pn**	**09 40 14.3**	**+0.9**
ERM	**Erimo**	**4.78**	**199**	*ce*PN	**Pn**	**09 40 14.0**	**+0.5**
ERM				pmax	pmax		
	comp=Z,147nm,1.7s						
JOT	**Ohata**	**6.00**	**212**	*e*P	**Pn**	**09 40 26.1**	**-0.6**
JOT				*e*S	**S**	**09 41 35.2**	**-5.8**
JTM	**Tenmabayashi**	**6.52**	**209**	Pn	**Pn**	**09 40 32.5**	**0.0**
JANG	**Nango**	**6.75**	**205**	*e*P	**Pn**	**09 40 34.1**	**-1.1**
JANG				*e*S	**S**	**09 41 50.5**	**-6.2**
OKH	**Okha**	**7.16**	**349**	*e*P	**P**	**09 40 41.5**	**+0.8**
NKL	**Nikolayevsk**	**7.24**	**338**	*e*P	**Pn**	**09 40 40.2**	**-0.3**
SKR	**Severo-Kuril's**	**8.29**	**56**	*e*P	**P**	**09 40 55.4**	**+1.0**
SKR				*e*S	**S**	**09 42 28.5**	**-0.5**
JMM	**Marumori**	**9.29**	**202**	P	**P**	**09 41 05.7**	**-0.1**
KLR	**Kul'dur**	**9.47**	**291**	P	**Pn**	**09 41 07.0**	**+0.3**
	comp=Z,8.4nm,0.6s,baz=100,slow=12,SNR=41						
KLR	**Kul'dur**	**9.47**	**291**	*e*P	**P**	**09 41 07.2**	**-0.4**
KLR	**Kul'dur**	**9.47**	**291**	*d i*PN	**P**	**09 41 07.2**	**-0.4**
KLR				pmax	pmax		
	comp=Z,23nm,1.2s						
USA0B	**Ussuriysk Arra**	**9.64**	**261**		**P**	**09 41 09.7**	**+0.2**
USA0B	**Ussuriysk Arra**	**9.64**	**261**	PN	**P**	**09 41 09.7**	**+0.2**
USRK	**Ussuriysk Ar.**	**9.64**	**261**		**Pn**	**09 41 09.1**	**+0.4**
USRK	**Ussuriysk Ar.**	**9.64**	**261**	P	**Pn**	**09 41 08.7**	**-0.1**
	comp=Z,3.5nm,0.4s,baz=69,slow=11,SNR=13						
USRK	**Ussuriysk Ar.**	**9.64**	**261**	PN	**Pn**	**09 41 09.1**	**+0.4**
MDJ	**Mudanjiang**	**11.16**	**266**	P	**Pn**	**09 41 27.2**	**+0.6**
MJA0	**Matsu Arr-Jizo**	**11.29**	**210**	*e*PN	**Pn**	**09 41 30.3**	**+1.9**
MJA0				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MJB9	**Matsu-Tunnel**	**11.31**	**210**	P	**Pn**	**09 41 30.8**	**+2.3**
MAJO	**Matsushiro**	**11.31**	**210**	P	**Pn**	**09 41 29.3**	**+0.8**
MAJO	**Matsushiro**	**11.31**	**210**	PN	**Pn**	**09 41 29.3**	**+0.8**
MJAR	**Matsushiro Arr**	**11.31**	**210**	P	**Pn**	**09 41 30.4**	**+1.8**
	comp=Z,6.4nm,0.4s,baz=15,slow=12,SNR=40						
JGF	**Kuroka**	**12.46**	**211**		**Pn**	**09 41 42.5**	**+0.5**
INU	**Inuyama**	**12.80**	**212**	P	**Pn**	**09 41 46.2**	**+0.2**
ZEA	**Zeya**	**13.59**	**309**	*e*P	**P**	**09 41 53.2**	**+0.2**
ZEA	**Zeya**	**13.59**	**309**	*e*P	**P**	**09 41 53.2**	**+0.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**15.75**	**241**	P	**Pn**	**09 42 19.4**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=52,slow=14,SNR=2.5						
SEY	**Seymchan**	**16.90**	**11**	P	**P**	**09 42 28.6**	**-0.2**
	comp=Z,5.3nm,0.9s,baz=164,slow=3.8,SNR=5.9						
HIA	**Hailar**	**17.30**	**288**	*i* P	**P**	**09 42 31.9**	**-1.5**
HIA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
JNU	**Nakatsue**	**17.34**	**224**	P	**P**	**09 42 34.8**	**+0.8**
JNU				IAmb	IAmb	09 42 39.6	
	comp=Z,5.9nm,0.8s						
JNU	**Nakatsue**	**17.34**	**224**	P	**P**	**09 42 35.9**	**+1.9**
	comp=Z,5.9nm,0.8s,baz=42,slow=14,SNR=6.2						
YAK	**Yakutsk**	**17.90**	**336**	P	**P**	**09 42 38.5**	**-1.0**
YAK	**Yakutsk**	**17.90**	**336**	P	**P**	**09 42 38.2**	**-1.3**
	comp=Z,25nm,0.5s,baz=53,slow=5.1,SNR=4.9						
YAK	**Yakutsk**	**17.90**	**336**	*e*P	**P**	**09 42 40.2**	**+0.8**
YAK	**Yakutsk**	**17.90**	**336**	*e*P	**P**	**09 42 40.2**	**+0.8**
YAK				*e*S	**S**	**09 45 46.0**	**+0.7**
YAK				pmax	pmax		
	comp=Z,23nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK				smax	smax		
	comp=E,75nm,3.4s						
YAK				smax	smax		
	comp=N,39nm,2.9s						
BILL	**Bilibino**	**24.09**	**19**	⇓ *e*P	**P**	**09 43 37.9**	**-0.3**
BILL				*e*S	**S**	**09 47 21.2**	**-6.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.5s						
HHC	**Hu-ho-hao-te**	**24.90**	**269**	⇑ *i*P	**P**	**09 43 47.4**	**+1.5**
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,88nm,4.3s						
ULN	**Ulaanbaatar**	**25.82**	**287**	P	**P**	**09 43 53.4**	**-0.7**
ULN				IAmb	IAmb	09 43 57.9	
	comp=Z,7.2nm,0.8s						
ULN	**Ulaanbaatar**	**25.82**	**287**	*e*P	**P**	**09 43 54.0**	**-0.1**
ULN	**Ulaanbaatar**	**25.82**	**287**	*ce*P	**P**	**09 43 54.0**	**-0.1**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SONM	**Songino Array**	**26.26**	**287**	P	**P**	**09 43 57.3**	**-0.7**
SONM				IAmb	IAmb	09 44 02.1	
	comp=Z,5.6nm,1.1s						
SONM	**Songino Array**	**26.26**	**287**	P	**P**	**09 43 57.3**	**-0.7**
	comp=Z,6.2nm,1.0s,baz=77,slow=11,SNR=16						
SONM				ScP	**ScP**	**09 50 17.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=104,slow=4.6,SNR=3.7						
	comp=Z,6.2nm,1.0s						
SONM	**Songino Array**	**26.26**	**287**	*e*P	**P**	**09 44 00.4**	**+2.5**
SONM				pmax	pmax		
	comp=Z,6.0nm,1.0s						
G18K	**Tagagawik**	**35.11**	**36**	P	**P**	**09 45 14.6**	**+0.2**
D19K	**Kuna River**	**35.64**	**32**	P	**P**	**09 45 18.4**	**-0.4**
G19K	**Purcell Mounta**	**35.77**	**36**	P	**P**	**09 45 19.7**	**-0.2**
E19K	**Redstone River**	**35.83**	**34**	P	**P**	**09 45 20.6**	**+0.1**
E19K				IAmb	IAmb	09 45 21.1	
	comp=Z,3.5nm,0.6s						
H19K	**Roundabout Mou**	**35.99**	**37**	P	**P**	**09 45 22.4**	**+0.6**
H19K				IAmb	IAmb	09 45 22.7	
	comp=Z,2.8nm,0.6s						
NRIK	**Noril'sk**	**36.16**	**329**	P	**P**	**09 45 20.8**	**-2.3**
NRIK				IAmb	IAmb	09 45 23.2	
	comp=Z,3.7nm,0.4s						
NRIK	**Noril'sk**	**36.16**	**329**	P	**P**	**09 45 20.4**	**-2.7**
	comp=Z,3.6nm,0.5s,baz=67,slow=14,SNR=4.8						
	comp=Z,3.6nm,0.5s						
NRIK	**Noril'sk**	**36.16**	**329**	*e*P	**P**	**09 45 21.2**	**-1.9**
NRIK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
B20K	**Meade River**	**36.21**	**29**	P	**P**	**09 45 23.4**	**-0.1**
B20K				IAmb	IAmb	09 45 24.0	
	comp=Z,4.9nm,0.5s						
J19K	**Poorman**	**36.31**	**40**	P	**P**	**09 45 25.1**	**+0.6**
J20K	**Nowinta River**	**36.96**	**39**	P	**P**	**09 45 30.7**	**+0.8**
IMAR	**Indian Mountai**	**37.12**	**36**	P	**P**	**09 45 31.3**	**+0.1**
F21K	**Alatna River**	**37.27**	**34**	P	**P**	**09 45 32.2**	**-0.2**
ZALV	**Zalesovo Beam**	**38.29**	**304**	P	**P**	**09 45 40.2**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=70,slow=8.3,SNR=3.6						
	comp=Z,1.1nm,0.4s						
PZH	**PanZhiHua**	**39.68**	**255**	P	**P**	**09 45 54.3**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.0s						
WMQ	**Urumqi**	**39.90**	**288**	*e*P	**P**	**09 45 54.2**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
ILAR	**Eielson Array**	**40.06**	**38**	P	**P**	**09 45 54.8**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=255,slow=6.0,SNR=16						
	comp=Z,0.7nm,0.6s						
ILAR	**Eielson Array**	**40.06**	**38**	*e*P	**P**	**09 45 55.5**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MK31	**Makanchi Array**	**42.16**	**294**	P	**P**	**09 46 12.3**	**-0.2**
MK31				IAmb	IAmb	09 46 12.9	
	comp=Z,4.2nm,0.7s						
MK31	**Makanchi Array**	**42.16**	**294**	P	**P**	**09 46 12.3**	**-0.2**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**42.16**	**294**	P	**P**	**09 46 12.4**	**-0.2**
MKAR	**Makanchi Array**	**42.16**	**294**	P	**P**	**09 46 12.2**	**-0.4**
	comp=Z,4.2nm,0.7s,baz=71,slow=7.8,SNR=39						
	comp=Z,4.2nm,0.7s						
BCAR	**Beaver Creek A**	**42.57**	**40**	P	**P**	**09 46 17.4**	**+1.8**
KURK	**Kurchatov**	**42.90**	**301**	P	**P**	**09 46 17.9**	**-0.4**
KURK				IAmb	IAmb	09 46 18.1	
	comp=Z,5.4nm,0.5s						
KURK	**Kurchatov**	**42.90**	**301**	*e*P	**P**	**09 46 18.3**	**0.0**
KURK	**Kurchatov**	**42.90**	**301**	*ce*P	**P**	**09 46 18.3**	**0.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**42.99**	**301**	P	**P**	**09 46 18.2**	**-0.8**
	comp=Z,4.9nm,0.5s,baz=74,slow=8.6,SNR=28						
	comp=Z,4.9nm,0.5s						
BVAR	**Borovoye Array**	**46.73**	**307**	P	**P**	**09 46 47.0**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=48,slow=12,SNR=6.7						
	comp=Z,0.8nm,0.4s						
BRVK	**Borovoye**	**46.77**	**307**	P	**P**	**09 46 47.7**	**-0.7**
BRVK	**Borovoye**	**46.77**	**307**	*e*P	**P**	**09 46 48.4**	**0.0**
BRVK	**Borovoye**	**46.77**	**307**	*ce*P	**P**	**09 46 48.4**	**0.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
CMAR	**Chiang Mai Arr**	**47.15**	**249**	P	**P**	**09 46 52.4**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=56,slow=5.5,SNR=1.4						
	comp=Z,0.8nm,0.3s						
KKAR	**Karatay Array**	**51.27**	**295**	P	**P**	**09 47 22.7**	**+0.4**
KKAR	**Karatay Array**	**51.27**	**295**	P	**P**	**09 47 22.7**	**+0.4**
ARU	**Arti**	**51.41**	**315**	P	**P**	**09 47 22.3**	**-0.7**
ARU				IAmb	IAmb	09 47 22.8	
	comp=Z,7.9nm,0.8s						
ARU	**Arti**	**51.41**	**315**	*e*P	**P**	**09 47 22.6**	**-0.5**
ARU	**Arti**	**51.41**	**315**	*c i*P	**P**	**09 47 22.6**	**-0.5**
ARU				*PP	**pP**	**09 48 38.2**	**-0.9**
ARU						09 49 20.7	
ARU				SS	**SS**	**09 57 55.6**	**+1.6**
ARU				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YKA	**Yellowknife Ar**	**54.22**	**34**	P	**P**	**09 47 42.4**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=299,slow=6.3,SNR=3.1						
	comp=Z,0.3nm,0.8s						
ABKAR	**Akbulak array**	**54.30**	**306**	P	**P**	**09 47 43.8**	**-0.2**
CHGR	**Chuyangaron**	**54.55**	**291**	P	**P**	**09 47 46.2**	**0.0**
CHGR	**Chuyangaron**	**54.55**	**291**	P	**P**	**09 47 46.2**	**0.0**
CHGR				pmax	pmax		
	comp=Z,19nm,0.9s						
ARCES	**ARCESS Array B**	**56.15**	**338**	P	**P**	**09 47 55.3**	**-1.5**
	comp=Z,4.3nm,1.0s,baz=37,slow=6.2,SNR=2.3						
	comp=Z,4.3nm,1.0s						
VALR	**Valaam**	**60.20**	**330**	*i* P	**P**	**09 48 23.5**	**-1.2**
VALR				pmax	pmax		
	comp=Z,

KIV pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 66.96 310 P P 09 49 08.9 +0.3
comp=Z,4.6nm,0.8s,baz=40,slow=6.6,SNR=11
comp=Z,4.6nm,0.8s
KBZ Khabaz 66.96 310 *e*P **P 09 49 09.7 +1.0**
KBZ Khabaz 66.96 310 *e*P **P 09 49 09.7 +1.0**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 68.54 322 P P 09 49 17.6 -0.7
comp=Z,1.6nm,0.5s,baz=38,slow=6.8,SNR=9.9
comp=Z,1.6nm,0.5s
AKBB Malin Array Si 68.54 322*ce*P **P 09 49 17.0 -1.3**
AKBB pmax pmax
comp=Z,5.0nm,0.7s
PDAR Pinedale Array 69.11 50 P P 09 49 23.9 +1.7
comp=Z,0.3nm,0.5s,baz=357,slow=0.6,SNR=5.7
comp=Z,0.3nm,0.5s
ULM Lac du Bonnet 70.06 37 P P 09 49 27.8 +0.2
comp=Z,0.9nm,0.6s,baz=288,slow=6.4,SNR=2.0
comp=Z,0.9nm,0.6s
ASAR Alice Springs 70.64 191 P P 09 49 33.0 +1.7
comp=Z,0.8nm,0.7s,baz=9.6,slow=6.1,SNR=9.0
comp=Z,0.8nm,0.7s
BUR08 Bucovina Ar. S 72.58 322 P P 09 49 43.1 +0.4
BUR08 IAmb IAmb 09 49 43.6
comp=Z,3.1nm,0.7s
CLL Collm 74.22 331 *i* P **P 09 49 51.4 -0.5**
comp=Z,5.0nm,0.6s
CLL *e*PcP **PcP 09 50 06.0 +1.2**
CLL *e*pP **pP 09 51 15.0 +0.4**
CLL Collm 74.22 331 *i* P **P 09 49 51.4 -0.5**
CLL *e**PP **pP 09 51 15.0 +0.4**
CLL pmax pmax
comp=Z,5.0nm,0.6s
BRTR Keskin Array B 74.66 312 P P 09 49 55.3 +0.5
comp=Z,0.5nm,0.5s,baz=107,slow=7.9,SNR=3.7
comp=Z,0.5nm,0.5s
EKA Eskdalemuir Ar 75.05 342 P P 09 49 56.3 -0.2
comp=Z,1.4nm,0.5s,baz=25,slow=5.1,SNR=10
comp=Z,1.4nm,0.5s
KHC Kasperske Hory 75.86 330*ce*P **P 09 50 02.3 +1.0**
KHC pmax pmax
comp=Z,8.0nm,1.7s
GERES GERESS Array B 76.06 329 P P 09 50 02.6 +0.1
comp=Z,1.7nm,0.5s,baz=35,slow=5.7,SNR=7.5
comp=Z,1.7nm,0.5s
STKA Stephens Creek 78.14 183 P P 09 50 15.8 +2.0
comp=Z,1.4nm,0.8s,baz=314,slow=11,SNR=2.8
comp=Z,1.4nm,0.8s
VLDQ Val d'Or 78.61 28 P P 09 50 16.4 +0.1
MMAI Mount Meron Ar 78.73 306 P P 09 50 17.8 +0.4
comp=Z,0.9nm,0.3s,baz=57,slow=9.1,SNR=3.6
comp=Z,0.9nm,0.3s
OK035 E0210 Rd and N 79.20 47 P P 09 50 17.0 -2.8
TXAR Lajitas Array 82.17 55 P P 09 50 36.7 +1.1
comp=Z,0.2nm,0.5s,baz=298,slow=4.2,SNR=6.0
comp=Z,0.2nm,0.5s

*IDC **11** 09:39:02.4±8.3,56°.05S×27°.16W,h106km±74km,mb3.7/5, mbtmp4.0/6,ML4.0/1,Error ellipse: s-maj=40.7km s-min=22.5km az=64.0*
*NEIC **11** 09:39:04.4±1.7,56°.16S±0°.09×27°.3W±0°.2,h123km±8km, mb4.5/23,Error ellipse: s-maj=20.0km s-min=6.1km az=55.0*
ISC 11 09:39:02.2±0.6,56°.12S±0°.10×27°.3W±0°.1,h100km,n40, σ1º52/33,mb4.5/17,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.58**	**285**	Pn	**Pn**	**09 40 24.9**	**+2.2**
ESPZ	**Base Esperanza**	**16.51**	**232**		**Pn**	**09 42 46.7**	**-0.7**
SNAA	**Sanae**	**18.70**	**156**	P	**P**	**09 43 12.3**	**0.0**
SNAA	**Sanae**	**18.70**	**156**	P	**P**	**09 43 12.0**	**-0.3**
	0.4nm,0.3s,baz=305,slow=11,SNR=22						
	2.0nm,0.5s						
PMSA	**Palmer Station**	**19.81**	**229**		pP	09 43 49.0	+6.7
SMAI	**San Martin Ant**	**21.67**	**221**	P	**P**	**09 43 44.6**	**+0.3**
BELA	**Belgrano 2**	**22.00**	**184**	P	**P**	**09 43 46.6**	**-1.1**
PLTB	**Pedras Altas**	**30.51**	**312**	P	**P**	**09 45 05.3**	**-0.4**
PLTB				IAmb	IAmb	09 45 24.3	
	comp=Z,16nm,1.3s						
QSPA	**South Pole Qui**	**34.13**	**180**	P	**P**	**09 45 37.3**	**+0.1**
QSPA	**South Pole Qui**	**34.13**	**180**	P	**P**	**09 45 37.0**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=177,slow=2.5,SNR=16						
	comp=Z,1.4nm,0.6s						
MT09	**Talagante**	**37.28**	**288**	P	**P**	**09 46 01.9**	**-2.5**
MT09				IAmb	IAmb	09 46 17.5	
	comp=Z,8.6nm,1.2s						
MT16	**CCHEN**	**37.30**	**289**	P	**P**	**09 46 02.5**	**-2.0**
MT16				IAmb	IAmb	09 46 03.3	
	comp=Z,7.1nm,0.6s						
MT02	**Curacav**	**37.76**	**289**	P	**P**	**09 46 06.3**	**-2.0**
MT02				IAmb	IAmb	09 46 25.6	
	comp=Z,19nm,1.5s						
VA06	**Catapilco**	**38.38**	**289**	P	**P**	**09 46 11.6**	**-1.9**
CO02	**Combarbal**	**39.29**	**291**	P	**P**	**09 46 20.2**	**-1.0**
CO02				IAmb	IAmb	09 46 42.8	
	comp=Z,10nm,1.2s						
CO01	**Juntas del Tor**	**39.79**	**293**	P	**P**	**09 46 25.6**	**0.0**
AC05	**El Transito**	**40.80**	**294**	P	**P**	**09 46 32.7**	**-1.1**
AC05				IAmb	IAmb	09 46 52.1	
	comp=Z,11nm,1.4s						
AC04	**Llanos de Chal**	**41.73**	**293**	P	**P**	**09 46 40.9**	**-0.3**
AC04				IAmb	IAmb	09 47 17.1	
	comp=Z,15nm,1.2s						
LVC	**Limon Verde**	**45.29**	**300**	P	**P**	**09 47 10.2**	**-0.1**
LVC				IAmb	IAmb	09 47 10.4	
	comp=Z,3.7nm,0.5s						
PB09	**IPOC Station P**	**46.14**	**300**	P	**P**	**09 47 17.0**	**+0.3**
PB09				IAmb	IAmb	09 47 44.6	
	comp=Z,13nm,1.3s						
VNDA	**Vanda**	**46.50**	**183**	P	**P**	**09 47 18.9**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=200,slow=8.3,SNR=6.7						
	comp=Z,1.3nm,0.8s						
GO01	**Chusmiza**	**47.94**	**302**	P	**P**	**09 47 30.9**	**-0.2**
GO01				IAmb	IAmb	09 47 31.1	
	comp=Z,4.1nm,0.6s						
H10S2	**ASCENSION HYDR**	**48.09**	**17**	T	T	10 39 53.7	
	baz=196,slow=74,SNR=7.1						
H10S3	**ASCENSION HYDR**	**48.09**	**17**	T	T	10 39 53.7	
	baz=24,slow=74,SNR=6.4						
H10N1	**ASCENSION HYDR**	**49.20**	**17**	T	T	10 41 14.0	
	baz=189						
H10N3	**ASCENSION HYDR**	**49.21**	**17**	T	T	10 41 20.2	
	baz=189						
H10N2	**ASCENSION HYDR**	**49.22**	**17**	T	T	10 41 13.6	
	baz=189						
PB16	**IPOC Station P**	**49.23**	**303**	P	**P**	**09 47 41.2**	**+0.1**
PB16				IAmb	IAmb	09 47 41.8	
	comp=Z,8.0nm,1.4s						
LPAZ	**La Paz**	**50.38**	**305**	P	**P**	**09 47 49.9**	**+0.1**
LPAZ				IAmb	IAmb	09 47 50.4	
	comp=Z,2.0nm,0.8s						
LPAZ	**La Paz**	**50.38**	**305**	P	**P**	**09 47 49.5**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=129,slow=3.1,SNR=18						
	comp=Z,1.2nm,0.3s						
FOMA	**Nahampoana Res**	**60.94**	**92**	P	**P**	**09 49 03.8**	**-0.7**
TOA0	**Torodi Ar. Sit**	**73.15**	**30**	P	**P**	**09 50 21.8**	**+0.1**
TOA0				IAmb	IAmb	09 50 39.6	
	comp=Z,4.7nm,1.2s						
TORD	**Torodi Ar. Bea**	**73.15**	**30**	P	**P**	**09 50 21.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**73.15**	**30**	P	**P**	**09 50 20.6**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=200,slow=5.4,SNR=3.8						
	comp=Z,0.9nm,0.7s						
BBGH	**Gun Hill**	**74.09**	**327**	P	**P**	**09 50 26.1**	**-1.2**
MTDJ	**Mount Denham**	**85.25**	**313**	P	P	09 51 23.6	-4.0
ASAR	**Alice Springs**	**98.94**	**163**	P	**P**	**09 52 31.5**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=167,slow=4.7,SNR=1.6						
	comp=Z,0.2nm,0.7s						
YKA	**Yellowknife Ar**	**136.19**	**318**	PKP	**PKPdf**	**09 58 08.8**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=112,slow=2.6,SNR=2.1						
ILAR	**Eielson Array**	**150.12**	**312**	PKPbc	**PKPdf**	**09 58 37.9**	**+3.3**
	comp=Z,1.3nm,0.7s,baz=78,slow=1.1,SNR=15						
SONM	**Songino Array**	**150.79**	**87**	PKPbc	**PKPdf**	**09 58 41.3**	**+5.0**
	comp=Z,0.3nm,0.5s,baz=222,slow=1.9,SNR=1.9						

*IDC **11** 09:40:03.2±0.7,31°.62S×58°.40E,h0km,mb3.9/11, mbtmp3.9/12,ML3.8/1,Error ellipse: s-maj=28.7km s-min=20.7km az=83.0*
ISC 11 09:40:05.4±0.8,31°.6S±0°.1×58°.4E±0°.2,h14km,n22, σ0º84/13,mb3.9/11,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.45**	**197**	T	T	09 59 22.1	
	baz=22,slow=75,SNR=15						
H04N1	**CROZET ISLANDS**	**15.45**	**197**	T	T	09 59 23.2	
	baz=22,slow=75,SNR=16						
H04N3	**CROZET ISLANDS**	**15.47**	**197**	T	T	09 59 22.0	
	baz=22,slow=75,SNR=19						
OPO	**Ambohidratompo**	**16.40**	**319**	Pn	**P**	**09 43 57.8**	**-0.3**
	baz=172,slow=13,SNR=2.9						
	4.0nm,0.8s						
H08S1	**Diego Carcia H**	**27.19**	**32**	T	T	10 14 15.4	
	baz=207,slow=75,SNR=9.7						
H08S2	**Diego Garcia H**	**27.20**	**32**	T	T	10 14 15.2	
	baz=207,slow=75,SNR=8.3						
H08S3	**Diego Garcia H**	**27.21**	**32**	T	T	10 14 16.8	
	baz=207,slow=75,SNR=15						
H01W2	**Cape Leeuwin H**	**46.27**	**110**	T	T	10 38 13.4	
	baz=257,slow=75,SNR=2.7						
H01W3	**Cape Leeuwin H**	**46.28**	**110**	T	T	10 38 13.6	
	baz=257,slow=75,SNR=4.0						
H01W1	**Cape Leeuwin H**	**46.29**	**110**	T	T	10 38 15.4	
	baz=257,slow=75,SNR=3.2						
SNAA	**Sanae**	**51.38**	**201**	P	**P**	**09 49 10.8**	**+1.5**
	1.0nm,1.0s,baz=106,slow=20,SNR=1.5						
	1.0nm,1.0s						
QSPA	**South Pole Qui**	**58.62**	**180**	P	**P**	**09 50 00.7**	**-1.1**
	2.2nm,0.7s,baz=255,slow=2.1,SNR=16						
	2.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.16**	**44**	P	**P**	**09 50 33.7**	**+0.6**
	0.8nm,0.3s,baz=230,slow=7.5,SNR=5.6						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**66.22**	**104**	P	**P**	**09 50 52.9**	**-0.3**
	0.3nm,0.6s,baz=241,slow=6.0,SNR=5.3						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**68.22**	**101**	P	**P**	**09 51 05.1**	**-0.8**
	0.8nm,1.0s,baz=242,slow=5.7,SNR=2.9						
	0.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**70.16**	**300**	P	**P**	**09 51 17.6**	**-0.3**
	0.8nm,1.0s,baz=127,slow=7.1,SNR=3.2						
	0.8nm,1.0s						
BRTR	**Keskin Array B**	**74.54**	**340**	P	**P**	**09 51 43.0**	**-0.6**
	0.5nm,0.6s,baz=154,slow=4.3,SNR=4.0						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**80.92**	**16**	P	**P**	**09 52 19.5**	**+0.6**
	0.6nm,0.8s,baz=217,slow=5.8,SNR=4.4						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**83.74**	**13**	P	**P**	**09 52 34.5**	**+1.0**
	2.1nm,0.9s,baz=208,slow=5.8,SNR=10						
	2.1nm,0.9s						
BVAR	**Borovoye Array**	**84.87**	**7**	P	**P**	**09 52 40.1**	**+0.9**
	3.4nm,0.8s,baz=178,slow=4.5,SNR=16						
	3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**88.18**	**15**	P	**P**	**09 52 55.4**	**0.0**
	0.5nm,0.4s,baz=208,slow=5.0,SNR=3.8						
	0.5nm,0.4s						
YKA	**Yellowknife Ar**	**148.71**	**354**	PKPbc	**PKPbc**	**09 59 51.2**	**-0.2**
	2.3nm,1.0s,baz=9.9,slow=3.8,SNR=4.5						

IDC 11 09:42:10.6±3.7,54°.26N×87°.29E,h0km,mbtmp2.7/2, ML2.3/2,Error ellipse: s-maj=33.4km s-min=21.0km az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**259**	I	I	09 50 44.3	
	baz=76,slow=306,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.49**	**259**	Pg	Pn	09 42 37.3	-1.3
	0.7nm,0.3s,baz=76,slow=16,SNR=5.6						
ZALV				Lg	Lg	09 42 57.5	
	0.4nm,0.3s,baz=78,slow=28,SNR=1.8						
KURBB	**Kurchatov Arra**	**6.48**	**239**	Pn	Pn	09 43 48.7	+1.6
	baz=56,slow=14,SNR=3.9						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**8.12**	**205**	Pn	Pn	09 44 10.1	+0.3
	0.1nm,0.3s,baz=24,slow=13,SNR=1.9						
	0.2nm,0.6s						

IDC 11 09:44:45.0±1.5,31°.72S×58°.34E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=52.6km s-min=38.0km az=68.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.29**	**197**	T	T	10 03 45.4	
	baz=18						
H04N1	**CROZET ISLANDS**	**15.29**	**198**	T	T	10 03 36.9	
	baz=18						
H04N3	**CROZET ISLANDS**	**15.30**	**197**	T	T	10 03 42.2	
	baz=18						
H08S1	**Diego Carcia H**	**27.34**	**32**	T	T	10 18 53.2	
	baz=200						
H08S2	**Diego Garcia H**	**27.35**	**32**	T	T	10 18 57.7	
	baz=200						
H08S3	**Diego Garcia H**	**27.36**	**32**	T	T	10 19 00.3	
	baz=200						
H01W2	**Cape Leeuwin H**	**46.23**	**110**	T	T	10 42 23.0	
	baz=259						
H01W3	**Cape Leeuwin H**	**46.24**	**110**	T	T	10 42 23.3	
	baz=259						
H01W1	**Cape Leeuwin H**	**46.25**	**110**	T	T	10 42 24.1	
	baz=259						
QSPA	**South Pole Qui**	**58.45**	**180**	P	P	09 54 42.7	+0.2
	0.8nm,0.8s,baz=296,slow=10.0,SNR=1.5						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**66.20**	**104**	P	P	09 55 34.9	-0.1
	0.4nm,0.6s,baz=241,slow=6.1,SNR=6.4						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**68.20**	**101**	P	P	09 55 47.8	0.0
	0.4nm,0.7s,baz=239,slow=5.6,SNR=5.7						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**85.04**	**7**	P	P	09 57 22.7	+0.7
	0.9nm,0.6s,baz=193,slow=6.1,SNR=6.0						
	0.9nm,0.6s						
YKA	**Yellowknife Ar**	**148.88**	**354**	PKPbc	PKPbc	10 04 32.3	-1.6
	0.8nm,0.9s,baz=11,slow=2.6,SNR=4.5						

*IDC **11** 09:55:42.8±1.2,34°.17N×78°.07E,h0km,mb3.7/11, mbtmp3.7/15,ML3.3/4,MS3.4/4,Error ellipse: s-maj=27.0km s-min=19.8km az=55.0*
ISC 11 09:55:48.3±1.1,34°.2N±0°.1×78°.1E±0°.1,h35km,n18, σ1º04/16,mb3.8/10,MS3.3/4,Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**8.87**	**343**	Pn	**Pn**	**09 57 54.9**	**+0.8**
	1.0nm,0.3s,baz=229,slow=6.5,SNR=2.0						
AAK				Lg	Lg	10 00 25.7	
	0.5nm,0.3s,baz=252,slow=20,SNR=3.8						
	1.7nm,0.3s						
MKAR	**Makanchi Array**	**12.96**	**13**	Pn	**Pn**	**09 58 51.5**	**+1.5**
	0.1nm,0.3s,baz=196,slow=14,SNR=6.1						
MKAR				Sn	**Sn**	**10 01 11.9**	**-1.0**
	baz=190,slow=23						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**16.41**	**1**	Pn	**Pn**	**09 59 33.9**	**-1.7**
	0.1nm,0.3s,baz=188,slow=11,SNR=5.6						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**19.59**	**346**	P	**P**	**10 00 12.8**	**-0.4**
	0.1nm,0.3s,baz=162,slow=10,SNR=11						
	2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**20.30**	**12**	P	**P**	**10 00 20.9**	**+0.1**
	0.5nm,0.3s,baz=211,slow=10,SNR=1.7						
	0.5nm,0.3s						
AKTO	**Aktyubinsk**	**21.87**	**324**	P	**P**	**10 00 37.0**	**-0.9**
	3.6nm,0.6s,baz=110,slow=8.5,SNR=13						
	3.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**24.32**	**125**	P	**P**	**10 01 02.2**	**-0.5**
	1.6nm,0.3s,baz=308,slow=11,SNR=5.3						
	1.6nm,0.3s						
SONM	**Songino Array**	**25.15**	**49**	P	**P**	**10 01 08.7**	**-1.6**
	0.5nm,0.7s,baz=237,slow=8.1,SNR=4.4						
	0.5nm,0.7s						
GNI	**Garni**	**27.12**	**292**	LR	LR	10 14 14.5	
	comp=Z,30nm,20.6s,baz=152,slow=41						
FINES	**FINESS Array B**	**42.62**	**326**	P	**P**	**10 03 40.9**	**+0.1**
	1.8nm,0.5s,baz=103,slow=9.6,SNR=9.3						
	1.8nm,0.5s						
ARCES	**ARCESS Array B**	**45.49**	**337**	P	**P**	**10 04 03.7**	**0.0**
	1.0nm,0.7s,baz=111,slow=8.8,SNR=1.4						
	1.0nm,0.7s						
HFS	**Hagfors**	**48.41**	**323**	P	**P**	**10 04 26.0**	**-0.7**
	1.5nm,0.7s,baz=121,slow=7.6,SNR=4.7						
	1.5nm,0.7s						
NOA	**NORSAR Array B**	**49.66**	**324**	P	**P**	**10 04 36.0**	**-0.2**
	0.5nm,0.6s,baz=91,slow=7.6,SNR=3.0						
NOA				LR	LR	10 26 58.0	
	comp=Z,13nm,18.8s,baz=0.0,slow=38						
	0.5nm,0.6s						
SEY	**Seymchan**	**53.11**	**33**	LR	LR	10 29 38.5	
	comp=Z,159nm,22.0s,baz=330,slow=38						
OPO	**Ambohidratompo**	**60.18**	**214**	LR	LR	10 29 30.1	
	comp=Z,46nm,19.5s,baz=334,slow=34						
TORD	**Torodi Ar. Bea**	**71.56**	**274**	P	**P**	**10 07 05.9**	**-0.3**
	0.1nm,0.4s,baz=55,slow=6.4,SNR=1.5						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**75.26**	**18**	P	**P**	**10 07 28.4**	**+1.3**
	0.2nm,0.7s,baz=307,slow=4.4,SNR=2.0						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	**83.09**	**6**	P	**P**	**10 08 11.0**	**+1.1**
	0.4nm,0.8s,baz=338,slow=4.7,SNR=3.6						
	0.4nm,0.8s						

*IDC **11** 10:00:45.9±5.7,22°.00S×179°.45W,h548km±67km,mb2.9/6, mbtmp3.9/8,Error ellipse: s-maj=33.9km s-min=31.4km az=41.0*
ISC 11 10:00:49.2±1.0,22°.1S±0°.2×179°.6W±0°.1,h592km,n8, σ1º33/8,mb3.3/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.94**	**267**	P	**P**	**10 03 36.6**	**-1.0**
	5.4nm,0.8s,baz=30,slow=5.5,SNR=1.5						
URZ	**Urewera**	**16.36**	**189**	P	**P**	**10 04 07.9**	**-2.1**
	3.3nm,0.6s,baz=343,slow=19,SNR=1.5						
CTA	**Charters Tower**	**31.88**	**267**	P	**P**	**10 06 28.1**	**+0.5**
	0.3nm,0.4s,baz=92,slow=9.1,SNR=9.6						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**35.76**	**246**	P	**P**	**10 07 00.7**	**+0.8**
	2.9nm,0.5s,baz=92,slow=11,SNR=9.8						
	2.9nm,0.5s						
ASAR	**Alice Springs**	**42.72**	**259**	P	**P**	**10 07 56.2**	**+0.4**
	5.5nm,0.8s,baz=91,slow=8.1,SNR=30						
	5.5nm,0.8s						
QSPA	**South Pole Qui**	**67.98**	**180**	P	**P**	**10 10 51.3**	**+1.2**
	1.0nm,1.0s,baz=345,slow=3.1,SNR=1.7						
	1.0nm,1.0s						
TXAR	**Lajitas Array**	**89.17**	**58**	P	**P**	**10 12 43.5**	**+0.4**
	0.2nm,0.6s,baz=205,slow=5.5,SNR=4.1						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**90.20**	**13**	P	**P**	**10 12 46.0**	**-0.8**
	0.2nm,0.6s,baz=207,slow=3.8,SNR=1.9						
	0.2nm,0.6s						

*IDC **11** 10:02:11.2±1.6,6°.47S×129°.24E,h0km,mb3.8/3, mbtmp3.8/5,ML4.1/2,Error ellipse: s-maj=109.1km s-min=28.5km az=69.0*
*DJA **11** 10:02:30.0±0.5,7°.5±5°.5×12°.9E±°.,h172km±22km,M4.4/8, mb4.3/6,mB4.9/1,MLv4.5/8,Mw(mB)4.2/1*
ISC 11 10:02:28.4±0.9,7°.16S±0°.09×129°.3E±0°.1,h150km,n11, σ3º08/12,mb3.6/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.14**	**112**	P	**Pn**	**10 03 09.0**	**+3.9**
FAKI	**Fak Fak**	**5.14**	**35**	P	**Pn**	**10 03 44.0**	**+0.3**
	47nm,1.1s,0.3nm						
KMPI	**Kaimana, Papua**	**5.59**	**52**	P	**Pn**	**10 03 51.4**	**+1.7**
SOEI	**Soe**	**5.61**	**242**	P	**Pn**	**10 03 52.0**	**+2.0**
	64nm,0.7s,0.3nm						
BATI	**Baumata**	**6.34**	**241**	P	**Pn**	**10 04 00.7**	**+1.0**
	60nm,0.9s,0.3nm						
EDFI	**Ende, Flores**	**7.70**	**258**	P	**Pn**	**10 04 20.6**	**+2.6**
WRA	**Warramunga Arr**	**13.61**	**159**	Pn	**Pn**	**10 05 35.5**	**+0.1**
	1.3nm,0.3s,baz=339,slow=12,SNR=36						
WRA				Sn	Sn	10 07 57.5	-8.8
	0.8nm,0.3s,baz=332,slow=22,SNR=9.9						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**16.99**	**165**	P	**P**	**10 06 18.8**	**+2.1**
	0.4nm,0.3s,baz=339,slow=9.9,SNR=31						
ASAR				S	**S**	**10 09 21.0**	**-5.3**
	0.3nm,0.3s,baz=323,slow=17,SNR=1.8						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**67.98**	**327**	P	**P**	**10 13 08.7**	**-2.6**
	0.7nm,0.5s,baz=119,slow=7.4,SNR=8.9						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**71.42**	**334**	P	**P**	**10 13 29.0**	**-3.1**
	0.4nm,0.4s,baz=129,slow=2.0,SNR=2.3						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**72.29**	**329**	P	**P**	**10 13 34.7**	**-2.6**
	0.4nm,0.5s,baz=126,slow=4.7,SNR=6.4						
	0.4nm,0.5s						

IDC 11 10:35:22.2±2.1,7°.70S×130°.47E,h0km,mb4.0/1, mbtmp3.6/3,ML3.4/2,Error ellipse: s-maj=132.0km s-min=31.1km az=69.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.73**	**163**	Pn	Pn	10 38 24.6	-0.1
	0.2nm,0.3s,baz=346,slow=13,SNR=36						
WRA				Sn	Sn	10 40 39.1	-8.2
	0.3nm,0.3s,baz=331,slow=25,SNR=7.4						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**16.21**	**169**	Pn	Pn	10 39 11.7	+0.1
	0.2nm,0.3s,baz=348,slow=9.6,SNR=16						
ASAR				Sn	Sn	10 42 06.9	-5.3
	0.1nm,0.3s,baz=350,slow=26,SNR=2.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**69.06**	**327**	P	P	10 46 30.0	0.0
	0.6nm,0.3s,baz=121,slow=7.9,SNR=12						
	0.6nm,0.3s						

*IDC **11** 10:37:34.5±1.3,31°.76S×58°.45E,h0km,mb3.9/6, mbtmp3.9/6,Error ellipse: s-maj=46.6km s-min=27.9km az=96.0*
ISC 11 10:37:35.6±1.3,31°.7S±0°.2×58°.3E±0°.4,h10km,n13, σ0º48/7,mb4.0/6,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.27**	**197**	T	T	10 57 02.4	
	baz=21,slow=75,SNR=9.6						
H04N1	**CROZET ISLANDS**	**15.27**	**198**	T	T	10 57 03.5	
	baz=21,slow=75,SNR=11						
H04N3	**CROZET ISLANDS**	**15.29**	**198**	T	T	10 57 02.4	
	baz=21,slow=75,SNR=13						
H08S1	**Diego Carcia H**	**27.36**	**32**	T	T	11 11 42.8	
	baz=210,slow=76,SNR=6.8						
H08S2	**Diego Garcia H**	**27.36**	**32**	T	T	11 11 45.4	
	baz=210						
H08S3	**Diego Garcia H**	**27.38**	**32**	T	T	11 11 45.4	
	baz=210,slow=76,SNR=6.2						
MAW	**Mawson**	**36.00**	**177**	P	**P**	**10 44 36.0**	**-0.4**
	0.7nm,0.2s,baz=35,slow=19,SNR=1.4						
	0.7nm,0.2s						
QSPA	**South Pole Qui**	**58.43**	**180**	P

comp=Z,3μm,0.2s
VA03 San Esteban 0.66 190 ⇓*i*P **Pn 10 57 03.8 -0.3**
VA03 *e*S **Sn 10 57 17.0 -0.2**
VA06 Catapilco 0.87 239 ⇑*i*P **Pn 10 57 05.4 -0.5**
VA06 *e*S **Sn 10 57 20.0 -0.4**
VA06 IAML 10 57 20.8
comp=E,4μm,0.5s
ROCH El Roble 0.99 210 *e*P **Pn 10 57 07.2 -0.1**
ROCH *e*S **Sn 10 57 23.2 +0.1**
ROCH IAML 10 57 24.8
comp=E,1μm,0.5s
ROC1 El Roble 0.99 210 *e*P **Pn 10 57 07.0 -0.4**
ROC1 *e*S **Sn 10 57 23.3 +0.1**
RTLS Leoncito 1.00 72 *e*P **Pn 10 57 06.9 -0.7**
RTLS IAML 10 57 22.9
comp=Z,5μm,0.3s
RTLS *e*S **Sn 10 57 22.9 -0.6**
CO02 Combarbal 1.04 331 *e*P **Pn 10 57 07.9 +0.1**
CO02 *e*S **Sn 10 57 24.9 +1.2**
CO02 IAML 10 57 25.0
comp=Z,3μm,0.4s
PEL Peldehue 1.05 192 *e*P **Pn 10 57 07.4 -0.4**
PEL *e*S **Sn 10 57 23.6 -0.3**
PEL IAML 10 57 24.2
comp=Z,1μm,0.4s
PEL Peldehue 1.05 192 *e*P **Pn 10 57 07.5 -0.3**
PEL *e*S **Sn 10 57 23.6 -0.3**
MT10 Hacienda Santa 1.16 185 ⇑*i*P **Pn 10 57 09.2 0.0**
MT10 *e*S **Sn 10 57 26.7 +0.5**
MT14 Cerro Cal¡n 1.28 184 ⇑*i*P **Pn 10 57 10.5 +0.1**
MT14 *e*S **Sn 10 57 29.1 +0.6**
MT14 IAML 10 57 30.8
comp=N,2μm,0.7s
MT02 Curacav 1.29 208 *e*P **Pn 10 57 10.2 -0.3**
MT02 *e*S **Sn 10 57 29.2 +0.5**
MT02 IAML 10 57 30.2
comp=Z,504nm,0.3s
CO03 El Pedregal 1.29 350 *e*P **Pn 10 57 10.6 0.0**
CO03 *e*S **Sn 10 57 30.1 +1.3**
CO03 IAML 10 57 31.9
comp=Z,1μm,0.6s
CO03 El Pedregal 1.29 350 ⇑*i*P **Pn 10 57 10.7 0.0**
MT05 Renca 1.30 192 *e*P **Pn 10 57 12.1 +1.4**
MT05 *e*S **Sn 10 57 31.0 +2.0**
MT05 IAML 10 57 31.2
comp=Z,2μm,0.3s
MT05 Renca 1.30 192 *e*P **Pn 10 57 12.0 +1.4**
MT05 *e*S **Sn 10 57 30.9 +2.0**
MT16 CCHEN 1.31 184 ⇑*i*P **Pn 10 57 10.9 +0.1**
MT16 *e*S **Sn 10 57 29.5 +0.3**
MT16 IAML 10 57 30.9
comp=E,963nm,0.6s
MT03 Universidad Ad 1.38 183 *e*P **Pn 10 57 11.8 +0.2**
MT03 *e*S **Sn 10 57 31.8 +1.1**
MT03 *e*S **Sn 10 57 33.5 +2.9**
MT03 IAML 10 57 36.1
comp=Z,1μm,0.2s
VA01 Torpederas 1.38 229 *e*P **Pn 10 57 11.1 -0.3**
VA01 *e*S **Sn 10 57 32.1 +1.7**
VA01 Torpederas 1.38 229 *e*P **Pn 10 57 11.2 -0.3**
VA01 *e*S **Sn 10 57 30.3 -0.1**
ASAL Salagasta 1.42 110 *e*P **Pn 10 57 12.0 -0.1**
ASAL IAML 10 57 33.3
comp=Z,793nm,0.5s
ARCO CERRO ARCO 1.45 120 *e*P **Pn 10 57 12.6 +0.1**
ARCO IAML 10 57 34.9
comp=Z,655nm,0.7s
ARCO *e*S **Sn 10 57 35.1 +2.8**
ZON Zonda 1.59 69 *e*P **Pn 10 57 13.6 -0.5**
ZON *e*S **Sn 10 57 33.9 -1.1**
ZON IAML 10 57 39.2
comp=Z,431nm,0.5s
RTCV Cerro Valdivia 1.61 81 *e*P **Pn 10 57 13.0 -1.4**
DOCA Reserva Natura 1.63 45 *e*P **Pn 10 57 14.4 -0.5**
DOCA *e*S **Sn 10 57 36.5 +0.1**
MT13 San Alfonso 1.63 176 *e*P **Pn 10 57 12.6 -2.0**
MT13 *e*P **Pn 10 57 15.2 +0.5**
MT13 *e*S **Sn 10 57 37.8 +1.7**
MT13 IAML 10 57 38.3
comp=Z,568nm,0.5s
MT13 San Alfonso 1.63 176 *e*P **Pn 10 57 14.9 +0.3**
MT13 *e*S **Sn 10 57 37.4 +1.3**
MT13 IAML 10 57 38.3
comp=N,1μm,0.2s
AAGR Agrelo 1.65 126 *e*P Pn 10 57 02.7 -12
MT09 Talagante 1.72 196 *e*P **Pn 10 57 15.5 -0.4**
LMEL Las Melosas 1.74 174 *e*P **Pn 10 57 15.7 -0.4**
LMEL *e*S **Sn 10 57 41.6 +3.1**
LMEL IAML 10 57 45.9
comp=Z,341nm,0.2s
MT01 Popeta 1.88 202 *e*P **Pn 10 57 17.2 -0.5**
MT01 *e*S **Sn 10 57 41.3 -0.1**
ACCO Cerro Coronel 1.91 38 *e*P Pn 10 57 12.6 -5.8
ACCO *e*P **Pn 10 57 18.4 -0.1**
ACCO *e*S **Sn 10 57 44.2 +1.5**
GO04 Tololo Observa 1.96 350 *e*P **Pn 10 57 19.1 +0.1**
GO04 *e*S **Sn 10 57 44.7 +0.9**
GO04 IAML 10 57 51.8
comp=Z,756nm,0.3s
AVIZ Vizcacheras 2.10 131 *e*P **Pn 10 57 20.4 -0.1**
AVIZ *e*S **Sn 10 57 47.6 +1.0**
AROD Rodeo 2.10 23 *e*P **Pn 10 57 22.4 +1.5**
AROD *e*S **Sn 10 57 43.6 -3.5**
CO01 Juntas del Tor 2.15 8 *e*P **Pn 10 57 22.2 +0.8**
CO01 *e*S **Sn 10 57 49.6 +1.5**
ACDV Cuesta del Vie 2.23 30 *e*P **Pn 10 57 22.9 +0.5**
ACDV *e*S **Sn 10 57 53.7 +3.8**
BO01 Tunca 2.34 194 *e*P **Pn 10 57 22.8 -0.8**
BO02 Sierra Bellavi 2.69 186 *e*S **Sn 10 58 01.3 +1.0**
BO02 IAML 10 58 02.2
comp=Z,273nm,0.1s
LCO Las Campanas 3.10 355 *e*P **Pn 10 57 33.5 -0.5**
LCO IAML 10 58 14.3
comp=Z,394nm,0.7s
ML02 Panimavida 3.73 193 *e*P **Pn 10 57 41.4 -0.7**
ML02 IAML 10 58 50.4
comp=Z,73nm,0.6s
GO03 Copiap 4.51 2 *e*S **Sn 10 58 42.8 -1.3**
GO03 IAML 10 59 23.2
comp=Z,57nm,0.7s
H03N1 Juan Fernandez 7.28 257 T T 11 05 20.8
baz=86,slow=73,SNR=291
H03N3 Juan Fernandez 7.29 257 T T 11 05 23.6
baz=86,slow=73,SNR=259
H03N2 Juan Fernandez 7.29 257 T T 11 05 18.1
baz=86,slow=73,SNR=314
H03S1 Juan Fernandez 7.34 254 T T 11 05 13.1
baz=83,slow=75,SNR=20
H03S3 Juan Fernandez 7.34 254 T T 11 05 13.9
baz=83,slow=75,SNR=16
H03S2 Juan Fernandez 7.35 254 T T 11 05 12.8
baz=83,slow=75,SNR=18
PLCA Paso Flores 8.60 181 P **Pn 10 58 44.7 -3.4**
comp=Z,0.9nm,0.9s,baz=12,slow=14,SNR=1.3
QSPA South Pole Qui 58.12 180 P **P 11 06 27.1 -1.8**
comp=Z,1.1nm,0.7s,baz=188,slow=1.6,SNR=7.1
comp=Z,1.1nm,0.7s
TXAR Lajitas Array 68.79 329 P **P 11 07 40.9 +1.4**
comp=Z,0.2nm,0.5s,baz=148,slow=10,SNR=5.6
comp=Z,0.2nm,0.5s
WRA Warramunga Arr 123.06 208 PKP **PKPdf 11 15 30.9 -0.5**
comp=Z,0.7nm,1.1s,baz=163,slow=1.5,SNR=7.0
BVAR Borovoye Array 144.97 42 PKPbc **PKPdf 11 16 11.7 +0.8**
comp=Z,1.5nm,0.5s,baz=282,slow=2.2,SNR=6.8
KURBB Kurchatov Arra 150.56 42 PKPbc **PKPbc 11 16 25.1 -0.5**
comp=Z,1.1nm,0.3s,baz=309,slow=2.8,SNR=4.9
ZALV Zalesovo Beam 151.91 32 PKPbc **PKPbc 11 16 28.6 -0.1**
comp=Z,2.3nm,0.5s,baz=323,slow=3.2,SNR=9.2

HEL 11 10:58:21.3±0.2, 67°.53N×33°.55E, h0km, ML1.2,
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.56**	**48**	PG	Pg	10 58 31.2	-0.7
baz=225							
VRF	**Varrio**	**1.52**	**280**	PG	Pn	10 58 48.2	-1.6
VRF				MSG		10 59 06.9	
comp=Z,1.7nm,0.2s							
VRF				SG	Sg	10 59 07.5	-2.7
OLKF	**Oulanka, Finla**	**2.04**	**235**	PG	Pn	10 58 57.7	+0.9
OLKF				MSG		10 59 21.7	
comp=Z,1.1nm,0.2s							
KU6	**Riekki**	**2.10**	**225**	PG	Pb	10 58 59.0	-1.2
KU6				MSG		10 59 23.5	
comp=Z,0.8nm,0.2s							
RAJF	**Raja-Jooseppi**	**2.19**	**298**	PB	Pn	10 58 59.8	+0.9
RAJF				SN	Sn	10 59 25.7	-0.9
MSF	**Maaselka**	**2.42**	**230**	PB	Pb	10 59 04.5	-1.2
baz=45							
SGF	**Sodankyl**	**2.70**	**271**	SG	Sb	10 59 45.4	+1.3
RNF	**Rovaniemi**	**3.09**	**256**	PN	Pn	10 59 10.5	-0.8
KTK1	**Kautokeino**	**4.11**	**296**	SG	Sb	11 00 26.5	+1.9
LANU	**Lannavaara**	**4.42**	**282**	SB	Sb	11 00 30.8	-2.6

HEL 11 10:58:42.5±0.1, 65°.10N×25°.67E, h0km, ML1.3,
Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**0.10**	**99**	PG	Pg	10 58 43.6	-0.8
OUL				SG	Sg	10 58 44.2	-1.5
OBF4	**Vikkela, Lumij**	**0.38**	**220**	PG	Pg	10 58 49.2	-0.5
baz=36							
OBF4				SG	Sg	10 58 54.2	-0.3
OUF	**Merijarvi**	**0.84**	**209**	PG	Pg	10 58 57.5	-1.1
OUF				MSG		10 59 08.4	
comp=Z,2.3nm,0.2s							
OUF				SB	Sg	10 59 08.7	-0.7
OBF0	**Syolatti, Pyha**	**0.86**	**226**	PG	Pg	10 58 58.1	-0.8
OBF0				MSG		10 59 09.2	
comp=Z,2.8nm,0.2s							
OBF0				SG	Sg	10 59 09.4	-0.7
RANF	**Ranua**	**1.03**	**26**	PG	Pg	10 59 01.2	-1.0
RANF				SB	Sg	10 59 14.4	-1.1
TOF	**Tornio**	**1.13**	**331**	PG	Pg	10 59 02.4	-1.7
TOF				SG	Sg	10 59 16.2	-2.6
TOF				MSG		10 59 16.7	
comp=Z,1.2nm,0.2s							
OBF8	**Ulkokalla**	**1.23**	**232**	PG	Pg	10 59 04.9	-1.1
baz=50							
OBF8				MSG		10 59 19.6	
comp=Z,3.6nm,0.2s							
OBF8				SN	Sn	10 59 26.0	+1.9
KALU	**Kalix**	**1.23**	**309**	PG	Pg	10 59 04.9	-1.1
baz=125							
KALU				SG	Sg	10 59 20.2	-1.7
RNF	**Rovaniemi**	**1.52**	**5**	PG	Pn	10 59 09.8	-1.1
RNF				SN	Sg	10 59 29.8	-1.5
MSF	**Maaselka**	**1.62**	**58**	PG	Pn	10 59 12.2	-0.2
baz=241							
MSF				SN	Sg	10 59 34.9	+0.3
BURU	**Burvik**	**1.91**	**256**	PG	Pn	10 59 16.3	+0.1
baz=77							
BURU				SG	Sn	10 59 41.0	+0.2
NIF	**Nilsia**	**1.96**	**150**	SG	Sb	10 59 43.1	-0.8
OLKF	**Oulanka, Finla**	**1.97**	**50**	PG	Pb	10 59 18.9	-0.3
OLKF				MSG		10 59 41.1	
comp=Z,0.9nm,0.2s							
OLKF				SG	Sb	10 59 44.0	-0.2
KU6	**Riekki**	**1.99**	**60**	PG	Pn	10 59 18.2	+0.9
baz=241							
KU6				MSG		10 59 41.6	
comp=Z,1.6nm,0.2s							
KU6				SG	Sn	10 59 43.8	+0.9
RMF	**Romuvaara**	**2.04**	**114**	PG	Pn	10 59 18.9	+0.9
RMF				MSG		10 59 42.9	
comp=Z,2.9nm,0.2s							
RMF				SG	Sn	10 59 45.2	+1.0
ERTU	**Ertsjaerv**	**2.04**	**317**	PG	Pn	10 59 18.9	+0.8
ERTU				SG	Sn	10 59 44.5	+0.2
KLF	**Kolari**	**2.25**	**343**	MSG		10 59 49.1	
comp=Z,0.9nm,0.2s							
KLF				SN	Sn	10 59 49.3	-0.1
SGF	**Sodankyl**	**2.38**	**8**	SG	Sb	10 59 57.1	+1.1
VAF	**Ylistaro**	**2.45**	**214**	MSG		10 59 54.8	
comp=Z,1.0nm,0.2s							
VAF				SG	Sb	10 59 57.9	-0.1
UMAU	**Umeaa**	**2.48**	**243**	PG	Pb	10 59 26.1	-1.8
UMAU				SG	Sb	10 59 57.6	-1.3
JOF	**Joensuu**	**3.31**	**129**	SB	Sb	11 00 21.2	-1.6
KTK1	**Kautokeino**	**4.04**	**347**	SN	Sn	11 00 32.5	-1.0
HEMU	**Hemsoen**	**4.16**	**238**	SN	Sn	11 00 35.0	-1.4
KEV	**Kevo**	**4.71**	**6**	PB	Pb	11 00 02.8	-3.0

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*IDC **11** 11:09:17.5±0.8, 29°.71N×138°.21E, h492km±9km, mb2.9/15, mbtmp3.9/22, Error ellipse: s-maj=14.3km s-min=10.0km az=90.0*
*JMA **11** 11:09:17.9±0.6, 30°N±4°×13°9E±°, h513km, MV3.7/53, NEAR TORISHIMA IS*
ISC 11 11:09:17.4±0.6, 29°.69N±0°.07×138°.42E±0°.09, h500km, n44, σ1§76/50, mb3.4/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.62**	**19**	P	**P**	**11 10 33.6**	**+1.0**
69nm,0.3s,baz=172,slow=7.1,SNR=34							
JHJ				S	**S**	**11 11 32.5**	**-1.6**
57nm,0.3s,baz=136,slow=23,SNR=7.7							
JHJ2	**Mitsune**	**3.62**	**19**	*e*P	**P**	**11 10 33.8**	**+1.2**
JCJ	**Chichijima**	**4.21**	**127**	P	P	11 10 32.9	-4.6
36nm,0.7s,baz=282,slow=20,SNR=1.6							
JCJ				S	**S**	**11 11 36.8**	**-6.0**
82nm,0.4s,baz=292,slow=23,SNR=10							
JTNC	**Tanabenakahech**	**4.76**	**331**	P	**P**	**11 10 43.4**	**+1.3**
JKN2	**Miekihoku**	**4.89**	**339**	*e*P	**P**	**11 10 44.6**	**+1.4**
JIE	**Ise**	**4.91**	**343**	P	**P**	**11 10 45.1**	**+1.7**
BSO3	**Boso 3**	**5.40**	**19**	*e*P	**P**	**11 10 48.6**	**+1.1**
BSO3				*e*S	**S**	**11 12 00.4**	**-1.0**
BSO1	**Boso 1**	**5.41**	**23**	*e*P	**P**	**11 10 48.0**	**+0.7**
BSO1				*e*S	**S**	**11 11 60.0**	**-1.1**
BSO4	**Boso 4**	**5.53**	**17**	*e*S	**S**	**11 12 02.7**	**-1.3**
JOD2	**Odawara 2**	**5.59**	**6**	*e*P	**P**	**11 10 50.3**	**+0.6**
JNY	**Yasuok**	**5.67**	**355**	*e*P	**P**	**11 10 52.1**	**+1.6**
JTO	**Tosashimizu**	**5.75**	**305**	*e*P	**P**	**11 10 51.8**	**+0.6**
JHU	**Hanno**	**6.19**	**7**	*e*P	**P**	**11 10 55.2**	**-0.2**
JRY	**Ryogami san**	**6.33**	**4**	P	**P**	**11 10 57.3**	**+0.6**
JYT	**Yasato**	**6.69**	**12**	*e*S	**S**	**11 12 19.1**	**-5.5**
JAG	**Ashikaga**	**6.78**	**7**	P	**P**	**11 11 00.5**	**-0.7**
JAG				*e*S	**S**	**11 12 21.4**	**-4.9**
MJAR	**Matsushiro Arr**	**6.84**	**359**	P	**P**	**11 11 01.4**	**-0.4**
1.7nm,0.4s,baz=179,slow=11,SNR=7.9							
MJAR				S	**S**	**11 12 26.6**	**-0.8**
0.8nm,0.6s,baz=177,slow=21,SNR=2.1							
JHS	**Saijyo**	**6.94**	**321**	*e*P	**P**	**11 11 03.3**	**+0.5**
JHO	**Hitachi**	**7.14**	**14**	P	**P**	**11 11 05.0**	**+0.2**
JNU	**Nakatsue**	**7.29**	**300**	P	**P**	**11 11 06.5**	**0.0**
7.0nm,0.6s,baz=70,slow=1.5,SNR=13							
JOI	**OKI**	**7.89**	**328**	*e*P	**P**	**11 11 13.4**	**+1.0**
JFK	**Kawauchi**	**7.93**	**14**	*e*P	**P**	**11 11 13.7**	**+0.8**
JTU	**Tsushima**	**9.04**	**305**	*e*P	**P**	**11 11 24.1**	**-0.4**
JOW	**Kunigami**	**9.38**	**255**	P	**P**	**11 11 27.9**	**-0.3**
28nm,0.7s,baz=127,slow=6.6,SNR=6.2							
JMK	**Ichinoseki**	**9.53**	**13**	*e*P	**P**	**11 11 31.6**	**+2.0**
JMK				*e*S	**S**	**11 13 16.0**	**-2.2**
KSRS	**Korea Array**	**11.68**	**314**	P	**P**	**11 11 51.5**	**-0.9**
3.3nm,0.6s,baz=124,slow=10,SNR=18							
ASAJ	**Asahikawa**	**14.78**	**12**	P	**P**	**11 12 25.5**	**+0.5**
1.9nm,0.5s,baz=186,slow=10,SNR=4.3							
USRK	**Ussuriysk Ar.**	**15.36**	**342**	P	**P**	**11 12 31.0**	**-0.1**
4.4nm,0.6s,baz=159,slow=11,SNR=10.0							
GUMO	**Guam**	**17.10**	**158**	P	**P**	**11 12 51.9**	**+2.4**
123nm,1.1s,baz=5.2,slow=9.6,SNR=2.8							
KLR	**Kul'dur**	**20.17**	**347**	P	**P**	**11 13 18.2**	**+0.9**
2.7nm,0.7s,baz=154,slow=9.2,SNR=10							
2.7nm,0.7s							
SONM	**Songino Array**	**30.55**	**315**	P	**P**	**11 14 48.9**	**-0.5**
0.5nm,0.4s,baz=129,slow=9.8,SNR=6.6							
0.5nm,0.4s							
CMAR	**Chiang Mai Arr**	**37.57**	**262**	P	**P**	**11 15 47.9**	**-0.8**
1.4nm,0.5s,baz=83,slow=4.0,SNR=8.8							
1.4nm,0.5s							
ZALV	**Zalesovo Beam**	**45.36**	**318**	P	**P**	**11 16 49.1**	**-0.8**
0.8nm,0.3s,baz=98,slow=9.0,SNR=1.9							
0.8nm,0.3s							
MKAR	**Makanchi Array**	**46.27**	**308**	P	**P**	**11 16 56.5**	**-0.6**
0.2nm,0.3s,baz=90,slow=10,SNR=2.6							
0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**48.86**	**313**	P	**P**	**11 17 15.9**	**-0.6**
0.9nm,0.3s,baz=88,slow=8.4,SNR=4.5							
0.9nm,0.3s							
WRA	**Warramunga Arr**	**49.50**	**185**	P	**P**	**11 17 21.9**	**+0.4**
0.9nm,0.6s,baz=360,slow=7.7,SNR=28							
0.9nm,0.6s							
ASAR	**Alice Springs**	**53.22**	**185**	P	**P**	**11 17 49.0**	**+0.3**
0.3nm,0.5s,baz=13,slow=13,SNR=11							
0.3nm,0.5s							
BVAR	**Borovoye Array**	**53.89**	**316**	P	**P**	**11 17 52.0**	**-1.0**
1.6nm,0.5s,baz=70,slow=8.6,SNR=7.5							
1.6nm,0.5s							
ILAR	**Eielson Array**	**57.07**	**30**	P	**P**	**11 18 16.6**	**+1.7**
0.3nm,0.6s,baz=262,slow=5.5,SNR=11							
0.3nm,0.6s							
ARCES	**ARCESS Array B**	**69.99**	**340**	P	**P**	**11 19 37.6**	**-0.1**
0.5nm,0.4s,baz=78,slow=8.8,SNR=7.0							
0.5nm,0.4s							
YKA	**Yellowknife Ar**	**71.43**	**28**	P	**P**	**11 19 48.1**	**+1.8**
0.2nm,0.5s,baz=222,slow=10.0,SNR=6.7							
0.2nm,0.5s							
FINES	**FINESS Array B**	**74.14**	**332**	P	**P**	**11 20 01.7**	**-0.2**
0.6nm,0.5s,baz=87,slow=5.7,SNR=5.0							
0.6nm,0.5s							
NOA	**NORSAR Array B**	**79.96**	**337**	P	**P**	**11 20 33.0**	**-0.7**
0.5nm,0.6s,baz=45,slow=5.2,SNR=3.2							
0.5nm,0.6s							
NVAR	**Mina Array Bea**	**81.49**	**51**	P	**P**	**11 20 44.2**	**+1.8**
0.6nm,0.9s,baz=310,slow=5.6,SNR=3.3							
0.6nm,0.9s							

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*IDC **11** 11:13:17.3±0.8, 33°.29N×48°.37E, h0km, mb4.0/18, mbtmp4.1/23, ML4.0/4, MS3.1/13, Error ellipse: s-maj=20.9km s-min=15.0km az=1.0*
*TEH **11** 11:13:18.1, 33°.48N×48°.36E, h6km±60km, ML3.9*
*NEIC **11** 11:13:19.4±1.7, 33°.35N±0°.06×48°.45E±0°.09, h10km±1km, mb4.3/30, Error ellipse: s-maj=16.3km s-min=3.3km az=55.0*
ISC 11 11:13:18.8±0.4, 33°.35N±0°.04×48°.39E±0°.03, h10km, n113, σ1§78/112, mb4.3/31, MS2.9/11, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDOB	**Doab**	**0.48**	**338**	Pg	**Pg**	**11 13 26.5**	**-1.6**
IKFM	**Kafar-mosalman**	**0.49**	**292**	Pg	**Pg**	**11 13 27.8**	**-0.5**
IKFM				Sg	**Sb**	**11 13 35.7**	**-0.9**
HSAM	**Samen**	**0.88**	**12**	Pg	**Pg**	**11 13 33.5**	**-2.3**
HSAM				Sg	**Sg**	**11 13 45.4**	**-2.0**
IBZA	**Bozab**	**1.21**	**339**	Pg	**Pb**	**11 13 39.7**	**-2.1**
KCHF	**Cheshme Sefid,**	**1.46**	**310**	Pg	**Pn**	**11 13 45.1**	**-0.3**
SNQR	**Sonqor, Kerman**	**1.64**	**337**	Pg	**Pb**	**11 13 48.3**	**-0.9**
IGHG	**Ghaleghazi**	**1.81**	**303**	Pg	**Pg**	**11 13 52.4**	**-1.1**
ILBA	**Ilam Banvizeh**	**1.84**	**279**	Pn	**Pb**	**11 13 52.4**	**-0.2**
ILIN	**Lien**	**1.97**	**323**	Pn	**Pb**	**11 13 53.9**	**-0.9**
IDHR	**Dehrash**	**2.14**	**310**	Pn	**Pb**	**11 13 56.6**	**-1.2**
IPIR	**Pirpir**	**2.20**	**107**	Pn	**Pb**	**11 13 59.2**	**+0.3**
GLG1	**Gilan-e-Gharb**	**2.20**	**291**	Pn	**Pb**	**11 13 57.0**	**-1.8**
JHBN	**Jahan bin**	**2.22**	**119**	Pn	**Pb**	**11 13 59.5**	**+0.3**
ZNGN	**Zangian**	**2.41**	**120**	Pn	**Pb**	**11 14 01.6**	**-0.9**
IRAZ	**Razeghan**	**2.42**	**31**	Pn	**Pb**	**11 14 00.7**	**-1.9**
KGS1	**Ghasr-e-Shirin**	**2.60**	**297**	Pn	**Pn**	**11 14 02.6**	**+1.7**
IKLH	**Kolahrood**	**2.67**	**90**	Pn	**Pb**	**11 14 05.6**	**-1.3**
IQOM	**Qom**	**2.68**	**55**	Pn	**Pn**	**11 14 04.2**	**+2.0**
IBRJ	**Brojen**	**2.81**	**120**	Pn	**Pb**	**11 14 07.1**	**-2.2**
IMHD	**Mahdasht**	**3.00**	**38**	Pn	**Pn**	**11 14 08.6**	**+2.1**
KRSH	**Karshahi**	**3.19**	**78**	Pn	**Pn**	**11 14 12.2**	**+3.1**
IGAR	**Gharneh**	**3.21**	**106**	Pn	**Pn**	**11 14 12.8**	**+3.2**
IVRN	**Varamin**	**3.22**	**58**	Pn	**Pn**	**11 14 12.4**	**+2.9**
IZEF	**Zefreh**	**3.34**	**97**	Pn	**Pn**	**11 14 14.4**	**+3.1**
ISFB	**Sefidab**	**3.36**	**72**	Pn	**Pn**	**11 14 14.3**	**+2.9**
IRAM	**Ramesheh**	**3.70**	**113**	Pn	**Pn**	**11 14 18.9**	**+2.6**
IDMV	**Damavand**	**3.74**	**52**	Pn	**Pn**	**11 14 19.7**	**+2.8**
KLST	**Kelardasht - M**	**3.85**	**34**	Pn	**Pn**	**11 14 21.1**	**+2.8**
MZPU	**Pul - Mazandar**	**4.04**	**39**	Pn	**Pn**	**11 14 23.4**	**+2.4**
ILAS	**Lasjerd**	**4.29**	**60**	Pn	**Pn**	**11 14 27.0**	**+2.6**
IPRN	**Peran**	**4.35**	**47**	Pn	**Pn**	**11 14 27.7**	**+2.7**
ANAR	**Anarak**	**4.48**	**91**	Pn	**Pn**	**11 14 29.7**	**+2.9**
GURO	**Guroymak-BITLI**	**7.32**	**317**	Pn	**Pn**	**11 15 06.7**	**+0.8**
MARD	**Mardin**	**7.37**	**305**	Pn	**Pn**	**11 15 06.3**	**-0.2**
GNI	**Garni**	**7.39**	**338**	Pn	**Pn**	**11 15 06.9**	**0.0**
GNI	**Garni**	**7.39**	**338**	LR	LR	11 18 34.9	
comp=Z,84nm,19.8s,baz=162,slow=43							
RAYN	**Ar Rayn**	**10.11**	**195**	Pn	**Pn**	**11 15 44.5**	**+0.4**
RAYN	**Ar Rayn**	**10.11**	**195**	Pn	**Pn**	**11 15 44.5**	**+0.4**
MSFE	**Esma-Masafi**	**10.45**	**138**	Pn	**Pn**	**11 15 48.4**	**-0.3**
MDH	**Madha**	**10.57**	**137**	Pn	**Pn**	**11 15 49.0**	**-1.4**
ASUD	**Al Ashush, Dub**	**10.60**	**143**	Pn	**Pn**	**11 15 52.2**	**+1.5**
FAQ	**Al Faqa, Dubai**	**10.63**	**142**	Pn	**Pn**	**11 15 51.8**	**+0.5**
UOSS	**Minazif**	**10.80**	**139**	Pn	**Pn**	**11 15 52.6**	**-0.9**
UOSS	**Minazif**	**10.80**	**139**	Pn	**Pn**	**11 15 53.3**	**-0.2**
ASHO	**Ashiyiah**	**10.93**	**140**	Pn	**Pn**	**11 15 55.3**	**0.0**
ASHO				Sn	**Sn**	**11 17 50.8**	**-6.9**
KBZ	**Khabaz**	**11.22**	**339**	LR	LR	11 20 43.0	
comp=Z,52nm,21.8s,baz=163,slow=40							
BRTR	**Keskin Array B**	**13.45**	**302**	Pn	**P**	**11 16 35.1**	**-4.2**
0.1nm,0.3s,baz=125,slow=15,SNR=3.5							
1.0nm,0.8s							
WSAR	**Wadi Sarin**	**13.51**	**136**	Pn	**Pn**	**11 16 30.6**	**+0.1**
1.7nm,0.3s,baz=352,slow=12,SNR=18							
WSAR				Sn	**Sn**	**11 18 53.7**	**-7.1**
0.4nm,0.3s,baz=336,slow=20,SNR=2.6							
6.3nm,0.5s							
ABKAR	**Akbulak array**	**18.08**	**25**		**P**	**11 17 30.4**	**0.0**
AKTO	**Aktyubinsk**	**18.49**	**20**	P	**Pn**	**11 17 37.0**	**+2.1**
0.2nm,0.3s,baz=193,slow=12,SNR=4.8							
1.0nm,0.4s							
BELG	**Belogornoye**	**19.05**	**359**	P	**Pn**	**11 17 43.3**	**+1.6**
2.0nm,0.3s,baz=135,slow=8.6,SNR=1.3							
17nm,0.8s							
IDI	**Anoyia**	**19.50**	**282**	P	**Pn**	**11 17 47.7**	**+0.3**
IDI				IAmb	IAmb	11 17 50.2	
comp=Z,15nm,0.9s							
IDI	**Anoyia**	**19.50**	**282**	P	**Pn**	**11 17 47.5**	**+0.1**
comp=Z,12nm,0.7s,baz=94,slow=11,SNR=6.7							
RDO	**Rodhopi**	**19.75**	**300**	P	**P**	**11 17 48.9**	**+0.2**
RDO				IAmb	IAmb	11 17 59.9	
comp=Z,15nm,1.5s							
KK31	**Karatay Array**	**19.87**	**54**	P	**P**	**11 17 50.5**	**+0.4**
KKAR	**Karatay Array**	**19.87**	**54**	P	**P**	**11 17 50.0**	**-0.1**
NIL	**Nilore**	**20.73**	**82**	P	**P**	**11 17 59.8**	**+0.4**
NIL				IAmb	IAmb	11 18 02.3	
comp=Z,14nm,0.9s							
MLR	**Muntele Rosu**	**21.08**	**312**	P	**P**	**11 18 04.8**	**+1.4**
MLR				IAmb	IAmb	11 18 11.4	
comp=Z,9.4nm,0.7s							
MLR	**Muntele Rosu

comp=Z,0.4nm,0.5s,baz=109,slow=3.4,SNR=3.8
comp=Z,1.1nm,0.6s
ZALV Zalesovo Beam 32.92 40 P P 11 19 54.0 +0.9
comp=Z,0.9nm,0.5s,baz=217,slow=6.9,SNR=2.5
ZALV LR LR 11 34 04.1
comp=Z,22nm,18.6s,baz=122,slow=38
comp=Z,0.9nm,0.5s
BNI Bardonecchia 34.02 303 P P 11 20 03.1 +0.1
HFS Hagfors 35.10 330 P P 11 20 12.2 +0.2
comp=Z,1.5nm,0.3s,baz=124,slow=8.2,SNR=15
HFS LR LR 11 34 19.8
comp=Z,21nm,18.2s,baz=130,slow=36
comp=Z,1.5nm,0.3s
NOA NORSAR Array B 36.63 330 LR LR 11 36 03.2
comp=Z,18nm,20.6s,baz=125,slow=37
ARCES ARCESS Array B 38.43 347 P P 11 20 40.9 +0.7
comp=Z,2.2nm,0.9s,baz=145,slow=11,SNR=7.0
comp=Z,2.2nm,0.9s
EKA Eskdalemuir Ar 41.72 318 P P 11 21 07.2 -0.4
comp=Z,1.0nm,0.5s,baz=107,slow=7.9,SNR=5.4
EKA PcP **PcP 11 23 04.5 +0.5**
comp=Z,0.1nm,0.3s,baz=111,slow=4.0,SNR=4.0
comp=Z,1.0nm,0.5s
ESK Eskdalemuir 41.74 318 P **P 11 21 07.8 -0.1**
ESK IAmb IAmb 11 21 30.4
comp=Z,10nm,1.3s
ESDC Sonseca Array 42.06 294 P P 11 21 12.5 +1.8
comp=Z,0.4nm,0.6s,baz=91,slow=8.2,SNR=2.1
comp=Z,0.4nm,0.6s
SONM Songino Array 45.32 53 PcP **PcP 11 23 16.6 +0.1**
comp=Z,0.4nm,0.6s,baz=272,slow=4.7,SNR=2.1
TOA0 Torodi Ar. Sit 46.93 256 P P 11 21 50.5 +0.7
TOA0 IAmb IAmb 11 21 52.0
comp=Z,3.6nm,0.9s
TORD Torodi Ar. Bea 46.93 256 P P 11 21 50.0 +0.1
comp=Z,2.3nm,0.8s,baz=48,slow=8.9,SNR=16
comp=Z,2.3nm,0.8s
CMAR Chiang Mai Arr 47.39 95 P P 11 21 53.7 +0.3
comp=Z,0.7nm,0.3s,baz=283,slow=8.2,SNR=5.2
CMAR PcP **PcP 11 23 24.3 +0.2**
comp=Z,0.6nm,0.4s,baz=280,slow=5.4,SNR=1.4
comp=Z,0.7nm,0.3s
TIXI Tiksi 55.75 22 P P 11 22 54.9 -0.3
comp=Z,3.0nm,0.4s,baz=291,slow=9.8,SNR=2.7
comp=Z,3.0nm,0.4s
KULM Kulim 55.92 108 P P 11 22 56.7 -0.6
YAK Yakutsk 57.16 34 LR LR 11 49 28.2
comp=Z,26nm,18.2s,baz=222,slow=38
SUMG Summit 57.62 339 P P 11 23 09.9 +0.9
KSRS Korea Array 63.11 61 P P 11 23 46.3 -0.3
comp=Z,0.7nm,0.5s,baz=288,slow=6.4,SNR=2.9
KSRS LR LR 11 55 31.3
comp=Z,15nm,18.2s,baz=215,slow=40
comp=Z,0.7nm,0.5s
BOSA Boshof 65.41 202 P P 11 24 03.2 +1.4
RES Resolute Bay 69.57 350 LR LR 11 54 53.4
comp=Z,29nm,18.8s,baz=114,slow=36
SCHQ Schefferville 76.12 327 P P 11 25 06.7 0.0
SCHQ Schefferville 76.12 327 P P 11 25 05.7 -0.9
comp=Z,2.5nm,0.7s,baz=43,slow=9.0,SNR=4.9
comp=Z,2.5nm,0.7s
TOLK Toolik Lake Re 77.45 7 P P 11 25 15.3 +1.3
TOLK IAmb IAmb 11 25 15.6
comp=Z,1.8nm,0.8s
E19K Redstone River 77.66 10 P P 11 25 15.4 +0.3
E19K IAmb IAmb 11 25 18.3
comp=Z,4.6nm,1.3s
E25K Arctic Village 78.30 5 P P 11 25 18.5 -0.2
G19K Purcell Mounta 78.90 10 P P 11 25 22.3 +0.3
G19K IAmb IAmb 11 25 28.4
comp=Z,4.9nm,1.3s
IMAR Indian Mountai 79.52 9 P P 11 25 24.9 -0.5
G27K Doyon Strip 79.87 4 P P 11 25 28.2 +0.9
G30M tAoh Zrail Nji 79.93 2 P P 11 25 27.1 -0.5
H29M Whitestone 80.62 3 P P 11 25 31.5 +0.2
ILAR Eielson Array 81.47 7 P P 11 25 35.2 -0.7
comp=Z,0.2nm,0.7s,baz=324,slow=4.0,SNR=4.2
comp=Z,0.2nm,0.7s
I30M Mount Dempster 81.69 2 P P 11 25 36.5 -0.6
I30M IAmb IAmb 11 25 42.6
comp=Z,2.5nm,1.1s
SCRK Sand Creek 82.51 5 P P 11 25 42.3 +0.8
SCRK IAmb IAmb 11 26 18.8
comp=Z,3.6nm,1.3s
YKA Yellowknife Ar 83.52 352 P P 11 25 45.3 -1.2
comp=Z,0.8nm,1.0s,baz=19,slow=5.9,SNR=3.6
comp=Z,0.8nm,1.0s
ULM Lac du Bonnet 90.96 338 P P 11 26 21.9 -1.0
comp=Z,2.1nm,0.7s,baz=135,slow=1.4,SNR=2.4
comp=Z,1nm,0.7s
QSPA South Pole Qui 123.18 180 PKP PKiKP 11 32 14.8 -0.3
comp=Z,1.1nm,0.8s,baz=272,slow=2.3,SNR=5.8

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*NEIC **11** 11:14:35.6±1.3, 19°.390N±0°.010×155°.279W±0°.005, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.6km az=156.0*
HVO 11 11:14:35.3±1.0, **19°.395**N±0°.007×**155°.274W**±0°.005, **h0**km±2km, **ML3.5**/39, **ML2.7**/38(NEIC), **Error ellipse: s-maj=1.1km s-min=0.6km az=201.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.00**	**272**		Pg	11 14 35.7	+0.2
KKO	**Keanakako`i**	**0.01**	**71**		Pg	11 14 35.9	+0.2
SDHHI	**Sand Hill**	**0.02**	**253**		Pg	11 14 36.1	+0.4
BYL	**Byron's Ledge**	**0.02**	**38**		Pg	11 14 36.0	+0.3
OBL	**Observatory Le**	**0.02**	**336**		Pg	11 14 36.3	+0.4
WRMHI	**West Rim**	**0.03**	**294**		Pg	11 14 36.2	+0.4
HATHI	**Halema'uma'u T**	**0.03**	**24**		Pg	11 14 36.3	+0.3
UWB	**Uwekahuna B**	**0.03**	**352**		Pg	11 14 36.4	+0.5
UWE	**Uwekahuna**	**0.03**	**325**		Pg	11 14 36.5	+0.5
SBLHI	**Steaming Bluff**	**0.03**	**10**		Pg	11 14 36.5	+0.6
PUH	**Pauahi**	**0.06**	**111**		Pg	11 14 37.3	+0.8
PUH				IAML		11 14 37.7	
comp=E,4μm,0.6s							
RSD	**Rainshed**	**0.07**	**357**		Pg	11 14 37.3	+0.6
RSD				IAML		11 14 38.4	
comp=N,8μm,0.6s							
RSD				IAML		11 14 38.5	
comp=E,3μm,0.6s							
KNHH	**Kane Nui o Ham**	**0.10**	**99**		Pg	11 14 38.0	+0.8
HLP	**Hilina Pali**	**0.10**	**198**		Pg	11 14 38.3	+1.0
HLP				IAML		11 14 40.3	
comp=E,5μm,0.9s							
HLP				IAML		11 14 40.4	
comp=N,3μm,1.2s							
STCH	**Steam Cracks**	**0.14**	**94**		Pg	11 14 38.7	+0.7
STCH				IAML		11 14 41.9	
comp=N,5μm,0.9s							
MLH	**Mauna Loa**	**0.14**	**313**		Pg	11 14 39.1	+1.0
MLH				IAML		11 14 42.4	
comp=E,3μm,1.2s							
MLH				IAML		11 14 42.5	
comp=N,2μm,0.8s							
NPOC	**North of Pu'u**	**0.15**	**91**		Pg	11 14 39.0	+0.7
JCUZ	**Jacuzzi**	**0.16**	**94**		Pg	11 14 39.2	+0.7
HTC	**Hot Caves**	**0.20**	**217**		Pg	11 14 40.0	+0.9
JOKA	**Jonika Flow**	**0.26**	**81**		Pg	11 14 40.4	+0.2
JOKA				IAML		11 14 48.9	
comp=E,2μm,1.5s							
HMH	**Humu'ula Sheep**	**0.29**	**316**		Pg	11 14 41.8	+0.9
HMH				IAML		11 14 50.2	
comp=E,1μm,1.1s							
HMH				IAML		11 14 50.5	
comp=N,1μm,0.8s							
MLOA	**Mauna Loa Obse**	**0.32**	**296**	Pg	Pg	11 14 42.3	+0.9
MLOA				IAML		11 14 51.7	
comp=E,1μm,0.8s							
MLOA				IAML		11 14 52.3	
comp=N,1μm,0.9s							
MWH	**Moku'aweowe**	**0.32**	**286**		Pg	11 14 41.9	+0.5
PAH	**Pahoa**	**0.32**	**72**	Pg	Pg	11 14 41.2	-0.3
KHU	**Kahuku**	**0.35**	**245**		Pg	11 14 42.4	+0.2
ALEP	**Alea Permanent**	**0.38**	**293**		Pg	11 14 43.0	+0.4
HPO	**Honuapo**	**0.40**	**221**		Pg	11 14 43.4	+0.4
POHA	**Pohakuloa**	**0.43**	**326**	Pg	Pg	11 14 43.8	+0.1
POHA				IAML		11 14 58.8	
comp=N,1μm,1.1s							
HUH	**Hualalai**	**0.60**	**299**	Pg	Pb	11 14 48.0	-0.9
CPH	**Captain Cook**	**0.61**	**279**		Pg	11 14 47.0	-0.1
HPAH	**Hawaii Prepara**	**0.75**	**328**	Pg	Pg	11 14 48.9	-0.7

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*IDC **11** 11:42:21.5±1.1, 31°.75S×58°.23E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=35.6km s-min=29.5km az=69.0*
ISC 11 11:42:24.3±1.0, **31°.8S**±0°.2×**58°.2E**±0°.2, **h17**km, **n16**, σ0**46/7**, **mb3.8/7**, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.22**	**197**	T	T	12 01 15.2	
baz=20							
H04N1	**CROZET ISLANDS**	**15.22**	**197**	T	T	12 01 16.6	
baz=20,slow=74							
H04N3	**CROZET ISLANDS**	**15.24**	**197**	T	T	12 01 15.6	
baz=20,slow=74							
H08S1	**Diego Garcia H**	**27.43**	**32**	T	T	12 16 32.6	
baz=207,slow=75,SNR=9.2							
H08S2	**Diego Garcia H**	**27.44**	**32**	T	T	12 16 31.9	
baz=207,slow=75,SNR=6.9							
H08S3	**Diego Garcia H**	**27.45**	**32**	T	T	12 16 35.4	
baz=207,slow=75,SNR=13							
H01W2	**Cape Leeuwin H**	**46.34**	**110**	T	T	12 40 32.5	
baz=255							
H01W3	**Cape Leeuwin H**	**46.34**	**110**	T	T	12 40 32.1	
baz=255,slow=74,SNR=3.5							
H01W1	**Cape Leeuwin H**	**46.35**	**110**	T	T	12 40 32.3	
baz=255,slow=74,SNR=3.7							
QSPA	**South Pole Qui**	**58.42**	**180**	P	**P**	**11 52 19.2**	**+0.4**
1.1nm,0.6s,baz=242,slow=1.5,SNR=7.9							
1.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.39**	**44**	P	**P**	**11 52 53.3**	**+0.3**
0.4nm,0.3s,baz=221,slow=7.6,SNR=1.8							
0.4nm,0.3s							
ASAR	**Alice Springs**	**66.31**	**104**	P	**P**	**11 53 11.7**	**-0.5**
0.5nm,0.8s,baz=240,slow=5.8,SNR=6.9							
0.5nm,0.8s							
WRA	**Warramunga Arr**	**68.32**	**101**	P	**P**	**11 53 24.6**	**-0.4**
0.6nm,0.8s,baz=242,slow=5.4,SNR=3.2							
0.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**70.14**	**300**	P	**P**	**11 53 35.8**	**-0.4**
0.4nm,0.9s,baz=123,slow=7.0,SNR=2.2							
0.4nm,0.9s							
KURBB	**Kurchatov Arra**	**83.96**	**13**	P	**P**	**11 54 53.3**	**+0.3**
0.2nm,0.3s,baz=218,slow=4.1,SNR=1.9							
0.2nm,0.3s							
BVAR	**Borovoye Array**	**85.08**	**7**	P	**P**	**11 54 58.8**	**+0.2**
0.4nm,0.4s,baz=177,slow=8.7,SNR=2.4							
0.4nm,0.4s							

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*IDC **11** 11:42:40.6±3.9, 2°.96N×96°.64E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=156.2km s-min=30.0km az=57.0*
*DJA **11** 11:42:46.7±0.5, 3°N±3°×9°7E±°, h38km±16km, M3.4/6, MLv3.4/6*
ISC 11 11:42:45.5±0.9, **2°.85N**±0°.05×**96°.61E**±0°.08, **h33**km, **n12**, σ1**17/12**, **mb3.5/4**, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.52**	**213**	P	**Pn**	**11 42 58.4**	**+1.8**
KCSI	**Kotacane, Aceh**	**1.34**	**60**	P	**Pb**	**11 43 10.6**	**+0.5**
KCSI				S	**Sb**	**11 43 27.7**	**+0.8**
MLSI	**Meulaboh, Aceh**	**1.43**	**352**	P	**Pn**	**11 43 10.3**	**+1.2**
MLSI				S	**Sb**	**11 43 28.7**	**-0.7**
GSI	**Gunungsitoli**	**1.81**	**148**	P	**Pn**	**11 43 15.2**	**+0.8**
GSI				S	**Sb**	**11 43 38.8**	**-1.5**
LHMI	**Lhok Sumawe**	**2.39**	**8**	P	**Pn**	**11 43 23.3**	**+0.9**
WRA	**Warramunga Arr**	**43.41**	**123**	P	**P**	**11 50 45.6**	**+0.1**
0.4nm,0.7s,baz=303,slow=9.0,SNR=4.6							
0.4nm,0.7s							
MKAR	**Makanchi Array**	**45.51**	**346**	P	**P**	**11 51 00.8**	**-1.1**
0.3nm,0.4s,baz=157,slow=8.0,SNR=5.0							
0.3nm,0.4s							
SONM	**Songino Array**	**45.61**	**9**	P	**P**	**11 51 02.2**	**-0.6**
0.3nm,0.5s,baz=198,slow=8.9,SNR=1.6							
0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**50.00**	**345**	P	**P**	**11 51 35.6**	**-0.9**
0.3nm,0.6s,baz=161,slow=8.8,SNR=2.4							
0.3nm,0.6s							
H04N2	**CROZET ISLANDS**	**62.80**	**213**	T	T	13 00 43.4	
baz=52,slow=75,SNR=4.7							
H04N1	**CROZET ISLANDS**	**62.81**	**213**	T	T	13 00 43.4	
baz=52,slow=75,SNR=4.6							
H04N3	**CROZET ISLANDS**	**62.82**	**213**	T	T	13 00 42.5	
baz=52,slow=75,SNR=5.6							

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*IDC **11** 11:53:04.1±1.0, 16°.74S×67°.18E, h0km, mb3.8/8, mbtmp3.8/8, MS3.6/11, Error ellipse: s-maj=37.5km s-min=23.8km az=53.0*
ISC 11 11:53:06.3±1.0, **16°.7S**±0°.2×**67°.2E**±0°.2, **h13**km, **n23**, σ1**00/8**, **mb3.8/8**, **MS3.6**/11, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**27.34**	**30**	LR	LR	12 07 34.8	
comp=Z,83nm,18.8s,baz=307,slow=32							
H04N2	**CROZET ISLANDS**	**32.02**	**200**	T	T	12 32 54.0	
baz=28,slow=75,SNR=65							
H04N1	**CROZET ISLANDS**	**32.03**	**200**	T	T	12 32 48.5	
baz=28,slow=75,SNR=69							
H04N3	**CROZET ISLANDS**	**32.04**	**200**	T	T	12 32 53.8	
baz=28,slow=75,SNR=87							
BOSA	**Boshof**	**40.28**	**245**	LR	LR	12 14 21.8	
comp=Z,68nm,18.2s,baz=36,slow=32							
SUR	**Sutherland**	**44.63**	**241**	LR	LR	12 18 14.8	
comp=Z,76nm,18.2s,baz=118,slow=34							
H01W3	**Cape Leeuwin H**	**45.49**	**123**	T	T	12 50 14.3	
baz=280,slow=75,SNR=295							
H01W2	**Cape Leeuwin H**	**45.49**	**123**	T	T	12 50 13.2	
baz=280,slow=75,SNR=300							
H01W1	**Cape Leeuwin H**	**45.51**	**123**	T	T	12 50 14.4	
baz=280,slow=75,SNR=278							
CMAR	**Chiang Mai Arr**	**46.89**	**43**	LR	LR	12 18 22.9	
comp=Z,62nm,21.5s,baz=225,slow=32							
NWAO	**Narrogin (SRO)**	**47.73**	**119**	LR	LR	12 18 03.3	
comp=Z,63nm,20.6s,baz=220,slow=31							
MAW	**Mawson**	**50.91**	**182**	LR	LR	12 18 10.2	
comp=Z,77nm,20.8s,baz=292,slow=30							
KAPI	**Kappang**	**52.74**	**83**	LR	LR	12 24 00.3	
comp=Z,26nm,18.8s,baz=154,slow=35							
AAK	**Ala-Archa**	**59.47**	**6**	LR	LR	12 26 44.5	
comp=Z,63nm,20.3s,baz=195,slow=34							
ASAR	**Alice Springs**	**62.49**	**108**	P	**P**	**12 03 30.1**	**+0.1**
0.7nm,0.8s,baz=275,slow=6.1,SNR=8.0							
ASAR				LR	LR	12 27 13.5	
comp=Z,69nm,20.0s,baz=271,slow=33							
0.7nm,0.8s							
WRA	**Warramunga Arr**	**63.42**	**104**	P	**P**	**12 03 37.1**	**+0.9**
2.0nm,1.1s,baz=268,slow=5.8,SNR=6.2							
2.0nm,1.1s							
BRTR	**Keskin Array B**	**64.32**	**332**	P	**P**	**12 03 41.1**	**-0.7**
0.4nm,0.7s,baz=142,slow=7.7,SNR=1.3							
0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**67.81**	**8**	P	**P**	**12 04 03.2**	**-0.6**
0.2nm,0.4s,baz=195,slow=6.7,SNR=2.2							
0.2nm,0.4s							
BVAR	**Borovoye Array**	**69.53**	**2**	P	**P**	**12 04 13.7**	**-0.9**
0.5nm,0.7s,baz=173,slow=6.9,SNR=2.4							
BVAR				LR	LR	12 34 25.4	
comp=Z,29nm,18.2s,baz=187,slow=36							
0.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**71.21**	**291**	P	**P**	**12 04 26.9**	**+1.3**
0.6nm,1.0s,baz=111,slow=7.9,SNR=2.5							
0.6nm,1.0s							
ZALV	**Zalesovo Beam**	**72.01**	**11**	P	**P**	**12 04 30.2**	**+0.6**
0.5nm,0.4s,baz=204,slow=3.2,SNR=1.6							
0.5nm,0.4s							
QSPA	**South Pole Qui**	**73.35**	**180**	P	**P**	**12 04 36.8**	**-0.9**
3.2nm,1.0s,baz=293,slow=3.5,SNR=5.2							
3.2nm,1.0s							
DBIC	**Dimbokro**	**74.93**	**282**	LR	LR	12 35 31.3	
comp=Z,22nm,21.0s,baz=104,slow=34							

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*NOU **11** 11:58:31.7, 38°.98S×175°.23E, h168km, MLv4.0/13, North Island, New Zealand*
*WEL **11** 11:58:35.4±0.5, 39°S±4°×17°5E±°, h131km±4km, M3.2/60, ML2.9/8, MLv3.2/60, Error ellipse: s-maj=0.0km s-min=0.0km az=131.2, confirmed*
ISC 11 11:58:31.3±1.6, **39°.02S**±0°.05×**175°.25E**±0°.05, **h164**km±8km, **n151**, σ1**25**/164, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.16**	**110**	P	**Pn**	**11 58 54.1**	**+0.8**
TWVZ				S	**Sn**	**11 59 08.7**	**-1.5**
PKVZ	**Pokaka**	**0.28**	**164**	P	**Pn**	**11 58 54.5**	**+1.0**
PKVZ				S	**Sn**	**11 59 09.3**	**-1.5**
WTVZ	**West Tongariro**	**0.29**	**110**	P	**Pn**	**11 58 54.5**	**+0.8**
WTVZ				S	**Sn**	**11 59 09.4**	**-1.3**
COVZ	**Chateau Observ**	**0.29**	**129**	P	**Pn**	**11 58 54.6**	**+0.9**
COVZ				S	**Sn**	**11 59 09.3**	**-1.5**
NNVZ	**North Ngauruho**	**0.31**	**112**	P	**Pn**	**11 58 54.5**	**+0.8**
NNVZ				S	**Sn**	**11 59 10.2**	**-0.7**
KRVZ	**Karewarewa**	**0.32**	**104**	P	**Pn**	**11 58 54.6**	**+0.9**
KRVZ				S	**Sn**	**11 59 09.5**	**-1.4**
NGZ	**Ngauruhoe**	**0.32**	**120**	P	**Pn**	**11 58 54.7**	**+0.9**
NGZ				S	**Sn**	**11 59 09.5**	**-1.4**
FWVZ	**Far West T-bar**	**0.34**	**135**	P	**Pn**	**11 58 54.9**	**+0.9**
FWVZ				S	**Sn**	**11 59 09.6**	**-1.7**
NTVZ	**North Tongarir**	**0.34**	**104**	P	**Pn**	**11 58 54.8**	**+1.0**
NTVZ				S	**Sn**	**11 59 10.1**	**-0.9**
SNVZ	**South Ngauruho**	**0.35**	**119**	P	**Pn**	**11 58 55.0**	**+1.1**
MAVZ	**Matarangi**	**0.35**	**136**	P	**Pn**	**11 58 55.1**	**+1.0**
KATZ	**Kakaramea**	**0.35**	**83**	P	**Pn**	**11 58 54.5**	**+0.7**
OTVZ	**Oturere**	**0.36**	**114**	P	**Pn**	**11 58 55.2**	**+1.3**
OTVZ				S	**Sn**	**11 59 10.9**	**-0.3**
TRVZ	**Turoa**	**0.37**	**140**	P	**Pn**	**11 58 55.1**	**+1.1**
TMVZ	**Te Maari**	**0.37**	**106**	P	**Pn**	**11 58 54.9**	**+1.0**
TMVZ				S	**Sn**	**11 59 10.2**	**-1.0**
WHVZ	**Whangaehu Hut**	**0.38**	**135**	P	**Pn**	**11 58 55.1**	**+1.1**
WHVZ				S	**Sn**	**11 59 10.2**	**-1.4**
ETVZ	**East Tongariro**	**0.38**	**108**	P	**Pn**	**11 58 54.7**	**+0.8**
ETVZ				S	**Sn**	**11 59 10.1**	**-1.1**
VRZ	**Vera Road**	**0.39**	**254**	P	**Pn**	**11 58 54.8**	**+1.0**
TUVZ	**Tukino**	**0.41**	**128**	P	**Pn**	**11 58 55.2**	**+1.2**
TUVZ				S	**Sn**	**11 59 10.2**	**-1.4**
MTVZ	**Mangateitei**	**0.41**	**155**	P	**Pn**	**11 58 55.1**	**+1.2**
WNVZ	**Wahianoa**	**0.41**	**139**	P	**Pn**	**11 58 55.3**	**+1.2**
RATZ	**Rangitukua**	**0.44**	**70**	P	**Pn**	**11 58 54.6**	**+0.6**
RITZ	**Rihia Road**	**0.48**	**86**	P	**Pn**	**11 58 55.1**	**+0.9**
WATZ	**Wairara**	**0.49**	**51**	P	**Pn**	**11 58 55.2**	**+1.0**
MOVZ	**Moawhango**	**0.56**	**135**	P	**Pn**	**11 58 55.4**	**+0.8**
HIZ	**Hauiti**	**0.59**	**329**	P	**Pn**	**11 58 55.5**	**+0.8**
HIZ	**Hauiti**	**0.59**	**329**	P	**Pn**	**11 58 55.6**	**+0.8**
WHTZ	**Whakaora**	**0.66**	**58**	P	**Pn**	**11 58 56.1**	**+1.0**
HATZ	**Hinemaiaia**	**0.67**	**80**	P	**Pn**	**11 58 55.6**	**+0.4**
KUTZ	**Kaahu Road**	**0.69**	**41**	P	**Pn**	**11 58 56.3**	**+1.0**
MHEZ	**Mangahewa**	**0.72**	**265**	P	**Pn**	**11 58 57.0**	**+1.6**
TLZ	**Tolley Road**	**0.72**	**19**	P	**Pn**	**11 58 56.1**	**+0.6**
WAZ	**Wanganui**	**0.77**	**195**	P	**Pn**	**11 58 57.5**	**+1.8**
LREZ	**Lake Rotokare**	**0.79**	**236**	P	**Pn**	**11 58 57.8**	**+2.0**
DREZ	**Durham Road**	**0.83**	**258**	P	**Pn**	**11 58 57.7**	**+1.6**
WPRZ	**Whakapapatarin**	**0.87**	**56**	P	**Pn**	**11 58 57.1**	**+0.6**
PREZ	**Palmer Road**	**0.91**	**249**	P	**Pn**	**11 58 58.6**	**+1.9**
NEZ	**North Egmont**	**0.93**	**254**	P	**Pn**	**11 58 58.7**	**+1.8**
MRHZ	**Matea Rd**	**0.93**	**79**	P	**Pn**	**11 58 57.4**	**+0.4**
GRRZ	**Galatos Road**	**0.95**	**46**	P	**Pn**	**11 58 58.0**	**+0.9**
ALRZ	**Allen Road**	**0.97**	**62**	P	**Pn**	**11 58 57.7**	**+0.5**
BKZ	**Black Stump Fm**	**0.98**	**99**	P	**Pn**	**11 58 58.0**	**+0.7**
BKZ	**Black Stump Fm**	**0.98**	**99**	P	**Pn**	**11 58 58.1**	**+0.7**
PKE	**Pukeiti**	**0.99**	**259**	P	**Pn**	**11 58 59.0**	**+1.7**
KHEZ	**Kahui Hut**	**1.00**	**253**	P	**Pn**	**11 58 59.2**	**+1.7**
KHEZ	**Kahui Hut**	**1.00**	**253**	P	**Pn**	**11 58 59.1**	**+1.7**
KWHZ	**Kaweka Forest**	**1.00**	**114**	P	**Pn**	**11 58 59.1**	**+1.6**
HRRZ	**Handcock Road**	**1.02**	**53**	P	**Pn**	**11 58 58.5**	**+0.9**
PRRZ	**Plateau Road**	**1.03**	**60**	P	**Pn**	**11 58 58.1**	**+0.4**
HSRZ	**Hossack Road**	**1.05**	**48**	P	**Pn**	**11 58 58.8**	**+0.9**
KRHZ	**Kereru**	**1.07**	**126**	P	**Pn**	**11 58 59.5**	**+1.5**
NBEZ	**Newall Road No**	**1.10**	**256**	P	**Pn**	**11 58 59.8**	**+1.7**
UTU	**Utuhina**	**1.12**	**42**	P	**Pn**	**11 58 59.5**	**+1.1**
NMEZ	**Namu Road**	**1.13**	**249**	P	**Pn**	**11 59 00.3**	**+1.8**
HLRZ	**Highlands Stat**	**1.16**	**49**	P	**Pn**	**11 59 00.2**	**+1.4**
PNHZ	**Pukenui**	**1.16**	**141**	P	**Pn**	**11 59 00.5**	**+1.7**
TSZ	**Takapari Road**	**1.18**	**152**	P	**Pn**	**11 59 00.7**	**+1.8**
OHWZ	**Ohakea**	**1.19**	**177**	P	**Pn**	**11 59 01.4**	**+2.4**
RRRZ	**Republican Roa**	**1.20**	**56**	P	**Pn**	**11 58 59.8**	**+0.7**
MCHZ	**McNeill Hill**	**1.21**	**111**	P	**Pn**	**11 59 01.4**	**+2.3**
NMHZ	**Naumai**	**1.22**	**94**	P	**Pn**	**11 59 01.2**	**+1.9**
MTHZ	**Maungataniwha**	**1.25**	**83**	P	**Pn**	**11 59 00.4**	**+0.8**
TARZ	**Mount Tarawera**	**1.26**	**52**	P	**Pn**	**11 59 00.7**	**+1.0**
KARZ	**Kaharoa**	**1.27**	**39**	P	**Pn**	**11 59 00.8**	**+1.1**
OMRZ	**Omania**	**1.27**	**45**	P	**Pn**	**11 59 00.7**	**+0.9**
KMRZ	**Kaimai**	**1.29**	**25**	P	**Pn**	**11 59 01.2**	**+1.2**
TOZ	**Tahuroa Road**	**1.30**	**9**	P	**Pn**	**11 59 01.1**	**+1.1**
MUGZ	**Murupara**	**1.31**	**66**	P	**Pn**	**11 59 00.4**	**+0.3**
ARHZ	**Aropaoanui**	**1.38**	**101**	P	**Pn**	**11 59 02.6**	**+1.9**
WPHZ	**Waipukurau**	**1.40**	**139**	P	**Pn**	**11 59 02.7**	**+1.8**
RTZ	**Ruatahuna**	**1.41**	**74**	P	**Pn**	**11 59 01.8**	**+0.6**
POWZ	**Post Office Ro**	**1.43**	**164**	P	**Pn**	**11 59 02.9**	**+1.7**
RAHZ	**Arahi**	**1.44**	**87**	P	**Pn**	**11 59 02.8**	**+1.4**
DVHZ	**Dannevirke**	**1.47**	**151**	P	**Pn**	**11 59 03.1**	**+1.5**
KAHZ	**Kahuranaki**	**1.48**	**122**	P	**Pn**	**11 59 03.7**	**+1.9**
TGRZ	**Tauranga**	**1.51**	**32**	P	**Pn**	**11 59 03.2**	**+1.1**
WHHZ	**Waihua**	**1.55**	**93**	P	**Pn**	**11 59 04.1**	**+1.7**
OPRZ	**Ohinepanea**	**1.56**	**42**	P	**Pn**	**11 59 03.4**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.56**	**115**	P	**Pn**	**11 59 04.4**	**+2.0**
PXZ	**Pawanui**	**1.61**	**130**	P	**Pn**	**11 59 04.7**	**+1.7**
PRWZ	**Pori Road**	**1.64**	**160**	P	**Pn**	**11 59 05.2**	**+2.0**
URZ	**Urewera**	**1.65**	**63**	P	**Pn**	**11 59 03.7**	**+0.3**
URZ	**Urewera**	**1.65**	**63**	P	**Pn**	**11 59 03.7**	**+0.3**
PRHZ	**Porangahau**	**1.65**	**140**	P	**Pn**	**11 59 05.2**	**+1.8**
SNGZ	**Shann

JCZ	**Jackson Bay**	**7.00**	**222**	P	**Pn**	**12 00 12.2**	**+0.9**
CTZ	**Chatham Island**	**7.72**	**130**	P	Pn	12 00 26.4	+5.6
TUZ	**Tuapeka**	**8.08**	**209**	P	**Pn**	**12 00 26.4**	**+0.9**

*NEIC **11** 12:09:44.8±2.1,44°.65N±0°.02×124°.50W±0°.05,h10km±2km, Error ellipse: s-maj=6.0km s-min=3.0km az=99.0*
*PNSN **11** 12:09:45.7,44°.61N×124°.35W,h25km,MD3.0,Fault plane solution: NP1:ϕ=20.00000°,δ20.00000°,λ90.00000°.*
SEA 11 12:09:45.7±3.0,**44°.61N**±0°.01×**124°.35W**±0°.08,**h25**km±7km, **ML3.0**/12,**ML2.8**/86(NEIC),**Error ellipse: s-maj=8.0km s-min=1.1km az=81.0,Near coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEWO	**Newport DOGAMI**	**0.22**	**87**		Pb	12 09 51.6	0.0
NEWO					Sb	12 09 56.4	+0.8
MPOR	**Mary's Peak**	**0.58**	**100**		Pb	12 09 57.1	-0.3
I02E	**Swisshome, OR**	**0.62**	**144**		Pb	12 09 57.8	-0.1
I02E					Sn	12 10 07.3	-0.7
HEBO	**Mount Hebo**	**0.73**	**35**		Pb	12 09 59.8	-0.1
COR	**Corvallis**	**0.75**	**92**		Pb	12 10 00.1	+0.1
RNO	**Roman Nose**	**0.82**	**148**		Pb	12 10 01.4	0.0
G03D	**McMinnville, O**	**0.97**	**52**		Pn	12 10 03.4	-0.4
BUCK	**Buck Mountain**	**1.06**	**113**		Pb	12 10 05.4	-0.1
BUCK				IAML		12 10 22.9	
	comp=E,365nm,0.9s						
BUCK				IAML		12 10 23.2	
	comp=N,492nm,0.7s						
H04D	**Lebanon**	**1.15**	**94**		Pb	12 10 06.8	-0.2
H04D				IAML		12 10 25.9	
	comp=N,251nm,0.5s						
EYES	**Ewing Young ES**	**1.16**	**52**		Pb	12 10 06.9	-0.2
I03D	**Drain, OR**	**1.16**	**142**	Pn	Pn	12 10 06.5	+0.2
KMOR	**Kings Mountain**	**1.19**	**30**		Pn	12 10 07.0	+0.1
BROR	**Big Rock Looko**	**1.40**	**104**		Pb	12 10 10.9	-0.3
F03A	**Seaside**	**1.43**	**23**		Pn	12 10 10.4	+0.4
G04A	**Mulino**	**1.45**	**65**		Pb	12 10 11.5	-0.6
J01E	**Myrtle Point**	**1.48**	**168**		Pb	12 10 12.6	+0.1
H04A	**Detroit Lake**	**1.54**	**87**		Pb	12 10 12.9	-0.7
H04A				IAML		12 10 37.4	
	comp=E,212nm,0.4s						
H04A				IAML		12 10 37.7	
	comp=N,225nm,0.4s						
I04A	**Tendick Farm,**	**1.61**	**120**		Pb	12 10 14.3	-0.6
I04A				IAML		12 10 37.6	
	comp=N,106nm,0.6s						
I04A				IAML		12 10 38.2	
	comp=E,127nm,0.5s						
HBO	**Huckleberry Mo**	**1.65**	**117**		Pb	12 10 15.0	-0.5
DBO	**Dodson Butte**	**1.69**	**151**	Pn	Pb	12 10 15.9	-0.4
F04D	**Rainier, OR**	**1.75**	**32**	Pn	Pb	12 10 16.0	-1.1
PRLK	**Prince Lake**	**1.76**	**102**		Pb	12 10 17.1	-0.2
RADR	**Rader Ridge**	**1.85**	**12**		Pn	12 10 16.0	+0.1
RADR				IAML		12 10 53.2	
	comp=E,53nm,1.3s						
RADR				IAML		12 10 54.8	
	comp=N,47nm,1.5s						
F04A	**Amboy**	**1.90**	**45**		Pb	12 10 18.4	-1.2
F04A				IAML		12 10 49.9	
	comp=N,145nm,0.4s						
TDH	**Tom, Dick, Har**	**1.94**	**69**		Pb	12 10 19.6	-0.8
TCBUT	**Trout Creek Bu**	**1.96**	**100**		Pb	12 10 21.6	+0.8
HIYU	**Hiyu Mountain**	**1.98**	**65**		Pb	12 10 20.6	-0.6
K02D	**Willamette Mer**	**1.98**	**165**	Pn	Pb	12 10 19.9	-1.2
MOON	**Moon Mountain**	**2.00**	**105**		Pb	12 10 21.5	+0.1
E03A	**Lebam**	**2.01**	**16**	Pn	Pn	12 10 18.3	+0.3
E03A				IAML		12 10 56.4	
	comp=N,48nm,0.6s						
E03A				IAML		12 10 57.9	
	comp=E,43nm,0.5s						
VBEM	**Beaver Butte**	**2.01**	**76**		Pb	12 10 21.5	-0.2
HOOD	**Mount Hood Mea**	**2.04**	**69**		Pb	12 10 20.5	-1.7
HOOD				IAML		12 10 54.3	
	comp=N,136nm,1.0s						
MTMW	**Mount Mitchell**	**2.06**	**46**		Pb	12 10 21.4	-1.1
VLL	**Laurance Lake**	**2.07**	**65**		Pb	12 10 22.2	-0.5
FL2	**Flat Top 2**	**2.12**	**41**		Pb	12 10 22.3	-1.2
VFP	**Flag Point**	**2.16**	**70**		Pb	12 10 23.8	-0.5
SWF2	**Southwest Flan**	**2.17**	**43**		Pb	12 10 23.2	-1.1
I05D	**Terrebonne, OR**	**2.17**	**96**		Pn	12 10 22.2	+1.9
I05D				IAML		12 11 06.4	
	comp=E,78nm,1.1s						
I05D				IAML		12 11 10.1	
	comp=N,67nm,1.0s						
SHRK	**Shell Rock**	**2.17**	**66**		Pb	12 10 23.0	-1.4
SEPW	**September Lobe**	**2.20**	**43**		Pb	12 10 24.2	-0.7
STD	**Studebaker Rid**	**2.21**	**42**		Pb	12 10 23.5	-1.5
B201	**Coldwater, Mou**	**2.24**	**40**		Pb	12 10 23.9	-1.6
JRO	**Jston Ridge Ob**	**2.24**	**41**		Pn	12 10 23.4	+2.1
G05A	**Wamic**	**2.24**	**73**		Pb	12 10 25.3	-0.2
G05A				IAML		12 11 00.5	
	comp=N,122nm,0.8s						
G05A				IAML		12 11 00.8	
	comp=E,75nm,1.3s						
HUMO	**Hull Mountain**	**2.25**	**153**		Pn	12 10 23.4	+2.2
B202	**Windy Ridge, M**	**2.25**	**43**		Pb	12 10 24.3	-1.5
ASBU	**Astronaut Butt**	**2.28**	**109**		Pb	12 10 26.6	+0.3
TDL	**Tradedollar La**	**2.29**	**40**		Pb	12 10 25.0	-1.5
RRHS	**Rochester High**	**2.37**	**22**		Pb	12 10 23.7	+0.8
SVIC	**Surveyors Ice**	**2.43**	**112**		Pb	12 10 29.2	+0.4
L02F	**Cave Junction**	**2.56**	**167**	Pn	Pn	12 10 27.9	+2.4
PINE	**Pine Mountain**	**2.58**	**107**		Pn	12 10 28.4	+2.3
PINE				IAML		12 11 19.4	
	comp=N,30nm,0.7s						
PINE				IAML		12 11 19.7	
	comp=E,40nm,0.8s						
J05D	**Fort Rock, OR**	**2.61**	**119**		Pn	12 10 29.1	+2.7
J05D				IAML		12 11 15.8	
	comp=E,27nm,1.4s						
J05D				IAML		12 11 20.5	
	comp=N,22nm,1.4s						
G06A	**Carlson Farm,**	**2.71**	**75**		Pn	12 10 29.7	+2.1
G06A				IAML		12 11 19.5	
	comp=N,21nm,1.6s						
LON	**Longmire**	**2.78**	**39**		Pn	12 10 30.1	+1.5
LON				IAML		12 11 15.8	
	comp=E,21nm,0.8s						
LON				IAML		12 11 18.0	
	comp=N,22nm,0.7s						
NLWA	**Neilton Lookou**	**2.80**	**7**	Pn	Pn	12 10 29.0	+0.1
NLWA				IAML		12 11 02.7	
	comp=N,19nm,0.4s						
L04D	**Klamath Falls**	**2.82**	**147**		Pn	12 10 31.2	+2.0
L04D				IAML		12 11 21.4	
	comp=N,26nm,2.2s						
L04D				IAML		12 11 23.2	
	comp=E,30nm,2.5s						
D05A	**Enumclaw**	**3.06**	**32**	Pn	Pn	12 10 34.4	+2.0
D05A				IAML		12 11 30.5	
	comp=N,18nm,1.8s						
D05A				IAML		12 11 36.2	
	comp=E,25nm,0.9s						
KRMB	**Red Mountain**	**3.10**	**174**	Pn	Pn	12 10 34.9	+1.7
KRMB				IAML		12 12 05.1	
	comp=E,26nm,2.0s						
KRMB				IAML		12 12 17.9	
	comp=N,38nm,2.9s						
GNW	**Green Mountain**	**3.14**	**19**	Pn	Pn	12 10 34.2	+0.7
GNW				IAML		12 11 11.4	
	comp=E,20nm,0.4s						
C03A	**Quillayute Air**	**3.34**	**357**	Pn	Pn	12 10 36.8	+0.5
F07A	**Phinny Hill Vi**	**3.37**	**66**	Pn	Pn	12 10 37.4	+0.7
F07A				IAML		12 11 34.7	
	comp=N,37nm,0.8s						
F07A				IAML		12 11 39.4	
	comp=E,25nm,0.8s						
MXC	**Moxie City**	**3.46**	**54**	Pn	Pn	12 10 39.1	+1.2
MXC				IAML		12 11 41.0	
	comp=E,13nm,0.8s						
I07A	**Izee**	**3.52**	**97**		Pn	12 10 41.5	+2.7
LTY	**Liberty**	**3.69**	**43**		Pn	12 10 42.2	+1.1
E07A	**Sunnyside**	**3.71**	**57**	Pn	Pn	12 10 43.0	+1.7
E07A				IAML		12 11 48.0	
	comp=E,19nm,0.7s						
E07A				IAML		12 11 55.9	
	comp=N,17nm,0.9s						
HAWA	**Hanford**	**3.82**	**61**		Pn	12 10 45.4	+2.4
HAWA				IAML		12 11 51.2	
	comp=N,11nm,0.7s						
G08A	**Pilot Rock**	**3.88**	**78**		Pn	12 10 45.9	+2.0
G08A				IAML		12 11 57.7	
	comp=N,13nm,1.5s						
G08A				IAML		12 12 01.4	
	comp=E,8.2nm,1.1s						
PGC	**Sidney**	**4.08**	**8**	Pn	Pn	12 10 47.5	+1.0
B926	**Mesachie Lake**	**4.21**	**2**		Pn	12 10 45.4	-2.8
CLRS	**Cowichan Lake**	**4.21**	**2**	Pn	Pn	12 10 48.4	+0.1
WPB	**Watts Point**	**5.11**	**8**		Pb	12 11 10.0	-4.3

IDC 11 12:17:25.8±2.2,**1°.52S**×**127°.77E**,**h0**km,**mb3.2**/2, **mbtmp3.4**/3,**ML3.9**/1,**Error ellipse: s-maj=149.1km s-min=27.9km az=67.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.41**	**161**	P	Pn	12 21 54.7	0.0
	0.4nm,0.3s,baz=340,slow=11,SNR=37						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**22.80**	**165**	P	P	12 22 29.6	-0.7
	0.3nm,0.3s,baz=344,slow=11,SNR=17						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**62.45**	**326**	P	P	12 27 50.9	0.0
	0.2nm,0.6s,baz=110,slow=6.4,SNR=1.7						
	0.2nm,0.6s						

*GUC **11** 12:21:47.1±0.7,21°.10S×68°.58W,h139km±4km,ML3.7*
*SJA **11** 12:21:47.0±1.5,21°.08S×68°.49W,h100km,ML3.7,MW3.5*
*IDC **11** 12:21:48.3±5.1,21°.01S×68°.20W,h145km±59km,mb3.6/2, mbtmp3.9/3,Error ellipse: s-maj=95.9km s-min=32.4km az=115.0*
ISC 11 12:21:46.4±0.9,**21°.09S**±0°.03×**68°.67W**±0°.05,**h148**km±8km, **n32**,σ0°.86/47,**6C-4D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.88**	**217**	*e*P	**Pn**	**12 22 10.3**	**+0.2**
PB09				IAML		12 22 32.1	
	comp=Z,372nm,0.2s						
PB09	**IPOC Station P**	**0.88**	**217**	⇑*i*P	**Pn**	**12 22 10.4**	**+0.2**
PB09				*i* S	**Sn**	**12 22 28.3**	**0.0**
PB09				IAML		12 22 29.6	
	comp=E,617nm,0.2s						
PX03	**IPOC Station P**	**1.13**	**307**	*e*P	**Pn**	**12 22 11.1**	**-1.1**
PX03				*i* S	**Sn**	**12 22 31.2**	**-0.6**
PATCX	**Punta Patache**	**1.41**	**281**	*e*P	**Pn**	**12 22 15.2**	**+0.3**
PATCX				IAML		12 22 40.8	
	comp=Z,572nm,0.2s						
PATCX	**Punta Patache**	**1.41**	**281**	⇓*i*P	**Pn**	**12 22 15.2**	**+0.3**
PATCX				*i* S	**Sn**	**12 22 36.9**	**+0.2**
PATCX				IAML		12 22 38.5	
	comp=N,2μm,0.1s						
GO01	**Chusmiza**	**1.50**	**341**	*e*P	**Pn**	**12 22 16.0**	**-0.2**
GO01				*e*S	**Sn**	**12 22 40.0**	**+0.9**
GO01	**Chusmiza**	**1.50**	**341**	⇑*i*P	**Pn**	**12 22 16.1**	**-0.2**
GO01				*i* S	**Sn**	**12 22 39.1**	**0.0**
GO01				IAML		12 22 44.2	
	comp=E,1μm,0.1s						
TA01	**Diego Aracena**	**1.50**	**290**	*e*P	**Pn**	**12 22 14.8**	**-0.9**
TA01				IAML		12 22 40.0	
	comp=Z,447nm,0.1s						
TA01	**Diego Aracena**	**1.50**	**290**	⇑*i*P	**Pn**	**12 22 15.7**	**-0.1**
TA01				*i* S	**Sn**	**12 22 38.0**	**-0.3**
TA01				IAML		12 22 38.8	
	comp=E,1μm,0.1s						
LVC	**Limon Verde**	**1.53**	**188**	*e*P	**Pn**	**12 22 16.3**	**-0.1**
LVC				*e*S	**Sn**	**12 22 38.7**	**-0.9**
LVC	**Limon Verde**	**1.53**	**188**	⇑*i*P	**Pn**	**12 22 16.2**	**-0.3**
LVC				*i* S	**Sn**	**12 22 38.5**	**-1.1**
LVC				IAML		12 22 39.4	
	comp=E,2μm,0.4s						
TA02	**Huaiquique**	**1.59**	**301**	*e*P	**Pn**	**12 22 16.9**	**+0.2**
TA02				*e*S	**Sn**	**12 22 40.2**	**+0.3**
TA02				IAML		12 22 40.6	
	comp=Z,983nm,0.2s						
TA02	**Huaiquique**	**1.59**	**301**	⇑*i*P	**Pn**	**12 22 16.7**	**0.0**
TA02				*i* S	**Sn**	**12 22 39.7**	**-0.3**
TA02				IAML		12 22 40.6	
	comp=N,1μm,0.1s						
PB06	**IPOC Station P**	**1.81**	**207**	*e*P	**Pn**	**12 22 19.6**	**+0.3**
PB06				*e*S	**Sn**	**12 22 45.6**	**+0.9**
PB06				IAML		12 22 51.8	
	comp=Z,421nm,0.3s						
PB06	**IPOC Station P**	**1.81**	**207**	⇑*i*P	**Pn**	**12 22 19.5**	**+0.1**
PB06				*i* S	**Sn**	**12 22 44.3**	**-0.4**
PB06				IAML		12 22 45.3	
	comp=N,488nm,0.6s						
PB04	**IPOC Station P**	**1.85**	**228**	*e*P	**Pn**	**12 22 19.4**	**-0.4**
PB04				IAML		12 22 48.1	
	comp=Z,599nm,0.2s						
PB04	**IPOC Station P**	**1.85**	**228**	⇓*i*P	**Pn**	**12 22 20.0**	**+0.2**
PB04				*i* S	**Sn**	**12 22 44.9**	**-0.6**
PB04				IAML		12 22 47.0	
	comp=N,988nm,0.1s						
AF01	**San Pedro de A**	**1.91**	**166**	*e*P	**Pn**	**12 22 20.5**	**-0.1**
AF01	**San Pedro de A**	**1.91**	**166**	*e*P	**Pn**	**12 22 21.0**	**+0.4**
AF01				IAML		12 22 50.7	
	comp=E,370nm,0.7s						
PB15	**IPOC Station P**	**2.23**	**199**	*e*P	**Pn**	**12 22 24.9**	**+0.5**
PB15	**IPOC Station P**	**2.23**	**199**	⇓*i*P	**Pn**	**12 22 24.6**	**+0.3**
PB10	**IPOC Station P**	**2.98**	**216**	*e*P	**Pn**	**12 22 33.1**	**-0.2**
PB10	**IPOC Station P**	**2.98**	**216**	⇓*i*P	**Pn**	**12 22 33.0**	**-0.4**
PB10				IAML		12 23 09.5	
	comp=N,77nm,0.5s						
AP01	**Chacalluta**	**3.13**	**330**	*e*P	**Pn**	**12 22 35.0**	**-0.3**
AP01				IAML		12 23 18.4	
	comp=Z,325nm,0.1s						
YJA	**Yavi**	**3.13**	**111**	*e*P	**Pn**	**12 22 35.2**	**-0.6**
PB14	**IPOC Station P**	**3.87**	**204**	*e*P	**Pn**	**12 22 44.2**	**-0.9**
PB14				IAML		12 23 31.5	
	comp=Z,107nm,0.4s						
AZAP	**Zapla**	**4.56**	**134**	*e*P	**Pn**	**12 22 53.2**	**-1.0**
AZAP				*e*S	**Sn**	**12 23 48.2**	**+1.3**
LPAZ	**La Paz**	**4.80**	**6**	P	**Pn**	**12 22 58.8**	**+1.0**
	comp=Z,11nm,0.5s,baz=163,slow=3.8,SNR=50						
LPAZ				S	**Sn**	**12 23 52.6**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=176,slow=15,SNR=0.9						
AC01	**Pan de Azucar**	**5.34**	**199**	*e*P	**Pn**	**12 23 02.1**	**-2.1**
AC01				IAML		12 24 02.9	
	comp=Z,36nm,0.1s						
QSPA	**South Pole Qui**	**69.10**	**180**	P	**P**	**12 32 38.9**	**+2.6**
	comp=Z,1.3nm,1.0s,baz=138,slow=15,SNR=5.6						
	comp=Z,1.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**77.01**	**70**	P	**P**	**12 33 23.2**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=257,slow=5.4,SNR=10						
	comp=Z,0.8nm,0.5s						
MKAR	**Makanchi Array**	**145.17**	**36**	PKP	**PKiKP**	**12 41 07.7**	**-2.6**
	comp=Z,0.9nm,0.7s,baz=301,slow=3.7,SNR=7.3						

*NEIC **11** 12:31:01.1±1.0,19°.392N±0°.007×155°.291W±0°.008, h5km±1km,Error ellipse: s-maj=2.3km s-min=1.4km az=125.0*
HVO 11 12:31:00.4±1.0,**19°.400N**±0°.008×**155°.286W**±0°.007, **h-1**km±3km,**ML3.5**/43,**ML3.1**/39(NEIC),**Error ellipse: s-maj=1.2km s-min=0.8km az=207.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**111**		Pg	12 31 01.8	+1.1
SDHHI	**Sand Hill**	**0.01**	**219**		Pg	12 31 01.5	+0.8
WRMHI	**West Rim**	**0.01**	**297**		Pg	12 31 02.1	+1.3
KKO	**Keanakako`i**	**0.02**	**95**		Pg	12 31 02.3	+1.5
OBL	**Observatory Le**	**0.02**	**5**		Pg	12 31 02.0	+1.3
UWE	**Uwekahuna**	**0.02**	**342**		Pg	12 31 01.6	+0.7
UWB	**Uwekahuna B**	**0.03**	**16**		Pg	12 31 02.8	+1.9
BYL	**Byron's Ledge**	**0.03**	**63**		Pg	12 31 02.0	+1.0
SBLHI	**Steaming Bluff**	**0.03**	**31**		Pg	12 31 03.1	+2.1
HATHI	**Halema'uma'u T**	**0.03**	**45**		Pg	12 31 02.0	+0.9
RSD	**Rainshed**	**0.06**	**6**		Pg	12 31 02.6	+1.0
RSD				IAML		12 31 03.5	
	comp=N,5μm,0.4s						
PUH	**Pauahi**	**0.07**	**111**	Pg	Pg	12 31 02.8	+1.0
PUH				IAML		12 31 04.0	
	comp=E,8μm,0.7s						
PUH				IAML		12 31 04.0	
	comp=N,4μm,0.6s						
HLP	**Hilina Pali**	**0.10**	**192**	Pg	Pg	12 31 03.6	+1.1
HLP				IAML		12 31 05.6	
	comp=N,8μm,0.6s						
HLP				IAML		12 31 06.0	
	comp=E,11μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.11**	**100**	Pg	Pg	12 31 03.8	+1.2
MLH	**Mauna Loa**	**0.13**	**315**	Pg	Pg	12 31 04.3	+1.3
MLH				IAML		12 31 07.3	
	comp=N,9μm,0.6s						
MLH				IAML		12 31 07.3	
	comp=E,10μm,0.6s						
STCH	**Steam Cracks**	**0.15**	**95**		Pg	12 31 04.4	+1.1
STCH				IAML		12 31 07.8	
	comp=E,5μm,0.7s						
STCH				IAML		12 31 08.3	
	comp=N,4μm,0.5s						
NPOC	**North of Pu'u**	**0.17**	**92**		Pg	12 31 05.1	+1.5
NPOC					Sg	12 31 08.8	+3.1
JCUZ	**Jacuzzi**	**0.17**	**95**		Pg	12 31 05.3	+1.5
JCUZ					Sg	12 31 08.2	+2.2
HTC	**Hot Caves**	**0.19**	**213**		Pg	12 31 05.3	+1.2
JOKA	**Jonika Flow**	**0.27**	**83**		Pg	12 31 06.0	+0.4
JOKA				IAML		12 31 12.9	
	comp=N,4μm,0.9s						
JOKA				IAML		12 31 13.8	
	comp=E,3μm,2.2s						
HMH	**Humu'ula Sheep**	**0.28**	**317**	Pg	Pb	12 31 07.2	-1.3
HMH				IAML		12 31 13.7	
	comp=N,4μm,0.8s						
HMH				IAML		12 31 14.9	
	comp=E,5μm,0.7s						
MLOA	**Mauna Loa Obse**	**0.31**	**296**	Pg	Pg	12 31 07.4	+1.1
MLOA				IAML		12 31 16.5	
	comp=N,5μm,0.7s						
MWH	**Moku'aweowe**	**0.31**	**286**	Pg	Pg	12 31 07.0	+0.7
PAH	**Pahoa**	**0.33**	**73**	Pg	Pg	12 31 06.9	+0.1
KHU	**Kahuku**	**0.35**	**244**	Pg	Pg	12 31 07.7	+0.6
KHU				IAML		12 31 16.4	
	comp=N,3μm,1.1s						
KHU				IAML		12 31 18.7	
	comp=E,4μm,0.9s						
ALEP	**Alea Permanent**	**0.37**	**293**		Pg	12 31 08.5	+1.0
ALEP					Sb	12 31 14.7	-1.8
HPO	**Honuapo**	**0.40**	**219**		Pg	12 31 08.7	+0.6
POHA	**Pohakuloa**	**0.43**	**327**		Pb	12 31 10.0	-1.0
HUH	**Hualalai**	**0.59**	**299**	Pg	Pg	12 31 12.8	+1.0
CPH	**Captain Cook**	**0.60**	**279**		Pg	12 31 12.4	+0.4
HPAH	**Hawaii Prepara**	**0.74**	**328**	Pg	Pg	12 31 14.1	-0.5
HPAH				IAML		12 31 38.0	
	comp=N,1μm,0.7s						

*IDC **11** 12:41:42.9±8.4,36°.96S×179°.92E,h250km±91km,mb2.8/2, mbtmp3.3/3,Error ellipse: s-maj=319.0km s-min=60.1km az=5.0*
*WEL **11** 12:42:15.3,38°S±18°×17°8E±2°5,h75km±28km,M2.5/7, ML2.6/12,MLv2.5/7,Error ellipse: s-maj=0.0km s-min=0.0km az=112.6*
ISC 11 12:41:49.9±2.1,**37°.0S**±0°.2×**179°.1E**±0°.3,**h300**km,**n21**, σ**2°.34**/15,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.89**	**227**	P	**Pn**	**12 42 26.6**	**-3.1**
WMGZ	**Waiomatatini S**	**1.03**	**213**	P	**Pn**	**12 42 29.1**	**-1.2**
PKGZ	**Pakihiroa**	**1.23**	**222**	P	**Pn**	**12 42 28.7**	**-2.7**
PUZ	**Puketiti**	**1.31**	**211**	P	**Pn**	**12 42 30.5**	**-1.4**
HAZ	**Te Kaha**	**1.33**	**233**	P	Pn	12 42 26.8	-5.1
TWGZ	**Tauwhareparae**	**1.52**	**216**	P	**Pn**	**12 42 31.4**	**-1.8**
RUGZ	**Raukumara Rang**	**1.53**	**228**	P	Pn	12 42 27.9	-5.5
CNGZ	**Carnagh Statio**	**1.69**	**205**	P	**Pn**	**12 42 33.8**	**-0.5**
TKGZ	**Te Karaka**	**1.79**	**214**	P	**Pn**	**12 42 33.2**	**-1.8**
MWZ	**Matawai**	**1.87**	**222**	P	**Pn**	**12 42 31.8**	**-3.8**
RIGZ	**Rimuhau**	**2.05**	**211**	P	**Pn**	**12 42 35.8**	**-1.3**
URZ	**Urewera**	**2.06**	**230**	P	Pn	12 42 31.0	-6.1
	6.0nm,0.3s,baz=8.3,slow=3.9,SNR=45						
URZ				S	S	12 42 58.4	-16
	8.8nm,0.5s,baz=358,slow=17,SNR=20						
URZ	**Urewera**	**2.06**	**230**	P	Pn	12 42 31.1	-5.9
SNGZ	**Shannon Statio**	**2.30**	**217**	P	**Pn**	**12 42 36.2**	**-2.9**
MHGZ	**Mahia Peninsul**	**2.39**	**203**	P	**Pn**	**12 42 40.7**	**+0.8**
MUGZ	**Murupara**	**2.40**	**230**	P	Pn	12 42 34.1	-5.9
BKZ	**Black Stump Fm**	**3.03**	**222**	P	Pn	12 42 41.1	-4.8
KAHZ	**Kahuranaki**	**3.34**	**211**	P	**Pn**	**12 42 47.5**	**-1.5**
ASAR	**Alice Springs**	**40.86**	**276**	P	**P**	**12 49 06.0**	**+2.7**
	0.3nm,0.5s,baz=116,slow=8.1,SNR=8.7						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**42.45**	**281**	P	**P**	**12 49 18.3**	**+2.1**
	0.3nm,0.4s,baz=127,slow=6.6,SNR=6.2						
	0.3nm,0.4s						
AKASG	**Malin Array Be**	**154.51**	**312**	PKPbc	**PKPbc**	**13 01 14.0**	**-0.5**
	0.6nm,0.5s,baz=75,slow=1.4,SNR=4.6						

*JMA **11** 12:41:48.4±0.2,23°.1N±0°.5×120°.1E±0°.9,h1km±2km, MV4.3/10,TAIWAN REGION*
*IDC **11** 12:41:48.8±0.8,22°.75N×120°.20E,h0km,mb3.9/13, mbtmp3.9/14,ML3.2/1,MS3.3/11,Error ellipse: s-maj=30.9km s-min=15.3km az=67.0*
*ASIES **11** 12:41:49.5,23°.03N×120°.21E,h17km,ML4.5,Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}-0.09; $M_{\theta\theta}$0.22; $M_{\phi\phi}$-0.13; $M_{r\theta}$-0.10; $M_{\phi\theta}$1.24; $M_{\phi r}$-0.47; Fault plane solution: $M_0$1.34536×10^{22} NP1: ϕs184.19000°,δ89.66000°,λ159.48000°. NP2: ϕs274.32000°,δ69.48000°,λ0.36000°. Principal axes: T Plg14.5970°, Azm137.3770°; N Plg69.4770°, Azm3.2930°; P Plg14.1050°, Azm231.1290°;*
*TAP **11** 12:41:49.5,23°.03N×120°.21E,h17km,ML4.5,B*
*NEIC **11** 12:41:51.8±0.9,23°.11N±0°.03×120°.34E±0°.04,h10km±1km, mb4.3/9,Error ellipse: s-maj=6.8km s-min=5.0km az=242.0*
*BJI **11** 12:41:55.3±0.0,22°.90N×120°.50E,h80km,mb4.1/12, mB4.5/6,Ms4.1/6,Ms7 4.0/6*
ISC 11 12:41:51.2±0.7,**23°.03N**±0°.02×**120°.20E**±0°.02,**h13**km±4km, **n215**,σ1°.44/267,**mb4.1**/16,**MS3.3**/10,**31C-22D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAI1	**Yung-k'ang**	**0.03**	**71**	⇓*i*P	**Pg**	**12 41 52.3**	**-1.2**
	baz=70						
TAI1				S	**Sg**	**12 41 54.9**

KAU	Kaohsiung	0.47	168	eP		Pb	12 42 01.5	+0.1
	baz=169							
TPUB	Ta-pu	0.48	56	P		Pg	12 42 00.4	-0.3
TPUB	Ta-pu	0.48	56	P	g	Pg	12 41 58.7	-2.0
TPUB	Ta-pu	0.48	56	P		Pg	12 41 59.5	-1.2
	baz=54							
CHN4	Tsaushan	0.48	49	⇓P		Pg	12 41 59.9	-0.9
	baz=47							
SSD	Sandimen	0.49	125	⇑iP		Pg	12 42 00.1	-0.8
	baz=126							
WSL	Shuilin Townsh	0.49	3	eP		Pg	12 42 00.2	-0.7
	baz=1.0							
CHY	Chiayi	0.51	24	eP		Pg	12 42 00.8	-0.5
	baz=13							
CHY				eS		Sg	12 42 09.1	+1.1
	baz=13							
STYT	Tauyuan	0.53	76	⇑P		Pg	12 42 00.9	-0.7
	baz=65							
WDGT	Dungji	0.55	295	⇓iP		Pg	12 42 00.8	-1.2
	baz=294							
WDGT				iS		Sg	12 42 08.8	-0.5
	baz=294							
STYH	Taoyuan	0.55	75	eP		Pg	12 42 01.2	-0.8
	baz=65							
WCKO	Fanlu	0.55	42	⇓P		Pg	12 42 01.0	-1.0
	baz=41							
WCKO				S		Sg	12 42 10.0	+0.6
	baz=41							
CHN2	Minshiung	0.56	27	⇓P		Pg	12 42 01.5	-0.7
	baz=25							
CHN2				S		Sg	12 42 10.7	+1.1
	baz=25							
MASBT	Mashibuluo	0.58	136	⇑iP		Pg	12 42 01.9	-0.7
	baz=138							
MASBT				eS		Sb	12 42 11.0	-0.4
	baz=138							
WSF	Szhu	0.60	2	⇓eP		Pg	12 42 02.0	-1.0
	baz=1.0							
WSF				S		Sg	12 42 11.7	+0.6
	baz=1.0							
WTK	Tuku	0.68	15	⇓eP		Pg	12 42 03.5	-0.9
	baz=1.0							
WTK				eS		Sg	12 42 13.4	+0.1
	baz=1.0							
TWP	Hsiaoliuchiu	0.70	168	eP		Pb	12 42 05.0	-0.3
	baz=179							
CHN5	Tsauling	0.71	38	⇓iP		Pg	12 42 04.0	-1.1
	baz=37							
CHN5				S		Sg	12 42 14.7	+0.1
	baz=37							
WDLH	Douliu	0.72	25	eP		Pg	12 42 04.5	-0.8
	baz=24							
WDLH				eS		Sb	12 42 16.2	+0.6
	baz=24							
VCHM	Qimei	0.73	284	⇓iP		Pg	12 42 03.7	-1.7
	baz=296							
VCHM				eS		Sg	12 42 13.4	-1.7
	baz=296							
WGK	Gukeng	0.73	27	P		Pg	12 42 04.4	-1.1
	baz=27							
WGK				S		Sg	12 42 15.4	+0.3
	baz=27							
PHUB	P'eng-hu	0.75	310	⇓P		Pg	12 42 03.7	-2.1
	baz=298							
PHUB				S		Sg	12 42 13.7	-2.0
	baz=298							
SCZT	Fangliau	0.76	149	⇑iP		Pg	12 42 05.8	-0.3
	baz=135							
SCZT				eS		Sn	12 42 17.6	-1.5
	baz=135							
ELDTW	Lidau	0.77	78	⇓iP		Pg	12 42 05.1	-1.1
	baz=88							
ELDTW				eS		Sg	12 42 16.1	-0.2
	baz=88							
PNG	Penghu	0.80	312	eP		Pb	12 42 04.5	-2.5
	baz=312							
PNG				eS		Sg	12 42 15.8	-1.4
	baz=312							
ECL	Taimali	0.82	122	eP		Pg	12 42 06.1	-1.0
	baz=128							
YUS	Yu-Shan	0.83	56	eP		Pg	12 42 06.2	-1.2
	baz=56							
TWG	Pinlang	0.83	104	P	g	Pb	12 42 06.1	-1.4
TWG	Pinlang	0.83	104	eP		Pb	12 42 06.2	-1.4
	baz=105							
WTCT	Ta-ch'eng	0.83	5	eP		Pb	12 42 05.5	-2.1
	baz=14							
WTCT				eS		Sb	12 42 17.1	-1.6
	baz=14							
TWGBT	Beinan	0.84	105	P		Pb	12 42 06.9	-0.8
TWGBT	Beinan	0.84	105	⇑iP		Pb	12 42 06.2	-1.4
	baz=105							
RLNB	Erlin	0.87	10	eP		Pb	12 42 06.6	-1.6
	baz=8.0							
EAST	Anshuo	0.88	137	⇑iP		Pb	12 42 07.6	-0.8
	baz=129							
EAST				iS		Sn	12 42 20.5	-1.5
	baz=129							
WRL	Guolierlin Hig	0.88	11	eP		Pb	12 42 06.8	-1.7
	baz=10.0							
WRL				eS		Sb	12 42 19.9	-0.2
	baz=10.0							
WHYT	Xinyi Township	0.89	42	eP		Pb	12 42 07.0	-1.7
	baz=41							
TTN	Taitung	0.92	107	⇑P		Pg	12 42 09.0	+0.1
	baz=108							
WJS	Zhushan	0.93	32	eP		Pb	12 42 07.1	-2.1
	baz=30							
TAW	Tawu	0.93	136	⇑iP		Pb	12 42 08.3	-0.9
	baz=125							
TAW				S		Sg	12 42 21.4	+0.1
	baz=125							
EHD	Haiduan	0.93	83	eP		Pb	12 42 07.9	-1.4
	baz=92							
EHD				S		Sb	12 42 20.4	-1.2
	baz=92							
TAWH	Dawu Township	0.94	137	⇑iP		Pb	12 42 08.2	-1.1
	baz=124							
TAWH				S		Sg	12 42 22.0	+0.4
	baz=124							
ECS	Chishang	0.94	86	⇑P		Pb	12 42 08.3	-1.1
	baz=87							
ECS				S		Sb	12 42 21.6	-0.3
	baz=87							
WNT	Mingjian	0.95	28	P		Pb	12 42 07.9	-1.8
	baz=27							
WNT				eS		Sb	12 42 21.5	-0.7
	baz=27							
WNT1	Nantou City	0.98	27	eP		Pb	12 42 08.0	-2.1
	baz=26							
WNT1				eS		Sb	12 42 22.5	-0.3
	baz=26							
SLIU	Shizi	0.98	146	⇑iP		Pb	12 42 08.9	-1.3
	baz=148							
SLIU				S		Sg	12 42 22.8	-0.3
	baz=148							
WYL	Yuanlin Townsh	0.99	21	eP		Pb	12 42 08.8	-1.5
	baz=33							
WYL				eS		Sb	12 42 23.0	-0.2
	baz=33							
FULB	Fuli	1.02	80	⇑P		Pb	12 42 10.2	-0.6
	baz=81							
FULB				S		Sg	12 42 24.7	+0.4
	baz=81							
SSLB	Suanglung	1.02	42	P		Pb	12 42 09.2	-1.7
SSLB	Suanglung	1.02	42	P	g	Pb	12 42 08.5	-2.4
SSLB	Suanglung	1.02	42	⇓P		Pb	12 42 08.8	-2.1
	baz=41							
TYC	Yuchr	1.06	35	⇓P		Pb	12 42 09.7	-1.7
	baz=34							
TWF1	Yuli	1.06	72	⇑iP		Pb	12 42 10.2	-1.3
	baz=73							
TWF1				S		Sb	12 42 24.5	-0.8
	baz=73							
SMLT	Sun Moon Lake	1.06	37	⇓iP		Pb	12 42 09.7	-1.9
	baz=36							
YULB	Yu-li	1.07	70	P		Pb	12 42 10.6	-1.1
YULB	Yu-li	1.07	70	P	g	Pb	12 42 09.8	-1.8
YULB						Sb	12 42 24.3	-1.3
YULB	Yu-li	1.07	70	⇑P		Pb	12 42 10.1	-1.6
	baz=63							
YULB				S		Sb	12 42 24.7	-0.9
	baz=63							
CHKT	Chengkung	1.07	86	⇑iP		Pb	12 42 10.8	-0.9
	baz=87							
CHKT				iS		Sn	12 42 26.7	-0.1
	baz=87							
EYUL	Yuli	1.08	73	eP		Pb	12 42 10.2	-1.6
	baz=66							
EYUL				eS		Sb	12 42 25.7	0.0
	baz=66							
WWF	Wufeng	1.11	24	eP		Pb	12 42 10.7	-1.6
	baz=24							
WWF				eS		Sb	12 42 26.4	-0.2
	baz=24							
CHKH	Chenggong	1.11	82	⇑P		Pb	12 42 11.3	-1.0
	baz=83							
CHKH				eS		Sb	12 42 26.8	+0.1
	baz=83							
VWDT	VWDT	1.12	50	eP		Pb	12 42 11.2	-1.3
	baz=38							
EHY	Hungye	1.14	65	⇑iP		Pb	12 42 11.4	-1.3
	baz=65							
EHY				S		Sb	12 42 26.4	-1.0
	baz=65							
HEN	Hengchun	1.14	154	eP		Pb	12 42 10.9	-1.8
	baz=155							
EHYH	Wanrong	1.15	66	eP		Pn	12 42 11.4	-1.6
	baz=66							
EHYH				eS		Sb	12 42 26.5	-1.3
	baz=66							
SMST	Manzhou Townsh	1.17	150	eP		Pn	12 42 12.3	-1.0
	baz=150							
ECBN	Changbin	1.19	76	eP		Pn	12 42 13.0	-0.5
	baz=60							
ECBN				eS		Sg	12 42 30.6	+1.1
	baz=60							
TCU	Taichung	1.19	21	eP		Pn	12 42 12.1	-1.6
	baz=21							
TCU				eS		Sb	12 42 29.0	-0.1
	baz=21							
WPL	Puli Township	1.20	35	eP		Pn	12 42 12.1	-1.7
	baz=35							
WPL				eS		Sb	12 42 29.0	-0.3
	baz=35							
DPDB	Guoxing	1.20	34	eP		Pn	12 42 11.2	-2.6
	baz=32							
WCS	Beigang Elemen	1.21	32	eP		Pn	12 42 11.5	-2.4
	baz=31							
HGSD	Ruisui	1.22	68	⇑iP		Pn	12 42 13.2	-0.7
	baz=68							
HGSD				S		Sb	12 42 29.1	-0.6
	baz=68							
TWK1	Hengchun	1.22	153	⇑iP		Pn	12 42 12.2	-1.8
	baz=170							
LDUT	Ludao	1.22	107	⇑eP		Pn	12 42 12.4	-1.7
	baz=97							
TWKBT	Hengchun	1.22	152	iP		Pn	12 42 12.3	-1.8
	baz=170							
WUSB	Renai	1.27	41	eP		Pn	12 42 12.8	-2.1
	baz=41							
WUSB				eS		Sb	12 42 29.7	-1.8
	baz=41							
OWD	Renai	1.28	44	eP		Pn	12 42 13.4	-1.7
	baz=32							
WARBT	Fenglin Townsh	1.29	58	⇑P		Pn	12 42 13.2	-1.7
	baz=57							
WARBT				eS		Sb	12 42 30.4	-1.4
	baz=57							
CHGB	Renai	1.36	41	eP		Pn	12 42 14.6	-1.5
	baz=40							
WDJ	Dajia District	1.37	17	eP		Pn	12 42 14.7	-1.4
	baz=16							
ESL	Shilin	1.38	55	eP		Pn	12 42 14.7	-1.4
	baz=55							
TWQ1	Liyutan	1.41	22	⇓iP		Pn	12 42 15.6	-1.0
	baz=21							
WHP	Taichung City	1.42	29	eP		Pn	12 42 15.5	-1.3
	baz=28							
SHUL	Shoufeng	1.46	59	eP		Pn	12 42 17.3	0.0
	baz=49							
NSY	Sanyi	1.47	20	eP		Pn	12 42 17.0	-0.5
	baz=20							
WHF	Hehuan Shan	1.48	41	eP		Pn	12 42 17.9	0.0
	baz=40							
LXIB	Xiulin Townshi	1.49	48	⇓eP		Pn	12 42 16.9	-0.9
	baz=37							
TDCB	Techi	1.50	36	eP		Pn	12 42 17.0	-1.0
	baz=35							
ETM	Tongmen	1.51	52	eP		Pn	12 42 16.7	-1.3
	baz=41							
TEYL	Yanliau Villag	1.53	57	eP		Pn	12 42 17.8	-0.4
	baz=46							
FUSS	Fushou	1.54	38	eP		Pn	12 42 17.2	-1.5
	baz=28							
LAY	Lan-yu	1.59	128	⇑iP		Pn	12 42 16.6	-2.6
	baz=130							
NMLH	Miaoli	1.59	20	eP		Pn	12 42 18.7	-0.5
	baz=19							
HWA	Hwalien	1.60	54	eP		Pn	12 42 19.8	+0.6
	baz=53							
LYUB	Lan-yu	1.64	128	⇑eP		Pn	12 42 16.0	-3.8
	baz=130							
TWD	Chiawan	1.65	51	eP		Pn	12 42 19.2	-0.8
	baz=65							
NACB	Ninganchiao	1.71	48	P		Pn	12 42 19.9	-0.9
NACB	Ninganchiao	1.71	48	P	n	Pn	12 42 19.3	-1.5
NACB	Ninganchiao	1.71	48	eP		Pn	12 42 19.7	-1.1
	baz=65							
NSTT	Nanjuang	1.75	25	eP		Pn	12 42 21.7	+0.3
	baz=24							
NNSB	Datong	1.76	38	eP		Pn	12 42 21.0	-0.7
	baz=24							
NNSH	Datong	1.76	38	eP		Pn	12 42 20.6	-1.0
	baz=25							
NNS	Nan Shan	1.77	37	eP		Pn	12 42 21.1	-0.6
	baz=24							
LIOB	Emei	1.77	25	eP		Pn	12 42 20.0	-1.7
	baz=24							
NFF	Wufeng Townshi	1.80	28	eP		Pn	12 42 20.9	-1.1
	baz=27							
HSN1	Hsinchu	1.89	23	eP		Pn	12 42 22.1	-1.2
	baz=23							
SBCB	Hsinchu	1.90	22	eP		Pn	12 42 23.1	-0.2
	baz=22							
HSN	Hsinchu	1.90	22	eP		Pn	12 42 24.6	+1.3
	baz=22							
EAHA	Aohua	1.91	47	eP		Pn	12 42 23.6	+0.1
	baz=63							
LATG	Datong	1.93	39	eP		Pn	12 42 23.4	-0.5
	baz=24							
NSK	Sanguang	1.95	33	eP		Pn	12 42 24.1	-0.1
	baz=19							
YHNB	Yeheng	1.95	33	P		Pn	12 42 22.8	-1.4
YHNB	Yeheng	1.95	33	P	n	Pn	12 42 22.8	-1.4
YHNB	Yeheng	1.95	33	eP		Pn	12 42 23.5	-0.7
	baz=16							
NDT	Datong Townshi	1.97	37	eP		Pn	12 42 24.0	-0.4
	baz=20							
ENA	Nanau	1.98	45	eP		Pn	12 42 24.1	-0.4
	baz=62							
EWUT	Wuta	2.02	45	eP		Pn	12 42 24.1	-0.9
	baz=62							
ENTT	Nioudou	2.03	38	eP		Pn	12 42 25.3	0.0
	baz=24							
VWUC	VWUC	2.07	341	eP		Pn	12 42 24.7	-1.0
	baz=341							
NWLT	Wulai	2.11	34	eP		Pn	12 42 27.1	+0.8
	baz=34							
NDS	Dongshan	2.12	41	eP		Pn	12 42 27.1	+0.7
	baz=27							
KNM	Kinmen	2.13	311	eP		Pn	12 42 26.9	+0.4
	baz=306							
FUSB	Fushanzhiwuyua	2.14	36	eP		Pn	12 42 26.2	-0.6
	baz=19							
ESAO	Su ao	2.15	44	eP		Pn	12 42 27.1	+0.2
	baz=60							
TWE	Neicheng	2.15	38	eP		Pn	12 42 27.0	+0.1
	baz=20							
TWC	Suao	2.18	44	eP		Pn	12 42 27.8	+0.6
	baz=60							
KNMB	Chin-men Tao	2.19	311	P	n	Pn	12 42 29.1	+1.8
KNMB	Chin-men Tao	2.19	311	eP		Pn	12 42 25.0	-2.4
	baz=309							
EOS4	EOS4	2.23	60	eP		Pn	12 42 27.1	-0.4
	baz=61							
PTMZ	Houxiangcun	2.23	334	eP		Pn	12 42 26.6	-1.3
	baz=334							
TATO	Taipei	2.27	31	P		Pn	12 42 28.5	+0.1
TATO	Taipei	2.27	31	P	n	Pn	12 42 27.2	-1.2
TATO	Taipei	2.27	31	eP		Pn	12 42 29.1	+0.7
	baz=31							
EOS3	EOS3	2.31	57	eP		Pn	12 42 27.7	-1.1
	baz=56							
TWA	Mucha	2.32	33	eP		Pn	12 42 30.1	+1.0
	baz=17							
EOS2	EOS2	2.32	53	eP		Pn	12 42 30.4	+1.4
	baz=51							
TWS1	Kuangyinshan	2.34	28	eP		Pn	12 42 30.1	+0.7
	baz=28							
QZH	Quanzhou	2.41	323	ePn		Pn	12 42 29.0	-1.3
QZH				P	g	Pb	12 42 35.6	+1.2
QZH	Quanzhou	2.41	323	P		Pg	12 42 39.5	+2.1
QZH				smax		smax		
	comp=N,710nm,0.6s							
QZH				smax		smax		
	comp=E,1μm,0.7s							
QZH				LR		LR		
	comp=Z,2μm,9.4s							
ZPLA	Ao Xicun	2.42	292	eP		Pn	12 42 28.6	-1.9
	baz=290							
TIPB	Shuangxi	2.44	37	eP		Pn	12 42 30.2	-0.6
	baz=21							
YM01	YM01	2.45	30	eP		Pn	12 42 29.3	-1.7
	baz=30							
ANP	Anpu	2.46	29	eP		Pn	12 42 30.6	-0.6
	baz=29							
NWF	Wu-fen Shan	2.49	35	eP		Pn	12 42 32.9	+1.3
	baz=19							
WFSB	Wu-fen Shan	2.49	35	eP		Pn	12 42 32.1	+0.6
	baz=18							
YM08	YM08	2.49	30	eP		Pn	12 42 29.9	-1.7
	baz=14							
TWB1	Santiao Chiao	2.56	39	eP		Pn	12 42 31.8	-0.6
	baz=23							
TWY	Chenhua	2.57	29	eP		Pn	12 42 33.6	+1.0
	baz=30							
DSXP	Dongshan	2.64	285	eP		Pn	12 42 33.6	+0.1
	baz=284							
JYNG	Yonagunijimaku	2.88	60	eS		Sn	12 43 12.8	+1.3
YOJ	Yonaguni jima	2.94	61	P		Pn	12 42 38.3	+0.6
YOJ	Yonaguni jima	2.94	61	P	n	Pn	12 42 36.9	-0.8
YOJ	Yonaguni jima	2.94	61	eP		Pn	12 42 37.6	-0.1
	baz=61							
YOJ	Yonaguni jima	2.94	61	eP		Pn	12 42 38.5	+0.8
YOJ				eS		Sn	12 43 14.8	+1.9
MSUT	Lienchiang	3.13	355	eP		Pn	12 42 38.7	-1.7
	baz=356							
IRIF	Iriomote-Funau	3.49	67	eP		Pn	12 42 45.5	+0.4
IRIF				eS		Sn	12 43 28.5	+2.2
LYJJ	Jianjiangzhen	3.53	354	eP		Pn	12 42 44.0	-1.8
	baz=355							
JKRS	Kuro-shima	3.69	70	eP		Pn	12 42 48.4	+0.3
JKRS				eS		Sn	12 43 32.6	+1.1
JIJ	Ishigaki jima	3.85	69	eP		Pn	12 42 50.1	-0.1
JIJ				eS		Sn	12 43 35.1	-0.2
VDOS	Pratas Island	3.97	235	eP		Pn	12 42 50.3	-1.5
	baz=233							
JISG	Ishigakijimahi	4.07	67	P		Pn	12 42 52.6	-0.7
JISG				S		Sn	12 43 39.0	-1.8
SXFK	Yanhouchang	4.08	326	eP		Pn	12 42 52.6	-0.8
	baz=325							
HKPS	Hong Kong Po S	5.65	264	P	n	Pn	12 43 13.8	-1.1
HKPS	Hong Kong Po S	5.65	264	eP		Pn	12 43 12.5	-2.4
	baz=262							
QIZ	Qiongzhong	10.46	250	P		Pn	12 44 24.8	+3.8
QIZ				S		Sn	12 46 24.2	+6.1
QIZ				LR		LR		
	comp=N,640nm,14.7s							
QIZ				LR		LR		
	comp=E,430nm,13.5s							
QIZ				LR		LR		
	comp=Z,380nm,15.5s							
LYN	LuoYang	13.32	331	P		P	12 45 10.8	+1.0
LYN				pmax		pmax		
	comp=Z,350nm,4.3s							
XAN	Xi'an	14.77	320	eP		P	12 45 31.4	+5.5
XAN				S		S	12 48 15.3	-6.8
XAN				LR		LR		
	comp=N,600nm,10.3s							
XAN				LR		LR		
	comp=E,550nm,11.5s							
XAN				LR		LR		
	comp=Z,880nm,11.4s							
KSRS	Korea Array	15.84	23	Pn		P	12 45 37.9	+0.2
	comp=Z,0.1nm,0.3s,baz=205,slow=12,SNR=7.7							
KSRS				LR		LR	12 51 49.2	
	comp=Z,25nm,18.8s,baz=205,slow=37							
	comp=Z,0.9nm,0.7s							
PZH	PanZhiHua	17.11	285	P		P	12 45 54.5	+2.4
PZH				pmax		pmax		
	comp=Z,10.0nm,1.3s							
PZH				pmax		pmax		
	comp=Z,180nm,5.7s							
HHC	Hu-ho-hao-te	19.20	340	eP		Pn	12 46 18.4	+2.5
HHC				pmax		pmax		
	comp=Z,6.0nm,0.5s							
HHC				pmax		pmax		
	comp=Z,94nm,3.7s							
HHC				LR		LR		
	comp=Z,270nm,11.6s							
HHC				LR		LR		
	comp=Z,190nm,11.0s							
CMAR	Chiang Mai Arr	20.39	261	P		P	12 46 26.5	-1.4
	comp=Z,0.3nm,0.3s,baz=67,slow=8.8,SNR=1.2							
CMAR				LR		LR	12 55 51.9	
	comp=Z,75nm,18.5s,baz=290,slow=41							
	comp=Z,0.3nm,0.3s							
MJAR	Matsushiro Arr	20.58	45	P		P	12 46 30.4	+0.5
	comp=Z,1.4nm,0.8s,baz=238,slow=7.0,SNR=4.6							
MJAR				LR		LR	12 55 13.0	
	comp=Z,64nm,20.3s,baz=234,slow=39							
	comp=Z,1.4nm,0.8s							
SONM	Songino Array	27.10	339	P		P	12 47 34.0	+0.2
	comp=Z,1.5nm,0.9s,baz=165,slow=12,SNR=6.2							
SONM				LR		LR	12 58 19.8	
	comp=Z,70nm,18.6s,baz=147,slow=36							
	comp=Z,1.5nm,0.9s							
KAPI	Kappang	27.88	181	LR		LR	13 01 05.3	
	comp=Z,49nm,18.7s,baz=154,slow=42							
MK31	Makanchi Array	38.55	317	P		P	12 49 14.8	+1.1
MKAR	Makanchi Array	38.55	317	P		P	12 49 13.2	-0.5
	comp=Z,1.6nm,0.6s,baz=112,slow=10,SNR=5.0							
	comp=Z,1.6nm,0.6s							
MAKZ	Makanchi	38.75	317	P		P	12 49 14.4	-0.9
MAKZ				IAmb		IAmb	12 49 17.2	
	comp=Z,4.5nm,0.7s							
ZALV	Zalesovo Beam	40.73	328	P		P	12 49 31.7	0.0
	comp=Z,1.6nm,0.5s,baz=112,slow=8.0,SNR=7.5							
	comp=Z,1.6nm,0.5s							
KURBB	Kurchatov Arra	42.42	321	P		P	12 49 46.8	+1.2
	comp=Z,1.6nm,0.2s,baz=134,slow=6.6,SNR=2.2							
	comp=Z,1.6nm,0.2s							
AAK	Ala-Archa	42.50	309	LR		LR	13 10 22.5	
	comp=Z,33nm,19.2s,baz=192,slow=40							
WB0	Warramunga Arr	44.74	161	P		P	12 50 02.0	-2.5
WB0				IAmb		IAmb	12 50 45.0	
	comp=Z,8.0nm,1.2s							
WRA	Warramunga Arr	44.89	161	P		P	12 50 02.2	-3.4
	comp=Z,1.4nm,0.8s,baz=341,slow=7.9,SNR=15							
	comp=Z,1.4nm,0.8s							
WB2	Warramunga Arr	44.89	161	P		P	12 50 02.8	-2.9
WR0	Warramunga Arr	44.96	161	P		P	12 50 03.1	-3.2
WR0				IAmb		IAmb	12 50 32.7	
	comp=Z,6.4nm,1.3s							
KK31	Karatay Array	45.46	308	P		P	12 50 10.9	+0.7
KK31				IAmb		IAmb	12 50 15.1	
	comp=Z,1.7nm,0.8s							
KKAR	Karatay Array	45.46	308	P		P	12 50 10.9	+0.7
BVAR	Borovoye Array	48.00	322	P		P	12 50 31.9	+2.1
	comp=Z,1.2nm,0.5s,baz=110,slow=7.8,SNR=3.7							
	comp=Z,1.2nm,0.5s							
ASAR	Alice Springs	48.29	163	P		P	12 50 30.0	-2.4
	comp=Z,0.5nm,0.4s,baz=338,slow=7.2,SNR=27							
	comp=Z,0.5nm,0.4s							
TIXI	Tiksi	48.90	4	LR		LR	13 14 03.9	
	comp=Z,58nm,18.1s,baz=97,slow=39							
ABKAR	Akbulak array	53.61	315	P		P	12 51 12.8	+0.6
ABKAR				IAmb		IAmb	12 51 17.0	
	comp=Z,3.1nm,1.2s							
ARU	Arti	55.49	324	P		P	12 51 26.9	+1.2
STKA	Stephens Creek	58.31	159	P		P	12 51 43.7	-2.2
	comp=Z,1.2nm,0.7s,baz=310,slow=19,SNR=2.8							
	comp=Z,1.2nm,0.7s							
KIRV	Kirov	60.65	325	LR		LR	13 20 19.3	
	comp=Z,42nm,18.8s,baz=137,slow=38							
FINES	FINESS Array B	71.98	330

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,1.3nm,0.7s						
NB2	**NORSAR Subarra**	**78.82**	**332**	P	**P**	**12 53 57.0**	**+3.3**
	comp=Z,0.8nm,0.6s,baz=63,slow=5.6						
NOA	**NORSAR Array B**	**78.82**	**332**	P	**P**	**12 53 56.3**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=63,slow=5.4,SNR=4.0						
NOA				LR	LR	13 31 54.0	
	comp=Z,32nm,18.9s,baz=65,slow=38						
	comp=Z,0.4nm,0.5s						
JMIC	**Jan Mayen**	**79.70**	**345**	LR	LR	13 33 59.2	
	comp=Z,15nm,18.4s,baz=178,slow=39						

*NAO **11** 12:44:56.5±2.0, 75.°94N×6.°91E, ML2.8*
*BER **11** 12:44:59.0±1.4, 75.°91N×7.°10E, h10km, mb(Pn)3.7,*
Confirmed Earthquake

ISC 11 12:44:55.4±1.0, 76.°20N±0.°07×6.°96E±0.°05, h10km, n14, σ1°74/20, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.16**	**64**	Pn	**Pb**	**12 45 34.6**	**+0.1**
HSPB				Sn	**Sn**	**12 45 58.0**	**-0.1**
BRBA	**Barentsburg A**	**2.48**	**37**	*eP*	**Pb**	**12 45 40.6**	**+0.6**
SPA0	**Spitsbergen Ar**	**2.89**	**42**	*eP*	**Pb**	**12 45 47.0**	**0.0**
SPA0				*eS*	**Sb**	**12 46 20.2**	**-2.1**
SPA0				IAML		12 46 29.6	
	comp=Z,6.0nm,0.6s						
SPA0	**Spitsbergen Ar**	**2.89**	**42**	Pn	**Pb**	**12 45 47.0**	**0.0**
	baz=208,slow=16						
SPA0				Sn	**Sb**	**12 46 20.4**	**-2.0**
	baz=207,slow=28						
KBS	**Kingsbay**	**2.95**	**19**	*eP*	**Pb**	**12 45 48.1**	**+0.1**
KBS				IAML		12 46 27.1	
	comp=Z,5.0nm,0.6s						
KBS	**Kingsbay**	**2.95**	**19**	Pn	**Pb**	**12 45 48.1**	**+0.1**
BJO1	**Bjornoya**	**3.50**	**113**	*e*	**Pn**	**12 45 51.6**	**+1.9**
HOPEN	**Hopen**	**4.28**	**77**	*eP*	**Pn**	**12 46 03.1**	**+2.6**
HOPEN				*eS*	**Sn**	**12 46 49.1**	**-1.3**
HOPEN				IAML		12 46 49.1	
	comp=Z,20nm,0.6s						
HOPEN	**Hopen**	**4.28**	**77**	Pn	**Pn**	**12 46 02.9**	**+2.4**
HOPEN				Sn	**Sn**	**12 46 48.8**	**-1.6**
DAG	**Danmarks Havn**	**6.00**	**288**	*eS*	**Sn**	**12 47 31.8**	**-0.9**
DBG	**Daneborg**	**7.14**	**268**	Pn	**Pn**	**12 46 42.1**	**+2.3**
DBG				Sn	**Sn**	**12 47 57.0**	**-3.8**
JETT	**Jettan, Norway**	**7.73**	**143**	Pn	**Pn**	**12 46 47.5**	**-0.4**
ARA0	**ARCESS Array S**	**8.59**	**131**	Pn	**Pn**	**12 46 59.6**	**+0.1**
	baz=322,slow=12						
HEF	**Hetta**	**9.28**	**139**	Pn	**Pn**	**12 47 10.2**	**+1.2**

*IDC **11** 12:58:19.9±1.4, 18.°79N×94.°62E, h0km, mb3.7/7,*
mbtmp3.6/8, ML2.9/1, MS3.0/1, Error ellipse: s-maj=37.0km
s-min=18.7km az=43.0

ISC 11 12:58:25.7±1.7, 18.°9N±0.°2×94.°9E±0.°2, h35km, n8, σ1°08/8, mb3.5/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**3.91**	**96**	Pn	**Pn**	**12 59 22.6**	**-0.7**
	0.2nm,0.3s,baz=269,slow=14,SNR=1.4						
CMAR				Lg	Lg	13 00 31.4	
	1.5nm,0.3s,baz=269,slow=31,SNR=4.9						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**29.69**	**342**	P	**P**	**13 04 27.8**	**-0.5**
	0.4nm,0.5s,baz=153,slow=8.4,SNR=3.3						
	0.4nm,0.5s						
SONM	**Songino Array**	**30.38**	**15**	P	**P**	**13 04 35.1**	**+0.6**
	0.3nm,0.3s,baz=182,slow=10,SNR=1.6						
SONM				LR	LR	13 19 40.9	
	comp=Z,26nm,19.9s,baz=174,slow=42						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**34.23**	**341**	P	**P**	**13 05 06.4**	**-1.6**
	1.0nm,0.3s,baz=144,slow=8.0,SNR=2.3						
	1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**35.85**	**350**	P	**P**	**13 05 22.4**	**+0.5**
	0.5nm,0.4s,baz=167,slow=8.4,SNR=1.7						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**54.66**	**133**	P	**P**	**13 07 52.7**	**+1.2**
	0.4nm,0.8s,baz=319,slow=7.3,SNR=2.3						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**56.92**	**136**	P	**P**	**13 08 07.1**	**-0.6**
	0.2nm,0.5s,baz=312,slow=6.9,SNR=4.6						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**84.35**	**22**	P	**P**	**13 10 54.5**	**+0.5**
	0.4nm,0.6s,baz=298,slow=4.9,SNR=6.0						
	0.4nm,0.6s						

*IDC **11** 13:15:46.1±0.8, 12.°18N×143.°73E, h0km, mb3.9/15,*
mbtmp3.9/15, MS3.2/7, Error ellipse: s-maj=25.0km
s-min=16.7km az=105.0
*NEIC **11** 13:15:48.2±0.9, 12.°14N±0.°08×143.°61E±0.°08, h10km±2km,*
mb4.4/15, Error ellipse: s-maj=17.3km s-min=8.8km
az=222.0

ISC 11 13:15:50.1±0.7, 12.°2N±0.°1×143.°7E±0.°1, h25km, n44, σ0°89/33, mb4.3/24, MS3.1/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.84**	**39**	Pn	**Pn**	**13 16 20.5**	**+0.4**
GUMO	**Guam**	**1.84**	**39**	Pn	**Pn**	**13 16 19.4**	**-0.7**
	35nm,0.3s,baz=360,slow=21,SNR=13						
GUMO				Sn	**Sn**	**13 16 42.1**	**-0.4**
	83nm,0.3s,baz=356,slow=23,SNR=27						
DAV	**Davao City (W)**	**18.55**	**256**	LR	LR	13 26 28.0	
	comp=Z,45nm,20.8s,baz=316,slow=34						
JHJ2	**Mitsune**	**21.16**	**351**	P	**P**	**13 20 33.6**	**+0.1**
JHJ	**Hachijo jima 2**	**21.18**	**351**	LR	LR	13 28 32.5	
	comp=Z,48nm,18.7s,baz=150,slow=36						
H11S3	**WAKE ISLAND Hy**	**23.05**	**71**	T	T	13 45 02.6	
	baz=257						
H11S1	**WAKE ISLAND Hy**	**23.06**	**71**	T	T	13 45 04.1	
	baz=257						
H11S2	**WAKE ISLAND Hy**	**23.06**	**71**	T	T	13 45 04.3	
	baz=257						
H11N1	**WAKE ISLAND Hy**	**23.52**	**68**	T	T	13 45 33.1	
	baz=255,slow=75,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**23.54**	**68**	T	T	13 45 40.1	
	baz=255,slow=75,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**23.54**	**68**	T	T	13 45 38.4	
	baz=255,slow=75,SNR=5.9						
JNU	**Nakatsue**	**23.95**	**333**	P	**P**	**13 21 02.0**	**-0.5**
JNU				IAmb	IAmb	13 21 33.8	
	comp=Z,14nm,1.3s						
JNU	**Nakatsue**	**23.95**	**333**	LR	LR	13 28 54.7	
	comp=Z,42nm,18.7s,baz=190,slow=33						
MJAR	**Matsushiro Arr**	**24.78**	**349**	LR	LR	13 30 18.1	
	comp=Z,48nm,18.3s,baz=178,slow=35						
KSRS	**Korea Array**	**28.89**	**333**	P	**P**	**13 21 46.0**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=142,slow=9.8,SNR=1.3						
	comp=Z,0.5nm,0.6s						
WB2	**Warramunga Arr**	**33.19**	**196**	P	**P**	**13 22 24.1**	**-1.0**
WRA	**Warramunga Arr**	**33.19**	**196**	P	**P**	**13 22 24.2**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=20,slow=9.9,SNR=6.6						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**36.86**	**195**	P	**P**	**13 22 58.2**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=8.7,slow=11,SNR=6.1						
	comp=Z,0.4nm,0.8s						
KLR	**Kul'dur**	**38.27**	**347**	LR	LR	13 37 58.6	
	comp=Z,39nm,18.8s,baz=179,slow=35						
SONM	**Songino Array**	**47.26**	**326**	P	**P**	**13 24 21.9**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=146,slow=5.4,SNR=4.1						
SONM				LR	LR	13 45 13.1	
	comp=Z,29nm,18.8s,baz=116,slow=37						
	comp=Z,0.4nm,0.5s						
YAK	**Yakutsk**	**50.82**	**352**	LR	LR	13 45 06.1	
	comp=Z,25nm,19.1s,baz=189,slow=35						
UNV	**Unalaska Valle**	**57.15**	**33**	P	**P**	**13 25 34.5**	**-0.2**
MKAR	**Makanchi Array**	**61.73**	**317**	P	**P**	**13 26 06.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=91,slow=8.4,SNR=5.1						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**62.13**	**325**	P	**P**	**13 26 08.4**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=116,slow=6.6,SNR=2.4						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**64.98**	**320**	P	**P**	**13 26 27.8**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=108,slow=6.5,SNR=8.5						
	comp=Z,1.3nm,0.3s						
BVAR	**Borovoye Array**	**70.34**	**322**	P	**P**	**13 27 01.9**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=97,slow=8.6,SNR=8.3						
	comp=Z,1.5nm,0.4s						
ILAR	**Eielson Array**	**70.35**	**25**	P	**P**	**13 27 00.4**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=242,slow=5.6,SNR=9.5						
	comp=Z,0.5nm,0.6s						
D25K	**Kavik River**	**71.66**	**21**	P	**P**	**13 27 09.9**	**+0.5**
D25K				IAmb	IAmb	13 27 11.9	
	comp=Z,2.6nm,0.9s						
J26L	**Joseph Creek**	**71.70**	**26**	P	**P**	**13 27 11.0**	**+1.2**
I28M	**Miner Creek**	**73.37**	**25**	P	**P**	**13 27 21.2**	**+1.4**
I28M				IAmb	IAmb	13 27 46.4	
	comp=Z,3.6nm,1.4s						
D27M	**Malcolm River**	**73.53**	**21**	P	**P**	**13 27 21.1**	**+0.5**
D27M				IAmb	IAmb	13 27 33.2	
	comp=Z,6.5nm,1.5s						
F28M	**Old Crow**	**73.68**	**23**	P	**P**	**13 27 22.4**	**+0.9**
F28M				IAmb	IAmb	13 27 23.0	
	comp=Z,3.1nm,1.1s						
L29M	**L29M**	**73.90**	**28**	P	**P**	**13 27 23.2**	**+0.3**
L29M				IAmb	IAmb	13 27 28.2	
	comp=Z,8.1nm,1.4s						
H29M	**Whitestone**	**74.10**	**24**	P	**P**	**13 27 24.6**	**+0.7**
H29M				IAmb	IAmb	13 27 28.8	
	comp=Z,7.2nm,1.5s						
E29M	**Blow River**	**74.52**	**22**	P	**P**	**13 27 28.2**	**+1.9**
E29M				IAmb	IAmb	13 27 28.9	
	comp=Z,3.2nm,1.1s						
I30M	**Mount Dempster**	**74.83**	**25**	P	**P**	**13 27 28.9**	**+0.5**
G30M	**tAoh Zraii Nji**	**75.02**	**24**	P	**P**	**13 27 30.3**	**+1.0**
G30M				IAmb	IAmb	13 27 55.4	
	comp=Z,4.9nm,1.1s						
ABKAR	**Akbulak array**	**76.83**	**318**	P	**P**	**13 27 39.3**	**-0.6**
YKA	**Yellowknife Ar**	**84.66**	**27**	P	**P**	**13 28 22.0**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=290,slow=4.6,SNR=3.2						
	comp=Z,0.6nm,0.7s						
ARCES	**ARCESS Array B**	**88.09**	**342**	P	**P**	**13 28 38.2**	**0.0**
	comp=Z,1.2nm,0.8s,baz=68,slow=8.0,SNR=6.4						
	comp=Z,1.2nm,0.8s						
NVAR	**Mina Array Bea**	**88.71**	**51**	P	**P**	**13 28 42.4**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=271,slow=5.4,SNR=7.7						
	comp=Z,1.0nm,0.6s						
KBZ	**Khabaz**	**89.35**	**315**	P	**P**	**13 28 46.1**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=112,slow=5.4,SNR=2.2						
	comp=Z,0.8nm,0.4s						
VNDA	**Vanda**	**90.11**	**176**	P	**P**	**13 28 46.5**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=351,slow=11,SNR=3.8						
	comp=Z,0.9nm,0.8s						
FINES	**FINESS Array B**	**91.97**	**335**	P	**P**	**13 28 55.0**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=151,slow=4.4,SNR=6.6						
	comp=Z,1.0nm,0.5s						

*IDC **11** 13:16:59.7±1.2, 31.°70S×58.°21E, h0km, mb4.0/6,*
mbtmp4.0/6, MS3.2/4, Error ellipse: s-maj=43.5km
s-min=27.8km az=88.0

ISC 11 13:17:02.7±1.4, 31.°7S±0.°2×58.°4E±0.°4, h14km, n20, σ0°39/7, mb4.1/6, MS3.3/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.28**	**198**	T	T	13 36 17.9	
	baz=20,slow=75,SNR=22						
H04N1	**CROZET ISLANDS**	**15.29**	**198**	T	T	13 36 17.3	
	baz=20,slow=75,SNR=18						
H04N3	**CROZET ISLANDS**	**15.30**	**198**	T	T	13 36 17.9	
	baz=20,slow=75,SNR=21						
H08S1	**Diego Garcia H**	**27.33**	**32**	T	T	13 51 11.4	
	baz=207,slow=76,SNR=9.4						
H08S2	**Diego Garcia H**	**27.34**	**32**	T	T	13 51 09.8	
	baz=207,slow=76,SNR=5.6						
H08S3	**Diego Garcia H**	**27.35**	**32**	T	T	13 51 12.7	
	baz=207,slow=76,SNR=8.4						
SUR	**Sutherland**	**31.74**	**259**	LR	LR	13 33 04.4	
	comp=Z,52nm,20.6s,baz=167,slow=30						
FURI	**Furi**	**44.58**	**332**	LR	LR	13 42 05.2	
	comp=Z,37nm,18.6s,baz=66,slow=34						
H01W2	**Cape Leeuwin H**	**46.19**	**110**	T	T	14 15 11.2	
	baz=257,slow=75,SNR=4.1						
H01W3	**Cape Leeuwin H**	**46.20**	**110**	T	T	14 15 09.6	
	baz=257,slow=75,SNR=4.4						
H01W1	**Cape Leeuwin H**	**46.21**	**110**	T	T	14 15 07.9	
	baz=257,slow=75,SNR=4.9						
QSPA	**South Pole Qui**	**58.44**	**180**	P	**P**	**13 26 57.7**	**-0.1**
	0.9nm,0.6s,baz=261,slow=1.1,SNR=9.8						
	0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.27**	**44**	P	**P**	**13 27 31.1**	**0.0**
	1.0nm,0.7s,baz=231,slow=7.7,SNR=8.5						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**66.16**	**104**	P	**P**	**13 27 50.3**	**+0.2**
	1.0nm,0.7s,baz=232,slow=6.7,SNR=9.7						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**68.17**	**101**	P	**P**	**13 28 02.8**	**-0.1**
	1.0nm,0.7s,baz=242,slow=5.7,SNR=9.0						
	1.0nm,0.7s						
STKA	**Stephens Creek**	**68.86**	**115**	LR	LR	13 51 22.6	
	comp=Z,11nm,20.7s,baz=57,slow=30						
AAK	**Ala-Archa**	**75.47**	**12**	LR	LR	13 58 13.3	
	comp=Z,18nm,18.1s,baz=202,slow=33						
KURBB	**Kurchatov Arra**	**83.91**	**13**	P	**P**	**13 29 31.4**	**-0.3**
	0.4nm,0.4s,baz=203,slow=5.1,SNR=4.2						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**85.05**	**7**	P	**P**	**13 29 37.3**	**-0.1**
	1.7nm,0.8s,baz=178,slow=6.7,SNR=7.1						
	1.7nm,0.8s						
YKA	**Yellowknife Ar**	**148.90**	**354**	PKPbc	**PKPdf**	**13 36 45.9**	**+0.6**
	0.7nm,0.7s,baz=7.0,slow=2.6,SNR=3.1						

*NEIC **11** 13:21:25.0±1.2, 38.°07N±0.°01×112.°39W±0.°02, h5km±1km,*
Error ellipse: s-maj=2.9km s-min=2.7km az=112.0
*IDC **11** 13:21:25.3±1.2, 38.°17N×112.°36W, h0km, mb3.2/1,*
mbtmp3.1/6, ML3.1/5, Error ellipse: s-maj=17.4km
s-min=9.1km az=147.0
*ANF **11** 13:21:25.4±0.4, 38.°07N×112.°39W, h5km, Error ellipse:*
s-maj=3.7km s-min=2.3km az=11.0
*UUSS **11** 13:21:25.3±1.2, 38.°06N±0.°01×112.°40W±0.°02, h6km±5km,*
ML3.1/22, ML3.2/82(NEIC), Error ellipse: s-maj=2.3km
s-min=1.7km az=114.0

ISC 11 13:21:25.6±0.9, 38.°07N±0.°02×112.°40W±0.°02, h11km±7km, n99, σ1°88/108, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTPU	**Mount Pierson**	**0.17**	**100**		**Pg**	**13 21 28.8**	**-1.0**
MTPU					**Sg**	**13 21 31.7**	**-0.9**
MTPU	**Mount Pierson**	**0.17**	**100**	IAML		13 21 31.9	
	comp=N,3μm,0.6s						
MTPU				IAML		13 21 32.0	
	comp=E,4μm,0.4s						
BHUT	**Beaver**	**0.28**	**317**		**Pg**	**13 21 31.2**	**-0.2**
BHUT					**Sg**	**13 21 36.4**	**+1.0**
MVU	**Marysvale**	**0.46**	**19**		**Pg**	**13 21 34.5**	**-0.2**
MVU					**Sb**	**13 21 41.7**	**-0.9**
MVU	**Marysvale**	**0.46**	**19**	IAML		13 21 42.2	
	comp=N,12μm,0.5s						
MVU				IAML		13 21 42.8	
	comp=E,10μm,0.3s						
MSU	**Marysvale**	**0.47**	**22**	Pg	**Pg**	**13 21 34.6**	**-0.3**
DWU	**Dry Willow Pea**	**0.47**	**274**		**Pg**	**13 21 35.0**	**0.0**
BTU	**Barney Top**	**0.52**	**127**		**Pg**	**13 21 35.5**	**-0.5**
TCRU	**Three Creeks R**	**0.54**	**356**		**Pg**	**13 21 35.7**	**-0.5**
TCRU					**Sg**	**13 21 43.7**	**+0.3**
TCRU	**Three Creeks R**	**0.54**	**356**	IAML		13 21 44.2	
	comp=E,1μm,0.6s						
TCRU				IAML		13 21 44.7	
	comp=N,1μm,0.5s						
NMUT	**North Mineral**	**0.57**	**321**		**Pg**	**13 21 36.5**	**-0.3**
PKCU	**Pink Cliffs**	**0.63**	**174**		**Pg**	**13 21 37.4**	**-0.6**
PKCU	**Pink Cliffs**	**0.63**	**174**	IAML		13 21 53.3	
	comp=N,2μm,0.5s						
SZCU	**Shurtz Canyon**	**0.72**	**229**		**Pg**	**13 21 38.9**	**-0.8**
SZCU					**Sg**	**13 21 48.8**	**-0.4**
IMU	**Iron Mountain**	**0.82**	**313**		**Pg**	**13 21 41.3**	**-0.2**
ARUT	**Antelope Range**	**0.87**	**251**		**Pg**	**13 21 42.0**	**-0.4**
ZNPU	**Zion National**	**0.92**	**219**		**Pg**	**13 21 42.4**	**-1.0**
WCU	**Willow Creek**	**0.92**	**15**		**Pg**	**13 21 42.9**	**-0.6**
CCUT	**Cedar City**	**0.92**	**236**		**Pg**	**13 21 42.7**	**-0.8**
CCUT	**Cedar City**	**0.92**	**236**	IAML		13 22 01.6	
	comp=E,507nm,0.9s						
EKU	**East Kanab**	**1.00**	**184**		**Pg**	**13 21 43.9**	**-1.0**
OWUT	**Old Woman Plat**	**1.04**	**47**		**Pg**	**13 21 45.3**	**-0.4**
KNB	**Kanab**	**1.11**	**198**		**Pg**	**13 21 45.6**	**-1.3**
PSUT	**Pine Spring**	**1.23**	**292**		**Pg**	**13 21 48.6**	**-0.8**
PSUT	**Pine Spring**	**1.23**	**292**	IAML		13 22 08.4	
	comp=N,454nm,0.9s						
PSUT				IAML		13 22 13.3	
	comp=E,545nm,0.9s						
LCMT	**Little Creek M**	**1.25**	**213**		**Pg**	**13 21 48.1**	**-1.6**
LCMT	**Little Creek M**	**1.25**	**213**	IAML		13 22 05.3	
	comp=E,635nm,0.2s						
LCMT				IAML		13 22 06.5	
	comp=N,603nm,0.2s						
Q16A	**Castle Valley**	**1.28**	**48**		**Pg**	**13 21 49.1**	**-1.1**
FLU	**Fool Peak**	**1.32**	**8**		**Pn**	**13 21 50.1**	**0.0**
HMU	**Henry Mountain**	**1.32**	**95**		**Pg**	**13 21 49.4**	**-1.5**
HMU	**Henry Mountain**	**1.32**	**95**	IAML		13 22 13.0	
	comp=E,937nm,0.8s						
PGAZ	**Page**	**1.38**	**147**		**Pn**	**13 21 50.5**	**-0.4**
SNO	**Snow College**	**1.41**	**28**		**Pb**	**13 21 52.1**	**0.0**
LEVU	**Levan**	**1.50**	**18**		**Pn**	**13 21 52.8**	**+0.1**
ICU	**Indian Springs**	**1.52**	**233**		**Pn**	**13 21 53.6**	**+0.8**
TMUT	**Trail Mountain**	**1.54**	**37**		**Pn**	**13 21 53.6**	**+0.3**
TMUT	**Trail Mountain**	**1.54**	**37**	IAML		13 22 16.0	
	comp=E,414nm,0.7s						
TMUT				IAML		13 22 16.5	
	comp=N,337nm,0.6s						
DBD	**Des Bee Dove**	**1.61**	**39**		**Pn**	**13 21 52.4**	**-1.8**
U15A	**North Rim**	**1.64**	**177**		**Pn**	**13 21 55.2**	**+0.5**
U15A	**North Rim**	**1.64**	**177**	IAML		13 22 22.2	
	comp=N,304nm,0.6s						
U15A				IAML		13 22 25.3	
	comp=E,271nm,0.7s						
SRU	**San Rafael Swe**	**1.80**	**54**		**Pn**	**13 21 56.7**	**0.0**
SRU				IAML		13 22 26.1	
	comp=E,422nm,0.6s						
SRU				IAML		13 22 26.4	
	comp=N,200nm,1.0s						
FSU	**Fish Springs**	**1.82**	**335**		**Pb**	**13 21 59.3**	**+0.3**
ELU	**Electric Lake**	**1.82**	**30**		**Pb**	**13 21 58.9**	**-0.2**
NLU	**North Lily Min**	**1.90**	**8**	Pn	**Pn**	**13 21 58.4**	**+0.3**
NLU				IAML		13 22 26.9	
	comp=E,134nm,0.5s						
MPU	**Maple Canyon**	**2.03**	**17**		**Pn**	**13 21 59.9**	**0.0**
EMUT	**Emma Park**	**2.13**	**35**		**Pb**	**13 22 03.7**	**-0.7**
DUG	**Dugway, Tooele**	**2.14**	**351**		**Pb**	**13 22 01.3**	**-0.1**
DUG				IAML		13 22 35.6	
	comp=E,129nm,0.8s						
DUG	**Dugway, Tooele**	**2.14**	**351**	P	**Pn**	**13 22 01.3**	**-0.1**
	baz=171						
DUG				Sb	**Sg**	**13 22 34.5**	**-0.1**
	baz=171						
DCM	**Dugout Coal Mi**	**2.15**	**41**		**Pb**	**13 22 03.7**	**-1.1**
BCE	**Book Cliffs Ea**	**2.19**	**45**		**Pb**	**13 22 05.0**	**-0.4**
O16A	**Springville**	**2.24**	**18**		**Pn**	**13 22 00.5**	**-2.4**
ROA	**Roan Cliffs**	**2.25**	**44**		**Pb**	**13 22 05.7**	**-0.6**
ARGU	**Argyle Ridge**	**2.27**	**39**		**Pb**	**13 22 06.2**	**-0.6**
DAU	**Daniels Canyon**	**2.50**	**20**		**Pb**	**13 22 11.8**	**+1.1**
R11B	**Troy Canyon, C**	**2.52**	**277**		**Pn**	**13 22 06.7**	**0.0**
R11B				IAML		13 22 49.3	
	comp=N,96nm,1.0s						
R11B				IAML		13 22 51.8	
	comp=E,76nm,0.5s						
R11B	**Troy Canyon, C**	**2.52**	**277**	P	**Pn**	**13 22 07.2**	**+0.4**
	baz=96,SNR=76						
R11B				Sb	**Sg**	**13 22 45.1**	**-1.7**
	baz=96						
PV05	**Paradox Valley**	**2.60**	**89**		**Pb**	**13 22 12.4**	**0.0**
JLU	**Jordanelle**	**2.63**	**16**		**Pn**	**13 22 09.3**	**+1.1**
WUAZ	**Wupatki**	**2.68**	**162**	Pn	**Pn**	**13 22 10.4**	**+1.6**
WUAZ	**Wupatki**	**2.68**	**162**	P	**Pn**	**13 22 08.9**	**+0.1**
	baz=342,SNR=102						
WUAZ				Sb	**Sb**	**13 22 46.8**	**+0.2**
	baz=342						
SHPR	**Sheep Range**	**2.70**	**235**		**Pn**	**13 22 09.9**	**+0.8**
PV21	**Cone Mtn., Par**	**2.74**	**79**		**Pb**	**13 22 14.1**	**-0.6**
TCUT	**Toone Canyon**	**3.14**	**14**		**Pn**	**13 22 16.5**	**+1.3**
TCUT				IAML		13 22 37.9	
	comp=E,69nm,0.6s						
TCUT				IAML		13 23 06.5	
	comp=N,111nm,0.7s						
MVCO	**Mesa Verde**	**3.21**	**104**	Pn	**Pn**	**13 22 18.9**	**+2.7**
MVCO				IAML		13 23 13.5	
	comp=N,123nm,0.7s						
MVCO	**Mesa Verde**	**3.21**	**104**	P	**Pn**	**13 22 16.2**	**0.0**
	baz=287,SNR=92						
MVCO				Sb	**Sb**	**13 23 04.4**	**+2.3**
	baz=287						
TPNV	**Topopah Spring**	**3.26**	**251**	P	**Pn**	**13 22 17.4**	**+0.6**
	baz=69,SNR=7.2						
TPNV				Sb	**Sg**	**13 23 07.5**	**-2.8**
	baz=69						
HWUT	**Hardware Ranch**	**3.59**	**10**	Pn	**Pn**	**13 22 23.0**	**+1.7**
WCT	**Wildcat Mounta**	**3.60**	**251**		**Pn**	**13 22 22.0**	**+0.7**
WCT				IAML		13 23 23.8	
	comp=N,32nm,0.7s						
WCT				IAML		13 23 30.8	
	comp=E,45nm,0.7s						
W18A	**Petrified Fore**	**3.65**	**143**	P	**Pn**	**13 22 22.4**	**+0.3**
	baz=325,SNR=22						
W18A				Sb	**Sb**	**13 23 16.9**	**+2.5**
	baz=325						
SHOC	**Shoshone, Teco**	**3.79**	**236**	Sb	**Sb**	**13 23 21.9**	**+3.6**
	baz=54						
TPH	**Tonopah**	**3.81**	**272**		**Pn**	**13 22 25.5**	**+1.2**
O20A	**White River Ci**	**3.83**	**56**		**Pn**	**13 22 25.3**	**+0.6**
O20A	**White River Ci**	**3.83**	**56**	P	**Pn**	**13 22 25.1**	**+0.4**
	baz=239,SNR=8.3						
O20A				Sb	**Sb**	**13 23 23.4**	**+3.6**
	baz=239						
TUQ	**Turquoise Moun**	**3.87**	**228**	P	**Pn**	**13 22 25.5**	**+0.4**
	baz=46,SNR=6.8

comp=E,0.1nm,0.3s,baz=287,slow=14,SNR=1.5
PFO Lg Lg 13 24 15.2
comp=E,0.4nm,0.3s,baz=328,slow=6.6,SNR=1.8
comp=E,0.6nm,0.3s
ANMO Albuquerque 5.71 121 P **Pn 13 22 51.4 +0.9**
baz=305
ANMO Albuquerque 5.71 121 Pn **Pn 13 22 52.3 +1.8**
comp=E,0.8nm,0.3s,baz=44,slow=12,SNR=12
ANMO Lg Lg 13 24 22.0
comp=E,1.2nm,0.3s,baz=356,slow=6.0,SNR=4.5
comp=E,3.6nm,0.5s
N23A Red Feather La 5.73 59 P **Pn 13 22 52.7 +1.9**
baz=242
YBH Yreka Blue Hor 8.73 298 Pn **Pn 13 23 33.1 +1.4**
comp=E,0.1nm,0.3s,baz=152,slow=15,SNR=1.5
YBH Sn **Sn 13 25 03.7 -6.5**
baz=84,slow=19
comp=E,1.5nm,0.6s
TXAR Lajitas Array 11.34 138 Lg Lg 13 27 21.1
comp=E,0.1nm,0.3s,baz=330,slow=31,SNR=2.4
YKA Yellowknife Ar 24.49 358 P **P 13 26 45.7 +1.3**
comp=E,0.3nm,0.6s,baz=176,slow=8.9,SNR=2.3
comp=E,0.3nm,0.6s

*NOU **11** 13:25:33.5, 20°.80S×178°.13W, h540km, mb4.6/38, Fiji Islands Region*
*BGR **11** 13:25:34.5, 21°.78S×177°.86W, h550km, Hypocentre not reviewed by the ISC*
*NEIC **11** 13:25:37.5±2.3, 21°.0S±0°.1×178°.5W±0°.1, h550km±7km, mb4.7/64, Error ellipse: s-maj=17.1km s-min=15.5km az=161.0*
*IDC **11** 13:25:38.6±1.1, 21°.00S×178°.64W, h561km±10km, mb3.9/17, mbtmp4.8/20, Error ellipse: s-maj=12.1km s-min=9.5km az=145.0*
ISC 11 13:25:37.1±0.3, 21°.00S±0°.06×178°.60W±0°.06, h550km, n536, σ0.90/575, mb4.6/61, 50C-27D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.53**	**315**	P	**P**	**13 27 04.7**	**+1.4**
NIUE	**Niue**	**8.37**	**78**	P	**P**	**13 27 37.4**	**-1.2**
MARNC	**Mare, Loyalty**	**12.48**	**265**	P	**P**	**13 28 21.7**	**+1.1**
PINNC	**Pines Island,**	**13.06**	**260**	P	**P**	**13 28 27.9**	**+1.2**
PINNC	**Pines Island,**	**13.06**	**260**	P	**P**	**13 28 28.1**	**+1.5**
LIFNC	**LIFOU**	**13.24**	**268**	P	**P**	**13 28 28.3**	**-0.2**
LIFNC	**LIFOU**	**13.24**	**268**	P	**P**	**13 28 28.0**	**-0.5**
DZM	**Mont Dzumac**	**13.96**	**263**	P	**P**	**13 28 36.6**	**+0.5**
DZM	**Mont Dzumac**	**13.96**	**263**	*e*Pn	**P**	**13 28 37.6**	**+1.5**
	80nm,1.2s						
DZM				*e*S	**S**	**13 31 01.0**	**-2.4**
	308nm,25.0s						
DZM	**Mont Dzumac**	**13.96**	**263**	P	**P**	**13 28 36.1**	**+0.1**
DZM	**Mont Dzumac**	**13.96**	**263**	P	**P**	**13 28 36.0**	**0.0**
	17nm,0.7s,baz=103,slow=16,SNR=8.3						
OUZ	**Omahuta**	**15.74**	**204**	P	**P**	**13 28 54.9**	**+0.9**
KOUNC	**Koumac, New Ca**	**16.02**	**269**	P	**P**	**13 28 58.0**	**+1.1**
KOUNC	**Koumac, New Ca**	**16.02**	**269**	P	**P**	**13 28 58.7**	**+1.8**
KUZ	**Kuaotunu**	**16.46**	**196**	P	**P**	**13 29 01.2**	**+0.5**
MXZ	**Matakaoa Point**	**16.73**	**189**	P	**P**	**13 29 02.4**	**-0.8**
TOZ	**Tahuroa Road**	**17.44**	**196**	P	**P**	**13 29 09.5**	**-0.2**
TOZ				IAmb	IAmb	13 29 12.0	
	comp=Z,23nm,0.6s						
RAR	**Rarotonga**	**17.57**	**94**	P	**P**	**13 29 11.0**	**-0.1**
RAR	**Rarotonga**	**17.57**	**94**	P	**P**	**13 29 10.5**	**-0.6**
	comp=Z,21nm,0.8s,baz=276,slow=9.6,SNR=2.7						
URZ	**Urewera**	**17.60**	**191**	P	**P**	**13 29 08.9**	**-2.2**
URZ	**Urewera**	**17.60**	**191**	P	**P**	**13 29 10.2**	**-0.9**
	comp=Z,15nm,0.5s,baz=66,slow=1.3,SNR=16						
URZ				S	**S**	**13 31 58.0**	**-7.5**
	comp=Z,11nm,0.8s,baz=197,slow=19,SNR=2.9						
HIZ	**Hauiti**	**18.35**	**197**	P	**P**	**13 29 20.1**	**+2.1**
BKZ	**Black Stump Fm**	**18.59**	**192**	P	**P**	**13 29 17.7**	**-2.6**
TCW	**Tory Channel**	**21.04**	**195**	P	**P**	**13 29 42.0**	**-0.4**
QRZ	**Quartz Range**	**21.16**	**199**	P	**P**	**13 29 43.4**	**-0.1**
KHZ	**Kahutara**	**22.36**	**195**	P	**P**	**13 29 52.8**	**-1.4**
RPZ	**Rata Peaks**	**24.24**	**198**	P	**P**	**13 30 11.9**	**+0.9**
JCZ	**Jackson Bay**	**25.29**	**202**	P	**P**	**13 30 19.4**	**-0.9**
TBI	**Tubuai**	**27.06**	**100**	*es*S	sS	13 37 01.6	-21
	comp=Z,299nm,27.2s						
PPT2	**Papeete2**	**27.58**	**88**	*es*S	sS	13 37 28.7	-2.7
	comp=Z,108nm,24.0s						
SYDH	**Sydney Hard Ro**	**29.93**	**238**	P	**P**	**13 31 02.1**	**+1.2**
CAN	**Canberra**	**31.77**	**236**	P	**P**	**13 31 18.1**	**+1.3**
TV1H	**Townsville Har**	**32.50**	**267**	P	**P**	**13 31 23.5**	**+0.4**
CTA	**Charters Tower**	**32.89**	**265**	P	**P**	**13 31 27.3**	**+0.9**
	comp=Z,2.2nm,0.5s,baz=95,slow=12,SNR=16						
CTA				PcP	**PcP**	**13 33 55.0**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=161,slow=5.9,SNR=2.3						
	comp=Z,2.2nm,0.5s						
CTAO	**Charters Tower**	**32.89**	**265**	P	**P**	**13 31 27.1**	**+0.7**
CTAO	**Charters Tower**	**32.89**	**265**	P	**P**	**13 31 26.7**	**+0.2**
QLP	**Quilpie**	**34.38**	**253**	P	**P**	**13 31 39.2**	**+0.4**
PMG	**Port Moresby**	**34.91**	**284**	P	**P**	**13 31 44.0**	**+0.6**
PMG	**Port Moresby**	**34.91**	**284**	P	**P**	**13 31 44.3**	**+0.9**
	comp=Z,50nm,0.8s,baz=77,slow=7.5,SNR=12						
	comp=Z,50nm,0.8s						
KAVG	**Kavieng**	**34.97**	**297**	P	**P**	**13 31 44.0**	**+0.1**
MTSU	**Mount Surprise**	**35.01**	**268**	P	**P**	**13 31 45.0**	**+0.7**
TOO	**Toolangi**	**35.15**	**234**	P	**P**	**13 31 46.3**	**+1.1**
TOO	**Toolangi**	**35.15**	**234**	P	**P**	**13 31 46.0**	**+0.8**
TOO				IAmb	IAmb	13 31 47.2	
	comp=Z,15nm,0.8s						
COEN	**Coen**	**37.06**	**275**	P	**P**	**13 32 01.9**	**+0.7**
COEN	**Coen**	**37.06**	**275**	P	**P**	**13 32 01.9**	**+0.7**
STKA	**Stephens Creek**	**37.07**	**245**	P	**P**	**13 32 02.0**	**+0.9**
STKA	**Stephens Creek**	**37.07**	**245**	P	**P**	**13 32 01.9**	**+0.9**
	comp=Z,13nm,0.6s,baz=95,slow=11,SNR=24						
STKA				PcP	**PcP**	**13 34 07.8**	**+0.9**
	comp=Z,4.3nm,0.7s,baz=44,slow=3.5,SNR=4.3						
STKA				ScP	**ScP**	**13 37 03.1**	**+1.2**
	comp=Z,3.0nm,1.0s,baz=18,slow=3.2,SNR=2.8						
	comp=Z,13nm,0.6s						
INKA	**Innaminka**	**37.51**	**252**	P	**P**	**13 32 06.3**	**+1.6**
QIS	**Mount Isa**	**39.00**	**263**	P	**P**	**13 32 16.9**	**0.0**
HTT	**Hallett**	**39.50**	**243**	P	**P**	**13 32 21.3**	**+0.5**
LCRK	**Leigh Creek**	**39.83**	**247**	P	**P**	**13 32 24.0**	**+0.6**
BBOO	**Buckleboo**	**41.83**	**244**	P	**P**	**13 32 39.3**	**0.0**
BBOO	**Buckleboo**	**41.83**	**244**	P	**P**	**13 32 39.1**	**-0.1**
BBOO				IAmb	IAmb	13 32 40.2	
	comp=Z,20nm,0.7s						
OOD	**Oodnadatta**	**41.99**	**251**	P	**P**	**13 32 41.8**	**+1.2**
MULG	**Mulgathing**	**43.41**	**248**	P	**P**	**13 32 51.7**	**0.0**
AS01	**Alice Springs**	**43.82**	**257**	P	**P**	**13 32 55.3**	**+0.3**
ASAR	**Alice Springs**	**43.86**	**257**	P	**P**	**13 32 55.4**	**0.0**
	comp=Z,25nm,0.5s,baz=97,slow=7.8,SNR=349						
ASAR				PcP	**PcP**	**13 34 29.6**	**+0.2**
	comp=Z,8.8nm,0.6s,baz=109,slow=3.6,SNR=19						
ASAR				ScP	**ScP**	**13 37 29.9**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=103,slow=4.5,SNR=7.2						
ASAR				S	**S**	**13 38 44.7**	**-2.3**
	comp=Z,3.1nm,1.0s,baz=93,slow=15,SNR=10.0						
	comp=Z,25nm,0.5s						
WRAB	**Tennant Creek**	**43.97**	**263**	P	**P**	**13 32 55.4**	**-0.8**
WRAB				IAmb	IAmb	13 32 56.6	
	comp=Z,25nm,1.0s						
WRA	**Warramunga Arr**	**43.98**	**263**	P	**P**	**13 32 55.7**	**-0.6**
	comp=Z,13nm,0.7s,baz=96,slow=7.4,SNR=207						
WRA				PcP	**PcP**	**13 34 30.3**	**+0.4**
	comp=Z,5.0nm,0.9s,baz=94,slow=4.0,SNR=5.9						
WRA				ScP	**ScP**	**13 37 29.4**	**-0.1**
	comp=Z,1.0nm,1.0s,baz=72,slow=4.2,SNR=3.2						
WRA				S	**S**	**13 38 45.2**	**-3.5**
	comp=Z,0.3nm,0.5s,baz=100,slow=13,SNR=3.7						
	comp=Z,13nm,0.7s						
KDU	**Kakadu**	**47.40**	**272**	P	**P**	**13 33 22.3**	**-0.1**
FORT	**Forrest**	**48.59**	**247**	P	**P**	**13 33 30.8**	**-0.2**
FORT	**Forrest**	**48.59**	**247**	P	**P**	**13 33 30.6**	**-0.4**
MTN	**Manton Dam**	**48.61**	**271**	P	**P**	**13 33 31.1**	**-0.3**
MTN	**Manton Dam**	**48.61**	**271**	P	**P**	**13 33 30.8**	**-0.5**
MTN				IAmb	IAmb	13 33 31.6	
	comp=Z,25nm,0.7s						
WRKA	**Warakurna**	**48.79**	**255**	P	**P**	**13 33 32.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.41**	**263**	P	**P**	**13 33 59.4**	**+0.4**
SOEI	**Soe**	**55.96**	**272**	P	**P**	**13 34 25.7**	**+1.5**
PSA00	**Pilbara Seismi**	**57.01**	**257**	P	**P**	**13 34 31.1**	**-0.1**
PSA00				IAmb	IAmb	13 34 31.7	
	comp=Z,34nm,0.8s						
MBWA	**Marble Bar**	**57.20**	**258**	P	**P**	**13 34 32.3**	**-0.2**
MBWA				IAmb	IAmb	13 34 32.9	
	comp=Z,29nm,0.7s						
SBA	**Scott Base**	**57.34**	**184**	P	**P**	**13 34 33.6**	**+1.1**
VNDA	**Vanda**	**57.37**	**185**	P	**P**	**13 34 34.5**	**+1.8**
	comp=Z,1.9nm,0.6s,baz=356,slow=8.7,SNR=16						
VNDA				ScP	**ScP**	**13 38 25.7**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=356,slow=6.0,SNR=13						
	comp=Z,1.9nm,0.6s						
QSPA	**South Pole Qui**	**69.07**	**180**	P	**P**	**13 35 48.8**	**+0.8**
QSPA	**South Pole Qui**	**69.07**	**180**	P	**P**	**13 35 49.0**	**+1.0**
	comp=Z,7.4nm,0.6s,baz=335,slow=0.5,SNR=79						
	comp=Z,7.4nm,0.6s						
MJAR	**Matsushiro Arr**	**70.28**	**324**	P	**P**	**13 35 55.0**	**-0.5**
	comp=Z,3.7nm,0.6s,baz=162,slow=6.0,SNR=14						
	comp=Z,3.7nm,0.6s						
MAJO	**Matsushiro**	**70.28**	**324**	P	**P**	**13 35 55.5**	**0.0**
MAJO				IAmb	IAmb	13 35 56.3	
	comp=Z,24nm,1.4s						
JNU	**Nakatsue**	**72.25**	**317**	P	**P**	**13 36 07.0**	**-0.1**
JNU				IAmb	IAmb	13 36 08.3	
	comp=Z,15nm,1.0s						
KIWB	**Kanaga Island**	**72.55**	**1**	P	**P**	**13 36 07.7**	**-0.6**
ADK	**Adak**	**72.58**	**1**	P	**P**	**13 36 07.9**	**-0.6**
ATKA	**Atka Island**	**72.99**	**3**	P	**P**	**13 36 10.2**	**-0.6**
JKA	**Kamikawa-asahi**	**73.90**	**332**	P	**P**	**13 36 17.2**	**+1.0**
JKA				IAmb	IAmb	13 36 18.3	
	comp=Z,12nm,0.6s						
NIKH	**Nikolski High**	**74.14**	**6**	P	**P**	**13 36 16.3**	**-1.0**
	baz=189,SNR=6.5						
UNV	**Unalaska Valle**	**75.26**	**7**	P	**P**	**13 36 22.0**	**-1.6**
	baz=192						
FALS	**False Pass**	**76.66**	**9**	P	**P**	**13 36 29.7**	**-1.5**
	baz=194						
KSRS	**Korea Array**	**76.89**	**319**	P	**P**	**13 36 33.9**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=137,slow=6.0,SNR=12						
	comp=Z,2.0nm,0.7s						
CHNA	**Chernabura Isl**	**77.25**	**11**	P	**P**	**13 36 33.8**	**-0.7**
	baz=198						
SDPT	**Sand Point**	**77.59**	**10**	P	**P**	**13 36 35.6**	**-0.8**
	baz=197						
S12K	**Black Hills**	**77.68**	**9**	P	**P**	**13 36 35.8**	**-1.1**
	baz=196						
SMAI	**San Martin Ant**	**78.34**	**159**	P	**P**	**13 36 41.1**	**+0.8**
SCI2	**San Clemente I**	**78.52**	**48**	P	**P**	**13 36 41.0**	**-0.8**
	baz=236						
S14K	**Fog Glacier**	**78.65**	**11**	P	**P**	**13 36 41.8**	**-0.3**
	baz=198						
CHGN	**Chignik**	**78.86**	**11**	P	**P**	**13 36 42.1**	**-1.1**
	baz=199						
CHIR	**Chirikof Islan**	**78.96**	**13**	P	**P**	**13 36 43.2**	**-0.5**
	baz=202						
MYKOM	**Kota Tinggi**	**79.03**	**276**	P	**P**	**13 36 45.8**	**+0.7**
MYKOM				IAmb	IAmb	13 36 46.7	
	comp=Z,21nm,0.9s						
USRK	**Ussuriysk Ar.**	**79.06**	**326**	P	**P**	**13 36 45.8**	**+1.3**
	comp=Z,6.4nm,0.7s,baz=116,slow=4.4,SNR=22						
	comp=Z,6.4nm,0.7s						
BELA	**Belgrano 2**	**79.14**	**173**	P	**P**	**13 36 43.9**	**-0.6**
KMRM	**Mail Ridge**	**79.49**	**40**	P	**P**	**13 36 48.1**	**+1.1**
KMRM				IAmb	IAmb	13 36 49.9	
	comp=Z,41nm,0.8s						
NJ2	**Nanjing**	**79.77**	**310**	*e*P	**P**	**13 36 51.6**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,300nm,3.8s						
BFSC	**Mount Baldy Ra**	**79.83**	**47**	P	**P**	**13 36 48.0**	**-1.0**
	baz=236						
MONP2	**Monument Peak**	**79.95**	**49**	P	**P**	**13 36 50.2**	**+0.4**
	baz=237						
SII	**Sitkinak Islan**	**79.95**	**13**	P	**P**	**13 36 49.2**	**+0.2**
SII	**Sitkinak Islan**	**79.95**	**13**	P	**P**	**13 36 49.6**	**+0.7**
	baz=203						
EDW2	**Edwards Air Fo**	**79.96**	**47**	P	**P**	**13 36 50.2**	**+0.6**
	baz=236,SNR=5.4						
O02D	**Mt. Diablo Mer**	**80.01**	**40**	P	**P**	**13 36 51.3**	**+1.5**
O02D				IAmb	IAmb	13 36 52.3	
	comp=Z,16nm,0.8s						
IKP	**In-Ko-Pah, Jac**	**80.05**	**49**	P	**P**	**13 36 51.1**	**+1.0**
	baz=237						
ISA	**Isabella, Lake**	**80.08**	**46**	P	**P**	**13 36 51.2**	**+1.0**
	baz=235						
PFO	**Pinyon Flats O**	**80.32**	**48**	P	**P**	**13 36 51.3**	**-0.3**
	baz=237						
TPFO	**Pinon Flats**	**80.32**	**48**	P	**P**	**13 36 52.3**	**+0.8**
	baz=237						
SWSC	**Sam W. Stewart**	**80.42**	**49**	P	**P**	**13 36 52.6**	**+0.7**
	baz=237						
R17L	**Mt. Peulik Vol**	**80.50**	**12**	P	**P**	**13 36 51.6**	**-0.2**
	baz=201						
LRMC	**Laurel Mtn Rad**	**80.51**	**46**	P	**P**	**13 36 53.3**	**+0.7**
	baz=236						
MDJ	**Mudanjiang**	**80.60**	**325**	P	**P**	**13 36 53.7**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,18nm,1.1s						
CWC	**Cottonwood Cre**	**80.78**	**45**	P	**P**	**13 36 54.2**	**+0.3**
	baz=235						
R18K	**Karluk**	**80.83**	**13**	P	**P**	**13 36 53.2**	**-0.1**
	baz=203						
BELC	**Belle Mtn. Jos**	**80.85**	**48**	P	**P**	**13 36 55.4**	**+1.1**
	baz=237						
MPMC	**Manual Prospec**	**80.96**	**46**	P	**P**	**13 36 55.7**	**+0.8**
	baz=236,SNR=6.5						
MLAC	**Mammoth, Mammo**	**80.97**	**44**	P	**P**	**13 36 56.0**	**+1.1**
	baz=235						
GSC	**Goldstone, Bar**	**81.01**	**47**	P	**P**	**13 36 55.7**	**+0.7**
	baz=236						
YBH	**Yreka Blue Hor**	**81.03**	**39**	P	**P**	**13 36 55.3**	**+0.3**
YBH				IAmb	IAmb	13 36 57.2	
	comp=Z,15nm,0.8s						
TIN	**Tinemaha, Big**	**81.03**	**45**	P	**P**	**13 36 56.1**	**+1.0**
	baz=235						
BC3	**Big Chuckawall**	**81.05**	**49**	P	**P**	**13 36 56.2**	**+0.9**
	baz=237						
HEC	**Hector,Ludlow**	**81.07**	**47**	P	**P**	**13 36 55.9**	**+0.5**
	baz=237						
WAKR	**Walker**	**81.08**	**43**	P	**P**	**13 36 56.7**	**+1.2**
GLA	**Glamis**	**81.17**	**50**	P	**P**	**13 36 56.9**	**+1.0**
	baz=238						
Q17K	**Contact Creek**	**81.19**	**12**	P	**P**	**13 36 55.2**	**-0.2**
	baz=201,SNR=14						
PNTR	**Pine Nut**	**81.32**	**42**	P	**P**	**13 36 57.6**	**+0.9**
PNTR				IAmb	IAmb	13 36 58.6	
	comp=Z,20nm,0.8s						
DSP	**Deep Springs**	**81.38**	**45**	P	**P**	**13 36 57.5**	**+0.7**
KDAK	**Kodiak Island**	**81.43**	**14**	P	**P**	**13 36 56.3**	**-0.1**
	comp=Z,4.2nm,0.6s,baz=322,slow=6.6,SNR=5.7						
	comp=Z,4.2nm,0.6s						
Q16K	**King Salmon**	**81.43**	**11**	P	**P**	**13 36 55.9**	**-0.6**
	baz=201						
YERR	**Yerington**	**81.49**	**43**	P	**P**	**13 36 58.5**	**+0.9**
GMRC	**Granite Mounta**	**81.51**	**48**	P	**P**	**13 36 57.7**	**0.0**
	baz=237						
IRM	**Iron Mountain**	**81.53**	**49**	P	**P**	**13 36 58.3**	**+0.6**
	baz=238						
GRAC	**Grapevine Rang**	**81.57**	**45**	P	**P**	**13 36 58.1**	**+0.3**
	baz=236,SNR=6.0						
GWY	**Greenwater Val**	**81.59**	**46**	P	**P**	**13 36 58.0**	**-0.1**
FURC	**Furnace Creek,**	**81.61**	**46**	P	**P**	**13 36 59.2**	**+1.3**
	baz=236						
TUQ	**Turquoise Moun**	**81.68**	**47**	P	**P**	**13 36 59.7**	**+1.1**
	baz=237,SNR=6.0						
SHOC	**Shoshone, Teco**	**81.69**	**47**	P	**P**	**13 36 58.9**	**+0.4**
	baz=237						
M11K	**Mekoryuk**	**81.71**	**6**	P	**P**	**13 36 58.6**	**+0.8**
	baz=192						
Q18K	**Katmai Hardscr**	**81.72**	**12**	P	**P**	**13 36 57.9**	**-0.2**
	baz=202,SNR=11						
NVAR	**Mina Array Bea**	**81.77**	**44**	P	**P**	**13 36 59.7**	**+0.6**
	comp=Z,5.8nm,0.7s,baz=224,slow=8.5,SNR=50						
	comp=Z,5.8nm,0.7s						
N14K	**Kuskokwak Cree**	**81.80**	**9**	P	**P**	**13 36 58.1**	**-0.2**
	baz=196						
GMN	**Gold Mountain**	**81.81**	**45**	P	**P**	**13 36 59.8**	**+0.5**
MZP	**Montezuma Peak**	**81.95**	**45**	P	**P**	**13 37 00.9**	**+0.9**
P17K	**Kvichak River**	**81.95**	**11**	P	**P**	**13 36 58.9**	**-0.3**
	baz=201,SNR=7.6						
O16K	**Kokwok River B**	**82.04**	**10**	P	**P**	**13 36 58.4**	**-1.1**
O16K				IAmb	IAmb	13 36 59.6	
	comp=Z,24nm,0.9s						
O16K	**Kokwok River B**	**82.04**	**10**	P	**P**	**13 36 58.5**	**-1.1**
	baz=199,SNR=6.1						
214A	**Organ Pipe Nat**	**82.06**	**52**	P	**P**	**13 37 00.8**	**+0.3**
	baz=239						
KVN	**Kaiserville**	**82.25**	**43**	P	**P**	**13 37 01.5**	**+0.1**
N15K	**Kwethluk River**	**82.27**	**9**	P	**P**	**13 37 01.3**	**+0.5**
	baz=197,SNR=6.7						
TPNV	**Topopah Spring**	**82.29**	**46**	P	**P**	**13 37 01.5**	**-0.1**
	baz=236,SNR=19						
WHN	**Wuhan**	**82.29**	**307**	P	**P**	**13 37 04.9**	**+3.4**
PDMCI	**Parker Dam,Lak**	**82.32**	**49**	P	**P**	**13 37 01.9**	**+0.3**
	baz=238						
P18K	**Big Mountain,**	**82.36**	**12**	P	**P**	**13 37 00.4**	**-0.9**
	baz=202						
O17K	**Koliganek Bris**	**82.38**	**11**	P	**P**	**13 37 01.0**	**-0.3**
	baz=200						
BNX	**BinXian**	**82.51**	**325**	⇑P	**P**	**13 37 02.6**	**+0.3**
BNX				pmax	pmax		
	comp=Z,22nm,0.7s						
M14K	**Bethel**	**82.57**	**8**	P	**P**	**13 37 02.8**	**+0.6**
	baz=196						
M15K	**Kasigluk River**	**82.69**	**9**	P	**P**	**13 37 02.8**	**0.0**
	baz=197,SNR=9.3						
N16K	**Nishlik Lake**	**82.77**	**10**	P	**P**	**13 37 03.5**	**+0.2**
	baz=198,SNR=10						
SHPR	**Sheep Range**	**82.78**	**47**	P	**P**	**13 37 05.1**	**+0.9**
O18K	**Koktuh Hills**	**82.80**	**12**	P	**P**	**13 37 02.8**	**-0.6**
	baz=202,SNR=9.0						
P19K	**Oil Pt**	**83.00**	**13**	P	**P**	**13 37 03.9**	**-0.5**
	baz=204						
L14K	**Kuka Creek**	**83.05**	**8**	P	**P**	**13 37 04.8**	**+0.2**
	baz=195,SNR=6.2						
M16K	**Timber Creek**	**83.26**	**9**	P	**P**	**13 37 06.3**	**+0.6**
	baz=198,SNR=7.3						
O19K	**Port Alsworth**	**83.28**	**12**	P	**P**	**13 37 05.1**	**-0.7**
	baz=203						
PINE	**Pine Mountain**	**83.32**	**38**	P	**P**	**13 37 07.5**	**+0.8**
PINE				IAmb	IAmb	13 37 08.9	
	comp=Z,25nm,0.8s						
HOM	**Homer**	**83.34**	**13**	P	**P**	**13 37 06.0**	**-0.1**
	baz=205						
K13K	**Kusilvak Mount**	**83.39**	**7**	P	**P**	**13 37 07.1**	**+0.8**
	baz=193						
I05D	**Terrebonne, OR**	**83.42**	**37**	P	**P**	**13 37 08.0**	**+1.0**
I05D				IAmb	IAmb	13 37 08.9	
	comp=Z,15nm,0.8s						
N18K	**Kilae Creek**	**83.44**	**11**	P	**P**	**13 37 06.3**	**-0.4**
	baz=201						
R11B	**Troy Canyon, C**	**83.49**	**45**	P	**P**	**13 37 07.3**	**-0.3**
	baz=237						
O20K	**Slope Mountain**	**83.52**	**13**	P	**P**	**13 37 06.6**	**-0.5**
	baz=204						
L15K	**Ungalak Mounta**	**83.52**	**8**	P	**P**	**13 37 07.1**	**+0.2**
	baz=196						
BRSE	**Bradley Lake S**	**83.61**	**14**	P	**P**	**13 37 07.3**	**-0.2**
	baz=206,SNR=6.0						
TUC	**Tucson**	**83.72**	**52**	P	**P**	**13 37 09.7**	**+0.9**
	baz=240						
N19K	**Bonanza Creek**	**83.83**	**12**	P	**P**	**13 37 07.9**	**-0.8**
	baz=202,SNR=6.8						
L16K	**Owhat River**	**83.83**	**9**	P	**P**	**13 37 09.2**	**+0.7**
L16K	**Owhat River**	**83.83**	**9**	P	**P**	**13 37 08.9**	**+0.4**
	baz=198						
M17K	**Holitna River**	**83.86**	**10**	P	**P**	**13 37 08.8**	**+0.1**
M17K				IAmb	IAmb	13 37 10.6	
	comp=Z,26nm,1.0s						
M17K	**Holitna River**	**83.86**	**10**	P	**P**	**13 37 09.3**	**+0.7**
	baz=200,SNR=5.2						
K15K	**Wolf Creek Mou**	**84.11**	**8**	P	**P**	**13 37 09.9**	**0.0**
	baz=196,SNR=7.6						
M18K	**Stony River**	**84.21**	**11**	P	**P**	**13 37 09.9**	**-0.5**
	baz=201						
SEW	**Seward**	**84.23**	**14**	P	**P**	**13 37 09.8**	**-0.6**
	baz=207						
L17K	**Donlin**	**84.42**	**9**	P	**P**	**13 37 11.7**	**+0.3**
	baz=199						
CCUT	**Cedar City**	**84.55**	**46**	P	**P**	**13 37 13.8**	**+0.8**
P23K	**Montague Islan**	**84.62**	**15**	P	**P**	**13 37 14.1**	**+1.7**
	baz=209						
N20K	**Mount Spurr**	**84.63**	**12**	P	**P**	**13 37 11.7**	**-0.9**
	baz=204						
KNB	**Kanab**	**84.64**	**47**	P	**P**	**13 37 13.9**	**+0.5**
GSI	**Gunungsitoli**	**84.70**	**273**	P	**P**	**13 37 15.2**	**+1.2**
L18K	**Granite Mounta**	**84.75**	**10**	P	**P**	**13 37 13.1**	**+0.1**
L18K				IAmb	IAmb	13 37 14.5	
	comp=Z,14nm,0.8s						
L18K	**Granite Mounta**	**84.75**	**10**	P	**P**	**13 37 13.5**	**+0.5**
	baz=200,SNR=7.0						
M19K	**Big River Lodg**	**84.85**	**11**	P	**P**	**13 37 13.2**	**-0.3**
M19K				IAmb	IAmb	13 37 13.9	
	comp=Z,9.7nm,0.7s						
M19K	**Big River Lodg**	**84.85**	**11**	P	**P**	**13 37 12.9**	**-0.7**
	baz=202						
WUAZ	**Wupatki**	**84.89**	**49**	P	**P**	**13 37 15.2**	**+0.6**
	baz=240						
K17K	**Iditarod**	**84.97**	**9**	P	**P**	**13 37 14.8**	**+0.8**
	baz=199						
L19K	**White Mountain**	**85.03**	**11**	P	**P**	**13 37 14.3**	**-0.1**
	baz=202,SNR=7.9						
RC01	**Rabbit Creek A**	**85.05**	**14**	P	**P**	**13 37 13.8**	**-0.7**
	baz=207						
M20K	**Styx River**	**85.07**	**12**	P	**P**	**13 37 13.7**	**-1.0**
	baz=204						
SUA	**Susitna One**	**85.17**	**13**	P	**P**	**13 37 14.3**	**-0.9**
SUA				IAmb	IAmb	13 37 15.4	
	comp=Z,17nm,0.7s						
SUA	**Susitna One**	**85.17**	**13**	P	**P**	**13 37 14.5**	**-0.7**
	baz=206						
J16K	**Anvik River**	**85.19**

N25K	Chitina, Valde	86.71	16	P	P	13 37 21.9	-0.6	
	baz=211,SNR=6.5							
M24K	Tolsona, Glenn	86.76	15	P	P	13 37 22.7	0.0	
	baz=210							
WAT6	Susitna Watana	86.81	14	P	P	13 37 22.8	-0.3	
	baz=209,SNR=14							
WAT1	Susitna Watana	86.86	13	P	P	13 37 22.7	-0.4	
	baz=208							
H17K	Granite Mounta	86.86	8	P	P	13 37 22.8	-0.2	
	baz=197							
MCARA	McCarthy VSAT	86.92	16	P	P	13 37 23.0	-0.4	
	baz=213							
PLID	Pearl Lake	86.95	39	P	P	13 37 23.9	-0.3	
PLID				IAmb	IAmb	13 37 25.6		
	comp=Z,17nm,1.4s							
J20K	Nowinta River	87.00	10	P	P	13 37 23.1	-0.6	
	baz=203,SNR=7.8							
P29M	Windy Craggy	87.00	19	P	P	13 37 24.2	+0.4	
	baz=218							
CTG	Chitna Glacier	87.03	17	P	P	13 37 22.9	-1.2	
	baz=214,SNR=5.6							
CHUM	Lake Minchumin	87.05	11	P	P	13 37 22.7	-1.3	
	baz=204,SNR=5.6							
HLID	Hailey	87.07	41	P	P	13 37 25.0	+0.2	
	baz=237,SNR=11							
O28M	Mount Upton	87.19	18	P	P	13 37 24.6	-0.5	
	baz=215,SNR=6.0							
TROLL	Troll, Antarti	87.23	180	⇑pP	pP	13 39 29.2	+4.5	
	comp=Z,300nm,1.1s							
HARP	HAARP	87.25	15	P	P	13 37 25.5	+0.5	
	baz=211							
O29M	Mount Kennedy	87.28	19	P	P	13 37 24.9	-0.4	
	baz=217							
PLBC	Pleasant Camp	87.30	20	P	P	13 37 25.3	+0.1	
	baz=219							
G17K	Kiwalik Mounta	87.31	7	P	P	13 37 25.2	0.0	
	baz=197							
DHY	Denali Highway	87.33	14	P	P	13 37 24.1	-1.3	
	baz=209,SNR=5.2							
BPAW	Bear Paw Mtn.	87.50	12	P	P	13 37 24.7	-1.4	
	baz=206							
I20K	Naaghedeneel	87.52	10	P	P	13 37 25.3	-0.8	
	baz=202,SNR=5.7							
SNAA	Sanae	87.53	179	⇑pP	pP	13 39 29.9	+4.1	
	comp=Z,8.2nm,0.3s							
MCK	McKinley	87.58	13	P	P	13 37 25.5	-0.9	
	baz=207,SNR=12							
P30M	Million Dollar	87.63	19	P	P	13 37 26.7	-0.1	
	baz=218							
PAX	Paxson	87.67	14	P	P	13 37 25.9	-1.1	
	baz=211							
VNA3	Neumayer Olymp	87.68	176	⇑P	P	13 37 26.5	-0.6	
	comp=Z,2.4nm,0.5s							
VNA3				⇑pP	pwP	13 39 31.1	+2.2	
	comp=Z,5.4nm,0.9s							
YUK8	Steele Glacier	87.73	18	P	P	13 37 27.2	-0.3	
	baz=216,SNR=8.3							
M26K	Nabesna, AK	87.79	16	P	P	13 37 27.1	-0.4	
	baz=213,SNR=7.9							
TXAR	Lajitas Array	87.79	58	P	P	13 37 29.7	+1.3	
	comp=Z,4.5nm,0.9s,baz=217,slow=5.7,SNR=32							
TXAR				PKKPbc	PKKPbc	13 55 12.8	+0.5	
	comp=Z,0.3nm,0.6s,baz=108,slow=1.6,SNR=5.9							
	comp=Z,4.5nm,0.9s							
YUK6	Outpost Mounta	87.86	18	P	P	13 37 27.3	-0.8	
	baz=217							
H19K	Roundabout Mou	87.90	9	P	P	13 37 27.5	-0.3	
H19K				IAmb	IAmb	13 37 28.8		
	comp=Z,14nm,0.9s							
H19K	Roundabout Mou	87.90	9	P	P	13 37 28.0	+0.1	
	baz=200,SNR=12							
YUK3	Moose Creek	87.94	17	P	P	13 37 28.3	-0.2	
	baz=215,SNR=18							
G18K	Tagagawik	87.94	8	P	P	13 37 28.0	-0.1	
	baz=198							
XLT	XiLinHaoTe	87.94	319	eP	P	13 37 27.9	-0.8	
XLT				pP	pwP	13 39 35.8	+4.0	
XLT				PP	PP	13 40 59.8	-5.8	
XLT				pmax	pmax			
	comp=Z,6.0nm,0.8s							
XLT				AMB	AMB			
	comp=Z,53nm,5.8s							
XAN	Xi'an	87.99	308	⇑P	P	13 37 30.4	+1.3	
XAN				pmax	pmax			
	comp=Z,30nm,1.1s							
HYT	Haines Junctio	88.02	19	P	P	13 37 28.9	+0.1	
	baz=218,SNR=5.0							
M27K	Edge Creek, AK	88.04	16	P	P	13 37 28.8	0.0	
	baz=214,SNR=14							
YUK4	Talbot Arm	88.10	18	P	P	13 37 29.6	+0.4	
	baz=217							
NEW	Newport	88.10	36	P	P	13 37 28.6	-0.8	
	baz=235							
H20K	Anotleneega Mo	88.10	10	P	P	13 37 28.4	-0.5	
	baz=202,SNR=14							
VNA2	Neumayer--Watz	88.12	177	⇑pP	pP	13 39 33.1	+4.6	
	comp=Z,3.4nm,1.0s,baz=221,slow=2.1							
ANMO	Albuquerque	88.15	51	P	P	13 37 29.9	-0.1	
ANMO	Albuquerque	88.15	51	P	P	13 37 29.4	-0.6	
	baz=243							
L26K	Log Cabin Wild	88.23	15	P	P	13 37 29.2	-0.3	
	baz=212							
P32M	Atlin	88.27	21	P	P	13 37 30.6	+0.7	
	baz=221							
I21K	Tanana	88.30	11	P	P	13 37 29.4	-0.4	
I21K	Tanana	88.30	11	P	P	13 37 28.9	-0.8	
	baz=205							
Q32M	Nakina River	88.30	22	P	P	13 37 30.3	+0.2	
	baz=222							
NEA2	Nenana	88.32	12	P	P	13 37 28.7	-1.2	
	baz=207,SNR=7.6							
K24K	Donnelly Dome	88.32	14	P	P	13 37 29.4	-0.5	
	baz=210,SNR=6.3							
VNA1	Neumayer--Stat	88.35	177	⇑pP	pP	13 39 34.2	+4.5	
	comp=Z,5.6nm,0.9s							
G19K	Purcell Mounta	88.39	9	P	P	13 37 29.9	-0.2	
G19K				IAmb	IAmb	13 37 31.0		
	comp=Z,14nm,0.9s							
G19K	Purcell Mounta	88.39	9	P	P	13 37 29.6	-0.6	
	baz=200,SNR=10							
MLY	Manley	88.39	11	P	P	13 37 28.6	-1.6	
	baz=206,SNR=12							
O30N	Mendenhall	88.41	19	P	P	13 37 30.3	-0.1	
	baz=219,SNR=11							
F18K	Selawik	88.49	7	P	P	13 37 29.6	-1.0	
	baz=198							
HDA	Harding Lake	88.59	13	P	P	13 37 29.9	-1.3	
	baz=209,SNR=17							
H21K	Melozitna Rive	88.59	10	P	P	13 37 30.3	-0.9	
	baz=204,SNR=17							
L27K	Beaver Creek,	88.64	16	P	P	13 37 30.7	-0.7	
	baz=214,SNR=8.8							
N30M	Aishikik Lake	88.65	19	P	P	13 37 31.5	0.0	
	baz=218							
DLBC	Dease Lake	88.72	23	P	P	13 37 32.0	0.0	
	baz=224							
DLBC	Dease Lake	88.72	23	P	P	13 37 32.0	0.0	
	comp=Z,4.6nm,0.9s,baz=222,slow=5.2,SNR=7.5							
	comp=Z,4.6nm,0.9s							
I23K	Minto, Yukon-K	88.75	12	P	P	13 37 31.1	-0.8	
	baz=207,SNR=8.7							
COLA	College	88.81	13	P	P	13 37 31.2	-0.9	
COLA	College	88.81	13	P	P	13 37 31.0	-1.1	
	baz=208							
SCRK	Sand Creek	88.88	15	P	P	13 37 31.6	-1.0	
	baz=212,SNR=10							
ILAR	Eielson Array	88.92	13	P	P	13 37 31.7	-1.0	
	comp=Z,6.7nm,0.8s,baz=224,slow=5.5,SNR=61							
	comp=Z,6.7nm,0.8s							
F19K	Shaleruckik Mo	88.95	8	P	P	13 37 32.5	-0.3	
	baz=199,SNR=15							
M29M	Somme Creek	89.03	17	P	P	13 37 33.3	-0.2	
M29M	Somme Creek	89.03	17	P	P	13 37 33.2	-0.2	
	baz=217,SNR=14							
P33M	Teslin, Yukon	89.04	21	P	P	13 37 34.8	+1.4	
	baz=222							
H22K	Ishtalitna Cre	89.06	11	P	P	13 37 32.4	-0.9	
	baz=205,SNR=20							
N31M	Braeburn, Yuko	89.06	19	P	P	13 37 33.7	+0.2	
	baz=219,SNR=5.1							
R33M	Jennings River	89.08	22	P	P	13 37 34.6	+0.9	
	baz=224							
J25K	Salcha River,	89.11	14	P	P	13 37 32.7	-0.9	
	baz=211,SNR=12							
POKR	Poker Plat Res	89.11	13	P	P	13 37 32.2	-1.4	
	baz=209							
S22A	4UR Ranch, Cre	89.16	49	P	P	13 37 34.9	0.0	
	baz=242							
E18K	Tukpahlearik C	89.16	7	P	P	13 37 32.8	-0.9	
	baz=197							
D17K	Noatak River	89.18	6	P	P	13 37 33.5	-0.3	
	baz=194							
G21K	Allakaket	89.27	10	P	P	13 37 34.1	-0.1	
G21K				IAmb	IAmb	13 37 35.0		
	comp=Z,16nm,0.8s							
G21K	Allakaket	89.27	10	P	P	13 37 33.7	-0.5	
	baz=203							
HHC	Hu-ho-hao-te	89.30	315	eP	P	13 37 36.3	+1.1	
HHC				pmax	pmax			
	comp=Z,10.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,100nm,5.2s							
H23K	Yukon River	89.33	12	P	P	13 37 33.6	-0.9	
	baz=207							
K27K	Chicken	89.38	15	P	P	13 37 35.1	+0.3	
	baz=214							
J26L	Joseph Creek	89.42	14	P	P	13 37 34.8	-0.3	
	baz=212,SNR=34							
F20K	Avaraart Lake	89.43	9	P	P	13 37 34.5	-0.5	
	baz=201,SNR=13							
RDOG	Red Dog Mine	89.54	6	P	P	13 37 35.6	+0.1	
	baz=194							
E19K	Redstone River	89.61	8	P	P	13 37 35.5	-0.3	
	baz=200							
M30M	Minto, Yukon	89.61	18	P	P	13 37 35.9	-0.1	
	baz=218,SNR=15							
N32M	Quiet Lake	89.65	20	P	P	13 37 36.7	+0.5	
	baz=222							
L29M	L29M	89.66	17	P	P	13 37 36.6	+0.4	
	baz=217,SNR=19							
BW06	Boulder Array	89.70	43	P	P	13 37 36.6	-0.6	
	baz=241							
PDAR	Pinedale Array	89.70	43	P	P	13 37 37.4	+0.2	
	comp=Z,5.5nm,0.7s,baz=211,slow=3.2,SNR=46							
	comp=Z,5.5nm,0.7s							
CMAR	Chiang Mai Arr	89.75	290	P	P	13 37 39.2	+1.6	
	comp=Z,8.4nm,0.9s,baz=127,slow=2.9,SNR=39							
	comp=Z,8.4nm,0.9s							
BOZ	Bozeman (W)	89.83	40	P	P	13 37 37.3	-0.2	
	baz=239							
PRP	Porcupine Dome	89.86	13	P	P	13 37 36.8	-0.3	
	baz=210							
H17A	Grant Village	89.86	42	P	P	13 37 39.2	+1.3	
	baz=240							
CHTO	Chiang Mai	89.89	290	P	P	13 37 39.3	+1.1	
CHTO				IAmb	IAmb	13 37 40.4		
	comp=Z,12nm,0.8s							
F21K	Alatna River	89.92	10	P	P	13 37 36.6	-0.7	
	baz=203,SNR=6.9							
G22K	Bettles	89.97	10	P	P	13 37 37.0	-0.4	
	baz=205							
G23K	Bananza Creek	90.03	11	P	P	13 37 37.1	-0.7	
	baz=206,SNR=6.1							
DAWY	Dawson	90.09	16	P	P	13 37 37.6	-0.5	
	baz=216,SNR=18							
SDCO	Great Sand Dun	90.10	49	P	P	13 37 39.5	+0.3	
	baz=243							
I26K	Coal Creek Min	90.20	14	P	P	13 37 38.0	-0.6	
I26K				IAmb	IAmb	13 37 39.6		
	comp=Z,17nm,1.2s							
I26K	Coal Creek Min	90.20	14	P	P	13 37 37.9	-0.6	
	baz=213							
EGAK	Eagle	90.23	15	P	P	13 37 38.1	-0.7	
	baz=214,SNR=14							
C18K	Utukok River	90.28	6	P	P	13 37 38.5	-0.5	
	baz=196							
FARO	Faro, Yukon	90.38	19	P	P	13 37 39.4	-0.2	
	baz=221							
F22K	John River	90.39	10	P	P	13 37 39.5	0.0	
	baz=204,SNR=8.3							
K29M	Barlow Dome	90.41	17	P	P	13 37 39.9	+0.2	
K29M				IAmb	IAmb	13 37 41.0		
	comp=Z,11nm,0.9s							
K29M	Barlow Dome	90.41	17	P	P	13 37 39.5	-0.2	
	baz=218,SNR=12							
H25L	Birch Creek	90.44	13	P	P	13 37 38.7	-0.9	
	baz=210							
PZH	PanZhiHua	90.45	298	P	P	13 37 43.1	+2.3	
PZH				pmax	pmax			
	comp=Z,6.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,100nm,5.4s							
COLD	Coldfoot	90.47	11	P	P	13 37 40.1	+0.3	
	baz=206,SNR=13							
D19K	Kuna River	90.48	7	P	P	13 37 39.1	-0.8	
	baz=199							
G24K	Hadweenzic Riv	90.49	12	P	P	13 37 40.3	+0.4	
	baz=209							
E20K	Nigu River	90.50	8	P	P	13 37 39.7	-0.3	
	baz=201							
T25A	Trinidad	90.61	50	P	P	13 37 41.7	+0.3	
	baz=244							
I27K	Kandik River	90.80	14	P	P	13 37 40.2	-1.2	
	baz=214							
G25K	Bearman Lake	90.82	12	P	P	13 37 41.1	-0.2	
	baz=210							
TOAD	Toad River Com	90.83	25	P	P	13 37 42.1	+0.4	
	baz=228,SNR=14							
LIRD	Liard River Hi	90.87	24	P	P	13 37 41.4	-0.4	
	baz=228							
D20K	Etivluk River	90.87	8	P	P	13 37 41.6	-0.1	
	baz=200							
C19K	Lookout Ridge	90.89	7	P	P	13 37 41.2	-0.6	
	baz=198							
B18K	Kokolik River	90.91	6	P	P	13 37 41.0	-0.8	
	baz=196							
ISCO	Idaho Springs	90.94	47	P	P	13 37 43.5	+0.5	
	baz=243							
E21K	Killik River	90.98	9	P	P	13 37 41.6	-0.6	
	baz=203							
I28M	Miner Creek	91.08	15	P	P	13 37 42.1	-0.7	
	baz=216,SNR=9.2							
F24K	Squaw Lake	91.14	11	P	P	13 37 42.6	-0.3	
	baz=208,SNR=5.6							
N23A	Red Feather La	91.21	46	P	P	13 37 42.5	-1.7	
	baz=243							
J30M	Hart River	91.31	17	P	P	13 37 43.5	-0.4	
	baz=219							
E23K	Chandalar	91.31	10	P	P	13 37 43.5	-0.3	
	baz=207,SNR=6.8							
H27K	Steamboat Moun	91.34	14	P	P	13 37 43.6	-0.3	
	baz=214,SNR=6.7							
G26K	Porcupine Rive	91.45	13	P	P	13 37 44.4	+0.1	
	baz=212,SNR=11							
E24K	Your Creek	91.52	11	P	P	13 37 44.9	+0.2	
	baz=208							
C21K	Knifeblade Rid	91.53	8	P	P	13 37 44.4	-0.2	
	baz=202							
D22K	Ayikyak River	91.57	9	P	P	13 37 45.2	+0.3	
	baz=204,SNR=6.2							
F25K	Christian Rive	91.63	12	P	P	13 37 44.8	-0.4	
	baz=210							
G27K	Doyon Strip	91.80	14	P	P	13 37 45.9	-0.1	
	baz=214							
I30M	Mount Dempster	91.80	16	P	P	13 37 45.9	-0.2	
	baz=219,SNR=9.3							
TOLK	Toolik Lake Re	91.84	10	P	P	13 37 46.3	+0.1	
	baz=207							
D23K	Nanushuk River	91.95	10	P	P	13 37 46.6	0.0	
	baz=206,SNR=7.0							
B21K	Ikpikpuk River	91.98	8	P	P	13 37 46.8	+0.2	
	baz=202							
F26K	Sheenjek River	92.01	12	P	P	13 37 47.1	+0.2	
	baz=212							
B20K	Meade River	92.03	7	P	P	13 37 46.9	+0.1	
	baz=200							
H29M	Whitestone	92.08	15	P	P	13 37 47.1	-0.1	
	baz=217,SNR=9.0							
E25K	Arctic Village	92.10	12	P	P	13 37 48.2	+0.9	
	baz=210							
D24K	Happy Valley	92.42	10	P	P	13 37 49.3	+0.5	
	baz=208							
EPYK	Eagle Plains	92.61	16	P	P	13 37 49.2	-0.5	
	baz=218,SNR=6.4							
G29M	Pine Creek	92.72	15	P	P	13 37 50.3	+0.1	
	baz=217							
C23K	Itkillik River	92.75	9	P	P	13 37 50.8	+0.5	
	baz=206							
B22K	Teshekpuk Lake	92.81	8	P	P	13 37 50.0	-0.4	
	baz=203							
F28M	Old Crow	92.86	14	P	P	13 37 50.3	-0.5	
	baz=216							
C24K	Franklin Bluff	92.95	10	P	P	13 37 50.7	-0.4	
	baz=208							
E27K	Coleen River	92.95	13	P	P	13 37 51.4	+0.1	
	baz=214							
D25K	Kavik River	92.99	11	P	P	13 37 50.6	-0.9	
	baz=210							
G30M	tAoh Zraii Nji	93.21	15	P	P	13 37 51.5	-1.0	
	baz=219,SNR=13							
A22K	Sinclair Lake	93.22	8	P	P	13 37 52.3	0.0	
	baz=202							
A21K	Barrow	93.33	7	P	P	13 37 52.3	-0.6	
	baz=200							
G31M	Satah River	93.66	16	P	P	13 37 54.1	-0.3	
	baz=221,SNR=5.8							
E28M	Babbage River	93.73	13	P	P	13 37 54.5	-0.3	
	baz=216,SNR=6.3							
C27K	Jago River	93.74	12	P	P	13 37 54.4	-0.4	
	baz=212							
C26K	Camden Bay	93.77	11	P	P	13 37 55.1	+0.2	
	baz=211							
F30M	Barrier River	93.81	15	P	P	13 37 56.1	+1.0	
	baz=219							
RSSD	Black Hills	93.90	44	P	P	13 37 55.9	-0.5	
	baz=244							
D27M	Malcolm River	93.96	13	P	P	13 37 56.5	+0.6	
	baz=215							
DGMT	Dagmar	95.66	40	P	P	13 38 04.0	0.0	
	baz=245							
A36M	Sachs Harbour	99.50	15	P	Pdif	13 38 21.6	+1.1	
	baz=229							
WVT	Waverly	102.66	56	P	Pdif	13 38 35.5	0.0	
	baz=253							
ZALV	Zalesovo Beam	110.53	321	PKiKP	PKiKP	13 43 05.5	-1.4	
	comp=Z,2.6nm,0.6s,baz=130,slow=1.0,SNR=14							
MKAR	Makanchi Array	111.13	313	PKiKP	PKiKP	13 43 07.0	-1.4	
	comp=Z,1.5nm,0.6s,baz=72,slow=2.1,SNR=19							
KURBB	Kurchatov Arra	114.03	317	PKP	PKiKP	13 43 12.5	-1.3	
	comp=Z,2.7nm,0.7s,baz=94,slow=2.0,SNR=25							
KURBB				SKP	SKPdf	13 45 56.6	-0.6	
	comp=Z,0.4nm,0.4s,baz=98,slow=2.2,SNR=5.1							
LBNH	Lisbon	116.12	50	P	PKPdf	13 43 17.4	-0.7	
	baz=266							
HRV	Adam Dziewonsk	116.25	52	P	PKPdf	13 43 17.9	-0.4	
	baz=265							
BVAR	Borovoye Array	119.10	320	PKP	PKPdf	13 43 22.4	-1.1	
	comp=Z,7.7nm,0.5s,baz=88,slow=2.0,SNR=38							
SPITS	Spitsbergen Ar	122.32	356	PKP	PKPdf	13 43 28.2	-0.8	
	comp=Z,12nm,0.7s,baz=104,slow=2.8,SNR=5.5							
ARU	Arti	125.29	325	PKP	PKPdf	13 43 34.9	-0.3	
	comp=Z,10nm,0.4s,baz=106,slow=1.0,SNR=20							
BOSA	Boshof	125.57	206	PKP	PKPdf	13 43 36.9	0.0	
	comp=Z,2.8nm,1.0s,baz=170,slow=4.4,SNR=3.1							
AKTO	Aktyubinsk	127.06	318	PKP	PKPdf	13 43 38.9	+0.1	
	comp=Z,6.9nm,0.8s,baz=84,slow=2.8,SNR=20							
KIRV	Kirov	129.11	330	PKP	PKPdf	13 43 41.2	-1.2	
	comp=Z,18nm,0.5s,baz=125,slow=1.8,SNR=5.2							
ARCES	ARCESS Array B	129.30	349	PKP	PKPdf	13 43 41.9	-0.7	
	comp=Z,5.3nm,0.6s,baz=12,slow=1.0,SNR=31							
BELG	Belogornoye	132.66	323	PKP	PKPdf	13 43 48.8	-0.6	
	comp=Z,39nm,0.9s,baz=129,slow=4.4,SNR=4.0							
FINES	FINESS Array B	136.09	343	PKP	PKPdf	13 43 53.8	-1.7	
	comp=Z,5.1nm,0.9s,baz=31,slow=3.2,SNR=6.7							
FINES				SKPbc	SKPbc	13 46 36.4	+0.4	
	comp=Z,4.8nm,0.7s,baz=60,slow=4.6,SNR=10							
GNI	Garni	138.56	307	PKP	PKPdf	13 44 01.0	0.0	
	comp=Z,4.3nm,0.4s,baz=326,slow=3.6,SNR=3.3							
NB2	NORSAR Subarra	139.40	353	PKP	PKPpre	13 43 52.6		
	comp=Z,1.0nm,0.6s,baz=10,slow=3.2							
NB2				SKPa	SKiKP	13 46 45.9	-2.3	
	comp=Z,0.9nm,0.7s,baz=12,slow=2.9							
NOA	NORSAR Array B	139.40	353	PKhKP	PKPpre	13 43 52.7		
	comp=Z,2.5nm,0.7s,baz=10,slow=2.3,SNR=16							
NOA				PKP	PKPdf	13 44 01.2	-0.4	
	comp=Z,1.7nm,0.7s,baz=18,slow=4.2,SNR=9.0							
NOA				SKPbc	SKPbc	13 46 45.0	-0.5	
	comp=Z,1.4nm,0.8s,baz=16,slow=4.4,SNR=5.3							
HFS	Hagfors	139.94	350	PKhKP	PKPpre	13 43 54.3		
	comp=Z,3.7nm,0.4s,baz=72,slow=4.8,SNR=42							
HFS				SKPbc	SKPbc	13 46 46.1	-0.8	
	comp=Z,2.0nm,0.7s,baz=341,slow=3.1,SNR=5.5							
SUW	Suwalki	143.10	339	ePKPdf	PKPab	13 44 05.8	-0.2	
AKASG	Malin Array Be	143.17	330	PKhKP	PKPpre	13 44 05.6		
	comp=Z,46nm,0.6s,baz=44,slow=4.3,SNR=104							
AKASG				SKPbc	SKPbc	13 46 55.3	0.0	
	comp=Z,0.3nm,0.4s,baz=49,slow=1.1,SNR=4.4							
KPL	Plockton	143.33	6	eP	PKPab	13 44 06.2	-0.6	
DRUM	Mains of Drumt	144.02	4	eP	PKPbc	13 44 08.4	-0.9	
MUD	Monsted U'grnd	144.12	353	iP	PKPbc	13 44 08.8	-0.8	
INVG	Invergeldie, C	144.39	5	eP	PKPbc	13 44 09.4	-1.1	
LAWE	Loch Awe, Argy	144.42	7	eP	PKPbc	13 44 09.7	-0.9	
BSD	Bornholm Skovb	144.44	347	iP	PKPdf	13 44 10.0	-0.6	
DIKM	Dikmen	144.82	314	⇑P	PKPbc	13 44 12.7	+0.4	
SORM	Soroca	145.33	328	⇑P	PKPdf	13 44 13.2	+0.8	
CLGH	Cloghs, Cushen	145.50	8	eP	PKPab	13 44 14.9	-0.3	
EKA	Eskdalemuir Ar	145.54	5	PKPbc	PKPdf	13 44 13.0	+0.5	
	comp=Z,8.4nm,0.7s,baz=346,slow=2.9,SNR=32							
ESK	Eskdalemuir	145.56	5	eP	PKPdf	13 44 13.1	+0.5	
GKP	Gorka Klasztor	145.56	343	ePKPbc	PKPdf	13 44 13.8	+1.2	
NEWG	New Galloway	145.67	6	eP	PKPdf	13 44 13.2	+0.4	
BEL	Belsk	145.72	339	ePKPbc	PKPbc	13 44 15.1	+0.5	
GAL1	Galloway	145.87	6	eP	PKPdf	13 44 14.3	+1.2	
MILM	Milestii Mici	145.89	326	⇓iPKP	PKPdf	13 44 14.0	+0.6	
	comp=Z,60nm,1.0s							
EDMD	Edmundbyers	146.12	3	eP	PKPdf	13 44 14.6	+1.0	
KESW	Keswick, Cumbr	146.29	5	eP	PKPdf	13 44 14.9	+1.1	
BSEG	Bad Segeberg	146.42	350	ePKPbc		13 44 16.5		
	baz=18,slow=2.4							
IOMK	Kirk Michael	146.48	6	eP	PKPbc	13 44 16.1	-0.6	
ILTH	Belurgan, Co L	146.50	8	eP	PKPbc	13 44 16.0	-0.7	
WIM	Isle of Man	146.58	6	eP	PKPbc	13 44 16.3	-0.6	
GDLE	Glaisdale, N Y	146.59	2	eP	PKPbc	13 44 16.7	-0.2	
IGLA	Glengowla, Co	146.59	12	eP	PKPdf	13 44 15.8	+1.4	
BRTR	Keskin Array B	146.75	311	PKPbc	PKPbc	13 44 17.4	-0.7	
	comp=Z,12nm,0.7s,baz=135,slow=4.5,SNR=48							
TLCR		146.98	323	⇑P	PKPbc	13 44 18.2	0.0	
HPK	Haverah Park	147.01	3	eP	PKPbc	13 44 17.9	-0.2	
GHRR		147.19	326	⇑P	PKPbc	13 44 19.0	+0.2	
JURR	Jurilovca	147.20	323	⇑P	PKPbc	13 44 18.7	-0.1	
BURAR	Bucovina Array	147.21	330	⇓P	PKPbc	13 44 19

baz=18,slow=2.4
MAUC Maruska 148.81 339⇑ *e*PKP PKPbc 13 44 23.4 +0.6
VOIR 148.83 327 ⇑P PKPbc 13 44 22.9 -0.1
MARR Marisel-Cluj 148.88 330 ⇑P PKPbc 13 44 23.1 -0.1
HSKC Hora Svate Kat 148.96 345⇑ *e*PKP PKPbc 13 44 23.1 -0.1
ARR Arges 149.09 327 ⇓P PKPbc 13 44 24.2 +0.5
VYHS Vyhne 149.20 337 *e*PKP PKPbc 13 44 23.9 +0.1
VYHS *e* 13 44 31.1
PRU Pruhonice 149.25 343⇑ *e*PKP PKPbc 13 44 23.7 -0.1
GOPC GO Pecny, Ondr 149.25 343⇑ *e*PKP PKPbc 13 44 23.8 -0.1
GOPC *e*PKPAB PKPab 13 44 30.6 -0.1
VRAC Vranov 149.26 340 ⇑P PKPbc 13 44 24.1 +0.2
VRAC Vranov 149.26 340 *e*PKP PKPbc 13 44 23.9 0.0
VRAC Vranov 149.26 340 PKPbc **PKPbc 13 44 23.7 -0.2**
comp=Z,9.5nm,0.9s,baz=80,slow=0.4,SNR=13
JAVC Velka Javorina 149.30 339 *e*PKP PKiKP 13 44 25.0 +0.1
MOX Moxa 149.34 347 *e*PKPbc 13 44 23.9
baz=18,slow=2.4
KASTN Kahler Asten 149.35 351 *e*PKPbc 13 44 24.0
baz=18,slow=2.4
TANN Tannenbergstha 149.37 346 *e*PKPbc 13 44 24.2
baz=18,slow=2.4
LOT Lotru 149.46 328 ⇓P PKPbc 13 44 24.5 -0.1
UBBA Unterbreizbach 149.48 349 *e*PKPbc 13 44 24.1
baz=18,slow=2.4
HUMR Humele 149.48 326 ⇑P PKPbc 13 44 23.9 -0.6
KRUC Moravsky 149.54 340 *e*PKP PKPbc 13 44 24.4 -0.2
MANZ Manzenberg 149.85 346 *e*PKPbc 13 44 25.4
baz=18,slow=2.4
MODS Modra-Piesok 149.85 339 *e*PKP PKPbc 13 44 26.1 +0.8
MODS *e* 13 44 34.0
GZR Gura Zlata 149.98 329 ⇑P PKPbc 13 44 25.1 -0.8
SURR Surduc 150.02 330 ⇑P PKPbc 13 44 24.9 -0.9
ROTZ Rotzenmuhle 150.03 346 *e*PKPbc 13 44 25.7
baz=18,slow=2.4
ELND Elena 150.04 322 ⇑P PKPbc 13 44 24.7 -1.2
SBD Saint Breward 150.10 8 *e*P PKPbc 13 44 25.1 -0.7
MEM Membach 150.22 354 *d*PKPdf PKPdf 13 44 21.0 +0.7
MEM *d*PKPbc PKPbc 13 44 25.6 -0.5
BTNL Ternell 150.24 354 *d*PKPbc PKPbc 13 44 25.7 -0.5
KHC Kasperske Hory 150.29 344⇑ *e*PKP PKPbc 13 44 26.1 -0.3
KHC *e*PKPAB PKPab 13 44 35.4 +0.3
BSTI Sart Tilman 150.29 355 *d*PKPdf PKPdf 13 44 20.6 +0.2
BSTI *d*PKPbc PKPbc 13 44 26.1 -0.1
BSTI *d*PKP PKPab 13 44 34.6 -0.3
SRE Strehaia 150.30 328 ⇑P PKPbc 13 44 26.0 -0.5
TNS Taunus Mts 150.31 351 *e*PKPbc 13 44 26.4
baz=18,slow=2.4
DYA Yadsworthy 150.32 7 *e*P PKPbc 13 44 25.4 -0.9
WET Wettzell 150.46 345 *e*PKPbc 13 44 26.6
baz=18,slow=2.4
BCLA Clavier 150.48 355 *d*PKPbc PKPbc 13 44 25.9 -0.8
BCLA *d*PKiKP PKiKP 13 44 26.9 -0.3
BCLA *d*PKP PKPab 13 44 35.1 -0.6
GEC2 GERESS Array S 150.52 343 *e*PKPbc 13 44 26.8
baz=18,slow=2.4
GERES GERESS Array B 150.52 343 PKPbc **PKPbc 13 44 26.9 0.0**
comp=Z,7.3nm,0.7s,baz=15,slow=2.1,SNR=25
BGES Gesves 150.53 355 *d*PKP PKPab 13 44 35.5 -0.5
HERR Herculane 150.53 329 ⇑P PKPbc 13 44 26.4 -0.6
BMRD Maredsous 150.63 356 *d*PKPbc PKPbc 13 44 26.8 -0.2
BMRD *d*PKP PKPab 13 44 36.2 -0.2
CONA Conrad Observa 150.71 340 *i* PKP PKPbc 13 44 27.3 -0.1
comp=Z,17nm,0.7s,SNR=16
CONA *i* PKP **PKPab 13 44 37.9 +1.0**
comp=Z,11nm,0.8s
RCHB Rochefort 150.74 355 *d*PKPdf PKPdf 13 44 20.6 -0.5
RCHB *d*PKPbc PKPbc 13 44 27.0 -0.3
RONA Rosalia, Austr 150.77 339 *i* PKP PKPbc 13 44 27.4 -0.1
comp=Z,14nm,0.6s,SNR=14
RONA *i* PKP **PKPab 13 44 37.9 +0.8**
comp=Z,12nm,0.9s
DOU Dourbes 150.85 356 *d*PKPbc PKPbc 13 44 26.9 -0.6
DOU *d*PKP PKPab 13 44 36.5 -0.8
MDVR Moldovita 150.94 329 ⇑P PKPbc 13 44 26.8 -1.2
WLF Walferdange 151.15 354 *d*PKiKP PKPbc 13 44 28.7 +0.5
WLF *d*PKP PKPab 13 44 38.5 0.0
WLF Walferdange 151.15 354 *e*PKPbc 13 44 28.4
baz=18,slow=2.4
MORH Mrgy, Hungar 151.16 335 ⇑P PKPbc 13 44 28.1 -0.3
MOA Molln 151.27 342 *i* PKP PKPbc 13 44 28.1 -0.5
comp=Z,7.5nm,0.7s
MOA *i* PKP **PKPab 13 44 40.1 +0.9**
comp=Z,4.1nm,0.7s
ARSA Arzberg 151.41 340 *i* PKP PKPbc 13 44 28.4 -0.6
comp=Z,3.5nm,0.8s
ARSA *i* PKP **PKPab 13 44 40.4 +0.6**
comp=Z,11nm,1.1s
BIOA Bad Ischl, Aus 151.59 342 *i* PKP PKPbc 13 44 28.5 -0.9
comp=Z,8.2nm,0.9s
BIOA *e*PKP **PKPab 13 44 41.3 +0.8**
comp=Z,8.4nm,0.7s
STU Stuttgart 151.59 349 *e*PKPbc 13 44 29.3
baz=18,slow=2.4
FUR Furstenfeldbru 151.75 346 *e*PKPbc 13 44 29.2
baz=18,slow=2.4
RJOB Jochberg 151.78 344 *e*PKPbc 13 44 29.4
baz=18,slow=2.4
BOVS Bovan 151.79 328 ⇑P PKPbc 13 44 28.6 -1.3
SOKA Soboth 152.08 340 *i* PKP PKPbc 13 44 29.5 -1.1
comp=Z,9.5nm,1.0s
SOKA *i* PKP **PKPab 13 44 42.1 -0.6**
comp=Z,11nm,1.3s
LESA Schwarzleotal 152.10 344 *i* PKP PKPbc 13 44 29.7 -0.8
comp=Z,7.2nm,0.7s
LESA *i* PKP **PKPab 13 44 42.9 +0.1**
comp=Z,12nm,1.1s
BFO Black Forest 152.16 350 *e*PKPbc 13 44 30.4
baz=18,slow=2.4
KBA Koelnbreinsper 152.23 342 *i* PKP PKPbc 13 44 30.5 -0.5
comp=Z,9.9nm,0.8s
KBA *i* PKP **PKPab 13 44 43.7 +0.2**
comp=Z,5.5nm,0.7s
OBKA Obir 152.38 340 *e*PKP PKPdf 13 44 22.7 -1.1
comp=Z,10.0nm,1.4s
OBKA *i* PKP **PKPab 13 44 43.8 -0.3**
comp=Z,6.0nm,0.9s
WATA Walderalm 152.46 345 *e*PKP PKPbc 13 44 30.8 -0.7
comp=Z,2.7nm,0.5s
WATA *i* PKP **PKPab 13 44 44.4 +0.1**
comp=Z,8.8nm,0.8s
UBR Ueberruh 152.46 347 *e*PKPbc 13 44 30.9
baz=18,slow=2.4
RETA Reutte 152.51 346 *e*PKP PKPbc 13 44 31.3 -0.2
comp=Z,2.8nm,0.5s
RETA *e*PKP **PKPab 13 44 44.4 -0.1**
comp=Z,10.0nm,0.7s
WTTA Wattenberg 152.51 345 *e*PKP PKPbc 13 44 31.0 -0.6
comp=Z,11nm,0.5s,SNR=6.7
WTTA *i* PKP **PKPab 13 44 44.9 +0.2**
comp=Z,17nm,0.6s
MYKA Terra Mystica 152.55 342 *i* PKP PKPbc 13 44 30.5 -1.1
comp=Z,5.3nm,0.5s
MYKA *i* PKP **PKPab 13 44 44.2 -0.6**
comp=Z,5.8nm,0.7s
SQTA Sankt Quirin 152.66 345 *i* PKP PKPbc 13 44 31.4 -0.4
comp=Z,9.7nm,0.7s
SQTA *i* PKP **PKPab 13 44 45.5 +0.3**
comp=Z,14nm,1.1s
ABTA Abfaltersbach 152.76 343 *i* PKP PKPbc 13 44 31.1 -1.0
comp=Z,12nm,0.6s
ABTA *i* PKP **PKPab 13 44 45.3 -0.3**
comp=Z,8.1nm,0.7s
DAVA Damuels 152.89 347 *e*PKP PKPbc 13 44 32.0 -0.4
comp=Z,11nm,1.2s
DAVA *i* PKP **PKPab 13 44 45.9 -0.3**
comp=Z,13nm,1.0s
FETA Feichten 152.95 346 *i* PKP PKPbc 13 44 32.3 -0.3
comp=Z,8.5nm,0.8s
FETA *i* PKP **PKPab 13 44 46.0 -0.5**
comp=Z,6.7nm,0.9s
DAVOX Davos/Dischmat 153.37 347 PKPbc **PKPbc 13 44 33.5 +0.1**
comp=Z,11nm,0.7s,baz=146,slow=3.4,SNR=11
ESDC Sonseca Array 160.82 13 PKPab **PKPab 13 45 20.9 +0.2**
comp=Z,4.5nm,1.0s,baz=346,slow=4.1,SNR=15
KEST Kesra 163.75 336 PKPab **PKPab 13 45 33.6 -0.1**
comp=Z,5.9nm,0.9s,baz=262,slow=5.6,SNR=6.6
DBIC Dimbokro 164.52 156 PKP **PKPdf 13 44 37.0 -1.9**
comp=Z,3.4nm,0.8s,baz=156,slow=3.0,SNR=3.0
TORD Torodi Ar. Bea 172.19 182 PKP **PKPdf 13 44 42.4 -1.5**
comp=Z,2.4nm,0.8s,baz=82,slow=0.6,SNR=12

*IDC **11** 13:28:26.7±4.9, 55.°00N×165.°48W, h144km±32km, mb3.3/9, mbtmp3.7/12, Error ellipse: s-maj=47.5km s-min=20.1km az=44.0*
*NEIC **11** 13:28:27.7±1.3, 54.°7N±0.°1×165.°2W±0.°1, h163km±6km, mb3.8/16, ML3.2(AEIC), Error ellipse: s-maj=15.9km s-min=6.6km az=153.0*
*AEIC **11** 13:28:27.3±1.6, 54.°66N±0.°10×165.°2W±0.°1, h158km±5km, Error ellipse: s-maj=15.2km s-min=7.4km az=151.0*
ISC 11 13:28:28.1±0.7, 54.°75N±0.°08×165.°18W±0.°05, h162km±6km, n101, σ1§08/110, mb3.5/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEBT	**Westdahl Beart**	**0.29**	**122**		**Pn**	**13 28 49.6**	**-0.5**
WEBT					**Sn**	**13 29 06.4**	**-0.4**
WESE	**West Dahl East**	**0.44**	**128**		**Pn**	**13 28 50.4**	**-0.3**
AKSA	**Akutan Strait**	**0.68**	**206**		**Pn**	**13 28 51.1**	**-0.6**
AKSA					**Sn**	**13 29 09.1**	**-0.7**
AKSA	**Akutan Strait**	**0.68**	**206**		**Pn**	**13 28 50.9**	**-0.8**
AKSA					**Sn**	**13 29 09.4**	**-0.4**
SSLS	**Shishaldin Sou**	**0.69**	**93**		**Pn**	**13 28 51.7**	**-0.1**
AKGG	**Akutan Green G**	**0.73**	**221**		**Pn**	**13 28 51.3**	**-0.7**
AKGG					**Sn**	**13 29 08.7**	**-1.6**
AHB	**Akutan Harbor**	**0.73**	**211**		**Pn**	**13 28 51.4**	**-0.7**
AKLV	**Akutan Long Va**	**0.74**	**218**		**Pn**	**13 28 51.1**	**-1.0**
LVA	**Lava Point**	**0.77**	**221**		**Pn**	**13 28 51.3**	**-1.0**
LVA	**Lava Point**	**0.77**	**221**		**Sn**	**13 29 10.4**	**-0.4**
AKV	**Akutan Volcano**	**0.77**	**217**		**Pn**	**13 28 51.5**	**-0.9**
ZRO	**Akutan Zero**	**0.81**	**216**		**Pn**	**13 28 51.6**	**-0.9**
AKRB	**Akutan Reef Bi**	**0.81**	**220**		**Pn**	**13 28 51.8**	**-0.8**
ISNN	**Isanotski Nort**	**0.82**	**84**		**Pn**	**13 28 52.9**	**+0.3**
ISNN					**Sn**	**13 29 11.5**	**+0.1**
ISLZ	**Isanotski Laza**	**0.85**	**91**		**Pn**	**13 28 52.7**	**-0.2**
FALS	**False Pass**	**1.03**	**83**	P	**Pn**	**13 28 54.1**	**0.0**
FALS	**False Pass**	**1.03**	**83**		**Pn**	**13 28 54.2**	**+0.1**
MTBL	**Makushin Table**	**1.17**	**229**		**Pn**	**13 28 54.6**	**-1.0**
MTBL					**Sn**	**13 29 15.7**	**-0.8**
UNV	**Unalaska Valle**	**1.19**	**221**	P	**Pn**	**13 28 54.4**	**-1.1**
UNV	**Unalaska Valle**	**1.19**	**221**		**Pn**	**13 28 54.5**	**-1.1**
MSW	**Makushin Switc**	**1.26**	**229**		**Pn**	**13 28 55.1**	**-1.1**
PN7A	**Pavlof North-7**	**1.95**	**68**		**Pn**	**13 29 04.4**	**+1.0**
S12K	**Black Hills**	**2.03**	**61**		**Pn**	**13 29 05.0**	**+0.8**
PS1A	**Pavlof South-1**	**2.09**	**70**		**Pn**	**13 29 05.9**	**+1.0**
PS1A					**Sn**	**13 29 35.3**	**+2.0**
OKER	**Okmok East Rim**	**2.13**	**234**		**Pn**	**13 29 04.9**	**-0.6**
OKNC	**Okmok New Cone**	**2.16**	**234**		**Pn**	**13 29 04.8**	**-1.0**
OKCE	**Okmok Cone E**	**2.20**	**234**		**Pn**	**13 29 05.8**	**-0.4**
OKWE	**Okmok W'ng Wal**	**2.21**	**236**		**Pn**	**13 29 05.7**	**-0.6**
OKSP	**Okmok Steeple**	**2.37**	**232**		**Pn**	**13 29 07.4**	**-0.8**
SDPT	**Sand Point**	**2.77**	**76**		**Pn**	**13 29 13.1**	**+0.1**
NIKH	**Nikolski High**	**2.81**	**232**	P	**Pn**	**13 29 12.9**	**-0.6**
NIKH	**Nikolski High**	**2.81**	**232**		**Pn**	**13 29 13.0**	**-0.5**
CNBA	**Chernabura Isl**	**3.24**	**86**		**Pn**	**13 29 17.9**	**-0.9**
CLCO	**Concord Point,**	**3.33**	**236**		**Pn**	**13 29 19.7**	**-0.4**
SPIA	**Saint Paul Isl**	**3.75**	**313**	P	**Pn**	**13 29 26.1**	**+0.9**
SPIA	**Saint Paul Isl**	**3.75**	**313**	Pn	**Pn**	**13 29 25.4**	**+0.2**
CHGN	**Chignik**	**4.15**	**65**	Pn	**Pn**	**13 29 31.0**	**+0.6**
O14K	**Tigyukauivet M**	**5.00**	**24**	Pn	**Pn**	**13 29 41.6**	**+0.1**
N15K	**Kwethluk River**	**6.09**	**25**	Pn	**Pn**	**13 29 56.5**	**+0.6**
O16K	**Kokwok River B**	**6.20**	**36**	Pn	**Pn**	**13 29 58.1**	**+0.8**
M14K	**Bethel**	**6.26**	**15**	Pn	**Pn**	**13 29 58.5**	**+0.4**
SII	**Sitkinak Islan**	**6.48**	**69**	P	**Pn**	**13 30 00.8**	**-0.4**
SII	**Sitkinak Islan**	**6.48**	**69**	Pn	**Pn**	**13 30 00.3**	**-0.9**
L14K	**Kuka Creek**	**6.74**	**10**	Pn	**Pn**	**13 30 04.6**	**+0.1**
M16K	**Timber Creek**	**7.11**	**25**	Pn	**Pn**	**13 30 09.5**	**+0.1**
N17K	**Nushagak Hills**	**7.21**	**33**	Pn	**Pn**	**13 30 11.4**	**+0.7**
O18K	**Koktuh Hills**	**7.44**	**42**	Pn	**Pn**	**13 30 14.8**	**+1.0**
ADK	**Adak**	**7.46**	**252**	P	**Pn**	**13 30 15.0**	**+0.8**
Q19K	**Cape Douglas,**	**7.58**	**52**	Pn	**Pn**	**13 30 15.6**	**-0.2**
L16K	**Owhat River**	**7.60**	**21**	Pn	**Pn**	**13 30 16.1**	**+0.2**
KDAK	**Kodiak Island**	**7.64**	**61**	P	**Pn**	**13 30 14.9**	**-1.6**
4.7nm,0.3s,baz=235,slow=3.8,SNR=55
KDAK S **Sn 13 31 35.8 -6.1**
4.9nm,0.7s,baz=133,slow=23,SNR=7.8
K15K Wolf Creek Mou 7.80 13 Pn **Pn 13 30 18.6 0.0**
M17K Holitna River 7.83 28 Pn **Pn 13 30 19.3 +0.4**
N19K Bonanza Creek 8.34 39 Pn **Pn 13 30 27.0 +1.2**
K17K Iditarod 8.75 21 Pn **Pn 13 30 30.4 -0.7**
L19K White Mountain 9.20 32 Pn **Pn 13 30 38.5 +1.4**
J17K VABM Dome 9.22 17 Pn **Pn 13 30 37.6 +0.3**
J18K Innoko River 9.76 23 Pn 13 30 44.2 -0.2
O22K Cooper Landing 10.07 49 Pn 13 30 48.1 -0.5
SUA Susitna One 10.16 43 Pn **Pn 13 30 50.0 +0.1**
J19K Poorman 10.46 24 Pn 13 30 54.3 +0.6
J20K Nowinta River 10.97 26 Pn **Pn 13 31 01.6 +1.2**
KTH Kantishna Hill 11.44 34 Pn 13 31 07.7 +1.2
I21K Tanana 12.34 27 Pn 13 31 19.5 +1.4
H21K Melozitna Rive 12.52 24 Pn 13 31 21.9 +1.5
F20K Avaraart Lake 13.15 16 P **Pn 13 31 30.1 +1.8**
E19K Redstone River 13.30 13 Pn **Pn 13 31 32.1 +1.8**
H23K Yukon River 13.49 28 Pn 13 31 33.5 +0.7
ILAR Eielson Array 13.57 35 P **Pn 13 31 32.1 -1.7**
0.4nm,0.8s,baz=222,slow=11,SNR=7.7
ILAR ScP **ScP 13 40 05.2 +1.0**
0.4nm,0.6s,baz=227,slow=6.0,SNR=4.4
M27K Edge Creek, AK 14.29 48 Pn 13 31 42.8 -0.1
COLD Coldfoot 14.41 24 Pn **Pn 13 31 45.3 +1.0**
C19K Lookout Ridge 14.64 8 P 13 31 48.5 -0.6
G24K Hadweenzic Riv 14.71 28 P Pn 13 31 47.8 -0.2
K27K Chicken 14.91 42 P P 13 31 51.6 -0.5
E24K Your Creek 15.48 24 P P 13 31 58.7 +0.2
E24K IAmb IAmb 13 32 03.7
comp=Z,2.2nm,0.7s
EGAK Eagle 15.61 40 P 13 31 59.8 -0.1
EGAK IAmb IAmb 13 32 01.5
comp=Z,9.9nm,1.5s
E25K Arctic Village 16.24 27 P P 13 32 07.8 +0.9
I28M Miner Creek 16.39 39 P P 13 32 08.4 -0.2
C23K Itkillik River 16.50 18 P Pn 13 32 10.7 +0.9
C23K IAmb IAmb 13 32 12.0
comp=Z,5.0nm,0.8s
O30N Mendenhall 16.55 57 P Pn 13 32 11.2 +0.6
O30N IAmb IAmb 13 32 15.6
comp=Z,6.7nm,1.2s
K29M Barlow Dome 16.67 46 P Pn 13 32 12.6 +0.5
K29M IAmb IAmb 13 32 14.2
comp=Z,6.8nm,1.2s
D25K Kavik River 16.94 23 P P 13 32 15.2 +0.6
H29M Whitestone 17.33 38 P P 13 32 18.6 -0.2
J30M Hart River 17.41 44 P P 13 32 20.5 +0.7
F28M Old Crow 17.56 33 P P 13 32 21.6 +0.3
G29M Pine Creek 17.79 36 P P 13 32 24.0 +0.2
G29M IAmb IAmb 13 32 24.8
comp=Z,4.7nm,0.8s
EPYK Eagle Plains 17.99 38 P P 13 32 25.9 -0.1
FARO Faro, Yukon 18.09 53 P Pn 13 32 28.3 -0.6
FARO IAmb IAmb 13 32 29.4
comp=Z,2.9nm,0.7s
P33M Teslin, Yukon 18.11 59 P P 13 32 28.3 +0.9
E29M Blow River 18.61 32 P P 13 32 32.8 +0.1
E29M IAmb IAmb 13 32 56.4
comp=Z,3.5nm,1.1s
INK Inuvik 19.97 35 P P 13 32 45.1 -2.2
comp=Z,3.3nm,0.6s,baz=239,slow=5.8,SNR=5.0
YKA Yellowknife Ar 26.80 53 P P 13 33 52.7 +0.1
comp=Z,0.3nm,0.3s,baz=292,slow=9.2,SNR=4.5
comp=Z,0.3nm,0.3s
NVAR Mina Array Bea 35.35 98 P P 13 35 09.8 +1.8
comp=Z,0.5nm,0.6s,baz=300,slow=7.4,SNR=5.6
comp=Z,0.5nm,0.6s
PDAR Pinedale Array 37.60 85 P P 13 35 29.1 +2.1
comp=Z,0.2nm,0.4s,baz=327,slow=6.5,SNR=2.4
comp=Z,0.2nm,0.4s
TXAR Lajitas Array 50.31 94 P P 13 37 10.4 +2.3
comp=Z,0.3nm,0.4s,baz=294,slow=6.2,SNR=8.3
comp=Z,0.3nm,0.4s
FINES FINESS Array B 63.81 354 P P 13 38 41.2 -1.0
comp=Z,0.9nm,0.6s,baz=33,slow=7.3,SNR=5.0
comp=Z,0.9nm,0.6s
NOA NORSAR Array B 64.52 2 P P 13 38 46.1 -0.9
comp=Z,0.6nm,0.8s,baz=356,slow=6.5,SNR=2.4
comp=Z,0.6nm,0.8s
HFS Hagfors 65.46 1 P P 13 38 52.6 -0.4
comp=Z,0.8nm,0.4s,baz=34,slow=6.1,SNR=13
comp=Z,0.8nm,0.4s
EKA Eskdalemuir Ar 69.29 11 P P 13 39 16.2 -0.9
comp=Z,0.6nm,0.5s,baz=337,slow=4.0,SNR=4.4
comp=Z,0.6nm,0.5s
BRTR Keskin Array B 84.52 346 P P 13 40 41.3 -1.5
comp=Z,0.3nm,0.3s,baz=25,slow=3.8,SNR=2.7
comp=Z,0.3nm,0.3s
QSPA South Pole Qui 144.52 180 PKP **PKPdf 13 47 43.5 -0.1**
comp=Z,2.3nm,0.5s,baz=132,slow=2.3,SNR=36

*IDC **11** 13:42:09.9±1.2, 26.°24N×103.°36E, h0km, mb3.5/5, mbtmp3.4/6, ML3.3/1, MS3.6/1, Error ellipse: s-maj=50.8km s-min=22.8km az=72.0*
ISC 11 13:42:14.9±1.1, 26.°2N±0.°1×103.°3E±0.°2, h35km, n7, σ0§71/6, mb3.6/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.70**	**208**	Pn	**Pn**	**13 44 18.0**	**-0.3**
0.1nm,0.3s,baz=19,slow=11,SNR=1.0
0.2nm,0.3s
SONM Songino Array 21.73 6 P P 13 47 02.3 -0.8
0.2nm,0.2s,baz=180,slow=10,SNR=2.3
0.2nm,0.2s
KURBB Kurchatov Arra 30.88 329 P **P 13 48 28.6 +0.7**
0.3nm,0.2s,baz=137,slow=9.6,SNR=1.8
0.3nm,0.2s
KVAR Kislovodsk Arr 51.51 307 LR LR 14 16 53.3
comp=Z,59nm,21.4s,baz=82,slow=40
WRA Warramunga Arr 54.89 144 P **P 13 51 42.6 +0.4**
0.5nm,0.8s,baz=330,slow=8.6,SNR=3.0
0.5nm,0.8s
ASAR Alice Springs 57.75 146 P **P 13 52 02.6 +0.1**
0.5nm,0.9s,baz=313,slow=6.2,SNR=2.1
0.5nm,0.9s
NOA NORSAR Array B 68.42 328 P **P 13 53 12.8 -0.2**
0.4nm,0.6s,baz=74,slow=6.1,SNR=4.0
0.4nm,0.6s

*SNET **11** 13:45:47.8±0.5, 13.°41N×90.°46W, h15km±562km, ML3.0*
*GCG **11** 13:45:48.2±0.6, 13.°55N×90.°73W, h29km±5km, MD3.3*
*CATAC **11** 13:45:48.0±1.2, 13.°58N×90.°53W, h18km±9km, ML3.3*
ISC 11 13:45:46.1±2.4, 13.°49N±0.°09×90.°59W±0.°05, h16km±12km, n28, σ0§80/41, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.89**	**62**	*e*P	**Pb**	**13 46 03.0**	**-0.2**
NUBE *e*S **Sg 13 46 14.5 -0.5**
NUBE Las Nubes 0.89 62 *i* P **Pb 13 46 03.2 0.0**
NUBE IAML 13 46 05.7
comp=Z,380nm,1.0s
NUBE *i* S **Sg 13 46 14.9 -0.1**
LOAL Lomas de Alarc 0.93 57 *e*P **Pb 13 46 04.1 +0.2**
LOAL *e*S **Sn 13 46 16.8 -1.0**
LOAL Lomas de Alarc 0.93 57 *i* P **Pb 13 46 04.4 +0.4**
LOAL *i* S **Sn 13 46 17.1 -0.6**
LOAL IAML 13 46 18.1
comp=Z,4μm,1.0s
SLOZ Alcaldia de Sa 0.95 55 *e*P **Pb 13 46 04.1 -0.1**
SLOZ *e*S **Sn 13 46 17.0 -1.1**
FUG Fuego 3 0.99 345 *e*P **Pb 13 46 05.2 +0.2**
CEVE Cerro Verde 0.99 70 *e*P **Pb 13 46 05.2 +0.1**
CEVE *e*S **Sn 13 46 18.9 -0.6**
CEVE IAML 13 46 20.8
comp=Z,412nm,0.2s
CEVE Cerro Verde 0.99 70 *i* P **Pb 13 46 05.0 -0.1**
CEVE IAML 13 46 21.2
comp=Z,420nm,1.0s
SBLS San Blas 1.00 69 *e*P **Pb 13 46 05.1 -0.1**
SBLS *e*S **Sg 13 46 18.5 -0.1**
RTR El Retiro 1.00 66 *e*P **Pb 13 46 05.0 -0.2**
RTR *e*S **Sg 13 46 18.4 -0.2**
SNJE San Jose 1.02 68 *e*P **Pb 13 46 05.3 -0.3**
JAYA Jayaque - finc 1.12 81 *e*P **Pb 13 46 06.0 -1.1**
JAYA IAML 13 46 22.3
comp=Z,446nm,0.2s
JAYA Jayaque - finc 1.12 81 *i* P **Pb 13 46 06.8 -0.4**
JAYA *i* S **Sb 13 46 21.3 -0.3**
JAYA IAML 13 46 22.6
comp=Z,1μm,1.0s
NBG Las Nubes 1.12 12 *e*P **Pn 13 46 08.0 +0.6**
NBG *e*S **Sn 13 46 24.3 +1.6**
PMON Piamonte 1.26 80 *e*P **Pn 13 46 08.7 -0.4**
PMON Piamonte 1.26 80 *i* P **Pn 13 46 09.2 +0.1**
PMON *i* S **Sb 13 46 25.5 0.0**
PMON IAML 13 46 32.3
comp=Z,400nm,1.0s
PANCS Alcalda de 1.37 85 *i* P **Pn 13 46 10.6 -0.1**
PANCS IAML 13 46 40.3
comp=Z,2μm,1.0s
LOMA Loma Larga 1.38 83 *i* P **Pn 13 46 11.4 +0.5**
LOMA IAML 13 46 30.9
comp=Z,300nm,1.0s
UDBS Universidad Do 1.41 81 *i* P **Pn 13 46 12.3 +1.1**
UDBS IAML 13 46 44.0
comp=Z,1μm,1.0s
MTO3 Montecristo 1.50 52 *i* P **Pn 13 46 13.1 +0.6**
MTO3 IAML 13 46 33.3
comp=Z,71nm,1.0s
SOKI Kika Raxquin 1.55 329 *i* P **Pn 13 46 14.6 +1.2**
SOKI *i* S **Sn 13 46 32.6 -0.8**
SOKI IAML 13 46 34.6
comp=Z,170nm,1.0s
STG3 Santiaguito 3, 1.55 322 *e*P **Pn 13 46 12.9 -0.3**
STG3 *e*S **Sn 13 46 31.4 -1.7**
COEG Centro de Oper 1.66 85 *i* P **Pn 13 46 15.6 +0.9**
COEG IAML 13 47 10.6
comp=Z,78nm,1.0s
SCLA Alcaldia de Sa 1.82 83 *i* P **Pn 13 46 18.1 +1.3**
SCLA IAML 13 47 20.2
comp=Z,38nm,1.0s
PACA Pacayal 2.20 90 *i* P **Pn 13 46 23.0 +0.9**
PACA IAML 13 47 39.8
comp=Z,450nm,1.0s
RANC El Ranchito 2.23 91 *i* P **Pn 13 46 23.8 +1.2**
RANC IAML 13 48 12.0
comp=Z,290nm,1.0s
YUSH Yuscaran 3.67 82 *i* P **Pn 13 46 43.4 +1.1**
RA5A7 El Crucero 4.43 109 *i* P **Pn 13 46 54.3 +1.5**
RA5A7 IAML 13 47 05.6
comp=Z,2μm,1.0s

*IDC **11** 13:48:52.2±1.0, 13.°64S×111.°34W, h0km, mb3.8/5, mbtmp3.8/5, MS3.7/31, Error ellipse: s-maj=43.0km s-min=26.7km az=77.0*
ISC 11 13:48:53.7±1.0, 13.°6S±0.°2×111.°4W±0.°3, h11km, n45, σ1§52/8, mb3.7/5, MS3.7/30, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui 13.55 172**			LR	LR	13 56 03.5	
comp=Z,393nm,20.7s,baz=354,slow=32
ATAH Atahualpa 33.02 82 LR LR 14 06 03.0
comp=Z,146nm,18.7s,baz=248,slow=31
NNA Nana 33.67 91 LR LR 14 05 01.3
comp=Z,66nm,20.8s,baz=256,slow=29
JTS Las Juntas de 35.37 49 LR LR 14 06 29.2
comp=Z,140nm,21.7s,baz=106,slow=30
H03N2 Juan Fernandez 35.44 129 T T 14 33 21.8
baz=300,slow=77,SNR=142
H03N3 Juan Fernandez 35.45 129 T T 14 33 22.6
baz=300,slow=77,SNR=154
H03N1 Juan Fernandez 35.46 129 T T 14 33 21.6
baz=300,slow=77,SNR=162
PPT Papeete 36.98 259 LR LR 14 06 06.2
comp=Z,57nm,21.4s,baz=98,slow=28
LPIG La Paz 37.52 2 LR LR 14 07 32.6
comp=Z,154nm,20.7s,baz=200,slow=30
TEIG Tepich 40.59 34 LR LR 14 10 30.2
comp=Z,124nm,22.0s,baz=226,slow=32
ROSC El Rosal 41.08 66 LR LR 14 09 48.8
comp=Z,68nm,18.9s,baz=216,slow=31
LVC Limon Verde 41.19 109 LR LR 14 09 00.3
comp=Z,103nm,21.8s,baz=274,slow=29
LPAZ La Paz 41.78 99 P **P 13 56 44.1 -0.1**
1.4nm,0.7s,baz=296,slow=6.2,SNR=5.6
LPAZ LR LR 14 09 58.0
comp=Z,63nm,21.7s,baz=248,slow=30
1.4nm,0.7s
TXAR Lajitas Array 43.36 10 P **P 13 56 56.9 +0.7**
0.6nm,0.9s,baz=174,slow=9.1,SNR=4.8
TXAR LR LR 14 11 38.9
comp=Z,49nm,19.2s,baz=211,slow=32
0.6nm,0.9s
PLCA Paso Flores 44.64 135 LR LR 14 10 54.6
comp=Z,246nm,20.4s,baz=271,slow=30
RAR Rarotonga 46.67 254 LR LR 14 11 54.1
comp=Z,127nm,18.2s,baz=108,slow=30
PFO Pinyon Flats O 47.23 354 LR LR 14 12 14.4
comp=Z,96nm,20.0s,baz=182,slow=30
ANMO Albuquerque 48.54 5 LR LR 14 14 27.6
comp=Z,84nm,18.7s,baz=286,slow=32
SIV San Ignacio 48.57 99 LR LR 14 15 06.5

comp=Z,47nm,18.0s,baz=304,slow=32
CPUP Villa Florida 51.98 113 LR LR 14 15 57.9
comp=Z,70nm,19.8s,baz=236,slow=31
PCRV Puerto La Cruz 52.04 65 LR LR 14 17 31.7
comp=Z,76nm,20.1s,slow=33
NVAR Mina Array Bea 52.20 353 P **P** **13 58 04.2 -0.7**
0.7nm,0.7s,baz=174,slow=10.0,SNR=3.2
NVAR LR LR 14 15 19.3
comp=Z,94nm,20.2s,baz=117,slow=30
0.7nm,0.7s
SJG San Juan 54.61 56 LR LR 14 17 16.6
comp=Z,32nm,19.6s,baz=180,slow=31
TKL Tuckaleechee C 55.54 27 LR LR 14 21 22.1
comp=Z,25nm,19.0s,baz=220,slow=35
YBH Yreka Blue Hor 56.08 350 LR LR 14 16 43.3
comp=Z,123nm,21.6s,baz=164,slow=30
PDAR Pinedale Array 56.15 2 LR LR 14 19 39.9
comp=Z,55nm,18.2s,baz=174,slow=33
MDP Montagnes des 61.16 76 LR LR 14 22 18.1
comp=Z,65nm,18.6s,baz=293,slow=33
NEW Newport 61.84 356 LR LR 14 22 18.7
comp=Z,50nm,18.6s,baz=164,slow=32
SADO Sadowa 65.07 25 LR LR 14 26 21.8
comp=Z,29nm,19.3s,baz=338,slow=35
BBB Bella Bella 67.14 349 LR LR 14 22 35.0
comp=Z,37nm,18.3s,baz=214,slow=30
YKA Yellowknife Ar 75.93 358 LR LR 14 30 55.0
comp=Z,93nm,18.4s,baz=280,slow=33
QSPA South Pole Qui 76.47 180 P **P** **14 00 44.2 +0.8**
1.8nm,0.8s,baz=109,slow=2.7,SNR=9.5
1.8nm,0.8s
SCHQ Schefferville 77.88 25 LR LR 14 34 08.9
comp=Z,65nm,18.8s,baz=274,slow=35
KDAK Kodiak Island 78.82 339 LR LR 14 27 01.4
comp=Z,79nm,20.9s,baz=170,slow=29
ILAR Eielson Array 82.68 345 P **P** **14 01 18.8 +1.9**
0.4nm,0.8s,baz=160,slow=5.5,SNR=4.1
0.4nm,0.8s
H11S2 WAKE ISLAND Hy 86.82 290 T T 15 37 24.2
baz=106,slow=75,SNR=44
H11S1 WAKE ISLAND Hy 86.83 290 T T 15 37 23.6
baz=106,slow=75,SNR=26
H11S3 WAKE ISLAND Hy 86.84 290 T T 15 37 24.7
baz=106,slow=75,SNR=31
H11N3 WAKE ISLAND Hy 86.96 291 T T 15 37 35.0
baz=106,slow=74,SNR=7.0
H11N1 WAKE ISLAND Hy 86.98 291 T T 15 37 36.2
baz=106,slow=74,SNR=5.0
H11N2 WAKE ISLAND Hy 86.98 291 T T 15 37 34.5
baz=106,slow=74,SNR=6.2
SHEM Shemya Is, Ala 91.63 324 LR LR 14 36 17.3
comp=Z,42nm,18.9s,baz=141,slow=31
KURBB Kurchatov Arra 142.25 350 PKP **PKPdf** **14 08 24.2 -2.0**
0.5nm,0.3s,baz=26,slow=2.7,SNR=4.1
MKAR Makanchi Array 145.02 344 PKPbc **PKPab** **14 08 29.0 -1.5**
1.5nm,0.8s,baz=32,slow=4.8,SNR=7.8
CMAR Chiang Mai Arr 150.52 283 PKPbc **PKPbc** **14 08 46.0 -0.4**
0.9nm,0.7s,baz=17,slow=0.9,SNR=4.0

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*IDC **11** 13:50:48.3±9.3,23°.55S×179°.99W,h455km±109km, mb3.3/4,mbtmp4.2/5,Error ellipse: s-maj=84.8km s-min=31.1km az=5.0*

ISC 11 13:50:53.6±1.1,23°.9S±0°.1×180°.0E±0°.2,h526km,n7, σ0°67/8,mb3.7/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.53**	**189**	P	**P**	**13 53 58.4**	**+0.1**
	4.4nm,0.5s,baz=55,slow=3.0,SNR=7.5						
URZ				S	**S**	**13 56 30.6**	**-0.1**
	3.9nm,0.5s,baz=154,slow=20,SNR=5.8						
ASAR	**Alice Springs**	**42.01**	**261**	P	**P**	**13 57 59.2**	**+0.3**
	3.9nm,0.7s,baz=96,slow=7.4,SNR=71						
	3.9nm,0.7s						
WRA	**Warramunga Arr**	**42.38**	**266**	P	**P**	**13 58 01.5**	**-0.4**
	6.0nm,0.5s,baz=93,slow=8.4,SNR=185						
	6.0nm,0.5s						
KSRS	**Korea Array**	**78.22**	**320**	P	**P**	**14 01 58.9**	**+0.2**
	0.5nm,0.7s,baz=142,slow=5.6,SNR=2.0						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**90.45**	**58**	P	**P**	**14 02 59.4**	**+0.1**
	0.3nm,0.6s,baz=202,slow=6.2,SNR=4.1						
	0.3nm,0.6s						
AKASG	**Malin Array Be**	**144.95**	**327**	PKP	**PKPdf**	**14 09 29.3**	**-1.2**
	0.7nm,0.4s,baz=45,slow=3.5,SNR=4.3						
BRTR	**Keskin Array B**	**147.56**	**307**	PKPbc	**PKiKP**	**14 09 41.2**	**+0.7**
	0.9nm,0.6s,baz=52,slow=5.2,SNR=3.8						

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*IDC **11** 13:51:56.0±0.5,31°.68S×58°.36E,h0km,mb4.4/19, mbtmp4.4/20,ML4.6/1,MS3.8/43,Error ellipse: s-maj=19.9km s-min=15.8km az=65.0*

*NEIC **11** 13:51:57.8±1.6,31°.64S±0°.10×58°.3E±0°.1,h10km±1km, mb4.9/28,Error ellipse: s-maj=20.2km s-min=15.9km az=245.0*

*GCMT **11** 13:51:58.8±0.3,31°.60S±0°.02×58°.09E±0°.04,h15km±1km, MW4.9/87,Moment Tensor Solution. s26,c28; s87,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.36±.18; $M_{\theta\theta}$2.49±.13; $M_{\phi\phi}$-0.12±.11; $M_{r\theta}$0.48±.21; $M_{\theta\phi}$0.03±.07; $M_{\phi r}$1.08±.29; Best double couple: $M_0$2.68800×10^{16} NP1:ϕ_s248.00000°,δ55.00000°,λ-116.00000°. NP2: ϕ_s109.00000°,δ43.00000°,λ-58.00000°. Principal axes: T 2.5440, Plg6.0000°, Azm357.0000°; N 0.2900, Plg21.0000°, Azm264.0000°; P -2.8320, Plg68.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 13:51:58.2±0.4,31°.65S±0°.08×58°.36E±0°.09,h14km,n174, σ0°74/131,mb4.8/42,MS3.9/43,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**10.71**	**347**	Pn	**Pn**	**13 54 28.2**	**-3.1**
FOMA	**Nahampoana Res**	**12.02**	**301**	Pn	**Pn**	**13 54 48.3**	**-0.9**
VOI	**Vohitsoka**	**14.16**	**310**	Pn	**Pn**	**13 55 15.7**	**-2.8**
H04N2	**CROZET ISLANDS**	**15.35**	**197**	T	T	14 11 25.0	
	baz=22,slow=75,SNR=270						
H04N1	**CROZET ISLANDS**	**15.36**	**197**	T	T	14 11 28.5	
	baz=22,slow=75,SNR=240						
H04N3	**CROZET ISLANDS**	**15.37**	**197**	T	T	14 11 27.3	
	baz=22,slow=75,SNR=219						
ABPO	**Ambohimpanom**	**16.09**	**319**	P	**Pn**	**13 55 44.0**	**-0.2**
OPO	**Ambohidratompo**	**16.47**	**320**	Pn	**Pn**	**13 55 50.0**	**+0.9**
	0.2nm,0.3s,baz=132,slow=12,SNR=12						
OPO				Sn	Sn	13 58 40.0	-12
	0.1nm,0.3s,baz=131,slow=21,SNR=2.4						
OPO				LR	LR	14 00 44.5	
	comp=Z,252nm,19.8s,baz=20,slow=32						
	6.2nm,0.6s						
POGA	**Pongola**	**23.56**	**274**	P	**P**	**13 57 07.0**	**-1.4**
POGA				IAmb	IAmb	13 57 09.1	
	comp=Z,65nm,2.0s						
H08S1	**Diego Garcia H**	**27.27**	**32**	T	T	14 26 04.9	
	baz=207,slow=76,SNR=93						
H08S2	**Diego Garcia H**	**27.28**	**32**	T	T	14 26 05.5	
	baz=207,slow=76,SNR=64						
H08S3	**Diego Garcia H**	**27.30**	**32**	T	T	14 26 06.3	
	baz=207,slow=76,SNR=77						
BOSA	**Boshof**	**28.73**	**267**	LR	LR	14 07 45.8	
	comp=Z,94nm,18.8s,baz=86,slow=33						
SUR	**Sutherland**	**31.74**	**259**	LR	LR	14 08 48.5	
	comp=Z,235nm,20.5s,baz=140,slow=32						
MAW	**Mawson**	**36.09**	**177**	P	**P**	**13 58 59.9**	**+0.8**
	comp=Z,6.7nm,1.1s,baz=34,slow=11,SNR=4.4						
MAW				LR	LR	14 10 14.9	
	comp=Z,257nm,18.2s,baz=336,slow=30						
	comp=Z,6.7nm,1.1s						
TSUM	**Tsumeb**	**38.64**	**279**	LR	LR	14 13 18.6	
	comp=Z,99nm,21.2s,baz=146,slow=33						
LODK	**Lodwar**	**41.17**	**324**	P	**P**	**13 59 43.4**	**+0.9**
PALK	**Pallekele**	**44.21**	**33**	LR	LR	14 14 57.1	
	comp=Z,84nm,18.4s,baz=300,slow=31						
FURI	**Furi**	**44.50**	**332**	LR	LR	14 15 25.5	
	comp=Z,97nm,21.3s,baz=182,slow=32						
ATD	**Arta Tunnel**	**45.44**	**338**	LR	LR	14 15 53.6	
	comp=Z,12nm,21.7s,baz=182,slow=32						
H01W2	**Cape Leeuwin H**	**46.24**	**110**	T	T	14 50 06.4	
	baz=257,slow=75						
H01W3	**Cape Leeuwin H**	**46.24**	**110**	T	T	14 50 06.5	
	baz=257,slow=75						
H01W1	**Cape Leeuwin H**	**46.26**	**110**	T	T	14 50 07.5	
	baz=257,slow=75						
CASY	**Casey**	**46.44**	**154**	P	**P**	**14 00 24.5**	**+0.4**
CASY				IAmb	IAmb	14 00 30.3	
	comp=Z,21nm,1.5s						
NWAO	**Narrogin (SRO)**	**49.22**	**108**	LR	LR	14 18 12.9	
	comp=Z,75nm,18.3s,baz=122,slow=32						
SNAA	**Sanae**	**51.29**	**201**	P	**P**	**14 01 00.1**	**-1.3**
SNAA				IAmb	IAmb	14 01 16.3	
	comp=Z,15nm,1.7s						
SNAA	**Sanae**	**51.29**	**201**	P	**P**	**14 01 00.4**	**-1.0**
	comp=Z,2.3nm,0.9s,baz=14,slow=16,SNR=5.4						
SNAA				LR	LR	14 17 28.4	
	comp=Z,137nm,20.3s,baz=70,slow=30						
	comp=Z,2.3nm,0.9s						
WSAR	**Wadi Sarin**	**54.58**	**0**	LR	LR	14 19 58.8	
	comp=Z,135nm,18.9s,baz=209,slow=31						
PSA00	**Pilbara Seismi**	**55.27**	**96**	P	**P**	**14 01 30.6**	**-0.7**
PSA00				IAmb	IAmb	14 01 34.7	
	comp=Z,22nm,1.8s						
MBWA	**Marble Bar**	**55.34**	**95**	P	**P**	**14 01 31.8**	**0.0**
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**14 01 53.4**	**-0.5**
QSPA				IAmb	IAmb	14 01 55.1	
	comp=Z,11nm,0.7s						
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**14 01 54.0**	**+0.1**
	comp=Z,9.1nm,0.6s,baz=271,slow=0.9,SNR=75						
QSPA				LR	LR	14 23 50.5	
	comp=Z,200nm,21.2s,baz=266,slow=33						
	comp=Z,9.1nm,0.6s						
BELA	**Belgrano 2**	**59.93**	**194**	P	**P**	**14 02 04.1**	**+0.8**
BELA				IAmb	IAmb	14 02 10.0	
	comp=Z,13nm,1.8s						
CMAR	**Chiang Mai Arr**	**63.23**	**44**	P	**P**	**14 02 27.1**	**+0.8**
	comp=Z,5.1nm,0.7s,baz=229,slow=7.0,SNR=38						
CMAR				LR	LR	14 24 50.4	
	comp=Z,102nm,21.9s,baz=225,slow=31						
	comp=Z,5.1nm,0.7s						
CHTO	**Chiang Mai**	**63.51**	**44**	P	**P**	**14 02 28.4**	**+0.2**
CHTO				IAmb	IAmb	14 02 38.0	
	comp=Z,20nm,1.7s						
EIL	**Elat**	**64.91**	**338**	LR	LR	14 27 03.9	
	comp=Z,82nm,20.2s,baz=249,slow=32						
CRAI	**Chiangrai**	**65.45**	**44**	P	**P**	**14 02 40.8**	**0.0**
CRAI				IAmb	IAmb	14 04 05.3	
	comp=Z,18nm,1.8s						
ASAR	**Alice Springs**	**66.20**	**104**	P	**P**	**14 02 45.9**	**0.0**
	comp=Z,5.0nm,0.6s,baz=239,slow=6.0,SNR=147						
	comp=Z,5.0nm,0.6s						
AS31	**Alice Springs**	**66.20**	**104**	P	**P**	**14 02 45.5**	**-0.4**
KBL	**Kabul**	**66.61**	**10**	P	**P**	**14 02 48.8**	**+0.5**
KBL				IAmb	IAmb	14 02 57.8	
	comp=Z,8.0nm,1.1s						
MMAI	**Mount Meron Ar**	**67.88**	**339**	LR	LR	14 30 38.1	
	comp=Z,41nm,18.1s,baz=110,slow=34						
WRA	**Warramunga Arr**	**68.20**	**101**	P	**P**	**14 02 58.8**	**+0.2**
	comp=Z,4.2nm,0.5s,baz=240,slow=5.7,SNR=58						
	comp=Z,4.2nm,0.5s						
WRAB	**Tennant Creek**	**68.21**	**101**	P	**P**	**14 02 57.1**	**-1.5**
WR0	**Warramunga Arr**	**68.36**	**101**	P	**P**	**14 02 58.8**	**-0.8**
STKA	**Stephens Creek**	**68.91**	**115**	P	**P**	**14 03 02.1**	**-0.7**
STKA	**Stephens Creek**	**68.91**	**115**	P	**P**	**14 03 02.2**	**-0.6**
	comp=Z,4.1nm,0.8s,baz=218,slow=4.8,SNR=5.5						
	comp=Z,4.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**70.21**	**300**	P	**P**	**14 03 10.4**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=114,slow=5.3,SNR=7.9						
TORD				LR	LR	14 34 04.8	
	comp=Z,170nm,18.9s,baz=132,slow=36						
	comp=Z,1.7nm,0.9s						
CHGR	**Chuyangaron**	**70.67**	**9**	P	**P**	**14 03 13.6**	**+0.2**
PZH	**PanZhiHua**	**71.12**	**41**	P	**P**	**14 03 18.6**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.8s						
DBIC	**Dimbokro**	**71.24**	**291**	P	**P**	**14 03 17.2**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=153,slow=5.3,SNR=3.9						
DBIC				LR	LR	14 31 40.0	
	comp=Z,46nm,21.7s,baz=110,slow=34						
	comp=Z,2.2nm,0.6s						
GNI	**Garni**	**72.55**	**349**	P	**P**	**14 03 27.4**	**+2.7**
GNI	**Garni**	**72.55**	**349**	LR	LR	14 32 04.9	
	comp=Z,104nm,22.0s,baz=170,slow=33						
PMSA	**Palmer Station**	**73.98**	**202**	LR	LR	14 29 13.8	
	comp=Z,117nm,20.6s,baz=142,slow=30						
NRN	**Naryn**	**74.53**	**14**	P	**P**	**14 03 36.7**	**+0.1**
BRTR	**Keskin Array B**	**74.63**	**340**	LR	LR	14 32 40.3	
	comp=Z,34nm,21.6s,baz=127,slow=33						
KK31	**Karatay Array**	**75.22**	**9**	P	**P**	**14 03 40.6**	**+0.4**
KK31				IAmb	IAmb	14 03 50.0	
	comp=Z,14nm,1.4s						
KKAR	**Karatay Array**	**75.22**	**9**	P	**P**	**14 03 40.1**	**0.0**
KKAR				IAmb	IAmb	14 03 50.0	
	comp=Z,14nm,1.4s						
AAK	**Ala-Archa**	**75.40**	**12**	P	**P**	**14 03 42.4**	**+1.0**
AAK				IAmb	IAmb	14 03 43.8	
	comp=Z,23nm,1.7s						
AAK	**Ala-Archa**	**75.40**	**12**	LR	LR	14 36 20.1	
	comp=Z,36nm,18.2s,baz=204,slow=35						
KBZ	**Khabaz**	**76.34**	**349**	LR	LR	14 37 26.8	
	comp=Z,53nm,18.3s,baz=161,slow=36						
VAE	**Valguarnera**	**80.09**	**326**	LR	LR	14 39 28.7	
	comp=Z,75nm,20.3s,baz=150,slow=36						
ABKAR	**Akbulak array**	**80.56**	**1**	P	**P**	**14 04 09.8**	**+0.1**
ABKAR				IAmb	IAmb	14 04 18.8	
	comp=Z,13nm,1.3s						
MAKZ	**Makanchi**	**80.96**	**16**	P	**P**	**14 04 11.9**	**0.0**
MK31	**Makanchi Array**	**81.02**	**16**	P	**P**	**14 04 11.8**	**-0.4**
MKAR	**Makanchi Array**	**81.02**	**16**	P	**P**	**14 04 12.6**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=224,slow=6.4,SNR=6.3						
MKAR				LR	LR	14 37 08.9	
	comp=Z,54nm,21.8s,baz=233,slow=34						
	comp=Z,0.8nm,0.6s						
KEST	**Kesra**	**81.28**	**322**	P	**P**	**14 04 15.6**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=105,slow=9.8,SNR=1.7						
KEST				LR	LR	14 40 48.5	
	comp=Z,81nm,20.0s,baz=274,slow=36						
	comp=Z,0.8nm,0.4s						
PUK	**Puka**	**81.43**	**332**	P	**P**	**14 04 15.4**	**+0.8**
PUK				IAmb	IAmb	14 05 03.2	
	comp=Z,7.1nm,0.9s						
KURBB	**Kurchatov Arra**	**83.84**	**13**	P	**P**	**14 04 27.4**	**+0.6**
	comp=Z,6.3nm,1.1s,baz=209,slow=5.7,SNR=17						
KURBB				LR	LR	14 40 00.0	
	comp=Z,42nm,18.6s,baz=170,slow=34						
	comp=Z,6.3nm,1.1s						
KURK	**Kurchatov**	**83.94**	**13**	P	**P**	**14 04 27.1**	**-0.2**
BELG	**Belogornoye**	**84.21**	**353**	LR	LR	14 44 15.5	
	comp=Z,47nm,18.5s,baz=187,slow=37						
BVAR	**Borovoye Array**	**84.97**	**7**	P	**P**	**14 04 33.2**	**+0.6**
	comp=Z,7.3nm,0.8s,baz=174,slow=5.4,SNR=32						
BVAR				LR	LR	14 42 17.7	
	comp=Z,53nm,18.2s,baz=177,slow=36						
	comp=Z,7.3nm,0.8s						
BRVK	**Borovoye**	**84.99**	**7**	P	**P**	**14 04 32.7**	**+0.1**
AKASG	**Malin Array Be**	**85.95**	**342**	P	**P**	**14 04 37.0**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=167,slow=4.6,SNR=2.8						
AKASG				LR	LR	14 42 55.4	
	comp=Z,17nm,18.9s,baz=73,slow=36						
	comp=Z,0.6nm,0.4s						
SOKA	**Soboth**	**87.22**	**332**	*e*P	**P**	**14 04 44.7**	**+0.8**
	comp=Z,6.5nm,1.4s						
MDT	**Midelt**	**87.43**	**311**	LR	LR	14 44 20.6	
	comp=Z,105nm,19.4s,baz=159,slow=36						
RONA	**Rosalia, Austr**	**87.56**	**333**	*i* PcP	**PcP**	**14 04 48.4**	**+1.0**
	comp=Z,12nm,1.7s						
CONA	**Conrad Observa**	**87.91**	**333**	*e*P	**P**	**14 04 47.7**	**+0.5**
	comp=Z,6.4nm,1.3s						
JAVC	**Velka Javorina**	**88.00**	**334**	*e*P	**P**	**14 04 47.7**	**+0.2**
ZALV	**Zalesovo Beam**	**88.28**	**15**	P	**P**	**14 04 47.5**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=214,slow=5.0,SNR=7.2						
ZALV				LR	LR	14 41 28.2	
	comp=Z,57nm,20.4s,baz=231,slow=34						
	comp=Z,1.0nm,0.6s						
ABTA	**Abfaltersbach**	**88.32**	**330**	*e*P	**P**	**14 04 50.4**	**+1.2**
	comp=Z,6.3nm,1.1s						
OBN	**Obninsk**	**88.42**	**348**	LR	LR	14 45 32.7	
	comp=Z,41nm,18.1s,baz=353,slow=36						
MOA	**Molln**	**88.48**	**332**	*e*pP	pP	14 04 54.4	+1.6
	comp=Z,8.8nm,1.3s						
KRUC	**Moravsky**	**88.64**	**334**	*e*P	**P**	**14 04 50.1**	**-0.4**
LESA	**Schwarzleotal**	**88.78**	**331**	*e*P	**P**	**14 04 51.3**	**-0.1**
	comp=Z,5.3nm,0.6s						
MORC	**Moravsky Berou**	**88.81**	**335**	*e*P	**P**	**14 04 50.8**	**-0.5**
WTTA	**Wattenberg**	**89.09**	**330**	*e*P	**P**	**14 04 51.9**	**-1.0**
	comp=Z,10nm,0.7s						
SQTA	**Sankt Quirin**	**89.24**	**330**	*e*P	**P**	**14 04 53.0**	**-0.5**
	comp=Z,7.5nm,0.6s						
FETA	**Feichten**	**89.29**	**330**	*i* P	**P**	**14 04 54.3**	**+0.5**
	comp=Z,3.6nm,0.7s						
DAVOX	**Davos/Dischmat**	**89.47**	**329**	LR	LR	14 48 30.5	
	comp=Z,17nm,18.2s,baz=291,slow=38						
GERES	**GERESS Array B**	**89.50**	**332**	P	**P**	**14 04 54.4**	**-0.3**
	comp=Z,0.3nm,0.2s,baz=171,slow=6.9,SNR=1.2						
	comp=Z,0.3nm,0.2s						
RETA	**Reutte**	**89.64**	**330**	*e*P	**P**	**14 04 55.4**	**0.0**
	comp=Z,8.0nm,1.0s						
DAVA	**Damuels**	**89.86**	**329**	*e*P	**P**	**14 04 56.5**	**0.0**
	comp=Z,2.3nm,0.4s						
URZ	**Urewera**	**90.06**	**136**	LR	LR	14 38 02.3	
	comp=Z,108nm,20.2s,baz=9.5,slow=31						
SONM	**Songino Array**	**90.10**	**30**	P	**P**	**14 04 57.2**	**-0.4**
	comp=Z,1.7nm,1.1s,baz=242,slow=3.2,SNR=6.5						
SONM				LR	LR	14 42 37.8	
	comp=Z,105nm,21.0s,baz=226,slow=34						
	comp=Z,1.7nm,1.1s						
KIRV	**Kirov**	**90.20**	**355**	LR	LR	14 47 48.1	
	comp=Z,45nm,18.1s,baz=196,slow=37						
ESDC	**Sonseca Array**	**91.51**	**317**	P	**P**	**14 05 05.1**	**+0.9**
	comp=Z,1.7nm,1.0s,baz=117,slow=3.3,SNR=7.6						
ESDC				LR	LR	14 46 41.5	
	comp=Z,48nm,20.5s,baz=147,slow=36						
	comp=Z,1.7nm,1.0s						
DZM	**Mont Dzumac**	**92.90**	**118**	*e*LR	LR	14 34 54.8	
	comp=Z,80nm,23.6s						
PLCA	**Paso Flores**	**93.88**	**216**	LR	LR	14 42 21.7	
	comp=Z,49nm,18.3s,baz=145,slow=32						
JNU	**Nakatsue**	**93.96**	**53**	LR	LR	14 44 43.1	
	comp=Z,25nm,20.5s,baz=234,slow=34						
KSRS	**Korea Array**	**94.55**	**48**	P	**P**	**14 05 17.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=236,slow=2.5,SNR=4.4						
KSRS				LR	LR	14 44 37.0	
	comp=Z,30nm,22.0s,baz=180,slow=33						
	comp=Z,0.2nm,0.3s						
BDFB	**Brasilia**	**95.26**	**248**	LR	LR	14 40 43.0	
	comp=Z,41nm,19.2s,baz=92,slow=31						
CPUP	**Villa Florida**	**95.82**	**234**	LR	LR	14 41 39.0	
	comp=Z,45nm,19.9s,baz=194,slow=31						
HFS	**Hagfors**	**98.54**	**339**	LR	LR	14 49 09.8	
	comp=Z,33nm,19.0s,baz=140,slow=35						
JCJ	**Chichijima**	**98.91**	**64**	LR	LR	14 48 29.6	
	comp=Z,27nm,19.9s,baz=112,slow=34						
PPT2	**Papeete2**	**124.18**	**147**	*e*LR	LR	14 49 27.7	
	comp=Z,109nm,28.5s						
PPT2				*e*LR	LR	14 49 34.3	
	comp=Z,61nm,24.8s						
ILAR	**Eielson Array**	**143.36**	**18**	PKhKP	PKPpre	14 11 25.9	
	comp=Z,0.3nm,0.6s,baz=300,slow=3.1,SNR=6.0						
DHY	**Denali Highway**	**144.56**	**20**	P	**PKPab**	**14 11 32.0**	**-0.1**
	baz=320						
SUA	**Susitna One**	**144.68**	**24**	P	**PKPab**	**14 11 32.3**	**-0.3**
	baz=314						
M22K	**Willow**	**144.68**	**23**	P	**PKPab**	**14 11 32.2**	**-0.2**
	baz=315,SNR=6.2						
EGAK	**Eagle**	**144.71**	**14**	P	**PKPab**	**14 11 32.4**	**0.0**
	baz=330,SNR=5.6						
I29M	**Ogilvie Camp,**	**144.75**	**12**	P	**PKPab**	**14 11 32.5**	**-0.1**
	baz=335,SNR=19						
SCRK	**Sand Creek**	**144.75**	**17**	P	PKPbc	14 11 32.9	0.0
	baz=326,SNR=13						
T57A	**Hurt**	**144.80**	**291**		**PKPab**	**14 11 33.0**	**-0.7**
WAT6	**Susitna Watana**	**144.83**	**21**	P	PKPbc	14 11 33.2	0.0
	baz=320						
CAPN	**Captain Cook N**	**145.01**	**25**	P	**PKPab**	**14 11 33.7**	**0.0**
	baz=313						
PMR	**Palmer**	**145.13**	**23**	P	**PKPbc**	**14 11 33.9**	**0.0**
	baz=317						
K27K	**Chicken**	**145.16**	**16**	P	**PKPdf**	**14 11 34.6**	**+0.1**
	baz=329						
PAX	**Paxson**	**145.18**	**19**	P	**PKPdf**	**14 11 34.8**	**+0.1**
	baz=323,SNR=15						
I30M	**Mount Dempster**	**145.20**	**11**		**PKPbc**	**14 11 33.5**	**-0.8**
I30M	**Mount Dempster**	**145.20**	**11**	P	**PKPbc**	**14 11 34.0**	**-0.3**
	baz=338,SNR=28						
SML	**Sawmill**	**145.23**	**22**	P	**PKPbc**	**14 11 34.0**	**-0.4**
	baz=318						
RC01	**Rabbit Creek A**	**145.29**	**24**	P	**PKPbc**	**14 11 34.4**	**-0.2**
	baz=315						
ERPA	**Erie**	**145.39**	**299**	P	**PKPbc**	**14 11 34.6**	**-0.9**
	baz=86						
M23K	**Glacier View**	**145.43**	**22**	P	**PKPbc**	**14 11 35.0**	**0.0**
	baz=319						
KNK	**Knik Glacier**	**145.48**	**23**	P	**PKPbc**	**14 11 35.2**	**0.0**
	baz=317						
SCM	**Sheep Creek Mo**	**145.52**	**21**	P	**PKPab**	**14 11 35.5**	**-0.1**
	baz=319						
L26K	**Log Cabin Wild**	**145.70**	**17**	P	**PKPbc**	**14 11 36.0**	**+0.1**
	baz=326						
DAWY	**Dawson**	**145.71**	**14**	P	**PKPab**	**14 11 36.0**	**-0.2**
	baz=333,SNR=11						
R18K	**Karluk**	**145.71**	**31**	P	**PKPab**	**14 11 36.2**	**-0.1**
	baz=305						
O22K	**Cooper Landing**	**145.72**	**24**	P	**PKPbc**	**14 11 36.0**	**+0.1**
	baz=315						
HARP	**HAARP**	**145.72**	**19**	P	**PKPab**	**14 11 36.2**	**-0.2**
	baz=323						
BLA	**Blacksburg**	**145.75**	**291**	P	**PKPdf**	**14 11 35.6**	**-0.8**
	baz=93						
J30M	**Hart River**	**145.81**	**11**		**PKPdf**	**14 11 35.5**	**-0.3**
J30M	**Hart River**	**145.81**	**11**	P	**PKPbc**	**14 11 36.2**	**0.0**
	baz=338,SNR=12						
M53A	**Wi Miller and**	**145.94**	**298**	P	**PKPdf**	**14 11 36.7**	**+0.1**
	baz=87						
L27K	**Beaver Creek,**	**146.04**	**16**	P	**PKPab**	**14 11 37.4**	**-0.2**
	baz=328,SNR=6.6						
SEW	**Seward**	**146.08**	**25**	P	**PKPab**	**14 11 37.9**	**+0.2**
	baz=315						
KLU	**Klutina**	**146.22**	**21**		**PKPdf**	**14 11 36.0**	**-0.5**
KLU	**Klutina**	**146.22**	**21**	P	**PKPbc**	**14 11 37.7**	**+0.2**
	baz=321,SNR=5.9						
K29M	**

TXAR	**Lajitas Array**	**164.33**	**266**	PKP	**PKPdf**	**14 12 01.7**	**0.0**
	comp=Z,0.1nm,0.4s,baz=73,slow=3.1,SNR=3.8						
PDAR	**Pinedale Array**	**165.33**	**322**	PKP	**PKPdf**	**14 12 01.3**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=104,slow=4.7,SNR=4.9						
NVAR	**Mina Array Bea**	**172.71**	**339**	PKPab	**PKPab**	**14 13 34.6**	**+1.8**
	comp=Z,0.1nm,0.4s,baz=60,slow=5.3,SNR=1.4						

NEIC ***11*** *13:53:23.8±1.9, 43°.97N±0°.05×105°.44W±0°.07, h0km±1km, ML3.0/48, Error ellipse: s-maj=10.3km s-min=6.9km az=50.0*
IDC ***11*** *13:53:25.2±1.6, 44°.42N×105°.89W, h0km, mbtmp3.4/2, ML2.1/1, Error ellipse: s-maj=59.0km s-min=9.8km az=144.0*

ISC 11 13:53:24.6±1.2, 44°.04N±0°.07×105°.34W±0°.06, h0km, n35, σ0s87/34, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**85**			**Pg**	**13 53 42.6**	**-0.1**
K22A	**Casper**	**1.63**	**212**			**Pn**	**13 53 53.2**	**-1.5**
K22A					IAML		13 54 17.6	
	comp=N,196nm,0.3s							
K22A					IAML		13 54 18.8	
	comp=E,175nm,0.3s							
LAO	**LASA Array**	**2.72**	**347**	Pn		**Pn**	**13 54 10.9**	**+1.3**
LAO					IAML		13 55 03.7	
	comp=E,96nm,0.9s							
RWWY	**Rawlins**	**2.72**	**211**	Pn		**Pn**	**13 54 09.5**	**-0.3**
RWWY					IAML		13 54 55.5	
	comp=E,49nm,1.9s							
PHWY	**Pilot Hill**	**2.74**	**182**			**Pn**	**13 54 09.6**	**-0.5**
RLMT	**Red Lodge**	**3.00**	**292**			**Pn**	**13 54 13.6**	**-0.1**
RLMT					IAML		13 55 14.2	
	comp=E,41nm,2.1s							
RLMT					IAML		13 55 18.9	
	comp=E,37nm,1.7s							
N23A	**Red Feather La**	**3.17**	**188**			**Pn**	**13 54 16.0**	**0.0**
N23A					IAML		13 55 19.7	
	comp=N,35nm,1.0s							
N23A					IAML		13 55 52.2	
	comp=E,42nm,1.5s							
PD31	**Pinedale Array**	**3.32**	**249**	Pn		**Pn**	**13 54 18.2**	**+0.1**
PDAR	**Pinedale Array**	**3.32**	**249**	Pn		**Pn**	**13 54 18.1**	**+0.1**
	comp=E,2.6nm,0.3s,baz=66,slow=18,SNR=37							
PDAR				Lg		Lg	13 55 04.2	
	comp=E,6.0nm,0.3s,baz=59,slow=32,SNR=16							
YMP	**Mirror Lake Pl**	**3.52**	**283**	Pn		**Pn**	**13 54 20.4**	**-0.4**
YMP					IAML		13 55 16.8	
	comp=N,32nm,0.7s							
YMP					IAML		13 55 33.6	
	comp=E,41nm,1.4s							
H17A	**Grant Village**	**3.78**	**277**	Pn		**Pn**	**13 54 25.3**	**+1.0**
H17A					IAML		13 55 55.5	
	comp=N,36nm,0.1s							
H17A					IAML		13 55 55.8	
	comp=E,44nm,0.1s							
LOHW	**Long Hollow**	**3.83**	**265**			**Pn**	**13 54 24.2**	**-0.8**
FLWY	**Flagg Ranch**	**3.86**	**272**			**Pn**	**13 54 26.5**	**+1.1**
OGNE	**Ogallala**	**3.94**	**141**	Pn		**Pn**	**13 54 26.9**	**+0.5**
YHH	**Holmes Hill**	**4.01**	**283**	Pn		**Pn**	**13 54 27.5**	**-0.1**
IMW	**Indian Meadow**	**4.04**	**270**	Pn		**Pn**	**13 54 28.0**	**0.0**
IMW					IAML		13 55 39.5	
	comp=E,24nm,1.9s							
IMW					IAML		13 55 40.7	
	comp=E,17nm,1.6s							
REDW	**Red Top Meadow**	**4.05**	**262**	Pn		**Pn**	**13 54 28.9**	**+0.9**
TPAW	**Teton Pass**	**4.10**	**264**	Pn		**Pn**	**13 54 29.8**	**+1.1**
TPAW					IAML		13 56 34.1	
	comp=E,22nm,1.7s							
FXWY	**Fox Creek**	**4.13**	**266**	Pn		**Pn**	**13 54 30.2**	**+1.1**
E28A	**Huff**	**4.14**	**51**	Pn		**Pn**	**13 54 31.0**	**+1.9**
ISCO	**Idaho Springs**	**4.24**	**183**	Pn		**Pn**	**13 54 30.1**	**-0.7**
ISCO					IAML		13 55 40.3	
	comp=E,15nm,1.7s							
AHID	**Auburn Hatcher**	**4.38**	**255**			**Pn**	**13 54 32.7**	**+0.1**
AHID					IAML		13 55 45.0	
	comp=E,22nm,1.2s							
AHID					IAML		13 55 55.8	
	comp=E,19nm,1.6s							
BOZ	**Bozeman (W)**	**4.74**	**291**	Pn		**Pn**	**13 54 36.4**	**-1.0**
BOZ					IAML		13 55 52.5	
	comp=E,12nm,1.6s							
SMCO	**Snowmass**	**5.01**	**195**	Pn		**Pn**	**13 54 42.3**	**+0.9**
SMCO					IAML		13 56 50.3	
	comp=E,14nm,2.0s							
SMCO					IAML		13 56 56.1	
	comp=E,19nm,1.4s							
EGMT	**Eagleton**	**5.03**	**324**			**Pn**	**13 54 41.9**	**+0.5**
HWUT	**Hardware Ranch**	**5.18**	**244**	Pn		**Pn**	**13 54 43.2**	**-0.3**
BSUT	**Blindstream Ca**	**5.33**	**231**	Pn		**Pn**	**13 54 46.6**	**+0.9**
BSUT					IAML		13 56 24.4	
	comp=E,9.2nm,3.3s							
BSUT					IAML		13 56 29.8	
	comp=N,11nm,3.2s							
LYMT	**Lyon Mountain**	**5.69**	**303**	Pn		**Pn**	**13 54 49.3**	**-1.3**
P18A	**Preston Nutter**	**5.73**	**221**			**Pn**	**13 54 52.3**	**+1.1**
OVMT	**Ovando**	**6.17**	**302**	Pn		**Pn**	**13 54 56.2**	**-0.8**
BPMT	**Black Pine Rid**	**6.20**	**296**	Pn		**Pn**	**13 54 57.2**	**-0.4**
SRU	**San Rafael Swe**	**6.27**	**220**	Pn		**Pn**	**13 54 58.1**	**-0.4**
RTBA	**Rita Blanca**	**7.85**	**164**	Pn		**Pn**	**13 55 18.7**	**-1.4**
ULM	**Lac du Bonnet**	**8.95**	**43**	Pn		**Pn**	**13 55 34.7**	**-0.4**
	comp=N,0.4nm,0.3s,baz=229,slow=14,SNR=1.8							
ULM				Lg		Lg	13 58 01.4	
	comp=N,0.3nm,0.3s,baz=328,slow=19,SNR=2.1							
	comp=N,1.9nm,0.5s							
I56US	**NEWPORT INFRAS**	**9.20**	**301**	I		I	14 44 00.0	
	baz=115,slow=308,SNR=1.2							

SKO ***11*** *14:00:18.9, 41°.11N×19°.36E, h24km*
PDG ***11*** *14:00:19.8±0.2, 41°.43N×19°.53E, h5km, ML2.6/11, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
TIR ***11*** *14:00:19.3, 41°.45N×19°.64E, h15km±1km, Md3.0, Ml2.5*
BEO ***11*** *14:00:20.8±0.5, 41°.46N×19°.70E, h13km±2km, ML2.2/9*
RHSSO ***11*** *14:00:22.3±1.0, 41°.52N×19°.43E, h6km±4km, ML2.5/6*

ISC 11 14:00:19.6±1.0, 41°.44N±0°.02×19°.55E±0°.02, h9km±8km, n45, σ0s99/81, 3C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.25**	**111**	P		**Pg**	**14 00 23.9**	**-0.9**
	baz=120							
TIR				S		**Sg**	**14 00 27.9**	**-0.3**
	baz=120							
TIR				AMP				
	comp=N,3.6nm,0.1s,baz=120							
TIR	**Tirane**	**0.25**	**111**	*e*Pg		**Pg**	**14 00 24.9**	**+0.1**
TIR				*e*Sg		**Sg**	**14 00 28.8**	**+0.6**
PUK	**Puka**	**0.66**	**23**	P		**Pg**	**14 00 31.5**	**-0.8**
	baz=17							
PUK				S		**Sg**	**14 00 41.5**	**+0.5**
	baz=17							
PUK				AMP				
	comp=E,1.0nm,0.3s,baz=17							
DRME	**Dracevica, Mon**	**0.80**	**340**	*e*Pg		**Pb**	**14 00 35.8**	**+0.2**
DRME				*e*Sg		**Sb**	**14 00 46.9**	**+0.5**
DRME	**Dracevica, Mon**	**0.80**	**340**	*e*Pg		**Pg**	**14 00 34.6**	**-0.4**
DRME				*e*Sg		**Sg**	**14 00 45.0**	**-0.4**
DRME	**Dracevica, Mon**	**0.80**	**340**	⇓*i*Pg		**Pg**	**14 00 34.6**	**-0.4**
DRME				*i* Sg		**Sb**	**14 00 47.0**	**+0.5**
BUM	**Brajici-Budva**	**0.99**	**331**	⇓*i*Pg		**Pb**	**14 00 38.3**	**-0.7**
BUM				*i* Sg		**Sn**	**14 00 53.5**	**-0.4**
OHR	**Ohrid**	**1.00**	**109**	*i* Pg		**Pb**	**14 00 38.5**	**-0.6**
OHR				*i* Sg		**Sn**	**14 00 53.7**	**-0.3**
BCI	**Bajram Curri**	**1.00**	**22**	P		**Pb**	**14 00 37.5**	**-1.7**
	baz=18							
BCI				S		**Sg**	**14 00 52.9**	**+0.9**
	baz=18							
BCI				AMP				
	comp=E,0.9nm,0.4s,baz=18							
PDG	**Podgorica**	**1.01**	**348**	*e*Pg		**Pg**	**14 00 39.2**	**+0.1**
PDG				*e*Sg		**Sn**	**14 00 54.4**	**+0.1**
PDG	**Podgorica**	**1.01**	**348**	*e*Pg		**Pb**	**14 00 39.1**	**-0.2**
PDG				*e*Sg		**Sb**	**14 00 51.8**	**-1.0**
PDG	**Podgorica**	**1.01**	**348**	⇑*i*Pg		**Pb**	**14 00 38.9**	**-0.4**
PDG				*i* Sg		**Sn**	**14 00 54.6**	**+0.3**
PVY	**Plav**	**1.19**	**15**	⇓*i*Pg		**Pn**	**14 00 42.1**	**-0.5**
PVY				*i* Sg		**Sn**	**14 01 00.8**	**+1.8**
CEME	**Cevo**	**1.20**	**337**	⇑*i*Pg		**Pb**	**14 00 42.4**	**-0.2**
CEME				*i* Sg		**Sn**	**14 01 00.6**	**+1.5**
NKME	**Niksic**	**1.40**	**342**	⇓*i*Pg		**Pb**	**14 00 46.0**	**+0.1**
NKME				*i* Sg		**Sg**	**14 01 07.1**	**+2.4**
KOME	**Kolasin**	**1.41**	**359**	*e*Pg		**Pg**	**14 00 47.1**	**+0.4**
KOME				*e*Sg		**Sg**	**14 01 05.5**	**+0.5**
KOME	**Kolasin**	**1.41**	**359**	⇓*i*Pg		**Pb**	**14 00 46.2**	**0.0**
KOME				*i* Sg		**Sg**	**14 01 07.6**	**+2.6**
IVA	**Berane**	**1.45**	**10**	⇓*i*Pg		**Pb**	**14 00 46.9**	**0.0**
IVA				*i* Sg		**Sg**	**14 01 09.4**	**+3.0**
LSK	**Leskovik**	**1.52**	**148**	P		**Pn**	**14 00 46.8**	**-0.2**
	baz=150							
LSK				S		**Sg**	**14 01 08.8**	**+0.5**
	baz=150							
LSK				AMP				
	comp=E,0.2nm,0.6s,baz=150							
FNA	**Florina**	**1.53**	**115**	P		**Pn**	**14 00 47.5**	**+0.4**
	baz=116							
FNA				S		**Sb**	**14 01 08.1**	**+0.5**
	baz=116							
FNA				AMP				
	comp=N,0.2nm,0.5s,baz=116							
FNA	**Florina**	**1.53**	**115**	*e*Pg		**Pn**	**14 00 47.6**	**+0.5**
FNA				*e*Sg		**Sn**	**14 01 06.5**	**-0.6**
FNA	**Florina**	**1.53**	**115**	*i* Pg		**Pn**	**14 00 47.5**	**+0.4**
FNA				*i* Sg		**Sb**	**14 01 08.6**	**+1.0**
TREB	**Trebinje**	**1.56**	**325**	*e*Pg		**Pb**	**14 00 48.8**	**+0.2**
TREB	**Trebinje**	**1.56**	**325**	*e*Pg		**Pn**	**14 00 47.5**	**0.0**
TREB				*e*Sg		**Sb**	**14 01 08.3**	**-0.1**
SCTE	**Santa Cesarea**	**1.59**	**211**	P		**Pg**	**14 00 50.3**	**+0.1**
	baz=214							
SCTE				S		**Sg**	**14 01 11.8**	**+0.9**
	baz=214							
SRN	**Sarande**	**1.59**	**167**	P		**Pb**	**14 00 49.3**	**+0.1**
	baz=169							
SRN				S		**Sg**	**14 01 11.2**	**+0.3**
	baz=169							
SRN				AMP				
	comp=N,0.1nm,0.4s,baz=169							
DBRK	**Dubrovnik**	**1.61**	**320**	*e*Pn		**Pb**	**14 00 48.9**	**-0.7**
BRY	**Bratogost**	**1.64**	**333**	*e*Pg		**Pb**	**14 00 49.7**	**-0.4**
BRY				*e*Sg		**Sb**	**14 01 10.5**	**-0.5**
BRY	**Bratogost**	**1.64**	**333**	⇓*i*Pn		**Pb**	**14 00 49.8**	**-0.4**
BRY				*i* Sn		**Sg**	**14 01 13.7**	**+1.2**
UPM	**Unac-Piva**	**1.83**	**345**	⇓*i*Pn		**Pb**	**14 00 52.5**	**-0.8**
UPM				*i* Sn		**Sg**	**14 01 19.2**	**+0.8**
SJES	**Sjenica**	**1.85**	**10**	*e*Pg		**Pb**	**14 00 53.8**	**+0.2**
SJES				*e*Sg		**Sb**	**14 01 17.7**	**+0.8**
SJES	**Sjenica**	**1.85**	**10**	*e*Pn		**Pb**	**14 00 53.5**	**-0.1**
SJES				*e*Sn		**Sb**	**14 01 16.0**	**-0.9**
PLE	**Pljevlja**	**1.89**	**356**	⇑*i*Pn		**Pb**	**14 00 53.7**	**-0.7**
PLE				*i* Sn		**Sg**	**14 01 20.8**	**+0.3**
STON	**Ston**	**1.98**	**317**	*e*Pn		**Pb**	**14 00 55.0**	**-0.9**
NOCI	**Noci**	**1.99**	**252**	P		**Pg**	**14 00 57.0**	**-0.8**
	baz=253							
STIP	**Stip**	**1.99**	**82**	*i* Pn		**Pb**	**14 00 57.1**	**+1.0**
RUDO	**Rudo**	**2.18**	**357**	*e*Pn		**Pb**	**14 00 57.9**	**-1.4**
RUDO				*e*Sn		**Sb**	**14 01 24.5**	**-1.9**
IVAS	**Ivanjica**	**2.18**	**12**	*e*Pn		**Pn**	**14 00 56.0**	**-0.1**
IVAS				*e*Sn		**Sn**	**14 01 23.8**	**+0.5**
BBLS	**Lazi&#263i**	**2.43**	**358**	*e*Pn		**Pb**	**14 01 02.2**	**-1.3**
BBLS				*e*Sn		**Sn**	**14 01 30.8**	**+1.5**
MAKA	**Makarska**	**2.63**	**315**	*e*Pn		**Pn**	**14 01 01.8**	**-0.5**
DIVS	**Divibare**	**2.68**	**7**	*e*Pn		**Pn**	**14 01 04.2**	**+1.2**
RICI	**Ricice**	**2.72**	**320**	*e*Pn		**Pn**	**14 01 03.1**	**-0.4**
RICI				Sn		**Sn**	**14 01 35.9**	**-0.7**
KUBS	**Kucevo**	**3.36**	**27**	*e*Pn		**Pn**	**14 01 10.5**	**-1.7**
KUBS				*e*Sn		**Sn**	**14 01 48.8**	**-3.3**
KIJV	**Kijevo**	**3.46**	**319**	*e*Pn		**Pn**	**14 01 13.4**	**-0.1**
MORI	**Morici**	**3.73**	**312**	*e*Pn		**Pn**	**14 01 18.1**	**+0.8**

IDC ***11*** *14:26:48.7±0.9, 31°.76S×58°.21E, h0km, mb3.9/8, mbtmp3.9/8, MS3.5/1, Error ellipse: s-maj=33.2km s-min=25.6km az=77.0*

ISC 11 14:26:50.2±1.0, 31°.8S±0°.2×58°.2E±0°.2, h10km, n19, σ0s95/9, mb4.0/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.21**	**197**	T		T	14 45 43.4	
	baz=21,slow=75,SNR=40							
H04N1	**CROZET ISLANDS**	**15.22**	**197**	T		T	14 45 44.5	
	baz=21,slow=75,SNR=16							
H04N3	**CROZET ISLANDS**	**15.23**	**197**	T		T	14 45 43.4	
	baz=21,slow=75,SNR=25							
H08S1	**Diego Garcia H**	**27.43**	**32**	T		T	15 01 00.0	
	baz=207,slow=75,SNR=8.4							
H08S2	**Diego Garcia H**	**27.44**	**32**	T		T	15 01 00.2	
	baz=207,slow=75,SNR=8.1							
H08S3	**Diego Garcia H**	**27.45**	**32**	T		T	15 01 00.1	
	baz=207,slow=75,SNR=9.2							
MAW	**Mawson**	**35.98**	**177**	LR		LR	14 43 48.9	
	comp=Z,81nm,20.1s,baz=155,slow=28							
H01W2	**Cape Leeuwin H**	**46.31**	**110**	T		T	15 24 53.8	
	baz=257,slow=75,SNR=6.1							
H01W3	**Cape Leeuwin H**	**46.31**	**110**	T		T	15 24 54.5	
	baz=257,slow=75,SNR=6.2							
H01W1	**Cape Leeuwin H**	**46.33**	**110**	T		T	15 24 55.1	
	baz=257,slow=75,SNR=7.5							
QSPA	**South Pole Qui**	**58.41**	**180**	P		**P**	**14 36 45.7**	**0.0**
	1.1nm,0.7s,baz=275,slow=2.2,SNR=11							
	1.1nm,0.7s							
CMAR	**Chiang Mai Arr**	**63.39**	**44**	P		**P**	**14 37 19.8**	**-0.3**
	1.2nm,0.5s,baz=232,slow=7.3,SNR=10							
	1.2nm,0.5s							
ASAR	**Alice Springs**	**66.28**	**104**	P		**P**	**14 37 39.5**	**+0.4**
	0.5nm,0.6s,baz=239,slow=6.1,SNR=6.3							
	0.5nm,0.6s							
WRA	**Warramunga Arr**	**68.29**	**101**	P		**P**	**14 37 52.1**	**+0.2**
	0.5nm,0.7s,baz=246,slow=5.0,SNR=4.6							
	0.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**70.17**	**300**	P		**P**	**14 38 03.8**	**+0.4**
	0.4nm,0.8s,baz=131,slow=6.5,SNR=2.0							
	0.4nm,0.8s							
MKAR	**Makanchi Array**	**81.16**	**16**	P		**P**	**14 39 05.5**	**-0.2**
	0.4nm,0.6s,baz=183,slow=2.9,SNR=3.1							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**83.97**	**13**	P		**P**	**14 39 20.9**	**+0.7**
	1.7nm,1.0s,baz=206,slow=5.8,SNR=6.8							
	1.7nm,1.0s							
BVAR	**Borovoye Array**	**85.10**	**7**	P		**P**	**14 39 26.4**	**+0.6**
	2.8nm,0.8s,baz=165,slow=6.2,SNR=13							
	2.8nm,0.8s							
YKA	**Yellowknife Ar**	**148.91**	**354**	PKPbc		**PKPbc**	**14 46 35.4**	**-2.0**
	1.2nm,0.8s,baz=18,slow=2.8,SNR=3.6							

IDC 11 14:43:51.4±1.8, 31°.94S×58°.80E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=60.3km s-min=33.8km az=109.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.20**	**199**	T		T	15 03 23.1	
	baz=22,slow=74,SNR=8.4							
H04N1	**CROZET ISLANDS**	**15.20**	**199**	T		T	15 03 21.5	
	baz=22,slow=74,SNR=15							
H04N3	**CROZET ISLANDS**	**15.22**	**199**	T		T	15 03 19.3	
	baz=22,slow=74,SNR=7.0							
H08S1	**Diego Garcia H**	**27.32**	**31**	T		T	15 17 58.3	
	baz=207,slow=75,SNR=11							
H08S2	**Diego Garcia H**	**27.33**	**31**	T		T	15 17 58.8	
	baz=207,slow=75,SNR=9.4							
H08S3	**Diego Garcia H**	**27.34**	**31**	T		T	15 18 00.4	
	baz=207,slow=75,SNR=14							
H01W2	**Cape Leeuwin H**	**45.78**	**109**	T		T	15 41 30.9	
	baz=257,slow=75,SNR=7.0							
H01W3	**Cape Leeuwin H**	**45.79**	**109**	T		T	15 41 27.9	
	baz=257,slow=75,SNR=6.9							
H01W1	**Cape Leeuwin H**	**45.80**	**109**	T		T	15 41 27.9	
	baz=257,slow=75,SNR=5.1							
QSPA	**South Pole Qui**	**58.23**	**180**	P		P	14 53 46.6	-0.7
	0.5nm,0.6s,baz=280,slow=2.4,SNR=7.9							
	0.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.18**	**43**	P		P	14 54 20.1	-1.2
	1.1nm,0.8s,baz=232,slow=8.0,SNR=6.9							
	1.1nm,0.8s							
ASAR	**Alice Springs**	**65.76**	**104**	P		P	14 54 39.2	+0.7
	0.2nm,0.6s,baz=230,slow=5.5,SNR=1.4							
	0.2nm,0.6s							
WRA	**Warramunga Arr**	**67.77**	**100**	P		P	14 54 52.0	+0.7
	0.7nm,1.0s,baz=244,slow=5.4,SNR=3.0							
	0.7nm,1.0s							
YKA	**Yellowknife Ar**	**149.14**	**354**	PKPbc	PKiKP		15 03 42.0	-0.2
	0.5nm,0.6s,baz=15,slow=2.6,SNR=2.6							

KRNET ***11*** *14:46:56.8±0.1, 39°.77N×74°.38E, h14km, mb3.3*
NNC ***11*** *14:47:03.5±1.8, 40°.07N×74°.31E, h3km±9km, mb3.7, mpv3.4, Error ellipse: s-maj=12.8km s-min=8.3km az=178.0*
SOME ***11*** *14:47:05.5, 40°.17N×74°.30E, h15km*

ISC 11 14:46:57.8±1.0, 39°.78N±0°.05×74°.38E±0°.03, h10km, n62, σ2s17/104, 32C-29D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.71**	**290**	⇑*i*P		**Pg**	**14 47 10.4**	**-1.2**
	baz=90							
SFK				⇑*i*S		**Sg**	**14 47 20.3**	**-0.6**
	baz=90							
OHH	**Osh**	**1.43**	**302**	⇓*i*P		**Pn**	**14 47 23.6**	**-0.3**
	baz=2.0							
OHH				⇓*i*S		**Sg**	**14 47 43.2**	**-0.6**
	baz=2.0							
ARSB	**Arslanbob**	**1.87**	**326**	⇑*e*P		**Pb**	**14 47 31.4**	**-0.8**
	baz=26							
ARSB				⇑*e*S		**Sg**	**14 47 56.8**	**-1.3**
	baz=26							
DRK	**Karamyk**	**2.01**	**262**	⇓*i*P		**Pb**	**14 47 33.4**	**-1.2**
	baz=63							
DRK				⇓*i*S		**Sb**	**14 48 00.3**	**+0.5**
	baz=63							
NRN	**Naryn**	**2.06**	**36**	⇑*e*P		**Pb**	**14 47 34.1**	**-1.5**
	baz=36							
NRN				⇑*e*S		**Sb**	**14 48 01.2**	**-0.2**
	baz=36							
ARLS	**Aral**	**2.08**	**359**	⇓*i*P		**Pb**	**14 47 34.2**	**-1.6**
	baz=59							
ARLS				⇓*i*S		**Sb**	**14 48 01.9**	**+0.2**
	baz=59							
UCH	**Uchtor**	**2.45**	**2**	⇑*i*P		**Pn**	**14 47 39.9**	**+1.6**
	baz=2.0							
UCH				⇑*i*S		**Sb**	**14 48 11.4**	**-1.2**
	baz=2.0							
ARK	**Arkit**	**2.73**	**319**	⇓*i*P		**Pn**	**14 47 43.4**	**+1.7**
	baz=19							
ARK				⇓*i*S		**Sb**	**14 48 17.6**	**-2.6**
	baz=19							
BTK	**Batken**	**2.75**	**277**	⇑*i*P		**Pn**	**14 47 43.6**	**+1.6**
	baz=77							
BTK				⇑*i*S		**Sb**	**14 48 17.9**	**-3.0**
	baz=77							
ULHL	**Ulahol**	**2.84**	**29**	⇑*i*P		**Pn**	**14 47 45.1**	**+1.7**
	baz=29							
ULHL				⇑*i*S		**Sn**	**14 48 20.5**	**+2.7**
	baz=29							
AAK	**Ala-Archa**	**2.86**	**2**	⇑Pn		**Pb**	**14 47 46.7**	**-2.3**
	26nm,0.6s							
AAK				⇓Lg		Lg	14 48 27.1	
	64nm,0.8s							
AAK	**Ala-Archa**	**2.86**	**2**	⇓*i*P		**Pn**	**14 47 45.5**	**+1.9**
	baz=2.0							
AAK				⇓*i*S		**Sn**	**14 48 21.0**	**+2.8**
	baz=2.0							
KBK	**Karagaybulak**	**2.91**	**8**	⇑*i*P		**Pn**	**14 47 46.0**	**+1.7**
	baz=8.0							
KBK				⇑*i*S		**Sn**	**14 48 21.8**	**+2.4**
	baz=8.0							
EKS2	**Erkin-Say**	**2.92**	**351**	⇓*i*P		**Pn**	**14 47 46.2**	**+1.8**
	baz=51							
EKS2				⇓*i*S		**Sn**	**14 48 22.1**	**+2.6**
	baz=51							
BOOM	**Boomskoye usch**	**2.96**	**23**	⇑*i*P		**Pn**	**14 47 46.6**	**+1.6**
	baz=23							
BOOM				⇑*i*S		**Sn**	**14 48 23.0**	**+2.4**
	baz=23							
TRKS	**Terek-Say**	**3.02**	**306**	⇑*i*P		**Pn**	**14 47 46.7**	**+0.9**
	baz=6.0							
TRKS				⇑*i*S		**Sn**	**14 48 23.4**	**+1.3**
	baz=6.0							
FRU1	**Bishkek**	**3.04**	**4**	⇑*i*P		**Pn**	**14 47 48.3**	**+2.3**
	baz=4.0							
FRU1				⇑*i*S		**Sn**	**14 48 25.6**	**+3.2**
	baz=4.0							
MNAS	**Manas**	**3.05**	**333**	⇓*i*P		**Pn**	**14 47 48.3**	**+2.0**
	baz=33							
MNAS				⇓*i*S		**Sn**	**14 48 25.5**	**+2.6**
	baz=33							
MRKS	**Merke**	**3.09**	**344**	*e*P		**Pb**	**14 47 54.0**	**+1.2**
	20nm,0.4s							
MRKS				*e*S		**Sb**	**14 48 29.7**	**-0.9**
	31nm,0.5s							
MRKS	**Merke**	**3.09**	**344**	Pg		**Pb**	**14 47 54.0**	**+1.2**
	20nm,0.4s							
MRKS				Lg		Lg	14 48 29.7	
	31nm,0.5s							
CHMS	**Chumysh**	**3.23**	**5**	⇓Pn		**Pn**	**14 47 51.3**	**+2.7**
	3.2nm,0.5s							
CHMS				⇓Lg		Lg	14 48 38.7	
	18nm,0.6s							
CHMS	**Chumysh**	**3.23**	**5**	⇓*i*P		**Pn**	**14 47 50.5**	**+1.9**
	baz=5.0							
CHMS				⇓*i*S		**Sn**	**14 48 29.5**	**+2.3**
	baz=5.0							
GAR	**Garm**	**3.24**	**257**	⇓*i*P		**Pn**	**14 47 50.5**	**+1.7**
	baz=58							
GAR				⇓*i*S		**Sn**	**14 48 29.5**	**+2.0**
	baz=58							
TKM2	**Tokmak 2**	**3.27**	**16**	⇓Pn		**Pn**	**14 47 51.5**	**+2.2**
	1.2nm,0.3s							
TKM2				⇑Lg		Lg	14 48 39.8	

KOTS	**Kotyrbulak**	**4.02**	**30**	Pg	**Pg**	**14 48 14.7**	**0.0**
	10nm,0.4s						
KOTS				Lg	Lg	14 49 04.3	
	35nm,0.6s						
KRBS	**Karabastau**	**4.03**	**14**	*e*P	**Pg**	**14 48 14.3**	**-0.8**
	5.3nm,0.4s						
KRBS				*e*S	**Sg**	**14 49 03.6**	**-3.7**
	13nm,0.4s						
KRBS	**Karabastau**	**4.03**	**14**	Pg	**Pg**	**14 48 14.3**	**-0.8**
	5.3nm,0.4s						
KRBS				Lg	Lg	14 49 03.6	
	13nm,0.4s						
CHGR	**Chuyangaron**	**4.20**	**256**	⇑*i*P	**Pn**	**14 48 04.0**	**+2.0**
	baz=56						
CHGR				⇑*i*S	**Sn**	**14 48 52.8**	**+1.6**
	baz=56						
KTBS	**Karatobe**	**4.29**	**23**	*e*P	**Pg**	**14 48 19.0**	**-1.0**
	8.3nm,0.5s						
KTBS				*e*S	**Sg**	**14 49 12.1**	**-3.5**
	40nm,0.6s						
KTBS	**Karatobe**	**4.29**	**23**	Pg	**Pg**	**14 48 19.0**	**-1.0**
	8.3nm,0.5s						
KTBS				Lg	Lg	14 49 12.1	
	40nm,0.6s						
KUU	**Kurty**	**4.37**	**19**	*e*P	**Pg**	**14 48 20.5**	**-0.9**
	6.1nm,0.3s						
KUU				*e*S	**Sg**	**14 49 15.0**	**-3.0**
	23nm,0.6s						
KUU	**Kurty**	**4.37**	**19**	Pg	**Pg**	**14 48 20.5**	**-0.9**
	6.1nm,0.3s						
KUU				Lg	Lg	14 49 15.0	
	23nm,0.6s						
KK31	**Karatay Array**	**4.41**	**320**	Pn	**Pn**	**14 48 06.1**	**+1.3**
	0.1nm,0.2s,baz=120,slow=12,SNR=14						
KK31				⇑Pg	**Pb**	**14 48 16.8**	**+1.4**
	1.4nm,0.3s,baz=156,slow=20,SNR=16						
KK31				⇑Sn	**Sn**	**14 48 58.9**	**+2.7**
	2.3nm,0.5s,baz=129,slow=21,SNR=5.1						
KK31				⇑Lg	Lg	14 49 15.9	
	3.5nm,0.5s,baz=142,slow=24,SNR=4.3						
KKAR	**Karatay Array**	**4.41**	**320**	⇑*i*P	**Pn**	**14 48 06.5**	**+1.7**
	baz=20						
KKAR				⇑*i*S	**Sn**	**14 48 57.8**	**+1.5**
	baz=20						
SATY	**Saty**	**4.46**	**41**	*e*P	**Pg**	**14 48 22.3**	**-1.0**
	4.0nm,0.5s						
SATY				*e*S	**Sg**	**14 49 17.2**	**-3.9**
	9.3nm,0.4s						
SATY	**Saty**	**4.46**	**41**	Pg	**Pg**	**14 48 22.3**	**-1.0**
	4.0nm,0.5s						
SATY				Lg	Lg	14 49 17.2	
	9.3nm,0.4s						
CHKK	**Chushkaly**	**4.52**	**25**	*e*P	**Pg**	**14 48 22.8**	**-1.5**
	2.2nm,0.4s						
CHKK				*e*S	**Sg**	**14 49 18.4**	**-4.4**
	14nm,0.5s						
CHKK	**Chushkaly**	**4.52**	**25**	Pg	**Pg**	**14 48 22.8**	**-1.5**
	2.2nm,0.4s						
CHKK				Lg	Lg	14 49 18.4	
	14nm,0.5s						
BRLS	**Borolday**	**4.71**	**315**	*e*P	**Pg**	**14 48 25.2**	**-2.9**
	5.0nm,0.4s						
BRLS				*e*S	**Sb**	**14 49 22.7**	**+5.4**
	7.6nm,0.4s						
BRLS	**Borolday**	**4.71**	**315**	Pg	**Pg**	**14 48 25.2**	**-2.9**
	5.0nm,0.4s						
BRLS				Lg	Lg	14 49 22.7	
	7.6nm,0.4s						
UZB	**Uzynbulak**	**4.85**	**45**	*e*P	**Pg**	**14 48 27.7**	**-3.0**
UZB				*e*S	**Sb**	**14 49 26.4**	**+5.0**
UZB	**Uzynbulak**	**4.85**	**45**	Pg	**Pg**	**14 48 27.7**	**-3.0**
UZB				Lg	Lg	14 49 26.4	
ARXS	**Arharly**	**5.12**	**29**	*e*P	**Pg**	**14 48 33.2**	**-2.7**
	6.9nm,0.5s						
ARXS				*e*S	**Sg**	**14 49 36.6**	**-5.7**
	9.3nm,0.7s						
ARXS	**Arharly**	**5.12**	**29**	Pg	**Pg**	**14 48 33.2**	**-2.7**
	6.9nm,0.5s						
ARXS				Lg	Lg	14 49 36.6	
	9.3nm,0.7s						
PDGK	**Podgornoye**	**5.23**	**46**	Pg	**Pg**	**14 48 35.2**	**-2.7**
	1.2nm,0.7s						
PDGK				Lg	Lg	14 49 39.3	
	3.1nm,0.7s						
PDGK	**Podgornoye**	**5.23**	**46**	⇓Pg	**Pg**	**14 48 36.4**	**-1.5**
	2.9nm,0.6s						
PDGK				⇑Lg	Lg	14 49 38.2	
	6.7nm,0.7s						
BLB	**Baldybastay**	**5.29**	**34**	Pg	**Pg**	**14 48 37.2**	**-1.9**
	11nm,0.7s						
BLB				Lg	Lg	14 49 43.4	
	6.3nm,0.6s						

*MEX **11** 14:47:12.4±0.4, 14°.54N×92°.19W, h84km±5km, MD4.0*
*GCG **11** 14:47:16.4±0.3, 14°.70N×92°.04W, h60km±3km, MD3.5*
ISC 11 14:47:12.8±1.4,**14°.50N**±0°.05×**92°.37W**±0°.04,**h28**km±13km,
n17, σ**1°.40/33, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.42**	**14**	*e*P	**Pn**	**14 47 23.9**	**+0.9**
THIG				*e*S	**Sn**	**14 47 33.3**	**+3.6**
PATR	**El Naranjo**	**0.63**	**12**	*e*P	**Pn**	**14 47 25.9**	**-0.2**
PATR				*i* S	**Sn**	**14 47 36.3**	**+1.0**
CHUJ	**Union Juarez**	**0.64**	**23**	*e*P	**Pb**	**14 47 26.1**	**+0.4**
CHUJ				*e*S	**Sn**	**14 47 36.4**	**+0.8**
RTAL	**Retalhuleu**	**0.65**	**88**	*e*P	**Pb**	**14 47 25.0**	**-0.7**
RTAL				*e*S	**Sb**	**14 47 35.2**	**+0.7**
PAVE	**Pavencul**	**0.71**	**15**	*e*P	**Pb**	**14 47 26.7**	**-0.2**
PAVE				*i* S	**Sn**	**14 47 38.4**	**+1.0**
STG3	**Santiaguito 3,**	**0.80**	**75**	*e*P	**Pn**	**14 47 28.6**	**+0.2**
STG3				*e*S	**Sb**	**14 47 38.0**	**-0.8**
SULM	**Suchitepequez,**	**0.80**	**104**	*e*P	**Pn**	**14 47 29.4**	**+1.2**
SULM				*e*S	**Sn**	**14 47 39.8**	**+0.5**
HUEH	**Huehuetenango**	**1.17**	**46**	*i* P	**Pb**	**14 47 34.5**	**0.0**
HUEH				*e*S	**Sb**	**14 47 50.3**	**+1.0**
PCIG		**1.45**	**326**	*e*P	**Pn**	**14 47 37.1**	**-0.1**
PCIG				*e*S	**Sn**	**14 47 54.6**	**-0.8**
FUG	**Fuego 3**	**1.48**	**92**	*e*P	**Pn**	**14 47 37.6**	**-0.1**
FUG				*e*S	**Sn**	**14 47 54.0**	**-2.3**
CCIG	**Comitan**	**1.79**	**7**	*e*P	**Pn**	**14 47 40.2**	**-1.8**
CCIG				*e*S	**Sn**	**14 48 02.7**	**-1.2**
CARR	**Arriaga**	**2.29**	**320**	*e*P	**Pn**	**14 47 49.1**	**+0.4**
CARR				*i* S	**Sn**	**14 48 17.8**	**+1.8**
TGIG		**2.38**	**342**	*e*P	**Pn**	**14 47 48.8**	**-1.2**
TGIG				*e*S	**Sn**	**14 48 16.0**	**-2.3**
NILT	**Santiago Nilte**	**2.98**	**314**	*e*P	**Pn**	**14 47 58.5**	**+0.2**
NILT				*i* S	**Sn**	**14 48 32.9**	**-0.3**
UXUV	**UXUV**	**3.28**	**329**	*e*P	**Pn**	**14 48 02.0**	**-0.4**
UXUV				*e*S	**Sn**	**14 48 39.2**	**-1.3**
HUIG	**Huatulco**	**3.83**	**290**	*e*P	**Pn**	**14 48 08.5**	**-1.4**
HUIG				*e*S	**Sn**	**14 48 57.4**	**+3.4**
YOIG	**Yosondua**	**5.51**	**296**	*e*S	**Sn**	**14 49 35.7**	**-0.2**

*IDC **11** 14:47:12.4±1.4, 31°.78S×58°.36E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=48.7km s-min=27.3km az=88.0*
ISC 11 14:47:14.0±1.5,**31°.8S**±0°.2×**58°.3E**±0°.4,**h10**km,**n16,**
σ**0°76/7, mb4.0/7, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.22**	**198**	T	T	15 06 33.8	
	baz=22,slow=75,SNR=15						
H04N1	**CROZET ISLANDS**	**15.23**	**198**	T	T	15 06 33.8	
	baz=22,slow=75,SNR=3.8						
H04N3	**CROZET ISLANDS**	**15.24**	**198**	T	T	15 06 33.8	
	baz=22,slow=75,SNR=4.1						
H08S1	**Diego Carcia H**	**27.39**	**32**	T	T	15 21 17.2	
	baz=212						
H08S2	**Diego Garcia H**	**27.40**	**32**	T	T	15 21 17.2	
	baz=212						
H08S3	**Diego Garcia H**	**27.41**	**32**	T	T	15 21 17.2	
	baz=212						
H01W2	**Cape Leeuwin H**	**46.21**	**110**	T	T	15 44 53.2	
	baz=257						
H01W3	**Cape Leeuwin H**	**46.22**	**110**	T	T	15 44 54.6	
	baz=257						
H01W1	**Cape Leeuwin H**	**46.23**	**110**	T	T	15 44 54.6	
	baz=257						
QSPA	**South Pole Qui**	**58.39**	**180**	P	**P**	**14 57 09.5**	**+0.1**
	1.4nm,0.9s,baz=280,slow=12,SNR=7.2						
	1.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.33**	**44**	P	**P**	**14 57 43.4**	**-0.1**
	1.4nm,0.7s,baz=229,slow=7.2,SNR=11						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**66.18**	**104**	P	**P**	**14 58 01.9**	**-0.3**
	0.4nm,0.5s,baz=241,slow=6.2,SNR=8.1						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**68.19**	**101**	P	**P**	**14 58 15.2**	**+0.2**
	0.5nm,0.8s,baz=244,slow=5.9,SNR=3.0						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**81.15**	**16**	P	**P**	**14 59 30.7**	**+1.3**
	0.2nm,0.5s,baz=191,slow=5.9,SNR=3.6						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**83.97**	**13**	P	**P**	**14 59 43.5**	**-0.4**
	0.8nm,0.9s,baz=207,slow=6.1,SNR=4.7						
	0.8nm,0.9s						
BVAR	**Borovoye Array**	**85.10**	**7**	P	**P**	**14 59 49.2**	**-0.5**
	1.9nm,0.8s,baz=183,slow=5.9,SNR=9.4						
	1.9nm,0.8s						

*SOF **11** 14:56:27.9, 41°.32N±0°.01×22°.53E±0°.01, h6km±1km, MD2.3/4*
*SKO **11** 14:56:28.4, 41°.32N×22°.53E, h11km, ML2.5*
*ATH **11** 14:56:29.1, 41°.29N×22°.52E, h5km±1km, ML1.9/11, Error ellipse: s-maj=1.9km s-min=0.9km az=173.0*
*BEO **11** 14:56:29.1±0.3, 41°.35N×22°.51E, h0km±4km, ML2.0/6*
ISC 11 14:56:27.8±0.9,**41°.29N**±0°.02×**22°.51E**±0°.02,**h10**km±6km,
n34, σ**0°62/66, 3C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.06**	**57**	⇓*i*Pg	**Pg**	**14 56 30.2**	**+0.3**
VAY				*i* Sg	**Sg**	**14 56 31.2**	**-0.2**
VAY				*e*Lg	Lg	14 56 31.3	
	comp=N,3μm,0.3s						
VAY				*e*Lg	Lg	14 56 31.3	
	comp=E,3μm,0.6s						
KNT	**Kendrikon**	**0.32**	**114**	⇑*i*Pg	**Pb**	**14 56 35.3**	**-0.4**
KNT				*i* Sg	**Sb**	**14 56 39.9**	**-1.0**
STIP	**Stip**	**0.47**	**329**	⇑*i*Pg	**Pg**	**14 56 37.0**	**0.0**
STIP				*i* Sg	**Sg**	**14 56 43.5**	**+0.2**
KKB	**Krupnik**	**0.72**	**40**	*i* Pg	**Pb**	**14 56 41.9**	**-0.6**
KKB				Sg	**Sg**	**14 56 50.5**	**-0.7**
KKB	**Krupnik**	**0.72**	**40**	⇓*i*Pg	**Pb**	**14 56 42.0**	**-0.6**
KKB				*i* Sg	**Sg**	**14 56 50.8**	**-0.4**
THE	**Thessaloniki**	**0.74**	**152**	*i* Pg	**Pb**	**14 56 43.3**	**+0.5**
THE				*i* Sg	**Sb**	**14 56 52.5**	**-0.5**
THE	**Thessaloniki**	**0.74**	**152**	P	**Pb**	**14 56 43.3**	**+0.5**
THE				S	**Sb**	**14 56 52.5**	**-0.5**
THE				AML	AML	14 56 59.1	
	comp=E,116μm,0.2s						
THE				AML	AML	14 56 59.7	
	comp=N,68μm,0.3s						
SOH	**Sokhos**	**0.79**	**126**	⇑*i*Pg	**Pb**	**14 56 43.8**	**0.0**
SOH				*i* Sg	**Sb**	**14 56 54.8**	**+0.3**
SOH	**Sokhos**	**0.79**	**126**	P	**Pb**	**14 56 43.9**	**+0.1**
SOH				S	**Sb**	**14 56 54.3**	**-0.2**
SOH				AML	AML	14 56 55.5	
	comp=N,488μm,0.3s						
SOH				AML	AML	14 56 56.7	
	comp=E,872μm,0.5s						
HORT	**Hortiatis**	**0.82**	**147**	P	**Pb**	**14 56 44.4**	**0.0**
HORT				S	**Sb**	**14 56 56.0**	**+0.5**
HORT				AML	AML	14 56 57.5	
	comp=N,93μm,0.3s						
HORT				AML	AML	14 56 59.1	
	comp=E,87μm,0.3s						
SRS	**Serrai**	**0.83**	**102**	*e*Pg	**Pb**	**14 56 44.6**	**+0.1**
SRS				*e*Sg	**Sb**	**14 56 55.5**	**-0.3**
SRS	**Serrai**	**0.83**	**102**	*i* Pg	**Pb**	**14 56 44.3**	**-0.1**
SRS				*i* Sg	**Sb**	**14 56 55.7**	**-0.1**
SRS	**Serrai**	**0.83**	**102**	P	**Pb**	**14 56 44.3**	**-0.1**
SRS				S	**Sb**	**14 56 55.7**	**-0.1**
SRS				AML	AML	14 56 57.9	
	comp=E,172μm,0.2s						
SRS				AML	AML	14 56 57.9	
	comp=N,124μm,0.2s						
MMB	**Musomishta**	**0.97**	**74**	*i* Pg	**Pb**	**14 56 46.9**	**+0.2**
MMB				Sg	**Sb**	**14 56 59.3**	**-0.3**
MMB	**Musomishta**	**0.97**	**74**	*i* Pg	**Pb**	**14 56 46.8**	**0.0**
MMB				*i* Sg	**Sb**	**14 56 59.5**	**-0.1**
FNA	**Florina**	**1.00**	**240**	*e*Pg	**Pn**	**14 56 48.1**	**+0.1**
FNA				*e*Sg	**Sn**	**14 57 01.6**	**-0.5**
FNA	**Florina**	**1.00**	**240**	*i* Pg	**Pn**	**14 56 48.8**	**+0.8**
FNA				*i* Sg	**Sb**	**14 57 01.2**	**+0.8**
FNA	**Florina**	**1.00**	**240**	P	**Pn**	**14 56 47.8**	**-0.1**
FNA				S	**Sb**	**14 57 01.2**	**+0.8**
FNA				AML	AML	14 57 05.3	
	comp=E,59μm,0.3s						
FNA				AML	AML	14 57 10.4	
	comp=N,78μm,0.8s						
NVR	**Nevrokopi**	**1.02**	**86**	P	**Pn**	**14 56 48.3**	**+0.1**
NVR				S	**Sb**	**14 57 02.1**	**+1.0**
NVR				AML	AML	14 57 04.6	
	comp=N,195μm,0.3s						
NVR				AML	AML	14 57 05.9	
	comp=E,187μm,0.3s						
PLG	**Polygyros**	**1.16**	**142**	P	**Pn**	**14 56 50.0**	**-0.1**
PLG				S	**Sn**	**14 57 06.9**	**+0.8**
PLG				AML	AML	14 57 08.5	
	comp=E,70μm,0.3s						
PLG				AML	AML	14 57 09.8	
	comp=N,78μm,0.3s						
KOKK	**Kokkinochori,**	**1.22**	**112**	P	**Pn**	**14 56 51.2**	**+0.2**
KOKK				S	**Sn**	**14 57 08.2**	**+0.6**
KOKK				AML	AML	14 57 10.3	
	comp=E,200μm,0.3s						
KOKK				AML	AML	14 57 11.8	
	comp=N,216μm,0.4s						
PRVS	**Prvonek**	**1.26**	**345**	*e*Pg	**Pg**	**14 56 51.4**	**-0.6**
PRVS				*e*Sg	**Sg**	**14 57 07.0**	**-1.4**
PLNA	**Plana**	**1.37**	**30**	*i* Pg	**Pg**	**14 56 54.3**	**+0.2**
PLNA				Sg	**Sn**	**14 57 12.2**	**+0.8**
NEST	**Nestorio**	**1.41**	**232**	P	**Pg**	**14 56 54.5**	**-0.5**
NEST				S	**Sn**	**14 57 13.5**	**+1.1**
NEST				AML	AML	14 57 22.9	
	comp=E,39μm,0.4s						
NEST				AML	AML	14 57 25.8	
	comp=N,25μm,0.5s						
VTS	**Vitosha**	**1.43**	**22**	P	**Pg**	**14 56 55.1**	**-0.2**
VTS				S	**Sb**	**14 57 13.4**	**+0.3**
VTS	**Vitosha**	**1.43**	**22**	*e*Pg	**Pn**	**14 56 54.2**	**+0.1**
VTS				*e*Sg	**Sb**	**14 57 12.8**	**-0.3**
OUR	**Ouranopolis**	**1.47**	**130**	P	**Pg**	**14 56 55.5**	**-0.6**
OUR				S	**Sn**	**14 57 13.9**	**+0.2**
OUR				AML	AML	14 57 21.4	
	comp=N,80μm,0.3s						
OUR				AML	AML	14 57 21.7	
	comp=E,110μm,0.3s						
KAVA	**Kavala**	**1.54**	**100**	P	**Pb**	**14 56 56.4**	**-0.1**
KAVA				S	**Sg**	**14 57 16.7**	**-0.7**
RZN	**Rozhen**	**1.72**	**76**	P	**Sg**	**14 57 00.0**	**+0.3**
RZN				S	**Sg**	**14 57 22.8**	**-0.4**
PGB	**Panagyurishte**	**1.74**	**45**	P	**Pg**	**14 57 02.2**	**+0.9**
PGB				Sg	**Sg**	**14 57 24.5**	**+0.6**
THAS	**Thassos island**	**1.81**	**112**	P	**Pb**	**14 57 00.1**	**-0.9**
THAS				S	**Sn**	**14 57 22.1**	**+0.1**
THAS				AML	AML	14 57 27.4	
	comp=N,71μm,0.4s						
THAS				AML	AML	14 57 27.4	
	comp=E,88μm,0.4s						
MPEP	**Malo Peshtene**	**2.26**	**23**	P	**Pb**	**14 57 09.5**	**+0.8**
ZAGS	**Zajecar**	**2.53**	**355**	*e*Pg	**Pb**	**14 57 12.5**	**-0.8**
ZAGS				*e*Sg	**Sg**	**14 57 46.8**	**-2.3**
KUBS	**Kucevo**	**3.18**	**349**	*e*Pn	**Pn**	**14 57 19.0**	**+1.1**

*NEIC **11** 15:27:00.8±1.4, 19°.423N±0°.009×155°.301W±0°.005, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.3km az=155.0*
HVO 11 15:27:00.7±1.5,**19°.42N**±0°.01×**155°.280W**±0°.008,
h0km±2km,**ML3.6**/42,**ML3.7**/26(NEIC),**Error ellipse:**
s-maj=1.7km s-min=1.1km az=175.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.00**	**259**		Pg	15 27 01.7	+0.7
UWB	**Uwekahuna B**	**0.01**	**14**		Pg	15 27 01.8	+0.7
UWE	**Uwekahuna**	**0.01**	**283**	Pg	Pg	15 27 00.9	-0.2
UWE					Sg	15 27 02.1	+0.7
SBLHI	**Steaming Bluff**	**0.01**	**52**		Pg	15 27 02.0	+0.9
HATHI	**Halema'uma'u T**	**0.02**	**75**	Pg	Pg	15 27 01.3	+0.1
BYL	**Byron's Ledge**	**0.02**	**109**	Pg	Pg	15 27 00.8	-0.4
BYL				IAML		15 27 01.2	
	comp=E,44μm,0.4s						
BYL				Sg	Sg	15 27 02.2	+0.7
WRMHI	**West Rim**	**0.02**	**239**		Pg	15 27 02.5	+1.4
RIM	**Rim**	**0.02**	**167**		Pg	15 27 02.5	+1.3
KKO	**Keanakako`i**	**0.02**	**148**		Pg	15 27 02.8	+1.6
SDHHI	**Sand Hill**	**0.03**	**205**		Pg	15 27 03.2	+1.9
RSD	**Rainshed**	**0.04**	**2**	Pg	Pg	15 27 01.6	0.0
RSD				IAML		15 27 01.6	
	comp=N,112μm,1.4s						
RSD				Sg	Sg	15 27 03.2	+1.0
PUH	**Pauahi**	**0.07**	**126**	Pg	Pg	15 27 02.7	+0.5
PUH					Sg	15 27 03.2	+0.1
PUH				IAML		15 27 04.1	
	comp=N,62μm,1.0s						
PUH				IAML		15 27 04.2	
	comp=E,52μm,0.7s						
KNHH	**Kane Nui o Ham**	**0.11**	**110**	Pg	Pg	15 27 02.5	-0.3
MLH	**Mauna Loa**	**0.12**	**307**	Pg	Pg	15 27 03.6	+0.4
MLH				IAML		15 27 07.1	
	comp=E,52μm,1.2s						
MLH				IAML		15 27 07.4	
	comp=N,37μm,0.8s						
STCH	**Steam Cracks**	**0.15**	**103**	Pg	Pg	15 27 03.5	-0.1
STCH				IAML		15 27 05.1	
	comp=N,26μm,1.3s						
STCH				IAML		15 27 05.5	
	comp=E,30μm,1.2s						
JCUZ	**Jacuzzi**	**0.17**	**101**		Pg	15 27 05.2	+1.2
HMH	**Humu'ula Sheep**	**0.27**	**314**	Pg	Pg	15 27 06.1	+0.3
HMH				IAML		15 27 13.1	
	comp=N,12μm,0.8s						
HMH				IAML		15 27 13.4	
	comp=E,15μm,0.9s						
MLOA	**Mauna Loa Obse**	**0.30**	**293**	Pg	Pg	15 27 06.6	+0.1
MLOA				Sg	Sg	15 27 09.9	-0.6
MLOA				IAML		15 27 14.4	
	comp=E,8μm,0.9s						
MLOA				IAML		15 27 16.6	
	comp=N,12μm,1.4s						
MWH	**Moku'aweowe**	**0.31**	**283**	Pg	Pg	15 27 06.3	-0.3
MWH				Sg	Sg	15 27 10.5	-0.1
MWH				IAML		15 27 15.4	
	comp=E,31μm,1.4s						
MWH				IAML		15 27 17.3	
	comp=N,34μm,0.8s						
PAH	**Pahoa**	**0.32**	**76**	Pg	Pg	15 27 07.0	+0.1
KHU	**Kahuku**	**0.36**	**242**	Pg	Pg	15 27 08.6	+1.0
KHU				IAML		15 27 16.8	
	comp=E,5μm,1.0s						
KHU				IAML		15 27 17.0	
	comp=N,5μm,1.1s						
POHA	**Pohakuloa**	**0.41**	**325**	Pg	Pg	15 27 07.6	-1.0
POHA				IAML		15 27 16.7	
	comp=N,12μm,0.5s						
POHA				IAML		15 27 20.0	
	comp=N,16μm,1.1s						
HPO	**Honuapo**	**0.42**	**218**	Pg	Pg	15 27 09.0	+0.3
HUH	**Hualalai**	**0.59**	**297**	Pg	Pg	15 27 12.3	+0.3
CPH	**Captain Cook**	**0.61**	**277**		Pg	15 27 12.2	-0.1
HPAH	**Hawaii Prepara**	**0.72**	**327**		Pg	15 27 13.4	-1.2
MHA	**Mahukona**	**0.96**	**323**	Pg	Pg	15 27 17.0	-2.2
HLK	**Haleakala**	**1.61**	**326**	Pn	Pn	15 27 25.9	-4.8
KHLH	**Kahului Airpor**	**1.82**	**324**	Pn	Pn	15 27 29.3	-4.0
HON	**Honolulu**	**3.18**	**307**	Pn	Pn	15 27 48.4	-3.5

*BGR **11** 15:34:13.3, 19°.96S×170°.50E, h104km±11km, Hypocentre not reviewed by the ISC*
*BJI **11** 15:34:13.0±0.0, 19°.04S×169°.49E, h88km, mb4.8/44, mB5.0/19, Ms5.2/11, Ms7 4.9/9*
*NOU **11** 15:34:14.7, 19°.55S×169°.31E, h98km, mb4.9/62, Vanuatu Islands*
*NEIC **11** 15:34:14.7, 19°.56S×168°.98E, h110km, Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.08; $M_{\theta\theta}$-0.75; $M_{\phi\phi}$0.83; $M_{r\theta}$-1.61; $M_{\phi\phi}$1.01; $M_{\phi r}$-0.82; Fault plane solution: $M_0$2.21000×10^{16} NP1:ϕ_s67.43000°, δ88.66000°, λ-54.89000°. NP2:ϕ_s159.33000°, δ35.13000°, λ-177.68000°. Principal axes: T 2.3266, Plg34.0000°, Azm128.0000°; N -0.2380, Plg35.0000°, Azm246.0000°; P -2.0887, Plg37.0000°, Azm8.0000°;*
*IDC **11** 15:34:14.3±1.2, 19°.67S×169°.28E, h101km±9km, mb4.6/22, mbtmp4.9/24, MS3.6/4 Error ellipse: s-maj=13.8km s-min=10.2km az=105.0*
*NEIC **11** 15:34:14.7, 19°.66S×169°.30E, h110km*
*NEIC **11** 15:34:15.1±2.3, 19°.66S±0°.07×169°.30E±0°.07, h107km±4km, mb5.0/196, Mww4.8/14, Error ellipse: s-maj=10.3km s-min=9.6km az=133.0*
*GCMT **11** 15:34:16.7±0.4, 19°.63S±0°.02×169°.17E±0°.03, h119km±5km, MW4.9/80, Moment Tensor Solution. s19,c19; s80,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.61±.16; $M_{\theta\theta}$-0.30±.18; $M_{\phi\phi}$0.91±.15; $M_{r\theta}$-2.30±.11; $M_{\phi\theta}$1.30±.15; $M_{\phi r}$-1.10±.09; Best double couple: $M_0$2.95400×10^{16} NP1:ϕ_s66.00000°, δ82.00000°, λ-64.00000°. NP2: ϕ_s171.00000°, δ27.00000°, λ-163.00000°. Principal axes: T 3.1450, Plg32.0000°, Azm134.0000°; N -0.3830, Plg26.0000°, Azm242.0000°; P -2.7630, Plg46.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 15:34:15.0±0.5,**19°.66S**±0°.05×**169°.30E**±0°.05,**h107**km±3km,
h108km:**pP-P,n569,** σ**0°84/528, mb5.0/135, 7C-17D,**
Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.17**	**213**	P	**Pn**	**15 34 49.2**	**-0.8**
LIFNC	**LIFOU**	**2.23**	**240**	P	**Pn**	**15 34 49.5**	**-1.3**
LIFNC	**LIFOU**	**2.23**	**240**	Pn	**Pn**	**15 34 48.9**	**-1.9**
LIFNC				Sn	**Sn**	**15 35 14.7**	**-3.5**
YATNC	**Mamie plateau,**	**3.28**	**223**	P	**Pn**	**15 35 03.4**	**-1.3**
PINNC	**Pines Island,**	**3.41**	**210**	P	**Pn**	**15 35 06.4**	**+0.1**
PINNC	**Pines Island,**	**3.41**	**210**		**Pn**	**15 35 05.8**	**-0.5**
PINNC				Sn	**Sn**	**15 35 44.7**	**-1.3**
OUENC	**Ouen Island, N**	**3.58**	**219**	P	**Pn**	**15 35 09.1**	**+0.5**
OUENC	**Ouen Island, N**	**3.58**	**219**	Pn	**Pn**	**15 35 08.5**	**-0.1**
OUENC				Sn	**Sn**	**15 35 48.3**	**-1.8**
DZM	**Mont Dzumac**	**3.59**	**228**	P	**Pn**	**15 35 08.8**	**0.0**
DZM	**Mont Dzumac**	**3.59**	**228**		**Pn**	**15 35 08.8**	**0

RTZ	Ruatahuna	20.03	162	P	P	15 38 40.4 +0.9
MRHZ	Matea Rd	20.08	164	P	Pn	15 38 42.5 -0.1
BKZ	Black Stump Fm	20.41	164	P	P	15 38 44.8 +1.4
BKZ	Black Stump Fm	20.41	164	P	P	15 38 44.9 +1.4
TARA	Tarawa	21.18	10	P	P	15 38 52.5 +0.6
TV1H	Townsville Har	21.22	267	P	P	15 38 55.0 +2.7
QRZ	Quartz Range	21.28	173	P	P	15 38 53.7 +1.0
QRZ	Quartz Range	21.28	173	P	P	15 38 54.7 +2.0
MRZ	Mangataiinoka R	21.61	167	P	P	15 38 56.1 -0.2
CTA	Charters Tower	21.68	265	P	P	15 38 58.1 +0.8
CTA	Charters Tower	21.68	265	P	P	15 38 57.6 +0.4
	1.3nm,0.7s,baz=97,slow=11,SNR=25					
CTA				LR	LR	15 46 29.9
	comp=Z,8.3nm,20.8s,baz=82,slow=34					
CTAO	Charters Tower	21.68	265	P	P	15 38 58.0 +0.8
CTAO	Charters Tower	21.68	265	P	P	15 38 57.0 -0.2
BFZ	Birch Farm	21.78	166	P	P	15 38 57.6 -0.5
BFZ	Birch Farm	21.78	166	P	P	15 38 57.5 -0.5
SNZO	South Karori	22.07	169	P	P	15 39 02.6 +1.5
KHZ	Kahutara	22.97	172	P	P	15 39 10.7 +0.6
CNB	Canberra Magne	23.51	224	P	P	15 39 16.7 +1.3
MTSU	Mount Surprise	23.68	270	P	P	15 39 18.3 +1.3
PMG	Port Moresby	23.70	292	P	P	15 39 16.8 -0.4
	95nm,0.7s,baz=86,slow=5.7,SNR=28					
	95nm,0.7s					
CAN	Canberra	23.75	225	P	P	15 39 19.2 +1.6
CAN	Canberra	23.75	225	P	P	15 39 18.2 +0.6
RPZ	Rata Peaks	24.03	177	P	P	15 39 21.9 +2.0
CMSA	Cobar Meteorol	24.30	236	P	P	15 39 23.8 +1.4
JCZ	Jackson Bay	24.35	181	P	P	15 39 24.0 +1.2
MILA	Mila	24.70	221	P	P	15 39 27.8 +1.6
COEN	Coen	25.63	279	P	P	15 39 35.9 +1.2
COEN	Coen	25.63	279		P	15 39 34.6 0.0
TOO	Toolangi	27.36	224	P	P	15 39 50.8 +0.7
STKA	Stephens Creek	27.67	238	P	P	15 39 55.1 +2.2
STKA	Stephens Creek	27.67	238	P	P	15 39 54.8 +1.9
STKA	Stephens Creek	27.67	238	P	P	15 39 52.9 0.0
	2.6nm,0.6s,baz=70,slow=10,SNR=10					
STKA				ScP	ScP	15 46 38.4 0.0
	3.5nm,1.0s,baz=336,slow=5.4,SNR=3.2					
STKA				LR	LR	15 50 52.8
	comp=Z,71nm,18.4s,baz=33,slow=36					
	2.6nm,0.6s					
QIS	Mount Isa	27.88	263	P	P	15 39 55.9 +1.0
LCRK	Leigh Creek	30.05	243	P	P	15 40 15.2 +1.2
OOD	Oodnadatta	31.74	249	P	P	15 40 29.8 +0.9
WR0	Warramunga Arr	32.67	263	P	P	15 40 35.8 -1.3
JAY	Jayapura	32.73	298	P	P	15 40 37.2 -0.5
	11nm,0.8s					
WB0	Warramunga Arr	32.83	264	IAmb	IAmb	15 40 38.4
	comp=Z,11nm,0.8s					
WRA	Warramunga Arr	32.86	263	P	P	15 40 37.2 -1.6
WRA	Warramunga Arr	32.86	263	P	P	15 40 37.4 -1.4
	comp=Z,7.6nm,0.6s,baz=90,slow=8.4,SNR=157					
WRA				PcP	PcP	15 43 21.0 -0.2
	comp=Z,0.7nm,0.6s,baz=94,slow=4.0,SNR=1.8					
WRA				ScP	ScP	15 46 56.4 +0.7
	comp=Z,0.9nm,0.8s,baz=87,slow=3.4,SNR=5.3					
	comp=Z,7.6nm,0.6s					
AS01	Alice Springs	33.04	257	P	P	15 40 40.3 -0.1
AS31	Alice Springs	33.08	257	IAmb	IAmb	15 40 41.1
	comp=Z,10nm,0.5s					
ASAR	Alice Springs	33.08	257	P	P	15 40 39.9 -0.8
ASAR	Alice Springs	33.08	257	P	P	15 40 40.0 -0.7
	comp=Z,21nm,0.7s,baz=84,slow=9.0,SNR=389					
ASAR				PcP	PcP	15 43 21.5 -0.4
	comp=Z,0.6nm,0.6s,baz=107,slow=2.0,SNR=1.3					
ASAR				ScP	ScP	15 46 57.2 +0.8
	comp=Z,1.4nm,0.8s,baz=95,slow=3.8,SNR=8.8					
ASAR				LR	LR	15 53 35.4
	comp=Z,86nm,19.4s,baz=92,slow=35					
	comp=Z,21nm,0.7s					
GENI	Genyem	33.13	297	P	P	15 40 41.4 +0.2
MULG	Mulgathing	33.53	245	P	P	15 40 45.2 +0.7
KDU	Kakadu	35.98	275	P	P	15 41 06.2 +0.4
MTN	Manton Dam	37.20	275	P	P	15 41 15.8 -0.3
MTN	Manton Dam	37.20	275	P	P	15 41 15.8 -0.3
MTN				IAmb	IAmb	15 41 16.6
	comp=Z,15nm,0.7s					
WRKA	Warakurna	38.19	254	P	P	15 41 24.5 0.0
FORT	Forrest	38.72	245	P	P	15 41 28.8 0.0
FORT				IAmb	IAmb	15 41 57.4
	comp=Z,15nm,0.8s					
FAKI	Fak Fak	39.81	290	P	P	15 41 37.7 -0.3
FAKI	Fak Fak	39.81	290	P	P	15 41 37.3 -0.7
FAKI	Fak Fak	39.81	290	P	P	15 41 37.3 -0.7
	comp=Z,80nm,0.7s					
GUMO	Guam	40.87	322	P	P	15 41 46.2 -0.3
BNDI	Bandanaira	41.21	286	P	P	15 41 49.3 -0.2
FITZ	Fitzroy Crossi	41.26	265	P	P	15 41 49.5 -0.3
SWI	Sorong	41.66	292	P	P	15 41 52.6 -0.5
	comp=Z,65nm,0.8s,comp=Z,815nm					
SOEI	Soe	44.53	276	P	P	15 42 17.6 +1.1
SOEI	Soe	44.53	276	P	P	15 42 18.0 +1.5
	comp=Z,47nm,1.2s					
PSA00	Pilbara Seismi	46.17	259	P	P	15 42 29.7 +0.5
PSA00	Pilbara Seismi	46.17	259	P	P	15 42 28.9 -0.3
PSA00				IAmb	IAmb	15 42 30.6
	comp=Z,15nm,0.7s					
MBWA	Marble Bar	46.33	259	P	P	15 42 30.8 +0.4
MBWA	Marble Bar	46.33	259	P	P	15 42 30.2 -0.2
MBWA				IAmb	IAmb	15 42 31.4
	comp=Z,18nm,1.0s					
MBWA	Marble Bar	46.33	259	P	P	15 42 30.5 +0.1
MEEK	Meekatharra	46.88	252	P	P	15 42 34.6 -0.1
KAPI	Kappang	50.34	280	P	P	15 43 02.0 +0.6
KAPI	Kappang	50.34	280	P	P	15 43 01.4 +0.1
	comp=Z,32nm,0.7s,baz=141,slow=5.0,SNR=15					
	comp=Z,32nm,0.7s					
DRV	Dumont d'Urvil	50.64	195	P	P	15 43 02.3 -0.5
DRV				pP	pP	15 43 27.8 +0.1
TOLI2	Tolitoli	51.85	288	P	P	15 43 12.5 -0.1
TOLI2	Tolitoli	51.85	288	P	P	15 43 12.2 -0.5
VNDA	Vanda	58.02	182	P	P	15 43 56.1 +0.1
VNDA	Vanda	58.02	182	P	P	15 43 56.4 +0.3
	comp=Z,3.0nm,0.6s,baz=1.0,slow=7.8,SNR=23					
	comp=Z,3.0nm,0.6s					
VNDA	Vanda	58.02	182	P	P	15 43 56.3 +0.3
SBA	Scott Base	58.25	181	P	P	15 43 58.8 +1.2
SBA	Scott Base	58.25	181	P	P	15 43 59.0 +1.3
SBA				pP	pP	15 44 25.9 +2.4
JHJ	Hachijo jima 2	59.58	331	P	P	15 44 07.5 +0.1
	comp=Z,28nm,0.4s,baz=238,slow=19,SNR=6.0					
	comp=Z,28nm,0.4s					
CASY	Casey	59.77	204	P	P	15 44 07.7 -0.6
CASY	Casey	59.77	204	P	P	15 44 07.2 -1.1
CASY				pP	pP	15 44 33.7 -0.2
CCD	Concordia, Ant	60.50	192	P	P	15 44 13.0 -0.7
CCD				pP	pP	15 44 39.3 -0.4
INU	Inuyama	62.70	331	IAmb	IAmb	15 44 30.0
	comp=Z,17nm,1.0s					
INU	Inuyama	62.70	331	P	P	15 44 28.4 -0.1
JGF	Kuroka	62.75	331	P	P	15 44 28.1 -0.8
MJAR	Matsushiro Arr	63.15	332	P	P	15 44 31.0 -0.4
	comp=Z,15nm,1.0s,baz=163,slow=6.7,SNR=28					
	comp=Z,15nm,1.0s					
MAJO	Matsushiro	63.15	332	P	P	15 44 31.1 -0.3
MAJO	Matsushiro	63.15	332	P	P	15 44 30.9 -0.5
MAJO				IAmb	IAmb	15 44 31.9
	comp=Z,21nm,0.9s					
MAJO	Matsushiro	63.15	332	P	P	15 44 31.2 -0.3
MJB9	Matsu-Tunnel	63.15	332	IAmb	IAmb	15 44 32.9
	comp=Z,21nm,1.0s					
TPUB	Ta-pu	63.85	310	P	P	15 44 35.3 -1.1
JNU	Nakatsue	64.04	325	P	P	15 44 37.3 -0.1
JNU	Nakatsue	64.04	325	IAmb	IAmb	15 44 38.2
	comp=Z,23nm,1.0s					
JNU	Nakatsue	64.04	325	P	P	15 44 37.1 -0.3
	comp=Z,16nm,0.8s,baz=126,slow=7.8,SNR=12					
	comp=Z,16nm,0.8s					
JTM	Tenmabayashi	65.62	337	P	P	15 44 47.4 0.0
JTM	Tenmabayashi	65.62	337	P	P	15 44 46.9 -0.5
ASAJ	Asahikawa	68.01	340	P	P	15 45 03.5 +0.9
	comp=Z,37nm,0.9s,baz=226,slow=12,SNR=31					
	comp=Z,37nm,0.9s					
KSRS	Korea Array	68.88	326	P	P	15 45 08.1 0.0
	comp=Z,1.6nm,0.8s,baz=151,slow=5.9,SNR=8.7					
	comp=Z,1.6nm,0.8s					
KSAR	Wonju Array Be	68.89	326	P	P	15 45 08.3 +0.2
QSPA	South Pole Qui	70.40	180	P	P	15 45 17.0 -0.3
QSPA	South Pole Qui	70.40	180	P	P	15 45 17.3 +0.1
	comp=Z,28nm,0.8s,baz=3.2,slow=1.2,SNR=144					
	comp=Z,28nm,0.8s					
QSPA	South Pole Qui	70.40	180	P	P	15 45 17.3 +0.1
QSPA				pP	pP	15 45 44.1 +0.2
YSS	Yuzh-Sakhalins	70.49	341	P	P	15 45 18.0 +0.2
YSS	Yuzh-Sakhalins	70.49	341	P	P	15 45 18.9 +1.1
NJ2	Nanjing	70.55	316	eP	P	15 45 20.0 +1.6
NJ2				pP	pP	15 45 46.8 +1.7
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.6s					
NJ2				pmax	pmax	
	comp=Z,280nm,3.8s					
AMKA	Amchitka	71.27	7	P	P	15 45 21.9 -0.5
USA0B	Ussuriysk Arra	72.13	333	IAmb	IAmb	15 45 29.4
	comp=Z,26nm,1.1s					
USRK	Ussuriysk Ar.	72.13	333	P	P	15 45 28.2 +0.5
USRK	Ussuriysk Ar.	72.13	333	P	P	15 45 28.0 +0.3
	comp=Z,9.8nm,0.9s,baz=147,slow=3.9,SNR=21					
	comp=Z,9.8nm,0.9s					
ADK	Adak	72.28	9	P	P	15 45 28.1 -0.3
ADK	Adak	72.28	9	P	P	15 45 27.2 -1.2
ADK				IAmb	IAmb	15 45 28.7
	comp=Z,22nm,0.8s					
PET	Petropavlovsk	72.96	353	P	P	15 45 33.5 +1.1
ATKA	Atka Island	72.99	11	P	P	15 45 31.7 -0.9
GSI	Gunungsitoli	73.27	278	P	P	15 45 35.8 +0.6
MDJ	Mudanjiang	73.52	332	P	P	15 45 36.7 +0.8
MDJ				pmax	pmax	
	comp=Z,23nm,0.9s					
MDJ	Mudanjiang	73.52	332	IAmb	IAmb	15 45 37.4
	comp=Z,21nm,1.0s					
NIKH	Nikolski High	74.77	13	P	P	15 45 42.6 -0.4
NIKH	Nikolski High	74.77	13	P	P	15 45 42.1 -0.9
NIKH	Nikolski High	74.77	13	P	P	15 45 42.1 -0.9
	baz=201,SNR=18					
BNX	BinXian	75.37	331	⇑P	P	15 45 46.4 -0.2
BNX				pmax	pmax	
	comp=Z,18nm,0.8s					
GYA	Guiyang	76.11	305	⇑P	P	15 45 52.0 +0.6
GYA				pmax	pmax	
	comp=Z,12nm,0.9s					
UNV	Unalaska Valle	76.11	14	P	P	15 45 49.5 -1.1
UNV	Unalaska Valle	76.11	14	P	P	15 45 48.9 -1.7
UNV				IAmb	IAmb	15 45 50.6
	comp=Z,31nm,0.8s					
UNV	Unalaska Valle	76.11	14	P	P	15 45 49.8 -0.8
	baz=203,SNR=5.6					
KLR	Kul'dur	76.28	336	P	P	15 45 52.5 +0.9
	comp=Z,10nm,0.8s,baz=126,slow=3.4,SNR=36					
	comp=Z,10nm,0.8s					
LYN	LuoYang	76.30	315	P	P	15 45 46.4 -5.8
LYN				pmax	pmax	
	comp=Z,260nm,4.3s					
BJI	Beijing	77.30	321	P	P	15 45 58.0 +0.4
BJI				pmax	pmax	
	comp=Z,3.0nm,1.0s					
XAN	Xi'an	78.44	313	P	P	15 46 04.7 +0.5
XAN				pmax	pmax	
	comp=Z,19nm,1.3s					
KMI	Kunming	78.54	302	⇓P	P	15 46 06.4 +1.2
KMI				pmax	pmax	
	comp=Z,18nm,0.9s					
CM31	Chiang Mai Arr	78.73	294	IAmb	IAmb	15 46 08.4
	comp=Z,16nm,1.1s					
CMAR	Chiang Mai Arr	78.73	294	P	P	15 46 06.5 +0.5
CMAR	Chiang Mai Arr	78.73	294	P	P	15 46 07.2 +1.2
	comp=Z,6.3nm,0.8s,baz=133,slow=4.1,SNR=36					
	comp=Z,6.3nm,0.8s					
HEH	HeiHe	78.82	334	eP	P	15 46 05.6 -0.2
HEH				pmax	pmax	
	comp=Z,14nm,0.8s					
HEH				LR	LR	
	comp=Z,310nm,20.2s					
HEH				LR	LR	
	comp=Z,810nm,21.0s					
HEH				LR	LR	
	comp=Z,1μm,22.5s					
CHTO	Chiang Mai	78.88	295	P	P	15 46 07.2 +0.3
XLT	XiLinHaoTe	79.81	324	eP	P	15 46 11.6 +0.1
XLT				PcP	PcP	15 46 19.2 +0.4
XLT				pP	pP	15 46 38.8 0.0
XLT				sP	sP	15 46 50.6 +0.4
XLT				pmax	pmax	
	comp=Z,6.0nm,1.1s					
XLT				LR	LR	
	comp=Z,460nm,17.9s					
XLT				LR	LR	
	comp=Z,760nm,25.5s					
PZH	PanZhiHua	79.98	303	P	P	15 46 14.4 +1.6
PZH				pmax	pmax	
	comp=Z,8.0nm,1.0s					
PZH				pmax	pmax	
	comp=Z,100nm,5.1s					
HHC	Hu-ho-hao-te	80.58	319	eP	P	15 46 16.5 +0.8
HHC				pP	pP	15 46 40.3 -2.7
HHC				pmax	pmax	
	comp=Z,25nm,0.5s					
HHC				pmax	pmax	
	comp=Z,78nm,5.5s					
BTO	Baotou	81.39	319	eP	P	15 46 21.6 +1.6
BTO				pP	pP	15 46 47.6 +0.2
BTO				S	S	15 56 24.1 +1.7
BTO				SS	SS	16 01 41.6 +0.2
BTO				pmax	pmax	
	comp=Z,15nm,0.6s					
BTO				pmax	pmax	
	comp=Z,110nm,5.7s					
BTO				LR	LR	
	comp=Z,260nm,5.4s					
BTO				LR	LR	
	comp=Z,350nm,9.5s					
BTO				LR	LR	
	comp=Z,260nm,10.8s					
BELA	Belgrano 2	81.68	175	P	P	15 46 20.4 -0.5
SII	Sitkinak Islan	81.90	19	P	P	15 46 21.8 -0.4
	baz=214					
R17L	Mt. Peulik Vol	82.14	18	P	P	15 46 23.5 0.0
	baz=212					
O14K	Tigyukauivet M	82.25	15	P	P	15 46 23.6 -0.3
O14K				IAmb	IAmb	15 46 25.8
	comp=Z,30nm,0.8s					
O14K	Tigyukauivet M	82.25	15	P	P	15 46 24.9 +1.0
	baz=208					
O15K	Ungalikthiuk R	82.54	15	P	P	15 46 25.8 +0.3
	baz=209					
R18K	Karluk	82.65	19	P	P	15 46 26.0 0.0
	baz=214					
OHAK	Old Harbor	82.73	19	P	P	15 46 26.8 +0.4
	baz=215,SNR=5.2					
N14K	Kuskokwak Cree	82.75	14	P	P	15 46 26.7 +0.2
	baz=207					
Q17K	Contact Creek	82.81	18	P	P	15 46 26.6 -0.4
	baz=213,SNR=8.1					
LZH	Lanzhou	83.05	312	eP	P	15 46 30.6 +1.7
LZH				pmax	pmax	
	comp=Z,20nm,1.5s					
N15K	Kwethluk River	83.34	15	P	P	15 46 30.0 +0.4
	baz=209					
O16K	Kokwok River B	83.34	16	P	P	15 46 29.5 -0.1
	baz=211					
Q18K	Katmai Hardscr	83.39	18	P	P	15 46 29.6 -0.4
	baz=214,SNR=19					
KDAK	Kodiak Island	83.41	19	P	P	15 46 30.1 +0.1
KDAK	Kodiak Island	83.41	19	P	P	15 46 30.2 +0.3
	baz=216					
M14K	Bethel	83.43	14	P	P	15 46 30.2 +0.3
	baz=207					
P17K	Kvichak River	83.45	17	P	P	15 46 29.4 -0.7
	baz=212					
M15K	Kasigluk River	83.67	14	P	P	15 46 31.3 +0.1
	baz=208					
O17K	Koliganek Bris	83.76	16	P	P	15 46 31.7 +0.1
	baz=212					
L14K	Kuka Creek	83.80	13	P	P	15 46 31.5 -0.3
L14K				IAmb	IAmb	15 46 33.1
	comp=Z,23nm,0.8s					
L14K	Kuka Creek	83.80	13	P	P	15 46 32.1 +0.3
	baz=206,SNR=8.5					
K13K	Kusilvak Mount	83.93	12	IAmb	IAmb	15 46 33.9
	comp=Z,18nm,0.8s					
K13K	Kusilvak Mount	83.93	12	P	P	15 46 33.0 +0.5
	baz=205					
N16K	Nishlik Lake	83.94	15	P	P	15 46 33.2 +0.6
	baz=210,SNR=9.3					
P18K	Big Mountain,	83.95	17	P	P	15 46 32.2 -0.5
P18K	Big Mountain,	83.95	17	P	P	15 46 32.2 -0.5
	baz=213,SNR=24					
Q19K	Cape Douglas,	84.02	18	P	P	15 46 32.7 -0.4
	baz=215					
Q20K	Shuyak Island	84.14	19	P	P	15 46 34.0 +0.4
	baz=216					
O18K	Koktuh Hills	84.34	17	P	P	15 46 34.5 -0.2
	baz=213,SNR=9.2					
L15K	Ungalak Mounta	84.36	14	P	P	15 46 34.7 0.0
	baz=208,SNR=8.1					
M16K	Timber Creek	84.36	15	P	P	15 46 35.1 +0.3
M16K	Timber Creek	84.36	15	P	P	15 46 35.6 +0.8
	baz=210,SNR=18					
N17K	Nushagak Hills	84.38	16	IAmb	IAmb	15 46 37.0
	comp=Z,21nm,0.8s					
N17K	Nushagak Hills	84.38	16	P	P	15 46 35.1 +0.3
	baz=212,SNR=8.3					
P19K	Oil Pt	84.74	18	P	P	15 46 36.7 0.0
	baz=215,SNR=7.8					
L16K	Owhat River	84.84	14	P	P	15 46 36.8 -0.3
L16K	Owhat River	84.84	14	P	P	15 46 37.5 +0.4
	baz=209,SNR=14					
N18K	Kilae Creek	84.85	16	IAmb	IAmb	15 46 38.2
	comp=Z,18nm,0.8s					
N18K	Kilae Creek	84.85	16	P	P	15 46 36.9 -0.4
	baz=213,SNR=6.5					
O19K	Port Alsworth	84.88	17	P	P	15 46 37.1 -0.2
	baz=214					
J14K	Nanvaranak Lak	84.89	12	IAmb	IAmb	15 46 38.9
	comp=Z,26nm,1.0s					
J14K	Nanvaranak Lak	84.89	12	P	P	15 46 37.8 +0.5
	baz=206,SNR=5.9					
K15K	Wolf Creek Mou	84.90	13	P	P	15 46 38.2 +0.8
	baz=207,SNR=20					
M17K	Holitna River	85.07	15	P	P	15 46 38.7 +0.4
M17K	Holitna River	85.07	15	P	P	15 46 39.4 +1.2
	baz=211,SNR=8.8					
N19K	Bonanza Creek	85.34	17	IAmb	IAmb	15 46 40.1
	comp=Z,14nm,0.9s					
N19K	Bonanza Creek	85.34	17	P	P	15 46 39.3 -0.5
	baz=214					
L17K	Donlin	85.49	15	P	P	15 46 41.4 +1.0
	baz=210,SNR=15					
M18K	Stony River	85.55	16	P	P	15 46 41.4 +0.7
	baz=213,SNR=17					
BRSE	Bradley Lake S	85.56	19	P	P	15 46 41.0 +0.2
	baz=217					
ELIB	Princess Elisa	85.74	190	dP	P	15 46 41.3 -0.6
	comp=Z,8.9nm,0.8s					
ELIB				dpP	pP	15 47 09.2 -0.3
L18K	Granite Mounta	85.95	15	P	P	15 46 42.8 +0.2
L18K				IAmb	IAmb	15 46 45.2
	comp=Z,13nm,0.7s					
L18K	Granite Mounta	85.95	15	P	P	15 46 42.8 +0.2
	baz=212,SNR=10					
J16K	Anvik River	85.97	13	P	P	15 46 43.2 +0.5
	baz=208,SNR=20					
K17K	Iditarod	85.99	14	IAmb	IAmb	15 46 45.2
	comp=Z,20nm,0.8s					
K17K	Iditarod	85.99	14	P	P	15 46 43.1 +0.3
	baz=210,SNR=8.4					
M19K	Big River Lodg	86.28	16	P	P	15 46 44.3 0.0
	baz=214					
L19K	White Mountain	86.39	16	P	P	15 46 44.3 -0.5
L19K	White Mountain	86.39	16	P	P	15 46 44.6 -0.2
	baz=214,SNR=17					
J17K	VABM Dome	86.41	14	IAmb	IAmb	15 46 46.7
	comp=Z,16nm,0.9s					
J17K	VABM Dome	86.41	14	P	P	15 46 45.1 +0.2
	baz=210,SNR=8.8					
I17K	Unalakleet	86.49	13	P	P	15 46 45.5 +0.3
	baz=208					
O02D	Mt. Diablo Mer	86.75	45	IAmb	IAmb	15 46 49.6
	comp=Z,19nm,0.8s					
G15K	Niukluk	86.83	11	P	P	15 46 46.6 -0.3
	baz=205					
H16K	Elim	86.85	12	P	P	15 46 46.8 -0.1
	baz=207,SNR=6.6					
L20K	Farewell, AK	86.89	16	P	P	15 46 46.6 -0.6
	baz=214,SNR=18					
SUA	Susitna One	86.93	18	P	P	15 46 46.7 -0.9
	baz=217					
J18K	Innoko River	87.01	15	IAmb	IAmb	15 46 49.1
	comp=Z,17nm,0.8s					
J18K	Innoko River	87.01	15	P	P	15 46 47.5 -0.3
	baz=212,SNR=21					
ULN	Ulaanbaatar	87.23	323	P	P	15 46 48.6 -0.9
ULN				IAmb	IAmb	15 46 50.8
	comp=Z,19nm,1.1s					
YAK	Yakutsk	87.29	342	P	P	15 46 48.4 -0.7
YAK				IAmb	IAmb	15 46 52.2
	comp=Z,11nm,0.8s					
YAK	Yakutsk	87.29	342	P	P	15 46 48.8 -0.3
	comp=Z,10nm,0.7s,baz=46,slow=3.9,SNR=8.3					
	comp=Z,10nm,0.7s					
ORV	Oroville	87.33	46	IAmb	IAmb	15 46 51.4
	comp=Z,7.7nm,0.7s					
M22K	Willow	87.34	18	P	P	15 46 49.4 +0.1
	baz=218					
F15K	North Star Dit	87.38	10	P	P	15 46 49.7 +0.2
	baz=204					
CMB	Columbia Colle	87.39	48	P	P	15 46 50.4 0.0
CMB				IAmb	IAmb	15 46 51.8
	comp=Z,8.5nm,0.8s					
AFDM	Forest Hills D	87.41	47	IAmb	IAmb	15 46 52.3
	comp=Z,11nm,0.9s					
GTA	Gaotai	87.45	313	P	P	15 46 51.0 +0.3
GTA				pP	pP	15 47 18.1 -0.3
GTA				pmax	pmax	
	comp=Z,6.0nm,1.3s					
GTA				LR	LR	
	comp=Z,180nm,15.5s					
GTA				LR	LR	
	comp=Z,350nm,22.7s					
GTA				LR	LR	
	comp=Z,550nm,24.9s					
BILL	Bilibino	87.47	359	P	P	15 46 49.3 -0.6
BILL				IAmb	IAmb	15 46 50.4
	comp=Z,9.0nm,0.9s					
G16K	Koyuk River	87.50	11	IAmb	IAmb	15 46 52.2
	comp=Z,18nm,0.8s					
G16K	Koyuk River	87.50	11	P	P	15 46 49.9 -0.1
	baz=207,SNR=8.7					
YBH	Yreka Blue Hor	87.56	44	IAmb	IAmb	15 46 53.1
	comp=Z,10nm,0.8s					
H17K	Granite Mounta	87.58	13	IAmb	IAmb	15 46 52.0
	comp=Z,14nm,0.8s					
H17K	Granite Mounta	87.58	13	P	P	15 46 50.2 -0.3
	baz=209,SNR=8.9					
SONM	Songino Array	87.59	323	P	P	15 46 50.3 -0.8
SONM				IAmb	IAmb	15 46 52.3
	comp=Z,12nm,1.2s					
SONM	Songino Array	87.59	323	P	P	15 46 51.4 +0.3
	comp=Z,6.3nm,1.0s,baz=139,slow=5.5,SNR=33					
	comp=Z,6.3nm,1.0s					
BFSC	Mount Baldy Ra	87.68	52	P	P	15 46 50.9 -1.0
	baz=244					
ISA	Isabella, Lake	87.70	51	IAmb	IAmb	15 46 53.6
	comp=Z,9.0nm,0.8s					
ISA	Isabella, Lake	87.70	51	P	P	15 46 51.0 -0.9
	baz=244,SNR=6.2					
EDW2	Edwards Air Fo	87.71	52	P	P	15 46 51.5 -0.4
	baz=244,SNR=5.5					
J19K	Poorman	87.72	15	P	P	15 46 50.8 -0.4
	baz=213					
HUMO	Hull Mountain	87.83	43	P	P	15 46 52.9 +0.7
HUMO				IAmb	IAmb	15 46 54.4
	comp=Z,13nm,0.9s					
SML	Sawmill	87.92	19	P	P	15 46 52.0 -0.2
	baz=219					
G17K	Kiwalik Mounta	87.93	12	P	P	15 46 52.7 +0.6
	baz=208,SNR=7

baz=220
CWC Cottonwood Cre 88.33 50 P P 15 46 54.9 -0.1
baz=244
CHUM Lake Minchumin 88.45 16 P P 15 46 55.6 +1.1
baz=216
MPMC Manual Prospec 88.59 51 P P 15 46 56.5 +0.3
baz=244,SNR=7.5
YERR Yerington 88.62 48 IAmb IAmb 15 46 58.0
comp=Z,10nm,1.3s
WAT1 Susitna Watana 88.64 18 P P 15 46 56.4 +0.8
baz=219
F17K Baldwin Pennin 88.65 11 P P 15 46 56.8 +1.4
baz=208
I20K Naaghedeneel 88.66 15 IAmb IAmb 15 46 57.5
comp=Z,11nm,0.9s
I20K Naaghedeneel 88.66 15 P P 15 46 56.3 +0.8
baz=214
G18K Tagagawik 88.67 13 IAmb IAmb 15 46 57.1
comp=Z,9.7nm,1.0s
G18K Tagagawik 88.67 13 P P 15 46 56.0 +0.4
baz=210,SNR=7.7
WAT6 Susitna Watana 88.69 18 P P 15 46 55.8 -0.2
baz=220
SNAA Sanae 88.75 182 P P 15 46 55.2 -1.0
SNAA Sanae 88.75 182 ⇑P P 15 46 55.4 -0.8
comp=Z,330nm,0.6s
SNAA ⇓pP pP 15 47 23.2 -0.6
comp=Z,95nm,0.9s
SNAA Sanae 88.75 182 P P 15 46 55.6 -0.6
comp=Z,13nm,0.6s,baz=203,slow=6.0,SNR=69
comp=Z,13nm,0.6s
DSP Deep Springs 88.81 50 IAmb IAmb 15 46 59.0
comp=Z,6.9nm,0.9s
H19K Roundabout Mou 88.83 14 P P 15 46 57.4 +1.1
baz=212
BELC Belle Mtn. Jos 88.83 53 P P 15 46 56.5 -0.8
baz=245
PAHR Pah Rah Range 88.85 47 P P 15 46 56.8 -0.5
PAHR IAmb IAmb 15 46 59.1
comp=Z,14nm,1.3s
HEC Hector,Ludlow 88.92 52 P P 15 46 57.9 +0.2
baz=245
NVAR Mina Array Bea 89.03 48 P P 15 46 57.9 -0.4
NVAR Mina Array Bea 89.03 48 P P 15 46 58.7 +0.4
comp=Z,3.7nm,0.8s,baz=227,slow=8.2,SNR=20
comp=Z,3.7nm,0.8s
GRAC Grapevine Rang 89.08 50 IAmb IAmb 15 47 00.2
comp=Z,9.6nm,0.8s
GRAC Grapevine Rang 89.08 50 P P 15 46 58.5 +0.2
baz=244,SNR=6.1
F18K Selawik 89.09 12 P P 15 46 58.1 +0.6
baz=209
BC3 Big Chuckawall 89.10 54 P P 15 46 58.4 -0.2
baz=246
E17K Hotham Inlet 89.11 11 P P 15 46 57.9 +0.3
baz=207
H20K Anotleneega Mo 89.15 14 P P 15 46 57.5 -0.4
baz=213
DHY Denali Highway 89.18 18 IAmb IAmb 15 47 00.9
comp=Z,21nm,1.8s
DHY Denali Highway 89.18 18 P P 15 46 57.4 -0.8
baz=220
G19K Purcell Mounta 89.22 13 P P 15 46 57.7 -0.4
G19K IAmb IAmb 15 47 01.1
comp=Z,9.1nm,0.8s
G19K Purcell Mounta 89.22 13 P P 15 46 57.8 -0.4
baz=211,SNR=9.5
J05D Fort Rock, OR 89.26 43 P P 15 46 59.3 +0.2
H04A Detroit Lake 89.32 42 IAmb IAmb 15 47 00.4
comp=Z,12nm,0.8s
VNA3 Neumayer Olymp 89.33 180 ⇑P P 15 46 58.1 -0.8
VNA3 ⇓pP pP 15 47 25.3 -1.3
comp=Z,28nm,0.4s
comp=Z,17nm,0.7s
GMRC Granite Mounta 89.41 53 P P 15 46 59.7 -0.3
baz=246
D17K Noatak River 89.45 10 P P 15 46 59.8 +0.6
baz=206
KVN Kaiserville 89.45 48 P P 15 46 59.6 -0.6
KVN IAmb IAmb 15 47 01.7
comp=Z,7.2nm,0.8s
TUQ Turquoise Moun 89.48 52 P P 15 46 59.8 -0.6
baz=245
S31K Pelican 89.48 26 P P 15 46 59.3 -0.3
baz=230
IRM Iron Mountain 89.54 53 P P 15 46 59.8 -0.7
baz=246
CTG Chitna Glacier 89.57 22 P P 15 46 59.6 -0.6
baz=226
I21K Tanana 89.59 15 IAmb IAmb 15 47 03.9
comp=Z,12nm,0.9s
I21K Tanana 89.59 15 P P 15 47 00.0 +0.1
baz=216
VNA2 Neumayer--Watz 89.63 181 ⇑P P 15 46 59.7 -0.5
comp=Z,36nm,0.6s,baz=186,slow=4.4
VNA2 ⇓pP pP 15 47 27.6 -0.3
comp=Z,11nm,0.8s,baz=158,slow=3.9
E18K Tukpahlearik C 89.64 11 P P 15 46 59.8 -0.3
baz=208
U33K Whale Pass 89.66 28 P P 15 46 59.7 -0.7
baz=233
F19K Shaleruckik Mo 89.67 12 P P 15 46 59.8 -0.5
baz=211
PINE Pine Mountain 89.69 43 P P 15 47 01.4 +0.2
H21K Melozitna Rive 89.78 15 P P 15 47 00.4 -0.4
baz=215
MLY Manley 89.78 16 P P 15 47 00.6 -0.3
baz=217
BBB Bella Bella 89.79 33 LR LR 16 20 57.1
comp=Z,48nm,18.6s,baz=261,slow=31
IMAR Indian Mountai 89.82 14 P P 15 46 59.9 -1.1
O28M Mount Upton 89.84 22 P P 15 47 00.9 -0.7
baz=227
V35K Ketchikan 89.87 29 P P 15 47 01.0 -0.5
baz=234
TPNV Topopah Spring 89.87 51 P P 15 47 02.1 -0.1
baz=245,SNR=9.3
NEA2 Nenana 89.88 17 P P 15 47 00.8 -0.5
baz=219
VNA1 Neumayer--Stat 89.92 181 ⇑P P 15 47 01.1 -0.5
comp=Z,23nm,1.0s
VNA1 ⇓pP pP 15 47 28.3 -0.9
comp=Z,13nm,0.9s
HOOD Mount Hood Mea 89.96 41 P P 15 47 01.7 -0.6
HOOD IAmb IAmb 15 47 12.3
comp=Z,14nm,0.8s
P29M Windy Craggy 89.98 24 P P 15 47 00.8 -1.1
baz=229
M26K Nabesna, AK 90.03 20 P P 15 47 01.4 -0.7
baz=224
WRH Wood River Hil 90.05 17 IAmb IAmb 15 47 02.9
comp=Z,4.7nm,0.6s
C17K DeLong Mountai 90.14 10 P P 15 47 02.2 -0.2
baz=206
CLRS Cowichan Lake 90.19 37 IAmb IAmb 15 47 04.8
comp=Z,9.6nm,0.9s
K24K Donnelly Dome 90.20 18 P P 15 47 01.9 -1.0
baz=222
F20K Avaraart Lake 90.27 13 P P 15 47 02.5 -0.5
F20K Avaraart Lake 90.27 13 P P 15 47 02.6 -0.5
baz=213
E19K Redstone River 90.31 12 P P 15 47 02.6 -0.7
baz=211
H22K Ishtalitna Cre 90.31 15 P P 15 47 03.0 -0.3
baz=217
G21K Allakaket 90.32 14 P P 15 47 02.7 -0.7
baz=215
HDA Harding Lake 90.32 17 IAmb IAmb 15 47 05.0
comp=Z,11nm,1.0s
HDA Harding Lake 90.32 17 P P 15 47 02.4 -1.0
baz=221,SNR=6.4
YUK8 Steele Glacier 90.34 22 P P 15 47 02.5 -1.4
baz=227,SNR=5.4
PDMCI Parker Dam,Lak 90.36 54 P P 15 47 03.1 -1.2
baz=246
M27K Edge Creek, AK 90.37 21 P P 15 47 02.0 -1.8
baz=225
PLBC Pleasant Camp 90.39 25 P P 15 47 03.1 -0.7
baz=230
COLA College 90.42 17 P P 15 47 02.7 -1.1
baz=220
YUK3 Moose Creek 90.44 21 P P 15 47 03.7 -0.6
baz=226
LON Longmire 90.54 40 IAmb IAmb 15 47 06.0
comp=Z,5.3nm,0.8s
WVOR Wild Horse Val 90.57 45 IAmb IAmb 15 47 07.0
comp=Z,7.5nm,0.9s
P30M Million Dollar 90.60 24 P P 15 47 04.2 -0.7
baz=229
IL31 90.61 17 IAmb IAmb 15 47 08.7
comp=Z,5.6nm,0.8s
ILAR Eielson Array 90.61 17 P P 15 47 02.2 -2.6
ILAR Eielson Array 90.61 17 P P 15 47 03.0 -1.8
comp=Z,3.8nm,0.8s,baz=236,slow=5.5,SNR=48
comp=Z,3.8nm,0.8s
YUK6 Outpost Mounta 90.62 23 P P 15 47 04.2 -0.9
baz=228
C18K Utukok River 90.62 10 P P 15 47 04.5 -0.3
baz=208
BMN Battle Mountai 90.66 47 IAmb IAmb 15 47 07.4
comp=Z,7.2nm,1.0s
H23K Yukon River 90.72 16 P P 15 47 04.8 -0.4
baz=218
I07A Izee 90.74 43 P P 15 47 06.1 +0.1
I07A IAmb IAmb 15 47 08.2
comp=Z,8.8nm,0.8s
YUK4 Talbot Arm 90.78 22 P P 15 47 06.1 +0.2
baz=228
HYT Haines Junctio 90.85 23 P P 15 47 04.9 -1.2
baz=229
SCRK Sand Creek 90.86 19 IAmb IAmb 15 47 12.0
comp=Z,6.1nm,0.8s
SCRK Sand Creek 90.86 19 P P 15 47 04.4 -1.7
baz=223,SNR=10
L27K Beaver Creek, 90.88 20 P P 15 47 05.2 -0.8
baz=225
F21K Alatna River 90.91 14 P P 15 47 06.0 -0.1
baz=215,SNR=6.0
J25K Salcha River, 90.92 18 P P 15 47 05.3 -1.0
baz=222
PRN Pahroc Range 90.93 50 IAmb IAmb 15 47 09.6
comp=Z,12nm,0.9s
R11B Troy Canyon, C 90.93 49 P P 15 47 06.5 -0.6
R11B Troy Canyon, C 90.93 49 P P 15 47 06.8 -0.3
baz=246,SNR=6.0
D19K Kuna River 91.03 11 IAmb IAmb 15 47 08.5
comp=Z,5.7nm,0.8s
D19K Kuna River 91.03 11 P P 15 47 06.2 -0.5
baz=210
J08A Circle Bar Ran 91.09 44 IAmb IAmb 15 47 09.1
comp=Z,8.9nm,0.9s
G22K Bettles 91.11 14 P P 15 47 06.4 -0.5
baz=216
E20K Nigu River 91.20 12 P P 15 47 07.0 -0.4
baz=212
G23K Bananza Creek 91.30 15 P P 15 47 07.7 -0.3
baz=218
C19K Lookout Ridge 91.30 11 P P 15 47 07.4 -0.5
baz=209
O30N Mendenhall 91.35 24 IAmb IAmb 15 47 08.4
comp=Z,6.9nm,0.7s
O30N Mendenhall 91.35 24 P P 15 47 07.1 -1.2
baz=230,SNR=5.8
J26L Joseph Creek 91.37 19 P P 15 47 07.2 -1.2
J26L Joseph Creek 91.37 19 P P 15 47 07.9 -0.5
baz=224,SNR=6.1
N30M Aishikik Lake 91.42 23 P P 15 47 07.2 -1.4
baz=229
F22K John River 91.43 14 P P 15 47 08.0 -0.5
baz=216,SNR=10
T35M Bob Quinn 91.45 28 P P 15 47 08.4 -0.5
baz=235
K27K Chicken 91.49 19 P P 15 47 08.2 -0.6
baz=225
D20K Etivluk River 91.51 12 P P 15 47 08.1 -0.8
baz=212
P32M Atlin 91.53 25 IAmb IAmb 15 47 10.0
comp=Z,9.0nm,0.8s
P32M Atlin 91.53 25 P P 15 47 08.2 -1.0
baz=232
M29M Somme Creek 91.58 22 P P 15 47 08.6 -0.9
baz=228
S34M Telegraph Cree 91.61 27 IAmb IAmb 15 47 10.9
comp=Z,9.4nm,0.8s
S34M Telegraph Cree 91.61 27 P P 15 47 09.4 0.0
baz=234,SNR=5.6
G08A Pilot Rock 91.63 42 P P 15 47 09.9 -0.1
G08A IAmb IAmb 15 47 11.5
comp=Z,7.4nm,1.0s
COLD Coldfoot 91.67 15 P P 15 47 09.6 +0.1
baz=218,SNR=8.6
Q32M Nakina River 91.74 26 P P 15 47 09.7 -0.6
baz=233
HAWA Hanford 91.77 41 IAmb IAmb 15 47 12.3
comp=Z,12nm,1.1s
E21K Killik River 91.81 13 P P 15 47 09.5 -0.7
E21K IAmb IAmb 15 47 10.9
comp=Z,8.5nm,0.9s
E21K Killik River 91.81 13 P P 15 47 09.3 -1.0
baz=214,SNR=8.6
N31M Braeburn, Yuko 91.92 23 P P 15 47 10.6 -0.3
baz=230
G24K Hadweenzic Riv 91.93 16 P P 15 47 11.1 +0.3
baz=220,SNR=5.7
E22K Anaktuvuk Pass 92.02 14 IAmb IAmb 15 47 12.0
comp=Z,4.9nm,0.8s
E22K Anaktuvuk Pass 92.02 14 P P 15 47 10.9 -0.4
baz=216
A19K Wainwright 92.03 10 P P 15 47 11.0 -0.1
baz=208
H25L Birch Creek 92.04 17 P P 15 47 11.3 +0.1
baz=222
I26K Coal Creek Min 92.08 18 IAmb IAmb 15 47 12.7
comp=Z,4.9nm,0.9s
I26K Coal Creek Min 92.08 18 P P 15 47 11.0 -0.5
baz=224
LCMT Little Creek M 92.10 51 IAmb IAmb 15 47 14.3
comp=Z,5.9nm,1.1s
L29M L29M 92.14 21 IAmb IAmb 15 47 12.9
comp=Z,4.7nm,0.9s
L29M L29M 92.14 21 P P 15 47 11.6 -0.3
baz=228
TUC Tucson 92.19 57 P P 15 47 11.4 -1.5
baz=248
CCUT Cedar City 92.22 51 P P 15 47 12.7 -0.5
CCUT IAmb IAmb 15 47 15.3
comp=Z,6.8nm,1.3s
C21K Knifeblade Rid 92.24 12 P P 15 47 12.0 -0.2
baz=214,SNR=6.2
M30M Minto, Yukon 92.26 22 IAmb IAmb 15 47 12.6
comp=Z,9.2nm,0.9s
M30M Minto, Yukon 92.26 22 P P 15 47 11.6 -0.8
baz=230,SNR=7.3
P33M Teslin, Yukon 92.27 25 IAmb IAmb 15 47 12.9
comp=Z,7.4nm,0.9s
P33M Teslin, Yukon 92.27 25 P P 15 47 11.8 -0.8
baz=233
EGAK Eagle 92.30 19 P P 15 47 11.4 -1.1
EGAK IAmb IAmb 15 47 13.7
comp=Z,6.5nm,0.8s
EGAK Eagle 92.30 19 P P 15 47 11.9 -0.6
baz=226,SNR=9.2
G25K Bearman Lake 92.34 16 P P 15 47 12.7 +0.1
baz=221
DLBC Dease Lake 92.39 27 IAmb IAmb 15 47 14.8
comp=Z,9.6nm,0.9s
DLBC Dease Lake 92.39 27 P P 15 47 12.3 -0.9
baz=235,SNR=5.6
D22K Ayikyak River 92.44 13 IAmb IAmb 15 47 14.4
comp=Z,7.6nm,0.8s
D22K Ayikyak River 92.44 13 P P 15 47 12.7 -0.4
baz=216,SNR=6.0
F24K Squaw Lake 92.45 15 P P 15 47 12.5 -0.8
F24K IAmb IAmb 15 47 19.5
comp=Z,3.9nm,0.8s
F24K Squaw Lake 92.45 15 P P 15 47 13.0 -0.3
baz=220
E23K Chandalar 92.46 14 P P 15 47 13.0 -0.4
baz=218,SNR=7.0
B20K Meade River 92.51 11 P P 15 47 13.1 -0.3
baz=211
R33M Jennings River 92.54 26 IAmb IAmb 15 47 15.1
comp=Z,8.2nm,0.8s
R33M Jennings River 92.54 26 P P 15 47 13.5 -0.4
baz=234,SNR=6.8
U15A North Rim 92.58 52 IAmb IAmb 15 47 17.1
comp=Z,13nm,1.5s
B21K Ikpikpuk River 92.66 12 IAmb IAmb 15 47 15.2
comp=Z,7.1nm,0.8s
B21K Ikpikpuk River 92.66 12 P P 15 47 13.1 -1.0
baz=214
N32M Quiet Lake 92.73 24 P P 15 47 14.2 -0.5
baz=233
E24K Your Creek 92.74 15 P P 15 47 14.1 -0.5
baz=219
I27K Kandik River 92.74 18 P P 15 47 14.0 -0.7
baz=225
K29M Barlow Dome 92.83 21 P P 15 47 14.6 -0.6
baz=229
MFID Camas Ranch 92.86 45 P P 15 47 15.2 -0.6
TOLK Toolik Lake Re 92.93 14 IAmb IAmb 15 47 16.1
comp=Z,4.9nm,1.0s
TOLK Toolik Lake Re 92.93 14 P P 15 47 14.7 -0.8
baz=218
D23K Nanushuk River 92.94 13 P P 15 47 15.5 0.0
baz=217
F25K Christian Rive 93.08 16 P P 15 47 15.6 -0.6
baz=222
G26K Porcupine Rive 93.09 17 P P 15 47 16.1 0.0
baz=224,SNR=15
I28M Miner Creek 93.14 19 P P 15 47 16.6 0.0
baz=227,SNR=5.1
H27K Steamboat Moun 93.21 18 P P 15 47 16.7 -0.1
baz=226
BMAR Burnt Mountain 93.23 16 P P 15 47 16.1 -0.8
FARO Faro, Yukon 93.29 23 P P 15 47 16.6 -0.6
baz=233
E25K Arctic Village 93.49 15 P P 15 47 17.6 -0.4
baz=222
B22K Teshekpuk Lake 93.49 12 P P 15 47 18.2 +0.3
baz=215
D24K Happy Valley 93.50 14 P P 15 47 17.9 -0.1
baz=219
F26K Sheenjek River 93.54 16 P P 15 47 18.1 -0.2
baz=223
G27K Doyon Strip 93.58 17 P P 15 47 18.1 -0.3
baz=226
I29M Ogilvie Camp, 93.58 19 IAmb IAmb 15 47 19.0
comp=Z,8.6nm,1.2s
I29M Ogilvie Camp, 93.58 19 P P 15 47 18.1 -0.3
baz=228
DUG Dugway, Tooele 93.64 49 P P 15 47 17.3 -2.2
baz=247
C23K Itkillik River 93.65 13 IAmb IAmb 15 47 19.9
comp=Z,7.9nm,0.8s
C23K Itkillik River 93.65 13 P P 15 47 19.3 +0.6
baz=217,SNR=8.3
J30M Hart River 93.71 21 P P 15 47 17.7 -1.5
baz=230
A21K Barrow 93.73 10 P P 15 47 18.7 -0.3
baz=212
A22K Sinclair Lake 93.75 11 P P 15 47 19.0 -0.1
baz=213
HLID Hailey 93.86 45 P P 15 47 19.2 -1.3
baz=246
C24K Franklin Bluff 93.97 14 P P 15 47 19.9 -0.2
baz=219
I30M Mount Dempster 94.11 20 IAmb IAmb 15 47 21.4
comp=Z,4.7nm,1.0s
I30M Mount Dempster 94.11 20 P P 15 47 20.3 -0.8
baz=230,SNR=5.9
H29M Whitestone 94.14 19 P P 15 47 20.9 -0.1
baz=228
D25K Kavik River 94.19 14 P P 15 47 20.1 -1.1
D25K IAmb IAmb 15 47 21.4
comp=Z,4.1nm,0.9s
D25K Kavik River 94.19 14 P P 15 47 21.0 -0.2
baz=221
MMPY Sheldon Lake, 94.30 24 IAmb IAmb 15 47 22.2
comp=Z,5.5nm,0.8s
MMPY Sheldon Lake, 94.30 24 P P 15 47 21.7 -0.2
baz=234,SNR=5.5
E27K Coleen River 94.56 16 IAmb IAmb 15 47 24.0
comp=Z,13nm,1.6s
E27K Coleen River 94.56 16 P P 15 47 22.5 -0.5
baz=226,SNR=5.8
121A Cookes Peak, D 94.64 57 P P 15 47 22.3 -2.0
baz=250
F28M Old Crow 94.64 17 P P 15 47 23.0 -0.3
baz=227
G29M Pine Creek 94.70 18 P P 15 47 22.4 -1.2
G29M IAmb IAmb 15 47 31.6
comp=Z,6.1nm,0.8s
G29M Pine Creek 94.70 18 P P 15 47 23.7 +0.1
baz=229
TOAD Toad River Com 94.72 28 P P 15 47 23.9 +0.1
baz=239,SNR=6.0
EPYK Eagle Plains 94.74 19 P P 15 47 24.0 +0.2
baz=230
C26K Camden Bay 94.98 14 P P 15 47 24.5 -0.2
baz=223,SNR=9.8
C27K Jago River 95.06 15 P P 15 47 24.7 -0.4
baz=224,SNR=8.5
G30M tAoh Zraii Nji 95.29 19 P P 15 47 26.2 -0.1
baz=230,SNR=11
E28M Babbage River 95.41 17 P P 15 47 25.6 -1.1
E28M IAmb IAmb 15 47 28.0
comp=Z,4.7nm,0.8s
E28M Babbage River 95.41 17 P P 15 47 25.7 -1.1
baz=228,SNR=5.6
D27M Malcolm River 95.47 16 IAmb IAmb 15 47 28.2
comp=Z,5.3nm,1.0s
D27M Malcolm River 95.47 16 P P 15 47 26.0 -1.1
baz=226
E29M Blow River 95.72 17 P P 15 47 27.1 -1.1
baz=229
F30M Barrier River 95.82 18 P P 15 47 27.5 -1.1
baz=231
G31M Satah River 95.85 19 P P 15 47 27.5 -1.3
baz=232,SNR=5.2
PDAR Pinedale Array 96.86 47 P P 15 47 35.1 +0.9
comp=Z,0.2nm,0.5s,baz=215,slow=1.7,SNR=5.7
comp=Z,0.2nm,0.5s
TXAR Lajitas Array 96.92 61 P P 15 47 35.6 +1.0
comp=Z,0.4nm,0.7s,baz=221,slow=5.9,SNR=5.9
comp=Z,0.4nm,0.7s
WMQ Urumqi 97.54 314 *e*P Pdif 15 47 38.2 +1.1
WMQ LR LR
comp=Z,540nm,15.5s
WMQ LR LR
comp=Z,260nm,20.5s
WMQ LR LR
comp=Z,380nm,22.9s
C36M Paulatuk 100.37 19 Pdif Pdif 15 47 47.7 -1.3
YKA Yellowknife Ar 101.01 27 P Pdif 15 47 52.8 +0.7
comp=Z,1.6nm,0.7s,baz=258,slow=4.4,SNR=6.7
MKAR Makanchi Array 102.08 315 P Pdif 15 47 57.6 +0.5
comp=Z,0.8nm,0.8s,baz=102,slow=4.5,SNR=4.8
MKAR PP PP 15 52 08.2 -2.2
comp=Z,1.0nm,1.0s,baz=99,slow=7.7,SNR=5.2
ZALV Zalesovo Beam 102.48 323 Pdiff Pdif 15 47 59.1 +0.3
comp=Z,0.4nm,0.3s,baz=93,slow=3.2,SNR=1.9
KURBB Kurchatov Arra 105.42 319 Pdiff Pdif 15 48 13.2 +1.3
comp=Z,0.1nm,0.6s,baz=80,slow=1.0,SNR=1.2
KURBB PP PP 15 52 33.7 -1.3
comp=Z,0.4nm,0.7s,baz=104,slow=6.9,SNR=5.3
SPITS Spitsbergen Ar 120.02 354 PKP PKPdf 15 52 51.4 -0.8
comp=Z,6.0nm,0.8s,baz=90,slow=2.5,SNR=1.5
ARCES ARCESS Array B 125.49 345 PKP PKPdf 15 53 02.0 -0.8
comp=Z,1.6nm,0.5s,baz=66,slow=1.8,SNR=19
D62A Allapoint, All 125.60 46 PKPdf PKPdf 15 53 02.2 -1.4
FINES FINESS Array B 131.00 338 PKPdf PKPdf 15 53 13.0 -0.4
FINES FINESS Array B 131.00 338 PKP PKPdf 15 53 13.2 -0.3
comp=Z,1.2nm,0.6s,baz=115,slow=3.2,SNR=4.4
FINES SKPbc SKPbc 15 56 27.4 -0.7
comp=Z,2.9nm,0.7s,baz=68,slow=5.2,SNR=14
NOA NORSAR Array B 135.86 345 PKP PKPdf 15 53 22.3 -0.4
comp=Z,0.3nm,0.6s,baz=35,slow=2.2,SNR=2.9
AKASG Malin Array Be 135.86 324 PKP PKPdf 15 53 22.3 -0.6
comp=Z,0.5nm,0.4s,baz=42,slow=1.6,SNR=2.5
AKASG SKPbc SKPbc 15 56 44.8 -0.1
comp=Z,3.9nm,0.8s,baz=50,slow=2.8,SNR=12
HFS Hagfors 135.98 343 PKP PKPdf 15 53 21.7 -1.2
comp=Z,1.0nm,0.7s,baz=270,slow=0.1,SNR=3.6
HFS SKPbc SKPbc 15 56 44.5 -0.5
comp=Z,2.8nm,1.1s,baz=322,slow=9.4,SNR=3.7
BRTR Keskin Array B 137.11 308 PKP PKPdf 15 53 24.7 -1.1
comp=Z,0.6nm,0.6s,baz=76,slow=2.5,SNR=2.9
BRTR SKPbc SKPbc 15 56 49.6 +0.3
comp=Z,1.0nm,0.9s,baz=116,slow=2.9,SNR=5.3
BURAR Bucovina Array 139.70 322 PKPdf PKPdf 15 53 30.9 +0.7
VYHS Vyhne 142.67 327 *e*PKP PKiKP 15 53 38.6 0.0
JAVC Velka Javorina 143.01 329 *e*PKP PKPdf 15 53 34.2 -1.9
JAVC *e* 15 57 05.1
FLTG Flechtingen 143.18 338 *e*PP 15 57 03.8
BRG Berggiesshubel 143.27 334 *e*PKP PKPbc 15 53 33.6 -0.2
BRG Amp 15 53 34.5
comp=Z,4.8nm,0.9s
BRG Berggiesshubel 143.27 334 *e*PKPbc 15 53 32.7
baz=36,slow=3.1
BRG *e*PP 15 57 05.1
CLL Collm 143.32 335 *i* PKPdf PKPdf 15 53 36.1 -0.4
CLL ⇓*i*SKPbc SKPbc 15 57 05.0 -0.2
comp=Z,7.0nm,1.0s

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CLL	**Collm**	**143.32**	**335**	*e*PKPbc			15 53 32.6	
	baz=36,slow=3.1							
CLL				*e*PP			15 57 05.0	
KRUC	**Moravsky**	**143.49**	**330**	*e*PKP		PKPab	15 53 33.7	+0.3
KRUC				*e*			15 57 04.0	
RETH	**Rethem/Aller,**	**143.49**	**339**	*e*PP			15 57 05.2	
NEUB	**Neuenburg**	**143.88**	**336**	*e*PKPbc			15 53 35.1	
	baz=36,slow=3.1							
CLZ	**Clausthal**	**143.89**	**338**	*e*PKPbc			15 53 37.4	
	baz=36,slow=3.1							
CLZ				*e*PP			15 57 06.3	
EKA	**Eskdalemuir Ar**	**143.93**	**353**	PKP		PKPab	15 53 34.6	-0.3
	comp=Z,1.1nm,0.4s,baz=3.9,slow=2.4,SNR=13							
EKB	**Eskdalemuir**	**143.93**	**353**	PKPdf		PKPbc	15 53 36.2	+0.7
TANN	**Tannenbergstha**	**144.23**	**335**	*e*PKPbc			15 53 36.4	
	baz=36,slow=3.1							
TANN				*e*PP			15 57 07.3	
ZVC	**Zvikov**	**144.23**	**332**	*e*PKP		**PKPab**	**15 53 36.6**	**+0.4**
GTTG	**Gottingen**	**144.28**	**338**	*e*PKPbc			15 53 36.7	
	baz=36,slow=3.1							
PLN	**Plauen**	**144.30**	**335**	*e*PKPbc			15 53 36.6	
	baz=36,slow=3.1							
IBBN	**Ibbenburen**	**144.38**	**341**	*e*PKPbc			15 53 36.2	
	baz=36,slow=3.1							
MOX	**Moxa**	**144.39**	**335**	*e*PKPbc			15 53 36.8	
	baz=36,slow=3.1							
RONA	**Rosalia, Austr**	**144.47**	**328**	*i* PKP		PKPbc	15 53 38.1	+0.6
	comp=Z,28nm,0.8s,SNR=14							
CONA	**Conrad Observa**	**144.53**	**329**	*e*PKP		**PKPab**	**15 53 37.6**	**+0.1**
	comp=Z,10nm,1.0s,SNR=11							
RCBR	**Riachuelo**	**144.55**	**133**	PKPdf		**PKPab**	**15 53 37.8**	**-0.7**
CKRC	**Cesky Krumlov**	**144.63**	**331**	*e*PKP		**PKPab**	**15 53 38.0**	**+0.2**
MANZ	**Manzenberg**	**144.71**	**334**	*e*PKPbc			15 53 38.1	
	baz=36,slow=3.1							
KHC	**Kasperske Hory**	**144.73**	**332**	*e*PKP		**PKPab**	**15 53 38.3**	**+0.1**
ROTZ	**Rotzenmuhle**	**144.83**	**334**	*e*PKPbc			15 53 38.6	
	baz=36,slow=3.1							
UBBA	**Unterbreizbach**	**144.86**	**337**	*e*PKPbc			15 53 38.3	
	baz=36,slow=3.1							
GEC2	**GERESS Array S**	**144.89**	**332**			**PKPab**	**15 53 37.9**	**-0.9**
GEC2	**GERESS Array S**	**144.89**	**332**	*e*PKPbc			15 53 38.7	
	baz=36,slow=3.1							
GERES	**GERESS Array B**	**144.89**	**332**			**PKPab**	**15 53 36.6**	**-2.2**
GERES	**GERESS Array B**	**144.89**	**332**	PKP		**PKPab**	**15 53 38.5**	**-0.3**
	comp=Z,8.4nm,0.7s,baz=29,slow=3.0,SNR=32							
GERES				SKPbc		**SKPbc**	**15 57 09.1**	**0.0**
	comp=Z,1.3nm,0.9s,baz=356,slow=8.2,SNR=4.4							
IDI	**Anoyia**	**145.01**	**304**	PKPbc		PKPbc	15 53 38.7	-0.9
WET	**Wettzell**	**145.03**	**333**	*e*PKPbc			15 53 39.2	
	baz=36,slow=3.1							
KASTN	**Kahler Asten**	**145.10**	**339**	*e*PKPbc			15 53 39.0	
	baz=36,slow=3.1							
KASTN				*ep*PKPbc			15 54 05.1	
ARSA	**Arzberg**	**145.16**	**328**	*e*PKP		**PKPbc**	**15 53 39.9**	**+0.2**
	comp=Z,23nm,1.3s,SNR=8.4							
BUG	**Bochum--Univer**	**145.28**	**340**	*e*PKPbc			15 53 39.2	
	baz=36,slow=3.1							
BUG				*ep*PKPbc			15 54 06.3	
GRF	**Grafenberg Arr**	**145.29**	**335**	*e*PKPbc			15 53 40.1	
	baz=36,slow=3.1							
MOA	**Molln**	**145.35**	**330**	*i* PKP		**PKPbc**	**15 53 40.4**	**+0.1**
	comp=Z,35nm,0.8s,SNR=22							
FNA	**Florina**	**145.49**	**315**			**PKPdf**	**15 53 39.7**	**-1.0**
BIOA	**Bad Ischl, Aus**	**145.76**	**330**	*i* PKP		**PKPdf**	**15 53 41.3**	**+0.4**
	comp=Z,5.9nm,0.7s							
PERS	**Pernice**	**145.78**	**328**	*i* PKPbc		**PKPdf**	**15 53 41.0**	**0.0**
SOKA	**Soboth**	**145.80**	**328**	*i* PKP		**PKPdf**	**15 53 41.6**	**+0.5**
	comp=Z,12nm,0.7s,SNR=6.6							
PUK	**Puka**	**145.83**	**318**	PKPbc		**PKPdf**	**15 53 41.6**	**+0.4**
TNS	**Taunus Mts**	**145.91**	**338**	*e*PKPbc			15 53 41.8	
	baz=36,slow=3.1							
AHRW	**Bad Neuenahr-A**	**146.11**	**340**	*e*PKPbc			15 53 41.8	
	baz=36,slow=3.1							
RJOB	**Jochberg**	**146.11**	**331**	*e*PKPbc			15 53 42.4	
	baz=36,slow=3.1							
RJOB				*ep*PKPbc			15 54 13.1	
OBKA	**Obir**	**146.16**	**328**	*i* PKP		**PKPab**	**15 53 43.7**	**+0.1**
	comp=Z,7.4nm,0.8s							
KBA	**Koelnbreinsper**	**146.34**	**330**	*i* PKP		**PKPdf**	**15 53 42.5**	**+0.4**
	comp=Z,12nm,1.1s,SNR=6.4							
BTNL	**Ternell**	**146.38**	**341**	*d*PKP		**PKPdf**	**15 53 42.9**	**+1.0**
MEM	**Membach**	**146.40**	**341**	*d*PKP		**PKPdf**	**15 53 42.4**	**+0.6**
LESA	**Schwarzleotal**	**146.40**	**331**	*i* PKP		**PKPdf**	**15 53 43.0**	**+1.0**
	comp=Z,13nm,0.7s							
FUR	**Furstenfeldbru**	**146.46**	**333**	*e*PKPbc			15 53 43.8	
	baz=36,slow=3.1							
LJU	**Ljubljana**	**146.49**	**327**	*i* PKPbc		**PKPbc**	**15 53 43.5**	**-0.2**
MYKA	**Terra Mystica**	**146.52**	**329**	*i* PKP		**PKPdf**	**15 53 43.3**	**+1.0**
	comp=Z,6.9nm,0.7s							
BSTI	**Sart Tilman**	**146.55**	**341**	*d*PKP		**PKPbc**	**15 53 43.6**	**-0.1**
CRNS	**Crni Vrh**	**146.60**	**328**	*i* PKPbc		**PKPdf**	**15 53 43.4**	**+1.0**
BCLA	**Clavier**	**146.78**	**341**	*d*PKP		**PKPdf**	**15 53 43.6**	**+1.1**
STU	**Stuttgart**	**146.83**	**336**	*e*PKPbc			15 53 44.7	
	baz=36,slow=3.1							
BGES	**Gesves**	**146.87**	**341**	*d*PKPdf		**PKPdf**	**15 53 42.7**	**0.0**
WATA	**Walderalm**	**146.96**	**332**	*i* PKP		**PKPbc**	**15 53 44.7**	**-0.5**
	comp=Z,13nm,1.1s							
ABTA	**Abfaltersbach**	**146.97**	**330**	*i* PKP		**PKPdf**	**15 53 44.2**	**+1.2**
	comp=Z,12nm,0.7s,SNR=5.3							
WTTA	**Wattenberg**	**146.99**	**332**	*e*PKP		**PKPbc**	**15 53 45.1**	**-0.2**
	comp=Z,12nm,0.8s,SNR=5.7							
SABO	**M.te Sabotino**	**147.00**	**328**	PKPbc		**PKPdf**	**15 53 44.4**	**+1.4**
BMRD	**Maredsous**	**147.04**	**342**	*d*PKP		**PKPdf**	**15 53 44.5**	**+1.5**
WLF	**Walferdange**	**147.17**	**340**	*d*PKP		**PKPbc**	**15 53 45.9**	**+0.4**
WLF	**Walferdange**	**147.17**	**340**	*e*PKPbc			15 53 46.1	
	baz=36,slow=3.1							
SQTA	**Sankt Quirin**	**147.21**	**332**	*i* PKP		**PKPbc**	**15 53 45.7**	**-0.2**
	comp=Z,10nm,0.7s,SNR=8.7							
DOU	**Dourbes**	**147.28**	**342**	*d*PKP		**PKPbc**	**15 53 45.5**	**-0.3**
UBR	**Ueberruh**	**147.33**	**334**	*e*PKPbc			15 53 45.9	
	baz=36,slow=3.1							
BFO	**Black Forest**	**147.52**	**336**	*e*PKPbc			15 53 46.1	
	baz=36,slow=3.1							
FETA	**Feichten**	**147.58**	**332**	*i* PKP		**PKPbc**	**15 53 46.9**	**0.0**
	comp=Z,16nm,0.7s,SNR=8.1							
DAVA	**Damuels**	**147.74**	**333**	*i* PKP		**PKPbc**	**15 53 46.8**	**-0.5**
	comp=Z,8.9nm,0.6s							
FUORN	**Ofenpass-Fuorn**	**148.09**	**332**	PKPbc		**PKPbc**	**15 53 47.8**	**-0.7**
NRCA	**Norcia**	**149.40**	**324**	PKPbc		**PKPbc**	**15 53 50.9**	**-0.8**
SENIN	**Lac Senin/Sane**	**149.54**	**335**	PKPbc		**PKPbc**	**15 53 51.5**	**-0.5**
CEL	**Celeste**	**150.42**	**314**	PKPbc		**PKPbc**	**15 53 53.0**	**-1.2**
BNI	**Bardonecchia**	**150.86**	**334**	PKPbc		**PKPbc**	**15 53 54.5**	**-0.6**
ESDC	**Sonseca Array**	**159.22**	**345**	PKPab		**PKPab**	**15 54 37.8**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=339,slow=3.7,SNR=5.1							
DBIC	**Dimbokro**	**165.90**	**205**	PKPab		**PKPab**	**15 55 08.3**	**+0.2**
DBIC	**Dimbokro**	**165.90**	**205**	PKPab		**PKPab**	**15 55 08.7**	**+0.6**
	comp=Z,4.5nm,0.9s,baz=108,slow=3.2,SNR=3.8							
TORD	**Torodi Ar. Bea**	**166.46**	**243**	PKPab		**PKPab**	**15 55 10.7**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=86,slow=1.7,SNR=2.0							

ISU ***11*** *15:34:36.4, 41°.66N×73°.13E, h21km*
IDC ***11*** *15:34:37.0±1.1, 41°.66N×73°.13E, h0km, mb3.5/9, mbtmp3.6/15, ML3.1/6, MS2.6/2, Error ellipse: s-maj=15.7km s-min=8.7km az=158.0*
KRNET ***11*** *15:34:38.0±0.1, 41°.68N×73°.04E, h18km, mb4.4*
SOME ***11*** *15:34:38.8, 41°.67N×73°.02E, h10km, MS3.2*
KNET ***11*** *15:34:39.6±0.4, 41°.73N×73°.18E, h7km±2km, ml3.9, Error ellipse: s-maj=3.8km s-min=2.5km az=120.0*
NNC ***11*** *15:34:39.9±0.5, 41°.74N×73°.08E, h0km, mb4.9, mpv4.7, Error ellipse: s-maj=4.4km s-min=2.5km az=173.0*
MOS ***11*** *15:34:39.0±1.4, 41°.67N×72°.96E, h19km, mb4.3/6, Error ellipse: s-maj=7.2km s-min=4.8km az=65.7*
ISC 11 15:34:37.4±1.0, 41°.63N±0°.02×73°.11E±0°.01, h3km±7km, n159, σ1§44/245, mb3.7/15, MS2.7/4, 50C-34D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.32**	**198**	⇑*i*P		**Pb**	**15 34 45.0**	**-0.8**
	baz=87							
ARSB				⇑*i*S		**Sb**	**15 34 50.1**	**-1.3**
	baz=87							
ARSB	**Arslanbob**	**0.32**	**198**	*i* PG		**Pb**	**15 34 45.0**	**-0.8**
ARK	**Arkit**	**0.88**	**282**	⇑*i*P		**Pg**	**15 34 53.2**	**-1.0**
	baz=79							
ARK				⇑*i*S		**Sg**	**15 35 05.0**	**-0.6**
	baz=79							
ARK	**Arkit**	**0.88**	**282**	*i* PG		**Pg**	**15 34 53.2**	**-1.0**
ARK				S		**Sg**	**15 35 05.0**	**-0.6**
ARLS	**Aral**	**0.94**	**75**	⇑*i*P		**Pb**	**15 34 56.3**	**0.0**
	baz=79							
ARLS				⇑*i*S		**Sb**	**15 35 09.7**	**+0.5**
	baz=79							
ARLS	**Aral**	**0.94**	**75**	*i* PG		**Pb**	**15 34 56.3**	**0.0**
ARLS				S		**Sb**	**15 35 09.7**	**+0.5**
MNAS	**Manas**	**0.97**	**332**	⇑*i*P		**Pg**	**15 34 55.3**	**-0.7**
	baz=34							
MNAS				⇑*i*S		**Sg**	**15 35 07.6**	**-1.0**
	baz=34							
MNAS	**Manas**	**0.97**	**332**	*i* PG		**Pg**	**15 34 55.3**	**-0.7**
MNAS				S		**Sg**	**15 35 07.6**	**-1.0**
MRKS	**Merke**	**1.12**	**4**	*e*P		**Pg**	**15 34 59.0**	**+0.1**
	987nm,0.3s							
MRKS				*e*S		**Sg**	**15 35 13.2**	**-0.2**
	2μm,0.2s							
MRKS	**Merke**	**1.12**	**4**	P		**Pg**	**15 34 59.0**	**+0.1**
	987nm,0.3s							
MRKS				S		**Sg**	**15 35 13.7**	**+0.4**
	2μm,0.2s							
OHH	**Osh**	**1.13**	**193**	⇓*i*P		**Pb**	**15 34 59.7**	**+0.1**
	baz=90							
OHH				⇓*i*S		**Sn**	**15 35 15.6**	**-0.6**
	baz=90							
OHH	**Osh**	**1.13**	**193**	*i* PG		**Pb**	**15 34 59.7**	**+0.1**
OHH				S		**Sn**	**15 35 16.2**	**0.0**
EKS2	**Erkin-Say**	**1.14**	**25**	⇓P		**Pg**	**15 34 59.4**	**+0.1**
	178nm,0.2s,SNR=128							
EKS2				⇑S		**Sg**	**15 35 14.3**	**+0.1**
	528nm,0.2s							
EKS2	**Erkin-Say**	**1.14**	**25**	⇑*i*P		**Pg**	**15 34 59.1**	**-0.3**
	baz=29							
EKS2				⇑*i*S		**Sg**	**15 35 14.1**	**-0.1**
	baz=29							
EKS2	**Erkin-Say**	**1.14**	**25**	*i* PG		**Pg**	**15 34 59.1**	**-0.3**
EKS2				S		**Sg**	**15 35 14.1**	**-0.1**
TSTA	**Tashata**	**1.15**	**205**	P		**Pg**	**15 34 58.8**	**-0.7**
TSTA				S		**Sb**	**15 35 15.5**	**+0.2**
UCH	**Uchtor**	**1.21**	**60**	⇑P		**Pn**	**15 35 01.5**	**0.0**
	1μm,0.2s,SNR=1724							
UCH				⇑S		**Sb**	**15 35 17.6**	**+0.4**
	1μm,0.2s							
UCH	**Uchtor**	**1.21**	**60**	⇑*i*P		**Pb**	**15 35 01.1**	**0.0**
	baz=63							
UCH				⇑*i*S		**Sn**	**15 35 18.0**	**-0.6**
	baz=63							
UCH	**Uchtor**	**1.21**	**60**	*i* PG		**Pb**	**15 35 01.1**	**0.0**
UCH				S		**Sn**	**15 35 18.0**	**-0.6**
KSNS	**Kasansay**	**1.29**	**249**	P		**Pg**	**15 35 00.8**	**-1.3**
KSNS				S		**Sb**	**15 35 19.2**	**0.0**
AAK	**Ala-Archa**	**1.44**	**45**	⇑P		**Pg**	**15 35 05.3**	**+0.3**
	502nm,0.2s,SNR=187							
AAK				⇓S		**Sn**	**15 35 24.8**	**+0.8**
	600nm,0.2s							
AAK	**Ala-Archa**	**1.44**	**45**	Pg		**Pb**	**15 35 04.9**	**0.0**
	182nm,0.3s,baz=185,slow=6.2,SNR=254							
AAK				Lg		Lg	15 35 20.4	
	87nm,0.3s,baz=261,slow=16,SNR=13							
AAK	**Ala-Archa**	**1.44**	**45**	⇑P		**Pg**	**15 35 05.0**	**0.0**
	169nm,0.3s							
AAK				⇑S		**Sn**	**15 35 24.6**	**+0.6**
	331nm,0.5s							
AAK	**Ala-Archa**	**1.44**	**45**	⇓*i*P		**Pb**	**15 35 04.8**	**-0.1**
	baz=48							
AAK				⇓*i*S		**Sn**	**15 35 24.2**	**+0.2**
	baz=48							
TRKS	**Terek-Say**	**1.48**	**267**	⇑*i*P		**Pn**	**15 35 04.0**	**-1.1**
	baz=62							
TRKS				⇑*i*S		**Sb**	**15 35 23.1**	**-1.9**
	baz=62							
TRKS	**Terek-Say**	**1.48**	**267**	*i* PG		**Pn**	**15 35 04.0**	**-1.1**
TRKS				S		**Sb**	**15 35 23.1**	**-1.9**
FRU1	**Bishkek**	**1.63**	**43**	⇑*i*P		**Pg**	**15 35 08.5**	**-0.2**
	baz=46							
FRU1				⇑*i*S		**Sg**	**15 35 30.2**	**+0.3**
	baz=46							
FRU1	**Bishkek**	**1.63**	**43**	*i* PN		**Pg**	**15 35 08.5**	**-0.2**
FRU1				S		**Sg**	**15 35 30.2**	**+0.3**
SFK	**Sufi-Kurgan**	**1.64**	**169**	⇓*i*P		**Pg**	**15 35 08.9**	**0.0**
	baz=68							
SFK				⇓*i*S		**Sg**	**15 35 32.1**	**+2.0**
	baz=68							
SFK	**Sufi-Kurgan**	**1.64**	**169**	*i* PN		**Pg**	**15 35 08.9**	**0.0**
SFK				S		**Sg**	**15 35 32.1**	**+2.0**
KBK	**Karagaybulak**	**1.71**	**52**	P		**Pg**	**15 35 10.6**	**+0.4**
	747nm,0.2s,SNR=788							
KBK				⇑S		**Sg**	**15 35 33.3**	**+1.0**
	1μm,0.3s							
KBK	**Karagaybulak**	**1.71**	**52**	⇓*i*P		**Pb**	**15 35 09.6**	**+0.1**
	baz=55							
KBK				⇓*i*S		**Sg**	**15 35 32.6**	**+0.3**
	baz=55							
KBK	**Karagaybulak**	**1.71**	**52**	*i* PN		**Pb**	**15 35 09.6**	**+0.1**
KBK				S		**Sg**	**15 35 32.6**	**+0.3**
CHMI	**Chimion**	**1.81**	**222**	P		**Pn**	**15 35 10.0**	**+0.5**
CHMI				S		**Sg**	**15 35 35.1**	**-0.6**
CHMS	**Chumysh**	**1.83**	**41**	⇑P		**Pg**	**15 35 12.3**	**-0.2**
	1μm,0.3s,SNR=764							
CHMS				⇓S		**Sg**	**15 35 36.2**	**0.0**
	1μm,0.3s							
CHMS	**Chumysh**	**1.83**	**41**	⇓Pn		**Pg**	**15 35 12.1**	**-0.4**
	441nm,0.3s							
CHMS				⇓Sn		**Sg**	**15 35 36.9**	**+0.7**
	850nm,0.5s							
CHMS	**Chumysh**	**1.83**	**41**	⇑*i*P		**Pb**	**15 35 11.8**	**+0.3**
	baz=43							
CHMS				⇑*i*S		**Sb**	**15 35 35.4**	**+0.6**
	baz=43							
CHMS	**Chumysh**	**1.83**	**41**	*i* PN		**Pb**	**15 35 11.8**	**+0.3**
CHMS				S		**Sb**	**15 35 35.4**	**+0.6**
USP	**Ospenovka**	**1.93**	**32**	P		**Pb**	**15 35 13.6**	**+0.4**
	470nm,0.3s,SNR=500							
USP				⇓S		**Sg**	**15 35 39.1**	**-0.4**
	7μm,0.6s							
USP	**Ospenovka**	**1.93**	**32**	⇑*i*P		**Pb**	**15 35 13.2**	**-0.1**
	baz=34							
USP				⇑*i*S		**Sb**	**15 35 38.5**	**+0.7**
	baz=34							
USP	**Ospenovka**	**1.93**	**32**	*i* PN		**Pb**	**15 35 13.2**	**-0.1**
USP				S		**Sb**	**15 35 38.5**	**+0.7**
MINT	**Mingtut**	**1.99**	**235**	P		**Pn**	**15 35 12.7**	**+0.8**
MINT				S		**Sb**	**15 35 40.1**	**+0.7**
SGDS	**Sogindy**	**2.14**	**31**	Pg		**Pg**	**15 35 17.8**	**-0.6**
	137nm,0.2s							
SGDS				Lg		Lg	15 35 45.1	
	2μm,0.8s							
SGDS	**Sogindy**	**2.14**	**31**	*i* PN		**Pb**	**15 35 16.8**	**0.0**
NRN	**Naryn**	**2.18**	**94**	⇓*i*P		**Pb**	**15 35 17.0**	**-0.6**
	baz=96							
NRN				⇓*i*S		**Sb**	**15 35 45.5**	**+0.4**
	baz=96							
NRN	**Naryn**	**2.18**	**94**	*i* PN		**Pb**	**15 35 17.0**	**-0.6**
NRN				S		**Sb**	**15 35 45.5**	**+0.4**
TKM2	**Tokmak 2**	**2.25**	**54**	⇑P		**Pb**	**15 35 18.7**	**-0.1**
	362nm,0.2s,SNR=736							
TKM2				⇓S		**Sg**	**15 35 49.8**	**+0.1**
	889nm,0.3s							
TKM2	**Tokmak 2**	**2.25**	**54**	⇑Pn		**Pb**	**15 35 19.1**	**+0.4**
	368nm,0.5s							
TKM2				⇓Lg		Lg	15 35 50.3	
	620nm,0.6s							
TKM2	**Tokmak 2**	**2.25**	**54**	⇑*i*P		**Pb**	**15 35 17.5**	**-1.3**
	baz=56							
TKM2				⇑*i*S		**Sb**	**15 35 46.6**	**-0.5**
	baz=56							
TKM2	**Tokmak 2**	**2.25**	**54**	*e*PN		**Pb**	**15 35 19.2**	**+0.4**
BTK	**Batken**	**2.34**	**229**	⇑*i*P		**Pn**	**15 35 18.4**	**+1.6**
	baz=27							
BTK				⇑*i*S		**Sb**	**15 35 48.1**	**-1.5**
	baz=27							
BTK	**Batken**	**2.34**	**229**	*i* PN		**Pn**	**15 35 17.6**	**+0.8**
BTK				S		**Sn**	**15 35 47.3**	**+1.1**
DRK	**Karamyk**	**2.37**	**205**	⇑*i*P		**Pb**	**15 35 19.5**	**-1.3**
	baz=4.0							
DRK				⇑*i*S		**Sb**	**15 35 49.5**	**-1.0**
	baz=4.0							
DRK	**Karamyk**	**2.37**	**205**	*i* PN		**Pb**	**15 35 19.5**	**-1.3**
DRK				S		**Sb**	**15 35 49.5**	**-1.0**
ULHL	**Ulahol**	**2.42**	**74**	⇓P		**Pb**	**15 35 21.2**	**-0.4**
	186nm,0.2s,SNR=80							
ULHL				⇓S		**Sg**	**15 35 54.2**	**-0.8**
	371nm,0.4s							
ULHL	**Ulahol**	**2.42**	**74**	⇓*i*P		**Pb**	**15 35 20.6**	**-1.0**
	baz=76							
ULHL				⇓*i*S		**Sb**	**15 35 51.4**	**-0.4**
	baz=76							
ULHL	**Ulahol**	**2.42**	**74**	*i* PN		**Pb**	**15 35 20.6**	**-1.0**
ULHL				S		**Sb**	**15 35 51.4**	**-0.4**
KK31	**Karatay Array**	**2.43**	**308**	⇓Pn		**Pb**	**15 35 20.9**	**-0.8**
	54nm,0.2s,baz=125,slow=13,SNR=2207							
KK31				Lg		Lg	15 35 53.2	
	615nm,0.6s,baz=129,slow=27,SNR=16							
KKAR	**Karatay Array**	**2.43**	**308**	⇑*i*P		**Pn**	**15 35 18.6**	**+0.7**
	baz=8.0							
KKAR				⇑*i*S		**Sn**	**15 35 48.4**	**+0.3**
	baz=8.0							
KKAR	**Karatay Array**	**2.43**	**308**	*i* PN		**Pn**	**15 35 18.6**	**+0.7**
KKAR				S		**Sn**	**15 35 48.4**	**+0.3**
KST	**Kastek**	**2.54**	**55**	*e*P		**Pg**	**15 35 25.6**	**-0.5**
	459nm,0.5s							
KST				*e*S		**Sg**	**15 35 59.1**	**0.0**
	1μm,0.7s							
KST	**Kastek**	**2.54**	**55**	Pg		**Pg**	**15 35 25.6**	**-0.5**
	459nm,0.5s							
KST				Lg		Lg	15 35 59.1	
	1μm,0.7s							
DGS	**Degeres**	**2.54**	**50**	*e*P		**Pg**	**15 35 25.5**	**-0.7**
	425nm,0.7s							
DGS				*e*S		**Sg**	**15 35 59.1**	**-0.1**
	900nm,0.4s							
DGS	**Degeres**	**2.54**	**50**	Pg		**Pg**	**15 35 25.5**	**-0.7**
	425nm,0.7s							
DGS				Lg		Lg	15 35 59.1	
	900nm,0.4s							
KRBS	**Karabastau**	**2.80**	**42**	*e*P		**Pg**	**15 35 30.1**	**-1.0**
	154nm,0.5s							
KRBS				*e*S		**Sg**	**15 36 06.3**	**-1.0**
	639nm,0.7s							
KRBS	**Karabastau**	**2.80**	**42**	Pg		**Pg**	**15 35 30.1**	**-1.0**
	154nm,0.5s							
KRBS				Lg		Lg	15 36 06.3	
	639nm,0.7s							
BRLS	**Borolday**	**2.80**	**301**	*e*P		**Pb**	**15 35 28.6**	**+0.5**
	83nm,0.5s							
BRLS				*e*S		**Sb**	**15 36 03.8**	**+0.9**
	627nm,0.4s							
BRLS	**Borolday**	**2.80**	**301**	Pg		**Pb**	**15 35 28.6**	**+0.5**
	83nm,0.5s							
BRLS				Lg		Lg	15 36 03.8	
	627nm,0.6s							
BRLS	**Borolday**	**2.80**	**301**	*i* PN		**Pg**	**15 35 35.2**	**+4.1**
MTBS	**Maitube**	**2.88**	**57**	*e*P		**Pg**	**15 35 31.8**	**-0.7**
	336nm,0.4s							
MTBS				*e*S		**Sg**	**15 36 09.3**	**-0.6**
	291nm,0.4s							
MTBS	**Maitube**	**2.88**	**57**	Pg		**Pg**	**15 35 31.8**	**-0.7**
	336nm,0.4s							
MTBS				Lg		Lg	15 36 09.3	
	291nm,0.4s							
IZV	**Izvestkoviy**	**2.95**	**60**	*e*P		**Pg**	**15 35 33.0**	**-0.9**
	1.5nm,0.3s							
IZV				*e*S		**Sg**	**15 36 11.4**	**-0.8**
	331nm,0.4s							
IZV	**Izvestkoviy**	**2.95**	**60**	Pg		**Pg**	**15 35 33.0**	**-0.9**
	1.5nm,0.3s							
IZV				Lg		Lg	15 36 11.4	
	331nm,0.4s							
KSH	**Kashi**	**3.03**	**133**	Pn		**Pb**	**15 35 30.2**	**-1.9**
KSH				Sn		**Sb**	**15 36 08.6**	**-0.9**
KSH				smax		smax		
	comp=N,230nm,0.7s							
KSH				smax		smax		
	comp=E,200nm,1.0s							
KASK	**Kaskelen**	**3.06**	**58**	⇓Pg		**Pg**	**15 35 35.1**	**-0.9**
KASK				⇓Lg		Lg	15 36 15.8	
TNSS	**Tian-Shan**	**3.17**	**62**	*e*P		**Pg**	**15 35 37.1**	**-1.1**
	comp=E,176nm,0.5s							
TNSS				*e*S		**Sg**	**15 36 19.4**	**+0.1**
	comp=E,167nm,0.5s							
TNSS	**Tian-Shan**	**3.17**	**62**	Pg		**Pg**	**15 35 37.1**	**-1.1**
	comp=E,176nm,0.5s							
TNSS				Lg		Lg	15 36 19.5	
	comp=E,167nm,0.5s							
AAA	**Alma-Ata**	**3.23**	**59**	*e*P		**Pg**	**15 35 38.4**	**-0.9**
	comp=E,344nm,0.4s							
AAA				*e*S		**Sg**	**15 36 21.1**	**+0.1**
	comp=E,438nm,0.3s							
AAA	**Alma-Ata**	**3.23**	**59**	Pg		**Pg**	**15 35 38.4**	**-0.9**
	comp=E,356nm,0.4s							
AAA				Lg		Lg	15 36 21.1	
	comp=E,

CHGR				⇑*i*S		**Sn**	**15 36 33.6 +0.6**
	baz=26						
CHGR	**Chuyangaron**	**4.24**	**227**	*i* PN		**Pn**	**15 35 45.1 +2.2**
CHGR				S		**Sn**	**15 36 33.6 +0.6**
ARXS	**Arharly**	**4.32**	**52**	*e*P		**Pg**	**15 35 57.4 -2.7**
	comp=E,222nm,0.4s						
ARXS				*e*S		**Sg**	**15 36 53.2 -2.9**
	comp=E,361nm,0.6s						
ARXS	**Arharly**	**4.32**	**52**	Pg		**Pg**	**15 35 57.4 -2.7**
	comp=E,222nm,0.4s						
ARXS				Lg		Lg	15 36 53.2
	comp=E,361nm,0.6s						
ARXS	**Arharly**	**4.32**	**52**	*i* PN		**Pb**	**15 35 55.6 +1.6**
BXML	**Bakhmal**	**4.32**	**245**	P		**Pn**	**15 35 48.4 +4.3**
BXML				S		**Sb**	**15 36 50.1 +3.4**
KPKS	**Kokpek**	**4.51**	**64**	*e*P		**Pg**	**15 36 01.7 -2.0**
	comp=E,182nm,0.5s						
KPKS				*e*S		**Sg**	**15 37 01.0 -1.1**
	comp=E,105nm,0.5s						
KPKS	**Kokpek**	**4.51**	**64**	Pg		**Pg**	**15 36 01.7 -2.0**
	comp=E,182nm,0.5s						
KPKS				Lg		Lg	15 37 01.0
	comp=E,105nm,0.5s						
UZB	**Uzynbulak**	**4.63**	**69**	*e*P		**Pg**	**15 36 04.4 -1.7**
	comp=E,57nm,0.5s						
UZB				*e*S		**Sg**	**15 37 05.0 -1.1**
	comp=E,79nm,0.5s						
UZB	**Uzynbulak**	**4.63**	**69**	Pg		**Pg**	**15 36 04.4 -1.7**
	comp=E,57nm,0.5s						
UZB				Lg		Lg	15 37 05.0
	comp=E,79nm,0.5s						
UZB	**Uzynbulak**	**4.63**	**69**	*i* PN		**Pb**	**15 36 00.4 +1.1**
BLB	**Baldybastay**	**4.65**	**56**	Pg		**Pg**	**15 36 03.5 -3.0**
	comp=E,272nm,0.6s						
BLB				Lg		Lg	15 37 04.4
	comp=E,266nm,0.6s						
SHLS	**Shalkode**	**4.94**	**70**	*e*P		Pg	15 36 17.1 +5.0
	comp=E,60nm,0.5s						
SHLS				*e*S		Sg	15 37 26.9 +11
	comp=E,208nm,0.7s						
SHLS	**Shalkode**	**4.94**	**70**	Pg		Pg	15 36 17.1 +5.0
	comp=E,60nm,0.5s						
SHLS				Lg		Lg	15 37 26.9
	comp=E,208nm,0.7s						
PDGK	**Podgornoye**	**5.01**	**68**	Pg		**Pg**	**15 36 10.4 -3.0**
	comp=E,23nm,0.4s						
PDGK				Lg		Lg	15 37 15.4
	comp=E,41nm,0.8s						
PDGK	**Podgornoye**	**5.01**	**68**	⇑Pg		**Pb**	**15 36 07.5 +1.7**
	comp=E,26nm,0.5s						
PDGK				⇑Lg		Lg	15 37 15.0
	comp=E,91nm,0.8s						
PDGK	**Podgornoye**	**5.01**	**68**	PN		**Pb**	**15 36 07.5 +1.7**
TDK	**Taldyqorghan**	**5.13**	**47**	*e*P		**Pg**	**15 36 12.9 -2.6**
	comp=E,94nm,0.5s						
TDK				*e*S		**Sg**	**15 37 19.7 -2.3**
	comp=E,468nm,1.2s						
TDK	**Taldyqorghan**	**5.13**	**47**	Pg		**Pg**	**15 36 13.0 -2.6**
	comp=E,94nm,0.5s						
TDK				Lg		Lg	15 37 19.7
	comp=E,468nm,1.2s						
DJR	**Jarkent**	**5.59**	**59**	*e*P		**Pg**	**15 36 22.3 -2.2**
	comp=E,40nm,0.6s						
DJR				*e*S		**Sg**	**15 37 36.5 -0.5**
	comp=E,50nm,0.8s						
DJR	**Jarkent**	**5.59**	**59**	Pg		**Pg**	**15 36 22.3 -2.2**
	comp=E,40nm,0.6s						
DJR				Lg		Lg	15 37 36.5
	comp=E,50nm,0.8s						
MAKZ	**Makanchi**	**8.20**	**48**	⇑Pn		**Pn**	**15 36 39.1 +1.9**
	comp=E,1.3nm,0.4s						
MAKZ				⇑Lg		Lg	15 38 59.7
	comp=E,39nm,0.8s						
MAKZ	**Makanchi**	**8.20**	**48**	P		**Pn**	**15 36 39.1 +1.9**
MK31	**Makanchi Array**	**8.37**	**49**	Pn		**Pn**	**15 36 42.0 +2.4**
	comp=E,3.0nm,0.4s,baz=235,slow=13,SNR=97						
MK31				⇓Lg		Lg	15 39 00.9
	comp=E,18nm,0.7s,baz=230,slow=31,SNR=3.9						
MK31	**Makanchi Array**	**8.37**	**49**	*e*P		**Pn**	**15 36 41.7 +2.1**
MKAR	**Makanchi Array**	**8.37**	**49**	Pn		**Pn**	**15 36 40.5 +1.0**
	comp=E,0.5nm,0.3s,baz=228,slow=14,SNR=20						
MKAR				Sn		**Sn**	**15 38 13.9 -0.6**
	comp=E,0.8nm,0.3s,baz=250,slow=15,SNR=1.6						
MKAR				Lg		Lg	15 39 01.0
	comp=E,2.3nm,0.3s,baz=231,slow=31,SNR=5.4						
	comp=E,1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**9.75**	**21**	Pn		**Pn**	**15 36 57.6 -0.7**
	comp=E,0.3nm,0.3s,baz=204,slow=26,SNR=17						
KURBB				Sn		**Sn**	**15 38 44.4 -3.9**
	comp=E,0.2nm,0.3s,baz=209,slow=15,SNR=4.2						
KURBB				Lg		Lg	15 39 44.5
	comp=E,0.8nm,0.3s,baz=209,slow=30,SNR=9.5						
	comp=E,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**9.75**	**21**	⇓Pn		**Pn**	**15 36 59.8 +1.5**
	comp=E,1.9nm,0.4s						
KURBB				⇓Lg		Lg	15 39 49.2
	comp=E,93nm,0.6s						
KURK	**Kurchatov**	**9.86**	**21**	⇑Pn		**Pn**	**15 37 02.4 +2.6**
	comp=E,0.7nm,0.4s						
KURK				⇓Lg		Lg	15 39 48.8
	comp=E,88nm,1.0s						
KURK	**Kurchatov**	**9.86**	**21**	P		**Pn**	**15 36 57.6 -2.2**
KURK							15 38 44.4
BVA0	**Borovoye Array**	**11.55**	**352**	⇓Pn		**Pn**	**15 37 23.1 +0.1**
	comp=E,1.5nm,0.3s,baz=154,slow=11,SNR=16						
BVA0				⇓Lg		Lg	15 40 43.5
	comp=E,23nm,0.7s,baz=57,slow=7.6,SNR=3.4						
BVA0	**Borovoye Array**	**11.55**	**352**	P		**Pn**	**15 37 23.1 +0.1**
BVAR	**Borovoye Array**	**11.55**	**352**	Pn		**Pn**	**15 37 21.4 -1.7**
	comp=E,0.2nm,0.3s,baz=153,slow=10,SNR=14						
BVAR				Sn		**Sn**	**15 39 27.8 -4.6**
	comp=E,0.2nm,0.3s,baz=163,slow=22,SNR=5.8						
BVAR				Lg		Lg	15 40 41.2
	comp=E,0.3nm,0.3s,baz=153,slow=27,SNR=5.5						
	comp=E,1.4nm,0.3s						
AB31	**Akbulak array**	**11.98**	**314**	⇓P		**Pn**	**15 37 26.8 -2.1**
	comp=E,5.8nm,0.6s,baz=120,slow=14,SNR=117						
AB31	**Akbulak array**	**11.98**	**314**	P		**Pn**	**15 37 26.8 -2.1**
AKTO	**Aktyubinsk**	**13.67**	**315**	Pn		**Pn**	**15 37 50.5 -1.5**
	comp=E,0.5nm,0.3s,baz=118,slow=10,SNR=5.1						
AKTO				Sn		**Sn**	**15 40 20.7 -3.6**
	comp=E,0.4nm,0.3s,baz=342,slow=16,SNR=2.8						
AKTO				Lg		Lg	15 41 52.4
	comp=E,0.2nm,0.3s,baz=222,slow=14,SNR=4.0						
	comp=E,1.1nm,0.3s						
ZALV	**Zalesovo Beam**	**14.60**	**28**	Pn		**Pn**	**15 38 04.8 +0.1**
	comp=E,0.4nm,0.3s,baz=223,slow=14,SNR=4.9						
ZALV				Sn		**Sn**	**15 40 44.3 -2.4**
	comp=E,0.2nm,0.3s,baz=228,slow=29,SNR=3.7						
ZALV				Lg		Lg	15 42 19.2
	comp=E,0.2nm,0.3s,baz=189,slow=26,SNR=1.8						
	comp=E,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**14.60**	**28**	*i* P		**P**	**15 38 08.3 -2.9**
ZALV				pmax		pmax	
	comp=Z,1.0nm,0.4s						
ARU	**Arti**	**17.56**	**332**	P		**Pn**	**15 38 43.4 +0.5**
	baz=76,slow=21,SNR=1.1						
ARU				S		**Sn**	**15 41 56.3 -2.4**
	comp=Z,0.9nm,0.3s,baz=261,slow=23,SNR=1.2						
ARU				Lg		Lg	15 43 56.1
	baz=91,slow=20,SNR=4.4						
ARU				LR		LR	15 46 32.8
	comp=Z,17nm,21.9s,baz=78,slow=41						
	comp=Z,1.0nm,0.3s						
ARU	**Arti**	**17.56**	**332**	*c i* P		**P**	**15 38 44.5 +0.4**
ARU				S		**S**	**15 42 03.3 -3.5**
ARU				pmax		pmax	
	comp=Z,6.0nm,2.1s						
KBZ	**Khabaz**	**22.26**	**286**	P		**P**	**15 39 35.1 -0.2**
	comp=Z,0.6nm,0.4s,baz=80,slow=14,SNR=1.3						
	comp=Z,0.6nm,0.4s						
KVAR	**Kislovodsk Arr**	**22.38**	**286**	P		**P**	**15 39 35.9 -0.9**
	comp=Z,2.1nm,0.5s,baz=265,slow=18,SNR=1.9						
	comp=Z,2.1nm,0.5s						
KIV	**Kislovodsk**	**22.39**	**286**	*e*P		**P**	**15 39 37.0 +0.1**
KIV				*e*S		**S**	**15 43 42.6 -0.8**
KIV				pmax		pmax	
	comp=Z,8.0nm,1.0s						
KIV				MLR		MLR	
	comp=Z,14nm,14.0s						
SHA1	**Shidzhatmaz**	**22.43**	**286**	*i* P		**P**	**15 39 37.5 +0.1**
KIRV	**Kirov**	**22.58**	**327**	LR		LR	15 47 59.6
	comp=Z,22nm,19.3s,baz=227,slow=36						
SONM	**Songino Array**	**24.32**	**64**	P		**P**	**15 39 56.1 -0.1**
	comp=Z,0.2nm,0.8s,baz=188,slow=5.2,SNR=2.0						
	comp=Z,0.2nm,0.8s						
ULN	**Ulaanbaatar**	**24.76**	**64**	*i* P		**P**	**15 40 03.6 +3.4**
ULN				pmax		pmax	
	comp=Z,2.0nm,1.1s						
OBN	**Obninsk**	**27.41**	**312**	⇓*e*P		**P**	**15 40 26.8 +2.9**
OBN				*e*			15 41 09.9
OBN				*e*			15 43 45.1
OBN				*e*SS	SnSn		15 46 29.2 +16
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,23nm,16.0s						
NRIK	**Noril'sk**	**28.79**	**11**	*i* P		**P**	**15 40 39.6 +3.5**
NRIK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**29.82**	**280**	P		**P**	**15 40 45.5 -0.2**
	comp=Z,0.3nm,0.4s,baz=45,slow=10,SNR=1.9						
	comp=Z,0.3nm,0.4s						
VALR	**Valaam**	**32.07**	**322**	*i* P		**P**	**15 41 05.6 +0.5**
VALR				pmax	pmax		
	comp=Z,8.0nm,1.3s						
HIA	**Hailar**	**33.15**	**61**	*i* P		**P**	**15 41 17.9 +3.2**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**34.32**	**321**	P		**P**	**15 41 22.7 -2.0**
	comp=Z,1.2nm,0.9s,baz=91,slow=11,SNR=1.4						
	comp=Z,1.2nm,0.9s						
ARCES	**ARCESS Array B**	**37.13**	**335**	P		**P**	**15 41 48.2 -0.6**
	comp=Z,1.5nm,0.9s,baz=110,slow=9.7,SNR=1.7						
	comp=Z,1.5nm,0.9s						
HFS	**Hagfors**	**40.20**	**318**	P		**P**	**15 42 13.3 -1.3**
	comp=Z,2.1nm,1.0s,baz=141,slow=9.6,SNR=2.7						
	comp=Z,2.1nm,1.0s						
NOA	**NORSAR Array B**	**41.41**	**320**	P		**P**	**15 42 23.6 -1.0**
	comp=Z,0.4nm,0.7s,baz=17,slow=8.4,SNR=2.3						
	comp=Z,0.4nm,0.7s						
BILL	**Bilibino**	**53.30**	**28**	⇑*e*P		P	15 44 02.9 +5.8
BILL				*e*			15 45 04.2
BILL				*i*			15 46 04.2
BILL				*e*SS		**SKiKP**	**15 55 15.6 +1.0**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,154nm,17.0s						
TORD	**Torodi Ar. Bea**	**67.52**	**268**	P		**P**	**15 45 37.4 +2.3**
	comp=Z,0.3nm,0.8s,baz=31,slow=3.4,SNR=1.6						
	comp=Z,0.3nm,0.8s						

IDC ***11*** *15:42:44.3±0.9, 31°.61S×58°.56E, h0km, mb3.9/10, mbtmp3.9/11, ML3.5/1, MS3.3/1, Error ellipse: s-maj=35.1km s-min=19.8km az=96.0*

ISC 11 15:42:46.5±0.8, 31°.6S±0°.1×58°.5E±0°.2, h14km, n21, σ0°73/11, mb3.9/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.44**	**198**	T	T	16 02 20.1	
	baz=22						
H04N1	**CROZET ISLANDS**	**15.44**	**198**	T	T	16 02 20.4	
	baz=22,slow=74						
H04N3	**CROZET ISLANDS**	**15.45**	**198**	T	T	16 02 18.7	
	baz=22,slow=74						
OPO	**Ambohidratompo**	**16.52**	**319**	Pn	**Pn**	**15 46 38.0**	**0.0**
	baz=119,slow=19,SNR=2.1						
	3.6nm,0.9s						
H08S1	**Diego Garcia H**	**27.17**	**32**	T	T	16 16 51.4	
	baz=207,slow=75,SNR=28						
H08S2	**Diego Garcia H**	**27.18**	**32**	T	T	16 16 50.8	
	baz=207,slow=75,SNR=19						
H08S3	**Diego Garcia H**	**27.19**	**32**	T	T	16 16 51.4	
	baz=207,slow=75,SNR=26						
MAW	**Mawson**	**36.13**	**177**	P	**P**	**15 49 49.1**	**+1.4**
	4.9nm,0.8s,baz=315,slow=7.1,SNR=5.3						
	4.9nm,0.8s						
FURI	**Furi**	**44.52**	**331**	LR	LR	16 06 39.4	
	comp=Z,39nm,20.9s,baz=187,slow=32						
H01W2	**Cape Leeuwin H**	**46.14**	**110**	T	T	16 40 19.1	
	baz=257,slow=74,SNR=6.2						
H01W3	**Cape Leeuwin H**	**46.14**	**110**	T	T	16 40 19.4	
	baz=257,slow=74,SNR=6.1						
H01W1	**Cape Leeuwin H**	**46.16**	**110**	T	T	16 40 18.9	
	baz=257,slow=74,SNR=6.3						
SNAA	**Sanae**	**51.38**	**201**	P	**P**	**15 51 49.6**	**-0.8**
	1.0nm,0.7s,baz=17,slow=13,SNR=2.7						
	1.0nm,0.7s						
QSPA	**South Pole Qui**	**58.56**	**180**	P	**P**	**15 52 42.0**	**-0.5**
	0.7nm,0.6s,baz=340,slow=2.7,SNR=7.8						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.11**	**44**	P	**P**	**15 53 13.6**	**-0.2**
	0.5nm,0.3s,baz=228,slow=6.7,SNR=7.6						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**66.09**	**104**	P	**P**	**15 53 33.0**	**-0.5**
	0.7nm,0.7s,baz=239,slow=6.3,SNR=8.8						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**68.08**	**101**	P	**P**	**15 53 46.0**	**-0.1**
	0.6nm,0.8s,baz=227,slow=5.1,SNR=3.5						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**80.94**	**16**	P	**P**	**15 55 01.2**	**+1.1**
	0.6nm,1.0s,baz=179,slow=5.8,SNR=2.8						
	0.6nm,1.0s						
KURBB	**Kurchatov Arra**	**83.76**	**13**	P	**P**	**15 55 14.8**	**+0.1**
	0.4nm,0.7s,baz=203,slow=5.7,SNR=4.2						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**84.91**	**7**	P	**P**	**15 55 20.5**	**0.0**
	1.2nm,0.8s,baz=188,slow=6.6,SNR=4.9						
	1.2nm,0.8s						
ZALV	**Zalesovo Beam**	**88.20**	**15**	P	**P**	**15 55 36.5**	**0.0**
	0.3nm,0.4s,baz=254,slow=1.0,SNR=1.8						
	0.3nm,0.4s						

TIR ***11*** *15:44:32.4, 41°.47N×19°.56E, h18km, Md2.7, Ml2.3*
PDG ***11*** *15:44:33.3±0.2, 41°.50N×19°.70E, h13km±1km, ML2.3/9, Error ellipse: s-maj=0.6km s-min=1.2km az=0.0*
BEO ***11*** *15:44:34.0±0.4, 41°.43N×19°.59E, h15km±2km, ML2.3/10*

ISC 11 15:44:33.7±0.9, 41°.47N±0°.02×19°.62E±0°.03, h17km±8km, n36, σ0°70/63, 3C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.22**	**124**	P	**Pg**	**15 44 38.8**	**-0.1**
	baz=118						
TIR				S	**Sb**	**15 44 42.9**	**-0.3**
	baz=118						
TIR				AMP			
	comp=E,8.1nm,0.3s,baz=118						
TIR	**Tirane**	**0.22**	**124**	*e*Pg	**Pg**	**15 44 38.7**	**-0.2**
TIR				*e*Sg	**Sb**	**15 44 43.5**	**+0.3**
PUK	**Puka**	**0.60**	**20**	P	**Pg**	**15 44 44.9**	**-0.8**
	baz=23						
PUK				S	**Sb**	**15 44 54.6**	**+0.3**
	baz=23						
PUK				AMP			
	comp=E,0.7nm,0.3s,baz=23						
DRME	**Dracevica, Mon**	**0.78**	**336**	*e*Pg	**Pg**	**15 44 48.1**	**-1.0**
DRME				*e*Sg	**Sn**	**15 45 00.9**	**-0.5**
DRME	**Dracevica, Mon**	**0.78**	**336**	⇑*i*Pg	**Pg**	**15 44 48.0**	**-1.0**
DRME				*i* Sg	**Sn**	**15 45 00.6**	**-0.8**
BCI	**Bajram Curri**	**0.95**	**20**	P	**Pb**	**15 44 50.7**	**-1.1**
	baz=22						
BCI				S	**Sn**	**15 45 05.5**	**-0.2**
	baz=22						
BCI				AMP			
	comp=E,0.4nm,0.5s,baz=22						
BUM	**Brajici-Budva**	**0.99**	**327**	⇓*i*Pg	**Pn**	**15 44 53.0**	**+0.1**
BUM				*i* Sg	**Sn**	**15 45 07.7**	**+1.1**
PDG	**Podgorica**	**0.99**	**344**	*e*Pg	**Pn**	**15 44 53.3**	**+0.4**
PDG				*e*Sg	**Sn**	**15 45 06.5**	**-0.1**
PDG	**Podgorica**	**0.99**	**344**	⇑*i*Pg	**Pn**	**15 44 52.6**	**-0.3**
PDG				*i* Sg	**Sn**	**15 45 07.2**	**+0.6**
PVY	**Plav**	**1.15**	**13**	⇑*i*Pg	**Pb**	**15 44 54.6**	**-0.6**
PVY				*i* Sg	**Sg**	**15 45 10.8**	**-0.2**
CEME	**Cevo**	**1.19**	**334**	⇓*i*Pg	**Pg**	**15 44 56.4**	**-0.4**
CEME				*i* Sg	**Sg**	**15 45 13.9**	**+1.5**
KOME	**Kolasin**	**1.38**	**357**	*e*Pg	**Pg**	**15 45 00.2**	**-0.1**
KOME				*e*Sg	**Sg**	**15 45 19.4**	**+1.1**
KOME	**Kolasin**	**1.38**	**357**	⇓*i*Pg	**Pg**	**15 44 59.5**	**-0.8**
KOME				*i* Sg	**Sg**	**15 45 19.0**	**+0.7**
NKME	**Niksic**	**1.38**	**339**	⇓*i*Pg	**Pg**	**15 44 59.6**	**-0.8**
NKME				*i* Sg	**Sg**	**15 45 19.6**	**+1.1**
IVA	**Berane**	**1.41**	**8**	⇓*i*Pg	**Pb**	**15 44 59.2**	**-0.5**
IVA				*i* Sg	**Sg**	**15 45 19.8**	**+0.4**
FNA	**Florina**	**1.50**	**117**	P	**Pb**	**15 45 01.5**	**+0.4**
	baz=115						
FNA				S	**Sg**	**15 45 22.9**	**+0.9**
	baz=115						
FNA				AMP			
	comp=N,0.1nm,0.4s,baz=115						
FNA	**Florina**	**1.50**	**117**	*e*Pg	**Pg**	**15 45 02.0**	**-0.5**
FNA				*e*Sg	**Sg**	**15 45 21.5**	**-0.5**
TREB	**Trebinje**	**1.56**	**323**	*e*Pg	**Pb**	**15 45 02.3**	**+0.1**
TREB				*e*Sg	**Sg**	**15 45 23.8**	**-0.3**
SRN	**Sarande**	**1.62**	**170**	P	**Pb**	**15 45 02.5**	**-0.6**
	baz=168						
SRN				S	**Sg**	**15 45 25.8**	**-0.2**
	baz=168						
SRN				AMP			
	comp=N,0.1nm,0.3s,baz=168						
DBRK	**Dubrovnik**	**1.62**	**318**	*e*Pn	**Pb**	**15 45 03.2**	**0.0**
BRY	**Bratogost**	**1.64**	**331**	⇓*i*Pn	**Pb**	**15 45 03.4**	**-0.2**
BRY				*i* Sn	**Sg**	**15 45 26.7**	**+0.2**
SCTE	**Santa Cesarea**	**1.65**	**212**	P	**Pb**	**15 45 02.8**	**-1.0**
	baz=212						
SCTE				S	**Sb**	**15 45 24.8**	**+0.5**
	baz=212						
SCTE				AMP			
	comp=N,0.0nm,0.3s,baz=212						
SJES	**Sjenica**	**1.81**	**8**	*e*Pg	**Pg**	**15 45 07.8**	**-0.6**
SJES				*e*Sg	**Sg**	**15 45 32.3**	**+0.4**
STON	**Ston**	**2.00**	**315**	*e*Pn	**Pn**	**15 45 07.4**	**+0.7**
STON				*e*Sn	**Sn**	**15 45 32.0**	**+0.7**
STON	**Ston**	**2.00**	**315**	*e*Pn	**Pn**	**15 45 05.9**	**-0.8**
NOCI	**Noci**	**2.05**	**251**	P	**Pb**	**15 45 10.4**	**0.0**
	baz=251						
PRVS	**Prvonek**	**2.10**	**60**	*e*Pn	**Pb**	**15 45 10.8**	**-0.7**
IVAS	**Ivanjica**	**2.14**	**10**	*e*Pn	**Pn**	**15 45 08.0**	**-0.8**
IVAS				*e*Sn	**Sn**	**15 45 35.7**	**+0.7**
MAKA	**Makarska**	**2.64**	**314**	*e*Pn	**Pn**	**15 45 15.8**	**+0.2**
MAKA				Sn	**Sn**	**15 45 47.4**	**+0.1**
RICI	**Ricice**	**2.73**	**319**	*e*Pn	**Pn**	**15 45 16.7**	**-0.1**
TRUS	**Trudelj**	**2.81**	**12**	*e*Pn	**Pn**	**15 45 19.8**	**+1.9**
ZAGS	**Zajecar**	**3.03**	**39**	*e*Pn	**Pn**	**15 45 22.5**	**+1.6**
ZAGS				*e*Sn	**Sn**	**15 45 56.9**	**+0.1**
KUBS	**Kucevo**	**3.30**	**27**	*e*Pn	**Pn**	**15 45 23.9**	**-0.8**
KIJV	**Kijevo**	**3.46**	**318**	*e*Pn	**Pn**	**15 45 27.3**	**+0.3**
KIJV				Sn	**Sn**	**15 46 07.9**	**+0.3**
MORI	**Morici**	**3.75**	**311**	*e*Pn	**Pn**	**15 45 31.3**	**+0.5**
VIRC	**Vir**	**4.38**	**312**	*e*Pn	**Pn**	**15 45 39.5**	**+0.1**

NEIC ***11*** *15:45:53.9±1.9, 19°.4N±0°.2×155°.30W±0°.06, h6km±5km, Error ellipse: s-maj=22.2km s-min=7.1km az=169.0*
HVO ***11*** *15:45:53.3±2.7, 19°.4N±0°.1×155°.3W±0°.2, h0km±5km, ML3.2/23, mb4.6/127(NEIC), ML3.9/36(NEIC), Mww5.3/23(NEIC), Error ellipse: s-maj=23.4km s-min=15.0km az=95.0*
NEIC ***11*** *15:45:53.3, 19°.40N×155°.29W, h12km, Moment Tensor Solution. Duration: 2ŝ3 Moment tensor: Scale 10^17Nm; Mrr=1.04; Mθθ0.46; Mφφ0.57; Mrθ-0.35; Mθφ0.43; Mrφ0.26; Fault plane solution: M0 1.07000×10^17 NP1:φs 59.36000°, δ49.02000°, λ-64.86000°. NP2:φs 203.78000°, δ46.89000°, λ-116.06000°. Principal axes: T 0.9512, Plg1.0000°, Azm132.0000°; N 0.2333, Plg19.0000°, Azm222.0000°; P -1.1845, Plg71.0000°, Azm39.0000°;*
NEIC ***11*** *15:45:53.3, 19°.40N×155°.29W, h12km*
IDC ***11*** *15:45:55.9±0.7, 19°.44N×155°.28W, h0km, mb4.1/14, mbtmp4.1/14, MS4.4/68, Error ellipse: s-maj=14.9km s-min=10.8km az=133.0*
GCMT ***11*** *15:46:00.3±0.1, 19°.34N±0°.01×155°.15W±0°.01, h12km, MW5.2/153, Moment Tensor Solution. s89,c132; s153,c264; Duration: 1ŝ0 Moment tensor: Scale 10^17 Nm; Mrr=0.96±.01; Mθθ0.51±.01; Mφφ0.45±.01; Mrθ0.15±.03; Mθφ0.34±.01; Mφr-0.21±.03; Best double couple: M0 92100×10^17 NP1:φs 35.00000°, δ47.00000°, λ-107.00000°. NP2:φs 239.00000°, δ45.00000°, λ-72.00000°. Principal axes: T 0.8230, Plg1.0000°, Azm137.0000°; N 0.1950, Plg12.0000°, Azm46.0000°; P -1.0180, Plg77.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 15:45:54.9±0.4, 19°.44N±0°.03×155°.28W±0°.03, h10km, n254, σ1ŝ78/187, mb4.6/74, MS4.5/69, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLHI	**Steaming Bluff**	**0.02**	**138**		**Pg**	**15 45 55.8**	**-1.1**
RSD	**Rainshed**	**0.02**	**10**		**Pg**	**15 45 55.4**	**-1.6**
UWE	**Uwekahuna**	**0.02**	**207**		**Pg**	**15 45 54.3**	**-2.6**
OBL	**Observatory Le**	**0.02**	**185**		**Pg**	**15 45 54.9**	**-1.9**
HATHI	**Halema'uma'u T**	**0.03**	**133**		**Pg**	**15 45 54.6**	**-2.3**
BYL	**Byron's Ledge**	**0.04**	**145**		**Pg**	**15 45 55.0**	**-2.0**
WRMHI	**West Rim**	**0.04**	**206**		**Pg**	**15 45 54.5**	**-2.5**
KKO	**Keanakako`i**	**0.05**	**161**		**Pg**	**15 45 55.2**	**-1.9**
RIM	**Rim**	**0.05**	**171**		**Pg**	**15 45 55.0**	**-2.1**
SDHHI	**Sand Hill**	**0.05**	**192**		**Pg**	**15 45 54.3**	**-2.8**
PUH	**Pauahi**	**0.09**	**137**		**Pg**	**15 45 55.5**	**-2.0**
MLH	**Mauna Loa**	**0.11**	**298**	Pg	**Pg**	**15 45 56.6**	**-1.3**
MLH				IAML		15 45 59.4	
	comp=E,35μm,0.8s						
MLH				IAML		15 45 59.6	
	comp=N,17μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.12**	**120**		**Pg**	**15 45 56.3**	**-1.6**
HLP	**Hilina Pali**	**0.15**	**190**	IAML		15 45 56.3	
	comp=E,34μm,1.0s						
HLP				IAML		15 45 56.5	
	comp=N,48μm,0.8s						
HLP				Pg	**Pg**	**15 45 56.7**	**-1.6**
STCH	**Steam Cracks**	**0.16**	**111**		**Pg**	**15 45 56.6**	**-1.9**
STCH				IAML		15 46 01.6	

HUMO Hull Mountain 35.72 43 P P 15 52 53.2 -0.6
HUMO IAmb IAmb 15 53 17.4
comp=Z,25nm,1.6s
H11S2 WAKE ISLAND Hy 35.91 275 T T 16 30 23.7
baz=83,slow=75,SNR=14
H11S1 WAKE ISLAND Hy 35.92 275 T T 16 30 25.4
baz=83,slow=75,SNR=11
H11S3 WAKE ISLAND Hy 35.93 275 T T 16 30 24.6
baz=83,slow=75,SNR=8.6
EMB Emerald Bay 36.05 50 P P 15 52 56.6 -0.3
EMB IAmb IAmb 15 53 16.5
comp=Z,34nm,1.9s
ISA Isabella, Lake 36.17 56 P P 15 52 57.3 -0.4
ISA IAmb IAmb 15 53 17.5
comp=Z,22nm,1.6s
WAKR Walker 36.36 51 P P 15 52 58.1 -1.4
WAKR IAmb IAmb 15 53 19.6
comp=Z,12nm,1.4s
YERR Yerington 36.68 50 P P 15 53 01.6 -0.6
DSP Deep Springs 37.07 53 P P 15 53 05.2 0.0
DSP IAmb IAmb 15 53 25.7
comp=Z,19nm,1.6s
J05D Fort Rock, OR 37.15 43 P P 15 53 05.4 -0.7
J05D IAmb IAmb 15 53 25.8
comp=Z,22nm,1.6s
NVAR Mina Array Bea 37.17 51 P P 15 53 05.0 -1.4
NVAR Mina Array Bea 37.17 51 P P 15 53 08.8 +2.3
comp=Z,1.0nm,0.7s,baz=242,slow=11,SNR=6.5
NVAR LR LR 16 04 19.5
comp=Z,339nm,21.1s,baz=265,slow=30
comp=Z,1.0nm,0.7s
PPT Papeete 37.20 171 LR LR 16 04 15.1
comp=Z,2μm,18.9s,baz=344,slow=30
PPT2 Papeete2 37.23 171 *e*P **P 15 53 05.3 -1.5**
comp=Z,162nm,28.0s
PPT2 *e*S **S 15 58 53.7 -0.3**
comp=Z,428nm,25.2s
PPT2 *e*LQ LQ 16 01 21.4
comp=Z,367nm,20.5s
PPT2 *e*LR LR 16 03 01.7
comp=Z,3μm,27.0s
PPT2 *e*LR LR 16 03 03.0
comp=Z,4μm,25.2s
PFO Pinyon Flats O 37.27 60 P P 15 53 06.3 -0.9
PFO Pinyon Flats O 37.27 60 LR LR 16 04 09.0
comp=Z,285nm,18.6s,baz=262,slow=29
H04A Detroit Lake 37.27 40 P P 15 53 06.9 -0.1
H04A IAmb IAmb 15 53 25.7
comp=Z,18nm,1.4s
NV11 Mina Array Sit 37.28 52 P P 15 53 06.9 -0.4
NV11 IAmb IAmb 15 53 27.0
comp=Z,14nm,1.6s
PMD Palm Desert 37.34 60 P P 15 53 06.5 -1.2
PMD IAmb IAmb 15 53 49.3
comp=Z,11nm,1.4s
GSC Goldstone, Bar 37.38 57 P P 15 53 07.2 -0.9
KVN Kaiserville 37.53 51 P P 15 53 08.9 -0.6
KVN IAmb IAmb 15 53 38.3
comp=Z,13nm,1.5s
GMN Gold Mountain 37.58 54 P P 15 53 09.4 -0.6
PINE Pine Mountain 37.59 42 P P 15 53 07.6 -2.2
PINE IAmb IAmb 15 53 31.9
comp=Z,14nm,1.4s
GWY Greenwater Val 37.72 56 P P 15 53 10.5 -0.5
HOLB Holberg 37.83 28 P P 15 53 11.2 -0.4
DIB Dawson Inlet, 38.04 22 P P 15 53 11.9 -1.4
H02S1 DAWSON INLET T 38.04 22 T T 16 33 11.1
SNR=46
KDAK Kodiak Island 38.34 2 LR LR 16 05 21.4
comp=Z,1μm,21.4s,baz=208,slow=30
GNW Green Mountain 38.49 36 P P 15 53 16.5 -0.7
I07A Izee 38.64 42 P P 15 53 17.8 -0.8
BMN Battle Mountai 38.66 49 P P 15 53 18.2 -0.7
BLYC Blythe 38.87 60 P P 15 53 20.5 -0.1
BBB Bella Bella 38.96 27 P P 15 53 22.5 +1.5
BBB IAmb IAmb 15 53 52.5
comp=Z,18nm,1.3s
BBB Bella Bella 38.96 27 LR LR 16 05 26.4
comp=Z,310nm,19.4s,baz=228,slow=30
J08A Circle Bar Ran 38.97 44 P P 15 53 21.6 +0.2
SHPR Sheep Range 38.98 56 P P 15 53 20.8 -0.9
V12A Nelson 39.03 57 P P 15 53 21.1 -1.0
V12A IAmb IAmb 15 53 48.0
comp=Z,20nm,1.7s
R11B Troy Canyon, C 39.16 53 P P 15 53 22.0 -1.3
SYI Shuyak Island 39.17 2 P P 15 53 22.3 -0.5
PRN Pahroc Range 39.30 54 P P 15 53 23.8 -0.5
G08A Pilot Rock 39.55 41 P P 15 53 25.4 -0.9
E07A Sunnyside 39.64 39 P P 15 53 26.4 -0.5
W13A Hualapai Mount 39.66 58 P P 15 53 25.9 -1.5
HAWA Hanford 39.74 39 P P 15 53 27.0 -0.7
HAWA IAmb IAmb 15 53 34.6
comp=Z,16nm,1.5s
P18K Big Mountain, 39.90 0 P P 15 53 28.3 -0.6
P18K IAmb IAmb 15 54 35.9
comp=Z,9.6nm,0.8s
214A Organ Pipe Nat 40.01 63 P P 15 53 29.2 -1.0
214A IAmb IAmb 15 53 36.6
comp=Z,24nm,1.8s
V35K Ketchikan 40.05 21 P P 15 53 29.4 -0.8
SPR3 Spring Creek 3 40.29 52 P P 15 53 31.7 -1.0
SPR3 IAmb IAmb 15 53 52.5
comp=Z,24nm,1.8s
BMO Blue Mountains 40.39 42 P P 15 53 34.2 +1.0
E09A Wood Farm, Sta 40.64 40 P P 15 53 33.9 -1.2
E09A IAmb IAmb 15 54 27.1
comp=Z,26nm,1.8s
RAR Rarotonga 40.64 186 LR LR 16 06 48.0
comp=Z,719nm,18.6s,baz=358,slow=31
SHEM Shemya Is, Ala 40.84 332 LR LR 16 07 07.9
comp=Z,1μm,21.5s,baz=134,slow=31
SZCU Shurtz Canyon 40.86 55 P P 15 53 35.5 -1.8
SZCU IAmb IAmb 15 53 57.4
comp=Z,18nm,1.8s
B08A Colville Reser 40.88 37 P P 15 53 35.6 -1.6
KNB Kanab 40.92 56 P P 15 53 36.0 -1.9
KNB IAmb IAmb 15 53 57.0
comp=Z,30nm,2.0s
F10A Beach Ranch, E 40.94 41 P P 15 53 39.6 +1.8
U15A North Rim 41.21 57 P P 15 53 37.6 -2.8
PLID Pearl Lake 41.33 43 P P 15 53 40.3 -0.8
N19K Bonanza Creek 41.33 1 P P 15 53 39.2 -1.6
WUAZ Wupatki 41.76 58 P P 15 53 43.8 -0.9
WUAZ IAmb IAmb 15 54 10.5
comp=Z,28nm,1.9s
TUC Tucson 41.76 63 P P 15 53 43.4 -1.3
MSU Marysvale 41.78 54 P P 15 53 44.0 -1.0
LPIG La Paz 41.89 75 LR LR 16 06 14.3
comp=Z,464nm,20.9s,baz=266,slow=29
WAX Waxell Ridge 41.91 9 P P 15 53 45.4 -0.1
NEW Newport 42.10 38 P P 15 53 45.7 -1.5
NEW Newport 42.10 38 LR LR 16 07 08.1
comp=Z,193nm,20.4s,baz=234,slow=30
MPU Maple Canyon 42.58 52 P P 15 53 48.6 -2.8
Q16A Castle Valley 42.64 53 P P 15 53 49.2 -2.7
Q16A IAmb IAmb 15 54 12.4
comp=Z,27nm,1.7s
L19K White Mountain 42.70 0 P P 15 53 52.0 +0.1
L19K IAmb IAmb 15 53 56.9
comp=Z,12nm,1.1s
X18A Snowflake 42.74 60 P P 15 53 51.8 -1.0
TBI Tubuai 42.91 172 *e*S **S 16 00 17.2 -1.6**
comp=Z,1μm,25.5s
TBI *e*LQ LQ 16 03 50.9
comp=Z,3μm,27.2s
TBI *e*LR LR 16 05 41.3
comp=Z,2μm,26.0s
TBI *e*LR LR 16 05 46.4
comp=Z,14μm,28.5s
TCUT Toone Canyon 43.05 50 P P 15 53 52.4 -2.9
TCUT IAmb IAmb 15 54 01.6
comp=Z,16nm,1.1s
DLBC Dease Lake 43.09 19 LR LR 16 07 53.0
comp=Z,578nm,20.3s,baz=254,slow=31
M24K Tolsona, Glenn 43.10 6 P P 15 53 55.0 -0.1
DUN6 Lazy B Ranch 43.21 63 P P 15 53 55.2 -1.3
MCMT McKenzie Canyo 43.27 44 P P 15 53 55.0 -2.1
BPMT Black Pine Rid 43.51 42 P P 15 53 56.2 -2.8
P18A Preston Nutter 43.51 53 P P 15 53 55.0 -4.1
P18A IAmb IAmb 15 54 54.6
comp=Z,15nm,1.6s
M26K Nabesna, AK 43.76 8 P P 15 53 58.2 -2.2
M26K IAmb IAmb 15 54 06.1
comp=Z,13nm,1.0s
M27K Edge Creek, AK 43.88 9 P P 15 54 02.2 +0.7
M27K IAmb IAmb 15 54 07.5
comp=Z,14nm,1.1s
CAST Castle Rocks 44.00 2 P P 15 54 00.7 -1.6
PAX Paxson 44.02 6 P P 15 54 01.0 -1.5
PAX IAmb IAmb 15 54 09.0
comp=Z,15nm,1.0s
OVMT Ovando 44.05 41 P P 15 54 00.5 -2.6
FXWY Fox Creek 44.09 47 P P 15 54 00.8 -2.8
FXWY IAmb IAmb 15 54 09.8
comp=Z,13nm,1.5s
TPAW Teton Pass 44.09 47 P P 15 54 00.8 -2.9
REDW Red Top Meadow 44.12 47 P P 15 54 01.8 -2.1
RND Reindeer 44.15 4 P P 15 54 03.1 -0.4
PV14 Lion Creek, Pa 44.16 55 P P 15 54 02.9 -1.4
PV14 IAmb IAmb 15 54 09.7
comp=Z,16nm,1.3s
KTH Kantishna Hill 44.18 3 P P 15 54 02.9 -0.9
PV23 Carpenter Ridg 44.19 54 P P 15 54 03.1 -1.4
PV16 Nyswonger Mesa 44.23 55 P P 15 54 02.9 -1.9
PV16 IAmb IAmb 15 54 10.1
comp=Z,19nm,1.5s
RDMU Red Mountain 44.25 51 P P 15 54 02.8 -2.1
RDMU IAmb IAmb 15 54 10.3
comp=Z,17nm,1.3s
PV04 Paradox Valley 44.26 55 P P 15 54 02.3 -2.6
PV04 IAmb IAmb 15 54 10.6
comp=Z,24nm,1.3s
PV11 David Mesa, Pa 44.26 55 P P 15 54 02.9 -2.2
121A Cookes Peak, D 44.30 63 P P 15 54 02.3 -3.1
121A IAmb IAmb 15 54 10.6
comp=Z,7.3nm,1.0s
PV12 Saucer Basin, 44.32 55 P P 15 54 03.5 -2.1
LOHW Long Hollow 44.37 47 P P 15 54 03.2 -2.7
LOHW IAmb IAmb 15 54 11.8
comp=Z,22nm,1.8s
PV22 Blue Mesa, Par 44.38 54 P P 15 54 04.9 -1.1
PV22 IAmb IAmb 15 54 11.5
comp=Z,16nm,1.3s
PV01 Paradox Valley 44.46 55 P P 15 54 03.6 -3.0
PV01 IAmb IAmb 15 54 11.3
comp=Z,24nm,1.7s
L27K Beaver Creek, 44.56 9 P P 15 54 06.2 -0.5
L27K IAmb IAmb 15 54 13.8
comp=Z,7.9nm,0.9s
BCAR Beaver Creek A 44.57 9 P P 15 54 05.3 -1.6
BPAW Bear Paw Mtn. 44.72 3 P P 15 54 07.4 -0.7
BPAW IAmb IAmb 15 54 19.4
comp=Z,23nm,1.6s
PD31 Pinedale Array 44.85 48 P P 15 54 07.9 -1.7
PD31 IAmb IAmb 15 54 42.5
comp=Z,9.3nm,1.8s
PDAR Pinedale Array 44.85 48 P P 15 54 11.0 +1.3
PDAR Pinedale Array 44.85 48 P P 15 54 12.2 +2.6
comp=Z,2.8nm,1.1s,baz=256,slow=6.0,SNR=14
PDAR LR LR 16 09 12.7
comp=Z,85nm,19.3s,baz=258,slow=31
comp=Z,2.8nm,1.1s
BWN Browne 44.87 4 P P 15 54 08.2 -1.1
SBM South Baldy 44.95 61 P P 15 54 08.0 -2.8
WRH Wood River Hil 45.26 4 P P 15 54 11.8 -0.5
WRH IAmb IAmb 15 54 17.4
comp=Z,17nm,1.1s
CCB Clear Creek Bu 45.45 5 P P 15 54 12.4 -1.4
CCB IAmb IAmb 15 54 18.1
comp=Z,12nm,1.1s
J25K Salcha River, 45.63 6 P P 15 54 14.2 -1.1
J25K IAmb IAmb 15 54 21.7
comp=Z,9.3nm,0.9s
ANMO Albuquerque 45.65 60 P P 15 54 14.2 -1.9
ANMO IAmb IAmb 15 54 21.1
comp=Z,4.9nm,1.1s
ANMO Albuquerque 45.65 60 LR LR 16 10 35.4
comp=Z,210nm,19.5s,baz=348,slow=32
IL31 45.65 5 P P 15 54 14.9 -0.4
IL31 IAmb IAmb 15 54 19.4
comp=Z,6.7nm,1.1s
ILAR Eielson Array 45.65 5 P P 15 54 13.6 -1.8
ILAR Eielson Array 45.65 5 P P 15 54 16.4 +1.0
comp=Z,2.8nm,0.8s,baz=197,slow=5.9,SNR=22
ILAR LR LR 16 10 17.1
comp=Z,488nm,19.6s,baz=186,slow=32
comp=Z,2.8nm,0.8s
MLY Manley 45.66 3 P P 15 54 14.6 -1.0
MLY IAmb IAmb 15 54 19.7
comp=Z,7.7nm,1.1s
MDM Murphy Dome 45.73 4 P P 15 54 15.9 -0.2
MDM IAmb IAmb 15 54 22.2
comp=Z,13nm,1.0s
S22A 4UR Ranch, Cre 45.75 56 P P 15 54 15.2 -1.8
S22A IAmb IAmb 15 54 22.0
comp=Z,12nm,1.6s
DAWY Dawson 45.87 10 P P 15 54 16.4 -0.8
DAWY IAmb IAmb 15 54 22.7
comp=Z,6.6nm,0.9s
POKR Poker Plat Res 45.95 5 P P 15 54 16.7 -1.1
POKR IAmb IAmb 15 54 28.8
comp=Z,11nm,1.4s
K29M Barlow Dome 45.98 11 P P 15 54 17.1 -1.1
K29M IAmb IAmb 15 54 41.3
comp=Z,6.0nm,1.1s
EGAK Eagle 46.28 8 P P 15 54 20.3 -0.1
PRP Porcupine Dome 46.50 6 P P 15 54 21.4 -0.8
PRP IAmb IAmb 15 54 26.8
comp=Z,8.7nm,1.1s
H23K Yukon River 46.51 3 P P 15 54 20.6 -1.7
H24K Noodor Dome 46.63 4 P P 15 54 21.4 -1.7
H24K IAmb IAmb 15 54 34.4
comp=Z,8.6nm,1.1s
G19K Purcell Mounta 46.69 359 P P 15 54 21.6 -2.0
J30M Hart River 46.86 11 P P 15 54 25.3 +0.2
K22A Casper 46.97 49 P P 15 54 24.7 -1.7
K22A IAmb IAmb 15 54 32.4
comp=Z,9.0nm,1.1s
N23A Red Feather La 47.01 52 P P 15 54 24.8 -2.0
G23K Bananza Creek 47.37 3 P P 15 54 30.1 +1.1
G23K IAmb IAmb 15 54 40.6
comp=Z,16nm,1.9s
I30M Mount Dempster 47.45 11 P P 15 54 29.7 +0.1
TX31 Lajitas Ar. Si 47.71 68 P P 15 54 32.4 +0.2
TXAR Lajitas Array 47.71 68 P P 15 54 34.4 +2.2
comp=Z,6.0nm,0.8s,baz=256,slow=7.6,SNR=28
TXAR LR LR 16 11 57.5
comp=Z,70nm,19.6s,baz=244,slow=33
comp=Z,6.0nm,0.8s
HTMS Hat Mesa 47.80 63 P P 15 54 33.1 +0.2
E19K Redstone River 48.02 359 P P 15 54 34.4 +0.5
E19K IAmb IAmb 15 54 47.2
comp=Z,8.5nm,1.2s
SGCY Sterling City 49.91 64 P P 15 54 47.4 -1.6
SGCY IAmb IAmb 15 54 53.8
comp=Z,14nm,1.2s
D25K Kavik River 50.17 4 P P 15 54 49.7 -0.7
D25K IAmb IAmb 15 54 55.7
comp=Z,6.7nm,0.9s
INK Inuvik 50.73 10 LR LR 16 14 28.8
comp=Z,555nm,18.8s,baz=182,slow=34
YKA Yellowknife Ar 51.29 23 P P 15 55 01.3 +2.4
comp=Z,2.1nm,1.0s,baz=232,slow=7.3,SNR=7.3
YKA LR LR 16 12 51.0
comp=Z,220nm,21.5s,baz=250,slow=32
comp=Z,2.1nm,1.0s
RAO Raoul Island 53.11 205 LR LR 16 13 51.0
comp=Z,154nm,21.8s,baz=72,slow=32
ECSD EROS Data Cent 54.29 50 P P 15 55 21.1 -0.4
ECSD IAmb IAmb 15 55 24.9
comp=Z,7.7nm,1.0s
DZM Mont Dzumac 55.70 224 *e*P **P 15 55 34.0 +2.1**
comp=Z,64nm,31.5s
DZM *e*S **S 16 03 17.2 -1.4**
comp=Z,252nm,25.4s
DZM *e*SS **SS 16 07 07.6 +3.3**
comp=Z,138nm,26.8s
DZM *e*LR LR 16 11 42.1
comp=Z,556nm,31.4s
DZM Mont Dzumac 55.70 224 LR LR 16 16 47.9
comp=Z,162nm,18.5s,baz=54,slow=33
ULM Lac du Bonnet 55.80 42 P P 15 55 34.4 +2.1
comp=Z,4.6nm,0.9s,baz=271,slow=7.7,SNR=4.4
ULM LR LR 16 15 31.3
comp=Z,137nm,21.3s,baz=248,slow=32
comp=Z,4.6nm,0.9s
ASAJ Asahikawa 56.81 310 LR LR 16 14 44.8
comp=Z,1μm,21.8s,baz=116,slow=30
R40A Maddies Statio 57.24 56 P P 15 55 42.9 +0.2
R40A IAmb IAmb 15 55 46.8
comp=Z,9.0nm,0.8s
GUMO Guam 57.44 274 LR LR 16 15 09.0
comp=Z,370nm,21.7s,baz=71,slow=30
JCJ Chichijima 57.46 290 LR LR 16 15 32.2
comp=Z,260nm,20.3s,baz=64,slow=31
JHJ Hachijo jima 2 58.97 297 LR LR 16 17 51.1
comp=Z,382nm,20.1s,baz=118,slow=32
G40A Rib Lake 59.00 48 P P 15 55 55.0 +0.1
CGM3 Cape Girardeau 59.32 58 P P 15 55 57.0 -0.2
MJAR Matsushiro Arr 60.06 302 P P 15 56 05.3 +2.9
comp=Z,1.6nm,0.9s,baz=96,slow=4.2,SNR=6.0
MJAR LR LR 16 17 43.8
comp=Z,300nm,21.3s,baz=71,slow=32
comp=Z,1.6nm,0.9s
H43A Windswept, Lux 60.70 49 P P 15 56 05.3 -1.3
TEIG Tepich 62.62 77 LR LR 16 19 49.7
comp=Z,154nm,20.5s,baz=224,slow=32
URZ Urewera 62.98 204 LR LR 16 19 06.7
comp=Z,326nm,20.3s,baz=132,slow=32
E46A Sault Ste Mari 63.15 47 P P 15 56 22.8 -0.2
PMG Port Moresby 63.53 248 LR LR 16 19 25.7
comp=Z,230nm,20.4s,baz=70,slow=32
RES Resolute Bay 63.71 15 LR LR 16 20 10.1
comp=Z,515nm,21.6s,baz=218,slow=32
TKL Tuckaleechee C 64.17 59 P P 15 56 28.4 -1.5
TKL Tuckaleechee C 64.17 59 LR LR 16 19 53.3
comp=Z,87nm,20.4s,baz=247,slow=32
RPN Rapa Nui 64.23 135 LR LR 16 18 06.4
comp=Z,490nm,18.7s,baz=331,slow=30
USRK Ussuriysk Ar. 64.44 310 LR LR 16 19 48.7
comp=Z,597nm,20.6s,baz=85,slow=32
KLR Kul'dur 64.47 316 LR LR 16 19 50.5
comp=Z,425nm,20.8s,baz=118,slow=32
JNU Nakatsue 66.40 298 LR LR 16 25 55.9
comp=Z,362nm,18.0s,baz=91,slow=36
SADO Sadowa 66.84 49 LR LR 16 25 21.9
comp=Z,62nm,19.4s,baz=318,slow=35
KSRS Korea Array 68.17 303 P P 15 56 59.8 +4.3
comp=Z,0.3nm,0.3s,baz=81,slow=7.8,SNR=3.3
KSRS LR LR 16 25 17.3
comp=Z,295nm,18.8s,baz=75,slow=35
comp=Z,0.3nm,0.3s
JTS Las Juntas de 68.20 86 LR LR 16 19 19.2
comp=Z,343nm,21.1s,baz=292,slow=29
CTA Charters Tower 69.45 239 P P 15 57 07.0 +3.1
comp=Z,0.9nm,1.2s,baz=59,slow=14,SNR=3.2
CTA LR LR 16 23 41.7
comp=Z,13nm,19.7s,baz=60,slow=33
comp=Z,0.9nm,1.2s
JOW Kunigami 69.75 292 LR LR 16 23 05.0
comp=Z,188nm,21.4s,baz=196,slow=32
RPZ Rata Peaks 70.02 205 LR LR 16 21 39.3
comp=Z,310nm,21.8s,baz=96,slow=31
FRB Frobisher Bay 71.32 28 LR LR 16 24 56.0
comp=Z,113nm,21.7s,baz=278,slow=33
SCHQ Schefferville 73.46 37 LR LR 16 26 18.0
comp=Z,60nm,19.8s,baz=284,slow=33
DAV Davao City (W) 77.47 273 LR LR 16 25 04.2
comp=Z,323nm,21.6s,baz=64,slow=30
SFJD Kangerlussuaq 77.86 23 LR LR 16 28 11.6
comp=Z,341nm,21.7s,baz=297,slow=33
STKA Stephens Creek 79.10 231 LR LR 16 27 13.2
comp=Z,199nm,21.8s,baz=28,slow=31
WRA Warramunga Arr 79.28 244 LR LR 16 27 58.5
comp=Z,321nm,21.9s,baz=62,slow=32
ROSC El Rosal 79.89 88 LR LR 16 25 16.1
comp=Z,203nm,20.9s,baz=261,slow=30
ATAH Atahualpa 80.12 101 LR LR 16 27 06.6
comp=Z,307nm,18.5s,baz=291,slow=31
NRIK Noril'sk 81.00 341 P **P 15 58 12.4 +2.9**
comp=Z,1.1nm,0.5s,baz=17,slow=2.6,SNR=3.7
NRIK LR LR 16 32 24.3
comp=Z,340nm,21.9s,baz=68,slow=34
comp=Z,1.1nm,0.5s
SONM Songino Array 81.23 318 P **P 15 58 13.2 +1.8**
comp=Z,2.0nm,1.1s,baz=108,slow=4.3,SNR=8.1
comp=Z,2.0nm,1.1s
ASAR Alice Springs 81.24 241 P P 15 58 13.6 +1.9
comp=Z,1.1nm,1.0s,baz=63,slow=6.3,SNR=7.3
comp=Z,1.1nm,1.0s
SDV Santo Domingo 82.08 83 LR LR 16 31 42.2
comp=Z,52nm,18.2s,baz=250,slow=34
SPITS Spitsbergen Ar 82.46 2 LR LR 16 31 11.0
comp=Z,226nm,20.7s,baz=324,slow=33
NNA Nana 83.30 105 LR LR 16 26 17.3
comp=Z,356nm,21.4s,baz=284,slow=29
SJG San Juan 83.35 73 LR LR 16 32 27.6
comp=Z,52nm,20.9s,baz=272,slow=34
JMIC Jan Mayen 86.91 10 LR LR 16 34 20.3
comp=Z,146nm,21.4s,baz=316,slow=33
KAPI Kappang 86.92 264 LR LR 16 33 45.1
comp=Z,115nm,20.0s,baz=74,slow=33
PCRV Puerto La Cruz 87.27 80 LR LR 16 34 32.4
comp=Z,110nm,19.6s,slow=33
BORG Borgarnes 88.97 18 LR LR 16 35 33.1
comp=Z,115nm,21.5s,baz=328,slow=34
H03N2 Juan Fernandez 89.73 126 T T 17 37 58.3
baz=298,slow=76,SNR=9.0
H03N3 Juan Fernandez 89.74 126 T T 17 37 57.5
baz=298,slow=76,SNR=7.8
H03N1 Juan Fernandez 89.74 126 T T 17 38 00.6
baz=298,slow=76,SNR=8.1
ZALV Zalesovo Beam 90.64 329 P P 15 59 00.4 +2.7
comp=Z,1.4nm,0.8s,baz=64,slow=6.8,SNR=7.1
comp=Z,1.4nm,0.8s
ARCES ARCESS Array B 91.27 360 LR LR 16 35 45.4
comp=Z,198nm,21.6s,baz=10,slow=33
LPAZ La Paz 92.70 106 LR LR 16 33 10.4
comp=Z,166nm,19.5s,baz=282,slow=31
LVC Limon Verde 94.09 112 LR LR 16 32 27.1
comp=Z,392nm,20.2s,baz=276,slow=30
KURBB Kurchatov Arra 95.73 329 LR LR 16 40 18.9
comp=Z,523nm,21.9s,baz=46,slow=34
MKAR Makanchi Array 96.16 324 P P 15 59 25.6 +2.3
comp=Z,0.7nm,1.0s,baz=64,slow=5.6,SNR=2.9
MKAR LR LR 16 40 03.7
comp=Z,388nm,21.6s,baz=52,slow=34
comp=Z,0.7nm,1.0s
BVAR Borovoye Array 97.74 334 LR LR 16 44 17.2
comp=Z,195nm,20.1s,baz=50,slow=36
CMAR Chiang Mai Arr 98.01 293 LR LR 16 43 15.9
comp=Z,164nm,19.2s,baz=75,slow=35
NWAO Narrogin (SRO) 98.29 238 LR LR 16 44 27.5
comp=Z,49nm,18.1s,baz=226,slow=36
PLCA Paso Flores 98.58 130 LR LR 16 33 44.7
comp=Z,444nm,21.2s,baz=268,slow=29
SIV San Ignacio 99.05 104 LR LR 16 39 27.3
comp=Z,373nm,18.0s,baz=284,slow=32
ARU Arti 99.22 342 LR LR 16 44 58.9
comp=Z,489nm,21.4s,baz=42,slow=36
VNDA Vanda 99.93 189 LR LR 16 34 53.2
comp=Z,217nm,21.8s,baz=30,slow=29
MAW Mawson 126.16 197 PKP **PKiKP 16 05 01.2 +3.8**
comp=Z,5.3nm,1.0s,baz=204,slow=20,SNR=3.9
TORD Torodi Ar. Bea 140.47 37 PKP **PKiKP 16 05 28.1 +0.1**
comp=Z,0.8nm,0.8s,baz=338,slow=4.5,SNR=4.3

NNC ***11*** *15:46:36.3±6.8, 40°.82N×73°.30E, h0km, mb2.6, mpv2.2,*
Error ellipse: s-maj=59.5km s-min=28.2km az=160.0
ISU ***11*** *15:46:37.6, 40°.75N×73°.04E, h8km*
ISC 11 15:46:33.6±1.8, 40°.7N±0°.1×73°.37E±0°.10, h10km, n7,
σ0=62/10, 5C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
OHH	**Osh**	**0.47**	**252**	P	**Pb**	**15 46 44.0**	**0.0**
OHH				S	**Sg**	**15 46 48.8**	**-0.2**
TSTA	**Tashata**	**0.68**	**262**	P	**Pg**	**15 46 47.4**	**+0.5**
TSTA				S	**Sg**	**15 46 54.5**	**-1.4**
CHMI	**Chimion**	**1.46**	**255**	P	**Pb**	**15 47 01.4**	**+0.4**
CHMI				S	**Sn**	**15 47 19.3**	**-0.1**
AAK	**Ala-Archa** 1.1nm,0.4s	**2.14**	**23**	⇓Pg	**Pg**	**15 47 14.6**	**0.0**
AAK				⇑Lg	Lg	15 47 44.1	
CHMS	**Chumysh** 1.1nm,0.5s	**2.54**	**24**	⇑Pg	**Pb**	**15 47 19.9**	**+0.5**
CHMS				⇑Lg	Lg	15 47 56.1	
TKM2	**Tokmak 2** 0.5nm,0.4s	**2.80**	**36**	⇑Pg	**Pb**	**15 47 23.7**	**-0.2**
TKM2				⇓Lg	Lg	15 48 03.6	
KK31	**Karatay Array** 0.3nm,0.5s,baz=131,slow=16	**3.23**	**320**	⇑Pg	**Pb**	**15 47 31.4**	**+0.3**
KK31				⇓Lg	Lg	15 48 12.6	
	1.3nm,0.7s,baz=131,slow=28,SNR=6.2						

*IDC **11** 16:02:04.4±2.8, 3°.96N×95°.67E, h0km, mb3.6/6, mbtmp3.5/7, ML3.2/1, Error ellipse: s-maj=110.5km s-min=21.5km az=62.0*
*DJA **11** 16:02:08.0±0.8, 4°.N±2°×.9°6E±°, h11km±3km, M4.3/8, mb4.6/1, MLv4.2/8*

ISC 11 16:02:09.2±1.2, 4°.38N±0°.05×96°.31E±0°.10, h18km±6km, n16, σ1°.12/16, mb3.5/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.15**	**142**	P	**Pg**	**16 02 13.3**	**-0.2**
MLSI				S	**Sg**	**16 02 17.1**	**+0.8**
LHMI	**Lhok Sumawe**	**1.05**	**37**	P	**Pn**	**16 02 28.0**	**-1.1**
LHMI				S	**Sb**	**16 02 44.2**	**+1.8**
KCSI	**Kotacane, Aceh**	**1.69**	**120**	P	**Pb**	**16 02 39.2**	**-0.6**
KCSI				S	**Sb**	**16 03 00.7**	**-0.1**
SNSI	**Sinabang, Aceh**	**1.96**	**180**	P	**Pn**	**16 02 41.0**	**-0.7**
GSI	**Gunungsitoli**	**3.31**	**158**	P	**Pn**	**16 03 00.9**	**+0.7**
PBSI	**Pulau Batu**	**4.83**	**156**	P	**Pn**	**16 03 20.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**14.22**	**10**	Pn	**P**	**16 05 35.4**	**-1.9**
	baz=193,slow=14,SNR=1.5 0.5nm,0.7s						
H08S2	**Diego Garcia H**	**26.60**	**243**	T	T	16 35 00.1	
	baz=62,slow=76,SNR=6.0						
H08S3	**Diego Garcia H**	**26.60**	**243**	T	T	16 34 59.8	
	baz=62,slow=76,SNR=11						
H08S1	**Diego Carcia H**	**26.62**	**243**	T	T	16 34 58.8	
	baz=62,slow=76,SNR=7.3						
MKAR	**Makanchi Array**	**43.96**	**346**	P	**P**	**16 10 14.5**	**-0.8**
	0.1nm,0.4s,baz=164,slow=9.4,SNR=2.0 0.1nm,0.4s						
SONM	**Songino Array**	**44.15**	**10**	P	**P**	**16 10 18.8**	**+1.8**
	0.2nm,0.4s,baz=178,slow=8.4,SNR=1.6 0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.51**	**124**	P	**P**	**16 10 20.3**	**+0.2**
	4.5nm,1.2s,baz=301,slow=9.1,SNR=15 4.5nm,1.2s						
ASAR	**Alice Springs**	**46.04**	**129**	P	**P**	**16 10 32.2**	**-0.1**
	0.8nm,0.8s,baz=303,slow=7.6,SNR=17 0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**48.45**	**345**	P	**P**	**16 10 51.1**	**+0.6**
	0.2nm,0.6s,baz=140,slow=6.1,SNR=1.3 0.2nm,0.6s						
ILAR	**Eielson Array**	**97.13**	**23**	P	**P**	**16 15 40.8**	**+0.5**
	0.4nm,1.0s,baz=290,slow=2.7,SNR=2.4 0.4nm,1.0s						

IDC 11 16:05:48.7±2.2, 31°.56S×57°.81E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=65.6km s-min=43.8km az=98.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.31**	**196**	T	T	16 25 19.6	
	baz=21,slow=74						
H04N1	**CROZET ISLANDS**	**15.31**	**196**	T	T	16 25 17.9	
	baz=21,slow=74						
H04N3	**CROZET ISLANDS**	**15.32**	**196**	T	T	16 25 18.4	
	baz=21						
H08S1	**Diego Carcia H**	**27.45**	**33**	T	T	16 40 00.3	
	baz=211,slow=76,SNR=4.9						
H08S2	**Diego Garcia H**	**27.46**	**33**	T	T	16 39 58.2	
	baz=211						
H08S3	**Diego Garcia H**	**27.47**	**33**	T	T	16 40 02.3	
	baz=211,slow=76,SNR=5.6						
QSPA	**South Pole Qui**	**58.61**	**180**	P	P	16 15 47.2	0.0
	0.8nm,1.1s,baz=288,slow=3.2,SNR=1.3 0.8nm,1.1s						
ASAR	**Alice Springs**	**66.68**	**104**	P	P	16 16 41.7	0.0
	0.4nm,0.7s,baz=246,slow=5.5,SNR=6.4 0.4nm,0.7s						
WRA	**Warramunga Arr**	**68.68**	**101**	P	P	16 16 54.4	+0.1
	0.7nm,1.0s,baz=243,slow=6.0,SNR=2.9 0.7nm,1.0s						
MKAR	**Makanchi Array**	**81.06**	**17**	P	P	16 18 05.3	0.0
	0.1nm,0.4s,baz=208,slow=5.7,SNR=1.3 0.1nm,0.4s						

IDC 11 16:11:23.6±3.0, 31°.63S×58°.51E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=92.7km s-min=37.5km az=115.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.41**	**198**	T	T	16 30 17.3	
	baz=21						
H04N1	**CROZET ISLANDS**	**15.42**	**198**	T	T	16 30 18.0	
	baz=21						
H04N3	**CROZET ISLANDS**	**15.43**	**198**	T	T	16 30 16.5	
	baz=21						
QSPA	**South Pole Qui**	**58.54**	**180**	P	P	16 21 21.6	0.0
	2.3nm,1.2s,baz=260,slow=9.2,SNR=5.2 2.3nm,1.2s						
CMAR	**Chiang Mai Arr**	**63.12**	**44**	P	P	16 21 53.3	0.0
	0.6nm,0.7s,baz=231,slow=6.6,SNR=4.1 0.6nm,0.7s						
ASAR	**Alice Springs**	**66.08**	**104**	P	P	16 22 12.9	+0.1
	0.2nm,0.7s,baz=244,slow=6.0,SNR=4.3 0.2nm,0.7s						
WRA	**Warramunga Arr**	**68.07**	**100**	P	P	16 22 25.4	-0.1
	0.3nm,0.8s,baz=229,slow=6.3,SNR=2.0 0.3nm,0.8s						

IDC 11 16:40:12.1±3.5, 16°.75S×71°.34W, h0km, mb3.5/2, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=117.4km s-min=22.7km az=5.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.11**	**82**	Pn	Pn	16 41 03.8	+0.8
	1.1nm,0.3s,baz=257,slow=6.7,SNR=16						
LPAZ				Lg	Lg	16 41 50.9	
	0.5nm,0.3s,baz=252,slow=9.6,SNR=1.0 3.4nm,0.5s						
TXAR	**Lajitas Array**	**55.44**	**325**	P	P	16 49 48.6	-0.1
	0.2nm,0.8s,baz=138,slow=7.3,SNR=2.5 0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.02**	**72**	P	P	16 52 12.9	-0.1
	0.9nm,0.9s,baz=249,slow=6.2,SNR=4.1 0.9nm,0.9s						

*IDC **11** 16:40:43.5±1.0, 31°.68S×58°.29E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=35.3km s-min=26.9km az=55.0*

ISC 11 16:40:45.8±1.0, 31°.7S±0°.2×58°.3E±0°.2, h14km, n18, σ0°.47/9, mb4.0/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.31**	**197**	T	T	16 59 37.9	
	baz=20,slow=75,SNR=18						
H04N1	**CROZET ISLANDS**	**15.32**	**197**	T	T	16 59 38.7	
	baz=20,slow=75,SNR=19						
H04N3	**CROZET ISLANDS**	**15.33**	**197**	T	T	16 59 39.3	
	baz=20,slow=75,SNR=18						
H08S1	**Diego Carcia H**	**27.33**	**32**	T	T	17 14 54.3	
	baz=207,slow=76,SNR=14						
H08S2	**Diego Garcia H**	**27.34**	**32**	T	T	17 14 52.7	
	baz=207,slow=76,SNR=7.9						
H08S3	**Diego Garcia H**	**27.35**	**32**	T	T	17 14 55.4	
	baz=207,slow=76,SNR=18						
H01W2	**Cape Leeuwin H**	**46.29**	**110**	T	T	17 38 52.6	
	baz=257,slow=75,SNR=4.9						
H01W3	**Cape Leeuwin H**	**46.30**	**110**	T	T	17 38 56.9	
	baz=257,slow=75,SNR=4.7						
H01W1	**Cape Leeuwin H**	**46.31**	**110**	T	T	17 38 57.1	
	baz=257,slow=75,SNR=5.6						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**16 50 41.5**	**+0.2**
	0.6nm,0.7s,baz=268,slow=4.0,SNR=1.4 0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.29**	**44**	P	**P**	**16 51 14.4**	**+0.1**
	1.2nm,0.7s,baz=232,slow=7.4,SNR=11 1.2nm,0.7s						
ASAR	**Alice Springs**	**66.26**	**104**	P	**P**	**16 51 33.6**	**-0.2**
	0.8nm,0.7s,baz=240,slow=6.1,SNR=17 0.8nm,0.7s						
WRA	**Warramunga Arr**	**68.26**	**101**	P	**P**	**16 51 46.6**	**0.0**
	1.0nm,0.7s,baz=243,slow=5.7,SNR=5.8 1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**70.17**	**300**	P	**P**	**16 51 58.3**	**0.0**
	0.6nm,0.8s,baz=103,slow=3.4,SNR=2.9 0.6nm,0.8s						
MKAR	**Makanchi Array**	**81.06**	**16**	P	**P**	**16 53 00.0**	**0.0**
	0.3nm,0.6s,baz=209,slow=2.6,SNR=2.9 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**83.87**	**13**	P	**P**	**16 53 14.7**	**+0.1**
	1.1nm,0.8s,baz=207,slow=5.7,SNR=7.9 1.1nm,0.8s						
BVAR	**Borovoye Array**	**85.00**	**7**	P	**P**	**16 53 21.0**	**+0.7**
	1.9nm,0.7s,baz=170,slow=4.2,SNR=8.3 1.9nm,0.7s						
YKA	**Yellowknife Ar**	**148.83**	**354**	PKPbc	**PKPbc**	**17 00 31.3**	**-0.9**
	0.8nm,0.5s,baz=3.4,slow=3.1,SNR=3.1						

DJA 11 16:45:35.9±0.3, 11°.S±3°×11°.9E±°, h10km, M4.1/12, mb4.2/8, MLv4.1/12, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.87**	**28**	P	Pn	16 46 07.7	-0.3
BASI	**Baing, Sumba**	**2.31**	**62**	P	Pn	16 46 14.4	+0.4
BASI				S	Sn	16 46 42.5	0.0
PLAI	**Plampang**	**2.56**	**344**	P	Pn	16 46 16.2	-1.3
PLAI				S	Sn	16 46 43.7	-5.0
TWSI	**Taliwang, Sumb**	**3.00**	**328**	P	Pn	16 46 23.0	-0.6
TWSI				S	Sn	16 46 53.5	-6.2
EDFI	**Ende, Flores**	**4.04**	**51**	P	Pn	16 46 37.7	-0.2
DNP	**Denpasar**	**4.16**	**309**	P	Pn	16 46 40.1	+0.6
MMRI	**Maumere**	**4.54**	**55**	P	Pn	16 46 44.7	0.0
SRBI	**Singaraja**	**4.55**	**314**	P	Pn	16 46 44.3	-0.6
JAGI	**Jajag, Banyuwa**	**5.12**	**303**	P	Pn	16 46 51.5	-1.3
	27nm,1.6s,0.2nm						
BATI	**Baumata**	**5.19**	**78**	P	Pn	16 46 54.6	+0.9
	45nm,2.3s,0.2nm						
SOEI	**Soe**	**5.88**	**75**	P	Pn	16 47 04.1	+0.9
	39nm,1.6s,0.2nm						
BKSI	**Bulukumba**	**6.15**	**15**	P	Pn	16 47 08.8	+1.9
	19nm,0.6s						
PWJI	**Pagerwojo**	**7.36**	**296**	P	Pn	16 47 25.1	+1.6
GRJI	**Gresik**	**7.37**	**306**	P	Pn	16 47 28.5	+4.9

SJA 11 16:55:14.9±0.7, 22°.42S×66°.16W, h273km±5km, ML3.5, MW3.5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.64**	**68**	*e*P	Pn	16 55 52.0	+0.5
YJA				*e*S	S	16 56 19.1	-1.2
AZAP	**Zapla**	**2.06**	**151**	*e*P	Pn	16 56 00.2	+0.2
ALOL	**LOMAS DE OLMED**	**2.44**	**125**	*e*P	Pn	16 56 03.7	+0.4
LVC	**Limon Verde**	**2.55**	**265**	*e*P	Pn	16 56 05.0	+0.3
PB09	**IPOC Station P**	**2.93**	**282**	*e*P	Pn	16 56 08.9	+0.6
PB09				*e*S	S	16 56 50.0	-0.7
PB09				IAML		16 56 52.6	
	comp=Z,32nm,0.3s						
PB15	**IPOC Station P**	**3.16**	**255**	*e*P	Pn	16 56 11.2	+0.5
PB15				*e*S	S	16 56 53.0	-2.1
PB06	**IPOC Station P**	**3.17**	**264**	*e*P	Pn	16 56 11.0	+0.2
PB06				*e*S	S	16 56 54.0	-1.2
PB06				IAML		16 56 54.7	
	comp=Z,36nm,0.2s						
PB04	**IPOC Station P**	**3.69**	**271**	*e*P	Pn	16 56 16.6	+0.1
PB04				*e*S	S	16 57 02.3	-3.3
PB04				IAML		16 57 05.2	
	comp=Z,65nm,0.2s						
GO01	**Chusmiza**	**3.94**	**313**	*e*P	Pn	16 56 20.9	+1.3
GO01				*e*S	S	16 57 12.8	+1.6
PATCX	**Punta Patache**	**4.04**	**292**	*e*P	Pn	16 56 20.4	+0.1
PATCX				*e*P		16 56 21.1	
PATCX				*e*S	S	16 57 09.4	-3.2
PATCX				IAML		16 57 11.2	
	comp=Z,27nm,0.1s						
HMBC	**Humberstone**	**4.08**	**301**	*e*P	Pn	16 56 21.1	+0.2
HMBC				*e*S	S	16 57 10.3	-3.1
HMBC				IAML		16 57 11.5	
	comp=Z,74nm,0.2s						
TA01	**Diego Aracena**	**4.17**	**295**	*e*P	Pn	16 56 22.1	+0.3
TA01				*e*S	S	16 57 11.8	-3.4
TA01				IAML		16 57 12.5	
	comp=Z,18nm,0.6s						
PB10	**IPOC Station P**	**4.20**	**254**	*e*P	Pn	16 56 22.1	+0.1
PB10				*e*S	S	16 57 11.1	-4.5
PB10				IAML		16 57 14.8	
	comp=Z,29nm,0.3s						
PB11	**IPOC Station P**	**4.20**	**308**	*e*P	Pn	16 56 22.7	+0.4
PB11				*e*S	S	16 57 15.1	-1.0
PB11				IAML		16 57 15.9	
	comp=Z,42nm,0.1s						
PB14	**IPOC Station P**	**4.47**	**240**	*e*P	Pn	16 56 25.4	-0.2
PB14				*e*S	S	16 57 17.4	-4.5
PB14				IAML		16 57 19.4	
	comp=Z,47nm,0.2s						

*IDC **11** 17:13:35.6±0.9, 40°.85N×143°.06E, h0km, mb4.1/16, mbtmp4.0/22, ML3.4/6, MS3.3/9, Error ellipse: s-maj=22.6km s-min=14.8km az=91.0*
*BJI **11** 17:13:37.6±0.0, 40°.90N×143°.26E, h38km, mb4.3/19, mB4.7/8, Ms4.0/1, Ms7 4.0/1*
*NIED **11** 17:13:39.3, 40°.84N×142°.97E, h20km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.90; Mθθ-0.03; Mφφ-0.87; Mrθ0.62; Mφθ-0.28; Mrφ0.84; Fault plane solution: M0 1.40000×10^15 NP1:φs31.00000°, δ70.00000°, λ101.00000°. NP2:φs183.00000°, δ23.00000°, λ63.00000°.*
*JMA **11** 17:13:39.3±0.1, 40°.8N±0°.4×143°.0E±0°.7, h20km, MD4.1/39, MV4.1/39, E OFF AOMORI PREF*
*NEIC **11** 17:13:42.2±1.7, 40°.93N±0°.01×142°.8E±0°.1, h38km±10km, mb4.2/20, Error ellipse: s-maj=12.0km s-min=0.9km az=97.0*

ISC 11 17:13:40.2±0.6, 40°.83N±0°.04×142°.98E±0°.07, h30km, n87, σ1°.15/84, mb4.2/28, MS3.5/5, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**1.15**	**238**	⇓*i*P	**Pn**	**17 13 59.9**	**-0.4**
JKEN				⇓S	**Sb**	**17 14 15.0**	**-1.1**
ERM	**Erimo**	**1.19**	**6**		**Pn**	**17 14 01.0**	**+0.1**
JEM	**Erimo**	**1.19**	**6**	*e*P	**Pn**	**17 14 00.9**	**0.0**
JANG	**Nango**	**1.20**	**248**	⇓*i*P	**Pn**	**17 14 01.1**	**+0.1**
JTH	**Tanohata**	**1.23**	**224**	⇓P	**Pn**	**17 14 01.3**	**-0.1**
JARK	**Aomorirokkasho**	**1.24**	**279**	⇓P	**Pn**	**17 14 01.1**	**-0.3**
JTM	**Tenmabayashi**	**1.45**	**269**	Pn	**Pn**	**17 14 04.6**	**+0.1**
JTM	**Tenmabayashi**	**1.45**	**269**	⇓P	**Pn**	**17 14 04.9**	**+0.5**
JNBK	**Urakawa-nobuka**	**1.46**	**353**	*i*P	**Pn**	**17 14 05.1**	**+0.5**
JNBK	**Urakawa-nobuka**	**1.46**	**353**	A	A	17 14 05.1	
	comp=E,5.0nm,0.5s,comp=N,4.0nm,2.7s						
JOT	**Ohata**	**1.56**	**291**	⇓*i*P	**Pn**	**17 14 06.2**	**+0.2**
JCH	**Churui**	**1.81**	**9**	P	**Pn**	**17 14 09.7**	**+0.4**
JCH				*e*S	**Sn**	**17 14 30.7**	**-0.5**
JKB	**Kayabe**	**1.81**	**306**	⇓P	**Pn**	**17 14 09.8**	**+0.5**
JOM	**Ohasama**	**1.87**	**224**	*e*P	**Pn**	**17 14 11.4**	**+1.2**
JOM	**Ohasama**	**1.87**	**224**	A	A	17 14 11.4	
	comp=E,4.0nm,0.9s,comp=N,2.0nm,0.9s						
JAH	**Hinai**	**1.90**	**251**	⇓*e*P	**Pn**	**17 14 12.2**	**+1.6**
JMK	**Ichinoseki**	**2.31**	**216**	*e*P	**Pn**	**17 14 18.2**	**+2.0**
JEW	**Eniwo**	**2.31**	**331**	*e*P	**Pn**	**17 14 17.4**	**+1.2**
JEW	**Eniwo**	**2.31**	**331**	A	A	17 14 17.4	
	comp=E,5.0nm,0.7s,comp=N,7.0nm,1.6s						
JOMM	**Oshimamatsumae**	**2.35**	**288**	P	**Pn**	**17 14 17.6**	**+0.8**
JAK	**Akkeshi**	**2.52**	**30**	*e*P	**Pn**	**17 14 18.7**	**-0.3**
JAK				*e*S	**Sn**	**17 14 46.4**	**-2.3**
JAR	**Ashorobuto**	**2.54**	**13**	*e*P	**Pn**	**17 14 19.0**	**-0.4**
ASAJ	**Asahikawa**	**3.30**	**355**	Pn	**Pn**	**17 14 30.2**	**+0.4**
	comp=N,4.7nm,0.3s,baz=205,slow=10,SNR=62						
ASAJ				Sn	**Sn**	**17 15 08.1**	**0.0**
	comp=N,9.5nm,0.3s,baz=172,slow=32,SNR=6.1 comp=N,19nm,0.5s						
JKA	**Kamikawa-asahi**	**3.30**	**355**	Pn	**Pn**	**17 14 30.1**	**+0.2**
JMM	**Marumori**	**3.41**	**211**		**Pn**	**17 14 32.5**	**+1.2**
MJAR	**Matsushiro Arr**	**5.68**	**223**	Pn	**Pn**	**17 15 03.6**	**+1.1**
	comp=N,0.2nm,0.3s,baz=30,slow=13,SNR=16						
MJAR				LR	LR	17 17 40.9	
	comp=N,163nm,19.9s,baz=88,slow=43 comp=N,4.5nm,0.7s						
MJB9	**Matsu-Tunnel**	**5.68**	**223**	Pn	**Pn**	**17 15 05.4**	**+2.8**
MAJO	**Matsushiro**	**5.68**	**223**	Pn	**Pn**	**17 15 04.4**	**+1.8**
YSS	**Yuzh-Sakhalins**	**6.13**	**359**		**Pn**	**17 15 08.0**	**-0.7**
JGF	**Kuroka**	**6.84**	**222**	Pn	**Pn**	**17 15 19.4**	**+0.8**
INU	**Inuyama**	**7.21**	**223**	Pn	**Pn**	**17 15 25.6**	**+2.0**
JHJ2	**Mitsune**	**8.11**	**199**	Pn	**Pn**	**17 15 37.1**	**+1.2**
JHJ	**Hachijo jima 2**	**8.11**	**199**	Pn	**Pn**	**17 15 36.2**	**+0.3**
	comp=N,8.4nm,0.3s,baz=300,slow=20,SNR=2.3						
JHJ				Sn	**Sn**	**17 17 02.1**	**-4.4**
	comp=N,4.1nm,0.3s,baz=66,slow=20,SNR=1.9 comp=N,18nm,0.3s						
USRK	**Ussuriysk Ar.**	**8.79**	**296**	Pn	**Pn**	**17 15 45.7**	**+0.5**
	comp=N,0.6nm,0.3s,baz=102,slow=14,SNR=11						
USRK				LR	LR	17 19 16.1	
	comp=N,160nm,18.2s,baz=121,slow=38 comp=N,3.1nm,0.5s						
KLR	**Kul'dur**	**11.55**	**320**	Pn	**Pn**	**17 16 22.8**	**-0.2**
	comp=N,0.1nm,0.3s,baz=138,slow=15,SNR=3.9						
KLR				LR	LR	17 21 00.8	
	comp=N,77nm,20.8s,baz=140,slow=38 comp=N,0.8nm,0.6s						
KSRS	**Korea Array**	**12.17**	**259**	Pn	**Pn**	**17 16 32.3**	**+0.9**
	comp=N,0.2nm,0.3s,baz=63,slow=13,SNR=4.0						
KSRS				LR	LR	17 20 55.9	
	comp=N,148nm,19.0s,baz=80,slow=36 comp=N,0.5nm,0.7s						
XLT	**XiLinHaoTe**	**20.08**	**288**	*e*P	**Pn**	**17 18 12.9**	**-0.3**
XLT				pP	pP	17 18 18.2	-0.6
XLT				sP	sP	17 18 23.0	+0.5
XLT				PP	**PnPn**	**17 18 30.1**	**+2.4**
XLT				PcP	**PcP**	**17 22 28.5**	**+2.7**
XLT				pmax	pmax		
	comp=N,4.0nm,0.6s						
BJT	**Baijiatuau**	**20.41**	**277**	P	**P**	**17 18 12.6**	**-2.1**
HHC	**Hu-ho-hao-te**	**23.71**	**280**	*e*P	**P**	**17 18 50.0**	**+0.4**
HHC				pmax	pmax		
	comp=N,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=N,70nm,4.7s						
ULN	**Ulaanbaatar**	**26.46**	**298**	P	**P**	**17 19 13.7**	**-0.9**
SONM	**Songino Array**	**26.90**	**297**	P	**P**	**17 19 18.1**	**-0.5**
SONM	**Songino Array**	**26.90**	**297**	P	**P**	**17 19 19.1**	**+0.5**
	comp=N,1.5nm,0.5s,baz=88,slow=8.8,SNR=16						
SONM				LR	LR	17 30 51.9	
	comp=N,63nm,19.3s,baz=124,slow=38 comp=N,1.5nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.31**	**129**	T	T	17 50 32.1	
	baz=322,slow=75,SNR=49						
H11N1	**WAKE ISLAND Hy**	**29.32**	**129**	T	T	17 50 38.2	
	baz=322,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hy**	**29.32**	**129**	T	T	17 50 34.5	
	baz=322,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy**	**30.15**	**131**	T	T	17 51 38.3	
	baz=324,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**30.15**	**131**	T	T	17 51 38.3	
	baz=324,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**30.16**	**131**	T	T	17 51 38.3	
	baz=324,slow=76,SNR=26						
PZH	**PanZhiHua**	**36.83**	**260**	P	**P**	**17 20 46.7**	**+0.9**
PZH				pmax	pmax		
	comp=N,11nm,0.7s						
PZH				pmax	pmax		
	comp=N,100nm,5.2s						
ZAA0	**Zalesovo Array**	**40.36**	**309**	P	**P**	**17 21 15.2**	**+0.2**
ZAA0				IAmb	IAmb	17 21 21.0	
	comp=Z,2.9nm,0.7s						
ZALV	**Zalesovo Beam**	**40.36**	**309**	P	**P**	**17 21 13.7**	**-1.3**
ZALV	**Zalesovo Beam**	**40.36**	**309**	P	**P**	**17 21 15.2**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=99,slow=7.7,SNR=11						
ZALV				PcP	**PcP**	**17 23 18.7**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=108,slow=4.7,SNR=2.0						
ZALV				LR	LR	17 38 59.4	
	comp=Z,59nm,19.3s,baz=193,slow=38 comp=Z,2.0nm,0.4s						
NRIK	**Noril'sk**	**40.38**	**333**	P	**P**	**17 21 15.2**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=110,slow=2.0,SNR=3.8 comp=Z,1.5nm,0.3s						
H19K	**Roundabout Mou**	**41.63**	**33**	P	**P**	**17 21 26.2**	**+0.9**
H19K				IAmb	IAmb	17 21 28.0	
	comp=Z,5.6nm,0.8s						
MK31	**Makanchi Array**	**43.24**	**299**	P	P	17 21 34.9	-3.8
MKAR	**Makanchi Array**	**43.24**	**299**	P	P	17 21 34.9	-3.8
MKAR	**Makanchi Array**	**43.24**	**299**	P	**P**	**17 21 38.9**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=85,slow=10,SNR=20						
MKAR				LR	LR	17 40 59.6	
	comp=Z,64nm,18.1s,baz=54,slow=38 comp=Z,0.9nm,0.4s						
CMAR	**Chiang Mai Arr**	**43.72**	**253**	P	**P**	**17 21 42.5**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=43,slow=7.5,SNR=4.9 comp=Z,0.7nm,0.5s						
C23K	**Itkillik River**	**44.26**	**27**	P	**P**	**17 21 47.0**	**+0.5**
C23K				IAmb	IAmb	17 22 04.0	
	comp=Z,3.6nm,1.2s						
G23K	**Bananza Creek**	**44.32**	**32**	P	**P**	**17 21 48.9**	**+1.8**
G23K				IAmb	IAmb	17 21 56.8	
	comp=Z,6.2nm,1.4s						
KURK	**Kurchatov**	**44.64**	**305**	P	**P**	**17 21 49.4**	**-0.4**
KURBB	**Kurchatov Arra**	**44.72**	**305**	P	**P**	**17 21 50.2**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=78,slow=9.0,SNR=21						
KURBB				PcP	**PcP**	**17 23 32.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=91,slow=3.7,SNR=1.7 comp=Z,3.2nm,0.5s						
H24K	**Noodor Dome**	**45.19**	**33**	P	**P**	**17 21 55.3**	**+1.3**
H24K				IAmb	IAmb	17 22 14.7	
	comp=Z,4.9nm,1.3s						
DHY	**Denali Highway**	**45.57**	**37**	P	**P**	**17 21 57.8**	**+0.6**
DHY				IAmb	IAmb	17 22 00.1	
	comp=Z,4.2nm,1.2s						
ILAR	**Eielson Array**	**45.66**	**34**	P	**P**	**17 21 58.1**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=259,slow=6.1,SNR=8.9 comp=Z,0.7nm,0.8s						
D25K	**Kavik River**	**45.72**	**28**	P	**P**	**17 21 58.8**	**+0.6**
BMAR	**Burnt Mountain**	**46.44**	**31**	P	**P**	**17 22 05.0**	**+1.1**
SCRK	**Sand Creek**	**46.99**	**35**	P	**P**	**17 22 07.4**	**-0.9**
SCRK				IAmb	IAmb	17 22 25.7	
	comp=Z,2.2nm,0.8s						
E27K	**Coleen River**	**47.51**	**29**	P	**P**	**17 22 13.4**	**+1.2**
E27K				IAmb	IAmb	17 22 40.8	
	comp=Z,3.1nm,1.2s						
TGL	**Tana Glacier**	**48.02**	**39**	P	**P**	**17 22 19.0**	**+2.7**
F28M	**Old Crow**	**48.22**	**30**	P	**P**	**17 22 16.9**	**-0.8**
F28M				IAmb	IAmb	17 22 21.2	
	comp=Z,1.9nm,0.8s						
I28M	**Miner Creek**	**48.50**	**33**	P	**P**	**17 22 20.6**	**+0.6**
I28M				IAmb	IAmb	17 22 41.7	
	comp=Z,2.6nm,0.9s						
E29M	**Blow River**	**48.85**	**29**	P	**P**	**17 22 23.0**

*NEIC **11** 17:26:47.1±2.6, 18°.18S±0°.07×67°.01W±0°.09, h276km±9km, mb4.3/22, Error ellipse: s-maj=12.9km s-min=10.1km az=103.0*
*VAO **11** 17:26:47.2±0.3, 18°.11S×67°.04W, h277km±3km, mb4.3*
ISC 11 17:26:46.0±0.5, 18°.14S±0°.04×67°.07W±0°.04, h272km±5km, n150, σ1§41/173, mb4.2/18, 3C, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEO	**Opoqueri**	**0.89**	**242**	Pg	**Pn**	**17 27 25.6**	**+2.2**
SOEO				Sg	**S**	**17 27 55.5**	**+2.6**
SOEO				IAML		17 27 58.8	
	114nm,0.7s						
SOET	**ToroToro**	**1.19**	**89**	Pg	**Pn**	**17 27 26.9**	**+2.0**
SOEJ	**Jacaque**	**1.58**	**317**	Pg	**Pn**	**17 27 30.1**	**+2.4**
BBOE	**La Paz, Chanca**	**1.58**	**326**	Pg	**Pn**	**17 27 30.1**	**+2.4**
AOEA	**Aiquile**	**1.74**	**92**	Pg	**Pn**	**17 27 30.8**	**+2.2**
BBOD	**La Paz, Gloria**	**2.09**	**315**	Pg	**Pn**	**17 27 34.1**	**+2.3**
LPAZ	**La Paz**	**2.10**	**331**	*e*P	**Pn**	**17 27 34.1**	**+2.1**
LPAZ	**La Paz**	**2.10**	**331**	P	**Pn**	**17 27 33.7**	**+1.7**
	113nm,0.3s,baz=99,slow=1.6,SNR=989						
LPAZ				S	**S**	**17 28 08.7**	**+0.3**
	135nm,0.6s,baz=145,slow=16,SNR=22						
LPAZ	**La Paz**	**2.10**	**331**	Pg	**Pn**	**17 27 34.1**	**+2.1**
LPAZ				Sg	**S**	**17 28 09.2**	**+0.8**
LPAZ				IAML		17 28 17.4	
	87nm,0.8s						
LPAZ	**La Paz**	**2.10**	**331**	*e*P	**Pn**	**17 27 34.1**	**+2.1**
LPAZ				*e*S	**S**	**17 28 08.9**	**+0.5**
PB18	**Visviri**	**2.36**	**283**		**Pn**	**17 27 37.0**	**+2.8**
GO01	**Chusmiza**	**2.52**	**233**		**Pn**	**17 27 37.5**	**+1.9**
GO01	**Chusmiza**	**2.52**	**233**	*e*P	**Pn**	**17 27 37.5**	**+1.9**
GO01				*e*S	**S**	**17 28 19.4**	**+4.4**
GO01	**Chusmiza**	**2.52**	**233**	Pg	**Pn**	**17 27 37.3**	**+1.7**
PB11	**IPOC Station P**	**2.93**	**236**	Pn	**Pn**	**17 27 40.1**	**+0.8**
PB11	**IPOC Station P**	**2.93**	**236**	*e*P	**Pn**	**17 27 40.3**	**+1.0**
PB11				*e*S	**S**	**17 28 21.2**	**-0.5**
PB11	**IPOC Station P**	**2.93**	**236**	Pg	**Pn**	**17 27 40.7**	**+1.4**
PB11				Sg	**S**	**17 28 21.4**	**-0.3**
PB11				IAML		17 28 22.9	
	961nm,0.2s						
AP01	**Chacalluta**	**3.12**	**265**		**Pn**	**17 27 41.8**	**+0.6**
AP01	**Chacalluta**	**3.12**	**265**	*e*P	**Pn**	**17 27 41.7**	**+0.6**
AP01				IAML		17 28 26.9	
	comp=Z,557nm,0.2s						
MOCB	**Mochara**	**3.37**	**157**	Pg	**Pn**	**17 27 46.5**	**+2.2**
HMBC	**Humberstone**	**3.41**	**231**		**Pn**	**17 27 44.5**	**+0.1**
TA02	**Huaiquique**	**3.59**	**233**		**Pn**	**17 27 46.3**	**+0.2**
TA02	**Huaiquique**	**3.59**	**233**	*e*P	**Pn**	**17 27 47.0**	**+0.8**
TA02				*e*S	**S**	**17 28 32.2**	**-1.9**
TA02				IAML		17 28 33.7	
	comp=Z,754nm,0.3s						
SOTI	**Planta Incahua**	**3.63**	**118**	Pg	**Pn**	**17 27 49.0**	**+2.2**
TA01	**Diego Aracena**	**3.80**	**230**	Pn	**Pn**	**17 27 48.9**	**+0.4**
TA01	**Diego Aracena**	**3.80**	**230**	*e*P	**Pn**	**17 27 49.1**	**+0.6**
TA01				*e*S	**S**	**17 28 35.7**	**-2.8**
PATCX	**Punta Patache**	**3.95**	**227**		**Pn**	**17 27 50.4**	**+0.1**
PB09	**IPOC Station P**	**4.17**	**209**		**Pn**	**17 27 54.3**	**+1.3**
PB09	**IPOC Station P**	**4.17**	**209**	*e*P	**Pn**	**17 27 54.8**	**+1.8**
PB09				*e*S	**S**	**17 28 46.9**	**+0.5**
PB09	**IPOC Station P**	**4.17**	**209**	Pg	**Pn**	**17 27 54.7**	**+1.8**
YJA	**Yavi**	**4.27**	**160**	*e*P	**Pn**	**17 27 56.8**	**+2.4**
YJA				*e*S	**S**	**17 28 45.3**	**-3.6**
LVC	**Limon Verde**	**4.77**	**201**	Pn	**Pn**	**17 28 01.2**	**+1.1**
LVC	**Limon Verde**	**4.77**	**201**	*e*P	**Pn**	**17 28 00.7**	**+0.6**
LVC				*e*S	**S**	**17 28 58.1**	**-1.3**
LVC	**Limon Verde**	**4.77**	**201**	P	**Pn**	**17 28 00.8**	**+0.6**
	comp=Z,67nm,0.4s,baz=22,slow=8.7,SNR=135						
LVC				S	**S**	**17 28 57.8**	**-1.6**
	comp=Z,37nm,0.3s,baz=90,slow=20,SNR=17						
LVC	**Limon Verde**	**4.77**	**201**	*e*P	**Pn**	**17 28 01.4**	**+1.2**
AF01	**San Pedro de A**	**4.90**	**192**		**Pn**	**17 28 03.5**	**+1.9**
AF01	**San Pedro de A**	**4.90**	**192**	Pg	**Pn**	**17 28 03.1**	**+1.5**
PB04	**IPOC Station P**	**5.08**	**214**		**Pn**	**17 28 04.1**	**+0.5**
PB04	**IPOC Station P**	**5.08**	**214**	*e*P	**Pn**	**17 28 04.1**	**+0.5**
PB04				*e*S	**S**	**17 29 02.1**	**-3.6**
PB04				IAML		17 29 03.8	
	comp=Z,323nm,0.4s						
PB06	**IPOC Station P**	**5.11**	**207**		**Pn**	**17 28 04.6**	**+0.6**
PB06	**IPOC Station P**	**5.11**	**207**	*e*P	**Pn**	**17 28 05.1**	**+1.1**
PB06				*e*S	**S**	**17 29 03.6**	**-2.8**
PB06				IAML		17 29 06.5	
	comp=Z,405nm,0.6s						
PB15	**IPOC Station P**	**5.52**	**204**		**Pn**	**17 28 09.5**	**+0.5**
PB15	**IPOC Station P**	**5.52**	**204**	Pg	**Pn**	**17 28 10.2**	**+1.2**
PB15				Sg	**S**	**17 29 13.3**	**-2.2**
PB15				IAML		17 29 17.9	
	comp=Z,1μm,0.3s						
SIV	**San Ignacio**	**6.12**	**70**	P	**Pn**	**17 28 15.2**	**-0.9**
	comp=Z,11nm,0.4s,baz=263,slow=8.7,SNR=39						
SIV				S	**S**	**17 29 22.3**	**-6.3**
	comp=Z,15nm,0.7s,baz=256,slow=20,SNR=1.4						
BBSD	**Serra de San D**	**6.23**	**82**	*e*P	**Pn**	**17 28 17.1**	**-0.4**
PB10	**IPOC Station P**	**6.26**	**211**	Pn	**Pn**	**17 28 17.8**	**0.0**
PB14	**IPOC Station P**	**7.16**	**205**		**Pn**	**17 28 29.2**	**-0.1**
GO02	**Mina Guanaco**	**7.37**	**198**		**Pn**	**17 28 31.8**	**-0.1**
PTLB	**Pontes e Lacer**	**8.05**	**72**		**Pn**	**17 28 40.8**	**+0.7**
PTLB	**Pontes e Lacer**	**8.05**	**72**	*e*P	**Pn**	**17 28 40.9**	**+0.8**
ETMB	**Extrema**	**8.32**	**6**	Pn	**Pn**	**17 28 44.2**	**+0.7**
ETMB	**Extrema**	**8.32**	**6**	*e*P	**Pn**	**17 28 44.0**	**+0.6**
VILB	**Vilhena**	**8.39**	**53**		**Pn**	**17 28 44.4**	**0.0**
VILB	**Vilhena**	**8.39**	**53**	*e*P	**Pn**	**17 28 44.7**	**+0.3**
AC01	**Pan de Azucar**	**8.61**	**202**	Pn	**Pn**	**17 28 46.5**	**-0.6**
SAML	**Samuel**	**9.89**	**23**	Pn	**Pn**	**17 29 03.1**	**0.0**
SAML	**Samuel**	**9.89**	**23**	*e*P	**Pn**	**17 29 04.1**	**+1.1**
AQDB	**Aquidauana**	**10.98**	**104**		**Pn**	**17 29 17.4**	**+0.8**
AQDB	**Aquidauana**	**10.98**	**104**	*e*P	**Pn**	**17 29 17.7**	**+1.1**
AC05	**El Transito**	**11.04**	**195**		**Pn**	**17 29 18.4**	**+1.0**
SALV	**Santo Antonio**	**11.10**	**80**	*e*P	**Pn**	**17 29 18.6**	**+0.4**
NNA	**Nana**	**11.25**	**302**	P	**P**	**17 29 23.0**	**-0.2**
	comp=Z,14nm,0.5s,baz=209,slow=16,SNR=3.6						
NNA				S	**S**	**17 31 20.9**	**-5.0**
	comp=Z,5.3nm,0.3s,baz=208,slow=21,SNR=2.2						
CZSB	**Cruzeiro do Su**	**11.71**	**331**	*e*P	**Pn**	**17 29 26.8**	**+1.0**
PDRB	**Porto dos Gac**	**11.91**	**58**	*e*P	**Pn**	**17 29 28.5**	**+0.3**
CO01	**Juntas del Tor**	**12.10**	**193**	P	**P**	**17 29 32.9**	**+0.2**
CPUP	**Villa Florida**	**12.15**	**134**	P	**Pn**	**17 29 30.6**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=324,slow=10,SNR=2.4						
CPUP	**Villa Florida**	**12.15**	**134**	*e*P	**Pn**	**17 29 29.1**	**-1.9**
CO03	**El Pedregal**	**13.06**	**194**		**P**	**17 29 43.5**	**+0.2**
CLDB	**Colider**	**13.08**	**58**	*e*P	**P**	**17 29 43.1**	**-0.4**
ZON	**Zonda**	**13.43**	**186**		**Pn**	**17 29 46.7**	**+0.1**
CO02	**Combarbal**	**13.49**	**195**	P	**P**	**17 29 48.3**	**+0.3**
TRCB	**Terra Rica**	**14.29**	**111**	P	**Pn**	**17 29 57.8**	**+0.7**
TEFE	**Tefe**	**14.74**	**10**	*e*P	**Pn**	**17 30 03.1**	**+0.7**
ARAG	**Araguaiana, MT**	**14.80**	**83**	*e*P	**Pn**	**17 30 03.5**	**+0.4**
VA06	**Catapilco**	**14.86**	**194**	Pn	**Pn**	**17 30 04.9**	**+1.3**
ITQB	**Itaqui**	**14.92**	**142**	*e*P	**Pn**	**17 30 05.7**	**+1.3**
CRSM	**Crissiumal (Br**	**15.18**	**130**	*e*P	**Pn**	**17 30 07.5**	**-0.1**
PCMB	**Pacaembu**	**15.26**	**106**	*e*P	**Pn**	**17 30 09.4**	**+0.8**
PTGB	**Pitanga**	**15.42**	**118**	*e*P	**Pn**	**17 30 11.6**	**+1.1**
MT02	**Curacav**	**15.49**	**193**	P	**Pn**	**17 30 11.8**	**+0.6**
MT02				IAmb	IAmb	17 30 13.6	
	comp=Z,12nm,0.8s						
MT13	**San Alfonso**	**15.80**	**190**	P	**Pn**	**17 30 15.2**	**+0.2**
NPGB	**Novo Progresso**	**15.87**	**47**	*e*P	**Pn**	**17 30 15.6**	**-0.2**
ITRB	**Iturama**	**15.88**	**98**	*e*P	**Pn**	**17 30 16.6**	**+0.6**
MT09	**Talagante**	**15.96**	**192**	P	**Pn**	**17 30 17.0**	**+0.2**
MT09				IAmb	IAmb	17 30 17.8	
	comp=Z,7.1nm,0.8s						
MT01	**Popeta**	**16.10**	**193**	P	**Pn**	**17 30 18.2**	**-0.1**
MT01				IAmb	IAmb	17 30 21.2	
	comp=Z,9.3nm,0.6s						
MACA	**Manacapuru-AM**	**16.15**	**24**	P	**Pn**	**17 30 18.7**	**-0.4**
MACA	**Manacapuru-AM**	**16.15**	**24**	*e*P	**Pn**	**17 30 18.7**	**-0.4**
RODS	**Rosario do Sul**	**16.26**	**141**	*e*P	**Pn**	**17 30 19.8**	**-0.5**
SNDB	**Serra Nova Dou**	**16.41**	**70**	*e*P	**Pn**	**17 30 21.1**	**-1.1**
ITAB	**Concordia**	**16.47**	**126**	*e*P	**Pn**	**17 30 22.1**	**-0.7**
BO01	**Tunca**	**16.58**	**192**	P	**Pn**	**17 30 23.8**	**-0.2**
BO01				IAmb	IAmb	17 30 26.9	
	comp=Z,12nm,1.1s						
ALGR	**Alto Alegre (B**	**16.67**	**132**	*e*P	**P**	**17 30 23.4**	**+0.5**
TBOT	**Tacuaremb**	**16.82**	**145**	*e*P	**Pn**	**17 30 26.9**	**0.0**
FRTB	**Fartura**	**17.16**	**111**	*e*P	**Pn**	**17 30 29.8**	**-1.2**
CPSB	**Cacapava Do Su**	**17.40**	**137**	*e*P	**P**	**17 30 31.4**	**+0.6**
ITTB	**Itaituba**	**17.62**	**40**	*e*P	**P**	**17 30 33.4**	**0.0**
BB19B	**Bebedouro**	**17.71**	**102**	*e*P	**P**	**17 30 35.3**	**+1.0**
IPMB	**Ipameri, GO**	**17.93**	**92**	*e*P	**P**	**17 30 37.0**	**+0.2**
PLTB	**Pedras Altas**	**18.22**	**141**	*e*P	**P**	**17 30 39.5**	**-0.2**
BDFB	**Brasilia**	**18.40**	**85**	P	**P**	**17 30 41.5**	**-0.4**
BDFB	**Brasilia**	**18.40**	**85**	P	**Pn**	**17 30 44.7**	**-0.8**
	comp=Z,16nm,0.4s,baz=261,slow=9.1,SNR=20						
CNLB	**Canela**	**18.52**	**130**	*e*P	**P**	**17 30 42.8**	**-0.3**
VAO	**Valinhos**	**19.43**	**108**	*e*P	**P**	**17 30 52.1**	**-0.7**
PET01	**Itanhaem-SP**	**19.43**	**112**	*e*P	**P**	**17 30 54.3**	**+1.6**
PMNB	**Patos De Minas**	**19.59**	**94**	*e*P	**P**	**17 30 55.4**	**+0.8**
PRPB	**Parauapebas**	**20.61**	**57**	*e*P	**P**	**17 31 04.9**	**-0.4**
SMTB	**Santa Maria do**	**21.05**	**67**	*e*P	**P**	**17 31 10.5**	**+0.8**
BSCB	**Bom Sucesso**	**21.19**	**101**	*e*P	**P**	**17 31 10.9**	**-0.2**
BOAV	**Boa Vista**	**21.40**	**18**	*e*P	**P**	**17 31 12.5**	**-0.5**
JANB	**Januaria**	**22.02**	**85**	*e*P	**P**	**17 31 18.5**	**-0.2**
SDBA	**SAO DESIDERIO**	**22.12**	**78**	*e*P	**P**	**17 31 19.5**	**-0.1**
DIAM	**Diamantina, MG**	**22.22**	**94**	*e*P	**P**	**17 31 20.6**	**0.0**
PLCA	**Paso Flores**	**22.71**	**187**	P	**P**	**17 31 25.7**	**+1.0**
	comp=Z,2.2nm,0.6s,baz=4.6,slow=12,SNR=7.2						
	comp=Z,2.2nm,0.6s						
PLCA	**Paso Flores**	**22.71**	**187**	*e*P	**P**	**17 31 25.7**	**+1.0**
MCPB	**Macapa, AP**	**23.02**	**41**	*e*P	**P**	**17 31 27.4**	**-0.3**
LL04	**Puerto Octay**	**23.15**	**190**	P	**P**	**17 31 29.8**	**+1.1**
LL04				IAmb	IAmb	17 31 31.7	
	comp=Z,9.5nm,0.6s						
DUB01	**Friburgo-RJ**	**23.51**	**104**	*e*P	**P**	**17 31 32.7**	**+0.5**
GUA01	**Guaratinga, BA**	**26.06**	**91**	*e*P	**P**	**17 31 55.2**	**+0.1**
NBLA	**Lagarto - SE**	**29.18**	**80**	*e*P	**P**	**17 32 22.0**	**-0.8**
NBPB	**Pedra_Branca-C**	**29.61**	**68**	*e*P	**P**	**17 32 27.1**	**+0.5**
NBAN	**Anadia - AL**	**31.01**	**78**	*e*P	**P**	**17 32 38.5**	**-0.5**
RCBR	**Riachuelo**	**32.78**	**72**	*e*P	**P**	**17 32 55.3**	**+0.9**
WVT	**Waverly**	**57.44**	**340**	P	**P**	**17 36 05.2**	**-1.6**
WVT				IAmb	IAmb	17 36 06.0	
	comp=Z,4.3nm,0.6s						
SAND	**Sanderson**	**58.55**	**324**	P	**P**	**17 36 15.2**	**+0.5**
SAND				IAmb	IAmb	17 36 16.8	
	comp=Z,4.0nm,0.7s						
TXAR	**Lajitas Array**	**58.95**	**323**	P	**P**	**17 36 18.1**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=149,slow=8.9,SNR=12						
	comp=Z,0.7nm,0.6s						
CCM	**Cathedral Cave**	**60.34**	**338**	P	**P**	**17 36 25.8**	**-0.8**
CCM				IAmb	IAmb	17 36 26.7	
	comp=Z,6.6nm,0.6s						
VHRN	**Van Horn**	**60.79**	**323**	P	**P**	**17 36 30.6**	**+0.6**
SNAA	**Sanae**	**64.89**	**162**	P	**P**	**17 36 56.3**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=304,slow=15,SNR=4.8						
	comp=Z,1.3nm,0.6s						
LIC	**Lamto**	**65.80**	**74⇑**	*e*PKP2	**P**	**17 37 02.5**	**-0.4**
	comp=Z,6.6nm,0.4s						
TIC	**Toumodi**	**65.97**	**74⇑**	*e*PKP2	**P**	**17 37 04.0**	**0.0**
	comp=Z,2.6nm,0.4s						
KIC	**Kosan Boka**	**66.11**	**74⇑**	*e*PKP2	**P**	**17 37 03.4**	**-1.5**
	comp=Z,20nm,0.4s						
DBIC	**Dimbokro**	**66.13**	**74**	P	**P**	**17 37 04.7**	**-0.3**
	comp=Z,6.8nm,0.5s,baz=237,slow=3.7,SNR=12						
	comp=Z,6.8nm,0.5s						
SHPR	**Sheep Range**	**70.83**	**321**	P	**P**	**17 37 35.1**	**+1.4**
GWY	**Greenwater Val**	**71.54**	**319**	P	**P**	**17 37 39.4**	**+1.4**
GWY				IAmb	IAmb	17 37 40.8	
	comp=Z,3.5nm,0.7s						
WCT	**Wildcat Mounta**	**71.91**	**320**	P	**P**	**17 37 41.5**	**+1.4**
QSPA	**South Pole Qui**	**72.03**	**180**	P	**P**	**17 37 42.6**	**+2.2**
	comp=Z,1.8nm,0.5s,baz=169,slow=0.9,SNR=17						
	comp=Z,1.8nm,0.5s						
PDAR	**Pinedale Array**	**72.12**	**328**	P	**P**	**17 37 42.4**	**+1.0**
	comp=Z,1.1nm,0.4s,baz=127,slow=9.0,SNR=15						
PDAR				pP	**pP**	**17 38 42.4**	**-2.5**
	comp=Z,0.1nm,0.4s,baz=167,slow=8.3,SNR=0.9						
	comp=Z,1.1nm,0.4s						
NVAR	**Mina Array Bea**	**73.98**	**320**	P	**P**	**17 37 54.3**	**+2.0**
	comp=Z,1.0nm,0.6s,baz=148,slow=6.2,SNR=6.1						
NVAR				PKKP	**PKKPdf**	**17 57 11.6**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=64,slow=5.1,SNR=3.6						
	comp=Z,1.0nm,0.6s						
TOA0	**Torodi Ar. Sit**	**74.60**	**70**	P	**P**	**17 37 54.6**	**-1.4**
TOA0				IAmb	IAmb	17 37 57.1	
	comp=Z,6.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**74.60**	**70**	P	**P**	**17 37 54.6**	**-1.4**
TORD				IAmb	IAmb	17 37 55.6	
	comp=Z,3.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**74.60**	**70**	P	**P**	**17 37 54.9**	**-1.2**
	comp=Z,3.9nm,0.4s,baz=254,slow=5.2,SNR=51						
TORD				pP	**pP**	**17 38 59.0**	**-0.9**
	comp=Z,1.8nm,0.9s,baz=270,slow=4.8,SNR=3.3						
	comp=Z,3.9nm,0.4s						
YKA	**Yellowknife Ar**	**88.63**	**340**	P	**P**	**17 39 08.5**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=129,slow=4.6,SNR=7.7						
	comp=Z,2.6nm,0.7s						
ASAR	**Alice Springs**	**133.68**	**207**	PKhKP	PKPpre	17 45 24.4	
	comp=Z,0.5nm,1.1s,baz=149,slow=1.5,SNR=4.1						
ASAR				PKP	**PKiKP**	**17 45 31.8**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=125,slow=1.8,SNR=19						
ASAR				pPKP	pPKPdf	17 46 41.5	+0.3
	comp=Z,0.6nm,0.4s,baz=87,slow=8.0,SNR=2.4						
WRA	**Warramunga Arr**	**136.71**	**210**	PKP	**PKiKP**	**17 45 37.9**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=153,slow=1.6,SNR=21						
ZALV	**Zalesovo Beam**	**138.19**	**25**	PKP	**PKPdf**	**17 45 37.6**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=346,slow=1.7,SNR=1.9						
MKAR	**Makanchi Array**	**141.90**	**35**	PKP	**PKPdf**	**17 45 44.9**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=354,slow=2.2,SNR=2.1						
USRK	**Ussuriysk Ar.**	**149.48**	**332**	PKP	**PKPdf**	**17 45 57.9**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=27,slow=2.3,SNR=1.8						
USRK				PKPbc	**PKiKP**	**17 46 04.5**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=335,slow=1.2,SNR=9.1						
SONM	**Songino Array**	**149.91**	**9**	PKP	**PKPdf**	**17 45 58.6**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=0.0,slow=2.4,SNR=3.4						
SONM				PKPbc	**PKiKP**	**17 46 05.2**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=303,slow=1.3,SNR=17						
MJAR	**Matsushiro Arr**	**151.16**	**315**	PKPbc	**PKPbc**	**17 46 07.3**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=68,slow=1.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**166.71**	**86**	PKP	**PKPdf**	**17 46 20.0**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=173,slow=8.8,SNR=2.3						

*IDC **11** 17:38:59.8±36.0, 17°.28S×178°.75W, h513km±313km, mb3.4/4, mbtmp4.3/4, MS3.8/1, Error ellipse: s-maj=278.0km s-min=35.4km az=44.0*
*NEIC **11** 17:39:03.3±0.8, 17°.3S±0°.3×178°.7W±0°.1, h565km±19km, mb4.3/19, Error ellipse: s-maj=37.8km s-min=18.3km az=185.0*
ISC 11 17:39:02.4±2.3, 17°.4S±0°.3×178°.9W±0°.3, h539km, n28, σ0§94/29, mb4.1/16, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.95**	**263**	P	**P**	**17 40 19.5**	**+3.2**
RPZ	**Rata Peaks**	**27.57**	**196**	LR	LR	17 53 38.8	
	comp=Z,193nm,21.9s,baz=354,slow=32						
CTAO	**Charters Tower**	**33.09**	**260**	P	**P**	**17 44 54.0**	**-0.1**
CAN	**Canberra**	**33.65**	**232**	P	**P**	**17 44 58.3**	**-0.3**
CAN				IAmb	IAmb	17 45 16.3	
	comp=Z,14nm,1.3s						
PMG	**Port Moresby**	**33.94**	**279**	P	**P**	**17 45 01.1**	**-0.1**
TOO	**Toolangi**	**37.14**	**230**	P	**P**	**17 45 28.2**	**+0.7**
TOO				IAmb	IAmb	17 45 37.3	
	comp=Z,22nm,1.5s						
STKA	**Stephens Creek**	**38.48**	**240**	P	**P**	**17 45 38.9**	**+0.4**
STKA	**Stephens Creek**	**38.48**	**240**	P	**P**	**17 45 39.4**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=82,slow=8.6,SNR=6.5						
	comp=Z,2.9nm,0.7s						
BBOO	**Buckleboo**	**43.26**	**240**	P	**P**	**17 46 17.1**	**+0.7**
BBOO				IAmb	IAmb	17 46 33.1	
	comp=Z,17nm,1.2s						
WR0	**Warramunga Arr**	**44.09**	**259**	P	**P**	**17 46 22.7**	**-0.5**
WR0				IAmb	IAmb	17 46 34.7	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**44.25**	**259**	P	**P**	**17 46 24.0**	**-0.4**
WB0				IAmb	IAmb	17 46 24.7	
	comp=Z,6.3nm,1.1s						
WB2	**Warramunga Arr**	**44.27**	**259**	P	**P**	**17 46 23.9**	**-0.6**
WRA	**Warramunga Arr**	**44.28**	**259**	P	**P**	**17 46 23.9**	**-0.7**
WRA	**Warramunga Arr**	**44.28**	**259**	P	**P**	**17 46 24.5**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=97,slow=7.7,SNR=22						
WRA				PcP	**PcP**	**17 47 57.6**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=93,slow=3.5,SNR=2.8						
	comp=Z,1.0nm,0.5s						
AS31	**Alice Springs**	**44.49**	**254**	P	**P**	**17 46 26.6**	**+0.3**
AS31				IAmb	IAmb	17 46 27.3	
	comp=Z,3.1nm,0.5s						
ASAR	**Alice Springs**	**44.50**	**254**	P	**P**	**17 46 26.0**	**-0.2**
ASAR	**Alice Springs**	**44.50**	**254**	P	**P**	**17 46 26.8**	**+0.5**
	comp=Z,7.0nm,0.4s,baz=90,slow=7.8,SNR=293						
ASAR				PcP	**PcP**	**17 47 58.2**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=106,slow=3.7,SNR=3.8						
	comp=Z,7.0nm,0.4s						
MTN	**Manton Dam**	**48.37**	**268**	P	**P**	**17 46 53.5**	**-2.1**
MTN				IAmb	IAmb	17 47 30.4	
	comp=Z,35nm,1.3s						
FORT	**Forrest**	**49.82**	**244**	P	**P**	**17 47 06.1**	**0.0**
FORT				IAmb	IAmb	17 47 06.8	
	comp=Z,10nm,0.8s						
FAKI	**Fak Fak**	**50.04**	**281**	P	**P**	**17 47 06.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**52.67**	**260**	P	**P**	**17 47 27.2**	**+0.2**
PSA00	**Pilbara Seismi**	**57.60**	**255**	P	**P**	**17 48 00.0**	**-1.3**
MBWA	**Marble Bar**	**57.76**	**256**	P	**P**	**17 48 02.5**	**+0.1**
MBWA				IAmb	IAmb	17 48 09.8	
	comp=Z,14nm,1.4s						
MORW	**Morawa**	**60.27**	**246**	P	**P**	**17 48 18.6**	**-0.6**
MORW				IAmb	IAmb	17 48 51.5	
	comp=Z,9.6nm,1.2s						
CASY	**Casey**	**66.40**	**205**	P	**P**	**17 48 57.2**	**-0.4**
CASY				IAmb	IAmb	17 49 32.4	
	comp=Z,7.3nm,1.4s						
QSPA	**South Pole Qui**	**72.64**	**180**	P	**P**	**17 49 35.1**	**0.0**
QSPA	**South Pole Qui**	**72.64**	**180**	P	**P**	**17 49 35.7**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=7.2,slow=7.0,SNR=10						
	comp=Z,0.7nm,0.5s						
ELIB	**Princess Elisa**	**89.60**	**187**	*d*P	**P**	**17 51 01.9**	**-0.5**
	comp=Z,1.2nm,0.7s						

*NEIC **11** 17:45:55.8±1.4, 55°.91N±0°.07×150°.0W±0°.1, h8km±8km, ML3.4/48, ML3.2(AEIC), Error ellipse: s-maj=14.2km s-min=3.0km az=133.0*
*AEIC **11** 17:46:00.6±1.5, 55°.90N±0°.10×149°.8W±0°.1, h10km±8km, Error ellipse: s-maj=15.0km s-min=9.4km az=150.0*
ISC 11 17:45:54.0±1.9, 55°.8N±0°.1×149°.90W±0°.06, h10km, n104, σ1§50/99, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.33**	**308**		**Pn**	**17 46 33.0**	**+0.6**
OHAK					**Sn**	**17 46 58.9**	**-2.2**
OHAK	**Old Harbor**	**2.33**	**308**	P	**Pn**	**17 46 33.0**	**+0.6**
	baz=123						
OHAK				S	**Sn**	**17 46 58.9**	**-2.2**
	baz=123						
KDAK	**Kodiak Island**	**2.44**	**324**		**Pn**	**17 46 34.9**	**+1.0**
KDAK	**Kodiak Island**	**2.44**	**324**		**Sn**	**17 47 02.2**	**-1.6**
KDAK	**Kodiak Island**	**2.44**	**324**	IAML		17 47 03.5	
	44nm,0.6s						
KDAK				IAML		17 47 16.9	
	26nm,0.6s						
KDAK	**Kodiak Island**	**2.44**	**324**	P	**Pn**	**17 46 34.9**	**+1.0**
	baz=140						
SII	**Sitkinak Islan**	**2.50**	**288**		**Pn**	**17 46 35.5**	**+0.7**
SII					**Sn**	**17 47 03.3**	**-2.0**
SII	**Sitkinak Islan**	**2.50**	**288**	IAML		17 47 10.9	
	comp=E,115n

RAGM	Ragged Mountai	5.33	29	Pn	Pn	17 47 14.5 +0.8
SUCK	Suckling Hills	5.35	35		Pn	17 47 15.3 +1.5
SUCK	Suckling Hills	5.35	35	IAML		17 49 30.2
	comp=N,33nm,0.8s					
HMT	Hamilton	5.41	31	Pn	Pn	17 47 16.6 +1.9
NICHA	Nichawak Mount	5.42	33		Pn	17 47 16.4 +1.6
P16K	Nushagak River	5.42	310		Pn	17 47 16.6 +1.9
P16K	Nushagak River	5.42	310	P	Pn	17 47 16.6 +1.9
	baz=122					
O17K	Koliganek Bris	5.51	319		Pn	17 47 17.8 +1.8
O17K	Koliganek Bris	5.51	319	P	Pn	17 47 17.8 +1.8
	baz=132					
N19K	Bonanza Creek	5.54	336		Pn	17 47 17.3 +0.7
N19K	Bonanza Creek	5.54	336	P	Pn	17 47 17.3 +0.7
	baz=152					
CNBA	Chernabura Isl	5.63	264	Pn	Pn	17 47 19.9 +2.3
SNH	Sunshine Point	5.74	38	Pn	Pn	17 47 20.7 +1.4
O16K	Kokwok River B	5.78	314	Pn	Pn	17 47 21.3 +1.5
N18K	Kilae Creek	5.79	329	Pn	Pn	17 47 19.9 0.0
WAX	Waxell Ridge	5.94	36	Pn	Pn	17 47 23.7 +1.7
GHO	Glory Hole Cre	5.97	4	Pn	Pn	17 47 23.7 +1.2
KLU	Klutina	6.03	18	Pn	Pn	17 47 24.0 +0.7
SML	Sawmill	6.04	7	Pn	Pn	17 47 24.9 +1.5
N17K	Nushagak Hills	6.08	324	Pn	Pn	17 47 24.9 +1.1
CRQM	Cirque	6.08	33	Pn	Pn	17 47 25.1 +1.1
SCM	Sheep Creek Mo	6.16	11	Pn	Pn	17 47 25.9 +0.9
TGL	Tana Glacier	6.17	34	Pn	Pn	17 47 25.9 +0.6
ISLE	Juniper Island	6.22	37	Pn	Pn	17 47 26.8 +0.9
VRDI	Verde Repeater	6.37	29	Pn	Pn	17 47 29.2 +1.2
N25K	Chitina, Valde	6.40	23	Pn	Pn	17 47 29.8 +1.4
GLB	Gilahina Butte	6.45	27	Pn	Pn	17 47 30.3 +1.3
GRNC	Granite Creek	6.51	38	Pn	Pn	17 47 31.1 +1.1
TABL	Table Mountain	6.54	42	Pn	Pn	17 47 31.9 +1.6
MCARA	McCarthy VSAT	6.61	30	Pn	Pn	17 47 32.6 +1.4
BCPM	Bancas Point	6.85	49	Pn	Pn	17 47 36.4 +2.0
L19K	White Mountain	6.85	340	Pn	Pn	17 47 35.3 +0.8
M16K	Timber Creek	7.04	321	Pn	Pn	17 47 38.3 +1.2
L18K	Granite Mounta	7.29	334	Pn	Pn	17 47 42.0 +1.6
L16K	Owhat River	7.70	324	Pn	Pn	17 47 46.6 +0.5
K17K	Iditarod	8.12	332	Pn	Pn	17 47 53.2 +1.4

ISC 11 17:47:17.0±4.3, 56°.0N±0°.2×150°.3W±0°.2, h35km, n16, σ0°71/15, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.07	309	P	Pn	17 47 48.0	-1.1
	baz=126						
OHAK				S	Sn	17 48 12.5	-1.2
	baz=126						
KDAK	Kodiak Island	2.21	327	S	Sn	17 48 16.2	-0.8
	baz=144						
SII	Sitkinak Islan	2.24	287	P	Pn	17 47 50.5	-1.0
	baz=105						
SII				S	Sn	17 48 18.2	+0.3
	baz=105						
R18K	Karluk	2.79	307	P	Pn	17 47 58.7	-0.3
	baz=124						
R18K				S	Sn	17 48 32.9	+1.6
	baz=124						
Q20K	Shuyak Island	2.88	338	P	Pn	17 47 58.7	-1.6
	baz=154						
Q20K				S	Sn	17 48 33.6	-0.1
	baz=154						
CHIR	Chirikof Islan	2.99	269	P	Pn	17 48 00.4	-1.4
	baz=87						
CHIR				S	Sn	17 48 35.8	-0.7
	baz=87						
Q19K	Cape Douglas,	3.47	330	P	Pn	17 48 08.5	0.0
	baz=146						
KAHC	Katmai Hardscr	3.70	319	P	Pn	17 48 12.1	+0.4
	baz=134						
Q18K	Katmai Hardscr	3.70	319	P	Pn	17 48 12.0	+0.3
	baz=134						
R17L	Mt. Peulik Vol	3.72	299	P	Pn	17 48 12.1	+0.3
	baz=115						
Q17K	Contact Creek	3.81	309	P	Pn	17 48 13.3	0.0
	baz=125						
P19K	Oil Pt	4.01	338	P	Pn	17 48 16.1	+0.2
	baz=155						
P18K	Big Mountain,	4.33	325	P	Pn	17 48 19.4	-0.9
	baz=140						
P17K	Kvichak River	4.62	317	P	Pn	17 48 24.6	+0.4
	baz=132						
O18K	Koktuh Hills	4.69	328	P	Pn	17 48 25.2	0.0
	baz=144						
EYAK	Cordova Ski Ar	5.19	26	P	Pn	17 48 28.3	-3.7
	baz=208						

IDC 11 17:52:47.5±1.8, 31°.70S×58°.43E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=55.5km s-min=33.5km az=103.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	58.47	180	P	P	18 02 45.2	+0.1
	0.8nm,0.5s,baz=301,slow=7.1,SNR=8.3						
	0.8nm,0.5s						
CMAR	Chiang Mai Arr	63.22	44	P	P	18 03 18.3	+0.5
	0.6nm,0.8s,baz=219,slow=8.1,SNR=2.9						
	0.6nm,0.8s						
ASAR	Alice Springs	66.13	104	P	P	18 03 36.8	-0.2
	0.5nm,0.6s,baz=237,slow=6.1,SNR=12						
	0.5nm,0.6s						
WRA	Warramunga Arr	68.13	101	P	P	18 03 49.7	0.0
	0.9nm,0.9s,baz=242,slow=5.6,SNR=4.5						
	0.9nm,0.9s						
BVAR	Borovoye Array	85.01	7	P	P	18 05 23.9	-0.4
	0.4nm,0.5s,baz=174,slow=5.7,SNR=2.5						
	0.4nm,0.5s						

IDC ***11*** *17:57:44.6±0.5, 3°.64S×77°.62W, h0km, mb4.1/13, mbtmp4.2/16, ML4.2/3, MS3.6/23, Error ellipse: s-maj=26.5km s-min=11.7km az=79.0*
IGQ ***11*** *17:57:50.8±0.6, 4°.5±4°×7°.8W±°, h10km, M5.0/14*
VAO ***11*** *17:57:54.3±0.5, 3°.78S×77°.26W, h45km±3km, mb4.4*
NEIC ***11*** *17:57:55.0±1.3, 3°.65S±0°.08×77°.5W±0°.1, h79km±6km, mb4.5/96, Error ellipse: s-maj=21.5km s-min=9.9km az=69.0*
ISC 11 17:57:48.6±0.8, 3°.72S±0°.03×77°.59W±0°.03, h31km±5km, n207, σ1°84/185, mb4.5/52, MS3.4/17, 4C-1D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	San Juan Bosco	1.07	302	P	Pn	17 58 05.2	-2.4
BOSC				S	Sn	17 58 17.3	-4.1
TAIS	Taisha	1.33	4	P	Pb	17 58 14.4	+1.3
AZOG	Ecuador-Azogue	1.58	307	P	Pn	17 58 14.9	+0.1
ALJ1	Ecuador-Loja-U	1.63	261	P	Pn	17 58 12.9	-2.5
GONZ	Gonzanam	1.87	254	P	Pn	17 58 19.7	+0.8
GONZ				S	Sn	17 58 40.9	-0.8
ZUMB	Zumba	1.92	234	P	Pn	17 58 19.1	-0.2
ZUMB				S	Sn	17 58 42.8	+0.3
PCRA	Pucara 2	1.98	285	P	Pn	17 58 21.8	+1.4
PUYO	Puyo, Santa Ro	2.25	349	P	Pb	17 58 28.9	+0.1
ACH2	Ecuador-Machal	2.26	281	P	Pb	17 58 26.9	-1.9
BPAT	Tungurahua Vol	2.36	339	P	Pb	17 58 29.0	-1.7
ARRY	Arrayan	2.36	339	S	Sb	17 59 00.7	+1.0
ARRY				P	Pb	17 58 29.0	-1.8
BMAS	Trigal station	2.38	338	P	Pb	17 58 28.9	-2.0
TUYU	Q. Yuibug Volc	2.39	338	P	Pb	17 58 29.2	-2.0
BULB	Ulba Tungurahu	2.41	340	P	Pb	17 58 29.2	-2.3
BBIL	Ulba Tungurahu	2.43	338	P	Pb	17 58 30.6	-1.2
MILO	Milagro-Astudi	2.43	306	P	Pb	17 58 31.4	-0.3
JUI6	Juive	2.44	339	P	Pb	17 58 29.9	-2.2
AMCR	Ecuador-Macara	2.45	255	P	Pn	17 58 27.0	+0.5
MCRA	Macar, Loja	2.45	255	S	Sn	17 58 53.7	-1.7
MCRA				P	Pn	17 58 26.9	+0.5
IGUA	Igualata	2.45	335	P	Pb	17 58 32.8	+0.4
TAMH	Tambohuasha Ch	2.47	331	S	Sb	17 59 05.0	+2.2
TAMH				P	Pb	17 58 31.6	-1.0
CHSH	Refugio Sur-Vo	2.56	330	P	Pb	17 58 32.4	-1.8
ISPG	Isla Puna-Puer	2.68	286	P	Pn	17 58 32.1	+2.4
ARDO	Archidona, Ten	2.72	356	P	Pb	17 58 32.2	-4.4
ARDO				S	Sb	17 59 14.5	+4.9
MORR	Playas El Morr	2.95	291	P	Pn	17 58 35.5	+2.2
VCES	Cotopaxi	3.01	344	P	Pb	17 58 40.4	-1.5
BRRN	Barrancas-Volc	3.05	343	P	Pb	17 58 39.6	-2.9
BMOR	Cotopaxi Volca	3.09	344	P	Pb	17 58 40.3	-3.0
TAMB	Tambo	3.10	345	P	Pb	17 58 40.9	-2.6
SLOR	San Lorenzo -	3.11	343	Pn	Pb	17 58 40.0	-3.5
SLOR	San Lorenzo -	3.11	343	P	Pb	17 58 41.1	-2.4
BTAM	Cotopaxi Volca	3.13	345	P	Pb	17 58 40.6	-3.4
BREF	Cotopaxi Volca	3.15	344	P	Pb	17 58 42.0	-2.3
BVC2	Cotopaxi Volca	3.15	345	P	Pb	17 58 40.8	-3.5
BNAS	Cotopaxi Volca	3.16	344	P	Pb	17 58 41.5	-2.9
CAMI	Rancho Maria	3.16	343	P	Pb	17 58 42.2	-2.2
VC1	Cotopaxi 1	3.16	345	P	Pb	17 58 45.2	+0.7
PAST	Pastocalle	3.19	341	P	Pb	17 58 50.2	+5.4
SUCR	Mariscal Sucre	3.19	344	P	Pb	17 58 46.4	+1.4
ANTM	Antisana-La Mi	3.23	349	P	Pb	17 58 41.7	-3.9
ANTS	Antisana-Sarah	3.25	350	Pn	Pb	17 58 42.5	-3.5
ANTS				Sn	Sb	17 59 33.0	+7.5
ANTS	Antisana-Sarah	3.25	350	P	Pb	17 58 45.5	-0.6
ANTG	Antisana-Guama	3.26	348	P	Pb	17 58 46.5	+0.2
ANTI	Antisana	3.30	350	P	Pb	17 58 42.1	-4.7
ATAH	Atahualpa	3.49	193	Pn	Pn	17 58 43.1	+2.0
	34nm,0.3s,baz=21,slow=13,SNR=145						
ATAH				Sn	Sn	17 59 24.1	+2.6
	32nm,0.3s,baz=308,slow=4.8,SNR=4.7						
ATAH				Lg	Lg	17 59 37.1	
	16nm,0.3s,baz=136,slow=21,SNR=2.4						
ATAH				LR	LR	18 00 32.1	
	comp=Z,1μm,19.1s,baz=16,slow=47						
	253nm,0.6s						
REVS	Reventador Sur	3.59	360	P	Pn	17 58 45.4	+3.0
GGPT	Toaza - Volcan	3.62	343	P	Pb	17 58 53.9	+1.7
JUA2	San Juan 2	3.63	344	P	Pb	17 58 54.9	+2.5
TERV	Terraza Guagua	3.67	344	P	Pb	17 58 55.6	+2.5
PINO	Pino	3.68	344	P	Pb	17 58 55.6	+2.2
YANA	Yana	3.71	345	P	Pb	17 58 56.5	+2.7
SALI	Salinas	3.72	294	P	Pb	17 58 51.3	-2.4
CAYR	Refugio Cayamb	3.73	354	P	Pb	17 58 49.6	-4.7
ANGU	Angureal	3.77	354	P	Pb	17 58 56.5	+1.7
CAYA	Cayambe	3.79	354	P	Pb	17 58 57.2	+2.1
PECV	Mancha de Ca P	3.82	320	P	Pb	17 58 56.1	+0.7
PULU	Pululahua	3.83	346	Pn	Pb	17 58 52.3	-3.4
CASC	Dorado de Casc	3.84	4	P	Pb	17 58 49.6	-6.2
PPLP	Puerto Lpez	3.85	304	P	Pb	17 58 52.4	-3.5
IMBA	Imbabura, San	4.02	351	Pn	Pb	17 58 54.7	-4.3
OTAV	Otavalo	4.03	348		Pb	17 58 53.2	-5.9
OTAV	Otavalo	4.03	348	eP	Pb	17 58 55.3	-3.8
FLF1	Flavio Alfaro-	4.03	326	P	Pn	17 58 50.8	+2.6
PAC1	Pacto, Paraso	4.14	343	P	Pb	17 59 04.2	+3.3
BONI	La Bonita	4.15	1	P	Pn	17 58 53.4	+3.4
URCU	Urcuqui	4.18	351	P	Pb	17 59 06.7	+4.9
TULM	Tulcn-Chalpat	4.41	357	Pn	Pb	17 59 00.0	-5.7
CZSB	Cruzeiro do Su	6.28	130	Pn	Pn	17 59 21.8	+2.6
CZSB				Sn	Sn	18 00 30.9	+0.9
CZSB	Cruzeiro do Su	6.28	130	eP	Pn	17 59 21.1	+1.9
CZSB				eS	Sn	18 00 29.1	-0.8
TBTG	Tabatinga, AM	7.68	94	Pn	Pn	17 59 41.7	+3.4
TBTG	Tabatinga, AM	7.68	94	eP	Pn	17 59 39.1	+0.8
TBTG				eS	Sn	18 01 02.4	-1.9
NNA	Nana	8.25	175	Pn	Pn	17 59 46.3	+0.1
	9.7nm,0.3s,baz=327,slow=13,SNR=14						
NNA				Sn	Sn	18 01 13.7	-4.7
	5.9nm,0.3s,baz=282,slow=20,SNR=7.2						
NNA				LR	LR	18 03 23.7	
	comp=Z,426nm,20.7s,baz=328,slow=41						
	25nm,0.4s						
ROSC	El Rosal	9.11	21	Pn	Pn	17 59 59.0	+0.7
ROSC	El Rosal	9.11	21	Pg	Pn	18 00 25.2	+27
	5.4nm,0.3s,baz=114,slow=12,SNR=3.9						
ROSC				Lg	Lg	18 02 36.0	
	4.7nm,0.3s,baz=142,slow=23,SNR=1.5						
ROSC				LR	LR	18 04 37.7	
	comp=Z,884nm,18.1s,baz=230,slow=46						
ETMB	Extrema	12.81	119		Pn	18 00 47.5	-1.3
ETMB	Extrema	12.81	119	eP	Pn	18 00 47.5	-1.3
ETMB				eS	Sn	18 03 08.7	-1.7
TEFE	Tefe	12.93	89	eS	Sn	18 03 10.3	-3.0
SDV	Santo Domingo	14.31	29	LR	LR	18 07 52.0	
	comp=Z,135nm,20.4s,baz=254,slow=43						
SAML	Samuel	15.23	111		Pn	18 01 18.3	-3.2
SAML				IAmb	IAmb	18 01 35.1	
	comp=Z,18nm,0.6s						
SAML	Samuel	15.23	111	eP	Pn	18 01 19.0	-2.5
LPAZ	La Paz	15.57	144		Pn	18 01 26.5	-0.1
LPAZ	La Paz	15.57	144	Pn	Pn	18 01 28.5	+1.9
	comp=Z,0.2nm,0.3s,baz=336,slow=4.9,SNR=4.0						
	comp=Z,1.2nm,0.5s						
LPAZ	La Paz	15.57	144	eP	Pn	18 01 28.0	+1.5
LPAZ				eS	Sn	18 04 17.3	-1.1
JTS	Las Juntas de	15.73	332	LR	LR	18 06 48.3	
	comp=Z,152nm,21.1s,baz=136,slow=35						
BAUV	El Baul	15.78	37		Pn	18 01 28.8	+0.1
BAUV				IAmb	IAmb	18 01 40.7	
	comp=Z,31nm,1.0s						
PB18	Visviri	15.91	151		Pn	18 01 32.3	+1.4
PB18				IAmb	IAmb	18 01 39.7	
	comp=Z,91nm,1.5s						
MACA	Manacapuru-AM	16.88	89		Pn	18 01 41.0	-1.8
ACON	Acoyapa	17.31	334	Pn	Pn	18 01 48.1	0.0
PB11	IPOC Station P	17.72	155		P	18 01 54.1	+0.2
GO01	Chusmiza	17.84	153	P	P	18 01 55.8	+0.1
HMBC	Humberstone	18.09	156	P	Pn	18 01 57.6	-0.2
BOAV	Boa Vista	18.11	71	P	P	18 01 58.3	+0.2
BOAV	Boa Vista	18.11	71	eP	P	18 01 59.2	+1.1
BOAV				eS	Sn	18 05 18.0	-1.3
PCRV	Puerto La Cruz	18.89	43	LR	LR	18 10 51.0	
	comp=Z,168nm,19.8s,slow=42						
VILB	Vilhena	19.48	119	P	P	18 02 13.5	+0.3
PB09	IPOC Station P	19.71	156	P	Pn	18 02 17.3	-0.1
PB09				IAmb	IAmb	18 02 19.9	
	comp=Z,30nm,1.0s						
SIV	San Ignacio	20.31	128	P	Pn	18 02 23.8	-0.6
	comp=Z,1.9nm,0.6s,baz=315,slow=8.8,SNR=7.9						
SIV				LR	LR	18 11 22.1	
	comp=Z,234nm,19.3s,baz=330,slow=40						
	comp=Z,1.9nm,0.6s						
PB06	IPOC Station P	20.41	158	P	Pn	18 02 25.5	-0.1
LVC	Limon Verde	20.57	157		Pn	18 02 28.0	+0.3
LVC				IAmb	IAmb	18 02 30.1	
	comp=Z,35nm,1.2s						
LVC	Limon Verde	20.57	157	P	Pn	18 02 27.9	+0.1
	comp=Z,15nm,0.8s,baz=311,slow=11,SNR=10.0						
LVC				LR	LR	18 10 37.2	
	comp=Z,150nm,20.0s,baz=345,slow=37						
	comp=Z,15nm,0.8s						
LVC	Limon Verde	20.57	157	eP	Pn	18 02 28.5	+0.7
LVC				eS	S	18 06 14.2	-0.1
BBSD	Serra de San D	21.37	130	eP	P	18 02 35.5	+1.8
BBSD				eS	S	18 06 27.8	-1.6
PTLB	Pontes e Lacer	21.58	124		P	18 02 37.1	+1.2
ITTB	Itaituba	21.81	92	eP	P	18 02 38.8	+0.4
ITTB				eS	S	18 06 35.9	-2.3
PDRB	Porto dos Gac	22.09	112	eP	P	18 02 42.3	+0.8
PDRB				eS	S	18 06 41.5	-2.1
NPGB	Novo Progresso	22.38	99	eP	P	18 02 45.3	+0.8
NPGB				epP	sP	18 02 55.9	-1.1
NPGB				eS	S	18 06 46.8	-2.0
MLPR	Magueyes Islan	23.93	25	P	P	18 02 57.2	-2.8
MLPR				IAmb	IAmb	18 03 15.7	
	comp=Z,22nm,0.9s						
TEIG	Tepich	26.01	337	LR	LR	18 13 10.8	
	comp=Z,94nm,19.7s,baz=126,slow=36						
MDP	Montagnes des	26.42	71	LR	LR	18 14 31.8	
	comp=Z,219nm,19.2s,baz=50,slow=38						
SNDB	Serra Nova Dou	27.29	109	eP	P	18 03 31.8	+1.2
MT13	San Alfonso	30.64	168	P	P	18 04 01.7	+1.4
MT13				IAmb	IAmb	18 04 03.7	
	comp=Z,24nm,1.4s						
LMEL	Las Melosas	30.75	168	P	P	18 04 02.7	+1.3
LMEL				IAmb	IAmb	18 04 04.5	
	comp=Z,8.1nm,0.8s						
BDFB	Brasilia	31.41	114	LR	LR	18 18 20.5	
	comp=Z,137nm,18.5s,baz=322,slow=39						
GO05	Huala	31.57	171	P	P	18 04 08.8	+0.4
GO05				IAmb	IAmb	18 04 10.1	
	comp=Z,6.3nm,0.7s						
GO06	Curarrehue	36.13	172	P	P	18 04 49.3	+1.2
TRQA	Tornquist	37.03	159	P	P	18 04 56.8	+1.1
PLCA	Paso Flores	37.39	171	P	P	18 04 59.9	+1.1
PLCA	Paso Flores	37.39	171	P	P	18 04 59.8	+1.1
	comp=Z,2.9nm,0.6s,baz=349,slow=10,SNR=7.2						
	comp=Z,2.9nm,0.6s						
LRAL	Lakeview Retre	37.63	347	P	P	18 04 57.7	-3.0
LRAL				IAmb	IAmb	18 05 18.0	
	comp=Z,6.7nm,1.1s						
X48A	Hartselle	39.00	348	P	P	18 05 12.3	+0.1
X48A				IAmb	IAmb	18 05 13.9	
	comp=Z,5.9nm,0.9s						
CPCT	Cooper Cave	39.50	351	P	P	18 05 14.0	-2.4
CPCT				IAmb	IAmb	18 05 34.9	
	comp=Z,4.9nm,0.9s						
SWET	Sewanee	39.52	349	P	P	18 05 14.5	-2.1
SWET				IAmb	IAmb	18 05 28.0	
	comp=Z,6.9nm,1.0s						
TKL	Tuckaleechee C	39.60	352	P	P	18 05 17.9	+0.6
TKL				IAmb	IAmb	18 05 25.9	
	comp=Z,17nm,1.4s						
DRIO	Del Rio	39.67	328	P	P	18 05 18.8	+0.8
BRDY	Brady	40.35	331	P	P	18 05 23.8	+0.1
SAND	Sanderson	40.90	327	P	P	18 05 28.9	+0.6
WHAR	Wooly Hollow	41.19	342	P	P	18 05 30.6	+0.2
WHAR				IAmb	IAmb	18 05 31.0	
	comp=Z,5.5nm,0.8s						
TXAR	Lajitas Array	41.30	324	P	P	18 05 32.1	+0.5
	comp=Z,1.1nm,0.8s,baz=142,slow=9.0,SNR=9.2						
TXAR				PcP	PcP	18 07 30.6	+0.8
	comp=Z,0.7nm,0.7s,baz=134,slow=5.4,SNR=6.8						
	comp=Z,1.1nm,0.8s						
TX31	Lajitas Ar. Si	41.30	324	P	P	18 05 31.9	+0.3
PLPT	Palo Pinto	41.31	333	P	P	18 05 32.9	+1.4
LCAR	Lake Charles	41.57	343	P	P	18 05 32.9	-0.6
LCAR				IAmb	IAmb	18 05 44.1	
	comp=Z,12nm,1.0s						
FCAR	Ozark Folk Cen	41.69	342	P	P	18 05 33.7	-0.8
SGCY	Sterling City	41.91	329	P	P	18 05 35.8	-0.7
SGCY				IAmb	IAmb	18 05 38.8	
	comp=Z,12nm,1.0s						
PBMO	Poplar Bluff	42.03	345	P	P	18 05 36.5	-0.8
PBMO				IAmb	IAmb	18 05 47.9	
	comp=Z,6.4nm,0.6s						
ALPN	Alpine	42.06	325	P	P	18 05 39.0	+1.1
WTFS	Witchita Falls	42.18	334	P	P	18 05 38.8	+0.3
MNHN	Monahans	42.32	327	IAmb	IAmb	18 05 41.8	
	comp=Z,6.2nm,0.8s						
T42A	Van Buren	42.45	344	IAmb	IAmb	18 05 40.6	
	comp=Z,5.0nm,0.6s						
APMT	Aspermont	42.57	332	P	P	18 05 43.0	+1.2
APMT				IAmb	IAmb	18 05 44.0	
	comp=Z,6.3nm,0.6s						
HHAR	Hobbs	42.63	340	P	P	18 05 42.0	-0.2
HHAR				IAmb	IAmb	18 05 53.3	
	comp=Z,7.2nm,1.0s						
W35A	Tecumseh	42.70	336	IAmb	IAmb	18 05 53.7	
	comp=Z,9.7nm,0.8s						
MGMO	Mountain Grove	42.90	343	IAmb	IAmb	18 05 55.2	
	comp=Z,14nm,1.1s						
FNO	Franklin	43.00	336	P	P	18 05 44.7	-0.5
FNO				IAmb	IAmb	18 05 57.7	
	comp=Z,5.6nm,0.8s						
POST	Post	43.03	330	IAmb	IAmb	18 05 47.3	
	comp=Z,7.0nm,0.8s						
WMOK	Wichita Mounta	43.14	334	P	P	18 05 46.8	+0.4
WMOK				IAmb	IAmb	18 05 48.6	
	comp=Z,8.7nm,1.1s						
VHRN	Van Horn	43.14	325	P	P	18 05 47.6	+1.0
VHRN				IAmb	IAmb	18 05 48.5	
	comp=Z,5.0nm,0.7s						
DEOK	Depew	43.16	337	P	P	18 05 47.0	+0.6
DKNS	Dickens	43.23	331	P	P	18 05 48.2	+1.1
OK052	Battle Ridge R	43.41	337	P	P	18 05 48.5	0.0
CCM	Cathedral Cave	43.45	344	P	P	18 05 48.6	-0.2
CCM				IAmb	IAmb	18 05 49.9	
	comp=Z,4.2nm,0.7s						
U32A	Winter Ranch,	44.63	335	P	P	18 05 59.5	+1.2
KAN12	Harper NE Stat	45.01	337	P	P	18 06 01.0	-0.4
121A	Cookes Peak, D	46.05	324	P	P	18 06 11.1	+1.3
121A				IAmb	IAmb	18 06 29.0	
	comp=Z,5.8nm,1.0s						
R32A	Long Quarter,	46.27	337	P	P	18 06 11.8	+0.5
ANMO	Albuquerque	47.07	327	P	P	18 06 18.6	+0.8
T25A	Trinidad	47.71	331	P	P	18 06 23.8	+1.0
T25A				IAmb	IAmb	18 06 25.5	
	comp=Z,4.8nm,0.9s						
SDCO	Great Sand Dun	48.72	330	IAmb	IAmb	18 06 44.2	
	comp=Z,6.5nm,1.1s						
WUAZ	Wupatki	50.26	324	P	P	18 06 43.3	+1.0
BSUT	Blindstream Ca	53.50	329	P	P	18 07 07.3	+0.7
BSUT				IAmb	IAmb	18 07 18.9	
	comp=Z,6.6nm,1.1s						
PDAR	Pinedale Array	54.56	331	P	P	18 07 14.4	+0.2
	comp=Z,1.2nm,0.7s,baz=127,slow=7.6,SNR=11						
	comp=Z,1.2nm,0.7s						
HWUT	Hardware Ranch	54.69	329	P	P	18 07 15.9	+0.8
HWUT				IAmb	IAmb	18 07 16.7	
	comp=Z,4.8nm,0.9s						
ULM	Lac du Bonnet	56.02	346	P	P	18 07 23.9	-0.4
	comp=Z,4.8nm,0.6s,baz=173,slow=7.6,SNR=6.9						
ULM				LR	LR	18 33 43.3	
	comp=Z,31nm,18.9s,baz=221,slow=39						
	comp=Z,4.8nm,0.6s						
IMW	Indian Meadow	56.08	331	P	P	18 07 25.8	+0.6
NVAR	Mina Array Bea	56.35	322	P	P	18 07 28.0	+0.9
	comp=Z,0.7nm,0.6s,baz=127,slow=6.7,SNR=5.8						
	comp=Z,0.7nm,0.6s						
BMN	Battle Mountai	56.97	324	IAmb	IAmb	18 07 33.3	
	comp=Z,3.1nm,0.8s						
BOZ	Bozeman (W)	57.68	332	IAmb	IAmb	18 07 38.2	
	comp=Z,3.8nm,0.8s	

SUR	Sutherland	95.11	123	LR	LR	18 49 20.3	
	comp=Z,35nm,19.9s,baz=138,slow=32						
BOSA	Boshof	99.46	120	LR	LR	18 53 47.0	
	comp=Z,59nm,19.8s,baz=206,slow=34						
FINES	FINESS Array B	99.78	28	LR	LR	18 52 22.0	
	comp=Z,19nm,19.6s,baz=292,slow=33						
ZALV	Zalesovo Beam	127.90	13	PKP	PKiKP	18 16 52.1	+0.4
	comp=Z,1.6nm,0.6s,baz=255,slow=4.3,SNR=7.7						
KURBB	Kurchatov Arra	129.12	19	PKP	PKiKP	18 16 54.5	+0.1
	comp=Z,1.2nm,0.7s,baz=324,slow=2.2,SNR=14						
MKAR	Makanchi Array	133.68	19	PKP	PKPdf	18 17 02.5	+0.1
	comp=Z,0.4nm,0.5s,baz=286,slow=2.9,SNR=7.6						
SONM	Songino Array	135.92	356	PKP	PKPdf	18 17 07.5	+0.7
	comp=Z,0.9nm,0.8s,baz=338,slow=1.0,SNR=6.5						
KSRS	Korea Array	139.09	328	PKP	PKPdf	18 17 13.0	+0.3
	comp=Z,1.0nm,0.8s,baz=353,slow=0.8,SNR=6.1						
WRA	Warramunga Arr	140.80	232	PKhKP	PKPpre	18 17 08.2	
	comp=Z,0.9nm,0.8s,baz=122,slow=2.9,SNR=5.1						
WRA				PKP	PKPdf	18 17 15.1	-1.3
	comp=Z,1.4nm,0.8s,baz=120,slow=2.0,SNR=7.3						
CMAR	Chiang Mai Arr	164.97	13	PKP	PKPdf	18 17 50.6	0.0
	comp=Z,1.3nm,0.9s,baz=272,slow=2.4,SNR=6.2						

*JMA **11** 18:08:32.0±0.2,38°N±2°×13°4E±°, h420km, MV2.3/22, SEA OF JAPAN*
*IDC **11** 18:08:35.5±6.5,38.°09N×134.°50E, h363km±127km, mbtmp3.5/4, Error ellipse: s-maj=53.2km s-min=23.7km az=168.0*
ISC 11 18:08:33.1±1.2,**37.°97N**±0.°09×**134.°44E**±0.°09,**h400**km,**n16,** σ1§**53**/19,**Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOI	OKI	1.93	210	eP	Pn	18 09 29.1	+0.4
JHG	Hegura jima	1.97	93	eP	Pn	18 09 30.2	+1.4
JSZ	Suzu	2.38	102	eP	Pn	18 09 32.5	+1.0
JWT	Wachi	2.79	164	eP	Pn	18 09 34.6	-0.1
JWT				eS	S	18 10 23.1	-1.5
JYTA	Yamagatataniai	3.01	141	eP	Pn	18 09 36.2	-0.2
JSD	Sado	3.02	88	P	Pn	18 09 37.1	+0.7
JHS	Saijyo	3.15	200	eP	Pn	18 09 37.4	-0.4
JGT2	ShimaneMisato	3.29	209	eP	Pn	18 09 38.8	-0.1
JNG	Nsakai	3.31	117	eP	Pn	18 09 39.5	+0.5
JNG				eS	S	18 10 33.5	+1.0
MAT	Matsushiro	3.33	114	eP	Pn	18 09 39.1	0.0
MJAR	Matsushiro Arr	3.33	114	P	Pn	18 09 39.7	+0.6
	6.1nm,0.7s,baz=299,slow=9.3,SNR=19						
JIE	Ise	4.02	152	eP	Pn	18 09 44.9	-0.5
KSRS	Korea Array	5.19	266	P	Pn	18 09 57.2	+0.2
	1.2nm,0.6s,baz=86,slow=10,SNR=7.4						
JMK	Ichinoseki	5.41	78	eP	Pn	18 10 00.1	+0.8
USRK	Ussuriysk Ar.	6.49	344	P	Pn	18 10 12.8	+1.9
	1.8nm,0.5s,baz=152,slow=9.6,SNR=7.8						
ASAJ	Asahikawa	8.70	43	P	P	18 10 37.4	+1.4
	7.8nm,0.3s,baz=242,slow=11,SNR=38						
ASAJ				S	S	18 12 11.8	-4.9
	5.6nm,1.1s,baz=127,slow=20,SNR=2.7						

*IDC **11** 18:18:37.0±0.7,7.°52S×121.°73E, h431km±7km, mb3.9/20, mbtmp4.6/23, Error ellipse: s-maj=17.4km s-min=7.1km az=65.0*
*DJA **11** 18:18:36.9±0.1,8.°S±2.°×12.°2E±.°, h425km±1km, M4.5/48, mB5.0/17, mb4.6/48, MLv4.9/21, Mw(mB)4.3/17*
*NEIC **11** 18:18:37.0±2.1,7.°57S±0.°09×121.°65E±0.°08, h425km±6km, mb4.5/71, Error ellipse: s-maj=14.3km s-min=10.7km az=216.0*
ISC 11 18:18:36.6±0.5,**7.°59S**±0.°05×**121.°63E**±0.°06,**h429**km±5km, **n212,** σ0§**98**/211,**mb4.5**/65,**2D,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	Ende, Flores	1.16	177	P	P	18 19 30.1	-1.3
MMRI	Maumere	1.20	150	P	P	18 19 30.6	-0.9
MMRI	Maumere	1.20	150	P	P	18 19 30.4	-1.0
MMRI	Maumere	1.20	150	P	P	18 19 30.5	-0.9
MMRI				S	S	18 20 14.6	-1.1
BBSI	Bau Bau	2.28	24	P	P	18 19 38.2	+1.2
BBSI				S	S	18 20 26.1	+0.2
BKSI	Bulukumba	2.71	326	P	P	18 19 40.6	+0.8
BKSI				S	S	18 20 30.2	-0.9
BASI	Baing, Sumba	2.82	202	P	P	18 19 40.4	-0.2
KAPI	Kappang	3.17	324	P	P	18 19 44.5	+1.2
KAPI	Kappang	3.17	324	P	P	18 19 44.7	+1.4
	139nm,0.8s,baz=136,slow=5.2,SNR=65						
KAPI				S	S	18 20 38.4	+0.9
	122nm,1.0s,baz=255,slow=22,SNR=20						
BATI	Baumata	3.29	143	P	P	18 19 44.5	+0.2
SOEI	Soe	3.38	130	P	P	18 19 45.3	+0.1
SOEI	Soe	3.38	130	P	P	18 19 45.3	+0.1
SOEI	Soe	3.38	130	P	P	18 19 45.3	+0.1
SOEI				S	S	18 20 39.8	-1.1
PLAI	Plampang	4.01	252	P	P	18 19 50.0	-0.5
PLAI	Plampang	4.01	252	P	P	18 19 49.8	-0.7
TWSI	Taliwang, Sumb	4.84	256	P	P	18 19 57.9	-0.4
SRBI	Singaraja	6.38	265	P	P	18 20 14.9	+0.8
DNP	Denpasar	6.45	260	P	P	18 20 15.3	+0.4
LUWI	Luwuk	6.60	10	P	P	18 20 17.5	+0.7
LUWI	Luwuk	6.60	10	P	P	18 20 17.4	+0.5
LUWI	Luwuk	6.60	10	P	P	18 20 16.0	-0.8
	257nm,0.9s,4μm0.8nm						
SANI	Sanana	7.00	38	P	P	18 20 21.9	+0.7
SANI	Sanana	7.00	38	P	P	18 20 21.5	+0.3
	223nm,0.8s,2μm0.7nm						
ABJI	Asem Bagus	7.34	268	P	P	18 20 25.1	+0.4
	92nm,0.9s,0.4nm						
JAGI	Jajag, Banyuwa	7.46	263	P	P	18 20 27.3	+1.2
JAGI	Jajag, Banyuwa	7.46	263	P	P	18 20 26.7	+0.6
JAGI	Jajag, Banyuwa	7.46	263	P	P	18 20 27.0	+0.9
	51nm,0.5s,2μm1.0nm						
BKB	Balikpapan	7.86	323	P	P	18 20 32.9	+2.5
BKB	Balikpapan	7.86	323	P	P	18 20 32.2	+1.7
BKB	Balikpapan	7.86	323	P	P	18 20 33.0	+2.5
	257nm,1.0s						
MRSI	Marisa	8.02	2	P	P	18 20 32.8	+0.7
	237nm,0.7s,2μm						
MPSI	Mapaga	8.06	348	P	P	18 20 33.2	+0.7
	253nm,0.9s,2μm						
GTOI	Gorontalo	8.28	10	P	P	18 20 36.8	+1.8
	101nm,0.6s						
KMSI	Cibinong	8.44	16	P	P	18 20 38.4	+1.7
TOLI2	Tolitoli	8.68	354	P	P	18 20 40.4	+1.0
TOLI2	Tolitoli	8.68	354	P	P	18 20 40.3	+1.0
MTKI	Muara Teweh, K	9.42	314	P	P	18 20 49.0	+1.5
SAUI	Saumlaki	9.59	93	P	P	18 20 50.3	+1.0
PWJI	Pagerwojo	9.75	267	P	P	18 20 51.1	0.0
TNTI	Ternate	10.08	35	P	P	18 20 55.1	+0.3
TNTI	Ternate	10.08	35	P	P	18 20 54.7	-0.1
	61nm,0.8s						
DRS	Darwin Rock St	10.31	119	P	P	18 20 57.7	+0.4
	116nm,0.7s						
MTN	Manton Dam	10.71	120	P	P	18 21 02.6	+1.0
MTN	Manton Dam	10.71	120	P	P	18 21 02.0	+0.4
UGM	Wanagama	11.02	268	P	P	18 21 05.7	+0.7
UGM	Wanagama	11.02	268	P	P	18 21 05.7	+0.7
	98nm,1.4s						
FITZ	Fitzroy Crossi	11.15	160	P	P	18 21 07.5	+1.1
YOGI	Yogyakarta	11.24	268	P	P	18 21 07.4	-0.1
	84nm,1.4s						
FAKI	Fak Fak	11.54	67	P	P	18 21 11.6	+0.8
FAKI	Fak Fak	11.54	67	P	P	18 21 10.6	-0.2
FAKI	Fak Fak	11.54	67	P	P	18 21 11.6	+0.8
	45nm,0.8s						
SWI	Sorong	11.69	56	P	P	18 21 12.7	+0.3
KDU	Kakadu	11.81	116	P	P	18 21 13.7	0.0
STKI	Sintang	12.66	306	P	P	18 21 24.9	+1.8
	79nm,1.0s						
MYLDM	Lahad Datu	13.06	346	P	P	18 21 27.6	+0.2
MBWA	Marble Bar	13.62	188	P	P	18 21 34.6	+1.3
MBWA	Marble Bar	13.62	188	P	P	18 21 34.3	+1.0
SBUM	Sibu	13.70	316	P	P	18 21 36.2	+1.9
BBJI	Bungbulang	13.87	270	P	P	18 21 36.6	+0.4
PSA00	Pilbara Seismi	14.01	187	P	P	18 21 38.8	+1.2
PSA00	Pilbara Seismi	14.01	187	P	P	18 21 38.6	+1.0
PSA00	Pilbara Seismi	14.01	187	P	P	18 21 37.4	-0.2
CNJI	Cibinong	14.39	270	P	P	18 21 41.5	-0.2
	30nm,1.0s						
PPBI	Pangkal Pinang	16.35	288	P	P	18 22 03.8	+1.0
	37nm,0.7s						
GIRL	Giralia	16.58	205	P	P	18 22 05.9	+0.8
GIRL	Giralia	16.58	205	P	P	18 22 05.8	+0.7
WB0	Warramunga Arr	17.31	136	P	P	18 22 12.5	-0.4
WRA	Warramunga Arr	17.39	136	P	P	18 22 12.6	-1.2
WRA	Warramunga Arr	17.39	136	P	P	18 22 13.6	-0.2
	42nm,0.7s,baz=315,slow=11,SNR=459						
WRA				S	S	18 25 11.7	-1.6
	18nm,1.1s,baz=306,slow=20,SNR=16						
WRAB	Tennant Creek	17.39	136	P	P	18 22 13.3	-0.5
WB2	Warramunga Arr	17.40	136	P	P	18 22 13.6	-0.3
WR0	Warramunga Arr	17.54	136	P	P	18 22 15.1	-0.3
WRKA	Warakurna	18.48	161	P	P	18 22 25.3	+0.2
MEEK	Meekatharra	19.16	188	P	P	18 22 32.3	+0.7
AS31	Alice Springs	19.86	145	P	P	18 22 38.3	+0.3
ASAR	Alice Springs	19.86	145	P	P	18 22 38.3	+0.3
ASAR	Alice Springs	19.86	145	P	P	18 22 38.7	+0.7
	13nm,0.3s,baz=327,slow=8.7,SNR=830						
ASAR				S	S	18 25 53.5	-1.5
	0.6nm,0.6s,baz=208,slow=34,SNR=1.0						
AS01	Alice Springs	19.88	145	P	P	18 22 39.1	+0.8
QIS	Mount Isa	21.65	128	P	P	18 22 54.9	+0.5
MORW	Morawa	22.01	193	P	P	18 22 58.9	+1.4
MORW	Morawa	22.01	193	P	P	18 22 57.9	+0.3
MORW				IAmb	IAmb	18 23 01.0	
	comp=Z,19nm,0.8s						
COEN	Coen	22.08	108	P	P	18 22 58.3	0.0
COEN	Coen	22.08	108	P	P	18 22 58.1	-0.2
COEN				IAmb	IAmb	18 23 32.9	
	comp=Z,39nm,1.4s						
BLDU	Ballidu	23.37	191	P	P	18 23 10.5	+0.7
KMBL	Kambalda	23.66	179	P	P	18 23 13.2	+0.8
FORT	Forrest	23.84	166	P	P	18 23 15.5	+1.5
FORT	Forrest	23.84	166	P	P	18 23 14.5	+0.5
FORT				IAmb	IAmb	18 23 15.4	
	comp=Z,15nm,0.7s						
OOD	Oodnadatta	24.10	148	P	P	18 23 17.4	+1.0
KLBR	Kellerberrin	24.16	188	P	P	18 23 17.8	+1.0
MTSU	Mount Surprise	24.44	118	P	P	18 23 20.3	+0.7
KULM	Kulim	24.53	301	P	P	18 23 19.4	-1.0
KULM				IAmb	IAmb	18 24 01.5	
	comp=Z,21nm,1.4s						
MULG	Mulgathing	25.41	154	P	P	18 23 28.9	+0.9
NWAO	Narrogin (SRO)	25.54	189	P	P	18 23 30.2	+1.1
NWAO	Narrogin (SRO)	25.54	189	P	P	18 23 29.4	+0.3
NWAO	Narrogin (SRO)	25.54	189	P	P	18 23 29.3	+0.2
	comp=Z,3.1nm,0.5s,baz=7.7,slow=6.9,SNR=11						
	comp=Z,3.1nm,0.5s						
GSI	Gunungsitoli	25.57	289	P	P	18 23 27.7	-1.9
GSI				IAmb	IAmb	18 23 28.9	
	comp=Z,13nm,0.6s						
GSI	Gunungsitoli	25.57	289	P	P	18 23 28.3	-1.3
	comp=Z,24nm,0.6s						
LCRK	Leigh Creek	27.55	148	P	P	18 23 48.1	+1.2
MLSI	Meulaboh, Aceh	27.79	294	P	P	18 23 48.5	-0.8
BBOO	Buckleboo	28.45	154	P	P	18 23 55.3	+0.5
BBOO	Buckleboo	28.45	154	P	P	18 23 55.0	+0.3
BBOO				IAmb	IAmb	18 23 56.2	
	comp=Z,24nm,0.8s						
HTT	Hallett	30.29	150	P	P	18 24 12.5	+1.5
STKA	Stephens Creek	30.49	145	P	P	18 24 13.8	+1.1
STKA	Stephens Creek	30.49	145	P	P	18 24 13.6	+0.9
STKA	Stephens Creek	30.49	145	P	P	18 24 13.9	+1.1
	comp=Z,20nm,0.3s,baz=322,slow=9.7,SNR=141						
	comp=Z,20nm,0.3s						
SRDT	SRDT	31.21	314	P	P	18 24 19.8	+0.8
CMSA	Cobar Meteorol	32.73	140	P	P	18 24 33.7	+1.7
CM31	Chiang Mai Arr	34.22	319	P	P	18 24 45.3	+0.4
CM31				IAmb	IAmb	18 24 47.6	
	comp=Z,12nm,0.9s						
CMAR	Chiang Mai Arr	34.22	319	P	P	18 24 45.1	+0.3
CMAR					PcP	18 27 11.1	+1.0
CMAR	Chiang Mai Arr	34.22	319	P	P	18 24 45.8	+0.9
	comp=Z,6.9nm,0.8s,baz=145,slow=6.6,SNR=46						
CMAR				PcP	PcP	18 27 11.8	+1.7
	comp=Z,3.9nm,0.8s,baz=175,slow=2.7,SNR=19						
	comp=Z,6.9nm,0.8s						
ARPS	Mount Arapiles	34.39	151	P	P	18 24 47.3	+1.3
CHTO	Chiang Mai	34.48	320	P	P	18 24 47.4	+0.4
CHTO				IAmb	IAmb	18 24 48.6	
	comp=Z,11nm,0.7s						
CRAI	Chiangrai	34.66	323	P	P	18 24 48.8	+0.2
YNG	Young	36.26	141	P	P	18 25 03.7	+1.9
GEXS	Deakin Univers	36.72	149	P	P	18 25 06.1	+0.6
GYA	Guiyang	36.83	337	⇓P	P	18 25 07.6	+0.9
GYA				pmax	pmax		
	comp=Z,13nm,1.1s						
KMI	Kunming	37.36	331	⇓P	P	18 25 16.9	+5.7
KMI				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PZH	PanZhiHua	39.00	331	P	P	18 25 27.3	+2.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
ENH	Enshi	39.41	343	P	P	18 25 27.8	0.0
NJ2	Nanjing	39.51	356	eP	P	18 25 30.7	+2.3
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,880nm,4.0s						
XAN	Xi'an	43.12	344	P	P	18 25 56.6	-0.8
XAN				pP	pwP	18 27 21.8	+0.5
XAN				pmax	pmax		
	comp=Z,22nm,0.8s						
KSRS	Korea Array	45.19	7	P	P	18 26 13.0	-0.4
	comp=Z,1.8nm,0.9s,baz=187,slow=8.7,SNR=7.5						
KSRS				PcP	PcP	18 27 46.0	+1.0
	comp=Z,1.3nm,0.6s,baz=178,slow=3.9,SNR=6.1						
	comp=Z,1.8nm,0.9s						
JGF	Kuroka	45.44	18	P	P	18 26 15.5	0.0
JGF				IAmb	IAmb	18 26 26.7	
	comp=Z,23nm,1.5s						
OUENC	Ouen Island, N	45.89	114	P	P	18 26 17.6	-1.6
MAJO	Matsushiro	46.57	18	P	P	18 26 22.6	-1.5
MJAR	Matsushiro Arr	46.57	18	P	P	18 26 22.5	-1.6
	comp=Z,4.6nm,0.8s,baz=194,slow=8.3,SNR=13						
MJAR				PcP	PcP	18 27 50.8	+0.7
	comp=Z,2.1nm,0.9s,baz=209,slow=5.2,SNR=6.0						
	comp=Z,4.6nm,0.8s						
MJB9	Matsu-Tunnel	46.57	18	P	P	18 26 23.7	-0.4
BJT	Baijiatuau	47.63	354	IAmb	IAmb	18 26 32.2	
	comp=Z,9.2nm,0.7s						
BJI	Beijing	47.66	354	P	P	18 26 31.3	-0.9
BJI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
JMM	Marumori	48.63	20	P	P	18 26 39.7	+0.1
JMM				IAmb	IAmb	18 26 40.4	
	comp=Z,16nm,0.8s						
HHC	Hu-ho-hao-te	49.08	350	eP	P	18 26 47.4	+4.3
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,92nm,4.3s						
MNCI	Minicoy	50.92	287	P	P	18 26 56.3	-0.7
GTA	Gaotai	50.95	338	P	P	18 26 57.5	+0.6
GTA				PcP	PcP	18 28 07.5	+1.4
GTA				pP	pP	18 28 27.5	+4.9
GTA				sP	PP	18 28 49.5	-9.4
GTA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
JTM	Tenmabayashi	51.35	19	P	P	18 26 59.3	-0.4
JTM				IAmb	IAmb	18 26 59.9	
	comp=Z,28nm,0.9s						
XLT	XiLinHaoTe	51.49	355	eP	P	18 27 00.2	-0.6
XLT				PcP	PcP	18 28 00.6	-7.4
XLT				pP	pP	18 28 27.3	+0.7
XLT				PP	PP	18 29 02.6	-1.0
XLT				sP	sP	18 29 17.1	+3.1
XLT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,120nm,5.0s						
USA0B	Ussuriysk Arra	52.39	9	P	P	18 27 06.5	-0.7
USRK	Ussuriysk Ar.	52.39	9	P	P	18 27 06.7	-0.5
USRK	Ussuriysk Ar.	52.39	9	P	P	18 27 06.5	-0.6
	comp=Z,5.0nm,0.6s,baz=192,slow=7.6,SNR=21						
	comp=Z,5.0nm,0.6s						
MDJ	Mudanjiang	52.45	7	P	P	18 27 07.2	-0.4
MDJ				pmax	pmax		
	comp=Z,13nm,1.0s						
MDJ	Mudanjiang	52.45	7	P	P	18 27 07.0	-0.7
JKA	Kamikawa-asahi	54.84	18	P	P	18 27 24.3	-0.4
JKA				IAmb	IAmb	18 27 25.7	
	comp=Z,16nm,1.0s						
ULN	Ulaanbaatar	56.70	348	P	P	18 27 37.3	-0.5
SONM	Songino Array	56.80	348	P	P	18 27 38.0	-0.6
SONM	Songino Array	56.80	348	P	P	18 27 38.3	-0.2
	comp=Z,7.0nm,0.7s,baz=165,slow=8.6,SNR=51						
	comp=Z,7.0nm,0.7s						
HEH	HeiHe	57.82	4	eP	P	18 27 44.4	-0.9
HEH				pmax	pmax		
	comp=Z,21nm,0.9s						
MRZ	Mangatainoka R	58.06	134	P	P	18 27 47.9	+0.6
WMQ	Urumqi	59.68	332	eP	P	18 27 59.0	+0.8
WMQ				pmax	pmax		
	comp=Z,23nm,0.7s						
NIL	Nilore	61.52	315	P	P	18 28 09.9	-0.6
KSH	Kashi	63.07	322	P	P	18 28 21.0	+0.3
KSH				pmax	pmax		
	comp=Z,26nm,0.8s						
MK31	Makanchi Array	64.44	331	P	P	18 28 29.4	+0.1
MK31				IAmb	IAmb	18 28 30.3	
	comp=Z,14nm,0.7s						
MKAR	Makanchi Array	64.44	331	P	P	18 28 29.5	+0.2
MKAR	Makanchi Array	64.44	331	P	P	18 28 29.8	+0.5
	comp=Z,18nm,0.6s,baz=136,slow=7.5,SNR=195						
	comp=Z,18nm,0.6s						
MAKZ	Makanchi	64.60	331	P	P	18 28 30.0	-0.2
MAKZ				IAmb	IAmb	18 28 31.1	
	comp=Z,8.2nm,0.8s						
BOOM	Boomskoye usch	64.92	324	P	P	18 28 32.9	+0.3
BOOM				IAmb	IAmb	18 28 33.8	
	comp=Z,13nm,0.7s						
KBL	Kabul	64.97	314	P	P	18 28 32.3	-0.8
AAK	Ala-Archa	65.85	324	P	P	18 28 39.2	+0.7
	comp=Z,13nm,0.7s,baz=125,slow=5.0,SNR=11						
	comp=Z,13nm,0.7s						
ARSB	Arslanbob	65.98	322	IAmb	IAmb	18 28 40.5	
	comp=Z,6.6nm,0.9s						
BTK	Batken	66.63	320	IAmb	IAmb	18 28 45.2	
	comp=Z,6.4nm,0.7s						
KKAR	Karatay Array	68.50	322	P	P	18 28 53.8	-0.9
KKAR	Karatay Array	68.50	322	IAmb	IAmb	18 28 56.0	
	comp=Z,4.8nm,1.1s						
ZAA0	Zalesovo Array	68.69	338	IAmb	IAmb	18 28 55.3	
	comp=Z,12nm,0.8s						
ZALV	Zalesovo Beam	68.69	338	P	P	18 28 54.4	-1.2
ZALV	Zalesovo Beam	68.69	338	P	P	18 28 54.5	-1.0
	comp=Z,9.9nm,0.5s,baz=138,slow=4.6,SNR=56						
	comp=Z,9.9nm,0.5s						
KURBB	Kurchatov Arra	68.90	332	P	P	18 28 56.6	-0.3
	comp=Z,9.2nm,0.8s,baz=146,slow=5.4,SNR=96						
	comp=Z,9.2nm,0.8s						
KURK	Kurchatov	68.93	332	P	P	18 28 56.4	-0.7
KURK				IAmb	IAmb	18 28 57.7	
	comp=Z,20nm,0.9s						
YAK	Yakutsk	69.69	4	P	P	18 29 00.9	-0.5
MA2	Magadan	70.86	15	P	P	18 29 08.6	+0.1
VNDA	Vanda	72.98	172	P	P	18 29 21.1	+0.5
	comp=Z,0.5nm,0.7s,baz=322,slow=7.4,SNR=2.2						
	comp=Z,0.5nm,0.7s						
VOI	Vohitsoka	73.18	249	P	P	18 29 22.2	-0.8
VOI				IAmb	IAmb	18 29 26.9	
	comp=Z,20nm,1.4s						
BVAR	Borovoye Array	74.32	331	P	P	18 29 28.0	-0.7
	comp=Z,3.8nm,0.6s,baz=136,slow=5.1,SNR=24						
	comp=Z,3.8nm,0.6s						
ABKAR	Akbulak array	77.94	324	P	P	18 29 47.7	-1.2
ABKAR	Akbulak array	77.94	324	IAmb	IAmb	18 29 48.7	
	comp=Z,3.6nm,0.7s						
AKTO	Aktyubinsk	79.58	324	P	P	18 29 57.0	-0.7
	comp=Z,7.4nm,0.7s,baz=106,slow=5.0,SNR=29						
	comp=Z,7.4nm,0.7s						
NRIK	Noril'sk	80.28	348	P	P	18 29 59.5	-1.5
	comp=Z,2.4nm,0.7s,baz=101,slow=5.2,SNR=2.9						
	comp=Z,2.4nm,0.7s						
RAYN	Ar Rayn	80.44	295	P	P	18 30 02.9	0.0
RAYN				IAmb	IAmb	18 30 04.3	
	comp=Z,14nm,0.8s						
QSPA	South Pole Qui	82.40	180	P	P	18 30 12.5	+0.2
QSPA	South Pole Qui	82.40	180	P	P	18 30 12.9	+0.6
	comp=Z,1.8nm,0.7s,baz=284,slow=2.2,SNR=14						
	comp=Z,1.8nm,0.7s						
GURO	Guroymak-BITLI	86.62	309	IAmb	IAmb	18 30 35.6	
	comp=Z,10nm,1.0s						
KBZ	Khabaz	87.13	315	P	P	18 30 36.1	+0.4
	comp=Z,2.6nm,0.7s,baz=41,slow=0.8,SNR=5.8						
	comp=Z,2.6nm,0.7s						
ARPR	Arapgir-MALATY	89.56	309	IAmb	IAmb	18 30 49.2	
	comp=Z,18nm,1.3s						
BOSA	Boshof	91.97	241	P	P	18 30 58.5	-0.4
	comp=Z,2.5nm,0.8s,baz=141,slow=4.7,SNR=3.7						
	comp=Z,2.5nm,0.8s						
BRTR	Keskin Array B	93.25	309	P	P	18 31 03.5	-1.0
	comp=Z,1.8nm,0.8s,baz=116,slow=4.5,SNR=8.4						
	comp=Z,1.8nm,0.8s						
G19K	Purcell Mounta	93.36	24	IAmb	IAmb	18 31 05.2	
	comp=Z,4.4nm,0.8s						
E19K	Redstone River	93.56	22	IAmb	IAmb	18 31 06.2	
	comp=Z,6.1nm,0.8s						
F20K	Avaraart Lake	94.06	23	IAmb	IAmb	18 31 08.5	
	comp=Z,3.7nm,0.9s						
B21K	Ikpikpuk River	94.88	20	P	P	18 31 11.5	+0.5
B21K				IAmb	IAmb	18 31 12.2	
	comp=Z,5.5nm,0.7s						
CAST	Castle Rocks	95.06	27	P	P	18 31 11.8	-0.2
CAST				IAmb	IAmb	18 31 12.9	
	comp=Z,2.0nm,0.7s						
G23K	Bananza Creek	96.25	24	P	P	18 31 17.7	+0.4
G23K				IAmb	IAmb	18 31 18.8	
	comp=Z,2.6nm,0.8s						
C23K	Itkillik River	96.29	20	P	P	18 31 17.2

8.2nm,0.6s,baz=329,slow=22,SNR=8.6
AAK Ala-Archa 6.81 26 ⇑P Pn 18 31 44.6 +1.6
11nm,0.5s
AAK ⇓S **Sn 18 33 00.2 -0.3**
13nm,0.5s
KBK Karagaybulak 6.99 28 P **Pn 18 31 47.2 +1.9**
SNR=6.5
CHMS Chumysh 7.21 26 P **Pn 18 31 49.8 +1.7**
SNR=7.7
CHMS Chumysh 7.21 26 ⇑P Pn 18 31 48.7 +0.6
9.5nm,0.6s
CHMS ⇑S **Sn 18 33 07.4 -2.5**
12nm,1.1s
TKM2 Tokmak 2 7.46 30 P **Pn 18 31 52.7 +1.2**
SNR=30
TKM2 Tokmak 2 7.46 30 ⇓P Pn 18 31 51.9 +0.3
6.2nm,0.3s
TKM2 ⇓S **Sn 18 33 14.6 -1.5**
5.0nm,0.8s
MKAR Makanchi Array 13.48 37 P **Pn 18 33 08.5 0.0**
0.6nm,0.4s,baz=216,slow=15,SNR=8.3
KURBB Kurchatov Arra 15.20 20 P **Pn 18 33 29.5 0.0**
0.4nm,0.4s,baz=353,slow=7.3,SNR=4.1
AKTO Aktyubinsk 16.53 331 P **P 18 33 46.4 +1.7**
4.7nm,0.7s,baz=140,slow=8.6,SNR=12
ZALV Zalesovo Beam 20.03 25 P **P 18 34 22.6 0.0**
0.7nm,0.5s,baz=215,slow=8.7,SNR=2.5
0.7nm,0.5s
FINES FINESS Array B 37.21 326 P **P 18 36 58.1 +1.2**
1.1nm,0.6s,baz=98,slow=14,SNR=6.4
1.1nm,0.6s
ARCES ARCESS Array B 40.94 338 P **P 18 37 27.9 +0.2**
1.3nm,0.6s,baz=114,slow=8.1,SNR=8.3
1.3nm,0.6s
NB2 NORSAR Subarra 44.09 323 P **P 18 37 53.2 0.0**
comp=Z,1.8nm,1.0s,baz=98,slow=7.9
NOA NORSAR Array B 44.09 323 P **P 18 37 52.9 -0.3**
comp=Z,0.7nm,0.8s,baz=96,slow=7.7,SNR=5.0
comp=Z,0.7nm,0.8s
TORD Torodi Ar. Bea 65.32 268 P **P 18 40 24.6 -1.5**
comp=Z,0.7nm,0.5s,baz=48,slow=5.9,SNR=6.3
comp=Z,0.7nm,0.5s
ASAR Alice Springs 84.62 125 P P 18 42 14.2 -2.1
comp=Z,0.2nm,0.5s,baz=316,slow=4.7,SNR=5.9
comp=Z,0.2nm,0.5s

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*NOU **11** 19:40:06.3, 37°.69S×176°.44E, h246km, mb3.8/7, North Island, New Zealand*
*WEL **11** 19:40:15.0±0.7, 38°S±5°×17°6E±°, h170km±6km, M2.7/24, MLv2.7/24, Error ellipse: s-maj=0.0km s-min=0.0km az=149.0, confirmed*
ISC 11 19:40:10.2±2.0, 37°.95S±0°.06×176°.16E±0°.06, h210km±11km, n82, σ1=40/92, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.33**	**71**	P	**Pn**	**19 40 38.1**	**+0.1**
TOZ	**Tahuroa Road**	**0.57**	**293**	P	**Pn**	**19 40 39.3**	**+0.6**
MUGZ	**Murupara**	**0.71**	**138**	P	**Pn**	**19 40 40.2**	**+0.8**
URZ	**Urewera**	**0.81**	**113**	P	**Pn**	**19 40 40.3**	**+0.4**
URZ	**Urewera**	**0.81**	**113**	P	**Pn**	**19 40 40.2**	**+0.3**
URZ				S	**S**	**19 41 01.2**	**-1.7**
MRHZ	**Matea Rd**	**0.90**	**167**	P	**Pn**	**19 40 41.4**	**+0.9**
MRHZ				S	**S**	**19 41 02.3**	**-1.9**
RTZ	**Ruatahuna**	**0.93**	**136**	P	**Pn**	**19 40 41.4**	**+0.7**
RTZ				S	**S**	**19 41 02.3**	**-2.0**
MTHZ	**Maungataniwha**	**1.05**	**150**	P	**Pn**	**19 40 42.5**	**+1.1**
RAGZ	**Rawiri**	**1.13**	**119**	P	**Pn**	**19 40 43.1**	**+1.1**
MWZ	**Matawai**	**1.14**	**110**	P	**Pn**	**19 40 42.9**	**+0.9**
MWZ				S	**S**	**19 41 04.9**	**-1.7**
MKAZ	**Moumakai**	**1.16**	**316**	P	**Pn**	**19 40 43.0**	**+0.8**
HIZ	**Hauiti**	**1.17**	**241**	P	**Pn**	**19 40 43.5**	**+1.3**
HIZ	**Hauiti**	**1.17**	**241**	P	**Pn**	**19 40 43.4**	**+1.2**
RUGZ	**Raukumara Rang**	**1.20**	**91**	P	**Pn**	**19 40 42.6**	**+0.1**
RAHZ	**Arahi**	**1.21**	**143**	P	**Pn**	**19 40 44.0**	**+1.5**
RAHZ				S	**S**	**19 41 06.9**	**-0.6**
BKZ	**Black Stump Fm**	**1.24**	**168**	P	**Pn**	**19 40 43.8**	**+1.0**
BKZ	**Black Stump Fm**	**1.24**	**168**	P	**Pn**	**19 40 43.8**	**+1.0**
BKZ				S	**S**	**19 41 05.5**	**-2.6**
NMHZ	**Naumai**	**1.25**	**156**	P	**Pn**	**19 40 45.0**	**+2.1**
NMHZ				S	**S**	**19 41 08.3**	**+0.1**
KUZ	**Kuaotunu**	**1.25**	**344**	P	**Pn**	**19 40 43.2**	**+0.3**
TWVZ	**Taurewa**	**1.25**	**207**	P	**Pn**	**19 40 44.6**	**+1.6**
OTVZ	**Oturere**	**1.27**	**198**	P	**Pn**	**19 40 44.8**	**+1.7**
HAZ	**Te Kaha**	**1.30**	**82**	P	**Pn**	**19 40 44.5**	**+1.3**
SNVZ	**South Ngauruho**	**1.30**	**198**	P	**Pn**	**19 40 45.0**	**+1.6**
SNVZ				S	**S**	**19 41 09.7**	**+0.6**
TKGZ	**Te Karaka**	**1.42**	**111**	P	**Pn**	**19 40 45.7**	**+1.6**
WIAZ	**Waiheke Island**	**1.42**	**324**	P	**Pn**	**19 40 45.1**	**+0.9**
WNVZ	**Wahianoa**	**1.44**	**198**	P	**Pn**	**19 40 46.1**	**+1.5**
TWGZ	**Tauwhareparae**	**1.45**	**99**	P	**Pn**	**19 40 46.1**	**+1.6**
ARHZ	**Aropaoanui**	**1.46**	**154**	P	**Pn**	**19 40 46.3**	**+1.9**
ARHZ				S	**S**	**19 41 10.4**	**-0.7**
RIGZ	**Rimuhau**	**1.47**	**121**	P	**Pn**	**19 40 46.0**	**+1.4**
PKVZ	**Pokaka**	**1.48**	**205**	P	**Pn**	**19 40 46.2**	**+1.5**
MOVZ	**Mowahango**	**1.49**	**192**	P	**Pn**	**19 40 45.8**	**+1.1**
MOVZ				S	**S**	**19 41 10.3**	**-1.3**
PKGZ	**Pakihiroa**	**1.52**	**88**	P	**Pn**	**19 40 46.3**	**+1.2**
MCHZ	**McNeill Hill**	**1.55**	**164**	P	**Pn**	**19 40 47.3**	**+2.1**
KNZ	**Kokohu**	**1.60**	**132**	P	**Pn**	**19 40 47.2**	**+1.6**
VRZ	**Vera Road**	**1.61**	**223**	P	**Pn**	**19 40 47.9**	**+2.2**
PRGZ	**Paritu Road**	**1.66**	**126**	P	**Pn**	**19 40 48.0**	**+1.7**
CNGZ	**Carnagh Statio**	**1.70**	**109**	P	**Pn**	**19 40 48.7**	**+2.1**
KRHZ	**Kereru**	**1.70**	**175**	P	**Pn**	**19 40 47.9**	**+1.3**
MXZ	**Matakaoa Point**	**1.74**	**78**	P	**Pn**	**19 40 49.3**	**+2.3**
WMGZ	**Waiomatatini S**	**1.79**	**86**	P	**Pn**	**19 40 48.7**	**+1.3**
MHGZ	**Mahia Peninsul**	**1.82**	**132**	P	**Pn**	**19 40 49.7**	**+2.0**
CKHZ	**Cape Kidnapper**	**1.85**	**158**	P	**Pn**	**19 40 50.0**	**+2.0**
KAHZ	**Kahuranaki**	**1.92**	**163**	P	**Pn**	**19 40 50.7**	**+1.9**
PNHZ	**Pukenui**	**1.96**	**179**	P	**Pn**	**19 40 50.4**	**+1.3**
NEZ	**North Egmont**	**2.09**	**230**	P	**Pn**	**19 40 53.3**	**+2.9**
PKE	**Pukeiti**	**2.11**	**233**	P	**Pn**	**19 40 53.2**	**+2.6**
TSZ	**Takapari Road**	**2.11**	**184**	P	**Pn**	**19 40 51.8**	**+1.2**
WPHZ	**Waipukurau**	**2.12**	**174**	P	**Pn**	**19 40 52.1**	**+1.4**
PXZ	**Pawanui**	**2.15**	**165**	P	**Pn**	**19 40 52.6**	**+1.7**
KHEZ	**Kahui Hut**	**2.15**	**231**	P	**Pn**	**19 40 53.9**	**+2.8**
KHEZ	**Kahui Hut**	**2.15**	**231**	P	**Pn**	**19 40 53.9**	**+2.8**
PRHZ	**Porangahau**	**2.34**	**171**	P	**Pn**	**19 40 54.5**	**+1.5**
DVHZ	**Dannevirke**	**2.34**	**180**	P	**Pn**	**19 40 54.1**	**+1.0**
POWZ	**Post Office Ro**	**2.46**	**187**	P	**Pn**	**19 40 55.2**	**+1.0**
ANWZ	**Angora Road**	**2.52**	**175**	P	**Pn**	**19 40 56.4**	**+1.6**
PRWZ	**Pori Road**	**2.60**	**183**	P	**Pn**	**19 40 57.2**	**+1.3**
BFZ	**Birch Farm**	**2.73**	**179**	P	**Pn**	**19 40 58.7**	**+1.5**
BFZ	**Birch Farm**	**2.73**	**179**	P	**Pn**	**19 40 58.2**	**+1.0**
MRZ	**Mangatainoka R**	**2.74**	**189**	P	**Pn**	**19 40 58.2**	**+0.8**
TIWZ	**Tintock**	**2.83**	**184**	P	**Pn**	**19 40 59.4**	**+1.0**
OGWZ	**Otaki Gorge**	**2.96**	**195**	P	**Pn**	**19 41 00.7**	**+0.8**
HOWZ	**Holdsworth Sta**	**2.98**	**189**	P	**Pn**	**19 41 00.7**	**+0.5**
KIW	**Kapiti Island**	**3.06**	**198**	P	**Pn**	**19 41 01.5**	**+0.4**
MTW	**Mount Morrison**	**3.24**	**189**	P	**Pn**	**19 41 03.4**	**+0.2**
CAW	**Cannon Point**	**3.26**	**195**	P	**Pn**	**19 41 03.8**	**+0.4**
DUWZ	**D'Urville Isla**	**3.33**	**211**	P	**Pn**	**19 41 04.4**	**+0.1**
TRWZ	**Traveller**	**3.46**	**186**	P	**Pn**	**19 41 06.3**	**+0.5**
PAWZ	**Paruwai Farm**	**3.47**	**189**	P	**Pn**	**19 41 06.1**	**+0.2**
MSWZ	**Moikau Station**	**3.53**	**191**	P	**Pn**	**19 41 06.6**	**0.0**
TCW	**Tory Channel**	**3.57**	**204**	P	**Pn**	**19 41 07.4**	**+0.4**
PLWZ	**Palliser**	**3.68**	**191**	P	**Pn**	**19 41 08.3**	**-0.2**
TUWZ	**Tuamarina**	**3.87**	**206**	P	**Pn**	**19 41 11.2**	**+0.5**
NNZ	**Nelson**	**3.91**	**213**	P	**Pn**	**19 41 10.5**	**-0.6**
QRZ	**Quartz Range**	**4.02**	**223**	P	**Pn**	**19 41 14.3**	**+1.7**
QRZ	**Quartz Range**	**4.02**	**223**	P	**Pn**	**19 41 13.1**	**+0.6**
THZ	**Tophouse**	**4.56**	**212**	P	**Pn**	**19 41 20.3**	**+1.0**
KHZ	**Kahutara**	**4.89**	**203**	P	**Pn**	**19 41 23.8**	**+0.4**
KHZ	**Kahutara**	**4.89**	**203**	P	**Pn**	**19 41 23.5**	**+0.1**
DSZ	**Denniston Nort**	**5.06**	**220**	P	**Pn**	**19 41 27.7**	**+2.1**
GVZ	**Greta Valley S**	**5.55**	**204**	P	**Pn**	**19 41 31.5**	**-0.3**
OKCZ	**Okains Bay**	**6.23**	**201**	P	**Pn**	**19 41 40.1**	**-0.3**
TMZ	**Timaru**	**7.51**	**210**	P	**Pn**	**19 41 56.5**	**-0.5**

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*IDC **11** 20:03:01.1±2.2, 43°.62N×105°.43W, h0km, mb4.0/2, mbtmp3.9/4, ML2.6/1, MS2.5/3, Error ellipse: s-maj=65.2km s-min=9.4km az=153.0*
*NEIC **11** 20:03:01.5±1.3, 43°.79N±0°.09×105°.3W±0°.1, h0km±1km, ML3.5/72, Error ellipse: s-maj=17.7km s-min=10.1km az=44.0*
ISC 11 20:03:02.1±0.9, 43°.72N±0°.05×105°.33W±0°.04, h0km, n41, σ1=57/36, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.02**	**66**		**Pg**	**20 03 21.8**	**+0.2**
K22A	**Casper**	**1.38**	**220**		**Pg**	**20 03 27.8**	**-0.7**
K22A				IAML		20 03 50.9	
	comp=E,946nm,0.8s						
K22A				IAML		20 03 54.0	
	comp=N,538nm,0.3s						
PHWY	**Pilot Hill**	**2.42**	**182**		**Pn**	**20 03 44.4**	**+1.3**
RWWY	**Rawlins**	**2.46**	**215**	Pn	**Pn**	**20 03 44.5**	**+0.8**
RWWY				IAML		20 04 19.8	
	comp=N,285nm,0.9s						
N23A	**Red Feather La**	**2.86**	**189**		**Pn**	**20 03 50.6**	**+1.4**
N23A				IAML		20 04 34.9	
	comp=E,159nm,0.4s						
N23A				IAML		20 04 35.2	
	comp=N,130nm,0.8s						
RLMT	**Red Lodge**	**3.15**	**298**	Pn	**Pn**	**20 03 52.2**	**-0.9**
PD31	**Pinedale Array**	**3.23**	**254**		**Pn**	**20 03 55.5**	**+1.2**
PDAR	**Pinedale Array**	**3.23**	**254**		**Pn**	**20 03 55.9**	**+1.6**
PDAR	**Pinedale Array**	**3.23**	**254**	Pn	**Pn**	**20 03 55.1**	**+0.8**
	comp=N,4.8nm,0.3s,baz=73,slow=17,SNR=20						
PDAR				Lg	Lg	20 04 39.4	
	comp=N,13nm,0.3s,baz=76,slow=27,SNR=9.2						
PDAR				LR	LR	20 05 16.8	
	comp=N,42nm,20.6s,baz=267,slow=43						
YMP	**Mirror Lake PI**	**3.61**	**288**		**Pn**	**20 04 00.9**	**+1.2**
YMP				IAML		20 05 10.5	
	comp=E,91nm,1.0s						
YMP				IAML		20 05 32.3	
	comp=N,88nm,1.0s						
OGNE	**Ogallala**	**3.70**	**137**	Pn	**Pn**	**20 04 02.0**	**+1.5**
LOHW	**Long Hollow**	**3.83**	**270**		**Pn**	**20 04 05.2**	**+2.7**
H17A	**Grant Village**	**3.84**	**282**		**Pn**	**20 04 04.8**	**+2.2**
H17A				IAML		20 05 08.6	
	comp=N,56nm,1.1s						
FLWY	**Flagg Ranch**	**3.90**	**277**		**Pn**	**20 04 05.0**	**+1.6**
FLWY				IAML		20 05 10.7	
	comp=N,64nm,2.1s						
FLWY				IAML		20 05 21.8	
	comp=N,82nm,1.5s						
ISCO	**Idaho Springs**	**3.92**	**183**		**Pn**	**20 04 05.7**	**+1.8**
ISCO				IAML		20 05 12.0	
	comp=N,42nm,1.4s						
MOOW	**Moose Ponds**	**3.92**	**272**		**Pn**	**20 04 05.0**	**+1.2**
SNOW	**Snow King Moun**	**3.95**	**268**		**Pn**	**20 04 05.9**	**+1.7**
SNOW				IAML		20 05 16.5	
	comp=N,75nm,1.3s						
SNOW				IAML		20 05 33.2	
	comp=N,91nm,1.4s						
REDW	**Red Top Meadow**	**4.03**	**267**		**Pn**	**20 04 07.0**	**+1.7**
YFT	**Old Faithful**	**4.03**	**282**		**Pn**	**20 04 07.9**	**+2.5**
YFT				IAML		20 05 22.3	
	comp=E,38nm,1.5s						
IMW	**Indian Meadow**	**4.06**	**274**		**Pn**	**20 04 07.1**	**+1.4**
IMW				IAML		20 05 15.6	
	comp=E,38nm,1.2s						
IMW				IAML		20 05 18.5	
	comp=E,40nm,0.8s						
TPAW	**Teton Pass**	**4.09**	**269**		**Pn**	**20 04 08.2**	**+2.0**
TPAW				IAML		20 05 56.6	
	comp=E,60nm,1.2s						
YHH	**Holmes Hill**	**4.11**	**287**		**Pn**	**20 04 08.3**	**+1.9**
FXWY	**Fox Creek**	**4.13**	**271**		**Pn**	**20 04 08.4**	**+1.7**
O20A	**White River Ci**	**4.19**	**212**		**Pn**	**20 04 08.9**	**+1.5**
K30B	**Basset**	**4.31**	**102**		**Pb**	**20 04 19.7**	**+0.9**
AHID	**Auburn Hatcher**	**4.32**	**259**		**Pn**	**20 04 10.7**	**+1.4**
AHID				IAML		20 05 22.4	
	comp=E,50nm,1.1s						
AHID				IAML		20 05 29.1	
	comp=E,63nm,1.6s						
E28A	**Huff**	**4.35**	**47**	Pn	**Pn**	**20 04 10.7**	**+1.2**
E28A				IAML		20 05 27.1	
	comp=N,81nm,1.2s						
E28A				IAML		20 06 06.7	
	comp=E,78nm,1.4s						
RDMU	**Red Mountain**	**4.45**	**226**		**Pn**	**20 04 12.3**	**+1.2**
RDMU				IAML		20 05 27.7	
	comp=N,59nm,1.1s						
RDMU				IAML		20 05 30.8	
	comp=E,52nm,1.1s						
Q24A	**Divide**	**4.75**	**178**	Pn	**Pn**	**20 04 14.1**	**-1.2**
Q24A				IAML		20 05 43.3	
	comp=N,26nm,1.3s						
BOZ	**Bozeman (W)**	**4.87**	**295**	Pn	Pn	20 04 10.6	-6.2
BOZ				IAML		20 05 36.4	
	comp=N,29nm,1.5s						
HWUT	**Hardware Ranch**	**5.06**	**247**	Pn	**Pn**	**20 04 20.4**	**+1.1**
HWUT				IAML		20 06 20.6	
	comp=N,36nm,1.2s						
BSUT	**Blindstream Ca**	**5.14**	**234**		**Pn**	**20 04 21.9**	**+1.2**
BSUT				IAML		20 05 48.9	
	comp=N,21nm,1.6s						
BSUT				IAML		20 06 04.7	
	comp=E,21nm,1.2s						
TCUT	**Toone Canyon**	**5.19**	**242**		**Pn**	**20 04 18.9**	**-2.3**
P18A	**Preston Nutter**	**5.50**	**224**		**Pn**	**20 04 27.0**	**+1.4**
ULM	**Lac du Bonnet**	**9.19**	**41**	Pn	**Pn**	**20 05 14.5**	**-1.3**
	comp=E,1.0nm,0.3s,baz=232,slow=12,SNR=7.1						
ULM				Lg	Lg	20 07 43.4	
	comp=E,0.1nm,0.3s,baz=271,slow=10,SNR=3.4						
ULM				LR	LR	20 09 09.7	
	comp=E,21nm,20.8s,baz=350,slow=40						
	comp=E,2.4nm,0.4s						
NEW	**Newport**	**9.38**	**303**	Lg	Lg	20 07 55.9	
	comp=E,0.2nm,0.3s,baz=183,slow=22,SNR=3.5						
I56US	**NEWPORT INFRAS**	**9.38**	**303**	I	I	20 55 30.0	
	baz=115,slow=315,SNR=0.8						
TXAR	**Lajitas Array**	**14.42**	**174**	Lg	Lg	20 10 32.8	
	comp=E,0.1nm,0.3s,baz=346,slow=31,SNR=3.5						
ILAR	**Eielson Array**	**31.27**	**327**	LR	LR	20 23 01.0	
	comp=E,26nm,18.4s,baz=200,slow=38						
ARCES	**ARCESS Array B**	**61.45**	**18**	P	**P**	**20 13 18.6**	**-1.2**
	comp=E,2.3nm,0.9s,baz=320,slow=8.3,SNR=2.2						
	comp=E,2.3nm,0.9s						
FINES	**FINESS Array B**	**68.07**	**23**	P	**P**	**20 14 02.8**	**-0.3**
	comp=E,1.3nm,0.9s,baz=306,slow=8.4,SNR=2.5						
	comp=E,1.3nm,0.9s						

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*IDC **11** 20:18:21.1±1.4, 31°.74S×58°.37E, h0km, mb4.0/6, mbtmp4.0/6, MS3.4/4, Error ellipse: s-maj=47.8km s-min=27.8km az=92.0*
*NEIC **11** 20:18:21.6±1.0, 31°.6S±0°.1×58°.1E±0°.2, h10km±1km, mb4.4/12, Error ellipse: s-maj=33.4km s-min=8.0km az=224.0*
ISC 11 20:18:22.4±0.9, 31°.6S±0°.2×58°.0E±0°.1, h17km, n33, σ1=00/21, mb4.4/10, MS3.4/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**13.94**	**311**	Pn	**Pn**	**20 21 39.0**	**-0.3**
VOI				Sn	**Sn**	**20 24 13.9**	**+0.2**
H04N2	**CROZET ISLANDS**	**15.30**	**197**	T	T	20 37 45.8	
	baz=21,slow=75,SNR=26						
H04N1	**CROZET ISLANDS**	**15.30**	**197**	T	T	20 37 45.2	
	baz=21,slow=75,SNR=30						
H04N3	**CROZET ISLANDS**	**15.31**	**197**	T	T	20 37 45.2	
	baz=21,slow=75,SNR=26						
ABPO	**Ambohimpanom**	**15.90**	**320**	Pn	**Pn**	**20 22 05.1**	**-0.5**
ABPO				IAmb	IAmb	20 22 20.1	
	comp=Z,24nm,1.4s						
H08S1	**Diego Garcia H**	**27.40**	**32**	T	T	20 52 32.6	
	baz=207,slow=76,SNR=7.3						
H08S2	**Diego Garcia H**	**27.41**	**33**	T	T	20 52 34.3	
	baz=207,slow=76,SNR=4.8						
H08S3	**Diego Garcia H**	**27.42**	**32**	T	T	20 52 32.2	
	baz=207,slow=76,SNR=7.4						
BOSA	**Boshof**	**28.46**	**268**	LR	LR	20 32 56.8	
	comp=Z,58nm,18.1s,baz=150,slow=30						
FURI	**Furi**	**44.35**	**332**	LR	LR	20 41 11.7	
	comp=Z,28nm,20.3s,baz=151,slow=31						
H01W2	**Cape Leeuwin H**	**46.50**	**110**	T	T	21 16 27.9	
	baz=257,slow=75,SNR=4.5						
H01W3	**Cape Leeuwin H**	**46.51**	**110**	T	T	21 16 34.0	
	baz=257,slow=75,SNR=5.0						
H01W1	**Cape Leeuwin H**	**46.52**	**110**	T	T	21 16 28.5	
	baz=257,slow=75,SNR=5.9						
QSPA	**South Pole Qui**	**58.54**	**180**	P	**P**	**20 28 18.2**	**+0.5**
QSPA				IAmb	IAmb	20 28 21.4	
	comp=Z,4.6nm,1.5s						
QSPA	**South Pole Qui**	**58.54**	**180**	P	**P**	**20 28 18.4**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=254,slow=2.3,SNR=10						
	comp=Z,0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**63.40**	**44**	P	**P**	**20 28 52.0**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=230,slow=7.2,SNR=9.3						
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**66.47**	**104**	P	**P**	**20 29 10.8**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=240,slow=6.0,SNR=10						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**68.47**	**101**	P	**P**	**20 29 23.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=239,slow=5.7,SNR=4.9						
	comp=Z,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**69.97**	**300**	LR	LR	21 00 18.2	
	comp=Z,36nm,18.8s,baz=156,slow=36						
SIMJ	**Simiganj**	**70.67**	**9**	P	**P**	**20 29 37.8**	**+0.6**
SIMJ				IAmb	IAmb	20 29 41.2	
	comp=Z,7.0nm,1.4s						
KK31	**Karatay Array**	**75.24**	**9**	P	**P**	**20 30 04.8**	**+0.9**
KKAR	**Karatay Array**	**75.24**	**9**	P	**P**	**20 30 04.8**	**+0.9**
KKAR	**Karatay Array**	**75.24**	**9**	P	**P**	**20 30 03.5**	**-0.5**
KKAR				IAmb	IAmb	20 30 19.5	
	comp=Z,2.7nm,1.3s						
AAK	**Ala-Archa**	**75.43**	**12**	LR	LR	21 00 49.6	
	comp=Z,25nm,18.4s,baz=166,slow=34						
ABKAR	**Akbulak array**	**80.54**	**1**	P	**P**	**20 30 33.9**	**+0.7**
CLTB	**Caltabellotta**	**80.57**	**325**	P	**P**	**20 30 32.5**	**-1.3**
TWG	**Pinlang**	**81.05**	**56**	P	**P**	**20 30 34.6**	**-2.0**
MKAR	**Makanchi Array**	**81.07**	**17**	P	**P**	**20 30 36.5**	**+0.3**
KURBB	**Kurchatov Arra**	**83.88**	**13**	P	**P**	**20 30 52.0**	**+1.3**
	comp=Z,0.9nm,0.2s,baz=201,slow=5.1,SNR=5.7						
	comp=Z,0.9nm,0.2s						
KURK	**Kurchatov**	**83.98**	**13**	P	**P**	**20 30 51.4**	**+0.2**
KURK				IAmb	IAmb	20 30 56.7	
	comp=Z,2.3nm,0.8s						
BVAR	**Borovoye Array**	**84.98**	**7**	P	**P**	**20 30 58.3**	**+2.1**
	comp=Z,1.7nm,0.8s,baz=163,slow=6.2,SNR=6.6						
	comp=Z,1.7nm,0.8s						
BRVK	**Borovoye**	**85.00**	**7**	P	**P**	**20 30 56.8**	**+0.5**
BRVK				IAmb	IAmb	20 30 59.8	
	comp=Z,2.3nm,0.8s						
ARU	**Arti**	**87.71**	**0**	P	**P**	**20 31 10.5**	**+0.9**
ARU				IAmb	IAmb	20 31 11.7	
	comp=Z,3.6nm,1.1s						

IDC 11 20:28:42.7±3.5, 30°.96S×179°.12W, h0km, mb3.5/3, mbtmp3.5/3, MS3.6/1, Error ellipse: s-maj=248.8km s-min=39.8km az=169.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.12**	**268**	P	P	20 36 36.4	-0.5
	0.3nm,0.7s,baz=109,slow=7.3,SNR=4.4						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**43.16**	**273**	P	P	20 36 45.5	+0.1
	0.4nm,0.3s,baz=114,slow=8.0,SNR=9.2						
	0.4nm,0.3s						
VNDA	**Vanda**	**47.45**	**186**	LR	LR	20 53 56.4	
	comp=Z,66nm,18.4s,baz=266,slow=32						
TXAR	**Lajitas Array**	**93.50**	**58**	P	P	20 42 00.6	0.0
	0.1nm,0.5s,baz=218,slow=5.7,SNR=1.8						
	0.1nm,0.5s						

IDC 11 20:39:20.5±4.0, 21°.29S×178°.69W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=104.3km s-min=38.9km az=28.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.87**	**245**	P	P	20 46 30.1	-0.8
	0.9nm,0.4s,baz=82,slow=10.0,SNR=4.8						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**43.71**	**258**	P	P	20 47 27.6	-0.2
	0.8nm,0.5s,baz=100,slow=6.5,SNR=14						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**43.86**	**263**	P	P	20 47 29.3	+0.3
	0.5nm,0.3s,baz=96,slow=8.3,SNR=58						
	0.5nm,0.3s						
QSPA	**South Pole Qui**	**68.78**	**180**	P	P	20 50 26.5	+0.1
	2.1nm,1.0s,baz=260,slow=0.7,SNR=7.3						
	2.1nm,1.0s						
HFS	**Hagfors**	**140.21**	**350**	PKP	PKPdf	20 58 50.1	-0.7
	1.1nm,0.9s,baz=28,slow=3.4,SNR=6.5						

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*NEIC **11** 20:44:12.9±1.2, 23°.31N±0°.09×142°.9E±0°.2, h46km±9km, mb4.5/18, Error ellipse: s-maj=24.5km s-min=13.1km az=80.0*
*IDC **11** 20:44:14.2±3.7, 23°.32N×142°.95E, h65km±27km, mb3.8/12, mbtmp4.1/13, ML4.9/1, Error ellipse: s-maj=46.4km s-min=21.3km az=89.0*
*JMA **11** 20:44:21.1±0.2, 23°.7N±0°.8×143°.5E±0°.5, h133km, MV5.0/19, IOTO ISLANDS REGION*
ISC 11 20:44:19.9±1.0, 23°.56N±0°.09×142°.9E±0°.2, h100km, n50, σ2=35/40, mb4.3/22, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.14**	**347**	P	**Pn**	**20 45 11.1**	**+3.6**
JHH2				*e*S	**Sn**	**20 45 49.2**	**+5.0**
CBIJ	**Chichi jima**	**3.59**	**349**	P	**Pn**	**20 45 16.7**	**+3.1**
CBIJ				*e*S	**Sn**	**20 45 59.2**	**+4.2**
JCJ	**Chichijima**	**3.59**	**349**	Pn	Pn	20 45 07.8	-5.7
JCJ				Sn	**Sn**	**20 45 51.6**	**-3.4**
JCJ	**Chichijima**	**3.59**	**349**	P	**Pn**	**20 45 12.1**	**-1.4**
	78nm,0.3s,baz=2.9,slow=11,SNR=85						
J

BOOM Boomskoye usch 57.82 306 P P 20 54 01.1 -0.1
BOOM IAmb IAmb 20 54 40.1
comp=Z,4.7nm,1.1s
BVAR Borovoye Array 61.12 319 P P 20 54 23.4 -0.2
comp=Z,8.8nm,0.5s,baz=91,slow=7.6,SNR=62
comp=Z,8.8nm,0.5s
BRVK Borovoye 61.19 319 P P 20 54 23.5 -0.4
KK31 Karatay Array 61.74 308 P P 20 54 26.8 -1.1
KK31 IAmb IAmb 20 54 28.2
comp=Z,2.6nm,0.7s
KKAR Karatay Array 61.74 308 P P 20 54 27.2 -0.7
KKAR Karatay Array 61.74 308 P P 20 54 26.7 -1.2
KKAR IAmb IAmb 20 54 28.2
comp=Z,2.5nm,0.7s
ABKAR Akbulak array 68.07 315 P P 20 55 08.1 -0.7
ARCES ARCESS Array B 77.09 341 P P 20 56 02.2 +0.3
comp=Z,2.9nm,1.1s,baz=63,slow=8.6,SNR=4.7
comp=Z,2.9nm,1.1s
KBZ Khabaz 80.92 314 P P 20 56 23.4 +0.2
comp=Z,3.6nm,0.9s,baz=73,slow=3.4,SNR=7.0
comp=Z,3.6nm,0.9s
FINES FINESS Array B 81.41 334 P P 20 56 24.8 -0.7
comp=Z,1.3nm,0.5s,baz=70,slow=5.1,SNR=14
comp=Z,1.3nm,0.5s
HFS Hagfors 86.93 337 P P 20 56 52.0 -1.5
comp=Z,0.5nm,0.3s,baz=108,slow=3.6,SNR=11
comp=Z,0.5nm,0.3s
NOA NORSAR Array B 87.14 339 P P 20 56 52.8 -1.8
comp=Z,0.1nm,0.3s,baz=54,slow=6.6,SNR=1.7
comp=Z,0.1nm,0.3s
RAYN Ar Rayn 87.21 294 P P 20 56 53.8 -1.8
RAYN IAmb IAmb 20 57 27.7
comp=Z,2.8nm,1.1s
PHWY Pilot Hill 89.61 44 P P 20 57 05.7 -1.2

*PRU **11** 21:09:31.6, 50.°18N×19.°07E, h0km*
ISC 11 21:09:30.9±0.9, 50.°13N±0.°05×19.°11E±0.°02, h0km, n15, σ1§14/24, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.45**	**78**	*e*Pg	**Pg**	21 09 40.0	+0.3
OJC				*e*Sg	**Sg**	21 09 46.2	+0.8
OKC	**Ostrava-Krasne**	**0.69**	**245**	*e*PG	**Pg**	21 09 44.9	+0.8
OKC				*e*SG	**Sg**	21 09 54.2	+1.3
comp=Z,15nm,0.6s							
LANS	**Liptovska Anna**	**1.01**	**166**	*e*PG	**Pg**	21 09 50.2	0.0
LANS				*e*SG	**Sg**	21 10 04.0	+0.7
LANS				*e*LG	Lg	21 10 08.2	
NIE	**Niedzica**	**1.05**	**132**	*e*Pg	**Pg**	21 09 51.4	+0.4
NIE				*e*Sg	**Sg**	21 10 07.3	+2.6
MORC	**Moravsky Berou**	**1.07**	**251**	⇑P	**Pb**	21 09 52.9	+0.5
MORC	**Moravsky Berou**	**1.07**	**251**	*e*PG	**Pg**	21 09 51.7	+0.2
MORC				*e*SG	**Sg**	21 10 05.3	0.0
KRLC	**Kraliky**	**1.50**	**269**	*e*PG	**Pn**	21 09 58.4	-0.7
KRLC				*e*SG	**Sg**	21 10 18.6	-0.5
JAVC	**Velka Javorina**	**1.58**	**217**	*e*PN	**Pn**	21 10 01.1	+0.8
VYHS	**Vyhne**	**1.65**	**186**	*e*PN	**Pn**	21 10 00.4	-0.7
VYHS				*e*SN	**Sn**	21 10 21.8	-1.2
DPC	**Dobruska-Polom**	**1.80**	**278**	*e*PG	**Pn**	21 10 03.4	+0.1
DPC				*e*SG	**Sn**	21 10 27.2	+0.3
comp=Z,7.3nm,0.6s							
VRAC	**Vranov**	**1.83**	**244**	*e*SG	**Sb**	21 10 28.9	+0.2
KRUC	**Moravsky**	**2.06**	**240**	*e*SG	**Sb**	21 10 35.6	+0.2
KOLS	**Kolonicke sedl**	**2.38**	**119**	*e*PG	**Pb**	21 10 14.5	-0.2
KOLS				*e*SN	**Sn**	21 10 38.3	-2.9
KOLS				*e*LG	Lg	21 11 00.1	
BRG	**Berggiesshubel**	**3.38**	**285**	Sg	**Sg**	21 11 20.3	+0.8
BRG				Amp		21 11 24.2	
comp=Z,1.9nm,0.5s							
KHC	**Kasperske Hory**	**3.73**	**257**	*e*SG	**Sg**	21 11 28.8	-2.0
comp=Z,2.1nm,0.5s							

*SKO **11** 21:09:38.4, 41.°08N×20.°08E, h6km, ML3.0*
*TIR **11** 21:09:38.7, 41.°12N×20.°24E, h23km±2km, Md2.9, Ml2.8*
*PDG **11** 21:09:39.3±0.3, 41.°13N×20.°24E, h7km, ML2.9/10, Error ellipse: s-maj=0.5km s-min=1.2km az=0.0*
*THE **11** 21:09:39.5, 41.°18N×20.°27E, h0km±2km, ML2.3/10, Error ellipse: s-maj=2.6km s-min=1.0km az=338.0*
*BEO **11** 21:09:40.5±0.5, 41.°14N×20.°29E, h0km, ML2.4/14*
ISC 11 21:09:39.7±1.0, 41.°13N±0.°01×20.°22E±0.°02, h5km±9km, n90, σ1§03/140, 9C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.35**	**310**	⇑P	**Pg**	21 09 45.9	-0.5
TIR	**Tirane**	**0.35**	**310**	P	**Pg**	21 09 46.3	-0.1
baz=310							
TIR				S	**Sg**	21 09 52.5	+1.6
baz=310							
TIR				AMP			
comp=N,3.5nm,0.3s,baz=310							
TIR	**Tirane**	**0.35**	**310**	P	**Pg**	21 09 46.1	-0.3
TIR				S	**Sg**	21 09 51.6	+0.7
comp=N,788nm,0.4s							
TIR	**Tirane**	**0.35**	**310**	*e*Pg	**Pg**	21 09 46.3	-0.1
TIR				*e*Sg	**Sb**	21 09 52.9	-1.2
OHR	**Ohrid**	**0.44**	**92**	⇑*i*Pg	**Pg**	21 09 48.5	+0.3
OHR				*i* Sg	**Sb**	21 09 56.0	-0.8
OHR				*e*Lg	Lg	21 09 56.3	
comp=N,721nm,0.3s							
OHR				*e*Lg	Lg	21 09 56.4	
comp=E,432nm,0.4s							
KBN	**Korca**	**0.66**	**139**	P	**Pg**	21 09 51.6	-0.9
baz=139							
KBN				S	**Sg**	21 10 01.1	+0.1
baz=139							
KBN				AMP			
comp=E,3.0nm,0.5s,baz=139							
KBN	**Korca**	**0.66**	**139**	P	**Pg**	21 09 51.5	-0.9
KBN				S	**Sb**	21 10 02.9	-0.4
comp=E,702nm,0.5s							
VLO	**Vlora**	**0.86**	**220**	P	**Pg**	21 09 55.8	-0.3
baz=222							
VLO				AMP			
comp=E,1.3nm,0.4s,baz=222							
VLO	**Vlora**	**0.86**	**220**	P	**Pb**	21 09 57.4	+0.4
VLO				S	**Sn**	21 10 11.5	+0.3
comp=E,495nm,0.4s							
FNA	**Florina**	**0.94**	**111**	P	**Pg**	21 09 56.8	-1.0
baz=110							
FNA				S	**Sb**	21 10 10.6	-0.7
baz=110							
FNA				AMP			
comp=N,0.9nm,0.3s,baz=110							
FNA	**Florina**	**0.94**	**111**	P	**Pg**	21 09 56.6	-1.1
FNA				S	**Sb**	21 10 11.7	+0.4
comp=N,728nm,0.4s							
FNA	**Florina**	**0.94**	**111**	*i* Pg	**Pg**	21 09 56.8	-1.0
FNA				*i* Sg	**Sb**	21 10 11.6	+0.3
PUK	**Puka**	**0.95**	**345**	P	**Pg**	21 09 57.0	-0.8
baz=345							
PUK				S	**Sb**	21 10 11.8	+0.3
baz=345							
PUK				AMP			
comp=N,2.8nm,0.4s,baz=345							
NEST	**Nestorio**	**0.95**	**138**	P	**Pg**	21 09 56.4	-1.5
NEST				S	**Sb**	21 10 12.1	+0.5
comp=N,155nm,0.5s							
LSK	**Leskovik**	**1.02**	**163**	P	**Pg**	21 09 57.2	-2.0
baz=163							
LSK				S	**Sg**	21 10 12.7	+0.3
baz=163							
LSK				AMP			
comp=E,0.6nm,0.5s,baz=163							
LSK	**Leskovik**	**1.02**	**163**	P	**Pg**	21 09 58.3	-0.9
LSK				S	**Sb**	21 10 13.9	+0.4
PENT	**Pentalofos**	**1.16**	**143**	P	**Pg**	21 10 01.5	-0.5
BCI	**Bajram Curri**	**1.24**	**355**	P	**Pg**	21 10 02.7	-0.8
baz=355							
BCI				S	**Sn**	21 10 20.7	-0.2
baz=355							
BCI				AMP			
comp=N,0.7nm,0.3s,baz=355							
SKO	**Skopje**	**1.25**	**47**	*i* Pg	**Pg**	21 10 03.3	-0.3
SKO				*i* Sg	**Sn**	21 10 20.9	-0.1
SRN	**Sarande**	**1.26**	**188**	P	**Pb**	21 10 04.2	+0.4
baz=189							
SRN				S	**Sb**	21 10 20.4	+0.2
baz=189							
SRN				AMP			
comp=E,0.1nm,0.4s,baz=189							
SRN	**Sarande**	**1.26**	**188**	P	**Pb**	21 10 04.3	+0.4
SRN				S	**Sn**	21 10 23.7	+2.6
comp=E,70nm,0.4s							
DRME	**Dracevica, Mon**	**1.31**	**324**	*e*Pg	**Pn**	21 10 03.4	-1.2
DRME				*e*Sg	**Sn**	21 10 22.7	+0.2
DRME	**Dracevica, Mon**	**1.31**	**324**	*e*Pn	**Pn**	21 10 02.8	-1.9
DRME	**Dracevica, Mon**	**1.31**	**324**	⇓*i*Pg	**Pn**	21 10 02.7	-1.9
DRME				*i* Sg	**Sn**	21 10 25.1	+2.6
KPRO	**Kipourio**	**1.46**	**143**	P	**Pg**	21 10 07.9	+0.3
KPRO				S	**Sg**	21 10 28.7	+2.1
PVY	**Plav**	**1.48**	**353**	*e*Pg	**Pn**	21 10 06.4	-0.7
PVY				*e*Sg	**Sg**	21 10 26.9	-0.3
PVY	**Plav**	**1.48**	**353**	⇑*i*Pg	**Pn**	21 10 06.4	-0.7
PVY				*i* Sg	**Sg**	21 10 29.4	+2.2
PDG	**Podgorica**	**1.49**	**331**	⇓P	**Pn**	21 10 06.2	-0.8
PDG	**Podgorica**	**1.49**	**331**	*e*Pg	**Pn**	21 10 06.8	-0.2
PDG				*e*Sg	**Sg**	21 10 28.6	+1.1
PDG	**Podgorica**	**1.49**	**331**	*e*Pn	**Pn**	21 10 06.0	-1.0
PDG	**Podgorica**	**1.49**	**331**	⇓*i*Pg	**Pn**	21 10 06.2	-0.8
PDG				*i* Sg	**Sg**	21 10 30.2	+2.7
BUM	**Brajici-Budva**	**1.54**	**320**	⇓*i*Pg	**Pn**	21 10 07.5	-0.3
BUM				*i* Sg	**Sg**	21 10 31.8	+2.8
STIP	**Stip**	**1.58**	**68**	*i* Pn	**Pg**	21 10 10.8	+0.8
IGT	**Igoumenitsa**	**1.59**	**177**	P	**Pb**	21 10 09.4	-0.2
baz=177							
IGT				S	**Sg**	21 10 31.0	+0.1
baz=177							
IGT				AMP			
comp=E,0.4nm,0.6s,baz=177							
IGT	**Igoumenitsa**	**1.59**	**177**	P	**Pb**	21 10 09.4	-0.2
IGT				S	**Sg**	21 10 31.3	+0.4
comp=E,85nm,0.5s							
SCTE	**Santa Cesarea**	**1.70**	**232**	P	**Pn**	21 10 09.4	-0.5
baz=233							
SCTE				S	**Sg**	21 10 34.5	+0.3
baz=233							
SCTE				AMP			
comp=E,0.1nm,0.3s,baz=233							
CEME	**Cevo**	**1.72**	**326**	⇑*i*Pn	**Pn**	21 10 10.9	+0.6
CEME				*i* Sn	**Sg**	21 10 35.9	+1.0
IVA	**Berane**	**1.76**	**352**	⇓*i*Pn	**Pb**	21 10 11.6	-0.9
IVA				*i* Sn	**Sg**	21 10 36.6	+0.4
KOME	**Kolasin**	**1.80**	**343**	*e*Pn	**Pb**	21 10 12.3	-0.9
KOME				*e*Sn	**Sb**	21 10 36.3	+0.2
KOME	**Kolasin**	**1.80**	**343**	⇑*i*Pn	**Pb**	21 10 12.2	-0.9
KOME				*i* Sn	**Sg**	21 10 37.9	+0.4
NKME	**Niksic**	**1.89**	**330**	⇓*i*Pn	**Pn**	21 10 13.3	+0.6
NKME				*i* Sn	**Sg**	21 10 40.0	-0.4
PRVS	**Prvonek**	**1.96**	**45**	*e*Pn	**Pb**	21 10 15.3	-0.5
PRVS				*e*Sn	**Sn**	21 10 38.7	+0.2
LIT	**Litokhoron**	**2.01**	**120**	P	**Pn**	21 10 14.6	+0.3
LIT				S	**Sb**	21 10 41.1	-0.9
comp=E,52nm,0.4s							
KNT	**Kendrikon**	**2.02**	**88**	P	**Pn**	21 10 13.8	-0.6
KNT				S	**Sn**	21 10 40.7	+0.6
comp=E,28nm,0.6s							
TYRN	**Tyrnavos**	**2.09**	**132**	P	**Pn**	21 10 15.2	-0.1
TYRN				S	**Sb**	21 10 43.5	-0.7
comp=E,42nm,0.6s							
TREB	**Trebinje**	**2.11**	**319**	*e*Pn	**Pb**	21 10 17.7	-0.8
TREB				*e*Sn	**Sb**	21 10 45.1	+0.1
TREB	**Trebinje**	**2.11**	**319**	*e*Pn	**Pn**	21 10 16.3	+0.6
SJES	**Sjenica**	**2.14**	**355**	*e*Pn	**Pb**	21 10 18.3	-0.7
SJES				*e*Sn	**Sb**	21 10 44.6	-1.3
SJES	**Sjenica**	**2.14**	**355**	*e*Pn	**Pb**	21 10 18.9	-0.1
BRY	**Bratogost**	**2.17**	**325**	*e*Pn	**Pn**	21 10 17.5	+0.9
BRY	**Bratogost**	**2.17**	**325**	⇓*i*Pn	**Pn**	21 10 17.5	+0.6
BRY				*i* Sn	**Sb**	21 10 46.6	-0.2
DBRK	**Dubrovnik**	**2.18**	**316**	*e*Pn	**Pn**	21 10 16.2	-0.4
UPM	**Unac-Piva**	**2.29**	**335**	*e*Pn	**Pn**	21 10 19.0	+0.7
UPM	**Unac-Piva**	**2.29**	**335**	⇓*i*Pn	**Pn**	21 10 18.7	+0.4
UPM				*i* Sn	**Sb**	21 10 49.7	-0.6
KKB	**Krupnik**	**2.30**	**71**	*i* Pn	**Pb**	21 10 21.2	-0.4
LKD2	**Lefkada island**	**2.36**	**172**	P	**Pn**	21 10 19.5	+0.5
baz=171							
SOH	**Sokhos**	**2.39**	**96**	*i* Pn	**Pb**	21 10 22.1	-1.1
NOCI	**Noci**	**2.41**	**263**	P	**Pn**	21 10 17.8	-2.0
baz=264							
IVAS	**Ivanjica**	**2.45**	**359**	*e*Pn	**Pn**	21 10 21.1	+0.8
IVAS				*e*Sn	**Sn**	21 10 51.4	+0.7
STON	**Ston**	**2.56**	**314**	*e*Pn	**Pn**	21 10 22.7	+0.9
STON				*e*Sn	**Sb**	21 10 56.6	-1.2
STON	**Ston**	**2.56**	**314**	*e*Pn	**Pn**	21 10 21.6	-0.2
RUDO	**Rudo**	**2.57**	**346**	*e*Pn	**Pb**	21 10 24.6	-1.6
VTS	**Vitosha**	**2.70**	**56**	*e*Pn	**Pn**	21 10 24.3	+0.4
VTS				*e*Sn	**Sn**	21 10 56.7	-0.3
BOVS	**Bovan**	**2.74**	**23**	⇓P	**Pn**	21 10 26.0	+1.7
GRUS	**Gruza**	**2.78**	**7**	*e*Pn	**Pn**	21 10 26.3	+1.4
GRUS				*e*Sn	**Sn**	21 11 01.2	+2.4
BBLS	**Lazi&#263i**	**2.80**	**348**	*e*Pn	**Pn**	21 10 25.2	0.0
BBLS	**Lazi&#263i**	**2.80**	**348**	*e*Pn	**Pb**	21 10 29.8	-0.4
DIVS	**Divibare**	**2.97**	**357**	*e*Pn	**Pn**	21 10 29.4	+1.8
DIVS				*e*Sn	**Sn**	21 11 04.2	+0.5
ZAGS	**Zajecar**	**3.07**	**28**	*e*Pn	**Pn**	21 10 29.3	+0.5
ZAGS				*e*Sn	**Sn**	21 11 06.7	+0.8
BLKB	**Belogradchik**	**3.09**	**35**	⇓S	**Sb**	21 11 10.6	-2.4
TRUS	**Trudelj**	**3.10**	**2**	*e*Pn	**Pn**	21 10 30.7	+1.5
HAPS	**Han Pijesak,BI**	**3.10**	**343**	*e*Pn	**Pn**	21 10 30.6	+1.2
HAPS				*e*Sn	**Sn**	21 11 07.7	+0.8
HAPS	**Han Pijesak,BI**	**3.10**	**343**	*e*Pn	**Pn**	21 10 30.7	+1.3
MAKA	**Makarska**	**3.21**	**313**	*e*Pn	**Pn**	21 10 30.2	-0.5
KUBS	**Kucevo**	**3.45**	**18**	*e*Pn	**Pn**	21 10 33.9	-0.2
TEKS	**Tekeris**	**3.46**	**352**	*e*Pn	**Pn**	21 10 36.6	+2.4
AVAS	**Avala Beograd**	**3.57**	**3**	*e*Pn	**Pn**	21 10 35.1	-0.6
KIJV	**Kijevo**	**4.03**	**317**	*e*Pn	**Pn**	21 10 42.2	+0.2
FRGS	**Fruska Gora**	**4.04**	**356**	*e*Pn	**Pn**	21 10 44.0	+1.8
HERR	**Herculane**	**4.08**	**23**	⇑P	**Pn**	21 10 43.8	+1.1
ZIRJ	**Zirje**	**4.23**	**308**	*e*Pn	**Pn**	21 10 44.3	-0.4
A050A	**Klekovaca**	**4.31**	**322**	*e*Pn	**Pn**	21 10 47.0	+1.0
MORI	**Morici**	**4.32**	**311**	*e*Pn	**Pn**	21 10 45.8	-0.1
MORI				Sn	**Sn**	21 11 36.5	0.0
ELND	**Elena**	**4.58**	**65**	⇑P	**Pn**	21 10 49.1	-0.5
BZS	**Buzias**	**4.60**	**12**	⇑P	**Pn**	21 10 50.4	+0.5
GZR	**Gura Zlata**	**4.66**	**23**	⇑P	**Pn**	21 10 49.2	-1.5
UDBI	**Udbina**	**4.72**	**318**	*e*Pn	**Pn**	21 10 52.0	+0.5
DUGI	**Dugi Otok**	**4.77**	**309**	*e*Pn	**Pn**	21 10 51.7	-0.4
VIRC	**Vir**	**4.95**	**311**	*e*Pn	**Pn**	21 10 53.7	-0.8
BRJN	**Brijuni**	**6.06**	**311**	*e*Pn	**Pn**	21 11 09.0	-0.8

*KRSC **11** 21:22:55.3±0.8, 55.°88N×162.°80E, h22km±11km, Ml4.6*
*MOS **11** 21:22:59.4±0.8, 55.°91N×162.°45E, h47km, mb4.7/19, Error ellipse: s-maj=6.9km s-min=4.3km az=82.0*
*NEIC **11** 21:23:02.1±0.9, 55.°9N±0.°1×162.°4E±0.°2, h61km±6km, mb4.3/36, Error ellipse: s-maj=19.0km s-min=9.9km az=145.0*
*IDC **11** 21:23:04.1±4.5, 55.°84N×162.°50E, h75km±40km, mb3.8/23, mbtmp4.1/26, ML4.2/3, MS3.3/24, Error ellipse: s-maj=17.1km s-min=13.6km az=127.0*
ISC 11 21:22:58.6±0.4, 55.°95N±0.°03×162.°64E±0.°03, h28km, n270, σ1§46/254, mb4.4/64, MS3.3/22, 25C-14D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.28**	**21**	*e*P	**Pb**	21 23 02.3	-3.3
KBTR	**Krutoberegovo**	**0.28**	**21**	PN	**Pb**	21 23 02.3	-3.3
KBG	**Krutoberegovo**	**0.31**	**7**	*e*P	**Pb**	21 23 03.1	-2.9
KBG				*e*S	**Sb**	21 23 09.5	-1.6
KBG	**Krutoberegovo**	**0.31**	**7**	PN	**Pb**	21 23 03.1	-2.9
SMKR	**Semkarok**	**0.91**	**315**	*e*P	**Pn**	21 23 14.1	-1.5
SMKR	**Semkarok**	**0.91**	**315**	PN	**Pn**	21 23 14.1	-1.5
BDR	**Baidarnaya**	**1.01**	**309**	*e*P	**Pn**	21 23 16.3	-0.7
BDR	**Baidarnaya**	**1.01**	**309**	PN	**Pn**	21 23 16.3	-0.7
ZLN	**Zelenaya**	**1.03**	**275**	*e*P	**Pn**	21 23 16.8	-0.5
ZLN	**Zelenaya**	**1.03**	**275**	PN	**Pn**	21 23 16.8	-0.5
CIRR	**Tsirk**	**1.07**	**280**	*e*P	**Pn**	21 23 17.2	-0.7
CIRR	**Tsirk**	**1.07**	**280**	PN	**Pn**	21 23 17.2	-0.7
SRKR	**Sorokina**	**1.08**	**311**	*e*P	**Pn**	21 23 17.3	-0.6
SRKR	**Sorokina**	**1.08**	**311**	PN	**Pn**	21 23 17.3	-0.6
BZGR	**Bezymyannyi-Gr**	**1.09**	**270**	*e*P	**Pn**	21 23 17.3	-0.8
BZGR	**Bezymyannyi-Gr**	**1.09**	**270**	PN	**Pn**	21 23 17.3	-0.8
LGNR	**Loginova**	**1.10**	**278**	*e*P	**Pn**	21 23 17.8	-0.6
LGNR	**Loginova**	**1.10**	**278**	PN	**Pn**	21 23 17.8	-0.6
KLY	**Klyuchi**	**1.17**	**289**	*e*P	**Pn**	21 23 16.8	-2.3
KLY	**Klyuchi**	**1.17**	**289**	PN	**Pn**	21 23 16.8	-2.3
BZP	**Bezymyannyi-Pe**	**1.18**	**269**	*e*P	**Pn**	21 23 18.4	-1.0
KRSR	**Krestovskiy**	**1.19**	**284**	*e*P	**Pn**	21 23 18.3	-1.2
KRSR	**Krestovskiy**	**1.19**	**284**	PN	**Pn**	21 23 18.3	-1.2
BZWR	**Bezymyannyi-We**	**1.21**	**272**	*e*P	**Pn**	21 23 19.2	-0.5
BZWR	**Bezymyannyi-We**	**1.21**	**272**	PN	**Pn**	21 23 19.2	-0.5
BZMR	**Bezymyannaya**	**1.21**	**270**	*e*P	**Pn**	21 23 19.1	-0.6
BZMR	**Bezymyannaya**	**1.21**	**270**	PN	**Pn**	21 23 19.1	-0.6
KIRR	**Kirishev**	**1.29**	**271**	*e*P	**Pn**	21 23 20.2	-0.7
KIRR	**Kirishev**	**1.29**	**271**	PN	**Pn**	21 23 20.2	-0.7
KPT	**Kopyto**	**1.36**	**272**	*e*P	**Pn**	21 23 21.6	-0.1
KPT	**Kopyto**	**1.36**	**272**	PN	**Pn**	21 23 21.6	-0.1
KMNR	**Kamenistaya**	**1.37**	**263**	*e*P	**Pn**	21 23 21.5	-0.3
KMNR	**Kamenistaya**	**1.37**	**263**	PN	**Pn**	21 23 21.5	-0.3
TUMD	**Tumrok D**	**1.47**	**241**	*e*P	**Pn**	21 23 22.3	-0.9
TUMD				*e*S	**Sb**	21 23 42.8	-0.8
MKZ	**Mys Kozlova**	**1.49**	**201**	*e*P	**Pn**	21 23 23.9	+0.5
MKZ	**Mys Kozlova**	**1.49**	**201**	PN	**Pn**	21 23 23.9	+0.5
KOZ	**Kozyrevsk**	**1.56**	**275**	*e*P	**Pb**	21 23 25.6	-1.1
KOZ	**Kozyrevsk**	**1.56**	**275**	PN	**Pb**	21 23 25.6	-1.1
TUMR	**Tumrok**	**1.56**	**246**	*e*P	**Pn**	21 23 24.9	+0.4
TUMR	**Tumrok**	**1.56**	**246**	PN	**Pn**	21 23 22.3	-2.3
TUMR				S	**Sn**	21 23 42.8	-1.1
SRDR	**Sredinnyy**	**1.68**	**284**	*e*P	**Pn**	21 23 26.5	+0.4
SRDR	**Sredinnyy**	**1.68**	**284**	PN	**Pn**	21 23 26.5	+0.4
BKI	**Bering**	**2.03**	**110**	*e*P	**Pn**	21 23 28.6	-2.3
BKI				*e*S	**Sn**	21 23 54.5	-0.9
BKI	**Bering**	**2.03**	**110**	PN	**Pn**	21 23 28.6	-2.3
BKI				S	**Sn**	21 23 54.5	-0.9
ESO	**Esso**	**2.22**	**271**	*e*P	**Pn**	21 23 33.6	+0.2
ESO	**Esso**	**2.22**	**271**	PN	**Pn**	21 23 33.6	+0.2
KII	**Karymskiy**	**2.65**	**225**	*e*P	**Pn**	21 23 39.5	0.0
KII	**Karymskiy**	**2.65**	**225**	PN	**Pn**	21 23 39.5	0.0
SPN	**Mys Shipunski**	**3.24**	**209**	*e*P	**Pn**	21 23 47.1	-0.3
SPN	**Mys Shipunski**	**3.24**	**209**	PN	**Pn**	21 23 47.1	-0.3
OSSR	**Ossora**	**3.32**	**4**	*e*P	**Pn**	21 23 50.4	+1.9
OSSR	**Ossora**	**3.32**	**4**	PN	**Pn**	21 23 50.4	+1.9
NLC	**Nalytchevo**	**3.38**	**216**	*e*P	**Pn**	21 23 48.8	-0.6
NLC	**Nalytchevo**	**3.38**	**216**	PN	**Pn**	21 23 48.8	-0.6
PALN	**Palana**	**3.46**	**337**	*e*P	**Pn**	21 23 53.9	+3.3
PALN	**Palana**	**3.46**	**337**	PN	**Pn**	21 23 53.9	+3.3
KRX	**Arik**	**3.48**	**223**	*e*P	**Pn**	21 23 51.8	+0.9
KRX	**Arik**	**3.48**	**223**	PN	**Pn**	21 23 51.8	+0.9
KRER	**Koryakskii**	**3.48**	**222**	*e*P	**Pn**	21 23 52.8	+1.8
KRER	**Koryakskii**	**3.48**	**222**	PN	**Pn**	21 23 52.8	+1.8
SMAR	**Somma**	**3.49**	**221**	*e*P	**Pn**	21 23 50.9	-0.3
SMAR	**Somma**	**3.49**	**221**	PN	**Pn**	21 23 50.9	-0.3
AVH	**Avacha**	**3.52**	**222**	*e*P	**Pn**	21 23 51.8	+0.4
AVH	**Avacha**	**3.52**	**222**	PN	**Pn**	21 23 51.8	+0.4
UGLR	**Uglovaya**	**3.53**	**221**	*e*P	**Pn**	21 23 51.7	+0.1
UGLR	**Uglovaya**	**3.53**	**221**	PN	**Pn**	21 23 51.7	+0.1
GNL	**Ganaly**	**3.53**	**232**	*e*P	**Pn**	21 23 51.8	+0.2
GNL	**Ganaly**	**3.53**	**232**	PN	**Pn**	21 23 51.8	+0.2
KOK	**Koryaka**	**3.53**	**223**	*e*P	**Pn**	21 23 52.4	+0.8
KOK	**Koryaka**	**3.53**	**223**	PN	**Pn**	21 23 52.4	+0.8
DALK	**Dalny**	**3.70**	**219**	*e*P	**Pn**	21 23 55.1	+1.3
DALK	**Dalny**	**3.70**	**219**	PN	**Pn**	21 23 55.1	+1.3
PET	**Petropavlovsk**	**3.74**	**220**	Pn	**Pn**	21 23 55.6	+1.3
PET				Sn	**Sn**	21 24 38.6	+1.3
PET	**Petropavlovsk**	**3.74**	**220**	*e*P	**Pn**	21 23 57.4	+3.0
PET	**Petropavlovsk**	**3.74**	**220**	*e*PN	**Pn**	21 23 54.3	0.0
PET				*e*S	**Sn**	21 24 38.3	+0.9
PET				pmax	pmax		
comp=Z,105nm,0.5s							
PET				smax	smax		
comp=N,331nm,0.6s							
PET				smax	smax		
comp=E,182nm,0.6s							
PET				MLR	MLR		
comp=Z,600nm,8.0s							
PET				MLR	MLR		
comp=Z,900nm,9.0s							
KRMR	**Karymshinskiy**	**4.09**	**222**	*e*P	**Pn**	21 24 00.4	+1.3
KRMR	**Karymshinskiy**	**4.09**	**222**	PN	**Pn**	21 24 00.4	+1.3
GRL	**Gorelyy**	**4.33**	**220**	*e*P	**Pn**	21 24 03.5	+0.9
GRL	**Gorelyy**	**4.33**	**220**	PN	**Pn**	21 24 03.5	+0.9
MTVR	**Mutnovka**	**4.34**	**219**	*e*P	**P

TOLK IAmb IAmb 21 28 24.4
comp=Z,5.9nm,0.8s
E24K Your Creek 25.15 42 P **P 21 28 22.0 +1.1**
E24K IAmb IAmb 21 28 28.0
comp=Z,5.5nm,0.7s
WRH Wood River Hil 25.29 50 P **P 21 28 23.1 +0.9**
WRH IAmb IAmb 21 28 31.2
comp=Z,13nm,1.3s
CCB Clear Creek Bu 25.40 50 P **P 21 28 24.4 +1.3**
MJB9 Matsu-Tunnel 25.50 231 P **P 21 28 24.3 0.0**
MJB9 IAmb IAmb 21 28 30.4
comp=Z,14nm,1.1s
MAJO Matsushiro 25.50 231 P **P 21 28 24.0 -0.3**
MAJO IAmb IAmb 21 28 29.5
comp=Z,16nm,1.1s
MAJO Matsushiro 25.50 231 P **P 21 28 24.0 -0.3**
MAJO pmax pmax
comp=Z,16nm,1.1s
MJAR Matsushiro Arr 25.50 231 P **P 21 28 24.5 +0.2**
comp=Z,7.6nm,0.9s,baz=16,slow=7.4,SNR=8.1
MJAR LR LR 21 38 29.1
comp=Z,84nm,22.0s,baz=34,slow=36
comp=Z,7.6nm,0.9s
ILAR Eielson Array 25.79 49 P **P 21 28 28.0 +1.3**
ILAR Eielson Array 25.79 49 P **P 21 28 27.4 +0.8**
comp=Z,0.8nm,0.8s,baz=264,slow=8.0,SNR=12
ILAR LR LR 21 38 18.2
comp=Z,38nm,18.8s,baz=235,slow=35
comp=Z,0.8nm,0.8s
D25K Kavik River 26.02 39 P **P 21 28 29.5 +0.7**
D25K IAmb IAmb 21 28 35.9
comp=Z,4.3nm,0.7s
BMAR Burnt Mountain 26.62 43 P **P 21 28 34.7 +0.5**
SCRK Sand Creek 27.12 51 P **P 21 28 39.8 +0.9**
BCAR Beaver Creek A 28.25 53 P **P 21 28 50.1 +1.2**
KSRS Korea Array 29.70 246 LR LR 21 41 14.6
comp=Z,59nm,18.8s,baz=35,slow=37
INK Inuvik 30.71 41 LR LR 21 42 51.6
comp=Z,42nm,19.5s,baz=12,slow=38
JNU Nakatsue 31.68 237 LR LR 21 42 12.0
comp=Z,28nm,21.4s,baz=8.5,slow=36
XLT XiLinHaoTe 31.69 268 *e*P **P 21 29 17.4 -2.1**
XLT pP sP 21 29 35.6 +4.5
XLT pmax pmax
comp=Z,2.0nm,1.0s
XLT AMB AMB
comp=Z,68nm,4.8s
JCJ Chichijima 32.39 216 LR LR 21 42 18.3
comp=Z,18nm,21.6s,baz=136,slow=36
ULN Ulaanbaatar 34.38 280 *i* P **P 21 29 42.6 -0.4**
ULN pmax pmax
comp=Z,4.0nm,2.1s
NRIK Noril'sk 34.48 323 *ce*P **P 21 29 44.8 +1.3**
NRIK pmax pmax
comp=Z,5.0nm,0.6s
SONM Songino Array 34.76 281 P **P 21 29 45.6 -0.7**
SONM Songino Array 34.76 281 P **P 21 29 46.6 +0.3**
comp=Z,0.5nm,0.6s,baz=58,slow=7.2,SNR=3.9
SONM LR LR 21 43 33.6
comp=Z,63nm,19.0s,baz=72,slow=35
comp=Z,0.5nm,0.6s
SONM Songino Array 34.76 281 P **P 21 29 45.6 -0.7**
SONM pmax pmax
comp=Z,1.0nm,1.0s
HHC Hu-ho-hao-te 36.21 267 *e*P **P 21 29 58.3 -0.5**
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,94nm,6.6s
H11N2 WAKE ISLAND Hy 36.30 173 T T 22 08 24.2
baz=356,slow=76,SNR=1476
H11N3 WAKE ISLAND Hy 36.31 173 T T 22 08 25.6
baz=356,slow=76,SNR=398
H11N1 WAKE ISLAND Hy 36.32 173 T T 22 08 27.7
baz=356,slow=76,SNR=2019
BBB Bella Bella 39.27 65 LR LR 21 44 42.6
comp=Z,42nm,21.1s,baz=326,slow=33
GTA Gaotai 43.79 275 P **P 21 31 03.6 +1.9**
GTA pmax pmax
comp=Z,4.0nm,1.2s
LZH Lanzhou 43.87 269 *e*P P 21 31 07.3 +4.9
LZH pmax pmax
comp=Z,13nm,1.6s
SPITS Spitsbergen Ar 44.56 351 P **P 21 31 09.1 +1.8**
comp=Z,4.0nm,0.4s,baz=51,slow=12,SNR=10
comp=Z,4.0nm,0.4s
SPITS Spitsbergen Ar 44.56 351 P **P 21 31 08.8 +1.5**
SPITS pmax pmax
comp=Z,75nm,1.4s
NEW Newport 47.25 64 LR LR 21 49 46.6
comp=Z,47nm,20.5s,baz=336,slow=34
KURK Kurchatov 47.51 301 P **P 21 31 29.4 -1.4**
KURK IAmb IAmb 21 31 35.8
comp=Z,6.7nm,1.2s
KURK Kurchatov 47.51 301 *ce*P **P 21 31 29.7 -1.1**
KURK pmax pmax
comp=Z,7.0nm,1.3s
KURBB Kurchatov Arra 47.61 301 P **P 21 31 30.5 -1.1**
comp=Z,1.3nm,0.6s,baz=55,slow=7.9,SNR=13
comp=Z,1.3nm,0.6s
MK31 Makanchi Array 48.28 295 P **P 21 31 34.8 -2.0**
MK31 Makanchi Array 48.28 295 *ce*P **P 21 31 35.9 -0.9**
MKAR Makanchi Array 48.28 295 P **P 21 31 35.3 -1.5**
MKAR Makanchi Array 48.28 295 P **P 21 31 35.9 -1.0**
comp=Z,1.3nm,0.7s,baz=43,slow=6.0,SNR=8.3
comp=Z,1.3nm,0.7s
MKAR Makanchi Array 48.28 295 P **P 21 31 35.3 -1.5**
MAKZ Makanchi 48.43 295 P **P 21 31 36.1 -1.9**
MAKZ IAmb IAmb 21 31 42.1
comp=Z,5.1nm,1.2s
MAKZ Makanchi 48.43 295 P **P 21 31 36.1 -1.9**
MAKZ pmax pmax
comp=Z,5.0nm,1.3s
YBH Yreka Blue Hor 48.72 74 LR LR 21 50 43.2
comp=Z,40nm,19.0s,baz=322,slow=34
BVAR Borovoye Array 49.79 308 P **P 21 31 48.1 -0.2**
comp=Z,1.9nm,0.8s,baz=61,slow=7.0,SNR=12
BVAR PcP **PcP 21 33 08.5 -0.2**
comp=Z,0.5nm,0.4s,baz=56,slow=5.4,SNR=3.2
BVAR LR LR 21 53 29.7
comp=Z,28nm,19.0s,baz=63,slow=37
comp=Z,1.9nm,0.8s
BRVK Borovoye 49.82 308 P **P 21 31 47.9 -0.6**
BRVK IAmb IAmb 21 31 49.2
comp=Z,2.7nm,0.9s
BRVK Borovoye 49.82 308 P **P 21 31 47.9 -0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
KEV Kevo 50.57 342 P **P 21 31 53.7 -0.3**
KEV Kevo 50.57 342 P **P 21 31 53.7 -0.3**
KEV pmax pmax
comp=Z,19nm,1.2s
ARCES ARCESS Array B 51.03 342 P **P 21 31 57.2 -0.2**
ARCES ARCESS Array B 51.03 342 P **P 21 31 58.1 +0.7**
comp=Z,2.2nm,0.7s,baz=24,slow=7.2,SNR=12
comp=Z,2.2nm,0.7s
ARCES ARCESS Array B 51.03 342 P **P 21 31 57.2 -0.2**
ARCES pmax pmax
comp=Z,9.0nm,1.2s
PZH PanZhiHua 52.25 262 P **P 21 32 07.7 +0.4**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,4.2s
ARU Arti 52.31 317 P **P 21 32 06.4 -0.8**
ARU IAmb IAmb 21 32 12.9
comp=Z,3.7nm,1.0s
ARU Arti 52.31 317 LR LR 21 58 08.0
comp=Z,19nm,20.0s,baz=40,slow=40
ARU Arti 52.31 317 *c i*P **P 21 32 08.2 +1.1**
ARU S **S 21 39 31.5 +1.3**
ARU SS **SS 21 43 00.3 -7.0**
ARU pmax pmax
comp=Z,4.0nm,1.0s
ADZR Andozero 53.03 333 *e*P **P 21 32 12.5 +0.2**
ADZR pmax pmax
comp=Z,10.0nm,0.9s
NVAR Mina Array Bea 53.44 74 P **P 21 32 17.2 +1.1**
comp=Z,0.5nm,0.6s,baz=289,slow=9.2,SNR=3.1
comp=Z,0.5nm,0.6s
KIRV Kirov 53.98 323 *ce*P **P 21 32 20.3 +1.0**
FRB Frobisher Bay 54.29 25 LR LR 21 59 36.0
comp=Z,31nm,19.0s,baz=309,slow=40
PDAR Pinedale Array 54.88 64 P **P 21 32 28.1 +1.6**
comp=Z,0.6nm,0.7s,baz=309,slow=3.1,SNR=4.8
comp=Z,0.6nm,0.7s
JOF Joensuu 55.59 335 *e*P **P 21 32 31.7 +0.7**

KSH Kashi 56.68 292 P **P 21 32 42.3 +3.0**
KSH pmax pmax
comp=Z,4.0nm,1.1s
KKAR Karatay Array 56.80 299 P **P 21 32 38.7 -1.3**
KKAR Karatay Array 56.80 299 P **P 21 32 38.6 -1.3**
KKAR IAmb IAmb 21 32 43.9
comp=Z,6.3nm,1.1s
KKAR Karatay Array 56.80 299 P **P 21 32 38.6 -1.3**
KKAR pmax pmax
comp=Z,6.0nm,1.1s
ARK Arkit 57.04 297 P **P 21 32 42.3 +0.5**
VALR Valaam 57.05 335 *i* P **P 21 32 42.0 +0.7**
VALR pmax pmax
comp=Z,23nm,1.0s
ABKAR Akbulak array 57.07 310 P **P 21 32 41.0 -0.8**
VAF Ylistaro 57.34 340 *e*P **P 21 32 44.6 +1.1**
KEF Keuruu 57.69 338 *e*P **P 21 32 46.5 +0.6**
FIA1 FINESS Array S 58.08 337 P **P 21 32 48.6 0.0**
FINES FINESS Array B 58.08 337 P **P 21 32 49.2 +0.6**
FINES FINESS Array B 58.08 337 P **P 21 32 49.8 +1.2**
comp=Z,3.4nm,0.6s,baz=28,slow=8.7,SNR=26
comp=Z,3.4nm,0.6s
FINES FINESS Array B 58.08 337 P **P 21 32 49.2 +0.6**
BTK Batken 58.92 296 P **P 21 32 53.4 -1.6**
BTK Batken 58.92 296 P **P 21 32 53.4 -1.6**
BTK pmax pmax
comp=Z,6.0nm,1.1s
RAF Rauma 59.36 339 *e*P **P 21 32 57.8 +0.3**
MEF Metsahovi 59.54 337 *e*P **P 21 32 60.0 +1.1**
ARBE Arbavere 59.89 336 *e*P **P 21 33 00.6 -0.7**
GAR Garm 59.97 296 P **P 21 33 00.9 -1.4**
CMAR Chiang Mai Arr 60.21 259 P **P 21 33 03.4 -0.6**
comp=Z,0.4nm,0.3s,baz=34,slow=5.2,SNR=4.1
CMAR LR LR 22 01 48.2
comp=Z,36nm,18.2s,baz=205,slow=39
comp=Z,0.4nm,0.3s
VSU Vasula 60.59 335 *ce*P **P 21 33 06.5 +0.5**
VSU pmax pmax
comp=Z,17nm,1.3s
CHGR Chuyangaron 60.82 296 P **P 21 33 06.6 -1.4**
CHGR Chuyangaron 60.82 296 P **P 21 33 06.6 -1.4**
CHGR pmax pmax
comp=Z,11nm,0.7s
OBN Obninsk 60.90 328 ⇑ *e*P **P 21 33 08.2 +0.1**
OBN *e* 21 33 48.4
OBN *e* 21 35 24.5
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,30nm,18.0s
MTSE Matsula 61.03 337 *e*P **P 21 33 11.6 +2.6**
NC204 NORSAR Array S 61.04 345 P **P 21 33 09.1 -0.1**
NB2 NORSAR Subarra 61.20 345 P **P 21 33 10.8 +0.6**
comp=Z,2.2nm,0.6s,baz=18,slow=6.9
NOA NORSAR Array B 61.20 345 P **P 21 33 11.0 +0.8**
comp=Z,1.6nm,0.6s,baz=18,slow=6.9,SNR=17
comp=Z,1.6nm,0.6s
PABE Paberze 63.92 335 *e*P **P 21 33 30.9 +2.5**
AKASG Malin Array Be 66.91 330 P **P 21 33 48.1 +0.3**
comp=Z,1.6nm,0.4s,baz=30,slow=6.2,SNR=8.1
AKASG LR LR 22 04 05.2
comp=Z,25nm,19.6s,baz=46,slow=37
comp=Z,1.6nm,0.4s
AKBB Malin Array Si 66.91 330 *ce*P **P 21 33 47.4 -0.3**
AKBB pmax pmax
comp=Z,5.0nm,1.0s
KIEV Kiev 66.92 330 ⇓ P **P 21 33 48.4 +0.6**
KIEV Kiev 66.92 330 ⇓ P **P 21 33 48.4 +0.6**
KIV Kislovodsk 68.34 318 *e*P **P 21 33 57.5 +0.4**
KIV pmax pmax
comp=Z,3.0nm,1.1s
KBZ Khabaz 68.46 317 P **P 21 33 57.6 0.0**
comp=Z,1.9nm,0.8s,baz=69,slow=6.7,SNR=3.9
KBZ LR LR 22 08 26.9
comp=Z,31nm,18.8s,baz=76,slow=40
comp=Z,1.9nm,0.8s
KBZ Khabaz 68.46 317 *ce*P **P 21 33 58.0 +0.4**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
EKA Eskdalemuir Ar 68.47 351 P **P 21 33 58.5 +1.0**
comp=Z,2.2nm,0.7s,baz=19,slow=5.1,SNR=10
comp=Z,2.2nm,0.7s
SHA1 Shidzhatmaz 68.54 318 *i* P **P 21 33 57.9 -0.6**
SORM Soroca 69.47 329 ⇑ P **P 21 34 04.4 +0.6**
SORM Soroca 69.47 329 ⇑ P **P 21 34 04.4 +0.6**
KOLS Kolonicke sedl 70.38 333 *e*P **P 21 34 12.7 +3.2**
KOLS Kolonicke sedl 70.38 333 *e*P **P 21 34 12.7 +3.2**
MORC Moravsky Berou 70.71 337 ⇓ P **P 21 34 13.4 +1.9**
MORC Moravsky Berou 70.71 337 *e*P **P 21 34 13.3 +1.8**
MORC Moravsky Berou 70.71 337 ⇓ P **P 21 34 13.4 +1.9**
GNI Garni 70.78 314 LR LR 22 08 15.1
comp=Z,26nm,19.1s,baz=6.5,slow=38
BURAR Bucovina Array 70.82 331 ⇑ P **P 21 34 13.6 +1.3**
BURAR Bucovina Array 70.82 331 ⇑ P **P 21 34 13.6 +1.3**
LANS Liptovska Anna 70.86 335 *e*P P 21 34 18.7 +6.3
LANS Liptovska Anna 70.86 335 *e*P P 21 34 18.7 +6.3
VRAC Vranov 71.36 337 *e*P **P 21 34 18.3 +2.9**
TESR Tescani 71.43 330 ⇓ P **P 21 34 16.8 +1.0**
KRUC Moravsky 71.63 337 *e*P **P 21 34 20.0 +3.0**
KHC Kasperske Hory 72.15 339 *ce*P **P 21 34 20.8 +0.6**
KHC pmax pmax
comp=Z,10.0nm,1.3s
COVR Voineasa-Covas 72.16 330 ⇓ P **P 21 34 21.7 +1.4**
CFR Carcaliu 72.21 328 ⇑ P **P 21 34 20.8 +0.3**
CFR Carcaliu 72.21 328 ⇑ P **P 21 34 20.8 +0.3**
MARR Marisel-Cluj 72.25 332 ⇑ P **P 21 34 22.6 +1.7**
GERES GERESS Array B 72.40 339 P **P 21 34 23.9 +2.1**
comp=Z,0.7nm,0.7s,baz=9.2,slow=8.0,SNR=2.8
comp=Z,0.7nm,0.7s
TPGR Topolog 72.41 328 ⇑ P **P 21 34 22.5 +0.6**
MLR Muntele Rosu 72.56 330 ⇑ P **P 21 34 24.6 +1.8**
MLR Muntele Rosu 72.56 330 ⇑ P **P 21 34 24.6 +1.8**
CONA Conrad Observa 72.82 337 *e*P **P 21 34 26.3 +2.0**
comp=Z,2.1nm,0.8s
VOIR 72.86 330 ⇓ P **P 21 34 25.0 +0.4**
VOIR 72.86 330 ⇓ P **P 21 34 25.0 +0.4**
SIRR Siria 73.00 333 ⇓ P **P 21 34 26.9 +1.6**
ARR Arges 73.04 330 ⇑ P **P 21 34 27.2 +1.6**
SURR Surduc 73.36 332 ⇑ P **P 21 34 23.6 -3.7**
GZR Gura Zlata 73.52 332 ⇓ P **P 21 34 29.7 +1.3**
GZR Gura Zlata 73.52 332 ⇓ P **P 21 34 29.7 +1.3**
ARSA Arzberg 73.54 337 *e*pP pP 21 34 34.6 -2.6
comp=Z,3.2nm,1.2s
BZS Buzias 73.62 333 ⇑ P **P 21 34 30.2 +1.3**
BZS Buzias 73.62 333 ⇑ P **P 21 34 30.2 +1.3**
LESA Schwarzleotal 73.96 339 *e*PcP P 21 34 37.4 +6.4
comp=Z,4.4nm,1.5s
HERR Herculane 74.09 332 ⇓ P **P 21 34 32.5 +0.8**
KBA Koelnbreinsper 74.16 339 *e*P **P 21 34 36.1 +3.8**
comp=Z,12nm,1.1s
SOKA Soboth 74.19 337 *e*PcP P 21 34 38.4 +6.1
comp=Z,6.5nm,1.1s
WTTA Wattenberg 74.32 340 *e*P P 21 34 27.5 -5.7
comp=Z,2.3nm,0.7s
OBKA Obir 74.45 338 *e*P **P 21 34 36.4 +2.5**
comp=Z,3.4nm,0.8s
MYKA Terra Mystica 74.53 338 *e*PcP P 21 34 41.3 +7.0
comp=Z,3.8nm,1.1s
ABTA Abfaltersbach 74.64 339 *i* P **P 21 34 36.8 +1.8**
comp=Z,6.9nm,1.5s
FETA Feichten 74.73 340 *i* PcP **PcP 21 34 45.0 -4.7**
comp=Z,5.4nm,1.2s
BRTR Keskin Array B 75.33 322 P **P 21 34 39.7 +0.6**
comp=Z,1.5nm,0.8s,baz=61,slow=3.5,SNR=6.6
comp=Z,1.5nm,0.8s
BOVS Bovan 75.44 332 ⇓ P **P 21 34 40.5 +1.0**
WRA Warramunga Arr 79.30 207 P **P 21 34 59.6 -1.6**
comp=Z,0.4nm,0.7s,baz=13,slow=5.9,SNR=4.9
comp=Z,0.4nm,0.7s
MMAI Mount Meron Ar 80.66 317 P **P 21 35 09.6 +0.8**
comp=Z,2.8nm,0.7s,baz=38,slow=7.3,SNR=4.6
comp=Z,2.8nm,0.7s
ASAR Alice Springs 82.98 206 P **P 21 35 20.0 -0.8**
ASAR Alice Springs 82.98 206 P **P 21 35 18.9 -1.8**
comp=Z,0.5nm,0.7s,baz=7.0,slow=4.4,SNR=5.4
comp=Z,0.5nm,0.7s
TEIG Tepich 83.60 63 LR LR 22 13 30.1
comp=Z,48nm,21.9s,baz=222,slow=36
ESDC Sonseca Array 84.07 350 P **P 21 35 24.7 -1.7**
comp=Z,1.6nm,1.1s,baz=355,slow=7.1,SNR=5.8
comp=Z,1.6nm,1.1s
QSPA South Pole Qui 145.70 180 PKPbc **PKPbc 21 42 33.0 -0.2**
comp=Z,3.2nm,0.6s,baz=320,slow=1.0,SNR=24

*IDC **11** 21:28:12.4±2.4, 49.°51N×156.°03E, h0km, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=69.6km s-min=21.6km az=2.0*
*MOS **11** 21:28:13.0±1.1, 49.°01N×156.°15E, h33km, mb4.5/1, Error ellipse: s-maj=23.8km s-min=4.8km az=78.7*
*KRSC **11** 21:28:19.2±2.3, 49.°55N×157.°17E, h15km±42km, Ml4.6*
ISC 11 21:28:19.5±1.1, 49.°4N±0.°1×156.°38E±0.°09, h57km, n54, σ1°49/65, mb3.7/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.29**	**353**	*e*P	**Pn**	**21 28 41.5**	**+0.2**
SKR				*e*S	**Sn**	**21 28 56.8**	**-0.8**
SKR	**Severo-Kuril's**	**1.29**	**353**	PN	**Pn**	**21 28 41.5**	**+0.2**
SKR				S	**Sn**	**21 28 56.8**	**-0.8**
KDTR	**Khodutka, Kamc**	**2.64**	**24**	*e*P	**Pn**	**21 28 59.7**	**+0.1**
KDTR				*e*S	**Sn**	**21 29 28.2**	**-2.2**
KDTR	**Khodutka, Kamc**	**2.64**	**24**	PN	**Pn**	**21 28 59.7**	**+0.1**
ASAK	**Asacha**	**3.13**	**17**	*e*P	**Pn**	**21 29 07.1**	**+0.6**
ASAK	**Asacha**	**3.13**	**17**	PN	**Pn**	**21 29 07.1**	**+0.6**
MTVR	**Mutnovka**	**3.29**	**20**	*e*P	**Pn**	**21 29 09.5**	**+0.8**
MTVR				*e*S	**Sn**	**21 29 45.0**	**-1.6**
MTVR	**Mutnovka**	**3.29**	**20**	PN	**Pn**	**21 29 09.5**	**+0.8**
GRL	**Gorelyy**	**3.33**	**18**	*e*P	**Pn**	**21 29 10.3**	**+1.1**
GRL				*e*S	**Sn**	**21 29 47.1**	**-0.4**
GRL	**Gorelyy**	**3.33**	**18**	PN	**Pn**	**21 29 10.3**	**+1.1**
APC	**Apacha**	**3.56**	**8**	*e*P	**Pn**	**21 29 14.2**	**+2.0**
APC	**Apacha**	**3.56**	**8**	PN	**Pn**	**21 29 14.2**	**+2.0**
KRMR	**Karymshinskiy**	**3.60**	**17**	*e*P	**Pn**	**21 29 14.3**	**+1.5**
KRMR				*e*S	**Sn**	**21 29 56.5**	**+2.5**
KRMR	**Karymshinskiy**	**3.60**	**17**	PN	**Pn**	**21 29 14.3**	**+1.5**
PET	**Petropavlovsk**	**3.90**	**21**	*e*P	**Pn**	**21 29 18.0**	**+1.2**
PET				*e*S	**Sn**	**21 30 00.5**	**-0.7**
PET	**Petropavlovsk**	**3.90**	**21**	*e*PN	**Pn**	**21 29 17.3**	**+0.5**
PET				pmax	pmax		
	comp=Z,57nm,0.5s						
INSR	**Institute**	**3.92**	**20**	*e*S	**Sn**	**21 30 02.0**	**+0.1**
DALK	**Dalny**	**3.93**	**21**	*e*P	**Pn**	**21 29 18.0**	**+0.8**
DALK				*e*S	**Sn**	**21 30 01.3**	**-0.7**
DALK	**Dalny**	**3.93**	**21**	PN	**Pn**	**21 29 18.0**	**+0.8**
UGLR	**Uglovaya**	**4.11**	**21**	*e*P	**Pn**	**21 29 21.2**	**+1.4**
UGLR	**Uglovaya**	**4.11**	**21**	PN	**Pn**	**21 29 21.2**	**+1.4**
AVH	**Avacha**	**4.14**	**20**	*e*P	**Pn**	**21 29 22.3**	**+2.1**
AVH				*e*S	**Sn**	**21 30 08.6**	**+1.3**
AVH	**Avacha**	**4.14**	**20**	PN	**Pn**	**21 29 22.3**	**+2.1**
KOK	**Koryaka**	**4.14**	**19**	*e*P	**Pn**	**21 29 22.4**	**+2.1**
KOK	**Koryaka**	**4.14**	**19**	PN	**Pn**	**21 29 22.4**	**+2.1**
SMAR	**Somma**	**4.15**	**21**	*e*P	**Pn**	**21 29 21.7**	**+1.1**
SMAR	**Somma**	**4.15**	**21**	PN	**Pn**	**21 29 21.7**	**+1.1**
KRER	**Koryakskii**	**4.18**	**20**	*e*P	**Pn**	**21 29 22.6**	**+1.7**
KRER	**Koryakskii**	**4.18**	**20**	PN	**Pn**	**21 29 22.6**	**+1.7**
NLC	**Nalytchevo**	**4.21**	**25**	*e*P	**Pn**	**21 29 20.4**	**-0.6**
NLC				*e*S	**Sn**	**21 30 05.1**	**-3.7**
NLC	**Nalytchevo**	**4.21**	**25**	PN	**Pn**	**21 29 20.4**	**-0.6**
KRX	**Arik**	**4.21**	**19**	*e*P	**Pn**	**21 29 22.9**	**+1.7**
KRX	**Arik**	**4.21**	**19**	PN	**Pn**	**21 29 22.9**	**+1.7**
SPN	**Mys Shipunski**	**4.35**	**30**	*e*P	**Pn**	**21 29 23.4**	**+0.4**
SPN				*e*S	**Sn**	**21 30 10.0**	**-2.4**
SPN	**Mys Shipunski**	**4.35**	**30**	PN	**Pn**	**21 29 23.4**	**+0.4**
GNL	**Ganaly**	**4.41**	**12**	*e*P	**Pn**	**21 29 25.8**	**+1.9**
GNL	**Ganaly**	**4.41**	**12**	PN	**Pn**	**21 29 25.8**	**+1.9**
KII	**Karymskiy**	**5.02**	**21**	*e*P	**Pn**	**21 29 34.2**	**+2.0**
KII	**Karymskiy**	**5.02**	**21**	PN	**Pn**	**21 29 34.2**	**+2.0**
MKZ	**Mys Kozlova**	**6.13**	**31**	*e*P	**Pn**	**21 29 46.5**	**-0.8**
MKZ	**Mys Kozlova**	**6.13**	**31**	PN	**Pn**	**21 29 46.5**	**-0.8**
TUMR	**Tumrok**	**6.32**	**20**	*e*P	**Pn**	**21 29 52.1**	**+1.9**
TUMR	**Tumrok**	**6.32**	**20**	PN	**Pn**	**21 29 52.1**	**+1.9**
TIXI	**Tiksi**	**25.62**	**340**	P	**P**	**21 33 41.8**	**-1.3**
	comp=Z,3.4nm,0.5s,baz=135,slow=10,SNR=3.8						
	comp=Z,3.4nm,0.5s						
ILAR	**Eielson Array**	**33.11**	**41**	P	**P**	**21 34 50.2**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=254,slow=6.4,SNR=10						
	comp=Z,0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**42.87**	**304**	P	**P**	**21 36 10.3**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=51,slow=7.6,SNR=3.7						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**47.69**	**297**	P	**P**	**21 36 48.5**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=72,slow=8.7,SNR=4.6						
	comp=Z,0.6nm,0.6s						
KURK	**Kurchatov**	**47.74**	**303**	P	**P**	**21 36 49.8**	**-0.6**
KURBB	**Kurchatov Arra**	**47.83**	**303**	P	**P**	**21 36 49.8**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=65,slow=8.3,SNR=9.6						
	comp=Z,1.8nm,0.8s						
BVAR	**Borovoye Array**	**50.87**	**309**	P	**P**	**21 37 11.9**	**-2.4**
	comp=Z,0.7nm,0.6s,baz=61,slow=7.0,SNR=6.2						
	comp=Z,0.7nm,0.6s						
NVAR	**Mina Array Bea**	**59.30**	**66**	P	**P**	**21 38 17.2**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=302,slow=6.0,SNR=2.3						
	comp=Z,0.4nm,0.7s						
EKA	**Eskdalemuir Ar**	**74.24**	**348**	P	**P**	**21 39 49.5**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=20,slow=5.5,SNR=4.5						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**74.31**	**63**	P	**P**	**21 39 52.8**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=302,slow=5.2,SNR=4.8						
	comp=Z,0.3nm,0.6s						
BRTR	**Keskin Array B**	**77.91**	**318**	P	**P**	**21 40 10.8**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=19,slow=5.2,SNR=4.5						
	comp=Z,1.0nm,0.9s						

*SNET **11** 21:39:44.6±0.9, 14.°25N×91.°08W, h124km±34km, ML4.0*
*CATAC **11** 21:39:44.9±0.5, 14.°14N×91.°36W, h30km±9km, ML4.1*
*GCG **11** 21:39:46.4±0.6, 14.°33N×91.°35W, h53km±19km, MD3.9*
*IDC **11** 21:39:48.6±10.0, 14.°28N×90.°93W, h122km±62km, mb3.4/5, mbtmp3.7/6, MS2.8/2, Error ellipse: s-maj=99.0km s-min=33.0km az=1.0*
ISC 11 21:39:43.6±1.0, 14.°17N±0.°08×91.°40W±0.°06, h75km±7km, n47, σ1°22/55, mb3.8/5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.21**	**311**	*e*P	**Pn**	**21 39 55.0**	**+0.2**
RTAL	**Retalhuleu**	**0.46**	**321**	*i* P	Pn	21 39 55.6	-0.9
RTAL				*i* S	**Sn**	**21 40 04.4**	**-1.6**
RTAL				IAML		21 40 19.7	
	comp=Z,4μm,1.0s						
STG3	**Santiaguito 3,**	**0.57**	**343**	*e*P	**Pn**	**21 39 57.7**	**0.0**
FUG	**Fuego 3**	**0.61**	**63**	*e*P	**Pn**	**21 39 58.4**	**+0.3**
QUEO	**Labor Ovalle**	**0.71**	**351**	*i* P	**Pn**	**21 39 59.8**	**+0.5**
QUEO				*i* S	**Sn**	**21 40 11.9**	**+1.0**
QUEO				IAML		21 40 15.9	
	comp=Z,10μm,1.0s						
PCG	**Pacaya**	**0.80**	**74**	*e*P	**Pn**	**21 40 01.1**	**+0.9**
GCG4	**OSOP**	**0.94**	**63**	*i* P	**Pn**	**21 40 02.1**	**+0.3**
GCG4				IAML		21 40 19.7	
	comp=Z,6μm,1.0s						
NBG	**Las Nubes**	**1.10**	**68**	*e*P	**Pn**	**21 40 05.6**	**+1.7**
QUIS	**Sacapulas**	**1.16**	**15**	*i* P	**Pn**	**21 40 05.3**	**+0.8**
QUIS				IAML		21 40 07.6	
	comp=Z,3μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.57**	**95**	*e*P	**Pn**	**21 40 10.0**	**+0.3**
SLOZ				*e*S	**Sn**	**21 40 30.8**	**+1.3**
LOAL	**Lomas de Alarc**	**1.58**	**96**	*e*P	**Pn**	**21 40 10.4**	**+0.5**
LOAL	**Lomas de Alarc**	**1.58**	**96**	*i* P	**Pn**	**21 40 10.2**	**+0.4**
LOAL				*i* S	**Sn**	**21 40 30.4**	**+0.7**
LOAL				IAML		21 40 39.6	
	comp=Z,4μm,1.0s						
NUBE	**Las Nubes**	**1.59**	**99**	*e*P	**Pn**	**21 40 10.2**	**+0.1**
NUBE				*e*S	**Sn**	**21 40 29.6**	**-0.5**
NUBE				IAML		21 40 32.9	
	comp=Z,992nm,0.3s						
NUBE	**Las Nubes**	**1.59**	**99**	*i* P	**Pn**	**21 40 10.2**	**+0.1**
NUBE				*i* S	**Sn**	**21 40 29.4**	**-0.8**
NUBE				IAML		21 40 32.7	
	comp=Z,2μm,1.0s						
RTR	**El Retiro**	**1.72**	**99**	*e*P	**Pn**	**21 40 12.4**	**+0.5**
SBLS	**San Blas**	**1.75**	**100**	*e*P	**Pn**	**21 40 13.1**	**+0.8**
CEVE	**Cerro Verde**	**1.76**	**101**	*e*P	**Pn**	**21 40 13.1**	**+0.8**
CEVE				*e*S	**Sn**	**21 40 35.3**	**+1.1**
CEVE	**Cerro Verde**	**1.76**	**101**	*i* P	**Pn**	**21 40 13.3**	**+0.9**
CEVE				*i* S	**Sn**	**21 40 34.4**	**+0.3**
CEVE				IAML		21 40 39.7	
	comp=Z,3μm,1.0s						
SNJE	**San Jose**	**1.77**	**99**	*e*P	**Pn**	**21 40 12.7**	**+0.3**
SNJE				*e*P		21 40 12.9	
MRL	**Marmol**	**1.89**	**61**	*e*P	**Pn**	**21 40 15.4**	**+1.3**
JAYA	**Jayaque - finc**	**1.96**	**105**	*e*P	**Pn**	**21 40 15.1**	**+0.1**
JAYA				IAML		21 40 39.6	
	comp=Z,2μm,0.2s						
JAYA	**Jayaque - finc**	**1.96**	**105**	*i* P	**Pn**	**21 40 15.1**	**+0.1**

CEDA	**San Andres**	**1.98**	**100**	*i* P	**Pn**	**21 40 16.3**	**+1.2**
CEDA				IAML		21 40 48.5	
comp=Z,2μm,1.0s							
MTO3	**Montecristo**	**1.99**	**83**	*e*P	**Pn**	**21 40 15.1**	**-0.3**
MTO3	**Montecristo**	**1.99**	**83**	*i* P	**Pn**	**21 40 15.0**	**-0.4**
MTO3				IAML		21 40 35.1	
comp=Z,340nm,1.0s							
PMON	**Piamonte**	**2.08**	**102**	*i* P	**Pn**	**21 40 17.2**	**+0.7**
PMON				*i* S	**Sn**	**21 40 42.3**	**+0.8**
PMON				IAML		21 40 49.1	
comp=Z,2μm,1.0s							
CCIG	**Comitan**	**2.22**	**341**	*i* P	**Pn**	**21 40 20.3**	**+1.8**
CCIG				IAML		21 41 07.6	
comp=Z,300nm,1.0s							
LOMA	**Loma Larga**	**2.23**	**103**	*i* P	**Pn**	**21 40 19.7**	**+1.2**
LOMA				IAML		21 40 54.8	
comp=Z,940nm,1.0s							
COEG	**Centro de Oper**	**2.51**	**102**	*i* P	**Pn**	**21 40 23.6**	**+1.3**
COEG				IAML		21 41 04.0	
comp=Z,520nm,1.0s							
SCLA	**Alcaldia de Sa**	**2.63**	**100**	*i* P	**Pn**	**21 40 24.4**	**+0.4**
SCLA				IAML		21 41 11.5	
comp=Z,170nm,1.0s							
PACA	**Pacayal**	**3.07**	**103**	*i* P	**Pn**	**21 40 32.7**	**+2.8**
PACA				IAML		21 41 19.1	
comp=Z,1μm,1.0s							
PETF	**Flores**	**3.11**	**28**	*i* P	**Pn**	**21 40 30.8**	**+0.4**
PETF				IAML		21 41 35.6	
comp=Z,210nm,1.0s							
RANC	**El Ranchito**	**3.11**	**103**	*i* P	**Pn**	**21 40 31.8**	**+1.3**
RANC				IAML		21 41 18.9	
comp=Z,290nm,1.0s							
CNCH	**Conchagua**	**3.58**	**104**	*i* P	**Pn**	**21 40 37.3**	**+0.5**
CNCH				IAML		21 41 34.7	
comp=Z,480nm,1.0s							
YUSH	**Yuscaran**	**4.43**	**92**	*i* P	**Pn**	**21 40 47.9**	**-0.5**
CNGA	**Al SSO del Vol**	**4.87**	**109**	*i* P	**Pn**	**21 40 56.2**	**+1.8**
CNGA				IAML		21 41 15.4	
comp=Z,170nm,1.0s							
CNGN	**Cerro Negro**	**4.87**	**109**	*i* P	**Pn**	**21 40 55.6**	**+1.2**
CNGN				IAML		21 42 02.4	
comp=Z,130nm,1.0s							
LIMN	**Finca el Limon**	**5.01**	**102**	*i* P	**Pn**	**21 40 57.3**	**+0.8**
LIMN				IAML		21 42 11.1	
comp=Z,49nm,1.0s							
TEIG	**Tepich**	**6.72**	**26**	P	**Pn**	**21 41 20.7**	**+1.0**
comp=Z,149nm,0.5s,baz=289,slow=0.7,SNR=156							
TXAR	**Lajitas Array**	**18.89**	**325**	P	**P**	**21 44 00.1**	**+1.9**
comp=Z,0.4nm,0.4s,baz=143,slow=7.9,SNR=4.8							
TKL	**Tuckaleechee C**	**22.47**	**16**	P	**P**	**21 44 37.3**	**+0.5**
comp=Z,2.1nm,0.5s,baz=177,slow=10,SNR=5.3							
TKL				LR	LR	21 53 57.5	
comp=Z,29nm,21.6s,baz=138,slow=38							
comp=Z,2.1nm,0.5s							
NVAR	**Mina Array Bea**	**33.91**	**320**	P	**P**	**21 46 22.9**	**+3.2**
comp=Z,1.0nm,0.7s,baz=127,slow=8.8,SNR=7.5							
comp=Z,1.0nm,0.7s							
SCHQ	**Schefferville**	**44.87**	**20**	P	**P**	**21 47 47.3**	**-3.1**
comp=Z,1.4nm,0.6s,baz=228,slow=14,SNR=2.3							
comp=Z,1.4nm,0.6s							
ILAR	**Eielson Array**	**62.92**	**337**	P	**P**	**21 50 00.9**	**-0.8**
comp=Z,0.2nm,0.5s,baz=128,slow=7.0,SNR=4.8							
comp=Z,0.2nm,0.5s							
EKA	**Eskdalemuir Ar**	**77.49**	**36**	P	**P**	**21 51 28.2**	**-2.8**
comp=Z,0.9nm,0.7s,baz=281,slow=4.3,SNR=3.6							
comp=Z,0.9nm,0.7s							
NOA	**NORSAR Array B**	**83.72**	**29**	LR	LR	22 29 20.5	
comp=Z,4.0nm,18.4s,baz=235,slow=36							
CMAR	**Chiang Mai Arr**	**146.02**	**342**	PKPbc	**PKPdf**	**21 59 15.2**	**+0.2**
comp=Z,1.6nm,0.5s,baz=338,slow=3.7,SNR=8.9							

CATAC ***11*** *21:42:57.0±0.4, 9°.92N×84°.46W, h47km±5km, ML3.3*
UCR ***11*** *21:42:57.2±1.1, 9°.95N×84°.46W, h62km±4km, MW3.6*
ISC 11 21:42:56.9±1.5, 9°.90N±0°.05×84°.47W±0°.04, h63km±8km, n47, σ0.44/59, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRB2	**Turrubares**	**0.02**	**51**	*e*P	**Pn**	**21 43 06.1**	**-0.2**
TRB2				*e*S	**Sn**	**21 43 13.1**	**+0.1**
RAMO	**San Ramon**	**0.19**	**360**	*e*P	**Pn**	**21 43 07.5**	**+0.6**
TCS1	**Tacares**	**0.22**	**49**	*i* P	**Pn**	**21 43 07.0**	**0.0**
TCS1				*i* S	**Sn**	**21 43 14.1**	**-0.2**
TCS1				IAML		21 43 16.8	
comp=Z,12μm,1.0s							
TCS1	**Tacares**	**0.22**	**49**	*e*P	**Pn**	**21 43 06.8**	**-0.2**
ARZA	**Esparza**	**0.22**	**295**	*e*P	**Pn**	**21 43 06.9**	**0.0**
SARCI	**Sarchi**	**0.22**	**32**	*e*P	**Pn**	**21 43 06.9**	**-0.1**
SANTA	**Santa Ana**	**0.28**	**83**	*e*P	**Pn**	**21 43 07.2**	**-0.2**
BELE	**Belen**	**0.28**	**74**	*e*P	**Pn**	**21 43 07.1**	**-0.3**
BELE				*e*S	**Sn**	**21 43 14.8**	**-0.3**
ACOS	**Acosta**	**0.32**	**109**	*e*P	**Pn**	**21 43 07.6**	**-0.1**
HDC	**Heredia**	**0.36**	**74**	*i* P	**Pn**	**21 43 07.4**	**-0.6**
HDC				IAML		21 43 20.3	
comp=Z,2μm,1.0s							
HDC	**Heredia**	**0.36**	**74**	*e*P	**Pn**	**21 43 07.8**	**-0.3**
HDC3	**Heredia 3**	**0.36**	**74**	*i* P	**Pn**	**21 43 07.9**	**-0.2**
HDC3				*i* S	**Sn**	**21 43 15.9**	**-0.2**
HDC3				IAML		21 43 20.2	
comp=Z,2μm,1.0s							
VPS6	**Volcano Poas**	**0.37**	**39**	*e*P	**Pn**	**21 43 07.8**	**-0.5**
CENT	**San Jose**	**0.38**	**85**	*e*P	**Pn**	**21 43 09.3**	**+1.1**
LUJA	**Lujan**	**0.39**	**86**	*e*P	**Pn**	**21 43 09.3**	**+1.0**
AMPA	**Desamparados**	**0.40**	**90**	*e*P	**Pn**	**21 43 08.2**	**-0.1**
SJS	**Escuela Geolog**	**0.41**	**84**	*e*P	**Pn**	**21 43 08.5**	**+0.1**
ABE2	**San Pablo**	**0.45**	**115**	*e*P	**Pn**	**21 43 08.3**	**-0.7**
CORON	**Coronado**	**0.46**	**81**	*e*P	**Pn**	**21 43 09.2**	**+0.2**
LCR2	**La Lucha 2**	**0.48**	**109**	*i* P	**Pn**	**21 43 09.0**	**-0.2**
LCR2				*i* S	**Sn**	**21 43 17.8**	**-0.3**
LCR2				IAML		21 43 20.0	
comp=Z,2μm,1.0s							
LCR2	**La Lucha 2**	**0.48**	**109**	*e*P	**Pn**	**21 43 08.9**	**-0.3**
RAZU	**San Marcos de**	**0.50**	**119**	*e*P	**Pn**	**21 43 10.0**	**+0.7**
SOCE	**Pocosol**	**0.50**	**343**	*i* P	**Pn**	**21 43 09.6**	**+0.3**
SOCE				*i* S	**Sn**	**21 43 18.5**	**+0.3**
SOCE				IAML		21 43 20.0	
comp=Z,5μm,1.0s							
SOCE	**Pocosol**	**0.50**	**343**	*e*P	**Pn**	**21 43 09.4**	**+0.1**
SOCE				*e*S	**Sn**	**21 43 18.8**	**+0.6**
MTEVE	**Monteverde**	**0.55**	**320**	*e*P	**Pn**	**21 43 10.9**	**+1.0**
LLNJ	**Naranjito**	**0.56**	**139**	*e*P	**Pn**	**21 43 10.3**	**+0.5**
REPA	**Paraso**	**0.59**	**97**	*e*P	**Pn**	**21 43 11.6**	**+1.2**
VACR	**Volcan Arenal**	**0.61**	**340**	*e*P	**Pn**	**21 43 10.6**	**+0.3**
ARE1	**Arenal 1**	**0.61**	**336**	*e*P	**Pn**	**21 43 10.9**	**+0.5**
JTS	**Las Juntas de**	**0.62**	**309**	*e*P	**Pn**	**21 43 10.2**	**-0.3**
VICA	**Volcano Irazu**	**0.62**	**82**	*e*P	**Pn**	**21 43 10.9**	**+0.1**
CEDE	**Laguna Cedeo**	**0.63**	**338**	*e*P	**Pn**	**21 43 10.9**	**+0.3**
PCAYA	**Pacayas**	**0.65**	**88**	*e*P	**Pn**	**21 43 11.2**	**+0.2**
RAFA	**San Farael, Vo**	**0.65**	**85**	*i* P	**Pn**	**21 43 11.5**	**+0.4**
RAFA				IAML		21 43 23.5	
comp=Z,4μm,1.0s							
VTLA	**Turrialba Volc**	**0.69**	**81**	*e*P	**Pn**	**21 43 11.9**	**+0.3**
NYURE	**Nandayure**	**0.78**	**277**	*e*P	**Pn**	**21 43 12.6**	**+0.2**
BUS1	**Rivas**	**0.79**	**116**	*e*P	**Pn**	**21 43 12.9**	**0.0**
BUS1				*e*S	**Sn**	**21 43 24.9**	**+0.3**
COVE	**Coope Vega, Sa**	**0.82**	**4**	*i* P	**Pn**	**21 43 12.6**	**-0.2**
COVE				*i* S	**Sn**	**21 43 24.4**	**-0.1**
COVE				IAML		21 43 28.3	
comp=Z,610nm,1.0s							
CUI	**Cuipilapa**	**1.02**	**318**	*e*P	**Pn**	**21 43 15.6**	**+0.1**
INDI	**Punta indio, G**	**1.02**	**268**	*i* P	**Pn**	**21 43 15.1**	**-0.3**
INDI				IAML		21 43 16.6	
comp=Z,600nm,1.0s							
INDI				*i* S	**Sn**	**21 43 28.7**	**-0.4**
COLC	**Colonia**	**1.05**	**316**	*e*P	**Pn**	**21 43 16.1**	**+0.3**
OCHAL	**Ojochal**	**1.14**	**134**	*i* P	**Pn**	**21 43 16.8**	**-0.1**
OCHAL				IAML		21 43 36.6	
comp=Z,400nm,1.0s							
GPS2	**Hotel Rincn d**	**1.22**	**314**	*e*P	**Pn**	**21 43 18.3**	**+0.3**
VRLE	**La Escondida,**	**1.25**	**315**	*e*P	**Pn**	**21 43 18.6**	**+0.1**
ACON	**Acoyapa**	**2.17**	**341**	*i* P	**Pn**	**21 43 31.0**	**+0.2**
ACON				*i* S	**Sn**	**21 43 55.9**	**-0.7**
ACON				IAML		21 43 59.1	
comp=Z,140nm,1.0s							
ACON	**Acoyapa**	**2.17**	**341**	*e*P	**Pn**	**21 43 31.0**	**+0.2**
ESPN	**Las Esperanzas**	**2.29**	**4**	*i* P	**Pn**	**21 43 32.5**	**+0.1**
ESPN				IAML		21 43 32.7	
comp=Z,160nm,1.0s							
ESPN				*i* S	**Sn**	**21 43 58.9**	**-0.6**

ATH 11 22:11:50.5, 40°.73N×23°.29E, h14km±3km, ML1.0/2, Error ellipse: s-maj=4.0km s-min=1.1km az=319.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.11**	**28**	P	Pg	22 11 54.0	+0.1
SOH				S	Sg	22 11 55.8	-0.3
SOH				AML	AML	22 11 56.4	
comp=E,563μm,0.3s							
SOH				AML	AML	22 11 56.4	
comp=N,203μm,0.1s							
HORT	**Hortiatis**	**0.19**	**228**	P	Pg	22 11 54.9	0.0
HORT				S	Sg	22 11 58.0	0.0
HORT				AML	AML	22 11 59.2	
comp=E,70μm,0.1s							
HORT				AML	AML	22 11 59.2	
comp=N,78μm,0.1s							
THE	**Thessaloniki**	**0.26**	**249**	P	Pg	22 11 56.0	-0.1
THE				S	Sg	22 11 59.9	0.0
PLG	**Polygyros**	**0.37**	**161**	P	Pg	22 11 58.0	0.0
SRS	**Serrai**	**0.46**	**31**	P	Pg	22 11 59.3	-0.3
KOKK	**Kokkinochori,**	**0.55**	**80**	P	Pg	22 12 00.8	-0.6

SKO ***11*** *22:11:43.0, 40°.96N×19°.57E, h11km, ML2.8*
PDG ***11*** *22:11:53.3±0.1, 41°.25N×20°.32E, h2km, ML2.9/11, Error ellipse: s-maj=0.1km s-min=0.4km az=0.0*
BEO ***11*** *22:11:53.8±0.4, 41°.22N×20°.32E, h0km±2km, ML2.5/12*
ISC 11 22:11:52.9±0.9, 41°.17N±0°.04×20°.30E±0°.02, h10km, n62, σ1.27/94, 18C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.38**	**299**	⇑P	**Pg**	**22 12 00.1**	**-0.2**
TIR				⇑S	**Sb**	**22 12 06.5**	**-1.0**
TIR	**Tirane**	**0.38**	**299**	*e*Pg	**Pg**	**22 12 00.1**	**-0.2**
TIR				*e*Sg	**Sg**	**22 12 06.0**	**+0.7**
OHR	**Ohrid**	**0.38**	**98**	⇑*i*Pg	**Pb**	**22 12 01.2**	**-0.5**
OHR				*i* Sg	**Sb**	**22 12 07.5**	**-0.2**
OHR				*e*Lg	Lg	22 12 07.6	
comp=N,711nm,0.4s							
OHR				*e*Lg	Lg	22 12 08.3	
comp=E,322nm,0.4s							
FNA	**Florina**	**0.90**	**115**	*e*Pg	**Pg**	**22 12 10.0**	**-0.2**
FNA				*e*Sg	**Sb**	**22 12 23.5**	**+0.9**
FNA	**Florina**	**0.90**	**115**	*i* Pg	**Pg**	**22 12 09.8**	**-0.4**
FNA				*i* Sg	**Sn**	**22 12 24.0**	**-0.7**
SKO	**Skopje**	**1.18**	**46**	*i* Pg	**Pb**	**22 12 14.5**	**-0.7**
SKO				*i* Sg	**Sg**	**22 12 30.2**	**-0.5**
DRME	**Dracevica, Mon**	**1.32**	**321**	*e*Pg	**Pn**	**22 12 16.3**	**-1.1**
DRME				*e*Sg	**Sg**	**22 12 35.2**	**-0.1**
DRME	**Dracevica, Mon**	**1.32**	**321**	*e*Pn	**Pn**	**22 12 16.0**	**-1.4**
DRME	**Dracevica, Mon**	**1.32**	**321**	⇑*i*Pg	**Pn**	**22 12 16.4**	**-1.0**
DRME				*i* Sg	**Sg**	**22 12 36.3**	**+1.0**
PVY	**Plav**	**1.45**	**350**	⇓*i*Pg	**Pn**	**22 12 18.4**	**-0.9**
PVY				*i* Sg	**Sg**	**22 12 39.9**	**+0.3**
PDG	**Podgorica**	**1.49**	**329**	⇑P	**Pn**	**22 12 19.3**	**-0.3**
PDG				⇑S	**Sg**	**22 12 42.7**	**+2.0**
PDG	**Podgorica**	**1.49**	**329**	*e*Pg	**Pn**	**22 12 19.4**	**-0.3**
PDG				*e*Sg	**Sg**	**22 12 40.4**	**-0.3**
PDG	**Podgorica**	**1.49**	**329**	*e*Pn	**Pn**	**22 12 19.2**	**-0.4**
PDG	**Podgorica**	**1.49**	**329**	⇑*i*Pg	**Pn**	**22 12 19.5**	**-0.1**
PDG				*i* Sg	**Sg**	**22 12 41.8**	**+1.1**
STIP	**Stip**	**1.51**	**69**	*i* Pn	**Pg**	**22 12 23.0**	**+1.1**
BUM	**Brajici-Budva**	**1.55**	**318**	⇑*i*Pn	**Pn**	**22 12 20.8**	**+0.2**
BUM				*i* Sg	**Sg**	**22 12 44.4**	**+1.7**
VAY	**Valandovo**	**1.72**	**84**	*i* Pn	**Pg**	**22 12 25.2**	**-0.7**
CEME	**Cevo**	**1.72**	**324**	⇑*i*Pn	**Pb**	**22 12 23.7**	**-1.0**
CEME				*i* Sn	**Sg**	**22 12 47.1**	**-1.2**
IVA	**Berane**	**1.73**	**350**	⇓*i*Pn	**Pb**	**22 12 23.8**	**-1.0**
IVA				*i* Sn	**Sg**	**22 12 49.4**	**+0.8**
KOME	**Kolasin**	**1.78**	**341**	*e*Pg	**Pb**	**22 12 25.1**	**-0.6**
KOME				*e*Sg	**Sg**	**22 12 49.4**	**-0.8**
KOME	**Kolasin**	**1.78**	**341**	⇓*i*Pn	**Pb**	**22 12 24.8**	**-0.9**
KOME				*i* Sn	**Sg**	**22 12 50.5**	**+0.3**
PRVS	**Prvonek**	**1.89**	**44**	*e*Pn	**Pb**	**22 12 26.9**	**-0.5**
PRVS				*e*Sn	**Sb**	**22 12 50.8**	**-0.3**
NKME	**Niksic**	**1.89**	**328**	⇑*i*Pn	**Pb**	**22 12 26.4**	**-1.1**
NKME				*i* Sn	**Sg**	**22 12 53.0**	**-0.6**
SJES	**Sjenica**	**2.11**	**353**	*e*Pg	**Pb**	**22 12 30.4**	**-0.9**
SJES				*e*Sg	**Sg**	**22 12 58.9**	**-1.8**
SJES	**Sjenica**	**2.11**	**353**	*e*Pn	**Pb**	**22 12 30.1**	**-1.2**
TREB	**Trebinje**	**2.13**	**317**	*e*Pg	**Pb**	**22 12 31.5**	**0.0**
TREB				*e*Sg	**Sg**	**22 12 59.8**	**-1.4**
TREB	**Trebinje**	**2.13**	**317**	*e*Pn	**Pn**	**22 12 28.4**	**-0.1**
BRY	**Bratogost**	**2.18**	**323**	*e*Pn	**Pb**	**22 12 30.8**	**-1.6**
BRY	**Bratogost**	**2.18**	**323**	⇑*i*Pn	**Pb**	**22 12 30.8**	**-1.6**
BRY				*i* Sn	**Sb**	**22 13 00.4**	**+0.9**
DBRK	**Dubrovnik**	**2.20**	**314**	*e*Pn	**Pb**	**22 12 31.9**	**-0.8**
DBRK				Sn	**Sb**	**22 13 01.2**	**+1.2**
KKB	**Krupnik**	**2.23**	**71**	*i* Pn	**Pn**	**22 12 30.5**	**+0.6**
PLE	**Pljevlja**	**2.27**	**343**	⇑*i*Pn	**Pb**	**22 12 31.7**	**+1.2**
PLE				*i* Sn	**Sb**	**22 13 02.0**	**-0.1**
UPM	**Unac-Piva**	**2.29**	**333**	*e*Pn	**Pb**	**22 12 33.5**	**-0.8**
UPM	**Unac-Piva**	**2.29**	**333**	⇓*i*Pn	**Pn**	**22 12 32.0**	**+1.2**
UPM				*i* Sn	**Sb**	**22 13 02.6**	**-0.1**
IVAS	**Ivanjica**	**2.41**	**357**	*e*Pn	**Pb**	**22 12 34.9**	**-1.5**
IVAS				*e*Sn	**Sn**	**22 13 03.6**	**+1.5**
RUDO	**Rudo**	**2.55**	**345**	*e*Pn	**Pn**	**22 12 35.1**	**+0.9**
STON	**Ston**	**2.58**	**312**	*e*Pn	**Pn**	**22 12 36.2**	**+1.5**
STON				*e*Sn	**Sb**	**22 13 08.9**	**-2.1**
STON	**Ston**	**2.58**	**312**	*e*Pn	**Pn**	**22 12 35.2**	**+0.6**
STON	**Ston**	**2.58**	**312**	*e*Pn	**Pn**	**22 12 35.4**	**+0.7**
BBLS	**Lazi&#263i**	**2.78**	**347**	*e*Pn	**Pb**	**22 12 39.8**	**-2.9**
BBLS				*e*Sn	**Sn**	**22 13 13.2**	**+2.1**
BBLS	**Lazi&#263i**	**2.78**	**347**	*e*Pn	**Pb**	**22 12 41.3**	**-1.4**
DIVS	**Divibare**	**2.94**	**356**	*e*Pn	**Pn**	**22 12 41.5**	**+1.8**
BLKB	**Belogradchik**	**3.02**	**35**	⇑S	**Sb**	**22 13 20.3**	**-3.4**
HAPS	**Han Pijesak,BI**	**3.08**	**342**	*e*Pn	**Pn**	**22 12 42.9**	**+1.2**
MAKA	**Makarska**	**3.23**	**312**	*e*Pn	**Pn**	**22 12 43.9**	**+0.3**
MAKA				Sn	**Sn**	**22 13 23.8**	**+1.7**
RICI	**Ricice**	**3.31**	**316**	*e*Pn	**Pn**	**22 12 44.7**	**0.0**
KUBS	**Kucevo**	**3.40**	**17**	*e*Pn	**Pn**	**22 12 47.4**	**+1.4**
TEKS	**Tekeris**	**3.43**	**351**	*e*Pn	**Pn**	**22 12 46.8**	**+0.4**
AVAS	**Avala Beograd**	**3.53**	**2**	*e*Pn	**Pn**	**22 12 47.3**	**-0.5**
MDVR	**Moldovita**	**3.76**	**16**	⇑P	**Pn**	**22 12 50.8**	**-0.2**
MDVR				⇓S	**Sn**	**22 13 38.5**	**+3.2**
HERR	**Herculane**	**4.03**	**22**	⇑P	**Pn**	**22 12 54.5**	**0.0**
KIJV	**Kijevo**	**4.04**	**316**	*e*Pn	**Pn**	**22 12 55.6**	**+0.8**
BLY	**Banja Luka**	**4.25**	**328**	*e*Pn	**Pb**	**22 13 02.9**	**-4.8**
ZIRJ	**Zirje**	**4.25**	**307**	*e*Pn	**Pn**	**22 12 58.1**	**+0.5**
A050A	**Klekovaca**	**4.32**	**321**	*e*Pn	**Pn**	**22 12 59.8**	**+1.1**
MORI	**Morici**	**4.34**	**310**	*e*Pn	**Pn**	**22 13 00.1**	**+1.3**
MORI				Sn	**Sn**	**22 13 52.4**	**+3.0**
BZS	**Buzias**	**4.55**	**12**	⇑P	**Pn**	**22 13 01.3**	**-0.4**
BZS				⇑S	**Sn**	**22 13 56.9**	**+2.1**
GZR	**Gura Zlata**	**4.60**	**22**	⇑P	**Pn**	**22 13 02.8**	**+0.4**
DUGI	**Dugi Otok**	**4.79**	**308**	*e*Pn	**Pn**	**22 13 05.9**	**+0.8**
VIRC	**Vir**	**4.97**	**311**	*e*Pn	**Pn**	**22 13 08.2**	**+0.8**
NVLJ	**Novalja**	**5.24**	**312**	*e*Pn	**Pn**	**22 13 11.3**	**+0.1**
DOPR	**Dopca**	**6.06**	**36**	⇓P	**Pn**	**22 13 23.0**	**+0.5**

IGQ 11 22:42:11.7±1.1, 3°S±6°×77°W±°, h10km, M4.0/11, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAIS	**Taisha**	**1.64**	**310**	P	Pn	22 42 40.2	-0.3
BOSC	**San Juan Bosco**	**2.27**	**277**	S	Sn	22 43 17.7	+0.1
BOSC				P	Pn	22 42 48.0	-1.5
ARDO	**Archidona, Ten**	**2.88**	**327**	P	Pn	22 42 55.5	-2.2
BMAS	**Trigal station**	**2.95**	**310**	P	Pn	22 42 59.7	+0.7
PIS1	**Pisayambo**	**3.19**	**318**	P	Pn	22 43 03.6	+1.2
ZUMB	**Zumba**	**3.23**	**244**	P	Pn	22 43 01.8	-0.8
BMOR	**Cotopaxi Volca**	**3.48**	**320**	P	Pn	22 43 07.5	+1.0
ANTS	**Antisana-Sarah**	**3.50**	**326**	P	Pn	22 43 00.6	-6.0
ANTG	**Antisana-Guama**	**3.54**	**325**	P	Pn	22 43 07.1	-0.1
REVS	**Reventador Sur**	**3.58**	**337**	P	Pn	22 43 06.0	-1.5
MCRA	**Macar, Loja**	**3.83**	**256**	P	Pn	22 43 10.9	+0.2
CAYR	**Refugio Cayamb**	**3.85**	**333**	P	Pn	22 43 10.7	-0.9
CAYA	**Cayambe**	**3.89**	**333**	P	Pn	22 43 11.8	-0.4
BONI	**La Bonita**	**4.07**	**341**	P	Pb	22 43 20.3	-3.3
CUSE	**Cuicocha Este**	**4.29**	**330**	P	Pn	22 43 22.1	+4.6

IDC ***11*** *22:44:50.7±0.7, 31°.71S×58°.24E, h0km, mb4.2/12, mbtmp4.2/13, ML4.0/1, MS3.6/16, Error ellipse: s-maj=24.2km s-min=19.3km az=68.0*
NEIC ***11*** *22:44:52.3±1.1, 31°.6S±0°.1×58°.3E±0°.1, h10km±1km, mb4.7/25, Error ellipse: s-maj=18.4km s-min=16.4km az=153.0*
ISC 11 22:44:53.3±0.6, 31°.51S±0°.10×58°.22E±0°.10, h17km, n102, σ1.30/83, mb4.6/39, MS3.6/16, 15C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.54**	**347**	Pn	**Pn**	**22 47 22.8**	**-0.9**
FOMA	**Nahampoana Res**	**11.85**	**301**	Pn	**Pn**	**22 47 41.6**	**+0.2**
VOI	**Vohitsoka**	**13.98**	**310**	Pn	**Pn**	**22 48 11.2**	**+0.4**
H04N2	**CROZET ISLANDS**	**15.46**	**197**	T	T	23 04 18.5	
baz=22,slow=75,SNR=128							
H04N1	**CROZET ISLANDS**	**15.46**	**197**	T	T	23 04 22.6	
baz=22,slow=75,SNR=123							
H04N3	**CROZET ISLANDS**	**15.48**	**197**	T	T	23 04 20.1	
baz=22,slow=75,SNR=121							
ABPO	**Ambohimpanom**	**15.90**	**319**	Pn	**Pn**	**22 48 37.9**	**+1.3**
OPO	**Ambohidratompo**	**16.29**	**320**	Pn	**P**	**22 48 45.0**	**+0.7**
0.1nm,0.3s,baz=146,slow=6.1,SNR=3.7							
OPO				Sn	**Sn**	**22 51 36.5**	**-5.4**
baz=18,slow=20,SNR=1.5							
9.0nm,1.1s							
POGA	**Pongola**	**23.44**	**273**	P	**P**	**22 50 02.2**	**+0.5**
H08S1	**Diego Carcia H**	**27.21**	**32**	T	T	23 19 00.3	
baz=207,slow=75,SNR=20							
H08S2	**Diego Garcia H**	**27.22**	**32**	T	T	23 19 01.7	
baz=207,slow=75,SNR=10							
H08S3	**Diego Garcia H**	**27.23**	**32**	T	T	23 19 02.9	
baz=207,slow=75,SNR=16							
BOSA	**Boshof**	**28.62**	**267**	LR	LR	23 00 51.9	
comp=Z,58nm,18.4s,baz=158,slow=34							
SUR	**Sutherland**	**31.65**	**258**	LR	LR	23 02 11.4	
comp=Z,99nm,18.7s,baz=148,slow=33							
FURI	**Furi**	**44.31**	**332**	LR	LR	23 10 24.3	
comp=Z,32nm,18.2s,baz=152,slow=34							
H01W2	**Cape Leeuwin H**	**46.40**	**110**	T	T	23 43 07.1	
baz=257,slow=75,SNR=12							
H01W3	**Cape Leeuwin H**	**46.41**	**110**	T	T	23 43 04.5	
baz=257,slow=75,SNR=16							
H01W1	**Cape Leeuwin H**	**46.42**	**110**	T	T	23 43 00.4	
baz=257,slow=75,SNR=16							
SNAA	**Sanae**	**51.38**	**201**	P	**P**	**22 53 55.5**	**-1.2**
1.0nm,0.8s,baz=55,slow=5.3,SNR=2.5							
SNAA				LR	LR	23 11 47.1	
comp=Z,71nm,18.7s,baz=108,slow=32							
1.0nm,0.8s							
QSPA	**South Pole Qui**	**58.66**	**180**	P	**P**	**22 54 48.2**	**-1.3**
QSPA				IAmb	IAmb	22 54 54.6	
comp=Z,10nm,1.4s							
QSPA	**South Pole Qui**	**58.66**	**180**	P	**P**	**22 54 48.4**	**-1.1**
comp=Z,2.5nm,0.7s,baz=275,slow=2.2,SNR=24							
QSPA				LR	LR	23 17 33.5	
comp=Z,60nm,18.9s,baz=254,slow=34							
comp=Z,2.5nm,0.7s							
VNDA	**Vanda**	**62.37**	**166**	LR	LR	23 18 51.5	
comp=Z,74nm,21.0s,baz=254,slow=33							
CMAR	**Chiang Mai Arr**	**63.21**	**44**	P	**P**	**22 55 19.5**	**-1.3**
CMAR	**Chiang Mai Arr**	**63.21**	**44**	P	**P**	**22 55 22.0**	**+1.2**
comp=Z,3.0nm,0.6s,baz=229,slow=6.8,SNR=21							
CMAR				LR	LR	23 19 40.6	
comp=Z,16nm,18.2s,baz=175,slow=33							
comp=Z,3.0nm,0.6s							
SHL	**Shillong**	**65.23**	**33**	P	**P**	**22 55 33.6**	**-0.6**
SHL				IAmb	IAmb	22 55 36.5	
comp=Z,13nm,1

KBA	Koelnbreinsper	88.05	331	*i* P		P	22 57 45.4 +2.8
	comp=Z,5.4nm,1.4s						
ABTA	Abfaltersbach	88.13	330	*e*P		P	22 57 44.5 +1.6
	comp=Z,6.6nm,1.2s						
ZALV	Zalesovo Beam	88.17	15	P		P	22 57 42.3 -0.4
ZALV	Zalesovo Beam	88.17	15	P		P	22 57 41.0 -1.7
	comp=Z,1.1nm,0.8s,baz=199,slow=4.0,SNR=6.0						
ZALV				LR		LR	23 34 10.9
	comp=Z,20nm,18.6s,baz=188,slow=34						
OJC	Ojcow	88.20	336	P		P	22 57 42.5 -0.5
OJC				IAmb		IAmb	22 57 44.8
	comp=Z,7.2nm,1.3s						
MOA	Molln	88.29	332	*e*P		P	22 57 45.1 +1.5
	comp=Z,7.0nm,1.4s						
BIOA	Bad Ischl, Aus	88.42	332	*e*P		P	22 57 45.8 +1.7
	comp=Z,4.8nm,1.2s						
KRUC	Moravsky	88.45	334	*e*P		P	22 57 44.9 +0.7
VRAC	Vranov	88.58	334	*e*P		P	22 57 45.9 +1.1
LESA	Schwarzleotal	88.60	331	*i* P		P	22 57 46.1 +1.1
	comp=Z,3.0nm,0.6s						
MORC	Moravsky Berou	88.62	335	*e*P		P	22 57 46.1 +1.0
WTTA	Wattenberg	88.91	330	*e*P		P	22 57 48.1 +1.5
	comp=Z,4.4nm,0.6s						
WATA	Walderalm	88.99	330	*i* P		P	22 57 48.3 +1.3
	comp=Z,4.5nm,0.8s						
SQTA	Sankt Quirin	89.05	330	*e*P		P	22 57 48.9 +1.7
	comp=Z,6.1nm,0.8s						
FETA	Feichten	89.10	330	*e*P		P	22 57 49.5 +1.9
	comp=Z,7.5nm,1.1s						
RETA	Reutte	89.45	330	*e*P		P	22 57 50.2 +1.1
	comp=Z,3.9nm,0.8s						
DAVA	Damuels	89.68	329	*e*P		P	22 57 51.7 +1.5
	comp=Z,2.2nm,0.7s						
SONM	Songino Array	90.03	30	P		P	22 57 52.1 +0.3
	comp=Z,0.9nm,0.9s,baz=211,slow=3.4,SNR=5.0						
	comp=Z,0.9nm,0.9s						
ESDC	Sonseca Array	91.32	317	P		P	22 57 58.3 +0.3
	comp=Z,1.3nm,1.0s,baz=118,slow=4.2,SNR=6.6						
	comp=Z,1.3nm,1.0s						
KSRS	Korea Array	94.54	48	LR		LR	23 40 24.3
	comp=Z,20nm,18.0s,baz=235,slow=35						
ILAR	Eielson Array	143.26	18	PKhKP		PKPpre	23 04 21.4
	comp=Z,0.3nm,0.8s,baz=321,slow=1.2,SNR=2.6						
YKA	Yellowknife Ar	148.66	354	PKPbc		PKPbc	23 04 38.8 +0.1
	comp=Z,2.8nm,0.9s,baz=15,slow=2.7,SNR=4.0						

*IDC **11** 23:01:23.1±0.7, 39.°89N×143.°61E, h0km, mb3.9/16, mbtmp3.9/19, ML3.3/3, MS3.1/5, Error ellipse: s-maj=18.7km s-min=17.0km az=76.0*
*JMA **11** 23:01:24.2±0.3, 40.°0N±0.°6×14.°4E±.°, h18km±4km, MV3.9/32, FAR E OFF SANRIKU*
*NIED **11** 23:01:24.2, 39.°98N×143.°59E, h18km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}-3.22; $M_{\theta\theta}$0.82; $M_{\phi\phi}$2.40; $M_{r\theta}$-3.42; $M_{\theta\phi}$3.77; $M_{\phi r}$-0.59; Fault plane solution: $M_0$5.85000×10^14^ NP1:ϕ_s68.00000°, δ68.00000°, λ-55.00000°. NP2:ϕ_s186.00000°, δ40.00000°, λ-145.00000°.*
*NEIC **11** 23:01:25.3±1.1, 39.°98N±0.°04×143.°46E±0.°10, h10km±1km, mb4.3/21 Error ellipse: s-maj=12.9km s-min=7.2km az=100.0*

ISC 11 23:01:24.7±0.6, 39.°99N±0.°06×143.°51E±0.°06, h6km, n84, σ1$23/76, mb4.2/30, MS3.5/3, 1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.27	268	P		Pn	23 01 48.0 -1.0
JTH				*e*S		Sb	23 02 05.3 -0.3
MIYJ	Miyakonagasawa	1.37	253	*e*S		Sb	23 02 07.8 -0.7
JKEN	Kujiedanarisaw	1.40	280	*i* P		Pn	23 01 49.9 -0.9
JKEN				*e*S		Sb	23 02 08.5 -0.9
JANG	Nango	1.58	285	*i* P		Pn	23 01 52.5 -0.8
JOM	Ohasama	1.79	254	*i* P		Pn	23 01 56.2 0.0
JTM	Tenmabayashi	2.03	294	Pn		Pn	23 01 59.2 -0.2
JTM				Sn		Sn	23 02 23.2 -1.9
JTM	Tenmabayashi	2.03	294	P		Pn	23 01 59.7 +0.2
ERM	Erimo	2.04	353			Pn	23 01 58.9 -0.7
JMK	Ichinoseki	2.05	240	*e*P		Pn	23 01 59.1 -0.6
JAH	Hinai	2.22	276	*i* P		Pn	23 02 02.6 +0.5
JNBK	Urakawa-nobuka	2.36	346	*e*P		Pn	23 02 04.7 +0.7
JCH	Churui	2.63	358	P		Pn	23 02 07.4 -0.2
JYK	Kaneyama	2.67	247	P		Pn	23 02 08.3 +0.1
JMM	Marumori	3.00	226			Pn	23 02 11.2 -1.6
JAK	Akkeshi	3.13	16	P		Pn	23 02 13.6 -1.0
JKA	Kamikawa-asahi	4.18	351	Pn		Pn	23 02 29.6 +0.6
ASAJ	Asahikawa	4.18	351	Pn		Pn	23 02 29.7 +0.7
	2.4nm,0.3s,baz=219,slow=15,SNR=9.6						
	5.1nm,0.3s						
MJAR	Matsushiro Arr	5.41	232	Pn		Pn	23 02 46.9 +1.0
	0.2nm,0.3s,baz=34,slow=11,SNR=14						
MJAR				LR		LR	23 04 25.0
	comp=Z,16nm,18.1s,baz=155,slow=34						
	2.7nm,0.5s						
MJB9	Matsu-Tunnel	5.41	232			Pn	23 02 46.4 +0.4
MAJO	Matsushiro	5.41	232			Pn	23 02 45.2 -0.7
JGF	Kuroka	6.55	230	Pn		Pn	23 03 03.6 +1.9
USA0B	Ussuriysk Arra	9.54	300	Pn		Pn	23 03 42.6 0.0
USRK	Ussuriysk Ar.	9.54	300			Pn	23 03 43.0 +0.4
USRK	Ussuriysk Ar.	9.54	300	Pn		Pn	23 03 45.2 +2.7
	0.5nm,0.3s,baz=95,slow=13,SNR=9.2						
	1.7nm,0.5s						
KSRS	Korea Array	12.44	263	LR		LR	23 08 22.4
	comp=Z,25nm,20.1s,baz=195,slow=34						
KLR	Kul'dur	12.46	322	Pn		Pn	23 04 29.5 +7.0
	0.1nm,0.3s,baz=128,slow=12,SNR=1.7						
KLR				LR		LR	23 09 19.5
	comp=Z,31nm,18.3s,baz=167,slow=38						
BNX	BinXian	13.13	301	⇓P		Pn	23 04 32.6 +0.9
BNX				pmax		pmax	
	comp=Z,5.0nm,1.0s						
XLT	XiLinHaoTe	20.74	290	*e*P		P	23 06 07.1 +1.1
XLT				pP		pwP	23 06 11.5 +2.2
XLT				pmax		pmax	
	comp=Z,4.0nm,0.7s						
YAK	Yakutsk	23.62	344	P		P	23 06 34.5 -1.7
HHC	Hu-ho-hao-te	24.27	282	*e*P		P	23 06 44.6 +1.8
HHC				pP		pwP	23 06 48.7 +2.4
HHC				pmax		pmax	
	comp=Z,6.0nm,0.6s						
HHC				pmax		pmax	
	comp=Z,90nm,4.9s						
ULN	Ulaanbaatar	27.21	299	P		P	23 07 08.2 -1.2
ULN				IAmb		IAmb	23 07 10.5
	comp=Z,3.0nm,0.6s						
SONM	Songino Array	27.65	299	P		P	23 07 12.1 -1.2
SONM	Songino Array	27.65	299	P		P	23 07 13.8 +0.5
	comp=Z,1.6nm,0.6s,baz=88,slow=8.9,SNR=13						
	comp=Z,1.6nm,0.6s						
H11N2	WAKE ISLAND Hy	28.46	128	T		T	23 36 56.5
	baz=321,slow=75,SNR=20						
H11N1	WAKE ISLAND Hy	28.47	128	T		T	23 37 02.2
	baz=321,slow=75,SNR=21						
H11N3	WAKE ISLAND Hy	28.48	128	T		T	23 36 59.5
	baz=321,slow=75,SNR=22						
H11S1	WAKE ISLAND Hy	29.29	130	T		T	23 38 00.4
	baz=322,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	29.30	130	T		T	23 38 02.5
	baz=322,slow=76,SNR=7.5						
H11S2	WAKE ISLAND Hy	29.31	130	T		T	23 38 04.0
	baz=322,slow=76,SNR=8.5						
PZH	PanZhiHua	37.10	262	P		P	23 08 37.3 +1.2
PZH				pmax		pmax	
	comp=Z,10.0nm,0.7s						
PZH				pmax		pmax	
	comp=Z,110nm,4.7s						
ZALV	Zalesovo Beam	41.21	310	P		P	23 09 09.3 -0.7
ZALV	Zalesovo Beam	41.21	310	P		P	23 09 10.2 +0.2
	comp=Z,1.7nm,0.5s,baz=94,slow=8.2,SNR=7.6						
	comp=Z,1.7nm,0.5s						
G18K	Tagagawik	41.27	32	P		P	23 09 10.3 0.0
D19K	Kuna River	41.97	28	P		P	23 09 16.4 +0.3
D19K				IAmb		IAmb	23 09 26.1
	comp=Z,7.7nm,1.2s						
E19K	Redstone River	42.09	30	P		P	23 09 17.4 +0.3
E19K				IAmb		IAmb	23 09 18.8
	comp=Z,4.9nm,1.0s						
H19K	Roundabout Mou	42.12	33	P		P	23 09 18.2 +1.0
H19K				IAmb		IAmb	23 09 18.9
	comp=Z,3.6nm,0.8s						
IMAR	Indian Mountai	43.28	32	P		P	23 09 27.0 +0.3
CMAR	Chiang Mai Arr	43.87	254	LR		LR	23 29 32.6
	comp=Z,12nm,19.3s,baz=175,slow=38						
D22K	Ayikyak River	43.99	28	P		P	23 09 33.1 +0.7
D22K				IAmb		IAmb	23 09 34.1
	comp=Z,4.3nm,0.7s						
MK31	Makanchi Array	44.01	300	P		P	23 09 31.8 -1.1
MKAR	Makanchi Array	44.01	300	P		P	23 09 32.0 -1.0
MKAR	Makanchi Array	44.01	300	P		P	23 09 33.0 0.0
	comp=Z,0.8nm,0.8s,baz=80,slow=10.0,SNR=4.8						
	comp=Z,0.8nm,0.8s						
C23K	Itkillik River	44.83	27	P		P	23 09 39.2 +0.2
C23K				IAmb		IAmb	23 09 40.8
	comp=Z,4.2nm,0.7s						
KURK	Kurchatov	45.47	306	P		P	23 09 43.2 -1.2
E24K	Your Creek	45.47	29	P		P	23 09 44.4 +0.1
E24K				IAmb		IAmb	23 09 46.6
	comp=Z,6.4nm,1.2s						
KURBB	Kurchatov Arra	45.54	306	P		P	23 09 45.0 0.0
	comp=Z,2.3nm,0.6s,baz=80,slow=8.5,SNR=16						
	comp=Z,2.3nm,0.6s						
ILAR	Eielson Array	46.12	34	P		P	23 09 49.1 -0.3
	comp=Z,1.2nm,0.8s,baz=260,slow=6.9,SNR=13						
	comp=Z,1.2nm,0.8s						
D25K	Kavik River	46.28	28	P		P	23 09 50.2 -0.4
D25K				IAmb		IAmb	23 09 52.0
	comp=Z,3.2nm,0.8s						
E27K	Coleen River	48.05	29	P		P	23 10 04.7 +0.3
E27K				IAmb		IAmb	23 10 06.3
	comp=Z,2.4nm,0.9s						
BOOM	Boomskoye usch	49.64	296	P		P	23 10 16.5 -0.7
BVAR	Borovoye Array	49.85	311	P		P	23 10 18.6 +0.2
	comp=Z,1.0nm,0.5s,baz=76,slow=9.6,SNR=8.2						
	comp=Z,1.0nm,0.5s						
I30M	Mount Dempster	50.50	33	P		P	23 10 23.8 +0.4
I30M				IAmb		IAmb	23 10 24.9
	comp=Z,4.4nm,0.8s						
KSH	Kashi	50.75	293	P		P	23 10 29.5 +3.9
KSH				pmax		pmax	
	comp=Z,1.0nm,0.7s						
ARSB	Arslanbob	52.13	296	P		P	23 10 35.6 -0.3
KKAR	Karatay Array	53.11	299	P		P	23 10 41.9 -1.1
ARU	Arti	55.27	318	P		P	23 10 57.8 -0.7
ARU				IAmb		IAmb	23 10 59.4
	comp=Z,4.7nm,1.1s						
WB0	Warramunga Arr	60.05	190	P		P	23 11 30.5 -2.0
WR0	Warramunga Arr	60.22	190	P		P	23 11 31.9 -1.8
WRA	Warramunga Arr	60.23	190	P		P	23 11 31.6 -2.1
WRA	Warramunga Arr	60.23	190	P		P	23 11 31.8 -2.0
	comp=Z,1.8nm,0.6s,baz=8.1,slow=7.0,SNR=20						
	comp=Z,1.8nm,0.6s						
ARCES	ARCESS Array B	61.82	339	P		P	23 11 44.2 +0.2
	comp=Z,2.1nm,1.0s,baz=46,slow=7.5,SNR=5.3						
	comp=Z,2.1nm,1.0s						
ASAR	Alice Springs	63.95	190	P		P	23 11 57.7 -1.0
	comp=Z,0.6nm,0.6s,baz=3.0,slow=4.4,SNR=6.7						
	comp=Z,0.6nm,0.6s						
FINES	FINESS Array B	66.97	332	P		P	23 12 17.4 -0.4
	comp=Z,0.9nm,0.5s,baz=42,slow=7.6,SNR=8.5						
	comp=Z,0.9nm,0.5s						
KBZ	Khabaz	70.23	311	P		P	23 12 38.0 -0.4
	comp=Z,2.1nm,0.8s,baz=53,slow=6.9,SNR=3.7						
	comp=Z,2.1nm,0.8s						
NVAR	Mina Array Bea	71.92	55	P		P	23 12 49.1 -0.1
	comp=Z,0.6nm,0.6s,baz=291,slow=8.6,SNR=4.4						
	comp=Z,0.6nm,0.6s						
HFS	Hagfors	72.07	336	P		P	23 12 49.2 -0.2
	comp=Z,1.4nm,0.7s,baz=57,slow=6.0,SNR=8.0						
	comp=Z,1.4nm,0.7s						
NB2	NORSAR Subarra	72.09	338	P		P	23 12 49.1 -0.4
	comp=Z,0.3nm,0.5s,baz=36,slow=6.2						
NOA	NORSAR Array B	72.09	338	P		P	23 12 49.3 -0.2
	comp=Z,1.4nm,0.9s,baz=36,slow=6.0,SNR=5.8						
	comp=Z,1.4nm,0.9s						
PDAR	Pinedale Array	74.44	47	P		P	23 13 03.9 -0.1
	comp=Z,0.3nm,0.6s,baz=299,slow=2.3,SNR=3.8						
	comp=Z,0.3nm,0.6s						
BRTR	Keskin Array B	78.11	312	LR		LR	23 52 17.4
	comp=Z,20nm,18.1s,baz=126,slow=39						
VYHS	Vyhne	79.21	326	*e*P		P	23 13 34.9 +4.4
SRO	Srobarova	79.96	326	*e*P		P	23 13 37.9 +3.4
TXAR	Lajitas Array	87.03	54	P		P	23 14 11.1 -0.3
	comp=Z,0.5nm,0.8s,baz=289,slow=3.8,SNR=5.7						
	comp=Z,0.5nm,0.8s						
ESDC	Sonseca Array	95.33	335	LR		LR	00 01 43.0
	comp=Z,62nm,18.1s,baz=134,slow=38						

*MEX **11** 23:14:30.3±0.7, 14.°79N×92.°05W, h103km±6km, MD4.0*
*CATAC **11** 23:14:31.2±0.6, 14.°58N×92.°17W, h62km±6km, ML3.6*

ISC 11 23:14:29.3±1.3, 14.°65N±0.°06×92.°21W±0.°04, h94km±7km, n26, σ1$32/47, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.26	347	*e*P		Pn	23 14 43.7 +0.7
THIG				*e*S		Sn	23 14 54.5 +1.4
CHUJ	Union Juarez	0.45	12	*e*P		Pn	23 14 44.2 -0.3
CHUJ				*e*S		Sn	23 14 54.8 -0.8
PATR	El Naranjo	0.47	357	*e*P		Pn	23 14 44.3 -0.2
PATR				*e*S		Sn	23 14 55.3 -0.5
RTAL	Retalhuleu	0.51	104	*e*P		Pn	23 14 44.8 +0.2
RTAL				*e*S		Sn	23 14 55.9 +0.1
RTAL	Retalhuleu	0.51	104	*i* P		Pn	23 14 44.7 +0.2
RTAL				*i* S		Sn	23 14 54.0 -1.9
RTAL				IAML			23 15 00.4
	comp=Z,2μm,1.0s						
PAVE	Pavencul	0.54	3	*e*P		Pn	23 14 45.1 0.0
PAVE				*e*S		Sn	23 14 57.2 +0.4
SOKI	Kika Raxquin	0.79	77	*i* P		Pn	23 14 47.8 +0.3
SOKI				IAML			23 15 12.3
	comp=Z,500nm,1.0s						
HUEH	Huehuetenango	0.95	45	*i* P		Pn	23 14 49.1 +0.1
HUEH				*e*S		Sn	23 15 01.3 -2.4
HUEH	Huehuetenango	0.95	45	*i* P		Pn	23 14 49.3 +0.3
HUEH				IAML			23 14 49.3
	comp=Z,3μm,1.0s						
HUEH				*i* S		Sn	23 15 03.4 -0.3
QUIS	Sacapulas	1.25	59	*i* P		Pn	23 14 52.9 +0.5
QUIS				IAML			23 14 52.9
	comp=Z,2μm,1.0s						
QUIS				*i* S		Sn	23 15 09.7 0.0
PCIG		1.44	317	*e*P		Pn	23 14 55.1 +0.7
PCIG				*e*S		Sn	23 15 14.8 +1.4
GCG4	OSOP	1.62	92	*i* P		Pn	23 14 57.2 +0.2
GCG4				IAML			23 15 31.4
	comp=Z,1μm,1.0s						
CCIG	Comitan	1.63	2	*i* P		Pn	23 14 58.8 +1.7
CCIG				*i* S		Sn	23 15 18.8 +0.8
CCIG				IAML			23 15 21.3
	comp=Z,250nm,1.0s						
CARR	Arriaga	2.29	314	*e*P		Pn	23 15 07.5 +2.0
CARR				*e*S		Sn	23 15 34.9 +1.8
TGIG		2.29	337	*e*P		Pn	23 15 03.7 -1.9
TGIG				*i* P		Pn	23 15 03.7 -1.9
TGIG				*e*S		Sn	23 15 30.3 -3.0
NUBE	Las Nubes	2.46	107	*i* P		Pn	23 15 08.0 0.0
NUBE				*i* S		Sn	23 15 37.2 -0.4
NUBE				IAML			23 16 44.4
	comp=Z,150nm,1.0s						
CEVE	Cerro Verde	2.63	108	*i* P		Pn	23 15 10.4 +0.1
CEVE				*i* S		Sn	23 15 41.3 -0.4
CEVE				IAML			23 15 47.2
	comp=Z,170nm,1.0s						
MTO3	Montecristo	2.77	95	*i* P		Pn	23 15 12.4 +0.4
MTO3				IAML			23 15 22.1
	comp=Z,34nm,1.0s						
MTO3				*i* S		Sn	23 15 44.8 0.0
JAYA	Jayaque - finc	2.85	110	*i* P		Pn	23 15 13.8 +0.7
JAYA				*i* S		Sn	23 15 46.7 -0.1
JAYA				IAML			23 15 50.9
	comp=Z,300nm,1.0s						
PMON	Piamonte	2.95	108	*i* P		Pn	23 15 14.9 +0.5
PMON				IAML			23 16 01.0
	comp=Z,120nm,1.0s						
UXUV	UXUV	3.25	325	*e*P		Pn	23 15 19.0 +0.7
UXUV				*e*S		Sn	23 15 54.9 -1.1
HUIG	Huatulco	3.93	287	*e*P		Pn	23 15 27.6 +0.1
HUIG				*e*S		Sn	23 16 07.9 -4.7
PACA	Pacayal	3.94	107	*i* P		Pn	23 15 28.5 +0.7
PACA				IAML			23 15 37.8
	comp=Z,480nm,1.0s						
RANC	El Ranchito	3.99	107	*i* P		Pn	23 15 28.7 +0.3
RANC				IAML			23 15 31.5
	comp=Z,330nm,1.0s						
LCND	La Caada	4.39	107	*i* P		Pn	23 15 34.6 +0.8
LCND				IAML			23 17 09.0
	comp=Z,83nm,1.0s						
NEUV	Arroyo Zacate	4.61	312	*e*P		Pn	23 15 39.1 +2.4
NEUV				*e*S		Sn	23 16 28.8 -0.2

*UPP **11** 23:29:05.9±0.0, 67.°85N×20.°22E, h0km, ML2.3, Unknown*
*IDC **11** 23:29:06.4±1.0, 67.°85N×20.°59E, h0km, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=17.3km s-min=7.1km az=121.0*

ISC 11 23:29:05.5±0.9, 67.°90N±0.°05×20.°21E±0.°04, h12km±7km, n11, σ0$90/15, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.07	42	P		Pg	23 29 08.2 +0.2
KUA				S		Sg	23 29 09.9 0.0
RATU	Laukkuluspa	0.25	252	P		Pg	23 29 10.6 0.0
RATU				S		Sg	23 29 13.8 -0.3
KOVU	Salmi	0.32	357	P		Pb	23 29 13.2 0.0
KOVU				S		Sb	23 29 18.0 -0.4
LANU	Lannavaara	0.69	77	P		Pb	23 29 18.9 -0.5
DUNU	Dundret	0.80	170	P		Pg	23 29 20.0 -0.8
MASU	Masugnsbyn	0.82	122	P		Pg	23 29 20.7 -0.5
SALU	Saltoluokta	0.84	232	P		Pg	23 29 20.9 -0.6
ARCES	ARCESS Array B	2.54	47	Pn		Pb	23 29 49.3 -1.5
	2.2nm,0.3s,baz=231,slow=13,SNR=41						
ARCES				Lg		Lg	23 30 22.7
	3.8nm,0.3s,baz=228,slow=24,SNR=8.2						
	3.9nm,0.3s						
FINES	FINESS Array B	6.95	156	Pn		Pn	23 30 49.0 +2.0
	0.1nm,0.3s,baz=349,slow=13,SNR=4.3						
FINES				Sn		Sn	23 32 06.4 +0.6
	0.3nm,0.3s,baz=345,slow=21,SNR=5.2						
FINES				Lg		Lg	23 32 38.0
	0.6nm,0.3s,baz=345,slow=28,SNR=8.2						
	0.4nm,0.4s						
NOA	NORSAR Array B	7.90	214	Pn		Pn	23 31 00.6 +0.6
	baz=23,slow=12,SNR=10						
NOA				Lg		Lg	23 33 08.3
	0.1nm,0.3s,baz=210,slow=21,SNR=5.2						
	0.2nm,0.4s						
HFS	Hagfors	8.30	203	Pn		Pn	23 31 05.8 +0.4
	0.2nm,0.3s,baz=19,slow=13,SNR=15						
	0.5nm,0.4s						

*IDC **11** 23:29:18.9±0.9, 30.°10N×87.°59E, h0km, mb3.6/10, mbtmp3.6/11, ML3.3/1, MS2.4/1, Error ellipse: s-maj=46.8km s-min=18.5km az=60.0*

ISC 11 23:29:24.3±1.1, 30.°2N±0.°2×87.°7E±0.°3, h35km, n14, σ0$76/13, mb3.6/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.56	136	LR		LR	23 39 06.3
	comp=Z,15nm,20.6s,baz=175,slow=38						
MKAR	Makanchi Array	17.09	347	P		P	23 33 21.2 -0.6
	0.1nm,0.3s,baz=170,slow=13,SNR=4.0						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	21.52	344	P		P	23 34 09.5 -0.6
	0.2nm,0.3s,baz=160,slow=10,SNR=4.6						
	0.2nm,0.3s						
ZALV	Zalesovo Beam	23.82	356	P		P	23 34 34.1 +0.3
	0.8nm,0.5s,baz=188,slow=11,SNR=4.8						
	0.8nm,0.5s						
BVAR	Borovoye Array	26.07	336	P		P	23 34 55.5 +1.1
	0.8nm,0.7s,baz=144,slow=11,SNR=5.6						
	0.8nm,0.7s						
FINES	FINESS Array B	50.44	327	P		P	23 38 18.4 +0.2
	0.7nm,0.6s,baz=152,slow=8.6,SNR=4.0						
	0.7nm,0.6s						
ARCES	ARCESS Array B	52.35	337	P		P	23 38 32.9 +0.4
	1.4nm,0.8s,baz=114,slow=9.0,SNR=4.0						
	1.4nm,0.8s						
HFS	Hagfors	56.42	325	P		P	23 39 01.7 -0.4
	1.1nm,0.8s,baz=96,slow=9.1,SNR=5.4						
	1.1nm,0.8s						
NB2	NORSAR Subarra	57.59	326	P		P	23 39 09.9 -0.5
	comp=Z,2.0nm,1.0s,baz=90,slow=6.5						
NOA	NORSAR Array B	57.59	326	P		P	23 39 10.0 -0.4
	comp=Z,0.6nm,0.7s,baz=86,slow=6.8,SNR=5.5						
	comp=Z,0.6nm,0.7s						
WRA	Warramunga Arr	67.11	132	P		P	23 40 15.5 +1.0
	comp=Z,0.2nm,0.5s,baz=323,slow=6.4,SNR=1.9						
	comp=Z,0.2nm,0.5s						
ASAR	Alice Springs	69.57	135	P		P	23 40 29.1 -0.8
	comp=Z,0.3nm,0.6s,baz=319,slow=6.8,SNR=3.4						
	comp=Z,0.3nm,0.6s						
TORD	Torodi Ar. Bea	80.06	279	P		P	23 41 31.4 +0.5
	comp=Z,0.7nm,0.8s,baz=60,slow=6.5,SNR=6.8						
	comp=Z,0.7nm,0.8s						
CPUP	Villa Florida	148.99	268	PKPbc		PKPbc	23 49 07.9 -1.1
	comp=Z,1.1nm,0.5s,baz=2.7,slow=4.8,SNR=3.2						

*IDC **11** 23:35:44.0±1.5, 31.°01N×47.°66E, h0km, mb3.8/13, mbtmp3.8/15, ML3.5/2, MS2.9/6, Error ellipse: s-maj=28.7km s-min=19.9km az=172.0*
*TEH **11** 23:35:43.7, 30.°92N×47.°72E, h11km±3.5km, ML4.0*
*SGS **11** 23:35:44.5, 31.°37N×47.°86E, h24km, Ml4.7*
*ISN **11** 23:35:44.7±0.8, 30.°84N×47.°75E, h25km±7km, ML4.1*
*OMAN **11** 23:35:51.0±0.9, 30.°77N×47.°94E, h24km, mb3.0/17, Error ellipse: s-maj=11.1km s-min=5.7km az=85.0*
*DSN **11** 23:35:55.8±2.1, 30.°23N×48.°13E, h15km, ML3.5/8, Error ellipse: s-maj=26.9km s-min=11.7km az=174.0*
*NAO **11** 23:36:45.9, 38.°77N×47.°50E, h33km, mb3.5*

ISC 11 23:35:48.4±0.6, 30.°96N±0.°05×47.°84E±0.°05, h35km, n130, σ1$31/149, mb3.7/12, MS2.9/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	Ahwaz	0.79	62	Pg		Pn	23 36 01.0 -1.9
RAFI	Al-Rafai	1.66	298	*e*Pg		Pn	23 36 15.0 0.0
RAFI				*e*Sg		Sn	23 36 36.0 +0.9
RAFI				AML	AML		23 36 44.5
	comp=N,4μ

n181,σ1§51/179,mb4.2/31,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.14**	**103**	P	**Pn**	**23 57 12.7**	**-0.7**
NIKH	**Nikolski High**	**0.14**	**103**	Pn	**Pn**	**23 57 13.3**	**-0.1**
NIKH				Sn	**Sn**	**23 57 22.3**	**-0.7**
CLCO	**Concord Point,**	**0.45**	**241**		**Pn**	**23 57 15.3**	**+0.3**
CLCO					**Sn**	**23 57 24.6**	**-1.0**
CLES	**Cleveland East**	**0.53**	**250**		**Pn**	**23 57 15.6**	**+0.1**
CLES					**Sn**	**23 57 26.4**	**-0.2**
OKWE	**Okmok W'ng Wal**	**0.69**	**47**		**Pn**	**23 57 17.7**	**+0.6**
OKCE	**Okmok Cone E**	**0.69**	**52**		**Pn**	**23 57 17.6**	**+0.6**
OKNC	**Okmok New Cone**	**0.73**	**51**		**Pn**	**23 57 18.2**	**+0.8**
MREP	**Makushin Rep't**	**1.61**	**59**		**Pn**	**23 57 28.9**	**+1.1**
MSW	**Makushin Switc**	**1.65**	**55**		**Pn**	**23 57 29.1**	**+0.9**
MSW					**Sn**	**23 57 49.9**	**+0.7**
MTBL	**Makushin Table**	**1.73**	**55**		**Pn**	**23 57 30.4**	**+1.1**
UNV	**Unalaska Valle**	**1.76**	**60**	P	**Pn**	**23 57 30.6**	**+1.0**
UNV	**Unalaska Valle**	**1.76**	**60**	Pn	**Pn**	**23 57 30.5**	**+1.0**
LVA	**Lava Point**	**2.15**	**56**		**Pn**	**23 57 36.6**	**+1.8**
LVA				Sn	**Sn**	**23 58 00.9**	**0.0**
LVA				IAML		23 58 06.4	
	comp=E,2μm,0.8s						
LVA				IAML		23 58 06.7	
	comp=N,3μm,0.8s						
AKV	**Akutan Volcano**	**2.17**	**58**		**Pn**	**23 57 36.8**	**+1.7**
WECS	**Westdahl Cape**	**2.98**	**57**		**Pn**	**23 57 47.8**	**+2.1**
WEBT	**Westdahl Beart**	**3.02**	**56**		**Pn**	**23 57 48.1**	**+1.8**
KOKL	**Mount Kliuchef**	**3.19**	**260**		**Pn**	**23 57 50.7**	**+2.0**
ATKA	**Atka Island**	**3.22**	**258**	P	**Pn**	**23 57 49.9**	**+0.9**
ATKA	**Atka Island**	**3.22**	**258**	Pn	**Pn**	**23 57 49.7**	**+0.7**
ATKA				Sn	**Sn**	**23 58 27.1**	**+0.8**
ATKA				IAML		23 58 36.9	
	comp=N,495nm,0.8s						
ATKA				IAML		23 58 38.4	
	comp=E,839nm,0.7s						
SSLS	**Shishaldin Sou**	**3.46**	**58**		**Pn**	**23 57 54.0**	**+1.7**
P08K	**Saint George I**	**3.62**	**356**		**Pn**	**23 57 55.2**	**+0.9**
ISNN	**Isanotski Nort**	**3.63**	**58**		**Pn**	**23 57 56.8**	**+2.2**
FALS	**False Pass**	**3.83**	**59**	P	**Pn**	**23 57 58.5**	**+1.4**
FALS	**False Pass**	**3.83**	**59**	Pn	**Pn**	**23 57 59.1**	**+2.0**
SPIA	**Saint Paul Isl**	**4.24**	**351**	P	**Pn**	**23 58 04.2**	**+1.5**
SPIA	**Saint Paul Isl**	**4.24**	**351**		**Pn**	**23 58 04.0**	**+1.3**
GSTR	**Great Sitkin T**	**4.36**	**261**	Pn	**Pn**	**23 58 06.2**	**+1.8**
GSMY	**Great Sitkin M**	**4.37**	**260**		**Pn**	**23 58 06.3**	**+1.8**
GSTD	**Great Sitkin T**	**4.42**	**260**		**Pn**	**23 58 07.3**	**+2.0**
ADK	**Adak**	**4.79**	**259**	P	**Pn**	**23 58 11.1**	**+0.9**
ADK	**Adak**	**4.79**	**259**		**Pn**	**23 58 11.2**	**+1.1**
ADK				IAML		23 59 17.9	
	comp=E,290nm,0.7s						
ADK				IAML		23 59 18.8	
	comp=E,365nm,0.4s						
PN7A	**Pavlof North-7**	**4.81**	**57**		**Pn**	**23 58 13.4**	**+2.8**
PS4A	**Pavlof South-4**	**4.85**	**58**		**Pn**	**23 58 13.5**	**+2.5**
S12K	**Black Hills**	**4.92**	**54**	Pn	**Pn**	**23 58 13.0**	**+1.1**
KIWB	**Kanaga Island**	**5.07**	**260**	Pn	**Pn**	**23 58 14.7**	**+0.6**
SDPT	**Sand Point**	**5.57**	**62**	P	**Pn**	**23 58 21.9**	**+1.1**
CNBA	**Chernabura Isl**	**5.90**	**68**	Pn	**Pn**	**23 58 25.1**	**-0.1**
GANE	**Gareloi Northe**	**6.05**	**263**		**Pn**	**23 58 29.3**	**+1.9**
GANO	**Gareloi North**	**6.07**	**263**		**Pn**	**23 58 30.0**	**+2.4**
VNWF	**Veniaminof 8**	**6.37**	**57**		**Pn**	**23 58 34.5**	**+2.7**
VNFG	**Fog Glacier, M**	**6.43**	**55**		**Pn**	**23 58 34.3**	**+1.7**
CEPE	**Semis' Perret**	**6.96**	**266**		**Pn**	**23 58 42.5**	**+2.7**
CEAP	**Semis' Anvil P**	**7.00**	**266**		**Pn**	**23 58 42.7**	**+2.4**
CHGN	**Chignik**	**7.01**	**58**	Pn	**Pn**	**23 58 39.9**	**-0.5**
CESW	**Semis' Southwe**	**7.03**	**265**		**Pn**	**23 58 42.7**	**+2.0**
AMKA	**Amchitka**	**7.33**	**262**		**Pn**	**23 58 44.9**	**+0.2**
M11K	**Mekoryuk**	**7.57**	**11**		**Pn**	**23 58 50.6**	**+2.7**
LSNW	**Little Sitkin**	**7.64**	**267**		**Pn**	**23 58 52.0**	**+2.9**
N14K	**Kuskokwak Cree**	**8.05**	**28**		**Pn**	**23 58 56.9**	**+2.4**
CHIR	**Chirikof Islan**	**8.34**	**65**	Pn	**Pn**	**23 58 57.4**	**-1.1**
M14K	**Bethel**	**8.69**	**24**	Pn	**Pn**	**23 59 03.6**	**+0.4**
N15K	**Kwethluk River**	**8.72**	**31**	Pn	**Pn**	**23 59 05.7**	**+2.0**
K13K	**Kusilvak Mount**	**9.26**	**13**		**Pn**	**23 59 12.4**	**+1.4**
SII	**Sitkinak Islan**	**9.31**	**62**	P	**Pn**	**23 59 11.7**	**-0.1**
SII	**Sitkinak Islan**	**9.31**	**62**	Pn	**Pn**	**23 59 11.2**	**-0.5**
ACHA	**Angle Creek He**	**9.36**	**51**	Pn	**Pn**	**23 59 13.2**	**+0.7**
OHAK	**Old Harbor**	**9.98**	**59**	P	**Pn**	**23 59 21.8**	**+1.0**
OHAK	**Old Harbor**	**9.98**	**59**	Pn	**Pn**	**23 59 18.7**	**-2.1**
P18K	**Big Mountain,**	**10.01**	**45**	Pn	**Pn**	**23 59 22.2**	**+0.9**
L16K	**Owhat River**	**10.14**	**27**	Pn	**Pn**	**23 59 24.0**	**+1.0**
SHEM	**Shemya Is, Ala**	**10.18**	**275**	LR	LR	00 03 42.2	
	comp=E,39nm,18.3s,baz=52,slow=40						
O18K	**Koktuh Hills**	**10.29**	**43**	Pn	**Pn**	**23 59 25.7**	**+0.7**
KDAK	**Kodiak Island**	**10.52**	**56**	Pn	**Pn**	**23 59 25.8**	**-2.5**
KDAK	**Kodiak Island**	**10.52**	**56**	P	**Pn**	**23 59 25.6**	**-2.6**
	comp=E,5.5nm,0.3s,baz=217,slow=2.7,SNR=18						
KDAK				S	**Sn**	**00 01 16.5**	**-7.5**
	comp=E,4.2nm,0.6s,baz=257,slow=18,SNR=1.0						
KDAK				LR	LR	00 03 06.3	
	comp=E,80nm,18.9s,baz=265,slow=35						
SYI	**Shuyak Island**	**10.93**	**52**	Pn	**Pn**	**23 59 32.4**	**-1.3**
N19K	**Bonanza Creek**	**11.15**	**40**	Pn	**Pn**	**23 59 39.0**	**+2.2**
J16K	**Anvik River**	**11.23**	**20**	Pn	**Pn**	**23 59 38.6**	**+0.9**
CNPM	**China Poot**	**11.85**	**49**	Pn	**Pn**	**23 59 44.2**	**-2.0**
BRLK	**Bradley Lake**	**12.12**	**49**	Pn	**Pn**	**23 59 49.8**	**0.0**
O22K	**Cooper Landing**	**12.96**	**47**		**Pn**	**00 00 00.6**	**-0.3**
SKT	**Skwentna**	**12.99**	**39**	Pn	**Pn**	**00 00 02.7**	**+1.3**
CAST	**Castle Rocks**	**13.70**	**34**		**Pn**	**00 00 11.7**	**+1.1**
GHO	**Glory Hole Cre**	**13.92**	**43**	Pn	**Pn**	**00 00 14.8**	**+1.3**
KNK	**Knik Glacier**	**13.94**	**45**		**Pn**	**00 00 13.9**	**+0.2**
H19K	**Roundabout Mou**	**14.08**	**22**	Pn	**Pn**	**00 00 16.5**	**+1.0**
SML	**Sawmill**	**14.18**	**43**	Pn	**Pn**	**00 00 16.8**	**-0.1**
KTH	**Kantishna Hill**	**14.18**	**35**		**Pn**	**00 00 17.8**	**+0.8**
HIN	**Hinchinbrook I**	**14.38**	**50**	Pn	**Pn**	**00 00 17.9**	**-1.7**
BPAW	**Bear Paw Mtn.**	**14.52**	**33**	Pn	**Pn**	**00 00 23.7**	**+2.5**
FID	**Port Fidalgo**	**14.53**	**49**	Pn	**Pn**	**00 00 18.3**	**-3.0**
SCM	**Sheep Creek Mo**	**14.61**	**44**	Pn	**Pn**	**00 00 20.7**	**-1.8**
RND	**Reindeer**	**14.83**	**37**	Pn	**Pn**	**00 00 25.9**	**+0.6**
F19K	**Shaleruckik Mo**	**14.94**	**18**	Pn	**Pn**	**00 00 27.7**	**+1.1**
E18K	**Tukpahlearik C**	**15.04**	**13**	P	**P**	**00 00 30.4**	**-0.7**
E18K				IAmb	IAmb	00 00 35.4	
	comp=Z,16nm,0.7s						
KLU	**Klutina**	**15.07**	**47**	Pn	**Pn**	**00 00 26.1**	**-2.3**
H21K	**Melozitna Rive**	**15.09**	**27**	Pn	**Pn**	**00 00 30.5**	**+2.0**
IMAR	**Indian Mountai**	**15.10**	**25**	P	**Pn**	**00 00 30.8**	**+2.2**
DHY	**Denali Highway**	**15.20**	**40**	Pn	**Pn**	**00 00 31.3**	**+1.2**
DHY				IAmb	IAmb	00 00 36.0	
	comp=Z,8.9nm,0.6s						
M24K	**Tolsona, Glenn**	**15.22**	**44**	Pn	**Pn**	**00 00 29.7**	**-0.6**
RAGM	**Ragged Mountai**	**15.24**	**51**	Pn	**Pn**	**00 00 30.0**	**-0.4**
RAGM				IAmb	IAmb	00 00 39.2	
	comp=Z,17nm,0.9s						
SUCK	**Suckling Hills**	**15.57**	**53**		**Pn**	**00 00 36.4**	**+1.7**
WRH	**Wood River Hil**	**15.73**	**35**	Pn	**Pn**	**00 00 36.2**	**-0.4**
WRH				IAmb	IAmb	00 00 39.9	
	comp=Z,9.6nm,0.6s						
CCB	**Clear Creek Bu**	**15.94**	**35**	Pn	**Pn**	**00 00 37.9**	**-1.2**
CCB				IAmb	IAmb	00 00 41.7	
	comp=Z,7.4nm,0.5s						
MDM	**Murphy Dome**	**15.98**	**33**	Pn	**Pn**	**00 00 39.2**	**-0.6**
CRQM	**Cirque**	**16.07**	**51**		**Pn**	**00 00 40.5**	**-0.6**
CRQM				IAmb	IAmb	00 01 04.9	
	comp=Z,22nm,1.1s						
WAX	**Waxell Ridge**	**16.12**	**52**		**Pn**	**00 00 41.7**	**+0.2**
H23K	**Yukon River**	**16.14**	**30**	P	**P**	**00 00 44.1**	**+0.8**
F21K	**Alatna River**	**16.16**	**22**	P	**P**	**00 00 43.6**	**+0.2**
MCARA	**McCarthy VSAT**	**16.32**	**49**		**Pn**	**00 00 43.3**	**-0.7**
MCARA				IAmb	IAmb	00 00 45.2	
	comp=Z,24nm,0.7s						
ILAR	**Eielson Array**	**16.33**	**35**	Pn	**Pn**	**00 00 43.8**	**-0.2**
ILAR	**Eielson Array**	**16.33**	**35**	P	**Pn**	**00 00 42.8**	**-1.2**
	comp=Z,2.0nm,0.5s,baz=222,slow=11,SNR=37						
SCRK	**Sand Creek**	**16.97**	**40**		**Pn**	**00 00 51.0**	**-1.0**
SCRK				IAmb	IAmb	00 00 54.2	
	comp=Z,6.9nm,0.5s						
CTGM	**Chitina Glacie**	**16.98**	**51**	IAmb	IAmb	00 00 56.0	
	comp=Z,18nm,0.7s						
LOGN	**Logan Glacier**	**17.10**	**52**	P	**Pn**	**00 00 53.5**	**-0.2**
LOGN				IAmb	IAmb	00 00 57.1	
	comp=Z,14nm,1.0s						
PRP	**Porcupine Dome**	**17.23**	**34**		**Pn**	**00 00 54.0**	**-1.2**
PNL	**Peninsula**	**17.64**	**56**	P	**Pn**	**00 01 01.8**	**+1.6**
TOLK	**Toolik Lake Re**	**18.19**	**23**		**Pn**	**00 01 07.3**	**+0.5**
EGAK	**Eagle**	**18.43**	**39**	P	**P**	**00 01 08.9**	**+0.4**
BMAR	**Burnt Mountain**	**18.69**	**30**	P	**P**	**00 01 10.4**	**-1.0**
HYT	**Haines Junctio**	**18.77**	**53**	P	**P**	**00 01 13.5**	**+1.1**
DAWY	**Dawson**	**18.84**	**42**	IAmb	IAmb	00 01 17.4	
	comp=Z,9.1nm,0.6s						
BILL	**Bilibino**	**19.12**	**331**		**P**	**00 01 16.7**	**+0.7**
BILL				IAmb	IAmb	00 01 20.9	
	comp=Z,18nm,1.1s						
WHY	**Whitehorse**	**20.02**	**54**	P	**P**	**00 01 26.1**	**+0.2**
WHY				IAmb	IAmb	00 01 33.3	
	comp=Z,15nm,0.9s						
EPYK	**Eagle Plains**	**20.79**	**37**	P	**P**	**00 01 32.5**	**-1.6**
MMPY	**Sheldon Lake,**	**22.00**	**49**	P	**P**	**00 01 48.3**	**+1.3**
SEY	**Seymchan**	**22.37**	**312**	P	**P**	**00 01 50.9**	**0.0**
	comp=Z,8.3nm,0.6s,baz=109,slow=12,SNR=19						
	comp=Z,8.3nm,0.6s						
DLBC	**Dease Lake**	**22.41**	**60**	P	**P**	**00 01 53.1**	**+1.6**
DLBC				IAmb	IAmb	00 01 56.0	
	comp=Z,17nm,0.8s						
DLBC	**Dease Lake**	**22.41**	**60**	P	**P**	**00 01 53.5**	**+2.1**
	comp=Z,17nm,0.8s,baz=277,slow=8.8,SNR=30						
	comp=Z,17nm,0.8s						
INK	**Inuvik**	**22.72**	**34**	P	**P**	**00 01 53.1**	**-1.3**
INK				IAmb	IAmb	00 01 55.4	
	comp=Z,11nm,0.6s						
INK	**Inuvik**	**22.72**	**34**	P	**P**	**00 01 53.6**	**-0.8**
	comp=Z,11nm,0.6s,baz=256,slow=8.1,SNR=14						
INK				LR	LR	00 10 22.0	
	comp=Z,34nm,19.5s,baz=204,slow=35						
	comp=Z,11nm,0.6s						
MA2	**Magadan**	**22.94**	**303**	LR	LR	00 09 58.5	
	comp=Z,20nm,19.7s,baz=115,slow=34						
YKA	**Yellowknife Ar**	**29.69**	**50**	LR	LR	00 15 02.8	
	comp=Z,56nm,18.8s,baz=280,slow=36						
B08A	**Colville Reser**	**31.34**	**78**	P	**P**	**00 03 13.0**	**+0.8**
B08A				IAmb	IAmb	00 03 15.5	
	comp=Z,5.0nm,0.8s						
TIXI	**Tiksi**	**32.28**	**328**	LR	LR	00 16 41.5	
	comp=Z,35nm,18.2s,baz=186,slow=37						
NEW	**Newport**	**32.69**	**77**	P	**P**	**00 03 23.8**	**-0.2**
NEW				IAmb	IAmb	00 03 28.7	
	comp=Z,6.0nm,0.8s						
OVMT	**Ovando**	**35.71**	**76**	P	**P**	**00 03 50.5**	**+0.3**
BPMT	**Black Pine Rid**	**35.77**	**78**	P	**P**	**00 03 51.9**	**+1.0**
PNTR	**Pine Nut**	**36.30**	**92**	P	**P**	**00 03 57.4**	**+2.0**
KLR	**Kul'dur**	**36.42**	**289**	LR	LR	00 20 55.7	
	comp=Z,42nm,18.1s,baz=210,slow=40						
WAKR	**Walker**	**36.77**	**93**	P	**P**	**00 04 01.8**	**+2.4**
WAKR				IAmb	IAmb	00 04 03.1	
	comp=Z,3.3nm,0.7s						
BOZ	**Bozeman (W)**	**37.29**	**78**	P	**P**	**00 04 04.7**	**+1.1**
BOZ				IAmb	IAmb	00 04 06.2	
	comp=Z,2.4nm,0.8s						
NVAR	**Mina Array Bea**	**37.50**	**92**	P	**P**	**00 04 06.4**	**+0.8**
NVAR	**Mina Array Bea**	**37.50**	**92**	P	**P**	**00 04 08.0**	**+2.3**
	comp=Z,2.1nm,0.7s,baz=297,slow=8.2,SNR=14						
NVAR				PcP	**PcP**	**00 06 24.1**	**+2.2**
	comp=Z,0.4nm,0.6s,baz=319,slow=2.6,SNR=2.8						
	comp=Z,2.1nm,0.7s						
MDPB	**Devils Postpil**	**37.55**	**94**	P	**P**	**00 04 06.9**	**+0.8**
MDPB				IAmb	IAmb	00 04 10.1	
	comp=Z,4.1nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**38.06**	**218**	T	T	00 45 28.0	
	baz=24,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**38.07**	**218**	T	T	00 45 31.2	
	baz=24,slow=76,SNR=35						
H11N1	**WAKE ISLAND Hy**	**38.08**	**218**	T	T	00 45 39.1	
	baz=24,slow=76,SNR=40						
R11B	**Troy Canyon, C**	**39.20**	**90**	P	**P**	**00 04 21.6**	**+1.8**
R11B				IAmb	IAmb	00 04 23.6	
	comp=Z,5.2nm,1.5s						
H11S1	**WAKE ISLAND Hy**	**39.25**	**218**	T	T	00 46 29.3	
	baz=23,slow=76,SNR=227						
H11S2	**WAKE ISLAND Hy**	**39.27**	**218**	T	T	00 46 30.4	
	baz=23,slow=76,SNR=221						
H11S3	**WAKE ISLAND Hy**	**39.27**	**218**	T	T	00 46 30.6	
	baz=23,slow=76,SNR=147						
PD31	**Pinedale Array**	**40.12**	**80**	P	**P**	**00 04 28.1**	**+0.7**
PDAR	**Pinedale Array**	**40.12**	**80**	P	**P**	**00 04 28.4**	**+1.0**
PDAR	**Pinedale Array**	**40.12**	**80**	P	**P**	**00 04 28.8**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=313,slow=4.1,SNR=14						
PDAR				pP	**pP**	**00 04 50.4**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=292,slow=4.4,SNR=3.3						
	comp=Z,1.3nm,0.7s						
GSC	**Goldstone, Bar**	**40.46**	**95**	P	**P**	**00 04 31.7**	**+1.6**
GSC				IAmb	IAmb	00 04 33.6	
	comp=Z,6.9nm,0.9s						
CBX	**Cerro Bola**	**42.61**	**98**	P	**P**	**00 04 48.8**	**+1.0**
AGMN	**Agassiz Nation**	**44.80**	**65**	P	**P**	**00 05 05.7**	**+0.8**
AGMN				IAmb	IAmb	00 05 06.6	
	comp=Z,4.6nm,1.0s						
SONM	**Songino Array**	**51.13**	**301**	P	**P**	**00 05 53.3**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=64,slow=6.6,SNR=2.2						
SONM				pP	**pP**	**00 06 16.0**	**+0.2**
	comp=Z,1.7nm,1.0s,baz=43,slow=8.5,SNR=4.1						
	comp=Z,0.3nm,0.6s						
TX31	**Lajitas Ar. Si**	**52.56**	**90**	P	**P**	**00 06 05.8**	**+1.0**
TX31				IAmb	IAmb	00 06 08.3	
	comp=Z,6.5nm,1.5s						
TXAR	**Lajitas Array**	**52.56**	**90**	P	**P**	**00 06 06.0**	**+1.3**
TXAR	**Lajitas Array**	**52.56**	**90**	P	**P**	**00 06 06.5**	**+1.7**
	comp=Z,1.4nm,0.5s,baz=304,slow=5.7,SNR=23						
TXAR				pP	**pP**	**00 06 27.1**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=301,slow=4.9,SNR=5.6						
	comp=Z,1.4nm,0.5s						
FCAR	**Ozark Folk Cen**	**54.85**	**75**	IAmb	IAmb	00 06 21.3	
	comp=Z,2.6nm,0.8s						
SCHQ	**Schefferville**	**54.85**	**44**	P	**P**	**00 06 21.4**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=16,slow=4.1,SNR=3.5						
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**57.07**	**317**	LR	LR	00 31 55.3	
	comp=Z,19nm,18.7s,baz=250,slow=37						
ARCES	**ARCESS Array B**	**57.31**	**354**	LR	LR	00 33 06.8	
	comp=Z,13nm,18.4s,baz=28,slow=38						
KURK	**Kurchatov**	**62.02**	**318**	P	**P**	**00 07 09.5**	**-1.3**
KURBB	**Kurchatov Arra**	**62.12**	**318**	P	**P**	**00 07 11.6**	**0.0**
	comp=Z,0.3nm,0.6s,baz=43,slow=7.8,SNR=5.0						
KURBB				pP	**pP**	**00 07 35.5**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=44,slow=7.6,SNR=5.7						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**63.29**	**324**	P	**P**	**00 07 18.4**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=58,slow=6.0,SNR=7.0						
	comp=Z,0.9nm,0.6s						
MK31	**Makanchi Array**	**63.50**	**313**	P	**P**	**00 07 18.0**	**-2.8**
MKAR	**Makanchi Array**	**63.50**	**313**	P	**P**	**00 07 18.2**	**-2.6**
MKAR	**Makanchi Array**	**63.50**	**313**	P	**P**	**00 07 20.0**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=65,slow=5.8,SNR=5.0						
MKAR				pP	**pP**	**00 07 44.6**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=46,slow=6.9,SNR=6.1						
	comp=Z,0.5nm,0.6s						
ARU	**Arti**	**64.14**	**333**	LR	LR	00 38 28.9	
	comp=Z,20nm,18.3s,baz=36,slow=39						
FINES	**FINESS Array B**	**65.26**	**352**	P	**P**	**00 07 31.3**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=33,slow=7.3,SNR=8.9						
	comp=Z,0.6nm,0.5s						
NB2	**NORSAR Subarra**	**66.31**	**360**	P	**P**	**00 07 37.9**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=357,slow=6.5						
NOA	**NORSAR Array B**	**66.31**	**360**	P	**P**	**00 07 38.0**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=0.7,slow=6.4,SNR=6.9						
NOA				LR	LR	00 37 39.4	
	comp=Z,5.7nm,19.1s,baz=315,slow=37						
	comp=Z,0.6nm,0.7s						
HFS	**Hagfors**	**67.19**	**358**	P	**P**	**00 07 43.1**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=38,slow=2.6,SNR=16						
	comp=Z,1.4nm,0.5s						
PZH	**PanZhiHua**	**68.81**	**286**	P	**P**	**00 07 56.6**	**+1.4**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
ABKAR	**Akbulak array**	**69.99**	**328**	P	**P**	**00 07 59.9**	**-1.9**
ABKAR	**Akbulak array**	**69.99**	**328**	P	**P**	**00 07 59.8**	**-2.1**
ABKAR				IAmb	IAmb	00 08 25.5	
	comp=Z,1.5nm,0.9s						
EKA	**Eskdalemuir Ar**	**71.40**	**8**	P	**P**	**00 08 09.9**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=334,slow=6.3,SNR=3.9						
	comp=Z,1.3nm,0.9s						
KKAR	**Karatay Array**	**71.43**	**318**	P	**P**	**00 08 08.7**	**-2.1**
AKASG	**Malin Array Be**	**75.52**	**348**	P	**P**	**00 08 33.0**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=19,slow=6.3,SNR=2.4						
	comp=Z,0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**76.65**	**283**	P	**P**	**00 08 40.9**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=20,slow=6.4,SNR=4.7						
	comp=Z,1.1nm,0.3s						
ESDC	**Sonseca Array**	**86.80**	**11**	P	**P**	**00 09 34.1**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=337,slow=5.5,SNR=4.6						
ESDC				pP	**pP**	**00 09 57.4**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=334,slow=4.3,SNR=2.2						
ESDC				LR	LR	00 50 06.4	
	comp=Z,21nm,18.9s,baz=138,slow=37						
	comp=Z,0.7nm,0.9s						
WRA	**Warramunga Arr**	**87.54**	**232**	P	**P**	**00 09 37.5**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=32,slow=5.8,SNR=11						
WRA				pP	**pP**	**00 10 01.3**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=32,slow=5.9,SNR=3.4						
	comp=Z,1.4nm,0.7s						

*IDC **11** 23:57:01.2±0.6, 53.°15N×169.°27W, h92km±4km, mb3.7/20, mbtmp4.0/21, MS3.1/12, Error ellipse: s-maj=16.5km s-min=11.1km az=5.0*

*AEIC **11** 23:57:01.5±2.9, 53.°04N±0.°09×169.°12W±0.°09, h79km±4km, Error ellipse: s-maj=13.6km s-min=6.0km az=158.0*

*NEIC **11** 23:57:01.2±2.2, 53.°03N±0.°09×169.°11W±0.°09, h84km±5km, mb4.3/49, ML4.4/10, ML4.2(AEIC), Error ellipse: s-maj=13.7km s-min=6.1km az=159.0*

ISC 11 23:57:00.6±0.5, 53.°00N±0.°08×169.°08W±0.°04, h91km±4km,

ASAR	**Alice Springs**	**90.94**	**230**	P	**P**	**00 09 54.8**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=26,slow=4.2,SNR=10						
ASAR				pP	**pP**	**00 10 17.7**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=31,slow=4.5,SNR=8.3						
	comp=Z,1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**113.64**	**10**	PKiKP	**PKiKP**	**00 15 27.5**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=330,slow=2.9,SNR=4.2						
QSPA	**South Pole Qui**	**142.77**	**180**	PKhKP	PKPpre	00 16 18.5	
	comp=Z,2.2nm,0.6s,baz=179,slow=1.3,SNR=25						
MATP	**Matopo**	**144.76**	**331**	PKP	**PKPab**	**00 16 26.9**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=63,slow=4.5,SNR=2.5						
MAW	**Mawson**	**151.48**	**219**	PKPab	**PKPab**	**00 16 52.6**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=90,slow=5.1,SNR=4.5						
BOSA	**Boshof**	**153.43**	**331**	PKPbc	**PKPbc**	**00 16 48.6**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=20,slow=3.8,SNR=6.2						

NEIC ***11*** *23:58:20.1±0.7, 36°.44N±0°.01×98°.78W±0°.03, h5km±1km, Error ellipse: s-maj=4.2km s-min=2.9km az=260.0*

TUL 11 23:58:20.5±0.9, 36°.46N±0°.02×98°.77W±0°.04, h6km±5km, ML2.7, mb_Lg2.4/39(NEIC), ML2.8/17(NEIC), Error ellipse: s-maj=4.6km s-min=2.5km az=97.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.03**	**53**		Pg	23 58 22.3	+0.6
OK038				IAML		23 58 23.6	
	9μm,0.1s						
OK038				Sg	Sg	23 58 23.6	+1.0
OK038				IAML		23 58 23.6	
	10μm,0.1s						
U32A	**Winter Ranch,**	**0.20**	**246**	Pg	Pg	23 58 24.9	+0.3
U32A				Sg	Sg	23 58 28.0	+0.7
U32A				IAML		23 58 28.4	
	comp=N,2μm,0.2s						
U32A				IAML		23 58 28.6	
	comp=E,2μm,0.1s						
NOKA	**Waynoka**	**0.22**	**323**		Pg	23 58 25.3	+0.5
NOKA				Sg	Sg	23 58 28.7	+1.0
OK035	**E0210 Rd and N**	**0.25**	**11**	Pg	Pg	23 58 26.0	+0.6
OK035				Sg	Sg	23 58 30.0	+1.2
OK035				IAML		23 58 30.3	
	comp=E,2μm,0.3s						
OK032	**Salt Plains WL**	**0.56**	**53**	Pg	Pg	23 58 31.6	+0.2
OK032				Sg	Sg	23 58 39.3	+0.6
OK032				IAML		23 58 42.6	
	comp=E,613nm,0.2s						
CROK	**Carrier**	**0.64**	**86**	Pg	Pg	23 58 32.8	+0.1
CROK				IAML		23 58 48.1	
	comp=E,332nm,0.3s						
CROK				IAML		23 58 48.5	
	comp=N,479nm,0.2s						
KAN14	**Manchester OK**	**0.81**	**52**		Pg	23 58 36.1	-0.1
CSTR	**Hydro, Custer**	**0.82**	**175**	Pg	Pg	23 58 36.0	-0.2
GC02	**Grant County #**	**0.83**	**62**	Pg	Pg	23 58 36.3	-0.1
KAN05	**Bluff City Nor**	**0.97**	**48**	Pg	Pg	23 58 38.9	-0.1
KAN17	**Caldwell West**	**0.99**	**54**	Pg	Pg	23 58 39.1	-0.5
KAN01	**Argonia South**	**1.06**	**49**	Pg	Pg	23 58 40.7	-0.2
KAN09	**Caldwell North**	**1.14**	**54**	Pg	Pg	23 58 41.9	-0.5
KAN13	**South Haven SW**	**1.17**	**62**	Pg	Pg	23 58 42.2	-0.8
OK029	**Liberty Lake**	**1.25**	**122**	Pg	Pg	23 58 43.4	-1.1
BLOK	**Blackwell**	**1.28**	**76**		Pn	23 58 44.4	-0.6
OK048	**Pawnee Station**	**1.47**	**91**		Pn	23 58 47.4	-0.2
OK051	**E0350 and S346**	**1.56**	**88**		Pn	23 58 49.0	+0.2
FNO	**Franklin**	**1.64**	**137**		Pn	23 58 50.1	+0.2
OK031	**S. Brethren Rd**	**1.64**	**107**		Pn	23 58 49.2	-0.7
OK052	**Battle Ridge R**	**1.66**	**106**		Pn	23 58 50.3	+0.1
QUOK	**Quay**	**1.69**	**99**		Pn	23 58 50.9	+0.3
WMOK	**Wichita Mounta**	**1.72**	**180**		Pn	23 58 50.5	-0.5
SMWD	**Samnorwood**	**1.81**	**222**		Pn	23 58 53.1	+0.8
T35A	**Sooner Cattle**	**1.87**	**75**		Pn	23 58 53.8	+0.7
DEOK	**Depew**	**1.94**	**108**		Pn	23 58 54.4	+0.3
R32A	**Long Quarter,**	**1.96**	**1**		Pb	23 58 55.5	-1.1
X34A	**Smith Ranch, M**	**2.01**	**157**		Pb	23 58 56.4	-1.1
W35A	**Tecumseh**	**2.02**	**130**		Pn	23 58 56.1	+0.9
TUL3	**Leonard**	**2.47**	**102**	IAmb_Lg		23 59 37.2	
	comp=Z,11nm,0.8s						
CBKS	**Cedar Bluff**	**2.47**	**342**	IAmb_Lg		23 59 38.1	
	comp=Z,14nm,0.8s						
WTFS	**Witchita Falls**	**2.70**	**175**	Pn	Pn	23 59 05.1	+0.6
LOOK	**Love County**	**2.79**	**152**	Pn	Pn	23 59 05.7	0.0
RLO	**Rose Lookout**	**3.04**	**94**		Pn	23 59 09.4	+0.2
RTBA	**Rita Blanca**	**3.20**	**271**		Pn	23 59 12.2	+0.8
DKNS	**Dickens**	**3.30**	**213**	Pn	Pn	23 59 13.3	+0.5
APMT	**Aspermont**	**3.32**	**200**		Pn	23 59 13.8	+0.8
X37A	**Clayton**	**3.34**	**123**		Pn	23 59 13.6	+0.3
Z35A	**Perchaven, San**	**3.36**	**158**	Pn	Pn	23 59 14.0	+0.4
PLPT	**Palo Pinto**	**3.66**	**174**	Pn	Pn	23 59 17.1	-0.6
SN07	**Snyder 07**	**3.79**	**208**	IAmb_Lg		00 00 24.2	
	comp=Z,6.6nm,0.8s						
HHAR	**Hobbs**	**3.90**	**91**		Pn	23 59 21.6	+0.6
SN05	**Snyder 5**	**3.98**	**207**	IAmb_Lg		00 00 30.4	
	comp=Z,12nm,0.9s						
KSCO	**Kaye Shedlock'**	**3.98**	**311**	IAmb_Lg		00 00 30.4	
	comp=Z,14nm,0.8s						
POST	**Post**	**4.07**	**214**	Pn	Pn	23 59 24.2	+0.8
MSTX	**Muleshoe**	**4.11**	**234**	IAmb_Lg		00 00 39.3	
	comp=Z,11nm,0.8s						
S39A	**Bolivar**	**4.53**	**73**	Pn	Pn	23 59 30.0	+0.4
S39A				IAmb_Lg		00 00 45.5	
	comp=Z,8.1nm,0.8s						
T25A	**Trinidad**	**4.58**	**280**		Pn	23 59 31.0	+0.5
T25A				IAmb_Lg		00 00 52.7	
	comp=Z,11nm,1.1s						
MIAR	**Mount Ida**	**4.65**	**113**	IAmb_Lg		00 00 59.6	
	comp=Z,5.3nm,0.8s						
SGCY	**Sterling City**	**4.94**	**204**	IAmb_Lg		00 01 07.6	
	comp=Z,6.1nm,0.7s						
P38A	**Dawn**	**5.20**	**51**	IAmb_Lg		00 01 17.5	
	comp=Z,5.5nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.41**	**94**	IAmb_Lg		00 01 25.4	
	comp=Z,4.8nm,0.8s						
Q24A	**Divide**	**5.64**	**298**	IAmb_Lg		00 01 20.8	
	comp=Z,4.4nm,0.8s						
OZNA	**Ozona**	**5.86**	**200**	IAmb_Lg		00 01 33.9	
	comp=Z,6.7nm,1.1s						
JCT	**Junction City**	**6.03**	**189**	IAmb_Lg		00 01 37.9	
	comp=Z,6.9nm,1.0s						
CCM	**Cathedral Cave**	**6.21**	**73**	IAmb_Lg		00 01 41.8	
	comp=Z,6.8nm,0.9s						
ISCO	**Idaho Springs**	**6.34**	**304**	IAmb_Lg		00 01 42.8	
	comp=Z,4.5nm,1.1s						
PBMO	**Poplar Bluff**	**6.71**	**85**	IAmb_Lg		00 01 53.4	
	comp=Z,5.0nm,0.7s						
FVM	**French Village**	**6.83**	**75**	IAmb_Lg		00 01 57.8	
	comp=Z,4.4nm,0.7s						
N23A	**Red Feather La**	**7.15**	**310**	IAmb_Lg		00 02 17.8	
	comp=Z,6.5nm,1.0s						
RSSD	**Black Hills**	**8.64**	**334**	IAmb_Lg		00 03 00.5	
	comp=Z,2.7nm,0.7s						

SJA ***12*** *00:09:40.2±0.7, 24°.25S×67°.06W, h210km±6km, ML3.5, MW3.4*

NEIC ***12*** *00:09:42.5±1.8, 24°.21S±0°.08×67°.2W±0°.1, h204km±9km, mb4.0/2, ML3.8(GUC), Error ellipse: s-maj=14.7km s-min=11.2km az=96.0*

GUC ***12*** *00:09:43.7±0.5, 24°.24S×67°.36W, h209km±11km, ML3.8*

ISC 12 00:09:41.2±0.8, 24°.30S±0°.04×67°.13W±0°.04, h196km±8km, n55, σ1§53/78, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.54**	**106**	*eP*	**Pn**	**00 10 15.7**	**+0.6**
SLA				*eS*	**Sn**	**00 10 41.4**	**0.0**
AF01	**San Pedro de A**	**1.65**	**324**		**Pn**	**00 10 17.1**	**+0.7**
AZAP	**Zapla**	**1.89**	**88**	*eP*	**Pn**	**00 10 18.4**	**-0.2**
FSA	**Cafayete**	**2.09**	**150**	*eP*	**Pn**	**00 10 21.2**	**+0.7**
LVC	**Limon Verde**	**2.34**	**316**		**Pn**	**00 10 24.5**	**+0.9**
LVC	**Limon Verde**	**2.34**	**316**	*eP*	**Pn**	**00 10 24.5**	**+0.9**
LVC				*eS*	**Sn**	**00 10 57.9**	**+1.5**
LVC	**Limon Verde**	**2.34**	**316**	*eP*	**Pn**	**00 10 24.5**	**+0.9**
LVC				*i* S	**Sn**	**00 10 55.8**	**-0.6**
GO02	**Mina Guanaco**	**2.39**	**248**		**Pn**	**00 10 25.6**	**+1.6**
PB15	**IPOC Station P**	**2.40**	**296**		**Pn**	**00 10 25.3**	**+1.3**
YJA	**Yavi**	**2.58**	**35**	*eP*	**Pn**	**00 10 26.7**	**+0.3**
YJA				*eS*	**Sn**	**00 11 00.2**	**-1.2**
PB06	**IPOC Station P**	**2.74**	**305**	*eP*	**Pn**	**00 10 28.8**	**+0.9**
PB06	**IPOC Station P**	**2.74**	**305**	*eP*	**Pn**	**00 10 28.8**	**+0.9**
PB06				*eS*	**Sn**	**00 11 04.2**	**0.0**
PB06				IAML		00 11 06.4	
	comp=Z,156nm,0.1s						
PB06	**IPOC Station P**	**2.74**	**305**	*eP*	**Pn**	**00 10 28.8**	**+0.9**
PB06				*i* S	**Sn**	**00 11 03.2**	**-1.0**
PB06				IAML		00 11 05.9	
	comp=N,260nm,0.1s						
AHML	**Horco Molle**	**2.96**	**147**	*eP*	**Pn**	**00 10 31.7**	**+1.5**
AHML				*eS*	**Sn**	**00 11 08.1**	**-0.6**
PB14	**IPOC Station P**	**3.00**	**263**		**Pn**	**00 10 31.8**	**+0.9**
PB14	**IPOC Station P**	**3.00**	**263**	*eP*	**Pn**	**00 10 32.1**	**+1.2**
PB14				*eS*	**Sn**	**00 11 11.7**	**+2.0**
PB14				IAML		00 11 14.0	
	comp=Z,98nm,0.2s						
PB14	**IPOC Station P**	**3.00**	**263**	*eP*	**Pn**	**00 10 32.2**	**+1.2**
PB14				*i* S	**Sn**	**00 11 09.0**	**-0.7**
PB09	**IPOC Station P**	**3.16**	**322**		**Pn**	**00 10 33.9**	**+1.1**
PB09	**IPOC Station P**	**3.16**	**322**	*eP*	**Pn**	**00 10 33.8**	**+1.0**
PB09				IAML		00 11 15.7	
	comp=Z,47nm,0.2s						
PB09	**IPOC Station P**	**3.16**	**322**	*eP*	**Pn**	**00 10 34.1**	**+1.3**
PB09				*i* S	**Sn**	**00 11 12.2**	**-0.8**
PB09				IAML		00 11 13.7	
	comp=N,100nm,0.5s						
PB10	**IPOC Station P**	**3.23**	**283**		**Pn**	**00 10 34.4**	**+1.0**
PB10	**IPOC Station P**	**3.23**	**283**	*eP*	**Pn**	**00 10 34.4**	**+1.0**
PB10				*eS*	**Sn**	**00 11 13.1**	**-1.0**
PB10				IAML		00 11 15.6	
	comp=Z,48nm,0.2s						
PB10	**IPOC Station P**	**3.23**	**283**	*eP*	**Pn**	**00 10 34.6**	**+1.2**
PB10				*i* S	**Sn**	**00 11 12.4**	**-1.8**
PB04	**IPOC Station P**	**3.39**	**305**		**Pn**	**00 10 36.2**	**+0.6**
PB04	**IPOC Station P**	**3.39**	**305**	*eP*	**Pn**	**00 10 36.1**	**+0.5**
PB04				*eS*	**Sn**	**00 11 17.5**	**-0.6**
PB04				IAML		00 11 20.2	
	comp=Z,130nm,0.2s						
PB04	**IPOC Station P**	**3.39**	**305**	*eP*	**Pn**	**00 10 36.3**	**+0.6**
PB04				*i* S	**Sn**	**00 11 16.0**	**-2.1**
AC01	**Pan de Azucar**	**3.64**	**239**	Pn	**Pn**	**00 10 39.0**	**+0.6**
AC01	**Pan de Azucar**	**3.64**	**239**	*eP*	**Pn**	**00 10 38.9**	**+0.5**
AC01				*eS*	**Sn**	**00 11 22.6**	**-0.6**
AC01				IAML		00 11 22.9	
	comp=Z,59nm,0.3s						
AC06	**Mina Casimiro**	**4.21**	**223**	Pn	**Pn**	**00 10 45.9**	**+0.4**
GO03	**Copiap**	**4.31**	**220**		**Pn**	**00 10 47.0**	**+0.2**
GO03	**Copiap**	**4.31**	**220**	*eP*	**Pn**	**00 10 47.5**	**+0.7**
GO03				*eS*	**Sn**	**00 11 38.1**	**-0.3**
PATCX	**Punta Patache**	**4.45**	**321**		**Pn**	**00 10 48.7**	**0.0**
PATCX	**Punta Patache**	**4.45**	**321**	*eP*	**Pn**	**00 10 48.5**	**-0.2**
PATCX				*eS*	**Sn**	**00 11 40.3**	**-1.3**
PATCX				IAML		00 11 46.5	
	comp=Z,28nm,0.4s						
VCA	**Vinchina**	**4.52**	**192**	*eP*	**Pn**	**00 10 47.5**	**-2.1**
VCA				*eP*		00 10 48.5	
VCA				*eS*	**Sn**	**00 11 38.9**	**-4.6**
VCA				IAML		00 12 20.5	
	comp=Z,17nm,3.6s						
TA01	**Diego Aracena**	**4.66**	**322**	Pn	**Pn**	**00 10 51.3**	**0.0**
TA01	**Diego Aracena**	**4.66**	**322**	*eP*	**Pn**	**00 10 50.4**	**-0.9**
TA01				*eS*	**Sn**	**00 11 43.5**	**-2.8**
TA01				IAML		00 11 44.1	
	comp=Z,21nm,0.7s						
HMBC	**Humberstone**	**4.75**	**327**		**Pn**	**00 10 50.9**	**-1.5**
HMBC	**Humberstone**	**4.75**	**327**	*eP*	**Pn**	**00 10 51.0**	**-1.5**
HMBC				*eS*	**Sn**	**00 11 45.4**	**-3.1**
HMBC				IAML		00 11 51.0	
	comp=Z,41nm,0.2s						
GO01	**Chusmiza**	**4.99**	**337**		**Pn**	**00 10 55.9**	**0.0**
GO01	**Chusmiza**	**4.99**	**337**	*eP*	**Pn**	**00 10 55.9**	**0.0**
PB11	**IPOC Station P**	**5.09**	**332**		**Pn**	**00 10 55.4**	**-1.5**
PB11	**IPOC Station P**	**5.09**	**332**	*eP*	**Pn**	**00 10 55.3**	**-1.6**
PB11				*eS*	**Sn**	**00 11 51.6**	**-4.8**
PB11				IAML		00 11 55.2	
	comp=Z,31nm,0.4s						
ACLC	**CERRO LA CRUZ**	**5.11**	**178**	*eP*	**Pn**	**00 10 58.1**	**+1.0**
ACLC				*eS*	**Sn**	**00 11 56.6**	**-0.4**
AC04	**Llanos de Chal**	**5.26**	**221**	Pn	**Pn**	**00 10 58.5**	**-0.3**
AC04	**Llanos de Chal**	**5.26**	**221**	*eS*	**Sn**	**00 11 53.8**	**-6.3**
AC04				IAML		00 12 00.3	
	comp=Z,33nm,2.8s						
AC05	**El Transito**	**5.32**	**211**	Pn	**Pn**	**00 11 00.1**	**+0.3**
AC05	**El Transito**	**5.32**	**211**	*eP*	**Pn**	**00 11 00.4**	**+0.6**
AC05				*eS*	**Sn**	**00 12 00.2**	**-1.5**
AC05				IAML		00 12 32.5	
	comp=Z,12nm,2.8s						
LCO	**Las Campanas**	**5.67**	**213**	Pn	**Pn**	**00 11 04.1**	**-0.3**
CO01	**Juntas del Tor**	**6.24**	**204**	Pn	**Pn**	**00 11 11.7**	**0.0**
CO03	**El Pedregal**	**7.24**	**205**	Pn	**Pn**	**00 11 23.5**	**-1.1**
LPAZ	**La Paz**	**8.03**	**353**	Pn	**Pn**	**00 11 35.1**	**-0.4**
TRQA	**Tornquist**	**14.40**	**163**		**Pn**	**00 12 56.4**	**+0.1**
SNAA	**Sanae**	**59.11**	**161**	P	**P**	**00 19 22.2**	**+1.4**
SNAA				IAmb	IAmb	00 19 37.2	
	comp=Z,4.1nm,1.4s						
QSPA	**South Pole Qui**	**65.91**	**180**	P	**P**	**00 20 07.0**	**+1.1**
QSPA				IAmb	IAmb	00 20 31.9	
	comp=Z,5.0nm,1.4s						
TORD	**Torodi Ar. Bea**	**76.79**	**69**	P	**P**	**00 21 11.2**	**-0.5**

JMA ***12*** *00:11:43.0±0.4, 32°N±2°×13°8E±°, h408km±3km, MV3.6/45, FAR S OFF TOKAI DISTRICT*

NIED ***12*** *00:11:43.0, 32°.20N×137°.88E, h408km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.91; $M_{\theta\theta}$-1.14; $M_{\phi\phi}$2.05; $M_{r\theta}$-0.84; $M_{\theta\phi}$-1.62; $M_{\phi r}$-1.33; Fault plane solution: $M_0$2.87000×10^{15} NP1: ϕ_s16.00000°, δ76.00000°, λ-38.00000°. NP2:ϕ_s117.00000°, δ53.00000°, λ-162.00000°.*

IDC ***12*** *00:11:43.8±0.6, 32°.09N×137°.86E, h389km±6km, mb3.6/19, mbtmp4.3/26 Error ellipse: s-maj=14.2km s-min=9.9km az=73.0*

NEIC ***12*** *00:11:43.5±1.2, 32°.00N±0°.08×137°.8E±0°.1, h388km±7km, mb4.2/50, Error ellipse: s-maj=12.8km s-min=11.5km az=118.0*

ISC 12 00:11:43.9±0.5, 32°.07N±0°.06×137°.87E±0°.06, h400km, n146, σ1§49/162, mb4.1/44, 1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.65**	**76**	P	**Pn**	**00 12 38.0**	**+0.2**
JAOM				*eS*	**S**	**00 13 21.3**	**-0.1**
TTO3	**TONANKAI O.B.S**	**1.83**	**348**	*eP*	**Pn**	**00 12 39.4**	**+0.8**
JHJ	**Hachijo jima 2**	**1.93**	**56**	P	**Pn**	**00 12 39.4**	**+0.1**
	220nm,0.3s,baz=81,slow=3.1,SNR=26						
JHJ				S	**S**	**00 13 22.5**	**-1.7**
	151nm,0.3s,baz=190,slow=5.2,SNR=5.6						
JHJ2	**Mitsune**	**1.95**	**57**	P	**Pn**	**00 12 39.4**	**-0.1**
JHJ2	**Mitsune**	**1.95**	**57**		**Pn**	**00 12 39.1**	**-0.3**
JHJ2				Sn	**S**	**00 13 22.1**	**-2.2**
JHJ2	**Mitsune**	**1.95**	**57**	P	**Pn**	**00 12 39.3**	**-0.1**
TTO4	**TONANKAI O.B.S**	**1.96**	**352**	P	**Pn**	**00 12 39.6**	**+0.5**
JIE	**Ise**	**2.52**	**338**	P	**Pn**	**00 12 43.0**	**-0.2**
JIE				*eS*	**S**	**00 13 29.9**	**-1.4**
JTNC	**Tanabenakahech**	**2.58**	**313**	P	**Pn**	**00 12 43.0**	**-0.8**
JTNC				S	**S**	**00 13 29.6**	**-2.6**
JSG	**Sagara**	**2.62**	**6**	Pn	**Pn**	**00 12 43.7**	**-0.3**
JAI	**Aioi**	**3.35**	**302**	P	**Pn**	**00 12 49.3**	**-0.6**
INU	**Inuyama**	**3.35**	**348**	Pn	**Pn**	**00 12 48.7**	**-1.2**
JYN	**Shimob**	**3.47**	**9**	P	**Pn**	**00 12 51.6**	**+0.6**
BSO3	**Boso 3**	**3.51**	**38**	P	**Pn**	**00 12 49.2**	**-1.8**
BSO3				*eS*	**S**	**00 13 41.7**	**-3.9**
JGF	**Kuroka**	**3.55**	**353**	P	**Pn**	**00 12 51.8**	**0.0**
JGF	**Kuroka**	**3.55**	**353**		**Pn**	**00 12 51.8**	**0.0**
BSO4	**Boso 4**	**3.57**	**35**	P	**Pn**	**00 12 50.2**	**-1.5**
BSO1	**Boso 1**	**3.67**	**44**	*eP*	**Pn**	**00 12 50.5**	**-1.6**
JMN	**Monobe**	**3.74**	**297**	P	**Pn**	**00 12 53.5**	**0.0**
JMN	**Monobe**	**3.74**	**297**		**Pn**	**00 12 52.6**	**-1.0**
JWT	**Wachi**	**3.81**	**328**	*eP*	**Pn**	**00 12 53.6**	**-0.5**
JWT				S	**S**	**00 13 48.5**	**-2.6**
JRY	**Ryogami san**	**4.03**	**12**	P	**Pn**	**00 12 55.9**	**-0.3**
JRY				S	**S**	**00 13 52.3**	**-2.7**
MJAR	**Matsushiro Arr**	**4.47**	**4**	P	**Pn**	**00 13 00.2**	**-0.2**
	20nm,0.6s,baz=181,slow=9.8,SNR=51						
MJAR				S	**S**	**00 13 59.0**	**-3.7**
	2.4nm,0.4s,baz=153,slow=16,SNR=1.6						
MAJO	**Matsushiro**	**4.47**	**4**	P	**Pn**	**00 12 59.9**	**-0.6**
MAJO	**Matsushiro**	**4.47**	**4**		**Pn**	**00 12 59.3**	**-1.1**
MJB9	**Matsu-Tunnel**	**4.48**	**3**		**Pn**	**00 13 00.3**	**-0.2**
JYT	**Yasato**	**4.58**	**24**	P	**Pn**	**00 12 59.4**	**-2.1**
JYT				S	**S**	**00 13 57.9**	**-6.6**
JHS	**Saijyo**	**4.93**	**308**	P	**Pn**	**00 13 05.3**	**+0.1**
JFK	**Kawauchi**	**5.84**	**24**	P	**Pn**	**00 13 13.0**	**-1.7**
JFK				S	**S**	**00 14 22.1**	**-6.6**
JNU	**Nakatsue**	**5.99**	**282**	P	**Pn**	**00 13 16.5**	**+0.1**
JNU	**Nakatsue**	**5.99**	**282**	P	**Pn**	**00 13 16.2**	**-0.2**
	36nm,0.8s,baz=90,slow=6.0,SNR=31						
CBIJ	**Chichi jima**	**6.22**	**142**	P	**Pn**	**00 13 16.9**	**-2.1**
CBIJ				S	**S**	**00 14 29.6**	**-6.8**
JCJ	**Chichijima**	**6.22**	**142**		**Pn**	**00 13 15.9**	**-3.0**
JCJ	**Chichijima**	**6.22**	**142**	P	Pn	00 13 11.4	-7.6
	93nm,0.3s,baz=281,slow=16,SNR=18						
JCJ				S	S	00 14 24.2	-12
	369nm,0.3s,baz=273,slow=22,SNR=19						
JMM	**Marumori**	**6.26**	**22**	P	**Pn**	**00 13 18.0**	**-1.2**
JMM	**Marumori**	**6.26**	**22**		**Pn**	**00 13 17.8**	**-1.4**
JSJ	**Shimokoshiki**	**6.95**	**269**	P	**P**	**00 13 26.6**	**-0.9**
JTM	**Tenmabayashi**	**9.08**	**16**		**P**	**00 13 49.8**	**-1.2**
TJN	**Taejon**	**9.70**	**299**	P	**P**	**00 13 56.3**	**-1.7**
KSRS	**Korea Array**	**9.79**	**306**	P	**Pn**	**00 14 00.3**	**+1.0**
	6.1nm,0.7s,baz=122,slow=9.9,SNR=29						
KSAR	**Wonju Array Be**	**9.81**	**306**	P	**Pn**	**00 13 59.3**	**-0.2**
KS19	**Wonju Array Si**	**9.85**	**306**	P	**P**	**00 13 58.3**	**-1.4**
JOW	**Kunigami**	**9.85**	**240**	P	**Pn**	**00 13 59.4**	**-0.9**
JOW	**Kunigami**	**9.85**	**240**	P	**Pn**	**00 14 00.1**	**-0.2**
	28nm,0.8s,baz=78,slow=12,SNR=4.7						
INCN	**Inchon**	**10.70**	**303**	P	**P**	**00 14 08.8**	**-0.4**
ERM	**Erimo**	**10.79**	**22**	P	**Pn**	**00 14 11.5**	**+0.6**
ASAJ	**Asahikawa**	**12.59**	**16**	P	**Pn**	**00 14 31.2**	**-0.5**
	5.6nm,0.5s,baz=224,slow=16,SNR=5.1						
JKA	**Kamikawa-asahi**	**12.59**	**16**	P	**P**	**00 14 30.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**12.96**	**341**	P	**P**	**00 14 34.3**	**+0.4**
	2.5nm,0.5s,baz=159,slow=11,SNR=9.0						
USA0B	**Ussuriysk Arra**	**12.96**	**341**	P	**Pn**	**00 14 34.9**	**-1.1**
CN2	**Changchun**	**15.25**	**324**	P	**P**	**00 14 58.5**	**-0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BNX	**BinXian**	**15.88**	**332**	⇓P	**P**	**00 15 05.1**	**-0.5**
BNX				pmax	pmax		
	comp=Z,20nm,0.8s						
YHNB	**Yeheng**	**16.27**	**247**	P	**P**	**00 15 07.6**	**-2.5**
YHNB				IAmb	IAmb	00 15 23.7	
	comp=Z,18nm,1.1s						
YULB	**Yu-li**	**17.01**	**244**	P	**P**	**00 15 16.8**	**-1.3**
KLR	**Kul'dur**	**17.75**	**347**	P	**P**	**00 15 25.2**	**-0.3**
	comp=Z,6.4nm,0.6s,baz=157,slow=9.4,SNR=17						
BJT	**Baijiatuau**	**19.23**	**300**	P	**P**	**00 15 39.2**	**-1.8**
BJT				IAmb	IAmb	00 15 45.1	
	comp=Z,6.8nm,0.6s						
HEH	**HeiHe**	**19.77**	**340**	*eP*	**P**	**00 15 46.5**	**+0.6**
HEH				pmax	pmax		
	comp=Z,15nm,0.8s						
XLT	**XiLinHaoTe**	**20.78**	**311**	*eP*	**P**	**00 15 55.6**	**+0.2**
XLT				pmax	pmax		
	comp=Z,15nm,0.7s						
HIA	**Hailar**	**21.91**	**327**	P	**P**	**00 16 05.8**	**+0.3**
HIA				IAmb	IAmb	00 16 07.5	
	comp=Z,5.7nm,0.7s						
BTO	**Baotou**	**23.92**	**299**	*eP*	**P**	**00 16 23.8**	**-0.1**
BTO				pmax	pmax		
	comp=Z,13nm,0.6s						
BTO				pmax	pmax		
	comp=Z,240nm,5.7s						
ENH	**Enshi**	**24.32**	**273**	P	**P**	**00 16 24.8**	**-2.8**
ULN	**Ulaanbaatar**	**28.16**	**313**	P	**P**	**00 17 01.8**	**+0.2**
ULN				IAmb	IAmb	00 17 02.9	
	comp=Z,7.4nm,0.6s						
SONM	**Songino Array**	**28.56**	**313**	P	**P**	**00 17 05.4**	**+0.4**
SONM	**Songino Array**	**28.56**	**313**	P	**P**	**00 17 05.9**	**+0.9**
	comp=Z,3.5nm,0.7s,baz=119,slow=7.6,SNR=29						
	comp=Z,3.5nm,0.7s						
GOMU	**GeErMu**	**35.66**	**289**	P	**P**	**00 18 07.4**	**+0.9**
GOMU				pmax	pmax		
	comp=Z,28nm,0.8s						
PHRA	**Phrae**	**36.42**	**257**	P	**P**	**00 18 12.3**	**-0.3**
TIXI	**Tiksi**	**39.94**	**356**	P	**P**	**00 18 41.3**	**+0.6**
ZAA0	**Zalesovo Array**	**43.30**	**316**	P	**P**	**00 19 07.3**	**-0.

BMAR	**Burnt Mountain**	**56.08 27**	P	**P**	**00 20 45.7**	**+2.9**
KBL	**Kabul**	**56.54 293**	P	**P**	**00 20 45.8**	**-0.9**
KBL			IAmb	IAmb	00 20 47.7	
	comp=Z,6.9nm,0.7s					
ARU	**Arti**	**58.21 320**	P	**P**	**00 20 57.4**	**-0.2**
ARU			IAmb	IAmb	00 20 58.8	
	comp=Z,10nm,1.2s					
ABKAR	**Akbulak array**	**58.97 312**	P	**P**	**00 21 03.4**	**+0.4**
ABKAR	**Akbulak array**	**58.97 312**	P	**P**	**00 21 03.3**	**+0.4**
ARCES	**ARCESS Array B**	**67.61 339**	P	**P**	**00 21 59.9**	**+1.4**
	comp=Z,2.3nm,0.5s,baz=67,slow=8.9,SNR=26					
	comp=Z,2.3nm,0.5s					
JOF	**Joensuu**	**68.96 332**	*e*P	**P**	**00 22 07.8**	**+1.0**
FINES	**FINESS Array B**	**71.83 332**	P	**P**	**00 22 24.8**	**+0.8**
	comp=Z,6.1nm,0.4s,baz=66,slow=5.7,SNR=103					
	comp=Z,6.1nm,0.4s					
KEF	**Keuruu**	**71.89 333**	*e*P	**P**	**00 22 25.1**	**+0.7**
KBZ	**Khabaz**	**71.91 311**	P	**P**	**00 22 26.3**	**+1.5**
	comp=Z,7.1nm,0.8s,baz=95,slow=4.6,SNR=17					
	comp=Z,7.1nm,0.8s					
KIV	**Kislovodsk**	**71.94 311**	P	**P**	**00 22 25.4**	**+0.2**
VAF	**Ylistaro**	**72.21 334**	*e*P	**P**	**00 22 27.3**	**+1.1**
ARBE	**Arbavere**	**73.00 330**	*e*P	**P**	**00 22 31.6**	**+0.7**
MEF	**Metsahovi**	**73.20 331**	*e*P	**P**	**00 22 33.2**	**+1.2**
RAF	**Rauma**	**73.77 333**	*e*P	**P**	**00 22 35.8**	**+0.6**
MTSE	**Matsula**	**74.33 330**	*e*P	**P**	**00 22 38.8**	**+0.3**
GURO	**Guroymak-BITLI**	**74.92 306**	P	**P**	**00 22 43.2**	**+0.7**
GURO			IAmb	IAmb	00 22 44.8	
	comp=Z,2.5nm,0.7s					
PABE	**Paberze**	**76.18 328**	*e*P	**P**	**00 22 50.5**	**+1.5**
AKASG	**Malin Array Be**	**76.40 322**	P	**P**	**00 22 51.0**	**+0.6**
	comp=Z,2.8nm,0.3s,baz=52,slow=5.9,SNR=12					
	comp=Z,2.8nm,0.3s					
AKBB	**Malin Array Si**	**76.40 322**	P	**P**	**00 22 50.4**	**0.0**
KIEV	**Kiev**	**76.41 322**	P	**P**	**00 22 50.3**	**-0.1**
KIEV			IAmb	IAmb	00 22 51.6	
	comp=Z,6.0nm,0.8s					
HFS	**Hagfors**	**77.37 335**	P	**P**	**00 22 56.1**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=46,slow=4.3,SNR=22					
	comp=Z,1.6nm,0.4s					
SUW	**Suwalki**	**77.45 327**	*e*P	**P**	**00 22 57.1**	**+1.0**
J08A	**Circle Bar Ran**	**77.57 47**	P	**P**	**00 22 59.6**	**+2.5**
J08A			IAmb	IAmb	00 23 01.1	
	comp=Z,6.8nm,1.3s					
NB2	**NORSAR Subarra**	**77.59 336**	P	**P**	**00 22 57.4**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=44,slow=5.3					
NOA	**NORSAR Array B**	**77.59 336**	P	**P**	**00 22 57.5**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=44,slow=5.5,SNR=16					
	comp=Z,2.6nm,0.8s					
RAYN	**Ar Rayn**	**79.78 291**	P	**P**	**00 23 09.9**	**+0.6**
BR131	**Keskin Array S**	**79.90 311**	P	**P**	**00 23 10.1**	**+0.3**
BR131			IAmb	IAmb	00 23 11.6	
	comp=Z,3.5nm,0.8s					
BRTR	**Keskin Array B**	**79.90 311**	P	**P**	**00 23 10.2**	**+0.5**
BRTR	**Keskin Array B**	**79.90 311**	P	**P**	**00 23 10.9**	**+1.1**
	comp=Z,3.2nm,0.9s,baz=92,slow=5.0,SNR=15					
	comp=Z,3.2nm,0.9s					
BUR08	**Bucovina Ar. S**	**80.33 321**	P	**P**	**00 23 12.5**	**+0.7**
BURAR	**Bucovina Array**	**80.34 321**	P	**P**	**00 23 12.5**	**+0.7**
BURAR			IAmb	IAmb	00 23 14.3	
	comp=Z,2.4nm,0.8s					
NVAR	**Mina Array Bea**	**80.35 51**	P	**P**	**00 23 13.3**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=291,slow=4.6,SNR=4.3					
	comp=Z,0.5nm,0.5s					
LANS	**Liptovska Anna**	**82.34 324**	*e*P	**P**	**00 23 24.1**	**+2.0**
MMAI	**Mount Meron Ar**	**82.38 304**	P	**P**	**00 23 24.0**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=48,slow=4.3,SNR=3.4					
	comp=Z,1.8nm,0.6s					
VYHS	**Vyhne**	**83.08 324**	*e*P	**P**	**00 23 27.5**	**+1.6**
CLL	**Collm**	**83.88 329**	*e*P	**P**	**00 23 31.0**	**+1.2**
EKA	**Eskdalemuir Ar**	**86.77 339**	P	**P**	**00 23 44.7**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=36,slow=5.4,SNR=3.8					
	comp=Z,0.2nm,0.4s					
TORD	**Torodi Ar. Bea**	**118.51 310**	PKP	**PKiKP**	**00 29 46.1**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=34,slow=1.8,SNR=11					
QSPA	**South Pole Qui**	**121.82 180**	PKP	**PKiKP**	**00 29 51.1**	**+0.6**
	comp=Z,1.5nm,1.1s,baz=279,slow=2.7,SNR=5.3					

KRSC 12 00:17:09.9±1.6, 55°.31N×166°.43E, h36km±8km, MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.28**	**248**	*e*P	Pn	00 17 18.0	+0.1
BKI				*e*S	Sn	00 17 23.6	-1.1
KBTR	**Krutoberegovo**	**2.23**	**295**	*e*P	Pn	00 17 45.7	+1.5
KBTR				*e*S	Sn	00 18 14.8	+4.3
ZLN	**Zelenaya**	**3.26**	**285**	*e*P	Pn	00 18 03.2	+4.7
TUMR	**Tumrok**	**3.59**	**272**	*e*P	Pn	00 18 07.6	+4.6
SRDR	**Sredinnyy**	**3.92**	**288**	*e*P	Pn	00 18 11.4	+3.9
KII	**Karymskiy**	**4.25**	**255**	*e*P	Pn	00 18 16.8	+4.8
SPN	**Mys Shipunski**	**4.36**	**242**	*e*P	Pn	00 18 16.4	+2.9
NLC	**Nalytchevo**	**4.67**	**246**	*e*S	Sn	00 19 13.9	+3.3
SMAR	**Somma**	**4.91**	**249**	*e*P	Pn	00 18 26.1	+4.8
KRER	**Koryakskii**	**4.92**	**249**	*e*P	Pn	00 18 26.2	+4.8
KRER				*e*S	Sn	00 19 22.9	+5.8
UGLR	**Uglovaya**	**4.93**	**248**	*e*P	Pn	00 18 26.5	+5.2
AVH	**Avacha**	**4.95**	**249**	*e*P	Pn	00 18 26.6	+5.0
AVH				*e*S	Sn	00 19 22.9	+5.4
KRX	**Arik**	**4.95**	**250**	*e*P	Pn	00 18 26.4	+4.6
KRX				*e*S	Sn	00 19 22.7	+5.0
KOK	**Koryaka**	**4.99**	**249**	*e*P	Pn	00 18 26.9	+4.7
GNL	**Ganaly**	**5.20**	**255**	*e*P	Pn	00 18 30.2	+5.1
ASAK	**Asacha**	**5.83**	**243**	*e*P	Pn	00 18 39.9	+6.1

*KRNET **12** 00:23:52.5±0.1, 41°.68N×78°.39E, h14km, mb2.8*
*SOME **12** 00:23:52.7, 41°.70N×78°.42E, h15km*
*NNC **12** 00:23:56.0±1.2, 41°.80N×78°.50E, h0km, mb3.7, mpv3.5,*
Error ellipse: s-maj=8.4km s-min=4.3km az=165.0

ISC 12 00:23:52.9±1.8, 41°.65N±0°.07×78°.40E±0°.04, h0km±11km, n48, σ1§06/75, 19C-15D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.45**	**280**	⇑*e*P	**Pg**	**00 24 01.1**	**-0.5**
TARG				⇑*e*S	**Sg**	**00 24 07.4**	**-0.1**
	baz=76						
PRZ	**Przheval'sk**	**0.83**	**360**	⇓*e*P	**Pg**	**00 24 08.0**	**-0.9**
PRZ				⇓*e*S	**Sg**	**00 24 19.3**	**-0.4**
	baz=0.0						
ANVS	**Anan'yevo**	**1.26**	**335**	⇓*e*P	**Pb**	**00 24 15.6**	**-2.0**
ANVS				⇓*e*S	**Sb**	**00 24 32.4**	**-2.0**
	baz=34						
SATY	**Saty**	**1.41**	**0**	*e*P	**Pn**	**00 24 18.5**	**-1.5**
SATY				*e*S	**Sb**	**00 24 37.2**	**-1.6**
	69nm,0.1s						
SATY	**Saty**	**1.41**	**0**	P	**Pn**	**00 24 18.5**	**-1.5**
SATY				S	**Sb**	**00 24 37.2**	**-1.6**
	69nm,0.1s						
UZB	**Uzynbulak**	**1.57**	**17**	*e*P	**Pn**	**00 24 21.1**	**-1.1**
UZB				*e*S	**Sb**	**00 24 41.8**	**-1.5**
	41nm,0.4s						
UZB	**Uzynbulak**	**1.57**	**17**	P	**Pn**	**00 24 21.1**	**-1.1**
UZB				S	**Sb**	**00 24 41.8**	**-1.5**
	41nm,0.4s						
SHLS	**Shalkode**	**1.70**	**27**	*e*P	**Pg**	**00 24 26.0**	**+0.5**
SHLS				*e*S	**Sg**	**00 24 49.8**	**+2.2**
	72nm,0.4s						
SHLS	**Shalkode**	**1.70**	**27**	P	**Pg**	**00 24 26.9**	**+1.4**
SHLS				S	**Sg**	**00 24 51.6**	**+4.0**
	72nm,0.5s						
ULHL	**Ulahol**	**1.72**	**291**	⇑*e*P	**Pn**	**00 24 23.8**	**-0.5**
ULHL				⇑*e*S	**Sn**	**00 24 46.8**	**-0.2**
	baz=90						
TNSS	**Tian-Shan**	**1.76**	**323**	*e*P	**Pn**	**00 24 25.1**	**+0.1**
TNSS				*e*S	**Sn**	**00 24 48.2**	**0.0**
	30nm,0.2s						
TNSS	**Tian-Shan**	**1.76**	**323**	P	**Pn**	**00 24 25.1**	**+0.1**
TNSS				S	**Sb**	**00 24 49.0**	**0.0**
	40nm,0.2s						
MDOK	**Medeo**	**1.81**	**327**	⇑Pn	**Pn**	**00 24 26.4**	**+0.8**
MDOK				⇑Sn	**Sb**	**00 24 50.9**	**+0.5**
	19nm,0.3s						
KURS	**Kuram**	**1.84**	**355**	*e*P	**Pn**	**00 24 26.3**	**+0.4**
KURS				*e*S	**Sb**	**00 24 50.8**	**-0.5**
	62nm,0.5s						
KURS	**Kuram**	**1.84**	**355**	P	**Pn**	**00 24 26.3**	**+0.4**
KURS				S	**Sb**	**00 24 50.8**	**-0.5**
	9.6nm,0.2s						
KOTS	**Kotyrbulak**	**1.85**	**329**	*e*P	**Pn**	**00 24 26.8**	**+0.8**
KOTS				*e*S	**Sb**	**00 24 51.2**	**-0.2**
	53nm,0.2s						
PDGK	**Podgornoye**	**1.86**	**25**	P	**Pn**	**00 24 26.2**	**0.0**
PDGK				S	**Sb**	**00 24 50.3**	**-1.5**
	9.4nm,0.2s						
PDGK	**Podgornoye**	**1.86**	**25**	⇓Pn	**Pn**	**00 24 25.9**	**-0.3**
PDGK				⇑Sn	**Sb**	**00 24 51.0**	**-0.8**
	18nm,0.8s						
KNDC	**Almaty**	**1.89**	**326**	⇓Pn	**Pn**	**00 24 27.8**	**+1.2**
KNDC				⇑Sn	**Sg**	**00 24 54.2**	**+0.5**
	26nm,0.3s						
IZV	**Izvestkoviy**	**1.92**	**317**	*e*P	**Pn**	**00 24 28.1**	**+1.1**
IZV				*e*S	**Sb**	**00 24 53.8**	**+0.4**
	3.2nm,0.2s						
BOOM	**Boomskoye usch**	**2.02**	**295**	⇑*e*P	**Pn**	**00 24 28.8**	**+0.5**
BOOM				⇑*e*S	**Sn**	**00 24 55.2**	**+0.9**
	baz=95						
MTBS	**Maitube**	**2.08**	**316**	*e*P	**Pn**	**00 24 30.7**	**+1.6**
MTBS				*e*S	**Sb**	**00 24 58.2**	**+0.2**
	16nm,0.2s						
MTBS	**Maitube**	**2.08**	**316**	Lg	Lg	00 24 58.2	
	45nm,0.2s						
KST	**Kastek**	**2.28**	**308**	*e*P	**Pb**	**00 24 35.0**	**-0.1**
KST				*e*S	**Sb**	**00 25 05.2**	**+1.3**
	17nm,0.2s						
KTBS	**Karatobe**	**2.42**	**329**	*e*P	**Pb**	**00 24 36.6**	**-0.7**
KTBS				*e*S	**Sb**	**00 25 08.1**	**+0.4**
	38nm,0.6s						
KTBS	**Karatobe**	**2.42**	**329**	Lg	Lg	00 25 08.1	
	22nm,0.5s						
TKM2	**Tokmak 2**	**2.44**	**302**	⇑Pn	**Pb**	**00 24 37.5**	**-0.3**
TKM2				⇓Sn	**Sb**	**00 25 09.9**	**+1.5**
	5.5nm,0.4s						
TKM2	**Tokmak 2**	**2.44**	**302**	⇑*e*P	**Pn**	**00 24 34.7**	**+0.5**
TKM2				⇑*e*S	**Sn**	**00 25 05.5**	**+0.7**
	31nm,0.5s						
BLB	**Baldybastay**	**2.45**	**1**	Lg	Lg	00 25 09.0	
	baz=2.0						
DGS	**Degeres**	**2.51**	**310**	*e*P	**Pb**	**00 24 38.7**	**-0.3**
DGS				*e*S	**Sb**	**00 25 11.5**	**+1.0**
	58nm,0.4s						
DGS	**Degeres**	**2.51**	**310**	Lg	Lg	00 25 11.5	
	11nm,0.4s						
ARXS	**Arharly**	**2.60**	**351**	*e*P	**Pb**	**00 24 39.8**	**-0.5**
ARXS				*e*S	**Sb**	**00 25 13.5**	**+0.6**
	23nm,0.5s						
ARXS	**Arharly**	**2.60**	**351**	Lg	Lg	00 25 13.5	
	64nm,0.4s						
KUU	**Kurty**	**2.71**	**327**	*e*P	**Pb**	**00 24 41.1**	**-1.1**
KUU				*e*S	**Sb**	**00 25 15.9**	**-0.1**
	13nm,0.3s						
KUU	**Kurty**	**2.71**	**327**	Lg	Lg	00 25 15.9	
	18nm,0.2s						
KBK	**Karagaybulak**	**2.76**	**293**	⇓*e*P	**Pn**	**00 24 39.2**	**+0.7**
KBK				⇓*e*S	**Sn**	**00 25 13.2**	**+0.6**
	baz=92						
KNOS	**Konyrlen**	**2.77**	**12**	Lg	Lg	00 25 18.1	
	16nm,0.2s						
KRBS	**Karabastau**	**2.87**	**316**	*e*P	**Pb**	**00 24 44.5**	**-0.5**
KRBS				*e*S	**Sb**	**00 25 21.6**	**+1.0**
	12nm,0.2s						
KRBS	**Karabastau**	**2.87**	**316**	Lg	Lg	00 25 20.8	
	24nm,0.3s						
DJR	**Jarkent**	**2.87**	**20**	*e*P	**Pb**	**00 24 44.5**	**-0.5**
DJR				*e*S	**Sb**	**00 25 21.5**	**+0.8**
	6.9nm,0.2s						
DJR	**Jarkent**	**2.87**	**20**	Lg	Lg	00 25 21.5	
	74nm,0.2s						
UCH	**Uchtor**	**2.96**	**283**	⇓*e*P	**Pn**	**00 24 42.0**	**+0.5**
UCH				⇓*e*S	**Sn**	**00 25 18.3**	**+0.4**
	baz=82						
CHMS	**Chumysh**	**3.02**	**298**	⇓*e*P	**Pn**	**00 24 42.6**	**+0.5**
CHMS				⇓*e*S	**Sn**	**00 25 19.2**	**+0.2**
	baz=97						
AAK	**Ala-Archa**	**3.07**	**290**	⇑Pn	**Pb**	**00 24 47.7**	**-0.8**
AAK				⇑Sn	**Sb**	**00 25 26.4**	**-0.1**
	3.1nm,0.8s						
USP	**Ospenovka**	**3.31**	**301**	⇑*e*P	**Pn**	**00 24 46.6**	**+0.6**
USP				⇑*e*S	**Sn**	**00 25 26.1**	**+0.1**
	7.5nm,0.5s						
SGDS	**Sogindy**	**3.32**	**304**	Lg	Lg	00 25 34.6	
	baz=0.0						
MK31	**Makanchi Array**	**5.85**	**27**	Pn	**Pn**	**00 25 21.4**	**+0.5**
MK31				⇓Sn	**Sn**	**00 26 29.1**	**+0.4**
	1.9nm,0.8s,baz=209,slow=14,SNR=12						
MK31				⇑Lg	Lg	00 26 55.8	
	0.6nm,0.3s,baz=210,slow=24						
KK31	**Karatay Array**	**6.02**	**287**	⇓Pg	**Pg**	**00 25 46.1**	**-2.1**
KK31				⇑Lg	Lg	00 27 08.2	
	2.6nm,0.7s,baz=208,slow=22						
	0.3nm,0.4s,baz=96,slow=15,SNR=4.5						
	4.8nm,1.1s,baz=94,slow=30						

*IDC **12** 00:37:59.5±0.4, 23°.41N×143°.78E, h0km, mb4.7/27, mbtmp4.7/30, ML4.3/3, MS4.4/67, Error ellipse: s-maj=17.3km s-min=10.4km az=84.0*
*NEIC **12** 00:38:01.1±1.6, 23°.54N±0°.07×143°.8E±0°.1, h8km±3km, mb5.0/142, Error ellipse: s-maj=13.7km s-min=10.7km az=79.0*
*BJI **12** 00:38:02.5±0.0, 23°.51N×143°.50E, h15km, mb4.8/62, mB5.0/33, Ms4.9/70, Ms7 4.7/68*
*JMA **12** 00:38:04.0±0.3, 23°.6N±0°.9×14°.4E±°, h90km, MV5.6/22, IOTO ISLANDS REGION*
*GCMT **12** 00:38:06.1±0.0, 23°.61N±0°.02×143°.91E±0°.03, h15km, MW5.1/71, Moment Tensor Solution. s22,c23; s71,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.08±.10; $M_{\theta\theta}$0.70±.05; $M_{\phi\phi}$-0.61±.09; $M_{r\theta}$-3.04±.18; $M_{\theta\phi}$0.20±.05; $M_{r\phi}$3.94±.27; Best double couple: $M_0$5.01200×10^{16} NP1:ϕ_s322.00000°, δ89.00000°, λ83.00000°. NP2: ϕ_s227.00000°, δ7.00000°, λ175.00000°. Principal axes: T 4.8150, Plg45.0000°, Azm225.0000°; N 0.3950, Plg7.0000°, Azm322.0000°; P -5.2100, Plg44.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 00:38:01.4±0.3, 23°.49N±0°.04×143°.78E±0°.05, h10km, n615, σ1§23/608, mb4.9/123, MS4.6/88, 7C-5D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.45**	**335**	*e*P	**Pn**	**00 38 55.8**	**+0.6**
JHH2				S	**Sn**	**00 39 35.9**	**-0.3**
JHH2	**Haha-jima-NKT2**	**3.45**	**335**	A	A	00 38 55.8	
	comp=E,17nm,0.5s,comp=N,12nm,0.4s						
CBIJ	**Chichi jima**	**3.87**	**338**	P	**Pn**	**00 39 01.1**	**+0.1**
CBIJ				*e*S	**Sn**	**00 39 44.5**	**-2.0**
JCJ	**Chichijima**	**3.87**	**338**	Pn	**Pn**	**00 39 01.1**	**0.0**
JCJ				Sn	**Sn**	**00 39 44.5**	**-2.0**
JCJ	**Chichijima**	**3.87**	**338**	Pn	Pn	00 38 56.7	-4.3
	comp=N,111nm,0.3s,baz=248,slow=7.6,SNR=40						
JCJ				Sn	**Sn**	**00 39 39.4**	**-7.1**
	comp=N,613nm,0.3s,baz=299,slow=23,SNR=26						
GUMO	**Guam**	**9.90 174**		LR	LR	00 43 05.4	
	comp=N,886nm,18.5s,baz=9.0,slow=31						
JHJ2	**Mitsune**	**10.20 341**		Pn	**Pn**	**00 40 27.5**	**-0.4**
JHJ	**Hachijo jima 2**	**10.22 341**		Pn	**Pn**	**00 40 27.0**	**-1.2**
	comp=N,13nm,0.3s,baz=294,slow=20,SNR=2.3						
JHJ				Sn	Sn	00 42 15.4	-7.4
	comp=N,36nm,0.3s,baz=39,slow=23,SNR=7.5						
JHJ				LR	LR	00 43 57.5	
	comp=N,864nm,21.0s,baz=106,slow=35						
	comp=N,39nm,0.4s						
BSO1	**Boso 1**	**11.39 348**	*e*P		**Pn**	**00 40 43.5**	**-0.2**
BSO1			*e*S		**Sn**	**00 42 45.0**	**-5.8**
BSO3	**Boso 3**	**11.63 347**	P		**Pn**	**00 40 46.8**	**-0.4**
JIM2	**Oshima 3**	**11.81 342**	*e*P		**Pn**	**00 40 49.2**	**-0.8**
JIM2			*e*S		Sn	00 42 53.1	-8.9
BSO4	**Boso 4**	**11.85 346**	*e*P		**Pn**	**00 40 50.1**	**-0.2**
INU	**Inuyama**	**13.20 335**			**Pn**	**00 41 08.3**	**-0.6**
JGF	**Kuroka**	**13.29 337**			**Pn**	**00 41 09.6**	**-0.7**
JHO	**Hitachi**	**13.37 349**	P		**Pn**	**00 41 09.3**	**-1.9**
JMN	**Monobe**	**13.39 322**			**Pn**	**00 41 11.0**	**-0.6**
JAG	**Ashikaga**	**13.42 345**	P		**Pn**	**00 41 09.7**	**-2.3**
JAG			S		Sn	00 43 31.0	-10
MJAR	**Matsushiro Arr**	**13.87 341**	Pn		**Pn**	**00 41 17.5**	**-0.6**
	comp=N,0.8nm,0.3s,baz=169,slow=11,SNR=22						
MJAR				Sn	**Sn**	**00 43 45.6**	**-6.7**
	comp=N,0.2nm,0.3s,baz=286,slow=30,SNR=4.6						
MJAR				LR	LR	00 45 11.0	
	comp=N,142nm,20.8s,baz=155,slow=31						
	comp=N,5.4nm,0.4s						
MAJO	**Matsushiro**	**13.87 341**			**Pn**	**00 41 16.1**	**-2.0**
MJB9	**Matsu-Tunnel**	**13.87 341**			**Pn**	**00 41 17.1**	**-1.1**
JOW	**Kunigami**	**14.43 287**			**Pn**	**00 41 28.0**	**+2.2**
JOW	**Kunigami**	**14.43 287**	Pn		**P**	**00 41 32.9**	**+0.1**
	comp=N,5.2nm,0.3s,baz=138,slow=12,SNR=7.0						
JOW				LR	LR	00 46 43.5	
	comp=N,2μm,18.6s,baz=105,slow=36						
JMM	**Marumori**	**14.56 351**			**Pn**	**00 41 25.3**	**-2.2**
JNU	**Nakatsue**	**14.86 313**	Pn		**Pn**	**00 41 31.2**	**-0.5**
JNU	**Nakatsue**	**14.86 313**	Pn		**P**	**00 41 38.6**	**+1.1**
	comp=N,0.5nm,0.3s,baz=111,slow=5.3,SNR=9.4						
JNU				LR	LR	00 46 07.1	
	comp=N,215nm,18.9s,baz=126,slow=33						
JTM	**Tenmabayashi**	**17.40 353**	P		**Pn**	**00 42 03.5**	**-0.7**
ERM	**Erimo**	**18.48 359**	P		**P**	**00 42 16.6**	**-0.9**
YOJ	**Yonaguni jima**	**19.00 277**	P		**P**	**00 42 23.4**	**0.0**
YOJ			IAmb		IAmb	00 42 28.7	
	comp=Z,130nm,1.2s						
KSRS	**Korea Array**	**19.46 319**	P		**P**	**00 42 29.4**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=147,slow=11,SNR=13						
KSRS				LR	LR	00 49 56.4	
	comp=Z,3μm,18.3s,baz=130,slow=37						
	comp=Z,12nm,0.3s						
KS19	**Wonju Array Si**	**19.53 319**	P		**P**	**00 42 29.0**	**0.0**
NACB	**Ninganchiao**	**20.30 276**	P		**P**	**00 42 37.3**	**-0.3**
JKA	**Kamikawa-asahi**	**20.60 358**			**P**	**00 42 38.2**	**-2.4**
ASAJ	**Asahikawa**	**20.60 358**	P		**P**	**00 42 41.9**	**+1.3**
	comp=Z,19nm,0.8s,baz=231,slow=15,SNR=8.2						
ASAJ				LR	LR	00 50 41.3	
	comp=Z,1μm,22.0s,baz=174,slow=37						
	comp=Z,19nm,0.8s						
YULB	**Yu-li**	**20.62 274**			**P**	**00 42 40.4**	**-0.7**
YULB			IAmb		IAmb	00 42 55.1	
	comp=Z,169nm,1.9s						
SSLB	**Suanglung**	**20.91 275**	P		**P**	**00 42 45.0**	**+0.8**
SSLB			IAmb		IAmb	00 42 51.0	
	comp=Z,56nm,0.6s						
H11N1	**WAKE ISLAND Hy 21.81 95**		T		T	01 05 26.8	
	baz=283,slow=74,SNR=5.8						
H11N2	**WAKE ISLAND Hy 21.81 95**		T		T	01 05 28.9	
	baz=283,slow=74,SNR=6.1						
H11N3	**WAKE ISLAND Hy 21.83 95**		T		T	01 05 22.7	
	baz=283,slow=74,SNR=7.0						
H11S3	**WAKE ISLAND Hy 21.95 99**		T		T	01 05 56.3	
	baz=283,SNR=3.7						
H11S1	**WAKE ISLAND Hy 21.96 99**		T		T	01 05 45.3	
	baz=283						
H11S2	**WAKE ISLAND Hy 21.97 99**		T		T	01 05 53.6	
	baz=283						
USA0B	**Ussuriysk Arra**	**22.81 338**	P		**P**	**00 43 03.5**	**-0.9**
USRK	**Ussuriysk Ar.**	**22.81 338**	P		**P**	**00 43 02.8**	**-1.6**
USRK	**Ussuriysk Ar.**	**22.81 338**	P		**P**	**00 43 05.4**	**+1.0**
	comp=Z,4.1nm,0.5s,baz=142,slow=9.6,SNR=12						
USRK				LR	LR	00 51 56.1	
	comp=Z,891nm,19.2s,baz=152,slow=36						
	comp=Z,4.1nm,0.5s						
YSS	**Yuzh-Sakhalins**	**23.43 358**	P		**P**	**00 43 08.7**	**-1.9**
YSS			IAmb		IAmb	00 43 34.7	
	comp=Z,53nm,1.2s						
NJ2	**Nanjing**	**23.60 297**	*e*P		**P**	**00 43 11.8**	**-0.8**
NJ2			pP		**sP**	**00 43 18.7**	**+4.1**
NJ2			pmax		pmax		
	comp=Z,13nm,0.5s						
NJ2			pmax		pmax		
	comp=Z,570nm,3.9s						
NJ2			LR		LR		
	comp=Z,780nm,16.1s						
NJ2			LR		LR		
	comp=Z,2μm,16.1s						
NJ2			LR		LR		
	comp=Z,3μm,15.6s						
DAV	**Davao City (W)**	**23.92 230**	LR		LR	00 50 56.1	
	comp=Z,2μm,20.5s,baz=88,slow=32						
MDJ	**Mudanjiang**	**24.06 335**	P		**P**	**00 43 18.9**	**+2.1**
MDJ			PP		**PnPn**	**00 43 47.8**	**+2.1**
MDJ			SS		S	00 48 24.4	+50
MDJ			ScP		**ScP**	**00 50 36.4**	**-0.5**
MDJ			PcS		**PcS**	**00 50 39.7**	**+1.9**
MDJ			pmax		pmax		
	comp=Z,45nm,1.6s						
MDJ			pmax		pmax		
	comp=Z,510nm,3.8s						
MDJ			LR		LR		
	comp=Z,2μm,14.8s						
MDJ			LR		LR		
	comp=Z,2μm,14.8s						
MDJ			LR		LR		
	comp=Z,1μm,16.5s						
MDJ	**Mudanjiang**	**24.06 335**	P		**P**	**00 43 15.8**	**-1.0**
DL2	**Dalian**	**24.30 314**	P		**P**	**00 43 19.1**	**0.0**
DL2			S		**S**	**00 47 37.3**	**-0.8**
DL2			pmax		pmax		
	comp=Z,41nm,1.1s						
DL2			pmax		pmax		
	comp=Z,200nm,5.1s						
DL2			LR		LR		
	comp=Z,1μm,15.2s						
DL2			LR		LR		
	comp=Z,2μm,15.5s						
DL2			LR		LR		
	comp=Z,2μm,13.3s						
SNY	**Shenyang**	**24.87 322**

comp=Z,740nm,13.8s
BNX LR LR
comp=Z,1μm,16.3s
TIA Tai'an 26.27 305 P P 00 43 37.0 0.0
TIA S **S 00 48 05.2 -4.4**
TIA pmax pmax
comp=Z,12nm,1.2s
TIA LR LR
comp=Z,350nm,16.1s
TIA LR LR
comp=Z,690nm,14.7s
TIA LR LR
comp=Z,1μm,15.6s
WHN Wuhan 27.09 291 P P 00 43 47.9 +3.5
WHN LR LR
comp=Z,2μm,14.0s
WHN LR LR
comp=Z,5μm,16.4s
WHN LR LR
comp=Z,4μm,19.4s
KLR Kul'dur 27.39 343 P P 00 43 47.9 +1.0
comp=Z,17nm,0.5s,baz=162,slow=8.4,SNR=45
KLR LR LR 00 55 34.5
comp=Z,853nm,19.0s,baz=152,slow=38
comp=Z,17nm,0.5s
HNS HongShan 28.51 306 ⇓P P 00 43 56.6 -0.4
HNS S **S 00 48 45.1 +0.3**
HNS pmax pmax
comp=Z,9.0nm,0.9s
HNS LR LR
comp=Z,1μm,14.2s
HNS LR LR
comp=Z,2μm,14.7s
HNS LR LR
comp=Z,2μm,14.3s
BJT Baijiatuau 28.52 312 P P 00 43 56.2 -0.9
LYN LuoYang 29.40 299 *e*P **P 00 44 05.4 +0.4**
LYN PP **PnPn 00 45 01.7 +3.0**
LYN S **S 00 48 56.4 -2.6**
LYN sS sS 00 49 05.0 +3.5
LYN pmax pmax
comp=Z,12nm,0.6s
LYN pmax pmax
comp=Z,210nm,4.8s
LYN LR LR
comp=Z,1μm,16.5s
LYN LR LR
comp=Z,2μm,15.1s
LYN LR LR
comp=Z,3μm,16.1s
HEH HeiHe 29.61 339 *e*P **P 00 44 07.7 +1.0**
HEH sP **pwP 00 44 19.0 +3.5**
HEH S **S 00 49 02.0 +0.1**
HEH pmax pmax
comp=Z,34nm,1.5s
HEH pmax pmax
comp=Z,190nm,5.1s
HEH LR LR
comp=Z,810nm,15.9s
HEH LR LR
comp=Z,900nm,17.7s
HEH LR LR
comp=Z,1μm,15.7s
GTOI Gorontalo 30.37 225 P **P 00 44 14.5 +0.7**
comp=Z,19nm,1.1s
MYLDM Lahad Datu 30.41 237 P **P 00 44 14.4 +0.3**
MRSI Marisa 31.19 226 P **P 00 44 21.1 +0.1**
comp=Z,61nm,0.8s
QIZ Qiongzhong 31.89 269 P **P 00 44 26.8 -0.4**
QIZ S **S 00 49 38.5 +0.3**
QIZ LR LR
comp=Z,590nm,16.5s
QIZ LR LR
comp=Z,290nm,10.0s
QIZ LR LR
comp=Z,810nm,16.0s
HHC Hu-ho-hao-te 32.06 310 *e*P **P 00 44 28.9 +0.3**
HHC sP pwP 00 44 37.9 +1.0
HHC PP **PnPn 00 45 32.4 -1.5**
HHC S **S 00 49 39.3 -1.4**
HHC sS sS 00 49 46.5 +3.1
HHC SS **SnSn 00 51 32.5 +2.4**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,87nm,4.5s
HHC LR LR
comp=Z,670nm,15.5s
HHC LR LR
comp=Z,580nm,15.5s
HHC LR LR
comp=Z,950nm,17.7s
XAN Xi'an 32.17 297 P **P 00 44 28.9 -0.7**
XAN S **S 00 49 43.2 +0.7**
XAN pmax pmax
comp=Z,13nm,1.3s
XAN LR LR
comp=Z,1μm,16.1s
XAN LR LR
comp=Z,1μm,14.1s
XAN LR LR
comp=Z,2μm,15.7s
BTO Baotou 33.06 309 *e*P **P 00 44 39.5 +2.2**
BTO pP **sP 00 44 44.0 +4.6**
BTO sP **pwP 00 44 46.6 +0.9**
BTO PP **PP 00 45 50.6 -1.4**
BTO S **S 00 49 57.2 +1.0**
BTO sS **sS 00 50 05.7 +6.8**
BTO pmax pmax
comp=Z,29nm,0.5s
BTO pmax pmax
comp=Z,130nm,4.7s
BTO LR LR
comp=Z,2μm,15.5s
BTO LR LR
comp=Z,2μm,16.4s
BTO LR LR
comp=Z,3μm,17.2s
GYA Guiyang 33.70 283 ⇓P P 00 44 43.7 +0.6
GYA pP pwP 00 44 52.1 +1.6
GYA S **S 00 50 03.7 -2.8**
GYA pmax pmax
comp=Z,34nm,0.8s
GYA LR LR
comp=Z,750nm,16.8s
GYA LR LR
comp=Z,970nm,17.1s
GYA LR LR
comp=Z,1μm,17.6s
CD2 Chengdu 36.20 291 P P 00 45 01.2 -3.4
CD2 S **S 00 50 40.9 -4.0**
CD2 pmax pmax
comp=Z,40nm,0.4s
CD2 pmax pmax
comp=Z,120nm,5.6s
CD2 LR LR
comp=Z,1μm,13.3s
CD2 LR LR
comp=Z,1μm,14.7s
MA2 Magadan 36.40 6 LR LR 00 57 58.3
comp=Z,377nm,21.8s,baz=198,slow=33
LZH Lanzhou 36.62 299 *e*P **P 00 45 09.3 +1.1**
LZH sP pwP 00 45 17.0 +0.4
LZH S **S 00 50 48.5 -2.8**
LZH sS sS 00 51 01.9 +8.1
LZH pmax pmax
comp=Z,22nm,1.3s
LZH LR LR
comp=Z,730nm,13.1s
LZH LR LR
comp=Z,1μm,14.1s
LZH LR LR
comp=Z,1μm,14.4s
KAPI Kappang 36.77 223 P **P 00 45 09.2 -0.3**
KAPI IAmb IAmb 00 45 11.0
comp=Z,18nm,0.8s
KAPI Kappang 36.77 223 LR LR 00 59 20.1
comp=Z,390nm,20.4s,baz=55,slow=35
SLVN Son La 36.84 275 P **P 00 45 10.1 0.0**
SHEM Shemya Is, Ala 37.20 31 LR LR 00 57 43.1
comp=Z,715nm,21.8s,baz=239,slow=32
COEN Coen 37.22 181 P **P 00 45 13.3 +0.1**
KMI Kunming 37.34 281 ⇑P P 00 45 15.5 +1.0
KMI S S 00 50 54.9 -7.7
KMI pmax pmax
comp=Z,20nm,0.8s
KMI LR LR
comp=Z,450nm,14.1s
KMI LR LR
comp=Z,450nm,17.3s
KMI LR LR
comp=Z,550nm,18.1s
ULN Ulaanbaatar 37.95 319 P **P 00 45 18.4 -1.0**
PZH PanZhiHua 38.10 283 ⇓P **P 00 45 21.6 +0.8**
PZH S **S 00 51 11.7 -2.2**
PZH sS **sS 00 51 19.9 +3.5**
PZH pmax pmax
comp=Z,100nm,0.8s
PZH pmax pmax
comp=Z,140nm,5.1s
PZH LR LR
comp=Z,420nm,15.7s
PZH LR LR
comp=Z,800nm,16.3s
PZH LR LR
comp=Z,1μm,17.5s
SONM Songino Array 38.34 319 P **P 00 45 21.5 -1.1**
SONM Songino Array 38.34 319 P **P 00 45 22.7 +0.1**
comp=Z,1.6nm,0.6s,baz=133,slow=9.2,SNR=16
SONM LR LR 01 02 07.3
comp=Z,1μm,18.2s,baz=117,slow=38
comp=Z,1.6nm,0.6s
EDFI Ende, Flores 38.64 217 P **P 00 45 24.0 -1.4**
comp=Z,50nm,1.0s
YAK Yakutsk 39.71 350 P **P 00 45 32.8 -0.8**
YAK Yakutsk 39.71 350 LR LR 01 02 46.4
comp=Z,336nm,20.3s,baz=156,slow=37
CRAI Chiangrai 40.30 274 P **P 00 45 39.5 +0.3**
CRAI IAmb IAmb 00 45 41.5
comp=Z,27nm,0.9s
GTA Gaotai 40.31 304 *e*P **P 00 45 40.1 +0.9**
GTA pP pwP 00 45 50.8 +3.2
GTA S **S 00 51 45.0 -2.0**
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA LR LR
comp=Z,880nm,13.9s
GTA LR LR
comp=Z,480nm,17.1s
GTA LR LR
comp=Z,950nm,16.3s
PHRA Phrae 40.84 271 P **P 00 45 43.1 -0.6**
TNCH TengChong 41.15 282 P **P 00 45 46.7 +0.4**
TNCH S **S 00 51 59.2 -0.7**
TNCH SS **SS 00 54 54.7 -7.8**
TNCH pmax pmax
comp=Z,42nm,0.7s
TNCH pmax pmax
comp=Z,150nm,3.5s
TNCH LR LR
comp=Z,440nm,14.1s
TNCH LR LR
comp=Z,410nm,12.9s
TNCH LR LR
comp=Z,660nm,17.5s
CHTO Chiang Mai 41.95 272 P **P 00 45 51.5 -1.2**
CHTO IAmb IAmb 00 45 54.2
comp=Z,23nm,0.9s
CMAR Chiang Mai Arr 42.04 272 P **P 00 45 52.6 -0.8**
CMAR Chiang Mai Arr 42.04 272 P **P 00 45 54.0 +0.5**
comp=Z,8.7nm,0.6s,baz=60,slow=8.4,SNR=37
CMAR LR LR 01 04 22.5
comp=Z,648nm,18.7s,baz=80,slow=38
comp=Z,8.7nm,0.6s
CTA Charters Tower 43.38 177 LR LR 01 04 30.6
comp=Z,28nm,19.5s,baz=346,slow=37
CTAO Charters Tower 43.38 177 P **P 00 46 03.5 -0.7**
CTAO IAmb IAmb 00 46 17.7
comp=Z,18nm,0.8s
GOMU GeErMu 43.90 298 P **P 00 46 11.3 +2.5**
GOMU S **S 00 52 39.7 -0.8**
GOMU pmax pmax
comp=Z,58nm,1.1s
GOMU LR LR
comp=Z,550nm,13.1s
GOMU LR LR
comp=Z,490nm,13.5s
GOMU LR LR
comp=Z,440nm,13.7s
WB0 Warramunga Arr 43.96 193 P **P 00 46 07.6 -1.3**
WB0 IAmb IAmb 00 46 09.3
comp=Z,18nm,1.1s
WRA Warramunga Arr 44.14 193 P **P 00 46 08.9 -1.5**
WRA Warramunga Arr 44.14 193 P **P 00 46 09.4 -1.0**
comp=Z,14nm,0.7s,baz=18,slow=9.1,SNR=90
WRA PcP **PP 00 47 56.3 +2.9**
comp=Z,4.0nm,0.6s,baz=3.7,slow=3.3,SNR=7.0
WRA ScP **ScP 00 51 45.4 -2.1**
comp=Z,3.3nm,1.1s,baz=6.8,slow=4.2,SNR=7.9
WRA S **S 00 52 42.6 -0.8**
comp=Z,1.2nm,1.0s,baz=10,slow=15,SNR=4.6
WRA LR LR 01 04 32.6
comp=Z,620nm,18.7s,baz=355,slow=36
comp=Z,14nm,0.7s
FITZ Fitzroy Crossi 44.97 205 P **P 00 46 15.8 -1.2**
UGM Wanagama 45.06 230 P **P 00 46 17.0 -0.9**
KULM Kulim 45.29 253 P **P 00 46 19.2 -0.5**
KULM IAmb IAmb 00 46 21.5
comp=Z,16nm,0.7s
NIKH Nikolski High 46.23 38 P **P 00 46 25.9 -0.8**
baz=249
BILL Biiibino 46.66 11 P **P 00 46 29.8 -0.1**
BILL IAmb IAmb 00 46 32.7
comp=Z,23nm,1.3s
SHL Shillong 47.01 284 P **P 00 46 32.5 -0.9**
LSA Lhasa 47.14 289 P **P 00 46 36.8 +2.1**
LSA pmax pmax
comp=Z,32nm,1.0s
SPIA Saint Paul Isl 47.16 32 P **P 00 46 33.3 -0.6**
baz=244
P08K Saint George I 47.27 33 P **P 00 46 34.1 -0.6**
baz=245
AS31 Alice Springs 47.84 192 P **P 00 46 38.5 -1.1**
ASAR Alice Springs 47.84 192 P **P 00 46 38.5 -1.1**
ASAR Alice Springs 47.84 192 P **P 00 46 38.7 -0.9**
comp=Z,7.6nm,0.7s,baz=13,slow=8.8,SNR=46
ASAR PcP **PcP 00 48 07.6 -0.7**
comp=Z,2.2nm,0.8s,baz=19,slow=3.6,SNR=5.7
ASAR ScP **ScP 00 52 01.6 -1.3**
comp=Z,1.6nm,1.1s,baz=25,slow=2.7,SNR=4.0
ASAR S S 00 53 29.1 -7.7
comp=Z,1.5nm,1.0s,baz=17,slow=20,SNR=5.1
ASAR LR LR 01 05 25.4
comp=Z,657nm,21.8s,baz=17,slow=34
comp=Z,7.6nm,0.7s
UNV Unalaska Valle 47.86 38 P **P 00 46 38.9 -0.4**
baz=251
LVA Lava Point 48.22 37 P **P 00 46 41.9 -0.3**
TIXI Tiksi 48.93 354 P **P 00 46 47.7 +0.3**
TIXI Tiksi 48.93 354 LR LR 01 07 34.4
comp=Z,161nm,21.9s,baz=184,slow=36
FALS False Pass 49.89 37 P **P 00 46 54.9 +0.1**
baz=253
WMQ Urumqi 49.89 308 *e*P **P 00 46 56.9 +1.7**
WMQ S **S 00 54 04.6 -0.8**
WMQ pmax pmax
comp=Z,30nm,1.5s
WMQ pmax pmax
comp=Z,220nm,3.9s
WMQ LR LR
comp=Z,790nm,14.5s
WMQ LR LR
comp=Z,440nm,17.9s
WMQ LR LR
comp=Z,270nm,18.9s
MBWA Marble Bar 50.18 210 P **P 00 46 56.3 -1.2**
MBWA IAmb IAmb 00 46 57.9
comp=Z,19nm,0.8s
DZM Mont Dzumac 50.37 152 *e*P **P 00 47 00.1 +1.1**
comp=Z,89nm,1.5s
DZM *e*S **S 00 54 10.8 -1.6**
comp=Z,100nm,26.1s
DZM *e*LR LR 01 01 24.1
comp=Z,544nm,25.1s
DZM Mont Dzumac 50.37 152 P **P 00 46 58.5 -0.6**
DZM IAmb IAmb 00 47 10.1
comp=Z,30nm,1.1s
DZM Mont Dzumac 50.37 152 LR LR 01 05 55.7
comp=Z,382nm,20.2s,baz=17,slow=33
PSA00 Pilbara Seismi 50.49 209 P **P 00 46 58.8 -1.0**
PSA00 Pilbara Seismi 50.49 209 P **P 00 46 58.8 -1.0**
PSA00 IAmb IAmb 00 47 00.8
comp=Z,24nm,0.9s
OUENC Ouen Island, N 50.85 152 P **P 00 47 03.2 +0.7**
S12K Black Hills 50.88 36 P **P 00 47 01.8 -0.6**
baz=254
SDPT Sand Point 51.65 37 P **P 00 47 08.2 0.0**
baz=255
K13K Kusilvak Mount 51.75 28 P **P 00 47 09.1 +0.3**
K13K IAmb IAmb 00 47 12.5
comp=Z,18nm,0.9s
K13K Kusilvak Mount 51.75 28 P **P 00 47 09.0 +0.1**
baz=246
M13K Dall Lake 51.75 30 P **P 00 47 08.6 -0.2**
baz=249
CNBA Chernabura Isl 52.02 38 P **P 00 47 10.2 -0.7**
CNBA IAmb IAmb 00 47 18.7
comp=Z,32nm,1.1s
CHNA Chernabura Isl 52.02 38 P **P 00 47 10.5 -0.4**
baz=257
TNA Tin City 52.08 23 P **P 00 47 10.4 -0.9**
baz=240
ZSN Zaisan 52.20 313 *e*P **P 00 47 12.8 +0.3**
comp=Z,7.9nm,1.0s,baz=313
O14K Tigyukauivet M 52.35 32 P **P 00 47 12.9 -0.4**
baz=252
N14K Kuskokwak Cree 52.36 31 P **P 00 47 12.6 -0.8**
baz=251
S14K Fog Glacier 52.39 36 P **P 00 47 12.8 -1.0**
baz=256
L14K Kuka Creek 52.39 29 P **P 00 47 13.0 -0.6**
baz=249
M14K Bethel 52.51 30 P **P 00 47 13.9 -0.6**
baz=250
J14K Nanvaranak Lak 52.55 27 P **P 00 47 14.4 -0.3**
J14K IAmb IAmb 00 47 18.3
comp=Z,12nm,0.9s
J14K Nanvaranak Lak 52.55 27 P **P 00 47 14.4 -0.3**
baz=247
ANM Nome 52.57 25 P **P 00 47 14.1 -0.8**
baz=244
F14K Arctic Creek 52.62 24 P **P 00 47 15.4 +0.1**
baz=242,SNR=5.4
CHGN Chignik 53.01 36 P **P 00 47 17.8 -0.4**
baz=257
O15K Ungalikthiuk R 53.03 32 P **P 00 47 18.5 +0.1**
baz=253
L15K Ungalak Mounta 53.05 29 P **P 00 47 18.4 -0.1**
baz=250
M15K Kasigluk River 53.08 30 P **P 00 47 18.6 -0.1**
baz=251
ZAA0 Zalesovo Array 53.16 321 P **P 00 47 19.2 -0.3**
ZALV Zalesovo Beam 53.16 321 P **P 00 47 19.0 -0.4**
ZALV Zalesovo Beam 53.16 321 P **P 00 47 19.5 +0.1**
comp=Z,7.7nm,0.4s,baz=110,slow=8.1,SNR=61
comp=Z,7.7nm,0.4s
N15K Kwethluk River 53.20 31 P **P 00 47 19.8 +0.1**
baz=252,SNR=5.0
K15K Wolf Creek Mou 53.24 28 P **P 00 47 20.3 +0.3**
K15K IAmb IAmb 00 47 23.4
comp=Z,27nm,1.1s
K15K Wolf Creek Mou 53.24 28 P **P 00 47 20.9 +1.0**
baz=249,SNR=9.8
G15K Niukluk 53.27 25 P **P 00 47 20.9 +0.8**
baz=245,SNR=6.8
F15K North Star Dit 53.35 24 P **P 00 47 21.0 +0.3**
baz=244,SNR=6.8
H16K Elim 53.83 26 P **P 00 47 24.8 +0.6**
baz=247
P16K Nushagak River 53.90 33 P **P 00 47 25.1 +0.3**
baz=255
MK31 Makanchi Array 53.91 312 P **P 00 47 25.2 +0.1**
MKAR Makanchi Array 53.91 312 P **P 00 47 24.8 -0.3**
MKAR Makanchi Array 53.91 312 P **P 00 47 25.6 +0.5**
comp=Z,3.6nm,0.4s,baz=88,slow=9.7,SNR=77
MKAR LR LR 01 12 02.7
comp=Z,404nm,18.1s,baz=96,slow=38
comp=Z,3.6nm,0.4s
N16K Nishlik Lake 53.92 31 P **P 00 47 26.0 +1.1**
baz=253,SNR=13
L16K Owhat River 53.96 30 P **P 00 47 26.2 +1.0**
baz=252
M16K Timber Creek 53.99 30 P **P 00 47 25.8 +0.4**
baz=253
J16K Anvik River 53.99 27 P **P 00 47 26.0 +0.6**
J16K IAmb IAmb 00 47 29.0
comp=Z,10nm,0.8s
J16K Anvik River 53.99 27 P **P 00 47 26.0 +0.6**
baz=249,SNR=5.7
O16K Kokwok River B 54.00 32 P **P 00 47 25.5 0.0**
baz=254
G16K Koyuk River 54.09 25 P **P 00 47 26.4 +0.3**
baz=246
GIRL Giralia 54.11 214 P **P 00 47 27.2 +0.5**
C16K Lisburne Hills 54.30 21 P **P 00 47 28.6 +1.1**
baz=241
O17K Koliganek Bris 54.53 32 P **P 00 47 30.0 +0.6**
baz=255,SNR=14
L17K Donlin 54.62 29 P **P 00 47 30.4 +0.4**
baz=252,SNR=13
J17K VABM Dome 54.68 28 P **P 00 47 31.4 +1.0**
baz=251,SNR=11
N17K Nushagak Hills 54.69 31 P **P 00 47 31.0 +0.5**
baz=255,SNR=9.2
G17K Kiwalik Mounta 54.78 25 P **P 00 47 31.3 +0.2**
baz=248,SNR=9.1
Q17K Contact Creek 54.79 34 P **P 00 47 31.6 +0.2**
baz=258
D17K Noatak River 54.79 22 P **P 00 47 31.6 +0.5**
baz=244,SNR=13
K17K Iditarod 54.80 29 P **P 00 47 32.0 +0.7**
baz=252,SNR=20
M17K Holitna River 54.80 30 P **P 00 47 31.6 +0.3**
baz=254,SNR=9.5
H17K Granite Mounta 54.87 26 P **P 00 47 32.3 +0.6**
baz=249,SNR=16
F17K Baldwin Pennin 54.92 24 P **P 00 47 32.4 +0.4**
baz=247,SNR=11
E17K Hotham Inlet 54.97 23 P **P 00 47 32.5 +0.1**
baz=246,SNR=9.4
RDOG Red Dog Mine 55.01 22 P **P 00 47 33.0 +0.3**
baz=244
STKA Stephens Creek 55.09 182 P **P 00 47 33.4 -0.3**
STKA Stephens Creek 55.09 182 P **P 00 47 32.9 -0.8**
comp=Z,5.6nm,0.5s,baz=342,slow=7.4,SNR=15
STKA LR LR 01 13 53.7
comp=Z,301nm,18.1s,baz=12,slow=39
comp=Z,5.6nm,0.5s
C17K DeLong Mountai 55.11 21 P **P 00 47 33.0 -0.4**
baz=243
N18K Kilae Creek 55.34 31 P **P 00 47 35.8 +0.5**
baz=256
P18K Big Mountain, 55.37 33 P **P 00 47 35.8 +0.3**
baz=257
L18K Granite Mounta 55.37 29 P **P 00 47 36.0 +0.6**
baz=254,SNR=8.0
O18K Koktuh Hills 55.48 32 P **P 00 47 36.6 +0.3**
baz=257
SEM Semipalatinsk 55.50 316 *e*P **P 00 47 36.7 -0.1**
comp=Z,7.5nm,0.7s,baz=316
E18K Tukpahlearik C 55.54 23 P **P 00 47 36.9 +0.3**
baz=247,SNR=21
H18K Honhosa River 55.56 26 P **P 00 47 36.6 -0.2**
baz=250,SNR=12
F18K Selawik 55.57 24 P **P 00 47 36.8 +0.1**
baz=248,SNR=13
M18K Stony River 55.58 30 P **P 00 47 37.0 +0.1**
baz=255,SNR=10
G18K Tagagawik 55.70 25 P **P 00 47 37.4 -0.3**
baz=250,SNR=32
J18K Innoko River 55.71 28 P **P 00 47 38.0 +0.1**
baz=253
C18K Utukok River 55.84 21 P **P 00 47 38.7 0.0**
C18K IAmb IAmb 00 47 47.5
comp=Z,15nm,1.2s
C18K Utukok River 55.84 21 P **P 00 47 38.7 0.0**
baz=245
SHLS Shalkode 55.85 307 *e*P **P 00 47 37.3 -2.1**
baz=307
TTA Tatalina 55.87 29 P **P 00 47 38.5 -0.6**
baz=254
B18K Kokolik River 55.95 20 P **P 00 47 40.0 +0.6**
baz=244
OHAK Old Harbor 55.96 36 P **P 00 47 40.2 +0.5**
baz=261
GCSA Galena City Sc 56.02 26 P **P 00 47 40.5 +0.5**
baz=252
FORT Forrest 56.03 196 P **P 00 47 40.5 +0.1**
N19K Bonanza Creek 56.05 31 P **P 00 47 40.8 +0.4**
baz=257
UZB Uzynbulak 56.17 307 *e*P **P 00 47 41.6 -0.2**

baz=307
L19K White Mountain 56.19 30 P P 00 47 41.6 +0.2
baz=256,SNR=13
J19K Poorman 56.33 27 P P 00 47 42.0 -0.2
J19K IAmb IAmb 00 47 45.5
comp=Z,30nm,1.1s
J19K Poorman 56.33 27 P P 00 47 42.1 -0.2
baz=254,SNR=23
M19K Big River Lodg 56.34 30 P P 00 47 42.3 -0.1
baz=256
F19K Shaleruckik Mo 56.35 24 P P 00 47 42.3 -0.1
baz=250,SNR=15
G19K Purcell Mounta 56.38 25 P P 00 47 42.6 0.0
G19K IAmb IAmb 00 47 45.6
comp=Z,18nm,0.9s
G19K Purcell Mounta 56.38 25 P P 00 47 42.3 -0.3
baz=251,SNR=18
KPKS Kokpek 56.41 308 *eP* **P 00 47 43.4 +0.1**
baz=308
P19K Oil Pt 56.42 33 P P 00 47 43.2 +0.2
baz=259
KDAK Kodiak Island 56.42 35 LR LR 01 08 54.2
comp=Z,834nm,21.7s,baz=266,slow=33
H19K Roundabout Mou 56.44 26 P P 00 47 42.9 -0.1
baz=252,SNR=17
BBOO Buckleboo 56.47 188 P P 00 47 42.2 -1.4
BBOO IAmb IAmb 00 47 45.5
comp=Z,32nm,1.6s
NRIK Noril'sk 56.52 339 P P 00 47 44.3 +0.8
NRIK Noril'sk 56.52 339 P P 00 47 44.1 +0.6
comp=Z,4.5nm,0.7s,baz=119,slow=8.3,SNR=7.8
NRIK LR LR 01 13 40.2
comp=Z,604nm,18.5s,baz=126,slow=38
comp=Z,4.5nm,0.7s
A19K Wainwright 56.54 20 P P 00 47 43.4 -0.2
baz=244
KURK Kurchatov 56.55 316 P P 00 47 44.1 0.0
KURK IAmb IAmb 00 47 53.5
comp=Z,21nm,1.0s
C19K Lookout Ridge 56.56 21 P P 00 47 43.5 -0.3
baz=247,SNR=15
ZHN Zhinishke 56.60 307 *eP* **P 00 47 44.8 0.0**
baz=307
KURBB Kurchatov Arra 56.61 316 P P 00 47 45.0 +0.5
comp=Z,7.8nm,0.5s,baz=92,slow=8.4,SNR=139
KURBB LR LR 01 13 17.8
comp=Z,1µm,18.1s,baz=158,slow=37
comp=Z,7.8nm,0.5s
SATY Saty 56.63 307 *eP* **P 00 47 45.1 +0.2**
comp=Z,6.2nm,1.0s,baz=307
PRZ Przheval'sk 56.66 306 P P 00 47 45.8 +0.6
PRZ IAmb IAmb 00 47 55.9
comp=Z,30nm,1.1s
L20K Farewell, AK 56.71 29 P P 00 47 44.8 -0.2
baz=257,SNR=5.8
E19K Redstone River 56.77 23 P P 00 47 45.2 -0.2
baz=250,SNR=22
O20K Slope Mountain 56.80 32 P P 00 47 45.2 -0.6
baz=259
D19K Kuna River 56.82 22 P P 00 47 45.6 -0.2
baz=249,SNR=16
K20K Telida 56.83 28 P P 00 47 46.5 +0.7
K20K Telida 56.83 28 P P 00 47 46.1 +0.2
baz=256,SNR=23
M20K Styx River 56.91 30 P P 00 47 46.3 -0.3
baz=258,SNR=5.9
J20K Nowinta River 57.00 27 P P 00 47 47.0 0.0
baz=255,SNR=47
I20K Naaghedeneel 57.02 27 P P 00 47 47.3 +0.2
baz=254,SNR=11
H20K Anotleneega Mo 57.05 26 P P 00 47 47.4 -0.1
baz=254,SNR=47
TARG Taragay, Kyrgy 57.14 306 P P 00 47 48.8 -0.1
TARG IAmb IAmb 00 48 04.8
comp=Z,13nm,0.9s
F20K Avaraart Lake 57.19 24 P P 00 47 48.4 +0.2
baz=252,SNR=29
E20K Nigu River 57.41 23 P P 00 47 50.0 +0.1
baz=251,SNR=24
D20K Etivluk River 57.41 22 P P 00 47 50.0 +0.1
baz=250,SNR=31
PPLA Purkeypile 57.56 29 P P 00 47 51.1 -0.1
baz=258
MDOK Medeo 57.62 307 *eP* **P 00 47 51.9 0.0**
baz=307
CHKK Chushkaly 57.63 308 *eP* **P 00 47 52.2 +0.3**
baz=308
IMAR Indian Mountai 57.64 25 P P 00 47 51.8 +0.3
CAPN Captain Cook N 57.64 32 P P 00 47 51.5 0.0
baz=260
BRSE Bradley Lake S 57.68 33 P P 00 47 51.6 -0.3
baz=261
SKT Skwentna 57.68 30 P P 00 47 50.8 -1.1
baz=259,SNR=8.0
B20K Meade River 57.69 20 P P 00 47 52.2 +0.5
baz=249,SNR=20
AAA Alma-Ata 57.71 307 *eP* **P 00 47 52.7 +0.2**
comp=Z,8.4nm,0.7s,baz=307
CAST Castle Rocks 57.72 29 P P 00 47 52.3 +0.2
CAST Castle Rocks 57.72 29 P P 00 47 51.9 -0.2
baz=258
CHUM Lake Minchumin 57.72 28 P P 00 47 51.2 -0.9
baz=257
G21K Allakaket 57.88 25 P P 00 47 53.4 +0.2
baz=254,SNR=29
H21K Melozitna Rive 57.93 26 P P 00 47 53.8 +0.2
baz=256,SNR=36
SUA Susitna One 57.95 31 P P 00 47 53.7 -0.2
baz=260
F21K Alatna River 58.08 24 P P 00 47 55.0 +0.4
baz=254,SNR=9.5
KUU Kurty 58.10 308 *eP* **P 00 47 55.3 +0.2**
comp=Z,11nm,0.9s,baz=308
C21K Knifeblade Rid 58.19 22 P P 00 47 55.7 +0.4
baz=252,SNR=11
E21K Killik River 58.25 23 P P 00 47 56.9 +1.1
baz=253
KTH Kantishna Hill 58.25 29 P P 00 47 55.8 -0.2
KTH IAmb IAmb 00 47 58.9
comp=Z,21nm,1.1s
M22K Willow 58.30 31 P P 00 47 56.2 +0.1
baz=261
BPAW Bear Paw Mtn. 58.33 28 P P 00 47 56.3 -0.1
BPAW IAmb IAmb 00 47 59.6
comp=Z,16nm,0.9s
BPAW Bear Paw Mtn. 58.33 28 P P 00 47 57.0 +0.6
baz=258,SNR=16
CUT Chulitna 58.34 30 P P 00 47 55.7 -0.7
baz=260
A21K Barrow 58.34 19 P P 00 47 55.8 -0.5
baz=248
SEW Seward 58.37 33 P P 00 47 56.2 -0.5
baz=262
RC01 Rabbit Creek A 58.37 32 P P 00 47 55.7 -1.1
baz=261
B21K Ikpikpuk River 58.39 21 P P 00 47 56.7 0.0
baz=252,SNR=16
BOOM Boomskoye usch 58.47 307 P P 00 47 58.1 +0.1
BOOM IAmb IAmb 00 48 13.1
comp=Z,7.9nm,0.8s
NRN Naryn 58.51 305 P P 00 47 58.0 -0.4
NRN IAmb IAmb 00 48 28.3
comp=Z,19nm,1.3s
H22K Ishtalitna Cre 58.56 26 P P 00 47 58.6 +0.6
baz=257,SNR=15
MLY Manley 58.63 27 P P 00 47 58.6 0.0
MLY IAmb IAmb 00 48 01.9
comp=Z,24nm,1.0s
MLY Manley 58.63 27 P P 00 47 58.4 -0.1
baz=258,SNR=24
F22K John River 58.64 24 P P 00 47 59.6 +1.1
baz=255
MORW Morawa 58.68 208 P P 00 47 58.0 -1.3
MORW IAmb IAmb 00 48 11.3
comp=Z,15nm,0.8s
KSH Kashi 58.70 303 P P 00 48 03.8 +4.2
KSH sP pwP 00 48 11.3 +3.2
KSH pmax pmax
comp=Z,6.0nm,0.6s
KSH LR LR
comp=Z,300nm,15.8s
KSH LR LR
comp=Z,790nm,17.2s
KSH LR LR
comp=Z,630nm,17.2s
A22K Sinclair Lake 58.73 20 P P 00 47 59.5 +0.5
baz=250,SNR=13
PMR Palmer 58.74 31 P P 00 47 59.5 +0.2
baz=262
G22K Bettles 58.75 25 P P 00 47 59.6 +0.4
baz=256
D22K Ayikyak River 58.83 22 P P 00 48 00.0 +0.2
baz=254,SNR=34
BWN Browne 59.00 28 P P 00 48 01.6 +0.6
B22K Teshekpuk Lake 59.01 21 P P 00 48 01.0 0.0
baz=252
KNK Knik Glacier 59.03 31 P P 00 48 00.8 -0.6
baz=262
SML Sawmill 59.14 31 P P 00 48 02.4 +0.3
baz=262
MCK McKinley 59.16 29 P P 00 48 01.9 -0.3
baz=260,SNR=11
WAT1 Susitna Watana 59.19 30 P P 00 48 02.2 -0.3
baz=261
I23K Minto, Yukon-K 59.23 27 P P 00 48 03.1 +0.6
baz=259,SNR=13
NEA2 Nenana 59.25 28 P P 00 48 02.7 -0.1
NEA2 IAmb IAmb 00 48 05.8
comp=Z,16nm,0.8s
NEA2 Nenana 59.25 28 P P 00 48 02.8 +0.1
baz=260,SNR=12
G23K Bananza Creek 59.27 25 P P 00 48 03.0 0.0
baz=258,SNR=35
H23K Yukon River 59.28 26 P P 00 48 03.0 0.0
baz=259,SNR=23
COLD Coldfoot 59.31 24 P P 00 48 03.6 +0.4
baz=257,SNR=13
SGDS Sogindy 59.36 308 *eP* **P 00 48 04.3 +0.2**
baz=308
FRU1 Bishkek 59.41 307 P P 00 48 02.8 -1.6
M23K Glacier View 59.43 31 P P 00 48 04.4 +0.3
baz=263
WAT6 Susitna Watana 59.52 30 P P 00 48 04.6 -0.3
baz=262,SNR=15
AAK Ala-Archa 59.53 307 P P 00 48 04.1 -1.2
AAK Ala-Archa 59.53 307 LR LR 01 13 53.7
comp=Z,116nm,20.6s,baz=82,slow=36
D23K Nanushuk River 59.55 22 P P 00 48 05.4 +0.7
baz=256,SNR=15
SCM Sheep Creek Mo 59.62 31 P P 00 48 05.0 -0.5
baz=263,SNR=6.6
GLI Glacier Island 59.62 32 P P 00 48 05.0 -0.4
baz=264
E23K Chandalar 59.72 24 P P 00 48 06.5 +0.4
baz=257,SNR=32
DHY Denali Highway 59.75 29 P P 00 48 06.3 -0.1
baz=262
C23K Itkillik River 59.79 21 P P 00 48 06.7 +0.3
baz=255,SNR=32
Q23K Middleton Isla 59.86 34 P P 00 48 06.8 -0.2
baz=265
TOLK Toolik Lake Re 59.86 23 P P 00 48 07.5 +0.5
baz=257,SNR=14
H24K Nordor Dome 59.96 26 P P 00 48 07.4 -0.3
baz=260,SNR=40
POKR Poker Plat Res 60.02 27 P P 00 48 07.5 -0.7
POKR IAmb IAmb 00 48 11.5
comp=Z,13nm,0.8s
POKR Poker Plat Res 60.02 27 P P 00 48 07.6 -0.5
baz=261,SNR=7.6
HDA Harding Lake 60.12 28 P P 00 48 07.4 -1.4
HDA IAmb IAmb 00 48 27.5
comp=Z,11nm,1.0s
HDA Harding Lake 60.12 28 P P 00 48 08.7 -0.1
baz=262
E24K Your Creek 60.13 24 P P 00 48 09.3 +0.4
baz=258,SNR=26
M24K Tolsona, Glenn 60.19 31 P P 00 48 08.9 -0.5
baz=264
IL31 60.20 28 P P 00 48 08.2 -1.0
IL31 IAmb IAmb 00 48 11.1
comp=Z,21nm,0.9s
ILAR Eielson Array 60.20 28 P P 00 48 08.0 -1.4
ILAR Eielson Array 60.20 28 P P 00 48 08.7 -0.6
comp=Z,14nm,0.8s,baz=261,slow=5.5,SNR=62
ILAR LR LR 01 12 03.3
comp=Z,309nm,20.6s,baz=246,slow=34
comp=Z,14nm,0.8s
D24K Happy Valley 60.24 22 P P 00 48 09.6 +0.1
baz=258,SNR=7.8
EYAK Cordova Ski Ar 60.25 32 P P 00 48 09.2 -0.5
baz=265
KLU Klutina 60.25 31 P P 00 48 09.7 -0.1
baz=265
F24K Squaw Lake 60.25 24 P P 00 48 10.0 +0.3
baz=259,SNR=15
G24K Hadweenzic Riv 60.26 25 P P 00 48 10.4 +0.6
baz=260,SNR=11
C24K Franklin Bluff 60.41 22 P P 00 48 10.9 +0.3
baz=257
K24K Donnelly Dome 60.56 29 P P 00 48 11.8 0.0
baz=263,SNR=7.0
PAX Paxson 60.60 30 P P 00 48 12.6 +0.3
baz=264
HARP HAARP 60.69 30 P P 00 48 12.9 +0.1
baz=265
ARSB Arslanbob 60.78 305 P P 00 48 13.7 -0.1
G25K Bearman Lake 60.81 25 P P 00 48 14.2 +0.8
baz=261
J25K Salcha River, 60.83 28 P P 00 48 12.2 -1.5
baz=263,SNR=7.7
BMRM Bremner River 60.84 32 P P 00 48 13.5 -0.3
baz=266
H25L Birch Creek 60.85 26 P P 00 48 14.0 +0.2
baz=262
KAIM Kayak Island 60.87 33 P P 00 48 15.1 +1.2
baz=267
PRP Porcupine Dome 60.87 27 P P 00 48 13.1 -1.0
PRP IAmb IAmb 00 48 17.6
comp=Z,8.4nm,1.0s
PRP Porcupine Dome 60.87 27 P P 00 48 15.4 +1.3
baz=263,SNR=5.7
N25K Chitina, Valde 60.89 31 P P 00 48 14.7 +0.5
baz=266
HYB Hyderabad 60.97 278 *eP* **P 00 48 15.3 0.0**
F25K Christian Rive 61.11 24 P P 00 48 16.3 +0.7
baz=261,SNR=43
D25K Kavik River 61.13 22 P P 00 48 15.9 +0.3
baz=260,SNR=30
E25K Arctic Village 61.22 24 P P 00 48 17.3 +1.0
baz=261,SNR=14
SCRK Sand Creek 61.36 29 P P 00 48 16.6 -0.8
SCRK Sand Creek 61.36 29 P P 00 48 17.3 -0.1
baz=265,SNR=29
BMAR Burnt Mountain 61.49 25 P P 00 48 19.3 +1.2
NWAO Narrogin (SRO) 61.55 205 P P 00 48 17.7 -1.2
NWAO Narrogin (SRO) 61.55 205 LR LR 01 15 23.0
comp=Z,155nm,20.4s,baz=22,slow=36
CRQE Cirque 61.57 32 P P 00 48 19.1 +0.3
baz=268
J26L Joseph Creek 61.59 28 P P 00 48 18.8 -0.1
baz=265,SNR=39
MCARA McCarthy VSAT 61.63 32 P P 00 48 19.4 +0.3
baz=267
BVAR Borovoye Array 61.68 319 P P 00 48 19.8 +0.2
comp=Z,27nm,0.5s,baz=86,slow=7.1,SNR=216
BVAR LR LR 01 16 57.6
comp=Z,545nm,18.4s,baz=85,slow=38
comp=Z,27nm,0.5s
F26K Sheenjek River 61.70 24 P P 00 48 20.3 +0.9
baz=263,SNR=32
M26K Nabesna, AK 61.70 30 P P 00 48 19.8 +0.2
baz=267
NIL Nilore 61.71 297 P P 00 48 20.1 -0.1
C26K Camden Bay 61.73 22 P P 00 48 21.6 +2.0
baz=261,SNR=21
BRVK Borovoye 61.74 319 P P 00 48 19.7 -0.3
G26K Porcupine Rive 61.74 25 P P 00 48 20.5 +0.8
baz=264,SNR=18
I26K Coal Creek Min 61.84 27 P P 00 48 20.0 -0.4
baz=265
C27K Jago River 62.10 22 P P 00 48 22.7 +0.5
baz=262,SNR=12
MESA MESA 62.12 33 P P 00 48 22.2 -0.4
baz=269
K27K Chicken 62.21 29 P P 00 48 22.4 -0.5
baz=267
M27K Edge Creek, AK 62.22 31 P P 00 48 22.3 -0.9
baz=268
L27K Beaver Creek, 62.27 30 P P 00 48 23.7 +0.2
baz=267
BCAR Beaver Creek A 62.29 30 P P 00 48 23.0 -0.6
KK31 Karatay Array 62.39 308 P P 00 48 24.3 -0.3
KK31 IAmb IAmb 00 48 40.3
comp=Z,12nm,0.9s
KKAR Karatay Array 62.39 308 P P 00 48 24.0 -0.6
PALK Pallekele 62.47 266 LR LR 01 16 14.9
comp=Z,255nm,18.8s,baz=179,slow=37
I27K Kandik River 62.50 27 P P 00 48 24.2 -0.8
baz=266,SNR=11
G27K Doyon Strip 62.57 25 P P 00 48 24.9 -0.4
baz=266
BTK Batken 62.58 304 P P 00 48 25.2 -0.7
BTK IAmb IAmb 00 48 44.6
comp=Z,12nm,1.0s
H27K Steamboat Moun 62.58 26 P P 00 48 25.1 -0.3
baz=266,SNR=42
EGAK Eagle 62.65 28 P P 00 48 24.9 -1.0
EGAK IAmb IAmb 00 48 31.0
comp=Z,9.7nm,1.1s
EGAK Eagle 62.65 28 P P 00 48 25.8 0.0
baz=267,SNR=6.3
E27K Coleen River 62.70 24 P P 00 48 26.7 +0.4
baz=265,SNR=18
YUK3 Moose Creek 62.87 31 P P 00 48 27.1 -0.6
baz=269
BRLS Borolday 62.89 308 *eP* **P 00 48 29.2 +1.3**
comp=Z,6.1nm,1.1s,baz=307
O28M Mount Upton 62.99 32 P P 00 48 28.7 0.0
baz=270
D27M Malcolm River 63.03 23 P P 00 48 28.4 0.0
baz=265,SNR=8.3
GAR Garm 63.12 303 P P 00 48 29.1 -0.6
I28M Miner Creek 63.19 27 P P 00 48 30.1 +0.5
baz=268,SNR=19
YUK8 Steele Glacier 63.20 32 P P 00 48 29.9 -0.1
baz=270
F28M Old Crow 63.31 25 P P 00 48 30.0 -0.3
baz=267,SNR=23
DAWY Dawson 63.39 29 P P 00 48 30.6 -0.2
DAWY IAmb IAmb 00 48 34.1
comp=Z,16nm,1.1s
DAWY Dawson 63.39 29 P P 00 48 30.7 -0.2
baz=269,SNR=5.3
PNL Peninsula 63.40 34 P P 00 48 30.9 -0.1
baz=271
E28M Babbage River 63.50 24 P P 00 48 31.6 +0.2
baz=267,SNR=25
YUK4 Talbot Arm 63.74 32 P P 00 48 33.6 +0.2
baz=271
O29M Mount Kennedy 63.80 33 P P 00 48 33.8 +0.1
baz=272
M29M Somme Creek 63.81 30 P P 00 48 32.6 -1.1
baz=271
H29M Whitestone 63.86 26 P P 00 48 34.0 +0.1
baz=269,SNR=11
I29M Ogilvie Camp, 63.87 27 P P 00 48 34.4 +0.4
baz=269,SNR=5.8
YUK6 Outpost Mounta 63.89 32 P P 00 48 35.0 +0.5
baz=272
L29M L29M 63.95 30 P P 00 48 35.8 +1.2
baz=271,SNR=7.4
G29M Pine Creek 64.01 25 P P 00 48 35.4 +0.5
baz=269,SNR=17
CHGR Chuyangaron 64.07 303 P P 00 48 35.4 -0.5
E29M Blow River 64.09 24 P P 00 48 36.2 +0.9
baz=268,SNR=12
SIMJ Simiganj 64.19 303 P P 00 48 35.8 -0.9
K29M Barlow Dome 64.22 29 P P 00 48 36.7 +0.3
baz=271,SNR=13
P29M Windy Craggy 64.25 34 P P 00 48 37.5 +0.9
baz=273
HYT Haines Junctio 64.31 32 P P 00 48 37.9 +0.8
baz=272
N30M Aishikik Lake 64.48 32 P P 00 48 39.2 +1.0
baz=272
EPYK Eagle Plains 64.52 26 P P 00 48 39.1 +0.8
baz=270,SNR=12
M30M Minto, Yukon 64.58 30 P P 00 48 39.5 +0.8
baz=272,SNR=6.6
P30M Million Dollar 64.61 33 P P 00 48 38.6 -0.4
baz=273
I30M Mount Dempster 64.68 27 P P 00 48 39.9 +0.4
baz=271,SNR=11
G30M tAoh Zraii Nji 64.72 25 P P 00 48 39.6 +0.1
baz=271,SNR=22
J30M Hart River 64.72 28 P P 00 48 39.4 -0.3
baz=272,SNR=11
F30M Barrier River 64.88 25 P P 00 48 40.0 -0.6
baz=271,SNR=11
PLBC Pleasant Camp 64.96 34 P P 00 48 41.1 0.0
baz=274
KBL Kabul 64.96 298 P P 00 48 40.4 -1.5
O30N Mendenhall 65.00 32 P P 00 48 41.4 -0.1
baz=274
N31M Braeburn, Yuko 65.11 31 P P 00 48 42.1 -0.1
baz=274
S31K Pelican 65.14 35 P P 00 48 41.5 -0.8
baz=275
G31M Satah River 65.49 25 P P 00 48 43.9 -0.5
baz=272,SNR=22
F31M Tsiigehtchic 65.67 25 P P 00 48 45.1 -0.5
baz=273
INK Inuvik 65.71 24 P P 00 48 45.2 -0.7
INK IAmb IAmb 00 48 48.6
comp=Z,19nm,1.1s
INK Inuvik 65.71 24 P P 00 48 45.8 -0.1
baz=272,SNR=8.7
M31M Drury Creek, Y 65.72 31 P P 00 48 45.6 -0.5
baz=274
R32K Eaglecrest 66.02 35 P P 00 48 48.4 +0.4
baz=276
S32K Killisnoo 66.07 36 P P 00 48 48.6 +0.3
baz=276
FARO Faro, Yukon 66.20 31 P P 00 48 49.4 +0.2
baz=275
P33M Teslin, Yukon 66.67 33 P P 00 48 53.1 +0.8
baz=277
U33K Whale Pass 67.04 37 P P 00 48 55.7 +1.1
baz=278
Q32M Nakina River 67.10 34 P P 00 48 55.3 +0.1
baz=278
MMPY Sheldon Lake, 67.12 30 P P 00 48 55.4 +0.3
baz=277
CRAG Craig 67.13 38 P P 00 48 55.6 +0.4
baz=278
WRAK Wrangell Islan 67.42 37 P P 00 48 58.0 +0.9
baz=279
R33M Jennings River 67.70 33 P P 00 48 59.6 +0.6
baz=279
S34M Telegraph Cree 67.85 35 P P 00 48 60.0 +0.3
baz=279
ARU Arti 68.16 323 P P 00 49 00.8 -0.8
ARU Arti 68.16 323 LR LR 01 21 32.0
comp=Z,210nm,18.7s,baz=74,slow=38
ARU Arti 68.16 323 P **P 00 49 01.3 -0.4**
comp=Z,23nm,1.1s
DLBC Dease Lake 68.34 34 P P 00 49 02.2 -0.7
DLBC IAmb IAmb 00 49 06.7
comp=Z,17nm,1.1s
DLBC Dease Lake 68.34 34 P P 00 49 03.8 +0.9
baz=280,SNR=7.0
DLBC Dease Lake 68.34 34 LR LR 01 16 55.0
comp=Z,351nm,21.1s,baz=264,slow=34
T35M Bob Quinn 68.47 36 P P 00 49 04.1 +0.4
baz=280
ABKAR Akbulak array 68.65 316 P P 00 49 04.0 -0.9
ABKAR Akbulak array 68.65 316 P P 00 49 04.1 -0.9
ABKAR IAmb IAmb 00 49 19.8
comp=Z,10nm,0.9s
TGTN Hyland Airport 68.68 31 P P 00 49 05.3 +0.4
baz=280
URZ Urewera 68.93 152 LR LR 01 17 41.9
comp=Z,193nm,19.9s,baz=33,slow=35
C36M Paulatuk 69.00 22 P P 00 49 06.4 -0.3
baz=281
RTZ Ruatahuna 69.18 153 P P 00 49 07.4 -0.9
BKZ Black Stump Fm 69.44 153 P P 00 49 09.4 -0.4
AKTO Aktyubinsk 69.63 317 LR LR 01 21 15.2
comp=Z,461nm,18.4s,baz=134,slow=37
WRGLY Wrigley 70.53 29 P P 00 49 15.4 -0.8
WRGLY IAmb IAmb 00 49 19.6
comp=Z,16nm,0.8s
WRGLY Wrigley 70.53 29 P P 00 49 16.0 -0.2
baz=283,SNR=5.9
BBB Bella Bella 70.67 41 LR LR 01 13 54.2
comp=Z,116nm,21.4s,baz=326,slow=30
RAR Rarotonga 70.68 125 LR LR 01 17 15.8
comp=Z,198nm,18.1s,baz=298,slow=33
TOAD Toad River Com 70.71 33 P P 00 49 17.7 +0.2
baz=284
GVZ Greta Valley S 71.41 158 P P 00 49 21.6 -0.1
KIRV Kirov 72.48 327 LR LR 01 24 36.7
comp=Z,900nm,18.1s,baz=66,slow=38

SPITS Spitsbergen Ar 74.17 350 P **P 00 49 38.9 +1.1**
comp=Z,14nm,1.1s,baz=104,slow=6.1,SNR=4.3
SPITS LR LR 01 22 54.3
comp=Z,127nm,21.9s,baz=2.5,slow=36
comp=Z,14nm,1.1s
YKA Yellowknife Ar 74.62 28 P **P 00 49 39.1 -1.5**
YKA Yellowknife Ar 74.62 28 P **P 00 49 40.8 +0.2**
comp=Z,6.8nm,0.9s,baz=295,slow=5.8,SNR=14
YKA LR LR 01 21 20.2
comp=Z,332nm,21.2s,baz=286,slow=35
comp=Z,6.8nm,0.9s
RES Resolute Bay 75.21 14 LR LR 01 23 57.8
comp=Z,146nm,21.6s,baz=292,slow=37
BELG Belogornoye 75.35 321 LR LR 01 26 12.8
comp=Z,300nm,18.1s,baz=73,slow=38
LTY Liberty 76.72 44 P **P 00 49 52.0 -1.0**
PPT Papeete 76.81 116 LR LR 01 19 08.8
comp=Z,299nm,18.3s,baz=342,slow=32
PPT2 Papeete2 76.81 116 *e*S **S 00 59 46.5 +4.6**
comp=Z,42nm,25.0s
PPT2 Papeete2 76.81 116 *e*LR LR 01 13 39.4
comp=Z,210nm,22.0s
PPT2 *e*LR LR 01 13 42.3
comp=Z,221nm,20.8s
WSAR Wadi Sarin 76.88 290 LR LR 01 28 56.0
comp=Z,42nm,18.1s,baz=76,slow=40
YBH Yreka Blue Hor 77.25 50 P **P 00 49 54.7 -1.5**
YBH IAmb IAmb 00 50 09.9
comp=Z,18nm,1.4s
YBH Yreka Blue Hor 77.25 50 LR LR 01 20 21.3
comp=Z,150nm,19.5s,baz=283,slow=33
ARCES ARCESS Array B 77.40 341 P **P 00 49 55.1 -1.3**
ARCES IAmb IAmb 00 50 12.6
comp=Z,14nm,0.9s
ARCES ARCESS Array B 77.40 341 P **P 00 49 56.9 +0.5**
comp=Z,3.7nm,0.7s,baz=71,slow=9.1,SNR=11
ARCES LR LR 01 29 42.8
comp=Z,299nm,18.0s,baz=62,slow=40
comp=Z,3.7nm,0.7s
J05D Fort Rock, OR 77.73 48 P **P 00 49 58.1 -0.8**
J05D IAmb IAmb 00 50 02.5
comp=Z,15nm,0.9s
NEW Newport 78.59 42 P **P 00 50 02.0 -1.4**
NEW IAmb IAmb 00 50 06.4
comp=Z,11nm,0.9s
NEW Newport 78.59 42 P **P 00 50 03.8 +0.4**
baz=292,SNR=9.5
NEW Newport 78.59 42 LR LR 01 17 55.7
comp=Z,223nm,22.0s,baz=308,slow=30
JOF Joensuu 78.94 334 *e*P **P 00 50 05.3 +0.3**
TBI Tubuai 79.82 121 *e*LR LR 01 15 01.6
comp=Z,696nm,21.0s
WVOR Wild Horse Val 79.82 48 P **P 00 50 09.6 -0.8**
OBN Obninsk 80.31 326 LR LR 01 29 10.9
comp=Z,940nm,18.1s,baz=10.0,slow=38
PLID Pearl Lake 80.54 45 P **P 00 50 12.9 -1.5**
YERR Yerington 80.72 52 P **P 00 50 13.8 -1.5**
MSO Missoula 81.14 43 P **P 00 50 16.1 -1.3**
baz=295
KBZ Khabaz 81.53 314 P **P 00 50 19.5 +0.2**
comp=Z,8.0nm,0.8s,baz=104,slow=3.2,SNR=19
KBZ LR LR 01 29 50.1
comp=Z,572nm,18.1s,baz=64,slow=38
comp=Z,8.0nm,0.8s
KVAR Kislovodsk Arr 81.56 314 LR LR 01 30 13.2
comp=Z,234nm,18.6s,baz=252,slow=38
KIV Kislovodsk 81.57 314 P **P 00 50 18.0 -1.7**
KIV IAmb IAmb 00 50 58.1
comp=Z,10nm,0.8s
NVAR Mina Array Bea 81.61 52 P **P 00 50 18.9 -1.2**
NVAR Mina Array Bea 81.61 52 P **P 00 50 20.9 +0.7**
comp=Z,7.2nm,0.8s,baz=279,slow=4.5,SNR=35
NVAR LR LR 01 20 24.6
comp=Z,353nm,20.8s,baz=271,slow=31
comp=Z,7.2nm,0.8s
ONI Oni 81.62 313 P **P 00 50 19.2 -0.8**
ONI IAmb IAmb 00 50 36.1
comp=Z,11nm,1.0s
OVMT Ovando 81.62 42 P **P 00 50 18.1 -1.9**
NV11 Mina Array Sit 81.71 52 P **P 00 50 18.7 -1.9**
GNI Garni 81.72 310 LR LR 01 30 08.9
comp=Z,145nm,18.0s,baz=68,slow=38
FIA1 FINESS Array S 81.81 335 P **P 00 50 19.5 -0.9**
FIA1 IAmb IAmb 00 50 29.4
comp=Z,9.4nm,0.9s
FINES FINESS Array B 81.81 335 P **P 00 50 20.1 -0.4**
comp=Z,2.6nm,0.4s,baz=80,slow=4.7,SNR=47
comp=Z,2.6nm,0.4s
KEF Keuruu 81.86 335 *e*P **P 00 50 20.9 +0.2**
PKM Mcpherson Peak 81.87 56 P **P 00 50 20.0 -1.6**
baz=293
VES Vestal, Richgr 82.05 54 P **P 00 50 22.1 -0.1**
baz=293
VAF Ylistaro 82.15 337 *e*P **P 00 50 22.6 +0.4**
HLID Hailey 82.21 46 P P 00 50 20.6 -2.6
HLID Hailey 82.21 46 P **P 00 50 22.8 -0.4**
baz=295,SNR=10
TPH Tonopah 82.53 52 P **P 00 50 23.9 -1.0**
CWC Cottonwood Cre 82.56 54 P **P 00 50 25.3 +0.2**
baz=294
ISA Isabella, Lake 82.57 54 P **P 00 50 24.6 -0.5**
baz=294
SNCC San Nicolas Is 82.73 57 P **P 00 50 26.3 +0.5**
baz=293
ELK Elko 82.83 49 P **P 00 50 25.3 -1.2**
ARBE Arbavere 83.00 333 *e*P **P 00 50 26.8 +0.2**
BOZ Bozeman (W) 83.12 43 P **P 00 50 26.7 -1.2**
BOZ Bozeman (W) 83.12 43 P **P 00 50 28.4 +0.6**
baz=297
MPMC Manual Prospec 83.15 54 P **P 00 50 28.5 +0.2**
baz=294,SNR=12
EGMT Eagleton 83.16 40 P **P 00 50 27.6 -0.3**
baz=298
MEF Metsahovi 83.19 334 *e*P **P 00 50 27.8 +0.2**
LRMC Laurel Mtn Rad 83.24 54 P **P 00 50 28.3 -0.3**
baz=294
DECC Green Verdugo 83.24 56 P **P 00 50 28.8 +0.3**
baz=294
EDW2 Edwards Air Fo 83.25 55 P **P 00 50 28.7 +0.1**
baz=294
R11B Troy Canyon, C 83.59 51 P **P 00 50 28.7 -1.8**
R11B Troy Canyon, C 83.59 51 P **P 00 50 29.9 -0.5**
baz=295,SNR=7.7
TPNV Topopah Spring 83.69 53 P **P 00 50 31.3 +0.3**
baz=295,SNR=10
RAF Rauma 83.73 335 *e*P **P 00 50 30.4 -0.1**
JMIC Jan Mayen 83.80 351 LR LR 01 27 50.2
comp=Z,33nm,21.9s,baz=36,slow=36
GSC Goldstone, Bar 83.97 54 P **P 00 50 33.0 +0.7**
baz=294,SNR=7.5
FFC Flin Flon 84.02 32 P **P 00 50 31.4 -0.7**
FFC IAmb IAmb 00 50 34.9
comp=Z,16nm,0.9s
HVU Hansel Valley 84.07 47 P **P 00 50 31.9 -0.9**
HVU IAmb IAmb 00 50 36.1
comp=Z,11nm,1.2s
SHOC Shoshone, Teco 84.11 54 P **P 00 50 33.6 +0.7**
baz=295
SUMG Summit 84.17 1 *i*P **P 00 50 34.0 +1.0**
GURO Guroymak-BITLI 84.29 310 P **P 00 50 33.4 -0.6**
MTSE Matsula 84.33 333 *e*P **P 00 50 32.7 -0.8**
MURC Murrieta 84.37 56 P **P 00 50 34.3 0.0**
baz=294
SPUT South Promonto 84.49 47 P **P 00 50 33.8 -1.2**
SPUT IAmb IAmb 00 50 38.0
comp=Z,7.4nm,1.0s
HEC Hector,Ludlow 84.51 55 P **P 00 50 35.5 +0.5**
baz=295
TUQ Turquoise Moun 84.56 54 P **P 00 50 35.8 +0.4**
baz=295
AHID Auburn Hatcher 84.74 46 P **P 00 50 35.4 -0.9**
AHID IAmb IAmb 00 50 39.1
comp=Z,7.0nm,1.0s
DUG Dugway, Tooele 84.74 48 P **P 00 50 35.2 -1.0**
DUG IAmb IAmb 00 50 39.1
comp=Z,8.4nm,0.9s
DUG Dugway, Tooele 84.74 48 P **P 00 50 36.5 +0.3**
baz=296,SNR=8.7
RLMT Red Lodge 84.82 43 P **P 00 50 36.3 -0.3**
RLMT IAmb IAmb 00 50 40.1
comp=Z,11nm,0.9s
RLMT Red Lodge 84.82 43 P **P 00 50 36.7 +0.1**
baz=298,SNR=6.6
PFO Pinyon Flats O 84.93 56 P **P 00 50 37.4 +0.2**
baz=295,SNR=7.5
PFO Pinyon Flats O 84.93 56 LR LR 01 20 43.1
comp=Z,192nm,20.9s,baz=274,slow=30

TPFO Pinon Flats 84.93 56 P **P 00 50 37.7 +0.4**
baz=295
GMRC Granite Mounta 85.03 54 P **P 00 50 37.2 -0.6**
baz=295,SNR=9.9
BELC Belle Mtn. Jos 85.11 55 P **P 00 50 38.2 -0.1**
baz=295
MONP2 Monument Peak 85.25 56 P **P 00 50 38.1 -1.0**
baz=295,SNR=5.8
IKP In-Ko-Pah, Jac 85.59 56 P **P 00 50 39.3 -1.2**
baz=295
BC3 Big Chuckawall 85.67 55 P **P 00 50 40.7 -0.3**
baz=295,SNR=6.6
IRM Iron Mountain 85.69 55 P **P 00 50 41.0 +0.1**
baz=296
SWSC Sam W. Stewart 85.71 56 P **P 00 50 39.9 -1.1**
baz=295
BW06 Boulder Array 85.74 45 P **P 00 50 40.5 -0.8**
baz=298
PD31 Pinedale Array 85.74 45 P **P 00 50 39.4 -1.9**
PDAR Pinedale Array 85.74 45 P **P 00 50 39.6 -1.7**
PDAR Pinedale Array 85.74 45 P **P 00 50 40.6 -0.7**
comp=Z,0.9nm,0.6s,baz=228,slow=0.8,SNR=10
comp=Z,0.9nm,0.6s
PABE Paberze 86.20 330 P **P 00 50 42.0 -1.0**
PABE IAmb IAmb 00 51 03.9
comp=Z,14nm,0.8s
PABE Paberze 86.20 330 *e*P **P 00 50 43.0 +0.1**
BLYC Blythe 86.33 55 P **P 00 50 42.7 -1.4**
AKASG Malin Array Be 86.37 325 P **P 00 50 42.1 -1.8**
comp=Z,1.6nm,0.5s,baz=54,slow=4.7,SNR=6.2
AKASG LR LR 01 32 45.9
comp=Z,312nm,18.3s,baz=44,slow=38
comp=Z,1.6nm,0.5s
AKBB Malin Array Si 86.37 325 P **P 00 50 41.9 -2.0**
AKBB Malin Array Si 86.37 325 P **P 00 50 43.0 -0.9**
PDMCI Parker Dam,Lak 86.37 54 P **P 00 50 44.7 +0.4**
baz=296
AK01 Malin Array Si 86.38 325 P **P 00 50 43.0 -1.0**
KIEV Kiev 86.38 325 P **P 00 50 41.8 -2.2**
KIEV Kiev 86.38 325 P **P 00 50 43.0 -1.0**
comp=Z,25nm,1.5s
AK08 Malin Array Si 86.39 325 P **P 00 50 42.9 -1.1**
GLA Glamis 86.40 56 P **P 00 50 45.0 +0.5**
baz=296,SNR=8.0
U15A North Rim 86.79 52 P **P 00 50 45.0 -1.6**
U15A IAmb IAmb 00 50 49.7
comp=Z,6.5nm,0.9s
MI30 MI30,Zelenitsa 86.90 325 P **P 00 50 45.5 -1.0**
MI28 Mi28,Pidlybu 87.06 325 P **P 00 50 46.3 -1.0**
NC405 NORSAR Array S 87.26 339 P **P 00 50 46.7 -1.4**
HFS Hagfors 87.29 337 P **P 00 50 47.1 -1.1**
comp=Z,2.7nm,0.5s,baz=92,slow=3.4,SNR=41
HFS LR LR 01 33 05.9
comp=Z,172nm,19.6s,baz=44,slow=38
comp=Z,2.7nm,0.5s
113A Mohawk Valley, 87.33 55 P **P 00 50 48.2 -0.7**
113A IAmb IAmb 00 50 51.7
comp=Z,6.7nm,0.9s
SUW Suwalki 87.47 329 P **P 00 50 47.4 -1.8**
SUW Suwalki 87.47 329 *e*P **P 00 50 48.1 -1.1**
NB2 NORSAR Subarra 87.48 339 P **P 00 50 48.1 -1.1**
comp=Z,8.3nm,1.1s,baz=45,slow=4.4
NB2 NORSAR Subarra 87.48 339 P **P 00 50 48.1 -1.1**
baz=45,slow=4.4
NOA NORSAR Array B 87.48 339 P **P 00 50 47.8 -1.4**
comp=Z,3.3nm,0.8s,baz=48,slow=4.7,SNR=26
NOA LR LR 01 34 57.4
comp=Z,244nm,18.8s,baz=35,slow=39
comp=Z,3.3nm,0.8s
LUBAR Lubar, Ukraine 87.59 324 P **P 00 50 49.0 -0.9**
RNPP9 Sopchiv 87.70 326 P **P 00 50 49.5 -0.9**
WUAZ Wupatki 87.86 52 P **P 00 50 52.1 +0.4**
baz=298
O20A White River Ci 87.87 47 P **P 00 50 51.2 -0.5**
baz=299
RAYN Ar Rayn 87.94 295 P **P 00 50 51.4 -0.8**
RAYN IAmb IAmb 00 51 10.3
comp=Z,15nm,1.2s
214A Organ Pipe Nat 88.41 56 P **P 00 50 54.3 0.0**
baz=297,SNR=7.2
N23A Red Feather La 89.01 45 P **P 00 50 55.8 -1.4**
N23A IAmb IAmb 00 52 59.9
comp=Z,6.4nm,0.4s
MVCO Mesa Verde 89.11 50 P **P 00 50 58.7 +1.0**
baz=299
SFJD Kangerlussuaq 89.14 6 LR LR 01 31 09.0
comp=Z,139nm,21.4s,baz=344,slow=36
W18A Petrified Fore 89.23 52 P **P 00 50 59.3 +1.1**
baz=298
FRB Frobisher Bay 89.43 14 LR LR 01 32 17.1
comp=Z,180nm,21.9s,baz=357,slow=36
BR131 Keskin Array S 89.51 314 P **P 00 50 57.4 -1.9**
BR131 IAmb IAmb 00 51 13.2
comp=Z,8.2nm,1.2s
BRTR Keskin Array B 89.51 314 P **P 00 50 57.7 -1.7**
BRTR Keskin Array B 89.51 314 P **P 00 50 58.5 -0.9**
comp=Z,1.9nm,0.7s,baz=81,slow=3.1,SNR=13
BRTR LR LR 01 35 29.5
comp=Z,184nm,18.9s,baz=36,slow=38
comp=Z,1.9nm,0.7s
ULM Lac du Bonnet 89.65 34 P **P 00 50 58.1 -1.5**
ULM Lac du Bonnet 89.65 34 P **P 00 50 59.7 +0.1**
comp=Z,4.1nm,1.0s,baz=295,slow=3.7,SNR=4.6
ULM LR LR 01 28 58.4
comp=Z,191nm,21.0s,baz=310,slow=34
comp=Z,4.1nm,1.0s
TUC Tucson 89.78 55 P **P 00 51 00.9 +0.2**
baz=298
ISCO Idaho Springs 89.79 46 P **P 00 51 00.6 -0.3**
baz=301
Q24A Divide 90.52 47 P **P 00 51 04.5 +0.1**
baz=301
AGMN Agassiz Nation 90.85 35 P **P 00 51 05.7 +0.5**
baz=308
SDCO Great Sand Dun 90.91 48 P **P 00 51 04.9 -1.3**
SDCO Great Sand Dun 90.91 48 P **P 00 51 05.2 -1.0**
baz=301
KOLS Kolonicke sedl 91.06 326 *e*P P 00 51 13.2 +7.0
BORG Borgarnes 91.29 354 LR LR 01 32 21.8
comp=Z,37nm,21.9s,baz=1.6,slow=36
ANMO Albuquerque 91.67 51 P **P 00 51 08.6 -1.0**
ANMO IAmb IAmb 00 51 12.7
comp=Z,6.0nm,1.1s
ANMO Albuquerque 91.67 51 P **P 00 51 09.2 -0.4**
baz=300
ANMO Albuquerque 91.67 51 LR LR 01 27 44.5
comp=Z,254nm,19.9s,baz=26,slow=32
121A Cookes Peak, D 91.90 53 P P 00 51 08.4 -2.3
121A IAmb IAmb 00 51 14.3
comp=Z,9.0nm,1.0s
121A Cookes Peak, D 91.90 53 P **P 00 51 10.0 -0.6**
baz=300,SNR=6.3
T25A Trinidad 91.97 48 P **P 00 51 09.3 -1.6**
T25A IAmb IAmb 00 51 13.5
comp=Z,8.5nm,1.1s
T25A Trinidad 91.97 48 P **P 00 51 10.9 0.0**
baz=302,SNR=7.1
VYHS Vyhne 93.09 327 *e*P **P 00 51 18.7 +3.1**
ECSD EROS Data Cent 93.20 39 P **P 00 51 16.8 +0.6**
baz=307
EYMN Ely 93.34 34 P **P 00 51 18.3 +1.5**
baz=311
VRAC Vranov 93.64 328 LR LR 01 38 08.5
comp=Z,477nm,18.1s,baz=44,slow=38
LPIG La Paz 93.96 62 LR LR 01 28 34.7
comp=Z,138nm,19.2s,baz=244,slow=32
MNTX Cornudas Mount 94.08 53 P **P 00 51 22.6 +2.0**
baz=301
GERES GERESS Array B 95.33 329 LR LR 01 38 31.6
comp=Z,239nm,18.1s,baz=60,slow=38
KSU1 Kansas State U 95.97 43 P **P 00 51 29.0 -0.1**
baz=307
TXAR Lajitas Array 96.56 54 P **P 00 51 32.5 +0.4**
comp=Z,0.8nm,0.9s,baz=318,slow=1.7,SNR=5.6
TXAR LR LR 01 27 40.4
comp=Z,109nm,21.9s,baz=310,slow=31
comp=Z,0.8nm,0.9s
WMOK Wichita Mounta 97.10 47 P **P 00 51 34.2 -0.1**
baz=305
SCHQ Schefferville 97.69 17 LR LR 01 36 53.4
comp=Z,153nm,21.2s,baz=306,slow=36
DAVOX Davos/Dischmat 98.60 330 LR LR 01 42 14.7
comp=Z,379nm,18.1s,baz=40,slow=39
ELIB Princess Elisa 121.44 198 *d*PKPdf **PKPdf 00 56 53.7 -0.7**
BOSA Boshof 125.05 251 PKP **PKPdf 00 57 02.9 +0.2**
comp=Z,1.0nm,0.7s,baz=72,slow=6.4,SNR=1.5
TROLL Troll, Antarti 126.81 194 ⇑PKPdf **PKPdf 00 57 04.5 -0.2**
comp=Z,68nm,0.7s
TORD Torodi Ar. Bea 128.02 311 PKP **PKPdf 00 57 08.2 -0.4**
comp=Z,0.7nm,0.6s,baz=41,slow=0.9,SNR=9.3
SNAA Sanae 128.21 193 ⇑PKPdf **PKPdf 00 57 06.0 -1.4**
comp=Z,12nm,0.6s
SNAA Sanae 128.21 193 PKP **PKPdf 00 57 07.1 -0.2**
comp=Z,0.9nm,0.8s,baz=124,slow=3.6,SNR=2.8
VNA2 Neumayer--Watz 129.70 192 ⇑PKPdf **PKPdf 00 57 10.2 +0.1**
comp=Z,1.8nm,0.5s,baz=169,slow=1.2
VNA2 ⇑SKPbc SKPab 01 00 29.9 -1.8
comp=Z,4.2nm,1.0s,baz=155,slow=9.2
VNA1 Neumayer--Stat 130.09 192 ⇑SKPbc **SKPab 01 00 30.1 -3.2**
comp=Z,5.2nm,0.9s
PLCA Paso Flores 146.49 129 PKPbc **PKPdf 00 57 43.0 +1.2**
comp=Z,1.9nm,0.5s,baz=237,slow=4.2,SNR=9.4
HMBC Humberstone 148.64 91 **PKPdf 00 57 48.4 +2.4**
PB11 IPOC Station P 148.74 90 **PKPdf 00 57 47.6 +1.4**
LPAZ La Paz 149.20 82 **PKPdf 00 57 47.7 +0.1**
LPAZ La Paz 149.20 82 PKPbc **PKPdf 00 57 51.9 +4.3**
comp=Z,4.5nm,0.7s,baz=251,slow=3.2,SNR=13

AEIC ***12*** *00:46:12.3±1.9, 55°.79N±0°.06×150°.1W±0°.1, h5km±7km,*
Error ellipse: s-maj=11.7km s-min=6.8km az=120.0
NEIC 12 00:46:07.2±1.1, 55°.8N±0°.1×150°.0W±0°.1, h12km±8km**,**
ML3.5/38**, ML3.4**(AEIC)**, Error ellipse: s-maj=15.8km**
s-min=9.7km az=166.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.33**	**310**		Pn	00 46 45.2	0.0
OHAK	**Old Harbor**	**2.33**	**310**		Sn	00 47 11.4	-2.3
KDAK	**Kodiak Island**	**2.46**	**326**		Pn	00 46 47.0	-0.1
KDAK	**Kodiak Island**	**2.46**	**326**		Sn	00 47 15.2	-1.8
SII	**Sitkinak Islan**	**2.47**	**290**	Pn	Pn	00 46 47.0	-0.2
SII				IAML		00 47 28.9	
comp=E,236nm,0.5s							
SII				IAML		00 47 38.5	
comp=N,156nm,0.8s							
R18K	**Karluk**	**3.04**	**308**		Pn	00 46 55.8	+0.7
R18K					Sn	00 47 29.2	-2.1
R18K	**Karluk**	**3.04**	**308**	IAML		00 47 37.5	
comp=N,114nm,0.5s							
R18K				IAML		00 47 45.2	
comp=E,102nm,0.5s							
SYI	**Shuyak Island**	**3.12**	**336**	Pn	Pn	00 46 56.0	-0.1
SYI				IAML		00 47 40.3	
comp=E,89nm,0.6s							
Q19K	**Cape Douglas,**	**3.72**	**329**		Pn	00 47 05.6	+1.1
Q19K	**Cape Douglas,**	**3.72**	**329**		Sn	00 47 47.7	-0.5
ACHA	**Angle Creek He**	**3.80**	**312**		Pn	00 47 06.2	+0.7
CNPM	**China Poot**	**3.81**	**350**		Pn	00 47 05.0	-0.6
CNPM	**China Poot**	**3.81**	**350**		Sn	00 47 48.2	-2.2
CNPM	**China Poot**	**3.81**	**350**	IAML		00 47 55.8	
comp=E,63nm,0.6s							
CNPM				IAML		00 47 55.9	
comp=N,52nm,0.3s							
KAHC	**Katmai Hardscr**	**3.96**	**319**		Pn	00 47 08.6	+0.8
BRSE	**Bradley Lake S**	**3.99**	**355**		Pn	00 47 07.3	-0.8
BRLK	**Bradley Lake**	**4.02**	**354**		Pn	00 47 08.2	-0.4
BRLK				IAML		00 48 01.1	
comp=E,54nm,1.0s							
BRLK				IAML		00 48 05.5	
comp=N,38nm,1.2s							
CNTC	**Contact Creek**	**4.07**	**310**		Pn	00 47 09.9	+0.6
MID	**Middleton Isla**	**4.15**	**27**	Pn	Pn	00 47 09.6	-0.7
MID				IAML		00 48 54.7	
comp=N,116nm,1.5s							
P19K	**Oil Pt**	**4.25**	**337**		Pn	00 47 12.0	+0.3
P23K	**Montague Islan**	**4.45**	**17**		Pn	00 47 14.1	-0.3
P18K	**Big Mountain,**	**4.59**	**324**	Pn	Pn	00 47 16.4	+0.1
CHGN	**Chignik**	**4.75**	**280**		Pn	00 47 16.5	-2.0
CHGN				IAML		00 48 15.4	
comp=E,44nm,0.3s							
CHGN				IAML		00 48 21.2	
comp=N,41nm,0.5s							
P17K	**Kvichak River**	**4.88**	**317**		Pn	00 47 20.1	-0.1
RDSO	**Redoubt South**	**4.91**	**344**		Pn	00 47 20.7	-0.2
O18K	**Koktuh Hills**	**4.94**	**328**		Pn	00 47 21.0	-0.2
O18K				IAML		00 48 26.7	
comp=E,30nm,0.7s							
O18K				IAML		00 48 38.0	
comp=N,33nm,0.9s							
HIN	**Hinchinbrook I**	**4.99**	**20**	Pn	Pn	00 47 21.0	-0.8
HIN				IAML		00 49 59.1	
comp=N,60nm,1.3s							
KAIM	**Kayak Island**	**5.11**	**33**	Pn	Pn	00 47 23.1	-0.4
KAIM				IAML		00 48 26.9	
comp=N,57nm,0.7s							
FID	**Port Fidalgo**	**5.32**	**19**	Pn	Pn	00 47 25.7	-0.6
FID				IAML		00 48 26.1	
comp=E,35nm,1.0s							
FID				IAML		00 48 29.8	
comp=N,25nm,0.9s							
GLI	**Glacier Island**	**5.34**	**15**	Pn	Pn	00 47 26.2	-0.4
GLI				IAML		00 48 08.4	
comp=E,38nm,1.0s							
GLI				IAML		00 50 04.1	
comp=N,36nm,1.0s							
VNFG	**Fog Glacier, M**	**5.38**	**279**		Pn	00 47 26.5	-0.9
RAGM	**Ragged Mountai**	**5.41**	**29**		Pn	00 47 27.7	0.0
SUCK	**Suckling Hills**	**5.43**	**35**	Pn	Pn	00 47 27.7	-0.2
HMT	**Hamilton**	**5.49**	**31**		Pn	00 47 29.0	+0.3
NICHA	**Nichawak Mount**	**5.50**	**33**		Pn	00 47 29.0	+0.2
GOAT	**Goat Mountain**	**5.56**	**28**		Pn	00 47 30.1	+0.4
CNBA	**Chernabura Isl**	**5.57**	**264**	Pn	Pn	00 47 29.9	+0.2
N19K	**Bonanza Creek**	**5.57**	**337**		Pn	00 47 29.8	-0.1
SUA	**Susitna One**	**5.71**	**356**	Pn	Pn	00 47 31.4	-0.4
N18K	**Kilae Creek**	**5.81**	**330**		Pn	00 47 33.3	+0.1
SNH	**Sunshine Point**	**5.83**	**38**	Pn	Pn	00 47 33.0	-0.3
WAX	**Waxell Ridge**	**6.02**	**36**		Pn	00 47 36.2	+0.2
SML	**Sawmill**	**6.11**	**7**		Pn	00 47 37.2	0.0
KLU	**Klutina**	**6.11**	**19**		Pn	00 47 38.0	+0.7
CRQM	**Cirque**	**6.16**	**33**		Pn	00 47 38.9	+0.8
SCM	**Sheep Creek Mo**	**6.23**	**12**		Pn	00 47 40.0	+1.1
TGL	**Tana Glacier**	**6.26**	**34**		Pn	00 47 38.9	-0.4
ISLE	**Juniper Island**	**6.30**	**37**	Pn	Pn	00 47 40.2	+0.2
BAGL	**Bagley Icefiel**	**6.31**	**38**		Pn	00 47 40.6	+0.8
N25K	**Chitina, Valde**	**6.48**	**23**		Pn	00 47 42.5	+0.2
GLB	**Gilahina Butte**	**6.53**	**27**	Pn	Pn	00 47 42.5	-0.5
KIAG	**Kiagna River**	**6.54**	**35**		Pn	00 47 43.5	+0.3
GRNC	**Granite Creek**	**6.60**	**38**		Pn	00 47 43.6	-0.5
TABL	**Table Mountain**	**6.62**	**41**		Pn	00 47 44.1	-0.3
MCARA	**McCarthy VSAT**	**6.69**	**30**		Pn	00 47 46.2	+1.0
PTPK	**Patty Peak**	**6.70**	**33**		Pn	00 47 46.0	+0.6
S12K	**Black Hills**	**6.82**	**274**	Pn	Pn	00 47 47.1	+0.2
PNL	**Peninsula**	**6.88**	**51**		Pn	00 47 47.9	+0.1
LOGN	**Logan Glacier**	**6.93**	**39**	Pn	Pn	00 47 48.4	-0.1
BCPM	**Bancas Point**	**6.93**	**49**		Pn	00 47 48.4	0.0
N15K	**Kwethluk River**	**6.94**	**313**		Pn	00 47 49.8	+1.3
O14K	**Tigyukauivet M**	**7.00**	**304**	Pn	Pn	00 47 50.6	+1.4
DHY	**Denali Highway**	**7.44**	**9**		Pn	00 47 57.5	+2.0
P29M	**Windy Craggy**	**7.61**	**55**	Pn	Pn	00 47 57.3	-0.5
S31K	**Pelican**	**7.85**	**68**		Pn	00 47 59.1	-2.0
M29M	**Somme Creek**	**8.92**	**37**	Pn	Pn	00 48 16.2	+0.4
L29M	**L29M**	**9.50**	**35**	Pn	Pn	00 48 23.6	0.0

NEIC ***12*** *01:00:23.3±1.6, 55°.76N±0°.07×149°.93W±0°.10, h8km±6km,*
ML3.7/40, ML3.7(AEIC), Error ellipse: s-maj=9.9km
s-min=8.1km az=175.0
IDC ***12*** *01:00:24.5±1.5, 55°.67N×149°.97W, h0km, mb3.5/8,*
mbtmp3.6/13, ML3.6/5, Error ellipse: s-maj=33.2km
s-min=22.4km az=20.0
AEIC ***12*** *01:00:28.7±1.4, 55°.80N±0°.01×149°.9W±0°.1, h10km±5km,*
Error ellipse: s-maj=8.8km s-min=1.8km az=87.0
ISC 12 01:00:26.0±0.8, 55°.91N±0°.07×150°.07W±0°.05, h10km**,**
n212, σ1§**40**/205**, mb3.6**/8**, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.21**	**308**		**Pn**	**01 01 02.0**	**-0.7**
OHAK					**Sn**	**01 01 28.5**	**-1.6**
OHAK	**Old Harbor**	**2.21**	**308**	P	**Pn**	**01 01 02.0**	**-0.7**
baz=126							
OHAK				S	**Sn**	**01 01 28.5**	**-1.6**
baz=126							
KDAK	**Kodiak Island**	**2.33**	**325**	Pn	**Pn**	**01 01 04.0**	**-0.3**
KDAK	**Kodiak Island**	**2.33**	**325**		**Sn**	**01 01 31.7**	**-1.3**
KDAK	**Kodiak Island**	**2.33**	**325**	S	**Sn**	**01 01 31.7**	**-1.3**
baz=142							
KDAK	**Kodiak Island**	**2.33**	**325**	Pn	**Pn**	**01 01 04.0**	**-0.3**
15nm,0.3s,baz=171,slow=5.8,SNR=148							

KDAK Sn **Sn** **01 01 31.8 -1.1**
6.0nm,0.3s,baz=22,slow=23,SNR=6.6
47nm,0.4s
SII Sitkinak Islan 2.39 287 Pn 01 01 04.4 -0.7
SII **Sn 01 01 33.0 -1.5**
SII Sitkinak Islan 2.39 287 IAML 01 01 43.4
comp=N,371nm,0.6s
SII IAML 01 01 44.3
comp=E,464nm,0.6s
SII Sitkinak Islan 2.39 287 P **Pn 01 01 04.4 -0.7**
baz=106
SII S **Sn 01 01 33.0 -1.5**
baz=106
R18K Karluk 2.93 306 Pn 01 01 12.4 -0.2
R18K Karluk 2.93 306 IAML 01 01 53.9
comp=N,211nm,0.5s
R18K IAML 01 02 05.2
comp=E,161nm,0.4s
R18K Karluk 2.93 306 P **Pn 01 01 12.4 -0.2**
baz=124
SYI Shuyak Island 2.98 336 Pn **Pn 01 01 13.0 -0.3**
SYI IAML 01 02 04.5
comp=E,108nm,0.9s
Q20K Shuyak Island 2.98 336 P **Pn 01 01 12.9 -0.4**
baz=153
CHIR Chirikof Islan 3.13 271 Sn 01 01 49.7 -3.1
CHIR Chirikof Islan 3.13 271 S **Sn 01 01 49.7 -3.1**
baz=88
KAHG Katmai Hook Gl 3.55 319 Pn 01 01 22.1 +0.9
Q19K Cape Douglas, 3.59 329 Pn 01 01 22.1 +0.5
Q19K Cape Douglas, 3.59 329 P **Pn 01 01 22.1 +0.5**
baz=146
KCE Katmai Mt Cerb 3.64 312 Pn 01 01 24.1 +1.7
CNPM China Poot 3.68 351 Pn 01 01 21.9 -0.9
CNPM **Sn 01 02 04.5 -1.7**
CNPM China Poot 3.68 351 IAML 01 02 12.6
comp=E,73nm,1.1s
ACHA Angle Creek He 3.68 311 Pn 01 01 23.3 +0.4
KABU Katmai Buttres 3.70 312 Pn 01 01 24.4 +1.2
ANCK Angle Creek 3.75 310 Pn 01 01 24.4 +0.6
KAHC Katmai Hardscr 3.84 318 Pn 01 01 25.4 +0.3
Q18K Katmai Hardscr 3.84 318 P **Pn 01 01 25.4 +0.3**
baz=134
PLK3 Peulik 3 3.85 300 Pn 01 01 25.4 +0.3
BRSE Bradley Lake S 3.86 355 Pn 01 01 24.1 -1.3
BRSE **Sn 01 02 08.9 -1.8**
BRSE Bradley Lake S 3.86 355 P **Pn 01 01 24.0 -1.3**
baz=173
BRSE S **Sn 01 02 08.9 -1.8**
baz=173
PLK4 Peulik 4 3.87 299 Pn 01 01 25.4 -0.1
BRLK Bradley Lake 3.89 354 Pn 01 01 24.4 -1.3
BRLK **Sn 01 02 09.9 -1.5**
BRLK Bradley Lake 3.89 354 IAML 01 02 16.3
comp=N,63nm,1.0s
BRLK IAML 01 02 20.5
comp=E,62nm,0.7s
CNTC Contact Creek 3.95 309 Pn 01 01 27.0 +0.3
Q17K Contact Creek 3.95 309 P **Pn 01 01 27.0 +0.3**
baz=125
Q23K Middleton Isla 4.05 28 Pn 01 01 26.0 -1.9
Q23K Middleton Isla 4.05 28 IAML 01 02 14.9
comp=E,166nm,2.0s
Q23K IAML 01 02 16.9
comp=N,148nm,2.2s
Q23K Middleton Isla 4.05 28 P **Pn 01 01 26.0 -1.9**
baz=209
MID Middleton Isla 4.05 28 Pn 01 01 26.2 -1.7
MID Middleton Isla 4.05 28 IAML 01 02 03.2
comp=N,138nm,2.0s
PLK1 Peulik 1 4.06 300 Pn 01 01 28.1 0.0
P19K Oil Pt 4.11 337 Pn 01 01 28.7 -0.2
P19K Oil Pt 4.11 337 P **Pn 01 01 28.7 -0.2**
baz=154
PLK5 Peulik 5 4.28 302 Pn 01 01 30.0 -1.0
P23K Montague Islan 4.33 18 Pn 01 01 30.6 -1.2
P23K Montague Islan 4.33 18 P **Pn 01 01 30.6 -1.2**
baz=199
O20K Slope Mountain 4.40 343 Pn 01 01 31.9 -0.8
O20K Slope Mountain 4.40 343 P **Pn 01 01 31.9 -0.8**
baz=160
P18K Big Mountain, 4.46 324 Pn 01 01 32.7 -0.9
P18K Big Mountain, 4.46 324 P **Pn 01 01 32.7 -0.9**
baz=139
Q22K Cooper Landing 4.58 2 Pn **Pn 01 01 34.9 -0.3**
SLKM Skilak Lake 4.61 359 Pn 01 01 34.6 -1.0
SLKM **Sn 01 02 26.3 -2.9**
CHGN Chignik 4.69 278 Pn **Pn 01 01 36.5 -0.2**
CHGN IAML 01 02 32.0
comp=N,72nm,0.5s
CHGN IAML 01 02 32.8
comp=E,103nm,0.5s
P17K Kvichak River 4.75 316 Pn 01 01 38.0 +0.5
P17K Kvichak River 4.75 316 P **Pn 01 01 38.0 +0.5**
baz=131
RSO Redoubt South 4.78 344 Pn 01 01 39.4 +1.2
O18K Koktuh Hills 4.81 327 Pn 01 01 37.5 -0.9
O18K Koktuh Hills 4.81 327 IAML 01 02 40.7
comp=N,52nm,0.8s
O18K IAML 01 02 42.7
comp=E,51nm,1.0s
O18K Koktuh Hills 4.81 327 P **Pn 01 01 37.5 -0.9**
baz=143
HIN Hinchinbrook I 4.88 21 Pn 01 01 37.9 -1.4
HIN Hinchinbrook I 4.88 21 IAML 01 02 50.0
comp=N,71nm,1.0s
KAIM Kayak Island 5.03 34 Pn 01 01 39.7 -1.6
KAIM Kayak Island 5.03 34 P **Pn 01 01 39.7 -1.6**
baz=218
VNHG Veniaminof 1 5.11 277 Pn 01 01 42.2 -0.3
EYAK Cordova Ski Ar 5.18 24 Pn 01 01 42.5 -0.9
EYAK Cordova Ski Ar 5.18 24 P **Pn 01 01 42.5 -0.9**
baz=206
FID Port Fidalgo 5.21 20 Pn 01 01 42.6 -1.2
FID IAML 01 02 44.6
comp=E,49nm,0.9s
FID IAML 01 02 50.9
comp=N,31nm,1.1s
GLI Glacier Island 5.22 16 Pn 01 01 43.4 -0.6
GLI Glacier Island 5.22 16 IAML 01 02 23.9
comp=E,41nm,1.1s
GLI IAML 01 03 05.8
comp=N,34nm,1.5s
GLI Glacier Island 5.22 16 P **Pn 01 01 43.4 -0.6**
baz=197
RAGM Ragged Mountai 5.32 30 Pn 01 01 44.3 -1.0
SUCK Suckling Hills 5.34 36 Pn 01 01 44.0 -1.8
SPU Mount Spurr 5.39 350 Pn **Pn 01 01 45.9 -0.4**
O17K Koliganek Bris 5.39 319 Pn 01 01 46.0 -0.4
O17K Koliganek Bris 5.39 319 P **Pn 01 01 46.0 -0.4**
baz=133
HMT Hamilton 5.40 32 Pn 01 01 45.9 -0.6
NICHA Nichawak Mount 5.41 34 Pn 01 01 45.4 -1.2
N19K Bonanza Creek 5.44 337 Pn 01 01 46.2 -0.9
N19K Bonanza Creek 5.44 337 P **Pn 01 01 46.2 -0.9**
baz=152
GOAT Goat Mountain 5.46 29 Pn 01 01 46.0 -1.4
CHNA Chernabura Isl 5.54 263 P **Pn 01 01 46.6 -1.8**
baz=76
CHNA S **Sn 01 02 47.8 -4.2**
baz=76
CNBA Chernabura Isl 5.54 263 Pn 01 01 46.6 -1.8
CNBA **Sn 01 02 47.8 -4.3**
GRIN Grindle Hills 5.65 36 Pn 01 01 48.5 -1.5
O16K Kokwok River B 5.66 314 Pn 01 01 49.8 -0.2
O16K Kokwok River B 5.66 314 P **Pn 01 01 49.8 -0.2**
baz=128
N18K Kilae Creek 5.68 330 Pn 01 01 49.4 -1.0
N18K Kilae Creek 5.68 330 P **Pn 01 01 49.3 -1.0**
baz=145
BMRM Bremner River 5.82 27 Pn 01 01 50.6 -1.7
BMRM Bremner River 5.82 27 P **Pn 01 01 50.6 -1.7**
baz=210
GHO Glory Hole Cre 5.91 5 Pn 01 01 52.5 -1.1
SDPT Sand Point 5.92 269 Sn 01 02 57.1 -4.4
SDPT Sand Point 5.92 269 S **Sn 01 02 57.1 -4.4**
baz=81
WAX Waxell Ridge 5.94 37 Pn 01 01 52.0 -1.9
N17K Nushagak Hills 5.96 324 Pn 01 01 53.3 -0.9
N17K Nushagak Hills 5.96 324 P **Pn 01 01 53.3 -0.9**
baz=138
SML Sawmill 5.98 8 Pn 01 01 53.4 -1.1
SML Sawmill 5.98 8 P **Pn 01 01 53.4 -1.1**
baz=188
KLU Klutina 6.00 19 Pn 01 01 53.3 -1.4
KLU Klutina 6.00 19 P **Pn 01 01 53.3 -1.4**
baz=202
BARK Barkley Ridge 6.03 39 Pn 01 01 53.3 -1.8
CRQM Cirque 6.07 34 Pn 01 01 54.1 -1.7
CRQE Cirque 6.08 34 P **Pn 01 01 54.1 -1.8**
baz=219
SCM Sheep Creek Mo 6.11 12 Pn 01 01 56.3 +0.1
SKT Skwentna 6.13 354 Pn **Pn 01 01 55.7 -0.8**
TGL Tana Glacier 6.17 35 Pn 01 01 55.6 -1.5
O15K Ungalikthiuk R 6.19 306 Pn 01 01 58.0 +0.8
O15K Ungalikthiuk R 6.19 306 P **Pn 01 01 58.0 +0.8**
baz=118
M20K Styx River 6.19 346 Pn 01 01 57.0 -0.4
ISLE Juniper Island 6.22 38 Pn 01 01 57.2 -0.7
BAGL Bagley Icefiel 6.23 39 Pn 01 01 56.1 -1.7
M18K Stony River 6.34 334 Pn 01 01 58.5 -0.9
M18K Stony River 6.34 334 P **Pn 01 01 58.6 -0.9**
baz=149
VRDI Verde Repeater 6.35 30 Pn 01 01 58.0 -1.7
N25K Chitina, Valde 6.38 24 Pn 01 01 58.7 -1.3
N25K Chitina, Valde 6.38 24 P **Pn 01 01 58.7 -1.3**
baz=208
GLB Gilahina Butte 6.43 28 Pn 01 01 59.1 -1.5
KIAG Kiagna River 6.45 36 Pn 01 01 59.1 -1.9
GRNC Granite Creek 6.52 39 Pn 01 01 59.9 -2.1
M24K Tolsona, Glenn 6.53 16 Pn **Pn 01 02 00.9 -1.1**
BALM Baldy 6.54 35 Pn 01 02 00.6 -1.6
TABL Table Mountain 6.54 42 Pn 01 02 01.3 -1.1
MCARA McCarthy VSAT 6.60 31 Pn 01 02 03.0 +0.1
PTPK Patty Peak 6.61 34 Pn 01 02 02.4 -0.9
M17K Holitna River 6.71 328 Pn **Pn 01 02 04.3 -0.2**
M17K Holitna River 6.71 328 P **Pn 01 02 04.4 0.0**
baz=142
L19K White Mountain 6.75 341 Pn **Pn 01 02 04.5 -0.6**
L19K White Mountain 6.75 341 P **Pn 01 02 04.3 -0.8**
baz=156
N15K Kwethluk River 6.82 313 Pn 01 02 06.8 +0.9
N15K Kwethluk River 6.82 313 P **Pn 01 02 06.8 +0.9**
baz=125
CTGM Chitina Glacie 6.83 39 Pn 01 02 04.8 -1.4
PNL Peninsula 6.83 52 Pn 01 02 03.9 -2.2
PNL Peninsula 6.83 52 P **Pn 01 02 04.4 -1.7**
baz=240
LOGN Logan Glacier 6.85 40 Pn 01 02 05.4 -1.1
BCPM Bancas Point 6.87 50 Pn 01 02 05.6 -1.1
M16K Timber Creek 6.92 321 Pn 01 02 07.2 -0.1
M16K Timber Creek 6.92 321 P **Pn 01 02 07.2 -0.1**
baz=134
O28M Mount Upton 7.12 43 Pn 01 02 08.8 -1.6
O28M Mount Upton 7.12 43 P **Pn 01 02 08.8 -1.6**
baz=230
L18K Granite Mounta 7.18 334 Pn **Pn 01 02 10.4 -0.6**
DHY Denali Highway 7.31 10 Pn **Pn 01 02 12.1 -0.7**
M26K Nabesna, AK 7.45 26 Pn **Pn 01 02 15.1 +0.5**
O29M Mount Kennedy 7.51 49 Pn 01 02 14.2 -1.3
P29M Windy Craggy 7.57 55 Pn 01 02 13.7 -2.5
P29M Windy Craggy 7.57 55 P **Pn 01 02 13.7 -2.5**
baz=245
L16K Owhat River 7.59 324 Pn 01 02 15.8 -0.6
L16K Owhat River 7.59 324 P **Pn 01 02 15.8 -0.6**
baz=136
CAST Castle Rocks 7.60 353 Pn 01 02 17.3 +0.7
KTH Kantishna Hill 7.68 357 Pn 01 02 17.8 0.0
M27K Edge Creek, AK 7.71 30 Pn 01 02 17.3 -0.9
K20K Telida 7.74 346 Pn **Pn 01 02 16.9 -1.7**
S31K Pelican 7.84 69 Pn 01 02 16.8 -3.2
S31K Pelican 7.84 69 P **Pn 01 02 16.7 -3.2**
baz=260
M14K Bethel 7.91 313 Pn **Pn 01 02 20.7 -0.1**
K17K Iditarod 8.01 332 Pn **Pn 01 02 21.8 -0.5**
BPAW Bear Paw Mtn. 8.23 357 Pn 01 02 24.3 -1.0
J18K Innoko River 8.28 339 Pn **Pn 01 02 25.3 -0.7**
L27K Beaver Creek, 8.30 27 Pn **Pn 01 02 25.2 -1.0**
L14K Kuka Creek 8.53 315 Pn **Pn 01 02 28.5 -0.9**
J20K Nowinta River 8.54 348 Pn **Pn 01 02 29.4 0.0**
J19K Poorman 8.57 343 Pn **Pn 01 02 28.7 -1.2**
WRH Wood River Hil 8.64 6 Pn **Pn 01 02 30.9 0.0**
HDA Harding Lake 8.66 9 Pn **Pn 01 02 31.4 +0.2**
CCB Clear Creek Bu 8.83 6 Pn **Pn 01 02 33.4 -0.2**
M29M Somme Creek 8.84 37 Pn 01 02 32.5 -1.2
M29M Somme Creek 8.84 37 P **Pn 01 02 32.5 -1.2**
baz=226
IL31 9.03 9 Pn 01 02 35.5 -0.6
ILAR Eielson Array 9.03 9 Pn **Pn 01 02 37.6 +1.4**
comp=N,0.4nm,0.3s,baz=188,slow=13,SNR=16
ILAR Sn **Sn 01 04 13.2 -4.5**
comp=N,0.2nm,0.3s,baz=203,slow=16,SNR=2.3
comp=N,0.9nm,0.4s
MDM Murphy Dome 9.12 5 Pn **Pn 01 02 37.5 0.0**
MLY Manley 9.15 358 Pn **Pn 01 02 38.3 +0.3**
J26L Joseph Creek 9.20 18 Pn **Pn 01 02 38.4 -0.2**
I23K Minto, Yukon-K 9.27 2 Pn 01 02 40.8 +1.3
WHY Whitehorse 9.29 53 Pn 01 02 38.8 -1.2
L29M L29M 9.41 35 Pn 01 02 40.6 -0.9
L29M L29M 9.41 35 P **Pn 01 02 40.6 -0.9**
baz=224
U33K Whale Pass 9.49 82 Pn 01 02 39.0 -3.6
U33K Whale Pass 9.49 82 P Pn 01 02 39.0 -3.6
baz=275
M30M Minto, Yukon 9.52 40 Pn **Pn 01 02 41.5 -1.4**
K13K Kusilvak Mount 9.64 315 Pn 01 02 45.1 +0.4
H21K Melozitna Rive 9.87 353 Pn **Pn 01 02 47.4 -0.3**
EGAK Eagle 9.91 23 Pn 01 02 47.7 -0.7
H24K Noodor Dome 10.01 5 Pn 01 02 50.1 +0.4
P33M Teslin, Yukon 10.09 58 Pn **Pn 01 02 49.1 -1.7**
K29M Barlow Dome 10.13 33 Pn **Pn 01 02 50.9 -0.5**
I28M Miner Creek 10.76 23 Pn 01 02 59.2 -0.8
R33M Jennings River 10.80 63 Pn 01 02 58.7 -1.9
G23K Bananza Creek 10.84 0 Pn **Pn 01 03 01.2 +0.2**
DLBC Dease Lake 11.16 69 Pn **Pn 01 03 06.3 +0.8**
comp=N,0.2nm,0.3s,baz=270,slow=14,SNR=2.1
comp=N,1.0nm,0.4s
E21K Killik River 12.70 353 Pn 01 03 26.2 -0.2
D25K Kavik River 13.56 6 Pn 01 03 37.4 -0.8
C19K Lookout Ridge 13.92 346 Pn **Pn 01 03 42.6 -0.4**
C23K Hualilik River 13.98 359 Pn **Pn 01 03 41.9 -1.8**
INK Inuvik 14.56 25 Pn Pn 01 03 48.8 -3.0
INK Inuvik 14.56 25 Pn **Pn 01 03 53.8 +2.0**
comp=N,0.2nm,0.3s,baz=215,slow=12,SNR=3.0
comp=N,2.8nm,0.9s
YKA Yellowknife Ar 19.11 55 P **P 01 04 48.6 0.0**
comp=N,0.1nm,0.3s,baz=265,slow=11,SNR=5.3
comp=N,2.4nm,0.8s
NVAR Mina Array Bea 27.43 116 P **P 01 06 11.1 -0.9**
comp=N,0.3nm,0.7s,baz=309,slow=9.2,SNR=2.1
comp=N,0.3nm,0.7s
SUMG Summit 43.48 24 *i* P P 01 08 37.0 +7.8
H11N2 WAKE ISLAND Hy 48.32 239 T T 02 01 49.8
baz=30,slow=74,SNR=10
H11N3 WAKE ISLAND Hy 48.32 239 T T 02 01 52.6
baz=30,slow=74,SNR=9.3
H11N1 WAKE ISLAND Hy 48.34 239 T T 02 01 50.3
baz=30,SNR=6.3
H11S1 WAKE ISLAND Hy 49.46 239 T T 02 03 25.1
baz=32,SNR=9.7
H11S2 WAKE ISLAND Hy 49.47 239 T T 02 03 26.4
baz=32,slow=74,SNR=10.0
H11S3 WAKE ISLAND Hy 49.48 239 T T 02 03 16.1
baz=32,slow=74,SNR=9.2
SONM Songino Array 58.54 310 P **P 01 10 23.5 +1.2**
comp=N,0.5nm,0.9s,baz=33,slow=8.6,SNR=2.6
comp=N,0.5nm,0.9s
NB2 NORSAR Subarra 62.46 10 P **P 01 10 49.8 +1.0**
comp=Z,1.6nm,0.9s,baz=349,slow=6.9
NOA NORSAR Array B 62.46 10 P **P 01 10 50.0 +1.2**
comp=Z,0.4nm,0.8s,baz=348,slow=6.8,SNR=2.9
comp=Z,0.4nm,0.8s
HFS Hagfors 63.58 9 P **P 01 10 57.1 +0.9**
comp=Z,0.8nm,0.9s,baz=46,slow=12,SNR=1.1
comp=Z,0.8nm,0.9s
KURBB Kurchatov Arra 66.43 329 P **P 01 11 17.6 +2.8**
comp=Z,0.2nm,0.5s,baz=31,slow=6.6,SNR=1.8
comp=Z,0.2nm,0.5s
BVAR Borovoye Array 66.43 335 P **P 01 11 17.4 +2.6**
comp=Z,0.2nm,0.5s,baz=9.7,slow=10,SNR=2.1
comp=Z,0.2nm,0.5s
MKAR Makanchi Array 68.64 324 P P 01 11 26.2 -2.7
MKAR Makanchi Array 68.64 324 P **P 01 11 29.6 +0.6**
comp=Z,0.4nm,0.6s,baz=36,slow=9.5,SNR=3.7
comp=Z,0.4nm,0.6s
ABKAR Akbulak array 72.25 340 P **P 01 11 50.6 -0.3**
ESDC Sonseca Array 80.51 26 P **P 01 12 40.0 +1.9**
comp=Z,0.6nm,0.9s,baz=337,slow=5.0,SNR=3.0
comp=Z,0.6nm,0.9s

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*IDC **12** 01:06:30.8±2.1, 27°.44N×143°.14E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=88.7km s-min=26.5km az=75.0*
*NEIC **12** 01:06:36.5±0.9, 26°.97N±0°.10×142°.84E±0°.07, h44km±8km, mb4.4/15, Error ellipse: s-maj=15.8km s-min=5.7km az=209.0*

ISC 12 01:06:34.3±0.8, **26°.9N**±0°.1×**142°.83E**±0°.10, **h32**km, **n30**, σ0**°77**/30, **mb4.3**/17, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.62**	**290**		**Pn**	**01 06 48.4**	**+1.5**
JCJ	**Chichijima**	**0.62**	**290**	Pn	**Pn**	**01 06 45.6**	**-1.2**
	44nm,0.3s,baz=54,slow=23,SNR=48						
JCJ				Sn	**Sb**	**01 06 56.0**	**+0.8**
	138nm,0.3s,baz=287,slow=19,SNR=8.8						
JCJ				LR	LR	01 07 15.9	
	comp=Z,438nm,20.8s,baz=181,slow=49						
JHJ2	**Mitsune**	**6.74**	**338**	Pn	**Pn**	**01 08 11.6**	**+0.6**
LUWI	**Luwuk**	**33.83**	**218**	P	**P**	**01 13 13.1**	**-0.8**
SONM	**Songino Array**	**35.27**	**316**	P	**P**	**01 13 27.1**	**+0.9**
SONM	**Songino Array**	**35.27**	**316**	P	**P**	**01 13 25.7**	**-0.5**
	0.5nm,0.6s,baz=119,slow=6.8,SNR=5.2						
	0.5nm,0.6s						
WB0	**Warramunga Arr**	**47.09**	**191**	P	**P**	**01 15 04.2**	**+0.8**
WB0				IAmb	IAmb	01 15 16.9	
	comp=Z,6.2nm,1.2s						
WB2	**Warramunga Arr**	**47.27**	**191**	P	**P**	**01 15 05.8**	**+1.0**
WB2				IAmb	IAmb	01 15 17.2	
	comp=Z,8.3nm,1.4s						
WRA	**Warramunga Arr**	**47.27**	**191**	P	**P**	**01 15 06.2**	**+1.5**
WRA	**Warramunga Arr**	**47.27**	**191**	P	P	01 15 10.6	+5.8
	comp=Z,1.2nm,0.7s,baz=12,slow=8.6,SNR=9.4						
	comp=Z,1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**50.03**	**319**	P	**P**	**01 15 25.6**	**0.0**
ZALV	**Zalesovo Beam**	**50.03**	**319**	P	**P**	**01 15 24.8**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=97,slow=5.8,SNR=4.3						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**51.06**	**310**	P	**P**	**01 15 33.1**	**-0.5**
	comp=Z,0.8nm,1.1s,baz=87,slow=8.8,SNR=2.3						
	comp=Z,0.8nm,1.1s						
KURK	**Kurchatov**	**53.55**	**315**	P	**P**	**01 15 51.8**	**-0.2**
KURBB	**Kurchatov Arra**	**53.60**	**315**	P	**P**	**01 15 52.1**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=90,slow=8.1,SNR=18						
	comp=Z,0.8nm,0.5s						
BVAR	**Borovoye Array**	**58.59**	**318**	P	**P**	**01 16 28.2**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=89,slow=8.2,SNR=19						
	comp=Z,2.9nm,0.6s						
BRVK	**Borovoye**	**58.65**	**318**	P	**P**	**01 16 28.4**	**0.0**
BRVK				IAmb	IAmb	01 16 29.4	
	comp=Z,2.3nm,0.8s						
KK31	**Karatay Array**	**59.68**	**306**	P	**P**	**01 16 36.1**	**+0.4**
KK31				IAmb	IAmb	01 16 37.1	
	comp=Z,1.3nm,0.5s						
KKAR	**Karatay Array**	**59.68**	**306**	P	**P**	**01 16 35.4**	**-0.3**
KKAR				IAmb	IAmb	01 16 37.2	
	comp=Z,1.3nm,0.5s						
KKAR	**Karatay Array**	**59.68**	**306**	P	**P**	**01 16 35.8**	**+0.1**
F28M	**Old Crow**	**60.61**	**25**	P	**P**	**01 16 42.2**	**+0.5**
F28M				IAmb	IAmb	01 16 53.7	
	comp=Z,4.2nm,1.5s						
CHGR	**Chuyangaron**	**61.55**	**301**	P	**P**	**01 16 47.5**	**-1.1**
ARU	**Arti**	**64.94**	**322**	P	**P**	**01 17 09.6**	**-1.1**
ARU				IAmb	IAmb	01 17 11.9	
	comp=Z,2.6nm,0.6s						
ABKAR	**Akbulak array**	**65.66**	**314**	P	**P**	**01 17 15.4**	**-0.1**
ABKAR				IAmb	IAmb	01 17 16.2	
	comp=Z,2.9nm,0.7s						
ABKAR	**Akbulak array**	**65.66**	**314**	P	**P**	**01 17 15.3**	**-0.1**
DIB	**Dawson Inlet,**	**65.86**	**41**	P	**P**	**01 17 16.5**	**-0.1**
FINES	**FINESS Array B**	**78.39**	**334**	P	**P**	**01 18 31.1**	**-0.3**
FINES	**FINESS Array B**	**78.39**	**334**	P	**P**	**01 18 31.0**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=66,slow=2.7,SNR=7.5						
	comp=Z,0.7nm,0.6s						
HFS	**Hagfors**	**83.84**	**337**	P	**P**	**01 18 59.6**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=60,slow=3.5,SNR=4.9						
	comp=Z,1.5nm,0.8s						
NAO01	**NORSAR Array S**	**84.27**	**339**	P	**P**	**01 19 03.3**	**+0.6**
NAO01				IAmb	IAmb	01 19 09.7	
	comp=Z,11nm,1.5s						

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*IDC **12** 01:14:26.8±1.4, 31°.72S×58°.35E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=49.3km s-min=27.8km az=86.0*

ISC 12 01:14:29.1±1.5, **31°.7S**±0°.2×**58°.4E**±0°.4, **h14**km, **n16**, σ0**°32**/7, **mb4.0**/7, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.29**	**198**	T	T	01 33 51.4	
	baz=22,slow=74,SNR=53						
H04N1	**CROZET ISLANDS**	**15.29**	**198**	T	T	01 33 52.4	
	baz=22,slow=74,SNR=40						
H04N3	**CROZET ISLANDS**	**15.30**	**198**	T	T	01 34 09.7	
	baz=22,slow=74,SNR=49						
H08S1	**Diego Carcia H**	**27.33**	**32**	T	T	01 48 23.3	
	baz=206,slow=76,SNR=18						
H08S2	**Diego Garcia H**	**27.34**	**32**	T	T	01 48 20.4	
	baz=206						
H08S3	**Diego Garcia H**	**27.35**	**32**	T	T	01 48 27.3	
	baz=206,slow=76						
H01W2	**Cape Leeuwin H**	**46.21**	**110**	T	T	02 12 02.6	
	baz=257,slow=74,SNR=6.0						
H01W3	**Cape Leeuwin H**	**46.22**	**110**	T	T	02 12 05.3	
	baz=257,slow=74,SNR=5.7						
H01W1	**Cape Leeuwin H**	**46.23**	**110**	T	T	02 12 06.3	
	baz=257,slow=74,SNR=6.1						
QSPA	**South Pole Qui**	**58.44**	**180**	P	**P**	**01 24 24.3**	**0.0**
	0.9nm,0.9s,baz=297,slow=2.2,SNR=6.3						
	0.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.28**	**44**	P	**P**	**01 24 57.8**	**+0.2**
	1.1nm,0.5s,baz=236,slow=7.0,SNR=6.1						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**66.17**	**104**	P	**P**	**01 25 16.9**	**+0.2**
	0.6nm,0.7s,baz=235,slow=6.2,SNR=5.5						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**68.18**	**101**	P	**P**	**01 25 29.0**	**-0.4**
	0.8nm,0.8s,baz=243,slow=5.8,SNR=4.5						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**81.08**	**16**	P	**P**	**01 26 43.1**	**-0.4**
	0.3nm,0.7s,baz=207,slow=2.9,SNR=2.2						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**83.91**	**13**	P	**P**	**01 26 58.2**	**+0.2**
	1.1nm,0.9s,baz=205,slow=5.6,SNR=6.3						
	1.1nm,0.9s						
BVAR	**Borovoye Array**	**85.04**	**7**	P	**P**	**01 27 03.8**	**-0.1**
	1.9nm,0.8s,baz=174,slow=5.4,SNR=12						
	1.9nm,0.8s						

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*IDC **12** 01:32:20.8±1.0, 31°.75S×58°.23E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=34.7km s-min=28.0km az=58.0*
*NEIC **12** 01:32:21.4±1.5, 31°.76S±0°.08×58°.2E±0°.1, h10km±1km, mb4.6/16, Error ellipse: s-maj=18.7km s-min=13.6km az=98.0*

ISC 12 01:32:21.4±0.6, **31°.7S**±0°.1×**58°.2E**±0°.1, **h10**km, **n38**, σ1**°04**/29, **mb4.4**/15, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**11.93**	**302**	Pn	**Pn**	**01 35 12.0**	**+0.5**
VOI	**Vohitsoka**	**14.09**	**311**	Pn	**Pn**	**01 35 42.3**	**+1.1**
H04N2	**CROZET ISLANDS**	**15.24**	**197**	T	T	01 51 14.6	
	baz=21,slow=75,SNR=50						
H04N1	**CROZET ISLANDS**	**15.24**	**197**	T	T	01 51 15.8	
	baz=21,slow=75,SNR=49						
H04N3	**CROZET ISLANDS**	**15.26**	**197**	T	T	01 51 14.6	
	baz=21,slow=75,SNR=44						
H08S1	**Diego Carcia H**	**27.42**	**32**	T	T	02 06 29.9	
	baz=207,slow=76,SNR=22						
H08S2	**Diego Garcia H**	**27.43**	**32**	T	T	02 06 32.9	
	baz=207,slow=76,SNR=8.8						
H08S3	**Diego Garcia H**	**27.44**	**32**	T	T	02 06 33.2	
	baz=207,slow=76,SNR=8.8						
BOSA	**Boshof**	**28.57**	**268**	P	**P**	**01 38 17.9**	**+0.1**
BOSA				IAmb	IAmb	01 38 28.7	
	comp=Z,12nm,1.4s						
LBTB	**Lobatse**	**29.36**	**275**	P	**P**	**01 38 23.1**	**-1.7**
LBTB				IAmb	IAmb	01 38 24.6	
	comp=Z,16nm,1.5s						
SUR	**Sutherland**	**31.57**	**259**	P	**P**	**01 38 43.7**	**-0.7**
SUR				IAmb	IAmb	01 39 18.9	
	comp=Z,25nm,1.2s						

LSZ	**Lusaka**	**31.86**	**294**	P	**P**	**01 38 47.4**	**+0.5**
LSZ				IAmb	IAmb	01 38 49.7	
comp=Z,6.5nm,1.2s							
MBAR	**Mbarara**	**40.38**	**315**	P	**P**	**01 39 58.3**	**-1.6**
H01W2	**Cape Leeuwin H**	**46.36**	**110**	T	T	02 30 31.4	
baz=257,slow=75,SNR=5.8							
H01W3	**Cape Leeuwin H**	**46.37**	**110**	T	T	02 30 29.4	
baz=257,slow=75,SNR=4.8							
H01W1	**Cape Leeuwin H**	**46.38**	**110**	T	T	02 30 29.6	
baz=257,slow=75,SNR=6.7							
QSPA	**South Pole Qui**	**58.44**	**180**	P	**P**	**01 42 18.8**	**+1.6**
comp=Z,1.0nm,0.3s,baz=288,slow=1.1,SNR=5.0							
comp=Z,1.1nm,0.7s							
FORT	**Forrest**	**58.76**	**109**	P	**P**	**01 42 18.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**61.83**	**95**	P	**P**	**01 42 39.6**	**-1.4**
CMAR	**Chiang Mai Arr**	**63.39**	**44**	P	**P**	**01 42 50.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**63.39**	**44**	P	**P**	**01 42 52.6**	**+1.3**
comp=Z,1.0nm,0.3s,baz=232,slow=6.5,SNR=5.4							
comp=Z,1.0nm,0.3s							
ASAR	**Alice Springs**	**66.33**	**104**	P	**P**	**01 43 10.9**	**+0.3**
comp=Z,0.6nm,0.8s,baz=238,slow=5.5,SNR=5.3							
comp=Z,0.6nm,0.8s							
WRA	**Warramunga Arr**	**68.34**	**101**	P	**P**	**01 43 23.5**	**+0.2**
comp=Z,0.9nm,0.8s,baz=242,slow=5.4,SNR=3.6							
comp=Z,0.9nm,0.8s							
TOA0	**Torodi Ar. Sit**	**70.11**	**300**	P	**P**	**01 43 35.2**	**+1.0**
TOA0				IAmb	IAmb	01 43 57.5	
comp=Z,4.5nm,1.4s							
TORD	**Torodi Ar. Bea**	**70.11**	**300**	P	**P**	**01 43 34.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**70.11**	**300**	P	**P**	**01 43 34.9**	**+0.6**
comp=Z,0.8nm,1.0s,baz=126,slow=5.0,SNR=4.0							
comp=Z,0.8nm,1.0s							
SIMJ	**Simiganj**	**70.75**	**9**	P	**P**	**01 43 38.6**	**+0.8**
SIMJ				IAmb	IAmb	01 43 40.9	
comp=Z,5.9nm,1.4s							
SMAI	**San Martin Ant**	**72.50**	**199**	P	**P**	**01 43 47.6**	**-0.2**
SMAI				IAmb	IAmb	01 44 12.1	
comp=Z,6.4nm,1.2s							
TAM	**Tamanrasset**	**74.00**	**310**	P	**P**	**01 43 57.1**	**-0.5**
SANT	**Santorini**	**74.35**	**333**	P	**P**	**01 43 58.9**	**-0.3**
BR131	**Keskin Array S**	**74.65**	**341**	P	**P**	**01 43 59.2**	**-1.7**
BRTR	**Keskin Array B**	**74.65**	**341**	P	**P**	**01 43 59.7**	**-1.3**
KKAR	**Karatay Array**	**75.32**	**9**	P	**P**	**01 44 05.5**	**+0.8**
EIDS	**Eidsvold**	**79.41**	**113**	P	**P**	**01 44 28.2**	**0.0**
EIDS				IAmb	IAmb	01 44 37.4	
comp=Z,14nm,1.4s							
ABKAR	**Akbulak array**	**80.63**	**1**	P	**P**	**01 44 33.4**	**-0.5**
ABKAR	**Akbulak array**	**80.63**	**1**	P	**P**	**01 44 33.6**	**-0.3**
ABKAR				IAmb	IAmb	01 45 12.3	
comp=Z,1.7nm,1.1s							
KURBB	**Kurchatov Arra**	**83.94**	**13**	P	**P**	**01 44 52.8**	**+1.5**
comp=Z,1.3nm,1.0s,baz=210,slow=5.9,SNR=5.7							
comp=Z,1.3nm,1.0s							
BVAR	**Borovoye Array**	**85.06**	**7**	P	**P**	**01 44 58.4**	**+1.5**
comp=Z,2.3nm,0.7s,baz=195,slow=4.5,SNR=13							
comp=Z,2.3nm,0.7s							

*IDC **12** 01:34:39.6±1.1,23°.48N×143°.75E,h0km,mb3.8/5, mbtmp3.8/5,MS3.1/5,Error ellipse: s-maj=34.9km s-min=29.8km az=96.0*
*NEIC **12** 01:34:43.3±1.6,23°.61N±0°.07×143°.8E±0°.1,h10km±1km, mb4.4/26,Error ellipse: s-maj=21.0km s-min=9.8km az=114.0*
ISC 12 01:34:45.0±0.6,23°.56N±0°.09×143°.8E±0°.1,h28km,n41, σ0°96/36,mb4.3/18,MS3.8/3,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.80**	**338**	Pn	**Pn**	**01 35 42.0**	**+0.3**
MJAR	**Matsushiro Arr**	**13.80**	**341**	LR	LR	01 43 38.6	
comp=Z,25nm,18.1s,baz=140,slow=39							
KSRS	**Korea Array**	**19.40**	**319**	LR	LR	01 46 16.6	
comp=Z,46nm,18.7s,baz=230,slow=36							
YULB	**Yu-li**	**20.60**	**274**	P	**P**	**01 39 22.4**	**+0.3**
YULB				IAmb	IAmb	01 39 48.1	
comp=Z,35nm,1.3s							
KLR	**Kul'dur**	**27.31**	**343**	LR	LR	01 49 21.9	
comp=Z,15nm,20.2s,baz=222,slow=32							
COEN	**Coen**	**37.29**	**181**	P	**P**	**01 41 56.0**	**+1.1**
COEN				IAmb	IAmb	01 42 02.2	
comp=Z,14nm,1.1s							
WB2	**Warramunga Arr**	**44.20**	**193**	P	**P**	**01 42 52.1**	**+0.4**
WB2				IAmb	IAmb	01 43 33.4	
comp=Z,9.2nm,1.1s							
WRA	**Warramunga Arr**	**44.20**	**193**	P	**P**	**01 42 49.8**	**-2.1**
comp=Z,0.9nm,0.8s,baz=12,slow=8.2,SNR=5.2							
comp=Z,0.9nm,0.8s							
K13K	**Kusilvak Mount**	**51.70**	**28**	P	**P**	**01 43 49.3**	**0.0**
K13K				IAmb	IAmb	01 43 50.2	
comp=Z,8.2nm,1.2s							
MKAR	**Makanchi Array**	**53.85**	**312**	P	**P**	**01 44 04.7**	**-0.8**
comp=Z,0.4nm,0.7s,baz=79,slow=7.8,SNR=4.1							
comp=Z,0.4nm,0.7s							
GIRL	**Giralia**	**54.16**	**214**	P	**P**	**01 44 09.7**	**+1.8**
ARMA	**Armidale**	**54.20**	**172**	P	**P**	**01 44 07.0**	**-1.2**
E18K	**Tukpahlearik C**	**55.49**	**23**	P	**P**	**01 44 18.2**	**+1.2**
E18K				IAmb	IAmb	01 44 18.7	
comp=Z,3.2nm,0.9s							
KURK	**Kurchatov**	**56.49**	**316**	P	**P**	**01 44 24.4**	**-0.1**
KURK				IAmb	IAmb	01 44 54.2	
comp=Z,3.7nm,1.1s							
KURBB	**Kurchatov Arra**	**56.54**	**316**	P	**P**	**01 44 24.1**	**-0.7**
comp=Z,1.6nm,0.8s,baz=97,slow=7.7,SNR=9.0							
comp=Z,1.6nm,0.8s							
D19K	**Kuna River**	**56.76**	**22**	P	**P**	**01 44 25.5**	**-0.8**
D19K				IAmb	IAmb	01 44 28.4	
comp=Z,6.2nm,1.2s							
F20K	**Avaraart Lake**	**57.13**	**24**	P	**P**	**01 44 29.7**	**+1.0**
IMAR	**Indian Mountai**	**57.58**	**25**	P	**P**	**01 44 32.3**	**+0.3**
B20K	**Meade River**	**57.63**	**20**	P	**P**	**01 44 32.5**	**+0.2**
B20K				IAmb	IAmb	01 44 36.4	
comp=Z,8.5nm,1.3s							
G23K	**Bananza Creek**	**59.22**	**25**	P	**P**	**01 44 43.6**	**+0.2**
G23K				IAmb	IAmb	01 44 45.5	
comp=Z,3.2nm,0.9s							
C23K	**Itkillik River**	**59.73**	**21**	P	**P**	**01 44 47.5**	**+0.7**
E24K	**Your Creek**	**60.08**	**24**	P	**P**	**01 44 50.4**	**+1.0**
E24K				IAmb	IAmb	01 44 51.6	
comp=Z,2.3nm,0.9s							
ILAR	**Eielson Array**	**60.15**	**28**	P	**P**	**01 44 48.9**	**-1.0**
comp=Z,1.4nm,0.9s,baz=254,slow=6.0,SNR=12							
comp=Z,1.4nm,0.9s							
ARSB	**Arslanbob**	**60.72**	**305**	P	**P**	**01 44 54.2**	**-0.2**
D25K	**Kavik River**	**61.07**	**22**	P	**P**	**01 44 56.6**	**+0.5**
D25K				IAmb	IAmb	01 44 57.6	
comp=Z,2.4nm,0.9s							
SCRK	**Sand Creek**	**61.31**	**29**	P	**P**	**01 44 57.4**	**-0.5**
SCRK				IAmb	IAmb	01 44 58.6	
comp=Z,2.7nm,0.8s							
BMAR	**Burnt Mountain**	**61.44**	**25**	P	**P**	**01 45 00.2**	**+1.6**
BRVK	**Borovoye**	**61.68**	**319**	P	**P**	**01 44 60.0**	**-0.4**
BRVK				IAmb	IAmb	01 45 21.2	
comp=Z,2.2nm,0.8s							
CTGM	**Chitina Glacie**	**62.39**	**32**	P	**P**	**01 45 04.1**	**-1.2**
I28M	**Miner Creek**	**63.14**	**27**	P	**P**	**01 45 10.8**	**+0.7**
M29M	**Somme Creek**	**63.76**	**30**	P	**P**	**01 45 14.7**	**+0.4**
M29M				IAmb	IAmb	01 45 24.6	
comp=Z,3.0nm,1.1s							
H29M	**Whitestone**	**63.80**	**26**	P	**P**	**01 45 14.8**	**+0.5**
I30M	**Mount Dempster**	**64.63**	**27**	P	**P**	**01 45 20.9**	**+0.9**
ABKAR	**Akbulak array**	**68.59**	**316**	P	**P**	**01 45 44.6**	**-0.8**
ABKAR	**Akbulak array**	**68.59**	**316**	P	**P**	**01 45 44.4**	**-1.0**
ABKAR				IAmb	IAmb	01 45 48.9	
comp=Z,1.6nm,1.2s							
C03A	**Quillayute Air**	**73.97**	**44**	P	**P**	**01 46 17.9**	**+0.1**
PAHR	**Pah Rah Range**	**80.31**	**51**	P	**P**	**01 46 55.7**	**+1.8**
NVAR	**Mina Array Bea**	**81.58**	**52**	P	**P**	**01 47 00.6**	**-0.2**
comp=Z,0.9nm,0.8s,baz=268,slow=5.7,SNR=5.0							
comp=Z,0.9nm,0.8s							
MLR	**Muntele Rosu**	**91.07**	**322**	LR	LR	02 31 10.9	
comp=Z,39nm,20.5s,baz=102,slow=37							
GERES	**GERESS Array B**	**95.26**	**329**	LR	LR	02 33 45.9	
comp=Z,30nm,18.6s,baz=204,slow=37							
LPAZ	**La Paz**	**149.21**	**82**	PKPbc	**PKPbc**	**01 54 31.2**	**-1.3**
comp=Z,0.7nm,0.6s,baz=270,slow=1.0,SNR=3.8							

*IDC **12** 01:41:47.7±0.8,31°.91S×58°.14E,h0km,mb4.2/12, mbtmp4.1/13,ML3.7/1,MS3.8/30,Error ellipse: s-maj=30.1km s-min=21.7km az=52.0*
*GCMT **12** 01:41:52.3±0.4,31°.64S±0°.02×58°.29E±0°.05,h12km, MW4.8/79,Moment Tensor Solution. s18,c19; s79,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.57±.06; $M_{\theta\theta}$1.24±.05; $M_{\phi\phi}$0.33±.08; $M_{r\theta}$0.48±.22; $M_{\theta\phi}$0.08±.06; $M_{\phi r}$-0.98±.39; Best double couple: $M_0$1.69000×10^{16} NP1:ϕ_s294.00000°,δ60.00000°,λ-66.00000°. NP2: ϕ_s73.00000°,δ38.00000°,λ-125.00000°. Principal axes: T 1.3290, Plg12.0000°, Azm7.0000°; N 0.7290, Plg21.0000°, Azm101.0000°; P -2.0500, Plg66.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **12** 01:41:54.3±1.5,31°.4S±0°.1×58°.55E±0°.08,h10km±1km, mb4.8/25 Error ellipse: s-maj=19.8km s-min=12.0km az=174.0*
ISC 12 01:41:53.7±0.6,31°.4S±0°.1×58°.5E±0°.1,h14km,n80, σ1°42/46,mb4.7/32,MS3.9/31,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.66**	**198**	T	T	02 01 28.4	
baz=22,slow=75,SNR=169							
H04N1	**CROZET ISLANDS**	**15.66**	**198**	T	T	02 01 29.0	
baz=22,slow=75,SNR=132							
H04N3	**CROZET ISLANDS**	**15.68**	**198**	T	T	02 01 28.3	
baz=22,slow=75,SNR=145							
OPO	**Ambohidratompo**	**16.37**	**319**	Pn	**Pn**	**01 45 41.1**	**-2.3**
baz=336,slow=17,SNR=2.2							
3.5nm,0.8s							
H08S1	**Diego Carcia H**	**26.96**	**32**	T	T	02 15 53.0	
baz=206,slow=76,SNR=26							
H08S2	**Diego Garcia H**	**26.97**	**32**	T	T	02 15 53.6	
baz=206,slow=76,SNR=15							
H08S3	**Diego Garcia H**	**26.98**	**32**	T	T	02 15 56.1	
baz=206,slow=76,SNR=31							
BOSA	**Boshof**	**28.90**	**267**	LR	LR	01 57 46.8	
comp=Z,76nm,18.0s,baz=85,slow=34							
SUR	**Sutherland**	**31.95**	**258**	LR	LR	01 58 31.3	
comp=Z,277nm,19.9s,baz=140,slow=32							
KMBO	**Kilima Mbogo**	**36.21**	**322**	P	**P**	**01 48 57.1**	**+0.5**
MAW	**Mawson**	**36.35**	**177**	LR	LR	01 59 49.2	
comp=Z,221nm,21.6s,baz=350,slow=30							
TSUM	**Tsumeb**	**38.76**	**278**	LR	LR	02 03 11.3	
comp=Z,147nm,20.2s,baz=151,slow=33							
PALK	**Pallekele**	**43.89**	**33**	LR	LR	02 04 33.5	
comp=Z,71nm,18.9s,baz=310,slow=31							
FURI	**Furi**	**44.34**	**331**	LR	LR	02 05 06.0	
comp=Z,86nm,19.4s,baz=168,slow=31							
ATD	**Arta Tunnel**	**45.24**	**338**	LR	LR	02 05 57.4	
comp=Z,9.7nm,20.4s,baz=176,slow=32							
H01W2	**Cape Leeuwin H**	**46.18**	**110**	T	T	02 39 32.4	
baz=257,slow=75,SNR=40							
H01W3	**Cape Leeuwin H**	**46.19**	**110**	T	T	02 39 33.2	
baz=257,slow=75,SNR=39							
H01W1	**Cape Leeuwin H**	**46.20**	**110**	T	T	02 39 34.1	
baz=257,slow=75,SNR=37							
SNAA	**Sanae**	**51.60**	**201**	LR	LR	02 07 34.0	
comp=Z,172nm,20.9s,baz=98,slow=30							
PBA	**Port Blair**	**53.91**	**43**	P	**P**	**01 51 17.1**	**+0.1**
WSAR	**Wadi Sarin**	**54.31**	**0**	LR	LR	02 10 03.1	
comp=Z,102nm,21.0s,baz=216,slow=31							
QSPA	**South Pole Qui**	**58.79**	**180**	P	**P**	**01 51 51.4**	**0.0**
QSPA				IAmb	IAmb	01 51 56.0	
comp=Z,11nm,1.3s							
QSPA	**South Pole Qui**	**58.79**	**180**	P	P	01 51 44.7	-6.6
comp=Z,1.2nm,0.8s,baz=79,slow=0.7,SNR=6.3							
QSPA				LR	LR	02 13 55.1	
comp=Z,173nm,19.8s,baz=264,slow=33							
comp=Z,1.2nm,0.8s							
VNDA	**Vanda**	**62.43**	**166**	P	**P**	**01 52 16.7**	**+1.0**
VNDA	**Vanda**	**62.43**	**166**	LR	LR	02 17 25.2	
comp=Z,82nm,19.2s,baz=258,slow=34							
CM31	**Chiang Mai Arr**	**62.92**	**44**	P	**P**	**01 52 21.3**	**+1.5**
CMAR	**Chiang Mai Arr**	**62.92**	**44**	P	**P**	**01 52 20.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**62.92**	**44**	P	**P**	**01 52 21.4**	**+1.6**
comp=Z,3.9nm,0.8s,baz=232,slow=7.2,SNR=16							
CMAR				LR	LR	02 15 16.4	
comp=Z,89nm,20.6s,baz=210,slow=32							
comp=Z,3.9nm,0.8s							
CHTO	**Chiang Mai**	**63.20**	**43**	P	**P**	**01 52 21.8**	**+0.1**
CHTO				IAmb	IAmb	01 52 25.4	
comp=Z,13nm,1.4s							
SBA	**Scott Base**	**63.27**	**167**	P	**P**	**01 52 22.1**	**+0.7**
SBA				IAmb	IAmb	01 52 33.0	
comp=Z,15nm,1.8s							
EIL	**Elat**	**64.72**	**337**	LR	LR	02 15 47.0	
comp=Z,87nm,21.3s,baz=234,slow=31							
SHL	**Shillong**	**64.98**	**33**	P	**P**	**01 52 34.6**	**+1.1**
SHL				IAmb	IAmb	01 52 35.9	
comp=Z,12nm,1.1s							
ASAR	**Alice Springs**	**66.11**	**104**	P	**P**	**01 52 37.3**	**-3.5**
comp=Z,1.2nm,0.5s,baz=239,slow=6.5,SNR=9.4							
comp=Z,1.2nm,0.5s							
KBL	**Kabul**	**66.31**	**9**	P	**P**	**01 52 43.9**	**+2.0**
KBL				IAmb	IAmb	01 52 46.9	
comp=Z,21nm,1.9s							
MMAI	**Mount Meron Ar**	**67.68**	**339**	LR	LR	02 19 52.2	
comp=Z,43nm,19.2s,baz=105,slow=34							
WRA	**Warramunga Arr**	**68.09**	**101**	P	**P**	**01 52 50.3**	**-3.2**
comp=Z,4.1nm,1.1s,baz=241,slow=5.7,SNR=9.5							
comp=Z,4.1nm,1.1s							
TOA0	**Torodi Ar. Sit**	**70.21**	**300**	P	**P**	**01 53 07.3**	**+0.8**
TORD	**Torodi Ar. Bea**	**70.21**	**300**	P	P	01 53 00.8	-5.7
comp=Z,0.7nm,1.0s,baz=134,slow=6.2,SNR=2.7							
TORD				LR	LR	02 22 46.2	
comp=Z,146nm,20.4s,baz=133,slow=35							
comp=Z,0.7nm,1.0s							
SIMJ	**Simiganj**	**70.36**	**9**	P	**P**	**01 53 08.7**	**+1.6**
SIMJ				IAmb	IAmb	01 53 10.4	
comp=Z,13nm,1.1s							
CHGR	**Chuyangaron**	**70.38**	**9**	P	**P**	**01 53 08.8**	**+1.6**
GURO	**Guroymak-BITLI**	**71.25**	**346**	P	**P**	**01 53 13.4**	**+0.9**
DBIC	**Dimbokro**	**71.30**	**290**	LR	LR	02 21 24.3	
comp=Z,68nm,20.5s,baz=104,slow=33							
BTK	**Batken**	**71.98**	**10**	P	**P**	**01 53 16.9**	**+0.1**
BTK				IAmb	IAmb	01 53 19.7	
comp=Z,14nm,1.6s							
PMSA	**Palmer Station**	**74.29**	**202**	P	**P**	**01 53 32.0**	**+1.8**
BRTR	**Keskin Array B**	**74.43**	**340**	P	**P**	**01 53 28.5**	**-2.9**
comp=Z,1.2nm,1.1s,baz=191,slow=2.9,SNR=4.6							
BRTR				LR	LR	02 23 13.5	
comp=Z,37nm,19.5s,baz=138,slow=33							
comp=Z,1.2nm,1.1s							
KK31	**Karatay Array**	**74.93**	**9**	P	**P**	**01 53 34.7**	**+0.6**
KK31				IAmb	IAmb	01 53 36.6	
comp=Z,10nm,1.4s							
KKAR	**Karatay Array**	**74.93**	**9**	P	**P**	**01 53 35.7**	**+1.6**
KKAR	**Karatay Array**	**74.93**	**9**	P	**P**	**01 53 35.2**	**+1.2**
KKAR				IAmb	IAmb	01 53 36.6	
comp=Z,10nm,1.4s							
AAK	**Ala-Archa**	**75.10**	**12**	P	**P**	**01 53 36.9**	**+1.6**
AAK	**Ala-Archa**	**75.10**	**12**	LR	LR	02 23 21.6	
comp=Z,106nm,21.9s,baz=200,slow=33							
BOOM	**Boomskoye usch**	**75.23**	**13**	P	**P**	**01 53 37.1**	**+1.1**
BOOM				IAmb	IAmb	01 53 40.8	
comp=Z,8.0nm,1.0s							
VAE	**Valguarnera**	**79.95**	**326**	LR	LR	02 29 01.6	
comp=Z,66nm,20.9s,baz=131,slow=35							
ABKAR	**Akbulak array**	**80.28**	**1**	P	**P**	**01 54 04.5**	**+0.8**
ABKAR	**Akbulak array**	**80.28**	**1**	P	**P**	**01 54 04.7**	**+1.0**
ABKAR				IAmb	IAmb	01 54 05.6	
comp=Z,5.4nm,1.1s							
MKAR	**Makanchi Array**	**80.71**	**16**	P	**P**	**01 54 06.4**	**+0.2**
comp=Z,1.0nm,0.8s,baz=212,slow=8.6,SNR=7.4							
MKAR				LR	LR	02 27 02.9	
comp=Z,53nm,20.1s,baz=224,slow=33							
comp=Z,1.0nm,0.8s							
KEST	**Kesra**	**81.17**	**321**	LR	LR	02 30 31.1	
comp=Z,68nm,20.1s,baz=276,slow=36							
AKTO	**Aktyubinsk**	**81.45**	**360**	LR	LR	02 29 37.6	
comp=Z,21nm,19.8s,baz=272,slow=35							
KURBB	**Kurchatov Arra**	**83.54**	**13**	P	**P**	**01 54 18.9**	**-1.9**
comp=Z,3.1nm,0.8s,baz=206,slow=5.5,SNR=8.1							
KURBB				LR	LR	02 27 40.0	
comp=Z,44nm,21.8s,baz=172,slow=33							
comp=Z,3.1nm,0.8s							
BELG	**Belogornoye**	**83.96**	**353**	LR	LR	02 33 58.9	
comp=Z,47nm,18.8s,baz=334,slow=37							
BVAR	**Borovoye Array**	**84.68**	**7**	P	**P**	**01 54 25.1**	**-1.5**
comp=Z,4.7nm,0.9s,baz=163,slow=5.6,SNR=19							
BVAR				LR	LR	02 31 53.0	
comp=Z,46nm,18.1s,baz=184,slow=35							
comp=Z,4.7nm,0.9s							
MDT	**Midelt**	**87.37**	**311**	LR	LR	02 35 51.2	
comp=Z,88nm,18.2s,baz=156,slow=37							
RONA	**Rosalia, Austr**	**87.39**	**333**	*eP*	**P**	**01 54 39.9**	**-0.2**
comp=Z,4.0nm,1.0s							
ARU	**Arti**	**87.46**	**0**	LR	LR	02 30 44.1	
comp=Z,31nm,20.1s,baz=178,slow=33							
CONA	**Conrad Observa**	**87.74**	**333**	*eP*	**P**	**01 54 42.2**	**+0.2**
comp=Z,7.3nm,1.2s							
ZALV	**Zalesovo Beam**	**87.97**	**15**	P	**P**	**01 54 43.1**	**+0.4**
comp=Z,0.5nm,0.3s,baz=185,slow=5.4,SNR=5.9							
ZALV				LR	LR	02 31 21.0	
comp=Z,59nm,19.3s,baz=232,slow=34							
comp=Z,0.5nm,0.3s							
KBA	**Koelnbreinsper**	**88.07**	**331**	*eP*	**P**	**01 54 43.9**	**+0.2**
comp=Z,5.7nm,1.2s							
ABTA	**Abfaltersbach**	**88.16**	**330**	*eP*	**P**	**01 54 44.3**	**+0.3**
comp=Z,5.6nm,1.3s							
MOA	**Molln**	**88.31**	**332**	*eP*	**P**	**01 54 43.8**	**-0.8**
comp=Z,5.0nm,1.2s							
BIOA	**Bad Ischl, Aus**	**88.44**	**332**	*eP*	**P**	**01 54 43.7**	**-1.5**
comp=Z,4.1nm,1.1s							
VRAC	**Vranov**	**88.59**	**334**	LR	LR	02 34 46.8	
comp=Z,31nm,18.2s,baz=166,slow=36							
LESA	**Schwarzleotal**	**88.62**	**331**	*eP*	**P**	**01 54 45.4**	**-0.8**
comp=Z,2.5nm,1.0s							
SQTA	**Sankt Quirin**	**89.08**	**330**	*eP*	**P**	**01 54 49.2**	**+0.9**
comp=Z,4.6nm,0.9s							
FETA	**Feichten**	**89.14**	**330**	*eP*	**P**	**01 54 47.4**	**-1.3**
comp=Z,4.1nm,1.2s							
RETA	**Reutte**	**89.48**	**330**	*eP*	**P**	**01 54 51.2**	**+1.0**
comp=Z,3.2nm,1.0s							
DAVA	**Damuels**	**89.71**	**329**	*eP*	**P**	**01 54 51.6**	**+0.2**
comp=Z,1.5nm,0.5s							
SONM	**Songino Array**	**89.78**	**30**	P	**P**	**01 54 52.0**	**+0.3**
comp=Z,1.1nm,1.0s,baz=193,slow=6.1,SNR=5.6							
comp=Z,1.1nm,1.0s							
KIRV	**Kirov**	**89.95**	**355**	LR	LR	02 37 23.5	
comp=Z,43nm,18.4s,baz=198,slow=37							
ESDC	**Sonseca Array**	**91.42**	**317**	P	**P**	**01 54 58.0**	**-1.4**
comp=Z,1.1nm,1.0s,baz=79,slow=0.6,SNR=5.1							
ESDC				LR	LR	02 36 46.0	
comp=Z,50nm,19.6s,baz=147,slow=36							
comp=Z,1.1nm,1.0s							
ILAR	**Eielson Array**	**143.05**	**18**	PKP	PKPbc	02 01 23.9	+0.6
comp=Z,1.0nm,1.1s,baz=163,slow=0.9,SNR=2.6							
PDAR	**Pinedale Array**	**165.21**	**324**	PKP	**PKPdf**	**02 01 56.1**	**-1.7**
comp=Z,0.1nm,0.4s,baz=45,slow=0.1,SNR=3.9							

IDC 12 01:48:53.3±2.7,18°.33S×177°.44W,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=291.7km s-min=33.9km az=159.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.47**	**260**	P	P	01 57 13.4	-1.2
0.5nm,0.6s,baz=97,slow=6.7,SNR=9.7							
0.5nm,0.6s							
ASAR	**Alice Springs**	**45.57**	**255**	P	P	01 57 16.2	+0.8
2.6nm,0.5s,baz=89,slow=8.5,SNR=26							
2.6nm,0.5s							
TXAR	**Lajitas Array**	**85.44**	**57**	P	P	02 01 33.5	+0.1
0.3nm,0.8s,baz=234,slow=4.3,SNR=3.9							
0.3nm,0.8s							

*IDC **12** 02:08:06.7±0.8,14°.34S×174°.27W,h0km,mb4.0/7, mbtmp4.0/7,MS3.8/34,Error ellipse: s-maj=45.1km s-min=21.6km az=143.0*
*NEIC **12** 02:08:08.6±2.0,14°.6S±0°.1×173°.31W±0°.09,h39km±4km, mb4.5/10,Error ellipse: s-maj=16.8km s-min=10.7km az=152.0*
ISC 12 02:08:11.2±0.7,14°.7S±0°.2×173°.7W±0°.2,h35km,n73, σ2°53/28,mb4.4/12,MS3.8/33,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.01**	**67**		Pn	02 08 35.1	-7.6
NIUE	**Niue**	**5.64**	**141**	Pn	Pn	02 09 27.2	-5.5
MSVF	**Nonsavu**	**8.49**	**248**		**Pn**	**02 10 14.4**	**+2.6**
RAR	**Rarotonga**	**14.73**	**118**	LR	LR	02 15 49.0	
comp=Z,277nm,21.4s,baz=287,slow=30							
RAO	**Raoul Island**	**15.00**	**194**	LR	LR	02 16 53.0	
comp=Z,445nm,18.3s,baz=122,slow=35							
DZM	**Mont Dzumac**	**20.22**	**246**	LR	LR	02 18 50.3	
comp=Z,228nm,19.5s,baz=62,slow=32							
PPT	**Papeete**	**23.33**	**100**	LR	LR	02 21 04.1	
comp=Z,56nm,18.6s,baz=274,slow=32							
URZ	**Urewera**	**24.84**	**197**	LR	LR	02 22 00.5	
comp=Z,297nm,21.4s,baz=70,slow=33							
H11S2	**WAKE ISLAND Hy**	**38.23**	**329**	T	T	02 56 22.8	
baz=149,slow=76,SNR=30							
H11S3	**WAKE ISLAND Hy**	**38.24**	**329**	T	T	02 56 19.4	
baz=149,slow=76,SNR=29							
H11S1	**WAKE ISLAND Hy**	**38.25**	**329**	T	T	02 56 16.3	
baz=149,slow

comp=Z,41nm,19.3s,baz=198,slow=30
MA2 Magadan 79.42 342 LR LR 02 52 38.8
comp=Z,33nm,18.9s,baz=132,slow=34
N25K Chitina, Valde 79.47 14 P P 02 20 08.3 -5.6
N25K IAmb IAmb 02 20 24.2
comp=Z,5.2nm,1.1s
TXAR Lajitas Array 80.46 56 P **P 02 20 22.4 +2.4**
comp=Z,1.3nm,1.0s,baz=222,slow=5.0,SNR=9.0
TXAR LR LR 02 49 44.7
comp=Z,31nm,18.1s,baz=242,slow=31
comp=Z,1.3nm,1.0s
ANMO Albuquerque 80.57 50 LR LR 02 48 55.7
comp=Z,63nm,20.9s,baz=346,slow=30
ILAR Eielson Array 81.82 11 P **P 02 20 27.0 +0.7**
comp=Z,0.3nm,0.9s,baz=222,slow=2.4,SNR=2.7
comp=Z,0.3nm,0.9s
PDAR Pinedale Array 81.93 42 P **P 02 20 27.3 -0.4**
comp=Z,0.4nm,0.7s,baz=193,slow=3.7,SNR=3.2
comp=Z,0.4nm,0.7s
BMAR Burnt Mountain 84.62 11 P **P 02 20 37.4 -3.4**
PMSA Palmer Station 84.92 156 LR LR 02 50 14.7
comp=Z,39nm,21.1s,baz=248,slow=30
PLCA Paso Flores 90.18 132 LR LR 02 51 22.5
comp=Z,66nm,20.4s,baz=200,slow=29
TEIG Tepich 90.80 69 LR LR 02 54 54.8
comp=Z,24nm,19.1s,baz=70,slow=31
ULM Lac du Bonnet 93.57 39 LR LR 02 59 12.4
comp=Z,66nm,18.8s,baz=1.5,slow=33
SNAA Sanae 93.61 177 LR LR 03 02 33.6
comp=Z,42nm,18.2s,baz=306,slow=35
LVC Limon Verde 97.56 116 LR LR 02 56 33.5
comp=Z,44nm,18.7s,baz=232,slow=30
TKL Tuckaleechee C 98.35 55 LR LR 02 59 42.2
comp=Z,45nm,19.0s,baz=38,slow=31
GERES GERESS Array B 145.42 351 PKP **PKPdf 02 27 44.7 -1.0**
comp=Z,1.0nm,0.8s,baz=20,slow=4.3,SNR=3.6
BRTR Keskin Array B 145.45 321 PKP **PKPdf 02 27 43.9 -2.3**
comp=Z,1.1nm,0.9s,baz=35,slow=3.5,SNR=4.2
CONA Conrad Observa 145.94 349 *i* PKP **PKiKP 02 27 49.7 -1.0**
comp=Z,7.0nm,1.5s
RONA Rosalia, Austr 146.07 348 *e*PKP **PKiKP 02 27 49.1 -1.9**
comp=Z,4.7nm,1.2s
MOA Molln 146.30 350 *e*PKP **PKiKP 02 27 52.3 +0.9**
comp=Z,4.0nm,1.1s
BIOA Bad Ischl, Aus 146.55 351 *e*PKP **PKiKP 02 27 53.9 +1.9**
comp=Z,6.1nm,1.4s
LESA Schwarzleotal 146.95 352 *i* PKiKP **PKiKP 02 27 55.4 +2.6**
comp=Z,3.3nm,1.2s
RETA Reutte 147.11 354 *e*PKiKP PKiKP 02 28 00.2 +7.0
comp=Z,3.4nm,0.9s
WTTA Wattenberg 147.24 353 *i* PKiKP PKiKP 02 27 60.0 +6.4
comp=Z,6.1nm,1.1s
SOKA Soboth 147.30 349 *e*PKiKP PKiKP 02 27 59.6 +6.0
comp=Z,4.4nm,1.0s
SQTA Sankt Quirin 147.33 354 *e*PKiKP **PKiKP 02 27 59.0 +5.3**
comp=Z,1.8nm,0.9s
DAVA Damuels 147.38 355 *i* PKP PKiKP 02 28 00.5 +6.7
comp=Z,5.2nm,1.0s
FETA Feichten 147.57 354 *i* PKP **PKiKP 02 27 57.3 +3.0**
comp=Z,4.5nm,1.3s
ABTA Abfaltersbach 147.64 352 *i* PKP **PKiKP 02 27 59.6 +5.3**
comp=Z,4.9nm,1.1s

TIR ***12*** *02:10:59.3, 41.°44N×19.°58E, h18km, Md2.7, Ml1.8*
BEO ***12*** *02:11:02.2±0.4, 41.°46N×19.°70E, h11km±2km, ML1.7/7*
ISC 12 02:11:00.7±0.9, 41.°46N±0.°03×19.°64E±0.°04, h14km±7km, n22, σ0°58/36, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.20**	**122**	P	**Pb**	**02 11 05.8**	**-0.4**
TIR	baz=114			S	**Sb**	**02 11 09.3**	**-0.6**
TIR	baz=114			AMP			
	comp=N,1.3nm,0.3s,baz=114						
TIR	**Tirane**	**0.20**	**122**	*e*Pg	**Pb**	**02 11 05.8**	**-0.4**
TIR				*e*Sg	**Sb**	**02 11 10.0**	**+0.1**
PUK	**Puka**	**0.62**	**18**	P	**Pg**	**02 11 12.1**	**-0.7**
PUK	baz=20			S	**Sb**	**02 11 21.7**	**-0.3**
PUK	baz=20			AMP			
	comp=E,0.2nm,0.2s,baz=20						
DRME	**Dracevica, Mon**	**0.81**	**335**	*e*Pg	**Pb**	**02 11 17.0**	**+0.5**
DRME				*e*Sg	**Sn**	**02 11 30.3**	**+0.8**
BCI	**Bajram Curri**	**0.96**	**19**	P	**Pb**	**02 11 18.8**	**-0.5**
BCI	baz=21			S	**Sn**	**02 11 33.1**	**-0.4**
BCI	baz=21			AMP			
	comp=E,0.1nm,0.3s,baz=21						
PDG	**Podgorica**	**1.01**	**344**	*e*Pg	**Pn**	**02 11 21.6**	**+1.1**
PDG				*e*Sg	**Sn**	**02 11 35.4**	**+0.8**
KOME	**Kolasin**	**1.40**	**356**	*e*Pg	**Pg**	**02 11 27.6**	**0.0**
KOME				*e*Sg	**Sg**	**02 11 45.4**	**-0.4**
FNA	**Florina**	**1.48**	**116**	P	**Pb**	**02 11 27.8**	**-0.2**
FNA	baz=115			S	**Sg**	**02 11 49.0**	**+0.7**
FNA	baz=115			AMP			
	comp=E,0.0nm,0.5s,baz=115						
FNA	**Florina**	**1.48**	**116**	*e*Pg	**Pg**	**02 11 29.4**	**+0.3**
FNA				*e*Sg	**Sb**	**02 11 47.1**	**+0.5**
LSK	**Leskovik**	**1.50**	**150**	P	**Pn**	**02 11 26.8**	**-0.5**
TREB	baz=148 **Trebinje**	**1.58**	**323**	*e*Pn	**Pb**	**02 11 29.5**	**-0.3**
TREB				*e*Sn	**Sb**	**02 11 50.1**	**+0.4**
SRN	**Sarande**	**1.60**	**170**	P	**Pn**	**02 11 29.1**	**+0.5**
SRN	baz=168			S	**Sg**	**02 11 51.7**	**-0.4**
SRN	baz=168			AMP			
	comp=N,0.0nm,0.5s,baz=168						
DBRK	**Dubrovnik**	**1.64**	**318**	*e*Pn	**Pn**	**02 11 29.3**	**+0.1**
DBRK				Sn	**Sb**	**02 11 51.5**	**+0.2**
SJES	**Sjenica**	**1.82**	**8**	*e*Pg	**Pb**	**02 11 34.7**	**+0.8**
SJES				*e*Sg	**Sg**	**02 11 58.1**	**-1.2**
STON	**Ston**	**2.02**	**315**	*e*Pn	**Pb**	**02 11 36.8**	**-0.4**
STON	**Ston**	**2.02**	**315**	*e*Pn	**Pn**	**02 11 34.1**	**-0.2**
STON				Sn	**Sn**	**02 11 59.1**	**-0.3**
NOCI	**Noci**	**2.05**	**252**	P	**Pb**	**02 11 37.7**	**-0.1**
IVAS	baz=252 **Ivanjica**	**2.15**	**10**	*e*Sn	**Sb**	**02 12 06.1**	**0.0**
MAKA	**Makarska**	**2.67**	**314**	Sn	**Sn**	**02 12 15.2**	**-0.1**
RICI	**Ricice**	**2.75**	**319**	*e*Pn	**Pn**	**02 11 44.9**	**+0.5**
ZIRJ	**Zirje**	**3.68**	**308**	Sn	**Sn**	**02 12 39.2**	**-1.1**
MORI	**Morici**	**3.77**	**311**	*e*Pn	**Pn**	**02 11 59.1**	**+0.7**

PDG ***12*** *02:37:55.8±0.1, 41.°43N×19.°58E, h15km, ML2.4/11, Error ellipse: s-maj=0.1km s-min=0.3km az=0.0*
TIR ***12*** *02:37:55.9, 41.°51N×19.°73E, h25km, Md2.6, Ml2.3*
BEO ***12*** *02:37:56.8±0.4, 41.°44N×19.°64E, h13km±2km, ML2.2/11*
RHSSO ***12*** *02:37:56.5±0.8, 41.°38N×19.°40E, h9km±2km, ML2.4/10*
ISC 12 02:37:56.2±1.0, 41.°46N±0.°02×19.°61E±0.°03, h13km±8km, n59, σ0°90/102, 4C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.22**	**119**	P	**Pb**	**02 38 01.5**	**-0.7**
TIR	baz=147			S	**Sb**	**02 38 05.6**	**-0.5**
TIR	baz=147			AMP			
	comp=E,6.5nm,0.4s,baz=147						
TIR	**Tirane**	**0.22**	**119**	*e*Pg	**Pg**	**02 38 01.0**	**0.0**
TIR				*e*Sg	**Sb**	**02 38 05.7**	**-0.5**
PUK	**Puka**	**0.62**	**20**	P	**Pg**	**02 38 07.4**	**-1.1**
PUK	baz=12			S	**Sg**	**02 38 15.7**	**-0.9**
PUK	baz=12			AMP			
	comp=N,0.7nm,0.4s,baz=12						
DRME	**Dracevica, Mon**	**0.80**	**337**	*e*Pg	**Pg**	**02 38 11.1**	**-0.5**
DRME				*e*Sg	**Sn**	**02 38 24.7**	**-0.3**
DRME	**Dracevica, Mon**	**0.80**	**337**	*e*Pg	**Pg**	**02 38 10.8**	**-0.8**
DRME				*e*Sg	**Sb**	**02 38 23.5**	**+0.8**
DRME	**Dracevica, Mon**	**0.80**	**337**	↓*i*Pg	**Pg**	**02 38 10.8**	**-0.8**
DRME				*i* Sg	**Sn**	**02 38 24.0**	**-1.0**
OHR	**Ohrid**	**0.96**	**111**	*i* Pg	**Pb**	**02 38 14.4**	**-0.4**
OHR				*i* Sg	**Sn**	**02 38 29.2**	**+0.1**
BCI	**Bajram Curri**	**0.97**	**20**	P	**Pb**	**02 38 13.3**	**-1.7**
BCI	baz=16			S	**Sb**	**02 38 27.9**	**+0.2**
BCI	baz=16			AMP			
	comp=N,0.4nm,0.3s,baz=16						
VLO	**Vlora**	**0.99**	**185**	P	**Pn**	**02 38 16.7**	**+0.8**
BUM	baz=190 **Brajici-Budva**	**1.00**	**328**	↓*i*Pg	**Pb**	**02 38 14.6**	**-0.9**
BUM				*i* Sg	**Sn**	**02 38 30.6**	**+0.5**
PDG	**Podgorica**	**1.01**	**345**	*e*Pg	**Pb**	**02 38 15.6**	**0.0**
PDG				*e*Sg	**Sn**	**02 38 30.6**	**+0.4**
PDG	**Podgorica**	**1.01**	**345**	↓*i*Pg	**Pb**	**02 38 15.0**	**-0.6**
PDG				*e*Sg	**Sn**	**02 38 30.3**	**+0.1**
PDG	**Podgorica**	**1.01**	**345**	↑*i*Pg	**Pb**	**02 38 15.0**	**-0.6**
PDG				*i* Sg	**Sn**	**02 38 31.2**	**+1.0**
PVY	**Plav**	**1.17**	**13**	*e*Pg	**Pn**	**02 38 16.8**	**-1.6**
PVY	**Plav**	**1.17**	**13**	↓*i*Pg	**Pn**	**02 38 17.9**	**-0.5**
PVY				*i* Sg	**Sn**	**02 38 36.9**	**+2.6**
CEME	**Cevo**	**1.20**	**335**	↓*i*Pg	**Pn**	**02 38 18.5**	**-0.4**
CEME				*i* Sg	**Sg**	**02 38 37.6**	**+2.5**
KBN	**Korca**	**1.22**	**133**	P	**Pg**	**02 38 19.8**	**+0.1**
KBN	baz=137			S	**Sg**	**02 38 35.8**	**+0.2**
KBN	baz=137			AMP			
	comp=E,0.1nm,0.4s,baz=137						
KOME	**Kolasin**	**1.39**	**357**	*e*Pg	**Pg**	**02 38 23.0**	**0.0**
KOME				*e*Sg	**Sg**	**02 38 41.4**	**+0.2**
KOME	**Kolasin**	**1.39**	**357**	↓*i*Pg	**Pb**	**02 38 22.2**	**0.0**
KOME				*i* Sg	**Sg**	**02 38 43.3**	**+2.1**
NKME	**Niksic**	**1.40**	**340**	↓*i*Pg	**Pb**	**02 38 22.1**	**-0.2**
NKME				*i* Sg	**Sg**	**02 38 43.2**	**+1.9**
IVA	**Berane**	**1.43**	**8**	↑*i*Pg	**Pb**	**02 38 22.7**	**-0.1**
IVA				*i* Sg	**Sg**	**02 38 44.0**	**+1.7**
FNA	**Florina**	**1.50**	**116**	P	**Pb**	**02 38 23.6**	**-0.4**
FNA	baz=119			S	**Sg**	**02 38 44.0**	**-0.4**
FNA	baz=119			AMP			
	comp=E,0.1nm,0.5s,baz=119						
FNA	**Florina**	**1.50**	**116**	*e*Pg	**Pg**	**02 38 24.4**	**-0.6**
FNA				*e*Sg	**Sb**	**02 38 43.0**	**+0.2**
FNA	**Florina**	**1.50**	**116**	*i* Pg	**Pb**	**02 38 24.1**	**+0.2**
FNA				*i* Sg	**Sg**	**02 38 44.9**	**+0.6**
LSK	**Leskovik**	**1.51**	**150**	P	**Pg**	**02 38 24.3**	**-0.9**
LSK	baz=153			S	**Sg**	**02 38 45.1**	**+0.3**
LSK	baz=153			AMP			
	comp=N,0.1nm,0.6s,baz=153						
TREB	**Trebinje**	**1.57**	**324**	*e*Pg	**Pb**	**02 38 25.1**	**-0.1**
TREB				*e*Sg	**Sg**	**02 38 47.0**	**+0.2**
TREB	**Trebinje**	**1.57**	**324**	*e*Pn	**Pn**	**02 38 23.8**	**-0.1**
TREB				*e*Sn	**Sb**	**02 38 45.3**	**+0.4**
SRN	**Sarande**	**1.60**	**169**	P	**Pb**	**02 38 24.9**	**-0.9**
SRN	baz=172			S	**Sg**	**02 38 48.5**	**+0.7**
SRN	baz=172			AMP			
	comp=N,0.1nm,0.5s,baz=172						
DBRK	**Dubrovnik**	**1.63**	**319**	*e*Pn	**Pn**	**02 38 24.7**	**0.0**
SCTE	**Santa Cesarea**	**1.63**	**212**	P	**Pg**	**02 38 27.9**	**+0.3**
BRY	baz=215 **Bratogost**	**1.65**	**332**	*e*Pn	**Pn**	**02 38 25.7**	**+0.6**
BRY				*e*Sn	**Sb**	**02 38 47.2**	**-0.1**
BRY	**Bratogost**	**1.65**	**332**	↓*i*Pn	**Pn**	**02 38 25.6**	**+0.5**
BRY				*i* Sn	**Sg**	**02 38 48.9**	**-0.4**
UPM	**Unac-Piva**	**1.82**	**344**	*e*Pn	**Pb**	**02 38 28.7**	**-0.9**
UPM				*e*Sn	**Sb**	**02 38 52.2**	**-0.2**
UPM	**Unac-Piva**	**1.82**	**344**	↓*i*Pn	**Pn**	**02 38 28.1**	**+0.6**
UPM				*i* Sn	**Sb**	**02 38 53.2**	**+0.8**
SJES	**Sjenica**	**1.82**	**8**	*e*Pg	**Pb**	**02 38 30.0**	**+0.4**
SJES				*e*Sg	**Sb**	**02 38 53.7**	**+1.3**
SJES	**Sjenica**	**1.82**	**8**	↓*i*Pn	**Pb**	**02 38 29.4**	**-0.2**
SJES				*e*Sn	**Sb**	**02 38 53.9**	**+1.5**
KLINJ	**Klinje**	**1.87**	**336**	*e*Sn	**Sb**	**02 38 53.0**	**-0.7**
PLE	**Pljevlja**	**1.88**	**355**	↑*i*Pn	**Pn**	**02 38 28.9**	**+0.7**
PLE				*i* Sn	**Sb**	**02 38 54.4**	**+0.4**
STIP	**Stip**	**1.95**	**82**	*i* Pn	**Pb**	**02 38 32.5**	**+0.8**
IGT	**Igoumenitsa**	**2.00**	**164**	P	**Pb**	**02 38 31.6**	**-0.9**
STON	baz=166 **Ston**	**2.00**	**316**	*e*Pn	**Pn**	**02 38 30.0**	**+0.2**
STON				*e*Sn	**Sn**	**02 38 54.9**	**+0.2**
STON	**Ston**	**2.00**	**316**	*e*Pn	**Pn**	**02 38 29.8**	**+0.1**
STON	**Ston**	**2.00**	**316**	*e*Pn	**Pn**	**02 38 29.9**	**+0.2**
STON				*e*Sn	**Sn**	**02 38 54.0**	**-0.7**
PRVS	**Prvonek**	**2.12**	**59**	*e*Pn	**Pn**	**02 38 32.2**	**+0.8**
IVAS	**Ivanjica**	**2.16**	**11**	*e*Pn	**Pb**	**02 38 33.8**	**-1.4**
IVAS				*e*Sn	**Sn**	**02 38 58.9**	**+0.3**
RUDO	**Rudo**	**2.17**	**355**	*e*Pn	**Pn**	**02 38 33.5**	**+1.4**
RUDO				*e*Sn	**Sb**	**02 39 01.1**	**-1.0**
BBLS	**Lazi&#263i**	**2.41**	**356**	*e*Pn	**Pb**	**02 38 37.9**	**-1.7**
BBLS				*e*Sn	**Sb**	**02 39 07.9**	**-1.4**
BBLS	**Lazi&#263i**	**2.41**	**356**	*e*Pn	**Pb**	**02 38 37.7**	**-1.9**
BBLS				*e*Sn	**Sb**	**02 39 07.8**	**-1.5**
MAKA	**Makarska**	**2.65**	**315**	*e*Pn	**Pn**	**02 38 38.5**	**-0.2**
MAKA				Sn	**Sn**	**02 39 09.7**	**-1.0**
DIVS	**Divibare**	**2.66**	**6**	*e*Pn	**Pn**	**02 38 39.0**	**+0.1**
DIVS				*e*Sn	**Sn**	**02 39 11.0**	**0.0**
HAPS	**Han Pijesak,Bl**	**2.67**	**350**	*e*Pn	**Pn**	**02 38 40.5**	**+1.4**
HAPS				*e*Sn	**Sn**	**02 39 13.2**	**+1.8**
RICI	**Ricice**	**2.74**	**319**	*e*Pn	**Pn**	**02 38 40.1**	**+0.2**
KUBS	**Kucevo**	**3.32**	**26**	*e*Pn	**Pn**	**02 38 46.8**	**-1.1**
KIJV	**Kijevo**	**3.47**	**318**	*e*Pn	**Pn**	**02 38 50.5**	**+0.4**
ZIRJ	**Zirje**	**3.66**	**308**	*e*Pn	**Pn**	**02 38 53.0**	**+0.4**
MORI	**Morici**	**3.75**	**311**	*e*Pn	**Pn**	**02 38 54.2**	**+0.4**
A050A	**Klekovaca**	**3.77**	**324**	↑*i*Pn	**Pn**	**02 38 55.1**	**+0.9**
A050A				*e*Sn	**Sn**	**02 39 37.4**	**-1.1**
DUGI	**Dugi Otok**	**4.20**	**309**	*e*Pn	**Pn**	**02 39 00.2**	**+0.1**
VIRC	**Vir**	**4.38**	**312**	*e*Pn	**Pn**	**02 39 02.7**	**+0.2**

IDC ***12*** *02:40:04.5±0.9, 15.°15N×94.°11E, h0km, mb4.2/16, mbtmp4.2/17, ML4.6/1, MS3.2/4, Error ellipse: s-maj=27.1km s-min=15.9km az=47.0*
NEIC ***12*** *02:40:13.6±1.3, 15.°41N±0.°07×94.°28E±0.°08, h60km±7km, mb4.6/34, Error ellipse: s-maj=11.7km s-min=9.7km az=86.0*
NDI ***12*** *02:40:13.0±4.2, 15.°43N×94.°10E, h28km±31km, ML4.4, MW4.3, mb4.6(NEIC)*
ISC 12 02:40:10.8±0.4, 15.°45N±0.°05×94.°24E±0.°07, h35km, n80, σ1°67/81, mb4.4/33, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.04**	**201**	Pn	**Pn**	**02 41 12.7**	**+2.4**
PBA	**Port Blair**	**4.04**	**201**	*e*P	**Pn**	**02 41 12.6**	**+2.4**
PBA				*e*S	**Sn**	**02 41 55.3**	**-1.0**
CM31	**Chiang Mai Arr**	**5.41**	**56**		**Pn**	**02 41 32.0**	**+3.0**
CMAR	**Chiang Mai Arr**	**5.41**	**56**		**Pn**	**02 41 30.9**	**+1.9**
CMAR	**Chiang Mai Arr**	**5.41**	**56**	Pn	**Pn**	**02 41 32.0**	**+2.9**
CMAR	4.8nm,0.3s,baz=241,slow=15,SNR=70			Sn	**Sn**	**02 42 32.0**	**+1.9**
CMAR	6.8nm,0.3s,baz=241,slow=26,SNR=12			LR	LR	02 43 26.5	
	comp=Z,91nm,19.6s,baz=240,slow=36						
	20nm,0.5s						
CHTO	**Chiang Mai**	**5.61**	**53**		**Pn**	**02 41 34.3**	**+2.5**
PHRA	**Phrae**	**6.49**	**61**		**Pn**	**02 41 46.7**	**+2.9**
SAIH	**SAIHA**	**7.11**	**351**	*e*P	**Pn**	**02 41 55.3**	**+2.8**
SAIH				*e*S	**Sn**	**02 43 09.3**	**-2.8**
CRAI	**Chiangrai**	**7.53**	**50**	Pn	**Pn**	**02 42 01.8**	**+3.5**
SRIT	**Nakonsritamara**	**8.59**	**142**	Pn	**Pn**	**02 42 15.2**	**+2.4**
IMP	**Imphal**	**9.34**	**358**	*e*P	**Pn**	**02 42 25.1**	**+2.0**
BWNR	**Bhubaneshwar**	**9.36**	**302**	*e*P	**Pn**	**02 42 25.1**	**+1.7**
KOHI	**KOHIMA**	**10.22**	**359**	*e*P	**Pn**	**02 42 36.0**	**+0.8**
KOHI				*e*S	**Sn**	**02 44 24.2**	**-4.6**
KOHI				IAML		02 44 32.5	
	comp=E,81nm,0.7s						
KOHI				IAML		02 44 36.5	
	comp=E,88nm,0.3s						
SHL	**Shillong**	**10.31**	**348**	Pn	**Pn**	**02 42 36.7**	**+0.2**
SHL	**Shillong**	**10.31**	**348**	*e*P	**Pn**	**02 42 36.4**	**-0.1**
SHL				*e*S	Sn	02 44 23.0	-7.9
SHL				IAML		02 44 36.9	
	comp=E,59nm,0.6s						
SHL				IAML		02 44 37.5	
	comp=N,254nm,0.0s						
VIS	**Vishakhapatnam**	**10.70**	**284**	*e*S	Sn	02 44 28.5	-12
MOKO	**MOKOCHONG**	**10.82**	**1**	*e*P	**Pn**	**02 42 46.4**	**+2.9**
MOKO				*e*S	Sn	02 44 37.9	-5.7
MOKO				IAML		02 44 44.1	
	comp=E,76nm,0.6s						
MOKO				IAML		02 44 48.0	
	comp=E,123nm,0.0s						
TEZP	**TEZPUR**	**11.20**	**353**	*e*P	**Pn**	**02 42 47.7**	**-0.7**
TEZP				*e*S	Sn	02 44 43.5	-8.8
TEZP				IAML		02 44 54.7	
	comp=E,83nm,0.6s						
BOK	**Bokaro**	**11.44**	**318**	*e*P	**Pn**	**02 42 54.5**	**+2.8**
SHBG	**Sahibganj**	**11.51**	**329**	*e*P	**Pn**	**02 42 56.4**	**+3.7**
ZIRO	**ZIRO**	**12.03**	**358**	*e*P	**Pn**	**02 42 59.4**	**-0.6**
ZIRO				*e*S	Sn	02 45 07.3	-5.7
ZIRO				IAML		02 45 13.2	
	comp=E,364nm,0.6s						
GTK	**Tadong**	**12.92**	**337**	*e*P	**Pn**	**02 43 14.0**	**+1.7**
RPSI	**Rantau Prapat**	**13.49**	**160**		**Pn**	**02 43 20.7**	**+0.9**
GSI	**Gunungsitoli**	**14.43**	**166**	Pn	**Pn**	**02 43 32.3**	**-0.5**
PALK	**Pallekele**	**15.55**	**240**	Sn	Sn	02 46 26.2	-13
	comp=E,1.5nm,0.3s,baz=198,slow=8.6,SNR=4.9						
PALK				LR	LR	02 49 05.2	
	comp=E,70nm,20.7s,baz=184,slow=35						
SIMJ	**Simiganj**	**32.04**	**321**	P	**P**	**02 46 35.5**	**+1.0**
SIMJ				IAmb	IAmb	02 46 36.2	
	comp=Z,13nm,1.5s						
MK31	**Makanchi Array**	**32.80**	**345**	P	**P**	**02 46 42.1**	**+1.2**
MKAR	**Makanchi Array**	**32.80**	**345**	P	**P**	**02 46 41.8**	**+1.0**
MKAR	**Makanchi Array**	**32.80**	**345**	P	**P**	**02 46 42.5**	**+1.7**
	comp=Z,2.1nm,0.6s,baz=164,slow=10,SNR=20						
MKAR				PcP	**PcP**	**02 49 24.1**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=123,slow=5.3,SNR=2.7						
	comp=Z,2.1nm,0.6s						
SONM	**Songino Array**	**33.83**	**15**	P	**P**	**02 46 51.2**	**+1.4**
SONM	**Songino Array**	**33.83**	**15**	P	**P**	**02 46 51.5**	**+1.6**
	comp=Z,1.9nm,0.6s,baz=201,slow=9.2,SNR=14						
	comp=Z,1.9nm,0.6s						
ULN	**Ulaanbaatar**	**34.02**	**15**	P	**P**	**02 46 50.6**	**-1.0**
KSRS	**Korea Array**	**36.98**	**47**	P	**P**	**02 47 16.4**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=240,slow=9.7,SNR=5.3						
	comp=Z,1.2nm,0.4s						
KURBB	**Kurchatov Arra**	**37.31**	**343**	P	**P**	**02 47 21.1**	**+1.6**
	comp=Z,5.8nm,0.6s,baz=157,slow=8.3,SNR=37						
	comp=Z,5.8nm,0.6s						
KURK	**Kurchatov**	**37.37**	**344**	P	**P**	**02 47 21.4**	**+1.4**
KURK				IAmb	IAmb	02 47 22.2	
	comp=Z,7.6nm,1.1s						
ZAA0	**Zalesovo Array**	**39.12**	**351**	P	**P**	**02 47 36.0**	**+1.2**
ZAA0				IAmb	IAmb	02 47 36.1	
	comp=Z,2.9nm,0.6s						
ZALV	**Zalesovo Beam**	**39.12**	**351**	P	**P**	**02 47 35.6**	**+0.8**
ZALV	**Zalesovo Beam**	**39.12**	**351**	P	**P**	**02 47 35.8**	**+1.0**
	comp=Z,2.4nm,0.5s,baz=174,slow=7.2,SNR=13						
	comp=Z,2.4nm,0.5s						
BVAR	**Borovoye Array**	**41.95**	**339**	P	**P**	**02 47 58.7**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=101,slow=7.7,SNR=4.1						
	comp=Z,0.4nm,0.3s						
ABKAR	**Akbulak array**	**43.78**	**328**	P	**P**	**02 48 14.0**	**+0.9**
MBWA	**Marble Bar**	**44.15**	**145**	P	**P**	**02 48 14.6**	**-1.8**
MBWA				IAmb	IAmb	02 48 46.4	
	comp=Z,16nm,1.2s						
MJAR	**Matsushiro Arr**	**44.29**	**53**	P	**P**	**02 48 17.4**	**0.0**
	comp=Z,0.7nm,0.3s,baz=260,slow=12,SNR=5.1						
	comp=Z,0.7nm,0.3s						
PSA00	**Pilbara Seismi**	**44.55**	**145**	P	**P**	**02 48 22.7**	**+3.2**
PSA00				IAmb	IAmb	02 48 26.7	
	comp=Z,5.5nm,1.0s						
MORW	**Morawa**	**49.01**	**154**	P	**P**	**02 48 52.9**	**-1.4**
WB0	**Warramunga Arr**	**52.76**	**130**	P	**P**	**02 49 20.8**	**-1.9**
WB0				IAmb	IAmb	02 49 21.1	
	comp=Z,8.1nm,1.2s						
WRA	**Warramunga Arr**	**52.83**	**130**	P	**P**	**02 49 21.5**	**-1.8**
	comp=Z,1.6nm,0.6s,baz=312,slow=7.9,SNR=32						
	comp=Z,1.6nm,0.6s						
WB2	**Warramunga Arr**	**52.84**	**130**	P	**P**	**02 49 21.5**	**-1.8**
WB2				IAmb	IAmb	02 49 36.4	
	comp=Z,6.9nm,1.1s						
WR0	**Warramunga Arr**	**52.99**	**130**	P	**P**	**02 49 22.7**	**-1.7**
WR0				IAmb	IAmb	02 49 27.8	
	comp=Z,10nm,1.4s						
FURI	**Furi**	**54.58**	**270**	LR	LR	03 10 02.3	
	comp=Z,29nm,18.4s,baz=186,slow=33						
ASAR	**Alice Springs**	**54.90**	**134**	P	**P**	**02 49 37.2**	**-1.2**
ASAR	**Alice Springs**	**54.90**	**134**	P	**P**	**02 49 37.0**	**-1.3**
	comp=Z,2.1nm,0.6s,baz=312,slow=6.9,SNR=36						
	comp=Z,2.1nm,0.6s						
FORT	**Forrest**	**56.31**	**145**	P	**P**	**02 49 47.4**	**-0.8**
BRTR	**Keskin Array B**	**57.75**	**307**	P	**P**	**02 49 57.5**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=91,slow=8.1,SNR=3.6						
	comp=Z,0.6nm,0.7s						
TIXI	**Tiksi**	**59.84**	**12**	P	**P**	**02 50 12.0**	**-0.4**
ELL	**Elmali**	**60.45**	**304**	P	**P**	**02 50 17.4**	**0.0**
BBOO	**Buckleboo**	**62.45**	**141**	P	**P**	**02 50 29.1**	**-1.6**
FIA1	**FINESS Array S**	**66.14**	**331**	P	**P**	**02 50 54.4**	**0.0**
FIA1				IAmb	IAmb	02 50 58.9	
	comp=Z,20nm,1.3s						
FINES	**FINESS Array B**	**66.14**	**331**	P	**P**	**02 50 54.8**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=107,slow=6.8,SNR=12						
	comp=Z,1.4nm,0.5s						
KEV	**Kevo**	**67.79**	**340**	P	**P**	**02 51 05.2**	**+0.5**
ARCES	**ARCESS Array B**	**68.24**	**339**	P	**P**	**02 51 08.2**	**+0.5**
ARCES				IAmb	IAmb	02 51 48.2	
	comp=Z,16nm,1.4s						
ARCES	**ARCESS Array B**	**68.24**	**339**	P	**P**	**02 51 08.4**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=88,slow=6.6,SNR=20						
	comp=Z,2.3nm,0.6s						
HFS	**Hagfors**	**72.03**	**329**	P	**P**	**02 51 31.3**	**+0.2**
	comp=Z,1.5nm

SUA				IAML			02 44 29.6
	comp=E,2µm,1.0s						
SUA	**Susitna One**	**0.10**	**66**	P		**Pn**	**02 44 20.9 -0.3**
	baz=268						
SUA				S		**Sn**	**02 44 28.6 +0.1**
	baz=268						
STLK	**Strandline Lak**	**0.44**	**280**			**Pn**	**02 44 23.2 0.0**
STLK						**Sn**	**02 44 31.9 0.0**
FIS	**Fire Island**	**0.45**	**129**			**Pn**	**02 44 23.5 +0.4**
FIS				IAML			02 44 34.7
	comp=N,2µm,0.4s						
M22K	**Willow**	**0.51**	**49**			**Pn**	**02 44 23.8 0.0**
M22K						**Sn**	**02 44 33.6 +0.6**
M22K	**Willow**	**0.51**	**49**	P		**Pn**	**02 44 23.9 0.0**
	baz=235						
M22K				S		**Sn**	**02 44 33.6 +0.6**
	baz=235						
SPCG	**Spurr Capps Gl**	**0.54**	**256**			**Pn**	**02 44 23.9 -0.4**
SPCG						**Sn**	**02 44 33.6 -0.2**
SPU	**Mount Spurr**	**0.59**	**246**			**Pn**	**02 44 24.2 -0.5**
SPU						**Sn**	**02 44 34.3 -0.4**
SPU	**Mount Spurr**	**0.59**	**246**	IAML			02 44 35.0
	comp=E,2µm,0.3s						
SPU				IAML			02 44 36.3
	comp=N,1µm,0.4s						
SPCP	**Crater Peak Br**	**0.61**	**255**			**Pn**	**02 44 24.8 -0.3**
SPCP						**Sn**	**02 44 35.1 0.0**
SKT	**Skwentna**	**0.63**	**333**			**Pn**	**02 44 24.7 -0.3**
SKT						**Sn**	**02 44 35.1 -0.1**
SKT	**Skwentna**	**0.63**	**333**	IAML			02 44 35.5
	comp=E,1µm,0.5s						
SKT				IAML			02 44 36.1
	comp=N,1µm,0.3s						
SKT	**Skwentna**	**0.63**	**333**	P		**Pn**	**02 44 24.7 -0.3**
	baz=153						
N20K	**Mount Spurr**	**0.66**	**250**	P		**Pn**	**02 44 25.0 -0.4**
	baz=66						
N20K				S		**Sn**	**02 44 35.6 -0.3**
	baz=66						
SPCR	**Spurr Chakacha**	**0.66**	**250**			**Pn**	**02 44 25.0 -0.4**
SPCR						**Sn**	**02 44 35.6 -0.3**
CAPN	**Captain Cook N**	**0.67**	**189**			**Pn**	**02 44 26.7 +1.3**
CAPN	**Captain Cook N**	**0.67**	**189**	P		**Pn**	**02 44 26.7 +1.3**
	baz=7.0						
RC01	**Rabbit Creek A**	**0.67**	**120**			**Pn**	**02 44 25.2 -0.3**
RC01						**Sn**	**02 44 36.5 +0.5**
RC01	**Rabbit Creek A**	**0.67**	**120**	P		**Pn**	**02 44 25.2 -0.3**
	baz=303						
RC01				S		**Sn**	**02 44 36.5 +0.5**
	baz=303						
SPBG	**Spurr Blockage**	**0.71**	**257**			**Pn**	**02 44 25.8 -0.3**
PMR	**Palmer**	**0.88**	**78**	P		**Pn**	**02 44 27.7 -0.3**
PMR	**Palmer**	**0.88**	**78**			**Pn**	**02 44 27.7 -0.3**
PMR						**Sn**	**02 44 40.3 -0.1**
PMR	**Palmer**	**0.88**	**78**	IAML			02 44 41.6
	comp=E,938nm,0.3s						
PMR	**Palmer**	**0.88**	**78**	P		**Pn**	**02 44 27.7 -0.3**
	baz=262						
PMR				S		**Sn**	**02 44 40.6 +0.2**
	baz=262						
SLKM	**Skilak Lake**	**0.98**	**159**			**Pn**	**02 44 28.7 -0.7**
GHO	**Glory Hole Cre**	**1.02**	**69**	Pn		**Pn**	**02 44 29.8 -0.1**
GHO				IAML			02 44 47.8
	comp=N,745nm,0.5s						
GHO				IAML			02 44 48.8
	comp=E,777nm,0.6s						
GHO	**Glory Hole Cre**	**1.02**	**69**			**Sn**	**02 44 44.5 +0.8**
CUT	**Chulitna**	**1.03**	**17**			**Pn**	**02 44 30.0 0.0**
CUT	**Chulitna**	**1.03**	**17**			**Sn**	**02 44 44.1 +0.3**
CUT	**Chulitna**	**1.03**	**17**	P		**Pn**	**02 44 30.0 0.0**
	baz=200						
RDT	**Redoubt**	**1.11**	**221**			**Pn**	**02 44 30.8 -0.3**
RDT						**Sn**	**02 44 46.1 +0.2**
O22K	**Cooper Landing**	**1.12**	**148**			**Pn**	**02 44 31.0 0.0**
O22K						**Sn**	**02 44 47.1 +1.4**
O22K	**Cooper Landing**	**1.12**	**148**	P		**Pn**	**02 44 31.2 +0.3**
	baz=329						
O22K				S		**Sn**	**02 44 47.1 +1.4**
	baz=329						
M20K	**Styx River**	**1.15**	**295**			**Pn**	**02 44 31.6 +0.1**
M20K	**Styx River**	**1.15**	**295**	P		**Pn**	**02 44 31.5 +0.1**
	baz=111						
KNK	**Knik Glacier**	**1.19**	**89**			**Pn**	**02 44 32.0 0.0**
KNK	**Knik Glacier**	**1.19**	**89**	P		**Pn**	**02 44 32.1 +0.1**
	baz=273						
RDJH	**Redoubt Jeurge**	**1.24**	**228**			**Pn**	**02 44 32.7 0.0**
SML	**Sawmill**	**1.30**	**72**			**Pn**	**02 44 33.2 -0.3**
SML				IAML			02 44 54.6
	comp=E,539nm,0.5s						
SML				IAML			02 45 00.2
	comp=N,352nm,0.7s						
SML	**Sawmill**	**1.30**	**72**	P		**Pn**	**02 44 33.2 -0.3**
	baz=256						
NCT	**North Crescent**	**1.30**	**229**			**Pn**	**02 44 33.6 0.0**
RSO	**Redoubt South**	**1.31**	**223**			**Pn**	**02 44 33.8 0.0**
RDSO	**Redoubt South**	**1.31**	**223**			**Pn**	**02 44 33.6 -0.2**
RDSO						**Sn**	**02 44 51.5 +0.9**
RDWB	**Redoubt West**	**1.32**	**226**			**Pn**	**02 44 33.8 0.0**
RED	**Redoubt Volcan**	**1.35**	**222**			**Pn**	**02 44 34.1 0.0**
RED						**Sn**	**02 44 51.9 +0.6**
SEW	**Seward**	**1.51**	**151**			**Pn**	**02 44 36.3 +0.1**
SEW	**Seward**	**1.51**	**151**	P		**Pn**	**02 44 36.7 +0.6**
	baz=332						
M23K	**Glacier View**	**1.58**	**75**			**Pn**	**02 44 36.8 -0.3**
M23K	**Glacier View**	**1.58**	**75**	P		**Pn**	**02 44 36.8 -0.3**
	baz=259						
O20K	**Slope Mountain**	**1.58**	**212**			**Pn**	**02 44 37.7 +0.5**
O20K	**Slope Mountain**	**1.58**	**212**	P		**Pn**	**02 44 37.7 +0.5**
	baz=30						
PPLA	**Purkeypile**	**1.59**	**339**			**Pn**	**02 44 37.7 +0.3**
PPLA	**Purkeypile**	**1.59**	**339**	P		**Pn**	**02 44 37.8 +0.4**
	baz=158						
BRLK	**Bradley Lake**	**1.67**	**179**			**Pn**	**02 44 38.6 +0.3**
BRLK	**Bradley Lake**	**1.67**	**179**	IAML			02 45 04.2
	comp=E,322nm,0.2s						
BRLK				IAML			02 45 04.2
	comp=N,384nm,0.4s						
BRSE	**Bradley Lake S**	**1.69**	**177**			**Pn**	**02 44 38.4 -0.2**
BRSE	**Bradley Lake S**	**1.69**	**177**	P		**Pn**	**02 44 38.5 -0.2**
	baz=356						
M19K	**Big River Lodg**	**1.72**	**288**			**Pn**	**02 44 38.9 -0.1**
M19K				IAML			02 45 00.9
	comp=N,180nm,0.4s						
M19K	**Big River Lodg**	**1.72**	**288**	P		**Pn**	**02 44 38.9 -0.1**
	baz=104						
WAT7	**Susitna Watana**	**1.72**	**34**			**Pn**	**02 44 39.3 +0.2**
IVE	**Iliamna Volcan**	**1.74**	**217**			**Pn**	**02 44 39.6 +0.2**
L20K	**Farewell, AK**	**1.75**	**309**			**Pn**	**02 44 39.3 -0.1**
L20K	**Farewell, AK**	**1.75**	**309**	P		**Pn**	**02 44 39.3 -0.1**
	baz=125						
SCM	**Sheep Creek Mo**	**1.77**	**75**			**Pn**	**02 44 39.4 -0.3**
SCM	**Sheep Creek Mo**	**1.77**	**75**	IAML			02 45 07.3
	comp=E,439nm,0.7s						
SCM				IAML			02 45 09.6
	comp=N,352nm,0.8s						
SCM	**Sheep Creek Mo**	**1.77**	**75**	P		**Pn**	**02 44 39.5 -0.3**
	baz=260						
WAT1	**Susitna Watana**	**1.80**	**37**			**Pn**	**02 44 40.4 +0.3**
WAT1	**Susitna Watana**	**1.80**	**37**	P		**Pn**	**02 44 40.4 +0.3**
	baz=221						
HOM	**Homer**	**1.81**	**191**	Pn		**Pn**	**02 44 41.2 +1.1**
N19K	**Bonanza Creek**	**1.83**	**252**	Pn		**Pn**	**02 44 40.5 -0.1**
N19K	**Bonanza Creek**	**1.83**	**252**	P		**Pn**	**02 44 40.4 -0.1**
	baz=68						
WAT6	**Susitna Watana**	**1.90**	**51**			**Pn**	**02 44 41.4 -0.2**
WAT6	**Susitna Watana**	**1.90**	**51**	P		**Pn**	**02 44 41.7 +0.1**
	baz=235						
CNPM	**China Poot**	**1.91**	**185**			**Pn**	**02 44 41.7 +0.1**
CNPM	**China Poot**	**1.91**	**185**	IAML			02 45 10.4
	comp=E,409nm,0.7s						
GLI	**Glacier Island**	**1.94**	**105**			**Pn**	**02 44 40.6 -1.4**
GLI	**Glacier Island**	**1.94**	**105**	IAML			02 45 13.0
	comp=N,349nm,0.5s						
GLI				IAML			02 45 18.8
	comp=E,332nm,0.6s						
GLI	**Glacier Island**	**1.94**	**105**	P		**Pn**	**02 44 40.6 -1.4**
	baz=289						
L19K	**White Mountain**	**2.01**	**294**	Pn		**Pn**	**02 44 43.0 +0.1**
L19K	**White Mountain**	**2.01**	**294**	P		**Pn**	**02 44 43.0 +0.1**
	baz=110						
CAST	**Castle Rocks**	**2.07**	**346**			**Pn**	**02 44 44.2 +0.4**
CAST	**Castle Rocks**	**2.07**	**346**	IAML			02 45 10.8
	comp=E,223nm,0.5s						
CAST				IAML			02 45 11.1
	comp=N,147nm,0.4s						
CAST	**Castle Rocks**	**2.07**	**346**	P		**Pn**	**02 44 44.2 +0.4**
	baz=165						
P19K	**Oil Pt**	**2.11**	**214**	Pn		**Pn**	**02 44 45.0 +0.7**
P19K	**Oil Pt**	**2.11**	**214**	P		**Pn**	**02 44 45.2 +1.0**
	baz=31						
KTH	**Kantishna Hill**	**2.14**	**0**			**Pn**	**02 44 45.4 +0.7**
KTH	**Kantishna Hill**	**2.14**	**0**	IAML			02 45 13.7
	comp=N,307nm,1.0s						
KTH				IAML			02 45 14.9
	comp=E,270nm,0.8s						
RND	**Reindeer**	**2.21**	**25**			**Pn**	**02 44 46.1 +0.4**
RND	**Reindeer**	**2.21**	**25**	IAML			02 45 28.0
	comp=E,134nm,1.0s						
RND				IAML			02 45 29.1
	comp=N,140nm,0.9s						
P23K	**Montague Islan**	**2.25**	**128**			**Pn**	**02 44 44.7 -1.5**
P23K	**Montague Islan**	**2.25**	**128**	P		**Pn**	**02 44 44.7 -1.5**
	baz=312						
FID	**Port Fidalgo**	**2.27**	**105**			**Pn**	**02 44 44.5 -1.9**
FID				IAML			02 45 22.5
	comp=N,276nm,0.3s						
FID				IAML			02 45 26.5
	comp=E,259nm,0.4s						
SVW2	**Sparrevohn**	**2.27**	**264**	P		**Pn**	**02 44 46.0 -0.5**
SVW2	**Sparrevohn**	**2.27**	**264**			**Pn**	**02 44 45.9 -0.5**
DHY	**Denali Highway**	**2.35**	**44**	Pn		**Pn**	**02 44 47.5 -0.1**
DHY				IAML			02 45 21.8
	comp=E,130nm,0.7s						
DHY				IAML			02 45 31.0
	comp=N,86nm,0.7s						
DHY	**Denali Highway**	**2.35**	**44**	P		**Pn**	**02 44 47.7 +0.1**
	baz=228						
M18K	**Stony River**	**2.35**	**274**			**Pn**	**02 44 47.4 -0.1**
M18K	**Stony River**	**2.35**	**274**	P		**Pn**	**02 44 47.4 -0.1**
	baz=89						
M24K	**Tolsona, Glenn**	**2.36**	**71**	Pn		**Pn**	**02 44 48.0 +0.3**
M24K				IAML			02 45 28.5
	comp=N,247nm,0.5s						
M24K	**Tolsona, Glenn**	**2.36**	**71**	P		**Pn**	**02 44 48.3 +0.5**
	baz=256						
AU22	**Augustine Moun**	**2.39**	**211**			**Pn**	**02 44 48.9 +0.9**
AUL	**Augustine Lava**	**2.40**	**212**			**Pn**	**02 44 49.1 +1.0**
HIN	**Hinchinbrook I**	**2.40**	**114**			**Pn**	**02 44 46.8 -1.3**
HIN				IAML			02 45 29.6
	comp=N,246nm,0.7s						
HIN				IAML			02 45 34.9
	comp=E,229nm,0.9s						
KLU	**Klutina**	**2.41**	**86**			**Pn**	**02 44 47.4 -1.0**
KLU				IAML			02 45 17.8
	comp=E,116nm,0.4s						
KLU				IAML			02 45 26.5
	comp=N,219nm,0.4s						
KLU	**Klutina**	**2.41**	**86**	P		**Pn**	**02 44 47.5 -0.9**
	baz=272						
K20K	**Telida**	**2.43**	**324**	Pn		**Pn**	**02 44 48.7 +0.2**
K20K				IAML			02 45 23.5
	comp=N,142nm,0.7s						
K20K				IAML			02 45 24.4
	comp=E,160nm,0.6s						
K20K	**Telida**	**2.43**	**324**	P		**Pn**	**02 44 48.8 +0.2**
	baz=142						
MCK	**McKinley**	**2.49**	**21**			**Pn**	**02 44 50.0 +0.5**
MCK	**McKinley**	**2.49**	**21**	P		**Pn**	**02 44 50.0 +0.5**
	baz=203						
DIV	**Divide**	**2.51**	**95**			**Pn**	**02 44 48.6 -1.2**
N18K	**Kilae Creek**	**2.52**	**255**	Pn		**Pn**	**02 44 49.5 -0.4**
N18K	**Kilae Creek**	**2.52**	**255**	P		**Pn**	**02 44 49.5 -0.4**
	baz=70						
CHUM	**Lake Minchumin**	**2.55**	**346**			**Pn**	**02 44 50.6 +0.5**
CHUM	**Lake Minchumin**	**2.55**	**346**	P		**Pn**	**02 44 50.6 +0.5**
	baz=165						
O18K	**Koktuh Hills**	**2.63**	**235**			**Pn**	**02 44 50.8 -0.6**
O18K	**Koktuh Hills**	**2.63**	**235**	P		**Pn**	**02 44 50.9 -0.4**
	baz=50						
EYAK	**Cordova Ski Ar**	**2.67**	**107**	P		**Pn**	**02 44 52.0 +0.1**
EYAK	**Cordova Ski Ar**	**2.67**	**107**			**Pn**	**02 44 50.5 -1.3**
EYAK	**Cordova Ski Ar**	**2.67**	**107**	P		**Pn**	**02 44 50.6 -1.3**
	baz=292						
BPAW	**Bear Paw Mtn.**	**2.69**	**359**	Pn		**Pn**	**02 44 51.9 -0.2**
BPAW				IAML			02 45 24.1
	comp=N,70nm,0.8s						
BPAW				IAML			02 45 24.3
	comp=E,91nm,0.7s						
BPAW	**Bear Paw Mtn.**	**2.69**	**359**	P		**Pn**	**02 44 51.9 -0.2**
	baz=180						
TTA	**Tatalina**	**2.82**	**305**			**Pn**	**02 44 53.6 -0.3**
TTA	**Tatalina**	**2.82**	**305**	P		**Pn**	**02 44 53.8 -0.2**
	baz=120						
L18K	**Granite Mounta**	**2.84**	**289**	Pn		**Pn**	**02 44 54.1 -0.1**
L18K	**Granite Mounta**	**2.84**	**289**	P		**Pn**	**02 44 54.1 -0.1**
	baz=103						
Q19K	**Cape Douglas,**	**2.85**	**210**			**Pn**	**02 44 55.1 +0.8**
Q19K	**Cape Douglas,**	**2.85**	**210**	P		**Pn**	**02 44 55.1 +0.8**
	baz=26						
HARP	**HAARP**	**2.90**	**68**			**Pn**	**02 44 55.6 +0.5**
HARP	**HAARP**	**2.90**	**68**	P		**Pn**	**02 44 55.6 +0.5**
	baz=254						
SYI	**Shuyak Island**	**2.92**	**195**			**Pn**	**02 44 55.4 +0.2**
SYI	**Shuyak Island**	**2.92**	**195**	IAML			02 45 37.5
	comp=N,134nm,0.8s						
Q20K	**Shuyak Island**	**2.92**	**195**	P		**Pn**	**02 44 55.4 +0.2**
	baz=13						
P18K	**Big Mountain,**	**2.95**	**228**			**Pn**	**02 44 55.3 -0.4**
P18K	**Big Mountain,**	**2.95**	**228**	P		**Pn**	**02 44 55.4 -0.3**
	baz=44						
PAX	**Paxson**	**2.99**	**56**			**Pn**	**02 44 57.0 +0.6**
PAX	**Paxson**	**2.99**	**56**	P		**Pn**	**02 44 57.0 +0.6**
	baz=242						
Q23K	**Middleton Isla**	**3.03**	**129**			**Pn**	**02 44 56.3 -0.4**
Q23K	**Middleton Isla**	**3.03**	**129**	IAML			02 45 58.9
	comp=N,134nm,1.7s						
Q23K	**Middleton Isla**	**3.03**	**129**	P		**Pn**	**02 44 57.4 +0.7**
	baz=314						
MID	**Middleton Isla**	**3.03**	**129**	P		**Pn**	**02 44 56.3 -0.5**
MID	**Middleton Isla**	**3.03**	**129**			**Pn**	**02 44 56.2 -0.5**
MID	**Middleton Isla**	**3.03**	**129**	IAML			02 45 58.9
	comp=N,128nm,1.7s						
N25K	**Chitina, Valde**	**3.04**	**84**			**Pn**	**02 44 55.9 -1.0**
N25K	**Chitina, Valde**	**3.04**	**84**	IAML			02 45 46.6
	comp=E,64nm,0.5s						
N25K				IAML			02 45 48.4
	comp=N,105nm,0.5s						
N25K	**Chitina, Valde**	**3.04**	**84**	P		**Pn**	**02 44 56.2 -0.8**
	baz=270						
BMRM	**Bremner River**	**3.10**	**96**			**Pn**	**02 44 56.0 -1.8**
BMRM	**Bremner River**	**3.10**	**96**	P		**Pn**	**02 44 56.5 -1.2**
	baz=282						
M17K	**Holitna River**	**3.13**	**272**	Pn		**Pn**	**02 44 58.0 -0.1**
M17K				IAML			02 45 56.8
	comp=E,72nm,0.6s						
M17K				IAML			02 46 00.3
	comp=N,72nm,0.8s						
M17K	**Holitna River**	**3.13**	**272**	P		**Pn**	**02 44 58.0 -0.1**
	baz=86						
J20K	**Nowinta River**	**3.13**	**333**	Pn		**Pn**	**02 44 58.2 +0.1**
J20K				IAML			02 45 34.0
	comp=E,96nm,0.6s						
J20K	**Nowinta River**	**3.13**	**333**	P		**Pn**	**02 44 58.2 +0.1**
	baz=150						
GOAT	**Goat Mountain**	**3.14**	**103**			**Pn**	**02 44 56.6 -1.6**
N17K	**Nushagak Hills**	**3.18**	**256**	Pn		**Pn**	**02 44 58.5 -0.2**
N17K	**Nushagak Hills**	**3.18**	**256**	P		**Pn**	**02 44 58.6 -0.2**
	baz=70						
WACK	**Wrangell Chich**	**3.20**	**77**			**Pn**	**02 44 58.5 -0.7**
RAGM	**Ragged Mountai**	**3.23**	**106**			**Pn**	**02 44 57.7 -1.9**
WAZA	**Wrangell Mount**	**3.29**	**76**			**Pn**	**02 45 00.8 +0.3**
NEA2	**Nenana**	**3.29**	**14**			**Pn**	**02 45 00.5 +0.2**
NEA2	**Nenana**	**3.29**	**14**	P		**Pn**	**02 45 00.3 0.0**
	baz=196						
WRH	**Wood River Hil**	**3.32**	**22**			**Pn**	**02 45 01.2 +0.5**
J19K	**Poorman**	**3.36**	**322**			**Pn**	**02 45 01.5 +0.2**
J19K	**Poorman**	**3.36**	**322**	IAML			02 46 00.8
	comp=N,38nm,0.8s						
J19K				IAML			02 46 01.2
	comp=E,58nm,0.8s						
J19K	**Poorman**	**3.36**	**322**	P		**Pn**	**02 45 01.5 +0.2**
	baz=138						
K24K	**Donnelly Dome**	**3.37**	**43**			**Pn**	**02 45 03.8 +2.4**
J18K	**Innoko River**	**3.38**	**310**	Pn		**Pn**	**02 45 01.6 +0.1**
J18K	**Innoko River**	**3.38**	**310**	P		**Pn**	**02 45 01.7 +0.2**
	baz=124						
GLB	**Gilahina Butte**	**3.42**	**87**			**Pn**	**02 45 00.9 -1.2**
GLB	**Gilahina Butte**	**3.42**	**87**	IAML			02 45 57.7
	comp=E,48nm,0.6s						
GLB				IAML			02 46 07.8
	comp=N,57nm,0.6s						
HMT	**Hamilton**	**3.44**	**106**			**Pn**	**02 45 00.1 -2.2**
KAHC	**Katmai Hardscr**	**3.45**	**218**			**Pn**	**02 45 02.8 +0.1**
Q18K	**Katmai Hardscr**	**3.45**	**218**	P		**Pn**	**02 45 02.9 +0.3**
	baz=34						
O17K	**Koliganek Bris**	**3.46**	**244**			**Pn**	**02 45 02.6 0.0**
O17K	**Koliganek Bris**	**3.46**	**244**	P		**Pn**	**02 45 02.6 0.0**
	baz=58						
HDA	**Harding Lake**	**3.51**	**30**			**Pn**	**02 45 03.7 +0.4**
HDA	**Harding Lake**	**3.51**	**30**	IAML			02 46 04.9
	comp=E,53nm,0.5s						
HDA	**Harding Lake**	**3.51**	**30**	P		**Pn**	**02 45 03.7 +0.4**
	baz=214						
CCB	**Clear Creek Bu**	**3.53**	**22**	Pn		**Pn**	**02 45 04.0 +0.4**
CCB				IAML			02 46 12.7
	comp=E,39nm,0.7s						
P17K	**Kvichak River**	**3.54**	**233**			**Pn**	**02 45 03.9 +0.3**
P17K	**Kvichak River**	**3.54**	**233**	P		**Pn**	**02 45 04.1 +0.4**
	baz=48						
L17K	**Donlin**	**3.57**	**285**			**Pn**	**02 45 04.1 0.0**
L17K	**Donlin**	**3.57**	**285**	P		**Pn**	**02 45 04.1 0.0**
	baz=98						
VRDI	**Verde Repeater**	**3.61**	**90**			**Pn**	**02 45 03.3 -1.6**
VRDI	**Verde Repeater**	**3.61**	**90**	IAML			02 46 03.0
	comp=N,43nm,0.6s						
NICHA	**Nichawak Mount**	**3.61**	**106**			**Pn**	**02 45 02.6 -2.1**
MLY	**Manley**	**3.62**	**1**			**Pn**	**02 45 04.9 +0.1**
MLY	**Manley**	**3.62**	**1**	P		**Pn**	**02 45 04.9 +0.1**
	baz=182						
K17K	**Iditarod**	**3.70**	**294**	Pn		**Pn**	**02 45 06.0 +0.1**
K17K				IAML			02 46 18.6
	comp=E,39nm,0.8s						
K17K				IAML			02 46 28.6
	comp=N,42nm,1.1s						
K17K	**Iditarod**	**3.70**	**294**	P		**Pn**	**02 45 06.0 +0.1**
	baz=107						
COLA	**College**	**3.73**	**21**	P		**Pn**	**02 45 07.8 +1.5**
COLA	**College**	**3.73**	**21**			**Pn**	**02 45 06.8 +0.5**
I20K	**Naaghedeneel**	**3.75**	**336**			**Pn**	**02 45 06.6 +0.1**
I20K	**Naaghedeneel**	**3.75**	**336**	P		**Pn**	**02 45 07.1 +0.6**
	baz=153						
KDAK	**Kodiak Island**	**3.75**	**194**			**Pn**	**02 45 07.1 +0.6**
KDAK	**Kodiak Island**	**3.75**	**194**	IAML			02 46 00.8
	comp=N,63nm,0.9s						
KDAK				IAML			02 46 05.1
	comp=N,51nm,0.6s						
MDM	**Murphy Dome**	**3.75**	**18**			**Pn**	**02 45 06.5 -0.1**
MDM	**Murphy Dome**	**3.75**	**18**	IAML			02 46 18.1
	comp=E,30nm,1.0s						
SUCK	**Suckling Hills**	**3.77**	**108**			**Pn**	**02 45 07.6 +0.8**
MCARA	**McCarthy VSAT**	**3.80**	**87**			**Pn**	**02 45 08.5 +1.2**
MCARA	**McCarthy VSAT**	**3.80**	**87**	P		**Pn**	**02 45 07.9 +0.7**
	baz=275						
I23K	**Minto, Yukon-K**	**3.81**	**10**			**Pn**	**02 45 08.2 +0.9**
I23K	**Minto, Yukon-K**	**3.81**	**10**	IAML			02 46 25.3
	comp=N,32nm,0.8s						
I23K				IAML			02 46 25.6
	comp=E,26nm,0.7s						
I23K	**Minto, Yukon-K**	**3.81**	**10**	P		**Pn**	**02 45 07.8 +0.5**
	baz=192						
IL31		**3.83**	**27**			**Pn**	**02 45 08.2 +0.6**
ILAR	**Eielson Array**	**3.83**	**27**	P		**Pn**	**02 45 07.8 +0.1**
	comp=E,0.9nm,0.3s,baz=214,slow=13,SNR=49						
ILAR				S		**Sn**	**02 45 50.3 -1.1**
	comp=E,4.0nm,0.5s,baz=240,slow=15,SNR=6.5						
	comp=E,2.4nm,0.3s						
CRQM	**Cirque**	**3.84**	**97**			**Pn**	**02 45 08.0 0.0**
KCE	**Katmai Mt Cerb**	**3.84**	**216**			**Pn**	**02 45 08.6 +0.7**
KHIT	**Khitrov Hills**	**3.88**	**101**			**Pn**	**02 45 06.7 -1.7**
M26K	**Nabesna, AK**	**3.88**	**72**			**Pn**	**02 45 08.6 +0.2**
M26K	**Nabesna, AK**	**3.88**	**72**	IAML			02 46 21.1
	comp=E,53nm,0.5s						
M26K				IAML			02 46 21.1
	comp=N,50nm,0.5s						
M26K	**Nabesna, AK**	**3.88**	**72**	P		**Pn**	**02 45 08.6 +0.2**
	baz=260						
DOT	**Dot Lake**	**3.89**	**52**			**Pn**	**02 45 08.8 +0.4**
L26K	**Log Cabin Wild**	**3.90**	**62**			**Pn**	**02 45 09.1 +0.5**
L26K				IAML			02 46 11.3
	comp=N,65nm,0.4s						
L26K				IAML			02 46 23.8
	comp=E,73nm,0.5s						
M16K	**Timber Creek**	**3.90**	**268**	Pn		**Pn**	**02 45 08.5 -0.1**
M16K	**Timber Creek**	**3.90**	**268**	P		**Pn**	**02 45 08.7 0.0**
	baz=80						
ACHA	**Angle Creek He**	**3.91**	**216**			**Pn**	**02 45 09.7 +0.8**
N16K	**Nishlik Lake**	**3.94**	**259**			**Pn**	**02 45 09.1 -0.1**
N16K	**Nishlik Lake**	**3.94**	**259**	P		**Pn**	**02 45 09.1 -0.1**
	baz=72						
ANCK	**Angle Creek**	**3.97**	**217**			**Pn**	**02 45 10.0 +0.4**
O16K	**Kokwok River B**	**3.99**	**246**	Pn		**Pn**	**02 45 09.9 +0.1**
O16K				IAML			02 46 25.2
	comp=E,22nm,0.9s						
O16K				IAML			02 46 30.9
	comp=N,22nm,0.6s						
O16K	**Kokwok River B**	**3.99**	**246**	P		**Pn**	**02 45 09.7 -0.1**
	baz=59						
CNTC	**Contact Creek**	**4.04**	**220**			**Pn**	**02 45 10.9 +0.3**
Q17K	**Contact Creek**	**4.04**	**220**	P		**Pn**	**02 45 11.1 +0.5**
	baz=36						
WAX	**Waxell Ridge**	**4.06**	**100**			**Pn**	**02 45 09.1 -1.8**
WAX	**Waxell Ridge**	**4.06**	**100**	IAML			02 46 24.4
	comp=E,70nm,0.7s						
J25K	**Salcha River,**	**4.08**	**36**			**Pn**	**02 45 12.3 +1.2**
J25K	**Salcha River,**	**4.08**	**36**	IAML			02 46 10.0
	comp=N,52nm,0.

H24K	Noodor Dome	4.63	16		Pn	02 45 19.8	+1.1
H24K	Noodor Dome	4.63	16	IAML		02 46 42.3	
	comp=E,15nm,0.7s						
H24K				IAML		02 46 42.4	
	comp=N,14nm,0.6s						
H24K	Noodor Dome	4.63	16	P	Pn	02 45 19.4	+0.7
	baz=199						
N15K	Kwethluk River	4.66	258	Pn	Pn	02 45 19.6	+0.6
N15K				IAML		02 46 45.5	
	comp=E,27nm,0.8s						
N15K				IAML		02 46 49.9	
	comp=N,25nm,1.2s						
N15K	Kwethluk River	4.66	258	P	Pn	02 45 19.3	+0.3
	baz=70						
CTG	Chitna Glacier	4.67	91	P	Pn	02 45 19.1	-0.1
	baz=280						
CTGM	Chitina Glacie	4.67	91		Pn	02 45 19.1	-0.1
CTGM	Chitina Glacie	4.67	91	IAML		02 46 38.0	
	comp=N,24nm,0.8s						
CTGM				IAML		02 47 04.9	
	comp=E,19nm,3.2s						
PLK4	Peulik 4	4.70	218		Pn	02 45 20.2	+0.6
IMAR	Indian Mountai	4.75	346		Pn	02 45 20.4	+0.3
PRP	Porcupine Dome	4.77	28		Pn	02 45 21.9	+1.3
PRP	Porcupine Dome	4.77	28	IAML		02 46 17.4	
	comp=E,18nm,0.5s						
PRP				IAML		02 46 18.6	
	comp=N,20nm,0.6s						
M15K	Kasigluk River	4.80	266		Pn	02 45 20.6	-0.2
M15K	Kasigluk River	4.80	266	P	Pn	02 45 20.7	-0.2
	baz=76						
H19K	Roundabout Mou	4.80	331		Pn	02 45 21.0	+0.1
H19K	Roundabout Mou	4.80	331	IAML		02 46 38.5	
	comp=E,15nm,0.8s						
H19K				IAML		02 46 52.9	
	comp=N,13nm,1.2s						
H19K	Roundabout Mou	4.80	331	P	Pn	02 45 21.0	+0.1
	baz=146						
K27K	Chicken	4.84	53		Pn	02 45 21.0	-0.4
K27K	Chicken	4.84	53	IAML		02 46 52.2	
	comp=N,14nm,0.9s						
K27K	Chicken	4.84	53	P	Pn	02 45 21.6	+0.1
	baz=242						
LOGN	Logan Glacier	4.85	93		Pn	02 45 20.8	-1.0
LOGN	Logan Glacier	4.85	93	IAML		02 46 46.0	
	comp=E,18nm,0.7s						
LOGN				IAML		02 46 52.6	
	comp=N,18nm,1.1s						
J16K	Anvik River	4.88	297	Pn	Pn	02 45 21.9	0.0
J16K				IAML		02 46 49.0	
	comp=N,12nm,1.4s						
J16K	Anvik River	4.88	297	P	Pn	02 45 21.9	-0.1
	baz=108						
O15K	Ungalikthiuk R	4.96	247		Pn	02 45 23.4	+0.3
O15K	Ungalikthiuk R	4.96	247	P	Pn	02 45 23.4	+0.3
	baz=59						
H18K	Honhosa River	5.02	321		Pn	02 45 24.4	+0.5
H18K	Honhosa River	5.02	321	IAML		02 46 35.2	
	comp=N,12nm,3.0s						
H18K	Honhosa River	5.02	321	P	Pn	02 45 24.4	+0.5
	baz=135						
L15K	Ungalak Mounta	5.05	278		Pn	02 45 24.6	+0.3
L15K	Ungalak Mounta	5.05	278	P	Pn	02 45 24.6	+0.3
	baz=88						
K15K	Wolf Creek Mou	5.09	284		Pn	02 45 24.9	+0.1
K15K	Wolf Creek Mou	5.09	284	IAML		02 46 24.1	
	comp=E,12nm,3.8s						
K15K				IAML		02 46 43.6	
	comp=N,12nm,2.4s						
K15K	Wolf Creek Mou	5.09	284	P	Pn	02 45 24.9	+0.1
	baz=95						
SII	Sitkinak Islan	5.16	200	P	Pn	02 45 26.9	+1.0
G21K	Allakaket	5.24	349	Pn	Pn	02 45 27.3	+0.5
G21K				IAML		02 46 28.3	
	comp=N,26nm,0.8s						
G21K				IAML		02 46 28.4	
	comp=E,24nm,0.9s						
G21K	Allakaket	5.24	349	P	Pn	02 45 27.5	+0.7
	baz=166						
I26K	Coal Creek Min	5.24	39		Pn	02 45 27.1	+0.3
I26K	Coal Creek Min	5.24	39	IAML		02 46 55.4	
	comp=E,23nm,0.7s						
I26K				IAML		02 47 08.9	
	comp=N,27nm,0.8s						
O28M	Mount Upton	5.25	92		Pn	02 45 27.2	-0.2
O28M	Mount Upton	5.25	92	P	Pn	02 45 27.2	-0.2
	baz=282						
G23K	Bananza Creek	5.32	4		Pn	02 45 29.3	+1.2
G23K	Bananza Creek	5.32	4	P	Pn	02 45 28.8	+0.7
	baz=185						
H17K	Granite Mounta	5.38	315		Pn	02 45 29.2	+0.4
H17K	Granite Mounta	5.38	315	IAML		02 46 32.6	
	comp=N,8.3nm,1.8s						
H17K	Granite Mounta	5.38	315	P	Pn	02 45 29.1	+0.3
	baz=127						
M14K	Bethel	5.39	268		Pn	02 45 29.2	+0.2
M14K	Bethel	5.39	268	P	Pn	02 45 29.2	+0.2
	baz=78						
G19K	Purcell Mounta	5.46	333		Pn	02 45 30.4	+0.4
G19K	Purcell Mounta	5.46	333	P	Pn	02 45 30.2	+0.3
	baz=147						
EGAK	Eagle	5.57	49		Pn	02 45 31.5	+0.1
EGAK	Eagle	5.57	49	P	Pn	02 45 31.6	+0.3
	baz=238						
O14K	Tigyukauivet M	5.57	252		Pn	02 45 31.8	+0.4
G18K	Tagagawik	5.65	326		Pn	02 45 32.5	0.0
G18K	Tagagawik	5.65	326	P	Pn	02 45 32.9	+0.4
	baz=139						
L14K	Kuka Creek	5.65	274		Pn	02 45 33.0	+0.5
L14K	Kuka Creek	5.65	274	P	Pn	02 45 33.0	+0.5
	baz=84						
I27K	Kandik River	5.91	41		Pn	02 45 36.6	+0.5
I27K	Kandik River	5.91	41	P	Pn	02 45 36.6	+0.5
	baz=230						
F21K	Alatna River	5.92	350		Pn	02 45 36.6	+0.3
F21K	Alatna River	5.92	350	P	Pn	02 45 36.6	+0.3
	baz=168						
DAWY	Dawson	5.93	58		Pn	02 45 36.4	+0.1
PNL	Peninsula	5.96	102		Pn	02 45 35.5	-1.2
M29M	Somme Creek	5.98	75	Pn	Pn	02 45 36.9	-0.2
M29M	Somme Creek	5.98	75	P	Pn	02 45 37.3	+0.2
	baz=266						
F20K	Avaraart Lake	6.02	342		Pn	02 45 38.1	+0.6
J14K	Nanvaranak Lak	6.08	288		Pn	02 45 38.3	0.0
J14K	Nanvaranak Lak	6.08	288	P	Pn	02 45 38.3	0.0
	baz=97						
F19K	Shaleruckik Mo	6.20	334		Pn	02 45 40.1	+0.1
L29M	L29M	6.21	69	Pn	Pn	02 45 40.5	+0.3
L29M	L29M	6.21	69	P	Pn	02 45 40.5	+0.3
	baz=260						
G26K	Porcupine Rive	6.36	26		Pn	02 45 42.7	+0.5
G26K	Porcupine Rive	6.36	26	P	Pn	02 45 42.4	+0.2
	baz=213						
H27K	Steamboat Moun	6.37	37		Pn	02 45 42.4	+0.1
H27K	Steamboat Moun	6.37	37	P	Pn	02 45 42.4	+0.1
	baz=225						
I28M	Miner Creek	6.37	46		Pn	02 45 42.7	+0.2
I28M	Miner Creek	6.37	46	P	Pn	02 45 42.7	+0.2
	baz=236						
J29N	Klondike Camp	6.55	57		Pn	02 45 45.0	+0.2
F25K	Christian Rive	6.60	18		Pn	02 45 46.2	+0.7
F25K	Christian Rive	6.60	18	P	Pn	02 45 45.7	+0.2
	baz=203						
BMAR	Burnt Mountain	6.62	22	Pn	Pn	02 45 47.1	+1.3
E19K	Redstone River	6.64	339		Pn	02 45 46.0	+0.1
E19K	Redstone River	6.64	339	P	Pn	02 45 46.1	+0.1
	baz=153						
N30M	Aishikik Lake	6.64	84		Pn	02 45 44.5	-1.6
N30M	Aishikik Lake	6.64	84	P	Pn	02 45 44.7	-1.4
	baz=276						
K29M	Barlow Dome	6.64	63		Pn	02 45 46.2	0.0
K29M	Barlow Dome	6.64	63	P	Pn	02 45 46.2	0.0
	baz=255						
E23K	Chandalar	6.69	4		Pn	02 45 46.7	0.0
E23K	Chandalar	6.69	4	P	Pn	02 45 46.7	0.0
	baz=186						
G27K	Doyon Strip	6.75	33		Pn	02 45 48.0	+0.3
G27K	Doyon Strip	6.75	33	P	Pn	02 45 47.8	+0.2
	baz=222						
P29M	Windy Craggy	6.76	100		Pn	02 45 48.2	+0.5
P29M	Windy Craggy	6.76	100	P	Pn	02 45 48.2	+0.5
	baz=291						
I29M	Ogilvie Camp,	6.91	50		Pn	02 45 49.2	-0.5
F26K	Sheenjek River	6.94	22		Pn	02 45 50.5	+0.4
F26K	Sheenjek River	6.94	22	P	Pn	02 45 50.5	+0.4
	baz=208						
E25K	Arctic Village	7.10	16		Pn	02 45 53.1	+0.8
E25K	Arctic Village	7.10	16	P	Pn	02 45 52.7	+0.4
	baz=202						
E20K	Nigu River	7.21	344		Pn	02 45 54.2	+0.3
E20K	Nigu River	7.21	344	P	Pn	02 45 54.2	+0.3
	baz=160						
TOLK	Toolik Lake Re	7.27	4		Pn	02 45 55.0	+0.4
TOLK	Toolik Lake Re	7.27	4	P	Pn	02 45 55.1	+0.4
	baz=185						
E18K	Tukpahlearik C	7.32	329		Pn	02 45 55.5	+0.2
E18K	Tukpahlearik C	7.32	329	P	Pn	02 45 55.5	+0.2
	baz=141						
J30M	Hart River	7.36	58		Pn	02 45 56.5	+0.5
J30M	Hart River	7.36	58	P	Pn	02 45 56.5	+0.5
	baz=252						
I30M	Mount Dempster	7.57	54	Pn	Pn	02 45 58.5	-0.3
F28M	Old Crow	7.82	33	Pn	Pn	02 46 02.4	+0.3
E27K	Coleen River	7.86	26	Pn	Pn	02 46 03.3	+0.6
C21K	Knifeblade Rid	7.93	350		Pn	02 46 03.9	+0.3
C21K	Knifeblade Rid	7.93	350	P	Pn	02 46 03.9	+0.3
	baz=167						
SONM	Songino Array	54.77	306	P	P	02 53 34.2	+0.4
	comp=N,1.1nm,0.7s,baz=40,slow=7.8,SNR=6.4						
	comp=N,1.1nm,0.7s						
FINES	FINESS Array B	57.43	2	P	P	02 53 51.7	-0.7
	comp=N,0.4nm,0.6s,baz=41,slow=9.3,SNR=1.4						
	comp=N,0.4nm,0.6s						
EKA	Eskdalemuir Ar	60.84	20	P	P	02 54 15.8	-0.3
	comp=N,0.5nm,0.4s,baz=326,slow=5.5,SNR=9.7						
	comp=N,0.5nm,0.4s						

IDC 12 02:45:06.3±1.5, 55°.97S×32°.96W, h0km, mb3.7/4, mbtmp3.7/4, MS3.4/1, Error ellipse: s-maj=49.6km s-min=31.4km az=37.0, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	20.22	153	P	P	02 49 41.0	-1.5
	0.4nm,0.7s,baz=290,slow=11,SNR=1.4						
	0.4nm,0.7s						
BDFB	Brasilia	41.87	338	LR	LR	03 08 45.4	
	comp=Z,46nm,19.6s,baz=280,slow=34						
LPAZ	La Paz	47.79	312	P	P	02 53 45.4	-0.6
	0.7nm,0.4s,baz=146,slow=7.3,SNR=4.2						
	0.7nm,0.4s						
H10S2	ASCENSION HYDR	49.06	24	T	T	03 46 00.4	
	baz=194,slow=74,SNR=4.3						
H10S3	ASCENSION HYDR	49.06	24	T	T	03 46 01.0	
	baz=26,slow=74,SNR=4.2						
BOSA	Boshof	49.13	81	P	P	02 53 57.2	+1.5
	2.9nm,1.0s,baz=227,slow=8.6,SNR=4.0						
	2.9nm,1.0s						
H10N3	ASCENSION HYDR	50.17	24	T	T	03 47 20.8	
	baz=193,SNR=6.2						
H10N1	ASCENSION HYDR	50.18	24	T	T	03 47 19.1	
	baz=193,slow=74,SNR=5.5						
H10N2	ASCENSION HYDR	50.19	24	T	T	03 47 18.4	
	baz=193,slow=74,SNR=4.1						
TORD	Torodi Ar. Bea	74.72	35	P	P	02 56 46.1	-1.6
	0.7nm,0.7s,baz=194,slow=6.5,SNR=5.0						
	0.7nm,0.7s						
ILAR	Eielson Array	147.66	313	PKPbc	PKiKP	03 04 52.3	-0.9
	0.6nm,0.8s,baz=122,slow=2.2,SNR=3.7						

*IDC **12** 02:57:41.9±0.8, 56°.43N×156°.96W, h0km, mb4.2/22, mbtmp4.3/23, ML4.7/1, MS3.1/1, Error ellipse: s-maj=21.9km s-min=14.7km az=21.0*

*NEIC **12** 02:57:48.6±1.4, 56°.24N±0°.04×156°.62W±0°.06, h51km±7km, Error ellipse: s-maj=5.8km s-min=4.2km az=196.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.52; $M_{\theta\theta}$0.26; $M_{\phi\phi}$-0.78; $M_{r\theta}$0.54; $M_{\phi\theta}$0.02; $M_{\phi r}$0.61; Fault plane solution: $M_0$1.07000×10^{15} NP1: ϕ_s149.44000°, δ31.48000°, λ32.90000°. NP2:ϕ_s30.55000°, δ73.52000°, λ117.21000°. Principal axes: T 1.0851, Plg53.0000°, Azm333.0000°; N -0.0367, Plg26.0000°, Azm202.0000°; P -1.0484, Plg24.0000°, Azm100.0000°;*

*AEIC **12** 02:57:49.1±1.4, 56°.22N±0°.04×156°.60W±0°.05, h46km±6km, ML3.6, mb4.3/27(NEIC), ML3.8/52(NEIC), Mwr4.0/16(NEIC) Error ellipse: s-maj=5.9km s-min=3.0km az=204.0*

*NEIC **12** 02:57:49.2, 56°.22N×156°.60W, h46km*

ISC 12 02:57:48.3±0.8, 56°.24N±0°.05×156°.62W±0°.03, h54km±8km, n378, σ0.892/377, mb4.3/50, 18C-3D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	Chirikof Islan	0.70	127		Pn	02 58 02.5	+0.2
CHIR	Chirikof Islan	0.70	127		Sn	02 58 13.1	+0.8
CHIR	Chirikof Islan	0.70	127	IAML		02 58 13.7	
	comp=E,6μm,0.5s						
CHIR				IAML		02 58 13.9	
	comp=N,9μm,0.4s						
CHIR	Chirikof Islan	0.70	127	P	Pn	02 58 02.5	+0.2
	baz=306						
CHIR				S	Sn	02 58 13.1	+0.8
	baz=306						
CHGN	Chignik	1.00	274		Pn	02 58 06.0	-0.2
CHGN	Chignik	1.00	274		Sn	02 58 19.1	-0.2
CHGN	Chignik	1.00	274	P	Pn	02 58 05.9	-0.2
	baz=94						
CHGN				S	Sn	02 58 19.1	-0.2
	baz=94						
ANPK	Aniakchak Peak	1.03	306		Pn	02 58 06.5	-0.1
ANPK					Sn	02 58 20.4	+0.3
ANNE	Aniakchak Nort	1.04	311		Pn	02 58 06.7	0.0
ANPB	Aniakchak Plen	1.08	302		Pn	02 58 07.2	0.0
VNSG	Veniaminof 6	1.38	266		Pn	02 58 11.7	+0.4
SII	Sitkinak Islan	1.39	76	P	Pn	02 58 11.6	+0.1
SII	Sitkinak Islan	1.39	76		Pn	02 58 11.5	+0.1
SII					Sn	02 58 28.4	-0.3
SII	Sitkinak Islan	1.39	76	IAML		02 58 37.8	
	comp=N,2μm,0.7s						
SII	Sitkinak Islan	1.39	76	P	Pn	02 58 11.5	+0.1
	baz=257						
SII				S	Sn	02 58 28.4	-0.3
	baz=257						
PLK4	Peulik 4	1.40	6		Pn	02 58 12.4	+0.8
PLK4					Sn	02 58 30.0	+1.0
R17L	Mt. Peulik Vol	1.40	6	P	Pn	02 58 12.2	+0.7
	baz=186						
R17L				S	Sn	02 58 30.0	+1.1
	baz=186						
VNHG	Veniaminof 1	1.42	270		Pn	02 58 12.6	+0.7
PLK3	Peulik 3	1.46	7		Pn	02 58 13.2	+0.8
PLBL	Peulik Blue Cr	1.46	356		Pn	02 58 13.1	+0.7
PLBL					Sn	02 58 31.5	+1.1
VNNF	Veniaminof 3	1.50	273		Pn	02 58 14.0	+1.0
PLK2	Peulik 2	1.53	6		Pn	02 58 14.3	+1.0
PLK1	Peulik 1	1.56	0		Pn	02 58 14.3	+0.6
PLK1					Sn	02 58 34.8	+2.0
VNSS	Veniaminof 8	1.58	271		Pn	02 58 14.7	+0.6
S14K	Fog Glacier	1.64	273	P	Pn	02 58 15.3	+0.5
	baz=91						
VNFG	Fog Glacier, M	1.64	273		Pn	02 58 15.3	+0.5
VNWF	Veniaminof 8	1.65	268		Pn	02 58 15.6	+0.6
VNSW	Veniaminof 7	1.65	265		Sn	02 58 37.0	+1.9
PLK5	Peulik 5	1.76	356		Pn	02 58 16.9	+0.5
R18K	Karluk	1.78	41		Pn	02 58 17.3	+0.6
R18K	Karluk	1.78	41	IAML		02 58 47.8	
	comp=N,1μm,0.4s						
R18K				IAML		02 58 56.8	
	comp=E,1μm,0.6s						
R18K	Karluk	1.78	41	P	Pn	02 58 17.3	+0.6
	baz=222						
ANCK	Angle Creek	2.05	17		Pn	02 58 21.0	+0.5
Q17K	Contact Creek	2.06	11	P	Pn	02 58 20.9	+0.2
	baz=191						
CNTC	Contact Creek	2.06	11		Pn	02 58 20.9	+0.2
OHAK	Old Harbor	2.08	60	P	Pn	02 58 20.7	-0.1
OHAK	Old Harbor	2.08	60		Pn	02 58 20.5	-0.2
OHAK					Sn	02 58 44.5	-1.0
OHAK	Old Harbor	2.08	60	P	Pn	02 58 20.6	-0.2
	baz=242						
OHAK				S	Sn	02 58 44.5	-1.0
	baz=242						
ACHA	Angle Creek He	2.09	19		Pn	02 58 21.4	+0.4
KCE	Katmai Mt Cerb	2.15	21		Pn	02 58 22.7	+0.9
KABU	Katmai Buttres	2.16	19		Pn	02 58 22.7	+0.8
CHNA	Chernabura Isl	2.20	231	P	Pn	02 58 21.8	-0.6
	baz=49						
CNBA	Chernabura Isl	2.21	231	Pn	Pn	02 58 21.6	-0.9
CNBA				IAML		02 59 09.6	
	comp=E,353nm,0.7s						
CNBA				IAML		02 59 11.4	
	comp=N,452nm,0.6s						
KVTA	Katmai Vly 10	2.26	18		Pn	02 58 23.8	+0.5
SDPT	Sand Point	2.35	249	P	Pn	02 58 24.9	+0.4
SDPT	Sand Point	2.35	249		Pn	02 58 24.8	+0.4
SDPT	Sand Point	2.35	249	IAML		02 58 54.1	
	comp=E,774nm,0.7s						
SDPT				IAML		02 59 06.3	
	comp=N,578nm,0.8s						
SDPT	Sand Point	2.35	249	P	Pn	02 58 24.8	+0.4
	baz=67						
Q16K	King Salmon	2.44	360		Pn	02 58 26.0	+0.3
Q16K	King Salmon	2.44	360	P	Pn	02 58 26.0	+0.3
	baz=179						
KAHG	Katmai Hook Gl	2.52	26		Pn	02 58 27.4	+0.5
KAHC	Katmai Hardscr	2.56	19		Pn	02 58 27.8	+0.3
KAHC	Katmai Hardscr	2.56	19		Pn	02 58 27.7	+0.3
KAHC	Katmai Hardscr	2.56	19	P	Pn	02 58 27.8	+0.3
	baz=200						
Q18K	Katmai Hardscr	2.56	19	P	Pn	02 58 27.7	+0.2
	baz=200						
KDAK	Kodiak Island	2.69	53	Pn	Pn	02 58 28.6	-0.6
KDAK	Kodiak Island	2.69	53	Pn	Pn	02 58 28.8	-0.3
	comp=N,7.2nm,0.3s,baz=244,slow=7.1,SNR=108						
KDAK				Sn	Sn	02 59 15.3	+15
	comp=N,13nm,0.3s,baz=15,slow=20,SNR=3.8						
KDAK				LR	LR	02 59 20.2	
	comp=N,35nm,19.0s,baz=248,slow=36						
P16K	Nushagak River	2.89	346		Pn	02 58 32.3	+0.5
P16K	Nushagak River	2.89	346	P	Pn	02 58 32.4	+0.5
	baz=165						
P17K	Kvichak River	2.96	2		Pn	02 58 33.0	+0.2
P17K	Kvichak River	2.96	2	P	Pn	02 58 33.0	+0.2
	baz=182						
PS1A	Pavlof South-1	3.00	256		Pn	02 58 33.7	+0.3
PVV	Pavlof Volcano	3.05	256		Pn	02 58 34.1	+0.1
PS4A	Pavlof South-4	3.09	255		Pn	02 58 34.8	+0.2
S12K	Black Hills	3.11	262	Pn	Pn	02 58 34.8	+0.1
S12K	Black Hills	3.11	262	P	Pn	02 58 34.9	+0.1
	baz=78						
HAG	Hague Volcano	3.13	255		Pn	02 58 35.7	+0.6
Q19K	Cape Douglas,	3.13	30		Pn	02 58 35.4	+0.2
Q19K	Cape Douglas,	3.13	30	IAML		02 59 34.6	
	comp=N,235nm,1.2s						
Q19K				IAML		02 59 38.6	
	comp=E,270nm,1.1s						
Q19K	Cape Douglas,	3.13	30	P	Pn	02 58 35.6	+0.4
	baz=212						
PN7A	Pavlof North-7	3.14	257		Pn	02 58 36.1	+0.8
P18K	Big Mountain,	3.24	13	Pn	Pn	02 58 36.8	+0.1
P18K	Big Mountain,	3.24	13	P	Pn	02 58 36.6	-0.1
	baz=194						
Q20K	Shuyak Island	3.29	42	P	Pn	02 58 37.8	+0.4
	baz=225						
SYI	Shuyak Island	3.29	42		Pn	02 58 37.6	+0.2
O15K	Ungalikthiuk R	3.41	331		Pn	02 58 39.2	+0.3
O15K	Ungalikthiuk R	3.41	331	P	Pn	02 58 39.2	+0.3
	baz=148						
O16K	Kokwok River B	3.45	347	Pn	Pn	02 58 39.2	-0.3
O16K				IAML		02 59 50.0	
	comp=E,112nm,0.9s						
O16K	Kokwok River B	3.45	347	P	Pn	02 58 39.4	-0.1
	baz=166						
O17K	Koliganek Bris	3.55	356		Pn	02 58 40.8	0.0
O17K	Koliganek Bris	3.55	356	P	Pn	02 58 40.8	0.0
	baz=176						
O18K	Koktuh Hills	3.70	11		Pn	02 58 43.1	+0.2
O18K	Koktuh Hills	3.70	11	IAML		02 59 49.0	
	comp=E,113nm,0.9s						
O18K	Koktuh Hills	3.70	11	P	Pn	02 58 43.3	+0.4
	baz=192						
P19K	Oil Pt	3.87	26		Pn	02 58 45.3	+0.1
P19K	Oil Pt	3.87	26	IAML		02 59 40.2	
	comp=N,100nm,0.6s						
P19K				IAML		03 00 28.8	
	comp=E,88nm,0.7s						
P19K	Oil Pt	3.87	26	P	Pn	02 58 45.3	+0.1
	baz=209						
O14K	Tigyukauivet M	3.91	322	Pn	Pn	02 58 46.1	+0.3
O14K				IAML		03 00 06.2	
	comp=E,89nm,0.9s						
O14K				IAML		03 00 06.4	
	comp=N,129nm,0.8s						
O14K	Tigyukauivet M	3.91	322	P	Pn	02 58 46.0	+0.3
	baz=139						
FALS	False Pass	4.10	253	P	Pn	02 58 48.1	-0.3
FALS	False Pass	4.10	253		Pn	02 58 48.7	+0.3
FALS	False Pass	4.10	253	P	Pn	02 58 48.7	+0.3
	baz=68						
IVE	Iliamna Volcan	4.24	25		Pn	02 58 50.3	-0.1
ISNN	Isanotski Nort	4.31	254		Pn	02 58 51.5	+0.3
N17K	Nushagak Hills	4.31	356		Pn	02 58 51.2	-0.1
N17K	Nushagak Hills	4.31	356	IAML		03 00 04.6	
	comp=E,65nm,0.8s						
N17K				IAML		03 00 08.0	
	comp=N,59nm,0.8s						
N17K	Nushagak Hills	4.31	356	P	Pn	02 58 51.1	-0.1
	baz=176						
ISLZ	Isanotski Laza	4.31	252		Pn	02 58 51.5	+0.2
N15K	Kwethluk River	4.34	336	Pn	Pn	02 58 52.2	+0.4
N15K				IAML		03 00 10.8	
	comp=N,130nm,0.8s						
N15K				IAML		03 00 15.2	
	comp=E,145nm,1.0s						
N15K	Kwethluk River	4.34	336	P	Pn	02 58 52.3	+0.6
	baz=154						
CNPM	China Poot	4.37	39		Pn	02 58 52.2	+0.2
CNPM	China Poot	4.37	39	IAML		03 00 25.2	
	comp=E,60nm,1.4s						
N16K	Nishlik Lake	4.39	346		Pn	02 58 52.8	+0.4
N16K	Nishlik Lake	4.39	346	P	Pn	02 58 52.8	+0.4
	baz=164						
O20K	Slope Mountain	4.39	27		Pn	02 58 53.3	+0.8
O20K	Slope Mountain	4.39	27	P	Pn	02 58 53.3	+0.8
	baz=210						
N18K	Kilae Creek	4.47	5		Pn	02 58 53.6	+0.2
N18K	Kilae Creek	4.47	5	IAML		03 00 11.8	
	comp=N,61nm,1.0s						
N18K				IAML		03 00 13.2	
	comp=E,97nm,1.4s						
N18K	Kilae Creek	4.47	5	P	Pn	02 58 53.8	+0.3
	baz=185						
SSLS	Shishaldin Sou	4.47	253		Pn	02 58 53.9	+0.3
N14K	Kuskokwak Cree	4.56	326		Pn	02 58 55.2	+0.5
N14K	Kuskokwak Cree	4.56	326	P	Pn	02 58 55.2	+0.5
	baz=142						
BRSE	Bradley Lake S	4.70	39		Pn	02 58 56.3	-0.3
BRSE	Bradley Lake S	4.70	39	P

baz=137
SPU Mount Spurr 5.49 24 Pn 02 59 08.2 +0.7
L16K Owhat River 5.68 346 Pn 02 59 09.8 -0.2
L16K Owhat River 5.68 346 P Pn 02 59 09.9 -0.1
baz=164
M19K Big River Lodg 5.79 11 Pn 02 59 11.9 +0.4
M19K Big River Lodg 5.79 11 P Pn 02 59 12.0 +0.4
baz=192
M20K Styx River 5.93 16 Pn 02 59 13.7 +0.1
M20K Styx River 5.93 16 P Pn 02 59 13.7 +0.1
baz=199
L17K Donlin 5.97 352 Pn 02 59 13.9 -0.1
L17K Donlin 5.97 352 P Pn 02 59 13.9 -0.1
baz=171
L18K Granite Mounta 6.00 360 Pn Pn 02 59 14.5 +0.2
L18K Granite Mounta 6.00 360 P Pn 02 59 14.4 +0.1
baz=180
L15K Ungalak Mounta 6.00 337 Pn 02 59 14.4 0.0
L15K Ungalak Mounta 6.00 337 P Pn 02 59 14.4 0.0
baz=153
L14K Kuka Creek 6.00 331 Pn Pn 02 59 14.6 +0.2
L14K Kuka Creek 6.00 331 P Pn 02 59 14.6 +0.2
baz=146
L19K White Mountain 6.03 8 Pn 02 59 15.4 +0.6
L19K White Mountain 6.03 8 P Pn 02 59 15.4 +0.6
baz=189
RC01 Rabbit Creek A 6.04 34 Pn 02 59 14.5 -0.4
RC01 Rabbit Creek A 6.04 34 P Pn 02 59 14.5 -0.4
baz=219
SUA Susitna One 6.05 28 Pn 02 59 15.5 +0.2
SUA Susitna One 6.05 28 P Pn 02 59 15.2 -0.1
baz=213
P23K Montague Islan 6.16 49 Pn 02 59 15.2 -1.4
P23K Montague Islan 6.16 49 P Pn 02 59 16.3 -0.4
baz=236
UNV Unalaska Valle 6.17 251 P Pn 02 59 16.7 0.0
MSW Makushin Switc 6.29 252 Pn 02 59 18.3 -0.1
MID Middleton Isla 6.35 56 P Pn 02 59 19.4 +0.2
L20K Farewell, AK 6.41 11 Pn 02 59 20.8 +0.8
L20K Farewell, AK 6.41 11 P Pn 02 59 20.8 +0.8
baz=194
K17K Iditarod 6.55 353 Pn Pn 02 59 21.7 -0.2
K17K Iditarod 6.55 353 P Pn 02 59 22.1 +0.2
baz=172
K15K Wolf Creek Mou 6.57 340 Pn Pn 02 59 23.1 +0.9
K15K Wolf Creek Mou 6.57 340 P Pn 02 59 23.1 +0.9
baz=155
HIN Hinchinbrook I 6.76 48 Pn 02 59 23.7 -1.2
FID Port Fidalgo 6.97 45 Pn 02 59 26.0 -1.7
SML Sawmill 7.03 34 Pn 02 59 27.8 -0.7
SML Sawmill 7.03 34 P Pn 02 59 28.0 -0.5
baz=221
K13K Kusilvak Mount 7.04 327 Pn 02 59 29.2 +0.5
K13K Kusilvak Mount 7.04 327 P Pn 02 59 29.2 +0.5
baz=141
EYAK Cordova Ski Ar 7.16 48 P Pn 02 59 30.4 +0.2
J18K Innoko River 7.25 360 Pn Pn 02 59 31.6 +0.2
J18K Innoko River 7.25 360 P Pn 02 59 31.6 +0.2
baz=180
K20K Telida 7.25 9 Pn 02 59 32.2 +0.6
K20K Telida 7.25 9 P Pn 02 59 32.2 +0.6
baz=191
J17K VABM Dome 7.28 351 Pn Pn 02 59 31.7 -0.2
J17K VABM Dome 7.28 351 P Pn 02 59 31.9 -0.1
baz=169
J16K Anvik River 7.34 346 Pn Pn 02 59 32.6 -0.1
J16K Anvik River 7.34 346 P Pn 02 59 32.6 -0.1
baz=162
SCM Sheep Creek Mo 7.37 37 Pn 02 59 32.4 -0.8
SCM Sheep Creek Mo 7.37 37 P Pn 02 59 32.4 -0.8
baz=224
J14K Nanvaranak Lak 7.41 334 Pn 02 59 34.3 +0.6
J14K Nanvaranak Lak 7.41 334 P Pn 02 59 33.9 +0.1
baz=149
RAGM Ragged Mountai 7.53 52 Pn 02 59 35.6 +0.2
CAST Castle Rocks 7.55 16 Pn 02 59 35.9 +0.3
CAST Castle Rocks 7.55 16 P Pn 02 59 35.9 +0.3
baz=200
SPIA Saint Paul Isl 7.56 283 P Pn 02 59 37.1 +1.4
KLU Klutina 7.64 42 Pn 02 59 36.4 -0.5
KLU Klutina 7.64 42 P Pn 02 59 36.4 -0.5
baz=231
WAT7 Susitna Watana 7.69 28 Pn 02 59 36.2 -1.5
J19K Poorman 7.79 3 Pn 02 59 39.0 +0.1
J19K Poorman 7.79 3 P Pn 02 59 39.0 +0.1
baz=184
WAT6 Susitna Watana 7.80 32 Pn 02 59 37.7 -1.4
WAT6 Susitna Watana 7.80 32 P Pn 02 59 37.7 -1.4
baz=219
NIKH Nikolski High 7.82 250 P Pn 02 59 41.5 +2.1
J20K Nowinta River 8.05 8 Pn 02 59 42.8 +0.3
J20K Nowinta River 8.05 8 P Pn 02 59 42.9 +0.4
baz=190
DHY Denali Highway 8.29 30 Pn 02 59 44.2 -1.6
DHY Denali Highway 8.29 30 P Pn 02 59 44.7 -1.2
baz=218
BPAW Bear Paw Mtn. 8.36 17 Pn Pn 02 59 45.8 -0.9
BPAW Bear Paw Mtn. 8.36 17 P Pn 02 59 45.6 -1.2
baz=202
BARK Barkley Ridge 8.52 55 Pn 02 59 48.7 -0.2
BAGL Bagley Icefiel 8.74 55 Pn 02 59 51.4 -0.4
KIAG Kiagna River 8.79 52 Pn 02 59 52.5 -0.3
BALM Baldy 8.85 51 Pn 02 59 53.1 -0.4
H16K Elim 8.86 344 Pn 02 59 54.4 +0.8
H16K Elim 8.86 344 P Pn 02 59 53.9 +0.3
baz=159
H17K Granite Mounta 8.87 351 Pn 02 59 54.2 +0.6
H17K Granite Mounta 8.87 351 P Pn 02 59 53.7 0.0
baz=168
H18K Honhosa River 8.98 355 Pn 02 59 55.5 +0.3
H18K Honhosa River 8.98 355 P Pn 02 59 55.3 +0.1
baz=174
GRNC Granite Creek 8.98 54 Pn 02 59 55.2 -0.2
NEA2 Nenana 9.16 21 Pn 02 59 55.9 -1.8
WRH Wood River Hil 9.26 24 Pn 02 59 56.5 -2.5
MLY Manley 9.27 16 Pn Pn 02 59 58.4 -0.8
M26K Nabesna, AK 9.29 43 Pn Pn 03 00 01.0 +1.5
H19K Roundabout Mou 9.32 0 Pn 02 59 59.0 -0.7
H19K Roundabout Mou 9.32 0 P Pn 02 59 59.0 -0.7
baz=180
H20K Anotleneega Mo 9.32 4 Pn 02 59 59.8 0.0
H20K Anotleneega Mo 9.32 4 P Pn 02 59 59.8 0.0
baz=186
ANM Nome 9.39 336 Pn 03 00 01.5 +0.8
ANM Nome 9.39 336 P Pn 03 00 01.5 +0.8
baz=149
CCB Clear Creek Bu 9.48 24 Pn 02 59 59.2 -2.7
HDA Harding Lake 9.48 26 Pn 02 59 59.9 -2.1
HDA Harding Lake 9.48 26 P Pn 02 59 59.8 -2.1
baz=215
G17K Kiwalik Mounta 9.49 350 Pn 03 00 02.6 +0.5
G17K Kiwalik Mounta 9.49 350 P Pn 03 00 02.6 +0.5
baz=166
G15K Niukluk 9.50 341 Pn 03 00 03.2 +1.0
G15K Niukluk 9.50 341 P Pn 03 00 02.5 +0.3
baz=154
G16K Koyuk River 9.59 345 Pn 03 00 04.2 +0.7
I23K Minto, Yukon-K 9.61 19 Pn 03 00 01.7 -2.0
I23K Minto, Yukon-K 9.61 19 P Pn 03 00 01.7 -2.0
baz=205
H21K Melozitna Rive 9.62 9 Pn Pn 03 00 04.5 +0.6
H21K Melozitna Rive 9.62 9 P Pn 03 00 04.2 +0.3
baz=193
MDM Murphy Dome 9.66 22 Pn 03 00 02.0 -2.4
O28M Mount Upton 9.71 55 Pn 03 00 05.1 -0.3
O28M Mount Upton 9.71 55 P Pn 03 00 05.1 -0.3
baz=249
G18K Tagagawik 9.73 355 Pn 03 00 06.1 +0.6
G18K Tagagawik 9.73 355 P Pn 03 00 05.6 +0.2
baz=173
PNL Peninsula 9.77 62 P Pn 03 00 06.4 +0.4
IL31 9.79 25 Pn 03 00 03.5 -2.7
ILAR Eielson Array 9.79 25 Pn Pn 03 00 03.5 -2.8
comp=N,0.8nm,0.3s,baz=214,slow=13,SNR=39
ILAR Sn Sn 03 01 44.7 -10
comp=N,0.3nm,0.3s,baz=209,slow=9.1,SNR=1.5
IMAR Indian Mountai 9.87 7 Pn 03 00 07.8 +0.5
G19K Purcell Mounta 9.94 359 Pn Pn 03 00 08.3 +0.1
POKR Poker Plat Res 9.96 23 Pn 03 00 05.5 -3.1
POKR Poker Plat Res 9.96 23 P Pn 03 00 07.7 -0.9
baz=211
J25K Salcha River, 10.05 29 Pn Pn 03 00 08.3 -1.5
H23K Yukon River 10.20 17 Pn 03 00 09.6 -2.2
F15K North Star Dit 10.25 341 Pn 03 00 13.9 +1.3
G21K Allakaket 10.41 7 Pn 03 00 15.0 +0.3
J26L Joseph Creek 10.48 33 Pn Pn 03 00 14.8 -0.9
H24K Noodor Dome 10.50 20 Pn Pn 03 00 14.0 -2.0
F19K Shaleruckik Mo 10.64 358 Pn Pn 03 00 18.0 +0.2
PRP Porcupine Dome 10.74 25 Pn Pn 03 00 17.1 -2.1
F20K Avaraart Lake 10.85 2 Pn 03 00 21.1 +0.4
G23K Bananza Creek 10.96 14 Pn Pn 03 00 20.6 -1.6
ATKA Atka Island 11.05 256 P Pn 03 00 21.9 -1.5
F21K Alatna River 11.12 6 Pn 03 00 24.7 +0.4
M29M Somme Creek 11.13 49 Pn Pn 03 00 24.6 0.0
I26K Coal Creek Min 11.19 30 Pn 03 00 23.6 -1.8
E19K Redstone River 11.26 359 Pn 03 00 27.1 +0.8
E18K Tukpahlearik C 11.37 352 Pn Pn 03 00 28.5 +0.7
I28M Miner Creek 12.25 34 Pn Pn 03 00 39.1 -0.8
E21K Killik River 12.30 5 Pn 03 00 40.1 -0.4
D19K Kuna River 12.32 357 Pn Pn 03 00 41.9 +1.2
ADK Adak 12.55 258 P Pn 03 00 42.5 -1.5
F28M Old Crow 13.79 28 Pn Pn 03 01 01.2 +0.4
G29M Pine Creek 13.81 32 Pn Pn 03 01 00.9 -0.1
B20K Meade River 13.82 359 Pn 03 01 00.5 -0.6
EPYK Eagle Plains 13.86 35 Pn Pn 03 01 03.2 +1.5
D25K Kavik River 13.90 15 Pn Pn 03 01 03.3 +1.0
G30M tAoh Zraii Nji 14.40 33 Pn Pn 03 01 06.6 -2.2
DLBC Dease Lake 14.49 70 LR LR 03 07 02.2
comp=N,68nm,18.3s,baz=276,slow=38
E29M Blow River 14.87 28 Pn Pn 03 01 12.8 -2.2
G31M Satah River 14.98 35 Pn Pn 03 01 15.5 -0.8
INK Inuvik 16.03 32 Pn Pn 03 01 28.7 -1.1
INK IAmb IAmb 03 01 34.2
comp=Z,7.5nm,0.5s
INK Inuvik 16.03 32 Pn Pn 03 01 29.1 -0.8
comp=Z,2.0nm,0.3s,baz=203,slow=7.6,SNR=28
comp=Z,6.4nm,0.4s
J05D Fort Rock, OR 25.95 105 P P 03 03 16.2 +0.6
J05D IAmb IAmb 03 03 20.6
comp=Z,9.1nm,0.9s
WVOR Wild Horse Val 27.93 103 P P 03 03 34.5 +1.1
BPMT Black Pine Rid 28.26 92 P P 03 03 37.4 +1.0
LYMT Lyon Mountain 28.59 90 P P 03 03 41.0 +1.7
PAHR Pah Rah Range 29.45 108 P P 03 03 48.3 +1.4
ELK Elko 30.94 102 P P 03 04 01.5 +1.3
ELK IAmb IAmb 03 04 03.8
comp=Z,2.7nm,0.9s
NVAR Mina Array Bea 30.95 109 P P 03 04 03.6 +3.3
comp=Z,2.1nm,0.8s,baz=299,slow=8.4,SNR=12
comp=Z,2.1nm,0.8s
R11B Troy Canyon, C 32.46 106 P P 03 04 15.9 +2.4
R11B IAmb IAmb 03 04 17.0
comp=Z,3.3nm,0.7s
PDAR Pinedale Array 32.72 94 P P 03 04 17.9 +2.1
comp=Z,0.9nm,0.6s,baz=309,slow=9.4,SNR=6.6
comp=Z,0.9nm,0.6s
PRN Pahroc Range 33.44 107 P P 03 04 23.2 +1.2
PRN IAmb IAmb 03 04 25.9
comp=Z,5.9nm,1.0s
BSUT Blindstream Ca 33.55 98 P P 03 04 23.9 +0.8
BSUT IAmb IAmb 03 04 26.7
comp=Z,3.3nm,0.8s
SRU San Rafael Swe 34.67 100 P P 03 04 34.3 +1.6
O20A White River Ci 35.22 96 P P 03 04 38.6 +1.2
O20A IAmb IAmb 03 04 40.9
comp=Z,5.7nm,0.8s
HMU Henry Mountain 35.39 101 P P 03 04 40.2 +1.2
ULM Lac du Bonnet 35.78 73 P P 03 04 42.9 +1.0
comp=Z,1.1nm,0.4s,baz=343,slow=11,SNR=2.3
comp=Z,1.1nm,0.4s
MVCO Mesa Verde 37.14 100 P P 03 04 55.1 +1.2
MVCO IAmb IAmb 03 04 56.6
comp=Z,3.3nm,0.8s
SDCO Great Sand Dun 38.41 97 P P 03 05 05.4 +0.7
VHRN Van Horn 43.88 103 P P 03 05 50.2 +0.7
VHRN IAmb IAmb 03 05 52.7
comp=Z,7.0nm,1.4s
SUMG Summit 44.62 22 *i* P P 03 05 54.0 -1.2
SGCY Sterling City 45.13 99 P P 03 06 00.7 +1.4
TX31 Lajitas Ar. Si 45.73 103 P P 03 06 05.3 +1.1
TXAR Lajitas Array 45.73 103 P P 03 06 06.5 +2.4
comp=Z,1.1nm,0.7s,baz=311,slow=5.4,SNR=20
comp=Z,1.1nm,0.7s
SPITS Spitsbergen Ar 45.77 2 P P 03 06 02.9 -0.8
comp=Z,2.5nm,0.4s,baz=26,slow=5.9,SNR=15
comp=Z,2.5nm,0.4s
OZNA Ozona 45.89 99 P P 03 06 06.7 +1.3
OZNA IAmb IAmb 03 06 07.5
comp=Z,4.1nm,0.5s
NRIK Noril'sk 46.42 334 P P 03 06 07.9 -1.0
comp=Z,5.6nm,0.6s,baz=43,slow=6.8,SNR=6.3
comp=Z,5.6nm,0.6s
JCT Junction City 46.96 99 P P 03 06 15.2 +1.5
MJAR Matsushiro Arr 47.11 274 P P 03 06 14.1 -0.7
comp=Z,0.9nm,0.6s,baz=40,slow=6.8,SNR=3.3
comp=Z,0.9nm,0.6s
DRIO Del Rio 47.32 100 P P 03 06 17.8 +1.2
DRIO IAmb IAmb 03 06 18.2
comp=Z,3.1nm,0.7s
WVT Waverly 49.42 84 P P 03 06 32.4 -0.1
WVT IAmb IAmb 03 06 49.5
comp=Z,3.9nm,0.9s
KSRS Korea Array 52.12 283 P P 03 06 52.7 -0.1
comp=Z,1.7nm,0.7s,baz=43,slow=6.9,SNR=8.1
comp=Z,1.7nm,0.7s
ARCES ARCESS Array B 54.52 359 P P 03 07 08.7 -1.3
comp=Z,1.9nm,0.8s,baz=13,slow=7.4,SNR=13
comp=Z,1.9nm,0.8s
ULN Ulaanbaatar 55.11 305 P P 03 07 14.2 -0.5
ULN IAmb IAmb 03 07 14.8
comp=Z,3.0nm,0.7s
SONM Songino Array 55.43 306 P P 03 07 16.9 -0.1
SONM Songino Array 55.43 306 P P 03 07 17.0 -0.1
comp=Z,6.2nm,0.6s,baz=46,slow=6.8,SNR=49
comp=Z,6.2nm,0.6s
NC204 NORSAR Array S 62.40 7 P P 03 08 05.2 +0.2
NC405 NORSAR Array S 62.62 6 P P 03 08 06.4 -0.1
NC405 IAmb IAmb 03 08 07.1
comp=Z,4.4nm,0.9s
FINES FINESS Array B 62.63 359 P P 03 08 05.5 -1.0
comp=Z,2.6nm,0.8s,baz=6.7,slow=7.6,SNR=13
comp=Z,2.6nm,0.8s
NB2 NORSAR Subarra 62.66 7 P P 03 08 06.4 -0.4
comp=Z,1.6nm,0.7s,baz=354,slow=6.9
NOA NORSAR Array B 62.66 7 P P 03 08 06.4 -0.4
comp=Z,2.2nm,0.7s,baz=353,slow=6.7,SNR=18
comp=Z,2.2nm,0.7s
HFS Hagfors 63.71 5 P P 03 08 13.2 -0.4
comp=Z,2.5nm,0.6s,baz=19,slow=5.0,SNR=17
comp=Z,2.5nm,0.6s
BVAR Borovoye Array 64.45 331 P P 03 08 17.5 -1.1
comp=Z,1.0nm,0.5s,baz=31,slow=7.2,SNR=6.6
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 66.12 320 P P 03 08 28.4 -1.1
comp=Z,0.5nm,0.5s,baz=39,slow=7.8,SNR=5.6
comp=Z,0.5nm,0.5s
EKA Eskdalemuir Ar 66.70 16 P P 03 08 33.7 +0.7
comp=Z,3.5nm,0.5s,baz=336,slow=4.8,SNR=34
comp=Z,3.5nm,0.5s
CLL Collm 72.47 7 *i* P P 03 09 08.7 +0.1
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 73.31 356 P P 03 09 12.7 -0.9
comp=Z,5.0nm,0.4s,baz=8.2,slow=5.7,SNR=18
comp=Z,5.0nm,0.4s
KIEV Kiev 73.32 356 ⇑P P 03 09 12.5 -1.2
CHVC Chvalec 73.36 5 *e*P P 03 09 14.6 +0.6
DPC Dobruska-Polom 73.61 5 *e*P P 03 09 16.1 +0.6
KRLC Kraliky 73.91 4 *e*P P 03 09 17.6 +0.4
MORC Moravsky Berou 74.24 4 *e*P P 03 09 19.0 -0.1
ZVC Zvikov 74.41 6 *e*P P 03 09 20.8 +0.7
MAUC Maruska 74.66 4 *e*P P 03 09 21.9 +0.3
VRAC Vranov 74.66 5 *e*P P 03 09 21.7 +0.1
KHC Kasperske Hory 74.68 7 *e*P P 03 09 22.6 +0.9
KRUC Moravsky 74.90 5 *e*P P 03 09 22.4 -0.5
GERES GERESS Array B 74.97 7 P P 03 09 24.0 +0.6
comp=Z,1.4nm,0.6s,baz=343,slow=4.2,SNR=6.9
comp=Z,1.4nm,0.6s
CKRC Cesky Krumlov 75.03 6 *e*P P 03 09 23.9 +0.2
JAVC Velka Javorina 75.16 4 *e*P P 03 09 25.5 +1.0
SORM Soroca 75.91 357 ⇑P P 03 09 27.7 -1.0
MOA Molln 76.00 6 *i* P P 03 09 29.3 +0.1
comp=Z,1.6nm,0.6s
CONA Conrad Observa 76.01 5 *i* P P 03 09 29.9 +0.5
comp=Z,2.7nm,0.6s
RETA Reutte 76.10 9 *i* P P 03 09 30.4 +0.4
comp=Z,3.7nm,1.5s
BIOA Bad Ischl, Aus 76.11 7 *e*P P 03 09 30.3 +0.4
comp=Z,1.5nm,0.5s
DAVA Damuels 76.22 9 *e*P P 03 09 31.2 +0.5
comp=Z,3.1nm,0.8s
LESA Schwarzleotal 76.31 7 *i* P P 03 09 31.6 +0.4
comp=Z,1.7nm,0.5s
WATA Walderalm 76.32 8 *e*P P 03 09 31.6 +0.3
comp=Z,2.5nm,0.5s
WTTA Wattenberg 76.39 8 *i* P P 03 09 32.1 +0.3
comp=Z,5.1nm,0.8s
SQTA Sankt Quirin 76.40 9 *e*P P 03 09 32.5 +0.8
comp=Z,6.6nm,1.0s
FETA Feichten 76.56 9 *i* P P 03 09 33.6 +1.0
comp=Z,5.4nm,1.1s
KBA Koelnbreinsper 76.70 7 *i* P P 03 09 34.6 +1.1
comp=Z,5.0nm,0.5s
ABTA Abfaltersbach 76.97 8 *e*P P 03 09 35.9 +0.9
comp=Z,6.9nm,1.5s
SOKA Soboth 77.21 6 *e*P P 03 09 36.7 +0.5
comp=Z,2.4nm,1.1s
DRGR 77.33 0 ⇑P P 03 09 36.8 -0.1
OBKA Obir 77.35 6 *i* P P 03 09 37.5 +0.5
comp=Z,8.1nm,0.5s
MARR Marisel-Cluj 77.45 0 ⇑P P 03 09 35.0 -2.6
ONER Baraj Valea Uz 77.76 358 ⇓P P 03 09 40.0 +0.8
MORH Mrgy, Hungar 77.83 3 ⇑P P 03 09 40.2 +0.6
SIRR Siria 77.85 1 ⇑P P 03 09 40.0 +0.3
OZUR 78.01 358 ⇑P P 03 09 41.1 +0.5
TURR Turia 78.05 358 ⇑P P 03 09 43.0 +2.1
DOPR Dopca 78.14 359 ⇓P P 03 09 42.3 +0.9
VRI Vrincioaia 78.22 358 ⇓P P 03 09 42.0 +0.2
PLOR Plostina 78.24 358 ⇑P P 03 09 41.6 -0.3
COVR Voineasa-Covas 78.25 358 ⇑P P 03 09 43.3 +1.3
SURR Surduc 78.37 1 ⇑P P 03 09 42.9 +0.3
MLR Muntele Rosu 78.61 358 ⇑P P 03 09 42.1 -2.0
VOIR 78.68 359 ⇑P P 03 09 45.1 +0.7
GZR Gura Zlata 78.73 0 ⇑P P 03 09 44.8 +0.2
ARR Arges 78.75 359 ⇑P P 03 09 48.6 +3.8
CFR Carcaliu 78.87 357 ⇑P P 03 09 45.2 -0.1
KBZ Khabaz 79.04 346 P P 03 09 47.2 +1.0
comp=Z,3.1nm,0.8s,baz=319,slow=4.6,SNR=5.5
comp=Z,3.1nm,0.8s
HERR Herculane 79.24 1 ⇑P P 03 09 47.3 0.0
TLBR Topalu 79.50 357 ⇑P P 03 09 48.6 -0.1
ESDC Sonseca Array 81.67 21 P P 03 10 01.8 +1.2
comp=Z,0.9nm,0.6s,baz=340,slow=4.9,SNR=13
comp=Z,0.9nm,0.6s
CMAR Chiang Mai Arr 82.59 292 P P 03 10 04.8 -0.8
comp=Z,2.0nm,0.5s,baz=16,slow=5.6,SNR=7.8
comp=Z,2.0nm,0.5s
BRTR Keskin Array B 84.00 352 P P 03 10 13.0 +0.2
comp=Z,3.6nm,0.8s,baz=24,slow=2.5,SNR=20
comp=Z,3.6nm,0.8s
QSPA South Pole Qui 146.03 180 PKPbc PKPdf 03 17 20.5 +0.8
comp=Z,1.0nm,0.8s,baz=319,slow=0.7,SNR=7.9

KRNET ***12*** *03:01:31.9±0.1, 39°.55N×71°.58E, h10km, mb3.1*
ISU ***12*** *03:01:31.9, 39°.59N×71°.58E, h3km*
SOME ***12*** *03:01:32.6, 39°.67N×71°.67E, h0km*
NNC ***12*** *03:01:33.9±3.0, 39°.53N×71°.23E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=25.4km s-min=15.2km az=25.0
ISC 12 03:01:31.4±1.0, 39°.62N±0°.03×71°.65E±0°.03, h9km±10km, n30, σ1.985/53, 17C-15D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.18**	**142**	⇓*e*P	**Pg**	**03 01 35.5**	**+0.2**
DRK				⇓*e*S	**Sg**	**03 01 38.0**	**-0.1**
FRG	**Fergana**	**0.76**	**8**	P	**Pn**	**03 01 48.3**	**0.0**
FRG				S	**Sn**	**03 02 00.7**	**+0.8**
BTK	**Batken**	**0.78**	**304**	⇑*i*P	**Pb**	**03 01 47.0**	**-0.1**
BTK				⇑*i*S	**Sb**	**03 01 58.0**	**+0.2**
GAR	**Garm**	**1.21**	**240**	⇑*i*P	**Pg**	**03 01 53.8**	**-0.8**
GAR				⇑*i*S	**Sg**	**03 02 09.2**	**-1.1**
SFK	**Sufi-Kurgan**	**1.48**	**74**	⇑*i*P	**Pg**	**03 02 01.6**	**+1.9**
SFK				⇑*i*S	**Sg**	**03 02 22.8**	**+3.9**
KSNS	**Kasansay**	**1.54**	**356**	P	**Pg**	**03 02 02.3**	**+1.4**
KSNS				S	**Sg**	**03 02 24.4**	**+3.6**
TRKS	**Terek-Say**	**1.94**	**349**	⇓*i*P	**Pg**	**03 02 08.2**	**-0.5**
TRKS				⇓*i*S	**Sg**	**03 02 34.2**	**+0.3**
ARSB	**Arslanbob**	**1.98**	**30**	⇑*e*P	**Pg**	**03 02 09.8**	**+0.5**
ARSB				⇑*e*S	**Sg**	**03 02 37.7**	**+2.7**
CHGR	**Chuyangaron**	**2.17**	**244**	⇑*i*P	**Pb**	**03 02 10.3**	**-0.5**
CHGR				⇑*i*S	**Sb**	**03 02 37.8**	**-0.1**
ARK	**Arkit**	**2.19**	**6**	⇓*i*P	**Pg**	**03 02 12.9**	**-0.4**
ARK				⇓*i*S	**Sg**	**03 02 42.4**	**+0.8**
CHMG	**Chimgan**	**2.30**	**327**	P	**Pg**	**03 02 14.5**	**-0.9**
CHMG				S	**Sg**	**03 02 46.7**	**+1.5**
MNAS	**Manas**	**2.93**	**12**	⇓*i*P	**Pb**	**03 02 23.3**	**-0.6**
MNAS				⇓*i*S	**Sb**	**03 03 00.4**	**+0.4**
ARLS	**Aral**	**3.02**	**41**	⇓*i*P	**Pb**	**03 02 24.6**	**-0.8**
ARLS				⇓*i*S	**Sb**	**03 03 02.7**	**+0.3**
MRKS	**Merke**	**3.34**	**20**	*e*P	**Pg**	**03 02 34.1**	**-1.2**
MRKS				*e*S	**Sg**	**03 03 18.0**	**-0.6**
UCH	**Uchtor**	**3.39**	**39**	⇑*i*P	**Pb**	**03 02 29.9**	**-1.9**
UCH				⇑*i*S	**Sb**	**03 03 11.9**	**-1.4**
KK31	**Karatay Array**	**3.58**	**346**	⇓Pn	**Pb**	**03 02 32.0**	**-2.9**
KK31				⇓Pg	**Pg**	**03 02 39.4**	**-0.7**
KK31				⇑Sn	**Sb**	**03 03 15.7**	**-2.8**
KK31				⇑Lg	Lg	03 03 28.2	
KKAR	**Karatay Array**	**3.58**	**346**	⇓*i*P	**Pb**	**03 02 31.9**	**-3.0**
KKAR				⇓*i*S	**Sb**	**03 03 15.2**	**-3.3**
BRLS	**Borolday**	**3.67**	**339**	*e*P	**Pb**	**03 02 37.2**	**+0.8**
BRLS				*e*S	**Sb**	**03 03 23.2**	**+2.2**
BRLS	**Borolday**	**3.67**	**339**	Lg	Lg	03 03 25.3	
AAK	**Ala-Archa**	**3.70**	**35**	⇑Pn	**Pb**	**03 02 36.5**	**-0.5**
AAK				⇑Pg	**Pg**	**03 02 45.4**	**+3.2**
AAK				⇑Lg	Lg	03 03 36.0	
SGDS	**Sogindy**	**4.43**	**29**	Pg	**Pg**	**03 02 54.6**	**-1.7**
SGDS				Lg	Lg	03 03 53.6	
TKM2	**Tokmak 2**	**4.44**	**41**	Pn	**Pb**	**03 02 45.6**	**-4.0**
KST	**Kastek**	**4.71**	**42**	*e*P	**Pg**	**03 02 60.0**	**-1.6**
KST				*e*S	**Sg**	**03 04 02.3**	**-0.3**
DGS	**Degeres**	**4.76**	**39**	*e*P	**Pg**	**03 03 00.9**	**-1.6**
DGS				*e*S	**Sg**	**03 04 04.8**	**+0.6**
DGS	**Degeres**	**4.76**	**39**	Pg	**Pg**	**03 03 00.9**	**-1.6**
DGS				Lg	Lg	03 04 04.8	
KRBS	**Karabastau**	**5.06**	**35**	*e*P	**Pg**	**03 03 06.2**	**-2.1**
KRBS				*e*S	**Sg**	**03 04 13.9**	**0.0**
KRBS	**Karabastau**	**5.06**	**35**	Pg	**Pg**	**03 03 06.2**	**-2.1**
KRBS				Lg	Lg	03 04 13.9	

KTBS	**Karatobe**	**5.55**	**41**	*e*P	**Pg**	**03 03 15.1**	**-2.7**
	1.4nm,0.6s						
KTBS				*e*S	**Sg**	**03 04 29.0**	**-0.7**
	6.5nm,0.4s						
KTBS	**Karatobe**	**5.55**	**41**	Pg	**Pg**	**03 03 15.0**	**-2.7**
	1.4nm,0.6s						
KTBS				Lg	Lg	03 04 29.0	
	6.5nm,0.4s						
AB31	**Akbulak array**	**12.74**	**323**	⇓P	**Pn**	**03 04 35.3**	**+2.6**
	0.2nm,0.4s,baz=130,slow=14,SNR=9.6						

IDC ***12*** *03:09:22.0±0.5,23°.43N×143°.83E,h0km,mb4.7/26, mbtmp4.7/30,ML3.8/4,MS4.3/66,Error ellipse: s-maj=16.9km s-min=12.7km az=68.0*
BJI ***12*** *03:09:22.1±0.0,23°.39N×144°.23E,h24km,mb4.8/59, mB5.1/30,Ms4.7/68,Ms7 4.6/67*
NEIC ***12*** *03:09:24.9±1.3,23°.55N±0°.07×143°.9E±0°.1,h10km±1km, mb5.1/382,Error ellipse: s-maj=16.3km s-min=12.2km az=80.0*
MOS ***12*** *03:09:24.8±0.9,23°.49N×143°.77E,h27km,mb5.1/58, MS4.8/11,Error ellipse: s-maj=8.8km s-min=4.2km az=114.5*
JMA ***12*** *03:09:27.9±0.8,24°.N±3°×14°.3E±°,h172km,MV4.9/14, IOTO ISLANDS REGION*
GCMT ***12*** *03:09:27.9±0.3,23°.61N±0°.02×143°.89E±0°.03,h18km±1km, MW5.0/83,Moment Tensor Solution. s31,c36; s83,c124; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.35±.16; Mθθ2.37±.12; Mφφ-1.02±.11; Mrθ-1.53±.26; Mφθ-0.70±.07; Mφr2.33±.41; Best double couple: M0 3.53400×10¹⁶ NP1:φs137.00000°,δ77.00000°,λ-59.00000°. NP2: φs248.00000°,δ33.00000°,λ-156.00000°. Principal axes: T 3.4720, Plg26.0000°, Azm203.0000°; N 0.1240, Plg30.0000°, Azm309.0000°; P -3.5960, Plg49.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 03:09:26.4±0.5,23°.51N±0°.04×143°.89E±0°.05,h24km±2km, h24km;pP-P,n862,σ1°.37/752,mb5.0/274,MS4.5/95, 14C-6D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.48**	**334**	*e*P		**Pn**	**ISC**	**03 10 18.8**	**-0.2**
JHH2				*e*S		**Sn**	**ISC**	**03 10 59.1**	**-0.4**
CBIJ	**Chichi jima**	**3.89**	**337**	*e*P		**Pn**	**ISC**	**03 10 23.9**	**-0.8**
CBIJ				*e*S		**Sn**	**ISC**	**03 11 07.2**	**-2.5**
JCJ	**Chichijima**	**3.89**	**337**			**Pn**	**ISC**	**03 10 24.1**	**-0.6**
JCJ				Sn		**Sn**	**ISC**	**03 11 08.3**	**-1.4**
JCJ	**Chichijima**	**3.89**	**337**	Pn		Pn	ISC	03 10 19.5	-5.3
	57nm,0.3s,baz=292,slow=21,SNR=24								
JCJ				Sn		**Sn**	**ISC**	**03 11 01.7**	**-8.0**
	148nm,0.3s,baz=275,slow=22,SNR=10								
GUMO	**Guam**	**9.91**	**174**	LR		LR	ISC	03 14 29.0	
	comp=Z,817nm,20.0s,baz=3.5,slow=31								
JHJ	**Hachijo jima 2**	**10.23**	**340**	Pn		**Pn**	**ISC**	**03 11 49.4**	**-2.4**
	3.8nm,0.3s,baz=82,slow=14,SNR=2.2								
JHJ				Sn		**Sn**	**ISC**	**03 13 38.9**	**-7.0**
	7.4nm,0.3s,baz=75,slow=19,SNR=2.1								
JHJ				LR		LR	ISC	03 14 44.7	
	comp=Z,312nm,18.9s,baz=282,slow=31								
	51nm,0.7s								
BSO1	**Boso 1**	**11.39**	**348**	*e*P		**Pn**	**ISC**	**03 12 05.6**	**-1.5**
JMZ	**Minamidaito 2**	**11.75**	**284**	Pn		**Pn**	**ISC**	**03 12 12.4**	**-0.1**
JOD2	**Odawara 2**	**12.44**	**341**	*e*P		**Pn**	**ISC**	**03 12 20.2**	**-1.8**
JIE	**Ise**	**12.53**	**332**	*e*P		**Pn**	**ISC**	**03 12 23.4**	**+0.1**
JRY	**Ryogami san**	**13.19**	**342**	*e*P		**Pn**	**ISC**	**03 12 30.1**	**-2.2**
INU	**Inuyama**	**13.23**	**335**	Pn		**Pn**	**ISC**	**03 12 32.7**	**0.0**
JGF	**Kuroka**	**13.32**	**336**	Pn		**Pn**	**ISC**	**03 12 33.0**	**-1.0**
JMN	**Monobe**	**13.44**	**321**	Pn		**Pn**	**ISC**	**03 12 35.1**	**-0.6**
MJAR	**Matsushiro Arr**	**13.89**	**341**	Pn		**Pn**	**ISC**	**03 12 40.3**	**-1.4**
	0.2nm,0.3s,baz=161,slow=11,SNR=18								
MJAR				LR		LR	ISC	03 17 59.1	
	comp=Z,650nm,19.1s,baz=144,slow=37								
	5.8nm,0.6s								
MAJO	**Matsushiro**	**13.89**	**341**	Pn		**Pn**	**ISC**	**03 12 39.4**	**-2.4**
MAJO	**Matsushiro**	**13.89**	**341**	P		**Pn**	**ISC**	**03 12 39.4**	**-2.4**
MJB9	**Matsu-Tunnel**	**13.89**	**341**	Pn		**Pn**	**ISC**	**03 12 40.3**	**-1.5**
JOW	**Kunigami**	**14.52**	**286**	Pn		**Pn**	**ISC**	**03 12 50.3**	**-0.1**
JOW	**Kunigami**	**14.52**	**286**	Pn		**P**		**03 12 57.2**	**+0.3**
	3.5nm,0.3s,baz=134,slow=9.0,SNR=9.3								
JOW				LR		LR	ISC	03 18 16.1	
	comp=Z,2μm,18.2s,baz=88,slow=37								
JMM	**Marumori**	**14.56**	**350**			**Pn**	**ISC**	**03 12 48.5**	**-2.3**
JNU	**Nakatsue**	**14.92**	**313**	Pn		**Pn**	**ISC**	**03 12 55.4**	**-0.5**
	0.3nm,0.3s,baz=151,slow=19,SNR=2.3								
JNU				LR		LR	ISC	03 18 17.4	
	comp=Z,827nm,18.4s,baz=129,slow=36								
	1.5nm,0.3s								
JMK	**Ichinoseki**	**15.56**	**352**	*e*P		**Pn**	**ISC**	**03 13 02.5**	**-1.8**
JTM	**Tenmabayashi**	**17.39**	**353**	Pn		**Pn**	**ISC**	**03 13 26.0**	**-1.4**
ERM	**Erimo**	**18.47**	**358**	P		**Pn**	**ISC**	**03 13 40.7**	**+0.1**
ERM				IAmb		IAmb	ISC	03 13 47.8	
	comp=Z,161nm,1.8s								
ERM	**Erimo**	**18.47**	**358**	*i* P		**Pn**	**ISC**	**03 13 40.6**	**0.0**
KSRS	**Korea Array**	**19.52**	**319**	P		**P**		**03 13 51.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=132,slow=10,SNR=23								
KSRS				LR		LR	ISC	03 21 18.7	
	comp=Z,2μm,18.5s,baz=130,slow=37								
	comp=Z,12nm,1.0s								
KSAR	**Wonju Array Be**	**19.54**	**319**	P		**P**		**03 13 51.8**	**-0.4**
KSAR	**Wonju Array Be**	**19.54**	**319**	P		**P**		**03 13 51.8**	**-0.4**
KS19	**Wonju Array Si**	**19.59**	**319**	P		**P**		**03 13 51.8**	**-1.0**
NACB	**Ninganchiao**	**20.41**	**276**	P		**P**		**03 14 01.4**	**-0.4**
ASAJ	**Asahikawa**	**20.58**	**357**	P		Pn	ISC	03 14 05.6	-0.3
	comp=Z,15nm,0.5s,baz=223,slow=20,SNR=16								
ASAJ	**Asahikawa**	**20.58**	**357**	P		**P**		**03 14 03.4**	**-0.2**
ASAJ				pmax		pmax			
	comp=Z,29nm,0.8s								
JKA	**Kamikawa-asahi**	**20.58**	**357**	P		**P**		**03 14 03.4**	**-0.1**
SSLB	**Suanglung**	**21.01**	**275**	P		**P**		**03 14 07.9**	**-0.5**
SSLB				IAmb		IAmb		03 14 20.6	
	comp=Z,44nm,0.7s								
H11N1	**WAKE ISLAND Hy**	**21.71**	**96**	T		T		03 36 50.6	
	baz=283,slow=74,SNR=10								
H11N2	**WAKE ISLAND Hy**	**21.71**	**96**	T		T		03 36 50.2	
	baz=283,slow=74,SNR=7.2								
H11N3	**WAKE ISLAND Hy**	**21.73**	**96**	T		T		03 36 55.4	
	baz=283,slow=74,SNR=6.5								
MSHR	**Mys Shultsa**	**21.76**	**334**	*ce*P		**P**		**03 14 16.6**	**+0.3**
MSHR				pmax		pmax			
	comp=Z,29nm,1.7s								
H11S3	**WAKE ISLAND Hy**	**21.85**	**99**	T		T		03 37 14.2	
	baz=290,SNR=5.0								
H11S1	**WAKE ISLAND Hy**	**21.86**	**99**	T		T		03 37 06.9	
	baz=290								
H11S2	**WAKE ISLAND Hy**	**21.87**	**99**	T		T		03 37 07.4	
	baz=290								
VLA	**Vladivostok**	**21.94**	**336**	*i* P		**P**		**03 14 18.6**	**+0.5**
VLA				pmax		pmax			
	comp=Z,20nm,0.9s								
PSTR	**Posyet**	**21.97**	**333**	*i* P		**P**		**03 14 18.9**	**+0.5**
TEY	**Ternei**	**22.29**	**346**	⇑*e*P		**P**		**03 14 22.5**	**+0.7**
TEY				*e*				03 18 28.8	
TEY				pmax		pmax			
	comp=Z,10.0nm,1.7s								
TEY				pmax		pmax			
	comp=N,10.0nm,1.5s								
USA0B	**Ussuriysk Arra**	**22.84**	**338**	P		**P**		**03 14 26.2**	**-1.5**
USA0B				IAmb		IAmb		03 14 30.6	
	comp=Z,108nm,1.6s								
USA0B	**Ussuriysk Arra**	**22.84**	**338**	*i* P		**P**		**03 14 27.0**	**-0.7**
USRK	**Ussuriysk Ar.**	**22.84**	**338**	P		**P**		**03 14 27.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**22.84**	**338**	P		**P**		**03 14 27.5**	**-0.2**
	comp=Z,10nm,0.6s,baz=148,slow=11,SNR=40								
	comp=Z,10nm,0.6s								
USRK	**Ussuriysk Ar.**	**22.84**	**338**	P		**P**		**03 14 27.2**	**-0.5**
QZH	**Quanzhou**	**23.11**	**279**	P		**P**		**03 14 28.9**	**-1.8**
QZH				S		**S**		**03 18 37.2**	**-3.5**
QZH				LR		LR			
	comp=Z,950nm,19.2s								
YSS	**Yuzh-Sakhalins**	**23.41**	**358**	P		**P**		**03 14 32.9**	**-0.6**
YSS	**Yuzh-Sakhalins**	**23.41**	**358**	*d* *i*P		**P**		**03 14 34.2**	**+0.7**
YSS				pmax		pmax			
	comp=Z,30nm,0.6s								
YSS				pmax		pmax			
	comp=Z,600nm,3.4s								
YSS				pmax		pmax			
	comp=N,400nm,3.1s								
YSS				pmax		pmax			
	comp=E,200nm,2.9s								
YSS				MLR		MLR			
	comp=Z,500nm,12.0s								
NJ2	**Nanjing**	**23.69**	**297**	*e*P		**P**		**03 14 37.1**	**+0.7**
NJ2				S		**S**		**03 18 50.6**	**+0.6**
NJ2				pmax		pmax			
	comp=Z,18nm,0.5s								
NJ2				pmax		pmax			
	comp=Z,350nm,3.7s								
NJ2				LR		LR			
	comp=Z,660nm,14.2s								
NJ2				LR		LR			
	comp=Z,1μm,15.2s								
NJ2				LR		LR			
	comp=Z,2μm,16.3s								
DAV	**Davao City (W)**	**24.01**	**230**	LR		LR		03 22 19.5	
	comp=Z,2μm,20.7s,baz=66,slow=32								
MDJ	**Mudanjiang**	**24.09**	**334**	P		**P**		**03 14 41.1**	**+1.1**
MDJ				PP		**PnPn**		**03 15 10.9**	**+1.4**
MDJ				SS		**SnSn**		**03 19 49.5**	**+11**
MDJ				pmax		pmax			
	comp=Z,39nm,1.4s								
MDJ				pmax		pmax			
	comp=Z,460nm,4.1s								
MDJ				LR		LR			
	comp=Z,1μm,15.8s								
MDJ				LR		LR			
	comp=Z,1μm,13.4s								
MDJ				LR		LR			
	comp=Z,1μm,16.8s								
MDJ	**Mudanjiang**	**24.09**	**334**	P		**P**		**03 14 38.3**	**-1.7**
DL2	**Dalian**	**24.36**	**314**	P		**P**		**03 14 45.5**	**+2.9**
DL2				pmax		pmax			
	comp=Z,61nm,1.2s								
DL2				pmax		pmax			
	comp=Z,350nm,8.2s								
DL2				LR		LR			
	comp=Z,1μm,18.9s								
DL2				LR		LR			
	comp=Z,1μm,14.3s								
DL2				LR		LR			
	comp=Z,2μm,15.0s								
CN2	**Changchun**	**25.30**	**328**	P		**P**		**03 14 51.3**	**+0.3**
CN2				pmax		pmax			
	comp=Z,10.0nm,1.1s								
CN2				LR		LR			
	comp=Z,1μm,14.0s								
CN2				LR		LR			
	comp=Z,2μm,14.0s								
CN2				LR		LR			
	comp=Z,2μm,15.0s								
UGL	**Uglegorsk**	**25.56**	**357**	*e*P		**P**		**03 14 56.7**	**+3.4**
UGL				pmax		pmax			
	comp=Z,550nm,3.0s								
UGL				pmax		pmax			
	comp=Z,90nm,1.4s								
MANU	**Manus Island**	**25.62**	**172**	P		**P**		**03 14 55.9**	**+1.7**
MANU				IAmb		IAmb		03 15 06.8	
	comp=Z,38nm,0.9s								
BNX	**BinXian**	**25.90**	**333**	⇑P		**P**		**03 14 56.9**	**+0.5**
BNX				pP		**pP**		**03 15 00.9**	**-0.9**
BNX				S		**S**		**03 19 28.8**	**+3.7**
BNX				sS		**sS**		**03 19 34.4**	**+0.8**
BNX				pmax		pmax			
	comp=Z,28nm,1.1s								
BNX				pmax		pmax			
	comp=Z,300nm,4.3s								
BNX				LR		LR			
	comp=Z,860nm,14.6s								
BNX				LR		LR			
	comp=Z,890nm,15.2s								
BNX				LR		LR			
	comp=Z,620nm,16.5s								
TIA	**Tai'an**	**26.34**	**305**	P		**P**		**03 14 59.8**	**-0.8**
TIA				pmax		pmax			
	comp=Z,11nm,0.8s								
TIA				LR		LR			
	comp=Z,270nm,16.2s								
TIA				LR		LR			
	comp=Z,420nm,18.1s								
TIA				LR		LR			
	comp=Z,430nm,14.8s								
WHN	**Wuhan**	**27.18**	**291**	P		**P**		**03 15 13.3**	**+5.1**
WHN				S		**S**		**03 19 49.3**	**+3.7**
WHN				LR		LR			
	comp=Z,1μm,4.7s								
WHN				LR		LR			
	comp=Z,1μm,6.8s								
WHN				LR		LR			
	comp=Z,2μm,14.0s								
TYV	**Tymovskoe**	**27.32**	**358**	*e*P		**P**		**03 15 09.4**	**+0.2**
TYV				pmax		pmax			
	comp=Z,8.0nm,0.8s								
TYV				pmax		pmax			
	comp=Z,100nm,4.7s								
KLR	**Kul'dur**	**27.40**	**343**	LR		LR		03 25 17.1	
	comp=Z,400nm,20.8s,baz=134,slow=35								
KLR	**Kul'dur**	**27.40**	**343**	*ce*P		**P**		**03 15 10.4**	**+0.5**
KLR				pmax		pmax			
	comp=Z,32nm,0.7s								
HNS	**HongShan**	**28.58**	**306**	⇓P		**P**		**03 15 19.0**	**-1.6**
HNS				S		**S**		**03 20 04.5**	**-3.1**
HNS				LR		LR			
	comp=Z,1μm,15.9s								
HNS				LR		LR			
	comp=Z,440nm,17.5s								
HNS				LR		LR			
	comp=Z,1μm,14.7s								
LYN	**LuoYang**	**29.48**	**299**	*e*P		**P**		**03 15 28.5**	**-0.2**
LYN				sP		sP		03 15 36.1	-0.4
LYN				PP		**PnPn**		**03 16 25.4**	**+2.2**
LYN				S		**S**		**03 20 20.5**	**-1.4**
LYN				pmax		pmax			
	comp=Z,19nm,0.6s								
LYN				pmax		pmax			
	comp=Z,260nm,3.9s								
LYN				LR		LR			
	comp=Z,1μm,15.1s								
LYN				LR		LR			
	comp=Z,810nm,16.5s								
LYN				LR		LR			
	comp=Z,2μm,16.1s								
HEH	**HeiHe**	**29.64**	**338**	*e*P		**P**		**03 15 30.4**	**+0.6**
HEH				pP		**sP**		**03 15 37.6**	**+0.4**
HEH				pmax		pmax			
	comp=Z,32nm,1.8s								
HEH				pmax		pmax			
	comp=Z,180nm,4.8s								
HEH				LR		LR			
	comp=Z,580nm,15.7s								
HEH				LR		LR			
	comp=Z,720nm,14.3s								
HEH				LR		LR			
	comp=Z,1μm,14.4s								
MRSI	**Marisa**	**31.27**	**226**	P		**P**		**03 15 47.1**	**+2.4**
	comp=Z,65nm,0.7s								
PET	**Petropavlovsk**	**31.54**	**17**	*e*P		**P**		**03 15 48.0**	**+1.4**
PET				*e*S		**S**		**03 20 55.2**	**+1.6**
PET				pmax		pmax			
	comp=Z,100nm,14.2s								
PET				MLR		MLR			
	comp=Z,400nm,16.0s								
PET				MLR		MLR			
	comp=Z,400nm,15.0s								
TOLI2	**Tolitoli**	**31.59**	**229**	P		**P**		**03 15 48.1**	**+0.6**
TOLI2				IAmb		IAmb		03 15 53.0	
	comp=Z,16nm,0.9s								
QIZ	**Qiongzhong**	**31.99**	**269**	P		**P**		**03 15 51.3**	**+0.3**
QIZ				S		**S**		**03 21 03.5**	**+2.0**
QIZ				LR		LR			
	comp=Z,510nm,12.4s								
QIZ				LR		LR			
	comp=Z,410nm,12.9s								
QIZ				LR		LR			
	comp=Z,600nm,16.1s								
HHC	**Hu-ho-hao-te**	**32.13**	**310**	*e*P		**P**		**03 15 55.4**	**+3.3**
HHC				PP		**PP**		**03 17 06.2**	**+1.4**
HHC				S		**S**		**03 21 06.3**	**+2.9**
HHC				SS		**SnSn**		**03 22 55.6**	**+1.3**
HHC				pmax		pmax			
	comp=Z,4.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,68nm,5.5s								
HHC				LR		LR			
	comp=Z,610nm,15.1s								
HHC				LR		LR			
	comp=Z,630nm,17.3s								
HHC				LR		LR			
	comp=Z,900nm,18.4s								
XAN	**Xi'an**	**32.26**	**297**	P		**P**		**03 15 56.1**	**+2.8**
XAN				pP		pwP		03 16 08.0	+2.2
XAN				S		**S**		**03 21 09.7**	**+4.3**
XAN				SS		**SnSn**		**03 23 07.2**	**+10**
XAN				pmax		pmax			
	comp=Z,17nm,1.1s								
XAN				LR		LR			
	comp=Z,1μm,14.3s								
XAN				LR		LR			
	comp=Z,610nm,17.5s								
XAN				LR		LR			
	comp=Z,1μm,15.1s								
ZEA	**Zeya**	**32.70**	**342**	*e*P		**P**		**03 15 57.5**	**+0.7**
ZEA				pmax		pmax			
	comp=Z,40nm,0.7s								
ZEA				MLR		MLR			
	comp=Z,300nm,16.0s								
PMG	**Port Moresby**	**32.87**	**174**	P		**P**		**03 15 59.0**	**+0.4**
PMG				IAmb		IAmb		03 16 10.0	
	comp=Z,31nm,0.8s								
PMG	**Port Moresby**	**32.87**	**174**	LR		LR		03 29 36.8	
	comp=Z,249nm,18.2s,baz=326,slow=37								
PMG	**Port Moresby**	**32.87**	**174**	P		**P**		**03 15 59.0**	**+0.4**
PMG				pmax		pmax			
	comp=Z,31nm,0.9s								
BTO	**Baotou**	**33.13**	**309**	*e*P		**P**		**03 16 01.1**	**+0.2**
BTO				pP		**pP**		**03 16 05.5**	**-0.9**
BTO				sP		**sP**		**03 16 08.0**	**-0.7**
BTO				S		**S**		**03 21 20.4**	**+1.5**
BTO				sS		**sS**		**03 21 30.8**	**+2.9**
BTO				SS		**SnSn**		**03 23 24.0**	**+5.4**
BTO				pmax		pmax			
	comp=Z,13nm,0.7s								
BTO				pmax		pmax			
	comp=Z,150nm,5.2s								
BTO				LR		LR			
	comp=Z,2μm,17.0s								
BTO				LR		LR			
	comp=Z,2μm,17.9s								
BTO				LR		LR			
	comp=Z,3μm,18.0s								
GYA	**Guiyang**	**33.80**	**283**	P		**P**		**03 16 06.8**	**-0.1**
GYA				pmax		pmax			
	comp=Z,19nm,0.7s								
GYA				LR		LR			
	comp=Z,530nm,15.1s								
GYA				LR		LR			
	comp=Z,750nm,15.8s								
GYA				LR		LR			
	comp=Z,870nm,19.6s								
MA2	**Magadan**	**36.37**	**6**	P		**P**		**03 16 27.9**	**-0.6**
MA2	**Magadan**	**36.37**	**6**	LR		LR		03 29 31.4	
	comp=Z,260nm,21.6s,baz=201,slow=33								
MA2	**Magadan**	**36.37**	**6**	*i* P		**P**		**03 16 28.5**	**+0.1**
MA2				pmax		pmax			
	comp=Z,11nm,0.8s								
MA2	**Magadan**	**36.37**	**6**	P		**P**		**03 16 27.8**	**-0.6**
	comp=Z,24nm,1.0s								
LZH	**Lanzhou**	**36.70**	**299**	*e*P		**P**		**03 16 35.2**	**+3.4**
LZH				pP		pwP		03 16 42.8	-1.5
LZH				sP		sP		03 16 47.1	+7.5
LZH				S		**S**		**03 22 14.3**	**+0.2**
LZH				pmax		pmax			
	comp=Z,24nm,1.2s								
LZH				LR		LR			
	comp=Z,580nm,13.7s								
LZH				LR		LR			
	comp=Z,710nm,14.4s								
LZH				LR		LR			
	comp=Z,630nm,14.1s								
CIT	**Chita**	**36.73**	**329**	*e*P		**P**		**03 16 32.7**	**+0.9**
CIT				*e*				03 16 40.5	
CIT				*e*				03 16 45.0	
KAPI	**Kappang**	**36.86**	**223**	P		**P**		**03 16 32.7**	**-0.4**
KAPI				IAmb		IAmb		03 16 45.2	
	comp=Z,18nm,0.8s								
KAPI	**Kappang**	**36.86**	**223**	LR		LR		03 30 43.4	
	comp=Z,265nm,20.4s,baz=44,slow=35								
KAPI	**Kappang**	**36.86**	**223**	*i* P		**P**		**03 16 35.6**	**+2.5**
KAPI				pmax		pmax			
	comp=Z,12nm,0.8s								
SHEM	**Shemya Is, Ala**	**37.13**	**30**	LR		LR		03 30 46.7	
	comp=Z,452nm,19.6s,baz=279,slow=34								
COEN	**Coen**	**37.24**	**181**	P		**P**		**03 16 37.3**	**+1.0**
COEN				IAmb		IAmb		03 16 56.1	
	comp=Z,26nm,0.9s								
KMI	**Kunming**	**37.43**	**281**	⇑P		**P**		**03 16 38.5**	**+0.2**
KMI				pP		pwP		03 16 49.2	-1.8
KMI				S		**S**		**03 22 22.9**	**-2.8**
KMI				pmax		pmax			
	comp=Z,13nm,0.8s								
KMI				LR		LR			
	comp=Z,370nm,14.0s								
KMI				LR		LR			
	comp=Z,320nm,15.2s								
KMI				LR		LR			
	comp=Z,410nm,19.0s								
ULN	**Ulaanbaatar**	**38.01**	**319**	P		**P**		**03 16 41.8**	**-0.9**
ULN	**Ulaanbaatar**	**38.01**	**319**	*ce*P		**P**		**03 16 42.2**	**-0.5**
ULN				pmax		pmax			
	comp=Z,7.0nm,1.0s								
PZH	**PanZhiHua**	**38.19**	**283**	⇓P		**P**		**03 16 44.7**	**+0.2**
PZH				S		**S**		**03 22 33.6**	**-3.4**
PZH				sS		**ScP**		**03 22 53.1**	**+7.7**
PZH				ScS		**ScS**		**03 26 54.6**	**-0.7**
PZH				pmax		pmax			
	comp=Z,80nm,0.7s								
PZH				pmax		pmax			
	comp=Z,160nm,5.3s								
PZH				LR		LR			
	comp=Z,310nm,13.1s								
PZH				LR		LR			
	comp=Z,540nm,15.2s								
PZH				LR		LR			
	comp=Z,730nm,16.2s								
SONM	**Songino Array**	**38.39**	**319**	P		**P**		**03 16 44.9**	**-1.0**
SONM	**Songino Array**	**38.39**	**319**	P		**P**		**03 16 45.2**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=124,slow=7.9,SNR=13								
SONM				PcP		**PcP**		**03 18 58.9**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=139,slow=4.3,SNR=2.1								
	comp=Z,2.2nm,0.7s								
SONM	**Songino Array**	**38.39**	**319**	P		**P**		**03 16 44.9**	**-1.0**
SONM				pmax		pmax			
	comp=Z,7.0nm,1.0s								
YAK	**Yakutsk**	**39.71**	**350**	LR		LR		03 36 59.3	
	comp=Z,179nm,18.0s,baz=161,slow=42								
YAK	**Yakutsk**	**39.71**	**350**	*e*P		**P**		**03 16 56.5**	**0.0**
YAK				*e**PP		**pP**		**03 16 59.9**	**-1.9**
YAK				*e*				03 18 32.0	
YAK				*e*PPP		PPP		03 18 52.5	
YAK				*e*				03 19 06.6	
YAK				*e*S		**S**		**03 23 02.3**	**+3.7**
YAK				pmax		pmax			
	comp=Z,21nm,1.1s								
YAK				pmax		pmax			
	comp=N,8.0nm,1.0s								
YAK				pmax		pmax			
	comp=E,5.0nm,1.0s								
YAK				pmax		pmax			
	comp=Z,33nm,0.6s								
YAK				smax		smax			
	comp=E,69nm,3.2s								
YAK				smax		smax			
	comp=N,59nm,2.3s								
YAK				MLR		MLR			
	comp=Z,523nm,16.0s								
YAK				MLR		MLR			
	comp=N,507nm,16.0s								
YAK				MLR		MLR			
	comp=E,321nm,15.0s								
SEY	**Seymchan**	**39.82**	**6**	*ce*P		**P**		**03 16 58.7

ZAK Zakamensk 41.34 321 *e*P **P 03 17 09.6 -0.8**
ZAK pmax pmax
comp=Z,16nm,1.8s
CHTO Chiang Mai 42.05 272 P **P 03 17 15.7 -0.8**
CHTO Chiang Mai 42.05 272 P **P 03 17 15.7 -0.8**
CHTO pmax pmax
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 42.14 272 P **P 03 17 16.0 -1.2**
CMAR Chiang Mai Arr 42.14 272 P **P 03 17 16.8 -0.4**
comp=Z,3.6nm,0.5s,baz=64,slow=7.5,SNR=12
CMAR LR LR 03 35 46.0
comp=Z,423nm,18.4s,baz=80,slow=38
comp=Z,3.6nm,0.5s
MOY Mondy 43.19 322 *e*P **P 03 17 24.6 -0.8**
MOY pmax pmax
comp=Z,17nm,3.2s
CTA Charters Tower 43.39 177 LR LR 03 35 53.7
comp=Z,19nm,18.5s,baz=350,slow=37
CTAO Charters Tower 43.39 177 P **P 03 17 26.4 -0.8**
CTAO IAmb IAmb 03 17 39.0
comp=Z,28nm,0.8s
CTAO Charters Tower 43.39 177 P **P 03 17 26.4 -0.8**
CTAO pmax pmax
comp=Z,28nm,0.8s
GOMU GeErMu 43.98 298 P **P 03 17 34.3 +2.0**
GOMU S **S 03 24 04.1 +0.8**
GOMU pmax pmax
comp=Z,46nm,0.6s
GOMU LR LR
comp=Z,430nm,17.3s
GOMU LR LR
comp=Z,360nm,17.7s
GOMU LR LR
comp=Z,960nm,17.2s
WB0 Warramunga Arr 44.00 193 P **P 03 17 30.7 -1.4**
WR0 Warramunga Arr 44.16 193 P **P 03 17 31.9 -1.5**
WRAB Tennant Creek 44.17 193 P **P 03 17 32.9 -0.6**
WRAB IAmb IAmb 03 17 45.8
comp=Z,21nm,0.9s
WRAB Tennant Creek 44.17 193 *i*P **P 03 17 34.3 +0.8**
WRAB pmax pmax
comp=Z,11nm,0.9s
WB2 Warramunga Arr 44.18 193 P **P 03 17 32.2 -1.3**
WB2 IAmb IAmb 03 17 46.9
comp=Z,16nm,0.8s
WRA Warramunga Arr 44.18 193 P **P 03 17 31.8 -1.7**
comp=Z,9.2nm,0.6s,baz=15,slow=8.8,SNR=64
WRA ScP **ScP 03 23 10.5 +1.7**
comp=Z,0.8nm,0.9s,baz=358,slow=4.1,SNR=3.1
WRA LR LR 03 34 41.8
comp=Z,376nm,20.1s,baz=342,slow=34
comp=Z,9.2nm,0.6s
FITZ Fitzroy Crossi 45.03 205 P **P 03 17 38.5 -1.9**
NIKH Nikolski High 46.16 38 P **P 03 17 49.3 +0.3**
baz=249
BILL Biiibino 46.62 11 *i*P **P 03 17 52.0 -0.4**
BILL pmax pmax
comp=Z,22nm,1.3s
SPIA Saint Paul Isl 47.09 32 P **P 03 17 55.7 -0.5**
baz=244
SHL Shillong 47.11 284 P **P 03 17 56.1 -0.9**
SHL Shillong 47.11 284 P **P 03 17 56.2 -0.9**
SHL pmax pmax
comp=Z,24nm,0.7s
P08K Saint George I 47.19 33 P **P 03 17 56.4 -0.5**
baz=245
LSA Lhasa 47.23 289 P **P 03 17 59.8 +1.5**
LSA pmax pmax
comp=Z,12nm,0.7s
UNV Unalaska Valle 47.78 38 P **P 03 18 01.3 -0.3**
baz=251
AS31 Alice Springs 47.88 192 P **P 03 18 01.8 -1.0**
ASAR Alice Springs 47.88 192 P **P 03 18 01.4 -1.3**
ASAR Alice Springs 47.88 192 P **P 03 18 01.1 -1.6**
comp=Z,5.9nm,0.6s,baz=18,slow=7.5,SNR=40
ASAR LR LR 03 36 58.7
comp=Z,426nm,21.4s,baz=22,slow=35
comp=Z,5.9nm,0.6s
ASAR Alice Springs 47.88 192 P **P 03 18 01.4 -1.3**
PSI Prapat 48.09 252 P **P 03 18 04.8 +0.1**
PSI pmax pmax
comp=Z,10.0nm,0.9s
RPSI Rantau Prapat 48.14 251 P **P 03 18 04.8 -0.1**
RPSI IAmb IAmb 03 18 18.1
comp=Z,10nm,0.9s
LVA Lava Point 48.15 37 P **P 03 18 05.0 +0.5**
TIXI Tiksi 48.93 354 P **P 03 18 09.9 -0.2**
TIXI Tiksi 48.93 354 LR LR 03 39 06.3
comp=Z,126nm,21.8s,baz=183,slow=36
TIXI Tiksi 48.93 354*ce*P **P 03 18 10.4 +0.2**
TIXI pmax pmax
comp=Z,30nm,2.5s
WMQ Urumqi 49.96 308 *e*P **P 03 18 19.3 +0.7**
WMQ pP pwP 03 18 31.5 +0.5
WMQ S **S 03 25 26.8 -1.1**
WMQ pmax pmax
comp=Z,43nm,1.3s
WMQ LR LR
comp=Z,560nm,14.9s
WMQ LR LR
comp=Z,480nm,15.5s
WMQ LR LR
comp=Z,290nm,16.9s
GSI Gunungsitoli 50.00 251 P **P 03 18 18.8 -0.3**
MBWA Marble Bar 50.25 210 P **P 03 18 20.1 -0.8**
MBWA IAmb IAmb 03 18 24.6
comp=Z,14nm,0.8s
DZM Mont Dzumac 50.34 152 *e*P **P 03 18 22.3 +0.7**
comp=Z,52nm,0.8s
DZM Mont Dzumac 50.34 152 *e*LR LR 03 32 48.1
comp=Z,415nm,21.2s
DZM Mont Dzumac 50.34 152 P **P 03 18 21.9 +0.3**
DZM IAmb IAmb 03 18 26.5
comp=Z,26nm,0.8s
M11K Mekoryuk 50.37 30 P **P 03 18 22.0 +0.8**
baz=246
PSA00 Pilbara Seismi 50.56 209 P **P 03 18 23.2 0.0**
PSA00 IAmb IAmb 03 18 27.1
comp=Z,18nm,0.8s
PSA00 Pilbara Seismi 50.56 209 P **P 03 18 22.1 -1.1**
PSA00 IAmb IAmb 03 18 27.0
comp=Z,8.4nm,0.8s
S12K Black Hills 50.80 36 P **P 03 18 24.1 -0.5**
baz=254
SDPT Sand Point 51.57 37 P **P 03 18 30.1 -0.3**
baz=255
M13K Dall Lake 51.68 30 P **P 03 18 31.2 0.0**
baz=249
K13K Kusilvak Mount 51.68 28 P **P 03 18 31.5 +0.3**
K13K IAmb IAmb 03 18 33.6
comp=Z,14nm,0.8s
K13K Kusilvak Mount 51.68 28 P **P 03 18 31.4 +0.3**
baz=246
CNBA Chernabura Isl 51.94 38 P **P 03 18 33.3 +0.1**
CNBA IAmb IAmb 03 18 36.2
comp=Z,25nm,0.9s
CHNA Chernabura Isl 51.94 38 P **P 03 18 33.1 -0.1**
baz=257,SNR=7.2
TNA Tin City 52.03 23 P **P 03 18 33.7 0.0**
baz=240
ZSN Zaisan 52.27 313 *e*P **P 03 18 35.5 -0.4**
comp=Z,11nm,1.2s,baz=313
ZSN *e*S **S 03 25 57.9 -1.8**
baz=313
ZSN Zaisan 52.27 313 *e*P **P 03 18 35.4 -0.4**
ZSN *e*S **S 03 25 57.8 -1.8**
ZSN pmax pmax
comp=Z,11nm,1.2s
O14K Tigyukauivet M 52.28 32 P **P 03 18 35.3 -0.3**
baz=252
N14K Kuskokwak Cree 52.29 31 P **P 03 18 35.0 -0.7**
baz=251
S14K Fog Glacier 52.31 36 P **P 03 18 35.9 -0.2**
baz=256
L14K Kuka Creek 52.33 29 P **P 03 18 36.9 +0.9**
baz=249
M14K Bethel 52.44 30 P **P 03 18 36.9 +0.1**
M14K IAmb IAmb 03 18 39.2
comp=Z,36nm,1.1s
M14K Bethel 52.44 30 P **P 03 18 37.8 +0.9**
baz=250
J14K Nanvaranak Lak 52.48 27 P **P 03 18 38.3 +1.1**
J14K IAmb IAmb 03 18 44.1
comp=Z,18nm,1.1s
J14K Nanvaranak Lak 52.48 27 P **P 03 18 38.2 +1.1**
baz=247
ANM Nome 52.51 25 P **P 03 18 38.4 +1.1**
ANM IAmb IAmb 03 18 39.5
comp=Z,17nm,0.7s
ANM Nome 52.51 25 P **P 03 18 38.1 +0.8**
baz=244
ANM Nome 52.51 25 P **P 03 18 38.4 +1.1**
ANM pmax pmax
comp=Z,17nm,0.7s
F14K Arctic Creek 52.57 24 P **P 03 18 38.9 +1.2**
baz=242,SNR=5.5
CHGN Chignik 52.93 36 P **P 03 18 40.4 -0.1**
baz=257
O15K Ungalikthiuk R 52.96 32 P **P 03 18 41.3 +0.6**
baz=253
L15K Ungalak Mounta 52.98 29 P **P 03 18 41.4 +0.6**
baz=250
M15K Kasigluk River 53.01 30 P **P 03 18 41.5 +0.4**
baz=251
N15K Kwethluk River 53.13 31 P **P 03 18 42.6 +0.7**
N15K IAmb IAmb 03 18 44.0
comp=Z,19nm,0.7s
N15K Kwethluk River 53.13 31 P **P 03 18 42.9 +1.0**
baz=252,SNR=6.8
K15K Wolf Creek Mou 53.18 28 P **P 03 18 43.5 +1.2**
K15K IAmb IAmb 03 18 45.7
comp=Z,19nm,0.8s
K15K Wolf Creek Mou 53.18 28 P **P 03 18 43.4 +1.1**
baz=249,SNR=9.1
G15K Niukluk 53.21 25 P **P 03 18 43.2 +0.7**
baz=245,SNR=5.4
ZAA0 Zalesovo Array 53.22 321 P **P 03 18 41.8 -0.9**
ZAA0 IAmb IAmb 03 18 42.6
comp=Z,9.0nm,0.5s
ZALV Zalesovo Beam 53.22 321 P **P 03 18 42.2 -0.5**
ZALV Zalesovo Beam 53.22 321 P **P 03 18 41.9 -0.8**
comp=Z,9.0nm,0.5s,baz=109,slow=8.2,SNR=38
ZALV LR LR 03 42 31.2
comp=Z,286nm,18.3s,baz=98,slow=37
comp=Z,9.0nm,0.5s
ZALV Zalesovo Beam 53.22 321 P **P 03 18 42.2 -0.5**
F15K North Star Dit 53.30 24 P **P 03 18 43.7 +0.6**
F15K IAmb IAmb 03 18 44.9
comp=Z,16nm,0.8s
F15K North Star Dit 53.30 24 P **P 03 18 44.2 +1.1**
baz=244,SNR=7.7
H16K Elim 53.77 26 P **P 03 18 47.0 +0.5**
baz=247
P16K Nushagak River 53.83 33 P **P 03 18 48.3 +1.3**
baz=255
N16K Nishlik Lake 53.85 31 P **P 03 18 48.4 +1.1**
baz=253,SNR=13
L16K Owhat River 53.90 30 P **P 03 18 48.2 +0.6**
baz=252
M16K Timber Creek 53.92 30 P **P 03 18 48.5 +0.8**
M16K IAmb IAmb 03 18 50.9
comp=Z,14nm,0.9s
M16K Timber Creek 53.92 30 P **P 03 18 48.7 +0.9**
baz=253,SNR=7.6
O16K Kokwok River B 53.93 32 IAmb IAmb 03 18 50.8
comp=Z,15nm,0.8s
O16K Kokwok River B 53.93 32 P **P 03 18 48.8 +1.0**
baz=254,SNR=5.8
J16K Anvik River 53.93 27 P **P 03 18 48.8 +1.0**
J16K IAmb IAmb 03 18 51.3
comp=Z,15nm,0.8s
J16K Anvik River 53.93 27 P **P 03 18 49.3 +1.5**
baz=250,SNR=11
MK31 Makanchi Array 53.97 312 P **P 03 18 48.2 -0.2**
MK31 IAmb IAmb 03 19 10.1
comp=Z,19nm,1.2s
MK31 Makanchi Array 53.97 312*ce*P **P 03 18 47.3 -1.1**
MKAR Makanchi Array 53.97 312 P **P 03 18 48.4 0.0**
MKAR Makanchi Array 53.97 312 P **P 03 18 48.2 -0.2**
comp=Z,4.0nm,0.7s,baz=88,slow=8.8,SNR=35
MKAR LR LR 03 43 25.3
comp=Z,397nm,18.4s,baz=73,slow=38
comp=Z,4.0nm,0.7s
G16K Koyuk River 54.02 25 P **P 03 18 48.9 +0.5**
baz=246
MAKZ Makanchi 54.19 312 P **P 03 18 49.0 -1.0**
MAKZ IAmb IAmb 03 19 03.7
comp=Z,23nm,1.1s
MAKZ Makanchi 54.19 312 P **P 03 18 49.0 -1.0**
MAKZ pmax pmax
comp=Z,23nm,1.2s
C16K Lisburne Hills 54.25 21 P **P 03 18 50.2 +0.2**
C16K IAmb IAmb 03 18 51.3
comp=Z,16nm,0.9s
C16K Lisburne Hills 54.25 21 P **P 03 18 50.6 +0.6**
baz=241
R17L Mt. Peulik Vol 54.33 35 P **P 03 18 51.4 +0.6**
baz=258
CHIR Chirikof Islan 54.36 37 P **P 03 18 51.4 +0.3**
baz=260
O17K Koliganek Bris 54.46 32 P **P 03 18 52.7 +1.0**
baz=255,SNR=12
L17K Donlin 54.56 29 P **P 03 18 53.6 +1.2**
baz=253,SNR=13
N17K Nushagak Hills 54.62 31 P **P 03 18 53.2 +0.4**
N17K IAmb IAmb 03 18 56.4
comp=Z,18nm,0.8s
N17K Nushagak Hills 54.62 31 P **P 03 18 54.0 +1.2**
baz=255,SNR=9.3
J17K VABM Dome 54.62 28 P **P 03 18 53.4 +0.6**
J17K IAmb IAmb 03 18 60.0
comp=Z,35nm,1.3s
J17K VABM Dome 54.62 28 P **P 03 18 54.1 +1.3**
baz=251,SNR=11
P17K Kvichak River 54.65 33 P **P 03 18 53.7 +0.7**
baz=256
Q17K Contact Creek 54.71 34 P **P 03 18 53.1 -0.6**
baz=258
G17K Kiwalik Mounta 54.72 25 P **P 03 18 54.5 +1.0**
baz=248,SNR=12
K17K Iditarod 54.73 29 P **P 03 18 54.3 +0.6**
K17K Iditarod 54.73 29 P **P 03 18 55.2 +1.5**
baz=252,SNR=22
M17K Holitna River 54.74 30 P **P 03 18 54.8 +1.1**
M17K IAmb IAmb 03 18 57.2
comp=Z,21nm,0.8s
M17K Holitna River 54.74 30 P **P 03 18 54.9 +1.3**
baz=254,SNR=16
D17K Noatak River 54.74 22 P **P 03 18 54.8 +1.2**
baz=244,SNR=8.8
H17K Granite Mounta 54.80 26 P **P 03 18 54.5 +0.4**
H17K IAmb IAmb 03 18 57.4
comp=Z,19nm,0.8s
H17K Granite Mounta 54.80 26 P **P 03 18 55.2 +1.1**
baz=249,SNR=18
F17K Baldwin Pennin 54.86 24 P **P 03 18 55.4 +0.9**
F17K Baldwin Pennin 54.86 24 P **P 03 18 55.7 +1.2**
baz=247,SNR=14
E17K Hotham Inlet 54.91 23 P **P 03 18 56.0 +1.2**
baz=246,SNR=11
RDOG Red Dog Mine 54.95 22 P **P 03 18 55.6 +0.5**
RDOG IAmb IAmb 03 18 58.6
comp=Z,23nm,0.8s
RDOG Red Dog Mine 54.95 22 P **P 03 18 56.3 +1.1**
baz=244,SNR=14
ACHA Angle Creek He 54.99 34 P **P 03 18 55.2 -0.4**
C17K DeLong Mountai 55.05 21 P **P 03 18 56.7 +0.9**
baz=243
STKA Stephens Creek 55.12 182 P **P 03 18 55.7 -1.0**
STKA Stephens Creek 55.12 182 P **P 03 18 55.3 -1.4**
comp=Z,6.2nm,0.7s,baz=336,slow=7.3,SNR=11
STKA LR LR 03 43 28.8
comp=Z,131nm,18.1s,baz=20,slow=37
comp=Z,6.2nm,0.7s
STKA Stephens Creek 55.12 182 P **P 03 18 55.7 -1.0**
STKA pmax pmax
comp=Z,2.0nm,0.8s
Q18K Katmai Hardscr 55.25 34 P **P 03 18 56.9 -0.7**
baz=258,SNR=14
N18K Kilae Creek 55.27 31 P **P 03 18 57.8 +0.2**
N18K IAmb IAmb 03 19 01.0
comp=Z,11nm,0.8s
N18K Kilae Creek 55.27 31 P **P 03 18 58.4 +0.8**
baz=256,SNR=6.9
SII Sitkinak Islan 55.29 36 P **P 03 18 58.4 +0.6**
SII Sitkinak Islan 55.29 36 P **P 03 18 58.3 +0.6**
baz=260
P18K Big Mountain, 55.30 33 P **P 03 18 57.9 +0.1**
baz=257
L18K Granite Mounta 55.30 29 P **P 03 18 58.7 +0.9**
L18K Granite Mounta 55.30 29 P **P 03 18 59.2 +1.5**
baz=254,SNR=5.3
R18K Karluk 55.32 35 P **P 03 18 57.3 -0.6**
baz=259
O18K Koktuh Hills 55.41 32 P **P 03 18 59.3 +0.7**
O18K Koktuh Hills 55.41 32 P **P 03 18 59.6 +1.0**
baz=257,SNR=11
E18K Tukpahlearik C 55.49 23 P **P 03 18 59.5 +0.5**
E18K Tukpahlearik C 55.49 23 P **P 03 19 00.5 +1.5**
baz=247,SNR=26
H18K Honhosa River 55.49 26 P **P 03 18 59.7 +0.6**
H18K IAmb IAmb 03 19 02.0
comp=Z,24nm,1.0s
H18K Honhosa River 55.49 26 P **P 03 18 60.0 +0.9**
baz=250,SNR=9.0
M18K Stony River 55.51 30 P **P 03 19 00.4 +1.1**
baz=255,SNR=8.3
F18K Selawik 55.51 24 P **P 03 19 00.1 +0.9**
baz=248,SNR=20
SEM Semipalatinsk 55.56 316 *e*P **P 03 18 58.8 -1.2**
comp=Z,9.8nm,0.9s,baz=316
SEM Semipalatinsk 55.56 316 *e*P **P 03 18 58.8 -1.2**
SEM pmax pmax
comp=Z,10.0nm,0.9s
G18K Tagagawik 55.64 25 P **P 03 19 00.3 +0.2**
G18K IAmb IAmb 03 19 01.9
comp=Z,21nm,0.9s
G18K Tagagawik 55.64 25 P **P 03 19 00.8 +0.7**
baz=250,SNR=22
J18K Innoko River 55.65 28 P **P 03 19 00.8 +0.6**
J18K IAmb IAmb 03 19 02.5
comp=Z,52nm,2.0s
J18K Innoko River 55.65 28 P **P 03 19 00.9 +0.7**
baz=253,SNR=6.9
C18K Utukok River 55.78 21 P **P 03 19 01.7 +0.5**
C18K IAmb IAmb 03 19 04.2
comp=Z,13nm,0.9s
C18K Utukok River 55.78 21 P **P 03 19 02.0 +0.8**
baz=245
TTA Tatalina 55.80 29 P **P 03 19 01.3 -0.2**
TTA Tatalina 55.80 29 P **P 03 19 02.0 +0.6**
baz=254
TTA Tatalina 55.80 29 P **P 03 19 01.3 -0.2**
TTA pmax pmax
comp=Z,14nm,1.4s
OHAK Old Harbor 55.88 36 P **P 03 19 02.3 +0.3**
baz=261
B18K Kokolik River 55.89 20 P **P 03 19 02.9 +1.0**
baz=244
SHLS Shalkode 55.92 307 *e*P **P 03 18 60.0 -2.8**
comp=Z,5.6nm,0.9s,baz=307
SHLS Shalkode 55.92 307 *e*P **P 03 18 59.9 -2.8**
SHLS pmax pmax
comp=Z,6.0nm,0.9s
N19K Bonanza Creek 55.98 31 P **P 03 19 03.3 +0.5**
N19K IAmb IAmb 03 19 06.0
comp=Z,15nm,0.8s
N19K Bonanza Creek 55.98 31 P **P 03 19 03.8 +1.0**
baz=257,SNR=12
Q19K Cape Douglas, 56.00 34 P **P 03 19 02.2 -0.7**
baz=259
FORT Forrest 56.07 196 P **P 03 19 03.3 -0.3**
L19K White Mountain 56.13 30 P **P 03 19 03.8 +0.1**
L19K White Mountain 56.13 30 P **P 03 19 04.7 +0.9**
baz=256,SNR=8.6
UZB Uzynbulak 56.25 307 *e*P **P 03 19 04.3 -0.8**
comp=Z,6.6nm,1.1s,baz=307
UZB Uzynbulak 56.25 307 *e*P **P 03 19 04.3 -0.8**
UZB pmax pmax
comp=Z,7.0nm,1.1s
J19K Poorman 56.27 27 P **P 03 19 05.0 +0.3**
J19K IAmb IAmb 03 19 07.7
comp=Z,20nm,0.9s
J19K Poorman 56.27 27 P **P 03 19 05.5 +0.9**
baz=254,SNR=23
M19K Big River Lodg 56.27 30 P **P 03 19 05.4 +0.7**
M19K Big River Lodg 56.27 30 P **P 03 19 05.7 +1.0**
baz=256
F19K Shaleruckik Mo 56.30 24 P **P 03 19 05.0 +0.2**
F19K Shaleruckik Mo 56.30 24 P **P 03 19 05.1 +0.3**
baz=250,SNR=8.3
G19K Purcell Mounta 56.32 25 P **P 03 19 05.1 +0.1**
G19K IAmb IAmb 03 19 07.9
comp=Z,15nm,0.8s
G19K Purcell Mounta 56.32 25 P **P 03 19 05.5 +0.5**
baz=251,SNR=25
P19K Oil Pt 56.34 33 P **P 03 19 05.4 +0.1**
P19K IAmb IAmb 03 19 07.6
comp=Z,26nm,0.9s
P19K Oil Pt 56.34 33 P **P 03 19 05.4 +0.1**
baz=259,SNR=5.2
KDAK Kodiak Island 56.35 35 P **P 03 19 05.8 +0.5**
KDAK IAmb IAmb 03 19 06.1
comp=Z,18nm,0.9s
KDAK Kodiak Island 56.35 35 P **P 03 19 05.5 +0.2**
baz=261
KDAK Kodiak Island 56.35 35 LR LR 03 40 05.4
comp=Z,588nm,21.9s,baz=269,slow=33
KDAK Kodiak Island 56.35 35 P **P 03 19 05.8 +0.5**
KDAK pmax pmax
comp=Z,18nm,1.0s
H19K Roundabout Mou 56.38 26 P **P 03 19 06.0 +0.7**
H19K IAmb IAmb 03 19 08.7
comp=Z,28nm,1.1s
H19K Roundabout Mou 56.38 26 P **P 03 19 06.5 +1.2**
baz=252,SNR=17
KPKS Kokpek 56.48 308 *e*P **P 03 19 06.2 -0.6**
baz=308
KPKS Kokpek 56.48 308 *e*P **P 03 19 06.1 -0.6**
A19K Wainwright 56.49 20 P **P 03 19 07.5 +1.4**
baz=244
C19K Lookout Ridge 56.50 21 P **P 03 19 07.2 +0.8**
C19K Lookout Ridge 56.50 21 P **P 03 19 07.9 +1.6**
baz=247,SNR=16
NRIK Noril'sk 56.54 339 P **P 03 19 06.0 -0.4**
NRIK IAmb IAmb 03 19 32.4
comp=Z,15nm,1.0s
NRIK Noril'sk 56.54 339 P **P 03 19 06.3 -0.2**
comp=Z,5.9nm,0.6s,baz=109,slow=7.9,SNR=8.5
NRIK LR LR 03 45 02.5
comp=Z,280nm,18.2s,baz=130,slow=38
comp=Z,5.9nm,0.6s
NRIK Noril'sk 56.54 339*ce*P **P 03 19 06.1 -0.4**
NRIK pmax pmax
comp=Z,10.0nm,0.8s
Q20K Shuyak Island 56.58 34 P **P 03 19 06.8 -0.1**
baz=260
KURK Kurchatov 56.61 316 P **P 03 19 07.0 -0.4**
KURK Kurchatov 56.61 316*ce*P **P 03 19 06.9 -0.4**
KURK pmax pmax
comp=Z,56nm,2.5s
L20K Farewell, AK 56.64 29 P **P 03 19 08.3 +1.0**
baz=257,SNR=10
KURBB Kurchatov Arra 56.66 316 P **P 03 19 07.4 -0.3**
comp=Z,14nm,0.8s,baz=92,slow=8.0,SNR=37
KURBB LR LR 03 44 40.2
comp=Z,1µm,18.4s,baz=170,slow=37
comp=Z,14nm,0.8s
ZHN Zhinishke 56.68 307 *e*P **P 03 19 07.5 -0.6**
comp=Z,5.6nm,1.0s,baz=307
ZHN Zhinishke 56.68 307 *e*P **P 03 19 07.5 -0.6**
ZHN pmax pmax
comp=Z,6.0nm,1.0s
SATY Saty 56.70 307 *e*P **P 03 19 07.8 -0.5**
comp=Z,10.0nm,1.3s,baz=307
SATY Saty 56.70 307 *e*P **P 03 19 07.8 -0.5**
SATY pmax pmax
comp=Z,10.0nm,1.3s
E19K Redstone River 56.71 23 P **P 03 19 08.7 +0.9**
E19K IAmb IAmb 03 19 11.1
comp=Z,18nm,0.8s
E19K Redstone River 56.71 23 P **P 03 19 08.8 +1.1**
baz=250,SNR=30
O20K Slope Mountain 56.73 32 P **P 03 19 08.7 +0.6**
baz=259
PRZ Przheval'sk 56.73 306 P **P 03 19 08.8 +0.3**
PRZ Przheval'sk 56.73 306 P **P 03 19 08.8 +0.3**
PRZ pmax pmax
comp=Z,44nm,1.0s
D19K Kuna River 56.77 22 P **P 03 19 09.3 +1.2**
D19K IAmb IAmb 03 19 11.3
comp=Z,20nm,0.8s
D19K Kuna River 56.77 22 P **P 03 19 09.1 +0.9**
baz=249,SNR=17
K20K Telida 56.77 28 P **P 03 19 09.2 +0.9**
K20K IAmb IAmb 03 19 11.9
comp=Z,22nm,1.0s
K20K Telida 56.77 28 P **P 03 19 09.3 +1.1**
baz=256,SNR=19
M20K Styx River 56.85 30 P **P 03 19 09.8 +0.9**

M20K IAmb IAmb 03 19 14.6
comp=Z,11nm,0.8s
M20K Styx River 56.85 30 P P 03 19 10.1 +1.1
baz=258
J20K Nowinta River 56.94 27 P P 03 19 10.5 +1.1
J20K Nowinta River 56.94 27 P P 03 19 10.7 +1.3
baz=255,SNR=48
I20K Naaghedeneel 56.96 27 P P 03 19 10.6 +1.1
I20K Naaghedeneel 56.96 27 P P 03 19 10.9 +1.4
baz=255,SNR=8.0
H20K Anotleneega Mo 56.99 26 P P 03 19 10.9 +1.1
baz=254,SNR=42
F20K Avaraart Lake 57.13 24 P P 03 19 11.6 +0.9
F20K IAmb IAmb 03 19 13.9
comp=Z,19nm,0.8s
F20K Avaraart Lake 57.13 24 P P 03 19 11.9 +1.2
baz=252
HOM Homer 57.14 33 P P 03 19 11.5 +0.6
baz=260
N20K Mount Spurr 57.14 31 P P 03 19 11.4 +0.4
baz=259
SPCR Spurr Chakacha 57.14 31 P P 03 19 11.3 +0.4
baz=259
TARG Taragay, Kyrgy 57.21 306 P P 03 19 11.6 -0.7
TARG IAmb IAmb 03 19 26.9
comp=Z,31nm,1.2s
TARG Taragay, Kyrgy 57.21 306 P P 03 19 11.6 -0.7
TARG pmax pmax
comp=Z,31nm,1.2s
CNPM China Poot 57.32 33 P P 03 19 12.5 +0.2
CNPM IAmb IAmb 03 19 14.1
comp=Z,20nm,0.9s
E20K Nigu River 57.35 23 P P 03 19 13.4 +1.0
baz=251,SNR=20
D20K Etivluk River 57.36 22 P P 03 19 13.4 +1.1
baz=250,SNR=56
PPLA Purkeypile 57.49 29 P P 03 19 14.2 +0.7
baz=258
IMAR Indian Mountai 57.58 25 P P 03 19 14.7 +0.8
BRSE Bradley Lake S 57.60 33 P P 03 19 13.5 -0.7
baz=261
SKT Skwentna 57.61 30 P P 03 19 13.9 -0.3
SKT IAmb IAmb 03 19 16.5
comp=Z,16nm,0.9s
SKT Skwentna 57.61 30 P P 03 19 14.3 +0.1
baz=259,SNR=8.2
B20K Meade River 57.64 20 P P 03 19 14.1 -0.1
B20K Meade River 57.64 20 P P 03 19 15.3 +1.1
baz=249
CAST Castle Rocks 57.65 29 P P 03 19 15.1 +0.6
CAST Castle Rocks 57.65 29 P P 03 19 15.5 +1.0
baz=258
CHUM Lake Minchumin 57.65 28 P P 03 19 15.5 +1.1
baz=257
MDOK Medeo 57.69 307 *eP* **P 03 19 14.9 -0.4**
baz=307
MDOK *eS* **S 03 27 10.7 -2.1**
baz=307
MDOK Medeo 57.69 307 *eP* **P 03 19 14.9 -0.4**
MDOK *eS* **S 03 27 10.6 -2.1**
CHKK Chushkaly 57.70 308 *eP* **P 03 19 14.5 -0.7**
baz=308
CHKK Chushkaly 57.70 308 *eP* **P 03 19 14.4 -0.7**
TNSS Tian-Shan 57.77 307 *eP* **P 03 19 15.3 -0.9**
baz=307
TNSS Tian-Shan 57.77 307 *eP* **P 03 19 15.2 -0.9**
AAA Alma-Ata 57.78 307 *eP* **P 03 19 15.6 -0.3**
baz=307
AAA Alma-Ata 57.78 307 *eP* **P 03 19 15.5 -0.3**
G21K Allakaket 57.81 25 P P 03 19 15.6 +0.1
G21K IAmb IAmb 03 19 17.8
comp=Z,14nm,0.8s
G21K Allakaket 57.81 25 P P 03 19 16.7 +1.1
baz=254,SNR=23
H21K Melozitna Rive 57.87 26 P P 03 19 16.3 +0.3
H21K IAmb IAmb 03 19 19.5
comp=Z,20nm,0.9s
H21K Melozitna Rive 57.87 26 P P 03 19 17.3 +1.3
baz=256,SNR=26
SUA Susitna One 57.88 31 P P 03 19 15.9 -0.3
baz=260
F21K Alatna River 58.02 24 P P 03 19 17.8 +0.8
F21K Alatna River 58.02 24 P P 03 19 18.0 +1.0
baz=254,SNR=15
C21K Knifeblade Rid 58.13 22 P P 03 19 19.1 +1.4
baz=252,SNR=15
KUU Kurty 58.17 308 *eP* **P 03 19 18.0 -0.5**
comp=Z,7.7nm,0.7s,baz=308
KUU Kurty 58.17 308 *eP* **P 03 19 17.9 -0.5**
KUU pmax pmax
comp=Z,8.0nm,0.7s
KTH Kantishna Hill 58.19 29 P P 03 19 18.7 +0.4
KTH IAmb IAmb 03 19 21.3
comp=Z,14nm,1.0s
E21K Killik River 58.19 23 P P 03 19 17.7 -0.5
E21K IAmb IAmb 03 19 21.4
comp=Z,16nm,0.9s
E21K Killik River 58.19 23 P P 03 19 19.0 +0.8
baz=253
M22K Willow 58.23 31 P P 03 19 18.3 -0.2
CUT Chulitna 58.27 30 P P 03 19 18.7 -0.1
baz=260
BPAW Bear Paw Mtn. 58.27 28 P P 03 19 19.3 +0.5
BPAW Bear Paw Mtn. 58.27 28 P P 03 19 19.8 +1.0
baz=258,SNR=28
A21K Barrow 58.29 19 P P 03 19 19.7 +0.9
baz=248,SNR=17
SEW Seward 58.30 33 P P 03 19 18.9 -0.1
baz=262
RC01 Rabbit Creek A 58.30 32 P P 03 19 19.0 0.0
baz=261
B21K Ikpikpuk River 58.34 21 P P 03 19 19.8 +0.6
B21K IAmb IAmb 03 19 23.7
comp=Z,13nm,0.8s
B21K Ikpikpuk River 58.34 21 P P 03 19 20.2 +1.1
baz=252,SNR=17
H22K Ishtalitna Cre 58.50 26 P P 03 19 21.7 +1.3
baz=257,SNR=18
BOOM Boomskoye usch 58.55 307 P P 03 19 21.3 0.0
BOOM IAmb IAmb 03 19 35.7
comp=Z,19nm,1.1s
BOOM Boomskoye usch 58.55 307 P P 03 19 21.3 0.0
BOOM pmax pmax
comp=Z,19nm,1.1s
MLY Manley 58.57 27 P P 03 19 21.4 +0.5
MLY IAmb IAmb 03 19 24.2
comp=Z,15nm,0.9s
MLY Manley 58.57 27 P P 03 19 22.0 +1.1
baz=258,SNR=15
F22K John River 58.58 24 P P 03 19 22.2 +1.3
baz=255
NRN Naryn 58.58 305 P P 03 19 21.1 -0.6
NRN Naryn 58.58 305 P P 03 19 21.2 -0.6
PMR Palmer 58.67 31 P P 03 19 21.1 -0.4
PMR Palmer 58.67 31 P P 03 19 21.4 -0.1
baz=262,SNR=17
PMR Palmer 58.67 31 P P 03 19 21.2 -0.4
PMR pmax pmax
comp=Z,30nm,0.9s
A22K Sinclair Lake 58.68 20 P P 03 19 22.7 +1.2
baz=250
G22K Bettles 58.69 25 P P 03 19 22.7 +1.1
baz=256,SNR=34
MORW Morawa 58.75 209 P P 03 19 23.1 +0.6
MORW IAmb IAmb 03 19 34.8
comp=Z,14nm,0.9s
D22K Ayikyak River 58.77 22 P P 03 19 22.2 0.0
D22K Ayikyak River 58.77 22 P P 03 19 23.6 +1.4
baz=254,SNR=31
KSH Kashi 58.78 303 P P 03 19 26.2 +3.3
KSH pP pwP 03 19 39.0 +3.5
KSH pmax pmax
comp=Z,6.0nm,0.6s
KSH LR LR
comp=Z,340nm,14.1s
KSH LR LR
comp=Z,860nm,16.1s
KSH LR LR
comp=Z,750nm,18.9s
GHO Glory Hole Cre 58.79 31 P P 03 19 22.6 0.0
E22K Anaktuvuk Pass 58.88 23 P P 03 19 23.5 +0.5
E22K IAmb IAmb 03 19 26.6
comp=Z,15nm,0.9s
E22K Anaktuvuk Pass 58.88 23 P P 03 19 24.4 +1.3
baz=255
BWN Browne 58.94 28 P P 03 19 24.0 +0.5

B22K Teshekpuk Lake 58.95 21 P P 03 19 24.2 +0.8
B22K Teshekpuk Lake 58.95 21 P P 03 19 24.4 +1.0
baz=252,SNR=5.3
KNK Knik Glacier 58.96 31 P P 03 19 23.9 +0.2
KNK Knik Glacier 58.96 31 P P 03 19 23.9 +0.2
baz=262,SNR=7.7
RND Reindeer 59.08 29 P P 03 19 23.4 -1.1
RND Reindeer 59.08 29 P P 03 19 23.4 -1.1
RND pmax pmax
comp=Z,22nm,0.8s
SML Sawmill 59.08 31 P P 03 19 24.3 -0.2
SML Sawmill 59.08 31 P P 03 19 24.6 +0.1
baz=262,SNR=18
MCK McKinley 59.09 29 P P 03 19 24.4 -0.1
baz=260,SNR=14
WAT1 Susitna Watana 59.12 30 P P 03 19 24.5 -0.3
baz=261
I23K Minto, Yukon-K 59.16 27 P P 03 19 24.9 0.0
I23K IAmb IAmb 03 19 27.6
comp=Z,14nm,0.8s
I23K Minto, Yukon-K 59.16 27 P P 03 19 25.9 +0.9
baz=259,SNR=17
NEA2 Nenana 59.18 28 P P 03 19 24.9 -0.3
NEA2 Nenana 59.18 28 P P 03 19 25.7 +0.6
baz=260,SNR=27
G23K Bananza Creek 59.21 25 P P 03 19 26.7 +1.3
baz=258,SNR=36
H23K Yukon River 59.22 26 P P 03 19 26.1 +0.7
H23K IAmb IAmb 03 19 28.9
comp=Z,20nm,0.8s
H23K Yukon River 59.22 26 P P 03 19 26.8 +1.4
baz=259,SNR=26
COLD Coldfoot 59.26 24 P P 03 19 26.7 +1.1
baz=257,SNR=7.6
P23K Montague Islan 59.31 33 P P 03 19 26.8 +0.7
baz=264
M23K Glacier View 59.36 31 P P 03 19 26.5 +0.1
baz=263,SNR=12
SGDS Sogindy 59.43 308 *eP* **P 03 19 26.5 -0.8**
baz=308
SGDS Sogindy 59.43 308 *eP* **P 03 19 26.5 -0.8**
WAT6 Susitna Watana 59.45 30 P P 03 19 27.4 +0.2
baz=262,SNR=19
D23K Nanushuk River 59.49 22 P P 03 19 28.7 +1.5
baz=256
SCM Sheep Creek Mo 59.55 31 P P 03 19 27.9 +0.1
SCM Sheep Creek Mo 59.55 31 P P 03 19 28.3 +0.5
baz=263,SNR=19
SCM Sheep Creek Mo 59.55 31 P P 03 19 27.9 +0.1
SCM pmax pmax
comp=Z,47nm,0.8s
GLI Glacier Island 59.55 32 P P 03 19 27.9 +0.2
GLI Glacier Island 59.55 32 P P 03 19 27.8 0.0
baz=264
WRH Wood River Hil 59.58 28 P P 03 19 27.1 -0.8
WRH IAmb IAmb 03 19 30.5
comp=Z,9.0nm,0.8s
AAK Ala-Archa 59.60 307 LR LR 03 48 05.7
comp=Z,328nm,18.4s,baz=81,slow=39
AAK Ala-Archa 59.60 307 *i P* **P 03 19 28.2 -0.4**
AAK pmax pmax
comp=Z,14nm,2.3s
MDM Murphy Dome 59.60 27 IAmb IAmb 03 19 31.0
comp=Z,19nm,1.1s
E23K Chandalar 59.66 24 P **P 03 19 30.2 +1.7**
baz=257,SNR=24
DHY Denali Highway 59.69 29 IAmb IAmb 03 20 20.5
comp=Z,10nm,0.9s
DHY Denali Highway 59.69 29 P **P 03 19 28.9 +0.1**
baz=262,SNR=8.6
CCB Clear Creek Bu 59.73 28 IAmb IAmb 03 19 31.1
comp=Z,27nm,1.6s
C23K Itkillik River 59.73 21 P **P 03 19 30.1 +1.2**
baz=255
BTLS Baital 59.74 310 *eP* **P 03 19 28.8 -0.5**
comp=Z,6.4nm,1.1s,baz=310
BTLS Baital 59.74 310 *eP* **P 03 19 28.8 -0.5**
BTLS pmax pmax
comp=Z,6.0nm,1.1s
Q23K Middleton Isla 59.79 34 P **P 03 19 31.0 +1.7**
baz=265
TOLK Toolik Lake Re 59.80 23 P **P 03 19 30.6 +1.1**
baz=257,SNR=12
H24K Noodor Dome 59.89 26 P **P 03 19 31.1 +1.1**
baz=260,SNR=33
POKR Poker Plat Res 59.96 27 IAmb IAmb 03 19 36.9
comp=Z,9.6nm,0.8s
POKR Poker Plat Res 59.96 27 P **P 03 19 30.6 +0.1**
baz=261,SNR=11
HDA Harding Lake 60.06 28 IAmb IAmb 03 19 32.7
comp=Z,16nm,0.9s
HDA Harding Lake 60.06 28 P **P 03 19 30.7 -0.5**
baz=262,SNR=14
E24K Your Creek 60.08 24 P **P 03 19 32.9 +1.6**
baz=258
M24K Tolsona, Glenn 60.12 31 P **P 03 19 33.2 +1.4**
baz=264
IL31 60.14 28 IAmb IAmb 03 19 33.2
comp=Z,21nm,0.9s
ILAR Eielson Array 60.14 28 P **P 03 19 30.8 -0.9**
ILAR Eielson Array 60.14 28 P **P 03 19 31.1 -0.7**
comp=Z,12nm,0.7s,baz=258,slow=5.7,SNR=145
ILAR LR LR 03 43 14.8
comp=Z,227nm,20.7s,baz=258,slow=34
comp=Z,12nm,0.7s
ILAR Eielson Array 60.14 28 P **P 03 19 30.8 -0.9**
EYAK Cordova Ski Ar 60.18 32 P **P 03 19 32.8 +0.7**
baz=265
KLU Klutina 60.18 31 P **P 03 19 32.8 +0.7**
KLU Klutina 60.18 31 P **P 03 19 32.8 +0.7**
baz=265,SNR=16
D24K Happy Valley 60.18 22 P **P 03 19 33.5 +1.6**
baz=258,SNR=16
F24K Squaw Lake 60.19 24 IAmb IAmb 03 19 35.9
comp=Z,13nm,0.8s
F24K Squaw Lake 60.19 24 P **P 03 19 33.5 +1.4**
baz=259,SNR=21
G24K Hadweenzic Riv 60.20 25 P **P 03 19 33.6 +1.5**
baz=260,SNR=41
C24K Franklin Bluff 60.35 22 P **P 03 19 34.1 +1.1**
baz=257,SNR=11
K24K Donnelly Dome 60.49 29 P **P 03 19 34.5 +0.3**
baz=263,SNR=8.5
PAX Paxson 60.54 30 P **P 03 19 34.9 +0.3**
baz=264,SNR=11
HARP HAARP 60.63 30 P **P 03 19 35.9 +0.8**
baz=265,SNR=6.3
G25K Bearman Lake 60.75 25 P **P 03 19 37.2 +1.4**
baz=262
J25K Salcha River, 60.76 28 IAmb IAmb 03 19 39.2
comp=Z,13nm,0.8s
J25K Salcha River, 60.76 28 P **P 03 19 35.0 -1.1**
baz=263,SNR=28
BMRM Bremner River 60.77 32 P **P 03 19 36.9 +0.7**
baz=266,SNR=7.8
H25L Birch Creek 60.79 26 P **P 03 19 37.4 +1.3**
baz=262
KAIM Kayak Island 60.80 33 P **P 03 19 37.5 +1.2**
baz=267
PRP Porcupine Dome 60.81 27 P **P 03 19 36.1 -0.4**
PRP Porcupine Dome 60.81 27 P **P 03 19 36.3 -0.2**
baz=263,SNR=13
N25K Chitina, Valde 60.82 31 P **P 03 19 37.4 +0.8**
baz=266
F25K Christian Rive 61.05 24 P **P 03 19 39.8 +1.8**
baz=261,SNR=27
D25K Kavik River 61.07 22 P **P 03 19 39.1 +1.1**
baz=260
E25K Arctic Village 61.16 24 IAmb IAmb 03 19 42.7
comp=Z,18nm,0.9s
E25K Arctic Village 61.16 24 P **P 03 19 40.4 +1.7**
baz=261,SNR=23
GLB Gilahina Butte 61.19 31 IAmb IAmb 03 19 49.2
comp=Z,15nm,0.9s
SCRK Sand Creek 61.30 29 P **P 03 19 40.0 +0.2**
baz=265,SNR=48
VRDI Verde Repeater 61.35 32 P **P 03 19 40.5 +0.3**
VRDI IAmb IAmb 03 19 59.3
comp=Z,37nm,1.7s
BMAR Burnt Mountain 61.44 25 P **P 03 19 41.5 +0.9**
CRQE Cirque 61.50 32 P **P 03 19 41.8 +0.6**
baz=268,SNR=9.5
L26K Log Cabin Wild 61.51 30 IAmb IAmb 03 19 44.6
comp=Z,9.3nm,0.6s
L26K Log Cabin Wild 61.51 30 P **P 03 19 41.8 +0.7**
baz=266
J26L Joseph Creek 61.53 28 P **P 03 19 41.5 +0.2**

baz=265,SNR=37
MCARA McCarthy VSAT 61.56 32 P **P 03 19 42.1 +0.7**
baz=267,SNR=7.0
NWAO Narrogin (SRO) 61.61 205 LR LR 03 46 34.9
comp=Z,94nm,21.1s,baz=239,slow=36
M26K Nabesna, AK 61.63 30 P **P 03 19 42.6 +0.6**
baz=267
F26K Sheenjek River 61.63 24 P **P 03 19 43.6 +1.7**
baz=263,SNR=34
C26K Camden Bay 61.68 22 P **P 03 19 44.1 +2.1**
baz=261,SNR=11
G26K Porcupine Rive 61.68 25 P **P 03 19 43.8 +1.6**
baz=264,SNR=30
BVAR Borovoye Array 61.73 319 P **P 03 19 42.8 0.0**
comp=Z,32nm,0.5s,baz=89,slow=7.2,SNR=168
BVAR LR LR 03 48 11.0
comp=Z,455nm,18.6s,baz=83,slow=38
comp=Z,32nm,0.5s
I26K Coal Creek Min 61.77 27 P **P 03 19 43.4 +0.6**
baz=265
NIL Nilore 61.80 297 P **P 03 19 43.3 -0.2**
NIL Nilore 61.80 297 P **P 03 19 43.3 -0.2**
NIL pmax pmax
comp=Z,57nm,1.0s
BRVK Borovoye 61.80 319 P **P 03 19 42.9 -0.3**
BRVK Borovoye 61.80 319 P **P 03 19 42.9 -0.3**
BRVK pmax pmax
comp=Z,22nm,0.6s
MESA MESA 62.05 33 P **P 03 19 44.7 -0.2**
baz=269
C27K Jago River 62.05 22 P **P 03 19 45.9 +1.3**
baz=262,SNR=13
K27K Chicken 62.14 29 P **P 03 19 45.8 +0.5**
baz=267
M27K Edge Creek, AK 62.15 31 P **P 03 19 45.2 -0.4**
baz=268
GRNC Granite Creek 62.16 32 IAmb IAmb 03 19 48.4
comp=Z,16nm,0.8s
L27K Beaver Creek, 62.20 30 IAmb IAmb 03 19 48.6
comp=Z,7.9nm,0.8s
L27K Beaver Creek, 62.20 30 P **P 03 19 46.2 +0.4**
baz=267,SNR=12
BCAR Beaver Creek A 62.22 30 P **P 03 19 46.0 +0.1**
CTG Chitna Glacier 62.36 32 P **P 03 19 47.4 +0.4**
baz=269
CTGM Chitina Glacie 62.37 32 IAmb IAmb 03 19 51.0
comp=Z,14nm,0.8s
I27K Kandik River 62.44 27 P **P 03 19 47.7 +0.4**
baz=266,SNR=12
KKAR Karatay Array 62.46 308 P **P 03 19 47.6 -0.2**
KKAR Karatay Array 62.46 308 P **P 03 19 47.6 -0.2**
G27K Doyon Strip 62.51 25 IAmb IAmb 03 20 08.8
comp=Z,27nm,1.9s
G27K Doyon Strip 62.51 25 P **P 03 19 48.6 +0.9**
baz=266,SNR=9.7
H27K Steamboat Moun 62.52 26 P **P 03 19 49.1 +1.3**
baz=266,SNR=35
PALK Pallekele 62.57 266 LR LR 03 47 19.9
comp=Z,180nm,18.9s,baz=186,slow=36
EGAK Eagle 62.58 28 IAmb IAmb 03 19 55.4
comp=Z,7.7nm,0.8s
EGAK Eagle 62.58 28 P **P 03 19 48.4 +0.2**
baz=267,SNR=8.9
E27K Coleen River 62.65 24 IAmb IAmb 03 19 52.4
comp=Z,8.9nm,0.9s
E27K Coleen River 62.65 24 P **P 03 19 49.8 +1.1**
baz=265,SNR=17
BTK Batken 62.65 304 P **P 03 19 49.0 -0.3**
YUK3 Moose Creek 62.80 31 P **P 03 19 50.6 +0.6**
baz=269,SNR=5.9
O28M Mount Upton 62.92 32 P **P 03 19 51.7 +0.8**
baz=270,SNR=7.3
BRLS Borolday 62.96 308 *eP* **P 03 19 51.6 +0.3**
baz=307
BRLS Borolday 62.96 308 *eP* **P 03 19 51.5 +0.3**
D27M Malcolm River 62.97 23 IAmb IAmb 03 19 54.6
comp=Z,15nm,0.8s
D27M Malcolm River 62.97 23 P **P 03 19 51.9 +1.1**
baz=265
I28M Miner Creek 63.13 27 IAmb IAmb 03 19 54.8
comp=Z,11nm,0.8s
I28M Miner Creek 63.13 27 P **P 03 19 52.7 +0.7**
baz=268,SNR=20
YUK8 Steele Glacier 63.13 32 P **P 03 19 53.0 +0.7**
baz=270
F28M Old Crow 63.26 25 IAmb IAmb 03 19 56.3
comp=Z,14nm,0.8s
F28M Old Crow 63.26 25 P **P 03 19 53.9 +1.2**
baz=267,SNR=23
DAWY Dawson 63.32 29 IAmb IAmb 03 19 56.2
comp=Z,9.7nm,0.8s
DAWY Dawson 63.32 29 P **P 03 19 54.0 +0.8**
baz=269,SNR=13
PNL Peninsula 63.33 34 P **P 03 19 53.8 +0.5**
baz=271
E28M Babbage River 63.44 24 IAmb IAmb 03 19 57.9
comp=Z,16nm,0.9s
E28M Babbage River 63.44 24 P **P 03 19 55.5 +1.6**
baz=267,SNR=26
YUK4 Talbot Arm 63.67 32 P **P 03 19 57.3 +1.5**
baz=271,SNR=13
O29M Mount Kennedy 63.73 33 P **P 03 19 57.1 +1.0**
baz=272
M29M Somme Creek 63.74 30 P **P 03 19 57.3 +1.2**
baz=271,SNR=22
D28M Stokes Point 63.77 23 P **P 03 19 56.9 +0.9**
baz=267
H29M Whitestone 63.80 26 P **P 03 19 57.4 +1.1**
baz=269,SNR=17
I29M Ogilvie Camp, 63.81 27 P **P 03 19 57.1 +0.7**
baz=270,SNR=11
YUK6 Outpost Mounta 63.82 32 P **P 03 19 57.0 +0.2**
baz=272
J29N Klondike Camp 63.84 28 P **P 03 19 57.0 +0.3**
baz=270
L29M L29M 63.88 30 IAmb IAmb 03 20 00.6
comp=Z,18nm,0.9s
L29M L29M 63.88 30 P **P 03 19 58.5 +1.5**
baz=271,SNR=19
G29M Pine Creek 63.95 25 P **P 03 19 58.7 +1.4**
baz=269,SNR=14
E29M Blow River 64.03 24 IAmb IAmb 03 20 15.6
comp=Z,11nm,0.9s
E29M Blow River 64.03 24 P **P 03 19 58.8 +1.0**
baz=268,SNR=13
K29M Barlow Dome 64.15 29 IAmb IAmb 03 20 02.1
comp=Z,12nm,0.9s
K29M Barlow Dome 64.15 29 P **P 03 19 59.9 +1.1**
baz=271,SNR=19
P29M Windy Craggy 64.17 34 P **P 03 20 00.5 +1.6**
baz=273,SNR=7.1
HYT Haines Junctio 64.24 32 IAmb IAmb 03 20 03.1
comp=Z,13nm,0.8s
HYT Haines Junctio 64.24 32 P **P 03 20 01.0 +1.5**
baz=272,SNR=7.8
SIMJ Simiganj 64.27 303 P **P 03 19 59.5 -0.5**
N30M Aishikik Lake 64.42 32 P **P 03 20 00.5 0.0**
baz=272
E29K Eagle Plains 64.46 26 P **P 03 20 01.6 +0.9**
baz=270,SNR=21
M30M Minto, Yukon 64.51 30 P **P 03 20 02.2 +1.2**
baz=272,SNR=11
P30M Million Dollar 64.54 33 P **P 03 20 02.4 +1.1**
baz=273
I30M Mount Dempster 64.62 27 IAmb IAmb 03 20 04.7
comp=Z,7.9nm,0.8s
I30M Mount Dempster 64.62 27 P **P 03 20 02.5 +0.6**
baz=271,SNR=14
J30M Hart River 64.65 28 IAmb IAmb 03 20 05.1
comp=Z,12nm,0.8s
J30M Hart River 64.65 28 P **P 03 20 02.8 +0.7**
baz=272,SNR=19
G30M tAoh Zraii Nji 64.66 25 P **P 03 20 02.5 +0.5**
baz=271,SNR=11
F30M Barrier River 64.82 25 P **P 03 20 04.0 +1.1**
baz=271,SNR=10
PLBC Pleasant Camp 64.88 34 P **P 03 20 04.5 +1.0**
baz=274,SNR=8.8
O30N Mendenhall 64.93 32 P **P 03 20 04.5 +0.7**
baz=274
N31M Braeburn, Yuko 65.04 31 IAmb IAmb 03 20 08.0
comp=Z,14nm,0.8s
N31M Braeburn, Yuko 65.04 31 P **P 03 20 05.8 +1.2**
baz=274,SNR=7.0
KBL Kabul 65.04 298 P **P 03 20 04.6 -0.7**
KBL Kabul 65.04 298 P **P 03 20 04.6 -0.7**
KBL pmax pmax
comp=Z,27nm,0.8s

S31K	Pelican	65.07	35	P	P	03 20 04.9	+0.3
	baz=275						
SKAG	Skagway	65.41	34	P	P	03 20 07.5	+0.6
	baz=275						
G31M	Satah River	65.42	25	P	P	03 20 07.5	+0.7
	baz=272,SNR=23						
F31M	Tsiigehtchic	65.61	25	P	P	03 20 08.0	0.0
	baz=273						
M31M	Drury Creek, Y	65.65	31	P	P	03 20 09.2	+0.7
	baz=274,SNR=7.7						
INK	Inuvik	65.65	24	IAmb	IAmb	03 20 09.7	
	comp=Z,11nm,1.0s						
INK	Inuvik	65.65	24	P	P	03 20 08.7	+0.4
	baz=272,SNR=8.9						
R32K	Eaglecrest	65.94	35	IAmb	IAmb	03 20 12.8	
	comp=Z,11nm,0.9s						
R32K	Eaglecrest	65.94	35	P	P	03 20 10.9	+0.6
	baz=276						
S32K	Killisnoo	66.00	36	P	P	03 20 11.2	+0.6
	baz=276						
JIS	Juneau Island	66.01	35	IAmb	IAmb	03 20 14.3	
	comp=Z,13nm,0.9s						
FARO	Faro, Yukon	66.13	31	IAmb	IAmb	03 20 14.6	
	comp=Z,25nm,1.6s						
FARO	Faro, Yukon	66.13	31	P	P	03 20 12.2	+0.6
	baz=275,SNR=5.8						
P32M	Atlin	66.22	33	P	P	03 20 12.4	+0.2
	baz=276						
N32M	Quiet Lake	66.37	32	P	P	03 20 13.6	+0.5
	baz=276						
P33M	Teslin, Yukon	66.60	33	P	P	03 20 15.3	+0.7
	baz=277						
U33K	Whale Pass	66.96	37	P	P	03 20 18.2	+1.3
	baz=278						
Q32M	Nakina River	67.03	34	IAmb	IAmb	03 20 42.7	
	comp=Z,13nm,1.1s						
Q32M	Nakina River	67.03	34	P	P	03 20 19.0	+1.4
	baz=278						
CRAG	Craig	67.05	38	P	P	03 20 18.4	+0.9
	baz=278						
MMPY	Sheldon Lake,	67.06	30	P	P	03 20 18.5	+1.0
	baz=277,SNR=6.3						
WRAK	Wrangell Islan	67.35	37	P	P	03 20 20.8	+1.5
	baz=279						
R33M	Jennings River	67.63	33	IAmb	IAmb	03 21 36.6	
	comp=Z,16nm,1.7s						
R33M	Jennings River	67.63	33	P	P	03 20 22.4	+1.1
	baz=279						
S34M	Telegraph Cree	67.77	35	P	P	03 20 23.2	+1.2
	baz=279,SNR=5.1						
ARU	Arti	68.20	323	P	P	03 20 24.0	-0.7
ARU	Arti	68.20	323	LR	LR	03 52 54.9	
	comp=Z,160nm,18.0s,baz=76,slow=38						
ARU	Arti	68.20	323	*d* P	P	03 20 24.1	-0.7
ARU						03 20 48.9	
ARU						03 22 49.9	
ARU				S	S	03 29 24.8	+1.2
ARU				SS	SS	03 33 43.1	-3.0
ARU				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ARU				MLR	MLR		
	comp=Z,361nm,17.0s						
ARU	Arti	68.20	323	P	P	03 20 24.6	-0.1
	comp=Z,25nm,0.8s,comp=Z,424nm						
DLBC	Dease Lake	68.27	34	IAmb	IAmb	03 20 28.9	
	comp=Z,15nm,1.0s						
DLBC	Dease Lake	68.27	34	P	P	03 20 26.6	+1.3
	baz=280,SNR=7.6						
DLBC	Dease Lake	68.27	34	LR	LR	03 48 16.9	
	comp=Z,214nm,21.0s,baz=266,slow=34						
T35M	Bob Quinn	68.40	36	IAmb	IAmb	03 20 34.0	
	comp=Z,22nm,1.4s						
T35M	Bob Quinn	68.40	36	P	P	03 20 27.5	+1.5
	baz=280						
TGTN	Hyland Airport	68.61	31	P	P	03 20 28.2	+0.9
	baz=280						
ABKAR	Akbulak array	68.71	316	P	P	03 20 27.0	-1.1
ABKAR	Akbulak array	68.71	316	IAmb	IAmb	03 20 47.6	
	comp=Z,8.4nm,0.8s						
C36M	Paulatuk	68.95	22	P	P	03 20 29.2	+0.1
	baz=281						
BKZ	Black Stump Fm	69.41	153	P	P	03 20 31.4	-1.1
AKTO	Aktyubinsk	69.69	317	LR	LR	03 52 38.2	
	comp=Z,324nm,18.6s,baz=72,slow=37						
LIRD	Liard River Hi	70.08	33	P	P	03 20 36.9	+0.5
	baz=283						
THZ	Tophouse	70.28	157	P	P	03 20 38.5	+0.8
WRGLY	Wrigley	70.46	29	P	P	03 20 39.7	+1.1
	baz=283,SNR=8.8						
BBB	Bella Bella	70.59	41	LR	LR	03 45 04.9	
	comp=Z,84nm,21.3s,baz=324,slow=30						
RAR	Rarotonga	70.60	125	LR	LR	03 43 19.0	
	comp=Z,142nm,20.0s,baz=308,slow=29						
TOAD	Toad River Com	70.64	33	P	P	03 20 40.3	+0.5
	baz=284						
KOTAN	Kotaneelee Air	70.92	32	P	P	03 20 42.2	+0.7
	baz=284						
KIRV	Kirov	72.52	327	LR	LR	03 56 08.5	
	comp=Z,705nm,18.0s,baz=69,slow=39						
KIRV	Kirov	72.52	327	*ce* P	P	03 20 51.3	+0.2
SPITS	Spitsbergen Ar	74.17	350	LR	LR	03 54 03.7	
	comp=Z,94nm,21.9s,baz=6.5,slow=36						
YKA	Yellowknife Ar	74.56	28	P	P	03 21 03.2	+0.2
	comp=Z,8.3nm,0.7s,baz=293,slow=5.5,SNR=19						
YKA				LR	LR	03 52 52.2	
	comp=Z,249nm,20.8s,baz=286,slow=35						
	comp=Z,8.3nm,0.7s						
GNW	Green Mountain	75.16	44	IAmb	IAmb	03 21 10.5	
	comp=Z,14nm,1.0s						
RES	Resolute Bay	75.17	14	LR	LR	03 54 58.1	
	comp=Z,101nm,21.6s,baz=348,slow=36						
LVZ	Lovozero	75.36	338	P	P	03 21 07.1	-0.5
	comp=Z,19nm,1.2s						
BELG	Belogornoye	75.40	321	LR	LR	03 57 54.0	
	comp=Z,240nm,18.4s,baz=74,slow=39						
BELG	Belogornoye	75.40	321	*i* P	P	03 21 07.9	-0.1
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
APA	Apatity	75.94	338 ‖	*i* P	P	03 21 09.8	-1.1
APA				*i*		03 21 20.6	
APA				*i*		03 23 56.1	
APA				pmax	pmax		
	comp=Z,12nm,0.7s						
APA				MLR	MLR		
	comp=Z,300nm,14.0s						
F04A	Amboy	75.95	46	IAmb	IAmb	03 21 31.2	
	comp=Z,24nm,1.0s						
H04A	Detroit Lake	76.52	47	IAmb	IAmb	03 21 34.3	
	comp=Z,26nm,1.1s						
LTY	Liberty	76.64	44	IAmb	IAmb	03 21 34.0	
	comp=Z,15nm,1.2s						
I04A	Tendick Farm,	76.67	48	IAmb	IAmb	03 21 30.4	
	comp=Z,18nm,1.1s						
PPT	Papeete	76.72	116	LR	LR	03 50 40.1	
	comp=Z,164nm,18.1s,baz=318,slow=32						
PPT2	Papeete2	76.73	116	*e* LR	LR	03 44 57.8	
	comp=Z,144nm,20.5s						
PPT2				*e* LR	LR	03 45 01.6	
	comp=Z,172nm,23.5s						
B08A	Colville Reser	77.10	43	IAmb	IAmb	03 21 19.1	
	comp=Z,10nm,0.8s						
YBH	Yreka Blue Hor	77.16	50	LR	LR	03 47 23.1	
	comp=Z,147nm,21.4s,baz=281,slow=30						
E07A	Sunnyside	77.41	45	IAmb	IAmb	03 21 21.1	
	comp=Z,9.5nm,0.8s						
ARCES	ARCESS Array B	77.42	342	P	P	03 21 19.4	+0.2
ARCES	ARCESS Array B	77.42	342	P	P	03 21 19.4	+0.2
	comp=Z,8.6nm,0.8s,baz=54,slow=6.2,SNR=16						
ARCES				LR	LR	04 00 58.2	
	comp=Z,159nm,18.1s,baz=59,slow=40						
	comp=Z,8.6nm,0.8s						
ARCES	ARCESS Array B	77.42	342	P	P	03 21 19.4	+0.2
ARCES				pmax	pmax		
	comp=Z,75nm,1.9s						
O02D	Mt. Diablo Mer	77.64	52	IAmb	IAmb	03 21 24.8	
	comp=Z,11nm,0.8s						
J05D	Fort Rock, OR	77.64	48	IAmb	IAmb	03 21 24.5	
	comp=Z,20nm,0.9s						
D08A	Wollman Farm,	77.83	44	IAmb	IAmb	03 21 23.1	
	comp=Z,12nm,1.0s						
NEW	Newport	78.51	42	IAmb	IAmb	03 21 27.3	
	comp=Z,12nm,0.8s						
NEW	Newport	78.51	42	P	P	03 21 26.3	+0.6
	baz=292,SNR=10						
NEW	Newport	78.51	42	LR	LR	03 50 20.7	
	comp=Z,146nm,21.0s,baz=300,slow=31						
MAK	Makhachkala	78.79	312	*e* P	P	03 21 24.0	-3.3
MAK				*e*		03 24 21.1	
MAK				*e* PPP	PPP	03 26 10.7	
MAK				*e* S	S	03 31 16.9	-6.9
MAK				*e* SS	SS	03 36 28.6	+0.6
MAK				*e* SSS	SSS	03 39 51.2	
MAK				pmax	pmax		
	comp=Z,330nm,1.4s						
MAK				MLR	MLR		
	comp=Z,660nm,14.0s						
JOF	Joensuu	78.97	334	*e* P	P	03 21 28.0	+0.1
VRH	Novokhopyorsk	79.25	321	*e* P	P	03 21 26.9	-2.7
VRH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AFDM	Forest Hills D	79.39	52	IAmb	IAmb	03 21 45.6	
	comp=Z,26nm,1.7s						
J08A	Circle Bar Ran	79.49	47	IAmb	IAmb	03 21 34.5	
	comp=Z,15nm,0.8s						
MOS	Moscow	79.53	326	*e* P	P	03 21 29.2	-1.9
MOS				MLR	MLR		
	comp=Z,600nm,18.0s						
BMO	Blue Mountains	79.70	46	IAmb	IAmb	03 21 35.3	
	comp=Z,15nm,1.0s						
TBI	Tubuai	79.74	121	*e* LR	LR	03 46 24.1	
	comp=Z,437nm,21.0s						
VALR	Valaam	79.94	333	*i* P	P	03 21 32.8	-0.4
VALR				pmax	pmax		
	comp=Z,14nm,0.9s						
CMB	Columbia Colle	80.15	53	IAmb	IAmb	03 21 36.5	
	comp=Z,12nm,0.7s						
LPSR	Galich'ya Gora	80.23	323	*e* P	P	03 21 27.5	-7.4
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PNTR	Pine Nut	80.32	52	IAmb	IAmb	03 21 38.6	
	comp=Z,15nm,0.7s						
OBN	Obninsk	80.35	326	LR	LR	04 00 33.4	
	comp=Z,619nm,18.4s,baz=5.5,slow=38						
OBN	Obninsk	80.35	326	*i* P	P	03 21 33.6	-1.9
OBN				*i*		03 21 43.1	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,595nm,18.0s						
YERR	Yerington	80.62	52	IAmb	IAmb	03 21 40.5	
	comp=Z,13nm,0.9s						
VSR	Storozhevoye	80.70	322	*e* P	P	03 21 35.3	-2.2
VSR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
VORD	Divnogorie	80.74	322	*e* P	P	03 21 35.3	-2.4
VORD				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MSO	Missoula	81.06	43	IAmb	IAmb	03 21 41.1	
	comp=Z,26nm,1.9s						
MSO	Missoula	81.06	43	P	P	03 21 39.2	-0.5
	baz=295						
MFID	Camas Ranch	81.24	47	IAmb	IAmb	03 21 42.5	
	comp=Z,13nm,0.8s						
LHV	Little Huntoon	81.44	52	IAmb	IAmb	03 21 45.3	
	comp=Z,13nm,0.9s						
NVAR	Mina Array Bea	81.51	52	P	P	03 21 42.5	+0.1
NVAR	Mina Array Bea	81.51	52	P	P	03 21 43.5	+1.1
	comp=Z,7.2nm,0.7s,baz=267,slow=5.7,SNR=50						
NVAR				LR	LR	03 52 06.5	
	comp=Z,268nm,20.1s,baz=272,slow=31						
	comp=Z,7.2nm,0.7s						
KBZ	Khabaz	81.59	314	P	P	03 21 42.5	+0.2
	comp=Z,7.7nm,0.8s,baz=94,slow=3.0,SNR=17						
KBZ				LR	LR	04 01 21.9	
	comp=Z,517nm,18.1s,baz=61,slow=38						
	comp=Z,7.7nm,0.8s						
KBZ	Khabaz	81.59	314	*ce* P	P	03 21 41.5	-0.8
KBZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KIV	Kislovodsk	81.63	314	P	P	03 21 42.5	-0.3
KIV				IAmb	IAmb	03 22 08.7	
	comp=Z,15nm,0.8s						
KIV	Kislovodsk	81.63	314	*e* P	P	03 21 43.2	+0.4
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,455nm,19.0s						
ONI	Oni	81.69	313	IAmb	IAmb	03 22 16.8	
	comp=Z,19nm,1.2s						
SHA1	Shidzhatmaz	81.74	314	*i* P	P	03 21 43.8	+0.3
PKM	Mcpherson Peak	81.77	56	P	P	03 21 44.7	+0.9
	baz=293						
GNI	Garni	81.79	310	LR	LR	04 02 14.6	
	comp=Z,131nm,18.2s,baz=55,slow=39						
FIA1	FINESS Array S	81.83	335	IAmb	IAmb	03 21 48.2	
	comp=Z,41nm,1.6s						
FINES	FINESS Array B	81.83	335	P	P	03 21 42.6	-0.7
	comp=Z,3.7nm,0.5s,baz=73,slow=4.9,SNR=59						
FINES				LR	LR	04 00 36.0	
	comp=Z,157nm,19.7s,baz=46,slow=38						
	comp=Z,3.7nm,0.5s						
KEF	Keuruu	81.88	336	*e* P	P	03 21 43.1	-0.5
VES	Vestal, Richgr	81.95	55	P	P	03 21 45.5	+1.0
	baz=293						
TIN	Tinemaha, Big	82.11	53	P	P	03 21 46.1	+0.6
	baz=294						
HLID	Hailey	82.12	46	P	P	03 21 46.1	+0.6
	baz=295,SNR=8.0						
VAF	Ylistaro	82.17	337	*e* P	P	03 21 45.0	-0.1
ERBR	Yeremizino-Bor	82.31	317	*e* P	P	03 21 44.8	-1.3
ERBR				*e* S	S	03 31 58.0	-2.5
ERBR				pmax	pmax		
	comp=Z,38nm,0.5s						
ERBR				MLR	MLR		
	comp=Z,399nm,14.0s						
ARVC	Arvin	82.42	55	P	P	03 21 47.4	+0.4
	baz=294						
CWC	Cottonwood Cre	82.46	54	P	P	03 21 47.4	0.0
	baz=294						
ISA	Isabella, Lake	82.48	54	P	P	03 21 47.0	-0.3
	baz=294						
LABN	Labinsk	82.62	315	*e* P	P	03 21 53.7	+5.9
LABN				*e* S	SKSac	03 32 09.8	+2.1
LABN				pmax	pmax		
	comp=Z,31nm,0.5s						
LABN				MLR	MLR		
	comp=N,773nm,15.0s						
LABN				MLR	MLR		
	comp=Z,506nm,14.0s						
ARBE	Arbavere	83.03	333	*e* P	P	03 21 49.1	-0.5
BOZ	Bozeman (W)	83.03	43	IAmb	IAmb	03 21 52.2	
	comp=Z,11nm,1.2s						
BOZ	Bozeman (W)	83.03	43	P	P	03 21 50.6	+0.4
	baz=297,SNR=13						
MPMC	Manual Prospec	83.05	54	P	P	03 21 51.0	+0.5
	baz=294,SNR=14						
EGMT	Eagleton	83.08	40	P	P	03 21 50.6	+0.3
	baz=298,SNR=6.6						
LRMC	Laurel Mtn Rad	83.14	54	P	P	03 21 50.9	0.0
	baz=294						
EDW2	Edwards Air Fo	83.15	55	P	P	03 21 51.4	+0.5
	baz=294						
MEF	Metsahovi	83.22	334	*e* P	P	03 21 50.2	-0.4
FURC	Furnace Creek,	83.35	53	P	P	03 21 52.4	+0.7
	baz=294,SNR=8.4						
SCI2	San Clemente I	83.49	57	P	P	03 21 53.6	+1.0
	baz=294						
R11B	Troy Canyon, C	83.50	51	P	P	03 21 53.3	+0.6
	baz=295,SNR=13						
TPNV	Topopah Spring	83.60	53	P	P	03 21 53.8	+0.5
	baz=295,SNR=18						
GWY	Greenwater Val	83.61	53	IAmb	IAmb	03 21 56.0	
	comp=Z,12nm,0.9s						
S11A	Rachel	83.68	52	IAmb	IAmb	03 22 19.4	
	comp=Z,15nm,1.1s						
SOC	Sochi	83.73	315	*e* P	P	03 21 51.9	-1.7
SOC				*e*		03 25 03.9	
SOC				*e* PPP	PPP	03 27 00.5	
SOC				*e* S	S	03 32 11.2	-3.9
SOC				*e* SS	SS	03 37 35.9	-5.7
SOC				MLR	MLR		
	comp=Z,493nm,20.0s						
RAF	Rauma	83.76	335	*e* P	P	03 21 52.5	-0.8
JMIC	Jan Mayen	83.79	351	LR	LR	03 59 22.7	
	comp=Z,26nm,21.9s,baz=42,slow=36						
GSC	Goldstone, Bar	83.87	54	IAmb	IAmb	03 22 08.7	
	comp=Z,9.0nm,0.9s						
GSC	Goldstone, Bar	83.87	54	P	P	03 21 54.6	0.0
	baz=294,SNR=7.4						
RRX	Edison Barstow	83.90	55	P	P	03 21 54.8	+0.2
	baz=294						
FFC	Flin Flon	83.95	32	P	P	03 21 55.0	+0.6
FFC	Flin Flon	83.95	32	P	P	03 21 55.0	+0.6
FFC				pmax	pmax		
	comp=Z,16nm,0.9s						
SHOC	Shoshone, Teco	84.02	54	P	P	03 21 55.5	+0.3
	baz=295						
YFT	Old Faithful	84.05	44	IAmb	IAmb	03 22 00.4	
	comp=Z,16nm,1.0s						
SUMG	Summit	84.15	1	IAmb	IAmb	03 22 09.4	
	comp=Z,5.8nm,0.7s						
SUMG	Summit	84.15	1	*i* P	P	03 21 55.0	-0.7
IMW	Indian Meadow	84.24	45	IAmb	IAmb	03 21 60.0	
	comp=Z,9.8nm,0.8s						
H17A	Grant Village	84.24	44	IAmb	IAmb	03 22 00.4	
	comp=Z,25nm,1.4s						
H17A	Grant Village	84.24	44	P	P	03 21 58.3	+1.8
	baz=297						
MURC	Murrieta	84.28	56	P	P	03 21 56.3	-0.3
	baz=294						
PRN	Pahroc Range	84.28	52	IAmb	IAmb	03 22 20.0	
	comp=Z,21nm,1.7s						
FXWY	Fox Creek	84.30	45	IAmb	IAmb	03 22 12.0	
	comp=Z,13nm,1.4s						
FLWY	Flagg Ranch	84.31	44	IAmb	IAmb	03 22 00.6	
	comp=Z,13nm,0.8s						
MTSE	Matsula	84.36	333	*e* P	P	03 21 55.6	-0.8
SPUT	South Promonto	84.41	47	IAmb	IAmb	03 22 00.3	
	comp=Z,9.8nm,1.0s						
HEC	Hector,Ludlow	84.42	55	P	P	03 21 57.0	-0.3
	baz=295						
TUQ	Turquoise Moun	84.47	54	P	P	03 21 57.7	0.0
	baz=295						
109C	Camp Elliot, M	84.64	57	P	P	03 21 58.8	+0.5
	baz=295						
ANN	Anapa	84.64	317	*e* P	P	03 21 52.4	-5.7
ANN				MLR	MLR		
	comp=E,345nm,17.0s						
ANN				MLR	MLR		
	comp=Z,320nm,20.0s						
AHID	Auburn Hatcher	84.65	46	IAmb	IAmb	03 22 01.4	
	comp=Z,12nm,1.1s						
DUG	Dugway, Tooele	84.65	48	IAmb	IAmb	03 21 59.5	
	comp=Z,8.3nm,0.9s						
DUG	Dugway, Tooele	84.65	48	P	P	03 21 59.0	+0.5
	baz=296,SNR=12						
PSUT	Pine Spring	84.65	50	IAmb	IAmb	03 22 01.2	
	comp=Z,8.5nm,1.0s						
RLMT	Red Lodge	84.73	43	P	P	03 21 59.8	+0.9
	baz=298,SNR=13						
PFO	Pinyon Flats O	84.83	56	P	P	03 21 59.7	+0.2
PFO				IAmb	IAmb	03 22 00.8	
	comp=Z,8.1nm,0.8s						
PFO	Pinyon Flats O	84.83	56	P	P	03 21 59.5	0.0
	baz=295,SNR=9.8						
PFO	Pinyon Flats O	84.83	56	LR	LR	03 54 07.1	
	comp=Z,130nm,19.1s,baz=306,slow=32						
PFO	Pinyon Flats O	84.83	56	P	P	03 21 59.7	+0.2
PFO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TPFO	Pinon Flats	84.84	56	P	P	03 21 59.1	-0.4
	baz=295,SNR=8.9						
HWUT	Hardware Ranch	84.87	47	IAmb	IAmb	03 22 02.5	
	comp=Z,11nm,1.0s						
PMD	Palm Desert	84.88	56	IAmb	IAmb	03 22 13.3	
	comp=Z,9.0nm,0.8s						
GMRC	Granite Mounta	84.94	54	P	P	03 21 59.9	-0.2
	baz=295,SNR=8.8						
AAL	Aland	84.97	335	*e* P	P	03 21 58.2	-1.3
BELC	Belle Mtn. Jos	85.02	55	P	P	03 22 00.0	-0.4
	baz=295,SNR=9.1						
V12A	Nelson	85.14	53	IAmb	IAmb	03 22 04.0	
	comp=Z,8.5nm,1.0s						
CTU	Camp Tracy	85.15	48	IAmb	IAmb	03 22 03.7	
	comp=Z,9.5nm,0.9s						
MONP2	Monument Peak	85.16	56	P	P	03 22 01.9	+0.6
	baz=295,SNR=6.8						
TCUT	Toone Canyon	85.19	47	IAmb	IAmb	03 22 04.6	
	comp=Z,14nm,0.8s						
JLU	Jordanelle	85.40	48	IAmb	IAmb	03 22 05.0	
	comp=Z,14nm,0.9s						
IKP	In-Ko-Pah, Jac	85.50	56	P	P	03 22 02.8	0.0
	baz=295						
BC3	Big Chuckawall	85.57	55	P	P	03 22 03.7	+0.5
	baz=295,SNR=10						
IRM	Iron Mountain	85.59	55	P	P	03 22 03.2	0.0
	baz=296,SNR=6.6						
SWSC	Sam W. Stewart	85.61	56	P	P	03 22 02.6	-0.6
	baz=295						
BW06	Boulder Array	85.66	45	P	P	03 22 03.4	-0.2
	baz=298,SNR=11						
PDAR	Pinedale Array	85.66	45	P	P	03 22 03.6	0.0
	comp=Z,4.0nm,0.7s,baz=257,slow=2.9,SNR=19						
PDAR				LR	LR	03 55 29.6	
	comp=Z,182nm,20.1s,baz=304,slow=32						
	comp=Z,4.0nm,0.7s						
NEE2	Needles Airpor	85.72	54	P	P	03 22 03.7	-0.1
	baz=296						
UPP	Uppsala	86.08	336	*e* P	P	03 22 03.7	-1.3
DGMT	Dagmar	86.10	38	P	P	03 22 05.3	-0.1
	baz=302						
BLYC	Blythe	86.23	55	IAmb	IAmb	03 22 09.2	
	comp=Z,11nm,1.2s						
PABE	Paberze	86.23	330	*e* P	P	03 22 05.3	-0.5
PDMCI	Parker Dam,Lak	86.28	54	P	P	03 22 07.6	+1.0
	baz=296,SNR=6.7						
GLA	Glamis	86.30	56	IAmb	IAmb	03 22 08.4	
	comp=Z,11nm,0.8s						
GLA	Glamis	86.30	56	P	P	03 22 07.9	+1.1
	baz=296,SNR=5.5						
Q16A	Castle Valley	86.36	49	IAmb	IAmb	03 22 10.1	
	comp=Z,29nm,1.5s						
AK03	Malin Array Si	86.41	325	P	P	03 22 05.1	-1.7
AKASG	Malin Array Be	86.42	325	P	P	03 22 05.1	-1.8
	comp=Z,3.1nm,0.6s,baz=53,slow=4.9,SNR=8.0						
AKASG				LR	LR	04 04 46.0	
	comp=Z,276nm,18.6s,baz=52,slow=38						
	comp=Z,3.1nm,0.6s						
AKBB	Malin Array Si	86.42	325	*ce* P	P	03 22 04.8	-2.1
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKBB	Malin Array Si	86.42	325	P	P	03 22 05.2	-1.7
AK01	Malin Array Si	86.43	325	P	P	03 22 04.9	-2.0
KIEV	Kiev	86.43	325	P	P	03 22 05.7	-1.2
KIEV	Kiev	86.43	325	P	P	03 22 05.7	-1.2
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KIEV	Kiev	86.43	325	P	P	03 22 05.1	-1.8
	comp=Z,41nm,1.4s						
AK04	Malin Array Si	86.44	325	P	P	03 22 05.0	-2.0
P18A	Preston Nutter	86.67	48	IAmb	IAmb	03 22 10.7	
	comp=Z,10nm,0.8s						
U15A	North Rim	86.69	52	IAmb	IAmb	03 22 11.9	
	comp=Z,7.6nm,0.9s						
SRU	San Rafael Swe	86.72	49	IAmb	IAmb	03 22 22.5	
	comp=Z,13nm,0.8s						
HMU	Henry Mountain	87.11	50	IAmb	IAmb	03 22 12.5	
	comp=Z,8.4nm,0.8s						
NC405	NORSAR Array S	87.28	339	IAmb	IAmb	03 22 13.9	
	comp=Z,14nm,0.8s						
Y14A	Wickenburg	87.28	54	IAmb	IAmb	03 22 13.2	
	comp=Z,10nm,0.8s						
NC303	NORSAR Array S	87.31	339	IAmb	IAmb	03 22 10.8	
	comp=Z,11nm,1.0s						
HFS	Hagfors	87.31	337	P	P	03 22 09.5	-1.6
	comp=Z,3.7nm,0.5s,baz=93,slow=3.3,SNR=39						
HFS				LR	LR	04 04 27.2	
	comp=Z,129nm,20.2s,baz=46,slow=38						
	comp=Z,3.7nm,0.5s						
NB201	NORSAR Array S	87.47	339	IAmb	IAmb	03 22 15.3	
	comp=Z,22nm,1.4s						
NC204	N

RAYN	**Ar Rayn**	**88.02**	**295**	P	**P**	**03 22 14.3**	**-0.9**
RAYN				IAmb	IAmb	03 22 31.5	
	comp=Z,7.0nm,0.8s						
RAYN	**Ar Rayn**	**88.02**	**295**	P	**P**	**03 22 14.3**	**-0.9**
RAYN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
214A	**Organ Pipe Nat**	**88.31**	**56**	IAmb	IAmb	03 22 18.4	
	comp=Z,9.8nm,0.8s						
214A	**Organ Pipe Nat**	**88.31**	**56**	P	**P**	**03 22 17.3**	**+0.8**
	baz=297						
RSSD	**Black Hills**	**88.47**	**42**	P	**P**	**03 22 16.9**	**-0.3**
	baz=302						
N23A	**Red Feather La**	**88.92**	**45**	IAmb	IAmb	03 22 22.7	
	comp=Z,7.9nm,1.1s						
N23A	**Red Feather La**	**88.92**	**45**	P	**P**	**03 22 20.3**	**+0.8**
	baz=301,SNR=5.7						
MDND	**Maddock**	**89.02**	**37**	P	**P**	**03 22 19.4**	**0.0**
	baz=305						
MVCO	**Mesa Verde**	**89.02**	**50**	IAmb	IAmb	03 22 26.3	
	comp=Z,24nm,1.9s						
MVCO	**Mesa Verde**	**89.02**	**50**	P	**P**	**03 22 19.8**	**-0.2**
	baz=299						
SFJD	**Kangerlussuaq**	**89.12**	**6**	LR	LR	04 02 20.7	
	comp=Z,103nm,21.3s,baz=342,slow=36						
W18A	**Petrified Fore**	**89.14**	**52**	P	**P**	**03 22 20.3**	**-0.2**
	baz=298						
FRB	**Frobisher Bay**	**89.39**	**14**	LR	LR	04 08 21.6	
	comp=Z,122nm,18.6s,baz=2.0,slow=40						
BR131	**Keskin Array S**	**89.58**	**314**	IAmb	IAmb	03 22 42.0	
	comp=Z,15nm,1.6s						
BRTR	**Keskin Array B**	**89.58**	**314**	P	**P**	**03 22 20.6**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=66,slow=3.0,SNR=12						
BRTR				LR	LR	04 06 42.9	
	comp=Z,153nm,18.9s,baz=39,slow=38						
	comp=Z,1.6nm,0.7s						
BRTR	**Keskin Array B**	**89.58**	**314**	P	**P**	**03 22 20.7**	**-1.7**
ULM	**Lac du Bonnet**	**89.58**	**34**	P	**P**	**03 22 21.7**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=314,slow=4.2,SNR=8.6						
ULM				LR	LR	04 03 23.5	
	comp=Z,102nm,18.8s,baz=320,slow=36						
	comp=Z,3.8nm,0.8s						
TUC	**Tucson**	**89.68**	**55**	P	**P**	**03 22 23.5**	**+0.5**
TUC	**Tucson**	**89.68**	**55**	P	**P**	**03 22 23.2**	**+0.2**
	baz=298						
TUC	**Tucson**	**89.68**	**55**	P	**P**	**03 22 23.5**	**+0.5**
TUC				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ISCO	**Idaho Springs**	**89.70**	**46**	P	**P**	**03 22 23.6**	**+0.4**
	baz=301						
S22A	**4UR Ranch, Cre**	**89.91**	**48**	P	**P**	**03 22 24.9**	**+0.7**
	baz=300,SNR=6.6						
Q24A	**Divide**	**90.44**	**47**	P	**P**	**03 22 27.4**	**+0.8**
	baz=301						
AGMN	**Agassiz Nation**	**90.78**	**35**	IAmb	IAmb	03 22 29.7	
	comp=Z,9.8nm,0.8s						
AGMN	**Agassiz Nation**	**90.78**	**35**	P	**P**	**03 22 27.4**	**-0.2**
	baz=308						
SDCO	**Great Sand Dun**	**90.82**	**48**	P	**P**	**03 22 27.5**	**-0.9**
	baz=301,SNR=10						
KOLS	**Kolonicke sedl**	**91.10**	**326**	*e*P	**P**	**03 22 30.0**	**+0.9**
KOLS	**Kolonicke sedl**	**91.10**	**326**	*e*P	**P**	**03 22 30.0**	**+0.9**
319A	**Douglas**	**91.25**	**55**	IAmb	IAmb	03 22 33.6	
	comp=Z,7.3nm,0.9s						
BORG	**Borgarnes**	**91.29**	**354**	LR	LR	04 12 35.2	
	comp=Z,26nm,18.4s,baz=345,slow=42						
OGNE	**Ogallala**	**91.42**	**44**	P	**P**	**03 22 30.7**	**-0.1**
	baz=303						
ANMO	**Albuquerque**	**91.57**	**51**	P	**P**	**03 22 31.1**	**-0.8**
ANMO	**Albuquerque**	**91.57**	**51**	P	**P**	**03 22 32.2**	**+0.3**
	baz=300						
ANMO	**Albuquerque**	**91.57**	**51**	LR	LR	03 58 45.8	
	comp=Z,193nm,20.1s,baz=31,slow=32						
ANMO	**Albuquerque**	**91.57**	**51**	P	**P**	**03 22 31.1**	**-0.8**
121A	**Cookes Peak, D**	**91.81**	**53**	IAmb	IAmb	03 22 36.5	
	comp=Z,7.6nm,0.9s						
121A	**Cookes Peak, D**	**91.81**	**53**	P	**P**	**03 22 32.8**	**-0.2**
	baz=300,SNR=8.9						
T25A	**Trinidad**	**91.88**	**48**	IAmb	IAmb	03 22 34.4	
	comp=Z,8.5nm,1.0s						
T25A	**Trinidad**	**91.88**	**48**	P	**P**	**03 22 33.9**	**+0.7**
	baz=302						
F33A	**5 Mile Ranch,**	**92.03**	**37**	IAmb	IAmb	03 22 34.6	
	comp=Z,10nm,1.0s						
ECSD	**EROS Data Cent**	**93.12**	**39**	P	**P**	**03 22 38.3**	**-0.3**
	baz=307						
VYHS	**Vyhne**	**93.13**	**327**	*e*P	**P**	**03 22 37.8**	**-0.7**
VYHS	**Vyhne**	**93.13**	**327**	*e*P	**P**	**03 22 37.8**	**-0.7**
EYMN	**Ely**	**93.27**	**34**	P	**P**	**03 22 38.0**	**-1.1**
	baz=311						
RTBA	**Rita Blanca**	**93.39**	**48**	IAmb	IAmb	03 22 42.1	
	comp=Z,11nm,1.1s						
EIL	**Elat**	**93.67**	**304**	LR	LR	04 10 59.4	
	comp=Z,94nm,18.3s,baz=65,slow=40						
VRAC	**Vranov**	**93.68**	**329**	LR	LR	04 09 41.3	
	comp=Z,375nm,18.3s,baz=46,slow=39						
LPIG	**La Paz**	**93.86**	**62**	LR	LR	03 58 57.9	
	comp=Z,110nm,19.1s,baz=236,slow=32						
CLL	**Collm**	**93.92**	**332**	*e*Px	Px	03 22 40.0	
CLL				*e*pP	pP	03 22 45.0	-2.9
CLL				*e*PP	**PP**	**03 26 28.0**	**+0.8**
CLL				*e*S	**S**	**03 33 53.0**	**+2.3**
CLL				*e*SS	**SS**	**03 40 07.0**	**-1.8**
CLL				*e*x	x	03 44 30.0	
MNTX	**Cornudas Mount**	**93.99**	**53**	P	**P**	**03 22 43.5**	**+0.6**
	baz=301,SNR=11						
SPMN	**Marine on St.**	**94.34**	**36**	P	**P**	**03 22 45.5**	**+1.3**
	baz=310						
VHRN	**Van Horn**	**94.74**	**54**	IAmb	IAmb	03 23 09.7	
	comp=Z,9.9nm,1.6s						
AMTX	**Amarillo**	**94.95**	**49**	P	**P**	**03 22 47.2**	**-0.1**
	baz=303						
GERES	**GERESS Array B**	**95.37**	**330**	LR	LR	04 09 53.5	
	comp=Z,180nm,18.9s,baz=61,slow=38						
KSU1	**Kansas State U**	**95.89**	**43**	P	**P**	**03 22 50.7**	**-0.7**
	baz=307						
SCIA	**State Center**	**96.21**	**39**	P	**P**	**03 22 52.1**	**-0.7**
	baz=309						
TX31	**Lajitas Ar. Si**	**96.47**	**54**	IAmb	IAmb	03 23 21.6	
	comp=Z,10nm,1.7s						
TXAR	**Lajitas Array**	**96.47**	**54**	P	**P**	**03 22 53.9**	**-0.5**
TXAR	**Lajitas Array**	**96.47**	**54**	P	**P**	**03 22 55.0**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=282,slow=2.8,SNR=11						
TXAR				LR	LR	03 59 02.0	
	comp=Z,75nm,21.8s,baz=285,slow=31						
	comp=Z,0.9nm,0.7s						
TXAR	**Lajitas Array**	**96.47**	**54**	P	**P**	**03 22 55.0**	**+0.7**
EKA	**Eskdalemuir Ar**	**96.58**	**342**	P	**P**	**03 22 55.3**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=19,slow=4.5,SNR=3.1						
	comp=Z,1.0nm,0.8s						
WMOK	**Wichita Mounta**	**97.01**	**47**	P	**P**	**03 22 56.5**	**0.0**
	baz=305						
JFWS	**Jewell Farm**	**97.24**	**37**	P	Pdif	03 22 57.8	+0.3
	baz=312						
ABTX	**Abilene, Hawle**	**97.61**	**50**	P	**P**	**03 22 59.1**	**-0.2**
	baz=304						
SCHQ	**Schefferville**	**97.65**	**17**	P	Pdif	03 22 59.6	+0.6
	comp=Z,2.1nm,0.7s,baz=286,slow=7.4,SNR=3.5						
SCHQ				LR	LR	04 08 46.0	
	comp=Z,96nm,20.5s,baz=337,slow=36						
	comp=Z,2.1nm,0.7s						
DAVOX	**Davos/Dischmat**	**98.64**	**330**	LR	LR	04 13 20.8	
	comp=Z,301nm,18.7s,baz=56,slow=39						
MIAR	**Mount Ida**	**100.58**	**45**	P	**Pdif**	**03 23 12.5**	**0.0**
	baz=308						
SFIN	**Lafayette**	**100.69**	**37**	P	**Pdif**	**03 23 12.9**	**+0.1**
	baz=314						
ELIB	**Princess Elisa**	**121.49**	**198**	*d*PKP	**PKPdf**	**03 28 15.8**	**-1.4**
SOE	**Somerset East**	**125.49**	**246**		PKPpre	03 28 17.8	
TORD	**Torodi Ar. Bea**	**128.09**	**311**	PKP	**PKPdf**	**03 28 30.4**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=11,slow=1.5,SNR=7.8						
PLCA	**Paso Flores**	**146.42**	**129**		**PKPdf**	**03 29 04.7**	**+0.3**
PLCA	**Paso Flores**	**146.42**	**129**	PKPbc	**PKPbc**	**03 29 05.9**	**+0.3**
	comp=Z,6.2nm,0.7s,baz=250,slow=2.9,SNR=21						
LPAZ	**La Paz**	**149.09**	**82**	PKPbc	**PKPdf**	**03 29 11.0**	**+0.9**
	comp=Z,11nm,0.7s,baz=20,slow=6.8,SNR=22						
SAML	**Samuel**	**150.33**	**65**	PKPdf	**PKPdf**	**03 29 10.8**	**-0.6**
SAML	**Samuel**	**150.33**	**65**	PKIKP	**PKPdf**	**03 29 10.8**	**-0.6**
CPUP	**Villa Florida**	**160.55**	**103**	PKPab	**PKPab**	**03 30 05.5**	**-0.8**
	comp=Z,2.1nm,1.0s,baz=225,slow=4.3,SNR=3.3						
BDFB	**Brasilia**	**166.33**	**57**	PKPab	**PKPab**	**03 30 32.8**	**+0.9**
	comp=Z,3.0nm,0.8s,baz=207,slow=4.5,SNR=2.8						

*IDC **12** 03:35:49.6±1.0, 51°.49N×176°.61W, h0km, mb3.7/11, mbtmp3.8/13, ML3.8/2, Error ellipse: s-maj=30.7km s-min=17.8km az=170.0*

*NEIC **12** 03:35:55.7±1.3, 51°.44N±0°.06×176°.49W±0°.05, h35km±2km, mb3.8/50, ML3.8(AEIC), Error ellipse: s-maj=9.4km s-min=5.4km az=176.0*

*AEIC **12** 03:35:55.5±1.8, 51°.43N±0°.07×176°.53W±0°.06, h30km±5km, Error ellipse: s-maj=10.1km s-min=5.1km az=165.0*

ISC 12 03:35:55.0±0.6, 51°.40N±0°.07×176°.49W±0°.03, h35km, n109, σ1°13/106, mb3.8/23, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.50**	**346**		**Pn**	**03 36 05.4**	**-0.2**
ADK					**Sn**	**03 36 13.0**	**+0.1**
KIWB	**Kanaga Island**	**0.61**	**318**		**Pn**	**03 36 07.2**	**+0.1**
KIRH	**Kanaga Island**	**0.62**	**323**		**Pn**	**03 36 07.6**	**+0.2**
KINC	**Kanaga Island**	**0.66**	**323**		**Pn**	**03 36 08.0**	**+0.2**
KICM	**Kanaga Island**	**0.68**	**320**		**Pn**	**03 36 08.3**	**+0.2**
GSTD	**Great Sitkin T**	**0.69**	**18**		**Pn**	**03 36 08.7**	**+0.4**
GSTD					**Sn**	**03 36 18.4**	**+0.6**
GSMY	**Great Sitkin M**	**0.69**	**23**		**Pn**	**03 36 08.7**	**+0.3**
GSSP	**Great Sitkin S**	**0.72**	**16**		**Pn**	**03 36 09.1**	**+0.5**
GSTR	**Great Sitkin T**	**0.74**	**21**		**Pn**	**03 36 09.6**	**+0.6**
TAFP	**Tanaga Falls P**	**1.05**	**299**		**Pn**	**03 36 13.4**	**+0.2**
TAFP					**Sn**	**03 36 28.1**	**+1.4**
TASE	**Tanaga Southea**	**1.06**	**295**		**Pn**	**03 36 13.8**	**+0.4**
TANO	**Tanaga North**	**1.14**	**297**		**Pn**	**03 36 15.1**	**+0.7**
GAEA	**Gareloi East**	**1.46**	**286**		**Pn**	**03 36 19.7**	**+0.9**
GANE	**Gareloi Northe**	**1.49**	**287**		**Pn**	**03 36 19.9**	**+0.7**
GANO	**Gareloi North**	**1.50**	**287**		**Pn**	**03 36 19.9**	**+0.5**
ATKA	**Atka Island**	**1.63**	**60**	Pn	**Pn**	**03 36 20.8**	**-0.4**
ATKA	**Atka Island**	**1.63**	**60**		**Sn**	**03 36 42.3**	**+1.3**
KOKL	**Mount Kliuchef**	**1.69**	**56**		**Pn**	**03 36 23.1**	**+1.0**
KOFP	**Korovin Flat P**	**1.72**	**59**		**Pn**	**03 36 23.4**	**+1.0**
CEPE	**Semis' Perret**	**2.47**	**285**		**Pn**	**03 36 33.5**	**+0.8**
CESW	**Semis' Southwe**	**2.51**	**283**		**Pn**	**03 36 34.0**	**+0.8**
CEAP	**Semis' Anvil P**	**2.52**	**285**		**Pn**	**03 36 34.2**	**+0.9**
AMKA	**Amchitka**	**2.64**	**271**		**Pn**	**03 36 35.7**	**+0.7**
LSSE	**Little Sitkin**	**3.12**	**282**		**Pn**	**03 36 42.9**	**+1.2**
LSPA	**Little Sitkin**	**3.12**	**282**		**Pn**	**03 36 42.9**	**+1.2**
LSPA					**Sn**	**03 37 21.6**	**+3.9**
LSNW	**Little Sitkin**	**3.16**	**282**		**Pn**	**03 36 43.1**	**+0.9**
NIKH	**Nikolski High**	**4.95**	**69**		**Pn**	**03 37 06.3**	**-0.4**
SHEM	**Shemya Is, Ala**	**5.96**	**287**	Pn	**Pn**	**03 37 18.9**	**-1.6**
	2.3nm,0.3s,baz=34,slow=18,SNR=2.5						
SHEM				Sn	**Sn**	**03 38 30.8**	**+3.4**
	1.7nm,0.3s,baz=195,slow=20,SNR=1.6						
	32nm,0.7s						
MREP	**Makushin Rep't**	**6.41**	**64**		**Pn**	**03 37 29.8**	**+3.0**
UNV	**Unalaska Valle**	**6.55**	**64**		**Pn**	**03 37 29.9**	**+1.2**
P08K	**Saint George I**	**6.62**	**35**		**Pn**	**03 37 33.4**	**+3.8**
SPIA	**Saint Paul Isl**	**6.84**	**30**		**Pn**	**03 37 33.5**	**+0.9**
M17K	**Holitna River**	**14.48**	**39**	P	**Pn**	**03 39 20.4**	**+3.3**
J17K	**VABM Dome**	**15.18**	**31**	Pn	**Pn**	**03 39 27.8**	**+1.5**
J17K				IAmb	IAmb	03 39 34.9	
	comp=Z,9.9nm,1.1s						
KDAK	**Kodiak Island**	**15.21**	**56**	Pn	**Pn**	**03 39 25.2**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=296,slow=7.4,SNR=13						
KDAK				Sn	**Sn**	**03 42 17.3**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=282,slow=9.3,SNR=1.5						
	comp=Z,1.3nm,0.4s						
L19K	**White Mountain**	**15.94**	**39**	Pn	**Pn**	**03 39 35.8**	**-0.5**
L19K				IAmb	IAmb	03 39 44.0	
	comp=Z,9.1nm,0.9s						
M19K	**Big River Lodg**	**15.97**	**40**	Pn	**Pn**	**03 39 36.9**	**+0.1**
M19K				IAmb	IAmb	03 39 44.4	
	comp=Z,6.2nm,1.0s						
J18K	**Innoko River**	**16.01**	**33**	Pn	**Pn**	**03 39 36.9**	**-0.3**
SKT	**Skwentna**	**17.20**	**42**	P	**P**	**03 39 55.0**	**+1.5**
SKT				IAmb	IAmb	03 39 59.4	
	comp=Z,4.1nm,0.6s						
CAST	**Castle Rocks**	**17.68**	**38**	P	**Pn**	**03 39 57.5**	**-0.6**
KTH	**Kantishna Hill**	**18.19**	**38**	P	**Pn**	**03 40 05.0**	**+0.5**
KTH				IAmb	IAmb	03 40 10.4	
	comp=Z,8.1nm,0.8s						
BPAW	**Bear Paw Mtn.**	**18.45**	**37**	P	**P**	**03 40 07.8**	**+0.6**
BPAW				IAmb	IAmb	03 40 16.3	
	comp=Z,3.7nm,0.6s						
RND	**Reindeer**	**18.94**	**40**		**P**	**03 40 13.2**	**+0.4**
RND				IAmb	IAmb	03 40 17.8	
	comp=Z,6.8nm,0.8s						
MLY	**Manley**	**19.04**	**34**	P	**P**	**03 40 14.1**	**+0.3**
G21K	**Allakaket**	**19.04**	**29**		**Pn**	**03 40 15.0**	**+0.4**
D19K	**Kuna River**	**19.30**	**21**	P	**P**	**03 40 17.6**	**+1.0**
D19K				IAmb	IAmb	03 40 37.0	
	comp=Z,7.3nm,1.2s						
DHY	**Denali Highway**	**19.41**	**42**	P	**P**	**03 40 18.0**	**+0.1**
I23K	**Minto, Yukon-K**	**19.60**	**35**	P	**P**	**03 40 19.8**	**0.0**
I23K				IAmb	IAmb	03 40 24.9	
	comp=Z,3.6nm,0.7s						
H23K	**Yukon River**	**19.90**	**33**	P	**P**	**03 40 23.0**	**-0.1**
H23K				IAmb	IAmb	03 40 49.8	
	comp=Z,6.7nm,1.3s						
MDM	**Murphy Dome**	**19.91**	**36**	P	**P**	**03 40 23.8**	**+0.5**
CCB	**Clear Creek Bu**	**19.92**	**37**	P	**P**	**03 40 23.0**	**-0.3**
HDA	**Harding Lake**	**20.14**	**38**	P	**P**	**03 40 26.4**	**+0.6**
G23K	**Bananza Creek**	**20.25**	**31**	P	**P**	**03 40 27.3**	**+0.4**
E21K	**Killik River**	**20.25**	**24**	P	**P**	**03 40 27.4**	**+0.5**
IL31		**20.33**	**38**	P	**P**	**03 40 28.1**	**+0.4**
ILAR	**Eielson Array**	**20.33**	**38**	P	**P**	**03 40 28.1**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=231,slow=9.5,SNR=21						
	comp=Z,1.2nm,0.7s						
H24K	**Noodor Dome**	**20.49**	**34**	P	**P**	**03 40 29.5**	**0.0**
J25K	**Salcha River,**	**20.85**	**39**	P	**P**	**03 40 33.3**	**-0.2**
J25K				IAmb	IAmb	03 40 40.1	
	comp=Z,2.3nm,0.6s						
D22K	**Ayikyak River**	**20.90**	**24**	P	**P**	**03 40 32.2**	**-1.7**
B21K	**Ikpikpuk River**	**20.98**	**21**	P	**P**	**03 40 34.8**	**+0.2**
B21K				IAmb	IAmb	03 40 38.4	
	comp=Z,4.8nm,0.8s						
MESA	**MESA**	**21.08**	**52**	P	**P**	**03 40 34.8**	**-1.4**
SCRK	**Sand Creek**	**21.16**	**41**	P	**P**	**03 40 36.3**	**-0.5**
SCRK				IAmb	IAmb	03 40 38.3	
	comp=Z,3.9nm,0.7s						
F24K	**Squaw Lake**	**21.40**	**30**	P	**P**	**03 40 38.8**	**-0.5**
J26L	**Joseph Creek**	**21.52**	**40**	P	**P**	**03 40 40.2**	**-0.5**
J26L				IAmb	IAmb	03 40 58.2	
	comp=Z,2.5nm,0.7s						
E24K	**Your Creek**	**21.54**	**29**	P	**P**	**03 40 40.3**	**-0.5**
E24K				IAmb	IAmb	03 40 44.6	
	comp=Z,5.3nm,1.4s						
TOLK	**Toolik Lake Re**	**21.58**	**27**	P	**P**	**03 40 40.8**	**-0.4**
TOLK				IAmb	IAmb	03 41 02.5	
	comp=Z,5.6nm,1.2s						
BCAR	**Beaver Creek A**	**21.80**	**44**	P	**P**	**03 40 43.6**	**0.0**
K27K	**Chicken**	**21.97**	**42**	P	**P**	**03 40 45.4**	**0.0**
K27K				IAmb	IAmb	03 41 06.5	
	comp=Z,3.5nm,0.9s						
C23K	**Itkillik River**	**22.09**	**24**	P	**P**	**03 40 46.8**	**+0.2**
BMAR	**Burnt Mountain**	**22.43**	**32**	P	**P**	**03 40 50.2**	**-0.1**
EGAK	**Eagle**	**22.59**	**40**	P	**P**	**03 40 51.6**	**-0.4**
EGAK				IAmb	IAmb	03 40 53.5	
	comp=Z,4.3nm,0.9s						
D25K	**Kavik River**	**22.91**	**27**	P	**P**	**03 40 54.3**	**-1.1**
DAWY	**Dawson**	**23.10**	**43**	P	**P**	**03 40 57.4**	**0.0**
DAWY				IAmb	IAmb	03 41 01.3	
	comp=Z,3.1nm,1.0s						
I28M	**Miner Creek**	**23.30**	**39**	P	**P**	**03 40 57.7**	**-1.7**
I28M				IAmb	IAmb	03 41 14.7	
	comp=Z,3.8nm,1.2s						
L29M	**L29M**	**23.42**	**45**	P	**P**	**03 41 00.8**	**+0.2**
L29M				IAmb	IAmb	03 41 34.5	
	comp=Z,5.8nm,1.3s						
K29M	**Barlow Dome**	**23.85**	**44**	P	**P**	**03 41 03.9**	**-0.8**
K29M				IAmb	IAmb	03 41 09.0	
	comp=Z,2.9nm,0.7s						
H29M	**Whitestone**	**24.16**	**38**	P	**P**	**03 41 07.0**	**-0.5**
J30M	**Hart River**	**24.52**	**42**	P	**P**	**03 41 10.1**	**-0.9**
J30M				IAmb	IAmb	03 41 12.7	
	comp=Z,2.8nm,1.1s						
I30M	**Mount Dempster**	**24.66**	**41**	P	**P**	**03 41 10.7**	**-1.5**
I30M				IAmb	IAmb	03 41 15.3	
	comp=Z,3.1nm,1.1s						
E29M	**Blow River**	**25.12**	**33**	P	**P**	**03 41 16.8**	**+0.7**
E29M				IAmb	IAmb	03 42 00.4	
	comp=Z,5.3nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**34.20**	**209**	T	T	04 18 59.3	
	baz=18,slow=76,SNR=576						
H11N3	**WAKE ISLAND Hy**	**34.21**	**209**	T	T	04 18 59.9	
	baz=18,slow=76,SNR=155						
H11N1	**WAKE ISLAND Hy**	**34.22**	**209**	T	T	04 19 00.3	
	baz=18,slow=76,SNR=433						
USRK	**Ussuriysk Ar.**	**34.73**	**279**	P	**P**	**03 42 40.5**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=74,slow=14,SNR=4.2						
	comp=Z,1.0nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**35.42**	**208**	T	T	04 20 25.0	
	baz=18,slow=76,SNR=190						
H11S2	**WAKE ISLAND Hy**	**35.43**	**208**	T	T	04 20 30.8	
	baz=18,slow=76,SNR=118						
H11S3	**WAKE ISLAND Hy**	**35.43**	**208**	T	T	04 20 30.0	
	baz=18,slow=76,SNR=96						
LYMT	**Lyon Mountain**	**41.00**	**70**	P	**P**	**03 43 34.6**	**+0.1**
PD31	**Pinedale Array**	**44.92**	**74**	P	**P**	**03 44 07.2**	**+0.9**
PD31				IAmb	IAmb	03 44 07.8	
	comp=Z,1.5nm,1.2s						
PDAR	**Pinedale Array**	**44.92**	**74**	P	**P**	**03 44 06.8**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=305,slow=5.2,SNR=6.1						
	comp=Z,1.3nm,0.9s						
SONM	**Songino Array**	**47.92**	**298**	PcP	**PcP**	**03 45 56.7**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=82,slow=1.6,SNR=5.2						
PV18	**Skein Mesa, Pa**	**48.04**	**78**	P	**P**	**03 44 31.1**	**+0.2**
PV13	**Radium Mtn., P**	**48.15**	**78**	P	**P**	**03 44 32.9**	**+1.2**
PV02	**Paradox Valley**	**48.17**	**78**	P	**P**	**03 44 32.3**	**+0.4**
TXAR	**Lajitas Array**	**57.22**	**83**	P	**P**	**03 45 38.9**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=303,slow=6.8,SNR=5.0						
	comp=Z,0.4nm,0.7s						
P40A	**Paris**	**57.24**	**66**	P	**P**	**03 45 38.0**	**-0.6**
Q44A	**Meyer Farm, Va**	**59.40**	**65**	P	**P**	**03 45 53.6**	**0.0**
KURBB	**Kurchatov Arra**	**60.15**	**315**	P	**P**	**03 45 57.4**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=44,slow=6.8,SNR=2.0						
	comp=Z,0.9nm,0.5s						
MKAR	**Makanchi Array**	**61.14**	**310**	P	**P**	**03 46 04.4**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=49,slow=11,SNR=2.9						
	comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**61.79**	**321**	P	**P**	**03 46 09.4**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=57,slow=11,SNR=6.1						
	comp=Z,1.1nm,0.3s						
HFS	**Hagfors**	**68.51**	**355**	P	**P**	**03 46 52.1**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=357,slow=5.8,SNR=4.0						
	comp=Z,0.5nm,0.9s						
ABKAR	**Akbulak array**	**68.78**	**324**	P	**P**	**03 46 53.9**	**-1.2**
ABKAR	**Akbulak array**	**68.78**	**324**	P	**P**	**03 46 54.1**	**-0.9**
ABKAR				IAmb	IAmb	03 46 56.2	
	comp=Z,2.8nm,1.4s						
WRA	**Warramunga Arr**	**83.05**	**226**	P	**P**	**03 48 16.3**	**-0.4**
	comp=Z,0.9nm,1.2s,baz=34,slow=5.8,SNR=2.5						
	comp=Z,0.9nm,1.2s						
BRTR	**Keskin Array B**	**85.50**	**337**	P	**P**	**03 48 27.9**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=3.7,slow=3.0,SNR=3.7						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**86.50**	**224**	P	**P**	**03 48 34.6**	**+0.7**
	comp=Z,0.9nm,1.0s,baz=36,slow=3.0,SNR=5.4						
	comp=Z,0.9nm,1.0s						
H03N2	**Juan Fernandez**	**119.76**	**107**	T	T	06 06 12.0	
	baz=317,slow=77,SNR=23						
H03N1	**Juan Fernandez**	**119.78**	**107**	T	T	06 06 13.6	
	baz=317,slow=77,SNR=26						
H03N3	**Juan Fernandez**	**119.78**	**107**	T	T	06 06 11.3	
	baz=317,slow=77,SNR=40						

*SKHL **12** 03:40:40.8±0.1, 44°.70N×146°.40E, h174km±2km, mb4.4/3, msha5.1/2*

*JMA **12** 03:40:40.1±0.5, 45°.N±2°.×14°.6E±°, h211km±4km, MV3.2/29, NEAR KUNASHIRI ISLAND*

ISC 12 03:40:40.0±2.8, 44°.71N±0°.10×146°.34E±0°.09, h207km±19km, n18, σ0°57/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.76**	**207**	*e*P	**Pn**	**03 41 08.8**	**-0.2**
YUK				AMB	AMB	03 41 09.5	
	160nm,0.2s						
YUK				*e*S	**S**	**03 41 30.7**	**-0.7**
YUK				A	A	03 41 33.1	
	390nm,0.3s						
YUK				A	A	03 41 33.1	
	240nm,0.3s						
SHO	**Shikotan**	**0.91**	**157**	*e*P	**Pn**	**03 41 09.7**	**-0.2**
SHO				AMB	AMB	03 41 10.2	
	80nm,0.3s						
SHO				*e*S	**S**	**03 41 32.4**	**-0.6**
SHO				A	A	03 41 33.4	
	370nm,0.4s						
SHO				A	A

LVC	**Limon Verde**	**1.76**	**140**	*e*P	**Pn**	**03 49 49.2**	**+1.1**
LVC				*e*S	**Sn**	**03 50 11.1**	**+1.1**
LVC				IAML		03 50 13.6	
	comp=Z,322nm,0.6s						
LVC	**Limon Verde**	**1.76**	**140**	⇓*i*P	**Pn**	**03 49 49.2**	**+1.1**
LVC				*i* S	**Sn**	**03 50 11.6**	**+1.6**
LVC				IAML		03 50 14.4	
	comp=Z,2μm,0.2s						
GO01	**Chusmiza**	**1.80**	**29**	*e*P	**Pn**	**03 49 49.3**	**+0.5**
GO01				*e*S	**Sn**	**03 50 12.8**	**+1.6**
GO01	**Chusmiza**	**1.80**	**29**	⇓*i*P	**Pn**	**03 49 49.4**	**+0.5**
GO01				*i* S	**Sn**	**03 50 12.5**	**+1.2**
GO01				IAML		03 50 14.1	
	comp=N,3μm,0.1s						
PB15	**IPOC Station P**	**2.04**	**163**	*e*P	**Pn**	**03 49 52.1**	**+0.3**
PB15				*e*S	**Sn**	**03 50 18.6**	**+1.9**
PB15	**IPOC Station P**	**2.04**	**163**	⇓*i*P	**Pn**	**03 49 51.9**	**0.0**
PB15				*i* S	**Sn**	**03 50 18.4**	**+1.7**
PB10	**IPOC Station P**	**2.28**	**190**	*e*P	**Pn**	**03 49 54.6**	**-0.5**
PB10				*e*S	**Sb**	**03 50 30.6**	**+3.5**
PB10	**IPOC Station P**	**2.28**	**190**	*e*P	**Pn**	**03 49 54.5**	**-0.5**
AF01	**San Pedro de A**	**2.47**	**134**	*e*P	**Pb**	**03 50 01.4**	**-1.1**
PB14	**IPOC Station P**	**3.37**	**184**	*e*P	Pn	03 49 58.6	-12
PB14				*e*S	**Sn**	**03 50 50.2**	**+0.5**
PB14				IAML		03 51 06.5	
	comp=Z,61nm,0.8s						
AC01	**Pan de Azucar**	**4.89**	**185**	*e*P	**Pn**	**03 50 29.2**	**-1.7**
AC01				IAML		03 51 56.2	
	comp=Z,23nm,1.2s						

IDC 12 03:54:42.6±1.2, 23°.46N×143°.91E, h0^{km}, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=46.6km s-min=22.7km az=85.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.94**	**337**	Sn	Sn	03 56 23.8	-7.6
	16nm,0.3s,baz=131,slow=23,SNR=14						
WRA	**Warramunga Arr**	**44.14**	**193**	P	P	04 02 53.1	0.0
	0.9nm,0.8s,baz=18,slow=9.1,SNR=9.3						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**47.84**	**192**	P	P	04 03 22.1	-0.2
	0.4nm,0.7s,baz=6.3,slow=9.3,SNR=4.2						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**54.02**	**312**	P	P	04 04 08.2	-0.5
	0.2nm,0.5s,baz=91,slow=12,SNR=3.2						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**56.71**	**316**	P	P	04 04 28.2	+0.2
	0.6nm,0.5s,baz=95,slow=8.0,SNR=7.9						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**60.17**	**28**	P	P	04 04 52.0	+0.2
	0.5nm,0.8s,baz=248,slow=6.0,SNR=5.1						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**61.78**	**319**	P	P	04 05 02.8	-0.3
	1.6nm,0.6s,baz=72,slow=9.5,SNR=9.0						
	1.6nm,0.6s						

NIED ***12*** *04:46:23.0, 40°.12N×142°.47E, h36^{km}, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.04; $M_{\theta\theta}$0.04; $M_{\phi\phi}$-2.07; $M_{r\theta}$1.43; $M_{\theta\phi}$-0.39; $M_{\phi r}$2.19; Fault plane solution: $M_0$3.35000×10^{15} NP1:ϕ_s28.00000°, δ71.00000°, λ102.00000°. NP2:ϕ_s174.00000°, δ22.00000°, λ59.00000°.*
JMA ***12*** *04:46:23.0±0.1, 40°.1N±0°.2×142°.5E±0°.6, h36^{km}±1^{km}, MD4.1/37, MV4.2/37, NE OFF IWATE PREF*
JMA Felt I J1 at NE OFF IWATE PREF .
IDC ***12*** *04:46:25.8±2.4, 40°.06N×142°.51E, h63^{km}±19^{km}, mb3.9/19, mbtmp4.1/24, MS3.4/36, Error ellipse: s-maj=22.0km s-min=14.8km az=92.0*
NEIC ***12*** *04:46:26.8±1.0, 40°.30N±0°.07×142°.33E±0°.09, h50^{km}±9^{km}, mb4.4/36, Error ellipse: s-maj=10.7km s-min=8.4km az=135.0*

ISC 12 04:46:24.1±0.6, 40°.09N±0°.04×142°.40E±0°.06, h35^{km}, n114, σ1°.39/92, mb4.3/37, MS3.6/29, 13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.44**	**250**	P	**Pn**	**04 46 33.6**	**-0.3**
JTH				*e*S	**Sn**	**04 46 41.3**	**+0.6**
JTH	**Tanohata**	**0.44**	**250**	A	A	04 46 33.6	
	comp=E,10.0nm,2.6s,comp=N,9.0nm,0.9s						
JKEN	**Kujiedanarisaw**	**0.54**	**283**	⇓*i*P	**Pn**	**04 46 34.6**	**-0.8**
JKEN				⇓*e*S	**Sn**	**04 46 42.8**	**-0.5**
JKEN	**Kujiedanarisaw**	**0.54**	**283**	A	A	04 46 34.6	
	comp=E,12nm,1.2s,comp=N,8.0nm,0.7s						
MIYJ	**Miyakonagasawa**	**0.68**	**222**	⇓*i*P	**Pn**	**04 46 36.7**	**-0.5**
MIYJ				⇓*e*S	**Sn**	**04 46 46.3**	**-0.3**
JANG	**Nango**	**0.74**	**293**	⇓P	**Pn**	**04 46 37.3**	**-0.7**
JANG				⇓*e*S	**Sn**	**04 46 47.4**	**-0.6**
JKZ	**Kuzumaki**	**0.83**	**263**	⇓P	**Pn**	**04 46 39.4**	**0.0**
JKZ				⇓*e*S	**Sn**	**04 46 51.0**	**+0.6**
JOM	**Ohasama**	**1.05**	**235**	⇓P	**Pn**	**04 46 42.8**	**+0.5**
OFUJ	**Ofunato**	**1.15**	**210**	P	**Pn**	**04 46 43.9**	**+0.1**
OFUJ	**Ofunato**	**1.15**	**210**	A	A	04 46 43.9	
	comp=E,10.0nm,1.4s,comp=N,5.0nm,1.2s						
JSZI	**Iwateshizukuis**	**1.17**	**253**	A	A	04 46 44.3	
	comp=E,14nm,1.4s,comp=N,13nm,1.8s						
JARK	**Aomorirokkasho**	**1.21**	**320**	⇓P	**Pn**	**04 46 44.0**	**-0.5**
JARK	**Aomorirokkasho**	**1.21**	**320**	A	A	04 46 44.0	
	comp=E,6.0nm,0.7s,comp=N,6.0nm,1.1s						
JTM	**Tenmabayashi**	**1.23**	**305**	Pn	**Pn**	**04 46 44.7**	**-0.2**
JTM	**Tenmabayashi**	**1.23**	**305**	⇓P	**Pn**	**04 46 44.9**	**0.0**
JTM				⇓*e*S	**Sn**	**04 47 01.1**	**+0.8**
JAH	**Hinai**	**1.36**	**275**	⇓P	**Pn**	**04 46 47.3**	**+0.7**
JAHD	**Aomorihigashid**	**1.43**	**326**	A	A	04 46 47.3	
	comp=E,10.0nm,0.7s,comp=N,10.0nm,1.2s						
JRG	**Rokugo**	**1.53**	**244**	A	A	04 46 49.7	
	comp=E,7.0nm,0.9s,comp=N,6.0nm,2.2s						
ERM	**Erimo**	**2.01**	**16**		**Pn**	**04 46 54.8**	**-0.7**
JMM	**Marumori**	**2.55**	**210**		**Pn**	**04 47 05.2**	**+2.3**
JKA	**Kamikawa-asahi**	**4.03**	**2**	Pn	**Pn**	**04 47 22.8**	**-0.5**
ASAJ	**Asahikawa**	**4.03**	**2**	P	**Pn**	**04 47 24.6**	**+1.3**
	comp=N,28nm,0.4s,baz=229,slow=13,SNR=6.9						
ASAJ				S	**Sn**	**04 48 14.8**	**+5.6**
	comp=N,50nm,0.6s,baz=96,slow=32,SNR=4.2						
ASAJ				LR	LR	04 49 23.1	
	comp=N,579nm,21.4s,baz=179,slow=44						
MJAR	**Matsushiro Arr**	**4.84**	**224**	P	**Pn**	**04 47 37.7**	**+3.3**
	comp=N,18nm,0.7s,baz=33,slow=12,SNR=69						
MJAR				LR	LR	04 49 45.9	
	comp=N,341nm,21.0s,baz=46,slow=41						
MJB9	**Matsu-Tunnel**	**4.84**	**224**		**Pn**	**04 47 38.2**	**+3.8**
MAJO	**Matsushiro**	**4.84**	**224**		**Pn**	**04 47 37.6**	**+3.2**
JGF	**Kuroka**	**6.00**	**223**		**Pn**	**04 47 54.2**	**+3.8**
INU	**Inuyama**	**6.37**	**224**	Pn	**Pn**	**04 47 59.2**	**+3.8**
USA0B	**Ussuriysk Arra**	**8.76**	**301**		**Pn**	**04 48 29.4**	**+1.3**
USRK	**Ussuriysk Ar.**	**8.76**	**301**		**Pn**	**04 48 28.7**	**+0.5**
USRK	**Ussuriysk Ar.**	**8.76**	**301**	P	**Pn**	**04 48 31.5**	**+3.3**
	comp=N,7.6nm,0.8s,baz=118,slow=15,SNR=19						
USRK				LR	LR	04 51 46.9	
	comp=N,261nm,18.8s,baz=157,slow=36						
JNU	**Nakatsue**	**11.57**	**237**	LR	LR	04 53 35.0	
	comp=N,100nm,19.8s,baz=42,slow=37						
KSRS	**Korea Array**	**11.61**	**262**	P	**Pn**	**04 49 10.0**	**+2.8**
	comp=N,0.5nm,0.3s,baz=75,slow=13,SNR=5.9						
KSRS				LR	LR	04 53 22.6	
	comp=N,201nm,18.4s,baz=70,slow=36						
KLR	**Kul'dur**	**11.87**	**324**	P	**Pn**	**04 49 12.0**	**+1.3**
	comp=N,1.0nm,0.5s,baz=126,slow=9.7,SNR=4.2						
KLR				LR	LR	04 53 57.6	
	comp=N,180nm,18.2s,baz=180,slow=38						
JCJ	**Chichijima**	**12.96**	**181**	LR	LR	04 55 40.9	
	comp=N,44nm,20.5s,baz=110,slow=43						
MA2	**Magadan**	**20.21**	**12**	LR	LR	05 00 11.2	
	comp=N,39nm,18.2s,baz=190,slow=41						
YAK	**Yakutsk**	**23.30**	**345**	LR	LR	05 00 38.0	
	comp=N,43nm,19.2s,baz=172,slow=36						
SHEM	**Shemya Is, Ala**	**25.02**	**49**	LR	LR	05 00 30.0	
	comp=N,26nm,21.8s,baz=316,slow=34						
SONM	**Songino Array**	**26.86**	**299**	P	**P**	**04 52 01.6**	**+0.1**
	comp=N,1.5nm,0.7s,baz=105,slow=9.0,SNR=11						
SONM				LR	LR	05 03 12.6	
	comp=N,112nm,20.0s,baz=86,slow=37						
	comp=N,1.5nm,0.7s						
H11N2	**WAKE ISLAND Hy 29.20**	**127**		T	T	05 23 03.1	
	baz=319,slow=75,SNR=461						
H11N1	**WAKE ISLAND Hy 29.21**	**127**		T	T	05 23 03.7	
	baz=319,slow=75,SNR=464						
H11N3	**WAKE ISLAND Hy 29.22**	**127**		T	T	05 23 04.4	
	baz=319,slow=75,SNR=414						
H11S1	**WAKE ISLAND Hy 30.02**	**129**		T	T	05 24 12.9	
	baz=321,slow=76,SNR=57						
H11S3	**WAKE ISLAND Hy 30.02**	**129**		T	T	05 24 18.3	
	baz=321,slow=76,SNR=55						
H11S2	**WAKE ISLAND Hy 30.03**	**129**		T	T	05 24 17.5	
	baz=321,slow=76,SNR=54						
TIXI	**Tiksi**	**32.37**	**352**	LR	LR	05 08 00.0	
	comp=N,56nm,18.4s,baz=190,slow=40						
ZALV	**Zalesovo Beam**	**40.49**	**310**	P	**P**	**04 53 58.7**	**-0.6**
	comp=N,1.4nm,0.4s,baz=89,slow=6.1,SNR=7.6						
ZALV				LR	LR	05 11 03.8	
	comp=N,53nm,21.4s,baz=92,slow=36						
	comp=N,1.4nm,0.4s						
NRIK	**Noril'sk**	**40.85**	**334**	LR	LR	05 11 50.1	
	comp=N,114nm,20.2s,baz=47,slow=37						
CRAI	**Chiangrai**	**40.92**	**254**	P	**P**	**04 54 03.5**	**+0.3**
CRAI				IAmb	IAmb	04 54 04.4	
	comp=Z,4.9nm,0.7s						
G18K	**Tagagawik**	**41.64**	**32**	P	**P**	**04 54 08.8**	**+0.2**
G18K				IAmb	IAmb	04 54 09.4	
	comp=Z,6.0nm,0.9s						
F19K	**Shaleruckik Mo**	**42.13**	**31**	P	**P**	**04 54 12.5**	**0.0**
G19K	**Purcell Mounta**	**42.31**	**32**	P	**P**	**04 54 13.1**	**-0.9**
E19K	**Redstone River**	**42.43**	**30**	P	**P**	**04 54 14.7**	**-0.3**
J19K	**Poorman**	**42.73**	**35**	P	**P**	**04 54 17.0**	**-0.4**
B20K	**Meade River**	**42.91**	**26**	P	**P**	**04 54 18.8**	**0.0**
B20K				IAmb	IAmb	04 54 24.2	
	comp=Z,7.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**43.08**	**253**	P	**P**	**04 54 20.3**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=38,slow=3.4,SNR=2.0						
CMAR				LR	LR	05 12 32.8	
	comp=Z,16nm,19.4s,baz=210,slow=36						
	comp=Z,0.6nm,0.3s						
MK31	**Makanchi Array**	**43.22**	**300**	P	**P**	**04 54 20.9**	**-0.8**
MKAR	**Makanchi Array**	**43.22**	**300**	P	**P**	**04 54 21.4**	**-0.3**
MKAR	**Makanchi Array**	**43.22**	**300**	P	**P**	**04 54 21.3**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=83,slow=9.5,SNR=9.6						
MKAR				LR	LR	05 12 36.7	
	comp=Z,70nm,21.3s,baz=60,slow=36						
	comp=Z,1.1nm,0.7s						
E22K	**Anaktuvuk Pass**	**44.55**	**29**	P	**P**	**04 54 32.3**	**+0.2**
E22K				IAmb	IAmb	04 54 33.0	
	comp=Z,4.7nm,0.8s						
KURK	**Kurchatov**	**44.72**	**306**	P	**P**	**04 54 32.5**	**-1.1**
KURBB	**Kurchatov Arra**	**44.79**	**306**	P	**P**	**04 54 33.1**	**-1.1**
	comp=Z,5.4nm,0.7s,baz=82,slow=8.7,SNR=27						
	comp=Z,5.4nm,0.7s						
H23K	**Yukon River**	**45.37**	**32**	P	**P**	**04 54 39.0**	**+0.4**
D24K	**Happy Valley**	**45.71**	**28**	P	**P**	**04 54 40.1**	**-1.1**
D24K				IAmb	IAmb	04 54 41.9	
	comp=Z,4.4nm,0.8s						
E24K	**Your Creek**	**45.80**	**29**	P	**P**	**04 54 41.9**	**-0.1**
E24K				IAmb	IAmb	04 54 43.1	
	comp=Z,4.1nm,0.8s						
ILAR	**Eielson Array**	**46.52**	**34**	P	**P**	**04 54 46.9**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=268,slow=6.3,SNR=18						
ILAR				LR	LR	05 14 39.4	
	comp=Z,32nm,20.3s,baz=86,slow=36						
	comp=Z,1.3nm,0.8s						
D25K	**Kavik River**	**46.58**	**28**	P	**P**	**04 54 47.9**	**-0.3**
E25K	**Arctic Village**	**46.89**	**29**	P	**P**	**04 54 51.0**	**+0.4**
PRP	**Porcupine Dome**	**47.04**	**33**	P	**P**	**04 54 52.1**	**+0.1**
SCRK	**Sand Creek**	**47.85**	**35**	P	**P**	**04 54 57.6**	**-0.6**
SCRK				IAmb	IAmb	04 55 10.9	
	comp=Z,2.3nm,0.8s						
L26K	**Log Cabin Wild**	**48.26**	**36**	P	**P**	**04 55 02.1**	**+0.9**
L26K				IAmb	IAmb	04 55 02.3	
	comp=Z,3.2nm,0.8s						
E27K	**Coleen River**	**48.37**	**29**	P	**P**	**04 55 02.0**	**-0.1**
E27K				IAmb	IAmb	04 55 03.4	
	comp=Z,2.6nm,0.8s						
K27K	**Chicken**	**48.67**	**35**	P	**P**	**04 55 04.5**	**+0.1**
K27K				IAmb	IAmb	04 55 06.3	
	comp=Z,2.6nm,0.8s						
L27K	**Beaver Creek,**	**48.94**	**36**	P	**P**	**04 55 06.9**	**+0.4**
L27K				IAmb	IAmb	04 55 20.6	
	comp=Z,4.0nm,1.1s						
F28M	**Old Crow**	**49.08**	**30**	P	**P**	**04 55 07.8**	**+0.2**
F28M				IAmb	IAmb	04 55 17.1	
	comp=Z,3.9nm,1.0s						
E28M	**Babbage River**	**49.09**	**28**	P	**P**	**04 55 07.5**	**0.0**
E28M				IAmb	IAmb	04 55 08.8	
	comp=Z,3.7nm,1.0s						
BVAR	**Borovoye Array**	**49.13**	**311**	P	**P**	**04 55 07.7**	**-0.4**
	comp=Z,3.3nm,0.5s,baz=78,slow=9.2,SNR=15						
BVAR				LR	LR	05 17 19.8	
	comp=Z,43nm,21.0s,baz=66,slow=38						
	comp=Z,3.3nm,0.5s						
BRVK	**Borovoye**	**49.19**	**311**	P	**P**	**04 55 08.1**	**-0.4**
I28M	**Miner Creek**	**49.37**	**33**	P	**P**	**04 55 09.7**	**-0.1**
I28M				IAmb	IAmb	04 55 20.0	
	comp=Z,3.7nm,0.9s						
E29M	**Blow River**	**49.72**	**29**	P	**P**	**04 55 12.9**	**+0.6**
E29M				IAmb	IAmb	04 55 13.9	
	comp=Z,3.6nm,0.8s						
AAK	**Ala-Archa**	**49.77**	**296**	LR	LR	05 17 05.0	
	comp=Z,70nm,18.9s,baz=73,slow=37						
K29M	**Barlow Dome**	**50.69**	**34**	P	**P**	**04 55 19.8**	**-0.1**
K29M				IAmb	IAmb	04 55 21.0	
	comp=Z,2.9nm,0.8s						
I30M	**Mount Dempster**	**50.88**	**32**	P	**P**	**04 55 21.2**	**0.0**
HYT	**Haines Junctio**	**51.41**	**38**	P	**P**	**04 55 25.8**	**+0.5**
KK31	**Karatay Array**	**52.31**	**298**	IAmb	IAmb	04 55 32.0	
	comp=Z,3.6nm,0.9s						
KK31				P	**P**	**04 55 32.6**	**+0.4**
KKAR	**Karatay Array**	**52.31**	**298**	P	**P**	**04 55 31.7**	**-0.5**
KKAR	**Karatay Array**	**52.31**	**298**	P	**P**	**04 55 31.4**	**-0.8**
KKAR				IAmb	IAmb	04 55 32.0	
	comp=Z,3.6nm,0.9s						
ARU	**Arti**	**54.62**	**317**	P	**P**	**04 55 48.2**	**-0.7**
ARU	**Arti**	**54.62**	**317**	P	**P**	**04 55 48.4**	**-0.5**
	comp=Z,4.3nm,0.2s,baz=68,slow=4.6,SNR=12						
ARU				LR	LR	05 21 36.4	
	comp=Z,89nm,19.4s,baz=68,slow=39						
	comp=Z,4.3nm,0.2s						
SIMJ	**Simiganj**	**55.20**	**294**	P	**P**	**04 55 52.9**	**-0.7**
ABKAR	**Akbulak array**	**56.60**	**309**	P	**P**	**04 56 02.4**	**-0.8**
KBL	**Kabul**	**57.09**	**290**	P	**P**	**04 56 06.3**	**-0.8**
AKTO	**Aktyubinsk**	**57.24**	**311**	P	**P**	**04 56 06.8**	**-1.0**
	comp=Z,3.6nm,0.7s,baz=72,slow=12,SNR=11						
AKTO				LR	LR	05 21 50.5	
	comp=Z,63nm,19.1s,baz=200,slow=37						
	comp=Z,3.6nm,0.7s						
KIRV	**Kirov**	**58.30**	**322**	LR	LR	05 23 03.5	
	comp=Z,27nm,18.5s,baz=20,slow=38						
WRA	**Warramunga Arr**	**60.19**	**189**	P	**P**	**04 56 26.7**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=4.8,slow=6.9,SNR=9.8						
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**61.42**	**339**	P	**P**	**04 56 34.6**	**-1.7**
	comp=Z,1.9nm,0.8s,baz=51,slow=7.1,SNR=3.6						
ARCES				LR	LR	05 29 15.5	
	comp=Z,13nm,18.2s,baz=158,slow=42						
	comp=Z,1.9nm,0.8s						
ASAR	**Alice Springs**	**63.92**	**189**	P	**P**	**04 56 51.8**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=16,slow=4.6,SNR=4.9						
	comp=Z,0.5nm,0.7s						
FINES	**FINESS Array B**	**66.48**	**332**	P	**P**	**04 57 08.8**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=54,slow=9.7,SNR=10						
FINES				LR	LR	05 27 43.9	
	comp=Z,43nm,20.3s,baz=22,slow=37						
	comp=Z,2.5nm,0.8s						
KBZ	**Khabaz**	**69.51**	**310**	P	**P**	**04 57 29.2**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=24,slow=13,SNR=5.2						
KBZ				LR	LR	05 30 36.5	
	comp=Z,36nm,18.3s,baz=70,slow=38						
	comp=Z,2.0nm,0.7s						
NC204	**NORSAR Array S**	**71.62**	**338**	P	**P**	**04 57 41.0**	**-0.7**
HFS	**Hagfors**	**71.63**	**336**	P	**P**	**04 57 40.7**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=46,slow=6.4,SNR=12						
HFS				LR	LR	05 31 34.1	
	comp=Z,36nm,19.5s,baz=33,slow=38						
	comp=Z,0.9nm,0.4s						
NB2	**NORSAR Subarra**	**71.67**	**337**	P	**P**	**04 57 40.7**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**71.67**	**337**	P	**P**	**04 57 40.5**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=38,slow=6.0,SNR=11						
NOA				LR	LR	05 31 51.8	
	comp=Z,33nm,21.7s,baz=40,slow=38						
	comp=Z,1.8nm,0.8s						
AKASG	**Malin Array Be**	**72.36**	**322**	P	**P**	**04 57 44.6**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=44,slow=6.6,SNR=10						
AKASG				LR	LR	05 32 55.4	
	comp=Z,24nm,20.4s,baz=76,slow=38						
	comp=Z,2.5nm,0.8s						
SFJD	**Kangerlussuaq**	**72.78**	**5**	LR	LR	05 31 21.9	
	comp=Z,45nm,19.9s,baz=16,slow=37						
MLR	**Muntele Rosu**	**77.56**	**320**	LR	LR	05 35 34.4	
	comp=Z,56nm,18.0s,baz=265,slow=38						
CLL	**Collm**	**78.83**	**330**	*i* P	**P**	**04 58 22.5**	**-0.7**
CLL				*e*sP	**sP**	**04 58 41.0**	**+3.1**
VRAC	**Vranov**	**78.98**	**327**	LR	LR	05 36 13.8	
	comp=Z,53nm,18.2s,baz=28,slow=38						
EKA	**Eskdalemuir Ar**	**80.51**	**341**	P	**P**	**04 58 31.8**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=34,slow=5.2,SNR=4.3						
	comp=Z,0.4nm,0.4s						
GERES	**GERESS Array B**	**80.52**	**328**	P	**P**	**04 58 32.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=21,slow=4.2,SNR=4.0						
GERES				LR	LR	05 36 37.6	
	comp=Z,38nm,19.0s,baz=84,slow=37						
	comp=Z,0.4nm,0.3s						
ANMO	**Albuquerque**	**82.04**	**51**	LR	LR	05 39 06.3	
	comp=Z,15nm,18.3s,baz=112,slow=38						
DAVOX	**Davos/Dischmat**	**83.71**	**329**	LR	LR	05 40 47.8	
	comp=Z,37nm,20.8s,baz=105,slow=39						
PPT	**Papeete**	**85.33**	**117**	LR	LR	05 28 27.2	
	comp=Z,40nm,21.4s,baz=341,slow=30						
ESDC	**Sonseca Array**	**94.88**	**335**	LR	LR	05 47 38.9	
	comp=Z,59nm,18.1s,baz=44,slow=39						
SNAA	**Sanae**	**143.89**	**198**	PKP	PKPab	05 05 50.9	-0.8
	comp=Z,0.9nm,0.8s,baz=207,slow=2.3,SNR=2.0						

SJA 12 04:50:00.8±0.7, 28°.33S×67°.63W, h127^{km}±3^{km}, ML3.6, MW3.5, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.65**	**231**	*e*P	Pn	04 50 22.1	+1.5
VCA				*e*S	Sn	04 50 36.4	+0.7
VCA				IAML		04 50 40.1	
	comp=Z,2μm,0.4s						
ACLC	**CERRO LA CRUZ**	**1.24**	**151**	*e*P	Pn	04 50 26.9	+0.9
ACLC				*e*S	Sn	04 50 45.9	+0.7
ACLC				IAML		04 50 47.2	
	comp=Z,534nm,0.2s						
CYA	**Choya**	**1.61**	**94**	*e*P	Pn	04 50 31.1	+1.1
CYA				*e*S	Sn	04 50 52.7	+0.4
CYA				IAML		04 50 53.0	
	comp=Z,345nm,0.7s						
AVFE	**Valle Fertil**	**2.32**	**176**	*e*P	Pn	04 50 39.6	+0.9
AVFE				*e*S	Sn	04 51 08.7	+0.9
AVFE				IAML		04 51 10.2	
	comp=Z,155nm,0.5s						
AC05	**El Transito**	**2.38**	**257**	*e*P	Pn	04 50 41.3	+1.9
AC05				IAML		04 51 12.8	
	comp=Z,200nm,0.5s						
GO03	**Copiap**	**2.42**	**287**	*e*P	Pn	04 50 40.6	+0.7
GO03				*e*S	Sn	04 51 10.5	+0.6
GUSE	**Guasayan**	**2.50**	**80**	*e*P	Pn	04 50 42.3	+1.4
AHML	**Horco Molle**	**2.56**	**53**	*e*P	Pn	04 50 43.3	+1.7
AHML				*e*S	Sn	04 51 26.6	+14
FSA	**Cafayete**	**2.66**	**34**	*e*P	Pn	04 50 40.0	-3.1
FSA				*e*S	Sn	04 51 14.7	-0.9
CO01	**Juntas del Tor**	**2.71**	**232**	*e*P	Pn	04 50 46.0	+2.2
LCO	**Las Campanas**	**2.78**	**255**	*e*P	Pn	04 50 46.0	+1.3
LCO				IAML		04 51 21.4	
	comp=Z,499nm,0.4s						
DOCA	**Reserva Natura**	**2.90**	**206**	*e*P	Pn	04 50 47.2	+0.9
DOCA				*e*S	Sn	04 51 22.3	+0.9
DOCA				IAML		04 51 33.3	
	comp=Z,115nm,0.6s						
ACHE	**Chepes**	**2.94**	**164**	*e*P	Pn	04 50 47.8	+1.1
ACHE				*e*S	Sn	04 51 22.4	+0.3
AC04	**Llanos de Chal**	**3.04**	**272**	*e*P	Pn	04 50 48.2	+0.4
AC04				IAML		04 51 27.1	
	comp=Z,115nm,0.2s						
GO04	**Tololo Observa**	**3.32**	**236**	*e*P	Pn	04 50 52.0	+0.3
ZON	**Zonda**	**3.33**	**196**	*e*P	Pn	04 50 52.8	+1.2
ZON				*e*S	Sn	04 51 32.0	+1.1
AC01	**Pan de Azucar**	**3.42**	**309**	*e*P	Pn	04 50 53.5	+0.7
AC01				*e*S	Sn	04 51 32.1	-1.0
AC01				IAML		04 51 40.1	
	comp=Z,113nm,0.2s						
RTCV	**Cerro Valdivia**	**3.60**	**192**	*e*P	Pn	04 50 36.7	-19
CO03	**El Pedregal**	**3.65**	**226**	*e*P	Pn	04 50 57.0	+1.0
CO03				*e*S	Sn	04 51 40.2	+1.6
CO03				IAML		04 51 41.5	
	comp=Z,63nm,0.3s						
RTLS	**Leoncito**	**3.74**	**202**	*e*P	Pn	04 50 58.1	+0.8
RT

ZELE	Perez Zeledon	1.22 321	eP	Pn	04 58 13.6	+0.4
BUS1	Rivas	1.39 325	iP	Pn	04 58 15.4	-0.4
LLNJ	Naranjito	1.56 313	eP	Pn	04 58 18.5	+0.7
RAZU	San Marcos de	1.64 319	eP	Pb	04 58 21.7	-0.3
TURIB	Turrialba	1.66 334	iP	Pn	04 58 19.9	+0.7
VINA	Juan Vinas	1.68 332	eP	Pn	04 58 20.4	+0.9
REPA	Paraso	1.68 327	eP	Pn	04 58 20.2	+0.6
LCR2	La Lucha 2	1.69 321	iP	Pn	04 58 19.7	-0.1
LCR2			iS	Sn	04 58 43.0	+2.5
LCR2			IAML		04 58 46.0	
	comp=Z,530nm,1.0s					
LCR2	La Lucha 2	1.69 321	eP	Pn	04 58 20.6	+0.7
VERB	Verbena	1.70 334	eP	Pn	04 58 20.7	+0.9
RVSTA	Santa Teresita	1.71 336	iP	Pn	04 58 21.2	+1.3
PCAYA	Pacayas	1.73 330	eP	Pn	04 58 21.2	+0.9
VTCV	VTCV, Calle Va	1.75 333	eP	Pn	04 58 21.3	+0.7
MESA3	La Mesa, Verag	1.75 98	eP	Pn	04 58 20.9	+0.5
MESA3			eS	Sn	04 58 43.9	+2.2
RAFA	San Farael, Vo	1.76 331	iP	Pn	04 58 20.9	0.0
RAFA			iS	Sb	04 58 45.7	-0.4
RAFA			IAML		04 58 49.9	
	comp=Z,3μm,1.0s					
RAFA	San Farael, Vo	1.76 331	eP	Pn	04 58 21.7	+0.8
IRES	Siquirres	1.77 341	eP	Pn	04 58 21.9	+1.3
LCOCO	El Coco	1.77 340	eP	Pn	04 58 22.2	+1.5
CVTQ	Turrialba Volc	1.78 333	eP	Pn	04 58 22.1	+0.9
VTLA	Turrialba Volc	1.79 332	eP	Pn	04 58 22.1	+0.9
VTR0	Volcan Turrial	1.79 333	eP	Pn	04 58 22.1	+0.8
CVTR	Volcan Turrial	1.79 333	eP	Pn	04 58 22.1	+0.7
VICA	Volcano Irazu	1.80 330	eP	Pn	04 58 22.5	+1.0
GMAL	Guarumal, Vera	1.80 111	eP	Pn	04 58 20.7	-0.4
GMAL			eS	Sn	04 58 44.4	+1.4
GMAL	Guarumal, Vera	1.80 111	eP	Pn	04 58 20.6	-0.6
RVLA	Villa Bonita	1.81 339	eP	Pn	04 58 22.6	+1.4
RSUS3	Rio de Jesus,	1.81 103	eP	Pn	04 58 21.4	+0.2
RSUS3			eS	Sn	04 58 44.4	+1.3
HDC3	Heredia 3	1.96 324	iP	Pn	04 58 24.6	+1.2
HDC3			IAML		04 58 57.2	
	comp=Z,630nm,1.0s					
CRIS3	El Cristo, Coc	2.30 94	eP	Pn	04 58 29.2	+1.2
CRIS3			eS	Sn	04 58 58.4	+3.2
CHIT3	Chitre	2.53 100	eP	Pn	04 58 31.8	+0.6
CHIT3			eS	Sn	04 59 03.4	+2.4
SOCE	Pocosol	2.57 320	iP	Pn	04 58 34.2	+2.5
SOCE			iS	Sn	04 59 06.2	+4.3
AZU	Azuero	2.71 103	eP	Pn	04 58 35.5	+1.9
AZU			eS	Sn	04 59 07.5	+2.3
JTS	Las Juntas de	2.73 313	eP	Pn	04 58 35.0	+1.0
JTS			eS	Sn	04 59 07.0	+1.1
INDI	Punta indio, G	2.92 300	iP	Pn	04 58 37.0	+0.5
INDI			iS	Sn	04 59 09.3	-1.2
INDI			IAML		04 59 34.5	
	comp=Z,88nm,1.0s					
BCIP	Isla Barro Col	3.15 76	iP	Pn	04 58 40.7	+1.0
BCIP			IAML		04 59 50.0	
	comp=Z,120nm,1.0s					
BLUN	Bluefields	3.67 347	iP	Pn	04 58 47.4	+0.6
BLUN			IAML		04 58 47.8	
	comp=Z,100nm,1.0s					
ACON	Acoyapa	4.17 328	iP	Pn	04 58 55.0	+1.4
ACON			IAML		05 00 47.8	
	comp=Z,36nm,1.0s					
BOAB	BOACO BROADBAN	4.83 326	iP	Pn	04 59 04.4	+1.6
BOAB			IAML		04 59 15.7	
	comp=Z,20nm,1.0s					
LIMN	Finca el Limon	5.72 324	iP	Pn	04 59 17.2	+2.1
LIMN			IAmb	IAmb	04 59 18.9	
	comp=Z,12nm,1.1s					
LIMN			IAML		05 00 49.8	
	comp=Z,27nm,1.0s					
TLIG	Tlapa	17.73 302	iP	Pn	05 01 53.0	-3.9

*IDC **12** 05:42:44.7±0.9, 31°.75S×58°.24E, h0km, mb4.1/7, mbtmp4.1/7, MS3.4/8, Error ellipse: s-maj=33.3km s-min=25.9km az=79.0*

ISC 12 05:42:46.3±0.9, 31°.8S±0°.2×58°.2E±0°.2, h10km, n23, σ0°31/8, mb4.2/7, MS3.5/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.23	197	T	T	06 01 39.2	
	baz=20,slow=75,SNR=78						
H04N1	CROZET ISLANDS	15.23	197	T	T	06 01 40.7	
	baz=20,slow=75,SNR=81						
H04N3	CROZET ISLANDS	15.25	197	T	T	06 01 43.3	
	baz=20,slow=75,SNR=80						
H08S1	Diego Carcia H	27.41	32	T	T	06 16 54.1	
	baz=206,slow=75,SNR=9.2						
H08S2	Diego Garcia H	27.42	32	T	T	06 16 54.5	
	baz=206,slow=75,SNR=7.1						
H08S3	Diego Garcia H	27.43	32	T	T	06 16 56.0	
	baz=206,slow=75,SNR=14						
BOSA	Boshof	28.61	268	LR	LR	05 57 25.9	
	comp=Z,49nm,18.7s,baz=180,slow=31						
H01W2	Cape Leeuwin H	46.31	110	T	T	06 40 53.8	
	baz=257,slow=75,SNR=14						
H01W3	Cape Leeuwin H	46.31	110	T	T	06 40 54.2	
	baz=257,slow=75,SNR=14						
H01W1	Cape Leeuwin H	46.33	110	T	T	06 40 55.1	
	baz=257,slow=75,SNR=12						
QSPA	South Pole Qui	58.42	180	P	P	05 52 42.1	+0.1
	1.4nm,0.8s,baz=280,slow=3.0,SNR=12						
	1.4nm,0.8s						
VNDA	Vanda	62.13	166	LR	LR	06 16 42.8	
	comp=Z,57nm,20.6s,baz=266,slow=33						
CMAR	Chiang Mai Arr	63.38	44	P	P	05 53 15.9	-0.1
	3.3nm,0.8s,baz=230,slow=7.3,SNR=13						
CMAR				LR	LR	06 18 14.3	
	comp=Z,31nm,18.6s,baz=200,slow=34						
	3.3nm,0.8s						
MMAI	Mount Meron Ar	67.93	339	LR	LR	06 20 00.1	
	comp=Z,22nm,18.2s,baz=88,slow=33						
WRA	Warramunga Arr	68.29	101	P	P	05 53 47.8	-0.1
	1.2nm,0.8s,baz=245,slow=5.7,SNR=6.1						
	1.2nm,0.8s						
TORD	Torodi Ar. Bea	70.17	300	P	P	05 53 59.3	-0.2
	0.9nm,0.9s,baz=127,slow=5.8,SNR=4.7						
TORD				LR	LR	06 24 41.3	
	comp=Z,40nm,18.1s,baz=138,slow=36						
	0.9nm,0.9s						
GNI	Garni	72.62	349	LR	LR	06 25 45.3	
	comp=Z,20nm,18.1s,baz=162,slow=36						
BRTR	Keskin Array B	74.69	341	P	P	05 54 26.2	+0.1
	0.6nm,0.5s,baz=108,slow=8.2,SNR=4.9						
	0.6nm,0.5s						
KBZ	Khabaz	76.41	349	LR	LR	06 25 58.0	
	comp=Z,20nm,20.7s,baz=130,slow=34						
KURBB	Kurchatov Arra	83.96	13	P	P	05 55 16.5	+0.3
	2.6nm,0.9s,baz=208,slow=5.7,SNR=11						
	2.6nm,0.9s						
BVAR	Borovoye Array	85.08	7	P	P	05 55 22.1	+0.2
	4.1nm,0.8s,baz=176,slow=4.5,SNR=16						
	4.1nm,0.8s						
ARU	Arti	87.83	0	LR	LR	06 31 37.0	
	comp=Z,18nm,19.2s,baz=136,slow=33						
YKA	Yellowknife Ar	148.90	354	PKPbc	PKPbc	06 02 33.0	-0.5
	2.0nm,0.8s,baz=3.0,slow=2.7,SNR=8.6						

*IDC **12** 05:52:33.8±8.0, 4°.13S×144°.75E, h75km±71km, mb3.6/6, mbtmp4.0/7, ML4.3/1, MS3.6/1, Error ellipse: s-maj=39.0km s-min=16.7km az=110.0*

ISC 12 05:52:29.0±1.0, 4°.1S±0°.1×145°.0E±0°.3, h35km, n8, σ1°06/8, mb4.0/6, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.82	213	P	P	05 56 46.0	+0.1
	1.0nm,0.3s,baz=31,slow=11,SNR=40						
WRA				S	Sn	06 00 17.2	+0.8
	0.6nm,0.9s,baz=34,slow=17,SNR=6.6						
	2.7nm,0.6s						
ASAR	Alice Springs	22.16	208	P	P	05 57 22.6	+0.5
	1.5nm,0.7s,baz=34,slow=9.5,SNR=14						
ASAR				S	S	06 01 13.1	-11
	1.7nm,0.8s,baz=31,slow=18,SNR=9.3						
	1.5nm,0.7s						
RPZ	Rata Peaks	45.67	154	LR	LR	06 22 10.8	
	comp=Z,56nm,18.0s,baz=142,slow=39						
VNDA	Vanda	73.89	176	P	P	06 03 59.8	-0.2
	0.7nm,0.6s,baz=337,slow=8.8,SNR=3.7						
	0.7nm,0.6s						
MKAR	Makanchi Array	74.77	321	P	P	06 04 05.7	0.0
	0.4nm,0.5s,baz=106,slow=6.9,SNR=4.2						
	0.4nm,0.5s						
BVAR	Borovoye Array	84.07	324	P	P	06 04 55.2	-1.0
	0.9nm,0.6s,baz=123,slow=5.5,SNR=4.1						
	0.9nm,0.6s						
ILAR	Eielson Array	84.58	24	P	P	06 05 00.1	+1.6
	0.9nm,0.7s,baz=259,slow=4.9,SNR=13						
	0.9nm,0.7s						
QSPA	South Pole Qui	85.83	180	P	P	06 05 03.8	-1.1
	2.0nm,0.6s,baz=299,slow=2.1,SNR=15						
	2.0nm,0.6s						

*IDC **12** 06:00:46.1±8.9, 20°.63S×177°.93W, h369km±89km, mb3.1/4, mbtmp3.9/5, Error ellipse: s-maj=39.9km s-min=27.2km az=41.0*

ISC 12 06:00:43.8±1.2, 20°.3S±0°.1×177°.9W±0°.3, h350km, n9, σ2°00/8, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	18.38	193	P	P	06 04 33.2	-1.5
	5.0nm,0.8s,baz=56,slow=3.6,SNR=1.6						
URZ				S	S	06 07 49.6	+3.5
	9.4nm,0.6s,baz=16,slow=22,SNR=10						
ASAR	Alice Springs	44.65	257	P	P	06 08 23.1	-0.2
	0.6nm,0.6s,baz=90,slow=8.7,SNR=9.0						
	0.6nm,0.6s						
WRA	Warramunga Arr	44.72	262	P	P	06 08 23.6	-0.2
	0.3nm,0.3s,baz=97,slow=7.5,SNR=39						
	0.3nm,0.3s						
QSPA	South Pole Qui	69.73	180	P	P	06 11 14.9	-1.6
	0.7nm,0.5s,baz=57,slow=2.3,SNR=6.6						
	0.7nm,0.5s						
ILAR	Eielson Array	88.14	13	P	P	06 12 56.4	+1.3
	0.6nm,0.4s,baz=215,slow=5.3,SNR=19						
	0.6nm,0.4s						
ARCES	ARCESS Array B	128.78	350	PKP	PKPdf	06 19 08.6	-0.7
	1.5nm,0.8s,baz=48,slow=1.3,SNR=3.7						
HFS	Hagfors	139.39	351	PKhKP	PKPpre	06 19 21.1	
	0.6nm,0.4s,baz=64,slow=3.4,SNR=6.0						
AKASG	Malin Array Be	142.92	331	PKhKP	PKPpre	06 19 32.0	
	2.7nm,0.5s,baz=45,slow=4.1,SNR=9.7						
EKA	Eskdalemuir Ar	144.83	5	PKPbc	PKPdf	06 19 40.1	+1.0
	0.4nm,0.4s,baz=337,slow=3.6,SNR=3.8						

*IDC **12** 06:31:19.4±0.8, 31°.72S×58°.10E, h0km, mb4.1/12, mbtmp4.1/12, MS3.8/7, Error ellipse: s-maj=30.0km s-min=22.1km az=52.0*

ISC 12 06:31:22.1±0.8, 31°.7S±0°.2×58°.1E±0°.2, h17km, n30, σ0°83/16, mb4.2/13, MS3.7/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.24	197	T	T	06 50 44.5	
	baz=22,slow=75,SNR=18						
H04N1	CROZET ISLANDS	15.24	197	T	T	06 50 45.6	
	baz=22,slow=75,SNR=251						
H04N3	CROZET ISLANDS	15.25	197	T	T	06 50 44.4	
	baz=22,slow=75,SNR=262						
H08S1	Diego Carcia H	27.44	32	T	T	07 05 21.8	
	baz=205,slow=75,SNR=11						
H08S2	Diego Garcia H	27.45	32	T	T	07 05 24.7	
	baz=205,slow=75,SNR=14						
H08S3	Diego Garcia H	27.46	32	T	T	07 05 24.0	
	baz=205,slow=75,SNR=23						
BOSA	Boshof	28.51	268	LR	LR	06 45 35.4	
	comp=Z,59nm,19.8s,baz=190,slow=30						
SUR	Sutherland	31.51	259	LR	LR	06 48 21.6	
	comp=Z,96nm,18.9s,baz=148,slow=32						
MAW	Mawson	36.04	177	LR	LR	06 49 39.5	
	comp=Z,116nm,19.2s,baz=356,slow=30						
FURI	Furi	44.45	332	LR	LR	06 54 36.6	
	comp=Z,53nm,21.2s,baz=188,slow=31						
H01W2	Cape Leeuwin H	46.42	110	T	T	07 29 01.4	
	baz=257,slow=74,SNR=20						
H01W3	Cape Leeuwin H	46.43	110	T	T	07 29 01.6	
	baz=257,slow=74,SNR=15						
H01W1	Cape Leeuwin H	46.44	110	T	T	07 29 02.6	
	baz=257,slow=74,SNR=14						
QSPA	South Pole Qui	58.46	180	P	P	06 41 17.1	+0.2
	1.5nm,0.8s,baz=292,slow=2.8,SNR=6.5						
	1.5nm,0.8s						
CMAR	Chiang Mai Arr	63.42	44	P	P	06 41 51.2	+0.2
	4.0nm,0.8s,baz=230,slow=7.1,SNR=9.8						
	4.0nm,0.8s						
ASAR	Alice Springs	66.39	104	P	P	06 42 10.2	-0.3
	1.6nm,0.8s,baz=241,slow=5.9,SNR=14						
	1.6nm,0.8s						
WRA	Warramunga Arr	68.40	101	P	P	06 42 23.2	-0.1
	2.4nm,0.9s,baz=242,slow=5.6,SNR=9.6						
	2.4nm,0.9s						
STKA	Stephens Creek	69.08	115	LR	LR	07 05 52.5	
	comp=Z,472nm,20.8s,baz=209,slow=30						
TORD	Torodi Ar. Bea	70.05	300	P	P	06 42 33.8	+0.4
	1.0nm,1.0s,baz=138,slow=5.2,SNR=3.6						
TORD				LR	LR	07 13 47.0	
	comp=Z,72nm,18.4s,baz=134,slow=36						
	1.0nm,1.0s						
BRTR	Keskin Array B	74.61	341	P	P	06 42 58.5	-1.7
	0.7nm,0.8s,baz=152,slow=6.5,SNR=4.3						
	0.7nm,0.8s						
MKAR	Makanchi Array	81.13	17	P	P	06 43 36.7	+0.5
	0.7nm,0.9s,baz=193,slow=4.9,SNR=4.9						
	0.7nm,0.9s						
KURBB	Kurchatov Arra	83.94	13	P	P	06 43 51.7	+1.0
	1.3nm,0.5s,baz=206,slow=5.5,SNR=12						
	1.3nm,0.5s						
BVAR	Borovoye Array	85.05	7	P	P	06 43 57.3	+1.0
	5.0nm,0.9s,baz=161,slow=5.5,SNR=19						
	5.0nm,0.9s						
ARU	Arti	87.79	0	P	P	06 44 10.7	+1.1
	5.0nm,0.2s,baz=144,slow=4.5,SNR=4.4						
ZALV	Zalesovo Beam	88.39	15	P	P	06 44 11.6	-0.9
	0.7nm,0.5s,baz=151,slow=3.4,SNR=3.8						
ZALV				LR	LR	07 19 25.5	
	comp=Z,65nm,21.4s,baz=284,slow=33						
	0.7nm,0.5s						
SONM	Songino Array	90.25	30	P	P	06 44 21.7	0.0
	0.5nm,0.7s,baz=193,slow=5.9,SNR=2.7						
	0.5nm,0.7s						
ESDC	Sonseca Array	91.40	317	P	P	06 44 27.7	+0.6
	0.3nm,0.3s,baz=139,slow=7.0,SNR=4.8						
	0.3nm,0.3s						
ILAR	Eielson Array	143.48	18	PKP	PKPdf	06 50 54.9	0.0
	0.5nm,0.9s,baz=350,slow=2.7,SNR=3.3						
YKA	Yellowknife Ar	148.84	353	PKPbc	PKPbc	06 51 07.1	-0.9
	1.8nm,0.9s,baz=355,slow=2.5,SNR=6.0						
ULM	Lac du Bonnet	153.22	321	PKPbc	PKiKP	06 51 18.2	-0.6
	3.0nm,0.9s,baz=324,slow=3.4,SNR=3.2						

*IDC **12** 06:43:59.5±6.3, 5°.12S×109°.26E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=421.8km s-min=29.0km az=51.0*

*DJA **12** 06:44:09.0±1.2, 2°.5±8°.×11°.4E±°, h14km±7km, M4.2/4, mb3.8/1, MLv4.4/4*

ISC 12 06:44:08.9±1.2, 1°.7S±0°.1×113°.50E±0°.05, h10km, n7, σ1°48/11, mb3.5/3, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTKI	Muara Teweh, K	1.60	61	P	Pn	06 44 37.3	0.0
MTKI				Pg	Pg	06 44 39.6	0.0
MTKI				S	Sn	06 44 57.6	-0.4
MTKI				Sg	Sg	06 45 00.5	+0.1
STKI	Sintang	2.69	311	P	Pg	06 44 53.8	-6.8
STKI				Pn	Pn	06 44 50.7	-1.6
STKI				Pg	Pb	06 44 52.4	-4.8
STKI				S	Sn	06 45 25.3	+0.3
BKB	Balikpapan	3.43	82	P	Pn	06 45 02.4	0.0
MPSI	Mapaga	6.72	72	P	Pn	06 45 45.2	-2.5
WRA	Warramunga Arr	27.25	133	P	P	06 49 55.4	+1.8
	0.3nm,0.7s,baz=285,slow=9.2,SNR=1.6						
	0.3nm,0.7s						
ASAR	Alice Springs	29.43	139	P	P	06 50 11.8	-1.1
	0.4nm,0.5s,baz=299,slow=8.4,SNR=6.9						
	0.4nm,0.5s						
MKAR	Makanchi Array	55.56	334	P	P	06 53 46.5	+2.0
	0.4nm,0.6s,baz=164,slow=7.2,SNR=4.5						
	0.4nm,0.6s						

ISC 12 06:49:31.6±2.0, 16°.03S×178°.97W, h0km, mb3.9/5, mbtmp3.9/5, MS3.8/8, Error ellipse: s-maj=128.7km s-min=21.9km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.04	244	LR	LR	06 56 54.5	
	comp=Z,3μm,21.9s,baz=100,slow=30						
RAR	Rarotonga	18.90	109	LR	LR	06 59 09.8	
	comp=Z,448nm,18.2s,baz=201,slow=31						
STKA	Stephens Creek	39.10	239	P	P	06 57 00.7	-0.1
	1.2nm,0.5s,baz=95,slow=7.4,SNR=4.4						
	1.2nm,0.5s						
WRA	Warramunga Arr	44.48	258	P	P	06 57 45.0	0.0
	1.0nm,0.3s,baz=85,slow=7.1,SNR=63						
	1.0nm,0.3s						
ASAR	Alice Springs	44.81	252	P	P	06 57 47.5	-0.2
	14nm,0.5s,baz=89,slow=8.0,SNR=264						
ASAR				LR	LR	07 14 43.3	
	comp=Z,433nm,18.9s,baz=101,slow=34						
GUMO	Guam	46.31	307	LR	LR	07 14 22.1	
	comp=Z,74nm,20.1s,baz=92,slow=32						
JHJ	Hachijo jima 2	62.78	322	LR	LR	07 21 25.8	
	comp=Z,59nm,21.4s,baz=344,slow=30						
NVAR	Mina Array Bea	78.46	44	P	P	07 01 36.1	+1.3
	0.5nm,0.6s,baz=229,slow=8.9,SNR=5.0						
	0.5nm,0.6s						
ILAR	Eielson Array	84.19	13	P	P	07 02 04.3	-0.1
	0.2nm,0.4s,baz=202,slow=6.8,SNR=6.0						
	0.2nm,0.4s						
ANMO	Albuquerque	85.36	52	LR	LR	07 31 47.8	
	comp=Z,31nm,21.4s,baz=302,slow=30						
PDAR	Pinedale Array	86.37	44	P	P	07 02 14.7	-1.5
	0.3nm,0.5s,baz=224,slow=4.1,SNR=4.4						
PDAR				LR	LR	07 33 36.6	
	comp=Z,15nm,20.7s,baz=272,slow=31						
	0.3nm,0.5s						
YAK	Yakutsk	87.65	338	LR	LR	07 37 03.9	
	comp=Z,21nm,20.8s,baz=170,slow=32						

*MOS **12** 06:51:19.6±0.9, 23°.36S×179°.92W, h538km, mb5.4/30, Error ellipse: s-maj=8.9km s-min=7.3km az=121.0*

*BJI **12** 06:51:19.6±0.0, 23°.12S×179°.50W, h547km, mb5.4/71, mB5.2/42*

*NEIC **12** 06:51:20.9, 23°.25S×179°.88W, h550km, Moment Tensor Solution. Duration: 3ᵗ0 Moment tensor: Scale 10¹⁷Nm; M_{rr}0.94; $M_{\theta\theta}$-0.90; $M_{\phi\phi}$-0.05; $M_{r\theta}$-0.49; $M_{\theta\phi}$-0.57; $M_{\theta r}$-2.33; Fault plane solution: $M_0$2.58000×10¹⁷ NP1: ϕ_s199.74000°, δ81.07000°, λ72.98000°. NP2: ϕ_s82.87000°, δ19.16000°, λ151.79000°. Principal axes: T 2.8274, Plg51.0000°, Azm91.0000°; N -0.5000, Plg17.0000°, Azm202.0000°; P -2.3274, Plg34.0000°, Azm304.0000°;*

*NOU **12** 06:51:20.8, 23°.43S×179°.83W, h548km, ML5.5/136, South of Fiji Islands*

*NEIC **12** 06:51:20.9, 23°.35S×179°.88W, h550km*

*NEIC **12** 06:51:20.8, 23°.35S×179°.87W, h538km*

*IDC **12** 06:51:21.2±0.5, 23°.41S×179°.90W, h547km±4km, mb4.7/31, mbtmp5.6/33, Error ellipse: s-maj=7.6km s-min=7.3km az=98.0*

*NEIC **12** 06:51:21.2±1.6, 23°.34S±0°.07×179°.91W±0°.09, h541km±4km, mb5.3/480, Mwb5.6/29, Mww5.5/18, Error ellipse: s-maj=12.5km s-min=8.9km az=61.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; M_{rr}0.37; $M_{\theta\theta}$0.05; $M_{\phi\phi}$-0.42; $M_{r\theta}$-0.55; $M_{\theta\phi}$-1.17; $M_{\theta r}$-3.48; Fault plane solution: $M_0$3.74000×10¹⁷ NP1: ϕ_s187.54000°, δ85.80000°, λ73.41000°. NP2: ϕ_s83.73000°, δ17.09000°, λ165.58000°. Principal axes: T 3.5236, Plg47.0000°, Azm80.0000°; N 0.3974, Plg17.0000°, Azm189.0000°; P -3.9210, Plg39.0000°, Azm293.0000°;*

*GCMT **12** 06:51:24.2±0.2, 23°.55S±0°.02×179°.87W±0°.02, h553km±1km, MW5.6/111, Moment Tensor Solution. s111, c178; Duration: 1ᵗ6 Moment tensor: Scale 10¹⁷ Nm; M_{rr}0.42±.04; $M_{\theta\theta}$-0.50±.06; $M_{\phi\phi}$0.08±.06; $M_{r\theta}$-0.69±.06; $M_{\theta\phi}$-1.23±.06; $M_{\theta r}$-2.92±.05; Best double couple: $M_0$3.27300×10¹⁷ NP1: ϕ_s194.00000°, δ86.00000°, λ68.00000°. NP2: ϕ_s93.00000°, δ22.00000°, λ169.00000°. Principal axes: T 3.2080, Plg45.0000°, Azm82.0000°; N 0.1300, Plg22.0000°, Azm195.0000°; P -3.3390, Plg37.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 12 06:51:20.7±0.2, 23°.42S±0°.03×179°.87W±0°.03, h548km±2km, h549km: pP-P, n1617, σ1°29/1632, mb5.3/366, 80C-111D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.98	341	P	P	06 52 59.6	+0.3
MSVF	Nonsavu	5.98	341	P	P	06 52 59.5	+0.3
MSVF	Nonsavu	5.98	341	c iP	P	06 52 59.4	+0.1
RIZ	Raoul Island	6.06	164	P	P	06 52 59.5	-0.1
RIZ				S	S	06 54 16.3	-4.3
RAO	Raoul Island	6.07	164	P	P	06 52 59.5	-0.2
RAO	Raoul Island	6.07	164	P	P	06 52 59.2	-0.5
RAO	Raoul Island	6.07	164	P	P	06 52 59.4	-0.2
	4μm,0.3s,baz=99,slow=19,SNR=49						
RAO				S	S	06 54 15.2	-5.6
	868nm,0.3s,baz=68,slow=19,SNR=1.4						
RAO	Raoul Island	6.07	164	P	P	06 52 59.2	-0.5
GLKZ	Green Lake	6.08	164	P	P	06 52 59.5	-0.2
GLKZ				S	S	06 54 15.7	-5.3
FUTU	Fugatoga	9.21	11	P	P	06 53 30.9	+0.2
NIUE	Niue	10.23	67	P	P	06 53 41.0	0.0
NIUE	Niue	10.23	67	P	P	06 53 40.9	-0.1
NIUE	Niue	10.23	67	P	P	06 53 40.3	-0.7
	991nm,1.0s,SNR=5.7						
MARNC	Mare, Loyalty	11.35	277	P	P	06 53 53.4	+0.9
PINNC	Pines Island,	11.71	271	P	P	06 53 57.4	+1.2
PINNC	Pines Island,	11.71	271	P	P	06 53 57.7	+1.5
AFI	Afiamalu	12.17	40	P	P	06 53 57.7	-3.5
AFI	Afiamalu	12.17	40	P	P	06 53 57.7	-3.5
LIFNC	LIFOU	12.23	280	P	P	06 54 01.4	-0.3
LIFNC	LIFOU	12.23	280	P	P	06 54 01.6	-0.1
OUENC	Ouen Island, N	12.29	272	P	P	06 54 03.8	+1.6
OUENC	Ouen Island, N	12.29	272	P	P	06 54 03.4	+1.2
YATNC	Mamie plateau,	12.29	274	P	P	06 54 03.4	+1.1
DZM	Mont Dzumac	12.70	273	P	P	06 54 07.7	+1.1
DZM	Mont Dzumac	12.70	273	ePn	P	06 54 06.2	-0.4
	425nm,0.8s						
DZM				eSn	S	06 56 25.8	+2.7
	454nm,1.4s						
DZM	Mont Dzumac	12.70	273	P	P	06 54 07.3	+0.7
	217nm,0.7s,baz=82,slow=17,SNR=30						
DZM				S	S	06 56 20.9	-2.2
	28nm,0.7s,baz=82,slow=19,SNR=1.1						
DZM				ScP

HSRZ Hossack Road 15.21 192 P **P 06 54 34.7 +2.5**
HRRZ Handcock Road 15.28 192 P **P 06 54 30.5 -2.5**
MUGZ Murupara 15.28 190 P **P 06 54 31.7 -1.2**
MUGZ S **S 06 57 06.0 -4.9**
MUGZ ScP **ScP 07 01 41.1 -0.5**
PRRZ Plateau Road 15.37 191 P **P 06 54 28.7 -5.1**
RIGZ Rimuhau 15.37 187 P **P 06 54 32.4 -1.5**
TLZ Tolley Road 15.37 194 P **P 06 54 33.8 -0.1**
RTZ Ruatahuna 15.39 189 **P 06 54 33.1 -1.0**
WPRZ Whakapapatarin 15.43 192 P **P 06 54 32.5 -1.9**
ALRZ Allen Road 15.44 191 P **P 06 54 35.5 +1.0**
KUTZ Kaahu Road 15.47 193 P **P 06 54 36.8 +2.0**
SNGZ Shannon Statio 15.50 188 P **P 06 54 33.6 -1.5**
SNGZ ScP **ScP 07 01 43.3 +1.2**
PRGZ Paritu Road 15.57 187 P **P 06 54 36.9 +1.0**
PRGZ S **S 06 57 11.3 -4.6**
MTHZ Maungataniwha 15.64 190 P **P 06 54 31.2 -5.4**
RAHZ Arahi 15.67 189 P **P 06 54 31.8 -5.0**
MRHZ Matea Rd 15.69 191 P **P 06 54 34.8 -2.2**
KNZ Kokohu 15.70 187 P **P 06 54 37.2 +0.2**
KNZ S **S 06 57 14.4 -3.4**
WATZ Wairara 15.70 193 P **P 06 54 39.9 +2.8**
HIZ Hauiti 15.71 195 P **P 06 54 38.6 +1.4**
HIZ Hauiti 15.71 195 P **P 06 54 37.3 +0.1**
HIZ Hauiti 15.71 195 P **P 06 54 37.5 +0.3**
MHGZ Mahia Peninsul 15.80 186 P **P 06 54 38.8 +0.7**
WHHZ Waihua 15.80 188 P **P 06 54 40.2 +2.1**
WHHZ Waihua 15.80 188 S **S 06 57 16.0 -3.6**
RATZ Rangitukua 15.84 193 P **P 06 54 37.5 -1.1**
NMHZ Naumai 15.88 189 P **P 06 54 37.3 -1.7**
NMHZ S **S 06 57 16.7 -4.5**
RITZ Rihia Road 15.93 192 P **P 06 54 39.8 +0.4**
RITZ S **S 06 57 20.6 -1.2**
KATZ Kakaramea 15.96 193 P **P 06 54 42.8 +3.0**
BKZ Black Stump Fm 16.00 190 P **P 06 54 38.3 -1.8**
BKZ Black Stump Fm 16.00 190 P **P 06 54 37.5 -2.7**
BKZ Black Stump Fm 16.00 190 P **P 06 54 36.6 -3.5**
BKZ S **S 06 57 18.1 -4.9**
BKZ ScP **ScP 07 01 43.6 +0.6**
ARHZ Aropaoanui 16.02 189 P **P 06 54 40.3 +0.1**
ARHZ S **S 06 57 18.3 -5.0**
ARHZ ScP **ScP 07 01 44.3 +1.4**
NTVZ North Tongarir 16.08 193 P **P 06 54 42.2 +1.2**
NTVZ S **S 06 57 20.9 -3.7**
KRVZ Karewarewa 16.09 193 P **P 06 54 41.5 +0.5**
TMVZ Te Maari 16.09 193 P **P 06 54 40.6 -0.6**
TMVZ S **S 06 57 21.4 -3.4**
TWVZ Taurewa 16.11 193 P **P 06 54 41.1 -0.1**
ETVZ East Tongariro 16.11 192 P **P 06 54 38.7 -2.6**
WTVZ West Tongariro 16.12 193 P **P 06 54 42.1 +0.8**
NNVZ North Ngauruho 16.13 193 P **P 06 54 42.1 +0.6**
OTVZ Oturere 16.15 193 P **P 06 54 38.7 -3.0**
NGZ Ngauruhoe 16.17 193 P **P 06 54 41.3 -0.6**
SNVZ South Ngauruho 16.18 193 P **P 06 54 39.8 -2.2**
MCHZ McNeill Hill 16.24 190 P **P 06 54 40.7 -1.6**
TUVZ Tukino 16.25 192 P **P 06 54 40.2 -2.5**
FWVZ Far West T-bar 16.26 193 P **P 06 54 39.2 -3.6**
KWHZ Kaweka Forest 16.26 190 P **P 06 54 37.9 -4.7**
WHVZ Whangaehu Hut 16.28 193 P **P 06 54 43.1 +0.2**
WNVZ Wahianoa 16.32 193 P **P 06 54 40.2 -3.1**
WNVZ S **S 06 57 23.8 -4.8**
PKVZ Pokaka 16.34 193 P **P 06 54 42.3 -1.0**
PKVZ S **S 06 57 23.8 -4.8**
MOVZ Moawhango 16.37 192 P **P 06 54 43.6 -0.1**
MOVZ S **S 06 57 23.6 -5.5**
KRHZ Kereru 16.49 190 P **P 06 54 43.3 -1.3**
KRHZ S **S 06 57 27.0 -4.1**
KRHZ ScP **ScP 07 01 44.0 0.0**
KAHZ Kahuranaki 16.56 189 P **P 06 54 43.7 -1.6**
KAHZ ScP **ScP 07 01 45.1 +0.9**
NEZ North Egmont 16.61 197 P **P 06 54 47.6 +1.7**
KHEZ Kahui Hut 16.66 197 P **P 06 54 46.0 -0.3**
PREZ Palmer Road 16.66 196 P **P 06 54 49.4 +3.1**
PNHZ Pukenui 16.78 191 P **P 06 54 45.7 -1.6**
PXZ Pawanui 16.79 189 P **P 06 54 46.5 -0.9**
TSZ Takapari Road 16.96 191 P **P 06 54 47.0 -2.0**
ANWZ Angora Road 17.27 189 P **P 06 54 50.8 -0.8**
BFZ Birch Farm 17.52 190 P **P 06 54 52.5 -1.5**
BFZ Birch Farm 17.52 190 P **P 06 54 52.7 -1.3**
MRZ Mangatainoka R 17.61 192 P **P 06 54 53.9 -1.0**
DUWZ D'Urville Isla 18.10 195 P **P 06 54 58.8 -0.6**
MSWZ Moikau Station 18.41 192 P **P 06 55 03.3 +1.1**
TCW Tory Channel 18.41 194 P **P 06 55 02.1 0.0**
TCW Tory Channel 18.41 194 P **P 06 55 01.8 -0.3**
SNZO South Karori 18.41 193 P **P 06 55 02.8 +0.7**
QRZ Quartz Range 18.50 198 P **P 06 55 04.0 +1.0**
QRZ Quartz Range 18.50 198 P **P 06 55 04.2 +1.2**
QRZ Quartz Range 18.50 198 P **P 06 55 03.2 +0.2**
PLWZ Palliser 18.55 192 P **P 06 55 03.6 0.0**
TKNZ Takaka Hill 18.57 197 P **P 06 55 03.9 +0.3**
TKNZ Takaka Hill 18.57 197 P **P 06 55 03.8 +0.1**
NNZ Nelson 18.63 196 P **P 06 55 04.0 -0.2**
NNZ Nelson 18.63 196 P **P 06 55 03.4 -0.8**
TUWZ Tuamarina 18.69 195 P **P 06 55 03.8 -0.9**
TUWZ Tuamarina 18.69 195 P **P 06 55 03.7 -1.1**
RAR Rarotonga 18.73 87 P **P 06 55 04.9 -0.4**
RAR Rarotonga 18.73 87 P **P 06 55 04.9 -0.4**
RAR Rarotonga 18.73 87 P **P 06 55 04.2 -1.1**
109nm,0.8s,baz=231,slow=7.9,SNR=15
RAR Rarotonga 18.73 87 P **P 06 55 04.9 -0.4**
CMWZ Cape Campbell 18.94 194 P **P 06 55 08.1 +1.2**
MRNZ Matariki Terra 18.96 197 P **P 06 55 07.1 -0.1**
MRNZ Matariki Terra 18.96 197 P **P 06 55 07.1 -0.1**
BSWZ Blackbirch Sta 18.98 195 P **P 06 55 07.0 -0.3**
BSWZ Blackbirch Sta 18.98 195 P **P 06 55 08.0 +0.7**
THZ Tophouse 19.26 197 P **P 06 55 09.3 -0.7**
DSZ Denniston Nort 19.55 199 P **P 06 55 12.7 0.0**
KHZ Kahutara 19.72 195 P **P 06 55 13.5 -0.6**
KHZ Kahutara 19.72 195 P **P 06 55 13.8 -0.3**
KHZ Kahutara 19.72 195 P **P 06 55 13.4 -0.6**
GVZ Greta Valley S 20.36 195 P **P 06 55 19.7 -0.2**
GVZ Greta Valley S 20.36 195 P **P 06 55 19.1 -0.8**
LTZ Lake Taylor 20.38 197 P **P 06 55 19.6 -0.5**
LTZ Lake Taylor 20.38 197 P **P 06 55 19.0 -1.2**
INZ Inchbonnie 20.56 198 P **P 06 55 21.1 -0.6**
AMCZ Amberley 20.66 196 P **P 06 55 22.2 -0.4**
AMCZ Amberley 20.66 196 P **P 06 55 22.1 -0.4**
OXZ Oxford 20.95 197 P **P 06 55 24.1 -1.2**
RPZ Rata Peaks 21.58 198 P **P 06 55 31.2 +0.3**
RPZ Rata Peaks 21.58 198 P **P 06 55 31.4 +0.5**
RPZ Rata Peaks 21.58 198 P **P 06 55 30.9 0.0**
32nm,0.5s,baz=51,slow=4.0,SNR=20
RPZ ScP **ScP 07 01 55.8 +0.3**
31nm,0.6s,baz=346,slow=2.5,SNR=12
32nm,0.5s
JCZ Jackson Bay 22.61 202 P **P 06 55 40.7 +0.5**
ODZ Otahua Downs 22.92 197 P **P 06 55 42.0 -0.8**
HNR Honiara 23.79 302 P **P 06 55 50.3 -0.7**
HNR Honiara 23.79 302 P **P 06 55 50.8 -0.2**
HNR Honiara 23.79 302 P **P 06 55 50.8 -0.2**
WHZ Wether Hill Ro 24.50 201 P **P 06 55 56.9 0.0**
TARA Tarawa 25.60 343 P **P 06 56 07.2 +0.2**
ARMA Armidale 26.30 248 P **P 06 56 14.8 +1.6**
ARMA Armidale 26.30 248 P **P 06 56 14.6 +1.5**
ARMA Armidale 26.30 248 P **P 06 56 14.4 +1.3**
253nm,1.1s,SNR=36
EIDS Eidsvold 26.50 260 P **P 06 56 15.5 +0.6**
EIDS Eidsvold 26.50 260 P **P 06 56 15.7 +0.9**
EIDS Eidsvold 26.50 260 P **P 06 56 15.4 +0.6**
451nm,1.3s,SNR=65
RK1H Rockhampton Ha 27.18 264 P **P 06 56 21.2 +0.5**
RIV Riverview 27.38 241 P **P 06 56 23.4 +1.0**
133nm,1.3s,SNR=5.5
SYDH Sydney Hard Ro 27.70 242 P **P 06 56 26.3 +1.1**
TBI Tubuai 27.89 96 *e*P **P 06 56 26.6 -0.4**
608nm,29.5s
TBI Tubuai 27.89 96 *e*P **P 06 56 27.7 +0.7**
525nm,1.0s
TBI *e*pP **pP 06 57 53.0 -1.7**
905nm,28.5s
TBI *e*S **S 07 00 31.6 -0.8**
467nm,21.5s
TBI *es*S **sS 07 03 16.8 -1.8**
3µm,49.0s
RMQ Roma 28.57 257 P **P 06 56 34.6 +1.7**
RMQ Roma 28.57 257 P **P 06 56 33.9 +0.9**
180nm,1.4s,SNR=10
PAE Paea 28.90 84 *e*P **P 06 56 36.0 +0.1**
100nm,1.0s
PPT2 Papeete2 28.93 84 *e*P P 06 56 30.9 -5.3
173nm,25.2s
PPT2 *e*pP pP 06 57 56.6 -7.7
201nm,25.8s
PPT2 *es*S sS 07 03 36.1 +0.2
1µm,25.0s
PPT2 *es*S SS 07 03 37.1 -18
1µm,29.5s
PPT Papeete 28.93 84 P **P 06 56 36.4 +0.3**
243nm,0.8s,baz=59,slow=2.3,SNR=32
PPT ScP **ScP 07 02 18.3 +1.0**
133nm,1.0s,baz=47,slow=6.8,SNR=6.4
243nm,0.8s
PPTF Pamatai, Papee 28.94 84 P **P 06 56 37.8 +1.5**
PPTF Pamatai, Papee 28.94 84 P **P 06 56 36.9 +0.6**
TVO Taravao 29.17 85 *e*P **P 06 56 38.4 +0.1**
91nm,0.7s
CNB Canberra Magne 29.20 239 P **P 06 56 39.6 +1.3**
CNB Canberra Magne 29.20 239 P **P 06 56 39.6 +1.3**
383nm,1.3s,SNR=40
CAN Canberra 29.49 239 P **P 06 56 41.8 +1.0**
CAN Canberra 29.49 239 P **P 06 56 42.1 +1.3**
CAN Canberra 29.49 239 P **P 06 56 41.9 +1.0**
CAN Canberra 29.49 239 P **P 06 56 42.1 +1.3**
CAN pmax pmax
comp=Z,321nm,1.0s
YNG Young 29.72 241 P **P 06 56 43.9 +1.1**
YNG Young 29.72 241 P **P 06 56 43.8 +1.0**
comp=Z,751nm,0.9s,SNR=26
MILA Mila 29.86 236 P **P 06 56 45.0 +0.9**
comp=Z,145nm,1.1s,SNR=8.9
TV1H Townsville Har 31.28 271 P **P 06 56 56.4 +0.1**
CMSA Cobar Meteorol 31.50 248 P **P 06 56 58.7 +0.6**
CMSA Cobar Meteorol 31.50 248 P **P 06 56 58.7 +0.6**
comp=Z,606nm,0.9s,SNR=114
CTA Charters Tower 31.59 269 P **P 06 56 59.8 +0.7**
CTA Charters Tower 31.59 269 P **P 06 56 59.8 +0.7**
comp=Z,90nm,0.6s,baz=97,slow=12
CTA PcP **PcP 06 59 35.7 +1.0**
comp=Z,2.1nm,0.7s,baz=181,slow=5.6,SNR=3.0
CTA S **S 07 01 29.6 -0.1**
comp=Z,1.2nm,0.8s,baz=228,slow=18,SNR=6.2
CTA ScP **ScP 07 02 29.4 +3.3**
comp=Z,1.6nm,0.7s,baz=95,slow=2.2,SNR=6.7
comp=Z,90nm,0.6s
CTAO Charters Tower 31.59 269 P **P 06 56 59.8 +0.7**
CTAO Charters Tower 31.59 269 P **P 06 56 60.0 +0.9**
CTAO Charters Tower 31.59 269 P **P 06 57 00.0 +0.9**
CTAO pmax pmax
comp=Z,1µm,0.7s
CTAO Charters Tower 31.59 269 ⇓P **P 06 56 59.8 +0.7**
CTAO PcP **PcP 06 59 35.4 +0.7**
CTAO ScP **ScP 07 02 29.0 +2.9**
GLAD Gladstone 32.09 229 P **P 06 57 03.5 +0.5**
QLP Quilpie 32.62 257 P **P 06 57 08.3 +0.6**
QLP Quilpie 32.62 257 P **P 06 57 08.1 +0.4**
comp=Z,778nm,0.9s,SNR=83
TOO Toolangi 32.81 236 P **P 06 57 10.0 +0.8**
TOO Toolangi 32.81 236 P **P 06 57 10.1 +1.0**
TOO Toolangi 32.81 236 P **P 06 57 09.9 +0.8**
comp=Z,274nm,0.9s,SNR=36
TOO Toolangi 32.81 236 P **P 06 57 10.1 +0.8**
TOO pmax pmax
comp=Z,210nm,1.0s
MOO Moorlands 33.24 227 P **P 06 57 13.6 +0.9**
MOO Moorlands 33.24 227 P **P 06 57 13.4 +0.7**
comp=Z,104nm,1.1s,SNR=5.2
TAU Tasmania Unive 33.35 226 P **P 06 57 14.0 +0.4**
TAU Tasmania Unive 33.35 226 P **P 06 57 14.7 +1.1**
TAU IAmb IAmb 06 57 14.8
comp=Z,74nm,0.7s
TAU Tasmania Unive 33.35 226 P **P 06 57 14.7 +1.1**
TAU pmax pmax
comp=Z,74nm,0.7s
TAU Tasmania Unive 33.35 226 P **P 06 57 14.2 +0.7**
TAU PcP **PcP 06 59 40.2 +1.0**
TAU ScP **ScP 07 02 33.6 +1.8**
XMAS Kiritimati 33.43 44 P **P 06 57 14.6 0.0**
XMAS Kiritimati 33.43 44 P **P 06 57 15.2 +0.7**
XMAS Kiritimati 33.43 44 P **P 06 57 15.0 +0.4**
MTSU Mount Surprise 33.84 272 P **P 06 57 19.0 +0.9**
MTSU Mount Surprise 33.84 272 P **P 06 57 18.7 +0.6**
comp=Z,654nm,0.8s,SNR=289
GEXS Deakin Univers 33.89 236 P **P 06 57 19.1 +0.9**
PMG Port Moresby 34.45 288 ScP **ScP 07 02 39.6 +3.4**
comp=Z,41nm,1.0s,baz=80,slow=6.1,SNR=6.5
PMG Port Moresby 34.45 288 ⇓P **P 06 57 23.4 +0.2**
PMG PcP **PcP 06 59 43.9 +1.0**
PMG ScP **ScP 07 02 39.2 +3.0**
STKA Stephens Creek 35.01 247 P **P 06 57 28.2 +0.5**
STKA Stephens Creek 35.01 247 P **P 06 57 28.6 +0.9**
STKA IAmb IAmb 06 57 28.9
comp=Z,50nm,0.7s
STKA Stephens Creek 35.01 247 P **P 06 57 28.4 +0.6**
comp=Z,86nm,0.8s,SNR=88
STKA Stephens Creek 35.01 247 P **P 06 57 28.3 +0.6**
comp=Z,215nm,0.6s,baz=92,slow=9.9,SNR=460
STKA PcP **PcP 06 59 44.6 +0.4**
comp=Z,19nm,0.4s,baz=70,slow=7.0,SNR=3.7
STKA S **S 07 02 18.8 -2.4**
comp=Z,13nm,0.9s,baz=210,slow=20,SNR=3.2
comp=Z,215nm,0.6s
STKA Stephens Creek 35.01 247 *d*iP **P 06 57 28.1 +0.4**
ARPS Mount Arapiles 35.46 239 P **P 06 57 31.8 +0.4**
ARPS Mount Arapiles 35.46 239 P **P 06 57 31.6 +0.3**
comp=Z,470nm,0.7s,SNR=93
INKA Innaminka 35.68 255 P **P 06 57 34.7 +1.4**
COEN Coen 36.16 278 P **P 06 57 38.0 +0.6**
COEN Coen 36.16 278 P **P 06 57 38.1 +0.6**
COEN Coen 36.16 278 P **P 06 57 37.9 +0.5**
comp=Z,272nm,1.4s,SNR=31
HTT Hallett 37.38 245 P **P 06 57 47.4 +0.2**
HTT Hallett 37.38 245 P **P 06 57 47.5 +0.2**
comp=Z,513nm,1.0s,SNR=62
QIS Mount Isa 37.60 266 P **P 06 57 48.9 -0.3**
QIS Mount Isa 37.60 266 P **P 06 57 48.9 -0.3**
comp=Z,117nm,0.6s,SNR=32
LCRK Leigh Creek 37.85 250 P **P 06 57 51.3 +0.2**
MANU Manus Island 38.19 299 P **P 06 57 54.2 +0.2**
MANU Manus Island 38.19 299 P **P 06 57 53.8 -0.3**
WHYH Whyalla 38.48 246 P **P 06 57 56.0 -0.1**
BBOO Buckleboo 39.74 246 P **P 06 58 06.0 -0.3**
BBOO Buckleboo 39.74 246 P **P 06 58 06.3 0.0**
OOD Oodnadatta 40.15 254 P **P 06 58 10.5 +0.8**
MMPI Merauke 40.84 285 P **P 06 58 15.0 -0.3**
MULG Mulgathing 41.45 250 P **P 06 58 19.7 -0.2**
TABU Tabubil 41.59 290 P **P 06 58 22.3 +1.0**
AS01 Alice Springs 42.19 260 P **P 06 58 26.0 +0.1**
AS31 Alice Springs 42.23 260 P **P 06 58 26.7 +0.5**
ASAR Alice Springs 42.23 260 P **P 06 58 26.6 +0.4**
ASAR Alice Springs 42.23 260 P **P 06 58 26.6 +0.3**
comp=Z,547nm,0.8s,baz=95,slow=8.0,SNR=952
ASAR pP **pP 07 00 02.8 +0.2**
comp=Z,18nm,0.8s,baz=88,slow=6.9,SNR=1.9
ASAR PcP **PcP 07 00 06.9 -0.7**
comp=Z,27nm,0.8s,baz=61,slow=2.3,SNR=5.3
ASAR ScP **ScP 07 03 09.2 +3.1**
comp=Z,42nm,0.9s,baz=113,slow=3.9,SNR=18
ASAR S **S 07 04 05.1 -2.3**
comp=Z,16nm,0.6s,baz=96,slow=15,SNR=7.9
ASAR P4KPbc 07 36 18.8
comp=Z,1.1nm,0.6s,baz=104,slow=4.5,SNR=17
comp=Z,547nm,0.8s
WR0 Warramunga Arr 42.37 266 P **P 06 58 26.9 -0.5**
WB2 Warramunga Arr 42.55 266 P **P 06 58 28.4 -0.3**
WB0 Warramunga Arr 42.55 266 P **P 06 58 28.6 -0.2**
WRAB Tennant Creek 42.55 266 P **P 06 58 28.4 -0.4**
WRAB Tennant Creek 42.55 266 *d*iP **P 06 58 28.2 -0.6**
WRAB pmax pmax
comp=Z,487nm,0.9s
WRA Warramunga Arr 42.56 266 P **P 06 58 28.2 -0.7**
WRA IAmb IAmb 06 58 29.2
comp=Z,80nm,0.8s
WRA Warramunga Arr 42.56 266 P **P 06 58 28.6 -0.3**
comp=Z,576nm,0.6s,baz=102,slow=8.1,SNR=912
WRA pP **pP 07 00 05.3 0.0**
comp=Z,8.9nm,0.4s,baz=101,slow=7.1,SNR=1.9
WRA PcP **PcP 07 00 09.7 +1.0**
comp=Z,21nm,0.6s,baz=97,slow=3.3,SNR=5.6
WRA ScP **ScP 07 03 10.2 +2.8**
comp=Z,36nm,0.9s,baz=102,slow=4.5,SNR=15
WRA S **S 07 04 08.1 -4.1**
comp=Z,14nm,0.7s,baz=104,slow=13,SNR=6.4
WRA P4KPbc 07 36 19.3
comp=Z,0.3nm,0.6s,baz=99,slow=3.9,SNR=7.5
JAY Jayapura 43.44 293 P **P 06 58 35.0 -0.8**
comp=Z,639nm,1.0s,comp=Z,6µm
GENI Genyem 43.85 292 P **P 06 58 40.3 +1.4**
GENI Genyem 43.85 292 P **P 06 58 38.3 -0.6**
comp=Z,1µm,1.0s,comp=Z,10µm
WAKE Wake Island 44.43 342 P **P 06 58 43.3 0.0**
WAKE Wake Island 44.43 342 P **P 06 58 43.1 -0.1**
H11N3 WAKE ISLAND Hy 44.77 342 P **P 06 58 46.2 +0.6**
baz=183,slow=8.1,SNR=8.0
H11N1 WAKE ISLAND Hy 44.77 342 P **P 06 58 46.0 +0.4**
baz=183,slow=8.1,SNR=5.6
H11N2 WAKE ISLAND Hy 44.79 342 P **P 06 58 46.2 +0.5**
baz=183,slow=8.1,SNR=7.4
PTCN Pitcairn Islan 45.21 103 P **P 06 58 51.1 +1.8**
KDU Kakadu 46.36 275 P **P 06 58 57.7 -0.5**
FORT Forrest 46.59 249 P **P 06 58 59.3 -0.4**
FORT Forrest 46.59 249 P **P 06 58 59.0 -0.6**
WRKA Warakurna 47.06 257 P **P 06 59 03.2 -0.2**
MTN Manton Dam 47.54 274 P **P 06 59 06.5 -0.5**
MTN Manton Dam 47.54 274 P **P 06 59 06.3 -0.7**
DRS Darwin Rock St 47.89 274 P **P 06 59 08.9 -0.8**
KMPI Kaimana, Papua 48.93 286 P **P 06 59 17.2 -0.2**
SAUI Saumlaki 49.20 280 P **P 06 59 20.3 +0.9**
comp=Z,2µm,1.0s
KIP Kipapa 49.39 27⇑*e*P **P 06 59 19.8 -0.8**
KIP pmax pmax
comp=Z,27nm,1.3s
KIP Kipapa 49.39 27 P **P 06 59 21.2 +0.7**
DRV Dumont d'Urvil 50.04 200 P **P 06 59 24.8 +0.1**
GUMO Guam 50.43 313 P **P 06 59 27.4 -0.9**
GUMO Guam 50.43 313 P **P 06 59 27.4 -0.9**
GUMO Guam 50.43 313 P **P 06 59 27.4 -0.9**
GUMO pmax pmax
comp=Z,749nm,0.6s
GUMO Guam 50.43 313 P **P 06 59 27.2 -1.1**
FAKI Fak Fak 50.56 286 P **P 06 59 29.0 -0.4**
FAKI Fak Fak 50.56 286 P **P 06 59 28.9 -0.4**
FAKI Fak Fak 50.56 286 P **P 06 59 28.6 -0.8**
comp=Z,445nm,1.2s,comp=Z,6µm
FITZ Fitzroy Crossi 50.98 265 P **P 06 59 32.8 +0.4**
MIDW Midway 51.39 3 P **P 06 59 35.1 +0.1**
MIDW IAmb IAmb 06 59 35.4
comp=Z,120nm,0.7s
MIDW Midway 51.39 3 P **P 06 59 34.7 -0.3**
KMBL Kambalda 51.81 248 P **P 06 59 37.8 -0.4**
BNDI Bandanaira 51.91 283 P **P 06 59 39.7 +0.6**
BNDI Bandanaira 51.91 283 P **P 06 59 38.9 -0.2**
comp=Z,1µm,1.2s,comp=Z,15µm
SWI Sorong 52.40 288 P **P 06 59 42.1 -0.6**
SBA Scott Base 54.86 183 P **P 07 00 02.5 +3.5**
SBA Scott Base 54.86 183 P **P 07 00 02.5 +3.5**
SBA pmax pmax
comp=Z,46nm,1.0s
SBA Scott Base 54.86 183 P **P 07 00 01.8 +2.8**
SBA pP **pP 07 01 44.7 +1.2**
SBA ScP **ScP 07 04 00.2 +1.4**
VNDA Vanda 54.87 185 P **P 07 00 01.3 +2.2**
VNDA Vanda 54.87 185 P **P 07 00 00.8 +1.8**
comp=Z,6.4nm,0.6s,baz=0.4,slow=7.4,SNR=42
VNDA PcP **PcP 07 00 53.4 +0.6**
comp=Z,5.2nm,0.7s,baz=313,slow=1.9,SNR=4.7
VNDA ScP **ScP 07 03 59.8 +0.9**
comp=Z,11nm,0.7s,baz=343,slow=4.5,SNR=15
comp=Z,6.4nm,0.6s
VNDA Vanda 54.87 185 P **P 07 00 00.9 +1.8**
VNDA PcP **PcP 07 00 53.6 +0.8**
VNDA pP **pwP 07 01 46.2 -1.3**
VNDA ScP **ScP 07 03 59.3 +0.5**
SOEI Soe 54.92 274 P **P 07 00 02.7 +2.1**
SOEI Soe 54.92 274 P **P 07 00 02.0 +1.4**
SOEI Soe 54.92 274 P **P 07 00 01.5 +0.9**
NLAI Namlea 54.99 283 P **P 07 00 01.3 +0.4**
comp=Z,393nm,0.7s,comp=Z,7µm
KLBR Kellerberrin 55.28 247 P **P 07 00 02.7 -0.1**
BATI Baumata 55.31 274 P **P 07 00 04.3 +1.1**
MEEK Meekatharra 55.36 253 P **P 07 00 02.7 -0.8**
PSA00 Pilbara Seismi 55.37 259 P **P 07 00 03.0 -0.5**
PSA00 Pilbara Seismi 55.37 259 P **P 07 00 02.4 -1.1**
PSA00 IAmb IAmb 07 00 04.1
comp=Z,237nm,1.4s
PSA00 Pilbara Seismi 55.37 259 P **P 07 00 03.4 -0.1**
PSA00 IAmb IAmb 07 00 04.0
comp=Z,223nm,0.7s
NWAO Narrogin (SRO) 55.54 245 P **P 07 00 04.3 -0.2**
NWAO Narrogin (SRO) 55.54 245 P **P 07 00 04.6 +0.1**
NWAO IAmb IAmb 07 00 05.5
comp=Z,155nm,0.8s
NWAO Narrogin (SRO) 55.54 245 P **P 07 00 04.5 0.0**
NWAO S **S 07 07 09.6 +0.8**
NWAO Narrogin (SRO) 55.54 245 P **P 07 00 04.6 +0.1**
NWAO pmax pmax
comp=Z,155nm,0.8s
NWAO Narrogin (SRO) 55.54 245 ⇓P **P 07 00 04.4 -0.2**
NWAO pP **pP 07 01 49.9 +1.0**
RKGY Rocky Gully 55.55 243 P **P 07 00 04.7 +0.1**
MBWA Marble Bar 55.57 260 P **P 07 00 04.6 -0.3**
MBWA Marble Bar 55.57 260 P **P 07 00 04.7 -0.3**
MBWA Marble Bar 55.57 260 P **P 07 00 04.3 -0.7**
MBWA S **S 07 07 06.8 -2.8**
MBWA Marble Bar 55.57 260 ⇓P **P 07 00 04.5 -0.5**
MBWA pP **pP 07 01 49.5 +0.3**
MBWA ScP **ScP 07 04 05.3 +2.3**
LBMI Labuha 55.81 286 P **P 07 00 07.4 +0.7**
comp=Z,627nm,1.0s,comp=Z,5µm
BLDU Ballidu 56.32 248 P **P 07 00 09.5 -0.4**
SANI Sanana 56.51 284 P **P 07 00 11.1 -0.4**
SANI Sanana 56.51 284 P **P 07 00 10.5 -1.0**
comp=Z,311nm,0.6s,comp=Z,5µm
MUN Mundaring 56.53 246 P **P 07 00 11.6 +0.2**
TNTI Ternate 56.60 288 P **P 07 00 12.0 -0.1**
TNTI Ternate 56.60 288 P **P 07 00 11.6 -0.5**
comp=Z,488nm,1.1s,comp=Z,5µm
MTKN Mount Kenneth 56.90 246 P **P 07 00 15.6 +1.7**
MORW Morawa 57.15 250 P **P 07 00 15.7 0.0**
MORW Morawa 57.15 250 P **P 07 00 15.9 +0.2**
MMRI Maumere 57.20 275 P **P 07 00 16.5 +0.3**
MMRI Maumere 57.20 275 P **P 07 00 16.1 -0.1**
MMRI Maumere 57.20 275 P **P 07 00 15.5 -0.7**
comp=Z,705nm,0.9s,comp=Z,8µm
H01W1 Cape Leeuwin H 57.83 242 P **P 07 00 21.2 +1.3**
baz=115,slow=6.6,SNR=24
H01W2 Cape Leeuwin H 57.84 242 P **P 07 00 21.3 +1.3**
baz=115,slow=6.6,SNR=19
H01W3 Cape Leeuwin H 57.84 243 P **P 07 00 21.3 +1.3**
baz=115,slow=6.6,SNR=34
BBSI Bau Bau 58.12 278 P **P 07 00 23.3 +0.8**
comp=Z,363nm,1.0s,comp=Z,3µm
BASI Baing, Sumba 58.14 272 P **P 07 00 23.0 +0.4**
comp=Z,1µm,1.2s,comp=Z,15µm
CCD Concordia, Ant 59.22 195 P **P 07 00 29.9 +0.6**
CCD PcP **PcP 07 01 11.2 +0.7**
CCD ScP **ScP 07 04 18.1 -0.5**
KMSI Cibinong 59.49 285 P **P 07 00 31.2 -0.4**
comp=Z,446nm,0.9s
LUWI Luwuk 59.83 283 P **P 07 00 34.1 +0.1**
LUWI Luwuk 59.83 283 P **P 07 00 33.9 0.0**
comp=Z,730nm,1.0s,comp=Z,8µm
GIRL Giralia 60.14 256 P **P 07 00 37.0 +1.1**
GIRL Giralia 60.14 256 P **P 07 00 36.9 +1.0**
BKSI Bulukumba 60.42 277 P **P 07 00 36.7 -1.1**
comp=Z,536nm,0.9s,comp=Z,4µm
CASY Casey 60.59 206 P **P 07 00 38.2 +0.1**
CASY IAmb IAmb 07 00 38.5
comp=Z,46nm,0.6s
CASY Casey 60.59 206 ⇓P **P 07 00 38.0 -0.1**
CASY ScP **ScP 07 04 24.1 -0.2**
KAPI Kappang 60.88 278 P **P 07 00 40.9 0.0**
KAPI Kappang 60.88 278 P **P 07 00 40.7 -0.2**
KAPI Kappang 60.88 278 P **P 07 00 40.6 -0.2**
KAPI S **S 07 08 19.1 +2.2**
KAPI Kappang 60.88 278 *d*iP **P 07 00 40.5 -0.4**
KAPI pmax pmax
comp=Z,143nm,1.9s
PLAI Plampang 61.21 273 P **P 07 00 42.7 -0.4**
PLAI Plampang 61.21 273 P **P 07 00 42.3 -0.8**
MRSI Marisa 61.25 284 P **P 07 00 41.8 -1.5**
comp=Z,246nm,0.7s
DAV Davao City (W) 61.28 293 P **P 07 00 43.8 +0.3**
TWSI Taliwang, Sumb 62.07 272 P **P 07 00 48.0 -0.6**
comp=Z,361nm,0.6s,comp=Z,6µm
JCJ Chichijima 62.18 322 P **P 07 00 49.3 +0.3**
JCJ Chichijima 62.18 322 P **P 07 00 49.4 +0.3**
JCJ Chichijima 62.18 322 P **P 07 00 44.4 -4.6**
comp=Z,302nm,0.5s,baz=259,slow=15,SNR=18
TOLI2 Tolitoli 62.57 284 P **P 07 00 51.2 -0.7**

TOLI2	Tolitoli	62.57	284	P	P	07 00 50.9 -1.0
MPSI	Mapaga	63.01	283	P	P	07 00 53.6 -1.1
	comp=Z,821nm,0.9s,comp=Z,8μm					
VA02	Isla de Pascua	63.03	110	P	P	07 00 57.0 +2.3
RPN	Rapa Nui	63.13	110	P	P	07 00 57.6 +2.3
RPN	Rapa Nui	63.13	110	P	P	07 00 57.6 +2.3
RPN				pmax	pmax	
	comp=Z,196nm,0.8s					
RPN	Rapa Nui	63.13	110	P	P	07 00 57.2 +1.9
IGBI	Denpasar	63.63	272	P	P	07 00 58.8 +0.1
	comp=Z,904nm,0.8s,comp=Z,10μm					
SRBI	Singaraja	63.84	272	P	P	07 00 59.3 -0.7
	comp=Z,365nm,1.1s,comp=Z,5μm					
JAGI	Jajag, Banyuwa	64.67	272	P	P	07 01 04.4 -0.9
JAGI	Jajag, Banyuwa	64.67	272	P	P	07 01 03.8 -1.5
JAGI	Jajag, Banyuwa	64.67	272	P	P	07 01 03.8 -1.5
	comp=Z,397nm,1.1s,comp=Z,6μm					
ABJI	Asem Bagus	64.85	272	P	P	07 01 06.2 -0.2
	comp=Z,351nm,1.1s,comp=Z,4μm					
MYLDM	Lahad Datu	66.47	287	IAmb	IAmb	07 01 50.7
	comp=Z,147nm,1.0s					
QSPA	South Pole Qui	66.66	180	P	P	07 01 18.3 +1.4
	comp=Z,68nm,0.7s,baz=17,slow=0.8,SNR=356					
QSPA				S	S	07 09 27.0 +1.6
	comp=Z,5.0nm,1.1s,baz=183,slow=24,SNR=14					
	comp=Z,68nm,0.7s					
QSPA	South Pole Qui	66.66	180	⇑P	P	07 01 18.4 +1.4
GRJI	Gresik	66.79	272	P	P	07 01 18.7 +0.2
MTKI	Muara Teweh, K	66.97	279	P	P	07 01 19.7 +0.1
	comp=Z,293nm,0.8s					
PWJI	Pagerwojo	67.00	271	P	P	07 01 19.1 -0.7
	comp=Z,397nm,0.7s,comp=Z,6μm					
JHJ2	Mitsune	68.10	324	P	P	07 01 26.9 +0.9
JHJ2	Mitsune	68.10	324	P	P	07 01 26.7 +0.6
JMZ	Minamidaito 2	68.10	313	P	P	07 01 26.7 +0.5
JMZ	Minamidaito 2	68.10	313	P	P	07 01 26.7 +0.5
JHJ	Hachijo jima 2	68.12	324	P	P	07 01 26.7 +0.5
	comp=Z,245nm,0.6s,baz=174,slow=8.8,SNR=22					
	comp=Z,245nm,0.6s					
UGM	Wanagama	68.21	271	P	P	07 01 27.1 -0.1
UGM	Wanagama	68.21	271	P	P	07 01 27.1 -0.1
UGM	Wanagama	68.21	271	P	P	07 01 26.8 -0.5
	comp=Z,567nm,0.7s,comp=Z,5μm					
UWJI	Ujung Watu	68.39	272	P	P	07 01 28.5 +0.2
	comp=Z,800nm,0.8s,comp=Z,6μm					
YOGI	Yogyakarta	68.46	271	P	P	07 01 28.6 -0.1
	comp=Z,426nm,0.8s,comp=Z,4μm					
SMRI	Semarang	68.61	271	P	P	07 01 29.8 +0.1
SMRI	Semarang	68.61	271	P	P	07 01 29.7 +0.1
	comp=Z,434nm,0.8s,comp=Z,5μm					
KPJI	Karang Pucung	69.89	271	P	P	07 01 36.6 -0.7
	comp=Z,394nm,0.6s,comp=Z,4μm					
CMJI	Cimerak	70.17	270	P	P	07 01 38.0 -0.9
	comp=Z,280nm,1.0s					
STKI	Sintang	70.49	279	P	P	07 01 41.1 +0.2
	comp=Z,389nm,0.9s					
JOW	Kunigami	70.76	312	P	P	07 01 43.0 +0.9
JOW	Kunigami	70.76	312	P	P	07 01 43.3 +1.2
JCJI	Jatiwangi	70.82	271	P	P	07 01 42.3 -0.5
	comp=Z,531nm,1.0s					
SBUM	Sibu	70.83	281	P	P	07 01 43.3 +0.5
BBJI	Bungbulang	71.02	270	P	P	07 01 43.6 -0.5
JMM	Marumori	71.29	328	IAmb	IAmb	07 01 46.6
	comp=Z,77nm,1.0s					
INU	Inuyama	71.30	324	P	P	07 01 45.8 +0.6
INU				IAmb	IAmb	07 01 46.6
	comp=Z,93nm,1.0s					
INU	Inuyama	71.30	324	P	P	07 01 45.3 +0.2
INU				PcP	PcP	07 02 02.2 +1.2
JGF	Kuroka	71.31	324	P	P	07 01 45.2 0.0
JGF	Kuroka	71.31	324	P	P	07 01 45.4 +0.2
JGF				IAmb	IAmb	07 01 45.9
	comp=Z,63nm,0.8s					
CNJI	Cibinong	71.56	270	P	P	07 01 45.9 -1.2
	comp=Z,224nm,1.1s					
MJAR	Matsushiro Arr	71.57	325	P	P	07 01 46.8 +0.2
	comp=Z,62nm,0.8s,baz=158,slow=5.7,SNR=123					
	comp=Z,62nm,0.8s					
MAJO	Matsushiro	71.57	325	P	P	07 01 46.8 +0.1
MAJO	Matsushiro	71.57	325	P	P	07 01 47.2 +0.5
MAJO				IAmb	IAmb	07 01 47.9
	comp=Z,114nm,0.9s					
MAJO	Matsushiro	71.57	325	*d iP*	P	07 01 46.6 -0.1
MAJO				pmax	pmax	
	comp=Z,100nm,1.0s					
MAJO	Matsushiro	71.57	325	P	P	07 01 46.7 +0.1
MJB9	Matsu-Tunnel	71.57	325	IAmb	IAmb	07 01 48.9
	comp=Z,110nm,0.9s					
XMIS	Christmas Isla	71.75	266	P	P	07 01 48.2 0.0
JMN	Monobe	71.88	321	P	P	07 01 49.5 +0.9
DBJI	Dramaga	72.19	270	P	P	07 01 50.2 -0.6
	comp=Z,471nm,1.1s					
SKJI	Sukabumi	72.20	270	P	P	07 01 50.1 -0.7
	comp=Z,577nm,0.7s,comp=Z,5μm					
YOJ	Yonaguni jima	73.04	307	P	P	07 01 55.7 +0.3
JNU	Nakatsue	73.25	318	P	P	07 01 56.6 +0.1
JNU	Nakatsue	73.25	318	P	P	07 01 56.5 +0.1
	comp=Z,113nm,1.1s,baz=112,slow=3.2,SNR=50					
	comp=Z,113nm,1.1s					
JTM	Tenmabayashi	73.47	330	P	P	07 01 58.7 +1.2
JTM	Tenmabayashi	73.47	330	P	P	07 01 58.6 +1.1
TWGBT	Beinan	73.53	304	P	P	07 01 57.2 -1.0
TWG	Pinlang	73.54	304	P	P	07 01 57.1 -1.2
ERM	Erimo	73.54	332	P	P	07 01 59.1 +1.3
ERM	Erimo	73.54	332	P	P	07 01 59.8 +1.9
ERM				IAmb	IAmb	07 02 01.7
	comp=Z,75nm,0.8s					
ERM	Erimo	73.54	332	*d iP*	P	07 01 59.4 +1.6
ERM				pmax	pmax	
	comp=Z,172nm,1.7s					
JEM	Erimo	73.54	332	P	P	07 01 58.3 +0.5
YULB	Yu-li	73.69	305	P	P	07 01 58.1 -1.1
YULB	Yu-li	73.69	305	IAmb	IAmb	07 02 07.9
	comp=Z,59nm,0.8s					
NACB	Ninganchiao	73.92	306	P	P	07 02 00.4 0.0
TPUB	Ta-pu	74.14	305	P	P	07 02 01.3 -0.4
SSLB	Suanglung	74.18	305	P	P	07 02 01.3 -0.6
YHNB	Yeheng	74.37	306	P	P	07 02 03.7 +0.7
PPBI	Pangkal Pinang	74.46	274	P	P	07 02 03.7 0.0
	comp=Z,156nm,1.2s					
TATO	Taipei	74.46	306	P	P	07 02 03.5 +0.1
TATO	Taipei	74.46	306	P	P	07 02 03.5 +0.1
TATO	Taipei	74.46	306	P	P	07 02 03.3 -0.1
AMKA	Amchitka	74.47	359	P	P	07 02 03.0 +0.1
KASI	Kota Agung	74.65	271	P	P	07 02 03.3 -1.5
	comp=Z,322nm,1.0s,comp=Z,4μm					
KIWB	Kanaga Island	74.98	2	P	P	07 02 06.1 +0.4
ADK	Adak	75.03	2	P	P	07 02 06.0 0.0
ADK	Adak	75.03	2	P	P	07 02 06.4 +0.4
ADK	Adak	75.03	2	P	P	07 02 06.4 +0.4
ADK				pmax	pmax	
	comp=Z,183nm,0.6s					
JTU	Tsushima	75.10	319	P	P	07 02 07.2 +0.4
LWLI	Liwa	75.25	271	P	P	07 02 07.1 -1.2
	comp=Z,330nm,0.7s					
GSTR	Great Sitkin T	75.26	2	P	P	07 02 07.5 +0.2
ATKA	Atka Island	75.46	4	P	P	07 02 08.1 -0.3
JKA	Kamikawa-asahi	75.49	333	IAmb	IAmb	07 02 12.0
	comp=Z,141nm,0.9s					
ASAJ	Asahikawa	75.49	333	P	P	07 02 10.9 +2.1
	comp=Z,93nm,0.8s,baz=218,slow=8.1,SNR=72					
	comp=Z,93nm,0.8s					
SHEM	Shemya Is, Ala	76.00	356	P	P	07 02 11.5 +0.2
	comp=Z,70nm,0.7s,baz=358,slow=4.1,SNR=14					
	comp=Z,70nm,0.7s					
SMAI	San Martin Ant	76.51	159	P	P	07 02 16.0 +1.9
QZH	Quanzhou	76.60	305	⇓*iP*	P	07 02 15.9 +0.6
QZH				S	S	07 11 18.1 +0.6
QZH				pmax	pmax	
	comp=Z,200nm,1.2s					
QZH				pmax	pmax	
	comp=Z,520nm,3.2s					
NIKH	Nikolski High	76.67	7	P	P	07 02 15.3 +0.3
NIKH	Nikolski High	76.67	7	P	P	07 02 14.9 -0.1
	baz=190,SNR=15					
SKR	Severo-Kuril's	76.77	345	*eP*	P	07 02 15.6 0.0
SKR				*eS*	S	07 11 10.0 -8.2
SKR				pmax	pmax	
	comp=Z,158nm,1.0s					
BELA	Belgrano 2	76.90	173	P	P	07 02 16.5 +0.4
BELA				IAmb	IAmb	07 02 17.3
	comp=Z,83nm,0.9s					
TJN	Taejon	77.57	319	P	P	07 02 21.4 +1.0
TJN	Taejon	77.57	319	P	P	07 02 21.3 +0.9
TJN	Taejon	77.57	319	*d iP*	P	07 02 20.4 0.0
YSS	Yuzh-Sakhalins	77.75	335	P	P	07 02 22.6 +1.6
YSS				IAmb	IAmb	07 02 23.7
	comp=Z,127nm,0.8s					
YSS	Yuzh-Sakhalins	77.75	335	κ *iP*	P	07 02 22.7 +1.7
YSS				*e*		07 02 29.2
YSS				*e*PP*	pwP	07 04 20.7 -0.2
YSS				*eS*	S	07 11 29.5 +0.8
YSS				*e*		07 11 48.0
YSS				pmax	pmax	
	comp=Z,150nm,0.8s					
YSS				pmax	pmax	
	comp=Z,500nm,3.0s					
YSS				pmax	pmax	
	comp=N,200nm,2.9s					
YSS				pmax	pmax	
	comp=E,100nm,2.7s					
YSS				smax	smax	
	comp=N,700nm,6.8s					
YSS				smax	smax	
	comp=E,400nm,7.8s					
UNV	Unalaska Valle	77.81	8	P	P	07 02 21.1 -0.1
UNV	Unalaska Valle	77.81	8	P	P	07 02 20.9 -0.2
	baz=193,SNR=12					
KSRS	Korea Array	77.95	320	P	P	07 02 23.9 +1.5
	comp=E,34nm,0.7s,baz=135,slow=5.7,SNR=149					
	comp=E,34nm,0.7s					
KSAR	Wonju Array Be	77.97	320	P	P	07 02 23.6 +1.1
KSAR	Wonju Array Be	77.97	320	P	P	07 02 23.6 +1.1
KS19	Wonju Array St	78.02	320	P	P	07 02 23.3 +0.5
MYKOM	Kota Tinggi	78.14	277	P	P	07 02 24.2 +0.2
MYKOM				IAmb	IAmb	07 02 24.7
	comp=Z,125nm,0.8s					
MAW	Mawson	78.24	200	P	P	07 02 24.5 +1.1
	comp=Z,17nm,0.6s,baz=138,slow=5.3,SNR=71					
	comp=Z,17nm,0.6s					
PET	Petropavlovsk	78.38	347	P	P	07 02 24.2 -0.1
PET				IAmb	IAmb	07 02 24.7
	comp=Z,57nm,0.6s					
PET	Petropavlovsk	78.38	347	*eP*	P	07 02 24.0 -0.3
PET				*eS*	S	07 11 35.1 +0.1
PET				pmax	pmax	
	comp=Z,90nm,0.7s					
PET				pmax	pmax	
	comp=Z,100nm,13.1s					
HKPS	Hong Kong Po S	78.62	300	IAmb	IAmb	07 02 28.8
	comp=Z,183nm,1.2s					
INCN	Inchon	78.74	319	P	P	07 02 27.2 +0.5
INCN				IAmb	IAmb	07 02 28.7
	comp=Z,75nm,0.8s					
INCN	Inchon	78.74	319	P	P	07 02 27.8 +1.1
INCN	Inchon	78.74	319	P	P	07 02 27.2 +0.5
INCN				pmax	pmax	
	comp=Z,75nm,0.8s					
TEY	Ternei	78.84	330	⇑*eP*	P	07 02 27.6 +0.7
TEY				*e*		07 11 45.2
TEY				pmax	pmax	
	comp=Z,10.0nm,1.2s					
TEY				pmax	pmax	
	comp=N,10.0nm,0.9s					
TEY				pmax	pmax	
	comp=E,10.0nm,0.5s					
H06E1	SOCORRO T-PHAS	79.27	64	P	P	07 02 30.8 +0.9
	SNR=27					
PMSA	Palmer Station	79.30	157	P	P	07 02 30.9 +1.7
PMSA				IAmb	IAmb	07 02 31.2
	comp=Z,87nm,0.9s					
PMSA	Palmer Station	79.30	157	*eP*	P	07 02 30.2 +1.0
MSHR	Mys Shultsa	79.69	326	*d iP*	P	07 02 32.6 +1.1
MSHR				pmax	pmax	
	comp=Z,98nm,1.3s					
VLA	Vladivostok	79.70	326	*eP*	P	07 02 32.6 +1.1
VLA				pmax	pmax	
	comp=Z,66nm,1.1s					
UGL	Uglegorsk	79.76	336	*eP*	P	07 02 32.7 +1.0
UGL				*eS*	S	07 11 47.3 -2.1
UGL				pmax	pmax	
	comp=Z,230nm,0.7s					
UGL				smax	smax	
	comp=N,1μm,6.0s					
UGL				smax	smax	
	comp=E,620nm,6.0s					
CNBA	Chernabura Isl	79.84	12	P	P	07 02 32.3 +0.3
CHNA	Chernabura Isl	79.85	12	P	P	07 02 32.1 +0.1
	baz=199,SNR=6.5					
PSTR	Posyet	79.93	325	*d iP*	P	07 02 33.6 +0.9
BKNI	Bangkinang	80.12	275	P	P	07 02 34.3 -0.2
PDSI	Padang	80.15	273	P	P	07 02 33.0 -1.7
	comp=E,114nm,1.1s					
SDPT	Sand Point	80.18	11	P	P	07 02 33.9 +0.2
SDPT	Sand Point	80.18	11	P	P	07 02 33.5 -0.2
	baz=198					
S12K	Black Hills	80.25	10	IAmb	IAmb	07 02 34.5
	comp=Z,44nm,0.6s					
S12K	Black Hills	80.25	10	P	P	07 02 34.0 -0.1
	baz=197,SNR=5.7					
USA0B	Ussuriysk Arra	80.42	327	P	P	07 02 36.4 +1.1
USA0B				IAmb	IAmb	07 02 37.8
	comp=Z,158nm,1.2s					
USA0B	Ussuriysk Arra	80.42	327	P	P	07 02 36.4 +1.1
USA0B				pmax	pmax	
	comp=Z,158nm,1.2s					
USRK	Ussuriysk Ar.	80.42	327	P	P	07 02 36.6 +1.3
USRK	Ussuriysk Ar.	80.42	327	P	P	07 02 36.7 +1.4
	comp=Z,40nm,0.6s,baz=116,slow=4.4,SNR=168					
	comp=Z,40nm,0.6s					
NJ2	Nanjing	80.43	311	⇓*iP*	P	07 02 36.4 +0.8
NJ2				pP	pP	07 04 32.6 +1.2
NJ2				sP	sP	07 05 27.4 +0.5
NJ2				pmax	pmax	
	comp=Z,110nm,1.0s					
SPIA	Saint Paul Isl	80.69	5	P	P	07 02 37.7 +1.4
	baz=189					
SCZ2	Santa Cruz Isl	80.86	47	P	P	07 02 39.1 +1.3
	baz=234,SNR=5.9					
SCI2	San Clemente I	81.00	48	P	P	07 02 39.9 +1.3
	baz=235,SNR=9.6					
TYV	Tymovskoe	81.01	337	*eP*	P	07 02 39.4 +1.3
TYV				*eS*	S	07 11 57.5 -4.6
TYV				pmax	pmax	
	comp=Z,56nm,1.2s					
TYV				pmax	pmax	
	comp=Z,200nm,2.1s					
TYV				smax	smax	
	comp=N,400nm,6.8s					
TYV				smax	smax	
	comp=E,300nm,6.8s					
SBC	Santa Barbara	81.07	47	P	P	07 02 40.5 +1.6
	baz=234					
S14K	Fog Glacier	81.24	11	P	P	07 02 40.3 +0.9
	baz=199					
SISI	Saibi	81.25	272	P	P	07 02 41.6 +1.3
PKM	Mcpherson Peak	81.26	46	P	P	07 02 41.7 +1.6
	baz=234					
MCCM	Marconi Confer	81.29	42	IAmb	IAmb	07 02 41.8
	comp=Z,55nm,0.9s					
SAO	San Andreas Ge	81.33	44	P	P	07 02 41.7 +1.5
SAO				IAmb	IAmb	07 02 42.8
	comp=Z,65nm,1.0s					
SAO	San Andreas Ge	81.33	44	P	P	07 02 41.7 +1.5
SAO				pmax	pmax	
	comp=Z,65nm,1.0s					
CIS	Catalina Islan	81.34	48	P	P	07 02 41.4 +1.1
	baz=235,SNR=6.5					
SMMC	Simmler	81.40	46	P	P	07 02 42.1 +1.5
	baz=233					
PMPB	Monarch Peak	81.41	45	IAmb	IAmb	07 02 43.5
	comp=Z,83nm,1.2s					
CHGN	Chignik	81.46	12	P	P	07 02 40.7 +0.3
	baz=200,SNR=7.4					
BBGB	Big Mountain B	81.48	44	IAmb	IAmb	07 02 44.3
	comp=Z,176nm,1.5s					
BCW	Bitter Crk WRg	81.56	46	IAmb	IAmb	07 02 44.3
	comp=Z,102nm,1.0s					
CHIR	Chirikof Islan	81.58	14	P	P	07 02 41.7 +0.7
	baz=202					
FMP	Fort Macarthur	81.60	48	P	P	07 02 43.0 +1.4
	baz=235					
CCX	Cicese	81.68	50	IAmb	IAmb	07 02 44.8
	comp=Z,70nm,1.2s					
HOPS	Hopland Field	81.70	41	IAmb	IAmb	07 02 44.8
	comp=Z,128nm,1.2s					
OSI	Osito Audit: C	81.83	47	P	P	07 02 43.8 +0.9
	baz=234					
KCPM	Cahto Peak	81.83	40	IAmb	IAmb	07 02 45.8
	comp=Z,123nm,1.3s					
DECC	Green Verdugo	81.88	47	P	P	07 02 43.9 +0.8
	baz=235					
CBX	Cerro Bola	81.93	50	IAmb	IAmb	07 02 45.6
	comp=Z,63nm,0.8s					
MDJ	Mudanjiang	81.93	326	P	P	07 02 43.9 +0.9
MDJ	Mudanjiang	81.93	326	P	P	07 02 44.4 +1.4
MDJ				pP	pP	07 04 40.2 +0.6
MDJ				sP	sP	07 05 35.6 +0.7
MDJ				PP	PP	07 05 59.3 -1.8
MDJ				S	SKSac	07 12 11.0 +0.1
MDJ				sS	sS	07 15 43.0 +3.0
MDJ				pmax	pmax	
	comp=Z,140nm,0.8s					
MDJ				pmax	pmax	
	comp=Z,500nm,4.9s					
PASC	Pasadena Art C	81.94	47	P	P	07 02 44.4 +1.0
109C	Camp Elliot, M	81.95	49	P	P	07 02 44.5 +1.1
109C				IAmb	IAmb	07 02 45.8
	comp=Z,79nm,1.2s					
109C	Camp Elliot, M	81.95	49	P	P	07 02 44.7 +1.3
	baz=236					
MG05	Puerto Natales	82.04	143	P	P	07 02 44.9 +1.2
MG05				IAmb	IAmb	07 02 45.8
	comp=Z,136nm,1.0s					
VTX	Valle De La Tr	82.04	51	IAmb	IAmb	07 02 46.9
	comp=Z,88nm,1.2s					
ARVC	Arvin	82.06	46	P	P	07 02 45.3 +1.4
	baz=234,SNR=12					
MG03	Isla Dawson	82.10	146	P	P	07 02 44.8 +0.9
MG03				IAmb	IAmb	07 02 45.2
	comp=Z,69nm,0.8s					
TKX	Tecate	82.11	50	P	P	07 02 45.7 +1.4
TKX				IAmb	IAmb	07 02 46.9
	comp=Z,74nm,1.2s					
BAR	Barrett	82.13	49	IAmb	IAmb	07 02 47.1
	comp=Z,110nm,1.8s					
ESJX	Sierra Juarez	82.26	50	IAmb	IAmb	07 02 48.4
	comp=Z,130nm,1.5s					
MURC	Murrieta	82.28	48	P	P	07 02 46.5 +1.3
	baz=235,SNR=21					
VES	Vestal, Richgr	82.31	46	P	P	07 02 46.1 +1.0
	baz=234,SNR=48					
GO09	Cerro Castillo	82.32	143	P	P	07 02 46.1 +1.1
GO09				IAmb	IAmb	07 02 47.5
	comp=Z,77nm,1.2s					
BFSC	Mount Baldy Ra	82.33	48	P	P	07 02 46.5 +1.0
	baz=235,SNR=28					
VOG	Valley Oaks Go	82.39	45	P	P	07 02 46.4 +0.9
	baz=234					
MONP2	Monument Peak	82.42	49	P	P	07 02 47.7 +1.6
	baz=236,SNR=80					
UBPT	Khong Chiam	82.47	290	IAmb	IAmb	07 02 47.7
	comp=Z,50nm,0.8s					
EDW2	Edwards Air Fo	82.47	47	P	P	07 02 47.5 +1.3
	baz=235,SNR=40					
KULM	Kulim	82.48	279	P	P	07 02 47.0 +0.5
KULM				IAmb	IAmb	07 02 47.9
	comp=Z,100nm,0.8s					
SRIG	Santa Rosalia	82.50	56	IAmb	IAmb	07 02 49.0
	comp=Z,131nm,1.0s					
RMX	La Rumorosa	82.50	50	IAmb	IAmb	07 02 49.3
	comp=Z,148nm,1.3s					
KHMM	Horse Mountain	82.50	39	IAmb	IAmb	07 02 49.4
	comp=Z,114nm,1.4s					
IKP	In-Ko-Pah, Jac	82.51	50	P	P	07 02 48.1 +1.7
	baz=236,SNR=48					
SII	Sitkinak Islan	82.58	14	P	P	07 02 47.1 +1.1
SII	Sitkinak Islan	82.58	14	IAmb	IAmb	07 02 47.5
	comp=Z,41nm,0.7s					
SII	Sitkinak Islan	82.58	14	P	P	07 02 46.9 +0.9
	baz=204					
ISA	Isabella, Lake	82.61	46	IAmb	IAmb	07 02 49.3
	comp=Z,86nm,0.9s					
ISA	Isabella, Lake	82.61	46	P	P	07 02 48.2 +1.5
	baz=234,SNR=77					
CCAC	Calif City Air	82.61	47	IAmb	IAmb	07 02 49.3
	comp=Z,81nm,1.4s					
O02D	Mt. Diablo Mer	82.62	40	P	P	07 02 48.9 +2.1
O02D				IAmb	IAmb	07 02 50.1
	comp=Z,159nm,1.2s					
YUH	Yuha Desert	82.64	50	IAmb	IAmb	07 02 49.7
	comp=Z,140nm,1.4s					
DL2	Dalian	82.69	318	P	P	07 02 47.1 +0.1
DL2				*e*pP	pwP	07 04 48.2 -0.9
DL2				S	SKSac	07 12 17.2 +1.2
DL2				pmax	pmax	
	comp=Z,65nm,0.7s					
DL2				pmax	pmax	
	comp=Z,560nm,5.4s					
CMB	Columbia Colle	82.77	43	IAmb	IAmb	07 02 49.7
	comp=Z,72nm,0.9s					
PFO	Pinyon Flats O	82.80	49	P	P	07 02 48.7 +0.9
PFO				IAmb	IAmb	07 02 50.5
	comp=Z,96nm,1.6s					
PFO	Pinyon Flats O	82.80	49	P	P	07 02 49.2 +1.3
	baz=236,SNR=24					
PFO	Pinyon Flats O	82.80	49	*c iP*	P	07 02 48.8 +0.9
PFO				pmax	pmax	
	comp=Z,49nm,1.4s					
TPFO	Pinon Flats	82.80	49	P	P	07 02 49.2 +1.3
	baz=236,SNR=26					
WHN	Wuhan	82.80	308	⇓*iP*	P	07 02 48.7 +0.9
WHN				S	S	07 12 21.8 +0.9
WHN				pmax	pmax	
	comp=Z,260nm,0.8s					
BBRC	Big Bear Solar	82.85	48	P	P	07 02 49.2 +1.0
	baz=236,SNR=6.7					
PMD	Palm Desert	82.88	49	IAmb	IAmb	07 02 50.7
	comp=Z,91nm,1.6s					
SWSC	Sam W. Stewart	82.89	50	P	P	07 02 49.5 +1.4
	baz=236,SNR=35					
AFDM	Forest Hills D	82.96	42	IAmb	IAmb	07 02 50.7
	comp=Z,64nm,1.0s					
ORV	Oroville	83.01	42	IAmb	IAmb	07 02 50.9
	comp=Z,52nm,0.9s					
LRMC	Laurel Mtn Rad	83.03	47	P	P	07 02 50.1 +1.1
	baz=235,SNR=13					
R17L	Mt. Peulik Vol	83.11	12	P	P	07 02 49.3 +0.6
	baz=202,SNR=21					
RRX	Edison Barstow	83.14	47	P	P	07 02 50.4 +1.0
	baz=235					
CWC	Cottonwood Cre	83.31	46	P	P	07 02 51.5 +1.1
	baz=235					
GRNR	Gornyy	83.32	334	⇓*iP*	P	07 02 51.5 +1.6
GRNR				pmax	pmax	
	comp=Z,40nm,1.2s					
BELC	Belle Mtn. Jos	83.33	49	P	P	07 02 51.9 +1.4
	baz=236,SNR=66					
SNY	Shenyang	83.35	321	⇓*iP*	P	07 02 50.6 +0.4
SNY				pmax	pmax	
	comp=Z,91nm,0.8s					
SNY				pmax	pmax	
	comp=Z,260nm,3.5s					
MDPB	Devils Postpil	83.36	44	IAmb	IAmb	07 02 53.1
	comp=Z,84nm,1.2s					
OHAK	Old Harbor	83.38	14	P	P	07 02 51.4 +1.4
OHAK	Old Harbor	83.38	14	P	P	07 02 50.4 +0.4
OHAK	Old Harbor	83.38	14	P	P	07 02 50.8 +0.9
	baz=204					
L02F	Cave Junction	83.39	39	IAmb	IAmb	07 02 53.6
	comp=Z,158nm,1.8s					
OMMB	Old Mammoth Mi	83.40	44	IAmb	IAmb	07 02 53.5
	comp=Z,84nm,1.4s					
R18K	Karluk	83.44	13	P	P	07 02 50.8 +0.5
	baz=203					
MPMC	Manual Prospec	83.49	46	P	P	07 02 52.5 +1.2
	baz=235,SNR=56					
GSC	Goldstone, Bar	83.51	47	IAmb	IAmb	07 02 53.7
	comp=Z,73nm,1.1s					
GSC	Goldstone, Bar	83.51	47	P	P	07 02 52.6 +1.2
	baz=236,SNR=57					
EMB	Emerald Bay	83.51	43	IAmb	IAmb	07 02 53.8
	comp=Z,153nm,1.5s					
MLAC	Mammoth, Mammo

baz=237,SNR=29
WAKR Walker 83.65 43 IAmb IAmb 07 02 54.8
comp=Z,146nm,1.3s
GSI Gunungsitoli 83.68 274 P **P** **07 02 54.6 +2.0**
GSI Gunungsitoli 83.68 274 P **P** **07 02 53.0 +0.4**
comp=Z,187nm,1.3s
MPK Martis Peak 83.75 42 IAmb IAmb 07 02 55.6
comp=Z,153nm,1.2s
O14K Tigyukauivet M 83.79 9 P **P** **07 02 53.6 +1.6**
baz=197
Q17K Contact Creek 83.79 12 P **P** **07 02 52.4 +0.2**
baz=202,SNR=23
PIX Pinacate 83.80 52 IAmb IAmb 07 02 55.3
comp=Z,78nm,1.2s
HATC Hat Creek Radi 83.81 41 IAmb IAmb 07 02 55.3
comp=Z,130nm,1.1s
BNX BinXian 83.83 326 ⇓P **P** **07 02 52.7 +0.2**
BNX pP **pP** **07 04 49.8 +0.1**
BNX S **S** **07 12 33.0 +2.6**
BNX pmax pmax
comp=Z,120nm,0.9s
PNTR Pine Nut 83.90 43 IAmb IAmb 07 02 55.8
comp=Z,114nm,1.0s
DSP Deep Springs 83.92 45 P **P** **07 02 54.7 +1.5**
DSP IAmb IAmb 07 02 55.9
comp=Z,66nm,1.1s
TIA Tai'an 83.99 314 P **P** **07 02 54.6 +1.0**
TIA pmax pmax
comp=Z,110nm,0.9s
TIA pmax pmax
comp=Z,390nm,3.7s
GMRC Granite Mounta 84.00 48 P **P** **07 02 55.1 +1.3**
baz=236,SNR=48
IRM Iron Mountain 84.01 49 P **P** **07 02 55.5 +1.7**
baz=237,SNR=92
Q16K King Salmon 84.03 12 P **P** **07 02 53.6 +0.4**
baz=201
HUMO Hull Mountain 84.05 38 IAmb IAmb 07 02 57.0
comp=Z,91nm,1.2s
KDAK Kodiak Island 84.05 14 P **P** **07 02 53.8 +0.5**
KDAK Kodiak Island 84.05 14 P **P** **07 02 53.8 +0.5**
baz=205
KDAK Kodiak Island 84.05 14 P **P** **07 02 53.0 -0.3**
comp=Z,9.1nm,0.8s,baz=279,slow=6.3,SNR=11
comp=Z,9.1nm,0.8s
KDAK Kodiak Island 84.05 14 P **P** **07 02 53.8 +0.5**
KDAK pmax pmax
comp=Z,77nm,2.0s
YERR Yerington 84.06 43 IAmb IAmb 07 02 56.4
comp=Z,60nm,0.9s
AY03 Cochrane 84.06 139 IAmb IAmb 07 02 56.2
comp=Z,46nm,0.8s
LHV Little Huntoon 84.09 44 IAmb IAmb 07 02 56.8
comp=Z,83nm,1.2s
GRAC Grapevine Rang 84.10 46 P **P** **07 02 55.5 +1.3**
GRAC IAmb IAmb 07 02 56.9
comp=Z,62nm,0.8s
GRAC Grapevine Rang 84.10 46 P **P** **07 02 55.6 +1.4**
baz=235,SNR=61
GWY Greenwater Val 84.10 47 IAmb IAmb 07 02 56.4
comp=Z,50nm,1.1s
P16K Nushagak River 84.11 11 P **P** **07 02 53.9 +0.4**
baz=200
FURC Furnace Creek, 84.13 46 P **P** **07 02 55.4 +1.1**
baz=235,SNR=24
KLR Kul'dur 84.17 330 P **P** **07 02 55.4 +1.2**
comp=Z,12nm,0.5s,baz=119,slow=3.7,SNR=60
comp=Z,12nm,0.5s
KLR Kul'dur 84.17 330*d* *i*P **P** **07 02 55.2 +1.1**
KLR pmax pmax
comp=Z,67nm,1.3s
TUQ Turquoise Moun 84.18 48 P **P** **07 02 56.0 +1.3**
baz=236,SNR=18
SHOC Shoshone, Teco 84.21 47 P **P** **07 02 55.8 +1.1**
baz=236,SNR=25
BLYC Blythe 84.22 50 IAmb IAmb 07 02 57.6
comp=Z,62nm,0.9s
113A Mohawk Valley, 84.23 51 IAmb IAmb 07 02 57.7
comp=Z,80nm,1.1s
M11K Mekoryuk 84.24 7 P **P** **07 02 55.6 +1.5**
baz=193
RYN Ryan 84.30 44 IAmb IAmb 07 02 57.6
comp=Z,73nm,1.5s
NVAR Mina Array Bea 84.33 44 P **P** **07 02 56.1 +0.7**
NVAR Mina Array Bea 84.33 44 P **P** **07 02 56.4 +1.0**
comp=Z,36nm,1.0s,baz=222,slow=7.5,SNR=119
NVAR pP **pwP** **07 04 55.5 -1.0**
comp=Z,5.2nm,1.1s,baz=228,slow=8.0,SNR=3.4
NVAR PP **PP** **07 06 20.8 0.0**
comp=Z,2.6nm,1.0s,baz=225,slow=9.8,SNR=4.6
NVAR PKKPbc **PKKPbc** **07 21 03.2 -1.5**
comp=Z,0.3nm,0.5s,baz=132,slow=1.3,SNR=3.8
NVAR PKPPKP **P'P'df** **07 29 09.6 +0.9**
comp=Z,0.4nm,0.8s,baz=91,slow=3.8,SNR=4.2
comp=Z,36nm,1.0s
Q18K Katmai Hardscr 84.33 13 P **P** **07 02 54.9 +0.1**
baz=203,SNR=23
HSIG 84.34 55 IAmb IAmb 07 02 57.9
comp=Z,107nm,0.9s
GMN Gold Mountain 84.35 45 IAmb IAmb 07 02 57.9
comp=Z,83nm,1.6s
N14K Kuskokwak Cree 84.37 9 P **P** **07 02 55.7 +0.9**
baz=197,SNR=9.0
KCSI Kotacane, Aceh 84.39 276 P **P** **07 02 55.0 -1.1**
PAHR Pah Rah Range 84.40 42 IAmb IAmb 07 02 58.0
comp=Z,85nm,1.4s
NV11 Mina Array Sit 84.42 44 IAmb IAmb 07 02 58.1
comp=Z,54nm,1.1s
214A Organ Pipe Nat 84.48 52 IAmb IAmb 07 02 58.6
comp=Z,47nm,0.9s
214A Organ Pipe Nat 84.48 52 P **P** **07 02 57.9 +1.7**
baz=238
I03D Drain, OR 84.52 37 IAmb IAmb 07 02 58.7
comp=Z,172nm,1.7s
P17K Kvichak River 84.55 12 P **P** **07 02 55.6 -0.1**
baz=202
O16K Kokwok River B 84.63 11 P **P** **07 02 55.3 -0.8**
baz=200,SNR=6.8
NEE2 Needles Airpor 84.71 49 P **P** **07 02 58.5 +1.4**
baz=237,SNR=7.1
K04D Chiloquin, OR 84.75 39 IAmb IAmb 07 02 59.9
comp=Z,65nm,1.1s
PDMCI Parker Dam,Lak 84.79 49 P **P** **07 02 59.2 +1.7**
baz=237,SNR=28
TPNV Topopah Spring 84.81 46 P **P** **07 02 59.0 +1.2**
baz=236,SNR=49
TROLL Troll, Antarti 84.81 181 ⇑P **P** **07 02 57.2 -0.1**
comp=Z,1μm,0.3s
TROLL pP **pwP** **07 04 58.9 +0.4**
comp=Z,946nm,0.9s
TROLL ⇑x x 07 05 00.6
comp=N,372nm,0.8s
TROLL ⇓SKSac **SKSac** **07 12 27.1 -2.0**
comp=Z,102nm,0.9s
TROLL ⇓S **S** **07 12 39.0 -0.6**
comp=Z,89nm,1.0s
N15K Kwethluk River 84.84 10 IAmb IAmb 07 02 59.2
comp=Z,59nm,0.7s
N15K Kwethluk River 84.84 10 P **P** **07 02 58.4 +1.2**
baz=198,SNR=18
Q20K Shuyak Island 84.85 14 P **P** **07 02 57.8 +0.6**
baz=205
Q19K Cape Douglas, 84.87 13 P **P** **07 02 57.4 +0.1**
baz=204
P18K Big Mountain, 84.97 12 P **P** **07 02 57.7 -0.2**
baz=203,SNR=8.1
O17K Koliganek Bris 84.97 11 P **P** **07 02 57.7 0.0**
baz=201
V12A Nelson 85.07 48 IAmb IAmb 07 03 01.6
comp=Z,57nm,1.3s
I04A Tendick Farm, 85.11 38 P **P** **07 03 00.2 +1.3**
I04A IAmb IAmb 07 03 01.2
comp=Z,68nm,1.5s
M14K Bethel 85.12 9 P **P** **07 03 00.0 +1.6**
baz=196,SNR=5.2
SNAA Sanae 85.14 179 P **P** **07 02 58.5 -0.2**
SNAA Sanae 85.14 179 ⇑P **P** **07 02 58.1 -0.6**
comp=Z,267nm,0.6s
SNAA ⇑pP **pwP** **07 05 00.5 +0.2**
comp=Z,182nm,1.1s
SNAA ⇓SKSac **SKSac** **07 12 29.1 -1.9**
comp=Z,6μm,0.1s
SNAA ⇑S **SKKSac** **07 12 40.8 +1.5**
comp=Z,53nm,1.2s
SNAA Sanae 85.14 179 P **P** **07 02 58.2 -0.6**
comp=Z,7.0nm,0.5s,baz=207,slow=7.6,SNR=112
SNAA pP **pwP** **07 04 58.7 -1.5**
comp=Z,11nm,1.1s,baz=240,slow=3.4,SNR=5.1
SNAA PKKPbc **PKKPbc** **07 21 00.2 -3.1**
comp=Z,0.4nm,0.4s,baz=309,slow=6.5,SNR=7.2
comp=Z,7.0nm,0.5s
SNAA Sanae 85.14 179 P **P** **07 02 58.5 -0.2**
SNAA pmax pmax
comp=Z,28nm,1.3s
M15K Kasigluk River 85.25 9 P **P** **07 02 59.8 +0.6**
baz=198,SNR=7.3
SNSI Sinabang, Aceh 85.26 275 P **P** **07 03 01.6 +1.3**
comp=Z,200nm,1.2s
N16K Nishlik Lake 85.34 10 P **P** **07 03 00.6 +1.0**
baz=199,SNR=16
VNA3 Neumayer Olymp 85.35 177 ⇑P **P** **07 02 59.3 -0.4**
comp=Z,16nm,0.4s
VNA3 ⇑pP **pwP** **07 05 01.3 +0.2**
comp=Z,34nm,0.8s
VNA3 ⇑S **S** **07 12 43.1 -1.4**
comp=Z,4.5nm,0.8s
H04D Lebanon 85.39 37 IAmb IAmb 07 03 04.0
comp=Z,180nm,1.8s
W13A Hualapai Mount 85.39 49 IAmb IAmb 07 03 03.3
comp=Z,68nm,1.4s
O18K Koktuh Hills 85.40 12 P **P** **07 03 00.3 +0.4**
O18K IAmb IAmb 07 03 00.8
comp=Z,63nm,0.7s
O18K Koktuh Hills 85.40 12 P **P** **07 02 59.9 0.0**
baz=203,SNR=31
J05D Fort Rock, OR 85.46 39 IAmb IAmb 07 03 03.0
comp=Z,57nm,0.9s
S11A Rachel 85.53 46 IAmb IAmb 07 03 02.8
comp=Z,28nm,0.8s
L14K Kuka Creek 85.59 8 P **P** **07 03 01.1 +0.4**
baz=196
P19K Oil Pt 85.61 13 IAmb IAmb 07 03 01.8
comp=Z,46nm,0.7s
P19K Oil Pt 85.61 13 P **P** **07 03 01.0 +0.1**
baz=204,SNR=7.6
N17K Nushagak Hills 85.66 11 P **P** **07 03 01.3 +0.2**
baz=201
NVL N'lazarevskaya 85.71 184 ⇓*i*P **P** **07 03 00.6 -0.8**
NVL *e**PP **pP** **07 04 59.9 +0.4**
NVL *e*S **SKSac** **07 12 33.4 -0.9**
NVL pmax pmax
comp=Z,24nm,0.8s
VNA2 Neumayer--Watz 85.77 178 ⇑P **P** **07 03 01.5 -0.2**
comp=Z,20nm,0.7s,baz=193,slow=4.5
VNA2 ⇑pP **pwP** **07 05 02.0 -1.3**
comp=Z,13nm,0.8s,baz=181,slow=4.8
VNA2 ⇓S **S** **07 12 47.0 -1.5**
comp=Z,0.0nm,0.2s,baz=238,slow=3.6
H04A Detroit Lake 85.79 37 IAmb IAmb 07 03 04.4
comp=Z,109nm,1.5s
M16K Timber Creek 85.83 10 P **P** **07 03 02.7 +0.8**
baz=199,SNR=7.1
PRN Pahroc Range 85.86 46 IAmb IAmb 07 03 05.5
comp=Z,72nm,1.1s
O19K Port Alsworth 85.89 12 P **P** **07 03 01.9 -0.2**
baz=203
MLSI Meulaboh, Aceh 85.93 276 P **P** **07 03 03.4 -0.1**
comp=Z,186nm,0.9s
CNPM China Poot 85.93 14 IAmb IAmb 07 03 03.7
comp=Z,34nm,0.7s
HOM Homer 85.96 14 P **P** **07 03 02.3 -0.2**
baz=206
VNA1 Neumayer--Stat 86.00 177 ⇑P **P** **07 03 02.7 0.0**
comp=Z,9.2nm,0.6s
VNA1 ⇑pP **pwP** **07 05 03.5 -0.9**
comp=Z,16nm,0.9s
R11B Troy Canyon, C 86.03 45 P **P** **07 03 03.5 -0.1**
baz=236,SNR=28
N18K Kilae Creek 86.04 12 P **P** **07 03 02.3 -0.6**
baz=202,SNR=5.3
I05D Terrebonne, OR 86.05 38 IAmb IAmb 07 03 05.4
comp=Z,47nm,1.0s
L15K Ungalak Mounta 86.08 9 P **P** **07 03 03.1 +0.1**
baz=197,SNR=5.8
TUC Tucson 86.13 52 P **P** **07 03 06.2 +2.0**
TUC IAmb IAmb 07 03 07.4
comp=Z,93nm,1.0s
TUC Tucson 86.13 52 P **P** **07 03 06.1 +2.0**
baz=239
TUC Tucson 86.13 52 P **P** **07 03 06.2 +2.0**
TUC pmax pmax
comp=Z,93nm,1.0s
O20K Slope Mountain 86.13 13 P **P** **07 03 03.4 0.0**
baz=205
MA2 Magadan 86.14 346 P **P** **07 03 03.8 +0.4**
MA2 Magadan 86.14 346 P **P** **07 03 03.8 +0.4**
comp=Z,77nm,0.8s,baz=133,slow=5.2,SNR=32
comp=Z,77nm,0.8s
MA2 Magadan 86.14 346*d* *i*P **P** **07 03 03.2 -0.2**
MA2 pmax pmax
comp=Z,169nm,1.3s
MA2 Magadan 86.14 346 P **P** **07 03 03.4 0.0**
comp=Z,162nm,1.0s,comp=Z,1μm
BMN Battle Mountai 86.17 43 IAmb IAmb 07 03 05.9
comp=Z,33nm,0.8s
BRSE Bradley Lake S 86.24 14 P **P** **07 03 04.2 +0.3**
baz=207,SNR=6.6
HNS HongShan 86.26 313 ⇓P **P** **07 03 05.6 +1.1**
HNS pP **pP** **07 05 04.7 +2.3**
HNS sP **sP** **07 06 00.9 +3.6**
HNS SKS **SKSac** **07 12 38.6 +0.2**
HNS pmax pmax
comp=Z,82nm,1.3s
LYN LuoYang 86.27 310 ⇓P **P** **07 03 06.1 +1.5**
LYN sP sP 07 05 58.3 +0.8
LYN PP **PP** **07 06 38.4 +2.3**
LYN SKS **SKSac** **07 12 37.7 -1.0**
LYN S **ScS** **07 12 59.0 -1.1**
LYN pmax pmax
comp=Z,93nm,0.7s
LYN pmax pmax
comp=Z,800nm,5.8s
L16K Owhat River 86.41 10 P **P** **07 03 05.5 +0.9**
baz=199,SNR=7.0
N19K Bonanza Creek 86.43 12 P **P** **07 03 04.1 -0.7**
baz=203,SNR=7.7
M17K Holitna River 86.44 11 P **P** **07 03 05.8 +1.1**
baz=201,SNR=9.1
F04A Amboy 86.45 36 IAmb IAmb 07 03 07.7
comp=Z,114nm,1.2s
WVOR Wild Horse Val 86.47 41 IAmb IAmb 07 03 08.1
comp=Z,81nm,1.3s
HOOD Mount Hood Mea 86.49 37 IAmb IAmb 07 03 07.9
comp=Z,48nm,1.2s
SLVN Son La 86.50 295 IAmb IAmb 07 03 08.8
comp=Z,91nm,1.5s
GYA Guiyang 86.60 301 ⇓P **P** **07 03 07.2 +0.6**
GYA pP pP 07 05 04.8 +0.2
GYA SKS **SKSac** **07 12 41.5 +0.1**
GYA S **S** **07 12 55.7 -2.4**
GYA pmax pmax
comp=Z,39nm,0.8s
NLWA Neilton Lookou 86.62 34 IAmb IAmb 07 03 08.9
comp=Z,81nm,1.4s
G05A Wamic 86.62 37 IAmb IAmb 07 03 24.6
comp=Z,45nm,1.2s
DIB Dawson Inlet, 86.65 26 IAmb IAmb 07 03 08.4
comp=Z,62nm,1.3s
K15K Wolf Creek Mou 86.67 8 P **P** **07 03 06.8 +0.9**
baz=197,SNR=10
HOLB Holberg 86.71 30 P **P** **07 03 07.8 +1.5**
HOLB IAmb IAmb 07 04 28.3
comp=Z,114nm,1.5s
X16A Lo Mia Camp, P 86.74 50 IAmb IAmb 07 03 10.0
comp=Z,39nm,0.9s
BJT Baijiatuau 86.76 316 P **P** **07 03 07.0 +0.2**
BJI Beijing 86.77 316 P **P** **07 03 07.6 +0.8**
BJI pmax pmax
comp=Z,32nm,0.7s
BJI pmax pmax
comp=Z,220nm,3.5s
M18K Stony River 86.81 11 P **P** **07 03 06.9 +0.4**
baz=202,SNR=6.1
J14K Nanvaranak Lak 86.85 7 P **P** **07 03 07.2 +0.6**
baz=195
LCMT Little Creek M 86.86 47 IAmb IAmb 07 03 10.0
comp=Z,52nm,1.1s
SEW Seward 86.86 15 P **P** **07 03 07.0 +0.2**
baz=208
HEH HeiHe 86.89 329 ⇓*i*P **P** **07 03 07.7 +0.5**
HEH pP **pwP** **07 05 12.5 +2.1**
HEH PP **PP** **07 06 36.6 -4.1**
HEH SKS **SKSac** **07 12 39.3 -2.4**
HEH S **S** **07 12 59.2 -0.3**
HEH pmax pmax
comp=Z,93nm,1.1s
HEH pmax pmax
comp=Z,150nm,5.0s
I07A Izee 86.94 39 P **P** **07 03 09.5 +1.8**
I07A IAmb IAmb 07 03 10.4
comp=Z,88nm,1.1s
L17K Donlin 86.99 10 P **P** **07 03 08.5 +1.2**
baz=200,SNR=6.9
G06A Carlson Farm, 87.00 37 IAmb IAmb 07 03 10.3
comp=Z,75nm,1.2s
Q23K Middleton Isla 87.03 16 P **P** **07 03 08.6 +1.0**
baz=210
CCUT Cedar City 87.07 47 IAmb IAmb 07 03 11.4
comp=Z,45nm,1.1s
J08A Circle Bar Ran 87.11 40 IAmb IAmb 07 03 11.1
comp=Z,117nm,1.3s
O22K Cooper Landing 87.13 14 P **P** **07 03 08.6 +0.5**
baz=208
KNB Kanab 87.15 48 IAmb IAmb 07 03 11.7
comp=Z,103nm,1.3s
U15A North Rim 87.20 48 IAmb IAmb 07 03 12.1
comp=Z,81nm,0.9s
LL04 Puerto Octay 87.20 134 IAmb IAmb 07 03 11.4
comp=Z,101nm,1.1s
B04A Port Angeles 87.23 34 IAmb IAmb 07 03 11.8
comp=Z,60nm,1.1s
N20K Mount Spurr 87.24 13 P **P** **07 03 08.0 -0.6**
baz=205
P23K Montague Islan 87.26 16 P **P** **07 03 10.5 +1.8**
baz=210
GNW Green Mountain 87.27 35 IAmb IAmb 07 03 11.6
comp=Z,57nm,1.2s
SZCU Shurtz Canyon 87.28 47 IAmb IAmb 07 03 12.3
comp=Z,118nm,1.7s
L18K Granite Mounta 87.33 11 P **P** **07 03 09.4 +0.5**
baz=201,SNR=12
WUAZ Wupatki 87.36 49 IAmb IAmb 07 03 12.6
comp=Z,69nm,1.2s
WUAZ Wupatki 87.36 49 P **P** **07 03 11.4 +1.4**
baz=239
CLRS Cowichan Lake 87.41 33 IAmb IAmb 07 03 12.2
comp=Z,54nm,1.1s
HPIG 87.41 59 IAmb IAmb 07 03 12.7
comp=Z,69nm,1.0s
M19K Big River Lodg 87.45 12 P **P** **07 03 10.1 +0.6**
M19K Big River Lodg 87.45 12 P **P** **07 03 09.3 -0.2**
baz=203,SNR=13
K17K Iditarod 87.54 10 P **P** **07 03 10.2 +0.2**
baz=200
ELK Elko 87.59 43 IAmb IAmb 07 03 13.2
comp=Z,49nm,1.3s
CBB Campbell River 87.60 32 IAmb IAmb 07 03 13.2
comp=Z,78nm,1.3s
L19K White Mountain 87.62 11 IAmb IAmb 07 03 11.8
comp=Z,28nm,0.8s
L19K White Mountain 87.62 11 P **P** **07 03 10.8 +0.5**
baz=203,SNR=29
PGC Sidney 87.64 34 IAmb IAmb 07 03 13.2
comp=Z,62nm,1.1s
RC01 Rabbit Creek A 87.67 14 IAmb IAmb 07 03 12.1
comp=Z,45nm,1.2s
RC01 Rabbit Creek A 87.67 14 P **P** **07 03 10.3 -0.3**
baz=208,SNR=5.6
M20K Styx River 87.67 12 P **P** **07 03 10.0 -0.6**
baz=204
J16K Anvik River 87.74 9 P **P** **07 03 11.2 +0.3**
baz=198,SNR=10.0
SUA Susitna One 87.78 14 IAmb IAmb 07 03 12.3
comp=Z,46nm,0.6s
SUA Susitna One 87.78 14 P **P** **07 03 11.1 -0.1**
baz=207,SNR=8.4
F07A Phinny Hill Vi 87.80 37 IAmb IAmb 07 03 14.0
comp=Z,44nm,1.1s
X18A Snowflake 87.86 51 IAmb IAmb 07 03 14.4
comp=Z,31nm,0.7s
TIY Taiyuan 87.95 313 P **P** **07 03 14.0 +1.5**
TIY pP **pwP** **07 05 15.0 -1.6**
TIY SKS **SKSac** **07 12 48.6 -0.2**
TIY pmax pmax
comp=Z,180nm,0.8s
MXC Moxie City 88.01 37 IAmb IAmb 07 03 14.4
comp=Z,31nm,0.7s
ZAIG Zacatecas 88.04 64 IAmb IAmb 07 03 16.5
comp=Z,59nm,1.0s
J17K VABM Dome 88.07 9 P **P** **07 03 13.2 +0.8**
baz=199,SNR=8.1
L20K Farewell, AK 88.08 12 P **P** **07 03 12.6 +0.1**
baz=204,SNR=11
SKT Skwentna 88.08 13 P **P** **07 03 12.2 -0.3**
baz=206,SNR=7.0
GLI Glacier Island 88.10 15 IAmb IAmb 07 03 13.9
comp=Z,62nm,0.8s
GLI Glacier Island 88.10 15 P **P** **07 03 12.5 -0.1**
baz=210,SNR=7.0
TTA Tatalina 88.11 11 P **P** **07 03 13.1 +0.4**
baz=202,SNR=9.3
EYAK Cordova Ski Ar 88.15 16 P **P** **07 03 13.3 +0.5**
baz=211
GRNB Grenville Isla 88.16 27 IAmb IAmb 07 03 15.9
comp=Z,51nm,1.1s
M22K Willow 88.18 14 P **P** **07 03 13.0 +0.1**
baz=207
LTY Liberty 88.22 36 IAmb IAmb 07 03 15.1
comp=Z,26nm,0.8s
E07A Sunnyside 88.24 37 IAmb IAmb 07 03 16.2
comp=Z,60nm,0.9s
TCRU Three Creeks R 88.24 46 IAmb IAmb 07 03 17.2
comp=Z,119nm,1.7s
KNK Knik Glacier 88.25 15 IAmb IAmb 07 03 14.4
comp=Z,27nm,0.7s
KNK Knik Glacier 88.25 15 P **P** **07 03 13.5 +0.2**
baz=209,SNR=8.0
PMR Palmer 88.25 14 P **P** **07 03 13.0 -0.2**
PMR Palmer 88.25 14 P **P** **07 03 13.9 +0.7**
PMR IAmb IAmb 07 03 14.1
comp=Z,21nm,0.8s
PMR Palmer 88.25 14 P **P** **07 03 13.3 +0.1**
baz=208,SNR=12
PMR Palmer 88.25 14 P **P** **07 03 13.9 +0.7**
PMR pmax pmax
comp=Z,21nm,0.8s
I17K Unalakleet 88.31 8 P **P** **07 03 14.2 +0.7**
baz=198
W18A Petrified Fore 88.31 50 P **P** **07 03 15.7 +1.3**
baz=240
HAWA Hanford 88.31 37 IAmb IAmb 07 03 16.5
comp=Z,77nm,1.1s
121A Cookes Peak, D 88.44 54 IAmb IAmb 07 03 18.2
comp=Z,61nm,1.1s
121A Cookes Peak, D 88.44 54 P **P** **07 03 17.1 +2.0**
baz=241,SNR=41
GHO Glory Hole Cre 88.46 14 IAmb IAmb 07 03 15.8
comp=Z,50nm,0.7s
GO06 Curarrehue 88.47 133 IAmb IAmb 07 03 17.6
comp=Z,62nm,1.0s
J18K Innoko River 88.50 10 P **P** **07 03 15.3 +0.9**
J18K IAmb IAmb 07 03 15.7
comp=Z,20nm,0.8s
J18K Innoko River 88.50 10 P **P** **07 03 14.7 +0.3**
baz=201,SNR=25
PLCA Paso Flores 88.52 134 IAmb IAmb 07 03 18.0
comp=Z,66nm,1.1s
PLCA Paso Flores 88.52 134 P **P** **07 03 16.8 +1.5**
comp=Z,20nm,0.7s,baz=249,slow=4.2,SNR=37
PLCA pP **pwP** **07 05 18.1 +0.8**
comp=Z,10nm,1.1s,baz=226,slow=4.1,SNR=6.2
PLCA PKKPbc **PKKPbc** **07 20 53.2 -1.1**
comp=Z,1.7nm,0.7s,baz=0.0,slow=3.0,SNR=3.9
comp=Z,20nm,0.7s
PLCA Paso Flores 88.52 134 *e*P **P** **07 03 16.1 +0.8**
XAN Xi'an 88.54 308 ⇓P **P** **07 03 16.6 +1.3**
XAN pP pP 07 05 15.3 +1.3
XAN sP sP 07 06 09.6 +0.8
XAN SKS **SKSac** **07 12 50.7 -1.6**
XAN S **ScS** **07 13 20.2 +1.2**
XAN pmax pmax
comp=Z,200nm,0.8s
XAN pmax pmax
comp=Z,560nm,3.5s
V35K Ketchikan 88.56 25 IAmb IAmb 07 03 17.5
comp=Z,47nm,1.2s
V35K Ketchikan 88.56 25 P **P** **07 03 16.9 +2.1**
baz=223
U33K Whale Pass 88.56 24 P **P** **07 03 16.2 +1.4**
baz=222
SML Sawmill 88.62 14 P **P** **07 03 15.2 +0.2**
baz=209
E08A Dider Farm, El 88.64 37 IAmb IAmb 07 03 17.9

comp=Z,80nm,1.4s
BMO Blue Mountains 88.67 39 IAmb IAmb 07 03 17.9
comp=Z,74nm,1.6s
CUT Chulitna 88.73 13 P **P** **07 03 15.2 -0.2**
baz=207
M23K Glacier View 88.75 15 P **P** **07 03 15.8 +0.2**
baz=209
PPLA Purkeypile 88.78 12 P **P** **07 03 16.0 +0.1**
baz=205
BMRM Bremner River 88.81 16 P **P** **07 03 16.5 +0.6**
baz=212,SNR=6.9
SEY Seymchan 88.83 348 P **P** **07 03 16.4 +0.6**
comp=Z,56nm,0.8s,baz=149,slow=5.0,SNR=75
comp=Z,56nm,0.8s
SEY Seymchan 88.83 348 *d iP* **P** **07 03 16.3 +0.4**
SEY pmax pmax
comp=Z,58nm,1.0s
H16K Elim 88.83 7 P **P** **07 03 16.3 +0.4**
baz=196,SNR=5.9
WAX Waxell Ridge 88.83 17 IAmb IAmb 07 03 18.3
comp=Z,28nm,0.8s
DUG Dugway, Tooele 88.84 45 IAmb IAmb 07 03 19.0
comp=Z,32nm,1.2s
DUG Dugway, Tooele 88.84 45 P **P** **07 03 17.6 +0.8**
baz=238,SNR=21
K20K Telida 88.85 11 P **P** **07 03 16.1 0.0**
baz=204
S31K Pelican 88.85 22 P **P** **07 03 17.6 +1.5**
baz=219
MESA MESA 88.86 18 IAmb IAmb 07 03 18.6
comp=Z,50nm,1.0s
MESA MESA 88.86 18 P **P** **07 03 17.5 +1.1**
baz=214
SCM Sheep Creek Mo 88.88 15 IAmb IAmb 07 03 17.9
comp=Z,33nm,0.8s
SCM Sheep Creek Mo 88.88 15 P **P** **07 03 15.8 -0.5**
baz=210,SNR=14
JRQG Juriquilla Cam 88.92 67 IAmb IAmb 07 03 20.1
comp=Z,26nm,1.1s
KLU Klutina 88.92 16 P **P** **07 03 17.3 +0.8**
baz=211
G15K Niukluk 88.97 7 P **P** **07 03 17.3 +0.7**
baz=194
XLT XiLinHaoTe 89.00 319 *eP* **P** **07 03 17.6 +0.3**
XLT S **S** **07 13 20.2 +0.8**
XLT pmax pmax
comp=Z,52nm,0.8s
CRQM Cirque 89.01 17 IAmb IAmb 07 03 18.9
comp=Z,24nm,1.2s
CRQE Cirque 89.02 17 P **P** **07 03 18.0 +0.9**
baz=213
HMU Henry Mountain 89.04 48 IAmb IAmb 07 03 20.0
comp=Z,30nm,1.0s
S32K Killisnoo 89.05 23 P **P** **07 03 18.5 +1.5**
baz=221
D08A Wollman Farm, 89.05 37 IAmb IAmb 07 03 19.8
comp=Z,42nm,1.0s
WRAK Wrangell Islan 89.08 24 P **P** **07 03 18.7 +1.5**
baz=223
BGU Big Grassy Mou 89.09 44 IAmb IAmb 07 03 20.1
comp=Z,34nm,1.3s
TGL Tana Glacier 89.10 17 IAmb IAmb 07 03 19.3
comp=Z,33nm,1.2s
ISLE Juniper Island 89.10 17 IAmb IAmb 07 03 19.3
comp=Z,26nm,1.0s
KMI Kunming 89.14 298 ⇓P **P** **07 03 20.1 +1.5**
KMI pP pwP 07 05 23.6 +1.0
KMI SKS **SKSac** **07 12 57.3 +0.7**
KMI pmax pmax
comp=Z,80nm,1.1s
KMI pmax pmax
comp=Z,300nm,4.0s
E09A Wood Farm, Sta 89.16 37 IAmb IAmb 07 03 19.9
comp=Z,43nm,1.1s
TNA Tin City 89.17 5 P **P** **07 03 18.2 +0.8**
baz=191
J19K Poorman 89.17 10 P **P** **07 03 17.8 +0.4**
baz=202,SNR=11
PNL Peninsula 89.19 19 P **P** **07 03 18.1 +0.4**
baz=217
NLU North Lily Min 89.19 45 IAmb IAmb 07 03 20.9
comp=Z,31nm,1.1s
F14K Arctic Creek 89.22 6 P **P** **07 03 17.6 0.0**
baz=192
Q16A Castle Valley 89.25 47 IAmb IAmb 07 03 21.8
comp=Z,49nm,0.9s
CAST Castle Rocks 89.28 12 P **P** **07 03 17.6 -0.4**
baz=205
ZEA Zeya 89.34 332 *eP* **P** **07 03 19.3 +0.8**
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,60nm,0.8s
N25K Chitina, Valde 89.35 16 P **P** **07 03 18.4 -0.1**
baz=212,SNR=6.4
F10A Beach Ranch, E 89.36 38 IAmb IAmb 07 03 20.6
comp=Z,68nm,1.4s
GRNC Granite Creek 89.37 18 IAmb IAmb 07 03 20.7
comp=Z,24nm,1.0s
M24K Tolsona, Glenn 89.39 15 P **P** **07 03 19.2 +0.6**
baz=211
H17K Granite Mounta 89.41 8 P **P** **07 03 18.4 -0.2**
baz=198
WAT6 Susitna Watana 89.44 14 P **P** **07 03 19.2 +0.3**
baz=209,SNR=8.3
CM31 Chiang Mai Arr 89.47 290 P **P** **07 03 21.8 +1.9**
CMAR Chiang Mai Arr 89.47 290 P **P** **07 03 21.9 +1.9**
comp=Z,54nm,0.9s,baz=137,slow=3.1,SNR=176
CMAR pP **pP** **07 05 21.1 +2.3**
comp=Z,1.1nm,0.3s,baz=125,slow=3.3,SNR=1.7
CMAR PP **PP** **07 06 59.5 -2.1**
comp=Z,9.5nm,0.9s,baz=137,slow=5.1,SNR=7.4
CMAR PKKPbc **PKKPbc** **07 20 50.9 -0.4**
comp=Z,1.4nm,0.3s,baz=288,slow=5.6,SNR=6.5
comp=Z,54nm,0.9s
WAT1 Susitna Watana 89.47 14 P **P** **07 03 19.0 0.0**
baz=208
MPU Maple Canyon 89.52 46 IAmb IAmb 07 03 22.4
comp=Z,44nm,1.0s
G16K Koyuk River 89.55 7 P **P** **07 03 19.3 +0.1**
baz=196
EFI East Falkland 89.56 148 P **P** **07 03 20.7 +1.0**
EFI East Falkland 89.56 148 *c iP* **P** **07 03 20.4 +0.7**
EFI pmax pmax
comp=Z,32nm,1.0s
PLID Pearl Lake 89.56 39 P **P** **07 03 20.8 +0.7**
PLID IAmb IAmb 07 03 22.1
comp=Z,57nm,1.4s
MCARA McCarthy VSAT 89.57 17 IAmb IAmb 07 03 22.1
comp=Z,26nm,1.1s
MCARA McCarthy VSAT 89.57 17 P **P** **07 03 20.3 +0.9**
baz=213,SNR=6.1
J20K Nowinta River 89.59 11 P **P** **07 03 20.1 +0.7**
J20K Nowinta River 89.59 11 P **P** **07 03 19.6 +0.1**
baz=204,SNR=13
B08A Colville Reser 89.61 36 IAmb IAmb 07 03 21.5
comp=Z,39nm,1.4s
CHTO Chiang Mai 89.62 291 P **P** **07 03 22.4 +1.8**
CHTO Chiang Mai 89.62 291 P **P** **07 03 22.4 +1.8**
CHTO pmax pmax
comp=Z,110nm,0.9s
HLID Hailey 89.66 41 P **P** **07 03 21.9 +1.4**
HLID IAmb IAmb 07 03 23.0
comp=Z,56nm,1.2s
HLID Hailey 89.66 41 P **P** **07 03 21.6 +1.1**
baz=237,SNR=60
P29M Windy Craggy 89.67 20 P **P** **07 03 21.0 +1.0**
baz=218
R32K Eaglecrest 89.68 22 P **P** **07 03 21.0 +1.0**
baz=221
CTG Chitna Glacier 89.68 18 P **P** **07 03 20.9 +0.8**
baz=215,SNR=5.5
CTU Camp Tracy 89.79 45 IAmb IAmb 07 03 23.2
comp=Z,60nm,1.0s
Y22D IRIS PASSCAL I 89.82 53 P **P** **07 03 22.7 +1.3**
baz=241
H18K Honhosa River 89.83 9 P **P** **07 03 20.2 -0.3**
baz=200
MNTX Cornudas Mount 89.84 55 P **P** **07 03 22.8 +1.4**
baz=242,SNR=76
C09A Chrisman Ranch 89.84 36 IAmb IAmb 07 03 23.1
comp=Z,56nm,1.6s
O28M Mount Upton 89.85 18 P **P** **07 03 21.1 0.0**
baz=216,SNR=5.3
G17K Kiwalik Mounta 89.86 8 P **P** **07 03 20.9 +0.3**
baz=198,SNR=6.1
RND Reindeer 89.92 13 IAmb IAmb 07 03 22.4
comp=Z,37nm,1.2s

DHY Denali Highway 89.95 14 P **P** **07 03 21.7 +0.3**
baz=210
PLBC Pleasant Camp 89.97 21 P **P** **07 03 22.7 +1.4**
baz=219
TXAR Lajitas Array 90.08 58 P **P** **07 03 24.7 +2.1**
TXAR Lajitas Array 90.08 58 P **P** **07 03 24.5 +1.9**
comp=Z,34nm,0.8s,baz=213,slow=6.5,SNR=400
TXAR PP **PP** **07 07 05.0 -1.3**
comp=Z,1.3nm,1.0s,baz=228,slow=9.5,SNR=2.6
comp=Z,34nm,0.8s
BPAW Bear Paw Mtn. 90.10 12 P **P** **07 03 21.9 0.0**
baz=206
I20K Naaghedeneel 90.10 11 IAmb IAmb 07 03 23.1
comp=Z,33nm,1.2s
I20K Naaghedeneel 90.10 11 P **P** **07 03 22.1 +0.4**
baz=203,SNR=5.2
HHC Hu-ho-hao-te 90.16 315 ⇓*iP* **P** **07 03 24.1 +1.3**
HHC sP sP 07 06 14.4 -2.0
HHC SKS **SKSac** **07 13 02.1 +0.6**
HHC pmax pmax
comp=Z,67nm,0.8s
HHC pmax pmax
comp=Z,73nm,3.8s
MCK McKinley 90.19 13 P **P** **07 03 21.9 -0.3**
baz=208
MVCO Mesa Verde 90.21 49 IAmb IAmb 07 03 36.0
comp=Z,31nm,1.6s
MVCO Mesa Verde 90.21 49 P **P** **07 03 23.8 +0.5**
baz=240,SNR=7.6
P18A Preston Nutter 90.23 46 IAmb IAmb 07 03 25.6
comp=Z,45nm,1.1s
T35M Bob Quinn 90.28 25 P **P** **07 03 23.7 +0.9**
baz=224
P30M Million Dollar 90.30 20 P **P** **07 03 24.2 +1.3**
baz=219,SNR=5.2
PAX Paxson 90.30 15 P **P** **07 03 22.6 -0.3**
baz=211
GO05 Huala 90.38 129 IAmb IAmb 07 03 25.5
comp=Z,66nm,1.3s
YUK8 Steele Glacier 90.39 18 P **P** **07 03 24.0 +0.5**
baz=216,SNR=5.7
HWUT Hardware Ranch 90.39 44 IAmb IAmb 07 03 25.1
comp=Z,30nm,0.7s
M26K Nabesna, AK 90.43 16 P **P** **07 03 24.0 +0.6**
baz=214,SNR=5.4
H19K Roundabout Mou 90.47 10 P **P** **07 03 24.0 +0.6**
baz=201,SNR=8.0
G18K Taagagwik 90.50 9 P **P** **07 03 22.4 -1.2**
baz=199,SNR=5.2
PZH PanZhiHua 90.56 299 P **P** **07 03 25.8 +0.8**
PZH pmax pmax
comp=Z,70nm,0.8s
PZH pmax pmax
comp=Z,120nm,5.7s
ANMO Albuquerque 90.57 52 P **P** **07 03 26.0 +1.1**
ANMO IAmb IAmb 07 03 27.1
comp=Z,48nm,1.1s
ANMO Albuquerque 90.57 52 P **P** **07 03 25.6 +0.7**
baz=242
ANMO Albuquerque 90.57 52 P **P** **07 03 26.0 +1.1**
ANMO pmax pmax
comp=Z,48nm,1.2s
YUK3 Moose Creek 90.59 18 P **P** **07 03 24.9 +0.5**
baz=216,SNR=16
S34M Telegraph Cree 90.62 24 IAmb IAmb 07 03 27.0
comp=Z,18nm,0.9s
S34M Telegraph Cree 90.62 24 P **P** **07 03 25.6 +1.3**
baz=224,SNR=9.5
H20K Anotleneega Mo 90.68 10 P **P** **07 03 24.8 +0.3**
baz=203,SNR=13
M27K Edge Creek, AK 90.68 17 P **P** **07 03 25.9 +1.1**
baz=214,SNR=9.0
HYT Haines Junctio 90.69 19 P **P** **07 03 25.5 +0.8**
baz=218
F17K Baldwin Pennin 90.69 7 IAmb IAmb 07 03 25.8
comp=Z,17nm,0.9s
F17K Baldwin Pennin 90.69 7 P **P** **07 03 24.8 +0.4**
baz=197,SNR=5.3
NEW Newport 90.74 36 P **P** **07 03 24.9 -0.3**
baz=235,SNR=5.9
L26K Log Cabin Wild 90.86 16 P **P** **07 03 25.4 0.0**
baz=213,SNR=7.6
CD2 Chengdu 90.91 303 P **P** **07 03 28.6 +2.2**
CD2 pP pP 07 05 27.4 +1.8
CD2 SKS **SKSac** **07 13 03.8 -2.3**
CD2 S **ScS** **07 13 40.0 +1.0**
CD2 pmax pmax
comp=Z,90nm,0.6s
NEA2 Nenana 90.92 13 P **P** **07 03 25.0 -0.6**
baz=208
K24K Donnelly Dome 90.95 14 P **P** **07 03 26.1 +0.4**
baz=211,SNR=5.6
P32M Atlin 90.95 22 P **P** **07 03 26.4 +0.5**
baz=222
G19K Purcell Mounta 90.95 9 P **P** **07 03 25.9 +0.2**
baz=201,SNR=9.9
Q32M Nakina River 90.98 23 P **P** **07 03 26.7 +0.5**
baz=223
MLY Manley 90.99 12 P **P** **07 03 25.0 -1.0**
baz=207
F18K Selawik 91.03 8 P **P** **07 03 25.6 -0.4**
baz=198
BTO Baotou 91.05 314 *eP* **P** **07 03 28.6 +1.7**
BTO pP **pP** **07 05 28.2 +2.2**
BTO sP **sP** **07 06 21.6 +1.0**
BTO SKS **SKSac** **07 13 06.0 -0.5**
BTO sS **sS** **07 17 07.6 -4.5**
BTO pmax pmax
comp=Z,78nm,1.4s
BTO pmax pmax
comp=Z,570nm,10.6s
O30N Mendenhall 91.08 20 P **P** **07 03 26.6 +0.1**
baz=220
RDMU Red Mountain 91.16 46 IAmb IAmb 07 03 28.9
comp=Z,30nm,0.7s
H21K Melozitna Rive 91.18 11 P **P** **07 03 26.8 0.0**
baz=205
HDA Harding Lake 91.21 14 P **P** **07 03 26.7 -0.2**
baz=210,SNR=11
E17K Hotham Inlet 91.24 7 P **P** **07 03 27.2 +0.3**
baz=197
L27K Beaver Creek, 91.28 16 P **P** **07 03 27.5 +0.2**
baz=214,SNR=5.1
AHID Auburn Hatcher 91.28 43 IAmb IAmb 07 03 30.4
comp=Z,40nm,0.9s
BO01 Tunca 91.29 128 IAmb IAmb 07 03 29.6
comp=Z,58nm,1.7s
BCAR Beaver Creek A 91.29 16 P **P** **07 03 28.1 +0.7**
N30M Aishikik Lake 91.31 19 P **P** **07 03 27.8 +0.3**
baz=219
IMAR Indian Mountai 91.32 10 P **P** **07 03 27.7 +0.3**
I23K Minto, Yukon-K 91.36 12 P **P** **07 03 26.9 -0.6**
baz=208,SNR=6.3
DLBC Dease Lake 91.41 24 P **P** **07 03 27.7 -0.4**
baz=225
MDM Murphy Dome 91.42 13 P **P** **07 03 27.4 -0.5**
COLA College 91.42 13 P **P** **07 03 27.2 -0.6**
COLA College 91.42 13 P **P** **07 03 27.7 -0.1**
COLA College 91.42 13 P **P** **07 03 27.4 -0.4**
baz=209
COLA College 91.42 13 *c iP* **P** **07 03 27.3 -0.6**
COLA pmax pmax
comp=Z,7.0nm,0.9s
F19K Shaleruckik Mo 91.50 9 P **P** **07 03 28.4 +0.2**
baz=200,SNR=10.0
SCRK Sand Creek 91.51 15 P **P** **07 03 28.6 +0.1**
baz=213,SNR=7.4
ILAR Eielson Array 91.54 13 P **P** **07 03 27.9 -0.6**
comp=Z,2.8nm,0.6s,baz=222,slow=5.7,SNR=34
ILAR pP **pP** **07 05 29.4 +1.0**
comp=Z,1.0nm,0.7s,baz=232,slow=4.9,SNR=3.1
ILAR PKiKP **PKiKP** **07 08 15.1 -0.9**
comp=Z,0.3nm,0.4s,baz=270,slow=3.4,SNR=4.1
ILAR PKKP **PKKPdf** **07 20 44.9 -0.2**
comp=Z,0.3nm,0.6s,baz=350,slow=2.6,SNR=5.8
comp=Z,2.8nm,0.6s
S22A 4UR Ranch, Cre 91.63 49 IAmb IAmb 07 03 32.2
comp=Z,47nm,1.1s
S22A 4UR Ranch, Cre 91.63 49 P **P** **07 03 30.8 +0.9**
baz=242,SNR=58
H22K Ishtalitna Cre 91.65 11 P **P** **07 03 28.8 -0.1**
baz=206,SNR=5.4
M29M Somme Creek 91.69 18 P **P** **07 03 29.4 +0.1**
baz=217,SNR=8.9
D17K Noatak River 91.70 6 P **P** **07 03 29.5 +0.4**
baz=195,SNR=5.3
E18K Tukpahlearik C 91.70 7 IAmb IAmb 07 03 30.4
comp=Z,13nm,0.8s
E18K Tukpahlearik C 91.70 7 P **P** **07 03 29.2 +0.1**
baz=198,SNR=9.6
P33M Teslin, Yukon 91.71 21 P **P** **07 03 30.8 +1.3**
baz=222
POKR Poker Plat Res 91.72 13 P **P** **07 03 29.2 -0.1**
baz=210
MSO Missoula 91.72 39 P **P** **07 03 29.6 -0.3**
baz=237
N31M Braeburn, Yuko 91.73 20 P **P** **07 03 29.6 +0.2**
baz=220
J25K Salcha River, 91.73 14 P **P** **07 03 29.6 +0.2**
baz=211,SNR=9.6
TPAW Teton Pass 91.75 43 IAmb IAmb 07 03 32.7
comp=Z,20nm,0.9s
R33M Jennings River 91.75 23 P **P** **07 03 30.9 +1.2**
baz=224
BILL Bilibino 91.76 355 P **P** **07 03 30.1 +0.8**
BILL IAmb IAmb 07 03 30.8
comp=Z,32nm,0.9s
BILL Bilibino 91.76 355 *d iP* **P** **07 03 29.5 +0.1**
BILL *i* 07 07 20.3
BILL pmax pmax
comp=Z,31nm,0.9s
FXWY Fox Creek 91.78 43 IAmb IAmb 07 03 32.8
comp=Z,41nm,1.6s
MT02 Curacav 91.80 127 IAmb IAmb 07 07 14.5
comp=Z,69nm,1.7s
O20A White River Ci 91.82 47 IAmb IAmb 07 03 32.5
comp=Z,59nm,1.4s
O20A White River Ci 91.82 47 P **P** **07 03 31.0 +0.4**
baz=241,SNR=22
G21K Allakaket 91.85 10 P **P** **07 03 30.3 +0.5**
baz=204,SNR=7.5
SNOW Snow King Moun 91.86 43 IAmb IAmb 07 03 33.2
comp=Z,24nm,0.8s
H23K Yukon River 91.93 12 P **P** **07 03 31.2 +1.0**
baz=208
IMW Indian Meadow 91.97 42 IAmb IAmb 07 03 34.3
comp=Z,46nm,1.4s
F20K Avaraart Lake 92.00 9 P **P** **07 03 31.1 +0.7**
baz=202
K27K Chicken 92.02 16 P **P** **07 03 31.7 +1.0**
baz=214
LOHW Long Hollow 92.03 43 IAmb IAmb 07 03 33.7
comp=Z,64nm,1.7s
C16K Lisburne Hills 92.05 5 P **P** **07 03 30.9 +0.2**
baz=193
J26L Joseph Creek 92.05 15 P **P** **07 03 31.1 +0.2**
baz=213,SNR=20
RDOG Red Dog Mine 92.06 6 P **P** **07 03 30.9 +0.1**
baz=196
E19K Redstone River 92.16 9 P **P** **07 03 31.5 +0.2**
baz=201,SNR=14
MT16 CCHEN 92.17 128 IAmb IAmb 07 03 33.7
comp=Z,25nm,0.7s
ODSA Odessa 92.18 56 IAmb IAmb 07 03 34.1
comp=Z,24nm,0.9s
MT13 San Alfonso 92.18 128 IAmb IAmb 07 03 34.3
comp=Z,27nm,0.7s
LMEL Las Melosas 92.19 128 IAmb IAmb 07 03 35.8
comp=Z,20nm,0.9s
PEL Peldehue 92.19 128 IAmb IAmb 07 03 33.9
comp=Z,34nm,0.8s
PBA Port Blair 92.19 282 P **P** **07 03 35.5 +2.9**
SMCO Snowmass 92.22 48 IAmb IAmb 07 03 34.0
comp=Z,16nm,0.7s
BW06 Boulder Array 92.26 44 P **P** **07 03 32.9 +0.3**
baz=240,SNR=32
H24K Noodor Dome 92.26 13 P **P** **07 03 33.6 +1.8**
baz=209
PDAR Pinedale Array 92.26 44 P **P** **07 03 32.7 +0.1**
PDAR Pinedale Array 92.26 44 P **P** **07 03 33.1 +0.5**
comp=Z,12nm,0.7s,baz=211,slow=3.9,SNR=101
PDAR pP **pwP** **07 05 35.1 +0.1**
comp=Z,0.5nm,0.6s,baz=248,slow=3.8,SNR=2.6
PDAR PP **PP** **07 07 19.6 -3.6**
comp=Z,6.1nm,1.0s,baz=236,slow=6.9,SNR=13
PDAR PKKP **PKKPdf** **07 20 43.8 +0.5**
comp=Z,0.5nm,0.7s,baz=91,slow=4.4,SNR=5.4
PDAR SKKPbc SKKPbc 07 23 32.9 -1.7
comp=Z,0.7nm,0.8s,baz=29,slow=2.1,SNR=4.4
comp=Z,12nm,0.7s
M30M Minto, Yukon 92.27 18 P **P** **07 03 32.1 +0.2**
baz=219,SNR=9.6
L29M L29M 92.31 18 P **P** **07 03 32.9 +0.8**
baz=218,SNR=10
YFT Old Faithful 92.32 42 IAmb IAmb 07 03 36.2
comp=Z,57nm,1.9s
BOZ Bozeman (W) 92.43 41 P **P** **07 03 33.4 +0.3**
baz=239,SNR=22
C17K DeLong Mountai 92.44 6 P **P** **07 03 32.6 +0.1**
baz=195
H17A Grant Village 92.45 42 P **P** **07 03 34.8 +1.4**
baz=239,SNR=8.2
PRP Porcupine Dome 92.47 14 P **P** **07 03 32.9 0.0**
baz=211
VA03 San Esteban 92.48 127 IAmb IAmb 07 03 34.8
comp=Z,21nm,0.9s
F21K Alatna River 92.50 10 P **P** **07 03 33.0 +0.2**
baz=204
G22K Bettles 92.55 11 P **P** **07 03 33.7 +0.7**
baz=206
TNCH TengChong 92.56 296 P **P** **07 03 33.8 -0.5**
TNCH SKS **SKSac** **07 13 15.4 -0.3**
TNCH S **S** **07 13 50.2 -1.9**
TNCH pmax pmax
comp=Z,55nm,0.7s
TNCH pmax pmax
comp=Z,150nm,5.2s
SDCO Great Sand Dun 92.56 50 IAmb IAmb 07 03 35.9
comp=Z,22nm,0.9s
SDCO Great Sand Dun 92.56 50 P **P** **07 03 34.5 +0.3**
baz=242,SNR=46
G23K Bananza Creek 92.63 11 P **P** **07 03 34.0 +0.5**
baz=207
M31M Drury Creek, Y 92.70 20 P **P** **07 03 34.5 +0.6**
baz=221
DAWY Dawson 92.73 17 P **P** **07 03 34.7 +0.7**
DAWY Dawson 92.73 17 P **P** **07 03 34.4 +0.3**
baz=217,SNR=12
OZNA Ozona 92.75 58 IAmb IAmb 07 03 35.9
comp=Z,17nm,0.8s
C18K Utukok River 92.81 7 P **P** **07 03 34.4 +0.2**
baz=197
I26K Coal Creek Min 92.83 15 P **P** **07 03 35.0 +0.6**
baz=213,SNR=6.1
MSTX Muleshoe 92.83 54 IAmb IAmb 07 06 58.3
comp=Z,34nm,0.9s
MSTX Muleshoe 92.83 54 P **P** **07 03 35.8 +0.5**
baz=244,SNR=11
EGAK Eagle 92.86 16 IAmb IAmb 07 03 35.5
comp=Z,9.8nm,0.7s
EGAK Eagle 92.86 16 P **P** **07 03 34.9 +0.4**
baz=215,SNR=15
F22K John River 92.97 10 P **P** **07 03 35.3 +0.4**
baz=205
833A Chaparral WMA, 93.01 61 P **P** **07 03 36.7 +0.7**
baz=245
D19K Kuna River 93.03 8 P **P** **07 03 35.8 +0.6**
baz=200,SNR=7.6
FARO Faro, Yukon 93.05 20 P **P** **07 03 36.4 +1.0**
baz=222
T25A Trinidad 93.06 51 IAmb IAmb 07 03 37.9
comp=Z,20nm,0.9s
T25A Trinidad 93.06 51 P **P** **07 03 36.9 +0.5**
baz=243,SNR=11
COLD Coldfoot 93.06 11 P **P** **07 03 36.0 +0.7**
baz=207
E20K Nigu River 93.06 9 P **P** **07 03 35.9 +0.4**
baz=202,SNR=14
K29M Barlow Dome 93.06 17 P **P** **07 03 36.4 +0.8**
baz=218,SNR=11
G24K Hadweenzic Riv 93.10 12 P **P** **07 03 35.9 +0.4**
baz=210
LZH Lanzhou 93.17 308 ⇓P **P** **07 03 38.2 +1.4**
LZH pP pwP 07 05 42.6 +0.9
LZH SKS **SKSac** **07 13 17.4 -1.1**
LZH S **ScS** **07 14 00.6 +2.8**
LZH pmax pmax
comp=Z,83nm,1.4s
RWWY Rawlins 93.26 46 IAmb IAmb 07 03 37.1
comp=Z,26nm,1.1s
Q24A Divide 93.37 49 IAmb IAmb 07 03 39.8
comp=Z,23nm,0.9s
Q24A Divide 93.37 49 P **P** **07 03 38.7 +0.8**
baz=243,SNR=20
D20K Etivluk River 93.42 8 P **P** **07 03 37.7 +0.7**

baz=201,SNR=6.6
C19K Lookout Ridge 93.43 7 IAmb IAmb 07 03 39.1
comp=Z,17nm,1.1s
C19K Lookout Ridge 93.43 7 P **P 07 03 38.0 +0.9**
baz=199,SNR=5.5
I27K Kandik River 93.43 15 P **P 07 03 37.5 +0.3**
baz=215
B18K Kokolik River 93.44 6 P **P 07 03 37.8 +0.7**
baz=197
ISCO Idaho Springs 93.44 48 P **P 07 03 38.6 +0.4**
baz=242,SNR=11
TOAD Toad River Com 93.51 25 P **P 07 03 38.6 +1.0**
baz=229
E21K Killik River 93.54 9 P **P 07 03 38.0 +0.4**
baz=204
JCT Junction City 93.59 58 IAmb IAmb 07 03 39.5
comp=Z,21nm,0.9s
JCT Junction City 93.59 58 P **P 07 03 38.8 +0.1**
baz=245
E22K Anaktuvuk Pass 93.60 10 P **P 07 03 38.4 +0.5**
baz=206
RLMT Red Lodge 93.62 42 P **P 07 03 39.5 +0.8**
baz=240
I28M Miner Creek 93.71 16 P **P 07 03 38.6 +0.1**
baz=216,SNR=9.4
N23A Red Feather La 93.72 47 P **P 07 03 39.9 +0.5**
baz=242,SNR=11
F24K Squaw Lake 93.74 12 P **P 07 03 39.0 +0.5**
baz=209
E23K Chandalar 93.90 11 P **P 07 03 40.4 +1.1**
baz=208
J30M Hart River 93.96 17 P **P 07 03 40.6 +0.9**
baz=219
BRLDA Berland Lookou 93.97 32 IAmb IAmb 07 04 49.1
comp=Z,19nm,0.5s
H27K Steamboat Moun 93.97 15 P **P 07 03 40.2 +0.6**
baz=215
I29M Ogilvie Camp, 94.05 16 P **P 07 03 40.6 +0.6**
baz=218
G26K Porcupine Rive 94.07 13 P **P 07 03 40.8 +0.8**
baz=213,SNR=6.2
C21K Knifeblade Rid 94.09 9 P **P 07 03 41.5 +1.5**
baz=203,SNR=6.5
E24K Your Creek 94.11 11 P **P 07 03 40.9 +0.6**
baz=209
D22K Ayikyak River 94.14 10 P **P 07 03 41.3 +1.0**
baz=205
K22A Casper 94.16 45 IAmb IAmb 07 07 37.0
comp=Z,32nm,1.3s
K22A Casper 94.16 45 P **P 07 03 41.7 +0.5**
baz=242,SNR=7.5
YAK Yakutsk 94.17 339 P **P 07 03 40.6 +0.1**
YAK Yakutsk 94.17 339 P **P 07 03 40.2 -0.2**
comp=Z,40nm,0.5s,baz=54,slow=3.8,SNR=9.4
comp=Z,40nm,0.5s
YAK Yakutsk 94.17 339 *e*P **P 07 03 39.0 -1.5**
YAK *e**PP **pP 07 05 39.7 -0.4**
YAK *e*S **SKSac 07 13 18.8 -3.4**
YAK *e* 07 14 04.3
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,84nm,2.0s
YAK smax smax
comp=N,193nm,2.4s
YAK smax smax
comp=E,85nm,2.0s
TGTN Hyland Airport 94.21 22 P **P 07 03 42.0 +1.2**
baz=226
LCO Las Campanas 94.22 124 P **P 07 03 42.5 +0.5**
LCO Las Campanas 94.22 124 P **P 07 03 42.5 +0.5**
LCO pmax pmax
comp=Z,53nm,0.8s
F25K Christian Rive 94.23 12 P **P 07 03 41.8 +1.0**
baz=211
BMAR Burnt Mountain 94.31 13 P **P 07 03 42.3 +1.2**
A19K Wainwright 94.32 6 P **P 07 03 41.7 +0.7**
baz=197
G27K Doyon Strip 94.42 14 P **P 07 03 42.3 +0.7**
baz=215
TOLK Toolik Lake Re 94.43 11 P **P 07 03 42.1 +0.5**
baz=208
I30M Mount Dempster 94.45 17 P **P 07 03 42.2 +0.3**
baz=219,SNR=11
ZON Zonda 94.46 127 IAmb IAmb 07 03 44.4
comp=Z,20nm,1.0s
D23K Nanushuk River 94.53 10 P **P 07 03 42.6 +0.5**
baz=207
B21K Ikpikpuk River 94.54 9 P **P 07 03 43.4 +1.3**
baz=203
APMT Aspermont 94.55 56 IAmb IAmb 07 03 43.7
comp=Z,16nm,0.7s
B20K Meade River 94.57 8 P **P 07 03 43.1 +1.0**
baz=201
ABTX Abilene, Hawle 94.62 57 IAmb IAmb 07 03 45.0
comp=Z,37nm,1.2s
ABTX Abilene, Hawle 94.62 57 P **P 07 03 43.7 +0.4**
baz=245
F26K Sheenjek River 94.62 13 P **P 07 03 43.4 +0.9**
baz=213,SNR=5.5
E25K Arctic Village 94.70 12 P **P 07 03 43.5 +0.6**
baz=211
H29M Whitestone 94.72 16 P **P 07 03 43.5 +0.5**
baz=218,SNR=8.8
EGMT Eagleton 94.77 39 P **P 07 03 44.0 +0.3**
baz=240
D24K Happy Valley 95.01 11 P **P 07 03 45.0 +0.8**
baz=208
KSCO Kaye Shedlock' 95.15 50 P **P 07 03 46.2 +0.5**
baz=244,SNR=6.3
SMWD Samnorwood 95.20 54 IAmb IAmb 07 05 51.8
comp=Z,20nm,1.6s
EPYK Eagle Plains 95.25 16 P **P 07 03 45.8 +0.4**
baz=219,SNR=5.3
C23K Itkillik River 95.32 10 IAmb IAmb 07 03 46.9
comp=Z,24nm,1.9s
C23K Itkillik River 95.32 10 P **P 07 03 46.8 +1.2**
baz=207
G29M Pine Creek 95.35 15 P **P 07 03 46.1 +0.3**
baz=218
B22K Teshekpuk Lake 95.37 9 P **P 07 03 47.5 +1.7**
baz=204
435B Jarrell 95.46 59 IAmb IAmb 07 03 48.9
comp=Z,19nm,0.9s
435B Jarrell 95.46 59 P **P 07 03 47.3 +0.2**
baz=246
F28M Old Crow 95.48 14 P **P 07 03 46.8 +0.4**
baz=216
C24K Franklin Bluff 95.53 10 P **P 07 03 47.6 +1.1**
baz=209
E27K Coleen River 95.57 13 P **P 07 03 47.7 +0.9**
baz=215
D25K Kavik River 95.59 11 P **P 07 03 47.2 +0.3**
baz=211
PLPT Palo Pinto 95.71 57 IAmb IAmb 07 03 50.0
comp=Z,30nm,1.2s
G30M tAoh Zraii Nji 95.85 16 IAmb IAmb 07 03 49.3
comp=Z,13nm,1.1s
G30M tAoh Zraii Nji 95.85 16 P **P 07 03 48.4 +0.3**
baz=220,SNR=9.6
A21K Barrow 95.87 7 P **P 07 03 48.8 +0.8**
baz=201
WHTX Lake Whitney, 96.05 58 IAmb IAmb 07 03 51.5
comp=Z,35nm,1.4s
WHTX Lake Whitney, 96.05 58 P **P 07 03 50.0 +0.3**
baz=246
WMOK Wichita Mounta 96.14 55 P **P 07 03 50.1 -0.1**
baz=246
G31M Satah River 96.31 16 IAmb IAmb 07 03 51.3
comp=Z,11nm,1.1s
G31M Satah River 96.31 16 P **P 07 03 49.9 -0.1**
baz=221,SNR=7.3
C27K Jago River 96.34 12 P **P 07 03 50.7 +0.5**
baz=213,SNR=5.4
E28M Babbage River 96.36 14 P **P 07 03 51.0 +0.7**
baz=217,SNR=7.7
OGNE Ogallala 96.40 48 P **P 07 03 51.3 +0.1**
baz=245
ULN Ulaanbaatar 96.44 320 P **P 07 03 51.4 0.0**
ULN IAmb IAmb 07 03 51.8
comp=Z,9.3nm,0.9s
ULN Ulaanbaatar 96.44 320 P **P 07 03 51.0 -0.3**
ULN Ulaanbaatar 96.44 320 *d* iP **P 07 03 51.2 -0.1**
ULN pmax pmax
comp=Z,9.0nm,1.0s
F30M Barrier River 96.45 16 P **P 07 03 51.4 +0.7**
baz=220
RSSD Black Hills 96.45 45 P **P 07 03 51.6 0.0**
RSSD IAmb IAmb 07 03 52.7
comp=Z,8.9nm,0.9s
RSSD Black Hills 96.45 45 P **P 07 03 51.2 -0.3**
baz=244
RSSD Black Hills 96.45 45 P **P 07 03 51.6 0.0**
RSSD pmax pmax
comp=Z,9.0nm,1.0s
HKT Hockley 96.52 60 P **P 07 03 52.8 +1.0**
HKT IAmb IAmb 07 03 54.1
comp=Z,28nm,1.5s
HKT Hockley 96.52 60 P **P 07 03 52.8 +1.0**
HKT pmax pmax
comp=Z,28nm,1.5s
E29M Blow River 96.55 14 P **P 07 03 51.2 +0.1**
baz=218
D27M Malcolm River 96.57 13 P **P 07 03 52.1 +0.8**
baz=216
U32A Winter Ranch, 96.65 53 IAmb IAmb 07 03 55.4
comp=Z,25nm,1.4s
SONM Songino Array 96.82 319 P **P 07 03 53.1 +0.1**
SONM IAmb IAmb 07 07 54.6
comp=Z,19nm,1.3s
SONM Songino Array 96.82 319 P **P 07 03 52.9 -0.1**
comp=Z,3.0nm,0.5s,baz=134,slow=4.1,SNR=24
SONM PP PP 07 07 45.3 -12
comp=Z,4.3nm,1.1s,baz=126,slow=9.8,SNR=3.8
SONM PKKP **PKKPbc 07 20 32.8 -0.7**
comp=Z,2.6nm,0.7s,baz=275,slow=3.1,SNR=12
comp=Z,3.0nm,0.5s
F31M Tsiigehtchic 96.83 16 P **P 07 03 52.3 -0.1**
baz=222
NNA Nana 96.95 106 P **P 07 03 55.4 +1.0**
comp=Z,5.7nm,0.5s,baz=256,slow=8.3,SNR=3.7
comp=Z,5.7nm,0.5s
CBKS Cedar Bluff 97.11 51 P **P 07 03 53.4 -1.0**
baz=246
D28M Stokes Point 97.11 14 P **P 07 03 53.6 0.0**
baz=218
GTA Gaotai 97.48 310 P **P 07 03 56.8 +0.6**
GTA pP pwP 07 06 02.1 +0.7
GTA PP **PP 07 08 00.7 -2.3**
GTA SKS **SKSac 07 13 39.4 -1.4**
GTA S **S 07 14 36.7 +3.2**
GTA pmax pmax
comp=Z,12nm,1.3s
INK Inuvik 97.53 16 P Pdif 07 03 55.5 0.0
baz=222
ATAH Atahualpa 97.62 101 P **P 07 03 59.8 +2.0**
comp=Z,3.0nm,0.6s,baz=139,slow=1.7,SNR=3.6
comp=Z,3.0nm,0.6s
R32A Long Quarter, 97.68 52 IAmb IAmb 07 03 59.2
comp=Z,19nm,0.8s
DGMT Dagmar 98.26 41 P **P 07 03 59.5 +0.2**
baz=244
SHL Shillong 98.29 294 P Pdif 07 04 00.1 -0.1
LVC Limon Verde 98.78 119 PP **PP 07 08 11.9 -0.8**
comp=Z,3.8nm,0.8s,baz=215,slow=8.8,SNR=4.1
KSU1 Kansas State U 99.46 52 P **Pdif 07 04 05.3 +0.5**
baz=248
YKA Yellowknife Ar 99.88 25 P **Pdif 07 04 07.1 +1.0**
comp=Z,0.9nm,1.0s,baz=232,slow=4.5,SNR=2.6
YKA PKiKP **PKiKP 07 08 31.2 +0.6**
comp=Z,0.2nm,0.5s,baz=258,slow=1.6,SNR=5.4
comp=Z,0.9nm,1.0s
ECSD EROS Data Cent 101.19 47 P **Pdif 07 04 12.8 +0.4**
baz=248
LPAZ La Paz 102.51 114 P **Pdif 07 04 22.1 +2.4**
comp=Z,2.0nm,0.6s,baz=216,slow=3.6,SNR=11
LPAZ PP **PP 07 08 39.8 -1.2**
comp=Z,8.6nm,1.3s,baz=229,slow=6.4,SNR=6.2
LPAZ PKKPbc **PKKPbc 07 20 16.2 -1.2**
comp=Z,1.8nm,0.6s,baz=28,slow=6.2,SNR=6.1
ULM Lac du Bonnet 103.97 41 PP **PP 07 08 47.4 -3.4**
comp=Z,8.6nm,1.1s,baz=260,slow=5.7,SNR=8.1
HYB Hyderabad 107.07 282 *e* 07 05 58.5
HYB *e*PKiKP **PKiKP 07 08 45.5 +0.3**
HYB *e*PP **PP 07 09 13.1 -0.9**
WMQ Urumqi 107.51 311 Pdif **Pdif 07 04 41.7 +1.1**
DWPF Disney Wildern 107.72 67 P **PKiKP 07 08 45.0 -1.1**
baz=252
SIV San Ignacio 108.51 117 PP **PP 07 09 22.8 -0.9**
comp=Z,1.9nm,0.2s,baz=218,slow=5.7,SNR=7.9
P52A Corning 110.28 55 P **PKiKP 07 08 50.2 -0.5**
baz=256
ZSN Zaisan 110.33 314 *e*PKiKP **PKiKP 07 08 49.9 -0.7**
baz=314
ZSN Zaisan 110.33 314 *i* PKIKP **PKiKP 07 08 49.8 -0.7**
BLA Blacksburg 111.00 58 P **PKiKP 07 08 51.7 -0.5**
baz=256
O53A New Philadelph 111.11 54 P **PKiKP 07 08 51.6 -0.6**
baz=257
ZALV Zalesovo Beam 111.66 321 Pdiff **Pdif 07 04 58.7 +0.1**
comp=Z,0.7nm,0.3s,baz=69,slow=8.1,SNR=3.5
ZALV PKiKP **PKiKP 07 08 51.9 -0.9**
comp=Z,4.1nm,0.4s,baz=138,slow=1.1,SNR=18
ZALV PP **PP 07 09 39.8 -6.0**
comp=Z,2.3nm,0.5s,baz=109,slow=4.5,SNR=3.9
ZALV SKP 07 11 36.0
comp=Z,3.3nm,0.4s,baz=175,slow=1.6,SNR=5.3
ZALV PKKPbc **PKKPbc 07 19 48.8 -0.6**
comp=Z,1.0nm,0.4s,baz=290,slow=4.0,SNR=3.7
MK31 Makanchi Array 111.91 313 *d* iPKIKP **PKiKP 07 08 52.3 -1.2**
MKAR Makanchi Array 111.91 313 Pdiff **Pdif 07 05 01.4 +1.4**
comp=Z,1.8nm,0.6s,baz=92,slow=5.3,SNR=16
MKAR PKiKP **PKiKP 07 08 52.6 -0.9**
comp=Z,7.7nm,0.6s,baz=199,slow=0.9,SNR=52
MKAR PP PP 07 09 36.5 -11
comp=Z,8.9nm,1.1s,baz=95,slow=10,SNR=6.3
MKAR SKP 07 11 37.5
comp=Z,4.5nm,0.6s,baz=156,slow=0.2,SNR=5.5
MKAR PKKPbc **PKKPbc 07 19 47.6 -0.8**
comp=Z,2.6nm,0.8s,baz=266,slow=3.6,SNR=12
MKAR PKKPab **PKKPab 07 19 58.5 +1.1**
comp=Z,4.9nm,0.6s,baz=275,slow=3.9,SNR=20
MKAR SKKPbc SKKPbc 07 22 33.4 -8.5
comp=Z,0.6nm,0.7s,baz=242,slow=3.1,SNR=2.2
NRIK Noril'sk 112.59 337 PKiKP **PKiKP 07 08 53.2 -0.9**
comp=Z,2.3nm,0.4s,baz=109,slow=3.4,SNR=4.2
NRIK PP **PP 07 09 48.9 -3.0**
comp=Z,14nm,1.1s,baz=111,slow=7.8,SNR=15
NRIK SKP 07 11 37.6
comp=Z,1.4nm,0.3s,baz=116,slow=4.5,SNR=3.7
SHLS Shalkode 113.19 309 *e*PKiKP **PKiKP 07 08 55.1 -1.2**
baz=309
SHLS Shalkode 113.19 309 *i* PKIKP **PKiKP 07 08 55.0 -1.2**
UZB Uzynbulak 113.50 308 *e*PKiKP **PKiKP 07 08 56.2 -0.7**
baz=308
UZB Uzynbulak 113.50 308 *i* PKIKP **PKiKP 07 08 56.1 -0.7**
KPKS Kokpek 113.80 309 *e*PKiKP **PKiKP 07 08 56.7 -0.7**
baz=309
KPKS Kokpek 113.80 309 *i* PKIKP **PKiKP 07 08 56.6 -0.7**
SEM Semipalatinsk 113.86 316 *e*PKiKP **PKiKP 07 08 56.6 -0.8**
baz=316
SEM Semipalatinsk 113.86 316 *i* PKIKP **PKiKP 07 08 56.6 -0.8**
ZHN Zhinishke 113.93 308 *e*PKiKP **PKiKP 07 08 56.8 -0.8**
baz=308
ZHN Zhinishke 113.93 308 *i* PKIKP **PKiKP 07 08 56.8 -0.8**
SATY Saty 113.93 308 *e*PKiKP **PKiKP 07 08 57.0 -0.7**
baz=308
SATY *e*PP **PP 07 10 00.8 -1.4**
baz=308
SATY Saty 113.93 308 *i* PKIKP **PKiKP 07 08 56.9 -0.7**
SATY *e* 07 10 00.8
TDK Taldyqorghan 114.26 310 *e*PKP PKPdf 07 08 57.7 -0.4
baz=310
TDK Taldyqorghan 114.26 310 *e*PKiKP PKPdf 07 08 57.6 -0.5
MDOK Medeo 114.93 308 *e*PKP PKPdf 07 08 58.8 -0.9
baz=308
MDOK *e*PP **PP 07 10 07.8 -1.4**
baz=308
MDOK Medeo 114.93 308 *e*PKiKP PKPdf 07 08 58.7 -0.9
MDOK *e* 07 10 07.8
KURK Kurchatov 114.93 317 PKPdf 07 08 58.4 -0.7
KURK Kurchatov 114.93 317 P PKPdf 07 08 58.2 -1.0
KURK Kurchatov 114.93 317 *d* iPKIKP PKPdf 07 08 58.0 -1.1
KURK pmax pmax
comp=Z,11nm,0.6s
KURBB Kurchatov Arra 114.98 316 PKP PKPdf 07 08 58.6 -0.6
comp=Z,10nm,0.5s,baz=104,slow=1.9,SNR=73
KURBB PP PP 07 09 58.8 -10
comp=Z,2.5nm,0.8s,baz=100,slow=6.4,SNR=4.3
KURBB SKP 07 11 43.1
comp=Z,5.1nm,0.7s,baz=111,slow=2.1,SNR=6.2
KURBB PKKPbc **PKKPbc 07 19 37.9 -0.3**
comp=Z,2.7nm,0.9s,baz=279,slow=3.9,SNR=9.3
KURBB SKKPbc SKKPbc 07 22 28.1 -4.7
comp=Z,2.1nm,0.9s,baz=278,slow=3.2,SNR=9.3
TNSS Tian-Shan 114.98 308 *e*PKP PKPdf 07 08 59.1 -0.9
baz=308
TNSS Tian-Shan 114.98 308 *e*PKIKP PKPdf 07 08 59.1 -0.9
AAA Alma-Ata 115.03 308 *e*PKP **PKPdf 07 08 59.1 -0.6**
baz=308
AAA Alma-Ata 115.03 308 *e*PKIKP **PKPdf 07 08 59.1 -0.6**
CHKK Chushkaly 115.08 309 *e*PKP **PKPdf 07 08 59.0 -0.7**
baz=309
CHKK Chushkaly 115.08 309 *e*PKIKP **PKPdf 07 08 59.0 -0.7**
KSH Kashi 115.10 304 PKP **PKiKP 07 09 00.7 +0.7**
BINY Binghamton 115.36 53 P **PKPdf 07 09 00.1 -0.2**
baz=261
TKM2 Tokmak 2 115.94 308 P **PKPdf 07 09 00.9 -0.7**
SNR=15
KBK Karagaybulak 116.38 307 P **PKPdf 07 09 02.1 -0.3**
SNR=5.3
CHMS Chumysh 116.57 308 P **PKPdf 07 09 02.1 -0.5**
SNR=7.4
UCH Uchtor 116.63 307 P **PKiKP 07 09 03.5 +0.2**
SNR=8.7
AAK Ala-Archa 116.70 307 PKPdf **PKPdf 07 09 02.7 -0.3**
AAK Ala-Archa 116.70 307 PKP **PKPdf 07 09 03.0 0.0**
comp=Z,2.7nm,0.3s,baz=179,slow=3.6,SNR=6.1
AAK PKKPbc **PKKPbc 07 19 32.5 +0.2**
comp=Z,11nm,0.7s,baz=242,slow=4.1,SNR=11
AAK Ala-Archa 116.70 307 *c i* PKIKP **PKPdf 07 09 02.8 -0.3**
AAK pmax pmax
comp=Z,3.0nm,0.5s
PAL Palisades 116.71 55 P **PKPdf 07 09 01.7 -1.1**
baz=261
SGDS Sogindy 116.72 308 *e*PKP **PKPdf 07 09 02.2 -0.8**
baz=308
SGDS Sogindy 116.72 308 *e*PKIKP **PKPdf 07 09 02.1 -0.8**
LONY Lake Ozonia 116.72 50 P **PKPdf 07 09 02.1 -0.7**
baz=263
USP Ospenovka 116.79 308 P **PKPdf 07 09 02.5 -0.6**
SNR=12
EKS2 Erkin-Say 117.23 307 P **PKPdf 07 09 03.9 -0.1**
SNR=6.0
BTLS Baital 117.33 310 *e*PKP **PKPdf 07 09 03.4 -0.6**
baz=310
BTLS *e*PP **PP 07 10 24.3 -1.1**
baz=310
BTLS Baital 117.33 310 *e*PKIKP **PKPdf 07 09 03.3 -0.6**
BTLS *e* 07 10 24.3
L61B Northampton 117.82 53 P **PKPdf 07 09 04.6 -0.4**
baz=263
ARK Arkit 118.46 306 PKIKP **PKPdf 07 09 04.3 -2.1**
LBNH Lisbon 118.57 51 P **PKPdf 07 09 06.2 -0.2**
baz=264
HRV Adam Dziewonsk 118.65 53 P **PKPdf 07 09 06.4 -0.1**
baz=264
BDFB Brasilia 118.99 125 PKP **PKPdf 07 09 07.5 -0.6**
comp=Z,3.8nm,0.4s,baz=191,slow=6.2,SNR=9.1
BDFB SKP 07 11 50.8
comp=Z,3.6nm,0.7s,baz=172,slow=5.1,SNR=5.6
BDFB PKKPbc **PKKPbc 07 19 24.4 +0.3**
comp=Z,5.8nm,0.6s,baz=56,slow=2.3,SNR=14
DZA Taraz 119.05 307 *e*PKP **PKPdf 07 09 06.6 -0.8**
baz=307
DZA Taraz 119.05 307 *e*PKIKP **PKPdf 07 09 06.6 -0.8**
KKAR Karatay Array 119.67 307 **PKPdf 07 09 08.2 -0.4**
KKAR Karatay Array 119.67 307 PKIKP **PKPdf 07 09 08.2 -0.4**
KBL Kabul 119.73 298 **PKPdf 07 09 09.1 -0.1**
KBL Kabul 119.73 298 P **PKiKP 07 09 09.5 +0.2**
KBL Kabul 119.73 298 PKIKP **PKPdf 07 09 09.1 -0.1**
BRLS Borolday 120.15 307 *e*PKP **PKPdf 07 09 09.1 -0.5**
baz=307
BRLS Borolday 120.15 307 *e*PKIKP **PKPdf 07 09 09.0 -0.5**
BVAR Borovoye Array 120.16 319 PKP **PKPdf 07 09 08.7 -0.4**
comp=Z,24nm,0.5s,baz=106,slow=1.9,SNR=81
BVAR PP **PP 07 10 42.2 -2.2**
comp=Z,11nm,1.1s,baz=93,slow=7.4,SNR=3.8
BVAR SKP 07 11 53.8
comp=Z,11nm,0.8s,baz=56,slow=0.8,SNR=5.5
BVAR PKKPbc **PKKPbc 07 19 19.7 -0.4**
comp=Z,2.4nm,0.6s,baz=306,slow=2.3,SNR=7.5
CHM Chimkent 120.26 306 *e*PKP **PKPdf 07 09 09.3 -0.4**
baz=306
CHM Chimkent 120.26 306 *e*PKIKP **PKPdf 07 09 09.3 -0.4**
PKME Peaks-Kenny Pk 120.52 50 P **PKPdf 07 09 09.5 -0.5**
baz=267
NEEM North Greenlan 120.77 11 *i* PKIKP **PKPdf 07 09 09.7 -0.4**
NEEM IAmb IAmb 07 09 10.2
comp=Z,11nm,0.5s
SCHQ Schefferville 122.03 39 PKP **PKPdf 07 09 11.9 -0.8**
comp=Z,4.6nm,0.8s,baz=309,slow=1.9,SNR=6.2
SCHQ SKP 07 11 56.0
comp=Z,3.9nm,0.9s,baz=342,slow=6.4,SNR=4.0
SCHQ PKKPab **PKKPab 07 19 12.1 -0.5**
comp=Z,2.4nm,0.5s,baz=86,slow=5.5,SNR=4.1
BOSA Boshof 122.88 206 PKP **PKiKP 07 09 15.6 -0.1**
comp=Z,3.4nm,0.5s,baz=162,slow=3.0,SNR=8.6
LMN Caledonia Moun 123.69 50 **PKPdf 07 09 15.8 -0.3**
KBS Kingsbay 124.16 357 *c i* PKIKP **PKPdf 07 09 16.3 +0.1**
KBS pmax pmax
comp=Z,41nm,1.7s
SPA0 Spitsbergen Ar 124.65 356 *e*PKPdf **PKPdf 07 09 16.3 -0.8**
SPA0 IAmb IAmb 07 09 17.4
comp=Z,25nm,0.7s
SPITS Spitsbergen Ar 124.65 356 PKP **PKPdf 07 09 16.9 -0.2**
comp=Z,16nm,0.6s,baz=72,slow=5.4,SNR=21
SPITS PKKPbc **PKKPab 07 19 02.1 +1.4**
comp=Z,13nm,1.0s,baz=114,slow=6.5,SNR=5.9
JLN Jalan Bani Buh 125.67 281 P **PKiKP 07 09 21.0 -0.1**
GBN Guysborough 126.00 50 **PKPdf 07 09 20.7 +0.1**
WBK Wadi Bani Khal 126.17 282 P **PKPdf 07 09 21.8 +0.2**
SUMG Summit 126.38 13 **PKiKP 07 09 21.7 +0.1**
SUMG Summit 126.38 13 PKIKP **PKiKP 07 09 21.7 +0.1**
SUMG Summit 126.38 13 *i* P **PKPdf 07 09 19.8 -1.3**
SUMG IAmb IAmb 07 09 22.9
comp=Z,5.9nm,1.2s
ARU Arti 126.57 324 **PKiKP 07 09 21.8 0.0**
ARU Arti 126.57 324 PKP **PKiKP 07 09 21.6 -0.3**
comp=Z,34nm,0.5s,baz=112,slow=0.9,SNR=45
ARU Arti 126.57 324 *i* PKIKP **PKPdf 07 09 21.2 -0.1**
ARU 07 11 19.5
ARU 07 15 40.2
WSAR Wadi Sarin 126.62 282 P **PKPdf 07 09 22.1 -0.3**
MHTO MHTO 126.70 279 P **PKiKP 07 09 22.9 -0.2**
DQM DQM 126.83 278 P **PKiKP 07 09 23.6 +0.1**
JMDO Jabal Madar 126.90 281 P **PKiKP 07 09 23.4 -0.2**
SMDO Samad 127.10 282 P **PKPdf 07 09 23.5 0.0**
BIDO Bidbid 127.13 282 P **PKiKP 07 09 23.9 -0.1**
BSY Bisya 127.80 281 P **PKPdf 07 09 24.2 -0.5**
AKTO Aktyubinsk 128.03 317 PKP **PKPdf 07 09 24.3 0.0**
comp=Z,21nm,0.6s,baz=90,slow=2.8,SNR=51
AKTO PP **PP 07 11 34.5 -1.9**
comp=Z,5.0nm,0.9s,baz=77,slow=7.1,SNR=6.1
SOHO SOHO 128.69 283 *i* PKPdf **PKPdf 07 09 25.8 -0.6**
SNR=15
SOHO SOHO 128.69 283 P **PKPdf 07 09 26.0 -0.3**
MDH Madha 129.12 284 PKPdf **PKPdf 07 09 25.5 -1.6**
UOSS Minazif 129.13 284 **PKPdf 07 09 27.3 +0.1**
UOSS Minazif 129.13 284 PKPdf **PKPdf 07 09 26.1 -1.1**
UOSS Minazif 129.13 284 P **PKPdf 07 09 26.6 -0.6**
HATD Hatta, Dubai 129.18 284 *i* PKPdf **PKPdf 07 09 26.4 -0.9**
SNR=7.0
HATD Hatta, Dubai 129.18 284 P **PKPdf 07 09 27.2 0.0**
ASHO Ashiyiah 129.22 283 *i* PKPdf **PKPdf 07 09 27.1 -0.4**
SNR=7.1
ASHO Ashiyiah 129.22 283 P **PKPdf 07 09 27.0 -0.4**
RBK Rabkut 129.23 274 P **PKiKP 07 09 28.1 -0.3**
MSFE Esma-Masafi 129.25 284 *i* PKPdf **PKPdf 07 09 27.1 -0.3**
SNR=5.2
MASF Masafi 129.25 284 P **PKPdf 07 09 27.5 +0.1**
ALNE Al Ain 129.37 283 PKPdf **PKPdf 07 09 27.5 -0.1**
ALNE Al Ain 129.37 283 P **PKPdf 07 09 27.6 -0.1**
SHME Shamm 129.39 285 P **PKPdf 07 09 27.9 +0.3**
ROSB Rosrio 129.59 115 **PKPdf 07 09 28.5 +0.1**
DOK Doka 129.60 275 P **PKiKP 07 09 28.7 -0.3**
NAZ Nazwa, Dubai 129.63 284 *i* PKPdf **PKPdf 07 09 28.1 -0.1**
SNR=5.4
FAQ Al Faqa, Dubai 129.64 283 *i* PKPdf **PKPdf 07 09 27.3 -0.8**
SNR=7.3
FAQ Al Faqa, Dubai 129.64 283 P **PKPdf 07 09 28.1 -0.1**
WHFO Wadi Hawf 129.74 274 P **PKPdf 07 09 28.7 +0.2**
ASUD Al Ashush, Dub 129.86 283 *i* PKPdf **PKPdf 07 09 28.6 +0.1**
SNR=6.8
ASUD Al Ashush, Dub 129.86 283 P **PKPdf 07 09 28.8 +0.2**
ABTO Aybut 130.02 273 P **PKiKP 07 09 30.0 0.0**
VADS Vadso 130.21 347 *e*PKPdf **PKPdf 07 09 27.6 -0.2**
KIRV Kirov 130.58 328 SKPbc **SKPab 07 12 02.0 -0.1**

comp=Z,115nm,0.9s,baz=72,slow=2.8,SNR=27
KIRV Kirov 130.58 328 *c i* PKIKP **PKPdf 07 09 28.7 -0.1**
HAMF Hammerfest 130.79 350 *e* PKPdf **PKPdf 07 09 27.4 -1.6**
MZR Muzera 131.21 281 P **PKiKP 07 09 32.0 -0.2**
APA Apatity 131.27 344 ⇓ *i* PKIKP **PKPdf 07 09 28.4 -1.5**
APA *i* 07 11 27.0
APA pmax pmax
comp=Z,9.0nm,0.6s
ARCES ARCESS Array B 131.44 348 PKhKP PKPpre 07 09 20.1
comp=Z,2.6nm,0.5s,baz=352,slow=2.5,SNR=12
ARCES PKP **PKPdf 07 09 29.9 -0.4**
comp=Z,13nm,0.6s,baz=43,slow=1.0,SNR=32
ARCES SKPbc **SKPab 07 12 05.4 -0.3**
comp=Z,17nm,0.8s,baz=44,slow=3.7,SNR=15
JRN Qarnain Island 132.13 283 P **PKPdf 07 09 33.3 +0.5**
ADZR Andozero 132.35 338 *e* PKIKP **PKPdf 07 09 30.3 -1.7**
ADZR *e* 07 12 06.6
ADZR pmax pmax
comp=Z,10.0nm,0.9s
LSZ Lusaka 132.75 218 **PKiKP 07 09 36.2 +0.5**
LSZ Lusaka 132.75 218 P **PKiKP 07 09 36.1 +0.5**
LSZ Lusaka 132.75 218 PKIKP **PKiKP 07 09 36.2 +0.5**
SLWR Sila 133.02 282 P **PKiKP 07 09 35.8 0.0**
BELG Belogornoye 133.84 321 PKhKP PKPpre 07 09 21.6
comp=Z,19nm,0.4s,baz=281,slow=1.7,SNR=4.9
BELG PKP **PKiKP 07 09 36.1 -0.4**
comp=Z,62nm,0.6s,baz=326,slow=2.6,SNR=18
BELG SKPbc **SKPbc 07 12 13.8 +0.7**
comp=Z,110nm,0.6s,baz=26,slow=0.4,SNR=15
SMRA Abu-Samra 133.91 282 P **PKPdf 07 09 36.8 +0.6**
JOF Joensuu 135.32 340 *e* P PKPpre 07 09 27.9
MAK Makhachkala 136.47 308 *i* P **Pdif 07 06 48.0 -1.2**
MAK *i* 07 09 41.0
MAK *i* 07 12 29.7
MAK *e* 07 16 00.0
MAK *e* SS SS 07 29 53.5 +4.2
MAK *e* SSS SSS 07 35 09.8
MAK pmax pmax
comp=Z,291nm,1.1s
MOS Moscow 137.57 329 *i* PKIKP **PKPdf 07 09 39.3 -2.7**
MOS *e* 07 11 40.0
VAF Ylistaro 137.60 345 *e* P PKPpre 07 09 33.0
VRH Novokhopyorsk 137.68 322 *e* PKHKP PKPpre 07 09 35.1
VRH pmax pmax
comp=Z,18nm,0.6s
KEF Keuruu 137.78 343 *e* P PKPpre 07 09 32.3
FINES FINESS Array B 138.03 342 PKhKP PKPpre 07 09 31.5
comp=Z,6.2nm,0.6s,baz=60,slow=2.6,SNR=30
FINES PKP **PKPdf 07 09 43.3 +0.6**
comp=Z,13nm,0.5s,baz=68,slow=3.7,SNR=17
FINES SKPbc **SKPbc 07 12 25.9 +0.5**
comp=Z,28nm,0.6s,baz=64,slow=4.4,SNR=21
FINES SKKPbc **SKKPbc 07 21 08.4 -5.9**
comp=Z,1.6nm,0.5s,baz=273,slow=4.9,SNR=14
OBN Obninsk 138.42 329 SKPbc **SKPbc 07 12 25.2 -1.5**
comp=Z,22nm,0.3s,baz=157,slow=2.8,SNR=9.2
OBN Obninsk 138.42 329 *i* PKIKP **PKPdf 07 09 42.6 -1.0**
OBN *i* 07 12 36.3
OBN pmax pmax
comp=Z,25nm,0.7s
RAYN Ar Rayn 138.51 280 PKPpre 07 09 36.0
RAYN Ar Rayn 138.51 280 ⇑ PKHKP PKPpre 07 09 35.3
LPSR Galich'ya Gora 138.57 325 *e* PKHKP PKPpre 07 09 34.9
LPSR pmax pmax
comp=Z,20nm,1.0s
GNI Garni 139.03 305 PKP **PKPdf 07 09 43.9 -1.6**
comp=Z,20nm,0.9s,baz=122,slow=4.0,SNR=2.4
GNI Garni 139.03 305 *de* PKIKP **PKPdf 07 09 45.0 -0.4**
VSR Storozhevoye 139.11 323 *e* PKHKP PKPpre 07 09 34.9
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 139.16 322 *e* PKHKP PKPpre 07 09 35.7
VORD pmax pmax
comp=Z,10.0nm,0.9s
MEF Metsahovi 139.51 342 *e* P PKPpre 07 09 39.2
RAF Rauma 139.55 344 *e* P PKPpre 07 09 37.8
KBZ Khabaz 139.56 311 PKhKP PKPpre 07 09 38.5
comp=Z,4.3nm,0.8s,baz=133,slow=2.2,SNR=9.3
KBZ SKPbc **SKPbc 07 12 30.2 +0.1**
comp=Z,4.9nm,0.8s,baz=26,slow=5.3,SNR=4.8
KBZ PP **PP 07 12 46.7 -1.9**
comp=Z,6.2nm,0.9s,baz=132,slow=9.2,SNR=5.4
KIV Kislovodsk 139.64 311 *i* PKIKP **PKPdf 07 09 46.4 +0.1**
KIV *e* 07 12 46.8
KIV *e* SS SS 07 30 22.6 -3.8
KIV pmax pmax
comp=Z,9.0nm,1.0s
ARBE Arbavere 139.65 340 *e* P PKPpre 07 09 39.5
ERBR Yeremizino-Bor 140.57 314 *i* PKHKP PKPpre 07 09 42.8
ERBR pmax pmax
comp=Z,39nm,0.5s
LODK Lodwar 140.57 245 PKPpre 07 09 42.8
AAL Aland 140.72 344 *e* P PKPpre 07 09 40.4
LABN Labinsk 140.78 313 *i* PKIKP **PKPdf 07 09 45.3 -2.9**
LABN pmax pmax
comp=Z,51nm,0.6s
MTSE Matsula 140.91 341 *e* P PKPpre 07 09 42.9
DOMB Dombas 140.91 353 *e* PKPdf PKPpre 07 09 42.2
DOMB IAmb IAmb 07 09 44.4
comp=Z,13nm,0.8s
BCA Borcka 141.06 308 ⇑ P PKPpre 07 09 43.6
UPP Uppsala 141.57 346 *e* P PKPpre 07 09 44.2
NB2 NORSAR Subarra141.62 351 PKP PKPpre 07 09 44.2
comp=Z,7.2nm,0.5s,baz=16,slow=3.2
NB2 SKPa 07 12 35.4
comp=Z,101nm,2.0s,baz=14,slow=2.6
NB2 NORSAR Subarra141.62 351 PKPab PKPpre 07 09 44.2
baz=16,slow=3.2
NOA NORSAR Array B141.62 351 PKhKP PKPpre 07 09 44.9
comp=Z,20nm,0.6s,baz=16,slow=4.6,SNR=124
NOA SKPbc **SKPbc 07 12 35.6 +0.6**
comp=Z,10nm,0.8s,baz=14,slow=4.2,SNR=13
FOO Floro 141.69 356 *e* PKPdf PKPpre 07 09 44.9
SOC Sochi 141.81 312 *e* PKIKP **PKPdf 07 09 48.5 -1.6**
SOC *e* 07 13 00.9
SOC *e* PPP PPP 07 16 15.9
SOC *e* SSS SSS 07 36 20.2
SOC pmax pmax
comp=Z,20nm,0.6s
MBAR Mbarara 141.85 236 **PKPdf 07 09 48.4 -2.9**
MBAR Mbarara 141.85 236 *de* PKHKP PKPpre 07 09 48.2
NC602 NORSAR Array S 141.87 351 *e* P PKPpre 07 09 45.0
NC602 IAmb IAmb 07 09 45.7
comp=Z,38nm,0.5s
HYA Hoyanger 142.04 355 *e* PKPdf PKPpre 07 09 45.9
HYA IAmb IAmb 07 09 46.5
comp=Z,19nm,1.0s
HFS Hagfors 142.10 349 PKhKP PKPpre 07 09 46.3
comp=Z,118nm,0.5s,baz=66,slow=3.7,SNR=1478
HFS SKPbc **SKPbc 07 12 36.4 +0.3**
comp=Z,22nm,0.8s,baz=270,slow=0.1,SNR=13
HFS SKKPab **SKKPab 07 20 54.6 -2.7**
comp=Z,2.4nm,0.6s,baz=209,slow=2.6,SNR=6.2
SUE Sulen 142.25 356 *e* PKPdf **PKPdf 07 09 46.8 -3.5**
SUE IAmb IAmb 07 09 47.5
comp=Z,54nm,0.6s
SLIT Slitere, Latvi 142.26 341 *e* P **PKPdf 07 09 46.4 -4.0**
SKAR Skarslia 142.33 353 *e* PKPdf **PKPdf 07 09 47.2 -3.3**
SKAR IAmb IAmb 07 09 47.9
comp=Z,39nm,1.0s
ISAL Salakas 142.58 336 *e* P **PKPdf 07 09 49.5 -1.5**
MNK Minsk 142.67 333 *i* PKIKP **PKPdf 07 09 49.1 -2.1**
MNK *i* 07 13 05.2
MNK *i* 07 16 06.6
MNK *i* PPP PPP 07 16 20.0
MNK *i* SS SS 07 30 59.2 -0.3
MNK *i* SSS SSS 07 36 30.3
MNK pmax pmax
comp=Z,122nm,0.9s
MNK pmax pmax
comp=E,19nm,1.3s
MNK pmax pmax
comp=N,57nm,0.9s
IIGN Ignalina 142.71 336 *e* P **PKPdf 07 09 50.4 -0.9**
OSL Oslo 142.75 351 IAmb IAmb 07 09 49.0
comp=Z,86nm,0.6s
OSL *e* PKPdf **PKPdf 07 09 49.0 -2.2**
ASK Askoy 142.79 356 *e* PKPdf **PKPdf 07 09 48.8 -2.5**
ASK IAmb IAmb 07 09 49.3
comp=Z,70nm,0.7s
BER Bergen 142.88 356 *e* PKPdf **PKPdf 07 09 49.1 -2.3**
BER IAmb IAmb 07 09 49.6
comp=Z,109nm,0.7s
ANN Anapa 142.91 314 *d i* PKHKP PKPpre 07 09 49.5
ANN pmax pmax
comp=Z,263nm,0.6s
VIKU Vikbolandet 143.00 346 *e* P **PKPdf 07 09 49.0 -2.7**
VSVD Vaisvydziai 143.06 338 *e* P PKPbc 07 09 49.8 -0.2
KONO Kongsberg 143.19 352 PKPpre 07 09 50.1
KONO Kongsberg 143.19 352 *e* PKPdf PKPab 07 09 49.7 -0.2
KONO IAmb IAmb 07 09 50.5
comp=Z,159nm,0.8s
KONO Kongsberg 143.19 352 ⇑ PKIKP PKPbc 07 09 50.2 -0.1
ODD1 Odda 143.25 355 *e* PKPdf PKPab 07 09 50.2 0.0
ODD1 IAmb IAmb 07 09 50.8
comp=Z,73nm,0.6s
LRW Lerwick 143.30 1 *e* P PKPab 07 09 49.4 -0.9
PABE Paberze 143.42 337 *e* P PKPbc 07 09 51.0 -0.1
PBUR Paburge 143.69 339 *e* P PKPbc 07 09 52.0 +0.1
BLS5 Blasjo 143.75 355 *e* PKPdf PKPab 07 09 52.1 0.0
BLS5 IAmb IAmb 07 09 52.7
comp=Z,87nm,1.0s
KMY Karmoy 144.05 356 *e* PKPdf PKPbc 07 09 53.0 +0.1
KMY IAmb IAmb 07 09 53.7
comp=Z,110nm,0.8s
AK03 Malin Array Si 144.62 328 PKP **PKPdf 07 09 54.4 -0.3**
AKASG Malin Array Be 144.63 328 PKP **PKPdf 07 09 54.7 -0.1**
comp=Z,141nm,0.6s,baz=46,slow=4.1,SNR=434
AKASG SKPbc **SKiKP 07 12 43.1 +0.1**
comp=Z,34nm,0.8s,baz=47,slow=2.5,SNR=19
AKBB Malin Array Si 144.63 328 PKP **PKPdf 07 09 54.3 -0.5**
AK23 Malin Array Si 144.64 328 PKP **PKPdf 07 09 54.6 -0.2**
AK01 Malin Array Si 144.64 328 PKP **PKPdf 07 09 54.3 -0.5**
KIEV Kiev 144.64 328 ⇓ P **PKPdf 07 09 54.5 -0.3**
KIEV Kiev 144.64 328 **PKPdf 07 09 54.8 0.0**
KIEV Kiev 144.64 328 PKIKP **PKPdf 07 09 54.8 0.0**
KIEV Kiev 144.64 328 PKP **PKPdf 07 09 54.3 -0.5**
AK08 Malin Array Si 144.66 328 PKP **PKPdf 07 09 54.3 -0.5**
HOMB Homborsund 144.66 352 *e* PKPdf **PKPdf 07 09 54.3 -0.3**
HOMB IAmb IAmb 07 09 55.6
comp=Z,82nm,0.7s
HOMB Homborsund 144.66 352 *i* P PKPbc 07 09 54.8 0.0
HOMB IAmb IAmb 07 09 55.9
comp=Z,74nm,0.6s
AK22 Malin Array Si 144.67 328 PKP **PKPdf 07 09 54.6 -0.2**
AK05 Malin Array Si 144.69 328 PKP **PKPdf 07 09 54.7 -0.2**
AK18 Malin Array Si 144.69 328 PKP **PKPdf 07 09 54.3 -0.6**
AK20 Malin Array Si 144.71 328 PKP **PKPdf 07 09 54.5 -0.4**
SNART Snartemo 144.74 354 *e* PKPdf PKPbc 07 09 54.9 -0.2
SNART IAmb IAmb 07 09 55.8
comp=Z,79nm,0.8s
SNART Snartemo 144.74 354 *i* P **PKPdf 07 09 54.8 +0.1**
SUW Suwalki 144.87 336 *e* PKPbc PKPbc 07 09 55.7 0.0
SUW *e* PP sPKPdf 07 12 43.8 -12
SUW Suwalki 144.87 336 *e* P PKPbc 07 09 55.9 +0.2
LEWI Lewis, Hebride 144.94 6 *e* P **PKPdf 07 09 55.3 +0.2**
ONAU Onsala 145.00 349 *i* P **PKPdf 07 09 55.1 -0.1**
SIM Simferopol' 145.00 316 *e* PKIKP PKPbc 07 09 56.3 -0.1
SIM pmax pmax
comp=Z,741nm,1.5s
SIM pmax pmax
comp=Z,79nm,0.7s
LINV Loch Inver, As 145.09 5 *e* P **PKPdf 07 09 55.6 +0.3**
MI30 MI30,Zelenitsa 145.10 329 PKP **PKPdf 07 09 55.8 +0.2**
FABU Falkenberg 145.22 348 *i* P **PKPdf 07 09 56.0 +0.4**
MI28 Mi28,Pidlybu 145.23 329 PKP **PKPbc 07 09 56.7 -0.1**
DEL Delary 145.48 347 *e* P **PKPbc 07 09 57.0 -0.5**
DEL Delary 145.48 347 *i* P **PKPbc 07 09 56.9 -0.5**
DEL IAmb IAmb 07 09 59.1
comp=Z,67nm,0.6s
MI29 MI29, Kamyanyy 145.48 328 PKP **PKPbc 07 09 57.1 -0.5**
RNPP9 Sopachiv 145.71 331 PKP **PKPbc 07 09 58.1 -0.1**
RNPP8 Varash 145.78 331 PKP **PKPbc 07 09 58.1 -0.3**
MCD Coleburn Disti 145.78 3 *e* P **PKPdf 07 09 56.9 +0.3**
RNPP5 Staryi Chortor 145.84 331 PKP **PKPdf 07 09 57.5 +0.7**
LUBAR Lubar, Ukraine 145.85 328 PKP **PKPdf 07 09 56.7 -0.2**
KPL Plockton 145.85 6 *e* P **PKPdf 07 09 56.8 +0.2**
BJUU Bjuv 146.03 347 *i* P **PKPbc 07 09 58.7 -0.2**
BAL3X Bal3x, Balta 146.13 324 PKP **PKPbc 07 09 59.4 -0.1**
BZK Bozkurt 146.31 311 ⇑ P **PKPbc 07 10 00.6 +0.4**
MUD Monsted U'grnd 146.34 351 *i* P **PKPbc 07 09 59.0 -0.8**
MUD *i* P **PKPdf 07 09 59.5 +2.0**
LUNU Lund 146.35 346 *i* P **PKPbc 07 09 59.7 -0.2**
BSD Bornholm Skovb 146.49 345 *e* P **PKPbc 07 09 60.0 -0.3**
BSD Bornholm Skovb 146.49 345 *i* P **PKPbc 07 09 59.0 -1.2**
BSD *i* P **PKPbc 07 09 59.9 -0.3**
BSD IAmb IAmb 07 10 00.8
comp=Z,56nm,0.5s
COP Copenhagen 146.51 347 *i* P **PKPbc 07 10 00.4 +0.1**
COP IAmb IAmb 07 10 00.8
comp=Z,141nm,0.6s
SORM Soroca 146.68 325 ⇓ P **PKPbc 07 10 00.5 -0.5**
SORM Soroca 146.68 325 ⇓ PKIKP **PKPbc 07 10 00.5 -0.5**
PURM Purcari 146.78 321 ⇓ P **PKPbc 07 10 01.5 +0.2**
INVG Invergeldie, C 146.89 4 *e* P **PKPbc 07 09 59.9 -1.5**
LAWE Loch Awe, Argy 146.94 6 *e* P **PKPbc 07 10 00.8 -0.6**
HWQ Hawqa 146.97 297 *e* P **PKPbc 07 10 02.8 +0.3**
KIS Kishinev 147.11 323 ⇓ *i* PKP **PKPbc 07 10 01.8 -0.4**
comp=Z,100nm,1.0s
KIS *ep* PKP **pPKPab 07 12 13.0 +5.3**
KIS Kishinev 147.11 323 *d i* PKP2 **PKPbc 07 10 01.8 -0.4**
KIS pmax pmax
comp=Z,100nm,1.0s
KIS pmax pmax
comp=Z,100nm,0.9s
MILM Milestii Mici 147.16 323 ⇑ P **PKPbc 07 10 01.9 -0.4**
MILM Milestii Mici 147.16 323 ⇓ *i* PKP **PKPbc 07 10 01.9 -0.4**
comp=Z,260nm,1.1s
MILM ⇓ *i* pPKP **pPKPab 07 12 12.0 +4.2**
MILM *e* SPKP **sPKPab 07 13 02.0 +0.5**
MILM Milestii Mici 147.16 323 ⇑ PKIKP **PKPbc 07 10 01.9 -0.4**
BHL Bhannes 147.27 297 *e* P **PKPbc 07 10 03.9 +0.7**
BRTR Keskin Array B 147.38 308 PKPbc **PKPbc 07 10 03.4 0.0**
comp=Z,31nm,0.7s,baz=143,slow=4.8,SNR=50
KMPD K-Podol'skiy 147.38 327 PKP **PKPdf 07 10 00.7 +1.2**
PGBU Glenifferbraes 147.47 5 *e* P **PKPbc 07 10 02.5 -0.3**
BEL Belsk 147.48 336 *e* PKPbc **PKPbc 07 10 03.7 +0.7**
BEL *e* PKPab **PKPab 07 10 08.0 +1.0**
GKP Gorka Klasztor 147.49 341 *e* PKPbc **PKPbc 07 10 03.3 +0.4**
GKP *e* PKPab **PKPab 07 10 07.2 +0.3**
GKP Gorka Klasztor 147.49 341 *e* P **PKPbc 07 10 03.3 +0.4**
DRBR Darabani 147.54 326 ⇓ P **PKPbc 07 10 03.1 -0.2**
MMAI Mount Meron Ar 147.61 295 PKPbc **PKiKP 07 10 05.0 -0.5**
comp=Z,173nm,0.5s,baz=73,slow=5.6,SNR=215
MMAI *p* PKPbc **pPKPab 07 12 10.4 +0.3**
comp=Z,1.0nm,0.3s,baz=62,slow=3.9,SNR=1.7
LVV L'vov 147.68 331 *e* PKP2 **PKPbc 07 10 03.6 0.0**
ANTO Ankara 147.94 309 ⇓ P **PKPbc 07 10 05.0 +0.3**
ANTO Ankara 147.94 309 ⇓ PKP2 **PKPbc 07 10 05.0 +0.3**
EKA Eskdalemuir Ar 148.03 4 PKP **PKPdf 07 10 00.1 -0.2**
comp=Z,8.3nm,0.4s,baz=352,slow=1.5,SNR=44
EKA PKPbc **PKPbc 07 10 04.2 -0.1**
comp=Z,8.3nm,0.4s,baz=350,slow=1.4,SNR=51
NEWG New Galloway 148.18 5 *e* P **PKPbc 07 10 04.3 -0.3**
VLDR Vladesti 148.19 322 ⇓ P **PKiKP 07 10 06.3 +0.1**
EIL Elat 148.31 289 PKPbc **PKiKP 07 10 06.9 -0.2**
comp=Z,78nm,0.7s,baz=10,slow=2.4,SNR=39
JURR Jurilovca 148.33 319 ⇓ P **PKPbc 07 10 05.8 +0.5**
SCTR Scanteiesti 148.34 321 ⇑ P **PKiKP 07 10 06.5 -0.1**
GHRR 148.44 322 ⇓ P **PKiKP 07 10 07.5 +0.7**
CFR Carcaliu 148.54 320 ⇓ P **PKiKP 07 10 06.9 -0.1**
CFR Carcaliu 148.54 320 ⇓ PKP2 **PKiKP 07 10 06.9 -0.1**
IZVR Izvoarele 148.54 321 ⇑ P **PKPbc 07 10 06.1 +0.2**
TPGR Topolog 148.55 320 ⇓ P **PKPbc 07 10 06.5 +0.5**
TESR Tescani 148.59 324 ⇓ P **PKiKP 07 10 06.8 -0.2**
BURAR Bucovina Array 148.64 327 ⇓ P **PKiKP 07 10 07.0 -0.2**
PANC Panciu 148.70 322 ⇓ P **PKiKP 07 10 07.1 -0.2**
KESW Keswick, Cumbr 148.78 4 *e* P **PKPbc 07 10 06.0 -0.2**
ONER Baraj Valea Uz 148.84 324 ⇓ P **PKiKP 07 10 07.7 +0.1**
EFOR EFORIE 148.84 318 ⇑ P **PKiKP 07 10 07.8 +0.2**
MFTR Murfatlar 148.92 319 ⇓ P **PKiKP 07 10 07.6 -0.2**
HARR Harsova 148.93 320 ⇑ P **PKiKP 07 10 07.5 -0.3**
HARR Harsova 148.93 320 ⇑ PKHKP PKPpre 07 10 07.5
VRI Vrincioaia 148.94 323 ⇓ P **PKPbc 07 10 06.7 -0.2**
VRI Vrincioaia 148.94 323 ⇓ PKHKP PKPpre 07 10 06.7
PLOR Plostina 148.99 323 ⇓ P **PKPbc 07 10 07.1 0.0**
PLOR Plostina 148.99 323 ⇓ PKHKP PKPpre 07 10 07.1
IOMK Kirk Michael 149.00 5 *e* P **PKPbc 07 10 06.3 -0.4**
CVDA Cernavoda 149.07 319 ⇑ P **PKiKP 07 10 08.1 0.0**
WIM Isle of Man 149.10 6 *e* P **PKPbc 07 10 06.8 -0.2**
KOLS Kolonicke sedl 149.11 331 *e* PKP2 **PKiKP 07 10 08.3 +0.2**
KOLS Kolonicke sedl 149.11 331 *e* PKP **PKiKP 07 10 08.3 +0.2**
OJC Ojcow 149.15 335 *e* PKPbc **PKPbc 07 10 07.5 +0.3**
OJC *e* PKPab **PKPab 07 10 14.2 +0.3**
OJC *e* PP **PP 07 13 41.6 -2.6**
RUE Ruedersdorf 149.16 344 *e* P **PKiKP 07 10 07.9 -0.1**
TURR Turia 149.22 324 ⇑ P **PKiKP 07 10 08.4 -0.1**
OZUR 149.32 324 ⇑ P **PKiKP 07 10 08.5 -0.1**
ICOR Ion Corvin 149.33 319 ⇑ P **PKiKP 07 10 08.6 0.0**
PSN Preselentsi 149.38 318 P **PKiKP 07 10 08.5 -0.3**
BOSR Bodos 149.40 324 ⇑ P **PKiKP 07 10 09.0 +0.2**
ARCR ARCALIA 149.43 327 ⇑ P **PKiKP 07 10 08.6 -0.2**
NEHR Nehoiu 149.45 322 ⇓ P **PKPbc 07 10 08.1 -0.1**
CRVS Cervenica-Dubn 149.49 332 *e* PKHKP PKPpre 07 10 03.2
CRVS Cervenica-Dubn 149.49 332 *e* PKP **PKPdf 07 10 03.2 +0.3**
CRVS *e* 07 10 08.9
ISR Istrita 149.49 322 ⇓ P **PKiKP 07 10 08.8 -0.3**
ISR Istrita 149.49 322 ⇓ PKHKP PKPpre 07 10 08.8
NIE Niedzica 149.59 334 *e* PKPbc **PKiKP 07 10 10.0 +0.9**
NIE *e* PKPab **PKPab 07 10 16.9 +1.1**
MLR Muntele Rosu 149.60 323 ⇓ P **PKPbc 07 10 08.6 0.0**
MLR Muntele Rosu 149.60 323 P **PKPdf 07 10 02.8 -0.5**
comp=Z,6.5nm,1.1s,baz=318,slow=4.0,SNR=3.9
MLR PKPbc **PKPbc 07 10 08.7 +0.1**
comp=Z,15nm,0.3s,baz=358,slow=6.3,SNR=32
DOPR Dopca 149.61 324 ⇑ P **PKiKP 07 10 09.6 +0.4**
WPS Cemaes, Angles 149.86 6 *e* P **PKPbc 07 10 07.7 -1.0**
WME Myndd Eilian 149.88 5 *e* P **PKPbc 07 10 08.3 -0.5**
KSP Ksiaz 149.88 339 *e* PKPbc **PKiKP 07 10 09.7 +0.1**
KSP *e* PKPab **PKPab 07 10 17.6 +0.7**
WLF1 Llynfaes 149.98 5 *e* P **PKPbc 07 10 08.2 -0.8**
LBWR Ladybower, Pea 150.03 2 *e* P **PKPdf 07 10 04.7 +1.1**
CBBR Cluj-Babes-Bol 150.05 327 ⇓ P **PKPdf 07 10 06.3 +2.5**
CJR Cluj-Napoca 150.06 327 ⇑ P **PKiKP 07 10 10.2 0.0**
CJR Cluj-Napoca 150.06 327 ⇑ PKHKP PKPpre 07 10 10.2
MESR Meseseni 150.08 328 ⇓ P **PKiKP 07 10 10.2 +0.1**
PRD Provadia 150.08 318 P **PKiKP 07 10 10.4 +0.2**
OKC Ostrava-Krasne 150.09 336 ⇑ *e* PKP **PKiKP 07 10 10.0 0.0**
OKC Ostrava-Krasne 150.09 336 *e* PKIKP **PKiKP 07 10 10.0 0.0**
NEF NEVSHA 150.11 318 P **PKiKP 07 10 10.3 0.0**
LANS Liptovska Anna 150.13 334 *e* PKIKP **PKiKP 07 10 11.1 +0.9**
LANS Liptovska Anna 150.13 334 *e* PKP **PKiKP 07 10 11.1 +0.9**
VOIR 150.13 323 ⇑ P **PKPbc 07 10 09.5 -0.3**
VOIR 150.13 323 ⇑ PKIKP **PKPbc 07 10 09.5 -0.3**
YLL Llanberis 150.14 5 *e* P **PKPbc 07 10 09.1 -0.4**
OSTC Ostas 150.15 339 ⇑ *e* PKP **PKiKP 07 10 10.6 +0.4**
OSTC Ostas 150.15 339 *e* PKIKP **PKiKP 07 10 10.6 +0.4**
CHVC Chvalec 150.18 339 ⇑ *e* PKP **PKiKP 07 10 10.3 0.0**
CHVC Chvalec 150.18 339 *e* PKIKP **PKiKP 07 10 10.3 0.0**
KECS Kecovo 150.23 332 *e* PKP **PKPab 07 10 19.4 +1.0**
UPC Upice 150.26 339 ⇑ *e* PKP **PKiKP 07 10 10.5 +0.1**
UPC Upice 150.26 339 *e* PKIKP **PKiKP 07 10 10.5 +0.1**
DPC Dobruska-Polom 150.29 339 ⇑ *e* PKP **PKiKP 07 10 10.9 +0.4**
DPC Dobruska-Polom 150.29 339 *e* PKIKP **PKiKP 07 10 10.9 +0.4**
MARR Marisel-Cluj 150.33 327 ⇓ P **PKiKP 07 10 10.5 -0.3**
MORC Moravsky Berou 150.36 337 ⇑ P **PKiKP 07 10 11.0 +0.3**
MORC Moravsky Berou 150.36 337 *e* PKP **PKiKP 07 10 10.5 -0.2**
MORC *e* 07 10 19.4
MORC *e* 07 12 17.6
MORC Moravsky Berou 150.36 337 ⇑ PKIKP **PKiKP 07 10 11.0 +0.3**
KRLC Kraliky 150.37 338 ⇑ *e* PKP **PKiKP 07 10 10.6 -0.1**
KRLC *e* PKPAB **PKPab 07 10 19.9 +0.8**
KRLC Kraliky 150.37 338 *e* PKIKP **PKiKP 07 10 10.6 -0.1**
KRLC *e* 07 10 19.9
ARR Arges 150.40 324 ⇑ P **PKiKP 07 10 12.0 +1.0**
CLL Collm 150.43 344 *e* PKPdf **PKPdf 07 10 05.0 +0.7**
CLL ⇓ *i* PKPbc **PKiKP 07 10 10.6 -0.1**
comp=Z,131nm,0.7s
CLL *i* PKPab **PKPab 07 10 19.2 +0.1**
comp=Z,78nm,0.8s
CLL *ep* PKPbc **pPKPbc 07 12 18.0 +1.5**
CLL *ep* PKPab **pPKPab 07 12 23.0 +2.4**
CLL *e* SKPdf **SKPdf 07 12 45.0 -1.0**
CLL *e* PP **PP 07 13 57.0 +5.7**
DRGR 150.45 328 ⇑ P **PKiKP 07 10 12.0 +1.0**
DRGR 150.45 328 ⇑ PKIKP **PKiKP 07 10 12.0 +1.0**
BRG Berggiesshubel 150.57 342 ⇓ *e* PKPf 07 10 04.7
BRG Amp 07 10 05.6
comp=Z,4.9nm,1.1s
BRG ⇑ PKP **PKiKP 07 10 11.2 +0.2**
BRG Amp 07 10 11.9
comp=Z,79nm,0.7s
BRG PKPab **PKPab 07 10 20.4 +0.6**
BRG Amp 07 10 21.0
comp=Z,32nm,0.7s
BRG pPKP pPKPab 07 12 19.1 -2.0
BRG Amp 07 12 21.0
comp=Z,5.8nm,0.8s
BRG Berggiesshubel 150.57 342 *e* PKIKP **PKPdf 07 10 04.6 +0.1**
BRG pmax pmax
comp=Z,5.0nm,1.1s
MAUC Maruska 150.59 336 ⇑ *e* PKP **PKiKP 07 10 11.5 +0.3**
PVCC Panska Ves 150.69 341 ⇑ *e* PKP **PKiKP 07 10 11.6 +0.3**
PVCC Panska Ves 150.69 341 *e* PKIKP **PKiKP 07 10 11.6 +0.3**
HUMR Humele 150.74 322 ⇑ P **PKPbc 07 10 11.1 0.0**
WACR West Acre 150.74 359 *e* P **PKPbc 07 10 10.4 -0.4**
LOT Lotru 150.82 325 ⇓ P **PKPbc 07 10 11.0 -0.4**
RICC Richard 150.82 342 ⇑ *e* PKP **PKiKP 07 10 11.8 +0.3**
RICC *e* PKPAB **PKPab 07 10 22.1 +1.3**
SZH Strazhitsa 150.90 319 P **PKPbc 07 10 11.7 +0.1**
VYHS Vyhne 150.91 334 *e* PKIKP **PKiKP 07 10 12.0 +0.2**
VYHS *e* 07 10 22.1
VYHS Vyhne 150.91 334 *e* PKP **PKiKP 07 10 12.0 +0.2**
VYHS *e* 07 10 22.1
PSZ Piszkesteto 150.92 332 ⇑ P **PKiKP 07 10 11.9 -0.1**
PSZ Piszkesteto 150.92 332 ⇑ PKIKP **PKiKP 07 10 11.9 -0.1**
HSKC Hora Svate Kat 150.95 342 ⇑ *e* PKP **PKiKP 07 10 11.7 -0.1**
DEV Deva 150.98 326 ⇑ P **PKiKP 07 10 11.9 -0.1**
DEV Deva 150.98 326 ⇑ PKIKP **PKiKP 07 10 11.9 -0.1**
JMB Yambol 150.99 317 P **PKiKP 07 10 12.1 0.0**
JAVC Velka Javorina 151.07 336 *e* PKP **PKiKP 07 10 13.1 +0.9**
JAVC *e* 07 10 23.9
JAVC *e* 07 12 20.3
VRAC Vranov 151.09 337 ⇑ P **PKiKP 07 10 12.2 0.0**
VRAC Vranov 151.09 337 *e* PKP **PKPbc 07 10 11.7 -0.1**
VRAC *e* 07 10 22.9
VRAC *e* 07 12 23.1
VRAC Vranov 151.09 337 PKPbc **PKiKP 07 10 12.2 0.0**
comp=Z,9.1nm,0.6s,baz=121,slow=1.0,SNR=14
VRAC PKPab **PKPab 07 10 23.1 +1.0**
comp=Z,55nm,0.7s,baz=44,slow=3.5,SNR=34
PRA Prague 151.14 341 ⇑ *e* PKP **PKiKP 07 10 12.2 0.0**
PRA *e* PKPAB **PKPab 07 10 22.8 +0.6**
PRA Prague 151.14 341 *e* PKIKP **PKiKP 07 10 12.2 0.0**
PRA *e* 07 10 22.8
ELND Elena 151.15 319 ⇓ P **PKiKP 07 10 12.8 +0.3**
GOPC GO Pecny, Ondr 151.17 340 ⇑ *e* PKP **PKiKP 07 10 12.4 +0.1**
GOPC GO Pecny, Ondr 151.17 340 *e* PKIKP **PKiKP 07 10 12.4 +0.1**
PRU Pruhonice 151.18 341 ⇑ *e* PKP **PKiKP 07 10 12.2 -0.1**
PRU *e* PKPAB **PKPab 07 10 23.1 +0.8**
PRU Pruhonice 151.18 341 *e* PKIKP **PKiKP 07 10 12.2 -0.1**
PRU *e* 07 10 23.1
EDRB Edirne 151.20 316 P **PKPbc 07 10 12.0 -0.3**
RSBS Rosebush, Pemb 151.27 6 *e* P **PKPbc 07 10 11.1 -1.0**
SIRR Siria 151.33 328 ⇓ P **PKiKP 07 10 12.9 +0.2**
KRUC Moravsky 151.37 337 *e* PKP **PKPbc 07 10 12.3 -0.1**
KRUC *e* 07 10 23.9
GZR Gura Zlata 151.38 326 ⇑ P **PKPbc 07 10 11.1 -1.5**
KULA Kula-Manisa 151.42 308 P **PKPbc 07 10 13.1 +0.1**
SURR Surduc 151.46 327 ⇑ P **PKPbc 07 10 12.7 -0.1**
MONM Monmouth 151.54 4 *e* P **PKPbc 07 10 12.1 -0.5**
MODS Modra-Piesok 151.62 336 *e* PKIKP **PKiKP 07 10 13.6 +0.3**
MODS *e* 07 10 25.5
MODS Modra-Piesok 151.62 336 *e* PKP **PKiKP 07 10 13.6 +0.3**
MODS *e* 07 10 25.5
SRE Strehaia 151.63 324 ⇓ P **PKiKP 07 10 13.8 +0.4**
SRE Strehaia 151.63 324 ⇓ PKIKP **PKiKP 07 10 13.8 +0.4**
SRO Srobarova 151.66 334 *e* PKP **PKPab 07 10 25.5 +1.0**
ZVC Zvikov 151.77 340 ⇑ *e* PKP **PKiKP 07 10 13.5 0.0**
BZS Buzias 151.81 327 ⇓ P **PKPbc 07 10 13.4 -0.1**
BZS Buzias 151.81 327 ⇓ PKIKP **PKPbc 07 10 13.4 -0.1**
DIM Dimitrovgrad 151.82 317 P **PKiKP 07 10 14.1 +0.

CKRC ⇑ePKP **PKiKP** 07 10 14.8 +0.2
CKRC Cesky Krumlov 152.28 340 ePKIKP **PKPdf** 07 10 08.1 +0.9
RDO Rodhopi 152.33 316 P **PKPbc** 07 10 14.3 -0.5
MDVR Moldovita 152.34 326 ⇓P **PKPbc** 07 10 14.6 -0.2
PGB Panagyurishte 152.42 319 P **PKPab** 07 10 29.2 +1.3
GERES GERESS Array B 152.44 340 PKP **PKPdf** 07 10 07.0 -0.5
comp=Z,4.9nm,0.7s,baz=232,slow=4.8,SNR=3.5
GERES PKPbc **PKiKP** 07 10 15.2 +0.1
comp=Z,8.0nm,0.7s,baz=0.0,slow=0.5,SNR=22
GERES PKPab **PKPab** 07 10 28.1 +0.2
comp=Z,4.7nm,0.6s,baz=35,slow=3.7,SNR=7.9
MEM Membach 152.47 352 dPKPbc **PKPbc** 07 10 14.5 -0.3
MEM dPKP **PKPab** 07 10 27.7 -0.1
BTNL Ternell 152.48 352 dPKPbc **PKPbc** 07 10 14.5 -0.3
BTNL dPKP **PKPab** 07 10 27.7 -0.2
EZN Ezine 152.48 313 P **PKPbc** 07 10 14.7 -0.5
CONA Conrad Observa 152.51 337 i PKP **PKiKP** 07 10 15.4 +0.1
comp=Z,22nm,0.8s
CONA i PKP **PKPab** 07 10 29.2 +1.0
comp=Z,67nm,0.8s
CONA i pPKP **pPKPab** 07 12 27.0 -2.3
comp=Z,30nm,1.5s
RZN Rozhen 152.54 317 P **PKPbc** 07 10 15.3 -0.2
RONA Rosalia, Austr 152.54 336 i PKP **PKiKP** 07 10 15.5 +0.2
comp=Z,16nm,0.5s
RONA i PKP **PKPab** 07 10 29.2 +1.0
comp=Z,56nm,0.6s
RONA i pPKP **pPKPab** 07 12 26.8 -2.6
comp=Z,10nm,0.9s
BSTI Sart Tilman 152.55 352 dPKPbc **PKiKP** 07 10 15.2 +0.1
BSTI dPKP **PKPab** 07 10 28.2 +0.1
SBD Saint Breward 152.64 7 eP **PKPbc** 07 10 14.6 -0.6
ARG Arkhangelos 152.67 304 P **PKPab** 07 10 29.3 +0.1
SMTH Samothraki Isl 152.69 314 P **PKPab** 07 10 14.8 -0.8
BCLA Clavier 152.75 353 dPKP **PKPab** 07 10 28.4 -0.6
MORH Mrgy, Hungar 152.78 331 ⇓P **PKPbc** 07 10 15.5 -0.1
PRK Paraskevi 152.79 312 P **PKPbc** 07 10 15.3 -0.6
BGES Gesves 152.81 353 dPKP **PKPab** 07 10 28.7 -0.5
VTS Vitosha 152.91 320 P **PKPab** 07 10 31.4 +1.2
BMRD Maredsous 152.92 353 dPKPbc **PKiKP** 07 10 16.0 +0.1
BMRD dPKP **PKPab** 07 10 29.6 -0.1
RCHB Rochefort 153.01 353 dPKPbc **PKiKP** 07 10 16.0 0.0
RCHB dPKP **PKPab** 07 10 29.9 -0.2
FRGS Fruska Gora 153.03 328 ⇓P **PKiKP** 07 10 17.5 +1.2
KAVA Kavala 153.07 316 P **PKPbc** 07 10 15.9 -0.5
BOVS Bovan 153.12 324 ⇓P **PKPbc** 07 10 15.9 -0.6
MOA Molln 153.14 339 ePKP **PKPab** 07 10 32.0 +1.2
comp=Z,29nm,1.0s
MOA i pPKP **pPKPab** 07 12 30.1 -1.7
comp=Z,18nm,1.9s
DOU Dourbes 153.14 354 dPKPbc **PKiKP** 07 10 16.5 +0.1
DOU dPKP **PKPab** 07 10 30.0 -0.6
ARSA Arzberg 153.21 336 ePKP **PKPbc** 07 10 16.0 -0.5
comp=Z,5.1nm,1.0s
ARSA i PKP **PKPab** 07 10 31.5 +0.4
comp=Z,22nm,0.6s,SNR=6.5
ARSA i pPKP **pPKPab** 07 12 29.5 -2.7
comp=Z,6.0nm,1.1s
LIA Limnos Island 153.21 314 P **PKPbc** 07 10 16.1 -0.6
MMB Musomishta 153.24 318 P **PKPab** 07 10 32.2 +0.7
NVR Nevrokopi 153.28 318 P **PKiKP** 07 10 17.3 +0.3
WLF Walferdange 153.38 351 dPKPbc **PKiKP** 07 10 17.7 +0.8
WLF dPKP **PKPab** 07 10 31.9 +0.2
KKB Krupnik 153.44 319 P **PKPab** 07 10 33.4 +1.1
BIOA Bad Ischl, Aus 153.48 339 ePKP **PKPbc** 07 10 16.8 -0.3
comp=Z,7.0nm,0.8s
BIOA i PKP **PKPab** 07 10 33.3 +1.0
comp=Z,86nm,1.5s,SNR=7.8
BIOA epPKP **pPKPab** 07 12 29.5 -3.7
comp=Z,14nm,1.3s
KOKK Kokkinochori, 153.49 317 P **PKPbc** 07 10 16.4 -0.9
SRS Serrai 153.58 317 P **PKPbc** 07 10 16.1 -1.4
SOKA Soboth 153.87 336 ePKP **PKPbc** 07 10 17.8 -0.2
comp=Z,9.2nm,1.0s
SOKA i PKP **PKPab** 07 10 34.3 +0.3
comp=Z,22nm,0.5s,SNR=9.0
SOKA i pPKiKP **pPKiKP** 07 12 28.2 +2.9
comp=Z,15nm,1.6s
LESA Schwarzleotal 154.02 340 ePKP **PKPbc** 07 10 18.1 -0.2
comp=Z,4.4nm,0.5s
LESA ePKP **PKPab** 07 10 35.2 +0.5
comp=Z,24nm,1.1s
LESA i pPKiKP **pPKiKP** 07 12 30.0 +4.5
comp=Z,5.4nm,0.9s
PLG Polygyros 154.09 316 P **PKPab** 07 10 35.1 -0.1
STIP Stip 154.09 320 i P **PKPbc** 07 10 17.0 -1.6
KBA Koelnbreinsper 154.12 339 i PKP **PKPbc** 07 10 18.5 -0.2
comp=Z,10.0nm,1.1s
KBA i PKP **PKPab** 07 10 35.8 +0.7
comp=Z,12nm,0.5s
KBA i pPKP **pPKPab** 07 12 35.9 -0.2
comp=Z,7.6nm,0.8s
HORT Hortiatis 154.18 317 P **PKPbc** 07 10 17.4 -1.5
PAIG Paliouri 154.18 315 P **PKPab** 07 10 35.2 -0.3
OBKA Obir 154.19 337 ePKP **PKPbc** 07 10 18.1 -0.6
comp=Z,5.2nm,0.8s
OBKA i PKP **PKPab** 07 10 35.3 -0.1
comp=Z,26nm,0.7s,SNR=6.5
OBKA i pPKiKP **pPKiKP** 07 12 30.7 +4.7
comp=Z,5.8nm,0.9s
SKO Skopje 154.35 321 i P **PKiKP** 07 10 18.9 -0.3
LEGS Legarje 154.37 335 i PKPab **PKPab** 07 10 35.8 -0.3
MYKA Terra Mystica 154.41 338 i PKP **PKiKP** 07 10 18.5 -0.7
comp=Z,4.3nm,0.5s
MYKA i PKP **PKPab** 07 10 35.9 -0.4
comp=Z,22nm,0.6s,SNR=5.0
WATA Walderalm 154.43 342 i PKP **PKiKP** 07 10 19.2 -0.1
comp=Z,4.4nm,0.5s
WATA ePKP **PKPab** 07 10 36.9 +0.5
comp=Z,20nm,0.5s,SNR=5.8
WATA i pPKP **pPKPab** 07 12 33.7 -3.7
comp=Z,17nm,1.2s
AOS Alonnisos 154.45 313 P **PKiKP** 07 10 18.2 -1.2
WTTA Wattenberg 154.48 342 i PKP **PKPbc** 07 10 19.5 0.0
comp=Z,9.2nm,0.5s
WTTA i PKP **PKPab** 07 10 37.6 +0.8
comp=Z,43nm,0.5s,SNR=5.8
WTTA i pPKP **pPKPab** 07 12 33.6 -4.1
comp=Z,28nm,1.9s
RETA Reutte 154.52 343 ePKP **PKPdf** 07 10 10.2 -0.2
comp=Z,8.1nm,1.5s
RETA i PKP **PKPab** 07 10 37.3 +0.6
comp=Z,73nm,1.1s,SNR=12
RETA epPKP **pPKPab** 07 12 33.6 -4.1
comp=Z,2.2nm,0.5s
LJU Ljubljana 154.59 336 ePKPab **PKPab** 07 10 36.8 -0.2
SANT Santorini 154.61 306 ⇑P **PKPab** 07 10 37.6 0.0
SQTA Sankt Quirin 154.64 342 i PKP **PKPbc** 07 10 19.7 0.0
comp=Z,6.0nm,0.6s
SQTA i PKP **PKPab** 07 10 38.1 +0.7
comp=Z,37nm,0.8s
SQTA i pPKP **pPKPab** 07 12 33.7 -4.5
comp=Z,1.4nm,0.3s
CRNS Crni Vrh 154.66 337 i PKPdf **PKiKP** 07 10 19.2 -0.5
CRNS ePKPab **PKPab** 07 10 36.4 -1.0
THR6 Thira Island, 154.67 306 P **PKPab** 07 10 37.0 -0.7
ABTA Abfaltersbach 154.68 340 i PKP **PKPdf** 07 10 09.9 -0.8
comp=Z,17nm,1.3s
ABTA i PKP **PKiKP** 07 10 18.9 -0.8
comp=Z,8.9nm,0.6s
ABTA i PKP **PKPab** 07 10 37.2 -0.3
comp=Z,24nm,1.1s
ABTA epPKiKP **pPKiKP** 07 12 27.3 +0.3
comp=Z,8.3nm,0.9s
NEO Neokhori 154.81 314 P **PKiKP** 07 10 19.0 -1.2
LIT Litokhoron 154.85 317 P **PKPab** 07 10 38.2 -0.2
CEY Cerknica 154.89 336 i PKPdf **PKiKP** 07 10 19.9 -0.2
CEY i PKPab **PKPab** 07 10 37.8 -0.6
DAVA Damuels 154.93 344 ePKP **PKiKP** 07 10 20.3 0.0
comp=Z,2.0nm,0.6s
DAVA i PKP **PKPab** 07 10 39.1 +0.5
comp=Z,42nm,0.6s,SNR=11
DAVA epPKP **pPKPab** 07 12 34.8 -4.8
comp=Z,14nm,1.7s
FETA Feichten 154.96 343 i PKP **PKPdf** 07 10 11.0 -0.2
comp=Z,11nm,0.8s
FETA i PKP **PKPbc** 07 10 20.5 +0.1
comp=Z,6.9nm,0.8s
FETA i PKP **PKPab** 07 10 39.2 +0.4
comp=Z,12nm,0.7s
FETA i pPKP **pPKPab** 07 12 34.7 -4.9
comp=Z,6.4nm,1.1s
PDG Podgorica 155.26 325 ⇑P **PKPab** 07 10 40.1 +0.1
OHR Ohrid 155.27 320 i P PKPdf 07 10 20.9 +9.2
DAVOX Davos/Dischmat 155.40 344 PKPbc PKPdf 07 10 20.3 +8.4
comp=Z,5.3nm,0.4s,baz=211,slow=5.9,SNR=8.2
DAVOX PKPab **PKPab** 07 10 41.6 +0.9
comp=Z,47nm,0.6s,baz=314,slow=2.3,SNR=32
AGG Agios Georgios 155.55 315 P **PKPab** 07 10 40.1 -1.4
MAKR Makrakomi, Fth 155.68 315 P PKPdf 07 10 21.6 +9.4
ANX Ano Chora 156.05 314 P PKPdf 07 10 23.2 +10
IMMV Iera Moni Meta 156.08 306 P **PKPab** 07 10 44.1 +0.2
GUR Goura 156.12 312 P PKPdf 07 10 22.4 +9.5
KLV Kalavryta, Ach 156.19 313 P **PKPab** 07 10 43.3 -1.0
PVO Paravola 156.30 315 P PKPdf 07 10 23.5 +11
SRN Sarande 156.51 319 P **PKPab** 07 10 45.5 0.0
RLS Riolos of Patr 156.64 314 P **PKPab** 07 10 46.4 +0.2
LKD2 Lefkada island 156.76 316 P **PKPab** 07 10 46.5 -0.2
PSDA Pessada-Kefalo 157.19 315 P **PKPab** 07 10 48.1 -0.4
MATE Matera 157.87 325 ⇓P **PKPab** 07 10 51.5 +0.1
TIP Timpagrande 158.87 322 ⇑P **PKPab** 07 10 57.1 +1.2
PBRG Braganca 160.79 16 ePKPab **PKPab** 07 11 04.8 +0.7
MTE Manteigas 161.87 19 ePKPdf **PKPdf** 07 10 18.1 -1.3
PCAS Casmilo, Conde 161.88 22 ePKPdf **PKPdf** 07 10 20.6 +1.2
BBTS Babate 162.01 116 PKPab **PKPab** 07 11 10.1 -0.1
comp=Z,9.8nm,0.3s,baz=88,slow=0.9,SNR=4.2
LIC Lamto 162.20 163 ⇑i PKP2 **PKPab** 07 11 11.3 +0.5
comp=Z,120nm,0.9s
PMAR Madeira 162.35 55 ePKPab **PKPab** 07 11 12.4 +0.8
KIC Kosan Boka 162.40 164 ⇑i PKP2 **PKPab** 07 11 12.0 +0.3
comp=Z,71nm,0.8s
PCBR Castelo Branco 162.41 20 ePKPdf **PKPdf** 07 10 20.7 +0.8
TIC Toumodi 162.60 163 ⇑i PKP2 **PKPab** 07 11 12.9 +0.3
comp=Z,14nm,0.5s
DBIC Dimbokro 162.67 163 PKP **PKPdf** 07 10 19.9 -1.0
comp=Z,14nm,1.2s,baz=63,slow=2.3,SNR=4.0
DBIC PKPab **PKPab** 07 11 13.4 +0.5
comp=Z,19nm,0.9s,baz=193,slow=5.1,SNR=9.6
ESDC Sonseca Array 163.43 11 PKP **PKPdf** 07 10 21.0 +0.1
comp=Z,0.6nm,0.8s,baz=346,slow=1.9,SNR=4.3
ESDC PKPab **PKPab** 07 11 16.0 +0.3
comp=Z,5.5nm,0.8s,baz=350,slow=5.0,SNR=21
PNCL Nicolau / Gran 163.59 25 ePKPdf **PKPdf** 07 10 20.7 -0.3
PNCL Nicolau / Gran 163.59 25 ePKPab **PKPab** 07 11 16.0 -0.4
MESJ Messejana 163.94 25 ePKPdf **PKPdf** 07 10 22.4 +1.0
PBAR Barrancos 164.06 21 ePKPdf **PKPdf** 07 10 22.5 +1.0
PBAR Barrancos 164.06 21 ePKPab **PKPab** 07 11 19.2 +0.7
PCVE Castro Verde 164.19 24 ePKPab **PKPab** 07 11 18.4 -0.7
MORF Marmelete 164.23 27 ePKPdf **PKPdf** 07 10 22.5 +0.8
PBDV Barranco-do-Ve 164.57 25 ePKPdf **PKPdf** 07 10 24.0 +2.0
KEST Kesra 165.35 329 PKPab **PKPab** 07 11 25.2 +0.7
comp=Z,31nm,0.9s,baz=319,slow=4.7,SNR=27
TORD Torodi Ar. Bea 169.68 189 PKP **PKPdf** 07 10 25.6 -0.7
comp=Z,6.2nm,1.1s,baz=348,slow=2.2,SNR=17
TORD PKPab **PKPab** 07 11 44.0 +0.2
comp=Z,6.2nm,0.8s,baz=176,slow=2.6,SNR=15
TORD PP **PP** 07 15 33.5 +0.3
comp=Z,0.8nm,0.6s,baz=152,slow=1.5,SNR=4.1
MDT Midelt 169.75 23 PKP **PKPdf** 07 10 25.8 -0.1
comp=Z,4.7nm,1.0s,baz=7.9,slow=4.7,SNR=6.4
MDT PKPab **PKPab** 07 11 44.2 +0.2
comp=Z,3.5nm,0.9s,baz=351,slow=6.1,SNR=5.5

NNC 12 06:54:11.5±10.0, 37°.34N×69°.88E, h0km, mb3.9, mpv3.5, 2C, Error ellipse: s-maj=98.9km s-min=75.7km az=130.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**5.68**	**360**	Pg	Pn	06 55 33.7	-3.5
	1.6nm,0.6s						
BRLS				Lg	Lg	06 56 43.8	
	4.3nm,0.4s						
KK31	**Karatay Array**	**5.78**	**5**	P	Pn	06 55 38.1	-0.4
	1.5nm,0.3s,baz=181,slow=13,SNR=26						
KK31				⇑S	Sn	06 56 46.8	+1.3
	2.0nm,0.5s,baz=187,slow=21						
MRKS	**Merke**	**5.98**	**24**	Pg	Pn	06 55 35.4	-5.9
	5.3nm,0.3s						
MRKS				Lg	Lg	06 56 46.9	
	5.2nm,0.2s						
AB31	**Akbulak array**	**13.92**	**332**	⇑P	Pn	06 57 30.5	+0.5
	0.3nm,0.4s,baz=141,slow=12,SNR=10						

TIR 12 07:10:02.3, 41°.10N×20°.15E, h7km±3km, Ml2.5, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.96**	**349**	P	Pg	07 10 21.1	+0.2
	baz=349						
PUK				S	Sn	07 10 35.8	-0.6
	baz=349						
FNA	**Florina**	**0.98**	**108**	P	Pg	07 10 20.3	-0.8
	baz=108						
FNA				S	Sn	07 10 36.5	-0.3
	baz=108						
FNA				AMP			
	comp=E,0.1nm,0.7s,baz=108						
FNA	**Florina**	**0.98**	**108**	P	Pg	07 10 20.1	-1.0
LSK	**Leskovik**	**1.01**	**160**	P	Pb	07 10 22.4	+0.3
	baz=159						
LSK				S	Sn	07 10 37.0	-0.4
	baz=159						
SRN	**Sarande**	**1.22**	**185**	P	Pn	07 10 26.2	+0.4
	baz=186						
SRN				S	Sn	07 10 44.5	+2.0
	baz=186						
IGT	**Igoumenitsa**	**1.57**	**175**	P	Pg	07 10 32.4	0.0
	baz=174						
IGT				AMP			
	comp=E,0.2nm,0.5s,baz=174						
LKD2	**Lefkada island**	**2.34**	**170**	AMP			
	comp=E,0.3nm,0.8s,baz=170						

ISK 12 07:22:07.4, 35°.89N×30°.40E, h16km, ML3.0/23
AFAD 12 07:22:08.3±0.0, 35°.97N×30°.45E, h18km±1km, MW3.5

ISC 12 07:22:07.7±1.4, 35°.91N±0°.05×30°.43E±0°.03, h16km±10km, n39, σ0°.63/48, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.42**	**350**	P	**Pb**	07 22 16.3	-0.4
AKUM				S	**Sg**	07 22 21.8	-0.2
DEMR	**Demre-Antalya**	**0.54**	**308**	Pg	**Pb**	07 22 18.9	+0.2
KEMT	**Kemer-ANTALYA**	**0.70**	**8**	Pg	**Pg**	07 22 21.6	+0.1
AKAS	**Kas**	**0.74**	**296**	Pg	**Pb**	07 22 21.9	-0.4
AKAS	**Kas**	**0.74**	**296**	P	**Pg**	07 22 22.5	+0.2
AKAS				S	**Sn**	07 22 33.5	-1.2
ELL	**Elmali**	**0.94**	**333**	Pg	**Pn**	07 22 26.0	-0.3
ANTB	**Antalya**	**1.01**	**10**	Pg	**Pg**	07 22 27.5	+0.3
KORT	**Korkueli**	**1.09**	**357**	Pn	**Pg**	07 22 28.9	0.0
KORT	**Korkueli**	**1.09**	**357**	P	**Pb**	07 22 27.9	-0.4
KORT				S	**Sn**	07 22 43.9	+0.6
IZZE	**Mula-Seydike**	**1.11**	**299**	P	**Pb**	07 22 27.4	-1.0
KNIK	**Mula-Seydike**	**1.17**	**324**	P	**Pn**	07 22 29.0	-0.4
KNIK				S	**Sg**	07 22 45.1	-0.3
FETY	**Fethiye**	**1.31**	**304**	Pn	**Pb**	07 22 31.6	-0.3
FETY	**Fethiye**	**1.31**	**304**	P	**Pg**	07 22 33.4	+0.5
CAME	**Cameli-Denizli**	**1.38**	**319**	Pn	**Pn**	07 22 32.1	-0.3
BUCA	**Burdur, Bucak-**	**1.42**	**4**	P	**Pb**	07 22 33.9	+0.1
ALAN	**Alanya-ANTALYA**	**1.45**	**63**	Pn	**Pb**	07 22 34.5	+0.3
ALAN				Sn	**Sb**	07 22 53.4	+1.0
SABU	**Mula-Dalaman**	**1.49**	**308**	P	**Pn**	07 22 33.2	-0.6
GOLH	**Golhisar**	**1.50**	**332**	P	**Pb**	07 22 34.5	-0.7
BCK	**Bucak**	**1.56**	**5**	Pn	**Pb**	07 22 35.4	-0.7
GAZI	**Gazipasa**	**1.56**	**77**	Pn	**Pb**	07 22 35.6	-0.6
GAZI				Sn	**Sb**	07 22 55.8	+0.1
GAZI	**Gazipasa**	**1.56**	**77**	P	**Pb**	07 22 35.6	-0.6
GAZI				S	**Sn**	07 22 53.8	-0.8
DALY	**Dalyan (Mula)**	**1.70**	**303**	Pn	**Pn**	07 22 37.0	+0.4
APMY	**Acipayam-Deniz**	**1.81**	**330**	Pn	**Pn**	07 22 38.9	+0.7
BRDR	**BURDUR-Merkez**	**1.81**	**351**	P	**Pb**	07 22 39.7	-0.8
SEDI	**Konya, Seydise**	**1.87**	**34**	P	**Pb**	07 22 40.7	-0.9
SEDI				S	**Sb**	07 23 04.9	+0.1
SEYD	**Seydisehir-KON**	**1.88**	**37**	Pn	**Pb**	07 22 40.3	-1.3
ARG	**Arkhangelos**	**1.89**	**280**	Pn	**Pn**	07 22 39.6	+0.3
ISP	**Isparta**	**1.91**	**2**	Pn	**Pn**	07 22 40.6	+0.9
TURN	**Turunc**	**1.97**	**297**	Pn	**Pn**	07 22 40.8	+0.5
BASM	**Basmaki-Afyon**	**2.03**	**351**	Pn	**Pn**	07 22 42.1	+0.8
DNIZ	**Denizli-Tavas-**	**2.05**	**327**	P	**Pn**	07 22 41.6	+0.1
DNIZ				S	**Sb**	07 23 10.5	+0.7
YER	**Yerkesik**	**2.12**	**306**	Pn	**Pn**	07 22 43.1	+0.6
DAT	**Datca**	**2.45**	**290**	Pn	**Pn**	07 22 47.6	+0.6
ESEN	**Aydn-Nazilli**	**2.52**	**319**	P	**Pb**	07 22 51.9	-0.6
MLSB	**Milas**	**2.55**	**304**	Pn	**Pn**	07 22 49.2	+0.9
NAZL	**Nazilli-Aydin**	**2.67**	**321**	Pn	**Pn**	07 22 51.1	+1.0
KARP	**Karpathos**	**2.69**	**263**	Pn	**Pn**	07 22 50.6	+0.4
BODT	**Bodrum**	**2.77**	**296**	Pn	**Pn**	07 22 52.1	+0.8
AYDB	**Zeytinkoy-Aydi**	**2.88**	**316**	Pn	**Pn**	07 22 53.0	0.0

IDC 12 07:27:32.4±3.6, 53°.79N×88°.09E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=35.0km s-min=20.5km az=48.0.

NNC 12 07:27:32.9±5.2, 53°.86N×88°.27E, h0km, mb3.1, mpv2.7, 2C-2D, Error ellipse: s-maj=38.6km s-min=26.8km az=70.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.04**	**274**	I	I	07 40 00.0	
	baz=92,slow=318,SNR=0.5						
ZAA0	**Zalesovo Array**	**2.04**	**274**	⇑Pn	Pn	07 28 08.7	+0.2
	0.7nm,0.9s,baz=99,slow=15						
ZAA0				⇓Sn	Sn	07 28 35.6	+0.9
	1.0nm,0.5s,baz=88,slow=26						
ZALV	**Zalesovo Beam**	**2.04**	**274**	Pn	Pn	07 28 05.6	-2.9
	0.9nm,0.3s,baz=92,slow=14,SNR=7.8						
ZALV				Lg	Lg	07 28 34.5	
	1.9nm,0.3s,baz=98,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**6.80**	**245**	Pn	Pn	07 29 12.3	-1.5
	0.1nm,0.3s,baz=61,slow=14,SNR=6.8						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**6.80**	**245**	⇓P	Pn	07 29 13.4	-0.4
	0.9nm,0.3s,baz=62,slow=13						
MK31	**Makanchi Array**	**8.04**	**211**	⇑P	Pn	07 29 30.8	0.0
	0.7nm,0.8s,baz=29,slow=13,SNR=5.2						
MKAR	**Makanchi Array**	**8.04**	**211**	Pn	Pn	07 29 30.3	-0.6
	0.1nm,0.3s,baz=25,slow=13,SNR=2.1						
	0.1nm,0.3s						

IDC 12 07:32:50.1±0.7, 28°.80N×52°.68E, h0km, mb4.1/23, mbtmp4.1/26, ML3.7/3, Error ellipse: s-maj=16.4km s-min=14.8km az=169.0
NEIC 12 07:32:52.5±0.9, 28°.83N±0°.04×52°.65E±0°.09, h10km±1km, mb4.1/18, Error ellipse: s-maj=14.0km s-min=3.0km az=65.0
TEH 12 07:32:53.4, 28°.86N×52°.70E, h16km±25km, ML3.7
DSN 12 07:32:57.1±1.5, 28°.50N×52°.63E, h15km, ML3.5/11, Error ellipse: s-maj=22.5km s-min=8.1km az=13.0

ISC 12 07:32:52.4±0.4, 28°.84N±0°.03×52°.70E±0°.03, h12km, n99, σ1°.30/103, mb4.1/30, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.47**	**140**	Pg	**Pg**	07 33 02.7	+0.9
SHI	**Shiraz**	**0.81**	**349**	Pg	**Pg**	07 33 07.9	-0.3
SHI				Sg	**Sb**	07 33 20.9	+1.2
JHRM	**Jahrom**	**0.84**	**113**	Pg	**Pb**	07 33 10.4	+1.3
KAZ2	**Kazeron-Fars-I**	**1.19**	**311**	Pg	**Pg**	07 33 15.7	+0.4
AHBU	**AHRAM**	**1.23**	**271**	Pg	**Pg**	07 33 17.1	+1.0
DSBU	**Dashti - Bushe**	**1.35**	**250**	Pg	**Pg**	07 33 18.9	+0.5
DSBU				Sg	**Sg**	07 33 38.4	+2.4
LMD1	**Lamerd**	**1.55**	**164**	Pg	**Pg**	07 33 22.5	+0.3
LAR1	**LAR**	**1.89**	**128**	Pn	**Pb**	07 33 27.5	+0.6
KLNJ	**Kolanjah**	**2.36**	**336**	Pn	**Pn**	07 33 32.3	+1.0
IRAM	**Ramesheh**	**2.97**	**355**	Pn	**Pn**	07 33 41.3	+1.7
IMEH	**Mehriz**	**3.03**	**33**	Pn	**Pn**	07 33 42.7	+2.2
ISAD	**Sadrabad**	**3.18**	**15**	Pn	**Pn**	07 33 44.5	+1.9
IGAR	**Gharneh**	**3.59**	**351**	Pn	**Pn**	07 33 49.4	+1.2
NGRK	**Negar Kerman**	**3.61**	**76**	Pn	**Pn**	07 33 51.0	+2.4
KHGB	**Koh Gabri**	**3.63**	**64**	Pn	**Pn**	07 33 50.3	+1.7
ZNGN	**Zangian**	**3.63**	**334**	Pn	**Pn**	07 33 49.1	+0.3
IBAF	**Bafgh**	**3.70**	**41**	Pn	**Pn**	07 33 51.4	+1.8
ICHK	**Chekchek**	**3.70**	**23**	Pn	**Pn**	07 33 51.4	+1.7
TVBK	**TV Kerman**	**3.72**	**71**	Pn	**Pn**	07 33 52.2	+2.1
JHBN	**Jahan bin**	**3.81**	**333**	Pn	**Pn**	07 33 52.2	+1.0
IZEF	**Zefreh**	**4.05**	**356**	Pn	**Pn**	07 33 55.9	+1.3
SHME	**Shamm**	**4.13**	**131**	P	**Pn**	07 33 57.3	+1.9
CHMN	**Cheshme madani**	**4.35**	**75**	Pn	**Pn**	07 34 01.0	+2.3
ANAR	**Anarak**	**4.42**	**11**	Pn	**Pn**	07 34 00.6	+1.1
IKLH	**Kolahrood**	**4.56**	**348**	Pn	**Pn**	07 34 03.1	+1.6
MSFE	**Esma-Masafi**	**4.64**	**138**	i P	**Pn**	07 34 03.7	+1.2
	SNR=7.5						
MSFE				S	**Sn**	07 34 55.5	-0.8
NAZ	**Nazwa, Dubai**	**4.66**	**145**	P	**Pn**	07 34 04.5	+1.9
MDH	**Madha**	**4.77**	**137**	P	**Pn**	07 34 05.6	+1.4
ASUD	**Al Ashush, Dub**	**4.81**	**150**	i P	**Pn**	07 34 05.9	+1.1
	SNR=10						
FAQ	**Al Faqa, Dubai**	**4.83**	**147**	P	**Pn**	07 34 06.4	+1.4
UOSS	**Minazif**	**4.99**	**140**	Pn	**Pn**	07 34 08.1	+1.0
UOSS	**Minazif**	**4.99**	**140**	P	**Pn**	07 34 08.0	+0.8
QAMS	**Qamsar**	**5.00**	**347**	Pn	**Pn**	07 34 09.1	+1.5
HATD	**Hatta, Dubai**	**5.04**	**142**	P	**Pn**	07 34 09.8	+1.9
KBAM	**BAM**	**5.05**	**85**	Pn	**Pn**	07 34 10.8	+2.7
ASHO	**Ashiyiah**	**5.12**	**143**	i P	**Pn**	07 34 10.1	+1.2
	SNR=9.9						
KRSH	**Karshahi**	**5.13**	**355**	Pn	**Pn**	07 34 10.0	+0.7
ALNE	**Al Ain**	**5.50**	**149**	P	**Pn**	07 34 15.4	+1.2
ISFB	**Sefidab**	**5.51**	**356**	Pn	**Pn**	07 34 14.7	+0.4
SOHO	**SOHO**	**5.81**	**143**	i P	**Pn**	07 34 19.1	+0.6
	SNR=5.8						
MZR	**Muzera**	**5.86**	**173**	i P	**Pn**	07 34 21.0	+1.8
	SNR=9.4						
TKDS	**Koohdasht(Taba**	**6.08**	**37**	Pn	**Pn**	07 34 23.9	+1.6
IQOM	**Qom**	**6.14**	**347**	Pn	**Pn**	07 34 23.8	+0.6
IKFM	**Kafar-mosalman**	**6.25**	**320**	Pn	**Pn**	07 34 26.7	+2.2
HSAM	**Samen**	**6.39**	**328**	Pn	**Pn**	07 34 27.8	+1.1
WSAR	**Wadi Sarin**	**7.72**	**135**	Pn	**Pn**	07 34 45.2	+0.5
	3.2nm,0.3s,baz=305,slow=12,SNR=28						
WSAR				Sn	**Sn**	07 36 08.2	-3.9
	3.9nm,0.3s,baz=79,slow=11,SNR=4.9						
	13nm,0.3s						
KLST	**Kelardasht - M**	**7.78**	**350**	Pn	**Pn**	07 34 46.7	+0.9
RAYN	**Ar Rayn**	**8.35**	**232**	Pn	**Pn**	07 34 53.2	-0.3
RAYN	**Ar Rayn**	**8.35**	**232**	i P	**Pn**	07 34 52.6	-0.8
	SNR=11						
KBL	**Kabul**	**15.02**	**64**	Pn	**Pn**	07 36 27.2	+2.4
KBL				IAmb	IAmb	07 36 32.7	
	comp=Z,5.3nm,0.8s						
SIMJ	**Simiganj**	**16.71**	**50**	P	**Pn**	07 36 47.5	+1.0
SIMJ				IAmb	IAmb	07 36 50.7	
	comp=Z,15nm,1.1s						
KBZ	**Khabaz**	**16.81**	**335**	Pn	**Pn**	07 36 47.1	-0.4

MKAR	Makanchi Array	29.21	44	P		P	07 38 54.1	+0.2
MKAR	Makanchi Array	29.21	44	P		P	07 38 54.5	+0.6
	comp=Z,1.0nm,0.6s,baz=230,slow=8.2,SNR=11							
	comp=Z,1.0nm,0.6s							
ZALV	Zalesovo Beam	34.28	34	P		P	07 39 37.7	-0.6
ZALV	Zalesovo Beam	34.28	34	P		P	07 39 38.5	+0.1
	comp=Z,4.1nm,0.4s,baz=245,slow=9.5,SNR=14							
	comp=Z,4.1nm,0.4s							
NRCA	Norcia	34.67	305	P		P	07 39 43.6	+1.6
GERES	GERESS Array B	35.83	315	P		P	07 39 51.9	0.0
	comp=Z,0.6nm,0.4s,baz=85,slow=12,SNR=1.7							
	comp=Z,0.6nm,0.4s							
FIA1	FINESS Array S	37.09	339	P		P	07 40 02.0	-0.3
FINES	FINESS Array B	37.09	339	P		P	07 40 01.3	-1.0
FINES	FINESS Array B	37.09	339	P		P	07 40 02.2	-0.1
	comp=Z,4.5nm,0.5s,baz=144,slow=9.8,SNR=26							
	comp=Z,4.5nm,0.5s							
HFS	Hagfors	40.83	331	P		P	07 40 33.2	-0.5
	comp=Z,3.2nm,0.4s,baz=120,slow=9.0,SNR=22							
	comp=Z,3.2nm,0.4s							
NB2	NORSAR Subarra	42.34	331	P		P	07 40 45.2	-0.9
	comp=Z,1.2nm,0.5s,baz=120,slow=8.6							
NOA	NORSAR Array B	42.34	331	P		P	07 40 44.9	-1.2
	comp=Z,1.1nm,0.5s,baz=121,slow=8.2,SNR=9.6							
	comp=Z,1.1nm,0.5s							
PZH	PanZhiHua	43.26	81	P		P	07 40 55.3	+1.2
PZH				pmax		pmax		
	comp=Z,6.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,110nm,5.1s							
ARCES	ARCESS Array B	43.64	347	P		P	07 40 56.0	-0.5
	comp=Z,0.4nm,0.4s,baz=151,slow=7.8,SNR=7.2							
	comp=Z,0.4nm,0.4s							
SONM	Songino Array	45.20	50	P		P	07 41 08.6	-0.8
	comp=Z,0.8nm,0.9s,baz=281,slow=12,SNR=3.7							
	comp=Z,0.8nm,0.9s							
EKA	Eskdalemuir Ar	47.53	320	P		P	07 41 26.8	-0.6
	comp=Z,0.6nm,0.4s,baz=101,slow=8.4,SNR=7.6							
	comp=Z,0.6nm,0.4s							
HHC	Hu-ho-hao-te	48.94	59	*eP*		P	07 41 37.2	-1.5
HHC				pmax		pmax		
	comp=Z,8.0nm,0.5s							
HHC				pmax		pmax		
	comp=Z,42nm,4.4s							
TOA0	Torodi Ar. Sit	49.74	263	P		P	07 41 43.5	-1.5
TOA0				IAmb		IAmb	07 41 45.6	
	comp=Z,4.6nm,0.9s							
TORD	Torodi Ar. Bea	49.74	263	P		P	07 41 44.1	-0.8
TORD				IAmb		IAmb	07 41 45.7	
	comp=Z,3.6nm,0.9s							
TORD	Torodi Ar. Bea	49.74	263	P		P	07 41 44.5	-0.5
	comp=Z,4.5nm,0.8s,baz=53,slow=8.5,SNR=27							
	comp=Z,4.5nm,0.8s							
DBIC	Dimbokro	58.47	260	P		P	07 42 48.4	-0.4
	comp=Z,5.8nm,0.7s,baz=40,slow=6.5,SNR=5.7							
	comp=Z,5.8nm,0.7s							
KSRS	Korea Array	62.05	61	P		P	07 43 12.4	-0.5
	comp=Z,0.9nm,0.6s,baz=274,slow=6.7,SNR=2.5							
	comp=Z,0.9nm,0.6s							
BOSA	Boshof	62.88	207	P		P	07 43 18.3	-0.2
	comp=Z,1.4nm,0.3s,baz=8.2,slow=5.9,SNR=6.5							
	comp=Z,1.4nm,0.3s							
USRK	Ussuriysk Ar.	63.21	52	P		P	07 43 18.8	-1.8
	comp=Z,0.7nm,0.5s,baz=262,slow=9.7,SNR=4.2							
	comp=Z,0.7nm,0.5s							
SCHQ	Schefferville	81.88	329	P		P	07 45 10.8	-0.8
	comp=Z,2.6nm,0.5s,baz=58,slow=3.0,SNR=11							
	comp=Z,2.6nm,0.5s							
ILAR	Eielson Array	85.45	8	P		P	07 45 29.0	-0.7
	comp=Z,0.5nm,0.6s,baz=323,slow=3.8,SNR=9.0							
	comp=Z,0.5nm,0.6s							
YKA	Yellowknife Ar	88.41	354	P		P	07 45 44.4	+0.2
	comp=Z,0.6nm,0.6s,baz=9.2,slow=5.2,SNR=8.3							
	comp=Z,0.6nm,0.6s							
WRA	Warramunga Arr	92.45	111	P		P	07 46 02.7	-1.0
	comp=Z,0.4nm,0.8s,baz=314,slow=3.8,SNR=2.0							
	comp=Z,0.4nm,0.8s							
ASAR	Alice Springs	93.93	115	P		P	07 46 09.3	-1.1
	comp=Z,0.3nm,0.7s,baz=311,slow=4.8,SNR=4.1							
	comp=Z,0.3nm,0.7s							

NOU ***12*** *07:37:21.1,35.°03S×179.°99W,h311km,mb3.9/6, East of North Island, N.Z.*
WEL ***12*** *07:38:07.2,37.°S±20.°×17.°8E±1.°7,h55km±20km,M2.3/11, ML2.6/24,MLv2.3/11, Error ellipse: s-maj=0.0km s-min=0.0km az=145.7*

ISC 12 07:38:01.8±3.3,37.0°S±0.2°×177.81E±0.0°,h50km,n36, σ1.9°32/36, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.70	145	P		Pn	07 38 16.6	+1.0
MXZ	Matakaoa Point	0.70	145	P		Pn	07 38 15.7	+0.2
HAZ	Te Kaha	0.77	182	P		Pn	07 38 17.7	+1.2
PKGZ	Pakihiroa	0.90	166	P		Pn	07 38 19.4	+1.1
WMGZ	Waiomatatini S	0.96	150	P		Pn	07 38 18.4	-0.6
RUGZ	Raukumara Rang	0.98	186	P		Pn	07 38 21.7	+2.3
PUZ	Puketiti	1.14	162	P		Pn	07 38 20.9	-0.6
TWGZ	Tauwhareparae	1.19	173	P		Pn	07 38 24.0	+1.7
MWZ	Matawai	1.36	189	P		Pn	07 38 26.1	+1.6
URZ	Urewera	1.38	203	P		Pn	07 38 26.8	+2.0
URZ	Urewera	1.38	203	P		Pn	07 38 26.1	+1.4
TKGZ	Te Karaka	1.45	179	P		Pn	07 38 25.3	-0.3
CNGZ	Carnagh Statio	1.53	168	P		Pn	07 38 27.3	+0.6
RAGZ	Rawiri	1.54	192	P		Pn	07 38 28.3	+1.4
MUGZ	Murupara	1.70	209	P		Pn	07 38 30.3	+1.2
RIGZ	Rimuhau	1.71	181	P		Pn	07 38 29.9	+0.6
RTZ	Ruatahuna	1.75	202	P		Pn	07 38 26.5	-3.4
SNGZ	Shannon Statio	1.83	192	P		Pn	07 38 31.7	+0.9
PRGZ	Paritu Road	1.93	178	P		Pn	07 38 32.9	+0.6
RAHZ	Arahi	2.01	196	P		Pn	07 38 34.3	+1.0
MTHZ	Maungataniwha	2.01	202	P		Pn	07 38 33.9	+0.5
MRHZ	Matea Rd	2.15	210	P		Pn	07 38 35.6	+0.3
MHGZ	Mahia Peninsul	2.16	178	P		Pn	07 38 35.3	-0.1
TLZ	Tolley Road	2.24	233	P		Pn	07 38 37.9	+1.3
NMHZ	Naumai	2.25	200	P		Pn	07 38 36.8	+0.1
BKZ	Black Stump Fm	2.41	205	P		Pn	07 38 38.5	-0.3
BKZ	Black Stump Fm	2.41	205	P		Pn	07 38 38.6	-0.3
KWHZ	Kaweka Forest	2.67	204	P		Pn	07 38 41.5	-0.9
NTVZ	North Tongarir	2.70	218	P		Pn	07 38 42.5	-0.3
TMVZ	Te Maari	2.70	217	P		Pn	07 38 42.4	-0.5
ETVZ	East Tongariro	2.71	217	P		Pn	07 38 42.3	-0.7
OTVZ	Oturere	2.75	217	P		Pn	07 38 43.0	-0.7
SNVZ	South Ngauruho	2.78	217	P		Pn	07 38 43.3	-0.8
HIZ	Hauiti	2.79	236	P		Pn	07 38 44.2	+0.2
MOVZ	Moawhango	2.91	213	P		Pn	07 38 43.6	-2.1
BFZ	Birch Farm	3.88	198	P		Pn	07 38 56.1	-2.9

IDC ***12*** *07:56:22.0±0.6, 13.°49N×88.°98W,h48km±5km,mb4.1/27, mbtmp4.3/28,MS3.7/45, Error ellipse: s-maj=19.3km s-min=9.3km az=57.0*
CATAC ***12*** *07:56:21.3±0.3, 13.°08N×89.°54W,h23km±2km,MB5.2, mb5.0,ML5.1*
SNET ***12*** *07:56:22.0±0.9, 13.°10N×89.°59W,h32km±11km,ML5.1*
RSNC ***12*** *07:56:23.5±0.7, 13.°N±5.°×9.°0W±.°,h56km±9km,M4.7,mb4.7, mB5.1,ML4.6,Mw(mB)4.5*
GCG ***12*** *07:56:23.2±1.8, 13.°32N×89.°49W,h28km,MD5.1*
NEIC ***12*** *07:56:23.0±2.3, 13.°13N±0.°05×89.°52W±0.°06,h48km±6km, mb4.6/44, Error ellipse: s-maj=8.4km s-min=7.2km az=87.0*

ISC 12 07:56:22.0±0.5,13.°16N±0.°04×89.°53W±0.°03,h55km±4km, n611,σ1.9°51/653,mb4.4/35,MS3.8/42,3C-76D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.38	32	⇓*iP*		Pn	07 56 32.2	-0.1
LALI				*e*S		Sn	07 56 39.1	-0.6
LALI	Alcalda de L	0.38	32	⇓*iP*		Pn	07 56 32.1	-0.2
LALI				*i* S		Sn	07 56 38.6	-1.1
LALI				IAML			07 56 39.4	
	comp=Z,84μm,1.0s							
JAYA	Jayaque - finc	0.49	9	⇓*iP*		Pn	07 56 33.5	-0.3
JAYA	Jayaque - finc	0.49	9	⇓*iP*		Pn	07 56 33.4	-0.3
JAYA				*i* S		Sn	07 56 42.3	+0.2
JAYA				IAML			07 56 43.8	
	comp=Z,1100μm,1.0s							
PANCS	Alcalda de	0.56	37	⇓*iP*		Pn	07 56 34.3	0.0
PANCS	Alcalda de	0.56	37	⇓*iP*		Pn	07 56 34.3	0.0
PANCS				IAML			07 56 34.6	
	comp=Z,100μm,1.0s							
PANCS				*i* S		Sn	07 56 43.7	+0.5
ITCA	Escuela Especi	0.56	26	⇓*eP*		Pn	07 56 34.5	0.0
ITCA	Escuela Especi	0.56	26	⇓*iP*		Pn	07 56 34.4	0.0
ITCA				*i* S		Sn	07 56 44.1	+0.7
ITCA				IAML			07 56 45.1	
	comp=Z,180μm,1.0s							
MAGS	Ministerio de	0.57	24	⇓*eP*		Pn	07 56 34.5	0.0
PMON	Piamonte	0.58	21	⇓*iP*		Pn	07 56 34.8	+0.1
PMON	Piamonte	0.58	21	⇓*iP*		Pn	07 56 34.7	+0.1
PMON				IAML			07 56 50.5	
	comp=Z,74μm,1.0s							
LOMA	Loma Larga	0.59	36	⇓*iP*		Pn	07 56 35.0	+0.2
LOMA				*e*S		Sn	07 56 44.7	+0.7
LOMA	Loma Larga	0.59	36	⇓*iP*		Pn	07 56 35.0	+0.2
LOMA				IAML			07 56 35.3	
	comp=Z,84μm,1.0s							
LOMA				*i* S		Sn	07 56 44.6	+0.6
SNET	Serv Nac Est T	0.59	29			Pn	07 56 34.9	+0.1
SNET	Serv Nac Est T	0.59	29	⇓*iP*		Pn	07 56 34.9	+0.1
SNET	Serv Nac Est T	0.59	29	⇓*iP*		Pn	07 56 34.9	+0.1
SNET				*i* S		Sn	07 56 45.1	+1.1
SNET				IAML			07 56 46.9	
	comp=Z,150μm,1.0s							
BOQS	Boqueron	0.62	23	⇓*iP*		Pn	07 56 35.4	+0.2
UEES	Universidad Ev	0.62	27	⇓*iP*		Pn	07 56 35.3	+0.2
UEES	Universidad Ev	0.62	27	⇓*iP*		Pn	07 56 35.3	+0.2
UEES				*i* S		Sn	07 56 45.5	+1.0
UEES				IAML			07 56 46.4	
	comp=Z,46μm,1.0s							
PIC2	El Picacho	0.64	25	⇓*iP*		Pn	07 56 35.7	+0.3
UESS	Universidad de	0.64	30	⇓*eP*		Pn	07 56 35.7	+0.4
LFRS	El Faro	0.64	45	*eP*		Pn	07 56 35.5	+0.1
CEDA	San Andres	0.65	12	⇓*iP*		Pn	07 56 35.6	+0.2
CEDA	San Andres	0.65	12	⇓*iP*		Pn	07 56 35.6	+0.2
CEDA				*i* S		Sn	07 56 46.1	+1.0
CEDA				IAML			07 56 48.0	
	comp=Z,190μm,1.0s							
IGN	Direccin Gen	0.65	32	⇓*eP*		Pn	07 56 35.8	+0.3
IGN	Direccin Gen	0.65	32	⇓*iP*		Pn	07 56 35.7	+0.3
IGN				*i* S		Sn	07 56 46.5	+1.4
IGN				IAML			07 56 52.4	
	comp=Z,180μm,1.0s							
AEIL	Aeropuerto Ilo	0.66	37	⇓*iP*		Pn	07 56 36.2	+0.6
CEVE	Cerro Verde	0.67	352	⇓*iP*		Pn	07 56 35.9	0.0
CEVE	Cerro Verde	0.67	352	⇓*iP*		Pn	07 56 35.8	0.0
CEVE				*i* S		Sn	07 56 46.8	+1.0
CEVE				IAML			07 56 47.9	
	comp=Z,130μm,1.0s							
SBLS	San Blas	0.68	352	⇓*iP*		Pn	07 56 35.9	0.0
SNJE	San Jose	0.70	354	⇓*iP*		Pn	07 56 36.3	0.0
LFU	La Fuente	0.71	35	⇓*iP*		Pn	07 56 36.8	+0.7
QUEZ	Alcaldia de Qu	0.71	20	⇓*eP*		Pn	07 56 36.8	+0.6
QUEZ	Alcaldia de Qu	0.71	20	⇓*iP*		Pn	07 56 36.7	+0.6
QUEZ				*i* S		Sn	07 56 48.3	+1.8
QUEZ				IAML			07 56 55.0	
	comp=Z,130μm,1.0s							
RTR	El Retiro	0.74	351	⇓*iP*		Pn	07 56 36.7	+0.1
LBRS	Las Brisas	0.74	40	⇓*eP*		Pn	07 56 37.4	+0.8
NUBE	Las Nubes	0.77	342	⇓*iP*		Pn	07 56 36.9	-0.2
NUBE				*e*S		Sn	07 56 47.5	-0.5
NUBE	Las Nubes	0.77	342	⇓*iP*		Pn	07 56 36.8	-0.2
NUBE				*i* S		Sn	07 56 47.9	-0.1
NUBE				IAML			07 56 48.8	
	comp=Z,140μm,1.0s							
COEG	Centro de Oper	0.78	54	⇓*iP*		Pn	07 56 37.5	+0.4
COEG				*e*S		Sn	07 56 49.1	+1.1
COEG	Centro de Oper	0.78	54	⇓*iP*		Pn	07 56 37.4	+0.4
COEG				*i* S		Sn	07 56 49.5	+1.5
COEG				IAML			07 56 50.8	
	comp=Z,34μm,1.0s							
PAVA	Las Pavas	0.79	46	⇓*iP*		Pn	07 56 38.2	+0.9
PAVA				*i* S		Sn	07 56 50.4	+2.0
PAVA				IAML			07 56 51.8	
	comp=Z,230μm,1.0s							
SNVI	San Vicente	0.81	56	⇓*iP*		Pn	07 56 38.0	+0.5
UNIC	Universidad Ca	0.81	359	⇓*iP*		Pn	07 56 37.9	+0.4
UNIC	Universidad Ca	0.81	359	⇓*iP*		Pn	07 56 37.9	+0.4
UNIC				IAML			07 56 38.3	
	comp=Z,21μm,1.0s							
UNIC				*i* S		Sn	07 56 50.0	+1.2
TECO	Alcaldia de Te	0.82	63	⇓*eP*		Pn	07 56 37.6	+0.1
TECO	Alcaldia de Te	0.82	63	⇓*iP*		Pn	07 56 37.5	+0.1
TECO				*i* S		Sn	07 56 49.9	+1.1
TECO				IAML			07 56 52.4	
	comp=Z,19μm,1.0s							
UESV	Universidad de	0.86	57	⇓*iP*		Pn	07 56 38.6	+0.6
UESV	Universidad de	0.86	57	⇓*iP*		Pn	07 56 38.6	+0.6
UESV				*i* S		Sn	07 56 51.1	+1.3
UESV				IAML			07 56 55.8	
	comp=Z,27μm,1.0s							
LOAL	Lomas de Alarc	0.86	344	⇓*eP*		Pn	07 56 38.5	+0.4
LOAL	Lomas de Alarc	0.86	344	⇓*iP*		Pn	07 56 38.5	+0.4
LOAL				IAML			07 56 39.5	
	comp=Z,150μm,1.0s							
LOAL				*i* S		Sn	07 56 51.3	+1.3
SLOZ	Alcaldia de Sa	0.89	344	⇓*iP*		Pn	07 56 38.7	+0.2
SCLA	Alcaldia de Sa	0.94	55	⇓*eP*		Pn	07 56 40.2	+1.0
SCLA	Alcaldia de Sa	0.94	55	⇓*iP*		Pn	07 56 40.2	+1.0
SCLA				*i* S		Sn	07 56 54.3	+2.5
SCLA				IAML			07 56 55.0	
	comp=Z,14μm,1.0s							
PQSS	Presa 15 de Se	1.05	64	⇑*eP*		Pn	07 56 41.1	+0.6
PQSS	Presa 15 de Se	1.05	64	⇑*iP*		Pn	07 56 41.0	+0.6
PQSS				*i* S		Sn	07 56 57.1	+2.9
PQSS				IAML			07 56 57.7	
	comp=Z,11μm,1.0s							
TECA	Tecapa	1.05	72	⇓*iP*		Pn	07 56 41.0	+0.3
PACA	Pacayal	1.21	75	⇓*iP*		Pn	07 56 43.5	+0.7
PACA				*i* S		Sn	07 57 00.8	+2.5
PACA				IAML			07 57 03.6	
	comp=Z,160μm,1.0s							
LCY	Lacayo	1.23	78	⇓*eP*		Pn	07 56 43.6	+0.6
RANC	El Ranchito	1.24	77	*eP*		Pn	07 56 43.8	+0.7
RANC	El Ranchito	1.24	77	⇓*iP*		Pn	07 56 44.2	+1.0
RANC				*i* S		Sn	07 57 00.2	+1.3
RANC				IAML			07 57 07.0	
	comp=Z,14μm,1.0s							
MTO3	Montecristo	1.24	8			Pn	07 56 44.1	+0.8
MTO3	Montecristo	1.24	8	⇓*iP*		Pn	07 56 44.1	+0.8
MTO3	Montecristo	1.24	8	⇓*iP*		Pn	07 56 44.1	+0.8
MTO3				IAML			07 56 45.1	
	comp=Z,19μm,1.0s							
JUCU	Jucuarąn	1.25	86	*eP*		Pn	07 56 43.1	-0.2
JUCU	Jucuarąn	1.25	86	⇓*iP*		Pn	07 56 43.4	+0.1
JUCU				*i* S		Sn	07 57 00.3	+1.2
JUCU				IAML			07 57 03.8	
	comp=Z,18μm,1.0s							
BLLM	Bellamira	1.29	77	⇑*eP*		Pn	07 56 44.4	+0.6
CNRM	Centro Naciona	1.36	77	*eP*		Pn	07 56 45.9	+1.3
CNRM	Centro Naciona	1.36	77	*i* P		Pn	07 56 45.9	+1.3
CNRM				*i* S		Sn	07 57 04.6	+3.0
CNRM				IAML			07 57 26.2	
	comp=Z,75μm,1.0s							
ESQI	Esquipulas	1.40	7	Pn		Pn	07 56 46.4	+1.0
ESQI	Esquipulas	1.40	7	⇓*iP*		Pn	07 56 46.5	+1.2
ESQI	Esquipulas	1.40	7	⇓*iP*		Pn	07 56 46.5	+1.2
ESQI				*i* S		Sn	07 56 06.4	+3.6
ESQI				IAML			07 57 09.4	
	comp=Z,18μm,1.0s							
INTP	Intipuca	1.44	89	*eP*		Pn	07 56 45.9	+0.2
LCND	La Caada	1.60	85	⇓*eP*		Pn	07 56 48.8	+0.9
LCND	La Caada	1.60	85	⇓*iP*		Pn	07 56 48.8	+0.9
LCND				*i* S		Sn	07 57 09.3	+1.7
LCND				*i* S			07 57 09.5	
LCND				IAML			07 57 12.3	
	comp=Z,14μm,1.0s							
PCG	Pacaya	1.61	319	*eP*		Pn	07 56 49.3	+1.0
NBG	Las Nubes	1.62	331	*eP*		Pn	07 56 50.4	+1.9
CNCH	Conchagua	1.65	86	⇓*iP*		Pn	07 56 49.5	+0.6
CNCH	Conchagua	1.65	86	⇓*iP*		Pn	07 56 49.4	+0.6
CNCH				*i* S		Sn	07 57 10.4	+1.4
CNCH				IAML			07 57 20.5	
	comp=Z,33μm,1.0s							
GCG4	OSOP	1.72	326	⇓*iP*		Pn	07 56 50.4	+0.7
GCG4				IAML			07 57 09.2	
	comp=Z,13μm,1.0s							
MARCA	Marcala la Paz	1.76	56	⇓*iP*		Pn	07 56 51.4	+1.2
INTHN	La Esperanza I	1.79	50	⇓*iP*		Pn	07 56 52.0	+1.2
FUG	Fuego 3	1.81	315	*eP*		Pn	07 56 51.6	+0.7
AMPH	Amapala	1.82	86	⇓*iP*		Pn	07 56 51.8	+0.7
AMPH	Amapala	1.82	86	⇓*iP*		Pn	07 56 51.7	+0.7
AMPH				*i* S		Sn	07 57 15.6	+2.6
MRL	Marmol	1.91	355	*eP*		Pn	07 56 54.6	+2.2
SULM	Suchitepequez,	2.28	300	*eP*		Pn	07 56 58.1	+0.8
SOKI	Kika Raxquin	2.46	312	*i* P		Pn	07 57 01.1	+1.1
SOKI				*i* S		Sn	07 57 31.1	+2.1
SOKI				IAML			07 57 44.3	
	comp=Z,7μm,1.0s							
CRIN	San Cristobal	2.46	101	Pn		Pn	07 57 00.5	+0.7
CRIN	San Cristobal	2.46	101	*i* P		Pn	07 57 01.7	+1.9
CRIN				*i* S		Sn	07 57 30.4	+1.7
CRIN				IAML			07 57 38.3	
	comp=Z,18μm,1.0s							
RTAL	Retalhuleu	2.50	303	Pn		Pn	07 57 00.3	0.0
RTAL	Retalhuleu	2.50	303	*i* P		Pn	07 57 00.1	-0.2
RTAL				*i* S		Sn	07 57 32.5	+2.9
RTAL				IAML			07 57 53.5	
	comp=Z,6μm,1.0s							
STG3	Santiaguito 3,	2.51	308	*eP*		Pn	07 57 01.1	+0.6
PKGN	Cerro Pekin	2.54	101	*i* P		Pn	07 57 01.2	+0.5
PKGN				*i* S		Sn	07 57 30.4	0.0
PKGN				IAML			07 57 39.0	
	comp=Z,15μm,1.0s							
QUIS	Sacapulas	2.60	325	*i* P		Pn	07 57 02.8	+1.0
QUIS				*i* S		Sn	07 57 36.9	+4.6
QUIS				IAML			07 57 42.9	
	comp=Z,4μm,1.0s							
QUEN	Al S del Volca	2.67	102	*i* P		Pn	07 57 03.7	+1.1
QUEN				IAML			07 57 40.8	
	comp=Z,4μm,1.0s							
IZABA	Izabal, Puerto	2.71	20	⇓*iP*		Pn	07 57 04.9	+1.8
IZABA				IAML			07 57 15.0	
	comp=Z,31nm,1.0s							
YUSH	Yuscaran	2.73	73	⇓*iP*		Pn	07 57 04.3	+0.9
CNGA	Al SSO del Vol	2.84	103	*i* P		Pn	07 57 04.8	-0.1
CNGA				IAML			07 57 47.9	
	comp=Z,2μm,1.0s							
CNGN	Cerro Negro	2.84	103	*i* P		Pn	07 57 05.1	+0.2
CNGN				IAML			07 57 52.7	
	comp=Z,4μm,1.0s							
MACN	El Madrono	2.87	104	*i* P		Pn	07 57 05.4	+0.1
MACN				IAML			07 57 50.9	
	comp=Z,980nm,1.0s							
HUEH	Huehuetenango	2.87	318	Pn		Pn	07 57 06.7	+1.1
HUEH	Huehuetenango	2.87	318	*i* P		Pn	07 57 06.9	+1.3
LEVN	Ruinas Leon Vi	2.94	105	*i* P		Pn	07 57 07.1	+0.8
LEVN				*i* S		Sn	07 57 41.4	+1.0
LEVN				IAML			07 57 58.2	
	comp=Z,3μm,1.0s							
COPN	Copaltepe	3.03	109	*i* P		Pn	07 57 07.3	-0.2
COPN				IAML			07 57 51.7	
	comp=Z,2μm,1.0s							
MOM2	El Cardon	3.06	103	*i* P		Pn	07 57 08.2	+0.4
MOM2				*i* S		Sn	07 57 44.3	+1.1
MOM2				IAML			07 57 56.1	
	comp=Z,2μm,1.0s							
LIMN	Finca el Limon	3.08	92	⇓*iP*		Pn	07 57 08.7	+0.4
LIMN				IAML			07 57 50.9	
	comp=Z,2μm,1.0s							
BRAN	Las Pilas	3.13	98	*i* P		Pn	07 57 11.3	+2.4
BRAN				*i* S		Sn	07 57 49.0	+4.0
BRAN				IAML			07 57 53.2	
	comp=Z,1μm,1.0s							
SAPS	Ciudad Sandino	3.20	108	*i* P		Pn	07 57 10.4	+0.5
SAPS				*i* S		Sn	07 57 47.2	+0.3
SAPS				IAML			07 57 53.1	
	comp=Z,3μm,1.0s							
APYN	Apoyeque	3.24	106	*i* P		Pn	07 57 10.4	+0.1
APYN				IAML			07 58 08.9	
	comp=Z,44nm,1.0s							
APQ2	Apoyeque	3.27	107	*i* P		Pn	07 57 11.0	+0.2
APQ2				*i* S		Sn	07 57 48.4	-0.1
APQ2				IAML			07 57 58.3	
	comp=Z,2μm,1.0s							
TISN	Laguna Tiscapa	3.34	107	*i* P		Pn	07 57 12.4	+0.7
TISN				IAML			07 58 08.0	
	comp=Z,180nm,1.0s							
R4DEC	Barrio San Lui	3.36	107	*i* P		Pn	07 57 12.9	+0.9
R4DEC				*i* S		Sn	07 57 51.1	+0.5
R4DEC				IAML			07 58 01.7	
	comp=Z,2μm,1.0s							
RCPN	Sur Rio San Ju	3.36	83	*i* P		Pn	07 57 12.2	0.0
RCPN				IAML			07 58 05.8	
	comp=Z,1.6nm,1.0s							
WILN	Americas 2	3.41

comp=Z,140nm,0.9s
HDC *i* S **Sn** **07 59 01.9 +2.0**
HDC IAML 07 59 37.9
comp=Z,600nm,1.0s
HDC Heredia 6.17 120 *e*P **Pn** **07 57 52.8 +2.1**
HDC *e*S **Sn** **07 58 58.9 -1.1**
HDC Heredia 6.17 120 *e*P **Pn** **07 57 52.7 +2.1**
DOMI Santo Domingo 6.20 120 *e*P **Pn** **07 57 54.7 +3.7**
CENT San Jose 6.23 120 *e*P **Pn** **07 57 55.3 +3.7**
ACOS Acosta 6.23 122 *e*P **Pn** **07 57 54.0 +2.5**
LUJA Lujan 6.24 120 *e*P **Pn** **07 57 54.8 +3.1**
LUPE Guadalupe 6.24 120 *e*P **Pn** **07 57 55.3 +3.6**
SJS Escuela Geolog 6.25 120 *e*P **Pn** **07 57 55.0 +3.2**
SJS3 Mercedes San J 6.25 120 *e*P **Pn** **07 57 56.0 +4.2**
AMPA Desamparados 6.26 121 *e*P Pn 07 57 57.6 +5.6
CORON Coronado 6.27 120 *e*P **Pn** **07 57 56.2 +4.0**
CVIMO Finca Echandi 6.30 119 *e*P **Pn** **07 57 55.3 +2.8**
ABE2 San Pablo 6.37 122 *e*P **Pn** **07 57 57.0 +3.4**
LCR2 La Lucha 2 6.39 122 Pn **Pn** **07 57 56.1 +2.3**
LCR2 La Lucha 2 6.39 122 *i* P **Pn** **07 57 54.9 +1.1**
LCR2 IVmB_BB 07 57 59.6
comp=Z,2µm,1.0s
LCR2 IAmb IAmb 07 58 02.9
comp=Z,160nm,0.7s
LCR2 *i* S **Sn** **07 59 04.5 -1.1**
LCR2 IAML 07 59 13.6
comp=Z,280nm,1.0s
LCR2 La Lucha 2 6.39 122 *e*P **Pn** **07 57 56.1 +2.3**
RAZU San Marcos de 6.42 122 *e*P **Pn** **07 57 57.6 +3.3**
RAFA San Farael, Vo 6.44 119 *e*P **Pn** **07 57 57.3 +2.7**
VTR0 Volcan Turrial 6.46 118 *e*P **Pn** **07 57 53.2 -1.7**
REPA Paraso 6.46 120 *e*P Pn 07 57 59.6 +4.9
LLNJ Naranjito 6.46 124 *e*P **Pn** **07 57 56.2 +1.6**
PCAYA Pacayas 6.46 119 *e*P **Pn** **07 57 57.5 +2.7**
CMIG Matias Romero 6.48 308 P **Pn** **07 57 56.3 +1.5**
comp=Z,56nm,0.5s,baz=107,slow=10,SNR=46
CMIG S **Sn** **07 59 09.5 +2.0**
comp=Z,81nm,0.7s,baz=140,slow=13,SNR=3.5
CMIG LR LR 08 00 55.0
comp=Z,1µm,21.0s,baz=120,slow=41
VTCV VTCV, Calle Va 6.50 118 *e*P **Pn** **07 57 57.3 +2.0**
VINA Juan Vinas 6.53 119 *e*P **Pn** **07 57 58.4 +2.7**
VERB Verbena 6.55 119 *e*P **Pn** **07 57 58.8 +2.9**
LCOCO El Coco 6.60 117 *e*P **Pn** **07 57 58.6 +2.1**
BUS1 Rivas 6.71 122 *e*P **Pn** **07 58 01.5 +3.2**
ZELE Perez Zeledon 6.84 123 *e*P **Pn** **07 58 01.9 +2.0**
OCHAL Ojochal 7.05 124 *i* P **Pn** **07 58 03.2 +0.6**
OCHAL IVmB_BB 07 58 10.3
comp=Z,2µm,1.0s
OCHAL IAmb IAmb 07 58 28.1
comp=Z,89nm,0.8s
OCHAL *i* S **Sn** **07 59 21.5 +0.1**
OCHAL IAML 07 59 44.6
comp=Z,160nm,1.0s
TEIG Tepich 7.12 10 Pn **Pn** **07 58 06.0 +2.3**
TEIG Tepich 7.12 10 P **Pn** **07 58 05.8 +2.1**
comp=Z,130nm,0.3s,baz=186,slow=1.3,SNR=200
TEIG LR LR 08 01 05.6
comp=Z,1µm,21.1s,baz=216,slow=42
EDPN Palmar Norte 7.28 124 *e*P **Pn** **07 58 08.5 +2.7**
DRK0 Durika 7.28 122 *e*P **Pn** **07 58 08.3 +2.3**
EDBA Buenos Aires 7.31 122 *e*P **Pn** **07 58 08.2 +2.0**
PTJ1 Puerto Jimnez 7.65 126 *i* S **Sn** **07 59 36.8 +0.6**
EDAD Golfito 7.69 125 *e*P **Pn** **07 58 14.3 +2.9**
FITO Golfito 7.71 125 *e*P **Pn** **07 58 14.6 +2.8**
BRU2 Volcan 7.99 122 Pn **Pn** **07 58 18.2 +2.5**
BRU2 Volcan 7.99 122 *i* S **Sn** **07 59 45.1 +0.2**
BRU2 Volcan 7.99 122 *e*P **Pn** **07 58 17.5 +1.8**
TLIG Tlapa 9.75 298 Pn **Pn** **07 58 42.4 +2.6**
TLIG Tlapa 9.75 298 *i* P **Pn** **07 58 40.8 +1.0**
TLIG IAmb IAmb 07 58 47.7
comp=Z,34nm,0.8s
TLIG *i* S **Sn** **08 00 30.3 +2.4**
BCIP Isla Barro Col 10.30 112 Pn **Pn** **07 58 48.5 +1.3**
SOR Soroa 11.40 32 **Pn** **07 59 04.6 +2.3**
MTDJ Mount Denham 12.60 65 Pn **Pn** **07 59 20.8 +2.2**
JRQG Juriquilla Cam 12.85 307 Pn **Pn** **07 59 24.0 +1.8**
MOIG Morelia 12.92 302 **Pn** **07 59 25.5 +2.3**
APAC Apartado, Choc 13.76 111 P **P** **07 59 43.1 +1.8**
061Z Ochoppi 15.01 31 Pn **P** **07 59 53.6 -1.6**
PLMC San Jos del P 15.43 121 P **Pn** **07 59 58.0 +1.5**
comp=Z,17nm,0.7s
ZAIG Zacatecas 15.64 309 **Pn** **08 00 00.1 +0.8**
YOTC Yotoco, Valle 15.90 124 P **P** **08 00 07.1 +1.8**
comp=Z,31nm,1.0s
GUY2C Guyana, Caldas 16.04 118 P **P** **08 00 07.1 -0.1**
comp=Z,33nm,0.7s
JAMC Jamundi, Valle 16.10 127 P **P** **08 00 09.7 +2.1**
comp=Z,23nm,0.9s
HBVL Hebbronville 16.27 330 **P** **08 00 09.7 +0.6**
HBVL IAmb IAmb 08 00 12.8
comp=Z,19nm,0.9s
POPC Popayan, Colom 16.52 129 P **P** **08 00 12.5 +0.2**
comp=Z,54nm,1.0s,comp=Z,537nm
DWPF Disney Wildern 16.68 26 P **Pn** **08 00 12.7 +0.6**
DWPF IAmb IAmb 08 00 18.2
comp=Z,45nm,0.7s
DWPF Disney Wildern 16.68 26 P **P** **08 00 14.2 +0.6**
baz=208
ORTC Ortega, Tolima 16.84 122 P **P** **08 00 19.0 +3.4**
comp=Z,59nm,0.9s,comp=Z,587nm
OTAV Otavalo 16.90 139 P **P** **08 00 18.8 +2.1**
comp=Z,6.0nm,2.0s
GCUF Volcan Galeras 16.92 134 P **P** **08 00 23.5 +6.5**
SPBC San Pablo de B 16.97 115 P **P** **08 00 17.0 -0.1**
comp=Z,13nm,0.8s
TULM Tulcn-Chalpat 16.98 136 P **P** **08 00 17.1 -0.5**
TULM IAmb IAmb 08 00 54.3
comp=Z,27nm,1.0s
TULM Tulcn-Chalpat 16.98 136 P **P** **08 00 24.0 +6.4**
IMBA Imbabura, San 17.03 138 P **P** **08 00 19.6 +1.4**
IMBA IAmb IAmb 08 00 58.6
comp=Z,60nm,1.2s
ROSC El Rosal 17.14 117 P **Pn** **08 00 17.9 -0.3**
ROSC El Rosal 17.14 117 P **P** **08 00 21.3 +2.1**
comp=Z,9.6nm,0.5s,baz=144,slow=7.2,SNR=9.3
ROSC LR LR 08 08 19.6
comp=Z,149nm,18.3s,baz=240,slow=43
ROSC El Rosal 17.14 117 P Pn 08 00 10.6 -7.6
PRAC Prado 17.25 122 P **P** **08 00 22.5 +2.4**
comp=Z,28nm,0.5s
656A Willston 17.38 21 P **P** **08 00 21.2 -0.3**
656A IAmb IAmb 08 00 24.9
comp=Z,78nm,1.1s
553A Crawfordville 17.59 15 P **P** **08 00 23.7 +0.1**
553A IAmb IAmb 08 00 42.4
comp=Z,124nm,1.4s
ANTS Antisana-Sarah 17.64 139 P **P** **08 00 25.2 +0.2**
833A Chaparral WMA, 17.66 330 P **P** **08 00 25.2 +0.6**
833A IAmb IAmb 08 00 42.1
comp=Z,26nm,0.9s
833A Chaparral WMA, 17.66 330 P **P** **08 00 25.4 +0.9**
baz=147,SNR=5.8
HKT Hockley 17.70 342 **P** **08 00 25.9 +1.1**
CHIC Chingaza 17.75 117 P **P** **08 00 28.3 +2.3**
comp=Z,13nm,0.7s
VILC Villavicencio, 18.04 118 P **Pn** **08 00 32.1 +3.0**
BRAL Brewton 18.06 7 P **Pn** **08 00 31.0 +1.8**
baz=188
HNDO Hondo 18.63 332 P **Pn** **08 00 36.5 +0.5**
HNDO IAmb IAmb 08 00 41.0
comp=Z,26nm,0.7s
352A Blakely 18.71 12 P **Pn** **08 00 38.5 +1.5**
352A IAmb IAmb 08 00 42.3
comp=Z,30nm,0.7s
250A Grady 18.96 9 P **Pn** **08 00 40.9 +1.0**
250A IAmb IAmb 08 01 04.8
comp=Z,22nm,0.8s
VBMS Vicksburg 18.99 357 P **Pn** **08 00 41.3 +1.1**
VBMS Vicksburg 18.99 357 P **Pn** **08 00 41.4 +1.1**
baz=177,SNR=7.2
TIGA Tifton 18.99 16 P **Pn** **08 00 40.3 0.0**
TIGA IAmb IAmb 08 00 56.5
comp=Z,51nm,0.8s
TIGA Tifton 18.99 16 P **Pn** **08 00 41.3 +0.9**
baz=198,SNR=13
SDV Santo Domingo 19.02 101 P **P** **08 00 39.9 +0.1**
comp=Z,31nm,0.6s,baz=288,slow=7.5,SNR=7.7
SDV LR LR 08 09 04.8
comp=Z,85nm,18.0s,baz=248,slow=41
SDV Santo Domingo 19.02 101 *e*P **P** **08 00 39.6 -0.2**
435B Jarrell 19.05 338 P **Pn** **08 00 42.1 +1.1**
baz=155
NATX Nacogdoches 19.10 347 P **Pn** **08 00 42.9 +1.3**
baz=165
PTGC Puerto Gaitan, 19.35 116 P **P** **08 00 42.5 -0.7**
JCT Junction City 19.67 333 P **Pn** **08 00 47.8 -0.7**
baz=149,SNR=16
LRAL Lakeview Retre 19.91 6 P **Pn** **08 00 51.2 -0.1**
baz=187,SNR=14
WHTX Lake Whitney, 20.10 340 P **P** **08 00 51.8 +0.5**
WHTX Lake Whitney, 20.10 340 P Pn 08 00 52.4 -1.0
baz=157,SNR=10
Z41A Richland Creek 20.23 352 P Pn 08 00 55.8 +1.0
SAND Sanderson 20.38 327 P **P** **08 00 55.5 +1.2**
SAND IAmb IAmb 08 01 11.8
comp=Z,45nm,1.4s
TREL Terrell 20.38 344 P **P** **08 00 54.2 -0.1**
TREL IAmb IAmb 08 01 16.3
comp=Z,52nm,1.0s
FW14 Alvarado 20.39 341 P Pn 08 00 55.7 -1.2
HPIG 20.40 315 P **P** **08 00 55.8 +1.1**
TXAR Lajitas Array 20.76 323 P Pn 08 01 01.1 -0.3
comp=Z,12nm,0.6s,baz=143,slow=10,SNR=188
TXAR PcP **PcP** **08 05 07.6 +1.4**
comp=Z,1.0nm,0.5s,baz=142,slow=4.6,SNR=7.8
TXAR pPcP 08 05 22.2
comp=Z,2.3nm,0.9s,baz=122,slow=1.6,SNR=8.7
TXAR LR LR 08 10 40.4
comp=Z,79nm,19.3s,baz=170,slow=41
TXAR PKiKP **PKiKP** **08 12 53.9 -0.3**
comp=Z,0.2nm,0.8s,baz=72,slow=4.1,SNR=4.6
comp=Z,12nm,0.6s
GOGA Godfrey 20.90 14 P Pn 08 01 01.6 -1.3
baz=197,SNR=9.1
OXF Oxford 21.25 0 P **P** **08 01 04.8 +1.2**
baz=180,SNR=31
ABTX Abilene, Hawle 21.47 336 P **P** **08 01 06.6 +0.6**
ABTX IAmb IAmb 08 01 14.8
comp=Z,15nm,0.8s
ABTX Abilene, Hawle 21.47 336 P **P** **08 01 06.3 +0.3**
baz=152
ALPN Alpine 21.53 325 P **P** **08 01 07.9 +1.1**
MIAR Mount Ida 21.60 351 P **P** **08 01 08.2 +0.9**
baz=169,SNR=15
NHSC New Hope 21.61 22 P **P** **08 01 08.4 +1.0**
baz=205
LOOK Love County 21.87 343 **P** **08 01 11.3 +1.1**
LOOK IAmb IAmb 08 01 24.6
comp=Z,30nm,0.8s
WVT Waverly 22.92 4 P **P** **08 01 21.0 -0.4**
baz=184
TKL Tuckaleechee C 22.99 12 P **P** **08 01 22.3 +0.1**
comp=Z,7.3nm,0.6s,baz=178,slow=9.7,SNR=15
TKL LR LR 08 10 42.9
comp=Z,360nm,20.9s,baz=200,slow=38
ATAH Atahualpa 23.00 151 LR LR 08 09 20.3
comp=Z,224nm,20.3s,baz=329,slow=34
WMOK Wichita Mounta 23.06 340 P **P** **08 01 21.5 -1.3**
baz=156,SNR=29
TUL3 Leonard 23.34 347 P **P** **08 01 25.6 +0.1**
baz=164
MNTX Comudas Mount 23.50 324 P **P** **08 01 27.1 0.0**
baz=138,SNR=11
TZTN Tazewell 23.89 12 P **P** **08 01 31.2 +0.5**
baz=194
MSTX Muleshoe 23.96 332 P **P** **08 01 31.3 -0.1**
baz=147,SNR=8.1
AMTX Amarillo 24.26 335 P **P** **08 01 34.0 -0.1**
baz=150
PCRV Puerto La Cruz 24.55 94 LR LR 08 12 28.0
comp=Z,168nm,22.0s,slow=40
CCM Cathedral Cave 24.84 357 P **P** **08 01 39.2 0.0**
baz=176
WCI Wyandotte Cave 25.13 6 P **P** **08 01 41.2 -0.6**
baz=187
R40A Maddies Statio 25.14 355 P **P** **08 01 42.5 +0.5**
R40A IAmb IAmb 08 01 45.4
comp=Z,12nm,0.7s
BLA Blacksburg 25.30 17 P **P** **08 01 43.5 0.0**
baz=201
121A Cookes Peak, D 25.51 322 P **P** **08 01 46.0 +0.3**
baz=135,SNR=7.3
TBTG Tabatinga, AM 26.01 130 P **P** **08 01 49.9 -0.3**
TBTG IAmb IAmb 08 01 56.4
comp=Z,26nm,0.8s
TBTG Tabatinga, AM 26.01 130 *e*P **P** **08 01 50.9 +0.8**
ANMO Albuquerque 26.55 328 P **P** **08 01 56.4 +1.4**
baz=141
ANMO Albuquerque 26.55 328 P **P** **08 01 57.5 +2.4**
comp=Z,1.3nm,0.6s,baz=238,slow=11,SNR=9.1
ANMO PcP **PcP** **08 05 19.6 +1.1**
comp=Z,3.0nm,0.8s,baz=233,slow=5.2,SNR=7.8
ANMO pPcP 08 05 34.5
comp=Z,0.9nm,0.7s,baz=266,slow=9.1,SNR=4.8
ANMO LR LR 08 15 42.2
comp=Z,37nm,19.5s,baz=222,slow=44
comp=Z,1.3nm,0.6s
KSU1 Kansas State U 26.58 348 P **P** **08 01 54.9 -0.2**
KSU1 IAmb IAmb 08 01 57.5
comp=Z,14nm,0.6s
KSU1 Kansas State U 26.58 348 P **P** **08 01 54.5 -0.6**
baz=164,SNR=8.5
P49A Miami Univ. Ec 26.61 8 P **P** **08 01 52.2 -3.0**
baz=190
CZSB Cruzeiro do Su 26.65 140 *e*P **P** **08 01 58.3 +2.4**
P52A Corning 27.16 13 P **P** **08 01 58.7 -1.5**
baz=196
CBN Corbin Frederi 27.18 21 P **P** **08 01 60.0 -0.4**
baz=207
SFIN Lafayette 27.19 4 P **P** **08 01 58.4 -2.1**
baz=185
TUC Tucson 27.24 318 P **P** **08 02 02.5 +1.3**
TUC Tucson 27.24 318 P **P** **08 02 00.8 -0.4**
baz=130
O48B Farmland 27.26 7 P **P** **08 02 00.2 -1.0**
baz=189
HDIL Hopedale 27.29 0 P **P** **08 02 01.2 -0.1**
baz=180
T25A Trinidad 27.34 333 P **P** **08 02 03.1 +0.9**
baz=147,SNR=6.5
ACSO Alum Creek Sta 27.57 11 P **P** **08 02 03.4 -0.5**
baz=194
MCWV Mont Chateau 27.74 16 P **P** **08 02 05.5 +0.1**
baz=200
O53A New Philadelph 27.95 14 P **P** **08 02 06.8 -0.5**
baz=197
NNA Nana 27.98 153 LR LR 08 12 09.6
comp=Z,66nm,18.2s,baz=326,slow=34
KSCO Kaye Shedlock' 28.24 338 P **P** **08 02 10.3 +0.2**
baz=152
SDCO Great Sand Dun 28.32 333 P **P** **08 02 11.3 +0.3**
baz=146
214A Organ Pipe Nat 28.39 315 P **P** **08 02 12.3 +0.9**
baz=126,SNR=5.3
SCIA State Center 28.82 354 P **P** **08 02 15.9 +0.9**
baz=173
S22A 4UR Ranch, Cre 28.94 331 P **P** **08 02 16.7 +0.3**
baz=143,SNR=5.6
L44A Lake County Fo 28.94 2 P **P** **08 02 15.2 -0.9**
baz=183
BGNE Belgrade 29.13 347 P **P** **08 02 17.6 -0.2**
baz=163,SNR=5.2
SSPA Standing Stone 29.21 18 P **P** **08 02 18.0 -0.5**
baz=204
M53A Wt Miller and 29.21 14 P **P** **08 02 17.3 -1.2**
baz=198
MVCO Mesa Verde 29.34 328 P **P** **08 02 22.0 +2.0**
baz=140
JFWS Jewell Farm 29.65 359 P **P** **08 02 21.9 -0.5**
baz=179,SNR=8.6
WUAZ Wupatki 29.72 322 P **P** **08 02 24.1 +0.8**
baz=133
TEFE Tefe 29.75 122 *e*P **P** **08 02 22.7 -0.9**
OGNE Ogallala 29.76 341 P **P** **08 02 24.4 +0.9**
baz=155
ISCO Idaho Springs 30.08 335 P **P** **08 02 26.8 +0.2**
baz=148
GLA Glamis 30.41 315 P **P** **08 02 28.9 -0.4**
baz=125
PDMCI Parker Dam,Lak 30.68 317 P **P** **08 02 32.7 +1.2**
baz=128
SWSC Sam W. Stewart 31.03 314 P **P** **08 02 36.2 +1.5**
baz=123
ECSD EROS Data Cent 31.07 350 P **P** **08 02 34.1 -0.8**
baz=167,SNR=8.8
IKP In-Ko-Pah, Jac 31.09 313 P **P** **08 02 37.2 +1.9**
baz=123,SNR=6.5
N23A Red Feather La 31.14 336 P **P** **08 02 36.4 +0.6**
baz=148
BC3 Big Chuckawall 31.18 315 P **P** **08 02 37.6 +1.4**
baz=125,SNR=19
BINY Binghamton 31.23 20 P **P** **08 02 35.6 -0.7**
baz=206
IRM Iron Mountain 31.26 316 P **P** **08 02 39.3 +2.6**
baz=126,SNR=9.9
MONP2 Monument Peak 31.44 313 P **P** **08 02 40.8 +2.3**
baz=122,SNR=16
O20A White River Ci 31.51 332 P **P** **08 02 40.7 +1.7**
baz=143
BELC Belle Mtn. Jos 31.75 315 P **P** **08 02 43.8 +2.6**
baz=125,SNR=9.5
TPFO Pinon Flats 31.85 314 P **P** **08 02 44.4 +2.4**
baz=124,SNR=5.9
PFO Pinyon Flats O 31.85 314 P **P** **08 02 44.6 +2.5**
baz=124,SNR=5.2
PFO Pinyon Flats O 31.85 314 P **P** **08 02 44.4 +2.3**
comp=Z,3.7nm,0.7s,baz=125,slow=6.9,SNR=12
PFO PcP **PcP** **08 05 34.2 +2.3**
comp=Z,1.2nm,0.9s,baz=10,slow=5.2,SNR=3.7
PFO pPcP 08 05 48.3
comp=Z,1.8nm,0.9s,baz=33,slow=2.1,SNR=5.4
PFO LR LR 08 16 38.6
comp=Z,162nm,19.5s,baz=103,slow=38
comp=Z,3.7nm,0.7s
GMRC Granite Mounta 31.97 317 P **P** **08 02 45.7 +2.6**
baz=126,SNR=9.6
SPMN Marine on St. 32.08 356 P **P** **08 02 42.9 -0.8**
baz=174,SNR=17
SUSD Miller 32.20 347 P **P** **08 02 44.7 -0.2**
baz=163,SNR=6.0
MURC Murrieta 32.36 314 P **P** **08 02 47.5 +1.1**
baz=122
HEC Hector,Ludlow 32.45 316 P **P** **08 02 49.2 +2.0**
baz=125,SNR=8.2
ETMB Extrema 32.51 133 P **P** **08 02 48.2 +0.3**
ETMB Extrema 32.51 133 *e*P **P** **08 02 48.4 +0.5**
TUQ Turquoise Moun 32.53 318 P **P** **08 02 50.1 +2.1**
baz=126
BBRC Big Bear Solar 32.53 315 P **P** **08 02 51.3 +3.2**
baz=124,SNR=13
SADO Sadowa 32.72 14 P **P** **08 02 48.1 -1.3**
comp=Z,6.6nm,0.5s,baz=211,slow=8.8,SNR=17
SADO LR LR 08 16 23.7
comp=Z,243nm,21.8s,baz=254,slow=37
comp=Z,6.6nm,0.5s
MACA Manacapuru-AM 32.91 118 P **P** **08 02 51.3 -0.1**
MACA Manacapuru-AM 32.91 118 *e*P **P** **08 02 51.8 +0.4**
BFSC Mount Baldy Ra 33.03 314 P **P** **08 02 51.6 -0.7**
baz=123
SHOC Shoshone, Teco 33.03 318 P **P** **08 02 54.5 +2.2**
baz=127
GSC Goldstone, Bar 33.04 317 P **P** **08 02 53.7 +1.3**
GSC IAmb IAmb 08 02 55.4
comp=Z,5.0nm,0.7s
GSC Goldstone, Bar 33.04 317 P **P** **08 02 53.5 +1.1**
baz=125,SNR=8.3
HRV Adam Dziewonsk 33.12 25 P **P** **08 02 56.2 +3.2**
baz=213
CIS Catalina Islan 33.13 312 P **P** **08 02 55.3 +2.2**
baz=121
FMP Fort Macarthur 33.20 313 P **P** **08 02 56.0 +2.3**
baz=121
RSSD Black Hills 33.27 341 P **P** **08 02 55.3 +0.9**
baz=154
DECC Green Verdugo 33.51 314 P **P** **08 02 58.7 +2.3**
baz=122
EDW2 Edwards Air Fo 33.61 315 P **P** **08 02 58.7 +1.3**
baz=123,SNR=7.6
TPNV Topopah Spring 33.65 319 P **P** **08 02 59.8 +2.0**
baz=128,SNR=6.4
LRMC Laurel Mtn Rad 33.73 316 P **P** **08 03 00.7 +2.3**
baz=124,SNR=5.4
FURC Furnace Creek, 33.75 318 P **P** **08 03 01.1 +2.6**
baz=126,SNR=7.7
LONY Lake Ozonia 33.85 19 P **P** **08 02 58.5 -0.7**
baz=207
MPMC Manual Prospec 33.93 317 P **P** **08 03 01.9 +1.6**
baz=125,SNR=23
R11B Troy Canyon, C 34.12 322 P **P** **08 03 04.0 +2.1**
baz=130
SAML Samuel 34.16 129 P **P** **08 03 01.9 -0.3**
SAML Samuel 34.16 129 *e*P **P** **08 03 01.6 -0.7**
BW06 Boulder Array 34.21 333 P **P** **08 03 03.5 +0.8**
baz=144
PDAR Pinedale Array 34.21 333 P **P** **08 03 02.9 +0.3**
comp=Z,0.5nm,0.4s,baz=126,slow=12,SNR=7.9
PDAR PcP **PcP** **08 05 38.4 -0.1**
comp=Z,2.0nm,0.6s,baz=144,slow=5.5,SNR=12
PDAR pPcP 08 05 53.0
comp=Z,2.8nm,0.7s,baz=137,slow=4.8,SNR=8.9
PDAR ScP **ScP** **08 09 20.7 +1.7**
comp=Z,0.7nm,0.7s,baz=133,slow=6.3,SNR=5.9
PDAR PKiKP **PKiKP** **08 13 01.6 -0.6**
comp=Z,0.3nm,0.6s,baz=125,slow=4.7,SNR=4.2
PDAR LR LR 08 20 05.8
comp=Z,84nm,18.8s,baz=140,slow=42
comp=Z,0.5nm,0.4s
ARVC Arvin 34.32 315 P **P** **08 03 05.6 +2.2**
baz=122,SNR=8.7
ISA Isabella, Lake 34.37 316 P **P** **08 03 06.3 +2.4**
baz=124,SNR=5.1
GRAC Grapevine Rang 34.39 319 P **P** **08 03 06.4 +2.4**
baz=126,SNR=9.1
SPUT South Promonto 34.44 329 P **P** **08 03 05.4 +0.8**
CWC Cottonwood Cre 34.54 317 P **P** **08 03 08.1 +2.6**
baz=125
EYMN Ely 34.72 358 P **P** **08 03 04.3 -2.4**
baz=177
VES Vestal, Richgr 34.88 316 P **P** **08 03 10.5 +2.2**
baz=123
PKM Mcpherson Peak 34.88 314 P **P** **08 03 09.6 +1.1**
baz=121
SMMC Simmler 35.23 314 P **P** **08 03 13.8 +2.5**
baz=121
SNOW Snow King Moun 35.29 333 P **P** **08 03 13.8 +1.8**
AGMN Agassiz Nation 35.42 353 P **P** **08 03 11.9 -0.9**
baz=169,SNR=12
MDND Maddock 35.59 348 P **P** **08 03 14.2 0.0**
baz=163,SNR=7.6
NVAR Mina Array Bea 35.84 320 P **P** **08 03 19.1 +2.4**
comp=Z,7.3nm,0.7s,baz=132,slow=8.9,SNR=73
NVAR pP **pP** **08 03 32.3 +1.6**
comp=Z,6.9nm,0.7s,baz=135,slow=8.8,SNR=14
NVAR PcP **PcP** **08 05 44.6 +1.3**
comp=Z,5.4nm,0.7s,baz=136,slow=3.9,SNR=19
NVAR pPcP 08 05 59.5
comp=Z,5.6nm,0.7s,baz=133,slow=4.2,SNR=12
NVAR ScP **ScP** **08 09 28.4 +3.4**
comp=Z,1.7nm,0.8s,baz=139,slow=4.1,SNR=7.3
NVAR LR LR 08 19 13.8
comp=Z,198nm,20.5s,baz=110,slow=38
comp=Z,7.3nm,0.7s
RLMT Red Lodge 36.01 336 P **P** **08 03 17.8 -0.3**
baz=146
LPAZ La Paz 36.11 144 P **P** **08 03 20.6 +1.0**
comp=Z,1.7nm,0.6s,baz=335,slow=6.0,SNR=17
LPAZ PcP **PcP** **08 05 45.5 +0.7**
comp=Z,0.8nm,0.5s,baz=53,slow=3.7,SNR=5.1
LPAZ LR LR 08 18 27.1
comp=Z,152nm,21.9s,baz=302,slow=37
comp=Z,1.7nm,0.6s
LPAZ La Paz 36.11 144 *e*P **P** **08 03 20.6 +1.0**
PMPB Monarch Peak 36.26 315 P **P** **08 03 22.8 +2.6**
PMPB IAmb IAmb 08 03 23.6
comp=Z,10nm,0.7s
HLID Hailey 37.09 330 P **P** **08 03 28.3 +1.1**
baz=137
DGMT Dagmar 37.25 344 P **P** **08 03 29.0 +0.7**
baz=156,SNR=13
ULM Lac du Bonnet 37.34 353 P **P** **08 03 27.4 -1.6**
comp=Z,7.3nm,0.5s,baz=170,slow=9.0,SNR=16
ULM LR LR 08 20 50.2
comp=Z,154nm,20.5s,baz=178,slow=40
comp=Z,7.3nm,0.5s
BOZ Bozeman (W) 37.37 334 P **P** **08 03 30.1 +0.5**
baz=143
ITTB Itaituba 37.81 115 *e*P **P** **08 03 31.0 -2.5**
EGMT Eagleton 38.62 338 P **P** **08 03 40.6 +0.6**
baz=147
VILB Vilhena 38.97 131 *e*P **P** **08 03 43.2 -0.1**
MSO Missoula 39.33 333 P **P** **08 03 45.9 -0.1**
baz=141
NPGB Novo Progresso 39.44 119 *e*P **P** **08 03 44.0 -3.1**
SIV San Ignacio 40.39 135 P **P** **08 03 55.6 +0.6**
comp=Z,5.5nm,0.5s,baz=306,slow=8.2,SNR=31
SIV PcP **PcP** **08 05 58.1 +0.6**
comp=Z,4.0nm,0.4s,baz=277,slow=3.6,SNR=7.8
comp=Z,5.5nm,0.5s
YBH Yreka Blue Hor 40.51 321 P **P** **08 03 56.2 +0.4**

comp=Z,2.0nm,0.6s,baz=82,slow=5.2,SNR=7.4
YBH PcP **PcP** **08 05 58.0 +0.5**
comp=Z,3.0nm,0.9s,baz=0.0,slow=2.0,SNR=3.3
YBH LR LR 08 22 43.8
comp=Z,144nm,20.0s,baz=150,slow=39
comp=Z,2.0nm,0.6s
PDRB Porto dos Gac 40.80 126 *e*P **P** **08 03 58.4 -0.1**
LVC Limon Verde 40.89 150 P **P** **08 04 01.5 +2.1**
comp=Z,3.4nm,0.7s,baz=281,slow=10,SNR=3.1
LVC LR LR 08 20 16.7
comp=Z,66nm,19.5s,baz=300,slow=35
comp=Z,3.4nm,0.7s
PTLB Pontes e Lacer 41.38 132 P **P** **08 04 02.7 -0.4**
BBSD Serra de San D 41.53 136 *e*P **P** **08 04 04.5 0.0**
NEW Newport 41.83 332 P **P** **08 04 07.4 +0.9**
baz=138
NEW Newport 41.83 332 P **P** **08 04 07.0 +0.5**
comp=Z,1.3nm,0.6s,baz=95,slow=11,SNR=3.6
NEW PcP **PcP** **08 06 00.8 -0.9**
comp=Z,3.1nm,0.5s,baz=98,slow=3.3,SNR=11
NEW pPcP 08 06 14.9
comp=Z,2.5nm,0.5s,baz=88,slow=3.6,SNR=5.6
NEW LR LR 08 24 43.5
comp=Z,86nm,18.4s,baz=131,slow=41
comp=Z,1.3nm,0.6s
SALV Santo Antonio 44.20 130 *e*P **P** **08 04 23.0 -3.0**
RPN Rapa Nui 44.43 206 LR LR 08 18 16.8
comp=Z,139nm,21.5s,baz=5.0,slow=29
SCHQ Schefferville 45.21 18 P **P** **08 04 31.8 -1.8**
comp=Z,12nm,0.6s,baz=220,slow=6.6,SNR=44
SCHQ PcP **PcP** **08 06 11.3 -1.6**
comp=Z,1.4nm,0.3s,baz=272,slow=1.8,SNR=5.1
SCHQ LR LR 08 25 26.3
comp=Z,83nm,18.3s,baz=242,slow=39
comp=Z,12nm,0.6s
SNDB Serra Nova Dou 45.41 122 *e*P **P** **08 04 34.3 -1.4**
RVDE Rio Verde (Bra 46.74 132 *e*P **P** **08 04 44.5 -1.6**
SMTB Santa Maria do 47.05 116 *e*P **P** **08 04 47.4 -1.2**
ARAG Araguaiana, MT 47.06 126 *e*P **P** **08 04 47.7 -0.9**
AQDB Aquidauana 47.16 135 P **P** **08 04 49.0 -0.2**
AQDB IAmb IAmb 08 04 52.0
comp=Z,4.7nm,0.6s
AQDB Aquidauana 47.16 135 *e*P **P** **08 04 49.1 -0.2**
H03N2 Juan Fernandez 47.43 168 T T 08 55 45.6
baz=346,slow=76,SNR=9.3
H03N1 Juan Fernandez 47.44 168 T T 08 55 39.3
baz=346,slow=76,SNR=9.8
H03N3 Juan Fernandez 47.45 168 T T 08 55 38.4
baz=346,slow=76,SNR=12
BBB Bella Bella 49.68 330 LR LR 08 28 53.1
comp=Z,77nm,20.2s,baz=158,slow=39
BDFB Brasilia 50.05 124 P **P** **08 05 11.1 -0.7**
comp=Z,2.4nm,0.5s,baz=300,slow=11,SNR=4.8
BDFB PcP **PcP** **08 06 31.8 +0.8**
comp=Z,2.0nm,0.6s,baz=244,slow=8.9,SNR=3.5
BDFB LR LR 08 28 32.7
comp=Z,122nm,18.1s,baz=333,slow=39
comp=Z,2.4nm,0.5s
CPUP Villa Florida 50.22 142 P **P** **08 05 12.4 -0.2**
comp=Z,4.2nm,1.0s,baz=344,slow=9.0,SNR=5.3
CPUP PcP **PcP** **08 06 31.4 +0.2**
comp=Z,1.3nm,0.6s,baz=263,slow=3.9,SNR=4.3
CPUP LR LR 08 26 02.8
comp=Z,60nm,21.1s,baz=21,slow=36
comp=Z,4.2nm,1.0s
SDBA SAO DESIDERIO 51.03 118 *e*P **P** **08 05 14.3 -4.7**
YKA Yellowknife Ar 52.41 346 P **P** **08 05 27.6 -0.9**
comp=Z,4.8nm,0.5s,baz=144,slow=7.6,SNR=164
YKA LR LR 08 31 07.8
comp=Z,96nm,18.4s,baz=130,slow=40
comp=Z,4.8nm,0.5s
FRB Frobisher Bay 52.62 12 LR LR 08 28 04.9
comp=Z,206nm,20.8s,baz=194,slow=36
TOAD Toad River Com 52.81 338 P **P** **08 05 31.5 -0.2**
baz=134
DLBC Dease Lake 54.41 335 P **P** **08 05 44.4 +1.0**
baz=129
DLBC Dease Lake 54.41 335 LR LR 08 32 50.4
comp=Z,88nm,18.3s,baz=115,slow=40
S34M Telegraph Cree 54.54 334 P **P** **08 05 45.7 +1.5**
baz=128
R33M Jennings River 55.39 336 P **P** **08 05 50.8 +0.3**
baz=128
Q32M Nakina River 55.65 335 P **P** **08 05 53.2 +0.7**
baz=127
PLCA Paso Flores 56.44 163 P **P** **08 05 59.1 +0.9**
comp=Z,2.8nm,0.8s,baz=274,slow=7.2,SNR=4.1
comp=Z,2.8nm,0.8s
NBAN Anadia - AL 57.53 111 *e*P **P** **08 06 06.0 -0.3**
FARO Faro, Yukon 58.05 338 P **P** **08 06 09.2 -0.1**
baz=127
O30N Mendenhall 58.27 335 P **P** **08 06 10.4 -0.5**
baz=124
P30M Million Dollar 58.28 334 P **P** **08 06 11.5 +0.6**
baz=123
P29M Windy Craggy 58.35 334 P **P** **08 06 11.7 +0.3**
baz=122
M31M Drury Creek, Y 58.43 337 P **P** **08 06 11.8 -0.1**
baz=126
N31M Braeburn, Yuko 58.55 336 P **P** **08 06 12.1 -0.7**
baz=124
M30M Minto, Yukon 59.56 337 P **P** **08 06 19.8 0.0**
baz=124
SFJD Kangerlussuaq 59.60 17 LR LR 08 31 37.2
comp=Z,96nm,20.2s,baz=222,slow=36
M29M Somme Creek 60.14 336 P **P** **08 06 24.0 +0.2**
baz=122,SNR=6.8
L29M L29M 60.37 337 P **P** **08 06 25.1 -0.2**
baz=123
J30M Hart River 60.53 339 P **P** **08 06 26.4 -0.1**
baz=125
K29M Barlow Dome 60.54 338 P **P** **08 06 26.2 -0.4**
baz=124
I30M Mount Dempster 60.92 339 P **P** **08 06 28.1 -1.0**
baz=126
G31M Satah River 61.27 342 P **P** **08 06 30.2 -1.1**
baz=129,SNR=5.4
M27K Edge Creek, AK 61.47 335 P **P** **08 06 32.2 -0.7**
baz=119
RES Resolute Bay 61.58 358 LR LR 08 34 05.4
comp=Z,81nm,19.8s,baz=166,slow=37
I29M Ogilvie Camp, 61.67 339 P **P** **08 06 32.6 -1.5**
baz=124
EPYK Eagle Plains 61.71 340 P **P** **08 06 33.1 -1.2**
baz=126
L27K Beaver Creek, 61.79 336 P **P** **08 06 34.4 -0.5**
baz=119
INK Inuvik 61.93 343 P **P** **08 06 34.5 -1.2**
baz=130,SNR=6.8
INK Inuvik 61.93 343 LR LR 08 36 57.4
comp=Z,92nm,18.8s,baz=152,slow=39
M26K Nabesna, AK 61.95 335 P **P** **08 06 35.7 -0.3**
baz=118
BMRM Bremner River 61.99 333 P **P** **08 06 36.2 -0.1**
baz=115
F30M Barrier River 62.16 342 P **P** **08 06 37.0 -0.3**
baz=127,SNR=5.5
H29M Whitestone 62.17 340 P **P** **08 06 36.0 -1.4**
baz=124
N25K Chitina, Valde 62.27 334 P **P** **08 06 37.6 -0.6**
baz=116
I28M Miner Creek 62.29 339 P **P** **08 06 39.3 +1.0**
baz=122
K27K Chicken 62.36 337 P **P** **08 06 38.3 -0.3**
baz=119
EGAK Eagle 62.38 338 P **P** **08 06 38.0 -0.8**
baz=120
G29M Pine Creek 62.45 341 P **P** **08 06 38.6 -0.7**
baz=125
A36M Sachs Harbour 62.54 348 P **P** **08 06 39.7 -0.1**
baz=140
KLU Klutina 62.79 333 P **P** **08 06 41.2 -0.5**
baz=114
I27K Kandik River 62.97 338 P **P** **08 06 42.2 -0.6**
baz=120
SCRK Sand Creek 63.07 336 P **P** **08 06 43.0 -0.6**
baz=117
J26L Joseph Creek 63.15 337 P **P** **08 06 44.1 +0.1**
baz=118,SNR=5.6
PAX Paxson 63.22 335 P **P** **08 06 43.9 -0.7**
baz=115
H27K Steamboat Moun 63.26 339 P **P** **08 06 44.5 -0.2**
baz=121,SNR=6.0
E29M Blow River 63.26 342 P **P** **08 06 44.2 -0.4**
baz=125
I26K Coal Creek Min 63.38 338 P **P** **08 06 44.3 -1.1**
baz=119
F28M Old Crow 63.44 341 P **P** **08 06 45.8 0.0**
baz=123,SNR=16
G27K Doyon Strip 63.60 340 P **P** **08 06 46.2 -0.8**
baz=121,SNR=5.4
K24K Donnelly Dome 63.71 336 P **P** **08 06 46.7 -0.9**
baz=115
SEW Seward 63.87 331 P **P** **08 06 48.5 -0.3**
baz=110
E28M Babbage River 63.88 342 P **P** **08 06 47.3 -1.4**
baz=124
KNK Knik Glacier 63.88 333 P **P** **08 06 49.2 +0.4**
baz=112
J25K Salcha River, 63.90 337 P **P** **08 06 49.1 +0.1**
baz=116,SNR=6.9
WAT6 Susitna Watana 64.02 334 P **P** **08 06 49.4 -0.5**
baz=113
D28M Stokes Point 64.06 343 P **P** **08 06 48.9 -0.9**
baz=125
PMR Palmer 64.25 333 P **P** **08 06 50.1 -1.1**
baz=111
E27K Coleen River 64.30 341 P **P** **08 06 50.8 -0.7**
baz=122
RC01 Rabbit Creek A 64.34 332 P **P** **08 06 50.7 -1.2**
baz=110
PRP Porcupine Dome 64.36 337 P **P** **08 06 50.8 -1.2**
baz=116
G26K Porcupine Rive 64.40 339 P **P** **08 06 51.3 -0.8**
baz=119
HDA Harding Lake 64.43 336 P **P** **08 06 51.0 -1.4**
baz=114
ILAR Eielson Array 64.56 336 P **P** **08 06 52.0 -1.2**
comp=Z,1.0nm,0.5s,baz=136,slow=5.1,SNR=35
ILAR LR LR 08 38 15.2
comp=Z,62nm,20.7s,baz=102,slow=39
comp=Z,1.0nm,0.5s
D27M Malcolm River 64.67 342 P **P** **08 06 53.4 -0.5**
baz=123
KDAK Kodiak Island 64.69 328 LR LR 08 35 50.2
comp=Z,51nm,18.1s,baz=151,slow=37
H25L Birch Creek 64.80 338 P **P** **08 06 53.7 -1.0**
baz=116
F26K Sheenjek River 64.88 340 P **P** **08 06 54.9 -0.5**
baz=119,SNR=5.3
BMAR Burnt Mountain 64.90 340 P **P** **08 06 55.1 -0.3**
MCK McKinley 64.96 335 P **P** **08 06 55.5 -0.3**
baz=112
G25K Bearman Lake 65.13 339 P **P** **08 06 56.3 -0.5**
baz=116
F25K Christian Rive 65.34 340 P **P** **08 06 58.5 +0.1**
baz=117,SNR=6.7
NEA2 Nenana 65.34 336 P **P** **08 06 57.6 -0.7**
baz=112
H24K Noodor Dome 65.38 337 P **P** **08 06 57.8 -0.8**
baz=114
SKT Skwentna 65.46 333 P **P** **08 06 58.4 -0.7**
baz=109
E25K Arctic Village 65.56 340 P **P** **08 06 59.6 -0.1**
baz=118,SNR=6.4
G24K Hadweenzic Riv 65.59 338 P **P** **08 06 59.3 -0.5**
baz=115
R18K Karluk 65.60 328 P **P** **08 06 58.5 -1.6**
baz=104
I23K Minto, Yukon-K 65.67 336 P **P** **08 06 59.4 -1.0**
baz=112,SNR=6.4
C27K Jago River 65.70 342 P **P** **08 06 58.8 -1.6**
baz=120
BPAW Bear Paw Mtn. 65.94 335 P **P** **08 07 00.9 -1.3**
baz=110
H23K Yukon River 66.00 337 P **P** **08 07 00.7 -1.9**
baz=113
PPLA Purkeypile 66.04 334 P **P** **08 07 01.5 -1.5**
baz=109
F24K Squaw Lake 66.08 339 P **P** **08 07 02.3 -0.8**
baz=115
M20K Styx River 66.14 332 P **P** **08 07 02.5 -1.1**
baz=108
CAST Castle Rocks 66.17 334 P **P** **08 07 01.9 -1.7**
baz=109
MLY Manley 66.17 336 P **P** **08 07 02.1 -1.6**
baz=111,SNR=8.8
D25K Kavik River 66.38 341 P **P** **08 07 04.1 -0.8**
baz=117
P18K Big Mountain, 66.45 329 P **P** **08 07 04.1 -1.5**
baz=104
N19K Bonanza Creek 66.46 331 P **P** **08 07 04.7 -1.0**
baz=106
Q17K Contact Creek 66.51 328 P **P** **08 07 04.8 -1.2**
baz=103
G23K Bananza Creek 66.52 338 P **P** **08 07 06.1 +0.2**
baz=112
E24K Your Creek 66.52 339 P **P** **08 07 05.0 -0.9**
baz=114
O18K Koktuh Hills 66.56 330 P **P** **08 07 05.4 -0.8**
baz=105
R17L Mt. Peulik Vol 66.61 327 P **P** **08 07 06.0 -0.6**
baz=103
L20K Farewell, AK 66.66 333 P **P** **08 07 05.4 -1.4**
baz=107
PPT Papeete 66.67 244 LR LR 08 28 26.3
comp=Z,102nm,18.9s,baz=34,slow=29
PPT2 Papeete2 66.68 244 *e*LR LR 08 27 10.7
comp=Z,171nm,27.2s
PPT2 *e*LR LR 08 27 10.8
comp=Z,175nm,24.0s
M19K Big River Lodg 66.72 332 P **P** **08 07 06.3 -0.9**
baz=106
H22K Ishtalitna Cre 66.73 337 P **P** **08 07 05.4 -1.8**
baz=111
COLD Coldfoot 66.79 338 P **P** **08 07 07.3 -0.2**
baz=112
E23K Chandalar 66.91 339 P **P** **08 07 08.1 -0.3**
baz=113,SNR=7.3
K20K Telida 67.00 334 P **P** **08 07 08.1 -0.8**
baz=107
D24K Happy Valley 67.09 340 P **P** **08 07 09.1 -0.2**
baz=115
TOLK Toolik Lake Re 67.12 340 P **P** **08 07 08.8 -0.9**
baz=114
G22K Bettles 67.15 338 P **P** **08 07 09.6 -0.2**
baz=111
H21K Melozitna Rive 67.20 336 P **P** **08 07 08.6 -1.6**
baz=109
M18K Stony River 67.27 332 P **P** **08 07 09.8 -0.9**
baz=105
J20K Nowinta River 67.28 335 P **P** **08 07 09.6 -1.0**
baz=108,SNR=5.1
C24K Franklin Bluff 67.29 341 P **P** **08 07 10.4 -0.2**
baz=115
CHGN Chignik 67.45 326 P **P** **08 07 11.8 -0.1**
baz=100
O17K Koliganek Bris 67.46 330 P **P** **08 07 11.7 -0.2**
baz=103
I20K Naaghedeneel 67.60 335 P **P** **08 07 11.7 -0.9**
baz=107
F22K John River 67.60 338 P **P** **08 07 12.1 -0.6**
baz=111
D23K Nanushuk River 67.62 340 P **P** **08 07 13.4 +0.6**
baz=113
N17K Nushagak Hills 67.68 330 P **P** **08 07 12.2 -1.1**
baz=103
E22K Anaktuvuk Pass 67.70 339 P **P** **08 07 11.9 -1.4**
baz=111
G21K Allakaket 67.75 337 P **P** **08 07 12.2 -1.5**
baz=109,SNR=7.2
J19K Poorman 67.84 334 P **P** **08 07 13.4 -0.8**
baz=106
L18K Granite Mounta 67.85 332 P **P** **08 07 12.6 -1.7**
baz=104
O16K Kokwok River B 67.92 329 P **P** **08 07 14.4 -0.4**
baz=102
C23K Itkillik River 67.94 341 P **P** **08 07 13.6 -1.2**
baz=113,SNR=5.8
H20K Anotleneega Mo 67.97 336 P **P** **08 07 13.7 -1.3**
baz=107
F21K Alatna River 67.98 338 P **P** **08 07 14.5 -0.6**
baz=109,SNR=14
J18K Innoko River 68.17 334 P **P** **08 07 15.7 -0.6**
baz=105
D22K Ayikyak River 68.26 340 P **P** **08 07 16.4 -0.4**
baz=111
E21K Killik River 68.56 339 P **P** **08 07 18.4 -0.3**
baz=109
H19K Roundabout Mou 68.61 336 P **P** **08 07 17.8 -1.2**
baz=106
F20K Avaraart Lake 68.76 337 P **P** **08 07 19.0 -0.8**
baz=107
BORG Borgarnes 68.93 25 LR LR 08 39 33.9
comp=Z,25nm,18.4s,baz=270,slow=38
TBI Tubuai 68.94 238 *e*LR LR 08 28 22.2
comp=Z,695nm,30.0s
B22K Teshekpuk Lake 69.02 341 P **P** **08 07 21.0 -0.4**
baz=110
G19K Purcell Mounta 69.03 336 P **P** **08 07 20.6 -1.0**
baz=105
C21K Knifeblade Rid 69.07 340 P **P** **08 07 21.7 -0.1**
baz=109
B21K Ikpikpuk River 69.16 340 P **P** **08 07 21.3 -1.0**
baz=109
E20K Nigu River 69.28 339 P **P** **08 07 22.5 -0.7**
baz=107,SNR=6.3
H18K Honhosa River 69.29 335 P **P** **08 07 21.7 -1.5**
baz=104
E19K Redstone River 69.43 338 P **P** **08 07 22.8 -1.3**
baz=106
F19K Shaleruckik Mo 69.47 337 P **P** **08 07 23.4 -0.9**
baz=105
D20K Etivluk River 69.56 339 P **P** **08 07 24.1 -0.8**
baz=107
G18K Tagagawik 69.58 336 P **P** **08 07 24.0 -1.0**
baz=104
A22K Sinclair Lake 69.73 341 P **P** **08 07 25.3 -0.5**
baz=109
N14K Kuskokwak Cree 69.77 329 P **P** **08 07 25.3 -0.9**
baz=99
J16K Anvik River 69.84 333 P **P** **08 07 26.0 -0.6**
baz=101
H17K Granite Mounta 69.88 335 P **P** **08 07 26.7 -0.2**
baz=102
L15K Ungalak Mounta 69.95 331 P **P** **08 07 27.5 +0.1**
baz=100
I17K Unalakleet 70.00 334 P **P** **08 07 27.9 +0.3**
baz=101
M14K Bethel 70.03 330 P **P** **08 07 28.3 +0.4**
baz=99
D19K Kuna River 70.03 339 P **P** **08 07 27.1 -0.7**
baz=105
FALS False Pass 70.07 324 P **P** **08 07 27.9 -0.2**
baz=96
K15K Wolf Creek Mou 70.08 332 P **P** **08 07 28.2 +0.1**
baz=100
B20K Meade River 70.12 340 P **P** **08 07 27.2 -1.1**
baz=107
F18K Selawik 70.14 336 P **P** **08 07 28.3 -0.1**
baz=103
G17K Kiwalik Mounta 70.30 335 P **P** **08 07 27.9 -1.5**
baz=102
C19K Lookout Ridge 70.71 339 P **P** **08 07 32.4 +0.5**
baz=104
H16K Elim 70.80 334 P **P** **08 07 31.0 -1.5**
baz=100
G16K Koyuk River 70.98 335 P **P** **08 07 32.8 -0.7**
baz=100
J14K Nanvaranak Lak 71.08 332 P **P** **08 07 33.8 -0.4**
baz=98
E17K Hotham Inlet 71.08 337 P **P** **08 07 32.9 -1.2**
baz=101
C18K Utukok River 71.17 338 P **P** **08 07 33.7 -1.1**
baz=102
B18K Kokolik River 71.53 339 P **P** **08 07 36.2 -0.6**
baz=102
D17K Noatak River 71.67 337 P **P** **08 07 37.0 -0.7**
baz=100
UNV Unalaska Valle 71.80 323 P **P** **08 07 36.9 -1.8**
baz=93
C17K DeLong Mountai 71.85 338 P **P** **08 07 38.1 -0.7**
baz=100
F15K North Star Dit 71.97 335 P **P** **08 07 40.5 +0.9**
baz=98
JMIC Jan Mayen 74.72 20 LR LR 08 41 44.3
comp=Z,30nm,19.2s,baz=252,slow=37
RAR Rarotonga 76.95 244 LR LR 08 34 14.3
comp=Z,59nm,18.3s,baz=136,slow=29
EKA Eskdalemuir Ar 77.23 36 P **P** **08 08 06.6 -3.7**
comp=Z,2.3nm,0.6s,baz=272,slow=5.9,SNR=8.2
comp=Z,2.3nm,0.6s
ESDC Sonseca Array 78.34 52 P **P** **08 08 13.6 -3.2**
comp=Z,1.2nm,0.8s,baz=286,slow=6.3,SNR=6.7
ESDC LR LR 08 37 31.7
comp=Z,48nm,19.1s,baz=285,slow=32
comp=Z,1.2nm,0.8s
SPITS Spitsbergen Ar 80.42 12 P **P** **08 08 25.9 -1.4**
comp=Z,1.0nm,0.3s,baz=132,slow=2.1,SNR=9.4
SPITS LR LR 08 47 52.1
comp=Z,45nm,18.9s,baz=270,slow=39
comp=Z,1.0nm,0.3s
DBIC Dimbokro 83.34 85 P **P** **08 08 43.3 -0.6**
comp=Z,2.7nm,0.6s,baz=256,slow=7.7,SNR=3.5
DBIC LR LR 08 41 14.3
comp=Z,44nm,19.2s,baz=314,slow=32
comp=Z,2.7nm,0.6s
NOA NORSAR Array B 83.72 29 P **P** **08 08 42.9 -2.1**
comp=Z,0.4nm,0.6s,baz=290,slow=5.1,SNR=3.9
NOA LR LR 08 43 43.8
comp=Z,40nm,20.7s,baz=280,slow=34
comp=Z,0.4nm,0.6s
HFS Hagfors 85.16 29 P **P** **08 08 49.0 -3.2**
comp=Z,1.8nm,0.7s,baz=101,slow=1.5,SNR=6.4
HFS LR LR 08 43 44.1
comp=Z,36nm,20.8s,baz=279,slow=34
comp=Z,1.8nm,0.7s
ARCES ARCESS Array B 86.17 19 P **P** **08 08 54.9 -2.1**
comp=Z,3.9nm,1.0s,baz=288,slow=4.6,SNR=9.4
comp=Z,3.9nm,1.0s
TORD Torodi Ar. Bea 88.23 77 P **P** **08 09 04.2 -3.8**
comp=Z,0.8nm,0.5s,baz=296,slow=5.5,SNR=8.0
comp=Z,0.8nm,0.5s
GERES GERESS Array B 88.70 40 LR LR 08 43 56.0
comp=Z,35nm,20.2s,baz=265,slow=32
FINES FINESS Array B 90.22 26 P **P** **08 09 14.9 -1.6**
comp=Z,0.6nm,0.6s,baz=330,slow=7.3,SNR=3.9
comp=Z,0.6nm,0.6s
VRAC Vranov 90.34 39 LR LR 08 46 52.7
comp=Z,31nm,18.6s,baz=294,slow=34
VAE Valguarnera 92.84 51 LR LR 08 44 52.9
comp=Z,126nm,19.6s,baz=308,slow=32
OBN Obninsk 98.31 28 LR LR 08 52 35.2
comp=Z,35nm,21.4s,baz=356,slow=34
ZALV Zalesovo Beam 112.98 4 PKiKP **PKiKP** **08 14 52.0 -1.0**
comp=Z,1.5nm,0.5s,baz=304,slow=2.8,SNR=6.1
ZALV PP **PP** **08 15 38.3 -2.9**
comp=Z,1.3nm,0.6s,baz=12,slow=7.7,SNR=4.9
KURBB Kurchatov Arra 115.63 8 PKP **PKiKP** **08 14 57.2 -0.9**
comp=Z,1.6nm,0.6s,baz=357,slow=1.8,SNR=17
SONM Songino Array 117.64 348 PKP **PKPdf** **08 15 01.9 -0.4**
comp=Z,1.3nm,0.6s,baz=349,slow=1.4,SNR=10.0
SONM pPKP **pPKPdf** **08 15 16.3 -2.3**
comp=Z,1.4nm,0.6s,baz=327,slow=2.3,SNR=7.9
BOSA Boshof 117.83 115 PKP **PKPdf** **08 15 03.0 -0.2**
comp=Z,5.8nm,1.1s,baz=266,slow=2.9,SNR=5.5
KSRS Korea Array 118.58 327 PKP **PKiKP** **08 15 04.5 +0.3**
comp=Z,2.1nm,0.7s,baz=355,slow=1.5,SNR=9.4
KSRS pPKP **pPKPdf** **08 15 19.6 -0.9**
comp=Z,1.6nm,0.7s,baz=347,slow=1.6,SNR=3.4
MKAR Makanchi Array 119.87 6 PKP **PKPdf** **08 15 04.7 -1.8**
comp=Z,0.5nm,0.3s,baz=351,slow=2.6,SNR=9.1
MKAR pPKP **pPKPdf** **08 15 20.8 -1.9**
comp=Z,0.2nm,0.5s,baz=339,slow=3.1,SNR=4.4
MAW Mawson 122.67 168 PKP **PKiKP** **08 15 11.3 +0.1**
comp=Z,0.9nm,0.5s,baz=308,slow=3.2,SNR=6.4
HHC Hu-ho-hao-te 122.82 341 *e*P **PKiKP** **08 15 15.4 +2.8**
WMQ Urumqi 123.23 2 *e*PKP **PKiKP** **08 15 13.8 +0.5**
WMQ LR LR
comp=Z,130nm,24.0s
CTA Charters Tower 126.31 255 PKP **PKiKP** **08 15 20.8 +0.9**
comp=Z,0.1nm,0.5s,baz=207,slow=2.3,SNR=1.7
NJ2 Nanjing 127.46 329 *e*P **PKiKP** **08 15 22.4 +0.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
STKA Stephens Creek 129.72 239 PKP **PKPdf** **08 15 25.9 +0.2**
comp=Z,1.0nm,0.5s,baz=56,slow=3.6,SNR=3.4
WRA Warramunga Arr 137.51 255 PKhKP PKPpre 08 15 31.8
comp=Z,0.4nm,0.5s,baz=88,slow=3.2,SNR=6.4
WRA PKP **PKiKP** **08 15 41.9 -0.7**
comp=Z,3.4nm,0.6s,baz=88,slow=2.1,SNR=30
WRA SKPab **SKiKP** **08 19 15.5 +1.3**
comp=Z,1.1nm,0.7s,baz=89,slow=2.9,SNR=8.4
ASAR Alice Springs 137.64 249 PKhKP PKPpre 08 15 34.2
comp=Z,0.3nm,0.4s,baz=104,slow=3.2,SNR=3.1
ASAR PKP **PKPdf** **08 15 41.5 +0.6**
comp=Z,1.4nm,0.6s,baz=106,slow=2.0,SNR=4.3
ASAR SKPab **SKPab** **08 19 17.9 +0.2**
comp=Z,0.6nm,0.7s,baz=104,slow=3.0,SNR=6.4
PZH PanZhiHua 139.08 344 PKP **PKPdf** **08 15 43.3 -0.3**
CMAR Chiang Mai Arr 147.49 345 PKPbc **PKPbc** **08 16 00.6 -0.3**
comp=Z,12nm,0.7s,baz=340,slow=3.8,SNR=38
CMAR pPKPbc **pPKPdf** **08 16 14.2 -0.4**
comp=Z,9.4nm,0.7s,baz=343,slow=3.5,SNR=5.3

OSPL 12 08:00:07.3±1.5, 18°.49N×69°.79W, h92km±9km, ML2.5, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDD	**Santo Domingo**	**0.12**	**255**	*i* P	Pn	08 00 19.4	-0.8
SDD				*e*S	Sn	08 00 28.3	-1.6
SC01	**Santiago de lo**	**1.29**	**317**	*i* P	Pn	08 00 29.8	-0.7
SC01				IAML		08 00 57.2	
	comp=Z,62nm,1.9s						
PCDR	**Punta Cana, DR**	**1.34**	**89**	*i* P	Pn	08 00 29.6	-1.5
PCDR				*e*S	Sn	08 00 48.0	-1.2
PCDR				IAML		08 00 51.8	
	comp=Z,152nm,2.8s						
PODR	**Polo**	**1.45**	**257**	*i* P	Pn	08 00 31.1	-1.6
PODR				*e*S	Sn	08 00 49.9	-2.0
PODR				IAML		08 00 58.2	
	comp=Z,46nm,2.2s						
SDDR	**Presa de Saban**	**1.50**	**289**	IAmb	IAmb	08 01 00.2	
	comp=Z,32nm,0.7s						
SDDR	**Presa de Saban**	**1.50**	**289**	*i* P	Pn	08 00 32.8	-0.4
SDDR				*e*S	Sn	08 00 50.5	-2.3
SDDR				IAML		08 00 59.6	
	comp=Z,27nm,0.6s						
SDDR	**Presa de Saban**	**1.50**	**289**	P	Pn	08 00 32.9	-0.3

*IDC **12** 08:09:00.7±14.0, 5°.36S×144°.83E, h63km±83km, mb3.6/3, mbtmp3.8/6, ML3.1/3, MS2.9/1, Error ellipse: s-maj=152.8km s-min=50.5km az=166.0*

ISC 12 08:09:03.4±3.3, 5°.6S±0°.3×145°.0E±0°.3, h68km, n7, σ2s27/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.34**	**150**	P	**Pn**	**08 10 08.2**	**+1.2**
	8.9nm,0.3s,baz=351,slow=2.5,SNR=15						
PMG				S	**Sn**	**08 10 53.6**	**-2.8**
	46nm,0.7s,baz=127,slow=19,SNR=6.6						
	27nm,0.3s						
CTA	**Charters Tower**	**14.44**	**175**	P	**Pn**	**08 12 27.2**	**+2.8**
	baz=350,slow=12,SNR=1.7						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**17.60**	**215**	P	**P**	**08 13 03.2**	**-1.3**
	0.3nm,0.3s,baz=40,slow=13,SNR=23						
	2.1nm,0.6s						
ASAR	**Alice Springs**	**20.88**	**210**	P	**P**	**08 13 39.6**	**-0.6**
	4.5nm,0.9s,baz=42,slow=7.6,SNR=19						
	4.5nm,0.9s						
DAV	**Davao City (W)**	**23.10**	**303**	LR	LR	08 23 57.7	
	comp=Z,29nm,18.6s,baz=170,slow=39						
STKA	**Stephens Creek**	**26.32**	**186**	P	**P**	**08 14 31.9**	**-1.0**
	0.8nm,0.5s,baz=345,slow=11,SNR=4.1						
	0.8nm,0.5s						
QSPA	**South Pole Qui**	**84.35**	**180**	P	**P**	**08 21 27.2**	**-0.9**
	0.8nm,0.8s,baz=53,slow=1.9,SNR=5.8						
	0.8nm,0.8s						

IDC 12 08:19:07.6±3.0, 53°.72N×86°.91E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=28.0km s-min=16.5km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**281**	I	I	08 27 10.0	
	baz=100,slow=308,SNR=9.8						
ZALV	**Zalesovo Beam**	**1.26**	**281**	Pg	Pg	08 19 30.0	-1.7
	0.7nm,0.3s,baz=99,slow=16,SNR=4.1						
ZALV				Lg	Lg	08 19 49.0	
	1.1nm,0.3s,baz=103,slow=26,SNR=6.8						
KURBB	**Kurchatov Arra**	**6.01**	**242**	Pn	Pn	08 20 38.3	+0.6
	0.1nm,0.3s,baz=62,slow=16,SNR=2.3						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.53**	**205**	Pn	Pn	08 21 00.4	+1.7
	0.1nm,0.3s,baz=19,slow=14,SNR=2.7						
	0.2nm,0.3s						

*ISK **12** 08:21:08.9, 38°.86N×23°.95E, h15km, ML3.4/18*
*AFAD **12** 08:21:11.6±0.0, 38°.90N×24°.52E, h7km±6km, MW3.7*
*THE **12** 08:21:11.1, 38°.93N×24°.12E, h13km±1km, ML3.6/15, Error ellipse: s-maj=1.2km s-min=0.6km az=23.0*
*ATH **12** 08:21:11.2, 38°.94N×24°.14E, h12km±1km, ML3.5/10, Error ellipse: s-maj=1.7km s-min=0.8km az=126.0*

ISC 12 08:21:10.6±1.0, 38°.92N±0°.02×24°.09E±0°.02, h14km±8km, n107, σ0s88/151, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYMI	**Kymi, Euboea I**	**0.29**	**179**	P	**Pb**	**08 21 17.2**	**-0.3**
KYMI				S	**Sb**	**08 21 21.4**	**-0.8**
	4μm,0.2s						
KYMI	**Kymi, Euboea I**	**0.29**	**179**	P	**Pb**	**08 21 17.2**	**-0.3**
KYMI				S	**Sb**	**08 21 21.5**	**-0.8**
AOS	**Alonnisos**	**0.30**	**326**	P	**Pb**	**08 21 17.2**	**-0.5**
AOS				S	**Sb**	**08 21 21.8**	**-0.7**
	47μm,0.3s						
SKY	**Skiros Island**	**0.36**	**97**	P	**Pg**	**08 21 17.9**	**0.0**
SKY				S	**Sg**	**08 21 22.9**	**0.0**
	17μm,0.2s						
SKY	**Skiros Island**	**0.36**	**97**	P	**Pg**	**08 21 17.9**	**0.0**
SKY				S	**Sg**	**08 21 22.6**	**-0.3**
SKY				AML	AML	08 21 23.2	
	comp=N,36485μm,0.2s						
SKY				AML	AML	08 21 23.8	
	comp=E,31081μm,0.2s						
NEO	**Neokhori**	**0.78**	**300**	P	**Pb**	**08 21 26.1**	**+0.2**
NEO				S	**Sb**	**08 21 36.8**	**+0.5**
	comp=E,9μm,0.4s						
NEO	**Neokhori**	**0.78**	**300**	P	**Pn**	**08 21 26.6**	**-0.6**
NEO				S	**Sb**	**08 21 36.8**	**+0.5**
NEO				AML	AML	08 21 39.8	
	comp=E,15372μm,0.6s						
NEO				AML	AML	08 21 40.2	
	comp=N,18876μm,0.2s						
DION	**Dionisos Attik**	**0.85**	**188**	P	**Pn**	**08 21 28.4**	**+0.2**
DION				S	**Sn**	**08 21 41.3**	**+0.9**
	comp=N,14μm,0.3s						
PTL	**Penteli**	**0.89**	**192**	P	**Pn**	**08 21 28.1**	**-0.6**
PTL				S	**Sb**	**08 21 40.0**	**+0.5**
	comp=N,3μm,0.4s						
PTL	**Penteli**	**0.89**	**192**	P	**Pn**	**08 21 28.1**	**-0.6**
PTL				S	**Sb**	**08 21 39.9**	**+0.3**
PTL				AML	AML	08 21 42.6	
	comp=N,4799μm,0.3s						
PTL				AML	AML	08 21 42.9	
	comp=E,6532μm,0.6s						
EFSA	**Agios Efstrati**	**0.93**	**48**	P	**Pg**	**08 21 28.3**	**-0.3**
EFSA				S	**Sg**	**08 21 40.7**	**0.0**
VIL2	**Platees**	**0.96**	**223**	P	**Pn**	**08 21 30.5**	**+0.9**
VIL2				S	**Sn**	**08 21 43.6**	**+0.5**
VIL2				AML	AML	08 21 45.9	
	comp=N,9566μm,0.5s						
VIL2				AML	AML	08 21 49.0	
	comp=E,8421μm,0.5s						
VILL	**Villia**	**0.97**	**219**	P	**Pb**	**08 21 29.0**	**-0.2**
VILL				S	**Sn**	**08 21 43.3**	**-0.2**
	comp=E,5μm,0.7s						
ATHU	**Athens Univers**	**0.98**	**194**	P	**Pn**	**08 21 29.6**	**-0.4**
ATHU				S	**Sn**	**08 21 43.1**	**-0.6**
	comp=E,1μm,0.6s						
ATHU	**Athens Univers**	**0.98**	**194**	P	**Pn**	**08 21 29.7**	**-0.2**
ATHU				S	**Sb**	**08 21 42.5**	**+0.2**
ATH	**Athens Observa**	**0.99**	**197**	P	**Pn**	**08 21 29.9**	**-0.2**
ATH				S	**Sn**	**08 21 43.9**	**0.0**
	comp=E,4μm,0.4s						
ATH	**Athens Observa**	**0.99**	**197**	P	**Pn**	**08 21 29.9**	**-0.2**
ATH				S	**Sn**	**08 21 43.2**	**-0.7**
ATH				AML	AML	08 21 45.5	
	comp=E,5724μm,0.5s						
ATH				AML	AML	08 21 45.9	
	comp=N,9748μm,0.4s						
PAIG	**Paliouri**	**1.05**	**342**	Pn	**Pb**	**08 21 30.4**	**-0.2**
PAIG				Sn	**Sn**	**08 21 45.8**	**+0.4**
PAIG	**Paliouri**	**1.05**	**342**	P	**Pb**	**08 21 30.6**	**0.0**
PAIG				S	**Sb**	**08 21 44.9**	**+0.7**
	comp=N,1μm,0.6s						
VLY	**Voula,Athens**	**1.09**	**192**	P	**Pn**	**08 21 31.7**	**+0.3**
VLY				S	**Sb**	**08 21 45.6**	**+0.2**
	comp=N,3μm,0.3s						
VLY	**Voula,Athens**	**1.09**	**192**	P	**Pn**	**08 21 31.8**	**+0.3**
VLY				S	**Sn**	**08 21 45.9**	**-0.4**
VLY				AML	AML	08 21 48.6	
	comp=E,5101μm,0.3s						
VLY				AML	AML	08 21 48.7	
	comp=N,6874μm,0.3s						
AXAR	**Agios Charalam**	**1.13**	**263**	P	**Pn**	**08 21 32.3**	**+0.3**
AXAR	**Agios Charalam**	**1.13**	**263**	P	**Pn**	**08 21 32.4**	**+0.4**
AXAR				S	**Sn**	**08 21 48.9**	**+1.5**
LOUT	**Loutraki**	**1.28**	**224**	P	**Pg**	**08 21 34.8**	**-0.4**
LOUT				S	**Sg**	**08 21 51.7**	**-0.2**
	comp=N,3μm,0.6s						
LOUT	**Loutraki**	**1.28**	**224**	P	**Pg**	**08 21 35.4**	**+0.1**
LOUT				S	**Sg**	**08 21 52.0**	**0.0**
LOUT				AML	AML	08 21 55.0	
	comp=N,795μm,0.4s						
LOUT				AML	AML	08 21 57.5	
	comp=E,1165μm,0.3s						
LIA	**Limnos Island**	**1.29**	**41**	P	**Pn**	**08 21 33.6**	**-0.6**
LIA				S	**Sb**	**08 21 50.2**	**-0.8**
	comp=E,3μm,0.6s						
LIA	**Limnos Island**	**1.29**	**41**	P	**Pn**	**08 21 33.5**	**-0.6**
AGG	**Agios Georgios**	**1.38**	**275**	P	**Pb**	**08 21 35.8**	**-0.3**
AGG	**Agios Georgios**	**1.38**	**275**	P	**Pb**	**08 21 35.8**	**-0.3**
SIGR	**SIGRI**	**1.40**	**78**	Pn	**Pn**	**08 21 36.3**	**+0.6**
SIGR				Sn	**Sg**	**08 21 56.4**	**+0.6**
SIGR	**SIGRI**	**1.40**	**78**	P	**Pn**	**08 21 34.8**	**-0.9**
SIGR				S	**Sb**	**08 21 55.1**	**+0.9**
	comp=E,1μm,0.5s						
SIGR	**SIGRI**	**1.40**	**78**	P	**Pn**	**08 21 35.3**	**-0.4**
SIGR				S	**Sn**	**08 21 53.5**	**-0.5**
SIGR				AML	AML	08 21 57.4	
	comp=N,2690μm,0.6s						
SIGR				AML	AML	08 21 57.4	
	comp=E,2118μm,0.6s						
OUR	**Ouranopolis**	**1.41**	**357**	Pn	**Pn**	**08 21 35.5**	**-0.3**
OUR	**Ouranopolis**	**1.41**	**357**	P	**Pn**	**08 21 35.8**	**0.0**
OUR	**Ouranopolis**	**1.41**	**357**	P	**Pn**	**08 21 35.8**	**0.0**
MAKR	**Makrakomi, Fth**	**1.53**	**274**	P	**Pb**	**08 21 38.6**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.53**	**274**	P	**Pb**	**08 21 38.6**	**-0.2**
PLG	**Polygyros**	**1.53**	**341**	P	**Pn**	**08 21 37.2**	**-0.3**
PLG				S	**Sn**	**08 21 56.8**	**-0.5**
	comp=E,418nm,0.6s						
PLG	**Polygyros**	**1.53**	**341**	P	**Pn**	**08 21 37.3**	**-0.3**
KALE	**Kalithea**	**1.62**	**251**	P	**Pb**	**08 21 39.3**	**-0.9**
KALE	**Kalithea**	**1.62**	**251**	P	**Pn**	**08 21 39.0**	**+0.3**
CHOS	**Chios island**	**1.63**	**109**	P	**Pn**	**08 21 39.2**	**+0.3**
CHOS	**Chios island**	**1.63**	**109**	P	**Pn**	**08 21 39.0**	**+0.1**
TYRN	**Tyrnavos**	**1.64**	**299**	P	**Pb**	**08 21 39.7**	**-0.9**
TYRN	**Tyrnavos**	**1.64**	**299**	P	**Pb**	**08 21 39.8**	**-0.9**
GPNR	**Gulpinar-Canak**	**1.67**	**71**	Pn	**Pn**	**08 21 40.1**	**+0.7**
GUR	**Goura**	**1.69**	**235**	P	**Pb**	**08 21 40.4**	**-1.1**
GUR	**Goura**	**1.69**	**235**	P	**Pb**	**08 21 40.5**	**-1.0**
GUR				S	**Sb**	**08 22 02.3**	**-0.3**
GUR				AML	AML	08 22 10.1	
	comp=N,1771μm,0.5s						
GUR				AML	AML	08 22 10.8	
	comp=E,2850μm,0.5s						
KOCA	**Canakkale, Ayv**	**1.69**	**69**	P	**Pn**	**08 21 37.6**	**-2.1**
KOCA				S	**Sg**	**08 22 04.3**	**-0.7**
KRND	**KRANIDI**	**1.71**	**206**	P	**Pn**	**08 21 40.4**	**+0.5**
KRND	**KRANIDI**	**1.71**	**206**	P	**Pb**	**08 21 40.7**	**-1.0**
LIT	**Litokhoron**	**1.71**	**314**	P	**Pn**	**08 21 40.2**	**+0.2**
PRK	**Paraskevi**	**1.73**	**79**	P	**Pn**	**08 21 39.9**	**-0.3**
PRK	**Paraskevi**	**1.73**	**79**	P	**Pn**	**08 21 39.9**	**-0.3**
ANX	**Ano Chora**	**1.73**	**260**	P	**Pb**	**08 21 41.2**	**-1.0**
ANX	**Ano Chora**	**1.73**	**260**	P	**Pb**	**08 21 41.4**	**-0.8**
THL	**Klokotos Trika**	**1.74**	**292**	P	**Pn**	**08 21 41.0**	**+0.7**
THL	**Klokotos Trika**	**1.74**	**292**	P	**Pb**	**08 21 41.3**	**-1.0**
THAS	**Thassos island**	**1.75**	**16**	P	**Pn**	**08 21 39.5**	**-1.0**
THAS	**Thassos island**	**1.75**	**16**	P	**Pn**	**08 21 39.7**	**-0.8**
THAS				S	**Sn**	**08 22 00.3**	**-2.2**
THAS				AML	AML	08 22 08.9	
	comp=N,480μm,0.3s						
THAS				AML	AML	08 22 11.5	
	comp=E,548μm,0.3s						
KLV	**Kalavryta, Ach**	**1.76**	**241**	P	**Pn**	**08 21 41.1**	**+0.4**
BOZC	**Bozcaada**	**1.77**	**58**	P	**Pn**	**08 21 41.6**	**+0.7**
BOZC				S	**Sn**	**08 22 01.0**	**-2.2**
EVR	**Evrytania**	**1.78**	**271**	P	**Pb**	**08 21 43.1**	**0.0**
EVR	**Evrytania**	**1.78**	**271**	P	**Pn**	**08 21 41.0**	**0.0**
KARB	**zmir-Karabur**	**1.83**	**97**	P	**Pn**	**08 21 38.7**	**-2.9**
KARB				S	**Sg**	**08 22 08.5**	**-1.0**
HORT	**Hortiatis**	**1.84**	**336**	P	**Pn**	**08 21 42.5**	**+0.7**
GOAD	**anakkale-G¶**	**1.87**	**48**	P	**Pn**	**08 21 42.0**	**-0.2**
GOAD				S	**Sg**	**08 22 10.2**	**-0.6**
GADA	**Gvkgeada**	**1.89**	**47**	Pn	**Pn**	**08 21 43.3**	**+1.0**
KOKK	**Kokkinochori,**	**1.89**	**358**	P	**Pn**	**08 21 42.3**	**-0.2**
KOKK	**Kokkinochori,**	**1.89**	**358**	P	**Pn**	**08 21 42.3**	**-0.2**
SMTH	**Samothraki Isl**	**1.90**	**35**	P	**Pn**	**08 21 41.5**	**-1.1**
SMTH	**Samothraki Isl**	**1.90**	**35**	P	**Pn**	**08 21 41.6**	**-1.0**
EZN	**Ezine**	**1.95**	**62**	Pn	**Pn**	**08 21 44.4**	**+1.2**
ECEA	**Canakkale, Ece**	**1.96**	**55**	P	**Pg**	**08 21 48.2**	**0.0**
ECEA				S	**Sg**	**08 22 13.3**	**-0.4**
ZEYE	**Izmir, Urla-Ze**	**2.01**	**109**	P	**Pn**	**08 21 44.7**	**+0.6**
PVO	**Paravola**	**2.03**	**262**	P	**Pb**	**08 21 46.0**	**-1.2**
PVO	**Paravola**	**2.03**	**262**	P	**Pb**	**08 21 45.9**	**-1.3**
URLA	**Izmir**	**2.04**	**105**	Pn	**Pn**	**08 21 44.9**	**+0.4**
URLA	**Izmir**	**2.04**	**105**	P	**Pn**	**08 21 43.1**	**-1.4**
URLA				S	**Sg**	**08 22 18.9**	**+2.7**
AYVA	**Ayvalik**	**2.06**	**78**	P	**Pn**	**08 21 45.8**	**+1.1**
AYVA				S	**Sg**	**08 22 17.3**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**2.07**	**66**	P	**Pn**	**08 21 44.2**	**-0.7**
BAYC				S	**Sn**	**08 22 08.5**	**-2.1**
KAVA	**Kavala**	**2.10**	**9**	P	**Pn**	**08 21 43.9**	**-1.4**
CAND	**Candarli**	**2.11**	**88**	Pn	**Pn**	**08 21 46.4**	**+0.9**
APE	**Apeiranthos**	**2.17**	**148**	P	**Pn**	**08 21 46.7**	**+0.4**
DKL	**Dikili**	**2.20**	**85**	Pn	**Pn**	**08 21 47.4**	**+0.8**
IZMD	**zmir-Dikili-**	**2.21**	**88**	P	**Pb**	**08 21 50.2**	**-0.2**
IZMD				S	**Sg**	**08 22 22.2**	**+0.5**
SRS	**Serrai**	**2.23**	**350**	P	**Pn**	**08 21 47.1**	**0.0**
ZEDA	**zmir-Bergama**	**2.33**	**88**	P	**Pb**	**08 21 51.5**	**-0.8**
ZEDA				S	**Sg**	**08 22 25.5**	**+0.1**
KPRO	**Kipourio**	**2.35**	**297**	P	**Pn**	**08 21 50.0**	**+1.2**
GELI	**Tayfur-Gelibol**	**2.36**	**51**	Pn	**Pn**	**08 21 50.1**	**+1.3**
CAVK	**Edirne/Enez-Ca**	**2.38**	**41**	P	**Pg**	**08 21 58.1**	**+1.9**
CAVK				S	**Sg**	**08 22 28.1**	**+0.9**
VLI	**Veliai**	**2.38**	**203**	P	**Pn**	**08 21 49.7**	**+0.5**
BUHA	**Balikesir, Bur**	**2.39**	**75**	P	**Pb**	**08 21 53.3**	**-0.1**
BUHA				S	**Sb**	**08 22 24.1**	**+1.5**
ENEZ	**Enez**	**2.41**	**41**	Pn	**Pn**	**08 21 50.5**	**+1.0**
ALN	**Alexandroupoli**	**2.48**	**37**	Pn	**Pn**	**08 21 51.8**	**+1.3**
RDO	**Rodhopi**	**2.48**	**26**	Pn	**Pn**	**08 21 51.5**	**+0.9**
RDO	**Rodhopi**	**2.48**	**26**	P	**Pn**	**08 21 49.8**	**-0.8**
LPK	**Lapseki**	**2.52**	**54**	Pn	**Pn**	**08 21 52.4**	**+1.4**
ERIK	**Erikli-Kesan**	**2.56**	**46**	Pn	**Pn**	**08 21 52.9**	**+1.4**
STEP	**BALIKESIR_Sava**	**2.85**	**80**	P	**Pb**	**08 22 01.6**	**+0.3**
STEP				S	**Sg**	**08 22 41.6**	**-0.8**
KDZ	**Kurdzhali**	**2.87**	**19**	Pn	**Pn**	**08 21 55.9**	**0.0**
KRBG	**Karabiga-Canak**	**2.88**	**58**	Pn	**Pn**	**08 21 57.5**	**+1.5**
MRMT	**Marmara Adasi**	**3.18**	**57**	Pn	**Pn**	**08 22 01.8**	**+1.6**
ODEM	**Odemis-Izmir**	**3.19**	**100**	Pn	**Pn**	**08 22 01.3**	**+1.0**
EDC	**Edincik**	**3.24**	**63**	Pn	**Pn**	**08 22 02.4**	**+1.4**
SUSR	**Susurluk-Balik**	**3.26**	**70**	Pn	**Pn**	**08 22 03.1**	**+1.8**
EDRB	**Edirne**	**3.55**	**34**	Pn	**Pn**	**08 22 06.7**	**+1.4**

*MOS **12** 08:39:21.1±0.9, 38°.26N×142°.25E, h35km, mb5.1/39, MS4.1/8, Error ellipse: s-maj=6.4km s-min=4.1km az=110.6*
*BJI **12** 08:39:21.3±0.0, 38°.23N×142°.26E, h45km, mb5.0/73, mB4.9/30, Ms4.3/63, Ms7 4.2/63*
*NIED **12** 08:39:23.1, 38°.26N×142°.16E, h39km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; M_{rr}-1.28; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$1.42; $M_{r\theta}$0.15; $M_{\theta\phi}$0.59; $M_{\phi r}$-0.69; Fault plane solution: $M_0$1.63000×10^16 NP1:φs3.00000°, δ58.00000°, λ-109.00000°. NP2:φs216.00000°, δ36.00000°, λ-62.00000°.*
*NEIC **12** 08:39:23.4±1.7, 38°.21N±0°.06×142°.23E±0°.09, h35km±5km, mb4.9/72, Mwr4.7/27 Error ellipse: s-maj=10.6km s-min=7.4km az=122.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; M_{rr}-1.15; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$1.23; $M_{r\theta}$0.04; $M_{\theta\phi}$0.48; $M_{\phi r}$-0.77; Fault plane solution: $M_0$1.50000×10^16 NP1:φs212.30000°, δ31.75000°, λ-67.02000°. NP2:φs5.79000°, δ61.03000°, λ-103.58000°. Principal axes: T 1.5779, Plg15.0000°, Azm106.0000°; N -0.1755, Plg12.0000°, Azm12.0000°; P -1.4023, Plg71.0000°, Azm246.0000°;*
*IDC **12** 08:39:23.7±1.9, 38°.21N×142°.20E, h41km±17km, mb4.5/30, mbtmp4.7/36, ML4.2/6, MS3.9/61 Error ellipse: s-maj=12.9km s-min=10.0km az=98.0*
*NEIC **12** 08:39:23.6, 38°.22N×142°.18E, h33km*
*JMA **12** 08:39:23.1±0.2, 38°.3N±0°.5×142°.2E±1°.0, h39km±1km, MD4.9/34, MW4.8/34, E OFF MIYAGI PREF*
JMA Felt III J1 at E OFF MIYAGI PREF
*GCMT **12** 08:39:24.4±0.4, 38°.38N±0°.03×142°.28E±0°.04, h39km±1km, MW4.9/54, Moment Tensor Solution. s39,c49; s54,c68; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-2.47±.18; $M_{\theta\theta}$0.05±.12; $M_{\phi\phi}$2.42±.11; $M_{r\theta}$0.25±.12; $M_{\theta\phi}$0.91±.10; $M_{\phi r}$-0.65±.10; Best double couple: $M_0$2.69400×10^16 NP1:φs8.00000°, δ52.00000°, λ-103.00000°. NP2: φs209.00000°, δ40.00000°, λ-74.00000°. Principal axes: T 2.7820, Plg6.0000°, Azm108.0000°; N -0.1790, Plg10.0000°, Azm17.0000°; P -2.6060, Plg78.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **12** 08:39:27.4, 37°.98N×140°.63E, h38km±1km, mb4.8, Ms4.2, Hypocentre not reviewed by the ISC*

ISC 12 08:39:23.9±0.4, 38°.21N±0°.03×142°.26E±0°.03, h43km±3km, h42km:pP-P, n913, σ1s33/853, mb4.9/152, MS4.0/81, 22C-22D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.63**	**279**	P	**Pn**	**08 39 34.3**	**-2.1**
JIKH				S	**Sn**	**08 39 42.0**	**-3.3**
JIKH	**Ishinomakikobu**	**0.63**	**279**	A	A	08 39 34.3	
	comp=E,92nm,0.3s,comp=N,40nm,0.5s						
JIO	**Ouri**	**0.75**	**289**	P	**Pn**	**08 39 36.1**	**-2.0**
JIO				S	**Sn**	**08 39 45.3**	**-3.0**
JIO	**Ouri**	**0.75**	**289**	A	A	08 39 36.1	
	comp=E,25nm,0.4s,comp=N,29nm,0.6s						
JKMT	**Kesennumamotoy**	**0.85**	**314**	P	**Pn**	**08 39 37.6**	**-1.8**
JKMT				S	**Sn**	**08 39 47.9**	**-2.9**
JKMT	**Kesennumamotoy**	**0.85**	**314**	A	A	08 39 37.6	
	comp=E,63nm,0.9s,comp=N,42nm,1.6s						
OFUJ	**Ofunato**	**0.98**	**332**	P	**Pn**	**08 39 39.3**	**-1.9**
OFUJ				S	**Sn**	**08 39 51.1**	**-2.7**
OFUJ	**Ofunato**	**0.98**	**332**	A	A	08 39 39.3	
	comp=E,52nm,2.1s,comp=N,39nm,1.8s						
JMK	**Ichinoseki**	**1.10**	**313**	P	**Pn**	**08 39 41.1**	**-1.6**
JMK				S	**Sn**	**08 39 52.7**	**-4.0**
JMK	**Ichinoseki**	**1.10**	**313**	A	A	08 39 41.1	
	comp=E,23nm,1.7s,comp=N,25nm,0.7s						
JOFO	**Osakifurukawao**	**1.12**	**291**	A	A	08 39 41.5	
	comp=E,133nm,1.5s,comp=N,108nm,4.4s						
JMST	**Minamisoumatoc**	**1.19**	**246**	A	A	08 39 43.0	
	comp=E,48nm,0.4s,comp=N,62nm,0.4s						
JMM	**Marumori**	**1.21**	**254**		**Pn**	**08 39 42.1**	**-2.1**
JMM	**Marumori**	**1.21**	**254**	P	**Pn**	**08 39 42.3**	**-2.0**
JMM				S	**Sn**	**08 39 56.6**	**-2.8**
JMM	**Marumori**	**1.21**	**254**	A	A	08 39 42.3	
	comp=E,24nm,0.6s,comp=N,35nm,1.0s						
JOU	**Okura**	**1.26**	**277**	P	**Pn**	**08 39 43.8**	**-1.3**
JOU	**Okura**	**1.26**	**277**	A	A	08 39 43.8	
	comp=E,53nm,0.4s,comp=N,49nm,0.7s						
JFK	**Kawauchi**	**1.38**	**233**	P	**Pn**	**08 39 44.6**	**-2.1**
JFK				*e*S	**Sn**	**08 40 00.3**	**-3.6**
JFK	**Kawauchi**	**1.38**	**233**	A	A	08 39 44.6	
	comp=E,16nm,0.6s,comp=N,14nm,0.5s						
MIYJ	**Miyakonagasawa**	**1.40**	**346**	A	A	08 39 45.9	
	comp=E,17nm,2.9s,comp=N,17nm,1.2s						
JOM	**Ohasama**	**1.46**	**329**	P	**Pn**	**08 39 46.7**	**-1.2**
JOM				*e*S	**Sn**	**08 40 04.3**	**-1.5**
JOM	**Ohasama**	**1.46**	**329**	A	A	08 39 46.7	
	comp=E,36nm,0.4s,comp=N,35nm,0.5s						
ONAJ	**Iwakimizuishiy**	**1.60**	**227**	A	A	08 39 49.5	
	comp=E,59nm,0.3s,comp=N,35nm,0.3s						
JYK	**Kaneyama**	**1.64**	**296**	P	**Pn**	**08 39 49.1**	**-1.2**
JYK	**Kaneyama**	**1.64**	**296**	A	A	08 39 49.1	
	comp=E,19nm,1.1s,comp=N,13nm,1.4s						
JOTO	**OTAMA OYAMA**	**1.65**	**247**	P	**Pn**	**08 39 49.1**	**-1.3**
JOTO				S	**Sn**	**08 40 09.2**	**-1.3**
JOTO	**OTAMA OYAMA**	**1.65**	**247**	A	A	08 39 49.1	
	comp=E,37nm,0.4s,comp=N,57nm,1.8s						
JYAR	**Yonezawaarcadi**	**1.69**	**260**	A	A	08 39 50.2	
	comp=E,52nm,1.0s,comp=N,53nm,1.2s						
JYS	**Shiratake**	**1.72**	**271**	P	**Pn**	**08 39 50.1**	**-1.3**
JYS	**Shiratake**	**1.72**	**271**	A	A	08 39 50.1	
	comp=E,28nm,1.1s,comp=N,18nm,1.6s						
JRG	**Rokugo**	**1.73**	**313**	*e*P	**Pn**	**08 39 50.5**	**-1.0**
JRG	**Rokugo**	**1.73**	**313**	A	A	08 39 50.5	
	comp=E,33nm,1.0s,comp=N,22nm,1.5s						
JTH	**Tanohata**	**1.75**	**350**	A	A	08 39 51.1	
	comp=E,11nm,2.4s,comp=N,12nm,0.9s						
JFFD	**Fukushimafurud**	**1.75**	**231**	A	A	08 39 51.6	
	comp=E,10.0nm,0.4s,comp=N,11nm,0.9s						
JSZI	**Iwateshizukuis**	**1.83**	**327**	A	A	08 39 51.9	
	comp=E,41nm,2.0s,comp=N,56nm,2.2s						
JKZ	**Kuzumaki**	**1.91**	**338**	A	A	08 39 53.2	
	comp=E,27nm,1.7s,comp=N,20n

comp=N,71nm,0.5s,baz=63,slow=24,SNR=2.2
MJAR LR LR 08 42 03.3
comp=N,4μm,18.2s,baz=84,slow=44
comp=N,70nm,0.3s
MAJO Matsushiro 3.63 244 P **Pn 08 40 18.0 +0.4**
MAJO Matsushiro 3.63 244 **Pn 08 40 17.3 -0.3**
MAJO Matsushiro 3.63 244*c iP* **Pn 08 40 17.5 -0.1**
MJB9 Matsu-Tunnel 3.63 244 **Pn 08 40 17.8 +0.2**
JYO Yokosk 3.64 216 A A 08 40 18.8
comp=E,9.0nm,2.3s,comp=N,12nm,2.6s
TATJ Tateyama 2 3.70 212 A A 08 40 19.8
comp=E,16nm,3.1s,comp=N,13nm,3.3s
JOMM Oshimamatsumae 3.73 333 A A 08 40 19.0
comp=E,5.0nm,2.2s,comp=N,5.0nm,3.2s
ERM Erimo 3.86 10 P **Pn 08 40 19.9 -0.8**
ERM Erimo 3.86 10 Pn **Pn 08 40 19.4 -1.2**
ERM Erimo 3.86 10*c iP* **Pn 08 40 19.8 -0.9**
ERM pmax pmax
comp=Z,40nm,0.6s
JEM Erimo 3.86 10 P **Pn 08 40 19.9 -0.8**
JOD2 Odawara 2 3.89 222 A A 08 40 22.2
comp=E,8.0nm,2.0s,comp=N,7.0nm,2.0s
JYN Shimob 4.03 229 A A 08 40 23.9
comp=E,8.0nm,1.3s,comp=N,8.0nm,3.3s
JNBK Urakawa-nobuka 4.08 5 A A 08 40 24.5
comp=E,7.0nm,1.0s,comp=N,8.0nm,2.4s
JYM2 Yakumo 2 4.16 340 A A 08 40 25.2
comp=E,4.0nm,2.9s,comp=N,4.0nm,4.9s
JFNN Fujinakano 4.16 225 A A 08 40 25.9
comp=E,9.0nm,4.8s,comp=N,8.0nm,6.6s
JIM2 Oshima 3 4.17 214 A A 08 40 26.2
comp=E,7.0nm,3.3s,comp=N,7.0nm,2.1s
JHTM Izuhatsuma 4.17 220 A A 08 40 26.2
comp=E,11nm,1.0s,comp=N,14nm,1.2s
JSHD Hidakashinhida 4.19 2 A A 08 40 26.0
comp=E,10.0nm,2.4s,comp=N,9.0nm,3.9s
JIAM Iburiatsuma 4.41 357 A A 08 40 29.0
comp=E,11nm,2.1s,comp=N,10.0nm,0.7s
SHZ3 Shizuoka 3 4.52 227 A A 08 40 31.0
comp=E,4.0nm,2.5s,comp=N,5.0nm,1.0s
JNY Yasuok 4.53 232 A A 08 40 31.0
comp=E,5.0nm,2.5s,comp=N,8.0nm,1.2s
JGF Kuroka 4.71 238 P **Pn 08 40 34.2 +1.7**
JGF Kuroka 4.71 238 **Pn 08 40 33.1 +0.6**
JSG Sagara 4.82 224 P **Pn 08 40 35.6 +1.7**
JSG Sagara 4.82 224 **Pn 08 40 33.9 0.0**
JOB Onbets 4.84 14 A A 08 40 35.3
comp=E,6.0nm,1.7s,comp=N,7.0nm,2.3s
INU Inuyama 5.08 237 P **Pn 08 40 38.7 +1.2**
INU Inuyama 5.08 237 **Pn 08 40 38.5 +0.9**
JHJ2 Mitsune 5.46 202 P **Pn 08 40 41.4 -1.4**
JHJ2 Mitsune 5.46 202 **Pn 08 40 40.8 -2.0**
JHJ Hachijo jima 2 5.47 202 P **Pn 08 40 41.1 -1.7**
comp=N,103nm,0.3s,baz=89,slow=23,SNR=40
JHJ S **Sn 08 41 40.0 -4.4**
comp=N,506nm,0.3s,baz=178,slow=20,SNR=6.8
JHJ LR LR 08 43 10.1
comp=N,1μm,20.2s,baz=94,slow=42
comp=N,320nm,0.3s
NMR Nemuro--Hokkai 5.78 26⇓*iP* **Pn 08 40 44.4 -2.7**
NMR *e*S **Sn 08 41 45.2 -6.9**
ASAJ Asahikawa 5.90 2 P **Pn 08 40 47.9 -0.8**
comp=N,11nm,0.3s,baz=218,slow=12,SNR=42
ASAJ S **Sn 08 41 51.3 -3.7**
comp=N,42nm,0.4s,baz=174,slow=30,SNR=3.8
comp=N,34nm,0.4s
JKA Kamikawa-asahi 5.90 2 Pn **Pn 08 40 47.6 -1.1**
RUSJ Misakicho 6.30 20⇓*iP* **Pn 08 40 52.6 -1.6**
RUSJ *e*S **Sn 08 42 01.6 -3.3**
YUK Yuzh-Kuril'sk 6.42 24*ceP* **Pn 08 40 54.7 -1.1**
SHO Shikotan 6.62 30⇓*iP* **Pn 08 40 55.7 -2.9**
SHO *e*S Sn 08 42 03.8 -9.0
SHO pmax pmax
comp=Z,64nm,0.3s
SHO pmax pmax
comp=N,56nm,0.4s
SHO smax smax
comp=N,441nm,0.4s
SHO smax smax
comp=E,498nm,0.6s
TEY Ternei 8.02 330 *e*P **Pn 08 41 20.4 +2.6**
TEY pmax pmax
comp=N,200nm,0.9s
TEY pmax pmax
comp=E,100nm,0.9s
TEY pmax pmax
comp=Z,200nm,0.9s
TEY pmax pmax
comp=N,130nm,0.9s
TEY pmax pmax
comp=E,80nm,0.9s
TEY pmax pmax
comp=Z,130nm,0.9s
JMN Monobe 8.13 239 P **Pn 08 41 20.4 +1.0**
JMN Monobe 8.13 239 Pn **Pn 08 41 20.0 +0.6**
KUR Kuril'sk 8.17 29 *e*P **Pn 08 41 18.8 -1.0**
KUR *e*S **Sn 08 42 45.2 -5.6**
KUR pmax pmax
comp=Z,105nm,0.5s
KUR pmax pmax
comp=N,76nm,0.6s
KUR pmax pmax
comp=E,64nm,0.6s
KUR smax smax
comp=E,271nm,0.8s
KUR smax smax
comp=N,141nm,0.7s
YSS Yuzh-Sakhalins 8.74 2 P **Pn 08 41 27.3 -0.3**
YSS Yuzh-Sakhalins 8.74 2 Pn **Pn 08 41 28.3 +0.6**
YSS Yuzh-Sakhalins 8.74 2 *e*P **Pn 08 41 27.1 -0.5**
YSS *e*S **Sn 08 42 59.0 -5.8**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=Z,500nm,14.0s
YSS MLR MLR
comp=N,300nm,15.0s
YSS MLR MLR
comp=E,200nm,14.0s
VLA Vladivostok 9.28 305 *e*P **Pn 08 41 38.3 +3.3**
VLA pmax pmax
comp=Z,303nm,1.2s
MSHR Mys Shultsa 9.52 301*ceP* **Pn 08 41 37.6 -0.7**
MSHR pmax pmax
comp=Z,69nm,1.0s
USA0B Ussuriysk Arra 9.77 311 Pn **Pn 08 41 42.4 +0.6**
USA0B Ussuriysk Arra 9.77 311*ceP* **Pn 08 41 43.1 +1.3**
USRK Ussuriysk Ar. 9.77 311 P **Pn 08 41 41.6 -0.1**
comp=Z,6.1nm,0.3s,baz=123,slow=13,SNR=97
USRK LR LR 08 45 12.0
comp=Z,1μm,19.4s,baz=128,slow=36
comp=Z,23nm,0.4s
PSTR Posyet 9.79 301⇑*eP* **Pn 08 41 42.1 +0.1**
JNU Nakatsue 10.55 245 P **Pn 08 41 54.7 +2.1**
JNU Nakatsue 10.55 245 Pn **Pn 08 41 53.6 +1.1**
JNU Nakatsue 10.55 245 P **Pn 08 41 54.0 +1.4**
comp=Z,29nm,0.7s,baz=47,slow=7.2,SNR=40
JNU LR LR 08 46 23.4
comp=Z,1μm,19.1s,baz=54,slow=40
JTU Tsushima 11.00 254 P **Pn 08 42 00.5 +1.9**
JCJ Chichijima 11.09 180 Pn **Pn 08 41 56.8 -3.0**
JCJ Chichijima 11.09 180 P Pn 08 41 52.4 -7.4
comp=Z,45nm,0.3s,baz=84,slow=20,SNR=10
JCJ S Sn 08 43 47.4 -15
comp=Z,62nm,0.3s,baz=282,slow=22,SNR=5.4
JCJ LR LR 08 46 45.4
comp=Z,131nm,21.6s,baz=330,slow=40
KSRS Korea Array 11.36 271 P **Pn 08 42 06.0 +2.5**
comp=Z,8.8nm,0.7s,baz=80,slow=12,SNR=25
KSRS LR LR 08 46 10.3
comp=Z,711nm,19.2s,baz=70,slow=36
KSAR Wonju Array Be 11.39 271 Pn **Pn 08 42 05.1 +1.1**
KSAR Wonju Array Be 11.39 271 P **Pn 08 42 05.1 +1.1**
KS19 Wonju Array Si 11.40 271 **Pn 08 42 04.0 -0.1**
MDJ Mudanjiang 11.45 308 P **Pn 08 42 07.3 +2.6**
MDJ PP **PnPn 08 42 14.8 +2.3**
MDJ sP 08 42 20.2
MDJ S **Sn 08 44 15.0 +3.8**
MDJ SS **SnSn 08 44 28.0 +4.7**
MDJ pmax pmax
comp=Z,62nm,1.3s
MDJ pmax pmax
comp=Z,270nm,3.5s
MDJ LR LR
comp=Z,620nm,16.5s
MDJ LR LR
comp=Z,920nm,14.1s
MDJ LR LR
comp=Z,1μm,19.6s
TJN Taejon 12.00 266 P **Pn 08 42 14.6 +2.3**
TJN Taejon 12.00 266 Pn **Pn 08 42 12.8 +0.5**
TJN Taejon 12.00 266⇑*eP* **Pn 08 42 13.1 +0.8**
INCN Inchon 12.37 271 P **Pn 08 42 20.3 +2.9**
BNX BinXian 13.35 309⇓P **Pn 08 42 29.5 -1.2**
BNX S **Sn 08 44 57.6 0.0**
BNX pmax pmax
comp=Z,19nm,1.1s
BNX LR LR
comp=Z,240nm,12.2s
BNX LR LR
comp=Z,720nm,18.1s
BNX LR LR
comp=Z,920nm,17.5s
KLR Kul'dur 13.36 329 P **Pn 08 42 29.8 -1.0**
comp=Z,0.3nm,0.3s,baz=138,slow=9.4,SNR=8.8
KLR LR LR 08 47 37.9
comp=Z,840nm,18.5s,baz=144,slow=37
comp=Z,1.7nm,0.5s
KLR Kul'dur 13.36 329⇑*eP* **Pn 08 42 29.4 -1.4**
KLR pmax pmax
comp=Z,6.0nm,1.3s
CN2 Changchun 13.86 299 P **Pn 08 42 37.5 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,9.0s
CN2 LR LR
comp=Z,800nm,19.0s
CN2 LR LR
comp=Z,900nm,19.0s
CN2 LR LR
comp=Z,700nm,17.0s
SNY Shenyang 14.76 290⇓P **P 08 42 54.8 -0.1**
SNY S **S 08 45 43.3 -5.6**
SNY pmax pmax
comp=Z,15nm,0.6s
SNY pmax pmax
comp=Z,150nm,7.2s
SNY LR LR
comp=N,220nm,11.0s
SNY LR LR
comp=E,1μm,16.5s
SNY LR LR
comp=Z,1μm,16.7s
HEH HeiHe 16.02 323 *e*P **Pn 08 43 03.6 -2.5**
HEH sP **pP 08 43 14.9 -4.2**
HEH S **Sn 08 45 59.8 -2.7**
HEH pmax pmax
comp=Z,13nm,1.2s
HEH LR LR
comp=Z,610nm,15.9s
HEH LR LR
comp=Z,600nm,13.9s
HEH LR LR
comp=Z,1μm,15.7s
DL2 Dalian 16.15 279 P **Pn 08 43 08.3 +0.5**
DL2 S **Sn 08 46 05.6 -0.2**
DL2 pmax pmax
comp=Z,140nm,0.8s
DL2 pmax pmax
comp=Z,410nm,6.5s
DL2 LR LR
comp=Z,490nm,17.1s
DL2 LR LR
comp=Z,670nm,19.4s
DL2 LR LR
comp=Z,700nm,15.7s
JOW Kunigami 16.34 230 Pn **Pn 08 43 10.4 +0.1**
JOW Kunigami 16.34 230 P **Pn 08 43 09.8 -0.5**
comp=Z,1.1nm,0.3s,baz=17,slow=14,SNR=2.2
comp=Z,11nm,0.7s
ZEA Zeya 18.64 331 *e*P **P 08 43 36.2 -1.6**
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=Z,50nm,0.9s
ZEA MLR MLR
comp=N,300nm,15.0s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
NJ2 Nanjing 20.08 259 *e*P Pn 08 43 56.0 +0.3
NJ2 pP pP 08 44 02.7 -1.3
NJ2 pmax pmax
comp=Z,32nm,0.8s
NJ2 pmax pmax
comp=Z,220nm,4.1s
NJ2 LR LR
comp=Z,600nm,19.9s
NJ2 LR LR
comp=Z,600nm,20.8s
NJ2 LR LR
comp=Z,1μm,19.0s
TIA Tai'an 20.10 272 P **P 08 43 52.5 -1.4**
TIA pmax pmax
comp=Z,29nm,1.4s
BJI Beijing 20.30 283 P **P 08 43 56.4 +0.4**
BJI pP **pP 08 44 04.0 -2.3**
BJI pmax pmax
comp=Z,13nm,1.0s
BJI LR LR
comp=Z,110nm,13.2s
BJI LR LR
comp=Z,160nm,14.9s
BJI LR LR
comp=Z,180nm,15.6s
BJT Baijiatuau 20.30 283 P **P 08 43 56.7 +0.6**
XLT XiLinHaoTe 20.50 294 *e*P **P 08 43 55.3 -2.9**
XLT S **S 08 47 37.7 -7.5**
XLT PcP **PcP 08 48 09.3 +0.8**
XLT pmax pmax
comp=Z,48nm,0.8s
XLT LR LR
comp=Z,260nm,18.0s
XLT LR LR
comp=Z,290nm,18.2s
HNS HongShan 21.75 276⇓P **P 08 44 08.5 -3.2**
HNS pmax pmax
comp=Z,26nm,1.1s
HNS LR LR
comp=Z,430nm,15.1s
HNS LR LR
comp=Z,390nm,14.3s
MA2 Magadan 22.06 12 P **P 08 44 14.9 +0.1**
MA2 Magadan 22.06 12 P **P 08 44 14.6 -0.2**
MA2 IAmb IAmb 08 44 17.1
comp=Z,42nm,0.9s
MA2 Magadan 22.06 12*deP* **P 08 44 15.7 +0.9**
MA2 pmax pmax
comp=Z,57nm,1.3s
MA2 Magadan 22.06 12 P **P 08 44 15.4 +0.6**
comp=Z,50nm,0.9s
YHNB Yeheng 22.29 239 P **P 08 44 15.5 -2.1**
YHNB IAmb IAmb 08 44 27.2
comp=Z,112nm,1.5s
NACB Ninganchiao 22.48 237 P **P 08 44 16.8 -2.8**
NACB IAmb IAmb 08 44 19.7
comp=Z,58nm,1.3s
SSLB Suanglung 23.17 238 P **P 08 44 27.3 +0.6**
YULB Yu-li 23.21 236 P **P 08 44 27.6 +0.4**
YULB Yu-li 23.21 236 P **P 08 44 24.5 -2.6**
YULB IAmb IAmb 08 44 29.0
comp=Z,22nm,0.6s
TPUB Ta-pu 23.72 237 P **P 08 44 33.5 +1.5**
TPUB Ta-pu 23.72 237 P **P 08 44 30.2 -1.8**
TWGBT Beinan 23.76 236 P **P 08 44 31.8 -0.6**
HHC Hu-ho-hao-te 23.76 286 *e*P **P 08 44 31.0 -1.4**
HHC S **S 08 48 42.9 -2.0**
HHC SS **SnSn 08 49 30.2 +4.6**
HHC pmax pmax
comp=Z,31nm,1.0s
HHC pmax pmax
comp=Z,80nm,4.4s
HHC LR LR
comp=Z,130nm,16.7s
HHC LR LR
comp=Z,660nm,16.2s
HHC LR LR
comp=Z,930nm,15.5s
TWG Pinlang 23.76 236 P **P 08 44 30.8 -1.6**
WHN Wuhan 24.21 260⇑*iP* **P 08 44 35.5 -1.0**
WHN LR LR
comp=Z,2μm,16.3s
LYN LuoYang 24.21 270⇑P **P 08 44 35.8 -0.7**
LYN pP pP 08 44 48.2 +0.4
LYN PP **PnPn 08 45 08.4 +1.0**
LYN S **S 08 48 47.9 -4.1**
LYN pmax pmax
comp=Z,130nm,1.0s
LYN pmax pmax
comp=Z,150nm,4.4s
LYN LR LR
comp=Z,410nm,15.8s
LYN LR LR
comp=Z,320nm,17.9s
LYN LR LR
comp=Z,550nm,18.2s
CIT Chita 24.32 314 *e*P **P 08 44 37.1 -0.3**
CIT *e* 08 44 41.7
CIT *e* 08 44 50.2
CIT *e* 08 45 10.0
CIT *e* 08 45 22.1
CIT pmax pmax
comp=Z,158nm,1.4s
GUMO Guam 24.64 174 LR LR 08 53 26.7
comp=Z,117nm,21.7s,baz=29,slow=34
BTO Baotou 24.95 286 *e*P **P 08 44 44.2 +0.9**
BTO pP **pP 08 44 55.8 +1.3**
BTO sP **sP 08 45 01.2 +1.6**
BTO PP **PnPn 08 45 22.9 +5.4**
BTO S **S 08 49 04.3 +0.3**
BTO sS **sS 08 49 20.8 -1.7**
BTO pmax pmax
comp=Z,43nm,1.4s
BTO pmax pmax
comp=Z,210nm,8.4s
BTO LR LR
comp=Z,690nm,19.8s
BTO LR LR
comp=Z,1μm,16.2s
BTO LR LR
comp=Z,2μm,16.7s
YAK Yakutsk 25.08 346 P **P 08 44 43.5 -0.5**
YAK Yakutsk 25.08 346 *e*P **P 08 44 43.3 -0.7**
YAK *e*S **S 08 49 05.7 +0.4**
YAK *e*SS **sS 08 49 24.9 +1.0**
YAK *e*SSS SSS 08 50 06.9
YAK pmax pmax
comp=Z,28nm,0.8s
YAK pmax pmax
comp=N,15nm,1.4s
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=E,17nm,0.9s
YAK pmax pmax
comp=N,13nm,0.9s
YAK smax smax
comp=E,34nm,1.5s
YAK smax smax
comp=N,63nm,1.9s
YAK MLR MLR
comp=Z,290nm,16.0s
YAK MLR MLR
comp=E,181nm,16.0s
YAK MLR MLR
comp=N,111nm,11.0s
SEY Seymchan 25.51 11*deP* **P 08 44 49.0 +1.1**
SEY pmax pmax
comp=Z,18nm,0.8s
SHEM Shemya Is, Ala 26.37 46 LR LR 08 53 53.8
comp=Z,93nm,20.5s,baz=294,slow=33
CNSH ChangSha 26.40 256 P **P 08 44 56.0 -0.4**
CNSH S **S 08 49 26.6 -0.4**
CNSH pmax pmax
comp=Z,38nm,1.1s
CNSH LR LR
comp=Z,270nm,9.7s
CNSH LR LR
comp=Z,310nm,13.4s
CNSH LR LR
comp=Z,330nm,15.8s
XAN Xi'an 27.16 271⇑P **P 08 45 02.2 -1.1**
XAN pP pP 08 45 11.6 -3.0
XAN pmax pmax
comp=Z,34nm,0.8s
XAN LR LR
comp=Z,290nm,16.5s
XAN LR LR
comp=Z,560nm,16.3s
XAN LR LR
comp=Z,570nm,14.3s
ULN Ulaanbaatar 27.27 302 P **P 08 45 03.5 -0.7**
ULN Ulaanbaatar 27.27 302*c iP* **P 08 45 04.4 +0.2**
ULN pmax pmax
comp=Z,30nm,1.7s
SONM Songino Array 27.70 302 P **P 08 45 07.5 -0.5**
SONM Songino Array 27.70 302 P **P 08 45 06.9 -1.2**
comp=Z,3.9nm,0.5s,baz=115,slow=9.1,SNR=32
SONM PcP **PcP 08 48 24.2 +0.1**
comp=Z,1.9nm,0.5s,baz=118,slow=3.4,SNR=7.1
SONM LR LR 08 56 28.6
comp=Z,293nm,18.3s,baz=108,slow=37
comp=Z,3.9nm,0.5s
SONM Songino Array 27.70 302 P **P 08 45 07.6 -0.5**
SONM pmax pmax
comp=Z,15nm,1.2s
ENH Enshi 28.11 264 P **P 08 45 11.6 -0.2**
H11N2 WAKE ISLAND Hy 28.21 124 T T 09 15 34.7
baz=316,slow=75
H11N1 WAKE ISLAND Hy 28.22 124 T T 09 15 34.6
baz=316,slow=75
H11N3 WAKE ISLAND Hy 28.23 124 T T 09 15 35.9
baz=316,slow=75
H11S1 WAKE ISLAND Hy 28.97 126 T T 09 16 36.0
baz=318,slow=76
H11S3 WAKE ISLAND Hy 28.98 126 T T 09 16 35.8
baz=318,slow=76
H11S2 WAKE ISLAND Hy 28.99 126 T T 09 16 31.3
baz=318,slow=76
ZAK Zakamensk 30.08 307 *e*P **P 08 45 27.9 -1.3**
ZAK pmax pmax
comp=Z,13nm,1.1s
LZH Lanzhou 30.55 278 *e*P **P 08 45 33.1 -0.4**
LZH pP pP 08 45 39.9 -5.0
LZH pmax pmax
comp=Z,41nm,1.3s
LZH LR LR
comp=Z,290nm,13.1s
LZH LR LR
comp=Z,450nm,14.1s
LZH LR LR
comp=Z,560nm,14.4s
GYA Guiyang 32.09 259⇑P **P 08 45 46.1 -1.0**
GYA S **S 08 50 54.1 -2.4**
GYA pmax pmax
comp=Z,39nm,0.7s
GYA LR LR
comp=Z,460nm,15.7s
BILL Bilibino 32.71 16 P **P 08 45 51.7 -0.2**
BILL IAmb IAmb 08 46 04.0
comp=Z,27nm,1.3s
BILL Bilibino 32.71 16*ceP* **P 08 45 52.0 +0.1**
BILL pmax pmax
comp=Z,11nm,1.0s
GTA Gaotai 32.87 286 P **P 08 45 54.4 +0.5**
GTA pP sP 08 46 09.0 -1.3
GTA PcP **PcP 08 48 38.1 +0.4**
GTA S **S 08 51 08.7 +0.1**
GTA pmax pmax
comp=Z,12nm,1.0s
GTA LR LR
comp=Z,120nm,14.7s
GTA LR LR
comp=Z,520nm,16.3s
GTA LR LR
comp=Z,630nm,16.7s
QIZ Qiongzhong 34.03 245 P **P 08 46 04.4 +0.5**
QIZ S **S 08 51 27.6 +1.1**
QIZ LR LR
comp=Z,400nm,18.6s
QIZ LR LR
comp=Z,350nm,18.5s
QIZ LR LR
comp=Z,460nm,18.1s
TIXI Tiksi 34.20 353 P **P 08 46 04.1 -0.7**
TIXI Tiksi 34.20 353 LR LR 09 01 19.5

comp=Z,268nm,19.1s,baz=177,slow=38
TIXI Tiksi 34.20 353 P P 08 46 04.1 -0.7
TIXI pmax pmax
comp=Z,6.0nm,0.8s
DAV Davao City (W) 34.49 210 LR LR 08 58 13.7
comp=Z,82nm,20.1s,baz=54,slow=33
KMI Kunming 35.81 260 ⇓P **P 08 46 18.6 -0.9**
KMI pP pP 08 46 32.2 +1.2
KMI pmax pmax
comp=Z,14nm,0.9s
KMI LR LR
comp=Z,320nm,16.7s
KMI LR LR
comp=Z,250nm,16.3s
KMI LR LR
comp=Z,380nm,15.8s
PZH PanZhiHua 35.90 263 P P 08 46 21.1 +1.0
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,4.8s
NIKH Nikolski High 36.50 50 P P 08 46 26.0 +1.2
baz=266
P08K Saint George I 36.52 44 P P 08 46 26.5 +1.6
baz=261
GOMU GeErMu 37.52 282 P P 08 46 34.5 +0.4
GOMU pmax pmax
comp=Z,40nm,0.5s
GOMU LR LR
comp=Z,430nm,15.3s
GOMU LR LR
comp=Z,260nm,15.9s
GOMU LR LR
comp=Z,510nm,15.5s
UNV Unalaska Valle 37.96 49 P P 08 46 38.9 +1.8
baz=267
M11K Mekoryuk 38.92 38 P P 08 46 47.0 +1.9
baz=259
TNCH TengChong 39.15 263 *e*P **P 08 46 48.2 +0.5**
TNCH pP pP 08 47 00.0 +0.7
TNCH sP sP 08 47 09.5 +5.2
TNCH pmax pmax
comp=Z,130nm,2.5s
MYLDM Lahad Datu 39.35 219 P P 08 46 50.9 +1.8
MYLDM IAmb IAmb 08 46 55.4
comp=Z,48nm,1.4s
FALS False Pass 39.80 47 P P 08 46 54.6 +2.0
baz=268
F14K Arctic Creek 40.10 30 P P 08 46 57.0 +2.0
baz=253
ANM Nome 40.24 32 P P 08 46 57.3 +1.2
ANM IAmb IAmb 08 47 09.7
comp=Z,23nm,1.2s
ANM Nome 40.24 32 P P 08 46 57.9 +1.7
baz=255
ANM Nome 40.24 32 P P 08 46 57.3 +1.2
ANM pmax pmax
comp=Z,23nm,1.2s
CRAI Chiangrai 40.32 256 P P 08 46 56.8 -0.4
CRAI IAmb IAmb 08 46 58.2
comp=Z,27nm,1.2s
M13K Dall Lake 40.32 39 P P 08 46 58.4 +1.6
baz=262
J14K Nanvaranak Lak 40.62 35 P P 08 47 01.0 +1.8
baz=259
L14K Kuka Creek 40.78 37 P P 08 47 01.8 +1.2
L14K Kuka Creek 40.78 37 P P 08 47 02.1 +1.5
baz=261
F15K North Star Dit 40.84 30 P P 08 47 02.7 +1.6
baz=254
G15K Niukluk 40.90 32 P P 08 47 03.9 +2.4
baz=256
WMQ Urumqi 40.92 296 *e*P **P 08 47 03.1 +1.0**
WMQ sP sP 08 47 17.4 -1.3
WMQ pmax pmax
comp=Z,55nm,0.9s
WMQ pmax pmax
comp=Z,190nm,4.3s
WMQ LR LR
comp=Z,150nm,22.1s
M14K Bethel 41.05 38 P P 08 47 04.5 +1.8
M14K Bethel 41.05 38 P P 08 47 04.0 +1.3
baz=263
N14K Kuskokwak Cree 41.09 39 P P 08 47 03.7 +0.6
baz=264
O14K Tigyukauivet M 41.24 41 P P 08 47 06.0 +1.6
baz=265
L15K Ungalak Mounta 41.40 37 P P 08 47 06.6 +0.9
baz=262
K15K Wolf Creek Mou 41.47 36 P P 08 47 07.8 +1.6
baz=261
SDPT Sand Point 41.50 46 P P 08 47 07.8 +1.3
baz=270
H16K Elim 41.57 32 P P 08 47 08.4 +1.3
baz=258
ZAA0 Zalesovo Array 41.62 311 P P 08 47 07.4 -0.2
ZAA0 IAmb IAmb 08 47 20.0
comp=Z,15nm,0.8s
ZALV Zalesovo Beam 41.62 311 P P 08 47 07.5 -0.1
ZALV Zalesovo Beam 41.62 311 P P 08 47 06.8 -0.8
comp=Z,12nm,0.6s,baz=85,slow=7.5,SNR=27
ZALV PcP **PcP 08 49 03.6 -0.3**
comp=Z,5.3nm,0.5s,baz=92,slow=3.4,SNR=6.4
comp=Z,12nm,0.6s
M15K Kasigluk River 41.66 38 P P 08 47 09.0 +1.2
baz=264
G16K Koyuk River 41.69 31 P P 08 47 09.0 +1.0
baz=257
N15K Kwethluk River 41.91 39 P P 08 47 11.0 +1.1
baz=265
O15K Ungalikthiuk R 41.97 41 P P 08 47 11.6 +1.2
baz=266
D17K Noatak River 41.99 28 P P 08 47 11.8 +1.4
baz=254,SNR=5.6
CHNA Chernabura Isl 42.02 47 P P 08 47 11.5 +0.7
baz=272
CNBA Chernabura Isl 42.02 47 P P 08 47 10.3 -0.5
CNBA IAmb IAmb 08 47 21.9
comp=Z,38nm,1.4s
S14K Fog Glacier 42.02 45 P P 08 47 11.7 +0.8
baz=270
J16K Anvik River 42.04 35 P P 08 47 11.4 +0.5
J16K Anvik River 42.04 35 P P 08 47 12.2 +1.3
baz=261
I17K Unalakleet 42.09 34 P P 08 47 12.6 +1.3
baz=260
RDOG Red Dog Mine 42.15 27 P P 08 47 13.3 +1.5
baz=254
C17K DeLong Mountai 42.18 27 P P 08 47 12.8 +0.8
baz=253
ZSN Zaisan 42.22 302 *e*P **P 08 47 12.7 +0.1**
comp=Z,20nm,0.7s,baz=302
ZSN Zaisan 42.22 302 *e*P **P 08 47 12.7 +0.1**
ZSN pmax pmax
comp=Z,20nm,0.7s
CHTO Chiang Mai 42.23 255 P P 08 47 12.8 -0.2
CHTO IAmb IAmb 08 47 24.5
comp=Z,14nm,0.6s
CHTO Chiang Mai 42.23 255 P P 08 47 12.8 -0.2
CHTO pmax pmax
comp=Z,14nm,0.6s
E17K Hotham Inlet 42.29 29 P P 08 47 14.0 +1.1
baz=256
L16K Owhat River 42.35 37 P P 08 47 14.7 +1.2
L16K Owhat River 42.35 37 P P 08 47 14.5 +1.1
baz=264
F17K Baldwin Pennin 42.37 30 P P 08 47 14.9 +1.4
baz=257
G17K Kiwalik Mounta 42.41 31 P P 08 47 15.4 +1.5
baz=259
CMAR Chiang Mai Arr 42.45 255 P P 08 47 14.2 -0.5
comp=Z,1.7nm,0.3s,baz=51,slow=4.6,SNR=9.9
CMAR PcP **PcP 08 49 06.5 -0.7**
comp=Z,1.3nm,0.3s,baz=17,slow=3.9,SNR=7.1
comp=Z,1.7nm,0.3s
NRIK Noril'sk 42.48 335 P P 08 47 13.7 -0.7
comp=Z,6.4nm,0.8s,baz=118,slow=6.6,SNR=6.4
NRIK PcP **PcP 08 49 06.7 +0.2**
comp=Z,3.6nm,0.4s,baz=170,slow=22,SNR=11
NRIK LR LR 09 05 53.0
comp=Z,426nm,19.0s,baz=116,slow=37
comp=Z,6.4nm,0.8s
NRIK Noril'sk 42.48 335 *d i*P **P 08 47 13.5 -0.9**
NRIK pmax pmax
comp=Z,9.0nm,1.0s
M16K Timber Creek 42.54 38 P P 08 47 16.2 +1.2
baz=265

N16K Nishlik Lake 42.59 39 P P 08 47 16.8 +1.4
baz=266,SNR=5.8
H17K Granite Mounta 42.61 32 P P 08 47 16.9 +1.4
baz=260
J17K VABM Dome 42.74 35 P P 08 47 18.4 +1.8
baz=262,SNR=7.4
LSA Lhasa 42.78 274 P P 08 47 18.9 +1.0
LSA IAmb IAmb 08 47 21.5
comp=Z,18nm,0.9s
LSA Lhasa 42.78 274 P P 08 47 18.9 +1.0
LSA pmax pmax
comp=Z,18nm,0.9s
E18K Tukpahlearik C 42.84 28 P P 08 47 19.1 +1.8
baz=257,SNR=5.9
O16K Kokwok River B 42.88 40 P P 08 47 18.5 +0.8
baz=268
C18K Utukok River 42.92 27 P P 08 47 19.2 +1.1
baz=255,SNR=6.0
MPSI Mapaga 42.94 214 P P 08 47 18.9 +0.2
comp=Z,19nm,0.9s
L17K Donlin 42.95 36 P P 08 47 20.2 +1.9
baz=265,SNR=5.6
K17K Iditarod 43.01 36 P P 08 47 20.8 +2.0
baz=264,SNR=8.0
F18K Selawik 43.02 30 P P 08 47 20.2 +1.4
baz=258
G18K Tagagawik 43.29 31 P P 08 47 22.3 +1.3
baz=260,SNR=7.5
H18K Honhosa River 43.29 32 P P 08 47 22.2 +1.2
baz=261,SNR=5.4
M17K Holitna River 43.30 38 P P 08 47 22.8 +1.7
baz=266,SNR=6.7
N17K Nushagak Hills 43.37 39 P P 08 47 23.4 +1.7
baz=267
O17K Koliganek Bris 43.39 40 P P 08 47 22.9 +1.1
baz=268
A19K Wainwright 43.40 24 P P 08 47 22.6 +0.9
baz=253
Q16K King Salmon 43.59 42 P P 08 47 24.6 +1.1
baz=270
C19K Lookout Ridge 43.60 26 P P 08 47 24.8 +1.2
baz=256,SNR=7.7
L18K Granite Mounta 43.71 36 P P 08 47 25.7 +1.3
baz=266
P17K Kvichak River 43.71 41 P P 08 47 25.6 +1.2
baz=269
R17L Mt. Peulik Vol 43.76 43 P P 08 47 26.3 +1.4
baz=271
J18K Innoko River 43.80 35 P P 08 47 26.0 +0.8
baz=265
G19K Purcell Mounta 43.96 31 P P 08 47 27.7 +1.2
baz=262,SNR=5.7
D19K Kuna River 43.99 27 P P 08 47 27.9 +1.3
baz=258,SNR=14
Q17K Contact Creek 44.00 42 P P 08 47 27.0 0.0
baz=271
N18K Kilae Creek 44.02 39 P P 08 47 28.3 +1.3
baz=268
MK31 Makanchi Array 44.07 301 *d i*P **P 08 47 27.0 -0.6**
MKAR Makanchi Array 44.07 301 P P 08 47 27.2 -0.4
comp=Z,8.3nm,0.5s,baz=84,slow=10,SNR=60
MKAR LR LR 09 06 27.3
comp=Z,173nm,19.5s,baz=39,slow=37
comp=Z,8.3nm,0.5s
TTA Tatalina 44.07 35 P P 08 47 28.6 +1.2
baz=266
M18K Stony River 44.08 37 P P 08 47 28.6 +1.3
baz=268
E19K Redstone River 44.12 29 P P 08 47 29.0 +1.3
baz=260,SNR=13
H19K Roundabout Mou 44.14 32 P P 08 47 29.4 +1.6
baz=263,SNR=18
J19K Poorman 44.33 34 P P 08 47 30.6 +1.3
baz=265,SNR=9.8
P18K Big Mountain, 44.33 41 P P 08 47 31.1 +1.6
baz=270
O18K Koktuh Hills 44.34 40 P P 08 47 31.1 +1.5
baz=270
Q18K Katmai Hardscr 44.46 42 P P 08 47 31.5 +0.9
baz=271
L19K White Mountain 44.57 37 P P 08 47 32.4 +1.0
baz=268
D20K Ettivluk River 44.57 27 P P 08 47 32.6 +1.4
baz=259,SNR=17
F20K Avaraart Lake 44.63 30 P P 08 47 32.6 +0.9
baz=262
B20K Meade River 44.64 25 P P 08 47 32.7 +0.9
baz=258
E20K Nigu River 44.65 28 P P 08 47 33.1 +1.1
baz=260,SNR=9.1
N19K Bonanza Creek 44.71 38 P P 08 47 33.4 +0.8
baz=269
SEM Semipalatinsk 44.76 307 *e*P **P 08 47 32.5 -0.9**
comp=Z,13nm,0.7s,baz=307
SEM Semipalatinsk 44.76 307 *e*P **P 08 47 32.4 -0.9**
SEM pmax pmax
comp=Z,13nm,0.7s
M19K Big River Lodg 44.77 37 P P 08 47 34.2 +1.3
baz=268
H20K Anotleneega Mo 44.78 32 P P 08 47 34.1 +1.1
baz=264,SNR=6.1
R18K Karluk 44.79 43 P P 08 47 33.9 +0.9
baz=273
O19K Port Alsworth 44.79 39 P P 08 47 33.9 +0.9
baz=270
I20K Naaghedeneel 44.89 33 P P 08 47 35.1 +1.3
baz=265
K20K Telida 44.98 35 P P 08 47 36.0 +1.4
baz=267,SNR=7.2
J20K Nowinta River 44.99 34 P P 08 47 36.2 +1.6
baz=266,SNR=8.7
SII Sitkinak Islan 44.99 45 P P 08 47 35.2 +0.4
baz=274
L20K Farewell, AK 45.03 36 P P 08 47 36.2 +1.1
baz=268
A21K Barrow 45.11 23 P P 08 47 36.1 +0.7
baz=257,SNR=12
Q19K Cape Douglas, 45.16 41 P P 08 47 36.0 0.0
baz=272
C21K Knifeblade Rid 45.30 27 P P 08 47 38.3 +1.3
baz=261,SNR=9.3
P19K Oil Pt 45.35 40 P P 08 47 38.5 +0.9
baz=272
M20K Styx River 45.37 37 P P 08 47 39.0 +1.2
baz=270
B21K Ikpikpuk River 45.44 26 P P 08 47 39.4 +1.3
baz=260
OHAK Old Harbor 45.44 44 P P 08 47 38.2 -0.1
baz=274
G21K Allakaket 45.44 30 P P 08 47 39.5 +1.3
baz=265,SNR=6.8
E21K Killik River 45.49 28 P P 08 47 38.8 +0.2
baz=262
F21K Alatna River 45.52 29 P P 08 47 38.9 0.0
baz=264
A22K Sinclair Lake 45.56 24 P P 08 47 39.6 +0.6
baz=259
H21K Melozitna Rive 45.66 32 P P 08 47 40.6 +0.7
baz=266,SNR=6.9
KURK Kurchatov 45.74 307 *d i*P **P 08 47 40.1 -0.6**
KURK pmax pmax
comp=Z,60nm,0.8s
KDAK Kodiak Island 45.78 43 P P 08 47 40.9 0.0
baz=274
KDAK Kodiak Island 45.78 43 LR LR 09 06 07.8
comp=Z,136nm,20.6s,baz=262,slow=35
CHUM Lake Minchumin 45.78 34 P P 08 47 41.3 +0.4
baz=268
KURBB Kurchatov Arra 45.81 307 P P 08 47 40.8 -0.5
comp=Z,36nm,0.6s,baz=82,slow=8.2,SNR=260
KURBB LR LR 09 07 27.5
comp=Z,239nm,18.4s,baz=181,slow=37
comp=Z,36nm,0.6s
KURBB Kurchatov Arra 45.81 307 P P 08 47 40.6 -0.7
N20K Mount Spurr 45.82 38 P P 08 47 42.0 +0.7
baz=271
PPLA Purkeypile 45.82 36 P P 08 47 41.9 +0.5
baz=269
CAST Castle Rocks 45.88 35 P P 08 47 42.9 +1.2
baz=269,SNR=8.1
B22K Teshekpuk Lake 45.96 25 P P 08 47 43.2 +1.1
baz=261
D22K Ayikyak River 46.01 27 P P 08 47 43.9 +1.3
baz=263,SNR=14
F22K John River 46.05 29 P P 08 47 43.8 +0.8
baz=265
SKT Skwentna 46.13 37 P P 08 47 44.9 +1.2
baz=271

E22K Anaktuvuk Pass 46.25 28 P P 08 47 45.8 +1.2
baz=265
H22K Ishtalitna Cre 46.26 31 P P 08 47 45.9 +1.2
baz=267,SNR=6.2
G22K Bettles 46.27 30 P P 08 47 45.6 +1.0
baz=266,SNR=8.1
MLY Manley 46.50 33 P P 08 47 47.6 +1.1
baz=269,SNR=8.6
SUA Susitna One 46.51 38 P P 08 47 48.1 +1.3
baz=272
BRSE Bradley Lake S 46.60 40 P P 08 47 48.4 +0.9
baz=274
D23K Nanushuk River 46.74 27 P P 08 47 49.7 +1.4
baz=265
COLD Coldfoot 46.80 30 P P 08 47 49.9 +1.1
baz=267
PDGK Podgornoye 46.82 297 P P 08 47 48.8 -0.7
G23K Bananza Creek 46.84 30 P P 08 47 49.1 -0.1
G23K Bananza Creek 46.84 30 P P 08 47 50.1 +0.8
baz=268
C23K Itkillik River 46.85 26 P P 08 47 49.5 +0.4
C23K Itkillik River 46.85 26 P P 08 47 50.5 +1.4
baz=264,SNR=20
SHLS Shalkode 46.89 297 *e*P **P 08 47 47.2 -2.9**
baz=297
SHLS Shalkode 46.89 297 *e*P **P 08 47 47.1 -2.9**
H23K Yukon River 47.01 32 P P 08 47 51.7 +1.1
H23K IAmb IAmb 08 48 04.3
comp=Z,9.4nm,0.9s
H23K Yukon River 47.01 32 P P 08 47 52.2 +1.7
baz=269,SNR=15
RC01 Rabbit Creek A 47.02 38 P P 08 47 51.6 +0.9
baz=273
E23K Chandalar 47.07 28 P P 08 47 52.3 +1.3
baz=267,SNR=16
I23K Minto, Yukon-K 47.08 32 P P 08 47 52.4 +1.4
I23K Minto, Yukon-K 47.08 32 P P 08 47 52.6 +1.5
baz=270,SNR=5.4
TOLK Toolik Lake Re 47.12 28 P P 08 47 52.3 +1.0
baz=266,SNR=5.8
UZB Uzynbulak 47.20 297 *e*P **P 08 47 51.8 -0.8**
baz=297
UZB Uzynbulak 47.20 297 *e*P **P 08 47 51.7 -0.8**
NEA2 Nenana 47.21 33 P P 08 47 53.1 +1.1
baz=271,SNR=7.8
SEW Seward 47.23 39 P P 08 47 53.5 +1.3
baz=274
MCK McKinley 47.28 34 P P 08 47 53.7 +1.0
baz=272
PMR Palmer 47.28 37 P P 08 47 52.7 +0.1
PMR Palmer 47.28 37 P P 08 47 53.6 +0.9
baz=273
RND Reindeer 47.33 35 P P 08 47 53.5 +0.4
RND IAmb IAmb 08 48 05.9
comp=Z,12nm,0.9s
RND Reindeer 47.33 35 P P 08 47 53.5 +0.4
RND pmax pmax
comp=Z,12nm,0.9s
KPKS Kokpek 47.35 298 *e*P **P 08 47 53.2 -0.5**
baz=298
KPKS Kokpek 47.35 298 *e*P **P 08 47 53.1 -0.5**
GHO Glory Hole Cre 47.37 37 P P 08 47 53.4 -0.1
GHO IAmb IAmb 08 48 06.5
comp=Z,14nm,0.9s
D24K Happy Valley 47.42 27 P P 08 47 54.4 +0.8
D24K IAmb IAmb 08 48 08.4
comp=Z,26nm,1.2s
D24K Happy Valley 47.42 27 P P 08 47 54.9 +1.2
baz=267,SNR=6.3
WAT1 Susitna Watana 47.49 36 P P 08 47 54.9 +0.5
baz=273
E24K Your Creek 47.49 28 P P 08 47 55.9 +1.6
baz=268
C24K Franklin Bluff 47.50 26 P P 08 47 55.4 +1.2
baz=266
MDM Murphy Dome 47.56 33 P P 08 47 55.9 +1.0
MDM IAmb IAmb 08 47 57.2
comp=Z,16nm,1.1s
PMG Port Moresby 47.59 173 LR LR 09 07 34.5
comp=Z,34nm,21.3s,baz=50,slow=36
ZHN Zhinishke 47.61 297 *e*P **P 08 47 55.1 -0.6**
baz=297
ZHN Zhinishke 47.61 297 *e*P **P 08 47 55.0 -0.6**
KNK Knik Glacier 47.62 38 P P 08 47 56.0 +0.7
baz=274
SML Sawmill 47.65 37 P P 08 47 57.0 +1.4
baz=274
SATY Saty 47.66 297 *e*P **P 08 47 55.8 -0.3**
baz=297
SATY Saty 47.66 297 *e*P **P 08 47 55.8 -0.3**
H24K Noodor Dome 47.70 32 P P 08 47 57.2 +1.3
baz=270,SNR=7.3
F24K Squaw Lake 47.70 29 P P 08 47 57.3 +1.4
baz=269
COLA College 47.73 33 P P 08 47 56.8 +0.8
COLA College 47.73 33 P P 08 47 56.8 +0.8
COLA IAmb IAmb 08 48 09.0
comp=Z,7.8nm,0.8s
COLA College 47.73 33 P P 08 47 56.9 +0.9
baz=271
COLA College 47.73 33⇑ *e*P **P 08 47 56.4 +0.4**
COLA pmax pmax
comp=Z,4.0nm,0.9s
KAPI Kappang 47.82 211 P P 08 47 59.0 +1.7
KAPI Kappang 47.82 211 LR LR 09 10 27.9
comp=Z,26nm,18.1s,baz=75,slow=39
KAPI Kappang 47.82 211 *d i*P **P 08 47 57.8 +0.5**
KAPI pmax pmax
comp=Z,45nm,1.3s
G24K Hadweenzic Riv 47.86 30 P P 08 47 58.5 +1.4
baz=270,SNR=8.3
WAT6 Susitna Watana 47.88 36 P P 08 47 58.6 +1.1
baz=274
POKR Poker Plat Res 47.90 32 P P 08 47 58.6 +1.2
POKR Poker Plat Res 47.90 32 P P 08 47 58.8 +1.4
baz=272,SNR=7.3
M23K Glacier View 47.94 37 P P 08 47 58.6 +0.8
baz=274
DHY Denali Highway 48.01 35 P P 08 47 59.2 +0.7
baz=274
SCM Sheep Creek Mo 48.12 37 P P 08 47 59.9 +0.6
baz=275
HDA Harding Lake 48.13 33 P P 08 47 59.2 -0.1
HDA IAmb IAmb 08 48 00.3
comp=Z,7.9nm,0.7s
HDA Harding Lake 48.13 33 P P 08 48 00.2 +1.0
baz=273,SNR=6.4
ILAR Eielson Array 48.14 33 P P 08 47 59.5 +0.2
comp=Z,7.3nm,0.7s,baz=268,slow=6.5,SNR=96
ILAR LR LR 09 09 18.2
comp=Z,43nm,21.8s,baz=274,slow=37
comp=Z,7.3nm,0.7s
P23K Montague Islan 48.26 39 P P 08 48 00.9 +0.6
baz=276
D25K Kavik River 48.30 27 P P 08 48 01.3 +0.7
D25K IAmb IAmb 08 48 15.7
comp=Z,12nm,0.8s
D25K Kavik River 48.30 27 P P 08 48 01.5 +0.9
baz=269,SNR=19
GLI Glacier Island 48.32 38 P P 08 48 01.0 +0.3
baz=276
G25K Bearman Lake 48.40 30 P P 08 48 02.3 +1.1
baz=271,SNR=5.5
CHKK Chushkaly 48.41 299 *e*P **P 08 48 01.2 -0.5**
baz=299
CHKK Chushkaly 48.41 299 *e*P **P 08 48 01.2 -0.5**
TARG Taragay, Kyrgy 48.49 296 P P 08 48 02.8 0.0
TARG IAmb IAmb 08 48 04.1
comp=Z,17nm,0.8s
TARG Taragay, Kyrgy 48.49 296 P P 08 48 02.8 0.0
TARG pmax pmax
comp=Z,17nm,0.8s
H25L Birch Creek 48.53 31 P P 08 48 03.7 +1.5
baz=272
F25K Christian Rive 48.56 29 P P 08 48 04.5 +1.9
baz=271,SNR=7.9
MDOK Medeo 48.58 298 *e*P **P 08 48 02.8 -0.4**
baz=298
MDOK Medeo 48.58 298 P P 08 48 03.0 -0.2
E25K Arctic Village 48.59 28 P P 08 48 04.2 +1.5
baz=271,SNR=6.9
M24K Tolsona, Glenn 48.64 36 P P 08 48 04.3 +1.0
baz=275
AAA Alma-Ata 48.66 298 *e*P **P 08 48 03.5 -0.2**
comp=Z,20nm,0.8s,baz=298
AAA Alma-Ata 48.66 298 *e*P **P 08 48 03.5 -0.2**
AAA pmax pmax

comp=Z,20nm,0.8s
K24K **Donnelly Dome** 48.68 34 P P 08 48 04.0 +0.5
baz=274
PRP **Porcupine Dome** 48.68 32 P P 08 48 04.7 +1.0
baz=273
TNSS **Tian-Shan** 48.69 298 eP P 08 48 03.9 -0.4
baz=298
TNSS **Tian-Shan** 48.69 298 eP P 08 48 03.9 -0.4
C26K **Camden Bay** 48.82 26 P P 08 48 05.5 +1.1
baz=270
KLU **Klutina** 48.82 37 P P 08 48 05.8 +1.1
baz=276
KUU **Kurty** 48.85 299 eP P 08 48 04.4 -0.8
comp=Z,11nm,0.8s,baz=299
KUU **Kurty** 48.85 299 eP P 08 48 04.3 -0.8
KUU pmax pmax
comp=Z,11nm,0.8s
Q23K **Middleton Isla** 48.86 40 P P 08 48 06.0 +1.2
baz=278
PAX **Paxson** 48.89 35 P P 08 48 05.9 +0.7
baz=275
BMAR **Burnt Mountain** 48.98 29 P P 08 48 06.5 +0.7
EYAK **Cordova Ski Ar** 49.01 39 P P 08 48 07.0 +1.0
baz=277
HARP **HAARP** 49.09 36 P P 08 48 07.4 +0.8
baz=276
F26K **Sheenjek River** 49.13 29 P P 08 48 08.8 +1.8
baz=272,SNR=23
C27K **Jago River** 49.24 26 P P 08 48 09.1 +1.4
baz=271
G26K **Porcupine Rive** 49.31 30 P P 08 48 10.1 +1.9
baz=273,SNR=7.0
N25K **Chitina, Valde** 49.44 37 P P 08 48 10.4 +0.9
baz=277
SCRK **Sand Creek** 49.45 34 P P 08 48 09.9 +0.3
baz=276,SNR=11
BMRM **Bremner River** 49.52 38 P P 08 48 11.0 +1.0
baz=278
J26L **Joseph Creek** 49.59 33 P P 08 48 11.0 +0.5
baz=276
TKM2 **Tokmak 2** 49.66 298 P P 08 48 11.4 -0.2
I26K **Coal Creek Min** 49.69 32 P P 08 48 11.9 +0.7
baz=275
L26K **Log Cabin Wild** 49.84 35 P P 08 48 13.6 +1.2
baz=277,SNR=7.5
KULM **Kulim** 49.99 240 P P 08 48 13.5 -0.6
KULM IAmb IAmb 08 48 14.8
comp=Z,16nm,0.7s
E27K **Coleen River** 50.07 28 P P 08 48 15.4 +1.3
baz=274,SNR=8.6
BTLS **Baital** 50.08 301 eP P 08 48 13.7 -0.7
baz=301
BTLS **Baital** 50.08 301 eP P 08 48 13.7 -0.7
M26K **Nabesna, AK** 50.09 36 P P 08 48 15.5 +1.2
baz=278
G27K **Doyon Strip** 50.16 30 P P 08 48 16.1 +1.4
baz=275
SGDS **Sogindy** 50.17 299 eP P 08 48 14.7 -0.5
baz=299
SGDS **Sogindy** 50.17 299 eP P 08 48 14.7 -0.5
HNR **Honiara** 50.20 157 LR LR 09 07 55.1
comp=Z,2μm,20.9s,baz=356,slow=34
MCARA **McCarthy VSAT** 50.22 37 P P 08 48 16.5 +1.3
baz=279
D27M **Malcolm River** 50.22 27 P P 08 48 16.5 +1.2
baz=274
H27K **Steamboat Moun** 50.27 31 P P 08 48 17.4 +1.9
baz=276,SNR=7.7
BVAR **Borovoye Array** 50.28 312 P P 08 48 15.4 -0.4
comp=Z,7.3nm,0.5s,baz=78,slow=9.5,SNR=21
BVAR PcP PcP 08 49 34.3 +0.2
comp=Z,14nm,0.8s,baz=72,slow=4.8,SNR=8.4
comp=Z,7.3nm,0.5s
CRQE **Cirque** 50.28 38 P P 08 48 17.0 +1.1
baz=279
K27K **Chicken** 50.29 34 P P 08 48 16.5 +0.8
K27K **Chicken** 50.29 34 P P 08 48 17.1 +1.4
baz=277,SNR=11
I27K **Kandik River** 50.30 32 P P 08 48 16.4 +0.5
baz=276
EDFI **Ende, Flores** 50.51 207 P P 08 48 16.8 -1.2
comp=Z,30nm,1.2s
AAK **Ala-Archa** 50.52 298 LR LR 09 12 37.5
comp=Z,64nm,20.1s,baz=57,slow=40
AAK **Ala-Archa** 50.52 298 eP P 08 48 17.7 -0.3
AAK pmax pmax
comp=Z,5.0nm,0.9s
L27K **Beaver Creek,** 50.53 35 P P 08 48 19.0 +1.4
baz=278,SNR=9.1
KSH **Kashi** 50.54 293 P P 08 48 22.3 +4.1
KSH pP sP 08 48 33.1 -1.9
KSH pmax pmax
comp=Z,8.0nm,1.0s
KSH LR LR
comp=Z,250nm,12.4s
KSH LR LR
comp=Z,440nm,16.5s
KSH LR LR
comp=Z,300nm,15.5s
BCAR **Beaver Creek A** 50.55 35 P P 08 48 19.6 +1.8
EGAK **Eagle** 50.59 33 P P 08 48 18.9 +0.9
baz=277
M27K **Edge Creek, AK** 50.61 36 P P 08 48 18.7 +0.3
baz=279
F28M **Old Crow** 50.77 29 P P 08 48 20.7 +1.4
baz=276,SNR=8.5
E28M **Babbage River** 50.79 28 P P 08 48 20.6 +1.1
E28M **Babbage River** 50.79 28 P P 08 48 21.0 +1.5
baz=276,SNR=9.2
D28M **Stokes Point** 51.01 27 P P 08 48 21.2 +0.2
baz=276
I28M **Miner Creek** 51.01 32 P P 08 48 22.3 +1.1
baz=278,SNR=9.8
CTG **Chitna Glacier** 51.09 38 P P 08 48 22.8 +0.8
baz=280
YUK3 **Moose Creek** 51.36 36 P P 08 48 24.8 +0.8
baz=280
E29M **Blow River** 51.42 28 P P 08 48 25.8 +1.6
baz=277,SNR=13
DAWY **Dawson** 51.45 33 P P 08 48 25.4 +0.9
baz=279
KDU **Kakadu** 51.46 192 P P 08 48 24.7 -0.2
KDU **Kakadu** 51.46 192 P P 08 48 24.9 0.0
comp=Z,60nm,0.8s,SNR=6.6
H29M **Whitestone** 51.54 31 P P 08 48 26.3 +1.2
baz=279
G29M **Pine Creek** 51.57 30 P P 08 48 27.0 +1.6
baz=278,SNR=9.4
O28M **Mount Upton** 51.68 38 P P 08 48 27.3 +0.8
baz=281
I29M **Ogilvie Camp,** 51.70 32 P P 08 48 26.9 +0.6
I29M IAmb IAmb 08 48 28.6
comp=Z,10nm,0.8s
I29M **Ogilvie Camp,** 51.70 32 P P 08 48 27.6 +1.3
baz=279,SNR=14
MTN **Manton Dam** 51.85 194 P P 08 48 28.1 +0.2
COEN **Coen** 51.90 179 P P 08 48 29.0 +0.7
comp=Z,30nm,1.1s,SNR=3.1
M29M **Somme Creek** 52.16 35 P P 08 48 31.1 +1.2
baz=282,SNR=7.3
EPYK **Eagle Plains** 52.17 30 P P 08 48 31.5 +1.7
baz=280,SNR=16
L29M **L29M** 52.18 34 P P 08 48 31.9 +2.0
baz=281,SNR=14
G30M **tAoh Zraii Nji** 52.26 29 P P 08 48 31.5 +1.0
baz=280,SNR=9.6
YUK4 **Talbot Arm** 52.30 37 P P 08 48 32.6 +1.5
baz=282
PNL **Peninsula** 52.30 39 P P 08 48 31.7 +0.8
baz=283
K29M **Barlow Dome** 52.30 34 P P 08 48 32.2 +1.3
baz=281,SNR=14
F30M **Barrier River** 52.32 29 P P 08 48 32.5 +1.6
baz=280
YUK6 **Outpost Mounta** 52.52 37 P P 08 48 34.0 +1.2
baz=283
I30M **Mount Dempster** 52.52 32 P P 08 48 33.8 +1.3
I30M **Mount Dempster** 52.52 32 P P 08 48 33.9 +1.3
baz=281,SNR=33
O29M **Mount Kennedy** 52.56 38 P P 08 48 34.3 +1.4
baz=283
J30M **Hart River** 52.67 32 P P 08 48 34.9 +1.3
baz=282
M30M **Minto, Yukon** 52.89 35 P P 08 48 37.1 +1.9
baz=283,SNR=5.6
HYT **Haines Junctio** 52.95 37 P P 08 48 37.3 +1.5
baz=284,SNR=9.0
N30M **Aishikik Lake** 53.00 36 P P 08 48 37.3 +1.2
baz=283
G31M **Satah River** 53.03 29 P P 08 48 37.0 +1.0
baz=282
INK **Inuvik** 53.03 28 P P 08 48 37.2 +1.2
baz=281
KK31 **Karatay Array** 53.12 300 P P 08 48 36.3 -0.8
KK31 IAmb IAmb 08 48 37.8
comp=Z,18nm,0.9s
KK31 **Karatay Array** 53.12 300 P P 08 48 36.3 -0.8
KK31 pmax pmax
comp=Z,18nm,1.0s
KKAR **Karatay Array** 53.12 300 P P 08 48 36.5 -0.7
KKAR **Karatay Array** 53.12 300 P P 08 48 36.5 -0.7
F31M **Tsiigehtchic** 53.12 29 P P 08 48 37.6 +0.9
baz=282
P29M **Windy Craggy** 53.13 39 P P 08 48 38.4 +1.5
baz=284
P30M **Million Dollar** 53.39 38 P P 08 48 40.3 +1.4
baz=284
BRLS **Borolday** 53.61 300 eP P 08 48 41.5 +0.8
baz=300
BRLS **Borolday** 53.61 300 eP P 08 48 41.5 +0.8
N31M **Braeburn, Yuko** 53.61 36 P P 08 48 41.5 +1.0
baz=284,SNR=5.4
O30N **Mendenhall** 53.64 37 P P 08 48 41.9 +1.1
baz=285
PLBC **Pleasant Camp** 53.85 39 P P 08 48 43.8 +1.6
baz=285
CHM **Chimkent** 54.02 299 eP P 08 48 43.6 -0.2
comp=Z,8.1nm,0.5s,baz=299
CHM **Chimkent** 54.02 299 eP P 08 48 43.6 -0.2
CHM pmax pmax
comp=Z,8.0nm,0.5s
PWJI **Pagerwojo** 54.05 218 P P 08 48 43.3 -0.9
M31M **Drury Creek, Y** 54.06 35 P P 08 48 45.4 +1.5
baz=285,SNR=6.0
FARO **Faro, Yukon** 54.53 35 P P 08 48 48.8 +1.6
baz=286,SNR=6.5
N32M **Quiet Lake** 54.95 36 P P 08 48 51.7 +1.4
baz=287
GSI **Gunungsitoli** 54.98 239 P P 08 48 51.7 +0.7
KNRA **Kununurra** 55.08 196 P P 08 48 51.7 +0.1
comp=Z,42nm,1.0s,SNR=6.0
R32K **Eaglecrest** 55.10 40 P P 08 48 53.3 +2.0
baz=288
P32M **Atlin** 55.11 38 P P 08 48 53.1 +1.7
baz=287
S32K **Killisnoo** 55.32 41 P P 08 48 54.7 +1.8
baz=288
P33M **Teslin, Yukon** 55.35 37 P P 08 48 54.8 +1.5
baz=288,SNR=5.5
CHGR **Chuyangaron** 55.77 295 P P 08 48 56.0 -0.6
CHGR **Chuyangaron** 55.77 295 P P 08 48 56.0 -0.6
CHGR pmax pmax
comp=Z,78nm,0.7s
ARU **Arti** 55.92 318 P P 08 48 56.5 -0.7
ARU **Arti** 55.92 318 LR LR 09 15 19.6
comp=Z,394nm,18.1s,baz=72,slow=39
ARU **Arti** 55.92 318 d iP P 08 48 57.1 -0.2
ARU 08 49 52.6
ARU 08 50 59.4
ARU S S 08 56 47.1 +5.3
ARU SS SS 09 00 30.2 +2.8
ARU pmax pmax
comp=Z,43nm,0.8s
ARU MLR MLR
comp=Z,364nm,17.0s
ARU **Arti** 55.92 318 P P 08 48 57.1 -0.2
comp=Z,57nm,1.3s
Q32M **Nakina River** 56.01 39 P P 08 48 59.5 +1.4
baz=289
C36M **Paulatuk** 56.08 25 P P 08 48 60.0 +1.8
baz=289
MTSU **Mount Surprise** 56.08 178 P P 08 48 59.3 +0.5
comp=Z,8.1nm,1.0s,SNR=3.8
R33M **Jennings River** 56.50 38 P P 08 49 02.2 +0.7
R33M **Jennings River** 56.50 38 P P 08 49 03.0 +1.4
baz=290
U33K **Whale Pass** 56.52 42 P P 08 49 03.3 +1.8
baz=290
CRAG **Craig** 56.74 43 P P 08 49 05.1 +2.0
baz=290
WRAK **Wrangell Islan** 56.82 41 P P 08 49 05.6 +2.0
baz=290
S34M **Telegraph Cree** 56.92 39 P P 08 49 06.5 +2.2
baz=290
TGTN **Hyland Airport** 57.03 35 P P 08 49 07.4 +2.2
baz=290
WTLY **Watson Lake, Y** 57.28 37 P P 08 49 09.0 +2.1
baz=291
DLBC **Dease Lake** 57.29 39 P P 08 49 08.9 +1.9
baz=291,SNR=8.1
V35K **Ketchikan** 57.59 42 P P 08 49 11.2 +2.1
baz=292
AB31 **Akbulak array** 57.69 310 i P P 08 49 09.1 -0.8
ABKAR **Akbulak array** 57.69 310 P P 08 49 09.3 -0.6
T35M **Bob Quinn** 57.70 40 P P 08 49 12.2 +2.3
baz=291,SNR=5.8
WB0 **Warramunga Arr** 58.14 189 P P 08 49 12.4 -0.9
FITZ **Fitzroy Crossi** 58.15 199 P P 08 49 13.7 +0.4
FITZ **Fitzoy Crossi** 58.15 199 P P 08 49 13.8 +0.4
comp=Z,358nm,1.4s,SNR=3.5
WRAB **Tennant Creek** 58.31 189 d iP P 08 49 13.7 -0.8
WRAB pmax pmax
comp=Z,22nm,1.0s
WRA **Warramunga Arr** 58.32 189 P P 08 49 13.4 -1.2
WRA **Warramunga Arr** 58.32 189 P P 08 49 13.7 -0.9
comp=Z,12nm,0.4s,baz=6.1,slow=7.0,SNR=259
WRA PcP PcP 08 50 05.4 +0.2
comp=Z,3.9nm,0.7s,baz=2.6,slow=4.3,SNR=5.1
comp=Z,12nm,0.4s
WRA **Warramunga Arr** 58.32 189 P P 08 49 13.4 -1.2
WRA pmax pmax
comp=Z,2.0nm,1.0s
AKTO **Aktyubinsk** 58.39 312 LR LR 09 15 29.5
comp=Z,146nm,19.2s,baz=18,slow=37
QIS **Mount Isa** 58.51 183 P P 08 49 15.3 -0.6
comp=Z,7.5nm,1.7s,SNR=1.7
LIRD **Liard River Hi** 58.81 37 P P 08 49 20.0 +2.4
baz=293,SNR=5.1
TOAD **Toad River Com** 59.45 37 P P 08 49 23.7 +1.6
baz=294
SPITS **Spitsbergen Ar** 59.50 349 P P 08 49 21.8 -0.3
comp=Z,4.8nm,0.7s,baz=64,slow=7.5,SNR=6.4
SPITS LR LR 09 16 02.5
comp=Z,69nm,20.2s,baz=5.5,slow=37
comp=Z,4.8nm,0.7s
KIRV **Kirov** 59.71 323 LR LR 09 19 12.2
comp=Z,117nm,18.2s,baz=63,slow=40
KIRV **Kirov** 59.71 323 d iP P 08 49 23.5 -0.3
BBB **Bella Bella** 60.76 45 LR LR 09 13 33.3
comp=Z,35nm,20.8s,baz=290,slow=34
RES **Resolute Bay** 61.29 15 LR LR 09 19 15.8
comp=Z,57nm,18.6s,baz=21,slow=39
LVZ **Lovozero** 61.31 336 ceP P 08 49 34.0 -0.6
LVZ pmax pmax
comp=Z,26nm,1.7s
RK1H **Rockhampton Ha** 61.76 171 P P 08 49 38.4 +0.4
AS01 **Alice Springs** 62.04 189 P P 08 49 39.9 -0.1
AS31 **Alice Springs** 62.05 189 P P 08 49 39.5 -0.6
ASAR **Alice Springs** 62.05 189 P P 08 49 39.2 -0.9
ASAR **Alice Springs** 62.05 189 P P 08 49 39.8 -0.3
comp=Z,9.1nm,0.6s,baz=352,slow=3.6,SNR=133
ASAR LR LR 09 16 32.3
comp=Z,49nm,21.9s,baz=41,slow=36
ASAR PKP2bc 09 18 55.1
comp=Z,1.1nm,1.0s,baz=185,slow=2.8,SNR=8.8
comp=Z,9.1nm,0.6s
ASPA **Alice Springs** 62.05 189 P P 08 49 39.8 -0.2
comp=Z,5.2nm,0.9s,SNR=9.1
ADZR **Andozero** 62.06 331 eP P 08 49 38.7 -0.9
ADZR pmax pmax
comp=Z,29nm,0.6s
YKA **Yellowknife Ar** 62.45 31 P P 08 49 42.4 +0.1
YKA **Yellowknife Ar** 62.45 31 P P 08 49 42.6 +0.3
comp=Z,4.0nm,0.8s,baz=305,slow=6.6,SNR=21
comp=Z,4.0nm,0.8s
HRA **Herat** 62.66 294 P P 08 49 44.9 +0.5
HRA IAmb IAmb 08 49 45.5
comp=Z,13nm,0.8s
MBWA **Marble Bar** 62.74 204 P P 08 49 44.5 -0.1
MBWA **Marble Bar** 62.74 204 P P 08 49 44.3 -0.3
comp=Z,24nm,1.2s,SNR=3.3
ARCES **ARCESS Array B** 63.13 339 P P 08 49 46.4 -0.3
comp=Z,5.6nm,0.8s,baz=50,slow=5.7,SNR=16
ARCES LR LR 09 23 34.1
comp=Z,58nm,19.3s,baz=58,slow=42
comp=Z,5.6nm,0.8s
BELG **Belogornoye** 63.40 317 LR LR 09 19 12.9
comp=Z,188nm,19.5s,baz=323,slow=38
EIDS **Eidsvold** 63.79 171 P P 08 49 52.3 +0.8
EIDS **Eidsvold** 63.79 171 P P 08 49 51.9 +0.5
EIDS IAmb IAmb 08 49 53.0
comp=Z,11nm,0.7s
EIDS **Eidsvold** 63.79 171 P P 08 49 52.0 +0.5
comp=Z,19nm,0.7s,SNR=2.9
DZM **Mont Dzumac** 64.13 155 eS S 08 58 27.5 -0.4
comp=Z,95nm,24.9s
DZM **Mont Dzumac** 64.13 155 eLR LR 09 09 09.6
comp=Z,219nm,22.0s
DZM **Mont Dzumac** 64.13 155 LR LR 09 15 18.6
comp=Z,133nm,21.3s,baz=342,slow=34
WRKA **Warakurna** 64.27 194 P P 08 49 54.5 -0.2
WRKA **Warakurna** 64.27 194 P P 08 49 54.6 -0.2
comp=Z,23nm,0.9s,SNR=4.7
QLP **Quilpie** 64.48 178 P P 08 49 55.8 -0.2
QLP **Quilpie** 64.48 178 P P 08 49 56.3 +0.3
comp=Z,52nm,0.8s,SNR=5.8
JOF **Joensuu** 65.24 332 eP P 08 50 00.2 -0.4
INKA **Innaminka** 65.62 181 P P 08 50 04.0 +0.6
OOD **Oodnadatta** 65.95 186 P P 08 50 05.9 +0.4
MOS **Moscow** 66.70 323 eP P 08 50 08.3 -1.8
MOS e 08 52 33.2
MOS pmax pmax
comp=Z,46nm,1.4s
VRH **Novokhopyorsk** 67.15 318 eP P 08 50 10.6 -2.5
VRH pmax pmax
comp=Z,10.0nm,1.0s
OBN **Obninsk** 67.55 323 i P P 08 50 15.0 -0.5
OBN i 08 50 22.1
OBN i 08 50 39.7
OBN i SS SS 09 03 23.3 -5.7
OBN pmax pmax
comp=Z,31nm,1.0s
OBN MLR MLR
comp=Z,156nm,15.0s
LPSR **Galich'ya Gora** 67.83 320 eP P 08 50 15.7 -1.6
LPSR pmax pmax
comp=Z,20nm,0.9s
KEF **Keuruu** 68.04 333 eP P 08 50 18.1 -0.3
FIA1 **FINESS Array S** 68.08 332 P P 08 50 18.4 -0.4
FINES **FINESS Array B** 68.08 332 P P 08 50 18.2 -0.5
FINES **FINESS Array B** 68.08 332 P P 08 50 18.4 -0.3
comp=Z,25nm,0.8s,baz=47,slow=8.4,SNR=100
FINES LR LR 09 21 48.0
comp=Z,109nm,21.0s,baz=41,slow=37
comp=Z,25nm,0.8s
VAF **Ylistaro** 68.22 335 eP P 08 50 19.9 +0.3
MAK **Makhachkala** 68.26 308 eP P 08 50 18.6 -1.6
MAK e 08 52 48.2
MAK eS S 08 59 17.6 0.0
MAK eSS SS 09 03 40.1 -0.4
MAK pmax pmax
comp=Z,316nm,1.3s
MAK MLR MLR
comp=Z,164nm,15.0s
LCRK **Leigh Creek** 68.41 184 P P 08 50 21.6 +0.5
VSR **Storozhevoye** 68.48 319 eP P 08 50 19.5 -2.0
VSR pmax pmax
comp=Z,10.0nm,0.9s
MULG **Mulgathing** 68.57 188 P P 08 50 22.3 +0.2
NEW **Newport** 68.82 45 P P 08 50 24.5 +0.8
baz=304
NEW **Newport** 68.82 45 LR LR 09 20 54.7
comp=Z,20nm,19.6s,baz=324,slow=36
ARMA **Armidale** 68.84 171 P P 08 50 24.1 +0.3
comp=Z,11nm,1.2s,SNR=1.9
PINE **Pine Mountain** 69.07 50 P P 08 50 26.6 +1.1
PINE IAmb IAmb 08 50 28.4
comp=Z,17nm,1.0s
YBH **Yreka Blue Hor** 69.10 53 LR LR 09 16 04.7
comp=Z,38nm,21.4s,baz=313,slow=32
JMIC **Jan Mayen** 69.10 350 LR LR 09 21 34.2
comp=Z,20nm,18.4s,baz=168,slow=37
ARBE **Arbavere** 69.43 331 eP P 08 50 27.6 +0.4
CMSA **Cobar Meteorol** 69.47 177 P P 08 50 28.4 +0.8
CMSA **Cobar Meteorol** 69.47 177 P P 08 50 28.3 +0.8
comp=Z,15nm,0.9s,SNR=2.9
SUMG **Summit** 69.50 0 P P 08 50 27.9 -0.1
SUMG **Summit** 69.50 0 P P 08 50 27.9 -0.1
SUMG pmax pmax
comp=Z,26nm,1.1s
SUMG **Summit** 69.50 0 i P P 08 50 28.0 +0.1
MEF **Metsahovi** 69.51 332 eP P 08 50 27.8 +0.1
STKA **Stephens Creek** 69.73 181 P P 08 50 29.3 0.0
STKA **Stephens Creek** 69.73 181 P P 08 50 29.1 -0.2
STKA **Stephens Creek** 69.73 181 P P 08 50 29.5 +0.2
comp=Z,2.6nm,0.9s,SNR=3.5
STKA **Stephens Creek** 69.73 181 P P 08 50 29.4 +0.2
comp=Z,4.4nm,0.4s,baz=351,slow=6.8,SNR=27
comp=Z,4.4nm,0.4s
STKA **Stephens Creek** 69.73 181 P P 08 50 29.1 -0.2
STKA pmax pmax
comp=Z,3.0nm,1.1s
VSU **Vasula** 69.78 330 d iP P 08 50 29.0 -0.3
VSU pmax pmax
comp=Z,34nm,1.3s
FORT **Forrest** 69.91 193 P P 08 50 30.4 +0.1
FORT **Forrest** 69.91 193 P P 08 50 30.2 -0.1
FORT **Forrest** 69.91 193 P P 08 50 30.4 +0.1
comp=Z,77nm,0.7s,SNR=7.8
RAF **Rauma** 69.91 333 eP P 08 50 30.1 0.0
KIV **Kislovodsk** 70.64 311 eP P 08 50 34.9 -0.1
KIV pmax pmax
comp=Z,51nm,1.1s
KIV MLR MLR
comp=Z,58nm,18.0s
BMO **Blue Mountains** 70.64 48 P P 08 50 35.0 0.0
BMO **Blue Mountains** 70.64 48 P P 08 50 35.0 0.0
BMO pmax pmax
comp=Z,5.0nm,1.1s
KBZ **Khabaz** 70.64 311 P P 08 50 35.1 +0.3
comp=Z,16nm,0.9s,baz=34,slow=3.2,SNR=30
KBZ LR LR 09 26 15.0
comp=Z,102nm,18.6s,baz=39,slow=40
comp=Z,16nm,0.9s
KBZ **Khabaz** 70.64 311 d iP P 08 50 34.7 -0.2
KBZ pmax pmax
comp=Z,21nm,0.9s
MTSE **Matsula** 70.75 331 eP P 08 50 35.8 +0.5
SHA1 **Shidzhatmaz** 70.78 311 c iP P 08 50 36.4 +0.4
BBOO **Buckleboo** 70.90 186 P P 08 50 36.6 +0.2
BBOO **Buckleboo** 70.90 186 P P 08 50 36.3 -0.1
BBOO IAmb IAmb 08 50 37.4
comp=Z,19nm,0.9s
BBOO **Buckleboo** 70.90 186 P P 08 50 36.5 +0.2
comp=Z,26nm,1.0s,SNR=3.4
AAL **Aland** 71.13 333 eP P 08 50 36.9 -0.7
HTT **Hallett** 71.35 183 P P 08 50 39.7 +0.6
HTT **Hallett** 71.35 183 P P 08 50 39.4 +0.3
comp=Z,15nm,1.0s,SNR=2.5
MSO **Missoula** 71.41 45 P P 08 50 40.3 +0.7
baz=306
GNI **Garni** 71.54 307 LR LR 09 24 32.4
comp=Z,64nm,20.2s,baz=65,slow=38
MNK **Minsk** 71.89 326 i P P 08 50 42.8 +0.6
MNK i *PP pP 08 50 56.3 +1.7
MNK i 08 53 23.6
MNK i PPP PPP 08 55 07.7
MNK i S S 09 00 01.0 +1.2
MNK i *SS sS 09 00 26.3 +5.8
MNK i SS SS 09 04 35.6 -0.1
MNK pmax pmax
comp=Z,22nm,0.9s
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK pmax pmax
comp=N,20nm,0.6s
MNK MLR MLR
comp=E,66nm,16.0s
MNK MLR MLR
comp=N,91nm,14.0s
MNK MLR MLR
comp=Z,173nm,15.0s
ISAL **Salakas** 71.94 328 eP P 08 50 44.1 +1.6
UPP **Uppsala** 72.19 334 eP P 08 50 44.0 +0.1
FFC **Flin Flon** 72.35 33 P P 08 50 45.3 +0.3
FFC IAmb IAmb 08 50 46.4
comp=Z,15nm,0.8s
FFC **Flin Flon** 72.35 33 P P 08 50 45.3 +0.3
FFC pmax pmax
comp=Z,15nm,0.9s

SOC Sochi 72.61 312 *e*P **P 08 50 44.5 -2.2**
SOC *e* 08 53 26.7
SOC *e*PPP PPP 08 55 14.2
SOC *e*S **S 09 00 07.1 -1.3**
SOC *e*SS **SS 09 04 54.0 +6.8**
SOC MLR MLR
comp=Z,81nm,15.0s
PABE Paberze 72.89 328 *e*P **P 08 50 48.5 +0.4**
EGMT Eagleton 72.95 42 P **P 08 50 49.6 +0.8**
baz=308,SNR=7.6
HLID Hailey 73.08 48 P **P 08 50 50.8 +1.0**
baz=307
NC405 NORSAR Array S 73.15 337 P **P 08 50 49.4 -0.2**
HFS Hagfors 73.29 336 P **P 08 50 50.3 -0.1**
comp=Z,16nm,0.9s,baz=46,slow=6.4,SNR=40
HFS LR LR 09 26 01.9
comp=Z,265nm,18.2s,baz=34,slow=38
comp=Z,16nm,0.9s
NC204 NORSAR Array S 73.31 338 P **P 08 50 50.2 -0.4**
NB2 NORSAR Subarra 73.36 337 P **P 08 50 50.6 -0.3**
comp=Z,11nm,0.7s,baz=38,slow=6.2
NB2 NORSAR Subarra 73.36 337 P **P 08 50 50.6 -0.3**
baz=38,slow=6.2
NOA NORSAR Array B 73.36 337 P **P 08 50 50.8 -0.2**
comp=Z,11nm,0.8s,baz=38,slow=5.9,SNR=41
NOA LR LR 09 25 35.3
comp=Z,154nm,21.5s,baz=40,slow=38
comp=Z,11nm,0.8s
BOZ Bozeman (W) 73.43 45 P **P 08 50 52.9 +1.1**
baz=308,SNR=10
VIKU Vikbolandet 73.51 334 *e*P **P 08 50 52.0 +0.2**
NVAR Mina Array Bea 73.75 54 P **P 08 50 54.2 +0.4**
comp=Z,3.1nm,0.8s,baz=280,slow=6.5,SNR=25
comp=Z,3.1nm,0.8s
AK03 Malin Array Si 73.76 322 P **P 08 50 52.8 -0.6**
AKASG Malin Array Be 73.77 322 P **P 08 50 53.0 -0.5**
comp=Z,11nm,0.7s,baz=46,slow=5.9,SNR=32
AKASG LR LR 09 24 55.5
comp=Z,73nm,20.9s,baz=52,slow=37
comp=Z,11nm,0.7s
AKASG Malin Array Be 73.77 322 P **P 08 50 53.0 -0.5**
AKBB Malin Array Si 73.77 322 P **P 08 50 53.0 -0.5**
AK23 Malin Array Si 73.78 323 P **P 08 50 53.1 -0.4**
AK01 Malin Array Si 73.78 322 P **P 08 50 53.0 -0.5**
KIEV Kiev 73.78 322 P **P 08 50 53.0 -0.5**
comp=Z,106nm,1.0s
AK04 Malin Array Si 73.79 322 P **P 08 50 52.8 -0.7**
AK09 Malin Array Si 73.80 322 P **P 08 50 53.2 -0.4**
AK08 Malin Array Si 73.80 322 P **P 08 50 53.2 -0.4**
AK22 Malin Array Si 73.81 323 P **P 08 50 53.2 -0.5**
AK02 Malin Array Si 73.81 322 P **P 08 50 53.2 -0.5**
AK21 Malin Array Si 73.81 323 P **P 08 50 53.2 -0.5**
AK11 Malin Array Si 73.81 322 P **P 08 50 53.3 -0.4**
AK10 Malin Array Si 73.83 322 P **P 08 50 53.4 -0.4**
AK18 Malin Array Si 73.83 323 P **P 08 50 53.4 -0.4**
AK12 Malin Array Si 73.84 322 P **P 08 50 53.4 -0.5**
AK20 Malin Array Si 73.85 323 P **P 08 50 53.4 -0.5**
AK14 Malin Array Si 73.87 322 P **P 08 50 53.6 -0.5**
AK13 Malin Array Si 73.91 322 P **P 08 50 53.9 -0.4**
SUW Suwalki 74.25 328 *e*P **P 08 50 55.6 -0.6**
SUW Suwalki 74.25 328 *e*P **P 08 50 57.5 +1.3**
MI28 Mi28,Pidlybu 74.36 323 P **P 08 50 57.1 +0.2**
ARPS Mount Arapiles 74.61 180 P **P 08 50 58.7 +0.4**
ARPS Mount Arapiles 74.61 180 P **P 08 50 58.7 +0.4**
comp=Z,22nm,0.8s,SNR=4.8
SFJD Kangerlussuaq 74.65 5 LR LR 09 24 52.6
comp=Z,40nm,21.0s,baz=9.5,slow=37
H17A Grant Village 74.76 45 P **P 08 51 02.6 +2.9**
baz=309,SNR=9.5
VES Vestal, Richgr 74.77 56 P **P 08 51 00.5 +1.0**
baz=306
PKM Mcpherson Peak 74.85 58 P **P 08 51 01.0 +0.7**
baz=306
RNPP9 Sopachiv 74.86 324 P **P 08 50 59.8 0.0**
RNPP8 Varash 74.93 324 P **P 08 51 00.1 -0.1**
RNPP5 Staryi Chortor 74.99 324 P **P 08 51 00.7 +0.2**
LUBAR Lubar, Ukraine 74.99 322 P **P 08 51 00.5 -0.1**
RLMT Red Lodge 75.03 44 P **P 08 51 02.2 +1.0**
baz=309
CWC Cottonwood Cre 75.07 55 P **P 08 51 02.2 +0.7**
baz=307
GRAC Grapevine Rang 75.20 55 P **P 08 51 03.0 +1.0**
baz=307
ISA Isabella, Lake 75.27 56 P **P 08 51 03.2 +0.6**
baz=307
FRB Frobisher Bay 75.47 14 LR LR 09 28 45.1
comp=Z,50nm,18.5s,baz=4.5,slow=39
DGMT Dagmar 75.50 39 P **P 08 51 04.1 +0.5**
baz=312
R11B Troy Canyon, C 75.51 53 P **P 08 51 04.9 +0.8**
baz=307,SNR=7.9
MPMC Manual Prospec 75.68 55 P **P 08 51 05.8 +0.8**
baz=307,SNR=5.0
FURC Furnace Creek, 75.84 55 P **P 08 51 07.2 +1.6**
baz=307,SNR=7.1
LRMC Laurel Mtn Rad 75.90 56 P **P 08 51 07.1 +0.9**
baz=307
SORM Soroca 75.90 321 P **P 08 51 05.3 -0.5**
TPNV Topopah Spring 75.94 54 P **P 08 51 07.6 +1.1**
baz=307,SNR=8.3
SNCC San Nicolas Is 76.01 59 P **P 08 51 07.9 +1.2**
baz=307
EDW2 Edwards Air Fo 76.05 57 P **P 08 51 08.0 +1.0**
baz=307
DUG Dugway, Tooele 76.08 50 P **P 08 51 08.7 +1.5**
baz=308,SNR=8.3
GWY Greenwater Val 76.13 55 P **P 08 51 08.3 +0.8**
BW06 Boulder Array 76.36 46 P **P 08 51 09.6 +0.7**
baz=310,SNR=9.9
PDAR Pinedale Array 76.36 46 P **P 08 51 09.4 +0.5**
comp=Z,4.9nm,0.7s,baz=272,slow=1.5,SNR=56
PDAR LR LR 09 20 42.6
comp=Z,20nm,21.9s,baz=295,slow=32
comp=Z,4.9nm,0.7s
KMPD K-Podol'skiy 76.54 322 P **P 08 51 08.0 -1.4**
FMP Fort Macarthur 76.56 58 P **P 08 51 10.7 +0.9**
baz=307
SHOC Shoshone, Teco 76.56 55 P **P 08 51 11.0 +1.1**
baz=308
BORG Borgarnes 76.56 353 LR LR 09 23 43.1
comp=Z,20nm,21.9s,baz=346,slow=35
GSC Goldstone, Bar 76.58 56 P **P 08 51 10.9 +0.8**
baz=308
BFSC Mount Baldy Ra 76.66 57 P **P 08 51 11.2 +0.7**
baz=307
LVV L'vov 76.82 324 *e*P **P 08 51 11.6 +0.6**
SCI2 San Clemente I 76.83 58 P **P 08 51 12.2 +0.8**
baz=307
TUQ Turquoise Moun 77.07 55 P **P 08 51 13.7 +0.9**
baz=308
BBRC Big Bear Solar 77.13 57 P **P 08 51 13.6 +0.2**
baz=308
HEC Hector,Ludlow 77.17 56 P **P 08 51 14.1 +0.7**
baz=308
MURC Murrieta 77.35 57 P **P 08 51 14.9 +0.6**
baz=308
GMRC Granite Mounta 77.64 55 P **P 08 51 16.7 +0.7**
baz=308
BUR08 Bucovina Ar. S 77.79 322 P **P 08 51 16.7 +0.1**
BUR08 IAmb IAmb 08 51 17.7
comp=Z,14nm,1.1s
PFO Pinyon Flats O 77.83 57 P **P 08 51 17.8 +0.6**
baz=308
PFO Pinyon Flats O 77.83 57 LR LR 09 16 48.8
comp=Z,67nm,21.7s,baz=266,slow=29
TPFO Pinon Flats 77.84 57 P **P 08 51 18.1 +0.9**
baz=308
109C Camp Elliot, M 77.84 58 P **P 08 51 18.1 +1.0**
baz=308
TESR Tescani 77.85 320 P **P 08 51 16.9 0.0**
comp=Z,21nm,1.1s
BELC Belle Mtn. Jos 77.90 56 P **P 08 51 18.5 +1.0**
baz=308
K22A Casper 78.14 45 P **P 08 51 19.4 +0.6**
baz=312
ULM Lac du Bonnet 78.15 34 P **P 08 51 17.9 -0.5**
comp=Z,7.7nm,1.1s,baz=308,slow=9.0,SNR=5.7
ULM LR LR 09 27 01.1
comp=Z,34nm,21.2s,baz=30,slow=36
comp=Z,7.7nm,1.1s
ULM Lac du Bonnet 78.15 34 P **P 08 51 18.0 -0.5**
MDND Maddock 78.17 37 P **P 08 51 19.4 +0.8**
baz=315
KOLS Kolonicke sedl 78.26 324 *e*P **P 08 51 19.7 +0.6**
KOLS pmax pmax
comp=Z,9.0nm,1.0s
KOLS Kolonicke sedl 78.26 324 *e*P **P 08 51 19.7 +0.6**
MONP2 Monument Peak 78.30 57 P **P 08 51 20.9 +1.0**
baz=308
IRM Iron Mountain 78.36 56 P **P 08 51 20.9 +1.0**
baz=308
OJC Ojcow 78.43 326 *e*P **P 08 51 20.3 +0.3**
OJC Ojcow 78.43 326 P **P 08 51 20.4 +0.4**
comp=Z,23nm,1.4s
BC3 Big Chuckawall 78.47 56 P **P 08 51 21.8 +1.1**
baz=308
BRTR Keskin Array B 78.57 312 P **P 08 51 20.8 -0.3**
BRTR Keskin Array B 78.57 312 P **P 08 51 21.0 -0.1**
comp=Z,3.8nm,1.0s,baz=96,slow=5.0,SNR=13
BRTR LR LR 09 29 35.4
comp=Z,69nm,18.8s,baz=88,slow=38
comp=Z,3.8nm,1.0s
CRVS Cervenica-Dubn 78.65 325 *e*P **P 08 51 21.9 +0.7**
CRVS pmax pmax
comp=Z,13nm,1.1s
CRVS Cervenica-Dubn 78.65 325 *e*P **P 08 51 21.9 +0.7**
SWSC Sam W. Stewart 78.68 57 P **P 08 51 22.8 +1.2**
baz=308
HMU Henry Mountain 78.75 50 P **P 08 51 22.7 +0.4**
HMU IAmb IAmb 08 51 24.3
comp=Z,11nm,0.7s
NIE Niedzica 78.80 326 *e*P **P 08 51 23.5 +1.4**
NIE Niedzica 78.80 326 P **P 08 51 23.6 +1.5**
comp=Z,4.9nm,0.9s
O20A White River Ci 78.82 47 P **P 08 51 23.2 +0.6**
baz=311
MLR Muntele Rosu 78.91 320 LR LR 09 29 17.6
comp=Z,191nm,18.3s,baz=42,slow=38
PDMCI Parker Dam,Lak 78.92 55 P **P 08 51 23.7 +0.7**
baz=309
BSEG Bad Segeberg 79.31 333 *e*P 08 51 25.1
comp=Z,23nm,1.2s,baz=38,slow=5.3
LANS Liptovska Anna 79.36 326 *e*P **P 08 51 26.3 +1.1**
LANS pmax pmax
comp=Z,7.0nm,1.2s
LANS Liptovska Anna 79.36 326 *e*P **P 08 51 26.3 +1.1**
KSP Ksiaz 79.45 329 *e*P **P 08 51 26.1 +0.5**
AGMN Agassiz Nation 79.59 35 P **P 08 51 25.9 -0.4**
baz=317
N23A Red Feather La 79.63 46 P **P 08 51 27.9 +0.8**
baz=312
MORC Moravsky Berou 79.73 327 *e*P **P 08 51 27.5 +0.3**
DPC Dobruska-Polom 79.81 328 *e*P **P 08 51 28.5 +0.9**
DPC Dobruska-Polom 79.81 328 *e*P **P 08 51 28.5 +0.9**
DPC Dobruska-Polom 79.81 328 P **P 08 51 28.4 +0.9**
comp=Z,8.6nm,1.4s
KRLC Kraliky 79.83 328 *e*P **P 08 51 28.2 +0.5**
KRLC Kraliky 79.83 328 *e*P **P 08 51 28.2 +0.5**
WUAZ Wupatki 79.91 53 P **P 08 51 29.8 +1.2**
baz=310
HLG Helgoland 79.94 335 *e*P 08 51 30.1
comp=Z,215nm,1.0s,baz=38,slow=5.3
VYHS Vyhne 80.13 326 *e*P **P 08 51 29.7 +0.4**
VYHS pmax pmax
comp=Z,9.0nm,1.1s
VYHS Vyhne 80.13 326 *e*P **P 08 51 29.7 +0.4**
FLTG Flechtingen 80.26 332 *e*P 08 51 29.6
comp=Z,15nm,0.8s,baz=38,slow=5.3
JAVC Velka Javorina 80.37 327 *e*P **P 08 51 31.8 +1.1**
BRG Berggiesshubel 80.38 330 *e*P **P 08 51 30.9 +0.4**
BRG Amp 08 51 31.8
comp=Z,9.9nm,1.1s
BRG Berggiesshubel 80.38 330 *e*P **P 08 51 30.9 +0.4**
BRG 08 51 42.4
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG MLR MLR
comp=Z,222nm,15.5s
BRG MLR MLR
comp=E,56nm,12.3s
BRG MLR MLR
comp=N,164nm,16.1s
BRG Berggiesshubel 80.38 330 *e*P 08 51 30.4
comp=N,9.9nm,1.1s,baz=38,slow=5.3
CLL Collm 80.40 330 ||*i*P **P 08 51 30.4 -0.3**
CLL *ex* x 08 51 36.0
CLL *e*pP **pP 08 51 42.0 -1.1**
CLL *e*PP **PP 08 54 34.0 +0.7**
CLL AMS AMS 09 29 00.0
comp=Z,200nm,18.1s
CLL Collm 80.40 330 P **P 08 51 30.6 -0.1**
comp=Z,13nm,0.8s
CLL Collm 80.41 330 *e*P 08 51 30.5
comp=Z,15nm,1.0s,baz=38,slow=5.3
VRAC Vranov 80.49 327 *e*P **P 08 51 31.9 +0.7**
VRAC Vranov 80.49 327 LR LR 09 30 13.0
comp=Z,148nm,18.1s,baz=24,slow=38
NRDL Niedersach Rie 80.55 333 *e*P 08 51 31.3
comp=Z,6.0nm,0.8s,baz=38,slow=5.3
ISCO Idaho Springs 80.55 46 P **P 08 51 33.1 +1.0**
baz=312
MVCO Mesa Verde 80.58 50 P **P 08 51 33.4 +1.2**
baz=311
RETH Rethem/Aller, 80.62 333 *e*P 08 51 31.7
comp=Z,9.8nm,1.1s,baz=38,slow=5.3
SMOL Smolenice 80.73 326 *e*P **P 08 51 33.8 +1.3**
KRUC Moravsky 80.76 327 *e*P **P 08 51 32.9 +0.2**
HSKC Hora Svate Kat 80.78 330 *e*P **P 08 51 33.1 +0.3**
PRU Pruhonice 80.82 329 *e*P **P 08 51 33.4 +0.4**
PRU Pruhonice 80.82 329 *e*P **P 08 51 33.4 +0.4**
SUSD Miller 80.90 39 P **P 08 51 34.1 +0.6**
baz=316
MODS Modra-Piesok 80.91 326 *e*P **P 08 51 34.2 +0.7**
MODS Modra-Piesok 80.91 326 *e*P **P 08 51 34.2 +0.7**
CLZ Clausthal 80.97 332 *e*P 08 51 34.0
comp=Z,18nm,1.1s,baz=38,slow=5.3
CLZ *e*pP 08 51 45.3
ZST Bratislava 81.12 326 *e*P **P 08 51 35.1 +0.5**
ZST Bratislava 81.12 326 *e*P **P 08 51 35.1 +0.5**
W18A Petrified Fore 81.19 52 P **P 08 51 36.3 +0.9**
baz=311
S22A 4UR Ranch, Cre 81.22 49 P **P 08 51 36.5 +0.7**
baz=312
214A Organ Pipe Nat 81.26 56 P **P 08 51 36.7 +1.0**
baz=310
GTTG Gottingen 81.36 332 *e*P 08 51 36.1
comp=Z,22nm,1.3s,baz=38,slow=5.3
GTTG *e*pP 08 51 47.8
Q24A Divide 81.38 47 P **P 08 51 37.1 +0.5**
baz=313
PLN Plauen 81.38 330 *e*P 08 51 35.9
comp=Z,6.2nm,1.1s,baz=38,slow=5.3
MOX Moxa 81.47 331 *e*L 09 30 44.8
comp=Z,110nm,18.3s
MANZ Manzenberg 81.80 330 *e*P 08 51 38.3
comp=Z,1.0nm,0.8s,baz=38,slow=5.3
MANZ *e*pP 08 51 48.8
MMAI Mount Meron Ar 81.82 306 P **P 08 51 38.3 -0.4**
comp=Z,5.1nm,0.6s,baz=64,slow=6.6,SNR=6.0
MMAI LR LR 09 31 13.8
comp=Z,65nm,18.9s,baz=358,slow=38
comp=Z,5.1nm,0.6s
CKRC Cesky Krumlov 81.83 328 *e*P **P 08 51 37.9 -0.5**
CKRC Cesky Krumlov 81.83 328 *e*P **P 08 51 37.9 -0.5**
RONA Rosalia, Austr 81.85 326 *i*P **P 08 51 39.3 +0.8**
comp=Z,14nm,0.9s,SNR=7.5
CONA Conrad Observa 81.86 327 *i*P **P 08 51 39.5 +0.8**
comp=Z,9.1nm,0.9s,SNR=6.8
KHC Kasperske Hory 81.88 329 *e*P **P 08 51 38.9 +0.2**
KHC Kasperske Hory 81.88 329 *e*P **P 08 51 38.9 +0.2**
ROTZ Rotzenmuhle 81.93 330 *e*P 08 51 39.1
comp=Z,1.2nm,0.8s,baz=38,slow=5.3
SDCO Great Sand Dun 82.00 48 P **P 08 51 40.8 +1.0**
baz=313
GERES GERESS Array B 82.06 329 P **P 08 51 39.1 -0.5**
comp=Z,1.6nm,0.6s,baz=35,slow=12,SNR=5.2
GERES LR LR 09 31 01.4
comp=Z,164nm,19.4s,baz=59,slow=38
comp=Z,1.6nm,0.6s
GEC2 GERESS Array S 82.06 329 *e*P 08 51 39.5
comp=Z,4.7nm,0.9s,baz=38,slow=5.3
WET Wettzell 82.16 329 *e*P 08 51 40.1
comp=Z,4.9nm,1.1s,baz=38,slow=5.3
WET *e*pP 08 51 51.5
KASTN Kahler Asten 82.21 333 *e*P 08 51 40.1
comp=Z,14nm,1.6s,baz=38,slow=5.3
EKA Eskdalemuir Ar 82.24 341 P **P 08 51 40.5 +0.1**
comp=Z,2.1nm,0.6s,baz=24,slow=4.5,SNR=7.6
comp=Z,2.1nm,0.6s
TUC Tucson 82.35 55 P **P 08 51 42.6 +1.1**
baz=311
GRF Grafenberg Arr 82.38 330 *e*P 08 51 41.9
comp=Z,21nm,0.5s,baz=38,slow=5.3
GRF *e*L 09 31 22.0
comp=Z,101nm,19.4s
ARSA Arzberg 82.53 327 *i*P **P 08 51 42.4 +0.3**
comp=Z,3.9nm,0.8s
ECSD EROS Data Cent 82.58 39 P **P 08 51 42.3 -0.1**
ECSD IAmb IAmb 08 51 55.5
comp=Z,10nm,1.0s
ECSD EROS Data Cent 82.58 39 P **P 08 51 42.6 +0.2**
baz=317
URZ Urewera 82.59 153 P **P 08 51 40.7 -1.5**
comp=Z,7.6nm,0.8s,baz=45,slow=19,SNR=2.4
comp=Z,7.6nm,0.8s
MOA Molln 82.60 328 *e*P **P 08 51 43.6 +1.1**
comp=Z,0.3nm,0.3s
KSCO Kaye Shedlock' 82.78 45 P **P 08 51 44.5 +0.8**
baz=314
BIOA Bad Ischl, Aus 82.99 328 *i*P **P 08 51 44.8 +0.4**
comp=Z,12nm,0.9s
TNS Taunus Mts 83.00 332 *e*P 08 51 44.2
comp=Z,5.1nm,0.7s,baz=38,slow=5.3
T25A Trinidad 83.05 48 P **P 08 51 45.6 +0.4**
T25A IAmb IAmb 08 51 47.1
comp=Z,6.3nm,0.8s
T25A Trinidad 83.05 48 P **P 08 51 46.2 +1.0**
baz=313
PERS Pernice 83.18 326 *i*P **P 08 51 45.3 -0.2**
SOKA Soboth 83.19 326 *i*P **P 08 51 45.5 -0.1**
comp=Z,12nm,0.8s,SNR=6.2
SPMN Marine on St. 83.28 36 P **P 08 51 46.3 +0.4**
baz=320
ANMO Albuquerque 83.32 50 P **P 08 51 47.4 +0.8**
baz=312
ANMO Albuquerque 83.32 50 LR LR 09 22 15.8
comp=Z,38nm,20.7s,baz=61,slow=31
GOLS Golise 83.44 326 *i*P **P 08 51 46.5 -0.4**
BGNE Belgrade 83.50 41 P **P 08 51 47.5 +0.4**
baz=316
OBKA Obir 83.53 327 *i*P **P 08 51 47.6 +0.2**
comp=Z,6.2nm,0.7s
KBA Koelnbreinsper 83.59 328 *e*P **P 08 51 47.3 -0.5**
comp=Z,8.5nm,0.7s,SNR=6.1
LESA Schwarzleotal 83.60 328 *i*P **P 08 51 46.0 -1.6**
comp=Z,6.0nm,0.7s
CRES Cresnjev 83.66 326 *i*P **P 08 51 47.3 -0.6**
MYKA Terra Mystica 83.82 327 *e*P **P 08 51 47.8 -1.0**
comp=Z,4.4nm,0.5s
BCLA Clavier 83.96 334 *d*P **P 08 51 49.1 -0.2**
SCHQ Schefferville 84.02 16 P **P 08 51 49.3 -0.3**
comp=Z,5.2nm,0.7s,baz=346,slow=7.6,SNR=8.8
SCHQ LR LR 09 31 32.1
comp=Z,48nm,19.9s,baz=359,slow=37
comp=Z,5.2nm,0.7s
121A Cookes Peak, D 84.11 53 P **P 08 51 51.8 +1.1**
baz=312
ABTA Abfaltersbach 84.21 328 *e*P **P 08 51 49.6 -1.2**
comp=Z,2.5nm,0.5s
BMRD Maredsous 84.24 334 *d*P **P 08 51 50.7 -0.1**
EIL Elat 84.29 303 LR LR 09 35 08.6
comp=Z,80nm,18.3s,baz=66,slow=40
RETA Reutte 84.33 329 *i*P **P 08 51 51.5 +0.1**
comp=Z,16nm,1.0s,SNR=6.2
SQTA Sankt Quirin 84.37 329 *e*P **P 08 51 51.7 +0.1**
comp=Z,3.4nm,0.5s
CBKS Cedar Bluff 84.52 44 P **P 08 51 53.2 +0.7**
baz=316
PPT Papeete 84.57 117 LR LR 09 20 08.8
comp=Z,75nm,21.3s,baz=328,slow=29
PPT2 Papeete2 84.58 117 *e*LR LR 09 18 35.5
comp=Z,189nm,25.2s
PPT2 *e*LR LR 09 18 38.4
comp=Z,139nm,27.0s
BFO Black Forest 84.60 331 *e*P 08 51 52.8
comp=Z,11nm,0.9s,baz=38,slow=5.3
FETA Feichten 84.72 329 *i*P **P 08 51 53.4 0.0**
comp=Z,6.4nm,0.8s
DAVA Damuels 84.85 330 *i*P **P 08 51 53.9 -0.2**
comp=Z,14nm,0.8s
SCIA State Center 85.61 38 P **P 08 51 58.2 +0.4**
baz=320
RPZ Rata Peaks 85.62 159 LR LR 09 25 01.5
comp=Z,169nm,19.4s,baz=124,slow=32
KSU1 Kansas State U 85.98 42 P **P 08 51 59.7 -0.1**
baz=318
MNTX Cornudas Mount 86.18 52 P **P 08 52 01.3 +0.5**
baz=313
MSTX Muleshoe 86.20 49 P **P 08 52 01.5 +0.5**
baz=314
AMTX Amarillo 86.20 48 P **P 08 52 01.7 +0.7**
baz=315
JFWS Jewell Farm 86.23 36 P **P 08 52 00.9 0.0**
baz=321
ITM Ithomi 86.96 316 P **P 08 52 03.3 -1.3**
L44A Lake County Fo 87.88 35 P **P 08 52 08.7 -0.1**
baz=323
WMOK Wichita Mounta 87.98 46 P **P 08 52 09.8 +0.3**
baz=316
P40A Paris 87.99 39 P **P 08 52 09.3 -0.1**
LPIG La Paz 88.03 61 LR LR 09 23 16.5
comp=Z,52nm,21.6s,baz=249,slow=30
HDIL Hopedale 88.52 37 P **P 08 52 12.3 +0.3**
baz=322
TBI Tubuai 88.56 121 *e*LR LR 09 20 26.3
comp=Z,422nm,24.0s
S39A Bolivar 88.75 41 P **P 08 52 13.2 +0.1**
S39A IAmb IAmb 08 52 25.7
comp=Z,9.0nm,1.1s
TUL3 Leonard 88.78 44 P **P 08 52 13.6 +0.4**
baz=318
TX31 Lajitas Ar. Si 88.87 53 P **P 08 52 14.1 +0.1**
TX31 IAmb IAmb 08 52 15.4
comp=Z,3.5nm,0.7s
TXAR Lajitas Array 88.88 53 P **P 08 52 14.5 +0.6**
comp=Z,3.2nm,0.6s,baz=297,slow=3.3,SNR=52
TXAR LR LR 09 24 43.4
comp=Z,23nm,21.7s,baz=274,slow=31
comp=Z,3.2nm,0.6s
ABTX Abilene, Hawle 89.00 48 P **P 08 52 14.9 +0.5**
baz=316
SADO Sadowa 89.34 28 LR LR 09 34 05.4
comp=Z,28nm,20.4s,baz=212,slow=37
CCM Cathedral Cave 89.53 39 P **P 08 52 17.0 +0.3**
baz=321
SFIN Lafayette 89.68 35 P **P 08 52 17.8 +0.4**
baz=323
JCT Junction City 90.44 50 P **P 08 52 21.7 +0.5**
baz=316
VAE Valguarnera 90.64 321 LR LR 09 38 39.4
comp=Z,183nm,18.1s,baz=126,slow=39
O48B Farmland 90.66 34 P **P 08 52 22.3 +0.4**
baz=325
WHTX Lake Whitney, 90.73 47 P **P 08 52 22.9 +0.5**
baz=317
MIAR Mount Ida 91.00 43 P **P 08 52 24.2 +0.6**
baz=320
LONY Lake Ozonia 91.09 25 P **P 08 52 23.6 -0.3**
baz=332
ERPA Erie 91.27 30 P **P 08 52 25.0 +0.2**
baz=328
P49A Miami Univ. Ec 91.44 34 P **P 08 52 25.6 0.0**
baz=325
435B Jarrell 91.54 48 P **P 08 52 26.5 +0.3**
baz=317
M53A WI Miller and 91.57 31 P **P 08 52 26.0 -0.1**
baz=328
ACSO Alum Creek Sta 91.62 33 P **P 08 52 26.5 +0.1**
baz=326
WCI Wyandotte Cave 91.78 36 P **P 08 52 27.3 +0.2**
baz=324
PKME Peaks-Kenny Pk 92.17 22 P **P 08 52 29.2 +0.4**
baz=336
O53A New Philadelph 92.36 32 P **P 08 52 30.0 +0.2**
baz=327
P52A Corning 92.48 33 P **P 08 52 30.6 +0.2**
baz=327
BINY Binghamton 92.72 27 P **P 08 52 31.7 +0.2**
baz=331
WVT Waverly 92.73 38 P **P 08 52 31.2 -0.4**
baz=323
OXF Oxford 93.21 40 P **P 08 52 33.6 -0.3**
baz=322
SSPA Standing Stone 93.36 29 P **P 08 52 34.3 -0.1**
baz=330
TKL Tuckaleechee C 95.04 36 LR LR 09 38 20.0
comp=Z,25nm,20.3s,baz=336,slow=37
BLA Blacksburg 95.24 33 P **P 08 52 43.1 -0.1**

baz=328
ESDC Sonseca Array 96.52 334 P **P** **08 52 48.3 -0.7**
comp=Z,0.3nm,0.3s,baz=7.6,slow=3.9,SNR=4.4
ESDC LR LR 09 41 22.5
comp=Z,123nm,18.2s,baz=14,slow=38
comp=Z,0.3nm,0.3s
GOGA Godfrey 97.03 37 P **P** **08 52 51.3 0.0**
baz=326
TORD Torodi Ar. Bea 116.96 316 PKP **PKPdf** **08 58 03.0 -1.4**
comp=Z,0.8nm,0.6s,baz=7.3,slow=2.5,SNR=4.4
QSPA South Pole Qui 127.95 180 PKP **PKPdf** **08 58 23.2 -0.8**
comp=Z,1.5nm,0.5s,baz=270,slow=0.5,SNR=15
CZSB Cruzeiro do Su 136.23 55 *eP* **PKPdf** **08 58 41.9 +0.7**
TROLL Troll, Antarti 140.56 198 ⇑PKPdf PKPdf 08 58 38.6 -9.0
comp=Z,83nm,0.8s
ETMB Extrema 141.89 50 *eP* **PKPdf** **08 58 52.0 +0.5**
SNAA Sanae 142.07 197 ⇑PKPdf PKPpre 08 58 44.7
comp=Z,33nm,0.5s
SNAA Sanae 142.07 197 PKhKP PKPpre 08 58 44.0
comp=Z,3.2nm,0.9s,baz=204,slow=11,SNR=9.5
ITTB Itaituba 142.53 30 *eP* **PKPdf** **08 58 52.7 0.0**
VNA2 Neumayer--Watz 143.64 196 ⇑PKPdf PKPab 08 58 49.7 +0.1
comp=Z,12nm,0.7s,baz=132,slow=2.6
VNA3 Neumayer Olymp 143.88 195 ⇑PKPdf PKPab 08 58 50.4 -0.1
comp=Z,7.0nm,0.7s
VNA1 Neumayer--Stat 144.03 196 ⇑PKPdf **PKPab** **08 58 51.2 +0.1**
comp=Z,23nm,1.0s
ROSB Rosario 144.37 11 *eP* **PKPdf** **08 58 56.7 +0.7**
NPGB Novo Progresso 145.11 32 *eP* **PKPab** **08 58 57.0 +0.3**
LPAZ La Paz 145.52 59 PKPbc **PKPdf** **08 58 58.7 +0.2**
comp=Z,15nm,0.8s,baz=326,slow=3.0,SNR=70
PRPB Paraua pebas 146.27 22 *eP* **PKPbc** **08 59 00.6 +0.3**
NBPB Pedra_Branca-C 147.44 3 *eP* **PKPdf** **08 59 02.4 +1.2**
VILB Vilhena 147.88 44 *eP* **PKPdf** **08 59 03.2 +1.4**
PDRB Porto dos Gac 148.54 38 *eP* **PKPdf** **08 59 04.1 +1.2**
LVC Limon Verde 149.13 69 *eP* **PKPdf** **08 59 05.7 +1.6**
PTLB Pontes e Lacer 150.50 46 *eP* **PKPdf** **08 59 07.7 +1.7**
BBSD Serra de San D 151.01 50 *eP* **PKPdf** **08 59 08.5 +1.7**
SALV Santo Antonio 152.72 40 *eP* **PKPdf** **08 59 09.5 +0.2**
SDBA SAO DESIDERIO 153.52 16 *eP* **PKPdf** **08 59 12.3 +1.7**
PLCA Paso Flores 154.63 106 PKPab **PKPab** **08 59 34.3 -0.6**
comp=Z,3.1nm,0.9s,baz=340,slow=2.8,SNR=3.2

IDC 12 08:40:27.3±3.3, 53°.55N×87°.91E, h0km, mbtmp2.7/2, ML2.5/2, 1C-2D, Error ellipse: s-maj=30.3km s-min=19.2km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**284**	I	I	08 51 57.8	
	baz=99,slow=306,SNR=7.0						
ZAA0	**Zalesovo Array**	**1.88**	**284**	⇓Pn	Pb	08 41 02.3	-0.1
	0.2nm,0.5s,baz=97,slow=15						
ZAA0				⇓Sn	Sb	08 41 26.4	-0.1
	0.4nm,0.3s,baz=97,slow=23						
ZALV	**Zalesovo Beam**	**1.88**	**284**	Pn	Pn	08 41 00.7	0.0
	0.6nm,0.3s,baz=101,slow=13,SNR=4.2						
ZALV				Lg	Lg	08 41 27.1	
	2.1nm,0.3s,baz=103,slow=29,SNR=8.6						
KURBB	**Kurchatov Arra**	**6.48**	**247**	Pn	Pn	08 42 04.0	+0.2
	0.1nm,0.3s,baz=65,slow=14,SNR=4.2						
KURBB				Lg	Lg	08 43 52.6	
	baz=61,slow=31,SNR=4.4						
	0.3nm,0.3s						
MK31	**Makanchi Array**	**7.66**	**210**	⇑P	Pn	08 42 23.1	+3.0
	0.4nm,0.6s,baz=29,slow=14,SNR=4.2						
MKAR	**Makanchi Array**	**7.66**	**210**	Pn	Pn	08 42 21.5	+1.4
	0.1nm,0.3s,baz=31,slow=15,SNR=2.5						
	0.1nm,0.3s						

IDC 12 08:53:53.1±2.8, 30°.89S×177°.88W, h0km, mb3.8/3, mbtmp3.8/4, ML3.0/1, Error ellipse: s-maj=65.7km s-min=24.7km az=115.0
ISC 12 08:53:57.7±2.3, 30°.8S±0°.1×177°.8W±0°.4, h35km, n6, σ1°31/8, mb3.9/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.58**	**356**	Pn	**Pn**	**08 54 24.3**	**+1.2**
	57nm,0.3s,baz=102,slow=20,SNR=1.6						
RAO				Sn	**Sn**	**08 54 41.1**	**-1.2**
	242nm,0.3s,baz=138,slow=22,SNR=7.5						
URZ	**Urewera**	**8.51**	**208**	Pn	**Pn**	**08 55 57.1**	**-1.3**
	0.2nm,0.3s,baz=108,slow=9.6,SNR=1.4						
URZ				Sn	**Sn**	**08 57 34.4**	**+1.2**
	0.7nm,0.3s,baz=144,slow=24,SNR=9.9						
	4.2nm,0.9s						
STKA	**Stephens Creek**	**34.55**	**258**	P	**P**	**09 00 44.1**	**+1.1**
	1.7nm,0.7s,baz=105,slow=12,SNR=6.8						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**43.26**	**267**	P	**P**	**09 01 55.1**	**-0.9**
	0.4nm,0.5s,baz=106,slow=7.9,SNR=4.8						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.28**	**272**	P	**P**	**09 02 03.5**	**-0.8**
	0.6nm,0.3s,baz=111,slow=8.0,SNR=21						
	0.6nm,0.3s						
FINES	**FINESS Array B**	**145.61**	**340**	PKPbc	**PKPdf**	**09 13 31.6**	**+0.1**
	1.2nm,0.5s,baz=58,slow=3.4,SNR=17						

JMA 12 08:54:22.5±0.2, 25°.N±2°.×122°.6E±0°.7, h19km±3km, MV2.3/8, NW OFF ISHIGAKIJIMA IS
TAP 12 08:54:22.0, 24°.65N×122°.62E, h23km, ML3.3, C
ISC 12 08:54:20.9±1.1, 24°.62N±0°.03×122°.64E±0°.02, h19km±3km, n66, σ0°60/90, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.32**	**122**	P	**Pn**	**08 54 29.6**	**-1.0**
JYNG				S	**Sn**	**08 54 34.9**	**-1.8**
YOJ	**Yonaguni jima**	**0.37**	**115**	P	**Pn**	**08 54 30.5**	**-0.7**
YOJ	**Yonaguni jima**	**0.37**	**115**	*i* P	**Pn**	**08 54 30.6**	**-0.6**
	baz=117						
YOJ				S	**Sn**	**08 54 36.6**	**-1.2**
	baz=117						
YOJ	**Yonaguni jima**	**0.37**	**115**	P	**Pn**	**08 54 30.6**	**-0.6**
YOJ				*eS*	**Sn**	**08 54 36.4**	**-1.5**
EOS2	**EOS2**	**0.42**	**242**	*eP*	**Pb**	**08 54 30.1**	**+0.4**
	baz=242						
EOS2				*eS*	**Sb**	**08 54 36.8**	**+1.0**
	baz=242						
EOS3	**EOS3**	**0.45**	**222**	*eP*	**Pb**	**08 54 30.8**	**+0.7**
	baz=218						
EOS4	**EOS4**	**0.58**	**211**	*eP*	**Pn**	**08 54 33.3**	**-0.5**
	baz=202						
EGS		**0.68**	**289**	P	**Pg**	**08 54 34.5**	**+0.2**
	baz=287						
TWB1	**Santiao Chiao**	**0.71**	**303**	*eP*	**Pg**	**08 54 34.8**	**-0.1**
	baz=302						
TWB1				*eS*	**Sb**	**08 54 42.9**	**-1.0**
	baz=302						
TWC	**Suao**	**0.72**	**269**	*eP*	**Pb**	**08 54 34.9**	**+0.1**
	baz=266						
TWC				*eS*	**Sb**	**08 54 44.7**	**+0.3**
	baz=266						
ESAO	**Su ao**	**0.73**	**267**	*i* P	**Pg**	**08 54 35.4**	**+0.2**
	baz=264						
ESAO				*i* S	**Sg**	**08 54 44.9**	**0.0**
	baz=264						
EWUT	**Wuta**	**0.81**	**258**	*eP*	**Pg**	**08 54 36.7**	**0.0**
	baz=255						
EWUT				*eS*	**Sg**	**08 54 47.3**	**-0.1**
	baz=255						
TIPB	**Shuangxi**	**0.82**	**295**	*i* P	**Pg**	**08 54 37.0**	**+0.1**
	baz=294						
TIPB				*i* S	**Sb**	**08 54 47.4**	**+0.2**
	baz=294						
ENA	**Nanau**	**0.84**	**257**	*i* P	**Pg**	**08 54 37.4**	**0.0**
	baz=254						
NDS	**Dongshan**	**0.84**	**271**	P	**Pn**	**08 54 37.6**	**-0.2**
	baz=268						
EAHA	**Aohua**	**0.87**	**251**	P	**Pg**	**08 54 37.9**	**0.0**
	baz=248						
TWE	**Neicheng**	**0.89**	**277**	P	**Pg**	**08 54 38.2**	**-0.1**
	baz=274						
TWE				*eS*	**Sb**	**08 54 49.4**	**+0.1**
	baz=274						
NWF	**Wu-fen Shan**	**0.90**	**300**	*eP*	**Pg**	**08 54 38.4**	**-0.1**
	baz=314						
WFSB	**Wu-fen Shan**	**0.90**	**300**	*eP*	**Pn**	**08 54 38.5**	**-0.1**
	baz=312						
TNOU	**National Taiwa**	**0.95**	**304**	*eS*	**Sb**	**08 54 50.6**	**-0.3**
	baz=303						
FUSB	**Fushanzhiwuyua**	**0.97**	**278**	P	**Pg**	**08 54 39.8**	**0.0**
	baz=276						
FUSB				*eS*	**Sg**	**08 54 52.4**	**-0.2**
	baz=276						
ENTT	**Nioudou**	**0.98**	**271**	P	**Pn**	**08 54 39.8**	**+0.2**
	baz=269						
ENTT				*eS*	**Sg**	**08 54 52.6**	**-0.3**
	baz=269						
LATG	**Datong**	**1.02**	**265**	P	**Pg**	**08 54 40.6**	**-0.1**
	baz=263						
LATG				*eS*	**Sn**	**08 54 53.9**	**-0.2**
	baz=263						
TWA	**Mucha**	**1.03**	**291**	*eP*	**Pn**	**08 54 40.5**	**+0.2**
	baz=288						
NDT	**Datong Townshi**	**1.03**	**269**	P	**Pg**	**08 54 40.9**	**0.0**
	baz=267						
NDT				*eS*	**Sb**	**08 54 53.7**	**+0.5**
	baz=267						
IRIF	**Iriomote-Funau**	**1.03**	**106**	P	**Pg**	**08 54 41.8**	**+0.9**
IRIF				S	**Sg**	**08 54 57.1**	**+2.6**
NWLT	**Wulai**	**1.05**	**279**	P	**Pg**	**08 54 41.0**	**-0.3**
	baz=276						
NWLT				S	**Sb**	**08 54 54.0**	**+0.2**
	baz=276						
NACB	**Ninganchiao**	**1.05**	**245**	P	**Pn**	**08 54 40.8**	**+0.2**
NACB	**Ninganchiao**	**1.05**	**245**	P	**Pn**	**08 54 40.8**	**+0.2**
	baz=250						
NACB				*eS*	**Sn**	**08 54 54.5**	**-0.3**
	baz=250						
NHDH	**Xindian Distri**	**1.07**	**289**	*eP*	**Pg**	**08 54 41.4**	**-0.3**
	baz=286						
NHDH				*eS*	**Sb**	**08 54 54.5**	**+0.1**
	baz=286						
TWD	**Chiawan**	**1.10**	**241**	*eP*	**Pg**	**08 54 42.1**	**0.0**
	baz=244						
YM01	**YM01**	**1.11**	**298**	P	**Pb**	**08 54 41.5**	**+0.1**
	baz=281						
YM01				*eS*	**Sb**	**08 54 55.4**	**-0.1**
	baz=281						
TATO	**Taipei**	**1.11**	**289**	P	**Pg**	**08 54 42.1**	**-0.3**
YM08	**YM08**	**1.11**	**301**	*eP*	**Pb**	**08 54 41.8**	**+0.3**
	baz=311						
PCYT	**Pengchaiyu**	**1.13**	**333**	*eP*	**Pb**	**08 54 41.8**	**0.0**
	baz=318						
TWY	**Chenhua**	**1.15**	**305**	*eP*	**Pb**	**08 54 42.5**	**+0.3**
	baz=318						
TWY				*eS*	**Sn**	**08 54 57.3**	**+0.1**
	baz=318						
YHNB	**Yeheng**	**1.15**	**273**	P	**Pb**	**08 54 42.7**	**+0.4**
YHNB	**Yeheng**	**1.15**	**273**	P	**Pb**	**08 54 42.6**	**+0.3**
	baz=270						
YHNB				*eS*	**Sb**	**08 54 57.0**	**+0.2**
	baz=270						
NNSB	**Datong**	**1.16**	**261**	P	**Pg**	**08 54 43.1**	**-0.4**
	baz=258						
NNSB				*eS*	**Sn**	**08 54 57.6**	**-0.1**
	baz=258						
NNS	**Nan Shan**	**1.17**	**261**	*i* P	**Pg**	**08 54 43.1**	**-0.4**
	baz=258						
NSK	**Sanguang**	**1.17**	**273**	P	**Pb**	**08 54 42.9**	**+0.3**
	baz=270						
NSK				*eS*	**Sb**	**08 54 57.4**	**+0.1**
	baz=270						
ETM	**Tongmen**	**1.24**	**238**	*eP*	**Pg**	**08 54 44.5**	**-0.3**
	baz=235						
LXIB	**Xiulin Townshi**	**1.27**	**242**	P	**Pg**	**08 54 45.1**	**-0.4**
	baz=239						
SHUL	**Shoufeng**	**1.29**	**230**	*eP*	**Pg**	**08 54 45.4**	**-0.4**
	baz=214						
WHF	**Hehuan Shan**	**1.34**	**250**	*eP*	**Pg**	**08 54 46.4**	**-0.5**
	baz=246						
WHF				*eS*	**Sb**	**08 55 03.5**	**+0.9**
	baz=246						
ESL	**Shilin**	**1.37**	**234**	*eP*	**Pg**	**08 54 46.6**	**-0.7**
	baz=231						
TWT	**Tachien**	**1.39**	**255**	*eP*	**Pg**	**08 54 47.1**	**-0.5**
	baz=260						
NFF	**Wufeng Townshi**	**1.39**	**271**	*eP*	**Pb**	**08 54 46.8**	**+0.5**
	baz=260						
TDCB	**Techi**	**1.40**	**255**	*eP*	**Pg**	**08 54 47.6**	**-0.3**
	baz=252						
CHGB	**Renai**	**1.45**	**248**	*eP*	**Pg**	**08 54 48.2**	**-0.7**
	baz=230						
WARBT	**Fenglin Townsh**	**1.46**	**232**	*eP*	**Pb**	**08 54 47.3**	**-0.1**
	baz=216						
NSTT	**Nanjuang**	**1.49**	**271**	*eP*	**Pg**	**08 54 49.1**	**-0.6**
	baz=283						
OWD	**Renai**	**1.49**	**244**	*eP*	**Pb**	**08 54 48.0**	**-0.1**
	baz=226						
WUSB	**Renai**	**1.53**	**246**	*eP*	**Pg**	**08 54 49.5**	**-0.8**
	baz=230						
HGSD	**Ruisui**	**1.58**	**225**	*eP*	**Pb**	**08 54 49.7**	**+0.2**
	baz=210						
WHP	**Taichung City**	**1.58**	**258**	*eP*	**Pg**	**08 54 51.3**	**-0.1**
	baz=242						
VWDT	**VWDT**	**1.62**	**238**	*eP*	**Pb**	**08 54 51.0**	**+0.9**
	baz=235						
EHY	**Hungye**	**1.64**	**228**	*eP*	**Pb**	**08 54 50.1**	**-0.4**
	baz=225						
WCS	**Beigang Elemen**	**1.68**	**251**	*eP*	**Pg**	**08 54 52.4**	**-0.7**
	baz=235						
TWQ1	**Liyutan**	**1.73**	**261**	*eP*	**Pg**	**08 54 54.2**	**+0.1**
	baz=258						
YULB	**Yu-li**	**1.73**	**225**	P	**Pb**	**08 54 51.6**	**-0.5**
YULB	**Yu-li**	**1.73**	**225**	*eP*	**Pn**	**08 54 50.9**	**+0.8**
	baz=238						
SSLB	**Suanglung**	**1.75**	**242**	P	**Pg**	**08 54 53.7**	**-0.9**
SSLB	**Suanglung**	**1.75**	**242**	*eP*	**Pb**	**08 54 53.4**	**+1.0**
	baz=225						
EYUL	**Yuli**	**1.75**	**224**	*eP*	**Pb**	**08 54 52.5**	**+0.1**
	baz=210						
SMLT	**Sun Moon Lake**	**1.75**	**246**	*eP*	**Pb**	**08 54 53.5**	**+1.0**
	baz=229						

NNC 12 09:08:15.0±2.9, 53°.59N×87°.85E, h0km, mb2.0, mpv1.7, Error ellipse: s-maj=21.4km s-min=15.4km az=83.0, Suspected Mining explosion.
IDC 12 09:08:18.4±3.1, 53°.57N×87°.64E, h0km, mbtmp2.7/2, ML2.5/2, 3C-3D, Error ellipse: s-maj=27.6km s-min=16.0km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**284**	I	I	09 19 00.0	
	0.1nm,0.9s,baz=101,slow=305,SNR=7.7						
ZAA0	**Zalesovo Array**	**1.72**	**284**	⇓Pn	Pn	09 08 47.8	-1.7
	0.6nm,0.8s,baz=101,slow=16						
ZAA0				⇑Sn	Sb	09 09 12.5	-0.3
	6.5nm,0.8s,baz=100,slow=21						
ZALV	**Zalesovo Beam**	**1.72**	**284**	Pg	Pn	09 08 49.9	+0.4
	0.8nm,0.3s,baz=104,slow=13,SNR=6.6						
ZALV				Lg	Lg	09 09 12.7	
	1.0nm,0.3s,baz=99,slow=28,SNR=15						
KURK	**Kurchatov**	**6.25**	**246**	⇑Lg	Lg	09 11 36.8	
	20nm,1.7s						
KURBB	**Kurchatov Arra**	**6.34**	**246**	Pn	Pn	09 09 53.9	+0.9
	0.1nm,0.3s,baz=55,slow=45,SNR=5.5						
KURBB				Lg	Lg	09 11 38.3	
	baz=60,slow=30,SNR=10						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**6.34**	**246**	⇓Lg	Lg	09 11 40.5	
	11nm,1.1s						
MK31	**Makanchi Array**	**7.60**	**209**	⇑Pn	Pn	09 10 08.6	-1.8
	baz=32,slow=14						
MK31				⇓Lg	Lg	09 12 18.8	
MKAR	**Makanchi Array**	**7.60**	**209**	Pn	Pn	09 10 11.4	+1.0
	0.1nm,0.3s,baz=31,slow=14,SNR=4.9						
MKAR				Lg	Lg	09 12 18.0	
	0.1nm,0.3s,baz=28,slow=33,SNR=6.5						
	0.2nm,0.3s						

SJA 12 09:11:55.7±0.7, 21°.43S×66°.90W, h244km±7km, ML4.2, MW3.9
IDC 12 09:11:56.8±1.1, 21°.53S×66°.80W, h207km±12km, mb3.2/4, mbtmp3.9/7, Error ellipse: s-maj=28.8km s-min=17.7km az=143.0
NEIC 12 09:11:57.8±1.4, 21°.46S±0°.06×66°.87W±0°.08, h222km±11km, mb4.5/9, Error ellipse: s-maj=12.6km s-min=5.3km az=49.0
VAO 12 09:11:58.4±0.3, 21°.28S×66°.81W, h196km±5km, mb3.9
SCB 12 09:11:58.4±1.3, 21°.49S×66°.97W, h208km±11km, ML4.3/3, Error ellipse: s-maj=5.1km s-min=4.2km az=0.0
ISC 12 09:11:57.7±0.6, 21°.42S±0°.04×66°.91W±0°.04, h217km±6km, n96, σ1°25/118, mb4.1/8, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.20**	**82**	Pg	**Pn**	**09 12 31.9**	**+0.8**
MOCB				Sg	**S**	**09 12 57.2**	**+0.3**
MOCB				IAML		09 12 58.4	
	1μm,0.5s						
YJA	**Yavi**	**1.50**	**121**	*eP*	**Pn**	**09 12 34.4**	**+1.0**
YJA				*eS*	**S**	**09 13 01.2**	**+0.1**
AF01	**San Pedro de A**	**1.93**	**217**		**Pn**	**09 12 37.7**	**+0.6**
AF01	**San Pedro de A**	**1.93**	**217**	*i* P	**Pn**	**09 12 38.5**	**+1.3**
AOVT	**TarijaAcel**	**2.06**	**94**	Pg	**Pn**	**09 12 38.9**	**+0.6**
PB09	**IPOC Station P**	**2.20**	**260**		**Pn**	**09 12 40.6**	**+0.8**
PB09	**IPOC Station P**	**2.20**	**260**	*eP*	**Pn**	**09 12 40.6**	**+0.8**
PB09				*eS*	**S**	**09 13 13.7**	**+1.4**
PB09				IAML		09 13 15.3	
	comp=Z,336nm,0.5s						
PB09	**IPOC Station P**	**2.20**	**260**	Pg	**Pn**	**09 12 40.5**	**+0.8**
LVC	**Limon Verde**	**2.21**	**237**		**Pn**	**09 12 40.7**	**+0.8**
LVC	**Limon Verde**	**2.21**	**237**	*eP*	**Pn**	**09 12 40.8**	**+0.8**
LVC				*eS*	**S**	**09 13 13.1**	**+0.4**
LVC	**Limon Verde**	**2.21**	**237**	P	**Pn**	**09 12 39.9**	**0.0**
	comp=Z,14nm,0.2s,baz=57,slow=9.4,SNR=91						
LVC				S	**S**	**09 13 11.3**	**-1.4**
	comp=Z,226nm,0.3s,baz=271,slow=21,SNR=41						
LVC	**Limon Verde**	**2.21**	**237**	*eP*	**Pn**	**09 12 40.8**	**+0.8**
LVC				*eS*	**S**	**09 13 12.6**	**-0.1**
GO01	**Chusmiza**	**2.76**	**309**		**Pn**	**09 12 46.9**	**+0.8**
GO01	**Chusmiza**	**2.76**	**309**	*eP*	**Pn**	**09 12 46.3**	**+0.2**
GO01				*eS*	**S**	**09 13 27.0**	**+3.5**
PB06	**IPOC Station P**	**2.78**	**242**		**Pn**	**09 12 46.3**	**+0.4**
PB06	**IPOC Station P**	**2.78**	**242**	*eP*	**Pn**	**09 12 46.3**	**+0.4**
PB06				*eS*	**S**	**09 13 23.2**	**-0.2**
PB06				IAML		09 13 27.0	
	comp=Z,435nm,0.4s						
PB06	**IPOC Station P**	**2.78**	**242**	Pg	**Pn**	**09 12 46.5**	**+0.5**
PB15	**IPOC Station P**	**2.97**	**233**		**Pn**	**09 12 48.1**	**0.0**
SOEO	**Opoqueri**	**2.98**	**342**	Pg	**Pn**	**09 12 50.3**	**+1.7**
PB11	**IPOC Station P**	**3.05**	**302**		**Pn**	**09 12 49.2**	**+0.1**
PB11	**IPOC Station P**	**3.05**	**302**	*eP*	**Pn**	**09 12 49.1**	**+0.1**
PB11				*eS*	**S**	**09 13 28.8**	**-0.2**
PB11				IAML		09 13 30.4	
	comp=Z,577nm,0.2s						
PB11	**IPOC Station P**	**3.05**	**302**	Pg	**Pn**	**09 12 49.2**	**+0.1**
PB11				Sg	**S**	**09 13 27.7**	**-1.3**
PB11				IAML		09 13 30.3	
	comp=Z,1μm,0.1s						
PATCX	**Punta Patache**	**3.09**	**280**		**Pn**	**09 12 49.4**	**0.0**
PATCX	**Punta Patache**	**3.09**	**280**	*eP*	**Pn**	**09 12 48.8**	**-0.5**
PATCX				*eS*	**S**	**09 13 28.9**	**-0.6**
PATCX				IAML		09 13 30.7	
	comp=Z,321nm,0.4s						
PB04	**IPOC Station P**	**3.15**	**253**		**Pn**	**09 12 49.9**	**-0.2**
PB04	**IPOC Station P**	**3.15**	**253**	*eP*	**Pn**	**09 12 50.2**	**+0.1**
PB04				*eS*	**S**	**09 13 29.4**	**-1.5**
PB04				IAML		09 13 30.8	
	comp=Z,504nm,0.2s						
PB04	**IPOC Station P**	**3.15**	**253**	Pg	**Pn**	**09 12 50.3**	**+0.2**
PB04				Sg	**S**	**09 13 28.6**	**-2.3**
PB04				IAML		09 13 31.4	
	comp=Z,428nm,0.2s						
TA01	**Diego Aracena**	**3.17**	**285**		**Pn**	**09 12 49.6**	**-0.6**
TA01	**Diego Aracena**	**3.17**	**285**	*eP*	**Pn**	**09 12 49.7**	**-0.6**
TA01				*eS*	**S**	**09 13 29.3**	**-1.8**
TA01				IAML		09 13 30.1	
	comp=Z,172nm,0.5s						
TA02	**Huaiquique**	**3.22**	**290**	Pn	**Pn**	**09 12 50.4**	**-0.4**
TA02	**Huaiquique**	**3.22**	**290**	*eP*	**Pn**	**09 12 50.6**	**-0.2**
TA02				*eS*	**S**	**09 13 30.1**	**-2.1**
TA02				IAML		09 13 32.3	
	comp=Z,760nm,0.1s						
AZAP	**Zapla**	**3.27**	**149**	*eP*	**Pn**	**09 12 51.7**	**+0.1**
AZAP				*eS*	**S**	**09 13 33.4**	**-0.4**
AZAP				IAML		09 13 34.5	
	comp=Z,138nm,0.5s						
SOET	**ToroToro**	**3.44**	**18**	Pg	**Pn**	**09 12 55.0**	**+1.2**
SLA	**San Lorenzo**	**3.54**	**159**	*eP*	**Pn**	**09 12 55.9**	**+1.2**
SLA				*eS*	S	09 13 46.8	+7.5
ALOL	**LOMAS DE OLMED**	**3.61**	**132**	*eP*	**Pn**	**09 12 55.1**	**-0.3**
ALOL				*eS*	**S**	**09 13 38.9**	**-1.7**
PB10	**IPOC Station P**	**3.97**	**238**		**Pn**	**09 12 59.3**	**-0.4**
PB10					**S**	**09 13 44.5**	**-3.7**
PB10	**IPOC Station P**	**3.97**	**238**	*eP*	**Pn**	**09 12 59.4**	**-0.4**
PB10				*eS*	**S**	**09 13 46.0**	**-2.3**
PB10				IAML		09 13 47.5	
	comp=Z,158nm,0.3s						
PB10	**IPOC Station P**	**3.97**	**238**	Pg	**Pn**	**09 12 59.3**	**-0.4**
GO02	**Mina Guanaco**	**4.47**	**213**		**Pn**	**09 13 06.1**	**-0.1**
PB14	**IPOC Station P**	**4.54**	**225**		**Pn**	**09 13 06.5**	**-0.5**
PB14	**IPOC Station P**	**4.54**	**225**	*eP*	**Pn**	**09 13 06.4**	**-0.5**
PB14				*eS*	**S**	**09 13 58.6**	**-2.9**
PB14				IAML		09 14 00.9	
	comp=Z,298nm,0.2s						
PB14	**IPOC Station P**	**4.54**	**225**	Pg	**Pn**	**09 13 06.5**	**-0.5**
SOEJ	**Jacaque**	**4.58**	**344**	Pg	**Pn**	**09 13 10.2**	**+2.3**
BBOE	**La Paz, Chanca**	**4.69**	**347**	Pg	**Pn**	**09 13 11.4**	**+2.2**
BBOD	**La Paz, Gloria**	**5.01**	**341**	Pg	**Pn**	**09 13 15.1**	**+1.8**
LPAZ	**La Paz**	**5.23**	**347**		**Pn**	**09 13 17.1**	**+1.0**
LPAZ	**La Paz**	**5.23**	**347**	*eP*	**Pn**	**09 13 17.3**	**+1.2**
LPAZ	**La Paz**	**5.23**	**347**	P	**Pn**	**09 13 17.2**	**+1.2**
	comp=Z,20nm,0.4s,baz=148,slow=5.0,SNR=196						
LPAZ				S	**S**	**09 14 17.2**	**-0.6**
	comp=Z,4.1nm,0.6s,baz=284,slow=17,SNR=1.6						
LPAZ	**La Paz**	**5.23**	**347**	*eS*	**S**	**09 14 16.8**	**-1.1**
BBSD	**Serra de San D**	**7.28**	**56**	*eP*	**Pn**	**09 13 40.1**	**-1.7**
SIV	**San Ignacio**	**7.72**	**47**	P	**Pn**	**09 13 46.1**	**-1.4**
	comp=Z,12nm,0.4s,baz=221,slow=12,SNR=87						
SIV				S	**S**	**09 15 09.7**	**-5.5**
	comp=Z,5.4nm,1.0s,baz=322,slow=23,SNR=6.3						
AC05	**El Transito**	**7.99**	**202**		**Pn**	**09 13 48.6**	**-2.4**
MURT	**Porto Murtinho**	**8.66**	**93**	*eP*	**Pn**	**09 13 58.2**	**-1.3**
PTLB	**Pontes e Lacer**	**9.46**	**52**		**Pn**	**09 14 08.7**	**-1.2**
PTLB	**Pontes e Lacer**	**9.46**	**52**	*eP*	**Pn**	**09 14 08.6**	**-1.3**
ETMB	**Extrema**	**11.55**	**3**		**Pn**	**09 14 35.5**	**-1.1**
ETMB	**Extrema**	**11.55**	**3**	*eP*	**Pn**	**09 14 35.3**	**-1.3**
VA03	**San Esteban

comp=Z,0.8nm,0.4s,baz=255,slow=5.6,SNR=14
comp=Z,0.8nm,0.4s
NVAR Mina Array Bea 76.59 321 P **P 09 23 26.5 +1.9**
comp=Z,0.4nm,0.8s,baz=145,slow=6.4,SNR=2.9
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 91.74 340 P **P 09 24 40.8 +0.7**
comp=Z,0.2nm,0.5s,baz=134,slow=4.7,SNR=5.9
comp=Z,0.2nm,0.5s
MKAR Makanchi Array 144.46 37 PKP **PKPab 09 31 07.9 +0.9**
comp=Z,0.4nm,0.6s,baz=288,slow=5.6,SNR=1.3

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*NNC **12** 09:25:52.2±3.5,53°.44N×91°.61E,h0km,mb3.7,mpv3.4,*
Error ellipse: s-maj=25.8km s-min=18.1km az=76.0,
Suspected Mining explosion.
*IDC **12** 09:25:57.7±3.4,53°.55N×90°.74E,h0km,mbtmp3.2/3,*
ML2.8/3,Error ellipse: s-maj=28.0km s-min=23.3km
az=59.0.
ISC 12 09:25:53.5±4.3,53°.4N±0°.1×91°.5E±0°.2,h0km,n8,σ1⅊29/12,
6C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**4.01**	**280**	I		I	09 47 20.0	
	0.1nm,1.0s,baz=91,slow=309,SNR=11							
ZAA0	**Zalesovo Array**	**4.01**	**280**	⇑Pn		**Pn**	**09 26 56.6**	**+0.4**
	1.3nm,0.8s,baz=94,slow=16							
ZAA0				⇑Sn		**Sn**	**09 27 45.0**	**+1.1**
	4.3nm,0.7s,baz=90,slow=25							
ZALV	**Zalesovo Beam**	**4.01**	**280**	Pn		**Pn**	**09 26 55.2**	**-1.0**
	1.8nm,0.3s,baz=94,slow=15,SNR=12							
ZALV				Lg		Lg	09 27 47.2	
	2.3nm,0.3s,baz=92,slow=24,SNR=8.9							
	3.3nm,0.3s							
KURK	**Kurchatov**	**8.39**	**256**	⇑Pn		**Pn**	**09 27 55.0**	**-1.2**
	5.7nm,1.7s							
KURK				⇓Sn		**Sn**	**09 29 31.9**	**+0.3**
	5.1nm,0.8s							
KURK				⇑Lg		Lg	09 30 20.2	
	32nm,2.0s							
KURBB	**Kurchatov Arra**	**8.48**	**256**	Pn		**Pn**	**09 27 56.3**	**-1.2**
	0.1nm,0.3s,baz=64,slow=14,SNR=8.3							
KURBB				Sn		Sn	09 29 26.9	-6.9
	0.1nm,0.3s,baz=66,slow=23,SNR=1.7							
KURBB				Lg		Lg	09 30 16.4	
	0.1nm,0.3s,baz=62,slow=30,SNR=9.0							
	1.1nm,0.4s							
KURBB	**Kurchatov Arra**	**8.48**	**256**	⇓Pn		**Pn**	**09 27 57.4**	**0.0**
	2.3nm,0.6s,baz=65,slow=15							
KURBB				⇑Sn		**Sn**	**09 29 34.7**	**+1.0**
	18nm,0.9s,baz=68,slow=23							
KURBB				⇑Lg		Lg	09 30 22.5	
	33nm,1.4s,baz=62,slow=30							
MK31	**Makanchi Array**	**8.88**	**225**	⇓Pn		**Pn**	**09 28 03.3**	**+0.3**
	1.4nm,0.7s,baz=39,slow=14,SNR=3.8							
MK31				⇓Sn		**Sn**	**09 29 44.4**	**+0.7**
	3.4nm,1.0s,baz=42,slow=26							
MK31				⇓Lg		Lg	09 30 34.9	
	7.2nm,1.0s,baz=51,slow=29							
MKAR	**Makanchi Array**	**8.88**	**225**	Pn		**Pn**	**09 28 04.5**	**+1.5**
	0.2nm,0.3s,baz=40,slow=12,SNR=5.6							
MKAR				Sn		**Sn**	**09 29 41.2**	**-2.5**
	baz=32,slow=22							
MKAR				Lg		Lg	09 30 32.4	
	baz=42,slow=33							
	0.6nm,0.5s							

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*NEIC **12** 09:25:58.8±0.6,35°.992N±0°.008×96°.82W±0°.01,h6km±1km,*
Error ellipse: s-maj=1.5km s-min=1.2km az=108.0
TUL 12 09:25:59.1±0.6,35°.995N±0°.008×96°.82W±0°.01,h6km,
ML2.3,mb_Lg2.1/24(NEIC),ML2.3/35(NEIC),Error
ellipse: s-maj=1.6km s-min=1.2km az=98.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OK052	**Battle Ridge R**	**0.01**	**95**	Pg		Pg	09 26 00.3	+0.2
OK052				Sg		Sg	09 26 01.0	+0.1
OK031	**S. Brethren Rd**	**0.05**	**206**	Pg		Pg	09 26 00.5	+0.1
OK031				Sg		Sg	09 26 01.4	0.0
QUOK	**Quay**	**0.20**	**26**	Pg		Pg	09 26 03.5	+0.5
QUOK				Sg		Sg	09 26 06.5	+0.8
QUOK				IAML			09 26 06.8	
	comp=N,534nm,0.3s							
DEOK	**Depew**	**0.30**	**120**	Pg		Pg	09 26 05.4	+0.5
DEOK				Sg		Sg	09 26 09.7	+0.8
DEOK				IAML			09 26 10.0	
	comp=E,434nm,0.2s							
DEOK				IAML			09 26 10.0	
	comp=N,732nm,0.2s							
OK048	**Pawnee Station**	**0.43**	**346**	Pg		Pg	09 26 07.7	+0.2
OK048				Sg		Sg	09 26 13.4	+0.3
OK051	**E0350 and S346**	**0.51**	**358**	Pg		Pg	09 26 09.0	+0.1
OK051				IAML			09 26 20.6	
	comp=N,155nm,0.2s							
OK051				IAML			09 26 21.5	
	comp=N,203nm,0.2s							
OK029	**Liberty Lake**	**0.56**	**249**	Pg		Pg	09 26 09.9	+0.1
OK029				IAmb_Lg			09 26 17.3	
	comp=Z,21nm,0.8s							
OK029				Sg		Sg	09 26 17.4	+0.3
ADOK	**Arcadia Dam**	**0.57**	**233**	Pg		Pg	09 26 10.1	+0.1
ADOK				Sg		Sg	09 26 18.1	+0.8
BLOK	**Blackwell**	**0.83**	**337**	Pg		Pg	09 26 14.8	-0.3
BLOK				IAML			09 26 31.2	
	comp=E,161nm,0.2s							
TUL3	**Leonard**	**0.83**	**95**	Pg		Pg	09 26 14.7	-0.4
W35A	**Tecumseh**	**0.84**	**183**	Pg		Pg	09 26 14.7	-0.6
W35A				IAmb_Lg			09 26 26.0	
	comp=Z,16nm,0.8s							
W35A				IAML			09 26 28.9	
	comp=E,79nm,0.4s							
W35A				IAML			09 26 31.5	
	comp=N,72nm,0.3s							
FNO	**Franklin**	**0.88**	**213**	Pg		Pg	09 26 15.2	-0.7
FNO				IAML			09 26 30.5	
	comp=E,131nm,0.4s							
FNO				IAML			09 26 30.6	
	comp=N,112nm,0.3s							
T35A	**Sooner Cattle**	**0.95**	**15**	Pg		Pg	09 26 17.1	-0.3
T35A				IAML			09 26 30.9	
	comp=E,91nm,0.3s							
KAN13	**South Haven SW**	**1.15**	**332**	Pg		Pg	09 26 20.6	-0.5
GC02	**Grant County #**	**1.20**	**316**	Pg		Pg	09 26 21.5	-0.7
KAN17	**Caldwell West**	**1.30**	**324**			Pn	09 26 22.7	-1.1
KAN09	**Caldwell North**	**1.31**	**331**			Pn	09 26 23.4	-0.6
KAN14	**Manchester OK**	**1.33**	**316**			Pn	09 26 23.5	-0.8
KAN01	**Argonia South**	**1.38**	**327**			Pn	09 26 24.6	-0.5
OK032	**Salt Plains WL**	**1.39**	**306**			Pn	09 26 24.1	-0.9
RLO	**Rose Lookout**	**1.46**	**83**			Pn	09 26 25.5	-0.6
KAN06	**Argonia West S**	**1.51**	**326**			Pn	09 26 26.1	-0.6
KAN08	**Anthony NE Sta**	**1.54**	**323**			Pn	09 26 27.1	-0.1
CSTR	**Hydro, Custer**	**1.56**	**258**			Pn	09 26 27.4	0.0
KAN12	**Harper NE Stat**	**1.61**	**324**			Pb	09 26 28.9	-0.4
X34A	**Smith Ranch, M**	**1.62**	**211**			Pn	09 26 27.8	-0.5
X34A				IAmb_Lg			09 26 54.7	
	comp=Z,13nm,0.7s							
U32A	**Winter Ranch,**	**1.81**	**283**	Pn		Pn	09 26 30.9	0.0
NOKA	**Waynoka**	**1.82**	**291**	Pn		Pn	09 26 30.6	-0.5
X37A	**Clayton**	**1.83**	**139**	Pn		Pn	09 26 31.2	0.0
X37A				IAmb_Lg			09 27 00.6	
	comp=Z,11nm,0.8s							
S39A	**Bolivar**	**3.27**	**58**	IAmb_Lg			09 27 41.9	
	comp=Z,3.9nm,0.7s							
TREL	**Terrell**	**3.31**	**169**	Pn		Pn	09 26 50.8	-0.7
WHAR	**Wooly Hollow**	**3.75**	**99**	Pn		Pn	09 26 58.3	+0.7
FCAR	**Ozark Folk Cen**	**3.81**	**90**	IAmb_Lg			09 28 02.6	
	comp=Z,6.5nm,1.0s							
DKNS	**Dickens**	**4.10**	**237**	IAmb_Lg			09 28 09.8	
	comp=Z,4.5nm,0.8s							
P38A	**Dawn**	**4.46**	**35**	IAmb_Lg			09 28 22.0	
	comp=Z,5.9nm,0.7s							
LCAR	**Lake Charles**	**4.59**	**87**	Pn		Pn	09 27 08.0	-1.1
RTBA	**Rita Blanca**	**4.81**	**277**	Pn		Pn	09 27 12.7	+0.4
CCM	**Cathedral Cave**	**4.91**	**64**	IAmb_Lg			09 28 39.1	
	comp=Z,4.4nm,0.8s							
PBMO	**Poplar Bluff**	**5.21**	**79**	IAmb_Lg			09 28 50.7	
	comp=Z,3.1nm,0.7s							
CGM3	**Cape Girardeau**	**5.90**	**75**	IAmb_Lg			09 29 06.7	
	comp=Z,4.3nm,0.9s							
OZNA	**Ozona**	**6.21**	**217**	IAmb_Lg			09 29 24.1	
	comp=Z,2.6nm,1.1s							

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*JMA **12** 09:37:46.8±0.1,24°.N±1°.×122°.6E±0°.4,h92km±1km,*
MV1.8/12,NW OFF ISHIGAKIJIMA IS
*TAP **12** 09:37:46.3,24°.56N×122°.55E,h97km±1km,ML2.9,C*
ISC 12 09:37:47.0±1.6,24°.55N±0°.06×122°.58E±0°.03,h92km±9km,
n59,σ0⅊69/84,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.34**	**248**	*i* P		**Pn**	**09 38 01.1**	**+0.4**
	baz=243							
EOS2				*e*S		**Sn**	**09 38 12.3**	**+1.4**
	baz=243							
JYNG	**Yonaguni jima**	**0.34**	**106**	P		**Pn**	**09 38 00.8**	**-0.1**
JYNG				S		**Sn**	**09 38 11.2**	**+0.1**
EOS3	**EOS3**	**0.35**	**223**	*i* P		**Pn**	**09 38 01.4**	**+0.6**
	baz=217							
EOS3				*e*S		**Sn**	**09 38 12.6**	**+1.7**
	baz=217							
YOJ	**Yonaguni jima**	**0.40**	**102**	P		**Pn**	**09 38 01.1**	**-0.1**
YOJ	**Yonaguni jima**	**0.40**	**102**	*e*P		**Pn**	**09 38 01.2**	**0.0**
	baz=102							
YOJ				*e*S		**Sn**	**09 38 11.8**	**0.0**
	baz=102							
YOJ	**Yonaguni jima**	**0.40**	**102**	*e*P		**Pn**	**09 38 01.1**	**-0.1**
YOJ				*e*S		**Sn**	**09 38 11.7**	**0.0**
EOS4	**EOS4**	**0.49**	**210**	*e*P		**Pn**	**09 38 01.6**	**+0.2**
	baz=205							
TWC	**Suao**	**0.67**	**276**	*e*P		**Pn**	**09 38 02.8**	**-0.5**
	baz=274							
TWC				S		**Sn**	**09 38 14.3**	**-1.3**
	baz=274							
EWUT	**Wuta**	**0.74**	**262**	*e*P		**Pn**	**09 38 04.0**	**0.0**
	baz=260							
EWUT				*e*S		**Sn**	**09 38 16.4**	**-0.3**
	baz=260							
ENA	**Nanau**	**0.77**	**261**	*e*S		**Sn**	**09 38 17.5**	**+0.1**
	baz=259							
EAHA	**Aohua**	**0.80**	**255**	*e*P		**Pn**	**09 38 04.9**	**+0.3**
	baz=252							
EAHA				*e*S		**Sn**	**09 38 17.9**	**+0.2**
	baz=252							
TIPB	**Shuangxi**	**0.81**	**302**	*e*P		**Pn**	**09 38 04.4**	**-0.4**
	baz=301							
TIPB				*e*S		**Sn**	**09 38 16.7**	**-1.3**
	baz=301							
TWE	**Neicheng**	**0.85**	**282**	*e*P		**Pn**	**09 38 05.2**	**0.0**
	baz=280							
ENTT	**Nioudou**	**0.93**	**276**	*e*P		**Pn**	**09 38 06.4**	**+0.4**
	baz=274							
FUSB	**Fushanzhiwuyua**	**0.93**	**284**	*e*P		**Pn**	**09 38 06.1**	**0.0**
	baz=282							
FUSB				*e*S		**Sn**	**09 38 19.9**	**-0.5**
	baz=282							
LATG	**Datong**	**0.96**	**270**	*e*P		**Pn**	**09 38 06.4**	**-0.1**
	baz=268							
LATG				*e*S		**Sn**	**09 38 21.1**	**0.0**
	baz=268							
NACB	**Ninganchiao**	**0.97**	**248**	P		**Pn**	**09 38 06.0**	**-0.6**
NACB	**Ninganchiao**	**0.97**	**248**	P		**Pn**	**09 38 05.9**	**-0.6**
	baz=246							
NACB				*e*S		**Sn**	**09 38 20.5**	**-0.6**
	baz=246							
NDT	**Datong Townshi**	**0.97**	**274**	*e*P		**Pn**	**09 38 07.0**	**+0.5**
	baz=272							
NDT				*e*S		**Sn**	**09 38 21.5**	**+0.3**
	baz=272							
NWLT	**Wulai**	**1.01**	**283**	*e*S		**Sn**	**09 38 21.3**	**-0.6**
	baz=282							
TWD	**Chiawan**	**1.01**	**243**	*e*P		**Pn**	**09 38 06.4**	**-0.6**
	baz=240							
IRIF	**Iriomote-Funau**	**1.07**	**101**	*e*S		**Sn**	**09 38 22.7**	**-0.3**
NNSB	**Datong**	**1.10**	**264**	*e*P		**Pn**	**09 38 07.9**	**-0.2**
	baz=262							
NNSB				*e*S		**Sn**	**09 38 23.5**	**-0.4**
	baz=262							
YHNB	**Yeheng**	**1.10**	**277**	P		**Pn**	**09 38 08.9**	**+0.8**
YHNB	**Yeheng**	**1.10**	**277**	*e*P		**Pn**	**09 38 08.2**	**+0.1**
	baz=275							
YHNB				*e*S		**Sn**	**09 38 23.4**	**-0.5**
	baz=275							
NNS	**Nan Shan**	**1.10**	**265**	*e*S		**Sn**	**09 38 23.8**	**-0.3**
	baz=263							
NSK	**Sanguang**	**1.12**	**277**	*e*S		**Sn**	**09 38 24.1**	**-0.2**
	baz=275							
ETM	**Tongmen**	**1.15**	**240**	*e*P		**Pn**	**09 38 07.9**	**-0.6**
	baz=238							
LXIB	**Xiulin Townshi**	**1.19**	**244**	*e*P		**Pn**	**09 38 08.5**	**-0.7**
	baz=242							
LXIB				*e*S		**Sn**	**09 38 24.7**	**-1.1**
	baz=242							
SHUL	**Shoufeng**	**1.20**	**231**	*e*P		**Pn**	**09 38 09.0**	**-0.2**
	baz=229							
WHF	**Hehuan Shan**	**1.26**	**252**	*e*P		**Pn**	**09 38 10.2**	**-0.2**
	baz=250							
WHF				*e*S		**Sn**	**09 38 27.4**	**-0.5**
	baz=250							
ESL	**Shilin**	**1.28**	**235**	*e*P		**Pn**	**09 38 09.4**	**-0.7**
	baz=233							
TDCB	**Techi**	**1.33**	**258**	P		**Pn**	**09 38 11.2**	**+0.4**
	baz=256							
TDCB				*e*S		**Sn**	**09 38 28.6**	**-0.2**
	baz=256							
NFF	**Wufeng Townshi**	**1.33**	**274**	*e*P		**Pn**	**09 38 11.8**	**+1.0**
	baz=272							
NFF				*e*S		**Sn**	**09 38 28.6**	**-0.3**
	baz=272							
JKRS	**Kuro-shima**	**1.34**	**103**	*e*S		**Sn**	**09 38 28.6**	**-0.1**
WARBT	**Fenglin Townsh**	**1.37**	**233**	*e*P		**Pn**	**09 38 10.4**	**-0.8**
	baz=231							
WARBT				*e*S		**Sn**	**09 38 28.2**	**-1.3**
	baz=231							
EGFH	**Guangfu**	**1.37**	**231**	*e*P		**Pn**	**09 38 10.8**	**-0.4**
	baz=229							
CHGB	**Renai**	**1.37**	**250**	*e*P		**Pn**	**09 38 11.6**	**+0.2**
	baz=248							
CHGB				*e*S		**Sn**	**09 38 29.8**	**-0.1**
	baz=248							
OWD	**Renai**	**1.41**	**246**	P		**Pn**	**09 38 11.8**	**-0.1**
	baz=244							
OWD				*e*S		**Sn**	**09 38 30.0**	**-0.6**
	baz=244							
LIOB	**Emei**	**1.43**	**274**	*e*P		**Pn**	**09 38 12.2**	**+0.2**
	baz=273							
LIOB				*e*S		**Sn**	**09 38 30.5**	**-0.3**
	baz=273							
JIJ	**Ishigaki jima**	**1.44**	**97**	*e*S		**Sn**	**09 38 30.1**	**-0.8**
NSTT	**Nanjuang**	**1.44**	**274**	*e*S		**Sn**	**09 38 30.8**	**-0.2**
	baz=272							
WUSB	**Renai**	**1.44**	**248**	*e*P		**Pn**	**09 38 12.5**	**+0.2**
	baz=246							
WUSB				*e*S		**Sn**	**09 38 31.3**	**0.0**
	baz=246							
HGSD	**Ruisui**	**1.49**	**225**	*e*P		**Pn**	**09 38 12.2**	**-0.5**
	baz=224							
WHP	**Taichung City**	**1.51**	**260**	*e*P		**Pn**	**09 38 13.8**	**+0.7**
	baz=258							
VWDT	**VWDT**	**1.53**	**239**	*e*P		**Pn**	**09 38 13.5**	**+0.3**
	baz=237							
VWDT				*e*S		**Sn**	**09 38 32.9**	**-0.2**
	baz=237							
EHY	**Hungye**	**1.55**	**228**	*e*P		**Pn**	**09 38 12.8**	**-0.6**
	baz=226							
JISG	**Ishigakijimahi**	**1.58**	**88**	*e*S		**Sn**	**09 38 33.7**	**-0.4**
WCS	**Beigang Elemen**	**1.60**	**253**	*e*P		**Pn**	**09 38 15.2**	**+1.1**
	baz=251							
YULB	**Yu-li**	**1.64**	**226**	P		**Pn**	**09 38 14.0**	**-0.7**
YULB	**Yu-li**	**1.64**	**226**	*e*P		**Pn**	**09 38 14.0**	**-0.7**
	baz=224							
EYUL	**Yuli**	**1.66**	**224**	*e*P		**Pn**	**09 38 15.3**	**+0.4**
	baz=222							
SSLB	**Suanglung**	**1.67**	**243**	P		**Pn**	**09 38 17.4**	**+2.4**
SMLT	**Sun Moon Lake**	**1.67**	**247**	*e*P		**Pn**	**09 38 16.2**	**+1.1**
	baz=245							
TWF1	**Yuli**	**1.67**	**225**	*e*P		**Pn**	**09 38 14.6**	**-0.5**
	baz=223							
TYC	**Yuchr**	**1.70**	**248**	*e*P		**Pn**	**09 38 16.4**	**+1.1**
	baz=246							
WHYT	**Xinyi Township**	**1.79**	**242**	*e*P		**Pn**	**09 38 17.6**	**+1.0**
	baz=240							
JTJ	**Tarama**	**1.93**	**87**	*e*S		**Sn**	**09 38 42.8**	**+0.5**
TPUB	**Ta-pu**	**2.17**	**236**	P		**Pn**	**09 38 23.6**	**+2.0**

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*IDC **12** 10:11:16.7±3.2,64°.58N×31°.07E,h0km,mbtmp2.8/3,*
ML1.7/3,Error ellipse: s-maj=45.1km s-min=9.9km
az=104.0
*HEL **12** 10:11:16.9±0.2,64°.67N×30°.68E,h0km,ML2.0,Explosion*
*KOLA **12** 10:11:18.9,64°.65N×30°.78E,h0km,ML2.2,Error ellipse:*
s-maj=24.5km s-min=10.5km az=160.0,Kostomuksha,
Karelia
ISC 12 10:11:16.4±0.9,64°.69N±0°.02×30°.43E±0°.04,h0km,n35,
σ1⅊54/56,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.53**	**205**	PG		**Pg**	**10 11 26.8**	**+0.4**
RMF				SG		**Sg**	**10 11 33.0**	**-0.2**
RMF				MSG			10 11 34.8	
	comp=Z,30nm,0.2s							
MSF	**Maaselka**	**1.35**	**335**	PG		**Pg**	**10 11 42.4**	**+0.1**
	baz=147							
MSF				SG		**Sn**	**10 12 01.3**	**+0.1**
KU6	**Riekki**	**1.36**	**351**	PG		**Pg**	**10 11 41.4**	**-0.9**
	baz=167							
KU6				MSG			10 11 59.1	
	comp=Z,13nm,0.2s							
KU6				SG		**Sb**	**10 12 00.4**	**-0.1**
OLKF	**Oulanka, Finla**	**1.69**	**346**	PG		**Pn**	**10 11 47.5**	**+0.4**
OLKF				MSG			10 12 08.7	
	comp=Z,10nm,0.2s							
OLKF				SN		**Sg**	**10 12 11.8**	**+1.3**
NIF	**Nilsia**	**1.75**	**223**	PG		**Pb**	**10 11 49.1**	**-0.1**
JOF	**Joensuu**	**1.83**	**167**	PG		**Pn**	**10 11 48.6**	**-0.4**
JOF				SN		**Sb**	**10 12 14.2**	**+0.3**
OUL	**Oulu**	**1.97**	**284**	PG		**Pg**	**10 11 53.4**	**-0.8**
OUL				SG		**Sg**	**10 12 19.9**	**+0.2**
RANF	**Ranua**	**2.02**	**313**	PG		**Pb**	**10 11 53.7**	**-0.2**
	baz=126							
RANF				SG		**Sg**	**10 12 22.4**	**+1.2**
OBF4	**Vikkela, Lumij**	**2.29**	**275**	PG		**Pb**	**10 11 58.7**	**+0.2**
	baz=92							
OBF4				MSG			10 12 27.6	
	comp=Z,10nm,0.2s							
OBF4				SG		**Sg**	**10 12 31.8**	**+2.0**
OUF	**Merijarvi**	**2.48**	**265**	PN		**Pb**	**10 12 00.8**	**-1.0**
	baz=78							
OUF				MSG			10 12 33.3	
	comp=Z,9.9nm,0.2s							
OUF				SB		**Sg**	**10 12 35.5**	**-0.6**
RNF	**Rovaniemi**	**2.66**	**318**	PG		**Pb**	**10 12 05.4**	**+0.7**
	baz=137							
RNF				SB		**Sg**	**10 12 39.6**	**-1.9**
OBF0	**Syolatti, Pyha**	**2.68**	**269**	PB		**Pb**	**10 12 05.0**	**-0.1**
OBF0				MSG			10 12 38.8	
	comp=Z,6.5nm,0.2s							
SUF	**Sumiainen**	**2.75**	**226**	PB		**Pb**	**10 12 05.6**	**-0.7**
	baz=40							
SUF				MSG			10 12 39.6	
	comp=Z,2.8nm,0.2s							
TOF	**Tornio**	**2.91**	**301**	PG		**Pg**	**10 12 10.8**	**-1.3**
	baz=117							
TOF				MSG			10 12 45.3	
	comp=Z,3.0nm,0.2s							
TOF				SB		**Sg**	**10 12 46.8**	**-3.0**
OBF8	**Ulkokalla**	**3.04**	**266**	PN		**Pn**	**10 12 07.8**	**+2.1**
VRF	**Varrio**	**3.09**	**354**	PB		**Pn**	**10 12 08.4**	**+2.1**
	baz=175							
VRF				MSG			10 12 48.6	
	comp=Z,4.4nm,0.2s							
VRF				SG		**Sb**	**10 12 51.2**	**+1.0**
APA0	**Apatity Array**	**3.10**	**18**	P		**Pn**	**10 12 08.2**	**+1.6**
APA0				S		**Sn**	**10 12 44.9**	**+0.6**
SGF	**Sodankyl**	**3.19**	**332**	SB		**Sb**	**10 12 54.3**	**+1.2**
KAF	**Kangasniemi**	**3.19**	**217**	PG		**Pb**	**10 12 13.6**	**-0.2**
KALU	**Kalix**	**3.19**	**295**	PB		**Pb**	**10 12 12.5**	**-1.4**
KALU				SG		**Sg**	**10 12 56.9**	**-2.0**
KEF	**Keuruu**	**3.56**	**227**	PB		**Pb**	**10 12 17.0**	**-3.1**
KEF				SB		**Sb**	**10 13 04.6**	**+0.7**
KLF	**Kolari**	**3.67**	**317**	PB		**Pb**	**10 12 19.4**	**-2.7**
KLF				SG		**Sg**	**10 13 13.6**	**-0.7**
VAF	**Ylistaro**	**3.81**	**248**	PB		**Pb**	**10 12 22.7**	**-1.7**
FIA0	**FINESS Array S**	**3.82**	**213**	PB		**Pb**	**10 12 22.0**	**-2.5**
	baz=28							
FINES	**FINESS Array B**	**3.82**	**213**	Pn		**Pn**	**10 12 17.8**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=38,slow=13,SNR=1.9							
FINES				Sn		**Sn**	**10 13 03.6**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=37,slow=23,SNR=2.0							
FINES				Lg		Lg	10 13 16.6	
	comp=Z,1.0nm,0.3s,baz=37,slow=31,SNR=11							
	comp=Z,0.3nm,0.3s							
RAJF	**Raja-Jooseppi**	**3.89**	**348**	PN		**Pn**	**10 12 19.0**	**+1.6**
ERTU	**Ertsjaerv**	**3.89**	**302**	PN		**Pn**	**10 12 20.9**	**+3.6**
ERTU				SG		**Sg**	**10 13 20.7**	**-0.6**
BURU	**Burvik**	**3.90**	**272**	PG		**Pg**	**10 12 30.1**	**-0.9**
	baz=86							
UMAU	**Umeaa**	**4.33**	**264**	PB		**Pb**	**10 12 30.7**	**-2.5**
UMAU				SG		**Sg**	**10 13 34.1**	**-1.1**
HEF	**Hetta**	**4.61**	**327**	PG		**Pg**	**10 12 42.4**	**-2.1**
HEF				SG		**Sg**	**10 13 40.7**	**-3.4**
PRVG	**Vayda Guba**	**5.12**	**7**	P		**Pn**	**10 12 36.1**	**+2.0**
PRVG				S		**Sn**	**10 13 33.6**	**-0.3**
ARCES	**ARCESS Array B**	**5.23**	**341**	Pn		**Pn**	**10 12 35.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=152,slow=14,SNR=5.5							
ARCES				Sn		**Sn**	**10 13 37.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=156,slow=25,SNR=2.4							
ARCES				Lg		Lg	10 13 58.2	
	comp=Z,0.4nm,0.3s,baz=157,slow=30,SNR=3.9							
	comp=Z,1.2nm,0.8s							
I37NO	**I37NO**	**6.40**	**319**	I		I	10 48 20.0	
	baz=128,slow=317,SNR=4.1							
FAUS	**Fauske**	**6.73**	**300**	S		**Sn**	**10 14 14.2**	**+0.9**
HFS	**Hagfors**	**9.00**	**247**	Pn		**Pn**	**10 13 28.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=53,slow=15,SNR=1.7							
	comp=Z,0.4nm,0.5s							

IDC 12 10:26:45.5±3.3,31°.58S×58°.03E,h0km,mb3.7/4,
mbtmp3.7/4,Error ellipse: s-maj=96.8km s-min=41.6km
az=115.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.34**	**197**	T		T	10 46 22.6	
	baz=22,slow=75				

*IDC **12** 11:20:32.4±0.6, 31°.69S×58°.30E, h0km, mb4.2/14, mbtmp4.1/15, ML3.6/1, MS3.5/16, Error ellipse: s-maj=23.5km s-min=18.7km az=68.0*
*NEIC **12** 11:20:34.0±2.4, 31°.55±0°.1×58°.0E±0°.2, h10km±1km, mb4.6/9, Error ellipse: s-maj=28.1km s-min=16.6km az=238.0*
ISC 12 11:20:35.3±0.6, 31°.6S±0°.1×58°.0E±0°.1, h17km, n53, σ1§35/34, mb4.3/18, MS3.6/16, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.57**	**348**	**Pn**	**Pn**	**11 23 04.6**	**-1.5**
FOMA	**Nahampoana Res**	**11.75**	**301**	Pn	**Pn**	**11 23 21.4**	**-0.8**
VOI	**Vohitsoka**	**13.90**	**311**	Pn	**Pn**	**11 23 51.1**	**-0.6**
H04N2	**CROZET ISLANDS**	**15.36**	**197**	T	T	11 40 13.6	
	baz=21,slow=75						
H04N1	**CROZET ISLANDS**	**15.36**	**197**	T	T	11 40 09.6	
	baz=21,slow=75						
H04N3	**CROZET ISLANDS**	**15.37**	**197**	T	T	11 40 07.8	
	baz=21,slow=75						
ABPO	**Ambohimpanom**	**15.85**	**319**	Pn	**Pn**	**11 24 17.4**	**-0.6**
OPO	**Ambohidratompo**	**16.24**	**320**	Pn	**Pn**	**11 24 23.6**	**+0.8**
	baz=152,slow=14,SNR=1.1						
OPO				Sn	**Sn**	**11 27 18.6**	**-4.1**
	0.1nm,0.3s,baz=18,slow=6.4,SNR=3.1						
	2.2nm,0.8s						
H08S1	**Diego Carcia H**	**27.34**	**33**	T	T	11 54 44.5	
	baz=207,slow=76						
H08S2	**Diego Garcia H**	**27.35**	**33**	T	T	11 54 44.1	
	baz=207						
H08S3	**Diego Garcia H**	**27.36**	**33**	T	T	11 54 45.8	
	baz=207,slow=76						
SUR	**Sutherland**	**31.49**	**259**	LR	LR	11 37 25.1	
	comp=Z,73nm,19.6s,baz=144,slow=32						
MAW	**Mawson**	**36.19**	**177**	LR	LR	11 38 23.1	
	comp=Z,106nm,21.4s,baz=342,slow=30						
FURI	**Furi**	**44.30**	**332**	LR	LR	11 43 37.2	
	comp=Z,57nm,21.4s,baz=242,slow=31						
H01W2	**Cape Leeuwin H**	**46.52**	**110**	T	T	12 18 50.8	
	baz=257,slow=75						
H01W3	**Cape Leeuwin H**	**46.52**	**110**	T	T	12 18 45.6	
	baz=257,slow=75						
H01W1	**Cape Leeuwin H**	**46.54**	**110**	T	T	12 18 49.9	
	baz=257,slow=75						
SNAA	**Sanae**	**51.27**	**201**	P	**P**	**11 29 36.9**	**-1.0**
	1.7nm,0.9s,baz=58,slow=5.8,SNR=5.0						
SNAA				LR	LR	11 46 07.5	
	comp=Z,65nm,21.8s,baz=84,slow=30						
	1.7nm,0.9s						
WSAR	**Wadi Sarin**	**54.50**	**1**	LR	LR	11 49 12.0	
	comp=Z,52nm,20.7s,baz=196,slow=32						
QSPA	**South Pole Qui**	**58.60**	**180**	P	**P**	**11 30 30.9**	**-0.2**
QSPA				IAmb	IAmb	11 31 04.0	
	comp=Z,5.1nm,1.2s						
QSPA	**South Pole Qui**	**58.60**	**180**	P	**P**	**11 30 30.3**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=266,slow=1.5,SNR=14						
QSPA				LR	LR	11 52 15.5	
	comp=Z,49nm,21.0s,baz=356,slow=32						
	comp=Z,1.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.35**	**44**	P	**P**	**11 31 03.5**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=228,slow=7.4,SNR=17						
CMAR				LR	LR	11 54 29.4	
	comp=Z,30nm,19.1s,baz=175,slow=32						
	comp=Z,3.7nm,0.8s						
ASAR	**Alice Springs**	**66.48**	**104**	P	**P**	**11 31 23.1**	**-1.2**
ASAR	**Alice Springs**	**66.48**	**104**	P	**P**	**11 31 22.6**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=241,slow=5.9,SNR=24						
	comp=Z,1.3nm,0.7s						
AS31	**Alice Springs**	**66.48**	**104**	P	**P**	**11 31 23.3**	**-1.0**
WRA	**Warramunga Arr**	**68.48**	**101**	P	**P**	**11 31 35.1**	**-1.9**
	comp=Z,2.0nm,1.0s,baz=240,slow=5.6,SNR=13						
	comp=Z,2.0nm,1.0s						
WB2	**Warramunga Arr**	**68.49**	**101**	P	**P**	**11 31 36.0**	**-1.0**
WB0	**Warramunga Arr**	**68.60**	**101**	P	**P**	**11 31 36.9**	**-0.9**
WR0	**Warramunga Arr**	**68.64**	**101**	P	**P**	**11 31 35.8**	**-2.2**
WR0				IAmb	IAmb	11 32 16.5	
	comp=Z,9.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**69.94**	**300**	P	**P**	**11 31 47.1**	**+1.2**
	comp=Z,2.2nm,0.9s,baz=116,slow=4.1,SNR=8.6						
TORD				LR	LR	12 02 59.7	
	comp=Z,54nm,18.1s,baz=148,slow=36						
	comp=Z,2.2nm,0.9s						
GNI	**Garni**	**72.41**	**349**	LR	LR	12 00 51.6	
	comp=Z,24nm,21.6s,baz=142,slow=33						
PMSA	**Palmer Station**	**73.96**	**202**	LR	LR	12 00 42.5	
	comp=Z,8.8nm,19.8s,baz=110,slow=33						
BRTR	**Keskin Array B**	**74.46**	**341**	P	**P**	**11 32 13.8**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=184,slow=7.2,SNR=5.5						
	comp=Z,1.3nm,0.8s						
KKAR	**Karatay Array**	**75.18**	**9**	P	**P**	**11 32 17.8**	**+1.3**
AAK	**Ala-Archa**	**75.37**	**12**	LR	LR	12 02 60.0	
	comp=Z,18nm,20.5s,baz=174,slow=34						
KBZ	**Khabaz**	**76.20**	**349**	LR	LR	12 06 52.4	
	comp=Z,24nm,18.5s,baz=160,slow=36						
ABKAR	**Akbulak array**	**80.48**	**1**	P	**P**	**11 32 46.7**	**+0.9**
MKAR	**Makanchi Array**	**81.01**	**17**	P	**P**	**11 32 49.8**	**+1.0**
MKAR	**Makanchi Array**	**81.01**	**17**	P	**P**	**11 32 49.0**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=201,slow=6.5,SNR=5.1						
	comp=Z,0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**83.81**	**13**	P	**P**	**11 33 03.9**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=208,slow=5.8,SNR=14						
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**83.92**	**13**	P	**P**	**11 33 04.4**	**+0.6**
KURK				IAmb	IAmb	11 33 05.9	
	comp=Z,7.6nm,1.1s						
BURAR	**Bucovina Array**	**84.16**	**338**	P	**P**	**11 33 05.8**	**+0.5**
BURAR				IAmb	IAmb	11 33 07.6	
	comp=Z,1.7nm,0.9s						
BVAR	**Borovoye Array**	**84.92**	**7**	P	**P**	**11 33 09.7**	**+0.8**
	comp=Z,5.3nm,0.8s,baz=191,slow=6.0,SNR=19						
BVAR				LR	LR	12 09 38.2	
	comp=Z,30nm,18.9s,baz=184,slow=35						
	comp=Z,5.3nm,0.8s						
BRVK	**Borovoye**	**84.94**	**7**	P	**P**	**11 33 10.1**	**+1.1**
BRVK				IAmb	IAmb	11 33 11.1	
	comp=Z,5.9nm,0.9s						
AKASG	**Malin Array Be**	**85.78**	**342**	P	**P**	**11 33 13.5**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=165,slow=4.5,SNR=4.2						
	comp=Z,0.9nm,0.6s						
MDT	**Midelt**	**87.18**	**312**	LR	LR	12 13 16.5	
	comp=Z,61nm,18.6s,baz=160,slow=36						
ZALV	**Zalesovo Beam**	**88.27**	**15**	P	**P**	**11 33 24.0**	**-1.2**
ZALV	**Zalesovo Beam**	**88.27**	**15**	P	**P**	**11 33 23.9**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=195,slow=2.9,SNR=4.2						
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**90.16**	**30**	P	**P**	**11 33 34.2**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=195,slow=4.5,SNR=2.8						
SONM				LR	LR	12 11 14.1	
	comp=Z,28nm,18.6s,baz=218,slow=34						
	comp=Z,0.5nm,0.7s						
ESDC	**Sonseca Array**	**91.26**	**317**	P	**P**	**11 33 42.0**	**+2.3**
	comp=Z,1.2nm,0.9s,baz=126,slow=4.0,SNR=4.6						
	comp=Z,1.2nm,0.9s						
KSRS	**Korea Array**	**94.69**	**49**	LR	LR	12 15 00.7	
	comp=Z,16nm,18.8s,baz=190,slow=35						
ILAR	**Eielson Array**	**143.36**	**18**	PKhKP	PKPpre	11 40 03.6	
	comp=Z,0.3nm,0.9s,baz=318,slow=2.4,SNR=2.4						
YKA	**Yellowknife Ar**	**148.70**	**353**	PKPbc	**PKiKP**	**11 40 21.2**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=359,slow=2.6,SNR=17						

*HEL **12** 12:39:40.0±0.1, 68°.11N×33°.33E, h0km, ML1.7, Explosion*
*IDC **12** 12:39:44.2±2.8, 68°.11N×32°.36E, h0km, mbtmp2.6/2, ML2.0/2, Error ellipse: s-maj=32.3km s-min=11.7km az=68.0*
ISC 12 12:39:39.8±0.9, 68°.01N±0°.04×33°.30E±0°.04, h0km, n21, σ1§30/34, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.52**	**101**	PG	**Pg**	**12 39 49.9**	**0.0**
LVZ				SG	**Sg**	**12 39 56.5**	**-0.1**
VRF	**Varrio**	**1.42**	**261**	PG	**Pn**	**12 40 06.2**	**-0.6**
	baz=74						
VRF				MSG		12 40 23.6	
	comp=Z,4.7nm,0.2s						
VRF				SG	**Sg**	**12 40 24.7**	**-0.7**
RAJF	**Raja-Jooseppi**	**1.92**	**287**	PG	**Pn**	**12 40 14.0**	**+0.3**
RAJF				SG	**Sn**	**12 40 37.7**	**-0.8**
OLKF	**Oulanka, Finla**	**2.27**	**224**	PB	**Pb**	**12 40 20.5**	**-1.2**
OLKF				MSG		12 40 49.7	
	comp=Z,2.2nm,0.2s						
OLKF				SG	**Sb**	**12 40 51.3**	**+0.9**
KU6	**Riekki**	**2.40**	**215**	PB	**Pb**	**12 40 22.7**	**-1.1**
KU6				MSG		12 40 53.3	
	comp=Z,2.1nm,0.2s						
KU6				SG	**Sg**	**12 40 55.7**	**-1.0**
SGF	**Sodankyl**	**2.64**	**261**	PN	**Pn**	**12 40 24.2**	**+0.6**
SGF				SN	**Sn**	**12 40 57.2**	**+0.9**
MSF	**Maaselka**	**2.69**	**221**	PB	**Pb**	**12 40 27.3**	**-1.4**
MSF				SG	**Sb**	**12 41 03.7**	**+1.5**
KEV	**Kevo**	**2.88**	**311**	PB	**Pn**	**12 40 27.7**	**+0.8**
KEV				SB	**Sn**	**12 41 01.6**	**-0.5**
KEV				MSG		12 41 03.2	
	comp=Z,4.6nm,0.2s						
RNF	**Rovaniemi**	**3.15**	**247**	PN	**Pn**	**12 40 31.6**	**+1.0**
RNF				SN	**Sn**	**12 41 10.3**	**+1.4**
ARA0	**ARCESS Array S**	**3.22**	**302**	PN	**Pn**	**12 40 31.5**	**-0.1**
ARA0				SG	**Sb**	**12 41 16.9**	**-0.7**
ARCES	**ARCESS Array B**	**3.22**	**302**	Pn	**Pn**	**12 40 31.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=118,slow=13,SNR=17						
ARCES				Lg	Lg	12 41 14.1	
	comp=Z,0.6nm,0.3s,baz=115,slow=30,SNR=6.0						
	comp=Z,0.5nm,0.3s						
RANF	**Ranua**	**3.24**	**235**	PN	**Pn**	**12 40 33.3**	**+1.4**
RANF				SN	**Sn**	**12 41 12.5**	**+1.3**
HEF	**Hetta**	**3.62**	**281**	PN	**Pn**	**12 40 36.6**	**-0.4**
	baz=88						
HEF				SN	**Sn**	**12 41 18.5**	**-1.9**
KLF	**Kolari**	**3.65**	**262**	PG	**Pb**	**12 40 46.0**	**+0.9**
	baz=72						
KTK1	**Kautokeino**	**3.84**	**290**	SG	**Sb**	**12 41 38.4**	**+3.1**
TOF	**Tornio**	**4.01**	**245**	SN	**Sn**	**12 41 29.2**	**-0.8**
LANU	**Lannavaara**	**4.25**	**276**	SG	**Sb**	**12 41 50.0**	**+2.9**
ERTU	**Ertsjaerv**	**4.55**	**256**	PN	**Pn**	**12 40 49.7**	**-0.1**
ERTU				SN	**Sn**	**12 41 41.7**	**-1.6**
I37NO	**I37NO**	**5.50**	**288**	I	I	13 11 00.0	
	baz=93,slow=317,SNR=3.2						
FAUS	**Fauske**	**6.88**	**273**	S	**Sg**	**12 43 18.9**	**-1.5**
FINES	**FINESS Array B**	**7.27**	**208**	Pn	**Pn**	**12 41 28.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=2.0						
FINES				Sn	**Sn**	**12 42 48.5**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=25,slow=23,SNR=1.7						
	comp=Z,0.5nm,0.5s						

KOLA 12 12:40:23.8, 68°.07N×33°.40E, h0km, ML2.0, Error ellipse: s-maj=4.5km s-min=2.8km az=90.0, Olenegorsk City, Mines, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.49**	**199**	P	Pg	12 40 31.7	-1.4
APA0				S	Sg	12 40 38.5	-0.8
APA	**Apatity**	**0.50**	**180**	P	Pg	12 40 32.4	-0.9
APA				S	Sg	12 40 39.6	-0.1
LVZ	**Lovozero**	**0.50**	**109**	P	Pg	12 40 32.5	-0.9
LVZ				S	Sg	12 40 39.0	-0.9
TERR	**Teriberka**	**1.30**	**28**	P	Pg	12 40 46.6	-2.0
TERR				S	Sg	12 41 03.7	-1.7
PRVG	**Vayda Guba**	**1.74**	**346**	P	Pn	12 40 55.5	+0.2
PRVG				S	Sn	12 41 17.8	-0.3
VADS	**Vadso**	**2.52**	**327**	P	Pn	12 41 06.1	+0.2
VADS				S	Sn	12 41 35.5	-1.7

DJA 12 13:03:26.4±1.7, 9°S±6°×11°9E±°, h30km±18km, M3.7/7, MLv3.7/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.09**	**301**	P	Pb	13 03 46.4	-0.3
PLAI				S	Sb	13 04 01.4	+0.8
TWSI	**Taliwang, Sumb**	**1.93**	**290**	P	Pn	13 03 58.0	+0.8
TWSI				S	Sn	13 04 21.1	+0.6
BASI	**Baing, Sumba**	**2.00**	**114**	P	Pn	13 03 58.5	+0.3
EDFI	**Ende, Flores**	**3.00**	**78**	P	Pn	13 04 12.4	+0.3
SRBI	**Singaraja**	**3.71**	**290**	P	Pn	13 04 20.6	-1.0
BKSI	**Bulukumba**	**4.28**	**19**	P	Pn	13 04 28.4	-1.2
JAGI	**Jajag, Banyuwa**	**4.61**	**281**	P	Pn	13 04 31.6	-2.5
BATI	**Baumata**	**4.94**	**100**	P	Pn	13 04 38.8	+0.2

*HEL **12** 13:05:25.7±0.2, 61°.28N×29°.78E, h0km, ML1.8, Explosion*
*IDC **12** 13:05:26.7±3.4, 61°.21N×29°.62E, h0km, mbtmp3.5/1, ML1.9/1, Error ellipse: s-maj=31.0km s-min=13.3km az=162.0*
ISC 12 13:05:24.0±1.3, 61°.26N±0°.05×29°.75E±0°.05, h0km, n18, σ0§90/26, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.42**	**293**	PG	**Pb**	**13 05 33.3**	**-0.9**
RUF				SG	**Sg**	**13 05 38.6**	**+1.2**
VJF	**Virojoki**	**1.30**	**237**	PG	**Pn**	**13 05 49.1**	**-0.2**
VJF				MSG		13 06 05.6	
	comp=Z,13nm,0.2s						
VJF				SG	**Sn**	**13 06 06.8**	**-0.5**
FIA0	**FINESS Array S**	**1.78**	**277**	PG	**Pg**	**13 05 57.5**	**-0.5**
	baz=94						
FIA0				MSG		13 06 19.1	
	comp=Z,6.4nm,0.2s						
FIA0				SG	**Sg**	**13 06 20.6**	**-0.5**
FINES	**FINESS Array B**	**1.78**	**277**	Pg	**Pg**	**13 05 57.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=98,slow=15,SNR=11						
FINES				Lg	Lg	13 06 20.9	
	comp=Z,3.8nm,0.3s,baz=95,slow=28,SNR=48						
JOF	**Joensuu**	**1.81**	**23**	PG	**Pb**	**13 05 57.7**	**-0.3**
JOF				SG	**Sg**	**13 06 21.5**	**-0.7**
KAF	**Kangasniemi**	**1.85**	**299**	PG	**Pg**	**13 05 59.4**	**0.0**
KAF				MSG		13 06 20.9	
	comp=Z,9.1nm,0.2s						
KAF				SN	**Sg**	**13 06 22.6**	**-0.7**
PVF	**Pernaja**	**2.03**	**251**	PG	**Pb**	**13 06 01.1**	**-0.7**
PVF				MSG		13 06 26.6	
	comp=Z,5.2nm,0.2s						
PVF				SG	**Sg**	**13 06 29.5**	**+0.3**
SUF	**Sumiainen**	**2.24**	**312**	PG	**Pb**	**13 06 05.5**	**+0.2**
SUF				MSG		13 06 32.0	
	comp=Z,3.4nm,0.2s						
SUF				SG	**Sg**	**13 06 35.0**	**-0.8**
NIF	**Nilsia**	**2.32**	**338**	PB	**Pb**	**13 06 05.9**	**-0.7**
NIF				SG	**Sb**	**13 06 35.8**	**+0.1**
KEF	**Keuruu**	**2.50**	**293**	PG	**Pb**	**13 06 10.0**	**+0.4**
	baz=109						
KEF				MSG		13 06 39.5	
	comp=Z,4.6nm,0.2s						
KEF				SB	**Sb**	**13 06 41.0**	**+0.2**
NUR	**Nurmijrvi**	**2.61**	**255**	PG	**Pb**	**13 06 11.6**	**+0.1**
NUR				MSG		13 06 43.2	
	comp=Z,1.7nm,0.2s						
NUR				SG	**Sb**	**13 06 45.5**	**+1.4**
MEF	**Metsahovi**	**2.83**	**251**	MSG		13 06 49.6	
	comp=Z,2.5nm,0.2s						
MEF				SG	**Sg**	**13 06 53.7**	**-1.1**
RMF	**Romuvaara**	**2.97**	**2**	PB	**Pb**	**13 06 16.7**	**-1.0**
RMF				MSG		13 06 52.2	
	comp=Z,1.5nm,0.2s						
RAF	**Rauma**	**3.88**	**270**	SG	**Sg**	**13 07 26.4**	**-2.1**
MSF	**Maaselka**	**4.68**	**356**	PN	**Pn**	**13 06 37.4**	**+1.7**
HFS	**Hagfors**	**7.96**	**269**	Lg	Lg	13 09 30.5	
	comp=Z,0.1nm,0.3s,baz=70,slow=29,SNR=5.1						
ARCES	**ARCESS Array B**	**8.49**	**350**	Pn	**Pn**	**13 07 28.9**	**+0.9**
	baz=165,slow=14,SNR=1.7						
ARCES				Lg	Lg	13 09 45.1	
	baz=161,slow=33						
	comp=Z,3.6nm,1.2s						
I37NO	**I37NO**	**9.12**	**334**	I	I	13 58 10.0	
	baz=145,slow=320,SNR=2.2						

*IDC **12** 13:14:33.0±1.8, 52°.04N×178°.38E, h113km±15km, mb3.7/20, mbtmp4.1/22, MS2.8/2, Error ellipse: s-maj=17.6km s-min=11.1km az=166.0*
*NEIC **12** 13:14:33.9±1.5, 52°.0N±0°.1×178°.29E±0°.09, h123km±7km, mb4.0/70, ML3.8(AEIC), Error ellipse: s-maj=20.1km s-min=8.5km az=179.0*
*AEIC **12** 13:14:34.1±1.5, 51°.8N±0°.1×178°.28E±0°.10, h126km±5km, Error ellipse: s-maj=20.9km s-min=8.9km az=181.0*
ISC 12 13:14:33.7±0.7, 51°.98N±0°.09×178°.31E±0°.04, h122km±6km, n151, σ0§96/145, mb4.0/37, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.13**	**94**		**Pn**	**13 14 50.5**	**+0.1**
LSSA	**Little Sitkin**	**0.13**	**103**		**Pn**	**13 14 50.7**	**+0.3**
LSPA	**Little Sitkin**	**0.16**	**98**		**Pn**	**13 14 50.6**	**+0.1**
LSPA					**Sn**	**13 15 04.2**	**+1.1**
LSSE	**Little Sitkin**	**0.16**	**106**		**Pn**	**13 14 50.6**	**+0.1**
CESW	**Semis' Southwe**	**0.78**	**95**		**Pn**	**13 14 53.8**	**0.0**
CEAP	**Semis' Anvil P**	**0.78**	**88**		**Pn**	**13 14 54.5**	**+0.6**
CEPE	**Semis' Perret**	**0.83**	**90**		**Pn**	**13 14 54.7**	**+0.4**
AMKA	**Amchitka**	**0.86**	**134**	Pn	**Pn**	**13 14 54.5**	**-0.1**
AMKA				Sn	**Sn**	**13 15 09.6**	**-0.8**
GASW	**Gareloi Southw**	**1.77**	**95**		**Sn**	**13 15 27.7**	**-0.1**
GANO	**Gareloi North**	**1.79**	**94**		**Pn**	**13 15 04.7**	**0.0**
GANE	**Gareloi Northe**	**1.81**	**94**		**Pn**	**13 15 04.8**	**-0.1**
GAEA	**Gareloi East**	**1.83**	**95**		**Pn**	**13 15 05.5**	**+0.3**
TANO	**Tanaga North**	**2.21**	**90**		**Pn**	**13 15 10.1**	**+0.3**
TAFP	**Tanaga Falls P**	**2.29**	**91**		**Sn**	**13 15 39.4**	**0.0**
SHEM	**Shemya Is, Ala**	**2.69**	**288**	P	**Pn**	**13 15 15.3**	**-0.7**
	159nm,0.3s,baz=111,slow=6.6,SNR=83						
SHEM				S	**Sn**	**13 15 48.5**	**+0.1**
	95nm,0.3s,baz=108,slow=20,SNR=2.3						
SHEM				LR	LR	13 16 08.2	
	comp=Z,67nm,18.1s,baz=0.5,slow=35						
KIWB	**Kanaga Island**	**2.81**	**91**		**Pn**	**13 15 17.3**	**-0.3**
ADK	**Adak**	**3.10**	**90**	P	**Pn**	**13 15 21.0**	**-0.3**
ADK	**Adak**	**3.10**	**90**		**Pn**	**13 15 21.0**	**-0.3**
ADK	**Adak**	**3.10**	**90**		**Sn**	**13 15 57.8**	**-0.2**
GSCK	**Great Sitkin C**	**3.42**	**87**		**Pn**	**13 15 25.0**	**-0.4**
GSTD	**Great Sitkin T**	**3.42**	**87**		**Sn**	**13 16 05.0**	**-0.8**
GSTR	**Great Sitkin T**	**3.48**	**86**		**Pn**	**13 15 26.1**	**-0.2**
KOKL	**Mount Kliuchef**	**4.62**	**83**		**Pn**	**13 15 42.0**	**+0.4**
ATKA	**Atka Island**	**4.62**	**84**	P	**Pn**	**13 15 41.6**	**+0.1**
ATKA	**Atka Island**	**4.62**	**84**	Pn	**Pn**	**13 15 41.4**	**-0.1**
KOFP	**Korovin Flat P**	**4.69**	**83**		**Pn**	**13 15 42.7**	**+0.3**
NIKH	**Nikolski High**	**7.90**	**78**	P	**Pn**	**13 16 27.4**	**+1.7**
NIKH	**Nikolski High**	**7.90**	**78**		**Pn**	**13 16 24.7**	**-1.0**
SPIA	**Saint Paul Isl**	**8.44**	**47**	P	**Pn**	**13 16 35.2**	**+2.3**
SPIA	**Saint Paul Isl**	**8.44**	**47**	Pn	**Pn**	**13 16 33.5**	**+0.6**
MSW	**Makushin Switc**	**9.21**	**72**		**Pn**	**13 16 42.7**	**-0.6**
UNV	**Unalaska Valle**	**9.36**	**73**	P	**Pn**	**13 16 46.4**	**+1.0**
UNV	**Unalaska Valle**	**9.36**	**73**	Pn	**Pn**	**13 16 46.5**	**+1.1**
LVA	**Lava Point**	**9.67**	**71**	Pn	**Pn**	**13 16 50.9**	**+1.3**
CNBA	**Chernabura Isl**	**13.47**	**69**	Pn	**Pn**	**13 17 36.6**	**-3.2**
O14K	**Tigyukauivet M**	**13.61**	**50**	P	**P**	**13 17 47.2**	**+1.1**
M14K	**Bethel**	**13.97**	**43**		**Pn**	**13 17 44.9**	**-1.2**
CHGN	**Chignik**	**14.28**	**63**	Pn	**Pn**	**13 17 49.9**	**-0.2**
N15K	**Kwethluk River**	**14.52**	**47**	Pn	**Pn**	**13 17 53.2**	**+0.1**
K15K	**Wolf Creek Mou**	**14.97**	**39**	P	**P**	**13 18 03.6**	**+2.3**
O16K	**Kokwok River B**	**15.24**	**51**		**Pn**	**13 18 01.7**	**-0.4**
O16K				IAmb	IAmb	13 18 12.1	
	comp=Z,7.9nm,1.1s						
M16K	**Timber Creek**	**15.39**	**45**		**Pn**	**13 18 05.2**	**+1.1**
M16K				IAmb	IAmb	13 18 38.8	
	comp=Z,15nm,1.5s						
L16K	**Owhat River**	**15.49**	**42**	P	**P**	**13 18 07.0**	**0.0**
CHIR	**Chirikof Islan**	**15.79**	**66**	Pn	**Pn**	**13 18 06.7**	**-2.3**
N17K	**Nushagak Hills**	**15.99**	**48**		**P**	**13 18 14.2**	**+1.6**
N17K				IAmb	IAmb	13 18 16.0	
	comp=Z,5.9nm,0.8s						
M17K	**Holitna River**	**16.22**	**45**		**P**	**13 18 18.0**	**+2.9**
M17K				IAmb	IAmb	13 18 18.7	
	comp=Z,12nm,0.8s						
ACHA	**Angle Creek He**	**16.26**	**57**	P	**P**	**13 18 16.3**	**+0.7**
ACHA				IAmb	IAmb	13 18 20.4	
	comp=Z,5.3nm,0.8s						
K17K	**Iditarod**	**16.47**	**40**	P	**P**	**13 18 19.1**	**+1.3**
K17K				IAmb	IAmb	13 18 21.7	
	comp=Z,18nm,1.4s						
J17K	**VABM Dome**	**16.52**	**37**	P	**P**	**13 18 19.9**	**+1.5**
P18K	**Big Mountain,**	**16.57**	**53**		**P**	**13 18 19.5**	**+0.5**
P18K				IAmb	IAmb	13 18 22.6	
	comp=Z,6.8nm,0.7s						
N18K	**Kilae Creek**	**16.64**	**48**		**P**	**13 18 21.3**	**+1.5**
N18K				IAmb	IAmb	13 18 26.4	
	comp=Z,11nm,0.6s						
SII	**Sitkinak Islan**	**16.64**	**63**	P	**Pn**	**13 18 19.8**	**+0.3**
SII	**Sitkinak Islan**	**16.64**	**63**	Pn	**Pn**	**13 18 16.5**	**-3.0**
O18K	**Koktuh Hills**	**16.71**	**52**		**P**	**13 18 21.2**	**+0.7**
L18K	**Granite Mounta**	**16.89**	**43**		**Pn**	**13 18 23.1**	**+0.6**
H17K	**Granite Mounta**	**17.14**	**32**	P	**Pn**	**13 18 25.5**	**+0.1**
H17K				IAmb	IAmb	13 18 40.5	
	comp=Z,9.9nm,1.5s						
N19K	**Bonanza Creek**	**17.34**	**49**	P	**Pn**	**13 18 29.0**	**+1.0**
TTA	**Tatalina**	**17.49**	**41**	IAmb	IAmb	13 18 32.3	
	comp=Z,4.6nm,0.7s						
P19K	**Oil Pt**	**17.62**	**53**	P	**P**	**13 18 29.7**	**-0.9**
KDAK	**Kodiak Island**	**17.63**	**59**		**P**	**13 18 28.8**	**-1.8**
KDAK				IAmb	IAmb	13 18 29.5	
	comp=Z,12nm,1.1s						
KDAK	**Kodiak Island**	**17.63**	**59**	P	**P**	**13 18 28.6**	**-2.0**
	comp=Z,6.5nm,0.3s,baz=283,slow=7.3,SNR=44						
L19K	**White Mountain**	**17.66**	**44**	P	**P**	**13 18 31.0**	**0.0**
L19K				IAmb	IAmb	13 18 36.1	

I28M					IAmb	IAmb	13 19 46.1	
	comp=Z,3.3nm,0.8s							
E27K	**Coleen River**	**25.09**	**35**	P	**P**		**13 19 46.4**	**-0.1**
H29M	**Whitestone**	**25.74**	**40**	P	**P**		**13 19 52.5**	**+0.1**
I30M	**Mount Dempster**	**26.38**	**42**	P	**P**		**13 19 58.6**	**+0.3**
I30M					IAmb	IAmb	13 20 10.1	
	comp=Z,2.3nm,0.6s							
EPYK	**Eagle Plains**	**26.43**	**40**	P	**P**		**13 19 59.0**	**+0.4**
EPYK					IAmb	IAmb	13 20 15.4	
	comp=Z,11nm,1.5s							
G30M	**tAoh Zraii Nji**	**26.74**	**39**	P	**P**		**13 20 00.9**	**-0.5**
G31M	**Satah River**	**27.48**	**39**	P	**P**		**13 20 07.0**	**-1.0**
G31M					IAmb	IAmb	13 20 49.6	
	comp=Z,11nm,1.4s							
JTM	**Tenmabayashi**	**27.73**	**261**	P	**P**		**13 20 10.2**	**-0.2**
JTM	**Tenmabayashi**	**27.73**	**261**	P	**P**		**13 20 09.8**	**-0.6**
USRK	**Ussuriysk Ar.**	**31.45**	**274**	P	**P**		**13 20 42.7**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=56,slow=12,SNR=4.8							
	comp=Z,1.6nm,0.7s							
MDJ	**Mudanjiang**	**32.71**	**277**	P	**P**		**13 20 51.8**	**-2.5**
MDJ					pmax	pmax		
	comp=Z,4.0nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**33.40**	**200**	T	T		13 56 43.4	
	baz=11,slow=76,SNR=28							
H11N3	**WAKE ISLAND Hy**	**33.41**	**200**	T	T		13 56 41.1	
	baz=11,slow=76,SNR=28							
H11N1	**WAKE ISLAND Hy**	**33.42**	**200**	T	T		13 56 46.4	
	baz=11,slow=76,SNR=28							
H11S1	**WAKE ISLAND Hy**	**34.63**	**200**	T	T		13 58 13.6	
	baz=11,slow=74,SNR=7.5							
H11S3	**WAKE ISLAND Hy**	**34.65**	**200**	T	T		13 58 13.3	
	baz=11							
H11S2	**WAKE ISLAND Hy**	**34.65**	**200**	T	T		13 58 14.4	
	baz=11,slow=74,SNR=2.5							
YKA	**Yellowknife Ar**	**36.12**	**47**	P	**P**		**13 21 22.8**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=283,slow=8.4,SNR=7.2							
	comp=Z,0.8nm,0.6s							
KSRS	**Korea Array**	**37.85**	**268**	P	**P**		**13 21 39.5**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=53,slow=8.2,SNR=2.6							
	comp=Z,0.8nm,0.6s							
I07A	**Izee**	**41.17**	**76**	P	**P**		**13 22 05.9**	**-0.1**
I07A					IAmb	IAmb	13 22 07.3	
	comp=Z,1.8nm,0.8s							
PAHR	**Pah Rah Range**	**43.80**	**81**	P	**P**		**13 22 26.0**	**-1.3**
PAHR					IAmb	IAmb	13 23 08.1	
	comp=Z,2.4nm,1.1s							
WAKR	**Walker**	**44.51**	**82**	P	**P**		**13 22 33.6**	**+0.5**
WAKR					IAmb	IAmb	13 22 34.7	
	comp=Z,3.4nm,1.2s							
BBGB	**Big Mountain B**	**44.74**	**85**	P	**P**		**13 22 35.5**	**+0.7**
SONM	**Songino Array**	**44.77**	**295**	P	**P**		**13 22 35.3**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=58,slow=8.2,SNR=8.3							
SONM					PcP	**PcP**	**13 24 15.4**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=54,slow=2.5,SNR=3.8							
	comp=Z,0.9nm,0.5s							
NVAR	**Mina Array Bea**	**45.25**	**81**	P	**P**		**13 22 39.2**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=298,slow=6.1,SNR=9.5							
NVAR					PcP	**PcP**	**13 24 17.5**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=305,slow=3.2,SNR=2.0							
	comp=Z,0.4nm,0.5s							
HHC	**Hu-ho-hao-te**	**45.80**	**284**	*eP*	**P**		**13 22 44.3**	**+1.2**
HHC					pmax	pmax		
	comp=Z,8.0nm,0.6s							
HHC					pmax	pmax		
	comp=Z,49nm,3.6s							
R11B	**Troy Canyon, C**	**46.96**	**80**	P	**P**		**13 22 52.0**	**-0.3**
PDAR	**Pinedale Array**	**47.83**	**71**	P	**P**		**13 22 58.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=308,slow=4.4,SNR=3.9							
	comp=Z,0.4nm,0.3s							
SPITS	**Spitsbergen Ar**	**49.64**	**355**	P	**P**		**13 23 11.6**	**-0.5**
	comp=Z,21nm,1.1s,baz=15,slow=6.0,SNR=5.3							
	comp=Z,21nm,1.1s							
ZALV	**Zalesovo Beam**	**52.30**	**312**	PcP	**PcP**		**13 24 42.0**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=62,slow=3.4,SNR=4.5							
KURBB	**Kurchatov Arra**	**57.40**	**312**	P	**P**		**13 24 09.4**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=46,slow=6.8,SNR=5.3							
	comp=Z,1.3nm,0.5s							
BVAR	**Borovoye Array**	**59.25**	**318**	P	**P**		**13 24 22.0**	**+0.2**
	comp=Z,3.4nm,0.5s,baz=46,slow=7.8,SNR=14							
BVAR					PcP	**PcP**	**13 25 09.1**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=45,slow=4.3,SNR=6.1							
	comp=Z,3.4nm,0.5s							
TXAR	**Lajitas Array**	**60.32**	**79**	P	**P**		**13 24 29.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=313,slow=8.4,SNR=1.0							
	comp=Z,0.3nm,0.3s							
ARU	**Arti**	**61.13**	**327**	P	**P**		**13 24 35.0**	**+0.4**
	comp=Z,2.4nm,0.3s,baz=39,slow=8.0,SNR=4.8							
	comp=Z,2.4nm,0.3s							
PZH	**PanZhiHua**	**61.48**	**277**	P	**P**		**13 24 40.1**	**+2.6**
PZH					pmax	pmax		
	comp=Z,8.0nm,1.0s							
PZH					pmax	pmax		
	comp=Z,100nm,4.3s							
FINES	**FINESS Array B**	**64.78**	**346**	P	**P**		**13 24 58.4**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=28,slow=6.3,SNR=6.5							
	comp=Z,0.3nm,0.4s							
AKTO	**Aktyubinsk**	**66.14**	**323**	P	**P**		**13 25 07.3**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=27,slow=4.5,SNR=7.4							
	comp=Z,1.8nm,0.5s							
HFS	**Hagfors**	**67.56**	**352**	P	**P**		**13 25 15.4**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=29,slow=3.6,SNR=1.4							
	comp=Z,0.4nm,0.3s							
CMAR	**Chiang Mai Arr**	**69.17**	**274**	P	**P**		**13 25 27.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=45,slow=4.0,SNR=4.5							
	comp=Z,0.6nm,0.5s							
AKASG	**Malin Array Be**	**74.40**	**340**	P	**P**		**13 25 57.2**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=22,slow=5.7,SNR=3.0							
	comp=Z,1.1nm,0.4s							
WRA	**Warramunga Arr**	**81.24**	**221**	P	**P**		**13 26 36.4**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=32,slow=6.1,SNR=25							
	comp=Z,1.7nm,0.6s							
ASAR	**Alice Springs**	**84.75**	**220**	P	**P**		**13 26 53.9**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=25,slow=5.1,SNR=16							
	comp=Z,0.9nm,0.6s							
STKA	**Stephens Creek**	**89.49**	**211**	P	**P**		**13 27 17.5**	**+0.9**
	comp=Z,1.4nm,0.2s,baz=20,slow=8.7,SNR=5.7							
	comp=Z,1.4nm,0.2s							
SJG	**San Juan**	**90.62**	**59**	LR	LR		14 08 25.0	
	comp=Z,13nm,20.4s,baz=164,slow=36							
TORD	**Torodi Ar. Bea**	**115.08**	**356**	PKP	**PKiKP**		**13 32 59.7**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=0.0,slow=1.4,SNR=2.4							
QSPA	**South Pole Qui**	**141.73**	**180**	PKhKP	PKPpre		13 33 45.2	
	comp=Z,1.5nm,0.8s,baz=357,slow=0.2,SNR=7.3							
MAW	**Mawson**	**145.85**	**218**	PKPbc	**PKPbc**		**13 33 57.0**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=89,slow=4.7,SNR=6.9							
BOSA	**Boshof**	**149.22**	**309**	PKPbc	**PKiKP**		**13 34 08.4**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=25,slow=4.9,SNR=7.4							

*SOME **12** 13:20:51.9, 42.°17N×81.°30E, h25km*
*NNC **12** 13:20:51.8±0.8, 42.°20N×81.°23E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=5.8km s-min=4.4km az=176.0*
*BJI **12** 13:20:53.2±0.0, 42.°10N×81.°42E, h5km, ML3.5/8*
*IDC **12** 13:20:55.6±2.1, 42.°54N×81.°82E, h0km, mb3.8/3, mbtmp3.6/8, ML3.0/4, Error ellipse: s-maj=28.0km s-min=17.9km az=119.0*

ISC 12 13:20:51.9±1.6, 42.°09N±0.°05×81.°04E±0.°04, h13km±10km, n62, σ2°17/82, 10C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.58**	**313**	*eP*	**Pn**	**13 21 18.2**	**-1.6**
	402nm,0.4s						
SHLS				*eS*	**Sn**	**13 21 37.1**	**-3.1**
	547nm,0.3s						
PDGK	**Podgornoye**	**1.69**	**318**	S	**Sg**	**13 21 47.1**	**+0.9**
	145nm,0.3s						
PDGK	**Podgornoye**	**1.69**	**318**	⇓Pn	**Pg**	**13 21 23.2**	**-1.1**
	110nm,0.7s						
PDGK				⇑Sn	**Sg**	**13 21 46.8**	**+0.6**
	344nm,0.8s						
UZB	**Uzynbulak**	**1.83**	**306**	*eP*	**Pg**	**13 21 27.0**	**0.0**
	188nm,0.4s						
UZB				*eS*	**Sg**	**13 21 53.0**	**+2.3**
	317nm,0.4s						
SATY	**Saty**	**2.17**	**297**	*eP*	**Pg**	**13 21 33.5**	**-0.1**
	88nm,0.3s						
SATY				*eS*	**Sg**	**13 22 03.8**	**+2.1**
	811nm,0.3s						
KPKS	**Kokpek**	**2.21**	**309**	*eP*	**Pg**	**13 21 32.5**	**-1.9**
	88nm,0.2s						
KPKS				*eS*	**Sb**	**13 22 01.6**	**+2.4**
	1μm,0.4s						
KPKS	**Kokpek**	**2.21**	**309**	Lg	Lg	13 22 03.6	
	1μm,0.7s						
DJR	**Jarkent**	**2.42**	**338**	*eP*	**Pg**	**13 21 36.1**	**-2.3**
	30nm,0.2s						
DJR				*eS*	**Sb**	**13 22 07.6**	**+2.4**
	213nm,0.4s						
DJR	**Jarkent**	**2.42**	**338**	Pg	**Pb**	**13 21 34.6**	**-0.8**
	138nm,0.4s						
DJR				Lg	Lg	13 22 05.5	
	323nm,0.5s						
KURS	**Kuram**	**2.53**	**305**	*eP*	**Pg**	**13 21 38.9**	**-1.5**
	58nm,0.6s						
KURS				*eS*	**Sg**	**13 22 13.9**	**+0.6**
	174nm,0.6s						
KURS	**Kuram**	**2.53**	**305**	Pg	**Pg**	**13 21 38.9**	**-1.5**
	58nm,0.6s						
KURS				Lg	Lg	13 22 13.9	
	174nm,0.6s						
KNOS	**Konyrlen**	**2.65**	**330**	Pg	**Pb**	**13 21 39.4**	**+0.1**
	32nm,0.4s						
KNOS				Lg	Lg	13 22 13.5	
	147nm,0.3s						
BLB	**Baldybastay**	**2.75**	**318**	Pg	**Pb**	**13 21 41.7**	**+0.7**
	157nm,0.5s						
BLB				Lg	Lg	13 22 18.0	
	246nm,0.3s						
KOTS	**Kotyrbulak**	**3.11**	**293**	*eP*	**Pg**	**13 21 49.9**	**-1.7**
KOTS				*eS*	**Sg**	**13 22 31.7**	**-0.2**
	331nm,0.6s						
KOTS	**Kotyrbulak**	**3.11**	**293**	Pg	**Pg**	**13 21 49.9**	**-1.7**
KOTS				Lg	Lg	13 22 31.7	
	110nm,0.6s						
MDOK	**Medeo**	**3.13**	**291**	*eP*	**Pg**	**13 21 50.3**	**-1.7**
	56nm,0.5s						
MDOK				*eS*	**Sg**	**13 22 32.5**	**-0.1**
	212nm,0.7s						
MDOK	**Medeo**	**3.13**	**291**	Pg	**Pg**	**13 21 50.3**	**-1.7**
	56nm,0.5s						
MDOK				⇑Pg	**Pb**	**13 21 51.4**	**+3.8**
	42nm,0.5s						
MDOK				Lg	Lg	13 22 32.5	
	212nm,0.7s						
MDOK				⇑Lg	Lg	13 22 34.0	
	196nm,0.6s						
ARXS	**Arharly**	**3.17**	**313**	*eP*	**Pg**	**13 21 50.6**	**-2.0**
	27nm,0.3s						
ARXS				*eS*	**Sg**	**13 22 31.6**	**-2.1**
	102nm,0.4s						
TNSS	**Tian-Shan**	**3.17**	**289**	*eP*	**Pg**	**13 21 51.6**	**-1.1**
	41nm,0.4s						
TNSS				*eS*	**Sg**	**13 22 34.2**	**+0.5**
	93nm,0.8s						
TNSS	**Tian-Shan**	**3.17**	**289**	Pg	**Pg**	**13 21 50.3**	**-2.3**
	41nm,0.5s						
TNSS				Lg	Lg	13 22 33.1	
	80nm,0.5s						
KNDC	**Almaty**	**3.21**	**292**	⇓Pg	**Pg**	**13 21 52.5**	**-0.9**
	72nm,0.6s						
KNDC				⇑Lg	Lg	13 22 36.7	
	263nm,0.7s						
AAA	**Alma-Ata**	**3.24**	**292**	*eP*	**Pg**	**13 21 52.9**	**-1.1**
	37nm,0.1s						
AAA				*eS*	**Sg**	**13 22 36.6**	**+0.6**
	123nm,0.2s						
IZV	**Izvestkoviy**	**3.40**	**288**	*eP*	**Pg**	**13 21 55.6**	**-1.5**
	29nm,0.6s						
IZV				*eS*	**Sg**	**13 22 41.3**	**+0.1**
	239nm,0.9s						
IZV	**Izvestkoviy**	**3.40**	**288**	Pg	**Pg**	**13 21 55.6**	**-1.5**
	29nm,0.6s						
IZV				Lg	Lg	13 22 41.3	
	239nm,0.9s						
CHKK	**Chushkaly**	**3.46**	**302**	*eP*	**Pg**	**13 21 55.8**	**-2.3**
	14nm,0.5s						
CHKK				*eS*	**Sg**	**13 22 41.8**	**-1.1**
	131nm,0.5s						
CHKK	**Chushkaly**	**3.46**	**302**	Pg	**Pg**	**13 21 55.8**	**-2.3**
	14nm,0.5s						
CHKK				Lg	Lg	13 22 41.8	
	131nm,0.5s						
MTBS	**Maitube**	**3.56**	**289**	*eP*	**Pg**	**13 21 57.7**	**-2.3**
	24nm,0.6s						
MTBS				*eS*	**Sg**	**13 22 45.0**	**-1.2**
	92nm,0.6s						
MTBS	**Maitube**	**3.56**	**289**	Pg	**Pg**	**13 21 57.7**	**-2.3**
	24nm,0.6s						
MTBS				Lg	Lg	13 22 44.9	
	92nm,0.6s						
KTBS	**Karatobe**	**3.59**	**298**	*eP*	**Pg**	**13 21 58.8**	**-1.9**
	52nm,0.6s						
KTBS				*eS*	**Sg**	**13 22 46.8**	**-0.4**
	142nm,0.5s						
KTBS	**Karatobe**	**3.59**	**298**	Pg	**Pg**	**13 21 58.8**	**-1.9**
	52nm,0.6s						
KTBS				Lg	Lg	13 22 46.8	
	142nm,0.5s						
KST	**Kastek**	**3.87**	**286**	*eP*	**Pg**	**13 22 04.2**	**-1.8**
	18nm,0.3s						
KST				*eS*	**Sg**	**13 22 55.9**	**-0.2**
	191nm,0.7s						
KUU	**Kurty**	**3.89**	**299**	*eP*	**Pg**	**13 22 03.5**	**-2.9**
	51nm,0.5s						
KUU				*eS*	**Sg**	**13 22 54.9**	**-1.9**
	49nm,0.3s						
KUU	**Kurty**	**3.89**	**299**	Lg	Lg	13 22 54.9	
	49nm,0.3s						
DGS	**Degeres**	**4.05**	**288**	*eP*	**Pg**	**13 22 07.4**	**-2.1**
	11nm,0.4s						
DGS				*eS*	**Sg**	**13 23 01.4**	**-0.6**
	127nm,0.7s						
DGS	**Degeres**	**4.05**	**288**	Lg	Lg	13 23 00.1	
	127nm,0.9s						
TKM2	**Tokmak 2**	**4.11**	**284**	⇑Pn	**Pb**	**13 22 00.2**	**-4.1**
	24nm,0.6s						
TKM2				⇓Lg	Lg	13 23 05.2	
	74nm,0.6s						
KRBS	**Karabastau**	**4.25**	**294**	*eP*	**Pg**	**13 22 11.8**	**-1.6**
	20nm,0.8s						
KRBS				*eS*	**Sg**	**13 23 09.7**	**+1.2**
	41nm,0.5s						
KRBS	**Karabastau**	**4.25**	**294**	Pg	**Pg**	**13 22 11.8**	**-1.6**
	20nm,0.8s						
KSH	**Kashi**	**4.62**	**238**	Pn	**Pg**	**13 22 18.0**	**-2.4**
KSH				smax	smax		
	comp=N,28nm,0.8s						
KSH				smax	smax		
	comp=E,31nm,0.7s						
CHMS	**Chumysh**	**4.73**	**283**	⇑Pg	**Pg**	**13 22 20.0**	**-2.5**
	12nm,0.6s						
CHMS				⇑Lg	Lg	13 23 26.0	
	45nm,0.7s						
MAKZ	**Makanchi**	**4.77**	**8**	⇓Pn	**Pn**	**13 22 03.6**	**+0.1**
	6.1nm,0.3s						
MAKZ				⇓Lg	Lg	13 23 18.7	
	91nm,0.8s						
MK31	**Makanchi Array**	**4.79**	**10**	⇑Pn	**Pn**	**13 22 04.6**	**+0.8**
	1.5nm,0.3s,baz=187,slow=13,SNR=66						
MK31				Pg	**Pb**	**13 22 16.1**	**+0.3**
	14nm,0.5s,baz=190,slow=15,SNR=11						
MK31				⇑Lg	Lg	13 23 19.0	
	46nm,0.5s,baz=188,slow=29						
MKAR	**Makanchi Array**	**4.79**	**10**	Pn	**Pn**	**13 22 04.1**	**+0.3**
	1.9nm,0.3s,baz=184,slow=13,SNR=33						
MKAR				Lg	Lg	13 23 12.1	
	12nm,0.3s,baz=188,slow=29,SNR=20						
	5.5nm,0.4s						
AAK	**Ala-Archa**	**4.88**	**279**	Pn	**Pg**	**13 22 22.2**	**-3.1**
	3.0nm,0.3s,baz=85,slow=16,SNR=8.6						
AAK				Sn	**Sg**	**13 23 29.2**	**+0.7**
	2.5nm,0.3s,baz=56,slow=3.6,SNR=3.8						
	5.8nm,0.3s						
AAK	**Ala-Archa**	**4.88**	**279**	⇓Pg	**Pg**	**13 22 23.8**	**-1.6**
	10nm,0.7s						
AAK				⇑Lg	Lg	13 23 31.7	
	54nm,0.8s						
SGDS	**Sogindy**	**4.91**	**288**	Lg	Lg	13 23 26.8	
	20nm,0.7s						
WMQ	**Urumqi**	**5.18**	**68**	*ePn*	Pn	13 22 11.3	+2.0
WMQ				Sn	**Sn**	**13 23 09.4**	**+0.4**
WMQ				smax	smax		
	comp=N,64nm,0.7s						
WMQ				smax	smax		
	comp=E,61nm,0.7s						
MRKS	**Merke**	**5.82**	**279**	*eP*	**Pg**	**13 22 42.6**	**-0.7**
	5.6nm,0.4s						
MRKS				*eS*	**Sg**	**13 24 01.8**	**+3.1**
	22nm,0.5s						
MRKS	**Merke**	**5.82**	**279**	Pg	**Pg**	**13 22 40.8**	**-2.5**
	5.6nm,0.7s						
BTLS	**Baital**	**5.87**	**303**	*eP*	**Pg**	**13 22 43.7**	**-0.7**
	2.5nm,0.3s						
BTLS				*eS*	**Sg**	**13 24 03.3**	**+2.9**
	13nm,0.6s						
BTLS	**Baital**	**5.87**	**303**	Lg	Lg	13 23 58.6	
	6.6nm,0.5s						
ZSN	**Zaisan**	**6.01**	**26**	*eP*	**Pb**	**13 22 38.0**	**+1.5**
	7.8nm,0.3s						
ZSN				*eS*	**Sb**	**13 23 53.9**	**+5.5**
	82nm,0.8s						
ZSN	**Zaisan**	**6.01**	**26**	Pg	**Pb**	**13 22 35.8**	**-0.7**
	7.1nm,0.3s						
KK31	**Karatay Array**	**7.83**	**281**	⇓Lg	Lg	13 25 03.8	
	8.3nm,0.6s,baz=91,slow=22						
BRLS	**Borolday**	**8.32**	**280**	*eP*	**Pg**	**13 23 31.8**	**+0.7**
	0.6nm,0.1s						
BRLS				*eS*	**Sg**	**13 25 26.1**	**+7.2**
	5.6nm,0.7s						
KURBB	**Kurchatov Arra**	**8.71**	**349**	Pn	**Pn**	**13 22 59.2**	**+1.6**
	0.1nm,0.3s,baz=167,slow=13,SNR=3.9						
KURBB				Sn	**Sn**	**13 24 33.4**	**-2.2**
	0.2nm,0.3s,baz=163,slow=26,SNR=5.7						
KURBB				Lg	Lg	13 25 23.4	
	0.2nm,0.3s,baz=165,slow=32,SNR=6.5						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**12.13**	**11**	Pn	**Pn**	**13 23 42.8**	**-1.5**
	0.2nm,0.3s,baz=186,slow=12,SNR=4.0						
ZALV				Sn	**Sn**	**13 25 53.5**	**-5.9**
	0.1nm,0.3s,baz=189,slow=23,SNR=4.2						
ZALV				Lg	Lg	13 27 03.7	
	0.1nm,0.3s,baz=193,slow=36,SNR=2.6						
	1.4nm,0.5s						
BVAR	**Borovoye Array**	**13.08**	**330**	Lg	Lg	13 27 43.3	
	baz=142,slow=33,SNR=2.5						
SONM	**Songino Array**	**18.80**	**64**	P	**Pn**	**13 25 09.7**	**-1.9**
	0.6nm,0.6s,baz=267,slow=11,SNR=5.1						
ARU	**Arti**	**20.39**	**322**	P	Pn	13 25 33.0	+2.7
	2.2nm,0.3s,baz=106,slow=20,SNR=1.6						
	2.2nm,0.3s						
ARCES	**ARCESS Array B**	**39.35**	**333**	P	**P**	**13 28 23.5**	**+3.0**
	2.2nm,0.9s,baz=94,slow=7.3,SNR=3.5						
	2.2nm,0.9s						
NOA	**NORSAR Array B**	**44.90**	**320**	P	P	13 29 10.9	+4.9
	0.3nm,0.4s,baz=81,slow=8.0,SNR=2.3						
	0.3nm,0.4s						

IDC 12 13:21:23.4±7.5, 19.°65S×178.°66W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=325.6km s-min=39.2km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.11**	**261**	P	P	13 29 34.3	+0.5
	0.8nm,0.9s,baz=95,slow=8.2,SNR=14						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**44.12**	**256**	P	P	13 29 33.1	-0.8
	0.8nm,0.7s,baz=95,slow=7.9,SNR=10						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**87.63**	**13**	P	P	13 34 13.1	0.0
	0.3nm,0.7s,baz=217,slow=5.8,SNR=4.4						
	0.3nm,0.7s						

AUST 12 13:58:52.4±1.4, 33.°89S×148.°67E, h10km, Mjma3.0/4, ML2.0/4, MLv2.2/4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0, New South Wales

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YNG	**Young**	**0.47**	**209**	P	Pb	13 59 02.4	-0.4
	0.1nm,SNR=1.5						
YNG				S	Sb	13 59 09.2	-0.6
DLN	**Dalton (NSW)**	**0.94**	**153**	P	Pg	13 59 09.3	-1.1
	5.4nm,1.0s,SNR=1.6						
CAN	**Canberra**	**1.46**	**169**	P	Pn	13 59 18.9	0.0
	18nm,1.9s,SNR=1.4						
CAN				S	Sn	13 59 38.1	+0.1
CNB	**Canberra Magne**	**1.54**	**158**	P	Pn	13 59 19.7	-0.2
	0.1nm,SNR=1.6						
CNB				S	Sn	13 59 40.0	+0.1

*IDC **12** 14:10:39.1±0.7, 55.°86N×162.°24E, h0km, mb3.9/24, mbtmp3.9/27, ML4.0/3, MS3.2/15, Error ellipse: s-maj=17.5km s-min=13.6km az=131.0*
*KRSC **12** 14:10:42.7±0.6, 55.°71N×162.°62E, h50km±18km, Ml4.6, Felt [II-III] at Ust-Kamchatsk, Krutoberegovo.*
*MOS **12** 14:10:44.1±0.9, 55.°80N×162.°55E, h50km, mb4.5/8, Error ellipse: s-maj=7.3km s-min=4.5km az=71.6*
*NEIC **12** 14:10:46.3±2.6, 55.°8N±0.°1×162.°4E±0.°2, h46km±10km, mb4.1/26, Error ellipse: s-maj=18.6km s-min=11.3km az=153.0*

ISC 12 14:10:45.3±0.9, 55.°76N±0.°03×162.°54E±0.°03, h44km±9km, n174, σ1°28/177, mb4.0/41, MS3.2/11, 4C-3D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.48**	**19**	*eP*	**Pn**	**14 10 54.6**	**-1.2**
KBTR	**Krutoberegovo**	**0.48**	**19**	PN	**Pn**	**14 10 54.6**	**-1.2**
KBG	**Krutoberegovo**	**0.50**	**11**	*eP*	**Pn**	**14 10 55.5**	**-0.7**
KBG	**Krutoberegovo**	**0.50**	**11**	PN	**Pn**	**14 10 55.5**	**-0.7**
ZLN	**Zelenaya**	**1.01**	**285**	*eP*	**Pn**	**14 11 02.6**	**-0.5**
ZLN	**Zelenaya**	**1.01**	**285**	PN	**Pn**	**14 11 02.6**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**1.05**	**281**	*eP*	**Pn**	**14 11 03.0**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**1.05**	**281**	PN	**Pn**	**14 11 03.0**	**-0.7**
CIRR	**Tsirk**	**1.07**	**290**	*eP*	**Pn**	**14 11 03.4**	**-0.5**
CIRR	**Tsirk**	**1.07**	**290**	PN	**Pn**	**14 11 03.4**	**-0.5**
LGNR	**Loginova**	**1.09**	**288**	*eP*	**Pn**	**14 11 03.9**	**-0.4**
LGNR	**Loginova**	**1.09**	**288**	PN	**Pn**	**14 11 03.9**	**-0.4**
BDR	**Baidarnaya**	**1.10**	**318**	*eP*	**Pn**	**14 11 04.3**	**0.0**
BDR	**Baidarnaya**	**1.10**	**318**	PN	**Pn**	**14 11 04.3**	**0.0**
BZP	**Bezymyannyi-Pe**	**1.14**	**278**	*eP*	**Pn**	**14 11 03.9**	**-1.0**
BZMR	**Bezymyannaya**	**1.17**	**279**	*eP*	**

SMAR Somma 3.32 223 PN **Pn 14 11 35.2 +0.4**
AVH Avacha 3.34 223 *e*P **Pn 14 11 36.0 +1.0**
AVH Avacha 3.34 223 PN **Pn 14 11 36.0 +1.0**
UGLR Uglovaya 3.35 222 *e*P **Pn 14 11 35.9 +0.7**
UGLR Uglovaya 3.35 222 PN **Pn 14 11 35.9 +0.7**
KOK Koryaka 3.36 224 *e*P **Pn 14 11 36.5 +1.2**
KOK Koryaka 3.36 224 PN **Pn 14 11 36.5 +1.2**
GNL Ganaly 3.37 234 *e*P **Pn 14 11 36.4 +0.9**
GNL Ganaly 3.37 234 PN **Pn 14 11 36.4 +0.9**
OSSR Ossora 3.51 4 *e*P **Pn 14 11 38.1 +0.9**
OSSR Ossora 3.51 4 PN **Pn 14 11 38.1 +0.9**
DALK Dalny 3.52 221 *e*P **Pn 14 11 37.6 +0.3**
DALK *e*S **Sn 14 12 17.9 +0.3**
DALK Dalny 3.52 221 PN **Pn 14 11 37.6 +0.3**
DALK S **Sn 14 12 17.9 +0.3**
INSR Institute 3.54 222 *e*P **Pn 14 11 38.3 +0.6**
INSR *e*S **Sn 14 12 21.4 +3.0**
PET Petropavlovsk 3.56 221 **Pn 14 11 38.2 +0.3**
PET Petropavlovsk 3.56 221 *e*P **Pn 14 11 38.6 +0.7**
PET *e*S **Sn 14 12 19.6 +1.0**
PET Petropavlovsk 3.56 221 *e*PN **Pn 14 11 38.3 +0.4**
PET *e*S **Sn 14 12 20.4 +1.7**
PET pmax pmax
comp=Z,136nm,0.4s
PET smax smax
comp=N,397nm,0.6s
PET smax smax
comp=E,486nm,0.5s
KRMR Karymshinskiy 3.91 223 *e*P **Pn 14 11 43.8 +1.1**
KRMR *e*S **Sn 14 12 28.9 +1.6**
KRMR Karymshinskiy 3.91 223 PN **Pn 14 11 43.8 +1.1**
KRMR S **Sn 14 12 28.9 +1.6**
GRL Gorelyy 4.15 221 *e*P **Pn 14 11 47.7 +1.6**
GRL Gorelyy 4.15 221 PN **Pn 14 11 47.7 +1.6**
MTVR Mutnovka 4.16 220 *e*P **Pn 14 11 47.6 +1.2**
MTVR Mutnovka 4.16 220 PN **Pn 14 11 47.6 +1.2**
APC Apacha 4.24 230 *e*P **Pn 14 11 49.1 +1.9**
APC Apacha 4.24 230 PN **Pn 14 11 49.1 +1.9**
ASAK Asacha 4.35 221 *e*P **Pn 14 11 50.4 +1.6**
ASAK Asacha 4.35 221 PN **Pn 14 11 50.4 +1.6**
KDTR Khodutka, Kamc 4.76 216 *e*P **Pn 14 11 55.2 +0.8**
KDTR Khodutka, Kamc 4.76 216 PN **Pn 14 11 55.2 +0.8**
SKR Severo-Kuril's 6.38 220 *e*PN **Pn 14 12 20.5 +3.9**
SKR pmax pmax
comp=Z,71nm,1.0s
SKR MLR MLR
comp=Z,700nm,14.0s
MA2 Magadan 7.38 306 LR LR 14 15 44.9
comp=Z,129nm,18.2s,baz=118,slow=43
SHEM Shemya Is, Ala 7.42 109 Pn **Pn 14 12 31.3 +0.5**
comp=Z,1.9nm,0.3s,baz=288,slow=20,SNR=2.3
SHEM Sn **Sn 14 13 53.8 +0.2**
comp=Z,1.7nm,0.3s,baz=274,slow=19,SNR=1.8
comp=Z,41nm,1.1s
BILL Bilibino 12.44 7 *i* PN P 14 13 44.4 -5.9
BILL pmax pmax
comp=Z,3.0nm,1.1s
YSS Yuzh-Sakhalins 15.13 243⇑ *e*P **Pn 14 14 15.3 -0.5**
JKA Kamikawa-asahi 17.26 236 P **P 14 14 44.0 +0.2**
JKA IAmb IAmb 14 14 47.5
comp=Z,9.2nm,0.7s
ASAJ Asahikawa 17.26 236 P **Pn 14 14 41.7 -1.1**
comp=Z,1.5nm,0.3s,baz=41,slow=3.8,SNR=22
ASAJ LR LR 14 21 45.8
comp=Z,64nm,18.3s,baz=20,slow=39
comp=Z,6.4nm,0.5s
ASAJ Asahikawa 17.26 236 P **P 14 14 44.0 +0.1**
ASAJ pmax pmax
comp=Z,9.0nm,0.7s
YAK Yakutsk 17.95 304 LR LR 14 22 13.3
comp=Z,46nm,18.2s,baz=83,slow=39
YAK Yakutsk 17.95 304 *i* P **P 14 14 53.3 +2.1**
ERM Erimo 18.66 231 P **P 14 14 57.6 -1.6**
ERM IAmb IAmb 14 15 04.3
comp=Z,21nm,1.2s
ERM Erimo 18.66 231 P **P 14 14 57.6 -1.6**
ERM pmax pmax
comp=Z,21nm,1.2s
KLR Kul'dur 19.73 264 P **P 14 15 08.6 -2.4**
comp=Z,0.2nm,0.3s,baz=50,slow=17,SNR=4.9
KLR LR LR 14 23 41.8
comp=Z,48nm,18.3s,baz=93,slow=40
comp=Z,1.2nm,0.7s
KLR Kul'dur 19.73 264⇑ *e*P **P 14 15 11.2 +0.2**
KLR pmax pmax
comp=Z,5.0nm,1.6s
JTM Tenmabayashi 20.57 232 P **P 14 15 18.5 -1.6**
TIXI Tiksi 21.34 331 P **P 14 15 29.4 +1.3**
TIXI Tiksi 21.34 331 P **P 14 15 26.0 -2.0**
comp=Z,3.7nm,0.5s,baz=126,slow=12,SNR=34
TIXI LR LR 14 23 46.9
comp=Z,52nm,20.3s,baz=155,slow=37
comp=Z,3.7nm,0.5s
TIXI Tiksi 21.34 331⇓ *e*P **P 14 15 29.2 +1.1**
TIXI pmax pmax
comp=Z,17nm,0.8s
F19K Shaleruckik Mo 21.61 43 P **P 14 15 33.8 +2.7**
F19K IAmb IAmb 14 15 38.2
comp=Z,4.6nm,0.8s
HEH HeiHe 21.67 270 *e*P **P 14 15 29.8 -2.1**
HEH pmax pmax
comp=Z,6.0nm,0.6s
H19K Roundabout Mou 21.93 47 P **P 14 15 37.2 +2.7**
H19K IAmb IAmb 14 15 52.0
comp=Z,5.8nm,1.1s
USRK Ussuriysk Ar. 22.59 252 P **P 14 15 39.8 -2.0**
comp=Z,0.4nm,0.6s,baz=43,slow=11,SNR=2.0
USRK LR LR 14 25 38.5
comp=Z,57nm,18.8s,baz=149,slow=40
comp=Z,0.4nm,0.6s
B20K Meade River 22.65 35 P **P 14 15 43.3 +1.2**
B20K IAmb IAmb 14 15 48.1
comp=Z,8.7nm,1.4s
IMAR Indian Mountai 23.09 46 P **P 14 15 48.1 +1.3**
G21K Allakaket 23.24 45 P **P 14 15 50.4 +2.2**
F21K Alatna River 23.34 43 P **P 14 15 51.7 +2.5**
B21K Ikpikpuk River 23.39 37 P **P 14 15 51.5 +1.9**
B21K IAmb IAmb 14 15 53.0
comp=Z,5.6nm,0.9s
H21K Melozitna Rive 23.45 47 P **P 14 15 49.8 -0.5**
B22K Teshekpuk Lake 23.97 35 P **P 14 15 56.4 +1.4**
B22K IAmb IAmb 14 16 07.5
comp=Z,4.8nm,0.8s
E22K Anaktuvuk Pass 24.09 41 P **P 14 15 57.6 +1.3**
E22K IAmb IAmb 14 16 16.0
comp=Z,11nm,1.5s
G23K Bananza Creek 24.64 45 P **P 14 16 03.5 +2.2**
H23K Yukon River 24.81 47 IAmb IAmb 14 16 08.8
comp=Z,7.7nm,1.1s
I23K Minto, Yukon-K 24.88 48 IAmb IAmb 14 16 08.7
comp=Z,6.2nm,1.2s
TOLK Toolik Lake Re 24.98 40 IAmb IAmb 14 16 10.4
comp=Z,5.3nm,0.7s
MJA0 Matsu Arr-Jizo 25.32 231 *e*P **P 14 16 08.2 +0.6**
MJA0 pmax pmax
comp=Z,4.0nm,0.7s
E24K Your Creek 25.33 41 IAmb IAmb 14 16 13.9
comp=Z,3.7nm,0.7s
MJB9 Matsu-Tunnel 25.33 231 P **P 14 16 09.1 +1.3**
MJB9 IAmb IAmb 14 16 09.8
comp=Z,7.7nm,0.9s
MAJO Matsushiro 25.34 231 P **P 14 16 08.1 +0.3**
MAJO Matsushiro 25.34 231 *c e*P **P 14 16 08.4 +0.6**
MAJO pmax pmax
comp=Z,7.0nm,0.9s
MJAR Matsushiro Arr 25.34 231 P **P 14 16 06.8 -1.0**
comp=Z,3.7nm,0.7s,baz=34,slow=7.9,SNR=13
comp=Z,3.7nm,0.7s
ILAR Eielson Array 25.95 49 P **P 14 16 13.2 +0.1**
comp=Z,1.3nm,1.0s,baz=271,slow=7.3,SNR=9.9
ILAR LR LR 14 26 21.9
comp=Z,27nm,21.2s,baz=98,slow=36
comp=Z,1.3nm,1.0s
D25K Kavik River 26.20 39 IAmb IAmb 14 16 21.9
comp=Z,2.6nm,0.8s
KSRS Korea Array 29.57 246 P **P 14 16 46.0 +0.4**
comp=Z,0.6nm,0.4s,baz=35,slow=9.0,SNR=1.8
KSRS LR LR 14 27 44.0
comp=Z,23nm,21.3s,baz=290,slow=35
comp=Z,0.6nm,0.4s
SONM Songino Array 34.74 281 P **P 14 17 30.0 -1.0**
comp=Z,0.6nm,0.8s,baz=60,slow=9.0,SNR=1.8
SONM LR LR 14 32 08.0
comp=Z,35nm,19.1s,baz=42,slow=37
comp=Z,0.6nm,0.8s
SONM Songino Array 34.74 281 P **P 14 17 30.0 -1.0**
H11N2 WAKE ISLAND Hy 36.12 173 T T 14 56 37.1
baz=356,slow=76,SNR=131
H11N3 WAKE ISLAND Hy 36.14 173 T T 14 56 36.7
baz=356,slow=76,SNR=12
H11N1 WAKE ISLAND Hy 36.14 173 T T 14 56 40.7
baz=356,slow=76,SNR=117
H11S1 WAKE ISLAND Hy 37.32 173 T T 14 57 57.9
baz=360,slow=77,SNR=4.1
H11S3 WAKE ISLAND Hy 37.34 173 T T 14 57 57.3
baz=360,slow=77,SNR=3.7
H11S2 WAKE ISLAND Hy 37.34 173 T T 14 57 57.9
baz=360,slow=77,SNR=4.0
BBB Bella Bella 39.40 65 LR LR 14 33 37.7
comp=Z,34nm,18.9s,baz=331,slow=35
YKA Yellowknife Ar 40.25 45 P **P 14 18 18.5 +1.3**
comp=Z,0.2nm,0.5s,baz=302,slow=8.0,SNR=4.2
comp=Z,0.2nm,0.5s
SPITS Spitsbergen Ar 44.73 351 P **P 14 18 53.2 -0.2**
comp=Z,12nm,0.9s,baz=48,slow=8.6,SNR=6.9
comp=Z,12nm,0.9s
KURK Kurchatov 47.56 301 P **P 14 19 14.7 -1.2**
KURK Kurchatov 47.56 301 *d i* P **P 14 19 14.5 -1.4**
KURK pmax pmax
comp=Z,2.0nm,0.7s
KURBB Kurchatov Arra 47.66 301 P **P 14 19 14.7 -2.1**
comp=Z,1.6nm,0.4s,baz=56,slow=8.1,SNR=18
comp=Z,1.6nm,0.4s
MKAR Makanchi Array 48.30 295 P **P 14 19 19.7 -2.1**
comp=Z,0.6nm,0.5s,baz=58,slow=8.9,SNR=7.4
MKAR LR LR 14 40 46.7
comp=Z,48nm,20.4s,baz=36,slow=38
comp=Z,0.6nm,0.5s
MKAR Makanchi Array 48.30 295 *e*P **P 14 19 23.0 +1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 49.86 308 P **P 14 19 30.3 -3.3**
comp=Z,0.9nm,0.4s,baz=59,slow=7.0,SNR=7.0
comp=Z,0.9nm,0.4s
ARCES ARCESS Array B 51.19 342 P **P 14 19 41.2 -2.2**
comp=Z,1.0nm,0.6s,baz=30,slow=16,SNR=1.7
comp=Z,1.0nm,0.6s
ARU Arti 52.40 317 LR LR 14 42 55.4
comp=Z,34nm,18.5s,baz=49,slow=37
AKTO Aktyubinsk 57.07 312 LR LR 14 47 48.0
comp=Z,39nm,20.4s,baz=249,slow=39
VALR Valaam 57.19 335⇑ *e*P **P 14 20 27.5 +0.4**
VALR pmax pmax
comp=Z,8.0nm,0.9s
FINES FINESS Array B 58.23 337 P **P 14 20 33.8 -0.6**
comp=Z,2.0nm,0.5s,baz=35,slow=7.5,SNR=28
comp=Z,2.0nm,0.5s
FINES FINESS Array B 58.23 337 *e*P **P 14 20 34.8 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 60.12 259 P **P 14 20 47.9 -0.2**
comp=Z,0.5nm,0.7s,baz=20,slow=5.8,SNR=2.8
comp=Z,0.5nm,0.7s
NB2 NORSAR Subarra 61.36 345 P **P 14 20 55.8 -0.2**
comp=Z,0.4nm,0.5s,baz=18,slow=6.9
NOA NORSAR Array B 61.36 345 P **P 14 20 55.2 -0.8**
comp=Z,0.4nm,0.4s,baz=19,slow=6.9,SNR=4.7
comp=Z,0.4nm,0.4s
NOA NORSAR Array B 61.36 345 *e*P **P 14 20 55.6 -0.4**
HFS Hagfors 61.83 343 P **P 14 20 57.4 -1.7**
comp=Z,1.2nm,0.6s,baz=22,slow=8.2,SNR=7.7
comp=Z,1.2nm,0.6s
AKASG Malin Array Be 67.04 330 P **P 14 21 32.1 -1.2**
comp=Z,0.9nm,0.3s,baz=30,slow=6.6,SNR=5.8
comp=Z,0.9nm,0.3s
AKASG Malin Array Be 67.04 330 *e*P **P 14 21 32.8 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 67.04 330⇓ *e*P **P 14 21 32.9 -0.4**
TXAR Lajitas Array 68.32 70 P **P 14 21 42.8 +0.9**
comp=Z,0.3nm,0.5s,baz=316,slow=2.5,SNR=2.6
comp=Z,0.3nm,0.5s
KBZ Khabaz 68.56 317 LR LR 14 55 38.8
comp=Z,30nm,18.7s,baz=28,slow=40
EKA Eskdalemuir Ar 68.65 351 P **P 14 21 43.0 -0.3**
comp=Z,0.2nm,0.3s,baz=17,slow=5.2,SNR=2.2
comp=Z,0.2nm,0.3s
GNI Garni 70.87 314 LR LR 14 55 57.5
comp=Z,27nm,19.1s,baz=48,slow=38
BRTR Keskin Array B 75.44 322 P **P 14 22 23.5 -0.9**
comp=Z,1.5nm,0.7s,baz=56,slow=3.7,SNR=5.0
comp=Z,1.5nm,0.7s
BRTR Keskin Array B 75.44 322 *e*P **P 14 22 26.2 +1.8**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
WRAB Tennant Creek 79.10 207 P **P 14 22 45.0 +0.3**
WRAB Tennant Creek 79.10 207 P **P 14 22 45.1 +0.3**
WRAB pmax pmax
comp=Z,11nm,1.5s
WB2 Warramunga Arr 79.11 207 P **P 14 22 44.9 +0.1**
WRA Warramunga Arr 79.11 207 P **P 14 22 44.8 0.0**
WRA Warramunga Arr 79.11 207 P **P 14 22 44.8 0.0**
comp=Z,0.5nm,0.6s,baz=9.5,slow=5.9,SNR=7.6
comp=Z,0.5nm,0.6s
WRA Warramunga Arr 79.11 207 *e*P **P 14 22 46.5 +1.7**
WRA pmax pmax
comp=Z,1.0nm,0.6s
MMAI Mount Meron Ar 80.75 317 P **P 14 22 53.4 -0.5**
comp=Z,0.9nm,0.5s,baz=27,slow=9.8,SNR=1.3
comp=Z,0.9nm,0.5s
ASAR Alice Springs 82.78 206 P **P 14 23 05.5 +1.2**
ASAR Alice Springs 82.78 206 P **P 14 23 04.2 -0.1**
comp=Z,0.8nm,0.8s,baz=21,slow=4.4,SNR=7.5
comp=Z,0.8nm,0.8s
ESDC Sonseca Array 84.24 350 P **P 14 23 12.8 +0.9**
comp=Z,0.4nm,0.8s,baz=19,slow=4.7,SNR=2.3
comp=Z,0.4nm,0.8s
QSPA South Pole Qui 145.51 180 PKPbc **PKPab 14 30 16.8 -0.7**
comp=Z,1.5nm,0.6s,baz=357,slow=0.9,SNR=13

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*IDC **12** 14:44:35.9±3.7, 50°.32N×154°.29E, h213km±35km, mb3.2/12, mbtmp3.7/15, Error ellipse: s-maj=21.5km s-min=14.3km az=100.0*
*MOS **12** 14:44:35.1±1.5, 50°.22N×154°.12E, h212km, mb4.2/1, Error ellipse: s-maj=19.3km s-min=6.9km az=59.9*
*KRSC **12** 14:44:37.7±1.3, 50°.05N×154°.88E, h191km±18km, Ml4.1*
ISC 12 14:44:34.8±0.7, 50°.1N±0°.1×154°.39E±0°.08, h200km, n47, σ2°23/57, mb3.5/12, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.23**	**63**	*e*P	**Pn**	**14 45 07.7**	**+1.6**
SKR	**Severo-Kuril's**	**1.23**	**63**	*i*/PN	**Pn**	**14 45 07.8**	**+1.6**
SKR				*e*S	**Sn**	**14 45 34.6**	**+4.0**
SKR				pmax	pmax		
	comp=Z,1μm,0.6s						
SKR				smax	smax		
	comp=N,223nm,0.8s						
SKR				smax	smax		
	comp=E,153nm,0.6s						
KDTR	**Khodutka, Kamc**	**2.87**	**53**	*e*P	**Pn**	**14 45 23.4**	**+0.6**
KDTR				*e*S	**Sn**	**14 45 58.2**	**-2.1**
KDTR	**Khodutka, Kamc**	**2.87**	**53**	PN	**Pn**	**14 45 23.4**	**+0.6**
ASAK	**Asacha**	**3.15**	**43**	*e*P	**Pn**	**14 45 27.8**	**+1.7**
ASAK	**Asacha**	**3.15**	**43**	PN	**Pn**	**14 45 27.8**	**+1.7**
APC	**Apacha**	**3.28**	**31**	*e*P	**Pn**	**14 45 29.7**	**+2.1**
APC	**Apacha**	**3.28**	**31**	PN	**Pn**	**14 45 29.7**	**+2.1**
GRL	**Gorelyy**	**3.34**	**42**	*e*P	**Pn**	**14 45 30.5**	**+2.0**
GRL				*e*S	**Sn**	**14 46 10.5**	**-0.1**
GRL	**Gorelyy**	**3.34**	**42**	PN	**Pn**	**14 45 30.5**	**+2.0**
GRL				S	**Sn**	**14 46 10.5**	**-0.1**
MTVR	**Mutnovka**	**3.34**	**44**	*e*P	**Pn**	**14 45 31.0**	**+2.4**
MTVR				*e*S	**Sn**	**14 46 11.1**	**+0.4**
MTVR	**Mutnovka**	**3.34**	**44**	PN	**Pn**	**14 45 31.0**	**+2.4**
MTVR				S	**Sn**	**14 46 11.1**	**+0.4**
PET	**Petropavlovsk**	**3.92**	**41**	*e*P	**Pn**	**14 45 38.2**	**+2.7**
PET				*e*S	**Sn**	**14 46 23.9**	**+0.7**
PET	**Petropavlovsk**	**3.92**	**41**	*e*PN	**Pn**	**14 45 37.6**	**+2.1**
PET				*e*S	**Sn**	**14 46 23.2**	**0.0**
PET				smax	smax		
	comp=N,33nm,0.4s						
PET				smax	smax		
	comp=E,21nm,0.5s						
DALK	**Dalny**	**3.97**	**42**	*e*P	**Pn**	**14 45 38.0**	**+1.9**
DALK				*e*S	**Sn**	**14 46 23.2**	**-1.1**
DALK	**Dalny**	**3.97**	**42**	PN	**Pn**	**14 45 38.0**	**+1.9**
DALK				S	**Sn**	**14 46 23.2**	**-1.1**
KOK	**Koryaka**	**4.11**	**38**	*e*P	**Pn**	**14 45 40.9**	**+2.9**
KOK	**Koryaka**	**4.11**	**38**	PN	**Pn**	**14 45 40.9**	**+2.9**
UGLR	**Uglovaya**	**4.13**	**40**	*e*P	**Pn**	**14 45 41.0**	**+2.8**
UGLR	**Uglovaya**	**4.13**	**40**	PN	**Pn**	**14 45 41.0**	**+2.8**
AVH	**Avacha**	**4.13**	**39**	*e*P	**Pn**	**14 45 41.4**	**+3.2**
AVH	**Avacha**	**4.13**	**39**	PN	**Pn**	**14 45 41.4**	**+3.2**
SMAR	**Somma**	**4.16**	**40**	*e*P	**Pn**	**14 45 42.7**	**+4.0**
SMAR	**Somma**	**4.16**	**40**	PN	**Pn**	**14 45 42.7**	**+4.0**
KRER	**Koryakskii**	**4.17**	**39**	*e*P	**Pn**	**14 45 41.9**	**+3.2**
KRER	**Koryakskii**	**4.17**	**39**	PN	**Pn**	**14 45 41.9**	**+3.2**
KRX	**Arik**	**4.17**	**38**	*e*P	**Pn**	**14 45 41.6**	**+2.9**
KRX	**Arik**	**4.17**	**38**	PN	**Pn**	**14 45 41.6**	**+2.9**
TUMR	**Tumrok**	**6.22**	**32**	*e*P	**Pn**	**14 46 08.8**	**+3.9**
TUMR	**Tumrok**	**6.22**	**32**	PN	**Pn**	**14 46 08.8**	**+3.9**
ASAJ	**Asahikawa**	**10.04**	**238**	P	**Pn**	**14 46 55.6**	**+1.2**
	comp=E,6.5nm,0.7s,baz=48,slow=14,SNR=12						
SHEM	**Shemya Is, Ala**	**12.57**	**71**	S	**Sn**	**14 49 44.9**	**-1.6**
	comp=E,30nm,1.0s,baz=282,slow=21,SNR=1.7						
KLR	**Kul'dur**	**14.67**	**275**	P	**Pn**	**14 47 52.7**	**-0.1**
	comp=E,0.6nm,0.5s,baz=45,slow=19,SNR=1.6						
MJAR	**Matsushiro Arr**	**17.93**	**227**	P	**Pn**	**14 48 30.5**	**-1.3**
	comp=E,1.0nm,0.4s,baz=31,slow=8.2,SNR=5.0						
KSRS	**Korea Array**	**22.79**	**246**	P	**P**	**14 49 21.7**	**+1.7**
	comp=E,0.9nm,0.6s,baz=49,slow=9.9,SNR=3.1						
	comp=E,0.9nm,0.6s						
ILAR	**Eielson Array**	**33.40**	**42**	P	**P**	**14 50 52.5**	**-1.5**
	comp=E,0.3nm,0.7s,baz=277,slow=7.1,SNR=3.1						
	comp=E,0.3nm,0.7s						
MKAR	**Makanchi Array**	**46.20**	**295**	P	**P**	**14 52 37.5**	**-1.9**
	comp=E,0.7nm,0.8s,baz=60,slow=5.7,SNR=4.6						
	comp=E,0.7nm,0.8s						
KURK	**Kurchatov**	**46.25**	**301**	P	**P**	**14 52 39.0**	**-0.7**
KURBB	**Kurchatov Arra**	**46.35**	**301**	P	**P**	**14 52 39.0**	**-1.4**
	comp=E,1.8nm,0.8s,baz=65,slow=8.2,SNR=8.1						
	comp=E,1.8nm,0.8s						
BVAR	**Borovoye Array**	**49.40**	**308**	P	**P**	**14 53 02.7**	**-1.2**
	comp=E,0.6nm,0.3s,baz=57,slow=11,SNR=3.7						
	comp=E,0.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**54.03**	**255**	P	**P**	**14 53 38.9**	**+0.4**
	comp=E,0.7nm,0.6s,baz=32,slow=7.9,SNR=1.2						
	comp=E,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**54.93**	**340**	P	**P**	**14 53 42.5**	**-1.8**
	comp=E,4.2nm,1.0s,baz=31,slow=11,SNR=2.3						
	comp=E,4.2nm,1.0s						
FINES	**FINESS Array B**	**61.33**	**335**	P	**P**	**14 54 26.9**	**-1.8**
	comp=E,0.4nm,0.5s,baz=42,slow=9.3,SNR=5.5						
	comp=E,0.4nm,0.5s						
HFS	**Hagfors**	**65.57**	**340**	P	**P**	**14 54 54.5**	**-2.0**
	comp=E,0.3nm,0.3s,baz=17,slow=1.5,SNR=5.9						
	comp=E,0.3nm,0.3s						
WRA	**Warramunga Arr**	**72.00**	**200**	P	**P**	**14 55 36.6**	**+0.1**
	comp=E,0.6nm,0.6s,baz=14,slow=6.5,SNR=9.8						
	comp=E,0.6nm,0.6s						
TXAR	**Lajitas Array**	**75.12**	**62**	P	**P**	**14 55 56.1**	**+1.2**
	comp=E,0.2nm,0.5s,baz=309,slow=5.7,SNR=1.9						
	comp=E,0.2nm,0.5s						
ASAR	**Alice Springs**	**75.70**	**199**	P	**P**	**14 55 58.2**	**+0.3**
	comp=E,0.5nm,0.5s,baz=14,slow=5.3,SNR=13						
	comp=E,0.5nm,0.5s						

IDC 12 14:52:01.0±2.1, 31°.96S×58°.27E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=61.1km s-min=53.5km az=129.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.03**	**198**	T	T	15 10 56.2	
	baz=22,slow=75,SNR=19						
H04N1	**CROZET ISLANDS**	**15.04**	**198**	T	T	15 10 57.4	
	baz=22,slow=75,SNR=30						
H04N3	**CROZET ISLANDS**	**15.05**	**198**	T	T	15 10 56.8	
	baz=22,slow=75,SNR=32						
H08S1	**Diego Carcia H**	**27.58**	**32**	T	T	15 26 06.6	
	baz=206,slow=76						
H08S2	**Diego Garcia H**	**27.59**	**32**	T	T	15 26 08.1	
	baz=206						
H08S3	**Diego Garcia H**	**27.60**	**32**	T	T	15 26 06.6	
	baz=206,slow=76						
H01W2	**Cape Leeuwin H**	**46.21**	**110**	T	T	15 49 45.4	
	baz=257,slow=75,SNR=5.7						
H01W3	**Cape Leeuwin H**	**46.21**	**109**	T	T	15 49 46.5	
	baz=257,slow=75,SNR=7.8						
H01W1	**Cape Leeuwin H**	**46.22**	**110**	T	T	15 49 43.7	
	baz=257,slow=75,SNR=7.4						
QSPA	**South Pole Qui**	**58.20**	**180**	P	P	15 01 56.7	0.0
	1.6nm,0.9s,baz=334,slow=7.2,SNR=3.0						
	1.6nm,0.9s						
ASAR	**Alice Springs**	**66.20**	**104**	P	P	15 02 50.9	0.0
	0.5nm,0.9s,baz=239,slow=7.2,SNR=5.0						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**68.22**	**100**	P	P	15 03 03.9	+0.1
	0.7nm,0.9s,baz=242,slow=5.6,SNR=2.0						
	0.7nm,0.9s						
YKA	**Yellowknife Ar**	**149.11**	**354**	PKPbc	PKPbc	15 11 49.9	-0.6
	0.3nm,0.8s,baz=1.8,slow=1.9,SNR=2.4						

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*IDC **12** 14:57:02.2±2.6, 31°.65S×58°.44E, h0km, mb4.0/6, mbtmp4.0/6, MS3.3/5, Error ellipse: s-maj=86.8km s-min=33.5km az=49.0*
ISC 12 14:57:04.2±3.0, 31°.7S±0°.5×58°.4E±0°.5, h14km, n20, σ0°63/7, mb4.1/6, MS3.4/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.34**	**197**	T	T	15 16 39.6	
	baz=22,slow=75,SNR=63						
H04N1	**CROZET ISLANDS**	**15.35**	**198**	T	T	15 16 38.1	
	baz=22,slow=75,SNR=48						
H04N3	**CROZET ISLANDS**	**15.36**	**198**	T	T	15 16 40.3	
	baz=22,slow=75,SNR=53						
H08S1	**Diego Carcia H**	**27.28**	**32**	T	T	15 31 04.6	
	baz=206,slow=75,SNR=12						
H08S2	**Diego Garcia H**	**27.29**	**32**	T	T	15 31 05.2	
	baz=206,slow=75,SNR=9.9						
H08S3	**Diego Garcia H**	**27.30**	**32**	T	T	15 31 06.3	
	baz=206,slow=75,SNR=11						
MAW	**Mawson**	**36.07**	**177**	LR	LR	15 14 25.8	
	comp=Z,69nm,21.9s,baz=356,slow=29						
H01W2	**Cape Leeuwin H**	**46.22**	**110**	T	T	15 54 41.0	
	baz=257,slow=75,SNR=15						
H01W3	**Cape Leeuwin H**	**46.23**	**110**	T	T	15 54 41.8	
	baz=257,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**46.24**	**110**	T	T	15 54 42.7	
	baz=257,slow=75,SNR=15						
CMAR	**Chiang Mai Arr**	**63.23**	**44**	P	**P**	**15 07 32.3**	**0.0**
	2.0nm,0.9s,baz=234,slow=6.6,SNR=7.8						
	2.0nm,0.9s						
ASAR	**Alice Springs**	**66.18**	**104**	P	**P**	**15 07 51.4**	**-0.4**
	0.8nm,0.7s,baz=242,slow=5.8,SNR=10						
ASAR				LR	LR	15 33 55.8	
	comp=Z,34nm,18.3s,baz=82,slow=34						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**68.18**	**101**	P	**P**	**15 08 05.0**	**+0.5**
	0.9nm,0.8s,baz=245,slow=5.4,SNR=5.4						
	0.9nm,0.8s						
DBIC	**Dimbokro**	**71.26**	**291**	LR	LR	15 36 29.6	
	comp=Z,25nm,21.0s,baz=132,slow=33						
GNI	**Garni**	**72.56**	**349**	LR	LR	15 40 22.5	
	comp=Z,14nm,18.1s,baz=278,slow=36						
BRTR	**Keskin Array B**	**74.65**	**340**	LR	LR	15 37 45.6	
	comp=Z,12nm,21.0s,baz=212,slow=33						
MKAR	**Makanchi Array**	**81.03**	**16**	P	**P**	**15 09 17.6**	**-0.7**
	0.5nm,0.8s,baz=197,slow=4.5,SNR=3.7						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**83.85**	**13**	P	**P**	**15 09 33.2**	**+0.3**
	0.5nm,0.3s,baz=206,slow=5.8,SNR=6.4						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**84.98**	**7**	P	**P**	**15 09 39.3**	**+0.7**
	2.5nm,0.9s,baz=179,slow=6.6,SNR=6.6						
	2.5nm,0.9s						
YKA	**Yellowknife Ar**	**148.83**	**354**	PKPbc	**PKPbc**	**15 16 50.3**	**-0.2**
	1.0nm,0.8s,baz=15,slow=2.6,SNR=6.8						

IDC 12 15:01:38.4±3.1, 31°.84S×58°.15E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=103.0km s-min=54.1km az=46.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**46.34**	**110**	T	T	15 59 51.5	
	baz=257,slow=75,SNR=4.9						
H01W3	**Cape Leeuwin H**	**46.35**	**110**	T	T	15 59 51.2	
	baz=257,slow=75,SNR=4.3						
H01W1	**Cape Leeuwin H**	**46.36**	**110**	T	T	15 59 53.0	
	baz=257,slow=75,SNR=5.1					

0.4nm,0.7s,baz=243,slow=5.4,SNR=5.0
0.4nm,0.7s
WRA **Warramunga Arr** **68.34 101** P P 15 12 41.7 -0.2
0.7nm,0.9s,baz=238,slow=5.0,SNR=3.5
0.7nm,0.9s
YKA **Yellowknife Ar** **148.98 353** PKPbc PKPbc 15 21 27.0 -0.5
0.2nm,0.6s,baz=356,slow=3.4,SNR=3.9

IDC 12 15:05:30.7±2.1,5°52'S×151°27'E,h0km,mb3.3/3, mbtmp3.4/4,ML1.2/1,Error ellipse: s-maj=141.4km s-min=27.1km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.61**	**226**	Pn	Pn	15 06 56.4	+0.9
	0.5nm,0.3s,baz=336,slow=20,SNR=1.5						
PMG				Sn	Sn	15 07 59.2	-1.5
	0.8nm,0.3s,baz=102,slow=21,SNR=2.3						
	7.2nm,0.8s						
WRA	**Warramunga Arr**	**21.83**	**227**	P	P	15 10 25.2	+0.3
	0.6nm,0.6s,baz=53,slow=10,SNR=2.8						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**24.60**	**221**	P	P	15 10 52.9	0.0
	0.7nm,0.8s,baz=58,slow=8.6,SNR=12						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**83.40**	**22**	P	P	15 17 59.5	-0.1
	0.3nm,0.7s,baz=256,slow=3.6,SNR=3.6						
	0.3nm,0.7s						

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*IDC **12** 15:43:35.4±1.0,12°50'N×125°14'E,h0km,mb3.7/7, mbtmp3.7/7,MS3.3/1,Error ellipse: s-maj=68.2km s-min=17.9km az=72.0*

ISC 12 15:43:41.2±1.1,12°5'N±0°2'×125°2'E±0°5,h44km,n14, σ0°71/7,mb3.8/7,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**24.95**	**5**	P	P	15 49 01.0	+0.6
	1.7nm,0.9s,baz=187,slow=10,SNR=7.4						
	1.7nm,0.9s						
WRA	**Warramunga Arr**	**33.48**	**164**	P	P	15 50 15.9	-0.6
	0.5nm,0.6s,baz=347,slow=9.0,SNR=6.0						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**36.95**	**167**	P	P	15 50 46.9	+0.5
	0.5nm,0.4s,baz=350,slow=7.4,SNR=32						
	0.5nm,0.4s						
SONM	**Songino Array**	**38.57**	**340**	P	P	15 50 59.0	-0.8
	0.4nm,0.5s,baz=157,slow=7.8,SNR=2.9						
	0.4nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**40.32**	**76**	T	T	16 34 08.6	
	baz=268,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy**	**40.34**	**76**	T	T	16 34 18.2	
	baz=268,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**40.34**	**76**	T	T	16 34 19.5	
	baz=268,slow=75,SNR=48						
H11N1	**WAKE ISLAND Hy**	**40.58**	**74**	T	T	16 34 38.6	
	baz=266,slow=75,SNR=52						
H11N2	**WAKE ISLAND Hy**	**40.59**	**74**	T	T	16 34 37.8	
	baz=266,slow=75,SNR=70						
H11N3	**WAKE ISLAND Hy**	**40.60**	**74**	T	T	16 34 37.4	
	baz=266,slow=75,SNR=56						
MKAR	**Makanchi Array**	**49.63**	**322**	P	P	15 52 28.9	+0.6
	0.8nm,0.8s,baz=115,slow=8.2,SNR=5.2						
	0.8nm,0.8s						
AAK	**Ala-Archa**	**53.03**	**314**	LR	LR	16 18 47.7	
	comp=Z,29nm,18.1s,baz=206,slow=40						
KURBB	**Kurchatov Arra**	**53.66**	**325**	P	P	15 52 58.0	-0.3
	1.5nm,0.8s,baz=121,slow=7.5,SNR=8.3						
	1.5nm,0.8s						
BVAR	**Borovoye Array**	**59.25**	**325**	P	P	15 53 38.1	0.0
	0.4nm,0.4s,baz=101,slow=7.5,SNR=2.1						
	0.4nm,0.4s						

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*TAP **12** 15:55:16.5,22°80N×121°33E,h89km,ML3.7,B*
*ASIES **12** 15:55:16.1,22°80N×121°35E,h92km,ML3.7,Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.00; $M_{\theta\theta}$0.25; $M_{\phi\phi}$-1.25; $M_{r\theta}$0.27; $M_{\theta\phi}$-0.27; $M_{\phi r}$-0.76; Fault plane solution: $M_0$1.42491×10^{21} NP1: ϕ_s171.21000°,δ63.70000°,λ69.31000°. NP2:ϕ_s31.64000°, δ33.00000°,λ125.55000°. Principal axes: T Plg65.0080°, Azm44.9650°; N Plg18.4610°, Azm180.7050°; P Plg16.2420°, Azm276.2860°;*

ISC 12 15:55:16.6±1.3,22°80N±0°03×121°32E±0°03,h91km±6km, n142,σ0°86/270,20C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.17**	**255**	P	Pn	15 55 30.0	+0.4
	baz=251						
TTN				eS	Sn	15 55 40.1	+0.9
	baz=251						
EDH	**Donghe**	**0.17**	**354**	P	Pn	15 55 29.5	-0.2
	baz=353						
EDH				S	Sn	15 55 39.2	-0.1
	baz=353						
LDUT	**Ludao**	**0.18**	**133**	i P	Pn	15 55 29.7	0.0
	baz=134						
LDUT				i S	Sn	15 55 39.7	+0.4
	baz=134						
TWGBT	**Beinan**	**0.23**	**275**	P	Pn	15 55 29.4	-0.4
TWGBT	**Beinan**	**0.23**	**275**	⇑i P	Pn	15 55 29.5	-0.4
	baz=273						
TWGBT				i S	Sn	15 55 38.9	-0.7
	baz=273						
TWG	**Pinlang**	**0.23**	**275**	⇑i P	Pn	15 55 29.5	-0.3
	baz=273						
TWG				i S	Sn	15 55 38.9	-0.7
	baz=273						
CHKT	**Chengkung**	**0.30**	**7**	⇑i P	Pn	15 55 30.0	-0.2
	baz=8.0						
CHKT				i S	Sn	15 55 40.0	-0.2
	baz=8.0						
ECS	**Chishang**	**0.31**	**342**	⇑i P	Pn	15 55 30.2	0.0
	baz=341						
ECS				i S	Sn	15 55 40.7	+0.4
	baz=341						
EHD	**Haiduan**	**0.36**	**343**	⇑i P	Pn	15 55 30.0	-0.6
	baz=342						
EHD				eS	Sn	15 55 39.6	-1.3
	baz=342						
CHKH	**Chenggong**	**0.40**	**10**	⇑P	Pn	15 55 30.6	-0.1
	baz=9.0						
CHKH				S	Sn	15 55 40.9	-0.3
	baz=9.0						
ECL	**Taimali**	**0.40**	**240**	⇑i P	Pn	15 55 30.3	-0.4
	baz=238						
ECL				i S	Sn	15 55 40.5	-0.7
	baz=238						
FULB	**Fuli**	**0.40**	**356**	⇑i P	Pn	15 55 30.8	0.0
	baz=355						
FULB				S	Sn	15 55 41.5	+0.2
	baz=355						
ELDTW	**Lidau**	**0.48**	**324**	i P	Pn	15 55 31.6	+0.1
	baz=324						
ELDTW				i S	Sn	15 55 42.9	+0.4
	baz=324						
ECBN	**Changbin**	**0.53**	**13**	eP	Pn	15 55 31.7	+0.1
	baz=12						
ECBN				eS	Sn	15 55 42.8	-0.1
	baz=12						
EYUL	**Yuli**	**0.55**	**360**	eP	Pn	15 55 31.6	-0.2
	baz=359						
EYUL				S	Sn	15 55 42.8	-0.3
	baz=359						
TWF1	**Yuli**	**0.55**	**357**	i P	Pn	15 55 31.4	-0.5
	baz=358						
TWF1				eS	Sn	15 55 42.3	-0.9
	baz=358						
YULB	**Yu-li**	**0.59**	**358**	P	Pn	15 55 31.5	-0.7
YULB	**Yu-li**	**0.59**	**358**	i P	Pn	15 55 31.5	-0.7
	baz=357						
YULB				eS	Sn	15 55 42.4	-1.4
	baz=357						
TAW	**Tawu**	**0.59**	**222**	i P	Pn	15 55 32.2	0.0
	baz=221						
TAW				S	Sn	15 55 44.1	+0.3
	baz=221						
EAST	**Anshuo**	**0.60**	**227**	i P	Pn	15 55 32.5	+0.1
	baz=225						
EAST				S	Sn	15 55 44.5	+0.5
	baz=225						
TAWH	**Dawu Township**	**0.61**	**221**	P	Pn	15 55 32.4	0.0
	baz=221						
TAWH				S	Sn	15 55 44.1	0.0
	baz=221						
STYH	**Taoyuan**	**0.63**	**306**	i P	Pn	15 55 32.8	+0.3
	baz=306						
STYH				S	Sn	15 55 44.6	+0.3
	baz=306						
STYT	**Tauyuan**	**0.64**	**305**	⇑i P	Pn	15 55 32.8	+0.2
	baz=304						
STYT				S	Sn	15 55 44.6	-0.1
	baz=304						
SSD	**Sandimen**	**0.64**	**265**	⇑i P	Pn	15 55 33.0	+0.4
	baz=264						
SSD				S	Sn	15 55 44.4	-0.2
	baz=264						
SLGT	**Liugui**	**0.65**	**287**	i P	Pn	15 55 33.2	+0.4
	baz=286						
SLGT				i S	Sn	15 55 45.2	+0.4
	baz=286						
MASBT	**Mashibuluo**	**0.67**	**254**	⇑i P	Pn	15 55 33.2	+0.3
	baz=253						
MASBT				S	Sn	15 55 46.1	+1.1
	baz=253						
EHYH	**Wanrong**	**0.69**	**2**	eP	Pn	15 55 32.7	-0.4
	baz=1.0						
EHYH				eS	Sn	15 55 44.1	-1.4
	baz=1.0						
HGSD	**Ruisui**	**0.70**	**8**	P	Pn	15 55 33.3	+0.2
	baz=7.0						
HGSD				S	Sn	15 55 46.0	+0.5
	baz=7.0						
EHY	**Hungye**	**0.70**	**360**	i P	Pn	15 55 32.6	-0.6
EHY				eS	Sn	15 55 44.2	-1.4
SGST	**Jiashian**	**0.74**	**293**	P	Pn	15 55 32.9	-0.7
	baz=292						
SGST				eS	Sn	15 55 46.2	-0.1
	baz=292						
SLIU	**Shizi**	**0.76**	**220**	P	Pn	15 55 34.3	+0.6
	baz=219						
SLIU				S	Sn	15 55 47.2	+0.7
	baz=219						
YUS	**Yu-Shan**	**0.77**	**334**	i P	Pn	15 55 34.8	+0.3
	baz=333						
YUS				eS	Sn	15 55 48.1	+0.4
	baz=333						
SCST	**Cishan**	**0.77**	**277**	P	Pn	15 55 34.5	+0.6
	baz=276						
SCST				S	Sn	15 55 48.2	+1.4
	baz=276						
SGLT	**Jiouru**	**0.77**	**265**	eP	Pn	15 55 35.2	+1.3
	baz=264						
TSPT	**Pingtung City**	**0.77**	**261**	eP	Pn	15 55 34.9	+1.0
	baz=260						
TSPT				eS	Sn	15 55 48.9	+2.0
	baz=260						
SCZT	**Fangliau**	**0.78**	**237**	⇑i P	Pn	15 55 34.3	+0.3
	baz=236						
SCZT				eS	Sn	15 55 46.5	-0.4
	baz=236						
LAY	**Lan-yu**	**0.79**	**164**	i P	Pn	15 55 33.7	-0.4
	baz=164						
LAY				eS	Sn	15 55 46.0	-1.1
	baz=164						
WTP	**Ta-pu**	**0.79**	**304**	⇑i P	Pn	15 55 34.3	+0.1
	baz=304						
WTP				S	Sn	15 55 47.3	0.0
	baz=304						
TPUB	**Ta-pu**	**0.81**	**308**	P	Pn	15 55 34.4	0.0
TPUB	**Ta-pu**	**0.81**	**308**	⇑i P	Pn	15 55 34.3	0.0
	baz=307						
TPUB				S	Sn	15 55 47.6	0.0
	baz=307						
CHN1	**Nanshi**	**0.83**	**298**	⇑P	Pn	15 55 34.7	+0.2
	baz=297						
CHN1				eS	Sn	15 55 48.1	+0.2
	baz=297						
LYUB	**Lan-yu**	**0.83**	**163**	eP	Pn	15 55 33.5	-1.0
	baz=163						
LYUB				eS	Sn	15 55 45.9	-2.0
	baz=163						
TWM1	**Shoushan**	**0.83**	**272**	⇑i P	Pn	15 55 35.7	+1.2
	baz=271						
CHN4	**Tsaushan**	**0.87**	**309**	⇑P	Pn	15 55 34.9	0.0
	baz=308						
CHN4				S	Sn	15 55 48.3	-0.3
	baz=308						
SNST	**Tainan City**	**0.87**	**299**	⇑P	Pn	15 55 35.1	+0.1
	baz=298						
SNST				eS	Sn	15 55 48.8	+0.1
	baz=298						
SMST	**Manzhou Townsh**	**0.90**	**210**	eP	Pn	15 55 35.4	+0.2
	baz=210						
SMST				eS	Sn	15 55 48.8	-0.4
	baz=210						
TWK	**Hsinying**	**0.90**	**301**	⇑i P	Pn	15 55 35.4	+0.1
	baz=301						
TWK				S	Sn	15 55 49.0	-0.4
	baz=301						
SNJT	**Kaohsiung City**	**0.91**	**267**	eP	Pn	15 55 36.4	+1.0
	baz=266						
SNJT				eS	Sn	15 55 51.7	+2.3
	baz=266						
WARBT	**Fenglin Townsh**	**0.92**	**4**	eP	Pn	15 55 34.8	-0.7
	baz=3.0						
WARBT				eS	Sn	15 55 47.5	-2.1
	baz=3.0						
WCKO	**Fanlu**	**0.92**	**314**	P	Pn	15 55 35.4	-0.1
	baz=313						
WCKO				eS	Sn	15 55 49.4	-0.2
	baz=313						
CHN3	**Shinhua**	**0.93**	**287**	P	Pn	15 55 36.6	+1.1
	baz=286						
CHN3				eS	Sn	15 55 52.0	+2.3
	baz=286						
SHHT	**Tainan City**	**0.93**	**284**	i P	Pn	15 55 36.8	+1.3
	baz=283						
SHHT				eS	Sn	15 55 51.6	+1.9
	baz=283						
HEN	**Hengchun**	**0.96**	**215**	eP	Pn	15 55 36.5	+0.6
	baz=213						
HEN				eS	Sn	15 55 50.9	+0.6
	baz=213						
VWDT	**VWDT**	**0.96**	**350**	⇑P	Pn	15 55 37.2	+1.2
	baz=349						
VWDT				eS	Sn	15 55 50.8	+0.3
	baz=349						
TWKBT	**Hengchun**	**0.98**	**209**	i P	Pn	15 55 36.9	+0.7
	baz=208						
TWKBT				i S	Sn	15 55 51.7	+1.0
	baz=208						
TWK1	**Hengchun**	**0.98**	**210**	i P	Pn	15 55 36.6	+0.5
	baz=208						
TWK1				i S	Sn	15 55 51.5	+0.8
	baz=208						
CHN5	**Tsauling**	**0.99**	**323**	P	Pn	15 55 36.5	+0.1
	baz=322						
CHN5				S	Sn	15 55 51.4	+0.2
	baz=322						
WHYT	**Xinyi Township**	**0.99**	**334**	eP	Pn	15 55 36.3	0.0
	baz=333						
WHYT				S	Sn	15 55 50.9	-0.2
	baz=333						
WSSB	**Gushan**	**0.99**	**261**	eP	Pn	15 55 37.1	+0.8
	baz=260						
WSSB				eS	Sn	15 55 50.7	-0.4
	baz=260						
TWP	**Hsiaoliuchiu**	**1.00**	**243**	eP	Pn	15 55 37.6	+1.3
	baz=242						
TWP				eS	Sn	15 55 53.2	+2.1
	baz=242						
SHUL	**Shoufeng**	**1.01**	**13**	eP	Pn	15 55 36.8	+0.4
	baz=12						
SHUL				eS	Sn	15 55 52.1	+0.8
	baz=12						
SSHA	**Shanhua**	**1.01**	**290**	eP	Pn	15 55 37.4	+0.9
	baz=289						
SSHA				eS	Sn	15 55 52.0	+0.6
	baz=289						
ESL	**Shilin**	**1.01**	**6**	eP	Pn	15 55 35.9	-0.6
	baz=6.0						
ESL				eS	Sn	15 55 49.7	-1.8
	baz=6.0						
TAI1	**Yung-k'ang**	**1.04**	**284**	eP	Pn	15 55 36.3	-0.4
	baz=283						
TAI1				i S	Sn	15 55 53.0	+1.1
	baz=283						
SSLB	**Suanglung**	**1.04**	**341**	P	Pn	15 55 37.1	+0.2
SSLB	**Suanglung**	**1.04**	**341**	eP	Pn	15 55 36.9	0.0
	baz=340						
SSLB				S	Sn	15 55 51.7	-0.4
	baz=340						
TAI	**Tainan**	**1.06**	**281**	P	Pn	15 55 37.4	+0.4
	baz=280						
TAI				S	Sn	15 55 52.5	+0.2
	baz=280						
TEYL	**Yanliau Villag**	**1.09**	**13**	eP	Pn	15 55 38.6	+1.2
	baz=13						
TEYL				eS	Sn	15 55 55.5	+2.4
	baz=13						
SCLT	**Jiali**	**1.11**	**290**	i P	Pn	15 55 38.0	+0.4
	baz=289						
SCLT				S	Sn	15 55 53.2	-0.1
	baz=289						
ICHU	**Yijhu**	**1.11**	**300**	i P	Pn	15 55 37.9	+0.2
	baz=299						
ICHU				S	Sn	15 55 53.5	0.0
	baz=299						
WGK	**Gukeng**	**1.13**	**322**	i P	Pn	15 55 37.7	-0.1
	baz=321						
WGK				i S	Sn	15 55 53.9	+0.1
	baz=321						
WDLH	**Douliu**	**1.14**	**321**	P	Pn	15 55 37.9	-0.1
	baz=320						
WDLH				S	Sn	15 55 54.2	+0.1
	baz=320						
SMLT	**Sun Moon Lake**	**1.15**	**340**	i P	Pn	15 55 38.2	0.0
	baz=340						
SMLT				S	Sn	15 55 54.5	+0.1
	baz=340						
WJS	**Zhushan**	**1.16**	**332**	eP	Pn	15 55 39.1	+0.9
	baz=331						
WJS				eS	Sn	15 55 56.1	+1.7
	baz=331						
OWD	**Renai**	**1.16**	**353**	P	Pn	15 55 39.1	+0.8
	baz=353						
OWD				eS	Sn	15 55 55.9	+1.2
	baz=353						
CHN8	**Yiju**	**1.16**	**298**	i P	Pn	15 55 38.2	0.0
	baz=298						
CHN8				i S	Sn	15 55 54.6	+0.1
	baz=298						
ETM	**Tongmen**	**1.17**	**8**	P	Pn	15 55 38.6	+0.2
	baz=7.0						
ETM				S	Sn	15 55 54.5	-0.3
	baz=7.0						
TYC	**Yuchr**	**1.18**	**339**	i P	Pn	15 55 38.2	-0.3
	baz=339						
TYC				S	Sn	15 55 55.6	+0.7
	baz=339						
TSCK	**Chigu Township**	**1.19**	**287**	i P	Pn	15 55 40.0	+1.4
	baz=286						
TSCK				i S	Sn	15 55 56.3	+1.2
	baz=286						
HWA	**Hwalien**	**1.20**	**12**	eP	Pn	15 55 39.4	+0.7
	baz=12						
HWA				eS	Sn	15 55 56.3	+1.0
	baz=12						
WUSB	**Renai**	**1.20**	**351**	eP	Pn	15 55 39.5	+0.6
	baz=350						
WUSB				S	Sn	15 55 56.1	+0.5
	baz=350						
LXIB	**Xiulin Townshi**	**1.22**	**4**	eP	Pn	15 55 39.5	+0.4
	baz=3.0						
LXIB				S	Sn	15 55 55.1	-0.9
	baz=3.0						
WNT	**Mingjian**	**1.22**	**331**	i P	Pn	15 55 38.7	-0.3
	baz=331						
WNT				i S	Sn	15 55 56.1	+0.3
	baz=331						
WTK	**Tuku**	**1.23**	**316**	eP	Pn	15 55 38.8	-0.3
	baz=315						
WTK				eS	Sn	15 55 55.1	-0.9
	baz=315						
WSL	**Shuilin Townsh**	**1.24**	**306**	P	Pn	15 55 39.2	0.0
	baz=305						
WSL				S	Sn	15 55 56.1	-0.1
	baz=305						
WNT1	**Nantou City**	**1.25**	**332**	eP	Pn	15 55 39.5	+0.2
	baz=331						
WNT1				eS	Sn	15 55 56.8	+0.4
	baz=331						
WPL	**Puli Township**	**1.25**	**344**	eP	Pn	15 55 39.1	-0.3
	baz=344						
WPL				eS	Sn	15 55 56.3	-0.2
	baz=344						
CHGB	**Renai**	**1.26**	**354**	P	Pn	15 55 40.5	+0.8
	baz=353						
CHGB				S	Sn	15 55 57.5	+0.5
	baz=353						
DPDB	**Guoxing**	**1.28**	**344**	P	Pn	15 55 39.8	0.0
	baz=343						
DPDB				S	Sn	15 55 57.5	+0.3
	baz=343						
TWD	**Chiawan**	**1.30**	**11**	i P	Pn	15 55 39.8	-0.1
	baz=11						
TWD				eS	Sn	15 55 56.1	-1.3
	baz=11						
WCS	**Beigang Elemen**	**1.31**	**343**	P	Pn	15 55 40.0	0.0
	baz=343						
WCS				i S	Sn	15 55 58.2	+0.5
	baz=343						
WSF	**Szhu**	**1.31**	**310**	i P	Pn	15 55 39.6	-0.4
	baz=309						
WSF				i S	Sn	15 55 57.0	-0.7
	baz=309						
WHF	**Hehuan Shan**	**1.34**	**358**	i P	Pn	15 55 42.0	+1.2
	baz=357						
WHF				S	Sn	15 55 59.5	+0.4
	baz=357						
WYL	**Yuanlin Townsh**	**1.34**	**330**	eP	Pn	15 55 40.4	0.0
	baz=329						
WYL				S	Sn	15 55 58.9	+0.5
	baz=329						
WWF	**Wufeng**	**1.36**	**335**	eP	Pn	15 55 40.9	+0.2
	baz=334						
WWF				eS	Sn	15 55 59.8	+0.9
	baz=334						
ETL	**Fush Village**	**1.38**	**11**	eP	Pn	15 55 41.4	+0.4
	baz=11						
ETL				eS	Sn	15 55 59.3	0.0
	baz=11						
NACB	**Ninganchiao**	**1.39**	**10**	P	Pn	15 55 40.8	-0.2
NACB	**Ninganchiao**	**1.39**	**10**	i P	Pn	15 55 40.6	-0.4
	baz=10.0						
NACB				eS	Sn	15 55 58.2	-1.3
	baz=10.0						
WRL	**Guolierlin Hig**	**1.40**	**322**	P	Pn	15 55 40.9	-0.3
	baz=321						
WRL				eS	Sn	15 55 58.9	-0.8
	baz=321						
RLNB	**Erlin**	**1.40**	**321**	eP	Pn	15 55 41.0	-0.2
	baz=320						
WTCT	**Ta-ch'eng**	**1.43**	**318**	i P	Pn	15 55 41.2	-0.3
	baz=317						
WTCT				i S	Sn	15 56 00.2	-0.1
	baz=317						
FUSS	**Fushou**	**1.44**	**357**	eP	Pn	15 55 43.0	+1.0
	baz=357						
TWT	**Tachien**	**1.45**	**355**	eP	Pn	15 55 44.6	+2.6
	baz=354						
TWT				eS	Sn	15 56 02.2	+1.0
	baz=354						
TDCB	**Techi**	**1.46**	**354**	i P	Pn	15 55 43.0	+1.0
	baz=353						
TDCB				eS	Sn	15 56 02.5	+1.3
	baz=353						
TCU	**Taichung**	**1.47**	**336**	eP	Pn	15 55 42.7	+0.7
	baz=336						
TCU				i S	Sn	15 56 01.9	+0.8
	baz=336						
WHP	**Taichung City**	**1.51**	**347**	i P	Pn	15 55 43.9	+1.3
	baz=346						
WHP				i S	Sn	15 56 03.4	+1.1
	baz=346						
EAHA	**Aohua**	**1.57**	**14**	P	Pn	15 55 44.2	+0.9
	baz=14						
EAHA				eS	Sn	15 56 03.0	-0.4
	baz=14						
WDGT	**Dungji**	**1.60**	**287**	i P	Pn	15 55 43.2	-0.4
	baz=286						
WDGT				eS	Sn	15 56 03.0	-1.2
	baz=286						
EOS4	**EOS4**	**1.60**	**35**	eP	Pn	15 55 43.7	+0.4
	baz=34						
EOS4				eS	Sn	15 56 03.4	-0.3
	baz=34						
NNSB	**Datong**	**1.62**	**2**	i P	Pn	15 55 44.9	+0.8
	baz=1.0						

NNSB				S		Sn	15 56 05.3	+0.4
	baz=1.0							
TWQ1	Liyutan	1.62	342	eP		Pn	15 55 44.9	+0.9
	baz=341							
NNS	Nan Shan	1.63	2	i P		Pn	15 55 45.4	+1.2
	baz=1.0							
NNS				i S		Sn	15 56 05.4	+0.3
	baz=1.0							
ENA	Nanau	1.67	13	i P		Pn	15 55 44.7	+0.2
	baz=13							
ENA				S		Sn	15 56 05.8	+0.1
	baz=13							
EWUT	Wuta	1.69	14	eP		Pn	15 55 43.7	-1.1
	baz=14							
EWUT				S		Sn	15 56 06.5	+0.3
	baz=14							
EOS3	EOS3	1.74	31	P		Pn	15 55 45.9	+0.6
	baz=31							
EOS3				eS		Sn	15 56 06.5	-0.6
	baz=31							
LATG	Datong	1.74	6	P		Pn	15 55 46.0	+0.5
	baz=6.0							
LATG				S		Sn	15 56 08.2	+0.6
	baz=6.0							
PHUB	P'eng-hu	1.76	294	eP		Pn	15 55 45.2	-0.5
	baz=293							
PHUB				eS		Sn	15 56 05.8	-2.1
	baz=293							
VCHM	Qimei	1.79	284	eP		Pn	15 55 45.7	-0.4
	baz=282							
VCHM				eS		Sn	15 56 06.9	-1.7
	baz=282							
PNG	Penghu	1.80	295	i P		Pn	15 55 45.7	-0.5
	baz=295							
PNG				eS		Sn	15 56 07.0	-1.8
	baz=295							
NDT	Datong Townshi	1.80	5	i P		Pn	15 55 47.3	+1.0
	baz=5.0							
NDT				i S		Sn	15 56 09.6	+0.7
	baz=5.0							
NFF	Wufeng Townshi	1.83	354	eP		Pn	15 55 48.3	+1.6
	baz=354							
NFF				S		Sn	15 56 08.9	-0.7
	baz=354							
ENTT	Nioudou	1.85	7	i P		Pn	15 55 47.6	+0.7
	baz=7.0							
ENTT				i S		Sn	15 56 10.0	+0.1
	baz=7.0							
NSTT	Nanjuang	1.85	351	eP		Pn	15 55 48.2	+1.3
	baz=350							
NSTT				S		Sn	15 56 09.4	-0.5
	baz=350							
LIOB	Emei	1.86	351	P		Pn	15 55 48.1	+1.0
	baz=351							
LIOB				eS		Sn	15 56 09.7	-0.5
	baz=351							
NDS	Dongshan	1.86	11	eP		Pn	15 55 48.2	+1.2
	baz=11							
NDS				eS		Sn	15 56 09.6	-0.6
	baz=11							
YHNB	Yeheng	1.86	1	P		Pn	15 55 48.9	+1.8
YHNB	Yeheng	1.86	1	P		Pn	15 55 48.5	+1.4
	baz=1.0							
YHNB				S		Sn	15 56 11.2	+0.9
	baz=1.0							
TWC	Suao	1.86	15	eP		Pn	15 55 48.0	+0.9
	baz=15							
TWC				i S		Sn	15 56 11.2	+1.0
	baz=15							
NSK	Sanguang	1.87	1	i P		Pn	15 55 48.4	+1.2
	baz=1.0							
NSK				i S		Sn	15 56 11.3	+0.8
	baz=1.0							
TWE	Neicheng	1.94	9	i P		Pn	15 55 49.4	+1.3
	baz=9.0							
TWE				S		Sn	15 56 11.6	-0.4
	baz=9.0							
FUSB	Fushanzhiwuyua	1.97	7	P		Pn	15 55 49.6	+1.1
	baz=7.0							
FUSB				S		Sn	15 56 13.7	+0.9
	baz=7.0							
NWLT	Wulai	1.98	5	eP		Pn	15 55 50.0	+1.4
	baz=4.0							
NWLT				S		Sn	15 56 13.5	+0.6
	baz=4.0							
EGS		2.11	15	i P		Pn	15 55 51.1	+0.8
	baz=15							
EGS				eS		Sn	15 56 17.6	+1.6
	baz=15							
TIPB	Shuangxi	2.21	12	eP		Pn	15 55 52.6	+1.0
	baz=11							
TIPB				eS		Sn	15 56 18.5	0.0
	baz=11							
YOJ	Yonaguni jima	2.27	43	P		Pn	15 55 52.7	+0.4
YOJ	Yonaguni jima	2.27	43	P		Pn	15 55 52.7	+0.4
	baz=42							
YOJ				S		Sn	15 56 20.2	+0.5
	baz=42							
TWB1	Santiao Chiao	2.28	15	eP		Pn	15 55 52.6	+0.1
	baz=15							
TWB1				S		Sn	15 56 19.7	-0.3
	baz=15							
VWUC	VWUC	2.78	322	eP		Pn	15 55 58.3	-0.8
	baz=321							
VWUC				eS		Sn	15 56 28.8	-3.0
	baz=321							
PTMZ	Houxiangcun	3.01	318	eP		Pn	15 56 01.9	-0.3
	baz=317							
PTMZ				eS		Sn	15 56 35.2	-2.2
	baz=317							
KNMB	Chin-men Tao	3.16	302	eP		Pn	15 56 04.4	+0.1
	baz=301							
ZPLA	Ao Xicun	3.47	290	P		Pn	15 56 08.1	-0.4
	baz=288							
ZPLA				eS		Sn	15 56 46.2	-2.4
	baz=288							
DSXP	Dongshan	3.70	285	eP		Pn	15 56 10.9	-0.7
	baz=284							

*IDC **12** 16:02:46.2±20.0, 18°.83N×156°.02W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=426.5km s-min=57.4km az=36.0*
*HVO **12** 16:02:51.8±1.0, 19°.415N±0°.007×155°.277W±0°.006, h-0km±3km, ML3.8/14, ML3.8/28(NEIC), Error ellipse: s-maj=1.2km s-min=0.5km az=140.0*
*NEIC **12** 16:02:52.3±1.3, 19°.444N±0°.009×155°.277W±0°.008, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.6km az=215.0*

ISC 12 16:02:51.9±0.9, 19°.44N±0°.03×155°.29W±0°.03, h3km±5km, n42, σ1°.72/47, mb3.8/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	Uwekahuna B	0.02	160		Pg	16 02 52.6	-0.2
RSD	Rainshed	0.02	18		Pg	16 02 53.4	+0.6
SBLHI	Steaming Bluff	0.02	135		Pg	16 02 53.1	+0.4
UWE	Uwekahuna	0.02	200		Pg	16 02 52.6	-0.1
OBL	Observatory Le	0.03	178		Pg	16 02 52.6	-0.2
HATHI	Halema'uma'u T	0.03	131		Pg	16 02 52.7	-0.1
BYL	Byron's Ledge	0.04	143	Pg	Pg	16 02 52.7	-0.2
WRMHI	West Rim	0.04	202		Pg	16 02 53.7	+0.8
KKO	Keanakako`i	0.05	158		Pg	16 02 53.7	+0.6
RIM	Rim	0.05	168		Pg	16 02 53.5	+0.4
SDHHI	Sand Hill	0.05	189		Pg	16 02 54.0	+0.8
PUH	Pauahi	0.09	136	IAML		16 02 53.9	
	comp=N,60μm,1.8s						
PUH				Pg	Pg	16 02 54.2	+0.4
PUH					Sg	16 02 55.8	+0.7
MLH	Mauna Loa	0.11	298		Pg	16 02 55.4	+1.2
MLH				IAML		16 02 56.1	
	comp=N,36μm,0.9s						
MLH					Sg	16 02 57.2	+1.5
MLH				IAML		16 02 58.4	
	comp=E,37μm,0.6s						
KNHH	Kane Nui o Ham	0.13	120		Pg	16 02 54.9	+0.5
HLP	Hiilna Pali	0.15	189	Pg	Pg	16 02 54.8	0.0
STCH	Steam Cracks	0.16	111	Pg	Pg	16 02 55.7	+0.7
STCH				IAML		16 02 56.4	
	comp=E,26μm,1.4s						
STCH				IAML		16 02 60.0	
	comp=N,34μm,0.9s						
HMH	Humu'ula Sheep	0.24	310		Sg	16 03 02.3	+2.3
HMH	Humu'ula Sheep	0.24	310	Pg	Pg	16 02 57.7	+1.0
HMH	Humu'ula Sheep	0.24	310	IAML		16 03 03.4	
	comp=N,17μm,0.8s						
HMH				IAML		16 03 05.9	
	comp=E,20μm,1.3s						
MLOA	Mauna Loa Obse	0.29	289	Pg	Pg	16 02 58.2	+0.6
MLOA				IAML		16 03 03.6	
	comp=N,15μm,1.2s						
MLOA				IAML		16 03 05.3	
	comp=E,12μm,1.3s						
MWH	Moku'aweowe	0.30	278	Pg	Pg	16 02 58.3	+0.6
MWH					Sg	16 03 03.4	+1.6
PAH	Pahoa	0.32	81	Pg	Pg	16 02 58.7	+0.6
ALEP	Alea Permanent	0.35	286		Pg	16 02 59.6	+0.8
ALEP					Sg	16 03 04.6	+1.1
KHU	Kahuku	0.37	238		Pg	16 02 59.6	+0.5
KHU					Sg	16 03 04.8	+1.0
KHU				IAML		16 03 08.5	
	comp=E,10μm,1.3s						
POHA	Pohakuloa	0.39	323	Pg	Pg	16 03 00.7	+1.2
HPO	Honuapo	0.43	216		Pg	16 03 00.6	+0.4
HPO					Sg	16 03 07.5	+1.6
HUH	Hualalai	0.57	295		Pg	16 03 03.6	+0.7
I59US	HAWAII INFRASO	0.59	285	Pg	Pg	16 03 02.9	-0.4
	baz=115,slow=42						
CPH	Captain Cook	0.60	274		Pg	16 03 03.5	+0.1
HPAH	Hawaii Prepara	0.70	326		Pg	16 03 04.8	-0.6
HPAH	Hawaii Prepara	0.70	326		Sg	16 03 15.4	+0.9
MHA	Mahukona	0.94	322	Pg	Pg	16 03 08.4	-1.6
HLK	Haleakala	1.59	325		Pn	16 03 18.2	-2.9
KHLH	Kahului Airpor	1.80	324		Pn	16 03 20.7	-3.1
KPA	Kalaupapa	2.36	318	Pn	Pn	16 03 27.7	-3.8
DHH	Diamond Head	2.98	308	Pn	Pn	16 03 35.7	-4.3
HON	Honolulu	3.16	307	Pn	Pn	16 03 38.1	-4.4
KIP	Kipapa	3.23	308	Pn	Pn	16 03 39.7	-3.7
KEKH	Kekaha	4.85	302	Pn	Pn	16 04 02.9	-2.9
PDAR	Pinedale Array	44.85	48	P	P	16 11 09.4	+1.7
	comp=E,0.3nm,0.6s,baz=231,slow=5.7,SNR=2.2						
	comp=E,0.3nm,0.6s						
ILAR	Eielson Array	45.65	5	P	P	16 11 13.6	+0.1
	comp=E,1.0nm,0.8s,baz=202,slow=6.9,SNR=8.9						
	comp=E,1.0nm,0.8s						
TXAR	Lajitas Array	47.71	68	P	P	16 11 32.0	+1.8
	comp=E,1.4nm,0.8s,baz=251,slow=7.7,SNR=8.4						
	comp=E,1.4nm,0.8s						

*UCR **12** 16:32:57.2±0.4, 11°.54N×86°.24W, h76km±11km, MW3.6*
*CATAC **12** 16:32:58.5±0.3, 11°.49N×86°.33W, h38km±4km, ML3.5*

ISC 12 16:32:58.6±1.4, 11°.51N±0°.05×86°.31W±0°.06, h62km±10km, n54, σ0°.71/73, 1C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	Granada	0.37	49	i P	Pn	16 33 09.5	0.0
NADN				i S	Sn	16 33 18.3	+0.9
NADN				IAML		16 33 19.2	
	comp=Z,4μm,1.0s						
ARIN	Rivas	0.47	96	i P	Pn	16 33 09.8	-0.6
ARIN				i S	Sn	16 33 19.0	-0.1
ARIN				IAML		16 33 45.8	
	comp=Z,7μm,1.0s						
CRUN	El Crucero	0.47	2	i P	Pn	16 33 09.2	-1.4
CRUN				IAML		16 33 20.5	
	comp=Z,24μm,1.0s						
RA5A7	El Crucero	0.48	0	i P	Pn	16 33 09.0	-1.7
RA5A7				IAML		16 33 20.1	
	comp=Z,9μm,1.0s						
MASN	Masaya	0.50	18	i P	Pn	16 33 11.0	+0.2
MASN				i S	Sn	16 33 20.1	+0.4
MASN				IAML		16 33 24.1	
	comp=Z,1μm,1.0s						
MAS3	Al N del Volca	0.53	15	i P	Pn	16 33 10.5	-0.6
MAS3				i S	Sn	16 33 20.4	+0.2
MAS3				IAML		16 33 21.5	
	comp=Z,2μm,1.0s						
ABCN	Banco Central	0.61	0	i S	Sn	16 33 22.6	+0.9
RB28C	Hialeah	0.61	3	i P	Pn	16 33 11.5	-0.5
RB28C				IAML		16 33 24.7	
	comp=Z,3μm,1.0s						
RE6B4	Centro civico	0.62	2	i P	Pn	16 33 12.0	0.0
RE6B4				IAML		16 33 25.9	
	comp=Z,3μm,1.0s						
R0529	La Mascota	0.62	7	i P	Pn	16 33 11.8	-0.2
R0529				IAML		16 33 24.4	
	comp=Z,2μm,1.0s						
JAPN	Al SSO del Vol	0.62	88	i P	Pn	16 33 11.9	-0.2
JAPN				IAML		16 33 27.6	
	comp=Z,2μm,1.0s						
TISN	Laguna Tiscapa	0.63	4	i P	Pn	16 33 12.0	-0.2
TISN				IAML		16 33 26.3	
	comp=Z,120nm,1.0s						
R4DEC	Barrio San Lui	0.64	6	i P	Pn	16 33 11.7	-0.6
R4DEC				i S	Sn	16 33 23.4	+1.1
R4DEC				IAML		16 33 24.5	
	comp=Z,1μm,1.0s						
MORN	Al O del Volca	0.65	86	i P	Pn	16 33 12.0	-0.5
MORN				IAML		16 33 25.7	
	comp=Z,6μm,1.0s						
WILN	Americas 2	0.66	11	i P	Pn	16 33 12.1	-0.4
WILN				i S	Sn	16 33 23.3	+0.6
WILN				IAML		16 33 24.5	
	comp=Z,490nm,1.0s						
SAPS	Ciudad Sandino	0.67	352	i P	Pn	16 33 12.6	0.0
SAPS				i S	Sn	16 33 22.6	-0.2
SAPS				IAML		16 33 25.8	
	comp=Z,4μm,1.0s						
OMEN	Al SSO del Vol	0.67	90	i P	Pn	16 33 12.4	-0.3
OMEN				i S	Sn	16 33 23.7	+0.7
OMEN				IAML		16 33 27.1	
	comp=Z,3μm,1.0s						
APQ2	Apoyeque	0.69	359	i P	Pn	16 33 12.7	-0.1
APQ2				i S	Sn	16 33 24.2	+1.0
APQ2				IAML		16 33 26.8	
	comp=Z,2μm,1.0s						
COPN	Copaltepe	0.72	338	i P	Pn	16 33 13.1	-0.2
COPN				IAML		16 33 24.9	
	comp=Z,840nm,1.0s						
APYN	Apoyeque	0.72	357	i P	Pn	16 33 12.9	-0.4
APYN				IAML		16 33 33.2	
	comp=Z,45nm,1.0s						
LCRUZ	La Cruz	0.79	122	eP	Pn	16 33 14.5	+0.4
MOM2	El Cardon	0.94	350	i P	Pn	16 33 15.6	-0.4
MOM2				i S	Sn	16 33 28.2	-0.6
MOM2				IAML		16 33 32.0	
	comp=Z,830nm,1.0s						
CNGA	Al SSO del Vol	1.05	339	i P	Pn	16 33 16.3	-1.2
CNGA				i S	Sn	16 33 30.5	-1.0
CNGA				IAML		16 33 39.2	
	comp=Z,990nm,1.0s						
CNGN	Cerro Negro	1.06	339	i P	Pn	16 33 16.9	-0.6
CNGN				i S	Sn	16 33 31.4	-0.2
CNGN				IAML		16 33 40.5	
	comp=Z,740nm,1.0s						
CNGN	Cerro Negro	1.06	339	⇓i P	Pn	16 33 17.1	-0.5
ROCN	Rota Cerro Neg	1.09	337	i P	Pn	16 33 18.0	0.0
ROCN				i S	Sn	16 33 32.3	0.0
ROCN				IAML		16 33 36.3	
	comp=Z,660nm,1.0s						
PACN	Al O del Volca	1.09	335	i P	Pn	16 33 18.1	+0.1
PACN				i S	Sn	16 33 33.8	+1.4
PACN				IAML		16 33 37.5	
	comp=Z,810nm,1.0s						
ILCN	San Idelfonso	1.13	341	i P	Pn	16 33 17.9	-0.5
ILCN				IAML		16 33 18.1	
	comp=Z,240nm,1.0s						
ILCN				i S	Sn	16 33 33.9	+0.7
ELI1	Hacienda Flor	1.14	139	⇑i P	Pn	16 33 18.6	+0.1
PLRN	Geotermica Pol	1.16	338	i P	Pn	16 33 18.3	-0.5
PLRN				i S	Sn	16 33 33.5	-0.4
PLRN				IAML		16 33 35.0	
	comp=Z,540nm,1.0s						
VORI	VORI	1.17	126	eP	Pn	16 33 18.9	-0.2
VRLE	La Escondida,	1.17	127	⇓eP	Pn	16 33 18.1	-1.0
TEL3	Telica 3	1.18	334	i P	Pn	16 33 18.7	-0.4
TEL3				IAML		16 33 39.3	
	comp=Z,2μm,1.0s						
GPS3	Bodega del ICE	1.19	129	eP	Pn	16 33 18.9	-0.4
QUEN	Al S del Volca	1.20	334	i P	Pn	16 33 18.4	-1.0
QUEN				IAML		16 33 36.8	
	comp=Z,1μm,1.0s						
GPS2	Hotel Rincn d	1.21	128	eP	Pn	16 33 18.8	-0.7
ACON	Acoyapa	1.21	68	i P	Pn	16 33 18.8	-0.6
ACON				i S	Sn	16 33 34.8	-0.2
ACON				IAML		16 33 35.5	
	comp=Z,330nm,1.0s						
BRAN	Las Pilas	1.21	358	i P	Pn	16 33 12.5	-7.0
BRAN				i S	Sn	16 33 23.3	-12
BRAN				IAML		16 33 23.8	
	comp=Z,3μm,1.0s						
PKGN	Cerro Pekin	1.33	331	i P	Pn	16 33 20.7	-0.3
PKGN				i S	Sn	16 33 38.1	+0.3
PKGN				IAML		16 33 41.7	
	comp=Z,2μm,1.0s						
COLC	Colonia	1.37	127	eP	Pn	16 33 21.1	-0.6
CRIN	San Cristobal	1.39	329	i P	Pn	16 33 21.7	-0.2
CRIN				i S	Sn	16 33 39.5	+0.1
CRIN				IAML		16 33 48.5	
	comp=Z,2μm,1.0s						
CRIN	San Cristobal	1.39	329	eP	Pn	16 33 21.7	-0.2
CUI	Cuipilapa	1.41	127	⇓eP	Pn	16 33 21.5	-0.6
BAGA	Bagaces	1.42	133	eP	Pn	16 33 21.8	-0.5
LIMN	Finca el Limon	1.55	358	i P	Pn	16 33 23.3	-0.8
LIMN				IAML		16 33 47.9	
	comp=Z,100nm,1.0s						
NICO	Nicoya	1.61	148	eP	Pn	16 33 24.4	-0.4
JTS	Las Juntas de	1.80	132	eP	Pn	16 33 26.4	-1.0
INDI	Punta indio, G	1.81	154	i P	Pn	16 33 29.0	+1.4
INDI				IAML		16 33 48.8	
	comp=Z,150nm,1.0s						
NYURE	Nandayure	1.83	145	eP	Pn	16 33 26.7	-1.1
ARE1	Arenal 1	1.88	123	eP	Pn	16 33 27.6	-0.8
SOMN	Somoto	1.93	351	i P	Pn	16 33 30.2	+1.0
SOMN				IAML		16 33 32.4	
	comp=Z,62nm,1.0s						
SOMN				i S	Sn	16 33 54.4	+1.9
ESPN	Las Esperanzas	2.09	71	eP	Pn	16 33 31.1	-0.2
CNCH	Conchagua	2.30	320	i P	Pn	16 33 33.7	-0.6
CNCH				IAML		16 33 41.5	
	comp=Z,450nm,1.0s						
BUS1	Rivas	3.18	127	eP	Pn	16 33 46.3	-0.4

*ISK **12** 16:43:38.1, 38°.93N×26°.02E, h9km, ML2.5/14*
*AFAD **12** 16:43:38.8±0.0, 38°.95N×26°.08E, h7km±5km, ML2.3*
*ATH **12** 16:43:39.1, 38°.94N×26°.03E, h12km±1km, ML2.4/6, Error ellipse: s-maj=2.0km s-min=0.8km az=101.0*

ISC 12 16:43:38.8±0.9, 38°.94N±0°.02×26°.03E±0°.02, h14km±9km, n43, σ0°.58/60, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.30	334	Pg	Pg	16 43 44.9	-0.3
SIGR				Sg	Sg	16 43 49.9	+0.4
SIGR	SIGRI	0.30	334	P	Pg	16 43 45.1	-0.1
SIGR				S	Sg	16 43 49.4	-0.1
SIGR				AML	AML	16 43 50.0	
	comp=E,2137μm,0.2s						
SIGR				AML	AML	16 43 50.3	
	comp=N,3311μm,0.2s						
PRK	Paraskevi	0.36	32	P	Pg	16 43 45.8	-0.4
PRK				S	Sg	16 43 51.1	-0.1
PRK				AML	AML	16 43 52.1	
	comp=E,1662μm,0.3s						
PRK				AML	AML	16 43 55.2	
	comp=N,1052μm,0.5s						
EAG2	Marmaro, Chios	0.40	171	P	Pg	16 43 47.2	+0.4
EAG2				S	Sg	16 43 52.8	+0.6
KARB	zmir-Karabur	0.41	132	P	Pg	16 43 47.0	0.0
KARB				S	Sg	16 43 51.9	-0.7
GPNR	Gulpinar-Canak	0.52	9	Pg	Pg	16 43 48.9	-0.3
PSRA	Psara	0.54	223	P	Pb	16 43 50.0	0.0
PSRA				S	Sg	16 43 56.8	+0.2
PSRA				AML	AML	16 43 59.9	
	comp=N,1395μm,0.2s						
PSRA				AML	AML	16 44 02.5	
	comp=E,1815μm,0.2s						
CHOS	Chios island	0.55	178	P	Pg	16 43 49.8	+0.1
CHOS				S	Sg	16 43 57.2	+0.2
CHOS				AML	AML	16 44 01.7	
	comp=E,1146μm,0.2s						
CHOS				AML	AML	16 44 02.0	
	comp=N,621μm,0.2s						
KOCA	Canakkale, Ayv	0.57	9	P	Pg	16 43 49.9	-0.2
KOCA				S	Sg	16 43 57.5	-0.2
KOCA				i AML	AML	16 44 02.0	
	comp=N,169nm,0.7s						
KOCA				i AML	AML	16 44 02.0	
	comp=N,223nm,0.6s						
AYVA	Ayvalik	0.63	54	P	Pg	16 43 50.9	-0.3
AYVA				S	Sg	16 43 58.3	-1.4
AYVA				i AML	AML	16 44 02.0	
	comp=N,194nm,0.4s						
AYVA				i AML	AML	16 44 02.0	
	comp=N,258nm,0.2s						
DKL	Dikili	0.70	79	Pg	Pg	16 43 52.2	-0.2
IZMD	zmir-Dikili-	0.70	86	P	Pg	16 43 52.7	+0.1
URLA	Izmir	0.73	142	Pg	Pg	16 43 52.6	-0.4
URLA	Izmir	0.73	142	P	Pg	16 43 52.3	-0.7
URLA				S	Sb	16 44 03.1	0.0
ZEYE	Izmir, Urla-Ze	0.79	152	P	Pb	16 43 54.9	+0.6
ZEYE				i AML	AML	16 44 08.0	
	comp=N,84nm,0.3s						
ZEYE				i AML	AML	16 44 08.0	
	comp=N,130nm,0.3s						
ZEDA	zmir-Bergama	0.82	88	P	Pb	16 43 55.1	+0.3
ZEDA				i AML	AML	16 44 07.0	
	comp=N,103nm,0.5s						
EZNE	Ezine-Canakkal	0.86	18	Pg	Pg	16 43 55.3	-0.2
BAYC	CANAKKALE_Bayr	0.90	26	P	Pg	16 43 55.2	-1.0
BAYC				S	Sg	16 44 07.9	-0.2
BAYC				i AML	AML	16 44 10.0	
	comp=N,195nm,0.2s						
BOZC	Bozcaada	0.90	1	P	Pg	16 43 55.7	-0.7
BOZC				S	Sg	16 44 07.3	-0.9
BOZC				i AML	AML	16 44 08.0	
	comp=N,118nm,0.3s						
BOZC				i AML	AML	16 44 11.0	
	comp=N,158nm,0.3s						
EZN	Ezine	0.92	14	Pg	Pg	16 43 55.7	-0.9
EZN				Sg	Sb	16 44 09.9	+1.4
BUHA	Balikesir, Bur	0.99	55	P	Pg	16 43 57.3	-0.7
BUHA				S	Sg	16 44 10.2	-0.7
BUHA				i AML	AML	16 44 13.0	
	comp=N,107nm,0.4s						
BUHA				i AML	AML	16 44 14.0	
	comp=N,122nm,0.3s						
EFSA	Agios Efstrati	1.01	307	P	Pb	16 43 58.3	+0.3
EFSA				S	Sg	16 44 11.5	0.0
DGB	zmir	1.11	143	P	Pg	16 43 59.1	-1.1
DGB				S	Sg	16 44 14.0	-0.7
SKY	Skiros Island	1.16	267	P	Pb	16 44 00.3	-0.3
LIA	Limnos Island	1.16	326	P	Pb	16 44 00.5	-0.2
LIA				S	Sg	16 44 15.6	-0.8
LIA				AML	AML	16 44 16.6	
	comp=E,648μm,0.4s						
LIA				AML	AML	16 44 18.3	
	comp=N,687μm,0.3s						
SOMA	Soma-Manisa	1.19	79	Pn	Pb	16 44 01.4	+0.2
COMU	Canakkale	1.21	16	Pn	Pb	16 44 01.7	+0.2
GADA	Gvkgeada	1.25	355	Pn	Pn	16 44 01.8	-0.1
STEP	BALIKESIR_Sava	1.39	71	P	Pb	16 44 04.6	+0.1
STEP				i AML	AML	16 44 27.0	
	comp=N,48nm,0.4s						
GELI	Tayfur-Gelibol	1.50	13	Pn	Pn	16 44 05.9	+0.6
KYMI	Kymi, Euboea I	1.54	259	P	Pn	16 44 05.7	-0.1
LPK	Lapseki	1.54	21	Pn	Pn	16 44 06.5	+0.6
SMTH	Samothraki Isl	1.58	346	P	Pn	16 44 06.7	+0.3
GONE	Gonen-Balikesi	1.69	49	Pn	Pn	16 44 08.6	+0.6
AOS2	Alonissos-2	1.71	278	P	Pn	16 44 07.9	-0.3
KRBG	Karabiga-Canak	1.75	34	Pn	Pn	16 44 09.5	+0.7
ERIK	Erikli-Kesan	1.77	12	Pn	Pn	16 44 09.8	+0.8
APE	Apeiranthos	1.91	192	P	Pn	16 44 10.1	-0.8
THAS	Thassos island	1.95	329	P	Pn	16 44 11.4	0.0
THAS				AML	AML	16 44 35.6	
	comp=N,43μm,0.3s						
THAS				AML	AML	16 44 46.6	
	comp=E,40μm,0.3s						
ALN	Alexandroupoli	1.96	0

az=32.0
*GCMT **12** 16:53:05.1±0.2,55°.44S±0°.01×128°.43W±0°.02,h20km±1km, MW5.0/111,Moment Tensor Solution. s33,c37; s111,c150; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=1.39±.17; Mθθ=3.02±.15; Mφφ=-1.63±.12; Mrθ=0.17±.22; Mrφ=2.84±.09; Mθφ=0.63±.23; Best double couple: M=3.75900×1016 NP1:φs=201.00000°,δ82.00000°, λ=-165.00000°. NP2:φs=109.00000°,δ76.00000°, λ=-9.00000°. Principal axes: T 4.3970, Plg4.0000°, Azm334.0000°; N -1.2760, Plg73.0000°, Azm230.0000°; P -3.1210, Plg16.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 16:53:00.4±0.7,55°.2S±0°.2×128.7W±0°.2,h14km,n63, σ0§87/18,mb4.1/7,MS4.1/37,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**31.41**	**35**	LR	LR	17 07 23.7	
	comp=Z,73nm,19.1s,baz=194,slow=28						
PMSA	**Palmer Station**	**32.29**	**134**	LR	LR	17 08 51.6	
	comp=Z,339nm,20.0s,baz=266,slow=30						
VNDA	**Vanda**	**32.48**	**202**	LR	LR	17 09 12.5	
	comp=Z,101nm,21.8s,baz=78,slow=30						
QSPA	**South Pole Qui**	**34.97**	**180**	P	**P**	**16 59 52.9**	**+1.1**
QSPA				IAmb	IAmb	17 00 19.8	
	comp=Z,12nm,1.5s						
QSPA	**South Pole Qui**	**34.97**	**180**	P	**P**	**16 59 53.0**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=96,slow=3.9,SNR=4.5						
QSPA				LR	LR	17 12 41.0	
	comp=Z,497nm,18.5s,baz=88,slow=34						
	comp=Z,1.7nm,0.8s						
RPZ	**Rata Peaks**	**39.57**	**261**	LR	LR	17 12 40.5	
	comp=Z,499nm,21.7s,baz=126,slow=30						
URZ	**Urewera**	**39.68**	**272**	LR	LR	17 13 29.6	
	comp=Z,298nm,19.3s,baz=216,slow=31						
PLCA	**Paso Flores**	**40.34**	**94**	LR	LR	17 13 26.5	
	comp=Z,194nm,18.7s,baz=224,slow=30						
H03S2	**Juan Fernandez**	**40.36**	**79**	T	T	17 43 37.5	
	baz=221,slow=74,SNR=206						
H03S1	**Juan Fernandez**	**40.37**	**79**	T	T	17 43 38.8	
	baz=221,slow=74,SNR=193						
H03S3	**Juan Fernandez**	**40.38**	**79**	T	T	17 43 37.9	
	baz=221,slow=74,SNR=256						
H03N3	**Juan Fernandez**	**40.64**	**79**	T	T	17 43 57.8	
	baz=224,slow=72,SNR=490						
H03N2	**Juan Fernandez**	**40.65**	**79**	T	T	17 43 56.4	
	baz=224,slow=72,SNR=501						
H03N1	**Juan Fernandez**	**40.66**	**79**	T	T	17 43 56.9	
	baz=224,slow=72,SNR=827						
PPT	**Papeete**	**40.81**	**329**	LR	LR	17 13 03.0	
	comp=Z,297nm,18.7s,baz=149,slow=30						
RAR	**Rarotonga**	**41.14**	**313**	LR	LR	17 14 38.6	
	comp=Z,91nm,20.8s,baz=146,slow=32						
SNAA	**Sanae**	**47.86**	**160**	P	**P**	**17 01 36.1**	**-1.1**
SNAA	**Sanae**	**47.86**	**160**	P	**P**	**17 01 36.3**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=214,slow=9.4,SNR=5.5						
SNAA				LR	LR	17 21 10.2	
	comp=Z,352nm,19.0s,baz=251,slow=35						
	comp=Z,1.3nm,0.8s						
LVC	**Limon Verde**	**54.59**	**79**	LR	LR	17 20 40.6	
	comp=Z,28nm,21.0s,baz=217,slow=30						
MAW	**Mawson**	**57.20**	**185**	LR	LR	17 24 46.7	
	comp=Z,130nm,19.6s,baz=144,slow=33						
DZM	**Mont Dzumac**	**57.83**	**277**	LR	LR	17 21 50.2	
	comp=Z,74nm,19.9s,baz=115,slow=30						
CPUP	**Villa Florida**	**58.30**	**91**	LR	LR	17 24 42.6	
	comp=Z,239nm,18.2s,baz=225,slow=33						
NNA	**Nana**	**58.99**	**64**	LR	LR	17 22 40.0	
	comp=Z,38nm,20.2s,baz=214,slow=30						
LPAZ	**La Paz**	**60.10**	**75**	P	**P**	**17 03 07.3**	**-0.5**
LPAZ				IAmb	IAmb	17 03 10.1	
	comp=Z,9.1nm,1.4s						
LPAZ	**La Paz**	**60.10**	**75**	P	**P**	**17 03 08.3**	**+0.5**
	comp=Z,5.3nm,1.1s,baz=193,slow=3.9,SNR=8.8						
LPAZ				LR	LR	17 20 38.4	
	comp=Z,15nm,21.8s,baz=220,slow=28						
	comp=Z,5.3nm,1.1s						
ATAH	**Atahualpa**	**62.35**	**60**	LR	LR	17 24 07.3	
	comp=Z,144nm,19.6s,baz=226,slow=30						
STKA	**Stephens Creek**	**64.31**	**251**	LR	LR	17 25 59.8	
	comp=Z,92nm,21.6s,baz=193,slow=31						
ETMB	**Extrema**	**66.46**	**73**	P	**P**	**17 03 49.0**	**-0.3**
OTAV	**Otavalo**	**68.72**	**56**	P	**P**	**17 04 03.9**	**-0.2**
OTAV				IAmb	IAmb	17 04 06.3	
	comp=Z,5.9nm,1.1s						
CTA	**Charters Tower**	**70.93**	**262**	LR	LR	17 32 54.3	
	comp=Z,4.8nm,18.0s,baz=126,slow=34						
BDFB	**Brasilia**	**72.03**	**92**	LR	LR	17 33 40.9	
	comp=Z,145nm,18.2s,baz=182,slow=34						
ROSC	**El Rosal**	**74.71**	**57**	LR	LR	17 31 24.8	
	comp=Z,96nm,18.4s,baz=236,slow=31						
JTS	**Las Juntas de**	**74.82**	**45**	LR	LR	17 31 25.2	
	comp=Z,53nm,18.4s,baz=202,slow=31						
ASAR	**Alice Springs**	**74.94**	**250**	P	**P**	**17 04 40.8**	**-0.2**
ASAR	**Alice Springs**	**74.94**	**250**	P	**P**	**17 04 41.2**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=138,slow=7.1,SNR=15						
ASAR				LR	LR	17 33 36.2	
	comp=Z,185nm,19.2s,baz=143,slow=32						
	comp=Z,1.1nm,0.8s						
H01W1	**Cape Leeuwin H**	**75.41**	**229**	T	T	18 28 26.9	
	baz=146,slow=76,SNR=209						
H01W2	**Cape Leeuwin H**	**75.41**	**229**	T	T	18 28 20.2	
	baz=146,slow=76,SNR=225						
H01W3	**Cape Leeuwin H**	**75.42**	**229**	T	T	18 28 22.2	
	baz=146,slow=76,SNR=221						
CMIG	**Matias Romero**	**77.53**	**33**	LR	LR	17 32 57.0	
	comp=Z,46nm,18.3s,baz=189,slow=31						
WRA	**Warramunga Arr**	**77.71**	**253**	P	**P**	**17 04 55.5**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=140,slow=5.4,SNR=2.8						
	comp=Z,0.4nm,0.8s						
PMG	**Port Moresby**	**78.98**	**269**	LR	LR	17 35 58.0	
	comp=Z,84nm,18.6s,baz=150,slow=33						
SDV	**Santo Domingo**	**80.01**	**58**	LR	LR	17 37 19.1	
	comp=Z,60nm,18.3s,baz=270,slow=33						
LPIG	**La Paz**	**80.55**	**17**	LR	LR	17 32 31.0	
	comp=Z,115nm,18.1s,baz=188,slow=29						
TEIG	**Tepich**	**82.65**	**38**	LR	LR	17 34 27.5	
	comp=Z,52nm,18.6s,baz=226,slow=30						
TXAR	**Lajitas Array**	**86.90**	**22**	P	**P**	**17 05 45.5**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=183,slow=9.7,SNR=3.5						
	comp=Z,0.3nm,0.6s						
SUR	**Sutherland**	**88.94**	**155**	LR	LR	17 43 40.5	
	comp=Z,112nm,18.6s,baz=150,slow=34						
PFO	**Pinyon Flats O**	**89.08**	**10**	LR	LR	17 36 33.1	
	comp=Z,75nm,19.3s,baz=185,slow=29						
SJG	**San Juan**	**90.13**	**58**	LR	LR	17 42 33.7	
	comp=Z,40nm,19.6s,baz=174,slow=33						
ANMO	**Albuquerque**	**91.80**	**18**	LR	LR	17 40 01.1	
	comp=Z,36nm,18.6s,baz=296,slow=31						
H11N3	**WAKE ISLAND Hy**	**92.35**	**302**	T	T	18 48 31.6	
	baz=149,slow=76,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**92.36**	**302**	T	T	18 48 40.5	
	baz=149,slow=76,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**92.37**	**302**	T	T	18 48 28.6	
	baz=149,slow=76,SNR=5.4						
BOSA	**Boshof**	**93.59**	**157**	LR	LR	17 45 14.3	
	comp=Z,137nm,18.3s,baz=192,slow=34						
NVAR	**Mina Array Bea**	**93.69**	**8**	LR	LR	17 40 40.1	
	comp=Z,98nm,18.1s,baz=135,slow=30						
YBH	**Yreka Blue Hor**	**96.70**	**5**	LR	LR	17 39 42.6	
	comp=Z,123nm,22.0s,baz=168,slow=29						
KAPI	**Kappang**	**97.94**	**249**	LR	LR	17 49 22.5	
	comp=Z,63nm,18.3s,baz=122,slow=35						
PDAR	**Pinedale Array**	**98.95**	**14**	LR	LR	17 43 08.7	
	comp=Z,70nm,19.3s,baz=195,slow=30						
ILAR	**Eielson Array**	**120.45**	**351**	PKP	**PKPdf**	**17 11 48.0**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=196,slow=3.3,SNR=3.4						
TIXI	**Tiksi**	**144.70**	**328**		**PKPab**	**17 12 34.0**	**+0.4**
ULN	**Ulaanbaatar**	**145.36**	**282**		**PKPbc**	**17 12 36.5**	**-0.4**
SONM	**Songino Array**	**145.72**	**281**	PKPdf	**PKPdf**	**17 12 37.9**	**+0.4**
SONM	**Songino Array**	**145.72**	**281**	PKPbc	**PKPab**	**17 12 38.7**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=140,slow=3.9,SNR=13						
EKA	**Eskdalemuir Ar**	**149.66**	**67**	PKPbc	**PKPbc**	**17 12 48.5**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=242,slow=2.5,SNR=10.0						

*WEL **12** 17:31:52.6,38°.5±10°.×17°.8E±°,h41km±11km,M2.2/15, ML2.6/16,MLv2.2/15,Error ellipse: s-maj=0.0km s-min=0.0km az=9.0*

ISC 12 17:31:52.0±1.7,37°.67S±0°.05×178°.12E±0°.05,h35km,n39, σ1§05/38,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.18**	**55**	P	**Pn**	**17 31 59.3**	**+0.7**
MXZ	**Matakaoa Point**	**0.18**	**55**	P	**Pn**	**17 31 59.3**	**+0.7**
PKGZ	**Pakihiroa**	**0.20**	**189**	P	**Pn**	**17 32 00.0**	**+1.1**
WMGZ	**Waiomatatini S**	**0.28**	**124**	P	**Pn**	**17 32 00.7**	**+1.1**
HAZ	**Te Kaha**	**0.28**	**251**	P	**Pn**	**17 32 01.0**	**+1.3**
PUZ	**Puketiti**	**0.42**	**165**	P	**Pn**	**17 32 02.4**	**+0.8**
RUGZ	**Raukumara Rang**	**0.46**	**229**	P	**Pn**	**17 32 03.3**	**+1.1**
TWGZ	**Tauwhareparae**	**0.52**	**192**	P	**Pn**	**17 32 04.2**	**+1.2**
TKGZ	**Te Karaka**	**0.80**	**196**	P	**Pn**	**17 32 07.7**	**+0.9**
MWZ	**Matawai**	**0.82**	**215**	P	**Pn**	**17 32 08.1**	**+1.1**
CNGZ	**Carnagh Statio**	**0.82**	**175**	P	**Pn**	**17 32 07.8**	**+0.7**
URZ	**Urewera**	**1.00**	**233**	P	**Pn**	**17 32 10.4**	**+0.9**
URZ	**Urewera**	**1.00**	**233**	P	**Pn**	**17 32 10.2**	**+0.7**
RAGZ	**Rawiri**	**1.00**	**214**	P	**Pn**	**17 32 10.6**	**+0.9**
RIGZ	**Rimuhau**	**1.08**	**195**	P	**Pn**	**17 32 10.9**	**+0.3**
MARZ	**Manawahe**	**1.19**	**254**	P	Pn	17 32 18.5	+6.3
SNGZ	**Shannon Statio**	**1.27**	**209**	P	**Pn**	**17 32 14.0**	**+0.7**
RTZ	**Ruatahuna**	**1.31**	**223**	P	**Pn**	**17 32 14.5**	**+0.6**
MUGZ	**Murupara**	**1.34**	**232**	P	**Pn**	**17 32 14.9**	**+0.6**
MTHZ	**Maungataniwha**	**1.56**	**220**	P	**Pn**	**17 32 18.2**	**+1.0**
NMHZ	**Naumai**	**1.77**	**215**	P	**Pn**	**17 32 21.3**	**+1.1**
ARHZ	**Aropaoanui**	**1.82**	**209**	P	**Pn**	**17 32 21.4**	**+0.5**
BKZ	**Black Stump Fm**	**1.97**	**220**	P	**Pn**	**17 32 23.8**	**+0.9**
BKZ	**Black Stump Fm**	**1.97**	**220**	P	**Pn**	**17 32 23.4**	**+0.4**
MCHZ	**McNeill Hill**	**2.10**	**212**	P	**Pn**	**17 32 25.1**	**+0.4**
KUZ	**Kuaotunu**	**2.13**	**295**	P	**Pn**	**17 32 24.3**	**-0.6**
KWHZ	**Kaweka Forest**	**2.21**	**217**	P	**Pn**	**17 32 26.2**	**0.0**
KAHZ	**Kahuranaki**	**2.34**	**204**	P	**Pn**	**17 32 27.2**	**-0.8**
ETVZ	**East Tongariro**	**2.40**	**231**	P	**Pn**	**17 32 29.7**	**+0.8**
KRHZ	**Kereru**	**2.41**	**214**	P	**Pn**	**17 32 28.2**	**-0.7**
MKAZ	**Moumakai**	**2.42**	**282**	P	**Pn**	**17 32 29.2**	**+0.1**
SNVZ	**South Ngauruho**	**2.47**	**231**	P	**Pn**	**17 32 30.7**	**+0.8**
GRZ	**Great Barrier**	**2.56**	**303**	P	**Pn**	**17 32 30.9**	**-0.1**
PXZ	**Pawanui**	**2.56**	**202**	P	**Pn**	**17 32 29.3**	**-1.7**
WNVZ	**Wahianoa**	**2.58**	**229**	P	**Pn**	**17 32 32.0**	**+0.5**
PNHZ	**Pukenui**	**2.70**	**213**	P	**Pn**	**17 32 31.7**	**-1.3**
TSZ	**Takapari Road**	**2.93**	**215**	P	**Pn**	**17 32 34.4**	**-1.6**
BFZ	**Birch Farm**	**3.35**	**205**	P	**Pn**	**17 32 39.6**	**-2.2**
BFZ	**Birch Farm**	**3.35**	**205**	P	**Pn**	**17 32 39.5**	**-2.2**

*DSN **12** 17:43:45.8±1.9,27°.76N×56°.62E,h15km,ML2.7/8,Error ellipse: s-maj=55.6km s-min=17.5km az=107.0*
*TEH **12** 17:43:46.5,27°.66N×56°.75E,h7km±70km,ML3.0*
*OMAN **12** 17:43:52.3±0.1,27°.13N×56°.84E,h10km,ml2.5/11,Error ellipse: s-maj=1.7km s-min=0.9km az=339.0*

ISC 12 17:43:47.4±1.1,27°.57N±0°.04×56.74E±0°.04,h27km±10km, n40,σ1§88/56,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.22**	**236**	Pg	**Pb**	**17 43 52.4**	**-1.2**
GENO	**Geno**	**0.54**	**251**	Pg	**Pb**	**17 43 58.0**	**-0.5**
KHNJ	**Kahnooj**	**0.93**	**66**	Pg	**Pb**	**17 44 03.8**	**-1.3**
KHNJ				Sg	**Sb**	**17 44 17.3**	**+0.3**
SHME	**Shamm**	**1.61**	**200**	P	**Pn**	**17 44 15.0**	**+0.9**
SHME				S	**Sb**	**17 44 38.7**	**+2.3**
SHME	**Shamm**	**1.61**	**200**	P	**Pn**	**17 44 15.5**	**+1.4**
SHME				S	**Sn**	**17 44 33.2**	**-0.8**
BANOM	**Banah**	**1.69**	**194**	P	**Pn**	**17 44 17.1**	**+1.9**
BANOM	**Banah**	**1.69**	**194**	P	**Pn**	**17 44 17.2**	**+2.0**
BANOM				S	**Sn**	**17 44 36.3**	**+0.3**
NGRK	**Negar Kerman**	**2.06**	**360**	Pn	**Pb**	**17 44 22.9**	**-1.5**
KBAM	**BAM**	**2.17**	**44**	Pn	**Pb**	**17 44 24.7**	**-1.4**
MASF	**Masafi**	**2.25**	**194**	P	**Pn**	**17 44 24.7**	**+1.8**
MASF				S	**Sn**	**17 44 48.6**	**-1.3**
	SNR=11						
MSFE	**Esma-Masafi**	**2.27**	**193**	P	**Pn**	**17 44 25.6**	**+2.5**
MDH	**Madha**	**2.30**	**190**	P	**Pn**	**17 44 24.1**	**+0.6**
MDH	**Madha**	**2.30**	**190**	P	**Pn**	**17 44 24.7**	**+1.1**
MDH				S	**Sn**	**17 44 51.8**	**+0.8**
CHMN	**Cheshme madani**	**2.38**	**17**	Pn	**Pn**	**17 44 27.2**	**+2.1**
TVBK	**TV Kerman**	**2.40**	**0**	Pn	**Pb**	**17 44 27.7**	**-2.5**
UOSS	**Minazif**	**2.66**	**191**	P	**Pn**	**17 44 31.0**	**+2.5**
UOSS	**Minazif**	**2.66**	**191**	P	**Pn**	**17 44 29.6**	**+1.1**
UOSS				S	**Sn**	**17 44 58.0**	**-1.9**
HATD	**Hatta, Dubai**	**2.79**	**191**	P	**Pn**	**17 44 33.8**	**+3.5**
HATD	**Hatta, Dubai**	**2.79**	**191**	P	**Pn**	**17 44 29.6**	**-0.8**
HATD				S	**Sn**	**17 45 01.0**	**-2.2**
ASHO	**Ashiyiah**	**2.94**	**192**	P	**Pn**	**17 44 34.2**	**+1.8**
ASHO	**Ashiyiah**	**2.94**	**192**	P	**Pn**	**17 44 34.8**	**+2.3**
ASHO				S	**Sn**	**17 45 06.2**	**-0.7**
FAQ	**Al Faqa, Dubai**	**3.00**	**200**	P	**Pn**	**17 44 35.4**	**+2.2**
FAQ	**Al Faqa, Dubai**	**3.00**	**200**	P	**Pn**	**17 44 35.4**	**+2.2**
	SNR=8.0						
FAQ				S	**Sn**	**17 45 06.4**	**-1.8**
ASUD	**Al Ashush, Dub**	**3.20**	**204**	P	**Pn**	**17 44 37.9**	**+1.9**
ASUD	**Al Ashush, Dub**	**3.20**	**204**	P	**Pn**	**17 44 38.6**	**+2.7**
	SNR=6.7						
ASUD				S	**Sn**	**17 45 10.0**	**-3.2**
AJN	**Ajban**	**3.39**	**208**	P	**Pn**	**17 44 41.0**	**+2.4**
SOHO	**SOHO**	**3.43**	**183**	P	**Pn**	**17 44 40.1**	**+1.0**
ALNE	**Al Ain**	**3.62**	**195**	P	**Pn**	**17 44 42.6**	**+0.9**
HOQ	**Hoqain**	**4.01**	**173**	P	**Pn**	**17 44 46.0**	**-1.1**
ZHDN	**Zahedan**	**4.02**	**62**	Pn	**Pn**	**17 44 49.7**	**+2.4**
IBAF	**Bafgh**	**4.13**	**346**	Pn	**Pn**	**17 44 50.5**	**+1.6**
ARQ	**Araqi**	**4.22**	**183**	P	**Pn**	**17 44 52.8**	**+2.7**
BIDO	**Bidbid**	**4.22**	**162**	P	**Pn**	**17 44 50.9**	**+0.8**
NGCH	**Negor - Chabah**	**4.51**	**118**	P	**Pn**	**17 44 56.8**	**+2.8**
NGCH				S	**Sn**	**17 45 47.5**	**+1.9**
SMDO	**Samad**	**4.65**	**165**	P	**Pn**	**17 44 56.8**	**+0.8**
SMDO				S	**Sn**	**17 45 47.1**	**-2.0**
BSY	**Bisya**	**4.83**	**175**	P	**Pn**	**17 44 59.3**	**+1.0**
UMZA	**Um Al Zommool**	**5.05**	**197**	P	**Pn**	**17 45 02.0**	**+0.7**
WBK	**Wadi Bani Khal**	**5.34**	**157**	P	**Pn**	**17 45 07.0**	**+1.6**
	SNR=5.3						
WBK				S	**Sn**	**17 46 04.4**	**-1.7**
MZR	**Muzera**	**5.42**	**214**	P	**Pn**	**17 45 07.7**	**+1.2**
MZR				S	**Sn**	**17 46 07.1**	**-1.1**
JLN	**Jalan Bani Buh**	**5.92**	**155**	P	**Pn**	**17 45 14.3**	**+0.9**
JLN				S	**Sn**	**17 46 16.6**	**-3.7**

TAP 12 17:48:53.0,24°.25N×121°.71E,h14km±1km,ML1.4,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAHA	**Aohua**	**0.09**	**16**	P	Pg	17 48 56.4	+0.4
	baz=15						
EAHA				*e*S	Sg	17 48 59.6	+1.6
	baz=15						
ETL	**Fush Village**	**0.12**	**224**	P	Pb	17 48 57.1	-0.1
	baz=223						
ETL				S	Sb	17 48 59.6	-0.3
	baz=223						
NACB	**Ninganchiao**	**0.13**	**237**	*i* P	Pb	17 48 57.1	-0.2
	baz=236						
NACB				*i* S	Sb	17 49 00.1	0.0
	baz=236						
ENA	**Nanau**	**0.18**	**8**	P	Pb	17 48 57.9	-0.4
	baz=9.0						
ENA				*e*S	Sg	17 49 00.8	+0.6
	baz=9.0						
TWD	**Chiawan**	**0.20**	**213**	P	Pb	17 48 58.3	-0.2
	baz=211						
TWD				S	Sb	17 49 01.5	-0.6
	baz=211						
EWUT	**Wuta**	**0.21**	**16**	*e*P	Pb	17 48 58.3	-0.3
	baz=16						
LATG	**Datong**	**0.34**	**329**	P	Pb	17 49 01.3	+0.4
	baz=329						
LATG				S	Sb	17 49 06.3	+0.1
	baz=329						
ETM	**Tongmen**	**0.34**	**216**	*e*P	Pb	17 49 00.9	-0.1
	baz=215						
NNSB	**Datong**	**0.35**	**301**	P	Pb	17 49 01.7	+0.4
	baz=301						
NNSB				*i* S	Sb	17 49 06.7	0.0
	baz=301						
LXIB	**Xiulin Townshi**	**0.35**	**231**	*e*P	Pb	17 49 01.2	0.0
	baz=230						
LXIB				*e*S	Sb	17 49 06.1	-0.6
	baz=230						
NNS	**Nan Shan**	**0.37**	**302**	P	Pb	17 49 01.1	-0.4
	baz=302						
NNS				*e*S	Sb	17 49 06.8	-0.3
	baz=302						
TWC	**Suao**	**0.38**	**19**	*e*P	Pg	17 49 00.3	-0.5
	baz=20						
NDS	**Dongshan**	**0.39**	**0**	*e*P	Pb	17 49 02.0	+0.2
NDT	**Datong Townshi**	**0.40**	**333**	*e*P	Pb	17 49 02.2	+0.3
	baz=332						
ENTT	**Nioudou**	**0.41**	**341**	P	Pb	17 49 02.7	+0.5
	baz=341						
ENTT				S	Sb	17 49 08.6	+0.2
	baz=341						
FUSS	**Fushou**	**0.43**	**270**	*e*P	Pb	17 49 02.6	+0.1
	baz=270						
YHNB	**Yeheng**	**0.52**	**324**	*e*P	Pb	17 49 04.6	+0.5
YHNB	baz=323						
				*e*S	Sb	17 49 12.1	+0.5
	baz=323						
FUSB	**Fushanzhiwuyua**	**0.52**	**347**	P	Pb	17 49 03.8	-0.3
	baz=347						
FUSB				S	Sb	17 49 12.2	+0.6
	baz=347						

*NEIC **12** 17:55:07.0±2.5,43°.61N±0°.05×105°.35W±0°.07,h0km, ML3.1/64,Error ellipse: s-maj=10.5km s-min=6.5km az=323.0*
*IDC **12** 17:55:08.3±2.2,43°.49N×105°.57W,h0km,mbtmp3.4/2, ML3.2/2,Error ellipse: s-maj=48.8km s-min=10.3km az=153.0*

ISC 12 17:55:08.4±1.0,43°.59N±0°.06×105°.40W±0°.06,h0km,n26, σ1§07/18,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.12**	**61**		**Pb**	**17 55 30.6**	**-0.1**
K22A	**Casper**	**1.25**	**222**		**Pg**	**17 55 31.1**	**-1.3**
PHWY	**Pilot Hill**	**2.29**	**181**	Pn	**Pn**	**17 55 47.7**	**0.0**
RWWY	**Rawlins**	**2.33**	**216**	Pn	**Pn**	**17 55 48.7**	**+0.5**
RWWY				IAML		17 56 20.6	
	95nm,0.7s						
N23A	**Red Feather La**	**2.73**	**189**	Pn	**Pn**	**17 55 54.8**	**+1.1**
N23A				IAML		17 56 31.9	
	comp=N,88nm,0.6s						
N23A				IAML		17 56 33.9	
	comp=E,51nm,0.8s						
PD31	**Pinedale Array**	**3.15**	**256**		**Pn**	**17 55 59.9**	**+0.4**
PDAR	**Pinedale Array**	**3.15**	**256**		**Pn**	**17 56 00.9**	**+1.4**
PDAR	**Pinedale Array**	**3.15**	**256**	Pn	**Pn**	**17 56 00.1**	**+0.6**
	comp=E,3.1nm,0.3s,baz=80,slow=16,SNR=25						
PDAR				Lg	Lg	17 56 42.9	
	comp=E,8.3nm,0.3s,baz=76,slow=34,SNR=7.3						
	comp=E,4.0nm,0.4s						
RLMT	**Red Lodge**	**3.17**	**300**		**Pn**	**17 56 01.4**	**+1.7**
RLMT				IAML		17 56 58.5	
	comp=E,57nm,0.7s						
RLMT				IAML		17 56 58.5	
	comp=E,39nm,0.7s						
YMP	**Mirror Lake Pl**	**3.61**	**290**		**Pn**	**17 56 06.4**	**+0.5**
OGNE	**Ogallala**	**3.64**	**136**	Pn	**Pn**	**17 56 06.2**	**+0.2**
LOHW	**Long Hollow**	**3.78**	**272**		**Pn**	**17 56 09.7**	**+1.5**
LOHW				IAML		17 57 11.2	
	comp=E,24nm,0.8s						
LOHW				IAML		17 57 32.3	
	comp=E,22nm,1.6s						
ISCO	**Idaho Springs**	**3.79**	**183**		**Pn**	**17 56 09.4**	**+1.0**
H17A	**Grant Village**	**3.82**	**284**		**Pn**	**17 56 10.1**	**+1.4**
H17A				IAML		17 57 12.0	
	comp=N,30nm,0.7s						
H17A				IAML		17 58 39.0	
	comp=E,25nm,0.1s						
MOOW	**Moose Ponds**	**3.88**	**274**		**Pn**	**17 56 08.3**	**-1.2**
SNOW	**Snow King Moun**	**3.90**	**270**		**Pn**	**17 56 09.6**	**-0.2**
IMW	**Indian Meadow**	**4.03**	**276**	IAML		17 57 25.4	
	comp=E,19nm,1.6s						
IMW				IAML		17 57 26.0	
	comp=E,29nm,0.7s						
AHID	**Auburn Hatcher**	**4.25**	**261**	IAML		17 57 30.0	
	comp=E,29nm,0.9s						
AHID				IAML		17 57 36.8	
	comp=E,23nm,0.8s						
RDMU	**Red Mountain**	**4.33**	**227**	IAML		17 57 33.9	
	comp=N,21nm,2.2s						
RDMU				IAML		17 57 42.4	
	comp=E,23nm,0.8s						
SMCO	**Snowmass**	**4.57**	**196**	IAML		17 57 40.4	
	comp=E,15nm,2.0s						
SMCO				IAML		17 57 42.6	
	comp=E,18nm,1.0s						
BOZ	**Bozeman (W)**	**4.88**	**296**	IAML		17 57 43.7	
	comp=E,17nm,0.9s						
BOZ				IAML		17 57 52.1	
	comp=E,17nm,0.9s						
HWUT	**Hardware Ranch**	**4.97**	**249**	IAML		17 57 57.3	
	comp=E,18nm,0.8s						
BSUT	**Blindstream Ca**	**5.03**	**234**	IAML		17 57 53.9	
	comp=N,16nm,0.8s						
BSUT				IAML		17 57 59.6	
	comp=E,14nm,1.8s						
EGMT	**Eagleton**	**5.38**	**327**	Pn	**Pn**	**17 56 29.0**	**-0.9**
ULM	**Lac du Bonnet**	**9.31**	**41**	Pn	**Pn**	**17 57 24.4**	**+0.6**
	comp=E,0.4nm,0.3s,baz=222,slow=16,SNR=1.5						
ULM				Lg	Lg	17 59 59.4	
	comp=E,0.3nm,0.3s,baz=348,slow=14,SNR=2.4						
	comp=E,1.7nm,0

POHA	**Pohakuloa**	**0.42**	**326**		Sg	18 02 13.4	+1.4
POHA	**Pohakuloa**	**0.42**	**326**		Pg	18 02 06.5	-0.1
POHA	**Pohakuloa**	**0.42**	**326**	IAML		18 02 20.8	
	comp=N,4μm,0.9s						
POHA				IAML		18 02 21.1	
	comp=N,5μm,0.8s						
HUH	**Hualalai**	**0.59**	**298**		Pg	18 02 10.1	+0.3
CPH	**Captain Cook**	**0.61**	**278**		Pg	18 02 10.0	-0.1
HPAH	**Hawaii Prepara**	**0.73**	**328**		Pg	18 02 11.5	-1.0
KAN06	**Argonia West S**	**52.80**	**58**	P	P	18 11 15.3	-0.2
L34A	**Svendsen Farm,**	**54.30**	**52**	P	P	18 11 25.8	-0.7

*NEIC **12** 18:07:14.0±2.8, 57°.42N±0°.05×138°.05W±0°.08, h10km±2km, Error ellipse: s-maj=8.6km s-min=6.6km az=207.0*
*IDC **12** 18:07:14.6±0.9, 57°.55N×137°.96W, h0km, mb3.4/5, mbtmp3.7/10, ML4.1/6, MS2.8/5, Error ellipse: s-maj=15.7km s-min=9.1km az=35.0*
*ANF **12** 18:07:15.5±0.2, 57°.41N×137°.99W, h20km, Error ellipse: s-maj=3.1km s-min=1.6km az=3.0*
*AEIC **12** 18:07:16.8±2.7, 57°.42N±0°.05×138°.09W±0°.08, h31km±7km, ML3.9, mb3.8/9(NEIC), ML3.9/106(NEIC), Mwr4.0(OTT), Error ellipse: s-maj=9.1km s-min=2.2km az=218.0*
*PGC **12** 18:07:17.0±0.0, 57°.55N×137°.90W, h21km, ML4.0/6, Mw4.0, 164km west of Sitka, Ak Off Coast Of Southeastern Alaska*
*NEIC **12** 18:07:17, 57°.55N×137°.90W, h19km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}=0.24; $M_{\theta\theta}$=0.56; $M_{\phi\phi}$=0.12; $M_{r\theta}$=-0.28; $M_{r\phi}$=1.26; $M_{\theta\phi}$=-0.22; Fault plane solution: M_0=1.40000×10^15^ NP1:ϕ_s=263.00000°, δ=83.00000°, λ=13.00000°. NP2:ϕ_s=172.00000°, δ=78.00000°, λ=173.00000°. Principal axes: T 1.3948, Plg=14.0000°, Azm=128.0000°; N -0.0953, Plg=76.0000°, Azm=292.0000°; P -1.2995, Plg=4.0000°, Azm=37.0000°;*

ISC 12 18:07:15.0±2.8, 57°.48N±0°.04×138°.00W±0°.04, h15km±19km, n455, σ1°31/453, mb3.8/8, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S31K	**Pelican**	**1.06**	**62**		**Pb**	**18 07 34.4**	**-0.7**
S31K	**Pelican**	**1.06**	**62**		**Sb**	**18 07 47.2**	**-1.6**
S31K	**Pelican**	**1.06**	**62**	IAML		18 07 47.8	
	comp=N,5μm,0.7s						
S31K				IAML		18 07 48.0	
	comp=E,5μm,0.4s						
S31K	**Pelican**	**1.06**	**62**	P	**Pb**	**18 07 34.6**	**-0.4**
	baz=242,SNR=150						
S31K				S	**Sb**	**18 07 47.2**	**-1.6**
	baz=242						
S31K	**Pelican**	**1.06**	**62**	P	**Pb**	**18 07 34.6**	**-0.4**
S31K				S	**Sb**	**18 07 46.9**	**-1.8**
SIT	**Sitka**	**1.51**	**105**	P	**Pn**	**18 07 41.2**	**-0.3**
SIT	**Sitka**	**1.51**	**105**		**Sn**	**18 07 58.4**	**-2.5**
SIT	**Sitka**	**1.51**	**105**	Pn	**Pn**	**18 07 40.8**	**-0.6**
SIT	**Sitka**	**1.51**	**105**	IAML		18 08 00.1	
	comp=N,1μm,0.6s						
SIT				IAML		18 08 00.3	
	comp=E,2μm,0.4s						
SIT	**Sitka**	**1.51**	**105**	P	**Pn**	**18 07 40.8**	**-0.6**
	baz=285,SNR=37						
SIT				S	**Sn**	**18 07 58.6**	**-2.3**
	baz=285						
R31K	**City Hall, Gus**	**1.53**	**51**		**Pn**	**18 07 41.9**	**+0.2**
R31K					**Sn**	**18 07 59.9**	**-1.3**
R31K	**City Hall, Gus**	**1.53**	**51**	P	**Pn**	**18 07 41.9**	**+0.2**
	baz=232,SNR=13						
R31K				S	**Sn**	**18 08 01.3**	**+0.1**
	baz=232						
R31K	**City Hall, Gus**	**1.53**	**51**	P	**Pn**	**18 07 41.9**	**+0.2**
R31K				S	**Sn**	**18 08 00.0**	**-1.2**
S32K	**Killisnoo**	**1.85**	**89**		**Sn**	**18 08 07.9**	**-1.2**
S32K	**Killisnoo**	**1.85**	**89**		**Pn**	**18 07 45.3**	**-0.7**
S32K	**Killisnoo**	**1.85**	**89**	IAML		18 08 09.9	
	comp=E,660nm,0.3s						
S32K				IAML		18 08 10.2	
	comp=N,818nm,0.5s						
S32K	**Killisnoo**	**1.85**	**89**	P	**Pn**	**18 07 46.3**	**+0.2**
	baz=270,SNR=85						
S32K				S	**Sn**	**18 08 08.5**	**-0.7**
	baz=270						
S32K	**Killisnoo**	**1.85**	**89**	Pn	**Pn**	**18 07 46.4**	**+0.3**
S32K				Sn	**Sn**	**18 08 07.9**	**-1.2**
BESE	**Bessie Mountai**	**2.00**	**55**		**Pn**	**18 07 49.0**	**+0.7**
BESE					**Sn**	**18 08 12.5**	**-0.6**
BESE	**Bessie Mountai**	**2.00**	**55**	Pn	**Pn**	**18 07 49.0**	**+0.7**
R32K	**Eaglecrest**	**2.02**	**65**		**Sn**	**18 08 12.7**	**-0.9**
R32K	**Eaglecrest**	**2.02**	**65**		**Pn**	**18 07 49.0**	**+0.5**
R32K	**Eaglecrest**	**2.02**	**65**	IAML		18 08 16.2	
	comp=N,746nm,0.4s						
R32K				IAML		18 08 16.5	
	comp=E,482nm,0.5s						
R32K	**Eaglecrest**	**2.02**	**65**	P	**Pn**	**18 07 49.2**	**+0.7**
	baz=247,SNR=52						
R32K				S	**Sn**	**18 08 12.6**	**-0.9**
	baz=247						
R32K	**Eaglecrest**	**2.02**	**65**	Pn	**Pn**	**18 07 49.1**	**+0.5**
R32K				Sn	**Sn**	**18 08 11.7**	**-1.9**
JIS	**Juneau Island**	**2.09**	**66**	P	**Pn**	**18 07 50.2**	**+0.8**
JIS	**Juneau Island**	**2.09**	**66**		**Pn**	**18 07 50.0**	**+0.5**
JIS				IAML		18 08 16.7	
	comp=E,732nm,0.4s						
JIS				IAML		18 08 32.1	
	comp=N,708nm,0.8s						
PLBC	**Pleasant Camp**	**2.16**	**23**		**Pn**	**18 07 51.4**	**+1.0**
PLBC					**Sn**	**18 08 15.9**	**-1.0**
PLBC	**Pleasant Camp**	**2.16**	**23**	P	**Pn**	**18 07 51.4**	**+1.0**
	baz=204,SNR=212						
PLBC				S	**Sn**	**18 08 15.9**	**-1.0**
	baz=204						
PLBC	**Pleasant Camp**	**2.16**	**23**	Pn	**Pn**	**18 07 51.4**	**+1.0**
PLBC				Sn	**Sn**	**18 08 15.6**	**-1.3**
P29M	**Windy Craggy**	**2.16**	**3**	Pn	**Pn**	**18 07 50.9**	**+0.4**
P29M	**Windy Craggy**	**2.16**	**3**		**Sn**	**18 08 15.5**	**-1.5**
P29M	**Windy Craggy**	**2.16**	**3**	P	**Pn**	**18 07 51.0**	**+0.5**
	baz=185,SNR=138						
P29M				S	**Sn**	**18 08 16.1**	**-1.0**
	baz=185						
P29M	**Windy Craggy**	**2.16**	**3**	Pn	**Pn**	**18 07 51.0**	**+0.5**
P29M				Sn	**Sn**	**18 08 15.2**	**-1.8**
YKU2	**Yakutat**	**2.22**	**337**	P	**Pn**	**18 07 52.9**	**+1.7**
YKU2	**Yakutat**	**2.22**	**337**		**Pn**	**18 07 51.4**	**+0.2**
PNL	**Peninsula**	**2.32**	**342**	P	**Pn**	**18 07 52.4**	**-0.1**
PNL	**Peninsula**	**2.32**	**342**		**Sn**	**18 08 19.2**	**-1.6**
PNL	**Peninsula**	**2.32**	**342**	P	**Pn**	**18 07 52.5**	**-0.1**
	baz=162,SNR=52						
PNL				S	**Sn**	**18 08 18.8**	**-2.0**
	baz=162						
PNL	**Peninsula**	**2.32**	**342**	Pn	**Pn**	**18 07 52.5**	**-0.1**
PNL				Sn	**Sn**	**18 08 18.5**	**-2.3**
SKAG	**Skagway**	**2.43**	**34**	P	**Pn**	**18 07 55.3**	**+1.2**
SKAG	**Skagway**	**2.43**	**34**		**Pn**	**18 07 55.0**	**+0.9**
SKAG	**Skagway**	**2.43**	**34**	P	**Pn**	**18 07 55.3**	**+1.2**
	baz=216,SNR=39						
SKAG				S	**Sn**	**18 08 22.1**	**-1.4**
	baz=216						
BCPM	**Bancas Point**	**2.62**	**342**	Pn	**Pn**	**18 07 56.6**	**-0.2**
P30M	**Million Dollar**	**2.71**	**11**		**Pn**	**18 07 59.2**	**+1.3**
P30M	**Million Dollar**	**2.71**	**11**	IAML		18 08 46.1	
	comp=N,444nm,0.6s						
P30M				IAML		18 08 49.5	
	comp=E,375nm,0.7s						
P30M	**Million Dollar**	**2.71**	**11**	P	**Pn**	**18 07 59.3**	**+1.3**
	baz=192						
T33K	**Petersburg**	**2.83**	**101**		**Pn**	**18 08 00.4**	**+0.8**
T33K	**Petersburg**	**2.83**	**101**	S	**Sn**	**18 08 33.3**	**0.0**
	baz=284						
O29M	**Mount Kennedy**	**2.85**	**354**		**Pn**	**18 08 01.2**	**+1.2**
O29M	**Mount Kennedy**	**2.85**	**354**		**Sn**	**18 08 33.3**	**-0.8**
O29M	**Mount Kennedy**	**2.85**	**354**	P	**Pn**	**18 08 01.2**	**+1.2**
	baz=175,SNR=61						
O29M				S	**Sn**	**18 08 34.0**	**-0.1**
	baz=175						
O29M	**Mount Kennedy**	**2.85**	**354**	Pn	**Pn**	**18 08 01.2**	**+1.2**
U33K	**Whale Pass**	**3.01**	**115**		**Sn**	**18 08 36.5**	**-1.3**
U33K	**Whale Pass**	**3.01**	**115**	Pn	**Pn**	**18 08 02.4**	**+0.4**
U33K	**Whale Pass**	**3.01**	**115**	IAML		18 08 37.2	
	comp=N,315nm,0.5s						
U33K				IAML		18 08 39.5	
	comp=E,310nm,0.3s						
U33K	**Whale Pass**	**3.01**	**115**	P	**Pn**	**18 08 02.4**	**+0.4**
	baz=298,SNR=86						
U33K				S	**Sn**	**18 08 36.7**	**-1.1**
	baz=298						
U33K	**Whale Pass**	**3.01**	**115**	Pn	**Pn**	**18 08 02.5**	**+0.4**
SAMH	**Samovar Hills**	**3.03**	**333**		**Pn**	**18 08 03.4**	**+1.0**
SAMH	**Samovar Hills**	**3.03**	**333**	Pn	**Pn**	**18 08 02.9**	**+0.5**
YUK7	**Dusty Glacier**	**3.06**	**359**	Pn	**Pn**	**18 08 04.9**	**+1.9**
P32M	**Atlin**	**3.09**	**45**		**Pn**	**18 08 04.2**	**+1.1**
P32M	**Atlin**	**3.09**	**45**	P	**Pn**	**18 08 04.3**	**+1.1**
	baz=228,SNR=30						
P32M	**Atlin**	**3.09**	**45**	Pn	**Pn**	**18 08 04.1**	**+0.9**
WRAK	**Wrangell Islan**	**3.27**	**107**		**Sn**	**18 08 42.2**	**-2.0**
WRAK	**Wrangell Islan**	**3.27**	**107**		**Pn**	**18 08 06.2**	**+0.5**
WRAK	**Wrangell Islan**	**3.27**	**107**	IAML		18 08 45.1	
	comp=E,395nm,0.3s						
WRAK				IAML		18 08 54.8	
	comp=E,528nm,0.5s						
WRAK	**Wrangell Islan**	**3.27**	**107**	P	**Pn**	**18 08 06.3**	**+0.7**
	baz=290,SNR=18						
WRAK				S	**Sn**	**18 08 43.2**	**-1.1**
	baz=290						
WRAK	**Wrangell Islan**	**3.27**	**107**	Pn	**Pn**	**18 08 06.2**	**+0.5**
HYT	**Haines Junctio**	**3.37**	**4**		**Sn**	**18 08 45.5**	**-1.3**
HYT	**Haines Junctio**	**3.37**	**4**		**Pn**	**18 08 08.5**	**+1.5**
HYT	**Haines Junctio**	**3.37**	**4**	IAML		18 08 51.2	
	comp=N,299nm,0.4s						
HYT				IAML		18 08 51.8	
	comp=E,494nm,0.8s						
HYT	**Haines Junctio**	**3.37**	**4**	P	**Pn**	**18 08 08.6**	**+1.5**
	baz=185,SNR=43						
HYT	**Haines Junctio**	**3.37**	**4**	Pn	**Pn**	**18 08 08.3**	**+1.2**
CRAG	**Craig**	**3.37**	**125**	P	**Pn**	**18 08 07.1**	**+0.1**
CRAG	**Craig**	**3.37**	**125**	Pn	**Pn**	**18 08 06.8**	**-0.2**
CRAG	**Craig**	**3.37**	**125**	P	**Pn**	**18 08 07.1**	**+0.1**
	baz=308,SNR=27						
Q32M	**Nakina River**	**3.38**	**61**		**Pn**	**18 08 08.1**	**+0.8**
Q32M				IAML		18 09 08.6	
	comp=E,200nm,1.3s						
Q32M				IAML		18 09 12.4	
	comp=N,206nm,1.8s						
Q32M	**Nakina River**	**3.38**	**61**	P	**Pn**	**18 08 08.4**	**+1.1**
	baz=246,SNR=22						
Q32M	**Nakina River**	**3.38**	**61**	Pn	**Pn**	**18 08 08.3**	**+1.1**
TABL	**Table Mountain**	**3.39**	**333**		**Pn**	**18 08 07.5**	**0.0**
TABL				IAML		18 09 03.7	
	comp=N,393nm,0.8s						
TABL				IAML		18 09 16.5	
	comp=E,368nm,0.9s						
TABL	**Table Mountain**	**3.39**	**333**	Pn	**Pn**	**18 08 07.4**	**0.0**
MESA	**MESA**	**3.40**	**324**		**Pn**	**18 08 07.2**	**-0.5**
MESA				IAML		18 09 03.6	
	comp=E,446nm,0.5s						
MESA	**MESA**	**3.40**	**324**	P	**Pn**	**18 08 07.1**	**-0.5**
	baz=142,SNR=46						
MESA	**MESA**	**3.40**	**324**	Pn	**Pn**	**18 08 07.2**	**-0.5**
O30N	**Mendenhall**	**3.44**	**16**	IAML		18 08 48.9	
	comp=E,219nm,0.3s						
O30N				IAML		18 08 49.5	
	comp=N,184nm,0.5s						
O30N	**Mendenhall**	**3.44**	**16**	P	**Pn**	**18 08 09.8**	**+1.6**
	baz=198,SNR=66						
O30N	**Mendenhall**	**3.44**	**16**	Pn	**Pn**	**18 08 09.7**	**+1.6**
YUK6	**Outpost Mounta**	**3.48**	**357**		**Pn**	**18 08 10.3**	**+1.5**
YUK6	**Outpost Mounta**	**3.48**	**357**	P	**Pn**	**18 08 10.4**	**+1.6**
	baz=177,SNR=8.9						
O28M	**Mount Upton**	**3.49**	**342**		**Pn**	**18 08 09.9**	**+0.9**
O28M	**Mount Upton**	**3.49**	**342**	P	**Pn**	**18 08 10.3**	**+1.3**
	baz=161,SNR=79						
CYK	**Cape Yakataga**	**3.50**	**320**		**Pn**	**18 08 08.4**	**-0.5**
LOGN	**Logan Glacier**	**3.70**	**337**		**Pn**	**18 08 12.4**	**+0.7**
LOGN	**Logan Glacier**	**3.70**	**337**	IAML		18 09 14.1	
	comp=E,210nm,0.7s						
LOGN				IAML		18 09 25.0	
	comp=N,189nm,0.9s						
SNH	**Sunshine Point**	**3.70**	**319**		**Pn**	**18 08 10.9**	**-0.7**
SNH				IAML		18 09 13.3	
	comp=E,250nm,0.7s						
SNH				IAML		18 09 17.8	
	comp=N,268nm,0.6s						
S34M	**Telegraph Cree**	**3.71**	**80**	P	**Pn**	**18 08 13.0**	**+1.3**
	baz=265						
GRNC	**Granite Creek**	**3.79**	**331**	IAML		18 08 56.4	
	comp=N,195nm,0.8s						
BGLC	**Bering Glacier**	**3.82**	**316**		**Pn**	**18 08 12.8**	**-0.4**
BGLC	**Bering Glacier**	**3.82**	**316**	P	**Pn**	**18 08 12.9**	**-0.2**
	baz=133						
P33M	**Teslin, Yukon**	**3.84**	**42**	Pn	**Pn**	**18 08 14.6**	**+1.1**
P33M	**Teslin, Yukon**	**3.84**	**42**	P	**Pn**	**18 08 14.7**	**+1.1**
	baz=227,SNR=11						
ISLE	**Juniper Island**	**3.85**	**326**		**Pn**	**18 08 13.1**	**-0.7**
ISLE	**Juniper Island**	**3.85**	**326**	IAML		18 09 21.8	
	comp=E,153nm,0.8s						
ISLE				IAML		18 09 30.9	
	comp=N,242nm,0.9s						
YUK4	**Talbot Arm**	**3.89**	**355**	P	**Pn**	**18 08 18.0**	**+3.6**
	baz=176,SNR=80						
CTGM	**Chitina Glacie**	**3.89**	**335**		**Pn**	**18 08 15.2**	**+0.9**
CTGM	**Chitina Glacie**	**3.89**	**335**	IAML		18 09 02.3	
	comp=N,177nm,0.5s						
CTGM				IAML		18 09 14.1	
	comp=E,127nm,0.8s						
CTG	**Chitna Glacier**	**3.90**	**335**	P	**Pn**	**18 08 14.9**	**+0.5**
	baz=153,SNR=37						
WAX	**Waxell Ridge**	**3.90**	**322**	IAML		18 09 07.4	
	comp=E,274nm,0.5s						
YUK8	**Steele Glacier**	**3.92**	**347**		**Pn**	**18 08 16.9**	**+2.1**
YUK8	**Steele Glacier**	**3.92**	**347**	P	**Pn**	**18 08 16.8**	**+1.9**
	baz=167,SNR=56						
GRIN	**Grindle Hills**	**3.94**	**318**		**Pn**	**18 08 14.2**	**-0.7**
SUCK	**Suckling Hills**	**3.98**	**313**		**Pn**	**18 08 14.6**	**-0.7**
N30M	**Aishikik Lake**	**4.02**	**6**	IAML		18 09 03.4	
	comp=N,197nm,0.5s						
N30M				IAML		18 09 24.1	
	comp=E,135nm,1.1s						
N30M	**Aishikik Lake**	**4.02**	**6**	P	**Pn**	**18 08 17.7**	**+1.7**
	baz=187						
KIAG	**Kiagna River**	**4.12**	**329**		**Pn**	**18 08 16.8**	**-0.6**
TGL	**Tana Glacier**	**4.12**	**325**		**Pn**	**18 08 17.0**	**-0.5**
TGL	**Tana Glacier**	**4.12**	**325**	IAML		18 09 47.5	
	comp=N,135nm,0.8s						
V35K	**Ketchikan**	**4.15**	**119**	Pn	**Pn**	**18 08 18.1**	**+0.4**
V35K	**Ketchikan**	**4.15**	**119**	P	**Pn**	**18 08 18.5**	**+0.8**
	baz=303,SNR=18						
KAIM	**Kayak Island**	**4.15**	**309**	Pn	**Pn**	**18 08 16.8**	**-1.0**
KAIM				IAML		18 09 58.2	
	comp=N,100nm,2.3s						
KAIM	**Kayak Island**	**4.15**	**309**	P	**Pn**	**18 08 17.0**	**-0.8**
	baz=124,SNR=9.8						
R33M	**Jennings River**	**4.17**	**60**	Pn	**Pn**	**18 08 19.3**	**+1.2**
R33M	**Jennings River**	**4.17**	**60**	P	**Pn**	**18 08 19.6**	**+1.5**
	baz=245,SNR=34						
N31M	**Braeburn, Yuko**	**4.18**	**15**	IAML		18 09 35.1	
	comp=N,226nm,1.1s						
N31M	**Braeburn, Yuko**	**4.18**	**15**	P	**Pn**	**18 08 20.0**	**+1.8**
	baz=197,SNR=28						
CRQE	**Cirque**	**4.20**	**323**	P	**Pn**	**18 08 18.5**	**-0.1**
	baz=140,SNR=88						
BALM	**Baldy**	**4.21**	**330**		**Pn**	**18 08 17.9**	**-0.7**
CRQM	**Cirque**	**4.22**	**323**		**Pn**	**18 08 18.2**	**-0.7**
CRQM				IAML		18 09 33.8	
	comp=N,215nm,0.8s						
CRQM				IAML		18 09 41.5	
	comp=E,187nm,0.7s						
T35M	**Bob Quinn**	**4.24**	**93**		**Pn**	**18 08 16.8**	**-2.2**
T35M				IAML		18 09 28.6	
	comp=N,128nm,0.5s						
T35M				IAML		18 09 32.9	
	comp=E,104nm,0.6s						
HMT	**Hamilton**	**4.33**	**314**		**Pn**	**18 08 18.9**	**-1.4**
DLBC	**Dease Lake**	**4.35**	**74**		**Pn**	**18 08 21.9**	**+1.4**
DLBC				IAML		18 09 30.9	
	comp=E,102nm,0.5s						
DLBC	**Dease Lake**	**4.35**	**74**	P	**Pn**	**18 08 22.0**	**+1.4**
	baz=260,SNR=6.2						
DLBC	**Dease Lake**	**4.35**	**74**	Pn	**Pn**	**18 08 22.1**	**+1.5**
	comp=E,4.4nm,0.3s,baz=240,slow=7.6,SNR=52						
DLBC				Sn	**Sn**	**18 09 09.9**	**-1.2**
	comp=E,8.8nm,0.3s,baz=277,slow=26,SNR=4.7						
	comp=E,9.8nm,0.2s						
PTPK	**Patty Peak**	**4.37**	**330**		**Pn**	**18 08 20.8**	**-0.1**
N32M	**Quiet Lake**	**4.46**	**32**		**Pn**	**18 08 23.3**	**+1.2**
N32M	**Quiet Lake**	**4.46**	**32**	IAML		18 09 35.0	
	comp=E,199nm,0.7s						
N32M	**Quiet Lake**	**4.46**	**32**	P	**Pn**	**18 08 23.3**	**+1.2**
	baz=216						
YUK3	**Moose Creek**	**4.49**	**345**	P	**Pn**	**18 08 24.3**	**+1.8**
	baz=163,SNR=26						
RAGM	**Ragged Mountai**	**4.52**	**313**		**Pn**	**18 08 21.6**	**-1.3**
U35K	**Hyder**	**4.67**	**106**		**Pn**	**18 08 26.0**	**+1.2**
MCARA	**McCarthy VSAT**	**4.68**	**329**		**Pn**	**18 08 25.9**	**+0.8**
MCARA				IAML		18 09 49.3	
	comp=E,149nm,0.8s						
MCARA				IAML		18 09 52.4	
	comp=N,122nm,0.9s						
MCARA	**McCarthy VSAT**	**4.68**	**329**	P	**Pn**	**18 08 26.1**	**+1.0**
	baz=145,SNR=24						
VRDI	**Verde Repeater**	**4.68**	**326**	Pn	**Pn**	**18 08 24.5**	**-0.7**
MID	**Middleton Isla**	**4.80**	**298**	P	**Pn**	**18 08 25.3**	**-1.3**
MID	**Middleton Isla**	**4.80**	**298**	Pn	**Pn**	**18 08 24.6**	**-2.0**
MID				IAML		18 09 18.1	
	comp=E,92nm,0.5s						
MID				IAML		18 09 19.6	
	comp=N,71nm,0.5s						
Q23K	**Middleton Isla**	**4.80**	**298**	Pn	**Pn**	**18 08 24.5**	**-2.2**
Q23K				IAML		18 09 18.1	
	comp=E,94nm,0.5s						
Q23K				IAML		18 09 53.1	
	comp=N,74nm,2.8s						
Q23K	**Middleton Isla**	**4.80**	**298**	P	**Pn**	**18 08 24.5**	**-2.2**
	baz=111						
BMRM	**Bremner River**	**4.87**	**319**	P	**Pn**	**18 08 26.8**	**-0.9**
	baz=134,SNR=24						
M29M	**Somme Creek**	**4.99**	**358**	P	**Pn**	**18 08 31.5**	**+2.2**
	baz=178,SNR=60						
EYAK	**Cordova Ski Ar**	**5.05**	**311**	P	**Pn**	**18 08 30.7**	**+0.6**
EYAK	**Cordova Ski Ar**	**5.05**	**311**	P	**Pn**	**18 08 29.9**	**-0.2**
	baz=125,SNR=7.4						
M31M	**Drury Creek, Y**	**5.08**	**19**	IAML		18 09 51.1	
	comp=N,60nm,0.6s						
M31M				IAML		18 09 57.8	
	comp=E,103nm,0.8s						
M31M	**Drury Creek, Y**	**5.08**	**19**	P	**Pn**	**18 08 32.6**	**+2.1**
	baz=203,SNR=14						
M30M	**Minto, Yukon**	**5.15**	**6**	IAML		18 09 52.7	
	comp=N,55nm,0.7s						
M30M				IAML		18 09 53.5	
	comp=E,74nm,0.8s						
M30M	**Minto, Yukon**	**5.15**	**6**	P	**Pn**	**18 08 33.1**	**+1.6**
	baz=188,SNR=18						
M27K	**Edge Creek, AK**	**5.27**	**340**	IAML		18 10 07.3	
	comp=N,48nm,1.1s						
M27K				IAML		18 10 17.8	
	comp=E,52nm,1.1s						
M27K	**Edge Creek, AK**	**5.27**	**340**	P	**Pn**	**18 08 34.9**	**+1.6**
	baz=157,SNR=30						
HIN	**Hinchinbrook I**	**5.29**	**307**		**Pn**	**18 08 32.5**	**-0.9**
HIN				IAML		18 09 30.8	
	comp=N,55nm,0.5s						
HIN				IAML		18 10 03.3	
	comp=E,54nm,0.9s						
DIB	**Dawson Inlet,**	**5.32**	**141**		**Pn**	**18 08 34.1**	**+0.4**
DIB	**Dawson Inlet,**	**5.32**	**141**	P	**Pn**	**18 08 33.8**	**0.0**
N25K	**Chitina, Valde**	**5.33**	**324**		**Pn**	**18 08 34.3**	**+0.3**
N25K	**Chitina, Valde**	**5.33**	**324**	P	**Pn**	**18 08 35.0**	**+0.9**
	baz=139,SNR=76						
RUBB	**Prince Rupert**	**5.38**	**123**		**Pn**	**18 08 34.3**	**-0.3**
RUBB	**Prince Rupert**	**5.38**	**123**	P	**Pn**	**18 08 35.5**	**+0.9**
DIV	**Divide**	**5.41**	**316**		**Pn**	**18 08 34.5**	**-0.6**
WASW	**Wrangell South**	**5.45**	**328**		**Pn**	**18 08 37.1**	**+1.4**
FID	**Port Fidalgo**	**5.46**	**310**		**Pn**	**18 08 34.6**	**-1.1**
P23K	**Montague Islan**	**5.51**	**301**	P	**Pn**	**18 08 34.7**	**-1.7**
	baz=114						
WACK	**Wrangell Chich**	**5.54**	**327**		**Pn**	**18 08 38.6**	**+1.6**
M26K	**Nabesna, AK**	**5.54**	**335**	P	**Pn**	**18 08 37.7**	**+0.8**
	baz=151,SNR=20						
L29M	**L29M**	**5.65**	**359**	P	**Pn**	**18 08 40.6**	**+2.2**
	baz=180,SNR=31						
KLU	**Klutina**	**5.70**	**318**		**Pn**	**18 08 38.2**	**-0.9**
KLU	**Klutina**	**5.70**	**318**	P	**Pn**	**18 08 38.4**	**-0.7**
	baz=132,SNR=48						
BNAB	**Bonilla**	**5.78**	**131**		**Pn**	**18 08 40.7**	**+0.6**
BNAB	**Bonilla**	**5.78**	**131**	P	**Pn**	**18 08 41.0**	**+0.9**
GLI	**Glacier Island**	**5.79**	**310**		**Pn**	**18 08 38.7**	**-1.5**
GLI	**Glacier Island**	**5.79**	**310**	P	**Pn**	**18 08 39.2**	**-1.0**
	baz=123,SNR=17						
GRNB	**Grenville Isla**	**5.83**	**125**	Pn	**Pn**	**18 08 38.9**	**-1.8**
BCAR	**Beaver Creek A**	**5.91**	**343**	Pn	**Pn**	**18 08 42.7**	**+0.7**
L27K	**Beaver Creek,**	**5.92**	**343**		**Pn**	**18 08 43.0**	**+1.0**
L27K	**Beaver Creek,**	**5.92**	**343**	P	**Pn**	**18 08 43.0**	**+1.0**
	baz=160,SNR=20						
HARP	**HAARP**	**6.11**	**327**		**Pn**	**18 08 46.2**	**+1.6**
HARP	**HAARP**	**6.11**	**327**	P	**Pn**	**18 08 46.5**	**+2.0**
	baz=141,SNR=12						
M24K	**Tolsona, Glenn**	**6.21**	**322**		**Pn**	**18 08 46.8**	**+0.8**
M24K	**Tolsona, Glenn**	**6.21**	**322**	P	**Pn**	**18 08 46.7**	**+0.7**
	baz=135,SNR=14						
K29M	**Barlow Dome**	**6.39**	**2**	P	**Pn**	**18 08 51.1**	**+2.5**
	baz=183,SNR=31						
TGTN	**Hyland Airport**	**6.40**	**47**	P	**Pn**	**18 08 51.1**	**+2.4**
	baz=235,SNR=25						
SCM	**Sheep Creek Mo**	**6.43**	**317**		**Pn**	**18 08 49.0**	**-0.2**
SCM	**Sheep Creek Mo**	**6.43**	**317**	P	**Pn**	**18 08 49.3**	**+0.1**
	baz=129,SNR=47						
HG4B	**Hotspring**	**6.51**	**140**	Pn	**Pn**	**18 08 50.1**	**0.0**
**SEW

comp=E,50nm,20.1s,baz=74,slow=38
comp=E,21nm,0.3s
BBB Bella Bella 7.79 129 P **Pn 18 09 08.8 +1.2**
I30M Mount Dempster 7.81 5 P **Pn 18 09 11.1 +3.1**
baz=187,SNR=30
KDAK Kodiak Island 7.84 278 Pn **Pn 18 09 07.5 -0.7**
KDAK Kodiak Island 7.84 278 P **Pn 18 09 07.9 -0.3**
baz=86
KDAK Kodiak Island 7.84 278 Pn **Pn 18 09 08.1 -0.2**
comp=E,29nm,0.3s,baz=101,slow=7.0,SNR=390
KDAK Sn **Sn 18 10 28.4 -8.2**
comp=E,4.6nm,0.3s,baz=334,slow=22,SNR=8.4
KDAK LR LR 18 11 18.2
comp=E,56nm,18.3s,baz=89,slow=31
CUT Chulitna 7.89 314 Pn 18 09 09.2 +0.1
CUT Chulitna 7.89 314 P **Pn 18 09 09.8 +0.8**
baz=124,SNR=18
J25K Salcha River, 8.00 337 P **Pn 18 09 11.7 +1.2**
baz=151,SNR=29
O20K Slope Mountain 8.03 295 Pn 18 09 10.7 -0.3
O20K Slope Mountain 8.03 295 P **Pn 18 09 11.1 0.0**
baz=103
I28M Miner Creek 8.05 354 Pn 18 09 13.0 +1.7
I28M Miner Creek 8.05 354 P **Pn 18 09 13.0 +1.7**
baz=173,SNR=14
SPCG Spurr Capps Gl 8.11 304 Pn 18 09 12.0 -0.2
SPCP Crater Peak Br 8.16 304 Pn 18 09 12.2 -0.7
N20K Mount Spurr 8.16 303 P **Pn 18 09 12.9 0.0**
baz=111,SNR=5.2
RED Redoubt Volcan 8.19 297 Pn 18 09 12.7 -0.5
SKT Skwentna 8.19 309 Pn 18 09 12.2 -1.0
SKT Skwentna 8.19 309 P **Pn 18 09 13.2 +0.1**
baz=118,SNR=84
HDA Harding Lake 8.20 332 P **Pn 18 09 14.6 +1.3**
baz=144,SNR=10
IVE Iliamna Volcan 8.21 294 Pn 18 09 12.6 -1.0
I26K Coal Creek Min 8.23 345 P **Pn 18 09 15.6 +1.9**
baz=161
RDWB Redoubt West 8.23 298 Pn 18 09 13.3 -0.6
MCK McKinley 8.25 324 Pn 18 09 14.6 +0.6
MCK McKinley 8.25 324 P **Pn 18 09 15.3 +1.3**
baz=135,SNR=12
P19K Oil Pt 8.26 292 Pn 18 09 13.6 -0.5
P19K Oil Pt 8.26 292 P **Pn 18 09 13.2 -0.9**
baz=99
OHAK Old Harbor 8.28 275 P **Pn 18 09 13.5 -0.8**
OHAK Old Harbor 8.28 275 Pn **Pn 18 09 12.9 -1.4**
OHAK Old Harbor 8.28 275 P **Pn 18 09 13.4 -0.9**
baz=82,SNR=13
NCT North Crescent 8.30 298 Pn 18 09 13.9 -0.9
I27K Kandik River 8.33 350 Pn 18 09 17.0 +1.9
I27K Kandik River 8.33 350 P **Pn 18 09 17.1 +1.9**
baz=167,SNR=6.0
Q19K Cape Douglas, 8.39 287 Pn 18 09 15.4 -0.5
Q19K Cape Douglas, 8.39 287 P **Pn 18 09 15.6 -0.4**
baz=94,SNR=7.8
ILAR Eielson Array 8.48 333 Pn **Pn 18 09 17.8 +0.7**
comp=E,2.2nm,0.3s,baz=163,slow=13,SNR=68
ILAR Lg Lg 18 11 38.6
comp=E,0.1nm,0.3s,baz=125,slow=27,SNR=3.5
ILAR LR LR 18 12 06.8
comp=E,33nm,19.1s,baz=100,slow=35
comp=E,3.5nm,0.6s
H29M Whitestone 8.78 359 Pn 18 09 22.7 +1.5
H29M Whitestone 8.78 359 P **Pn 18 09 22.9 +1.8**
baz=179
COLA College 8.80 331 P **Pn 18 09 23.6 +2.1**
COLA College 8.80 331 P **Pn 18 09 22.1 +0.6**
baz=143
KTH Kantishna Hill 8.80 319 Pn 18 09 22.1 +0.5
PRP Porcupine Dome 8.82 339 P **Pn 18 09 23.1 +1.1**
baz=153
M20K Styx River 8.83 306 P **Pn 18 09 22.0 0.0**
baz=114,SNR=38
KAHG Katmai Hook Gl 8.85 284 Pn 18 09 22.1 -0.1
R18K Karluk 8.86 278 P **Pn 18 09 22.0 -0.3**
baz=84
SII Sitkinak Islan 8.88 271 P **Pn 18 09 22.5 -0.1**
SII Sitkinak Islan 8.88 271 P **Pn 18 09 22.0 -0.6**
baz=78
PPLA Purkeypile 8.90 313 P **Pn 18 09 23.5 +0.5**
baz=122
NEA2 Nenana 8.92 328 P **Pn 18 09 23.6 +0.5**
baz=138,SNR=11
H27K Steamboat Moun 8.94 351 Pn 18 09 25.2 +1.8
H27K Steamboat Moun 8.94 351 P **Pn 18 09 25.3 +1.8**
baz=168
KAHC Katmai Hardscr 9.09 285 Pn 18 09 24.4 -1.2
Q18K Katmai Hardscr 9.09 285 P **Pn 18 09 24.4 -1.2**
baz=90,SNR=8.5
N19K Bonanza Creek 9.10 298 Pn 18 09 24.8 -1.0
N19K Bonanza Creek 9.10 298 P **Pn 18 09 25.1 -0.6**
baz=105,SNR=11
CAST Castle Rocks 9.15 316 P **Pn 18 09 26.3 +0.1**
baz=125
BPAW Bear Paw Mtn. 9.17 322 P **Pn 18 09 26.8 +0.2**
baz=131,SNR=31
P18K Big Mountain, 9.24 289 P **Pn 18 09 26.7 -0.8**
baz=95
KVTA Katmai Vly 10 9.25 283 Pn 18 09 27.7 0.0
O18K Koktuh Hills 9.27 292 Pn 18 09 27.5 -0.5
O18K Koktuh Hills 9.27 292 P **Pn 18 09 27.6 -0.4**
baz=98
ANCK Angle Creek 9.36 282 Pn 18 09 29.3 0.0
M19K Big River Lodg 9.39 305 Pn 18 09 29.2 -0.4
M19K Big River Lodg 9.39 305 P **Pn 18 09 29.5 -0.1**
baz=111
L20K Farewell, AK 9.39 309 Pn 18 09 29.0 -0.6
L20K Farewell, AK 9.39 309 P **Pn 18 09 29.6 -0.1**
baz=116,SNR=19
I23K Minto, Yukon-K 9.42 329 P **Pn 18 09 30.4 +0.5**
baz=140,SNR=11
CHUM Lake Minchumin 9.50 318 Pn 18 09 30.7 -0.3
CHUM Lake Minchumin 9.50 318 P **Pn 18 09 31.0 0.0**
baz=126,SNR=16
G27K Doyon Strip 9.52 351 P **Pn 18 09 32.2 +0.9**
baz=168
Q17K Contact Creek 9.56 282 P **Pn 18 09 31.4 -0.7**
baz=88
G30M tAoh Zraii Nji 9.57 4 Pn 18 09 33.9 +1.8
G30M tAoh Zraii Nji 9.57 4 P **Pn 18 09 33.2 +1.1**
baz=186
H24K Noodor Dome 9.60 335 P **Pn 18 09 33.2 +0.7**
baz=147,SNR=10
G31M Satah River 9.63 9 Pn 18 09 34.4 +1.5
G31M Satah River 9.63 9 P **Pn 18 09 33.4 +0.5**
baz=192
L19K White Mountain 9.69 306 P **Pn 18 09 33.6 -0.1**
baz=112,SNR=123
MLY Manley 9.73 326 Pn 18 09 34.5 +0.2
MLY Manley 9.73 326 P **Pn 18 09 34.1 -0.1**
baz=136,SNR=12
N18K Kilae Creek 9.74 297 P **Pn 18 09 33.3 -1.2**
baz=102,SNR=9.0
P17K Kvichak River 9.85 288 Pn 18 09 35.5 -0.3
P17K Kvichak River 9.85 288 P **Pn 18 09 35.1 -0.7**
baz=92
R17L Mt. Peulik Vol 9.87 279 P **Pn 18 09 36.1 0.0**
baz=84,SNR=12
K20K Telida 9.87 313 Pn 18 09 35.6 -0.6
K20K Telida 9.87 313 P **Pn 18 09 36.2 0.0**
baz=120,SNR=52
G26K Porcupine Rive 9.88 347 Pn 18 09 37.8 +1.6
G26K Porcupine Rive 9.88 347 P **Pn 18 09 37.4 +1.2**
baz=162,SNR=5.5
M18K Stony River 9.91 301 Pn 18 09 35.2 -1.5
M18K Stony River 9.91 301 P **Pn 18 09 36.0 -0.6**
baz=106,SNR=16
H23K Yukon River 9.99 332 Pn 18 09 39.0 +1.1
H23K Yukon River 9.99 332 P **Pn 18 09 38.8 +1.0**
baz=142,SNR=20
G25K Bearman Lake 10.05 341 Pn 18 09 39.7 +1.1
G25K Bearman Lake 10.05 341 P **Pn 18 09 39.6 +1.1**
baz=154
F28M Old Crow 10.21 356 P **Pn 18 09 42.3 +1.5**
baz=174
O17K Koliganek Bris 10.21 291 P **Pn 18 09 40.4 -0.4**
baz=95
F30M Barrier River 10.22 5 P **Pn 18 09 42.3 +1.4**
baz=187
G24K Hadweenzic Riv 10.25 338 P **Pn 18 09 42.4 +1.0**
baz=150
J20K Nowinta River 10.33 317 P **Pn 18 09 41.9 -0.5**
baz=124,SNR=25
N17K Nushagak Hills 10.35 295 Pn **Pn 18 09 41.2 -1.5**
N17K Nushagak Hills 10.35 295 P **Pn 18 09 42.2 -0.5**
baz=99,SNR=7.0
BMAR Burnt Mountain 10.43 346 Pn **Pn 18 09 45.6 +1.7**
TTA Tatalina 10.48 309 P **Pn 18 09 43.8 -0.7**
baz=114,SNR=25
L18K Granite Mounta 10.52 305 P **Pn 18 09 44.7 -0.3**
baz=109,SNR=12
H22K Ishtalitna Cre 10.54 329 P **Pn 18 09 45.7 +0.4**
baz=137,SNR=11
F26K Sheenjek River 10.63 347 P **Pn 18 09 47.5 +1.0**
baz=162,SNR=9.6
M17K Holitna River 10.63 300 P **Pn 18 09 46.4 -0.2**
baz=103,SNR=12
P16K Nushagak River 10.64 287 P **Pn 18 09 46.6 -0.1**
baz=90
O16K Kokwok River B 10.71 290 P **Pn 18 09 47.2 -0.4**
baz=93
F25K Christian Rive 10.73 344 P **Pn 18 09 50.0 +1.9**
baz=158,SNR=8.8
H21K Melozitna Rive 10.79 326 P **Pn 18 09 48.9 +0.1**
baz=133,SNR=12
J19K Poorman 10.79 315 P **Pn 18 09 48.7 0.0**
baz=120,SNR=24
G23K Bananza Creek 10.82 334 Pn **Pn 18 09 50.5 +1.4**
G23K Bananza Creek 10.82 334 P **Pn 18 09 50.8 +1.7**
baz=144,SNR=55
E29M Blow River 10.95 0 Pn **Pn 18 09 53.1 +2.2**
J18K Innoko River 10.98 311 Pn **Pn 18 09 50.6 -0.8**
J18K Innoko River 10.98 311 P **Pn 18 09 51.0 -0.4**
baz=115,SNR=56
F24K Squaw Lake 11.04 340 P **Pn 18 09 53.1 +0.9**
baz=151,SNR=10.0
INK Inuvik 11.05 9 Pn **Pn 18 09 51.9 -0.4**
comp=E,0.5nm,0.3s,baz=216,slow=20,SNR=3.8
INK Sn **Sn 18 11 49.6 -5.8**
comp=E,0.1nm,0.3s,baz=108,slow=22,SNR=1.6
INK Lg Lg 18 13 00.5
comp=E,0.6nm,0.3s,baz=239,slow=27,SNR=2.6
comp=E,1.6nm,0.4s
N16K Nishlik Lake 11.12 294 P **Pn 18 09 52.4 -0.9**
baz=97,SNR=5.7
E28M Babbage River 11.19 357 P **Pn 18 09 54.6 +0.4**
baz=176
L17K Donlin 11.21 303 P **Pn 18 09 54.2 -0.3**
baz=106,SNR=11
COLD Coldfoot 11.28 335 P **Pn 18 09 56.6 +1.3**
baz=145,SNR=16
M16K Timber Creek 11.29 297 P **Pn 18 09 55.0 -0.5**
baz=99,SNR=6.1
IMAR Indian Mountai 11.30 325 Pn 18 09 56.3 +0.6
H20K Anotleneega Mo 11.35 322 P **Pn 18 09 56.8 +0.4**
baz=128,SNR=28
K17K Iditarod 11.38 306 P **Pn 18 09 56.5 -0.3**
baz=109,SNR=12
O15K Ungalikthiuk R 11.59 288 P **Pn 18 09 59.3 -0.4**
baz=89
G21K Allakaket 11.59 328 P **Pn 18 09 60.0 +0.3**
baz=134,SNR=7.9
GCSA Galena City Sc 11.64 317 P **Pn 18 10 00.7 +0.5**
baz=120
E24K Your Creek 11.64 340 P **Pn 18 10 01.0 +0.6**
baz=151,SNR=13
L16K Owhat River 11.65 300 P **Pn 18 10 00.1 -0.4**
baz=102
N15K Kwethluk River 11.75 293 Pn **Pn 18 10 01.8 -0.1**
N15K Kwethluk River 11.75 293 P **Pn 18 10 01.9 +0.1**
baz=94,SNR=7.0
S14K Fog Glacier 11.84 273 P **Pn 18 10 03.4 +0.2**
baz=76
E23K Chandalar 11.84 338 P **Pn 18 10 03.8 +0.6**
baz=148
H19K Roundabout Mou 11.90 320 P **Pn 18 10 03.9 0.0**
baz=124,SNR=8.2
J17K VABM Dome 11.94 309 Pn **Pn 18 10 04.5 0.0**
J17K VABM Dome 11.94 309 P **Pn 18 10 04.1 -0.4**
baz=110
F22K John River 11.97 333 P **Pn 18 10 05.5 +0.7**
baz=141,SNR=10
M15K Kasigluk River 12.08 295 P **Pn 18 10 06.3 -0.1**
baz=96
F21K Alatna River 12.09 330 P **Pn 18 10 06.9 +0.5**
baz=137
CHNA Chernabura Isl 12.31 267 P **Pn 18 10 09.2 -0.4**
baz=69
O14K Tigyukauivet M 12.33 288 P **Pn 18 10 09.5 -0.2**
baz=88
TOLK Toolik Lake Re 12.34 340 P **Pn 18 10 11.3 +1.4**
baz=150
H18K Honhosa River 12.39 317 Pn **Pn 18 10 10.8 +0.2**
H18K Honhosa River 12.39 317 P **Pn 18 10 10.5 0.0**
baz=119,SNR=13
D25K Kavik River 12.45 346 P **Pn 18 10 13.8 +2.4**
baz=159,SNR=16
C27K Jago River 12.45 351 P **Pn 18 10 12.3 +1.0**
baz=166
G19K Purcell Mounta 12.47 322 Pn **Pn 18 10 12.0 +0.4**
G19K Purcell Mounta 12.47 322 P **Pn 18 10 11.9 +0.4**
baz=125
J16K Anvik River 12.56 307 Pn 18 10 12.7 -0.2
J16K Anvik River 12.56 307 P **Pn 18 10 12.2 -0.6**
baz=108
F20K Avaraart Lake 12.60 327 P **Pn 18 10 14.0 +0.6**
baz=131
YKA Yellowknife Ar 12.70 57 Pn **Pn 18 10 14.5 -0.3**
comp=E,0.4nm,0.3s,baz=263,slow=13,SNR=9.4
YKA LR LR 18 15 01.6
comp=E,51nm,19.0s,baz=326,slow=37
comp=E,0.8nm,0.4s
M14K Bethel 12.71 295 P **Pn 18 10 15.6 +0.7**
baz=95
K15K Wolf Creek Mou 12.72 302 Pn **Pn 18 10 15.0 -0.1**
K15K Wolf Creek Mou 12.72 302 P **Pn 18 10 15.2 +0.1**
baz=102,SNR=6.3
I17K Unalakleet 12.79 310 P **Pn 18 10 16.4 +0.4**
baz=110
G18K Tagagawik 12.87 319 Pn **Pn 18 10 18.0 +0.9**
G18K Tagagawik 12.87 319 P **Pn 18 10 17.2 +0.1**
baz=122
H17K Granite Mounta 12.88 314 Pn **Pn 18 10 18.2 +1.0**
H17K Granite Mounta 12.88 314 P **Pn 18 10 17.7 +0.5**
baz=116,SNR=9.1
F19K Shaleruckik Mo 13.10 324 Pn **Pn 18 10 20.1 -0.1**
F19K Shaleruckik Mo 13.10 324 P **Pn 18 10 20.0 -0.1**
baz=126,SNR=6.5
L14K Kuka Creek 13.12 297 Pn **Pn 18 10 21.7 +1.3**
L14K Kuka Creek 13.12 297 P **Pn 18 10 21.1 +0.6**
baz=96
E21K Killik River 13.12 333 P **Pn 18 10 22.0 +1.5**
baz=139
E19K Redstone River 13.31 327 P **Pn 18 10 24.5 +1.3**
baz=130
G17K Kiwalik Mounta 13.40 316 P **Pn 18 10 26.1 +1.7**
baz=116
E20K Nigu River 13.55 330 P **Pn 18 10 29.0 +2.5**
baz=134,SNR=5.1
C23K Itkillik River 13.56 341 P **Pn 18 10 27.2 +0.8**
baz=150,SNR=5.8
F18K Selawik 13.58 321 P **Pn 18 10 26.9 +0.1**
baz=122
H16K Elim 13.68 312 P **Pn 18 10 27.7 -0.4**
baz=111
J14K Nanvaranak Lak 13.73 303 P **Pn 18 10 29.3 +0.4**
baz=101
C21K Knifeblade Rid 13.86 334 P **Pn 18 10 31.9 +1.3**
baz=140
D20K Etivluk River 13.98 331 P **Pn 18 10 33.0 +0.7**
baz=135
G16K Koyuk River 14.01 314 P **Pn 18 10 33.5 +0.9**
baz=113
F17K Baldwin Pennin 14.05 319 Pn 18 10 34.6 +1.4
F17K Baldwin Pennin 14.05 319 P **Pn 18 10 33.3 +0.1**
baz=119
B21K Ikpikpuk River 14.18 336 Pn 18 10 38.6 +3.7
B21K Ikpikpuk River 14.18 336 P **Pn 18 10 36.1 +1.2**
baz=141
D19K Kuna River 14.24 329 P **Pn 18 10 37.1 +1.2**
baz=131
E18K Tukpahlearik C 14.34 323 Pn 18 10 40.3 +3.2
E18K Tukpahlearik C 14.34 323 P **Pn 18 10 38.3 +1.1**
baz=123,SNR=6.4
B22K Teshekpuk Lake 14.51 339 Pn **Pn 18 10 40.6 +1.2**
B22K Teshekpuk Lake 14.51 339 P **Pn 18 10 39.9 +0.5**
baz=145
G15K Niukluk 14.53 312 P **Pn 18 10 39.6 -0.1**
baz=109
E17K Hotham Inlet 14.57 321 P **Pn 18 10 40.4 +0.2**
baz=120
M11K Mekoryuk 14.79 293 P **Pn 18 10 42.2 -1.1**
baz=89
ANM Nome 14.94 310 P **Pn 18 10 45.1 -0.2**
baz=106
F15K North Star Dit 15.01 314 P **Pn 18 10 45.7 -0.5**
baz=111
C19K Lookout Ridge 15.04 329 Pn **Pn 18 10 47.8 +1.1**
C19K Lookout Ridge 15.04 329 P **Pn 18 10 46.9 +0.1**
baz=130
B20K Meade River 15.05 334 Pn **Pn 18 10 48.5 +1.7**
B20K IAmb IAmb 18 10 58.0
comp=Z,14nm,1.4s
B20K Meade River 15.05 334 P **Pn 18 10 47.5 +0.7**
baz=137
C18K Utukok River 15.22 327 Pn **Pn 18 10 49.5 +0.3**
C18K Utukok River 15.22 327 P **Pn 18 10 48.8 -0.4**
baz=126
D17K Noatak River 15.30 322 P **Pn 18 10 49.9 -0.1**
baz=120
A22K Sinclair Lake 15.35 339 P **Pn 18 10 50.8 +0.1**
baz=144
NEW Newport 15.56 117 LR LR 18 17 23.0
comp=Z,51nm,18.8s,baz=20,slow=39
B18K Kokolik River 15.82 328 P **Pn 18 10 57.2 +0.3**
baz=127
A21K Barrow 15.93 338 P **Pn 18 10 57.8 -0.4**
baz=141
A19K Wainwright 16.16 331 P **Pn 18 11 01.6 +0.5**
baz=131
NIKH Nikolski High 18.07 269 P **Pn 18 11 25.3 0.0**
baz=63
OVMT Ovando 18.40 114 P 18 11 25.5 -3.9
PLID Pearl Lake 18.42 123 P **P 18 11 25.5 -4.2**
PLID IAmb IAmb 18 11 45.6
comp=Z,6.4nm,1.4s
BPMT Black Pine Rid 18.62 116 P **P 18 11 27.8 -4.2**
J08A Circle Bar Ran 18.73 131 P 18 11 28.3 -4.7
J08A IAmb IAmb 18 11 38.9
comp=Z,5.8nm,1.1s
HLID Hailey 20.32 123 P **P 18 11 48.4 -2.1**
IMW Indian Meadow 21.69 117 P **P 18 12 08.3 +3.0**
IMW IAmb IAmb 18 12 10.7
comp=Z,3.0nm,0.9s
MOOW Moose Ponds 21.89 117 P **P 18 12 04.9 -2.6**
MOOW IAmb IAmb 18 12 13.4
comp=Z,8.1nm,1.5s
NVAR Mina Array Bea 23.02 137 P **P 18 12 23.3 +3.8**
comp=Z,0.2nm,0.4s,baz=320,slow=8.3,SNR=2.6
comp=Z,0.2nm,0.4s
NV11 Mina Array Sit 23.07 137 P 18 12 18.6 -1.4
PDAR Pinedale Array 23.20 117 P **P 18 12 24.8 +3.5**
comp=Z,0.1nm,0.3s,baz=316,slow=5.0,SNR=2.0
comp=Z,0.1nm,0.3s
NRIK Noril'sk 49.27 340 P **P 18 16 05.6 +3.3**
comp=Z,6.2nm,0.4s,baz=57,slow=4.2,SNR=7.1
H11N2 WAKE ISLAND Hy 55.00 251 T T 19 16 24.8
baz=32,slow=76,SNR=146
H11N3 WAKE ISLAND Hy 55.01 251 T T 19 16 25.2
baz=32,slow=76,SNR=131
H11N1 WAKE ISLAND Hy 55.02 251 T T 19 16 26.2
baz=32,slow=76,SNR=106
H11S1 WAKE ISLAND Hy 56.13 250 T T 19 17 36.1
baz=31,slow=76,SNR=37
H11S2 WAKE ISLAND Hy 56.14 250 T T 19 17 33.8
baz=31,slow=76,SNR=25
H11S3 WAKE ISLAND Hy 56.15 250 T T 19 17 39.6
baz=31,slow=76,SNR=31
SONM Songino Array 62.32 317 P **P 18 17 38.6 +2.2**
comp=Z,0.5nm,0.7s,baz=30,slow=8.2,SNR=4.3
comp=Z,0.5nm,0.7s
ZALV Zalesovo Beam 63.60 333 P **P 18 17 44.9 +0.2**
comp=Z,0.6nm,0.6s,baz=345,slow=4.9,SNR=3.8
comp=Z,0.6nm,0.6s
MKAR Makanchi Array 70.83 332 P **P 18 18 31.5 +0.8**
comp=Z,0.8nm,0.9s,baz=33,slow=6.2,SNR=3.6
comp=Z,0.8nm,0.9s

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*SJA **12** 18:31:14.5±0.8, 30°.38S×72°.27W, h14km, ML3.4, MW3.8*
*GUC **12** 18:31:18.0±0.8, 30°.47S×72°.10W, h36km±3km, ML3.4*
ISC 12 18:31:14.6±1.5, 30°.55S±0°.03×72°.21W±0°.05, h4km±11km, n38, σ1°.91/63, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.51**	**104**	↓*iP*		**Pb**	**18 31 27.3**	**+1.3**
CO06				*eS*		**Sb**	**18 31 33.8**	**+0.1**
CO06				IAML			18 31 37.0	
comp=N,3μm,0.2s								
CO05	**La Serena**	**1.05**	**53**	*eP*		**Pg**	**18 31 35.0**	**+0.3**
CO05				*eS*		**Sg**	**18 31 47.5**	**-0.7**
CO05				IAML			18 31 50.0	
comp=N,2μm,0.7s								
CO02	**Combarbal**	**1.22**	**123**	*eP*		Pg	18 31 22.0	-16
CO02				*eP*		**Pn**	**18 31 39.0**	**+0.4**
CO02				*eS*		**Sn**	**18 31 56.7**	**+1.1**
CO02				IAML			18 31 57.0	
comp=Z,1μm,0.8s								
CO02	**Combarbal**	**1.22**	**123**	*eP*		**Pn**	**18 31 39.5**	**+0.9**
CO02				*eS*		**Sb**	**18 31 55.2**	**+0.7**
GO04	**Tololo Observa**	**1.27**	**73**	*eP*		**Pg**	**18 31 39.2**	**+0.2**
GO04				*eS*		**Sb**	**18 31 56.8**	**+0.8**
GO04	**Tololo Observa**	**1.27**	**73**	*eP*		**Pg**	**18 31 38.6**	**-0.3**
GO04				*eS*		**Sg**	**18 31 54.6**	**-0.8**
GO04				IAML			18 32 01.3	
comp=N,3μm,0.5s								
CO03	**El Pedregal**	**1.34**	**103**	*eP*		**Pb**	**18 31 40.7**	**+0.5**
CO03				*eS*		**Sn**	**18 31 59.9**	**+1.5**
CO03				IAML			18 32 04.8	
comp=Z,584nm,0.4s								
CO03	**El Pedregal**	**1.34**	**103**	*eP*		**Pb**	**18 31 40.5**	**+0.3**
CO03				*eS*		**Sg**	**18 31 57.1**	**-0.5**
CO03				IAML			18 32 03.2	
comp=E,970nm,0.5s								
LCO	**Las Campanas**	**2.01**	**41**	*eP*		**Pn**	**18 31 49.5**	**0.0**
LCO				*eS*		Sn	18 32 03.0	-12
LCO				IAML			18 32 24.4	
comp=Z,455nm,0.5s								
LCO	**Las Campanas**	**2.01**	**41**	*eP*		**Pn**	**18 31 49.6**	**0.0**
LCO				*eS*		**Sn**	**18 32 13.6**	**-1.6**
VA06	**Catapilco**	**2.15**	**159**	*eP*		**Pb**	**18 31 54.0**	**0.0**
VA06				IAML			18 32 33.9	
comp=Z,344nm,0.5s								
AROD	**Rodeo**	**2.39**	**82**	*eP*		**Pb**	**18 31 58.3**	**0.0**
AROD				*eS*		**Sn**	**18 32 18.7**	**-5.9**
AC05	**El Transito**	**2.39**	**45**	*eP*		**Pn**	**18 31 55.5**	**+0.8**
AC05				*eS*		Sn	18 32 07.8	-17
AC05				IAML			18 32 36.6	
comp=Z,122nm,0.8s								
AC05	**El Transito**	**2.39**	**45**	*eP*		**Pn**	**18 31 55.4**	**+0.7**
AC05				*eS*		**Sn**	**18 32 23.7**	**-0.8**
AC05				IAML			18 32 37.9	
comp=E,245nm,0.5s								
VA01	**Torpederas**	**2.51**	**169**	*eP*		Pg	18 32 15.3	+13
VA01				IAML			18 32 49.0	
comp=Z,160nm,0.3s								
AC04	**Llanos de Chal**	**2.54**	**23**	*eP*		**Pn**	**18 31 55.8**	**-0.7**
AC04				*eS*		**Sb**	**18 32 33.5**	**+1.4**
AC04				IAML			18 32 44.9	
comp=Z,165nm,0.7s								
VA03	**San Esteban**	**2.62**	**148**	*eP*		**Pb**	**18 32 01.4**	**-0.7**
VA03				*eS*		**Sn**	**18 32 27.5**	**-2.5**
ROCH	**El Roble**	**2.62**	**157**	*eP*		**Pb**	**18 32 00.7**	**-1.5**
ROCH				IAML			18 32 47.8	
comp=N,168nm,0.5s								
ROC1	**El Roble**	**2.62**	**158**	*eP*		**Pb**	**18 32 00.9**	**-1.4**
ROC1				*eS*		**Sg**	**18 32 36.9**	**-2.0**
ACDV	**Cuesta del Vie**	**2.69**	**83**	*eP*		**Pb**	**18 32 03.1**	**-0.2**
ACDV				*eS*		**Sb**	**18 32 36.3**	**-0.5**
ACDV				IAML			18 32 46.9	
comp=Z,135nm,0.6s								
ACCO	**Cerro Coronel**	**2.71**	**92**	*eP*		**Pb**	**18 32 03.8**	**0.0**
ACCO				*eS*		**Sb**	**18 32 38.1**	**+0.7**
DOCA	**Reserva Natura**	**2.72**	**99**	*eP*		**Pn**	**18 32 00.6**	**+1.3**
DOCA				*eS*		**Sb**	**18 32 36.1**	**-1.6**
RTLS	**Leoncito**	**2.79**	**117**	*eP*		**Pb**	**18 32 06.1**	**+1.0**
RTLS				*eS*		**Sb**	**18 32 42.1**	**+2.4**
RTLS				IAML			18 32 51.2	
comp=Z,444nm,0.7s								
MT02	**Curacav**	**2.85**	**162**	*eP*		**Pb**	**18 32 04.8**	**-1.2**
MT02				*eS*		**Sg**	**18 32 44.2**	**-2.0**
MT02				IAML			18 32 52.7	
comp=Z,60nm,0.6s								
PEL	**Peldehue**	**2.89**	**154**	*eP*		**Pb**	**18 32 06.3**	**-0.4**
PEL				*eS*		**Sb**	**18 32 44.3**	**+1.8**
MT10	**Hacienda Santa**	**3.06**	**153**	*eP*		**Pb**	**18 32 07.7**	**-2.0**
MT10				*eS*		**Sn**	**18 32 43.2**	**+2.1**

MT05	**Renca**	**3.10 157**	*e*S		**Sg**	**18 32 51.7**	**-2.4**
MT05			IAML			18 33 04.0	
comp=Z,134nm,0.6s							
ZON	**Zonda**	**3.19 109**	*e*P		**Pn**	**18 32 07.4**	**+1.9**
ZON			IAML			18 33 03.8	
comp=Z,106nm,1.3s							
MT03	**Universidad Ad**	**3.27 154**	*e*P		**Pb**	**18 32 11.7**	**-1.5**
MT03			*e*S		**Sb**	**18 32 54.2**	**+0.8**
MT03			IAML			18 33 12.4	
comp=Z,109nm,1.2s							
MT01	**Popeta**	**3.40 167**	*e*P		**Pb**	**18 32 12.7**	**-2.7**
MT01			IAML			18 33 17.1	
comp=Z,53nm,0.6s							
GO03	**Copiap**	**3.41 31**	*e*P		**Pn**	**18 32 09.3**	**+0.8**
GO03			*e*S		**Sg**	**18 33 07.9**	**+3.7**
LMEL	**Las Melosas**	**3.70 153**	*e*P		**Pb**	**18 32 17.1**	**-3.5**
VCA	**Vinchina**	**3.92 64**	*e*P		**Pn**	**18 32 16.1**	**+0.4**
VCA			*e*S		**Sb**	**18 33 15.4**	**+3.2**
VCA			IAML			18 33 25.9	
comp=Z,131nm,0.9s							
BO01	**Tunca**	**3.95 166**	*e*P		**Pn**	**18 32 19.9**	**+4.0**
BO01			*e*S		**Sg**	**18 33 24.1**	**+2.8**
BO01			IAML			18 33 31.6	
comp=Z,29nm,0.7s							
BO02	**Sierra Bellavi**	**4.40 165**	*e*P		**Pn**	**18 32 22.0**	**-0.2**
BO02			IAML			18 33 49.0	
comp=Z,33nm,0.6s							
GO05	**Huala**	**4.46 177**	*e*P		**Pn**	**18 32 26.6**	**+3.7**
GO05			*e*S		**Sn**	**18 33 14.7**	**-0.5**
AC01	**Pan de Azucar**	**4.61 18**	*e*P		**Pn**	**18 32 23.2**	**-1.7**
AC01			IAML			18 34 00.6	
comp=Z,26nm,0.8s							
ACHE	**Chepes**	**4.80 99**	*e*S		**Sb**	**18 33 32.9**	**-4.7**

*IDC **12** 18:32:36.6±0.7, 7°.35S×130°.54E, h0km, mb4.3/12, mbtmp4.3/13, ML2.5/2, MS3.0/9, Error ellipse: s-maj=34.8km s-min=15.7km az=65.0*
*NEIC **12** 18:32:43.5±1.9, 7°.34S±0°.06×130°.59E±0°.07, h49km±8km, mb4.5/35, Error ellipse: s-maj=10.6km s-min=8.8km az=78.0*
ISC 12 18:32:42.1±0.4, 7°.48S±0°.04×130°.74E±0°.06, h50km, n110, σ2§16/103, mb4.5/34, MS3.1/5, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.74**	**132**	Pn	**Pn**	**18 33 00.3**	**+3.8**
BNDI	**Bandanaira**	**3.06**	**344**	P	**Pn**	**18 33 27.8**	**-0.2**
FAKI	**Fak Fak**	**4.77**	**18**	P	**Pn**	**18 33 51.5**	**-0.1**
FAKI	**Fak Fak**	**4.77**	**18**		**Pn**	**18 33 51.1**	**-0.5**
FAKI				Sn	**Sn**	**18 34 44.0**	**-1.6**
DRS	**Darwin Rock St**	**4.92**	**178**	P	**Pn**	**18 33 55.4**	**+1.8**
MTN	**Manton Dam**	**5.34**	**176**	P	**Pn**	**18 34 01.5**	**+2.1**
MTN	**Manton Dam**	**5.34**	**176**	Pn	**Pn**	**18 34 01.1**	**+1.7**
MTN					**Sn**	**18 35 00.5**	**+0.8**
KDU	**Kakadu**	**5.45**	**162**	P	**Pn**	**18 34 02.0**	**+1.2**
SOEI	**Soe**	**6.79**	**250**	P	**Pn**	**18 34 20.0**	**+0.6**
SOEI	**Soe**	**6.79**	**250**		**Pn**	**18 34 19.0**	**-0.4**
MMRI	**Maumere**	**8.50**	**262**	P	**Pn**	**18 34 43.4**	**+0.7**
MMRI	**Maumere**	**8.50**	**262**	Pn	**Pn**	**18 34 41.8**	**-0.9**
KAPI	**Kappang**	**11.20**	**282**	LR	LR	18 39 15.6	
comp=Z,141nm,21.1s,baz=96,slow=36							
FITZ	**Fitzroy Crossi**	**11.67**	**205**	Pn	**Pn**	**18 35 23.2**	**-2.8**
WB0	**Warramunga Arr**	**12.72**	**164**		**Pn**	**18 35 38.1**	**-2.3**
WRAB	**Tennant Creek**	**12.86**	**165**		**Pn**	**18 35 41.1**	**-1.3**
WRA	**Warramunga Arr**	**12.87**	**165**		**Pn**	**18 35 39.2**	**-3.3**
WRA	**Warramunga Arr**	**12.87**	**165**	Pn	**Pn**	**18 35 39.8**	**-2.7**
1.3nm,0.3s,baz=342,slow=13,SNR=42							
WRA				Sn	**Sn**	**18 37 57.7**	**-6.6**
3.1nm,0.3s,baz=337,slow=23,SNR=12							
WB2	**Warramunga Arr**	**12.87**	**165**		**Pn**	**18 35 39.2**	**-3.3**
PLAI	**Plampang**	**12.91**	**263**	P	**Pn**	**18 35 43.2**	**+0.2**
WR0	**Warramunga Arr**	**12.94**	**164**		**Pn**	**18 35 40.4**	**-3.1**
COEN	**Coen**	**13.80**	**119**	P	**Pn**	**18 35 55.3**	**0.0**
COEN	**Coen**	**13.80**	**119**	Pn	**Pn**	**18 35 54.1**	**-1.1**
DAV	**Davao City (W)**	**15.34**	**340**	LR	LR	18 43 07.4	
comp=Z,58nm,19.7s,baz=160,slow=42							
QIS	**Mount Isa**	**15.58**	**147**	P	**Pn**	**18 36 19.7**	**+1.1**
PMG	**Port Moresby**	**16.35**	**98**	Pn	**P**	**18 36 30.5**	**-0.1**
1.0nm,0.3s,baz=260,slow=17,SNR=1.4							
PMG				Sn	**Sn**	**18 39 24.3**	**-4.8**
0.7nm,0.3s,baz=7.7,slow=18,SNR=1.9							
PMG				LR	LR	18 42 44.5	
comp=Z,64nm,21.0s,baz=244,slow=37							
4.3nm,0.4s							
AS31	**Alice Springs**	**16.38**	**170**	Pn	**Pn**	**18 36 26.6**	**-2.1**
ASAR	**Alice Springs**	**16.38**	**170**		**Pn**	**18 36 27.4**	**-1.3**
ASAR	**Alice Springs**	**16.38**	**170**	Pn	**Pn**	**18 36 26.9**	**-1.9**
0.7nm,0.3s,baz=343,slow=13,SNR=78							
ASAR				Sn	**Sn**	**18 39 22.5**	**-7.2**
0.5nm,0.3s,baz=350,slow=27,SNR=7.5							
ASAR				LR	LR	18 43 37.7	
comp=Z,90nm,21.1s,baz=344,slow=40							
JAGI	**Jajag, Banyuwa**	**16.46**	**265**	P	**P**	**18 36 30.6**	**-1.3**
JAGI	**Jajag, Banyuwa**	**16.46**	**265**	Pn	**Pn**	**18 36 26.2**	**-3.7**
JAGI				IAmb	IAmb	18 36 43.8	
comp=Z,45nm,1.2s							
MTSU	**Mount Surprise**	**16.94**	**130**	P	**P**	**18 36 36.8**	**-0.3**
MBWA	**Marble Bar**	**17.27**	**217**	Pn	**Pn**	**18 36 36.9**	**-3.0**
PSA00	**Pilbara Seismi**	**17.52**	**216**	P	**P**	**18 36 45.0**	**+1.4**
PSA00	**Pilbara Seismi**	**17.52**	**216**	Pn	**Pn**	**18 36 40.1**	**-2.8**
PSA00	**Pilbara Seismi**	**17.52**	**216**	Pn	**Pn**	**18 36 40.6**	**-2.4**
PSA00				IAmb	IAmb	18 36 47.4	
comp=Z,13nm,1.4s							
WRKA	**Warakurna**	**17.61**	**187**	P	**P**	**18 36 45.0**	**+0.4**
CTA	**Charters Tower**	**19.57**	**131**	P	**Pn**	**18 37 07.7**	**-0.1**
baz=290,slow=15,SNR=2.3							
CTA				S	**S**	**18 40 41.6**	**-3.0**
comp=Z,0.4nm,0.9s,baz=283,slow=9.8,SNR=3.5							
CTA				LR	LR	18 46 27.5	
comp=Z,5.3nm,19.7s,baz=304,slow=42							
CTAO	**Charters Tower**	**19.57**	**131**	P	**P**	**18 37 05.4**	**-0.7**
CTAO				IAmb	IAmb	18 37 45.1	
comp=Z,22nm,1.2s							
OOD	**Oodnadatta**	**20.74**	**168**	P	Pn	18 37 21.5	0.0
SBUM	**Sibu**	**20.95**	**297**	P	Pn	18 37 20.0	-4.2
INKA	**Innaminka**	**22.27**	**156**	P	**P**	**18 37 37.8**	**+2.7**
MEEK	**Meekatharra**	**22.27**	**210**	P	**P**	**18 37 37.9**	**+2.7**
MULG	**Mulgathing**	**22.90**	**173**	P	**P**	**18 37 44.1**	**+2.4**
QLP	**Quilpie**	**22.92**	**148**	P	**P**	**18 37 44.9**	**+2.9**
FORT	**Forrest**	**23.32**	**186**	P	**P**	**18 37 48.7**	**+2.8**
comp=Z,25nm,1.2s							
FORT	**Forrest**	**23.32**	**186**	P	**P**	**18 37 48.7**	**+2.8**
FORT				IAmb	IAmb	18 38 28.2	
comp=Z,25nm,0.8s							
LCRK	**Leigh Creek**	**23.90**	**164**	P	**P**	**18 37 54.6**	**+3.3**
MORW	**Morawa**	**25.56**	**211**	P	**P**	**18 38 06.6**	**+0.1**
MORW				IAmb	IAmb	18 38 15.5	
comp=Z,12nm,1.0s							
BBOO	**Buckleboo**	**25.68**	**170**	P	**P**	**18 38 09.6**	**+2.0**
BBOO	**Buckleboo**	**25.68**	**170**	P	**P**	**18 38 08.8**	**+1.2**
BBOO				IAmb	IAmb	18 38 26.3	
comp=Z,19nm,1.4s							
STKA	**Stephens Creek**	**26.30**	**159**	P	**P**	**18 38 15.6**	**+2.5**
STKA	**Stephens Creek**	**26.30**	**159**	P	**P**	**18 38 15.3**	**+2.1**
comp=Z,2.2nm,0.6s,baz=330,slow=10,SNR=7.2							
STKA				S	**S**	**18 42 38.8**	**-3.7**
comp=Z,0.7nm,0.4s,baz=351,slow=22,SNR=2.5							
comp=Z,2.2nm,0.6s							
BLDU	**Ballidu**	**26.51**	**208**	P	**P**	**18 38 17.6**	**+2.5**
CMSA	**Cobar Meteorol**	**27.70**	**152**	P	**P**	**18 38 29.5**	**+3.7**
HNR	**Honiara**	**28.95**	**96**	LR	LR	18 50 35.1	
comp=Z,551nm,18.9s,baz=198,slow=37							
ARPS	**Mount Arapiles**	**30.86**	**162**	P	**P**	**18 38 57.2**	**+3.5**
YNG	**Young**	**31.26**	**151**	P	**P**	**18 39 00.2**	**+2.9**
CAN	**Canberra**	**32.38**	**151**	P	**P**	**18 39 10.2**	**+3.0**
TOO	**Toolangi**	**32.81**	**158**	P	**P**	**18 39 14.6**	**+3.7**
TOO	**Toolangi**	**32.81**	**158**	P	**P**	**18 39 14.6**	**+3.7**
UBPT	**Khong Chiam**	**33.74**	**312**	P	**P**	**18 39 18.6**	**-0.6**
JNU	**Nakatsue**	**40.38**	**0**	LR	LR	18 55 49.5	
comp=Z,17nm,20.2s,baz=211,slow=35							
CMAR	**Chiang Mai Arr**	**40.60**	**310**	P	**P**	**18 40 16.1**	**-1.3**
comp=Z,1.8nm,0.8s,baz=142,slow=7.5,SNR=12							
CMAR				LR	LR	18 59 14.7	
comp=Z,36nm,18.1s,baz=135,slow=40							
comp=Z,1.8nm,0.8s							
NJ2	**Nanjing**	**40.92**	**345**	*e*P	**P**	**18 40 21.3**	**+1.6**
NJ2				pmax	pmax		
comp=Z,9.0nm,0.5s							
PZH	**PanZhiHua**	**43.97**	**321**	P	P	18 40 46.8	+2.0
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,100nm,4.8s							
MJAR	**Matsushiro Arr**	**44.35**	**9**	P	**P**	**18 40 46.4**	**-1.2**
comp=Z,5.1nm,0.8s,baz=186,slow=9.4,SNR=14							
comp=Z,5.1nm,0.8s							
MAJO	**Matsushiro**	**44.35**	**9**	P	**P**	**18 40 47.2**	**-0.3**
MAJO				IAmb	IAmb	18 40 48.1	
comp=Z,9.1nm,0.8s							
MJB9	**Matsu-Tunnel**	**44.35**	**9**	P	**P**	**18 40 48.2**	**+0.7**
MJB9				IAmb	IAmb	18 40 49.1	
comp=Z,8.7nm,0.8s							
KSRS	**Korea Array**	**44.78**	**357**	P	**P**	**18 40 51.8**	**+0.9**
comp=Z,0.8nm,0.4s,baz=166,slow=8.5,SNR=5.5							
KSRS				LR	LR	18 58 06.7	
comp=Z,14nm,21.8s,baz=350,slow=34							
comp=Z,0.8nm,0.4s							
JMM	**Marumori**	**46.08**	**11**	P	**P**	**18 41 01.2**	**0.0**
XAN	**Xi'an**	**46.18**	**335**	*e*P	**P**	**18 41 00.4**	**-1.8**
JTM	**Tenmabayashi**	**48.96**	**10**	P	**P**	**18 41 22.8**	**-0.7**
HHC	**Hu-ho-hao-te**	**51.23**	**341**	*e*P	P	18 41 43.6	+2.7
HHC				PP	**PP**	**18 43 40.5**	**+2.2**
HHC				pmax	pmax		
comp=Z,18nm,0.5s							
HHC				pmax	pmax		
comp=Z,43nm,3.8s							
USA0B	**Ussuriysk Arra**	**51.45**	**1**	P	**P**	**18 41 43.0**	**+0.7**
USA0B				IAmb	IAmb	18 41 44.1	
comp=Z,5.2nm,0.9s							
USRK	**Ussuriysk Ar.**	**51.45**	**1**	P	**P**	**18 41 43.0**	**+0.7**
USRK	**Ussuriysk Ar.**	**51.45**	**1**	P	**P**	**18 41 43.3**	**+1.0**
comp=Z,2.1nm,0.4s,baz=182,slow=6.2,SNR=15							
comp=Z,2.1nm,0.4s							
MDJ	**Mudanjiang**	**51.87**	**359**	P	P	18 41 48.7	+3.3
MDJ				pmax	pmax		
comp=Z,4.0nm,0.9s							
ASAJ	**Asahikawa**	**52.46**	**11**	LR	LR	19 04 50.7	
comp=Z,16nm,18.5s,baz=286,slow=37							
GTA	**Gaotai**	**54.75**	**331**	*e*P	P	18 42 15.3	+8.4
GTA				pP	sP	18 42 23.6	-2.0
GTA				pmax	pmax		
comp=Z,2.0nm,1.1s							
YSS	**Yuzh-Sakhalins**	**55.24**	**10**	P	**P**	**18 42 10.8**	**+0.7**
ULN	**Ulaanbaatar**	**58.95**	**342**	P	**P**	**18 42 37.2**	**+0.7**
ULN				IAmb	IAmb	18 42 39.0	
comp=Z,5.0nm,0.9s							
SONM	**Songino Array**	**59.13**	**341**	P	**P**	**18 42 38.5**	**+0.7**
SONM	**Songino Array**	**59.13**	**341**	P	**P**	**18 42 38.3**	**+0.6**
comp=Z,1.1nm,0.4s,baz=164,slow=7.6,SNR=24							
comp=Z,1.1nm,0.4s							
KSH	**Kashi**	**68.87**	**317**	P	P	18 43 44.4	+2.5
KSH				PcP	**PcP**	**18 44 07.1**	**+1.0**
KSH				pmax	pmax		
comp=Z,4.0nm,0.8s							
MKAR	**Makanchi Array**	**69.03**	**327**	P	**P**	**18 43 42.9**	**+0.3**
MKAR	**Makanchi Array**	**69.03**	**327**	P	**P**	**18 43 43.0**	**+0.4**
comp=Z,4.1nm,0.4s,baz=114,slow=8.5,SNR=117							
comp=Z,4.1nm,0.4s							
MAKZ	**Makanchi**	**69.21**	**326**	P	**P**	**18 43 44.4**	**+0.6**
MAKZ				IAmb	IAmb	18 43 44.8	
comp=Z,5.8nm,0.9s							
YAK	**Yakutsk**	**69.31**	**359**	P	**P**	**18 43 44.3**	**+0.4**
BOOM	**Boomskoye usch**	**70.39**	**320**	IAmb	IAmb	18 43 53.2	
comp=Z,5.2nm,0.8s							
ARSB	**Arslanbob**	**71.74**	**318**	IAmb	IAmb	18 44 01.4	
comp=Z,2.3nm,0.7s							
ZALV	**Zalesovo Beam**	**72.34**	**334**	P	**P**	**18 44 01.9**	**-0.6**
comp=Z,0.6nm,0.4s,baz=146,slow=3.7,SNR=4.2							
comp=Z,0.6nm,0.4s							
GAR	**Garm**	**72.53**	**315**	P	**P**	**18 44 03.2**	**-0.9**
GAR				IAmb	IAmb	18 44 16.5	
comp=Z,8.0nm,0.9s							
KURBB	**Kurchatov Arra**	**73.30**	**328**	P	**P**	**18 44 08.3**	**0.0**
comp=Z,1.8nm,0.2s,baz=130,slow=5.3,SNR=9.4							
comp=Z,1.8nm,0.2s							
KURK	**Kurchatov**	**73.31**	**328**	P	**P**	**18 44 07.5**	**-0.9**
KURK				IAmb	IAmb	18 44 21.9	
comp=Z,3.6nm,1.0s							
KK31	**Karatay Array**	**74.19**	**319**	IAmb	IAmb	18 44 24.5	
comp=Z,2.8nm,1.0s							
KKAR	**Karatay Array**	**74.19**	**319**	P	**P**	**18 44 13.0**	**-0.7**
BVAR	**Borovoye Array**	**78.86**	**328**	P	**P**	**18 44 39.9**	**0.0**
comp=Z,1.2nm,0.6s,baz=146,slow=6.4,SNR=8.1							
comp=Z,1.2nm,0.6s							
TIXI	**Tiksi**	**78.97**	**359**	P	**P**	**18 44 40.7**	**+0.6**
TIXI				IAmb	IAmb	18 44 41.9	
comp=Z,2.9nm,0.8s							
NRIK	**Noril'sk**	**82.20**	**346**	P	**P**	**18 44 58.6**	**+1.1**
comp=Z,3.6nm,0.6s,baz=112,slow=6.3,SNR=4.5							
comp=Z,3.6nm,0.6s							
QSPA	**South Pole Qui**	**82.50**	**180**	P	**P**	**18 45 01.4**	**+2.0**
comp=Z,0.6nm,0.6s,baz=292,slow=1.4,SNR=2.0							
comp=Z,0.6nm,0.6s							
ABKAR	**Akbulak array**	**83.34**	**321**	P	**P**	**18 45 03.4**	**-0.4**
ARU	**Arti**	**86.50**	**328**	P	**P**	**18 45 19.4**	**-0.1**
ARU				IAmb	IAmb	18 45 20.9	
comp=Z,3.7nm,0.8s							
RAYN	**Ar Rayn**	**88.61**	**294**	P	**P**	**18 45 30.7**	**+0.2**
BMAR	**Burnt Mountain**	**94.81**	**23**	P	**P**	**18 45 59.5**	**+1.3**
I29M	**Ogilvie Camp,**	**97.14**	**25**	P	Pdif	18 46 08.8	-0.2
I29M				IAmb	IAmb	18 46 09.9	
comp=Z,3.0nm,1.2s							
EKA	**Eskdalemuir Ar**	**119.94**	**332**	PKP	**PKiKP**	**18 51 28.1**	**+1.1**
comp=Z,0.1nm,0.3s,baz=20,slow=2.3,SNR=2.4							
TORD	**Torodi Ar. Bea**	**129.62**	**281**	PKP	**PKiKP**	**18 51 48.7**	**+1.2**
comp=Z,0.5nm,0.6s,baz=45,slow=2.2,SNR=2.3							
CPUP	**Villa Florida**	**145.49**	**167**	PKPbc	**PKiKP**	**18 52 17.8**	**-1.8**
comp=Z,2.8nm,0.8s,baz=168,slow=1.8,SNR=4.9							
LPAZ	**La Paz**	**149.89**	**142**	PKPbc	**PKPab**	**18 52 32.4**	**-1.8**
comp=Z,4.2nm,1.0s,baz=223,slow=1.3,SNR=8.1							

IDC 12 18:50:26.3±3.0, 5°.68S×151°.32E, h0km, mb3.4/3, mbtmp3.6/4, ML1.8/1, Error ellipse: s-maj=96.2km s-min=27.0km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.55**	**228**	Pn	Pn	18 51 51.2	+1.1
1.9nm,0.3s,baz=50,slow=7.7,SNR=7.1							
PMG				Sn	Sn	18 52 54.3	-0.3
1.6nm,0.3s,baz=84,slow=19,SNR=4.1							
24nm,0.9s							
WRA	**Warramunga Arr**	**21.77**	**228**	P	P	18 55 19.8	0.0
0.5nm,0.4s,baz=54,slow=10,SNR=12							
0.5nm,0.4s							
ASAR	**Alice Springs**	**24.52**	**221**	P	P	18 55 47.8	+0.1
1.1nm,0.9s,baz=55,slow=9.0,SNR=12							
1.1nm,0.9s							
SONM	**Songino Array**	**66.29**	**329**	P	P	19 01 16.9	+0.2
0.5nm,1.0s,baz=132,slow=4.1,SNR=4.3							
0.5nm,1.0s							
TORD	**Torodi Ar. Bea**	**149.16**	**286**	PKPbc	PKPbc	19 10 16.8	-1.1
1.2nm,0.8s,baz=57,slow=3.9,SNR=5.0							

*BJI **12** 19:46:45.2±0.0, 38°.37N×73°.42E, h120km, mb4.7/60, mB4.9/36*
*MOS **12** 19:46:46.5±1.0, 38°.38N×73°.56E, h127km, mb4.9/60, MS4.0/4, Error ellipse: s-maj=4.5km s-min=3.2km az=98.6*
*IDC **12** 19:46:46.4±1.8, 38°.35N×73°.60E, h116km±16km, mb4.3/31, mbtmp4.8/38, MS3.7/33, Error ellipse: s-maj=11.9km s-min=8.3km az=6.0*
*NEIC **12** 19:46:48.0±1.2, 38°.43N±0°.06×73°.48E±0°.08, h124km±5km, mb5.0/264, Mww5.1/22, Error ellipse: s-maj=9.6km s-min=8.1km az=119.0*
*NEIC **12** 19:46:48.4, 38°.42N×73°.46E, h110km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.30; $M_{\theta\theta}$-1.25; $M_{\phi\phi}$3.55; $M_{r\theta}$-2.59; $M_{\theta\phi}$-3.96; $M_{\phi r}$-1.00; Fault plane solution: $M_0$5.75000×10^{16} NP1: ϕ_s112.72000°, δ66.05000°, λ-148.10000°. NP2:ϕ_s8.54000°, δ61.12000°, λ-27.62000°. Principal axes: T 5.8016, Plg3.0000°, Azm240.0000°; N -0.0982, Plg51.0000°, Azm146.0000°; P -5.7034, Plg39.0000°, Azm332.0000°;*
*SOME **12** 19:46:48.4, 39°.33N×73°.00E, h0km, MS4.9*
*NEIC **12** 19:46:48.4, 38°.42N×73°.46E, h110km*
*BGR **12** 19:46:48.2, 37°.69N×73°.79E, h149km±2km, mb5.2, Hypocentre not reviewed by the ISC*
*GCMT **12** 19:46:51.0±0.2, 38°.43N±0°.01×73°.41E±0°.01, h145km±1km, MW5.2/130, Moment Tensor Solution. s64, c82; s130, c244; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.20±.11; $M_{\theta\theta}$-1.89±.14; $M_{\phi\phi}$3.09±.13; $M_{r\theta}$-3.67±.09; $M_{\theta\phi}$-5.31±.12; $M_{\phi r}$-1.95±.09; Best double couple: $M_0$7.16500×10^{16} NP1:ϕ_s107.00000°, δ70.00000°, λ-154.00000°. NP2:ϕ_s8.00000°, δ66.00000°, λ-22.00000°. Principal axes: T 6.4820, Plg3.0000°, Azm237.0000°; N 1.3680, Plg58.0000°, Azm142.0000°; P -7.8490, Plg32.0000°, Azm328.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NNC **12** 19:47:09.5±1.5, 40°.28N×73°.75E, h0km, mb5.2, mpv4.9 Error ellipse: s-maj=15.3km s-min=10.5km az=160.0*
ISC 12 19:46:47.0±0.3, 38°.34N±0°.03×73°.54E±0°.02, h122km±2km, h122km:pP-P, n1051, σ1§53/1022, mb4.9/283, 43C-56D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.23**	**58**	P	**Pn**	**19 47 19.9**	**-3.6**
KSH				S	**Sn**	**19 47 44.7**	**-6.8**
KSH				smax	smax		
comp=N,91μm,0.5s							
KSH				smax	smax		
comp=E,146μm,0.8s							
GAR	**Garm**	**2.61**	**286**	Pn	**Pn**	**19 47 28.3**	**-0.1**
BTK	**Batken**	**2.72**	**310**		**Pn**	**19 47 30.7**	**+0.9**
BTK	**Batken**	**2.72**	**310**	PN	**Pn**	**19 47 30.7**	**+0.9**
ARSB	**Arslanbob**	**3.01**	**352**		**Pn**	**19 47 33.6**	**+0.1**
ARSB	**Arslanbob**	**3.01**	**352**	PN	**Pn**	**19 47 33.6**	**+0.1**
CHGR	**Chuyangaron**	**3.45**	**277**	Pn	**Pn**	**19 47 38.6**	**-0.7**
CHGR	**Chuyangaron**	**3.45**	**277**	PN	**Pn**	**19 47 38.7**	**-0.7**
ARLS	**Aral**	**3.56**	**9**	PN	**Pn**	**19 47 41.4**	**+0.5**
NRN	**Naryn**	**3.62**	**31**		**Pn**	**19 47 41.3**	**-0.5**
NRN	**Naryn**	**3.62**	**31**	PN	**Pn**	**19 47 41.3**	**-0.5**
ARK	**Arkit**	**3.66**	**341**	PN	**Pn**	**19 47 42.2**	**+0.1**
UCH	**Uchtor**	**3.95**	**11**	P	**Pn**	**19 47 47.2**	**+0.9**
SNR=713							
EKS2	**Erkin-Say**	**4.32**	**2**	P	**Pn**	**19 47 52.1**	**+1.3**
SNR=490							
AAK	**Ala-Archa**	**4.35**	**9**	P	**Pn**	**19 47 52.7**	**+1.3**
SNR=69							
AAK	**Ala-Archa**	**4.35**	**9**	Pn	**Pn**	**19 47 52.3**	**+0.9**
AAK	**Ala-Archa**	**4.35**	**9**	*i* P	**Pn**	**19 47 52.5**	**+1.1**
SNR=86							
AAK	**Ala-Archa**	**4.35**	**9**	P	**Pn**	**19 47 52.5**	**+1.1**
109nm,0.3s,baz=178,slow=7.9,SNR=78							
AAK				S	**Sn**	**19 48 39.7**	**-1.7**
368nm,0.4s,baz=355,slow=16,SNR=19							
AAK	**Ala-Archa**	**4.35**	**9**	P	**Pn**	**19 47 52.9**	**+1.5**
AAK				S	**Sn**	**19 48 42.5**	**+1.2**
AAK	**Ala-Archa**	**4.35**	**9**	⇑Pn	**Pn**	**19 47 50.7**	**-0.7**
65nm,0.5s							
AAK				⇑Lg	Lg	19 48 26.5	
2μm,1.1s							
MRKS	**Merke**	**4.40**	**357**	*e*P	**Pn**	**19 47 53.0**	**+1.0**
613nm,0.4s							
MRKS				*e*S	**Sn**	**19 48 40.1**	**-2.4**
2μm,0.4s							
ULHL	**Ulahol**	**4.41**	**27**	P	**Pn**	**19 47 52.8**	**+0.6**
SNR=166							
KBK	**Karagaybulak**	**4.44**	**14**	P	**Pn**	**19 47 53.8**	**+1.2**
SNR=117							
BOOM	**Boomskoye usch**	**4.53**	**23**	Pn	**Pn**	**19 47 54.6**	**+0.8**
BOOM	**Boomskoye usch**	**4.53**	**23**	PN	**Pn**	**19 47 54.6**	**+0.8**
FRU1	**Bishkek**	**4.54**	**10**		**Pn**	**19 47 53.4**	**-0.4**
FRU1	**Bishkek**	**4.54**	**10**	PN	**Pn**	**19 47 53.4**	**-0.4**
NIL	**Nilore**	**4.69**	**183**		**Pn**	**19 47 58.0**	**+2.2**
NIL	**Nilore**	**4.69**	**183**	PN	**Pn**	**19 47 58.1**	**+2.2**
CHMS	**Chumysh**	**4.74**	**11**	P	**Pn**	**19 47 57.5**	**+1.1**
SNR=91							
TKM2	**Tokmak 2**	**4.83**	**18**	P	**Pn**	**19 47 58.8**	**+1.0**
SNR=372							
TKM2	**Tokmak 2**	**4.83**	**18**	⇓Pn	**Pn**	**19 47 59.6**	**+1.7**
141nm,0.6s							
TKM2				⇑Lg	Lg	19 48 45.0	
1μm,0.9s							
TKM2	**Tokmak 2**	**4.83**	**18**	PN	**Pn**	**19 47 58.6**	**+0.7**
USP	**Ospenovka**	**4.97**	**8**	P	**Pn**	**19 48 00.7**	**+1.1**
SNR=62							
CHM	**Chimkent**	**4.98**	**324**	*e*P	**Pn**	**19 48 00.2**	**+0.5**
baz=324							
CHM	**Chimkent**	**4.98**	**324**	*e*P	**Pn**	**19 48 02.1**	**+2.4**
685nm,0.2s							
CHM				*e*S	**Sn**	**19 48 54.8**	**-1.5**
2μm,0.3s							
CHM	**Chimkent**	**4.98**	**324**	*e*PN	**Pn**	**19 48 00.1**	**+0.5**
KST	**Kastek**	**5.04**	**21**	*e*P	Pn	19 48 09.2	+8.6
143nm,0.6s							
KST				*e*S	Sn	19 49 07.0	+9.2
980nm,0.

KOTS	**Kotyrbulak**	**5.59**	**28**	*e*P	Pn	19 48 21.5	+14
	comp=Z,95nm,0.6s						
KOTS				*e*S	Sn	19 49 28.6	+18
	comp=Z,1μm,0.7s						
JMU	**Jammu**	**5.72**	**168**	*e*P	**Pn**	**19 48 10.1**	**+0.4**
JMU				*e*S	Sn	19 49 04.8	-9.3
JMU				IAML		19 49 16.1	
	comp=N,8μm,0.6s						
KTBS	**Karatobe**	**5.87**	**23**	*e*P	Pn	19 48 25.8	+14
	comp=N,41nm,0.4s						
KTBS				*e*S	Sn	19 49 35.7	+18
	comp=N,536nm,0.8s						
KUU	**Kurty**	**5.93**	**20**	*e*P	**Pn**	**19 48 12.1**	**-0.4**
	comp=N,62nm,0.8s,baz=20						
KUU	**Kurty**	**5.93**	**20**	*e*P	Pn	19 48 27.0	+15
	comp=N,29nm,0.3s						
KUU				*e*S	Sn	19 49 37.9	+19
	comp=N,374nm,0.7s						
KUU	**Kurty**	**5.93**	**20**	*e*PN	**Pn**	**19 48 12.1**	**-0.4**
KUU				pmax	pmax		
	comp=Z,62nm,0.8s						
SATY	**Saty**	**5.99**	**37**	*e*P	**Pn**	**19 48 13.6**	**+0.3**
	comp=Z,70nm,0.8s,baz=37						
SATY	**Saty**	**5.99**	**37**	*e*P	Pn	19 48 32.3	+19
	comp=Z,84nm,0.3s						
SATY				*e*S	Sn	19 49 46.8	+26
	comp=Z,781nm,0.5s						
SATY	**Saty**	**5.99**	**37**	*e*PN	**Pn**	**19 48 13.6**	**+0.3**
SATY				pmax	pmax		
	comp=Z,70nm,0.8s						
CHKK	**Chushkaly**	**6.09**	**24**	*e*P	**Pn**	**19 48 14.8**	**+0.2**
	baz=24						
CHKK	**Chushkaly**	**6.09**	**24**	*e*P	Pn	19 48 29.3	+15
	comp=Z,38nm,0.4s						
CHKK				*e*S	Sn	19 49 42.4	+19
	comp=Z,216nm,0.6s						
CHKK	**Chushkaly**	**6.09**	**24**	*e*PN	**Pn**	**19 48 14.7**	**+0.2**
THN	**Thein Dam**	**6.16**	**163**	*e*P	**Pn**	**19 48 15.7**	**+0.1**
THN				*e*S	Sn	19 49 16.4	-8.3
THN				*e*S		19 49 20.8	
THN				IAML		19 49 21.8	
	comp=E,4μm,0.7s						
KURS	**Kuram**	**6.22**	**33**	*e*P	Pn	19 48 35.1	+19
	comp=E,110nm,0.8s						
KURS				*e*S	Sn	19 49 51.9	+26
	comp=E,308nm,0.9s						
KURS	**Kuram**	**6.22**	**33**	P	**Pn**	**19 48 17.2**	**+0.8**
UZB	**Uzynbulak**	**6.35**	**39**	*e*P	**Pn**	**19 48 18.5**	**+0.2**
	comp=E,42nm,0.7s,baz=39						
UZB	**Uzynbulak**	**6.35**	**39**	*e*P	Pn	19 48 39.8	+22
	comp=E,82nm,0.4s						
UZB				*e*S	Sn	19 49 59.5	+30
	comp=E,361nm,0.9s						
UZB	**Uzynbulak**	**6.35**	**39**	*e*PN	**Pn**	**19 48 18.4**	**+0.2**
UZB				pmax	pmax		
	comp=Z,42nm,0.7s						
KPKS	**Kokpek**	**6.43**	**36**	*e*P	**Pn**	**19 48 19.5**	**+0.2**
	comp=Z,37nm,0.6s,baz=36						
KPKS	**Kokpek**	**6.43**	**36**	*e*P	Pn	19 48 38.5	+19
	comp=Z,76nm,0.4s						
KPKS				*e*S	Sn	19 49 57.6	+26
	comp=Z,625nm,0.6s						
KPKS	**Kokpek**	**6.43**	**36**	*e*PN	**Pn**	**19 48 19.4**	**+0.2**
KPKS				pmax	pmax		
	comp=Z,37nm,0.6s						
DHRM	**DHARAMSHALA**	**6.49**	**159**	*e*P	**Pn**	**19 48 20.0**	**-0.2**
DHRM				*e*S	**Sn**	**19 49 25.7**	**-7.3**
SHLS	**Shalkode**	**6.58**	**41**	*e*P	**Pn**	**19 48 24.5**	**+3.1**
	comp=Z,60nm,0.9s,baz=43						
SHLS	**Shalkode**	**6.58**	**41**	*e*P	Pn	19 48 47.9	+27
	comp=Z,189nm,0.6s						
SHLS				*e*S	Sn	19 50 13.6	+39
	comp=Z,592nm,0.5s						
SHLS	**Shalkode**	**6.58**	**41**	*e*PN	**Pn**	**19 48 24.4**	**+3.1**
SHLS				pmax	pmax		
	comp=Z,60nm,0.9s						
BTLS	**Baital**	**6.70**	**3**	*e*P	**Pn**	**19 48 23.3**	**+0.4**
	comp=Z,41nm,0.9s,baz=2.9						
BTLS	**Baital**	**6.70**	**3**	*e*P	Pn	19 48 36.7	+14
	comp=Z,30nm,0.3s						
BTLS				*e*S	Sn	19 49 54.5	+17
	comp=Z,263nm,0.6s						
BTLS	**Baital**	**6.70**	**3**	*e*PN	**Pn**	**19 48 23.2**	**+0.4**
BTLS				pmax	pmax		
	comp=Z,41nm,0.9s						
PDGK	**Podgornoye**	**6.72**	**40**	⇓Pn	Pn	19 48 28.3	+5.1
	comp=Z,734nm,1.2s						
PDGK				⇑Lg	Lg	19 49 57.2	
	comp=Z,1μm,1.1s						
PDGK	**Podgornoye**	**6.72**	**40**	PN	**Pn**	**19 48 27.8**	**+4.6**
HNLY	**HANLEY**	**7.10**	**140**	*e*P	**Pn**	**19 48 28.0**	**-0.8**
HNLY				*e*x	x	19 49 46.4	
BHK	**Bhakra**	**7.30**	**160**	*e*P	**Pn**	**19 48 30.6**	**-0.5**
BHK				*e*S	Sn	19 49 42.5	-10
BHK				*e*S		19 49 45.9	
DJR	**Jarkent**	**7.61**	**36**	*e*P	Pn	19 49 01.5	+26
	comp=Z,29nm,0.6s						
DJR				*e*S	Sn	19 50 37.2	+37
	comp=Z,159nm,0.8s						
SMLA	**Simla**	**7.79**	**156**	*e*P	**Pn**	**19 48 35.7**	**-1.9**
SMLA				*e*x	x	19 49 57.2	
KLP	**Kalpa**	**7.82**	**149**	*e*P	**Pn**	**19 48 37.5**	**-0.8**
KLP				*e*S	Sn	19 49 56.9	-8.4
KLP				IAML		19 50 03.7	
	comp=E,4μm,0.4s						
KKR	**Kurukshetra**	**8.79**	**161**	*e*P	**Pn**	**19 48 51.6**	**+0.5**
KKR				*e*S	Sn	19 50 17.0	-12
KKR				IAML		19 50 25.8	
	comp=E,3μm,0.5s						
DDI	**Dehra Dun**	**8.83**	**154**	*e*P	**Pn**	**19 48 50.2**	**-1.5**
DDI				*e*S	Sn	19 50 18.1	-11
DDI				*e*x	x	19 50 20.7	
GNR	**GANAUR**	**9.63**	**162**	*e*P	**Pn**	**19 49 00.8**	**-1.7**
GNR				*e*S	Sn	19 50 37.6	-11
GNR				*e*S		19 50 37.8	
HRA	**Herat**	**9.93**	**250**		**Pn**	**19 49 05.5**	**-1.2**
BHGR	**Bahadurgarh**	**10.04**	**163**	*e*S	Sn	19 50 47.2	-11
NDI	**New Delhi**	**10.11**	**161**	*e*P	**Pn**	**19 49 07.5**	**-1.4**
NPLP	**NPLP New Delhi**	**10.14**	**162**	*e*P	**Pn**	**19 49 08.0**	**-1.3**
NPLP				*e*S	Sn	19 50 50.2	-11
LDR	**Lodi Road**	**10.21**	**161**	*e*P	**Pn**	**19 49 09.5**	**-0.7**
LDR				*e*S	Sn	19 50 51.3	-11
LDR				*e*S		19 50 52.1	
JMIU	**JAMIA UNIVERSI**	**10.24**	**161**	*e*P	**Pn**	**19 49 08.8**	**-1.8**
JMIU				*e*x	x	19 50 53.0	
JMIU				*e*S	Sn	19 50 53.3	-10
BISR	**Bishrakh**	**10.27**	**160**	*e*P	Pn	19 49 07.0	-4.1
BISR				*e*x	x	19 50 53.8	
BISR				*e*S	Sn	19 50 54.2	-10
AYAN	**Aya Nagar**	**10.28**	**162**	*e*P	**Pn**	**19 49 07.4**	**-3.8**
BKNR	**BIKANER**	**10.30**	**181**	*e*P	**Pn**	**19 49 10.9**	**-0.6**
BKNR				*e*x	x	19 50 56.5	
PTH	**Pithoragarh**	**10.37**	**146**	*e*P	Pn	19 49 08.6	-4.0
PTH				*i* x	x	19 49 12.0	
PTH				*e*S	Sn	19 50 52.8	-14
KUDL	**Kundal**	**10.47**	**166**	*e*P	**Pn**	**19 49 10.1**	**-3.6**
LGTI	**Lohaghat**	**10.47**	**146**	*e*x	Pn	19 49 00.6	-13
LGTI				*i* x	**Pn**	**19 49 10.9**	**-2.8**
LGTI				*e*S	Sn	19 50 56.4	-13
LGTI				*e*S		19 50 57.3	
SONA	**Sohna**	**10.49**	**163**	*e*P	**Pn**	**19 49 11.9**	**-2.1**
SONA				*e*S	Sn	19 50 57.3	-12
MAKZ	**Makanchi**	**10.49**	**34**		**Pn**	**19 49 13.2**	**-0.7**
MAKZ	**Makanchi**	**10.49**	**34**	P	**Pn**	**19 49 13.3**	**-0.7**
MK31	**Makanchi Array**	**10.62**	**35**		**Pn**	**19 49 15.1**	**-0.6**
MK31	**Makanchi Array**	**10.62**	**35**	Pn	**Pn**	**19 49 19.6**	**+3.9**
	comp=E,85nm,0.8s,baz=216,slow=12,SNR=277						
MK31	**Makanchi Array**	**10.62**	**35**	*c i*P	**Pn**	**19 49 14.8**	**-0.9**
MKAR	**Makanchi Array**	**10.62**	**35**		**Pn**	**19 49 14.9**	**-0.8**
MKAR	**Makanchi Array**	**10.62**	**35**	P	**Pn**	**19 49 15.8**	**+0.1**
	comp=E,33nm,0.6s,baz=215,slow=15,SNR=140						
MKAR				LR	LR	19 54 06.3	
	comp=E,417nm,19.1s,baz=230,slow=42						
UGON	**Onchagaon**	**10.65**	**159**	*e*S	Sn	19 50 59.7	-14
JASL	**Jaisalmer**	**11.60**	**192**	*e*P	**Pn**	**19 49 26.6**	**-2.3**
JASL				IAmb	IAmb	19 49 30.5	
	comp=Z,422nm,1.1s						
JASL				*e*x	x	19 51 26.4	
JASL				*e*x	x	19 51 27.2	
JASL				IAML		19 51 29.6	
	comp=E,686nm,0.7s						
AJM	**Ajmer**	**11.87**	**175**	*e*P	**Pn**	**19 49 30.2**	**-2.3**
AJM				*e*x	x	19 51 23.0	
AJM				IAML		19 51 40.1	
	comp=E,504nm,1.2s						
AJM				IAML		19 51 40.2	
	comp=N,430nm,0.6s						
WMQ	**Urumqi**	**12.00**	**58**	*e*P	**Pn**	**19 49 32.2**	**-1.8**
WMQ				pP	P	19 49 46.3	+4.7
WMQ				S	**Sn**	**19 51 40.7**	**-5.3**
WMQ				pmax	pmax		
	comp=N,130nm,1.3s						
WMQ				pmax	pmax		
	comp=N,940nm,5.1s						
FRKB	**FARRUKHABAD**	**12.03**	**153**	*e*P	**Pn**	**19 49 31.7**	**-2.9**
FRKB				*e*x	x	19 51 35.2	
FRKB				*e*x	x	19 51 35.9	
BRCI	**Bahraich**	**12.69**	**146**	*e*x	Sn	19 51 50.5	-12
KURBB	**Kurchatov Arra**	**12.78**	**15**	P	**Pn**	**19 49 41.9**	**-2.2**
	comp=N,28nm,0.8s,baz=203,slow=12,SNR=93						
KURK	**Kurchatov**	**12.88**	**15**		**Pn**	**19 49 42.7**	**-2.8**
KURK	**Kurchatov**	**12.88**	**15**	P	**Pn**	**19 49 43.0**	**-2.4**
KURK				S	**S**	**19 52 16.0**	**-8.4**
KURK	**Kurchatov**	**12.88**	**15**	*d i*P	**Pn**	**19 49 43.3**	**-2.1**
KURK				pmax	pmax		
	comp=Z,110nm,1.3s						
JHNI	**Jhansi**	**13.52**	**160**	*e*x	Pn	19 49 49.8	-4.0
JHNI				IAmb	IAmb	19 49 51.5	
	comp=Z,172nm,0.9s						
JHNI				*e*S	Sn	19 52 08.7	-14
VLK	**Valmikinagar**	**14.00**	**139**	*e*P	**Pn**	**19 49 57.0**	**-3.0**
VLK				*e*x	x	19 52 19.5	
VLK				*e*x	x	19 52 20.3	
GUNA	**GUNA**	**14.03**	**166**	*e*P	**Pn**	**19 49 56.4**	**-4.0**
GUNA				*e*x	x	19 52 19.2	
BNDA	**BANDA**	**14.05**	**154**	*e*x	Sn	19 52 21.6	-14
ABKAR	**Akbulak array**	**14.65**	**322**	P	**Pn**	**19 50 05.2**	**-2.9**
ABKAR	**Akbulak array**	**14.65**	**322**	P	**Pn**	**19 50 04.9**	**-3.2**
ALBI	**Allahabad**	**14.76**	**149**	*e*P	Pn	19 50 04.7	-5.1
ALBI				*e*x	x	19 52 34.8	
BVAR	**Borovoye Array**	**14.85**	**353**	P	**Pn**	**19 50 08.6**	**-2.0**
	comp=Z,11nm,0.5s,baz=166,slow=8.6,SNR=59						
BVAR				LR	LR	19 55 37.2	
	comp=Z,255nm,18.1s,baz=161,slow=36						
BHUJ	**Bhuj**	**15.40**	**194**	*e*P	**Pn**	**19 50 18.0**	**+0.2**
BHUJ				IAmb	IAmb	19 50 22.2	
	comp=Z,146nm,0.8s						
BHUJ				*e*x	x	19 52 57.1	
BHPL	**Bhopal**	**15.42**	**166**	*e*P	**Pn**	**19 50 14.9**	**-3.1**
BHPL				*e*x	x	19 52 53.4	
BHPL				*e*x	x	19 52 54.1	
NRDN	**NARMADA NAGAR**	**15.88**	**168**	*e*S	**Sn**	**19 53 11.8**	**-8.2**
NRDN				*e*S	S	19 53 12.2	-12
AKTO	**Aktyubinsk**	**16.37**	**323**	P	**Pn**	**19 50 28.3**	**-1.1**
	comp=Z,55nm,0.4s,baz=130,slow=11,SNR=90						
AKTO				S	**Sn**	**19 53 22.1**	**-9.1**
	comp=Z,10nm,0.5s,baz=108,slow=14,SNR=1.9						
AKTO				LR	LR	19 56 43.4	
	comp=Z,381nm,19.6s,baz=334,slow=36						
NGCH	**Negor - Chabah**	**16.67**	**223**	P	**P**	**19 50 35.2**	**+1.6**
NGCH				S	**Sn**	**19 53 34.7**	**-4.2**
LSA	**Lhasa**	**16.93**	**115**	P	**P**	**19 50 36.8**	**-0.2**
LSA				S	**Sn**	**19 53 37.0**	**-8.8**
LSA				pmax	pmax		
	comp=Z,45nm,1.1s						
LSA	**Lhasa**	**16.93**	**115**	P	**P**	**19 50 37.5**	**+0.4**
LSA	**Lhasa**	**16.93**	**115**	P	**Pn**	**19 50 38.2**	**+1.2**
GOMU	**GeErMu**	**17.07**	**91**	P	**P**	**19 50 37.9**	**-0.4**
GOMU				LR	LR		
	comp=Z,930nm,8.4s						
GOMU				LR	LR		
	comp=Z,460nm,8.3s						
GOMU				LR	LR		
	comp=Z,450nm,7.6s						
ZAA0	**Zalesovo Array**	**17.42**	**23**	P	**P**	**19 50 41.0**	**-0.5**
ZALV	**Zalesovo Beam**	**17.42**	**23**	P	**P**	**19 50 41.1**	**-0.5**
ZALV	**Zalesovo Beam**	**17.42**	**23**	P	**P**	**19 50 41.3**	**-0.3**
	comp=Z,113nm,0.5s,baz=212,slow=10,SNR=378						
ZALV				S	**Sn**	**19 53 50.7**	**-5.6**
	comp=Z,25nm,0.9s,baz=207,slow=20,SNR=5.3						
SHBG	**Sahibganj**	**17.73**	**133**	*e*P	**P**	**19 50 43.2**	**-2.0**
BLSP	**Bilaspur**	**17.77**	**153**	*e*P	**P**	**19 50 43.4**	**-2.3**
BLSP				*e*x	x	19 53 45.0	
BLSP				*e*x	x	19 53 47.0	
NGP	**Nagpur**	**17.78**	**163**	*e*P	**P**	**19 50 44.3**	**-1.6**
NGP				*e*x	x	19 53 46.8	
NGP				*e*S	S	19 53 51.3	-13
BOK	**Bokaro**	**17.92**	**140**	*e*P	**P**	**19 50 45.5**	**-1.9**
JHSG	**JHARSUGUGA**	**18.73**	**149**	*e*x	**P**	**19 50 55.5**	**-0.7**
JHSG				*e*S	S	19 54 11.0	-12
BANOM	**Banah**	**19.11**	**235**	P	**P**	**19 50 59.0**	**-1.3**
BANOM	**Banah**	**19.11**	**235**	P	**P**	**19 50 59.2**	**-1.2**
SHME	**Shamm**	**19.12**	**235**	*i* P	**P**	**19 50 59.5**	**-0.9**
	SNR=6.8						
SHME	**Shamm**	**19.12**	**235**	P	**P**	**19 51 00.7**	**+0.2**
	SNR=5.7						
SHME				S	**S**	**19 54 32.2**	**+1.4**
LKRN	**Lenkeran, Azer**	**19.37**	**279**	P	**Pn**	**19 51 05.0**	**-0.4**
MDH	**Madha**	**19.55**	**233**	P	**P**	**19 51 06.5**	**+1.4**
MASF	**Masafi**	**19.59**	**234**	P	**P**	**19 51 06.1**	**+0.6**
MASF				S	**S**	**19 54 44.5**	**+4.4**
MSFE	**Esma-Masafi**	**19.59**	**234**	P	**P**	**19 51 05.3**	**-0.4**
WSAR	**Wadi Sarin**	**19.73**	**225**	P	**P**	**19 51 07.7**	**+0.6**
	comp=Z,38nm,0.5s,baz=56,slow=8.2,SNR=90						
POO	**Poona**	**19.75**	**179**	*e*x	**P**	**19 51 08.4**	**+1.0**
POO				IAmb	IAmb	19 51 12.6	
	comp=Z,44nm,0.7s						
POO				*i* x	x	19 51 27.1	
POO				*e*x	x	19 54 38.5	
BIDO	**Bidbid**	**19.79**	**226**	P	**Pn**	**19 51 10.7**	**+0.3**
UOSS	**Minazif**	**19.86**	**233**	P	**P**	**19 51 06.9**	**-1.6**
UOSS	**Minazif**	**19.86**	**233**	P	**P**	**19 51 05.8**	**-2.7**
UOSS	**Minazif**	**19.86**	**233**	P	**P**	**19 51 08.4**	**-0.1**
UOSS				S	**S**	**19 54 42.9**	**-2.6**
HATD	**Hatta, Dubai**	**19.99**	**233**	P	**P**	**19 51 10.1**	**+0.1**
HATD	**Hatta, Dubai**	**19.99**	**233**	P	**P**	**19 51 10.8**	**+0.9**
WBK	**Wadi Bani Khal**	**20.05**	**223**	P	Pn	19 51 12.7	-0.8
SHL	**Shillong**	**20.07**	**124**	P	**P**	**19 51 10.2**	**-0.7**
SHL	**Shillong**	**20.07**	**124**	*e*x	x	19 51 10.9	
SHL				IAmb	IAmb	19 51 14.0	
	comp=Z,102nm,0.9s						
SHL				*i* x	x	19 55 27.8	
SHL	**Shillong**	**20.07**	**124**	P	**P**	**19 51 11.3**	**+0.4**
	SNR=43						
SHL				S	**S**	**19 54 41.4**	**-8.5**
SHL	**Shillong**	**20.07**	**124**	P	**P**	**19 51 10.2**	**-0.7**
ASHO	**Ashiyiah**	**20.14**	**233**	*i* P	**P**	**19 51 11.3**	**-0.3**
	SNR=18						
ASHO	**Ashiyiah**	**20.14**	**233**	P	Pn	19 51 15.1	+0.5
	SNR=12						
NAZ	**Nazwa, Dubai**	**20.17**	**234**	P	**P**	**19 51 12.3**	**+0.5**
	SNR=11						
SMDO	**Samad**	**20.19**	**225**	P	Pn	19 51 15.1	-0.1
	SNR=7.0						
SMDO				S	**S**	**19 54 54.4**	**+2.2**
JLN	**Jalan Bani Buh**	**20.19**	**221**	P	Pn	19 51 14.3	-0.9
	SNR=5.1						
JLN				S	**S**	**19 54 54.2**	**+2.1**
HOQ	**Hoqain**	**20.21**	**228**	P	**P**	**19 51 14.0**	**+1.8**
HOQ				S	**S**	**19 54 53.4**	**+1.0**
MAK	**Makhachkala**	**20.25**	**291**	*e*P	**P**	**19 51 11.9**	**-0.6**
MAK				*e**PP	**pP**	**19 51 34.0**	**-2.1**
MAK				*e**SP	**sP**	**19 51 51.7**	**-0.3**
MAK				*e*S	**S**	**19 54 53.8**	**+0.9**
MAK				*e**SS	**sS**	**19 55 30.5**	**-1.8**
MAK				pmax	pmax		
	comp=Z,138nm,1.0s						
MAK				MLR	MLR		
	comp=Z,669nm,14.0s						
SOHO	**SOHO**	**20.25**	**231**	P	**P**	**19 51 10.9**	**-1.8**
SVE	**Sverdlovsk**	**20.37**	**339**	*c i*P	**P**	**19 51 13.9**	**+0.2**
SVE				*e*S	**S**	**19 54 49.0**	**-6.1**
SVE				pmax	pmax		
	comp=Z,111nm,0.9s						
FAQ	**Al Faqa, Dubai**	**20.39**	**234**	P	**P**	**19 51 14.1**	**-0.1**
SEKA	**Sheki**	**20.42**	**286**	P	**P**	**19 51 15.9**	**+1.4**
GTA	**Gaotai**	**20.46**	**79**	⇑P	**P**	**19 51 16.4**	**+1.4**
GTA				pP	pP	19 51 42.0	+3.4
GTA				sP	sP	19 51 58.5	+3.6
GTA				S	**S**	**19 54 50.2**	**-7.2**
GTA				SS	Sn	19 55 37.2	+28
GTA				pmax	pmax		
	comp=Z,46nm,1.1s						
GTA				pmax	pmax		
	comp=Z,480nm,5.2s						
GTA				LR	LR		
	comp=Z,230nm,11.2s						
GTA				LR	LR		
	comp=Z,180nm,10.0s						
GTA				LR	LR		
	comp=Z,350nm,15.5s						
MNGR	**Mingechevir, A**	**20.52**	**285**	P	Pn	19 51 17.4	-1.4
ASUD	**Al Ashush, Dub**	**20.64**	**234**	P	**P**	**19 51 18.1**	**+1.2**
ASUD				S	**S**	**19 54 57.9**	**-3.0**
ARU	**Arti**	**20.66**	**336**	P	**P**	**19 51 15.4**	**-1.3**
ARU	**Arti**	**20.66**	**336**	P	**P**	**19 51 16.9**	**+0.1**
	comp=Z,34nm,0.6s,baz=139,slow=7.4,SNR=82						
ARU				LR	LR	20 00 45.8	
	comp=Z,99nm,20.8s,baz=156,slow=41						
	comp=Z,34nm,0.6s						
ARU	**Arti**	**20.66**	**336**	*d i*P	**P**	**19 51 16.5**	**-0.3**
ARU				***PP	**pP**	**19 51 39.3**	**-0.8**
ARU						19 51 57.5	
ARU				S	**S**	**19 55 01.7**	**+1.0**
ARU				pmax	pmax		
	comp=Z,184nm,1.3s						
ARU	**Arti**	**20.66**	**336**	P	**P**	**19 51 16.9**	**+0.1**
	comp=Z,110nm,1.4s,comp=Z,2μm						
JMDO	**Jabal Madar**	**20.71**	**224**	P	**P**	**19 51 19.7**	**+2.1**
ALNE	**Al Ain**	**20.79**	**232**	*i* P	**P**	**19 51 18.9**	**+0.4**
	SNR=10						
ALNE	**Al Ain**	**20.79**	**232**	P	**P**	**19 51 19.0**	**+0.4**
ARQ	**Araqi**	**20.86**	**229**	P	Pn	19 51 22.4	-0.6
BWNR	**Bhubaneshwar**	**20.89**	**146**	*e*x	**P**	**19 51 21.2**	**+1.7**
BWNR				*e*x	x	19 55 00.2	
AJN	**Ajban**	**20.91**	**234**	P	**P**	**19 51 20.4**	**+0.7**
BSY	**Bisya**	**20.92**	**227**	P	**P**	**19 51 21.6**	**+1.7**
KAD	**Karad**	**20.97**	**178**	*e*x	**P**	**19 51 21.3**	**+0.8**
KAD				IAmb	IAmb	19 51 22.7	
	comp=Z,27nm,1.0s						
KAD				*e*x	x	19 55 05.7	
GANJ	**Ganja**	**21.10**	**285**	P	**P**	**19 51 22.9**	**+1.2**
HYB	**Hyderabad**	**21.31**	**167**	*e*P	**P**	**19 51 25.1**	**+1.0**
HYB				IVmB_BB		19 51 29.4	
	comp=Z,540nm,2.1s						
HYB				*e*pP	**pP**	**19 51 47.9**	**-0.1**
HYB				*e*		19 51 56.7	
HYB				*e*sP	**sP**	**19 52 03.3**	**-0.4**
HYB				*e*		19 55 11.5	
HYB				*e*S	**S**	**19 55 17.4**	**+3.6**
NAX	**Nakhchivan**	**21.86**	**281**	P	**P**	**19 51 31.5**	**+1.7**
MHTO	**MHTO**	**21.91**	**222**	P	**P**	**19 51 32.3**	**+1.9**
MHTO				S	**S**	**19 55 24.1**	**-0.5**
JRN	**Qarnain Island**	**22.05**	**239**	P	**P**	**19 51 32.5**	**+0.7**
UMZA	**Um Al Zommool**	**22.15**	**231**	P	**P**	**19 51 34.7**	**+1.9**
UMZA				S	**S**	**19 55 27.6**	**-1.1**
MZWR	**Madinat Zayed**	**22.18**	**235**	P	**P**	**19 51 34.2**	**+0.9**
VIS	**Vishakhapatnam**	**22.26**	**155**	*e*P	**P**	**19 51 33.5**	**-0.6**
VIS				*e*x	x	19 55 33.5	
GNI	**Garni**	**22.34**	**284**	P	**P**	**19 51 33.9**	**-1.0**
GNI	**Garni**	**22.34**	**284**	P	**P**	**19 51 35.6**	**+0.8**
	comp=Z,40nm,1.1s,baz=67,slow=1.1,SNR=17						
GNI				S	**S**	**19 55 35.0**	**+3.1**
	comp=Z,6.0nm,0.6s,baz=38,slow=19,SNR=1.3						
	comp=Z,40nm,1.1s						
GNI	**Garni**	**22.34**	**284**	P	**P**	**19 51 37.9**	**+3.0**
GNI	**Garni**	**22.34**	**284**	*de*P	**P**	**19 51 37.3**	**+2.4**
GNI				pmax	pmax		
	comp=Z,31nm,1.1s						
GUDG	**Gudauri**	**22.46**	**290**	P	**P**	**19 51 36.8**	**+0.7**
GHWR	**Ruwais**	**22.69**	**237**	P	**P**	**19 51 37.1**	**-1.2**
GHWR				S	**S**	**19 55 35.3**	**-2.2**
TRLG	**Trialeti**	**22.75**	**287**	P	**P**	**19 51 39.8**	**+0.9**
SHMA	**Al-Shehemyia**	**22.75**	**243**	P	**P**	**19 51 39.0**	**+0.1**
SHMA				S	**S**	**19 55 38.1**	**-0.3**
BELG	**Belogornoye**	**22.84**	**316**	*d i*P	**P**	**19 51 38.9**	**-0.5**
BELG				pmax	pmax		
	comp=Z,12nm,1.1s						
MZR	**Muzera**	**22.98**	**234**	*i* P	**P**	**19 51 40.8**	**-0.3**
	SNR=13						
MZR	**Muzera**	**22.98**	**234**	P	**P**	**19 51 40.4**	**-0.7**
NCK	**Nalchik**	**23.14**	**292**	*ce*P	**P**	**19 51 44.0**	**+1.6**
NCK				pmax	pmax		
	comp=Z,54nm,1.2s						
ONI	**Oni**	**23.22**	**290**	P	**P**	**19 51 45.9**	**+2.7**
KBD	**Kabd**	**23.29**	**255**	P	**P**	**19 51 46.5**	**+2.5**
MOY	**Mondy**	**23.37**	**46**	*e*P	**P**	**19 51 46.0**	**+1.4**
MOY				pmax	pmax		
	comp=Z,12nm,2.0s						
SLWR	**Sila**	**23.41**	**239**	P	**P**	**19 51 45.4**	**+0.4**
SLWR				S	**S**	**19 55 48.0**	**-0.9**
GOF	**Gofitskoye**	**23.64**	**296**	*ce*P	**P**	**19 51 48.5**	**+1.5**
KBZ	**Khabaz**	**23.65**	**293**	P	**P**	**19 51 48.3**	**+1.3**
	comp=Z,7.3nm,0.8s,baz=128,slow=7.1,SNR=14						
	comp=Z,7.3nm,0.8s						
KBZ	**Khabaz**	**23.65**	**293**	*de*P	**P**	**19 51 47.1**	**0.0**
KBZ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KIV	**Kislovodsk**	**23.82**	**293**	⇑P	**P**	**19 51 49.2**	**+0.5**
KIV	**Kislovodsk**	**23.82**	**293**	P	**P**	**19 51 47.1**	**-1.6**
KIV	**Kislovodsk**	**23.82**	**293**	*i* P	**P**	**19 51 50.0**	**+1.4**
	SNR=7.1						
KIV	**Kislovodsk**	**23.82**	**293**	P	**P**	**19 51 51.9**	**+3.2**
KIV				S	**S**	**19 55 58.6**	**+3.1**
KIV	**Kislovodsk**	**23.82**	**293**	*e*P	**P

ULN Ulaanbaatar 26.07 58c *i*P **P 19 52 10.1 +0.9**
ULN pmax pmax
comp=Z,23nm,0.8s
PZH PanZhiHua 26.47 108 P **P 19 52 14.1 +1.2**
PZH pP **pP 19 52 42.9 +2.6**
PZH S **S 19 56 38.3 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
PZH LR LR
comp=Z,300nm,10.2s
PZH LR LR
comp=Z,190nm,10.5s
PZH LR LR
comp=Z,170nm,10.4s
VSR Storozhevoye 27.31 309 *e*P **P 19 52 18.4 -1.6**
VSR *e*S **S 19 56 51.4 +0.9**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR smax smax
comp=N,120nm,5.9s
VORR Voronezh 27.41 310 *e*P **P 19 52 21.0 +0.2**
VORR pmax pmax
comp=Z,30nm,0.5s
ANN Anapa 27.61 295 *e*P **P 19 52 23.3 +0.6**
ANN *e**PP **pP 19 52 50.6 +0.2**
ANN *e*S **S 19 56 55.7 +0.5**
ANN *e**SS **sS 19 57 42.4 -1.6**
ANN pmax pmax
comp=Z,43nm,1.1s
LPSR Galich'ya Gora 27.83 312 *e*P **P 19 52 24.4 -0.2**
LPSR *e*S **S 19 56 54.3 -4.3**
LPSR pmax pmax
comp=Z,40nm,1.5s
LPSR smax smax
comp=N,240nm,10.8s
RAYN Ar Rayn 28.09 246 P **P 19 52 27.9 +0.6**
RAYN Ar Rayn 28.09 246 *i* P **P 19 52 27.9 +0.6**
SNR=7.8
RAYN Ar Rayn 28.09 246 P **P 19 52 28.4 +1.2**
RAYN Ar Rayn 28.09 246 P **P 19 52 27.9 +0.6**
RAYN pmax pmax
comp=Z,8.0nm,0.8s
BTO Baotou 28.12 74 *e*P **P 19 52 28.1 +0.6**
BTO pP **pP 19 52 55.1 -0.1**
BTO sP **sP 19 53 09.6 -0.3**
BTO PP **PnPn 19 53 22.7 +0.6**
BTO S **S 19 57 05.8 +2.1**
BTO sS **sS 19 57 47.1 -5.4**
BTO pmax pmax
comp=Z,47nm,0.9s
BTO pmax pmax
comp=Z,210nm,5.3s
BTO LR LR
comp=Z,2μm,7.1s
BTO LR LR
comp=Z,740nm,7.6s
BTO LR LR
comp=Z,850nm,7.3s
XAN Xi'an 28.77 88 P **P 19 52 34.0 +0.8**
XAN pP pP 19 53 03.6 +2.6
XAN S **S 19 57 16.1 +2.3**
XAN sS sS 19 58 05.5 +2.9
XAN PcS **PcS 19 59 22.0 -1.0**
XAN pmax pmax
comp=Z,28nm,1.1s
HHC Hu-ho-hao-te 29.26 73 *e*P **P 19 52 39.1 +1.6**
HHC S **S 19 57 23.2 +1.7**
HHC sS sS 19 58 11.7 +1.4
HHC SS **SnSn 19 59 05.0 +4.0**
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,73nm,5.6s
HHC LR LR
comp=Z,450nm,7.2s
HHC LR LR
comp=Z,320nm,9.6s
HHC LR LR
comp=Z,320nm,8.3s
CRAI Chiangrai 29.39 120 IAmb IAmb 19 53 49.5
comp=Z,28nm,1.3s
CHTO Chiang Mai 29.44 124 P **P 19 52 39.4 +0.2**
CHTO Chiang Mai 29.44 124 P **P 19 52 39.4 +0.2**
CHTO pmax pmax
comp=Z,20nm,1.2s
MOS Moscow 29.58 318 *e*P **P 19 52 38.7 -1.3**
MOS *e**PP **pP 19 53 10.4 +2.4**
MOS *e* 19 53 41.4
MOS *e* 19 57 16.5
MOS pmax pmax
comp=Z,55nm,1.1s
CMAR Chiang Mai Arr 29.70 125 P **P 19 52 40.6 -0.9**
CMAR Chiang Mai Arr 29.70 125 P **P 19 52 41.5 0.0**
comp=Z,1.1nm,0.7s,baz=311,slow=9.0,SNR=4.6
comp=Z,1.1nm,0.7s
CMAR Chiang Mai Arr 29.70 125 P **P 19 52 40.6 -0.9**
OBN Obninsk 29.93 316 P **P 19 52 41.8 -1.4**
OBN Obninsk 29.93 316 ⇓*i*P **P 19 52 43.3 +0.1**
OBN *i* 19 53 27.6
OBN *i* S **S 19 57 25.9 -5.6**
OBN pmax pmax
comp=Z,52nm,1.3s
OBN MLR MLR
comp=Z,114nm,13.0s
OBN Obninsk 29.93 316 P **P 19 52 43.6 +0.4**
comp=Z,39nm,1.4s
SIM Simferopol' 29.97 295 *e*P **P 19 52 45.5 +1.9**
SIM *e*S **S 19 57 26.3 -6.0**
SIM pmax pmax
comp=Z,63nm,1.2s
SIM smax smax
comp=N,128nm,21.4s
GYA Guiyang 30.22 103 P **P 19 52 50.5 +4.3**
GYA pP pP 19 53 17.8 +3.8
GYA sP sP 19 53 32.5 +3.9
GYA S **S 19 57 40.8 +4.0**
GYA pmax pmax
comp=N,11nm,0.6s
TIY Taiyuan 30.49 79 *e*P **P 19 52 49.8 +1.4**
TIY sP **sP 19 53 30.0 -1.1**
TIY S **S 19 57 41.6 +0.8**
TIY pmax pmax
comp=N,9.0nm,0.5s
TIY LR LR
comp=N,330nm,8.2s
TIY LR LR
comp=N,270nm,7.6s
TIY LR LR
comp=N,130nm,9.6s
BR131 Keskin Array S 30.85 285 IAmb IAmb 19 52 54.4
comp=Z,24nm,1.1s
BR131 Keskin Array S 30.85 285 *d i*P **P 19 52 53.0 +1.3**
BRTR Keskin Array B 30.85 285 P **P 19 52 52.0 +0.3**
BRTR Keskin Array B 30.85 285 P **P 19 52 52.4 +0.7**
comp=Z,14nm,1.1s,baz=97,slow=6.3,SNR=42
comp=Z,14nm,1.1s
BRTR Keskin Array B 30.85 285 P **P 19 52 52.0 +0.3**
CIT Chita 30.92 51 *e*P **P 19 52 53.1 +1.1**
CIT *e* 19 53 24.2
CIT *e* 19 53 37.9
CIT *e* 19 53 54.6
CIT *e* 19 54 14.4
CIT *e*S **S 19 57 48.3 +1.2**
CIT *e* 19 58 32.8
CIT *e* 20 00 08.0
CIT pmax pmax
comp=Z,38nm,1.2s
MMAI Mount Meron Ar 31.28 272 P **P 19 52 57.3 +1.9**
comp=Z,0.9nm,0.5s,baz=43,slow=15,SNR=1.7
comp=Z,0.9nm,0.5s
LYN LuoYang 31.38 85 *e*P **P 19 52 57.3 +1.1**
LYN S **S 19 57 55.5 +0.9**
LYN sS sS 19 58 46.1 +2.5
LYN SS **SnSn 19 59 49.3 -3.2**
LYN pmax pmax
comp=Z,26nm,0.6s
LYN pmax pmax
comp=Z,160nm,4.0s
ANTO Ankara 31.47 286 P **P 19 52 56.1 -0.9**
ANTO Ankara 31.47 286 P **P 19 52 56.1 -0.9**
ANTO pmax pmax
comp=Z,60nm,1.4s
ANTO Ankara 31.47 286 P **P 19 52 59.0 +2.0**
comp=Z,17nm,1.3s,comp=Z,178nm
ANTO Ankara 31.47 286 P **P 19 52 58.8 +1.8**
PALK Pallekele 31.60 166 LR LR 20 05 57.3
comp=Z,241nm,18.1s,baz=95,slow=36
NRIK Noril'sk 31.97 9 P **P 19 53 01.0 +0.1**
NRIK Noril'sk 31.97 9 P **P 19 53 02.0 +1.1**
comp=Z,26nm,0.7s,baz=199,slow=6.6,SNR=46
NRIK LR LR 20 08 10.5
comp=Z,104nm,19.2s,baz=188,slow=40
comp=Z,26nm,0.7s
NRIK Noril'sk 31.97 9 *d i*P **P 19 53 01.8 +0.9**
NRIK pmax pmax
comp=Z,52nm,1.1s
XLT XiLinHaoTe 32.25 66 *e*P **P 19 53 03.9 +0.1**
XLT sP sP 19 53 49.3 +2.8
XLT S **S 19 58 12.3 +4.1**
XLT sS sS 19 58 55.3 -1.9
XLT pmax pmax
comp=Z,5.0nm,0.9s
XLT LR LR
comp=Z,260nm,7.2s
XLT LR LR
comp=Z,290nm,6.3s
HNS HongShan 32.32 79 ⇓P **P 19 53 06.1 +1.7**
HNS S **S 19 58 11.6 +2.5**
HNS pmax pmax
comp=Z,13nm,0.7s
HNS LR LR
comp=Z,290nm,8.8s
HNS LR LR
comp=Z,130nm,19.1s
MDUB Mudurnu 32.56 287 P **P 19 53 08.2 +1.6**
BJT Baijiatuau 32.86 73 P **P 19 53 09.8 +0.8**
BJI Beijing 32.86 73 P **P 19 53 10.3 +1.3**
BJI S **S 19 58 20.8 +3.4**
BJI pmax pmax
comp=Z,5.0nm,0.8s
EIL Elat 32.95 267 LR LR 20 09 38.1
comp=Z,106nm,19.4s,baz=66,slow=42
AK09 Malin Array Si 33.38 306 P **P 19 53 13.8 +0.3**
AK08 Malin Array Si 33.40 306 P **P 19 53 13.9 +0.3**
AK10 Malin Array Si 33.40 306 P **P 19 53 14.0 +0.4**
AKASG Malin Array Be 33.43 306 P **P 19 53 13.6 -0.3**
AKASG Malin Array Be 33.43 306 P **P 19 53 13.9 +0.1**
comp=Z,2.0nm,0.3s,baz=82,slow=7.8,SNR=23
AKASG LR LR 20 08 50.4
comp=Z,135nm,18.2s,baz=94,slow=40
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 33.43 306 P **P 19 53 13.6 -0.3**
AKASG pmax pmax
comp=Z,21nm,1.4s
AKBB Malin Array Si 33.43 306 P **P 19 53 13.2 -0.6**
AKBB IAmb IAmb 19 53 14.5
comp=Z,24nm,1.3s
AKBB Malin Array Si 33.43 306 *d i*P **P 19 53 13.9 +0.1**
AKBB Malin Array Si 33.43 306 P **P 19 53 14.0 +0.1**
AK07 Malin Array Si 33.43 306 P **P 19 53 14.3 +0.4**
AK01 Malin Array Si 33.44 306 P **P 19 53 14.0 +0.1**
AK02 Malin Array Si 33.44 306 P **P 19 53 14.1 +0.2**
KIEV Kiev 33.44 306 ⇓P **P 19 53 13.9 0.0**
KIEV Kiev 33.44 306 P **P 19 53 13.4 -0.5**
KIEV Kiev 33.44 306 *i* P **P 19 53 14.0 0.0**
SNR=8.2
KIEV Kiev 33.44 306 P **P 19 53 13.4 -0.5**
KIEV pmax pmax
comp=Z,19nm,1.2s
KIEV Kiev 33.44 306 P **P 19 53 14.0 0.0**
comp=Z,41nm,0.9s
KIEV Kiev 33.44 306 P **P 19 53 13.9 0.0**
AK04 Malin Array Si 33.47 306 P **P 19 53 14.3 +0.1**
AK12 Malin Array Si 33.47 306 P **P 19 53 14.3 +0.1**
AK14 Malin Array Si 33.50 306 P **P 19 53 14.6 +0.1**
AK18 Malin Array Si 33.53 306 P **P 19 53 14.8 +0.1**
AK22 Malin Array Si 33.53 306 P **P 19 53 14.7 0.0**
AK21 Malin Array Si 33.55 306 P **P 19 53 14.9 0.0**
AK19 Malin Array Si 33.56 306 P **P 19 53 15.0 0.0**
AK20 Malin Array Si 33.57 306 P **P 19 53 15.1 0.0**
MILM Milestii Mici 33.62 299 ⇑P **P 19 53 16.2 +0.6**
MILM Milestii Mici 33.62 299 ⇓*i*P **P 19 53 15.8 +0.3**
comp=Z,150nm,2.0s
MILM *e*pP **pP 19 53 41.0 -2.8**
MILM *i* S **S 19 58 29.0 0.0**
comp=Z,140nm,3.4s
MILM Milestii Mici 33.62 299 P **P 19 53 16.1 +0.6**
SORM Soroca 33.91 302 ⇑P **P 19 53 18.4 +0.4**
SORM Soroca 33.91 302 P **P 19 53 18.4 +0.4**
MI30 MI30,Zelenitsa 34.09 306 P **P 19 53 19.2 -0.4**
CFR Carcaliu 34.19 296 ⇑P **P 19 53 21.9 +1.4**
CFR Carcaliu 34.19 296 P **P 19 53 21.6 +1.1**
SCTR Scanteiesti 34.25 297 ⇑P **P 19 53 22.4 +1.4**
WHN Wuhan 34.32 91 P **P 19 53 24.3 +2.5**
LUBAR Lubar, Ukraine 34.33 305 P **P 19 53 22.0 +0.4**
MI28 Mi28,Pidlybu 34.43 307 P **P 19 53 23.1 +0.6**
TIA Tai'an 34.51 80 P **P 19 53 23.4 0.0**
TIA pmax pmax
comp=Z,7.0nm,1.4s
MNK Minsk 34.67 313 *i* P **P 19 53 25.8 +1.3**
comp=E,11nm,1.2s
MNK *i* P **P 19 53 25.8 +1.3**
comp=N,9.0nm,0.8s
MNK *i* P **P 19 53 25.8 +1.3**
comp=Z,22nm,1.0s,baz=99
MNK *i* pP **pP 19 53 49.5 -3.5**
MNK *i* PP **PP 19 54 47.2 +1.9**
MNK *i* PcP **PcP 19 55 56.9 +1.1**
MNK *i* S **S 19 58 47.2 +2.1**
MNK *i* sS sS 19 59 42.9 +8.4
MNK *i* SS **SnSn 20 01 12.7 +1.4**
MNK *i* LR LR 20 07 56.8
MNK *i* LRM MLR 20 08 23.9
comp=N,147nm,14.3s
MNK *i* LRM MLR 20 08 29.2
comp=E,64nm,11.7s
MNK *i* LRM MLR 20 08 39.7
comp=Z,139nm,12.8s
MNK Minsk 34.67 313 *i* P **P 19 53 25.8 +1.3**
MNK *i* *PP **pP 19 53 49.4 -3.5**
MNK *i* 19 54 47.2
MNK *i* 19 55 56.8
MNK *i* S **S 19 58 47.2 +2.1**
MNK *i* SS **SnSn 20 01 12.7 +1.4**
MNK pmax pmax
comp=E,11nm,1.3s
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,22nm,1.0s
MNK MLR MLR
comp=N,147nm,14.0s
MNK MLR MLR
comp=E,64nm,12.0s
MNK MLR MLR
comp=Z,139nm,13.0s
VALR Valaam 34.92 325 *d i*P **P 19 53 26.7 +0.2**
VALR pmax pmax
comp=Z,60nm,1.3s
VRI Vrincioaia 35.12 298 ⇑P **P 19 53 30.3 +1.7**
VRI Vrincioaia 35.12 298 P **P 19 53 30.2 +1.7**
VRI Vrincioaia 35.12 298 P **P 19 53 30.4 +1.9**
comp=Z,23nm,1.3s,comp=Z,331nm
TESR Tescani 35.12 299 ⇑P **P 19 53 29.2 +0.6**
TESR Tescani 35.12 299 P **P 19 53 29.7 +1.1**
comp=Z,21nm,1.5s
PLOR5 Plostina Array 35.16 298 P **P 19 53 30.9 +2.0**
comp=Z,35nm,0.9s,comp=Z,634nm
KMPD K-Podol'skiy 35.16 302 P **P 19 53 28.5 -0.3**
PLOR Plostina 35.17 298 ⇑P **P 19 53 31.0 +2.0**
PLOR Plostina 35.17 298 P **P 19 53 31.2 +2.2**
PLOR3 Plostina Array 35.17 298 P **P 19 53 31.0 +1.9**
comp=Z,35nm,1.4s
JOF Joensuu 35.33 328 *e*P **P 19 53 31.1 +1.0**
NACGM Naroch 35.37 313 *e*P **P 19 53 30.8 +0.4**
comp=E,2μm,1.2s
COVR Voineasa-Covas 35.48 298 ⇓P **P 19 53 33.8 +2.1**
RNPP5 Staryi Chortor 35.57 307 P **P 19 53 32.9 +0.6**
RNPP9 Sopachiv 35.57 307 P **P 19 53 32.1 -0.2**
RNPP8 Varash 35.59 307 P **P 19 53 33.2 +0.7**
TURR Turia 35.59 298 ⇓P **P 19 53 34.6 +2.0**
MLR Muntele Rosu 35.70 297 ⇓P **P 19 53 34.9 +1.3**
MLR Muntele Rosu 35.70 297 LR LR 20 11 31.7
comp=E,129nm,19.5s,baz=92,slow=42
MLR Muntele Rosu 35.70 297 P **P 19 53 36.0 +2.4**
MLR Muntele Rosu 35.70 297 P **P 19 53 35.5 +1.9**
comp=E,41nm,1.5s,comp=E,571nm
IIGN Ignalina 35.75 314 *e*P **P 19 53 35.8 +2.0**
ISAL Salakas 35.84 314 *e*P **P 19 53 36.5 +2.0**
BURAR Bucovina Array 36.03 301 ⇓P **P 19 53 36.8 +0.4**
BURAR Bucovina Array 36.03 301 P **P 19 53 36.2 -0.3**
DOPR Dopca 36.04 298 ⇓P **P 19 53 38.2 +1.8**
BUR08 Bucovina Ar. S 36.04 301 P **P 19 53 36.4 -0.2**
VSU Vasula 36.05 319 *d i*P **P 19 53 36.5 +0.2**
VSU pmax pmax
comp=Z,43nm,1.1s
ELND Elena 36.08 293 ⇑P **P 19 53 38.5 +1.8**
ALN Alexandroupoli 36.33 289 P **P 19 53 40.1 +1.3**
VOIR 36.33 297 P **P 19 53 40.3 +1.4**
comp=Z,5.6nm,2.0s
EZN Ezine 36.35 288 P **P 19 53 40.4 +1.3**
LVZ Lovozero 36.54 336 P **P 19 53 40.1 -0.3**
LVZ Lovozero 36.54 336 *c e*P **P 19 53 41.2 +0.8**
LVZ pmax pmax
comp=Z,68nm,1.0s
LVZ Lovozero 36.54 336 P **P 19 53 40.4 0.0**
ARR Arges 36.63 297 ⇑P **P 19 53 43.1 +1.7**
ARCR ARCALIA 36.65 300 ⇑P **P 19 53 43.6 +2.0**
ARBE Arbavere 36.66 321 *e*P **P 19 53 42.5 +1.1**
LVV L'vov 36.73 305 *e*P **P 19 53 42.9 +0.7**
LVV *e**PP **pP 19 54 10.5 -0.3**
LVV *e* 19 55 08.8
LVV *e*S **S 19 59 16.3 -0.4**
APA Apatity 36.75 336 ⇓*i*P **P 19 53 41.3 -0.8**
APA *i* *PP **pP 19 54 09.2 -1.5**
APA *i* 19 55 06.0
APA *i* 19 55 56.0
APA *i* S **S 19 59 12.0 -4.6**
APA *i* 20 03 45.0
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,400nm,12.0s
QIZ Qiongzhong 36.90 111 P **P 19 53 45.8 +1.9**
QIZ S **S 19 59 22.2 +2.4**
QIZ sS **sS 20 00 10.9 +1.5**
QIZ LR LR
comp=Z,170nm,15.7s
QIZ LR LR
comp=Z,200nm,12.0s
QIZ LR LR
comp=Z,270nm,13.7s
PABE Paberze 37.04 314 *e*P **P 19 53 46.2 +1.5**
FIA1 FINESS Array S 37.13 324 P **P 19 53 45.5 +0.1**
FINES FINESS Array B 37.13 324 P **P 19 53 45.1 -0.3**
FINES FINESS Array B 37.13 324 P **P 19 53 45.9 +0.5**
comp=Z,13nm,0.3s,baz=111,slow=9.4,SNR=139
FINES LR LR 20 09 37.9
comp=Z,250nm,20.1s,baz=121,slow=37
comp=Z,13nm,0.3s
DL2 Dalian 37.23 74 P **P 19 53 46.7 +0.2**
DL2 pP **pP 19 54 16.8 +1.9**
DL2 S **S 19 59 25.8 +1.4**
DL2 pmax pmax
comp=Z,36nm,1.6s
DL2 pmax pmax
comp=Z,200nm,5.4s
NJ2 Nanjing 37.27 86 *e*P **P 19 53 47.8 +0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
SUW Suwalki 37.36 312 *e*P **P 19 53 47.5 0.0**
SUW *e*PP **PnPn 19 55 18.5 +1.4**
SUW Suwalki 37.36 312 *e*P **P 19 53 48.7 +1.3**
MARR Marisel-Cluj 37.53 299 ⇓P **P 19 53 50.7 +1.6**
MTSE Matsula 37.60 319 *e*P **P 19 53 50.5 +1.1**
MEF Metsahovi 37.62 322 *e*P **P 19 53 50.5 +1.0**
KEF Keuruu 37.88 325 *e*P **P 19 53 52.6 +0.8**
KOLS Kolonicke sedl 37.92 303 *e*P **P 19 53 53.6 +1.3**
KOLS pmax pmax
comp=Z,9.0nm,0.9s
KOLS Kolonicke sedl 37.92 303 *e*P **P 19 53 53.6 +1.3**
KOLS *e*PP **PnPn 19 55 23.4 -0.5**
KOLS *e* 20 17 51.3
GZR Gura Zlata 37.92 297 ⇑P **P 19 53 53.8 +1.4**
PBUR Paburge 38.24 315 *e*P **P 19 53 55.9 +1.1**
HERR Herculane 38.25 297 ⇓P **P 19 53 56.7 +1.7**
SURR Surduc 38.33 298 ⇓P **P 19 53 57.1 +1.4**
CRVS Cervenica-Dubn 38.45 303 *e*P **P 19 53 57.7 +0.9**
CRVS pmax pmax
comp=Z,22nm,1.7s
CRVS Cervenica-Dubn 38.45 303 *e*P **P 19 53 57.7 +0.9**
BZS Buzias 38.70 298 ⇑P **P 19 54 00.2 +1.4**
BZS Buzias 38.70 298 P **P 19 54 00.2 +1.4**
BEL Belsk 38.76 308 *e*P **P 19 54 00.0 +0.8**
MDVR Moldovita 38.76 297 ⇓P **P 19 54 00.8 +1.4**
BOVS Bovan 38.96 295 ⇑P **P 19 54 00.7 -0.3**
CN2 Changchun 38.98 65 P **P 19 53 58.9 -2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
RAF Rauma 39.06 323 *e*P **P 19 54 01.8 +0.3**
VAF Ylistaro 39.10 326 *e*P **P 19 54 02.8 +0.9**
LIT Litokhoron 39.15 289 P **P 19 54 02.3 -0.4**
LIT Litokhoron 39.15 289 P **P 19 54 02.3 -0.4**
LIT pmax pmax
comp=Z,21nm,1.3s
NIE Niedzica 39.18 304 *e*P **P 19 54 05.1 +2.3**
NIE *e*PP **PnPn 19 55 37.2 -1.5**
NIE Niedzica 39.18 304 P **P 19 54 04.4 +1.6**
comp=Z,12nm,1.4s,comp=Z,177nm
ZEA Zeya 39.33 49 *e*P **P 19 54 05.9 +1.9**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=Z,20nm,0.9s
OJC Ojcow 39.45 305 *e*P **P 19 54 05.5 +0.5**
OJC *e*PP **PP 19 55 37.7 0.0**
OJC *e*S **S 19 59 55.2 -2.4**
OJC Ojcow 39.45 305 P **P 19 54 05.0 0.0**
OJC IAmb IAmb 19 54 07.1
comp=Z,27nm,1.1s
OJC Ojcow 39.45 305 P **P 19 54 05.0 0.0**
OJC pmax pmax
comp=Z,27nm,1.1s
OJC Ojcow 39.45 305 P **P 19 54 05.7 +0.7**
comp=Z,26nm,1.4s
HEH HeiHe 39.53 55 *e*P **P 19 54 06.8 +1.2**
HEH pP **pP 19 54 38.7 +4.3**
HEH S **S 19 59 58.8 0.0**
HEH pmax pmax
comp=Z,62nm,0.9s
HEH pmax pmax
comp=Z,74nm,3.7s
AGG Agios Georgios 39.54 288 IAmb IAmb 19 54 07.7
comp=Z,31nm,1.5s
LANS Liptovska Anna 39.74 304 *e*P **P 19 54 09.6 +2.1**
LANS pmax pmax
comp=Z,8.0nm,1.7s
LANS Liptovska Anna 39.74 304 *e*P **P 19 54 09.6 +2.1**
FNA Florina 39.80 290 P **P 19 54 07.2 -0.9**
FNA Florina 39.80 290 P **P 19 54 07.2 -0.9**
FNA pmax pmax
comp=Z,14nm,1.2s
KEV Kevo 39.87 337 P **P 19 54 08.6 +0.4**
FRGS Fruska Gora 40.03 298 ⇑P **P 19 54 11.6 +1.8**
FRGS Fruska Gora 40.03 298 P **P 19 54 11.4 +1.5**
comp=Z,22nm,1.4s
VYHS Vyhne 40.22 303 *e*P **P 19 54 12.9 +1.5**
VYHS pmax pmax
comp=Z,39nm,1.6s
VYHS Vyhne 40.22 303 *e*P **P 19 54 12.9 +1.5**
VYHS *e*PP **PP 19 55 47.9 +1.7**
ARCES ARCESS Array B 40.25 336 P **P 19 54 11.8 +0.5**
ARCES ARCESS Array B 40.25 336 P **P 19 54 12.0 +0.7**
comp=Z,26nm,0.6s,baz=109,slow=8.2,SNR=119
ARCES LR LR 20 11 57.0
comp=Z,100nm,20.5s,baz=112,slow=38
comp=Z,26nm,0.6s
ARCES ARCESS Array B 40.25 336 P **P 19 54 11.8 +0.5**
ARCES pmax pmax
comp=Z,46nm,0.9s
IVA Berane 40.41 294 ⇓*i*P **P 19 54 14.7 +1.6**
SRO Srobarova 40.65 302 *e*P **P 19 54 17.4 +2.5**
SRO pmax pmax
comp=Z,25nm,1.1s
SRO Srobarova 40.65 302 *e*P **P 19 54 17.4 +2.5**
SRO *e*PP **PnPn 19 55 53.6 -2.4**
MORH Mrgy, Hungar 40.66 299 ⇑P **P 19 54 16.6 +1.6**
MORH Mrgy, Hungar 40.66 299 P **P 19 54 16.1 +1.1**
comp=Z,13nm,1.4s
PLE Pljevlja 40.67 295 ⇓*i*P **P 19 54 16.8 +1.5**

KOME Kolasin 40.68 294 ⇓iP P 19 54 16.9 +1.5
GKP Gorka Klasztor 40.89 310 eP P 19 54 17.4 +0.6
GKP ePP PnPn 19 55 56.8 -1.8
GKP Gorka Klasztor 40.89 310 eP P 19 54 17.5 +0.7
MORC Moravsky Berou 40.93 305 ⇑P P 19 54 17.9 +0.6
MORC Moravsky Berou 40.93 305 P P 19 54 17.2 -0.1
MORC IAmb IAmb 19 54 19.9
comp=Z,36nm,1.5s
MORC Moravsky Berou 40.93 305 eP P 19 54 18.3 +1.0
MORC Moravsky Berou 40.93 305 P P 19 54 17.2 -0.1
MORC pmax pmax
comp=Z,36nm,1.5s
JAVC Velka Javorina 40.95 303 eP P 19 54 19.5 +2.0
PDG Podgorica 40.96 294 P P 19 54 17.9 +0.3
PDG Podgorica 40.96 294 ⇓iP P 19 54 19.2 +1.7
UPM Unac-Piva 41.04 295 ⇓iP P 19 54 19.8 +1.4
DRME Dracevica, Mon 41.07 293 ⇓iP P 19 54 20.1 +1.7
NKME Niksic 41.10 294 ⇓iP P 19 54 19.8 +1.0
CEME Cevo 41.18 294 ⇓iP P 19 54 21.0 +1.6
BUM Brajici-Budva 41.25 293 ⇑iP P 19 54 21.5 +1.5
MPLH Magyarpolny 41.26 301 P P 19 54 21.1 +1.1
comp=Z,40nm,1.4s,comp=Z,716nm
MODS Modra-Piesok 41.27 303 eP P 19 54 21.7 +1.7
MODS pmax pmax
comp=Z,28nm,1.3s
MODS Modra-Piesok 41.27 303 eP P 19 54 21.7 +1.7
YAK Yakutsk 41.29 36 P P 19 54 19.8 -0.2
YAK Yakutsk 41.29 36 LR LR 20 12 48.7
comp=Z,113nm,18.4s,baz=256,slow=38
YAK Yakutsk 41.29 36d iP P 19 54 20.1 +0.2
YAK e 19 55 57.3
YAK e 19 56 14.3
YAK i S S 20 00 22.2 -2.4
YAK e 20 04 05.9
YAK pmax pmax
comp=Z,91nm,1.0s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,43nm,1.4s
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK smax smax
comp=N,336nm,2.8s
YAK smax smax
comp=E,132nm,2.4s
YAK Yakutsk 41.29 36 P P 19 54 20.2 +0.2
BRY Bratogost 41.37 294 ⇓iP P 19 54 22.0 +0.9
VRAC Vranov 41.60 304 eP P 19 54 23.6 +0.9
VRAC Vranov 41.60 304 LR LR 20 15 16.8
comp=E,76nm,18.8s,baz=80,slow=41
KSP Ksiaz 41.63 307 eP P 19 54 23.7 +0.9
KSP ePP PP 19 56 00.7 -0.6
KSP eS S 20 00 29.6 -0.3
KSP Ksiaz 41.63 307 P P 19 54 23.8 +0.9
comp=E,14nm,1.5s
DPC Dobruska-Polom 41.66 306 eP P 19 54 24.7 +1.5
DPC Dobruska-Polom 41.66 306 eP P 19 54 24.7 +1.5
DPC Dobruska-Polom 41.66 306 P P 19 54 24.6 +1.4
comp=E,16nm,1.6s,comp=E,252nm
MDJ Mudanjiang 41.75 63 P P 19 54 24.2 +0.2
MDJ pP pP 19 54 53.8 +0.8
MDJ PcP PcP 19 56 15.1 -2.9
MDJ S S 20 00 35.6 +3.7
MDJ pmax pmax
comp=E,7.0nm,0.6s
MDJ Mudanjiang 41.75 63 P P 19 54 24.7 +0.7
KRUC Moravsky 41.76 304 eP P 19 54 25.3 +1.3
UPC Upice 41.84 306 eP P 19 54 25.8 +1.2
UPC Upice 41.84 306 eP P 19 54 25.8 +1.2
SOP Sopron 41.84 302 P P 19 54 25.8 +1.1
STON Ston 41.98 295 iP P 19 54 26.1 +0.3
RONA Rosalia, Austr 42.02 302 eP P 19 54 26.9 +0.8
comp=E,17nm,1.4s,SNR=13
BSD Bornholm Skovb 42.19 313 eP P 19 54 28.1 +0.7
BSD Bornholm Skovb 42.19 313 eP P 19 54 27.8 +0.4
RICI Ricice 42.24 296 iP P 19 54 28.4 +0.4
CONA Conrad Observa 42.27 302 eP P 19 54 29.4 +1.1
comp=E,39nm,1.3s,SNR=29
MAKA Makarska 42.37 295 iP P 19 54 29.2 +0.2
KSRS Korea Array 42.39 74 P P 19 54 29.6 +0.4
comp=E,3.2nm,0.6s,baz=286,slow=5.1,SNR=12
KSRS LR LR 20 14 21.6
comp=E,84nm,20.8s,baz=275,slow=39
comp=E,3.2nm,0.6s
KLR Kul'dur 42.43 56 LR LR 20 13 08.2
comp=E,89nm,19.1s,baz=270,slow=37
KLR Kul'dur 42.43 56c iP P 19 54 30.0 +0.6
KLR pmax pmax
comp=Z,6.0nm,0.5s
ARSA Arzberg 42.61 301 eP P 19 54 31.7 +0.8
comp=Z,12nm,1.6s,SNR=8.8
KJJV Kijevo 42.64 297 iP P 19 54 32.8 +1.6
DEL Delary 42.75 315 iP P 19 54 32.0 +0.1
DEL IAmb IAmb 19 54 33.7
comp=Z,19nm,1.0s
HVAR Hvar 42.80 295 iP P 19 54 33.1 +0.6
PRU Pruhonice 42.84 306 eP P 19 54 35.1 +2.4
PRU Pruhonice 42.84 306 eP P 19 54 35.1 +2.4
HFS Hagfors 42.90 321 P P 19 54 33.4 +0.3
comp=Z,50nm,0.6s,baz=98,slow=11,SNR=198
HFS LR LR 20 12 45.5
comp=Z,133nm,20.5s,baz=101,slow=36
comp=Z,50nm,0.6s
GSI Gunungsitoli 42.95 143 P P 19 54 35.0 +1.0
GSI IAmb IAmb 19 55 07.6
comp=Z,31nm,1.0s
LEGS Legarje 42.99 300 iP P 19 54 35.0 +1.0
PERS Pernice 42.99 301 eP P 19 54 35.1 +1.0
LUNU Lund 43.01 314 eP P 19 54 34.7 +0.7
RUE Ruedersdorf 43.03 309 eP 19 54 34.5
comp=Z,31nm,1.1s,baz=80,slow=7.9
SOKA Soboth 43.04 301 eP P 19 54 35.4 +1.0
comp=Z,36nm,1.3s,SNR=35
PSTR Posyet 43.05 65⇑eP P 19 54 36.0 +1.5
BRG Berggiesshubel 43.10 307 iP P 19 54 35.9 +1.1
BRG Amp 19 54 37.5
comp=Z,25nm,1.1s
BRG Berggiesshubel 43.10 307 SS SS 20 04 11.0 +2.6
BRG Berggiesshubel 43.10 307 iP P 19 54 35.9 +1.1
BRG 19 55 02.6
BRG 19 55 24.1
BRG 19 56 14.2
BRG S S 20 00 54.0 +2.4
BRG pmax pmax
comp=Z,25nm,1.1s
BRG pmax pmax
comp=Z,3.0nm,0.5s
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG pmax pmax
comp=Z,130nm,23.2s
BRG Berggiesshubel 43.10 307 eP 19 54 35.7
comp=Z,24nm,1.0s,baz=80,slow=7.9
BOJS Bojanci 43.12 299 iP P 19 54 36.1 +1.1
ZVC Zvíkov 43.14 305 eP P 19 54 36.2 +1.1
CKRC Cesky Krumlov 43.16 304 eS S 20 00 54.0 +1.5
BJUU Bjuv 43.23 315 eP P 19 54 37.0 +1.2
TIXI Tiksi 43.31 22 P P 19 54 36.1 -0.1
TIXI Tiksi 43.31 22 LR LR 20 13 25.5
comp=Z,100nm,20.0s,baz=280,slow=37
TIXI Tiksi 43.31 22d iP P 19 54 36.6 +0.5
TIXI pmax pmax
comp=Z,38nm,0.9s
TIXI Tiksi 43.31 22 P P 19 54 36.6 +0.5
MSHR Mys Shultsa 43.32 65⇑eP P 19 54 38.0 +1.4
MSHR pmax pmax
comp=Z,5.0nm,0.7s
BORU Boraas 43.34 317 eP P 19 54 36.8 +0.3
MOA Molln 43.34 302 eP P 19 54 37.2 +0.3
comp=Z,20nm,1.3s,SNR=18
OBKA Obir 43.40 301 iP P 19 54 38.5 +1.1
comp=Z,19nm,1.3s,SNR=15
USA0B Ussuriysk Arra 43.52 63deP P 19 54 38.4 +0.2
USRK Ussuriysk Ar. 43.52 63 P P 19 54 37.9 -0.3
USRK Ussuriysk Ar. 43.52 63 P P 19 54 38.4 +0.2
comp=Z,3.1nm,0.6s,baz=287,slow=7.5,SNR=8.3
comp=Z,3.1nm,0.6s
GEC2 GERESS Array S 43.55 304 IAmb IAmb 19 54 41.2
comp=Z,43nm,1.5s
GEC2 GERESS Array S 43.55 304 eP 19 54 39.5
comp=Z,40nm,1.4s,baz=80,slow=7.9
GERES GERESS Array B 43.55 304 P P 19 54 38.7 +0.1
GERES GERESS Array B 43.55 304 P P 19 54 39.5 +1.0
comp=Z,3.5nm,0.9s,baz=69,slow=7.3,SNR=23
GERES LR LR 20 16 27.6
comp=Z,67nm,21.1s,baz=81,slow=41
comp=Z,3.5nm,0.9s
GERES GERESS Array B 43.55 304 P P 19 54 38.7 +0.1
KHC Kasperske Hory 43.58 304 eP P 19 54 40.2 +1.4
KHC ePP PcP 19 56 25.0 +0.9
KHC eS S 20 00 59.9 +1.2
KHC Kasperske Hory 43.58 304deP P 19 54 39.8 +1.1
KHC pmax pmax
comp=Z,77nm,1.7s
KHC Kasperske Hory 43.58 304 P P 19 54 40.0 +1.2
comp=Z,21nm,1.4s,comp=Z,352nm
NVLJ Novalja 43.59 298 iP P 19 54 39.0 +0.3
CLL Collm 43.64 308 P P 19 54 39.1 0.0
CLL Collm 43.64 308 ⇓iP P 19 54 39.6 +0.5
comp=Z,27nm,1.2s
CLL esP sP 19 55 25.0 +2.2
CLL ePP PP 19 56 23.0 +0.2
CLL ex x 19 56 36.0
CLL ePPP PPP 19 57 04.0
CLL eS S 20 00 58.0 -1.4
CLL eSS SS 20 04 15.0 -3.9
CLL eSSS SSS 20 05 42.0
CLL ex x 20 07 05.0
CLL AMS AMS 20 14 00.0
comp=Z,100nm,21.0s
CLL Collm 43.64 308 P P 19 54 39.1 0.0
CLL pmax pmax
comp=Z,18nm,1.0s
CLL Collm 43.64 308 P P 19 54 39.8 +0.7
comp=Z,19nm,1.7s,comp=Z,250nm
CLL Collm 43.64 308 eP 19 54 39.4
comp=Z,18nm,1.0s,baz=80,slow=7.9
CEY Cerknica 43.64 299 eS S 20 01 00.7 +1.1
TIP Timpagrande 43.65 290 ⇑P P 19 54 41.1 +1.6
TIP Timpagrande 43.65 290 P P 19 54 38.7 -0.8
TIP IAmb IAmb 19 54 41.4
comp=Z,24nm,1.2s
TIP Timpagrande 43.65 290 P P 19 54 40.1 +0.6
comp=Z,15nm,1.5s,comp=Z,215nm
VLA Vladivostok 43.70 64⇑iP P 19 54 40.9 +1.2
VLA pmax pmax
comp=Z,14nm,0.8s
BIOA Bad Ischl, Aus 43.79 302 eP P 19 54 40.9 +0.5
comp=Z,19nm,1.2s,SNR=11
NC602 NORSAR Array S 43.99 321 IAmb IAmb 19 54 43.1
comp=Z,33nm,1.0s
WET Wettzell 44.03 305 eP 19 54 43.2
comp=Z,30nm,1.4s,baz=80,slow=7.9
PRED Cave del Predi 44.08 301 P P 19 54 42.4 -0.4
PRED IAmb IAmb 19 54 43.7
comp=Z,36nm,1.6s
KBA Koelnbreinsper 44.10 302 iP P 19 54 43.4 +0.3
comp=Z,10nm,0.8s
TANN Tannenbergstha 44.10 306 eP 19 54 43.7
comp=Z,25nm,1.4s,baz=80,slow=7.9
CUC Castrocucco 44.10 291 IAmb IAmb 19 54 46.0
comp=Z,52nm,1.5s
SABO M.te Sabotino 44.15 300 IAmb IAmb 19 54 45.5
comp=Z,92nm,1.3s
NB2 NORSAR Subarra 44.16 322 P P 19 54 42.9 -0.2
comp=Z,35nm,0.8s,baz=92,slow=7.9
NB2 NORSAR Subarra 44.16 322 P P 19 54 42.9 -0.2
baz=92,slow=7.9
NOA NORSAR Array B 44.16 322 P P 19 54 43.0 -0.2
comp=Z,22nm,0.6s,baz=91,slow=7.7,SNR=184
NOA LR LR 20 13 46.0
comp=Z,148nm,20.2s,baz=100,slow=37
comp=Z,22nm,0.6s
NOA NORSAR Array B 44.16 322 P P 19 54 43.0 -0.2
STRU Stroemstad 44.16 319 eP P 19 54 43.0 -0.1
PLN Plauen 44.28 307 eP 19 54 45.1
comp=Z,33nm,1.7s,baz=80,slow=7.9
BRJN Brijuni 44.29 298 iP P 19 54 44.5 +0.1
NAO01 NORSAR Array S 44.31 321 IAmb IAmb 19 54 46.1
comp=Z,39nm,0.9s
RJOB Jochberg 44.34 303 eP 19 54 45.5
comp=Z,24nm,1.6s,baz=80,slow=7.9
ROTZ Rotzenmuhle 44.36 306 eP 19 54 46.2
comp=Z,9.5nm,1.5s,baz=80,slow=7.9
ROTZ epP 19 55 19.2
NBO00 NORSAR Array S 44.37 322 IAmb IAmb 19 54 46.2
comp=Z,34nm,0.8s
MANZ Manzenberg 44.39 306 eP 19 54 46.3
comp=Z,4.1nm,1.3s,baz=80,slow=7.9
NEUB Neuenburg 44.42 308 eP 19 54 45.8
comp=Z,27nm,1.0s,baz=80,slow=7.9
GORT1 Trebel 44.47 310 eP 19 54 46.7
comp=Z,70nm,1.4s,baz=80,slow=7.9
LESA Schwarzleotal 44.48 302 eP P 19 54 46.4 +0.4
comp=Z,24nm,1.1s
FLTG Flechtingen 44.60 309 eP 19 54 46.8
comp=Z,34nm,0.9s,baz=80,slow=7.9
MOX Moxa 44.60 307 eP 19 54 47.6
comp=Z,23nm,1.2s,baz=80,slow=7.9
MOX epP 19 55 21.5
PAOL Paolisi 44.71 293 IAmb IAmb 19 54 50.0
comp=Z,28nm,1.3s
ABTA Abfaltersbach 44.73 301 eP P 19 54 47.7 -0.2
comp=Z,7.4nm,0.9s,SNR=5.8
BSEG Bad Segeberg 44.95 312 eP 19 54 50.5
comp=Z,29nm,0.9s,baz=80,slow=7.9
BSEG epP 19 55 24.2
KONO Kongsberg 44.96 320 P P 19 54 49.1 -0.3
KONO IAmb IAmb 19 54 51.1
comp=Z,30nm,0.8s
KONO Kongsberg 44.96 320deP P 19 54 49.5 0.0
KONO pmax pmax
comp=Z,54nm,1.3s
KONO Kongsberg 44.96 320 P P 19 54 49.6 +0.1
GRA1 Grafenberg Arr 45.01 306 IAmb IAmb 19 54 53.3
comp=Z,50nm,1.2s
GRF Grafenberg Arr 45.01 306 eP 19 54 51.6
comp=Z,54nm,1.2s,baz=80,slow=7.9
GRFO Grafenberg 45.01 306 P P 19 54 50.8 +0.7
GRFO IAmb IAmb 19 54 53.2
comp=Z,51nm,1.2s
GRFO Grafenberg 45.01 306 P P 19 54 50.8 +0.7
GRFO pmax pmax
comp=Z,51nm,1.2s
GRNR Gornyy 45.18 53⇑iP P 19 54 52.4 +1.0
GRNR pmax pmax
comp=Z,9.0nm,0.9s
GRNR MLR MLR
comp=E,80nm,13.0s
CLZ Clausthal 45.19 309 eP 19 54 52.3
comp=E,51nm,1.4s,baz=80,slow=7.9
WTTA Wattenberg 45.20 302 eP P 19 54 51.9 +0.1
comp=E,19nm,1.4s,SNR=11
WATA Walderalm 45.23 302 eP P 19 54 51.8 -0.2
comp=E,17nm,1.6s,SNR=8.5
FUR Furstenfeldbru 45.26 303 eP 19 54 53.2
comp=E,55nm,1.2s,baz=80,slow=7.9
NRDL Niedersach Rie 45.26 310 eP 19 54 53.0
comp=E,49nm,1.1s,baz=80,slow=7.9
MUD Monsted U'grnd 45.35 315 eP P 19 54 53.4 +0.8
GTTG Gottingen 45.49 308 eP 19 54 54.7
comp=E,58nm,1.2s,baz=80,slow=7.9
SQTA Sankt Quirin 45.50 302 eP P 19 54 54.1 0.0
comp=E,13nm,1.1s,SNR=5.4
HOMB Homborsund 45.58 318 iP P 19 54 53.0 -1.4
UBBA Unterbreizbach 45.59 307 eP 19 54 55.3
comp=E,55nm,1.7s,baz=80,slow=7.9
UBBA epP 19 55 28.6
TEOL Teolo 45.61 300 IAmb IAmb 19 54 56.9
comp=Z,43nm,1.2s
RETH Rethem/Aller, 45.67 310 eP 19 54 56.2
comp=Z,47nm,1.6s,baz=80,slow=7.9
CESX Cesi 45.69 296 IAmb IAmb 19 54 57.8
comp=Z,59nm,1.7s
RETA Reutte 45.74 303 eP P 19 54 56.3 +0.4
comp=Z,19nm,1.4s,SNR=11
FETA Feichten 45.86 302 eP P 19 54 56.8 -0.2
comp=Z,12nm,1.3s,SNR=7.2
UBR Ueberruh 46.13 303 eP 19 54 59.5
comp=Z,63nm,1.4s,baz=80,slow=7.9
SPITS Spitsbergen Ar 46.18 346 P P 19 54 59.7 +0.8
comp=Z,9.4nm,0.7s,baz=121,slow=5.6,SNR=4.1
SPITS LR LR 20 16 48.1
comp=Z,105nm,20.4s,baz=98,slow=39
comp=Z,9.4nm,0.7s
JNU Nakatsue 46.20 78 P P 19 55 00.4 +0.7
JNU IAmb IAmb 19 55 52.5
comp=Z,30nm,1.2s
DAVA Damuels 46.37 303 eP P 19 55 01.0 +0.1
comp=Z,14nm,0.6s,SNR=16
WDD Wied Dalam 46.45 286 P P 19 55 01.8 +0.3
STU Stuttgart 46.49 305 eP 19 55 02.4
comp=Z,50nm,0.9s,baz=80,slow=7.9
KASTN Kahler Asten 46.50 308 eP 19 55 02.5
comp=Z,16nm,1.4s,baz=80,slow=7.9
TNS Taunus Mts 46.67 307 eP 19 55 03.9
comp=Z,31nm,1.6s,baz=80,slow=7.9
IBBN Ibbenburen 46.71 310 eP 19 55 04.1
comp=Z,83nm,1.3s,baz=80,slow=7.9
CLTB Caltabellotta 46.81 289 IAmb IAmb 19 55 05.5
comp=Z,40nm,1.1s
BFO Black Forest 47.15 304 P P 19 55 06.7 -0.1
BFO Black Forest 47.15 304 P P 19 55 06.7 -0.1
BFO pmax pmax
comp=Z,22nm,1.3s
BFO Black Forest 47.15 304 P P 19 55 07.3 +0.5
BFO Black Forest 47.15 304 eP 19 55 07.2
comp=Z,19nm,1.2s,baz=80,slow=7.9
BUG Bochum--Univer 47.17 309 eP 19 55 07.6
comp=Z,48nm,1.3s,baz=80,slow=7.9
KBS Kingsbay 47.28 347 P P 19 55 08.4 +1.0
KBS IAmb IAmb 19 55 09.9
comp=Z,41nm,0.9s
KBS Kingsbay 47.28 347ceP P 19 55 09.0 +1.7
KBS pmax pmax
comp=Z,50nm,1.0s
KBS Kingsbay 47.28 347 P P 19 55 09.1 +1.7
AHRW Bad Neuenahr-A 47.47 307 eP 19 55 10.1
comp=Z,38nm,1.4s,baz=80,slow=7.9
ECH Echery 47.93 304 P P 19 55 14.1 +1.2
BTNL Ternell 48.04 308 dP P 19 55 14.8 +1.1
comp=Z,8.8nm,1.2s
MEM Membach 48.12 308 dP P 19 55 16.0 +1.8
BHOU Houvegnez 48.17 307 dP P 19 55 16.1 +1.4
comp=Z,7.5nm,1.3s
WLF Walferdange 48.24 306 eP 19 55 16.2
comp=Z,35nm,1.1s,baz=80,slow=7.9
BSTI Sart Tilman 48.40 308 dP P 19 55 17.1 +0.8
BCLA Clavier 48.60 308 dP P 19 55 19.6 +1.6
RCHB Rochefort 48.70 307 dP P 19 55 18.6 -0.2
comp=Z,4.1nm,1.4s
BGES Gesves 48.74 308 dP P 19 55 20.6 +1.6
BMRD Maredsous 48.96 308 dP P 19 55 21.9 +1.2
comp=Z,13nm,1.3s
BNI Bardonecchia 49.09 300 IAmb IAmb 19 55 23.9
comp=Z,30nm,1.2s
DOU Dourbes 49.11 307 dP P 19 55 21.4 -0.5
comp=Z,12nm,1.3s
LODK Lodwar 49.18 235 P P 19 55 22.9 0.0
YSS Yuzh-Sakhalins 50.12 57 P P 19 55 29.6 +0.1
YSS IAmb IAmb 19 55 32.0
comp=Z,25nm,1.1s
YSS Yuzh-Sakhalins 50.12 57 eP P 19 55 29.9 +0.4
YSS eS S 20 02 31.2 -0.3
YSS eSS SS 20 06 05.4 -0.4
YSS pmax pmax
comp=Z,20nm,0.7s
YSS pmax pmax
comp=Z,100nm,2.9s
KEST Kesra 50.38 288 IAmb IAmb 19 55 34.3
comp=Z,17nm,1.0s
KEST Kesra 50.38 288 P P 19 55 31.6 -0.2
comp=Z,6.2nm,0.6s,baz=90,slow=1.7,SNR=9.3
comp=Z,6.2nm,0.6s
MAJO Matsushiro 50.41 71 P P 19 55 31.8 -0.1
MAJO Matsushiro 50.41 71ceP P 19 55 31.4 -0.6
MAJO pmax pmax
comp=Z,6.0nm,0.9s
MAJO Matsushiro 50.41 71 P P 19 55 31.9 -0.1
MAJO pP pP 19 56 04.5 +2.8
MJAR Matsushiro Arr 50.42 71 P P 19 55 31.7 -0.3
comp=Z,4.5nm,0.7s,baz=290,slow=9.5,SNR=10
MJAR LR LR 20 19 08.5
comp=Z,21nm,18.2s,baz=280,slow=39
comp=Z,4.5nm,0.7s
SSB Saint Sauveur 50.47 301 P P 19 55 32.8 +0.5
TATN Tataouine 50.77 284 IAmb IAmb 19 55 36.9
comp=Z,21nm,0.8s
CLF Chambon-Foret 51.15 305 IAmb IAmb 19 55 38.9
comp=Z,28nm,1.0s
CLF Chambon-Foret 51.15 305 P P 19 55 38.4 +1.2
DRUM Mains of Drumt 51.63 317 eP P 19 55 41.1 +0.4
DRUM IAmb IAmb 19 55 42.1
comp=Z,21nm,0.9s
MA2 Magadan 51.66 39 LR LR 20 17 21.7
comp=Z,87nm,18.4s,baz=305,slow=36
JMIC Jan Mayen 51.73 336 LR LR 20 19 38.6
comp=Z,34nm,18.1s,baz=54,slow=38
SEY Seymchan 51.76 35ceP P 19 55 42.8 +1.3
SEY pmax pmax
comp=Z,25nm,1.3s
EDMD Edmundbyers 51.84 315 eP P 19 55 42.5 +0.1
EDMD IAmb IAmb 19 55 43.6
comp=Z,31nm,1.0s
MCD Coleburn Disti 51.88 318 eP P 19 55 42.4 -0.2
MCD IAmb IAmb 19 55 44.1
comp=Z,41nm,0.8s
ESY Stoneypath 51.94 316 eP P 19 55 42.9 -0.1
BIGH Upper Bighouse 52.01 319 eP P 19 55 43.6 +0.2
BIGH IAmb IAmb 19 55 45.1
comp=Z,33nm,0.9s
EDI Edinburgh 52.25 316 eP P 19 55 45.5 +0.2
EDI IAmb IAmb 19 55 46.6
comp=Z,29nm,0.9s
EKA Eskdalemuir Ar 52.38 315 P P 19 55 46.2 0.0
comp=Z,11nm,0.8s,baz=90,slow=7.3,SNR=51
comp=Z,11nm,0.8s
ESK Eskdalemuir 52.41 315 P P 19 55 46.8 +0.3
ESK IAmb IAmb 19 55 47.9
comp=Z,25nm,1.0s
ESK Eskdalemuir 52.41 315 eP P 19 55 46.8 +0.3
ESK IAmb IAmb 19 55 47.7
comp=Z,30nm,1.1s
ESK Eskdalemuir 52.41 315 P P 19 55 46.8 +0.3
ESK pmax pmax
comp=Z,25nm,1.0s
ESK Eskdalemuir 52.41 315 P P 19 55 47.4 +0.9
KESW Keswick, Cumbr 52.55 314 eP P 19 55 48.1 +0.6
INVG Invergeldie, C 52.58 317 eP P 19 55 47.6 -0.1
PGBU Glenifferbraes 52.98 316 eP P 19 55 50.5 -0.2
PGBU IAmb IAmb 19 55 52.2
comp=Z,36nm,0.9s
NEWG New Galloway 53.03 315 eP P 19 55 51.7 +0.7
NEWG IAmb IAmb 19 55 52.7
comp=Z,35nm,0.9s
MONM Monmouth 53.15 311 eP P 19 55 51.8 -0.2
MONM IAmb IAmb 19 55 53.0
comp=Z,78nm,1.3s
KPL Plockton 53.20 318 eP P 19 55 52.3 +0.1
KPL IAmb IAmb 19 55 53.6
comp=Z,21nm,0.9s
MCH1 Michaelchurch 53.22 311 eP P 19 55 52.7 +0.3
MCH1 IAmb IAmb 19 55 54.2
comp=Z,103nm,1.6s
LAWE Loch Awe, Argy 53.35 317 eP P 19 55 53.8 +0.4
LAWE IAmb IAmb 19 55 55.0
comp=Z,31nm,0.9s
DAG Danmarks Havn 53.54 343 iP P 19 55 55.0 +0.5
CEST Esterri de Car 53.61 299 IAmb IAmb 19 55 57.5
comp=Z,31nm,1.3s
SBD Saint Breward 54.68 310 eP P 19 56 03.1 0.0
BILL Bilibino 56.06 27 iP P 19 56 13.5 +0.8
BILL i 19 57 02.0
BILL pmax pmax
comp=Z,15nm,1.0s
PET Petropavlovsk 57.80 45ceP P 19 56 26.8 +1.6
PET pmax pmax
comp=Z,21nm,1.3s
BORG Borgarnes 58.03 330 LR LR 20 21 19.5
comp=Z,82nm,18.7s,baz=55,slow=36
ESDC Sonseca Array 58.39 298 P P 19 56 29.2 -0.4
ESDC IAmb IAmb 19 56 31.3
comp=Z,14nm,1.2s
ESDC Sonseca Array 58.39 298 P P 19 56 30.0 +0.4
comp=Z,5.5nm,0.7s,baz=60,slow=7.6,SNR=35
ESDC PP PP 19 58 38.5 -1.3
comp=Z,2.3nm,1.1s,baz=53,slow=8.8,SNR=4.1
comp=Z,5.5nm,0.7s

PAB	San Pablo	58.71	298	P	P	19 56 31.5	-0.4
PAB				IAmb	IAmb	19 56 33.7	
	comp=Z,23nm,1.4s						
PAB	San Pablo	58.71	298	P	P	19 56 31.5	-0.4
PAB				pmax	pmax		
	comp=Z,23nm,1.4s						
PAB	San Pablo	58.71	298	P	P	19 56 32.6	+0.7
PAB				pP	pP	19 57 06.7	+4.2
PAB				sP	PcP	19 57 22.0	+1.5
TAM	Tamanrasset	59.36	276	P	P	19 56 36.1	-0.6
TAM				IAmb	IAmb	19 56 40.2	
	comp=Z,19nm,1.9s						
TAM	Tamanrasset	59.36	276	P	P	19 56 36.1	-0.6
TAM				pmax	pmax		
	comp=Z,19nm,1.9s						
SUMG	Summit	59.97	341	*i* P	P	19 56 41.0	+0.6
POLO	Lamas de Olo	60.27	301	*eP*	P	19 56 42.6	0.0
	comp=Z,16nm,1.5s						
PCAB	Cabril	60.27	301	*eP*	P	19 56 43.9	+1.4
	comp=Z,64nm,1.7s						
MTE	Manteigas	60.53	300	*eP*	P	19 56 46.1	+1.7
	comp=Z,43nm,1.5s						
PVIS	Viseu	60.63	300	*eP*	P	19 56 45.6	+0.6
PMRV	Marv??o	60.87	299	*eP*	P	19 56 47.2	+0.6
	comp=Z,39nm,1.7s						
PBAR	Barrancos	61.20	297	*eP*	P	19 56 48.8	0.0
	comp=Z,58nm,1.6s						
PCAS	Casmilo, Conde	61.34	300	*eP*	P	19 56 50.0	+0.3
PMTG	Montargil	61.61	299	*eP*	P	19 56 51.2	-0.3
EVO	Evora	61.71	298	*eP*	P	19 56 49.8	-2.5
	comp=Z,24nm,1.7s						
PBEJ	Beja	61.85	298	*eP*	P	19 56 53.1	-0.1
	comp=Z,25nm,1.4s						
PVAQ	Vaqueiros	62.04	297	*eP*	P	19 56 55.3	+0.8
	comp=Z,39nm,1.3s						
PBDV	Barranco-do-Ve	62.27	297	*eP*	P	19 56 56.5	+0.5
	comp=Z,65nm,1.5s						
PTEO	Sao Teotonio	62.68	298	*eP*	P	19 57 00.0	+1.3
	comp=Z,70nm,1.8s						
A19K	Wainwright	64.80	18	P	P	19 57 13.2	+1.2
	baz=315						
A21K	Barrow	65.00	16	P	P	19 57 14.1	+0.8
	baz=318,SNR=6.5						
C16K	Lisburne Hills	65.03	21	IAmb	IAmb	19 57 15.2	
	comp=Z,19nm,0.9s						
C16K	Lisburne Hills	65.03	21	P	P	19 57 14.0	+0.4
	baz=312,SNR=5.9						
B18K	Kokolik River	65.22	19	P	P	19 57 15.8	+1.0
	baz=315,SNR=7.0						
ILULI	Ilulissat	65.32	341	P	P	19 57 15.3	-0.1
ILULI				IAmb	IAmb	19 57 17.4	
	comp=Z,20nm,0.8s						
ILULI	Ilulissat	65.32	341	P	P	19 57 15.3	-0.1
ILULI				pmax	pmax		
	comp=Z,21nm,0.8s						
C17K	DeLong Mountai	65.48	20	P	P	19 57 17.3	+0.8
	baz=314,SNR=7.3						
A22K	Sinclair Lake	65.60	16	P	P	19 57 18.1	+1.0
	baz=320,SNR=14						
RDOG	Red Dog Mine	65.85	20	IAmb	IAmb	19 57 20.5	
	comp=Z,20nm,1.4s						
RDOG	Red Dog Mine	65.85	20	P	P	19 57 19.1	+0.2
	baz=314						
B20K	Meade River	65.87	17	P	P	19 57 19.6	+0.7
	baz=318,SNR=23						
C18K	Utukok River	65.88	19	P	P	19 57 19.9	+0.8
C18K				IAmb	IAmb	19 57 20.9	
	comp=Z,24nm,0.9s						
C18K	Utukok River	65.88	19	P	P	19 57 19.5	+0.4
	baz=315,SNR=14						
C19K	Lookout Ridge	65.96	18	P	P	19 57 20.5	+0.8
	baz=317,SNR=12						
D17K	Noatak River	66.05	20	P	P	19 57 20.8	+0.7
	baz=314,SNR=20						
TNA	Tin City	66.08	24	P	P	19 57 20.7	+0.4
	baz=311						
B22K	Teshekpuk Lake	66.44	16	P	P	19 57 23.4	+0.8
	baz=321,SNR=28						
F14K	Arctic Creek	66.63	23	P	P	19 57 25.2	+1.3
	baz=312						
B21K	Ikpikpuk River	66.74	17	P	P	19 57 25.1	+0.6
	baz=320,SNR=27						
D19K	Kuna River	66.77	18	P	P	19 57 25.6	+0.8
D19K	Kuna River	66.77	18	P	P	19 57 25.3	+0.5
	baz=318,SNR=39						
E17K	Hotham Inlet	66.83	21	P	P	19 57 25.7	+0.6
	baz=315,SNR=13						
E18K	Tukpahlearik C	66.92	20	IAmb	IAmb	19 57 27.4	
	comp=Z,31nm,1.3s						
E18K	Tukpahlearik C	66.92	20	P	P	19 57 26.2	+0.5
	baz=316,SNR=12						
D20K	Etivluk River	66.97	18	P	P	19 57 26.6	+0.6
	baz=319,SNR=28						
F15K	North Star Dit	66.98	22	IAmb	IAmb	19 57 28.4	
	comp=Z,26nm,1.0s						
F15K	North Star Dit	66.98	22	P	P	19 57 27.0	+0.9
	baz=314,SNR=8.9						
RES	Resolute Bay	66.99	357	P	P	19 57 26.8	+0.8
RES				IAmb	IAmb	19 57 28.0	
	comp=Z,18nm,1.2s						
RES	Resolute Bay	66.99	357	LR	LR	20 28 50.2	
	comp=Z,48nm,18.8s,baz=360,slow=38						
RES	Resolute Bay	66.99	357	P	P	19 57 26.8	+0.8
RES				pmax	pmax		
	comp=Z,18nm,1.3s						
C21K	Knifeblade Rid	67.06	17	P	P	19 57 27.3	+0.7
	baz=320,SNR=19						
E20K	Nigu River	67.42	18	P	P	19 57 29.2	+0.2
	baz=320,SNR=35						
C23K	Itkillik River	67.43	15	P	P	19 57 29.6	+0.8
	baz=324,SNR=45						
F17K	Baldwin Pennin	67.45	21	P	P	19 57 29.6	+0.6
	baz=316						
ANM	Nome	67.55	24	P	P	19 57 30.8	+1.1
	baz=313						
G15K	Niukluk	67.66	23	P	P	19 57 30.6	+0.2
	baz=314						
D22K	Ayikyak River	67.75	16	IAmb	IAmb	19 57 33.0	
	comp=Z,31nm,1.1s						
D22K	Ayikyak River	67.75	16	P	P	19 57 31.5	+0.6
	baz=322,SNR=15						
E19K	Redstone River	67.77	19	IAmb	IAmb	19 57 32.7	
	comp=Z,47nm,1.6s						
E19K	Redstone River	67.77	19	P	P	19 57 31.0	-0.1
	baz=319,SNR=19						
TOA0	Torodi Ar. Sit	67.77	269	P	P	19 57 30.2	-1.7
TORD	Torodi Ar. Bea	67.77	269	P	P	19 57 30.6	-1.3
TORD	Torodi Ar. Bea	67.77	269	P	P	19 57 31.4	-0.5
	comp=Z,6.1nm,0.5s,baz=47,slow=6.1,SNR=111						
TORD				LR	LR	20 30 35.3	
	comp=Z,39nm,18.1s,baz=26,slow=39						
	comp=Z,6.1nm,0.5s						
F18K	Selawik	67.78	20	P	P	19 57 31.0	0.0
	baz=317,SNR=12						
E21K	Killik River	67.80	17	IAmb	IAmb	19 57 32.8	
	comp=Z,30nm,0.9s						
E21K	Killik River	67.80	17	P	P	19 57 31.6	+0.4
	baz=321,SNR=26						
G16K	Koyuk River	67.89	22	P	P	19 57 32.6	+0.8
	baz=316						
C24K	Franklin Bluff	67.91	15	P	P	19 57 32.6	+0.8
	baz=325						
F19K	Shaleruckik Mo	68.10	19	IAmb	IAmb	19 57 34.1	
	comp=Z,23nm,1.6s						
F19K	Shaleruckik Mo	68.10	19	P	P	19 57 32.9	-0.2
	baz=319,SNR=5.1						
D23K	Nanushuk River	68.12	16	P	P	19 57 34.2	+1.0
	baz=324						
G17K	Kiwalik Mounta	68.30	21	P	P	19 57 35.3	+0.9
	baz=317,SNR=6.9						
D24K	Happy Valley	68.35	15	IAmb	IAmb	19 57 36.5	
	comp=Z,26nm,1.2s						
D24K	Happy Valley	68.35	15	P	P	19 57 35.3	+0.7
	baz=325,SNR=6.5						
H16K	Elim	68.46	23	P	P	19 57 34.7	-0.6
	baz=316						
C26K	Camden Bay	68.46	13	P	P	19 57 36.8	+1.5
	baz=328,SNR=8.7						
F20K	Avaraart Lake	68.46	19	P	P	19 57 35.2	-0.1
	baz=320,SNR=10						
G18K	Tagagawik	68.57	20	P	P	19 57 36.5	+0.4
	baz=318						
TOLK	Toolik Lake Re	68.62	16	P	P	19 57 37.0	+0.6
	baz=325,SNR=38						
D25K	Kavik River	68.70	14	IAmb	IAmb	19 57 39.1	
	comp=Z,32nm,1.1s						
D25K	Kavik River	68.70	14	P	P	19 57 38.0	+1.2
	baz=327,SNR=33						
G19K	Purcell Mounta	68.81	20	IAmb	IAmb	19 57 39.1	
	comp=Z,19nm,0.9s						
G19K	Purcell Mounta	68.81	20	P	P	19 57 37.7	+0.2
	baz=319,SNR=15						
F21K	Alatna River	68.88	18	IAmb	IAmb	19 57 39.7	
	comp=Z,23nm,1.1s						
F21K	Alatna River	68.88	18	P	P	19 57 38.5	+0.5
	baz=322,SNR=23						
H17K	Granite Mounta	68.93	22	P	P	19 57 39.0	+0.7
	baz=318,SNR=6.2						
C27K	Jago River	68.93	13	P	P	19 57 39.6	+1.3
	baz=329,SNR=27						
F22K	John River	68.96	17	P	P	19 57 39.5	+1.0
	baz=323,SNR=40						
E23K	Chandalar	69.09	16	P	P	19 57 39.9	+0.5
	baz=325,SNR=23						
A36M	Sachs Harbour	69.17	6	P	P	19 57 40.5	+0.8
	baz=344,SNR=5.1						
H18K	Honhosa River	69.21	21	IAmb	IAmb	19 57 41.6	
	comp=Z,52nm,1.9s						
H18K	Honhosa River	69.21	21	P	P	19 57 40.5	+0.5
	baz=319,SNR=5.2						
E24K	Your Creek	69.31	16	IAmb	IAmb	19 57 42.6	
	comp=Z,22nm,1.1s						
E24K	Your Creek	69.31	16	P	P	19 57 41.5	+0.8
	baz=326,SNR=25						
J14K	Nanvaranak Lak	69.40	24	P	P	19 57 42.1	+0.9
	baz=315						
G21K	Allakaket	69.43	18	P	P	19 57 40.8	-0.6
	baz=322,SNR=16						
H19K	Roundabout Mou	69.45	20	IAmb	IAmb	19 57 43.3	
	comp=Z,19nm,1.1s						
H19K	Roundabout Mou	69.45	20	P	P	19 57 41.7	+0.2
	baz=320,SNR=10.0						
I17K	Unalakleet	69.47	23	P	P	19 57 41.5	-0.1
	baz=317						
G22K	Bettles	69.59	17	P	P	19 57 42.4	+0.1
	baz=324						
COLD	Coldfoot	69.64	17	P	P	19 57 43.4	+0.8
	baz=325,SNR=29						
D27M	Malcolm River	69.74	12	IAmb	IAmb	19 57 45.8	
	comp=Z,19nm,1.1s						
D27M	Malcolm River	69.74	12	P	P	19 57 44.2	+0.8
	baz=332,SNR=6.5						
IMAR	Indian Mountai	69.79	19	P	P	19 57 43.0	-0.6
E25K	Arctic Village	69.87	15	P	P	19 57 44.4	+0.3
	baz=328,SNR=16						
H20K	Anotleneega Mo	69.89	19	P	P	19 57 44.3	+0.1
	baz=321,SNR=27						
F24K	Squaw Lake	69.91	16	P	P	19 57 44.8	+0.5
	baz=326,SNR=8.1						
GCSA	Galena City Sc	69.93	21	P	P	19 57 45.0	+0.6
	baz=320						
J16K	Anvik River	69.94	23	IAmb	IAmb	19 57 46.9	
	comp=Z,21nm,0.8s						
J16K	Anvik River	69.94	23	P	P	19 57 45.6	+1.0
	baz=317,SNR=10						
D28M	Stokes Point	70.03	12	P	P	19 57 46.0	+1.1
	baz=334						
G23K	Bananza Creek	70.10	17	P	P	19 57 46.2	+0.7
	baz=325,SNR=17						
M11K	Mekoryuk	70.16	27	P	P	19 57 47.5	+1.6
	baz=314						
H21K	Melozitna Rive	70.29	19	IAmb	IAmb	19 57 48.3	
	comp=Z,24nm,1.2s						
H21K	Melozitna Rive	70.29	19	P	P	19 57 47.1	+0.4
	baz=323,SNR=17						
F25K	Christian Rive	70.31	15	P	P	19 57 47.7	+0.9
	baz=328,SNR=38						
J17K	VABM Dome	70.32	22	P	P	19 57 47.6	+0.7
	baz=319						
K15K	Wolf Creek Mou	70.38	24	P	P	19 57 47.9	+0.7
	baz=317						
H22K	Ishtalitna Cre	70.45	18	P	P	19 57 48.5	+0.8
	baz=324,SNR=12						
F26K	Sheenjek River	70.52	14	P	P	19 57 48.2	+0.2
	baz=329,SNR=21						
I20K	Naaghedeneel	70.54	20	P	P	19 57 48.8	+0.6
	baz=322,SNR=5.8						
E28M	Babbage River	70.55	12	IAmb	IAmb	19 57 50.6	
	comp=Z,32nm,1.2s						
E28M	Babbage River	70.55	12	P	P	19 57 49.0	+0.8
	baz=333,SNR=28						
E27K	Coleen River	70.57	13	IAmb	IAmb	19 57 50.5	
	comp=Z,34nm,1.1s						
E27K	Coleen River	70.57	13	P	P	19 57 49.3	+1.0
	baz=331,SNR=30						
BMAR	Burnt Mountain	70.66	15	P	P	19 57 49.4	+0.5
G24K	Hadweenzic Riv	70.68	16	P	P	19 57 50.0	+1.0
	baz=327,SNR=28						
L14K	Kuka Creek	70.70	25	IAmb	IAmb	19 57 51.8	
	comp=Z,25nm,1.0s						
L14K	Kuka Creek	70.70	25	P	P	19 57 50.6	+1.4
	baz=316,SNR=6.6						
L15K	Ungalak Mounta	70.85	24	P	P	19 57 50.9	+0.8
	baz=317						
J19K	Poorman	70.86	21	IAmb	IAmb	19 57 52.3	
	comp=Z,23nm,1.1s						
J19K	Poorman	70.86	21	P	P	19 57 51.1	+1.0
	baz=321,SNR=18						
G25K	Bearman Lake	70.92	16	P	P	19 57 51.7	+1.3
	baz=328,SNR=14						
H23K	Yukon River	70.94	17	IAmb	IAmb	19 57 53.0	
	comp=Z,24nm,1.0s						
H23K	Yukon River	70.94	17	P	P	19 57 51.3	+0.7
	baz=326,SNR=19						
J18K	Innoko River	70.96	21	P	P	19 57 51.5	+0.7
	baz=320,SNR=12						
E29M	Blow River	71.02	12	P	P	19 57 51.9	+0.9
	baz=334,SNR=37						
K17K	Iditarod	71.07	23	IAmb	IAmb	19 57 53.6	
	comp=Z,24nm,0.8s						
K17K	Iditarod	71.07	23	P	P	19 57 52.1	+0.7
	baz=319,SNR=11						
J20K	Nowinta River	71.12	20	IAmb	IAmb	19 57 53.7	
	comp=Z,17nm,0.9s						
J20K	Nowinta River	71.12	20	P	P	19 57 52.4	+0.7
	baz=322,SNR=15						
M13K	Dall Lake	71.14	26	P	P	19 57 53.0	+1.1
	baz=316						
G26K	Porcupine Rive	71.23	15	P	P	19 57 53.3	+1.0
	baz=330,SNR=7.8						
MLY	Manley	71.31	18	P	P	19 57 53.2	+0.3
	baz=325,SNR=16						
H24K	Noodor Dome	71.32	17	IAmb	IAmb	19 57 55.0	
	comp=Z,16nm,0.9s						
H24K	Noodor Dome	71.32	17	P	P	19 57 53.2	+0.3
	baz=327,SNR=20						
M14K	Bethel	71.37	25	P	P	19 57 54.4	+1.2
	baz=317,SNR=6.8						
F28M	Old Crow	71.38	13	IAmb	IAmb	19 57 55.4	
	comp=Z,20nm,1.1s						
F28M	Old Crow	71.38	13	P	P	19 57 54.0	+0.8
	baz=333,SNR=17						
H25L	Birch Creek	71.41	16	P	P	19 57 54.2	+0.9
	baz=328						
P08K	Saint George I	71.46	31	P	P	19 57 54.9	+1.1
	baz=312						
L16K	Owhat River	71.47	24	IAmb	IAmb	19 57 56.4	
	comp=Z,23nm,0.9s						
L16K	Owhat River	71.47	24	P	P	19 57 54.7	+0.9
	baz=319,SNR=8.6						
L17K	Donlin	71.51	23	P	P	19 57 55.1	+1.1
	baz=319,SNR=11						
I23K	Minto, Yukon-K	71.55	18	IAmb	IAmb	19 57 56.2	
	comp=Z,24nm,1.0s						
I23K	Minto, Yukon-K	71.55	18	P	P	19 57 54.9	+0.7
	baz=326,SNR=11						
TTA	Tatalina	71.58	22	P	P	19 57 54.5	-0.1
	baz=321,SNR=7.7						
INK	Inuvik	71.75	10	P	P	19 57 55.9	+0.5
	baz=338,SNR=19						
G27K	Doyon Strip	71.77	14	IAmb	IAmb	19 57 57.9	
	comp=Z,16nm,1.0s						
G27K	Doyon Strip	71.77	14	P	P	19 57 56.6	+1.0
	baz=332,SNR=20						
K20K	Telida	71.79	21	IAmb	IAmb	19 57 57.8	
	comp=Z,17nm,0.9s						
K20K	Telida	71.79	21	P	P	19 57 56.5	+0.7
	baz=322,SNR=15						
M15K	Kasigluk River	71.83	25	P	P	19 57 57.4	+1.4
	baz=318,SNR=5.1						
C36M	Paulatuk	71.84	6	P	P	19 57 56.2	+0.3
	baz=346,SNR=9.6						
L18K	Granite Mounta	71.93	22	P	P	19 57 57.6	+1.1
	baz=321,SNR=9.1						
MDM	Murphy Dome	71.97	17	IAmb	IAmb	19 57 58.5	
	comp=Z,40nm,1.3s						
BPAW	Bear Paw Mtn.	72.01	19	IAmb	IAmb	19 57 58.4	
	comp=Z,17nm,1.0s						
BPAW	Bear Paw Mtn.	72.01	19	P	P	19 57 57.1	0.0
	baz=325,SNR=19						
POKR	Poker Plat Res	72.03	17	P	P	19 57 57.7	+0.6
	baz=327,SNR=14						
F30M	Barrier River	72.06	11	P	P	19 57 57.7	+0.5
	baz=336,SNR=15						
N14K	Kuskokwak Cree	72.07	26	P	P	19 57 58.8	+1.4
	baz=317						
NEA2	Nenana	72.08	18	IAmb	IAmb	19 57 58.9	
	comp=Z,27nm,0.9s						
NEA2	Nenana	72.08	18	P	P	19 57 57.6	+0.1
	baz=326,SNR=27						
PRP	Porcupine Dome	72.11	16	P	P	19 57 58.6	+0.8
	baz=329,SNR=8.3						
COLA	College	72.13	17	P	P	19 57 58.2	+0.5
COLA	College	72.13	17	P	P	19 57 58.2	+0.5
COLA				pmax	pmax		
	comp=Z,85nm,0.2s						
COLA	College	72.13	17	P	P	19 57 58.6	+1.0
COLA				sP	sP	19 58 47.5	+4.2
M16K	Timber Creek	72.15	24	P	P	19 57 59.1	+1.2
	baz=319,SNR=5.6						
CAST	Castle Rocks	72.28	20	P	P	19 57 58.9	+0.2
	baz=324						
H27K	Steamboat Moun	72.31	14	P	P	19 57 59.5	+0.7
	baz=332,SNR=17						
G29M	Pine Creek	72.33	13	IAmb	IAmb	19 58 01.1	
	comp=Z,24nm,1.1s						
G29M	Pine Creek	72.33	13	P	P	19 57 59.4	+0.5
	baz=334,SNR=13						
M17K	Holitna River	72.34	23	IAmb	IAmb	19 58 01.8	
	comp=Z,22nm,0.9s						
M17K	Holitna River	72.34	23	P	P	19 58 00.6	+1.5
	baz=320,SNR=7.6						
N15K	Kwethluk River	72.43	25	IAmb	IAmb	19 58 02.6	
	comp=Z,38nm,1.1s						
N15K	Kwethluk River	72.43	25	P	P	19 58 00.9	+1.3
	baz=318,SNR=6.1						
IL31		72.44	17	IAmb	IAmb	19 58 01.1	
	comp=Z,21nm,1.0s						
ILAR	Eielson Array	72.44	17	P	P	19 57 58.4	-1.1
ILAR	Eielson Array	72.44	17	P	P	19 57 59.6	+0.1
	comp=Z,16nm,1.0s,baz=317,slow=5.0,SNR=101						
ILAR				LR	LR	20 33 11.3	
	comp=Z,75nm,18.2s,baz=295,slow=38						
	comp=Z,16nm,1.0s						
L19K	White Mountain	72.50	22	P	P	19 58 00.9	+0.9
	baz=322,SNR=9.3						
F31M	Tsiigehtchic	72.52	11	IAmb	IAmb	19 58 01.7	
	comp=Z,35nm,1.1s						
F31M	Tsiigehtchic	72.52	11	P	P	19 58 00.4	+0.4
	baz=338						
L20K	Farewell, AK	72.54	21	P	P	19 58 00.9	+0.6
	baz=323,SNR=11						
G30M	tAoh Zraii Nji	72.57	12	IAmb	IAmb	19 58 02.0	
	comp=Z,48nm,1.3s						
G30M	tAoh Zraii Nji	72.57	12	P	P	19 58 00.3	0.0
	baz=336,SNR=19						
N16K	Nishlik Lake	72.63	24	P	P	19 58 02.4	+1.6
	baz=319,SNR=14						
O14K	Tigyukauivet M	72.71	26	P	P	19 58 02.7	+1.5
	baz=319						
HDA	Harding Lake	72.74	17	P	P	19 58 01.0	-0.3
	baz=328,SNR=8.7						
M18K	Stony River	72.76	22	P	P	19 58 02.3	+0.8
	baz=322,SNR=5.8						
I26K	Coal Creek Min	72.80	15	P	P	19 58 02.2	+0.6
	baz=331						
MCK	McKinley	72.83	18	P	P	19 58 01.7	-0.3
	baz=326						
I27K	Kandik River	72.84	14	P	P	19 58 02.4	+0.4
	baz=332,SNR=13						
M19K	Big River Lodg	72.86	22	P	P	19 58 02.5	+0.4
	baz=322						
H29M	Whitestone	72.90	13	IAmb	IAmb	19 58 04.3	
	comp=Z,30nm,0.9s						
H29M	Whitestone	72.90	13	P	P	19 58 02.8	+0.6
	baz=334,SNR=20						
J25K	Salcha River,	72.92	16	P	P	19 58 01.7	-0.8
	baz=329,SNR=17						
G31M	Satah River	72.92	11	IAmb	IAmb	19 58 03.9	
	comp=Z,36nm,1.1s						
G31M	Satah River	72.92	11	P	P	19 58 02.5	+0.1
	baz=338,SNR=11						
EPYK	Eagle Plains	73.05	12	IAmb	IAmb	19 58 04.5	
	comp=Z,39nm,1.4s						
EPYK	Eagle Plains	73.05	12	P	P	19 58 02.3	-0.9
	baz=336,SNR=8.4						
N17K	Nushagak Hills	73.09	24	IAmb	IAmb	19 58 06.4	
	comp=Z,21nm,1.1s						
N17K	Nushagak Hills	73.09	24	P	P	19 58 04.5	+1.0
	baz=321,SNR=6.1						
RND	Reindeer	73.12	18	IAmb	IAmb	19 58 04.3	
	comp=Z,24nm,1.4s						
M20K	Styx River	73.23	21	P	P	19 58 04.5	0.0
	baz=323						
O15K	Ungalikthiuk R	73.26	26	P	P	19 58 05.1	+0.6
	baz=319						
I28M	Miner Creek	73.31	14	IAmb	IAmb	19 58 06.2	
	comp=Z,21nm,0.8s						
I28M	Miner Creek	73.31	14	P	P	19 58 04.7	-0.1
	baz=333,SNR=27						
N18K	Kilae Creek	73.38	23	P	P	19 58 05.7	+0.5
	baz=322						
J26L	Joseph Creek	73.41	16	IAmb	IAmb	19 58 06.9	
	comp=Z,18nm,0.8s						
J26L	Joseph Creek	73.41	16	P	P	19 58 05.5	+0.1
	baz=330,SNR=28						
O16K	Kokwok River B	73.52	25	IAmb	IAmb	19 58 08.9	
	comp=Z,46nm,1.2s						
O16K	Kokwok River B	73.52	25	P	P	19 58 05.8	-0.2
	baz=320,SNR=13						
K24K	Donnelly Dome	73.52	17	P	P	19 58 05.5	-0.5
	baz=329,SNR=9.9						
CUT	Chulitna	73.59	20	P	P	19 58 05.9	-0.5
	baz=326						
SKT	Skwentna	73.60	20	P	P	19 58 06.0	-0.5
	baz=325,SNR=32						
EGAK	Eagle	73.67	15	IAmb	IAmb	19 58 08.4	
	comp=Z,24nm,1.1s						
WAT1	Susitna Watana	73.68	19	P	P	19 58 06.3	-0.7
	baz=327						
I29M	Ogilvie Camp,	73.69	13	IAmb	IAmb	19 58 08.2	
	comp=Z,27nm,1.1s						
I29M	Ogilvie Camp,	73.69	13	P	P	19 58 06.5	-0.4
	baz=334,SNR=28						
N19K	Bonanza Creek	73.70	22	IAmb	IAmb	19 58 11.6	
	comp=Z,18nm,1.0s						
N19K	Bonanza Creek	73.70	22	P	P	19 58 05.9	-1.2
	baz=323,SNR=9.0						
O17K	Koliganek Bris	73.71	24	P	P	19 58 06.8	-0.3
	baz=321						
DHY	Denali Highway	73.77	18	IAmb	IAmb	19 58 08.5	
	comp=Z,28nm,1.3s						
DHY	Denali Highway	73.77	18	P	P	19 58 07.1	-0.5
	baz=328,SNR=16						
SCRK	Sand Creek	73.78	16	IAmb	IAmb	19 58 09.2	
	comp=Z,25nm,1.0s						
SCRK	Sand Creek	73.78	16	P	P	19 58 07.6	0.0
	baz=330,SNR=29						
N20K	Mount Spurr	74.05	21	P	P	19 58 09.0	-0.1
	baz=324						
WAT6	Susitna Watana	74.09	19	P	P	19 58 09.1	-0.4
	baz=328,SNR=10						
K27K	Chicken	74.14	15	P	P	19 58 09.9	+0.3
	baz=332						
I30M	Mount Dempster	74.15	13	IAmb	IAmb	19 58 11.3	
	comp=Z,30nm

baz=335
P18K Big Mountain, 74.60 24 IAmb IAmb 19 58 14.5
comp=Z,28nm,1.0s
P18K Big Mountain, 74.60 24 P **P** **19 58 13.0 +0.7**
baz=322,SNR=12
SML Sawmill 74.60 19 P **P** **19 58 11.9 -0.4**
baz=327,SNR=27
UNV Unalaska Valle 74.63 32 P **P** **19 58 13.2 +0.7**
baz=315
DAWY Dawson 74.65 14 IAmb IAmb 19 58 14.1
comp=Z,23nm,0.9s
DAWY Dawson 74.65 14 P **P** **19 58 12.9 +0.3**
baz=334,SNR=9.3
CAPN Captain Cook N 74.70 21 P **P** **19 58 13.6 +0.8**
baz=325
Q16K King Salmon 74.70 25 P **P** **19 58 14.2 +1.4**
baz=321
L26K Log Cabin Wild 74.75 16 P **P** **19 58 13.4 +0.3**
baz=331
J30M Hart River 74.76 13 IAmb IAmb 19 58 15.1
comp=Z,18nm,1.0s
J30M Hart River 74.76 13 P **P** **19 58 13.7 +0.4**
baz=336,SNR=23
M23K Glacier View 74.76 19 P **P** **19 58 13.1 -0.1**
baz=328,SNR=17
RC01 Rabbit Creek A 74.82 20 IAmb IAmb 19 58 14.6
comp=Z,23nm,0.9s
RC01 Rabbit Creek A 74.82 20 P **P** **19 58 13.3 -0.2**
baz=326,SNR=9.2
SCM Sheep Creek Mo 74.83 19 P **P** **19 58 13.2 -0.4**
baz=328,SNR=19
O20K Slope Mountain 74.84 22 P **P** **19 58 13.6 -0.1**
baz=324
HARP HAARP 74.88 18 P **P** **19 58 14.6 +0.8**
baz=330,SNR=24
M24K Tolsona, Glenn 74.88 18 P **P** **19 58 15.1 +1.1**
baz=329
KNK Knik Glacier 74.89 19 IAmb IAmb 19 58 15.6
comp=Z,39nm,1.1s
KNK Knik Glacier 74.89 19 P **P** **19 58 13.8 -0.2**
baz=327,SNR=7.7
P19K Oil Pt 75.00 23 P **P** **19 58 15.6 +1.0**
baz=324
L27K Beaver Creek, 75.05 16 IAmb IAmb 19 58 17.0
comp=Z,16nm,0.9s
L27K Beaver Creek, 75.05 16 P **P** **19 58 15.6 +0.7**
baz=332,SNR=24
BCAR Beaver Creek A 75.06 16 P **P** **19 58 15.4 +0.4**
S12K Black Hills 75.06 29 P **P** **19 58 15.2 +0.2**
baz=318
FALS False Pass 75.16 30 P **P** **19 58 15.2 -0.3**
baz=317
K29M Barlow Dome 75.21 14 IAmb IAmb 19 58 17.8
comp=Z,26nm,0.9s
K29M Barlow Dome 75.21 14 P **P** **19 58 15.5 -0.4**
baz=335,SNR=35
Q18K Katmai Hardscr 75.26 24 P **P** **19 58 15.3 -0.9**
baz=323,SNR=6.3
Q17K Contact Creek 75.28 25 P **P** **19 58 16.2 -0.2**
baz=322,SNR=5.9
O22K Cooper Landing 75.33 21 P **P** **19 58 15.9 -0.6**
baz=326
M26K Nabesna, AK 75.38 17 P **P** **19 58 16.9 +0.1**
baz=331,SNR=10
Q19K Cape Douglas, 75.46 23 P **P** **19 58 17.2 -0.1**
baz=324
HOM Homer 75.47 22 P **P** **19 58 17.1 -0.1**
baz=325
KLU Klutina 75.47 18 IAmb IAmb 19 58 19.2
comp=Z,20nm,1.0s
KLU Klutina 75.47 18 P **P** **19 58 17.0 -0.4**
baz=329,SNR=15
S14K Fog Glacier 75.55 27 P **P** **19 58 17.5 -0.4**
baz=320
R17L Mt. Peulik Vol 75.62 25 P **P** **19 58 18.0 -0.2**
baz=322
BRSE Bradley Lake S 75.66 21 P **P** **19 58 18.4 0.0**
baz=326
M27K Edge Creek, AK 75.66 16 IAmb IAmb 19 58 20.8
comp=Z,28nm,1.1s
M27K Edge Creek, AK 75.66 16 P **P** **19 58 18.9 +0.3**
baz=332,SNR=23
N25K Chitina, Valde 75.70 18 IAmb IAmb 19 58 20.9
comp=Z,47nm,1.5s
N25K Chitina, Valde 75.70 18 P **P** **19 58 18.7 +0.1**
baz=330,SNR=10
GLI Glacier Island 75.70 19 IAmb IAmb 19 58 19.8
comp=Z,25nm,0.8s
GLI Glacier Island 75.70 19 P **P** **19 58 18.4 -0.2**
baz=328,SNR=12
SEW Seward 75.72 21 P **P** **19 58 18.6 -0.1**
baz=326
L29M L29M 75.76 14 IAmb IAmb 19 58 21.1
comp=Z,40nm,1.2s
L29M L29M 75.76 14 P **P** **19 58 19.5 +0.5**
baz=335,SNR=7.2
FID Port Fidalgo 75.97 19 IAmb IAmb 19 58 21.8
comp=Z,52nm,1.5s
BMRM Bremner River 76.25 18 P **P** **19 58 22.1 +0.3**
baz=330,SNR=11
MCARA McCarthy VSAT 76.26 17 P **P** **19 58 22.3 +0.6**
baz=331
VRDI Verde Repeater 76.30 17 IAmb IAmb 19 58 23.9
comp=Z,19nm,1.0s
M29M Somme Creek 76.30 15 IAmb IAmb 19 58 24.4
comp=Z,18nm,0.9s
M29M Somme Creek 76.30 15 P **P** **19 58 22.7 +0.6**
baz=335,SNR=15
EYAK Cordova Ski Ar 76.33 19 P **P** **19 58 22.7 +0.6**
baz=329,SNR=5.3
P23K Montague Islan 76.37 20 P **P** **19 58 23.0 +0.6**
baz=328
YUK3 Moose Creek 76.49 16 P **P** **19 58 23.8 +0.5**
baz=333,SNR=25
M30M Minto, Yukon 76.50 14 P **P** **19 58 23.6 +0.4**
baz=336,SNR=11
CHNA Chernabura Isl 76.65 28 P **P** **19 58 24.2 +0.2**
baz=320
KDAK Kodiak Island 76.72 23 P **P** **19 58 25.1 +0.7**
KDAK IAmb IAmb 19 58 26.0
comp=Z,31nm,1.0s
KDAK Kodiak Island 76.72 23 P **P** **19 58 24.7 +0.4**
baz=324
KDAK Kodiak Island 76.72 23 LR LR 20 34 51.6
comp=Z,62nm,18.1s,baz=55,slow=38
KDAK Kodiak Island 76.72 23 P **P** **19 58 25.1 +0.7**
KDAK pmax pmax
comp=Z,31nm,1.0s
RAGM Ragged Mountai 76.74 18 IAmb IAmb 19 58 29.2
comp=Z,29nm,1.2s
CRQM Cirque 76.79 18 IAmb IAmb 19 58 26.7
comp=Z,19nm,1.0s
DBIC Dimbokro 76.80 268 P **P** **19 58 25.0 -0.5**
comp=Z,10nm,1.1s,baz=38,slow=5.1,SNR=4.9
comp=Z,10nm,1.1s
CRQE Cirque 76.80 18 P **P** **19 58 25.1 +0.1**
baz=331,SNR=6.8
TGL Tana Glacier 76.86 17 IAmb IAmb 19 58 27.0
comp=Z,18nm,1.0s
KIC Kosan Boka 76.90 268⇑ *eP* **P** **19 58 26.4 +0.3**
comp=Z,12nm,0.6s
TIC Toumodi 76.94 268⇑ *eP* **P** **19 58 26.9 +0.5**
comp=Z,14nm,1.0s
OHAK Old Harbor 76.95 24 IAmb IAmb 19 58 27.6
comp=Z,24nm,1.1s
OHAK Old Harbor 76.95 24 P **P** **19 58 26.0 +0.4**
baz=324,SNR=9.0
CTG Chitna Glacier 77.02 17 P **P** **19 58 26.8 +0.6**
baz=333,SNR=7.8
CTGM Chitina Glacie 77.02 17 IAmb IAmb 19 58 28.2
comp=Z,18nm,1.0s
Q23K Middleton Isla 77.14 20 P **P** **19 58 27.3 +0.7**
baz=329
SII Sitkinak Islan 77.19 25 IAmb IAmb 19 58 29.1
comp=Z,46nm,1.2s
SII Sitkinak Islan 77.19 25 P **P** **19 58 27.7 +0.6**
baz=324
KAIM Kayak Island 77.20 19 P **P** **19 58 27.9 +0.9**
baz=330
LIC Lamto 77.20 268⇑ *eP* **P** **19 58 28.4 +0.6**
comp=Z,11nm,0.5s
YUK4 Talbot Arm 77.26 15 P **P** **19 58 27.4 -0.2**
baz=335,SNR=11
M31M Drury Creek, Y 77.29 13 IAmb IAmb 19 58 29.4
comp=Z,22nm, 1.1s
M31M Drury Creek, Y 77.29 13 P **P** **19 58 27.9 +0.3**
baz=338,SNR=6.2
CHIR Chirikof Islan 77.30 26 P **P** **19 58 29.1 +1.4**
baz=323
BGLC Bering Glacier 77.31 18 P **P** **19 58 28.6 +1.0**
baz=331
O28M Mount Upton 77.45 16 P **P** **19 58 29.3 +0.5**
baz=334
N30M Aishikik Lake 77.47 15 P **P** **19 58 29.7 +1.1**
baz=336,SNR=6.9
MESA MESA 77.58 17 P **P** **19 58 30.3 +0.9**
baz=332
YUK6 Outpost Mounta 77.68 15 P **P** **19 58 30.6 +0.6**
baz=335
N31M Braeburn, Yuko 77.70 14 IAmb IAmb 19 58 32.2
comp=Z,29nm,0.9s
N31M Braeburn, Yuko 77.70 14 P **P** **19 58 30.4 +0.6**
baz=337,SNR=18
WRGLY Wrigley 77.86 8 P **P** **19 58 31.3 +0.7**
baz=346
HYT Haines Junctio 77.97 15 P **P** **19 58 32.3 +0.9**
baz=336,SNR=43
PINM Pinnacle 78.04 17 P **P** **19 58 32.8 +1.0**
baz=334
O29M Mount Kennedy 78.22 16 P **P** **19 58 33.0 +0.2**
baz=335
O30N Mendenhall 78.30 14 IAmb IAmb 19 58 35.5
comp=Z,16nm,0.9s
O30N Mendenhall 78.30 14 P **P** **19 58 34.0 +0.8**
baz=337,SNR=17
PNL Peninsula 78.61 16 P **P** **19 58 35.1 +0.2**
baz=334
P30M Million Dollar 78.72 15 P **P** **19 58 35.6 +0.1**
baz=336
TGTN Hyland Airport 78.91 10 P **P** **19 58 36.7 +0.1**
baz=343
P29M Windy Craggy 79.01 16 P **P** **19 58 36.5 -0.6**
baz=336
YKA Yellowknife Ar 79.29 4 P **P** **19 58 38.6 +0.1**
YKA Yellowknife Ar 79.29 4 P **P** **19 58 38.9 +0.4**
comp=Z,11nm,0.6s,baz=349,slow=5.1,SNR=68
YKA LR LR 20 38 02.6
comp=Z,48nm,18.1s,baz=118,slow=39
comp=Z,11nm,0.6s
P33M Teslin, Yukon 79.43 13 IAmb IAmb 19 58 40.9
comp=Z,29nm,1.1s
P33M Teslin, Yukon 79.43 13 P **P** **19 58 39.0 -0.4**
baz=339,SNR=19
PLBC Pleasant Camp 79.45 15 P **P** **19 58 40.2 +0.7**
baz=337,SNR=17
SKAG Skagway 79.66 15 IAmb IAmb 19 58 42.9
comp=Z,20nm,0.9s
SKAG Skagway 79.66 15 P **P** **19 58 41.3 +0.8**
baz=337
P32M Atlin 79.85 14 P **P** **19 58 42.0 +0.3**
baz=339
BOSA Boshof 80.46 222 P **P** **19 58 44.3 -1.0**
comp=Z,2.6nm,0.8s,baz=36,slow=0.3,SNR=3.5
comp=Z,2.6nm,0.8s
R33M Jennings River 80.52 12 IAmb IAmb 19 58 47.2
comp=Z,17nm,0.9s
R33M Jennings River 80.52 12 P **P** **19 58 45.8 +0.4**
baz=341,SNR=13
Q32M Nakina River 80.70 13 P **P** **19 58 46.8 +0.4**
baz=340
KOTAN Kotaneelee Air 80.81 9 P **P** **19 58 46.8 +0.1**
baz=346
S31K Pelican 80.86 16 P **P** **19 58 46.8 -0.1**
baz=337
R32K Eaglecrest 80.92 15 P **P** **19 58 47.0 -0.3**
baz=338
SCHQ Schefferville 81.17 338 IAmb IAmb 19 58 51.0
comp=Z,73nm,1.9s
SCHQ Schefferville 81.17 338 P **P** **19 58 48.8 +0.1**
comp=Z,6.8nm,0.8s,baz=35,slow=5.6,SNR=6.1
SCHQ LR LR 20 35 09.1
comp=Z,65nm,18.4s,baz=80,slow=36
comp=Z,6.8nm,0.8s
WRA Warramunga Arr 81.29 124 P **P** **19 58 48.9 -0.9**
WRA Warramunga Arr 81.29 124 P **P** **19 58 49.0 -0.9**
comp=Z,3.9nm,0.6s,baz=327,slow=4.8,SNR=52
comp=Z,3.9nm,0.6s
WRA Warramunga Arr 81.29 124 P **P** **19 58 48.9 -0.9**
WRA pmax pmax
comp=Z,2.0nm,1.9s
WRAB Tennant Creek 81.29 124 P **P** **19 58 49.1 -0.7**
WRAB Tennant Creek 81.29 124 P **P** **19 58 49.1 -0.7**
WRAB pmax pmax
comp=Z,9.0nm,0.8s
WB2 Warramunga Arr 81.30 124 P **P** **19 58 49.5 -0.3**
DLBC Dease Lake 81.58 12 P **P** **19 58 51.9 +1.0**
baz=342,SNR=5.4
S32K Killisnoo 81.66 15 P **P** **19 58 52.3 +1.1**
baz=338
SIT Sitka 81.88 15 P **P** **19 58 53.7 +1.3**
baz=338
S34M Telegraph Cree 81.89 13 IAmb IAmb 19 58 55.0
comp=Z,30nm,0.9s
S34M Telegraph Cree 81.89 13 P **P** **19 58 53.5 +1.1**
baz=341,SNR=13
TOAD Toad River Com 81.91 10 P **P** **19 58 53.4 +0.8**
baz=345,SNR=9.6
T35M Bob Quinn 82.93 13 IAmb IAmb 19 59 00.5
comp=Z,17nm,1.0s
T35M Bob Quinn 82.93 13 P **P** **19 58 58.8 +0.9**
baz=342,SNR=7.2
WRAK Wrangell Islan 83.08 14 P **P** **19 58 59.5 +0.9**
baz=340
U33K Whale Pass 83.21 15 P **P** **19 59 00.4 +1.1**
baz=339
ASAR Alice Springs 83.69 127 P **P** **19 59 01.8 -0.4**
comp=Z,1.4nm,0.6s,baz=326,slow=4.7,SNR=24
comp=Z,1.4nm,0.6s
CRAG Craig 83.82 15 P **P** **19 59 03.6 +1.2**
baz=339
V35K Ketchikan 84.25 14 P **P** **19 59 05.4 +0.8**
baz=340
FFC Flin Flon 87.22 357 P **P** **19 59 19.4 +0.1**
FFC Flin Flon 87.22 357 P **P** **19 59 19.4 +0.1**
PKME Peaks-Kenny Pk 90.29 335 P **P** **19 59 34.9 +1.0**
baz=28
ULM Lac du Bonnet 91.29 353 IAmb IAmb 19 59 39.6
comp=Z,16nm,1.1s
ULM Lac du Bonnet 91.29 353 P **P** **19 59 36.9 -1.6**
comp=Z,8.0nm,1.0s,baz=5.5,slow=4.0,SNR=5.4
ULM LR LR 20 45 12.1
comp=Z,58nm,18.2s,baz=290,slow=38
comp=Z,8.0nm,1.0s
LONY Lake Ozonia 92.54 338 P **P** **19 59 45.4 +1.0**
baz=24
EYMN Ely 93.06 350 P **P** **19 59 46.9 +0.1**
baz=12
AGMN Agassiz Nation 93.22 353 P **P** **19 59 47.6 +0.2**
baz=8.3
NEW Newport 93.25 7 IAmb IAmb 19 59 49.5
comp=Z,7.9nm,1.0s
NEW Newport 93.25 7 P **P** **19 59 47.7 +0.1**
baz=352
NEW Newport 93.25 7 LR LR 20 46 47.2
comp=Z,75nm,18.4s,baz=16,slow=39
HRV Adam Dziewonsk 93.50 335 P **P** **19 59 49.5 +0.7**
baz=27
DELO Deloro Mine 93.50 340 IAmb IAmb 19 59 50.7
comp=Z,11nm,1.0s
DGMT Dagmar 93.54 358 P **P** **19 59 49.6 +0.6**
baz=1.8
L61B Northampton 93.92 336 P **P** **19 59 51.6 +0.9**
baz=26
EGMT Eagleton 93.96 2 P **P** **19 59 50.9 0.0**
baz=358
MDND Maddock 93.97 355 P **P** **19 59 50.4 -0.5**
baz=5.4
MXC Moxie City 94.55 10 IAmb IAmb 19 59 55.4
comp=Z,6.4nm,0.8s
G40A Rib Lake 95.49 349 IAmb IAmb 19 59 59.3
comp=Z,7.0nm,0.9s
BOZ Bozeman (W) 96.31 4 IAmb IAmb 20 00 03.7
comp=Z,4.2nm,1.1s
BOZ Bozeman (W) 96.31 4 P **P** **20 00 02.4 +0.6**
baz=356
RLMT Red Lodge 96.88 2 IAmb IAmb 20 00 06.8
comp=Z,8.1nm,1.3s
RLMT Red Lodge 96.88 2 P **P** **20 00 05.2 +0.7**
baz=358
JFWS Jewell Farm 97.79 348 P Pdif 20 00 09.1 +0.7
baz=13
ECSD EROS Data Cent 97.82 353 P Pdif 20 00 09.1 +0.6
baz=7.8
PDAR Pinedale Array 99.22 2 P **Pdif** **20 00 14.9 -0.2**
comp=Z,0.2nm,0.5s,baz=22,slow=3.2,SNR=2.4
PDAR LR LR 20 50 46.0
comp=Z,28nm,18.1s,baz=9.0,slow=39
comp=Z,0.2nm,0.5s
QSPA South Pole Qui 128.13 180 PKP **PKPdf** **20 05 37.4 -0.2**
comp=Z,3.4nm,1.1s,baz=326,slow=1.7,SNR=5.8
CPUP Villa Florida 137.25 271 PKP **PKPdf** **20 05 56.2 +0.2**
comp=Z,1.4nm,0.6s,baz=41,slow=4.2,SNR=4.6
PLCA Paso Flores 152.32 254 PKPbc **PKPbc** **20 06 28.5 +0.2**
comp=Z,3.8nm,0.6s,baz=58,slow=1.5,SNR=6.3

TIR 12 19:51:13.4, 41°.47N×19°.49E, h25km±2km, Ml1.8, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.31**	**113**	P	Pb	19 51 21.2	+0.6
	baz=113						
TIR				S	Sb	19 51 25.6	+0.1
	baz=113						
TIR				AMP			
	comp=E,1.0nm,0.2s,baz=113						
PUK	**Puka**	**0.65**	**28**	P	Pn	19 51 27.1	+0.1
	baz=27						
PUK				S	Sb	19 51 35.6	+0.8
	baz=27						
PUK				AMP			
	comp=E,0.1nm,0.2s,baz=27						
BCI	**Bajram Curri**	**0.99**	**26**	P	Pb	19 51 32.0	0.0
	baz=25						
BCI				S	Sn	19 51 47.6	+2.7
	baz=25						
BCI				AMP			
	comp=N,0.1nm,0.4s,baz=25						
DBRK	**Dubrovnik**	**1.56**	**321**	*e*Pn	Pb	19 51 44.9	+3.4
DBRK				Sn	Sb	19 52 05.0	+4.1
LSK	**Leskovik**	**1.57**	**147**	P	Pn	19 51 40.6	+1.0
	baz=147						
LSK				S	Sb	19 52 05.2	+4.0
	baz=147						
FNA	**Florina**	**1.58**	**115**	P	Pb	19 51 43.9	+1.8
	baz=115						
FNA				S	Sb	19 52 04.1	+2.5
	baz=115						
FNA				AMP			
	comp=N,0.0nm,0.4s,baz=115						
STON	**Ston**	**1.93**	**317**	*e*Pn	Pb	19 51 48.9	+1.0
STON				Sn	Sb	19 52 13.1	+1.6
NOCI	**Noci**	**1.95**	**250**	P	Pb	19 51 51.1	+2.8
	baz=251						
NOCI				S	Sb	19 52 14.3	+2.1
	baz=251						
MAKA	**Makarska**	**2.58**	**316**	Sn	Sb	19 52 28.4	-1.7
RICI	**Ricice**	**2.67**	**320**	*e*Pn	Pb	19 51 57.9	-2.6
RICI				Sn	Sb	19 52 30.0	-2.8
HVAR	**Hvar**	**2.83**	**308**	Sn	Sn	19 52 33.0	+2.9

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*NEIC **12** 19:56:47.1±1.4, 38°.68N±0°.05×26°.45E±0°.06, h10km±2km, ML3.1/32, Error ellipse: s-maj=8.3km s-min=7.3km az=179.0*
*AFAD **12** 19:56:48.8±0.0, 38°.84N×26°.58E, h7km±3km, MW3.6*
*ISK **12** 19:56:48.7, 38°.84N×26°.57E, h12km, ML3.6/54*
*ATH **12** 19:56:49.8, 38°.83N×26°.56E, h12km±1km, ML3.5/9, Error ellipse: s-maj=2.0km s-min=0.7km az=266.0*
*THE **12** 19:56:49.4, 38°.84N×26°.57E, h2km±2km, ML3.6/6, Error ellipse: s-maj=2.2km s-min=0.6km az=239.0*
ISC 12 19:56:49.0±0.8, 38°.84N±0°.01×26°.58E±0°.02, h17km±5km, n151, σ1§11/188, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOCM	**Foa**	**0.17**	**138**	Pg	**Pg**	**19 56 53.0**	**-0.5**
FOCM				Sg	**Sg**	**19 56 56.2**	**-0.3**
CAND	**Candarli**	**0.21**	**57**	Pg	**Pg**	**19 56 53.8**	**-0.2**
CAND				Sg	**Sg**	**19 56 57.5**	**+0.2**
KARB	**zmir-Karabur**	**0.22**	**217**	P	**Pg**	**19 56 54.3**	**+0.1**
KARB				S	**Sg**	**19 56 57.8**	**+0.1**
IZMD	**zmir-Dikili-**	**0.31**	**62**	P	**Pg**	**19 56 55.7**	**+0.1**
IZMD				S	**Sg**	**19 56 57.6**	**-2.6**
DKL	**Dikili**	**0.34**	**48**	Pg	**Pg**	**19 56 56.2**	**0.0**
DKL				Sg	**Sg**	**19 57 01.4**	**+0.3**
ZEDA	**zmir-Bergama**	**0.41**	**72**	P	**Pg**	**19 56 57.4**	**+0.1**
PRK	**Paraskevi**	**0.47**	**329**	P	**Pb**	**19 56 58.8**	**0.0**
PRK				S	**Sb**	**19 57 05.3**	**-0.2**
	13μm,0.4s						
PRK	**Paraskevi**	**0.47**	**329**	P	**Pb**	**19 56 58.7**	**0.0**
PRK				S	**Sb**	**19 57 05.2**	**-0.2**
PRK				AML	AML	19 57 05.9	
	comp=E,35576μm,0.4s						
PRK				AML	AML	19 57 06.4	
	comp=N,18904μm,0.4s						
AYVA	**Ayvalik**	**0.47**	**10**	P	**Pg**	**19 56 58.3**	**-0.2**
EAG2	**Marmaro, Chios**	**0.47**	**231**	P	**Pb**	**19 56 58.7**	**-0.2**
EAG2				S	**Sg**	**19 57 04.8**	**-0.2**
EAG2				AML	AML	19 57 06.7	
	comp=N,82820μm,0.4s						
EAG2				AML	AML	19 57 07.0	
	comp=E,65084μm,0.3s						
URLA	**Izmir**	**0.48**	**179**	Pg	**Pb**	**19 56 58.7**	**-0.3**
URLA	**Izmir**	**0.48**	**179**	P	**Pb**	**19 56 58.7**	**-0.3**
URLA				S	**Sb**	**19 57 05.6**	**-0.2**
CESE	**eme**	**0.56**	**203**	Pg	**Pg**	**19 56 59.9**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**0.61**	**186**	P	**Pg**	**19 57 00.7**	**-0.3**
ZEYE				S	**Sb**	**19 57 09.6**	**+0.2**
CHOS	**Chios island**	**0.61**	**222**	P	**Pb**	**19 57 01.5**	**+0.2**
CHOS				S	**Sb**	**19 57 09.7**	**+0.1**
	comp=E,5μm,0.3s						
CHOS	**Chios island**	**0.61**	**222**	P	**Pb**	**19 57 01.4**	**+0.2**
CHOS				S	**Sg**	**19 57 09.2**	**-0.2**
CHOS				AML	AML	19 57 14.6	
	comp=N,7297μm,0.4s						
CHOS				AML	AML	19 57 16.0	
	comp=E,12696μm,0.2s						
SIGR	**SIGRI**	**0.68**	**303**	Pg	**Pg**	**19 57 02.1**	**-0.2**
SIGR	**SIGRI**	**0.68**	**303**	P	**Pb**	**19 57 02.6**	**+0.3**
SIGR				S	**Sb**	**19 57 11.9**	**+0.6**
	comp=E,6μm,0.3s						
SIGR	**SIGRI**	**0.68**	**303**	P	**Pb**	**19 57 02.5**	**+0.2**
SIGR				S	**Sb**	**19 57 11.7**	**+0.3**
KOCA	**Canakkale, Ayv**	**0.74**	**333**	P	**Pb**	**19 57 03.8**	**+0.3**
BUHA	**Balikesir, Bur**	**0.76**	**30**	P	**Pg**	**19 57 03.0**	**-0.9**
BUHA				S	**Sg**	**19 57 13.8**	**-0.3**
SOMA	**Soma-Manisa**	**0.81**	**67**	Pg	**Pn**	**19 57 05.8**	**+0.2**
DGB	**zmir**	**0.82**	**163**	P	**Pb**	**19 57 04.9**	**+0.1**
PSRA	**Psara**	**0.85**	**250**	P	**Pb**	**19 57 05.9**	**+0.6**
PSRA				S	**Sb**	**19 57 17.0**	**+0.6**
PSRA				AML	AML	19 57 19.6	
	comp=E,10011μm,0.6s						
PSRA				AML	AML	19 57 20.1	
	comp=N,8100μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.90**	**358**	P	**Pg**	**19 57 05.6**	**-0.9**
BAYC				S	**Sg**	**19 57 18.1**	**-0.3**
EZNE	**Ezine-Canakkal**	**0.93**	**350**	Pg	**Pb**	**19 57 07.0**	**+0.4**
AKHS	**Akhisar**	**0.96**	**87**	P	**Pg**	**19 57 07.5**	**-0.2**
AKHS				S	**Sg**	**19 57 19.7**	**-0.6**
AKS	**Akhisar**	**0.96**	**87**	Pg	**Pb**	**19 57 07.9**	**+0.7**
EZN	**Ezine**	**1.00**	**349**	Pg	**Pb**	**19 57 08.4**	**+0.5**
EZN	**Ezine**	**1.00**	**349**	P	**Pg**	**19 57 07.8**	**-0.6**
EZN				S	**Sn**	**19 57 22.4**	**+0.5**
	comp=N,3μm,0.5s						
STEP	**BALIKESIR_Sava**	**1.03**	**59**	P	**Pb**	**19 57 09.0**	**+0.6**
STEP				S	**Sg**	**19 57 22.6**	**0.0**
GOMA	**Golmarmara-Man**	**1.05**	**97**	Pg	**Pn**	**19 57 09.6**	**+0.7**
BOZC	**Bozcaada**	**1.08**	**338**	P	**Pg**	**19 57 09.4**	**-0.5**
BOZC				S	**Sg**	**19 57 23.3**	**-0.7**
SMG	**Samos**	**1.15**	**170**	P	**Pn**	**19 57 10.9**	**+0.6**
SMG				S	**Sn**	**19 57 26.9**	**+1.3**
	comp=N,4μm,0.3s						
SMG	**Samos**	**1.15**	**170**	P	**Pb**	**19 57 10.7**	**+0.3**
SMG				S	**Sn**	**19 57 26.5**	**+0.9**
SMG				AML	AML	19 57 30.5	
	comp=E,6626μm,0.3s						
SMG				AML	AML	19 57 30.5	
	comp=N,9412μm,0.4s						
BALY	**Balya**	**1.21**	**42**	P	**Pn**	**19 57 11.5**	**+0.4**
YENI	**Yenice-Canakka**	**1.21**	**25**	Pn	**Pn**	**19 57 11.7**	**+0.6**
CNKL	**anakkale-Mer**	**1.23**	**353**	P	**Pn**	**19 57 12.0**	**+0.6**
CNKL				S	**Sb**	**19 57 25.7**	**-1.7**
ECEA	**Canakkale, Ece**	**1.24**	**345**	P	**Pg**	**19 57 12.9**	**-0.1**
GCAM	**G?zelcaml?**	**1.25**	**156**	Pn	**Pg**	**19 57 12.8**	**-0.3**
GCAM	**G?zelcaml?**	**1.25**	**156**	P	**Pg**	**19 57 12.9**	**-0.3**
GCAM				S	**Sb**	**19 57 28.7**	**+0.8**
COMU	**Canakkale**	**1.26**	**356**	Pn	**Pb**	**19 57 12.7**	**+0.4**
IZMR	**zmir-demi**	**1.29**	**123**	P	**Pb**	**19 57 13.2**	**+0.5**

IZMR			S	Sb	19 57 27.8	-1.2
ODEM	Odemis-Izmir	1.30 115	Pn	Pb	19 57 13.5	+0.5
AYDB	Zeytinkoy-Aydi	1.36 131	Pn	Pn	19 57 14.3	+1.0
BKES	Balkesir-Mer	1.37 49	P	Pn	19 57 14.2	+0.8
GOAD	anakkale-G¶	1.42 339	P	Pb	19 57 15.1	+0.1
GOAD			S	Sn	19 57 31.3	-0.9
EFSA	Agios Efstrati	1.42 300	P	Pn	19 57 14.9	+0.9
EFSA			S	Sn	19 57 32.7	+0.5
EFSA			AML	AML	19 57 38.1	
	comp=E,1370μm,0.5s					
EFSA			AML	AML	19 57 38.1	
	comp=N,1172μm,0.7s					
GADA	Gvkgeada	1.45 339	Pn	Pn	19 57 15.4	+1.0
GONE	Gonen-Balikesi	1.48 35	Pn	Pn	19 57 15.8	+1.0
DDIM	Aydin, Didim	1.48 159	P	Pb	19 57 16.7	+0.7
BLKS	Balkesir-Sus	1.49 46	P	Pn	19 57 15.2	+0.2
LIA	Limnos Island	1.51 315	P	Pn	19 57 16.3	+1.1
LIA			S	Sg	19 57 37.8	0.0
	comp=N,2μm,0.5s					
LIA	Limnos Island	1.51 315	P	Pn	19 57 16.2	+0.9
LIA			S	Sn	19 57 34.4	-0.1
LIA			AML	AML	19 57 39.3	
	comp=E,3042μm,0.4s					
LIA			AML	AML	19 57 41.1	
	comp=N,3002μm,0.4s					
LPK	Lapseki	1.54 5	Pn	Pn	19 57 16.8	+1.2
GELI	Tayfur-Gelibol	1.56 357	Pn	Pn	19 57 16.9	+1.0
KIRA	zmir-Kiraz	1.57 114	P	Pb	19 57 17.6	0.0
SKY	Skiros Island	1.59 272	P	Pn	19 57 16.2	-0.1
MANT	Manisa	1.59 102	Pn	Pn	19 57 14.8	-1.7
MANT			IAML		19 57 43.9	
	comp=N,130nm,0.3s					
MANT			IAML		19 57 50.6	
	comp=E,160nm,0.7s					
MANT	Manisa	1.59 102	P	Pn	19 57 17.3	+0.8
KNL	Balıkesir	1.60 27	P	Pn	19 57 17.0	+0.5
KNL			S	Sn	19 57 37.3	+0.5
NAZL	Nazilli-Aydin	1.60 123	Pn	Pn	19 57 17.7	+1.1
SUSR	Susurluk-Balik	1.61 46	Pn	Pn	19 57 17.7	+1.0
KRBG	Karabiga-Canak	1.65 19	Pn	Pn	19 57 17.9	+0.8
DURS	Dursunbey	1.65 62	P	Pn	19 57 18.0	+0.7
KULA	Kula-Manisa	1.66 101	Pn	Pn	19 57 18.7	+1.3
KULA	Kula-Manisa	1.66 101	P	Pn	19 57 18.6	+1.2
TNSA	Tinos	1.71 221	P	Pn	19 57 17.9	-0.1
ESEN	Aydn-Nazilli	1.74 126	P	Pn	19 57 19.4	+1.0
DST	Dursunbey	1.76 64	Pn	Pn	19 57 19.6	+0.9
EDC	Edincik	1.80 33	Pn	Pn	19 57 20.2	+1.0
MLSB	Milas	1.81 148	Pn	Pn	19 57 20.8	+1.4
SMTH	Samothraki Isl	1.82 334	P	Pn	19 57 20.4	+0.9
SMTH	Samothraki Isl	1.82 334	P	Pn	19 57 20.4	+0.9
SMTH			S	Sn	19 57 42.4	+0.3
ERIK	Erikli-Kesan	1.83 358	Pn	Pn	19 57 20.8	+1.2
BODT	Bodrum	1.87 162	Pn	Pn	19 57 21.5	+1.3
BODT	Bodrum	1.87 162	P	Pn	19 57 21.1	+0.9
CAVK	Edirne/Enez-Ca	1.87 350	P	Pn	19 57 21.4	+1.2
CAVK			S	Sn	19 57 44.1	+0.6
SIMA	Simav-Kutahya	1.89 82	Pn	Pn	19 57 21.9	+1.4
RKY	Sarkoy-Tekirda	1.90 14	Pn	Pn	19 57 21.9	+1.3
BDRM	Kayabasi	1.90 159	P	Pn	19 57 21.5	+0.9
SART	Tekirdag	1.90 14	P	Pn	19 57 21.6	+0.9
BAND	Balkesir-Ban	1.91 37	P	Pn	19 57 21.2	+0.4
BAND			S	Sn	19 57 44.9	+0.5
ENEZ	Enez	1.92 350	Pn	Pn	19 57 22.1	+1.2
ENEZ	Enez	1.92 350	P	Pn	19 57 22.4	+1.5
KYMI	Kymi, Euboea I	1.95 265	P	Pn	19 57 21.8	+0.5
KYMI	Kymi, Euboea I	1.95 265	P	Pn	19 57 22.0	+0.7
APE	Apeiranthos	1.96 205	Pn	Pn	19 57 21.7	+0.3
APE	Apeiranthos	1.96 205	P	Pn	19 57 21.2	-0.2
KCTX	Karacabey (Bur	1.98 43	Pn	Pn	19 57 22.9	+1.2
ALN	Alexandroupoli	2.09 349	Pn	Pn	19 57 24.6	+1.3
ALN	Alexandroupoli	2.09 349	Pn	Pn	19 57 23.5	+0.3
ALN			Sn	Sb	19 57 51.8	-0.3
ALN			IAML		19 57 59.0	
	comp=E,130nm,0.6s					
ALN	Alexandroupoli	2.09 349	P	Pn	19 57 24.5	+1.3
ALN	Alexandroupoli	2.09 349	P	Pn	19 57 24.4	+1.1
ALN			S	Sn	19 57 49.6	+0.7
ALN			AML	AML	19 57 57.0	
	comp=N,789μm,0.6s					
ALN			AML	AML	19 57 59.1	
	comp=E,540μm,0.7s					
MULA	Mugla, Merkez-	2.10 139	P	Pg	19 57 28.3	-1.0
AOS2	Alonissos-2	2.15 279	P	Pn	19 57 25.0	+0.9
YER	Yerkesik	2.17 141	Pn	Pn	19 57 25.9	+1.5
DION	Dionisos Attik	2.21 251	P	Pn	19 57 25.7	+0.8
GEDZ	Gediz	2.22 84	Pn	Pn	19 57 26.6	+1.6
DAT	Datca	2.25 159	Pn	Pn	19 57 26.3	+0.7
DAT	Datca	2.25 159	P	Pn	19 57 25.5	0.0
YAZI	Mula-Dat§a-	2.27 162	P	Pn	19 57 26.1	+0.5
THAS	Thassos island	2.27 321	P	Pn	19 57 26.6	+0.9
THAS			S	Sn	19 57 53.4	+0.1
THAS			AML	AML	19 58 04.4	
	comp=E,743μm,0.4s					
THAS			AML	AML	19 58 08.6	
	comp=N,514μm,0.8s					
UKOP	Uzunkopru-Edir	2.28 1	Pn	Pn	19 57 27.3	+1.4
MDNY	Mudanya-Bursa	2.34 49	Pn	Pn	19 57 28.3	+1.6
VLY	Voula,Athens	2.40 247	P	Pn	19 57 28.2	+0.7
RDO	Rodhopi	2.44 341	Pn	Pn	19 57 29.5	+1.5
RDO	Rodhopi	2.44 341	Pn	Pn	19 57 28.1	+0.1
RDO			IAML		19 58 09.8	
	comp=E,59nm,0.8s					
RDO			IAML		19 58 10.7	
	comp=N,75nm,0.6s					
RDO	Rodhopi	2.44 341	P	Pn	19 57 28.7	+0.8
CRLT	Corlu	2.45 21	Pn	Pn	19 57 29.6	+1.4
ARMT	Armutlu	2.46 45	Pn	Pn	19 57 30.1	+1.8
PAIG	Paliouri	2.50 297	Pn	Pn	19 57 30.3	+1.5
OUR	Ouranopolis	2.50 307	Pn	Pn	19 57 30.2	+1.4
OUR	Ouranopolis	2.50 307	P	Pn	19 57 30.1	+1.2
APMY	Acipayam-Deniz	2.54 122	Pn	Pn	19 57 31.3	+1.8
GEMT	Gemlik	2.57 51	Pn	Pn	19 57 31.7	+1.9
DALY	Dalyan (Mula)	2.60 140	Pn	Pn	19 57 32.1	+1.9
SANT	Santorini	2.62 200	Pn	Pn	19 57 25.8	-4.8
SANT			IAML		19 58 36.0	
	comp=E,93nm,1.1s					
SANT			IAML		19 58 38.0	
	comp=N,58nm,1.4s					
KAVA	Kavala	2.67 324	P	Pn	19 57 32.3	+1.1
SLVT	Silivri	2.69 27	Pn	Pn	19 57 32.4	+0.9
MHLO	Agia Marina, M	2.76 219	P	Pn	19 57 33.1	+0.7
YLV	Yalova	2.76 50	Pn	Pn	19 57 34.3	+1.8
KOKK	Kokkinochori,	2.80 316	P	Pn	19 57 33.7	+0.7
PLG	Polygyros	2.86 303	P	Pn	19 57 34.8	+0.9
CAVI	Cavuskoy	2.87 61	Pn	Pn	19 57 35.9	+2.0
CAME	Cameli-Denizli	2.87 131	Pn	Pn	19 57 36.1	+2.0
BGKT	Bogazkoy	2.88 35	Pn	Pn	19 57 36.1	+2.1
ARG	Arkhangelos	2.90 154	Pn	Pn	19 57 35.9	+1.6
ARG	Arkhangelos	2.90 154	Pn	Pn	19 57 32.3	-2.0
ARG			IAML		19 58 36.2	
	comp=N,68nm,1.7s					
ARG			IAML		19 58 39.4	
	comp=E,56nm,2.1s					
ADVT	Abdulvahap	2.91 56	Pn	Pn	19 57 36.6	+2.1
KAVV	Kandilli-Istan	2.92 40	Pn	Pn	19 57 36.6	+1.9
ISK	Istanbul-Kandi	2.92 40	Pn	Pn	19 57 36.7	+2.0
FETY	Fethiye	2.96 137	Pn	Pn	19 57 37.4	+2.1
BORA	Eskisehir	3.18 70	Pn	Pn	19 57 39.4	+1.2
BORA			IAML		19 58 37.9	
	comp=E,58nm,1.1s					
BORA			IAML		19 58 46.9	
	comp=N,68nm,0.2s					
AGG	Agios Georgios	3.32 274	Pn	Pn	19 57 37.5	-2.6
KARP	Karpathos	3.32 172	Pn	Pn	19 57 38.1	-2.1
ELL	Elmali	3.36 127	Pn	Pn	19 57 37.4	-3.4
LIT	Litokhoron	3.41 293	Pn	Pn	19 57 39.9	-1.4
AKAS	Kas	3.54 136		Pn	19 57 42.8	-0.6
AKAS			IAML		19 59 07.8	
	comp=E,56nm,1.4s					
IDI	Anoyia	3.80 201	Pn	Pn	19 57 38.6	-8.2
IDI			IAML		19 58 15.6	
	comp=N,26nm,1.9s					
IDI			IAML		19 59 05.6	
	comp=E,21nm,1.8s					
MDUB	Mudurnu	3.92 64	Pn	Pn	19 57 47.6	-0.9
ITM	Ithomi	4.03 247	Pn	Pn	19 57 46.5	-3.4
ITM			IAML		19 59 00.3	
	comp=E,16nm,2.4s					
PEHC	Pehcevo	4.06 317	*i* Pn	Pn	19 57 52.3	+1.9
STIP	Stip	4.41 312	*i* Pn	Pn	19 57 55.9	+0.9
FNA	Florina	4.45 297	Pn	Pn	19 57 53.2	-2.5
ANTO	Ankara	4.92 76	Pn	Pn	19 58 01.4	-0.9
ANTO			IAML		19 59 36.5	
	comp=E,18nm,0.8s					
BR131	Keskin Array S	5.55 79	Pn	Pn	19 58 11.5	+0.7
BR131			Pg	Pg	19 58 33.9	-1.3
BRTR	Keskin Array B	5.55 79	Pn	Pn	19 58 12.2	+1.3
BRTR			Pg	Pg	19 58 31.6	-3.6
MLR	Muntele Rosu	6.66 356	Pn	Pn	19 58 26.3	+0.2
BURAR	Bucovina Array	8.82 354	Pn	Pn	19 58 57.0	+1.2
BUR08	Bucovina Ar. S	8.86 354	Pn	Pn	19 58 57.2	+1.0

IDC ***12*** *20:10:43.7±0.5, 7.34S×130.64E, h0km, mb4.5/19, mbtmp4.4/21, MLJ3.7/3, MS3.6/13, Error ellipse: s-maj=26.3km s-min=12.0km az=75.0*
DJA ***12*** *20:10:49.4±0.3, 7.3S±2.3×13.1E±.1, h39km±5km, M4.9/29, mB5.3/12, mb4.8/29, MLv5.2/13, Mw(mB)4.8/12*
NEIC ***12*** *20:10:50.6±1.5, 7.32S±0.07×130.57E±0.08, h45km±8km, mb4.6/50, Error ellipse: s-maj=11.9km s-min=9.2km az=53.0*
ISC 12 20:10:49.7±0.3, 7.45S±0.04×130.76E±0.05, h50km, n175, σ2.29/159, mb4.6/48, MS3.6/10, 1C-1D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
SAUI	Saumlaki	0.75	135	Pn	Pn	20 11 07.8	+3.6	
SAUI	Saumlaki	0.75	135	P	Pn	20 11 07.7	+3.6	
BNDI	Bandanaira	3.03	344	P	Pn	20 11 34.8	-0.5	
BNDI	Bandanaira	3.03	344	P	Pn	20 11 34.6	-0.7	
FAKI	Fak Fak	4.74	18	P	Pn	20 11 58.6	-0.1	
FAKI	Fak Fak	4.74	18	Pn	Pn	20 11 58.4	-0.4	
FAKI	Fak Fak	4.74	18	P	Pn	20 11 58.6	-0.1	
KMPI	Kaimana, Papua	4.77	38	P	Pn	20 11 58.9	-0.2	
DRS	Darwin Rock St	4.95	178	P	Pn	20 12 02.6	+1.0	
MTN	Manton Dam	5.37	176	P	Pn	20 12 08.3	+1.0	
MTN	Manton Dam	5.37	176	Pn	Pn	20 12 07.1	-0.2	
MTN				Sn	Sn	20 13 07.8	-0.2	
KDU	Kakadu	5.47	162	P	Pn	20 12 09.1	+0.4	
NLAI	Namlea	5.55	319	P	Pn	20 12 11.7	+1.9	
SWI	Sorong	6.56	4	P	Pn	20 12 22.0	-1.8	
	77nm,0.5s,2μm1.2nm							
SOEI	Soe	6.82	250	P	Pn	20 12 27.1	-0.2	
SOEI	Soe	6.82	250	Pn	Pn	20 12 26.1	-1.3	
SOEI	Soe	6.82	250	P	Pn	20 12 27.6	+0.3	
	126nm,0.8s,1μm1.0nm							
BATI	Baumata	7.53	248	P	Pn	20 12 36.2	-0.8	
	87nm,0.7s,2μm0.5nm							
BBSI	Bau Bau	8.37	283	P	Pn	20 12 52.2	+3.7	
	114nm,1.0s							
MMRI	Maumere	8.52	261	P	Pn	20 12 50.7	+0.1	
MMRI	Maumere	8.52	261	Pn	Pn	20 12 47.2	-3.4	
MMRI	Maumere	8.52	261	P	Pn	20 12 52.8	+2.2	
	61nm,1.1s							
EDFI	Ende, Flores	9.07	261	P	Pn	20 12 58.4	+0.2	
	18nm,0.8s							
MMPI	Merauke	9.58	97	P	Pn	20 13 02.6	-2.5	
LUWI	Luwuk	10.20	308	P	Pn	20 13 14.8	+1.3	
	68nm,1.2s,744nm							
BASI	Baing, Sumba	10.43	254	P	Pn	20 13 17.9	+1.2	
TABU	Tabubil	10.62	79	P	Pn	20 13 20.0	+0.6	
BKSI	Bulukumba	10.78	281	P	Pn	20 13 23.2	+1.7	
	25nm,0.9s							
KAPI	Kappang	11.21	282	Pn	Pn	20 13 23.6	-3.8	
KAPI	Kappang	11.21	282	Pn	Pn	20 13 24.6	-2.8	
	0.5nm,0.3s,baz=47,slow=19,SNR=2.0							
KAPI				LR	LR	20 17 31.6		
	comp=Z,242nm,21.5s,baz=126,slow=37							
	1.2nm,0.3s							
FITZ	Fitzroy Crossi	11.70	205	P	Pn	20 13 34.9	+0.9	
FITZ	Fitzroy Crossi	11.70	205	Pn	Pn	20 13 30.0	-4.0	
MRSI	Marisa	11.81	311	P	Pn	20 13 37.3	+1.7	
	67nm,1.2s,630nm							
WB0	Warramunga Arr	12.74	164	Pn	Pn	20 13 45.1	-3.1	
WRAB	Tennant Creek	12.89	165		Pn	20 13 46.9	-3.4	
WRA	Warramunga Arr	12.89	165		Pn	20 13 46.1	-4.2	
WRA	Warramunga Arr	12.89	165	Pn	Pn	20 13 47.0	-3.4	
	2.7nm,0.3s,baz=334,slow=13,SNR=98							
WRA				Sn	Sn	20 16 05.3	-7.2	
	5.2nm,0.3s,baz=336,slow=25,SNR=9.0							
WRA				Lg	Lg	20 17 35.7		
	baz=352,slow=30							
WRA				LR	LR	20 19 38.4		
	comp=Z,248nm,18.8s,baz=344,slow=41							
WB2	Warramunga Arr	12.89	165	Pn	Pn	20 13 46.2	-4.2	
PLAI	Plampang	12.93	263	P	Pn	20 13 49.8	-1.1	
PLAI	Plampang	12.93	263	P	Pn	20 13 49.1	-1.8	
	66nm,0.9s							
WR0	Warramunga Arr	12.96	164		Pn	20 13 48.1	-3.2	
TOLI2	Tolitoli	13.10	310	P	Pn	20 13 52.6	-0.6	
MPSI	Mapaga	13.31	305	P	P	20 13 58.2	-6.2	
	33nm,1.5s,503nm							
TWSI	Taliwang, Sumb	13.80	264	P	Pn	20 14 01.1	-1.7	
	24nm,1.3s							
COEN	Coen	13.80	119	P	Pn	20 14 03.3	+0.5	
COEN	Coen	13.80	119	Pn	Pn	20 14 01.7	-1.1	
DAV	Davao City (W)	15.32	340	LR	LR	20 21 24.7		
	comp=Z,165nm,21.5s,baz=179,slow=42							
PMG	Port Moresby	16.34	98	Pn	Pn	20 14 33.7	-2.1	
	0.4nm,0.3s,baz=87,slow=22,SNR=1.6							
PMG				Sn	Sn	20 17 30.5	-5.8	
	0.9nm,0.3s,baz=13,slow=22,SNR=1.8							
PMG				LR	LR	20 22 25.3		
	comp=Z,230nm,19.2s,baz=241,slow=43							
AS31	Alice Springs	16.40	170		Pn	20 14 32.6	-4.1	
ASAR	Alice Springs	16.40	170	P	Pn	20 14 33.6	-3.0	
ASAR	Alice Springs	16.40	170	Pn	Pn	20 14 35.1	-1.6	
	2.2nm,0.3s,baz=348,slow=8.7,SNR=87							
ASAR				Sn	Sn	20 17 29.5	-8.3	
	2.0nm,0.3s,baz=353,slow=23,SNR=8.1							
ASAR				Lg	Lg	20 19 27.3		
	baz=353,slow=36							
ASAR				LR	LR	20 21 42.9		
	comp=Z,222nm,19.2s,baz=354,slow=40							
	4.6nm,0.5s							
JAGI	Jajag, Banyuwa	16.48	265	P	P	20 14 37.4	-2.3	
JAGI	Jajag, Banyuwa	16.48	265	Pn	Pn	20 14 34.6	-3.1	
JAGI				IAmb	IAmb	20 15 17.6		
	comp=Z,67nm,1.4s							
MTSU	Mount Surprise	16.94	130	P	P	20 14 44.9	+0.1	
MTKI	Muara Teweh, K	17.09	292	P	P	20 14 50.9	+4.5	
MBWA	Marble Bar	17.30	217	Pn	Pn	20 14 43.4	-4.5	
MYLDM	Lahad Datu	17.52	315	Pn	Pn	20 14 45.2	-5.4	
MYLDM				IAmb	IAmb	20 15 22.3		
	comp=Z,42nm,1.1s							
PSA00	Pilbara Seismi	17.55	216	P	P	20 14 52.3	+0.8	
PSA00	Pilbara Seismi	17.55	216	P	Pn	20 14 45.9	-5.0	
PSA00	Pilbara Seismi	17.55	216	P	Pn	20 14 47.7	-3.3	
PSA00				IAmb	IAmb	20 15 06.4		
	comp=Z,8.4nm,0.9s							
CTA	Charters Tower	19.58	131	P	Pn	20 15 14.8	-0.6	
	baz=331,slow=10,SNR=1.5							
CTA				S	S	20 18 45.9	-6.4	
	comp=Z,0.4nm,0.9s,baz=29,slow=19,SNR=2.0							
CTA				Lg	Lg	20 21 04.9		
	baz=244,slow=20,SNR=2.1							
CTA				LR	LR	20 24 25.9		
	comp=Z,13nm,19.2s,baz=298,slow=42							
CTAO	Charters Tower	19.58	131	P	Pn	20 15 15.3	-0.2	
UGM	Wanagama	20.06	267	P	Pn	20 15 20.0	-1.2	
UGM	Wanagama	20.06	267	P	P	20 15 14.0	-5.1	
UGM	Wanagama	20.06	267	P	Pn	20 15 22.2	+1.0	
	comp=Z,89nm,1.6s							
STKI	Sintang	20.63	290	P	Pn	20 15 25.9	-2.0	
OOD	Oodnadatta	20.76	168	P	Pn	20 15 29.2	-0.2	
SBUM	Sibu	20.95	297	P	Pn	20 15 28.8	-3.0	
GIRL	Giralia	21.93	225	P	P	20 15 40.7	+1.6	
INKA	Innaminka	22.29	156	P	P	20 15 45.4	+2.5	
MEEK	Meekatharra	22.30	210	P	P	20 15 45.4	+2.3	
BBJI	Bungbulang	22.91	268	P	P	20 15 51.0	+1.2	
MULG	Mulgathing	22.92	173	P	P	20 15 52.6	+3.0	
QLP	Quilpie	22.94	148	P	P	20 15 52.5	+2.7	
FORT	Forrest	23.34	186	P	P	20 15 56.1	+2.4	
FORT	Forrest	23.34	186	P	P	20 15 55.0	+1.2	
LCRK	Leigh Creek	23.92	164	P	P	20 16 01.9	+2.8	
KMBL	Kambalda	25.20	198	P	P	20 16 13.2	+2.4	
MORW	Morawa	25.59	211	P	P	20 16 16.0	+1.7	
MORW	Morawa	25.59	211	P	P	20 16 14.3	0.0	
MORW				IAmb	IAmb	20 16 29.0		
	comp=Z,20nm,1.1s							
BBOO	Buckleboo	25.71	170	P	P	20 16 17.0	+1.6	
BBOO	Buckleboo	25.71	170	P	P	20 16 16.8	+1.5	
BBOO				IAmb	IAmb	20 16 46.7		
	comp=Z,15nm,0.8s							
STKA	Stephens Creek	26.32	159	P	P	20 16 23.2	+2.3	
STKA	Stephens Creek	26.32	159	P	P	20 16 22.9	+2.0	
STKA	Stephens Creek	26.32	159	P	P	20 16 22.1	+1.2	
	comp=Z,7.3nm,0.6s,baz=331,slow=9.1,SNR=16							
STKA				LR	LR	20 28 24.3		
	comp=Z,156nm,18.4s,baz=1.2,slow=40							
	comp=Z,7.3nm,0.6s							
EIDS	Eidsvold	26.34	135	P	P	20 16 23.5	+2.3	
BLDU	Ballidu	26.54	208	P	P	20 16 24.5	+1.6	
KLBR	Kellerberrin	26.91	205	P	P	20 16 29.6	+3.3	
HTT	Hallett	26.93	165	P	P	20 16 29.2	+2.7	
CMSA	Cobar Meteorol	27.72	152	P	P	20 16 36.5	+3.0	
NWAO	Narrogin (SRO)	28.29	205	P	P	20 16 40.1	+1.6	
	comp=Z,21nm,1.1s,baz=66,slow=12,SNR=2.4							
NWAO				LR	LR	20 29 30.4		
	comp=Z,178nm,18.1s,baz=146,slow=40							
	comp=Z,21nm,1.1s							
HNR	Honiara	28.93	96	LR	LR	20 27 59.4		
	comp=Z,1μm,19.0s,baz=209,slow=36							
ARPS	Mount Arapiles	30.88	163	P	P	20 17 04.7	+3.2	
YNG	Young	31.28	151	P	P	20 17 08.2	+3.2	
CAN	Canberra	32.40	151	P	P	20 17 18.6	+3.7	
CAN				IAmb	IAmb	20 17 46.5		
	comp=Z,15nm,1.0s							
TOO	Toolangi	32.83	158	P	P	20 17 21.9	+3.3	
TOO	Toolangi	32.83	158	P	P	20 17 22.2	+3.6	
TOO				IAmb	IAmb	20 17 34.5		
	comp=Z,11nm,1.1s							
UBPT	Khong Chiam	33.74	312	P	P	20 17 24.9	-1.9	
UBPT				IAmb	IAmb	20 17 26.0		
	comp=Z,8.4nm,0.8s							
JOW	Kunigami	34.17	356	P	P	20 17 28.1	-2.2	
JOW	Kunigami	34.17	356	LR	LR	20 29 41.2		
	comp=Z,86nm,21.4s,baz=150,slow=33							
MOO	Moorlands	37.75	160	P	P	20 18 04.2	+3.4	
JNU	Nakatsue	40.35	0	LR	LR	20 33 54.7		
	comp=Z,62nm,19.5s,baz=204,slow=35							
CM31	Chiang Mai Arr	40.60	310	P	P	20 18 23.6	-1.4	
CM31				IAmb	IAmb	20 18 32.3		
	comp=Z,12nm,1.1s							
CMAR	Chiang Mai Arr	40.60	310	P	P	20 18 22.7	-2.2	
CMAR	Chiang Mai Arr	40.60	310	P	P	20 18 23.8	-1.1	
	comp=Z,2.8nm,0.8s,baz=138,slow=7.4,SNR=22							
CMAR				PcP	PcP	20 20 27.5	+1.1	
	comp=Z,1.3nm,0.8s,baz=186,slow=2.4,SNR=5.3							
CMAR				LR	LR	20 37 09.3		
	comp=Z,51nm,19.7s,baz=160,slow=39							
	comp=Z,2.8nm,0.8s							
CHTO	Chiang Mai	40.81	310	P	P	20 18 24.8	-1.8	
CHTO				IAmb	IAmb	20 18 33.4		
	comp=Z,11nm,1.1s							
NJ2	Nanjing	40.89	344	*e*P	P	20 18 28.2	+1.1	
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.5s							
JGF	Kuroka	43.27	8	P	P	20 18 46.9	+0.3	
PZH	PanZhiHua	43.95	321	P	P	20 18 54.2	+1.9	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,100nm,4.8s							
MJAR	Matsushiro Arr	44.32	9	P	P	20 18 54.1	-0.7	
	comp=Z,7.6nm,0.7s,baz=187,slow=9.4,SNR=22							
	comp=Z,7.6nm,0.7s							
MAJO	Matsushiro	44.32	9	P	P	20 18 54.1	-0.7	
MAJO				IAmb	IAmb	20 18 55.2		
	comp=Z,13nm,0.8s							
MJB9	Matsu-Tunnel	44.32	9	P	P	20 18 55.2	+0.3	
MJB9				IAmb	IAmb	20 18 56.2		
	comp=Z,13nm,0.8s							
KSRS	Korea Array	44.75	357	P	P	20 18 59.0	+0.8	
	comp=Z,1.8nm,0.6s,baz=168,slow=8.8,SNR=9.0							
KSRS				LR	LR	20 36 22.0		
	comp=Z,32nm,22.0s,baz=190,slow=34							
	comp=Z,1.8nm,0.6s							
XAN	Xi'an	46.17	335	P	P	20 19 09.6	0.0	
XAN				pP	pP	20 19 21.0	-1.3	
XAN				pmax	pmax			
	comp=Z,10.0nm,1.2s							
HNS	HongShan	47.08	342	⇑P	P	20 19 21.6	+5.0	
RPZ	Rata Peaks	50.42	143	LR	LR	20 42 21.6		
	comp=Z,90nm,18.5s,baz=128,slow=38							
TUWZ	Tuamarina	51.05	139	P	P	20 19 49.5	+2.5	
HHC	Hu-ho-hao-te	51.21	341	*e*P	P	20 19 50.1	+1.8	
HHC				pP	pP	20 19 59.6	-1.5	
HHC				pmax	pmax			
	comp=Z,9.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,61nm,3.8s							
USA0B	Ussuriysk Arra	51.42	1	P	P	20 19 50.2	+0.5	
USA0B				IAmb	IAmb	20 19 51.3		
	comp=Z,5.7nm,0.8s							
USRK	Ussuriysk Ar.	51.42	1	P	P	20 19 50.2	+0.5	
USRK	Ussuriysk Ar.	51.42	1	P	P	20 19 50.4	+0.7	
	comp=Z,5.1nm,0.6s,baz=186,slow=7.3,SNR=20							
	comp=Z,5.1nm,0.6s						

MAW LR LR 20 53 23.0
comp=Z,71nm,18.2s,baz=86,slow=34
comp=Z,2.4nm,0.6s
BVAR Borovoye Array 78.85 328 P P 20 22 47.3 -0.1
comp=Z,1.6nm,0.6s,baz=125,slow=11,SNR=9.8
comp=Z,1.6nm,0.6s
TIXI Tiksi 78.95 359 P P 20 22 47.5 0.0
TIXI IAmb IAmb 20 22 49.0
comp=Z,3.7nm,0.6s
NRIK Noril'sk 82.18 346 IAmb IAmb 20 23 15.2
comp=Z,12nm,1.1s
NRIK Noril'sk 82.18 346 P P 20 23 05.2 +0.3
comp=Z,6.2nm,0.7s,baz=126,slow=5.9,SNR=7.1
comp=Z,6.2nm,0.7s
QSPA South Pole Qui 82.53 180 P P 20 23 08.8 +1.8
comp=Z,2.2nm,0.8s,baz=325,slow=4.5,SNR=4.9
comp=Z,2.2nm,0.8s
ABKAR Akbulak array 83.33 321 P P 20 23 11.0 -0.4
ABKAR Akbulak array 83.33 321 IAmb IAmb 20 23 13.9
comp=Z,2.4nm,0.8s
ARU Arti 86.49 328 P P 20 23 26.3 -0.6
ARU IAmb IAmb 20 23 28.1
comp=Z,5.3nm,0.8s
ARU Arti 86.49 328 P P 20 23 26.4 -0.6
comp=Z,5.3nm,0.8s,baz=137,slow=4.5,SNR=11
comp=Z,5.3nm,0.8s
ELIB Princess Elisa 88.29 197 *d*P **P 20 23 38.5 +2.8**
RAYN Ar Rayn 88.62 294 P **P 20 23 38.1 +0.1**
G23K Bananza Creek 92.55 23 P **P 20 23 56.7 +1.3**
G23K IAmb IAmb 20 23 57.5
comp=Z,2.4nm,0.9s
ILAR Eielson Array 93.43 25 P P 20 23 58.8 -0.7
comp=Z,0.5nm,0.7s,baz=281,slow=4.6,SNR=5.8
comp=Z,0.5nm,0.7s
F24K Squaw Lake 93.53 22 IAmb IAmb 20 24 10.4
comp=Z,2.0nm,0.9s
BMAR Burnt Mountain 94.78 23 P P 20 24 07.0 +1.4
SNAA Sanae 95.40 193 P P 20 24 09.6 +1.0
comp=Z,1.0nm,0.7s,baz=108,slow=2.5,SNR=3.9
comp=Z,1.0nm,0.7s
I28M Miner Creek 96.43 25 P P 20 24 14.9 +1.5
I28M IAmb IAmb 20 24 16.0
comp=Z,2.3nm,0.8s
FINES FINESS Array B 103.52 331 PKiKP **PKiKP 20 29 04.4 +1.1**
comp=Z,1.6nm,0.9s,baz=132,slow=2.1,SNR=4.2
GERES GERESS Array B 113.25 320 PKiKP **PKiKP 20 29 22.9 +0.8**
comp=Z,0.3nm,0.5s,baz=10,slow=7.0,SNR=2.4
PDAR Pinedale Array 116.67 46 PKP **PKiKP 20 29 30.5 +1.5**
comp=Z,0.1nm,0.5s,baz=68,slow=2.4,SNR=2.2
EKA Eskdalemuir Ar 119.92 332 PKP **PKiKP 20 29 35.3 +0.7**
comp=Z,0.2nm,0.4s,baz=64,slow=1.9,SNR=1.6
TXAR Lajitas Array 124.51 60 PKP **PKiKP 20 29 46.8 +2.2**
comp=Z,0.5nm,0.7s,baz=159,slow=0.9,SNR=5.5
ESDC Sonseca Array 128.35 316 PKP **PKiKP 20 29 52.5 +0.6**
comp=Z,1.6nm,1.1s,baz=8,1,slow=2.7,SNR=4.1
TORD Torodi Ar. Bea 129.64 281 PKP **PKiKP 20 29 55.6 +0.6**
comp=Z,1.5nm,0.7s,baz=40,slow=3.0,SNR=9.1
CPUP Villa Florida 145.51 167 PKPbc **PKiKP 20 30 25.1 -2.1**
comp=Z,9.3nm,0.9s,baz=213,slow=3.0,SNR=17
LPAZ La Paz 149.90 142 PKPbc **PKPab 20 30 39.5 -2.3**
comp=Z,10.0nm,1.0s,baz=165,slow=1.9,SNR=16

IDC ***12*** *20:18:32.1±37.0, 24°.01N×122°.73E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=686.4km s-min=158.2km az=130.0*
JMA ***12*** *20:18:43.8±0.1, 24°.2N±0°.6×122°.2E±0°.3, h56km±2km, MV4.0/18, TAIWAN REGION*
TAP ***12*** *20:18:43.9, 24°.30N×122°.16E, h58km, ML4.1, B*
ASIES ***12*** *20:18:43.9, 24°.30N×122°.16E, h58km, ML4.1, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.72; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$-0.58; $M_{r\theta}$0.47; $M_{\theta\phi}$-2.10; $M_{\phi r}$-0.61; Fault plane solution: $M_0$2.32722×10^{21} NP1: ϕ_s180.73000°, δ72.57000°, λ22.37000°. NP2:ϕ_b83.71000°, δ68.70000°, λ161.25000°. Principal axes: T Plg27.9450°, Azm42.9950°; N Plg61.9150°, Azm216.7700°; P Plg2.5840°, Azm311.6230°;*
ISC 12 20:18:43.8±0.9, 24°.29N±0°.02×122°.21E±0°.02, h54km±5km, n196, σ1§23/313, mb3.5/5, 42C-17D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
EOS3	**EOS3**	**0.10**	**90**	⇓*i*P		**Pn**	**20 18 52.9**	**+1.0**
EOS3	baz=98			*e*S		**Sn**	**20 18 59.9**	**+2.1**
EOS2	**EOS2**	**0.14**	**10**	⇓P		**Pn**	**20 18 52.9**	**+0.8**
EOS2	baz=339			*e*S		**Sn**	**20 18 59.9**	**+1.9**
EOS4	**EOS4**	**0.19**	**148**	⇓*i*P		**Pn**	**20 18 52.6**	**+0.5**
EWUT	**Wuta**	**0.42**	**292**	P		**Pn**	**20 18 54.8**	**+0.3**
EWUT	baz=297			S		**Sn**	**20 19 02.5**	**+0.3**
EHP	**Heping Village**	**0.43**	**273**	*e*P		**Pn**	**20 18 54.6**	**0.0**
EHP	baz=265			*e*S		**Sn**	**20 19 03.3**	**+1.0**
EAHA	**Aohua**	**0.43**	**276**	⇑P		**Pn**	**20 18 54.8**	**+0.2**
EAHA	baz=268			*e*S		**Sn**	**20 19 03.2**	**+0.9**
ESAO	**Su ao**	**0.44**	**311**	*e*P		**Pn**	**20 18 54.9**	**+0.2**
ESAO	baz=314			S		**Sn**	**20 19 01.9**	**-0.6**
ENA	**Nanau**	**0.45**	**289**	⇓*i*P		**Pn**	**20 18 55.0**	**+0.3**
ENA	baz=293			*i*S		**Sn**	**20 19 03.0**	**+0.3**
TWC	**Suao**	**0.46**	**315**	P		**Pn**	**20 18 55.0**	**+0.1**
TWC	baz=319			S		**Sn**	**20 19 02.4**	**-0.5**
ETL	**Fush Village**	**0.55**	**257**	⇑*i*P		**Pn**	**20 18 55.8**	**-0.1**
ETL	baz=247			S		**Sn**	**20 19 04.7**	**0.0**
NDS	**Dongshan**	**0.57**	**308**	⇓*i*P		**Pn**	**20 18 56.6**	**+0.5**
NACB	**Ninganchiao**	**0.57**	**259**	P		**Pn**	**20 18 55.6**	**-0.6**
NACB	**Ninganchiao**	**0.57**	**259**	⇑*i*P		**Pn**	**20 18 55.9**	**-0.2**
NACB	baz=251			*i*S		**Sn**	**20 19 04.6**	**-0.5**
TWD	**Chiawan**	**0.59**	**250**	⇑*i*P		**Pn**	**20 18 56.2**	**-0.2**
TWD	baz=240			*i*S		**Sn**	**20 19 05.5**	**-0.1**
EGS		**0.61**	**336**	*e*P		**Pn**	**20 18 57.0**	**+0.3**
HWA	**Hwalien**	**0.63**	**241**	⇑*i*P		**Pn**	**20 18 57.1**	**+0.2**
HWA	baz=231			S		**Sn**	**20 19 07.5**	**+1.2**
ILA	**Ilan**	**0.64**	**319**	*e*P		**Pn**	**20 18 58.0**	**+1.0**
TWE	**Neicheng**	**0.66**	**311**	⇓*i*P		**Pn**	**20 18 57.9**	**+0.7**
TWE	baz=311			S		**Sn**	**20 19 07.3**	**+0.4**
LATG	**Datong**	**0.67**	**292**	⇑P		**Pn**	**20 18 57.6**	**+0.1**
ENTT	**Nioudou**	**0.68**	**301**	⇓*i*P		**Pn**	**20 18 58.1**	**+0.6**
ENTT	baz=296			*e*S		**Sn**	**20 19 08.2**	**+0.6**
JYNG	**Yonagunijimaku**	**0.69**	**76**	*i*P		**Pn**	**20 18 58.2**	**+0.5**
JYNG				S		**Sn**	**20 19 08.5**	**+0.8**
JYNG	**Yonagunijimaku**	**0.69**	**76**	A		A	20 18 58.2	
	comp=E,6.0nm,0.6s,comp=N,5.0nm,0.8s							
TEYL	**Yanliau Villag**	**0.69**	**233**	⇑*i*P		**Pn**	**20 18 57.5**	**-0.2**
TEYL	baz=228			*e*S		**Sn**	**20 19 07.6**	**-0.2**
NDT	**Datong Townshi**	**0.71**	**297**	⇓*i*P		**Pn**	**20 18 58.4**	**+0.5**
NDT	baz=297			S		**Sn**	**20 19 08.6**	**+0.5**
ETM	**Tongmen**	**0.73**	**244**	⇑*i*P		**Pn**	**20 18 57.9**	**-0.2**
ETM	baz=234			S		**Sn**	**20 19 08.0**	**-0.5**
FUSB	**Fushanzhiwuyua**	**0.74**	**310**	P		**Pn**	**20 18 58.9**	**+0.6**
FUSB	baz=304			S		**Sn**	**20 19 09.4**	**+0.6**
TWB1	**Santiao Chiao**	**0.75**	**345**	*e*P		**Pn**	**20 18 58.2**	**-0.1**
TWB1	baz=348			*i*S		**Sn**	**20 19 07.8**	**-1.1**
YOJ	**Yonaguni jima**	**0.75**	**76**	P		**Pn**	**20 18 58.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.75**	**76**	⇑*i*P		**Pn**	**20 18 58.9**	**+0.5**
YOJ	baz=77			*e*S		**Sn**	**20 19 09.8**	**+0.7**
YOJ	**Yonaguni jima**	**0.75**	**76**	P		**Pn**	**20 18 59.1**	**+0.6**
YOJ				S		**Sn**	**20 19 09.6**	**+0.6**
NNSB	**Datong**	**0.77**	**281**	P		**Pn**	**20 18 58.8**	**+0.1**
NNSB	baz=280			S		**Sn**	**20 19 09.0**	**-0.5**
NNSH	**Datong**	**0.77**	**281**	*e*P		**Pn**	**20 18 58.6**	**-0.1**
TIPB	**Shuangxi**	**0.77**	**333**	P		**Pn**	**20 18 58.9**	**+0.2**
TIPB	baz=341			S		**Sn**	**20 19 09.2**	**-0.3**
SHUL	**Shoufeng**	**0.77**	**230**	⇑P		**Pn**	**20 18 58.7**	**+0.1**
SHUL	baz=227			*e*S		**Sn**	**20 19 09.7**	**+0.3**
LXIB	**Xiulin Townshi**	**0.77**	**250**	⇑*i*P		**Pn**	**20 18 58.5**	**-0.4**
LXIB	baz=248			*i*S		**Sn**	**20 19 09.2**	**-0.5**
NNS	**Nan Shan**	**0.78**	**282**	P		**Pn**	**20 18 58.9**	**+0.1**
NNS	baz=281			*e*S		**Sn**	**20 19 09.5**	**-0.3**
NWLT	**Wulai**	**0.81**	**307**	⇓*i*P		**Pn**	**20 18 59.9**	**+0.7**
NWLT	baz=300			S		**Sn**	**20 19 10.5**	**+0.1**
ESL	**Shilin**	**0.85**	**237**	⇑*i*P		**Pn**	**20 18 59.2**	**-0.5**
ESL	baz=234			*e*S		**Sn**	**20 19 11.1**	**-0.3**
YHNB	**Yeheng**	**0.85**	**297**	P		**Pn**	**20 19 00.1**	**+0.4**
YHNB	**Yeheng**	**0.85**	**297**	⇓*i*P		**Pn**	**20 19 00.2**	**+0.4**
YHNB	baz=297			*i*S		**Sn**	**20 19 11.3**	**-0.1**
NSK	**Sanguang**	**0.87**	**297**	⇓*i*P		**Pn**	**20 19 00.3**	**+0.4**
NSK	baz=297			S		**Sn**	**20 19 11.3**	**-0.5**
WHF	**Hehuan Shan**	**0.87**	**261**	*e*P		**Pn**	**20 19 00.5**	**+0.1**
WHF	baz=250			*e*S		**Sn**	**20 19 11.8**	**-0.6**
NWF	**Wu-fen Shan**	**0.87**	**334**	*e*P		**Pn**	**20 19 00.2**	**+0.1**
NWF	baz=346			*e*S		**Sn**	**20 19 10.7**	**-1.3**
WFSB	**Wu-fen Shan**	**0.87**	**334**	*e*P		**Pn**	**20 19 00.1**	**+0.1**
WFSB	baz=345			S		**Sn**	**20 19 11.3**	**-0.5**
FUSS	**Fushou**	**0.88**	**268**	⇑P		**Pn**	**20 19 00.7**	**+0.4**
FUSS	baz=266			S		**Sn**	**20 19 12.7**	**+0.3**
TWA	**Mucha**	**0.90**	**321**	⇓*i*P		**Pn**	**20 19 00.9**	**+0.6**
TWA	baz=331			*e*S		**Sn**	**20 19 12.6**	**+0.2**
NHDH	**Xindian Distri**	**0.92**	**318**	*e*P		**Pn**	**20 19 01.3**	**+0.7**
NHDH	baz=326			*e*S		**Sn**	**20 19 13.3**	**+0.5**
WARBT	**Fenglin Townsh**	**0.94**	**233**	⇑*i*P		**Pn**	**20 19 00.3**	**-0.5**
WARBT	baz=231			S		**Sn**	**20 19 12.3**	**-1.1**
TWT	**Tachien**	**0.94**	**268**	⇑P		**Pn**	**20 19 01.9**	**+0.8**
TWT	baz=267			S		**Sn**	**20 19 14.3**	**+0.6**
TNOU	**National Taiwa**	**0.95**	**335**	P		**Pn**	**20 19 00.8**	**-0.2**
TNOU	baz=346			S		**Sn**	**20 19 12.6**	**-0.9**
NHY	**Taipei**	**0.95**	**322**	*e*P		**Pn**	**20 19 01.6**	**+0.6**
TATO	**Taipei**	**0.95**	**317**	P		**Pn**	**20 19 01.6**	**+0.6**
TATO	**Taipei**	**0.95**	**317**	⇓P		**Pn**	**20 19 01.6**	**+0.6**
TATO	baz=317			*e*S		**Sn**	**20 19 14.1**	**+0.4**
TDCB	**Techi**	**0.96**	**268**	⇑*i*P		**Pn**	**20 19 01.9**	**+0.6**
TDCB	baz=267			S		**Sn**	**20 19 13.9**	**-0.2**
CHGB	**Renai**	**0.97**	**257**	⇑*i*P		**Pn**	**20 19 01.8**	**+0.3**
CHGB	baz=248			*i*S		**Sn**	**20 19 14.0**	**-0.5**
TAP	**Taipei**	**0.98**	**320**	P		**Pn**	**20 19 01.7**	**+0.3**
TAP	baz=334			S		**Sn**	**20 19 14.7**	**+0.2**
BACT	**New Taipei Cit**	**0.99**	**316**	*e*P		**Pn**	**20 19 02.3**	**+0.7**
OWD	**Renai**	**1.00**	**251**	⇑*i*P		**Pn**	**20 19 01.9**	**+0.1**
YM01	**YM01**	**1.03**	**326**	P		**Pn**	**20 19 02.3**	**+0.1**
YM01	baz=338			S		**Sn**	**20 19 15.1**	**-0.7**
WUSB	**Renai**	**1.04**	**254**	⇑*i*P		**Pn**	**20 19 02.6**	**+0.4**
WUSB	baz=247			*e*S		**Sn**	**20 19 15.4**	**-0.5**
NWRT	**Kuosheng**	**1.04**	**332**	*e*P		**Pn**	**20 19 03.3**	**+1.1**
NFF	**Wufeng Townshi**	**1.05**	**289**	*e*P		**Pn**	**20 19 03.2**	**+0.8**
NFF	baz=289			*e*S		**Sn**	**20 19 16.5**	**+0.4**
YM08	**YM08**	**1.06**	**328**	⇓*i*P		**Pn**	**20 19 02.0**	**-0.5**
YM08	baz=339			*e*S		**Sn**	**20 19 15.2**	**-1.1**
HGSD	**Ruisui**	**1.07**	**222**	⇑*i*P		**Pn**	**20 19 02.3**	**-0.3**
HGSD	baz=217			*e*S		**Sn**	**20 19 15.0**	**-1.5**
TWS1	**Kuangyinshan**	**1.08**	**319**	⇓P		**Pn**	**20 19 03.4**	**+0.6**
TWS1	baz=329			*e*S		**Sn**	**20 19 17.5**	**+0.7**
NTY	**Taoyuan**	**1.09**	**311**	P		**Pn**	**20 19 03.7**	**+0.8**
NTY	baz=319			S		**Sn**	**20 19 17.9**	**+0.8**
ANP	**Anpu**	**1.09**	**325**	*e*P		**Pn**	**20 19 02.8**	**-0.2**
VWDT	**VWDT**	**1.11**	**242**	⇑*i*P		**Pn**	**20 19 03.5**	**+0.4**
VWDT	baz=232			S		**Sn**	**20 19 17.1**	**-0.3**
NJD	**Zhudong**	**1.11**	**294**	P		**Pn**	**20 19 04.1**	**+0.9**
NJD	baz=294			S		**Sn**	**20 19 19.2**	**+1.6**
NTST	**Danshui**	**1.11**	**322**	P		**Pn**	**20 19 03.6**	**+0.5**
NTST	baz=334			*e*S		**Sn**	**20 19 18.2**	**+0.7**
EHYH	**Wanrong**	**1.11**	**225**	*e*P		**Pn**	**20 19 02.7**	**-0.5**
EHY	**Hungye**	**1.12**	**226**	⇑*i*P		**Pn**	**20 19 02.6**	**-0.7**
TWY	**Chenhua**	**1.13**	**331**	*e*P		**Pn**	**20 19 03.7**	**+0.3**
TWY	baz=343			*e*S		**Sn**	**20 19 18.0**	**0.0**
LIOB	**Emei**	**1.14**	**289**	⇓P		**Pn**	**20 19 04.7**	**+1.1**
LIOB	baz=288			S		**Sn**	**20 19 20.0**	**+1.7**
WHP	**Taichung City**	**1.15**	**270**	*e*P		**Pn**	**20 19 05.0**	**+1.3**
NCU	**National Centr**	**1.15**	**306**	*e*P		**Pn**	**20 19 02.5**	**-1.2**
NCU	baz=307			*e*S		**Sn**	**20 19 17.2**	**-1.2**
NCUH	**Zhongli**	**1.15**	**306**	*e*P		**Pn**	**20 19 04.3**	**+0.6**
NCUH	baz=306			*e*S		**Sn**	**20 19 19.3**	**+0.8**
NSTT	**Nanjuang**	**1.15**	**288**	P		**Pn**	**20 19 04.7**	**+1.0**
NSTT	baz=287			S		**Sn**	**20 19 19.6**	**+1.1**
WPL	**Puli Township**	**1.17**	**257**	*e*P		**Pn**	**20 19 04.5**	**+0.6**
ECBN	**Changbin**	**1.19**	**216**	⇑*i*P		**Pn**	**20 19 04.0**	**-0.2**
ECBN	baz=207			S		**Sn**	**20 19 18.3**	**-1.0**
HSN1	**Hsinchu**	**1.19**	**295**	P		**Pn**	**20 19 05.3**	**+1.1**
HSN1	baz=306			S		**Sn**	**20 19 20.6**	**+1.3**
DPDB	**Guoxing**	**1.20**	**258**	⇑P		**Pn**	**20 19 05.1**	**+0.8**
WCS	**Beigang Elemen**	**1.21**	**259**	*e*P		**Pn**	**20 19 05.1**	**+0.7**
YULB	**Yu-li**	**1.22**	**223**	P		**Pn**	**20 19 03.8**	**-0.8**
YULB	**Yu-li**	**1.22**	**223**	⇑*i*P		**Pn**	**20 19 04.0**	**-0.7**
YULB	baz=230			*e*S		**Sn**	**20 19 18.6**	**-1.5**
SBCB	**Hsinchu**	**1.22**	**295**	*e*P		**Pn**	**20 19 05.5**	**+0.8**
SBCB	baz=306			*e*S		**Sn**	**20 19 22.1**	**+1.9**
EYUL	**Yuli**	**1.24**	**221**	*e*P		**Pn**	**20 19 04.7**	**-0.2**
EYUL	baz=229			*e*S		**Sn**	**20 19 21.2**	**+0.7**
HSN	**Hsinchu**	**1.24**	**295**	*e*P		**Pn**	**20 19 04.8**	**0.0**
SSLB	**Suanglung**	**1.25**	**247**	P		**Pn**	**20 19 05.2**	**+0.2**
SSLB	**Suanglung**	**1.25**	**247**	⇑*i*P		**Pn**	**20 19 05.4**	**+0.3**
TWF1	**Yuli**	**1.25**	**222**	⇑*i*P		**Pn**	**20 19 04.5**	**-0.5**
TWF1	baz=230			*e*S		**Sn**	**20 19 19.5**	**-1.3**
SMLT	**Sun Moon Lake**	**1.26**	**252**	⇑*i*P		**Pn**	**20 19 05.9**	**+0.6**
SMLT	baz=244			*e*S		**Sn**	**20 19 22.6**	**+1.3**
NHW	**Xinwu Township**	**1.28**	**304**	*e*P		**Pn**	**20 19 05.7**	**+0.3**
NHW	baz=304			*e*S		**Sn**	**20 19 22.3**	**+0.8**
NJN	**Zhunan**	**1.28**	**288**	*e*P		**Pn**	**20 19 06.0**	**+0.6**
NJN	baz=287			*e*S		**Sn**	**20 19 22.7**	**+1.1**
TYC	**Yuchr**	**1.29**	**253**	⇑*i*P		**Pn**	**20 19 06.2**	**+0.7**
TYC	baz=246			*e*S		**Sn**	**20 19 22.9**	**+1.1**
TWQ1	**Liyutan**	**1.31**	**273**	*e*P		**Pn**	**20 19 06.5**	**+0.7**
TWQ1	baz=272			*e*S		**Sn**	**20 19 23.6**	**+1.3**
NMLH	**Miaoli**	**1.31**	**281**	*e*P		**Pn**	**20 19 07.1**	**+1.2**
NMLH	baz=280			*e*S		**Sn**	**20 19 23.9**	**+1.5**
CHKH	**Chenggong**	**1.32**	**214**	*e*P		**Pn**	**20 19 05.2**	**-0.7**
CHKH	baz=204			*e*S		**Sn**	**20 19 20.7**	**-1.8**
NSY	**Sanyi**	**1.32**	**276**	*e*P		**Pn**	**20 19 07.3**	**+1.3**
NSY	baz=275			*e*S		**Sn**	**20 19 23.8**	**+1.1**
PCYT	**Pengchaiyu**	**1.34**	**355**	*e*P		**Pn**	**20 19 06.1**	**-0.2**
FULB	**Fuli**	**1.37**	**218**	*e*P		**Pn**	**20 19 06.1**	**-0.5**
FULB	baz=208			*e*S		**Sn**	**20 19 22.6**	**-1.1**
WHYT	**Xinyi Township**	**1.37**	**245**	⇑P		**Pn**	**20 19 07.8**	**+1.1**
IRIF	**Iriomote-Funau**	**1.39**	**88**	*e*P		**Pn**	**20 19 07.2**	**+0.3**
IRIF				S		**Sn**	**20 19 24.6**	**+0.4**
YUS	**Yu-Shan**	**1.40**	**236**	⇑P		**Pn**	**20 19 07.7**	**+0.2**
WWF	**Wufeng**	**1.40**	**260**	*e*P		**Pn**	**20 19 08.8**	**+1.8**
WWF	baz=249			*e*S		**Sn**	**20 19 26.9**	**+2.5**
TCU	**Taichung**	**1.41**	**265**	*e*P		**Pn**	**20 19 08.7**	**+1.6**
TCU	baz=275			*e*S		**Sn**	**20 19 26.9**	**+2.4**
CHKT	**Chengkung**	**1.41**	**213**	⇑P		**Pn**	**20 19 06.3**	**-0.9**
CHKT	baz=204			*e*S		**Sn**	**20 19 22.2**	**-2.5**
WJS	**Zhushan**	**1.43**	**251**	*e*P		**Pn**	**20 19 09.2**	**+1.8**
WJS	baz=242			*e*S		**Sn**	**20 19 28.4**	**+3.2**
WDJ	**Dajia District**	**1.43**	**273**	*e*P		**Pn**	**20 19 08.8**	**+1.3**
WNT1	**Nantou City**	**1.45**	**255**	*e*P		**Pn**	**20 19 09.7**	**+2.0**
WNT1	baz=254			S		**Sn**	**20 19 28.2**	**+2.6**
WNT	**Mingjian**	**1.45**	**254**	⇑*i*P		**Pn**	**20 19 09.6**	**+1.9**
WNT	baz=252			*e*S		**Sn**	**20 19 28.0**	**+2.3**
EHD	**Haiduan**	**1.46**	**219**	P		**Pn**	**20 19 07.0**	**-0.9**
HATJ	**Hateruma jima**	**1.48**	**99**	P		**Pn**	**20 19 09.3**	**+1.2**
HATJ				S		**Sn**	**20 19 27.7**	**+1.4**
ECS	**Chishang**	**1.49**	**218**	*e*P		**Pn**	**20 19 08.0**	**-0.3**
WYL	**Yuanlin Townsh**	**1.52**	**258**	*e*P		**Pn**	**20 19 10.1**	**+1.4**
WYL	baz=257			S		**Sn**	**20 19 30.1**	**+2.7**
ELDTW	**Lidau**	**1.54**	**225**	⇑*i*P		**Pn**	**20 19 08.6**	**-0.6**
ELDTW	baz=220			*e*S		**Sn**	**20 19 27.9**	**-0.2**
EDH	**Donghe**	**1.55**	**213**	⇑P		**Pn**	**20 19 08.2**	**-0.8**
EDH	baz=205			*e*S		**Sn**	**20 19 26.4**	**-1.7**
CHN5	**Tsauling**	**1.56**	**244**	⇑*i*P		**Pn**	**20 19 10.5**	**+1.2**
CHN5	baz=235			*i*S		**Sn**	**20 19 30.3**	**+1.8**
WGK	**Gukeng**	**1.62**	**249**	P		**Pn**	**20 19 11.6**	**+1.6**
WGK	baz=247			*e*S		**Sn**	**20 19 31.9**	**+2.1**
WDLH	**Douliu**	**1.64**	**249**	⇑P		**Pn**	**20 19 12.2**	**+1.9**
WDLH	baz=248			*e*S		**Sn**	**20 19 33.8**	**+3.6**
JKRS	**Kuro-shima**	**1.65**	**91**	P		**Pn**	**20 19 11.4**	**+1.0**
JKRS				S		**Sn**	**20 19 31.5**	**+1.1**
WCKO	**Fanlu**	**1.69**	**240**	*e*P		**Pn**	**20 19 12.4**	**+1.4**
WCKO	baz=239			*e*S		**Sn**	**20 19 34.6**	**+3.0**
WRL	**Guolierlin Hig**	**1.72**	**257**	*e*P		**Pn**	**20 19 12.8**	**+1.4**
WRL	baz=256			*e*S		**Sn**	**20 19 34.0**	**+1.9**
STYH	**Taoyuan**	**1.72**	**230**	⇑P		**Pn**	**20 19 12.3**	**+0.9**
STYT	**Tauyuan**	**1.74**	**230**	⇑P		**Pn**	**20 19 12.5**	**+0.9**
LDUT	**Ludao**	**1.74**	**203**	*e*P		**Pn**	**20 19 10.5**	**-1.2**
TPUB	**Ta-pu**	**1.75**	**236**	P		**Pn**	**20 19 12.6**	**+0.8**
TPUB	**Ta-pu**	**1.75**	**236**	*e*P		**Pn**	**20 19 12.9**	**+1.2**

baz=227
TPUB eS Sn 20 19 34.8 +1.9
baz=227
CHN4 Tsaushan 1.75 238 P Pn 20 19 13.0 +1.2
baz=229
CHN4 eS Sn 20 19 36.2 +3.3
baz=229
CHN2 Minshiung 1.75 245 eP Pn 20 19 13.8 +2.0
baz=236
CHN2 eS Sn 20 19 36.1 +3.1
baz=236
WTK Tuku 1.77 251 eP Pn 20 19 13.6 +1.5
baz=249
WTK eS Sn 20 19 35.8 +2.5
baz=249
JIJ Ishigaki jima 1.77 87 iP Pn 20 19 12.3 +0.3
JIJ S Sn 20 19 33.1 -0.3
WTP Ta-pu 1.79 235⇑iP Pn 20 19 13.6 +1.2
baz=225
WTP eS Sn 20 19 35.2 +1.2
baz=225
TWGBT Beinan 1.79 216 P Pn 20 19 11.6 -0.8
TWGBT Beinan 1.79 216 eP Pn 20 19 11.9 -0.5
baz=215
TWGBT eS Sn 20 19 33.4 -0.6
baz=215
TWG Pinlang 1.79 216 eP Pn 20 19 11.7 -0.7
baz=215
TWG eS Sn 20 19 33.0 -1.1
baz=215
WTCT Ta-ch'eng 1.81 257 eP Pn 20 19 13.9 +1.3
baz=255
WTCT eS Sn 20 19 35.9 +1.4
baz=255
TWK Hsinying 1.87 238 ⇑P Pn 20 19 14.8 +1.2
baz=236
TWK S Sn 20 19 37.8 +1.7
baz=236
CHN1 Nanshi 1.89 235 eP Pn 20 19 15.0 +1.2
baz=234
CHN1 eS Sn 20 19 38.6 +2.2
baz=234
SNST Tainan City 1.89 236 eP Pn 20 19 14.8 +1.1
baz=235
SNST eS Sn 20 19 39.2 +2.7
baz=235
SGST Jiashian 1.91 232⇑iP Pn 20 19 14.6 +0.6
baz=230
SGST eS Sn 20 19 38.8 +1.8
baz=230
SLGT Liugui 1.92 228 eP Pn 20 19 15.7 +1.5
baz=227
WSF Szhu 1.93 251 eP Pn 20 19 15.3 +1.1
baz=260
WSF eS Sn 20 19 39.1 +1.8
baz=260
JISG Ishigakijimahi 1.94 81 P Pn 20 19 13.9 -0.4
JISG S Sn 20 19 38.2 +0.5
WSL Shuilin Townsh 1.96 248 eP Pn 20 19 16.3 +1.6
baz=246
WSL eS Sn 20 19 40.9 +2.7
baz=246
ICHU Yijhu 1.99 243 eP Pn 20 19 16.6 +1.5
baz=231
ICHU eS Sn 20 19 41.4 +2.5
baz=231
ECL Taimali 2.04 215 eP Pn 20 19 14.6 -1.1
baz=214
CHN8 Yiju 2.05 243 P Pn 20 19 17.1 +1.2
baz=233
CHN8 S Sn 20 19 42.6 +2.2
baz=233
CHN3 Shinhua 2.07 235 eP Pn 20 19 18.2 +1.9
baz=245
SSHA Shanhua 2.10 237 eP Pn 20 19 18.4 +1.9
baz=236
SSHA eS Sn 20 19 45.0 +3.5
baz=236
SCST Cishan 2.10 229 eP Pn 20 19 19.1 +2.5
baz=238
SSD Sandimen 2.11 224 eP Pn 20 19 17.6 +0.9
baz=223
SHHT Tainan City 2.12 234 eP Pn 20 19 19.1 +2.2
baz=244
SCLT Jiali 2.15 239 P Pn 20 19 18.4 +1.1
baz=238
SCLT eS Sn 20 19 45.4 +2.6
baz=238
TWM1 Shoushan 2.19 229 eP Pn 20 19 20.4 +2.5
baz=227
MASBT Mashibuluo 2.21 221 eP Pn 20 19 18.5 +0.5
baz=221
MASBT S Sn 20 19 46.6 +2.5
baz=221
SGLT Jiouru 2.21 226 eP Pn 20 19 20.8 +2.7
baz=217
TSPT Pingtung City 2.24 225 eP Pn 20 19 21.3 +2.8
baz=224
TSCK Chigu Township 2.25 240 eP Pn 20 19 21.0 +2.4
baz=239
TSCK eS Sn 20 19 47.7 +2.5
baz=239
EAST Anshuo 2.27 214 eP Pn 20 19 18.3 -0.6
baz=207
TAWH Dawu Township 2.29 212 eP Pn 20 19 19.0 -0.2
baz=212
JTJ Tarama 2.30 81 eP Pn 20 19 20.3 +1.0
JTJ eS Sn 20 19 46.4 0.0
LAY Lan-yu 2.32 195 eP Pn 20 19 18.4 -1.2
baz=188
LYUB Lan-yu 2.34 194 eP Pn 20 19 18.2 -1.7
baz=194
SCZT Fangliau 2.40 218 eP Pn 20 19 21.5 +0.8
baz=217
SLIU Shizi 2.43 212 eP Pn 20 19 21.0 -0.1
baz=207
PNG Penghu 2.53 254 eP Pn 20 19 21.9 -0.5
baz=253
PHUB P'eng-hu 2.53 253 eP Pn 20 19 22.1 -0.4
baz=251
PHUB eS Sn 20 19 49.6 -2.5
baz=251
WDGT Dungji 2.55 247 eP Pn 20 19 23.4 +0.7
baz=245
WDGT eS Sn 20 19 52.3 -0.2
baz=245
TWP Hsiaoliuchiu 2.57 222 eP Pn 20 19 26.2 +3.2
baz=221
VWUC VWUC 2.61 286⇓eP Pn 20 19 23.0 -0.5
baz=284
HEN Hengchun 2.64 211 eP Pn 20 19 24.6 +0.6
baz=204
TSEB Hengchuen, Pin 2.66 207 eP Pn 20 19 27.4 +3.2
baz=208
TWKBT Hengchun 2.66 209 eP Pn 20 19 24.2 -0.1
baz=204
TWK1 Hengchun 2.67 209 eP Pn 20 19 24.2 -0.1
baz=204
JIRB Irabujima 2.75 78 eP Pn 20 19 26.4 +0.9
JIRB eS Sn 20 19 57.9 +0.3
VCHM Qimei 2.76 248 eP Pn 20 19 25.9 +0.3
baz=246
VCHM eS Sn 20 19 57.1 -0.7
baz=246
MSUT Lienchiang 2.79 313 eP Pn 20 19 25.5 -0.5
baz=312
JIKM Ikemajima 2.84 76 eS Sn 20 20 00.8 +1.1
JMJ Miyako jima 2 2.86 79 eP Pn 20 19 29.1 +2.2
baz=79
JMJ2 Miyako jima3 2.88 80 eS Sn 20 20 01.6 +1.0
PTMZ Houxiangcun 2.91 286 eP Pn 20 19 27.0 -0.6
baz=284
JOGS Gusukube 2.95 80 S Sn 20 20 04.2 +1.7
LYJJ Jianjiangzhen 3.16 316 eP Pn 20 19 30.6 -0.5
baz=316
XPSS Dashiqiu 3.20 326 eP Pn 20 19 31.1 -0.5
baz=337
KNM Kinmen 3.44 273 eP Pn 20 19 36.4 +1.4
baz=270
KNMB Chin-men Tao 3.49 274 eP Pn 20 19 34.8 -0.8
baz=271
ZPLA Ao Xicun 4.09 266 eP Pn 20 19 43.4 -0.4
baz=256
DSXP Dongshan 4.41 263 eP Pn 20 19 47.1 -1.1
baz=261
SXFK Yanhouchang 4.63 298 eP Pn 20 19 50.4 -0.9
baz=294
JOW Kunigami 6.04 64 eP Pn 20 20 10.0 -0.6

baz=64
SONM Songino Array 26.65 336 P P 20 24 16.9 -0.6
comp=N,0.7nm,0.6s,baz=151,slow=9.3,SNR=4.7
comp=N,0.7nm,0.6s
MKAR Makanchi Array 38.92 315 P P 20 26 03.8 -0.5
comp=N,0.3nm,0.4s,baz=104,slow=7.5,SNR=5.2
comp=N,0.3nm,0.4s
ZALV Zalesovo Beam 40.67 327 P P 20 26 17.2 -1.5
comp=N,0.8nm,0.7s,baz=107,slow=7.7,SNR=2.6
comp=N,0.8nm,0.7s
KURBB Kurchatov Arra 42.63 320 P P 20 26 34.8 0.0
comp=N,0.2nm,0.7s,baz=107,slow=9.8,SNR=2.8
comp=N,0.2nm,0.7s
BVAR Borovoye Array 48.19 320 P P 20 27 18.1 -0.6
comp=N,0.4nm,0.5s,baz=108,slow=9.3,SNR=2.6
comp=N,0.4nm,0.5s

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*IDC **12** 20:34:55.1±0.5, 3°.03N×126°.79E, h0km, mb4.2/23, mbtmp4.2/23, MS3.7/18, Error ellipse: s-maj=26.8km s-min=10.2km az=77.0*
*NEIC **12** 20:34:56.4±2.0, 3°.07N±0°.06×127°.05E±0°.08, h10km±1km, mb4.6/55, Error ellipse: s-maj=15.8km s-min=5.9km az=237.0*
*DJA **12** 20:35:00.2±1.5, 3°N±5°×12°7E±°, h29km±17km, M4.5/10, mb4.7/10, mB4.8/3, MLv4.4/9, Mw(mB)4.1/3, MwMwp4.2/1, Mwp4.7/1*
ISC 12 20:34:56.8±0.4, **3°.19N**±0°.04×**127°.17E**±0°.07, **h10**km, **n240**, σ2s**21**/224, **mb4.6**/57, **MS3.6**/20, **2C**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	ISC	Res
TNTI	**Ternate**	**2.41**	**175**	Pn	Pn	**Pn**	**20 35 33.8**	ISC	**-2.6**
TNTI	**Ternate**	**2.41**	**175**	P	Pb	**Pb**	**20 35 40.7**	ISC	**+0.4**
KMSI	**Cibinong**	**4.11**	**231**	P	Pn	**Pn**	**20 36 01.7**	ISC	**+1.9**
DAV	**Davao City (W)**	**4.17**	**338**	Pn	Pn	**Pn**	**20 36 00.1**	ISC	**-0.5**
DAV	**Davao City (W)**	**4.17**	**338**	Pn	Pb	**Pb**	**20 36 08.1**	ISC	**-2.3**
	68nm,0.3s,baz=241,slow=0.8,SNR=3.7								
DAV				Sn	Sb	**Sb**	**20 37 04.3**	ISC	**+3.6**
	29nm,0.3s,baz=246,slow=21,SNR=3.7								
GTOI	**Gorontalo**	**4.87**	**239**	P	Pn	**Pn**	**20 36 14.3**	ISC	**+4.1**
MRSI	**Marisa**	**5.88**	**243**	P	Pn	**Pn**	**20 36 27.6**	ISC	**+3.5**
	98nm,0.9s,747nm0.3nm								
LUWI	**Luwuk**	**6.08**	**226**	Pn	Pn	**Pn**	**20 36 23.7**	ISC	**-3.2**
LUWI	**Luwuk**	**6.08**	**226**	P	Pn	**Pn**	**20 36 30.8**	ISC	**+3.9**
	133nm,0.9s,1μm0.5nm								
TOLI2	**Tolitoli**	**6.71**	**252**	Pn	Pn	**Pn**	**20 36 33.4**	ISC	**-2.1**
MPSI	**Mapaga**	**7.80**	**249**	P	Pn	**Pn**	**20 36 53.1**	ISC	**+2.6**
	35nm,0.9s,0.1nm								
MYLDM	**Lahad Datu**	**8.87**	**283**	Pn	Pn	**Pn**	**20 37 03.9**	ISC	**-1.3**
BBSI	**Bau Bau**	**9.77**	**208**	P	Pn	**Pn**	**20 37 21.4**	ISC	**+3.9**
	31nm,1.0s								
SBUM	**Sibu**	**14.95**	**268**	P	Pn	**Pn**	**20 38 31.0**	ISC	**+2.6**
PLAI	**Plampang**	**15.17**	**218**	P	P	**P**	**20 38 34.3**	ISC	**-2.2**
TWSI	**Taliwang, Sumb**	**15.67**	**221**	P	P	**P**	**20 38 41.5**	ISC	**-0.5**
	75nm,1.2s								
STKI	**Sintang**	**15.99**	**259**	P	P	**P**	**20 38 47.5**	ISC	**+1.9**
MTN	**Manton Dam**	**16.41**	**166**			**Pn**	**20 38 47.2**	ISC	**-0.2**
JAGI	**Jajag, Banyuwa**	**17.40**	**228**			**Pn**	**20 38 58.4**	ISC	**-1.5**
JAGI				IAmb		IAmb	20 39 04.3		
	comp=Z,56nm,1.1s								
GUMO	**Guam**	**20.31**	**58**	LR		LR	20 47 51.3		
	comp=Z,74nm,18.2s,baz=250,slow=38								
TPUB	**Ta-pu**	**20.97**	**343**	P	P	**P**	**20 39 40.4**	ISC	**0.0**
FITZ	**Fitzroy Crossi**	**21.21**	**184**	P	P	**P**	**20 39 41.9**	ISC	**-0.9**
SSLB	**Suanglung**	**21.34**	**344**	P	P	**P**	**20 39 43.8**	ISC	**-0.5**
QIZ	**Qiongzhong**	**23.13**	**314**	P	P	**P**	**20 40 03.9**	ISC	**+0.5**
QIZ				S	S	**S**	**20 44 14.0**	ISC	**-1.0**
QIZ				LR	LR				
	comp=N,240nm,13.0s								
QIZ				LR	LR				
	comp=E,140nm,10.9s								
QIZ				LR	LR				
	comp=Z,180nm,20.5s								
PMG	**Port Moresby**	**23.52**	**122**	LR	LR		20 49 27.6		
	comp=Z,221nm,20.1s,baz=268,slow=37								
WB0	**Warramunga Arr**	**23.89**	**163**	P	P	**P**	**20 40 09.3**	ISC	**-1.7**
WB0				IAmb	IAmb		20 40 10.7		
	comp=Z,17nm,0.7s								
WRAB	**Tennant Creek**	**24.04**	**163**	P	P	**P**	**20 40 10.6**	ISC	**-1.7**
WRAB				IAmb	IAmb		20 40 14.8		
	comp=Z,22nm,1.1s								
WRA	**Warramunga Arr**	**24.04**	**163**	P	P	**P**	**20 40 09.7**	ISC	**-2.7**
WRA	**Warramunga Arr**	**24.04**	**163**	P	P	**P**	**20 40 11.3**	ISC	**-1.0**
	comp=Z,10nm,0.8s,baz=339,slow=10,SNR=33								
WRA				S	S	**S**	**20 44 30.1**	ISC	**+0.3**
	comp=Z,1.1nm,0.9s,baz=350,slow=19,SNR=4.3								
WRA				LR	LR		20 50 56.3		
	comp=Z,153nm,21.2s,baz=262,slow=40								
	comp=Z,10nm,0.8s								
WB2	**Warramunga Arr**	**24.05**	**163**	P	P	**P**	**20 40 11.3**	ISC	**-1.1**
WB2				IAmb	IAmb		20 40 24.5		
	comp=Z,28nm,1.2s								
WR0	**Warramunga Arr**	**24.12**	**163**	P	P	**P**	**20 40 11.7**	ISC	**-1.3**
WR0				IAmb	IAmb		20 40 15.5		
	comp=Z,18nm,1.1s								
MBWA	**Marble Bar**	**25.27**	**196**	P	P	**P**	**20 40 20.9**	ISC	**-2.6**
MBWA				IAmb	IAmb		20 40 25.6		
	comp=Z,18nm,0.9s								
AS31	**Alice Springs**	**27.49**	**167**	P	P	**P**	**20 40 40.8**	ISC	**-2.8**
ASAR	**Alice Springs**	**27.49**	**167**	P	P	**P**	**20 40 42.9**	ISC	**-0.7**
	comp=Z,1.1nm,0.8s,baz=339,slow=6.8,SNR=10								
ASAR				PcP	PcP	**PcP**	**20 44 02.6**	ISC	**+0.5**
	comp=Z,0.7nm,0.7s,baz=312,slow=1.5,SNR=4.3								
	comp=Z,1.1nm,0.8s								
JCJ	**Chichijima**	**27.78**	**30**	LR	LR		20 49 59.2		
	comp=Z,83nm,21.9s,baz=234,slow=32								
NJ2	**Nanjing**	**29.76**	**346**	eP	P	**P**	**20 41 05.6**	ISC	**+2.0**
NJ2				pmax	pmax				
	comp=Z,5.0nm,0.5s								
JNU	**Nakatsue**	**29.98**	**6**	P	P	**P**	**20 41 04.7**	ISC	**-0.9**
JNU	**Nakatsue**	**29.98**	**6**	P	P	**P**	**20 41 06.9**	ISC	**+1.2**
	comp=Z,6.9nm,0.9s,baz=122,slow=2.9,SNR=6.3								
	comp=Z,6.9nm,0.9s								
CMAR	**Chiang Mai Arr**	**31.52**	**301**	P	P	**P**	**20 41 17.8**	ISC	**-1.6**
	comp=Z,1.1nm,0.8s,baz=102,slow=6.8,SNR=7.1								
CMAR				LR	LR		20 55 38.8		
	comp=Z,87nm,18.4s,baz=160,slow=40								
	comp=Z,1.1nm,0.8s								
PZH	**PanZhiHua**	**33.63**	**316**	P	P	**P**	**20 41 39.7**	ISC	**+1.7**
PZH				pmax	pmax				
	comp=Z,9.0nm,0.7s								
PZH				pmax	pmax				
	comp=Z,110nm,5.1s								
KSAR	**Wonju Array Be**	**34.09**	**1**	P	P	**P**	**20 41 42.1**	ISC	**+0.4**
KSRS	**Korea Array**	**34.11**	**1**	P	P	**P**	**20 41 43.4**	ISC	**+1.6**
	comp=Z,2.1nm,0.8s,baz=178,slow=9.3,SNR=8.2								
	comp=Z,2.1nm,0.8s								
MJAR	**Matsushiro Arr**	**34.72**	**16**	P	P	**P**	**20 41 47.8**	ISC	**+0.7**
	comp=Z,1.6nm,0.9s,baz=184,slow=9.1,SNR=5.5								
MJAR				PcP	PcP	**PcP**	**20 44 21.8**	ISC	**+0.8**
	comp=Z,1.2nm,0.7s,baz=193,slow=4.7,SNR=3.0								
MJAR				LR	LR		20 55 13.3		
	comp=Z,116nm,19.3s,baz=200,slow=35								
	comp=Z,1.6nm,0.9s								
XAN	**Xi'an**	**35.09**	**333**	P	P	**P**	**20 41 50.4**	ISC	**0.0**
XAN				pP	pwP		20 42 02.7	ISC	**+7.1**
XAN				pmax	pmax				
	comp=Z,6μm,0.8s								
XAN				LR	LR				
	comp=N,98nm,17.2s								
XAN				LR	LR				
	comp=E,230nm,19.2s								
XAN				LR	LR				
	comp=Z,180nm,17.2s								
HNS	**HongShan**	**35.92**	**343**	⇑P	P	**P**	**20 41 59.0**	ISC	**+1.6**
STKA	**Stephens Creek**	**37.47**	**160**	P	P	**P**	**20 42 10.2**	ISC	**-0.6**
STKA	**Stephens Creek**	**37.47**	**160**	P	P	**P**	**20 42 10.3**	ISC	**-0.4**
	comp=Z,7.7nm,0.7s,baz=332,slow=7.2,SNR=13								
	comp=Z,7.7nm,0.7s								
BJT	**Baijiatuau**	**37.99**	**346**	P	P	**P**	**20 42 15.1**	ISC	**+0.1**
BJT				IAmb	IAmb		20 42 17.6		
	comp=Z,12nm,1.1s								
BJI	**Beijing**	**38.01**	**346**	P	P	**P**	**20 42 16.4**	ISC	**+1.2**
BJI				pmax	pmax				
	comp=Z,5.0nm,1.0s								
SNY	**Shenyang**	**38.60**	**356**	⇑P	P	**P**	**20 42 22.7**	ISC	**+2.6**
SNY				pmax	pmax				
	comp=Z,11nm,0.8s								
HHC	**Hu-ho-hao-te**	**40.05**	**342**	eP	P	**P**	**20 42 32.8**	ISC	**+0.4**
HHC				pmax	pmax				
	comp=Z,16nm,0.5s								
HHC				pmax	pmax				
	comp=Z,48nm,4.3s								
SHL	**Shillong**	**40.55**	**307**	P	P	**P**	**20 42 35.0**	ISC	**-1.8**
SHL				IAmb	IAmb		20 43 06.4		
	comp=Z,10nm,1.0s								
USA0B	**Ussuriysk Arra**	**41.06**	**5**	P	P	**P**	**20 42 40.7**	ISC	**+0.2**
USRK	**Ussuriysk Ar.**	**41.06**	**5**	P	P	**P**	**20 42 40.7**	ISC	**+0.2**
USRK	**Ussuriysk Ar.**	**41.06**	**5**	P	P	**P**	**20 42 41.8**	ISC	**+1.3**
	comp=Z,2.1nm,0.8s,baz=219,slow=11,SNR=6.7								
	comp=Z,2.1nm,0.8s								
MDJ	**Mudanjiang**	**41.31**	**3**	P	P	**P**	**20 42 45.3**	ISC	**+2.7**
MDJ				pmax	pmax				
	comp=Z,12nm,1.0s								
MDJ	**Mudanjiang**	**41.31**	**3**	P	P	**P**	**20 42 41.8**	ISC	**-0.8**
MDJ				IAmb	IAmb		20 42 47.7		
	comp=Z,13nm,1.1s								
H11S3	**WAKE ISLAND Hy**	**41.55**	**66**	T	T		21 27 24.2		
	baz=255,slow=74,SNR=6.3								
H11S2	**WAKE ISLAND Hy**	**41.56**	**66**	T	T		21 27 22.1		
	baz=314,slow=74,SNR=4.0								
ASAJ	**Asahikawa**	**42.98**	**16**	P	P	**P**	**20 42 58.7**	ISC	**+2.5**
	comp=Z,8.1nm,0.9s,baz=241,slow=17,SNR=8.4								
ASAJ				LR	LR		21 02 36.6		
	comp=Z,78nm,19.3s,baz=200,slow=38								
	comp=Z,8.1nm,0.9s								
JKA	**Kamikawa-asahi**	**42.98**	**16**	P	P	**P**	**20 42 57.8**	ISC	**+1.5**
JKA				IAmb	IAmb		20 43 05.2		
	comp=Z,14nm,1.1s								
LSA	**Lhasa**	**43.12**	**312**	P	P	**P**	**20 42 57.6**	ISC	**-0.6**
GTA	**Gaotai**	**43.78**	**329**	eP	P	**P**	**20 43 01.2**	ISC	**-1.8**
GTA				pP	pwP		20 43 12.3	ISC	**+4.1**
GTA				pmax	pmax				
	comp=Z,2.0nm,1.1s								
YSS	**Yuzh-Sakhalins**	**45.65**	**15**	P	P	**P**	**20 43 19.1**	ISC	**+1.5**
KLR	**Kul'dur**	**46.04**	**4**	P	P	**P**	**20 43 21.9**	ISC	**+1.3**
	comp=Z,2.2nm,0.9s,baz=218,slow=6.7,SNR=6.6								
	comp=Z,2.2nm,0.9s								
PALK	**Pallekele**	**46.43**	**277**	LR	LR		21 03 45.8		
	comp=Z,69nm,20.8s,baz=208,slow=38								
HEH	**HeiHe**	**46.90**	**0**	eP	P	**P**	**20 43 28.4**	ISC	**+1.1**
HEH				pmax	pmax				
	comp=Z,5.0nm,1.0s								
ULN	**Ulaanbaatar**	**47.77**	**342**	P	P	**P**	**20 43 32.9**	ISC	**-1.5**
ULN				IAmb	IAmb		20 43 43.7		
	comp=Z,4.8nm,1.1s								
SONM	**Songino Array**	**47.95**	**341**	P	P	**P**	**20 43 35.3**	ISC	**-0.5**
SONM	**Songino Array**	**47.95**	**341**	P	P	**P**	**20 43 35.9**	ISC	**+0.2**
	comp=Z,1.5nm,0.8s,baz=157,slow=8.3,SNR=11								
SONM				PcP	**PcP**	**PcP**	**20 45 04.4**	ISC	**+0.3**
	comp=Z,1.2nm,1.0s,baz=159,slow=5.6,SNR=3.7								
SONM				LR	LR		21 05 58.1		
	comp=Z,60nm,19.7s,baz=150,slow=39								
	comp=Z,1.5nm,0.8s								
PET	**Petropavlovsk**	**56.05**	**22**	P	P	**P**	**20 44 34.9**	ISC	**-1.0**
MKAR	**Makanchi Array**	**58.24**	**325**	P	P	**P**	**20 44 50.3**	ISC	**-1.3**
MKAR	**Makanchi Array**	**58.24**	**325**	P	P	**P**	**20 44 51.0**	ISC	**-0.6**
	comp=Z,1.4nm,0.5s,baz=122,slow=8.2,SNR=25								
MKAR				LR	LR		21 11 40.8		
	comp=Z,76nm,21.0s,baz=74,slow=38								
	comp=Z,1.4nm,0.5s								
MAKZ	**Makanchi**	**58.43**	**325**	P	P	**P**	**20 44 52.3**	ISC	**-0.6**
MAKZ				IAmb	IAmb		20 44 53.8		
	comp=Z,4.9nm,0.9s								
KSH	**Kashi**	**58.73**	**315**	P	P	**P**	**20 44 56.8**	ISC	**+1.5**
KSH				pP	pwP		20 45 10.0	ISC	**+9.4**
KSH				pmax	pmax				
	comp=Z,3.0nm,0.8s								
YAK	**Yakutsk**	**58.73**	**1**	P	P	**P**	**20 44 54.7**	ISC	**0.0**
YAK	**Yakutsk**	**58.73**	**1**	P	P	**P**	**20 44 55.4**	ISC	**+0.8**
	comp=Z,25nm,1.0s,baz=354,slow=7.5,SNR=14								
	comp=Z,25nm,1.0s								
AAK	**Ala-Archa**	**61.05**	**318**	LR	LR		21 14 27.2		
	comp=Z,41nm,19.5s,baz=106,slow=39								
ZALV	**Zalesovo Beam**	**61.26**	**333**	P	P	**P**	**20 45 10.1**	ISC	**-2.1**
ZALV	**Zalesovo Beam**	**61.26**	**333**	P	P	**P**	**20 45 10.0**	ISC	**-2.2**
	comp=Z,1.1nm,0.6s,baz=118,slow=5.5,SNR=6.4								
ZALV				LR	LR		21 13 31.5		
	comp=Z,34nm,19.6s,baz=110,slow=38								
	comp=Z,1.1nm,0.6s								
ARSB	**Arslanbob**	**61.55**	**316**	P	P	**P**	**20 45 14.4**	ISC	**-0.1**
URZ	**Urewera**	**61.85**	**137**	LR	LR		21 12 51.9		
	comp=Z,120nm,19.1s,baz=38,slow=37								
KURBB	**Kurchatov Arra**	**62.43**	**327**	P	P	**P**	**20 45 19.2**	ISC	**-0.9**
	comp=Z,3.7nm,0.8s,baz=124,slow=6.5,SNR=30								
	comp=Z,3.7nm,0.8s								
KURK	**Kurchatov**	**62.43**	**327**	P	P	**P**	**20 45 19.2**	ISC	**-0.9**
KURK				IAmb	IAmb		20 45 43.1		
	comp=Z,5.1nm,0.8s								
SEY	**Seymchan**	**62.46**	**13**	P	P	**P**	**20 45 22.0**	ISC	**+2.0**
	comp=Z,3.4nm,0.8s,baz=240,slow=6.5,SNR=9.3								
	comp=Z,3.4nm,0.8s								
KKAR	**Karatay Array**	**63.92**	**317**	P	P	**P**	**20 45 28.2**	ISC	**-2.0**
KKAR	**Karatay Array**	**63.92**	**317**	P	P	**P**	**20 45 28.8**	ISC	**-1.4**
BVAR	**Borovoye Array**	**68.01**	**327**	P	P	**P**	**20 45 55.6**	ISC	**-0.7**
	comp=Z,1.4nm,0.7s,baz=135,slow=9.7,SNR=9.8								
BVAR				LR	LR		21 18 10.1		
	comp=Z,46nm,19.2s,baz=124,slow=38								
	comp=Z,1.4nm,0.7s								
TIXI	**Tiksi**	**68.37**	**1**	P	P	**P**	**20 45 58.6**	ISC	**+0.4**
TIXI				IAmb	IAmb		20 46 00.3		
	comp=Z,4.5nm,0.8s								
TIXI	**Tiksi**	**68.37**	**1**	P	P	**P**	**20 45 58.5**	ISC	**+0.4**
	comp=Z,2.1nm,0.5s,baz=211,slow=1.8,SNR=12								
	comp=Z,2.1nm,0.5s								
NRIK	**Noril'sk**	**71.05**	**346**	IAmb	IAmb		20 46 16.6		
	comp=Z,6.7nm,0.9s								
NRIK	**Noril'sk**	**71.05**	**346**	P	P	**P**	**20 46 14.8**	ISC	**+0.1**
	comp=Z,5.1nm,0.7s,baz=146,slow=6.4,SNR=5.5								
	comp=Z,5.1nm,0.7s								
P08K	**Saint George I**	**72.88**	**31**	P	P	**P**	**20 46 26.2**	ISC	**+0.2**
	baz=249								
ARU	**Arti**	**75.62**	**328**	P	P	**P**	**20 46 40.7**	ISC	**-1.3**
ARU				IAmb	IAmb		20 46 42.0		
	comp=Z,7.5nm,1.1s								
S12K	**Black Hills**	**76.60**	**33**	P	P	**P**	**20 46 48.3**	ISC	**+0.7**
	baz=256								
L14K	**Kuka Creek**	**77.77**	**28**	P	P	**P**	**20 46 56.1**	ISC	**+2.1**
	baz=254								
O14K	**Tigyukauivet M**	**77.90**	**30**	P	P	**P**	**20 46 56.3**	ISC	**+1.5**
	baz=256								
M14K	**Bethel**	**77.95**	**28**	P	P	**P**	**20 46 57.2**	ISC	**+2.2**
	baz=255								
K15K	**Wolf Creek Mou**	**78.55**	**27**	P	P	**P**	**20 47 00.7**	ISC	**+2.3**
	baz=255								
I17K	**Unalakleet**	**79.33**	**25**	P	P	**P**	**20 47 05.0**	ISC	**+2.5**
	baz=255								
L16K	**Owhat River**	**79.35**	**28**	P	P	**P**	**20 47 04.7**	ISC	**+2.0**
	baz=257								
N16K	**Nishlik Lake**	**79.41**	**29**	P	P	**P**	**20 47 05.4**	ISC	**+2.3**
	baz=258								
M16K	**Timber Creek**	**79.44**	**28**	P	P	**P**	**20 47 05.7**	ISC	**+2.5**
	baz=257								
D17K	**Noatak River**	**79.45**	**21**	P	P	**P**	**20 47 06.5**	ISC	**+3.3**
	baz=252								
P16K	**Nushagak River**	**79.50**	**31**	P	P	**P**	**20 47 05.3**	ISC	**+1.7**
	baz=259								
O16K	**Kokwok River B**	**79.56**	**30**	P	P	**P**	**20 47 06.0**	ISC	**+2.1**
	baz=258								
E17K	**Hotham Inlet**	**79.74**	**22**	P	P	**P**	**20 47 07.1**	ISC	**+2.4**
	baz=254								
G17K	**Kiwalik Mounta**	**79.77**	**24**	P	P	**P**	**20 47 07.6**	ISC	**+2.7**
	baz=255								
F17K	**Baldwin Pennin**	**79.78**	**23**	P	P	**P**	**20 47 06.1**	ISC	**+1.1**
	baz=254								
J17K	**VABM Dome**	**79.91**	**26**	P	P	**P**	**20 47 08.2**	ISC	**+2.4**
	baz=257								
H17K	**Granite Mounta**	**79.92**	**24**	P	P	**P**	**20 47 08.8**	ISC	**+3.0**
	baz=256								
L17K	**Donlin**	**79.99**	**27**	P	P	**P**	**20 47 08.2**	ISC	**+2.0**
	baz=258								
R17L	**Mt. Peulik Vol**	**80.08**	**32**	P	P	**P**	**20 47 08.2**	ISC	**+1.4**
	baz=260								
K17K	**Iditarod**	**80.11**	**27**	P	P	**P**	**20 47 09.7**	ISC	**+2.9**
	baz=258								
N17K	**Nushagak Hills**	**80.19**	**29**	P	P	**P**	**20 47 09.4**	ISC	**+2.1**
	baz=259								
M17K	**Holitna River**	**80.23**	**28**

L18K	**Granite Mounta** baz=259	**80.74**	**27**	P	**P**	**20 47 13.4 +3.1**
N18K	**Kilae Creek** baz=260	**80.84**	**29**	P	**P**	**20 47 13.6 +2.7**
J18K	**Innoko River** baz=259	**80.97**	**26**	P	**P**	**20 47 13.5 +2.1**
M18K	**Stony River** baz=260	**81.01**	**28**	P	**P**	**20 47 14.4 +2.7**
O18K	**Koktuh Hills** baz=261	**81.04**	**30**	P	**P**	**20 47 14.4 +2.5**
C19K	**Lookout Ridge** baz=256	**81.09**	**20**	P	**P**	**20 47 14.7 +2.7**
SII	**Sitkinak Islan** baz=262	**81.09**	**33**	P	**P**	**20 47 14.1 +1.8**
TTA	**Tatalina** baz=260	**81.18**	**27**	P	**P**	**20 47 15.2 +2.5**
F19K	**Shaleruckik Mo** baz=258	**81.22**	**23**	P	**P**	**20 47 15.2 +2.5**
G19K	**Purcell Mounta** comp=Z,6.9nm,0.9s	**81.34**	**24**	IAmb	IAmb	20 47 18.4
G19K	**Purcell Mounta** baz=258	**81.34**	**24**	P	**P**	**20 47 16.1 +2.7**
D19K	**Kuna River** baz=257	**81.46**	**21**	P	**P**	**20 47 14.4 +0.3**
D19K	comp=Z,5.0nm,0.9s			IAmb	IAmb	20 47 21.8
D19K	**Kuna River** baz=257	**81.46**	**21**	P	**P**	**20 47 16.3 +2.3**
H19K	**Roundabout Mou** baz=259	**81.48**	**24**	P	**P**	**20 47 16.7 +2.6**
J19K	**Poorman** baz=258	**81.54**	**26**	P	**P**	**20 47 16.6 +2.1**
J19K	comp=Z,5.2nm,1.1s			IAmb	IAmb	20 47 22.8
J19K	**Poorman** baz=260	**81.54**	**26**	P	**P**	**20 47 17.2 +2.7**
N19K	**Bonanza Creek** baz=261	**81.55**	**29**	P	**P**	**20 47 16.6 +1.9**
E19K	**Redstone River** baz=258	**81.56**	**22**	P	**P**	**20 47 18.3 +3.8**
L19K	**White Mountain** baz=261	**81.58**	**28**	P	**P**	**20 47 16.9 +2.1**
Q19K	**Cape Douglas,** baz=262	**81.70**	**31**	P	**P**	**20 47 18.1 +2.6**
D20K	**Etivluk River** baz=258	**82.05**	**21**	P	**P**	**20 47 19.4 +2.3**
F20K	**Avaraart Lake** baz=259	**82.06**	**23**	P	**P**	**20 47 19.6 +2.5**
L20K	**Farewell, AK** baz=262	**82.08**	**27**	P	**P**	**20 47 20.2 +2.8**
KDAK	**Kodiak Island** baz=264	**82.11**	**32**	P	**P**	**20 47 19.7 +2.1**
KDAK	**Kodiak Island** comp=Z,58nm,21.7s,baz=252,slow=31	**82.11**	**32**	LR	LR	21 17 12.1
E20K	**Nigu River** baz=259	**82.11**	**21**	P	**P**	**20 47 20.6 +3.1**
H20K	**Anotleneega Mo** baz=260	**82.11**	**24**	P	**P**	**20 47 20.2 +2.7**
K20K	**Telida** baz=261	**82.12**	**27**	P	**P**	**20 47 19.6 +2.0**
B20K	**Meade River** baz=258	**82.13**	**20**	P	**P**	**20 47 21.4 +4.0**
I20K	**Naaghedeneel** baz=261	**82.17**	**25**	P	**P**	**20 47 20.6 +2.9**
J20K	**Nowinta River** baz=261	**82.21**	**26**	P	**P**	**20 47 21.3 +3.3**
Q20K	**Shuyak Island** baz=264	**82.30**	**31**	P	**P**	**20 47 21.8 +3.2**
M20K	**Styx River** baz=262	**82.34**	**28**	P	**P**	**20 47 21.4 +2.6**
A21K	**Barrow** baz=258	**82.59**	**18**	P	**P**	**20 47 23.3 +3.5**
IMAR	**Indian Mountai**	**82.66**	**24**	P	**P**	**20 47 18.9 -1.4**
C21K	**Knifeblade Rid** baz=260	**82.78**	**21**	P	**P**	**20 47 24.0 +3.1**
G21K	**Allakaket** comp=Z,4.8nm,1.1s	**82.83**	**23**	IAmb	IAmb	20 47 25.0
G21K	**Allakaket** baz=262	**82.83**	**23**	P	**P**	**20 47 24.1 +2.9**
VNDA	**Vanda**	**82.84**	**173**	P	**P**	**20 47 19.8 -1.2**
VNDA	**Vanda** comp=Z,1.7nm,0.8s,baz=304,slow=6.7,SNR=9.6 comp=Z,1.7nm,0.8s	**82.84**	**173**	P	**P**	**20 47 20.9 -0.1**
B21K	**Ikpikpuk River** comp=Z,3.3nm,0.9s	**82.92**	**20**	IAmb	IAmb	20 47 27.9
B21K	**Ikpikpuk River** baz=260	**82.92**	**20**	P	**P**	**20 47 24.6 +3.0**
E21K	**Killik River** baz=261	**82.95**	**21**	P	**P**	**20 47 24.6 +2.8**
H21K	**Melozitna Rive** comp=Z,5.4nm,1.1s	**82.99**	**24**	IAmb	IAmb	20 47 26.4
H21K	**Melozitna Rive** baz=262,SNR=7.7	**82.99**	**24**	P	**P**	**20 47 25.2 +3.1**
CAST	**Castle Rocks** baz=263	**83.02**	**27**	P	**P**	**20 47 24.0 +1.8**
SKT	**Skwentna** comp=Z,6.9nm,1.0s	**83.11**	**28**	IAmb	IAmb	20 47 25.4
SKT	**Skwentna** baz=264,SNR=5.5	**83.11**	**28**	P	**P**	**20 47 24.4 +1.7**
SUA	**Susitna One** baz=265,SNR=8.7	**83.42**	**29**	P	**P**	**20 47 26.2 +1.7**
B22K	**Teshekpuk Lake** baz=261	**83.45**	**20**	P	**P**	**20 47 26.5 +2.2**
D22K	**Ayikyak River** baz=262	**83.49**	**21**	P	**P**	**20 47 27.8 +3.3**
F22K	**John River** baz=263,SNR=5.7	**83.49**	**22**	P	**P**	**20 47 28.1 +3.4**
BPAW	**Bear Paw Mtn.** baz=264	**83.58**	**26**	P	**P**	**20 47 27.4 +2.3**
H22K	**Ishtalitna Cre** baz=264,SNR=5.7	**83.61**	**24**	P	**P**	**20 47 28.3 +3.0**
G22K	**Bettles** baz=263	**83.67**	**23**	P	**P**	**20 47 28.2 +2.7**
MLY	**Manley** comp=Z,4.4nm,1.0s	**83.78**	**25**	IAmb	IAmb	20 47 29.4
MLY	**Manley** baz=264,SNR=6.1	**83.78**	**25**	P	**P**	**20 47 28.9 +2.7**
RC01	**Rabbit Creek A** baz=266	**83.88**	**29**	P	**P**	**20 47 27.8 +1.1**
SEW	**Seward** baz=266	**83.94**	**30**	P	**P**	**20 47 28.5 +1.5**
COLD	**Coldfoot** baz=264	**84.22**	**23**	P	**P**	**20 47 30.5 +2.2**
GURO	**Guroymak-BITLI**	**84.22**	**308**	P	**P**	**20 47 27.6 -1.5**
G23K	**Bananza Creek** baz=265,SNR=10	**84.24**	**23**	P	**P**	**20 47 31.8 +3.3**
C23K	**Itkillik River** baz=264,SNR=8.6	**84.33**	**20**	P	**P**	**20 47 31.6 +2.8**
H23K	**Yukon River** baz=265	**84.35**	**24**	P	**P**	**20 47 32.1 +3.0**
I23K	**Minto, Yukon-K** baz=266	**84.37**	**25**	P	**P**	**20 47 32.1 +3.0**
MCK	**McKinley** baz=266	**84.45**	**26**	P	**P**	**20 47 32.4 +2.8**
NEA2	**Nenana** baz=266	**84.45**	**26**	P	**P**	**20 47 31.9 +2.3**
E23K	**Chandalar** baz=265,SNR=7.8	**84.52**	**22**	P	**P**	**20 47 33.2 +3.2**
KNK	**Knik Glacier** baz=267	**84.52**	**29**	P	**P**	**20 47 31.9 +1.9**
WAT1	**Susitna Watana** baz=266	**84.56**	**27**	P	**P**	**20 47 32.9 +2.7**
TOLK	**Toolik Lake Re** comp=Z,5.7nm,0.9s	**84.58**	**21**	IAmb	IAmb	20 47 34.4
TOLK	**Toolik Lake Re** baz=265	**84.58**	**21**	P	**P**	**20 47 33.5 +3.3**
SML	**Sawmill** baz=267,SNR=5.5	**84.60**	**28**	P	**P**	**20 47 32.8 +2.3**
M23K	**Glacier View** baz=267	**84.89**	**28**	P	**P**	**20 47 34.7 +2.8**
D24K	**Happy Valley** baz=266	**84.90**	**21**	P	**P**	**20 47 35.1 +3.4**
WAT6	**Susitna Watana** baz=267,SNR=5.5	**84.92**	**28**	P	**P**	**20 47 34.7 +2.6**
E24K	**Your Creek** baz=266	**84.94**	**22**	P	**P**	**20 47 35.2 +3.2**
P23K	**Montague Islan** baz=268	**84.96**	**30**	P	**P**	**20 47 34.9 +2.7**
H24K	**Noodor Dome** baz=267	**85.04**	**24**	P	**P**	**20 47 35.5 +3.0**
SCM	**Sheep Creek Mo** baz=268	**85.08**	**28**	P	**P**	**20 47 35.3 +2.5**
DHY	**Denali Highway** baz=267	**85.11**	**27**	P	**P**	**20 47 35.2 +2.1**
F24K	**Squaw Lake** baz=267	**85.13**	**23**	P	**P**	**20 47 36.4 +3.4**
GLI	**Glacier Island** baz=268	**85.15**	**29**	P	**P**	**20 47 35.6 +2.5**
POKR	**Poker Plat Res** baz=267	**85.18**	**25**	P	**P**	**20 47 34.9 +1.7**
G24K	**Hadweenzic Riv** baz=267	**85.25**	**23**	P	**P**	**20 47 36.9 +3.4**
HDA	**Harding Lake** baz=268	**85.36**	**26**	P	**P**	**20 47 37.4 +3.3**
ILAR	**Eielson Array** comp=Z,0.7nm,1.0s,baz=276,slow=6.8,SNR=5.4 comp=Z,0.7nm,1.0s	**85.40**	**25**	P	**P**	**20 47 36.3 +2.0**
M24K	**Tolsona, Glenn** baz=269	**85.63**	**28**	P	**P**	**20 47 38.4 +2.8**
KLU	**Klutina** baz=269	**85.74**	**29**	P	**P**	**20 47 38.1 +1.9**
D25K	**Kavik River** baz=268	**85.78**	**21**	P	**P**	**20 47 39.2 +3.1**
PAX	**Paxson** baz=269	**85.98**	**27**	P	**P**	**20 47 39.9 +2.6**
F25K	**Christian Rive** baz=269	**86.00**	**23**	P	**P**	**20 47 40.0 +2.7**
E25K	**Arctic Village** baz=269	**86.04**	**22**	P	**P**	**20 47 40.1 +2.6**
C26K	**Camden Bay** baz=269	**86.31**	**20**	P	**P**	**20 47 41.2 +2.5**
F26K	**Sheenjek River** baz=270	**86.57**	**22**	P	**P**	**20 47 42.1 +1.9**
G26K	**Porcupine Rive** baz=270	**86.71**	**23**	P	**P**	**20 47 43.3 +2.5**
C27K	**Jago River** baz=270	**86.72**	**21**	P	**P**	**20 47 43.3 +2.5**
E27K	**Coleen River** comp=Z,4.4nm,1.2s	**87.52**	**22**	IAmb	IAmb	20 47 47.5
E27K	**Coleen River** baz=272	**87.52**	**22**	P	**P**	**20 47 47.1 +2.4**
I27K	**Kandik River** baz=272	**87.62**	**25**	P	**P**	**20 47 47.8 +2.5**
FURI	**Furi** comp=Z,50nm,19.2s,baz=180,slow=36	**88.02**	**279**	LR	LR	21 27 03.8
F28M	**Old Crow** baz=274	**88.21**	**23**	P	**P**	**20 47 50.5 +2.5**
E28M	**Babbage River** comp=Z,2.1nm,0.9s	**88.26**	**22**	IAmb	IAmb	20 47 51.3
E28M	**Babbage River** baz=274	**88.26**	**22**	P	**P**	**20 47 49.9 +1.7**
I28M	**Miner Creek** baz=274	**88.33**	**25**	P	**P**	**20 47 50.6 +1.9**
E29M	**Blow River** baz=276	**88.88**	**22**	P	**P**	**20 47 53.7 +2.6**
G29M	**Pine Creek** baz=276	**88.98**	**23**	P	**P**	**20 47 53.7 +2.1**
M29M	**Somme Creek** baz=275	**89.22**	**28**	P	**P**	**20 47 54.8 +1.8**
L29M	**L29M** baz=276	**89.31**	**27**	P	**P**	**20 47 55.5 +2.2**
M30M	**Minto, Yukon** baz=277	**89.98**	**27**	P	**P**	**20 47 59.0 +2.5**
BRTR	**Keskin Array B** comp=Z,1.1nm,1.0s,baz=151,slow=5.6,SNR=4.7 comp=Z,1.1nm,1.0s	**90.70**	**310**	P	**P**	**20 47 59.5 -1.0**
MMPY	**Sheldon Lake,** baz=282	**92.50**	**27**	P	**P**	**20 48 10.7 +2.6**
FINES	**FINESS Array B** comp=Z,1.0nm,0.9s,baz=354,slow=8.5,SNR=2.0	**92.51**	**332**	P	**P**	**20 48 07.1 -1.0**
FINES	comp=Z,44nm,19.2s,baz=74,slow=38 comp=Z,1.0nm,0.9s			LR	LR	21 33 04.8
R33M	**Jennings River** baz=282	**93.30**	**30**	P	**P**	**20 48 14.0 +2.0**
NOA	**NORSAR Array B** comp=Z,40nm,19.0s,baz=60,slow=39	**99.46**	**334**	LR	LR	21 38 50.3
TXAR	**Lajitas Array** comp=Z,0.3nm,0.7s,baz=340,slow=1.9,SNR=4.6	**121.58**	**53**	PKP	**PKPdf**	**20 53 52.6 +0.9**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.8s,baz=26,slow=1.8,SNR=4.9	**123.50**	**288**	PKP	**PKPdf**	**20 53 55.2 -0.4**

*ISK **12** 20:38:47.5, 38.°38N×27.°18E, h10km, ML2.6/29*
*THE **12** 20:38:48.6, 38.°37N×27.°20E, h9km±5km, ML2.7/3, Error ellipse: s-maj=6.6km s-min=1.5km az=201.0*
*ATH **12** 20:38:49.3, 38.°32N×27.°11E, h24km±6km, ML2.5/5, Error ellipse: s-maj=7.2km s-min=1.3km az=217.0*
AFAD 12 20:38:48.0±0.0, 38.°37N×27.°16E, h7km±2km, ML2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMLD	**Gumuldur**	**0.35**	**214**	Pg	Pg	20 38 55.6	+0.8
DGB	**zmir**	**0.39**	**215**	P	Pg	20 38 56.1	+0.6
DGB				S	Sg	20 39 00.4	-0.2
URLA	**Izmir**	**0.45**	**269**	Pg	Pg	20 38 57.1	+0.4
URLA				Sg	Sb	20 39 04.0	-1.1
URLA	**Izmir**	**0.45**	**269**	P	Pg	20 38 57.0	+0.4
FOCM	**Foa**	**0.48**	**316**	Pg	Pg	20 38 57.2	-0.1
ZEYE	**Izmir, Urla-Ze**	**0.54**	**256**	P	Pg	20 38 58.5	+0.2
ZEYE				*i* AML	AML	20 39 07.0	
	comp=N,601nm,0.3s						
ZEYE				*i* AML	AML	20 39 09.0	
	comp=E,517nm,0.2s						
ZEDA	**zmir-Bergama**	**0.60**	**354**	P	Pg	20 38 59.9	+0.3
ZEDA				*i* AML	AML	20 39 11.0	
	comp=N,316nm,0.2s						
ZEDA				*i* AML	AML	20 39 12.0	
	comp=E,232nm,0.4s						
IZMD	**zmir-Dikili-**	**0.64**	**343**	P	Pg	20 39 00.8	+0.5
KARB	**zmir-Karabur**	**0.66**	**297**	P	Pg	20 39 00.8	+0.1
KARB				S	Sg	20 39 08.8	-0.5
KARB				*i* AML	AML	20 39 13.0	
	comp=N,328nm,0.4s						
KARB				*i* AML	AML	20 39 15.0	
	comp=E,241nm,0.2s						
IZMR	**zmir-demi**	**0.66**	**110**	P	Pg	20 39 01.0	+0.3
IZMR				S	Sg	20 39 08.8	-0.6
GCAM	**G?zelcaml?**	**0.67**	**175**	Pg	Pg	20 39 01.1	+0.2
GCAM				Sg	Sb	20 39 11.0	-0.5
GCAM	**G?zelcaml?**	**0.67**	**175**	P	Pg	20 39 01.0	+0.1
GCAM				S	Sg	20 39 09.6	0.0
GOMA	**Golmarmara-Man**	**0.68**	**60**	Pg	Pg	20 39 00.8	-0.3
GOMA				Sg	Sg	20 39 10.8	+0.8
SMG	**Samos**	**0.71**	**201**	P	Pg	20 39 01.6	0.0
SMG				S	Sb	20 39 13.5	+0.9
	552nm,0.3s						
SMG	**Samos**	**0.71**	**201**	P	Pg	20 39 01.6	0.0
SMG				S	Sg	20 39 10.9	+0.1
SMG				AML	AML	20 39 14.5	
	comp=N,1219μm,0.3s						
SMG				AML	AML	20 39 15.0	
	comp=E,985μm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**0.71**	**126**	Pg	Pg	20 39 01.6	-0.1
AKHS	**Akhisar**	**0.72**	**45**	P	Pg	20 39 01.8	-0.1
AKHS				S	Sg	20 39 11.8	+0.5
AKS	**Akhisar**	**0.72**	**45**	Pg	Pg	20 39 01.6	-0.3
ODEM	**Odemis-Izmir**	**0.72**	**97**	Pg	Pg	20 39 01.7	-0.2
DKL	**Dikili**	**0.73**	**344**	Pg	Pg	20 39 01.9	-0.1
SOMA	**Soma-Manisa**	**0.84**	**20**	Pg	Pg	20 39 03.9	-0.2
CHOS	**Chios island**	**0.87**	**272**	P	Pg	20 39 04.9	+0.2
CHOS	**Chios island**	**0.87**	**272**	P	Pg	20 39 04.7	0.0
CHOS				S	Sg	20 39 16.1	0.0
CHOS				AML	AML	20 39 20.7	
	comp=N,357μm,0.3s						
CHOS				AML	AML	20 39 20.8	
	comp=E,441μm,0.2s						
DDIM	**Aydin, Didim**	**0.91**	**176**	P	Pb	20 39 06.3	+0.2
NAZL	**Nazilli-Aydin**	**0.98**	**114**	Pg	Pg	20 39 06.4	-0.4
KIRA	**zmir-Kiraz**	**0.99**	**100**	P	Pg	20 39 07.1	+0.1
KIRA				S	Sg	20 39 18.8	-1.0
AYVA	**Ayvalik**	**1.01**	**339**	P	Pg	20 39 07.2	-0.2
AYVA				S	Sg	20 39 20.1	-0.4
AYVA				*i* AML	AML	20 39 23.0	
	comp=E,219nm,0.3s						
AYVA				*i* AML	AML	20 39 23.0	
	comp=E,123nm,0.7s						
ESEN	**Aydn-Nazilli**	**1.09**	**121**	P	Pg	20 39 08.2	-0.8
ESEN				S	Sg	20 39 20.8	-2.4
STEP	**BALIKESIR_Sava**	**1.10**	**23**	P	Pg	20 39 08.4	-0.7
STEP				S	Sg	20 39 22.5	-0.8
STEP				*i* AML	AML	20 39 24.0	
	comp=E,197nm,0.4s						
STEP				*i* AML	AML	20 39 25.0	
	comp=E,241nm,0.5s						
MANT	**Manisa**	**1.10**	**83**	P	Pg	20 39 09.1	0.0
MANT				S	Sg	20 39 21.0	-2.4
PRK	**Paraskevi**	**1.12**	**322**	P	Pg	20 39 09.4	-0.1
PRK				S	Sb	20 39 25.0	+0.6
	comp=E,762nm,0.7s						
PRK	**Paraskevi**	**1.12**	**322**	P	Pg	20 39 09.1	-0.4
PRK				S	Sg	20 39 23.3	-0.7
PRK				AML	AML	20 39 26.6	
	comp=E,1988μm,0.4s						
PRK				AML	AML	20 39 27.8	
	comp=N,963μm,0.6s						
BUHA	**Balikesir, Bur**	**1.13**	**357**	P	Pg	20 39 09.3	-0.5
BUHA				*i* AML	AML	20 39 27.0	
	comp=N,134nm,0.3s						
BUHA				*i* AML	AML	20 39 27.0	
	comp=N,182nm,0.4s						
MLSB	**Milas**	**1.18**	**155**	Pn	Pg	20 39 10.4	-0.2
KULA	**Kula-Manisa**	**1.19**	**82**	Pn	Pg	20 39 10.3	-0.4
KULA	**Kula-Manisa**	**1.19**	**82**	P	Pg	20 39 10.5	-0.2
KULA				S	Sg	20 39 25.4	-0.7
BODT	**Bodrum**	**1.31**	**175**	Pn	Pn	20 39 12.7	0.0
BDRM	**Kayabasi**	**1.32**	**170**	P	Pn	20 39 11.2	-1.7
SIGR	**SIGRI**	**1.32**	**310**	Pn	Pn	20 39 12.8	-0.1
SIGR	**SIGRI**	**1.32**	**310**	P	Pb	20 39 13.2	0.0
SIGR				S	Sn	20 39 31.1	+0.3
	comp=N,122nm,0.5s						
SIGR	**SIGRI**	**1.32**	**310**	P	Pn	20 39 11.5	-1.4
SIGR				S	Sb	20 39 28.3	-2.0
SIGR				AML	AML	20 39 34.0	
	comp=N,318μm,0.5s						
SIGR				AML	AML	20 39 34.5	
	comp=E,221μm,0.3s						
GPNR	**Gulpinar-Canak**	**1.35**	**324**	Pn	Pn	20 39 13.1	-0.2
MULA	**Mugla, Merkez-**	**1.44**	**140**	P	Pn	20 39 12.5	-2.1
USAK	**Uak-Merkez**	**1.50**	**76**	P	Pb	20 39 15.9	-0.2
USAK				S	Sn	20 39 32.5	-2.6
YER	**Yerkesik**	**1.52**	**144**	Pn	Pn	20 39 14.8	-0.8
YENI	**Yenice-Canakka**	**1.57**	**2**	Pn	Pn	20 39 15.9	-0.4
SIMA	**Simav-Kutahya**	**1.59**	**63**	Pn	Pn	20 39 16.3	-0.4
EZN	**Ezine**	**1.59**	**336**	Pn	Pn	20 39 16.3	-0.3
DAT	**Datca**	**1.67**	**168**	Pn	Pn	20 39 17.6	-0.2
DST	**Dursunbey**	**1.68**	**42**	Pn	Pn	20 39 17.6	-0.2
GONE	**Gonen-Balikesi**	**1.72**	**13**	Pn	Pn	20 39 18.2	-0.2
SUSR	**Susurluk-Balik**	**1.75**	**24**	Pn	Pn	20 39 18.4	-0.3
TURN	**Turunc**	**1.81**	**151**	Pn	Pn	20 39 19.3	-0.2
COMU	**Canakkale**	**1.81**	**343**	Pn	Pn	20 39 19.5	-0.1
APE	**Apeiranthos**	**1.83**	**225**	Pn	Pn	20 39 20.2	+0.2
APMY	**Acipayam-Deniz**	**1.91**	**117**	Pn	Pn	20 39 20.9	-0.2
DALY	**Dalyan (Mula)**	**1.95**	**142**	Pn	Pn	20 39 21.4	-0.1
GADA	**Gvkgeada**	**2.07**	**332**	Pn	Pn	20 39 23.3	+0.2
LIA	**Limnos Island**	**2.17**	**315**	P	Pn	20 39 23.3	-1.2
LIA				S	Sn	20 39 48.2	-3.4
CAME	**Cameli-Denizli**	**2.21**	**129**	Pn	Pn	20 39 25.0	-0.3
SMTH	**Samothraki Isl**	**2.45**	**329**	P	Pn	20 39 28.3	-0.2
ALN	**Alexandroupoli**	**2.67**	**341**	P	Pn	20 39 30.8	-0.6

*CATAC **12** 21:07:15.3±0.3, 15.°99N×91.°11W, h10km, ML3.5*
*GCG **12** 21:07:19.0±1.6, 16.°04N×91.°17W, h35km, MD3.8*
ISC 12 21:07:14.8±1.6, 16.°02N±0.°06×91.°12W±0.°04, h10km±15km, n11, σ0.°99/22, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIS	**Sacapulas**	**0.73**	**178**	*i* P	**Pg**	**21 07 28.3**	**-0.6**
QUIS				*i* S	**Sg**	**21 07 37.8**	**-0.6**
QUIS				IAML		21 07 46.0	
	comp=Z,4μm,1.0s						
HUEH	**Huehuetenango**	**0.79**	**208**	*i* P	**Pg**	**21 07 29.7**	**-0.5**
HUEH				*i* S	**Sg**	**21 07 39.5**	**-1.0**
HUEH				IAML		21 07 44.9	
	comp=Z,4μm,1.0s						
CCIG	**Comitan**	**1.01**	**285**	*i* P	**Pb**	**21 07 34.9**	**+0.3**
CCIG				*i* S	**Sb**	**21 07 49.0**	**+0.9**
CCIG				IAML		21 07 55.0	
	comp=Z,500nm,1.0s						
SOKI	**Kika Raxquin**	**1.23**	**193**	*i* P	**Pg**	**21 07 37.8**	**-0.6**
SOKI				*i* S	**Sg**	**21 07 53.6**	**-0.8**
SOKI				IAML		21 07 57.8	
	comp=Z,670nm,1.0s						
STG3	**Santiaguito 3,**	**1.37**	**199**	*e*P	**Pg**	**21 07 41.4**	**+0.1**
STG3				*e*S	**Sg**	**21 08 00.3**	**+1.2**
PETF	**Flores**	**1.49**	**53**	*i* P	**Pn**	**21 07 41.3**	**-0.4**
PETF				*i* S	**Sb**	**21 08 01.3**	**-0.4**
PETF				IAML		21 08 07.9	
	comp=Z,1μm,1.0s						
FUG	**Fuego 3**	**1.59**	**170**	*e*P	**Pg**	**21 07 45.2**	**-0.2**
FUG				*e*S	**Sg**	**21 08 07.6**	**+1.7**
RTAL	**Retalhuleu**	**1.59**	**201**	*i* P	**Pb**	**21 07 44.3**	**0.0**
RTAL				*i* S	**Sg**	**21 08 06.8**	**+0.8**
RTAL				IAML		21 08 12.7	
	comp=Z,410nm,1.0s						
NBG	**Las Nubes**	**1.61**	**152**	*e*P	**Pg**	**21 07 46.9**	**+1.2**
NBG				*e*S	**Sg**	**21 08 09.0**	**+2.4**
MRL	**Marmol**	**1.67**	**124**	*e*P	**Pg**	**21 07 47.1**	**+0.2**
MRL				*e*S	**Sg**	**21 08 08.6**	**+0.1**
MTO3	**Montecristo**	**2.34**	**133**	*i* P	**Pb**	**21 07 56.3**	**-0.9**
MTO3				*i* S	**Sn**	**21 08 22.2**	**-0.3**
MTO3				IAML		21 08 35.4	
	comp=Z,86nm,1.0s						

*IDC **12** 21:07:24.9±1.1, 36.°94N×23.°74E, h0km, mb3.5/6, mbtmp3.5/7, ML3.6/1, Error ellipse: s-maj=27.0km s-min=12.8km az=71.0*
*THE **12** 21:07:28.1, 36.°90N×23.°78E, h14km±1km, ML3.3/8, Error ellipse: s-maj=1.7km s-min=0.7km az=198.0*
*ATH **12** 21:07:28.2, 36.°91N×23.°80E, h18km±1km, ML3.1/19, Error ellipse: s-maj=1.4km s-min=0.7km az=117.0*
ISC 12 21:07:27.9±0.7, 36.°90N±0.°02×23.°81E±0.°02, h20km±3km, n59, σ0.°67/87, mb3.5/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHLO	**Agia Marina, M**	**0.52**	**114**	P	**Pb**	**21 07 38.8**	**+0.4**
MHLO				S	**Sn**	**21 07 47.2**	**-1.3**
	5μm,0.4s						
MHLO	**Agia Marina, M**	**0.52**	**114**	P	**Pb**	**21 07 38.5**	**+0.1**
MHLO				S	**Sb**	**21 07 46.6**	**+1.0**
MHLO				AML	AML	21 07 50.9	
	comp=E,12903μm,0.3s						
MHLO				AML	AML	21 07 51.6	
	comp=N,8923μm,0.3s						
YDRA	**Hydra**	**0.52**	**329**	P	**Pb**	**21 07 37.6**	**-0.8**
YDRA				S	**Sb**	**21 07 45.2**	**-0.4**
YDRA				AML	AML	21 07 46.8	
	comp=E,3245μm,0.2s						
YDRA				AML	AML	21 07 49.3	
	comp=N,4561μm,0.2s						
MNVA	**Monemvasia**	**0.65**	**251**	P	**Pb**	**21 07 40.8**	**+0.1**
MNVA				S	**Sb**	**21 07 49.8**	**+0.5**
KRND	**KRANIDI**	**0.71**	**313**	P	**Pb**	**21 07 41.1**	**-0.5**
KRND				S	**Sb**	**21 07 52.1**	**+1.1**
	comp=N,2μm,0.3s						
KRND	**KRANIDI**	**0.71**	**313**	P	**Pb**	**21 07 41.1**	**-0.5**
KRND				S	**Sb**	**21 07 51.5**	**+0.6**
KRND				AML	AML	21 07 55.1	
	comp=N,4296μm,0.3s						
KRND				AML	AML	21 07 55.5	
	comp=E,4304μm,0.4s						
VLI	**Veliai**	**0.72**	**256**	P	**Pb**	**21 07 40.7**	**-1.1**
VLI				S	**Sb**	**21 07 51.2**	**-0.1**
	comp=E,2μm,0.4s						
VLI	**Veliai**	**0.72**	**256**	P	**Pb**	**21 07 41.4**	**-0.4**
VLI				S	**Sb**	**21 07 51.1**	**-0.1**
VLI				AML	AML	21 07 53.0	
	comp=N,2479μm,0.5s						
VLI				AML	AML	21 07 55.0	
	comp=E,4226μm,0.3s						
VLY	**Voula,Athens**	**0.95**	**359**	P	**Pb**	**21 07 45.6**	**-0.1**
VLY				S	**Sn**	**21 07 59.3**	**+0.3**
	comp=E,3μm,0.4s						
VLY	**Voula,Athens**	**0.95**	**359**	P	**Pb**	**21 07 45.6**	**-0.1**
VLY				S	**Sb**	**21 07 58.5**	**+0.7**
VLY				AML	AML	21 08 00.3	
	comp=N,5996μm,0.5s						
VLY				AML	AML	21 08 02.8	
	comp=E,6622μm,0.4s						
ATHU	**Athens Univers**	**1.06**	**359**	P	**Pb**	**21 07 47.0**	**-0.6**
ATHU				S	**Sn**	**21 08 02.2**	**+0.4**
	comp=E,455nm,0.4s						
ATHU	**Athens Univers**	**1.06**	**359**	P	**Pb**	**21 07 46.9**	**-0.7**
ATHU				S	**Sb**	**21 08 00.8**	**-0.3**
ATHU				AML	AML	21 08 04.8	
	comp=E,736μm,0.4s						
ATHU				AML	AML	21 08 05.7	
	comp=N,1073μm,0.4s	

ATH			AML	AML	21 08 05.1	
	comp=N,2450μm,0.2s					
ATH			AML	AML	21 08 05.4	
	comp=E,1984μm,0.6s					
ANKY	**Antikythira Is**	**1.11 202**	P	**Pn**	**21 07 47.5**	**-0.7**
ANKY	**Antikythira Is**	**1.11 202**	P	**Pn**	**21 07 47.6**	**-0.7**
ANKY			S	**Sb**	**21 08 02.2**	**-0.1**
ANKY			AML	AML	21 08 06.7	
	comp=E,1713μm,0.6s					
ANKY			AML	AML	21 08 07.4	
	comp=N,1990μm,0.4s					
PTL	**Penteli**	**1.15 2**	P	**Pn**	**21 07 48.2**	**-0.6**
PTL			S	**Sn**	**21 08 04.8**	**+0.9**
	comp=N,830nm,0.3s					
PTL	**Penteli**	**1.15 2**	P	**Pn**	**21 07 48.4**	**-0.5**
PTL			S	**Sb**	**21 08 03.3**	**-0.2**
PTL			AML	AML	21 08 06.2	
	comp=N,1833μm,0.5s					
PTL			AML	AML	21 08 06.3	
	comp=E,1473μm,0.2s					
DION	**Dionisos Attik**	**1.18 5**	P	**Pb**	**21 07 49.8**	**+0.2**
DION	**Dionisos Attik**	**1.18 5**	P	**Pb**	**21 07 49.6**	**0.0**
DION			S	**Sb**	**21 08 04.3**	**-0.2**
DION			AML	AML	21 08 09.7	
	comp=N,2338μm,0.5s					
DION			AML	AML	21 08 10.4	
	comp=E,2480μm,0.3s					
TNSA	**Tinos**	**1.26 59**	P	**Pn**	**21 07 49.9**	**-0.4**
TNSA			S	**Sn**	**21 08 06.0**	**-0.6**
TNSA			AML	AML	21 08 11.9	
	comp=N,1207μm,0.3s					
TNSA			AML	AML	21 08 12.0	
	comp=E,785μm,0.3s					
LOUT	**Loutraki**	**1.27 329**	P	**Pn**	**21 07 50.6**	**+0.1**
VILL	**Villia**	**1.32 343**	P	**Pn**	**21 07 51.1**	**-0.1**
VILL			S	**Sb**	**21 08 09.3**	**+0.8**
	comp=E,1μm,0.6s					
VIL2	**Platees**	**1.38 342**	P	**Pn**	**21 07 51.1**	**-0.9**
VIL2			S	**Sn**	**21 08 07.0**	**-2.6**
VIL2			AML	AML	21 08 16.8	
	comp=N,1977μm,0.6s					
VIL2			AML	AML	21 08 18.8	
	comp=E,2161μm,0.6s					
APE	**Apeiranthos**	**1.39 83**	P	**Pn**	**21 07 51.8**	**-0.4**
APE			S	**Sn**	**21 08 09.5**	**-0.5**
APE			AML	AML	21 08 14.8	
	comp=N,1948μm,0.2s					
APE			AML	AML	21 08 15.6	
	comp=E,982μm,0.2s					
CHAN	**Chania**	**1.39 172**	P	**Pn**	**21 07 52.3**	**+0.1**
CHAN			S	**Sn**	**21 08 09.2**	**-0.7**
CHAN			AML	AML	21 08 16.9	
	comp=N,1328μm,0.3s					
CHAN			AML	AML	21 08 17.0	
	comp=E,1935μm,0.3s					
IMMV	**Iera Moni Meta**	**1.45 174**	P	**Pn**	**21 07 53.0**	**+0.1**
IMMV	**Iera Moni Meta**	**1.45 174**	P	**Pn**	**21 07 52.7**	**-0.2**
IMMV			S	**Sn**	**21 08 11.0**	**-0.2**
IMMV			AML	AML	21 08 16.6	
	comp=E,1774μm,0.4s					
IMMV			AML	AML	21 08 18.2	
	comp=N,1570μm,0.3s					
ITM	**Ithomi**	**1.53 281**	P	**Pn**	**21 07 55.0**	**+1.0**
ITM	**Ithomi**	**1.53 281**	P	**Pn**	**21 07 54.4**	**+0.3**
GUR	**Goura**	**1.56 312**	P	**Pn**	**21 07 54.9**	**+0.4**
GUR	**Goura**	**1.56 312**	P	**Pn**	**21 07 54.8**	**+0.2**
GUR			S	**Sn**	**21 08 13.5**	**-0.7**
GUR			AML	AML	21 08 23.4	
	comp=N,1400μm,0.4s					
GUR			AML	AML	21 08 24.1	
	comp=E,1416μm,0.5s					
PYL	**PYLOS**	**1.65 270**	P	**Pb**	**21 07 57.2**	**-0.4**
PYL			S	**Sn**	**21 08 16.0**	**-0.3**
PYL			AML	AML	21 08 23.6	
	comp=N,610μm,0.5s					
PYL			AML	AML	21 08 24.6	
	comp=E,812μm,0.4s					
KNDR	**Palaiochora Ch**	**1.67 183**	P	**Pn**	**21 07 56.7**	**+0.8**
KLV	**Kalavryta, Ach**	**1.74 311**	P	**Pn**	**21 07 57.4**	**+0.4**
KLV	**Kalavryta, Ach**	**1.74 311**	P	**Pn**	**21 07 57.1**	**+0.1**
KLV			S	**Sn**	**21 08 17.9**	**-0.8**
KLV			AML	AML	21 08 26.2	
	comp=N,366μm,0.6s					
KLV			AML	AML	21 08 26.3	
	comp=E,244μm,0.4s					
KYMI	**Kymi, Euboea I**	**1.74 8**	P	**Pn**	**21 07 56.9**	**-0.1**
KYMI	**Kymi, Euboea I**	**1.74 8**	P	**Pn**	**21 07 56.8**	**-0.1**
KYMI			S	**Sn**	**21 08 18.1**	**-0.5**
KYMI			AML	AML	21 08 29.2	
	comp=N,668μm,0.9s					
KYMI			AML	AML	21 08 29.8	
	comp=E,506μm,0.7s					
IDI	**Anoyia**	**1.83 151**	Pn	**Pn**	**21 07 57.7**	**-0.6**
	comp=E,2.3nm,0.3s,baz=327,slow=16,SNR=32					
IDI			Lg	Lg	21 08 25.5	
	comp=E,21nm,0.3s,baz=335,slow=19,SNR=9.5					
IDI	**Anoyia**	**1.83 151**	P	**Pn**	**21 07 57.7**	**-0.6**
KALE	**Kalithea**	**1.99 319**	P	**Pn**	**21 08 01.0**	**+0.6**
KALE	**Kalithea**	**1.99 319**	P	**Pn**	**21 08 00.7**	**+0.3**
SKY	**Skiros Island**	**2.06 16**	P	**Pn**	**21 08 00.9**	**-0.4**
AXAR	**Agios Charalam**	**2.07 334**	P	**Pn**	**21 08 02.2**	**+0.7**
AXAR	**Agios Charalam**	**2.07 334**	P	**Pn**	**21 08 02.0**	**+0.5**
EFP	**Efpalio**	**2.14 316**	P	**Pn**	**21 08 02.6**	**+0.1**
AOS2	**Alonissos-2**	**2.24 1**	P	**Pn**	**21 08 03.4**	**-0.4**
ANX	**Ano Chora**	**2.25 319**	P	**Pn**	**21 08 04.5**	**+0.4**
CHOS	**Chios island**	**2.32 50**	P	**Pn**	**21 08 04.5**	**-0.5**
AGG	**Agios Georgios**	**2.42 332**	P	**Pn**	**21 08 07.1**	**+0.8**
NEO	**Neokhori**	**2.44 349**	P	**Pn**	**21 08 06.8**	**+0.2**
MAKR	**Makrakomi, Fth**	**2.49 328**	P	**Pn**	**21 08 08.0**	**+0.8**
MLR	**Muntele Rosu**	**8.73 10**	Pn	**Pn**	**21 09 34.0**	**+1.0**
	comp=E,0.2nm,0.3s,baz=118,slow=20,SNR=4.3					
	comp=E,1.4nm,0.6s					
HFS	**Hagfors**	**24.14 348**	P	**P**	**21 12 41.0**	**-1.2**
	comp=E,1.3nm,0.8s,baz=142,slow=7.5,SNR=5.4					
	comp=E,1.3nm,0.8s					
FINES	**FINESS Array B**	**24.61 3**	P	**P**	**21 12 46.0**	**-0.4**
	comp=E,0.3nm,0.3s,baz=165,slow=7.9,SNR=5.7					
	comp=E,0.3nm,0.3s					
EKA	**Eskdalemuir Ar**	**25.99 324**	P	**P**	**21 12 58.9**	**-0.1**
	comp=E,0.6nm,0.6s,baz=121,slow=11,SNR=3.0					
	comp=E,0.6nm,0.6s					
TORD	**Torodi Ar. Bea**	**30.84 226**	P	**P**	**21 13 43.1**	**+0.4**
	comp=E,0.5nm,0.5s,baz=31,slow=9.3,SNR=3.3					
	comp=E,0.5nm,0.5s					
BVAR	**Borovoye Array**	**35.98 48**	P	**P**	**21 14 28.9**	**+1.8**
	comp=E,0.4nm,0.6s,baz=240,slow=11,SNR=2.7					
	comp=E,0.4nm,0.6s					
MKAR	**Makanchi Array**	**43.76 58**	P	**P**	**21 15 31.1**	**-0.7**
	comp=E,0.2nm,0.3s,baz=275,slow=6.7,SNR=6.1					
	comp=E,0.2nm,0.3s					

*NNC **12** 21:16:44.0±2.6, 45°.30N×79°.02E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=19.6km s-min=10.4km az=20.0*

SOME 12 21:16:46.9, 41°.53N×79°.18E, h10km, 2C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**1.62**	**356**	*e*P	Pb	21 17 16.8	-0.1
	1.6nm,0.3s						
UZB				*e*S	Sg	21 17 38.3	-0.6
	3.0nm,0.3s						
UZB	**Uzynbulak**	**1.62**	**356**	S	Sg	21 17 38.3	-0.6
	3.0nm,0.3s						
SATY	**Saty**	**1.63**	**340**	*e*P	Pb	21 17 17.2	+0.1
	1.4nm,0.2s						
SATY				*e*S	Sg	21 17 39.1	-0.3
	3.9nm,0.2s						
SATY	**Saty**	**1.63**	**340**	S	Sg	21 17 39.1	-0.3
	3.9nm,0.2s						
SHLS	**Shalkode**	**1.64**	**7**	*e*P	Pg	21 17 18.6	+0.3
	3.6nm,0.3s						
SHLS				*e*S	Sg	21 17 41.6	+2.1
	18nm,0.5s						
SHLS	**Shalkode**	**1.64**	**7**	S	Sg	21 17 41.6	+2.1
	18nm,0.5s						
PDGK	**Podgornoye**	**1.81**	**7**	S	Sg	21 17 45.0	0.0
	8.0nm,0.8s						
PDGK	**Podgornoye**	**1.81**	**7**	⇑Pn	Pb	21 17 19.5	-0.7
	1.6nm,0.5s						
PDGK				⇓Sn	Sg	21 17 46.5	+1.4
	15nm,0.6s						
KPKS	**Kokpek**	**1.97**	**349**	*e*P	Pb	21 17 23.4	+0.5
	4.3nm,0.3s						
KPKS				*e*S	Sg	21 17 49.9	-0.3
	18nm,0.6s						
KPKS	**Kokpek**	**1.97**	**349**	Pg	Pb	21 17 23.4	+0.5
	4.3nm,0.3s						
KPKS				Lg	Lg	21 17 49.9	
	18nm,0.6s						
KTMS	**Ketmen**	**2.10**	**24**	*e*P	Pb	21 17 26.1	+1.0
	0.8nm,0.3s						
KTMS				*e*S	Sg	21 17 54.2	-0.1
	2.2nm,0.2s						
KTMS	**Ketmen**	**2.10**	**24**	Pg	Pb	21 17 26.1	+1.0
	0.8nm,0.3s						
KTMS				Lg	Lg	21 17 54.2	
	2.2nm,0.2s						
TNSS	**Tian-Shan**	**2.24**	**313**	*e*P	Pb	21 17 28.3	+0.6
	4.9nm,0.5s						
TNSS				*e*S	Sg	21 17 58.3	-0.6
	2.5nm,0.7s						
TNSS	**Tian-Shan**	**2.24**	**313**	Pg	Pb	21 17 28.3	+0.6
	4.9nm,0.5s						
TNSS				Lg	Lg	21 17 58.3	
	2.5nm,0.7s						
MDOK	**Medeo**	**2.27**	**317**	Pn	Pb	21 17 27.0	-1.1
	4.7nm,1.2s						
MDOK				Sn	Sg	21 18 00.0	+0.1
	3.6nm,0.5s						
KOTS	**Kotyrbulak**	**2.29**	**319**	*e*P	Pb	21 17 29.2	+0.8
	3.0nm,0.4s						
KOTS				*e*S	Sg	21 17 59.9	-0.6
	5.8nm,0.7s						
KOTS	**Kotyrbulak**	**2.29**	**319**	Pg	Pb	21 17 29.2	+0.8
	3.0nm,0.4s						
KOTS				Lg	Lg	21 17 59.9	
	5.8nm,0.7s						
KNOS	**Konyrlen**	**2.83**	**360**	Lg	Lg	21 18 15.5	
	3.4nm,0.8s						
KST	**Kastek**	**2.83**	**303**	*e*P	Pb	21 17 39.3	+1.8
	1.4nm,0.3s						
KST				*e*S	Sg	21 18 16.6	-1.1
	6.2nm,0.6s						
KST	**Kastek**	**2.83**	**303**	Pg	Pb	21 17 39.3	+1.8
	1.4nm,0.3s						
KST				Lg	Lg	21 18 16.6	
	6.2nm,0.6s						
CHKK	**Chushkaly**	**2.83**	**326**	*e*P	Pb	21 17 39.0	+1.5
	1.8nm,0.4s						
CHKK				*e*S	Sg	21 18 16.6	-1.1
	8.7nm,0.5s						
CHKK	**Chushkaly**	**2.83**	**326**	Lg	Lg	21 18 16.6	
	8.7nm,0.5s						
KTBS	**Karatobe**	**2.85**	**321**	*e*P	Pb	21 17 39.5	+1.5
	1.4nm,0.3s						
KTBS				*e*S	Sg	21 18 17.4	-1.2
	3.5nm,0.6s						
KTBS	**Karatobe**	**2.85**	**321**	Lg	Lg	21 18 17.4	
	3.5nm,0.6s						
ARXS	**Arharly**	**2.86**	**340**	*e*P	Pb	21 17 39.0	+1.0
	1.5nm,0.5s						
ARXS				*e*S	Sg	21 18 16.4	-2.2
	4.1nm,0.6s						
ARXS	**Arharly**	**2.86**	**340**	Lg	Lg	21 18 16.5	
	4.1nm,0.6s						
TKM2	**Tokmak 2**	**3.00**	**299**	⇑Pn	Pb	21 17 38.8	-1.7
	0.6nm,0.5s						
TKM2				⇓Sn	Sg	21 18 22.1	-1.3
	3.7nm,0.8s						

*SJA **12** 21:21:54.7±0.8, 22°.48S×68°.34W, h124km±5km, ML3.6, MW3.6*

*GUC **12** 21:21:57.6±0.7, 22°.51S×68°.51W, h126km±4km, ML3.7*

ISC 12 21:21:56.6±1.4, 22°.51S±0°.03×68°.45W±0°.05, h123km±7km, n32, σ1°.70/54, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.43**	**257**	*e*P	**Pn**	**21 22 13.7**	**-1.2**
LVC				*e*S	**Sn**	**21 22 28.9**	**+0.2**
LVC				IAML		21 22 29.2	
	comp=Z,787nm,0.1s						
LVC	**Limon Verde**	**0.43**	**257**	*e*P	**Pn**	**21 22 15.4**	**+0.5**
LVC				*e*S	**Sn**	**21 22 27.7**	**-1.0**
AF01	**San Pedro de A**	**0.51**	**150**	*e*P	**Pn**	**21 22 15.7**	**+0.5**
AF01	**San Pedro de A**	**0.51**	**150**	⇓*i*P	**Pn**	**21 22 16.3**	**+1.1**
AF01				*e*S	**Sn**	**21 22 30.2**	**+0.8**
AF01				IAML		21 22 32.3	
	comp=E,2μm,0.3s						
PB09	**IPOC Station P**	**1.02**	**314**	*e*P	**Pn**	**21 22 20.1**	**+0.9**
PB09				*e*S	**Sn**	**21 22 31.0**	**-5.4**
PB09				IAML		21 22 37.8	
	comp=Z,938nm,0.9s						
PB09	**IPOC Station P**	**1.02**	**314**	⇑*i*P	**Pn**	**21 22 20.2**	**+0.9**
PB09				*e*S	**Sn**	**21 22 36.5**	**+0.2**
PB09				IAML		21 22 39.0	
	comp=E,930nm,0.6s						
PB06	**IPOC Station P**	**1.05**	**259**	*e*P	**Pn**	**21 22 20.1**	**+0.5**
PB06				*e*S	**Sn**	**21 22 38.8**	**+2.0**
PB06				IAML		21 22 40.6	
	comp=Z,2μm,0.2s						
PB06	**IPOC Station P**	**1.05**	**259**	⇑*i*P	**Pn**	**21 22 20.0**	**+0.5**
PB06				*e*S	**Sn**	**21 22 37.8**	**+0.9**
PB06				IAML		21 22 40.0	
	comp=N,3μm,0.2s						
PB15	**IPOC Station P**	**1.17**	**233**	*e*P	**Pn**	**21 22 16.4**	**-4.3**
PB15				*e*S	**Sn**	**21 22 40.7**	**+1.6**
PB15	**IPOC Station P**	**1.17**	**233**	⇑*i*P	**Pn**	**21 22 22.1**	**+1.3**
PB15				*e*S	**Sn**	**21 22 39.5**	**+0.4**
PB04	**IPOC Station P**	**1.58**	**276**	*e*P	**Pn**	**21 22 25.9**	**+0.6**
PB04				*e*S	**Sn**	**21 22 48.1**	**+1.0**
PB04				IAML		21 22 49.4	
	comp=Z,1μm,0.2s						
PB04	**IPOC Station P**	**1.58**	**276**	*e*P	**Pn**	**21 22 25.8**	**+0.6**
PB04				*e*S	**Sn**	**21 22 46.9**	**-0.1**
PB04				IAML		21 22 51.6	
	comp=N,903nm,0.3s						
PB10	**IPOC Station P**	**2.18**	**242**	*e*P	**Pn**	**21 22 32.7**	**+0.4**
PB10				*e*S	**Sn**	**21 22 59.0**	**-0.8**
PB10				IAML		21 23 00.3	
	comp=Z,114nm,0.2s						
PB10	**IPOC Station P**	**2.18**	**242**	*e*P	**Pn**	**21 22 32.9**	**+0.5**
PATCX	**Punta Patache**	**2.31**	**316**	*e*P	**Pn**	**21 22 34.2**	**+0.1**
PATCX				*e*S	**Sn**	**21 22 57.2**	**-5.7**
PATCX				IAML		21 23 07.3	
	comp=Z,258nm,0.6s						
PATCX	**Punta Patache**	**2.31**	**316**	*e*P	**Pn**	**21 22 34.2**	**+0.1**
TA01	**Diego Aracena**	**2.52**	**320**	*e*P	**Pn**	**21 22 36.7**	**0.0**
TA01				*e*S	**Sn**	**21 23 07.1**	**-0.4**
TA01				IAML		21 23 17.9	
	comp=Z,100nm,0.6s						
TA01	**Diego Aracena**	**2.52**	**320**	*e*P	**Pn**	**21 22 36.2**	**-0.4**
HMBC	**Humberstone**	**2.59**	**329**	*e*P	**Pn**	**21 22 37.6**	**-0.2**
HMBC				*e*S	**Sn**	**21 23 10.2**	**+0.7**
HMBC				IAML		21 23 22.1	
	comp=Z,209nm,0.4s						
HMBC	**Humberstone**	**2.59**	**329**	*e*P	**Pn**	**21 22 37.5**	**-0.2**
TA02	**Huaiquique**	**2.72**	**325**	*e*P	**Pn**	**21 22 42.0**	**+2.7**
TA02				*e*S	**Sn**	**21 23 14.5**	**+2.3**
TA02				IAML		21 23 20.6	
	comp=Z,146nm,0.6s						
YJA	**Yavi**	**2.74**	**84**	*e*P	**Pn**	**21 22 37.9**	**-2.1**
PB14	**IPOC Station P**	**2.77**	**220**	*e*P	**Pn**	**21 22 40.8**	**+0.6**
PB14				*e*S	**Sn**	**21 23 11.7**	**-2.0**
PB14				IAML		21 23 17.5	
	comp=Z,135nm,0.5s						
PB14	**IPOC Station P**	**2.77**	**220**	*e*P	**Pn**	**21 22 41.1**	**+1.0**
GO02	**Mina Guanaco**	**2.84**	**201**	*e*P	**Pn**	**21 22 42.2**	**+1.1**
GO02				*e*S	**Sn**	**21 23 12.6**	**-2.9**
GO02	**Mina Guanaco**	**2.84**	**201**	*e*P	**Pn**	**21 22 42.3**	**+1.1**
GO02				*e*S	**Sn**	**21 23 17.0**	**+1.6**
GO01	**Chusmiza**	**2.91**	**346**	*e*P	**Pn**	**21 22 43.4**	**+1.1**
GO01	**Chusmiza**	**2.91**	**346**	*e*P	**Pn**	**21 22 43.6**	**+1.3**
GO01				*e*S	**Sn**	**21 23 18.4**	**+1.1**
GO01				IAML		21 23 23.0	
	comp=N,262nm,0.2s						
PB11	**IPOC Station P**	**2.96**	**337**	*e*P	**Pn**	**21 22 42.6**	**0.0**
PB11				*e*S	Sn	21 23 07.9	-10
PB11				IAML		21 23 22.9	
	comp=Z,90nm,0.4s						
AZAP	**Zapla**	**3.55**	**119**	*e*P	**Pn**	**21 22 52.1**	**+1.7**
AC01	**Pan de Azucar**	**4.12**	**208**	*e*P	**Pn**	**21 22 57.4**	**-0.3**
AC01				*e*S	**Sn**	**21 23 44.1**	**-1.1**
AC01				IAML		21 23 57.6	
	comp=Z,48nm,0.6s						
GO03	**Copiap**	**5.31**	**197**	*e*P	**Pn**	**21 23 13.5**	**-0.4**
GO03				*e*S	**Sn**	**21 24 14.0**	**0.0**

*IDC **12** 21:25:54.4±1.0, 31°.72S×58°.29E, h0km, mb3.8/8, mbtmp3.9/9, ML3.6/1, Error ellipse: s-maj=33.8km s-min=25.7km az=62.0*

ISC 12 21:25:56.0±1.0, 31°.65S±0°.2×58°.1E±0°.2, h10km, n15, σ2°.10/10, mb3.9/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.34**	**197**	T	T	21 44 47.9	
	baz=21,slow=75,SNR=28						
H04N1	**CROZET ISLANDS**	**15.35**	**197**	T	T	21 44 49.0	
	baz=21,slow=75,SNR=24						
H04N3	**CROZET ISLANDS**	**15.36**	**197**	T	T	21 44 47.9	
	baz=21,slow=75,SNR=25						
OPO	**Ambohidratompo**	**16.28**	**320**	Pn	**Pn**	**21 29 47.1**	**+2.1**
	baz=141,slow=6.5,SNR=1.8						
OPO				Sn	**Sn**	**21 32 41.5**	**-4.3**
	baz=126,slow=17,SNR=2.4						
	4.0nm,0.9s						
H08S1	**Diego Carcia H**	**27.34**	**32**	T	T	22 00 05.0	
	baz=207,slow=76,SNR=10.0						
H08S2	**Diego Garcia H**	**27.35**	**32**	T	T	22 00 04.0	
	baz=207,slow=76,SNR=9.5						
H08S3	**Diego Garcia H**	**27.36**	**32**	T	T	22 00 06.8	
	baz=207,slow=76,SNR=12						
QSPA	**South Pole Qui**	**58.58**	**180**	P	**P**	**21 35 52.1**	**-0.6**
	0.7nm,0.6s,baz=264,slow=3.2,SNR=6.2						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.34**	**44**	P	**P**	**21 36 25.4**	**-0.1**
	1.0nm,0.6s,baz=226,slow=6.1,SNR=7.0						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**66.43**	**104**	P	**P**	**21 36 44.5**	**-1.3**
	0.6nm,0.9s,baz=241,slow=5.8,SNR=5.2						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**68.44**	**101**	P	**P**	**21 36 57.0**	**-1.5**
	0.7nm,0.8s,baz=241,slow=5.4,SNR=3.8						
	0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**69.98**	**300**	P	**P**	**21 37 09.2**	**+1.1**
	0.6nm,0.9s,baz=132,slow=6.6,SNR=2.8						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**81.03**	**17**	P	**P**	**21 38 11.9**	**+1.2**
	0.2nm,0.7s,baz=194,slow=5.0,SNR=2.1						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**83.83**	**13**	P	**P**	**21 38 25.6**	**+0.3**
	1.1nm,0.3s,baz=203,slow=5.9,SNR=4.6						
	1.1nm,0.3s						
BVAR	**Borovoye Array**	**84.94**	**7**	P	**P**	**21 38 31.4**	**+0.6**
	1.4nm,0.8s,baz=182,slow=4.5,SNR=7.4						
	1.4nm,0.8s						

*DRS **12** 21:27:55.5, 42°.49N×46°.52E, h18km*

*NORS **12** 21:27:56.1, 42°.48N×46°.49E, h1km, MPVA3.7*

MOS 12 21:27:55.0, 42°.46N×46°.56E, h17km, MPVA3.6, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNCR	**Uncukul**	**0.30**	**35**	*e*Pg	Pb	21 28 02.4	+0.4
UNCR				*e*Sg	Sb	21 28 07.7	+1.0
GNBR	**Gunib**	**0.31**	**104**	*e*Pg	Pb	21 28 03.0	+0.9
GNBR				*e*Sg	Sb	21 28 08.3	+1.5
BTLR	**Botlikh**	**0.32**	**309**	*e*Pg	Pg	21 28 01.2	-0.7
BTLR				*e*Sg	Sg	21 28 05.4	-1.2
ARKR	**Arakani**	**0.35**	**66**	*e*Pg	Pb	21 28 03.8	+1.0
ARKR				*e*Sg	Sb	21 28 09.1	+1.0
KRNR	**Karanay**	**0.45**	**35**	*e*Pg	Pb	21 28 05.0	+0.5
KRNR				*e*Sg	Sb	21 28 12.4	+1.6
KMKR	**Kumukh**	**0.52**	**129**	*e*Pg	Pb	21 28 06.8	+1.0
KMKR				*e*Sg	Sb	21 28 14.7	+1.6
BUJR	**Buynaksk**	**0.54**	**48**	*e*Pg	Pn	21 28 07.7	-0.3
BUJR				*e*Sg	Sn	21 28 16.3	-0.4
DBC	**Dubki**	**0.59**	**20**	*e*Pg	Pb	21 28 07.5	+0.6
DBC				*e*Sg	Sn	21 28 16.7	-1.3
DLMR	**Dylym**	**0.61**	**5**	*e*Pg	Pn	21 28 09.1	+0.2
DLMR				*e*Sg	Sn	21 28 17.9	-0.4
SGKR	**Sergokala**	**0.81**	**90**	*e*Pg	Pn	21 28 13.1	+1.4
SGKR				*e*Sg	Sn	21 28 24.9	+1.6
URKR	**Urkarakh**	**0.85**	**110**	*e*Pg	Pn	21 28 12.7	+0.4
URKR				*e*Sg	Sn	21 28 25.3	+0.9
MAK	**Makhachkala**	**0.86**	**54**	*e*Pg	Pn	21 28 13.1	+0.9
MAK				*e*Sg	Sn	21 28 26.0	+1.6
KANR	**Karaman**	**1.00**	**43**	*e*Pg	Pg	21 28 20.3	+5.8
KANR				*e*Sg	Sn	21 28 35.5	+7.5
AKT	**Akhty**	**1.31**	**138**	*e*Pg	Pg	21 28 20.6	+0.2
AKT				*e*Sg	Sg	21 28 38.7	+1.1
KMGR	**Komgaron**	**1.38**	**296**	*e*Pg	Pg	21 28 22.2	+0.6
KMGR				*e*Sg	Sg	21 28 42.4	+2.8
DRN	**Derbent**	**1.39**	**108**	*e*Pg	Pg	21 28 22.6	+1.0
DRN				*e*Sg	Sg	21 28 42.6	+2.8
KSMR	**Kasumkent**	**1.45**	**126**	*e*Pg	Pg	21 28 23.6	+0.6
KSMR				*e*Sg	Sg	21 28 44.8	+2.9
GUDG	**Gudauri**	**1.54**	**271**	*e*Pg	Pb	21 28 23.5	+0.3
GUDG				*e*Sg	Sg	21 28 44.3	-0.5
LACR	**Lac**	**1.71**	**283**	*e*Pg	Pb	21 28 26.1	+0.1
LACR				*e*Sg	Sb	21 28 48.6	+1.4
KORR	**Kora**	**1.94**	**290**	*e*Pg	Pg	21 28 32.1	-0.1
KORR				*e*Sg	Sg	21 28 57.7	+0.4
STDR	**Stavd-Durt**	**2.04**	**297**	*e*Pg	Pb	21 28 31.2	-0.4
STDR				*e*Sg	Sg	21 28 59.6	-1.2
ONI	**Oni**	**2.30**	**274**	*e*Pn	Pb	21 28 36.8	+0.7
ONI				*e*Sn	Sg	21 29 07.3	-1.6
GNI	**Garni**	**2.69**	**211**	*e*Pn	Pb	21 28 40.3	-2.4
GNI				*e*Sn	Sb	21 29 15.9	+0.5
KBZ	**Khabaz**	**2.96**	**296**	*e*Pn	Pb	21 28 44.8	-2.6
KBZ				*e*Sn	Sb	21 29 21.2	-2.0
BEYR	**Belyy Ugol+**	**3.14**	**301**	*e*Pn	Pn	21 28 46.8	+3.1
BEYR				*e*Sn	Sn	21 29 22.6	+1.8
KIV	**Kislovodsk**	**3.20**	**299**	*e*Pn	Pn	21 28 47.1	+2.6
KIV				*e*Sn	Sn	21 29 26.1	+3.8

*IDC **12** 21:50:52.0±0.6, 13°.41N×144°.64E, h132km±17km, mb3.2/6, mbtmp3.6/6, Error ellipse: s-maj=70.3km s-min=19.2km az=76.0*

*NEIC **

NSSP 12 21:59:35.8, 38.45N×44.97E, h10km, Ms4.1
ISK 12 21:59:35.1, 38.46N×44.95E, h5km, ML3.8/15
AFAD 12 21:59:36.1±0.0, 38.36N×44.87E, h10km±4km, MW4.1
ISC 12 21:59:34.8±1.1, 38.44N±0.02×44.95E±0.01, h1km±8km, n153, σ1.58/197, mb3.4/10, MS3.0/12, 10C-9D,
Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.78**	**287**	P	**Pb**	**21 59 51.0**	**-0.3**
OZAP				S	**Sn**	**22 00 03.9**	**-1.7**
NAX	**Nakhchivan**	**0.85**	**30**	Pg	**Pg**	**21 59 51.8**	**+0.6**
NAX	**Nakhchivan**	**0.85**	**30**	P	**Pg**	**21 59 51.7**	**+0.6**
NAX				S	**Sb**	**22 00 04.2**	**-0.1**
MAKU	**Maku**	**0.94**	**347**	Pg	**Pg**	**21 59 52.9**	**+0.1**
MAKU				Sg	**Sg**	**22 00 04.7**	**-0.3**
ORD	**Ordubad**	**0.95**	**59**	Pg	**Pg**	**21 59 53.4**	**+0.3**
ORD	**Ordubad**	**0.95**	**59**	P	**Pg**	**21 59 53.4**	**+0.3**
ORD				S	**Sb**	**22 00 06.8**	**-0.6**
YOVA	**Hakkari_Yksek**	**1.00**	**212**	P	**Pg**	**21 59 54.0**	**+0.1**
YOVA				S	**Sg**	**22 00 04.8**	**-2.1**
SBZ	**Shahbuz**	**1.07**	**26**	Pg	**Pg**	**21 59 55.4**	**+0.1**
SBZ	**Shahbuz**	**1.07**	**26**	P	**Pg**	**21 59 55.4**	**+0.1**
SBZ				S	**Sn**	**22 00 13.5**	**+0.9**
CLDR	**Caldiran**	**1.07**	**311**	Pg	**Pb**	**21 59 55.8**	**-0.4**
CLDR				Sg	**Sn**	**22 00 12.2**	**-0.6**
CLDR	**Caldiran**	**1.07**	**311**	P	**Pg**	**21 59 55.5**	**+0.1**
CLDR				S	**Sg**	**22 00 08.9**	**-0.2**
CLDR	**Caldiran**	**1.07**	**311**	Pg	**Pg**	**21 59 55.4**	**+0.1**
IAZR	**Azarshahr**	**1.11**	**133**	Pg	**Pg**	**21 59 56.1**	**-0.1**
VMUR	**Van-Muradiye**	**1.21**	**297**	P	**Pn**	**21 59 58.6**	**-0.4**
VMUR				S	**Sb**	**22 00 14.7**	**-0.1**
VMUR	**Van-Muradiye**	**1.21**	**297**	Pg	**Pn**	**21 59 58.6**	**-0.4**
TVAN	**Van**	**1.21**	**275**	P	**Pn**	**21 59 59.3**	**+0.1**
TVAN				S	**Sg**	**22 00 14.1**	**+0.4**
VANB	**Van**	**1.23**	**278**	Pn	**Pn**	**21 59 59.4**	**+0.1**
HYR	**Heyderabad**	**1.28**	**357**	Pg	**Pg**	**21 59 59.3**	**0.0**
HYR	**Heyderabad**	**1.28**	**357**	P	**Pg**	**21 59 59.3**	**0.0**
HYR				S	**Sn**	**22 00 19.6**	**+1.9**
HAKT	**HAKKARI**	**1.32**	**228**	P	**Pg**	**22 00 00.1**	**0.0**
HAKT				S	**Sg**	**22 00 17.4**	**+0.3**
HAKT	**HAKKARI**	**1.32**	**228**	Pg	**Pg**	**22 00 00.0**	**0.0**
ERCV	**ERCIS-VAN**	**1.39**	**295**	Pn	**Pg**	**22 00 02.5**	**+1.1**
DYDN	**Diyadin**	**1.48**	**319**	P	**Pg**	**22 00 03.9**	**+0.8**
DYDN				S	**Sg**	**22 00 25.7**	**+3.4**
GEVA	**Gevas**	**1.49**	**266**	P	**Pn**	**22 00 02.6**	**-0.4**
GEVA				S	**Sg**	**22 00 22.9**	**+0.3**
GEVA	**Gevas**	**1.49**	**266**	Pg	**Pn**	**22 00 02.5**	**-0.4**
GRS	**Goris**	**1.51**	**45**	⇓*i*P	**Pn**	**22 00 02.0**	**-1.2**
GRS				⇓*i*S	**Sn**	**22 00 22.0**	**-1.6**
AKDM	**Akdamar-Van**	**1.55**	**266**	Pn	**Pg**	**22 00 04.9**	**+0.4**
NRKZ	**NAREK**	**1.57**	**352**	⇑*i*P	**Pg**	**22 00 06.3**	**+1.3**
NRKZ				⇑*i*S	**Sg**	**22 00 28.9**	**+3.5**
IGDI	**IGDIR**	**1.58**	**335**	P	**Pb**	**22 00 04.6**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.64**	**341**	Pn	**Pb**	**22 00 05.9**	**0.0**
GNI	**Garni**	**1.71**	**355**	⇓*i*P	**Pb**	**22 00 06.9**	**-0.4**
GNI				⇓*i*S	**Sg**	**22 00 29.6**	**-0.3**
GNI	**Garni**	**1.71**	**355**	Pg	**Pb**	**22 00 07.4**	**+0.2**
	137nm,0.3s,baz=200,slow=12,SNR=341						
GNI				Lg	Lg	22 00 29.8	
	57nm,0.3s,baz=229,slow=20,SNR=2.3						
MAHB	**Mahabad**	**1.78**	**160**	Pg	**Pn**	**22 00 07.5**	**+0.7**
ADCV	**BITLIS_Adilcev**	**1.78**	**283**	P	**Pg**	**22 00 09.4**	**+0.5**
METS	**Metsamor**	**1.83**	**339**	*e*P	**Pg**	**22 00 10.7**	**+0.7**
METS				*e*S	**Sg**	**22 00 37.9**	**+4.1**
VNNZ	**Vanand**	**1.88**	**333**	*e*P	**Pg**	**22 00 12.0**	**+1.2**
VNNZ				*e*S	**Sg**	**22 00 38.9**	**+3.8**
KAPZ	**Kaputan**	**1.89**	**354**	⇓*i*P	**Pb**	**22 00 09.9**	**-0.3**
KAPZ				⇑*i*S	**Sg**	**22 00 35.3**	**-0.2**
AGRB	**Hanur-Agry**	**1.90**	**307**	Pn	**Pb**	**22 00 09.7**	**-0.7**
DORK	**Agr/Tutak/Do**	**1.94**	**300**	P	**Pb**	**22 00 11.0**	**0.0**
DORK				S	**Sn**	**22 00 27.8**	**-6.4**
ARUZ	**Aruch**	**1.96**	**340**	⇑*i*P	**Pb**	**22 00 11.2**	**-0.2**
ARUZ				⇑*i*S	**Sg**	**22 00 39.0**	**+1.3**
PERV	**Siirt/Pervari-**	**1.96**	**256**	P	**Pg**	**22 00 12.2**	**-0.1**
PERV				S	**Sn**	**22 00 33.4**	**-1.2**
MLAZ	**Malazgirt-MUS**	**2.00**	**291**	Pn	**Pb**	**22 00 11.3**	**-0.8**
AMBZ	**Amberd**	**2.02**	**345**	⇓*i*P	**Pb**	**22 00 12.0**	**-0.5**
AMBZ				⇑*i*S	**Sg**	**22 00 39.0**	**-0.6**
QRD	**Qoradiz**	**2.11**	**60**	Pn	**Pb**	**22 00 13.7**	**-0.2**
QRD				Sn	**Sb**	**22 00 41.1**	**+0.4**
SIRN	**Sırnak**	**2.21**	**246**	P	**Pb**	**22 00 15.2**	**-0.4**
BLIS	**Bitlis-Merkez**	**2.22**	**270**	P	**Pb**	**22 00 15.8**	**-0.1**
GURO	**Guroymak-BITLI**	**2.29**	**274**	Pn	**Pb**	**22 00 15.8**	**-1.2**
SDS1	**Sardasht. Az.**	**2.33**	**169**	Pn	**Pn**	**22 00 16.1**	**+1.7**
GRMI	**Germi**	**2.34**	**80**	Pn	**Pb**	**22 00 16.9**	**-1.0**
GDB	**GEDABAY**	**2.36**	**15**	Pn	**Pb**	**22 00 16.8**	**-1.5**
GDB				Sn	**Sg**	**22 00 50.5**	**-0.2**
AGDM	**Agdam**	**2.37**	**45**	Pn	**Pb**	**22 00 17.2**	**-1.1**
AGDM				Sn	**Sg**	**22 00 51.0**	**+0.2**
EATA	**Eleskirt**	**2.38**	**307**	P	**Pg**	**22 00 19.9**	**-0.5**
EATA				S	**Sb**	**22 00 48.0**	**-0.6**
BLQ	**Beylaqan**	**2.40**	**57**	Pn	**Pb**	**22 00 19.2**	**+0.3**
BLQ				Sn	**Sg**	**22 00 50.8**	**-1.2**
SRTM	**Siirt_Merkez**	**2.42**	**260**	P	**Pb**	**22 00 18.3**	**-1.0**
GANJ	**Ganja**	**2.45**	**25**	Pn	**Pb**	**22 00 18.0**	**-1.7**
GANJ				Sn	**Sg**	**22 00 52.8**	**-0.6**
EAK	**Akyaka**	**2.47**	**336**	P	**Pg**	**22 00 22.1**	**-0.1**
EAK				S	**Sb**	**22 00 49.0**	**-2.1**
BRDA	**Brd**	**2.51**	**43**	Pn	**Pb**	**22 00 20.3**	**-0.4**
BRDA				Sn	**Sg**	**22 00 55.8**	**+0.2**
KARS	**Kars**	**2.62**	**327**	Pn	**Pn**	**22 00 19.7**	**+1.3**
YRD	**Yardimli**	**2.62**	**79**	Pn	**Pb**	**22 00 21.2**	**-1.5**
YRD				Sn	**Sg**	**22 00 59.0**	**-0.1**
BOZK	**Kars-Merkez-Bo**	**2.63**	**325**	P	**Pg**	**22 00 26.0**	**+0.7**
BOZK				S	**Sn**	**22 00 50.6**	**-0.8**
QZX	**Qazax, Azerbai**	**2.63**	**7**	Pn	**Pn**	**22 00 20.2**	**+1.7**
QZX				Sn	**Sb**	**22 00 54.2**	**-1.5**
LRK	**Lerik**	**2.67**	**85**	Pn	**Pb**	**22 00 23.8**	**+0.3**
LRK				Sn	**Sb**	**22 00 59.0**	**+2.1**
MUSM	**Mu-Merkez**	**2.71**	**277**	P	**Pb**	**22 00 24.9**	**+0.7**
MUSM				S	**Sb**	**22 00 57.9**	**0.0**
ZRD	**Zardab**	**2.81**	**48**	Pg	**Pb**	**22 00 25.4**	**-0.4**
ZRD				Sg	**Sg**	**22 01 05.8**	**+0.8**
GLBA	**Clilabad**	**2.81**	**72**	Pg	**Pb**	**22 00 25.5**	**-0.3**
GLBA				Sg	**Sg**	**22 01 03.8**	**-1.2**
VRTB	**Varto-Mus**	**2.82**	**286**	Pn	**Pn**	**22 00 22.9**	**+1.7**
VRTB	**Varto-Mus**	**2.82**	**286**	P	**Pg**	**22 00 27.9**	**-1.0**
MNGR	**Mingechevir, A**	**2.86**	**35**	Pg	**Pb**	**22 00 26.1**	**-0.5**
MNGR				Sg	**Sg**	**22 01 05.1**	**-1.5**
KOPR	**Koprukoy-ERZUR**	**2.86**	**304**	Pn	**Pn**	**22 00 23.4**	**+1.7**
SENK	**Senkaya-Erzuru**	**2.92**	**317**	Pn	**Pn**	**22 00 24.2**	**+1.6**
BTMN	**Batman**	**2.95**	**260**	P	**Pn**	**22 00 23.2**	**+0.3**
SVAN	**Silvan-Diyarba**	**2.96**	**266**	Pn	**Pn**	**22 00 25.1**	**+2.1**
SVAN	**Silvan-Diyarba**	**2.96**	**266**	P	**Pb**	**22 00 27.9**	**-0.5**
MIDY	**Mardin/Midyat-**	**2.99**	**251**	P	**Pn**	**22 00 25.1**	**+1.7**
GOLE	**Ardahan-G¶le**	**3.00**	**324**	P	**Pg**	**22 00 32.3**	**-0.1**
GOLE				S	**Sb**	**22 01 06.4**	**0.0**
LKRN	**Lenkeran, Azer**	**3.02**	**84**	Pg	**Pb**	**22 00 27.5**	**-1.8**
LKRN				Sg	**Sg**	**22 01 10.7**	**-1.0**
ASTR	**Astara**	**3.02**	**87**	Pg	**Pb**	**22 00 29.0**	**-0.3**
ASTR				Sg	**Sg**	**22 01 12.3**	**+0.5**
SAAT	**Saatly**	**3.05**	**61**	Pg	**Pb**	**22 00 29.6**	**-0.4**
SAAT				Sg	**Sb**	**22 01 09.4**	**+1.7**
GAS1	**Astara - Iran**	**3.06**	**90**	Pn	**Pn**	**22 00 26.9**	**+2.6**
ERZM	**Erzurum**	**3.14**	**299**	P	**Pg**	**22 00 33.7**	**-1.4**
KARO	**Karliova-Bingo**	**3.16**	**287**	Pn	**Pn**	**22 00 27.9**	**+2.0**
KDMR	**Kurdemir**	**3.17**	**51**	Pg	**Pb**	**22 00 30.8**	**-1.1**
KDMR				Sg	**Sg**	**22 01 15.4**	**-1.1**
AHAN	**Ardahan-Merkez**	**3.26**	**327**	P	**Pg**	**22 00 37.0**	**-0.2**
SEKA	**Sheki**	**3.26**	**31**	Pg	**Pb**	**22 00 33.5**	**-0.1**
SEKA				Sg	**Sg**	**22 01 19.7**	**0.0**
QBL	**Gabala**	**3.35**	**41**	Pg	**Pb**	**22 00 34.4**	**-0.7**
QBL				Sg	**Sg**	**22 01 19.9**	**-2.6**
BNGB	**Bingl**	**3.38**	**281**	Pn	**Pn**	**22 00 31.1**	**+2.2**
IML	**Ismayilli**	**3.43**	**46**	Pg	**Pb**	**22 00 35.6**	**-0.8**
IML				Sg	**Sg**	**22 01 23.9**	**-1.1**
ZKTA	**Zakatala**	**3.44**	**21**	Pg	**Pb**	**22 00 35.1**	**-1.6**
ZKTA				Sg	**Sg**	**22 01 23.0**	**-2.4**
DDEM	**Demirkent**	**3.48**	**316**	P	**Pg**	**22 00 40.0**	**-1.4**
MARD	**Mardin**	**3.48**	**252**	P	**Pn**	**22 00 31.5**	**+1.2**
ALIB	**&Aumlli-Bayram**	**3.50**	**63**	Pg	**Pb**	**22 00 37.0**	**-0.5**
EPOS	**Posof**	**3.50**	**332**	P	**Pg**	**22 00 40.0**	**-1.9**
DAGI	**Agillar**	**3.52**	**319**	P	**Pg**	**22 00 41.9**	**-0.4**
HANI	**Diyarbakir_Han**	**3.57**	**271**	P	**Pn**	**22 00 34.2**	**+2.8**
DBAD	**Bademkaya**	**3.59**	**317**	P	**Pg**	**22 00 42.2**	**-1.5**
KRIK	**Erzurum-spir**	**3.65**	**303**	P	**Pg**	**22 00 43.9**	**-0.8**
PQL	**Pirkuli**	**3.67**	**49**	Pg	**Pb**	**22 00 40.1**	**-0.4**
PQL				Sg	**Sg**	**22 01 29.9**	**-2.7**
XNQ	**Khinaliq**	**3.67**	**41**	Pg	**Pb**	**22 00 38.0**	**-2.7**
XNQ				Sg	**Sg**	**22 01 30.1**	**-2.7**
GBS	**Qobustan**	**3.73**	**55**	Pg	**Pb**	**22 00 41.1**	**-0.4**
GBS				Sg	**Sg**	**22 01 33.7**	**-1.0**
ILIN	**Lien**	**3.87**	**155**	Pn	**Pn**	**22 00 38.4**	**+2.7**
IDHR	**Dehrash**	**3.91**	**162**	Pn	**Pn**	**22 00 38.5**	**+2.3**
ATGJ	**Altiaghaj**	**3.92**	**51**	Pg	**Pb**	**22 00 44.4**	**-0.3**
ATGJ				Sg	**Sg**	**22 01 38.2**	**-2.4**
QSAR	**Qusar**	**3.99**	**39**	Pg	**Pb**	**22 00 45.2**	**-0.8**
QUBA	**Quba, Azerbaij**	**3.99**	**42**	Pg	**Pb**	**22 00 45.0**	**-0.9**
SIZA	**Siyzn**	**4.03**	**48**	Pg	**Pb**	**22 00 44.7**	**-1.9**
SIZA				Sg	**Sg**	**22 01 42.2**	**-1.9**
KOVA	**Elazig, Kovanc**	**4.03**	**275**	P	**Pb**	**22 00 45.0**	**-1.7**
BAYB	**BAYBURT**	**4.06**	**298**	P	**Pg**	**22 00 52.1**	**-0.6**
JIR1	**Jirandeh**	**4.23**	**113**	Pn	**Pn**	**22 00 42.6**	**+2.1**
LHJ2	**Lahijan - Gila**	**4.25**	**106**	Pn	**Pn**	**22 00 42.6**	**+2.0**
TNCL	**Tunceli-Merkez**	**4.28**	**281**	P	**Pb**	**22 00 46.6**	**-4.3**
IGHG	**Ghaleghazi**	**4.31**	**162**	Pn	**Pn**	**22 00 44.1**	**+2.4**
GLG1	**Gilan-e-Gharb**	**4.39**	**169**	Pn	**Pn**	**22 00 44.7**	**+2.0**
QABG	**Abgarm-Qazvin**	**4.60**	**125**	Pn	**Pn**	**22 00 47.8**	**+2.1**
IBZA	**Bozab**	**4.61**	**148**	Pn	**Pn**	**22 00 47.4**	**+1.5**
ILBA	**Ilam Banvizeh**	**4.91**	**168**	Pn	**Pn**	**22 00 51.8**	**+1.9**
IKFM	**Kafar-mosalman**	**5.44**	**154**	Pn	**Pn**	**22 00 59.5**	**+2.5**
KBZ	**Khabaz**	**5.51**	**344**	Pn	**Pn**	**22 01 01.9**	**+4.0**
	0.2nm,0.3s,baz=158,slow=8.9,SNR=5.0						
KBZ				Lg	Lg	22 02 27.4	
	baz=74,slow=18						
KBZ				LR	LR	22 03 30.3	
	comp=Z,150nm,20.5s,baz=150,slow=43						
	2.1nm,0.6s						
KVAR	**Kislovodsk Arr**	**5.77**	**344**	Pn	**Pn**	**22 01 05.1**	**+3.5**
	baz=197,slow=11						
KVAR				Lg	Lg	22 02 44.3	
	baz=144,slow=19						
	1.6nm,0.7s						
BRTR	**Keskin Array B**	**8.89**	**282**	Pn	Pn	22 01 51.0	+6.5
	0.2nm,0.3s,baz=104,slow=14,SNR=22						
BRTR				LR	LR	22 05 34.8	
	comp=Z,89nm,18.3s,baz=112,slow=41						
MMAI	**Mount Meron Ar**	**9.46**	**238**	Pn	**Pn**	**22 01 54.0**	**+1.7**
	0.4nm,0.3s,baz=66,slow=19,SNR=1.9						
	0.7nm,0.5s						
EIL	**Elat**	**12.04**	**226**	Pn	**Pn**	**22 02 28.8**	**+1.2**
	0.1nm,0.3s,baz=36,slow=19,SNR=1.2						
EIL				Lg	Lg	22 05 50.4	
	0.1nm,0.3s,baz=343,slow=19,SNR=1.9						
EIL				LR	LR	22 07 19.3	
	comp=Z,60nm,19.4s,baz=65,slow=39						
	1.9nm,0.8s						
BELG	**Belogornoye**	**14.08**	**7**	Pn	**Pn**	**22 02 54.0**	**-1.3**
	0.3nm,0.3s,baz=143,slow=20,SNR=0.8						
BELG				LR	LR	22 10 00.3	
	comp=Z,52nm,19.9s,baz=81,slow=44						
	4.7nm,0.9s						
HARR	**Harsova**	**14.18**	**302**	⇑P	**P**	**22 03 06.6**	**+2.3**
AKTO	**Aktyubinsk**	**15.17**	**34**	Pn	**Pn**	**22 03 07.3**	**-2.8**
	0.2nm,0.3s,baz=213,slow=8.5,SNR=2.7						
AKTO				LR	LR	22 10 21.9	
	comp=Z,43nm,18.4s,baz=124,slow=43						
	1.1nm,0.5s						
MLR	**Muntele Rosu**	**15.77**	**303**	Pn	**Pn**	**22 03 19.0**	**+0.8**
	0.5nm,0.4s,baz=90,slow=19						
DOPR	**Dopca**	**16.30**	**304**	⇑P	**P**	**22 03 31.8**	**+3.8**
VOIR		**16.35**	**302**	⇓P	**P**	**22 03 33.2**	**+4.5**
IDI	**Anoyia**	**16.36**	**265**	Pn	**P**	**22 03 27.3**	**-1.4**
	0.9nm,0.3s,baz=44,slow=13,SNR=6.3						
	12nm,0.9s						
AKASG	**Malin Array Be**	**16.56**	**323**	Pn	**Pn**	**22 03 26.6**	**-1.5**
	0.5nm,0.3s,baz=135,slow=11,SNR=1.6						
	0.4nm,0.4s						
KIEV	**Kiev**	**16.57**	**323**	⇓P	**P**	**22 03 29.9**	**-1.0**
BURAR	**Bucovina Array**	**17.05**	**309**	⇓P	**P**	**22 03 38.3**	**+1.9**
MARR	**Marisel-Cluj**	**18.02**	**304**	⇑P	P	22 03 55.1	+7.9
SIRR	**Siria**	**18.86**	**302**	⇑P	**Pn**	**22 04 00.5**	**+3.8**
WSAR	**Wadi Sarin**	**19.14**	**138**	LR	LR	22 12 19.6	
	comp=Z,39nm,18.3s,baz=203,slow=40						
ARU	**Arti**	**20.15**	**22**	P	**P**	**22 04 09.7**	**-0.6**
	4.1nm,0.7s,baz=201,slow=10,SNR=8.7						
ARU				LR	LR	22 14 10.7	
	comp=Z,76nm,18.1s,baz=180,slow=44						
	4.1nm,0.7s						
KIRV	**Kirov**	**20.37**	**7**	P	**P**	**22 04 11.0**	**-1.5**
	6.7nm,0.5s,baz=192,slow=19,SNR=1.2						
	6.7nm,0.5s						
NACGM	**Naroch**	**20.55**	**329**	*e*P	Pn	22 04 21.1	+4.4
	comp=Z,14nm,0.9s,baz=136						
AAK	**Ala-Archa**	**22.79**	**70**	LR	LR	22 14 59.8	
	comp=Z,28nm,19.5s,baz=236,slow=41						
BVAR	**Borovoye Array**	**22.82**	**42**	P	**P**	**22 04 38.9**	**0.0**
	comp=Z,0.5nm,0.7s,baz=228,slow=13,SNR=2.6						
BVAR				LR	LR	22 15 10.8	
	comp=Z,34nm,19.8s,baz=256,slow=41						
	comp=Z,0.5nm,0.7s						
KSH	**Kashi**	**24.09**	**78**	P	**P**	**22 04 55.8**	**+3.8**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GERES	**GERESS Array B**	**24.73**	**305**	P	**P**	**22 04 56.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=112,slow=11,SNR=2.7						
	comp=Z,0.2nm,0.4s						
FINES	**FINESS Array B**	**25.84**	**339**	P	**P**	**22 05 06.6**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=146,slow=13,SNR=2.3						
FINES				LR	LR	22 16 53.2	
	comp=Z,34nm,19.5s,baz=212,slow=40						
	comp=Z,0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**26.62**	**52**	P	**P**	**22 05 14.6**	**0.0**
	comp=Z,0.4nm,0.7s,baz=263,slow=8.7,SNR=2.2						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**28.50**	**61**	P	**P**	**22 05 32.5**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=264,slow=7.1,SNR=3.1						
MKAR				LR	LR	22 19 00.8	
	comp=Z,53nm,18.4s,baz=233,slow=41						
	comp=Z,0.5nm,0.9s						
HFS	**Hagfors**	**29.31**	**328**	P	**P**	**22 05 37.8**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=123,slow=10,SNR=5.4						
HFS				LR	LR	22 18 27.8	
	comp=Z,44nm,21.0s,baz=124,slow=39						
	comp=Z,1.5nm,0.7s						
FURI	**Furi**	**29.95**	**192**	LR	LR	22 19 25.5	
	comp=Z,12nm,20.2s,baz=184,slow=40						
NOA	**NORSAR Array B**	**30.83**	**328**	P	**P**	**22 05 51.5**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=125,slow=8.9,SNR=3.6						
NOA				LR	LR	22 19 34.2	
	comp=Z,32nm,18.6s,baz=110,slow=39						
	comp=Z,0.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**36.12**	**314**	P	**P**	**22 06 38.0**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=96,slow=10,SNR=4.0						
	comp=Z,0.5nm,0.7s						
ESDC	**Sonseca Array**	**37.62**	**288**	LR	LR	22 24 45.5	
	comp=Z,23nm,18.1s,baz=302,slow=40						
MDT	**Midelt**	**40.28**	**278**	LR	LR	22 25 55.2	
	comp=Z,25nm,18.7s,baz=156,slow=39						
SONM	**Songino Array**	**44.73**	**57**	LR	LR	22 29 20.5	
	comp=Z,24nm,19.3s,baz=288,slow=40						
TORD	**Torodi Ar. Bea**	**45.80**	**249**	P	**P**	**22 07 56.9**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=47,slow=8.1,SNR=7.6						
	comp=Z,0.5nm,0.5s						
DBIC	**Dimbokro**	**54.91**	**248**	LR	LR	22 34 14.6	
	comp=Z,32nm,19.2s,baz=218,slow=38						

NEIC 12 22:14:54.1±2.2, 39.30N±0.02×114.99W±0.05, h3km±7km,
Error ellipse: s-maj=5.2km s-min=2.5km az=87.0
REN 12 22:14:55.1±2.4, 39.27N±0.04×115.01W±0.05, h0km±4km,
ML2.0/1, ML2.5/112(NEIC), Error ellipse: s-maj=6.0km
s-min=5.2km az=152.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPR3	**Spring Creek 3**	**0.59**	**117**		Pg	22 15 06.8	+0.3
R11B	**Troy Canyon, C**	**1.02**	**206**		Pg	22 15 14.6	-0.1
R11B	**Troy Canyon, C**	**1.02**	**206**	Pg	Pg	22 15 14.3	-0.4
PSUT	**Pine Spring**	**1.16**	**129**		Pg	22 15 16.3	-1.1
PSUT	**Pine Spring**	**1.16**	**129**	IAML		22 15 32.5	
	comp=N,91nm,0.7s						
PSUT				IAML		22 15 43.2	
	comp=E,63nm,0.7s						
FSU	**Fish Springs**	**1.33**	**70**		Pg	22 15 19.9	-0.8
ELK	**Elko**	**1.49**	**353**		Pn	22 15 21.7	-1.6
S11A	**Rachel**	**1.72**	**200**		Pn	22 15 27.0	+0.6
Q09A	**Carvers**	**1.75**	**256**		Pn	22 15 26.5	-0.3
PRN	**Pahroc Range**	**1.86**	**181**		Pn	22 15 28.2	-0.1
DUG	**Dugway, Tooele**	**1.93**	**61**		Pn	22 15 28.6	-0.8
DUG				IAML		22 16 04.4	
	comp=E,31nm,0.7s						
DUG				IAML		22 16 04.9	
	comp=E,34nm,0.7s						
BMN	**Battle Mountai**	**2.06**	**305**		Pn	22 15 30.2	-1.0
BMN				IAML		22 16 06.3	
	comp=E,22nm,0.9s						
TPH	**Tonopah**	**2.10**	**236**		Pn	22 15 31.2	-0.6
TCRU	**Three Creeks R**	**2.10**	**107**		Pn	22 15 30.9	-0.9
TCRU				IAML		22 16 09.8	
	comp=N,32nm,0.9s						
TCRU				IAML		22 16 23.8	
	comp=E,20nm,1.0s						
CCUT	**Cedar City**	**2.15**	**142**	Pn	Pn	22 15 32.1	-0.3
CCUT				IAML		22 16 05.2	
	comp=E,40nm,0.7s						
CCUT				IAML		22 16 07.2	
	comp=N,41nm,0.6s						
BGU	**Big Grassy Mou**	**2.25**	**42**		Pn	22 15 33.1	-0.7
SZCU	**Shurtz Canyon**	**2.25**	**137**		Pb	22 15 36.2	-0.6
SZCU	**Shurtz Canyon**	**2.25**	**137**	IAML		22 16 11.4	
	comp=N,24nm,0.6s						
SZCU				IAML		22 16 13.0	
	comp=E,23nm,0.6s						
MVU	**Marysvale**	**2.31**	**108**		Pn	22 15 33.9	-0.8
MSU	**Marysvale**	**2.33**	**108**		Pn	22 15 35.3	+0.3
NLU	**North Lily Min**	**2.37**	**72**		Pb	22 15 38.8	0.0
NLU				IAML		22 16 18.0	
	comp=E,16nm,0.9s						
NLU				IAML		22 16 20.1	
	comp=N,15nm,0.7s						
KVN	**Kaiserville**	**2.41**	**266**		Pn	22 15 35.3	-0.7
KVN				IAML		22 16 15.5	
	comp=N,18nm,1.0s						
KVN				IAML		22 16 16.3	
	comp=E,28nm,0.7s						
TPNV	**Topopah Spring**	**2.51**	**203**		Pg	22 15 43.9	+0.6
MTPU	**Mount Pierson**	**2.53**	**118**		Pn	22 15 37.3	-0.5
NV11	**Mina Array Sit**	**2.59**	**252**		Pg	22 15 45.2	+0.4
NV11				IAML		22 16 24.0	
	comp=N,14nm,1.1s						
GMN	**Gold Mountain**	**2.64**	**223**		Pn	22 15 37.6	-1.6
GMN				IAML		22 16 23.9	
	comp=E,13nm,0.8s						
GMN				IAML		22 16 37.6	
	comp=N,17nm,0.7s						
LCMT	**Little Creek M**	**2.65**	**148**		Pb	22 15 43.1	-0.4
LCMT				IAML		22 16 21.0	
	comp=E,15nm,0.6s						
NVAR	**Mina Array Bea**	**2.71**	**253**		Pg	22 15 49.1	+2.1
MCY	**Mercury**	**2.71**	**196**		Pg	22 15 47.2	+0.2
NV09	**Mina Array Sit**	**2.73**	**253**		Pg	22 15 47.3	0.0
SHPR	**Sheep Range**	**2.76**	**183**	Pg	Pg	22 15 49.1	+1.1
WCT	**Wildcat Mounta**	**2.78**	**208**		Pg	22 15 48.5	+0.1
PKCU	**Pink Cliffs**	**2.79**	**130**		Pn	22 15 41.1	-0.3
PKCU				IAML		22 16 25.9	
	comp=N,23nm,1.0s						
RYN	**Ryan**	**2.81**	**258**		Pn	22 15 41.5	0.0
RYN				IAML		22 16 35.3	
	comp=N

ASAR Alice Springs 33.39 257 P **P 22 33 14.2 +0.2**
1.0nm,0.5s,baz=84,slow=8.5,SNR=16
1.0nm,0.5s
GUMO Guam 41.48 322 LR LR 22 52 17.2
comp=Z,18nm,19.9s,baz=165,slow=37
JHJ Hachijo jima 2 60.17 331 LR LR 23 03 29.9
comp=Z,16nm,18.9s,baz=114,slow=36
SONM Songino Array 88.20 323 P **P 22 39 26.3 +1.6**
1.5nm,0.8s,baz=141,slow=4.6,SNR=10
1.5nm,0.8s
TXAR Lajitas Array 96.76 61 P **P 22 40 03.4 -1.3**
0.1nm,0.6s,baz=217,slow=4.3,SNR=2.1
0.1nm,0.6s

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*BGR **12** 22:34:32.4, 57°.14N×35°.31W, h33km, mb4.6, Hypocentre not reviewed by the ISC*
*IDC **12** 22:34:33.0±0.5, 56°.91N×33°.94W, h0km, mb4.2/29, mbtmp4.2/34, ML3.5/5, MS3.8/74, Error ellipse: s-maj=14.1km s-min=10.5km az=176.0*
*GCMT **12** 22:34:34.1±0.3, 57°.13N±0°.04×33°.83W±0°.04, h12km, MW4.8/83, Moment Tensor Solution. s11,c12; s83,c119; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=1.60±.07; Mθθ=0.31±.08; Mφφ=1.29±.05; Mrθ=0.51±.32; Mrφ=0.66±.05; Mθφ=-0.33±.26; Best double couple: M0=1.71500×10^16^ NP1:φ=9.00000°, δ=49.00000°, λ=-115.00000°. NP2: φ=224.00000°, δ=47.00000°, λ=-64.00000°. Principal axes: T 1.6250, Plg1.0000°, Azm116.0000°; N 0.1760, Plg19.0000°, Azm26.0000°; P -1.8040, Plg71.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **12** 22:34:35.1±1.4, 56°.90N±0°.09×33°.9W±0°.1, h10km±1km, mb4.7/460 Error ellipse: s-maj=15.4km s-min=12.5km az=171.0*
ISC 12 22:34:35.3±0.3, 56°.92N±0°.05×33°.97W±0°.04, h13km, n929, σ0=99/818, mb4.7/287, MS3.8/84, 14C-26D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
BORG	**Borgarnes**	**9.97**	**33**	Pn	**Pn**	**22 36 58.4**		**+0.4**
	0.6nm,0.3s,baz=254,slow=18,SNR=2.4							
BORG				Sn	**Sn**	**22 38 47.4**		**-2.2**
	0.3nm,0.3s,baz=173,slow=18,SNR=1.7							
BORG				LR	LR	22 39 51.5		
	comp=Z,1μm,19.2s,baz=256,slow=32							
	3.1nm,0.5s							
SFJD	**Kangerlussuaq**	**12.73**	**329**	Pn	**Pn**	**22 37 36.7**		**+0.9**
	1.0nm,0.3s,baz=108,slow=6.4,SNR=2.0							
SFJD				Sn	**Sn**	**22 40 00.8**		**+3.6**
	0.8nm,0.3s,baz=266,slow=5.4,SNR=1.7							
SFJD				LR	LR	22 41 42.2		
	comp=Z,1μm,18.7s,baz=140,slow=34							
	5.3nm,0.5s							
ILULI	**Ilulissat**	**14.49**	**335**	Pn	**Pn**	**22 37 59.6**		**-0.1**
SCO	**Scoresbysund**	**14.57**	**16**	Pn	**Pn**	**22 38 01.9**		**+1.0**
SUMG	**Summit**	**15.83**	**355**		**Pn**	**22 38 16.8**		**-1.1**
SUMG	**Summit**	**15.83**	**355**	*i* P	**Pn**	**22 38 16.0**		**-2.0**
DRLN	**Deer Lake**	**16.02**	**251**	Pn	**Pn**	**22 38 20.0**		**-0.1**
DRLN				IAmb	IAmb	22 38 29.3		
	comp=Z,56nm,1.2s							
DSB	**Dublin**	**16.17**	**91**	Pn	**Pn**	**22 38 19.6**		**-2.4**
ESK	**Eskdalemuir**	**17.16**	**82**	P	**Pn**	**22 38 33.8**		**-0.8**
EKA	**Eskdalemuir Ar**	**17.18**	**82**	P	**Pn**	**22 38 34.8**		**+0.1**
	baz=292,slow=9.8							
	comp=Z,4.2nm,0.9s							
JMIC	**Jan Mayen**	**17.77**	**27**	LR	LR	22 43 46.2		
	comp=Z,112nm,21.6s,baz=235,slow=31							
FRB	**Frobisher Bay**	**18.24**	**306**	P	**P**	**22 38 48.0**		**0.0**
	comp=Z,0.3nm,0.3s,baz=108,slow=12,SNR=4.0							
FRB				LR	LR	22 44 30.2		
	comp=Z,464nm,21.9s,baz=83,slow=33							
	comp=Z,6.1nm,1.0s							
SCHQ	**Schefferville**	**18.46**	**277**	P	**P**	**22 38 49.3**		**-1.2**
SCHQ	**Schefferville**	**18.46**	**277**	P	**P**	**22 38 50.2**		**-0.3**
	comp=Z,0.3nm,0.3s,baz=75,slow=13,SNR=2.9							
SCHQ				LR	LR	22 44 41.9		
	comp=Z,560nm,19.3s,baz=80,slow=33							
	comp=Z,5.9nm,0.6s							
GBN	**Guysborough**	**20.60**	**248**	P	**P**	**22 39 12.9**		**-1.0**
GBN				IAmb	IAmb	22 39 24.5		
	comp=Z,80nm,1.5s							
BATG	**Bathurst New B**	**21.75**	**257**	P	**P**	**22 39 25.5**		**-0.8**
BATG				IAmb	IAmb	22 39 34.6		
	comp=Z,34nm,1.0s							
LMN	**Caledonia Moun**	**22.00**	**253**	P	**P**	**22 39 29.3**		**+0.3**
HAL	**Halifax**	**22.20**	**249**	P	**P**	**22 39 31.0**		**0.0**
HAL				IAmb	IAmb	22 39 42.6		
	comp=Z,51nm,1.3s							
PCAB	**Cabril**	**22.55**	**121**	*e*P	**P**	**22 39 41.7**		**+6.8**
	comp=Z,54nm,1.7s							
KONO	**Kongsberg**	**22.76**	**65**	P	**P**	**22 39 36.7**		**-0.3**
KONO				IAmb	IAmb	22 39 43.1		
	comp=Z,30nm,1.1s							
POLO	**Lamas de Olo**	**22.92**	**122**	*e*P	**P**	**22 39 44.4**		**+5.5**
NC204	**NORSAR Array S**	**23.02**	**60**	P	**P**	**22 39 39.5**		**-0.2**
NC204				IAmb	IAmb	22 39 45.5		
	comp=Z,21nm,1.1s							
NBO00	**NORSAR Array S**	**23.07**	**61**	P	**P**	**22 39 40.6**		**+0.4**
NBO00				IAmb	IAmb	22 39 46.0		
	comp=Z,21nm,1.1s							
PBRG	**Braganca**	**23.09**	**119**	*e*P	**P**	**22 39 42.3**		**+1.8**
	comp=Z,30nm,1.7s							
NAO01	**NORSAR Array S**	**23.16**	**61**	P	**P**	**22 39 40.6**		**-0.4**
NAO01				IAmb	IAmb	22 39 46.9		
	comp=Z,29nm,1.4s							
NB2	**NORSAR Subarra**	**23.28**	**61**	P	**P**	**22 39 41.3**		**-1.0**
	comp=Z,88nm,2.5s,baz=278,slow=11							
NOA	**NORSAR Array B**	**23.28**	**61**	P	**P**	**22 39 41.8**		**-0.6**
	comp=Z,7.0nm,1.1s,baz=280,slow=9.9,SNR=7.1							
NOA				LR	LR	22 47 17.9		
	comp=Z,129nm,21.6s,baz=275,slow=33							
	comp=Z,7.0nm,1.1s							
NB201	**NORSAR Array S**	**23.31**	**61**	P	**P**	**22 39 42.6**		**-0.1**
NB201				IAmb	IAmb	22 39 48.2		
	comp=Z,30nm,1.4s							
NC303	**NORSAR Array S**	**23.32**	**60**	P	**P**	**22 39 43.2**		**+0.5**
NC303				IAmb	IAmb	22 39 48.3		
	comp=Z,35nm,1.4s							
PVIS	**Viseu**	**23.39**	**123**	*e*P	**P**	**22 39 48.5**		**+4.8**
D62A	**Allapoint, All**	**23.48**	**260**	P	**P**	**22 39 44.4**		**0.0**
D62A				IAmb	IAmb	22 39 51.6		
	comp=Z,24nm,1.1s							
NC602	**NORSAR Array S**	**23.49**	**62**	P	**P**	**22 39 44.7**		**+0.3**
NC405	**NORSAR Array S**	**23.50**	**61**	P	**P**	**22 39 44.6**		**0.0**
GGN	**Saint George**	**23.56**	**254**	P	**P**	**22 39 44.9**		**-0.2**
GGN				IAmb	IAmb	22 39 45.5		
	comp=Z,39nm,1.5s							
COI	**Coimbra**	**23.56**	**124**	P	**P**	**22 39 44.7**		**-0.5**
COI	**Coimbra**	**23.56**	**124**	*e*P	**P**	**22 39 50.3**		**+5.0**
PCAS	**Casmilo, Conde**	**23.65**	**125**	*e*P	**P**	**22 39 50.5**		**+4.4**
	comp=Z,45nm,1.9s							
BMRD	**Maredsous**	**23.66**	**90**	*d*P	**P**	**22 39 47.1**		**+1.0**
DOU	**Dourbes**	**23.67**	**90**	*d*P	**P**	**22 39 46.6**		**+0.3**
BGES	**Gesves**	**23.79**	**89**	*d*P	**P**	**22 39 48.7**		**+1.3**
MTE	**Manteigas**	**23.81**	**123**	P	**P**	**22 39 46.4**		**-1.3**
MTE				IAmb	IAmb	22 39 53.6		
	comp=Z,20nm,1.1s							
MTE	**Manteigas**	**23.81**	**123**	*e*P	**P**	**22 39 49.1**		**+1.4**
	comp=Z,36nm,1.4s							
MTE				*e*LR	LR	22 45 22.1		
	comp=Z,386nm,20.0s							
F64A	**Sherman**	**23.87**	**257**	P	**P**	**22 39 47.4**		**-0.8**
F64A				IAmb	IAmb	22 39 53.8		
	comp=Z,23nm,1.1s							
BCLA	**Clavier**	**23.89**	**89**	*d*PP	**PnPn**	**22 40 15.5**		**-0.9**
LMQ	**La Malbaie**	**23.89**	**263**	P	**P**	**22 39 48.2**		**-0.2**
LMQ				IAmb	IAmb	22 39 58.6		
	comp=Z,25nm,1.4s							
BSTI	**Sart Tilman**	**23.95**	**88**	*d*P	**P**	**22 39 51.5**		**+2.5**
RCHB	**Rochefort**	**23.99**	**90**	*d*P	**P**	**22 39 49.0**		**-0.2**
E62A	**Clayton Lake**	**24.02**	**260**	P	**P**	**22 39 50.0**		**+0.3**
E62A				IAmb	IAmb	22 39 56.9		
	comp=Z,20nm,1.2s							
LDAQ	**Lac Daran**	**24.15**	**264**	P	**P**	**22 39 51.7**		**+0.8**
LDAQ				IAmb	IAmb	22 39 56.1		
	comp=Z,24nm,1.3s							
EMMW	**East Machias**	**24.16**	**254**	P	**P**	**22 39 50.0**		**-0.9**
EMMW				IAmb	IAmb	22 40 02.5		
	comp=Z,26nm,1.3s							
MEM	**Membach**	**24.18**	**88**	*d*P	**P**	**22 39 50.6**		**-0.4**
PMAFR	**Mafra**	**24.20**	**127**	*e*P	**P**	**22 39 56.6**		**+5.2**
BTNL	**Ternell**	**24.26**	**88**	*d*P	**P**	**22 39 52.7**		**+0.9**
PCBR	**Castelo Branco**	**24.29**	**123**	*e*P	**P**	**22 39 56.6**		**+4.5**
	comp=Z,39nm,1.8s							
BHOU	**Houvegnez**	**24.31**	**89**	*d*P	**P**	**22 39 53.5**		**+1.2**
IBBN	**Ibbenburen**	**24.31**	**83**	*e*P		22 39 51.7		
	comp=Z,13nm,1.1s,baz=303,slow=8.9							
F63A	**Nahmakanta, Br**	**24.38**	**258**	P	**P**	**22 39 52.7**		**-0.2**
PMTG	**Montargil**	**24.57**	**126**	*e*P	**P**	**22 39 58.0**		**+3.3**
	comp=Z,56nm,2.1s							
PMRV	**Marv??o**		**24.66**	**124**	*e*P	**P**	**22 39 59.2**	**+3.7**
	comp=Z,40nm,1.8s							
PMRV				*e*LR	LR	22 45 52.9		
	comp=Z,326nm,20.0s							
HFS	**Hagfors**	**24.66**	**62**	P	**P**	**22 39 54.9**		**-0.5**
	comp=Z,4.1nm,0.8s,baz=263,slow=7.3,SNR=8.0							
HFS				LR	LR	22 48 29.5		
	comp=Z,115nm,19.4s,baz=282,slow=34							
	comp=Z,4.1nm,0.8s							
F62A	**Pittston Farm,**	**24.72**	**259**	P	**P**	**22 39 56.6**		**+0.5**
F62A				IAmb	IAmb	22 40 03.5		
	comp=Z,19nm,0.8s							
WLF	**Walferdange**	**24.75**	**90**	P	**P**	**22 39 55.5**		**-0.8**
PKME	**Peaks-Kenny Pk**	**24.76**	**257**	P	**P**	**22 39 56.0**		**-0.4**
	baz=49							
BSEG	**Bad Segeberg**	**24.98**	**78**	*e*P		22 39 57.7		
	comp=Z,27nm,1.1s,baz=303,slow=8.9							
RETH	**Rethem/Aller,**	**24.98**	**81**	*e*P		22 39 59.1		
	comp=Z,24nm,1.3s,baz=303,slow=8.9							
PESTR	**Estremoz**	**25.02**	**125**	P	**P**	**22 39 58.3**		**-0.5**
PESTR	**Estremoz**	**25.02**	**125**	*e*P	**P**	**22 39 59.3**		**+0.5**
	comp=Z,40nm,1.3s							
EVO	**Evora**	**25.11**	**126**	*e*P	**P**	**22 40 01.7**		**+2.1**
	comp=Z,32nm,1.4s							
KASTN	**Kahler Asten**	**25.20**	**85**	*e*P		22 40 00.9		
	comp=Z,77nm,2.4s,baz=303,slow=8.9							
WVL	**Waterville**	**25.42**	**256**	P	**P**	**22 40 03.0**		**+0.6**
G62A	**West of Eustis**	**25.46**	**258**	P	**P**	**22 40 03.1**		**+0.4**
NRDL	**Niedersach Rie**	**25.50**	**81**	*e*P		22 40 03.4		
	comp=Z,16nm,1.1s,baz=303,slow=8.9							
MESJ	**Messejana**	**25.59**	**127**	P	**P**	**22 40 03.9**		**0.0**
MESJ				IAmb	IAmb	22 40 10.9		
	comp=Z,22nm,1.0s							
MESJ	**Messejana**	**25.59**	**127**	*e*P	**P**	**22 40 05.5**		**+1.6**
	comp=Z,32nm,1.3s							
MESJ	**Messejana**	**25.59**	**127**	*e*P	**P**	**22 40 04.0**		**0.0**
MESJ				IAmb	IAmb	22 40 10.7		
	comp=Z,22nm,1.0s							
MESJ				*e*S	**S**	**22 44 32.9**		**+1.5**
PBEJ	**Beja**	**25.59**	**126**	*e*P	**P**	**22 40 04.9**		**+1.0**
	comp=Z,26nm,1.4s							
TNS	**Taunus Mts**	**25.72**	**87**	*e*P		22 40 07.5		
	comp=Z,29nm,1.7s,baz=303,slow=8.9							
PBAR	**Barrancos**	**25.84**	**125**	*e*P	**P**	**22 40 09.2**		**+3.0**
	comp=Z,36nm,1.6s							
PCVE	**Castro Verde**	**25.84**	**127**	*e*P	**P**	**22 40 07.6**		**+1.4**
MORF	**Marmelete**	**25.85**	**129**	P	**P**	**22 40 03.5**		**-2.9**
PFVI	**Vila Bisbo**	**25.92**	**129**	*e*P	**P**	**22 40 13.0**		**+6.1**
GORT1	**Trebel**	**25.92**	**79**	*e*P		22 40 07.7		
	comp=Z,33nm,1.3s,baz=303,slow=8.9							
CLZ	**Clausthal**	**25.95**	**82**	*e*P		22 40 06.9		
	comp=Z,19nm,1.3s,baz=303,slow=8.9							
PAB	**San Pablo**	**25.98**	**119**	P	**P**	**22 40 07.8**		**+0.2**
ESBB	**Sonseca Array**	**26.07**	**119**	P	**P**	**22 40 08.7**		**+0.4**
ESDC	**Sonseca Array**	**26.07**	**119**	P	**P**	**22 40 08.0**		**-0.4**
ESDC	**Sonseca Array**	**26.07**	**119**	P	**P**	**22 40 07.7**		**-0.7**
	comp=Z,2.1nm,0.9s,baz=316,slow=8.9,SNR=12							
ESDC				LR	LR	22 48 38.0		
	comp=Z,383nm,18.3s,baz=312,slow=32							
	comp=Z,2.1nm,0.9s							
ECH	**Echery**	**26.11**	**92**	P	**P**	**22 40 08.6**		**-0.1**
FLTG	**Flechtingen**	**26.19**	**81**	*e*P		22 40 08.5		
	comp=Z,18nm,1.2s,baz=303,slow=8.9							
H62A	**Milan**	**26.22**	**258**	P	**P**	**22 40 10.0**		**+0.4**
H62A				IAmb	IAmb	22 40 18.2		
	comp=Z,28nm,1.2s							
UBBA	**Unterbreizbach**	**26.26**	**85**	*e*P		22 40 08.0		
	comp=Z,33nm,2.0s,baz=303,slow=8.9							
CEST	**Esterri de Car**	**26.53**	**108**	P	**P**	**22 40 13.6**		**+1.0**
CEST				IAmb	IAmb	22 40 24.9		
	comp=Z,48nm,1.5s							
BFO	**Black Forest**	**26.69**	**91**	P	**P**	**22 40 14.0**		**+0.2**
BFO	**Black Forest**	**26.69**	**91**	*e*P		22 40 14.0		
	comp=Z,12nm,1.4s,baz=303,slow=8.9							
I62A	**Tamworth**	**26.78**	**257**	P	**P**	**22 40 14.5**		**-0.2**
LBNH	**Lisbon**	**26.85**	**258**	P	**P**	**22 40 15.4**		**+0.1**
LBNH				IAmb	IAmb	22 40 52.6		
	comp=Z,23nm,1.4s							
LBNH	**Lisbon**	**26.85**	**258**	P	**P**	**22 40 15.2**		**-0.2**
	baz=48							
NEUB	**Neuenburg**	**27.03**	**83**	*e*P		22 40 16.8		
	comp=Z,22nm,1.3s,baz=303,slow=8.9							
MOX	**Moxa**	**27.23**	**84**	*e*P		22 40 18.3		
	comp=Z,24nm,1.4s,baz=303,slow=8.9							
SENIN	**Lac Senin/Sane**	**27.29**	**95**	P	**P**	**22 40 20.2**		**+0.7**
SENIN				IAmb	IAmb	22 40 24.8		
	comp=Z,20nm,1.1s							
VLDQ	**Val d'Or**	**27.46**	**270**	P	**P**	**22 40 22.7**		**+1.9**
VLDQ				IAmb	IAmb	22 40 27.5		
	comp=Z,10nm,1.0s							
GRA1	**Grafenberg Arr**	**27.52**	**86**	P	**P**	**22 40 21.1**		**-0.2**
GRF	**Grafenberg Arr**	**27.52**	**86**	*e*P		22 40 21.6		
	comp=Z,28nm,1.3s,baz=303,slow=8.9							
GRFO	**Grafenberg**	**27.52**	**86**	P	**P**	**22 40 21.5**		**+0.2**
GRFO				IAmb	IAmb	22 40 26.9		
	comp=Z,31nm,1.3s							
PLN	**Plauen**	**27.61**	**84**	*e*P		22 40 21.8		
	comp=Z,18nm,1.3s,baz=303,slow=8.9							
CLL	**Collm**	**27.64**	**81**	P	**P**	**22 40 22.1**		**-0.3**
CLL	**Collm**	**27.64**	**81**	*i* P	**P**	**22 40 21.9**		**-0.5**
	comp=Z,10.0nm,1.3s							
CLL				*i* (sP)	**pP**	**22 40 26.2**		**+0.4**
CLL				*i* x	x	22 40 31.7		
CLL				*i* x	x	22 40 39.0		
CLL				*e*PPP	PPP	22 41 19.0		
CLL				AMS	AMS	22 50 00.0		
	comp=Z,300nm,19.4s							
CLL	**Collm**	**27.64**	**81**	P	**P**	**22 40 22.5**		**+0.1**
	comp=Z,5.8nm,1.3s							
CLL	**Collm**	**27.64**	**81**	*e*P		22 40 21.9		
	comp=Z,17nm,1.6s,baz=303,slow=8.9							
BNI	**Bardonecchia**	**27.77**	**98**	P	**P**	**22 40 24.1**		**+0.4**
TANN	**Tannenbergstha**	**27.81**	**83**	*e*P		22 40 23.3		
	comp=Z,18nm,1.4s,baz=303,slow=8.9							
HRV	**Adam Dziewonsk**	**27.84**	**255**	P	**P**	**22 40 23.9**		**-0.2**
	baz=46							
MANZ	**Manzenberg**	**27.84**	**85**	*e*P		22 40 23.6		
	comp=Z,1.8nm,1.1s,baz=303,slow=8.9							
ROTZ	**Rotzenmuhle**	**28.02**	**85**	*e*P		22 40 25.8		
	comp=Z,1.2nm,1.2s,baz=303,slow=8.9							
LONY	**Lake Ozonia**	**28.04**	**262**	P	**P**	**22 40 25.5**		**-0.5**
	baz=49							
UBR	**Ueberruh**	**28.04**	**90**	*e*P		22 40 26.9		
	comp=Z,37nm,2.0s,baz=303,slow=8.9							
K62A	**Royalston**	**28.09**	**256**	P	**P**	**22 40 25.8**		**-0.6**
K62A				IAmb	IAmb	22 40 33.1		
	comp=Z,17nm,1.1s							
DAVA	**Damuels**	**28.15**	**91**	*e*pP	**P**	**22 40 27.8**		**+0.7**
	comp=Z,4.6nm,0.9s							
WBO	**Williamsburg**	**28.17**	**263**	P	**P**	**22 40 27.7**		**+0.6**
WBO				IAmb	IAmb	22 40 46.8		
	comp=Z,17nm,1.5s							
HSKC	**Hora Svate Kat**	**28.24**	**82**	AMS	AMS	22 53 10.0		
	comp=Z,300nm,13.9s							
NCB	**Newcomb**	**28.27**	**260**	P	**P**	**22 40 28.7**		**+0.7**
NCB				IAmb	IAmb	22 40 32.1		
	comp=Z,17nm,1.4s							
ARCES	**ARCESS Array B**	**28.27**	**40**	P	**P**	**22 40 28.5**		**+0.7**
ARCES	**ARCESS Array B**	**28.27**	**40**	P	**P**	**22 40 27.6**		**-0.2**
	comp=Z,2.3nm,0.7s,baz=260,slow=7.3,SNR=7.5							
ARCES				LR	LR	22 49 26.0		
	comp=Z,136nm,19.5s,baz=302,slow=32							
	comp=Z,2.3nm,0.7s							
TUE	**Stuetta**	**28.34**	**93**	P	**P**	**22 40 29.5**		**+0.6**
TUE				IAmb	IAmb	22 40 39.0		
	comp=Z,14nm,1.3s							
BRG	**Berggiesshubel**	**28.38**	**82**	*e*P	**P**	**22 40 29.9**		**+1.0**
BRG				Amp		22 40 31.1		
	comp=Z,5.6nm,1.4s							
BRG	**Berggiesshubel**	**28.38**	**82**	*e*P		22 40 29.2		
	comp=Z,10nm,1.6s,baz=303,slow=8.9							
DAVOX	**Davos/Dischmat**	**28.45**	**92**	LR	LR	22 51 17.3		
	comp=Z,574nm,19.1s,baz=294,slow=35							
L61B	**Northampton**	**28.47**	**256**	P	**P**	**22 40 31.2**		**+1.4**
L61B				IAmb	IAmb	22 40 37.0		
	comp=Z,14nm,1.5s							
L61B	**Northampton**	**28.47**	**256**	P	**P**	**22 40 29.5**		**-0.4**
	baz=46							
RETA	**Reutte**	**28.51**	**90**	*e*P	**P**	**22 40 30.3**		**+0.1**
	comp=Z,4.1nm,1.5s							
WET	**Wettzell**	**28.72**	**85**	*e*P		22 40 31.9		
	comp=Z,8.1nm,1.2s,baz=303,slow=8.9							
RES	**Resolute Bay**	**28.73**	**331**	LR	LR	22 51 51.8		
	comp=Z,212nm,18.0s,baz=152,slow=36							
FUORN	**Ofenpass-Fuorn**	**28.75**	**92**	P	**P**	**22 40 33.2**		**+0.6**
FETA	**Feichten**	**28.77**	**91**	*e*P	**P**	**22 40 32.4**		**-0.2**
	comp=Z,5.3nm,1.4s							
PVCC	**Panska Ves**	**28.90**	**82**	AMS	AMS	22 52 10.0		
	comp=Z,400nm,15.6s							
GKP	**Gorka Klasztor**	**28.96**	**75**	*e*P	**P**	**22 40 35.6**		**+1.6**
GKP	**Gorka Klasztor**	**28.96**	**75**	*e*P	**P**	**22 40 34.8**		**+0.8**
PRA	**Prague**	**29.07**	**83**	AMS	AMS	22 54 20.0		
	comp=Z,300nm,13.1s							
KHC	**Kasperske Hory**	**29.11**	**85**	P	**P**	**22 40 34.9**		**-0.7**
KHC	**Kasperske Hory**	**29.11**	**85**	AMS	AMS	22 53 00.0		
	comp=Z,300nm,15.2s							
KHC	**Kasperske Hory**	**29.11**	**85**	P	**P**	**22 40 35.7**		**+0.2**
	comp=Z,5.1nm,2.0s							
WTTA	**Wattenberg**	**29.12**	**90**	*e*P	**P**	**22 40 34.7**		**-1.1**
	comp=Z,4.1nm,1.4s							
PRU	**Pruhonice**	**29.17**	**83**	AMS	AMS	22 54 30.0		
	comp=Z,300nm,13.0s							
ZVC	**Zvikov**	**29.28**	**84**	*e*P	**P**	**22 40 37.2**		**+0.3**
ZVC				AMS	AMS	22 53 30.0		
	comp=Z,300nm,14.0s							
GEC2	**GERESS Array S**	**29.34**	**85**	P	**P**	**22 40 38.9**		**+1.3**
GERES	**GERESS Array B**	**29.34**	**85**	P	**P**	**22 40 38.0**		**+0.4**
GERES	**GERESS Array B**	**29.34**	**85**	P	**P**	**22 40 37.3**		**-0.3**
	comp=Z,0.2nm,0.4s,baz=324,slow=9.8,SNR=2.1							
GERES				LR	LR	22 51 50.3		
	comp=Z,199nm,18.1s,baz=298,slow=35							
	comp=Z,0.2nm,0.4s							
GEC2	**GERESS Array S**	**29.34**	**85**	*e*P		22 40 39.3		
	comp=Z,37nm,2.4s,baz=303,slow=8.9							
RJOB	**Jochberg**	**29.48**	**88**	*e*P		22 40 39.9		
	comp=Z,2.6nm,0.9s,baz=303,slow=8.9							
KSP	**Ksiaz**	**29.66**	**80**	*e*P	**P**	**22 40 41.2**		**+0.9**
KSP	**Ksiaz**	**29.66**	**80**	P	**P**	**22 40 40.4**		**0.0**
	comp=Z,9.8nm,1.6s							
CHVC	**Chvalec**	**29.67**	**81**	*e*P	**P**	**22 40 40.9**		**+0.5**
CHVC				AMS	AMS	22 53 00.0		
	comp=Z,300nm,18.5s							
CKRC	**Cesky Krumlov**	**29.69**	**85**	AMS	AMS	22 53 20.0		
	comp=Z,300nm,12.8s							
UPC	**Upice**	**29.69**	**81**	AMS	AMS	22 52 50.0		
	comp=Z,400nm,13.7s							
MEF	**Metsahovi**	**29.76**	**59**	*e*P	**P**	**22 40 41.5**		**+0.5**
OSTC	**Ostas**	**29.77**	**81**	AMS	AMS	22 53 00.0		
	comp=Z,400nm,17.5s							
CTI	**Castel Tesino**	**29.86**	**92**	P	**P**	**22 40 42.9**		**+0.6**
ABTA	**Abfaltersbach**	**29.91**	**90**	*e*P	**P**	**22 40 42.4**		**-0.3**
	comp=Z,9.0nm,1.9s							
DPC	**Dobruska-Polom**	**29.94**	**81**	*e*P	**P**	**22 40 43.5**		**+0.6**
DPC				AMS	AMS	22 53 00.0		
	comp=Z,300nm,16.8s							
DPC	**Dobruska-Polom**	**29.94**	**81**	P	**P**	**22 40 43.1**		**+0.2**
	comp=Z,10.0nm,1.5s							
BIOA	**Bad Ischl, Aus**	**29.97**	**87**	*e*pP	**P**	**22 40 44.4**		**+1.3**
	comp=Z,6.8nm,1.1s							
TREC	**Trest**	**30.06**	**83**	AMS	AMS	22 52 30.0		
	comp=Z,300nm,16.6s							
FINES	**FINESS Array B**	**30.13**	**56**	P	**P**	**22 40 45.0**		**+0.6**
FINES	**FINESS Array B**	**30.13**	**56**	P	**P**	**22 40 43.8**		**-0.5**
	comp=Z,9.1nm,1.1s,baz=316,slow=5.3,SNR=18							
FINES				LR	LR	22 50 56.1		
	comp=Z,110nm,21.9s,baz=287,slow=33							
	comp=Z,9.1nm,1.1s							
PAL	**Palisades**	**30.14**	**255**	P	**P**	**22 40 44.5**		**-0.1**
	baz=44							
TRNY	**Table Rock, Ra**	**30.21**	**256**		**P**	**22 40 46.6**		**+1.4**
TRNY				IAmb	IAmb	22 40 51.8		
	comp=Z,12nm,1.1s							
MOA	**Molln**	**30.22**	**87**	*e*pP	**P**	**22 40 46.0**		**+0.7**
	comp=Z,4.7nm,1.9s							
TEOL	**Teolo**	**30.30**	**93**	P	**P**	**22 40 46.5**		**+0.5**
TEOL				IAmb	IAmb	22 40 57.5		
	comp=Z,9.9nm,1.0s							
KRLC	**Kraliky**	**30.34**	**81**	AMS	AMS	22 53 10.0		
	comp=Z,300nm,14.7s							
BINY	**Binghamton**	**30.42**	**259**	P	**P**	**22 40 47.4**		**+

PSZ IAmb IAmb 22 41 14.1
comp=Z,14nm,1.0s
M53A WI Miller and 33.48 263 P **P 22 41 13.9 0.0**
M53A WI Miller and 33.48 263 P **P 22 41 14.7 +0.7**
baz=46
CRVS Cervenica-Dubn 33.52 80 *e*P **P 22 41 14.4 +0.1**
MORH Mrgy, Hungar 33.59 86 ⇓P **P 22 41 14.6 -0.3**
MORH Mrgy, Hungar 33.59 86 P **P 22 41 14.6 -0.3**
comp=Z,12nm,1.2s
INTR Introdacqua 33.72 95 P **P 22 41 15.9 -0.2**
INTR IAmb IAmb 22 41 44.0
comp=Z,9.2nm,1.3s
KOLS Kolonicke sedl 33.95 79 *e*P **P 22 41 18.7 +0.7**
N53A Lisbon 34.01 262 P **P 22 41 18.8 +0.3**
D41A Chassel 34.16 277 P **P 22 41 19.4 -0.4**
O54A Avella 34.20 261 P **P 22 41 20.6 +0.4**
O54A IAmb IAmb 22 41 26.4
comp=Z,12nm,1.0s
MCWV Mont Chateau 34.28 260 P **P 22 41 22.0 +1.1**
Q56A Snyder Ridge, 34.37 258 P **P 22 41 22.2 +0.5**
Q56A IAmb IAmb 22 41 43.6
comp=Z,14nm,1.4s
RNPP9 Sopachiv 34.48 73 P **P 22 41 21.9 -0.6**
RNPP8 Varash 34.50 73 P **P 22 41 22.7 0.0**
RNPP5 Staryi Chortor 34.58 73 P **P 22 41 23.4 +0.1**
O53A New Philadelph 34.60 262 P **P 22 41 23.4 -0.3**
baz=45
PAOL Paolisi 34.76 96 P **P 22 41 25.8 +0.6**
PAOL IAmb IAmb 22 41 29.9
comp=Z,13nm,1.1s
FRGS Fruska Gora 34.90 86 ⇑P **P 22 41 26.5 +0.2**
FRGS Fruska Gora 34.90 86 P **P 22 41 26.2 0.0**
comp=Z,12nm,1.1s
O52A Adamsville 35.03 262 P **P 22 41 28.7 +1.3**
O52A IAmb IAmb 22 41 34.4
comp=Z,15nm,0.9s
COWI Conover 35.06 276 P **P 22 41 27.9 +0.3**
COWI IAmb IAmb 22 41 33.7
comp=Z,16nm,1.1s
S57A Dark Hollow, R 35.18 257 P **P 22 41 29.2 +0.5**
S57A IAmb IAmb 22 41 35.6
comp=Z,11nm,1.3s
L48A N Adams 35.19 267 P **P 22 41 29.1 +0.3**
L48A IAmb IAmb 22 41 31.4
comp=Z,12nm,1.1s
SIRR Siria 35.21 83 ⇑P **P 22 41 29.6 +0.7**
EYMN Ely 35.22 280 P **P 22 41 29.8 +0.9**
EYMN Ely 35.22 280 P **P 22 41 28.0 -1.0**
baz=53
BMR Baia Mare 35.35 80 ⇑P **P 22 41 31.2 +1.1**
DRGR 35.46 82 ⇓P **P 22 41 31.5 +0.4**
P52A Corning 35.53 262 P **P 22 41 32.0 +0.2**
baz=45
ACSO Alum Creek Sta 35.58 263 P **P 22 41 32.2 +0.1**
ACSO IAmb IAmb 22 41 38.7
comp=Z,12nm,1.0s
ACSO Alum Creek Sta 35.58 263 P **P 22 41 32.4 +0.3**
baz=45
BZS Buzias 35.59 84 ⇓P **P 22 41 32.6 +0.4**
N49A Columbus Grove 35.75 265 P **P 22 41 34.3 +0.7**
N49A IAmb IAmb 22 41 40.3
comp=Z,14nm,0.9s
MARR Marisel-Cluj 35.75 82 ⇓P **P 22 41 34.8 +1.1**
SURR Surduc 35.78 84 ⇓P **P 22 41 34.4 +0.6**
KEST Kesra 35.82 108 P **P 22 41 34.7 +0.4**
KEST IAmb IAmb 22 41 39.7
comp=Z,18nm,1.1s
KEST Kesra 35.82 108 P **P 22 41 33.6 -0.7**
comp=Z,4.8nm,0.9s,baz=5.7,slow=10,SNR=5.2
KEST LR LR 22 53 56.6
comp=Z,142nm,20.3s,baz=223,slow=32
comp=Z,4.8nm,0.9s
T57A Hurt 35.91 256 P **P 22 41 35.6 +0.6**
T57A IAmb IAmb 22 41 41.5
comp=Z,10nm,1.2s
P51A Williamsport 36.15 263 P **P 22 41 36.7 -0.3**
P51A IAmb IAmb 22 41 43.6
comp=Z,14nm,1.0s
CUC Castrocucco 36.16 96 P **P 22 41 34.8 -2.5**
CUC IAmb IAmb 22 41 38.1
comp=Z,8.4nm,1.0s
G40A Rib Lake 36.16 276 P **P 22 41 37.8 +0.7**
ARCR ARCALIA 36.17 80 ⇓P **P 22 41 37.3 +0.2**
ULM Lac du Bonnet 36.20 286 P **P 22 41 37.8 +0.4**
ULM IAmb IAmb 22 41 39.6
comp=Z,15nm,1.3s
ULM Lac du Bonnet 36.20 286 P **P 22 41 37.2 -0.2**
comp=Z,2.7nm,0.8s,baz=49,slow=11,SNR=3.8
ULM LR LR 22 54 56.8
comp=Z,331nm,20.3s,baz=52,slow=34
comp=Z,2.7nm,0.8s
BUR08 Bucovina Ar. S 36.28 79 P **P 22 41 38.0 -0.3**
BUR08 IAmb IAmb 22 41 44.4
comp=Z,14nm,1.1s
LUBAR Lubar, Ukraine 36.30 74 P **P 22 41 37.6 -0.6**
BURAR Bucovina Array 36.31 79 ⇓P **P 22 41 38.8 +0.4**
BURAR Bucovina Array 36.31 79 P **P 22 41 38.8 +0.4**
BURAR IAmb IAmb 22 41 44.9
comp=Z,12nm,0.9s
O49A Covington 36.34 265 P **P 22 41 39.4 +0.7**
O49A IAmb IAmb 22 41 45.2
comp=Z,12nm,1.1s
I42A Draeger Farm, 36.35 273 P **P 22 41 38.8 +0.1**
GZR Gura Zlata 36.37 84 ⇑P **P 22 41 39.5 +0.6**
BLA Blacksburg 36.37 257 P **P 22 41 38.7 -0.3**
BLA IAmb IAmb 22 42 01.0
comp=Z,27nm,1.4s
PDG Podgorica 36.37 90 P **P 22 41 39.1 +0.3**
KMPD K-Podol'skiy 36.41 77 P **P 22 41 37.9 -1.2**
S54A Dingess, Beckl 36.41 259 P **P 22 41 39.4 0.0**
S54A IAmb IAmb 22 41 43.2
comp=Z,16nm,1.0s
AK21 Malin Array Si 36.48 72 P **P 22 41 39.5 -0.2**
AK20 Malin Array Si 36.48 72 P **P 22 41 39.6 -0.1**
CLTB Caltabellotta 36.49 101 P **P 22 41 39.9 -0.2**
HERR Herculane 36.49 85 ⇑P **P 22 41 39.7 -0.3**
AK19 Malin Array Si 36.50 72 P **P 22 41 39.1 -0.8**
AK22 Malin Array Si 36.51 72 P **P 22 41 39.8 -0.1**
AK18 Malin Array Si 36.53 72 P **P 22 41 39.2 -0.9**
AK04 Malin Array Si 36.58 72 P **P 22 41 39.5 -1.0**
AK13 Malin Array Si 36.59 72 P **P 22 41 40.6 0.0**
AK14 Malin Array Si 36.60 72 P **P 22 41 40.6 -0.1**
AK11 Malin Array Si 36.60 72 P **P 22 41 40.6 -0.2**
AK03 Malin Array Si 36.60 72 P **P 22 41 40.6 -0.2**
N47A Urbana 36.60 267 P **P 22 41 40.9 0.0**
N47A IAmb IAmb 22 41 47.1
comp=Z,13nm,0.9s
KIEV Kiev 36.62 72 ⇓P **P 22 41 41.3 +0.4**
KIEV Kiev 36.62 72 P **P 22 41 39.9 -1.0**
KIEV Kiev 36.62 72 P **P 22 41 40.2 -0.7**
comp=Z,111nm,1.0s,comp=Z,1µm
AK12 Malin Array Si 36.62 72 P **P 22 41 40.7 -0.2**
AK01 Malin Array Si 36.62 72 P **P 22 41 40.7 -0.2**
AKASG Malin Array Be 36.62 72 P **P 22 41 39.9 -1.0**
comp=Z,10nm,0.9s,baz=306,slow=8.6,SNR=25
AKASG LR LR 22 56 30.3
comp=Z,125nm,21.1s,baz=284,slow=36
comp=Z,10nm,0.9s
AKBB Malin Array Si 36.62 72 P **P 22 41 39.6 -1.3**
AKBB Malin Array Si 36.62 72 P **P 22 41 40.2 -0.7**
Q51A Peebles 36.63 262 P **P 22 41 40.7 -0.5**
Q51A IAmb IAmb 22 41 48.3
comp=Z,13nm,1.1s
AK02 Malin Array Si 36.63 72 P **P 22 41 40.9 -0.1**
AK05 Malin Array Si 36.66 72 P **P 22 41 41.1 -0.1**
AK08 Malin Array Si 36.67 72 P **P 22 41 41.2 -0.2**
AK10 Malin Array Si 36.69 72 P **P 22 41 41.1 -0.4**
AK07 Malin Array Si 36.70 72 P **P 22 41 41.3 -0.3**
AK09 Malin Array Si 36.70 72 P **P 22 41 41.4 -0.2**
O48B Farmland 36.74 265 P **P 22 41 42.7 +0.6**
O48B Farmland 36.74 265 P **P 22 41 42.2 +0.1**
baz=46
SSFO Shawnee State 36.78 262 P **P 22 41 44.3 +1.8**
SSFO IAmb IAmb 22 41 49.7
comp=Z,17nm,1.0s
K43A Burlington 36.81 271 P **P 22 41 43.3 +0.7**
FFC Flin Flon 36.85 296 P **P 22 41 43.9 +1.0**
LOT Lotru 36.87 83 ⇑P **P 22 41 43.6 +0.3**
BOVS Bovan 36.91 87 ⇑P **P 22 41 43.1 -0.4**
L44A Lake County Fo 36.93 270 P **P 22 41 45.2 +1.5**
PUK Puka 36.98 90 P **P 22 41 44.6 +0.4**
U56A King 36.99 256 P **P 22 41 44.9 +0.6**
P49A Miami Univ. Ec 37.01 264 P **P 22 41 44.2 -0.1**
P49A Miami Univ. Ec 37.01 264 P **P 22 41 45.0 +0.6**
baz=45
VAE Valguarnera 37.21 100 LR LR 22 55 01.5
comp=Z,315nm,21.2s,baz=318,slow=33
TIP Timpagrande 37.25 96 ⇓P **P 22 41 44.2 -2.3**
TIP Timpagrande 37.25 96 P **P 22 41 46.2 -0.3**
I40A Norwalk 37.28 274 P **P 22 41 46.3 -0.3**
AGMN Agassiz Nation 37.35 284 P **P 22 41 48.0 +0.9**
RAFF Raffo Rosso 37.37 101 P **P 22 41 46.3 -1.1**
P48A Milroy 37.45 265 P **P 22 41 48.0 -0.1**
P48A IAmb IAmb 22 41 56.8
comp=Z,30nm,1.4s
BOSR Bodos 37.50 81 ⇑P **P 22 41 50.0 +1.5**
M44A Midewin, Midew 37.54 269 P **P 22 41 48.9 +0.1**
M44A IAmb IAmb 22 41 55.2
comp=Z,13nm,0.9s
OZUR 37.56 80 ⇓P **P 22 41 50.0 +1.0**
SCTE Santa Cesarea 37.56 94 P **P 22 41 48.0 -0.9**
VOIR 37.58 82 ⇑P **P 22 41 48.6 -0.6**
VOIR 37.58 82 P **P 22 41 49.3 +0.1**
comp=Z,6.7nm,1.8s
SORM Soroca 37.67 76 ⇓P **P 22 41 49.8 -0.1**
SORM Soroca 37.67 76 P **P 22 41 49.5 -0.4**
comp=Z,16nm,1.8s
R50A Paris 37.70 262 P **P 22 41 50.0 -0.2**
R50A IAmb IAmb 22 41 56.3
comp=Z,16nm,1.3s
SFIN Lafayette 37.72 267 P **P 22 41 50.5 +0.1**
SFIN IAmb IAmb 22 41 56.9
comp=Z,15nm,0.9s
JFWS Jewell Farm 37.72 273 P **P 22 41 50.6 +0.3**
JFWS IAmb IAmb 22 41 56.6
comp=Z,10nm,0.9s
A36M Sachs Harbour 37.73 329 P **P 22 41 50.3 +0.2**
baz=64
ONER Baraj Valea Uz 37.73 80 ⇑P **P 22 41 51.1 +0.7**
TESR Tescani 37.76 79 ⇓P **P 22 41 51.2 +0.6**
S51A Beattyville 37.76 261 P **P 22 41 52.6 +1.8**
S51A IAmb IAmb 22 41 57.4
comp=Z,13nm,0.9s
X58A Rowland 37.80 253 P **P 22 41 51.8 +0.7**
X58A IAmb IAmb 22 41 58.1
comp=Z,21nm,1.1s
OBN Obninsk 37.87 62 ⇑P **P 22 41 52.4 +1.0**
OBN Obninsk 37.87 62 P **P 22 41 51.7 +0.2**
OBN Obninsk 37.87 62 LR LR 22 56 49.9
comp=Z,134nm,19.1s,baz=331,slow=35
OBN Obninsk 37.87 62 P **P 22 41 52.2 +0.8**
comp=Z,31nm,1.2s
L42A Oliver, Polo 38.02 271 IAmb IAmb 22 41 59.3
comp=Z,19nm,0.9s
MLR Muntele Rosu 38.03 81 ⇑P **P 22 41 53.1 0.0**
MLR Muntele Rosu 38.03 81 P **P 22 41 53.5 +0.4**
MLR Muntele Rosu 38.03 81 LR LR 22 58 40.1
comp=Z,297nm,18.1s,baz=312,slow=38
R49A Shelbyville 38.15 263 P **P 22 41 53.6 -0.4**
PLOR Plostina 38.18 80 ⇑P **P 22 41 54.5 +0.2**
VRI Vrincioaia 38.21 80 ⇓P **P 22 41 55.1 +0.6**
BLO Bloomington 38.26 265 P **P 22 41 55.8 +0.9**
BLO IAmb IAmb 22 42 15.9
comp=Z,10nm,0.5s
P46A Rosedale 38.31 266 P **P 22 41 55.8 +0.5**
KBN Korca 38.45 91 P **P 22 41 57.0 +0.4**
KBN IAmb IAmb 22 42 03.0
comp=Z,24nm,1.0s
WDD Wied Dalam 38.49 102 P **P 22 41 56.4 -0.5**
TZTN Tazewell 38.55 260 P **P 22 41 58.6 +1.2**
TZTN IAmb IAmb 22 42 03.9
comp=Z,12nm,1.1s
TZTN Tazewell 38.55 260 P **P 22 41 57.7 +0.3**
baz=42
YKA Yellowknife Ar 38.55 313 P **P 22 41 56.3 -0.8**
comp=Z,0.4nm,0.6s,baz=59,slow=9.3,SNR=1.9
YKA LR LR 22 57 10.1
comp=Z,495nm,18.8s,baz=93,slow=35
comp=Z,0.4nm,0.6s
C36M Paulatuk 38.61 325 P **P 22 41 56.2 -1.3**
baz=61
FNA Florina 38.66 90 IAmb IAmb 22 42 04.3
comp=Z,17nm,1.0s
HDIL Hopedale 38.80 269 P **P 22 41 59.0 -0.5**
baz=46
WCI Wyandotte Cave 38.80 264 P **P 22 42 00.8 +1.3**
WCI IAmb IAmb 22 42 05.5
comp=Z,24nm,1.5s
WCI Wyandotte Cave 38.80 264 P **P 22 41 59.4 -0.1**
baz=44
L40A Anamosa 38.83 273 P **P 22 42 00.6 +0.9**
L40A IAmb IAmb 22 42 03.3
comp=Z,24nm,1.5s
SGRR Singureni 38.86 83 ⇓P **P 22 42 00.7 +0.8**
JSC Jenkinsville 39.03 255 P **P 22 42 01.4 0.0**
F33A 5 Mile Ranch, 39.10 281 P **P 22 42 02.7 +0.7**
TKL Tuckaleechee C 39.33 259 LR LR 22 57 13.0
comp=Z,259nm,20.9s,baz=22,slow=35
NHSC New Hope 39.36 253 P **P 22 42 04.6 +0.4**
baz=38
BG3 Lake Jocassee 39.38 257 P **P 22 42 04.9 +0.6**
CFR Carcaliu 39.41 80 ⇓P **P 22 42 03.8 -0.7**
PURM Purcari 39.48 77 ⇑P **P 22 42 06.1 +1.0**
N41A Harden Midland 39.55 271 P **P 22 42 06.8 +1.1**
MDND Maddock 39.60 286 P **P 22 42 06.8 +0.6**
MDND IAmb IAmb 22 42 14.9
comp=Z,22nm,1.0s
MDND Maddock 39.60 286 P **P 22 42 05.8 -0.3**
baz=52
LIT Litokhoron 39.74 90 P **P 22 42 07.2 -0.1**
LIT IAmb IAmb 22 42 12.3
comp=Z,13nm,0.9s
USIN University of 39.74 265 P **P 22 42 07.9 +0.6**
USIN IAmb IAmb 22 42 14.3
comp=Z,29nm,1.1s
Q44A Meyer Farm, Va 39.81 267 P **P 22 42 08.2 +0.3**
Q44A IAmb IAmb 22 42 14.3
comp=Z,24nm,1.0s
CPCT Cooper Cave 39.88 259 IAmb IAmb 22 42 15.5
comp=Z,13nm,1.1s
SCIA State Center 40.02 274 P **P 22 42 10.2 +0.5**
SCIA IAmb IAmb 22 42 16.1
comp=Z,19nm,1.2s
SCIA State Center 40.02 274 P **P 22 42 09.5 -0.2**
baz=47
AGG Agios Georgios 40.41 92 P **P 22 42 13.8 +0.8**
AGG IAmb IAmb 22 42 19.1
comp=Z,16nm,0.9s
W50A Signal Mountai 40.50 260 P **P 22 42 12.9 -0.8**
ECSD EROS Data Cent 40.65 279 P **P 22 42 15.5 +0.7**
ECSD IAmb IAmb 22 42 21.5
comp=Z,19nm,1.3s
ECSD EROS Data Cent 40.65 279 P **P 22 42 14.4 -0.5**
baz=48
RDO Rodhopi 40.69 87 P **P 22 42 15.0 -0.2**
N38A Joes South For 40.80 273 P **P 22 42 16.9 +0.8**
N38A IAmb IAmb 22 42 21.8
comp=Z,28nm,1.4s
S44A Carbondale 40.81 266 P **P 22 42 17.2 +1.0**
SWET Sewanee 40.82 261 P **P 22 42 16.3 -0.1**
Y52A Lilburn 40.84 257 P **P 22 42 17.6 +1.2**
GOGA Godfrey 40.87 256 P **P 22 42 17.2 +0.5**
GOGA Godfrey 40.87 256 P **P 22 42 16.4 -0.3**
baz=40
V48A Smith Brothers 40.91 262 P **P 22 42 17.7 +0.6**
E28A Huff 40.99 285 P **P 22 42 17.8 +0.2**
E28A IAmb IAmb 22 42 19.2
comp=Z,14nm,1.1s
P40A Paris 41.03 271 P **P 22 42 17.3 -0.7**
P40A IAmb IAmb 22 42 24.2
comp=Z,15nm,1.0s
ALN Alexandroupoli 41.14 86 P **P 22 42 18.5 -0.4**
ALN IAmb IAmb 22 42 24.2
comp=Z,16nm,1.1s
FPAL Fort Paine 41.16 260 P **P 22 42 18.2 -1.0**
WVT Waverly 41.17 263 P **P 22 42 19.7 +0.5**
WVT Waverly 41.17 263 P **P 22 42 18.9 -0.3**
baz=42
FVM French Village 41.24 267 P **P 22 42 18.6 -1.1**
FVM IAmb IAmb 22 42 26.2
comp=Z,11nm,1.0s
CGM3 Cape Girardeau 41.32 266 P **P 22 42 20.5 +0.1**
WRGLY Wrigley 41.60 317 P **P 22 42 21.4 -1.0**
baz=56
DGMT Dagmar 41.62 289 P **P 22 42 24.2 +1.5**
DGMT IAmb IAmb 22 42 30.8
comp=Z,18nm,1.1s
DGMT Dagmar 41.62 289 P **P 22 42 22.6 -0.2**
baz=51
CCM Cathedral Cave 41.64 268 P **P 22 42 23.6 +0.6**
CCM Cathedral Cave 41.64 268 P **P 22 42 23.4 +0.4**
baz=44
P38A Dawn 41.78 272 P **P 22 42 24.8 +0.6**
KIRV Kirov 41.81 51 LR LR 22 58 35.7
comp=Z,27nm,18.1s,baz=278,slow=34
X48A Hartselle 42.00 261 P **P 22 42 25.6 -0.4**
R40A Maddies Statio 42.03 269 P **P 22 42 26.2 0.0**
R40A IAmb IAmb 22 42 32.1
comp=Z,14nm,1.1s
INK Inuvik 42.06 327 P **P 22 42 25.5 -0.6**
baz=54
INK Inuvik 42.06 327 LR LR 22 59 30.4
comp=Z,255nm,19.5s,baz=2.5,slow=36
Y49A Blount Mountai 42.11 260 P **P 22 42 26.9 0.0**
152A Waverly Hall 42.11 257 P **P 22 42 27.1 +0.2**
PLAL Pickwick Lake 42.16 262 P **P 22 42 27.4 +0.1**
PEBM Pemiscott Bayo 42.29 265 P **P 22 42 29.1 +0.7**
TIGA Tifton 42.46 255 P **P 22 42 30.1 +0.3**
baz=38
F31M Tsiigehtchic 42.65 326 IAmb IAmb 22 42 46.2
comp=Z,23nm,1.2s
F31M Tsiigehtchic 42.65 326 P **P 22 42 30.1 -0.7**
baz=53
D28M Stokes Point 42.94 330 P **P 22 42 32.4 -0.8**
baz=51
K30B Basset 42.98 280 P **P 22 42 34.5 +0.5**
LCAR Lake Charles 43.03 266 IAmb IAmb 22 42 40.3
comp=Z,11nm,1.0s
LRAL Lakeview Retre 43.05 259 P **P 22 42 35.4 +0.9**
LRAL Lakeview Retre 43.05 259 P **P 22 42 34.8 +0.3**
baz=40
BGNE Belgrade 43.06 277 P **P 22 42 34.9 +0.3**
BGNE Belgrade 43.06 277 P **P 22 42 34.3 -0.3**
baz=46
G31M Satah River 43.13 325 P **P 22 42 34.0 -0.8**
G31M Satah River 43.13 325 P **P 22 42 34.3 -0.4**
baz=52
352A Blakely 43.14 256 P **P 22 42 35.2 -0.1**
352A IAmb IAmb 22 42 41.9
comp=Z,9.3nm,0.9s
F30M Barrier River 43.17 327 P **P 22 42 34.4 -0.7**
baz=52
OXF Oxford 43.24 263 P **P 22 42 36.0 0.0**
OXF Oxford 43.24 263 P **P 22 42 36.1 0.0**
baz=41
E29M Blow River 43.30 328 P **P 22 42 35.1 -1.0**
baz=51
D27M Malcolm River 43.61 330 P **P 22 42 38.9 +0.1**
D27M Malcolm River 43.61 330 P **P 22 42 38.0 -0.7**
baz=49
E28M Babbage River 43.63 329 P **P 22 42 38.0 -0.9**
baz=50
KOTAN Kotaneelee Air 43.66 314 P **P 22 42 38.2 -1.0**
baz=52
G30M tAoh Zraii Nji 43.70 326 P **P 22 42 38.4 -1.0**
baz=51
FCAR Ozark Folk Cen 43.70 267 P **P 22 42 40.3 +0.5**
Y45A Yeager Farm, C 43.80 263 P **P 22 42 40.8 +0.2**
KSU1 Kansas State U 43.83 274 P **P 22 42 40.6 -0.3**
KSU1 IAmb IAmb 22 42 46.5
comp=Z,13nm,0.8s
KSU1 Kansas State U 43.83 274 P **P 22 42 40.5 -0.3**
baz=45
DWPF Disney Wildern 43.99 250 P **P 22 42 42.2 0.0**
baz=36
C27K Jago River 44.08 332 P **P 22 42 41.8 -0.6**
baz=48
C26K Camden Bay 44.19 332 P **P 22 42 42.5 -0.8**
baz=47
BBTS Babate 44.21 155 LR LR 22 56 54.7
comp=Z,84nm,20.0s,baz=164,slow=30
EPYK Eagle Plains 44.24 326 P **P 22 42 43.0 -0.8**
baz=50
MDUB Mudurnu 44.25 83 P **P 22 42 45.5 +1.3**
G29M Pine Creek 44.28 327 P **P 22 42 44.3 +0.2**
G29M Pine Creek 44.28 327 P **P 22 42 42.8 -1.3**
baz=50
F28M Old Crow 44.37 328 P **P 22 42 43.6 -1.2**
baz=49
RSSD Black Hills 44.38 285 P **P 22 42 45.0 -0.4**
RSSD Black Hills 44.38 285 P **P 22 42 44.9 -0.5**
baz=47
HHAR Hobbs 44.40 269 P **P 22 42 45.7 +0.3**
HHAR IAmb IAmb 22 42 51.4
comp=Z,11nm,1.1s
E27K Coleen River 44.48 329 P **P 22 42 44.4 -1.2**
baz=48,SNR=8.0
BRAL Brewton 44.52 258 P **P 22 42 46.7 +0.3**
U38A Gravette 44.53 269 IAmb IAmb 22 42 52.2
comp=Z,20nm,1.5s
TAM Tamanrasset 44.55 123 P **P 22 42 47.2 +0.3**
UALR University of 44.64 266 P **P 22 42 47.3 0.0**
UALR IAmb IAmb 22 42 52.8
comp=Z,5.9nm,0.7s
EGMT Eagleton 44.75 292 P **P 22 42 49.0 +0.8**
EGMT Eagleton 44.75 292 P **P 22 42 47.2 -0.9**
baz=49
BELG Belogornoye 44.77 59 LR LR 23 00 07.2
comp=Z,118nm,21.0s,baz=302,slow=34
MMPY Sheldon Lake, 44.83 319 P **P 22 42 49.6 +1.1**
MMPY IAmb IAmb 22 42 56.2
comp=Z,16nm,1.4s
MMPY Sheldon Lake, 44.83 319 P **P 22 42 47.5 -1.0**
baz=50,SNR=6.4
H29M Whitestone 44.84 326 P **P 22 42 49.3 +0.7**
H29M Whitestone 44.84 326 P **P 22 42 46.9 -1.7**
baz=49
I30M Mount Dempster 44.88 324 P **P 22 42 47.9 -1.1**
baz=49
TOAD Toad River Com 44.92 313 P **P 22 42 48.8 -0.6**
baz=51
CCAR Cane Creek 44.97 265 P **P 22 42 50.2 +0.3**
D25K Kavik River 44.98 332 P **P 22 42 49.0 -0.6**
baz=46
RLO Rose Lookout 45.08 270 P **P 22 42 51.7 +0.8**
RLO IAmb IAmb 22 42 57.1
comp=Z,22nm,1.1s
X40A Basin Creek Fa 45.13 266 IAmb IAmb 22 42 56.6
comp=Z,12nm,0.9s
C24K Franklin Bluff 45.27 334 P **P 22 42 50.8 -1.1**
baz=44
J30M Hart River 45.29 324 P **P 22 42 53.3 +1.0**
J30M Hart River 45.29 324 P **P 22 42 51.1 -1.1**
baz=49
T35A Sooner Cattle 45.35 272 P **P 22 42 51.7 -1.3**
T35A IAmb IAmb 22 42 53.5
comp=Z,9.0nm,1.2s
I29M Ogilvie Camp, 45.39 325 IAmb IAmb 22 43 08.7
comp=Z,17nm,1.5s
I29M Ogilvie Camp, 45.39 325 P **P 22 42 51.4 -1.6**
baz=48
G27K Doyon Strip 45.43 328 P **P 22 42 52.2 -1.0**
baz=47
OGNE Ogallala 45.49 280 P **P 22 42 53.8 -0.3**
baz=45
MIAR Mount Ida 45.49 267 P **P 22 42 54.1 +0.1**
baz=42
F26K Sheenjek River 45.52 330 P **P 22 42 53.4 -0.6**
baz=46
WTLY Watson Lake, Y 45.52 316 P **P 22 42 54.6 +0.5**
ANTO Ankara 45.54 82 P **P 22 42 54.7 +0.2**
ANTO IAmb IAmb 22 43 01.0
comp=Z,10.0nm,1.0s
VBMS Vicksburg 45.58 262 P **P 22 42 54.0 -0.8**
SJG San Juan 45.59 225 LR LR 23 01 18.1
comp=Z,22nm,19.5s,baz=131,slow=35
E25K Arctic Village 45.61 331 IAmb IAmb 22 43 29.1
comp=Z,4.9nm,0.5s
E25K Arctic Village 45.61 331 P **P 22 42 53.9 -0.7**
baz=46
346A Big Creek Wild 45.65 260 P **P 22 42 55.2 -0.1**
C23K Itkillik River 45.65 334 P **P 22 42 55.4 +0.4**
C23K IAmb IAmb 22 43 08.8
comp=Z,12nm,1.4s
C23K Itkillik River 45.65 334 P **P 22 42 53.1 -1.8**
baz=43
143A Socs Landing, 45.69 263 P **P 22 42 54.9 -0.8**
TUL3 Leonard 45.69 270 P **P 22 42 55.5 -0.2**
TUL3 Leonard 45.69 270 P **P 22 42 54.9 -0.8**
baz=42
D24K Happy Valley 45.71 333 P **P 22 42 55.4 0.0**
D24K IAmb IAmb 22 43 04.0
comp=Z,13nm,1.4s
D24K Happy Valley 45.71 333 P **P 22 42 54.4 -1.0**
baz=44

CBKS	Cedar Bluff	45.75 276	P	P	22 42 55.7	-0.5
CBKS	Cedar Bluff	45.75 276	P	P	22 42 55.1	-1.1
	baz=44					
A22K	Sinclair Lake	45.77 337	P	P	22 42 54.2	-1.6
	baz=41					
H27K	Steamboat Moun	45.78 327	P	P	22 42 54.1	-2.0
	baz=47					
CELP	Cerrillos	45.79 226	P	P	22 42 55.8	-0.8
KAN13	South Haven SW	45.81 272	P	P	22 42 56.3	-0.3
FARO	Faro, Yukon	45.82 320	P	P	22 42 57.0	+0.6
FARO			IAmb	IAmb	22 43 03.8	
	comp=Z,13nm,1.1s					
FARO	Faro, Yukon	45.82 320	P	P	22 42 54.9	-1.5
	baz=49					
BMAR	Burnt Mountain	45.83 330	P	P	22 42 57.4	+1.0
I28M	Miner Creek	45.84 326	IAmb	IAmb	22 42 59.7	
	comp=Z,10nm,1.3s					
I28M	Miner Creek	45.84 326	P	P	22 42 55.1	-1.5
	baz=47					
A21K	Barrow	45.87 338	P	P	22 42 55.5	-1.1
	baz=40					
WLAR	White Oak Lake	45.88 266	P	P	22 42 57.2	+0.1
KAN08	Anthony NE Sta	45.92 273	P	P	22 42 57.8	+0.2
B22K	Teshekpuk Lake	45.93 336	P	P	22 42 55.7	-1.3
	baz=42					
G26K	Porcupine Rive	45.94 329	P	P	22 42 55.7	-1.5
	baz=46,SNR=6.0					
KAN17	Caldwell West	45.94 273	P	P	22 42 57.8	+0.1
OK048	Pawnee Station	45.95 271	P	P	22 42 56.5	-1.2
OK048			IAmb	IAmb	22 43 03.1	
	comp=Z,9.1nm,0.9s					
J29N	Klondike Camp	45.98 324	P	P	22 42 58.9	+1.3
J29N			IAmb	IAmb	22 43 04.7	
	comp=Z,12nm,1.0s					
F25K	Christian Rive	46.00 330	P	P	22 42 56.9	-0.9
	baz=45					
QUOK	Quay	46.00 271	P	P	22 42 57.4	-0.8
QUOK			IAmb	IAmb	22 43 07.5	
	comp=Z,7.3nm,0.9s					
Z41A	Richland Creek	46.03 265	P	P	22 42 58.0	-0.4
BR131	Keskin Array S	46.10 82	P	P	22 42 59.5	+0.4
BR131			IAmb	IAmb	22 43 05.3	
	comp=Z,10nm,0.9s					
BRTR	Keskin Array B	46.10 82	P	P	22 42 59.8	+0.8
BRTR	Keskin Array B	46.10 82	P	P	22 42 59.7	+0.7
	comp=Z,4.0nm,0.9s,baz=312,slow=6.0,SNR=19					
BRTR			PcP	PcP	22 44 32.2	-2.8
	comp=Z,0.7nm,0.8s,baz=7.1,slow=5.8,SNR=2.6					
BRTR			LR	LR	23 04 51.2	
	comp=Z,39nm,18.4s,baz=311,slow=40					
	comp=Z,4.0nm,0.9s					
KAN14	Manchester OK	46.12 273	P	P	22 42 58.8	-0.2
DEOK	Depew	46.13 271	P	P	22 42 58.5	-0.6
K29M	Barlow Dome	46.16 323	P	P	22 42 60.0	+0.8
K29M			IAmb	IAmb	22 43 15.7	
	comp=Z,9.9nm,1.4s					
K29M	Barlow Dome	46.16 323	P	P	22 42 58.3	-0.9
	baz=48,SNR=5.7					
OK052	Battle Ridge R	46.19 271	P	P	22 42 58.7	-0.9
OK052			IAmb	IAmb	22 43 05.2	
	comp=Z,8.0nm,0.8s					
GCMT	Greycliff	46.19 290	P	P	22 43 00.1	+0.4
M31M	Drury Creek, Y	46.20 320	P	P	22 42 60.0	+0.6
M31M			IAmb	IAmb	22 43 07.9	
	comp=Z,9.0nm,1.3s					
M31M	Drury Creek, Y	46.20 320	P	P	22 42 58.6	-0.8
	baz=48					
ELL	Elmali	46.20 88	P	P	22 43 00.1	+0.2
OK031	S. Brethren Rd	46.23 271	P	P	22 42 59.8	-0.2
I27K	Kandik River	46.24 327	P	P	22 42 58.9	-0.9
	baz=46					
TOLK	Toolik Lake Re	46.27 333	P	P	22 43 00.7	+0.8
TOLK			IAmb	IAmb	22 43 06.1	
	comp=Z,17nm,1.5s					
TOLK	Toolik Lake Re	46.27 333	P	P	22 42 59.0	-0.9
	baz=43					
D23K	Nanushuk River	46.31 334	P	P	22 42 59.2	-0.9
	baz=43					
OK032	Salt Plains WL	46.36 273	P	P	22 43 00.8	-0.2
OK032			IAmb	IAmb	22 43 06.3	
	comp=Z,12nm,1.0s					
E24K	Your Creek	46.41 332	P	P	22 43 00.5	-0.5
	baz=44					
X37A	Clayton	46.44 268	P	P	22 43 00.8	-0.8
X37A			IAmb	IAmb	22 43 29.4	
	comp=Z,11nm,1.4s					
RLMT	Red Lodge	46.44 289	P	P	22 43 02.0	+0.3
RLMT			IAmb	IAmb	22 43 11.3	
	comp=Z,7.8nm,1.2s					
RLMT	Red Lodge	46.44 289	P	P	22 43 01.1	-0.6
	baz=47					
CROK	Carrier	46.46 272	P	P	22 43 01.7	0.0
DAWY	Dawson	46.62 324	P	P	22 43 04.0	+1.3
DAWY			IAmb	IAmb	22 43 09.3	
	comp=Z,13nm,1.2s					
DAWY	Dawson	46.62 324	P	P	22 43 02.4	-0.3
	baz=47					
FYU	Fort Yukon	46.62 329	P	P	22 43 04.2	+1.7
F24K	Squaw Lake	46.66 331	P	P	22 43 03.3	+0.3
F24K			IAmb	IAmb	22 43 16.8	
	comp=Z,9.0nm,1.4s					
F24K	Squaw Lake	46.66 331	P	P	22 43 02.4	-0.5
	baz=44					
EGAK	Eagle	46.68 326	P	P	22 43 02.6	-0.4
EGAK			IAmb	IAmb	22 43 19.2	
	comp=Z,7.2nm,1.1s					
EGAK	Eagle	46.68 326	P	P	22 43 02.6	-0.4
	baz=46					
OK029	Liberty Lake	46.69 271	P	P	22 43 02.6	-0.9
K22A	Casper	46.70 285	P	P	22 43 03.6	-0.1
K22A			IAmb	IAmb	22 43 23.0	
	comp=Z,3.8nm,0.7s					
K22A	Casper	46.70 285	P	P	22 43 02.6	-1.2
	baz=46					
E23K	Chandalar	46.71 332	P	P	22 43 02.6	-0.8
	baz=43					
G25K	Bearman Lake	46.72 330	P	P	22 43 02.6	-0.8
	baz=44					
B21K	Ikpikpuk River	46.74 336	P	P	22 43 03.9	+0.5
B21K			IAmb	IAmb	22 43 10.0	
	comp=Z,11nm,1.2s					
B21K	Ikpikpuk River	46.74 336	P	P	22 43 02.8	-0.7
	baz=40					
M30M	Minto, Yukon	46.78 322	P	P	22 43 05.1	+1.1
M30M	Minto, Yukon	46.78 322	P	P	22 43 02.8	-1.2
	baz=47					
R33M	Jennings River	46.82 316	P	P	22 43 04.4	0.0
R33M			IAmb	IAmb	22 43 12.0	
	comp=Z,13nm,1.3s					
R33M	Jennings River	46.82 316	P	P	22 43 03.1	-1.3
	baz=48					
D22K	Ayikyak River	46.86 334	P	P	22 43 05.1	+0.7
D22K			IAmb	IAmb	22 43 20.4	
	comp=Z,9.0nm,1.2s					
D22K	Ayikyak River	46.86 334	P	P	22 43 02.9	-1.5
	baz=41					
L29M	L29M	46.86 323	P	P	22 43 05.6	+1.0
L29M	L29M	46.86 323	P	P	22 43 03.3	-1.3
	baz=47					
OK038	West end E0370	46.89 273	P	P	22 43 04.9	-0.2
I26K	Coal Creek Min	46.91 327	P	P	22 43 03.8	-1.1
	baz=45					
OKCSW	OKLAHOMA CITY	46.97 271	P	P	22 43 06.6	+0.9
P33M	Teslin, Yukon	46.97 318	P	P	22 43 05.2	-0.4
P33M	Teslin, Yukon	46.97 318	P	P	22 43 04.7	-0.8
	baz=48					
H25L	Birch Creek	47.00 329	P	P	22 43 04.6	-0.9
	baz=44					
B20K	Meade River	47.01 337	P	P	22 43 04.0	-1.5
	baz=39					
ARU	Arti	47.01 49	P	P	22 43 06.6	+0.8
ARU	Arti	47.01 49	LR	LR	23 01 35.2	
	comp=Z,86nm,18.7s,baz=306,slow=34					
ARU	Arti	47.01 49	P	P	22 43 06.9	+1.1
	comp=Z,11nm,1.5s					
OVMT	Ovando	47.03 293		pwP	22 43 11.1	-0.8
DLBC	Dease Lake	47.10 314	P	P	22 43 05.6	-0.9
	baz=48					
DLBC	Dease Lake	47.10 314	LR	LR	23 02 28.5	
	comp=Z,714nm,18.6s,baz=82,slow=36					
C21K	Knifeblade Rid	47.14 335	P	P	22 43 06.0	-0.6
	baz=40					
G24K	Hadweenzic Riv	47.14 330	P	P	22 43 05.3	-1.4
	baz=43					
NRIK	Noril'sk	47.16 24	P	P	22 43 07.8	+1.1
	comp=Z,1.2nm,0.5s,baz=302,slow=7.9,SNR=4.5					
NRIK			LR	LR	23 03 17.4	
	comp=Z,44nm,18.3s,baz=74,slow=37					
	comp=Z,1.2nm,0.5s					
BOZ	Bozeman (W)	47.33 291	IAmb	IAmb	22 43 15.1	
	comp=Z,11nm,1.1s					
BOZ	Bozeman (W)	47.33 291	P	P	22 43 07.4	-1.2
	baz=47					
M29M	Somme Creek	47.44 322	P	P	22 43 07.4	-1.7
	baz=46,SNR=6.0					
PRP	Porcupine Dome	47.46 328	P	P	22 43 08.1	-1.2
	baz=44					
CSTR	Hydro, Custer	47.48 272	P	P	22 43 09.0	-0.6
K27K	Chicken	47.49 325	P	P	22 43 08.2	-1.2
	baz=45					
J26L	Joseph Creek	47.61 326	IAmb	IAmb	22 43 26.6	
	comp=Z,7.7nm,1.2s					
J26L	Joseph Creek	47.61 326	P	P	22 43 09.1	-1.4
	baz=44					
Q32M	Nakina River	47.61 316	P	P	22 43 09.6	-1.1
	baz=47					
N23A	Red Feather La	47.62 283	IAmb	IAmb	22 43 18.8	
	comp=Z,15nm,1.5s					
N23A	Red Feather La	47.62 283	P	P	22 43 10.1	-1.0
	baz=45					
N30M	Aishikik Lake	47.65 321	P	P	22 43 09.8	-1.0
	baz=46					
MSO	Missoula	47.66 294	P	P	22 43 10.1	-1.0
	baz=47					
F22K	John River	47.77 333	P	P	22 43 09.9	-1.7
	baz=41					
O30N	Mendenhall	47.78 320	P	P	22 43 10.6	-1.2
	baz=46					
G23K	Bananza Creek	47.82 331	P	P	22 43 14.4	+2.4
G23K			IAmb	IAmb	22 43 18.7	
	comp=Z,9.3nm,1.2s					
G23K	Bananza Creek	47.82 331	P	P	22 43 10.7	-1.3
	baz=42					
S34M	Telegraph Cree	47.89 314	IAmb	IAmb	22 43 16.1	
	comp=Z,13nm,1.4s					
S34M	Telegraph Cree	47.89 314	P	P	22 43 11.6	-0.9
	baz=47					
H24K	Noodor Dome	47.89 330	IAmb	IAmb	22 43 15.3	
	comp=Z,7.7nm,1.2s					
H24K	Noodor Dome	47.89 330	P	P	22 43 11.7	-0.9
	baz=42					
D20K	Ettiluk River	47.90 336	P	P	22 43 11.3	-1.2
	baz=38					
J25K	Salcha River,	48.07 327	IAmb	IAmb	22 43 30.3	
	comp=Z,7.9nm,1.2s					
J25K	Salcha River,	48.07 327	P	P	22 43 12.6	-1.4
	baz=43					
BCAR	Beaver Creek A	48.09 324	P	P	22 43 15.9	+1.8
L27K	Beaver Creek,	48.10 324	IAmb	IAmb	22 43 28.2	
	comp=Z,11nm,1.4s					
L27K	Beaver Creek,	48.10 324	P	P	22 43 13.2	-1.0
	baz=44					
SCRK	Sand Creek	48.12 326	IAmb	IAmb	22 43 17.4	
	comp=Z,9.1nm,1.0s					
SCRK	Sand Creek	48.12 326	P	P	22 43 13.1	-1.3
	baz=44,SNR=8.5					
IMW	Indian Meadow	48.15 289	P	P	22 43 15.8	+0.6
MOOW	Moose Ponds	48.16 289	P	P	22 43 15.8	+0.7
441A	DeRidder	48.16 263	P	P	22 43 14.3	-0.7
E20K	Nigu River	48.16 335	P	P	22 43 13.2	-1.4
	baz=38					
T35M	Bob Quinn	48.17 313	IAmb	IAmb	22 43 26.2	
	comp=Z,8.2nm,1.2s					
T35M	Bob Quinn	48.17 313	P	P	22 43 14.0	-0.9
	baz=47					
LOHW	Long Hollow	48.18 289	P	P	22 43 15.9	+0.7
WMOK	Wichita Mounta	48.20 271	P	P	22 43 14.6	-0.7
	baz=42					
KBZ	Khabaz	48.22 71	P	P	22 43 14.9	-0.4
	comp=Z,5.5nm,1.0s,baz=345,slow=6.0,SNR=7.2					
KBZ			LR	LR	23 04 53.8	
	comp=Z,98nm,18.1s,baz=330,slow=38					
	comp=Z,5.5nm,1.0s					
PDAR	Pinedale Array	48.22 287	P	P	22 43 15.9	+0.2
PDAR	Pinedale Array	48.22 287	P	P	22 43 14.4	-1.2
	comp=Z,0.4nm,0.6s,baz=64,slow=8.1,SNR=6.9					
PDAR			LR	LR	23 02 33.5	
	comp=Z,216nm,18.4s,baz=30,slow=35					
	comp=Z,0.4nm,0.6s					
BW06	Boulder Array	48.22 287	P	P	22 43 14.4	-1.3
	baz=45					
ISCO	Idaho Springs	48.23 281	IAmb	IAmb	22 43 22.9	
	comp=Z,9.0nm,1.1s					
ISCO	Idaho Springs	48.23 281	P	P	22 43 14.5	-1.3
	baz=44					
HYT	Haines Junctio	48.24 320	P	P	22 43 14.2	-1.2
	baz=46					
C19K	Lookout Ridge	48.25 337	P	P	22 43 14.8	-0.5
	baz=37					
NEW	Newport	48.26 297	P	P	22 43 14.9	-0.7
NEW			IAmb	IAmb	22 43 21.4	
	comp=Z,6.1nm,1.0s					
NEW	Newport	48.26 297	P	P	22 43 14.5	-1.1
	baz=47					
NEW	Newport	48.26 297	LR	LR	23 02 35.1	
	comp=Z,419nm,18.1s,baz=14,slow=35					
YUK4	Talbot Arm	48.27 321	P	P	22 43 13.9	-1.8
	baz=45					
POKR	Poker Plat Res	48.30 329	P	P	22 43 15.9	+0.3
POKR	Poker Plat Res	48.30 329	P	P	22 43 14.4	-1.3
	baz=42					
F21K	Alatna River	48.32 333	P	P	22 43 15.2	-0.6
F21K	Alatna River	48.32 333	P	P	22 43 14.9	-0.9
	baz=40					
H23K	Yukon River	48.36 330	IAmb	IAmb	22 43 23.1	
	comp=Z,12nm,1.4s					
H23K	Yukon River	48.36 330	P	P	22 43 14.7	-1.4
	baz=41,SNR=6.7					
IL31		48.40 328	IAmb	IAmb	22 43 22.9	
	comp=Z,8.8nm,1.1s					
ILAR	Eielson Array	48.40 328	P	P	22 43 16.6	+0.2
ILAR	Eielson Array	48.40 328	P	P	22 43 15.7	-0.8
	comp=Z,1.1nm,0.8s,baz=30,slow=6.7,SNR=14					
ILAR			PcP	PcP	22 44 42.1	-0.5
	comp=Z,0.3nm,0.7s,baz=20,slow=2.9,SNR=1.0					
ILAR			LR	LR	23 03 49.4	
	comp=Z,184nm,19.0s,baz=76,slow=36					
	comp=Z,1.1nm,0.8s					
SKAG	Skagway	48.41 318	P	P	22 43 16.5	0.0
SKAG	Skagway	48.41 318	P	P	22 43 15.2	-1.4
	baz=46					
D19K	Kuna River	48.41 336	P	P	22 43 15.1	-1.5
	baz=37					
TPAW	Teton Pass	48.44 289	P	P	22 43 17.8	+0.4
TPAW			IAmb	IAmb	22 43 23.4	
	comp=Z,6.2nm,0.9s					
YUK6	Outpost Mounta	48.45 321	P	P	22 43 16.1	-1.1
	baz=45					
B18K	Kokolik River	48.50 338	P	P	22 43 16.2	-1.0
	baz=35					
P30M	Million Dollar	48.54 319	P	P	22 43 16.3	-1.3
	baz=45					
YUK3	Moose Creek	48.58 323	P	P	22 43 16.7	-1.4
	baz=44,SNR=6.3					
L26K	Log Cabin Wild	48.61 325	P	P	22 43 17.4	-0.7
	baz=44					
M27K	Edge Creek, AK	48.62 324	IAmb	IAmb	22 43 34.4	
	comp=Z,7.0nm,1.2s					
M27K	Edge Creek, AK	48.62 324	P	P	22 43 17.5	-0.9
	baz=44					
MDM	Murphy Dome	48.64 329	P	P	22 43 19.1	+0.8
MDM			IAmb	IAmb	22 43 24.7	
	comp=Z,10nm,1.2s					
HDA	Harding Lake	48.68 328	P	P	22 43 18.8	+0.1
HDA			IAmb	IAmb	22 43 22.1	
	comp=Z,6.4nm,1.0s					
HDA	Harding Lake	48.68 328	P	P	22 43 18.1	-0.5
	baz=42					
SMWD	Samnorwood	48.73 273	P	P	22 43 19.0	-0.4
SMWD			IAmb	IAmb	22 43 25.6	
	comp=Z,12nm,1.0s					
WTFS	Witchita Falls	48.75 270	P	P	22 43 19.3	-0.2
CCB	Clear Creek Bu	48.76 328	P	P	22 43 19.2	0.0
CCB			IAmb	IAmb	22 43 24.5	
	comp=Z,9.4nm,1.5s					
K24K	Donnelly Dome	48.79 327	P	P	22 43 18.9	-0.5
	baz=42					
H22K	Ishtalitna Cre	48.80 331	P	P	22 43 18.4	-1.1
	baz=40					
I23K	Minto, Yukon-K	48.82 330	IAmb	IAmb	22 43 25.6	
	comp=Z,7.4nm,1.1s					
I23K	Minto, Yukon-K	48.82 330	P	P	22 43 19.0	-0.6
	baz=41					
G21K	Allakaket	48.87 332	P	P	22 43 19.9	-0.2
	baz=39					
R32K	Eaglecrest	48.94 316	P	P	22 43 20.1	-0.5
	baz=46					
M26K	Nabesna, AK	48.95 324	P	P	22 43 21.5	+0.7
M26K			IAmb	IAmb	22 43 37.5	
	comp=Z,12nm,1.4s					
M26K	Nabesna, AK	48.95 324	P	P	22 43 20.8	0.0
	baz=43					
C18K	Utukok River	48.96 337	P	P	22 43 21.3	+0.5
C18K	Utukok River	48.96 337	P	P	22 43 20.5	-0.3
	baz=35					
WRH	Wood River Hil	48.97 328	P	P	22 43 21.1	+0.3
WRH			IAmb	IAmb	22 43 50.5	
	comp=Z,3.2nm,0.5s					
O29M	Mount Kennedy	48.98 320	P	P	22 43 21.1	-0.1
O29M	Mount Kennedy	48.98 320	P	P	22 43 20.2	-0.9
	baz=45					
F20K	Avaraart Lake	49.01 334	P	P	22 43 21.5	+0.5
F20K			IAmb	IAmb	22 43 26.8	
	comp=Z,13nm,1.4s					
F20K	Avaraart Lake	49.01 334	P	P	22 43 20.5	-0.5
	baz=38					
E19K	Redstone River	49.04 335	P	P	22 43 21.9	+0.6
E19K			IAmb	IAmb	22 43 27.6	
	comp=Z,7.8nm,1.1s					
E19K	Redstone River	49.04 335	P	P	22 43 20.3	-1.0
	baz=37					
FW03	Perrin-Whitt E	49.08 269	P	P	22 43 21.8	-0.3
RTBA	Rita Blanca	49.11 276	P	P	22 43 21.5	-0.9
NEA2	Nenana	49.16 329	P	P	22 43 22.5	+0.3
NEA2			IAmb	IAmb	22 43 28.7	
	comp=Z,8.7nm,1.2s					
NEA2	Nenana	49.16 329	P	P	22 43 22.1	-0.2
	baz=41					
P29M	Windy Craggy	49.17 319	P	P	22 43 21.7	-0.7
	baz=45					
O28M	Mount Upton	49.20 322	P	P	22 43 22.4	-0.6
	baz=44					
B08A	Colville Reser	49.26 299	IAmb	IAmb	22 43 29.0	
	comp=Z,9.3nm,1.1s					
MLY	Manley	49.29 330	P	P	22 43 22.4	-0.9
	baz=40					
PAX	Paxson	49.31 326	P	P	22 43 23.4	-0.1
	baz=42					
IMAR	Indian Mountai	49.35 332	P	P	22 43 24.0	+0.3
H21K	Melozitna Rive	49.36 331	P	P	22 43 24.0	+0.2
H21K	Melozitna Rive	49.36 331	P	P	22 43 23.4	-0.4
	baz=39					
PLPT	Palo Pinto	49.39 269	P	P	22 43 24.3	-0.1
PLPT			IAmb	IAmb	22 43 31.0	
	comp=Z,10.0nm,0.9s					
O20A	White River Ci	49.39 284	P	P	22 43 25.0	+0.4
O20A			IAmb	IAmb	22 43 58.5	
	comp=Z,10nm,1.3s					
O20A	White River Ci	49.39 284	P	P	22 43 23.9	-0.7
	baz=44					
HNVL	Huntsville, TX	49.40 265	P	P	22 43 25.1	+0.6
CTG	Chitna Glacier	49.45 322	P	P	22 43 23.7	-1.1
	baz=44					
T25A	Trinidad	49.50 278	IAmb	IAmb	22 43 32.3	
	comp=Z,12nm,1.0s					
T25A	Trinidad	49.50 278	P	P	22 43 24.9	-0.6
	baz=43					
C17K	DeLong Mountai	49.52 338	P	P	22 43 24.1	-0.9
	baz=34					
S32K	Killisnoo	49.53 316	P	P	22 43 23.4	-1.7
	baz=45					
WHTX	Lake Whitney,	49.54 268	P	P	22 43 25.2	-0.4
	baz=40					
HARP	HAARP	49.64 325	P	P	22 43 25.1	-0.9
	baz=42					
SDCO	Great Sand Dun	49.65 279	P	P	22 43 26.1	-0.6
SDCO	Great Sand Dun	49.65 279	P	P	22 43 26.1	-0.6
	baz=43					
F19K	Shaleruckik Mo	49.67 334	P	P	22 43 27.3	+1.2
F19K			IAmb	IAmb	22 43 31.7	
	comp=Z,8.5nm,1.2s					
F19K	Shaleruckik Mo	49.67 334	P	P	22 43 24.9	-1.2
	baz=37					
AMTX	Amarillo	49.68 274	P	P	22 43 26.6	-0.2
AMTX	Amarillo	49.68 274	P	P	22 43 26.3	-0.4
	baz=42					
MCARA	McCarthy VSAT	49.71 323	P	P	22 43 25.4	-1.1
MCARA			IAmb	IAmb	22 43 40.7	
	comp=Z,7.8nm,1.0s					
PNL	Peninsula	49.73 320	P	P	22 43 25.6	-1.1
	baz=44					
GRNC	Granite Creek	49.76 322	P	P	22 43 28.6	+1.4
GRNC			IAmb	IAmb	22 43 35.1	
	comp=Z,9.6nm,1.2s					
MCK	McKinley	49.77 328	P	P	22 43 27.6	+0.7
MCK			IAmb	IAmb	22 43 33.4	
	comp=Z,16nm,1.3s					
MCK	McKinley	49.77 328	P	P	22 43 26.3	-0.6
	baz=40					
RDMU	Red Mountain	49.79 285	P	P	22 43 27.8	+0.2
RDMU			IAmb	IAmb	22 43 49.9	
	comp=Z,13nm,1.4s					
DHY	Denali Highway	49.81 327	IAmb	IAmb	22 43 30.2	
	comp=Z,11nm,1.4s					
DHY	Denali Highway	49.81 327	P	P	22 43 26.4	-1.0
	baz=41					
E18K	Tukpahlearik C	49.84 336	P	P	22 43 26.3	-1.1
	baz=35					
V35K	Ketchikan	49.87 312	P	P	22 43 27.3	-0.5
	baz=45					
PLID	Pearl Lake	49.91 293	IAmb	IAmb	22 43 34.3	
	comp=Z,9.5nm,1.1s					
APMT	Aspermont	49.99 271	IAmb	IAmb	22 43 35.2	
	comp=Z,15nm,1.1s					
RND	Reindeer	50.00 328	P	P	22 43 29.7	+0.9
RND			IAmb	IAmb	22 43 44.2	
	comp=Z,10nm,1.3s					
H20K	Anotleneega Mo	50.03 332	P	P	22 43 28.7	-0.2
	baz=38,SNR=5.9					
N25K	Chitina, Valde	50.05 324	P	P	22 43 29.8	+0.6
N25K			IAmb	IAmb	22 43 35.8	
	comp=Z,10nm,1.2s					
N25K	Chitina, Valde	50.05 324	P	P	22 43 28.5	-0.7
	baz=42					
G19K	Purcell Mounta	50.06 334	P	P	22 43 28.7	-0.4
	baz=37					
BPAW	Bear Paw Mtn.	50.07 329	P	P	22 43 28.9	-0.3
	baz=40					
SIT	Sitka	50.11 316	P	P	22 43 28.3	-1.2
	baz=44					
C16K	Lisburne Hills	50.13 339	P	P	22 43 28.4	-1.1
	baz=32					
M24K	Tolsona, Glenn	50.17 325	P	P	22 43 29.4	-0.7
	baz=41					
HLID	Hailey	50.18 291	P	P	22 43 31.3	+0.8
HLID	Hailey	50.18 291	P	P	22 43 30.1	-0.5
	baz=45					
CRQE	Cirque	50.20 323	P	P	22 43 30.1	-0.3
	baz=42					
HKT	Hockley	50.22 265	P	P	22 43 32.1	+1.5
HKT			IAmb	IAmb	22 43 37.0	
	comp=Z,7.5nm,0.9s					
MESA	MESA	50.24 322	P	P	22 43 30.6	-0.1
	baz=43					
ABTX	Abilene, Hawle	50.26 270	IAmb	IAmb	22 43 36.8	
	comp=Z,13nm,1.1s					
ABTX	Abilene, Hawle	50.26 270	P	P	22 43 31.2	+0.1
	baz=40					
WAT6	Susitna Watana	50.30 327	P	P	22 43 30.5	-0.6
	baz=41					
F18K	Selawik	50.30 335	P	P	22 43 31.0	+0.2
	baz=35					
WAT1	Susitna Watana	50.35 327	P	P	22 43 30.9	-0.4
	baz=40					
S22A	4UR Ranch, Cre	50.37 280	P	P	22 43 31.9	-0.3
	baz=43					
CRAG	Craig	50.38 313	P	P	22 43 30.9	-0.7
	baz=45					
E17K	Hotham Inlet	50.39 336	P	P	22 43 31.4	-0.2
	baz=34					
H19K	Roundabout Mou	50.40 333	IAmb	IAmb	22 43 38.3	
	comp=Z,11nm,1.4s					
H19K	Roundabout Mou	50.40 333	P	P	22 43 31.2	-0.4
	baz=37					
BMRM	Bremner River	50.53 324	P	P	22 43 31.9	-0.9
	baz=42					
KLU	Klutina	50.56 325	IAmb	IAmb	22 43 49.0	
	comp=Z,7.3nm,1.0s					
KLU	Klutina	50.56 325	P	P	22 43 32.6	-0.5
	baz=41					
BBB	Bella Bella	50.62 307	LR	LR	23 04 17.7	

comp=Z,109nm,18.1s,baz=12,slow=35
G18K Tagagawik 50.64 334 P **P 22 43 33.5 0.0**
baz=36
SCM Sheep Creek Mo 50.74 326 P **P 22 43 33.7 -0.7**
baz=40
SPUT South Promonto 50.77 288 IAmb IAmb 22 43 41.6
comp=Z,15nm,1.4s
J20K Nowinta River 50.88 331 IAmb IAmb 22 43 40.7
comp=Z,11nm,1.4s
J20K Nowinta River 50.88 331 P **P 22 43 35.3 0.0**
baz=38
AKTO Aktyubinsk 50.90 55 LR LR 23 04 28.9
comp=Z,74nm,19.5s,baz=227,slow=35
CAST Castle Rocks 50.91 329 P **P 22 43 35.2 -0.4**
baz=38
CBB Campbell River 50.92 304 P **P 22 43 38.1 +2.3**
BRDY Brady 50.93 269 IAmb IAmb 22 43 41.3
comp=Z,11nm,1.0s
MSTX Muleshoe 50.96 274 P **P 22 43 36.6 +0.2**
MSTX IAmb IAmb 22 43 42.7
comp=Z,9.2nm,1.1s
MSTX Muleshoe 50.96 274 P **P 22 43 36.9 +0.4**
baz=41
MXC Moxie City 50.98 298 P **P 22 43 35.6 -0.7**
MFID Camas Ranch 51.01 292 P **P 22 43 37.8 +1.1**
PV12 Saucer Basin, 51.01 282 P **P 22 43 36.5 -0.4**
PV02 Paradox Valley 51.06 282 P **P 22 43 37.9 +0.6**
PV02 IAmb IAmb 22 43 43.8
comp=Z,12nm,1.0s
PV11 David Mesa, Pa 51.06 282 P **P 22 43 37.3 0.0**
PV11 IAmb IAmb 22 43 43.9
comp=Z,8.1nm,1.1s
SML Sawmill 51.07 326 P **P 22 43 37.1 +0.3**
SML Sawmill 51.07 326 P **P 22 43 36.6 -0.2**
baz=40
PV16 Nyswonger Mesa 51.08 282 P **P 22 43 37.8 +0.4**
PV16 IAmb IAmb 22 43 43.8
comp=Z,15nm,1.4s
PV03 Paradox Valley 51.08 282 P **P 22 43 36.7 -0.8**
PV03 IAmb IAmb 22 43 43.9
comp=Z,7.6nm,1.1s
PV10 Paradox Valley 51.09 283 P **P 22 43 37.6 0.0**
PV10 IAmb IAmb 22 43 44.5
comp=Z,10nm,1.1s
PV18 Skein Mesa, Pa 51.12 282 P **P 22 43 37.7 0.0**
PV18 IAmb IAmb 22 43 44.2
comp=Z,10nm,1.0s
PV17 East Wray Mesa 51.12 282 P **P 22 43 37.6 -0.2**
PV17 IAmb IAmb 22 43 44.2
comp=Z,6.5nm,0.9s
PV13 Radium Mtn., P 51.14 282 P **P 22 43 38.1 +0.2**
PV13 IAmb IAmb 22 43 44.4
comp=Z,8.9nm,1.1s
TIXI Tiksi 51.16 7 P **P 22 43 37.7 +0.4**
TIXI IAmb IAmb 22 43 43.6
comp=Z,7.4nm,0.8s
TIXI Tiksi 51.16 7 LR LR 23 03 05.2
comp=Z,38nm,20.7s,baz=12,slow=34
H18K Honhosa River 51.17 333 P **P 22 43 37.2 -0.3**
baz=35
GLI Glacier Island 51.40 325 P **P 22 43 39.8 +0.5**
GLI IAmb IAmb 22 43 58.0
comp=Z,10nm,1.0s
GLI Glacier Island 51.40 325 P **P 22 43 39.0 -0.3**
baz=40
KNK Knik Glacier 51.41 326 P **P 22 43 40.0 +0.6**
KNK Knik Glacier 51.41 326 P **P 22 43 39.0 -0.3**
baz=40
J19K Poorman 51.42 331 IAmb IAmb 22 43 45.7
comp=Z,10nm,1.4s
J19K Poorman 51.42 331 P **P 22 43 39.0 -0.3**
baz=37
G17K Kiwalik Mounta 51.44 335 P **P 22 43 38.9 -0.6**
baz=34
TOA0 Torodi Ar. Sit 51.46 133 P **P 22 43 39.5 -0.8**
TOA0 IAmb IAmb 22 43 44.4
comp=Z,11nm,1.1s
TORD Torodi Ar. Bea 51.46 133 P **P 22 43 39.1 -1.1**
TORD IAmb IAmb 22 43 44.3
comp=Z,9.8nm,1.1s
TORD Torodi Ar. Bea 51.46 133 P **P 22 43 38.8 -1.4**
comp=Z,5.8nm,1.0s,baz=351,slow=8.0,SNR=15
TORD LR LR 23 03 16.4
comp=Z,145nm,20.5s,baz=330,slow=34
comp=Z,5.8nm,1.0s
GURO Guroymak-BITLI 51.47 77 P **P 22 43 39.6 -0.7**
PMR Palmer 51.48 326 P **P 22 43 40.5 +0.7**
PMR IAmb IAmb 22 43 56.1
comp=Z,11nm,1.2s
K20K Telida 51.51 330 IAmb IAmb 22 43 46.2
comp=Z,14nm,1.2s
K20K Telida 51.51 330 P **P 22 43 39.6 -0.4**
baz=37
NLU North Lily Min 51.56 286 P **P 22 43 41.3 +0.3**
NLU IAmb IAmb 22 43 47.4
comp=Z,9.9nm,1.1s
SGCY Sterling City 51.61 271 P **P 22 43 41.9 +0.5**
M22K Willow 51.65 327 P **P 22 43 41.1 0.0**
MVCO Mesa Verde 51.66 281 P **P 22 43 42.7 +0.9**
MVCO IAmb IAmb 22 43 57.5
comp=Z,8.0nm,1.1s
MVCO Mesa Verde 51.66 281 P **P 22 43 42.2 +0.4**
baz=42
MARD Mardin 51.70 79 P **P 22 43 41.3 -0.7**
MARD IAmb IAmb 22 43 45.4
comp=Z,15nm,1.3s
H17K Granite Mounta 51.73 334 P **P 22 43 41.4 -0.3**
H17K IAmb IAmb 22 43 48.4
comp=Z,11nm,1.2s
H17K Granite Mounta 51.73 334 P **P 22 43 41.3 -0.3**
baz=34
GNI Garni 51.73 73 LR LR 23 06 07.1
comp=Z,53nm,19.2s,baz=329,slow=37
DUG Dugway, Tooele 51.77 287 P **P 22 43 42.6 +0.1**
baz=43
SKT Skwentna 51.89 328 IAmb IAmb 22 43 48.7
comp=Z,17nm,1.2s
SKT Skwentna 51.89 328 P **P 22 43 42.7 -0.2**
baz=38
G16K Koyuk River 51.92 335 P **P 22 43 42.9 -0.2**
baz=33
JCT Junction City 51.98 269 P **P 22 43 44.1 0.0**
baz=39
MMAI Mount Meron Ar 51.99 86 LR LR 23 07 06.9
comp=Z,135nm,20.1s,baz=259,slow=38
RC01 Rabbit Creek A 52.05 326 P **P 22 43 44.4 +0.3**
RC01 Rabbit Creek A 52.05 326 P **P 22 43 43.7 -0.4**
baz=39
SUA Susitna One 52.06 327 P **P 22 43 43.6 -0.8**
SUA Susitna One 52.06 327 P **P 22 43 43.9 -0.4**
baz=38
J18K Innoko River 52.13 331 P **P 22 43 44.1 -0.6**
baz=36
L20K Farewell, AK 52.16 329 P **P 22 43 44.3 -0.7**
baz=37
F15K North Star Dit 52.17 337 P **P 22 43 44.6 -0.4**
baz=32
P23K Montague Islan 52.17 324 P **P 22 43 45.0 0.0**
baz=40
ANMO Albuquerque 52.24 278 P **P 22 43 46.0 -0.1**
ANMO Albuquerque 52.24 278 P **P 22 43 46.5 +0.3**
baz=41
ANMO Albuquerque 52.24 278 LR LR 23 05 07.4
comp=Z,344nm,18.1s,baz=141,slow=35
Q23K Middleton Isla 52.27 323 P **P 22 43 45.1 -0.6**
baz=40
HMU Henry Mountain 52.33 283 IAmb IAmb 22 43 53.0
comp=Z,8.7nm,1.1s
OZNA Ozona 52.37 270 IAmb IAmb 22 43 53.5
comp=Z,10nm,0.9s
TTA Tatalina 52.38 331 IAmb IAmb 22 43 52.5
comp=Z,14nm,1.3s
TTA Tatalina 52.38 331 P **P 22 43 46.4 -0.2**
baz=36
J08A Circle Bar Ran 52.38 294 IAmb IAmb 22 43 52.6
comp=Z,9.4nm,1.0s
M20K Styx River 52.43 329 P **P 22 43 46.5 -0.5**
baz=37
ABKAR Akbulak array 52.62 55 P **P 22 43 49.2 +0.7**
ABKAR Akbulak array 52.62 55 IAmb IAmb 22 43 54.1
comp=Z,8.7nm,1.1s
G15K Niukluk 52.64 336 P **P 22 43 48.5 +0.1**
baz=32
SPU Mount Spurr 52.67 327 IAmb IAmb 22 43 54.8
comp=Z,17nm,1.2s
MVU Marysvale 52.69 285 P **P 22 43 50.1 +0.6**
N20K Mount Spurr 52.70 328 P **P 22 43 47.8 -1.3**
baz=37
I17K Unalakleet 52.79 334 P **P 22 43 49.4 -0.2**
baz=33
J17K VABM Dome 52.80 332 P **P 22 43 49.5 -0.1**
baz=34
WVOR Wild Horse Val 53.14 293 P **P 22 43 52.7 +0.1**
L18K Granite Mounta 53.14 330 P **P 22 43 51.5 -0.7**
L18K IAmb IAmb 22 43 59.0
comp=Z,15nm,1.2s
L18K Granite Mounta 53.14 330 P **P 22 43 52.0 -0.2**
baz=35
K17K Iditarod 53.16 332 P **P 22 43 51.7 -0.6**
K17K IAmb IAmb 22 44 18.2
comp=Z,10nm,1.2s
GDL2 Guadalupe Moun 53.17 274 P **P 22 43 53.2 +0.3**
DRIO Del Rio 53.25 268 P **P 22 43 52.4 -1.0**
J16K Anvik River 53.27 333 P **P 22 43 52.7 -0.5**
baz=33
PINE Pine Mountain 53.30 296 P **P 22 43 54.2 +0.3**
PINE IAmb IAmb 22 44 00.9
comp=Z,12nm,1.0s
M18K Stony River 53.50 330 P **P 22 43 54.4 -0.4**
baz=35
L17K Donlin 53.64 331 P **P 22 43 55.4 -0.4**
baz=34
N19K Bonanza Creek 53.68 328 pwP 22 44 01.4 -0.7
MDP Montagnes des 53.74 203 LR LR 23 01 24.8
comp=Z,38nm,18.4s,baz=108,slow=30
TEIG Tepich 53.99 251 LR LR 23 05 45.0
comp=Z,83nm,21.7s,baz=43,slow=35
CCUT Cedar City 54.01 285 pwP 22 44 04.7 +1.9
M17K Holitna River 54.02 330 P **P 22 43 58.2 -0.5**
baz=34
MNTX Cornudas Mount 54.11 274 P **P 22 44 00.0 +0.3**
baz=40
ALPN Alpine 54.17 272 IAmb IAmb 22 44 05.9
comp=Z,7.5nm,1.3s
N18K Kilae Creek 54.19 329 P **P 22 43 59.4 -0.5**
baz=35
BVAR Borovoye Array 54.25 46 P **P 22 44 00.2 -0.2**
comp=Z,4.8nm,1.0s,baz=329,slow=5.5,SNR=22
BVAR LR LR 23 06 53.1
comp=Z,66nm,18.1s,baz=304,slow=36
comp=Z,4.8nm,1.0s
U15A North Rim 54.27 283 pwP 22 44 05.8 +1.0
EIL Elat 54.30 89 LR LR 23 08 35.6
comp=Z,48nm,20.2s,baz=248,slow=38
J14K Nanvaranak Lak 54.45 334 P **P 22 44 01.6 -0.1**
baz=31
WUAZ Wupatki 54.47 282 P **P 22 44 02.4 0.0**
WUAZ IAmb IAmb 22 44 09.0
comp=Z,8.1nm,1.2s
R11B Troy Canyon, C 54.58 287 P **P 22 44 03.8 +0.6**
R11B Troy Canyon, C 54.58 287 P **P 22 44 03.6 +0.3**
baz=42
VHRN Van Horn 54.59 273 P **P 22 44 02.6 -0.8**
O18K Koktuh Hills 54.67 328 P **P 22 44 03.7 +0.3**
O18K Koktuh Hills 54.67 328 P **P 22 44 03.0 -0.4**
baz=35
BAUV El Baul 54.69 223 P **P 22 44 03.9 -0.1**
M16K Timber Creek 54.75 331 P **P 22 44 04.4 +0.5**
M16K IAmb IAmb 22 44 22.4
comp=Z,11nm,1.4s
M16K Timber Creek 54.75 331 P **P 22 44 04.5 +0.5**
baz=33
121A Cookes Peak, D 54.78 277 P **P 22 44 05.3 +0.5**
121A IAmb IAmb 22 44 11.6
comp=Z,8.4nm,1.1s
121A Cookes Peak, D 54.78 277 P **P 22 44 05.3 +0.5**
baz=40
Q20K Shuyak Island 54.84 326 P **P 22 44 05.1 +0.5**
baz=36
L15K Ungalak Mounta 54.85 332 P **P 22 44 05.2 +0.6**
baz=32
Q19K Cape Douglas, 54.96 327 P **P 22 44 05.3 -0.2**
baz=36
TX31 Lajitas Ar. Si 54.99 271 P **P 22 44 05.5 -0.8**
TXAR Lajitas Array 54.99 271 P **P 22 44 05.4 -0.8**
TXAR Lajitas Array 54.99 271 P **P 22 44 06.2 0.0**
comp=Z,0.8nm,0.9s,baz=85,slow=7.7,SNR=4.9
TXAR LR LR 23 07 08.7
comp=Z,80nm,18.4s,baz=59,slow=36
comp=Z,0.8nm,0.9s
PRN Pahroc Range 55.01 286 P **P 22 44 06.6 +0.3**
PRN IAmb IAmb 22 44 17.3
comp=Z,8.0nm,1.4s
P18K Big Mountain, 55.05 328 P **P 22 44 05.5 -0.7**
baz=35
DBIC Dimbokro 55.08 144 P **P 22 44 06.9 +0.1**
comp=Z,7.5nm,0.9s,baz=359,slow=5.5,SNR=5.4
DBIC LR LR 23 04 26.6
comp=Z,209nm,21.5s,baz=338,slow=33
comp=Z,7.5nm,0.9s
N16K Nishlik Lake 55.16 330 P **P 22 44 06.2 -0.7**
baz=33
S11A Rachel 55.19 287 P **P 22 44 08.2 +0.6**
S11A IAmb IAmb 22 44 16.6
comp=Z,14nm,1.2s
X16A Lo Mia Camp, P 55.33 281 P **P 22 44 08.8 +0.1**
KVN Kaiserville 55.37 290 P **P 22 44 08.7 -0.2**
KVN IAmb IAmb 22 44 15.2
comp=Z,11nm,1.1s
L14K Kuka Creek 55.44 333 P **P 22 44 08.4 -0.4**
baz=31
PAHR Pah Rah Range 55.53 291 IAmb IAmb 22 44 16.9
comp=Z,8.8nm,1.1s
KDAK Kodiak Island 55.57 325 P **P 22 44 09.5 -0.4**
baz=36
KDAK Kodiak Island 55.57 325 LR LR 23 06 02.2
comp=Z,73nm,19.0s,baz=59,slow=34
YBH Yreka Blue Hor 55.70 295 LR LR 23 07 05.4
comp=Z,259nm,19.4s,baz=48,slow=35
O16K Kokwok River B 55.71 329 P **P 22 44 10.3 -0.5**
baz=33
SDV Santo Domingo 55.73 226 LR LR 23 05 57.0
comp=Z,27nm,19.7s,baz=98,slow=34
NVAR Mina Array Bea 55.94 289 P **P 22 44 13.8 +0.8**
NVAR Mina Array Bea 55.94 289 P **P 22 44 12.6 -0.5**
comp=Z,0.3nm,0.5s,baz=38,slow=5.2,SNR=2.6
NVAR LR LR 23 07 21.7
comp=Z,238nm,19.2s,baz=81,slow=35
comp=Z,0.3nm,0.5s
Q17K Contact Creek 56.18 327 P **P 22 44 13.6 -0.8**
baz=34
GMN Gold Mountain 56.24 288 P **P 22 44 15.7 +0.4**
R18K Karluk 56.33 326 P **P 22 44 14.8 -0.5**
baz=34
M13K Dall Lake 56.41 333 P **P 22 44 15.6 -0.2**
baz=30
GWY Greenwater Val 56.78 286 IAmb IAmb 22 44 25.4
comp=Z,14nm,1.2s
MPMC Manual Prospec 57.30 287 P **P 22 44 22.4 -0.4**
baz=40
CWC Cottonwood Cre 57.32 288 P **P 22 44 22.6 -0.3**
baz=40
GSC Goldstone, Bar 57.52 286 P **P 22 44 24.5 +0.2**
baz=40
214A Organ Pipe Nat 57.95 280 P **P 22 44 27.2 0.0**
baz=39
ISA Isabella, Lake 58.12 287 P **P 22 44 28.1 -0.3**
baz=40
GLA Glamis 58.19 283 IAmb IAmb 22 44 35.6
comp=Z,10nm,1.0s
GLA Glamis 58.19 283 P **P 22 44 29.6 +0.7**
baz=40
EDW2 Edwards Air Fo 58.47 286 P **P 22 44 31.1 +0.3**
baz=40
PFO Pinyon Flats O 58.63 284 LR LR 23 08 43.7
comp=Z,167nm,21.6s,baz=46,slow=35
ZALV Zalesovo Beam 58.78 37 P **P 22 44 33.2 +0.6**
ZALV Zalesovo Beam 58.78 37 P **P 22 44 31.8 -0.8**
comp=Z,0.6nm,0.6s,baz=319,slow=7.9,SNR=3.6
ZALV LR LR 23 11 34.0
comp=Z,24nm,19.1s,baz=282,slow=38
comp=Z,0.6nm,0.6s
MONP2 Monument Peak 59.17 284 P **P 22 44 36.2 +0.3**
baz=39
KURK Kurchatov 59.23 43 P **P 22 44 36.1 +0.3**
KURBB Kurchatov Arra 59.28 43 P **P 22 44 35.3 -0.8**
comp=Z,4.6nm,0.9s,baz=322,slow=7.5,SNR=27
comp=Z,4.6nm,0.9s
ZAIG Zacatecas 59.57 265 IAmb IAmb 22 44 46.3
comp=Z,8.0nm,0.9s
CIS Catalina Islan 59.83 286 P **P 22 44 40.1 -0.1**
baz=39
CMIG Matias Romero 60.05 255 LR LR 23 10 53.4
comp=Z,68nm,18.1s,baz=8.5,slow=36
YAK Yakutsk 60.70 9 LR LR 23 10 11.4
comp=Z,34nm,18.1s,baz=349,slow=35
JTS Las Juntas de 60.78 241 LR LR 23 11 06.3
comp=Z,41nm,18.0s,baz=21,slow=36
ROSC El Rosal 60.88 228 P **P 22 44 49.4 +1.4**
ROSC El Rosal 60.88 228 P **P 22 44 48.8 +0.7**
comp=Z,7.5nm,0.5s,baz=48,slow=7.3,SNR=10
ROSC LR LR 23 10 16.1
comp=Z,52nm,18.6s,baz=86,slow=35
comp=Z,7.5nm,0.5s
KKAR Karatay Array 62.04 53 P **P 22 44 55.8 +0.7**
LPIG La Paz 62.75 273 LR LR 23 10 42.9
comp=Z,34nm,20.7s,baz=50,slow=35
MAKZ Makanchi 63.71 44 P **P 22 45 06.9 +0.7**
MA2 Magadan 63.79 357 LR LR 23 14 26.2
comp=Z,27nm,18.6s,baz=90,slow=38
MK31 Makanchi Array 63.84 43 P **P 22 45 06.9 -0.2**
MK31 IAmb IAmb 22 45 12.3
comp=Z,4.9nm,0.8s
MKAR Makanchi Array 63.84 43 P **P 22 45 06.7 -0.4**
MKAR Makanchi Array 63.84 43 P **P 22 45 06.5 -0.6**
comp=Z,4.9nm,0.9s,baz=342,slow=6.4,SNR=21
MKAR LR LR 23 12 17.5
comp=Z,34nm,18.6s,baz=294,slow=36
comp=Z,4.9nm,0.9s
AAK Ala-Archa 64.14 51 LR LR 23 12 17.9
comp=Z,62nm,18.8s,baz=340,slow=35
BOOM Boomskoye usch 64.88 50 IAmb IAmb 22 45 20.7
comp=Z,8.1nm,1.2s
H10N2 ASCENSION HYDR 66.47 159 T T 23 57 14.6
baz=352
H10N3 ASCENSION HYDR 66.48 159 T T 23 57 22.0
baz=352
H10N1 ASCENSION HYDR 66.49 159 T T 23 57 27.4
baz=352
OTAV Otavalo 66.75 230 P **P 22 45 28.3 +1.5**
KSH Kashi 67.34 52 P **P 22 45 33.2 +3.3**
KSH pP pwP 22 45 36.8 +0.6
KSH pmax pmax
comp=Z,12nm,1.4s
H10S3 ASCENSION HYDR 67.53 159 T T 23 58 30.6
baz=228
H10S2 ASCENSION HYDR 67.55 159 T T 23 58 41.4
baz=352
SHEM Shemya Is, Ala 68.32 342 LR LR 23 15 55.1
comp=Z,43nm,21.0s,baz=38,slow=36
SONM Songino Array 70.53 27 P **P 22 45 50.0 +0.4**
SONM IAmb IAmb 22 45 52.3
comp=Z,8.9nm,1.5s
SONM Songino Array 70.53 27 P **P 22 45 48.7 -0.9**
comp=Z,1.6nm,1.1s,baz=322,slow=4.1,SNR=8.8
SONM LR LR 23 18 08.3
comp=Z,40nm,19.8s,baz=322,slow=37
comp=Z,1.6nm,1.1s
ULN Ulaanbaatar 70.66 27 P **P 22 45 50.1 -0.3**
NIL Nilore 70.99 57 P **P 22 45 52.4 -0.1**
ETMB Extrema 71.61 214 P **P 22 45 55.6 -0.6**
ETMB IAmb IAmb 22 46 00.6
comp=Z,7.0nm,1.1s
HEH HeiHe 72.09 12 *e*P **P 22 45 59.2 +0.4**
HEH pmax pmax
comp=Z,5.0nm,1.3s
HEH pmax pmax
comp=Z,90nm,6.5s
BDFB Brasilia 73.23 194 LR LR 23 13 01.5
comp=Z,66nm,20.5s,baz=334,slow=32
ATAH Atahualpa 73.41 226 LR LR 23 20 34.3
comp=Z,26nm,18.7s,baz=10,slow=38
KLR Kul'dur 73.56 10 LR LR 23 17 01.7
comp=Z,31nm,18.9s,baz=5.5,slow=35
GTA Gaotai 76.42 35 *e*P **P 22 46 24.8 +0.4**
GTA pP sP 22 46 29.5 0.0
GTA pmax pmax
comp=Z,9.0nm,1.2s
MDJ Mudanjiang 77.90 12 P **P 22 46 29.0 -3.4**
MDJ pmax pmax
comp=Z,7.0nm,0.6s
LPAZ La Paz 78.30 213 P **P 22 46 34.9 -0.6**
LPAZ IAmb IAmb 22 46 46.7
comp=Z,6.3nm,1.2s
LPAZ La Paz 78.30 213 P **P 22 46 36.6 +1.0**
comp=Z,0.7nm,0.7s,baz=42,slow=5.3,SNR=2.3
comp=Z,0.7nm,0.7s
HHC Hu-ho-hao-te 78.36 26 *e*P **P 22 46 36.0 +0.8**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,32nm,4.0s
USRK Ussuriysk Ar. 78.57 10 P **P 22 46 34.4 -1.7**
AQDB Aquidauana 79.23 201 **P 22 46 38.0 -1.9**
AQDB IAmb IAmb 22 46 41.1
comp=Z,9.2nm,1.3s
ASAJ Asahikawa 79.30 3 LR LR 23 22 51.4
comp=Z,37nm,18.4s,baz=20,slow=37
LZH Lanzhou 80.72 33 *e*P **P 22 46 49.9 +1.7**
LZH pP sP 22 46 53.0 -0.3
LZH pmax pmax
comp=Z,15nm,1.2s
HNS HongShan 82.38 25 ⇓P **P 22 46 59.9 +3.2**
HNS pmax pmax
comp=Z,8.0nm,1.3s
XAN Xi'an 84.11 30 *e*P **P 22 47 06.0 +0.2**
XAN pmax pmax
comp=Z,8.0nm,1.3s
LVC Limon Verde 84.50 212 LR LR 23 23 43.3
comp=Z,16nm,20.0s,baz=288,slow=35
KSRS Korea Array 84.75 14 P **P 22 47 08.4 -0.4**
comp=Z,1.3nm,0.8s,baz=355,slow=5.4,SNR=2.3
KSRS LR LR 23 27 24.0
comp=Z,18nm,18.4s,baz=55,slow=37
comp=Z,1.3nm,0.8s
CPUP Villa Florida 85.24 201 P **P 22 47 10.4 -0.8**
comp=Z,3.1nm,1.1s,baz=24,slow=9.7,SNR=3.1
CPUP LR LR 23 23 58.3
comp=Z,26nm,18.3s,baz=18,slow=35
comp=Z,3.1nm,1.1s
TSUM Tsumeb 87.20 132 LR LR 23 24 58.1
comp=Z,65nm,18.9s,baz=334,slow=35
NJ2 Nanjing 88.44 23 *e*P **P 22 47 25.7 -1.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
PZH PanZhiHua 88.89 39 P **P 22 47 29.3 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.4s
CMAR Chiang Mai Arr 95.24 44 P **P 22 47 59.5 +0.7**
comp=Z,1.1nm,0.3s,baz=327,slow=6.5,SNR=5.7
comp=Z,1.1nm,0.3s
PPT2 Papeete2 118.51 282 *e*LR LR 23 29 30.0
comp=Z,136nm,23.2s
TBI Tubuai 123.12 278 *e*LR LR 23 31 35.2
comp=Z,348nm,27.0s
WRA Warramunga Arr 142.07 18 PKP **PKPdf 22 54 05.5 -1.4**
comp=Z,0.2nm,0.7s,baz=346,slow=3.4,SNR=1.9
DZM Mont Dzumac 142.11 328 *e*LR LR 23 40 21.1
comp=Z,107nm,23.5s
ASAR Alice Springs 145.63 20 PKPbc **PKPdf 22 54 11.7 -1.4**
comp=Z,3.5nm,0.9s,baz=353,slow=2.1,SNR=11
QSPA South Pole Qui 146.81 180 PKPbc **PKPdf 22 54 14.5 +0.7**
comp=Z,12nm,1.2s,baz=156,slow=0.7,SNR=11
STKA Stephens Creek 154.78 9 PKPbc **PKPbc 22 54 35.2 -0.5**
comp=Z,0.8nm,0.4s,baz=329,slow=5.9,SNR=1.5

ISK ***12*** *22:43:51.9, 38°.84N×26°.58E, h11km, ML2.5/23*
AFAD ***12*** *22:43:52.1±0.0, 38°.84N×26°.58E, h7km±2km, ML2.6*
ATH ***12*** *22:43:53.2, 38°.84N×26°.54E, h11km±1km, ML2.6/7, Error ellipse: s-maj=2.6km s-min=0.9km az=268.0*
THE ***12*** *22:43:53.2, 38°.85N×26°.52E, h11km±1km, ML2.5/6, Error ellipse: s-maj=2.3km s-min=0.7km az=266.0*
ISC 12 22:43:52.4±0.8, 38°.85N±0°.01×26°.59E±0°.02, h14km±6km, n70,σ0°.57/106, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOCM	**Foa**	**0.17**	**141**	Pg	**Pg**	**22 43 55.9**	**-0.7**
FOCM				Sg	**Sg**	**22 43 59.3**	**0.0**
CAND	**Candarli**	**0.20**	**58**	Pg	**Pg**	**22 43 56.9**	**-0.1**
CAND				Sg	**Sg**	**22 44 00.5**	**+0.5**
KARB	**zmir-Karabur**	**0.23**	**217**	P	**Pg**	**22 43 57.4**	**-0.1**
KARB				S	**Sg**	**22 44 00.8**	**0.0**
KARB				*i* AML	AML	22 44 01.0	
comp=N,916nm,0.4s							
IZMD	**zmir-Dikili-**	**0.30**	**63**	P	**Pg**	**22 43 58.8**	**+0.1**
DKL	**Dikili**	**0.33**	**48**	Pg	**Pg**	**22 43 58.9**	**-0.4**

DKL			Sg	Sg	22 44 04.8	+0.9
ZEDA	**zmir-Bergama**	**0.40 73**	P	Pg	22 44 00.5	+0.1
AYVA	**Ayvalik**	**0.47 10**	P	Pg	22 44 01.6	-0.1
AYVA			S	Sg	22 44 07.8	-0.2
PRK	**Paraskevi**	**0.47 328**	P	Pg	22 44 01.9	+0.2
PRK			S	Sg	22 44 08.4	+0.4
	1μm,0.4s					
PRK	**Paraskevi**	**0.47 328**	P	Pg	22 44 02.0	+0.2
PRK			S	Sg	22 44 08.1	+0.1
PRK			AML	AML	22 44 09.1	
	comp=E,3047μm,0.4s					
PRK			AML	AML	22 44 09.6	
	comp=N,1668μm,0.4s					
EAG2	**Marmaro, Chios**	**0.48 231**	P	Pg	22 44 02.1	+0.1
EAG2			S	Sg	22 44 08.1	-0.4
EAG2			AML	AML	22 44 10.1	
	comp=E,5625μm,0.3s					
EAG2			AML	AML	22 44 10.6	
	comp=N,6527μm,0.3s					
URLA	**Izmir**	**0.49 179**	Pg	Pg	22 44 01.7	-0.4
URLA	**Izmir**	**0.49 179**	P	Pg	22 44 01.9	-0.2
URLA			S	Sg	22 44 09.2	+0.6
URLA			*i* AML	AML	22 44 10.0	
	comp=N,327nm,0.4s					
ZEYE	**Izmir, Urla-Ze**	**0.61 186**	P	Pg	22 44 03.8	-0.6
ZEYE			S	Sg	22 44 13.4	+0.8
ZEYE			*i* AML	AML	22 44 17.0	
	comp=N,426nm,0.3s					
ZEYE			*i* AML	AML	22 44 18.0	
	comp=N,294nm,0.5s					
CHOS	**Chios island**	**0.62 222**	P	Pg	22 44 04.6	-0.1
CHOS			S	Sg	22 44 13.0	+0.1
	comp=N,445nm,0.3s					
CHOS	**Chios island**	**0.62 222**	P	Pg	22 44 04.5	-0.1
CHOS			S	Sg	22 44 13.0	+0.1
CHOS			AML	AML	22 44 17.7	
	comp=N,655μm,0.4s					
CHOS			AML	AML	22 44 19.1	
	comp=E,1137μm,0.2s					
SIGR	**SIGRI**	**0.68 303**	Pg	Pg	22 44 05.6	0.0
SIGR	**SIGRI**	**0.68 303**	P	Pg	22 44 05.7	0.0
SIGR			S	Sg	22 44 14.8	+0.2
	comp=E,525nm,0.3s					
SIGR	**SIGRI**	**0.68 303**	P	Pg	22 44 05.7	0.0
SIGR			S	Sg	22 44 14.8	+0.2
SIGR			AML	AML	22 44 18.8	
	comp=E,1196μm,0.5s					
SIGR			AML	AML	22 44 18.9	
	comp=N,894μm,0.2s					
GPNR	**Gulpinar-Canak**	**0.70 330**	Pg	Pg	22 44 06.2	+0.1
KOCA	**Canakkale, Ayv**	**0.74 332**	P	Pg	22 44 07.0	+0.1
KOCA			*i* AML	AML	22 44 20.0	
	comp=N,211nm,0.2s					
KOCA			*i* AML	AML	22 44 22.0	
	comp=N,260nm,0.5s					
BUHA	**Balikesir, Bur**	**0.75 30**	P	Pg	22 44 06.9	-0.2
BUHA			S	Sg	22 44 16.5	-0.5
BUHA			*i* AML	AML	22 44 21.0	
	comp=N,353nm,0.5s					
SOMA	**Soma-Manisa**	**0.80 67**	Pg	Pg	22 44 08.1	+0.2
GMLD	**Gumuldur**	**0.81 161**	Pg	Pg	22 44 07.7	-0.5
DGB	**zmir**	**0.83 164**	P	Pg	22 44 08.2	-0.3
DGB			S	Sg	22 44 18.0	-1.3
PSRA	**Psara**	**0.86 249**	P	Pg	22 44 08.6	-0.5
PSRA			S	Sg	22 44 19.7	-0.6
BAYC	**CANAKKALE_Bayr**	**0.89 358**	P	Pg	22 44 08.9	-0.8
BAYC			S	Sg	22 44 20.3	-1.1
BAYC			*i* AML	AML	22 44 24.0	
	comp=N,157nm,0.2s					
BAYC			*i* AML	AML	22 44 24.0	
	comp=N,199nm,0.5s					
EZNE	**Ezine-Canakkal**	**0.92 349**	Pg	Pg	22 44 10.4	+0.1
AKS	**Akhisar**	**0.96 88**	Pg	Pg	22 44 10.9	0.0
AKHS	**Akhisar**	**0.96 88**	P	Pg	22 44 11.1	+0.1
EZN	**Ezine**	**1.00 348**	Pg	Pg	22 44 11.8	+0.1
EZN	**Ezine**	**1.00 348**	P	Pg	22 44 12.0	+0.3
EZN			S	Sg	22 44 25.0	+0.2
	comp=N,282nm,0.6s					
STEP	**BALIKESIR_Sava**	**1.02 59**	P	Pb	22 44 12.3	+0.3
STEP			S	Sg	22 44 26.1	+0.5
STEP			*i* AML	AML	22 44 28.0	
	comp=N,209nm,0.4s					
STEP			*i* AML	AML	22 44 30.0	
	comp=N,252nm,0.8s					
GOMA	**Golmarmara-Man**	**1.05 97**	Pg	Pb	22 44 12.6	+0.2
BOZC	**Bozcaada**	**1.08 337**	P	Pb	22 44 12.8	0.0
BOZC			S	Sb	22 44 26.4	-0.4
SMG	**Samos**	**1.15 170**	P	Pb	22 44 14.0	-0.2
SMG			S	Sn	22 44 31.0	+1.2
	comp=N,340nm,0.3s					
SMG	**Samos**	**1.15 170**	P	Pb	22 44 14.1	-0.1
SMG			S	Sb	22 44 29.7	+0.7
SMG			AML	AML	22 44 33.5	
	comp=E,629μm,0.3s					
SMG			AML	AML	22 44 33.5	
	comp=N,726μm,0.4s					
BALY	**Balya**	**1.20 42**	P	Pn	22 44 13.9	-1.0
BALY			S	Sb	22 44 29.8	-0.5
BALY			*i* AML	AML	22 44 34.0	
	comp=N,166nm,0.5s					
CNKL	**anakkale-Mer**	**1.23 353**	P	Pn	22 44 15.1	-0.1
CNKL			S	Sb	22 44 30.8	-0.3
ECEA	**Canakkale, Ece**	**1.24 345**	P	Pn	22 44 16.1	+0.8
ECEA			S	Sb	22 44 31.9	+0.4
ECEA			*i* AML	AML	22 44 35.0	
	comp=N,171nm,0.3s					
ECEA			*i* AML	AML	22 44 39.0	
	comp=N,198nm,0.5s					
COMU	**Canakkale**	**1.25 356**	Pn	Pn	22 44 16.1	+0.5
GCAM	**G?zelcaml?**	**1.25 156**	Pn	Pn	22 44 15.8	+0.3
GCAM	**G?zelcaml?**	**1.25 156**	P	Pn	22 44 15.8	+0.3
GCAM			S	Sb	22 44 31.9	+0.1
IZMR	**zmir-demi**	**1.28 123**	P	Pn	22 44 16.0	+0.1
IZMR			S	Sb	22 44 30.4	-2.3
ODEM	**Odemis-Izmir**	**1.30 116**	Pn	Pn	22 44 16.5	+0.3
AYDB	**Zeytinkoy-Aydi**	**1.36 131**	Pn	Pn	22 44 17.5	+0.3
BKES	**Balkesir-Mer**	**1.36 49**	P	Pn	22 44 17.1	-0.1
GOAD	**anakkale-G¶**	**1.41 338**	P	Pn	22 44 18.2	+0.4
GOAD			S	Sn	22 44 35.6	-0.6
GOAD			*i* AML	AML	22 44 39.0	
	comp=N,93nm,0.3s					
GOAD			*i* AML	AML	22 44 39.0	
	comp=N,98nm,0.4s					
GADA	**Gvkgeada**	**1.44 339**	Pn	Pn	22 44 18.8	+0.6
GONE	**Gonen-Balikesi**	**1.47 35**	Pn	Pn	22 44 19.2	+0.7
BLKS	**Balkesir-Sus**	**1.48 46**	P	Pn	22 44 18.8	+0.1
BLKS			S	Sn	22 44 36.5	-1.5
DDIM	**Aydin, Didim**	**1.48 159**	P	Pg	22 44 22.2	+1.3
LIA	**Limnos Island**	**1.51 314**	P	Pn	22 44 19.3	+0.2
LIA			S	Sn	22 44 38.2	-0.4
	comp=N,132nm,0.6s					
LIA	**Limnos Island**	**1.51 314**	P	Pn	22 44 19.6	+0.5
LIA			S	Sn	22 44 37.7	-0.9
LIA			AML	AML	22 44 42.2	
	comp=N,297μm,0.4s					
LIA			AML	AML	22 44 42.9	
	comp=E,295μm,0.5s					
LPK	**Lapseki**	**1.53 5**	Pn	Pn	22 44 20.0	+0.7
GELI	**Tayfur-Gelibol**	**1.55 357**	Pn	Pn	22 44 20.3	+0.7
KIRA	**zmir-Kiraz**	**1.56 114**	P	Pn	22 44 20.0	+0.1
KIRA			S	Sn	22 44 40.2	+0.2
MANT	**Manisa**	**1.58 102**	P	Pn	22 44 20.9	+0.6
KNL	**Balıkesir**	**1.59 27**	P	Pn	22 44 19.9	-0.4
KNL			S	Sn	22 44 41.0	+0.4
NAZL	**Nazilli-Aydin**	**1.60 123**	Pn	Pn	22 44 20.9	+0.5
SUSR	**Susurluk-Balik**	**1.61 46**	Pn	Pn	22 44 21.3	+0.9
KRBG	**Karabiga-Canak**	**1.64 19**	Pn	Pn	22 44 21.2	+0.4
DURS	**Dursunbey**	**1.65 62**	P	Pb	22 44 23.3	+0.7
KULA	**Kula-Manisa**	**1.66 101**	Pn	Pn	22 44 21.7	+0.5
ESEN	**Aydn-Nazilli**	**1.74 127**	P	Pn	22 44 22.4	+0.2
SMTH	**Samothraki Isl**	**1.81 334**	P	Pn	22 44 23.7	+0.4
SMTH			S	Sn	22 44 45.3	-0.8
ALN	**Alexandroupoli**	**2.09 349**	P	Pn	22 44 28.0	+1.0
ALN			S	Sn	22 44 52.2	-0.6
ALN			AML	AML	22 45 00.1	
	comp=N,66μm,0.6s					
ALN			AML	AML	22 45 00.8	
	comp=E,48μm,0.5s					
AOS2	**Alonissos-2**	**2.16 279**	P	Pn	22 44 28.8	+0.8
THAS	**Thassos island**	**2.27 321**	P	Pn	22 44 29.9	+0.4
RDO	**Rodhopi**	**2.43 341**	P	Pn	22 44 32.1	+0.3
KOKK	**Kokkinochori,**	**2.80 315**	P	Pn	22 44 37.0	+0.1

IDC 12 23:00:21.3±6.0, 7°.06S×127°.72E, h278km±69km, mb2.8/1, mbtmp3.7/3, Error ellipse: s-maj=154.7km s-min=22.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.32**	**154**	P	P	23 03 31.5	-0.7
	0.5nm,0.4s,baz=329,slow=13,SNR=15						
WRA				S	S	23 06 05.7	-4.6
	0.7nm,0.6s,baz=330,slow=22,SNR=5.2						
ASAR	**Alice Springs**	**17.55**	**161**	P	P	23 04 08.8	+1.3
	3.7nm,0.6s,baz=342,slow=11,SNR=42						
ASAR				S	S	23 07 15.4	+0.1
	0.5nm,0.7s,baz=346,slow=21,SNR=3.4						
MKAR	**Makanchi Array**	**67.06**	**328**	P	P	23 10 44.6	-0.4
	0.4nm,0.8s,baz=136,slow=7.0,SNR=2.6						
	0.4nm,0.8s						

*UPP **12** 23:21:42.6±0.0, 67°.83N×20°.21E, h0km, ML2.4, Unknown*
*IDC **12** 23:21:43.8±0.9, 67°.82N×20°.41E, h0km, mbtmp3.2/5, ML2.2/4, Error ellipse: s-maj=14.4km s-min=7.0km az=116.0*
*BER **12** 23:21:43.8±1.9, 67°.82N×20°.20E, h1km, ML2.1, Confirmed Induced event*
*HEL **12** 23:21:43.3±0.0, 67°.83N×20°.19E, h1km, ML2.2, ML2.4(UPP), Confirmed Induced event*

ISC 12 23:21:42.0±0.7, 67°.81N±0°.02×20°.25E±0°.02, h0km, n40, σ0°85/60, 2D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**13**	P	Pg	23 21 45.4	+0.6
KUA				S	Sg	23 21 47.4	+0.7
KUA	**Kurravaara**	**0.15**	**13**	*i* P	Pg	23 21 45.4	+0.6
KUA				*i* S	Sg	23 21 47.4	+0.7
RATU	**Laukkuluspa**	**0.25**	**273**	P	Pg	23 21 47.2	+0.4
RATU				S	Sg	23 21 50.5	+0.4
RATU	**Laukkuluspa**	**0.25**	**273**	*i* P	Pg	23 21 47.2	+0.4
RATU				*i* S	Sg	23 21 50.5	+0.4
KOVU	**Salmi**	**0.41**	**355**	P	Pg	23 21 50.3	+0.3
KOVU	**Salmi**	**0.41**	**355**	*i* P	Pg	23 21 50.3	+0.3
LANU	**Lannavaara**	**0.70**	**69**	P	Pg	23 21 56.0	+0.5
LANU	**Lannavaara**	**0.70**	**69**	*e*P	Pg	23 21 55.9	+0.5
LANU				*e*S	Sg	23 22 05.5	+1.0
DUNU	**Dundret**	**0.70**	**170**	P	Pg	23 21 56.1	+0.6
DUNU	**Dundret**	**0.70**	**170**	*i* P	Pg	23 21 56.1	+0.6
MASU	**Masugnsbyn**	**0.76**	**117**	P	Pg	23 21 57.3	+0.8
MASU	**Masugnsbyn**	**0.76**	**117**	*i* P	Pg	23 21 57.3	+0.8
SALU	**Saltoluokta**	**0.80**	**238**	‖ *i* P	Pg	23 21 57.6	+0.3
SALU				*e*S	Sg	23 22 07.8	+0.2
SALU	**Saltoluokta**	**0.80**	**238**	P	Pg	23 21 57.5	+0.2
SALU	**Saltoluokta**	**0.80**	**238**	*i* P	Pg	23 21 57.5	+0.2
KIF	**Kilpisjarvi**	**1.22**	**9**	*e*P	Pg	23 22 05.7	+0.4
KIF				*e*S	Sg	23 22 21.8	+0.8
KIF	**Kilpisjarvi**	**1.22**	**9**	*e*P	Pg	23 22 05.8	+0.5
KIF				*e*S	Sg	23 22 21.7	+0.8
HEF	**Hetta**	**1.41**	**63**	*e*P	Pn	23 22 08.7	-0.3
HEF				*e*S	Sg	23 22 26.6	-0.7
HEF	**Hetta**	**1.41**	**63**	*e*P	Pn	23 22 08.7	-0.3
HEF				*e*S	Sg	23 22 27.0	-0.3
ERTU	**Ertsjaerv**	**1.47**	**148**	P	Pn	23 22 10.0	+0.2
ERTU	**Ertsjaerv**	**1.47**	**148**	*e*P	Pn	23 22 09.9	+0.1
ERTU				*e*S	Sg	23 22 29.7	+0.4
KLF	**Kolari**	**1.54**	**110**	*e*P	Pn	23 22 11.1	+0.4
KLF				*e*S	Sn	23 22 31.5	+0.1
KTK1	**Kautokeino**	**1.63**	**41**	*e*P	Pn	23 22 12.2	+0.3
KTK1				*e*S	Sn	23 22 33.8	0.0
KTK1				IAML		23 22 36.9	
	comp=Z,28nm,0.5s						
KTK1	**Kautokeino**	**1.63**	**41**	*e*P	Pn	23 22 12.3	+0.3
KTK1				*e*S	Sn	23 22 33.8	0.0
HARU	**Harads**	**1.68**	**170**	P	Pn	23 22 13.4	+0.8
HARU	**Harads**	**1.68**	**170**	*e*P	Pn	23 22 13.4	+0.8
TRO	**Tromso**	**1.89**	**346**	*e*P	Pn	23 22 16.3	+0.8
TRO				*e*S	Sn	23 22 41.0	+0.9
STEI	**Steigen**	**1.90**	**276**	‖ *i*P	Pb	23 22 17.1	-0.5
STEI				*e*Sg	Sb	23 22 42.5	+0.8
STEI				IAML		23 22 45.0	
	comp=Z,28nm,0.5s						
FAUS	**Fauske**	**1.95**	**259**	*e*Pg	Pb	23 22 17.8	-0.6
FAUS				*e*Sg	Sb	23 22 43.9	+0.7
FAUS				IAML		23 22 46.5	
	comp=Z,40nm,0.4s						
KALU	**Kalix**	**2.31**	**147**	*e*P	Pn	23 22 23.2	+1.9
KALU				*e*SB	Sb	23 22 53.5	-0.1
TOF	**Tornio**	**2.37**	**135**	*e*PB	Pb	23 22 24.5	-0.9
TOF				*e*SB	Sb	23 22 55.0	-0.1
TOF				MSG		23 22 59.0	
	comp=Z,5.4nm,0.1s						
SGF	**Sodankyl**	**2.43**	**96**	MSG		23 22 59.9	
	comp=Z,8.0nm,0.1s						
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	Pn	23 22 26.7	+1.6
	comp=Z,1.1nm,0.3s,baz=229,slow=14,SNR=25						
ARCES				Sn	Sb	23 23 00.1	-1.4
	comp=Z,4.5nm,0.3s,baz=229,slow=26,SNR=22						
	comp=Z,2.6nm,0.3s						
KEV	**Kevo**	**3.14**	**48**	MSG		23 23 19.2	
	comp=Z,16nm,0.2s						
BURU	**Burvik**	**3.27**	**171**	*e*P	Pn	23 22 36.8	+2.2
VRF	**Varrio**	**3.56**	**87**	MSG		23 23 37.2	
	comp=Z,9.7nm,0.3s						
FINES	**FINESS Array B**	**6.86**	**156**	Pn	Pn	23 23 25.5	+1.7
	comp=Z,0.1nm,0.3s,baz=347,slow=13,SNR=11						
FINES				Sn	Sn	23 24 43.0	+0.5
	comp=Z,0.4nm,0.3s,baz=346,slow=22,SNR=6.5						
FINES				Lg	Lg	23 25 16.6	
	comp=Z,0.6nm,0.3s,baz=341,slow=29,SNR=11						
	comp=Z,0.5nm,0.4s						
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	Pn	23 23 37.6	+0.5
	baz=24,slow=11,SNR=5.4						
NOA				Sn	Sn	23 25 05.2	-1.2
	baz=32,slow=23,SNR=4.2						
NOA				Lg	Lg	23 25 53.0	
	comp=Z,0.1nm,0.3s,baz=20,slow=20,SNR=5.6						
	comp=Z,0.3nm,0.8s						
HFS	**Hagfors**	**8.22**	**204**	Pn	Pn	23 23 42.5	+0.1
	comp=Z,0.1nm,0.3s,baz=14,slow=14,SNR=7.6						
HFS				Sn	Sn	23 25 13.6	-2.4
	comp=Z,0.2nm,0.3s,baz=20,slow=23,SNR=5.8						
HFS				Lg	Lg	23 26 03.9	
	comp=Z,0.4nm,0.3s,baz=24,slow=32,SNR=3.2						
	comp=Z,0.6nm,0.6s						
SPITS	**Spitsbergen Ar**	**10.48**	**356**	Pn	Pn	23 24 11.4	-1.8
	comp=Z,14nm,1.0s,baz=175,slow=17,SNR=2.0						

*OSPL **12** 23:31:14.0±0.7, 19°.76N×76°.11W, h60km±18km, ML2.5*
*SSNC **12** 23:31:15.1±1.1, 19°.78N×76°.07W, h34km±5km, MD2.5, ML1.7*

ISC 12 23:31:12.4±1.2, 19°.72N±0°.06×76°.08W±0°.03, h30km±13km, n10, σ0°76/20, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARVS	**Santiago de Cu**	**0.33**	**32**	*e*P	Pn	23 31 21.6	+0.4
MARVS				*e*S	Sn	23 31 26.7	-0.3
MARVS				IAML		23 31 27.1	
	comp=N,216nm,0.1s						
MARVS				IAML		23 31 27.3	
	comp=E,184nm,0.2s						
CHIV	**Chivirico**	**0.40**	**310**	*e*P	Pn	23 31 22.9	+0.6
CHIV				*e*S	Sn	23 31 28.6	-0.1
CHIV				IAML		23 31 29.1	
	comp=E,32nm,0.1s						
CHIV				IAML		23 31 29.6	
	comp=N,51nm,0.1s						
RCC	**Rio Carpintero**	**0.46**	**53**	*e*P	Pn	23 31 23.2	+0.3
RCC				*e*S	Sn	23 31 29.7	-0.4
RCC				IAML		23 31 30.4	
	comp=E,90nm,0.1s						
RCC				IAML		23 31 30.5	
	comp=N,120nm,0.1s						
YAR	**Yar**	**0.70**	**338**	*e*P	Pn	23 31 27.1	+0.8
YAR				*e*S	Sb	23 31 34.7	-0.8
YAR				IAML		23 31 36.8	
	comp=N,18nm,0.1s						
YAR				IAML		23 31 36.9	
	comp=E,11nm,0.1s						
LMGC	**Las Mercedes**	**0.93**	**292**	*e*P	Pb	23 31 30.2	+0.1
LMGC				*e*S	Sb	23 31 41.5	-0.6
GTBY	**Guantanamo Bay**	**0.94**	**77**	*e*P	Pb	23 31 30.6	+0.5
GTBY				*e*S	Sb	23 31 42.0	-0.3
GTBY				IAML		23 31 43.3	
	comp=E,26nm,0.1s						
GTBY				IAML		23 31 43.4	
	comp=E,23nm,0.1s						
GTBY	**Guantanamo Bay**	**0.94**	**77**	*i* P	Pb	23 31 30.7	+0.5
GTBY				*e*S	Sn	23 31 42.9	+0.8
GTBY				IAML		23 31 43.2	
	comp=Z,12nm,1.0s						
QMBU	**Quimbuelo**	**1.29**	**68**	*e*P	Pn	23 31 34.6	+0.1
QMBU				*e*S	Sn	23 31 48.9	-1.8
QMBU				IAML		23 31 52.0	
	comp=E,16nm,0.3s						
QMBU				IAML		23 31 52.8	
	comp=N,22nm,0.2s						
MASC	**Masc**	**1.80**	**75**	*i* P	Pn	23 31 41.7	+0.2
MASC				*e*S	Sn	23 32 03.0	-0.3
MASC				IAML		23 32 10.6	
	comp=Z,38nm,2.1s						
MTDJ	**Mount Denham**	**2.02**	**223**	*i* P	Pn	23 31 45.3	+0.7
MTDJ				*e*S	Sn	23 32 07.7	-1.2
MTDJ				IAML		23 32 09.5	
	comp=Z,33nm,2.8s						

ASRS 12 23:32:51.7±0.7, 56°N±2°×9°6E±°, h9km, MLh3.6/7, Error ellipse: s-maj=7.6km s-min=4.2km az=78.9, confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MINR	**Mina**	**1.27**	**236**	Pg	Pg	23 33 20.3	+4.2
MINR				Sg	Sn	23 33 43.7	+11
SHTK	**Zheleznogorsk-**	**1.53**	**298**	Pg	Pb	23 33 20.4	+0.3
SHTK				Sg	Sg	23 33 42.1	+1.3
GZL	**Zheleznogorsk**	**1.53**	**296**	Pg	Pb	23 33 19.9	-0.3
GZL				Sg	Sg	23 33 41.4	+0.6
CERR	**Cheremushki**	**3.88**	**226**	Pg	Pg	23 34 05.0	-1.0
CERR				Sg	Sg	23 34 59.9	+3.8
DJO	**Djoy, Khakassi**	**4.01**	**227**	Pn	Pn	23 33 55.8	+2.5
DJO				Pg	Pg	23 34 07.5	-1.0
DJO				Sg	Sg	23 35 05.5	+5.1
KZLR	**Kyzyl**	**4.04**	**194**	Sg	Sg	23 35 04.3	+2.8
VEH	**Verkhnyaya Baz**	**4.09**	**237**	Pn	Pn	23 33 56.9	+2.4
VEH				Pg	Pg	23 34 09.9	-0.2
VEH				Sg	Sg	23 35 09.3	+6.3
LUZB	**Luzhba, Kemero**	**4.58**	**247**	Pg	Pg	23 34 18.9	-0.5
LUZB				Sg	Sg	23 35 22.4	+3.7
TASR	**Tashtagol**	**5.58**	**242**	Sg	Sg	23 35 58.0	+7.4
TEL	**Teeli**	**5.79**	**219**	Pn	Pn	23 34 20.4	+2.7
TEL				Pg	Pg	23 34 39.4	-3.1
TEL				Sg	Sg	23 35 59.5	+2.1

*DSN **12** 23:34:03.3±6.6, 14°.35N×52°.08E, h10km, ML4.0/1, Error ellipse: s-maj=77.8km s-min=14.8km az=172.0*
*IDC **12** 23:34:08.2±0.7, 14°.49N×52°.06E, h0km, mb4.2/32, mbtmp4.2/32, MS3.7/50, Error ellipse: s-maj=17.8km s-min=13.6km az=21.0*
*BJI **12** 23:34:10.0±0.0, 14°.90N×52°.10E, h10km, mb4.6/25, mB5.0/7, Ms4.4/3, Ms7 4.1/1*
*GCMT **12** 23:34:12.0±0.6, 14°.78N±0°.03×51°.97E±0°.03, h16km±2km, MW4.7/65, Moment Tensor Solution. s9,c11; s65,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.25±.10; $M_{\theta\theta}$1.14±.07; $M_{\phi\phi}$-0.89±.07; $M_{r\theta}$-0.11±.19; $M_{\theta\phi}$0.76±.07; $M_{\phi r}$0.64±.27; Best double couple: $M_0$1.43700×10^{16} NP1:φ≈210.00000°, δ74.00000°, λ-157.00000°. NP2: φ≈113.00000°, δ68.00000°, λ-18.00000°. Principal axes: T 1.3960, Plg4.0000°, Azm341.0000°; N 0.0810, Plg62.0000°, Azm244.0000°; P -1.4770, Plg28.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **12** 23:34:14.0±1.9, 14°.97N±0°.09×52°.07E±0°.09, h10km±1km, mb4.7/80 Error ellipse: s-maj=16.8km s-min=13.0km az=136.0*
*OMAN **12** 23:34:20.0±0.1, 15°.62N×52°.26E, h6km, mb5.0/24, ml3.7/5, ms4.8/1, Error ellipse: s-maj=1.7km s-min=1.4km az=356.0*
*SGS **12** 23:34:58.4, 14°.81N×52°.23E, h22km, Ml4.8*

ISC 12 23:34:12.1±0.4, 14°.95N±0°.05×52°.10E±0°.05, h10km, n284, σ2°20/287, mb4.5/89, MS3.8/49, 15C-13D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**2.65**	**26**	P	Pn	23 34 55.0	0.0
	SNR=49						
ABTO				S	Sn	23 35 23.4	-3.8
RBK	**Rabkut**	**3.24**	**38**	P	Pn	23 35 03.2	+0.1
	SNR=32						
RBK				S	Sn	23 35 36.4	-5.5
WHFO	**Wadi Hawf**	**3.36**	**28**	P	Pn	23 35 05.1	+0.4
	SNR=27						
WHFO				S	Sn	23 35 38.6	-6.1
DMTO	**DMTO**	**3.88**	**44**	P	Pn	23 35 11.7	-0.1
	SNR=36						
DOK	**Doka**	**4.13**	**28**	P	Pn	23 35 15.8	+0.6
DOK				P	Pb	23 35 16.0	-8.9
	SNR=9.2						
MZR	**Muzera**	**8.11**	**9**	*i* P	Pn	23 36 09.6	-0.5
	SNR=31						
MZR	**Muzera**	**8.11**	**9**	P	Pn	23 36 09.8	-0.3
MZR				S	Sn	23 37 35.8	-6.0
MHTO	**MHTO**	**8.20**	**42**	P	Pn	23 36 10.2	-1.0
	SNR=12						
SHBH1	**SHBH1**	**8.54**	**357**	P	Pn	23 36 12.4	-3.4
MZWR	**Madinat Zayed**	**8.92**	**11**	P	Pn	23 36 20.4	-0.7
MZWR				S	Sn	23 37 53.8	-7.9
GHWR	**Ruwais**	**8.99**	**5**	P	Pn	23 36 20.4	-1.7
GHWR				S	Sn	23 38 00.5	-3.0
ASIR2	**ASIR2**	**9.02**	**291**	P	Pn	23 36 22.4	-0.4
SLWR	**Sila**	**9.08**	**358**	P	Pn	23 36 25.2	+1.9
SLWR				S	Sn	23 38 00.6	-4.9
BSY	**Bisya**	**9.13**	**31**	P	Pn	23 36 22.1	-1.9
BSY				S	Sn	23 38 02.0	-4.9
JMDO	**Jabal Madar**	**9.31**	**37**	P	Pn	23 36 26.5	0.0
	SNR=8.9						
JMDO				S	Sn	23 38 08.7	-2.8
ARQ	**Araqi**	**9.33**	**26**	P	Pn	23 36 26.1	-0.6
	SNR=8.3						
ARQ				S	Sn	23 38 06.1	-5.6
ASIR5	**ASIR5**	**9.36**	**296**	P	Pn	23 36 27.2	-0.1
TATS	**Tathlith**	**9.41**	**300**	P	Pn	23 36 27.6	-0.4
ATD	**Arta Tunnel**	**9.63**	**250**		Pn	23 36 31.9	+1.0
ATD	**Arta

0.4nm,0.3s,baz=35,slow=13,SNR=1.6
WSAR Lg Lg 23 39 53.2
baz=145,slow=14
WSAR LR LR 23 40 41.6
comp=Z,489nm,19.0s,baz=232,slow=37
ASHO Ashiyiah 10.37 20 P **Pn 23 36 41.1 +0.1**
HATD Hatta, Dubai 10.53 20 P **Pn 23 36 43.2 +0.1**
HATD Hatta, Dubai 10.53 20 P **Pn 23 36 42.9 -0.3**
NAZ Nazwa, Dubai 10.53 18 P **Pn 23 36 43.0 -0.1**
NAZ Nazwa, Dubai 10.53 18 P **Pn 23 36 43.3 +0.2**
NAZ S **Sn 23 38 34.3 -7.0**
RAYN Ar Rayn 10.55 325 Pn **Pn 23 36 42.5 -1.1**
RAYN Ar Rayn 10.55 325 *i* P **Pn 23 36 41.9 -1.7**
SNR=11
UOSS Minazif 10.66 21 Pn **Pn 23 36 45.3 +0.3**
UOSS Minazif 10.66 21 P **Pn 23 36 44.0 -1.0**
UOSS Minazif 10.66 21 P **Pn 23 36 45.7 +0.7**
SHMA Al-Shehemyia 10.90 355 P **Pn 23 36 48.6 +0.4**
SHMA S **Sn 23 38 45.0 -5.3**
MSFE Esma-Masafi 11.03 20 P **Pn 23 36 49.2 -0.9**
MASF Masafi 11.04 20 P **Pn 23 36 49.3 -0.9**
MASF S **Sn 23 38 47.6 -6.2**
SAKB Bahrain 11.07 353 P **Pn 23 36 50.9 +0.4**
SAKB S **Sn 23 38 49.7 -4.7**
SHME Shamm 11.67 18 P **Pn 23 36 57.7 -1.1**
SHME Shamm 11.67 18 P **Pn 23 36 58.1 -0.7**
SHME S **Sn 23 39 02.9 -6.3**
FURI Furi 14.44 247 LR LR 23 42 04.9
comp=Z,345nm,20.0s,baz=142,slow=34
LODK Lodwar 20.08 237 P **P 23 38 44.6 -1.5**
HRA Herat 21.41 24 P **P 23 39 01.9 +1.6**
HRA IAmb IAmb 23 39 06.2
comp=Z,38nm,0.9s
EIL Elat 21.55 316 P **P 23 39 02.3 +0.6**
comp=Z,1.9nm,0.7s,baz=164,slow=7.4,SNR=1.9
EIL LR LR 23 47 39.1
comp=Z,440nm,18.7s,baz=147,slow=37
comp=Z,1.9nm,0.7s
KMBO Kilima Mbogo 21.70 224 P **P 23 39 00.4 -3.3**
ASF Jabal al Asfar 22.04 324 P **P 23 39 08.0 +0.9**
comp=Z,2.1nm,0.3s,baz=238,slow=0.4,SNR=3.0
comp=Z,2.1nm,0.3s
MMAI Mount Meron Ar 23.52 323 LR LR 23 49 07.8
comp=Z,253nm,20.2s,baz=88,slow=38
KBL Kabul 24.77 35 P **P 23 39 36.4 +2.1**
KBL Kabul 24.77 35 P **P 23 39 37.8 +3.4**
SNR=18
KBL S **S 23 43 57.8 +0.9**
GURO Guroymak-BITLI 25.13 341 P **P 23 39 39.4 +1.9**
GURO IAmb IAmb 23 39 42.8
comp=Z,13nm,1.1s
GAZ Gaziantep 25.79 332 P **P 23 39 45.2 +1.8**
GNI Garni 25.91 347 P **P 23 39 46.0 +1.4**
GNI Garni 25.91 347 P **P 23 39 47.4 +2.8**
comp=Z,12nm,0.4s,baz=146,slow=4.9,SNR=4.4
GNI LR LR 23 52 09.7
comp=Z,340nm,21.6s,baz=169,slow=41
comp=Z,12nm,0.4s
NIL Nilore 26.70 42 P **P 23 39 53.9 +2.2**
NIL IAmb IAmb 23 39 58.0
comp=Z,12nm,0.9s
KARS Kars 26.76 345 P **P 23 39 53.9 +1.7**
BNN Bunyan 27.78 332 P **P 23 40 02.4 +1.0**
SIMJ Simiganj 27.93 29 P **P 23 40 03.7 +1.0**
CHGR Chuyangaron 28.00 29 P **P 23 40 04.7 +1.4**
ONI Oni 28.53 347 P **P 23 40 09.7 +1.8**
ONI IAmb IAmb 23 40 18.2
comp=Z,18nm,1.4s
GAR Garm 28.82 30 P **P 23 40 12.7 +2.0**
GAR IAmb IAmb 23 40 19.8
comp=Z,23nm,1.3s
PALK Pallekele 29.06 102 LR LR 23 48 04.1
comp=Z,76nm,20.9s,baz=31,slow=29
ELL Elmali 29.36 322 P **P 23 40 16.7 +1.3**
BR131 Keskin Array S 29.50 330 P **P 23 40 17.9 +1.1**
BRTR Keskin Array B 29.50 330 P **P 23 40 17.8 +1.0**
BRTR Keskin Array B 29.50 330 P **P 23 40 18.7 +2.0**
comp=Z,2.3nm,1.0s,baz=143,slow=10,SNR=9.4
BRTR LR LR 23 53 18.6
comp=Z,197nm,21.8s,baz=137,slow=38
comp=Z,2.3nm,1.0s
KBZ Khabaz 29.74 346 P **P 23 40 21.7 +3.2**
comp=Z,17nm,1.0s,baz=172,slow=6.2,SNR=19
KBZ LR LR 23 55 11.8
comp=Z,676nm,18.5s,baz=140,slow=42
comp=Z,17nm,1.0s
BTK Batken 29.89 30 P **P 23 40 21.5 +1.4**
BTK IAmb IAmb 23 40 23.8
comp=Z,17nm,1.2s
DRK Karamyk 29.93 32 P **P 23 40 21.2 +0.5**
KVAR Kislovodsk Arr 30.00 346 P **P 23 40 24.1 +3.0**
comp=Z,5.0nm,1.0s,baz=216,slow=8.7,SNR=4.2
KVAR LR LR 23 54 32.6
comp=Z,396nm,18.6s,baz=53,slow=40
comp=Z,5.0nm,1.0s
KIV Kislovodsk 30.00 346 ⇑P **P 23 40 23.3 +2.3**
KIV Kislovodsk 30.00 346 P **P 23 40 20.3 -0.7**
KIV Kislovodsk 30.00 346 P **P 23 40 24.3 +3.2**
KIV P **P 23 40 24.3 +3.2**
KIV S **S 23 45 20.1 +1.0**
KIV S **S 23 45 20.1 +1.0**
ANTO Ankara 30.03 329 P **P 23 40 23.2 +1.9**
ANTO IAmb IAmb 23 40 25.8
comp=Z,21nm,1.1s
ARSB Arslanbob 31.91 31 P **P 23 40 39.9 +1.9**
KK31 Karatay Array 32.19 26 P **P 23 40 42.9 +2.6**
KK31 IAmb IAmb 23 40 44.4
comp=Z,5.8nm,1.0s
KKAR Karatay Array 32.19 26 P **P 23 40 42.2 +2.0**
KKAR Karatay Array 32.19 26 P **P 23 40 42.6 +2.3**
KKAR IAmb IAmb 23 40 44.4
comp=Z,5.8nm,1.0s
NRN Naryn 33.54 33 P **P 23 40 54.5 +2.0**
NRN IAmb IAmb 23 41 03.2
comp=Z,9.4nm,1.4s
AAK Ala-Archa 33.64 30 P **P 23 40 55.2 +2.0**
AAK IAmb IAmb 23 41 03.8
comp=Z,17nm,1.4s
AAK Ala-Archa 33.64 30 LR LR 23 55 52.6
comp=Z,57nm,20.9s,baz=204,slow=38
OPO Ambohidratompo 33.66 188 LR LR 23 54 00.7
comp=Z,85nm,19.0s,baz=184,slow=36
FRU1 Bishkek 33.84 30 P **P 23 40 56.7 +2.0**
FRU1 IAmb IAmb 23 40 58.5
comp=Z,16nm,1.1s
BOOM Boomskoye usch 34.26 32 P **P 23 41 00.1 +1.6**
BOOM IAmb IAmb 23 41 09.3
comp=Z,8.8nm,1.3s
ALN Alexandroupoli 34.36 324 P **P 23 40 59.8 +0.6**
ALN IAmb IAmb 23 41 06.9
comp=Z,8.5nm,1.2s
ABKAR Akbulak array 34.81 9 P **P 23 41 04.2 +1.2**
ABKAR Akbulak array 34.81 9 P **P 23 41 04.2 +1.2**
ABKAR IAmb IAmb 23 41 06.3
comp=Z,24nm,1.1s
RDO Rodhopi 34.81 324 P **P 23 41 04.7 +1.5**
PRZ Przheval'sk 35.56 34 P **P 23 41 12.0 +2.2**
PRZ IAmb IAmb 23 41 30.7
comp=Z,14nm,1.4s
AKTO Aktyubinsk 35.71 6 LR LR 23 59 18.6
comp=Z,274nm,19.2s,baz=343,slow=42
ELND Elena 35.82 326 ⇑P **P 23 41 14.4 +2.6**
TPGR Topolog 35.92 331 ⇓P **P 23 41 14.5 +1.9**
HARR Harsova 36.03 330 ⇓P **P 23 41 15.6 +2.1**
CFR Carcaliu 36.29 331 ⇓P **P 23 41 18.0 +2.3**
PURM Purcari 36.56 334 P **P 23 41 19.3 +1.3**
comp=Z,14nm,1.3s
FNA Florina 37.08 320 P **P 23 41 24.8 +2.1**
MILM Milestii Mici 37.32 333 ⇑P **P 23 41 26.6 +2.1**
MILM Milestii Mici 37.32 333 ⇓*i* P **P 23 41 25.0 +0.5**
comp=Z,23nm,1.5s
KBN Korca 37.36 319 P **P 23 41 26.2 +1.2**
KBN IAmb IAmb 23 41 33.9
comp=Z,10nm,1.1s
VRI Vrincioaia 37.47 331 ⇓P **P 23 41 28.8 +2.9**
PLOR Plostina 37.49 330 ⇑P **P 23 41 29.4 +3.3**
BELG Belogornoye 37.52 355 LR LR 00 01 53.8
comp=Z,148nm,18.4s,baz=125,slow=44
MLR Muntele Rosu 37.58 329 ⇓P **P 23 41 28.7 +1.8**
MLR Muntele Rosu 37.58 329 P **P 23 41 27.8 +0.9**
MLR Muntele Rosu 37.58 329 P **P 23 41 28.7 +1.8**
comp=Z,1.8nm,0.8s,baz=48,slow=3.9,SNR=3.3
MLR LR LR 23 58 55.7
comp=Z,140nm,21.5s,baz=140,slow=39
comp=Z,1.8nm,0.8s

TURR Turia 37.95 330 ⇑P **P 23 41 32.8 +2.9**
TESR Tescani 37.98 331 ⇑P **P 23 41 32.2 +2.1**
TESR Tescani 37.98 331 P **P 23 41 32.1 +2.0**
comp=Z,13nm,1.5s
VOIR 37.98 329 ⇑P **P 23 41 33.3 +3.0**
VOIR 37.98 329 P **P 23 41 32.3 +2.0**
comp=Z,2.6nm,1.8s
OZUR 38.09 330 ⇓P **P 23 41 33.5 +2.4**
DOPR Dopca 38.19 330 ⇑P **P 23 41 34.8 +2.9**
SORM Soroca 38.46 334 ⇓P **P 23 41 35.6 +1.5**
SORM Soroca 38.46 334 P **P 23 41 35.0 +0.9**
comp=Z,7.3nm,1.1s
SHL Shillong 38.65 68 P **P 23 41 35.5 -0.8**
LSA Lhasa 38.79 61 P **P 23 41 37.5 -0.2**
PRAR RASCA 38.80 332 ⇓P **P 23 41 39.2 +2.1**
BURAR Bucovina Array 39.46 331 ⇑P **P 23 41 45.1 +2.5**
BURAR Bucovina Array 39.46 331 P **P 23 41 44.9 +2.3**
BUR08 Bucovina Ar. S 39.48 331 P **P 23 41 44.5 +1.6**
ARCR ARCALIA 39.49 330 ⇑P **P 23 41 44.9 +2.1**
KMPD K-Podol'skiy 39.60 333 P **P 23 41 44.3 +0.7**
SURR Surduc 39.71 327 ⇓P **P 23 41 47.8 +3.2**
MARR Marisel-Cluj 39.81 329 ⇓P **P 23 41 47.9 +2.3**
AK07 Malin Array Si 40.05 337 P **P 23 41 49.1 +1.7**
AK10 Malin Array Si 40.07 337 P **P 23 41 49.5 +2.0**
AK09 Malin Array Si 40.07 337 P **P 23 41 49.2 +1.7**
DRGR 40.10 328 ⇓P **P 23 41 50.3 +2.4**
LUBAR Lubar, Ukraine 40.10 336 P **P 23 41 49.1 +1.3**
AK05 Malin Array Si 40.10 337 P **P 23 41 49.5 +1.7**
AK02 Malin Array Si 40.13 337 P **P 23 41 50.1 +2.0**
AK12 Malin Array Si 40.14 337 P **P 23 41 49.6 +1.5**
AK14 Malin Array Si 40.15 337 P **P 23 41 49.6 +1.4**
AK13 Malin Array Si 40.15 337 P **P 23 41 49.6 +1.4**
AKASG Malin Array Be 40.16 337 P **P 23 41 48.6 +0.3**
comp=Z,8.3nm,0.8s,baz=147,slow=7.5,SNR=30
AKASG LR LR 00 01 31.0
comp=Z,107nm,20.8s,baz=148,slow=40
comp=Z,8.3nm,0.8s
AKBB Malin Array Si 40.16 337 IAmb IAmb 23 41 50.9
comp=Z,25nm,1.1s
AKBB Malin Array Si 40.16 337 P **P 23 41 49.9 +1.6**
KIEV Kiev 40.16 337 ⇑P **P 23 41 50.3 +2.0**
KIEV Kiev 40.16 337 P **P 23 41 48.9 +0.6**
KIEV IAmb IAmb 23 41 51.0
comp=Z,22nm,1.1s
KIEV Kiev 40.16 337 P **P 23 41 49.9 +1.6**
comp=Z,82nm,1.1s
VAE Valguarnera 40.19 311 P **P 23 41 48.8 -0.1**
comp=Z,1.5nm,0.4s,baz=84,slow=10,SNR=9.8
VAE LR LR 23 58 58.7
comp=Z,69nm,19.5s,baz=142,slow=37
comp=Z,1.5nm,0.4s
AK18 Malin Array Si 40.24 337 P **P 23 41 50.0 +1.1**
AK19 Malin Array Si 40.26 337 P **P 23 41 50.6 +1.5**
AK20 Malin Array Si 40.28 337 P **P 23 41 50.6 +1.4**
SIRR Siria 40.29 327 ⇓P **P 23 41 51.8 +2.3**
BMR Baia Mare 40.31 330 ⇑P **P 23 41 52.3 +2.7**
MAKZ Makanchi 40.36 32 P **P 23 41 51.1 +1.1**
MK31 Makanchi Array 40.51 32 P **P 23 41 52.0 +0.7**
MKAR Makanchi Array 40.51 32 P **P 23 41 52.1 +0.8**
MKAR Makanchi Array 40.51 32 P **P 23 41 52.5 +1.2**
comp=Z,2.1nm,0.7s,baz=227,slow=7.4,SNR=16
MKAR LR LR 00 00 21.1
comp=Z,75nm,20.9s,baz=238,slow=38
comp=Z,2.1nm,0.7s
MI30 MI30,Zelenitsa 40.59 337 P **P 23 41 53.2 +1.4**
BVAR Borovoye Array 40.65 17 P **P 23 41 53.8 +1.4**
comp=Z,14nm,1.1s,baz=192,slow=5.9,SNR=24
BVAR LR LR 00 00 41.7
comp=Z,121nm,18.9s,baz=210,slow=39
comp=Z,14nm,1.1s
MI28 MI28,Pidlybu 40.94 336 P **P 23 41 56.5 +1.8**
KURBB Kurchatov Arra 41.50 25 P **P 23 42 00.6 +1.3**
comp=Z,8.3nm,1.0s,baz=224,slow=8.2,SNR=42
KURBB LR LR 00 01 29.9
comp=Z,47nm,20.8s,baz=180,slow=39
comp=Z,8.3nm,1.0s
KURK Kurchatov 41.60 25 P **P 23 42 01.1 +0.9**
KURK IAmb IAmb 23 42 02.7
comp=Z,11nm,1.1s
ARU Arti 41.69 5 P **P 23 42 02.0 +1.2**
ARU IAmb IAmb 23 42 03.8
comp=Z,13nm,0.9s
ARU Arti 41.69 5 LR LR 00 02 45.8
comp=Z,141nm,18.2s,baz=180,slow=41
ARU Arti 41.69 5 P **P 23 42 02.2 +1.4**
comp=Z,16nm,1.0s
WMQ Urumqi 41.77 39 *eP* **P 23 42 01.3 -0.5**
WMQ pmax pmax
comp=Z,14nm,0.7s
OBN Obninsk 41.85 347 P **P 23 42 03.0 +0.9**
OBN IAmb IAmb 23 42 05.3
comp=Z,26nm,1.1s
OBN Obninsk 41.85 347 P **P 23 42 02.5 +0.4**
comp=Z,8.2nm,0.4s,baz=243,slow=4.5,SNR=6.8
OBN LR LR 00 02 20.1
comp=Z,135nm,20.7s,baz=175,slow=40
comp=Z,8.2nm,0.4s
OBN Obninsk 41.85 347 P **P 23 42 02.8 +0.7**
comp=Z,22nm,1.1s
RNPP5 Staryi Chortor 41.87 335 P **P 23 42 03.8 +1.4**
MORH Mrgy, Hungar 41.88 325 ⇑P **P 23 42 05.8 +3.2**
RNPP8 Varash 41.97 335 P **P 23 42 03.9 +0.7**
RNPP9 Sopachiv 42.01 336 P **P 23 42 05.1 +1.6**
NRCA Norcia 43.42 318 P **P 23 42 17.3 +2.1**
KIRV Kirov 43.60 358 LR LR 00 05 17.7
comp=Z,122nm,18.4s,baz=162,slow=42
MNK Minsk 43.74 340 *i* P **P 23 42 18.5 +1.0**
comp=E,4.0nm,1.1s
MNK *i* P **P 23 42 18.5 +1.0**
comp=N,8.0nm,0.8s
MNK *i* P **P 23 42 18.5 +1.0**
comp=Z,11nm,0.9s,baz=145
MNK *i* PP **PP 23 44 01.6 +2.3**
MNK *i* PcP **PcP 23 44 02.5 -1.8**
MNK *i* PPP PPP 23 44 38.4
MNK *i* S **S 23 48 52.6 +4.9**
MNK *i* SS **ScS 23 52 13.0 -3.9**
MNK *i* SSS SSS 23 52 53.5
MNK *i* LQ LQ 23 56 31.0
MNK *i* LR LR 00 01 36.4
MNK *i* LRM MLR 00 02 42.2
comp=E,66nm,15.8s
MNK *i* LRM MLR 00 02 49.5
comp=N,67nm,14.7s
MNK *i* LRM MLR 00 03 33.6
comp=Z,113nm,16.1s
RONA Rosalia, Austr 44.06 325 *eP* **P 23 42 22.7 +2.5**
comp=Z,1.7nm,0.9s
SOKA Soboth 44.19 323 *eP* **P 23 42 22.3 +0.9**
comp=Z,0.7nm,0.6s
OBKA Obir 44.38 323 *eP* **P 23 42 22.6 -0.3**
comp=Z,5.2nm,1.4s
CONA Conrad Observa 44.43 325 *eP* **P 23 42 23.6 +0.4**
comp=Z,1.9nm,0.8s
NACGM Naroch 44.44 339 LR LR 00 01 24.9
TNCH TengChong 44.57 69 ⇑P **P 23 42 25.2 +0.3**
TNCH pmax pmax
comp=Z,15nm,0.5s
TNCH pmax pmax
comp=Z,140nm,4.1s
MORC Moravsky Berou 44.66 328 P **P 23 42 26.7 +1.7**
MORC Moravsky Berou 44.66 328 *eP* **P 23 42 27.3 +2.3**
VRAC Vranov 44.86 327 *eP* **P 23 42 29.0 +2.4**
VRAC Vranov 44.86 327 P **P 23 42 27.0 +0.4**
comp=Z,1.4nm,0.9s,baz=208,slow=6.9,SNR=1.3
VRAC LR LR 00 02 47.9
comp=Z,70nm,20.2s,baz=119,slow=38
comp=Z,1.4nm,0.9s
CM31 Chiang Mai Arr 44.91 79 P **P 23 42 26.7 -0.7**
CM31 IAmb IAmb 23 42 28.3
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 44.91 79 P **P 23 42 26.6 -0.8**
comp=Z,6.6nm,1.0s,baz=276,slow=9.0,SNR=24
CMAR LR LR 00 00 36.2
comp=Z,27nm,19.1s,baz=275,slow=35
comp=Z,6.6nm,1.0s
IIGN Ignalina 44.99 339 *eP* **P 23 42 30.4 +2.9**
SUW Suwalki 45.06 336 P **P 23 42 29.0 +0.9**
SUW Suwalki 45.06 336 *eP* **P 23 42 30.1 +2.0**
MOA Molln 45.27 324 *eP* **P 23 42 30.6 +0.7**
comp=Z,2.4nm,1.1s
ABTA Abfaltersbach 45.70 322 *e*pP pP 23 42 39.8 +3.7
comp=Z,1.1nm,0.7s
CTI Castel Tesino 45.87 321 P **P 23 42 36.1 +1.3**
PABE Paberze 45.91 338 P **P 23 42 36.0 +1.3**

PABE Paberze 45.91 338 *eP* **P 23 42 36.3 +1.6**
LESA Schwarzleotal 45.95 323 *eP* **P 23 42 35.3 -0.1**
comp=Z,1.1nm,0.8s
PRMA PARMA 46.10 319 P **P 23 42 38.1 +1.6**
GEC2 GERESS Array S 46.14 325 P **P 23 42 38.4 +1.6**
GERES GERESS Array B 46.14 325 P **P 23 42 37.7 +0.9**
GERES GERESS Array B 46.14 325 P **P 23 42 36.7 -0.1**
comp=Z,0.4nm,0.7s,baz=84,slow=10,SNR=1.9
GERES LR LR 00 04 04.3
comp=Z,38nm,19.2s,baz=114,slow=39
comp=Z,0.4nm,0.7s
CRAI Chiangrai 46.19 76 P **P 23 42 37.9 +0.3**
CRAI IAmb IAmb 23 42 50.0
comp=Z,4.9nm,1.0s
WTTA Wattenberg 46.48 322 *eP* **P 23 42 42.0 +2.3**
comp=Z,2.3nm,1.0s
WATA Walderalm 46.55 323 *eP* **P 23 42 42.4 +2.3**
comp=Z,3.0nm,0.8s
ZAA0 Zalesovo Array 46.57 26 IAmb IAmb 23 42 41.2
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 46.57 26 P **P 23 42 39.7 -0.3**
ZALV Zalesovo Beam 46.57 26 P **P 23 42 40.2 +0.3**
comp=Z,8.9nm,1.0s,baz=231,slow=7.1,SNR=29
ZALV LR LR 00 05 05.9
comp=Z,46nm,19.2s,baz=248,slow=40
comp=Z,8.9nm,1.0s
FETA Feichten 46.90 322 *eP* **P 23 42 46.0 +3.1**
comp=Z,2.2nm,1.1s
RETA Reutte 47.11 322 P **P 23 42 47.7 +3.2**
comp=Z,2.7nm,1.4s
DAVOX Davos/Dischmat 47.30 321 LR LR 00 08 06.1
comp=Z,44nm,18.4s,baz=87,slow=43
PZH PanZhiHua 47.57 68 P **P 23 42 50.1 +1.7**
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.1s
CLL Collm 47.90 328 P **P 23 42 51.7 +1.3**
CLL Collm 47.90 328 *eP* **P 23 42 52.0 +1.6**
CLL *e*PPP PPP 23 45 31.0
TSUM Tsumeb 48.02 226 LR LR 00 04 18.5
comp=Z,161nm,18.3s,baz=29,slow=38
TORD Torodi Ar. Bea 48.85 275 P **P 23 42 55.9 -2.4**
comp=Z,0.3nm,0.5s,baz=78,slow=8.0,SNR=4.4
TORD PcP **PcP 23 44 19.6 -3.3**
comp=Z,0.7nm,0.9s,baz=69,slow=2.0,SNR=2.4
TORD LR LR 00 02 49.4
comp=Z,100nm,18.1s,baz=106,slow=35
comp=Z,0.3nm,0.5s
SLVN Son La 49.46 75 P **P 23 43 04.8 +1.8**
SLVN IAmb IAmb 23 43 10.1
comp=Z,15nm,1.3s
MEF Metsahovi 49.50 342 *eP* **P 23 43 04.2 +1.7**
RGN Rugen 49.65 331 P **P 23 43 06.0 +2.2**
FIA1 FINESS Array S 50.04 344 P **P 23 43 07.9 +1.2**
FINES FINESS Array B 50.04 344 P **P 23 43 07.7 +1.1**
FINES FINESS Array B 50.04 344 P **P 23 43 07.6 +0.9**
comp=Z,3.4nm,0.5s,baz=146,slow=9.7,SNR=46
FINES LR LR 00 08 01.8
comp=Z,159nm,18.7s,baz=146,slow=40
comp=Z,3.4nm,0.5s
JOF Joensuu 50.09 348 *eP* **P 23 43 08.4 +1.4**
BOSA Boshof 50.50 211 P **P 23 43 11.1 +0.4**
BOSA IAmb IAmb 23 43 19.5
comp=Z,6.4nm,1.1s
BOSA Boshof 50.50 211 P **P 23 43 06.5 -4.3**
comp=Z,3.5nm,0.9s,baz=14,slow=8.7,SNR=4.9
BOSA LR LR 00 03 45.7
comp=Z,75nm,19.0s,baz=34,slow=36
comp=Z,3.5nm,0.9s
RAF Rauma 50.94 342 *eP* **P 23 43 14.5 +1.1**
KEF Keuruu 50.96 344 *eP* **P 23 43 15.2 +1.6**
UPP Uppsala 51.43 339 *eP* **P 23 43 18.4 +1.3**
VAF Ylistaro 52.27 344 *eP* **P 23 43 25.0 +1.7**
HFS Hagfors 53.05 337 P **P 23 43 29.6 +0.4**
comp=Z,4.3nm,0.6s,baz=134,slow=8.5,SNR=28
HFS LR LR 00 10 02.7
comp=Z,94nm,18.3s,baz=128,slow=40
comp=Z,4.3nm,0.6s
MDT Midelt 54.19 300 LR LR 00 08 06.2
comp=Z,208nm,18.3s,baz=110,slow=38
NC602 NORSAR Array S 54.26 337 IAmb IAmb 23 43 39.0
comp=Z,4.1nm,0.8s
XAN Xi'an 54.40 59 *eP* **P 23 43 39.0 -0.7**
XAN pP pwP 23 43 44.0 -0.4
XAN pmax pmax
comp=Z,8.0nm,1.2s
NB2 NORSAR Subarra 54.57 337 P **P 23 43 40.4 0.0**
comp=Z,5.3nm,1.1s,baz=122,slow=7.9
NOA NORSAR Array B 54.57 337 P **P 23 43 40.7 +0.3**
comp=Z,1.7nm,0.9s,baz=122,slow=7.7,SNR=6.7
NOA LR LR 00 09 39.6
comp=Z,97nm,21.4s,baz=125,slow=39
comp=Z,1.7nm,0.9s
NAO01 NORSAR Array S 54.58 337 P **P 23 43 41.8 +1.4**
NAO01 IAmb IAmb 23 43 46.7
comp=Z,6.1nm,1.1s
ESDC Sonseca Array 54.58 308 P **P 23 43 41.3 +0.4**
ESDC Sonseca Array 54.58 308 P **P 23 43 39.4 -1.5**
comp=Z,2.0nm,1.0s,baz=90,slow=6.2,SNR=12
ESDC LR LR 00 07 31.8
comp=Z,45nm,18.0s,baz=101,slow=36
comp=Z,2.0nm,1.0s
NBO00 NORSAR Array S 54.73 337 P **P 23 43 44.0 +2.5**
NBO00 IAmb IAmb 23 43 50.2
comp=Z,16nm,1.4s
SONM Songino Array 55.28 42 P **P 23 43 46.6 +0.8**
SONM IAmb IAmb 23 43 48.2
comp=Z,5.9nm,1.1s
SONM Songino Array 55.28 42 P **P 23 43 46.9 +1.0**
comp=Z,3.9nm,1.0s,baz=246,slow=8.3,SNR=24
comp=Z,3.9nm,1.0s
ULN Ulaanbaatar 55.71 42 P **P 23 43 49.2 +0.1**
ULN IAmb IAmb 23 43 50.3
comp=Z,11nm,1.5s
SUR Sutherland 55.79 212 LR LR 00 06 34.3
comp=Z,37nm,19.2s,baz=48,slow=35
BTO Baotou 56.15 51 *eP* **P 23 43 52.4 +0.2**
BTO pP **pwP 23 43 57.0 0.0**
BTO sP **sP 23 43 59.3 +3.4**
BTO pmax pmax
comp=Z,17nm,1.0s
BTO pmax pmax
comp=Z,190nm,10.3s
DBIC Dimbokro 56.42 268 LR LR 00 08 05.0
comp=Z,68nm,18.0s,baz=37,slow=36
ARCES ARCESS Array B 57.04 349 P **P 23 43 58.5 +0.6**
comp=Z,4.4nm,0.9s,baz=140,slow=4.1,SNR=8.0
ARCES LR LR 00 12 11.5
comp=Z,193nm,19.1s,baz=122,slow=40
comp=Z,4.4nm,0.9s
EKA Eskdalemuir Ar 58.32 327 P **P 23 44 06.7 -0.5**
comp=Z,0.9nm,0.6s,baz=113,slow=6.6,SNR=9.4
comp=Z,0.9nm,0.6s
NRIK Noril'sk 58.72 14 IAmb IAmb 23 44 12.0
comp=Z,8.7nm,0.9s
NRIK Noril'sk 58.72 14 P **P 23 44 10.4 +0.7**
comp=Z,8.0nm,0.9s,baz=181,slow=3.2,SNR=10
NRIK LR LR 00 11 35.5
comp=Z,82nm,21.4s,baz=280,slow=38
comp=Z,8.0nm,0.9s
BJT Baijiatuau 60.74 52 P **P 23 44 24.2 +0.1**
BJT IAmb IAmb 23 44 25.1
comp=Z,14nm,1.5s
SPITS Spitsbergen Ar 65.62 352 LR LR 00 17 07.3
comp=Z,78nm,18.9s,baz=122,slow=39
BBTS Babate 66.09 280 LR LR 00 14 57.5
comp=Z,70nm,18.1s,baz=318,slow=37
JMIC Jan Mayen 66.56 342 LR LR 00 16 12.2
comp=Z,33nm,19.0s,baz=166,slow=38
CN2 Changchun 67.83 49 P **P 23 45 10.5 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
BNX BinXian 69.22 46 ⇑P **P 23 45 18.7 -0.5**
BNX pmax pmax
comp=Z,4.0nm,0.7s
HEH HeiHe 69.27 42 *eP* **P 23 45 18.9 -0.6**
HEH pmax pmax
comp=Z,8.0nm,1.1s
BORG Borgarnes 69.52 334 LR LR 00 20 41.1
comp=Z,29nm,18.2s,baz=136,slow=40
KSRS Korea Array 69.90 55 P **P 23 45 22.5 -1.1**
comp=Z,2.2nm,0.7s,baz=273,slow=6.7,SNR=7.7
KSRS LR LR 00 17 00.3
comp=Z,17nm,18.9s,baz=270,slow=37
comp=Z,2.2nm,0.7s
YAK Yakutsk 71.09 29 LR LR 00 19 32.5

comp=Z,42nm,21.1s,baz=266,slow=38
TIXI Tiksi 71.74 19 LR LR 00 19 59.8
comp=Z,44nm,19.8s,baz=304,slow=38
KLR Kul'dur 72.09 43 LR LR 00 22 05.8
comp=Z,33nm,18.8s,baz=282,slow=40
USRK Ussuriysk Ar. 72.53 48 P **P** **23 45 38.1 -1.3**
comp=Z,1.4nm,0.7s,baz=248,slow=6.1,SNR=3.6
comp=Z,1.4nm,0.7s
MJAR Matsushiro Arr 78.18 55 P **P** **23 46 10.3 -1.8**
comp=Z,0.6nm,0.4s,baz=292,slow=3.8,SNR=2.1
comp=Z,0.6nm,0.4s
SFJD Kangerlussuaq 81.25 337 LR LR 00 26 14.8
comp=Z,67nm,18.7s,baz=82,slow=38
EUNU Eureka 82.72 353 P **P** **23 46 36.6 +0.9**
EUNU IAmb IAmb 23 46 37.5
comp=Z,9.3nm,1.1s
MTN Manton Dam 82.95 105 P **P** **23 46 39.7 +1.7**
WRA Warramunga Arr 87.95 111 P **P** **23 47 03.8 +0.9**
WRA Warramunga Arr 87.95 111 P **P** **23 46 59.8 -3.1**
comp=Z,0.4nm,0.7s,baz=300,slow=3.7,SNR=4.6
comp=Z,0.4nm,0.7s
RES Resolute Bay 88.18 352 LR LR 00 30 50.0
comp=Z,37nm,18.6s,baz=12,slow=38
ASAR Alice Springs 88.63 115 P **P** **23 47 06.9 +0.9**
ASAR Alice Springs 88.63 115 P **P** **23 47 03.2 -2.8**
comp=Z,0.7nm,0.9s,baz=296,slow=4.5,SNR=5.0
comp=Z,0.7nm,0.9s
AS31 Alice Springs 88.63 115 P **P** **23 47 06.8 +0.7**
FRB Frobisher Bay 89.39 338 LR LR 00 30 49.0
comp=Z,53nm,18.1s,baz=12,slow=38
BBOO Buckleboo 93.02 123 P **P** **23 47 27.6 +1.4**
B22K Teshekpuk Lake 93.09 8 P **P** **23 47 27.5 +1.7**
C23K Itkillik River 93.94 8 P **P** **23 47 30.8 +1.1**
C23K IAmb IAmb 23 47 36.3
comp=Z,4.3nm,1.3s
D25K Kavik River 94.93 6 P **P** **23 47 36.8 +2.4**
D25K IAmb IAmb 23 47 39.4
comp=Z,2.2nm,1.0s
PDAR Pinedale Array 120.14 344 PKP **PKPdf** **23 53 02.3 -1.7**
comp=Z,0.4nm,0.5s,baz=71,slow=6.4,SNR=3.8
NVAR Mina Array Bea 126.14 351 PKP **PKPdf** **23 53 14.9 -0.6**
comp=Z,1.0nm,0.6s,baz=44,slow=3.2,SNR=6.7
TXAR Lajitas Array 130.14 332 PKP **PKPdf** **23 53 21.5 -1.7**
comp=Z,0.2nm,0.7s,baz=38,slow=4.6,SNR=2.6

*SDD **12** 23:41:35.9±1.2, 19°.41N×72°.73W, h15km±91km, MD3.8, ML3.5, MW3.7*
*SSNC **12** 23:41:38.2±1.0, 19°.37N×72°.64W, h8km±9km, MD3.6, ML3.5*
*OSPL **12** 23:41:38.0±1.6, 19°.42N×72°.58W, h9km±12km, ML3.3*
ISC 12 23:41:35.7±1.5, 19°.39N±0°.04×72°.63W±0°.02, h19km±4km, n30, σ1°33/49, 4C-4D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LODA1	**ITESIL, Dajabo**	**0.88**	**80**	*e*Pg	**Pn**	**23 41 53.1**	**0.0**
LODA1				*e*Sg	**Sb**	**23 42 04.0**	**+0.2**
LODA1	**ITESIL, Dajabo**	**0.88**	**80**	*i* P	**Pn**	**23 41 53.1**	**0.0**
LODA1				IAML		23 42 03.8	
comp=Z,1μm,0.4s							
LODA1				*e*S	**Sb**	**23 42 04.0**	**+0.2**
PAPH	**Port-au-Prince**	**0.92**	**160⇓**	*e*Pg	**Pg**	**23 41 53.5**	**-0.2**
PAPH				IAML		23 42 07.8	
comp=E,2μm,0.6s							
PAPH				IAML		23 42 14.2	
comp=N,1μm,0.3s							
PAPH				IAML		23 42 14.2	
comp=N,1μm,0.3s							
PAPH	**Port-au-Prince**	**0.92**	**160**	*e*P	**Pb**	**23 41 53.3**	**+0.3**
PAPH				*e*S	**Sb**	**23 42 05.5**	**+0.7**
PAPH				IAML		23 42 09.4	
comp=E,698nm,0.3s							
PAPH				IAML		23 42 09.9	
comp=N,460nm,0.4s							
PAPH	**Port-au-Prince**	**0.92**	**160**	*i* P	**Pg**	**23 41 53.5**	**-0.2**
PAPH				IAML		23 42 14.8	
comp=Z,506nm,0.6s							
MCDR	**Montecristi**	**1.04**	**61⇑**	*e*Pg	**Pg**	**23 41 56.4**	**+0.4**
MCDR				*e*Sg	**Sn**	**23 42 09.4**	**+0.1**
MCDR				IAML		23 42 10.5	
comp=N,2μm,0.7s							
MCDR				IAML		23 42 10.5	
comp=N,2μm,0.7s							
MCDR				IAML		23 42 10.7	
comp=E,906nm,0.1s							
JIDR	**Jimani**	**1.16**	**141⇓**	*e*Pg	**Pb**	**23 41 57.2**	**+0.1**
JIDR			⇓	*e*Sg	**Sn**	**23 42 12.5**	**+0.4**
JIDR				IAML		23 42 20.7	
comp=N,1μm,0.6s							
JIDR				IAML		23 42 20.8	
comp=N,1μm,0.6s							
JIDR				IAML		23 42 22.1	
comp=E,1μm,1.7s							
REDR	**Restauracion**	**1.19**	**101⇑**	*e*Pg	**Pn**	**23 41 53.0**	**-4.3**
REDR				IAML		23 42 04.5	
comp=E,4μm,0.1s							
REDR				IAML		23 42 04.7	
comp=N,3μm,0.1s							
REDR				IAML		23 42 04.7	
comp=N,3μm,0.1s							
SDDR	**Presa de Saban**	**1.33**	**108⇑**	*e*Pg	**Pb**	**23 42 00.3**	**+0.2**
SDDR				IAML		23 42 18.1	
comp=E,2μm,0.8s							
SDDR				IAML		23 42 20.4	
comp=N,1μm,0.5s							
SDDR				IAML		23 42 20.4	
comp=N,1μm,0.5s							
SDDR	**Presa de Saban**	**1.33**	**108**	*e*P	**Pb**	**23 42 00.2**	**+0.1**
SDDR				*e*S	**Sn**	**23 42 16.5**	**0.0**
SDDR				IAML		23 42 18.1	
comp=N,1μm,0.4s							
SDDR				IAML		23 42 20.3	
comp=N,901nm,0.5s							
SDDR	**Presa de Saban**	**1.33**	**108**	*i* P	**Pb**	**23 42 00.3**	**+0.2**
SDDR				*e*S	**Sn**	**23 42 16.5**	**0.0**
SDDR				IAML		23 42 17.7	
comp=Z,688nm,1.0s							
NEDR	**Neiba UASD**	**1.46**	**128⇓**	*e*Pg	**Pb**	**23 42 02.6**	**+0.3**
NEDR				IAML		23 42 23.5	
comp=E,1μm,0.7s							
NEDR				IAML		23 42 24.1	
comp=N,497nm,0.6s							
NEDR				IAML		23 42 24.2	
comp=N,497nm,0.6s							
MASC	**Masc**	**1.70**	**298**	*e*P	**Pb**	**23 42 06.2**	**-0.2**
MASC				*e*S	**Sn**	**23 42 25.7**	**+0.1**
MASC				IAML		23 42 28.9	
comp=E,323nm,0.4s							
MASC				IAML		23 42 31.1	
comp=N,212nm,0.3s							
MASC	**Masc**	**1.70**	**298**	*i* P	**Pb**	**23 42 06.4**	**0.0**
MASC				*e*S	**Sb**	**23 42 27.8**	**+0.4**
MASC				IAML		23 42 32.2	
comp=Z,274nm,0.2s							
PODR	**Polo**	**1.76**	**133**	*e*Pg	**Pb**	**23 42 07.5**	**0.0**
PODR				IAML		23 42 38.5	
comp=E,315nm,1.0s							
PODR				IAML		23 42 46.8	
comp=N,376nm,0.6s							
PODR				IAML		23 42 46.8	
comp=N,376nm,0.6s							
PODR	**Polo**	**1.76**	**133**	*i* P	**Pb**	**23 42 07.3**	**-0.3**
PODR				IAML		23 42 46.0	
comp=Z,297nm,1.2s							
SC01	**Santiago de lo**	**1.79**	**89**	*e*Pg	**Pb**	**23 42 08.8**	**+0.8**
SC01				IAML		23 42 54.7	
comp=E,394nm,0.7s							
SC01				IAML		23 43 18.8	
comp=N,4.3nm,2.2s							
SC01	**Santiago de lo**	**1.79**	**89**	*i* P	**Pn**	**23 42 06.3**	**+0.6**
SC01				IAML		23 42 49.1	
comp=Z,442nm,0.5s							
QMBU	**Quimbuelo**	**2.21**	**292**	*e*P	**Pn**	**23 42 12.4**	**+1.0**
QMBU				*e*S	**Sn**	**23 42 37.7**	**-0.5**
QMBU				IAML		23 42 39.3	
comp=E,590nm,0.4s							
QMBU				IAML		23 42 39.7	
comp=N,254nm,0.2s							
BANI	**BANI**	**2.37**	**114**	*e*Pg	**Pb**	**23 42 18.1**	**+0.2**
BANI				IAML		23 42 57.8	
comp=N,498nm,0.7s							
GTBY	**Guantanamo Bay**	**2.40**	**283**	*e*Pg	**Pn**	**23 42 15.5**	**+1.5**
GTBY				⇑*e*Sg	**Sn**	**23 42 43.9**	**+1.0**
GTBY				IAML		23 42 45.2	
comp=E,245nm,0.4s							
GTBY				IAML		23 42 52.4	
comp=N,152nm,0.2s							
GTBY				IAML		23 42 52.5	
comp=N,152nm,0.2s							
GTBY	**Guantanamo Bay**	**2.40**	**283**	*e*P	**Pn**	**23 42 15.4**	**+1.3**
GTBY				*e*S	**Sn**	**23 42 42.6**	**-0.3**
GTBY				IAML		23 42 45.3	
comp=N,156nm,0.5s							
GTBY				IAML		23 42 45.4	
comp=N,240nm,0.4s							
GTBY	**Guantanamo Bay**	**2.40**	**283**	*i* P	**Pn**	**23 42 15.6**	**+1.6**
GTBY				*e*S	**Sn**	**23 42 43.9**	**+1.0**
GTBY				IAML		23 42 52.2	
comp=Z,63nm,0.3s							
MOAC	**Moa**	**2.53**	**300**	*e*P	**Pn**	**23 42 17.7**	**+1.9**
MOAC				*e*S	**Sn**	**23 42 46.3**	**+0.2**
MOAC				IAML		23 42 52.4	
comp=E,292nm,0.5s							
MOAC				IAML		23 42 53.8	
comp=N,204nm,0.3s							
RCC	**Rio Carpintero**	**2.95**	**282**	*e*P	**Pn**	**23 42 22.5**	**+0.9**
RCC				*e*S	**Sn**	**23 42 56.7**	**+0.2**
RCC				IAML		23 42 58.4	
comp=E,190nm,0.4s							
RCC				IAML		23 42 58.9	
comp=N,82nm,0.3s							
MARVS	**Santiago de Cu**	**3.14**	**282**	*e*P	**Pn**	**23 42 25.9**	**+1.7**
MARVS				*e*S	**Sn**	**23 43 01.6**	**+0.4**
MARVS				IAML		23 43 04.6	
comp=E,155nm,0.5s							
MARVS				IAML		23 43 04.9	
comp=N,134nm,0.5s							
HLGC	**Holguin**	**3.55**	**295**	*e*P	**Pb**	**23 42 34.1**	**-4.0**
CHIV	**Chivirico**	**3.62**	**280**	*e*P	**Pn**	**23 42 31.7**	**+1.0**
CHIV				*e*S	**Sn**	**23 43 12.1**	**-0.9**
CHIV				IAML		23 43 15.4	
comp=E,23nm,0.2s							
CHIV				IAML		23 43 16.6	
comp=N,37nm,0.2s							
YAR	**Yar**	**3.65**	**286**	*e*P	**Pn**	**23 42 32.8**	**+1.6**
YAR				*e*S	**Sn**	**23 43 13.3**	**-0.4**
LMGC	**Las Mercedes**	**4.18**	**280**	*e*P	**Pn**	**23 42 39.5**	**+1.0**
LMGC				*e*S	**Sn**	**23 43 22.3**	**-4.4**

*NEIC **12** 23:43:54.8±1.1, 17°.9N±0°.2×145°.5E±0°.2, h300km±10km, mb4.0/65, Error ellipse: s-maj=26.4km s-min=18.9km az=51.0*
*IDC **12** 23:43:59.6±6.1, 18°.81N×145°.46E, h307km±61km, mb3.3/12, mbtmp4.0/13, Error ellipse: s-maj=27.1km s-min=20.1km az=70.0*
ISC 12 23:43:59.2±1.0, 18°.8N±0°.2×145°.4E±0°.1, h300km, n85, σ0°65/84, mb3.9/44, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**17.71**	**300**	P	**P**	**23 47 46.4**	**+0.7**
JOW	**Kunigami**	**17.71**	**300**	P	**P**	**23 47 46.2**	**+0.5**
13nm,0.4s,baz=138,slow=12,SNR=12							
WRA	**Warramunga Arr**	**39.95**	**196**	P	**P**	**23 51 05.3**	**+0.1**
0.5nm,0.6s,baz=21,slow=9.1,SNR=6.3							
0.5nm,0.6s							
SONM	**Songino Array**	**42.93**	**321**	P	**P**	**23 51 29.1**	**-0.1**
0.2nm,0.5s,baz=161,slow=9.2,SNR=1.8							
0.2nm,0.5s							
M14K	**Bethel**	**55.90**	**28**	P	**P**	**23 53 06.7**	**+0.7**
N15K	**Kwethluk River**	**56.51**	**29**	P	**P**	**23 53 11.2**	**+0.7**
K15K	**Wolf Creek Mou**	**56.73**	**27**	P	**P**	**23 53 12.7**	**+0.8**
L16K	**Owhat River**	**57.38**	**28**	P	**P**	**23 53 16.7**	**+0.2**
J16K	**Anvik River**	**57.54**	**26**	P	**P**	**23 53 18.4**	**+0.9**
J16K				IAmb	IAmb	23 53 30.1	
comp=Z,7.1nm,1.2s							
N17K	**Nushagak Hills**	**57.99**	**29**	P	**P**	**23 53 21.5**	**+0.8**
N17K				IAmb	IAmb	23 53 48.0	
comp=Z,7.2nm,1.4s							
M17K	**Holitna River**	**58.17**	**28**	P	**P**	**23 53 21.5**	**-0.5**
C16K	**Lisburne Hills**	**58.21**	**19**	P	**P**	**23 53 21.7**	**-0.4**
J17K	**VABM Dome**	**58.21**	**26**	P	**P**	**23 53 23.0**	**+0.8**
J17K				IAmb	IAmb	23 53 23.5	
comp=Z,8.1nm,1.1s							
MKAR	**Makanchi Array**	**58.23**	**314**	P	**P**	**23 53 23.3**	**+0.7**
MKAR	**Makanchi Array**	**58.23**	**314**	P	**P**	**23 53 22.6**	**0.0**
comp=Z,0.7nm,0.5s,baz=86,slow=8.6,SNR=8.4							
comp=Z,0.7nm,0.5s							
K17K	**Iditarod**	**58.27**	**27**	P	**P**	**23 53 23.6**	**+1.0**
SII	**Sitkinak Islan**	**58.33**	**34**	P	**P**	**23 53 23.6**	**+0.5**
MAKZ	**Makanchi**	**58.44**	**314**	P	**P**	**23 53 24.5**	**+0.4**
H17K	**Granite Mounta**	**58.51**	**24**	P	**P**	**23 53 24.5**	**+0.3**
H17K				IAmb	IAmb	23 53 24.7	
comp=Z,7.3nm,1.4s							
F17K	**Baldwin Pennin**	**58.67**	**22**	P	**P**	**23 53 24.6**	**-0.7**
F17K				IAmb	IAmb	23 53 59.7	
comp=Z,7.7nm,1.3s							
L18K	**Granite Mounta**	**58.79**	**28**	P	**P**	**23 53 26.7**	**+0.5**
L18K				IAmb	IAmb	23 53 53.6	
comp=Z,7.2nm,1.5s							
RDOG	**Red Dog Mine**	**58.88**	**20**	P	**P**	**23 53 26.5**	**-0.2**
H18K	**Honhosa River**	**59.20**	**24**	P	**P**	**23 53 29.2**	**+0.3**
H18K				IAmb	IAmb	23 54 10.9	
comp=Z,8.2nm,1.4s							
N19K	**Bonanza Creek**	**59.34**	**30**	P	**P**	**23 53 30.7**	**+0.7**
G18K	**Tagagawik**	**59.39**	**23**	P	**P**	**23 53 30.1**	**-0.1**
SYI	**Shuyak Island**	**59.77**	**32**	P	**P**	**23 53 32.9**	**0.0**
J19K	**Poorman**	**59.86**	**26**	P	**P**	**23 53 34.0**	**+0.6**
H19K	**Roundabout Mou**	**60.08**	**24**	P	**P**	**23 53 35.3**	**+0.4**
H19K				IAmb	IAmb	23 53 45.5	
comp=Z,4.6nm,1.3s							
K20K	**Telida**	**60.31**	**27**	P	**P**	**23 53 37.4**	**+0.9**
K20K				IAmb	IAmb	23 54 02.6	
comp=Z,6.0nm,1.5s							
C19K	**Lookout Ridge**	**60.45**	**20**	P	**P**	**23 53 38.4**	**+1.0**
C19K				IAmb	IAmb	23 53 38.8	
comp=Z,5.7nm,0.9s							
J20K	**Nowinta River**	**60.54**	**26**	P	**P**	**23 53 38.8**	**+0.8**
E19K	**Redstone River**	**60.54**	**22**	P	**P**	**23 53 38.9**	**+0.9**
E19K				IAmb	IAmb	23 54 16.2	
comp=Z,5.0nm,1.5s							
CNPM	**China Poot**	**60.57**	**32**	P	**P**	**23 53 38.0**	**-0.3**
D19K	**Kuna River**	**60.67**	**21**	P	**P**	**23 53 38.8**	**0.0**
D19K				IAmb	IAmb	23 53 38.8	
comp=Z,5.0nm,1.4s							
SKT	**Skwentna**	**61.03**	**29**	P	**P**	**23 53 41.0**	**-0.4**
KURK	**Kurchatov**	**61.05**	**318**	P	**P**	**23 53 40.8**	**-0.8**
KURBB	**Kurchatov Arra**	**61.09**	**318**	P	**P**	**23 53 41.5**	**-0.4**
comp=Z,0.6nm,0.4s,baz=94,slow=7.5,SNR=14							
comp=Z,0.6nm,0.4s							
SUA	**Susitna One**	**61.26**	**29**	P	**P**	**23 53 43.0**	**0.0**
SUA				IAmb	IAmb	23 53 44.1	
comp=Z,4.1nm,1.2s							
IMAR	**Indian Mountai**	**61.29**	**24**	P	**P**	**23 53 43.9**	**+1.0**
NRIK	**Noril'sk**	**61.47**	**340**	P	**P**	**23 53 43.8**	**-0.2**
NRIK				IAmb	IAmb	23 53 44.1	
comp=Z,2.4nm,0.7s							
NRIK	**Noril'sk**	**61.47**	**340**	P	**P**	**23 53 42.8**	**-1.3**
comp=Z,2.1nm,0.7s,baz=97,slow=8.9,SNR=3.8							
comp=Z,2.1nm,0.7s							
H21K	**Melozitna Rive**	**61.55**	**25**	P	**P**	**23 53 44.7**	**0.0**
B20K	**Meade River**	**61.62**	**19**	P	**P**	**23 53 45.0**	**-0.1**
B20K				IAmb	IAmb	23 53 54.0	
comp=Z,3.5nm,0.9s							
F21K	**Alatna River**	**61.80**	**23**	P	**P**	**23 53 47.6**	**+1.2**
BPAW	**Bear Paw Mtn.**	**61.84**	**27**	P	**P**	**23 53 47.2**	**+0.6**
BPAW				IAmb	IAmb	23 53 47.6	
comp=Z,2.6nm,0.7s							
MLY	**Manley**	**62.19**	**26**	P	**P**	**23 53 48.8**	**-0.3**
BOOM	**Boomskoye usch**	**62.55**	**309**	P	**P**	**23 53 51.9**	**-0.2**
BOOM				IAmb	IAmb	23 54 16.0	
comp=Z,3.1nm,1.0s							
E22K	**Anaktuvuk Pass**	**62.71**	**22**	P	**P**	**23 53 53.0**	**+0.6**
E22K				IAmb	IAmb	23 54 14.0	
comp=Z,5.5nm,1.5s							
I23K	**Minto, Yukon-K**	**62.79**	**26**	P	**P**	**23 53 53.3**	**+0.4**
I23K				IAmb	IAmb	23 53 54.2	
comp=Z,1.9nm,0.7s							
B22K	**Teshekpuk Lake**	**62.92**	**19**	P	**P**	**23 53 54.0**	**+0.4**
B22K				IAmb	IAmb	23 54 35.4	
comp=Z,5.3nm,1.3s							
MDM	**Murphy Dome**	**63.21**	**26**	P	**P**	**23 53 56.7**	**+1.0**
MDM				IAmb	IAmb	23 53 57.1	
comp=Z,1.6nm,0.6s							
H24K	**Noodor Dome**	**63.56**	**25**	P	**P**	**23 53 58.3**	**+0.3**
H24K				IAmb	IAmb	23 54 17.2	
comp=Z,3.5nm,1.3s							
C23K	**Itkillik River**	**63.66**	**20**	P	**P**	**23 53 59.4**	**+0.9**
C23K				IAmb	IAmb	23 53 59.5	
comp=Z,2.7nm,0.7s							
ILAR	**Eielson Array**	**63.73**	**26**	P	**P**	**23 53 58.1**	**-0.9**
ILAR	**Eielson Array**	**63.73**	**26**	P	**P**	**23 53 57.6**	**-1.4**
comp=Z,0.7nm,0.7s,baz=257,slow=5.4,SNR=8.4							
comp=Z,0.7nm,0.7s							
E24K	**Your Creek**	**63.88**	**22**	P	**P**	**23 54 00.8**	**+0.7**
KAIM	**Kayak Island**	**64.03**	**32**	P	**P**	**23 54 01.9**	**+0.8**
J25K	**Salcha River,**	**64.33**	**27**	P	**P**	**23 54 01.9**	**-1.1**
J25K				IAmb	IAmb	23 54 17.2	
comp=Z,3.6nm,1.4s							
VRDI	**Verde Repeater**	**64.67**	**30**	P	**P**	**23 54 05.3**	**-0.1**
VRDI				IAmb	IAmb	23 54 40.5	
comp=Z,5.3nm,1.2s							
D25K	**Kavik River**	**64.94**	**21**	P	**P**	**23 54 07.4**	**+0.6**
D25K				IAmb	IAmb	23 54 08.0	
comp=Z,2.1nm,0.8s							
J26L	**Joseph Creek**	**65.08**	**27**	P	**P**	**23 54 07.7**	**-0.2**
J26L				IAmb	IAmb	23 54 18.1	
comp=Z,3.4nm,1.4s							
BMAR	**Burnt Mountain**	**65.18**	**24**	P	**P**	**23 54 09.5**	**+1.1**
BCAR	**Beaver Creek A**	**65.67**	**29**	P	**P**	**23 54 12.1**	**+0.4**
LTZ	**Lake Taylor**	**66.04**	**159**	P	**P**	23 54 03.3	-11
BVAR	**Borovoye Array**	**66.26**	**320**	P	**P**	**23 54 15.2**	**-0.2**
comp=Z,1.2nm,0.4s,baz=97,slow=8.1,SNR=13							
comp=Z,1.2nm,0.4s							
BRVK	**Borovoye**	**66.32**	**320**	P	**P**	**23 54 16.1**	**+0.2**
E27K	**Coleen River**	**66.43**	**23**	P	**P**	**23 54 16.9**	**+0.6**
KKAR	**Karatay Array**	**66.52**	**310**	P	**P**	**23 54 17.5**	**+0.2**
I28M	**Miner Creek**	**66.73**	**26**	P	**P**	**23 54 18.1**	**-0.2**
E28M	**Babbage River**	**67.24**	**23**	P	**P**	**23 54 22.1**	**+0.8**
E28M				IAmb	IAmb	23 54 50.9	
comp=Z,3.6nm,1.5s							
L29M	**L29M**	**67.33**	**29**	P	**P**	**23 54 22.6**	**+0.5**
L29M				IAmb	IAmb	23 54 23.6	
comp=Z,1.8nm,0.7s							
H29M	**Whitestone**	**67.45**	**25**	P	**P**	**23 54 22.7**	**+0.1**
H29M				IAmb	IAmb	23 54 57.8	
comp=Z,5.5nm,1.5s							
HYT	**Haines Junctio**	**67.53**	**31**	P	**P**	**23 54 25.1**	**+1.7**
HYT				IAmb	IAmb	23 54 30.5	
comp=Z,3.9nm,1.1s							
G29M	**Pine Creek**	**67.64**	**25**	P	**P**	**23 54 24.3**	**+0.4**
K29M	**Barlow Dome**	**67.65**	**28**	P	**P**	**23 54 24.7**	**+0.6**
E29M	**Blow River**	**67.82**	**23**	P	**P**	**23 54 25.5**	**+0.6**
E29M				IAmb	IAmb	23 54 41.4	
comp=Z,3.8nm,1.5s							
G31M	**Satah River**	**69.12**	**25**	P	**P**	**23 54 33.4**	**+0.4**
G31M				IAmb	IAmb	23 54 33.5	
comp=Z,2.6nm,0.7s							
C36M	**Paulatuk**	**72.81**	**22**	P	**P**	**23 54 55.0**	**+0.1**
ABKAR	**Akbulak array**	**73.11**	**317**	P	**P**	**23 54 57.1**	**0.0**
ABKAR	**Akbulak array**	**73.11**	**317**	P	**P**	**23 54 57.5**	**+0.4**
ABKAR				IAmb	IAmb	23 54 57.9	
comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**78.08**	**28**	P	**P**	**23 55 25.0**	**+0.1**
comp=Z,0.5nm,0.5s,baz=291,slow=5.5,SNR=3.0							
comp=Z,0.5nm,0.5s							
ARCES	**ARCESS Array B**	**82.36**	**342**	P	**P**	**23 55 47.3**	**-0.1**
comp=Z,0.9nm,0.7s,baz=32,slow=5.6,SNR=1.2							
comp=Z,0.9nm,0.7s							
NVAR	**Mina Array Bea**	**83.33**	**52**	P	**P**	**23 55 53.5**	**+0.1**
comp=Z,1.7nm,0.7s,baz=268,slow=6.0,SNR=10							
comp=Z,1.7nm,0.7s							
FINES	**FINESS Array B**	**86.72**	**335**	P	**P**	**23 56 08.1**	**-1.1**
comp=Z,0.6nm,0.4s,baz=73,slow=4.7,SNR=19							
comp=Z,0.6nm,0.4s							
HFS	**Hagfors**	**92.23**	**338**	P	**P**	**23 56 34.7**	**-0.3**
comp=Z,0.3nm,0.4s,baz=72,slow=4.8,SNR=5.8							
comp=Z,0.3nm,0.4s							

*NEIC **13** 00:02:32.6±1.2, 0°.1N±0°.2×127°.23E±0°.08, h119km±19km, mb4.2/6, Error ellipse: s-maj=28.2km s-min=11.9km az=178.0*
*DJA **13** 00:02:32.7±0.4, 0°N±3°×12°7E±°, h113km±5km, M4.4/12, mb4.2/5, mB4.7/1, MLv4.5/12, Mw(mB)4.0/1*
*IDC **13** 00:02:37.2±4.0, 0°.01S×127°.17E, h192km±37km, mb3.5/5, mbtmp4.1/6, Error ellipse: s-maj=39.2km s-min=13.3km az=66.0*
ISC 13 00:02:31.3±0.9, 0°.17N±0°.07×127°.28E±0°.07, h131km, n27, σ1°79/33, mb4.2/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.60**	**8**	Pn	**Pn**	**00 02 52.5**	**+1.3**
TNTI				Sn	**Sn**	**00 03 06.5**	**+0.4**
TNTI	**Ternate**	**0.60**	**8**	P	**Pn**	**00 02 52.1**	**+0.9**
TNTI				S	**Sn**	**00 03 05.8**	**-0.4**
LBMI	**Labuha**	**0.83**	**165**	P	**Pn**	**00 02 54.3**	**+1.4**
LBMI				S	**Sn**	**00 03 09.1**	**-0.1**
SANI	**Sanana**	**2.56**	**210**	P	**Pn**	**00 03 12.4**	**+0.1**
KMSI	**Cibinong**	**3.33**	**277**	P	**Pn**	**00 03 23.0**	**+0.8**
GTOI	**Gorontalo**	**4.30**	**276**	P	**Pn**	**00 03 38.1**	**+3.0**
LUWI	**Luwuk**	**4.67**	**255**	Pn	**Pn**	**00 03 40.5**	**+0.4**
LUWI				Sn	**Sn**	**00 04 32.0**	**-1.4**
LUWI	**Luwuk**	**4.67**	**255**	P	**Pn**	**00 03 40.2**	**+0.2**
MRSI	**Marisa**	**5.35**	**273**	P	**Pn**	**00 03 49.6**	**+0.5**
40nm,0.5s,1μm0.2nm							
FAKI	**Fak Fak**	**5.84**	**122**	Pn	**Pn**	**00 03 57.8**	**+2.1**
TOLI2	**Tolitoli**	**6.57**	**278**		**Pn**	**00 04 06.8**	**+1.3**
BBSI	**Bau Bau**	**7.33**	**220**	P	**Pn**	**00 04 19.2**	**+3.4**
MPSI	**Mapaga**	**7.39**	**271**	P	**Pn**	**00 04 17.6**	**+1.1**
BKSI	**Bulukumba**	**8.99**	**233**	P	**Pn**	**00 04 40.9**	**+2.7**
KAPI	**Kappang**	**9.12**	**236**	Pn	**Pn**	**00 04 43.2**	**+3.4**
KAPI	**Kappang**	**9.12**	**236**	P	**Pn**	**00 04 44.1**	**+4.3**
7.8nm,0.2s,baz=63,slow=4.5,SNR=6.9							
KAPI				S	**Sn**	**00 06 20.7**	**-0.1**
13nm,0.4s,baz=60,slow=20,SNR=8.6							
FITZ	**Fitzroy Crossi**	**18.23**	**185**	P	**P**	**00 06 34.4**	**-0.1**
WB0	**Warramunga Arr**	**21.00**	**161**	P	**P**	**00 07 05.0**	**+0.4**
WB0				IAmb	IAmb	00 07 05.9	
comp=Z,5.5nm,0.7s							
WRA	**Warramunga Arr**	**21.15**	**161**	P	**P**	**00 07 05.8**	**-0.4**
WRA	**Warramunga Arr**	**21.15**	**161**	P	**P**	**00 07 06.0**	**-0.1**
comp=Z,5.5nm,0.4s,baz=340,slow=11,SNR=76							
WRA				S	**S**	**00 10 50.1**	**-4.0**
comp=Z,1.1n

DRME				*e*Sg	Sb	00 10 15.2	+1.2
BCI	**Bajram Curri**	**0.93**	**24**	P	Pg	00 10 06.3	-1.0
	baz=26						
BCI				S	Sn	00 10 21.2	-0.7
	baz=26						
BCI				AMP			
	comp=E,0.2nm,0.6s,baz=26						
PDG	**Podgorica**	**0.94**	**346**	*e*Pg	Pn	00 10 08.7	+0.2
PDG				*e*Sg	Sn	00 10 22.3	+0.3
PDG	**Podgorica**	**0.94**	**346**	*i*Pg	Pn	00 10 08.3	-0.2
PDG				*e*Sg	Sn	00 10 21.1	-0.9
VLO	**Vlora**	**1.05**	**182**	P	Pg	00 10 08.3	-1.2
	baz=178						
KBN	**Korca**	**1.29**	**133**	P	Pn	00 10 13.1	-0.3
	baz=129						
KBN				S	Sb	00 10 31.0	+0.7
	baz=129						
KBN				AMP			
	comp=N,0.1nm,0.5s,baz=129						
TREB	**Trebinje**	**1.50**	**324**	*e*Pg	Pg	00 10 18.7	+0.6
TREB				*e*Sg	Sg	00 10 39.1	+1.5
TREB	**Trebinje**	**1.50**	**324**	*e*Pg	Pb	00 10 17.6	+0.4
TREB				*e*Sg	Sb	00 10 36.8	+0.6
FNA	**Florina**	**1.56**	**117**	P	Pn	00 10 18.0	+0.9
	baz=114						
FNA				S	Sb	00 10 38.9	+0.8
	baz=114						
FNA				AMP			
	comp=E,0.0nm,0.5s,baz=114						
BRY	**Bratogost**	**1.58**	**332**	*e*Pn	Pb	00 10 18.4	-0.2
BRY				*e*Sn	Sg	00 10 39.7	-0.4
LSK	**Leskovik**	**1.58**	**149**	P	Pn	00 10 18.5	+1.1
	baz=146						
LSK				S	Sn	00 10 38.1	+0.3
	baz=146						
SRN	**Sarande**	**1.67**	**168**	P	Pn	00 10 16.7	-1.9
	baz=165						
SRN				S	Sn	00 10 40.1	+0.2
	baz=165						
UPM	**Unac-Piva**	**1.75**	**344**	*e*Sn	Sb	00 10 44.0	+0.2
SJES	**Sjenica**	**1.77**	**10**	*e*Pg	Pg	00 10 23.0	-0.4
SJES				*e*Sg	Sg	00 10 47.7	+1.3
SJES	**Sjenica**	**1.77**	**10**	*i*Pn	Pg	00 10 22.2	-1.2
SJES				*e*Sn	Sg	00 10 46.0	-0.4
KLINJ	**Klinje**	**1.80**	**337**	*e*Sn	Sb	00 10 44.8	-0.3
STON	**Ston**	**1.93**	**315**	*e*Pn	Pn	00 10 23.3	+1.1
STON				*e*Sn	Sb	00 10 48.1	-0.6
STON	**Ston**	**1.93**	**315**	*e*Pn	Pn	00 10 23.0	+0.8
STON				Sn	Sn	00 10 46.9	+0.4
STON	**Ston**	**1.93**	**315**	*e*Pn	Pn	00 10 23.3	+1.1
STON				*e*Sn	Sn	00 10 47.5	+1.1
NOCI	**Noci**	**2.02**	**250**	P	Pn	00 10 21.8	-1.6
	baz=251						
IGT	**Igoumenitsa**	**2.07**	**163**	P	Pn	00 10 24.0	-0.1
	baz=160						
IGT				S	Sn	00 10 51.6	+1.8
	baz=160						
IGT				AMP			
	comp=E,0.0nm,0.5s,baz=160						
RUDO	**Rudo**	**2.11**	**356**	*e*Pn	Pb	00 10 26.6	-1.0
RUDO				*e*Sn	Sb	00 10 53.2	-0.6
BBLS	**Lazi&#263i**	**2.35**	**357**	*e*Pn	Pb	00 10 30.8	-1.0
BBLS				*e*Sn	Sb	00 11 00.0	-0.9
MAKA	**Makarska**	**2.58**	**314**	*e*Pn	Pn	00 10 31.2	+0.1
RICI	**Ricice**	**2.67**	**319**	*i*Pn	Pn	00 10 32.7	+0.4
LKD2	**Lefkada island**	**2.85**	**162**	P	Pn	00 10 34.6	-0.2
	baz=160						
A050A	**Klekovaca**	**3.70**	**324**	*e*Pn	Pn	00 10 48.0	+1.4
A050A				*e*Sn	Sn	00 11 30.3	+0.1
DUGI	**Dugi Otok**	**4.13**	**308**	*e*Pn	Pn	00 10 52.9	+0.5
VIRC	**Vir**	**4.32**	**312**	*e*Pn	Pn	00 10 53.7	-1.2

BJI ***13*** *00:42:26.7±0.0, 19°.40N×155°.30W, h5km, mb5.0/14, mB5.6/32, Ms5.1/28, Ms7 4.8/29*
NEIC ***13*** *00:42:27.5±1.5, 19°.35N±0°.01×155°.259W±0°.009, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=148.0*
NEIC ***13*** *00:42:27.1, 19°.40N×155°.28W, h12km*
NEIC ***13*** *00:42:27.1, 19°.40N×155°.28W, h12km, Moment Tensor Solution. Duration: 2±2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.90; $M_{\theta\theta}$0.54; $M_{\phi\phi}$0.36; $M_{r\theta}$-0.54; $M_{\theta\phi}$0.38; $M_{\phi r}$-0.05; Fault plane solution: $M_0$1.02000×10^{17} NP1:ϕ_s67.33000°, δ60.60000°, λ-75.46000°. NP2:ϕ_s219.48000°, δ32.51000°, λ-114.02000°. Principal axes: T 0.9581, Plg14.0000°, Azm147.0000°; N 0.1268, Plg13.0000°, Azm240.0000°; P -1.0849, Plg71.0000°, Azm10.0000°;*
HVO ***13*** *00:42:27.1±1.0, 19°.399N±0°.010×155°.278W±0°.007, $h0^{km}$±3km, ML4.0/48, mb4.6/242(NEIC), ML3.6/37(NEIC), Mww5.3/24(NEIC) Error ellipse: s-maj=1.5km s-min=0.9km az=184.0*
IDC ***13*** *00:42:28.9±0.8, 19°.45N×155°.25W, $h0^{km}$, mb4.1/11, mbtmp4.1/11, MS4.3/63, Error ellipse: s-maj=15.7km s-min=11.9km az=141.0*
GCMT ***13*** *00:42:36.1±0.1, 19°.38N±0°.01×155°.15W±0°.01, h12km, MW5.2/156, Moment Tensor Solution. s106,c155; s156,c268; Duration: 1±0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.90±.01; $M_{\theta\theta}$0.45±.01; $M_{\phi\phi}$0.44±.01; $M_{r\theta}$0.17±.03; $M_{\theta\phi}$0.31±.01; $M_{\phi r}$-0.10±.03; Best double couple: $M_0$0.84600×10^{17} NP1:ϕ_s235.00000°, δ48.00000°, λ-76.00000°. NP2:ϕ_s35.00000°, δ44.00000°, λ-104.00000°. Principal axes: T 0.7590, Plg2.0000°, Azm315.0000°; N 0.1720, Plg10.0000°, Azm46.0000°; P -0.9320, Plg80.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 00:42:28.5±1.1, 19°.38N±0°.03×155°.27W±0°.02, h1km±6km, n765, σ1$22/711, mb4.6/136, MS4.5/78, 2C-2D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**355**		**Pg**	**00 42 28.0**	**-1.1**
SDHHI	**Sand Hill**	**0.02**	**295**		**Pg**	**00 42 28.0**	**-1.0**
BYL	**Byron's Ledge**	**0.03**	**21**	Pg	**Pg**	**00 42 28.2**	**-1.0**
WRMHI	**West Rim**	**0.04**	**316**		**Pg**	**00 42 28.9**	**-0.4**
OBL	**Observatory Le**	**0.04**	**344**		**Pg**	**00 42 28.7**	**-0.6**
HATHI	**Halema'uma'u T**	**0.04**	**14**	Pg	**Pg**	**00 42 28.4**	**-1.0**
UWB	**Uwekahuna B**	**0.04**	**354**		**Pg**	**00 42 29.1**	**-0.3**
UWE	**Uwekahuna**	**0.04**	**335**	Pg	**Pg**	**00 42 28.1**	**-1.3**
SBLHI	**Steaming Bluff**	**0.05**	**5**		**Pg**	**00 42 29.4**	**-0.1**
PUH	**Pauahi**	**0.05**	**96**	Pg	**Pg**	**00 42 29.3**	**-0.3**
PUH				IAML		00 42 29.8	
	comp=N,8μm,0.6s						
PUH				IAML		00 42 30.5	
	comp=E,25μm,0.8s						
RSD	**Rainshed**	**0.08**	**357**	Pg	**Pg**	**00 42 29.2**	**-1.0**
HLP	**Hilina Pali**	**0.09**	**202**	Pg	**Pg**	**00 42 29.3**	**-1.0**
HLP				IAML		00 42 32.0	
	comp=E,15μm,0.8s						
HLP				IAML		00 42 32.4	
	comp=N,11μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.10**	**90**	Pg	**Pg**	**00 42 29.9**	**-0.5**
STCH	**Steam Cracks**	**0.14**	**88**	Pg	**Pg**	**00 42 30.7**	**-0.5**
STCH				IAML		00 42 34.4	
	comp=N,21μm,1.0s						
STCH				IAML		00 42 34.6	
	comp=E,26μm,0.5s						
MLH	**Mauna Loa**	**0.16**	**317**		**Pg**	**00 42 30.7**	**-0.9**
MLH				IAML		00 42 34.2	
	comp=N,10μm,0.8s						
MLH				IAML		00 42 34.3	
	comp=E,10μm,0.7s						
HTC	**Hot Caves**	**0.18**	**220**		**Pg**	**00 42 31.9**	**-0.2**
JOKA	**Jonika Flow**	**0.26**	**78**		**Pg**	**00 42 31.8**	**-1.7**
JOKA				IAML		00 42 38.2	
	comp=E,7μm,2.2s						
JOKA				IAML		00 42 41.0	
	comp=N,34μm,0.8s						
HMH	**Humu'ula Sheep**	**0.30**	**318**	Pg	**Pg**	**00 42 33.2**	**-1.0**
HMH				IAML		00 42 41.4	
	comp=N,26μm,1.4s						
HMH				IAML		00 42 41.4	
	comp=E,11μm,0.7s						
MWH	**Moku'aweowe**	**0.32**	**289**	Pg	**Pg**	**00 42 34.4**	**-0.4**
MLOA	**Mauna Loa Obse**	**0.33**	**299**	Pg	**Pg**	**00 42 34.4**	**-0.4**
MLOA				IAML		00 42 43.2	
	comp=N,27μm,1.2s						
MLOA				IAML		00 42 43.4	
	comp=E,32μm,1.2s						
PAH	**Pahoa**	**0.33**	**70**	Pg	**Pg**	**00 42 34.9**	**+0.1**
KHU	**Kahuku**	**0.35**	**248**	Pg	**Pg**	**00 42 35.2**	**0.0**
KHU				IAML		00 42 44.9	
	comp=E,19μm,2.3s						
KHU				IAML		00 42 46.9	
	comp=N,11μm,0.4s						
PHO	**Puu Honuaula**	**0.38**	**74**		**Pg**	**00 42 34.8**	**-0.9**
HPO	**Honuapo**	**0.39**	**223**		**Pg**	**00 42 35.4**	**-0.6**
POHA	**Pohakuloa**	**0.45**	**327**	IAML		00 42 49.7	
	comp=N,14μm,2.0s						
POHA	**Pohakuloa**	**0.45**	**327**	Pg	**Pg**	**00 42 37.2**	**0.0**
HUH	**Hualalai**	**0.61**	**300**	Pg	**Pg**	**00 42 40.6**	**+0.4**
I59US	**HAWAII INFRASO**	**0.62**	**290**	Pg	**Pg**	**00 42 40.0**	**-0.5**
	baz=118,slow=24						
I59US				I	I	00 45 45.7	
	comp=N,0.1nm,1.0s,baz=105,slow=312,SNR=8.1						
KKH	**Kailua Kona**	**0.76**	**291**	Pg	**Pg**	**00 42 41.1**	**-1.9**
MHA	**Mahukona**	**1.00**	**324**		**Pg**	**00 42 47.6**	**-0.1**
HLK	**Haleakala**	**1.65**	**326**	Pn	**Pn**	**00 42 57.6**	**-1.3**
KPA	**Kalaupapa**	**2.41**	**319**		**Pn**	**00 43 07.7**	**-1.5**
DHH	**Diamond Head**	**3.02**	**309**	Pn	**Pn**	**00 43 17.4**	**-0.2**
HON	**Honolulu**	**3.21**	**308**		**Pn**	**00 43 18.3**	**-1.8**
KIP	**Kipapa**	**3.28**	**309**		**Pn**	**00 43 19.1**	**-1.9**
KEKH	**Kekaha**	**4.90**	**303**		**Pn**	**00 43 40.9**	**-2.4**
JOHN	**Johnston Islan**	**13.81**	**261**	Pn	**Pn**	**00 45 43.1**	**-2.5**
SNCC	**San Nicolas Is**	**34.71**	**59**	P	**P**	**00 49 18.3**	**-1.9**
	baz=256						
SCZ2	**Santa Cruz Isl**	**34.81**	**58**	P	**P**	**00 49 18.5**	**-2.6**
	baz=254						
SBC	**Santa Barbara**	**34.87**	**57**	P	**P**	**00 49 19.7**	**-1.9**
	baz=254						
SMMC	**Simmler**	**34.91**	**56**	P	**P**	**00 49 21.7**	**-0.2**
	baz=252						
PKM	**Mcpherson Peak**	**34.92**	**56**	P	**P**	**00 49 21.4**	**-0.8**
	baz=253						
NIKH	**Nikolski High**	**35.15**	**346**	P	**P**	**00 49 22.1**	**-1.5**
	baz=157						
SCI2	**San Clemente I**	**35.44**	**60**	P	**P**	**00 49 26.3**	**-0.2**
	baz=257						
UNV	**Unalaska Valle**	**35.47**	**349**	P	**P**	**00 49 26.7**	**+0.2**
	baz=162						
YBH	**Yreka Blue Hor**	**35.48**	**44**	LR	LR	00 59 47.0	
	comp=N,327nm,22.0s,baz=236,slow=29						
CHNA	**Chernbura Isl**	**35.54**	**356**	P	**P**	**00 49 26.4**	**-0.6**
	baz=173						
H11N3	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	01 26 35.6	
	baz=84,slow=73,SNR=51						
H11N2	**WAKE ISLAND Hy**	**35.60**	**277**	T	T	01 26 37.6	
	baz=84,slow=73,SNR=38						
H11N1	**WAKE ISLAND Hy**	**35.61**	**277**	T	T	01 26 37.3	
	baz=84,slow=73,SNR=26						
CIS	**Catalina Islan**	**35.65**	**59**	P	**P**	**00 49 27.6**	**-0.7**
	baz=256						
VOG	**Valley Oaks Go**	**35.69**	**54**	P	**P**	**00 49 28.5**	**-0.1**
	baz=252						
OSI	**Osito Audit: C**	**35.71**	**57**	P	**P**	**00 49 28.7**	**-0.1**
	baz=254						
ARVC	**Arvin**	**35.76**	**56**	P	**P**	**00 49 29.2**	**0.0**
	baz=254						
VES	**Vestal, Richgr**	**35.77**	**55**	P	**P**	**00 49 30.1**	**+0.8**
	baz=252						
FMP	**Fort Macarthur**	**35.82**	**59**	P	**P**	**00 49 29.3**	**-0.4**
	baz=256						
DECC	**Green Verdugo**	**35.92**	**58**	P	**P**	**00 49 30.7**	**0.0**
	baz=255						
H11S2	**WAKE ISLAND Hy**	**35.93**	**275**	T	T	01 26 59.6	
	baz=82,slow=74,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**35.93**	**275**	T	T	01 27 00.4	
	baz=82,slow=74,SNR=4.7						
H11S3	**WAKE ISLAND Hy**	**35.95**	**275**	T	T	01 27 11.2	
	baz=82,slow=74,SNR=6.6						
SDPT	**Sand Point**	**36.13**	**355**	P	**P**	**00 49 32.9**	**+0.9**
	baz=172						
ISA	**Isabella, Lake**	**36.19**	**56**	P	**P**	**00 49 33.3**	**+0.3**
	baz=253						
EDW2	**Edwards Air Fo**	**36.36**	**57**	P	**P**	**00 49 35.0**	**+0.6**
	baz=255						
CHIR	**Chirikof Islan**	**36.38**	**360**	P	**P**	**00 49 35.6**	**+1.4**
	baz=179						
BFSC	**Mount Baldy Ra**	**36.46**	**58**	P	**P**	**00 49 33.7**	**-1.7**
	baz=256						
MLAC	**Mammoth, Mammo**	**36.53**	**52**	P	**P**	**00 49 35.5**	**-0.6**
	baz=250						
109C	**Camp Elliot, M**	**36.61**	**61**	P	**P**	**00 49 37.5**	**+1.0**
	baz=258						
MURC	**Murrieta**	**36.69**	**59**	P	**P**	**00 49 37.2**	**-0.1**
	baz=257						
CWC	**Cottonwood Cre**	**36.73**	**55**	P	**P**	**00 49 38.6**	**+0.9**
	baz=253						
LRMC	**Laurel Mtn Rad**	**36.76**	**56**	P	**P**	**00 49 38.5**	**+0.5**
	baz=254						
TIN	**Tinemaha, Big**	**36.80**	**54**	P	**P**	**00 49 39.6**	**+1.3**
	baz=252						
CHGN	**Chignik**	**36.94**	**357**	P	**P**	**00 49 40.9**	**+2.0**
	baz=175						
S14K	**Fog Glacier**	**36.99**	**356**	P	**P**	**00 49 41.3**	**+1.8**
	baz=173						
BBRC	**Big Bear Solar**	**37.06**	**59**	P	**P**	**00 49 41.7**	**+1.1**
	baz=256						
MPMC	**Manual Prospec**	**37.07**	**55**	P	**P**	**00 49 41.9**	**+1.2**
	baz=254						
SII	**Sitkinak Islan**	**37.13**	**1**	P	**P**	**00 49 42.5**	**+1.9**
	baz=182						
PPT	**Papeete**	**37.14**	**171**	LR	LR	01 01 13.1	
	comp=N,1μm,19.9s,baz=358,slow=30						
RRX	**Edison Barstow**	**37.15**	**58**	P	**P**	**00 49 42.8**	**+1.7**
	baz=256						
PPT2	**Papeete2**	**37.16**	**171**	*e*PKIKP	**P**	**00 49 42.0**	**+0.7**
	comp=N,94nm,25.8s						
PPT2				*e*S	**S**	**00 55 28.9**	**-0.1**
	comp=N,380nm,25.0s						
PPT2				*e*LQ	LQ	00 57 56.2	
	comp=N,466nm,22.2s						
PPT2				*e*LR	LR	00 59 36.7	
	comp=N,3μm,30.8s						
PPT2				*e*LR	LR	00 59 37.3	
	comp=N,3μm,25.2s						
MONP2	**Monument Peak**	**37.17**	**61**	P	**P**	**00 49 42.6**	**+1.1**
	baz=258						
NVAR	**Mina Array Bea**	**37.20**	**51**	P	**P**	**00 49 41.3**	**-0.4**
	comp=N,0.7nm,0.8s,baz=244,slow=11,SNR=8.3						
NVAR				PcP	**PcP**	**00 52 02.4**	**+0.5**
	comp=N,0.5nm,0.7s,baz=207,slow=3.8,SNR=3.1						
NVAR				LR	LR	01 02 28.4	
	comp=N,282nm,20.6s,baz=268,slow=32						
	comp=N,0.7nm,0.8s						
PFO	**Pinyon Flats O**	**37.29**	**60**	P	**P**	**00 49 41.7**	**-0.7**
PFO				IAmb	IAmb	00 49 52.9	
	comp=Z,17nm,1.4s						
PFO	**Pinyon Flats O**	**37.29**	**60**	P	**P**	**00 49 42.5**	**0.0**
	baz=258						
PFO	**Pinyon Flats O**	**37.29**	**60**	LR	LR	01 01 28.3	
	comp=Z,257nm,18.2s,baz=268,slow=31						
TPFO	**Pinon Flats**	**37.29**	**60**	P	**P**	**00 49 43.3**	**+0.8**
	baz=258						
H04A	**Detroit Lake**	**37.31**	**40**	P	**P**	**00 49 40.5**	**-1.8**
H04A				IAmb	IAmb	00 50 28.3	
	comp=Z,30nm,1.6s						
NV11	**Mina Array Sit**	**37.31**	**51**	P	**P**	**00 49 41.2**	**-1.4**
NV11				IAmb	IAmb	00 49 58.9	
	comp=Z,16nm,1.5s						
RADR	**Rader Ridge**	**37.33**	**37**	P	**P**	**00 49 39.8**	**-2.7**
PMD	**Palm Desert**	**37.36**	**60**	P	**P**	**00 49 42.3**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**37.38**	**61**	P	**P**	**00 49 43.3**	**+0.1**
	baz=259						
ESJX	**Sierra Juarez**	**37.40**	**62**	P	**P**	**00 49 43.3**	**-0.2**
ESJX				IAmb	IAmb	00 50 15.7	
	comp=Z,19nm,2.0s						
GSC	**Goldstone, Bar**	**37.41**	**57**	P	**P**	**00 49 43.1**	**-0.3**
GSC	**Goldstone, Bar**	**37.41**	**57**	P	**P**	**00 49 43.2**	**-0.2**
	baz=255						
GRAC	**Grapevine Rang**	**37.44**	**54**	P	**P**	**00 49 42.9**	**-0.7**
GRAC	**Grapevine Rang**	**37.44**	**54**	P	**P**	**00 49 43.4**	**-0.2**
	baz=252						
E03A	**Lebam**	**37.53**	**37**	P	**P**	**00 49 42.9**	**-1.2**
YUH	**Yuha Desert**	**37.54**	**61**	P	**P**	**00 49 44.8**	**+0.4**
KVN	**Kaiserville**	**37.56**	**51**	P	**P**	**00 49 44.0**	**-0.7**
F04D	**Rainier, OR**	**37.58**	**38**	P	**P**	**00 49 41.1**	**-3.5**
PINE	**Pine Mountain**	**37.63**	**42**	P	**P**	**00 49 44.3**	**-0.9**
HEC	**Hector,Ludlow**	**37.66**	**58**	P	**P**	**00 49 45.9**	**+0.3**
	baz=256						
FURC	**Furnace Creek,**	**37.67**	**55**	P	**P**	**00 49 44.7**	**-0.8**
	baz=254						
SWSC	**Sam W. Stewart**	**37.69**	**61**	P	**P**	**00 49 43.7**	**-2.0**
	baz=259						
BELC	**Belle Mtn. Jos**	**37.75**	**59**	P	**P**	**00 49 43.3**	**-3.0**
	baz=257						
OHAK	**Old Harbor**	**37.82**	**2**	P	**P**	**00 49 45.3**	**-1.1**
OHAK				IAmb	IAmb	00 49 51.9	
	comp=Z,13nm,1.2s						
OHAK	**Old Harbor**	**37.82**	**2**	P	**P**	**00 49 44.9**	**-1.5**
	baz=183						
C03A	**Quillayute Air**	**37.83**	**34**	P	**P**	**00 49 45.6**	**-1.0**
HG4B	**Hotspring**	**37.84**	**24**	P	**P**	**00 49 44.9**	**-1.9**
SHOC	**Shoshone, Teco**	**37.98**	**56**	P	**P**	**00 49 47.0**	**-1.1**
	baz=255						
BC3	**Big Chuckawall**	**38.12**	**60**	P	**P**	**00 49 48.2**	**-1.3**
	baz=258						
R18K	**Karluk**	**38.14**	**1**	P	**P**	**00 49 49.9**	**+0.8**
	baz=181						
TUQ	**Turquoise Moun**	**38.14**	**57**	P	**P**	**00 49 48.6**	**-1.0**
	baz=256						
GMRC	**Granite Mounta**	**38.19**	**58**	P	**P**	**00 49 49.5**	**-0.6**
	baz=257						
R17L	**Mt. Peulik Vol**	**38.21**	**359**	P	**P**	**00 49 49.5**	**-0.3**
	baz=178,SNR=5.9						
TPNV	**Topopah Spring**	**38.28**	**55**	P	**P**	**00 49 50.5**	**-0.4**
	baz=254						
KDAK	**Kodiak Island**	**38.40**	**2**	P	**P**	**00 49 51.3**	**0.0**
	baz=184						
KDAK	**Kodiak Island**	**38.40**	**2**	LR	LR	01 01 56.7	
	comp=Z,874nm,21.5s,baz=208,slow=30						
IRM	**Iron Mountain**	**38.47**	**59**	P	**P**	**00 49 51.8**	**-0.5**
	baz=258						
GLA	**Glamis**	**38.52**	**61**	P	**P**	**00 49 51.1**	**-1.7**
	baz=260						
Q17K	**Contact Creek**	**38.83**	**359**	P	**P**	**00 49 55.4**	**+0.3**
	baz=179						
SHPR	**Sheep Range**	**39.01**	**56**	P	**P**	**00 49 55.6**	**-1.3**
BBB	**Bella Bella**	**39.01**	**27**	LR	LR	01 02 01.4	
	comp=Z,207nm,18.6s,baz=190,slow=30						
J08A	**Circle Bar Ran**	**39.01**	**44**	P	**P**	**00 49 55.4**	**-1.5**
NEE2	**Needles Airpor**	**39.03**	**58**	P	**P**	**00 49 55.4**	**-1.6**
	baz=258						
V12A	**Nelson**	**39.06**	**57**	P	**P**	**00 49 57.0**	**-0.3**
V12A				IAmb	IAmb	00 50 08.2	
	comp=Z,20nm,1.6s						
R11B	**Troy Canyon, C**	**39.19**	**53**	P	**P**	**00 49 56.7**	**-1.8**
R11B	**Troy Canyon, C**	**39.19**	**53**	P	**P**	**00 49 57.9**	**-0.6**
	baz=252						
Q18K	**Katmai Hardscr**	**39.22**	**0**	P	**P**	**00 49 58.1**	**-0.2**
	baz=180						
Q20K	**Shuyak Island**	**39.23**	**2**	P	**P**	**00 49 58.7**	**+0.4**
	baz=184						
SYI	**Shuyak Island**	**39.23**	**2**	P	**P**	**00 49 56.3**	**-2.0**
SYI				IAmb	IAmb	00 50 04.0	
	comp=Z,13nm,0.9s						
Q16K	**King Salmon**	**39.26**	**359**	P	**P**	**00 50 00.0**	**+1.5**
	baz=178						
F07A	**Phinny Hill Vi**	**39.30**	**40**	P	**P**	**00 49 57.6**	**-1.5**
F07A				IAmb	IAmb	00 50 43.0	
	comp=Z,25nm,1.7s						
PDMCI	**Parker Dam,Lak**	**39.32**	**59**	P	**P**	**00 49 59.5**	**+0.2**
	baz=258						
PRN	**Pahroc Range**	**39.33**	**54**	P	**P**	**00 49 59.2**	**-0.4**
PRN				IAmb	IAmb	00 51 03.9	
	comp=Z,6.8nm,0.4s						
PIX	**Pinacate**	**39.43**	**64**	P	**P**	**00 50 00.1**	**-0.2**
MXC	**Moxie City**	**39.43**	**39**	P	**P**	**00 49 58.4**	**-1.8**
MXC				IAmb	IAmb	00 50 01.5	
	comp=Z,28nm,1.9s						
Q19K	**Cape Douglas,**	**39.52**	**1**	P	**P**	**00 50 01.5**	**+0.8**
	baz=182						
LTY	**Liberty**	**39.58**	**37**	P	**P**	**00 50 00.7**	**-0.7**
LTY				IAmb	IAmb	00 51 00.3	
	comp=Z,7.6nm,0.6s						
G08A	**Pilot Rock**	**39.59**	**41**	P	**P**	**00 50 01.4**	**-0.2**
P16K	**Nushagak River**	**39.65**	**358**	P	**P**	**00 50 02.8**	**+1.1**
	baz=176						
E07A	**Sunnyside**	**39.68**	**39**	P	**P**	**00 49 59.9**	**-2.4**
E07A				IAmb	IAmb	00 50 09.2	
	comp=Z,29nm,1.8s						
CRAG	**Craig**	**39.73**	**20**	P	**P**	**00 50 00.7**	**-1.8**
CRAG	**Craig**	**39.73**	**20**	P	**P**	**00 50 03.6**	**+1.2**
	baz=214						
P17K	**Kvichak River**	**39.77**	**359**	P	**P**	**00 50 04.3**	**+1.5**
	baz=178						
HAWA	**Hanford**	**39.79**	**39**	P	**P**	**00 50 01.4**	**-1.8**
RUBB	**Prince Rupert**	**39.79**	**23**	P	**P**	**00 50 01.6**	**-1.3**
RUBB				IAmb	IAmb	00 51 25.6	
	comp=Z,21nm,1.3s						
O15K	**Ungalikthiuk R**	**39.88**	**356**	P	**P**	**00 50 04.6**	**+0.8**
	baz=173						
P18K	**Big Mountain,**	**39.96**	**0**	P	**P**	**00 50 03.7**	**-0.8**
P18K	**Big Mountain,**	**39.96**	**0**	P	**P**	**00 50 05.0**	**+0.5**
	baz=180						
214A	**Organ Pipe Nat**	**40.03**	**63**	P	**P**	**00 50 04.7**	**-0.7**
214A	**Organ Pipe Nat**	**40.03**	**63**	P	**P**	**00 50 04.7**	**-0.7**
	baz=262						
O14K	**Tigyukauivet M**	**40.06**	**355**	P	**P**	**00 50 04.0**	**-1.2**
O14K	**Tigyukauivet M**	**40.06**	**355**	P	**P**	**00 50 06.0**	**+0.9**
	baz=171						
V35K	**Ketchikan**	**40.11**	**21**		**P**	**00 50 06.0**	**+0.4**
V35K				IAmb	IAmb	00 50 13.2	
	comp=Z,35nm,1.8s						
V35K	**Ketchikan**	**40.11**	**21**	P	**P**	**00 50 06.8**	**+1.2**
	baz=216						
E08A	**Dider Farm, El**	**40.12**	**39**	P	**P**	**00 50 05.4**	**-0.4**
SRIG	**Santa Rosalia**	**40.13**	**70**	P	**P**	**00 50 07.0**	**+0.7**
CNPM	**China Poot**	**40.20**	**3**	P	**P**	**00 50 06.7**	**+0.3**
CNPM				IAmb	IAmb	00 51 12.6	
	comp=Z,15nm,1.2s						
ELK	**Elko**	**40.21**	**49**		**P**	**00 50 07.5**	**+0.5**
ELK				IAmb	IAmb	00 50 23.9	
	comp=Z,20nm,1.9s						
O16K	**Kokwok River B**	**40.22**	**358**	P	**P**	**00 50 05.5**	**-1.0**
O16K				IAmb	IAmb	00 50 46.4	
	comp=Z,34nm,1.9s						
O16K	**Kokwok River B**	**40.22**	**358**	P	**P**	**00 50 06.7**	**+0.2**

MFID	Camas Ranch	40.79	45	P	P	00 50 11.4	-0.3	
SZCU	Shurtz Canyon	40.89	55	P	P	00 50 12.9	+0.3	
SZCU				IAmb	IAmb	00 50 47.1		
comp=Z,18nm,1.9s								
N15K	Kwethluk River	40.89	356	P	P	00 50 07.3	-4.8	
N15K	Kwethluk River	40.89	356	P	P	00 50 10.6	-1.5	
baz=173								
SEW	Seward	40.89	4	P	P	00 50 11.7	-0.3	
SEW				IAmb	IAmb	00 50 37.7		
comp=Z,10.0nm,0.8s								
SEW	Seward	40.89	4	P	P	00 50 12.4	+0.4	
baz=188								
SHEM	Shemya Is, Ala	40.90	332	LR	LR	01 03 43.2		
comp=Z,904nm,21.4s,baz=156,slow=31								
B08A	Colville Reser	40.93	37	P	P	00 50 11.4	-1.2	
KNB	Kanab	40.95	56	P	P	00 50 12.9	-0.2	
P23K	Montague Islan	40.96	6	P	P	00 50 13.7	+1.1	
baz=191								
F10A	Beach Ranch, E	40.98	41	P	P	00 50 12.3	-0.9	
F10A				IAmb	IAmb	00 50 19.4		
comp=Z,16nm,1.4s								
S31K	Pelican	40.99	15	P	P	00 50 10.3	-2.6	
S31K	Pelican	40.99	15	P	P	00 50 13.5	+0.6	
baz=208								
S32K	Killisnoo	41.00	17	P	P	00 50 11.8	-1.2	
S32K	Killisnoo	41.00	17	P	P	00 50 13.0	+0.1	
baz=210								
RSO	Redoubt South	41.08	2	P	P	00 50 13.0	-0.9	
U35K	Hyder	41.12	21	P	P	00 50 13.4	-0.5	
U35K	Hyder	41.12	21	P	P	00 50 14.2	+0.3	
baz=218								
N16K	Nishlik Lake	41.12	357	P	P	00 50 15.0	+1.0	
baz=175								
N17K	Nushagak Hills	41.12	359	P	P	00 50 12.9	-1.1	
N17K	Nushagak Hills	41.12	359	P	P	00 50 13.9	-0.1	
baz=177								
U15A	North Rim	41.23	57	P	P	00 50 15.3	-0.3	
U15A				IAmb	IAmb	00 50 26.4		
comp=Z,21nm,1.8s								
KAIM	Kayak Island	41.24	8	P	P	00 50 16.0	+1.1	
baz=196								
O22K	Cooper Landing	41.25	4	P	P	00 50 13.6	-1.4	
O22K	Cooper Landing	41.25	4	P	P	00 50 15.8	+0.8	
baz=188								
N18K	Kilae Creek	41.26	360	P	P	00 50 14.4	-0.7	
N18K				IAmb	IAmb	00 50 20.4		
comp=Z,14nm,1.1s								
N18K	Kilae Creek	41.26	360	P	P	00 50 16.3	+1.2	
baz=179								
HSIG		41.35	68	P	P	00 50 13.7	-2.6	
M13K	Dall Lake	41.39	354	P	P	00 50 13.8	-2.4	
N19K	Bonanza Creek	41.39	1	P	P	00 50 15.4	-0.9	
N19K	Bonanza Creek	41.39	1	P	P	00 50 15.9	-0.4	
baz=181,SNR=13								
CAPN	Captain Cook N	41.45	3	P	P	00 50 17.6	+1.1	
baz=186								
HIN	Hinchinbrook I	41.45	7	P	P	00 50 14.0	-2.7	
HIN				IAmb	IAmb	00 50 22.5		
comp=Z,19nm,1.0s								
PKCU	Pink Cliffs	41.45	55	P	P	00 50 16.2	-1.2	
M15K	Kasigluk River	41.45	356	P	P	00 50 17.0	+0.4	
baz=172								
SUCK	Suckling Hills	41.47	9	P	P	00 50 16.4	-0.4	
R31K	City Hall, Gus	41.52	15	P	P	00 50 16.8	-0.4	
baz=208								
BGLC	Bering Glacier	41.59	9	P	P	00 50 17.1	-0.7	
baz=197								
M14K	Bethel	41.60	355	P	P	00 50 15.6	-2.2	
M14K	Bethel	41.60	355	P	P	00 50 18.0	+0.2	
baz=170								
TCRU	Three Creeks R	41.63	53	P	P	00 50 16.8	-2.0	
TCRU				IAmb	IAmb	00 50 29.8		
comp=Z,30nm,1.8s								
YKU2	Yakutat	41.64	12	P	P	00 50 15.0	-3.1	
RAGM	Ragged Mountai	41.66	8	P	P	00 50 16.1	-2.3	
RAGM				IAmb	IAmb	00 50 36.4		
comp=Z,17nm,1.0s								
HMT	Hamilton	41.66	8	P	P	00 50 17.7	-0.8	
HMT				IAmb	IAmb	00 50 28.0		
comp=Z,23nm,1.3s								
EYAK	Cordova Ski Ar	41.68	7	P	P	00 50 17.2	-1.3	
EYAK				IAmb	IAmb	00 50 23.2		
comp=Z,22nm,1.1s								
EYAK	Cordova Ski Ar	41.68	7	P	P	00 50 19.1	+0.6	
baz=194								
M16K	Timber Creek	41.68	357	P	P	00 50 20.4	+1.9	
baz=175								
MTPU	Mount Pierson	41.69	54	P	P	00 50 17.6	-1.8	
MTPU				IAmb	IAmb	00 50 39.0		
comp=Z,18nm,1.7s								
R32K	Eaglecrest	41.71	16	P	P	00 50 17.4	-1.5	
R32K				IAmb	IAmb	00 50 24.3		
comp=Z,18nm,1.3s								
R32K	Eaglecrest	41.71	16	P	P	00 50 19.9	+1.1	
baz=210								
SNH	Sunshine Point	41.72	9	P	P	00 50 17.5	-1.4	
JIS	Juneau Island	41.75	16	P	P	00 50 18.1	-1.0	
JIS				IAmb	IAmb	00 50 24.7		
comp=Z,18nm,1.4s								
TUC	Tucson	41.78	63	P	P	00 50 20.8	+0.9	
TUC	Tucson	41.78	63	P	P	00 50 18.1	-1.8	
baz=263								
WUAZ	Wupatki	41.78	58	P	P	00 50 20.1	+0.2	
WUAZ	Wupatki	41.78	58	P	P	00 50 17.7	-2.3	
baz=259								
MVU	Marysvale	41.78	54	P	P	00 50 19.2	-0.8	
DUG	Dugway, Tooele	41.80	51	P	P	00 50 19.5	-0.5	
DUG	Dugway, Tooele	41.80	51	P	P	00 50 18.7	-1.2	
baz=253								
HLID	Hailey	41.80	46	P	P	00 50 19.1	-0.9	
HLID	Hailey	41.80	46	P	P	00 50 18.8	-1.2	
baz=248								
FID	Port Fidalgo	41.80	6	P	P	00 50 17.2	-2.3	
FID				IAmb	IAmb	00 50 35.5		
comp=Z,11nm,0.9s								
MSU	Marysvale	41.81	54	P	P	00 50 19.3	-0.9	
SPU	Mount Spurr	41.82	2	P	P	00 50 18.4	-1.4	
N20K	Mount Spurr	41.83	2	P	P	00 50 18.6	-1.3	
baz=184								
SPCR	Spurr Chakacha	41.83	2	P	P	00 50 14.0	-5.9	
baz=184								
PNL	Peninsula	41.84	12	P	P	00 50 19.0	-0.8	
baz=203								
RC01	Rabbit Creek A	41.85	4	P	P	00 50 19.1	-0.8	
RC01				IAmb	IAmb	00 50 24.4		
comp=Z,18nm,1.2s								
RC01	Rabbit Creek A	41.85	4	P	P	00 50 20.3	+0.3	
baz=188								
MESA	MESA	41.85	10	P	P	00 50 18.7	-1.5	
MESA				IAmb	IAmb	00 50 26.4		
comp=Z,15nm,1.0s								
MESA	MESA	41.85	10	P	P	00 50 20.1	-0.2	
baz=199								
BGU	Big Grassy Mou	41.86	50	P	P	00 50 19.7	-0.8	
GLI	Glacier Island	41.86	6	P	P	00 50 18.8	-1.2	
GLI				IAmb	IAmb	00 50 24.8		
comp=Z,14nm,1.0s								
GLI	Glacier Island	41.86	6	P	P	00 50 21.0	+1.0	
baz=192								
FIS	Fire Island	41.87	4		P	00 50 18.4	-1.7	
BESE	Bessie Mountai	41.89	16	P	P	00 50 18.5	-1.9	
BESE				IAmb	IAmb	00 50 26.3		
comp=Z,20nm,1.3s								
T35M	Bob Quinn	41.90	20	P	P	00 50 19.2	-1.2	
T35M				IAmb	IAmb	00 50 42.4		
comp=Z,17nm,1.6s								
T35M	Bob Quinn	41.90	20	P	P	00 50 19.7	-0.7	
baz=217								
LPIG	La Paz	41.90	75	LR	LR	01 02 49.9		
comp=Z,389nm,21.2s,baz=263,slow=29								
WAX	Waxell Ridge	41.97	9	P	P	00 50 20.3	-0.7	
M17K	Holitna River	42.01	358	P	P	00 50 20.5	-0.7	
M17K				IAmb	IAmb	00 50 25.9		
comp=Z,19nm,1.3s								
M17K	Holitna River	42.01	358	P	P	00 50 23.4	+2.2	
baz=177								
BCPM	Bancas Point	42.05	12	P	P	00 50 19.8	-1.8	
PCA	Pinnacle	42.07	11	P	P	00 50 21.5	-0.3	
PCA				IAmb	IAmb	00 50 27.6		
comp=Z,13nm,0.7s								
M18K	Stony River	42.07	360	P	P	00 50 22.1	+0.4	
baz=179,SNR=7.3								
PINM	Pinnacle	42.07	11	P	P	00 50 21.8	0.0	
baz=201								
P29M	Windy Craggy	42.14	13	P	P	00 50 22.0	-0.4	
P29M				IAmb	IAmb	00 50 28.3		
comp=Z,15nm,1.3s								
P29M	Windy Craggy	42.14	13	P	P	00 50 22.4	0.0	
baz=205								
NEW	Newport	42.14	38	P	P	00 50 21.4	-1.2	
NEW	Newport	42.14	38	P	P	00 50 21.7	-0.9	
baz=240								
NEW	Newport	42.14	38	LR	LR	01 03 43.6		
comp=Z,130nm,20.8s,baz=246,slow=30								
SUA	Susitna One	42.16	3	P	P	00 50 20.9	-1.8	
SUA				IAmb	IAmb	00 50 27.4		
comp=Z,18nm,1.1s								
SUA	Susitna One	42.16	3	P	P	00 50 22.6	0.0	
baz=186,SNR=10.0								
ISLE	Juniper Island	42.20	9	P	P	00 50 22.8	-0.1	
ISLE				IAmb	IAmb	00 50 28.6		
comp=Z,21nm,1.1s								
CRQM	Cirque	42.22	9	P	P	00 50 22.0	-1.2	
CRQM				IAmb	IAmb	00 50 28.7		
comp=Z,16nm,1.1s								
CRQE	Cirque	42.23	9	P	P	00 50 23.3	+0.1	
baz=197								
BMRM	Bremner River	42.23	8	P	P	00 50 22.4	-0.6	
BMRM				IAmb	IAmb	00 50 44.5		
comp=Z,9.8nm,1.1s								
BMRM	Bremner River	42.23	8	P	P	00 50 23.8	+0.7	
baz=195								
TABL	Table Mountain	42.24	10	P	P	00 50 22.1	-1.2	
TABL				IAmb	IAmb	00 50 38.8		
comp=Z,7.9nm,0.7s								
L14K	Kuka Creek	42.24	355	P	P	00 50 24.6	+1.5	
baz=170								
DIV	Divide	42.24	7	P	P	00 50 22.6	-0.7	
KNK	Knik Glacier	42.27	5	P	P	00 50 22.3	-1.1	
KNK				IAmb	IAmb	00 50 28.2		
comp=Z,12nm,1.0s								
KNK	Knik Glacier	42.27	5	P	P	00 50 23.9	+0.5	
baz=190								
TGL	Tana Glacier	42.27	9	P	P	00 50 22.2	-1.3	
NLU	North Lily Min	42.27	51	P	P	00 50 21.9	-2.1	
PLBC	Pleasant Camp	42.29	14	P	P	00 50 22.7	-0.8	
baz=207								
HVU	Hansel Valley	42.31	49	P	P	00 50 24.6	+0.4	
HVU				IAmb	IAmb	00 50 34.5		
comp=Z,8.2nm,0.9s								
S34M	Telegraph Cree	42.37	19	P	P	00 50 24.4	+0.1	
S34M	Telegraph Cree	42.37	19	P	P	00 50 22.9	-1.3	
baz=215								
PMR	Palmer	42.39	4	P	P	00 50 22.6	-1.7	
PMR				IAmb	IAmb	00 50 38.3		
comp=Z,24nm,1.5s								
PMR	Palmer	42.39	4	P	P	00 50 24.2	-0.1	
baz=189								
L16K	Owhat River	42.39	357	P	P	00 50 23.1	-1.2	
L16K				IAmb	IAmb	00 50 29.2		
comp=Z,15nm,1.2s								
L16K	Owhat River	42.39	357	P	P	00 50 22.9	-1.4	
baz=174								
SPUT	South Promonto	42.39	49	P	P	00 50 24.7	-0.2	
SPUT				IAmb	IAmb	00 50 41.6		
comp=Z,20nm,1.6s								
GRNC	Granite Creek	42.41	10	P	P	00 50 23.7	-1.1	
GRNC				IAmb	IAmb	00 50 30.2		
comp=Z,15nm,1.2s								
L15K	Ungalak Mounta	42.48	356	P	P	00 50 23.0	-2.0	
baz=171								
M22K	Willow	42.49	4	P	P	00 50 25.2	+0.1	
M22K	Willow	42.49	4	P	P	00 50 24.8	-0.3	
baz=187								
M19K	Big River Lodg	42.49	1	P	P	00 50 23.7	-1.4	
baz=181								
M20K	Styx River	42.49	2	P	P	00 50 23.2	-2.0	
M20K	Styx River	42.49	2	P	P	00 50 25.0	-0.2	
baz=183,SNR=5.7								
SKAG	Skagway	42.54	15	P	P	00 50 25.7	+0.1	
SKAG				IAmb	IAmb	00 51 42.1		
comp=Z,6.0nm,0.7s								
SKAG	Skagway	42.54	15	P	P	00 50 25.2	-0.4	
baz=208								
KLU	Klutina	42.58	7	P	P	00 50 24.3	-1.7	
KLU	Klutina	42.58	7	P	P	00 50 25.3	-0.7	
baz=193								
O29M	Mount Kennedy	42.58	12	P	P	00 50 25.0	-1.1	
O29M				IAmb	IAmb	00 51 37.6		
comp=Z,6.2nm,0.6s								
O29M	Mount Kennedy	42.58	12	P	P	00 50 25.1	-1.0	
baz=204								
GHO	Glory Hole Cre	42.59	4	P	P	00 50 25.9	-0.1	
GHO				IAmb	IAmb	00 50 37.9		
comp=Z,9.7nm,1.0s								
MPU	Maple Canyon	42.61	52	P	P	00 50 25.4	-1.3	
LOGN	Logan Glacier	42.62	10	P	P	00 50 25.0	-1.5	
LOGN				IAmb	IAmb	00 50 32.0		
comp=Z,18nm,1.3s								
VRDI	Verde Repeater	42.63	8	P	P	00 50 24.7	-1.8	
VRDI				IAmb	IAmb	00 51 01.4		
comp=Z,20nm,1.8s								
SKT	Skwentna	42.64	3	P	P	00 50 25.2	-1.2	
SKT				IAmb	IAmb	00 50 30.8		
comp=Z,15nm,1.2s								
SKT	Skwentna	42.64	3	P	P	00 50 26.5	+0.1	
baz=185,SNR=7.1								
SML	Sawmill	42.66	5	P	P	00 50 25.7	-1.0	
SML				IAmb	IAmb	00 50 31.4		
comp=Z,14nm,1.0s								
SML	Sawmill	42.66	5	P	P	00 50 26.2	-0.4	
baz=190,SNR=6.3								
Q16A	Castle Valley	42.67	53	P	P	00 50 25.6	-1.6	
CTG	Chitna Glacier	42.70	10	P	P	00 50 26.9	-0.1	
baz=200								
CTGM	Chitina Glacie	42.70	10	P	P	00 50 26.9	-0.2	
CTGM				IAmb	IAmb	00 50 36.6		
comp=Z,15nm,1.0s								
M23K	Glacier View	42.70	5	P	P	00 50 25.9	-1.0	
baz=190								
O28M	Mount Upton	42.71	11	P	P	00 50 25.5	-1.8	
baz=201,SNR=5.2								
CTU	Camp Tracy	42.72	51	P	P	00 50 26.5	-1.0	
TMUT	Trail Mountain	42.74	53	P	P	00 50 28.5	+0.6	
TMUT				IAmb	IAmb	00 51 01.4		
comp=Z,22nm,1.9s								
P30M	Million Dollar	42.76	13	P	P	00 50 26.3	-1.1	
baz=206								
L19K	White Mountain	42.76	0	P	P	00 50 26.9	-0.5	
L19K				IAmb	IAmb	00 50 31.8		
comp=Z,17nm,1.1s								
L19K	White Mountain	42.76	0	P	P	00 50 28.1	+0.7	
baz=181,SNR=11								
L17K	Donlin	42.77	358	P	P	00 50 27.7	+0.3	
baz=176								
X18A	Snowflake	42.77	60	P	P	00 50 27.7	-0.4	
X18A				IAmb	IAmb	00 50 33.5		
comp=Z,13nm,1.4s								
HMU	Henry Mountain	42.77	55	P	P	00 50 27.3	-0.8	
SCM	Sheep Creek Mo	42.78	6	P	P	00 50 25.9	-1.7	
SCM				IAmb	IAmb	00 50 31.6		
comp=Z,18nm,1.2s								
SCM	Sheep Creek Mo	42.78	6	P	P	00 50 26.9	-0.7	
baz=191,SNR=5.0								
GLB	Gilahina Butte	42.79	8	P	P	00 50 27.9	+0.3	
L18K	Granite Mounta	42.81	359		P	00 50 27.0	-0.7	
L18K	Granite Mounta	42.81	359	P	P	00 50 26.5	-1.2	
baz=178								
MCARA	McCarthy VSAT	42.84	9	P	P	00 50 27.7	-0.3	
MCARA	McCarthy VSAT	42.84	9	P	P	00 50 27.4	-0.6	
baz=197								
TBI	Tubuai	42.85	172	*e*P	P	00 50 28.1	-0.3	
comp=Z,406nm,24.5s								
TBI				*e*S	S	00 56 52.8	-1.0	
comp=Z,1μm,26.2s								
TBI				*e*LQ	LQ	01 00 26.2		
comp=Z,2μm,26.2s								
TBI				*e*LR	LR	01 02 13.3		
comp=Z,12μm,28.5s								
TBI				*e*LR	LR	01 02 14.0		
comp=Z,2μm,28.5s								
N25K	Chitina, Valde	42.85	7	P	P	00 50 27.8	-0.3	
N25K	Chitina, Valde	42.85	7	P	P	00 50 26.8	-1.3	
baz=195								
JLU	Jordanelle	42.91	51	P	P	00 50 27.7	-1.5	
Q32M	Nakina River	42.91	17	P	P	00 50 26.5	-2.3	
Q32M				IAmb	IAmb	00 51 10.7		
comp=Z,22nm,1.6s								
Q32M	Nakina River	42.91	17	P	P	00 50 26.6	-2.2	
baz=213								
319A	Douglas	42.96	65	P	P	00 50 29.1	-0.4	
W18A	Petrified Fore	43.03	59	P	P	00 50 29.4	-0.8	
W18A				IAmb	IAmb	00 50 39.6		
comp=Z,12nm,1.3s								
W18A	Petrified Fore	43.03	59	P	P	00 50 28.3	-1.9	
baz=261								
P32M	Atlin	43.06	16	P	P	00 50 29.4	-0.5	
P32M				IAmb	IAmb	00 51 43.0		
comp=Z,16nm,1.8s								
P32M	Atlin	43.06	16	P	P	00 50 30.9	+1.0	
baz=210								
L20K	Farewell, AK	43.07	1	P	P	00 50 30.6	+0.7	
baz=182,SNR=11								
TCUT	Toone Canyon	43.09	50	P	P	00 50 29.6	-1.0	
TCUT				IAmb	IAmb	00 50 36.2		
comp=Z,8.5nm,1.0s								
K15K	Wolf Creek Mou	43.10	356	P	P	00 50 28.7	-1.3	
K15K	Wolf Creek Mou	43.10	356	P	P	00 50 29.9	-0.1	
baz=171								
HWUT	Hardware Ranch	43.12	49	P	P	00 50 30.4	-0.3	
CUT	Chulitna	43.13	3	P	P	00 50 28.6	-1.6	
CUT	Chulitna	43.13	3	P	P	00 50 30.0	-0.3	
baz=187								
DLBC	Dease Lake	43.14	19	P	P	00 50 29.7	-0.9	
DLBC				IAmb	IAmb	00 51 04.3		
comp=Z,14nm,1.6s								
DLBC	Dease Lake	43.14	19	P	P	00 50 30.7	+0.1	
baz=216								
M24K	Tolsona, Glenn	43.16	6	P	P	00 50 28.4	-2.3	
M24K				IAmb	IAmb	00 50 35.2		
comp=Z,28nm,1.5s								
M24K	Tolsona, Glenn	43.16	6	P	P	00 50 31.2	+0.6	
baz=193								
YUK6	Outpost Mounta	43.21	12	P	P	00 50 31.9	+0.6	
baz=204								
DUN6	Lazy B Ranch	43.23	63	P	P	00 50 31.1	-0.6	
YUK8	Steele Glacier	43.27	11	P	P	00 50 32.6	+0.8	
baz=202								
HYT	Haines Junctio	43.28	13	P	P	00 50 30.4	-1.3	
HYT				IAmb	IAmb	00 50 37.9		
comp=Z,11nm,1.3s								
HYT	Haines Junctio	43.28	13	P	P	00 50 32.7	+1.0	
baz=205								
MCMT	McKenzie Canyo	43.31	44	P	P	00 50 30.4	-2.0	
K17K	Iditarod	43.35	358	P	P	00 50 30.4	-1.7	
K17K				IAmb	IAmb	00 51 39.7		
comp=Z,17nm,1.6s								
K17K	Iditarod	43.35	358	P	P	00 50 32.8	+0.7	
baz=176								
BSUT	Blindstream Ca	43.40	51	P	P	00 50 33.1	-0.2	
MSO	Missoula	43.40	41	P	P	00 50 31.9	-1.0	
MSO	Missoula	43.40	41	P	P	00 50 33.0	0.0	
baz=245								
WAT6	Susitna Watana	43.48	5	P	P	00 50 33.9	+0.5	
baz=190,SNR=12								
TTA	Tatalina	43.52	360	P	P	00 50 32.4	-1.2	
TTA	Tatalina	43.52	360	P	P	00 50 33.8	+0.2	
baz=179								
YUK4	Talbot Arm	43.53	12	P	P	00 50 34.6	+0.8	
baz=203								
O30N	Mendenhall	43.53	14	P	P	00 50 32.0	-1.6	
O30N				IAmb	IAmb	00 51 31.0		
comp=Z,13nm,1.6s								
O30N	Mendenhall	43.53	14	P	P	00 50 33.6	0.0	
baz=207								
P18A	Preston Nutter	43.55	52	P	P	00 50 32.9	-1.5	
P18A				IAmb	IAmb	00 50 50.0		
comp=Z,18nm,1.6s								
BPMT	Black Pine Rid	43.55	42	P	P	00 50 32.1	-2.2	
HARP	HAARP	43.55	7	P	P	00 50 33.6	-0.2	
baz=194								
YUK3	Moose Creek	43.61	10	P	P	00 50 34.9	+0.4	
baz=200								
R33M	Jennings River	43.65	18	P	P	00 50 33.4	-1.4	
R33M				IAmb	IAmb	00 50 40.8		
comp=Z,16nm,1.2s								
R33M	Jennings River	43.65	18	P	P	00 50 35.2	+0.5	
baz=214,SNR=6.9								
WAT1	Susitna Watana	43.66	4	P	P	00 50 34.7	0.0	
baz=189								
DLMT	Dillon	43.68	44	P	P	00 50 34.1	-1.1	
DLMT				IAmb	IAmb	00 50 58.5		
comp=Z,16nm,1.4s								
J14K	Nanvaranak Lak	43.71	354	P	P	00 50 33.7	-1.2	
J14K	Nanvaranak Lak	43.71	354	P	P	00 50 36.4	+1.4	
baz=169								
AHID	Auburn Hatcher	43.80	48	P	P	00 50 34.7	-1.5	
M26K	Nabesna, AK	43.82	8	P	P	00 50 33.9	-2.1	
M26K	Nabesna, AK	43.82	8	P	P	00 50 37.9	+2.0	
baz=197,SNR=15								
P33M	Teslin, Yukon	43.83	16	P	P	00 50 35.2	-0.9	
P33M	Teslin, Yukon	43.83	16	P	P	00 50 37.1	+1.0	
baz=211								
M27K	Edge Creek, AK	43.94	9	P	P	00 50 36.0	-1.1	
M27K	Edge Creek, AK	43.94	9	P	P	00 50 37.3	+0.3	
baz=198,SNR=13								
N30M	Aishikik Lake	43.94	12	P	P	00 50 36.2	-0.8	
N30M	Aishikik Lake	43.94	12	P	P	00 50 37.5	+0.6	
baz=205								
LRM	Limekiln Ridge	43.95	43	P	P	00 50 36.5	-0.9	
K20K	Telida	43.95	1	P	P	00 50 35.3	-1.6	
K20K				IAmb	IAmb	00 51 59.2		
comp=Z,20nm,1.9s								
K20K	Telida	43.95	1	P	P	00 50 38.0	+1.0	
baz=182								
DHY	Denali Highway	44.00	5	P	P	00 50 37.4	-0.1	
DHY				IAmb	IAmb	00 50 42.3		
comp=Z,14nm,1.1s								
DHY	Denali Highway	44.00	5	P	P	00 50 38.3	+0.8	
baz=191,SNR=9.5								
J16K	Anvik River	44.02	357	P	P	00 50 36.3	-1.2	
J16K				IAmb	IAmb	00 50 42.2		
comp=Z,20nm,1.4s								
J16K	Anvik River	44.02	357	P	P	00 50 37.6	+0.1	
baz=173								
CAST	Castle Rocks	44.06	2	P	P	00 50 37.9	0.0	
baz=184								
J17K	VABM Dome	44.06	358	P	P	00 50 38.0	+0.3	
J17K				IAmb	IAmb	00 50 42.3		
comp=Z,13nm,1.4s								
J17K	VABM Dome	44.06	358	P	P	00 50 38.1	+0.3	
baz=175								
J18K	Innoko River	44.06	359	P	P	00 50 37.9	+0.1	
J18K				IAmb	IAmb	00 50 42.1		
comp=Z,8.7nm,1.1s								
J18K	Innoko River	44.06	359	P	P	00 50 38.3	+0.5	
baz=178,SNR=7.3								
PV05	Paradox Valley	44.07	55		P	00 50 37.0	-1.6	
PV05				IAmb	IAmb	00 50 44.3		
comp=Z,16nm,1.5s								
PAX	Paxson	44.08	6	P	P	00 50 37.2	-0.9	
PAX	Paxson	44.08	6	P	P	00 50 37.3	-0.7	
baz=193,SNR=17								
OVMT	Ovando	44.09	41		P	00 50 37.5	-1.0	
FXWY	Fox Creek	44.13	47	P	P	00 50 36.9	-2.0	
TPAW	Teton Pass	44.13	47		P	00 50 37.6	-1.4	
TPAW				IAmb	IAmb	00 50 49.5		
comp=Z,18n

QLMT	Earthquake Lak	44.25	45	P	P	00 50 38.4	-1.5
SNOW	Snow King Moun	44.26	47	P	P	00 50 39.5	-0.6
SNOW				IAmb	IAmb	00 50 45.5	
	comp=Z,13nm,1.2s						
PV16	Nyswonger Mesa	44.26	55	P	P	00 50 38.9	-1.2
PV16				IAmb	IAmb	00 50 44.7	
	comp=Z,15nm,1.4s						
PV21	Cone Mtn., Par	44.27	54	P	P	00 50 38.8	-1.4
PV21				IAmb	IAmb	00 50 50.3	
	comp=Z,16nm,1.3s						
IMW	Indian Meadow	44.27	46	P	P	00 50 39.2	-0.9
RDMU	Red Mountain	44.28	51	P	P	00 50 39.3	-0.9
PV04	Paradox Valley	44.28	55	P	P	00 50 40.1	-0.2
PV04				IAmb	IAmb	00 50 45.3	
	comp=Z,19nm,1.3s						
PV11	David Mesa, Pa	44.29	55	P	P	00 50 39.5	-0.8
PV11				IAmb	IAmb	00 50 45.1	
	comp=Z,13nm,1.3s						
PV03	Paradox Valley	44.30	55	P	P	00 50 39.8	-0.6
PV03				IAmb	IAmb	00 50 45.2	
	comp=Z,9.4nm,1.2s						
PV13	Radium Mtn., P	44.30	55	P	P	00 50 38.9	-1.5
PV13				IAmb	IAmb	00 50 45.2	
	comp=Z,11nm,1.2s						
121A	Cookes Peak, D	44.32	63	P	P	00 50 39.6	-1.0
121A				IAmb	IAmb	00 50 50.0	
	comp=Z,13nm,1.1s						
121A	Cookes Peak, D	44.32	63	P	P	00 50 39.7	-0.9
	baz=265						
PV12	Saucer Basin,	44.35	55	P	P	00 50 39.7	-1.1
MOOW	Moose Ponds	44.35	47	P	P	00 50 40.2	-0.5
MOOW				IAmb	IAmb	00 50 57.4	
	comp=Z,12nm,1.6s						
MVCO	Mesa Verde	44.37	56	P	P	00 50 41.2	+0.2
MVCO				IAmb	IAmb	00 50 57.6	
	comp=Z,14nm,1.2s						
MVCO	Mesa Verde	44.37	56	P	P	00 50 40.6	-0.4
	baz=260						
L26K	Log Cabin Wild	44.38	8	P	P	00 50 39.9	-0.5
L26K				IAmb	IAmb	00 50 49.5	
	comp=Z,7.6nm,0.6s						
L26K	Log Cabin Wild	44.38	8	P	P	00 50 41.7	+1.3
	baz=196						
PV02	Paradox Valley	44.38	55	P	P	00 50 40.7	-0.4
BOZ	Bozeman (W)	44.40	44	P	P	00 50 40.1	-0.9
BOZ				IAmb	IAmb	00 50 45.6	
	comp=Z,9.4nm,1.4s						
BOZ	Bozeman (W)	44.40	44	P	P	00 50 40.2	-0.7
	baz=249						
PV22	Blue Mesa, Par	44.40	54	P	P	00 50 40.5	-0.8
PV22				IAmb	IAmb	00 50 51.1	
	comp=Z,15nm,1.2s						
LOHW	Long Hollow	44.41	47	P	P	00 50 40.1	-1.1
LOHW				IAmb	IAmb	00 50 47.2	
	comp=Z,16nm,1.8s						
PV01	Paradox Valley	44.49	55	P	P	00 50 41.2	-0.7
PV01				IAmb	IAmb	00 51 28.6	
	comp=Z,5.8nm,0.4s						
PV07	Paradox Valley	44.49	55	P	P	00 50 40.1	-1.8
PV07				IAmb	IAmb	00 50 51.8	
	comp=Z,8.9nm,1.1s						
FLWY	Flagg Ranch	44.49	46	P	P	00 50 40.6	-1.3
FLWY				IAmb	IAmb	00 50 52.5	
	comp=Z,9.8nm,1.1s						
LYMT	Lyon Mountain	44.49	42	P	P	00 50 40.9	-1.0
CHUM	Lake Minchumin	44.52	2	P	P	00 50 42.5	+1.0
	baz=184						
MCK	McKinley	44.53	4	P	P	00 50 40.4	-1.2
MCK	McKinley	44.53	4	P	P	00 50 42.7	+1.1
	baz=188						
N32M	Quiet Lake	44.57	15	P	P	00 50 41.1	-0.9
N32M	Quiet Lake	44.57	15	P	P	00 50 42.1	+0.1
	baz=210						
M29M	Somme Creek	44.58	11	P	P	00 50 41.3	-0.8
M29M				IAmb	IAmb	00 50 47.7	
	comp=Z,14nm,1.1s						
M29M	Somme Creek	44.58	11	P	P	00 50 41.8	-0.3
	baz=203,SNR=11						
J19K	Poorman	44.58	360	P	P	00 50 41.0	-0.9
J19K				IAmb	IAmb	00 50 46.6	
	comp=Z,15nm,1.4s						
J19K	Poorman	44.58	360	P	P	00 50 42.1	+0.1
	baz=180,SNR=5.7						
PV15	Paradox Valley	44.60	55	P	P	00 50 41.9	-1.0
PV15				IAmb	IAmb	00 51 43.0	
	comp=Z,12nm,1.5s						
L27K	Beaver Creek,	44.62	9	P	P	00 50 41.4	-1.0
L27K				IAmb	IAmb	00 50 48.6	
	comp=Z,11nm,1.1s						
L27K	Beaver Creek,	44.62	9	P	P	00 50 42.7	+0.4
	baz=198,SNR=8.9						
BCAR	Beaver Creek A	44.63	9	P	P	00 50 41.4	-1.0
I17K	Unalakleet	44.63	357	P	P	00 50 40.9	-1.4
I17K	Unalakleet	44.63	357	P	P	00 50 42.2	-0.1
	baz=173						
YHH	Holmes Hill	44.63	45	P	P	00 50 42.1	-0.9
H17A	Grant Village	44.68	46	P	P	00 50 42.8	-0.6
H17A	Grant Village	44.68	46	P	P	00 50 44.2	+0.9
	baz=251						
YNM	Yellowstone No	44.70	45	P	P	00 50 43.4	-0.2
YNR	Norris Junctio	44.72	45	P	P	00 50 43.7	0.0
J20K	Nowinta River	44.77	1	P	P	00 50 41.8	-1.7
J20K				IAmb	IAmb	00 52 06.3	
	comp=Z,18nm,1.7s						
J20K	Nowinta River	44.77	1	P	P	00 50 43.1	-0.4
	baz=182						
BPAW	Bear Paw Mtn.	44.78	3	P	P	00 50 42.1	-1.6
BPAW				IAmb	IAmb	00 50 47.1	
	comp=Z,14nm,1.2s						
BPAW	Bear Paw Mtn.	44.78	3	P	P	00 50 42.3	-1.3
	baz=186,SNR=6.8						
K24K	Donnelly Dome	44.86	6	P	P	00 50 43.4	-0.9
	baz=193						
WTLY	Watson Lake, Y	44.87	18	P	P	00 50 43.1	-1.3
WTLY	Watson Lake, Y	44.87	18	P	P	00 50 44.9	+0.5
	baz=217						
BW06	Boulder Array	44.88	48	P	P	00 50 43.3	-1.7
	baz=253						
PDAR	Pinedale Array	44.88	48	P	P	00 50 43.8	-1.2
PDAR	Pinedale Array	44.88	48	P	P	00 50 44.5	-0.5
	comp=Z,7.1nm,1.2s,baz=256,slow=6.0,SNR=16						
PDAR				LR	LR	01 07 19.5	
	comp=Z,30nm,20.7s,baz=262,slow=33						
	comp=Z,7.1nm,1.2s						
M30M	Minto, Yukon	45.02	12	P	P	00 50 46.1	+0.6
	baz=205						
TOAD	Toad River Com	45.04	22	P	P	00 50 45.6	-0.2
	baz=222						
O20A	White River Ci	45.16	52	P	P	00 50 47.2	0.0
	baz=257						
LIRD	Liard River Hi	45.17	21	P	P	00 50 48.4	+1.6
	baz=220						
M31M	Drury Creek, Y	45.18	14	P	P	00 50 47.0	+0.2
	baz=208						
Y22D	IRIS PASSCAL I	45.20	61	P	P	00 50 46.3	-1.3
	baz=264						
SCRK	Sand Creek	45.22	7	P	P	00 50 48.2	+1.0
	baz=195,SNR=7.6						
L29M	L29M	45.25	11	P	P	00 50 46.9	-0.5
	baz=203						
HDA	Harding Lake	45.35	5	P	P	00 50 48.8	+0.7
	baz=191,SNR=6.9						
GCSA	Galena City Sc	45.35	359	P	P	00 50 48.6	+0.5
	baz=178						
NEA2	Nenana	45.38	4	P	P	00 50 49.2	+0.9
	baz=188,SNR=6.0						
I20K	Naaghedeneel	45.39	0	P	P	00 50 48.2	-0.1
	baz=181						
FARO	Faro, Yukon	45.44	14	P	P	00 50 48.2	-0.7
	baz=210,SNR=6.8						
H16K	Elim	45.47	356	P	P	00 50 50.0	+1.0
	baz=171						
K27K	Chicken	45.51	8	P	P	00 50 50.3	+1.0
	baz=198						
H17K	Granite Mounta	45.63	357	P	P	00 50 51.7	+1.4
	baz=174						
ANM	Nome	45.66	354	P	P	00 50 51.9	+1.4
	baz=167						
ANMO	Albuquerque	45.67	60	P	P	00 50 51.9	+0.6
	baz=263						
ANMO	Albuquerque	45.67	60	LR	LR	01 07 09.7	
	comp=Z,199nm,18.1s,baz=358,slow=32						
J25K	Salcha River,	45.69	6	P	P	00 50 52.1	+1.3
	baz=193,SNR=13						
ILAR	Eielson Array	45.71	5	P	P	00 50 50.0	-0.9
	comp=Z,5.0nm,1.0s,baz=194,slow=6.4,SNR=24						
ILAR				LR	LR	01 06 52.4	
	comp=Z,372nm,19.8s,baz=174,slow=32						
	comp=Z,5.0nm,1.0s						
MLY	Manley	45.72	3	IAmb	IAmb	00 50 54.6	
	comp=Z,12nm,1.1s						
MLY	Manley	45.72	3	P	P	00 50 52.0	+0.9
	baz=186,SNR=12						
COLA	College	45.74	4	P	P	00 50 51.4	+0.3
	baz=190						
S22A	4UR Ranch, Cre	45.77	56	P	P	00 50 52.4	+0.2
	baz=260						
J26L	Joseph Creek	45.77	7	P	P	00 50 53.5	+1.9
	baz=196,SNR=8.4						
H18K	Honhosa River	45.79	358	P	P	00 50 51.6	0.0
	baz=176						
RLMT	Red Lodge	45.80	45	P	P	00 50 52.7	+0.5
	baz=251						
I23K	Minto, Yukon-K	45.91	3	P	P	00 50 51.7	-0.8
	baz=188						
DAWY	Dawson	45.93	10	P	P	00 50 51.8	-0.9
	baz=201						
G15K	Niukluk	45.96	355	P	P	00 50 53.8	+0.9
	baz=168						
POKR	Poker Plat Res	46.01	5	P	P	00 50 53.5	+0.2
	baz=190						
K29M	Barlow Dome	46.04	11	P	P	00 50 53.1	-0.6
	baz=204						
H20K	Anotleneega Mo	46.09	0	P	P	00 50 54.6	+0.7
	baz=180,SNR=6.1						
MAYO	Mayo, Yukon	46.12	12	P	P	00 50 54.4	+0.2
	baz=206						
H19K	Roundabout Mou	46.13	359	P	P	00 50 54.5	+0.3
	baz=178,SNR=7.0						
TGTN	Hyland Airport	46.16	18	P	P	00 50 55.3	+0.7
	baz=216						
G16K	Koyuk River	46.23	356	P	P	00 50 55.3	+0.3
	baz=171						
G17K	Kiwalik Mounta	46.23	357	P	P	00 50 54.6	-0.4
	baz=173						
H21K	Melozitna Rive	46.28	1	P	P	00 50 54.6	-0.9
	baz=183						
MNTX	Cornudas Mount	46.30	64	P	P	00 50 55.2	-0.9
	baz=267						
EGAK	Eagle	46.34	8	P	P	00 50 54.6	-1.3
	baz=198,SNR=5.0						
KOTAN	Kotaneelee Air	46.40	21	P	P	00 50 55.6	-0.8
	baz=222						
J29N	Klondike Camp	46.48	10	P	P	00 50 56.4	-0.8
	baz=202						
EGMT	Eagleton	46.49	41	P	P	00 50 57.0	-0.4
	baz=248						
G18K	Tagagawik	46.55	358	P	P	00 50 57.3	-0.2
	baz=176						
H22K	Ishtalitna Cre	46.56	2	P	P	00 50 57.9	+0.2
	baz=185						
PRP	Porcupine Dome	46.56	6	P	P	00 50 57.9	+0.1
	baz=193,SNR=10						
H23K	Yukon River	46.58	3	P	P	00 50 58.0	+0.2
	baz=188,SNR=7.3						
I26K	Coal Creek Min	46.60	7	P	P	00 50 58.6	+0.7
	baz=196,SNR=11						
F14K	Arctic Creek	46.65	354	P	P	00 50 58.5	+0.2
	baz=166						
H24K	Noodor Dome	46.69	4	P	P	00 50 59.1	+0.4
	baz=190,SNR=7.2						
F15K	North Star Dit	46.72	355	P	P	00 50 59.7	+0.9
	baz=168						
G19K	Purcell Mounta	46.76	359	P	P	00 51 00.3	+1.1
	baz=178,SNR=7.4						
SDCO	Great Sand Dun	46.81	56	P	P	00 51 00.5	+0.1
	baz=261						
TNA	Tin City	46.91	353	P	P	00 51 01.4	+1.1
	baz=164						
J30M	Hart River	46.92	11	P	P	00 51 02.4	+1.8
	baz=205,SNR=10.0						
K22A	Casper	47.01	49	P	P	00 51 02.1	+0.4
	baz=256						
N23A	Red Feather La	47.04	52	P	P	00 51 01.1	-1.0
	baz=258						
ISCO	Idaho Springs	47.07	53	P	P	00 51 01.9	-0.6
	baz=259						
I27K	Kandik River	47.07	8	P	P	00 51 01.1	-0.6
	baz=198,SNR=8.2						
G21K	Allakaket	47.13	1	P	P	00 51 01.0	-1.1
	baz=182						
I28M	Miner Creek	47.15	9	P	P	00 51 00.1	-2.3
	baz=200,SNR=5.6						
F17K	Baldwin Pennin	47.20	357	P	P	00 51 04.6	+2.0
	baz=172						
H25L	Birch Creek	47.27	5	P	P	00 51 02.1	-1.0
	baz=192,SNR=7.2						
Q24A	Divide	47.28	55	P	P	00 51 02.4	-1.7
	baz=260						
F18K	Selawik	47.29	358	P	P	00 51 04.2	+0.9
	baz=174						
I29M	Ogilvie Camp,	47.31	10	P	P	00 51 04.8	+1.2
	baz=202						
G23K	Bananza Creek	47.43	3	P	P	00 51 05.3	+0.8
	baz=187,SNR=7.5						
F19K	Shaleruckik Mo	47.46	359	P	P	00 51 07.1	+2.5
	baz=177,SNR=7.2						
I30M	Mount Dempster	47.51	11	P	P	00 51 06.7	+1.6
	baz=204,SNR=16						
G24K	Hadweenzic Riv	47.57	4	P	P	00 51 05.9	+0.4
	baz=190,SNR=7.9						
G22K	Bettles	47.59	2	P	P	00 51 06.9	+1.4
	baz=185						
T25A	Trinidad	47.59	57	P	P	00 51 07.7	+1.3
	baz=263						
F20K	Avaraart Lake	47.65	360	P	P	00 51 08.2	+2.1
	baz=179						
H27K	Steamboat Moun	47.68	7	P	P	00 51 08.8	+2.3
	baz=198,SNR=20						
TXAR	Lajitas Array	47.72	68	P	P	00 51 07.6	+0.2
	comp=Z,5.3nm,0.9s,baz=260,slow=7.4,SNR=26						
TXAR				LR	LR	01 08 32.0	
	comp=Z,66nm,19.9s,baz=240,slow=33						
	comp=Z,5.3nm,0.9s						
G25K	Bearman Lake	47.74	5	P	P	00 51 07.7	+1.0
	baz=192						
F21K	Alatna River	47.84	1	P	P	00 51 09.6	+2.0
	baz=182,SNR=13						
E17K	Hotham Inlet	47.87	357	P	P	00 51 09.5	+1.7
	baz=172						
COLD	Coldfoot	47.94	3	P	P	00 51 10.4	+2.0
	baz=186						
E19K	Restone River	48.08	359	P	P	00 51 11.8	+2.4
	baz=178,SNR=5.5						
H29M	Whitestone	48.10	9	P	P	00 51 11.1	+1.5
	baz=202,SNR=14						
G26K	Porcupine Rive	48.13	6	P	P	00 51 11.1	+1.3
	baz=195,SNR=14						
E18K	Tukpahlearik C	48.15	357	P	P	00 51 10.8	+0.9
	baz=173						
F22K	John River	48.15	2	P	P	00 51 12.0	+2.0
	baz=184						
G27K	Doyon Strip	48.22	7	P	P	00 51 11.6	+1.0
	baz=197,SNR=5.1						
F24K	Squaw Lake	48.35	4	P	P	00 51 11.8	+0.2
	baz=189						
EPYK	Eagle Plains	48.50	10	P	P	00 51 12.2	-0.5
	baz=204,SNR=6.6						
D17K	Noatak River	48.56	356	P	P	00 51 13.8	+0.7
	baz=170						
F25K	Christian Rive	48.59	5	P	P	00 51 14.7	+1.2
	baz=192						
MSTX	Muleshoe	48.62	61	P	P	00 51 14.3	0.0
	baz=266						
E22K	Anaktuvuk Pass	48.79	2	P	P	00 51 15.5	+0.6
	baz=184						
E23K	Chandalar	48.80	3	P	P	00 51 16.3	+1.2
	baz=187						
G29M	Pine Creek	48.80	9	P	P	00 51 16.0	+1.0
	baz=202,SNR=11						
F26K	Sheenjek River	48.82	6	P	P	00 51 16.0	+0.8
	baz=194,SNR=9.4						
E20K	Nigu River	48.87	360	P	P	00 51 16.1	+0.6
	baz=179,SNR=6.1						
E24K	Your Creek	48.87	3	P	P	00 51 17.3	+1.7
	baz=188,SNR=5.0						
RDOG	Red Dog Mine	48.90	356	P	P	00 51 17.8	+2.0
	baz=170						
WRGLY	Wrigley	48.90	18	P	P	00 51 17.4	+1.6
	baz=221						
E21K	Killik River	49.06	1	P	P	00 51 16.7	-0.3
	baz=182						
E25K	Arctic Village	49.11	5	P	P	00 51 18.7	+1.2
	baz=192						
RSSD	Black Hills	49.12	48	P	P	00 51 17.5	-0.6
	baz=257						
D19K	Kuna River	49.14	359	P	P	00 51 18.9	+1.3
	baz=176,SNR=6.3						
G30M	tAoh Zraii Nji	49.14	10	P	P	00 51 18.7	+1.0
	baz=204,SNR=9.0						
F28M	Old Crow	49.21	8	P	P	00 51 19.6	+1.4
	baz=199,SNR=11						
KSCO	Kaye Shedlock'	49.23	55	P	P	00 51 20.1	+1.2
	baz=262						
C16K	Lisburne Hills	49.29	355	P	P	00 51 19.2	+0.4
	baz=167						
D20K	Etivluk River	49.33	359	P	P	00 51 20.3	+1.3
	baz=178						
C17K	DeLong Mountai	49.33	356	P	P	00 51 20.0	+0.9
	baz=170						
TOLK	Toolik Lake Re	49.38	3	P	P	00 51 20.7	+1.2
	baz=187						
C18K	Utukok River	49.40	357	P	P	00 51 20.4	+0.8
	baz=173						
G31M	Satah River	49.42	11	P	P	00 51 19.7	0.0
	baz=206,SNR=9.3						
D22K	Ayikyak River	49.52	1	P	P	00 51 22.4	+1.9
	baz=183,SNR=7.8						
E27K	Coleen River	49.55	7	P	P	00 51 22.7	+1.9
	baz=197,SNR=8.4						
AMTX	Amarillo	49.58	60	P	P	00 51 21.7	+0.1
	baz=266						
D23K	Nanushuk River	49.66	2	P	P	00 51 22.8	+1.3
	baz=186,SNR=14						
C21K	Knifeblade Rid	49.77	0	P	P	00 51 23.8	+1.4
	baz=181						
F30M	Barrier River	49.79	10	P	P	00 51 23.4	+0.8
	baz=204						
C19K	Lookout Ridge	49.79	358	P	P	00 51 23.4	+0.9
	baz=175						
D24K	Happy Valley	49.92	3	P	P	00 51 22.9	-0.7
	baz=188						
OGNE	Ogallala	49.96	52	P	P	00 51 24.8	+0.4
	baz=261						
F31M	Tsiigehtchic	49.97	11	P	P	00 51 24.1	+0.2
	baz=207,SNR=5.6						
B18K	Kokolik River	50.14	357	P	P	00 51 26.9	+1.7
	baz=172						
DGMT	Dagmar	50.14	42	P	P	00 51 26.4	+0.9
	baz=253						
E28M	Babbage River	50.19	7	P	P	00 51 27.5	+1.9
	baz=200,SNR=9.4						
E29M	Blow River	50.20	8	P	P	00 51 26.4	+0.8
	baz=202,SNR=14						
D25K	Kavik River	50.24	4	P	P	00 51 26.3	+0.3
	baz=191,SNR=5.0						
B21K	Ikpikpuk River	50.24	0	P	P	00 51 25.1	-0.8
	baz=181						
C24K	Franklin Bluff	50.50	3	P	P	00 51 27.9	0.0
	baz=188						
C23K	Itkillik River	50.53	2	P	P	00 51 27.6	-0.5
	baz=186,SNR=8.1						
D27M	Malcolm River	50.63	7	P	P	00 51 29.5	+0.5
	baz=198						
B20K	Meade River	50.64	359	P	P	00 51 29.8	+0.9
	baz=178						
C27K	Jago River	50.74	5	P	P	00 51 29.9	+0.2
	baz=194,SNR=9.0						
INK	Inuvik	50.79	10	P	P	00 51 30.0	0.0
	baz=207,SNR=14						
INK	Inuvik	50.79	10	LR	LR	01 09 07.7	
	comp=Z,475nm,21.6s,baz=184,slow=32						
C26K	Camden Bay	50.93	5	P	P	00 51 31.7	+0.6
	baz=193						
A19K	Wainwright	50.94	357	P	P	00 51 31.6	+0.4
	baz=173						
B22K	Teshekpuk Lake	50.97	1	P	P	00 51 30.9	-0.5
	baz=182						
D28M	Stokes Point	50.97	7	P	P	00 51 32.3	+0.9
	baz=200						
JCT	Junction City	51.06	66	P	P	00 51 32.3	-0.6
	baz=271						
ABTX	Abilene, Hawle	51.19	63	P	P	00 51 34.5	+0.7
	baz=270						
YKA	Yellowknife Ar	51.35	23	P	P	00 51 32.5	-1.8
	comp=Z,1.1nm,1.0s,baz=233,slow=7.4,SNR=2.4						
YKA				LR	LR	01 09 26.1	
	comp=Z,152nm,21.1s,baz=212,slow=32						
	comp=Z,1.1nm,1.0s						
CBKS	Cedar Bluff	51.45	55	P	P	00 51 36.4	+0.8
	baz=264						
833A	Chaparral WMA,	51.50	69	P	P	00 51 37.1	+1.1
	baz=273						
A22K	Sinclair Lake	51.62	0	P	P	00 51 37.6	+1.3
	baz=180						
A21K	Barrow	51.95	359	P	P	00 51 39.8	+1.1
	baz=178						
WMOK	Wichita Mounta	51.95	61	P	P	00 51 37.8	-1.6
	baz=268						
HNR	Honiara	52.59	241	LR	LR	01 09 31.8	
	comp=Z,4μm,21.8s,baz=40,slow=31						
SUSD	Miller	52.76	48	P	P	00 51 45.5	+0.3
	baz=261						
BGNE	Belgrade	52.93	52	P	P	00 51 47.7	+1.2
	baz=264						
MDND	Maddock	52.96	44	P	P	00 51 47.5	+0.8
	baz=258						
435B	Jarrell	52.97	66	P	P	00 51 48.4	+1.4
	baz=272						
WHTX	Lake Whitney,	53.05	64	P	P	00 51 47.9	+0.3
	baz=271						
C36M	Paulatuk	53.50	13	P	P	00 51 51.0	+0.8
	baz=218						
KSU1	Kansas State U	53.90	55	P	P	00 51 53.2	-0.5
	baz=266						
ECSD	EROS Data Cent	54.33	50	P	P	00 51 56.4	-0.4
	baz=263						
TUL3	Leonard	54.42	59	P	P	00 51 56.6	-1.0
	baz=269						
A36M	Sachs Harbour	55.41	11	P	P	00 52 04.9	+0.8
	baz=215						
NATX	Nacogdoches	55.43	64	P	P	00 52 05.5	+0.5
	baz=273						
MA2	Magadan	55.48	330	LR	LR	01 11 30.5	
	comp=Z,820nm,21.8s,baz=121,slow=31						
AGMN	Agassiz Nation	55.51	44	P	P	00 52 04.5	-0.7
	baz=260						
DZM	Mont Dzumac	55.66	224	*e*P	P	00 52 05.5	-1.2
	comp=Z,83nm,24.5s						
DZM				*e*S	S	00 59 53.8	-0.3
	comp=Z,207nm,24.7s						
DZM				*e*SS	SS	01 03 43.4	+3.8
	comp=Z,173nm,26.4s						
DZM				*e*LR	LR	01 08 10.4	
	comp=Z,455nm,31.6s						
DZM	Mont Dzumac	55.66	224	LR	LR	01 10 07.6	
	comp=Z,135nm,21.6s,baz=56,slow=30						
ULM	Lac du Bonnet	55.84	42	LR	LR	01 14 24.4	
	comp=Z,107nm,18.1s,baz=241,slow=34						
SEY	Seymchan	56.14	334	P	P	00 52 10.1	+0.6
	comp=Z,1.7nm,0.3s,baz=107,slow=19,SNR=2.8						
	comp=Z,1.7nm,0.3s						
MIAR	Mount Ida	56.24	61	P	P	00 52 10.2	-0.5
	baz=271						
SCIA	State Center	56.65	52	P	P	00 52 14.3	+0.8
	baz=267						
ASAJ	Asahikawa	56.86	311	LR	LR	01 11 20.2	
	comp=Z,997nm,21.8s,baz=154,slow=30						
CMIG	Matias Romero	57.15	82	LR	LR	01 10 55.1	
	comp=Z,204nm,21.6s,baz=291,slow=30						
SPMN	Marine on St.	57.20	48	P	P	00 52 17.5	+0.1
	baz=265						
GUMO	Guam	57.46	274	LR	LR	01 11 44.5	
	comp=Z,327nm,21.8s,baz=77,slow=30						
JCJ	Chichijima	57.49	290	LR	LR	01 12 07.4	
	comp=Z,231nm,20.4s,baz=93,slow=31						
CCM	Cathedral Cave	58.07	57	P	P	00 52 22.7	-0.9
	baz=270						
EYMN	Ely	58.36	45	P	P	00 52 25.6	+0.1
	baz=264						
JFWS	Jewell Farm	58.89	51	P	P	00 52 29.4	+0.1
	baz=268						
VBMS	Vicksburg	58.92	64	P	P	00 52 29.5	0.0
	baz=274						
JHJ	Hachijo jima 2	59.01	298	LR	LR	01 12 05.3	
	comp=Z,349nm,21.5s,baz=110,slow=30						
HDIL	Hopedale	59.57	54	P	P	00 52 34.4	+0.4
	baz=270						
OXF	Oxford	59.68	61	P	P

comp=Z,2.0nm,0.8s
L44A Lake County Fo 60.61 52 P **P 00 52 41.5 +0.4**
baz=270
WVT Waverly 60.87 59 P **P 00 52 42.4 -0.5**
baz=274
SFIN Lafayette 61.25 54 P **P 00 52 45.0 -0.5**
baz=272
LRAL Lakeview Retre 61.80 62 P **P 00 52 47.9 -1.4**
baz=276
BRAL Brewton 61.96 64 P **P 00 52 49.8 -0.6**
baz=277
WCI Wyandotte Cave 61.97 56 P **P 00 52 49.4 -1.0**
baz=273
TEIG Tepich 62.62 77 LR LR 01 16 14.6
comp=Z,128nm,20.5s,baz=250,slow=32
O48B Farmland 62.74 54 P **P 00 52 55.0 -0.5**
baz=273
GLMI Grayling 62.98 49 P **P 00 52 57.1 0.0**
baz=271
P49A Miami Univ. Ec 63.12 55 P **P 00 52 58.0 0.0**
baz=274
PMG Port Moresby 63.51 249 LR LR 01 20 00.4
comp=Z,136nm,18.0s,baz=36,slow=35
AAM Ann Arbor 63.77 52 P **P 00 53 02.3 0.0**
baz=273
RES Resolute Bay 63.77 15 LR LR 01 16 45.3
comp=Z,406nm,21.5s,baz=222,slow=32
RPN Rapa Nui 64.18 135 LR LR 01 14 51.3
comp=Z,411nm,18.3s,baz=305,slow=30
TKL Tuckaleechee C 64.19 59 LR LR 01 19 22.7
comp=Z,73nm,18.9s,baz=274,slow=34
TZTN Tazewell 64.28 58 P **P 00 53 05.4 -0.4**
baz=276
ACSO Alum Creek Sta 64.40 54 P **P 00 53 06.2 -0.3**
baz=274
KLR Kul'dur 64.52 316 LR LR 01 16 25.9
comp=Z,359nm,20.9s,baz=118,slow=32
GOGA Godfrey 64.70 62 P **P 00 53 07.8 -0.8**
baz=277
TIGA Tifton 64.86 64 P **P 00 53 08.4 -1.2**
baz=278
P52A Corning 65.10 55 P **P 00 53 09.5 -1.6**
baz=275
O53A New Philadelph 65.75 54 P **P 00 53 14.7 -0.6**
baz=275
M53A WI Miller and 66.05 52 P **P 00 53 16.6 -0.5**
baz=275
YAK Yakutsk 66.06 330 LR LR 01 18 08.2
comp=Z,811nm,21.9s,baz=97,slow=32
KMSC Kings Mountain 66.23 59 P **P 00 53 17.4 -1.0**
baz=278
JNU Nakatsue 66.44 298 LR LR 01 22 31.3
comp=Z,301nm,18.0s,baz=87,slow=36
ERPA Erie 66.50 52 P **P 00 53 20.2 +0.1**
baz=275
BLA Blacksburg 66.70 57 P **P 00 53 20.4 -1.1**
baz=277
MCWV Mont Chateau 66.86 54 P **P 00 53 21.8 -0.6**
baz=276
DWPF Disney Wildern 67.25 67 P **P 00 53 24.5 -0.6**
baz=281
TIXI Tiksi 67.30 341 LR LR 01 22 17.7
comp=Z,296nm,19.6s,baz=138,slow=36
NHSC New Hope 67.47 61 P **P 00 53 25.6 -0.8**
baz=279
JTS Las Juntas de 68.20 86 LR LR 01 15 54.5
comp=Z,272nm,21.4s,baz=290,slow=29
KSRS Korea Array 68.21 303 LR LR 01 21 52.8
comp=Z,247nm,18.8s,baz=90,slow=35
SSPA Standing Stone 68.23 53 P **P 00 53 31.0 -0.1**
baz=277
CBN Corbin Frederi 68.96 56 P **P 00 53 35.1 -0.5**
baz=279
CNNC Cliffs of the 69.01 59 P **P 00 53 34.8 -1.2**
baz=279
CN2 Changchun 69.23 310 *e*P **P 00 53 37.7 +0.5**
CN2 *e*S **S 01 02 47.4 +3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.4s
CN2 pmax pmax
comp=Z,400nm,9.0s
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,700nm,19.0s
CN2 LR LR
comp=Z,800nm,18.1s
CTA Charters Tower 69.43 239 LR LR 01 20 26.9
comp=Z,9.5nm,19.6s,baz=82,slow=33
BINY Binghamton 69.44 51 P **P 00 53 37.6 -1.0**
baz=278
JOW Kunigami 69.78 292 LR LR 01 19 40.1
comp=Z,164nm,21.3s,baz=52,slow=32
RPZ Rata Peaks 69.97 205 LR LR 01 19 43.6
comp=Z,321nm,21.7s,baz=82,slow=32
LONY Lake Ozonia 70.12 49 P **P 00 53 41.4 -1.4**
baz=278
PAL Palisades 71.16 52 P **P 00 53 49.0 -0.1**
baz=280
FRB Frobisher Bay 71.37 28 LR LR 01 20 58.7
comp=Z,92nm,21.3s,baz=318,slow=32
L61B Northampton 71.83 51 P **P 00 53 52.8 -0.4**
baz=280
LBNH Lisbon 72.06 49 P **P 00 53 52.0 -2.5**
baz=280
HRV Adam Dziewonsk 72.63 50 P **P 00 53 56.7 -1.2**
baz=281
DL2 Dalian 72.85 306 P **P 00 54 00.9 +1.6**
DL2 *e*S **SKiKP 01 03 30.0 -4.3**
DL2 pmax pmax
comp=Z,37nm,1.2s
DL2 pmax pmax
comp=Z,650nm,6.7s
DL2 LR LR
comp=Z,370nm,24.8s
DL2 LR LR
comp=Z,420nm,27.9s
DL2 LR LR
comp=Z,880nm,35.0s
PKME Peaks-Kenny Pk 73.72 47 P **P 00 54 04.0 -0.4**
baz=281
XLT XiLinHaoTe 75.88 312 *e*P **P 00 54 18.9 +1.9**
XLT pmax pmax
comp=Z,4.0nm,0.7s
NJ2 Nanjing 76.59 299 *e*P **P 00 54 19.2 -1.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,220nm,4.1s
DAV Davao City (W) 77.48 273 LR LR 01 21 39.7
comp=Z,269nm,21.7s,baz=70,slow=30
SFJD Kangerlussuaq 77.91 23 LR LR 01 24 47.2
comp=Z,242nm,21.7s,baz=304,slow=33
HNS HongShan 78.51 306 ⇓P **P 00 54 32.9 +1.2**
HNS PP **PP 00 57 33.5 +4.5**
HNS S **S 01 04 35.3 +6.0**
HNS pmax pmax
comp=Z,510nm,8.6s
HNS LR LR
comp=Z,290nm,21.8s
HNS LR LR
comp=Z,450nm,23.5s
STKA Stephens Creek 79.07 231 LR LR 01 23 14.5
comp=Z,170nm,20.2s,baz=30,slow=31
WRA Warramunga Arr 79.27 244 P **P 00 54 36.8 +0.6**
comp=Z,0.8nm,1.0s,baz=67,slow=5.8,SNR=3.1
WRA LR LR 01 25 56.4
comp=Z,231nm,20.7s,baz=39,slow=33
comp=Z,0.8nm,1.0s
SUMG Summit 79.27 16 *i*P **P 00 54 38.0 +2.2**
ROSC El Rosal 79.89 88 LR LR 01 21 40.9
comp=Z,158nm,19.9s,baz=262,slow=29
HHC Hu-ho-hao-te 79.90 310 *e*P **P 00 54 36.9 -2.6**
HHC PP **PP 00 57 42.1 +1.5**
HHC S **S 01 04 42.9 -1.4**
HHC SS **SS 01 09 50.8 -2.2**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,320nm,6.3s
HHC LR LR
comp=Z,240nm,15.3s
HHC LR LR
comp=Z,350nm,16.0s
HHC LR LR
comp=Z,390nm,16.8s
ATAH Atahualpa 80.10 101 LR LR 01 23 41.8
comp=Z,236nm,18.6s,baz=299,slow=31

LYN LuoYang 81.05 303 ⇑P **P 00 54 49.5 +3.9**
LYN sS 01 05 07.2
LYN pmax pmax
comp=Z,560nm,6.4s
LYN LR LR
comp=Z,1μm,12.5s
LYN LR LR
comp=Z,690nm,11.8s
LYN LR LR
comp=Z,1μm,18.7s
NRIK Noril'sk 81.06 341 LR LR 01 28 59.7
comp=Z,269nm,21.9s,baz=54,slow=34
ASAR Alice Springs 81.22 241 P **P 00 54 47.7 +1.0**
comp=Z,0.8nm,0.8s,baz=75,slow=5.8,SNR=5.3
comp=Z,0.8nm,0.8s
SONM Songino Array 81.28 318 P **P 00 54 48.0 +1.2**
comp=Z,2.0nm,1.1s,baz=119,slow=5.3,SNR=10
SONM LR LR 01 28 44.0
comp=Z,446nm,20.8s,baz=56,slow=34
comp=Z,2.0nm,1.1s
SDV Santo Domingo 82.08 83 LR LR 01 24 29.2
comp=Z,116nm,21.5s,baz=240,slow=31
SPITS Spitsbergen Ar 82.52 2 LR LR 01 27 57.8
comp=Z,161nm,21.9s,baz=322,slow=33
NNA Nana 83.27 105 LR LR 01 22 52.6
comp=Z,290nm,21.3s,baz=286,slow=29
KAPI Kappang 86.92 264 LR LR 01 30 52.1
comp=Z,83nm,20.1s,baz=84,slow=33
JMIC Jan Mayen 86.97 10 LR LR 01 30 44.8
comp=Z,147nm,22.0s,baz=320,slow=33
LZH Lanzhou 87.19 307 P **P 00 55 18.4 +1.3**
LZH pmax pmax
comp=Z,380nm,7.6s
LZH LR LR
comp=Z,270nm,14.1s
LZH LR LR
comp=Z,240nm,14.8s
LZH LR LR
comp=Z,590nm,16.0s
PCRV Puerto La Cruz 87.27 80 LR LR 01 30 57.0
comp=Z,81nm,20.5s,slow=33
QIZ Qiongzhong 88.23 289 P **P 00 55 20.7 -1.5**
QIZ PP **PP 00 58 47.0 -2.2**
QIZ S **S 01 06 04.8 -3.6**
QIZ SS **SS 01 11 56.1 -1.0**
QIZ pmax pmax
comp=Z,390nm,4.3s
QIZ LR LR
comp=Z,170nm,16.7s
QIZ LR LR
comp=Z,260nm,20.8s
QIZ LR LR
comp=Z,340nm,20.6s
GYA Guiyang 88.43 297 ⇑P **P 00 55 26.4 +3.2**
GYA pmax pmax
comp=Z,410nm,7.6s
GYA LR LR
comp=Z,490nm,22.7s
GTA Gaotai 88.83 312 P **P 00 55 26.6 +1.8**
GTA pmax pmax
comp=Z,280nm,8.4s
GTA LR LR
comp=Z,250nm,21.5s
GTA LR LR
comp=Z,310nm,22.3s
GTA LR LR
comp=Z,450nm,22.7s
BORG Borgarnes 89.03 18 LR LR 01 31 57.6
comp=Z,102nm,22.0s,baz=326,slow=33
CD2 Chengdu 89.19 302 P **P 00 55 29.0 +2.4**
CD2 SS SS 01 12 12.4 +2.0
CD2 pmax pmax
comp=Z,290nm,6.1s
H03N2 Juan Fernandez 89.69 126 T T 02 34 30.6
baz=299,slow=76,SNR=8.3
H03N3 Juan Fernandez 89.70 126 T T 02 34 34.2
baz=299,slow=76,SNR=7.3
H03N1 Juan Fernandez 89.70 126 T T 02 34 31.5
baz=299,slow=76,SNR=7.8
ZALV Zalesovo Beam 90.70 329 P **P 00 55 34.9 +1.8**
comp=Z,2.7nm,0.9s,baz=57,slow=5.5,SNR=8.1
ZALV LR LR 01 34 13.4
comp=Z,444nm,20.5s,baz=65,slow=34
comp=Z,2.7nm,0.9s
ARCES ARCESS Array B 91.33 360 LR LR 01 31 58.6
comp=Z,151nm,21.3s,baz=2.5,slow=32
KMI Kunming 92.20 297 ⇓P **P 00 55 40.6 -0.3**
KMI pmax pmax
comp=Z,170nm,8.1s
KMI LR LR
comp=Z,280nm,20.1s
KMI LR LR
comp=Z,300nm,23.7s
KMI LR LR
comp=Z,520nm,30.4s
PZH PanZhiHua 92.50 299 P **P 00 55 43.7 +1.5**
PZH S **S 01 06 41.1 -6.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,170nm,5.4s
PZH LR LR
comp=Z,140nm,19.0s
PZH LR LR
comp=Z,220nm,20.2s
PZH LR LR
comp=Z,290nm,20.2s
LPAZ La Paz 92.68 106 LR LR 01 29 46.0
comp=Z,146nm,20.2s,baz=285,slow=31
LVC Limon Verde 94.06 112 LR LR 01 29 02.4
comp=Z,344nm,20.1s,baz=274,slow=30
WMQ Urumqi 94.76 320 *e*P **P 00 55 51.3 -0.8**
WMQ LR LR
comp=Z,470nm,14.7s
WMQ LR LR
comp=Z,500nm,24.2s
WMQ LR LR
comp=Z,360nm,23.9s
CMAR Chiang Mai Arr 98.05 293 LR LR 01 39 51.4
comp=Z,136nm,19.2s,baz=65,slow=35
PLCA Paso Flores 98.53 130 LR LR 01 30 30.5
comp=Z,377nm,21.1s,baz=266,slow=29
SIV San Ignacio 99.02 104 LR LR 01 34 06.3
comp=Z,354nm,20.0s,baz=293,slow=31
NOA NORSAR Array B 99.12 7 LR LR 01 38 28.9
comp=Z,97nm,20.8s,baz=345,slow=34
KIRV Kirov 99.69 347 LR LR 01 44 03.2
comp=Z,299nm,19.7s,baz=27,slow=37
VNDA Vanda 99.87 189 LR LR 01 31 28.3
comp=Z,177nm,21.9s,baz=28,slow=29
MILM Milestii Mici 113.91 357 *e*PP **PP 01 02 04.0 +2.5**
MILM *e*L L 01 48 00.0
MILM LRM MLR 01 49 40.0
comp=Z,120nm,5.7s
comp=Z,200nm,19.5s

*IDC **13** 00:43:35.0±1.2,58°.17N×163°.30E,h0km,mb3.6/6,*
mbtmp3.6/7,ML3.3/1,MS4.1/1,Error ellipse: s-maj=32.6km
s-min=18.9km az=12.0
*NEIC **13** 00:43:35.8±1.4,57°.9N±0°.2×162°.9E±0°.3,h35km±2km,*
mb4.0/29,Error ellipse: s-maj=32.5km s-min=14.1km
az=218.0
*KRSC **13** 00:43:38.2±1.1,58°.46N×163°.34E,h14km±18km,Ml3.8*
ISC 13 00:43:41.4±0.7,58°.53N±0°.04×163°.29E±0°.05,h35km,n64,
σ1°62/63,mb3.9/19,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.73**	**351**	*e*P	**Pn**	**00 43 52.3**	**-2.9**
OSSR				*e*S	**Sn**	**00 44 03.9**	**-1.2**
PALN	**Palana**	**1.82**	**289**	*e*P	**Pn**	**00 44 10.8**	**+0.6**
PALN				*e*S	**Sn**	**00 44 35.5**	**+3.6**
KBTR	**Krutoberegovo**	**2.34**	**186**	*e*P	**Pn**	**00 44 14.5**	**-2.8**
KBTR				*e*S	**Sn**	**00 44 44.1**	**-0.7**
TILK	**Tilichiki**	**2.41**	**36**	*e*P	**Pn**	**00 44 20.1**	**+1.9**
TILK				*e*S	**Sn**	**00 44 51.8**	**+5.3**
TIGL	**Tigil**	**2.57**	**255**	*e*P	**Pn**	**00 44 21.6**	**+1.2**
KRSR	**Krestovskiy**	**2.75**	**214**	*e*P	**Pn**	**00 44 24.5**	**+1.5**
CIRR	**Tsirk**	**2.79**	**211**	*e*P	**Pn**	**00 44 24.2**	**+0.6**
LGNR	**Loginova**	**2.83**	**211**	*e*P	**Pn**	**00 44 25.9**	**+1.6**
ZLN	**Zelenaya**	**2.86**	**209**	*e*P	**Pn**	**00 44 26.7**	**+2.1**
SRDR	**Sredinnyy**	**2.94**	**223**	*e*P	**Pn**	**00 44 27.7**	**+2.1**
BZWR	**Bezymyannyi-We**	**2.99**	**212**	*e*P	**Pn**	**00 44 27.1**	**+0.7**
BZMR	**Bezymyannaya**	**3.01**	**212**	*e*P	**Pn**	**00 44 27.4**	**+0.7**
BZP	**Bezymyannyi-Pe**	**3.02**	**211**	*e*P	**Pn**	**00 44 27.8**	**+0.9**
KIRR	**Kirishev**	**3.04**	**213**	*e*P	**Pn**	**00 44 27.2**	**+0.1**
KPT	**Kopyto**	**3.06**	**214**	*e*P	**Pn**	**00 44 27.4**	**+0.1**
KMNR	**Kamenistaya**	**3.24**	**212**	*e*P	**Pn**	**00 44 30.9**	**+1.1**
TUMR	**Tumrok**	**3.68**	**209**	*e*P	**Pn**	**00 44 37.7**	**+1.8**
TUMD	**Tumrok D**	**3.69**	**207**	*e*P	**Pn**	**00 44 39.1**	**+3.1**
GNL	**Ganaly**	**5.69**	**214**	*e*P	**Pn**	**00 45 04.8**	**+1.3**
MA2	**Magadan**	**6.55**	**285**	LR	LR	00 47 51.6	
	comp=Z,66nm,20.2s,baz=316,slow=39						
SEY	**Seymchan**	**6.93**	**314**	Pn	**Pn**	**00 45 19.1**	**-1.2**
	0.5nm,0.3s,baz=156,slow=14,SNR=2.3						
SEY				Sn	**Sn**	**00 46 42.0**	**+4.2**
	0.5nm,0.3s,baz=105,slow=20,SNR=1.7						
	2.1nm,0.2s						
L14K	**Kuka Creek**	**17.16**	**66**	P	**Pn**	**00 47 38.6**	**+0.6**
M14K	**Bethel**	**17.58**	**68**		**P**	**00 47 45.0**	**+1.0**
K15K	**Wolf Creek Mou**	**17.63**	**63**		**P**	**00 47 45.2**	**+0.6**
K15K				IAmb	IAmb	00 47 45.3	
	comp=Z,13nm,1.2s						
L16K	**Owhat River**	**18.65**	**64**	P	**P**	**00 47 56.3**	**+0.5**
L16K				IAmb	IAmb	00 48 00.7	
	comp=Z,6.6nm,0.7s						
H19K	**Roundabout Mou**	**19.82**	**53**	P	**Pn**	**00 48 10.3**	**0.0**
H19K				IAmb	IAmb	00 48 17.6	
	comp=Z,5.4nm,1.1s						
J19K	**Poorman**	**20.20**	**57**	P	**P**	**00 48 13.6**	**+0.8**
J20K	**Nowinta River**	**20.84**	**56**	P	**P**	**00 48 21.1**	**+1.5**
IMAR	**Indian Mountai**	**20.95**	**51**	P	**P**	**00 48 21.9**	**+1.1**
E21K	**Killik River**	**21.02**	**44**	P	**P**	**00 48 22.5**	**+0.9**
G21K	**Allakaket**	**21.05**	**50**	P	**P**	**00 48 22.8**	**+0.9**
G21K				IAmb	IAmb	00 48 29.4	
	comp=Z,6.8nm,1.1s						
F21K	**Alatna River**	**21.09**	**48**	P	**P**	**00 48 22.9**	**+0.5**
F21K				IAmb	IAmb	00 48 26.7	
	comp=Z,5.9nm,1.1s						
H21K	**Melozitna Rive**	**21.34**	**52**	P	**P**	**00 48 25.7**	**+0.7**
B22K	**Teshekpuk Lake**	**21.51**	**39**	P	**P**	**00 48 27.8**	**+1.0**
B22K				IAmb	IAmb	00 48 49.7	
	comp=Z,10nm,1.4s						
E22K	**Anaktuvuk Pass**	**21.79**	**45**	P	**P**	**00 48 31.6**	**+1.7**
BPAW	**Bear Paw Mtn.**	**22.23**	**56**	P	**P**	**00 48 33.8**	**-0.8**
BPAW				IAmb	IAmb	00 48 37.5	
	comp=Z,7.3nm,1.1s						
MLY	**Manley**	**22.24**	**54**	P	**P**	**00 48 34.9**	**+0.1**
MLY				IAmb	IAmb	00 48 35.9	
	comp=Z,7.3nm,1.1s						
COLD	**Coldfoot**	**22.37**	**48**	P	**P**	**00 48 37.1**	**+1.1**
COLD				IAmb	IAmb	00 48 38.5	
	comp=Z,4.0nm,1.0s						
TOLK	**Toolik Lake Re**	**22.65**	**44**	P	**P**	**00 48 39.1**	**+0.1**
TOLK				IAmb	IAmb	00 48 40.7	
	comp=Z,4.3nm,0.8s						
H23K	**Yukon River**	**22.68**	**52**	P	**P**	**00 48 39.4**	**0.0**
E24K	**Your Creek**	**23.03**	**46**	P	**P**	**00 48 43.0**	**0.0**
CCB	**Clear Creek Bu**	**23.53**	**54**	P	**P**	**00 48 47.3**	**-0.5**
CCB				IAmb	IAmb	00 48 48.6	
	comp=Z,3.7nm,0.9s						
D25K	**Kavik River**	**23.83**	**43**	IAmb	IAmb	00 48 51.8	
	comp=Z,4.9nm,1.2s						
IL31		**23.90**	**54**	P	**P**	**00 48 51.3**	**-0.1**
IL31				IAmb	IAmb	00 48 52.4	
	comp=Z,4.6nm,0.8s						
ILAR	**Eielson Array**	**23.90**	**54**	P	**P**	**00 48 50.3**	**-1.1**
ILAR	**Eielson Array**	**23.90**	**54**	P	**P**	**00 48 50.8**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=266,slow=8.5,SNR=31						
	comp=Z,3.2nm,0.8s						
PRP	**Porcupine Dome**	**24.36**	**52**	P	**P**	**00 48 56.0**	**+0.1**
BMAR	**Burnt Mountain**	**24.54**	**47**	P	**P**	**00 48 56.9**	**-0.4**
J25K	**Salcha River,**	**24.57**	**54**	P	**P**	**00 48 57.2**	**-0.4**
J25K				IAmb	IAmb	00 49 01.1	
	comp=Z,3.5nm,0.9s						
SCRK	**Sand Creek**	**25.28**	**55**	P	**P**	**00 49 03.8**	**-0.4**
G27K	**Doyon Strip**	**25.74**	**48**	P	**P**	**00 49 08.2**	**-0.1**
G27K				IAmb	IAmb	00 49 11.1	
	comp=Z,3.2nm,0.8s						
MESA	**MESA**	**27.29**	**63**		**P**	**00 49 21.5**	**-0.9**
SONM	**Songino Array**	**34.70**	**278**	P	**P**	**00 50 25.3**	**-2.3**
	comp=Z,0.2nm,0.5s,baz=45,slow=10,SNR=1.9						
	comp=Z,0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**38.84**	**175**	T	T	01 31 53.1	
	baz=358,slow=76,SNR=78						
H11N3	**WAKE ISLAND Hy**	**38.85**	**175**	T	T	01 31 54.2	
	baz=358,slow=76,SNR=62						
H11N1	**WAKE ISLAND Hy**	**38.85**	**175**	T	T	01 31 54.4	
	baz=358,slow=76,SNR=73						
SPITS	**Spitsbergen Ar**	**42.06**	**350**	P	**P**	**00 51 30.6**	**+1.6**
	comp=Z,14nm,1.0s,baz=17,slow=15,SNR=4.8						
KURBB	**Kurchatov Arra**	**46.62**	**299**	P	**P**	**00 52 05.5**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=47,slow=7.9,SNR=7.0						
	comp=Z,1.2nm,0.9s						
MKAR	**Makanchi Array**	**47.55**	**293**	P	**P**	**00 52 12.4**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=60,slow=9.3,SNR=2.4						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**48.52**	**306**	P	**P**	**00 52 21.2**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=30,slow=8.9,SNR=2.3						
	comp=Z,0.3nm,0.5s						
KKAR	**Karatay Array**	**55.88**	**298**	P	**P**	**00 53 11.3**	**-3.9**
TXAR	**Lajitas Array**	**67.01**	**71**	P	**P**	**00 54 31.0**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=291,slow=3.9,SNR=6.2						
	comp=Z,0.6nm,0.7s						
NWAO	**Narrogin (SRO)**	**98.88**	**218**	LR	LR	01 39 30.0	
	comp=Z,93nm,21.9s,baz=206,slow=34						
MAW	**Mawson**	**145.36**	**222**	PKPbc	**PKPdf**	**01 03 12.8**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=58,slow=17,SNR=6.6						

*IDC **13** 00:49:59.5±0.8,31°.71S×58°.29E,h0km,mb3.9/10,*
mbtmp3.9/10,Error ellipse: s-maj=30.0km s-min=21.5km
az=90.0
ISC 13 00:50:01.6±0.8,31°.7S±0°.2×58°.3E±0°.2,h14km,n20,
σ0°43/11,mb3.9/10,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.27**	**197**	T	T	01 09 18.7	
	baz=23,slow=74,SNR=157						
H04N1	**CROZET ISLANDS**	**15.27**	**197**	T	T	01 09 19.7	
	baz=23,slow=74,SNR=137						
H04N3	**CROZET ISLANDS**	**15.28**	**197**	T	T	01 09 18.5	
	baz=23,slow=74,SNR=148						
H08S1	**Diego Carcia H**	**27.37**	**32**	T	T	01 24 16.9	
	baz=207,slow=75,SNR=11						
H08S2	**Diego Garcia H**	**27.38**	**32**	T	T	01 24 08.3	
	baz=207,slow=75,SNR=9.9						
H08S3	**Diego Garcia H**	**27.39**	**32**	T	T	01 24 08.5	
	baz=207,slow=75,SNR=8.9						
H01W2	**Cape Leeuwin H**	**46.30**	**110**	T	T	01 48 11.5	
	baz=257,slow=75,SNR=34						
H01W3	**Cape Leeuwin H**	**46.30**	**110**	T	T	01 48 12.0	
	baz=257,slow=75,SNR=39						
H01W1	**Cape Leeuwin H**	**46.31**	**110**	T	T	01 48 12.7	
	baz=257,slow=75,SNR=40						
SNAA	**Sanae**	**51.20**	**201**	P	**P**	**00 59 03.7**	**-0.5**
	1.8nm,1.1s,baz=55,slow=1.2,SNR=3.8						
	1.8nm,1.1s						
QSPA	**South Pole Qui**	**58.45**	**180**	P	**P**	**00 59 57.5**	**+0.6**
	2.1nm,0.6s,baz=279,slow=1.3,SNR=20						
	2.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.33**	**44**	P	**P**	**01 00 30.6**	**+0.2**
	1.1nm,0.3s,baz=232,slow=7.2,SNR=5.7						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**66.26**	**104**	P	**P**	**01 00 49.6**	**-0.2**
	0.4nm,0.6s,baz=244,slow=5.2,SNR=5.7						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**68.27**	**101**	P	**P**	**01 01 02.3**	**-0.1**
	0.7nm,0.8s,baz=242,slow=4.9,SNR=3.5						
	0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**70.17**	**300**	P	**P**	**01 01 14.5**	**+0.4**
	0.6nm,0.9s,baz=166,slow=3.4,SNR=2.7						
	0.6nm,0.9s						
BRTR	**Keskin Array B**	**74.66**	**341**	P	**P**	**01 01 40.3**	**-0.3**
	0.6nm,0.8s,baz=143,slow=9.0,SNR=3.7						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**81.10**	**16**	P	**P**	**01 02 15.9**	**-0.2**
	0.7nm,0.8s,baz=225,slow=8.4,SNR=4.2						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**83.92**	**13**	P	**P**	**01 02 31.1**	**+0.4**
	1.1nm,0.9s,baz=208,slow=6.1,SNR=7.3						
	1.1nm,0.9s						
BVAR	**Borovoye Array**	**85.05**	**7**	P	**P**	**01 02 36.3**	**0.0**
	2.0nm,0.8s,baz=186,slow=6.0,SNR=9.4						
	2.0nm,0.8s						
YKA	**Yellowknife Ar**	**148.87**	**354**	PKPbc	**PKiKP**	**01 09 48.9**	**-0.5**
	1.1nm,0.7s,baz=359,slow=3.8,SNR=5.4						

IDC 13 01:07:07.5±4.8,19°.14N×122°.34E,h0km,mb3.5/3,

mbtmp3.5/3, Error ellipse: s-maj=386.2km s-min=29.7km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.58**	**162**	P	P	01 14 48.7	-0.4
	0.6nm,0.6s,baz=343,slow=8.8,SNR=4.8						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**42.78**	**319**	P	P	01 15 06.8	-0.1
	0.2nm,0.5s,baz=99,slow=6.4,SNR=3.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**44.01**	**165**	P	P	01 15 17.2	+0.2
	0.4nm,0.6s,baz=347,slow=7.1,SNR=4.6						
	0.4nm,0.6s						

CATAC 13 01:19:30.2±0.3, 12°.42N×87°.89W, h20km, ML3.8, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.86**	**4**	*i* P	Pn	01 19 48.0	+0.7
CNCH				IAML		01 19 48.3	
	comp=Z,6μm,1.0s						
CNCH				*i* S	Sn	01 20 00.3	+1.0
CRIN	**San Cristobal**	**0.87**	**71**	*i* P	Pn	01 19 49.0	+1.7
CRIN				*i* S	Sn	01 20 01.6	+2.2
CRIN				IAML		01 20 06.1	
	comp=Z,11μm,1.0s						
LCND	**La Caada**	**0.89**	**360**	*i* P	Pn	01 19 48.4	+0.8
PKGN	**Cerro Pekin**	**0.93**	**74**	*i* P	Pn	01 19 49.0	+0.9
PKGN				*i* S	Sn	01 20 01.1	+0.3
PKGN				IAML		01 20 03.7	
	comp=Z,19μm,1.0s						
QUEN	**Al S del Volca**	**1.03**	**80**	*i* P	Pn	01 19 49.9	+0.4
QUEN				*i* S	Sb	01 20 02.1	-0.3
QUEN				IAML		01 20 04.9	
	comp=Z,5μm,1.0s						
PACN	**Al O del Volca**	**1.07**	**85**	*i* P	Pn	01 19 50.8	+0.7
PACN				*i* S	Sn	01 20 04.6	+0.1
PACN				IAML		01 20 06.7	
	comp=Z,4μm,1.0s						
RANC	**El Ranchito**	**1.09**	**339**	*i* P	Pb	01 19 49.7	-0.7
RANC				*i* S	Sb	01 20 03.5	-0.7
RANC				IAML		01 20 10.3	
	comp=Z,1μm,1.0s						
CNRM	**Centro Naciona**	**1.09**	**345**	*i* P	Pn	01 19 50.0	-0.3
CNRM				*i* S	Sn	01 20 05.1	+0.3
CNRM				IAML		01 20 10.3	
	comp=Z,4μm,1.0s						
PACA	**Pacayal**	**1.13**	**338**	*i* P	Pb	01 19 51.4	+0.2
PACA				*i* S	Sn	01 20 07.1	+1.0
PACA				IAML		01 20 12.0	
	comp=Z,7μm,1.0s						
CNGA	**Al SSO del Vol**	**1.16**	**86**	*i* P	Pn	01 19 50.9	-0.5
CNGA				*i* S	Sb	01 20 05.6	-0.7
CNGA				IAML		01 20 09.0	
	comp=Z,3μm,1.0s						
CNGN	**Cerro Negro**	**1.17**	**86**	*i* P	Pb	01 19 51.9	+0.2
CNGN				*i* S	Sb	01 20 06.5	+0.1
CNGN				IAML		01 20 13.2	
	comp=Z,3μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.24**	**90**	*i* P	Pb	01 19 53.1	+0.1
LEVN				*i* S	Sn	01 20 08.7	+0.1
LEVN				IAML		01 20 12.6	
	comp=Z,2μm,1.0s						
COPN	**Copaltepe**	**1.29**	**100**	*i* P	Pn	01 19 53.3	+0.2
COPN				*i* S	Sn	01 20 09.1	-0.7
COPN				IAML		01 20 11.9	
	comp=Z,670nm,1.0s						
MOM2	**El Cardon**	**1.37**	**89**	*i* P	Pb	01 19 54.8	-0.4
MOM2				*i* S	Sn	01 20 11.8	0.0
MOM2				IAML		01 20 14.5	
	comp=Z,700nm,1.0s						
SAPS	**Ciudad Sandino**	**1.47**	**99**	*i* P	Pn	01 19 55.9	+0.3
SAPS				*i* S	Sb	01 20 14.8	-0.3
SAPS				IAML		01 20 19.6	
	comp=Z,1μm,1.0s						
UESV	**Universidad de**	**1.50**	**324**	*i* P	Pn	01 19 56.5	+0.5
UESV				*i* S	Sn	01 20 14.6	-0.4
UESV				IAML		01 20 20.2	
	comp=Z,520nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.52**	**327**	*i* P	Pn	01 19 56.3	0.0
SCLA				IAML		01 19 58.5	
	comp=Z,320nm,1.0s						
SCLA				*i* S	Sb	01 20 16.4	-0.2
COEG	**Centro de Oper**	**1.54**	**321**	*i* P	Pn	01 19 56.9	+0.3
COEG				*i* S	Sn	01 20 15.5	-0.6
COEG				IAML		01 20 18.8	
	comp=Z,530nm,1.0s						
APQ2	**Apoyeque**	**1.54**	**98**	*i* P	Pn	01 19 56.8	+0.2
APQ2				*i* S	Sn	01 20 15.8	-0.2
APQ2				IAML		01 20 19.5	
	comp=Z,800nm,1.0s						
TISN	**Laguna Tiscapa**	**1.60**	**100**	*i* P	Pb	01 19 58.5	-0.7
TISN				*i* S	Sn	01 20 18.0	+0.4
TISN				IAML		01 20 18.3	
	comp=Z,100nm,1.0s						
LIMN	**Finca el Limon**	**1.62**	**66**	*i* P	Pn	01 19 57.8	+0.1
LIMN				IAML		01 20 19.2	
	comp=Z,340nm,1.0s						
MAS3	**Al N del Volca**	**1.72**	**103**	*i* P	Pn	01 19 59.2	+0.2
MAS3				*i* S	Sn	01 20 19.4	-1.0
MAS3				IAML		01 20 20.2	
	comp=Z,730nm,1.0s						
LOMA	**Loma Larga**	**1.75**	**314**	*i* P	Pn	01 19 59.6	+0.1
LOMA				*i* S	Sn	01 20 20.7	-0.6
LOMA				IAML		01 20 23.7	
	comp=Z,710nm,1.0s						
OCON	**Estacion meteo**	**1.83**	**49**	*i* P	Pn	01 20 00.8	+0.2
OCON				IAML		01 20 02.1	
	comp=Z,510nm,1.0s						
OCON				*i* S	Sn	01 20 22.0	-1.3
PMON	**Piamonte**	**1.90**	**313**	*i* P	Pn	01 20 01.8	+0.2
PMON				*i* S	Sn	01 20 24.3	-0.6
PMON				IAML		01 20 28.2	
	comp=Z,530nm,1.0s						
JAYA	**Jayaque - finc**	**1.96**	**309**	*i* P	Pn	01 20 03.2	+0.8
JAYA				*i* S	Sn	01 20 26.0	-0.5
JAYA				IAML		01 20 30.0	
	comp=Z,1μm,1.0s						
BOAB	**BOACO BROADBAN**	**2.17**	**89**	*i* P	Pn	01 20 04.8	-0.4
BOAB				IAML		01 20 22.4	
	comp=Z,100nm,1.0s						
BOAB				*i* S	Sn	01 20 30.0	-1.6
NUBE	**Las Nubes**	**2.36**	**309**	*i* P	Pn	01 20 08.7	+0.7
NUBE				*i* S	Sn	01 20 35.8	-0.7
NUBE				IAML		01 20 39.9	
	comp=Z,380nm,1.0s						

*NEIC **13** 01:21:30.3±1.5, 52°.7N±0°.1×176°.57W±0°.08, h223km±8km, mb4.5/266, ML4.2(AEIC), Error ellipse: s-maj=20.1km s-min=7.3km az=174.0*

*AEIC **13** 01:21:31.1±1.6, 52°.6N±0°.1×176°.45W±0°.08, h224km±6km, Error ellipse: s-maj=17.5km s-min=7.3km az=174.0*

*IDC **13** 01:21:33.0±0.9, 53°.01N×176°.68W, h259km±8km, mb3.5/11, mbtmp4.1/13, Error ellipse: s-maj=19.1km s-min=9.8km az=160.0*

ISC 13 01:21:29.8±0.5, 52°.62N±0°.09×176°.53W±0°.04, h234km±4km, n659, σ1°.05/674, mb4.4/91, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSSP	**Great Sitkin S**	**0.57**	**157**		**Pn**	**01 22 00.6**	**-0.6**
GSTR	**Great Sitkin T**	**0.60**	**151**		**Pn**	**01 22 00.6**	**-0.6**
GSTD	**Great Sitkin T**	**0.61**	**157**		**Pn**	**01 22 00.8**	**-0.5**
GSTD					**S**	**01 22 24.6**	**-1.5**
GSMY	**Great Sitkin M**	**0.64**	**153**		**Pn**	**01 22 00.6**	**-0.9**
GSMY					**S**	**01 22 24.6**	**-1.5**
ADK	**Adak**	**0.74**	**187**		**Pn**	**01 22 01.2**	**-0.6**
ADK	**Adak**	**0.74**	**187**		**S**	**01 22 25.1**	**-1.7**
KINC	**Kanaga Island**	**0.78**	**208**		**Pn**	**01 22 01.7**	**-0.3**
KIRH	**Kanaga Island**	**0.80**	**206**		**Pn**	**01 22 01.9**	**-0.2**
KICM	**Kanaga Island**	**0.81**	**210**		**Pn**	**01 22 02.1**	**0.0**
KIKV	**Kanaga Island**	**0.84**	**208**		**Pn**	**01 22 01.9**	**-0.4**
KIKV					**S**	**01 22 26.8**	**-0.8**
KIWB	**Kanaga Island**	**0.85**	**207**		**Pn**	**01 22 02.1**	**-0.2**
TAFP	**Tanaga Falls P**	**1.14**	**232**		**Pn**	**01 22 04.0**	**0.0**
TAFP					**S**	**01 22 29.2**	**-1.6**
TANO	**Tanaga North**	**1.20**	**235**		**Pn**	**01 22 04.7**	**+0.3**
TASE	**Tanaga Southea**	**1.21**	**230**		**Pn**	**01 22 04.7**	**+0.2**
KOKL	**Mount Kliuchef**	**1.46**	**101**		**Pn**	**01 22 05.6**	**-0.7**
ATKA	**Atka Island**	**1.49**	**105**		**Pn**	**01 22 05.3**	**-1.2**
ATKA					**S**	**01 22 32.9**	**-2.2**
KOFP	**Korovin Flat P**	**1.53**	**102**		**Pn**	**01 22 06.2**	**-0.6**
GAEA	**Gareloi East**	**1.60**	**239**		**Pn**	**01 22 07.7**	**+0.3**
GANO	**Gareloi North**	**1.61**	**241**		**Pn**	**01 22 07.4**	**-0.1**
CEPE	**Semis' Perret**	**2.43**	**256**		**Pn**	**01 22 15.4**	**+0.2**
CEPE					**S**	**01 22 49.9**	**-0.9**
CEAP	**Semis' Anvil P**	**2.46**	**257**		**Pn**	**01 22 15.9**	**+0.4**
AMKA	**Amchitka**	**2.86**	**246**		**Pn**	**01 22 19.3**	**-0.4**
AMKA					**S**	**01 22 57.3**	**-1.5**
LSPA	**Little Sitkin**	**3.08**	**260**		**Pn**	**01 22 23.1**	**+1.0**
LSSE	**Little Sitkin**	**3.09**	**259**		**Pn**	**01 22 22.7**	**+0.5**
LSNW	**Little Sitkin**	**3.11**	**260**		**Pn**	**01 22 23.2**	**+0.7**
CLCO	**Concord Point,**	**4.15**	**85**		**Pn**	**01 22 36.4**	**+1.9**
NIKH	**Nikolski High**	**4.67**	**83**		**Pn**	**01 22 40.9**	**-0.1**
NIKH	**Nikolski High**	**4.67**	**83**	P	**Pn**	**01 22 40.9**	**-0.1**
	baz=269						
NIKH					**S**	**01 23 33.4**	**-3.9**
	baz=269						
OKCE	**Okmok Cone E**	**5.12**	**78**		**Pn**	**01 22 48.6**	**+2.1**
SHEM	**Shemya Is, Ala**	**5.70**	**275**	P	**Pn**	**01 22 50.0**	**-3.7**
	64nm,0.8s,baz=16,slow=4.9,SNR=2.1						
SHEM					**S**	**01 23 57.8**	**-2.7**
	17nm,0.3s,baz=121,slow=18,SNR=1.6						
MREP	**Makushin Rep't**	**6.00**	**75**		**Pn**	**01 22 57.2**	**-0.3**
UNV	**Unalaska Valle**	**6.15**	**74**		**Pn**	**01 22 59.2**	**0.0**
UNV	**Unalaska Valle**	**6.15**	**74**	S	**S**	**01 24 07.9**	**-2.7**
	baz=263						
SDPT	**Sand Point**	**9.85**	**67**	P	**Pn**	**01 23 44.8**	**-1.6**
	baz=260						
CHNA	**Chernabura Isl**	**10.28**	**71**	P	**Pn**	**01 23 49.8**	**-2.1**
	baz=264						
S14K	**Fog Glacier**	**10.54**	**63**	P	**Pn**	**01 23 55.3**	**0.0**
	baz=257						
M13K	**Dall Lake**	**10.66**	**38**	P	**Pn**	**01 23 57.2**	**+0.6**
	baz=228						
O14K	**Tigyukauivet M**	**10.82**	**46**	P	**Pn**	**01 23 59.6**	**+0.9**
	baz=239						
N14K	**Kuskokwak Cree**	**11.01**	**43**	P	**Pn**	**01 24 02.1**	**+1.0**
	baz=235,SNR=10						
CHGN	**Chignik**	**11.17**	**64**	P	**Pn**	**01 24 02.8**	**-0.2**
	baz=258						
M14K	**Bethel**	**11.41**	**39**		**Pn**	**01 24 07.1**	**+1.1**
M14K	**Bethel**	**11.41**	**39**	P	**Pn**	**01 24 06.0**	**+0.1**
	baz=231,SNR=5.7						
O15K	**Ungalikthiuk R**	**11.43**	**48**	P	**Pn**	**01 24 06.3**	**0.0**
	baz=242,SNR=7.8						
L14K	**Kuka Creek**	**11.53**	**35**	Pn	**Pn**	**01 24 08.9**	**+1.4**
L14K	**Kuka Creek**	**11.53**	**35**	P	**Pn**	**01 24 08.5**	**+1.0**
	baz=227,SNR=5.8						
N15K	**Kwethluk River**	**11.81**	**44**	P	**Pn**	**01 24 12.1**	**+0.9**
N15K	**Kwethluk River**	**11.81**	**44**	P	**Pn**	**01 24 11.8**	**+0.6**
	baz=237,SNR=26						
M15K	**Kasigluk River**	**11.87**	**41**	P	**Pn**	**01 24 12.6**	**+0.9**
	baz=234,SNR=12						
L15K	**Urgalak Mounta**	**12.18**	**36**	P	**Pn**	**01 24 17.1**	**+1.4**
	baz=228,SNR=14						
P16K	**Nushagak River**	**12.22**	**51**	P	**Pn**	**01 24 16.1**	**-0.1**
	baz=246						
J14K	**Nanvaranak Lak**	**12.27**	**29**	P	**Pn**	**01 24 18.1**	**+1.3**
	baz=220						
O16K	**Kokwok River B**	**12.41**	**48**	P	**Pn**	**01 24 19.5**	**+0.9**
O16K	**Kokwok River B**	**12.41**	**48**	P	**Pn**	**01 24 19.3**	**+0.7**
	baz=244,SNR=12						
N16K	**Nishlik Lake**	**12.54**	**44**	P	**Pn**	**01 24 20.4**	**+0.3**
	baz=239,SNR=23						
R17L	**Mt. Peulik Vol**	**12.57**	**58**	P	**Pn**	**01 24 20.4**	**-0.2**
	baz=255						
K15K	**Wolf Creek Mou**	**12.58**	**34**		**Pn**	**01 24 22.2**	**+1.5**
K15K	**Wolf Creek Mou**	**12.58**	**34**	P	**Pn**	**01 24 22.0**	**+1.3**
	baz=226,SNR=14						
CHIR	**Chirikof Islan**	**12.64**	**67**	P	**Pn**	**01 24 19.6**	**-1.8**
CHIR	**Chirikof Islan**	**12.64**	**67**	P	**Pn**	**01 24 21.5**	**+0.1**
	baz=264						
Q16K	**King Salmon**	**12.73**	**54**	P	**Pn**	**01 24 22.8**	**+0.3**
	baz=250						
M16K	**Timber Creek**	**12.75**	**42**	Pn	**Pn**	**01 24 23.6**	**+0.9**
M16K	**Timber Creek**	**12.75**	**42**	P	**Pn**	**01 24 23.5**	**+0.7**
	baz=236,SNR=6.1						
O17K	**Koliganek Bris**	**12.95**	**49**	P	**Pn**	**01 24 25.2**	**0.0**
	baz=245,SNR=6.8						
L16K	**Owhat River**	**12.95**	**39**		**P**	**01 24 26.6**	**-0.8**
L16K	**Owhat River**	**12.95**	**39**	P	**Pn**	**01 24 25.6**	**+0.5**
	baz=233,SNR=7.6						
Q17K	**Contact Creek**	**12.99**	**56**	P	**Pn**	**01 24 25.9**	**+0.1**
	baz=253,SNR=9.6						
P17K	**Kvichak River**	**13.02**	**52**	P	**Pn**	**01 24 26.6**	**+0.5**
	baz=248,SNR=14						
N17K	**Nushagak Hills**	**13.24**	**46**	P	**P**	**01 24 30.3**	**-0.5**
N17K	**Nushagak Hills**	**13.24**	**46**	P	**Pn**	**01 24 29.3**	**+0.5**
	baz=242,SNR=21						
ACHA	**Angle Creek He**	**13.26**	**57**		**P**	**01 24 30.3**	**-0.8**
ANM	**Nome**	**13.29**	**21**	P	**P**	**01 24 31.8**	**+0.6**
	baz=211						
SII	**Sitkinak Islan**	**13.53**	**64**		**P**	**01 24 33.5**	**-0.5**
SII	**Sitkinak Islan**	**13.53**	**64**	P	**Pn**	**01 24 32.9**	**+0.5**
	baz=262,SNR=16						
Q18K	**Katmai Hardscr**	**13.54**	**55**	P	**P**	**01 24 33.8**	**-0.4**
	baz=253,SNR=22						
R18K	**Karluk**	**13.55**	**60**	Pn	**Pn**	**01 24 32.8**	**+0.1**
	baz=258						
M17K	**Holitna River**	**13.57**	**42**		**P**	**01 24 34.1**	**-0.3**
M17K	**Holitna River**	**13.57**	**42**	P	**P**	**01 24 34.3**	**-0.1**
	baz=238,SNR=28						
J16K	**Anvik River**	**13.58**	**32**		**P**	**01 24 34.7**	**+0.2**
J16K	**Anvik River**	**13.58**	**32**	P	**P**	**01 24 35.8**	**+1.3**
	baz=225,SNR=7.0						
L17K	**Donlin**	**13.65**	**39**	P	**P**	**01 24 35.1**	**-0.1**
	baz=234						
P18K	**Big Mountain,**	**13.67**	**52**		**P**	**01 24 35.3**	**-0.3**
P18K	**Big Mountain,**	**13.67**	**52**	P	**Pn**	**01 24 34.3**	**+0.1**
	baz=250						
O18K	**Koktuh Hills**	**13.85**	**50**		**Pn**	**01 24 37.1**	**+0.8**
O18K	**Koktuh Hills**	**13.85**	**50**	P	**P**	**01 24 38.8**	**+1.3**
	baz=248,SNR=36						
N18K	**Kilae Creek**	**13.88**	**46**		**P**	**01 24 37.8**	**-0.1**
N18K	**Kilae Creek**	**13.88**	**46**	P	**P**	**01 24 38.2**	**+0.4**
	baz=244,SNR=24						
G15K	**Niukluk**	**13.96**	**22**	P	**P**	**01 24 38.6**	**0.0**
	baz=213						
I17K	**Unalakleet**	**13.98**	**30**	P	**P**	**01 24 39.5**	**+0.6**
	baz=223						
K17K	**Iditarod**	**14.00**	**37**		**P**	**01 24 38.9**	**-0.2**
K17K	**Iditarod**	**14.00**	**37**	P	**P**	**01 24 39.4**	**+0.3**
	baz=232,SNR=11						
OHAK	**Old Harbor**	**14.11**	**62**	P	**Pn**	**01 24 37.0**	**-2.5**
OHAK	**Old Harbor**	**14.11**	**62**	P	**Pn**	**01 24 37.2**	**-2.2**
	baz=261,SNR=50						
H16K	**Elim**	**14.12**	**26**	P	**Pn**	**01 24 40.0**	**+0.5**
	baz=218						
J17K	**VABM Dome**	**14.16**	**34**		**P**	**01 24 41.3**	**+0.4**
J17K	**VABM Dome**	**14.16**	**34**	P	**Pn**	**01 24 40.0**	**-0.1**
	baz=228,SNR=11						
M18K	**Stony River**	**14.29**	**43**	P	**Pn**	**01 24 41.6**	**0.0**
	baz=241,SNR=9.8						
Q19K	**Cape Douglas,**	**14.30**	**55**		**Pn**	**01 24 42.2**	**+0.3**
Q19K	**Cape Douglas,**	**14.30**	**55**	P	**Pn**	**01 24 41.1**	**-0.8**
	baz=254						
L18K	**Granite Mounta**	**14.32**	**40**		**P**	**01 24 43.1**	**+0.5**
L18K	**Granite Mounta**	**14.32**	**40**	P	**Pn**	**01 24 42.2**	**+0.2**
	baz=237,SNR=12						
O19K	**Port Alsworth**	**14.39**	**49**		**P**	**01 24 44.2**	**+0.8**
O19K	**Port Alsworth**	**14.39**	**49**	P	**P**	**01 24 43.6**	**+0.2**
	baz=248						
F15K	**North Star Dit**	**14.43**	**20**		**Pn**	**01 24 42.9**	**-0.5**
F15K	**North Star Dit**	**14.43**	**20**	P	**P**	**01 24 44.5**	**+0.6**
	baz=210						
N19K	**Bonanza Creek**	**14.56**	**47**		**P**	**01 24 46.2**	**+0.7**
N19K	**Bonanza Creek**	**14.56**	**47**	P	**Pn**	**01 24 45.3**	**+0.2**
	baz=245,SNR=50						
KDAK	**Kodiak Island**	**14.58**	**60**	P	**Pn**	**01 24 44.5**	**-0.7**
	baz=259						
KDAK	**Kodiak Island**	**14.58**	**60**	P	**Pn**	**01 24 42.7**	**-2.5**
	34nm,0.6s,baz=290,slow=6.7,SNR=54						
KDAK					**S**	**01 27 15.1**	**-11**
	3.4nm,0.7s,baz=181,slow=19,SNR=1.8						
G16K	**Koyuk River**	**14.69**	**24**		**P**	**01 24 47.7**	**+1.0**
G16K	**Koyuk River**	**14.69**	**24**	P	**P**	**01 24 47.7**	**+1.0**
	baz=216						
P19K	**Oil Pt**	**14.72**	**52**		**P**	**01 24 47.8**	**+0.7**
P19K	**Oil Pt**	**14.72**	**52**	P	**P**	**01 24 47.4**	**+0.2**
	baz=252,SNR=8.0						
Q20K	**Shuyak Island**	**14.85**	**57**	P	**P**	**01 24 48.7**	**+0.2**
	baz=257						
SYI	**Shuyak Island**	**14.85**	**57**		**P**	**01 24 48.7**	**+0.2**
ILSW	**Iliamna Southw**	**14.87**	**51**		**P**	**01 24 49.8**	**+0.9**
TTA	**Tatalina**	**14.97**	**38**		**Pn**	**01 24 50.8**	**+0.8**
TTA	**Tatalina**	**14.97**	**38**	P	**P**	**01 24 49.8**	**-0.2**
	baz=236,SNR=12						
H17K	**Granite Mounta**	**14.99**	**28**	P	**Pn**	**01 24 52.1**	**+2.0**
H17K	**Granite Mounta**	**14.99**	**28**	P	**Pn**	**01 24 52.2**	**+2.2**
	baz=222,SNR=11						
J18K	**Innoko River**	**15.03**	**36**	P	**Pn**	**01 24 52.0**	**+1.4**
J18K	**Innoko River**	**15.03**	**36**	P	**Pn**	**01 24 51.4**	**+0.8**
	baz=233,SNR=6.2						
L19K	**White Mountain**	**15.03**	**42**		**Pn**	**01 24 52.0**	**+1.3**
L19K	**White Mountain**	**15.03**	**42**	P	**Pn**	**01 24 51.1**	**+0.4**
	baz=240,SNR=24						
M19K	**Big River Lodg**	**15.09**	**43**	P	**Pn**	**01 24 52.6**	**+1.3**
M19K				IAmb	IAmb	01 24 54.3	
	comp=Z,21nm,0.8s						
M19K	**Big River Lodg**	**15.09**	**43**	P	**Pn**	**01 24 52.4**	**+1.1**
	baz=242						
O20K	**Slope Mountain**	**15.15**	**51**	P	**Pn**	**01 24 53.4**	**+1.2**
	baz=251,SNR=12						
G17K	**Kiwalik Mounta**	**15.21**	**26**	P	**Pn**	**01 24 54.4**	**+1.6**
	baz=219						
RSO	**Redoubt South**	**15.22**	**50**	P	**Pn**	**01 24 54.3**	**+1.2**
L20K	**Farewell, AK**	**15.57**	**42**	P	**Pn**	**01 24 57.5**	**+0.3**
	baz=241,SNR=10						
H18K	**Honhosa River**	**15.60**	**29**	P	**Pn**	**01 24 57.9**	**+0.4**
H18K				IAmb	IAmb	01 24 59.8	
	comp=Z,12nm,0.8s						
H18K	**Honhosa River**	**15.60**	**29**	P	**Pn**	**01 24 58.5**	**+1.1**
	baz=225,SNR=9.4						
M20K	**Styx River**	**15.61**	**44**	P	**Pn**	**01 24 58.6**	**+1.0**
M20K	**Styx River**	**15.61**	**44**	P	**Pn**	**01 24 58.2**	**+0.6**
	baz=244,SNR=17						
CNPM	**China Poot**	**15.66**	**54**		**Pn**	**01 24 58.9**	**+0.7**
N20K	**Mount Spurr**	**15.73**	**47**	P	**Pn**	**01 25 00.3**	**+1.2**
	baz=248,SNR=9.7						
SPCR	**Spurr Chakacha**	**15.73**	**47**	P	**P**	**01 24 55.5**	**-2.8**
	baz=248,SNR=8.5						
J19K	**Poorman**	**15.73**	**35**	P	**Pn**	**01 24 59.2**	**+0.2**
J19K				IAmb	IAmb	01 25 02.6	
	comp=Z,16nm,0.9s						
J19K	**Poorman**	**15.73**	**35**	P	**Pn**	**01 25 00.6**	**+1.5**
	baz=233,SNR=19						
GCSA	**Galena City Sc**	**15.78**	**32**	P	**Pn**	**01 25 00.8**	**+1.2**
	baz=229						
F17K	**Baldwin Pennin**	**15.81**	**23**	P	**Pn**	**01 25 00.7**	**+0.9**
F17K				IAmb	IAmb	01 25 09.1	
	comp=Z,11nm,0.8s						
F17K	**Baldwin Pennin**	**15.81**	**23**	P	**Pn**	**01 25 01.4**	**+1.6**
	baz=216						
BRLK	**Bradley Lake**	**15.89**	**53**	P	**Pn**	**01 25 01.4**	**+0.4**
K20K	**Telida**	**15.95**	**39**	P	**Pn**	**01 25 02.2**	**+0.7**
K20K	**Telida**	**15.95**	**39**	P	**Pn**	**01 25 02.2**	**+0.7**
	baz=238,SNR=13						
BRSE	**Bradley Lake S**	**15.96**	**53**	P	**Pn**	**01 25 02.1**	**+0.4**
	baz=255,SNR=9.0						
G18K	**Tagagawik**	**16.05**	**27**	P	**Pn**	**01 25 03.3**	**+0.5**
G18K				IAmb	IAmb	01 25 06.6	
	comp=Z,14nm,1.2s						
G18K	**Tagagawik**	**16.05**	**27**	P	**Pn**	**01 25 03.6**	**+0.8**
	baz=222						
CAPN	**Captain Cook N**	**16.06**	**49**	P	**Pn**	**01 25 02.9**	**0.0**
	baz=251						
E17K	**Hotham Inlet**	**16.21**	**21**	P	**Pn**	**01 25 05.7**	**+1.2**
	baz=214,SNR=12						
F18K	**Selawik**	**16.33**	**24**	P	**Pn**	**01 25 07.5**	**+1.5**
	baz=219						
SKT	**Skwentna**	**16.34**	**45**		**Pn**	**01 25 06.7**	**+0.4**
SKT	**Skwentna**	**16.34**	**45**	P	**Pn**	**01 25 06.4**	**+0.2**
	baz=246,SNR=116						
J20K	**Nowinta River**	**16.37**	**36**	P	**Pn**	**01 25 06.8**	**+0.2**
	baz=235,SNR=8.8						
H19K	**Roundabout Mou**	**16.44**	**30**	P	**Pn**	**01 25 07.5**	**+0.2**
H19K				IAmb	IAmb	01 25 09.9	
	comp=Z,10nm,0.9s						
H19K	**Roundabout Mou**	**16.44**	**30**	P	**Pn**	**01 25 08.2**	**+0.9**
	baz=228,SNR=8.0						
PPLA	**Purkeypile**	**16.46**	**42**	P	**Pn**	**01 25 08.4**	**+0.6**
	baz=242						
D17K	**Noatak River**	**16.48**	**18**	P	**Pn**	**01 25 08.7**	**+0.9**
	baz=210,SNR=9.4						
SUA	**Susitna One**	**16.49**	**47**		**P**	**01 25 07.5**	**+0.8**
SUA				IAmb	IAmb	01 25 11.1	
	comp=Z,30nm,1.0s						
SUA	**Susitna One**	**16.49**	**47**	P	**P**	**01 25 07.3**	**+0.6**
	baz=249,SNR=23						
C16K	**Lisburne Hills**	**16.60**	**15**	P	**Pn**	**01 25 09.8**	**+0.6**
	baz=204						
I20K	**Naaghedeneel**	**16.61**	**34**	P	**Pn**	**01 25 09.2**	**-0.2**
I20K				IAmb	IAmb	01 25 11.4	
	comp=Z,21nm,0.8s						
I20K	**Naaghedeneel**	**16.61**	**34**	P	**Pn**	**01 25 09.4**	**0.0**
	baz=233						
O22K	**Cooper Landing**	**16.65**	**51**	P	**P**	**01 25 09.1**	**+0.8**
O22K	**Cooper Landing**	**16.65**	**51**	P	**P**	**01 25 09.1**	**+0.8**
	baz=254,SNR=8.2						
SEW	**Seward**	**16.68**	**53**	P	**Pn**	**01 25 09.9**	**-0.2**
	baz=255,SNR=5.2						
G19K	**Purcell Mounta**	**16.68**	**28**	P	**Pn**	**01 25 09.9**	**-0.2**
G19K				IAmb	IAmb	01 25 17.9	
	comp=Z,16nm,0.8s						
G19K	**Purcell Mounta**	**16.68**	**28**	P	**Pn**	**01 25 10.6**	**+0.4**
	baz=225,SNR=9.8						
CAST	**Castle Rocks**	**16.75**	**40**	P	**Pn**	**01 25 10.9**	**-0.1**
CAST				IAmb	IAmb	01 25 18.7	
	comp=Z,24nm,0.7s						
CAST	**Castle Rocks**	**16.75**	**40**	P	**Pn**	**01 25 11.2**	**+0.1**
	baz=241						
E18K	**Tukpahlearik C**	**16.76**	**22**	P	**P**	**01 25 10.4**	**+1.0**
E18K				IAmb	IAmb	01 25 12.3	
	comp=Z,8.1nm,0.7s						
E18K	**Tukpahl

baz=234,SNR=23
F20K Avaraart Lake 17.70 27 P P 01 25 20.6 +0.9
F20K IAmb IAmb 01 25 26.3
comp=Z,17nm,0.7s
F20K Avaraart Lake 17.70 27 P P 01 25 21.0 +1.3
baz=225,SNR=28
WAT1 Susitna Watana 17.95 44 P P 01 25 22.7 +0.3
baz=248
G21K Allakaket 18.00 30 P P 01 25 24.3 +1.4
G21K Allakaket 18.00 30 P P 01 25 24.1 +1.1
baz=230,SNR=48
GLI Glacier Island 18.00 51 P P 01 25 22.0 -1.0
GLI IAmb IAmb 01 25 26.5
comp=Z,21nm,0.8s
GLI Glacier Island 18.00 51 P P 01 25 22.2 -0.8
baz=256,SNR=10
RND Reindeer 18.05 42 P P 01 25 24.1 +0.5
MLY Manley 18.07 37 P P 01 25 25.0 +1.3
MLY Manley 18.07 37 P P 01 25 25.4 +1.7
baz=239,SNR=26
Q23K Middleton Isla 18.07 56 P P 01 25 24.0 +0.2
baz=261
BWN Browne 18.13 40 P P 01 25 25.5 +1.2
MCK McKinley 18.15 41 P P 01 25 24.4 -0.2
baz=245,SNR=8.3
SCM Sheep Creek Mo 18.15 48 P P 01 25 24.5 -0.2
SCM Sheep Creek Mo 18.15 48 P P 01 25 24.6 -0.2
baz=253,SNR=27
B18K Kokolik River 18.16 17 P P 01 25 26.2 +1.6
baz=210
HIN Hinchinbrook I 18.18 53 P P 01 25 25.3 +0.3
D19K Kuna River 18.18 22 P P 01 25 26.3 +1.3
D19K Kuna River 18.18 22 P P 01 25 26.6 +1.6
baz=218,SNR=32
WAT6 Susitna Watana 18.21 46 P P 01 25 25.2 -0.2
baz=250,SNR=112
FID Port Fidalgo 18.26 52 P P 01 25 24.8 -1.0
H22K Ishtalitna Cre 18.31 34 P P 01 25 28.1 +1.8
baz=235,SNR=18
C19K Lookout Ridge 18.36 19 P P 01 25 28.0 +1.2
C19K IAmb IAmb 01 25 32.7
comp=Z,14nm,0.8s
C19K Lookout Ridge 18.36 19 P P 01 25 28.8 +1.9
baz=214,SNR=8.9
E20K Nigu River 18.46 24 P P 01 25 28.8 +0.9
baz=222,SNR=23
F21K Alatna River 18.46 29 P P 01 25 29.3 +1.3
F21K IAmb IAmb 01 25 30.4
comp=Z,14nm,0.7s
F21K Alatna River 18.46 29 P P 01 25 29.5 +1.5
baz=229,SNR=24
NEA2 Nenana 18.48 39 P P 01 25 28.2 +0.1
NEA2 Nenana 18.48 39 P P 01 25 29.2 +1.1
baz=242,SNR=15
DHY Denali Highway 18.54 44 P P 01 25 29.5 +0.5
DHY Denali Highway 18.54 44 P P 01 25 29.2 +0.3
baz=249,SNR=134
EYAK Cordova Ski Ar 18.57 53 P P 01 25 29.6 +0.5
baz=258,SNR=7.1
I23K Minto, Yukon-K 18.63 37 P P 01 25 30.6 +0.8
I23K IAmb IAmb 01 25 34.9
comp=Z,20nm,0.7s
I23K Minto, Yukon-K 18.63 37 P P 01 25 30.6 +0.8
baz=240,SNR=19
D20K Etivluk River 18.70 23 P P 01 25 31.9 +1.3
baz=220,SNR=47
KLU Klutina 18.70 50 P P 01 25 31.2 +0.5
KLU IAmb IAmb 01 25 35.7
comp=Z,19nm,0.8s
KLU Klutina 18.70 50 P P 01 25 31.2 +0.5
baz=256,SNR=20
M24K Tolsona, Glenn 18.75 48 P P 01 25 31.8 +0.6
M24K Tolsona, Glenn 18.75 48 P P 01 25 31.8 +0.6
baz=253,SNR=16
WRH Wood River Hil 18.80 40 P P 01 25 30.9 -0.7
WRH IAmb IAmb 01 25 34.3
comp=Z,18nm,0.8s
G22K Bettles 18.88 31 P P 01 25 33.5 +1.1
baz=233
H23K Yukon River 18.91 35 P P 01 25 34.1 +1.3
H23K IAmb IAmb 01 25 35.1
comp=Z,17nm,0.8s
H23K Yukon River 18.91 35 P P 01 25 34.0 +1.3
baz=238,SNR=24
MDM Murphy Dome 18.96 38 P P 01 25 33.7 +0.4
CCB Clear Creek Bu 18.99 39 P P 01 25 32.4 -1.2
CCB IAmb IAmb 01 25 47.2
comp=Z,19nm,1.1s
A19K Wainwright 19.02 16 P P 01 25 34.9 +1.0
baz=210
F22K John River 19.04 29 P P 01 25 35.0 +0.9
baz=230
RAGM Ragged Mountai 19.06 53 P P 01 25 35.8 +1.3
RAGM IAmb IAmb 01 25 38.9
comp=Z,25nm,0.9s
COLA College 19.07 39 P P 01 25 35.4 +1.0
COLA College 19.07 39 P P 01 25 35.1 +0.7
baz=244
E21K Killik River 19.16 26 P P 01 25 36.0 +0.5
E21K IAmb IAmb 01 25 37.7
comp=Z,11nm,0.8s
E21K Killik River 19.16 26 P P 01 25 36.3 +0.9
baz=225
BMRM Bremner River 19.21 52 P P 01 25 35.9 -0.2
baz=258,SNR=13
HDA Harding Lake 19.22 41 P P 01 25 34.6 -1.6
HDA IAmb IAmb 01 25 51.8
comp=Z,12nm,0.8s
HDA Harding Lake 19.22 41 P P 01 25 36.9 +0.8
baz=246,SNR=6.8
G23K Bananza Creek 19.23 33 P 01 25 37.0 +0.8
G23K IAmb IAmb 01 25 42.1
comp=Z,19nm,0.8s
G23K Bananza Creek 19.23 33 P P 01 25 37.5 +1.3
baz=236,SNR=38
HMT Hamilton 19.26 54 P P 01 25 37.6 +1.0
HMT IAmb IAmb 01 25 43.7
comp=Z,17nm,0.6s
HARP HAARP 19.29 47 P P 01 25 37.4 +0.5
baz=254,SNR=11
SEY Seymchan 19.32 314 P P 01 25 33.2 -3.9
comp=Z,1.4nm,0.3s,baz=171,slow=19,SNR=1.6
PAX Paxson 19.32 45 P P 01 25 37.2 -0.1
baz=252,SNR=48
POKR Poker Plat Res 19.34 38 P P 01 25 37.4 0.0
POKR IAmb IAmb 01 25 39.5
comp=Z,17nm,0.8s
POKR Poker Plat Res 19.34 38 P P 01 25 37.8 +0.5
baz=244,SNR=8.3
N25K Chitina, Valde 19.34 50 P P 01 25 38.0 +0.4
N25K Chitina, Valde 19.34 50 P P 01 25 38.2 +0.7
baz=257,SNR=54
IL31 19.40 40 P P 01 25 36.0 -1.9
ILAR Eielson Array 19.40 40 P P 01 25 38.6 +0.6
ILAR Eielson Array 19.40 40 P P 01 25 35.7 -2.3
comp=Z,4.6nm,0.7s,baz=234,slow=9.1,SNR=35
ILAR S **S 01 29 00.9 -3.3**
comp=Z,0.3nm,0.8s,baz=202,slow=19,SNR=1.7
ILAR ScP **ScP 01 32 58.4 -3.2**
comp=Z,0.8nm,0.8s,baz=276,slow=2.6,SNR=6.0
K24K Donnelly Dome 19.47 43 P P 01 25 39.2 +0.4
baz=249
COLD Coldfoot 19.47 31 P P 01 25 39.8 +1.1
baz=234,SNR=8.1
C21K Knifeblade Rid 19.47 23 P P 01 25 39.7 +1.0
baz=222,SNR=53
H24K Noodor Dome 19.51 36 P P 01 25 40.1 +0.9
H24K IAmb IAmb 01 25 43.0
comp=Z,26nm,1.1s
H24K Noodor Dome 19.51 36 P P 01 25 40.0 +0.9
baz=241,SNR=31
E22K Anaktuvuk Pass 19.55 28 P P 01 25 39.9 +0.4
E22K IAmb IAmb 01 25 43.9
comp=Z,18nm,0.8s
E22K Anaktuvuk Pass 19.55 28 P P 01 25 40.5 +1.0
baz=230
B20K Meade River 19.59 20 P P 01 25 39.9 -0.1
B20K IAmb IAmb 01 25 41.5
comp=Z,16nm,0.8s
B20K Meade River 19.59 20 P P 01 25 40.5 +0.5
baz=217,SNR=6.0
GLB Gilahina Butte 19.68 50 P P 01 25 41.6 +0.5
VRDI Verde Repeater 19.81 51 P P 01 25 42.5 -0.1
VRDI IAmb IAmb 01 25 45.3
comp=Z,25nm,0.8s
D22K Ayikyak River 19.81 26 P P 01 25 43.1 +0.8

D22K Ayikyak River 19.81 26 P P 01 25 43.1 +0.8
baz=227
B21K Ikpikpuk River 19.86 23 P P 01 25 43.6 +0.8
B21K Ikpikpuk River 19.86 23 P P 01 25 43.4 +0.6
baz=222,SNR=37
CRQM Cirque 19.87 53 P P 01 25 43.5 +0.2
CRQE Cirque 19.90 53 P P 01 25 44.2 +0.7
baz=261,SNR=16
J25K Salcha River, 19.93 41 P P 01 25 41.6 -2.1
J25K IAmb IAmb 01 25 43.9
comp=Z,7.5nm,0.8s
J25K Salcha River, 19.93 41 P P 01 25 42.7 -1.0
baz=248,SNR=14
WAX Waxell Ridge 19.97 54 P P 01 25 45.4 +1.2
WAX IAmb IAmb 01 25 47.3
comp=Z,18nm,0.7s
TGL Tana Glacier 20.02 53 P P 01 25 46.3 +1.5
TGL IAmb IAmb 01 25 47.6
comp=Z,21nm,0.8s
MCARA McCarthy VSAT 20.04 51 P P 01 25 45.9 +1.1
MCARA IAmb IAmb 01 25 55.6
comp=Z,23nm,0.8s
MCARA McCarthy VSAT 20.04 51 P P 01 25 44.8 0.0
baz=259,SNR=5.8
MENT Mentasta 20.08 46 P P 01 25 45.5 +0.3
G24K Hadweenzic Riv 20.08 34 P P 01 25 45.7 +0.4
baz=240,SNR=28
E23K Chandalar 20.14 30 P P 01 25 46.9 +0.9
baz=233,SNR=16
PRP Porcupine Dome 20.23 38 P P 01 25 46.0 -1.0
PRP IAmb IAmb 01 26 04.3
comp=Z,8.5nm,0.8s
PRP Porcupine Dome 20.23 38 P P 01 25 46.8 -0.2
baz=245,SNR=9.7
L26K Log Cabin Wild 20.27 46 P P 01 25 47.8 +0.5
baz=254,SNR=16
M26K Nabesna, AK 20.27 48 P P 01 25 47.4 +0.1
M26K IAmb IAmb 01 25 50.5
comp=Z,27nm,0.9s
M26K Nabesna, AK 20.27 48 P P 01 25 48.0 +0.6
baz=256,SNR=30
SCRK Sand Creek 20.27 43 P P 01 25 46.9 -0.6
SCRK IAmb IAmb 01 25 50.1
comp=Z,22nm,0.8s
SCRK Sand Creek 20.27 43 P P 01 25 46.6 -0.9
baz=251,SNR=40
F24K Squaw Lake 20.37 32 P P 01 25 49.8 +1.4
F24K Squaw Lake 20.37 32 P P 01 25 49.6 +1.2
baz=237,SNR=57
MESA MESA 20.38 55 P P 01 25 49.2 +0.4
baz=264
D23K Nanushuk River 20.41 27 P P 01 25 49.5 +0.8
baz=230,SNR=39
H25L Birch Creek 20.45 36 P P 01 25 49.6 +0.4
baz=243,SNR=22
E24K Your Creek 20.50 30 P P 01 25 50.9 +1.1
E24K IAmb IAmb 01 25 52.5
comp=Z,24nm,1.1s
E24K Your Creek 20.50 30 P P 01 25 50.4 +0.6
baz=235,SNR=34
TOLK Toolik Lake Re 20.51 28 P P 01 25 50.5 +0.7
TOLK Toolik Lake Re 20.51 28 P P 01 25 50.4 +0.5
baz=232,SNR=23
GRNC Granite Creek 20.54 53 P P 01 25 50.3 -0.2
G25K Bearman Lake 20.59 35 P P 01 25 50.9 +0.2
baz=241,SNR=7.6
J26L Joseph Creek 20.62 42 P P 01 25 50.3 -0.9
J26L Joseph Creek 20.62 42 P P 01 25 50.1 -1.1
baz=250,SNR=55
B22K Teshekpuk Lake 20.67 22 P P 01 25 52.1 +0.6
B22K IAmb IAmb 01 25 53.5
comp=Z,13nm,0.9s
B22K Teshekpuk Lake 20.67 22 P P 01 25 52.1 +0.6
baz=223
M27K Edge Creek, AK 20.76 48 P P 01 25 53.7 +1.0
M27K Edge Creek, AK 20.76 48 P P 01 25 53.0 +0.2
baz=258,SNR=76
A21K Barrow 20.77 18 P P 01 25 52.6 +0.1
baz=216,SNR=7.8
CTG Chitna Glacier 20.77 52 P P 01 25 51.9 -1.0
baz=262,SNR=6.2
CTGM Chitina Glacie 20.78 52 P P 01 25 53.7 +0.8
CTGM IAmb IAmb 01 25 54.6
comp=Z,20nm,0.7s
FYU Fort Yukon 20.80 36 P P 01 25 53.6 +0.8
TABL Table Mountain 20.81 54 P P 01 25 54.1 +0.8
TABL IAmb IAmb 01 25 54.8
comp=Z,19nm,0.7s
A22K Sinclair Lake 20.84 20 P P 01 25 53.4 +0.2
baz=219
LOGN Logan Glacier 20.92 53 P P 01 25 54.7 +0.3
L27K Beaver Creek, 20.95 47 P P 01 25 54.3 -0.2
L27K IAmb IAmb 01 25 56.0
comp=Z,17nm,0.8s
L27K Beaver Creek, 20.95 47 P P 01 25 53.9 -0.6
baz=256,SNR=30
BCAR Beaver Creek A 20.96 47 P P 01 25 54.8 +0.1
C23K Itkillik River 21.00 25 P P 01 25 55.2 +0.3
C23K Itkillik River 21.00 25 P P 01 25 54.4 -0.5
baz=228,SNR=37
D24K Happy Valley 21.04 28 P P 01 25 55.5 +0.1
D24K Happy Valley 21.04 28 P P 01 25 56.0 +0.6
baz=232,SNR=21
I26K Coal Creek Min 21.07 40 P P 01 25 54.0 -1.7
I26K IAmb IAmb 01 25 56.2
comp=Z,7.5nm,0.8s
I26K Coal Creek Min 21.07 40 P P 01 25 53.9 -1.8
baz=249
K27K Chicken 21.09 44 P P 01 25 56.5 +0.6
K27K Chicken 21.09 44 P P 01 25 56.5 +0.6
baz=253
F25K Christian Rive 21.15 33 P P 01 25 56.8 +0.3
baz=240,SNR=25
PINM Pinnacle 21.22 55 P P 01 25 56.8 -0.5
baz=266
O28M Mount Upton 21.31 53 P P 01 25 58.3 -0.2
baz=264,SNR=21
YUK3 Moose Creek 21.31 50 P P 01 25 58.2 -0.2
baz=261,SNR=31
BMAR Burnt Mountain 21.43 34 P P 01 25 60.0 +0.7
C24K Franklin Bluff 21.43 26 P P 01 25 59.8 +0.6
baz=231
E25K Arctic Village 21.44 32 P P 01 26 00.2 +0.8
E25K IAmb IAmb 01 26 00.8
comp=Z,13nm,0.8s
E25K Arctic Village 21.44 32 P P 01 25 59.7 +0.3
baz=239,SNR=30
G26K Porcupine Rive 21.49 36 P P 01 25 59.5 -0.2
baz=244,SNR=72
EGAK Eagle 21.69 42 P P 01 26 01.9 +0.2
EGAK Eagle 21.69 42 P P 01 26 01.9 +0.2
baz=253,SNR=44
F26K Sheenjek River 21.70 34 P P 01 26 01.7 -0.1
baz=242,SNR=36
I27K Kandik River 21.77 40 P P 01 26 01.6 -0.9
baz=250,SNR=17
D25K Kavik River 21.85 29 P P 01 26 03.7 +0.5
D25K Kavik River 21.85 29 P P 01 26 03.6 +0.4
baz=235,SNR=9.3
H27K Steamboat Moun 22.03 38 P P 01 26 04.2 -0.8
baz=249,SNR=5.5
O29M Mount Kennedy 22.07 55 P P 01 26 05.1 -0.4
baz=267
YUK4 Talbot Arm 22.12 52 P P 01 26 06.2 +0.2
baz=264
G27K Doyon Strip 22.20 37 P P 01 26 05.8 -0.7
G27K Doyon Strip 22.20 37 P P 01 26 06.7 +0.2
baz=247,SNR=9.7
YUK6 Outpost Mounta 22.22 53 P P 01 26 07.2 +0.2
baz=265,SNR=5.8
DAWY Dawson 22.24 45 P P 01 26 07.2 +0.3
DAWY IAmb IAmb 01 26 08.2
comp=Z,15nm,0.8s
DAWY Dawson 22.24 45 P P 01 26 07.4 +0.5
baz=256,SNR=18
M29M Somme Creek 22.34 49 P P 01 26 08.4 +0.4
M29M Somme Creek 22.34 49 P P 01 26 08.2 +0.2
baz=261,SNR=63
I28M Miner Creek 22.39 41 P P 01 26 08.4 +0.1
I28M Miner Creek 22.39 41 P P 01 26 08.2 -0.1
baz=253,SNR=63
P29M Windy Craggy 22.46 56 P P 01 26 09.4 +0.4
baz=269
L29M L29M 22.60 47 P P 01 26 10.6 +0.3
L29M L29M 22.60 47 P P 01 26 10.6 +0.3
baz=260,SNR=64

C26K Camden Bay 22.61 28 P P 01 26 11.4 +1.4
baz=236,SNR=44
HYT Haines Junctio 22.63 53 P P 01 26 11.0 +0.5
HYT IAmb IAmb 01 26 11.5
comp=Z,10nm,0.7s
HYT Haines Junctio 22.63 53 P P 01 26 10.3 -0.2
baz=266,SNR=14
E27K Coleen River 22.78 34 P P 01 26 12.6 +0.9
E27K Coleen River 22.78 34 P P 01 26 12.8 +1.0
baz=244,SNR=40
C27K Jago River 22.80 29 P P 01 26 12.6 +0.7
baz=238,SNR=22
J29N Klondike Camp 22.83 44 P P 01 26 13.6 +1.3
baz=257
P30M Million Dollar 22.86 55 P P 01 26 12.2 -0.4
baz=268
N30M Aishikik Lake 22.88 52 P P 01 26 12.9 +0.2
N30M IAmb IAmb 01 26 13.6
comp=Z,12nm,0.6s
N30M Aishikik Lake 22.88 52 P P 01 26 12.5 -0.2
baz=265,SNR=14
K29M Barlow Dome 23.00 46 P P 01 26 14.4 +0.5
K29M Barlow Dome 23.00 46 P P 01 26 14.1 +0.2
baz=259,SNR=71
I29M Ogilvie Camp, 23.02 42 P P 01 26 14.1 +0.2
I29M Ogilvie Camp, 23.02 42 P P 01 26 14.1 +0.2
baz=255,SNR=39
M30M Minto, Yukon 23.13 49 P P 01 26 15.7 +0.7
M30M IAmb IAmb 01 26 17.4
comp=Z,7.6nm,0.8s
M30M Minto, Yukon 23.13 49 P P 01 26 14.7 -0.3
baz=263,SNR=13
F28M Old Crow 23.14 36 P P 01 26 15.9 +0.9
F28M Old Crow 23.14 36 P P 01 26 16.1 +1.1
baz=248,SNR=64
PLBC Pleasant Camp 23.16 57 P P 01 26 15.3 0.0
baz=271
H29M Whitestone 23.23 39 P P 01 26 16.4 +0.5
H29M IAmb IAmb 01 26 18.3
comp=Z,13nm,0.7s
H29M Whitestone 23.23 39 P P 01 26 15.9 +0.1
baz=253,SNR=15
O30N Mendenhall 23.32 54 P P 01 26 17.2 +0.5
O30N IAmb IAmb 01 26 18.3
comp=Z,9.7nm,0.7s
O30N Mendenhall 23.32 54 P P 01 26 17.9 +1.1
baz=268,SNR=12
D27M Malcolm River 23.46 31 P P 01 26 18.5 +0.6
D27M IAmb IAmb 01 26 20.8
comp=Z,16nm,1.2s
D27M Malcolm River 23.46 31 P P 01 26 19.0 +1.1
baz=243,SNR=8.6
N31M Braeburn, Yuko 23.50 52 P P 01 26 18.6 +0.2
N31M IAmb IAmb 01 26 20.7
comp=Z,7.3nm,0.8s
N31M Braeburn, Yuko 23.50 52 P P 01 26 18.6 +0.2
baz=266,SNR=6.8
G29M Pine Creek 23.58 38 P P 01 26 19.4 +0.4
G29M IAmb IAmb 01 26 21.4
comp=Z,10nm,0.9s
G29M Pine Creek 23.58 38 P P 01 26 19.7 +0.8
baz=252,SNR=10.0
E28M Babbage River 23.65 33 P P 01 26 21.3 +1.7
E28M Babbage River 23.65 33 P P 01 26 20.7 +1.1
baz=246,SNR=49
J30M Hart River 23.65 44 P P 01 26 20.8 +1.0
J30M IAmb IAmb 01 26 21.2
comp=Z,8.4nm,0.8s
J30M Hart River 23.65 44 P P 01 26 20.5 +0.7
baz=259,SNR=13
MAYO Mayo, Yukon 23.68 46 P P 01 26 20.7 +0.8
I30M Mount Dempster 23.77 42 P P 01 26 21.0 +0.1
I30M Mount Dempster 23.77 42 P P 01 26 20.8 -0.1
baz=257,SNR=40
WHY Whitehorse 23.91 54 P P 01 26 23.0 +0.8
WHY IAmb IAmb 01 26 23.4
comp=Z,8.2nm,0.7s
EPYK Eagle Plains 23.91 40 P P 01 26 22.1 +0.1
EPYK IAmb IAmb 01 26 25.6
comp=Z,11nm,0.8s
EPYK Eagle Plains 23.91 40 P P 01 26 22.1 +0.1
baz=254,SNR=11
E29M Blow River 24.12 34 P P 01 26 24.9 +1.0
E29M Blow River 24.12 34 P P 01 26 25.0 +1.1
baz=249,SNR=43
M31M Drury Creek, Y 24.21 50 P P 01 26 25.6 +0.8
M31M IAmb IAmb 01 26 26.1
comp=Z,5.6nm,0.8s
M31M Drury Creek, Y 24.21 50 P P 01 26 25.3 +0.6
baz=266,SNR=6.5
G30M tAoh Zrail Nji 24.27 38 P P 01 26 25.3 0.0
G30M tAoh Zrail Nji 24.27 38 P P 01 26 26.0 +0.7
baz=254
P32M Atlin 24.51 56 P P 01 26 28.5 +1.0
P32M IAmb IAmb 01 26 29.6
comp=Z,11nm,0.9s
P32M Atlin 24.51 56 P P 01 26 27.9 +0.4
baz=272,SNR=5.9
F30M Barrier River 24.62 37 P P 01 26 29.7 +1.3
baz=253
FARO Faro, Yukon 24.70 50 P P 01 26 29.6 +0.5
FARO IAmb IAmb 01 26 30.4
comp=Z,13nm,1.3s
FARO Faro, Yukon 24.70 50 P P 01 26 30.2 +1.0
baz=267
P33M Teslin, Yukon 24.93 55 P P 01 26 32.4 +0.9
P33M IAmb IAmb 01 26 33.6
comp=Z,22nm,1.1s
P33M Teslin, Yukon 24.93 55 P P 01 26 32.2 +0.8
baz=272,SNR=17
G31M Satah River 25.00 39 P P 01 26 32.8 +1.1
G31M Satah River 25.00 39 P P 01 26 32.9 +1.1
baz=256
Q32M Nakina River 25.29 58 P P 01 26 35.7 +1.0
Q32M IAmb IAmb 01 26 36.5
comp=Z,5.6nm,0.8s
Q32M Nakina River 25.29 58 P P 01 26 35.2 +0.5
baz=275
F31M Tsiigehtchic 25.33 38 P P 01 26 34.7 0.0
F31M IAmb IAmb 01 26 35.9
comp=Z,9.2nm,0.8s
F31M Tsiigehtchic 25.33 38 P P 01 26 35.8 +1.1
baz=255
INK Inuvik 25.64 36 P P 01 26 37.8 +0.3
INK IAmb IAmb 01 26 43.3
comp=Z,6.6nm,0.9s
INK Inuvik 25.64 36 P P 01 26 38.4 +1.0
baz=254
MMPY Sheldon Lake, 25.68 49 P P 01 26 39.2 +1.1
MMPY IAmb IAmb 01 26 40.5
comp=Z,8.9nm,0.7s
MMPY Sheldon Lake, 25.68 49 P P 01 26 38.0 0.0
baz=268,SNR=16
R33M Jennings River 25.92 57 P P 01 26 41.3 +1.0
R33M Jennings River 25.92 57 P P 01 26 40.9 +0.6
baz=275
S34M Telegraph Cree 26.00 60 P P 01 26 41.7 +0.8
baz=278
TGTN Hyland Airport 27.10 52 P P 01 26 52.0 +1.3
baz=273
TOAD Toad River Com 28.92 57 P P 01 27 07.9 +1.1
baz=280
WRGLY Wrigley 29.24 48 P P 01 27 10.5 +0.9
baz=274
KOTAN Kotaneelee Air 29.30 54 P P 01 27 11.3 +1.1
baz=279,SNR=5.2
A36M Sachs Harbour 29.32 30 P P 01 27 11.5 +1.4
baz=256
YKA Yellowknife Ar 33.36 48 P P 01 27 45.6 +0.2
YKA Yellowknife Ar 33.36 48 P P 01 27 45.9 +0.4
comp=Z,8.5nm,0.8s,baz=284,slow=8.6,SNR=29
YKA pP **pwP 01 28 36.4 0.0**
comp=Z,1.9nm,0.7s,baz=283,slow=8.3,SNR=5.4
comp=Z,8.5nm,0.8s
GNW Green Mountain 34.15 77 P P 01 27 53.6 +1.2
BRLDA Berland Lookou 34.43 63 P P 01 27 55.4 +0.5
BRLDA IAmb IAmb 01 27 56.4
comp=Z,9.6nm,1.0s
LON Longmire 35.15 77 P P 01 28 02.8 +1.7
MJAR Matsushiro Arr 35.36 261 P P 01 28 02.4 -0.6
comp=Z,1.8nm,0.8s,baz=58,slow=7.5,SNR=2.6
comp=Z,1.8nm,0.8s
B08A Colville Reser 35.82 73 P P 01 28 07.8 +1.1
H04A Detroit Lake 36.00 80 P P 01 28 08.9 +0.5
H04A IAmb IAmb 01 28 11.7
comp=Z,9.9nm,0.8s

HAWA	**Hanford**	**36.69**	**76**	P	**P**	**01 28 15.6 +1.5**
HAWA				IAmb	IAmb	01 28 16.3
	comp=Z,16nm,1.4s					
NEW	**Newport**	**37.15**	**72**	P	**P**	**01 28 18.2 +0.2**
NEW	**Newport**	**37.15**	**72**	P	**P**	**01 28 18.5 +0.5**
	baz=300,SNR=5.8					
YBH	**Yreka Blue Hor**	**37.34**	**85**	P	**P**	**01 28 20.9 +1.1**
YBH				IAmb	IAmb	01 28 23.5
	comp=Z,8.7nm,0.8s					
J05D	**Fort Rock, OR**	**37.35**	**82**	P	**P**	**01 28 20.7 +0.9**
J05D				IAmb	IAmb	01 28 24.0
	comp=Z,13nm,1.1s					
O02D	**Mt. Diablo Mer**	**38.22**	**87**	P	**P**	**01 28 29.6 +2.5**
O02D				IAmb	IAmb	01 28 30.8
	comp=Z,12nm,1.1s					
HATC	**Hat Creek Radi**	**38.64**	**85**	P	**P**	**01 28 31.4 +0.8**
HATC				IAmb	IAmb	01 28 33.9
	comp=Z,20nm,0.8s					
BMO	**Blue Mountains**	**38.83**	**77**	P	**P**	**01 28 33.1 +1.0**
WVOR	**Wild Horse Val**	**39.40**	**81**	P	**P**	**01 28 38.2 +1.4**
MSO	**Missoula**	**39.74**	**72**	P	**P**	**01 28 39.6 0.0**
MSO	**Missoula**	**39.74**	**72**	P	**P**	**01 28 40.0 +0.4**
	baz=302					
AFDM	**Forest Hills D**	**40.08**	**87**	P	**P**	**01 28 43.9 +1.6**
PAHR	**Pah Rah Range**	**40.58**	**85**	P	**P**	**01 28 48.1 +1.5**
LYMT	**Lyon Mountain**	**40.62**	**71**	P	**P**	**01 28 47.2 +0.3**
PNTR	**Pine Nut**	**40.83**	**86**	P	**P**	**01 28 50.8 +2.0**
PNTR				IAmb	IAmb	01 28 57.7
	comp=Z,20nm,0.7s					
CMB	**Columbia Colle**	**41.02**	**88**	P	**P**	**01 28 51.7 +1.7**
KSRS	**Korea Array**	**41.02**	**271**	P	**P**	**01 28 51.4 +1.4**
	comp=Z,0.4nm,0.3s,baz=50,slow=8.1,SNR=1.3					
KSRS				pP	**pwP**	**01 29 43.8 +2.6**
	comp=Z,0.7nm,0.4s,baz=50,slow=7.8,SNR=1.9					
	comp=Z,0.4nm,0.3s					
YERR	**Yerington**	**41.11**	**86**	P	**P**	**01 28 52.3 +1.3**
YERR				IAmb	IAmb	01 28 53.9
	comp=Z,11nm,1.0s					
HLID	**Hailey**	**41.27**	**77**	P	**P**	**01 28 53.5 +1.3**
HLID	**Hailey**	**41.27**	**77**	P	**P**	**01 28 52.8 +0.6**
	baz=305,SNR=5.0					
WAKR	**Walker**	**41.30**	**87**	P	**P**	**01 28 53.7 +1.2**
WAKR				IAmb	IAmb	01 28 55.6
	comp=Z,10nm,0.7s					
EGMT	**Eagleton**	**41.51**	**69**	P	**P**	**01 28 54.9 +0.9**
EGMT	**Eagleton**	**41.51**	**69**	P	**P**	**01 28 54.2 +0.3**
	baz=302					
BBGB	**Big Mountain B**	**41.55**	**90**	P	**P**	**01 28 57.2 +2.8**
BBGB				IAmb	IAmb	01 28 57.9
	comp=Z,24nm,1.0s					
BOZ	**Bozeman (W)**	**41.76**	**73**	P	**P**	**01 28 56.5 +0.4**
BOZ	**Bozeman (W)**	**41.76**	**73**	P	**P**	**01 28 56.1 +0.1**
	baz=304,SNR=7.8					
RYN	**Ryan**	**41.77**	**86**	P	**P**	**01 28 57.9 +1.6**
PMPB	**Monarch Peak**	**41.94**	**90**	P	**P**	**01 28 59.7 +2.1**
PMPB				IAmb	IAmb	01 29 07.7
	comp=Z,15nm,1.1s					
LHV	**Little Huntoon**	**42.02**	**86**	P	**P**	**01 29 00.1 +2.1**
LHV				IAmb	IAmb	01 29 01.6
	comp=Z,11nm,1.1s					
NVAR	**Mina Array Bea**	**42.03**	**86**	P	**P**	**01 29 00.0 +1.6**
NVAR	**Mina Array Bea**	**42.03**	**86**	P	**P**	**01 29 00.3 +1.8**
	comp=Z,6.2nm,0.7s,baz=297,slow=7.6,SNR=48					
NVAR				ScP	**ScP**	**01 34 15.1 -1.1**
	comp=Z,0.5nm,0.8s,baz=330,slow=3.5,SNR=3.0					
	comp=Z,6.2nm,0.7s					
MDPB	**Devils Postpil**	**42.07**	**87**	P	**P**	**01 29 00.3 +1.5**
MDPB				IAmb	IAmb	01 29 02.0
	comp=Z,13nm,0.8s					
NV11	**Mina Array Sit**	**42.12**	**86**	P	**P**	**01 29 00.6 +1.5**
OMMB	**Old Mammoth Mi**	**42.13**	**87**	P	**P**	**01 29 01.0 +1.6**
ELK	**Elko**	**42.45**	**81**	P	**P**	**01 29 03.2 +1.4**
Q09A	**Carvers**	**42.46**	**84**	P	**P**	**01 29 03.8 +1.9**
Q09A				IAmb	IAmb	01 29 05.7
	comp=Z,18nm,0.7s					
DSP	**Deep Springs**	**42.91**	**87**	P	**P**	**01 29 07.0 +1.7**
DSP				IAmb	IAmb	01 29 38.9
	comp=Z,9.0nm,0.7s					
TPH	**Tonopah**	**42.91**	**85**	P	**P**	**01 29 07.2 +1.7**
H17A	**Grant Village**	**43.05**	**74**	P	**P**	**01 29 07.6 +0.9**
	baz=306					
MZP	**Montezuma Peak**	**43.06**	**86**	P	**P**	**01 29 08.2 +1.5**
VES	**Vestal, Richgr**	**43.23**	**89**	P	**P**	**01 29 09.5 +1.7**
	baz=312,SNR=9.0					
GMN	**Gold Mountain**	**43.39**	**86**	P	**P**	**01 29 11.1 +1.7**
GMN				IAmb	IAmb	01 29 12.1
	comp=Z,7.9nm,0.7s					
RLMT	**Red Lodge**	**43.40**	**72**	P	**P**	**01 29 10.6 +1.3**
RLMT	**Red Lodge**	**43.40**	**72**	P	**P**	**01 29 10.0 +0.6**
	baz=305					
PKM	**Mcpherson Peak**	**43.42**	**91**	P	**P**	**01 29 11.2 +1.6**
	baz=312					
CWC	**Cottonwood Cre**	**43.45**	**88**	P	**P**	**01 29 11.3 +1.5**
	baz=311					
GRAC	**Grapevine Rang**	**43.52**	**87**	P	**P**	**01 29 12.2 +2.0**
GRAC				IAmb	IAmb	01 29 12.8
	comp=Z,8.4nm,0.7s					
GRAC	**Grapevine Rang**	**43.52**	**87**	P	**P**	**01 29 12.0 +1.8**
	baz=311,SNR=5.8					
BCW	**Bitter Crk WRg**	**43.63**	**90**	P	**P**	**01 29 13.9 +2.8**
BCW				IAmb	IAmb	01 29 14.5
	comp=Z,13nm,0.7s					
ISA	**Isabella, Lake**	**43.72**	**89**	P	**P**	**01 29 13.2 +1.4**
ISA				IAmb	IAmb	01 29 14.0
	comp=Z,12nm,1.2s					
ISA	**Isabella, Lake**	**43.72**	**89**	P	**P**	**01 29 13.2 +1.4**
	baz=312,SNR=5.7					
R11B	**Troy Canyon, C**	**43.73**	**84**	P	**P**	**01 29 13.2 +1.2**
R11B	**Troy Canyon, C**	**43.73**	**84**	P	**P**	**01 29 13.0 +1.0**
	baz=310,SNR=11					
MPMC	**Manual Prospec**	**44.06**	**88**	P	**P**	**01 29 16.2 +1.6**
	baz=311,SNR=13					
SPR3	**Spring Creek 3**	**44.08**	**82**	P	**P**	**01 29 16.5 +1.6**
FCC	**Fort Churchill**	**44.09**	**48**	P	**P**	**01 29 14.3 +0.1**
FCC				IAmb	IAmb	01 29 15.2
	comp=Z,13nm,0.8s					
FURC	**Furnace Creek,**	**44.17**	**87**	P	**P**	**01 29 17.4 +2.2**
	baz=311,SNR=6.8					
TPNV	**Topopah Spring**	**44.23**	**86**	P	**P**	**01 29 17.4 +1.4**
	baz=311,SNR=59					
DUG	**Dugway, Tooele**	**44.25**	**80**	P	**P**	**01 29 17.4 +1.3**
DUG	**Dugway, Tooele**	**44.25**	**80**	P	**P**	**01 29 17.4 +1.3**
	baz=309,SNR=6.9					
LRMC	**Laurel Mtn Rad**	**44.32**	**89**	P	**P**	**01 29 18.0 +1.3**
	baz=312					
CPY	**CP-1**	**44.36**	**86**	P	**P**	**01 29 18.6 +1.6**
SDH	**Striped Hills**	**44.38**	**86**	P	**P**	**01 29 18.6 +1.6**
NSP	**Numbskull Pass**	**44.40**	**86**	P	**P**	**01 29 19.2 +2.0**
GWY	**Greenwater Val**	**44.48**	**87**	P	**P**	**01 29 19.6 +1.7**
GWY				IAmb	IAmb	01 29 20.3
	comp=Z,15nm,0.8s					
EDW2	**Edwards Air Fo**	**44.53**	**89**	P	**P**	**01 29 19.3 +1.0**
	baz=312					
MCY	**Mercury**	**44.59**	**86**	P	**P**	**01 29 20.5 +1.7**
BW06	**Boulder Array**	**44.61**	**75**	P	**P**	**01 29 19.3 +0.3**
	baz=307					
PD31	**Pinedale Array**	**44.61**	**75**	P	**P**	**01 29 19.4 +0.4**
PDAR	**Pinedale Array**	**44.61**	**75**	P	**P**	**01 29 19.2 +0.2**
PDAR	**Pinedale Array**	**44.61**	**75**	P	**P**	**01 29 19.1 +0.1**
	comp=Z,1.9nm,0.6s,baz=304,slow=3.9,SNR=18					
	comp=Z,1.9nm,0.6s					
PRN	**Pahroc Range**	**44.66**	**84**	P	**P**	**01 29 21.1 +1.8**
PRN				IAmb	IAmb	01 29 22.1
	comp=Z,13nm,0.8s					
PSUT	**Pine Spring**	**44.66**	**82**	P	**P**	**01 29 20.7 +1.3**
SNCC	**San Nicolas Is**	**44.70**	**92**	P	**P**	**01 29 21.5 +2.0**
	baz=314					
SHOC	**Shoshone, Teco**	**44.90**	**87**	P	**P**	**01 29 22.4 +1.3**
	baz=312,SNR=16					
GSC	**Goldstone, Bar**	**44.98**	**88**	P	**P**	**01 29 23.4 +1.6**
GSC				IAmb	IAmb	01 29 24.3
	comp=Z,26nm,0.7s					
GSC	**Goldstone, Bar**	**44.98**	**88**	P	**P**	**01 29 23.3 +1.6**
	baz=312,SNR=33					
BFSC	**Mount Baldy Ra**	**45.17**	**90**	P	**P**	**01 29 25.6 +2.2**
	baz=313					
SHPR	**Sheep Range**	**45.18**	**86**	P	**P**	**01 29 24.7 +1.3**
BSUT	**Blindstream Ca**	**45.26**	**78**	P	**P**	**01 29 25.0 +0.7**
TUQ	**Turquoise Moun**	**45.42**	**87**	P	**P**	**01 29 26.8 +1.4**
	baz=312,SNR=16					
HEC	**Hector,Ludlow**	**45.58**	**88**	P	**P**	**01 29 27.4 +1.0**
	baz=312,SNR=7.4					
CCUT	**Cedar City**	**45.59**	**83**	P	**P**	**01 29 28.2 +1.4**
MVU	**Marysvale**	**45.67**	**81**	P	**P**	**01 29 29.1 +1.7**
MVU				IAmb	IAmb	01 29 29.7
	comp=Z,9.2nm,0.8s					
MSU	**Marysvale**	**45.69**	**81**	P	**P**	**01 29 28.7 +1.2**
TMUT	**Trail Mountain**	**45.77**	**80**	P	**P**	**01 29 29.4 +1.1**
MURC	**Murrieta**	**45.88**	**90**	P	**P**	**01 29 30.1 +1.3**
	baz=313					
V12A	**Nelson**	**45.88**	**86**	P	**P**	**01 29 30.3 +1.4**
MTPU	**Mount Pierson**	**45.99**	**82**	P	**P**	**01 29 31.5 +1.5**
GMRC	**Granite Mounta**	**46.02**	**88**	P	**P**	**01 29 30.9 +0.9**
	baz=312,SNR=25					
Q16A	**Castle Valley**	**46.04**	**80**	P	**P**	**01 29 31.1 +1.0**
P18A	**Preston Nutter**	**46.14**	**79**	P	**P**	**01 29 32.7 +1.6**
PKCU	**Pink Cliffs**	**46.30**	**82**	P	**P**	**01 29 33.9 +1.6**
SRU	**San Rafael Swe**	**46.30**	**79**	P	**P**	**01 29 33.0 +0.8**
PFO	**Pinyon Flats O**	**46.33**	**90**	P	**P**	**01 29 33.7 +1.4**
PFO	**Pinyon Flats O**	**46.33**	**90**	P	**P**	**01 29 33.6 +1.2**
	baz=313					
TPFO	**Pinon Flats**	**46.33**	**90**	P	**P**	**01 29 33.4 +1.0**
	baz=313					
BELC	**Belle Mtn. Jos**	**46.34**	**89**	P	**P**	**01 29 33.1 +0.6**
	baz=313,SNR=14					
PMD	**Palm Desert**	**46.35**	**89**	P	**P**	**01 29 33.7 +1.3**
109C	**Camp Elliot, M**	**46.43**	**91**	P	**P**	**01 29 34.3 +1.3**
	baz=314					
K22A	**Casper**	**46.46**	**73**	P	**P**	**01 29 32.1 -1.3**
	baz=308					
NEE2	**Needles Airpor**	**46.66**	**87**	P	**P**	**01 29 35.4 +0.6**
	baz=312					
IRM	**Iron Mountain**	**46.76**	**88**	P	**P**	**01 29 36.0 +0.5**
	baz=313,SNR=12					
MONP2	**Monument Peak**	**46.84**	**90**	P	**P**	**01 29 37.5 +1.0**
	baz=314					
W13A	**Hualapai Mount**	**46.89**	**86**	P	**P**	**01 29 38.2 +1.4**
BC3	**Big Chuckawall**	**46.91**	**89**	P	**P**	**01 29 37.2 +0.3**
	baz=313,SNR=5.8					
HMU	**Henry Mountain**	**46.92**	**81**	P	**P**	**01 29 38.4 +1.2**
HMU				IAmb	IAmb	01 29 40.0
	comp=Z,15nm,0.7s					
U15A	**North Rim**	**46.98**	**84**	P	**P**	**01 29 39.2 +1.7**
U15A				IAmb	IAmb	01 29 40.1
	comp=Z,13nm,1.1s					
RSSD	**Black Hills**	**47.00**	**70**	P	**P**	**01 29 37.7 +0.2**
	baz=307					
O20A	**White River Ci**	**47.02**	**77**	P	**P**	**01 29 38.3 +0.6**
O20A	**White River Ci**	**47.02**	**77**	P	**P**	**01 29 37.2 -0.5**
	baz=309,SNR=6.1					
CBX	**Cerro Bola**	**47.09**	**91**	P	**P**	**01 29 40.2 +1.9**
CBX				IAmb	IAmb	01 29 41.1
	comp=Z,21nm,0.8s					
SWSC	**Sam W. Stewart**	**47.18**	**90**	P	**P**	**01 29 39.6 +0.8**
	baz=314					
IKP	**In-Ko-Pah, Jac**	**47.20**	**90**	P	**P**	**01 29 40.2 +1.2**
	baz=314					
PDMCI	**Parker Dam,Lak**	**47.27**	**87**	P	**P**	**01 29 40.7 +1.2**
	baz=313					
SONM	**Songino Array**	**47.34**	**297**	ScP	**ScP**	**01 34 34.6 -3.2**
	comp=Z,0.8nm,0.7s,baz=9.6,slow=3.1,SNR=5.6					
GLA	**Glamis**	**47.70**	**89**	P	**P**	**01 29 44.4 +1.5**
GLA				IAmb	IAmb	01 29 45.2
	comp=Z,19nm,0.7s					
GLA	**Glamis**	**47.70**	**89**	P	**P**	**01 29 44.6 +1.7**
	baz=314,SNR=8.8					
ESJX	**Sierra Juarez**	**47.74**	**91**	P	**P**	**01 29 44.6 +1.3**
ULM	**Lac du Bonnet**	**47.84**	**59**	P	**P**	**01 29 42.5 -1.0**
	comp=Z,1.9nm,0.6s,baz=273,slow=7.3,SNR=5.3					
	comp=Z,1.9nm,0.6s					
WUAZ	**Wupatki**	**48.13**	**84**	P	**P**	**01 29 48.1 +1.8**
WUAZ	**Wupatki**	**48.13**	**84**	P	**P**	**01 29 47.7 +1.4**
	baz=312					
Y14A	**Wickenburg**	**48.21**	**87**	P	**P**	**01 29 48.1 +1.4**
SMCO	**Snowmass**	**48.38**	**77**	P	**P**	**01 29 49.4 +1.0**
MVCO	**Mesa Verde**	**48.75**	**80**	P	**P**	**01 29 51.9 +0.8**
	baz=311					
ISCO	**Idaho Springs**	**48.78**	**75**	P	**P**	**01 29 51.9 +0.5**
	baz=310					
X16A	**Lo Mia Camp, P**	**48.83**	**85**	P	**P**	**01 29 53.5 +1.9**
W18A	**Petrified Fore**	**49.40**	**83**	P	**P**	**01 29 57.5 +1.6**
	baz=313					
S22A	**4UR Ranch, Cre**	**49.40**	**78**	P	**P**	**01 29 57.0 +1.0**
S22A	**4UR Ranch, Cre**	**49.40**	**78**	P	**P**	**01 29 56.8 +0.8**
	baz=311					
X18A	**Snowflake**	**49.66**	**84**	P	**P**	**01 29 59.0 +1.1**
214A	**Organ Pipe Nat**	**49.69**	**88**	P	**P**	**01 29 59.0 +1.1**
214A				IAmb	IAmb	01 30 00.1
	comp=Z,9.0nm,0.8s					
214A	**Organ Pipe Nat**	**49.69**	**88**	P	**P**	**01 29 59.5 +1.5**
	baz=314,SNR=8.4					
SDCO	**Great Sand Dun**	**50.19**	**77**	P	**P**	**01 30 02.3 +0.4**
SDCO	**Great Sand Dun**	**50.19**	**77**	P	**P**	**01 30 02.8 +0.8**
	baz=312,SNR=6.8					
TUC	**Tucson**	**50.68**	**86**	P	**P**	**01 30 06.6 +1.2**
TUC				IAmb	IAmb	01 30 07.8
	comp=Z,9.9nm,0.8s					
TUC	**Tucson**	**50.68**	**86**	P	**P**	**01 30 07.4 +2.0**
	baz=314					
T25A	**Trinidad**	**51.24**	**77**	P	**P**	**01 30 10.5 +0.8**
T25A	**Trinidad**	**51.24**	**77**	P	**P**	**01 30 10.9 +1.2**
	baz=312,SNR=6.9					
ECSD	**EROS Data Cent**	**51.44**	**66**	P	**P**	**01 30 10.2 -0.6**
	baz=310					
ANMO	**Albuquerque**	**51.49**	**81**	P	**P**	**01 30 11.6 +0.1**
	baz=313					
EYMN	**Ely**	**51.52**	**59**	P	**P**	**01 30 11.5 +0.2**
	baz=309					
DUN6	**Lazy B Ranch**	**51.54**	**85**	P	**P**	**01 30 12.4 +0.6**
DUN6				IAmb	IAmb	01 30 15.4
	comp=Z,14nm,0.9s					
319A	**Douglas**	**52.24**	**86**	P	**P**	**01 30 18.3 +1.3**
319A				IAmb	IAmb	01 30 19.9
	comp=Z,8.7nm,1.0s					
121A	**Cookes Peak, D**	**52.34**	**84**	P	**P**	**01 30 18.7 +0.9**
121A	**Cookes Peak, D**	**52.34**	**84**	P	**P**	**01 30 18.5 +0.6**
	baz=314					
E38A	**The Farm, Brul**	**52.34**	**60**	P	**P**	**01 30 17.2 -0.2**
E38A				IAmb	IAmb	01 30 17.5
	comp=Z,8.9nm,0.6s					
CBKS	**Cedar Bluff**	**52.87**	**73**	P	**P**	**01 30 22.5 +1.1**
	baz=312					
MSTX	**Muleshoe**	**54.37**	**79**	P	**P**	**01 30 32.7 +0.3**
	baz=314					
MNTX	**Cornudas Mount**	**54.38**	**83**	P	**P**	**01 30 33.9 +1.4**
	baz=315,SNR=11					
AMTX	**Amarillo**	**54.39**	**77**	P	**P**	**01 30 32.8 +0.2**
	baz=314					
E43A	**Lone Tree Farm**	**54.88**	**58**	P	**P**	**01 30 35.8 0.0**
SMWD	**Samnorwood**	**55.09**	**76**	P	**P**	**01 30 38.3 +0.8**
SMWD				IAmb	IAmb	01 30 39.8
	comp=Z,5.6nm,0.6s					
JFWS	**Jewell Farm**	**55.48**	**63**	P	**P**	**01 30 39.6 -0.4**
	baz=312					
DKNS	**Dickens**	**55.69**	**78**	P	**P**	**01 30 42.3 +0.5**
DKNS				IAmb	IAmb	01 30 44.1
	comp=Z,12nm,0.7s					
POST	**Post**	**55.76**	**79**	P	**P**	**01 30 42.8 +0.5**
POST				IAmb	IAmb	01 30 44.6
	comp=Z,9.8nm,0.7s					
P38A	**Dawn**	**55.88**	**68**	P	**P**	**01 30 42.5 -0.5**
P38A				IAmb	IAmb	01 30 43.5
	comp=Z,7.3nm,0.9s					
SN07	**Snyder 07**	**56.11**	**78**	P	**P**	**01 30 45.5 +0.8**
SN07				IAmb	IAmb	01 30 46.9
	comp=Z,7.7nm,0.7s					
WMOK	**Wichita Mounta**	**56.21**	**76**	P	**P**	**01 30 45.9 +0.5**
WMOK	**Wichita Mounta**	**56.21**	**76**	P	**P**	**01 30 45.9 +0.5**
	baz=314,SNR=6.8					
MNHN	**Monahans**	**56.22**	**81**	P	**P**	**01 30 45.9 +0.4**
MNHN				IAmb	IAmb	01 30 47.8
	comp=Z,8.4nm,0.6s					
E46A	**Sault Ste Mari**	**56.26**	**56**	P	**P**	**01 30 46.3 +0.7**
E46A				IAmb	IAmb	01 30 46.5
	comp=Z,9.2nm,0.7s					
SN05	**Snyder 5**	**56.26**	**79**	P	**P**	**01 30 46.8 +1.0**
SN05				IAmb	IAmb	01 30 47.5
	comp=Z,7.9nm,0.6s					
ALPN	**Alpine**	**56.37**	**83**	P	**P**	**01 30 47.7 +0.9**
APMT	**Aspermont**	**56.40**	**78**	P	**P**	**01 30 47.3 +0.5**
APMT				IAmb	IAmb	01 30 48.9
	comp=Z,10nm,0.6s					
P40A	**Paris**	**56.78**	**67**	P	**P**	**01 30 48.7 -0.6**
SGCY	**Sterling City**	**56.80**	**80**	P	**P**	**01 30 50.0 +0.4**
W35A	**Tecumseh**	**57.04**	**74**	P	**P**	**01 30 52.1 +0.8**
TX31	**Lajitas Ar. Si**	**57.10**	**84**	P	**P**	**01 30 52.5 +0.7**
TX31				IAmb	IAmb	01 30 53.5
	comp=Z,5.8nm,0.9s					
TXAR	**Lajitas Array**	**57.10**	**84**	P	**P**	**01 30 52.2 +0.4**
TXAR	**Lajitas Array**	**57.10**	**84**	P	**P**	**01 30 52.5 +0.7**
	comp=Z,4.1nm,0.8s,baz=299,slow=4.6,SNR=58					
	comp=Z,4.1nm,0.8s					
TUL3	**Leonard**	**57.15**	**73**	P	**P**	**01 30 52.2 +0.3**
	baz=314					
ABTX	**Abilene, Hawle**	**57.18**	**78**	P	**P**	**01 30 52.8 +0.6**
ABTX				IAmb	IAmb	01 30 54.8
	comp=Z,8.0nm,0.8s					
ABTX	**Abilene, Hawle**	**57.18**	**78**	P	**P**	**01 30 52.5 +0.2**
	baz=315					
OZNA	**Ozona**	**57.50**	**80**	P	**P**	**01 30 55.2 +0.6**
OZNA				IAmb	IAmb	01 30 56.8
	comp=Z,6.3nm,1.0s					
R40A	**Maddies Statio**	**57.52**	**68**	P	**P**	**01 30 53.6 -0.9**
R40A				IAmb	IAmb	01 30 54.2
	comp=Z,8.1nm,0.5s					
U38A	**Gravette**	**57.59**	**71**	P	**P**	**01 30 54.8 -0.2**
U38A				IAmb	IAmb	01 30 55.5
	comp=Z,4.0nm,0.7s					
HHAR	**Hobbs**	**57.96**	**71**	P	**P**	**01 30 57.1 -0.6**
HHAR				IAmb	IAmb	01 30 57.8
	comp=Z,5.1nm,0.5s					
CCM	**Cathedral Cave**	**58.26**	**68**	P	**P**	**01 30 59.0 -0.6**
MGMO	**Mountain Grove**	**58.31**	**69**	P	**P**	**01 30 58.7 -1.3**
X37A	**Clayton**	**58.32**	**73**	P	**P**	**01 31 00.3 +0.2**
X37A				IAmb	IAmb	01 31 01.9
	comp=Z,7.4nm,0.6s					
JCT	**Junction City**	**58.61**	**80**	P	**P**	**01 31 01.6 -0.6**
JCT				IAmb	IAmb	01 31 04.2
	comp=Z,8.7nm,1.1s					
JCT	**Junction City**	**58.61**	**80**	P	**P**	**01 31 02.2 0.0**
	baz=316					
SFIN	**Lafayette**	**58.93**	**63**	P	**P**	**01 31 04.3 +0.1**
	baz=315					
T42A	**Van Buren**	**59.06**	**68**	P	**P**	**01 31 04.2 -0.9**
KURBB	**Kurchatov Arra**	**59.27**	**314**	P	**P**	**01 31 05.4 -1.0**
	comp=Z,0.3nm,0.5s,baz=44,slow=6.6,SNR=1.8					
	comp=Z,0.3nm,0.5s					
FCAR	**Ozark Folk Cen**	**59.28**	**70**	P	**P**	**01 31 05.5 -1.1**
FCAR				IAmb	IAmb	01 31 07.0
	comp=Z,5.7nm,0.7s					
MIAR	**Mount Ida**	**59.39**	**72**	P	**P**	**01 31 07.2 -0.2**
MIAR	**Mount Ida**	**59.39**	**72**	P	**P**	**01 31 07.8 +0.4**
	baz=316					
O48B	**Farmland**	**60.07**	**62**	P	**P**	**01 31 11.2 -0.8**
O48B	**Farmland**	**60.07**	**62**	P	**P**	**01 31 10.8 -1.2**
	baz=315,SNR=5.3					
P48A	**Milroy**	**60.49**	**63**	P	**P**	**01 31 14.2 -0.6**
P49A	**Miami Univ. Ec**	**60.82**	**62**	P	**P**	**01 31 16.6 -0.4**
	baz=316					
BVAR	**Borovoye Array**	**60.84**	**320**	P	**P**	**01 31 15.8 -1.2**
	comp=Z,0.4nm,0.5s,baz=44,slow=6.6,SNR=2.7					
BVAR				pP	**pwP**	**01 32 13.7 +0.2**
	comp=Z,0.7nm,0.5s,baz=46,slow=6.8,SNR=3.8					
	comp=Z,0.4nm,0.5s					
WCI	**Wyandotte Cave**	**60.89**	**64**	P	**P**	**01 31 17.3 -0.2**
	baz=316					
ACSO	**Alum Creek Sta**	**61.25**	**61**	P	**P**	**01 31 19.7 -0.2**
	baz=316					
T47A	**Sharon Grove**	**61.33**	**66**	P	**P**	**01 31 20.7 +0.1**
T47A				IAmb	IAmb	01 31 22.0
	comp=Z,7.7nm,0.8s					
WVT	**Waverly**	**61.55**	**67**	P	**P**	**01 31 21.9 0.0**
	baz=316					
M53A	**WI Miller and**	**61.59**	**58**	P	**P**	**01 31 22.1 -0.1**
	baz=316					
OXF	**Oxford**	**61.82**	**69**	P	**P**	**01 31 24.1 +0.3**
	baz=316					
P52A	**Corning**	**62.13**	**61**	P	**P**	**01 31 25.6 -0.2**
	baz=317					
SSFO	**Shawnee State**	**62.24**	**62**	P	**P**	**01 31 27.0 +0.4**
CLTN	**Cedars of Leba**	**62.41**	**66**	P	**P**	**01 31 28.5 +0.8**
CLTN				IAmb	IAmb	01 31 29.4
	comp=Z,5.8nm,0.7s					
T50A	**Nancy**	**62.56**	**64**	P	**P**	**01 31 28.6 -0.1**
T50A				IAmb	IAmb	01 31 29.7
	comp=Z,3.9nm,0.6s					
ZAIG	**Zacatecas**	**62.58**	**88**	P	**P**	**01 31 30.1 +0.8**
ZAIG				IAmb	IAmb	01 31 31.4
	comp=Z,7.4nm,0.9s					
L56A	**Greenwood**	**62.67**	**56**	P	**P**	**01 31 29.6 +0.2**
VBMS	**Vicksburg**	**62.84**	**72**	P	**P**	**01 31 31.6 +1.1**
Z47A	**Carrollton**	**63.53**	**69**	P	**P**	**01 31 34.5 -0.6**
Z47A				IAmb	IAmb	01 31 35.9
	comp=Z,9.0nm,0.6s					
SSPA	**Standing Stone**	**63.61**	**57**	P	**P**	**01 31 34.9 -0.6**
	baz=318					
FPAL	**Fort Paine**	**63.94**	**67**	P	**P**	**01 31 37.4 -0.5**
FPAL				IAmb	IAmb	01 31 38.6
	comp=Z,6.3nm,0.7s					
LRAL	**Lakeview Retre**	**64.27**	**69**	P	**P**	**01 31 39.9 +0.1**
LRAL	**Lakeview Retre**	**64.27**	**69**	P	**P**	**01 31 39.8 -0.1**
	baz=318					
BLA	**Blacksburg**	**64.82**	**61**	P	**P**	**01 31 43.7 +0.2**
	baz=318					
WRA	**Warramunga Arr**	**83.88**	**226**	P	**P**	**01 33 33.6 +0.5**
	comp=Z,1.4nm,0.9s,baz=34,slow=6.1,SNR=5.3					
	comp=Z,1.4nm,0.9s					
ASAR	**Alice Springs**	**87.35**	**224**	P	**P**	**01 33 51.5 +1.4**
	comp=Z,1.9nm,0.9s,baz=26,slow=4.8,SNR=8.9					
	comp=Z,1.9nm,0.9s					
MAW	**Mawson**	**148.32**	**219**	PKPbc	**PKiKP**	**01 40 47.6 -0.5**
	comp=Z,2.1nm,0.6s,baz=49,slow=5.7,SNR=4.5					

*IDC **13** 01:21:35.6±0.8, 36°21N×106°05E, h0km, mb3.6/10, mbtmp3

SONM	**Songino Array**	**11.59**	**1**	Pn	**Pn**	**01 24 23.2 +1.0**
	comp=E,0.6nm,0.3s,baz=191,slow=15,SNR=27					
SONM				Sn	**Sn**	**01 26 25.9 -5.9**
	comp=E,0.1nm,0.3s,baz=187,slow=23,SNR=2.4					
SONM				Lg	Lg	01 27 46.9
	comp=E,0.2nm,0.3s,baz=201,slow=29,SNR=3.8					
	comp=E,8.8nm,1.1s					
KSRS	**Korea Array**	**17.52**	**80**	P	**P**	**01 25 42.8 +0.8**
	comp=E,0.3nm,0.3s,baz=263,slow=9.7,SNR=1.8					
	comp=E,0.4nm,0.3s					
CMAR	**Chiang Mai Arr**	**18.80**	**201**	P	**Pn**	**01 25 58.0 +1.3**
	comp=E,0.7nm,0.3s,baz=11,slow=10,SNR=1.3					
	comp=E,1.1nm,0.3s					
MKAR	**Makanchi Array**	**20.63**	**308**	P	Pn	01 26 17.1 -1.3
	comp=E,1.3nm,0.7s,baz=107,slow=14,SNR=11					
	comp=E,1.3nm,0.7s					
USRK	**Ussuriysk Ar.**	**21.25**	**60**	P	**P**	**01 26 23.4 +0.6**
	comp=E,0.9nm,0.5s,baz=225,slow=16,SNR=2.3					
	comp=E,0.9nm,0.5s					
ZALV	**Zalesovo Beam**	**23.07**	**327**	P	**P**	**01 26 42.2 +0.1**
	comp=E,1.9nm,0.6s,baz=117,slow=8.7,SNR=10					
	comp=E,1.9nm,0.6s					
KURBB	**Kurchatov Arra**	**24.46**	**315**	P	**P**	**01 26 55.9 +0.3**
	comp=E,1.8nm,0.8s,baz=118,slow=8.5,SNR=9.4					
	comp=E,1.8nm,0.8s					
BVAR	**Borovoye Array**	**30.05**	**315**	P	**P**	**01 27 45.6 -0.1**
	comp=E,0.3nm,0.4s,baz=119,slow=12,SNR=1.7					
	comp=E,0.3nm,0.4s					
FINES	**FINESS Array B**	**54.30**	**324**	P	**P**	**01 31 04.1 +1.4**
	comp=E,0.8nm,0.9s,baz=17,slow=15,SNR=2.3					
	comp=E,0.8nm,0.9s					
HFS	**Hagfors**	**60.49**	**325**	P	**P**	**01 31 45.8 -0.6**
	comp=E,0.9nm,0.7s,baz=101,slow=12,SNR=2.3					
	comp=E,0.9nm,0.7s					
NOA	**NORSAR Array B**	**61.27**	**326**	P	**P**	**01 31 53.0 +1.2**
	comp=E,0.2nm,0.5s,baz=65,slow=6.7,SNR=2.6					
	comp=E,0.2nm,0.5s					
WRA	**Warramunga Arr**	**61.94**	**150**	P	**P**	**01 31 57.3 +0.7**
	comp=E,0.5nm,0.7s,baz=344,slow=6.9,SNR=11					
	comp=E,0.5nm,0.7s					
ASAR	**Alice Springs**	**65.12**	**152**	P	**P**	**01 32 17.4 -0.2**
	comp=E,0.3nm,0.4s,baz=337,slow=6.5,SNR=7.6					
	comp=E,0.3nm,0.4s					

TAP 13 01:25:06.5,21.°30N×121.°84E,h160km,ML4.1,D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu** baz=341	**0.74**	**341**	P	Pn	01 25 30.0	-0.3
LYUB	baz=341			*e*S	Sn	01 25 47.9	-0.6
LAY	**Lan-yu** baz=340	**0.78**	**340**	*e*P	Pn	01 25 30.1	-0.5
LAY	baz=340			*e*S	Sn	01 25 47.0	-2.2
TSEB	**Hengchuen, Pin** baz=298	**1.06**	**304**	*e*P	Pn	01 25 33.5	+0.8
TSEB	baz=298			*e*S	Sn	01 25 53.5	+0.7
TWKBT	**Hengchun** baz=301	**1.15**	**304**	*i* P	Pn	01 25 34.0	+0.6
TWKBT	baz=301			S	Sn	01 25 53.9	-0.3
TWK1	**Hengchun** baz=301	**1.16**	**304**	*e*P	Pn	01 25 34.1	+0.6
TWK1	baz=301			*e*S	Sn	01 25 53.5	-0.8
SMST	**Manzhou Townsh** baz=310	**1.18**	**308**	*e*P	Pn	01 25 34.0	+0.3
SMST	baz=310			*e*S	Sn	01 25 53.1	-1.5
HEN	**Hengchun** baz=296	**1.24**	**305**	*e*S	Sn	01 25 55.5	-0.1
SLIU	**Shizi** baz=320	**1.33**	**313**	*e*P	Pn	01 25 35.2	0.0
SLIU	baz=320			*e*S	Sn	01 25 56.5	-0.6
TAWH	**Dawu Township** baz=320	**1.36**	**320**	*e*S	Sn	01 25 56.2	-1.5
TAW	**Tawu** baz=320	**1.37**	**320**	*e*S	Sn	01 25 56.6	-1.3
LDUT	**Ludao** baz=348	**1.41**	**346**	*e*P	Pn	01 25 36.5	+0.6
LDUT	baz=348			*e*S	Sn	01 25 59.1	+0.5
EAST	**Anshuo** baz=320	**1.42**	**320**	*i* P	Pn	01 25 36.4	+0.3
EAST	baz=320			S	Sn	01 25 57.6	-1.2
ECL	**Taimali** baz=324	**1.53**	**328**	*e*S	Sn	01 25 58.7	-2.0
SCZT	**Fangliau** baz=319	**1.56**	**313**	*e*P	Pn	01 25 37.6	+0.2
SCZT	baz=319			S	Sn	01 26 00.3	-0.9
TTN	**Taitung** baz=328	**1.58**	**336**	*e*P	Pn	01 25 38.1	+0.5
TTN	baz=328			*e*S	Sn	01 26 02.9	+1.2
TWGBT	**Beinan** baz=330	**1.67**	**335**	P	Pn	01 25 38.2	-0.3
TWGBT	baz=330			S	Sn	01 26 01.7	-1.6
TWG	**Pinlang** baz=330	**1.67**	**335**	*e*P	Pn	01 25 38.1	-0.5
TWG	baz=330			*e*S	Sn	01 26 00.7	-2.7
MASBT	**Mashibuluo** baz=319	**1.72**	**320**	*i* P	Pn	01 25 39.5	+0.3
MASBT	baz=319			S	Sn	01 26 03.1	-1.2
EDH	**Donghe** baz=336	**1.73**	**343**	*e*P	Pn	01 25 39.3	0.0
EDH	baz=336			*i* S	Sn	01 26 04.2	-0.5
SSD	**Sandimen** baz=322	**1.82**	**322**	P	Pn	01 25 40.4	+0.1
SSD	baz=322			*e*S	Sn	01 26 04.7	-1.6
CHKT	**Chengkung** baz=350	**1.84**	**346**	*e*S	Sn	01 26 06.2	-0.5
CHKH	**Chenggong** baz=350	**1.93**	**348**	*e*P	Pn	01 25 41.6	+0.2
CHKH	baz=350			*i* S	Sn	01 26 08.2	-0.1
EHD	**Haiduan** baz=337	**1.93**	**342**	*e*P	Pn	01 25 40.2	-1.2
FULB	**Fuli** baz=340	**1.95**	**345**	*e*P	Pn	01 25 42.5	+0.8
FULB	baz=340			*i* S	Sn	01 26 08.5	-0.5
WSSB	**Gushan** baz=312	**1.98**	**313**	*e*P	Pn	01 25 43.0	+1.0
WSSB	baz=312			*e*S	Sn	01 26 08.2	-1.3
TWM1	**Shoushan** baz=312	**2.01**	**319**	*e*P	Pn	01 25 44.1	+1.8
SNJT	**Kaohsiung City** baz=308	**2.01**	**316**	*e*S	Sn	01 26 11.5	+1.5
SCST	**Cishan** baz=329	**2.01**	**322**	P	Pn	01 25 43.0	+0.7
SCST	baz=329			S	Sn	01 26 10.2	+0.1
SLGT	**Liugui** baz=332	**2.02**	**327**	*i* P	Pn	01 25 42.9	+0.4
SLGT	baz=332			*i* S	Sn	01 26 09.5	-0.7
ECBN	**Changbin** baz=353	**2.04**	**350**	*e*S	Sn	01 26 10.3	-0.3
EYUL	**Yuli** baz=341	**2.09**	**347**	*e*P	Pn	01 25 44.3	+1.0
TWF1	**Yuli** baz=337	**2.10**	**346**	*e*P	Pn	01 25 43.5	+0.1
TWF1	baz=337			*e*S	Sn	01 26 10.8	-1.2
STYH	**Taoyuan** baz=327	**2.10**	**332**	P	Pn	01 25 44.0	+0.5
STYH	baz=327			S	Sn	01 26 11.9	-0.1
STYT	**Tauyuan** baz=332	**2.11**	**332**	P	Pn	01 25 43.6	+0.1
STYT	baz=332			*e*S	Sn	01 26 11.3	-0.9
SGST	**Jiashian** baz=327	**2.12**	**327**	*e*P	Pn	01 25 43.2	-0.5
SGST	baz=327			*e*S	Sn	01 26 11.4	-0.9
YULB	**Yu-li** baz=338	**2.14**	**347**	*e*P	Pn	01 25 43.5	-0.4
YULB	baz=338			*e*S	Sn	01 26 11.1	-1.7
SHHT	**Tainan City** baz=328	**2.20**	**321**	*e*P	Pn	01 25 46.1	+1.6
SHHT	baz=328			*e*S	Sn	01 26 15.8	+1.8
HGSD	**Ruisui** baz=352	**2.21**	**350**	*e*P	Pn	01 25 45.7	+1.0
HGSD	baz=352			*e*S	Sn	01 26 15.2	+0.9
CHN1	**Nanshi** baz=327	**2.23**	**327**	*e*P	Pn	01 25 45.4	+0.4
CHN1	baz=327			*i* S	Sn	01 26 14.0	-0.8
WTP	**Ta-pu** baz=330	**2.24**	**330**	*i* P	Pn	01 25 45.4	+0.3
WTP	baz=330			*i* S	Sn	01 26 14.3	-0.7
EHY	**Hungye** baz=340	**2.25**	**348**	*e*P	Pn	01 25 44.8	-0.3
EHY	baz=340			*e*S	Sn	01 26 14.0	-1.0
SNST	**Tainan City** baz=327	**2.28**	**327**	*e*P	Pn	01 25 45.7	+0.2
SNST	baz=327			*e*S	Sn	01 26 14.3	-1.4
TPUB	**Ta-pu** baz=331	**2.28**	**331**	*i* P	Pn	01 25 45.8	+0.2
TPUB	baz=331			*i* S	Sn	01 26 14.8	-1.0
TWK	**Hsinying** baz=328	**2.32**	**328**	*e*P	Pn	01 25 45.9	-0.2
TWK	baz=328			*e*S	Sn	01 26 15.3	-1.3
SSHA	**Shanhua** baz=328	**2.32**	**322**	*e*S	Sn	01 26 17.7	+1.2
SCLT	**Jiali** baz=327	**2.41**	**321**	*e*S	Sn	01 26 18.6	+0.3
WCKO	**Fanlu** baz=327	**2.42**	**332**	*e*P	Pn	01 25 48.0	+0.9
WCKO	baz=327			*e*S	Sn	01 26 17.3	-1.2
WARBT	**Fenglin Townsh** baz=345	**2.44**	**350**	*e*P	Pn	01 25 46.5	-0.9
WARBT	baz=345			S	Sn	01 26 17.9	-1.2
TSCK	**Chigu Township** baz=312	**2.45**	**319**	*e*P	Pn	01 25 49.1	+1.6
TSCK	baz=312			*e*S	Sn	01 26 19.1	-0.1
SHUL	**Shoufeng** baz=1.0	**2.49**	**354**	*e*P	Pn	01 25 48.2	+0.2
SHUL	baz=1.0			*e*S	Sn	01 26 21.0	+0.9
ICHU	**Yijhu** baz=331	**2.51**	**325**	*e*P	Pn	01 25 48.5	+0.3
ICHU	baz=331			*e*S	Sn	01 26 19.4	-1.1
VWDT	**VWDT** baz=349	**2.52**	**345**	*e*P	Pn	01 25 49.2	+0.8
VWDT	baz=349			*e*S	Sn	01 26 21.5	+0.6
CHN5	**Tsauling** baz=329	**2.52**	**335**	*e*P	Pn	01 25 48.7	+0.2
CHN5	baz=329			*e*S	Sn	01 26 19.9	-1.1
ESL	**Shilin** baz=346	**2.53**	**351**	*e*P	Pn	01 25 49.2	+0.7
ESL	baz=346			*e*S	Sn	01 26 20.0	-1.0
CHN8	**Yiju** baz=329	**2.53**	**324**	*e*P	Pn	01 25 48.5	0.0
CHN8	baz=329			*e*S	Sn	01 26 20.5	-0.5
WHYT	**Xinyi Township** baz=332	**2.55**	**339**	*e*P	Pn	01 25 48.6	-0.2
WHYT	baz=332			S	Sn	01 26 21.3	-0.3
SSLB	**Suanglung** baz=334	**2.61**	**342**	*e*P	Pn	01 25 49.2	-0.2
SSLB	baz=334			*e*S	Sn	01 26 21.4	-1.4
WDLH	**Douliu** baz=333	**2.66**	**333**	*e*S	Sn	01 26 22.9	-1.0
WSL	**Shuilin Townsh** baz=326	**2.67**	**326**	*e*P	Pn	01 25 49.9	-0.2
WSL	baz=326			S	Sn	01 26 22.9	-1.0
ETM	**Tongmen** baz=347	**2.67**	**353**	*e*P	Pn	01 25 50.5	+0.3
OWD	**Renai** baz=353	**2.71**	**347**	*e*P	Pn	01 25 51.5	+0.7
SMLT	**Sun Moon Lake** baz=334	**2.71**	**341**	*e*P	Pn	01 25 50.3	-0.6
SMLT	baz=334			*e*S	Sn	01 26 24.5	-0.7
LXIB	**Xiulin Townshi** baz=352	**2.73**	**352**	*e*P	Pn	01 25 50.8	-0.3
LXIB	baz=352			*e*S	Sn	01 26 24.3	-1.5
TYC	**Yuchr** baz=334	**2.75**	**341**	*e*P	Pn	01 25 50.7	-0.4
TYC	baz=334			*e*S	Sn	01 26 25.0	-0.6
WSF	**Szhu** baz=327	**2.77**	**328**	*e*S	Sn	01 26 25.1	-1.1
TWD	**Chiawan** baz=3.0	**2.77**	**355**	*e*P	Pn	01 25 51.9	+0.4
TWD	baz=3.0			*e*S	Sn	01 26 26.2	-0.2
WNT	**Mingjian** baz=338	**2.78**	**338**	*e*P	Pn	01 25 51.6	+0.1
WNT	baz=338			*e*S	Sn	01 26 25.4	-1.0
WDGT	**Dungji** baz=314	**2.81**	**314**	P	Pn	01 25 51.8	-0.1
WDGT	baz=314			*e*S	Sn	01 26 25.0	-2.0
CHGB	**Renai** baz=352	**2.81**	**347**	*e*P	Pn	01 25 52.6	+0.4
CHGB	baz=352			*e*S	Sn	01 26 27.3	-0.3
DPDB	**Guoxing** baz=336	**2.85**	**343**	*e*P	Pn	01 25 52.4	0.0
NACB	**Ninganchiao** baz=2.0	**2.87**	**355**	P	Pn	01 25 52.6	0.0
NACB	baz=2.0			*e*S	Sn	01 26 27.9	-0.6
WCS	**Beigang Elemen** baz=336	**2.87**	**343**	*e*P	Pn	01 25 53.3	+0.6
WCS	baz=336			*e*S	Sn	01 26 28.5	-0.1
WHF	**Hehuan Shan** baz=356	**2.88**	**349**	*e*P	Pn	01 25 53.7	+0.5
WHF	baz=356			*e*S	Sn	01 26 28.2	-1.2
WRL	**Guolierlin Hig** baz=337	**2.92**	**333**	*e*P	Pn	01 25 52.4	-0.9
WRL	baz=337			*e*S	Sn	01 26 27.8	-1.8
WWF	**Wufeng** baz=339	**2.92**	**339**	*e*P	Pn	01 25 53.4	+0.1
WWF	baz=339			*e*S	Sn	01 26 29.6	-0.1
VCHM	**Qimei** baz=311	**2.93**	**311**	P	Pn	01 25 53.1	-0.3
VCHM	baz=311			S	Sn	01 26 27.8	-2.0
FUSS	**Fushou** baz=349	**2.98**	**349**	*e*P	Pn	01 25 55.3	+1.0
EOS3	**EOS3** baz=360	**3.00**	**8**	*e*P	Pn	01 25 55.0	+0.8
TDCB	**Techi** baz=348	**3.00**	**348**	*e*P	Pn	01 25 55.2	+0.7
TDCB	baz=348			*e*S	Sn	01 26 31.3	-0.4
WHP	**Taichung City** baz=338	**3.08**	**345**	*e*P	Pn	01 25 55.5	+0.2
WHP	baz=338			*e*S	Sn	01 26 33.6	+0.4
PNG	**Penghu** baz=323	**3.09**	**317**	*e*P	Pn	01 25 54.8	-0.6
PNG	baz=323			*e*S	Sn	01 26 31.7	-1.6
ENA	**Nanau** baz=358	**3.11**	**358**	*e*P	Pn	01 25 56.2	+0.5
NNSB	**Datong** baz=356	**3.14**	**352**	P	Pn	01 25 56.4	+0.3
NNSB	baz=356			*e*S	Sn	01 26 34.3	-0.4
TWQ1	**Liyutan** baz=342	**3.19**	**342**	*e*P	Pn	01 25 56.9	+0.2
TWQ1	baz=342			*e*S	Sn	01 26 35.3	-0.3
LATG	**Datong** baz=355	**3.23**	**355**	*e*P	Pn	01 25 57.6	+0.3
YHNB	**Yeheng** baz=353	**3.38**	**353**	*e*P	Pn	01 26 00.3	+1.1
YHNB	baz=353			*e*S	Sn	01 26 39.1	-1.0
NFF	**Wufeng Townshi** baz=339	**3.38**	**349**	*e*P	Pn	01 25 59.1	0.0
NSK	**Sanguang** baz=352	**3.39**	**353**	*e*P	Pn	01 26 00.3	+1.1
TWE	**Neicheng** baz=350	**3.41**	**357**	*e*P	Pn	01 26 00.8	+1.4
FUSB	**Fushanzhiwuyua** baz=356	**3.45**	**356**	*e*P	Pn	01 26 01.2	+1.2
NWLT	**Wulai** baz=360	**3.47**	**355**	*e*P	Pn	01 26 01.4	+1.1
VWUC	**VWUC** baz=329	**4.28**	**330**	*e*P	Pn	01 26 10.2	-0.4
VWUC	baz=329			*e*S	Sn	01 26 58.1	-2.6
KNM	**Kinmen** baz=314	**4.41**	**315**	*e*P	Pn	01 26 13.3	+0.9
KNMB	**Chin-men Tao** baz=315	**4.48**	**315**	*e*P	Pn	01 26 13.2	0.0
PTMZ	**Houxiangcun** baz=326	**4.48**	**327**	*e*P	Pn	01 26 13.2	-0.1
PTMZ	baz=326			*e*S	Sn	01 27 03.2	-2.3
ZPLA	**Ao Xicun** baz=305	**4.60**	**305**	*e*P	Pn	01 26 15.0	+0.2

*TAP **13** 01:42:16.7,23.°86N×121.°55E,h51km,ML4.0,B*
*JMA **13** 01:42:16.3±0.1,23.°8N±0.°4×12°2E±°,h46km±1km,*
MV3.3/13,TAIWAN REGION
*ASIES **13** 01:42:16.7,23.°86N×121.°55E,h51km,ML4.0,Mw3.6,*
Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm;
M_{rr}-2.26; $M_{\theta\theta}$1.75; $M_{\phi\phi}$0.51; $M_{r\theta}$-1.23; $M_{\theta\phi}$1.18; $M_{\phi r}$0.42;
Fault plane solution: $M_0$2.70481×10^{21} NP1:ϕ_s79.26000°,
δ58.42000°,λ-66.44000°. NP2:ϕ_s219.48000°,δ38.66000°,
λ-123.03000°. Principal axes: T Plg10.4760°,
Azm152.5570°; N Plg19.9080°, Azm246.3960°; P
Plg67.2940°, Azm36.3330°;

ISC 13 01:42:17.1±1.2,23.°85N±0.°02×121.°60E±0.°02,h45km±4km,
n139,σ0.99/240,15C-12D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag** baz=61	**0.02**	**345**	P	**Pn**	**01 42 24.8**	**+0.7**
TEYL	baz=61			S	**Sn**	**01 42 31.2**	**+2.2**
SHUL	**Shoufeng** baz=160	**0.07**	**212**	⇓*i*P	**Pn**	**01 42 25.0**	**+0.7**
SHUL	baz=160			S	**Sn**	**01 42 31.2**	**+2.0**
HWA	**Hwalien** baz=19	**0.13**	**0**	P	**Pn**	**01 42 25.2**	**+0.7**
HWA	baz=19			S	**Sn**	**01 42 31.6**	**+2.0**
ETM	**Tongmen** baz=333	**0.15**	**319**	P	**Pn**	**01 42 24.6**	**-0.1**
ETM	baz=333			S	**Sn**	**01 42 29.9**	**-0.1**
ESL	**Shilin** baz=243	**0.16**	**258**	⇓*i*P	**Pn**	**01 42 24.4**	**-0.2**
ESL	baz=243			*e*S	**Sn**	**01 42 30.0**	**+0.1**
TWD	**Chiawan** baz=4.0	**0.23**	**358**	⇓*i*P	**Pn**	**01 42 25.2**	**0.0**
TWD	baz=4.0			S	**Sn**	**01 42 31.1**	**+0.2**
WARBT	**Fenglin Townsh** baz=226	**0.24**	**237**	⇓*i*P	**Pn**	**01 42 24.8**	**-0.4**
WARBT	baz=226			S	**Sn**	**01 42 30.4**	**-0.5**
EGFH	**Guangfu** baz=216	**0.24**	**222**	⇓*i*P	**Pn**	**01 42 24.9**	**-0.3**
EGFH	baz=216			S	**Sn**	**01 42 30.6**	**-0.4**
LXIB	**Xiulin Townshi** baz=322	**0.24**	**315**	⇓*i*P	**Pn**	**01 42 25.1**	**-0.3**
LXIB	baz=322			S	**Sn**	**01 42 30.5**	**-0.8**
ETL	**Fush Village** baz=2.0	**0.31**	**3**	P	**Pn**	**01 42 25.6**	**-0.4**
ETL	baz=2.0			S	**Sn**	**01 42 32.1**	**0.0**
NACB	**Ninganchiao**	**0.32**	**359**	P	**Pn**	**01 42 25.6**	**-0.4**
NACB	**Ninganchiao**	**0.32**	**359**	⇑*i*P	**Pn**	**01 42 25.6**	**-0.4**
NACB				*i* S	**Sn**	**01 42 31.8**	**-0.6**
HGSD	**Ruisui** baz=204	**0.39**	**205**	P	**Pn**	**01 42 27.0**	**+0.3**
HGSD	baz=204			S	**Sn**	**01 42 35.0**	**+1.4**
OWD	**Renai** baz=289	**0.41**	**285**	⇓P	**Pn**	**01 42 27.1**	**0.0**
OWD	baz=289			*e*S	**Sn**	**01 42 33.9**	**-0.2**
EHYH	**Wanrong** baz=210	**0.42**	**214**	*e*P	**Pn**	**01 42 26.3**	**-0.9**
EHY	**Hungye** baz=203	**0.43**	**217**	⇓P	**Pn**	**01 42 26.3**	**-0.9**
EHY	baz=203			S	**Sn**	**01 42 33.2**	**-1.1**
WHF	**Hehuan Shan** baz=322	**0.43**	**314**	*i* P	**Pn**	**01 42 27.4**	**-0.2**
WHF	baz=322			S	**Sn**	**01 42 34.7**	**-0.4**
VWDT	**VWDT** baz=254	**0.43**	**258**	⇓*i*P	**Pn**	**01 42 27.6**	**+0.3**
VWDT	baz=254			*e*S	**Sn**	**01 42 34.3**	**-0.2**
CHGB	**Renai** baz=300	**0.45**	**298**	⇓*i*P	**Pn**	**01 42 27.8**	**+0.1**
CHGB	baz=300			*i* S	**Sn**	**01 42 34.8**	**-0.3**
EHP	**Heping Village** baz=14	**0.48**	**15**	*e*P	**Pn**	**01 42 26.9**	**-0.9**
EHP	baz=14			*e*S	**Sn**	**01 42 35.5**	**+0.1**
EAHA	**Aohua** baz=13	**0.49**	**14**	P	**Pn**	**01 42 27.6**	**-0.4**
EAHA	baz=13			S	**Sn**	**01 42 35.3**	**-0.5**
YULB	**Yu-li**	**0.53**	**212**	P	**Pn**	**01 42 27.4**	**-1.1**
YULB	**Yu-li**	**0.53**	**212**	⇓*i*P	**Pn**	**01 42 27.4**	**-1.1**
YULB	baz=206			S	**Sn**	**01 42 35.4**	**-1.3**
ECBN	**Changbin** baz=197	**0.55**	**195**	P	**Pn**	**01 42 28.9**	**+0.2**
ECBN	baz=197			S	**Sn**	**01 42 38.3**	**+1.4**
TWT	**Tachien** baz=320	**0.56**	**316**	⇑*i*P	**Pn**	**01 42 29.3**	**+0.2**
TWT	baz=320			*i* S	**Sn**	**01 42 37.6**	**0.0**
EYUL	**Yuli** baz=206	**0.56**	**208**	*e*P	**Pn**	**01 42 27.8**	**-1.0**
TWF1	**Yuli** baz=209	**0.57**	**210**	P	**Pn**	**01 42 27.9**	**-1.1**
TWF1	baz=209			S	**Sn**	**01 42 36.0**	**-1.4**
TDCB	**Techi** baz=323	**0.57**	**315**	⇑*i*P	**Pn**	**01 42 29.3**	**+0.1**
TDCB	baz=323			S	**Sn**	**01 42 37.4**	**-0.4**
ENA	**Nanau** baz=11	**0.59**	**12**	⇑*i*P	**Pn**	**01 42 28.8**	**-0.4**
ENA	baz=11			S	**Sn**	**01 42 37.3**	**-0.7**
SSLB	**Suanglung**	**0.60**	**264**	P	**Pn**	**01 42 29.0**	**-0.4**
SSLB	**Suanglung** baz=262	**0.60**	**264**	P	**Pn**	**01 42 29.2**	**-0.2**
SSLB	baz=262			S	**Sn**	**01 42 37.7**	**-0.5**
NNSB	**Datong**	**0.61**	**341**	⇑*i*P	**Pn**	**01 42 29.5**	**-0.1**

NNSB	baz=348		S	Sn	01 42 38.2	-0.4
NNSH	baz=348 **Datong**	0.61 341	⇑P	Pn	01 42 29.5	-0.1
NNSH	baz=347		S	Sn	01 42 38.3	-0.3
WPL	baz=347 **Puli Township**	0.61 286	*e*P	Pn	01 42 29.3	-0.2
EWUT	baz=283 **Wuta**	0.62 15	P	Pn	01 42 29.2	-0.3
EWUT	baz=13		S	Sn	01 42 37.7	-0.7
NNS	baz=13 **Nan Shan**	0.63 340	⇑*i*P	Pn	01 42 29.7	-0.1
NNS	baz=348		*i*S	Sn	01 42 38.6	-0.4
SMLT	baz=348 **Sun Moon Lake**	0.65 273	⇓*i*P	Pn	01 42 30.1	0.0
SMLT	baz=272		S	Sn	01 42 39.3	-0.1
DPDB	baz=272 **Guoxing**	0.65 287	*e*P	Pn	01 42 30.2	+0.2
WCS	baz=284 **Beigang Elemen**	0.67 288	P	Pn	01 42 30.5	+0.2
CHKH	baz=286 **Chenggong**	0.68 196	P	Pn	01 42 30.1	-0.3
CHKH	baz=196		S	Sn	01 42 40.2	+0.2
TYC	baz=196 **Yuchr**	0.69 275	P	Pn	01 42 30.3	-0.2
TYC	baz=274		*e*S	Sn	01 42 40.6	+0.5
LATG	baz=274 **Datong**	0.69 354	⇑*i*P	Pn	01 42 30.1	-0.5
LATG	baz=5.0		S	Sn	01 42 39.0	-1.4
YUS	baz=5.0 **Yu-Shan**	0.70 239	P	Pn	01 42 30.9	-0.2
YUS	baz=231		S	Sn	01 42 41.0	-0.1
WHYT	baz=231 **Xinyi Township**	0.70 258	P	Pn	01 42 31.1	+0.3
WHYT	baz=251		S	Sn	01 42 41.4	+0.8
FULB	baz=251 **Fuli**	0.71 204	P	Pn	01 42 30.3	-0.5
FULB	baz=207		S	Sn	01 42 40.8	+0.2
EOS4	baz=207 **EOS4**	0.71 67	P	Pn	01 42 30.8	+0.4
EOS4	baz=79		S	Sn	01 42 41.2	+1.1
WHP	baz=79 **Taichung City**	0.74 306	P	Pn	01 42 31.6	+0.3
WHP	baz=311		S	Sn	01 42 42.3	+0.8
NDT	baz=311 **Datong Townshi**	0.76 354	P	Pn	01 42 31.1	-0.3
NDT	baz=3.0		S	Sn	01 42 40.8	-1.0
ESAO	baz=3.0 **Su ao**	0.76 17	P	Pn	01 42 31.2	-0.2
ESAO	baz=14		S	Sn	01 42 41.8	0.0
CHKT	baz=14 **Chengkung**	0.78 196	P	Pn	01 42 31.2	-0.5
CHKT	baz=182		S	Sn	01 42 42.6	+0.3
EOS3	baz=182 **EOS3**	0.79 56	P	Pn	01 42 32.4	+0.8
EOS3	baz=55		S	Sn	01 42 44.3	+2.0
EHD	baz=55 **Haiduan**	0.79 208	*e*P	Pn	01 42 30.4	-1.5
ENTT	baz=202 **Nioudou**	0.79 358	⇑*i*P	Pn	01 42 31.6	-0.3
ENTT	baz=9.0		S	Sn	01 42 42.0	-0.6
TWC	baz=9.0 **Suao**	0.79 16	⇑*i*P	Pn	01 42 31.7	-0.2
TWC	baz=13		S	Sn	01 42 43.6	+1.0
WJS	baz=13 **Zhushan**	0.80 268	*e*P	Pn	01 42 32.7	+0.7
WJS	baz=267		*e*S	Sn	01 42 44.4	+1.4
EOS2	baz=267 **EOS2**	0.81 45	*e*P	Pn	01 42 33.0	+1.0
ECS	baz=56 **Chishang**	0.83 205	*e*P	Pn	01 42 30.9	-1.5
ECS	baz=209		S	Sn	01 42 42.7	-0.8
WNT	baz=209 **Mingjian**	0.84 272	*e*P	Pn	01 42 33.3	+0.7
WNT	baz=271		*e*S	Sn	01 42 45.4	+1.6
YHNB	baz=271 **Yeheng**	0.84 346	P	Pn	01 42 32.5	-0.2
YHNB	**Yeheng**	0.84 346	⇑*i*P	Pn	01 42 32.7	0.0
YHNB	baz=356		*i*S	Sn	01 42 43.5	-0.5
ELDTW	baz=356 **Lidau**	0.85 220	P	Pn	01 42 31.8	-1.0
ELDTW	baz=211		S	Sn	01 42 42.9	-1.3
NSK	baz=211 **Sanguang**	0.85 345	⇑*i*P	Pn	01 42 32.8	0.0
NSK	baz=355		*i*S	Sn	01 42 43.7	-0.6
TWE	baz=355 **Neicheng**	0.87 4	⇑*i*P	Pn	01 42 32.7	-0.3
TWE	baz=14		S	Sn	01 42 43.2	-1.3
CHN5	baz=14 **Tsauling**	0.89 254	*e*P	Pn	01 42 36.0	+2.8
CHN5	baz=252		*e*S	Sn	01 42 46.1	+1.1
NFF	baz=252 **Wufeng Townshi**	0.90 330	P	Pn	01 42 33.8	+0.4
NFF	baz=335		S	Sn	01 42 45.2	-0.2
TCU	baz=335 **Taichung**	0.90 290	P	Pn	01 42 34.4	+1.1
TCU	baz=290		S	Sn	01 42 46.9	+1.6
FUSB	baz=290 **Fushanzhiwuyua**	0.91 359	P	Pn	01 42 33.1	-0.4
FUSB	baz=10.0		S	Sn	01 42 44.4	-1.1
TWQ1	baz=10.0 **Liyutan**	0.91 303	*i*P	Pn	01 42 33.7	+0.2
TWQ1	baz=305		S	Sn	01 42 46.1	+0.6
EDH	baz=305 **Donghe**	0.91 198	P	Pn	01 42 32.5	-1.0
EDH	baz=194		S	Sn	01 42 46.4	+0.8
ILA	baz=194 **Ilan**	0.92 8	*e*P	Pn	01 42 34.9	+1.2
NWLT	baz=7.0 **Wulai**	0.93 354	P	Pn	01 42 33.6	-0.2
NWLT	baz=1.0		S	Sn	01 42 45.3	-0.8
NSTT	baz=1.0 **Nanjuang**	0.95 325	*e*P	Pn	01 42 34.3	+0.2
NSTT	baz=316		*e*S	Sn	01 42 47.4	+0.8
NSY	baz=316 **Sanyi**	0.95 306	P	Pn	01 42 34.5	+0.3
NSY	baz=308		S	Sn	01 42 47.6	+0.9
LIOB	baz=308 **Emei**	0.96 326	P	Pn	01 42 34.5	+0.4
LIOB	baz=317		*e*S	Sn	01 42 47.7	+1.0
WGK	baz=317 **Gukeng**	0.97 261	*e*P	Pn	01 42 35.8	+1.5
WGK	baz=259		*e*S	Sn	01 42 49.7	+2.8
WDLH	baz=259 **Douliu**	0.99 261	*e*P	Pn	01 42 35.4	+0.9
WDLH	baz=260		*e*S	Sn	01 42 49.3	+1.9
WCKO	baz=260 **Fanlu**	1.00 246	*e*P	Pn	01 42 35.7	+0.9
WCKO	baz=253		S	Sn	01 42 49.5	+1.7
NMLH	baz=253 **Miaoli**	1.01 313	*e*P	Pn	01 42 35.0	+0.1
NMLH	baz=314		*e*S	Sn	01 42 48.3	+0.3
WDJ	baz=314 **Dajia District**	1.01 300	*e*P	Pn	01 42 35.1	+0.2
WDJ	baz=300		S	Sn	01 42 49.1	+1.1
STYH	baz=300 **Taoyuan**	1.02 229	*e*P	Pn	01 42 35.4	+0.5
STYH	baz=226		*e*S	Sn	01 42 48.4	+0.4
TPUB	baz=226 **Ta-pu**	1.05 239	P	Pn	01 42 36.4	+1.0
TPUB	**Ta-pu**	1.05 239	P	Pn	01 42 36.0	+0.6
TPUB	baz=237		S	Sn	01 42 50.0	+1.2
CHN2	baz=237 **Minshiung**	1.08 253	*e*S	Sn	01 42 51.9	+2.3
WTP	baz=252 **Ta-pu**	1.09 237	P	Pn	01 42 36.5	+0.5
WTP	baz=235		S	Sn	01 42 51.7	+1.8
SBCB	baz=235 **Hsinchu**	1.10 329	*e*P	Pn	01 42 36.4	+0.4
SBCB	baz=319		*e*S	Sn	01 42 52.1	+2.0
HSN	baz=319 **Hsinchu**	1.11 329	*e*P	Pn	01 42 36.9	+0.6
HSN	baz=323		S	Sn	01 42 51.5	+1.1
NHDH	baz=323 **Xindian Distri**	1.11 356	*e*P	Pn	01 42 36.3	+0.1
NHDH	baz=7.0		*e*S	Sn	01 42 50.9	+0.5
WRL	baz=7.0 **Guolierlin Hig**	1.12 273	*e*P	Pn	01 42 36.6	+0.2
WRL	baz=282		S	Sn	01 42 52.8	+2.1
WTK	baz=282 **Tuku**	1.12 262	*e*P	Pn	01 42 37.0	+0.6
WTK	baz=261		*e*S	Sn	01 42 52.5	+1.8
TATO	baz=261 **Taipei**	1.13 355	P	Pn	01 42 36.5	0.0
TWA	**Mucha**	1.13 359	P	Pn	01 42 36.4	0.0
TWA	baz=3.0		S	Sn	01 42 50.5	-0.4
TWGBT	baz=3.0 **Beinan**	1.13 205	P	Pn	01 42 36.2	-0.3
TWGBT	**Beinan**	1.13 205	P	Pn	01 42 34.6	-1.9
TWGBT	baz=193		S	Sn	01 42 48.6	-2.3
TIPB	baz=193 **Shuangxi**	1.14 10	P	Pn	01 42 36.7	+0.1
TIPB	baz=7.0		S	Sn	01 42 52.0	+0.9
LDUT	baz=7.0 **Ludao**	1.18 186	*e*P	Pn	01 42 36.3	-0.8
LDUT	baz=193		*e*S	Sn	01 42 51.0	-1.0
TWK	baz=193 **Hsinying**	1.18 241	*e*P	Pn	01 42 37.7	+0.5
TWK	baz=239		*e*S	Sn	01 42 53.7	+1.6
NCUH	baz=239 **Zhongli**	1.18 341	*e*P	Pn	01 42 37.5	+0.3
CHN1	baz=345 **Nanshi**	1.19 236	P	Pn	01 42 37.9	+0.6
CHN1	baz=235		S	Sn	01 42 53.6	+1.3
SNST	baz=235 **Tainan City**	1.19 239	*e*P	Pn	01 42 38.7	+1.3
SNST	baz=237		*e*S	Sn	01 42 53.7	+1.3
TWB1	baz=237 **Santiao Chiao**	1.21 17	P	Pn	01 42 38.0	+0.5
TWB1	baz=30		S	Sn	01 42 54.1	+1.4
SGST	baz=30 **Jiashian**	1.21 231	*e*P	Pn	01 42 37.4	-0.1
SGST	baz=222		*e*S	Sn	01 42 53.7	+0.9
WTCT	baz=222 **Ta-ch'eng**	1.21 271	*e*S	Sn	01 42 54.7	+1.9
SLGT	baz=270 **Liugui**	1.22 226	*e*P	Pn	01 42 39.1	+1.3
SLGT	baz=224		*e*S	Sn	01 42 55.6	+2.4
NWF	baz=224 **Wu-fen Shan**	1.23 8	⇑*i*P	Pn	01 42 38.0	+0.1
NWF	baz=11		S	Sn	01 42 53.8	+0.4
WFSB	baz=11 **Wu-fen Shan**	1.23 8	⇑*i*P	Pn	01 42 37.9	+0.1
WFSB	baz=11		S	Sn	01 42 53.5	+0.2
TWS1	baz=11 **Kuangyinshan**	1.26 352	*e*P	Pn	01 42 38.2	0.0
YM01	baz=9.0 **YM01**	1.29 359	*e*P	Pn	01 42 38.3	-0.5
WSL	baz=3.0 **Shuilin Townsh**	1.30 256	*e*P	Pn	01 42 38.9	+0.1
WSL	baz=255		*e*S	Sn	01 42 56.8	+1.7
ICHU	baz=255 **Yijhu**	1.31 248	*e*P	Pn	01 42 39.2	+0.3
ICHU	baz=247		*e*S	Sn	01 42 55.6	+0.4
NTST	baz=247 **Danshui**	1.32 354	*e*P	Pn	01 42 38.9	-0.1
NTST	baz=8.0		*e*S	Sn	01 42 55.4	-0.1
YM08	baz=8.0 **YM08**	1.33 359	*e*P	Pn	01 42 38.5	-0.9
ANP	baz=3.0 **Anpu**	1.33 357	*e*P	Pn	01 42 38.9	-0.5
JYNG	baz=1.0 **Yonagunijimaku**	1.36 64	*e*P	Pn	01 42 40.1	+0.4
JYNG			*e*S	Sn	01 42 57.0	+0.4
CHN8	**Yiju**	1.37 249	S	Sn	01 42 57.9	+1.1
ECL	baz=247 **Taimali**	1.38 206	*e*P	Pn	01 42 39.1	-0.8
SCST	baz=194 **Cishan**	1.40 227	*e*P	Pn	01 42 42.0	+1.8
SCST	baz=226		*e*S	Sn	01 43 00.8	+3.4
TWY	baz=226 **Chenhua**	1.42 360	P	Pn	01 42 40.4	-0.1
TWY	baz=3.0		*e*S	Sn	01 42 58.7	+0.7
YOJ	baz=3.0 **Yonaguni jima**	1.42 64	*e*P	Pn	01 42 40.7	+0.2
YOJ	baz=64		*e*S	Sn	01 42 59.2	+1.2
YOJ	baz=64 **Yonaguni jima**	1.42 64	*e*S	Sn	01 42 58.5	+0.5
MASBT	baz=211 **Mashibuluo**	1.52 216	*e*P	Pn	01 42 42.1	+0.2
EAST	baz=211 **Anshuo**	1.62 206	*e*P	Pn	01 42 43.4	+0.2
SCZT	baz=191 **Fangliau**	1.73 212	*e*P	Pn	01 42 44.6	0.0
LAY	baz=218 **Lan-yu**	1.80 182	*e*P	Pn	01 42 44.5	-1.2
LYUB	baz=184 **Lan-yu**	1.84 181	*e*P	Pn	01 42 44.9	-1.3
WDGT	baz=183 **Dungji**	1.88 252	*e*P	Pn	01 42 46.1	-0.6
WDGT	baz=251		*e*S	Sn	01 43 07.4	-1.8
PHUB	baz=251 **P'eng-hu**	1.89 260	*e*P	Pn	01 42 46.0	-0.9
PHUB	baz=271		*e*S	Sn	01 43 08.8	-0.8
IRIF	baz=271 **Iriomote-Funau**	2.00 76	*e*P	Pn	01 42 49.0	+0.5
IRIF			*e*S	Sn	01 43 12.9	+0.6
HATJ	**Hateruma jima**	2.02 84	*e*P	Pn	01 42 49.2	+0.5
TWK1	**Hengchun**	2.03 201	*e*P	Pn	01 42 49.5	+0.7
TWKBT	baz=187 **Hengchun**	2.03 201	*e*P	Pn	01 42 49.0	+0.2
VCHM	baz=187 **Qimei**	2.10 253	*e*P	Pn	01 42 49.4	-0.3
VCHM	baz=252		*e*S	Sn	01 43 12.2	-2.4
JKRS	baz=252 **Kuro-shima**	2.23 80	*e*P	Pn	01 42 52.5	+0.9
VWUC	**VWUC**	2.27 301	P	Pn	01 42 50.6	-1.5
VWUC	baz=301		*e*S	Sn	01 43 15.2	-3.6
JIJ	**Ishigaki jima**	2.38 77	*e*P	Pn	01 42 53.7	+0.1
JIJ			*e*S	Sn	01 43 20.8	-0.7
PTMZ	**Houxiangcun**	2.56 298	*e*P	Pn	01 42 54.5	-1.5
JISG	baz=299 **Ishigakijimahi**	2.58 73	*e*P	Pn	01 42 56.1	-0.2
JISG			*e*S	Sn	01 43 25.8	-0.6
KNM	**Kinmen**	2.95 282	*e*P	Pn	01 43 01.8	+0.4
KNMB	baz=281 **Chin-men Tao**	3.00 282	*e*P	Pn	01 43 00.6	-1.6
ZPLA	baz=283 **Ao Xicun**	3.53 272	*e*P	Pn	01 43 08.2	-1.2
	baz=272					

*IDC **13** 01:44:56.9±1.6, 31°.77S×58°.45E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=53.7km s-min=31.2km az=92.0*

ISC 13 01:44:58.5±1.7, 31°.8S±0°.2×58°.4E±0°.4, h10km, n15, σ0°.24/6, mb3.9/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.26**	**198**	T	T	02 04 18.0	
	baz=22,slow=75,SNR=31						
H04N1	**CROZET ISLANDS**	**15.26**	**198**	T	T	02 04 17.4	
	baz=22,slow=75,SNR=36						
H04N3	**CROZET ISLANDS**	**15.27**	**198**	T	T	02 04 25.6	
	baz=22,slow=75,SNR=26						
H08S1	**Diego Carcia H**	**27.34**	**32**	T	T	02 19 10.1	
	baz=206,slow=75,SNR=4.0						
H08S2	**Diego Garcia H**	**27.35**	**32**	T	T	02 19 08.4	
	baz=206,slow=75,SNR=5.6						
H08S3	**Diego Garcia H**	**27.36**	**32**	T	T	02 19 11.7	
	baz=206,slow=75,SNR=5.4						
H01W2	**Cape Leeuwin H**	**46.12**	**110**	T	T	02 43 06.5	
	baz=257,slow=75,SNR=9.5						
H01W3	**Cape Leeuwin H**	**46.13**	**110**	T	T	02 43 07.0	
	baz=257,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**46.14**	**110**	T	T	02 43 07.8	
	baz=257,slow=75,SNR=9.4						
QSPA	**South Pole Qui**	**58.39**	**180**	P	**P**	**01 54 53.9**	**0.0**
	0.5nm,0.6s,baz=286,slow=6.5,SNR=5.8						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.27**	**44**	P	**P**	**01 55 27.3**	**-0.2**
	0.7nm,0.3s,baz=234,slow=7.6,SNR=1.8						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**66.09**	**104**	P	**P**	**01 55 46.2**	**+0.1**
	0.9nm,0.7s,baz=243,slow=5.8,SNR=6.6						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**68.10**	**100**	P	**P**	**01 55 59.0**	**+0.1**
	0.7nm,0.8s,baz=242,slow=5.7,SNR=5.7						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**81.12**	**16**	P	**P**	**01 57 14.0**	**+0.3**
	0.2nm,0.4s,baz=196,slow=5.7,SNR=2.8						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**83.94**	**13**	P	**P**	**01 57 28.2**	**-0.1**
	0.4nm,0.7s,baz=190,slow=4.7,SNR=4.1						
	0.4nm,0.7s						

*IDC **13** 01:52:08.8±0.6, 33°.55S×77°.80E, h0km, mb4.0/13, mbtmp4.0/13, MS3.8/12, Error ellipse: s-maj=25.3km s-min=19.2km az=75.0*

*GCMT **13** 01:52:10.3±0.5, 33°.59S±0°.03×77°.79E±0°.03, h28km±1km, MW4.9/75, Moment Tensor Solution. s11,c12; s75,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.87±.21; $M_{\theta\theta}$-1.83±.13; $M_{\phi\phi}$2.70±.17; $M_{r\theta}$1.17±.28; $M_{\theta\phi}$0.09±.12; $M_{\phi r}$-1.35±.24; Best double couple: $M_0$2.96000×10^{16} NP1:ϕ_s323.00000°, δ79.00000°, λ-138.00000°. NP2: ϕ_s223.00000°, δ49.00000°, λ-15.00000°. Principal axes: T 3.1710, Plg19.0000°, Azm86.0000°; N -0.4220, Plg47.0000°, Azm334.0000°; P -2.7500, Plg37.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **13** 01:52:10.3±0.9, 33°.60S±0°.07×77°.8E±0°.1, h10km±1km, mb4.6/19 Error ellipse: s-maj=21.4km s-min=6.0km az=299.0*

ISC 13 01:52:10.1±0.5, 33°.60S±0°.09×77°.8E±0°.1, h10km, n58, σ0°83/40, mb4.3/20, MS3.9/12, 2C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**4.19**	**182**	Pn	**Pn**	**01 53 14.0**	**0.0**
H04N2	**CROZET ISLANDS**	**23.44**	**230**	T	T	02 21 33.7	
	baz=67,slow=74,SNR=1824						
H04N1	**CROZET ISLANDS**	**23.46**	**230**	T	T	02 21 41.7	
	baz=67,slow=74,SNR=1141						
H04N3	**CROZET ISLANDS**	**23.46**	**230**	T	T	02 21 32.8	
	baz=67,slow=74,SNR=1810						
H04S1	**CROZET ISLANDS**	**23.65**	**228**	T	T	02 21 53.9	
	baz=65,slow=76,SNR=77						
H04S3	**CROZET ISLANDS**	**23.66**	**228**	T	T	02 21 52.7	
	baz=65,slow=76,SNR=84						
H04S2	**CROZET ISLANDS**	**23.67**	**228**	T	T	02 21 55.7	
	baz=65,slow=76,SNR=64						
H08S2	**Diego Garcia H**	**26.29**	**348**	T	T	02 24 47.5	
	baz=170,slow=75,SNR=260						
H08S1	**Diego Carcia H**	**26.29**	**348**	T	T	02 24 50.6	
	baz=170,slow=75,SNR=229						
H08S3	**Diego Garcia H**	**26.30**	**348**	T	T	02 24 48.9	
	baz=170,slow=75,SNR=372						
H01W2	**Cape Leeuwin H**	**29.97**	**103**	T	T	02 29 53.4	
	baz=262,slow=74,SNR=84						
H01W3	**Cape Leeuwin H**	**29.98**	**103**	T	T	02 29 53.3	
	baz=262,slow=74,SNR=86						
H01W1	**Cape Leeuwin H**	**29.99**	**103**	T	T	02 29 44.6	
	baz=262,slow=74,SNR=81						
PALK	**Pallekele**	**40.74**	**4**	LR	LR	02 12 36.0	
	comp=Z,105nm,20.4s,baz=286,slow=30						
BOSA	**Boshof**	**44.86**	**262**	LR	LR	02 14 58.8	
	comp=Z,359nm,19.7s,baz=119,slow=30						
PBA	**Port Blair**	**47.20**	**20**	P	**P**	**02 00 42.1**	**-1.1**
LSZ	**Lusaka**	**48.22**	**280**	P	**P**	**02 00 49.9**	**-1.4**
KNRA	**Kununurra**	**49.15**	**82**	P	**P**	**02 00 58.1**	**-0.2**
ASAR	**Alice Springs**	**49.72**	**94**	P	**P**	**02 01 03.2**	**+0.5**
	1.3nm,0.9s,baz=249,slow=6.9,SNR=7.4						
	1.3nm,0.9s						
WRA	**Warramunga Arr**	**51.72**	**90**	P	**P**	**02 01 17.2**	**-0.6**
WRA	**Warramunga Arr**	**51.72**	**90**	P	**P**	**02 01 18.1**	**+0.4**
	1.7nm,0.9s,baz=246,slow=7.8,SNR=6.2						
	1.7nm,0.9s						
WB2	**Warramunga Arr**	**51.73**	**90**	P	**P**	**02 01 17.4**	**-0.5**
WB2				IAmb	IAmb	02 01 44.1	
	comp=Z,16nm,1.5s						
WB0	**Warramunga Arr**	**51.84**	**90**	P	**P**	**02 01 17.1**	**-1.6**
WB0				IAmb	IAmb	02 01 26.2	
	comp=Z,10nm,1.3s						
WR0	**Warramunga Arr**	**51.88**	**90**	P	**P**	**02 01 18.5**	**-0.5**
WR0				IAmb	IAmb	02 01 35.6	
	comp=Z,13nm,1.4s						
STKA	**Stephens Creek**	**52.92**	**107**	P	**P**	**02 01 26.5**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=257,slow=5.6,SNR=3.2						
	comp=Z,2.3nm,0.8s						
TROLL	**Troll, Antarti**	**53.88**	**202**	⇑P	**P**	**02 01 34.1**	**+1.0**
	comp=Z,111nm,0.5s						
CMAR	**Chiang Mai Arr**	**55.56**	**25**	LR	LR	02 21 03.0	
	comp=Z,35nm,21.5s,baz=200,slow=31						
SNAA	**Sanae**	**55.56**	**202**	P	**P**	**02 01 45.3**	**0.0**
SNAA				IAmb	IAmb	02 01 53.3	
	comp=Z,4.6nm,1.2s						
SNAA	**Sanae**	**55.56**	**202**	⇑P	**P**	**02 01 45.9**	**+0.6**
SNAA	**Sanae**	**55.56**	**202**	P	**P**	**02 01 45.5**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=112,slow=12,SNR=5.6						
	comp=Z,2.1nm,1.0s						
VNDA	**Vanda**	**56.20**	**165**	P	**P**	**02 01 50.9**	**+1.2**
VNDA	**Vanda**	**56.20**	**165**	P	**P**	**02 01 50.2**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=280,slow=6.7,SNR=7.5						
VNDA				LR	LR	02 23 58.4	
	comp=Z,110nm,18.1s,baz=271,slow=34						
	comp=Z,1.7nm,0.9s						
QSPA	**South Pole Qui**	**56.55**	**180**	P	**P**	**02 01 52.8**	**+0.2**
QSPA				IAmb	IAmb	02 02 16.9	
	comp=Z,9.8nm,1.2s						
QSPA	**South Pole Qui**	**56.55**	**180**	P	**P**	**02 01 53.0**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=267,slow=0.5,SNR=6.4						
QSPA				LR	LR	02 24 44.2	
	comp=Z,89nm,18.3s,baz=291,slow=35						
	comp=Z,2.2nm,0.9s						
SBA	**Scott Base**	**57.22**	**165**	P	**P**	**02 01 55.9**	**-1.0**
ARMA	**Armidale**	**61.44**	**109**	P	**P**	**02 02 26.7**	**-0.3**
ARMA				IAmb	IAmb	02 02 53.7	
	comp=Z,5.8nm,0.9s						

HOPE	Hope Point	75.82	213	P	P	02 03 55.0	-1.1
AAK	Ala-Archa	75.93	357	LR	LR	02 34 08.3	
	comp=Z,39nm,20.0s,baz=210,slow=33						
KK31	Karatay Array	76.62	355	P	P	02 04 00.5	-0.2
KK31				IAmb	IAmb	02 04 10.5	
	comp=Z,8.9nm,1.1s						
KKAR	Karatay Array	76.62	355	P	P	02 04 00.5	-0.2
MK31	Makanchi Array	80.12	3	P	P	02 04 20.1	+0.2
MKAR	Makanchi Array	80.12	3	P	P	02 04 20.1	+0.1
MKAR	Makanchi Array	80.12	3	P	P	02 04 18.5	-1.5
	comp=Z,0.9nm,0.8s,baz=186,slow=3.7,SNR=7.0						
MKAR				LR	LR	02 37 58.3	
	comp=Z,55nm,19.1s,baz=224,slow=34						
	comp=Z,0.9nm,0.8s						
BRTR	Keskin Array B	83.61	327	P	P	02 04 38.8	+0.1
	comp=Z,0.6nm,0.8s,baz=128,slow=8.0,SNR=4.3						
	comp=Z,0.6nm,0.8s						
KURBB	Kurchatov Arra	83.86	0	P	P	02 04 39.9	+0.5
	comp=Z,1.1nm,0.9s,baz=190,slow=5.1,SNR=7.3						
KURBB				LR	LR	02 39 46.9	
	comp=Z,49nm,19.3s,baz=181,slow=34						
	comp=Z,1.1nm,0.9s						
ABKAR	Akbulak array	84.00	348	P	P	02 04 41.2	+1.0
SONM	Songino Array	85.03	19	P	P	02 04 47.3	+1.7
	comp=Z,0.4nm,0.7s,baz=189,slow=4.5,SNR=2.8						
	comp=Z,0.4nm,0.7s						
TOA0	Torodi Ar. Sit	85.93	289	P	P	02 04 51.5	+0.7
TOA0				IAmb	IAmb	02 04 53.0	
	comp=Z,3.9nm,1.0s						
TORD	Torodi Ar. Bea	85.93	289	P	P	02 04 51.0	+0.3
TORD				IAmb	IAmb	02 04 52.9	
	comp=Z,2.8nm,0.9s						
TORD	Torodi Ar. Bea	85.93	289	P	P	02 04 51.7	+1.0
	comp=Z,1.7nm,0.8s,baz=90,slow=4.7,SNR=9.5						
TORD				LR	LR	02 41 30.5	
	comp=Z,128nm,18.3s,baz=134,slow=34						
	comp=Z,1.7nm,0.8s						
BVAR	Borovoye Array	86.50	356	P	P	02 04 53.8	+1.2
	comp=Z,0.7nm,0.8s,baz=100,slow=3.5,SNR=3.9						
	comp=Z,0.7nm,0.8s						
ZAA0	Zalesovo Array	87.40	4	P	P	02 04 58.0	+1.0
ZAA0				IAmb	IAmb	02 05 03.6	
	comp=Z,3.1nm,0.8s						
ZALV	Zalesovo Beam	87.40	4	P	P	02 04 57.9	+0.9
ZALV	Zalesovo Beam	87.40	4	P	P	02 04 55.6	-1.4
	comp=Z,1.6nm,0.7s,baz=183,slow=5.8,SNR=6.7						
ZALV				LR	LR	02 41 09.7	
	comp=Z,47nm,21.6s,baz=249,slow=34						
	comp=Z,1.6nm,0.7s						
DBIC	Dimbokro	87.56	280	LR	LR	02 39 28.0	
	comp=Z,84nm,21.9s,baz=102,slow=32						
MLR	Muntele Rosu	91.65	326	LR	LR	02 43 32.1	
	comp=Z,38nm,21.9s,baz=127,slow=34						
SCHQ	Schefferville	147.46	321	PKPbc	PKPbc	02 11 53.7	0.0
	comp=Z,5.3nm,1.1s,baz=0.0,slow=8.1,SNR=2.3						
YKA	Yellowknife Ar	150.03	12	PKPbc	PKiKP	02 12 00.9	-0.1
	comp=Z,0.6nm,0.6s,baz=332,slow=4.3,SNR=3.1						

NOU 13 02:05:35.9, 21°.02S×169°.29E, h0km, MLv3.3/9, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.26	248	P	Pg	02 05 58.3	-1.8
LIFNC	LIFOU	1.93	277	P	Pn	02 06 10.7	+0.7
PINNC	Pines Island,	2.33	227	P	Pn	02 06 15.8	+0.2
YATNC	Mamie plateau,	2.46	245	P	Pn	02 06 16.3	-1.0
OUENC	Ouen Island, N	2.67	238	P	Pn	02 06 20.7	+0.5
DZM	Mont Dzumac	2.85	248	P	Pn	02 06 22.3	-0.4
ONTNC	Ouen Toro	2.93	244	P	Pn	02 06 24.2	+0.4
NOUC	Port Laguerre	2.98	248	P	Pn	02 06 24.9	+0.4

IDC 13 02:26:07.7±2.3, 7°.23S×154°.59E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=87.1km s-min=28.7km az=123.0

ISC 13 02:26:09.3±2.2, 7°.2S±0°.4×154°.6E±0°.5, h10km, n6, σ0°60/6, mb3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.34	235	P	P	02 31 17.3	-0.7
	1.1nm,0.8s,baz=56,slow=9.9,SNR=6.5						
	1.1nm,0.8s						
ASAR	Alice Springs	25.71	228	P	P	02 31 40.6	+0.6
	0.7nm,0.7s,baz=62,slow=8.6,SNR=2.3						
	0.7nm,0.7s						
SONM	Songino Array	69.32	328	P	P	02 37 17.4	+0.2
	0.7nm,0.7s,baz=120,slow=4.1,SNR=4.3						
	0.7nm,0.7s						
MKAR	Makanchi Array	83.32	319	P	P	02 38 36.6	0.0
	0.9nm,0.8s,baz=94,slow=6.5,SNR=6.4						
	0.9nm,0.8s						
ILAR	Eielson Array	83.75	22	P	P	02 38 38.1	-0.3
	0.2nm,0.6s,baz=241,slow=5.9,SNR=4.6						
	0.2nm,0.6s						
TORD	Torodi Ar. Bea	152.69	285	PKPbc	PKiKP	02 46 07.9	+0.2
	1.1nm,0.8s,baz=62,slow=3.3,SNR=5.3						

DJA 13 02:29:36.0±0.6, 1°.N±5°×12°.5E±°, h228km±5km, M4.1/9, MLv4.1/9

NEIC 13 02:29:37.0±1.3, 1°.38N±0°.07×124°.52E±0°.09, h228km±6km, mb4.6/25, Error ellipse: s-maj=13.9km s-min=9.2km az=58.0

IDC 13 02:29:38.9±3.3, 1°.25N×124°.26E, h258km±33km, mb3.7/11, mbtmp4.2/11, Error ellipse: s-maj=43.6km s-min=9.1km az=68.0

ISC 13 02:29:36.9±0.5, 1°.32N±0°.07×124°.55E±0°.05, h235km, n49, σ1°07/56, mb4.3/22, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.93	217	P	Pn	02 30 09.2	-0.8
KMSI				S	S	02 30 34.3	-1.6
GTOI	Gorontalo	1.68	246	P	Pn	02 30 14.8	-0.5
GTOI				S	S	02 30 44.3	-1.0
TNTI	Ternate	2.87	101		Pn	02 30 26.9	-0.2
TNTI	Ternate	2.87	101	P	Pn	02 30 26.8	-0.3
TNTI				S	S	02 31 04.8	-1.7
LUWI	Luwuk	2.94	217	Pn	Pn	02 30 27.8	-0.1
LUWI	Luwuk	2.94	217	P	Pn	02 30 25.6	-2.3
LBMI	Labuha	3.54	123	P	Pn	02 30 33.5	-1.2
LBMI				S	S	02 31 17.7	-2.5
SANI	Sanana	3.64	157	P	Pn	02 30 33.5	-2.4
TOLI2	Tolitoli	3.77	267		Pn	02 30 36.8	-0.5
MTN	Manton Dam	15.51	155		P	02 33 03.9	+0.5
MTN				IAmb	IAmb	02 33 19.5	
	comp=Z,34nm,1.2s						
KNRA	Kununurra	17.39	166	P	P	02 33 25.3	+1.3
KNRA				IAmb	IAmb	02 33 26.4	
	comp=Z,23nm,0.7s						
FITZ	Fitzroy Crossi	19.32	177	P	P	02 33 44.7	-0.1
MBWA	Marble Bar	22.83	192	P	P	02 34 19.8	-0.1
MBWA				IAmb	IAmb	02 34 33.3	
	comp=Z,19nm,1.4s						
WB0	Warramunga Arr	23.07	156	P	P	02 34 22.5	+0.4
WRAB	Tennant Creek	23.21	156	P	P	02 34 23.9	+0.6
WRAB				IAmb	IAmb	02 34 24.4	
	comp=Z,18nm,0.7s						
PSA00	Pilbara Seismi	23.21	191	P	P	02 34 23.3	0.0
PSA00				IAmb	IAmb	02 34 24.0	
	comp=Z,7.8nm,0.8s						
WRA	Warramunga Arr	23.21	156	P	P	02 34 22.7	-0.7
WRA	Warramunga Arr	23.21	156	P	P	02 34 23.6	+0.2
	comp=Z,11nm,0.4s,baz=334,slow=10,SNR=178						
WRA				PcP	PcP	02 38 04.1	-0.1
	comp=Z,0.2nm,0.6s,baz=326,slow=2.0,SNR=0.9						
WRA				S	S	02 38 16.4	-1.1
	comp=Z,0.9nm,0.9s,baz=326,slow=18,SNR=3.9						
	comp=Z,11nm,0.4s						
WB2	Warramunga Arr	23.21	156	P	P	02 34 24.0	+0.6
WR0	Warramunga Arr	23.31	156	P	P	02 34 24.6	+0.4
WR0				IAmb	IAmb	02 34 26.4	
	comp=Z,10nm,0.8s						
COEN	Coen	23.90	130	P	P	02 34 30.8	+1.2
COEN				IAmb	IAmb	02 34 55.6	
	comp=Z,29nm,1.4s						
AS31	Alice Springs	26.45	160		P	02 34 53.4	+0.8
AS31				IAmb	IAmb	02 34 55.2	
	comp=Z,2.4nm,0.3s						
ASAR	Alice Springs	26.45	160	P	P	02 34 53.3	+0.7
ASAR	Alice Springs	26.45	160	P	P	02 34 53.1	+0.6
	comp=Z,2.6nm,0.5s,baz=342,slow=7.5,SNR=44						
ASAR				PcP	PcP	02 38 11.9	+0.4
	comp=Z,0.6nm,0.4s,baz=346,slow=1.9,SNR=7.3						
	comp=Z,2.6nm,0.5s						
FORT	Forrest	32.09	174	P	P	02 35 43.1	+0.9
NWAO	Narrogin (SRO)	34.75	191	P	P	02 36 06.0	+0.9
BBOO	Buckleboo	35.65	163	P	P	02 36 13.4	+0.7
BBOO				IAmb	IAmb	02 36 27.3	
	comp=Z,34nm,1.5s						
KSRS	Korea Array	36.09	5	P	P	02 36 18.2	+1.8
	comp=Z,0.8nm,0.5s,baz=199,slow=10.0,SNR=4.8						
	comp=Z,0.8nm,0.5s						
STKA	Stephens Creek	36.76	155	P	P	02 36 23.2	+1.0
STKA	Stephens Creek	36.76	155	P	P	02 36 22.2	+0.1
	comp=Z,3.0nm,0.5s,baz=320,slow=6.8,SNR=9.1						
	comp=Z,3.0nm,0.5s						
ARMA	Armidale	40.77	143	P	P	02 36 57.3	+1.8
ARMA				IAmb	IAmb	02 37 28.9	
	comp=Z,18nm,1.4s						
CAN	Canberra	43.02	150	P	P	02 37 15.6	+1.9
CAN				IAmb	IAmb	02 37 56.3	
	comp=Z,54nm,1.5s						
USRK	Ussuriysk Ar.	43.21	8	P	P	02 37 14.7	-0.2
	comp=Z,1.7nm,0.4s,baz=190,slow=7.6,SNR=7.1						
	comp=Z,1.7nm,0.4s						
TAU	Tasmania Unive	48.57	158	P	P	02 37 56.5	-0.2
SONM	Songino Array	48.93	344	P	P	02 37 59.0	-0.5
SONM	Songino Array	48.93	344	P	P	02 37 58.5	-1.1
	comp=Z,2.3nm,0.8s,baz=160,slow=6.9,SNR=12						
	comp=Z,2.3nm,0.8s						
MK31	Makanchi Array	58.33	327		P	02 39 07.0	-0.5
MKAR	Makanchi Array	58.33	327		P	02 39 07.0	-0.6
MKAR	Makanchi Array	58.33	327	P	P	02 39 06.8	-0.7
	comp=Z,2.8nm,0.6s,baz=123,slow=8.0,SNR=24						
	comp=Z,2.8nm,0.6s						
LBZ	Lake Benmore	60.97	144	P	P	02 39 26.4	+0.9
LBZ				IAmb	IAmb	02 39 29.9	
	comp=Z,28nm,1.4s						
KBL	Kabul	61.29	309	P	P	02 39 28.4	+0.2
ZALV	Zalesovo Beam	61.77	335	P	P	02 39 29.9	-0.7
	comp=Z,1.1nm,0.3s,baz=134,slow=4.3,SNR=4.9						
	comp=Z,1.1nm,0.3s						
KURBB	Kurchatov Arra	62.62	329	P	P	02 39 35.0	-1.3
	comp=Z,2.0nm,0.4s,baz=129,slow=6.3,SNR=8.4						
	comp=Z,2.0nm,0.4s						
KURK	Kurchatov	62.63	329	P	P	02 39 35.6	-0.8
KURK				IAmb	IAmb	02 39 37.7	
	comp=Z,6.9nm,0.6s						
KKAR	Karatay Array	63.54	319	P	P	02 39 41.6	-1.0
BVAR	Borovoye Array	68.17	328	P	P	02 40 09.6	-2.2
	comp=Z,1.0nm,0.6s,baz=104,slow=9.5,SNR=5.1						
	comp=Z,1.0nm,0.6s						
ABKAR	Akbulak array	72.65	322	P	P	02 40 37.9	-1.1
VNDA	Vanda	81.33	172	P	P	02 41 26.8	+0.1
FINES	FINESS Array B	92.91	332	P	P	02 42 23.6	+0.5
	comp=Z,0.3nm,0.6s,baz=40,slow=7.3,SNR=1.9						
	comp=Z,0.3nm,0.6s						

JMA 13 02:33:52.6±0.5, 44°.N±1°.×14°.8E±°, h0km, MV4.3/21, SE OFF ETOROFU

SKHL 13 02:33:54.0±0.2, 44°.40N×148°.00E, h43km±3km, mb4.6/3

ISC 13 02:33:50.5±3.4, 44°.3N±0°.1×147°.9E±0°.2, h3km±16km, n12, σ1°11/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.88	241	*i* P	Pn	02 34 10.3	+0.5
SHO				AMB	AMB	02 34 10.6	
	190nm,0.3s						
SHO				*e*S	Sn	02 34 22.4	-0.7
SHO				A	A	02 34 27.0	
	680nm,0.3s						
SHO				A	A	02 34 27.0	
	2μm,0.3s						
KUR	Kuril'sk	0.93	359	*i* P	Pb	02 34 08.8	-0.5
KUR				AMB	AMB	02 34 09.3	
	680nm,0.4s						
KUR				*i* S	Sg	02 34 20.0	-0.5
KUR				A	A	02 34 21.2	
	2μm,0.4s						
KUR				A	A	02 34 21.2	
	2μm,0.4s						
YUK	Yuzh-Kuril'sk	1.49	260	*i* P	Pg	02 34 19.2	+0.1
YUK				AMB	AMB	02 34 20.8	
	350nm,0.3s						
YUK				*e*S	Sn	02 34 37.5	-0.6
YUK				A	A	02 34 43.1	
	600nm,0.3s						
YUK				A	A	02 34 43.1	
	710nm,0.3s						
NEM2	Nemuro 2	1.82	240	*i* P	Pn	02 34 23.0	+0.3
NEM2				S	Sn	02 34 45.2	-1.0
JRA	Rausu	2.03	261	P	Pb	02 34 27.8	-0.3
JNSB	Nemuroshibetsu	2.15	257	P	Pb	02 34 29.2	-0.9
JKHN	Kushirohamanak	2.33	239	P	Pn	02 34 30.5	+0.8
JNK	Nakash	2.41	254	P	Pn	02 34 32.4	+1.6
JAK	Akkeshi	2.67	242	P	Pn	02 34 34.9	+0.6
JAK				S	Sn	02 35 06.3	-0.7
JAR	Ashorobuto	3.15	253	P	Pn	02 34 43.3	+2.2
JCH	Churui	3.71	245	P	Pn	02 34 49.6	+1.0
JNBK	Urakawa-nobuka	4.27	244	*e*P	Pn	02 34 57.8	+1.5

MOS 13 02:39:41.3, 42°.81N×46°.19E, h7km, MPVA4.0

NORS 13 02:39:41.5, 42°.82N×46°.20E, h6km, MPVA4.1

DRS 13 02:39:43.5, 42°.83N×46°.27E, h24km

ISC 13 02:39:42.7±0.7, 42°.83N±0°.02×46°.22E±0°.02, h10km±4km, n55, σ1°33/107, 5C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	Vedeno	0.15	331	*i* Pg	Pg	02 39 45.8	-0.2
DVE				*e*Sg	Sg	02 39 48.6	+0.2
DVE	Vedeno	0.15	331	*i* PG	Pg	02 39 45.8	-0.2
DVE				*e*S	Sg	02 39 48.6	+0.2
BTLR	Botlikh	0.16	180	*e*Pg	Pg	02 39 46.0	-0.2
BTLR				*e*Sg	Sg	02 39 48.7	0.0
BTLR	Botlikh	0.16	180	*e*PG	Pg	02 39 46.2	0.0
DLMR	Dylym	0.39	51	*e*Pg	Pb	02 39 51.8	+0.2
DLMR				*e*Sg	Sb	02 39 58.5	+0.8
UNCR	Uncukul	0.44	105	*e*Pg	Pb	02 39 52.2	-0.3
UNCR				*e*Sg	Sb	02 39 59.8	+0.7
DBC	Dubki	0.49	66	*e*Pg	Pb	02 39 53.1	-0.3
DBC				*e*Sg	Sb	02 40 01.9	+1.2
DBC	Dubki	0.49	66	*e*PG	Pb	02 39 53.1	-0.3
DBC				*e*S	Sb	02 40 01.8	+1.2
KRNR	Karanay	0.50	90	*e*Pg	Pb	02 39 53.4	-0.4
KRNR				*e*Sg	Sb	02 40 02.1	+1.0
ARKR	Arakani	0.61	111	*e*Pg	Pb	02 39 55.6	0.0
ARKR				*e*Sg	Sb	02 40 05.5	+1.3
BUJR	Buynaksk	0.65	90	*e*Pg	Pb	02 39 57.1	+0.9
BUJR				*e*Sg	Sn	02 40 08.5	0.0
GNBR	Gunib	0.70	128	*e*Pg	Pb	02 39 57.2	+0.2
GNBR				*e*Sg	Sb	02 40 07.9	+1.1
GNBR	Gunib	0.70	128	*e*PG	Pb	02 39 57.6	+0.6
GNBR				*e*S	Sn	02 40 08.9	-0.8
KMKR	Kumukh	0.95	137	*e*Pg	Pb	02 40 02.0	+0.7
KMKR				*e*Sg	Sn	02 40 15.4	-0.6
MAK	Makhachkala	0.95	81	*e*Pg	Pb	02 40 01.4	+0.1
MAK				*e*Sg	Sn	02 40 15.0	-0.8
MAK	Makhachkala	0.95	81	*e*PG	Pn	02 40 03.3	+1.2
MAK				*e*		02 40 17.3	
MAK				pmax	pmax		
	comp=Z,61nm,0.3s						
MAK				smax	smax		
	comp=E,356nm,0.4s						
MAK				smax	smax		
	comp=E,417nm,0.4s						
KANR	Karaman	1.00	68	*e*Pg	Pn	02 40 03.1	+0.3
KANR				*e*Sg	Sn	02 40 19.9	+2.9
KMGR	Komgaron	1.02	284	*e*Pg	Pg	02 40 02.9	+0.6
KMGR				*e*Sg	Sb	02 40 17.6	+1.5
KMGR	Komgaron	1.02	284	*e*PG	Pg	02 40 02.9	+0.6
KMGR				*e*S	Sn	02 40 18.5	+0.9
SGKR	Sergokala	1.12	109	*e*Pg	Pn	02 40 05.2	+0.7
SGKR				*e*Sg	Sn	02 40 22.2	+2.1
VLKR	Vladikavkaz	1.16	282	*e*Pg	Pg	02 40 05.4	+0.4
VLKR				*e*Sg	Sn	02 40 22.0	+1.1
VLKR	Vladikavkaz	1.16	282	*e*PG	Pg	02 40 05.3	+0.4
VLKR				*e*S	Sn	02 40 23.3	+2.4
GUDG	Gudauri	1.34	255	*e*Pg	Pn	02 40 06.4	-1.3
GUDG				*e*Sg	Sb	02 40 23.0	-2.3
BTKR	Batakoyurt	1.35	294	*e*Pg	Pg	02 40 08.9	+0.3
BTKR				*e*Sg	Sn	02 40 28.4	+2.8
TRKR	Terskaya	1.41	310	*e*Pg	Pn	02 40 09.0	+0.5
TRKR				*e*Sg	Sg	02 40 30.2	+2.2
TRKR	Terskaya	1.41	310	*e*PG	Pn	02 40 08.8	+0.3
TRKR				*e*S	Sg	02 40 30.2	+2.2
TRKR				pmax	pmax		
	comp=Z,57nm,0.3s						
LACR	Lac	1.42	271	*e*Pg	Pn	02 40 07.9	-0.7
LACR				*e*Sg	Sb	02 40 27.5	0.0
LACR	Lac	1.42	271	*e*PG	Pn	02 40 07.9	-0.7
LACR				*e*S	Sb	02 40 27.5	0.0
ARNR	Ardon	1.47	285	*e*Pg	Pn	02 40 08.8	-0.4
ARNR				*e*Sg	Sg	02 40 30.9	+1.1
ARNR	Ardon	1.47	285	*e*PG	Pn	02 40 10.4	+1.2
ARNR				*e*S	Sg	02 40 31.4	+1.6
PRTR	Priterechnaya	1.69	304	*e*Pg	Pb	02 40 14.3	+0.4
PRTR				*e*Sg	Sg	02 40 37.8	+0.8
PRTR	Priterechnaya	1.69	304	*e*PN	Pn	02 40 13.4	+1.1
PRTR				*e*S	Sg	02 40 37.6	+0.5
PRTR				pmax	pmax		
	comp=Z,29nm,0.5s						
PRTR				smax	smax		
	comp=E,133nm,0.3s						
DRN	Derbent	1.75	116	*e*Pg	Pg	02 40 15.7	-0.5
DRN				*e*Sg	Sg	02 40 41.9	+3.0
LSNR	Lesken	1.81	285	*e*Pg	Pn	02 40 14.6	+0.5
LSNR				*e*Sg	Sb	02 40 39.6	+0.7
LSNR	Lesken	1.81	285	*e*PN	Pn	02 40 14.9	+0.8
LSNR				*e*S	Sg	02 40 40.9	-0.1
LSNR				pmax	pmax		
	comp=Z,16nm,0.6s						
DIGR	Digorskoe uzhe	1.94	273	*e*Pg	Pn	02 40 17.0	+1.0
DIGR				*e*Sg	Sn	02 40 42.5	+1.9
DIGR	Digorskoe uzhe	1.94	273	*e*PN	Pn	02 40 17.0	+1.0
DIGR				*e*S	Sb	02 40 43.1	+0.4
NCK	Nalchik	2.04	290	*e*Pg	Pn	02 40 18.8	+1.7
NCK				*e*Sg	Sn	02 40 44.5	+1.9
NCK	Nalchik	2.04	290	*ce*PN	Pn	02 40 16.9	-0.2
ONI	Oni	2.06	264	*e*Pg	Pn	02 40 19.0	+1.6
ONI				*e*Sg	Sb	02 40 47.6	+1.8
KBZ	Khabaz	2.59	292	*e*Pn	Pn	02 40 24.3	-0.3
KBZ				*e*Sn	Sb	02 41 01.4	+0.3
KBZ	Khabaz	2.59	292	*c i*PN	Pn	02 40 23.9	-0.8
PYA1	Pyatigorsk	2.59	300	*e*Pn	Pn	02 40 24.3	-0.4
PYA1				*e*Sn	Sn	02 40 54.4	-1.9
PYA1	Pyatigorsk	2.59	300	*d i*PN	Pn	02 40 24.3	-0.4
SHA1	Shidzhatmaz	2.76	291	*e*Pn	Pn	02 40 27.4	+0.2
SHA1				*e*Sn	Sn	02 41 02.6	+1.9
SHA1	Shidzhatmaz	2.76	291	*e*PN	Pn	02 40 27.4	+0.2
SHA1				*e*S	Sn	02 41 02.6	+1.9
KIV	Kislovodsk	2.81	295	*e*Pn	Pn	02 40 27.6	-0.2
KIV				*e*Sn	Sn	02 41 00.9	-0.9
KIV	Kislovodsk	2.81	295	*e*PN	Pn	02 40 26.9	-0.9
KIV				S	Sn	02 41 00.4	-1.5
KIV				pmax	pmax		
	comp=Z,16nm,1.4s						
KIV				pmax	pmax		
	comp=Z,24nm,1.1s						
GNI	Garni	2.90	203	*e*Pn	Pn	02 40 31.7	+2.7
GNI				*e*Sn	Sb	02 41 09.1	-1.0
ALER	Alexandrovskoy	3.08	310	*e*Pn	Pn	02 40 34.7	+3.3
ALER				*e*Sn	Sn	02 41 10.6	+2.2
GOF	Gofitskoye	3.20	315	*ce*PN	Pn	02 40 30.7	-2.4
GOF				*e*S	Sg	02 41 27.4	+1.9
ARU	Arti	15.75	26	*e*P	Pn	02 43 23.3	-1.2
MNK	Minsk	16.77	320	*i* P	Pn	02 43 35.2	-2.2
	comp=E,3.0nm,0.9s,baz=126						
MNK				*i* P	Pn	02 43 35.2	-2.2
	comp=N,6.0nm,0.7s,baz=126						
MNK				*i* P	Pn	02 43 35.2	-2.2
	comp=Z,5.0nm,0.6s,baz=126						
MNK				*i* PP	sP	02 43 44.7	+0.4
	baz=126						
MNK				*i* PPP	PPP	02 43 52.5	
	baz=126						
MNK				*i* S	Sn	02 46 43.2	-0.5
	baz=126						
MNK				*i* SS	SnSn	02 46 57.8	+1.1
	baz=126						
MNK				*i* SSS	SSS	02 47 10.5	
	baz=126						
MNK				*i* LQ	LQ	02 48 16.8	
	baz=126						
MNK				*i* LR	LR	02 49 51.0	
	baz=126						
MNK				*i* LRM	MLR	02 50 46.4	
	comp=Z,69nm,19.2s,baz=126						
MNK				*i* LRM	MLR	02 50 56.2	
	comp=E,46nm,16.6s,baz=126						
MNK				*i* LRM	MLR	02 51 01.4	
	comp=N,26nm,18.4s,baz=126						
MNK	Minsk	16.77	320	*i* P	Pn	02 43 35.2	-2.2
MNK				*i* S	Sn	02 46 43.1	-0.5
MNK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MNK				pmax	pmax		
	comp=N,6.0nm,0.6s						
MNK				pmax	pmax		
	comp=E,3.0nm,0.9s						
MNK				MLR	MLR		
	comp=Z,69nm,19.0s						
MNK				MLR	MLR		
	comp=E,46nm,17.0s						
MNK				MLR	MLR		
	comp=N,26nm,18.0s						
KURK	Kurchatov	23.40	59	*e*P	P	02 44 48.5	-3.1
KURK				pmax	pmax		
	comp=Z,2.0nm,1.1s						

IDC 13 02:50:39.3±2.2, 6°.99S×129°.04E, h0km, mb3.7/1, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=136.4km s-min=32.3km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.86	159	Pn	Pn	02 53 55.9	-1.4
	0.3nm,0.3s,baz=338,slow=11,SNR=12						
WRA				Sn	Sn	02 56 18.5	-14
	0.7nm,0.3s,baz=335,slow=22,SNR=12						
	0.2nm,0.4s						
ASAR	Alice Springs	17.23	165	P	P	02 54 42.7	-0.5
	0.2nm,0.3s,baz=338,slow=13,SNR=10						
ASAR				S	Sn	02 57 42.2	-12
	0.2nm,0.3s,baz=356,slow=26,SNR=2.5			

mb3.4/6, mbtmp3.7/8, ML3.1/2, Error ellipse: s-maj=146.8km s-min=41.1km az=30.0

NEIC ***13*** *03:01:25.7±1.6, 52.5°N±0.1°×170.4°W±0.1°, h129km±4km, mb3.6/10, ML3.7/8, ML3.4(AEIC), Error ellipse: s-maj=17.2km s-min=6.3km az=147.0*

AEIC ***13*** *03:01:25.4±1.3, 52.59°N±0.09°×170.40°W±0.08, h124km±4km, Error ellipse: s-maj=13.7km s-min=6.7km az=173.0*

ISC 13 03:01:26.6±1.1, 52.7°N±0.2°×170.51°W±0.08, h120km±8km, n44, σ1§10/46, mb3.6/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**0.39**	**72**		**Pn**	**03 01 43.6**	**-0.3**
CLES	**Cleveland East**	**0.39**	**72**		**Sn**	**03 01 57.8**	**+0.8**
CLCO	**Concord Point,**	**0.48**	**80**		**Pn**	**03 01 44.1**	**-0.3**
CLCO					**Sn**	**03 01 58.0**	**+0.1**
NIKH	**Nikolski High**	**1.04**	**74**		**Pn**	**03 01 48.5**	**-0.4**
NIKH					**Sn**	**03 02 04.3**	**-1.6**
OKWE	**Okmok W'ng Wal**	**1.57**	**60**		**Pn**	**03 01 54.6**	**-0.1**
OKCE	**Okmok Cone E**	**1.59**	**62**		**Pn**	**03 01 55.0**	**-0.1**
OKNC	**Okmok New Cone**	**1.62**	**61**		**Pn**	**03 01 55.5**	**+0.1**
OKNC					**Sn**	**03 02 20.6**	**+3.2**
OKTU	**Okmok Mt. Tuli**	**1.64**	**64**		**Pn**	**03 01 55.7**	**+0.1**
KOWE	**Korovin West**	**2.31**	**263**		**Pn**	**03 02 04.9**	**+1.0**
ATKA	**Atka Island**	**2.31**	**259**		**Pn**	**03 02 04.6**	**+0.7**
ATKA					**Sn**	**03 02 32.9**	**+0.4**
MGOD	**Makushin Gods**	**2.44**	**62**		**Pn**	**03 02 05.6**	**0.0**
MSW	**Makushin Switc**	**2.54**	**60**		**Pn**	**03 02 06.7**	**-0.2**
MTBL	**Makushin Table**	**2.62**	**60**		**Pn**	**03 02 08.1**	**+0.2**
UNV	**Unalaska Valle**	**2.66**	**63**		**Pn**	**03 02 08.4**	**+0.1**
UNV					**Sn**	**03 02 40.4**	**-0.2**
ZRO	**Akutan Zero**	**3.05**	**61**		**Pn**	**03 02 14.0**	**+0.6**
LVA	**Lava Point**	**3.05**	**60**	Pn	**Pn**	**03 02 14.3**	**+0.9**
LVA				IAML		03 03 05.9	
	comp=N,224nm,1.3s						
LVA				IAML		03 03 15.4	
	comp=E,159nm,1.6s						
AKGG	**Akutan Green G**	**3.09**	**59**		**Pn**	**03 02 14.5**	**+0.6**
GSTR	**Great Sitkin T**	**3.46**	**262**	Pn	**Pn**	**03 02 19.8**	**+1.0**
ADK	**Adak**	**3.88**	**260**	Pn	**Pn**	**03 02 25.0**	**+0.6**
ADK				IAML		03 03 11.4	
	comp=E,82nm,0.3s						
ADK				IAML		03 03 16.8	
	comp=E,82nm,0.6s						
KIWB	**Kanaga Island**	**4.17**	**261**	Pn	**Pn**	**03 02 29.6**	**+1.3**
AMKA	**Amchitka**	**6.43**	**262**	Pn	**Pn**	**03 02 59.1**	**+0.5**
CHIR	**Chirikof Islan**	**9.25**	**64**	Pn	**Pn**	**03 03 36.5**	**-0.2**
N15K	**Kwethluk River**	**9.44**	**33**	Pn	**Pn**	**03 03 41.2**	**+2.0**
KDAK	**Kodiak Island**	**11.41**	**56**	P	**Pn**	**03 04 05.9**	**+0.2**
	comp=E,0.3nm,0.3s,baz=270,slow=6.1,SNR=1.8						
	comp=E,4.5nm,0.9s						
SCM	**Sheep Creek Mo**	**15.43**	**45**	Pn	**Pn**	**03 04 55.9**	**-1.6**
MLY	**Manley**	**15.94**	**32**	P	**P**	**03 05 05.2**	**+0.3**
DHY	**Denali Highway**	**15.99**	**40**		**P**	**03 05 05.1**	**-0.6**
DHY				IAmb	IAmb	03 05 47.9	
	comp=Z,4.7nm,1.4s						
ILAR	**Eielson Array**	**17.08**	**36**	P	**P**	**03 05 15.8**	**-1.6**
	baz=225,slow=11,SNR=4.9						
	comp=Z,0.2nm,0.7s						
TGL	**Tana Glacier**	**17.08**	**51**	P	**Pn**	**03 05 16.9**	**-0.8**
J25K	**Salcha River,**	**17.54**	**37**	P	**P**	**03 05 21.1**	**-1.6**
J26L	**Joseph Creek**	**18.17**	**39**		**P**	**03 05 28.5**	**-0.9**
J26L				IAmb	IAmb	03 05 52.6	
	comp=Z,4.3nm,1.5s						
I26K	**Coal Creek Min**	**18.71**	**37**	P	**P**	**03 05 34.2**	**-1.1**
I26K				IAmb	IAmb	03 05 46.6	
	comp=Z,4.1nm,1.4s						
EGAK	**Eagle**	**19.22**	**40**	P	**P**	**03 05 39.5**	**-1.3**
EGAK				IAmb	IAmb	03 06 21.2	
	comp=Z,5.1nm,1.4s						
C23K	**Itkillik River**	**19.49**	**21**	P	**P**	**03 05 42.7**	**-1.0**
C23K				IAmb	IAmb	03 05 49.4	
	comp=Z,1.7nm,1.0s						
I28M	**Miner Creek**	**19.97**	**38**	P	**P**	**03 05 47.2**	**-1.8**
I28M				IAmb	IAmb	03 05 48.1	
	comp=Z,3.8nm,1.5s						
YKA	**Yellowknife Ar**	**30.55**	**49**	P	**P**	**03 07 30.1**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=281,slow=7.5,SNR=3.1						
	comp=Z,0.8nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**38.49**	**216**	T	T	03 50 39.4	
	baz=22						
H11S2	**WAKE ISLAND Hy**	**38.50**	**216**	T	T	03 50 46.3	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**38.51**	**216**	T	T	03 50 47.5	
	baz=22						
PDAR	**Pinedale Array**	**41.02**	**79**	P	**P**	**03 08 59.1**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=297,slow=4.0,SNR=2.6						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**57.51**	**353**	P	**P**	**03 11 01.6**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=16,slow=6.5,SNR=2.1						
	comp=Z,1.6nm,0.8s						
FINES	**FINESS Array B**	**65.44**	**351**	P	**P**	**03 11 54.4**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=359,slow=8.3,SNR=4.0						
	comp=Z,0.8nm,0.9s						
NOA	**NORSAR Array B**	**66.60**	**359**	P	**P**	**03 12 02.9**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=25,slow=8.4,SNR=1.8						
	comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**67.47**	**358**	P	**P**	**03 12 07.7**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=10,slow=3.2,SNR=21						
	comp=Z,1.1nm,0.4s						

IDC ***13*** *03:06:35.6±2.6, 5.57°S×151.50°E, h33km±18km, mb4.4/17, mbtmp4.6/17, MS4.0/16, Error ellipse: s-maj=17.1km s-min=11.0km az=110.0*

GCMT ***13*** *03:06:36.7±0.4, 5.82°S±0.02°×151.75°E±0.03°, h36km±1km, MW4.9/53, Moment Tensor Solution. s49,c61; s53,c67; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.51±.17; $M_{\theta\theta}$-2.54±.11; $M_{\phi\phi}$0.02±.12; $M_{r\theta}$1.17±.12; $M_{\theta\phi}$-0.81±.12; $M_{\phi r}$-0.73±.15; Best double couple: $M_0$2.98800×10^{16} NP1:ϕ_s93.00000°, δ58.00000°, λ113.00000°. NP2: ϕ_s235.00000°, δ39.00000°, λ58.00000°. Principal axes: T 3.0370, Plg68.0000°, Azm51.0000°; N -0.1070, Plg19.0000°, Azm261.0000°; P -2.9380, Plg10.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***13*** *03:06:38.9±0.0, 5.43°S×151.93°E, h84km, mb4.8/38, mB5.0/12, Ms4.6/11, Ms7 4.3/14*

NEIC ***13*** *03:06:40.7±1.5, 5.62°S±0.09°×151.6°E±0.1°, h77km±7km, mb4.9/158, Error ellipse: s-maj=17.4km s-min=12.8km az=84.0*

DJA ***13*** *03:06:44.3±1.1, 6°S±4°×15°2E±1°0, h108km±8km, M5.1/16, mB5.7/5, mb4.8/16, MLv5.2/1, Mw(mB)5.2/5*

ISC 13 03:06:38.5±0.3, 5.62S±0.05°×151.65E±0.07, h57km, n427, σ0§99/393, mb4.9/99, MS4.0/22, 1C-3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVG	**Kavieng**	**3.13**	**344**	P	**Pn**	**03 07 27.2**	**+1.8**
MANU	**Manus Island**	**5.56**	**310**		**Pn**	**03 08 02.5**	**+3.8**
PMG	**Port Moresby**	**5.83**	**230**		**Pn**	**03 08 03.5**	**+0.9**
PMG	**Port Moresby**	**5.83**	**230**	Pn	**Pn**	**03 08 03.9**	**+1.4**
	9.1nm,0.3s,baz=41,slow=10.0,SNR=48						
PMG				Sn	**Sn**	**03 09 08.9**	**+0.8**
	28nm,0.3s,baz=312,slow=21,SNR=14						
COEN	**Coen**	**11.77**	**225**	P	**Pn**	**03 09 25.6**	**+1.9**
COEN	**Coen**	**11.77**	**225**	Pn	**Pn**	**03 09 22.4**	**-1.3**
CTA	**Charters Tower**	**15.31**	**200**	Pn	**P**	**03 10 16.9**	**+1.9**
	baz=27,slow=12,SNR=13						
CTA				LR	LR	03 15 48.1	
	comp=Z,55nm,19.3s,baz=32,slow=36						
CTAO	**Charters Tower**	**15.31**	**200**	P	**P**	**03 10 16.1**	**+1.1**
QIS	**Mount Isa**	**18.91**	**217**	P	**Pn**	**03 10 56.1**	**+0.2**
EIDS	**Eidsvold**	**19.65**	**182**	P	**P**	**03 11 03.7**	**+0.9**
KDU	**Kakadu**	**20.19**	**248**	P	**P**	**03 11 08.1**	**-0.6**
GUMO	**Guam**	**20.23**	**341**	LR	LR	03 19 41.4	
	comp=Z,210nm,18.7s,baz=154,slow=39						
DZM	**Mont Dzumac**	**21.73**	**140**	P	**P**	**03 11 27.5**	**+2.2**
DZM	**Mont Dzumac**	**21.73**	**140**	*e*P	**P**	**03 11 26.2**	**+0.9**
	120nm,27.6s						
DZM				*e*S	**S**	**03 15 16.6**	**-6.3**
	436nm,24.2s						
DZM				*e*LR	LR	03 16 42.2	
	1μm,24.1s						
DZM	**Mont Dzumac**	**21.73**	**140**	P	**P**	**03 11 24.6**	**-0.7**
DZM	**Mont Dzumac**	**21.73**	**140**	P	**P**	**03 11 24.9**	**-0.4**
	7.1nm,0.6s,baz=316,slow=12,SNR=14						
	7.1nm,0.6s						

WB0	**Warramunga Arr**	**21.91**	**229**	P	**P**	**03 11 26.8**	**-0.4**
WR0	**Warramunga Arr**	**21.91**	**228**	P	**P**	**03 11 27.3**	**0.0**
WRAB	**Tennant Creek**	**22.04**	**228**	P	**P**	**03 11 28.2**	**-0.3**
WRAB				IAmb	IAmb	03 11 45.8	
	comp=Z,39nm,0.7s						
WB2	**Warramunga Arr**	**22.05**	**228**	P	**P**	**03 11 28.4**	**-0.3**
WB2				IAmb	IAmb	03 11 31.4	
	comp=Z,38nm,0.8s						
WRA	**Warramunga Arr**	**22.05**	**228**	P	**P**	**03 11 27.6**	**-1.1**
WRA	**Warramunga Arr**	**22.05**	**228**	P	**P**	**03 11 28.3**	**-0.5**
	comp=Z,34nm,0.7s,baz=53,slow=10.0,SNR=134						
WRA				S	**S**	**03 15 25.4**	**-3.5**
	comp=Z,16nm,1.3s,baz=57,slow=18,SNR=9.4						
WRA				ScP	**ScP**	**03 19 00.5**	**+2.7**
	comp=Z,2.2nm,1.0s,baz=51,slow=2.9,SNR=5.5						
WRA				LR	LR	03 20 08.2	
	comp=Z,373nm,19.9s,baz=49,slow=37						
	comp=Z,34nm,0.7s						
ARMA	**Armidale**	**24.67**	**180**	P	**P**	**03 11 55.7**	**+1.4**
ARMA				IAmb	IAmb	03 11 56.1	
	comp=Z,78nm,2.0s						
AS31	**Alice Springs**	**24.78**	**222**	P	**P**	**03 11 55.6**	**+0.4**
ASAR	**Alice Springs**	**24.78**	**222**	P	**P**	**03 11 55.5**	**+0.2**
	comp=Z,30nm,0.9s,baz=59,slow=8.0,SNR=128						
ASAR				PcP	**PcP**	**03 15 30.5**	**-0.3**
	comp=Z,1.7nm,1.0s,baz=67,slow=3.1,SNR=3.1						
ASAR				S	**S**	**03 16 16.2**	**+2.2**
	comp=Z,0.9nm,1.0s,baz=33,slow=21,SNR=2.7						
ASAR				ScP	**ScP**	**03 19 08.5**	**+3.4**
	comp=Z,2.0nm,1.0s,baz=48,slow=2.5,SNR=5.2						
ASAR				LR	LR	03 21 30.3	
	comp=Z,349nm,21.3s,baz=76,slow=36						
	comp=Z,30nm,0.9s						
CMSA	**Cobar Meteorol**	**26.39**	**192**	P	**P**	**03 12 09.9**	**+0.2**
SOEI	**Soe**	**27.44**	**260**	P	**P**	**03 12 19.6**	**+0.1**
	comp=Z,53nm,0.8s						
STKA	**Stephens Creek**	**27.77**	**199**	P	**P**	**03 12 21.5**	**-0.6**
STKA	**Stephens Creek**	**27.77**	**199**	P	**P**	**03 12 21.6**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=17,slow=13,SNR=4.0						
STKA				LR	LR	03 23 50.8	
	comp=Z,370nm,19.3s,baz=45,slow=37						
	comp=Z,3.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.27**	**242**	P	**P**	**03 12 26.4**	**-0.2**
DAV	**Davao City (W)**	**28.91**	**296**	LR	LR	03 23 46.2	
	comp=Z,269nm,18.4s,baz=148,slow=36						
WRKA	**Warakurna**	**29.57**	**227**	P	**P**	**03 12 37.8**	**-0.5**
MULG	**Mulgathing**	**29.61**	**212**	P	**P**	**03 12 37.9**	**-0.6**
BBOO	**Buckleboo**	**30.72**	**206**	P	**P**	**03 12 47.4**	**-0.8**
BBOO				IAmb	IAmb	03 13 35.6	
	comp=Z,87nm,1.8s						
KAPI	**Kappang**	**31.77**	**270**	LR	LR	03 28 07.2	
	comp=Z,106nm,21.3s,baz=88,slow=41						
FORT	**Forrest**	**33.44**	**219**	P	**P**	**03 13 11.1**	**-1.0**
MBWA	**Marble Bar**	**34.58**	**240**	P	**P**	**03 13 21.6**	**-0.6**
PSA00	**Pilbara Seismi**	**34.63**	**240**	P	**P**	**03 13 22.1**	**-0.6**
TCW	**Tory Channel**	**40.81**	**154**	P	**P**	**03 14 14.7**	**+0.3**
TUWZ	**Tuamarina**	**40.84**	**154**	P	**P**	**03 14 15.5**	**+0.8**
NWAO	**Narrogin (SRO)**	**42.01**	**225**	LR	LR	03 32 18.8	
	comp=Z,408nm,19.7s,baz=160,slow=37						
JNU	**Nakatsue**	**43.28**	**334**	LR	LR	03 31 02.7	
	comp=Z,107nm,20.0s,baz=190,slow=34						
MJAR	**Matsushiro Arr**	**43.79**	**344**	LR	LR	03 31 37.7	
	comp=Z,181nm,19.8s,baz=170,slow=34						
QIZ	**Qiongzhong**	**47.91**	**302**	P	**P**	**03 15 10.6**	**-0.9**
QIZ				S	**S**	**03 22 02.8**	**-2.4**
QIZ				LR	LR		
	comp=Z,180nm,12.7s						
QIZ				LR	LR		
	comp=Z,190nm,15.9s						
QIZ				LR	LR		
	comp=Z,280nm,22.9s						
KSRS	**Korea Array**	**48.22**	**335**	P	**P**	**03 15 12.6**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=143,slow=8.9,SNR=6.8						
KSRS				PcP	**PcP**	**03 16 40.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=183,slow=3.0,SNR=4.4						
	comp=Z,1.0nm,0.5s						
NJ2	**Nanjing**	**48.77**	**322**	*e*P	**P**	**03 15 19.1**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,200nm,3.7s						
WHN	**Wuhan**	**50.66**	**317**	P	**P**	**03 15 32.9**	**+0.6**
HNS	**HongShan**	**54.92**	**324**	⇓P	**P**	**03 16 03.5**	**-0.1**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
HNS				LR	LR		
	comp=Z,200nm,16.5s						
HNS				LR	LR		
	comp=Z,240nm,16.9s						
HNS				LR	LR		
	comp=Z,250nm,18.6s						
BNX	**BinXian**	**55.52**	**340**	⇓P	**P**	**03 16 06.4**	**-1.4**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN	**Xi'an**	**56.43**	**317**	P	**P**	**03 16 14.3**	**-0.3**
XAN				pP	sP	03 16 35.8	-1.0
XAN				pmax	pmax		
	comp=Z,17nm,1.5s						
XAN				LR	LR		
	comp=Z,320nm,12.6s						
XAN				LR	LR		
	comp=Z,350nm,13.8s						
XAN				LR	LR		
	comp=Z,320nm,15.8s						
KMI	**Kunming**	**56.50**	**305**	⇑P	**P**	**03 16 16.0**	**+0.5**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KMI				LR	LR		
	comp=Z,170nm,13.0s						
KMI				LR	LR		
	comp=Z,180nm,13.7s						
KMI				LR	LR		
	comp=Z,170nm,17.6s						
CMAR	**Chiang Mai Arr**	**57.20**	**296**	P	**P**	**03 16 19.2**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=104,slow=5.2,SNR=9.3						
CMAR				LR	LR	03 39 42.3	
	comp=Z,68nm,20.9s,baz=115,slow=35						
	comp=Z,1.5nm,0.3s						
KLR	**Kul'dur**	**57.31**	**345**	LR	LR	03 38 01.9	
	comp=Z,117nm,21.6s,baz=174,slow=33						
PZH	**PanZhiHua**	**57.91**	**306**	P	**P**	**03 16 26.8**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,4.6s						
XLT	**XiLinHaoTe**	**58.80**	**331**	*e*P	**P**	**03 16 30.9**	**-0.2**
XLT				pP	pP	03 16 47.6	+0.8
XLT				sP	sP	03 17 04.0	+11
XLT				pmax	pmax		
	comp=Z,20nm,0.9s						
XLT				pmax	pmax		
	comp=Z,92nm,4.9s						
HHC	**Hu-ho-hao-te**	**59.05**	**325**	*e*P	**P**	**03 16 36.8**	**+3.8**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,50nm,4.8s						
HHC				LR	LR		
	comp=Z,190nm,15.3s						
HHC				LR	LR		
	comp=Z,190nm,16.3s						
HHC				LR	LR		
	comp=Z,260nm,16.8s						
SHEM	**Shemya Is, Ala**	**61.17**	**15**	LR	LR	03 38 35.9	
	comp=Z,214nm,21.1s,baz=168,slow=31						
DRV	**Dumont d'Urvil**	**61.48**	**185**	P	**P**	**03 16 49.7**	**+0.8**
SHL	**Shillong**	**65.74**	**301**	P	**P**	**03 17 16.2**	**-1.8**
SHL				IAmb	IAmb	03 17 18.2	
	comp=Z,16nm,0.9s						
ULN	**Ulaanbaatar**	**66.09**	**329**	P	**P**	**03 17 19.5**	**-0.4**
ULN	**Ulaanbaatar**	**66.09**	**329**	P	**P**	**03 17 19.9**	**0.0**
SONM	**Songino Array**	**66.41**	**329**	P	**P**	**03 17 20.8**	**-1.0**
SONM				IAmb	IAmb	03 17 22.7	
	comp=Z,13nm,1.3s						
SONM	**Songino Array**	**66.41**	**329**	P	**P**	**03 17 21.9**	**0.0**
	comp=Z,5.9nm,1.0s,baz=140,slow=5.1,SNR=25						
	comp=Z,5.9nm,1.0s						
CCD	**Concordia, Ant**	**71.31**	**187**	P	**P**	**03 17 53.0**	**+0.8**
PALK	**Pallekele**	**71.94**	**279**	LR	LR	03 52 47.5	
	comp=Z,50nm,19.3s,baz=243,slow=39						
VNDA	**Vanda**	**72.06**	**178**	P	**P**	**03 17 56.6**	**+0.4**
VNDA	**Vanda**	**72.06**	**178**	P	**P**	**03 17 56.8**	**+0.6**
	comp=Z,4.7nm,0.9s,baz=336,slow=7.5,SNR=24						
	comp=Z,4.7nm,0.9s						
SDPT	**Sand Point**	**72.45**	**26**	P	**P**	**03 17 59.1**	**+0.3**
	baz=231						
WMQ	**Urumqi**	**75.57**	**318**	*e*P	**P**	**03 18 18.9**	**+1.5**

R17L	**Mt. Peulik Vol**	**75.65**	**26**	P	**P**	**03 18 17.5**	**+0.1**
	baz=234						
Q17K	**Contact Creek**	**76.23**	**26**	P	**P**	**03 18 20.9**	**0.0**
	baz=234						
K15K	**Wolf Creek Mou**	**76.56**	**21**	P	**P**	**03 18 23.0**	**+0.5**
K15K				IAmb	IAmb	03 19 43.1	
	comp=Z,28nm,1.5s						
K15K	**Wolf Creek Mou**	**76.56**	**21**	P	**P**	**03 18 23.2**	**+0.7**
	baz=228						
O17K	**Koliganek Bris**	**76.62**	**24**	P	**P**	**03 18 23.8**	**+0.9**
	baz=233						
M16K	**Timber Creek**	**76.67**	**22**	P	**P**	**03 18 24.1**	**+1.0**
M16K				IAmb	IAmb	03 18 46.3	
	comp=Z,12nm,1.1s						
M16K	**Timber Creek**	**76.67**	**22**	P	**P**	**03 18 24.1**	**+1.0**
	baz=231						
OHAK	**Old Harbor**	**76.79**	**27**	P	**P**	**03 18 24.6**	**+0.7**
	baz=237						
Q18K	**Katmai Hardscr**	**76.83**	**26**	P	**P**	**03 18 24.7**	**+0.5**
	baz=235						
N17K	**Nushagak Hills**	**77.04**	**23**	P	**P**	**03 18 25.8**	**+0.5**
	baz=233						
Q19K	**Cape Douglas,**	**77.57**	**26**	P	**P**	**03 18 28.4**	**+0.1**
	baz=236						
G15K	**Niukluk**	**77.60**	**18**	P	**P**	**03 18 28.8**	**+0.6**
	baz=226						
L17K	**Donlin**	**77.61**	**22**	P	**P**	**03 18 29.3**	**+0.9**
	baz=231						
N18K	**Kilae Creek**	**77.65**	**24**	P	**P**	**03 18 29.1**	**+0.5**
	baz=234						
H16K	**Elim**	**77.91**	**19**	P	**P**	**03 18 30.4**	**+0.4**
	baz=227						
F15K	**North Star Dit**	**77.92**	**17**	P	**P**	**03 18 30.1**	**0.0**
	baz=225						
K17K	**Iditarod**	**77.98**	**21**	P	**P**	**03 18 30.9**	**+0.5**
	baz=231						
J17K	**VABM Dome**	**78.14**	**20**	P	**P**	**03 18 32.0**	**+0.7**
	baz=230						
P19K	**Oil Pt**	**78.15**	**25**	P	**P**	**03 18 32.0**	**+0.5**
	baz=237						
M18K	**Stony River**	**78.15**	**23**	P	**P**	**03 18 32.4**	**+1.0**
	baz=234						
L18K	**Granite Mounta**	**78.26**	**22**	P	**P**	**03 18 32.5**	**+0.5**
	baz=233						
N19K	**Bonanza Creek**	**78.29**	**24**	P	**P**	**03 18 32.9**	**+0.6**
	baz=235						
G16K	**Koyuk River**	**78.39**	**18**	P	**P**	**03 18 32.9**	**+0.3**
G16K				IAmb	IAmb	03 19 37.0	
	comp=Z,34nm,1.6s						
G16K	**Koyuk River**	**78.39**	**18**	P	**P**	**03 18 33.2**	**+0.6**
	baz=227						
O20K	**Slope Mountain**	**78.64**	**25**	P	**P**	**03 18 34.7**	**+0.5**
	baz=237						
H17K	**Granite Mounta**	**78.85**	**19**	P	**P**	**03 18 35.4**	**+0.1**
	baz=230						
L19K	**White Mountain**	**78.93**	**23**	P	**P**	**03 18 36.1**	**+0.3**
L19K	**White Mountain**	**78.93**	**23**	P	**P**	**03 18 36.4**	**+0.6**
	baz=235						
CNPM	**China Poot**	**78.94**	**26**	P	**P**	**03 18 35.7**	**-0.1**
CNPM				IAmb	IAmb	03 19 03.9	
	comp=Z,15nm,0.8s						
TTA	**Tatalina**	**78.94**	**22**	P	**P**	**03 18 36.3**	**+0.5**
	baz=234						
G17K	**Kiwalik Mounta**	**78.99**	**18**	P	**P**	**03 18 36.2**	**+0.3**
	baz=229						
J18K	**Innoko River**	**79.01**	**21**	P	**P**	**03 18 37.0**	**+0.9**
	baz=233						
M20K	**Styx River**	**79.43**	**23**	P	**P**	**03 18 39.5**	**+1.0**
	baz=236						
F17K	**Baldwin Pennin**	**79.44**	**17**	P	**P**	**03 18 39.2**	**+0.9**
F17K				IAmb	IAmb	03 18 41.0	
	comp=Z,6.3nm,0.8s						
F17K	**Baldwin Pennin**	**79.44**	**17**	P	**P**	**03 18 39.2**	**+0.9**
	baz=228						
L20K	**Farewell, AK**	**79.48**	**23**	P	**P**	**03 18 39.7**	**+0.9**
	baz=236						
E17K	**Hotham Inlet**	**79.70**	**17**	P	**P**	**03 18 40.7**	**+1.0**
	baz=227,SNR=5.1						
J19K	**Poorman**	**79.72**	**21**	P	**P**	**03 18 40.6**	**+0.7**
	baz=234						
D17K	**Noatak River**	**79.77**	**16**	P	**P**	**03 18 40.1**	**-0.1**
	baz=226						
G18K	**Tagagawik**	**79.87**	**19**	P	**P**	**03 18 40.0**	**-0.8**
G18K				IAmb	IAmb	03 18 55.6	
	comp=Z,24nm,2.0s						
G18K	**Tagagawik**	**79.87**	**19**	P	**P**	**03 18 41.4**	**+0.7**
	baz=230						
K20K	**Telida**	**79.91**	**22**	P	**P**	**03 18 41.7**	**+0.7**
	baz=235						
F18K	**Selawik**	**80.02**	**18**	P	**P**	**03 18 42.9**	**+1.4**
	baz=230						
SUA	**Susitna One**	**80.16**	**24**	P	**P**	**03 18 42.3**	**-0.2**
	baz=239						
MK31	**Makanchi Array**	**80.19**	**319**	P	**P**	**03 18 41.6**	**-1.3**
MKAR	**Makanchi Array**	**80.19**	**319**	P	**P**	**03 18 41.7**	**-1.2**
MKAR	**Makanchi Array**	**80.19**	**319**	P	**P**	**03 18 42.3**	**-0.6**
	comp=Z,3.4nm,0.9s,baz=100,slow=6.7,SNR=19						
MKAR				LR	LR	03 54 12.5	
	comp=Z,90nm,20.0s,baz=90,slow=36						
	comp=Z,3.4nm,0.9s						
E18K	**Tukpahlearik C**	**80.28**	**17**	P	**P**	**03 18 43.2**	**+0.2**
	baz=228						
C17K	**DeLong Mountai**	**80.29**	**15**	P	**P**	**03 18 43.8**	**+0.8**
	baz=226						
J20K	**Nowinta River**	**80.35**	**21**	P	**P**	**03 18 43.6**	**+0.2**
J20K				IAmb	IAmb	03 19 18.0	
	comp=Z,18nm,1.7s						
J20K	**Nowinta River**	**80.35**	**21**	P	**P**	**03 18 43.8**	**+0.4**
	baz=235						
H19K	**Roundabout Mou**	**80.36**	**19**	P	**P**	**03 18 44.6**	**+1.3**
H19K				IAmb	IAmb	03 19 09.8	
	comp=Z,13nm,1.4s						
H19K	**Roundabout Mou**	**80.36**	**19**	P	**P**	**03 18 43.7**	**+0.4**
	baz=233						
RC01	**

KAIM	Kayak Island	82.16	27	P	P	03 18 52.9	-0.2	
	baz=245							
D20K	Etivluk River	82.26	17	P	P	03 18 53.5	+0.1	
	baz=232							
H22K	Ishtalitna Cre	82.29	20	P	P	03 18 53.9	+0.3	
	baz=237							
F21K	Alatna River	82.33	19	P	P	03 18 54.2	+0.4	
	baz=235							
DHY	Denali Highway	82.34	24	P	P	03 18 54.1	0.0	
DHY	Denali Highway	82.34	24	P	P	03 18 54.2	+0.1	
	baz=242							
M24K	Tolsona, Glenn	82.37	25	P	P	03 18 54.2	0.0	
	baz=243							
NEA2	Nenana	82.43	22	P	P	03 18 53.9	-0.5	
NEA2	Nenana	82.43	22	P	P	03 18 53.9	-0.5	
	baz=240,SNR=5.7							
KSH	Kashi	82.60	311	P	P	03 18 57.4	+1.4	
KSH				pP	sP	03 19 21.0	+2.1	
KSH				pmax	pmax			
	comp=Z,2.0nm,0.8s							
I23K	Minto, Yukon-K	82.61	21	P	P	03 18 55.7	+0.5	
	baz=239							
WRH	Wood River Hil	82.74	22	P	P	03 18 55.8	-0.2	
WRH				IAmb	IAmb	03 19 21.6		
	comp=Z,14nm,1.6s							
G22K	Bettles	82.80	19	P	P	03 18 56.7	+0.5	
	baz=237							
E21K	Killik River	82.88	18	P	P	03 18 56.8	+0.1	
E21K				IAmb	IAmb	03 19 23.0		
	comp=Z,17nm,1.6s							
E21K	Killik River	82.88	18	P	P	03 18 56.5	-0.2	
	baz=235							
H23K	Yukon River	82.89	21	P	P	03 18 55.8	-1.0	
H23K	Yukon River	82.89	21	P	P	03 18 57.4	+0.7	
	baz=239							
F22K	John River	82.91	19	P	P	03 18 57.8	+1.0	
	baz=236							
CCB	Clear Creek Bu	82.93	22	P	P	03 18 56.1	-0.8	
C21K	Knifeblade Rid	83.06	17	P	P	03 18 58.2	+0.7	
	baz=234							
HDA	Harding Lake	83.14	23	P	P	03 18 57.1	-1.0	
HDA	Harding Lake	83.14	23	P	P	03 18 57.4	-0.7	
	baz=242							
G23K	Bananza Creek	83.19	20	P	P	03 18 57.7	-0.6	
G23K	Bananza Creek	83.19	20	P	P	03 18 58.6	+0.3	
	baz=239,SNR=7.3							
POKR	Poker Plat Res	83.30	22	P	P	03 18 58.1	-0.7	
POKR	Poker Plat Res	83.30	22	P	P	03 18 59.0	+0.1	
	baz=241							
K24K	Donnelly Dome	83.31	23	P	P	03 18 59.3	+0.3	
	baz=243							
BOOM	Boomskoye usch	83.33	314	P	P	03 18 58.5	-1.2	
BOOM				IAmb	IAmb	03 19 00.4		
	comp=Z,6.0nm,0.8s							
IL31		83.34	22	P	P	03 18 57.5	-1.5	
IL31				IAmb	IAmb	03 18 58.9		
	comp=Z,5.8nm,0.7s							
ILAR	Eielson Array	83.34	22	P	P	03 18 57.4	-1.7	
	comp=Z,4.7nm,0.7s,baz=247,slow=4.5,SNR=89							
	comp=Z,4.7nm,0.7s							
E22K	Anaktuvuk Pass	83.37	18	P	P	03 18 58.6	-0.6	
E22K	Anaktuvuk Pass	83.37	18	P	P	03 18 59.6	+0.3	
	baz=237							
COLD	Coldfoot	83.40	19	P	P	03 18 59.7	+0.4	
	baz=238							
H24K	Noodor Dome	83.49	21	P	P	03 18 59.6	-0.3	
H24K	Noodor Dome	83.49	21	P	P	03 19 00.1	+0.2	
	baz=241							
D22K	Ayikyak River	83.52	18	P	P	03 19 00.3	+0.4	
D22K				IAmb	IAmb	03 19 02.6		
	comp=Z,5.5nm,0.8s							
D22K	Ayikyak River	83.52	18	P	P	03 19 01.2	+1.3	
	baz=236,SNR=6.7							
KURK	Kurchatov	83.71	322	P	P	03 18 59.9	-1.3	
KURK				IAmb	IAmb	03 19 01.1		
	comp=Z,11nm,1.1s							
KURBB	Kurchatov Arra	83.74	322	P	P	03 19 00.5	-0.9	
	comp=Z,4.6nm,0.9s,baz=110,slow=4.3,SNR=18							
	comp=Z,4.6nm,0.9s							
J25K	Salcha River,	83.84	23	P	P	03 19 00.9	-0.8	
J25K				IAmb	IAmb	03 19 02.6		
	comp=Z,11nm,0.7s							
J25K	Salcha River,	83.84	23	P	P	03 19 01.6	-0.2	
	baz=243,SNR=20							
A21K	Barrow	83.88	15	P	P	03 19 02.9	+1.3	
	baz=232							
L26K	Log Cabin Wild	83.95	25	P	P	03 19 02.8	+0.6	
	baz=245							
E23K	Chandalar	84.03	19	P	P	03 19 03.6	+0.9	
	baz=239							
G24K	Hadweenzic Riv	84.06	20	P	P	03 19 02.8	+0.1	
	baz=241							
SCRK	Sand Creek	84.10	24	P	P	03 19 03.0	-0.1	
SCRK	Sand Creek	84.10	24	P	P	03 19 03.3	+0.1	
	baz=244							
D23K	Nanushuk River	84.17	18	P	P	03 19 04.3	+1.1	
	baz=238							
M27K	Edge Creek, AK	84.30	25	P	P	03 19 05.2	+1.0	
M27K				IAmb	IAmb	03 19 05.8		
	comp=Z,5.3nm,0.8s							
M27K	Edge Creek, AK	84.30	25	P	P	03 19 04.9	+0.7	
	baz=247							
F24K	Squaw Lake	84.32	20	P	P	03 19 04.5	+0.5	
F24K				IAmb	IAmb	03 19 06.2		
	comp=Z,5.6nm,0.8s							
F24K	Squaw Lake	84.32	20	P	P	03 19 05.2	+1.2	
	baz=241,SNR=12							
TOLK	Toolik Lake Re	84.34	18	P	P	03 19 04.7	+0.4	
TOLK	Toolik Lake Re	84.34	18	P	P	03 19 04.6	+0.4	
	baz=239,SNR=5.1							
QSPA	South Pole Qui	84.35	180	P	P	03 19 04.6	+0.1	
QSPA				IAmb	IAmb	03 19 05.6		
	comp=Z,13nm,0.8s							
QSPA	South Pole Qui	84.35	180	P	P	03 19 04.5	+0.1	
	comp=Z,9.6nm,0.8s,baz=342,slow=1.3,SNR=46							
	comp=Z,9.6nm,0.8s							
MAW	Mawson	84.38	203	P	P	03 19 04.5	+0.2	
	comp=Z,4.4nm,1.0s,baz=139,slow=7.6,SNR=5.1							
	comp=Z,4.4nm,1.0s							
E24K	Your Creek	84.40	19	P	P	03 19 04.6	+0.2	
	baz=240							
O28M	Mount Upton	84.43	27	P	P	03 19 06.1	+1.0	
	baz=248							
H25L	Birch Creek	84.44	21	P	P	03 19 05.5	+0.9	
	baz=243							
J26L	Joseph Creek	84.50	23	P	P	03 19 05.0	-0.1	
J26L	Joseph Creek	84.50	23	P	P	03 19 05.6	+0.5	
	baz=245							
G25K	Bearman Lake	84.57	21	P	P	03 19 05.8	+0.6	
	baz=242							
L27K	Beaver Creek,	84.60	25	P	P	03 19 05.7	+0.1	
	baz=247							
C23K	Itkillik River	84.66	17	P	P	03 19 06.0	+0.3	
C23K				IAmb	IAmb	03 19 07.7		
	comp=Z,5.4nm,0.9s							
C23K	Itkillik River	84.66	17	P	P	03 19 06.6	+1.0	
	baz=238							
YUK3	Moose Creek	84.69	26	P	P	03 19 06.9	+0.7	
	baz=248							
D24K	Happy Valley	84.84	18	P	P	03 19 06.5	-0.1	
D24K				IAmb	IAmb	03 19 08.2		
	comp=Z,5.2nm,0.8s							
D24K	Happy Valley	84.84	18	P	P	03 19 07.3	+0.7	
	baz=240							
K27K	Chicken	84.89	24	P	P	03 19 07.3	+0.4	
K27K	Chicken	84.89	24	P	P	03 19 07.9	+1.0	
	baz=246							
I26K	Coal Creek Min	85.00	23	P	P	03 19 05.5	-1.9	
I26K	Coal Creek Min	85.00	23	P	P	03 19 08.2	+0.8	
	baz=245							
F25K	Christian Rive	85.11	20	P	P	03 19 08.6	+0.5	
	baz=243							
ARSB	Arslanbob	85.22	312	P	P	03 19 07.2	-2.1	
E25K	Arctic Village	85.38	20	P	P	03 19 09.6	+0.2	
E25K	Arctic Village	85.38	20	P	P	03 19 09.6	+0.2	
	baz=243							
BMAR	Burnt Mountain	85.40	20	P	P	03 19 09.7	+0.2	
G26K	Porcupine Rive	85.47	21	P	P	03 19 10.8	+1.0	
	baz=244,SNR=10							
EGAK	Eagle	85.55	23	P	P	03 19 10.2	0.0	
EGAK	Eagle	85.55	23	P	P	03 19 11.0	+0.8	
	baz=247,SNR=6.5							
F26K	Sheenjek River	85.67	20	P	P	03 19 11.5	+0.7	
	baz=244,SNR=5.5							
HYT	Haines Junctio	85.68	28	P	P	03 19 12.6	+1.5	
HYT				IAmb	IAmb	03 19 14.5		
	comp=Z,6.1nm,0.8s							
HYT	Haines Junctio	85.68	28	P	P	03 19 12.9	+1.7	
	baz=251							
D25K	Kavik River	85.68	18	P	P	03 19 10.8	-0.1	
D25K	Kavik River	85.68	18	P	P	03 19 11.3	+0.4	
	baz=242							
P30M	Million Dollar	85.70	28	P	P	03 19 12.1	+0.9	
	baz=251							
I27K	Kandik River	85.70	22	P	P	03 19 11.8	+0.8	
	baz=247,SNR=5.4							
M29M	Somme Creek	85.81	26	P	P	03 19 12.4	+0.7	
	baz=250							
H27K	Steamboat Moun	85.99	22	P	P	03 19 13.2	+0.7	
	baz=247,SNR=11							
DAWY	Dawson	85.99	24	P	P	03 19 13.4	+0.9	
DAWY				IAmb	IAmb	03 19 14.6		
	comp=Z,9.2nm,1.5s							
DAWY	Dawson	85.99	24	P	P	03 19 13.7	+1.2	
	baz=249							
G27K	Doyon Strip	86.17	21	P	P	03 19 13.5	+0.2	
G27K	Doyon Strip	86.17	21	P	P	03 19 14.4	+1.1	
	baz=246,SNR=5.9							
L29M	L29M	86.18	25	P	P	03 19 13.9	+0.5	
L29M				IAmb	IAmb	03 19 15.8		
	comp=Z,5.9nm,0.9s							
L29M	L29M	86.18	25	P	P	03 19 14.7	+1.3	
	baz=250							
I28M	Miner Creek	86.29	23	P	P	03 19 14.3	+0.2	
I28M	Miner Creek	86.29	23	P	P	03 19 14.5	+0.4	
	baz=248,SNR=7.2							
CRAG	Craig	86.29	33	P	P	03 19 13.8	-0.2	
	baz=255							
O30N	Mendenhall	86.32	28	P	P	03 19 12.8	-1.4	
O30N				IAmb	IAmb	03 19 15.9		
	comp=Z,7.0nm,1.2s							
O30N	Mendenhall	86.32	28	P	P	03 19 15.7	+1.5	
	baz=252							
C26K	Camden Bay	86.41	18	P	P	03 19 15.5	+1.1	
	baz=243							
M30M	Minto, Yukon	86.58	26	P	P	03 19 16.2	+0.8	
	baz=251							
C27K	Jago River	86.66	18	P	P	03 19 16.9	+1.3	
	baz=244							
N31M	Braeburn, Yuko	86.69	27	P	P	03 19 16.6	+0.7	
	baz=252							
K29M	Barlow Dome	86.69	25	P	P	03 19 16.1	0.0	
K29M				IAmb	IAmb	03 19 18.3		
	comp=Z,7.8nm,0.8s							
K29M	Barlow Dome	86.69	25	P	P	03 19 17.1	+1.0	
	baz=250,SNR=12							
E27K	Coleen River	86.75	20	P	P	03 19 15.9	-0.2	
E27K				IAmb	IAmb	03 19 17.8		
	comp=Z,6.1nm,0.7s							
E27K	Coleen River	86.75	20	P	P	03 19 17.3	+1.2	
	baz=246,SNR=18							
I29M	Ogilvie Camp,	86.89	23	P	P	03 19 17.1	+0.2	
V35K	Ketchikan	87.09	34	P	P	03 19 19.4	+1.4	
	baz=256							
P32M	Atlin	87.10	29	P	P	03 19 18.9	+0.8	
	baz=254							
F28M	Old Crow	87.13	21	P	P	03 19 17.5	-0.4	
F28M				IAmb	IAmb	03 19 19.9		
	comp=Z,4.7nm,0.8s							
F28M	Old Crow	87.13	21	P	P	03 19 18.6	+0.7	
	baz=248,SNR=8.7							
H29M	Whitestone	87.17	22	P	P	03 19 18.2	+0.1	
	baz=250							
KK31	Karatay Array	87.36	314	P	P	03 19 18.2	-1.4	
KKAR	Karatay Array	87.36	314	P	P	03 19 18.1	-1.6	
KKAR	Karatay Array	87.36	314	P	P	03 19 17.7	-2.0	
D27M	Malcolm River	87.38	19	P	P	03 19 18.6	-0.7	
D27M				IAmb	IAmb	03 19 21.0		
	comp=Z,4.3nm,0.8s							
D27M	Malcolm River	87.38	19	P	P	03 19 20.4	+1.1	
	baz=247							
J30M	Hart River	87.42	24	P	P	03 19 19.4	-0.1	
J30M				IAmb	IAmb	03 19 21.7		
	comp=Z,5.5nm,0.8s							
J30M	Hart River	87.42	24	P	P	03 19 20.9	+1.3	
	baz=252,SNR=7.7							
M31M	Drury Creek, Y	87.53	27	P	P	03 19 20.4	+0.3	
	baz=253							
G29M	Pine Creek	87.54	22	P	P	03 19 20.1	+0.1	
G29M				IAmb	IAmb	03 20 15.0		
	comp=Z,12nm,1.4s							
G29M	Pine Creek	87.54	22	P	P	03 19 20.1	+0.1	
	baz=250							
I30M	Mount Dempster	87.61	24	P	P	03 19 19.7	-0.8	
I30M	Mount Dempster	87.61	24	P	P	03 19 20.4	0.0	
	baz=251							
E28M	Babbage River	87.62	20	P	P	03 19 20.1	-0.2	
E28M	Babbage River	87.62	20	P	P	03 19 21.0	+0.7	
	baz=248,SNR=6.7							
EPYK	Eagle Plains	87.85	23	P	P	03 19 21.1	-0.4	
EPYK				IAmb	IAmb	03 19 22.7		
	comp=Z,6.7nm,0.8s							
EPYK	Eagle Plains	87.85	23	P	P	03 19 22.1	+0.7	
	baz=251							
S34M	Telegraph Cree	87.97	31	P	P	03 19 20.8	-1.4	
S34M				IAmb	IAmb	03 19 23.6		
	comp=Z,7.4nm,1.2s							
S34M	Telegraph Cree	87.97	31	P	P	03 19 23.3	+1.2	
	baz=256							
FARO	Faro, Yukon	88.01	27	P	P	03 19 22.5	+0.2	
FARO	Faro, Yukon	88.01	27	P	P	03 19 22.7	+0.4	
	baz=254							
E29M	Blow River	88.10	20	P	P	03 19 22.9	+0.3	
	baz=250							
T35M	Bob Quinn	88.22	32	P	P	03 19 24.2	+0.8	
	baz=257							
G30M	tAoh Zraii Nji	88.24	22	P	P	03 19 23.7	+0.4	
	baz=252							
R33M	Jennings River	88.41	30	P	P	03 19 24.7	+0.3	
	baz=256							
BBB	Bella Bella	88.43	37	LR	LR	03 52 33.4		
	comp=Z,87nm,20.6s,baz=246,slow=31							
F30M	Barrier River	88.60	21	P	P	03 19 25.5	+0.6	
	baz=252							
DLBC	Dease Lake	88.66	31	P	P	03 19 25.6	+0.1	
DLBC				IAmb	IAmb	03 19 27.6		
	comp=Z,26nm,1.9s							
DLBC	Dease Lake	88.66	31	P	P	03 19 26.0	+0.5	
	baz=257							
DLBC	Dease Lake	88.66	31	LR	LR	03 52 47.2		
	comp=Z,198nm,20.1s,baz=266,slow=31							
G31M	Satah River	88.95	22	P	P	03 19 26.9	+0.4	
	baz=253							
BVAR	Borovoye Array	89.21	323	P	P	03 19 26.8	-1.3	
	comp=Z,4.9nm,1.0s,baz=97,slow=6.0,SNR=13							
	comp=Z,4.9nm,1.0s							
INK	Inuvik	89.62	21	P	P	03 19 29.6	-0.1	
INK				IAmb	IAmb	03 19 30.8		
	comp=Z,6.3nm,1.2s							
INK	Inuvik	89.62	21	P	P	03 19 29.7	0.0	
	baz=254							
INK	Inuvik	89.62	21	P	P	03 19 29.1	-0.6	
	comp=Z,1.6nm,0.7s,baz=223,slow=3.4,SNR=4.2							
	comp=Z,1.6nm,0.7s							
O02D	Mt. Diablo Mer	90.19	50		P	03 19 31.7	-1.4	
HUMO	Hull Mountain	90.37	47	P	P	03 19 31.9	-2.0	
YBH	Yreka Blue Hor	90.44	48		P	03 19 33.6	-0.7	
E03A	Lebam	90.45	43	P	P	03 19 33.3	-0.7	
AFDM	Forest Hills D	91.45	51	P	P	03 19 37.6	-1.4	
AFDM				IAmb	IAmb	03 19 41.4		
	comp=Z,10nm,1.1s							
J05D	Fort Rock, OR	91.71	47		P	03 19 39.0	-1.2	
I05D	Terrebonne, OR	91.74	46	P	P	03 19 39.3	-0.9	
CMB	Columbia Colle	91.81	52		P	03 19 39.5	-1.2	
CMB				IAmb	IAmb	03 19 42.5		
	comp=Z,8.3nm,1.1s							
PKM	Mcpherson Peak	91.97	55	P	P	03 19 42.3	+0.7	
	baz=265,SNR=5.2							
PNTR	Pine Nut	92.53	51	P	P	03 19 43.9	-0.3	
WAKR	Walker	92.60	52	IAmb	IAmb	03 19 46.7		
	comp=Z,6.8nm,0.9s							
VES	Vestal, Richgr	92.65	54	P	P	03 19 45.4	+0.9	
	baz=265							
PAHR	Pah Rah Range	92.75	51	IAmb	IAmb	03 19 46.8		
	comp=Z,9.2nm,1.0s							
YERR	Yerington	92.80	51	IAmb	IAmb	03 19 47.2		
	comp=Z,6.6nm,1.0s							
OMMB	Old Mammoth Mi	92.87	53	IAmb	IAmb	03 19 48.5		
	comp=Z,11nm,1.3s							
ISA	Isabella, Lake	93.13	55	IAmb	IAmb	03 19 48.6		
	comp=Z,5.4nm,1.1s							
ISA	Isabella, Lake	93.13	55	P	P	03 19 48.2	+1.4	
	baz=265							
EDW2	Edwards Air Fo	93.46	55	P	P	03 19 49.5	+1.1	
	baz=266							
NVAR	Mina Array Bea	93.48	52	P	P	03 19 48.9	+0.3	
NVAR	Mina Array Bea	93.48	52	P	P	03 19 49.8	+1.1	
	comp=Z,10nm,0.8s,baz=255,slow=6.5,SNR=58							
	comp=Z,10nm,0.8s							
CWC	Cottonwood Cre	93.51	54	P	P	03 19 49.6	+0.9	
	baz=266							
G08A	Pilot Rock	93.52	45	IAmb	IAmb	03 19 50.5		
	comp=Z,9.8nm,1.1s							
BFSC	Mount Baldy Ra	93.69	56	P	P	03 19 50.4	+0.9	
	baz=266							
LRMC	Laurel Mtn Rad	93.76	55	P	P	03 19 51.2	+1.4	
	baz=266							
MPMC	Manual Prospec	93.96	54	P	P	03 19 52.3	+1.5	
	baz=266,SNR=12							
GRAC	Grapevine Rang	94.12	53	P	P	03 19 52.6	+1.3	
	baz=266							
E09A	Wood Farm, Sta	94.17	44	IAmb	IAmb	03 19 52.6		
	comp=Z,10.0nm,1.0s							
GMN	Gold Mountain	94.23	53	IAmb	IAmb	03 19 53.7		
	comp=Z,5.1nm,1.0s							
GSC	Goldstone, Bar	94.46	55	IAmb	IAmb	03 19 55.1		
	comp=Z,5.6nm,1.0s							
GSC	Goldstone, Bar	94.46	55	P	P	03 19 54.3	+1.3	
	baz=266							
FURC	Furnace Creek,	94.49	54	P	P	03 19 54.1	+1.2	
	baz=266,SNR=15							
MONP2	Monument Peak	94.62	58	P	P	03 19 55.4	+1.4	
	baz=266							
GWY	Greenwater Val	94.63	54	IAmb	IAmb	03 19 55.7		
	comp=Z,6.4nm,1.0s							
PFO	Pinyon Flats O	94.64	57	P	P	03 19 54.6	+0.7	
PFO				IAmb	IAmb	03 19 56.2		
	comp=Z,13nm,1.5s							
PFO	Pinyon Flats O	94.64	57	P	P	03 19 55.2	+1.3	
	baz=266							
TPFO	Pinon Flats	94.64	57	P	P	03 19 55.0	+1.1	
	baz=266							
F10A	Beach Ranch, E	94.77	44	IAmb	IAmb	03 19 55.2		
	comp=Z,4.9nm,0.9s							
HEC	Hector,Ludlow	94.82	56	P	P	03 19 55.9	+1.3	
	baz=267							
IKP	In-Ko-Pah, Jac	94.87	58	P	P	03 19 56.1	+1.1	
	baz=267							
SHOC	Shoshone, Teco	94.93	55	P	P	03 19 56.5	+1.4	
	baz=267,SNR=5.1							
NEW	Newport	94.96	42	P	P	03 19 55.1	+0.2	
	baz=267							
NEW	Newport	94.96	42	LR	LR	04 00 08.7		
	comp=Z,689nm,18.5s,baz=228,slow=34							
TPNV	Topopah Spring	95.01	53	P	P	03 19 56.3	+0.7	
	baz=267,SNR=16							
YUH	Yuha Desert	95.03	58	IAmb	IAmb	03 19 59.4		
	comp=Z,4.3nm,1.0s							
BELC	Belle Mtn. Jos	95.05	56	P	P	03 19 57.5	+1.7	
	baz=267							
TUQ	Turquoise Moun	95.19	55	P	P	03 19 57.1	+0.7	
	baz=267,SNR=9.5							
GMRC	Granite Mounta	95.37	56	P	P	03 19 58.1	+0.8	
	baz=267,SNR=6.2							
S11A	Rachel	95.45	53	IAmb	IAmb	03 19 59.4		
	comp=Z,5.6nm,0.9s							
BC3	Big Chuckawall	95.48	57	P	P	03 19 58.5	+0.7	
	baz=267							
PLID	Pearl Lake	95.59	45	IAmb	IAmb	03 19 58.7		
	comp=Z,3.5nm,1.1s							
R11B	Troy Canyon, C	95.61	52	IAmb	IAmb	03 20 00.9		
	comp=Z,7.4nm,1.1s							
R11B	Troy Canyon, C	95.61	52	P	P	03 19 59.5	+1.2	
	baz=267,SNR=13							
MFID	Camas Ranch	95.65	47	IAmb	IAmb	03 19 59.8		
	comp=Z,11nm,1.6s							
ELIB	Princess Elisa	95.74	194	*d*P	P	03 19 57.5	-0.6	
	comp=Z,1.9nm,1.0s							
IRM	Iron Mountain	95.76	56	P	P	03 20 00.2	+1.3	
	baz=267,SNR=6.7							
SHPR	Sheep Range	95.86	54	IAmb	IAmb	03 20 01.9		
	comp=Z,3.7nm,0.9s							
ELK	Elko	95.98	50	IAmb	IAmb	03 20 01.6		
	comp=Z,2.8nm,1.0s							
V12A	Nelson	96.08	55	IAmb	IAmb	03 20 02.8		
	comp=Z,5.6nm,1.0s							
PDMCI	Parker Dam,Lak	96.60	56	P	P	03 20 04.4	+1.8	
	baz=268							
HLID	Hailey	96.68	47	IAmb	IAmb	03 20 05.6		
	comp=Z,3.4nm,0.8s							
HLID	Hailey	96.68	47	P	P	03 20 03.8	+0.8	
	baz=269,SNR=7.1							
W13A	Hualapai Mount	96.84	55	IAmb	IAmb	03 20 07.1		
	comp=Z,4.8nm,1.0s							
PSUT	Pine Spring	96.97	52	IAmb	IAmb	03 20 06.4		
	comp=Z,3.7nm,1.0s							
CCUT	Cedar City	97.34	53	IAmb	IAmb	03 20 08.7		
	comp=Z,4.6nm,1.0s							
LCMT	Little Creek M	97.42	54	IAmb	IAmb	03 20 08.8		
	comp=Z,5.7nm,1.1s							
BGU	Big Grassy Mou	97.66	50	IAmb	IAmb	03 20 08.8		
	comp=Z,2.0nm,0.9s							
DUG	Dugway, Tooele	97.81	50	P	Pdif	03 20 09.1	+0.8	
	baz=269							
HVU	Hansel Valley	97.86	49	IAmb	IAmb	03 20 10.3		
	comp=Z,6.9nm,0.9s							
MTPU	Mount Pierson	98.28	52	IAmb	IAmb	03 20 13.4		
	comp=Z,5.1nm,1.0s							
BOZ	Bozeman (W)	98.68	45	IAmb	IAmb	03 20 13.1		
	comp=Z,3.6nm,1.1s							
BOZ	Bozeman (W)	98.68	45	P	Pdif	03 20 12.5	+0.5	
	baz=271							
WUAZ	Wupatki	98.90	55	P	P	03 20 13.6	+0.4	
	baz=270							
TMUT	Trail Mountain	99.05	51	IAmb	IAmb	03 20 17.1		
	comp=Z,6.1nm,0.9s							
FXWY	Fox Creek	99.14	47	P	Pdif	03 20 13.6	-0.6	
TUC	Tucson	99.36	58	P	Pdif	03 20 15.1	-0.1	
	baz=269							
H17A	Grant Village	99.45	46	P	Pdif	03 20 16.5	+0.9	
	baz=272							
EGMT	Eagleton	99.89	42	P	Pdif	03 20 16.9	-0.4	
	baz=273							
BW06	Boulder Array	100.24	48	P	Pdif	03 20 19.1	0.0	
	baz=272							
PDAR	Pinedale Array	100.24	48	P	Pdif	03 20 17.9	-1.2	
	comp=Z,2.7nm,0.8s,baz=251,slow=2.8,SNR=19							
MVCO	Mesa Verde	101.21	53	P	Pdif	03 20 24.4	+0.9	
	baz=272							
O20A	White River Ci	101.32	50	P	Pdif	03 20 24.2	+0.3	
	baz=272							
S22A	4UR Ranch, Cre	102.52	53	P	Pdif	03 20 30.7	+1.2	
	baz=273							
N23A	Red Feather La	103.03	49	P	Pdif	03 20 32.6	+1.0	
	baz=274							
SDCO	Great Sand Dun	103.57

KHC	Kasperske Hory	124.03	328	*e*PKPDF	PKPdf	03 25 28.8	-1.9
GERES	GERESS Array B	124.14	328	PKP	PKPdf	03 25 29.4	-1.6
	comp=Z,2.0nm,0.6s,baz=48,slow=2.0,SNR=15						
BINY	Binghamton	124.29	42	P	PKPdf	03 25 30.7	-0.6
	baz=297						
SOKA	Soboth	124.65	325	*e*PKP	PKPdf	03 25 30.7	-1.3
	comp=Z,3.1nm,1.0s						
BIOA	Bad Ischl, Aus	124.85	327	*i* PKP	PKPdf	03 25 31.4	-0.9
	comp=Z,0.7nm,0.3s						
LESA	Schwarzleotal	125.54	327	*e*PKP	PKPdf	03 25 32.9	-0.7
	comp=Z,3.0nm,0.8s						
LBNH	Lisbon	125.86	38	P	PKPdf	03 25 34.1	-0.1
	baz=302						
ABTA	Abfaltersbach	126.03	326	*e*PKP	PKPdf	03 25 33.6	-1.0
	comp=Z,5.0nm,1.2s						
WATA	Walderalm	126.19	327	*e*PKP	PKPdf	03 25 34.1	-0.9
	comp=Z,1.6nm,0.5s						
WTTA	Wattenberg	126.20	327	*i* PKiKP	PKPdf	03 25 34.4	-0.7
	comp=Z,7.0nm,1.0s						
PAL	Palisades	126.22	42	P	PKPdf	03 25 34.9	-0.1
	baz=298						
L61B	Northampton	126.32	40	P	PKPdf	03 25 34.2	-1.0
	baz=301						
SQTA	Sankt Quirin	126.45	327	*e*PKiKP	PKPdf	03 25 35.1	-0.3
	comp=Z,1.5nm,0.4s						
EKA	Eskdalemuir Ar	126.47	342	PKP	PKPdf	03 25 34.5	-0.5
	comp=Z,1.6nm,0.6s,baz=18,slow=3.5,SNR=8.6						
RETA	Reutte	126.53	328	*e*PKP	PKPdf	03 25 34.7	-0.9
	comp=Z,0.3nm,0.4s						
FETA	Feichten	126.83	327	*e*PKiKP	PKPdf	03 25 36.0	-0.3
	comp=Z,3.5nm,0.9s						
PKME	Peaks-Kenny Pk	126.85	35	P	PKPdf	03 25 35.6	-0.5
	baz=306						
DAVA	Damuels	127.12	328	*e*PKiKP	PKPdf	03 25 36.3	-0.5
	comp=Z,3.6nm,0.8s						
LPAZ	La Paz	135.03	120	PKP	PKPdf	03 25 53.5	+0.3
	comp=Z,2.4nm,0.8s,baz=20,slow=2.6,SNR=8.9						
CPUP	Villa Florida	137.60	140	PKP	PKPdf	03 25 57.5	+0.6
	comp=Z,2.5nm,0.9s,baz=248,slow=5.1,SNR=6.4						
ESDC	Sonseca Array	139.59	331	PKP	PKPdf	03 26 00.9	+0.6
	comp=Z,0.6nm,0.8s,baz=13,slow=4.2,SNR=4.8						
TORD	Torodi Ar. Bea	149.46	286	PKPbc	PKPbc	03 26 21.9	-0.5
	comp=Z,21nm,0.8s,baz=77,slow=2.5,SNR=117						
BDFB	Brasilia	151.27	138	PKPbc	PKPbc	03 26 26.9	0.0
	comp=Z,13nm,0.9s,baz=197,slow=4.4,SNR=21						

*IDC **13** 03:13:09.3±5.0, 29.°39N×81.°40E, h0km, mb3.5/6, mbtmp3.6/7, ML3.9/1, MS3.2/1, Error ellipse: s-maj=88.0km s-min=46.2km az=168.0*

ISC 13 03:13:14.3±5.0, 29.°5N±0.°6×81.°4E±0.°3, h27km, n8, σ0°69/7, mb3.6/6, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	17.27	2	P	P	03 17 15.3	+0.5
	0.4nm,0.3s,baz=182,slow=12,SNR=11						
	0.7nm,0.4s						
KURBB	Kurchatov Arra	21.20	355	P	P	03 17 56.6	-1.1
	0.5nm,0.2s,baz=180,slow=9.9,SNR=5.1						
	0.5nm,0.2s						
ZALV	Zalesovo Beam	24.55	5	P	P	03 18 31.1	-0.5
	0.9nm,0.5s,baz=171,slow=10,SNR=2.3						
	0.9nm,0.5s						
BVAR	Borovoye Array	24.85	344	P	P	03 18 34.7	+0.3
	0.5nm,0.6s,baz=162,slow=15,SNR=1.8						
	0.5nm,0.6s						
SONM	Songino Array	26.56	40	P	P	03 18 50.1	+0.1
	0.4nm,0.5s,baz=237,slow=8.1,SNR=1.5						
	0.4nm,0.5s						
KBZ	Khabaz	33.70	306	LR	LR	03 36 36.8	
	comp=Z,38nm,18.1s,baz=58,slow=42						
FINES	FINESS Array B	48.09	328	P	P	03 21 51.5	+0.2
	0.4nm,0.6s,baz=110,slow=11,SNR=3.5						
	0.4nm,0.6s						
HFS	Hagfors	53.87	325	P	P	03 22 34.5	-0.3
	0.3nm,0.3s,baz=96,slow=6.4,SNR=8.8						
	0.3nm,0.3s						

*IDC **13** 03:13:31.9±0.4, 21.°57S×174.°47W, h0km, mb4.8/18, mbtmp4.8/19, ML4.6/1, MS4.7/21, Error ellipse: s-maj=17.5km s-min=14.4km az=125.0*

*MOS **13** 03:13:32.0±1.2, 21.°53S×174.°40W, h10km, mb5.3/45, MS4.7/17, Error ellipse: s-maj=10.1km s-min=8.3km az=69.6*

*BJI **13** 03:13:32.2±0.0, 21.°21S×173.°97W, h11km, mb5.4/40, mB5.7/24, Ms4.9/18, Ms7 4.7/20*

*NEIC **13** 03:13:33.6±1.5, 21.°47S±0.°09×174.°33W±0.°10, h10km±1km, mb5.2/301, Error ellipse: s-maj=17.9km s-min=12.3km az=137.0*

*GCMT **13** 03:13:35.6±0.2, 21.°88S±0.°02×173.°82W±0.°01, h19km, MW5.1/112, Moment Tensor Solution. s53,c81; s112,c166; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}3.95±.17; $M_{\theta\theta}$-0.45±.11; $M_{\phi\phi}$-3.50±.12; $M_{r\theta}$1.77±.25; $M_{\theta\phi}$-0.80±.06; $M_{r\phi}$2.66±.21; Best double couple: M_0=4.97300×10^16^ NP1:ϕ_s26.00000°, δ65.00000°, λ99.00000°. NP2:ϕ_s184.00000°, δ27.00000°, λ70.00000°. Principal axes: T 5.1840, Plg69.0000°, Azm314.0000°; N -0.4170, Plg9.0000°, Azm202.0000°; P -4.7630, Plg20.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **13** 03:13:36.1, 22.°00S×173.°72W, h33km, Hypocentre not reviewed by the ISC*

*NOU **13** 03:13:39.3, 21.°07S×173.°61W, h127km, mb5.0/33, Tonga Islands*

ISC 13 03:13:33.3±0.5, 21.°63S±0.°05×174.°27W±0.°05, h13km±2km, h13km:pP-P, n941, σ1§14/836, mb5.2/203, MS4.8/52, 66C-54D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	4.80	59	P	Pn	03 14 39.4	-5.9
NIUE	Niue	4.80	59		Pn	03 14 39.4	-5.9
AFI	Afiamalu	8.04	18	Pn	Pn	03 15 28.9	-1.0
AFI	Afiamalu	8.04	18	P	Pn	03 15 28.9	-1.0
MSVF	Nonsavu	8.21	297	P	Pn	03 15 38.9	+6.7
MSVF	Nonsavu	8.21	297		Pn	03 15 38.3	+6.1
MSVF	Nonsavu	8.21	297	P	Pn	03 15 38.3	+6.1
RAO	Raoul Island	8.28	203	Pn	Pn	03 15 32.2	-0.8
RAO	Raoul Island	8.28	203	Pn	Pn	03 15 26.4	-6.7
	72nm,0.3s,baz=60,slow=20,SNR=2.2						
RAO				Sn	Sn	03 16 59.4	-7.0
	169nm,0.3s,baz=60,slow=20,SNR=13						
RAO	Raoul Island	8.28	203	P	Pn	03 15 32.2	-0.8
RAR	Rarotonga	13.51	91	P	Pn	03 16 37.6	-7.1
RAR	Rarotonga	13.51	91		Pn	03 16 37.3	-7.4
RAR	Rarotonga	13.51	91	Pn	Pn	03 16 37.6	-7.1
	23nm,0.3s,baz=247,slow=9.8,SNR=27						
RAR				Sn	Sn	03 18 54.5	-20
	2.1nm,0.3s,baz=107,slow=20,SNR=1.3						
RAR				LR	LR	03 21 46.8	
	comp=Z,2μm,18.2s,baz=252,slow=36						
RAR	Rarotonga	13.51	91	P	Pn	03 16 37.3	-7.4
PINNC	Pines Island,	16.97	263		Pn	03 17 29.3	-1.3
LIFNC	LIFOU	17.27	269	P	P	03 17 38.6	+2.9
LIFNC	LIFOU	17.27	269		Pn	03 17 34.5	+0.3
LIFNC				IAmb	IAmb	03 17 42.5	
	comp=Z,125nm,0.9s						
YATNC	Mamie plateau,	17.50	265	P	P	03 17 43.0	+4.7
OUENC	Ouen Island, N	17.53	264	P	P	03 17 42.2	+3.6
OUENC	Ouen Island, N	17.53	264	Pn	Pn	03 17 36.6	-0.9
ONTNC	Ouen Toro	17.90	264	P	P	03 17 47.7	+5.1
ONTNC	Ouen Toro	17.90	264		Pn	03 17 41.9	-0.2
DZM	Mont Dzumac	17.91	265	P	P	03 17 47.3	+4.4
DZM	Mont Dzumac	17.91	265	*e*P	P	03 17 43.5	+0.6
	comp=Z,130nm,1.0s						
DZM				*e*LR	LR	03 21 50.5	
	comp=Z,681nm,19.9s						
DZM	Mont Dzumac	17.91	265		Pn	03 17 42.0	-0.4
DZM	Mont Dzumac	17.91	265	P	P	03 17 44.6	+1.7
	comp=Z,40nm,0.8s,baz=86,slow=18,SNR=26						
NOUC	Port Laguerre	18.04	265	P	P	03 17 47.5	+3.2
URZ	Urewera	18.16	202	P	P	03 17 45.6	+0.2
	comp=Z,1.8nm,0.3s,baz=42,slow=5.5,SNR=7.0						
URZ				S	Sn	03 20 51.4	-16
	comp=Z,22nm,0.6s,baz=288,slow=23,SNR=11						
	comp=Z,12nm,0.5s						
BKZ	Black Stump Fm	19.19	202	P	Pn	03 18 00.7	+3.0
BKZ	Black Stump Fm	19.19	202		P	03 17 56.9	+0.1
KOUNC	Koumac, New Ca	20.04	269	P	Pn	03 18 09.5	+1.5
KOUNC	Koumac, New Ca	20.04	269		Pn	03 18 07.1	-0.9
BFZ	Birch Farm	20.63	201	P	Pn	03 18 17.1	+2.4
QRZ	Quartz Range	22.17	207	P	P	03 18 33.3	+4.3
TBI	Tubuai	22.98	99	*e*P	P	03 18 39.7	+1.9
	comp=Z,674nm,35.2s						
TBI				*e*S	S	03 22 42.3	-5.7
	comp=Z,5μm,24.0s						
TBI				*e*LR	LR	03 24 11.5	
	comp=Z,4μm,21.5s						
TBI				*e*LR	LR	03 24 12.2	
	comp=Z,1μm,23.2s						
PPT2	Papeete2	23.59	85	*e*P	P	03 18 40.1	-4.0
	comp=Z,75nm,25.5s						
PPT2				*e*S	S	03 22 54.0	-4.4
	comp=Z,1μm,25.0s						
PPT2				*e*LR	LR	03 24 15.9	
	comp=Z,825nm,22.0s						
PPT2				*e*LR	LR	03 24 29.4	
	comp=Z,926nm,21.0s						
PPT	Papeete	23.60	84	LR	LR	03 26 35.8	
	comp=Z,1μm,18.3s,baz=256,slow=33						
JCZ	Jackson Bay	26.42	208	P	P	03 19 11.9	+2.1
HNR	Honiara	27.59	292	LR	LR	03 29 18.1	
	comp=Z,4μm,18.1s,baz=140,slow=34						
ARMA	Armidale	31.77	247	P	P	03 19 58.0	+0.5
CAN	Canberra	34.84	239	P	P	03 20 25.0	+0.7
CAN				IAmb	IAmb	03 21 34.1	
	comp=Z,91nm,1.7s						
CAN	Canberra	34.84	239	P	P	03 20 25.0	+0.7
CAN				pmax	pmax		
	comp=Z,91nm,1.7s						
CTA	Charters Tower	36.86	265	P	P	03 20 40.5	-1.2
CTA	Charters Tower	36.86	265	P	P	03 20 40.2	-1.4
	comp=Z,1.3nm,0.8s,baz=104,slow=11,SNR=19						
CTAO	Charters Tower	36.86	265	P	P	03 20 40.5	-1.2
CTAO	Charters Tower	36.86	265	P	P	03 20 40.4	-1.2
CTAO	Charters Tower	36.86	265	P	P	03 20 40.4	-1.2
CTAO				pmax	pmax		
	comp=Z,19nm,0.8s						
CMSA	Cobar Meteorol	36.97	246	P	P	03 20 41.5	-0.9
CORO	Coronation Par	37.97	230	P	P	03 20 52.0	+1.3
QLP	Quilpie	38.08	254	P	P	03 20 50.7	-1.2
TAU	Tasmania Unive	38.35	227	P	P	03 20 54.4	+0.4
TAU				IAmb	IAmb	03 20 55.8	
	comp=Z,30nm,0.8s						
TAU	Tasmania Unive	38.35	227	P	P	03 20 54.4	+0.4
TAU				pmax	pmax		
	comp=Z,30nm,0.9s						
PMG	Port Moresby	38.99	282	P	P	03 20 58.8	-0.8
PMG				IAmb	IAmb	03 21 00.8	
	comp=Z,47nm,0.9s						
PMG	Port Moresby	38.99	282	P	P	03 20 58.6	-1.1
	comp=Z,39nm,0.9s,baz=100,slow=10.0,SNR=5.4						
	comp=Z,39nm,0.9s						
MTSU	Mount Surprise	39.02	268	P	P	03 20 59.7	-0.3
STKA	Stephens Creek	40.48	246	P	P	03 21 10.8	-1.1
STKA	Stephens Creek	40.48	246	P	P	03 21 10.2	-1.7
STKA	Stephens Creek	40.48	246	P	P	03 21 10.1	-1.8
	comp=Z,7.4nm,0.9s,baz=88,slow=11,SNR=11						
STKA				LR	LR	03 37 30.2	
	comp=Z,798nm,18.7s,baz=121,slow=36						
	comp=Z,7.4nm,0.9s						
STKA	Stephens Creek	40.48	246	*de*P	P	03 21 11.2	-0.7
COEN	Coen	41.13	273	P	P	03 21 16.5	-1.0
COEN	Coen	41.13	273	P	P	03 21 16.3	-1.2
HTT	Hallett	42.82	244	P	P	03 21 30.4	-0.8
LCRK	Leigh Creek	43.33	248	P	P	03 21 35.1	-0.1
BBOO	Buckleboo	45.20	245	P	P	03 21 48.7	-1.5
BBOO	Buckleboo	45.20	245	P	P	03 21 48.2	-2.0
OOD	Oodnadatta	45.63	252	P	P	03 21 53.2	-0.4
MULG	Mulgathing	46.92	248	P	P	03 22 02.6	-1.2
AS31	Alice Springs	47.66	257	P	P	03 22 07.9	-1.8
ASAR	Alice Springs	47.66	257	P	P	03 22 08.3	-1.5
ASAR	Alice Springs	47.66	257	P	P	03 22 08.4	-1.3
	comp=Z,30nm,0.9s,baz=90,slow=8.4,SNR=146						
ASAR				PcP	PcP	03 23 39.8	+0.5
	comp=Z,3.7nm,0.7s,baz=104,slow=3.7,SNR=5.3						
	comp=Z,30nm,0.9s						
JAY	Jayapura	47.70	287	P	P	03 22 10.3	+0.2
	comp=Z,45nm,1.1s,comp=Z,1μm						
WR0	Warramunga Arr	47.71	262	P	P	03 22 07.8	-2.4
WR0				IAmb	IAmb	03 22 09.0	
	comp=Z,23nm,1.0s						
WRAB	Tennant Creek	47.89	262	*d iP*	P	03 22 09.5	-2.0
WRAB				pmax	pmax		
	comp=Z,45nm,1.0s						
WRA	Warramunga Arr	47.90	262	P	P	03 22 09.4	-2.2
WRA	Warramunga Arr	47.90	262	P	P	03 22 09.7	-1.9
	comp=Z,35nm,0.9s,baz=98,slow=7.6,SNR=108						
WRA				PcP	PcP	03 23 40.2	+0.1
	comp=Z,5.4nm,0.8s,baz=97,slow=3.7,SNR=2.6						
	comp=Z,35nm,0.9s						
WRA	Warramunga Arr	47.90	262	P	P	03 22 09.4	-2.2
WRA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FORT	Forrest	52.06	247	P	P	03 22 42.1	-1.0
FORT	Forrest	52.06	247	P	P	03 22 41.2	-1.9
WRKA	Warakurna	52.52	254	P	P	03 22 45.7	-0.9
FITZ	Fitzroy Crossi	56.33	262	P	P	03 23 13.6	-0.8
SWI	Sorong	56.90	284	P	P	03 23 18.0	-0.4
SBA	Scott Base	57.01	185	P	P	03 23 20.0	+1.7
SBA				IAmb	IAmb	03 23 48.7	
	comp=Z,19nm,1.1s						
SBA	Scott Base	57.01	185	P	P	03 23 20.0	+1.7
SBA				pmax	pmax		
	comp=Z,19nm,1.1s						
VNDA	Vanda	57.13	186	P	P	03 23 21.9	+2.8
VNDA	Vanda	57.13	186	P	P	03 23 21.9	+2.8
	comp=Z,4.4nm,0.8s,baz=3.3,slow=5.0,SNR=14						
	comp=Z,4.4nm,0.8s						
VNDA	Vanda	57.13	186	P	P	03 23 21.9	+2.8
VNDA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
RPN	Rapa Nui	58.84	109	LR	LR	03 44 42.4	
	comp=Z,763nm,18.1s,baz=268,slow=32						
PSA00	Pilbara Seismi	60.80	257	P	P	03 23 43.4	-2.1
PSA00	Pilbara Seismi	60.80	257	P	P	03 23 44.1	-1.4
PSA00				IAmb	IAmb	03 23 45.8	
	comp=Z,32nm,1.1s						
PSA00	Pilbara Seismi	60.80	257	P	P	03 23 44.4	-1.1
PSA00				IAmb	IAmb	03 24 12.1	
	comp=Z,16nm,1.1s						
MBWA	Marble Bar	61.01	257	P	P	03 23 44.7	-2.2
MBWA				IAmb	IAmb	03 23 46.5	
	comp=Z,27nm,0.9s						
DAV	Davao City (W)	65.49	289	LR	LR	03 52 06.4	
	comp=Z,207nm,18.1s,baz=156,slow=35						
TOLI2	Tolitoli	67.24	281	P	P	03 24 25.5	-2.5
TOLI2				IAmb	IAmb	03 24 29.0	
	comp=Z,21nm,1.2s						
QSPA	South Pole Qui	68.45	180	P	P	03 24 36.1	+1.2
QSPA				IAmb	IAmb	03 24 40.1	
	comp=Z,28nm,1.1s						
QSPA	South Pole Qui	68.45	180	P	P	03 24 36.4	+1.5
	comp=Z,19nm,1.0s,baz=50,slow=2.6,SNR=18						
	comp=Z,19nm,1.0s						
JMM	Marumori	72.71	324	P	P	03 25 01.1	+0.1
JGF	Kuroka	73.06	320	P	P	03 25 01.6	-1.6
JGF				IAmb	IAmb	03 25 04.4	
	comp=Z,41nm,1.4s						
INU	Inuyama	73.09	320	P	P	03 25 02.3	-1.0
INU				IAmb	IAmb	03 25 04.8	
	comp=Z,26nm,1.2s						
MJAR	Matsushiro Arr	73.22	322	P	P	03 25 04.0	-0.1
	comp=Z,26nm,0.9s,baz=154,slow=5.8,SNR=46						
	comp=Z,26nm,0.9s						
MJAR	Matsushiro Arr	73.22	322	P	P	03 25 04.0	-0.1
MAJO	Matsushiro	73.22	322	P	P	03 25 03.8	-0.3
MAJO	Matsushiro	73.22	322	P	P	03 25 03.8	-0.3
MAJO				pmax	pmax		
	comp=Z,35nm,1.0s						
MJB9	Matsu-Tunnel	73.22	322	P	P	03 25 02.7	-1.5
MJB9				IAmb	IAmb	03 25 06.2	
	comp=Z,35nm,1.0s						
JMN	Monobe	73.95	317	P	P	03 25 07.4	-1.1
JTM	Tenmabayashi	74.69	326	P	P	03 25 12.2	-0.4
JNU	Nakatsue	75.51	315	P	P	03 25 16.9	-0.7
JNU				IAmb	IAmb	03 25 18.8	
	comp=Z,28nm,1.1s						
SNCC	San Nicolas Is	75.52	45	P	P	03 25 19.4	+1.9
	baz=232						
SMAI	San Martin Ant	76.30	158	P	P	03 25 23.2	+1.7
SMAI				IAmb	IAmb	03 25 26.9	
	comp=Z,38nm,1.1s						
CIS	Catalina Islan	76.34	45	P	P	03 25 23.0	+0.7
	baz=232						
PKM	Mcpherson Peak	76.35	43	P	P	03 25 22.9	+0.4
	baz=231						
JKA	Kamikawa-asahi	76.42	330	P	P	03 25 22.5	+0.1
JKA				IAmb	IAmb	03 25 28.2	
	comp=Z,46nm,1.3s						
ASAJ	Asahikawa	76.42	330	LR	LR	03 58 16.4	
	comp=Z,295nm,18.1s,baz=158,slow=35						
ASAJ	Asahikawa	76.42	330	P	P	03 25 22.5	+0.1
ASAJ				pmax	pmax		
	comp=Z,46nm,1.3s						
SAO	San Andreas Ge	76.52	41	P	P	03 25 23.4	+0.2
SAO				IAmb	IAmb	03 25 51.0	
	comp=Z,25nm,1.4s						
SAO	San Andreas Ge	76.52	41	P	P	03 25 23.4	+0.2
SAO				pmax	pmax		
	comp=Z,25nm,1.4s						
SKR	Severo-Kuril's	76.59	341	*e*P	P	03 25 35.5	+12
SKR				*e*		03 28 15.7	
SKR				*e*S	S	03 35 23.4	+14
SKR				pmax	pmax		
	comp=Z,94nm,2.1s						
SKR				pmax	pmax		
	comp=Z,600nm,4.5s						
SKR				MLR	MLR		
	comp=Z,300nm,19.0s						
LPIG	La Paz	77.03	57	LR	LR	03 52 58.9	
	comp=Z,532nm,18.8s,baz=202,slow=31						
ARVC	Arvin	77.13	44	P	P	03 25 27.0	+0.4
	baz=232						
CHNA	Chernabura Isl	77.18	9	P	P	03 25 27.8	+1.3
	baz=194						
MURC	Murrieta	77.28	46	P	P	03 25 29.3	+1.7
	baz=233						
BFSC	Mount Baldy Ra	77.35	45	P	P	03 25 29.6	+1.5
	baz=233						
MONP2	Monument Peak	77.38	47	P	P	03 25 29.4	+1.0
	baz=234						
VES	Vestal, Richgr	77.41	43	P	P	03 25 29.5	+1.3
	baz=232						
KMRM	Mail Ridge	77.47	37	P	P	03 25 29.7	+1.1
EDW2	Edwards Air Fo	77.52	44	P	P	03 25 30.4	+1.4
	baz=232						
ISA	Isabella, Lake	77.69	44	P	P	03 25 29.1	-0.8
ISA				IAmb	IAmb	03 25 51.8	
	comp=Z,30nm,1.4s						
ISA	Isabella, Lake	77.69	44	P	P	03 25 30.8	+0.9
	baz=232						
ISA	Isabella, Lake	77.69	44	P	P	03 25 29.1	-0.8
ISA				pmax	pmax		
	comp=Z,29nm,1.5s						
S12K	Black Hills	77.72	7	P	P	03 25 31.1	+1.6
	baz=192						
PFO	Pinyon Flats O	77.78	46	P	P	03 25 30.6	+0.1
	baz=234						
PFO	Pinyon Flats O	77.78	46	*e*P	P	03 25 28.2	-2.3
PFO				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TPFO	Pinon Flats	77.78	46	P	P	03 25 30.9	+0.4
	baz=234						
SWSC	Sam W. Stewart	77.83	47	P	P	03 25 31.5	+0.9
	baz=234						
O02D	Mt. Diablo Mer	77.97	38	P	P	03 25 31.2	-0.2
O02D				IAmb	IAmb	03 25 37.3	
	comp=Z,19nm,1.1s						
PET	Petropavlovsk	77.97	344	*e*P	P	03 25 31.8	+0.9
PET				*e*S	S	03 35 25.7	+1.8
PET				pmax	pmax		
	comp=Z,200nm,15.5s						
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
BELA	Belgrano 2	77.98	172	P	P	03 25 31.4	+0.5
BELA				IAmb	IAmb	03 25 34.7	
	comp=Z,18nm,1.1s						
CMB	Columbia Colle	77.98	41	P	P	03 25 30.7	-0.7
CMB	Columbia Colle	77.98	41	P	P	03 25 30.7	-0.7
CMB				pmax	pmax		
	comp=Z,20nm,1.5s						
BELC	Belle Mtn. Jos	78.31	46	P	P	03 25 34.2	+0.7
	baz=234						
CWC	Cottonwood Cre	78.42	43	P	P	03 25 34.8	+0.8
	baz=232						
BC3	Big Chuckawall	78.48	47	P	P	03 25 34.3	0.0
	baz=234						
YSS	Yuzh-Sakhalins	78.50	332	P	P	03 25 33.9	-0.1
YSS	Yuzh-Sakhalins	78.50	332	*ce*P	P	03 25 35.3	+1.3
YSS				*e*S	S	03 35 32.3	+2.4
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS				pmax	pmax		
	comp=Z,200nm,3.4s						
YSS				MLR	MLR		
	comp=Z,300nm,20.0s						
YSS				MLR	MLR		
	comp=N,200nm,16.0s						
MDPB	Devils Postpil	78.53	42	P	P	03 25 34.4	-0.3
GSC	Goldstone, Bar	78.55	45	P	P	03 25 34.6	-0.1
GSC	Goldstone, Bar	78.55	45	P	P	03 25 35.8	+1.1
	baz=233						
GSC	Goldstone, Bar	78.55	45	P	P	03 25 34.6	-0.1
GSC				pmax	pmax		
	comp=Z,10.0nm,1.4s						
GLA	Glamis	78.56	48	P	P	03 25 36.1	+1.4
	baz=235						
MPMC	Manual Prospec	78.56	44	P	P	03 25 36.6	+1.7
	baz=233,SNR=7.3						
OMMB	Old Mammoth Mi	78.56	42	P	P	03 25 34.6	-0.4
SPIA	Saint Paul Isl	78.57	2	P	P	03 25 36.1	+2.0
	baz=184						
HEC	Hector,Ludlow	78.58	45	P	P	03 25 36.3	+1.4
	baz=234						
CHIR	Chirikof Islan	78.75	11	P	P	03 25 37.4	+2.2
	baz=198						
CHGN	Chignik	78.78	9	P	P	03 25 36.8	+1.6
	baz=195						
PMSA	Palmer Station	78.86	156	LR	LR	03 55 47.3	
	comp=Z,341nm,18.1s,baz=272,slow=32						
IRM	Iron Mountain	78.98	46	P	P	03 25 38.4	+1.4
	baz=234						
GMRC	Granite Mounta	79.00	46	P	P	03 25 38.3	+1.1
	baz=234						
YBH	Yreka Blue Hor	79.05	37	P	P	03 25 36.5	-0.7
YBH	Yreka Blue Hor	79.05	37	P	P	03 25 36.6	-0.7
YBH				pmax	pmax		
	comp=Z,21nm,1.3s						
PNTR	Pine Nut	79.13	40	P	P	03 25 38.6	+0.6
PNTR				IAmb	IAmb	03 25 55.9	
	comp=Z,30nm,1.1s						
113A	Mohawk Valley,	79.13	48	P	P	03 25 37.8	0.0
TUQ

PDMCI	Parker Dam,Lak	79.74	47	P	P	03 25 42.4 +1.2
	baz=235					
TJN	Taejon	79.78	316⇓	eP	P	03 25 41.1 -0.2
TPNV	Topopah Spring	79.89	44	P	P	03 25 43.6 +1.4
	baz=233,SNR=5.1					
TPH	Tonopah	79.96	42	P	P	03 25 42.7 +0.2
TPH	Tonopah	79.96	42	P	P	03 25 42.7 +0.2
TPH				pmax	pmax	
	comp=Z,122nm,1.6s					
TEY	Ternei	80.02	327	eP	P	03 25 33.0 -9.3
KSRS	Korea Array	80.06	317	P	P	03 25 44.0 +1.2
	comp=Z,12nm,1.0s,baz=140,slow=5.8,SNR=40					
	comp=Z,12nm,1.0s					
KSRS	Korea Array	80.06	317	P	P	03 25 44.0 +1.2
KSAR	Wonju Array Be	80.08	317	P	P	03 25 42.3 -0.6
KSAR	Wonju Array Be	80.08	317	P	P	03 25 42.3 -0.6
V12A	Nelson	80.09	45	P	P	03 25 44.5 +1.4
KS19	Wonju Array Si	80.13	317	P	P	03 25 41.5 -1.6
KS19				lAmb	lAmb	03 25 45.4
	comp=Z,34nm,1.1s					
Y14A	Wickenburg	80.31	48	P	P	03 25 44.6 +0.3
SHPR	Sheep Range	80.34	45	P	P	03 25 45.2 +0.7
R17L	Mt. Peulik Vol	80.37	10	P	P	03 25 45.2 +1.2
	baz=197					
OHAK	Old Harbor	80.50	11	P	P	03 25 44.6 0.0
OHAK	Old Harbor	80.50	11	P	P	03 25 46.3 +1.6
	baz=200					
R18K	Karluk	80.62	11	P	P	03 25 46.5 +1.3
	baz=199					
J05D	Fort Rock, OR	80.89	36	P	P	03 25 47.0 -0.4
J05D				lAmb	lAmb	03 25 53.4
	comp=Z,28nm,1.2s					
PRN	Pahroc Range	80.94	44	P	P	03 25 47.5 -0.2
TUC	Tucson	80.98	50	P	P	03 25 48.2 +0.3
TUC	Tucson	80.98	50	P	P	03 25 48.7 +0.8
	baz=238					
TUC	Tucson	80.98	50	P	P	03 25 48.2 +0.3
TUC				pmax	pmax	
	comp=Z,7.0nm,1.1s					
Q17K	Contact Creek	81.05	10	P	P	03 25 48.5 +0.8
	baz=197					
R11B	Troy Canyon, C	81.15	43	P	P	03 25 48.4 -0.4
R11B	Troy Canyon, C	81.15	43	P	P	03 25 49.5 +0.6
	baz=234					
KDAK	Kodiak Island	81.16	12	P	P	03 25 47.2 -0.9
KDAK				lAmb	lAmb	03 26 16.8
	comp=Z,34nm,1.2s					
KDAK	Kodiak Island	81.16	12	P	P	03 25 48.7 +0.6
	baz=200					
KDAK	Kodiak Island	81.16	12	deP	P	03 25 48.3 +0.2
KDAK				pmax	pmax	
	comp=Z,30nm,1.3s					
O14K	Tigyukauivet M	81.29	7	P	P	03 25 50.4 +1.6
	baz=192					
MSHR	Mys Shultsa	81.30	322	ceP	P	03 25 50.6 +1.3
MSHR				pmax	pmax	
	comp=Z,24nm,1.3s					
H04A	Detroit Lake	81.31	35	P	P	03 25 49.6 +0.3
H04A				lAmb	lAmb	03 25 54.2
	comp=Z,23nm,1.2s					
O15K	Ungalikthiuk R	81.38	7	P	P	03 25 50.0 +0.7
	baz=194					
PINE	Pine Mountain	81.39	36	P	P	03 25 49.6 -0.4
PINE				lAmb	lAmb	03 25 56.2
	comp=Z,30nm,1.1s					
BMN	Battle Mountai	81.40	40	P	P	03 25 50.4 +0.3
BMN				lAmb	lAmb	03 26 10.8
	comp=Z,45nm,2.0s					
BMN	Battle Mountai	81.40	40	P	P	03 25 50.4 +0.3
BMN				pmax	pmax	
	comp=Z,45nm,2.0s					
P16K	Nushagak River	81.48	8	P	P	03 25 50.4 +0.6
	baz=195					
I05D	Terrebonne, OR	81.53	35	P	P	03 25 50.6 0.0
I05D				lAmb	lAmb	03 25 56.5
	comp=Z,31nm,1.3s					
TYV	Tymovskoe	81.53	334	eP	P	03 25 50.9 +0.6
TYV				eS	S	03 36 03.6 +1.9
TYV				pmax	pmax	
	comp=Z,100nm,4.8s					
TYV				pmax	pmax	
	comp=Z,17nm,0.9s					
TYV				smax	smax	
	comp=N,200nm,10.3s					
TYV				smax	smax	
	comp=E,100nm,10.3s					
PSTR	Posyet	81.54	322	deP	P	03 25 51.2 +0.7
Q18K	Katmai Hardscr	81.55	10	P	P	03 25 50.9 +0.5
	baz=198					
X16A	Lo Mia Camp, P	81.66	48	P	P	03 25 51.4 -0.3
MAW	Mawson	81.66	199	P	P	03 25 52.3 +1.4
	comp=E,7.1nm,0.7s,baz=136,slow=10,SNR=16					
	comp=E,7.1nm,0.7s					
P17K	Kvichak River	81.86	9	P	P	03 25 52.2 +0.4
	baz=197					
USA0B	Ussuriysk Arra	81.88	324	ceP	P	03 25 52.5 +0.2
USRK	Ussuriysk Ar.	81.88	324	P	P	03 25 52.0 -0.3
USRK	Ussuriysk Ar.	81.88	324	P	P	03 25 53.9 +1.5
	comp=E,9.1nm,0.9s,baz=126,slow=2.5,SNR=28					
	comp=E,9.1nm,0.9s					
LCMT	Little Creek M	81.89	45	P	P	03 25 52.5 -0.2
N14K	Kuskokwak Cree	81.91	6	P	P	03 25 52.7 +0.7
	baz=192					
Q20K	Shuyak Island	81.97	11	P	P	03 25 53.4 +1.0
	baz=201					
O16K	Kokwok River B	82.01	8	P	P	03 25 52.9 +0.3
O16K				lAmb	lAmb	03 25 53.8
	comp=Z,23nm,1.2s					
O16K	Kokwok River B	82.01	8	P	P	03 25 53.0 +0.4
	baz=195					
Q12A	Willow Creek R	82.04	43	P	P	03 25 53.1 -0.4
Q12A				lAmb	lAmb	03 26 15.4
	comp=Z,46nm,1.9s					
Q19K	Cape Douglas,	82.05	11	P	P	03 25 53.2 +0.3
	baz=199					
CCUT	Cedar City	82.11	45	P	P	03 25 55.3 +1.3
KNB	Kanab	82.17	45	P	P	03 25 53.8 -0.5
KNB	Kanab	82.17	45	P	P	03 25 53.8 -0.5
KNB				pmax	pmax	
	comp=Z,15nm,1.2s					
U15A	North Rim	82.19	46	P	P	03 25 54.4 -0.2
M13K	Dall Lake	82.23	5	P	P	03 25 54.4 +0.7
	baz=190					
P18K	Big Mountain,	82.23	10	P	P	03 25 53.8 0.0
	baz=198					
WUAZ	Wupatki	82.31	47	P	P	03 25 55.3 +0.3
	baz=237					
O17K	Koliganek Bris	82.32	9	P	P	03 25 55.3 +1.0
	baz=196					
N15K	Kwethluk River	82.32	7	P	P	03 25 55.6 +1.3
	baz=193					
SZCU	Shurtz Canyon	82.32	45	P	P	03 25 55.6 +0.5
SZCU				lAmb	lAmb	03 26 01.5
	comp=Z,22nm,1.5s					
DUN6	Lazy B Ranch	82.32	51	P	P	03 25 55.2 +0.1
DUN6				lAmb	lAmb	03 26 27.7
	comp=Z,21nm,0.9s					
I07A	Izee	82.37	36	P	P	03 25 55.9 +0.9
I07A				lAmb	lAmb	03 26 01.2
	comp=Z,34nm,1.7s					
H03S2	Juan Fernandez	82.47	123	T	T	04 58 06.3
	baz=247,slow=74,SNR=22					
J08A	Circle Bar Ran	82.48	37	P	P	03 25 55.0 -0.6
J08A				lAmb	lAmb	03 26 01.6
	comp=Z,21nm,1.2s					
H03S1	Juan Fernandez	82.49	123	T	T	04 58 14.4
	baz=247,slow=74,SNR=25					
H03S3	Juan Fernandez	82.49	123	T	T	04 58 00.8
	baz=247,slow=74,SNR=27					
O18K	Koktuh Hills	82.67	10	P	P	03 25 56.9 +0.7
	baz=198					
M14K	Bethel	82.69	6	P	P	03 25 56.8 +0.7
	baz=192					
M15K	Kasigluk River	82.77	7	P	P	03 25 57.6 +1.0
	baz=193,SNR=9.9					
N16K	Nishlik Lake	82.78	8	P	P	03 25 58.1 +1.4
	baz=195					
ELK	Elko	82.79	41	P	P	03 25 57.1 -0.4
ELK	Elko	82.79	41	P	P	03 25 57.1 -0.4
ELK				pmax	pmax	
	comp=Z,9.0nm,1.1s					
P19K	Oil Pt	82.80	11	P	P	03 25 56.2 -0.6
P19K	Oil Pt	82.80	11	P	P	03 25 57.4 +0.6
	baz=200					
N17K	Nushagak Hills	83.03	8	P	P	03 25 59.1 +1.2
	baz=196					
O19K	Port Alsworth	83.14	10	P	P	03 25 59.7 +1.2
	baz=199					
MTPU	Mount Pierson	83.16	45	lAmb	lAmb	03 26 06.6
	comp=Z,30nm,1.2s					
L14K	Kuka Creek	83.20	6	P	P	03 25 59.6 +0.8
	baz=191,SNR=6.4					
W18A	Petrified Fore	83.22	48	P	P	03 25 59.5 -0.2
	baz=238					
121A	Cookes Peak, D	83.25	51	P	P	03 25 59.8 -0.2
	baz=239					
M16K	Timber Creek	83.28	7	P	P	03 26 00.6 +1.3
	baz=194,SNR=11					
NJ2	Nanjing	83.30	308	eP	P	03 26 00.3 +0.3
NJ2				pmax	pmax	
	comp=Z,19nm,0.5s					
NJ2				pmax	pmax	
	comp=Z,150nm,4.0s					
TCRU	Three Creeks R	83.31	44	lAmb	lAmb	03 26 06.8
	comp=Z,18nm,1.1s					
O20K	Slope Mountain	83.31	11	P	P	03 26 00.2 +0.7
	baz=200					
BRLK	Bradley Lake	83.33	12	lAmb	lAmb	03 26 12.6
	comp=Z,29nm,1.2s					
BRSE	Bradley Lake S	83.34	12	P	P	03 26 01.3 +1.7
	baz=202					
N18K	Kilae Creek	83.36	9	P	P	03 26 00.3 +0.6
	baz=197					
G08A	Pilot Rock	83.44	36	lAmb	lAmb	03 26 06.4
	comp=Z,31nm,1.2s					
MDJ	Mudanjiang	83.47	323	P	P	03 26 01.9 +1.3
MDJ				S	S	03 36 25.6 +3.8
MDJ				sS	SKKSac	03 36 30.3 +3.1
MDJ				pmax	pmax	
	comp=Z,45nm,1.1s					
MDJ				pmax	pmax	
	comp=Z,510nm,3.8s					
MDJ				LR	LR	
	comp=Z,220nm,15.8s					
MDJ				LR	LR	
	comp=Z,370nm,13.1s					
MDJ				LR	LR	
	comp=Z,600nm,19.7s					
L15K	Ungalak Mounta	83.65	6	P	P	03 26 02.0 +0.9
	baz=192,SNR=6.8					
N19K	Bonanza Creek	83.70	10	P	P	03 26 02.2 +0.7
	baz=198					
E07A	Sunnyside	83.78	34	lAmb	lAmb	03 26 07.6
	comp=Z,21nm,1.0s					
LTY	Liberty	83.81	33	lAmb	lAmb	03 26 08.0
	comp=Z,27nm,1.4s					
HAWA	Hanford	83.84	35	lAmb	lAmb	03 26 08.4
	comp=Z,35nm,1.4s					
M17K	Holitna River	83.84	8	P	P	03 26 03.6 +1.5
	baz=196					
L16K	Owhat River	83.89	7	P	P	03 26 03.6 +1.2
	baz=194,SNR=6.0					
SEW	Seward	83.92	12	P	P	03 26 03.1 +0.7
	baz=203					
DUG	Dugway, Tooele	83.97	43	P	P	03 26 04.5 +1.0
	baz=235					
MFID	Camas Ranch	84.04	39	lAmb	lAmb	03 26 09.3
	comp=Z,19nm,1.1s					
HMU	Henry Mountain	84.05	45	lAmb	lAmb	03 26 09.9
	comp=Z,18nm,1.2s					
BMO	Blue Mountains	84.07	37	lAmb	lAmb	03 26 09.3
	comp=Z,20nm,1.5s					
GRNR	Gornyy	84.14	331⇑	iP	P	03 26 05.1 +1.2
GRNR				pmax	pmax	
	comp=Z,10.0nm,1.0s					
P23K	Montague Islan	84.24	13	P	P	03 26 05.5 +1.3
	baz=205					
K15K	Wolf Creek Mou	84.25	6	P	P	03 26 06.2 +2.0
	baz=192,SNR=20					
CRAG	Craig	84.39	22	P	P	03 26 06.4 +1.4
	baz=218					
N20K	Mount Spurr	84.44	11	P	P	03 26 06.2 +1.0
	baz=201					
L17K	Donlin	84.44	7	P	P	03 26 06.3 +1.2
	baz=195,SNR=5.5					
J14K	Nanvaranak Lak	84.52	5	P	P	03 26 06.4 +0.9
	baz=190					
D08A	Wollman Farm,	84.59	34	lAmb	lAmb	03 26 11.5
	comp=Z,19nm,1.0s					
MNTX	Cornudas Mount	84.60	53	P	P	03 26 07.2 +0.5
	baz=241					
E09A	Wood Farm, Sta	84.66	35	lAmb	lAmb	03 26 12.1
	comp=Z,19nm,1.1s					
Y22D	IRIS PASSCAL I	84.66	50	P	P	03 26 06.7 -0.4
	baz=240					
L18K	Granite Mounta	84.73	8	lAmb	lAmb	03 26 14.5
	comp=Z,18nm,1.1s					
L18K	Granite Mounta	84.73	8	P	P	03 26 07.8 +1.2
	baz=196					
M19K	Big River Lodg	84.75	9	P	P	03 26 08.0 +1.3
	baz=199					
TXAR	Lajitas Array	84.77	56	P	P	03 26 07.0 -0.7
TXAR	Lajitas Array	84.77	56	P	P	03 26 09.2 +1.5
	comp=Z,2.2nm,0.9s,baz=211,slow=8.8,SNR=15					
	comp=Z,2.2nm,0.9s					
RC01	Rabbit Creek A	84.78	12	P	P	03 26 07.1 +0.3
	baz=203					
V35K	Ketchikan	84.82	23	P	P	03 26 08.2 +1.1
	baz=219					
SRU	San Rafael Swe	84.84	44	P	P	03 26 08.6 +0.6
SRU				lAmb	lAmb	03 26 13.7
	comp=Z,27nm,1.3s					
SRU	San Rafael Swe	84.84	44	P	P	03 26 08.6 +0.6
SRU				pmax	pmax	
	comp=Z,27nm,1.3s					
HVU	Hansel Valley	84.90	41	P	P	03 26 06.7 -1.5
HVU				lAmb	lAmb	03 26 29.5
	comp=Z,16nm,1.4s					
HVU	Hansel Valley	84.90	41	P	P	03 26 06.7 -1.5
HVU				pmax	pmax	
	comp=Z,16nm,1.4s					
U33K	Whale Pass	84.90	22	P	P	03 26 08.3 +0.8
	baz=218					
M20K	Styx River	84.93	10	P	P	03 26 08.5 +0.7
	baz=200					
SUA	Susitna One	84.94	11	P	P	03 26 08.0 +0.1
SUA				lAmb	lAmb	03 26 15.2
	comp=Z,15nm,0.9s					
SUA	Susitna One	84.94	11	P	P	03 26 07.9 +0.1
	baz=202,SNR=11					
L19K	White Mountain	84.95	9	P	P	03 26 08.3 +0.5
	baz=198					
HLID	Hailey	84.95	39	P	P	03 26 09.3 +0.9
HLID				lAmb	lAmb	03 26 13.7
	comp=Z,13nm,1.0s					
HLID	Hailey	84.95	39	P	P	03 26 08.5 +0.1
	baz=234,SNR=26					
PLID	Pearl Lake	84.95	37	P	P	03 26 08.6 +0.2
PLID				lAmb	lAmb	03 26 13.8
	comp=Z,15nm,1.1s					
K17K	Iditarod	85.01	7	P	P	03 26 08.7 +0.7
K17K				lAmb	lAmb	03 26 22.6
	comp=Z,39nm,1.6s					
K17K	Iditarod	85.01	7	P	P	03 26 08.3 +0.3
	baz=195					
JLU	Jordanelle	85.06	43	P	P	03 26 08.8 -0.4
JLU				lAmb	lAmb	03 26 30.6
	comp=Z,17nm,1.5s					
EYAK	Cordova Ski Ar	85.10	14	P	P	03 26 09.3 +0.9
	baz=206					
GLI	Glacier Island	85.11	13	P	P	03 26 08.9 +0.4
GLI				lAmb	lAmb	03 26 15.8
	comp=Z,22nm,1.0s					
GLI	Glacier Island	85.11	13	P	P	03 26 08.8 +0.2
	baz=205					
MVCO	Mesa Verde	85.17	47	P	P	03 26 09.2 -0.5
MVCO	Mesa Verde	85.17	47	P	P	03 26 09.6 -0.1
	baz=238					
B08A	Colville Reser	85.21	33	P	P	03 26 07.7 -1.7
ALPN	Alpine	85.28	55	P	P	03 26 10.8 +0.5
ALPN				lAmb	lAmb	03 26 18.9
	comp=Z,16nm,1.3s					
SKT	Skwentna	85.28	11	P	P	03 26 08.3 -1.1
SKT				lAmb	lAmb	03 26 15.2
	comp=Z,14nm,1.1s					
SKT	Skwentna	85.28	11	P	P	03 26 09.3 -0.1
	baz=201,SNR=8.2					
BGLC	Bering Glacier	85.29	15	P	P	03 26 10.0 +0.6
	baz=209					
P18A	Preston Nutter	85.30	44	P	P	03 26 09.9 -0.5
KLR	Kul'dur	85.30	328	ceP	P	03 26 10.8 +1.0
KLR				pmax	pmax	
	comp=Z,9.0nm,1.0s					
J16K	Anvik River	85.31	6	P	P	03 26 07.9 -1.5
J16K				lAmb	lAmb	03 26 17.4
	comp=Z,24nm,1.1s					
J16K	Anvik River	85.31	6	P	P	03 26 10.2 +0.7
	baz=193					
KNK	Knik Glacier	85.32	12	P	P	03 26 09.2 -0.4
KNK				lAmb	lAmb	03 26 26.7
	comp=Z,16nm,0.9s					
KNK	Knik Glacier	85.32	12	P	P	03 26 10.1 +0.5
	baz=204					
M22K	Willow	85.32	11	P	P	03 26 09.6 +0.1
M22K	Willow	85.32	11	P	P	03 26 10.3 +0.7
	baz=202					
CN2	Changchun	85.34	321	eP	P	03 26 11.0 +0.9
CN2				eS	S	03 36 38.1 -2.5
CN2				pmax	pmax	
	comp=Z,10.0nm,0.9s					
CN2				pmax	pmax	
	comp=Z,100nm,3.0s					
CN2				LR	LR	
	comp=Z,200nm,18.0s					
CN2				LR	LR	
	comp=Z,400nm,18.0s					
CN2				LR	LR	
	comp=Z,200nm,17.0s					
PMR	Palmer	85.36	12	P	P	03 26 09.8 +0.1
PMR				lAmb	lAmb	03 26 16.5
	comp=Z,40nm,1.5s					
PMR	Palmer	85.36	12	P	P	03 26 10.2 +0.5
	baz=203					
PMR	Palmer	85.36	12	P	P	03 26 09.8 +0.1
PMR				pmax	pmax	
	comp=Z,40nm,1.5s					
L20K	Farewell, AK	85.38	9	P	P	03 26 09.8 -0.1
	baz=199					
TCUT	Toone Canyon	85.38	42	P	P	03 26 10.9 +0.2
S31K	Pelican	85.38	19	P	P	03 26 10.3 +0.4
	baz=215					
BNX	BinXian	85.38	323	⇑P	P	03 26 10.9 +0.7
BNX				pmax	pmax	
	comp=Z,40nm,0.9s					
BNX				pmax	pmax	
	comp=Z,290nm,3.7s					
WRAK	Wrangell Islan	85.41	22	P	P	03 26 10.8 +0.7
	baz=219					
ANMO	Albuquerque	85.43	50	P	P	03 26 12.1 +1.1
ANMO				lAmb	lAmb	03 26 16.9
	comp=Z,22nm,1.1s					
ANMO	Albuquerque	85.43	50	P	P	03 26 10.6 -0.4
	baz=240					
ANMO	Albuquerque	85.43	50	LR	LR	03 58 36.7
	comp=Z,406nm,18.8s,baz=345,slow=32					
ANMO	Albuquerque	85.43	50	P	P	03 26 12.1 +1.1
ANMO				pmax	pmax	
	comp=Z,22nm,1.1s					
BSUT	Blindstream Ca	85.46	43	P	P	03 26 11.7 +0.4
BSUT				lAmb	lAmb	03 26 17.1
	comp=Z,18nm,1.2s					
S32K	Killisnoo	85.50	20	P	P	03 26 11.0 +0.5
	baz=217					
TTA	Tatalina	85.50	8	P	P	03 26 11.2 +0.6
	baz=197,SNR=9.1					
GHO	Glory Hole Cre	85.56	12	P	P	03 26 10.4 -0.4
GHO				lAmb	lAmb	03 26 35.6
	comp=Z,20nm,1.1s					
J17K	VABM Dome	85.58	7	P	P	03 26 11.2 +0.3
J17K				lAmb	lAmb	03 26 16.7
	comp=Z,14nm,1.0s					
J17K	VABM Dome	85.58	7	P	P	03 26 12.0 +1.2
	baz=194					
MESA	MESA	85.66	16	P	P	03 26 11.2 -0.4
MESA				lAmb	lAmb	03 26 27.6
	comp=Z,18nm,0.8s					
MESA	MESA	85.66	16	P	P	03 26 12.1 +0.5
	baz=210					
WAX	Waxell Ridge	85.68	15	P	P	03 26 10.6 -0.9
SML	Sawmill	85.70	12	lAmb	lAmb	03 26 41.8
	comp=Z,35nm,1.7s					
SML	Sawmill	85.70	12	P	P	03 26 12.3 +0.8
	baz=204					
BMRM	Bremner River	85.73	14	P	P	03 26 12.3 +0.6
	baz=208					
M23K	Glacier View	85.81	12	P	P	03 26 12.5 +0.4
	baz=205					
MA2	Magadan	85.83	343	deP	P	03 26 12.6 +0.4
MA2				pmax	pmax	
	comp=Z,38nm,2.5s					
CRQE	Cirque	85.89	15	P	P	03 26 13.2 +0.6
	baz=209					
ELIB	Princess Elisa	85.89	185	dP	P	03 26 13.3 +0.6
	comp=Z,22nm,0.9s					
PNL	Peninsula	85.89	17	P	P	03 26 12.0 -0.4
	baz=212					
I17K	Unalakleet	85.89	6	P	P	03 26 12.6 +0.3
	baz=193					
CUT	Chulitna	85.90	11	P	P	03 26 12.8 +0.4
	baz=202					
KLU	Klutina	85.91	13	lAmb	lAmb	03 26 22.9
	comp=Z,20nm,1.3s					
KLU	Klutina	85.91	13	P	P	03 26 12.8 +0.2
	baz=206					
J18K	Innoko River	85.93	8	P	P	03 26 13.1 +0.6
	baz=196,SNR=11					
SCM	Sheep Creek Mo	85.93	12	P	P	03 26 13.6 +0.9
	baz=205,SNR=9.5					
WHN	Wuhan	85.93	305	P	P	03 26 14.3 +1.0
WHN				pP	sP	03 26 17.3 +0.2
WHN				pmax	pmax	
	comp=Z,70nm,1.0s					
PLCA	Paso Flores	85.96	132	P	P	03 26 15.8 +2.2
	comp=Z,4.1nm,1.0s,baz=257,slow=2.8,SNR=4.3					
PLCA				LR	LR	03 58 45.9
	comp=Z,371nm,18.1s,baz=237,slow=32					
	comp=Z,4.1nm,1.0s					
PINM	Pinnacle	86.03	16	P	P	03 26 13.4 +0.2
	baz=212					
PPLA	Purkeypile	86.03	10	P	P	03 26 13.7 +0.4
	baz=201					
K20K	Telida	86.18	9	lAmb	lAmb	03 26 27.1
	comp=Z,27nm,1.2s					
K20K	Telida	86.18	9	P	P	03 26 14.2 +0.3
	baz=199,SNR=9.8					
GRNC	Granite Creek	86.19	15	lAmb	lAmb	03 26 39.4
	comp=Z,25nm,1.2s					
VRDI	Verde Repeater	86.22	14	lAmb	lAmb	03 26 24.8
	comp=Z,37nm,1.5s					
NEW	Newport	86.29	34	P	P	03 26 15.3 +0.5
	baz=232					
N25K	Chitina, Valde	86.30	14	lAmb	lAmb	03 26 21.8
	comp=Z,19nm,1.1s					
N25K	Chitina, Valde	86.30	14	P	P	03 26 15.9 +1.4
	baz=208,SNR=8.4					
P29M	Windy Craggy	86.31	18	P	P	03 26 14.7 +0.1
	baz=214					
GLB	Gilahina Butte	86.33	14	lAmb	lAmb	03 26 26.0
	comp=Z,30nm,1.5s					
M24K	Tolsona, Glenn	86.41	13	P	P	03 26 16.1 +1.0
	baz=206					
MCARA	McCarthy VSAT	86.46	14	P	P	03 26 16.1 +0.9
	baz=209					
LOGN	Logan Glacier	86.46	16	lAmb	lAmb	03 26 25.5
	comp=Z,13nm,0.7s					
H16K	Elim	86.49	5	P	P	03 26 16.4 +1.2
	baz=191					
CTG	Chitna Glacier	86.50	15	P	P	03 26 16.8 +1.2
	baz=210					
WAT6	Susitna Watana	86.53	12	P	P	03 26 16.5 +0.7
	baz=205,SNR=14					
CAST	Castle Rocks	86.54	10	lAmb	lAmb	03 26 21.3
	comp=Z,14nm,1.0s					
CAST	Castle Rocks	86.54	10	P	P	03 26 14.8 -0.8
	baz=201					
PLBC	Pleasant Camp	86.57	18	P	P	03 26 16.5 +0.7
	baz=215					
J19K	Poorman	86.58	8	P	P	03 26 16.3 +0.6
	baz=197,SNR=6.9					
T35M	Bob Quinn	86.58	22	P	P	03 26 16.9 +0.9
	baz=220					
S22A	4UR Ranch, Cre	86.58	47	P	P	03 26 16.7 -0.1
	baz=239					
TROLL	Troll, Antarti	86.58	179	⇑P	P	03 26 16.6 +0.5
	comp=Z,399nm,0.9s					
WAT1	Susitna Watana	86.60	12	P	P	03 26 15.8 -0.2
	baz=204					
O28M	Mount Upton	86.62	16	P	P	03 26 17.1 +0.7
	baz=212					
TIA	Tai'an	86.62	311	P	P	03 26 17.4 +0.8

TIA				pmax	pmax	
	comp=Z,16nm,1.3s					
TIA				pmax	pmax	
	comp=Z,170nm,5.5s					
TIA				LR	LR	
	comp=Z,110nm,22.6s					
O29M	**Mount Kennedy**	**86.65**	**17**	IAmb	IAmb	03 26 27.6
	comp=Z,48nm,1.8s					
O29M	**Mount Kennedy**	**86.65**	**17**	P	**P**	**03 26 17.2 +0.9**
	baz=213					
G15K	**Niukluk**	**86.70**	**4**	P	**P**	**03 26 17.1 +0.8**
	baz=190					
CMIG	**Matias Romero**	**86.74**	**70**	LR	LR	03 56 43.6
	comp=Z,335nm,19.4s,baz=212,slow=30					
VNA3	**Neumayer Olymp**	**86.76**	**175**	⇑P	**P**	**03 26 17.9 +1.1**
	comp=Z,15nm,0.8s					
SNAA	**Sanae**	**86.76**	**177**	P	**P**	**03 26 16.4 -0.4**
SNAA				IAmb	IAmb	03 26 21.7
	comp=Z,22nm,1.2s					
SNAA	**Sanae**	**86.76**	**177**	⇑P	**P**	**03 26 18.0 +1.1**
	comp=Z,226nm,1.1s					
SNAA	**Sanae**	**86.76**	**177**	P	**P**	**03 26 16.5 -0.4**
	comp=Z,10nm,1.0s,baz=201,slow=6.3,SNR=15					
SNAA				LR	LR	04 04 15.1
	comp=Z,331nm,19.0s,baz=226,slow=35					
	comp=Z,10nm,1.0s					
SNAA	**Sanae**	**86.76**	**177**	*ce*P	**P**	**03 26 18.1 +1.2**
SNAA				pmax	pmax	
	comp=Z,22nm,1.3s					
KTH	**Kantishna Hill**	**86.86**	**10**	IAmb	IAmb	03 26 23.2
	comp=Z,21nm,1.2s					
O20A	**White River Ci**	**86.87**	**45**	P	**P**	**03 26 18.2 +0.1**
	baz=238					
SKAG	**Skagway**	**86.88**	**19**	P	**P**	**03 26 18.1 +0.9**
	baz=216					
HARP	**HAARP**	**86.89**	**13**	P	**P**	**03 26 17.8 +0.5**
	baz=207					
CHUM	**Lake Minchumin**	**86.94**	**10**	P	**P**	**03 26 17.9 +0.4**
	baz=200					
P30M	**Million Dollar**	**86.94**	**18**	P	**P**	**03 26 18.2 +0.5**
	baz=214					
J20K	**Nowinta River**	**86.95**	**9**	P	**P**	**03 26 17.6 0.0**
	baz=199,SNR=13					
S34M	**Telegraph Cree**	**86.99**	**21**	IAmb	IAmb	03 26 24.5
	comp=Z,21nm,1.1s					
S34M	**Telegraph Cree**	**86.99**	**21**	P	**P**	**03 26 18.4 +0.6**
	baz=220,SNR=10					
H17K	**Granite Mounta**	**87.00**	**6**	IAmb	IAmb	03 26 38.6
	comp=Z,31nm,1.6s					
H17K	**Granite Mounta**	**87.00**	**6**	P	**P**	**03 26 18.4 +0.7**
	baz=193					
F14K	**Arctic Creek**	**87.04**	**3**	P	**P**	**03 26 18.2 +0.2**
	baz=188					
DHY	**Denali Highway**	**87.05**	**12**	IAmb	IAmb	03 26 25.2
	comp=Z,33nm,1.7s					
DHY	**Denali Highway**	**87.05**	**12**	P	**P**	**03 26 18.8 +0.5**
	baz=205,SNR=6.6					
TNA	**Tin City**	**87.05**	**3**	P	**P**	**03 26 18.2 +0.3**
	baz=186					
GCSA	**Galena City Sc**	**87.14**	**7**	P	**P**	**03 26 19.1 +0.7**
	baz=196					
MSO	**Missoula**	**87.14**	**37**	P	**P**	**03 26 18.6 -0.5**
	baz=234					
YUK8	**Steele Glacier**	**87.17**	**16**	P	**P**	**03 26 19.4 +0.4**
	baz=212					
DRIO	**Del Rio**	**87.17**	**57**	IAmb	IAmb	03 26 32.8
	comp=Z,11nm,0.9s					
G16K	**Koyuk River**	**87.23**	**5**	IAmb	IAmb	03 26 21.3
	comp=Z,21nm,1.4s					
G16K	**Koyuk River**	**87.23**	**5**	P	**P**	**03 26 19.7 +0.8**
	baz=191					
VNA2	**Neumayer--Watz**	**87.24**	**176**	⇑P	**P**	**03 26 22.3 +3.2**
	comp=Z,0.2nm,0.2s,baz=194,slow=3.3					
YUK6	**Outpost Mounta**	**87.24**	**17**	P	**P**	**03 26 19.8 +0.4**
	baz=213					
PAX	**Paxson**	**87.33**	**13**	P	**P**	**03 26 19.7 +0.1**
	baz=207,SNR=7.5					
BPAW	**Bear Paw Mtn.**	**87.36**	**10**	P	**P**	**03 26 19.2 -0.4**
	baz=202					
M26K	**Nabesna, AK**	**87.36**	**14**	IAmb	IAmb	03 26 27.2
	comp=Z,36nm,1.5s					
M26K	**Nabesna, AK**	**87.36**	**14**	P	**P**	**03 26 20.2 +0.5**
	baz=209,SNR=8.9					
MCK	**McKinley**	**87.36**	**11**	P	**P**	**03 26 19.3 -0.3**
	baz=204,SNR=12					
H18K	**Honhosa River**	**87.37**	**7**	IAmb	IAmb	03 26 25.3
	comp=Z,33nm,1.6s					
H18K	**Honhosa River**	**87.37**	**7**	P	**P**	**03 26 19.7 +0.1**
	baz=195					
F15K	**North Star Dit**	**87.37**	**4**	P	**P**	**03 26 19.9 +0.3**
	baz=189					
HYT	**Haines Junctio**	**87.38**	**17**	P	**P**	**03 26 20.9 +1.0**
	baz=214					
YUK3	**Moose Creek**	**87.41**	**15**	P	**P**	**03 26 20.6 +0.4**
	baz=211,SNR=8.6					
Q32M	**Nakina River**	**87.43**	**20**	P	**P**	**03 26 21.3 +1.1**
	baz=219					
BW06	**Boulder Array**	**87.43**	**42**	P	**P**	**03 26 21.0 +0.2**
	baz=237					
PDAR	**Pinedale Array**	**87.43**	**42**	P	**P**	**03 26 20.8 +0.1**
PDAR	**Pinedale Array**	**87.43**	**42**	P	**P**	**03 26 21.0 +0.3**
	comp=Z,4.1nm,0.9s,baz=215,slow=3.7,SNR=15					
PDAR				LR	LR	03 59 20.4
	comp=Z,170nm,19.3s,baz=238,slow=31					
	comp=Z,4.1nm,0.9s					
VNA1	**Neumayer--Stat**	**87.45**	**175**	⇑P	**P**	**03 26 21.9 +1.8**
FLWY	**Flagg Ranch**	**87.45**	**40**	IAmb	IAmb	03 27 03.0
	comp=Z,22nm,1.8s					
P32M	**Atlin**	**87.47**	**19**	IAmb	IAmb	03 26 25.8
	comp=Z,22nm,1.6s					
P32M	**Atlin**	**87.47**	**19**	P	**P**	**03 26 20.9 +0.6**
	baz=217					
G17K	**Kiwalik Mounta**	**87.48**	**6**	P	**P**	**03 26 21.4 +1.4**
	baz=193,SNR=5.4					
SDCO	**Great Sand Dun**	**87.49**	**48**	P	**P**	**03 26 21.8 +0.6**
	baz=240					
I20K	**Naaghedeneel**	**87.49**	**8**	P	**P**	**03 26 21.3 +1.2**
	baz=198					
YUK4	**Talbot Arm**	**87.51**	**16**	P	**P**	**03 26 21.6 +1.0**
	baz=213					
M27K	**Edge Creek, AK**	**87.58**	**14**	P	**P**	**03 26 21.2 +0.4**
	baz=210,SNR=11					
MSTX	**Muleshoe**	**87.62**	**52**	IAmb	IAmb	03 26 26.2
	comp=Z,19nm,0.9s					
MSTX	**Muleshoe**	**87.62**	**52**	P	**P**	**03 26 21.7 0.0**
	baz=242					
833A	**Chaparral WMA,**	**87.64**	**58**	P	**P**	**03 26 22.2 +0.4**
	baz=244					
HBVL	**Hebbronville**	**87.68**	**60**	IAmb	IAmb	03 26 28.9
	comp=Z,23nm,1.3s					
O30N	**Mendenhall**	**87.72**	**18**	IAmb	IAmb	03 26 58.8
	comp=Z,15nm,1.4s					
O30N	**Mendenhall**	**87.72**	**18**	P	**P**	**03 26 22.5 +1.1**
	baz=215					
BOZ	**Bozeman (W)**	**87.75**	**39**	P	**P**	**03 26 22.6 +0.5**
	baz=236					
NVL	**N'lazarevskaya**	**87.76**	**182**	*e*P	**P**	**03 26 25.4 +3.8**
NVL				*e*S	**SKSac**	**03 36 54.0 +4.8**
NVL				MLR	MLR	
	comp=Z,469nm,18.0s					
DLBC	**Dease Lake**	**87.77**	**22**	IAmb	IAmb	03 26 23.8
	comp=Z,19nm,1.6s					
DLBC	**Dease Lake**	**87.77**	**22**	P	**P**	**03 26 23.0 +1.2**
	baz=221					
L26K	**Log Cabin Wild**	**87.83**	**14**	IAmb	IAmb	03 26 29.5
	comp=Z,18nm,1.4s					
L26K	**Log Cabin Wild**	**87.83**	**14**	P	**P**	**03 26 23.0 +1.1**
	baz=209					
BVCY	**Beaver Creek**	**87.86**	**15**	P	**P**	**03 26 23.4 +1.3**
	baz=211					
H19K	**Roundabout Mou**	**87.94**	**7**	P	**P**	**03 26 23.2 +0.9**
	baz=197,SNR=12					
T25A	**Trinidad**	**87.95**	**49**	P	**P**	**03 26 23.2 -0.2**
	baz=241					
N30M	**Aishikik Lake**	**88.02**	**17**	P	**P**	**03 26 22.9 0.0**
	baz=214					
K24K	**Donnelly Dome**	**88.02**	**12**	P	**P**	**03 26 23.4 +0.7**
	baz=206,SNR=10.0					
G18K	**Tagagawik**	**88.06**	**6**	IAmb	IAmb	03 26 24.9
	comp=Z,21nm,1.3s					
G18K	**Tagagawik**	**88.06**	**6**	P	**P**	**03 26 23.1 +0.3**
	baz=195,SNR=8.3					
H20K	**Anotleneega Mo**	**88.11**	**8**	P	**P**	**03 26 24.2 +1.1**
	baz=198,SNR=9.8					
NEA2	**Nenana**	**88.13**	**11**	IAmb	IAmb	03 26 31.0
	comp=Z,23nm,1.6s					
NEA2	**Nenana**	**88.13**	**11**	P	**P**	**03 26 23.7 +0.5**
	baz=203					
POST	**Post**	**88.14**	**53**	IAmb	IAmb	03 26 28.8
	comp=Z,7.6nm,0.7s					
R33M	**Jennings River**	**88.19**	**21**	IAmb	IAmb	03 26 41.7
	comp=Z,29nm,1.8s					
R33M	**Jennings River**	**88.19**	**21**	P	**P**	**03 26 23.9 +0.1**
	baz=220					
L27K	**Beaver Creek,**	**88.20**	**14**	IAmb	IAmb	03 26 34.5
	comp=Z,24nm,1.8s					
L27K	**Beaver Creek,**	**88.20**	**14**	P	**P**	**03 26 24.7 +1.1**
	baz=210,SNR=5.7					
BCAR	**Beaver Creek A**	**88.21**	**14**	P	**P**	**03 26 23.8 +0.1**
P33M	**Teslin, Yukon**	**88.24**	**19**	IAmb	IAmb	03 26 44.5
	comp=Z,33nm,1.9s					
P33M	**Teslin, Yukon**	**88.24**	**19**	P	**P**	**03 26 24.8 +0.9**
	baz=218					
HNDO	**Hondo**	**88.26**	**57**	IAmb	IAmb	03 26 29.4
	comp=Z,13nm,0.9s					
MLY	**Manley**	**88.26**	**10**	P	**P**	**03 26 24.0 +0.1**
	baz=202					
JCT	**Junction City**	**88.27**	**56**	P	**P**	**03 26 23.9 -0.8**
	baz=244					
SEY	**Seymchan**	**88.30**	**345**	*ce*P	**P**	**03 26 24.5 +0.5**
SEY				pmax	pmax	
	comp=Z,41nm,1.3s					
Q24A	**Divide**	**88.34**	**47**	P	**P**	**03 26 25.2 0.0**
	baz=240					
HDA	**Harding Lake**	**88.34**	**12**	IAmb	IAmb	03 26 31.1
	comp=Z,24nm,1.1s					
HDA	**Harding Lake**	**88.34**	**12**	P	**P**	**03 26 24.4 +0.1**
	baz=205,SNR=11					
MT01	**Popeta**	**88.35**	**126**	P	**P**	**03 26 25.8 +0.6**
MT01				IAmb	IAmb	03 26 30.1
	comp=Z,21nm,0.9s					
RWWY	**Rawlins**	**88.35**	**44**	IAmb	IAmb	03 26 29.5
	comp=Z,14nm,1.3s					
F17K	**Baldwin Pennin**	**88.35**	**5**	IAmb	IAmb	03 26 45.1
	comp=Z,28nm,1.4s					
F17K	**Baldwin Pennin**	**88.35**	**5**	P	**P**	**03 26 25.1 +0.9**
	baz=192					
N31M	**Braeburn, Yuko**	**88.40**	**17**	IAmb	IAmb	03 26 32.2
	comp=Z,15nm,1.2s					
N31M	**Braeburn, Yuko**	**88.40**	**17**	P	**P**	**03 26 24.9 +0.3**
	baz=216					
ISCO	**Idaho Springs**	**88.44**	**46**	P	**P**	**03 26 25.0 -0.7**
	baz=240					
G19K	**Purcell Mounta**	**88.47**	**7**	P	**P**	**03 26 25.3 +0.5**
	baz=196,SNR=11					
M29M	**Somme Creek**	**88.48**	**16**	IAmb	IAmb	03 26 36.1
	comp=Z,13nm,1.3s					
M29M	**Somme Creek**	**88.48**	**16**	P	**P**	**03 26 26.2 +1.1**
	baz=213					
SCRK	**Sand Creek**	**88.53**	**13**	IAmb	IAmb	03 26 34.0
	comp=Z,16nm,1.2s					
SCRK	**Sand Creek**	**88.53**	**13**	P	**P**	**03 26 25.9 +0.5**
	baz=208,SNR=14					
H21K	**Melozitna Rive**	**88.54**	**9**	P	**P**	**03 26 26.6 +1.4**
	baz=200,SNR=6.9					
I23K	**Minto, Yukon-K**	**88.59**	**10**	IAmb	IAmb	03 26 32.0
	comp=Z,25nm,1.4s					
I23K	**Minto, Yukon-K**	**88.59**	**10**	P	**P**	**03 26 25.9 +0.5**
	baz=203					
COLA	**College**	**88.60**	**11**	P	**P**	**03 26 25.9 +0.5**
COLA	**College**	**88.60**	**11**	P	**P**	**03 26 25.9 +0.5**
	baz=204					
COLA	**College**	**88.60**	**11**	*c i*P	**P**	**03 26 25.6 +0.2**
COLA				pmax	pmax	
	comp=Z,11nm,1.0s					
F18K	**Selawik**	**88.65**	**6**	P	**P**	**03 26 25.9 +0.3**
	baz=194					
ILAR	**Eielson Array**	**88.68**	**11**	P	**P**	**03 26 25.9 +0.1**
ILAR	**Eielson Array**	**88.68**	**11**	P	**P**	**03 26 26.0 +0.1**
	comp=Z,3.3nm,0.9s,baz=216,slow=5.3,SNR=22					
	comp=Z,3.3nm,0.9s					
ILAR	**Eielson Array**	**88.68**	**11**	P	**P**	**03 26 25.9 +0.1**
IMAR	**Indian Mountai**	**88.72**	**8**	P	**P**	**03 26 26.4 +0.4**
N23A	**Red Feather La**	**88.77**	**45**	P	**P**	**03 26 26.7 -0.5**
	baz=240					
J25K	**Salcha River,**	**88.83**	**12**	IAmb	IAmb	03 26 33.8
	comp=Z,16nm,1.1s					
J25K	**Salcha River,**	**88.83**	**12**	P	**P**	**03 26 27.5 +0.9**
	baz=207,SNR=14					
AMTX	**Amarillo**	**88.84**	**52**	P	**P**	**03 26 27.4 0.0**
	baz=243					
DKNS	**Dickens**	**88.84**	**53**	P	**P**	**03 26 27.7 +0.2**
RLMT	**Red Lodge**	**88.88**	**40**	P	**P**	**03 26 27.2 -0.3**
	baz=238					
HNS	**HongShan**	**88.89**	**311**	⇑P	**P**	**03 26 28.5 +1.0**
HNS				pmax	pmax	
	comp=Z,17nm,1.2s					
HNS				pmax	pmax	
	comp=Z,280nm,8.4s					
HNS				LR	LR	
	comp=Z,200nm,16.7s					
HNS				LR	LR	
	comp=Z,150nm,19.4s					
HNS				LR	LR	
	comp=Z,220nm,19.1s					
POKR	**Poker Plat Res**	**88.90**	**11**	P	**P**	**03 26 26.8 -0.1**
	baz=205					
E17K	**Hotham Inlet**	**88.93**	**5**	P	**P**	**03 26 27.1 +0.2**
	baz=192,SNR=8.7					
H22K	**Ishtalitna Cre**	**88.97**	**9**	P	**P**	**03 26 27.3 +0.1**
	baz=201,SNR=6.6					
K27K	**Chicken**	**88.99**	**14**	IAmb	IAmb	03 26 38.7
	comp=Z,30nm,1.6s					
K27K	**Chicken**	**88.99**	**14**	P	**P**	**03 26 28.0 +0.7**
	baz=210					
M30M	**Minto, Yukon**	**89.02**	**16**	IAmb	IAmb	03 26 47.7
	comp=Z,32nm,1.9s					
M30M	**Minto, Yukon**	**89.02**	**16**	P	**P**	**03 26 28.7 +1.2**
	baz=214					
F19K	**Shaleruckik Mo**	**89.06**	**6**	IAmb	IAmb	03 26 40.6
	comp=Z,14nm,1.0s					
F19K	**Shaleruckik Mo**	**89.06**	**6**	P	**P**	**03 26 28.0 +0.4**
	baz=195,SNR=20					
J26L	**Joseph Creek**	**89.09**	**13**	P	**P**	**03 26 28.8 +0.9**
	baz=208,SNR=32					
L29M	**L29M**	**89.12**	**16**	IAmb	IAmb	03 26 47.9
	comp=Z,24nm,1.2s					
L29M	**L29M**	**89.12**	**16**	P	**P**	**03 26 29.3 +1.3**
	baz=213,SNR=11					
BJI	**Beijing**	**89.16**	**314**	P	**P**	**03 26 29.8 +1.2**
BJI				pmax	pmax	
	comp=Z,6.0nm,1.1s					
BJI				pmax	pmax	
	comp=Z,130nm,3.7s					
LYN	**LuoYang**	**89.18**	**308**	P	**P**	**03 26 30.4 +1.5**
LYN				pP	pwP	03 26 35.5 -2.3
LYN				sP	sP	03 26 37.4 +4.7
LYN				sS	sS	03 37 26.3 +3.7
LYN				pmax	pmax	
	comp=Z,53nm,1.5s					
LYN				pmax	pmax	
	comp=Z,440nm,4.0s					
LYN				LR	LR	
	comp=Z,190nm,13.1s					
LYN				LR	LR	
	comp=Z,130nm,13.1s					
LYN				LR	LR	
	comp=Z,250nm,15.8s					
H23K	**Yukon River**	**89.19**	**10**	P	**P**	**03 26 29.6 +1.4**
	baz=203					
BRDY	**Brady**	**89.24**	**56**	IAmb	IAmb	03 26 35.3
	comp=Z,22nm,1.8s					
G21K	**Allakaket**	**89.26**	**8**	P	**P**	**03 26 29.9 +1.3**
	baz=199					
K22A	**Casper**	**89.28**	**43**	P	**P**	**03 26 29.7 +0.3**
	baz=240					
ABTX	**Abilene, Hawle**	**89.34**	**54**	P	**P**	**03 26 29.5 -0.2**
	baz=244					
E18K	**Tukpahlearik C**	**89.36**	**5**	IAmb	IAmb	03 26 36.3
	comp=Z,21nm,1.2s					
E18K	**Tukpahlearik C**	**89.36**	**5**	P	**P**	**03 26 29.8 +0.8**
	baz=193,SNR=10.0					
M31M	**Drury Creek, Y**	**89.37**	**17**	P	**P**	**03 26 30.0 +0.8**
	baz=217					
D17K	**Noatak River**	**89.45**	**4**	P	**P**	**03 26 30.3 +1.0**
	baz=190					
H24K	**Noodor Dome**	**89.48**	**11**	P	**P**	**03 26 30.4 +0.7**
	baz=204					
F20K	**Avaraart Lake**	**89.49**	**7**	P	**P**	**03 26 30.4 +0.8**
	baz=197					
SRIT	**Nakonsritamara**	**89.56**	**279**	P	**P**	**03 26 30.9 -0.3**
PRP	**Porcupine Dome**	**89.61**	**12**	IAmb	IAmb	03 26 35.5
	comp=Z,17nm,1.0s					
PRP	**Porcupine Dome**	**89.61**	**12**	P	**P**	**03 26 31.2 +0.9**
	baz=207,SNR=17					
DAWY	**Dawson**	**89.63**	**15**	IAmb	IAmb	03 26 51.8
	comp=Z,14nm,1.1s					
DAWY	**Dawson**	**89.63**	**15**	P	**P**	**03 26 31.1 +0.7**
	baz=212,SNR=7.0					
FARO	**Faro, Yukon**	**89.68**	**18**	P	**P**	**03 26 31.7 +1.0**
	baz=218					
E19K	**Redstone River**	**89.72**	**6**	IAmb	IAmb	03 26 32.9
	comp=Z,15nm,0.9s					
E19K	**Redstone River**	**89.72**	**6**	P	**P**	**03 26 31.1 +0.5**
	baz=196,SNR=14					
TOAD	**Toad River Com**	**89.77**	**23**	P	**P**	**03 26 32.5 +1.4**
	baz=225,SNR=19					
RDOG	**Red Dog Mine**	**89.81**	**4**	P	**P**	**03 26 32.2 +1.2**
	baz=191					
EGAK	**Eagle**	**89.84**	**14**	IAmb	IAmb	03 26 44.8
	comp=Z,15nm,1.1s					
EGAK	**Eagle**	**89.84**	**14**	P	**P**	**03 26 31.8 +0.6**
	baz=211,SNR=12					
C16K	**Lisburne Hills**	**89.88**	**3**	P	**P**	**03 26 31.8 +0.4**
	baz=188					
I26K	**Coal Creek Min**	**89.88**	**13**	P	**P**	**03 26 32.6 +1.1**
	baz=209					
K29M	**Barlow Dome**	**89.89**	**15**	IAmb	IAmb	03 26 39.5
	comp=Z,18nm,1.1s					
K29M	**Barlow Dome**	**89.89**	**15**	P	**P**	**03 26 32.1 +0.4**
	baz=214,SNR=13					
G22K	**Bettles**	**89.92**	**9**	P	**P**	**03 26 32.6 +1.1**
	baz=201					
F21K	**Alatna River**	**89.93**	**8**	P	**P**	**03 26 33.0 +1.3**
	baz=199					
G23K	**Bananza Creek**	**89.94**	**9**	IAmb	IAmb	03 26 52.7
	comp=Z,33nm,1.9s					
G23K	**Bananza Creek**	**89.94**	**9**	P	**P**	**03 26 32.7 +1.0**
	baz=202					
EGMT	**Eagleton**	**90.16**	**37**	P	**P**	**03 26 33.9 +0.6**
	baz=237					
C17K	**DeLong Mountai**	**90.21**	**4**	P	**P**	**03 26 33.6 +0.7**
	baz=190					
G24K	**Hadweenzic Riv**	**90.33**	**10**	P	**P**	**03 26 34.0 +0.4**
	baz=205					
ZEA	**Zeya**	**90.33**	**330**	*e*P	**P**	**03 26 34.8 +1.0**
ZEA				pmax	pmax	
	comp=Z,10.0nm,1.2s					
F22K	**John River**	**90.37**	**8**	P	**P**	**03 26 34.5 +0.8**
	baz=201					
COLD	**Coldfoot**	**90.39**	**9**	P	**P**	**03 26 34.3 +0.5**
	baz=202					
I27K	**Kandik River**	**90.46**	**13**	P	**P**	**03 26 35.4 +1.2**
	baz=210					
C18K	**Utukok River**	**90.52**	**5**	P	**P**	**03 26 35.2 +0.7**
	baz=192					
SLVN	**Son La**	**90.53**	**293**	P	**P**	**03 26 34.8 -0.8**
BILL	**Bilibino**	**90.55**	**353**	⇑*i*P	**P**	**03 26 35.1 +0.6**
BILL				*e*		03 30 08.9
BILL				*e*SS	SS	03 43 28.4 -2.5
BILL				pmax	pmax	
	comp=Z,29nm,2.5s					
BILL				MLR	MLR	
	comp=Z,257nm,19.0s					
E20K	**Nigu River**	**90.60**	**7**	P	**P**	**03 26 35.8 +1.0**
	baz=197,SNR=9.6					
MTO3	**Montecristo**	**90.60**	**75**	P	**P**	**03 26 36.1 -0.1**
MTO3				IAmb	IAmb	03 26 41.6
	comp=Z,22nm,1.1s					
G25K	**Bearman Lake**	**90.63**	**11**	P	**P**	**03 26 35.9 +1.1**
	baz=206					
D19K	**Kuna River**	**90.64**	**6**	IAmb	IAmb	03 26 56.1
	comp=Z,12nm,1.0s					
D19K	**Kuna River**	**90.64**	**6**	P	**P**	**03 26 35.9 +0.9**
	baz=195,SNR=7.2					
TGTN	**Hyland Airport**	**90.68**	**20**	P	**P**	**03 26 35.9 +0.5**
	baz=222					
I28M	**Miner Creek**	**90.68**	**14**	P	**P**	**03 26 35.1 -0.3**
I28M				IAmb	IAmb	03 26 56.4
	comp=Z,26nm,1.7s					
I28M	**Miner Creek**	**90.68**	**14**	P	**P**	**03 26 35.9 +0.6**
	baz=212					
WHTX	**Lake Whitney,**	**90.73**	**56**	P	**P**	**03 26 36.6 +0.4**
	baz=245					
J30M	**Hart River**	**90.79**	**15**	IAmb	IAmb	03 26 58.5
	comp=Z,24nm,1.9s					
J30M	**Hart River**	**90.79**	**15**	P	**P**	**03 26 36.3 +0.5**
	baz=215					
WMOK	**Wichita Mounta**	**90.91**	**53**	P	**P**	**03 26 37.2 +0.2**
	baz=244					
I29M	**Ogilvie Camp,**	**90.97**	**14**	IAmb	IAmb	03 26 57.4
	comp=Z,17nm,1.4s					
I29M	**Ogilvie Camp,**	**90.97**	**14**	P	**P**	**03 26 37.6 +1.1**
	baz=213					
D20K	**Etivluk River**	**91.00**	**6**	P	**P**	**03 26 37.5 +0.9**
	baz=196					
E22K	**Anaktuvuk Pass**	**91.01**	**8**	P	**P**	**03 26 37.7 +1.0**
	baz=201					
F24K	**Squaw Lake**	**91.01**	**10**	IAmb	IAmb	03 26 50.6
	comp=Z,27nm,1.9s					
F24K	**Squaw Lake**	**91.01**	**10**	P	**P**	**03 26 37.9 +1.2**
	baz=204					
H27K	**Steamboat Moun**	**91.02**	**13**	P	**P**	**03 26 37.6 +0.8**
	baz=210,SNR=7.8					
E21K	**Killik River**	**91.03**	**7**	P	**P**	**03 26 37.7 +0.9**
	baz=199					
C19K	**Lookout Ridge**	**91.10**	**5**	IAmb	IAmb	03 26 43.2
	comp=Z,26nm,1.2s					
C19K	**Lookout Ridge**	**91.10**	**5**	P	**P**	**03 26 38.0 +0.9**
	baz=194,SNR=5.6					
XLT	**XiLinHaoTe**	**91.11**	**317**	*e*P	**P**	**03 26 38.4 +0.6**
XLT				pP	sP	03 26 41.9 +0.3
XLT				sP	pwP	03 26 46.0 -0.6
XLT				pmax	pmax	
	comp=Z,9.0nm,0.9s					
XLT				pmax	pmax	
	comp=Z,130nm,3.5s					
HKT	**Hockley**	**91.15**	**58**	⇓*e*P	**P**	**03 26 39.1 +1.0**
HKT				pmax	pmax	
	comp=Z,13nm,1.3s					
B18K	**Kokolik River**	**91.18**	**4**	P	**P**	**03 26 38.7 +1.3**
	baz=192					
G26K	**Porcupine Rive**	**91.21**	**12**	P	**P**	**03 26 38.6 +1.0**
	baz=208,SNR=9.5					
E23K	**Chandalar**	**91.25**	**9**	P	**P**	**03 26 39.1 +1.2**
	baz=203					
I30M	**Mount Dempster**	**91.31**	**15**	IAmb	IAmb	03 26 59.4
	comp=Z,14nm,1.1s					
I30M	**Mount Dempster**	**91.31**	**15**	P	**P**	**03 26 39.3 +1.0**
	baz=215,SNR=9.5					
E24K	**Your Creek**	**91.43**	**9**	P	**P**	**03 26 40.0 +1.3**
	baz=204					
F25K	**Christian Rive**	**91.45**	**11**	P	**P**	**03 26 40.2 +1.4**
	baz=207					
BMAR	**Burnt Mountain**	**91.49**	**11**	P	**P**	**03 26 40.1 +1.2**
G27K	**Doyon Strip**	**91.50**	**12**	P	**P**	**03 26 39.7 +0.7**
	baz=210,SNR=9.3					
RSSD	**Black Hills**	**91.58**	**43**	P	**P**	**03 26 39.7 -0.5**
RSSD				IAmb	IAmb	03 26 45.0
	comp=Z,10nm,1.2s					
RSSD	**Black Hills**	**91.58**	**43**	P	**P**	**03 26 40.5 +0.3**
	baz=241					
RSSD	**Black Hills**	**91.58**	**43**	P	**P**	**03 26 39.7 -0.5**
RSSD				pmax	pmax	
	comp=Z,10.0nm,1.2s					
XAN	**Xi'an**	**91.60**	**306**	⇑P	**P**	**03 26 41.8 +1.5**
XAN				pP	pwP	03 26 46.9 -2.2
XAN				SKS	**SKSac**	**03 37 12.4 -0.5**
XAN				S	**ScS**	**03 37 43.5 +0.4**
XAN				pmax	pmax	
	comp=Z,70nm,1.2s					
XAN				pmax	pmax	
	comp=Z,360nm,4.1s					
XAN				LR	LR	
	comp=Z,240nm,23.4s					
XAN				LR	LR	
	comp=Z,140nm,21.3s					
XAN				LR	LR	
	comp=Z,260nm,19.9s					

E25K	Arctic Village	91.94	10	P	P	03 26 42.3	+1.3
	baz=207,SNR=9.4						
D23K	Nanushuk River	91.94	8	P	P	03 26 42.0	+1.0
	baz=202						
B21K	Ikpikpuk River	92.08	7	P	P	03 26 42.7	+1.2
	baz=198						
FNO	Franklin	92.15	53	IAmb	IAmb	03 26 48.0	
	comp=Z,17nm,1.0s						
EPYK	Eagle Plains	92.18	14	IAmb	IAmb	03 27 03.1	
	comp=Z,18nm,1.4s						
EPYK	Eagle Plains	92.18	14	P	P	03 26 41.8	-0.3
	baz=215						
B20K	Meade River	92.19	6	P	P	03 26 42.8	+0.7
	baz=196						
G29M	Pine Creek	92.34	13	IAmb	IAmb	03 27 13.9	
	comp=Z,21nm,1.3s						
G29M	Pine Creek	92.34	13	P	P	03 26 43.2	+0.4
	baz=214						
D24K	Happy Valley	92.37	9	P	P	03 26 43.1	+0.1
	baz=204						
NNA	Nana	92.41	104	LR	LR	04 00 43.5	
	comp=Z,257nm,18.3s,baz=246,slow=31						
F28M	Old Crow	92.55	13	P	P	03 26 44.3	+0.5
	baz=212						
R32A	Long Quarter,	92.55	50	P	P	03 26 44.9	+0.3
HHC	Hu-ho-hao-te	92.65	313	eP	P	03 26 44.9	-0.1
HHC				SKS	SKSac	03 37 13.6	-5.0
HHC				S	S	03 37 47.9	-1.7
HHC				sS	sS	03 37 55.6	+1.3
HHC				pmax	pmax		
	comp=Z,17nm,0.5s						
HHC				pmax	pmax		
	comp=Z,89nm,4.4s						
HHC				LR	LR		
	comp=Z,86nm,17.6s						
HHC				LR	LR		
	comp=Z,150nm,17.6s						
HHC				LR	LR		
	comp=Z,170nm,17.0s						
PHRA	Phrae	92.66	289	P	P	03 26 45.5	0.0
E27K	Coleen River	92.70	12	P	P	03 26 45.6	+1.0
	baz=210,SNR=11						
C23K	Itkillik River	92.76	8	P	P	03 26 46.0	+1.3
	baz=202						
G30M	tAoh Zraii Nji	92.80	14	P	P	03 26 45.0	0.0
G30M				IAmb	IAmb	03 27 10.1	
	comp=Z,19nm,1.2s						
G30M	tAoh Zraii Nji	92.80	14	P	P	03 26 45.7	+0.7
	baz=215,SNR=5.7						
ATAH	Atahualpa	92.82	99	LR	LR	04 01 32.8	
	comp=Z,649nm,18.0s,baz=257,slow=31						
OK031	S. Brethren Rd	92.86	52	IAmb	IAmb	03 26 50.7	
	comp=Z,18nm,1.1s						
D25K	Kavik River	92.89	10	P	P	03 26 46.0	+0.6
	baz=206						
B22K	Teshekpuk Lake	92.90	7	P	P	03 26 45.7	+0.4
	baz=199						
KMI	Kunming	92.97	296	⇑P	P	03 26 49.0	+2.0
KMI				pmax	pmax		
	comp=Z,19nm,1.0s						
KMI				pmax	pmax		
	comp=Z,140nm,3.8s						
KMI				LR	LR		
	comp=Z,160nm,24.3s						
KMI				LR	LR		
	comp=Z,240nm,20.4s						
KMI				LR	LR		
	comp=Z,260nm,18.1s						
JTS	Las Juntas de	93.10	80	P	P	03 26 47.4	-0.2
JTS	Las Juntas de	93.10	80	P	P	03 26 47.4	-0.2
JTS				pmax	pmax		
	comp=Z,20nm,0.9s						
CRAI	Chiangrai	93.17	290	P	P	03 26 47.7	-0.1
G31M	Satah River	93.20	15	P	P	03 26 47.5	+0.8
	baz=217,SNR=7.7						
A22K	Sinclair Lake	93.36	6	P	P	03 26 48.7	+1.3
	baz=198						
F30M	Barrier River	93.41	14	P	P	03 26 48.7	+0.9
	baz=216						
E28M	Babbage River	93.46	12	IAmb	IAmb	03 27 09.1	
	comp=Z,15nm,1.2s						
E28M	Babbage River	93.46	12	P	P	03 26 48.9	+0.9
	baz=212,SNR=9.9						
A21K	Barrow	93.51	6	P	P	03 26 48.3	+0.2
	baz=196						
DGMT	Dagmar	93.58	39	P	P	03 26 49.2	+0.1
	baz=241						
C27K	Jago River	93.59	10	P	P	03 26 49.8	+1.2
	baz=208						
BTO	Baotou	93.60	312	eP	P	03 26 48.4	-1.0
BTO				pP	sP	03 26 53.3	+0.1
BTO				sP	pwP	03 26 55.4	-2.9
BTO				PP	PP	03 30 37.4	+2.8
BTO				S	S	03 37 53.3	-4.7
BTO				sS	sS	03 38 02.8	+0.1
BTO				pmax	pmax		
	comp=Z,16nm,1.4s						
BTO				pmax	pmax		
	comp=Z,290nm,4.5s						
E29M	Blow River	93.60	13	P	P	03 26 49.2	+0.6
	baz=214						
TUL3	Leonard	93.62	53	P	P	03 26 49.5	0.0
	baz=246						
C26K	Camden Bay	93.66	10	P	P	03 26 50.0	+1.2
	baz=207						
TEIG	Tepich	93.72	70	LR	LR	04 03 23.1	
	comp=Z,246nm,18.4s,baz=222,slow=32						
D27M	Malcolm River	93.73	11	IAmb	IAmb	03 27 16.6	
	comp=Z,12nm,1.2s						
D27M	Malcolm River	93.73	11	P	P	03 26 50.3	+1.0
	baz=211						
F31M	Tsiigehtchic	93.74	15	P	P	03 26 49.9	+0.6
	baz=217,SNR=5.2						
CMAR	Chiang Mai Arr	93.78	288	P	P	03 26 50.6	0.0
CMAR	Chiang Mai Arr	93.78	288	P	P	03 26 52.7	+2.1
	comp=Z,14nm,0.9s,baz=120,slow=2.9,SNR=47						
CMAR	Chiang Mai Arr	93.78	288	ceP	P	03 26 53.0	+2.4
CMAR				pmax	pmax		
	comp=Z,14nm,0.9s						
CHTO	Chiang Mai	93.90	289	P	P	03 26 49.6	-1.6
CHTO	Chiang Mai	93.90	289	P	P	03 26 49.6	-1.6
CHTO				pmax	pmax		
	comp=Z,19nm,0.9s						
D28M	Stokes Point	94.23	12	P	P	03 26 52.0	+0.5
	baz=213						
PZH	PanZhiHua	94.32	297	P	P	03 26 54.8	+1.7
PZH				S	S	03 38 01.8	-3.2
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,160nm,3.9s						
PZH				LR	LR		
	comp=Z,120nm,13.9s						
PZH				LR	LR		
	comp=Z,150nm,15.9s						
PZH				LR	LR		
	comp=Z,190nm,15.7s						
KSU1	Kansas State U	94.33	50	IAmb	IAmb	03 26 57.1	
	comp=Z,11nm,0.8s						
KSU1	Kansas State U	94.33	50	P	P	03 26 52.7	0.0
	baz=246						
INK	Inuvik	94.48	14	P	P	03 26 54.1	+1.5
	baz=218						
YAK	Yakutsk	94.48	337	⇑eP	P	03 26 52.2	-0.6
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MIAR	Mount Ida	94.74	55	P	P	03 26 54.4	-0.3
	baz=247						
LVC	Limon Verde	95.03	117	LR	LR	04 01 14.3	
	comp=Z,266nm,19.8s,baz=253,slow=30						
MDND	Maddock	96.03	41	P	P	03 27 00.3	0.0
	baz=244						
YKA	Yellowknife Ar	96.11	24	P	P	03 26 59.3	-0.9
	comp=Z,1.2nm,0.8s,baz=238,slow=4.3,SNR=5.1						
	comp=Z,1.2nm,0.8s						
ECSD	EROS Data Cent	96.21	45	P	P	03 27 01.3	+0.1
	baz=246						
LZH	Lanzhou	96.23	306	eP	P	03 27 01.6	-0.1
LZH				SKS	SKSac	03 37 41.4	+3.1
LZH				pmax	pmax		
	comp=Z,34nm,1.3s						
LZH				LR	LR		
	comp=Z,140nm,18.9s						
LZH				LR	LR		
	comp=Z,180nm,18.5s						
LZH				LR	LR		
	comp=Z,120nm,18.6s						
F33A	5 Mile Ranch,	97.27	44	IAmb	IAmb	03 27 10.5	
	comp=Z,9.7nm,1.0s						
SCIA	State Center	97.81	48	P	P	03 27 08.5	0.0
	baz=248						
OXF	Oxford	97.92	56	P	P	03 27 08.8	-0.3
	baz=249						
LPAZ	La Paz	98.41	111	LR	LR	04 05 04.2	
	comp=Z,435nm,18.0s,baz=236,slow=31						
AGMN	Agassiz Nation	98.51	41	P	P	03 27 11.2	-0.2
	baz=247						
ULN	Ulaanbaatar	98.51	318	P	P	03 27 11.1	-0.6
ULN				IAmb	IAmb	03 27 23.0	
	comp=Z,6.4nm,1.2s						
ULN	Ulaanbaatar	98.51	318	⇓eP	Pdif	03 27 11.9	+0.2
ULN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	Songino Array	98.91	318	P	Pdif	03 27 14.9	+1.5
	comp=Z,0.7nm,0.8s,baz=116,slow=3.4,SNR=4.3						
SONM				LR	LR	04 09 56.6	
	comp=Z,88nm,18.5s,baz=111,slow=34						
	comp=Z,0.7nm,0.8s						
A36M	Sachs Harbour	99.12	14	P	Pdif	03 27 13.7	+0.1
	baz=225						
ULM	Lac du Bonnet	99.25	40	LR	LR	04 07 26.7	
	comp=Z,419nm,19.5s,baz=246,slow=33						
JFWS	Jewell Farm	100.22	48	P	Pdif	03 27 18.7	-0.5
	baz=250						
EYMN	Ely	101.10	43	P	Pdif	03 27 23.1	+0.1
	baz=250						
GOGA	Godfrey	102.22	59	P	Pdif	03 27 28.2	-0.1
	baz=252						
DWPF	Disney Wildern	102.26	65	P	Pdif	03 27 28.6	0.0
	baz=252						
O48B	Farmland	102.99	52	P	Pdif	03 27 31.5	-0.1
	baz=253						
TZTN	Tazewell	103.10	56	P	Pdif	03 27 31.7	-0.5
	baz=253						
P49A	Miami Univ. Ec	103.10	53	P	Pdif	03 27 31.7	-0.4
	baz=253						
P52A	Corning	105.05	53	P	PKiKP	03 31 54.9	-0.5
	baz=254						
BLA	Blacksburg	105.69	56	P	PKiKP	03 31 55.5	-1.2
	baz=255						
O53A	New Philadelph	105.89	53	P	PKiKP	03 31 55.2	-1.8
	baz=255						
WMQ	Urumqi	110.30	310	ePKP	PKiKP	03 32 05.0	-0.2
HRV	Adam Dziewonsk	113.46	52	P	PKiKP	03 32 10.3	-0.8
	baz=262						
MK31	Makanchi Array	114.51	313	d iPKIKP	PKPdf	03 32 11.5	-1.6
MKAR	Makanchi Array	114.51	313	P	PKPdf	03 32 11.2	-1.9
	comp=Z,1.1nm,0.5s,baz=140,slow=7.2,SNR=13						
MKAR	Makanchi Array	114.51	313	c iPKIKP	PKPdf	03 32 11.6	-1.5
MKAR	Makanchi Array	114.51	313	pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	114.51	313				
	comp=Z,1.1nm,0.5s						
PKME	Peaks-Kenny Pk	115.42	49	P	PKPdf	03 32 14.2	-0.6
	baz=264						
KURK	Kurchatov	117.19	317	PKIKP	PKPdf	03 32 17.9	-0.1
KURBB	Kurchatov Arra	117.24	317	PKP	PKPdf	03 32 17.9	-0.2
	comp=Z,0.6nm,0.6s,baz=78,slow=2.3,SNR=2.8						
BVAR	Borovoye Array	122.18	320	PKP	PKPdf	03 32 27.2	-0.4
	comp=Z,3.5nm,0.9s,baz=107,slow=3.5,SNR=12						
KKAR	Karatay Array	122.67	308		PKPdf	03 32 28.3	-0.6
KKAR	Karatay Array	122.67	308	PKIKP	PKPdf	03 32 28.3	-0.6
SUMG	Summit	123.40	15	PKPdf	PKPdf	03 32 30.0	+0.1
SUMG	Summit	123.40	15	PKIKP	PKPdf	03 32 30.0	+0.1
SUMG	Summit	123.40	15	i P	PKPdf	03 32 30.0	+0.1
SUMG				IAmb	IAmb	03 32 36.8	
	comp=Z,5.8nm,1.0s						
DY2G	Dye2	124.44	23	i P	PKPdf	03 32 31.8	-0.1
DY2G				IAmb	IAmb	03 32 36.9	
	comp=Z,12nm,1.0s						
ICESG	Greenland Ices	125.21	18	i P	PKPdf	03 32 33.1	-0.3
ICESG				IAmb	IAmb	03 32 39.3	
	comp=Z,9.6nm,1.0s						
DBG	Daneborg	125.47	8	i P	PKiKP	03 32 33.7	0.0
DBG				IAmb	IAmb	03 32 39.1	
	comp=Z,3.6nm,0.9s						
ARU	Arti	128.10	326	i PKIKP	PKiKP	03 32 39.4	0.0
ARU						03 34 43.6	
ARU						03 39 49.9	
ARU				SS	SS	03 51 56.3	+0.5
ABKAR	Akbulak array	129.30	317		PKPdf	03 32 41.1	-0.2
ARCES	ARCESS Array B	130.62	351	PKPdf	PKPdf	03 32 43.6	+0.3
ARCES	ARCESS Array B	130.62	351	PKP	PKPdf	03 32 43.2	-0.1
	comp=Z,3.2nm,0.7s,baz=45,slow=1.4,SNR=8.2						
KIRV	Kirov	131.65	331	⇑iPKIKP	PKiKP	03 32 47.0	+0.6
FINES	FINESS Array B	137.78	346	PKP	PKPdf	03 32 56.0	-0.9
	comp=Z,2.6nm,0.7s,baz=28,slow=3.3,SNR=9.4						
FINES	FINESS Array B	137.78	346	c iPKIKP	PKPdf	03 32 57.0	+0.1
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MOS	Moscow	138.50	333	ePKIKP	PKiKP	03 32 59.6	-0.9
VRH	Novokhopyorsk	139.33	325	ePKIKP	PKPdf	03 32 58.5	-1.5
VRH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OBN	Obninsk	139.37	333	⇓iPKIKP	PKiKP	03 33 02.2	0.0
OBN				e		03 35 52.2	
OBN				eSS	SS	03 54 04.8	-6.7
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,131nm,21.0s						
VSU	Vasula	140.20	343	⇑iPKIKP	PKiKP	03 33 04.3	+0.4
VSU				pmax	pmax		
	comp=Z,9.0nm,1.0s						
VORR	Voronezh	140.35	327	ePKIKP	PKPdf	03 32 59.6	-2.3
VORR				pmax	pmax		
	comp=Z,51nm,0.4s						
NB2	NORSAR Subarra	140.43	356	PKP	PKPdf	03 32 54.6	-7.2
	comp=Z,10nm,1.7s,baz=17,slow=2.6						
VSR	Storozhevoye	140.65	327	ePKHKP	PKPpre	03 32 53.7	
VSR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HFS	Hagfors	141.12	354	PKP	PKPdf	03 33 01.3	-1.7
	comp=Z,2.8nm,0.8s,baz=66,slow=3.6,SNR=6.8						
KMBO	Kilima Mbogo	141.80	238	PKPdf	PKPdf	03 33 02.5	-3.5
KMBO	Kilima Mbogo	141.80	238	PKIKP	PKPdf	03 33 02.5	-3.5
KIV	Kislovodsk	142.23	315	i PKIKP	PKiKP	03 33 09.1	+0.5
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MNK	Minsk	143.16	338	i PKIKP	PKPbc	03 33 04.2	+0.5
MNK				i		03 36 15.3	
MNK				i PPP	PPP	03 39 24.6	
MNK				i		03 40 13.9	
MNK				i SS	SS	03 55 00.5	+5.1
MNK				i SSS	SSS	04 00 18.0	
MNK				pmax	pmax		
	comp=Z,11nm,0.8s						
MNK				pmax	pmax		
	comp=N,7.0nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.7s						
MNK				MLR	MLR		
	comp=Z,158nm,21.0s						
MNK				MLR	MLR		
	comp=N,83nm,20.0s						
MNK				MLR	MLR		
	comp=E,66nm,16.0s						
KARS	Kars	143.19	310	PKPdf	PKPbc	03 33 05.7	+1.2
KARS	Kars	143.19	310	PKIKP	PKPbc	03 33 05.7	+1.2
RAYN	Ar Rayn	143.31	281	⇓PKIKP	PKPbc	03 33 05.6	+0.4
KPL	Plockton	143.37	10	eP	PKPbc	03 33 04.2	+0.1
MCD	Coleburn Disti	143.49	8	eP	PKPab	03 33 04.0	+0.4
DRUM	Mains of Drumt	144.24	8	eP	PKPab	03 33 05.8	-0.6
LAWE	Loch Awe, Argy	144.44	11	eP	PKPbc	03 33 07.7	+0.2
INVG	Invergeldie, C	144.50	9	eP	PKPab	03 33 07.3	-0.1
PGBU	Glenifferbraes	145.02	10	eP	PKPab	03 33 09.4	+0.1
SUW	Suwalki	145.05	342	ePKP	PKPdf	03 33 10.4	+0.3
MUD	Monsted U'grnd	145.13	357	i P	PKPdf	03 33 10.1	-0.1
MUD				IAmb	IAmb	03 33 15.3	
	comp=Z,38nm,1.0s						
ANN	Anapa	145.18	319	c iPKIKP	PKPdf	03 33 10.6	0.0
ANN				pmax	pmax		
	comp=Z,96nm,1.0s						
ESY	Stoneypath	145.20	8	eP	PKPbc	03 33 09.4	-0.6
CLGH	Cloghs, Cushen	145.43	12	eP	PKPbc	03 33 10.7	0.0
AK03	Malin Array Si	145.62	333	PKP	PKPdf	03 33 11.3	+0.1
COP	Copenhagen	145.62	353	i P	PKPab	03 33 11.9	+0.4
COP				IAmb	IAmb	03 33 12.8	
	comp=Z,52nm,1.2s						
AK23	Malin Array Si	145.63	333	PKP	PKPbc	03 33 11.5	0.0
AKASG	Malin Array Be	145.63	333		PKPdf	03 33 10.9	-0.3
AKASG	Malin Array Be	145.63	333	PKPbc	PKPdf	03 33 11.2	0.0
	comp=Z,25nm,0.9s,baz=38,slow=3.8,SNR=53						
AKBB	Malin Array Si	145.63	333	PKP	PKPbc	03 33 11.4	-0.1
KIEV	Kiev	145.65	333	⇑P	PKPab	03 33 11.7	-0.1
KIEV	Kiev	145.65	333	PKPdf	PKPdf	03 33 10.7	-0.5
KIEV	Kiev	145.65	333	⇑PKIKP	PKPab	03 33 11.7	-0.1
KIEV	Kiev	145.65	333	PKP	PKPbc	03 33 11.4	-0.1
AK01	Malin Array Si	145.65	333	PKP	PKPdf	03 33 11.3	0.0
AK21	Malin Array Si	145.65	334	PKP	PKPbc	03 33 11.4	-0.1
AK22	Malin Array Si	145.65	334	PKP	PKPdf	03 33 11.3	0.0
AK08	Malin Array Si	145.67	333	PKP	PKPbc	03 33 11.6	0.0
AK09	Malin Array Si	145.67	333	PKP	PKPbc	03 33 11.6	0.0
AK02	Malin Array Si	145.67	333	PKP	PKPbc	03 33 11.6	0.0
AK18	Malin Array Si	145.68	333	PKP	PKPbc	03 33 11.6	0.0
EKA	Eskdalemuir Ar	145.69	9	PKPbc	PKPab	03 33 11.8	0.0
	comp=Z,6.8nm,0.7s,baz=343,slow=3.0,SNR=20						
ESK	Eskdalemuir	145.70	9		PKPdf	03 33 11.1	-0.1
ESK	Eskdalemuir	145.70	9	eP	PKPab	03 33 12.4	+0.6
ESK	Eskdalemuir	145.70	9	PKIKP	PKPdf	03 33 11.1	-0.1
AK10	Malin Array Si	145.70	333	PKP	PKPbc	03 33 11.7	0.0
AK12	Malin Array Si	145.71	333	PKP	PKPbc	03 33 11.6	-0.1
AK19	Malin Array Si	145.71	334	PKP	PKPbc	03 33 11.7	0.0
AK14	Malin Array Si	145.74	333	PKP	PKPbc	03 33 11.8	0.0
AK13	Malin Array Si	145.77	333	PKP	PKPbc	03 33 11.9	0.0
BSD	Bornholm Skovb	145.86	351	i P	PKPdf	03 33 10.0	-1.5
GAL1	Galloway	145.89	11	eP	PKPbc	03 33 12.0	-0.1
MI30	MI30,Zelenitsa	146.03	334	PKP	PKPbc	03 33 12.7	0.0
MI28	MI28,Pidlybu	146.09	335	PKP	PKPab	03 33 13.2	-0.3
EDMD	Edmundbyers	146.34	8	eP	PKPbc	03 33 13.3	-0.2
RNPP9	Sopachiv	146.38	337	PKP	PKPbc	03 33 13.3	-0.4
RNPP8	Varash	146.45	337	PKP	PKPbc	03 33 13.4	-0.6
RNPP5	Staryi Chortor	146.53	337	PKP	PKPbc	03 33 14.3	+0.1
LUBAR	Lubar, Ukraine	146.84	334	PKP	PKPdf	03 33 13.6	+0.3
GDLE	Glaisdale, N Y	146.88	7	eP	PKPbc	03 33 15.5	+0.4
SIM	Simferopol'	147.06	322	i PKP2	PKPbc	03 33 15.3	-0.7
SIM				pmax	pmax		
	comp=Z,61nm,1.5s						
GKP	Gorka Klasztor	147.20	347	ePKP	PKPab	03 33 17.1	-0.6
WLF1	Llynfaes	147.45	11	eP	PKPbc	03 33 16.4	-0.3
BSEG	Bad Segeberg	147.56	355	ePKPbc		03 33 17.7	
	baz=9.8,slow=2.4						
BEL	Belsk	147.66	342	ePKP	PKiKP	03 33 19.0	-0.4
SORM	Soroca	147.93	331	⇑P	PKPbc	03 33 18.4	+0.2
SORM	Soroca	147.93	331	⇑PKP2	PKPbc	03 33 18.4	+0.2
FOEL	Foel Wylfa	148.04	10	eP	PKPbc	03 33 18.5	+0.1
PURM	Purcari	148.35	327	⇑P	PKiKP	03 33 20.7	-0.3
LVV	L'vov	148.36	337	ePKP2	PKPbc	03 33 19.7	+0.4
GORT1	Trebel	148.40	354	ePKPbc		03 33 20.2	
	baz=9.8,slow=2.4						
HLM1	Long Mynd	148.46	10	eP	PKPbc	03 33 19.2	-0.3
CWF	Charnwood Fore	148.47	8	eP	PKPbc	03 33 19.7	+0.2
KIS	Kishinev	148.54	329	ePKP	PKPbc	03 33 20.0	+0.2
	comp=Z,120nm,3.0s						
KIS	Kishinev	148.54	329	ePKP2	PKPbc	03 33 20.0	+0.2
KIS				pmax	pmax		
	comp=Z,120nm,3.0s						
MILM	Milestii Mici	148.60	329	ePKP	PKPbc	03 33 19.8	-0.2
	comp=Z,130nm,1.4s						
MILM				eL	L	04 36 24.0	
MILM				LRM	MLR	04 38 06.0	
	comp=Z,130nm,18.0s						
MILM	Milestii Mici	148.60	329	ePKP2	PKPbc	03 33 20.0	0.0
MILM				pmax	pmax		
	comp=Z,130nm,1.4s						
MILM				MLR	MLR		
	comp=Z,130nm,18.0s						
RETH	Rethem/Aller,	148.82	356	ePKPbc		03 33 21.1	
	baz=9.8,slow=2.4						
NRDL	Niedersach Rie	149.00	355	ePKPbc		03 33 21.4	
	baz=9.8,slow=2.4						
FLTG	Flechtingen	149.06	353	ePKPbc		03 33 21.5	
	baz=9.8,slow=2.4						
IBBN	Ibbenburen	149.34	358	ePKPbc		03 33 22.4	
	baz=9.8,slow=2.4						
OJC	Ojcow	149.39	342	ePKP	PKiKP	03 33 22.6	-0.5
CLZ	Clausthal	149.63	354	ePKPbc		03 33 23.3	
	baz=9.8,slow=2.4						
KSP	Ksiaz	149.69	347	ePKP	PKiKP	03 33 23.7	+0.1
BURAR	Bucovina Array	149.69	333	⇓P	PKiKP	03 33 24.3	+0.4
BURAR	Bucovina Array	149.69	333	PKPdf	PKPdf	03 33 18.2	0.0
VARL	Varlezi	149.79	328	⇓P	PKiKP	03 33 23.9	-0.1
TLCR		149.81	327	⇑P	PKiKP	03 33 23.6	-0.5
TLCR		149.81	327	⇓PKP2	PKiKP	03 33 23.6	-0.5
CLL	Collm	149.84	351	ePKPdf	PKPdf	03 33 18.0	-0.2
	comp=Z,16nm,1.7s						
CLL				i PKPbc	PKPbc	03 33 23.4	+0.4
	comp=Z,32nm,0.9s						
CLL				i PKiKP	pPKPbc	03 33 26.0	+0.2
	comp=Z,29nm,0.9s						
CLL				i PKPab	PKPab	03 33 28.0	-0.3
	comp=Z,22nm,0.9s						
CLL				i x	x	03 33 34.4	
CLL				i x	x	03 33 37.5	
CLL				AMS	AMS	04 47 00.0	
	comp=Z,200nm,19.5s						
CLL	Collm	149.84	351	ePKPbc		03 33 23.4	
	baz=9.8,slow=2.4						
GHRR		149.89	329	⇓P	PKiKP	03 33 24.2	0.0
TESR	Tescani	149.91	331	⇓P	PKiKP	03 33 24.5	+0.2
NIE	Niedzica	149.95	341	ePKP	PKiKP	03 33 25.3	+1.1
GTTG	Gottingen	149.96	355	ePKPbc		03 33 24.0	
	baz=9.8,slow=2.4						
OSTC	Ostas	149.97	347	⇑ePKP	PKiKP	03 33 24.4	+0.1
OSTC				AMS	AMS	04 49 40.0	
	comp=Z,200nm,14.5s						
OSTC	Ostas	149.97	347	ePKP2	PKiKP	03 33 24.4	+0.1
OSTC				MLR	MLR		
	comp=Z,200nm,14.5s						
CHVC	Chvalec	149.98	347	⇑ePKP	PKiKP	03 33 24.5	+0.2
CHVC				AMS	AMS	04 52 40.0	
	comp=Z,100nm,13.9s						
CHVC	Chvalec	149.98	347	ePKP2	PKiKP	03 33 24.5	+0.2
CHVC				MLR	MLR		
	comp=Z,100nm,13.9s						
CRVS	Cervenica-Dubn	150.03	339	ePKP2	PKiKP	03 33 24.5	+0.1
CRVS	Cervenica-Dubn	150.03	339	ePKP	PKiKP	03 33 24.5	+0.1
UPC	Upice	150.06	347	⇑ePKP	PKiKP	03 33 24.7	+0.3
UPC				AMS	AMS	04 51 10.0	
	comp=Z,100nm,18.8s						
UPC	Upice	150.06	347	ePKP2	PKiKP	03 33 24.7	+0.3
UPC				MLR	MLR		
	comp=Z,100nm,18.8s						
BRG	Berggiesshubel	150.11	350	ePKP	PKPdf	03 33 19.8	+1.1
BRG				Amp		03

MORC Moravsky Berou 150.39 344 ⇑PKIKP PKiKP 03 33 25.7 +0.5
PLOR Plostina 150.40 330 ⇑P PKiKP 03 33 25.2 -0.1
PLOR Plostina 150.40 330 ⇑PKIKP PKiKP 03 33 25.2 -0.1
KASTN Kahler Asten 150.41 357 ePKPbc 03 33 24.9
baz=9.8,slow=2.4
LANS Liptovska Anna 150.44 342 ePKIKP PKiKP 03 33 26.4 +1.1
LANS Liptovska Anna 150.44 342 ePKP PKiKP 03 33 26.4 +1.1
HSKC Hora Svate Kat 150.45 350⇑ePKP PKiKP 03 33 25.4 +0.1
HSKC AMS AMS 04 51 00.0
comp=Z,200nm,16.6s
TURR Turia 150.55 331 ⇓P PKPbc 03 33 24.0 -0.9
HARR Harsova 150.61 327 ⇑P PKPbc 03 33 25.3 +0.2
OZUR 150.62 331 ⇓P PKiKP 03 33 26.2 +0.4
TLBR Topalu 150.65 326 ⇑P PKiKP 03 33 27.0 +1.2
ANTO Ankara 150.65 314 ⇓P PKiKP 03 33 26.5 +0.4
ANTO Ankara 150.65 314 ⇓PKIKP PKiKP 03 33 26.5 +0.4
MOX Moxa 150.67 352 ePKPbc 03 33 25.7
baz=9.8,slow=2.4
BOSR Bodos 150.69 331 ⇑P PKiKP 03 33 27.2 +1.3
MAUC Maruska 150.70 344⇑ePKP PKiKP 03 33 26.8 +1.0
PLN Plauen 150.76 352 ePKPbc 03 33 25.9
baz=9.8,slow=2.4
TANN Tannenbergstha 150.79 351 ePKPbc 03 33 26.0
baz=9.8,slow=2.4
PRA Prague 150.79 348⇑ePKP PKiKP 03 33 26.6 +0.7
PRA AMS AMS 04 50 50.0
comp=Z,200nm,17.5s
PRA Prague 150.79 348 ePKIKP PKiKP 03 33 26.6 +0.7
PRA e 03 33 26.6
PRA MLR MLR
comp=Z,200nm,17.5s
CVDA Cernavoda 150.80 326 ⇑P PKPab 03 33 32.1 -0.4
PRU Pruhonice 150.85 348⇑ePKP PKiKP 03 33 26.6 +0.5
PRU AMS AMS 04 50 50.0
comp=Z,200nm,17.3s
PRU Pruhonice 150.85 348 ePKIKP PKiKP 03 33 26.6 +0.5
PRU MLR MLR
comp=Z,200nm,17.3s
GOPC GO Pecny, Ondr 150.88 348⇑ePKP PKiKP 03 33 26.7 +0.5
GOPC AMS AMS 04 49 50.0
comp=Z,200nm,18.2s
GOPC GO Pecny, Ondr 150.88 348 ePKIKP PKiKP 03 33 26.7 +0.5
GOPC MLR MLR
comp=Z,200nm,18.2s
DOPR Dopca 150.90 331 ⇑P PKiKP 03 33 27.3 +1.0
MLR Muntele Rosu 151.00 330 ⇓P PKiKP 03 33 26.9 +0.2
MLR Muntele Rosu 151.00 330 PKPdf PKPdf 03 33 19.9 -0.5
MLR Muntele Rosu 151.00 330 ⇓PKIKP PKiKP 03 33 26.9 +0.2
VRAC Vranov 151.06 345 ⇑P PKPbc 03 33 25.3 -0.7
VRAC Vranov 151.06 345 ePKP PKiKP 03 33 26.7 +0.2
VRAC Vranov 151.06 345 ⇑PKIKP PKPbc 03 33 25.3 -0.7
CJR Cluj-Napoca 151.07 334 ⇓P PKiKP 03 33 27.1 +0.4
CJR Cluj-Napoca 151.07 334 ⇓PKIKP PKiKP 03 33 27.1 +0.4
MEM Membach 151.07 360 dPKP PKiKP 03 33 26.7 +0.2
BTNL Ternell 151.10 359 dPKP PKiKP 03 33 26.5 -0.1
BSTI Sart Tilman 151.10 0 dPKP PKiKP 03 33 27.1 +0.6
JAVC Velka Javorina 151.21 344 ePKP PKiKP 03 33 28.2 +1.3
VYHS Vyhne 151.21 342 ePKIKP PKiKP 03 33 27.2 +0.3
VYHS Vyhne 151.21 342 ePKP PKiKP 03 33 27.2 +0.3
MANZ Manzenberg 151.25 351 ePKPbc 03 33 27.1
baz=9.8,slow=2.4
BCLA Clavier 151.26 1 dPKP PKPbc 03 33 26.5 +0.1
BGES Gesves 151.30 1 dPKP PKiKP 03 33 27.7 +0.7
MARR Marisel-Cluj 151.30 335 ⇑P PKiKP 03 33 27.1 -0.2
TREC Trest 151.32 347 AMS AMS 04 47 50.0
comp=Z,200nm,22.9s
BHOU Houvegnez 151.33 360 dPKP PKiKP 03 33 27.8 +0.7
KRUC Moravsky 151.34 345 ePKP PKiKP 03 33 27.3 +0.2
DRGR 151.36 335 ⇓P PKiKP 03 33 27.8 +0.4
DRGR 151.36 335 ⇓PKIKP PKiKP 03 33 27.8 +0.4
BMRD Maredsous 151.37 1 dPKP PKiKP 03 33 27.3 +0.2
TNS Taunus Mts 151.38 356 ePKPbc 03 33 27.2
baz=9.8,slow=2.4
MMAI Mount Meron Ar 151.40 300 PKPbc PKiKP 03 33 28.1 +0.3
comp=Z,12nm,0.9s,baz=56,slow=3.6,SNR=8.3
PSZ Piszkesteto 151.40 340 ⇑P PKPbc 03 33 27.1 +0.2
PSZ Piszkesteto 151.40 340 PKPdf PKPdf 03 33 19.2 -1.7
PSZ Piszkesteto 151.40 340 ⇑PKIKP PKPbc 03 33 27.1 +0.2
ZVC Zvikov 151.44 348⇑ePKP PKiKP 03 33 27.8 +0.5
ZVC AMS AMS 04 49 20.0
comp=Z,200nm,19.7s
ROTZ Rotzenmuhle 151.46 351 ePKPbc 03 33 27.6
baz=9.8,slow=2.4
SULR 151.46 328 ⇓P PKPab 03 33 35.4 +0.1
VOIR 151.46 331 ⇑P PKiKP 03 33 28.6 +1.0
VOIR 151.46 331 ⇑PKIKP PKiKP 03 33 28.6 +1.0
RCHB Rochefort 151.53 1 dPKP PKiKP 03 33 27.8 +0.3
DOU Dourbes 151.58 2 dPKP PKiKP 03 33 27.8 +0.3
MTUR Matau 151.61 331 ⇓PKP2 PKPab 03 33 50.8 +15
TNR Turnu Rosu 151.63 332 ⇓P PKiKP 03 33 28.4 +0.5
TNR Turnu Rosu 151.63 332 ⇓PKIKP PKiKP 03 33 28.4 +0.5
GRF Grafenberg Arr 151.66 352 ePKPbc 03 33 28.1
baz=9.8,slow=2.4
ARR Arges 151.70 331 ⇓P PKiKP 03 33 29.4 +1.4
MODS Modra-Piesok 151.75 344 ePKIKP PKiKP 03 33 28.9 +0.9
MODS Modra-Piesok 151.75 344 ePKP PKiKP 03 33 28.9 +0.9
KHC Kasperske Hory 151.85 349⇑ePKP PKiKP 03 33 28.5 +0.3
KHC AMS AMS 04 47 00.0
comp=Z,200nm,21.1s
KHC Kasperske Hory 151.85 349 ePKIKP PKiKP 03 33 28.5 +0.3
KHC MLR MLR
comp=Z,200nm,21.1s
CKRC Cesky Krumlov 152.02 348 AMS AMS 04 43 30.0
comp=Z,200nm,20.5s
WLF Walferdange 152.02 359 dPKP PKiKP 03 33 28.8 +0.3
WLF Walferdange 152.02 359 ePKPbc 03 33 29.5
baz=9.8,slow=2.4
GEC2 GERESS Array S 152.11 349 ePKPbc 03 33 29.0
baz=9.8,slow=2.4
GERES GERESS Array B 152.11 349 PKPdf 03 33 20.5 -1.4
GERES GERESS Array B 152.11 349 PKPbc PKiKP 03 33 29.1 +0.2
comp=Z,5.4nm,0.9s,baz=9.5,slow=3.0,SNR=19
GERES GERESS Array B 152.11 349 PKIKP PKPdf 03 33 20.5 -1.4
SIRR Siria 152.20 336 ⇓P PKPbc 03 33 28.3 -0.4
SURR Surduc 152.45 335 ⇓P PKiKP 03 33 30.1 +0.6
GZR Gura Zlata 152.48 333 ⇓P PKPbc 03 33 29.5 +0.1
GZR Gura Zlata 152.48 333 ⇓PKIKP PKPbc 03 33 29.5 +0.1
CONA Conrad Observa 152.52 345 ePKP PKPdf 03 33 22.6 0.0
comp=Z,3.4nm,1.2s
CONA i PKiKP PKiKP 03 33 30.2 +0.5
comp=Z,10nm,0.9s
RONA Rosalia, Austr 152.63 344 ePKP PKPdf 03 33 22.9 +0.2
comp=Z,3.0nm,1.1s
RONA i PKiKP PKiKP 03 33 30.4 +0.5
comp=Z,11nm,0.8s
BZS Buzias 152.76 335 ⇑P PKiKP 03 33 30.7 +0.6
BZS Buzias 152.76 335 ⇑PKIKP PKiKP 03 33 30.7 +0.6
ELND Elena 152.91 326 ⇓P PKPbc 03 33 29.6 -0.8
MOA Molln 152.95 347 ePKP PKiKP 03 33 30.5 0.0
comp=Z,4.5nm,0.9s
HERR Herculane 153.04 333 ⇓P PKiKP 03 33 30.9 +0.1
BIOA Bad Ischl, Aus 153.23 348 ePKP PKPdf 03 33 22.9 -0.6
comp=Z,0.9nm,0.4s
BIOA ePKP PKiKP 03 33 31.1 0.0
comp=Z,8.0nm,1.1s
ARSA Arzberg 153.24 345 ePKP PKiKP 03 33 31.1 -0.1
comp=Z,3.5nm,1.0s
BFO Black Forest 153.28 356 PKPdf PKPdf 03 33 22.9 -0.6
BFO Black Forest 153.28 356 PKIKP PKPdf 03 33 22.9 -0.6
BFO Black Forest 153.28 356 ePKPbc 03 33 31.4
baz=9.8,slow=2.4
MORH Mrgy, Hungar 153.31 340 ⇓P PKiKP 03 33 31.6 +0.4
MDVR Moldovita 153.41 334 ⇑P PKPbc 03 33 29.9 -1.6
CLF Chambon-Foret 153.51 5 PKPdf PKPdf 03 33 23.7 -0.1
LESA Schwarzleotal 153.66 349 ePKP PKPdf 03 33 24.5 +0.3
comp=Z,3.5nm,1.1s
UBR Ueberruh 153.77 353 ePKPbc 03 33 32.3
baz=9.8,slow=2.4
FRGS Fruska Gora 153.83 337 ⇓P PKPab 03 33 46.6 +1.3
KBA Koelnbreinsper 153.87 348 ePKP PKPdf 03 33 24.3 -0.3
comp=Z,5.1nm,1.2s
KBA ePKP PKPab 03 33 45.0 -0.5
comp=Z,6.5nm,1.1s
RETA Reutte 153.88 352 ePKiKP PKiKP 03 33 33.0 +0.5
comp=Z,7.8nm,1.1s
SOKA Soboth 153.89 345 ePKP PKPdf 03 33 24.4 -0.2
comp=Z,3.5nm,1.1s
SOKA ePKP PKPab 03 33 45.9 +0.3
comp=Z,14nm,1.2s
WATA Walderalm 153.92 351 epPKP pPKPdf 03 33 28.6 +1.1
comp=Z,5.4nm,0.8s
WTTA Wattenberg 153.98 351 ePKiKP PKiKP 03 33 33.0 +0.1
comp=Z,6.9nm,0.9s
SQTA Sankt Quirin 154.09 351 epPKP pPKPdf 03 33 28.8 +1.1
comp=Z,11nm,1.4s
ABTA Abfaltersbach 154.34 349 ePKP PKPdf 03 33 25.1 -0.1
comp=Z,5.9nm,1.3s
FETA Feichten 154.34 352 epPKP pPKPdf 03 33 26.8 -1.4
comp=Z,3.3nm,0.9s
BOVS Bovan 154.35 333 ⇓P PKPbc 03 33 32.5 -1.0
PAB San Pablo 160.17 24 ⇓PKIKP PKPdf 03 33 34.2 +1.4
ESDC Sonseca Array 160.20 23 PKPdf PKPdf 03 33 31.0 -1.8
ESDC Sonseca Array 160.20 23 PKP PKPdf 03 33 33.8 +1.1
comp=Z,1.5nm,1.1s,baz=0.5,slow=2.8,SNR=6.4
ESDC PKPab PKPab 03 34 13.2 +0.4
comp=Z,1.2nm,0.7s,baz=322,slow=4.1,SNR=6.5
DBIC Dimbokro 161.95 144 PKP PKPdf 03 33 35.2 -0.1
comp=Z,9.1nm,1.1s,baz=308,slow=11,SNR=3.3
TORD Torodi Ar. Bea 170.73 155 PKP PKPdf 03 33 40.7 -1.4
comp=Z,0.8nm,0.8s,baz=225,slow=0.4,SNR=4.1

DJA ***13*** *03:21:04.5±0.5, 9°S±5°×12°4E±°, h111km±6km, M4.4/12, mb4.4/6, mB5.1/4, MLv4.3/12, Mw(mB)4.4/4*
IDC ***13*** *03:21:21.0±4.0, 11°.51S×122°.71E, h99km±33km, mb3.7/3, mbtmp4.1/6, Error ellipse: s-maj=140.1km s-min=22.1km az=55.0*
ISC 13 03:21:04.1±1.1, 8°.9S±0°.1×124°.4E±0°.1, h100km, n13, σ4§68/14, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.88	188	P	Pn	03 21 26.3	+2.9
BATI	Baumata	1.50	208	P	Pn	03 21 32.5	+2.1
MMRI	Maumere	2.14	276	P	Pn	03 21 38.5	+0.1
EDFI	Ende, Flores	2.67	273	P	Pn	03 21 47.3	+1.8
BASI	Baing, Sumba	3.98	250	P	Pn	03 22 02.5	-0.6
BKSI	Bulukumba	5.51	310	P	Pn	03 22 23.2	-0.6
KAPI	Kappang	5.99	310	P	sPb	03 23 02.2	-4.6
21nm,0.4s,baz=168,slow=8.9,SNR=17							
PLAI	Plampang	6.53	270	P	Pn	03 22 36.6	-1.0
TWSI	Taliwang, Sumb	7.42	271	P	Pn	03 22 48.7	-1.0
30nm,0.6s,1μm							
WRA	Warramunga Arr	14.62	140	P	P	03 24 33.5	+3.9
3.5nm,0.6s,baz=312,slow=13,SNR=14							
WRA				S	Sn	03 26 59.0	-8.2
3.3nm,0.6s,baz=321,slow=26,SNR=11							
ASAR	Alice Springs	17.30	149	P	Pn	03 25 02.8	+3.3
3.2nm,0.8s,baz=327,slow=12,SNR=10.0							
ASAR				S	Sn	03 28 01.6	-10
1.8nm,0.5s,baz=312,slow=21,SNR=5.9							
SONM	Songino Array	58.67	346	P	sP	03 31 23.6	-3.3
1.0nm,0.8s,baz=169,slow=7.1,SNR=4.9							
1.0nm,0.8s							
ZALV	Zalesovo Beam	70.94	337	P	pP	03 32 38.6	+3.4
1.0nm,0.5s,baz=132,slow=4.3,SNR=2.6							
1.0nm,0.5s							

IDC ***13*** *03:34:07.4±0.7, 4°.69S×138°.72E, h0km, mb4.1/11, mbtmp4.2/14, ML3.1/2, MS4.1/17, Error ellipse: s-maj=30.9km s-min=15.2km az=69.0*
DJA ***13*** *03:34:10.4±0.2, 5°S±3°×13°9E±°, h10km, M5.1/25, mB5.4/3, mb4.7/25, MLv5.3/6, Mw(mB)4.8/3*
NEIC ***13*** *03:34:10.4±1.9, 4°.78S±0°.09×138°.47E±0°.07, h10km±1km, mb4.7/50, Error ellipse: s-maj=14.8km s-min=11.6km az=17.0*
ISC 13 03:34:09.8±0.4, 4°.80S±0°.05×138°.53E±0°.06, h10km, n126, σ1§91/114, mb4.6/37, MS4.2/15, 1C-1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	2.74	37	P	Pn	03 34 53.7	-0.1
JAY	Jayapura	3.14	44	P	Pn	03 34 58.0	-1.4
MMPI	Merauke	4.08	153	P	Pn	03 35 14.8	+2.6
FAKI	Fak Fak	6.54	286	Pn	Pn	03 35 45.9	-0.3
FAKI	Fak Fak	6.54	286	P	Pn	03 35 46.6	+0.4
134nm,1.3s,0.7nm							
SWI	Sorong	8.25	298	P	Pn	03 36 08.7	-0.9
64nm,0.7s							
PMG	Port Moresby	9.70	119		Pn	03 36 30.8	+1.3
PMG	Port Moresby	9.70	119	Pn	Pn	03 36 26.6	-2.9
3.2nm,0.3s,baz=271,slow=11,SNR=2.2							
PMG				Sn	Sn	03 38 15.8	-2.9
3.2nm,0.3s,baz=238,slow=15,SNR=2.0							
7.8nm,0.2s							
KDU	Kakadu	9.86	217	P	Pn	03 36 33.0	+1.3
COEN	Coen	10.18	154	P	Pn	03 36 37.0	+0.9
COEN	Coen	10.18	154		Pn	03 36 36.9	+0.8
DRS	Darwin Rock St	10.69	224	P	Pn	03 36 45.7	+2.6
MTN	Manton Dam	10.83	222	Pn	Pn	03 36 45.3	+0.4
MTSU	Mount Surprise	14.40	157	P	Pn	03 37 34.3	+0.4
KNRA	Kununurra	14.45	221	Pn	Pn	03 37 35.0	+0.4
SOEI	Soe	14.98	250		Pn	03 37 40.5	-1.3
SOEI	Soe	14.98	250	P	Pn	03 37 41.2	-0.6
WB0	Warramunga Arr	15.41	195		Pn	03 37 45.1	-2.3
WB0				IAmb	IAmb	03 37 59.2	
comp=Z,38nm,0.8s							
WR0	Warramunga Arr	15.56	194		Pn	03 37 46.5	-2.8
WR0				IAmb	IAmb	03 38 08.8	
comp=Z,22nm,0.7s							
WRAB	Tennant Creek	15.58	195		Pn	03 37 47.9	-1.8
WRAB				IAmb	IAmb	03 37 59.5	
comp=Z,43nm,0.8s							
WB2	Warramunga Arr	15.59	195		Pn	03 37 48.0	-1.8
WB2				IAmb	IAmb	03 37 57.9	
comp=Z,42nm,0.8s							
WRA	Warramunga Arr	15.59	195		Pn	03 37 49.1	-0.7
WRA	Warramunga Arr	15.59	195	Pn	Pn	03 37 46.8	-3.1
comp=Z,0.6nm,0.3s,baz=4.0,slow=13,SNR=32							
WRA				Sn	Sn	03 40 33.1	-10
comp=Z,1.7nm,0.3s,baz=13,slow=23,SNR=8.1							
WRA				Lg	Lg	03 42 24.9	
comp=Z,3.0nm,0.3s,baz=22,slow=27,SNR=5.3							
WRA				LR	LR	03 44 26.5	
comp=Z,440nm,19.7s,baz=42,slow=39							
QIS	Mount Isa	15.69	176	P	Pn	03 37 49.1	-2.0
GTOI	Gorontalo	16.42	289	P	P	03 38 05.7	+2.4
comp=Z,18nm,0.8s							
CTA	Charters Tower	16.95	154	Pn	P	03 38 09.6	+0.5
baz=322,slow=12,SNR=11							
CTA				Lg	Lg	03 43 06.8	
baz=352,slow=12,SNR=4.7							
CTAO	Charters Tower	16.95	154	P	Pn	03 38 08.6	+1.4
EDFI	Ende, Flores	17.18	256	P	Pn	03 38 10.1	-0.1
comp=Z,17nm,0.9s							
MRSI	Marisa	17.39	287	P	P	03 38 13.9	-0.1
FITZ	Fitzroy Crossi	18.26	223	P	Pn	03 38 22.5	-1.0
BKSI	Bulukumba	18.35	268	P	P	03 38 26.4	+1.8
comp=Z,45nm,0.7s,comp=Z,3μm							
TOLI2	Tolitoli	18.68	288		Pn	03 38 28.6	-0.1
KAPI	Kappang	18.71	269	P	Pn	03 38 30.7	+1.7
comp=Z,0.3nm,0.3s,baz=91,slow=13,SNR=1.4							
comp=Z,3.4nm,0.5s							
AS01	Alice Springs	19.27	193	P	Pn	03 38 36.2	+0.5
AS31	Alice Springs	19.28	193		Pn	03 38 36.1	+0.3
ASAR	Alice Springs	19.28	193	P	P	03 38 34.2	-0.6
ASAR	Alice Springs	19.28	193	P	Pn	03 38 36.7	+0.9
comp=Z,20nm,0.5s,baz=20,slow=11,SNR=215							
ASAR				S	Sn	03 42 02.0	-10
comp=Z,6.6nm,0.9s,baz=17,slow=26,SNR=4.5							
ASAR				LR	LR	03 45 17.3	
comp=Z,697nm,18.3s,baz=28,slow=34							
GUMO	Guam	19.33	19	LR	LR	03 44 25.0	
comp=Z,396nm,21.9s,baz=200,slow=32							
WRKA	Warakurna	22.39	205	P	P	03 39 08.8	+0.3
OOD	Oodnadatta	23.02	186	P	P	03 39 16.4	+1.3
EIDS	Eidsvold	23.73	151	P	P	03 39 23.1	+0.8
EIDS				IAmb	IAmb	03 39 49.6	
comp=Z,16nm,1.2s							
MBWA	Marble Bar	24.44	227	P	P	03 39 28.1	-0.8
PSA00	Pilbara Seismi	24.62	226	P	P	03 39 36.1	+5.5
PSA00	Pilbara Seismi	24.62	226	P	P	03 39 28.3	-2.3
PSA00				IAmb	IAmb	03 39 46.3	
comp=Z,26nm,1.1s							
PSA00	Pilbara Seismi	24.62	226	P	P	03 39 30.2	-0.4
PSA00				IAmb	IAmb	03 40 07.4	
comp=Z,7.1nm,0.9s							
LCRK	Leigh Creek	25.51	181	P	P	03 39 40.5	+2.0
MULG	Mulgathing	25.69	189	P	P	03 39 43.1	+3.0
STKA	Stephens Creek	27.09	174	P	P	03 39 52.8	+0.1
comp=Z,1.2nm,0.3s,baz=0.0,slow=13,SNR=5.9							
comp=Z,1.2nm,0.3s							
CMSA	Cobar Meteorol	27.43	167	P	P	03 39 59.8	+4.0
FORT	Forrest	27.66	200	P	P	03 39 59.1	+1.2
FORT	Forrest	27.66	200	P	P	03 39 58.9	+1.0
BBOO	Buckleboo	27.96	184	P	P	03 40 04.4	+3.8
BBOO	Buckleboo	27.96	184	P	P	03 40 02.1	+1.6
KOUNC	Koumac, New Ca	29.52	124	P	P	03 40 14.9	+0.2
KOUNC				IAmb	IAmb	03 40 34.1	
comp=Z,11nm,0.8s							
DZM	Mont Dzumac	32.01	125	eLR	LR	03 48 58.7	
comp=Z,318nm,22.9s							
DZM	Mont Dzumac	32.01	125	LR	LR	03 53 11.3	
comp=Z,339nm,18.7s,baz=312,slow=36							
MORW	Morawa	32.20	219	P	P	03 40 38.2	0.0
NWAO	Narrogin (SRO)	34.32	213	LR	LR	03 56 12.9	
comp=Z,884nm,18.7s,baz=38,slow=38							
PPSI	Pulau Pagai	38.49	272	P	P	03 41 33.7	+1.2
NJ2	Nanjing	41.16	334	eP	P	03 41 56.1	+1.7
NJ2				pmax	pmax		
comp=Z,15nm,0.6s							
NJ2				pmax	pmax		
comp=Z,110nm,4.0s							
KSRS	Korea Array	43.19	348	P	P	03 42 10.2	-0.7
comp=Z,1.1nm,0.8s,baz=170,slow=8.5,SNR=5.6							
comp=Z,1.1nm,0.8s							
CMAR	Chiang Mai Arr	45.35	302	P	P	03 42 28.1	-0.6
comp=Z,1.2nm,0.4s,baz=126,slow=6.4,SNR=7.6							
comp=Z,1.2nm,0.4s							
PZH	PanZhiHua	47.30	313	P	P	03 42 46.8	+2.9
PZH				pmax	pmax		
comp=Z,10.0nm,1.0s							
PZH				pmax	pmax		
comp=Z,130nm,4.3s							
HNS	HongShan	47.49	334	⇑P	P	03 42 50.5	+5.4
HNS				pmax	pmax		
comp=Z,9.0nm,1.4s							
RPZ	Rata Peaks	48.20	148	LR	LR	04 02 46.3	
comp=Z,348nm,18.1s,baz=292,slow=36							
TUWZ	Tuamarina	48.27	144	P	P	03 42 51.4	+0.3
URZ	Urewera	48.35	139	LR	LR	04 01 59.8	
comp=Z,270nm,21.8s,baz=32,slow=35							
BKZ	Black Stump Fm	48.46	140	P	P	03 42 53.2	+0.5
RTZ	Ruatahuna	48.46	139	P	P	03 42 53.7	+1.0
HHC	Hu-ho-hao-te	51.72	334	eP	P	03 43 18.6	+1.2
HHC				PP	PP	03 45 12.6	-2.6
HHC				S	S	03 50 39.5	+0.3
HHC	Hu-ho-hao-te	51.72	334	SS	SS	03 54 09.3	-6.6
HHC				pmax	pmax		
comp=Z,20nm,0.7s							
HHC				pmax	pmax		
comp=Z,160nm,5.7s							
HHC				LR	LR		
comp=N,120nm,15.0s							
HHC				LR	LR		
comp=E,150nm,15.3s							
HHC				LR	LR		
comp=Z,180nm,16.0s							
XLT	XiLinHaoTe	52.53	340	eP	P	03 43 19.0	-4.4
XLT				sP	pP	03 43 27.3	+0.7
XLT				PcP	PcP	03 44 25.9	-7.9
XLT				pmax	pmax		
comp=Z,10.0nm,0.7s							
SONM	Songino Array	59.53	335	P	P	03 44 12.9	-0.6
comp=Z,0.4nm,0.4s,baz=146,slow=6.5,SNR=3.2							
comp=Z,0.4nm,0.4s							
RAR	Rarotonga	61.91	111	LR	LR	04 08 53.8	
comp=Z,44nm,20.3s,baz=262,slow=34							
CASY	Casey	64.40	192	P	P	03 44 45.5	-0.3
PPT	Papeete	71.31	107	LR	LR	04 13 40.5	
comp=Z,49nm,19.3s,baz=348,slow=33							
PPT2	Papeete2	71.31	107	eLR	LR	04 07 11.7	
comp=Z,118nm,22.8s							
PPT2				eLR	LR	04 07 12.1	
comp=Z,118nm,27.2s							
MKAR	Makanchi Array	71.34	323	P	P	03 45 28.4	-1.5
MKAR	Makanchi Array	71.34	323	P	P	03 45 28.2	-1.7
comp=Z,0.9nm,0.7s,baz=116,slow=6.9,SNR=8.2							
comp=Z,0.9nm,0.7s							
TBI	Tubuai	71.59	113	eLR	LR	04 07 22.7	
comp=Z,258nm,25.2s							
ZALV	Zalesovo Beam	73.65	330	P	P	03 45 42.0	-1.4
comp=Z,0.4nm,0.4s,baz=112,slow=7.6,SNR=1.3							
ZALV				LR	LR	04 18 56.3	
comp=Z,197nm,19.9s,baz=86,slow=36							
comp=Z,0.4nm,0.4s							
VNDA	Vanda	73.72	175	P	P	03 45 43.9	+0.4
VNDA	Vanda	73.72	175	P	P	03 45 42.2	-1.3
comp=Z,1.7nm,0.8s,baz=323,slow=6.0,SNR=9.9							
comp=Z,1.7nm,0.8s							
KURBB	Kurchatov Arra	75.33	325	P	P	03 45 53.1	-0.2
comp=Z,0.5nm,0.6s,baz=118,slow=5.3,SNR=6.7							
comp=Z,0.5nm,0.6s							
BVAR	Borovoye Array	80.92	325	P	P	03 46 24.5	+0.2
comp=Z,2.3nm,0.8s,baz=108,slow=8.3,SNR=9.5							
BVAR				LR	LR	04 25 22.7	
comp=Z,153nm,19.2s,baz=83,slow=38							
comp=Z,2.3nm,0.8s							
BRVK	Borovoye	80.99	325	P	P	03 46 25.6	+1.0
J17K	VABM Dome	82.32	24	P	P	03 46 31.3	-0.1
J17K				IAmb	IAmb	03 46 49.9	
comp=Z,7.1nm,1.1s							
K17K	Iditarod	82.33	25	P	P	03 46 33.4	+1.9
KDAK	Kodiak Island	82.99	30	LR	LR	04 17 59.2	
comp=Z,73nm,21.9s,baz=252,slow=32							
G18K	Tagagawik	83.62	22	P	P	03 46 39.1	+1.0
E18K	Tukpahlearik C	83.65	20	P	P	03 46 39.4	+1.1
E18K				IAmb	IAmb	03 46 41.1	
comp=Z,3.2nm,0.9s							
K20K	Telida	84.35	25	P	P	03 46 42.7	+0.8
K20K				IAmb	IAmb	03 47 25.2	
comp=Z,8.3nm,1.5s							
J20K	Nowinta River	84.64	24	P	P	03 46 43.8	+0.4
J20K				IAmb	IAmb	03 46 57.3	
comp=Z,3.6nm,0.9s							
C19K	Lookout Ridge	84.79	19	P	P	03 46 45.0	+0.9
E19K	Redstone River	84.82	20	P	P	03 46 44.8	+0.6
E19K				IAmb	IAmb	03 46 55.8	
comp=Z,5.3nm,1.1s							
D19K	Kuna River	84.98	19	P	P	03 46 46.8	+1.8
SUA	Susitna One	85.12	27	P	P	03 46 46.0	0.0
SUA				IAmb	IAmb	03 47 02.5	
comp=Z,5.0nm,1.2s							
QSPA	South Pole Qui	85.16	180	P	P	03 46 46.4	+0.2
QSPA				IAmb	IAmb	03 46 50.2	
comp=Z,3.5nm,0.8s							
QSPA	South Pole Qui	85.16	180	P	P	03 46 45.3	-0.8
comp=Z,3.4nm,0.7s,baz=35,slow=1.6,SNR=15							
QSPA				LR	LR	04 25 30.8	
comp=Z,124nm,18.4s,baz=14,slow=36							
comp=Z,3.4nm,0.7s							
IMAR	Indian Mountai	85.48	22	P	P	03 46 48.1	+0.6
H21K	Melozitna Rive	85.72	23	P	P	03 46 48.9	+0.1
H21K				IAmb	IAmb	03 47 13.4	
comp=Z,6.7nm,1.4s							
BPAW	Bear Paw Mtn.	85.90	25	P	P	03 46 49.0	-0.7
ABKAR	Akbulak array	86.20	320	P	P	03 46 51.0	-0.4
ABKAR	Akbulak array	86.20	320	P	P	03 46 51.7	+0.2
MLY	Manley	86.31	24	P	P	03 46 52.6	+0.9
I23K	Minto, Yukon-K	86.91	24	P	P	03 46 54.2	-0.3
I23K				IAmb	IAmb	03 46 56.9	
comp=Z,7.0nm,1.4s							
E22K	Anaktuvuk Pass	86.98	21	P	P	03 46 55.4	+0.4
H23K	Yukon River	87.05	23	P	P	03 46 56.5	+1.2

D24K	Happy Valley	88.35	20	P	P	03 47 03.4	+1.9
J25K	Salcha River,	88.39	25	P	P	03 47 00.7	-1.2
J25K				IAmb	IAmb	03 47 07.9	
	comp=Z,3.6nm,1.2s						
ELIB	Princess Elisa	93.05	196	dP	P	03 47 25.1	+1.6
KIRV	Kirov	93.60	328	LR	LR	04 33 37.5	
	comp=Z,185nm,18.6s,baz=53,slow=38						
BBB	Bella Bella	95.82	38	LR	LR	04 28 05.5	
	comp=Z,34nm,18.2s,baz=204,slow=34						
GNI	Garni	95.97	310	LR	LR	04 39 20.4	
	comp=Z,38nm,18.4s,baz=66,slow=41						
YBH	Yreka Blue Hor	99.71	49	LR	LR	04 24 28.0	
	comp=Z,64nm,20.2s,baz=302,slow=30						
CPUP	Villa Florida	145.44	154	PKPbc	PKPbc	03 53 49.2	+0.3
	comp=Z,2.2nm,0.8s,baz=229,slow=6.7,SNR=5.7						
LPAZ	La Paz	146.31	129	PKPbc	PKPdf	03 53 52.1	+0.6
	comp=Z,1.7nm,0.7s,baz=271,slow=4.8,SNR=8.7						

*NOU **13** 03:38:04.9, 38°.94S×175°.74E, h111km, MLv3.7/8, North Island, New Zealand*
*WEL **13** 03:38:06.2±0.6, 39°S±5°×17°6E±°, h98km±5km, M3.2/41, ML3.3/41, MLv3.2/41, Error ellipse: s-maj=0.0km s-min=0.0km az=119.3, confirmed*

ISC 13 03:38:03.1±1.5, **38°.95S**±0°.04×**175°.70E**±0°.04, **h128**km±7km, **n149**, σ1§13/168, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KATZ	Kakaramea	0.03	181	P	Pn	03 38 21.0	+0.4
RATZ	Rangitukua	0.10	36	P	Pn	03 38 20.8	+0.3
RITZ	Rihia Road	0.13	102	P	Pn	03 38 21.3	+0.8
NTVZ	North Tongarir	0.15	186	P	Pn	03 38 21.3	+0.6
NTVZ				S	Sn	03 38 33.2	-0.9
KRVZ	Karewarewa	0.15	196	P	Pn	03 38 21.3	+0.6
KRVZ				S	Sn	03 38 33.1	-0.9
TMVZ	Te Maari	0.17	178	P	Pn	03 38 21.4	+0.7
TMVZ				S	Sn	03 38 33.3	-0.8
WTVZ	West Tongariro	0.18	207	P	Pn	03 38 21.3	+0.5
WTVZ				S	Sn	03 38 33.4	-0.8
ETVZ	East Tongariro	0.19	176	P	Pn	03 38 21.4	+0.6
ETVZ				S	Sn	03 38 33.3	-0.9
NNVZ	North Ngauruho	0.19	199	P	Pn	03 38 21.3	+0.5
NNVZ				S	Sn	03 38 33.7	-0.6
OTVZ	Oturere	0.21	186	P	Pn	03 38 21.4	+0.5
OTVZ				S	Sn	03 38 33.9	-0.5
TWVZ	Taurewa	0.23	239	P	Pn	03 38 21.5	+0.7
TWVZ				S	Sn	03 38 33.2	-1.1
NGZ	Ngauruhoe	0.24	198	P	Pn	03 38 21.5	+0.6
NGZ				S	Sn	03 38 34.1	-0.4
SNVZ	South Ngauruho	0.24	190	P	Pn	03 38 21.5	+0.5
SNVZ				S	Sn	03 38 34.3	-0.3
WATZ	Wairara	0.24	7	P	Pn	03 38 21.2	+0.4
WATZ				S	Sn	03 38 32.3	-1.9
COVZ	Chateau Observ	0.28	205	P	Pn	03 38 21.6	+0.6
COVZ				S	Sn	03 38 34.0	-0.6
HATZ	Hinemaiaia	0.32	79	P	Pn	03 38 21.3	+0.3
HATZ				S	Sn	03 38 32.5	-2.1
TUVZ	Tukino	0.32	186	P	Pn	03 38 22.2	+1.0
TUVZ				S	Sn	03 38 35.4	+0.4
FWVZ	Far West T-bar	0.32	200	P	Pn	03 38 22.1	+0.7
FWVZ				S	Sn	03 38 35.4	+0.2
MAVZ	Matarangi	0.33	198	P	Pn	03 38 22.2	+0.7
MAVZ				S	Sn	03 38 34.8	-0.6
WHVZ	Whangaehu Hut	0.34	194	P	Pn	03 38 22.2	+0.8
WHVZ				S	Sn	03 38 34.8	-0.5
WHTZ	Whakaora	0.35	36	P	Pn	03 38 21.9	+0.6
TRVZ	Turoa	0.37	198	P	Pn	03 38 22.6	+1.0
TRVZ				S	Sn	03 38 35.4	-0.1
WNVZ	Wahianoa	0.38	191	P	Pn	03 38 22.5	+1.0
WNVZ				S	Sn	03 38 35.4	-0.1
PKVZ	Pokaka	0.43	219	P	Pn	03 38 22.6	+1.0
MOVZ	Moawhango	0.46	174	P	Pn	03 38 22.6	+0.9
MTVZ	Mangateitei	0.47	202	P	Pn	03 38 22.9	+1.1
KUTZ	Kaahu Road	0.47	12	P	Pn	03 38 22.3	+0.5
WPRZ	Whakapapatarin	0.56	40	P	Pn	03 38 22.6	+0.3
MRHZ	Matea Rd	0.57	79	P	Pn	03 38 22.6	+0.2
TLZ	Tolley Road	0.63	349	P	Pn	03 38 23.4	+0.6
ALRZ	Allen Road	0.64	53	P	Pn	03 38 23.0	+0.2
BKZ	Black Stump Fm	0.66	109	P	Pn	03 38 23.6	+0.7
BKZ	Black Stump Fm	0.66	109	P	Pn	03 38 23.6	+0.7
GRRZ	Galatos Road	0.68	29	P	Pn	03 38 23.7	+0.6
PRRZ	Plateau Road	0.71	51	P	Pn	03 38 23.5	+0.2
HRRZ	Handcock Road	0.72	40	P	Pn	03 38 23.9	+0.5
KWHZ	Kaweka Forest	0.74	130	P	Pn	03 38 24.7	+1.2
VRZ	Vera Road	0.75	256	P	Pn	03 38 24.9	+1.4
HSRZ	Hossack Road	0.77	34	P	Pn	03 38 24.3	+0.6
HIZ	Hauiti	0.79	303	P	Pn	03 38 24.7	+0.8
HIZ	Hauiti	0.79	303	P	Pn	03 38 24.8	+0.9
UTU	Utuhina	0.86	27	P	Pn	03 38 25.3	+0.8
HLRZ	Highlands Stat	0.87	37	P	Pn	03 38 25.8	+1.1
KRHZ	Kereru	0.87	143	P	Pn	03 38 26.2	+1.6
NMHZ	Naumai	0.88	100	P	Pn	03 38 26.5	+1.7
RRRZ	Republican Roa	0.89	47	P	Pn	03 38 25.2	+0.4
MTHZ	Maungataniwha	0.90	84	P	Pn	03 38 25.5	+0.7
MCHZ	McNeill Hill	0.92	123	P	Pn	03 38 27.1	+2.1
TARZ	Mount Tarawera	0.95	42	P	Pn	03 38 26.1	+0.7
MUGZ	Murupara	0.96	61	P	Pn	03 38 25.7	+0.2
WAZ	Wanganui	0.97	214	P	Pn	03 38 27.5	+2.0
OMRZ	Omania	0.99	32	P	Pn	03 38 26.4	+0.6
MKRZ	Makatiti	1.01	37	P	Pn	03 38 27.0	+1.0
KARZ	Kaharoa	1.02	25	P	Pn	03 38 26.7	+0.6
PNHZ	Pukenui	1.04	158	P	Pn	03 38 27.8	+1.6
RTZ	Ruatahuna	1.06	72	P	Pn	03 38 26.9	+0.5
ARHZ	Aropaoanui	1.06	108	P	Pn	03 38 27.9	+1.6
RAHZ	Arahi	1.08	89	P	Pn	03 38 27.9	+1.3
LIRZ	Lichensteins R	1.09	30	P	Pn	03 38 27.4	+0.8
KMRZ	Kaimai	1.12	10	P	Pn	03 38 27.7	+0.7
LREZ	Lake Rotokare	1.13	243	P	Pn	03 38 29.1	+2.1
TSZ	Takapari Road	1.13	170	P	Pn	03 38 28.7	+1.7
EDRZ	Edgecumbe	1.17	45	P	Pn	03 38 28.0	+0.4
DREZ	Durham Road	1.19	258	P	Pn	03 38 29.7	+2.1
WHHZ	Waihua	1.21	97	P	Pn	03 38 29.5	+1.8
TOZ	Tahuroa Road	1.23	353	P	Pn	03 38 29.0	+0.9
MARZ	Manawahe	1.23	39	P	Pn	03 38 28.8	+0.7
KAHZ	Kahuranaki	1.24	133	P	Pn	03 38 30.3	+2.0
WPHZ	Waipukurau	1.25	153	P	Pn	03 38 30.2	+2.0
PREZ	Palmer Road	1.26	251	P	Pn	03 38 30.7	+2.4
CKHZ	Cape Kidnapper	1.28	124	P	Pn	03 38 30.6	+2.0
NEZ	North Egmont	1.28	255	P	Pn	03 38 30.9	+2.2
OHWZ	Ohakea	1.29	193	P	Pn	03 38 31.1	+2.4
OPRZ	Ohinepanea	1.29	32	P	Pn	03 38 29.3	+0.6
SNGZ	Shannon Statio	1.29	83	P	Pn	03 38 29.9	+1.2
TGRZ	Tauranga	1.30	20	P	Pn	03 38 29.5	+0.7
URZ	Urewera	1.31	59	P	Pn	03 38 29.0	+0.2
URZ	Urewera	1.31	59	P	Pn	03 38 29.0	+0.2
KHEZ	Kahui Hut	1.35	255	P	Pn	03 38 31.6	+2.2
KHEZ	Kahui Hut	1.35	255	P	Pn	03 38 31.6	+2.2
PKE	Pukeiti	1.35	259	P	Pn	03 38 31.3	+2.0
DVHZ	Dannevirke	1.40	165	P	Pn	03 38 31.4	+1.5
PXZ	Pawanui	1.41	140	P	Pn	03 38 31.7	+1.8
RAGZ	Rawiri	1.42	72	P	Pn	03 38 31.0	+0.8
POWZ	Post Office Ro	1.44	178	P	Pn	03 38 31.8	+1.5
NBEZ	Newall Road No	1.46	257	P	Pn	03 38 32.5	+2.0
NMEZ	Namu Road	1.49	251	P	Pn	03 38 32.2	+1.4
PRHZ	Porangahau	1.50	151	P	Pn	03 38 32.9	+1.9
KNZ	Kokohu	1.54	93	P	Pn	03 38 32.6	+1.2
MWZ	Matawai	1.56	67	P	Pn	03 38 32.3	+0.5
PRWZ	Pori Road	1.62	173	P	Pn	03 38 34.1	+1.8
ANWZ	Angora Road	1.62	159	P	Pn	03 38 34.3	+1.9
RIGZ	Rimuhau	1.63	82	P	Pn	03 38 33.6	+1.1
PRGZ	Paritu Road	1.71	90	P	Pn	03 38 34.3	+0.9
MRZ	Mangatainoka R	1.71	183	P	Pn	03 38 34.8	+1.4
MYRZ	Mayor Island	1.72	15	P	Pn	03 38 36.7	+3.1
MHGZ	Mahia Peninsul	1.73	97	P	Pn	03 38 35.1	+1.4
TKGZ	Te Karaka	1.76	74	P	Pn	03 38 35.3	+1.3
BFZ	Birch Farm	1.78	166	P	Pn	03 38 35.7	+1.5
BFZ	Birch Farm	1.78	166	P	Pn	03 38 35.7	+1.5
TIWZ	Tintock	1.83	175	P	Pn	03 38 36.3	+1.5
RUGZ	Raukumara Rang	1.84	58	P	Pn	03 38 35.1	0.0
MKAZ	Moumakai	1.89	347	P	Pn	03 38 36.7	+1.1
OGWZ	Otaki Gorge	1.91	192	P	Pn	03 38 37.2	+1.5
HOWZ	Holdsworth Sta	1.95	184	P	Pn	03 38 37.4	+1.1
TWGZ	Tauwhareparae	1.95	67	P	Pn	03 38 37.6	+1.3
CPWZ	Castlepoint	2.00	169	P	Pn	03 38 37.5	+0.7
KIW	Kapiti Island	2.00	197	P	Pn	03 38 38.0	+1.1
CNGZ	Carnagh Statio	2.02	77	P	Pn	03 38 38.5	+1.4
HAZ	Te Kaha	2.03	55	P	Pn	03 38 37.2	0.0
AWAZ	Awhitu Peninsu	2.06	336	P	Pn	03 38 39.1	+1.5
PKGZ	Pakihiroa	2.15	61	P	Pn	03 38 39.8	+1.0
TMWZ	Te Maipa	2.16	176	P	Pn	03 38 39.9	+1.0
PUZ	Puketiti	2.19	67	P	Pn	03 38 39.9	+0.6
WIAZ	Waiheke Island	2.20	348	P	Pn	03 38 40.7	+1.3
KUZ	Kuaotunu	2.20	1	P	Pn	03 38 40.6	+1.2
KUZ	Kuaotunu	2.20	1	P	Pn	03 38 40.5	+1.1
CAW	Cannon Point	2.21	192	P	Pn	03 38 40.4	+0.9
MTW	Mount Morrison	2.21	184	P	Pn	03 38 40.3	+0.8
MBAZ	Motutapu North	2.27	344	P	Pn	03 38 41.6	+1.4
DUWZ	D'Urville Isla	2.30	216	P	Pn	03 38 41.4	+0.8
WMGZ	Waiomatatini S	2.42	63	P	Pn	03 38 42.7	+0.6
WEL	Wellington	2.44	197	P	Pn	03 38 42.9	+0.6
PAWZ	Paruwai Farm	2.44	185	P	Pn	03 38 42.9	+0.6
TRWZ	Traveller	2.44	180	P	Pn	03 38 43.1	+0.7
MXZ	Matakaoa Point	2.48	57	P	Pn	03 38 43.9	+1.0
MXZ	Matakaoa Point	2.48	57	P	Pn	03 38 43.9	+1.0
MSWZ	Moikau Station	2.49	188	P	Pn	03 38 43.5	+0.5
TCW	Tory Channel	2.51	205	P	Pn	03 38 43.9	+0.7
BHW	Baring Head	2.54	194	P	Pn	03 38 44.1	+0.5
PLWZ	Palliser	2.64	187	P	Pn	03 38 45.2	+0.3
GRZ	Great Barrier	2.70	356	P	Pn	03 38 47.0	+1.2
TUWZ	Tuamarina	2.82	208	P	Pn	03 38 47.4	+0.2
NNZ	Nelson	2.88	217	P	Pn	03 38 48.3	+0.3
TKNZ	Takaka Hill	2.96	224	P	Pn	03 38 49.6	+0.5
QRZ	Quartz Range	3.07	231	P	Pn	03 38 51.3	+0.8
QRZ	Quartz Range	3.07	231	P	Pn	03 38 51.1	+0.6
BSWZ	Blackbirch Sta	3.09	206	P	Pn	03 38 51.0	+0.2
MRNZ	Matariki Terra	3.32	222	P	Pn	03 38 54.1	+0.3
THZ	Tophouse	3.53	216	P	Pn	03 38 56.7	+0.2
KHZ	Kahutara	3.83	205	P	Pn	03 39 00.4	0.0
DSZ	Denniston Nort	4.08	226	P	Pn	03 39 03.6	-0.2
GVZ	Greta Valley S	4.49	206	P	Pn	03 39 08.5	-0.7
LTZ	Lake Taylor	4.62	213	P	Pn	03 39 09.9	-1.1
INZ	Inchbonnie	4.96	219	P	Pn	03 39 14.6	-0.9
OKCZ	Okains Bay	5.17	202	P	Pn	03 39 16.9	-1.4
AKCZ	Akaroa Harbour	5.34	202	P	Pn	03 39 19.3	-1.4
MHCZ	Mount Hutt	5.53	213	P	Pn	03 39 22.2	-1.0
RPZ	Rata Peaks	5.90	215	P	Pn	03 39 28.0	-0.2

*IDC **13** 04:10:52.3±1.2, 31°.66S×58°.41E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=44.5km s-min=27.8km az=83.0*
*NEIC **13** 04:10:52.9±1.9, 31°.75S±0°.05×58°.4E±0°.2, h10km±1km, mb4.7/21, Error ellipse: s-maj=24.2km s-min=4.9km az=250.0*

ISC 13 04:10:52.8±0.6, **31°.8S**±0°.1×**58°.4E**±0°.1, **h10**km, **n41**, σ1§11/32, **mb4.5**/17, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.82	347	Pn	Pn	04 13 29.6	+1.7
H04N2	CROZET ISLANDS	15.26	198	T	T	04 30 28.1	
	baz=21,slow=75						
H04N1	CROZET ISLANDS	15.26	198	T	T	04 30 31.7	
	baz=21,slow=75						
H04N3	CROZET ISLANDS	15.28	198	T	T	04 30 30.5	
	baz=21,slow=75						
PAF	Port-aux-Franc	19.69	157	P	P	04 15 22.4	+0.4
H08S1	Diego Carcia H	27.35	32	T	T	04 45 01.5	
	baz=207,slow=76,SNR=5.1						
H08S2	Diego Garcia H	27.36	32	T	T	04 45 02.3	
	baz=207,slow=76,SNR=4.1						
H08S3	Diego Garcia H	27.37	32	T	T	04 45 03.2	
	baz=207,slow=76,SNR=7.0						
BOSA	Boshof	28.76	268	P	P	04 16 50.5	-0.3
BOSA				IAmb	IAmb	04 16 54.6	
	comp=Z,14nm,1.4s						
H01W2	Cape Leeuwin H	46.17	110	T	T	05 08 33.6	
	baz=258,slow=75,SNR=5.1						
H01W3	Cape Leeuwin H	46.17	110	T	T	05 08 32.1	
	baz=258,slow=75,SNR=4.6						
H01W1	Cape Leeuwin H	46.19	110	T	T	05 08 41.2	
	baz=258,slow=75,SNR=5.4						
PBA	Port Blair	54.28	43	P	P	04 20 18.4	-0.9
UOSS	Minazif	56.43	358	P	P	04 20 33.8	-0.8
UOSS				IAmb	IAmb	04 20 34.7	
	comp=Z,19nm,1.4s						
QSPA	South Pole Qui	58.41	180	P	P	04 20 49.7	+1.4
	comp=Z,0.7nm,0.6s,baz=234,slow=3.7,SNR=7.2						
	comp=Z,0.7nm,0.6s						
CMAR	Chiang Mai Arr	63.28	44	P	P	04 21 23.1	+1.2
	comp=Z,1.4nm,0.3s,baz=236,slow=6.4,SNR=4.8						
	comp=Z,1.4nm,0.3s						
SHL	Shillong	65.36	33	P	P	04 21 36.3	+0.7
SHL				IAmb	IAmb	04 21 42.4	
	comp=Z,4.9nm,1.0s						
ASAR	Alice Springs	66.14	104	P	P	04 21 42.3	+1.6
	comp=Z,1.0nm,0.7s,baz=236,slow=6.1,SNR=7.6						
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	68.14	100	P	P	04 21 55.4	+1.9
	comp=Z,0.8nm,0.7s,baz=241,slow=5.3,SNR=7.5						
	comp=Z,0.8nm,0.7s						
WB0	Warramunga Arr	68.27	100	P	P	04 21 53.3	-1.0
WB0				IAmb	IAmb	04 22 37.3	
	comp=Z,11nm,1.4s						
WR0	Warramunga Arr	68.30	101	P	P	04 21 52.8	-1.6
WR0				IAmb	IAmb	04 21 56.6	
	comp=Z,7.9nm,1.2s						
SIMJ	Simiganj	70.75	9	P	P	04 22 08.1	-1.1
SIMJ				IAmb	IAmb	04 22 18.4	
	comp=Z,3.7nm,1.1s						
GAR	Garm	71.27	10	P	P	04 22 11.7	-0.6
GAR				IAmb	IAmb	04 22 48.5	
	comp=Z,4.3nm,0.6s						
KARS	Kars	73.41	348	P	P	04 22 23.1	-2.0
NRN	Naryn	74.62	14	P	P	04 22 31.9	-0.4
KK31	Karatay Array	75.33	9	P	P	04 22 37.2	+1.2
KKAR	Karatay Array	75.33	9	P	P	04 22 36.9	+0.9
CTAO	Charters Tower	77.95	106	P	P	04 22 49.4	-2.1
CTAO				IAmb	IAmb	04 23 30.5	
	comp=Z,12nm,1.3s						
EIDS	Eidsvold	79.21	113	P	P	04 22 57.8	-0.6
EIDS				IAmb	IAmb	04 23 24.2	
	comp=Z,17nm,1.4s						
ABKAR	Abkulak array	80.67	1	P	P	04 23 06.0	+0.5
ABKAR	Abkulak array	80.67	1	P	P	04 23 04.9	-0.5
ABKAR				IAmb	IAmb	04 23 46.8	
	comp=Z,2.4nm,1.2s						
MK31	Makanchi Array	81.11	16	P	P	04 23 08.2	+0.2
MLR	Muntele Rosu	82.34	338	P	P	04 23 13.9	-0.8
KURBB	Kurchatov Arra	83.94	13	P	P	04 23 23.4	+0.8
	comp=Z,0.9nm,0.9s,baz=217,slow=6.2,SNR=6.6						
	comp=Z,0.9nm,0.9s						
NRCA	Norcia	85.07	328	P	P	04 23 29.2	+0.6
NRCA				IAmb	IAmb	04 23 31.2	
	comp=Z,3.4nm,1.1s						
BVAR	Borovoye Array	85.08	7	P	P	04 23 29.3	+1.0
	comp=Z,2.0nm,0.7s,baz=174,slow=4.3,SNR=9.1						
	comp=Z,2.0nm,0.7s						
BRVK	Borovoye	85.10	7	P	P	04 23 28.4	0.0
SONM	Songino Array	90.17	30	P	P	04 23 53.3	+0.1
	comp=Z,0.4nm,0.7s,baz=220,slow=4.5,SNR=3.8						
	comp=Z,0.4nm,0.7s						
I30M	Mount Dempster	145.30	11		PKPdf	04 30 30.5	+0.3
YKA	Yellowknife Ar	148.93	354	PKPbc	PKPbc	04 30 39.1	-0.9
	comp=Z,0.8nm,0.8s,baz=350,slow=4.3,SNR=2.9						
PBMO	Poplar Bluff	153.82	290		PKPab	04 31 04.8	-0.5

*IDC **13** 04:21:56.1±1.9, 18°.51N×145°.61E, h141km±18km, mb3.6/12, mbtmp4.1/14, MS4.2/1, Error ellipse: s-maj=24.7km s-min=10.4km az=84.0*
*NEIC **13** 04:21:59.7±1.0, 18°.47N±0°.08×145°.5E±0°.2, h166km±7km, mb4.2/78, Error ellipse: s-maj=24.6km s-min=12.0km az=93.0*

ISC 13 04:21:57.5±0.5, **18°.51N**±0°.05×**145°.5E**±0°.1, **h150**km, **n107**, σ0§86/102, **mb4.2**/51, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.93	187	Pn	Pn	04 23 11.7	+1.6
GUMO	Guam	4.93	187	P	Pn	04 23 10.1	+0.1
	80nm,0.3s,baz=24,slow=20,SNR=6.4						
GUMO				S	Sn	04 24 06.1	-0.5
	66nm,0.3s,baz=314,slow=19,SNR=1.5						
JCJ	Chichijima	9.09	341	Pn	Pn	04 24 07.5	+2.1
JCJ	Chichijima	9.09	341	P	Pn	04 24 03.6	-1.8
	18nm,0.4s,baz=285,slow=21,SNR=6.1						
JCJ				S	Sn	04 25 43.4	-2.9
	27nm,0.4s,baz=204,slow=20,SNR=4.2						
JOW	Kunigami	17.93	301	P	Pn	04 26 00.6	+3.0
	11nm,0.4s,baz=170,slow=7.3,SNR=5.4						
H11S3	WAKE ISLAND Hy	20.07	87	T	T	04 47 37.3	
	baz=275,slow=74,SNR=3.6						
H11S1	WAKE ISLAND Hy	20.08	87	T	T	04 47 33.4	
	baz=275,slow=74,SNR=4.4						
H11S2	WAKE ISLAND Hy	20.09	87	T	T	04 47 36.5	
	baz=275,slow=74,SNR=3.7						
H11N1	WAKE ISLAND Hy	20.23	83	T	T	04 48 08.8	
	baz=264						
H11N2	WAKE ISLAND Hy	20.23	83	T	T	04 48 07.4	
	baz=264						
H11N3	WAKE ISLAND Hy	20.25	83	T	T	04 48 13.3	
	baz=264						
KSRS	Korea Array	24.38	324	P	P	04 27 02.1	+0.4
	0.5nm,0.4s,baz=148,slow=9.0,SNR=2.7						
	0.5nm,0.4s						
COEN	Coen	32.34	184	P	P	04 28 11.9	-0.8
KLR	Kul'dur	32.60	343	P	P	04 28 15.1	+0.4
	0.8nm,0.3s,baz=148,slow=11,SNR=5.1						
	0.8nm,0.3s						
KNRA	Kununurra	37.77	207	P	P	04 28 59.0	-0.2
WB0	Warramunga Arr	39.57	197	P	P	04 29 14.1	-0.1
WR0	Warramunga Arr	39.72	196	P	P	04 29 15.0	-0.4
WR0				IAmb	IAmb	04 29 17.3	
	comp=Z,4.1nm,0.7s						
WRAB	Tennant Creek	39.74	197	P	P	04 29 15.9	+0.3
WB2	Warramunga Arr	39.75	197	P	P	04 29 15.6	-0.1
WRA	Warramunga Arr	39.75	197	P	P	04 29 15.2	-0.6
WRA	Warramunga Arr	39.75	197	P	P	04 29 14.6	-1.2
	comp=Z,3.8nm,0.5s,baz=17,slow=9.1,SNR=89						
	comp=Z,3.8nm,0.5s						
FITZ	Fitzroy Crossi	41.29	209	P	P	04 29 29.3	+0.9
SONM	Songino Array	43.19	322	P	P	04 29 43.7	+0.1
	comp=Z,0.4nm,0.6s,baz=130,slow=6.6,SNR=2.5						
	comp=Z,0.4nm,0.6s						
AS31	Alice Springs	43.42	196		P	04 29 45.3	-0.3
AS31				IAmb	IAmb	04 29 47.0	
	comp=Z,1.9nm,0.5s						
ASAR	Alice Springs	43.42	196	P	P	04 29 45.4	-0.2
	comp=Z,1.9nm,0.5s,baz=23,slow=9.2,SNR=26						
	comp=Z,1.9nm,0.5s						
MBWA	Marble Bar	46.82	214	P	P	04 30 12.6	+0.2
PSA00	Pilbara Seismi	47.10	213	P	P	04 30 14.1	-0.5
PSA00				IAmb	IAmb	04 30 46.4	
	comp=Z,13nm,1.2s						
STKA	Stephens Creek	50.24	184	P	P	04 30 37.4	-0.9
STKA	Stephens Creek	50.24	184	P	P	04 30 36.6	-1.7
	comp=Z,0.9nm,0.4s,baz=9.5,slow=12,SNR=3.8						
	comp=Z,0.9nm,0.4s						
FORT	Forrest	51.80	199	P	P	04 30 50.8	+0.8
BBOO	Buckleboo	51.82	190	P	P	04 30 50.1	0.0
MORW	Morawa	55.20	212	P	P	04 31 13.8	-1.1
N15K	Kwethluk River	56.67	29	P	P	04 31 25.9	+0.9
N17K	Nushagak Hills	58.14	29	P	P	04 31 36.4	+1.1
MKAR	Makanchi Array	58.48	314	P	P	04 31 38.3	+0.5
	comp=Z,0.2nm,0.4s,baz=98,slow=6.1,SNR=4.1						
	comp=Z,0.2nm,0.4s						
F17K	Baldwin Pennin	58.85	22	P	P	04 31 40.9	+0.9
F17K				IAmb	IAmb	04 31 52.0	
	comp=Z,5.7nm,1.1s						
OHAK	Old Harbor	59.10	34	P	P	04 31 42.6	+0.7
OHAK				IAmb	IAmb	04 31 43.5	
	comp=Z,4.3nm,0.9s						
RAO	Raoul Island	59.16	143	LR	LR	04 54 22.6	
	comp=Z,238nm,21.8s,baz=127,slow=33						
H18K	Honhosa River	59.37	24	P	P	04 31 43.8	+0.1
E18K	Tukpahlearik C	59.53	21	P	P	04 31 45.5	+0.8
E18K				IAmb	IAmb	04 31 46.0	
	comp=Z,2.7nm,0.8s						
G18K	Tagagawik	59.56	23	P	P	04 31 45.3	+0.3
G18K				IAmb	IAmb	04 32 25.5	
	comp=Z,5.7nm,1.4s						
J19K	Poorman	60.03	26	P	P	04 31 48.7	+0.6
J19K				IAmb	IAmb	04 31 49.2	
	comp=Z,2.7nm,0.9s						
C19K	Lookout Ridge	60.64	20	P	P	04 31 52.8	+0.5
J20K	Nowinta River	60.70	26	P	P	04 31 53.6	+0.9
J20K				IAmb	IAmb	04 31 54.9	
	comp=Z,6.9nm,1.4s						
E19K	Redstone River	60.72	22	P	P	04 31 53.8	+0.9
E19K				IAmb	IAmb	04 31 58.3	
	comp=Z,5.3nm,1.4s						
D19K	Kuna River	60.85	21	P	P	04

G31M	**Satah River**	**69.29**	**25**	P	**P**	**04 32 48.0**	**-0.1**
G31M				IAmb	IAmb	04 32 48.6	
comp=Z,1.9nm,0.6s							
INK	**Inuvik**	**69.61**	**23**	P	**P**	**04 32 49.8**	**-0.3**
INK				IAmb	IAmb	04 32 50.5	
comp=Z,2.0nm,0.8s							
Q32M	**Nakina River**	**70.34**	**33**	P	**P**	**04 32 55.0**	**0.0**
Q32M				IAmb	IAmb	04 33 32.8	
comp=Z,8.8nm,1.5s							
DLBC	**Dease Lake**	**71.54**	**33**	P	**P**	**04 33 01.9**	**-0.1**
DLBC				IAmb	IAmb	04 33 14.9	
comp=Z,3.7nm,1.2s							
C36M	**Paulatuk**	**72.99**	**22**	P	**P**	**04 33 09.7**	**-0.6**
ABKAR	**Akbulak array**	**73.37**	**317**	P	**P**	**04 33 12.2**	**-0.8**
ABKAR	**Akbulak array**	**73.37**	**317**	P	**P**	**04 33 12.2**	**-0.8**
ABKAR				IAmb	IAmb	04 33 50.5	
comp=Z,2.2nm,1.4s							
NLWA	**Neilton Lookou**	**77.02**	**44**	P	**P**	**04 33 34.1**	**+0.1**
KMRM	**Mail Ridge**	**78.86**	**51**	P	**P**	**04 33 45.3**	**+1.0**
KCPM	**Cahto Peak**	**79.09**	**52**	P	**P**	**04 33 46.0**	**+0.3**
LTY	**Liberty**	**79.16**	**44**	P	**P**	**04 33 45.5**	**-0.3**
LTY				IAmb	IAmb	04 34 09.8	
comp=Z,8.7nm,1.4s							
MXC	**Moxie City**	**79.59**	**44**	P	**P**	**04 33 48.5**	**+0.4**
MXC				IAmb	IAmb	04 33 57.7	
comp=Z,6.4nm,1.3s							
B08A	**Colville Reser**	**79.73**	**42**	P	**P**	**04 33 49.0**	**+0.2**
J05D	**Fort Rock, OR**	**79.84**	**48**	P	**P**	**04 33 49.6**	**0.0**
J05D				IAmb	IAmb	04 33 50.8	
comp=Z,10nm,1.2s							
PINE	**Pine Mountain**	**79.91**	**47**	P	**P**	**04 33 50.2**	**+0.1**
PINE				IAmb	IAmb	04 33 51.8	
comp=Z,6.7nm,0.9s							
KVN	**Kaiserville**	**83.34**	**51**	P	**P**	**04 34 08.2**	**-0.1**
KVN				IAmb	IAmb	04 34 08.7	
comp=Z,2.6nm,0.7s							
NVAR	**Mina Array Bea**	**83.39**	**52**	P	**P**	**04 34 08.6**	**+0.1**
NVAR	**Mina Array Bea**	**83.39**	**52**	P	**P**	**04 34 08.3**	**-0.2**
comp=Z,2.1nm,0.7s,baz=266,slow=5.9,SNR=19							
comp=Z,2.1nm,0.7s							
NV11	**Mina Array Sit**	**83.50**	**52**	P	**P**	**04 34 08.9**	**0.0**
GMN	**Gold Mountain**	**84.53**	**53**	P	**P**	**04 34 14.6**	**+0.3**
FINES	**FINESS Array B**	**86.99**	**335**	P	**P**	**04 34 24.0**	**-1.6**
comp=Z,0.5nm,0.4s,baz=69,slow=7.9,SNR=2.1							
comp=Z,0.5nm,0.4s							
LPAZ	**La Paz**	**147.84**	**91**	PKPbc	**PKPdf**	**04 41 25.6**	**+2.3**
comp=Z,1.7nm,0.7s,baz=321,slow=2.0,SNR=7.6							
ETMB	**Extrema**	**148.08**	**79**		**PKPdf**	**04 41 23.6**	**+0.5**

*NEIC **13** 04:27:49.3±0.3, 36°.30N±0°.01×98°.169W±0°.009, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.8km az=97.0*

TUL 13 04:27:49.5±0.5, 36°.311N±0°.008×98°.168W±0°.009, h6km±4km, ML2.4, mb_Lg2.2/24(NEIC), ML2.5/61(NEIC), Error ellipse: s-maj=1.4km s-min=0.3km az=221.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.24**	**38**	Pg	Pg	04 27 54.8	+0.5
CROK				Sg	Sg	04 27 58.6	+1.0
CROK				IAML		04 27 58.8	
comp=E,1μm,0.4s							
CROK				IAML		04 27 58.8	
comp=N,793nm,0.3s							
OK038	**West end E0370**	**0.49**	**290**		Pg	04 27 59.2	+0.2
OK038				Sg	Sg	04 28 05.8	+0.3
OK032	**Salt Plains WL**	**0.49**	**356**		Pg	04 27 59.2	+0.2
OK032				Sg	Sg	04 28 06.2	+0.7
OK032				IAML		04 28 10.9	
comp=N,303nm,0.2s							
OK032				IAML		04 28 11.1	
comp=N,376nm,0.2s							
OK035	**E0210 Rd and N**	**0.59**	**312**	Pg	Pg	04 28 01.0	+0.2
OK035				Sg	Sg	04 28 08.7	+0.2
OK035				IAML		04 28 14.9	
comp=N,327nm,0.3s							
GC02	**Grant County #**	**0.59**	**25**	Pg	Pg	04 28 01.1	+0.2
GC02				Sg	Sg	04 28 09.4	+0.7
KAN14	**Manchester OK**	**0.67**	**14**		Pg	04 28 02.1	-0.2
KAN14				Sg	Sg	04 28 10.8	-0.2
KAN14				IAML		04 28 14.0	
comp=N,185nm,0.1s							
KAN14				IAML		04 28 17.5	
comp=E,188nm,0.1s							
U32A	**Winter Ranch,**	**0.68**	**276**	Pg	Pg	04 28 02.5	0.0
U32A				Sg	Sg	04 28 11.8	+0.5
NOKA	**Waynoka**	**0.69**	**298**	Pg	Pg	04 28 02.8	-0.1
NOKA				Sg	Sg	04 28 12.5	+0.6
NOKA				IAML		04 28 15.4	
comp=N,260nm,0.3s							
NOKA				IAML		04 28 19.0	
comp=E,255nm,0.2s							
OK029	**Liberty Lake**	**0.77**	**131**	Pg	Pg	04 28 04.2	-0.2
OK029				Sg	Sg	04 28 14.7	+0.3
OK029				IAML		04 28 17.7	
comp=E,204nm,0.5s							
CSTR	**Hydro, Custer**	**0.79**	**213**		Pg	04 28 04.4	-0.2
CSTR				Sg	Sg	04 28 14.9	+0.1
KAN17	**Caldwell West**	**0.80**	**24**	Pg	Pg	04 28 04.8	-0.1
KAN17				Sg	Sg	04 28 15.6	+0.3
KAN17				IAML		04 28 16.0	
comp=E,225nm,0.2s							
KAN17				IAML		04 28 20.3	
comp=N,231nm,0.2s							
KAN05	**Bluff City Nor**	**0.83**	**17**	Pg	Pg	04 28 05.2	-0.2
KAN05				Sg	Sg	04 28 16.4	+0.1
BLOK	**Blackwell**	**0.89**	**59**	Pg	Pg	04 28 06.4	-0.2
BLOK				Sg	Sg	04 28 18.4	+0.3
KAN01	**Argonia South**	**0.90**	**21**		Pg	04 28 06.6	-0.3
KAN01				IAML		04 28 21.6	
comp=E,124nm,0.1s							
KAN08	**Anthony NE Sta**	**0.93**	**10**		Pg	04 28 07.2	-0.1
KAN09	**Caldwell North**	**0.93**	**28**		Pg	04 28 07.2	-0.3
KAN12	**Harper NE Stat**	**0.99**	**8**		Pg	04 28 08.2	-0.4
KAN12				IAML		04 28 30.1	
comp=E,158nm,0.4s							
KAN12				IAML		04 28 38.5	
comp=N,171nm,0.4s							
OK048	**Pawnee Station**	**0.99**	**84**	Pg	Pg	04 28 08.2	-0.4
OK048				IAML		04 28 26.8	
comp=N,117nm,0.2s							
OKCSW	**OKLAHOMA CITY**	**1.08**	**147**	Pg	Pg	04 28 09.6	-0.7
OKCSW				IAML		04 28 29.8	
comp=E,120nm,0.1s							
OK051	**E0350 and S346**	**1.09**	**79**	Pg	Pg	04 28 09.9	-0.5
OK031	**S. Brethren Rd**	**1.13**	**108**	Pg	Pg	04 28 10.6	-0.6
OK031				IAML		04 28 26.8	
comp=E,114nm,0.2s							
OK052	**Battle Ridge R**	**1.15**	**106**	Pg	Pg	04 28 10.8	-0.7
OK052				IAML		04 28 28.1	
comp=E,101nm,0.2s							
OK052				IAML		04 28 34.8	
comp=E,90nm,0.2s							
QUOK	**Quay**	**1.19**	**96**	Pg	Pg	04 28 11.6	-0.7
QUOK				IAML		04 28 28.8	
comp=E,115nm,0.2s							
QUOK				IAML		04 28 37.0	
comp=N,100nm,0.2s							
FNO	**Franklin**	**1.22**	**149**	Pg	Pg	04 28 12.1	-0.9
FNO				IAML		04 28 33.5	
comp=N,114nm,0.4s							
DEOK	**Depew**	**1.43**	**109**		Pn	04 28 15.4	-0.6
W35A	**Tecumseh**	**1.56**	**137**		Pn	04 28 17.6	-0.3
WMOK	**Wichita Mounta**	**1.65**	**198**		Pn	04 28 18.8	-0.2
X34A	**Smith Ranch, M**	**1.73**	**171**		Pb	04 28 21.0	-0.7
TUL3	**Leonard**	**1.96**	**101**	Pn	Pn	04 28 23.6	+0.2
TUL3				IAmb_Lg		04 28 54.7	
comp=Z,12nm,0.9s							
SMWD	**Samnorwood**	**2.07**	**235**	Pn	Pn	04 28 25.9	+1.0
R32A	**Long Quarter,**	**2.15**	**349**	IAmb_Lg		04 28 56.0	
comp=Z,6.8nm,1.0s							
WTFS	**Witchita Falls**	**2.55**	**186**	Pn	Pn	04 28 31.5	0.0
WTFS				IAmb_Lg		04 29 14.1	
comp=Z,9.8nm,0.8s							
X37A	**Clayton**	**2.86**	**126**	Pn	Pn	04 28 35.6	-0.1
KSU1	**Kansas State U**	**3.05**	**23**	IAmb_Lg		04 29 30.6	
comp=Z,4.8nm,0.7s							
U38A	**Gravette**	**3.06**	**86**	Pn	Pn	04 28 38.6	+0.2
FW06	**Azle**	**3.37**	**171**	IAmb_Lg		04 29 38.8	
comp=Z,4.4nm,0.8s							
HHAR	**Hobbs**	**3.42**	**89**	Pn	Pn	04 28 42.6	-0.7
DKNS	**Dickens**	**3.48**	**221**	Pn	Pn	04 28 44.0	-0.2
DKNS				IAmb_Lg		04 29 42.6	
comp=Z,7.5nm,0.7s							
SN07	**Snyder 07**	**3.92**	**216**	IAmb_Lg		04 30 00.9	
comp=Z,5.7nm,0.8s							
S39A	**Bolivar**	**4.12**	**69**	Pn	Pn	04 28 52.7	-0.3
MIAR	**Mount Ida**	**4.14**	**114**	Pn	Pn	04 28 52.2	-1.1
KSCO	**Kaye Shedlock'**	**4.45**	**309**	IAmb_Lg		04 30 15.0	
comp=Z,4.9nm,0.8s							
JCT	**Junction City**	**5.97**	**194**	IAmb_Lg		04 31 15.3	
comp=Z,3.7nm,0.7s							
FVM	**French Village**	**6.41**	**73**	IAmb_Lg		04 31 11.5	
comp=Z,2.7nm,0.7s							
ISCO	**Idaho Springs**	**6.83**	**303**	IAmb_Lg		04 31 31.5	
comp=Z,1.7nm,0.9s							
S44A	**Carbondale**	**7.26**	**76**	IAmb_Lg		04 31 46.0	
comp=Z,4.4nm,0.7s							

*SDD **13** 04:36:50.8±1.1, 19°.80N×72°.50W, h31km±40km, MD3.2, ML2.8, MW3.1*

*SSNC **13** 04:36:51.4±1.6, 19°.44N×72°.26W, h25km±13km, MD3.4, ML2.5*

*OSPL **13** 04:36:53.1±1.9, 19°.75N×72°.37W, h9km±16km, ML2.4*

ISC 13 04:36:51.7±1.2, 19°.72N±0°.06×72°.38W±0°.03, h27km±13km, n15, σ2s03/29, 7C-1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LODA1	**ITESIL, Dajabo**	**0.66**	**105**	*i* P	**Pb**	**04 37 05.9**	**+1.2**
LODA1				*e*S	**Sb**	**04 37 13.8**	**+0.3**
LODA1				IAML		04 37 15.3	
comp=Z,740nm,1.5s							
MCDR	**Montecristi**	**0.70**	**76⇑**	*e*Pg	**Pb**	**04 37 04.7**	**-0.7**
MCDR			⇑	*e*Sg	**Sn**	**04 37 16.0**	**+0.1**
MCDR				IAML		04 37 16.2	
comp=E,348nm,0.5s							
MCDR				IAML		04 37 16.8	
comp=N,1μm,0.1s							
REDR	**Restauracion**	**1.08**	**120⇑**	*e*Pg	Pn	04 37 07.1	-4.1
REDR			⇓	*e*Sg	**Sn**	**04 37 18.0**	**-7.3**
REDR				IAML		04 37 18.4	
comp=N,283nm,0.1s							
REDR				IAML		04 37 18.8	
comp=E,350nm,0.1s							
PAPH	**Port-au-Prince**	**1.19**	**176**	*i* P	**Pb**	**04 37 14.6**	**+0.8**
PAPH				IAML		04 37 33.0	
comp=Z,15nm,0.6s							
SDDR	**Presa de Saban**	**1.27**	**125⇑**	*e*Pg	**Pn**	**04 37 14.8**	**+1.1**
SDDR			⇑	*e*Sg	**Sb**	**04 37 32.0**	**+1.1**
SDDR				IAML		04 37 32.5	
comp=N,35nm,0.3s							
SDDR				IAML		04 37 36.0	
comp=E,29nm,0.3s							
SDDR	**Presa de Saban**	**1.27**	**125**	*i* P	**Pn**	**04 37 14.3**	**+0.6**
SDDR				*e*S	**Sn**	**04 37 31.3**	**+1.4**
SDDR				IAML		04 37 35.1	
comp=Z,31nm,0.4s							
LUDR	**Luperon**	**1.35**	**82⇑**	*e*Pg	**Pn**	**04 37 14.8**	**-0.1**
LUDR			⇑	*e*Sg	**Sn**	**04 37 32.9**	**+0.9**
LUDR				IAML		04 37 37.0	
comp=E,206nm,0.3s							
LUDR				IAML		04 37 37.0	
comp=N,210nm,0.2s							
MASC	**Masc**	**1.80**	**285**	*e*P	**Pn**	**04 37 21.8**	**+0.8**
MASC				*e*S	**Sn**	**04 37 44.0**	**+1.1**
MASC				IAML		04 37 48.5	
comp=N,18nm,0.3s							
MASC				IAML		04 37 48.7	
comp=E,31nm,0.2s							
MASC	**Masc**	**1.80**	**285**	*i* P	**Pn**	**04 37 21.9**	**+0.9**
MASC				*e*S	**Sb**	**04 37 45.2**	**-0.9**
MASC				IAML		04 37 49.5	
comp=Z,28nm,0.6s							
QMBU	**Quimbuelo**	**2.34**	**282**	*e*P	**Pn**	**04 37 28.4**	**0.0**
QMBU				*e*S	**Sn**	**04 37 57.5**	**+1.3**
QMBU				IAML		04 38 01.8	
comp=N,57nm,0.3s							
QMBU				IAML		04 38 03.4	
comp=E,42nm,0.1s							
GTBY	**Guantanamo Bay**	**2.58**	**275**	*e*P	**Pn**	**04 37 31.9**	**+0.2**
GTBY				*e*S	**Sn**	**04 38 01.8**	**-0.4**
GTBY				IAML		04 38 08.4	
comp=E,13nm,0.4s							
GTBY				IAML		04 38 08.5	
comp=E,1.1nm,0.5s							
GTBY	**Guantanamo Bay**	**2.58**	**275**	*i* P	**Pn**	**04 37 32.2**	**+0.5**
GTBY				*e*S	**Sn**	**04 38 03.2**	**+1.0**
GTBY				IAML		04 38 11.1	
comp=Z,17nm,1.8s							
MOAC	**Moa**	**2.60**	**292**	*e*P	**Pn**	**04 37 33.8**	**+1.8**
MOAC				*e*S	**Sn**	**04 38 04.3**	**+1.6**
MOAC				IAML		04 38 14.3	
comp=N,18nm,0.4s							
MOAC				IAML		04 38 14.8	
comp=E,15nm,0.5s							
RCC	**Rio Carpintero**	**3.13**	**276**	*e*P	**Pn**	**04 37 40.1**	**+0.8**
RCC				*e*S	**Sn**	**04 38 14.3**	**-1.6**
RCC				*e*Sg	**Sb**	**04 38 19.4**	**-5.1**
MARVS	**Santiago de Cu**	**3.32**	**275**	*e*P	**Pn**	**04 37 42.8**	**+0.8**
MARVS				*e*S	**Sn**	**04 38 20.5**	**-0.2**

IDC 13 04:59:17.5±3.3, 54°.31N×87°.35E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=30.1km s-min=19.0km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.53**	**257**	I	I	05 07 40.0	
baz=78,slow=308,SNR=3.8							
ZALV	**Zalesovo Beam**	**1.53**	**257**	Pg	Pn	04 59 44.5	-1.6
1.0nm,0.3s,baz=75,slow=15,SNR=15							
ZALV				Lg	Lg	05 00 06.5	
1.6nm,0.3s,baz=77,slow=27,SNR=7.4							
ZALV				Rg	Rg	05 00 15.8	
4.1nm,0.5s,baz=87,slow=33,SNR=7.3							
KURBB	**Kurchatov Arra**	**6.53**	**239**	Pn	Pn	05 00 55.1	+0.4
0.1nm,0.3s,baz=57,slow=14,SNR=6.4							
1.2nm,0.6s							
MKAR	**Makanchi Array**	**8.18**	**205**	Pn	Pn	05 01 18.6	+1.2
0.2nm,0.3s,baz=26,slow=12,SNR=11							
MKAR				Lg	Lg	05 03 40.0	
0.1nm,0.3s,baz=18,slow=29,SNR=5.1							
0.4nm,0.4s							

*SKO **13** 05:21:42.0, 41°.46N×19°.34E, h0km*

*PDG **13** 05:21:44.3±0.2, 41°.56N×19°.65E, h12km, ML2.4/10, Error ellipse: s-maj=0.4km s-min=1.0km az=0.0*

*BEO **13** 05:21:45.1±0.4, 41°.51N×19°.60E, h5km±4km, ML2.4/7*

*RHSSO **13** 05:21:46.2±0.9, 41°.56N×19°.40E, h7km±2km, ML2.5/7*

ISC 13 05:21:43.5±1.2, 41°.48N±0°.04×19°.50E±0°.04, h6km±10km, n35, σ0s80/64, 11C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.30**	**116**	*e*Pg	**Pg**	**05 21 49.4**	**-0.1**
TIR				*e*Sg	**Sg**	**05 21 54.4**	**+0.9**
DRME	**Dracevica, Mon**	**0.74**	**342⇑**	*i*Pg	**Pg**	**05 21 57.6**	**-0.2**
DRME				*e*Sg	**Sg**	**05 22 07.2**	**-0.3**
DRME	**Dracevica, Mon**	**0.74**	**342⇑**	*i*Pg	**Pg**	**05 21 57.8**	**0.0**
DRME				*i* Sg	**Sb**	**05 22 09.2**	**-0.1**
BUM	**Brajici-Budva**	**0.94**	**331⇑**	*i*Pg	**Pg**	**05 22 01.9**	**+0.4**
BUM				*i* Sg	**Sn**	**05 22 16.6**	**-0.4**
PDG	**Podgorica**	**0.97**	**349**	*e*Pg	**Pb**	**05 22 03.1**	**+0.4**
PDG				*e*Sg	**Sb**	**05 22 16.2**	**+0.5**
PDG	**Podgorica**	**0.97**	**349**	*e*Pg	**Pb**	**05 22 02.7**	**0.0**
PDG				*e*Sg	**Sg**	**05 22 15.2**	**+0.6**
PDG	**Podgorica**	**0.97**	**349⇓**	*i*Pg	**Pg**	**05 22 01.3**	**-0.8**
PDG				*i* Sg	**Sb**	**05 22 15.7**	**0.0**
OHR	**Ohrid**	**1.05**	**110**	*i* Pg	**Pg**	**05 22 02.2**	**-1.4**
OHR				*i* Sg	**Sb**	**05 22 18.6**	**+0.6**
CEME	**Cevo**	**1.15**	**338⇑**	*i*Pg	**Pg**	**05 22 05.3**	**-0.3**
CEME				*i* Sg	**Sn**	**05 22 23.0**	**+0.7**
PVY	**Plav**	**1.17**	**17⇓**	*i*Pg	**Pg**	**05 22 04.1**	**-1.8**
PVY				*i* Sg	**Sg**	**05 22 20.7**	**-0.3**
NKME	**Niksic**	**1.35**	**343⇓**	*i*Pg	**Pn**	**05 22 08.4**	**-0.5**
NKME				*i* Sg	**Sn**	**05 22 28.8**	**+1.6**
KOME	**Kolasin**	**1.37**	**0⇑**	*i*Pg	**Pn**	**05 22 08.4**	**-0.8**
KOME				*i* Sg	**Sn**	**05 22 28.4**	**+0.7**
IVA	**Berane**	**1.42**	**12⇑**	*i*Pg	**Pn**	**05 22 08.8**	**-1.1**
IVA				*i* Sg	**Sg**	**05 22 29.5**	**+0.3**
TREB	**Trebinje**	**1.50**	**326**	*e*Pg	**Pb**	**05 22 12.0**	**+0.2**
TREB				*e*Sg	**Sn**	**05 22 31.2**	**+0.3**
TREB	**Trebinje**	**1.50**	**326⇑**	*i*Pg	**Pn**	**05 22 11.6**	**+0.6**
TREB				*e*Sg	**Sn**	**05 22 30.6**	**-0.3**
SKO	**Skopje**	**1.53**	**71**	*i* Pg	**Pn**	**05 22 11.7**	**+0.3**
DBRK	**Dubrovnik**	**1.56**	**320**	*e*Pn	**Pb**	**05 22 13.2**	**+0.5**
DBRK				Sn	**Sb**	**05 22 33.1**	**+0.4**
FNA	**Florina**	**1.58**	**116**	*i* Pg	**Pn**	**05 22 12.5**	**+0.5**
BRY	**Bratogost**	**1.59**	**334⇑**	*i*Pg	**Pn**	**05 22 12.4**	**+0.1**
BRY				*e*Sg	**Sn**	**05 22 33.0**	**-0.2**
BRY	**Bratogost**	**1.59**	**334⇓**	*i*Pn	**Pn**	**05 22 12.7**	**+0.4**
BRY				*i* Sn	**Sg**	**05 22 35.7**	**+1.1**
UPM	**Unac-Piva**	**1.78**	**346**	*e*Pn	**Pb**	**05 22 16.1**	**-0.5**
UPM				*e*Sn	**Sn**	**05 22 38.2**	**+0.3**
UPM	**Unac-Piva**	**1.78**	**346⇑**	*i*Pn	**Pn**	**05 22 15.6**	**+0.7**
UPM				*i* Sn	**Sb**	**05 22 40.0**	**+0.8**
SJES	**Sjenica**	**1.81**	**11**	*e*Pg	**Pb**	**05 22 17.4**	**+0.2**
SJES				*e*Sg	**Sb**	**05 22 39.7**	**-0.5**
SJES	**Sjenica**	**1.81**	**11⇑**	*i*Pn	**Pn**	**05 22 16.4**	**+1.0**
SJES				*e*Sn	**Sn**	**05 22 39.4**	**+0.7**
STON	**Ston**	**1.93**	**317**	*e*Pn	**Pb**	**05 22 18.6**	**-0.5**
STON				*e*Sn	**Sb**	**05 22 44.7**	**+1.3**
STON	**Ston**	**1.93**	**317**	*e*Pn	**Pn**	**05 22 17.6**	**+0.8**
STON				Sn	**Sn**	**05 22 40.8**	**-0.6**
STON	**Ston**	**1.93**	**317**	*e*Pn	**Pn**	**05 22 18.1**	**+1.3**
STON				*e*Sn	**Sn**	**05 22 41.4**	**+0.1**
RUDO	**Rudo**	**2.14**	**357**	*e*Pn	**Pn**	**05 22 21.3**	**+1.6**
RUDO				*e*Sn	**Sn**	**05 22 47.2**	**+0.6**
MAKA	**Makarska**	**2.58**	**315**	*e*Pn	**Pn**	**05 22 24.7**	**-1.0**
RICI	**Ricice**	**2.67**	**320**	*e*Pn	**Pn**	**05 22 26.8**	**-0.2**
KIJV	**Kijevo**	**3.40**	**319**	*e*Pn	**Pn**	**05 22 37.0**	**0.0**
ZIRJ	**Zirje**	**3.58**	**309**	*e*Pn	**Pn**	**05 22 39.6**	**+0.1**
ZIRJ				Sn	**Sn**	**05 23 21.5**	**-0.6**
A050A	**Klekovaca**	**3.71**	**325⇑**	*i*Pn	**Pn**	**05 22 42.0**	**+0.7**
A050A				*e*Sn	**Sn**	**05 23 24.1**	**-1.3**
DUGI	**Dugi Otok**	**4.12**	**309**	*e*Pn	**Pn**	**05 22 46.8**	**-0.2**
BRJN	**Brijuni**	**5.42**	**311**	*e*Pn	**Pn**	**05 23 03.9**	**-0.8**
BRJN				Sn	**Sn**	**05 24 04.8**	**-2.6**

*DJA **13** 05:36:48.8±0.7, 9°.S±10°.×11°.6E±°, h75km±10km, M3.8/7, MLv3.8/7*

*IDC **13** 05:36:49.9±8.7, 8°.92S×116°.24E, h135km±81km, mb3.0/3, mbtmp3.6/4, Error ellipse: s-maj=80.5km s-min=21.9km az=63.0*

ISC 13 05:36:46.9±1.0, 9°.1S±0°.1×116°.18E±0°.04, h106km±9km, n14, σ1s26/19, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.78**	**62**	P	**Pn**	**05 37 05.2**	**-0.5**
TWSI				S	**Sn**	**05 37 17.2**	**-2.5**
DNP	**Denpasar**	**1.05**	**294**	P	**Pn**	**05 37 09.1**	**+0.8**
DNP				S	**Sn**	**05 37 25.2**	**+0.8**
SRBI	**Singaraja**	**1.40**	**317**	P	**Pn**	**05 37 12.7**	**+0.4**
SRBI				S	**Sn**	**05 37 31.3**	**-0.1**
PLAI	**Plampang**	**1.60**	**80**	P	**Pn**	**05 37 16.0**	**+1.2**
PLAI				S	**Sn**	**05 37 36.9**	**+1.0**
JAGI	**Jajag, Banyuwa**	**2.10**	**287**	P	**Pn**	**05 37 21.8**	**+0.7**
JAGI				S	**Sn**	**05 37 46.6**	**-0.6**
ABJI	**Asem Bagus**	**2.32**	**304**	P	**Pn**	**05 37 24.8**	**+0.9**
ABJI				S	**Sn**	**05 37 52.9**	**+0.6**
PWJI	**Pagerwojo**	**4.46**	**284**	P	**Pn**	**05 37 51.6**	**-0.8**
KAPI	**Kappang**	**5.39**	**41**	P	**Pn**	**05 38 06.5**	**+1.4**
16nm,0.3s,baz=198,slow=6.4,SNR=9.3							
KAPI				S	**Sn**	**05 39 05.2**	**-0.8**
5.1nm,0.3s,baz=52,slow=23,SNR=1.3							
WRA	**Warramunga Arr**	**20.59**	**124**	P	**P**	**05 41 18.8**	**+1.1**
0.5nm,0.5s,baz=301,slow=12,SNR=16							
WRA				S	**S**	**05 45 00.5**	**-1.8**
0.4nm,0.9s,baz=296,slow=17,SNR=1.1							
0.5nm,0.5s							
ASAR	**Alice Springs**	**22.29**	**133**	P	**P**	**05 41 37.4**	**+1.5**
1.7nm,0.6s,baz=303,slow=9.4,SNR=17							
1.7nm,0.6s							
H08S2	**Diego Garcia H**	**43.23**	**269**	T	T	06 30 57.4	
baz=96							
H08S3	**Diego Garcia H**	**43.24**	**269**	T	T	06 30 56.8	
baz=96							
H08S1	**Diego Carcia H**	**43.25**	**269**	T	T	06 31 02.1	
baz=96							
MKAR	**Makanchi Array**	**63.32**	**335**	P	**P**	**05 47 03.6**	**-1.2**
0.2nm,0.3s,baz=137,slow=6.7,SNR=2.4							
0.2nm,0.3s							

IDC 13 05:51:30.2±3.8, 54°.42N×86°.71E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=32.4km s-min=19.6km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.21**	**248**	I	I	05 59 10.0	
baz=66,slow=315,SNR=3.7							
ZALV	**Zalesovo Beam**	**1.21**	**248**	Pg	Pg	05 51 52.0	-1.3
0.4nm,0.3s,baz=63,slow=18,SNR=4.3							
ZALV				Lg	Lg	05 52 09.7	
0.5nm,0.3s,baz=68,slow=26,SNR=3.7							
KURBB	**Kurchatov Arra**	**6.28**	**236**	Pn	Pn	05 53 05.3	+1.3
0.1nm,0.3s,baz=54,slow=14,SNR=3.2							
0.4nm,0.3s							
MKAR	**Makanchi Array**	**8.13**	**202**	Pn	Pn	05 53 30.4	+0.8
baz=26,slow=13,SNR=1.4							
0.1nm,0.3s							

KRSC 13 06:05:04.1±1.6, 49°.84N×156°.88E, h53km±25km, MI3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.98**	**330**	*e*S	Sn	06 05 34.7	+0.3

NOKA IAML 06 06 14.5
comp=N,15μm,0.3s
OK035 E0210 Rd and N 0.27 3 Pg Pg 06 06 11.3 -0.5
OK035 Sg Sg 06 06 15.3 -0.2
OK035 IAML 06 06 15.7
comp=N,5μm,0.4s
OK032 Salt Plains WL 0.55 48 Pg 06 06 16.7 -0.4
OK032 Sg Sg 06 06 24.3 -0.1
OK032 IAML 06 06 24.9
comp=N,1μm,0.5s
OK032 IAML 06 06 28.4
comp=N,2μm,0.2s
CROK Carrier 0.60 83 Pg 06 06 17.8 -0.2
CROK Sg Sg 06 06 26.6 +0.7
CROK IAML 06 06 27.5
comp=N,2μm,0.4s
CROK IAML 06 06 31.4
comp=E,2μm,0.3s
CSTR Hydro, Custer 0.79 178 Pg Pg 06 06 21.2 -0.3
KAN14 Manchester OK 0.80 49 Pg 06 06 21.3 -0.5
KAN14 IAML 06 06 32.5
comp=N,771nm,0.4s
GC02 Grant County # 0.81 59 Pg Pg 06 06 21.4 -0.6
KAN05 Bluff City Nor 0.96 45 Pg 06 06 24.2 -0.6
KAN17 Caldwell West 0.98 52 Pg Pg 06 06 24.4 -0.8
KAN17 IAML 06 06 38.7
comp=N,2μm,0.3s
KAN17 IAML 06 06 38.8
comp=E,2μm,0.3s
KAN08 Anthony NE Sta 0.99 37 Pg 06 06 24.4 -1.0
KAN01 Argonia South 1.06 47 Pg 06 06 25.7 -0.9
KAN06 Argonia West S 1.07 40 Pg 06 06 25.8 -1.1
KAN09 Caldwell North 1.13 51 Pg 06 06 27.0 -1.1
KAN13 South Haven SW 1.16 60 Pg 06 06 27.6 -1.0
KAN13 IAML 06 06 48.4
comp=E,1μm,0.2s
OK029 Liberty Lake 1.21 121 Pg 06 06 28.5 -1.1
BLOK Blackwell 1.26 75 Pg 06 06 29.5 -1.0
ADOK Arcadia Dam 1.35 125 Pn Pn 06 06 31.0 -0.5
OK048 Pawnee Station 1.44 90 Pn 06 06 32.3 -0.4
OKCSW OKLAHOMA CITY 1.47 134 Pn 06 06 33.0 -0.1
OK051 E0350 and S346 1.52 87 Pn Pn 06 06 33.9 0.0
FNO Franklin 1.59 137 Pn Pn 06 06 34.8 0.0
OK031 S. Brethren Rd 1.60 107 Pn 06 06 34.9 0.0
OK052 Battle Ridge R 1.62 105 Pn 06 06 35.2 0.0
QUOK Quay 1.65 99 Pn 06 06 35.8 +0.2
WMOK Wichita Mounta 1.69 182 Pn Pn 06 06 35.9 -0.4
T35A Sooner Cattle 1.84 74 Pn Pn 06 06 38.8 +0.5
DEOK Depew 1.90 108 Pn 06 06 39.2 +0.2
R32A Long Quarter, 1.98 0 IAmb_Lg 06 07 12.8
comp=Z,86nm,0.7s
TUL3 Leonard 2.43 102 Pn Pn 06 06 46.3 -0.1
TUL3 IAmb_Lg 06 07 22.6
comp=Z,63nm,0.8s
CBKS Cedar Bluff 2.51 342 Pn Pn 06 06 47.6 +0.1
CBKS IAmb_Lg 06 07 25.9
comp=Z,86nm,0.7s
LOOK Love County 2.75 152 IAmb_Lg 06 07 37.5
comp=Z,84nm,0.8s
KSU1 Kansas State U 3.15 32 Pn Pn 06 06 56.7 +0.5
KSU1 IAmb_Lg 06 07 53.7
comp=Z,63nm,0.9s
DKNS Dickens 3.30 214 Pn Pn 06 06 56.1 -2.3
X37A Clayton 3.30 123 Pn Pn 06 06 58.4 +0.1
Z35A Perchaven, San 3.33 158 Pn Pn 06 06 59.3 +0.7
U38A Gravette 3.50 89 IAmb_Lg 06 08 04.9
comp=Z,75nm,0.9s
SN07 Snyder 07 3.78 209 IAmb_Lg 06 08 09.3
comp=Z,64nm,0.7s
FW07 Weatherford 3.80 168 Pn Pn 06 07 05.5 +0.3
FW07 IAmb_Lg 06 08 10.3
comp=Z,37nm,0.9s
HHAR Hobbs 3.87 91 IAmb_Lg 06 08 12.5
comp=Z,51nm,0.8s
ABTX Abilene, Hawle 3.88 192 Pn Pn 06 07 06.0 -0.3
SN05 Snyder 5 3.97 207 IAmb_Lg 06 08 15.0
comp=Z,68nm,0.8s
KSCO Kaye Shedlock' 4.02 311 Pn Pn 06 07 07.8 -0.5
MSTX Muleshoe 4.13 235 Pn Pn 06 07 09.3 -0.5
FW14 Alvarado 4.22 162 IAmb_Lg 06 08 30.9
comp=Z,45nm,1.0s
FW16 Waxahatchie 4.22 159 IAmb_Lg 06 08 31.2
comp=Z,50nm,0.8s
TREL Terrell 4.29 149 Pn Pn 06 07 11.6 -0.3
Z38A Mt. Pleasant 4.42 135 IAmb_Lg 06 08 28.7
comp=Z,47nm,0.8s
S39A Bolivar 4.50 72 IAmb_Lg 06 08 36.8
comp=Z,57nm,1.0s
MIAR Mount Ida 4.61 113 IAmb_Lg 06 08 36.8
comp=Z,32nm,0.7s
T25A Trinidad 4.62 280 IAmb_Lg 06 08 32.2
comp=Z,67nm,0.7s
BGNE Belgrade 4.99 5 IAmb_Lg 06 08 51.0
comp=Z,43nm,0.8s
237A Washetta, Mont 5.04 151 IAmb_Lg 06 08 56.9
comp=Z,42nm,0.7s
P38A Dawn 5.19 51 IAmb_Lg 06 09 05.1
comp=Z,30nm,0.7s
MGMO Mountain Grove 5.23 80 IAmb_Lg 06 08 59.6
comp=Z,29nm,0.8s
WLAR White Oak Lake 5.36 119 IAmb_Lg 06 09 11.6
comp=Z,42nm,0.9s
FCAR Ozark Folk Cen 5.37 94 IAmb_Lg 06 09 02.0
comp=Z,40nm,0.7s
UALR University of 5.46 106 IAmb_Lg 06 09 13.1
comp=Z,44nm,1.0s
R40A Maddies Statio 5.47 68 IAmb_Lg 06 08 58.9
comp=Z,36nm,0.7s
Q24A Divide 5.68 298 IAmb_Lg 06 09 17.7
comp=Z,25nm,0.7s
435B Jarrell 5.72 170 IAmb_Lg 06 09 15.1
comp=Z,33nm,0.7s
NATX Nacogdoches 5.75 143 IAmb_Lg 06 09 22.6
comp=Z,36nm,0.9s
Z41A Richland Creek 5.81 121 IAmb_Lg 06 09 23.8
comp=Z,33nm,0.8s
OZNA Ozona 5.85 201 IAmb_Lg 06 09 21.5
comp=Z,24nm,0.8s
JCT Junction City 6.01 189 IAmb_Lg 06 09 29.0
comp=Z,46nm,0.9s
CCAR Cane Creek 6.22 112 IAmb_Lg 06 09 30.2
comp=Z,47nm,1.2s
K30B Basset 6.27 354 IAmb_Lg 06 09 36.0
comp=Z,49nm,0.9s
ISCO Idaho Springs 6.38 304 IAmb_Lg 06 09 28.3
comp=Z,26nm,0.9s
ANMO Albuquerque 6.46 259 Pn Pn 06 07 43.3 +1.3
comp=Z,0.2nm,0.3s,baz=345,slow=3.4,SNR=2.3
ANMO Pg Pb 06 08 02.2 +3.0
comp=Z,0.8nm,0.3s,baz=79,slow=16,SNR=11
ANMO Lg Lg 06 09 22.9
comp=Z,1.2nm,0.3s,baz=248,slow=19,SNR=2.5
comp=Z,0.4nm,0.3s
PBMO Poplar Bluff 6.68 85 IAmb_Lg 06 09 40.5
comp=Z,36nm,0.8s
FVM French Village 6.80 74 IAmb_Lg 06 09 41.8
comp=Z,34nm,0.9s
143A Socs Landing, 7.09 120 IAmb_Lg 06 09 58.3
comp=Z,18nm,0.7s
SLM Saint Louis 7.09 69 IAmb_Lg 06 09 52.1
comp=Z,40nm,0.8s
PHWY Pilot Hill 7.15 315 IAmb_Lg 06 10 04.5
comp=Z,26nm,0.8s
N23A Red Feather La 7.19 310 IAmb_Lg 06 10 03.7
comp=Z,31nm,0.7s
CGM3 Cape Girardeau 7.32 81 IAmb_Lg 06 10 02.5
comp=Z,19nm,0.8s
735A Kenedy 7.60 174 IAmb_Lg 06 10 21.7
comp=Z,24nm,0.9s
S44A Carbondale 7.68 78 IAmb_Lg 06 10 11.5
comp=Z,37nm,0.9s
Y45A Yeager Farm, C 7.95 106 IAmb_Lg 06 10 35.7
comp=Z,23nm,1.1s
EPT El Paso 7.95 236 IAmb_Lg 06 10 29.9
comp=Z,21nm,1.0s
SUSD Miller 8.00 359 IAmb_Lg 06 10 29.1
comp=Z,20nm,0.8s
TXAR Lajitas Array 8.21 212 Pn Pn 06 08 05.0 -0.9
comp=Z,0.5nm,0.3s,baz=36,slow=12,SNR=37
TXAR Lg Lg 06 10 18.7
comp=Z,0.7nm,0.3s,baz=34,slow=27,SNR=1.9
comp=Z,0.7nm,0.3s
RWWY Rawlins 8.43 311 IAmb_Lg 06 10 39.8
comp=Z,22nm,0.9s
121A Cookes Peak, D 8.43 245 IAmb_Lg 06 10 45.3
comp=Z,18nm,1.2s
I37A Lemond, Waseca 8.59 27 IAmb_Lg 06 10 52.1
comp=Z,23nm,0.9s
K22A Casper 8.65 318 IAmb_Lg 06 11 01.9
comp=Z,29nm,0.9s
RSSD Black Hills 8.68 334 IAmb_Lg 06 10 46.3
comp=Z,29nm,0.9s
JFWS Jewell Farm 9.19 43 IAmb_Lg 06 11 21.9
comp=Z,25nm,0.8s
I40A Norwalk 9.69 37 IAmb_Lg 06 11 16.7
comp=Z,16nm,0.7s
PDAR Pinedale Array 10.47 310 Pn Pn 06 08 37.6 +0.6
comp=Z,0.1nm,0.3s,baz=125,slow=13,SNR=1.7
PDAR Lg Lg 06 11 32.0
comp=Z,0.5nm,0.3s,baz=124,slow=31,SNR=12
comp=Z,0.1nm,0.3s
TKL Tuckaleechee C 12.13 89 Pn Pn 06 08 57.9 -1.6
comp=Z,0.2nm,0.3s,baz=231,slow=11,SNR=4.0
TKL Lg Lg 06 12 18.8
comp=Z,0.3nm,0.3s,baz=184,slow=21,SNR=2.6
comp=Z,1.1nm,0.4s
ULM Lac du Bonnet 13.96 8 Pn 06 09 18.5 -5.9
comp=Z,1.0nm,0.6s,baz=181,slow=10,SNR=1.5
ULM Sn Sn 06 11 44.5 -15
comp=Z,0.2nm,0.3s,baz=90,slow=20,SNR=1.9
ULM Lg Lg 06 13 15.1
comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=1.8

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*AEIC **13** 06:16:54.1±2.5, 52°.15N±0°.07×170°.42W±0°.07, h25km±5km, Error ellipse: s-maj=11.2km s-min=5.2km az=157.0*
*NEIC **13** 06:16:55.9±2.4, 52°.22N±0°.09×170°.46W±0°.08, h35km±2km, mb3.9/32, ML4.4/8, ML4.0(AEIC), Error ellipse: s-maj=16.8km s-min=6.0km az=336.0*
*IDC **13** 06:16:57.3±2.6, 52°.51N×170°.67W, h62km±22km, mb3.8/26, mbtmp4.1/28, ML4.0/2, MS3.1/24, Error ellipse: s-maj=16.7km s-min=10.7km az=176.0*
ISC 13 06:16:52.3±0.5, 52°.13N±0°.09×170°.72W±0°.04, h31km, n156, σ1§36/139, mb4.1/31, MS3.1/22, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**0.86**	**36**	Pn	**Pn**	**06 17 08.4**	**+0.2**
CLES				Sn	**Sn**	**06 17 18.4**	**-1.4**
CLCO	**Concord Point,**	**0.90**	**42**		**Pn**	**06 17 08.4**	**-0.4**
NIKH	**Nikolski High**	**1.42**	**53**	P	**Pn**	**06 17 15.5**	**-0.5**
NIKH	**Nikolski High**	**1.42**	**53**		**Pn**	**06 17 15.1**	**-0.8**
OKWE	**Okmok W'ng Wal**	**2.02**	**47**		**Pn**	**06 17 24.7**	**+0.5**
OKCE	**Okmok Cone E**	**2.03**	**49**		**Pn**	**06 17 24.8**	**+0.5**
OKNC	**Okmok New Cone**	**2.06**	**49**		**Pn**	**06 17 26.0**	**+1.2**
KOFP	**Korovin Flat P**	**2.08**	**275**		**Pb**	**06 17 30.7**	**+1.3**
KOFP					**Sb**	**06 17 57.2**	**+2.3**
ATKA	**Atka Island**	**2.14**	**273**	P	**Pb**	**06 17 31.1**	**+0.7**
ATKA	**Atka Island**	**2.14**	**273**	Pn	**Pb**	**06 17 30.6**	**+0.2**
ATKA	**Atka Island**	**2.14**	**273**		**Sb**	**06 17 58.1**	**+1.6**
KOKL	**Mount Kliuchef**	**2.15**	**277**		**Pb**	**06 17 31.4**	**+0.8**
MSW	**Makushin Switc**	**2.98**	**51**		**Pn**	**06 17 38.5**	**+1.1**
MTBL	**Makushin Table**	**3.06**	**51**		**Pn**	**06 17 39.1**	**+0.6**
UNV	**Unalaska Valle**	**3.08**	**54**	P	**Pn**	**06 17 39.6**	**+0.9**
UNV	**Unalaska Valle**	**3.08**	**54**		**Pn**	**06 17 39.6**	**+0.9**
UNV					**Sn**	**06 18 13.7**	**-0.7**
GSTR	**Great Sitkin T**	**3.29**	**272**	Pn	**Pb**	**06 17 47.0**	**-2.9**
GSMY	**Great Sitkin M**	**3.29**	**271**		**Pb**	**06 17 47.9**	**-2.1**
AKRB	**Akutan Reef Bi**	**3.45**	**53**		**Pn**	**06 17 45.3**	**+1.5**
ZRO	**Akutan Zero**	**3.47**	**54**		**Pn**	**06 17 45.9**	**+1.7**
LVA	**Lava Point**	**3.48**	**52**	Pn	**Pn**	**06 17 45.9**	**+1.5**
LVA				IAML		06 18 33.8	
	comp=E,719nm,0.7s						
LVA				IAML		06 18 46.2	
	comp=N,1μm,0.8s						
AKGG	**Akutan Green G**	**3.52**	**52**		**Pn**	**06 17 45.8**	**+1.0**
AHB	**Akutan Harbor**	**3.56**	**54**		**Pn**	**06 17 47.0**	**+1.6**
ADK	**Adak**	**3.69**	**269**	P	**Pb**	**06 17 53.5**	**-3.3**
ADK	**Adak**	**3.69**	**269**	Pn	Pb	06 17 52.3	-4.5
ADK				IAML		06 18 49.2	
	comp=N,512nm,0.6s						
ADK				IAML		06 18 53.4	
	comp=N,460nm,0.4s						
KINC	**Kanaga Island**	**3.96**	**270**		Pb	06 17 57.4	-3.9
KIWB	**Kanaga Island**	**3.98**	**269**	Pn	Pb	06 17 57.5	-4.2
KIMD	**Kanaga Island**	**4.05**	**267**		Pb	06 17 57.9	-4.9
TAFP	**Tanaga Falls P**	**4.49**	**270**		Pb	06 18 04.7	-5.7
P08K	**Saint George I**	**4.54**	**8**		**Pn**	**06 17 59.8**	**+1.0**
GANE	**Gareloi Northe**	**4.99**	**270**		Pn	06 18 11.8	+6.7
SPIA	**Saint Paul Isl**	**5.07**	**3**	P	**Pn**	**06 18 07.8**	**+1.8**
SPIA	**Saint Paul Isl**	**5.07**	**3**		**Pn**	**06 18 07.8**	**+1.8**
CEPE	**Semis' Perret**	**5.95**	**272**		Pn	06 18 25.6	+7.5
CESW	**Semis' Southwe**	**6.00**	**272**		Pn	06 18 26.2	+7.2
AMKA	**Amchitka**	**6.24**	**267**		Pn	06 18 28.6	+6.4
CNBA	**Chernabura Isl**	**7.17**	**64**	Pn	**Pn**	**06 18 35.8**	**+0.8**
CHGN	**Chignik**	**8.33**	**55**	Pn	**Pn**	**06 18 51.1**	**+0.2**
O14K	**Tigyukauivet M**	**8.91**	**33**	Pn	**Pn**	**06 19 01.1**	**+2.3**
M13K	**Dall Lake**	**9.26**	**23**	Pn	**Pn**	**06 19 05.6**	**+2.1**
SHEM	**Shemya Is, Ala**	**9.30**	**280**	P	Pn	06 19 08.9	+4.8
	comp=N,4.7nm,0.3s,baz=83,slow=8.1,SNR=2.4						
SHEM				LR	LR	06 22 33.5	
	comp=N,51nm,19.8s,baz=344,slow=36						
	comp=N,20nm,0.4s						
N14K	**Kuskokwak Cree**	**9.30**	**29**		**Pn**	**06 19 06.4**	**+2.3**
M14K	**Bethel**	**9.90**	**26**	Pn	**Pn**	**06 19 13.0**	**+0.7**
N15K	**Kwethluk River**	**9.99**	**32**		**Pn**	**06 19 15.2**	**+1.6**
L14K	**Kuka Creek**	**10.23**	**22**	Pn	**Pn**	**06 19 18.0**	**+1.2**
O16K	**Kokwok River B**	**10.30**	**38**	Pn	**Pn**	**06 19 19.9**	**+2.2**
M16K	**Timber Creek**	**11.01**	**31**	Pn	**Pn**	**06 19 28.8**	**+1.3**
N17K	**Nushagak Hills**	**11.26**	**36**	Pn	**Pn**	**06 19 32.9**	**+2.0**
OHAK	**Old Harbor**	**11.30**	**56**	P	**Pn**	**06 19 30.5**	**-0.9**
J14K	**Nanvaranak Lak**	**11.32**	**17**	Pn	**Pn**	**06 19 34.4**	**+2.8**
K15K	**Wolf Creek Mou**	**11.33**	**22**	Pn	**Pn**	**06 19 34.5**	**+2.7**
L16K	**Owhat River**	**11.38**	**28**		**Pn**	**06 19 33.9**	**+1.4**
O18K	**Koktuh Hills**	**11.61**	**42**	Pn	**Pn**	**06 19 36.9**	**+1.2**
M17K	**Holitna River**	**11.78**	**33**		**Pn**	**06 19 38.3**	**+0.2**
N18K	**Kilae Creek**	**11.84**	**38**	Pn	**Pn**	**06 19 40.7**	**+1.8**
KDAK	**Kodiak Island**	**11.85**	**54**	Pn	**Pn**	**06 19 38.2**	**-0.7**
KDAK	**Kodiak Island**	**11.85**	**54**	P	**Pn**	**06 19 36.6**	**-2.3**
	comp=N,2.5nm,0.4s,baz=236,slow=11,SNR=16						
SYI	**Shuyak Island**	**12.26**	**51**	Pn	**Pn**	**06 19 42.8**	**-1.7**
J16K	**Anvik River**	**12.40**	**22**	Pn	**Pn**	**06 19 48.1**	**+1.6**
K17K	**Iditarod**	**12.52**	**27**		**Pn**	**06 19 49.6**	**+1.6**
CNPM	**China Poot**	**13.19**	**48**	Pn	**Pn**	**06 19 54.9**	**-2.3**
L19K	**White Mountain**	**13.21**	**34**	Pn	**Pn**	**06 19 58.6**	**+1.1**
TTA	**Tatalina**	**13.36**	**30**	Pn	**Pn**	**06 20 00.9**	**+1.3**
J18K	**Innoko River**	**13.55**	**28**	Pn	**Pn**	**06 20 02.2**	**0.0**
J19K	**Poorman**	**14.28**	**28**	Pn	**Pn**	**06 20 12.9**	**+0.9**
J20K	**Nowitna River**	**14.85**	**29**		**Pn**	**06 20 19.7**	**0.0**
G18K	**Tagagawik**	**15.09**	**19**	Pn	**Pn**	**06 20 24.0**	**+0.9**
GHO	**Glory Hole Cre**	**15.24**	**42**	Pn	**Pn**	**06 20 23.2**	**-1.9**
GHO				IAmb	IAmb	06 20 34.5	
	comp=Z,4.1nm,0.8s						
MLY	**Manley**	**16.50**	**31**	Pn	**Pn**	**06 20 41.9**	**+0.7**
I23K	**Minto, Yukon-K**	**17.01**	**32**	P	**Pn**	**06 20 48.3**	**+0.7**
I23K				IAmb	IAmb	06 21 09.3	
	comp=Z,6.4nm,0.8s						
F21K	**Alatna River**	**17.35**	**23**	P	**Pn**	**06 20 52.6**	**+0.7**
D19K	**Kuna River**	**17.50**	**16**		**Pn**	**06 20 54.9**	**+1.3**
D19K				IAmb	IAmb	06 20 59.2	
	comp=Z,13nm,1.2s						
ILAR	**Eielson Array**	**17.62**	**35**	P	**Pn**	**06 20 53.0**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=224,slow=9.6,SNR=14						
ILAR				PcP	**PcP**	**06 25 33.4**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=257,slow=2.3,SNR=5.4						
ILAR				LR	LR	06 28 31.8	
	comp=Z,48nm,19.9s,baz=212,slow=40						
	comp=Z,0.2nm,0.5s						
H24K	**Noodor Dome**	**17.93**	**31**	P	**Pn**	**06 20 58.8**	**-0.2**
SCRK	**Sand Creek**	**18.29**	**39**		**P**	**06 21 01.5**	**-1.9**
M27K	**Edge Creek, AK**	**18.50**	**45**	P	**P**	**06 21 04.7**	**-1.0**
J26L	**Joseph Creek**	**18.70**	**38**	P	**P**	**06 21 05.7**	**-2.2**
D22K	**Ayikyak River**	**18.86**	**20**	P	**P**	**06 21 10.2**	**+0.6**
D22K				IAmb	IAmb	06 21 42.1	
	comp=Z,6.7nm,1.2s						
PNL	**Peninsula**	**18.97**	**54**	P	**P**	**06 21 10.4**	**-0.4**
TOLK	**Toolik Lake Re**	**19.39**	**23**	P	**P**	**06 21 15.7**	**+0.3**
TOLK				IAmb	IAmb	06 21 35.4	
	comp=Z,6.3nm,1.1s						
O29M	**Mount Kennedy**	**19.48**	**53**	P	**P**	**06 21 16.6**	**0.0**
EGAK	**Eagle**	**19.75**	**39**	P	**P**	**06 21 17.6**	**-1.6**
C23K	**Itkillik River**	**20.07**	**20**	P	**P**	**06 21 21.8**	**-0.9**
C23K				IAmb	IAmb	06 21 43.0	
	comp=Z,7.9nm,1.1s						
HYT	**Haines Junctio**	**20.10**	**51**	P	**P**	**06 21 24.5**	**+1.2**
DAWY	**Dawson**	**20.16**	**42**	P	**P**	**06 21 23.3**	**-0.5**
DAWY				IAmb	IAmb	06 21 44.8	
	comp=Z,7.3nm,1.5s						
N30M	**Aishikik Lake**	**20.42**	**50**	P	**P**	**06 21 26.8**	**+0.1**
N30M				IAmb	IAmb	06 21 54.3	
	comp=Z,2.9nm,0.8s						
I28M	**Miner Creek**	**20.51**	**38**	P	**P**	**06 21 25.9**	**-1.7**
I28M				IAmb	IAmb	06 21 43.8	
	comp=Z,3.1nm,0.7s						
O30N	**Mendenhall**	**20.77**	**52**	P	**P**	**06 21 30.8**	**+0.3**
O30N				IAmb	IAmb	06 22 13.3	
	comp=Z,5.1nm,1.1s						
SKAG	**Skagway**	**21.00**	**56**	P	**P**	**06 21 34.1**	**+1.3**
H29M	**Whitestone**	**21.42**	**36**	P	**P**	**06 21 35.6**	**-1.7**
H29M				IAmb	IAmb	06 21 48.4	
	comp=Z,7.4nm,1.0s						
G29M	**Pine Creek**	**21.85**	**35**	P	**P**	**06 21 40.4**	**-1.6**
G29M				IAmb	IAmb	06 21 43.0	
	comp=Z,4.6nm,0.7s						
E28M	**Babbage River**	**22.18**	**30**	P	**P**	**06 21 46.7**	**+1.2**
SEY	**Seymchan**	**22.23**	**313**	P	**P**	**06 21 46.3**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=102,slow=10.0,SNR=6.4						
	comp=Z,1.0nm,0.3s						
Q32M	**Nakina River**	**22.54**	**57**	P	**P**	**06 21 50.5**	**+0.9**
MA2	**Magadan**	**22.59**	**304**	LR	LR	06 29 47.6	
	comp=Z,23nm,20.8s,baz=44,slow=34						
R33M	**Jennings River**	**23.22**	**56**	P	**P**	**06 21 57.0**	**+0.4**
R33M				IAmb	IAmb	06 21 59.4	
	comp=Z,7.6nm,1.3s						
DLBC	**Dease Lake**	**23.72**	**58**	P	**P**	**06 22 02.6**	**+1.2**
DLBC	**Dease Lake**	**23.72**	**58**	P	**P**	**06 22 02.5**	**+1.1**
	comp=Z,7.4nm,1.1s,baz=272,slow=10.0,SNR=12						
	comp=Z,7.4nm,1.1s						
INK	**Inuvik**	**24.00**	**34**	P	**P**	**06 22 02.6**	**-1.2**
INK				IAmb	IAmb	06 22 05.4	
	comp=Z,3.5nm,1.0s						
INK	**Inuvik**	**24.00**	**34**	P	**P**	**06 22 02.0**	**-1.8**
	comp=Z,2.0nm,0.5s,baz=210,slow=11,SNR=24						
INK				PcP	**PcP**	**06 25 45.5**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=168,slow=4.0,SNR=2.5						
INK				LR	LR	06 31 53.0	
	comp=Z,52nm,18.5s,baz=314,slow=38						
	comp=Z,2.0nm,0.5s						
YKA	**Yellowknife Ar**	**31.02**	**48**	P	**P**	**06 23 06.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=290,slow=9.1,SNR=2.0						
YKA				LR	LR	06 35 15.1	
	comp=Z,44nm,20.3s,baz=317,slow=36						
	comp=Z,0.3nm,0.5s						
ASAJ	**Asahikawa**	**31.70**	**274**	LR	LR	06 37 04.8	
	comp=Z,15nm,18.9s,baz=352,slow=38						
TIXI	**Tiksi**	**32.52**	**329**	LR	LR	06 36 59.6	
	comp=Z,38nm,19.1s,baz=94,slow=37						
YAK	**Yakutsk**	**32.70**	**311**	LR	LR	06 36 23.6	
	comp=Z,37nm,21.7s,baz=68,slow=36						
YBH	**Yreka Blue Hor**	**33.81**	**89**	LR	LR	06 33 24.8	
	comp=Z,44nm,19.6s,baz=240,slow=29						
J08A	**Circle Bar Ran**	**35.52**	**83**	P	**P**	**06 23 47.7**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**36.75**	**217**	T	T	07 03 15.0	
	baz=22,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**36.76**	**217**	T	T	07 03 18.9	
	baz=22,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**36.77**	**217**	T	T	07 03 21.0	
	baz=22,slow=76,SNR=16						
LYMT	**Lyon Mountain**	**37.37**	**74**	P	**P**	**06 24 01.9**	**-0.2**
H11S1	**WAKE ISLAND Hy**	**37.95**	**216**	T	T	07 05 06.1	
	baz=22,slow=76,SNR=71						
H11S2	**WAKE ISLAND Hy**	**37.96**	**216**	T	T	07 05 12.8	
	baz=22,slow=76,SNR=100						
H11S3	**WAKE ISLAND Hy**	**37.96**	**216**	T	T	07 05 13.1	
	baz=22,slow=76,SNR=69						
EGMT	**Eagleton**	**38.33**	**71**	P	**P**	**06 24 11.0**	**+0.9**
BOZ	**Bozeman (W)**	**38.46**	**76**	P	**P**	**06 24 11.8**	**+0.5**
BOZ				IAmb	IAmb	06 24 13.0	
	comp=Z,1.9nm,0.8s						
NVAR	**Mina Array Bea**	**38.49**	**90**	P	**P**	**06 24 13.6**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=302,slow=7.9,SNR=8.7						
NVAR				PcP	**PcP**	**06 26 25.2**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=298,slow=3.9,SNR=4.5						
	comp=Z,0.8nm,0.7s						
MJAR	**Matsushiro Arr**	**38.85**	**267**	P	**P**	**06 24 16.7**	**+2.2**
	comp=Z,2.2nm,0.5s,baz=51,slow=6.7,SNR=6.5						
MJAR				LR	LR	06 38 17.7	
	comp=Z,29nm,21.9s,baz=356,slow=33						
	comp=Z,2.2nm,0.5s						
PDAR	**Pinedale Array**	**41.27**	**78**	P	**P**	**06 24 35.6**	**+0.9**
	comp=Z,3.2nm,0.9s,baz=303,slow=4.5,SNR=22						
PDAR				ScP	**ScP**	**06 30 17.7**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=291,slow=2.8,SNR=2.4						
PDAR				LR	LR	06 40 43.3	
	comp=Z,14nm,18.2s,baz=331,slow=35						
	comp=Z,3.2nm,0.9s						
U15A	**North Rim**	**43.46**	**87**	P	**P**	**06 24 54.0**	**+1.3**
U15A				IAmb	IAmb	06 24 55.6	
	comp=Z,2.6nm,0.8s						
KSRS	**Korea Array**	**44.60**	**276**	P	**P**	**06 25 03.5**	**+2.0**
	comp=Z,1.9nm,0.7s,baz=51,slow=8.0,SNR=8.0						
	comp=Z,1.9nm,0.7s						
ULM	**Lac du Bonnet**	**45.00**	**61**	P	**P**	**06 25 03.7**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=323,slow=10,SNR=3.5						
	comp=Z,1.7nm,0.7s						
JNU	**Nakatsue**	**45.63**	**269**	P	**P**	**06 25 12.1**	**+2.3**
JNU	**Nakatsue**	**45.63**	**269**	LR	LR	06 43 06.4	
	comp=Z,14nm,21.3s,baz=50,slow=34						
SPITS	**Spitsbergen Ar**	**49.89**	**358**	P	**P**	**06 25 40.7**	**-1.4**
	comp=Z,4.0nm,0.6s,baz=57,slow=6.1,SNR=6.3						
SPITS				PcP	**PcP**	**06 27 02.0**	**0.0**
	comp=Z,8.0nm,1.0s,baz=119,slow=1.8,SNR=5.5						
	comp=Z,4.0nm,0.6s						
SONM	**Songino Array**	**50.71**	**300**	P	**P**	**06 25 49.4**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=52,slow=6.2,SNR=6.6						
SONM				PcP	**PcP**	**06 27 06.4**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=87,slow=3.7,SNR=7.9						
SONM				LR	LR	06 49 29.9	
	comp=Z,31nm,18.0s,baz=296,slow=39						
	comp=Z,0.6nm,0.5s						
LPIG	**La Paz**	**53.28**	**98**	LR	LR	06 44 53.8	
	comp=Z,39nm,19.4s,baz=7.0,slow=32						
TX31	**Lajitas Ar. Si**	**53.58**	**88**	P	**P**	**06 26 11.3**	**+0.9**
TXAR	**Lajitas Array**	**53.59**	**88**	P	**P**	**06 26 10.8**	**+0.3**
TXAR	**Lajitas Array**	**53.59**	**88**	P	**P**	**06 26 11.6**	**+1.1**
	comp=Z,2.5nm,0.7s,baz=298,slow=5.4,SNR=44						
TXAR				PcP	**PcP**	**06 27 18.0**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=286,slow=2.1,SNR=5.3						
	comp=Z,2.5nm,0.7s						
SCHQ	**Schefferville**	**56.18**	**43**	P	**P**	**06 26 27.2**	**-1.5**
	comp=Z,3.3nm,0.

HFS LR LR 06 58 54.9
comp=Z,27nm,18.5s,baz=323,slow=37
comp=Z,5.4nm,0.4s
TEIG Tepich 69.71 83 LR LR 07 00 54.3
comp=Z,18nm,18.1s,baz=196,slow=38
EKA Eskdalemuir Ar 72.41 7 P **P 06 28 13.9 -1.0**
comp=Z,0.6nm,0.4s,baz=341,slow=4.4,SNR=10
comp=Z,0.6nm,0.4s
CMAR Chiang Mai Arr 75.86 282 P **P 06 28 36.9 +1.2**
comp=Z,1.6nm,0.4s,baz=25,slow=6.9,SNR=7.2
CMAR LR LR 07 05 57.8
comp=Z,13nm,18.1s,baz=255,slow=39
comp=Z,1.6nm,0.4s
AKASG Malin Array Be 76.16 347 P **P 06 28 35.1 -1.7**
comp=Z,1.0nm,0.5s,baz=13,slow=5.7,SNR=2.8
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 86.20 231 P **P 06 29 31.5 +1.0**
comp=Z,0.4nm,0.6s,baz=35,slow=6.3,SNR=5.1
comp=Z,0.4nm,0.6s
ESDC Sonseca Array 87.85 10 P **P 06 29 37.9 -0.6**
comp=Z,0.8nm,0.8s,baz=339,slow=4.9,SNR=5.4
comp=Z,0.8nm,0.8s
ASAR Alice Springs 89.61 229 P **P 06 29 48.6 +1.9**
comp=Z,1.6nm,0.6s,baz=27,slow=4.7,SNR=18
comp=Z,1.6nm,0.6s
TORD Torodi Ar. Bea 114.67 8 PKP **PKiKP 06 35 28.8 -0.8**
comp=Z,0.2nm,0.5s,baz=360,slow=2.7,SNR=1.3
H03N2 Juan Fernandez 116.61 111 T T 08 43 03.6
baz=317,slow=77,SNR=13
H03N1 Juan Fernandez 116.62 111 T T 08 43 01.8
baz=317,slow=77,SNR=14
H03N3 Juan Fernandez 116.63 111 T T 08 43 09.2
baz=317,slow=77,SNR=12
QSPA South Pole Qui 141.89 180 PKhKP PKPpre 06 36 14.6
comp=Z,2.0nm,1.1s,baz=139,slow=0.4,SNR=6.2
MAW Mawson 150.17 218 PKPbc **PKiKP 06 36 40.0 +0.8**
comp=Z,2.5nm,0.5s,baz=360,slow=2.4,SNR=5.1
BOSA Boshof 153.66 327 PKPbc **PKiKP 06 36 49.1 +1.2**
comp=Z,2.1nm,0.6s,baz=17,slow=3.7,SNR=6.2
SNAA Sanae 159.66 169 PKPab **PKPab 06 37 25.9 +0.7**
comp=Z,1.0nm,0.9s,baz=225,slow=10.0,SNR=2.4

IDC 13 06:26:51.8±1.5, 2°.20N×127°.59E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=128.7km s-min=19.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.98**	**164**	P		P	06 31 59.0	+0.7
	3.4nm,0.8s,baz=342,slow=10,SNR=46							
	3.4nm,0.8s							
ASAR	**Alice Springs**	**26.43**	**167**	P		P	06 32 30.8	+0.2
	0.4nm,0.4s,baz=355,slow=8.1,SNR=8.2							
	0.4nm,0.4s							
STKA	**Stephens Creek**	**36.41**	**160**	P		P	06 33 56.6	-1.6
	1.0nm,0.3s,baz=347,slow=14,SNR=3.9							
	1.0nm,0.3s							
MKAR	**Makanchi Array**	**59.30**	**325**	P		P	06 36 56.4	+0.9
	0.4nm,0.4s,baz=112,slow=8.7,SNR=7.0							
	0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**63.48**	**327**	P		P	06 37 23.1	-0.6
	0.6nm,0.3s,baz=125,slow=6.2,SNR=6.0							
	0.6nm,0.3s							

*JMA **13** 06:31:44.9±0.1, 23°N±1°×12°1E±°, h24km±2km, MV3.7/11, TAIWAN REGION*
*ASIES **13** 06:31:45.8, 22°.99N×121°.17E, h9km, ML4.1, Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}3.79; $M_{\theta\theta}$0.73; $M_{\phi\phi}$-4.54; $M_{r\theta}$2.50; $M_{\theta\phi}$0.16; $M_{\phi r}$-0.65; Fault plane solution: $M_0$4.94155×10^{21} NP1: ϕ_s151.78000°, δ56.78000°, λ55.25000°. NP2: ϕ_s23.49000°, δ46.58000°, λ131.04000°. Principal axes: T Plg60.8570°, Azm5.9200°; N Plg28.4830°, Azm172.5960°; P Plg5.6610°, Azm265.6790°;*
*TAP **13** 06:31:45.8, 22°.99N×121°.17E, h9km, ML4.1, C*
*IDC **13** 06:31:56.8±9.2, 23°.02N×121°.65E, h117km±90km, mb3.2/6, mbtmp3.6/7, ML3.7/1, MS3.0/1, Error ellipse: s-maj=45.6km s-min=24.5km az=60.0*

ISC 13 06:31:45.8±0.7, 22°.97N±0°.01×121°.23E±0°.02, h15km±4km, n164, σ0°.84/224, mb3.4/6, 11C-19D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EDH	**Donghe**	**0.07**	**87**	⇓P		**Pg**	**06 31 49.3**	**+0.6**
	baz=99							
EDH				S		**Sg**	**06 31 52.2**	**+1.5**
	baz=99							
ECS	**Chishang**	**0.13**	**356**	P		**Pg**	**06 31 49.7**	**+0.3**
	baz=18							
ECS				*e*S		**Sb**	**06 31 52.8**	**+0.1**
	baz=18							
EHD	**Haiduan**	**0.18**	**354**	⇑*i*P		**Pg**	**06 31 49.8**	**-0.3**
	baz=4.0							
EHD				S		**Sg**	**06 31 52.6**	**-0.5**
	baz=4.0							
CHKT	**Chengkung**	**0.18**	**44**	⇓*i*P		**Pb**	**06 31 51.3**	**+0.4**
	baz=74							
CHKT				S		**Sb**	**06 31 55.7**	**+1.4**
	baz=74							
TWGBT	**Beinan**	**0.20**	**222**	P		**Pg**	**06 31 49.9**	**-0.6**
TWGBT	**Beinan**	**0.20**	**222**	⇓*i*P		**Pg**	**06 31 50.2**	**-0.3**
	baz=213							
TWGBT				*i* S		**Sg**	**06 31 53.6**	**0.0**
	baz=213							
TWG	**Pinlang**	**0.21**	**224**	⇓*i*P		**Pg**	**06 31 50.2**	**-0.3**
	baz=213							
TWG				*i* S		**Sg**	**06 31 53.6**	**-0.1**
	baz=213							
TTN	**Taitung**	**0.23**	**199**	P		**Pb**	**06 31 52.5**	**+0.8**
	baz=190							
TTN				*e*S		**Sb**	**06 31 58.0**	**+2.4**
	baz=190							
FULB	**Fuli**	**0.24**	**15**	⇑*i*P		**Pb**	**06 31 52.0**	**+0.1**
	baz=22							
FULB				*e*S		**Sb**	**06 31 57.0**	**+1.1**
	baz=22							
CHKH	**Chenggong**	**0.27**	**35**	⇓*e*P		**Pb**	**06 31 52.6**	**+0.2**
	baz=62							
CHKH				S		**Sb**	**06 31 58.5**	**+1.7**
	baz=62							
ELDTW	**Lidau**	**0.29**	**318**	⇓*i*P		**Pg**	**06 31 51.3**	**-0.8**
	baz=325							
ELDTW				S		**Sg**	**06 31 54.6**	**-1.7**
	baz=325							
LDUT	**Ludao**	**0.37**	**143**	P		**Pb**	**06 31 54.5**	**+0.4**
	baz=139							
LDUT				S		**Sn**	**06 32 02.4**	**-1.2**
	baz=139							
EYUL	**Yuli**	**0.39**	**13**	*e*P		**Pg**	**06 31 54.0**	**+0.4**
	baz=10.0							
TWF1	**Yuli**	**0.39**	**9**	⇑*i*P		**Pg**	**06 31 53.5**	**-0.1**
	baz=11							
TWF1				S		**Sg**	**06 31 59.4**	**+0.3**
	baz=11							
ECBN	**Changbin**	**0.40**	**31**	*e*P		**Pb**	**06 31 55.0**	**+0.3**
	baz=53							
ECBN				*e*S		**Sb**	**06 32 02.1**	**+1.5**
	baz=53							
YULB	**Yu-li**	**0.43**	**9**	P		**Pg**	**06 31 54.5**	**+0.1**
YULB	**Yu-li**	**0.43**	**9**	⇑*i*P		**Pg**	**06 31 54.1**	**-0.3**
	baz=15							
YULB				S		**Sg**	**06 32 00.3**	**+0.1**
	baz=15							
ECL	**Taimali**	**0.45**	**214**	⇓*i*P		**Pg**	**06 31 54.3**	**-0.5**
	baz=207							
ECL				S		**Sg**	**06 32 00.9**	**+0.1**
	baz=207							
STYT	**Tauyuan**	**0.47**	**294**	⇓P		**Pg**	**06 31 54.6**	**-0.7**
	baz=295							
STYT				*i* S		**Sg**	**06 32 00.7**	**-1.0**
	baz=295							
EHYH	**Wanrong**	**0.53**	**12**	*e*P		**Pg**	**06 31 55.8**	**-0.6**
	baz=6.0							
EHYH				*e*S		**Sg**	**06 32 03.8**	**+0.3**
	baz=6.0							
SLGT	**Liugui**	**0.54**	**273**	⇓*i*P		**Pg**	**06 31 55.9**	**-0.5**
	baz=272							
SLGT				S		**Sg**	**06 32 02.4**	**-1.3**
	baz=272							
EHY	**Hungye**	**0.54**	**9**	*e*P		**Pg**	**06 31 56.0**	**-0.5**
	baz=15							
EHY				S		**Sg**	**06 32 03.9**	**+0.1**
	baz=15							
HGSD	**Ruisui**	**0.55**	**19**	P		**Pg**	**06 31 56.9**	**+0.2**
	baz=12							
HGSD				*e*S		**Sn**	**06 32 07.2**	**-0.9**
	baz=12							
YUS	**Yu-Shan**	**0.58**	**334**	⇑*i*P		**Pg**	**06 31 56.8**	**-0.5**
	baz=337							
YUS				S		**Sg**	**06 32 03.7**	**-1.4**
	baz=337							
SSD	**Sandimen**	**0.59**	**248**	⇓*i*P		**Pg**	**06 31 56.4**	**-1.1**
	baz=245							
SSD				*e*S		**Sg**	**06 32 03.2**	**-2.1**
	baz=245							
SGST	**Jiashian**	**0.60**	**281**	⇓P		**Pg**	**06 31 56.5**	**-1.2**
	baz=281							
SGST				S		**Sg**	**06 32 05.1**	**-0.7**
	baz=281							
WTP	**Ta-pu**	**0.63**	**296**	⇓*i*P		**Pg**	**06 31 58.0**	**-0.1**
	baz=300							
WTP				*e*S		**Sg**	**06 32 06.5**	**0.0**
	baz=300							
TPUB	**Ta-pu**	**0.64**	**301**	P		**Pg**	**06 31 58.2**	**-0.2**
TPUB	**Ta-pu**	**0.64**	**301**	⇓*i*P		**Pg**	**06 31 58.3**	**-0.2**
	baz=312							
TPUB				*i* S		**Sg**	**06 32 06.9**	**0.0**
	baz=312							
MASBT	**Mashibuluo**	**0.65**	**237**	⇓*i*P		**Pg**	**06 31 57.7**	**-0.9**
	baz=238							
MASBT				*e*S		**Sg**	**06 32 05.5**	**-1.8**
	baz=238							
CHN1	**Nanshi**	**0.68**	**289**	⇓P		**Pb**	**06 31 59.4**	**0.0**
	baz=294							
CHN1				*e*S		**Sb**	**06 32 09.3**	**+0.6**
	baz=294							
EAST	**Anshuo**	**0.68**	**211**	⇓P		**Pg**	**06 31 58.4**	**-0.8**
	baz=206							
SCST	**Cishan**	**0.68**	**263**	⇓*e*P		**Pg**	**06 31 59.2**	**0.0**
	baz=256							
SCST				S		**Sb**	**06 32 08.7**	**0.0**
	baz=256							
TAW	**Tawu**	**0.68**	**207**	*e*P		**Pg**	**06 31 58.4**	**-0.8**
	baz=202							
CHN4	**Tsaushan**	**0.70**	**303**	⇓*e*P		**Pg**	**06 31 59.5**	**0.0**
	baz=314							
CHN4				*e*S		**Sb**	**06 32 09.1**	**0.0**
	baz=314							
TAWH	**Dawu Township**	**0.70**	**207**	*e*P		**Pg**	**06 31 58.6**	**-0.9**
	baz=203							
SNST	**Tainan City**	**0.72**	**290**	*e*P		**Pb**	**06 31 59.8**	**-0.2**
	baz=290							
SGLT	**Jiouru**	**0.72**	**250**	*e*P		**Pg**	**06 32 00.1**	**+0.2**
	baz=247							
TSPT	**Pingtung City**	**0.73**	**247**	*e*P		**Pb**	**06 31 59.6**	**-0.7**
	baz=244							
WCKO	**Fanlu**	**0.74**	**309**	*e*P		**Pg**	**06 32 00.6**	**+0.3**
	baz=319							
WCKO				S		**Sg**	**06 32 10.8**	**+0.8**
	baz=319							
TWK	**Hsinying**	**0.74**	**294**	*e*P		**Pb**	**06 32 00.3**	**-0.2**
	baz=294							
TWK				S		**Sg**	**06 32 10.4**	**+0.3**
	baz=294							
TWM1	**Shoushan**	**0.76**	**259**	*e*P		**Pg**	**06 32 01.0**	**+0.4**
	baz=250							
WARBT	**Fenglin Townsh**	**0.76**	**11**	*e*P		**Pb**	**06 31 59.1**	**-1.7**
	baz=14							
WARBT				S		**Sb**	**06 32 10.0**	**-1.0**
	baz=14							
VWDT	**VWDT**	**0.79**	**354**	⇑*i*P		**Pb**	**06 32 00.6**	**-0.6**
	baz=351							
VWDT				S		**Sb**	**06 32 11.6**	**-0.1**
	baz=351							
WHYT	**Xinyi Township**	**0.80**	**335**	*e*P		**Pb**	**06 32 01.4**	**-0.1**
	baz=341							
WHYT				*e*S		**Sg**	**06 32 12.4**	**+0.4**
	baz=341							
CHN3	**Shinhua**	**0.80**	**278**	*e*P		**Pn**	**06 32 03.1**	**+0.5**
	baz=273							
CHN5	**Tsauling**	**0.80**	**321**	*e*P		**Pb**	**06 32 01.4**	**-0.1**
	baz=323							
SHHT	**Tainan City**	**0.81**	**274**	*e*P		**Pn**	**06 32 03.4**	**+0.6**
	baz=273							
SHHT				*e*S		**Sn**	**06 32 17.3**	**+2.7**
	baz=273							
SCZT	**Fangliau**	**0.82**	**223**	⇓*i*P		**Pb**	**06 32 01.1**	**-0.6**
	baz=226							
SCZT				S		**Sb**	**06 32 12.2**	**-0.3**
	baz=226							
SLIU	**Shizi**	**0.85**	**208**	*e*P		**Pb**	**06 32 01.3**	**-1.0**
	baz=205							
SNJT	**Kaohsiung City**	**0.85**	**256**	*e*P		**Pn**	**06 32 04.8**	**+1.5**
	baz=253							
SSLB	**Suanglung**	**0.85**	**343**	P		**Pb**	**06 32 02.0**	**-0.4**
SSLB	**Suanglung**	**0.85**	**343**	P		**Pb**	**06 32 01.5**	**-0.9**
	baz=345							
SSLB				S		**Sb**	**06 32 13.2**	**-0.5**
	baz=345							
ESL	**Shilin**	**0.86**	**13**	*e*P		**Pb**	**06 32 01.9**	**-0.6**
	baz=33							
SHUL	**Shoufeng**	**0.87**	**21**	*e*P		**Pb**	**06 32 02.4**	**-0.3**
	baz=25							
CHN2	**Minshiung**	**0.89**	**309**	*e*P		**Pg**	**06 32 03.4**	**+0.3**
	baz=310							
CHN2				*e*S		**Sn**	**06 32 16.3**	**-0.2**
	baz=310							
WGK	**Gukeng**	**0.94**	**320**	*e*P		**Pn**	**06 32 04.8**	**+0.2**
	baz=320							
WGK				*e*S		**Sn**	**06 32 17.6**	**-0.1**
	baz=320							
WSSB	**Gushan**	**0.95**	**250**	*e*P		**Pn**	**06 32 06.2**	**+1.6**
	baz=249							
WSSB				*e*S		**Sn**	**06 32 21.4**	**+3.4**
	baz=249							
TAI	**Tainan**	**0.95**	**272**	*e*P		**Pb**	**06 32 03.8**	**-0.2**
	baz=271							
ICHU	**Yijhu**	**0.96**	**294**	*e*P		**Pn**	**06 32 04.7**	**-0.1**
	baz=294							
WDLH	**Douliu**	**0.96**	**319**	*e*P		**Pn**	**06 32 04.8**	**+0.1**
	baz=319							
WDLH				*e*S		**Sn**	**06 32 19.3**	**+1.1**
	baz=319							
TEYL	**Yanliau Villag**	**0.96**	**21**	*e*P		**Pb**	**06 32 03.8**	**-0.4**
	baz=25							
SMLT	**Sun Moon Lake**	**0.96**	**342**	*e*P		**Pb**	**06 32 03.9**	**-0.3**
	baz=350							
SMLT				*e*S		**Sn**	**06 32 18.3**	**0.0**
	baz=350							
WJS	**Zhushan**	**0.96**	**332**	*e*P		**Pn**	**06 32 05.5**	**+0.7**
	baz=336							
WJS				*e*S		**Sn**	**06 32 19.4**	**+1.0**
	baz=336							
LAY	**Lan-yu**	**0.97**	**162**	*e*P		**Pb**	**06 32 03.6**	**-0.8**
	baz=147							
OWD	**Renai**	**0.98**	**357**	*e*P		**Pb**	**06 32 04.0**	**-0.7**
TYC	**Yuchr**	**0.99**	**340**	*e*P		**Pn**	**06 32 05.1**	**-0.2**
	baz=348							
TYC				*e*S		**Sn**	**06 32 19.5**	**+0.5**
	baz=348							
CHN8	**Yiju**	**1.01**	**292**	*e*P		**Pn**	**06 32 05.3**	**-0.2**
	baz=292							
CHN8				*e*S		**Sn**	**06 32 20.3**	**+0.9**
	baz=292							
TWP	**Hsiaoliuchiu**	**1.01**	**232**	*e*P		**Pg**	**06 32 07.0**	**+1.6**
	baz=204							
LYUB	**Lan-yu**	**1.02**	**161**	*e*P		**Pb**	**06 32 04.3**	**-0.9**
	baz=147							
WNT	**Mingjian**	**1.03**	**331**	⇑P		**Pg**	**06 32 06.5**	**+0.7**
	baz=332							
WNT				S		**Sn**	**06 32 21.1**	**+1.1**
	baz=332							
WTK	**Tuku**	**1.05**	**313**	*e*P		**Pg**	**06 32 06.2**	**0.0**
	baz=314							
WNT1	**Nantou City**	**1.06**	**332**	*e*P		**Pg**	**06 32 06.5**	**+0.2**
	baz=332							
WNT1				*e*S		**Sn**	**06 32 21.7**	**+1.0**
	baz=332							
HEN	**Hengchun**	**1.06**	**205**	*e*P		**Pg**	**06 32 06.6**	**+0.3**
	baz=187							
HWA	**Hwalien**	**1.06**	**19**	*e*P		**Pg**	**06 32 06.6**	**+0.3**
	baz=24							
LXIB	**Xiulin Townshi**	**1.06**	**9**	*e*P		**Pb**	**06 32 04.6**	**-1.4**
	baz=29							
TSCK	**Chigu Township**	**1.07**	**280**	*e*P		**Pg**	**06 32 07.5**	**+1.1**
	baz=279							
WSL	**Shuilin Townsh**	**1.07**	**301**	*e*P		**Pg**	**06 32 07.7**	**+1.1**
	baz=301							
CHGB	**Renai**	**1.09**	**357**	⇑P		**Pb**	**06 32 05.7**	**-0.8**
	baz=359							
CHGB				*e*S		**Sn**	**06 32 21.9**	**+0.2**
	baz=359							
TWK1	**Hengchun**	**1.09**	**201**	*e*P		**Pg**	**06 32 07.8**	**+0.9**
	baz=183							
TWKBT	**Hengchun**	**1.09**	**201**	*e*P		**Pg**	**06 32 07.0**	**+0.1**
	baz=183							
DPDB	**Guoxing**	**1.09**	**345**	*e*P		**Pn**	**06 32 07.0**	**+0.2**
	baz=346							
WCS	**Beigang Elemen**	**1.12**	**345**	*e*P		**Pn**	**06 32 06.7**	**-0.3**
	baz=346							
WSF	**Szhu**	**1.14**	**306**	*e*P		**Pn**	**06 32 06.9**	**-0.4**
	baz=306							
WSF				*e*S		**Sg**	**06 32 23.6**	**+0.9**
	baz=306							
TWD	**Chiawan**	**1.16**	**17**	*e*P		**Pn**	**06 32 06.5**	**-1.0**
	baz=21							
WHF	**Hehuan Shan**	**1.17**	**2**	*e*P		**Pn**	**06 32 07.7**	**-0.4**
	baz=15							
WWF	**Wufeng**	**1.17**	**336**	*e*P		**Pg**	**06 32 08.8**	**+0.3**
	baz=336							
WRL	**Guolierlin Hig**	**1.21**	**320**	*e*P		**Pn**	**06 32 08.2**	**-0.1**
	baz=305							
NACB	**Ninganchiao**	**1.25**	**16**	P		**Pn**	**06 32 08.0**	**-0.7**
NACB	**Ninganchiao**	**1.25**	**16**	*e*P		**Pn**	**06 32 06.0**	**-2.7**
	baz=33							
WTCT	**Ta-ch'eng**	**1.25**	**316**	*e*P		**Pb**	**06 32 08.9**	**-0.1**
	baz=316							
FUSS	**Fushou**	**1.27**	**1**	*e*P		**Pn**	**06 32 08.8**	**-0.5**
	baz=19							
TCU	**Taichung**	**1.28**	**337**	*e*P		**Pg**	**06 32 10.7**	**+0.3**
	baz=337							
TDCB	**Techi**	**1.28**	**357**	⇑P		**Pn**	**06 32 09.0**	**-0.3**
	baz=357							
TDCB				*e*S		**Sn**	**06 32 26.7**	**+0.3**
	baz=357							
TWT	**Tachien**	**1.28**	**358**	*e*P		**Pn**	**06 32 09.2**	**-0.2**
	baz=359							
WHP	**Taichung City**	**1.33**	**349**	*e*P		**Pg**	**06 32 11.6**	**+0.1**
	baz=1.0							
EAHA	**Aohua**	**1.43**	**19**	*e*P		**Pb**	**06 32 12.7**	**+0.4**
	baz=43							
TWQ1	**Liyutan**	**1.43**	**343**	⇑P		**Pg**	**06 32 13.2**	**-0.2**
	baz=342							
TWQ1				*e*S		**Sg**	**06 32 33.0**	**+0.8**
	baz=342							
NNSB	**Datong**	**1.46**	**6**	*e*P		**Pn**	**06 32 11.0**	**-0.8**
	baz=6.0							
NNSB				*e*S		**Sb**	**06 32 31.6**	**+0.4**
	baz=6.0							
NNSH	**Datong**	**1.46**	**6**	*e*P		**Pb**	**06 32 12.6**	**-0.2**
	baz=18							
NNS	**Nan Shan**	**1.47**	**5**	*e*P		**Pb**	**06 32 12.6**	**-0.4**
	baz=22							
NNS				*e*S		**Sb**	**06 32 32.1**	**+0.6**
	baz=22							
WDGT	**Dungji**	**1.47**	**282**	*e*P		**Pn**	**06 32 11.4**	**-0.4**
	baz=281							
WDGT				*e*S		**Sn**	**06 32 30.3**	**-0.5**
	baz=281							
WDJ	**Dajia District**	**1.47**	**339**	P		**Pg**	**06 32 13.9**	**-0.3**
	baz=336							
WDJ				*e*S		**Sg**	**06 32 34.5**	**+1.1**
	baz=336							
NSY	**Sanyi**	**1.50**	**344**	⇑P		**Pg**	**06 32 14.3**	**-0.4**
	baz=329							
NSY				S		**Sg**	**06 32 35.7**	**+1.4**
	baz=329							
EOS4	**EOS4**	**1.52**	**41**	*e*P		**Pn**	**06 32 12.2**	**0.0**
	baz=46							
ENA	**Nanau**	**1.53**	**18**	*e*P		**Pn**	**06 32 12.3**	**-0.3**
	baz=40							
EWUT	**Wuta**	**1.55**	**19**	*e*P		**Pb**	**06 32 14.2**	**-0.1**
	baz=42							
LATG	**Datong**	**1.58**	**10**	*e*P		**Pb**	**06 32 14.7**	**-0.2**
	baz=30							
LATG				*e*S		**Sb**	**06 32 35.3**	**+0.5**
	baz=30							
PHUB	**P'eng-hu**	**1.62**	**290**	*e*P		**Pn**	**06 32 13.7**	**-0.1**
	baz=290							
PHUB				S		**Sn**	**06 32 33.5**	**-0.9**
	baz=290							
NDT	**Datong Townshi**	**1.65**	**9**	*e*P		**Pb**	**06 32 15.2**	**-0.7**
	baz=31							
EOS3	**EOS3**	**1.65**	**37**	*e*P		**Pn**	**06 32 14.0**	**-0.2**
	baz=41							
PNG	**Penghu**	**1.65**	**291**	*e*P		**Pn**	**06 32 14.2**	**-0.1**
	baz=291							
NFF	**Wufeng Townshi**	**1.66**	**357**	*e*P		**Pb**	**06 32 16.6**	**+0.4**
	baz=11							
NFF				*e*S		**Sg**	**06 32 39.6**	**+0.3**
	baz=11							
NSTT	**Nanjuang**	**1.67**	**353**	*e*P		**Pb**	**06 32 16.5**	**+0.2**
	baz=352							
NSTT				*e*S		**Sg**	**06 32 39.5**	**0.0**
	baz=352							
VCHM	**Qimei**	**1.67**	**279**	*e*P		**Pn**	**06 32 15.1**	**+0.5**
	baz=290							
VCHM				*e*S		**Sn**	**06 32 35.5**	**-0.3**
	baz=290							
LIOB	**Emei**	**1.68**	**353**	*e*P		**Pb**	**06 32 16.6**	**+0.1**
	baz=354							
ENTT	**Nioudou**	**1.69**	**10**	*e*P		**Pn**	**06 32 15.7**	**+0.8**
	baz=33							
ESAO	**Su ao**	**1.70**	**19**	*e*P		**Pb**	**06 32 16.7**	**0.0**
	baz=42							
YHNB	**Yeheng**	**1.70**	**5**	P		**Pn**	**06 32 15.6**	**+0.6**
YHNB	**Yeheng**	**1.70**	**5**	*e*P		**Pn**	**06 32 15.2**	**+0.2**
	baz=346							
NSK	**Sanguang**	**1.70**	**4**	*e*P		**Pn**	**06 32 16.0**	**+0.9**
	baz=346							
EOS2	**EOS2**	**1.71**	**32**	*e*P		**Pn**	**06 32 15.4**	**+0.4**
	baz=51							
TWC	**Suao**	**1.73**	**19**	*e*P		**Pn**	**06 32 16.1**	**+0.7**
	baz=42							
TWE	**Neicheng**	**1.79**	**13**	*e*P		**Pb**	**06 32 17.7**	**-0.6**
	baz=35							
FUSB	**Fushanzhiwuyua**	**1.81**	**10**	*e*P		**Pn**	**06 32 16.7**	**+0.1**
	baz=29							
FUSB				*e*S		**Sb**	**06 32 41.7**	**+0.4**
	baz=29							
NWLT	**Wulai**	**1.82**	**8**	*e*P		**Pn**	**06 32 17.3**	**+0.7**
	baz=33							
EGS		**1.98**	**19**	*e*P		**Pb**	**06 32 20.3**	**-1.2**
	baz=27							
TATO	**Taipei**	**2.01**	**7**	*e*P		**Pb**	**06 32 22.0**	**-0.2**
	baz=38							
TWA	**Mucha**	**2.03**	**9**	*e*P		**Pb**	**06 32 21.4**	**-1.0**
	baz=31							
TIPB	**Shuangxi**	**2.07**	**15**	*e*P		**Pn**	**06 32 20.3**	**+0.3**
	baz=35							
TWS1	**Kuangyinshan**	**2.13**	**5**	*e*P		**Pb**	**06 32 23.4**	**-0.8**
	baz=343							
TWB1	**Santiao Chiao**	**2.15**	**19**	*e*P		**Pb**	**06 32 23.5**	**-0.9**
	baz=27							
NWF	**Wu-fen Shan**	**2.15**	**13**	*e*P		**Pb**	**06 32 23.3**	**-1.3**
	baz=34							
WFSB	**Wu-fen Shan**	**2.15**	**13**	*e*P		**Pb**	**06 32 23.7**	**-0.9**
	baz=34							
JYNG	**Yonagunijimaku**	**2.16**	**47**	*e*P		**Pn**	**06 32 21.7**	**+0.5**
JYNG				*e*S		**Sn**	**06 32 48.5**	**+0.7**
YM01	**YM01**	**2.19**	**8**	*e*P		**Pb**	**06 32 24.0**	**-1.2**
	baz=39							
YOJ	**Yonaguni jima**	**2.21**	**47**	P		**Pn**	**06 32 22.5**	**+0.5**
YOJ	**Yonaguni jima**	**2.21**	**47**	*e*P		**Pn**	**06 32 22.4**	**+0.5**
	baz=61							
YOJ				*e*S		**Sn**	**06 32 49.4**	**+0.3**
	baz=61							
YOJ	**Yonaguni jima**	**2.21**	**47**	*e*P		**P

0.6nm,0.3s
ASAJ Asahikawa 27.46 35 LR LR 06 49 57.2
comp=Z,32nm,18.7s,baz=312,slow=40
SONM Songino Array 27.50 338 P **P** **06 37 33.0 +1.3**
0.5nm,0.5s,baz=155,slow=9.4,SNR=3.3
0.5nm,0.5s
MKAR Makanchi Array 39.24 317 P **P** **06 39 15.8 +2.1**
1.7nm,0.9s,baz=107,slow=10,SNR=10
1.7nm,0.9s
ZALV Zalesovo Beam 41.29 328 P **P** **06 39 31.8 +1.3**
1.5nm,0.5s,baz=120,slow=8.8,SNR=4.0
1.5nm,0.5s
H11N1 WAKE ISLAND Hy 42.53 85 T T 07 24 53.1
baz=283,slow=74,SNR=33
H11N2 WAKE ISLAND Hy 42.53 85 T T 07 24 53.5
baz=283,slow=74,SNR=25
H11N3 WAKE ISLAND Hy 42.55 85 T T 07 24 54.3
baz=283,slow=74,SNR=26
H11S3 WAKE ISLAND Hy 42.62 87 T T 07 25 02.5
baz=284,slow=75,SNR=31
H11S1 WAKE ISLAND Hy 42.63 87 T T 07 25 04.9
baz=284,slow=75,SNR=23
H11S2 WAKE ISLAND Hy 42.64 87 T T 07 25 03.7
baz=284,slow=75,SNR=26
KURBB Kurchatov Arra 43.06 321 P **P** **06 39 46.4 +1.3**
0.3nm,0.4s,baz=113,slow=7.9,SNR=4.4
0.3nm,0.4s
WRA Warramunga Arr 44.53 162 P **P** **06 39 56.3 -0.8**
0.3nm,0.8s,baz=343,slow=8.2,SNR=1.7
0.3nm,0.8s
ILAR Eielson Array 70.27 27 P **P** **06 42 55.9 -2.4**
0.2nm,0.7s,baz=262,slow=6.3,SNR=2.3
0.2nm,0.7s

IDC 13 06:33:15.6±3.9, 53°.73N×88°.22E, h0km, mbtmp2.5/3, ML2.0/3, Error ellipse: s-maj=39.2km s-min=21.3km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.03 278**		I	I	06 45 30.0	
	0.1nm,0.9s,baz=94,slow=309,SNR=1.1						
ZALV	**Zalesovo Beam**	**2.03 278**		Pn	Pn	06 33 51.6	+0.6
	0.6nm,0.3s,baz=93,slow=14,SNR=6.8						
ZALV				Lg	Lg	06 34 19.6	
	0.7nm,0.3s,baz=93,slow=28,SNR=3.8						
	1.4nm,0.3s						
KURBB	**Kurchatov Arra**	**6.72 246**		Pn	Pn	06 34 56.3	+0.8
	baz=60,slow=13,SNR=2.8						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.91 211**		Pn	Pn	06 35 12.5	+0.7
	0.1nm,0.3s,baz=25,slow=10,SNR=4.1						
	0.1nm,0.3s						

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*IDC **13** 06:43:39.8±17.0, 2°.27S×102°.50E, h167km±152km, mb3.1/5, mbtmp3.6/5, Error ellipse: s-maj=168.2km s-min=19.3km az=59.0*

ISC 13 06:43:37.9±2.8, 2°.3S±0°.5×102°.5E±0°.7, h150km, n9, σ0°.38/6, mb3.4/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.73 122**		P	**P**	**06 50 22.1**	**-0.4**
	0.4nm,0.8s,baz=303,slow=8.9,SNR=5.9						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**37.10 128**		P	**P**	**06 50 34.5**	**+0.3**
	0.6nm,0.5s,baz=299,slow=7.9,SNR=11						
ASAR				PcP	**PcP**	**06 52 51.6**	**+0.1**
	0.1nm,0.4s,baz=309,slow=2.8,SNR=1.6						
	0.6nm,0.5s						
SONM	**Songino Array**	**50.03 3**		P	**P**	**06 52 17.5**	**+0.2**
	0.5nm,0.6s,baz=188,slow=8.7,SNR=3.0						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**52.01 342**		P	**P**	**06 52 31.5**	**-0.4**
	0.2nm,0.4s,baz=156,slow=8.7,SNR=3.6						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**57.94 348**		P	**P**	**06 53 14.4**	**+0.1**
	0.5nm,0.4s,baz=145,slow=5.3,SNR=1.7						
	0.5nm,0.4s						
H04N2	**CROZET ISLANDS**	**62.05 217**		T	T	07 59 25.6	
	baz=60						
H04N1	**CROZET ISLANDS**	**62.06 217**		T	T	07 59 24.8	
	baz=60						
H04N3	**CROZET ISLANDS**	**62.07 217**		T	T	07 59 21.9	
	baz=60						
TXAR	**Lajitas Array**	**143.38 40**		PKP	PKPbc	07 02 52.5	-0.5
	0.1nm,0.4s,baz=272,slow=1.3,SNR=4.6						

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*IDC **13** 06:54:52.4±3.3, 53°.78N×88°.00E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=28.9km s-min=19.4km az=49.0*

NNC 13 06:54:49.2±7.0, 53°.61N×88°.39E, h0km, mb3.2, mpv2.8, 6C-4D, Error ellipse: s-maj=54.9km s-min=34.3km az=62.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.15 280**		I	I	07 07 07.9	
	0.3nm,0.9s,baz=91,slow=313,SNR=19						
ZAA0	**Zalesovo Array**	**2.15 280**		⇑Pn	Pn	06 55 26.0	-0.2
	1.5nm,0.8s						
ZAA0				⇑Sn	Sn	06 55 54.3	+0.8
	3.5nm,0.7s						
ZALV	**Zalesovo Beam**	**2.15 280**		Pn	Pn	06 55 26.2	0.0
	0.8nm,0.3s,baz=91,slow=13,SNR=35						
ZALV				Lg	Lg	06 55 52.6	
	1.4nm,0.3s,baz=90,slow=36,SNR=29						
KURK	**Kurchatov**	**6.67 248**		⇑Pn	Pn	06 56 28.6	+0.2
	1.1nm,0.4s						
KURK				⇑Lg	Lg	06 58 19.8	
	4.9nm,0.9s						
KURBB	**Kurchatov Arra**	**6.77 248**		Pn	Pn	06 56 31.5	+1.8
	baz=62,slow=14,SNR=4.3						
KURBB				Lg	Lg	06 58 21.0	
	baz=62,slow=34,SNR=11						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**6.77 248**		⇓Pn	Pn	06 56 30.4	+0.7
	0.5nm,0.4s						
KURBB				⇓Sn	Sn	06 57 46.8	-0.6
	3.9nm,0.7s						
KURBB				⇑Lg	Lg	06 58 22.4	
	4.6nm,0.8s						
MK31	**Makanchi Array**	**7.87 212**		⇓Pn	Pn	06 56 49.9	+5.1
	0.2nm,0.5s,baz=180,slow=14,SNR=2.5						
MK31				⇑Sn	Sn	06 58 18.1	+3.6
	0.6nm,0.7s,baz=63,slow=30						
MK31				⇓Lg	Lg	06 58 51.8	
	1.0nm,0.8s,baz=34,slow=30,SNR=4.5						
MKAR	**Makanchi Array**	**7.87 212**		Pn	Pn	06 56 49.5	+4.6
	0.1nm,0.3s,baz=21,slow=13,SNR=2.3						
MKAR				Lg	Lg	06 59 01.6	
	baz=25,slow=35,SNR=2.1						
	0.2nm,0.6s						

IDC 13 06:59:26.9±3.2, 54°.26N×87°.46E, h0km, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=27.0km s-min=16.7km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.58 260**		I	I	07 08 00.0	
	baz=77,slow=308,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.58 260**		Pn	Pn	06 59 54.3	-1.9
	0.4nm,0.3s,baz=74,slow=15,SNR=3.9						
ZALV				Lg	Lg	07 00 18.0	
	4.5nm,0.3s,baz=78,slow=30,SNR=22						
KURBB	**Kurchatov Arra**	**6.56 240**		Pn	Pn	07 01 05.2	+0.6
	0.8nm,0.3s,baz=56,slow=14,SNR=5.3						
	3.1nm,0.3s						
MKAR	**Makanchi Array**	**8.16 206**		Pn	Pn	07 01 28.7	+2.0
	0.1nm,0.3s,baz=24,slow=12,SNR=2.1						
MKAR				Sn	Sn	07 02 58.7	-0.9
	0.1nm,0.3s,baz=26,slow=28,SNR=4.8						
MKAR				Lg	Lg	07 03 42.8	
	baz=24,slow=28,SNR=2.0						
	0.2nm,0.3s						

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*IDC **13** 07:01:09.5±1.7, 63°.92N×27°.92E, h0km, mbtmp2.7/3, ML1.8/3, Error ellipse: s-maj=31.7km s-min=8.2km az=98.0*

*HEL **13** 07:01:09.0±0.1, 63°.97N×28°.13E, h0km, ML1.7, Suspected explosion*

ISC 13 07:01:07.7±0.7, 63°.97N±0°.02×28°.18E±0°.03, h0km, n36, σ1s24/60, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.60 196**		PG	**Pg**	**07 01 19.7**	**+0.4**
NIF				SG	**Sg**	**07 01 27.1**	**+0.1**
RMF	**Romuvaara**	**0.81 71**		PG	**Pb**	**07 01 24.4**	**-0.3**
RMF				MSG		07 01 34.9	
	comp=Z,5.4nm,0.2s						
RMF				SG	**Sb**	**07 01 35.1**	**-1.0**
OUL	**Oulu**	**1.50 320**		PG	**Pb**	**07 01 36.1**	**-0.3**
	baz=136						
OUL				SG	**Sg**	**07 01 55.1**	**-0.6**
SUF	**Sumiainen**	**1.55 217**		PG	**Pn**	**07 01 36.8**	**+0.2**
SUF				MSG		07 01 55.1	
	comp=Z,3.8nm,0.2s						
SUF				SN	**Sg**	**07 01 58.5**	**+1.0**
OUF	**Merijarvi**	**1.56 286**		PG	**Pn**	**07 01 36.7**	**-0.1**
OUF				MSG		07 01 55.1	
	comp=Z,6.1nm,0.2s						
OUF				SG	**Sn**	**07 01 56.7**	**-0.9**
OBF4	**Vikkela, Lumij**	**1.58 304**		PG	**Pn**	**07 01 37.3**	**+0.3**
OBF4				MSG		07 01 55.9	
	comp=Z,9.9nm,0.2s						
OBF4				SN	**Sb**	**07 01 58.4**	**0.0**
JOF	**Joensuu**	**1.76 125**		PG	**Pg**	**07 01 40.8**	**-0.5**
	baz=306						
JOF				SG	**Sg**	**07 02 03.7**	**-0.4**
OBF0	**Syolatti, Pyha**	**1.80 289**		PG	**Pb**	**07 01 41.0**	**-0.6**
OBF0				MSG		07 02 02.1	
	comp=Z,8.2nm,0.2s						
OBF0				SG	**Sn**	**07 02 04.0**	**+0.4**
MSF	**Maaselka**	**1.99 10**		PG	**Pb**	**07 01 44.0**	**-0.7**
	baz=192						
MSF				SG	**Sb**	**07 02 09.8**	**-0.2**
KAF	**Kangasniemi**	**2.05 205**		PG	**Pb**	**07 01 45.5**	**-0.3**
KAF				MSG		07 02 09.4	
	comp=Z,6.4nm,0.2s						
KAF				SG	**Sb**	**07 02 12.1**	**+0.4**
OBF8	**Ulkokalla**	**2.11 282**		PG	**Pb**	**07 01 45.8**	**-1.0**
OBF8				MSG		07 02 10.7	
	comp=Z,3.2nm,0.2s						
OBF8				SG	**Sb**	**07 02 14.2**	**+0.8**
RANF	**Ranua**	**2.14 345**		PG	**Pb**	**07 01 46.8**	**-0.6**
	baz=167						
RANF				SG	**Sb**	**07 02 14.5**	**+0.1**
KU6	**Riekki**	**2.19 19**		PG	**Pb**	**07 01 48.0**	**-0.2**
	baz=199						
KU6				MSG		07 02 14.1	
	comp=Z,2.5nm,0.2s						
KU6				SG	**Sb**	**07 02 16.2**	**+0.3**
KEF	**Keuruu**	**2.35 221**		PG	**Pb**	**07 01 50.2**	**-0.7**
KEF				MSG		07 02 18.2	
	comp=Z,4.6nm,0.2s						
KEF				SG	**Sb**	**07 02 20.4**	**-0.1**
OLKF	**Oulanka, Finla**	**2.42 12**		PB	**Pb**	**07 01 51.6**	**-0.5**
OLKF				MSG		07 02 20.5	
	comp=Z,2.5nm,0.2s						
OLKF				SB	**Sb**	**07 02 22.7**	**+0.2**
RUF	**Ruokolahti**	**2.58 172**		PG	**Pb**	**07 01 54.4**	**-0.4**
RUF				MSG		07 02 25.2	
	comp=Z,3.5nm,0.2s						
RUF				SG	**Sb**	**07 02 27.6**	**+0.7**
VAF	**Ylistaro**	**2.64 252**		PG	**Pb**	**07 01 54.9**	**-0.9**
VAF				MSG		07 02 26.2	
	comp=Z,2.9nm,0.2s						
VAF				SG	**Sb**	**07 02 28.4**	**-0.3**
TOF	**Tornio**	**2.68 324**		PN	**Pn**	**07 01 53.6**	**+1.5**
TOF				SN	**Sn**	**07 02 26.4**	**+1.2**
TOF				MSG		07 02 27.5	
	comp=Z,1.5nm,0.2s						
FIA0	**FINESS Array S**	**2.71 202**		PB	**Pb**	**07 01 55.8**	**-1.3**
	baz=22						
FIA0				MSG		07 02 28.6	
	comp=Z,2.5nm,0.2s						
FIA0				SB	**Sb**	**07 02 29.1**	**-1.7**
FINES	**FINESS Array B**	**2.71 202**		Pn	**Pb**	**07 01 55.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=20,slow=16,SNR=14						
FINES				Lg	Lg	07 02 30.6	
	comp=Z,1.0nm,0.3s,baz=18,slow=26,SNR=30						
FINES				Rg	Rg	07 02 42.8	
	comp=Z,6.7nm,0.7s,baz=23,slow=30,SNR=9.8						
	comp=Z,2.6nm,0.6s						
KALU	**Kalix**	**2.80 315**		SB	**Sn**	**07 02 29.5**	**+1.4**
RNF	**Rovaniemi**	**2.81 342**		PB	**Pb**	**07 01 58.0**	**-0.7**
RNF				SB	**Sb**	**07 02 33.2**	**-0.3**
BURU	**Burvik**	**3.03 285**		PB	**Pn**	**07 01 58.7**	**+1.8**
BURU				SN	**Sn**	**07 02 34.6**	**+0.8**
UMAU	**Umeaa**	**3.31 272**		PG	**Pb**	**07 02 09.2**	**+1.9**
UMAU				SB	**Sb**	**07 02 47.6**	**-0.6**
VJF	**Virojoki**	**3.45 185**		SG	**Sb**	**07 02 53.3**	**+1.2**
KPF	**Kankaanpaa**	**3.52 235**		PB	**Pb**	**07 02 07.9**	**-3.0**
ERTU	**Ertsjaerv**	**3.62 319**		PN	**Pn**	**07 02 06.9**	**+2.0**
ERTU				SN	**Sn**	**07 02 50.2**	**+1.9**
KLF	**Kolari**	**3.72 334**		PN	**Pn**	**07 02 08.1**	**+1.8**
KLF				SN	**Sn**	**07 02 50.8**	**0.0**
VRF	**Varrio**	**3.84 8**		PG	**Pg**	**07 02 19.7**	**-1.6**
RAF	**Rauma**	**4.19 228**		SG	**Sg**	**07 03 19.4**	**-2.9**
RAJF	**Raja-Jooseppi**	**4.53 1**		PN	**Pn**	**07 02 20.4**	**+3.0**
ARBE	**Arbavere**	**4.67 194**		PG	**Pb**	**07 02 31.4**	**+1.1**
HEMU	**Hemsoen**	**4.75 259**		PN	**Pn**	**07 02 23.1**	**+2.6**
	baz=65						
ARCES	**ARCESS Array B**	**5.69 350**		Pn	**Pn**	**07 02 34.6**	**+1.2**
	baz=171,slow=12,SNR=1.5						
ARCES				Sn	**Sn**	**07 03 36.9**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=167,slow=23,SNR=6.5						
ARCES				Lg	Lg	07 04 00.3	
	comp=Z,0.1nm,0.3s,baz=166,slow=26,SNR=2.8						
	comp=Z,0.7nm,0.8s						
I37NO	**I37NO**	**6.39 328**		I	I	07 37 40.0	
	baz=140,slow=317,SNR=7.1						
HFS	**Hagfors**	**7.81 247**		Pn	**Pn**	**07 03 01.2**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=51,slow=14,SNR=1.3						
HFS				Lg	Lg	07 05 02.0	
	comp=Z,0.1nm,0.3s,baz=48,slow=24,SNR=2.5						
	comp=Z,0.3nm,0.4s						

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*IDC **13** 07:07:26.2±1.4, 23°.70S×179°.95W, h528km±15km, mb3.4/16, mbtmp4.3/18, Error ellipse: s-maj=15.4km s-min=12.7km az=173.0*

*NOU **13** 07:07:26.5, 23°.65S×179°.80W, h549km, mb4.1/25, South of Fiji Islands*

*NEIC **13** 07:07:27.1±1.9, 23°.7S±0°.1×179°.9W±0°.1, h538km±10km, mb4.4/25, Error ellipse: s-maj=21.4km s-min=16.8km az=148.0*

ISC 13 07:07:26.2±0.4, 23°.73S±0°.06×179°.95W±0°.07, h532km, n139, σ1s51/142, mb4.3/31, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.79 162**		P	**P**	**07 09 03.9**	**+2.0**
RAO	**Raoul Island**	**5.79 162**		P	**P**	**07 09 03.1**	**+1.2**
RAO	**Raoul Island**	**5.79 162**		P	**P**	**07 09 02.4**	**+0.4**
	518nm,0.3s,baz=24,slow=23,SNR=6.2						
GLKZ	**Green Lake**	**5.80 162**		P	**P**	**07 09 02.8**	**+0.8**
GLKZ				S	**S**	**07 10 19.7**	**-0.7**
MSVF	**Nonsavu**	**6.25 342**		P	**P**	**07 09 07.3**	**+0.7**
MSVF	**Nonsavu**	**6.25 342**		P	**P**	**07 09 06.8**	**+0.3**
NIUE	**Niue**	**10.42 66**		P	**P**	**07 09 47.5**	**-0.8**
MARNC	**Mare, Loyalty**	**11.32 279**		P	**P**	**07 09 58.8**	**+1.1**
PINNC	**Pines Island,**	**11.64 273**		P	**P**	**07 10 03.0**	**+1.9**
LIFNC	**LIFOU**	**12.22 281**		P	**P**	**07 10 08.3**	**+1.3**
LIFNC	**LIFOU**	**12.22 281**		P	**P**	**07 10 07.4**	**+0.3**
OUENC	**Ouen Island, N**	**12.23 274**		P	**P**	**07 10 09.5**	**+2.4**
OUENC	**Ouen Island, N**	**12.23 274**		P	**P**	**07 10 08.0**	**+0.9**
YATNC	**Mamie plateau,**	**12.24 275**		P	**P**	**07 10 08.9**	**+1.6**
ONTNC	**Ouen Toro**	**12.60 274**		P	**P**	**07 10 11.7**	**+0.7**
DZM	**Mont Dzumac**	**12.64 275**		P	**P**	**07 10 12.9**	**+1.3**
DZM	**Mont Dzumac**	**12.64 275**		P	**P**	**07 10 12.5**	**+0.9**
DZM	**Mont Dzumac**	**12.64 275**		P	**P**	**07 10 11.6**	**-0.1**
	7.1nm,0.4s,baz=228,slow=21,SNR=33						
NOUC	**Port Laguerre**	**12.77 275**		P	**P**	**07 10 14.2**	**+1.4**
KUZ	**Kuaotunu**	**13.50 195**		P	**P**	**07 10 22.1**	**+2.0**
KUZ	**Kuaotunu**	**13.50 195**		P	**P**	**07 10 22.9**	**+2.7**
WIAZ	**Waiheke Island**	**13.69 197**		P	**P**	**07 10 24.9**	**+2.8**
MXZ	**Matakaoa Point**	**13.87 186**		P	**P**	**07 10 26.5**	**+2.5**
MXZ	**Matakaoa Point**	**13.87 186**		P	**P**	**07 10 24.7**	**+0.7**
MKAZ	**Moumakai**	**13.98 196**		P	**P**	**07 10 26.1**	**+1.0**
WMGZ	**Waiomatatini S**	**14.11 185**		P	**P**	**07 10 29.2**	**+2.6**
WMGZ				S	**S**	**07 12 57.4**	**+2.2**
HAZ	**Te Kaha**	**14.12 187**		P	**P**	**07 10 25.9**	**-0.6**
HAZ				S	**S**	**07 12 52.3**	**-2.9**
PKGZ	**Pakihiroa**	**14.21 186**		P	**P**	**07 10 27.7**	**+0.1**
RUGZ	**Raukumara Rang**	**14.33 188**		P	**P**	**07 10 27.1**	**-1.9**
RUGZ				S	**S**	**07 12 58.4**	**-1.2**
PUZ	**Puketiti**	**14.38 186**		P	**P**	**07 10 31.5**	**+2.2**
TOZ	**Tahuroa Road**	**14.49 195**		P	**P**	**07 10 33.1**	**+2.7**
TWGZ	**Tauwhareparae**	**14.51 187**		P	**P**	**07 10 32.2**	**+1.4**
URZ	**Urewera**	**14.70 189**		P	**P**	**07 10 32.2**	**-0.4**
URZ	**Urewera**	**14.70 189**		P	**P**	**07 10 31.6**	**-1.0**
	14nm,0.5s,baz=87,slow=2.0,SNR=15						
URZ				S	**S**	**07 13 03.1**	**-3.3**
	12nm,0.8s,baz=118,slow=21,SNR=3.4						
URZ	**Urewera**	**14.70 189**		P	**P**	**07 10 31.9**	**-0.7**
MWZ	**Matawai**	**14.72 188**		P	**P**	**07 10 32.5**	**-0.3**
RAGZ	**Rawiri**	**14.89 188**		P	**P**	**07 10 34.6**	**-0.1**
RIGZ	**Rimuhau**	**15.06 187**		P	**P**	**07 10 35.9**	**-0.5**
RTZ	**Ruatahuna**	**15.07 189**		P	**P**	**07 10 37.3**	**+0.7**
RTZ				IAmb	IAmb	07 10 40.8	
	comp=Z,16nm,1.0s						
RTZ	**Ruatahuna**	**15.07 189**		P	**P**	**07 10 37.3**	**+0.7**
SNGZ	**Shannon Statio**	**15.18 188**		P	**P**	**07 10 37.3**	**-0.4**
MTHZ	**Maungataniwha**	**15.32 190**		P	**P**	**07 10 39.8**	**+0.6**
RAHZ	**Arahi**	**15.35 189**		P	**P**	**07 10 39.2**	**-0.3**
HIZ	**Hauiti**	**15.39 196**		P	**P**	**07 10 41.7**	**+1.9**
HIZ	**Hauiti**	**15.39 196**		P	**P**	**07 10 44.2**	**+4.4**
RATZ	**Rangitukua**	**15.52 193**		P	**P**	**07 10 41.8**	**+0.5**
NMHZ	**Naumai**	**15.56 189**		P	**P**	**07 10 41.7**	**-0.1**
BKZ	**Black Stump Fm**	**15.68 190**		P	**P**	**07 10 42.1**	**-0.8**
BKZ	**Black Stump Fm**	**15.68 190**		P	**P**	**07 10 39.7**	**-3.2**
NTVZ	**North Tongarir**	**15.77 193**		P	**P**	**07 10 45.3**	**+1.4**
TMVZ	**Te Maari**	**15.78 193**		P	**P**	**07 10 43.4**	**-0.5**
ETVZ	**East Tongariro**	**15.79 192**		P	**P**	**07 10 45.7**	**+1.6**
NNVZ	**North Ngauruho**	**15.81 193**		P	**P**	**07 10 46.2**	**+1.8**
NGZ	**Ngauruhoe**	**15.85 193**		P	**P**	**07 10 44.4**	**-0.3**
SNVZ	**South Ngauruho**	**15.86 193**		P	**P**	**07 10 43.3**	**-1.5**
KWHZ	**Kaweka Forest**	**15.95 190**		P	**P**	**07 10 43.9**	**-1.7**
BFZ	**Birch Farm**	**17.20 190**		P	**P**	**07 10 56.0**	**-1.5**
TCW	**Tory Channel**	**18.09 194**		P	**P**	**07 11 05.4**	**-0.2**
QRZ	**Quartz Range**	**18.18 199**		P	**P**	**07 11 07.3**	**+0.9**
QRZ	**Quartz Range**	**18.18 199**		P	**P**	**07 11 06.9**	**+0.5**
TKNZ	**Takaka Hill**	**18.25 197**		P	**P**	**07 11 06.4**	**-0.7**
DSZ	**Denniston Nort**	**19.24 199**		P	**P**	**07 11 17.1**	**+1.0**
KHZ	**Kahutara**	**19.40 195**		P	**P**	**07 11 17.5**	**0.0**
LTZ	**Lake Taylor**	**20.06 197**		P	**P**	**07 11 23.6**	**0.0**
RPZ	**Rata Peaks**	**21.26 198**		P	**P**	**07 11 34.6**	**+0.2**
	comp=Z,6.1nm,0.9s,baz=73,slow=22,SNR=1.4						
	comp=Z,6.1nm,0.9s						
ARMA	**Armidale**	**26.12 249**		P	**P**	**07 12 19.6**	**+1.6**
ARMA				IAmb	IAmb	07 12 20.4	
	comp=Z,7.5nm,0.8s						
EIDS	**Eidsvold**	**26.38 260**		P	**P**	**07 12 21.4**	**+1.3**
EIDS	**Eidsvold**	**26.38 260**		P	**P**	**07 12 21.0**	**+0.8**
EIDS				IAmb	IAmb	07 12 22.2	
	comp=Z,10.0nm,1.2s						
PPT	**Papeete**	**29.04 84**		P	**P**	**07 12 43.7**	**+0.1**
	comp=Z,23nm,0.8s,baz=78,slow=14,SNR=1.5						
	comp=Z,23nm,0.8s						
CMSA	**Cobar Meteorol**	**31.32 248**		P	**P**	**07 13 03.6**	**+0.6**
CTA	**Charters Tower**	**31.52 270**		P	**P**	**07 13 05.3**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=97,slow=11,SNR=15						
	comp=Z,0.4nm,0.3s						
CTAO	**Charters Tower**	**31.52 270**		P	**P**	**07 13 05.8**	**+0.9**
CTAO	**Charters Tower**	**31.52 270**		P	**P**	**07 13 05.0**	**+0.1**
CTAO				IAmb	IAmb	07 13 08.1	
	comp=Z,7.8nm,0.7s						
TOO	**Toolangi**	**32.58 237**		P	**P**	**07 13 14.7**	**+0.9**
TOO				IAmb	IAmb	07 13 23.3	
	comp=Z,23nm,1.5s						
STKA	**Stephens Creek**	**34.82 248**		P	**P**	**07 13 33.2**	**+0.5**
STKA	**Stephens Creek**	**34.82 248**		P	**P**	**07 13 33.0**	**+0.3**
	comp=Z,1.8nm,0.4s,baz=100,slow=13,SNR=5.3						
	comp=Z,1.8nm,0.4s						
HTT	**Hallett**	**37.18 246**		P	**P**	**07 13 52.8**	**+0.6**
LCRK	**Leigh Creek**	**37.68 250**		P	**P**	**07 13 56.8**	**+0.6**
BBOO	**Buckleboo**	**39.55 247**		P	**P**	**07 14 11.4**	**0.0**
BBOO				IAmb	IAmb	07 14 51.2	
	comp=Z,22nm,1.2s						
OOD	**Oodnadatta**	**39.99 255**		P	**P**	**07 14 16.1**	**+1.1**
MULG	**Mulgathing**	**41.27 251**		P	**P**	**07 14 25.0**	**-0.2**
AS01	**Alice Springs**	**42.06 260**		P	**P**	**07 14 31.9**	**+0.3**
ASAR	**Alice Springs**	**42.10 260**		P	**P**	**07 14 32.0**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=100,slow=7.9,SNR=12						
	comp=Z,2.8nm,0.8s						
WR0	**Warramunga Arr**	**42.27 266**		P	**P**	**07 14 32.6**	**-0.6**
WB0	**Warramunga Arr**	**42.45 266**		P	**P**	**07 14 34.0**	**-0.7**
WB0				IAmb	IAmb	07 15 01.8	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**42.45 266**		P	**P**	**07 14 33.9**	**-0.7**
WRA	**Warramunga Arr**	**42.46 266**		P	**P**	**07 14 34.4**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=90,slow=5.9,SNR=31						
WRA				PcP	**pwP**	**07 16 12.7**	**-2.2**
	comp=Z,1.2nm,0.6s,baz=90,slow=3.7,SNR=3.9						
WRA				ScP	**ScP**	**07 19 16.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=98,slow=3.6,SNR=2.1						
WRA				S	**S**	**07 20 13.4**	**-4.9**
	comp=Z,2.1nm,0.8s,baz=102,slow=13,SNR=7.6						
	comp=Z,1.6nm,0.3s						
WRKA	**Warakurna**	**46.91 257**		P	**P**	**07 15 08.9**	**-0.1**
MTN	**Manton Dam**	**47.48 274**		P	**P**	**07 15 12.7**	**-0.6**
MTN				IAmb	IAmb	07 15 29.0	
	comp=Z,32nm,1.5s						
QSPA	**South Pole Qui**	**66.35 180**		P	**P**	**07 17 23.1**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=342,slow=0.8,SNR=13						
	comp=Z,1.1nm,0.6s						
MJAR	**Matsushiro Arr**	**71.78 326**		P	**P**	**07 17 54.8**	**0.0**
	comp=Z,3.1nm,0.7s,baz=160,slow=5.5,SNR=6.8						
	comp=Z,3.1nm,0.7s						
AMKA	**Amchitka**	**74.78 360**		P	**P**	**07 18 11.2**	**-0.4**
KSRS	**Korea Array**	**78

PDAR Pinedale Array 92.54 44 P **P** **07 19 40.3 -0.6**
comp=Z,0.7nm,0.8s,baz=204,slow=3.3,SNR=6.6
comp=Z,0.7nm,0.8s
EGAK Eagle 93.18 16 P **P** **07 19 42.9 -0.1**
EGAK IAmb IAmb 07 19 44.1
comp=Z,2.8nm,1.0s
MKAR Makanchi Array 112.07 313 PKiKP **PKiKP** **07 24 59.9 -1.2**
comp=Z,0.6nm,0.6s,baz=167,slow=0.5,SNR=7.2
KURBB Kurchatov Arra 115.15 316 PKP **PKPdf** **07 25 05.0 -1.7**
comp=Z,1.1nm,0.6s,baz=100,slow=1.7,SNR=4.9
BVAR Borovoye Array 120.34 319 PKP **PKPdf** **07 25 16.1 -0.6**
comp=Z,2.4nm,0.5s,baz=102,slow=3.6,SNR=11
SPITS Spitsbergen Ar 124.95 356 PKP **PKPdf** **07 25 24.3 -0.6**
comp=Z,11nm,1.0s,baz=185,slow=11,SNR=2.4
ARCES ARCESS Array B 131.73 348 PKP **PKPdf** **07 25 37.0 -0.9**
comp=Z,0.9nm,0.5s,baz=26,slow=1.3,SNR=12
LOF Lofoten 134.82 353 *eP* **PKPdf** **07 25 40.6 -3.2**
FINES FINESS Array B 138.30 342 PKhKP PKPpre 07 25 41.3
comp=Z,0.5nm,0.4s,baz=356,slow=2.7,SNR=5.8
FINES PKP **PKPdf** **07 25 51.0 +0.6**
comp=Z,0.7nm,0.4s,baz=100,slow=3.6,SNR=8.3
FINES SKPbc **SKPbc** **07 28 35.0 +0.3**
comp=Z,1.0nm,0.7s,baz=76,slow=5.9,SNR=4.3
NB2 NORSAR Subarra141.92 351 PKP **PKPdf** **07 25 52.4 -4.6**
comp=Z,2.4nm,0.7s,baz=19,slow=4.6
NB2 NORSAR Subarra141.92 351 PKP **PKPdf** **07 25 52.4 -4.6**
baz=19,slow=4.6
NOA NORSAR Array B 141.92 351 PKhKP PKPpre 07 25 52.6
comp=Z,2.3nm,0.7s,baz=16,slow=4.7,SNR=11
NC602 NORSAR Array S 142.17 351 *eP* **PKPdf** **07 25 53.1 -4.3**
HFS Hagfors 142.39 349 PKhKP PKPpre 07 25 53.8
comp=Z,7.1nm,0.4s,baz=67,slow=3.9,SNR=85
ASK Askoy 143.10 356 *eP* PKPbc 07 25 56.7 -0.4
BER Bergen 143.19 356 *eP* PKPbc 07 25 57.1 -0.3
KONO Kongsberg 143.48 352 *eP* PKPbc 07 25 57.9 -0.5
ODD1 Odda 143.55 354 *eP* PKPbc 07 25 58.4 -0.2
AKASG Malin Array Be 144.85 327 PKP **PKPdf** **07 26 02.1 -0.2**
comp=Z,3.2nm,0.4s,baz=43,slow=4.1,SNR=32
HOMB Homborsund 144.96 352 *eP* **PKPab** **07 26 03.4 -0.3**
BRTR Keskin Array B 147.51 307 PKPbc **PKPbc** **07 26 10.7 -0.2**
comp=Z,3.3nm,0.6s,baz=140,slow=4.9,SNR=6.1
MMAI Mount Meron Ar 147.67 295 PKPbc **PKiKP** **07 26 12.5 -0.4**
comp=Z,6.7nm,0.5s,baz=71,slow=5.4,SNR=9.3
EKA Eskdalemuir Ar 148.35 3 PKPbc **PKPbc** **07 26 11.7 -0.6**
comp=Z,1.3nm,0.4s,baz=347,slow=2.3,SNR=13
ESDC Sonseca Array 163.75 11 PKPab **PKPab** **07 27 23.2 -1.0**
comp=Z,0.1nm,0.3s,baz=326,slow=6.6,SNR=4.7

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*IDC **13** 07:25:53.6±2.9, 53°.93N×86°.71E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=23.4km s-min=14.4km az=64.0*
*NNC **13** 07:25:55.4±3.7, 53°.73N×86°.59E, h0km, mb2.4, mpv2.3, Error ellipse: s-maj=26.9km s-min=16.6km az=51.0, Suspected Mining explosion.*
ISC 13 07:25:54.9±3.9, 53°.9N±0°.2×86°.6E±0°.2, h0km, n7, σ1°34/9, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**275**	I	I	07 32 20.6	
	baz=86,slow=316,SNR=2.5						
ZAA0	**Zalesovo Array**	**1.05**	**275**	⇓P	**Pg**	**07 26 15.1**	**+0.1**
	0.1nm,0.4s						
ZAA0				⇑S	**Sn**	**07 26 31.2**	**-1.0**
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**1.05**	**275**	Pg	**Pb**	**07 26 15.3**	**-0.6**
	0.9nm,0.3s,baz=93,slow=16,SNR=8.0						
ZALV				Lg	Lg	07 26 29.4	
	2.0nm,0.3s,baz=90,slow=29,SNR=15						
KURK	**Kurchatov**	**5.82**	**240**	⇑Pn	**Pn**	**07 27 23.8**	**+1.4**
	0.3nm,0.4s						
KURK				⇓Sn	**Sn**	**07 28 28.0**	**-1.8**
	0.3nm,0.5s						
KURK				⇓Lg	Lg	07 28 59.7	
	1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**5.92**	**240**	Pn	**Pn**	**07 27 25.5**	**+1.7**
	0.1nm,0.3s,baz=58,slow=14,SNR=7.1						
KURBB				Lg	Lg	07 29 04.6	
	baz=57,slow=27,SNR=4.5						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**5.92**	**240**	⇑Pn	**Pn**	**07 27 24.3**	**+0.5**
	1.3nm,0.6s,baz=57,slow=14						
KURBB				⇓Sn	**Sn**	**07 28 33.4**	**+1.1**
	1.2nm,0.6s						
KURBB				⇑Lg	Lg	07 28 57.3	
	2.0nm,0.7s,baz=53,slow=28						
MKAR	**Makanchi Array**	**7.60**	**203**	Pn	**Pn**	**07 27 46.6**	**-0.2**
	0.1nm,0.3s,baz=24,slow=14,SNR=2.4						
MKAR				Lg	Lg	07 29 55.0	
	baz=23,slow=32,SNR=5.1						
	0.1nm,0.3s						

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*SCB **13** 07:26:46.2±1.3, 21°.00S×67°.45W, h157km±29km, ML3.2/3, MW2.6, Error ellipse: s-maj=12.1km s-min=8.7km az=1.0*
*GUC **13** 07:26:46.4±0.8, 20°.98S×67°.52W, h179km±8km, ML3.4*
ISC 13 07:26:45.7±2.2, 20°.99S±0°.05×67°.52W±0°.05, h176km±24km, n19, σ0°.84/30, 7C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.79**	**243**	⇑*i*P	**Pn**	**07 27 21.6**	**+1.1**
PB09	**IPOC Station P**	**1.79**	**243**	Pg	**Pn**	**07 27 21.3**	**+0.8**
PB09				Sg	**Sn**	**07 27 47.5**	**+0.2**
PB09				IAML		07 27 52.1	
	29nm,0.3s						
GO01	**Chusmiza**	**2.04**	**310**	⇑*i*P	**Pn**	**07 27 24.1**	**+0.6**
GO01	**Chusmiza**	**2.04**	**310**	Pg	**Pn**	**07 27 24.2**	**+0.6**
LVC	**Limon Verde**	**2.07**	**218**	⇑*i*P	**Pn**	**07 27 24.1**	**+0.5**
LVC				*i* S	**Sn**	**07 27 53.8**	**+0.8**
LVC				IAML		07 27 56.0	
	92nm,0.8s						
YJA	**Yavi**	**2.21**	**123**	*e*P	**Pn**	**07 27 25.7**	**+0.4**
YJA				*i* S	**Sn**	**07 27 54.9**	**-1.1**
PB11	**IPOC Station P**	**2.34**	**301**	⇑*i*P	**Pn**	**07 27 26.6**	**0.0**
PB11				*i* S	**Sn**	**07 27 57.8**	**-0.4**
PB11				IAML		07 28 01.0	
	comp=E,164nm,0.4s						
PB11	**IPOC Station P**	**2.34**	**301**	Pg	**Pn**	**07 27 26.6**	**0.0**
PB11				Sg	**Sn**	**07 27 58.0**	**-0.2**
PB11				IAML		07 28 00.9	
	comp=E,107nm,0.5s						
SOEO	**Opoqueri**	**2.44**	**352**	Pg	**Pn**	**07 27 28.9**	**+0.9**
PATCX	**Punta Patache**	**2.46**	**273**	⇑*i*P	**Pn**	**07 27 27.8**	**0.0**
PATCX				*i* S	**Sn**	**07 27 60.0**	**-0.5**
PATCX				IAML		07 28 01.8	
	comp=N,156nm,0.1s						
TA01	**Diego Aracena**	**2.52**	**279**	⇑*i*P	**Pn**	**07 27 28.0**	**-0.4**
TA01				*i* S	**Sn**	**07 28 00.0**	**-1.5**
TA01				IAML		07 28 01.4	
	comp=E,95nm,0.2s						
TA02	**Huaiquique**	**2.54**	**286**	*i* P	**Pn**	**07 27 28.7**	**0.0**
TA02				*i* S	**Sn**	**07 28 00.8**	**-1.3**
PB06	**IPOC Station P**	**2.56**	**228**	*e*P	**Pn**	**07 27 29.4**	**+0.4**
PB06				*i* S	**Sn**	**07 28 03.0**	**+0.2**
PB06				IAML		07 28 04.6	
	comp=E,133nm,0.2s						
PB04	**IPOC Station P**	**2.79**	**241**	⇑*i*P	**Pn**	**07 27 31.7**	**0.0**
PB04				*i* S	**Sn**	**07 28 06.0**	**-1.5**
PB04				IAML		07 28 09.5	
	comp=N,84nm,0.2s						
PB15	**IPOC Station P**	**2.85**	**219**	Pg	**Pn**	**07 27 33.2**	**+0.6**
PB15				Sg	**Sn**	**07 28 08.7**	**-0.4**
PB15				IAML		07 28 14.9	
	comp=N,239nm,0.3s						
AOEA	**Aiquile**	**3.53**	**38**	Pg	**Pn**	**07 27 40.4**	**-0.7**
BBOE	**La Paz, Chanca**	**4.17**	**354**	Pg	**Pn**	**07 27 50.8**	**+1.3**
BBOD	**La Paz, Gloria**	**4.45**	**347**	Pg	**Pn**	**07 27 54.5**	**+1.5**
LPAZ	**La Paz**	**4.71**	**353**	Pg	**Pn**	**07 27 57.0**	**+0.5**

IDC 13 07:31:07.8±3.5, 55°.70N×86°.00E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=29.0km s-min=26.6km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**202**	I	I	07 43 15.7	
	baz=19,slow=316,SNR=9.4						
ZALV	**Zalesovo Beam**	**1.88**	**202**	Pg	Pn	07 31 40.5	-0.7
	2.3nm,0.3s,baz=20,slow=18,SNR=19						
ZALV				Lg	Lg	07 32 08.0	
	2.1nm,0.3s,baz=21,slow=30,SNR=7.9						
KURBB	**Kurchatov Arra**	**6.78**	**225**	Pn	Pn	07 32 48.7	+0.2
	0.1nm,0.3s,baz=43,slow=14,SNR=8.8						
KURBB				Lg	Lg	07 34 44.0	
	baz=40,slow=28						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**9.21**	**196**	Pn	Pn	07 33 21.8	-0.1
	0.1nm,0.3s,baz=20,slow=15,SNR=2.7						
	0.3nm,0.7s						

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*IDC **13** 07:44:23.7±1.4, 37°.48N×142°.06E, h0km, mb3.5/3, mbtmp3.5/5, ML2.9/2, Error ellipse: s-maj=39.9km s-min=26.6km az=109.0*
*JMA **13** 07:44:30.5±0.2, 37°.4N±0°.4×141°.7E±0°.9, h43km±2km, MV3.1/36, E OFF FUKUSHIMA PREF*
ISC 13 07:44:28.0±2.1, 37°.39N±0°.06×141°.83E±0°.10, h28km±15km, n21, σ0°.98/21, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.76**	**269**	*i* P	**Pn**	**07 44 43.4**	**+0.5**
JFK				S	**Sb**	**07 44 52.3**	**-0.4**
JMST	**Minamisoumatoc**	**0.82**	**294**	P	**Pn**	**07 44 44.2**	**+0.6**
JMST				S	**Sb**	**07 44 54.1**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.87**	**251**	*i* P	**Pn**	**07 44 44.9**	**+0.4**
ONAJ				*e*S	**Sb**	**07 44 55.1**	**-0.9**
JMM	**Marumori**	**0.95**	**300**	*i* P	**Pn**	**07 44 46.3**	**+0.8**
JMM				*e*S	**Sb**	**07 44 57.7**	**-0.4**
JIO	**Ouri**	**1.13**	**340**	*i* P	**Pb**	**07 44 49.5**	**+0.6**
JIO				S	**Sb**	**07 45 02.6**	**-0.5**
JOTO	**OTAMA OYAMA**	**1.21**	**279**	P	**Pb**	**07 44 50.4**	**+0.2**
JOU	**Okura**	**1.34**	**317**	P	**Pb**	**07 44 52.7**	**+0.2**
JFY	**Shiratake**	**1.63**	**301**	P	**Pb**	**07 44 56.6**	**-0.7**
JMK	**Ichinoseki**	**1.63**	**343**	P	**Pb**	**07 44 57.3**	**-0.1**
JFY	**Yanaizu**	**1.69**	**271**	P	**Pn**	**07 44 57.1**	**+1.4**
MJAR	**Matsushiro Arr**	**3.02**	**255**	Pn	**Pn**	**07 45 16.5**	**+2.5**
	0.3nm,0.3s,baz=68,slow=10,SNR=8.4						
	2.2nm,0.5s						
JHJ	**Hachijo jima 2**	**4.58**	**202**	Pn	**Pn**	**07 45 36.2**	**+0.9**
	6.0nm,0.3s,baz=19,slow=8.9,SNR=1.8						
JHJ				Sn	**Sn**	**07 46 26.1**	**-1.5**
	9.3nm,0.3s,baz=141,slow=21,SNR=7.6						
	19nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.05**	**122**	T	T	08 19 49.8	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**28.05**	**122**	T	T	08 19 49.7	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.06**	**122**	T	T	08 19 49.2	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**28.77**	**124**	T	T	08 20 48.8	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.78**	**124**	T	T	08 20 47.6	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.79**	**124**	T	T	08 20 50.8	
	baz=316						
ILAR	**Eielson Array**	**49.02**	**33**	P	**P**	**07 53 11.0**	**-0.9**
	0.3nm,0.9s,baz=256,slow=7.3,SNR=3.1						
	0.3nm,0.9s						
BVAR	**Borovoye Array**	**50.58**	**312**	P	**P**	**07 53 23.7**	**-0.2**
	0.5nm,0.4s,baz=81,slow=12,SNR=2.4						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**57.46**	**188**	P	**P**	**07 54 15.0**	**+0.6**
	0.3nm,0.5s,baz=5.8,slow=7.1,SNR=13						
	0.3nm,0.5s						

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*IDC **13** 07:45:09.7±1.0, 59°.66N×22°.38E, h0km, mbtmp3.1/5, ML2.6/4, Error ellipse: s-maj=13.5km s-min=8.8km az=158.0*
*HEL **13** 07:45:10.9±0.1, 59°.77N×22°.27E, h0km, ML2.3, Explosion*
*EST **13** 07:45:10.9, 59°.78N×22°.27E, h0km, ML2.3(HEL), Explosion*
*DNK **13** 07:45:10.3±2.6, 59°.78N×22°.25E, h0km±13km, ML2.3*
*UPP **13** 07:45:11.3±1.2, 59°.84N×22°.12E, h0km, ML2.6*
ISC 13 07:45:08.5±0.7, 59°.84N±0°.02×22°.23E±0°.02, h0km, n64, σ1°46/92, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE01	**Perakula, Nova**	**0.95**	**131**	*e*P	**Pg**	**07 45 27.0**	**+0.3**
EE01				*e*S	**Sg**	**07 45 38.3**	**-0.7**
MEF	**Metsahovi**	**1.15**	**70**	*e*P	**Pb**	**07 45 31.4**	**+0.2**
MEF	**Metsahovi**	**1.15**	**70**	*e*P	**Pb**	**07 45 31.4**	**+0.2**
MEF				*e*S	**Sg**	**07 45 46.2**	**+0.8**
AAL	**Aland**	**1.17**	**288**	*e*P	**Pn**	**07 45 32.2**	**+0.1**
AAL	**Aland**	**1.17**	**288**	P	**Pn**	**07 45 32.2**	**+0.1**
AAL				S	**Sb**	**07 45 47.6**	**+0.3**
AAL	**Aland**	**1.17**	**288**	P	**Pn**	**07 45 32.2**	**+0.1**
AAL				S	**Sb**	**07 45 47.6**	**+0.3**
AAL	**Aland**	**1.17**	**288**	*e*P	**Pn**	**07 45 32.2**	**+0.1**
AAL				*e*S	**Sb**	**07 45 47.6**	**+0.3**
RAF	**Rauma**	**1.21**	**349**	*e*P	**Pn**	**07 45 33.5**	**+0.9**
RAF	**Rauma**	**1.21**	**349**	*e*P	**Pn**	**07 45 33.4**	**+0.8**
RAF				*e*S	**Sn**	**07 45 49.9**	**+0.3**
HEL1	**Helsinki**	**1.37**	**75**	*e*P	**Pb**	**07 45 35.2**	**+0.2**
HEL1				*e*SB	**Sb**	**07 45 53.4**	**+0.3**
NUR	**Nurmijrvi**	**1.38**	**60**	*e*P	**Pb**	**07 45 35.7**	**+0.5**
NUR				*e*S	**Sb**	**07 45 53.5**	**+0.2**
NUR				MSG		07 45 54.4	
	comp=Z,13nm,0.1s						
MTSE	**Matsula**	**1.39**	**144**	*e*P	**Pg**	**07 45 34.6**	**-0.5**
MTSE	**Matsula**	**1.39**	**144**	*e*P	**Pg**	**07 45 34.6**	**-0.5**
MTSE				*e*SB	**Sg**	**07 45 52.4**	**-0.7**
EE02	**Kiisa, Saku**	**1.42**	**116**	*e*P	**Pb**	**07 45 35.6**	**-0.1**
EE02				*e*S	**Sg**	**07 45 52.9**	**-1.0**
NRTU	**Norrtaelje**	**1.83**	**266**	P	**Pb**	**07 45 43.1**	**+0.3**
NRTU				S	**Sg**	**07 46 07.3**	**+0.1**
NRTU	**Norrtaelje**	**1.83**	**266**	P	**Pb**	**07 45 43.1**	**+0.3**
NRTU				S	**Sg**	**07 46 07.3**	**+0.1**
GRAU	**Graesoe**	**1.92**	**287**	P	**Pb**	**07 45 44.3**	**+0.1**
GRAU				S	**Sb**	**07 46 08.8**	**+0.2**
GRAU	**Graesoe**	**1.92**	**287**	P	**Pb**	**07 45 44.3**	**+0.1**
GRAU				S	**Sb**	**07 46 08.8**	**+0.2**
PVF	**Pernaja**	**1.95**	**67**	*e*PB	**Pb**	**07 45 45.2**	**+0.4**
ARBE	**Arbavere**	**1.95**	**100**	*e*P	**Pg**	**07 45 45.3**	**-0.5**
ARBE	**Arbavere**	**1.95**	**100**	*e*PG	**Pb**	**07 45 45.1**	**+0.3**
EE08	**Sarghaua, Vand**	**1.95**	**126**	*e*P	**Pb**	**07 45 44.7**	**-0.1**
EE08				*e*S	**Sn**	**07 46 07.8**	**-0.1**
KPF	**Kankaanpaa**	**2.00**	**358**	*e*PB	**Pg**	**07 45 47.0**	**+0.2**
FORU	**Forsmark**	**2.10**	**287**	P	**Pb**	**07 45 47.6**	**+0.2**
FORU				S	**Sb**	**07 46 14.9**	**+0.9**
FORU	**Forsmark**	**2.10**	**287**	P	**Pb**	**07 45 47.6**	**+0.2**
FORU				S	**Sb**	**07 46 14.9**	**+0.9**
FLYU	**Flymyra**	**2.20**	**279**	P	**Pb**	**07 45 48.9**	**-0.3**
FLYU	**Flymyra**	**2.20**	**279**	P	**Pb**	**07 45 48.9**	**-0.3**
SLIT	**Slitere, Latvi**	**2.22**	**179**	*e*P	**Pb**	**07 45 48.9**	**-0.5**
SLIT	**Slitere, Latvi**	**2.22**	**179**	*e*PG	**Pb**	**07 45 48.7**	**-0.7**
NYNU	**Nynaeshamn**	**2.32**	**251**	P	**Pb**	**07 45 50.3**	**-0.7**
NYNU	**Nynaeshamn**	**2.32**	**251**	P	**Pb**	**07 45 50.3**	**-0.7**
UPP	**Uppsala**	**2.33**	**272**	*e*P	**Pb**	**07 45 50.8**	**-0.5**
UPP	**Uppsala**	**2.33**	**272**	P	**Pb**	**07 45 50.7**	**-0.5**
UPP	**Uppsala**	**2.33**	**272**	P	**Pb**	**07 45 50.7**	**-0.5**
FIA0	**FINESS Array S**	**2.48**	**48**	*e*P	**Pb**	**07 45 53.5**	**-0.4**
FINES	**FINESS Array B**	**2.48**	**48**	Pn	**Pb**	**07 45 53.9**	**-0.1**
	comp=Z,6.0nm,0.3s,baz=230,slow=14,SNR=158						
FINES				Sn	**Sb**	**07 46 26.6**	**+1.5**
	comp=Z,11nm,0.3s,baz=230,slow=23,SNR=30						
	comp=Z,8.4nm,0.3s						
FIA1	**FINESS Array S**	**2.49**	**48**	*e*P	**Pb**	**07 45 53.8**	**-0.2**
FIA1				*e*S	**Sb**	**07 46 24.6**	**-0.5**
FIA1				MSG		07 46 27.5	
	comp=Z,19nm,0.3s						
KEF	**Keuruu**	**2.67**	**28**	*e*P	**Pb**	**07 45 57.7**	**+0.7**
KEF	**Keuruu**	**2.67**	**28**	*e*PB	**Pb**	**07 45 57.4**	**+0.4**
KEF				*e*SB	**Sg**	**07 46 32.5**	**-1.5**
KEF				MSG		07 46 33.4	
	comp=Z,11nm,0.2s						
VSU	**Vasula**	**2.70**	**119**	*e*SG	**Sb**	**07 46 32.0**	**+0.8**
VJF	**Virojoki**	**2.75**	**73**	*e*P	**Pb**	**07 45 56.3**	**-2.1**
VJF				*e*SG	**Sb**	**07 46 34.7**	**+2.0**
KAF	**Kangasniemi**	**3.02**	**39**	*e*PB	**Pb**	**07 46 02.0**	**-1.1**
KAF				*e*SB	**Sb**	**07 46 41.6**	**+1.1**
KAF				MSG		07 46 42.0	
	comp=Z,11nm,0.2s						
VIKU	**Vikbolandet**	**3.15**	**247**	*e*P	**Pn**	**07 46 01.4**	**+2.1**
VAF	**Ylistaro**	**3.22**	**4**	*e*P	**Pb**	**07 46 05.3**	**-1.2**
VAF	**Ylistaro**	**3.22**	**4**	*e*P	**Pb**	**07 46 05.0**	**-1.5**
SUF	**Sumiainen**	**3.45**	**32**	*e*P	**Pb**	**07 46 07.2**	**-3.2**
HEMU	**Hemsoen**	**3.49**	**326**	*e*P	**Pn**	**07 46 07.5**	**+3.6**
HUSU	**Husum**	**3.80**	**339**	*e*P	**Pn**	**07 46 12.0**	**+3.9**
UMAU	**Umeaa**	**4.12**	**350**	*e*P	**Pn**	**07 46 16.1**	**+3.4**
UMAU				*e*SG	**Sg**	**07 47 20.1**	**-0.7**
HFS	**Hagfors**	**4.30**	**278**	Pn	**Pn**	**07 46 17.3**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=97,slow=14,SNR=18						
HFS				Sn	**Sn**	**07 47 07.0**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=86,slow=24,SNR=5.6						
HFS				Lg	Lg	07 47 21.5	
	comp=Z,2.0nm,0.3s,baz=93,slow=31,SNR=11						
	comp=Z,0.8nm,0.3s						
OBF8	**Ulkokalla**	**4.54**	**7**	*e*P	**Pn**	**07 46 22.1**	**+3.7**
OUF	**Merijarvi**	**4.69**	**13**	*e*P	**Pn**	**07 46 24.7**	**+4.3**
OUF				*e*SG	**Sg**	**07 47 37.4**	**-1.6**
BLEU	**Blekinge**	**4.92**	**227**	*i* P	**Pn**	**07 46 24.5**	**+1.0**
JOF	**Joensuu**	**5.34**	**51**	*e*P	**Pn**	**07 46 31.7**	**+2.3**
BORU	**Boraas**	**5.40**	**250**	*i* P	**Pn**	**07 46 33.2**	**+3.0**
DEL	**Delary**	**5.57**	**236**	*e*P	**Pn**	**07 46 33.5**	**+1.1**
DEL	**Delary**	**5.57**	**236**	*e*	**Pn**	**07 46 32.2**	**-0.2**
	baz=35,slow=5.3						
DEL				*i* P	**Pn**	**07 46 33.4**	**+0.9**
DEL				*i* S	**Sn**	**07 47 35.1**	**-1.9**
DEL				IAML		07 48 24.5	
	comp=Z,1.8nm,0.3s						
NOA	**NORSAR Array B**	**5.59**	**287**	Pn	**Pn**	**07 46 33.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=98,slow=19,SNR=17						
	comp=Z,0.2nm,0.3s						
STRU	**Stroemstad**	**5.70**	**267**	*i* P	**Pn**	**07 46 35.6**	**+1.4**
TJOU	**Tjoern**	**5.78**	**256**	*i* P	**Pn**	**07 46 36.8**	**+1.4**
ONAU	**Onsala**	**5.92**	**250**	*i* P	**Pn**	**07 46 40.4**	**+3.1**
LUNU	**Lund**	**6.32**	**232**	*i* P	**Pn**	**07 46 42.1**	**-0.7**
LUNU				*i* S	**Sn**	**07 47 52.5**	**-3.0**
ARCES	**ARCESS Array B**	**9.83**	**7**	Pn	**Pn**	**07 47 31.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=183,slow=14,SNR=16						
ARCES				Sn	**Sn**	**07 49 17.6**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=191,slow=24,SNR=2.2						
	comp=Z,0.5nm,0.3s						
AKASG	**Malin Array Be**	**9.98**	**153**	Pn	Pn	07 47 25.1	-7.9
	comp=Z,0.3nm,0.2s,baz=336,slow=13,SNR=2.2						

IDC 13 07:45:35.4±2.1, 59°.92N×22°.26E, h0km, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=36.1km s-min=10.8km az=161.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**2.42**	**49**	Pn	Pn	07 46 17.4	+1.3
	5.7nm,0.3s,baz=231,slow=14,SNR=17						
FINES				Sn	Sb	07 46 49.7	-0.3
	9.2nm,0.3s,baz=233,slow=23,SNR=10.0						
	9.1nm,0.3s						
HFS	**Hagfors**	**4.30**	**277**	Pn	Pn	07 46 41.1	-0.9
	0.3nm,0.3s,baz=91,slow=15,SNR=5.3						
HFS				Lg	Lg	07 47 45.0	
	2.6nm,0.3s,baz=89,slow=29,SNR=3.5						
	1.0nm,0.4s						
NOA	**NORSAR Array B**	**5.58**	**286**	Pn	Pn	07 46 58.1	-1.5
	0.1nm,0.3s,baz=95,slow=12,SNR=5.2						
	0.2nm,0.3s						
ARCES	**ARCESS Array B**	**9.75**	**7**	Pn	Pn	07 47 53.1	-3.6
	0.2nm,0.3s,baz=184,slow=13,SNR=6.0						
ARCES				Sn	Sn	07 49 35.1	-12
	0.2nm,0.3s,baz=184,slow=25,SNR=1.6						
	0.4nm,0.3s						

IDC 13 07:45:57.7±3.1, 59°.64N×22°.37E, h0km, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=44.0km s-min=14.3km az=161.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**2.58**	**44**	Pn	Pn	07 46 41.4	+0.8
	3.5nm,0.3s,baz=231,slow=14,SNR=5.2						
FINES				Sn	Sn	07 47 14.0	+1.4
	5.9nm,0.3s,baz=230,slow=24,SNR=8.0						
	5.0nm,0.3s						
HFS	**Hagfors**	**4.40**	**280**	Lg	Lg	07 48 06.3	
	baz=99,slow=28						
NOA	**NORSAR Array B**	**5.71**	**289**	Pn	Pn	07 47 21.9	-1.8
	0.1nm,0.3s,baz=106,slow=12,SNR=5.4						
	0.2nm,0.4s						
ARCES	**ARCESS Array B**	**10.03**	**6**	Pn	Pn	07 48 19.6	-3.1
	0.2nm,0.3s,baz=185,slow=13,SNR=6.0						
	0.5nm,0.2s						

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*TIR **13** 07:46:31.8, 41°.46N×19°.47E, h25km±3km, MI2.4*
*BEO **13** 07:46:33.8±0.5, 41°.41N×19°.57E, h15km±4km, ML2.2/8*
*PDG **13** 07:46:34.2±0.1, 41°.55N×19°.81E, h14km, ML2.5/11, Error ellipse: s-maj=0.3km s-min=0.9km az=0.0*
*RHSSO **13** 07:46:36.4±0.9, 41°.52N×19°.41E, h7km±2km, ML2.4/7*
ISC 13 07:46:33.5±1.1, 41°.48N±0°.02×19°.55E±0°.03, h7km±9km, n39, σ0°.82/73, 7C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.27**	**119**	P	**Pg**	**07 46 38.8**	**0.0**
	baz=110						
TIR				S	**Sg**	**07 46 42.8**	**+0.4**
	baz=110						
TIR				AMP			
	comp=N,4.9nm,0.1s,baz=110						
TIR	**Tirane**	**0.27**	**119**	*e*Pg	**

SJES			*e*Sn	**Sb**	**07 47 30.7**	**+0.7**
PLE	**Pljevlja**	**1.85 356**	⇓*i*Pn	**Pn**	**07 47 05.9**	**0.0**
PLE			*i* Sn	**Sb**	**07 47 30.8**	**-0.5**
STON	**Ston**	**1.96 316**	*e*Pn	**Pn**	**07 47 06.9**	**-0.2**
STON			*e*Sn	**Sn**	**07 47 31.9**	**0.0**
STON	**Ston**	**1.96 316**	*e*Pn	**Pn**	**07 47 07.0**	**-0.2**
STON			Sn	**Sn**	**07 47 30.9**	**-1.1**
STON	**Ston**	**1.96 316**	*e*Pn	**Pb**	**07 47 08.8**	**-0.7**
STON			*e*Sn	**Sn**	**07 47 32.1**	**+0.2**
NOCI	**Noci**	**2.00 251**	P	**Pn**	**07 47 06.7**	**-1.0**
	baz=251					
NOCI			S	**Sn**	**07 47 32.5**	**-0.6**
	baz=251					
RUDO	**Rudo**	**2.14 357**	*e*Pn	**Pb**	**07 47 12.1**	**-0.6**
RUDO			*e*Sn	**Sb**	**07 47 38.4**	**-1.1**
MAKA	**Makarska**	**2.60 315**	*e*Pn	**Pn**	**07 47 15.5**	**-0.5**
KIJV	**Kijevo**	**3.43 319**	*e*Pn	**Pn**	**07 47 27.4**	**0.0**
ZIRJ	**Zirje**	**3.61 308**	*e*Pn	**Pn**	**07 47 29.7**	**-0.2**
A050A	**Klekovaca**	**3.73 325**	⇑*i*Pn	**Pn**	**07 47 32.7**	**+1.1**
A050A			*e*Sn	**Sn**	**07 48 15.4**	**-0.5**
DUGI	**Dugi Otok**	**4.15 309**	*e*Pn	**Pn**	**07 47 37.1**	**-0.2**

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*NNC **13** 07:50:17.8±1.9, 53°.64N×90°.66E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=14.0km s-min=10.9km az=50.0, Suspected Mining explosion.*
*IDC **13** 07:50:18.4±3.2, 53°.62N×90°.57E, h0km, mbtmp3.2/3, ML2.5/3, Error ellipse: s-maj=27.8km s-min=22.4km az=45.0*
ISC 13 07:50:18.7±4.0, 53°.7N±0°.1×90°.6E±0°.2, h0km, n8, σ1§21/12, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.44 277**		I	I	08 11 41.9	
	0.2nm,1.3s,baz=91,slow=312,SNR=7.4						
ZAA0	**Zalesovo Array**	**3.44 277**		⇓Pg	**Pb**	**07 51 21.3**	**+0.9**
	1.6nm,0.7s						
ZAA0				⇓Lg	Lg	07 52 08.7	
	8.7nm,1.1s						
ZALV	**Zalesovo Beam**	**3.44 277**		Pn	**Pn**	**07 51 12.6**	**-0.7**
	0.3nm,0.3s,baz=91,slow=18,SNR=3.2						
ZALV				Lg	Lg	07 52 06.0	
	1.6nm,0.3s,baz=96,slow=28,SNR=10						
	0.6nm,0.3s						
KURK	**Kurchatov**	**7.93 253**		⇑Pn	**Pn**	**07 52 14.7**	**-0.3**
	1.2nm,0.7s						
KURK				⇑Sn	**Sn**	**07 53 46.4**	**+1.1**
	4.5nm,0.7s						
KURK				⇑Lg	Lg	07 54 31.9	
	14nm,0.7s						
KURBB	**Kurchatov Arra**	**8.02 253**		Pn	**Pn**	**07 52 15.7**	**-0.6**
	0.1nm,0.3s,baz=65,slow=14,SNR=7.8						
KURBB				Sn	**Sn**	**07 53 45.9**	**-1.8**
	baz=68,slow=25,SNR=4.6						
KURBB				Lg	Lg	07 54 31.1	
	baz=69,slow=31,SNR=1.9						
	1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**8.02 253**		⇓Pn	**Pn**	**07 52 14.8**	**-1.5**
	2.3nm,0.8s						
KURBB				⇑Sn	**Sn**	**07 53 48.6**	**+1.0**
	15nm,0.7s						
KURBB				⇓Lg	Lg	07 54 33.8	
	11nm,0.8s						
MK31	**Makanchi Array**	**8.69 221**		⇑Pn	**Pn**	**07 52 25.9**	**+0.4**
	0.8nm,0.6s,baz=42,slow=13,SNR=16						
MK31				⇓Sn	**Sn**	**07 54 04.9**	**+0.8**
	0.8nm,0.7s						
MK31				⇑Lg	Lg	07 54 52.0	
	3.6nm,0.8s,baz=43,slow=28,SNR=3.9						
MKAR	**Makanchi Array**	**8.69 221**		Pn	**Pn**	**07 52 25.3**	**-0.2**
	0.3nm,0.3s,baz=40,slow=14,SNR=22						
MKAR				Sn	**Sn**	**07 54 02.4**	**-1.7**
	baz=36,slow=24,SNR=1.5						
MKAR				Lg	Lg	07 54 49.7	
	0.1nm,0.3s,baz=38,slow=33,SNR=1.1						
	1.5nm,0.6s						

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*SJA **13** 07:56:48.8±0.7, 28°.09S×67°.57W, h142km±5km, ML4.0, MW3.9*
*IDC **13** 07:56:48.5±2.3, 28°.17S×67°.58W, h105km±19km, mb3.6/6, mbtmp3.9/11, MS2.6/2, Error ellipse: s-maj=26.1km s-min=15.5km az=81.0*
*NEIC **13** 07:56:50±2.0, 28°.21S±0°.07×67°.5W±0°.1, h114km±12km, mb4.2/6, Error ellipse: s-maj=12.8km s-min=9.6km az=96.0*
ISC 13 07:56:50.1±0.7, 28°.10S±0°.03×67°.60W±0°.03, h133km±6km, n107, σ1§51/134, mb4.0/8, 6C-2D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.83 220**		*e*P	**Pn**	**07 57 12.3**	**+0.4**
VCA				IAML		07 57 32.7	
	comp=Z,7μm,0.5s						
VCA	**Vinchina**	**0.83 220**		⇓*i*P	**Pn**	**07 57 13.1**	**+1.1**
VCA				*e*S	**Sn**	**07 57 29.3**	**+0.8**
VCA				IAML		07 57 30.6	
	comp=E,21μm,0.5s						
ACLC	**CERRO LA CRUZ**	**1.43 157**		*e*P	**Pn**	**07 57 18.6**	**+0.7**
ACLC				*e*S	**Sn**	**07 57 39.0**	**-0.1**
ACLC				IAML		07 57 39.7	
	comp=Z,1μm,0.3s						
CYA	**Choya**	**1.62 102**		*e*P	**Pn**	**07 57 21.0**	**+1.2**
CYA				*e*S	**Sn**	**07 57 42.6**	**+0.2**
CYA				IAML		07 57 43.0	
	comp=Z,746nm,0.8s						
CYA	**Choya**	**1.62 102**		⇓*i*P	**Pn**	**07 57 21.1**	**+1.3**
CYA				*e*S	**Sn**	**07 57 42.2**	**-0.2**
CYA				IAML		07 57 44.1	
	comp=E,1μm,0.6s						
GO03	**Copiap**	**2.39 282**			**Pn**	**07 57 29.6**	**+0.5**
GO03	**Copiap**	**2.39 282**		*e*P	**Pn**	**07 57 29.9**	**+0.8**
GO03				*e*S	**Sn**	**07 57 58.8**	**-0.3**
AHML	**Horco Molle**	**2.40 57**		*e*P	**Pn**	**07 57 31.5**	**+2.3**
AHML				*e*S	**Sn**	**07 57 56.6**	**-2.7**
AHML	**Horco Molle**	**2.40 57**		⇑*i*P	**Pn**	**07 57 31.6**	**+2.3**
AHML				*e*S	**Sn**	**07 57 59.0**	**-0.3**
GUSE	**Guasayan**	**2.44 86**		*e*P	**Pn**	**07 57 31.5**	**+1.8**
FSA	**Cafayete**	**2.45 36**		*e*P	**Pn**	**07 57 30.2**	**+0.2**
FSA				*e*S	**Sn**	**07 57 59.5**	**-1.2**
ACDV	**Cuesta del Vie**	**2.45 213**		*e*P	**Pn**	**07 57 30.8**	**+0.8**
ACDV				*e*S	**Sn**	**07 58 01.6**	**+0.9**
ACDV				IAML		07 58 01.8	
	comp=Z,266nm,0.6s						
APLL	**PUNTA DE LOS L**	**2.47 158**		*e*P	Pn	07 57 11.2	-19
AC05	**El Transito**	**2.47 252**			**Pn**	**07 57 30.9**	**+0.7**
AC05	**El Transito**	**2.47 252**		*e*P	**Pn**	**07 57 31.1**	**+0.9**
AC05				*e*S	**Sn**	**07 58 01.6**	**+0.7**
AC05				IAML		07 58 03.0	
	comp=Z,658nm,0.3s						
AC05	**El Transito**	**2.47 252**		⇑*i*P	**Pn**	**07 57 31.2**	**+1.1**
AC05				*e*S	**Sn**	**07 58 01.5**	**+0.6**
AVFE	**Valle Fertil**	**2.55 177**		*e*P	**Pn**	**07 57 31.4**	**+0.3**
AVFE				*e*S	**Sn**	**07 58 01.4**	**-1.3**
AVFE				IAML		07 58 05.3	
	comp=Z,374nm,0.3s						
AC06	**Mina Casimiro**	**2.56 286**			**Pn**	**07 57 31.2**	**0.0**
AC06	**Mina Casimiro**	**2.56 286**		*e*P	**Pn**	**07 57 31.5**	**+0.4**
AC06				*e*S	**Sn**	**07 58 01.7**	**-1.0**
AROD	**Rodeo**	**2.63 218**		*e*P	**Pn**	**07 57 33.3**	**+0.9**
AROD				*e*S	**Sn**	**07 58 05.5**	**+0.5**
ACCO	**Cerro Coronel**	**2.79 207**		*e*P	**Pn**	**07 57 35.0**	**+0.6**
ACCO				*e*S	**Sn**	**07 58 08.7**	**+0.2**
CO01	**Juntas del Tor**	**2.88 229**		Pn	**Pn**	**07 57 36.6**	**+1.1**
LCO	**Las Campanas**	**2.88 251**			**Pn**	**07 57 35.4**	**-0.1**
LCO	**Las Campanas**	**2.88 251**		*e*P	**Pn**	**07 57 35.7**	**+0.3**
LCO				*e*S	**Sn**	**07 58 10.5**	**+0.1**
LCO				IAML		07 58 11.0	
	comp=Z,1μm,0.6s						
AC04	**Llanos de Chal**	**3.07 267**			**Pn**	**07 57 36.9**	**-0.8**
AC04	**Llanos de Chal**	**3.07 267**		*e*P	**Pn**	**07 57 37.5**	**-0.3**
AC04				*e*S	**Sn**	**07 58 13.2**	**-1.4**
AC04				IAML		07 58 14.0	
	comp=Z,121nm,0.6s						
DOCA	**Reserva Natura**	**3.12 204**		*e*P	**Pn**	**07 57 38.7**	**0.0**
DOCA				*e*S	**Sn**	**07 58 16.0**	**-0.2**
DOCA				IAML		07 58 17.4	
	comp=Z,474nm,0.6s						
ACHE	**Chepes**	**3.15 165**		*e*P	**Pn**	**07 57 39.2**	**+0.3**
ACHE				*e*S	**Sn**	**07 58 17.4**	**+0.8**
AC01	**Pan de Azucar**	**3.31 305**			**Pn**	**07 57 41.1**	**+0.2**
AC01	**Pan de Azucar**	**3.31 305**		*e*P	**Pn**	**07 57 41.3**	**+0.4**
AC01				*e*S	**Sn**	**07 58 19.3**	**-0.8**
AC01				IAML		07 58 23.2	
	comp=Z,89nm,0.3s						
GO02	**Mina Guanaco**	**3.43 328**			**Pn**	**07 57 44.2**	**+1.4**
GO02	**Mina Guanaco**	**3.43 328**		*e*P	**Pn**	**07 57 44.5**	**+1.7**
GO02				*e*S	**Sn**	**07 58 25.0**	**+1.6**
GO04	**Tololo Observa**	**3.48 233**			**Pn**	**07 57 42.8**	**-0.5**
GO04	**Tololo Observa**	**3.48 233**		*e*P	**Pn**	**07 57 43.2**	**-0.1**
GO04				*e*S	**Sn**	**07 58 24.9**	**+0.4**
SJA	**San Juan**	**3.51 194**		*e*P	**Pn**	**07 57 44.1**	**+0.6**
SJA				*e*S	**Sn**	**07 58 24.4**	**-0.5**
SJA				IAML		07 58 25.8	
	comp=Z,183nm,0.4s						
ZON	**Zonda**	**3.56 195**		Pn	**Pn**	**07 57 43.6**	**-0.6**
ZON	**Zonda**	**3.56 195**		*e*P	**Pn**	**07 57 44.2**	**+0.1**
ZON				*e*S	**Sn**	**07 58 25.4**	**-0.6**
ZON				IAML		07 58 26.2	
	comp=Z,137nm,0.5s						
CO05	**La Serena**	**3.67 240**			**Pn**	**07 57 44.0**	**-1.5**
CO03	**El Pedregal**	**3.83 224**			**Pn**	**07 57 47.1**	**-0.8**
CO03	**El Pedregal**	**3.83 224**		*e*P	**Pn**	**07 57 47.9**	**+0.1**
CO03				*e*S	**Sn**	**07 58 33.0**	**+0.4**
CO03				IAML		07 58 39.5	
	comp=Z,150nm,0.3s						
RTCV	**Cerro Valdivia**	**3.83 192**		*e*P	**Pn**	**07 57 48.2**	**+0.4**
SLA	**San Lorenzo**	**3.85 30**		*e*P	**Pn**	**07 57 51.6**	**+3.4**
SLA				*e*S	**Sn**	**07 58 34.7**	**+1.5**
SLA	**San Lorenzo**	**3.85 30**		⇑*i*P	**Pn**	**07 57 51.0**	**+2.8**
RTLS	**Leoncito**	**3.97 201**		*e*P	**Pn**	**07 57 49.8**	**0.0**
RTLS				*e*S	**Sn**	**07 58 36.1**	**0.0**
RTLS				IAML		07 58 36.4	
	comp=Z,472nm,0.5s						
CO02	**Combarbal**	**4.28 223**		Pn	**Pn**	**07 57 52.4**	**-1.4**
CO02	**Combarbal**	**4.28 223**		*e*P	**Pn**	**07 57 52.6**	**-1.1**
CO02				*e*S	**Sn**	**07 58 43.3**	**+0.1**
CO02				IAML		07 58 45.8	
	comp=Z,168nm,0.2s						
PB14	**IPOC Station P**	**4.28 323**		Pn	**Pn**	**07 57 54.6**	**+0.6**
PB14	**IPOC Station P**	**4.28 323**		*e*P	**Pn**	**07 57 55.0**	**+1.0**
CO06	**Fray Jorge**	**4.36 233**			**Pn**	**07 57 52.4**	**-2.2**
AZAP	**Zapla**	**4.48 31**		*e*P	**Pn**	**07 57 53.3**	**-3.3**
AZAP				IAML		07 58 49.1	
	comp=Z,96nm,0.7s						
ASAL	**Salagasta**	**4.60 193**		*e*P	**Pn**	**07 57 57.8**	**-0.1**
ARCO	**CERRO ARCO**	**4.86 193**		IAML		07 58 59.3	
	comp=Z,89nm,0.8s						
AF01	**San Pedro de A**	**5.16 354**			**Pn**	**07 58 08.3**	**+2.6**
AF01	**San Pedro de A**	**5.16 354**		*e*P	**Pn**	**07 58 07.9**	**+2.2**
PB15	**IPOC Station P**	**5.16 340**			**Pn**	**07 58 06.0**	**+0.4**
PB15	**IPOC Station P**	**5.16 340**		*e*P	**Pn**	**07 58 06.8**	**+1.2**
VA03	**San Esteban**	**5.30 208**			**Pn**	**07 58 06.4**	**-0.9**
VA06	**Catapilco**	**5.47 215**			**Pn**	**07 58 06.8**	**-2.8**
LVC	**Limon Verde**	**5.60 347**			**Pn**	**07 58 13.2**	**+1.6**
LVC	**Limon Verde**	**5.60 347**		P	**Pn**	**07 58 12.5**	**+0.9**
	comp=Z,12nm,0.4s,baz=165,slow=8.1,SNR=44						
LVC				S	**Sn**	**07 59 12.8**	**-2.4**
	comp=Z,7.9nm,0.2s,baz=83,slow=19,SNR=6.2						
LVC				LR	LR	08 00 55.6	
	comp=Z,36nm,20.6s,baz=203,slow=44						
PB06	**IPOC Station P**	**5.66 341**			**Pn**	**07 58 12.9**	**+0.6**
PEL	**Peldehue**	**5.69 207**			**Pn**	**07 58 11.0**	**-1.4**
MT16	**CCHEN**	**5.87 205**		Pn	**Pn**	**07 58 14.0**	**-1.0**
MT03	**Universidad Ad**	**5.93 204**			**Pn**	**07 58 14.7**	**-1.0**
MT02	**Curacav**	**5.98 210**			**Pn**	**07 58 13.7**	**-2.6**
MT13	**San Alfonso**	**6.08 202**			**Pn**	**07 58 17.5**	**-0.3**
LMEL	**Las Melosas**	**6.15 201**			**Pn**	**07 58 18.3**	**-0.4**
MT09	**Talagante**	**6.36 206**			**Pn**	**07 58 19.3**	**-2.3**
VA05	**Santo Domingo**	**6.52 211**			**Pn**	**07 58 20.5**	**-3.1**
MT01	**Popeta**	**6.54 208**			**Pn**	**07 58 20.7**	**-3.2**
BO01	**Tunca**	**6.94 205**		Pn	**Pn**	**07 58 26.1**	**-3.1**
BO02	**Sierra Bellavi**	**7.20 201**			**Pn**	**07 58 30.8**	**-2.0**
ML02	**Panimavida**	**8.30 202**			**Pn**	**07 58 44.0**	**-3.5**
CPUP	**Villa Florida**	**9.31 81**			**Pn**	**07 58 58.8**	**-2.3**
CPUP	**Villa Florida**	**9.31 81**		P	**Pn**	**07 58 58.5**	**-2.6**
	comp=Z,1.4nm,0.5s,baz=256,slow=12,SNR=7.9						
ITQB	**Itaqui**	**9.74 102**		Pn	**Pn**	**07 59 05.8**	**-1.1**
TRQA	**Tornquist**	**10.98 156**		Pn	**Pn**	**07 59 22.3**	**-1.2**
LPAZ	**La Paz**	**11.77 357**		P	**Pn**	**07 59 34.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=185,slow=12,SNR=4.7						
LPAZ				LR	LR	08 04 54.8	
	comp=Z,42nm,18.7s,baz=309,slow=41						
GO06	**Curarrehue**	**11.89 195**		Pn	**Pn**	**07 59 32.7**	**-2.9**
PLTB	**Pedras Altas**	**12.67 110**		Pn	**Pn**	**07 59 45.2**	**-0.4**
PLCA	**Paso Flores**	**12.83 190**		Pn	**Pn**	**07 59 46.0**	**-1.7**
PLCA	**Paso Flores**	**12.83 190**		P	**Pn**	**07 59 45.4**	**-2.3**
	comp=Z,1.1nm,0.9s,baz=6.1,slow=8.1,SNR=3.5						
SIV	**San Ignacio**	**13.48 28**		P	**Pn**	**07 59 54.8**	**-1.4**
	comp=Z,0.7nm,0.2s,baz=189,slow=19,SNR=3.1						
ITAB	**Concordia**	**13.73 90**		P	**P**	**08 00 03.6**	**+0.2**
GO07	**Milladeo Hill,**	**15.76 197**		P	**P**	**08 00 26.3**	**+0.5**
ETMB	**Extrema**	**18.24 4**		P	**Pn**	**08 00 57.0**	**+2.2**
SAML	**Samuel**	**19.50 13**		P	**Pn**	**08 01 08.9**	**-0.7**
SAML				IAmb	IAmb	08 01 09.8	
	comp=Z,8.9nm,1.4s						
VNA2	**Neumayer--Watz**	**54.06 159**		⇑P	**P**	**08 06 01.6**	**+1.2**
	comp=Z,3.8nm,0.8s,baz=284,slow=8.0						
SNAA	**Sanae**	**55.69 160**		P	**P**	**08 06 13.1**	**+0.9**
SNAA				IAmb	IAmb	08 06 14.0	
	comp=Z,1.9nm,0.8s						
SNAA	**Sanae**	**55.69 160**		⇑P	**P**	**08 06 12.5**	**+0.3**
	comp=Z,32nm,0.6s						
SNAA	**Sanae**	**55.69 160**		P	**P**	**08 06 13.3**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=268,slow=8.1,SNR=13						
	comp=Z,1.5nm,0.7s						
TROLL	**Troll, Antarti**	**57.40 160**		⇑P	**P**	**08 06 25.1**	**+0.7**
	comp=Z,88nm,0.9s						
QSPA	**South Pole Qui**	**62.12 180**		P	**P**	**08 06 58.2**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=180,slow=1.1,SNR=8.7						
	comp=Z,0.9nm,0.6s						
TXAR	**Lajitas Array**	**66.73 326**		P	**P**	**08 07 29.0**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=148,slow=7.3,SNR=4.5						
	comp=Z,0.3nm,0.7s						
TOA0	**Torodi Ar. Sit**	**78.56 68**		P	**P**	**08 08 39.3**	**+2.0**
TOA0				IAmb	IAmb	08 08 40.1	
	comp=Z,5.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**78.56 68**		P	**P**	**08 08 39.2**	**+2.0**
TORD				IAmb	IAmb	08 08 40.1	
	comp=Z,4.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.56 68**		P	**P**	**08 08 39.2**	**+2.0**
	comp=Z,3.8nm,0.7s,baz=274,slow=5.7,SNR=20						
	comp=Z,3.8nm,0.7s						
PDAR	**Pinedale Array**	**80.41 330**		P	**P**	**08 08 49.0**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=132,slow=8.8,SNR=7.4						
	comp=Z,0.5nm,0.6s						
ULM	**Lac du Bonnet**	**81.94 342**		P	**P**	**08 08 55.8**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=144,slow=19,SNR=3.0						
	comp=Z,1.8nm,0.8s						
ASAR	**Alice Springs**	**124.51 204**		PKP	**PKiKP**	**08 15 34.6**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=120,slow=1.9,SNR=7.3						
WRA	**Warramunga Arr**	**127.74 206**		PKP	**PKiKP**	**08 15 41.1**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=162,slow=1.9,SNR=14						
BVAR	**Borovoye Array**	**140.35 39**		PKP	**PKiKP**	**08 16 04.5**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=280,slow=1.2,SNR=1.8						
KURBB	**Kurchatov Arra**	**145.94 39**		PKPbc	**PKiKP**	**08 16 15.1**	**-1.9**
	comp=Z,1.0nm,0.8s,baz=326,slow=4.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**147.22 30**		PKPbc	**PKiKP**	**08 16 19.0**	**-0.6**
	comp=Z,2.9nm,0.5s,baz=280,slow=3.3,SNR=7.3						
KSH	**Kashi**	**147.86 60**		PKPbc	**PKiKP**	**08 16 18.4**	**-3.2**
MKAR	**Makanchi Array**	**149.94 43**		PKPbc	**PKPab**	**08 16 26.3**	**-4.4**
	comp=Z,2.2nm,0.7s,baz=297,slow=3.0,SNR=18						
SONM	**Songino Array**	**159.75 12**		PKPab	**PKPab**	**08 17 14.1**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=29,slow=3.3,SNR=2.8						

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*BJI **13** 07:59:02.2±0.0, 36°.38N×142°.44E, h21km, mb4.5/28, mB4.8/9, Ms4.0/9, Ms7 3.9/12*
*IDC **13** 07:59:03.1±0.6, 36°.17N×141°.94E, h0km, mb4.0/19, mbtmp3.9/26, ML3.4/6, MS3.2/15, Error ellipse: s-maj=15.7km s-min=15.3km az=72.0*
*NEIC **13** 07:59:03.7±2.3, 36°.14N±0°.02×142°.3E±0°.1, h10km±1km, mb4.4/13, Error ellipse: s-maj=15.5km s-min=3.0km az=95.0*
*JMA **13** 07:59:05.6±0.3, 36°.3N±0°.6×14°2E±°, h24km, MD4.4/40, MV4.1/40, FAR E OFF IBARAKI PREF*
*NIED **13** 07:59:05.6, 36°.25N×141°.89E, h24km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.58; $M_{\theta\theta}$0.77; $M_{\phi\phi}$-1.34; $M_{r\theta}$0.08; $M_{\theta\phi}$-1.09; $M_{\phi r}$1.71; Fault plane solution: $M_0$2.24000×10^{15} NP1: ϕ_s351.00000°, δ81.00000°, λ55.00000°. NP2: ϕ_s248.00000°, δ36.00000°, λ164.00000°.*
ISC 13 07:59:07.0±0.6, 36°.18N±0°.05×141°.94E±0°.06, h23km, n117, σ1§49/93, mb4.2/32, MS3.5/12, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.10 279**		*i* P	**Pn**	**07 59 24.6**	**-2.4**
JHYU				*e*S	**Sb**	**07 59 39.2**	**-2.1**
JHYU	**Hitachinakayam**	**1.10 279**		A	A	07 59 24.6	
	comp=E,12nm,5.5s,comp=N,20nm,3.0s						
JIHU	**Itakohorinouch**	**1.16 260**		*i* P	**Pn**	**07 59 26.8**	**-1.0**
JIHU				*e*S	**Sn**	**07 59 41.7**	**-1.3**
JIHU	**Itakohorinouch**	**1.16 260**		A	A	07 59 26.8	
	comp=E,24nm,1.0s,comp=N,32nm,0.9s						
JHO	**Hitachi**	**1.19 292**		*i* P	**Pn**	**07 59 25.2**	**-2.9**
JHO	**Hitachi**	**1.19 292**		A	A	07 59 25.2	
	comp=E,7.0nm,1.2s,comp=N,7.0nm,2.3s						
ONAJ	**Iwakimizuishiy**	**1.30 315**		P	**Pn**	**07 59 27.1**	**-2.6**
JSMT	**Sammumatsuo**	**1.32 247**		P	**Pn**	**07 59 29.5**	**-0.5**
JSMT	**Sammumatsuo**	**1.32 247**		A	A	07 59 29.5	
	comp=E,20nm,1.8s,comp=N,19nm,1.5s						
JYT	**Yasato**	**1.41 272**		A	A	07 59 29.6	
	comp=E,7.0nm,0.4s,comp=N,9.0nm,2.1s						
JFK	**Kawauchi**	**1.46 325**		P	**Pn**	**07 59 29.8**	**-2.1**
JCN	**Nagara**	**1.60 242**		A	A	07 59 33.0	
	comp=E,21nm,3.6s,comp=N,15nm,1.3s						
BSO1	**Boso 1**	**1.71 208**		P	**Pn**	**07 59 34.6**	**-0.3**
JKUC	**kamogawauchiur**	**1.74 235**		P	**Pn**	**07 59 35.6**	**-0.2**
BSO3	**Boso 3**	**1.80 221**		*i* P	**Pn**	**07 59 36.0**	**-0.4**
JSB	**Shiboa**	**1.81 296**		P	**Pn**	**07 59 35.5**	**-1.2**
JSB	**Shiboa**	**1.81 296**		A	A	07 59 35.5	
	comp=E,12nm,2.2s,comp=N,11nm,1.4s						
TOK	**Tokyo**	**1.83 255**		A	A	07 59 36.2	
	comp=E,12nm,6.7s,comp=N,13nm,2.9s						
JOTO	**OTAMA OYAMA**	**1.88 317**		P	**Pn**	**07 59 36.8**	**-1.0**
JOTO				*e*S	**Sn**	**07 59 58.9**	**-1.9**
JOTO	**OTAMA OYAMA**	**1.88 317**		A	A	07 59 36.8	
	comp=E,10.0nm,5.4s,comp=N,11nm,1.1s						
JMM	**Marumori**	**1.92 332**		P	**Pn**	**07 59 37.8**	**-0.4**
JMM	**Marumori**	**1.92 332**			**Pn**	**07 59 37.0**	**-1.1**
JMM	**Marumori**	**1.92 332**		P	**Pn**	**07 59 37.4**	**-0.7**
JAG	**Ashikaga**	**2.02 278**		*i* P	**Pn**	**07 59 37.9**	**-1.8**
JAG	**Ashikaga**	**2.02 278**		A	A	07 59 37.9	
	comp=E,2.0nm,6.4s,comp=N,3.0nm,4.8s						
TATJ	**Tateyama 2**	**2.02 236**		A	A	07 59 39.3	
	comp=E,7.0nm,2.9s,comp=N,7.0nm,3.1s						
JYO	**Yokosk**	**2.08 243**		A	A	07 59 39.9	
	comp=E,6.0nm,1.5s						
JFY	**Yanaizu**	**2.17 305**		P	**Pn**	**07 59 40.7**	**-1.0**
JHU	**Hanno**	**2.18 262**		A	A	07 59 41.0	
	comp=E,2.0nm,2.5s,comp=N,3.0nm,1.8s						
JYAR	**Yonezawaarcadi**	**2.25 321**		A	A	07 59 41.3	
	comp=E,8.0nm,1.1s,comp=N,9.0nm,1.0s						
JOU	**Okura**	**2.41 335**		A	A	07 59 43.7	
	comp=E,3.0nm,1.6s,comp=N,5.0nm,0.9s						
JOFO	**Osakifurukawao**	**2.55 342**		A	A	07 59 45.7	
	comp=E,11nm,1.6s,comp=N,11nm,2.5s						
MJAR	**Matsushiro Arr**	**3.03 278**		Pn	**Pn**	**07 59 52.9**	**-0.6**
	comp=N,4.7nm,0.3s,baz=101,slow=8.6,SNR=280						
MJAR				Sn	**Sn**	**08 00 28.9**	**-0.2**
	comp=N,2.2nm,0.3s,baz=212,slow=19,SNR=6.1						
MJAR				LR	LR	08 01 10.7	
	comp=N,483nm,21.3s,baz=128,slow=42						
	comp=N,53nm,0.7s						
MAJO	**Matsushiro**	**3.03 278**		P	**Pn**	**07 59 54.0**	**+0.5**
MAJO	**Matsushiro**	**3.03 278**			**Pn**	**07 59 53.5**	**-0.1**
MJB9	**Matsu-Tunnel**	**3.04 278**			**Pn**	**07 59 54.6**	**+1.0**
JSG	**Sagara**	**3.41 245**			**Pn**	**08 00 01.3**	**+2.6**
JSD	**Sado**	**3.48 303**		P	**Pn**	**08 00 01.7**	**+2.1**
JHJ2	**Mitsune**	**3.52 210**		P	**Pn**	**07 59 59.7**	**-0.6**
JHJ2	**Mitsune**	**3.52 210**		Pn	**Pn**	**07 59 59.2**	**-1.1**
JHJ	**Hachijo jima 2**	**3.53 211**		Pn

XAN				LR	LR		
	comp=Z,200nm,16.5s						
H11N2	**WAKE ISLAND Hy**	**27.35**	**120**	T	T	08 33 27.9	
	baz=312,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**27.36**	**120**	T	T	08 33 31.8	
	baz=312,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**27.37**	**120**	T	T	08 33 29.4	
	baz=312,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**28.05**	**122**	T	T	08 34 19.3	
	baz=314,slow=75,SNR=43						
H11S3	**WAKE ISLAND Hy**	**28.05**	**122**	T	T	08 34 17.1	
	baz=314,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hy**	**28.06**	**122**	T	T	08 34 20.4	
	baz=314,slow=75,SNR=35						
ULN	**Ulaanbaatar**	**28.19**	**305**	P	**P**	**08 04 57.7**	**-0.1**
ULN				IAmb	IAmb	08 05 09.0	
	comp=Z,6.2nm,0.9s						
SONM	**Songino Array**	**28.62**	**305**	P	**P**	**08 05 01.9**	**+0.3**
SONM	**Songino Array**	**28.62**	**305**	P	**P**	**08 05 01.5**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=101,slow=8.9,SNR=18						
	comp=Z,3.5nm,0.9s						
PZH	**PanZhiHua**	**35.45**	**266**	P	**P**	**08 06 03.8**	**+2.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,80nm,4.3s						
TIXI	**Tiksi**	**36.19**	**353**	LR	LR	08 22 43.2	
	comp=Z,48nm,18.6s,baz=198,slow=39						
CMAR	**Chiang Mai Arr**	**41.70**	**257**	P	**P**	**08 06 54.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**41.70**	**257**	P	**P**	**08 06 53.4**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=48,slow=5.7,SNR=4.0						
	comp=Z,1.0nm,0.3s						
LSA	**Lhasa**	**42.71**	**276**	P	**P**	**08 07 04.0**	**+1.2**
ZAA0	**Zalesovo Array**	**42.80**	**313**	P	**P**	**08 07 02.2**	**-0.5**
ZAA0				IAmb	IAmb	08 07 12.9	
	comp=Z,5.2nm,0.8s						
ZALV	**Zalesovo Beam**	**42.80**	**313**	P	**P**	**08 07 02.0**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=84,slow=6.1,SNR=6.4						
ZALV				PcP	**PcP**	**08 08 53.3**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=34,slow=5.4,SNR=1.9						
ZALV				LR	LR	08 25 35.8	
	comp=Z,52nm,18.5s,baz=70,slow=37						
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**44.93**	**303**	P	**P**	**08 07 19.5**	**-0.5**
MK31				IAmb	IAmb	08 07 31.2	
	comp=Z,5.4nm,0.9s						
MKAR	**Makanchi Array**	**44.93**	**303**	P	**P**	**08 07 19.6**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=93,slow=9.0,SNR=14						
	comp=Z,2.6nm,0.9s						
MAKZ	**Makanchi**	**45.14**	**303**	P	**P**	**08 07 21.0**	**-0.6**
MAKZ				IAmb	IAmb	08 07 33.0	
	comp=Z,4.9nm,0.9s						
E19K	**Redstone River**	**46.03**	**28**	P	**P**	**08 07 30.0**	**+1.7**
KURBB	**Kurchatov Arra**	**46.86**	**309**	P	**P**	**08 07 34.2**	**-0.9**
	comp=Z,2.1nm,0.2s,baz=85,slow=8.2,SNR=12						
	comp=Z,2.1nm,0.2s						
B21K	**Ikpikpuk River**	**47.38**	**25**	P	**P**	**08 07 40.8**	**+2.0**
B21K				IAmb	IAmb	08 08 06.3	
	comp=Z,5.5nm,1.2s						
KDAK	**Kodiak Island**	**47.46**	**41**	LR	LR	08 27 59.0	
	comp=Z,36nm,18.9s,baz=203,slow=37						
B22K	**Teshekpuk Lake**	**47.91**	**24**	P	**P**	**08 07 44.1**	**+1.2**
D22K	**Ayikyak River**	**47.94**	**26**	P	**P**	**08 07 44.9**	**+1.6**
D22K				IAmb	IAmb	08 07 59.8	
	comp=Z,4.3nm,1.1s						
C23K	**Itkillik River**	**48.79**	**25**	P	**P**	**08 07 51.4**	**+1.7**
ILAR	**Eielson Array**	**49.99**	**32**	P	**P**	**08 07 58.4**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=265,slow=6.7,SNR=8.8						
	comp=Z,0.7nm,0.8s						
KSH	**Kashi**	**51.14**	**295**	P	P	08 08 14.6	+6.4
KSH				sP	pwP	08 08 21.3	+3.7
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SCRK	**Sand Creek**	**51.29**	**33**	P	**P**	**08 08 09.4**	**+0.4**
BVAR	**Borovoye Array**	**51.46**	**313**	P	**P**	**08 08 10.1**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=70,slow=5.4,SNR=2.3						
	comp=Z,1.6nm,0.8s						
WRA	**Warramunga Arr**	**56.28**	**189**	P	**P**	**08 08 45.0**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=5.3,slow=7.4,SNR=32						
	comp=Z,0.9nm,0.4s						
ABKAR	**Akbulak array**	**58.81**	**311**	P	**P**	**08 09 03.3**	**0.0**
ABKAR				IAmb	IAmb	08 09 12.7	
	comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**60.00**	**189**	P	**P**	**08 09 11.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=14,slow=10,SNR=9.1						
	comp=Z,0.4nm,0.5s						
FINES	**FINESS Array B**	**69.77**	**333**	P	**P**	**08 10 14.3**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=101,slow=8.0,SNR=7.1						
	comp=Z,1.7nm,0.8s						
KBZ	**Khabaz**	**71.78**	**311**	P	**P**	**08 10 27.4**	**0.0**
	comp=Z,0.9nm,0.5s,baz=180,slow=6.1,SNR=1.9						
	comp=Z,0.9nm,0.5s						
HFS	**Hagfors**	**75.04**	**336**	P	**P**	**08 10 46.8**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=141,slow=9.3,SNR=2.8						
	comp=Z,1.9nm,0.9s						
NB2	**NORSAR Subarra**	**75.14**	**338**	P	**P**	**08 10 46.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**75.14**	**338**	P	**P**	**08 10 46.9**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=39,slow=5.8,SNR=4.7						
	comp=Z,1.1nm,0.7s						
NVAR	**Mina Array Bea**	**75.16**	**53**	P	**P**	**08 10 47.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=305,slow=5.2,SNR=4.5						
	comp=Z,0.3nm,0.5s						
AKASG	**Malin Array Be**	**75.23**	**323**	P	**P**	**08 10 47.0**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=46,slow=6.9,SNR=6.5						
	comp=Z,0.5nm,0.4s						
PDAR	**Pinedale Array**	**77.96**	**46**	P	**P**	**08 11 03.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=211,slow=5.1,SNR=2.6						
	comp=Z,0.2nm,0.5s						
PFO	**Pinyon Flats O**	**79.16**	**56**	LR	LR	08 41 16.7	
	comp=Z,31nm,19.9s,baz=250,slow=32						
BRTR	**Keskin Array B**	**79.73**	**312**	P	**P**	**08 11 13.2**	**0.0**
	comp=Z,0.7nm,0.5s,baz=90,slow=3.7,SNR=3.6						
	comp=Z,0.7nm,0.5s						
PPT	**Papeete**	**83.88**	**117**	LR	LR	08 38 59.3	
	comp=Z,22nm,22.0s,baz=332,slow=29						
EKA	**Eskdalemuir Ar**	**84.08**	**341**	P	**P**	**08 11 36.3**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=103,slow=26,SNR=2.5						
	comp=Z,0.3nm,0.5s						
TXAR	**Lajitas Array**	**90.31**	**53**	P	**P**	**08 12 07.7**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=305,slow=3.1,SNR=3.7						
	comp=Z,0.3nm,0.8s						
QSPA	**South Pole Qui**	**125.92**	**180**	PKP	**PKPdf**	**08 18 04.8**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=254,slow=2.6,SNR=1.3						
LPAZ	**La Paz**	**146.75**	**61**	PKPbc	**PKPab**	**08 18 48.6**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=11,slow=3.2,SNR=8.9						

ISU ***13*** *08:15:30.0, 40.°78N×71.°21E, h16km*
KRNET ***13*** *08:15:30.4±0.1, 40.°95N×71.°40E, h19km, mb3.0*
SOME ***13*** *08:15:31.3, 41.°02N×71.°30E, h5km*
NNC ***13*** *08:15:32.4±1.1, 41.°02N×71.°32E, h0km, mb3.8, mpv3.6,*
Error ellipse: s-maj=9.8km s-min=3.1km az=9.0

ISC 13 08:15:31.1±0.9, 40.°94N±0.°02×71.°31E±0.°02, h16km±8km, n63, σ2s53/109, 32C-15D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAM	**Namangan**	**0.27**	**79**	P	**Pb**	**08 15 38.4**	**+0.8**
NAM				S	**Sb**	**08 15 44.6**	**+2.6**
KSNS	**Kasansay**	**0.27**	**36**	P	**Pg**	**08 15 39.3**	**+2.3**
KSNS				S	**Sg**	**08 15 46.2**	**+5.2**
MINT	**Mingtut**	**0.54**	**208**	P	Pg	08 15 37.7	-4.1
MINT				S	**Sg**	**08 15 43.5**	**-5.5**
TRKS	**Terek-Say**	**0.60**	**348**	⇓*iP*	**Pg**	**08 15 40.7**	**-2.4**
	baz=42						
TRKS				⇓*iS*	**Sg**	**08 15 48.0**	**-3.1**
	baz=42						
FRG	**Fergana**	**0.67**	**147**	P	**Pg**	**08 15 41.8**	**-2.5**
FRG				S	**Sg**	**08 15 50.6**	**-2.6**
CHMI	**Chimion**	**0.69**	**166**	P	**Pg**	**08 15 41.2**	**-3.4**
CHMI				S	**Sg**	**08 15 49.6**	**-4.2**
TSTA	**Tashata**	**0.96**	**112**	P	**Pg**	**08 15 48.5**	**-1.2**
TSTA				S	**Sg**	**08 16 02.3**	**+0.1**
BTK	**Batken**	**0.96**	**203**	⇑*iP*	**Pg**	**08 15 49.5**	**-0.2**
	baz=7.0						
BTK				⇑*iS*	**Sg**	**08 16 03.4**	**+1.1**
	baz=7.0						
ARK	**Arkit**	**0.99**	**30**	⇓*eP*	**Pg**	**08 15 48.7**	**-1.6**
	baz=27						
ARK				⇓*eS*	**Sb**	**08 16 02.4**	**-0.4**
	baz=27						
CHMG	**Chimgan**	**1.15**	**302**	P	**Pg**	**08 15 52.2**	**-1.2**
CHMG				S	**Sb**	**08 16 08.6**	**+0.9**
OHH	**Osh**	**1.20**	**110**	⇓*iP*	**Pg**	**08 15 51.9**	**-2.3**
	baz=12						
OHH				⇓*iS*	**Sg**	**08 16 07.3**	**-2.5**
	baz=12						
ARSB	**Arslanbob**	**1.32**	**73**	⇑*iP*	**Pg**	**08 15 53.7**	**-2.9**
	baz=72						
ARSB				⇑*iS*	**Sg**	**08 16 10.6**	**-3.2**
	baz=72						
DRK	**Karamyk**	**1.51**	**165**	⇑*eP*	**Pn**	**08 15 58.4**	**+0.6**
	baz=68						
DRK				⇑*eS*	**Sn**	**08 16 17.9**	**+0.6**
	baz=68						
IUG	**Iuzhnay**	**1.54**	**322**	*eP*	**Pg**	**08 15 59.5**	**-1.3**
	128nm,0.3s						
IUG				*eS*	**Sg**	**08 16 20.1**	**-0.8**
	196nm,0.3s						
IUG	**Iuzhnay**	**1.54**	**322**	P	**Pg**	**08 15 59.5**	**-1.3**
	128nm,0.3s						
IUG				S	**Sg**	**08 16 20.1**	**-0.8**
	196nm,0.3s						
KUMR	**Kumaryk**	**1.58**	**282**	P	**Pn**	**08 15 58.3**	**-0.2**
KUMR				S	**Sn**	**08 16 19.3**	**+0.7**
MNAS	**Manas**	**1.79**	**30**	⇑*iP*	**Pn**	**08 16 02.5**	**+1.0**
	baz=28						
MNAS				⇑*iS*	**Sb**	**08 16 25.8**	**0.0**
	baz=28						
CHM	**Chimkent**	**1.88**	**318**	*eP*	**Pg**	**08 16 05.7**	**-1.6**
	206nm,0.2s						
CHM				*eS*	**Sg**	**08 16 30.6**	**-1.1**
	824nm,0.4s						
SFK	**Sufi-Kurgan**	**1.91**	**118**	⇑*eP*	**Pn**	**08 16 04.2**	**+0.9**
	baz=20						
SFK				⇑*eS*	**Sn**	**08 16 28.8**	**+1.6**
	baz=20						
KK31	**Karatay Array**	**2.24**	**345**	Pn	**Pb**	**08 16 10.0**	**-1.3**
	8.7nm,0.3s,baz=171,slow=12,SNR=112						
KK31				Sn	**Sg**	**08 16 41.6**	**-1.6**
	13nm,0.3s,baz=150,slow=25,SNR=9.2						
KKAR	**Karatay Array**	**2.24**	**345**	⇑*iP*	**Pb**	**08 16 09.7**	**-1.6**
	baz=43						
KKAR				⇑*iS*	**Sb**	**08 16 38.7**	**-0.1**
	baz=43						
MRKS	**Merke**	**2.30**	**38**	*eP*	**Pb**	**08 16 13.1**	**+0.8**
	18nm,0.5s						
MRKS				*eS*	**Sg**	**08 16 43.5**	**-1.6**
	101nm,0.6s						
MRKS	**Merke**	**2.30**	**38**	Pg	**Pb**	**08 16 13.1**	**+0.8**
	18nm,0.5s						
MRKS				Lg	Lg	08 16 43.5	
	101nm,0.6s						
BRLS	**Borolday**	**2.36**	**333**	*eP*	**Pn**	**08 16 11.1**	**+1.8**
	26nm,0.2s						
BRLS				*eS*	**Sb**	**08 16 40.2**	**-2.0**
	72nm,0.2s						
BRLS	**Borolday**	**2.36**	**333**	Pg	**Pn**	**08 16 11.1**	**+1.8**
	26nm,0.2s						
BRLS				Lg	Lg	08 16 40.2	
	72nm,0.2s						
ARLS	**Aral**	**2.44**	**67**	⇓*eP*	**Pn**	**08 16 12.2**	**+1.6**
	baz=67						
ARLS				⇓*eS*	**Sn**	**08 16 42.2**	**+1.9**
	baz=67						
EKS2	**Erkin-Say**	**2.52**	**46**	⇑*iP*	**Pn**	**08 16 13.0**	**+1.4**
	baz=45						
EKS2				⇑*iS*	**Sn**	**08 16 44.0**	**+1.9**
	baz=45						
UCH	**Uchtor**	**2.73**	**61**	⇓*iP*	**Pn**	**08 16 15.9**	**+1.2**
	baz=60						
UCH				⇓*iS*	**Sn**	**08 16 49.1**	**+1.5**
	baz=60						
CHGR	**Chuyangaron**	**2.82**	**217**	⇓*iP*	**Pn**	**08 16 18.6**	**+2.9**
	baz=18						
CHGR				⇓*iS*	**Sn**	**08 16 53.7**	**+4.3**
	baz=18						
AAK	**Ala-Archa**	**2.92**	**53**	Pn	**Pn**	**08 16 18.3**	**+1.1**
	3.8nm,0.6s						
AAK				⇑Lg	Lg	08 17 02.9	
	11nm,0.5s						
AAK	**Ala-Archa**	**2.92**	**53**	⇑*iP*	**Pn**	**08 16 18.6**	**+1.4**
	baz=53						
AAK				⇑*iS*	**Sn**	**08 16 53.7**	**+1.7**
	baz=53						
FRU1	**Bishkek**	**3.10**	**52**	⇑*iP*	**Pn**	**08 16 21.0**	**+1.4**
	baz=51						
FRU1				⇑*iS*	**Sn**	**08 16 57.8**	**+1.4**
	baz=51						
KBK	**Karagaybulak**	**3.21**	**57**	⇑*iP*	**Pn**	**08 16 22.5**	**+1.3**
	baz=56						
KBK				⇑*iS*	**Sn**	**08 17 00.5**	**+1.2**
	baz=56						
CHMS	**Chumysh**	**3.29**	**50**	⇑*iP*	**Pn**	**08 16 23.6**	**+1.5**
	baz=50						
CHMS				⇑*iS*	**Sn**	**08 17 02.2**	**+1.3**
	baz=50						
USP	**Ospenovka**	**3.32**	**45**	⇓*iP*	**Pn**	**08 16 24.0**	**+1.5**
	baz=44						
USP				⇓*iS*	**Sn**	**08 17 03.1**	**+1.4**
	baz=44						
NRN	**Naryn**	**3.57**	**81**	⇑*iP*	**Pn**	**08 16 27.3**	**+1.1**
	baz=81						
NRN				⇑*iS*	**Sn**	**08 17 08.7**	**+0.4**
	baz=81						
TKM2	**Tokmak 2**	**3.76**	**57**	⇓Pg	**Pg**	**08 16 42.8**	**-0.3**
	1.3nm,0.3s						
TKM2				⇑Lg	Lg	08 17 29.7	
	6.5nm,0.5s						
TKM2	**Tokmak 2**	**3.76**	**57**	⇑*iP*	**Pn**	**08 16 30.1**	**+1.4**
	baz=56						
TKM2				⇑*iS*	**Sn**	**08 17 13.7**	**+0.9**
	baz=56						
BOOM	**Boomskoye usch**	**3.79**	**64**	⇑*iP*	**Pn**	**08 16 30.7**	**+1.5**
	baz=64						
BOOM				⇑*iS*	**Sn**	**08 17 14.5**	**+0.9**
	baz=64						
ULHL	**Ulahol**	**3.92**	**69**	⇑*iP*	**Pn**	**08 16 32.3**	**+1.4**
	baz=69						
ULHL				⇑*iS*	**Sn**	**08 17 17.6**	**+0.9**
	baz=69						
DGS	**Degeres**	**4.04**	**54**	*eP*	**Pg**	**08 16 45.1**	**-3.3**
	3.5nm,0.4s						
DGS				*eS*	**Sg**	**08 17 38.6**	**-2.2**
	11nm,0.7s						
DGS	**Degeres**	**4.04**	**54**	Pg	**Pg**	**08 16 45.1**	**-3.3**
	3.5nm,0.4s						
DGS				Lg	Lg	08 17 38.6	
	11nm,0.7s						
KST	**Kastek**	**4.05**	**57**	*eP*	**Pb**	**08 16 45.3**	**+3.1**
	2.5nm,0.3s						
KST				*eS*	**Sg**	**08 17 38.9**	**-2.4**
	18nm,0.6s						
KST	**Kastek**	**4.05**	**57**	Pg	**Pb**	**08 16 45.3**	**+3.1**
	2.5nm,0.3s						
KST				Lg	Lg	08 17 38.9	
	18nm,0.6s						
KRBS	**Karabastau**	**4.25**	**48**	*eP*	**Pb**	**08 16 48.6**	**+3.1**
	2.2nm,0.3s						
KRBS				*eS*	**Sg**	**08 17 44.2**	**-3.3**
	14nm,0.8s						
KRBS	**Karabastau**	**4.25**	**48**	Pg	**Pb**	**08 16 48.6**	**+3.1**
	2.2nm,0.3s						
KRBS				Lg	Lg	08 17 44.2	
	14nm,0.8s						
MTBS	**Maitube**	**4.39**	**58**	*eP*	**Pb**	**08 16 51.6**	**+3.5**
	2.7nm,0.1s						
MTBS				*eS*	**Sg**	**08 17 49.3**	**-2.9**
	13nm,0.3s						
MTBS	**Maitube**	**4.39**	**58**	Pg	**Pb**	**08 16 51.6**	**+3.5**
	2.7nm,0.1s						
MTBS				Lg	Lg	08 17 49.3	
	13nm,0.3s						
BTLS	**Baital**	**4.56**	**25**	*eP*	**Pg**	**08 16 54.6**	**-3.9**
	3.6nm,0.5s						
BTLS				*eS*	**Sg**	**08 17 54.7**	**-2.9**
	5.2nm,0.4s						
BTLS	**Baital**	**4.56**	**25**	Pg	**Pg**	**08 16 54.6**	**-3.9**
	3.6nm,0.5s						
BTLS				Lg	Lg	08 17 54.7	
	5.2nm,0.4s						
TNSS	**Tian-Shan**	**4.69**	**62**	*eP*	**Pb**	**08 16 57.2**	**+3.9**
	2.3nm,0.4s						
TNSS				*eS*	**Sg**	**08 17 59.0**	**-2.9**
	3.6nm,0.6s						
TNSS	**Tian-Shan**	**4.69**	**62**	Pg	**Pb**	**08 16 57.2**	**+3.9**
	2.3nm,0.4s						
TNSS				Lg	Lg	08 17 58.9	
	3.6nm,0.6s						
KUU	**Kurty**	**4.75**	**50**	*eP*	**Pg**	**08 16 57.9**	**-4.2**
	2.0nm,0.0s						
KUU				*eS*	**Sg**	**08 18 00.1**	**-3.5**
	5.4nm,0.1s						
KUU	**Kurty**	**4.75**	**50**	Pg	**Pg**	**08 16 57.9**	**-4.2**
	2.0nm,0.0s						
KUU				Lg	Lg	08 18 00.0	
	5.4nm,0.1s						
MDOK	**Medeo**	**4.81**	**61**	*eP*	**Pg**	**08 16 59.4**	**-3.9**
	2.6nm,0.2s						
MDOK				*eS*	**Sg**	**08 18 02.9**	**-2.7**
	7.7nm,0.6s						
MDOK	**Medeo**	**4.81**	**61**	Pg	**Pg**	**08 16 59.4**	**-3.9**
	2.6nm,0.2s						
MDOK				Lg	Lg	08 18 02.9	
	7.7nm,0.6s						
KTBS	**Karatobe**	**4.85**	**53**	*eP*	**Pb**	**08 16 59.6**	**+3.9**
	2.5nm,0.6s						
KTBS				*eS*	**Sg**	**08 18 03.2**	**-3.6**
	11nm,0.6s						
KTBS	**Karatobe**	**4.85**	**53**	Pg	**Pb**	**08 16 59.6**	**+3.9**
	2.5nm,0.6s						
KTBS				Lg	Lg	08 18 03.2	
	11nm,0.6s						
SATY	**Saty**	**5.69**	**66**	*eP*	**Pg**	**08 17 16.5**	**-3.7**
	1.4nm,0.1s						
SATY				*eS*	**Sg**	**08 18 32.3**	**-1.5**
	3.1nm,0.1s						
SATY	**Saty**	**5.69**	**66**	Pg	**Pg**	**08 17 16.5**	**-3.7**
	1.4nm,0.1s						
SATY				Lg	Lg	08 18 32.3	
	3.1nm,0.1s						
ARXS	**Arharly**	**5.82**	**54**	*eP*	**Pg**	**08 17 18.7**	**-3.8**
	1.4nm,0.4s						
ARXS				*eS*	**Sg**	**08 18 35.9**	**-1.9**
	6.6nm,0.6s						
ARXS	**Arharly**	**5.82**	**54**	Pg	**Pg**	**08 17 18.7**	**-3.8**
	1.4nm,0.4s						
ARXS				Lg	Lg	08 18 35.9	
	6.6nm,0.6s						
BLB	**Baldybastay**	**6.16**	**57**	Pg	**Pg**	**08 17 24.9**	**-4.2**
	6.6nm,0.6s						
BLB				Lg	Lg	08 18 46.6	
	5.5nm,0.5s						

IDC ***13*** *08:19:30.7±0.6, 31.°69N×129.°00E, h0km, mb4.1/19, mbtmp4.0/25, ML3.4/6, MS3.5/31, Error ellipse: s-maj=14.5km s-min=12.6km az=104.0*
NIED ***13*** *08:19:33.2, 31.°80N×128.°89E, h28km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.94; $M_{\theta\theta}$2.39; $M_{\phi\phi}$0.55; $M_{r\theta}$0.76; $M_{\theta\phi}$1.31; $M_{\phi r}$1.20; Fault plane solution: $M_0$3.33000×10^{15} NP1: ϕ_s=230.00000°, δ57.00000°, λ-104.00000°. NP2: ϕ_s=75.00000°, δ35.00000°, λ-69.00000°.*
JMA ***13*** *08:19:33.2±0.1, 31.°8N±0.°5×128.°9E±0.°7, h28km±2km, MD4.3/33, MW4.5/33, SW OFF KYUSHU*
JMA Felt II J1 at SW OFF KYUSHU .
BJI ***13*** *08:19:34.3±0.0, 31.°72N×129.°01E, h20km, mb4.5/27, mB4.6/11, ML4.4/4, Ms4.2/27, Ms7 4.1/27*
NEIC ***13*** *08:19:37.0±2.1, 32.°0N±0.°1×129.°04E±0.°05, h19km±5km, mb4.5/26, Error ellipse: s-maj=14.8km s-min=5.3km az=169.0*

ISC 13 08:19:32.8±0.5, 31.°77N±0.°04×129.°09E±0.°04, h11km, n117, σ1s53/87, mb4.4/33, MS3.7/29, 3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.54**	**99**	P	**Pn**	**08 19 46.3**	**-0.2**
JSJ				*eS*	**Sn**	**08 19 55.9**	**+0.3**
JSJ	**Shimokoshiki**	**0.54**	**99**	A	A	08 19 46.3	
	comp=E,18nm,0.3s,comp=N,42nm,0.3s						
JFU	**Fukue jima 2**	**0.93**	**342**	*i P*	**Pg**	**08 19 49.1**	**-1.7**
JFU				*eS*	**Sg**	**08 20 00.8**	**-2.2**
JFU	**Fukue jima 2**	**0.93**	**342**	A	A	08 19 49.1	
	comp=E,27nm,1.3s,comp=N,42nm,0.7s						
NGSJ	**Nagasakinomoza**	**1.05**	**35**	⇓*iP*	**Pn**	**08 19 53.2**	**-0.3**
NGSJ	**Nagasakinomoza**	**1.05**	**35**	A	A	08 19 53.2	
	comp=E,9.0nm,1.2s,comp=N,13nm,1.0s						
JHD	**Hondo**	**1.13**	**52**	A	A	08 19 55.1	
	comp=E,9.0nm,0.8s,comp=N,7.0nm,1.9s						
JSU	**Suzuyama**	**1.19**	**102**	A	A	08 19 56.8	
	comp=E,14nm,0.3s,comp=N,24nm,1.3s						
JZO	**Okuchi**	**1.34**	**73**	A	A	08 19 58.7	
	comp=E,9.0nm,1.2s,comp=N,7.0nm,0.5s						
JUR	**Ureshino**	**1.51**	**29**	A	A	08 19 60.0	
	comp=E,7.0nm,3.6s,comp=N,7.0nm,2.3s						
JIU3	**Izumi3**	**1.66**	**61**	*eP*	**Pb**	**08 20 03.1**	**-0.2**
JTSR	**Tashiro 2**	**1.68**	**110**	A	A	08 20 03.9	
	comp=E,5.0nm,3.2s,comp=N,10.0nm,1.6s						
JTZ	**Takazaki**	**1.71**	**85**	⇓*iP*	**Pb**	**08 20 04.1**	**-0.1**
JNAR	**Kushima--Naru**	**1.88**	**97**	A	A	08 20 06.8	
	comp=E,4.0nm,1.9s,comp=N,5.0nm,1.5s						
JYAK	**Yakushimahirau**	**1.95**	**141**	*eP*	**Pb**	**08 20 07.1**	**-1.3**
JTN	**Tanegashima 3**	**1.96**	**124**	*i P*	**Pb**	**08 20 07.3**	**-1.3**
JFI	**Itaya**	**1.99**	**33**	A	A	08 20 07.0	
	comp=E,5.0nm,3.8s,comp=N,4.0nm,1.6s						
JNU	**Nakatsue**	**2.03**	**48**	Pn	**Pb**	**08 20 08.4**	**-1.4**
JNU	**Nakatsue**	**2.03**	**48**	Pn	**Pn**	**08 20 08.2**	**+1.2**
	comp=N,26nm,0.3s,baz=241,slow=7.1,SNR=63						
JNU				Lg	Lg	08 20 39.6	
	comp=N,59nm,0.3s,baz=122,slow=22,SNR=4.4						
JNU				LR	LR	08 21 02.5	
	comp=N,208nm,21.3s,baz=128,slow=43						
	comp=N,41nm,0.4s						
JNN	**Nakanoshima**	**2.03**	**160**	A	A	08 20 08.0	
	comp=E,7.0nm,1.2s,comp=N,6.0nm,1.5s						
JII	**Iki**	**2.10**	**15**	P	**Pn**	**08 20 07.8**	**-0.1**
JMN	**Monobe**	**4.49**	**63**		**Pn**	**08 20 43.2**	**+2.4**
TJN	**Taejon**	**4.82**	**343**	Pn	**Pn**	**08 20 45.2**	**-0.1**
JOW	**Kunigami**	**4.97**	**188**	Pn	Pn	08 20 51.4	+4.0
	comp=N,5.9nm,0.3s,baz=26,slow=14,SNR=5.2						
KSAR	**Wonju Array Be**	**

comp=N,0.8nm,0.6s
HNS HongShan 13.11 299 ⇓P P 08 22 43.5 -5.7
HNS S Sn 08 25 13.8 +9.0
HNS pmax pmax
comp=N,22nm,1.4s
HNS LR LR
comp=N,470nm,13.2s
HNS LR LR
comp=N,400nm,12.8s
HNS LR LR
comp=N,660nm,12.7s
BJT Baijiatuau 13.31 312 Pn **Pn 08 22 42.3 +0.5**
BJI Beijing 13.32 312 P **P 08 22 47.9 -3.6**
BJI pmax pmax
comp=N,6.0nm,1.3s
BJI pmax pmax
comp=N,43nm,3.5s
BJI LR LR
comp=N,270nm,10.7s
BJI LR LR
comp=N,250nm,11.1s
BJI LR LR
comp=N,420nm,11.4s
ERM Erimo 15.19 44 **P 08 23 11.4 -0.9**
ERM IAmb IAmb 08 23 45.6
comp=Z,24nm,1.2s
XLT XiLinHaoTe 15.86 323 *e*P **Pn 08 23 15.8 -0.3**
XLT pP pP 08 23 20.3 -2.4
XLT sP sP 08 23 25.1 +1.0
XLT PP **PnPn 08 23 27.8 +3.1**
XLT pmax pmax
comp=Z,11nm,1.5s
XLT pmax pmax
comp=Z,86nm,4.4s
XLT LR LR
comp=Z,340nm,14.9s
XLT LR LR
comp=Z,450nm,15.7s
ASAJ Asahikawa 16.27 37 Pn **P 08 23 22.5 -1.8**
comp=Z,0.5nm,0.3s,baz=222,slow=12,SNR=4.9
ASAJ LR LR 08 28 39.9
comp=Z,65nm,19.5s,baz=170,slow=34
comp=Z,2.7nm,0.3s
JKA Kamikawa-asahi 16.27 37 Pn **P 08 23 23.1 -1.2**
HHC Hu-ho-hao-te 16.76 308 *e*P **P 08 23 29.1 -0.8**
HHC S **Sn 08 26 33.3 -0.5**
HHC sS S 08 26 40.1 -4.7
HHC SS **SnSn 08 26 50.8 +3.8**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,100nm,5.7s
HHC LR LR
comp=Z,290nm,11.1s
HHC LR LR
comp=Z,550nm,11.5s
HHC LR LR
comp=Z,690nm,10.7s
ENH Enshi 16.87 270 Pn **P 08 23 30.7 -0.4**
ENH IAmb IAmb 08 23 37.0
comp=Z,16nm,0.3s
XAN Xi'an 17.09 283 *e*P **P 08 23 32.1 -1.4**
XAN S **Sn 08 26 42.1 +0.3**
XAN LR LR
comp=Z,890nm,12.9s
XAN LR LR
comp=Z,640nm,14.3s
XAN LR LR
comp=Z,580nm,16.1s
KLR Kul'dur 17.56 6 P **P 08 23 39.0 +0.5**
comp=Z,0.1nm,0.3s,baz=278,slow=17,SNR=3.0
comp=Z,3.4nm,0.8s
HEH HeiHe 18.51 357 *e*P **Pn 08 23 52.6 +3.4**
HEH pP sP 08 24 03.1 +10
HEH pmax pmax
comp=Z,13nm,1.2s
HEH pmax pmax
comp=Z,150nm,6.9s
HEH LR LR
comp=Z,530nm,9.3s
HEH LR LR
comp=Z,200nm,9.0s
HEH LR LR
comp=Z,610nm,8.2s
LZH Lanzhou 21.37 289 *e*P P 08 24 28.6 +8.2
LZH sP sP 08 24 37.5 +13
LZH sS Sn 08 28 26.0 +0.8
LZH pmax pmax
comp=Z,17nm,1.2s
LZH LR LR
comp=N,440nm,13.7s
LZH LR LR
comp=E,460nm,13.7s
LZH LR LR
comp=Z,510nm,14.4s
QIZ Qiongzhong 21.48 238 P **P 08 24 25.3 +3.8**
QIZ LR LR
comp=Z,340nm,12.5s
QIZ LR LR
comp=Z,230nm,9.4s
QIZ LR LR
comp=Z,200nm,10.8s
GUMO Guam 23.17 138 LR LR 08 31 51.2
comp=Z,78nm,21.8s,baz=70,slow=32
ULN Ulaanbaatar 23.22 320 P **P 08 24 39.5 -0.5**
SONM Songino Array 23.57 319 P **P 08 24 43.8 +0.4**
SONM Songino Array 23.57 319 P **P 08 24 43.6 +0.2**
comp=Z,8.0nm,1.0s,baz=138,slow=8.3,SNR=15
SONM LR LR 08 34 25.1
comp=Z,263nm,19.2s,baz=100,slow=38
comp=Z,8.0nm,1.0s
PZH PanZhiHua 24.42 265 P **P 08 24 54.5 +2.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,5.2s
YAK Yakutsk 30.28 1 LR LR 08 37 42.5
comp=Z,50nm,20.7s,baz=178,slow=36
WMQ Urumqi 34.51 302 *e*P P 08 26 23.8 +2.7
WMQ LR LR
comp=Z,290nm,18.9s
WMQ LR LR
comp=Z,110nm,15.1s
KAPI Kappang 37.64 195 LR LR 08 43 49.5
comp=Z,40nm,18.4s,baz=31,slow=39
ZALV Zalesovo Beam 38.46 318 LR LR 08 43 17.3
comp=Z,73nm,19.0s,baz=92,slow=37
SHEM Shemya Is, Ala 38.55 44 LR LR 08 40 08.7
comp=Z,14nm,21.9s,baz=228,slow=32
MK31 Makanchi Array 38.62 307 P **P 08 26 58.1 +2.1**
MKAR Makanchi Array 38.62 307 P P 08 26 59.3 +3.2
MKAR Makanchi Array 38.62 307 P **P 08 26 55.7 -0.4**
comp=Z,0.5nm,0.6s,baz=96,slow=10.0,SNR=9.5
MKAR LR LR 08 42 03.1
comp=Z,75nm,19.0s,baz=96,slow=35
comp=Z,0.5nm,0.6s
TIXI Tiksi 39.94 360 LR LR 08 43 40.2
comp=Z,83nm,18.7s,baz=198,slow=36
KURBB Kurchatov Arra 41.54 312 P **P 08 27 19.7 -0.5**
comp=Z,0.3nm,0.3s,baz=104,slow=7.9,SNR=1.9
KURBB LR LR 08 45 50.6
comp=Z,217nm,18.6s,baz=171,slow=38
comp=Z,0.3nm,0.3s
NRIK Noril'sk 44.27 340 P **P 08 27 41.4 -0.7**
comp=Z,1.9nm,0.3s,baz=73,slow=2.0,SNR=4.8
NRIK LR LR 08 46 39.7
comp=Z,43nm,18.3s,baz=240,slow=37
comp=Z,1.9nm,0.3s
PMG Port Moresby 44.44 154 LR LR 08 44 02.5
comp=Z,82nm,19.0s,baz=146,slow=33
BVAR Borovoye Array 46.78 315 P **P 08 28 01.8 -0.3**
comp=Z,2.1nm,0.8s,baz=98,slow=11,SNR=7.4
BVAR LR LR 08 49 47.8
comp=Z,83nm,19.6s,baz=97,slow=39
comp=Z,2.1nm,0.8s
KK31 Karatay Array 47.01 301 P P 08 28 06.8 +2.8
KK31 IAmb IAmb 08 28 08.8
comp=Z,4.1nm,1.1s
KKAR Karatay Array 47.01 301 P **P 08 28 04.3 +0.3**
WB0 Warramunga Arr 51.49 174 P **P 08 28 38.7 +0.3**
WRA Warramunga Arr 51.66 174 P P 08 28 44.4 +4.7
WRA Warramunga Arr 51.66 174 P **P 08 28 38.6 -1.1**
comp=Z,1.2nm,0.9s,baz=353,slow=7.8,SNR=7.0
WRA PcP **PcP 08 29 53.5 +0.2**
comp=Z,0.5nm,1.0s,baz=345,slow=4.2,SNR=1.1
comp=Z,1.2nm,0.9s
C16K Lisburne Hills 51.87 26 P **P 08 28 40.5 -0.4**
C18K Utukok River 53.44 25 P **P 08 28 53.0 +0.5**
C18K IAmb IAmb 08 29 03.9
comp=Z,12nm,1.4s
ABKAR Akbulak array 53.53 310 P **P 08 28 52.7 -0.7**
E18K Tukpahlearik C 53.55 27 P **P 08 28 54.6 +1.3**
E18K IAmb IAmb 08 29 06.0
comp=Z,4.1nm,0.9s
ARU Arti 53.60 319 P **P 08 28 53.6 -0.2**
comp=Z,10nm,0.2s,baz=100,slow=8.2,SNR=4.4
ARU LR LR 08 54 25.1
comp=Z,143nm,19.8s,baz=122,slow=39
C19K Lookout Ridge 54.06 25 P **P 08 28 58.3 +1.2**
D19K Kuna River 54.56 26 P **P 08 29 01.1 +0.4**
AKTO Aktyubinsk 54.59 312 P **P 08 29 01.8 +0.6**
comp=Z,2.8nm,0.9s,baz=71,slow=9.4,SNR=7.4
AKTO LR LR 08 54 03.9
comp=Z,270nm,18.2s,baz=50,slow=38
comp=Z,2.8nm,0.9s
H19K Roundabout Mou 55.16 29 P **P 08 29 06.1 +1.2**
AS31 Alice Springs 55.31 175 P P 08 29 12.1 +5.6
ASAR Alice Springs 55.31 175 P P 08 29 12.4 +5.8
ASAR sP 08 29 12.8 +1.7
ASAR Alice Springs 55.31 175 P **P 08 29 06.2 -0.3**
comp=Z,1.2nm,0.8s,baz=1.2,slow=15,SNR=11
ASAR PcP **PcP 08 30 07.4 +0.2**
comp=Z,0.7nm,0.7s,baz=3.7,slow=3.0,SNR=4.4
comp=Z,1.2nm,0.8s
J19K Poorman 55.56 31 P **P 08 29 08.4 +0.5**
J19K IAmb IAmb 08 29 17.3
comp=Z,8.2nm,1.4s
B21K Ikpikpuk River 55.85 24 P **P 08 29 10.5 +0.7**
J20K Nowinta River 56.19 31 P **P 08 29 14.0 +1.6**
J20K IAmb IAmb 08 29 39.7
comp=Z,8.6nm,1.5s
IMAR Indian Mountai 56.26 29 P **P 08 29 13.7 +0.8**
B22K Teshekpuk Lake 56.26 23 P **P 08 29 12.8 0.0**
B22K IAmb IAmb 08 29 24.9
comp=Z,5.0nm,1.1s
K20K Telida 56.29 32 P **P 08 29 15.0 +1.9**
K20K IAmb IAmb 08 29 20.9
comp=Z,4.1nm,0.9s
G21K Allakaket 56.33 28 P **P 08 29 14.8 +1.4**
G21K IAmb IAmb 08 29 21.5
comp=Z,3.7nm,1.1s
D22K Ayikyak River 56.55 25 P **P 08 29 15.6 +0.6**
D22K IAmb IAmb 08 29 35.7
comp=Z,4.4nm,0.9s
H23K Yukon River 57.99 29 P **P 08 29 26.6 +1.4**
H23K IAmb IAmb 08 29 33.1
comp=Z,4.7nm,0.8s
KIRV Kirov 58.25 323 LR LR 08 57 04.4
comp=Z,105nm,19.1s,baz=62,slow=39
MDM Murphy Dome 58.65 30 P **P 08 29 30.8 +1.0**
MDM IAmb IAmb 08 29 31.8
comp=Z,5.6nm,1.0s
ILAR Eielson Array 59.25 30 P **P 08 29 33.5 -0.4**
comp=Z,0.5nm,0.5s,baz=283,slow=8.1,SNR=10
comp=Z,0.5nm,0.5s
BELG Belogornoye 60.56 316 LR LR 08 57 59.2
comp=Z,52nm,18.3s,baz=64,slow=38
SPITS Spitsbergen Ar 63.59 348 LR LR 08 59 26.5
comp=Z,46nm,18.9s,baz=345,slow=38
STKA Sthens Creek 64.39 168 P **P 08 30 07.0 -1.8**
comp=Z,5.5nm,1.1s,baz=16,slow=9.0,SNR=3.9
comp=Z,5.5nm,1.1s
ARCES ARCESS Array B 65.16 338 LR LR 09 02 33.8
comp=Z,86nm,19.4s,baz=96,slow=40
KBZ Khabaz 66.31 308 P **P 08 30 22.1 +0.8**
comp=Z,3.0nm,0.9s,baz=110,slow=5.5,SNR=4.5
comp=Z,3.0nm,0.9s
FINES FINESS Array B 68.45 330 P **P 08 30 33.6 -0.9**
comp=Z,2.5nm,0.6s,baz=66,slow=6.1,SNR=16
FINES LR LR 09 02 20.4
comp=Z,55nm,18.2s,baz=30,slow=38
comp=Z,2.5nm,0.6s
AKASG Malin Array Be 71.85 319 P **P 08 30 54.6 -1.0**
comp=Z,1.3nm,0.5s,baz=52,slow=7.0,SNR=5.5
comp=Z,1.3nm,0.5s
JMIC Jan Mayen 73.21 347 LR LR 09 06 30.6
comp=Z,15nm,18.1s,baz=202,slow=38
YKA Yellowknife Ar 73.22 26 LR LR 09 07 26.3
comp=Z,32nm,18.1s,baz=319,slow=39
BRTR Keskin Array B 74.27 307 P **P 08 31 09.8 -0.6**
comp=Z,1.4nm,0.8s,baz=90,slow=4.9,SNR=5.9
comp=Z,1.4nm,0.8s
HFS Hagfors 74.29 332 P **P 08 31 09.2 -0.7**
comp=Z,1.5nm,0.7s,baz=64,slow=10,SNR=4.5
HFS LR LR 09 06 34.3
comp=Z,65nm,18.3s,baz=94,slow=38
comp=Z,1.5nm,0.7s
NB2 NORSAR Subarra 74.70 334 P P 08 31 15.9 +3.6
comp=Z,1.7nm,0.8s,baz=50,slow=5.9
NOA NORSAR Array B 74.70 334 P **P 08 31 11.2 -1.1**
comp=Z,0.7nm,0.8s,baz=49,slow=5.9,SNR=3.0
NOA LR LR 09 06 55.4
comp=Z,22nm,19.7s,baz=285,slow=38
comp=Z,0.7nm,0.8s
BORG Borgarnes 81.06 348 LR LR 09 09 57.0
comp=Z,30nm,18.0s,baz=291,slow=37
SFJD Kangerlussuaq 81.55 360 LR LR 09 06 36.4
comp=Z,38nm,21.7s,baz=92,slow=35
NVAR Mina Array Bea 86.15 47 P **P 08 32 14.5 0.0**
comp=Z,0.6nm,0.7s,baz=301,slow=5.8,SNR=5.4
comp=Z,0.6nm,0.7s
PDAR Pinedale Array 88.39 39 P **P 08 32 24.9 -0.4**
comp=Z,0.3nm,0.7s,baz=17,slow=1.2,SNR=2.2
comp=Z,0.3nm,0.7s
ULM Lac du Bonnet 89.15 27 P **P 08 32 26.9 -1.5**
comp=Z,4.0nm,1.0s,baz=339,slow=8.5,SNR=4.1
comp=Z,4.0nm,1.0s
SCHQ Schefferville 92.67 9 LR LR 09 18 05.6
comp=Z,34nm,18.3s,baz=80,slow=38

*TIR **13** 08:23:52.4, 41°.49N×19°.50E, h29km±2km, Ml3.0*
*BEO **13** 08:23:54.7±0.4, 41°.47N×19°.55E, h10km±2km, ML2.9/10*
*PDG **13** 08:23:54.4±0.4, 41°.50N×19°.57E, h15km, ML2.9/10, Error ellipse: s-maj=0.6km s-min=1.5km az=0.0*
*THE **13** 08:23:54.9, 41°.48N×19°.52E, h5km±1km, ML2.7/4, Error ellipse: s-maj=3.8km s-min=2.0km az=10.0*
*RHSSO **13** 08:23:55.8±0.7, 41°.51N×19°.37E, h8km±2km, ML3.1/10*
ISC 13 08:23:54.3±1.0, 41°.48N±0°.02×19°.51E±0°.02, h10km±8km, n79, σ0°98/127, 21C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.30**	**117**	⇑P	**Pg**	**08 24 00.1**	**-0.2**
TIR	**Tirane**	**0.30**	**117**	P	**Pg**	**08 24 00.2**	**-0.2**
baz=117							
TIR				S	**Sg**	**08 24 04.5**	**+0.1**
baz=117							
TIR	**Tirane**	**0.30**	**117**	P	**Pg**	**08 24 00.1**	**-0.2**
TIR				S	**Sg**	**08 24 05.0**	**+0.6**
4μm,0.3s							
TIR	**Tirane**	**0.30**	**117**	*e*Pg	**Pg**	**08 24 00.2**	**-0.2**
TIR				*e*Sg	**Sg**	**08 24 04.8**	**+0.4**
PUK	**Puka**	**0.63**	**27**	P	**Pg**	**08 24 05.5**	**-1.0**
baz=27							
PUK				S	**Sg**	**08 24 13.9**	**-0.9**
baz=27							
PUK				AMP			
comp=N,3.5nm,0.5s,baz=27							
DRME	**Dracevica, Mon**	**0.74**	**341**	⇓*i*Pg	**Pg**	**08 24 08.2**	**-0.5**
DRME				*e*Sg	**Sg**	**08 24 18.5**	**+0.2**
DRME	**Dracevica, Mon**	**0.74**	**341**	⇑*i*Pg	**Pg**	**08 24 08.6**	**-0.1**
DRME				*i* Sg	**Sb**	**08 24 20.4**	**+0.8**
BUM	**Brajici-Budva**	**0.94**	**331**	⇓*i*Pg	**Pg**	**08 24 12.7**	**+0.4**
BUM				*i* Sg	**Sn**	**08 24 28.0**	**+0.8**
PDG	**Podgorica**	**0.96**	**349**	⇑P	**Pb**	**08 24 13.8**	**+0.7**
PDG	**Podgorica**	**0.96**	**349**	*e*Pg	**Pg**	**08 24 12.5**	**-0.4**
PDG				*e*Sg	**Sb**	**08 24 26.3**	**+0.3**
PDG	**Podgorica**	**0.96**	**349**	*e*Pg	**Pg**	**08 24 11.6**	**-1.3**
PDG				*e*Sg	**Sg**	**08 24 25.0**	**-0.4**
PDG	**Podgorica**	**0.96**	**349**	⇑*i*Pg	**Pg**	**08 24 12.0**	**-0.9**
PDG				*i* Sg	**Sn**	**08 24 27.2**	**-0.6**
BCI	**Bajram Curri**	**0.98**	**25**	P	**Pg**	**08 24 11.2**	**-1.9**
baz=25							
BCI				S	**Sg**	**08 24 26.1**	**+0.3**
baz=25							
BCI				AMP			
comp=N,2.0nm,0.5s,baz=25							
OHR	**Ohrid**	**1.04**	**111**	*e*Pg	**Pg**	**08 24 13.1**	**-1.2**
OHR				*i* Sg	**Sb**	**08 24 28.9**	**+0.6**
CEME	**Cevo**	**1.15**	**338**	⇑*i*Pg	**Pb**	**08 24 15.9**	**-0.5**
CEME				*i* Sg	**Sn**	**08 24 33.8**	**+1.4**
PVY	**Plav**	**1.16**	**17**	⇓*i*Pg	**Pb**	**08 24 14.9**	**-1.7**
PVY				*i* Sg	**Sn**	**08 24 33.1**	**+0.3**
KBN	**Korca**	**1.29**	**131**	P	**Pn**	**08 24 18.8**	**+0.2**
baz=131							
KBN				S	**Sb**	**08 24 35.9**	**+0.3**
baz=131							
KBN				AMP			
comp=E,0.9nm,0.4s,baz=131							
KBN	**Korca**	**1.29**	**131**	P	**Pn**	**08 24 18.1**	**-0.5**
KBN				S	**Sg**	**08 24 37.6**	**+1.6**
NKME	**Niksic**	**1.35**	**342**	⇑*i*Pg	**Pn**	**08 24 19.7**	**+0.4**
NKME				*i* Sg	**Sg**	**08 24 39.8**	**+2.1**
KOME	**Kolasin**	**1.36**	**0**	⇑*i*Pg	**Pn**	**08 24 19.2**	**-0.4**
KOME				*i* Sg	**Sg**	**08 24 39.6**	**+1.3**
IVA	**Berane**	**1.42**	**12**	⇓*i*Pg	**Pn**	**08 24 19.6**	**-0.7**
IVA				*i* Sg	**Sg**	**08 24 41.1**	**+1.2**
TREB	**Trebinje**	**1.50**	**325**	*e*Pg	**Pn**	**08 24 22.0**	**+0.6**
TREB				*e*Sg	**Sg**	**08 24 43.1**	**+0.4**
TREB	**Trebinje**	**1.50**	**325**	*e*Pg	**Pn**	**08 24 21.7**	**+0.3**
TREB				*e*Sg	**Sn**	**08 24 41.2**	**+0.1**
SKO	**Skopje**	**1.53**	**71**	*i* Pn	**Pn**	**08 24 22.1**	**+0.3**
DBRK	**Dubrovnik**	**1.56**	**320**	*i* Pn	**Pb**	**08 24 23.8**	**+0.5**
DBRK				Sn	**Sb**	**08 24 44.0**	**+1.0**
LSK	**Leskovik**	**1.57**	**148**	P	**Pn**	**08 24 22.9**	**+0.5**
baz=147							
LSK				S	**Sn**	**08 24 42.9**	**0.0**
baz=147							
LSK	**Leskovik**	**1.57**	**148**	P	**Pn**	**08 24 22.9**	**+0.5**
FNA	**Florina**	**1.58**	**116**	P	**Pn**	**08 24 22.4**	**-0.1**
baz=115							
FNA				S	**Sn**	**08 24 43.0**	**0.0**
baz=115							
FNA				AMP			
comp=N,0.3nm,0.7s,baz=115							
FNA	**Florina**	**1.58**	**116**	P	**Pn**	**08 24 22.7**	**+0.2**
FNA				S	**Sn**	**08 24 43.3**	**+0.3**
comp=N,280nm,0.8s							
NEST	**Nestorio**	**1.58**	**132**	P	**Pn**	**08 24 23.4**	**+0.8**
NEST				S	**Sg**	**08 24 44.9**	**-0.3**
comp=N,172nm,0.7s							
BRY	**Bratogost**	**1.59**	**333**	⇓*i*Pg	**Pn**	**08 24 23.6**	**+0.9**
BRY				*e*Sg	**Sb**	**08 24 44.6**	**+0.5**
BRY	**Bratogost**	**1.59**	**333**	⇓*i*Pn	**Pb**	**08 24 23.8**	**-0.1**
BRY				*i* Sn	**Sg**	**08 24 46.3**	**+0.9**
SCTE	**Santa Cesarea**	**1.62**	**210**	P	**Pn**	**08 24 22.4**	**-0.5**
baz=210							
SRN	**Sarande**	**1.65**	**167**	P	**Pn**	**08 24 23.6**	**+0.3**
SRN				S	**Sn**	**08 24 45.1**	**+0.5**
comp=N,98nm,0.5s							
UPM	**Unac-Piva**	**1.77**	**346**	*e*Pn	**Pb**	**08 24 26.7**	**-0.4**
UPM				*e*Sn	**Sn**	**08 24 48.3**	**+0.2**
UPM	**Unac-Piva**	**1.77**	**346**	⇑*i*Pn	**Pn**	**08 24 25.8**	**+0.5**
UPM				*i* Sn	**Sb**	**08 24 50.0**	**+0.5**
SJES	**Sjenica**	**1.81**	**11**	*e*Pg	**Pb**	**08 24 27.6**	**0.0**
SJES				*e*Sg	**Sg**	**08 24 52.2**	**-0.3**
SJES	**Sjenica**	**1.81**	**11**	⇑*i*Pn	**Pb**	**08 24 27.1**	**-0.5**
SJES				*e*Sn	**Sb**	**08 24 50.2**	**-0.2**
PLE	**Pljevlja**	**1.85**	**357**	⇑*i*Pn	**Pn**	**08 24 26.9**	**+0.7**
PLE				*i* Sn	**Sb**	**08 24 51.2**	**-0.3**
STON	**Ston**	**1.93**	**317**	*e*Pn	**Pn**	**08 24 27.8**	**+0.6**
STON				*e*Sn	**Sn**	**08 24 52.0**	**+0.4**
STON	**Ston**	**1.93**	**317**	*e*Pn	**Pn**	**08 24 28.1**	**+0.8**
STON	**Ston**	**1.93**	**317**	*e*Pn	**Pn**	**08 24 27.6**	**+0.4**
STON				*e*Sn	**Sn**	**08 24 51.2**	**-0.4**
NOCI	**Noci**	**1.97**	**250**	P	**Pn**	**08 24 26.7**	**-1.2**
baz=250							
NOCI				S	**Sn**	**08 24 53.5**	**+0.9**
baz=250							
NOCI				AMP			
comp=N,0.7nm,0.3s,baz=250							
IGT	**Igoumenitsa**	**2.05**	**162**	P	**Pn**	**08 24 29.2**	**+0.3**
baz=161							
IGT				S	**Sn**	**08 24 54.6**	**+0.1**
baz=161							
RUDO	**Rudo**	**2.13**	**357**	*e*Pn	**Pn**	**08 24 31.7**	**+1.6**
RUDO				*e*Sn	**Sn**	**08 24 58.1**	**+1.4**
IVAS	**Ivanjica**	**2.15**	**13**	*e*Pn	**Pn**	**08 24 31.0**	**+0.7**
IVAS				*e*Sn	**Sn**	**08 24 57.5**	**+0.5**
GRG	**Griva**	**2.25**	**103**	P	**Pn**	**08 24 31.6**	**0.0**
MATE	**Matera**	**2.28**	**249**	⇑P	**Pn**	**08 24 32.0**	**0.0**
BBLS	**Lazi&#263i**	**2.38**	**358**	*e*Pn	**Pn**	**08 24 34.7**	**+1.2**
BBLS				*e*Sn	**Sn**	**08 25 04.2**	**+1.3**
GRUS	**Gruza**	**2.56**	**20**	*e*Pn	**Pn**	**08 24 37.4**	**+1.4**
MAKA	**Makarska**	**2.58**	**315**	*e*Pn	**Pn**	**08 24 36.2**	**+0.1**
MAKA				Sn	**Sn**	**08 25 07.6**	**0.0**
HAPS	**Han Pijesak,BI**	**2.63**	**351**	*e*Pn	**Pn**	**08 24 37.9**	**+0.9**
HAPS				*e*Sn	**Sn**	**08 25 10.4**	**+1.3**
HAPS	**Han Pijesak,BI**	**2.63**	**351**	⇑*i*Pn	**Pn**	**08 24 37.7**	**+0.7**
HAPS				*e*Sn	**Sn**	**08 25 10.4**	**+1.3**
DIVS	**Divibare**	**2.64**	**8**	*e*Pn	**Pn**	**08 24 38.5**	**+1.4**
RICI	**Ricice**	**2.67**	**320**	*e*Pn	**Pn**	**08 24 37.6**	**+0.2**
BOVS	**Bovan**	**2.69**	**36**	⇑P	**Pn**	**08 24 37.9**	**+0.1**
ZAGS	**Zajecar**	**3.08**	**40**	*e*Pn	**Pn**	**08 24 42.4**	**-0.6**
TIP	**Timpagrande**	**3.12**	**223**	⇓P	**Pn**	**08 24 43.6**	**-0.1**
KUBS	**Kucevo**	**3.33**	**28**	*e*Pn	**Pn**	**08 24 45.1**	**-1.4**
KIJV	**Kijevo**	**3.40**	**319**	*e*Pn	**Pn**	**08 24 47.6**	**+0.1**
MGRS	**Mrkonjic Grad**	**3.43**	**330**	*e*Sn	**Sn**	**08 25 28.3**	**-0.3**
ZIRJ	**Zirje**	**3.58**	**309**	*e*Pn	**Pn**	**08 24 50.0**	**0.0**
MDVR	**Moldovita**	**3.67**	**25**	⇓P	**Pn**	**08 24 51.9**	**+0.7**
MORI	**Morici**	**3.68**	**312**	*e*Pn	**Pn**	**08 24 51.7**	**+0.5**
MORI				Sn	**Sn**	**08 25 35.4**	**+0.7**
BLY	**Banja Luka**	**3.68**	**333**	*e*Sn	**Sn**	**08 25 33.9**	**-0.8**
A050A	**Klekovaca**	**3.71**	**325**	⇓*i*Pn	**Pn**	**08 24 52.6**	**+0.8**
A050A				*e*Sn	**Sn**	**08 25 34.5**	**-1.0**
HERR	**Herculane**	**4.01**	**31**	⇑P	**Pn**	**08 24 56.7**	**+0.9**
UDBI	**Udbina**	**4.10**	**319**	*e*Pn	**Pn**	**08 24 58.2**	**+1.1**
DUGI	**Dugi Otok**	**4.12**	**309**	*e*Pn	**Pn**	**08 24 57.5**	**0.0**
BZS	**Buzias**	**4.41**	**20**	⇑P	**Pn**	**08 25 01.2**	**-0.1**
GZR	**Gura Zlata**	**4.58**	**30**	⇑P	**Pn**	**08 25 04.3**	**+0.6**
NVLJ	**Novalja**	**4.58**	**314**	*e*Pn	**Pn**	**08 25 04.2**	**+0.4**
BOJS	**Bojanci**	**5.07**	**324**	⇑*i*Pn	**Pn**	**08 25 10.7**	**+0.3**
BOJS				*e*Sn	**Sn**	**08 26 06.6**	**-2.5**
CRES	**Cresnjev**	**5.24**	**327**	⇑*i*Pn	**Pn**	**08 25 12.7**	**-0.1**
CRES				*e*Sn	**Sn**	**08 26 10.6**	**-2.6**
CEY	**Cerknica**	**5.63**	**321**	*e*Sn	**Sn**	**08 26 19.5**	**-3.3**
SKDS	**Skadanscina**	**5.69**	**317**	*e*Sn	**Sn**	**08 26 21.0**	**-3.5**
MLR	**Muntele Rosu**	**6.16**	**47**	⇑P	**Pn**	**08 25 27.5**	**+2.0**
DOPR	**Dopca**	**6.18**	**42**	⇑P	**Pn**	**08 25 28.5**	**+2.8**
PLOR	**Plostina**	**6.77**	**47**	⇑P	**Pn**	**08 25 35.8**	**+2.0**

IDC 13 08:27:13.4±2.8, 53°.70N×87°.04E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.6km s-min=15.9km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**282**	I	I	08 35 20.0	
baz=100,slow=313,SNR=2.9							
ZALV	**Zalesovo Beam**	**1.34**	**282**	Pg	Pg	08 27 38.0	-1.0
1.1nm,0.3s,baz=99,slow=17,SNR=5.9							
ZALV				Lg	Lg	08 27 56.3	
1.1nm,0.3s,baz=102,slow=31,SNR=6.9							
KURBB	**Kurchatov Arra**	**6.07**	**243**	Pn	Pn	08 28 45.3	+1.0
0.1nm,0.3s,baz=61,slow=11,SNR=1.7							
0.3nm,0.3s							
MKAR	**Makanchi Array**	**7.55**	**206**	Pn	Pn	08 29 05.8	+1.1
0.1nm,0.3s,baz=24,slow=14,SNR=4.2							
0.2nm,0.3s							

IDC 13 08:29:11.7±2.5, 53°.64N×86°.96E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=23.8km s-min=15.1km az=72.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**284**	I	I	08 37 00.0	
baz=103,slow=311,SNR=2.8							
ZALV	**Zalesovo Beam**	**1.30**	**284**	Pg	Pg	08 29 35.8	-0.9
1.8nm,0.3s,baz=102,slow=17,SNR=14							
ZALV				Lg	Lg	08 29 54.2	
2.2nm,0.3s,baz=101,slow=30,SNR=7.9							
KURBB	**Kurchatov Arra**	**6.00**	**243**	Pn	Pn	08 30 42.7	+1.0
0.1nm,0.3s,baz=59,slow=13,SNR=1.7							
KURBB				Lg	Lg	08 32 19.6	
baz=60,slow=34,SNR=2.8							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**7.48**	**205**	Pn	Pn	08 31 03.3	+1.3
0.2nm,0.3s,baz=24,slow=13,SNR=6.5							
0.3nm,0.4s							

*IDC **13** 08:38:31.2±1.7, 12°.66N×125°.39E, h0km, mb3.8/9,*

mbtmp3.8/9, MS3.7/3, Error ellipse: s-maj=179.2km s-min=19.2km az=68.0

ISC 13 08:38:35.9±1.7, 12°8'N±0°.5×12°6'E±°, h35km, n16, σ0.91/9, mb3.8/9, MS4.0/3, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.58**	**165**	P	**P**	**08 45 11.8**	**-1.1**
	0.3nm,0.6s,baz=345,slow=9.4,SNR=2.3 0.3nm,0.6s						
ASAR	**Alice Springs**	**37.07**	**168**	P	**P**	**08 45 44.0**	**+1.1**
	0.3nm,0.3s,baz=341,slow=7.2,SNR=7.6 0.3nm,0.3s						
SONM	**Songino Array**	**38.53**	**339**	P	**P**	**08 45 55.6**	**+0.5**
	0.6nm,0.8s,baz=165,slow=6.2,SNR=3.9 0.6nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**39.76**	**76**	T	T	09 29 22.4	
	baz=268,slow=75,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**39.77**	**76**	T	T	09 29 19.7	
	baz=268,slow=75,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**39.78**	**76**	T	T	09 29 19.9	
	baz=268,slow=75,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**40.02**	**75**	T	T	09 29 30.0	
	baz=266,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**40.02**	**75**	T	T	09 29 34.1	
	baz=266,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**40.03**	**75**	T	T	09 29 31.9	
	baz=266,slow=75,SNR=16						
MKAR	**Makanchi Array**	**49.76**	**322**	P	**P**	**08 47 23.9**	**-1.0**
	0.5nm,0.7s,baz=112,slow=9.3,SNR=5.9 0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**52.22**	**331**	P	**P**	**08 47 42.6**	**-0.7**
	0.5nm,0.4s,baz=90,slow=7.5,SNR=1.7 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**53.76**	**325**	P	**P**	**08 47 54.9**	**+0.2**
	2.9nm,0.6s,baz=125,slow=7.5,SNR=14 2.9nm,0.6s						
TIXI	**Tiksi**	**58.88**	**1**	LR	LR	09 14 58.2	
	comp=Z,17nm,21.4s,baz=360,slow=37						
BVAR	**Borovoye Array**	**59.35**	**325**	P	**P**	**08 48 33.7**	**-0.7**
	0.5nm,0.5s,baz=129,slow=12,SNR=4.1 0.5nm,0.5s						
FINES	**FINESS Array B**	**83.47**	**332**	P	**P**	**08 51 00.2**	**+0.4**
	0.6nm,0.6s,baz=13,slow=4.3,SNR=6.3						
FINES				LR	LR	09 30 04.1	
	comp=Z,60nm,18.6s,baz=122,slow=37 0.6nm,0.6s						
HFS	**Hagfors**	**89.62**	**332**	P	**P**	**08 51 30.0**	**+0.1**
	1.2nm,0.9s,baz=28,slow=6.7,SNR=2.0						
HFS				LR	LR	09 35 04.5	
	comp=Z,64nm,18.1s,baz=143,slow=38 1.2nm,0.9s						

IDC 13 09:02:57.3±2.7, 53°.88N×86°.51E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=22.4km s-min=13.5km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**275**	I	I	09 08 50.0	
	0.3nm,1.0s,baz=92,slow=319,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.00**	**274**	Pg	Pg	09 03 15.1	-1.4
	1.0nm,0.3s,baz=93,slow=18,SNR=6.2						
ZALV				Lg	Lg	09 03 31.2	
	2.2nm,0.3s,baz=96,slow=28,SNR=7.9						
ZALV				Rg	Rg	09 03 39.4	
	3.1nm,0.4s,baz=82,slow=23,SNR=21						
KURBB	**Kurchatov Arra**	**5.89**	**240**	Pn	Pn	09 04 26.4	+0.8
	0.2nm,0.3s,baz=56,slow=14,SNR=5.2 0.7nm,0.3s						
MKAR	**Makanchi Array**	**7.59**	**202**	Pn	Pn	09 04 50.4	+1.3
	0.1nm,0.3s,baz=23,slow=13,SNR=4.5 0.2nm,0.3s						

*MOS **13** 09:03:19.6±0.9, 28°.02N×57°.28E, h9km, mb4.9/60, Error ellipse: s-maj=4.9km s-min=3.6km az=99.1*

*BJI **13** 09:03:20.0±0.0, 28°.10N×57°.30E, h10km, mb4.6/40, mB4.9/16, Ms4.2/18, Ms7 4.0/17*

*NEIC **13** 09:03:22.7±2.0, 28°.11N±0°.06×57°.25E±0°.09, h10km±1km, mb4.7/163, Error ellipse: s-maj=12.9km s-min=11.0km az=276.0*

*OMAN **13** 09:03:24.0±0.8, 28°.02N×57°.16E, h10km, mb5.1/20, ml4.5/21, ms3.4/5, Error ellipse: s-maj=6.6km s-min=5.7km az=62.0*

*TEH **13** 09:03:24.0, 28°.11N×57°.36E, h20km±43km, ML4.6*

*THR **13** 09:03:25.4±1.1, 28°.23N×57°.26E, h14km±7km, ML4.6*

*DSN **13** 09:03:25.6±1.0, 28°.07N×56°.96E, h10km, mb5.2/3, ML4.5/16, Error ellipse: s-maj=16.8km s-min=7.2km az=87.0*

*IDC **13** 09:03:28.3±2.5, 28°.12N×57°.26E, h58km±23km, mb4.2/30, mbtmp4.5/37, ML4.3/7, MS3.8/25, Error ellipse: s-maj=13.0km s-min=11.0km az=168.0*

ISC 13 09:03:25.4±1.0, 28°.11N±0°.03×57°.28E±0°.03, h33km±6km, n785, σ1.27/816, mb4.7/190, MS3.8/31, 33C-14D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.41**	**113**	Pg	**Pb**	**09 03 31.7**	**-2.9**
IBND	**Bandar-abas**	**0.93**	**225**	Pg	**Pb**	**09 03 42.9**	**-0.1**
GENO	**Geno**	**1.21**	**235**	Pg	**Pb**	**09 03 47.8**	**0.0**
BNDS	**Bandar-Abbas**	**1.21**	**235**	*e*Pg	**Pb**	**09 03 49.3**	**+1.4**
BNDS				*e*Sg	**Sb**	**09 04 06.3**	**+3.0**
BNDS				IAML		09 04 09.0	
	comp=E,12μm,0.2s						
BNDS				IAML		09 04 09.5	
	comp=N,13μm,0.3s						
KBAM	**BAM**	**1.45**	**45**	Pg	**Pn**	**09 03 48.9**	**-0.6**
NGRK	**Negar Kerman**	**1.61**	**343**	Pg	**Pn**	**09 03 52.0**	**+0.1**
CHMN	**Cheshme madani**	**1.76**	**7**	Pg	**Pn**	**09 03 54.2**	**+0.2**
KRBR	**Kerman**	**1.92**	**346**	*e*Pn	**Pn**	**09 03 57.5**	**+1.3**
KRBR				*e*Sg	**Sb**	**09 04 22.6**	**-1.2**
KRBR				IAML		09 04 30.9	
	comp=N,4μm,0.3s						
KRBR				IAML		09 04 36.8	
	comp=E,5μm,0.5s						
TVBK	**TV Kerman**	**1.93**	**346**	Pn	**Pn**	**09 03 57.6**	**+1.3**
SHME	**Shamm**	**2.29**	**207**	*e*P	**Pn**	**09 04 02.2**	**+1.3**
	SNR=153						
SHME	**Shamm**	**2.29**	**207**	P	**Pn**	**09 04 02.5**	**+1.6**
	SNR=96						
SHME				S	**Sn**	**09 04 28.3**	**+0.4**
BANOM	**Banah**	**2.34**	**202**	*e*P	**Pn**	**09 04 03.3**	**+1.7**
	SNR=41						
BANOM	**Banah**	**2.34**	**202**	P	**Pn**	**09 04 03.4**	**+1.7**
BANOM				S	**Sn**	**09 04 29.4**	**0.0**
KHGB	**Koh Gabri**	**2.37**	**343**	Pn	**Pn**	**09 04 04.2**	**+2.0**
KRM1	**Kerman Provinc**	**2.39**	**360**	Pn	**Pn**	**09 04 04.3**	**+1.9**
LAR1	**LAR**	**2.61**	**261**	Pn	**Pn**	**09 04 07.1**	**+1.8**
MASF	**Masafi**	**2.90**	**200**	P	**Pn**	**09 04 11.3**	**+1.9**
	SNR=28						
MASF				S	**Sn**	**09 04 44.1**	**+0.9**
MSFE	**Esma-Masafi**	**2.91**	**200**	*e*P	**Pn**	**09 04 10.6**	**+1.1**
	SNR=33						
MDH	**Madha**	**2.93**	**198**	*e*P	**Pn**	**09 04 10.3**	**+0.5**
	SNR=31						
MDH	**Madha**	**2.93**	**198**	P	**Pn**	**09 04 10.0**	**+0.2**
	SNR=31						
MDH				S	**Sn**	**09 04 44.7**	**+0.8**
UMQ	**Umm Al-Quwin**	**2.95**	**210**	*e*P	**Pn**	**09 04 12.5**	**+2.5**
	SNR=10						
UMQ	**Umm Al-Quwin**	**2.95**	**210**	P	**Pn**	**09 04 13.0**	**+3.0**
	SNR=12						
UMQ				S	**Sn**	**09 04 45.2**	**+0.9**
JHRM	**Jahrom**	**3.29**	**278**	Pn	**Pn**	**09 04 16.9**	**+2.1**
UOSS	**Minazif**	**3.29**	**197**		**Pn**	**09 04 14.1**	**-0.7**
UOSS	**Minazif**	**3.29**	**197**	*i* P	**Pn**	**09 04 14.8**	**+0.1**
	SNR=26						
UOSS	**Minazif**	**3.29**	**197**	P	**Pn**	**09 04 14.9**	**+0.2**
ZHDN	**Zahedan**	**3.35**	**67**	Pn	**Pn**	**09 04 16.4**	**+0.7**
ZHSF	**Zahedan**	**3.41**	**63**	*e*Pn	**Pn**	**09 04 19.6**	**+3.1**
ZHSF				*e*Sg	**Sb**	**09 05 10.3**	**+4.0**
HATD	**Hatta, Dubai**	**3.43**	**198**	*i* P	**Pn**	**09 04 16.7**	**+0.1**
	SNR=20						
HATD	**Hatta, Dubai**	**3.43**	**198**	P	**Pn**	**09 04 17.1**	**+0.5**
	SNR=20						
NAZ	**Nazwa, Dubai**	**3.43**	**205**	P	**Pn**	**09 04 18.5**	**+1.9**
NAZ	**Nazwa, Dubai**	**3.43**	**205**	P	**Pn**	**09 04 18.7**	**+2.1**
	SNR=30						
NAZ				S	**Sn**	**09 04 56.8**	**+0.7**
ASHO	**Ashiyiah**	**3.58**	**198**	*i* P	**Pn**	**09 04 20.4**	**+1.7**
	SNR=43						
ASHO	**Ashiyiah**	**3.58**	**198**	P	**Pn**	**09 04 20.5**	**+1.7**
	SNR=43						
ASHO				S	**Sn**	**09 05 01.2**	**+1.2**
FAQ	**Al Faqa, Dubai**	**3.67**	**205**	*i* P	**Pn**	**09 04 21.7**	**+1.7**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**3.67**	**205**	P	**Pn**	**09 04 21.7**	**+1.7**
	SNR=10						
FAQ				S	**Sn**	**09 05 02.7**	**+0.5**
LMD1	**Lamerd**	**3.73**	**259**	Pn	**Pn**	**09 04 23.2**	**+2.5**
QIR1	**Qir**	**3.75**	**277**	Pn	**Pn**	**09 04 23.3**	**+2.2**
IBAF	**Bafgh**	**3.78**	**337**	Pn	**Pn**	**09 04 23.5**	**+2.0**
GHIR	**Ghir-Karzin**	**3.80**	**274**	*e*Pn	**Pn**	**09 04 24.8**	**+3.1**
CHBR	**Chabahar**	**3.80**	**130**	*e*Pn	Pn	09 04 26.5	+4.9
CHBR	**Chabahar**	**3.80**	**130**	Pn	**Pn**	**09 04 22.3**	**+0.6**
ASUD	**Al Ashush, Dub**	**3.88**	**207**	*i* P	**Pn**	**09 04 25.3**	**+2.4**
	SNR=35						
ASUD	**Al Ashush, Dub**	**3.88**	**207**	P	**Pn**	**09 04 25.3**	**+2.4**
	SNR=35						
ASUD				S	**Sn**	**09 05 08.0**	**+0.7**
	SNR=11						
IMEH	**Mehriz**	**4.01**	**325**	Pn	**Pn**	**09 04 27.1**	**+2.3**
SOHO	**SOHO**	**4.01**	**190**	*i* P	**Pn**	**09 04 24.4**	**-0.2**
	SNR=93						
SOHO	**SOHO**	**4.01**	**190**	P	**Pn**	**09 04 24.5**	**-0.1**
SOHO				S	**Sn**	**09 05 11.9**	**+1.4**
AJN	**Ajban**	**4.09**	**211**	*i* P	**Pn**	**09 04 27.0**	**+1.4**
	SNR=118						
AJN	**Ajban**	**4.09**	**211**	P	**Pn**	**09 04 27.6**	**+1.9**
	SNR=118						
AJN				S	**Sn**	**09 05 11.8**	**-0.5**
	SNR=9.7						
BSRN	**Basiran**	**4.17**	**22**	*e*Pn	**Pn**	**09 04 29.7**	**+2.9**
BSRN	**Basiran**	**4.17**	**22**	Pn	**Pn**	**09 04 28.3**	**+1.5**
ALNE	**Al Ain**	**4.26**	**199**	*i* P	**Pn**	**09 04 27.8**	**-0.3**
	SNR=24						
ALNE	**Al Ain**	**4.26**	**199**	P	**Pn**	**09 04 30.3**	**+2.3**
	SNR=24						
ALNE				S	**Sn**	**09 05 18.1**	**+1.4**
NGCH	**Negor - Chabah**	**4.40**	**128**	Pn	**Pn**	**09 04 31.0**	**+1.1**
NGCH	**Negor - Chabah**	**4.40**	**128**	P	**Pn**	**09 04 31.3**	**+1.4**
	SNR=10						
NGCH				S	**Sn**	**09 05 22.4**	**+2.3**
SHI	**Shiraz**	**4.45**	**291**	Pn	**Pn**	**09 04 33.2**	**+2.4**
HOQ	**Hoqain**	**4.50**	**180**	Pn	**Pn**	**09 04 31.8**	**+0.3**
HOQ	**Hoqain**	**4.50**	**180**	P	**Pn**	**09 04 31.7**	**+0.3**
	SNR=14						
HOQ				S	**Sn**	**09 05 22.2**	**-0.5**
IKOO	**Kooshah**	**4.55**	**19**	Pn	**Pn**	**09 04 33.9**	**+1.7**
SRVN	**Saravan**	**4.59**	**98**	Pn	**Pn**	**09 04 33.8**	**+1.2**
BIDO	**Bidbid**	**4.63**	**170**	P	**Pn**	**09 04 33.7**	**+0.7**
	SNR=8.3						
BIDO				S	**Sn**	**09 05 25.2**	**-0.5**
ARQ	**Araqi**	**4.80**	**188**	P	**Pn**	**09 04 38.5**	**+3.1**
	SNR=1054						
ARQ				S	**Sn**	**09 05 31.6**	**+1.6**
	SNR=9.8						
ICHK	**Chekchek**	**4.82**	**330**	Pn	**Pn**	**09 04 38.5**	**+2.7**
ISAD	**Sadrabad**	**4.91**	**321**	Pn	**Pn**	**09 04 39.6**	**+2.4**
WSAR	**Wadi Sarin**	**5.00**	**166**	P	**Pn**	**09 04 40.0**	**+1.8**
	comp=E,20nm,0.3s,baz=340,slow=3.5,SNR=119						
WSAR				S	**Sn**	**09 05 32.3**	**-2.5**
	comp=E,238nm,0.5s,baz=12,slow=15,SNR=12 comp=E,44nm,0.3s						
JRN	**Qarnain Island**	**5.07**	**233**	P	**Pn**	**09 04 40.5**	**+1.4**
JRN				S	**Sn**	**09 05 37.1**	**+0.6**
SMDO	**Samad**	**5.07**	**172**	P	**Pn**	**09 04 40.3**	**+1.0**
	SNR=54						
SMDO				S	**Sn**	**09 05 37.8**	**+0.9**
KAZ2	**Kazeron-Fars-I**	**5.15**	**288**	Pn	**Pn**	**09 04 41.4**	**+1.0**
MZWR	**Madinat Zayed**	**5.30**	**216**	P	**Pn**	**09 04 43.1**	**+0.8**
MZWR				S	**Sn**	**09 05 42.7**	**+0.4**
BSY	**Bisya**	**5.34**	**181**	P	**Pn**	**09 04 45.8**	**+2.9**
	SNR=20						
BSY				S	**Sn**	**09 05 45.8**	**+2.5**
TKDS	**Koohdasht(Taba**	**5.49**	**359**	Pn	**Pn**	**09 04 47.1**	**+2.1**
AFRZ	**Afriz**	**5.51**	**15**	Pn	**Pn**	**09 04 47.0**	**+1.7**
TABS	**Tabas**	**5.53**	**359**	*e*Pn	**Pn**	**09 04 49.4**	**+3.9**
TABS				IAML		09 06 38.9	
	comp=N,151nm,0.7s						
IRAM	**Ramesheh**	**5.63**	**312**	Pn	**Pn**	**09 04 49.1**	**+2.1**
WBK	**Wadi Bani Khal**	**5.68**	**164**	Pn	**Pn**	**09 04 48.1**	**+0.5**
WBK	**Wadi Bani Khal**	**5.68**	**164**	P	**Pn**	**09 04 48.2**	**+0.6**
	SNR=45						
WBK				S	**Sn**	**09 05 51.4**	**-0.4**
UMZA	**Um Al Zommool**	**5.70**	**200**	P	**Pn**	**09 04 48.1**	**+0.3**
UMZA				S	**Sn**	**09 05 51.8**	**-0.4**
GHWR	**Ruwais**	**5.72**	**225**	P	**Pn**	**09 04 48.1**	**+0.1**
GHWR				S	**Sn**	**09 05 53.1**	**+0.5**
KLNJ	**Kolanjah**	**5.74**	**302**	Pn	**Pn**	**09 04 50.5**	**+1.8**
JMDO	**Jabal Madar**	**5.76**	**172**	P	**Pn**	**09 04 50.6**	**+1.9**
	SNR=7.8						
JMDO				S	**Sn**	**09 05 55.4**	**+1.8**
ANAR	**Anarak**	**5.92**	**330**	Pn	**Pn**	**09 04 53.0**	**+2.1**
NASN	**Na'in**	**6.07**	**322**	*e*Pn	**Pn**	**09 04 55.7**	**+2.6**
SHMA	**Al-Shehemyia**	**6.07**	**250**	P	**Pn**	**09 04 53.7**	**+0.8**
	SNR=33						
SHMA				S	**Sn**	**09 06 00.4**	**-0.7**
	SNR=8.0						
SHRT	**Shahrakht**	**6.10**	**24**	*e*Pn	**Pn**	**09 04 56.2**	**+2.9**
SHRT	**Shahrakht**	**6.10**	**24**	Pn	**Pn**	**09 04 55.1**	**+1.8**
MZR	**Muzera**	**6.13**	**215**	*i* P	**Pn**	**09 04 53.6**	**-0.2**
	SNR=16						
MZR				S	**Sn**	**09 06 02.3**	**-0.6**
MZR	**Muzera**	**6.13**	**215**	P	**Pn**	**09 04 53.9**	**+0.1**
	SNR=30						
MZR				S	**Sn**	**09 06 02.6**	**-0.3**
	SNR=7.1						
IGAR	**Gharneh**	**6.24**	**315**	Pn	**Pn**	**09 04 57.3**	**+2.0**
JLN	**Jalan Bani Buh**	**6.24**	**162**	P	**Pn**	**09 04 55.8**	**+0.6**
	SNR=13						
JLN				S	**Sn**	**09 06 03.7**	**-1.7**
SAKB	**Bahrain**	**6.38**	**252**	P	**Pn**	**09 04 58.8**	**+1.7**
SAKB				S	**Sn**	**09 06 07.2**	**-1.6**
IZEF	**Zefreh**	**6.41**	**319**	Pn	**Pn**	**09 04 59.5**	**+1.8**
SLWR	**Sila**	**6.44**	**233**	P	**Pn**	**09 04 57.8**	**-0.1**
SLWR				S	**Sn**	**09 06 08.9**	**-1.4**
ZNGN	**Zangian**	**6.85**	**307**	Pn	**Pn**	**09 05 05.9**	**+2.0**
JHBN	**Jahan bin**	**7.05**	**307**	Pn	**Pn**	**09 05 08.1**	**+1.5**
MHTO	**MHTO**	**7.12**	**175**	P	**Pn**	**09 05 09.1**	**+1.8**
	SNR=72						
MHTO				S	**Sn**	**09 06 26.2**	**-0.8**
	SNR=9.1						
IPIR	**Pirpir**	**7.16**	**311**	Pn	**Pn**	**09 05 09.6**	**+1.4**
QAMS	**Qamsar**	**7.55**	**319**	Pn	**Pn**	**09 05 15.5**	**+2.1**
HRA	**Herat**	**7.56**	**33**	Pn	**Pn**	**09 05 12.6**	**-0.9**
ISFB	**Sefidab**	**7.58**	**327**	Pn	**Pn**	**09 05 15.6**	**+2.0**
TBJM	**Torbat-e-JAM**	**7.60**	**19**	Pn	**Pn**	**09 05 16.1**	**+2.1**
DQM	**DQM**	**8.14**	**178**	P	**Pn**	**09 05 22.4**	**+1.0**
DQM				P	**Pn**	**09 05 22.4**	**+1.0**
DQM				S	**Sn**	**09 06 47.6**	**-4.8**
DQM				S	**Sn**	**09 06 47.6**	**-4.8**
GHVR	**GHOM**	**8.16**	**323**	*e*Pn	**Pn**	**09 05 24.8**	**+3.2**
IVRN	**Varamin**	**8.34**	**327**	Pn	**Pn**	**09 05 26.1**	**+1.9**
KHMZ	**Khomeyn**	**8.43**	**314**	*e*Pn	**Pn**	**09 05 27.4**	**+1.9**
IFIR	**Firoozkooh**	**8.44**	**334**	Pn	**Pn**	**09 05 28.3**	**+2.6**
KBD	**Kabd**	**8.49**	**279**	P	**Pn**	**09 05 26.5**	**+0.3**
KBD				S	**Sn**	**09 06 58.2**	**-2.7**
IQOM	**Qom**	**8.55**	**323**	Pn	**Pn**	**09 05 29.5**	**+2.3**
DAMV	**Damavand**	**8.75**	**330**	*e*Pn	**Pn**	**09 05 32.7**	**+2.8**
IGLO	**Ghaloghah**	**8.87**	**342**	Pn	**Pn**	**09 05 34.0**	**+2.5**
CHTH	**Charan**	**9.37**	**328**	*e*Pn	**Pn**	**09 05 41.1**	**+2.8**
BJRD	**Bojnurd**	**9.57**	**1**	*e*Pn	**Pn**	**09 05 44.4**	**+3.5**
MRVT	**Maraveh tapeh**	**9.58**	**354**	*e*Pn	**Pn**	**09 05 45.3**	**+4.3**
DOK	**Doka**	**9.88**	**198**	P	**Pn**	**09 05 45.2**	**+0.1**
	SNR=23						
DOK				S	**Sn**	**09 07 32.4**	**-2.6**
	SNR=7.9						
SHAO	**Shalim**	**10.15**	**189**	P	**Pn**	**09 05 48.7**	**-0.2**
	SNR=12						
SHAO				S	**Sn**	**09 07 40.5**	**-1.2**
DMTO	**DMTO**	**10.56**	**192**	P	**Pn**	**09 05 53.9**	**-0.6**
	SNR=17						
DMTO				S	**Sn**	**09 07 46.4**	**-5.4**
WHFO	**Wadi Hawf**	**10.64**	**198**	P	**Pn**	**09 05 56.0**	**+0.3**
	SNR=39						
WHFO				S	**Sn**	**09 07 49.2**	**-4.6**
RBK	**Rabkut**	**10.93**	**196**	P	**Pn**	**09 05 59.0**	**-0.6**
RBK				S	**Sn**	**09 07 54.7**	**-6.1**
SNGE	**Sanandaj**	**10.96**	**312**	*e*Pn	Pn	09 05 44.7	-15
ILBA	**Ilam Banvizeh**	**10.99**	**303**	*e*Pn	**Pn**	**09 05 59.2**	**-1.1**
ABTO	**Aybut**	**11.31**	**200**	P	**Pn**	**09 06 03.6**	**-1.3**
	SNR=26						
ABTO				S	**Sn**	**09 08 04.3**	**-6.0**
RAYN	**Ar Rayn**	**11.55**	**249**	Pn	**Pn**	**09 06 05.3**	**-2.8**
RAYN	**Ar Rayn**	**11.55**	**249**	P	**Pn**	**09 06 05.3**	**-2.8**
RAYN	**Ar Rayn**	**11.55**	**249**	P	**Pn**	**09 06 05.4**	**-2.7**
RAYN				S	Sn	09 08 06.5	-10
RAYN	**Ar Rayn**	**11.55**	**249**	P	**Pn**	**09 06 05.3**	**-2.8**
KBL	**Kabul**	**11.92**	**55**	Pn	**Pn**	**09 06 12.7**	**-0.6**
KBL	**Kabul**	**11.92**	**55**	P	**Pn**	**09 06 12.7**	**-0.6**
SIMJ	**Simiganj**	**14.36**	**40**	Pn	**Pn**	**09 06 48.2**	**+1.6**
CHGR	**Chuyangaron**	**14.45**	**40**	Pn	**Pn**	**09 06 48.1**	**+0.4**
CHGR	**Chuyangaron**	**14.45**	**40**	P	**Pn**	**09 06 48.1**	**+0.4**
NAX	**Nakhchivan**	**14.76**	**321**	P	**P**	**09 06 58.2**	**+0.7**
NIL	**Nilore**	**14.78**	**64**	Pn	**Pn**	**09 06 51.2**	**-0.9**
NIL	**Nilore**	**14.78**	**64**	P	**Pn**	**09 06 51.2**	**-0.9**
GAR	**Garm**	**15.35**	**42**	Pn	**Pn**	**09 07 00.1**	**+0.4**
GANJ	**Ganja**	**15.42**	**327**	P	**P**	**09 07 07.0**	**+2.2**
SEKA	**Sheki**	**15.46**	**330**	P	**P**	**09 07 07.6**	**+2.3**
GEVA	**Gevas**	**15.64**	**314**	Pn	**Pn**	**09 07 01.9**	**-1.6**
GNI	**Garni**	**15.86**	**322**	Pn	**Pn**	**09 07 05.0**	**-1.3**
GNI				IAmb	IAmb	09 07 12.9	
	comp=Z,41nm,0.9s						
GNI	**Garni**	**15.86**	**322**	P	**P**	**09 07 08.9**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=340,slow=1.4,SNR=10						
GNI				LR	LR	09 13 52.8	
	comp=Z,228nm,21.1s,baz=130,slow=39 comp=Z,34nm,0.8s						
GNI	**Garni**	**15.86**	**322**	P	**Pn**	**09 07 05.9**	**-0.5**
GNI	**Garni**	**15.86**	**322**	*i* P	**Pn**	**09 07 04.0**	**-2.3**
BTK	**Batken**	**16.34**	**40**		**Pn**	**09 07 10.9**	**-1.5**
BTK	**Batken**	**16.34**	**40**	P	**Pn**	**09 07 10.9**	**-1.5**
BTK				pmax	pmax		
	comp=Z,14nm,0.9s						
MAK	**Makhachkala**	**16.80**	**334**	*e*P	**Pn**	**09 07 14.0**	**-4.1**
MAK				*e*S	**Sn**	**09 10 19.9**	**-3.8**
MAK				pmax	pmax		
	comp=Z,27nm,0.3s						
IUG	**Iuzhnay**	**17.43**	**33**	*e*P	**Pn**	**09 07 25.3**	**-0.8**
	baz=33						
IUG	**Iuzhnay**	**17.43**	**33**	*e*P	**Pn**	**09 07 25.3**	**-0.8**
BRLS	**Borolday**	**18.02**	**31**	*e*P	**Pn**	**09 07 29.4**	**-4.0**
	baz=31						
BRLS	**Borolday**	**18.02**	**31**	*e*P	**Pn**	**09 07 29.3**	**-4.0**
ASF	**Jabal al Asfar**	**18.09**	**288**	P	**P**	**09 07 36.5**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=69,slow=0.1,SNR=20 comp=Z,25nm,1.0s						
ASF	**Jabal al Asfar**	**18.09**	**288**	P	**P**	**09 07 36.2**	**+1.8**
ONI	**Oni**	**18.30**	**326**		**P**	**09 07 34.4**	**-2.2**
ONI	**Oni**	**18.30**	**326**	P	**P**	**09 07 34.4**	**-2.2**
ONI				pmax	pmax		
	comp=Z,15nm,1.1s						
KK31	**Karatay Array**	**18.39**	**32**	P	**Pn**	**09 07 38.4**	**+0.6**
KK31	**Karatay Array**	**18.39**	**32**	P	**Pn**	**09 07 38.4**	**+0.6**
KK31				pmax	pmax		
	comp=Z,12nm,1.0s						
KKAR	**Karatay Array**	**18.39**	**32**	P	**Pn**	**09 07 37.9**	**+0.1**
KKAR	**Karatay Array**	**18.39**	**32**	P	**Pn**	**09 07 39.0**	**+1.2**
KKAR				IAmb	IAmb	09 07 49.9	
	comp=Z,12nm,1.0s						
KKAR	**Karatay Array**	**18.39**	**32**	P	**Pn**	**09 07 37.9**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,12nm,1.0s						
ARSB	**Arslanbob**	**18.41**	**40**	P	**P**	**09 07 37.5**	**-0.5**
ARSB	**Arslanbob**	**18.41**	**40**	P	**P**	**09 07 37.5**	**-0.5**
ARSB				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NCK	**Nalchik**	**18.91**	**328**	*i* P	**Pn**	**09 07 44.6**	**+0.5**
SHMJ	**Saham**	**19.11**	**289**	P	**Pn**	**09 07 49.4**	**+2.8**
GHAJ	**Ghor Haditha**	**19.13**	**285**	P	**P**	**09 07 42.6**	**-3.2**
GHAJ	**Ghor Haditha**	**19.13**	**285**	P	**Pn**	**09 07 47.2**	**+0.4**
BALJ	**Balqa**	**19.14**	**287**	P	**P**	**09 07 43.4**	**-2.5**
GAZ	**Gaziantep**	**19.14**	**303**	P	**P**	**09 07 44.1**	**-1.8**
ARPR	**Arapgir-MALATY**	**19.18**	**310**	P	**P**	**09 07 44.7**	**-1.7**
ARPR				IAmb	IAmb	09 07 51.3	
	comp=Z,59nm,0.9s						
KSH	**Kashi**	**19.21**	**49**	P	**P**	**09 07 43.3**	**-3.5**
KSH				sP	pP	09 07 52.5	-3.1
KSH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KSH				LR	LR		
	comp=Z,350nm,14.1s						
KSH				LR	LR		
	comp=Z,500nm,11.3s						
KSH				LR	LR		
	comp=Z,640nm,12.4s						
NATI	**Neve Ativ**	**19.22**	**291**	P	**Pn**	**09 07 50.9**	**+3.0**
KBZ	**Khabaz**	**19.41**	**327**	P	**Pn**	**09 07 50.8**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=135,slow=10,SNR=14 comp=Z,9.8nm,0.8s		

AAA pmax pmax
comp=Z,19nm,0.7s
MDOK Medeo 21.92 42 *e*P **P 09 08 15.6 -0.5**
baz=41
MDOK *e*S **S 09 12 18.6 +2.2**
baz=41
MDOK Medeo 21.92 42 *e*P **P 09 08 15.5 -0.5**
MDOK *e*S **S 09 12 18.6 +2.2**
ERBR Yeremizino-Bor 22.04 327 *e*P **P 09 08 18.2 +1.0**
ERBR pmax pmax
comp=Z,19nm,0.5s
AKTO Aktyubinsk 22.31 1 P **P 09 08 20.9 +0.9**
comp=Z,37nm,0.8s,baz=183,slow=9.5,SNR=52
comp=Z,37nm,0.8s
PRZ Przheval'sk 22.34 45 P **P 09 08 23.0 +2.3**
PRZ IAmb IAmb 09 08 35.4
comp=Z,29nm,1.0s
PRZ Przheval'sk 22.34 45 P **P 09 08 23.0 +2.3**
PRZ pmax pmax
comp=Z,29nm,1.0s
SATY Saty 22.66 43 *e*P **P 09 08 23.4 -0.6**
baz=43
SATY Saty 22.66 43 *e*P **P 09 08 23.4 -0.6**
SNOP Sinop 22.70 313 P **P 09 08 23.3 -0.9**
BR131 Keskin Array S 22.72 307 P **P 09 08 25.2 +0.6**
BR131 IAmb IAmb 09 08 26.8
comp=Z,24nm,0.9s
BR131 Keskin Array S 22.72 307 P **P 09 08 25.3 +0.6**
BR131 pmax pmax
comp=Z,25nm,1.0s
BRTR Keskin Array B 22.72 307 P **P 09 08 24.6 0.0**
BRTR Keskin Array B 22.72 307 P **P 09 08 24.9 +0.3**
comp=Z,14nm,0.8s,baz=124,slow=9.3,SNR=67
BRTR LR LR 09 19 03.0
comp=Z,334nm,20.6s,baz=112,slow=41
comp=Z,14nm,0.8s
BRTR Keskin Array B 22.72 307 P **P 09 08 25.0 +0.3**
ANN Anapa 22.98 322 *e*P **P 09 08 27.9 +0.8**
ANN *e*S **S 09 12 36.4 +1.2**
ANN pmax pmax
comp=Z,32nm,0.7s
KPKS Kokpek 23.06 43 *e*P **P 09 08 27.9 -0.3**
baz=43
KPKS Kokpek 23.06 43 *e*P **P 09 08 27.8 -0.3**
UZB Uzynbulak 23.09 44 *e*P **P 09 08 28.0 -0.5**
baz=44
UZB Uzynbulak 23.09 44 *e*P **P 09 08 27.9 -0.5**
SHLS Shalkode 23.36 44 *e*P **P 09 08 33.1 +1.9**
baz=44
SHLS Shalkode 23.36 44 *e*P **P 09 08 33.1 +1.9**
ANTO Ankara 23.37 306 P **P 09 08 31.7 +0.5**
ANTO IAmb IAmb 09 08 33.6
comp=Z,27nm,1.0s
ANTO Ankara 23.37 306 P **P 09 08 31.3 0.0**
ANTO P **P 09 08 31.3 0.0**
ANTO Ankara 23.37 306 P **P 09 08 31.7 +0.5**
ANTO pmax pmax
comp=Z,27nm,1.0s
BZK Bozkurt 23.45 312 P **P 09 08 33.0 +1.2**
PDGK Podgornoye 23.47 44 P **P 09 08 31.9 -0.3**
ISP Isparta 24.38 300 P **P 09 08 41.9 +1.1**
ISP Isparta 24.38 300*ce*P **P 09 08 41.4 +0.6**
ISP pmax pmax
comp=Z,31nm,0.8s
ELL Elmali 24.60 297 P **P 09 08 43.9 +1.1**
ELL Elmali 24.60 297 P **P 09 08 43.9 +1.1**
ELL pmax pmax
comp=Z,97nm,0.8s
MDUB Mudurnu 24.73 307 P **P 09 08 44.7 +0.8**
SIM Simferopol' 24.95 319*d i*P **P 09 08 46.2 +0.5**
SIM *e*S **S 09 13 06.0 -1.1**
SIM pmax pmax
comp=Z,32nm,0.8s
SIM MLR MLR
comp=Z,52nm,16.0s
BELG Belogornoye 25.31 346 P **P 09 08 48.9 +0.1**
comp=Z,24nm,0.7s,baz=323,slow=1.3,SNR=12
comp=Z,24nm,0.7s
BELG Belogornoye 25.31 346 *i* P **P 09 08 47.2 -1.6**
BELG pmax pmax
comp=Z,6.0nm,0.9s
VRH Novokhopyorsk 25.89 337 *e*P **P 09 08 53.8 -0.3**
VRH pmax pmax
comp=Z,30nm,0.9s
FURI Furi 25.94 226 LR LR 09 20 55.9
comp=Z,611nm,18.4s,baz=30,slow=40
KARP Karpathos 26.57 294 P **P 09 09 02.1 +1.5**
VORD Divnogorie 26.57 334 *e*P **P 09 08 58.4 -1.9**
VORD pmax pmax
comp=Z,20nm,0.8s
BVA0 Borovoye Array 26.72 18 *i* P **P 09 09 01.6 -0.1**
BVAR Borovoye Array 26.72 18 P **P 09 09 02.5 +0.9**
comp=Z,10nm,0.8s,baz=199,slow=7.8,SNR=46
BVAR LR LR 09 21 02.6
comp=Z,522nm,18.9s,baz=207,slow=40
comp=Z,10nm,0.8s
BRVK Borovoye 26.72 18 P **P 09 09 02.1 +0.5**
BRVK Borovoye 26.72 18 P **P 09 09 02.2 +0.5**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
VSR Storozhevoye 26.82 334 *e*P **P 09 09 00.0 -2.6**
VSR pmax pmax
comp=Z,20nm,0.9s
MAKZ Makanchi 26.89 39 P **P 09 09 03.4 +0.1**
MAKZ Makanchi 26.89 39 P **P 09 09 03.4 +0.1**
MAKZ pmax pmax
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 27.06 40 P **P 09 09 05.2 +0.4**
MK31 Makanchi Array 27.06 40 *i* P **P 09 09 04.6 -0.2**
MK31 pmax pmax
comp=Z,10.0nm,1.0s
MKAR Makanchi Array 27.06 40 P **P 09 09 05.2 +0.4**
MKAR Makanchi Array 27.06 40 P **P 09 09 05.1 +0.3**
comp=Z,4.5nm,0.8s,baz=226,slow=8.4,SNR=35
MKAR PcP **PcP 09 12 25.6 +0.2**
comp=Z,0.6nm,0.7s,baz=240,slow=2.8,SNR=2.9
MKAR LR LR 09 21 05.2
comp=Z,199nm,20.8s,baz=264,slow=39
comp=Z,4.5nm,0.8s
VORR Voronezh 27.17 335 *e*P **P 09 09 06.3 +0.6**
VORR pmax pmax
comp=Z,38nm,0.9s
KURBB Kurchatov Arra 27.66 30 P **P 09 09 10.9 +0.8**
comp=Z,7.3nm,0.8s,baz=228,slow=8.6,SNR=53
KURBB LR LR 09 21 44.5
comp=Z,439nm,18.4s,baz=177,slow=40
comp=Z,7.3nm,0.8s
KURK Kurchatov 27.77 30 P **P 09 09 11.8 +0.7**
KURK Kurchatov 27.77 30 P **P 09 09 12.1 +1.0**
KURK Kurchatov 27.77 30 *i* P **P 09 09 11.6 +0.6**
KURK pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 28.02 336 *e*P **P 09 09 11.3 -2.0**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
SANT Santorini 28.05 295 P **P 09 09 09.9 -4.0**
ARU Arti 28.32 1 P **P 09 09 16.8 +0.9**
ARU Arti 28.32 1 LR LR 09 21 54.3
comp=Z,103nm,18.9s,baz=150,slow=39
IDI Anoyia 28.39 293 P **P 09 09 16.7 -0.2**
TPGR Topolog 28.39 314 ⇑P **P 09 09 17.1 +0.3**
ALN Alexandroupoli 28.57 305 P **P 09 09 18.2 -0.1**
ALN Alexandroupoli 28.57 305 P **P 09 09 18.3 -0.1**
ALN pmax pmax
comp=Z,5.0nm,0.7s
CFR Carcaliu 28.72 314 ⇑P **P 09 09 19.3 -0.3**
CFR Carcaliu 28.72 314 P **P 09 09 19.3 -0.3**
ZSN Zaisan 28.89 41 *e*P **P 09 09 21.4 +0.3**
baz=40
ZSN *e*S **S 09 14 12.2 +2.9**
baz=40
ZSN Zaisan 28.89 41 *e*P **P 09 09 21.4 +0.3**
ZSN *e*S **S 09 14 12.2 +2.9**
WMQ Urumqi 28.98 49 *e*P **P 09 09 25.1 +3.1**
WMQ LR LR
comp=Z,210nm,11.7s
WMQ LR LR
comp=Z,420nm,20.3s
WMQ LR LR
comp=Z,380nm,19.9s
RDO Rodhopi 29.01 305 P **P 09 09 22.3 +0.1**
MILM Milestii Mici 29.13 318*de*P **P 09 09 23.0 -0.2**
MILM pmax pmax
comp=Z,40nm,0.5s
MILM pmax pmax
comp=Z,120nm,1.1s
VRI Vrincioaia 29.91 315 ⇑P **P 09 09 30.0 -0.3**
VRI Vrincioaia 29.91 315 P **P 09 09 29.9 -0.3**
PLOR Plostina 29.95 314 ⇓P **P 09 09 29.6 -1.0**
PLOR Plostina 29.95 314 P **P 09 09 29.6 -1.0**
SORM Soroca 30.02 320 ⇑P **P 09 09 30.3 -0.8**
SORM Soroca 30.02 320 P **P 09 09 30.2 -0.8**
COVR Voineasa-Covas 30.23 314 ⇑P **P 09 09 32.7 -0.3**
TESR Tescani 30.25 316 ⇑P **P 09 09 33.0 -0.1**
MLR Muntele Rosu 30.25 313 ⇓P **P 09 09 32.6 -0.7**
MLR Muntele Rosu 30.25 313 P **P 09 09 32.7 -0.7**
MLR IAmb IAmb 09 09 38.7
comp=Z,8.4nm,0.9s
MLR Muntele Rosu 30.25 313 P **P 09 09 32.7 -0.7**
MLR pmax pmax
comp=Z,8.0nm,0.9s
PALK Pallekele 30.33 129 LR LR 09 21 59.1
comp=Z,111nm,19.3s,baz=60,slow=37
DOPR Dopca 30.80 314 ⇑P **P 09 09 38.3 +0.2**
VOIR 30.80 313 ⇑P **P 09 09 38.5 +0.3**
VOIR 30.80 313 P **P 09 09 38.5 +0.3**
OBN Obninsk 30.87 337 P **P 09 09 39.4 +0.9**
OBN Obninsk 30.87 337*ce*P **P 09 09 37.1 -1.4**
OBN pmax pmax
comp=Z,11nm,0.7s
AGG Agios Georgios 30.92 300 P **P 09 09 38.9 -0.3**
AGG Agios Georgios 30.92 300 P **P 09 09 38.9 -0.3**
AGG pmax pmax
comp=Z,6.0nm,0.8s
KIRV Kirov 30.95 352 P **P 09 09 38.9 -0.3**
comp=Z,9.8nm,0.6s,baz=179,slow=7.0,SNR=6.7
comp=Z,9.8nm,0.6s
KIRV Kirov 30.95 352*ce*P **P 09 09 39.3 +0.1**
ITM Ithomi 30.97 296 P **P 09 09 39.5 -0.1**
AKASG Malin Array Be 30.97 324 P **P 09 09 38.6 -0.9**
AKASG Malin Array Be 30.97 324 P **P 09 09 38.9 -0.6**
comp=Z,4.7nm,0.6s,baz=132,slow=8.6,SNR=23
comp=Z,4.7nm,0.6s
AKASG Malin Array Be 30.97 324 P **P 09 09 38.6 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 30.97 324 P **P 09 09 39.0 -0.5**
AKBB IAmb IAmb 09 09 39.5
comp=Z,14nm,0.8s
AKBB Malin Array Si 30.97 324*ce*P **P 09 09 38.7 -0.8**
AKBB pmax pmax
comp=Z,14nm,0.8s
KIEV Kiev 30.98 324 ⇓P **P 09 09 38.7 -0.8**
KIEV Kiev 30.98 324 P **P 09 09 39.0 -0.5**
KIEV IAmb IAmb 09 09 39.5
comp=Z,12nm,0.8s
KIEV Kiev 30.98 324 *i* P **P 09 09 39.0 -0.5**
SNR=8.5
KIEV Kiev 30.98 324 P **P 09 09 38.7 -0.8**
LIT Litokhoron 31.00 302 P **P 09 09 37.4 -2.5**
LIT Litokhoron 31.00 302 P **P 09 09 37.4 -2.5**
LIT pmax pmax
comp=Z,6.0nm,1.0s
BURAR Bucovina Array 31.61 317 ⇑P **P 09 09 44.8 -0.5**
BURAR Bucovina Array 31.61 317 P **P 09 09 45.4 +0.1**
BUR08 Bucovina Ar. S 31.64 317 P **P 09 09 45.7 +0.2**
BUR08 IAmb IAmb 09 09 46.5
comp=Z,7.3nm,0.9s
FNA Florina 31.98 303 P **P 09 09 49.9 +1.4**
FNA IAmb IAmb 09 09 50.1
comp=Z,8.7nm,0.9s
FNA Florina 31.98 303 P **P 09 09 49.9 +1.4**
FNA pmax pmax
comp=Z,9.0nm,0.9s
GZR Gura Zlata 32.27 312 ⇑P **P 09 09 50.3 -0.8**
HERR Herculane 32.34 311 ⇑P **P 09 09 51.5 -0.1**
BOVS Bovan 32.44 308 ⇑P **P 09 09 52.3 -0.2**
MARR Marisel-Cluj 32.52 314 ⇑P **P 09 09 53.8 +0.4**
MSEY Mahe Island 32.64 183 P **P 09 09 52.1 -2.3**
MSEY Mahe Island 32.64 183 P **P 09 09 52.1 -2.3**
MSEY pmax pmax
comp=Z,54nm,1.1s
ZAA0 Zalesovo Array 32.75 30 P **P 09 09 55.4 +0.4**
ZALV Zalesovo Beam 32.75 30 P **P 09 09 55.3 +0.3**
comp=Z,9.9nm,0.5s,baz=243,slow=9.6,SNR=40
ZALV PcP **PcP 09 12 39.9 +0.1**
comp=Z,0.4nm,0.3s,baz=230,slow=3.6,SNR=1.7
ZALV LR LR 09 24 33.7
comp=Z,52nm,20.8s,baz=254,slow=39
comp=Z,9.9nm,0.5s
ZALV Zalesovo Beam 32.75 30 *i* P **P 09 09 55.2 +0.1**
ZALV pmax pmax
comp=Z,14nm,0.6s
MDVR Moldovita 32.78 310 ⇑P **P 09 09 55.9 +0.3**
BZS Buzias 33.12 311 ⇓P **P 09 09 59.0 +0.6**
BZS Buzias 33.12 311 P **P 09 09 58.9 +0.6**
TIR Tirane 33.21 303 P **P 09 10 00.1 +0.9**
TIR Tirane 33.21 303 P **P 09 10 00.1 +0.9**
TIR pmax pmax
comp=Z,20nm,0.5s
SIRR Siria 33.31 313 ⇑P **P 09 10 00.7 +0.6**
PUK Puka 33.33 305 P **P 09 10 00.2 -0.2**
PUK IAmb IAmb 09 10 01.3
comp=Z,9.5nm,1.0s
PDG Podgorica 33.88 305 ⇑P **P 09 10 04.8 -0.3**
PDG Podgorica 33.88 305 P **P 09 10 04.0 -1.0**
PDG IAmb IAmb 09 10 05.0
comp=Z,14nm,1.4s
MNK Minsk 33.95 329 *i* P **P 09 10 03.0 -2.4**
comp=E,6.0nm,0.9s,baz=129
MNK *i* P **P 09 10 03.0 -2.4**
comp=N,15nm,0.8s,baz=129
MNK *i* P **P 09 10 03.0 -2.4**
comp=Z,13nm,0.8s,baz=129
MNK *i* PP **PnPn 09 11 16.1 -2.7**
baz=129
MNK *i* PPP PPP 09 11 27.4
baz=129
MNK *i* S **S 09 15 29.1 +1.0**
baz=129
MNK *i* SS **SnSn 09 17 36.8 +1.2**
baz=129
MNK *i* SSS SSS 09 17 52.6
baz=129
MNK *i* LQ LQ 09 20 46.9
baz=129
MNK *i* LR LR 09 23 54.5
baz=129
MNK *i* LRM MLR 09 26 30.8
comp=Z,98nm,21.2s,baz=129
MNK *i* LRM MLR 09 26 46.1
comp=N,111nm,22.4s,baz=129
MNK *i* LRM MLR 09 26 54.5
comp=E,40nm,17.6s,baz=129
MNK Minsk 33.95 329 *i* P **P 09 10 03.0 -2.4**
MNK *i* 09 11 16.1
MNK *i* S **S 09 15 29.0 +1.0**
MNK *i* SS **SnSn 09 17 36.8 +1.2**
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=N,15nm,0.8s
MNK pmax pmax
comp=Z,13nm,0.8s
MNK MLR MLR
comp=Z,98nm,21.0s
MNK MLR MLR
comp=N,111nm,22.0s
MNK MLR MLR
comp=E,40nm,18.0s
KOLS Kolonicke sedl 33.96 317 *e*P **P 09 10 07.0 +1.3**
KOLS pmax pmax
comp=Z,77nm,0.8s
KOLS Kolonicke sedl 33.96 317 *e*P **P 09 10 07.0 +1.3**
CRVS Cervenica-Dubn 34.43 317 *e*P **P 09 10 10.2 +0.4**
CRVS pmax pmax
comp=Z,24nm,1.3s
CRVS Cervenica-Dubn 34.43 317 *e*P **P 09 10 10.2 +0.4**
NACGM Naroch 34.70 329 *e*P **P 09 10 11.0 -0.9**
baz=128
PSZ Piszkesteto 35.02 315 P **P 09 10 14.8 -0.2**
PSZ IAmb IAmb 09 10 16.0
comp=Z,15nm,1.3s
PSZ Piszkesteto 35.02 315 P **P 09 10 14.8 -0.2**
PSZ pmax pmax
comp=Z,15nm,1.3s
TIP Timpagrande 35.24 299 ⇑P **P 09 10 16.6 -0.3**
TIP Timpagrande 35.24 299 P **P 09 10 17.2 +0.3**
TIP IAmb IAmb 09 10 18.4
comp=Z,22nm,1.1s
MORH Mrgy, Hungar 35.28 311 ⇑P **P 09 10 17.5 +0.4**
LANS Liptovska Anna 35.74 316 *e*P **P 09 10 21.8 +0.7**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 35.74 316 *e*P **P 09 10 21.8 +0.7**
VYHS Vyhne 35.89 315 *e*P **P 09 10 22.5 +0.1**
VYHS pmax pmax
comp=Z,12nm,1.4s
VYHS Vyhne 35.89 315 *e*P **P 09 10 22.5 +0.1**
SUW Suwalki 35.90 326 P **P 09 10 21.2 -1.1**
SUW Suwalki 35.90 326 P **P 09 10 21.2 -1.1**
SUW pmax pmax
comp=Z,39nm,0.3s
OJC Ojcow 35.96 318 P **P 09 10 22.7 -0.2**
OJC Ojcow 35.96 318 P **P 09 10 22.7 -0.2**
OJC pmax pmax
comp=Z,35nm,0.9s
SRO Srobarova 35.99 314 *e*P **P 09 10 23.3 +0.1**
SRO pmax pmax
comp=Z,22nm,1.0s
SRO Srobarova 35.99 314 *e*P **P 09 10 23.3 +0.1**
CUC Castrocucco 36.05 300 P **P 09 10 24.8 +1.0**
PABE Paberze 36.35 328 P **P 09 10 25.9 -0.3**
PABE IAmb IAmb 09 10 27.2
comp=Z,12nm,0.7s
JAVC Velka Javorina 36.74 315 *e*P **P 09 10 30.3 +0.6**
SMOL Smolenice 36.78 315 *e*P **P 09 10 29.9 0.0**
SMOL pmax pmax
comp=Z,6.0nm,0.7s
GTA Gaotai 36.81 61 P **P 09 10 31.0 +0.5**
GTA pP pP 09 10 39.8 -0.4
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA LR LR
comp=Z,77nm,12.7s
GTA LR LR
comp=Z,95nm,16.3s
GTA LR LR
comp=Z,80nm,16.3s
MODS Modra-Piesok 36.83 314 *e*P **P 09 10 30.6 +0.2**
MODS pmax pmax
comp=Z,35nm,1.3s
MODS Modra-Piesok 36.83 314 *e*P **P 09 10 30.6 +0.2**
RAFF Raffo Rosso 37.00 295 P **P 09 10 30.1 -1.8**
RAFF IAmb IAmb 09 10 34.4
comp=Z,22nm,0.9s
VSU Vasula 37.01 334*ce*P **P 09 10 32.0 +0.3**
VSU pmax pmax
comp=Z,35nm,1.3s
PAOL Paolisi 37.11 302 P **P 09 10 32.4 -0.5**
PAOL IAmb IAmb 09 10 46.8
comp=Z,19nm,1.2s
MORC Moravsky Berou 37.14 317 P **P 09 10 32.5 -0.5**
MORC IAmb IAmb 09 10 33.5
comp=Z,12nm,0.8s
MORC Moravsky Berou 37.14 317 *e*P **P 09 10 32.2 -0.8**
MORC Moravsky Berou 37.14 317 P **P 09 10 32.5 -0.5**
MORC pmax pmax
comp=Z,12nm,0.8s
GOLS Golise 37.24 310 *e*P **P 09 10 34.0 0.0**
RONA Rosalia, Austr 37.25 313 *e*P **P 09 10 33.7 -0.3**
comp=Z,15nm,0.5s,SNR=10
CRES Cresnjev 37.31 310 *e*P **P 09 10 34.7 +0.2**
BOJS Bojanci 37.38 309 *e*P **P 09 10 35.4 +0.3**
VRAC Vranov 37.56 316 *e*P **P 09 10 36.4 -0.1**
VRAC Vranov 37.56 316 LR LR 09 27 56.9
comp=Z,49nm,21.5s,baz=139,slow=39
CONA Conrad Observa 37.60 313 *e*P **P 09 10 36.5 -0.5**
comp=Z,8.7nm,1.1s,SNR=5.8
KRUC Moravsky 37.60 315 *e*P **P 09 10 36.7 -0.2**
ARSA Arzberg 37.63 312 *e*P **P 09 10 37.1 0.0**
comp=Z,8.1nm,0.7s,SNR=5.2
INTR Introdacqua 37.72 303 P **P 09 10 38.5 +0.3**
INTR IAmb IAmb 09 10 40.4
comp=Z,17nm,1.0s
VISS Visnje 37.73 310 *i* P **P 09 10 38.2 +0.2**
SOKA Soboth 37.80 311 *i* P **P 09 10 38.4 -0.4**
comp=Z,2.6nm,0.7s
CLTB Caltabellotta 37.92 296 P **P 09 10 37.5 -2.3**
DPC Dobruska-Polom 38.07 317 *e*P **P 09 10 39.7 -1.2**
DPC Dobruska-Polom 38.07 317 *e*P **P 09 10 39.7 -1.2**
OBKA Obir 38.09 311 *e*pP **P 09 10 42.6 +1.4**
comp=Z,2.8nm,0.4s
CAMP Campotosto 38.16 304 P **P 09 10 42.5 +0.7**
OSTC Ostas 38.21 317 *e*P **P 09 10 41.7 -0.3**
OSTC Ostas 38.21 317 *e*P **P 09 10 41.7 -0.3**
MBAR Mbarara 38.25 226 *i* P **P 09 10 42.7 -0.2**
MBAR pmax pmax
comp=Z,5.0nm,0.6s
GUMA Gualdo di Mace 38.28 305 P **P 09 10 43.6 +0.8**
GUMA IAmb IAmb 09 10 44.3
comp=Z,41nm,0.8s
CHVC Chvalec 38.32 317 *e*P **P 09 10 42.6 -0.3**
CHVC Chvalec 38.32 317 *e*P **P 09 10 42.6 -0.3**
NRCA Norcia 38.41 304 P **P 09 10 44.4 +0.5**
MOA Molln 38.61 313 *e*P **P 09 10 45.2 -0.2**
comp=Z,11nm,0.7s,SNR=7.3
SABO M.te Sabotino 38.61 309 P **P 09 10 44.5 -1.0**
SABO IAmb IAmb 09 10 46.2
comp=Z,10nm,0.6s
MYKA Terra Mystica 38.73 311 *e*P **P 09 10 46.4 -0.1**
comp=Z,3.7nm,0.7s
PRED Cave del Predi 38.73 310 P **P 09 10 45.2 -1.4**
PRED IAmb IAmb 09 10 45.7
comp=Z,13nm,1.1s
CESX Cesi 38.77 304 P **P 09 10 47.7 +0.8**
CKRC Cesky Krumlov 38.84 314 *e*P **P 09 10 47.8 +0.4**
CKRC Cesky Krumlov 38.84 314 *e*P **P 09 10 47.8 +0.4**
BIOA Bad Ischl, Aus 38.98 312 *i* P **P 09 10 48.2 -0.3**
comp=Z,7.7nm,0.5s,SNR=7.4
KBA Koelnbreinsper 39.02 311 *e*P **P 09 10 48.8 -0.3**
comp=Z,3.7nm,0.5s,SNR=8.8
GEC2 GERESS Array S 39.23 314 P **P 09 10 50.8 0.0**
GERES GERESS Array B 39.23 314 P **P 09 10 50.5 -0.2**
comp=Z,4.2nm,0.6s,baz=108,slow=8.6,SNR=17
GERES PcP **PcP 09 12 59.1 -0.3**
comp=Z,2.0nm,0.7s,baz=57,slow=4.9,SNR=4.4
GERES LR LR 09 29 18.8
comp=Z,51nm,20.4s,baz=107,slow=40
comp=Z,4.2nm,0.6s
STAL STALIGIAL 39.27 310 P **P 09 10 50.1 -0.9**
STAL IAmb IAmb 09 10 51.3
comp=Z,18nm,1.2s
FIA1 FINESS Array S 39.28 337 P **P 09 10 50.6 -0.2**
FIA1 IAmb IAmb 09 10 51.0
comp=Z,23nm,1.1s
FINES FINESS Array B 39.28 337 P **P 09 10 50.8 0.0**
FINES FINESS Array B 39.28 337 P **P 09 10 50.6 -0.2**
comp=Z,1.7nm,0.4s,baz=134,slow=7.3,SNR=16
FINES PP **PnPn 09 12 22.6 -1.4**
comp=Z,2.4nm,0.8s,baz=111,slow=11,SNR=4.9
comp=Z,1.7nm,0.4s
CMAR Chiang Mai Arr 39.29 95 LR LR 09 29 05.9
comp=Z,39nm,21.2s,baz=285,slow=39
PZH PanZhiHua 39.38 82 P **P 09 10 53.4 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.3s
KHC Kasperske Hory 39.39 314 P **P 09 10 51.7 -0.3**
KHC IAmb IAmb 09 10 52.6
comp=Z,16nm,0.8s
KHC Kasperske Hory 39.39 314 *e*P **P 09 10 51.7 -0.3**
KHC Kasperske Hory 39.39 314*ce*P **P 09 10 51.8 -0.2**
KHC pmax pmax
comp=Z,74nm,1.7s
ABTA Abfaltersbach 39.51 310 *e*P **P 09 10 52.9 -0.2**
comp=Z,5.9nm,0.7s,SNR=6.4
LESA Schwarzleotal 39.55 312 *e*P **P 09 10 52.6 -0.8**
comp=Z,12nm,0.9s
TEOL Teolo 39.82 308 P **P 09 10 55.3 -0.3**
TEOL IAmb IAmb 09 10 56.2
comp=Z,20nm,0.7s
OSSC Osservatorio P 39.85 305 P **P 09 10 56.1 +0.2**
OSSC IAmb IAmb 09 10 58.1
comp=Z,12nm,0.6s
CRAI Chiangrai 39.92 92 P **P 09 10 57.5 +0.7**
CTI Castel Tesino 39.96 309 P **P 09 10 56.5 -0.3**
CTI Castel Tesino 39.96 309 P **P 09 10 56.5 -0.3**
CTI pmax pmax
comp=Z,7.0nm,0.6s
CASP Castiglione de 40.05 304 P **P 09 10 55.3 -2.2**
CASP IAmb IAmb 09 10 57.7
comp=Z,12nm,0.7s
MOY Mondy 40.15 42 *e*P **P 09 10 59.9 +1.5**

MOY pmax pmax
comp=Z,18nm,1.6s
ZCCA Zocca 40.16 306 P **P 09 10 59.7 +1.3**
WTTA Wattenberg 40.20 311 *e*P **P 09 10 58.2 -0.8**
comp=Z,19nm,0.5s,SNR=10
WATA Walderalm 40.26 311 *e*P **P 09 10 58.3 -1.1**
comp=Z,17nm,1.0s,SNR=5.8
CLL Collm 40.38 317 P **P 09 11 00.1 0.0**
CLL IAmb IAmb 09 11 01.0
comp=Z,16nm,1.1s
CLL Collm 40.38 317 *i* P **P 09 11 00.0 0.0**
comp=Z,17nm,1.1s
CLL Collm 40.38 317 P **P 09 11 00.1 0.0**
CLL pmax pmax
comp=Z,16nm,1.1s
SQTA Sankt Quirin 40.48 311 *e*P **P 09 11 00.2 -1.0**
comp=Z,19nm,0.5s,SNR=12
KMI Kunming 40.57 83 ⇑P **P 09 11 02.9 +0.6**
KMI pmax pmax
comp=Z,16nm,1.3s
BSD Bornholm Skovb 40.66 324 *i* P **P 09 11 00.0 -2.3**
PRMA PARMA 40.68 307 P **P 09 11 03.8 +1.1**
FETA Feichten 40.76 310 *e*P **P 09 11 02.7 -0.9**
comp=Z,10nm,0.5s,SNR=20
RETA Reutte 40.83 311 *i* P **P 09 11 02.8 -1.2**
comp=Z,9.4nm,0.6s,SNR=5.8
FUORN Ofenpass-Fuorn 41.01 310 P **P 09 11 05.1 -0.5**
FUORN IAmb IAmb 09 11 06.7
comp=Z,6.6nm,0.5s
GRA1 Grafenberg Arr 41.02 315 P **P 09 11 04.8 -0.7**
GRA1 IAmb IAmb 09 11 06.3
comp=Z,19nm,0.9s
GRF Grafenberg Arr 41.02 315 P **P 09 11 04.8 -0.7**
GRF pmax pmax
comp=Z,19nm,0.9s
GRFO Grafenberg 41.02 315 P **P 09 11 05.4 -0.1**
GRFO IAmb IAmb 09 11 06.3
comp=Z,18nm,0.9s
GRFO Grafenberg 41.02 315 P **P 09 11 05.4 -0.1**
GRFO pmax pmax
comp=Z,18nm,0.9s
KEST Kesra 41.06 293 P **P 09 11 06.0 -0.1**
KEST IAmb IAmb 09 11 08.8
comp=Z,14nm,1.1s
KEST Kesra 41.06 293 P **P 09 11 06.6 +0.6**
comp=Z,6.3nm,0.8s,baz=52,slow=2.6,SNR=6.2
comp=Z,6.3nm,0.8s
ZAK Zakamensk 41.16 44 *e*P **P 09 11 06.6 -0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
MSSA Maissana 41.19 306 P **P 09 11 05.9 -1.1**
DAVA Damuels 41.38 311 *e*P **P 09 11 07.6 -1.0**
comp=Z,27nm,0.6s,SNR=10
TUE Stuetta 41.60 309 P **P 09 11 10.2 -0.3**
DEL Delary 41.76 325 *i* P **P 09 11 10.0 -1.3**
APA Apatity 42.03 347 ⇓*i*P **P 09 11 09.3 -4.1**
APA *i* 09 12 50.0
APA *i* S **S 09 17 26.0 -4.1**
APA *i* 09 20 41.0
APA pmax pmax
comp=Z,8.0nm,0.8s
APA MLR MLR
comp=Z,600nm,14.0s
FABU Falkenberg 42.55 325 *e*P **P 09 11 18.3 +0.5**
BFO Black Forest 42.59 312 P **P 09 11 18.9 +0.5**
BFO Black Forest 42.59 312 P **P 09 11 18.9 +0.5**
BFO pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 42.62 49 P **P 09 11 19.3 +0.6**
SONM Songino Array 42.62 49 P **P 09 11 18.9 +0.3**
comp=Z,6.5nm,1.0s,baz=258,slow=8.5,SNR=26
SONM LR LR 09 31 04.5
comp=Z,329nm,21.1s,baz=260,slow=39
comp=Z,6.5nm,1.0s
SONM Songino Array 42.62 49 P **P 09 11 19.3 +0.6**
BORU Boraas 42.78 326 *e*P **P 09 11 19.5 -0.2**
SENIN Lac Senin/Sane 42.99 309 P **P 09 11 20.8 -1.1**
ULN Ulaanbaatar 43.06 49 P **P 09 11 22.7 +0.5**
ULN IAmb IAmb 09 11 23.6
comp=Z,13nm,1.1s
ULN Ulaanbaatar 43.06 49 P **P 09 11 22.5 +0.3**
ULN P **P 09 11 22.5 +0.3**
ULN Ulaanbaatar 43.06 49 *ce*P **P 09 11 22.8 +0.5**
ULN pmax pmax
comp=Z,18nm,1.7s
BNI Bardonecchia 43.28 307 P **P 09 11 23.2 -0.9**
BNI Bardonecchia 43.28 307 P **P 09 11 23.2 -0.9**
BNI pmax pmax
comp=Z,29nm,0.8s
ECH Echery 43.35 312 P **P 09 11 23.1 -1.3**
ECH Echery 43.35 312 P **P 09 11 23.2 -1.3**
ECH pmax pmax
comp=Z,7.0nm,0.8s
HFS Hagfors 43.45 330 P **P 09 11 24.5 -0.5**
comp=Z,1.5nm,0.4s,baz=128,slow=9.6,SNR=12
comp=Z,1.5nm,0.4s
XAN Xi'an 44.24 69 P **P 09 11 31.8 -0.1**
XAN pmax pmax
comp=Z,12nm,1.0s
BTNL Ternell 44.41 315 *d*P **P 09 11 33.4 +0.4**
MEM Membach 44.49 315 *d*P **P 09 11 34.5 +0.9**
NC405 NORSAR Array S 44.77 331 P **P 09 11 34.7 -0.9**
NRIK Noril'sk 44.85 15 P **P 09 11 36.8 +0.6**
NRIK IAmb IAmb 09 11 37.9
comp=Z,8.6nm,0.9s
NRIK Noril'sk 44.85 15 P **P 09 11 36.7 +0.6**
comp=Z,4.5nm,0.8s,baz=215,slow=6.3,SNR=7.5
NRIK LR LR 09 33 59.9
comp=Z,327nm,18.2s,baz=210,slow=41
comp=Z,4.5nm,0.8s
NRIK Noril'sk 44.85 15 *ce*P **P 09 11 36.2 0.0**
NRIK pmax pmax
comp=Z,11nm,1.0s
BCLA Clavier 44.90 314 *d*P **P 09 11 37.6 +0.8**
RCHB Rochefort 44.91 314 *d*P **P 09 11 37.0 +0.2**
NB201 NORSAR Array S 44.92 330 P **P 09 11 37.2 +0.3**
NB201 IAmb IAmb 09 11 37.5
comp=Z,13nm,1.4s
NB2 NORSAR Subarra 44.95 330 P **P 09 11 35.8 -1.3**
comp=Z,5.5nm,1.1s,baz=119,slow=7.9
NOA NORSAR Array B 44.95 330 P **P 09 11 36.1 -1.0**
comp=Z,2.2nm,0.8s,baz=116,slow=7.9,SNR=9.2
NOA PP **PcP 09 13 19.1 +1.1**
comp=Z,0.4nm,0.7s,baz=116,slow=9.1,SNR=3.7
comp=Z,2.2nm,0.8s
NAO01 NORSAR Array S 45.01 330 P **P 09 11 37.3 -0.2**
NAO01 IAmb IAmb 09 11 39.1
comp=Z,8.1nm,1.0s
KEV Kevo 45.18 346 P **P 09 11 38.2 -0.5**
KEV Kevo 45.18 346 P **P 09 11 38.2 -0.5**
KEV pmax pmax
comp=Z,40nm,1.5s
BMRD Maredsous 45.22 314 *d*P **P 09 11 39.9 +0.5**
NC204 NORSAR Array S 45.25 330 P **P 09 11 40.8 +1.2**
DOU Dourbes 45.30 314 *d*P **P 09 11 40.5 +0.5**
ARCES ARCESS Array B 45.35 345 P **P 09 11 40.6 +0.5**
ARCES IAmb IAmb 09 11 42.0
comp=Z,15nm,1.2s
ARCES ARCESS Array B 45.35 345 P **P 09 11 40.2 +0.1**
comp=Z,3.1nm,0.7s,baz=133,slow=7.0,SNR=13
ARCES LR LR 09 33 30.9
comp=Z,110nm,18.6s,baz=140,slow=40
comp=Z,3.1nm,0.7s
ARCES ARCESS Array B 45.35 345 P **P 09 11 40.6 +0.5**
ARCES pmax pmax
comp=Z,15nm,1.2s
HHC Hu-ho-hao-te 45.85 59 *e*P **P 09 11 43.1 -1.5**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,81nm,4.1s
HHC LR LR
comp=Z,92nm,13.8s
HHC LR LR
comp=Z,95nm,14.1s
HHC LR LR
comp=Z,150nm,13.8s
TAM Tamanrasset 46.76 276 P **P 09 11 52.5 +0.5**
TAM IAmb IAmb 09 11 53.6
comp=Z,6.5nm,1.1s
TAM Tamanrasset 46.76 276 P **P 09 11 52.6 +0.5**
TAM pmax pmax
comp=Z,7.0nm,1.1s
CEST Esterri de Car 47.12 303 P **P 09 11 54.7 +0.1**
CEST IAmb IAmb 09 11 55.7
comp=Z,12nm,0.8s

XLT XiLinHaoTe 49.11 55 *e*P **P 09 12 10.4 +0.5**
XLT sP pP 09 12 18.3 -1.6
XLT pmax pmax
comp=Z,8.0nm,0.7s
EKA Eskdalemuir Ar 50.68 320 P **P 09 12 21.0 -0.6**
comp=Z,0.6nm,0.3s,baz=100,slow=6.8,SNR=15
EKA PcP **PcP 09 13 37.8 -0.8**
comp=Z,0.6nm,0.4s,baz=101,slow=4.3,SNR=4.5
comp=Z,0.6nm,0.3s
ESDC Sonseca Array 51.25 300 P **P 09 12 25.8 -0.3**
ESDC Sonseca Array 51.25 300 P **P 09 12 26.1 0.0**
comp=Z,2.4nm,0.7s,baz=67,slow=7.3,SNR=14
comp=Z,2.4nm,0.7s
PAB San Pablo 51.56 300 P **P 09 12 28.7 +0.2**
PAB IAmb IAmb 09 12 29.5
comp=Z,13nm,1.2s
PAB San Pablo 51.56 300 P **P 09 12 28.7 +0.2**
PAB pmax pmax
comp=Z,13nm,1.2s
NJ2 Nanjing 52.80 70 *e*P **P 09 12 37.9 +0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,240nm,3.6s
PBRG Braganca 53.09 303 *e*P **P 09 12 40.6 +0.8**
comp=Z,17nm,2.5s
SPITS Spitsbergen Ar 53.40 350 P **P 09 12 41.5 0.0**
comp=Z,1.4nm,0.5s,baz=106,slow=8.9,SNR=5.2
SPITS LR LR 09 39 25.1
comp=Z,131nm,18.7s,baz=106,slow=40
comp=Z,1.4nm,0.5s
TOA0 Torodi Ar. Sit 53.68 266 P **P 09 12 43.5 -1.0**
TOA0 IAmb IAmb 09 12 44.7
comp=Z,8.8nm,0.8s
TORD Torodi Ar. Bea 53.68 266 P **P 09 12 43.9 -0.6**
TORD IAmb IAmb 09 12 44.6
comp=Z,6.1nm,0.8s
TORD Torodi Ar. Bea 53.68 266 P **P 09 12 43.8 -0.6**
comp=Z,9.4nm,0.7s,baz=63,slow=7.7,SNR=52
TORD LR LR 09 39 10.1
comp=Z,84nm,18.1s,baz=92,slow=40
comp=Z,9.4nm,0.7s
PBAR Barrancos 53.83 298 *e*P **P 09 12 45.4 +0.2**
comp=Z,14nm,1.0s
MTE Manteigas 53.88 301 P **P 09 12 46.0 +0.4**
MTE Manteigas 53.88 301 *e*P **P 09 12 46.6 +1.0**
comp=Z,21nm,1.2s
PVRL Vila Real 53.89 302 *e*P **P 09 12 46.6 +1.0**
comp=Z,31nm,1.9s
PMRV Marv??o 53.91 300 *e*P **P 09 12 45.9 +0.1**
comp=Z,18nm,1.5s
PCBR Castelo Branco 53.91 300 *e*P **P 09 12 46.6 +0.9**
comp=Z,32nm,1.6s
POLO Lamas de Olo 53.93 302 *e*P **P 09 12 46.8 +0.8**
comp=Z,14nm,1.6s
PVIS Viseu 54.10 302 *e*P **P 09 12 48.2 +1.0**
comp=Z,25nm,1.6s
PESTR Estremoz 54.15 299 *e*P **P 09 12 47.2 -0.3**
comp=Z,9.5nm,0.9s
PBEJ Beja 54.50 298 *e*P **P 09 12 50.5 +0.4**
EVO Evora 54.53 299 *e*P **P 09 12 50.9 +0.6**
comp=Z,19nm,1.5s
PCAS Casmilo, Conde 54.65 301 *e*P **P 09 12 52.2 +1.0**
comp=Z,28nm,1.5s
PCVE Castro Verde 54.71 298 *e*P **P 09 12 52.0 +0.4**
PNCL Nicolau / Gran 55.00 299 *e*P **P 09 12 54.6 +0.9**
comp=Z,27nm,1.6s
PFVI Vila Bisbo 55.42 297 *e*P **P 09 12 57.3 +0.6**
comp=Z,54nm,1.9s
JMIC Jan Mayen 55.84 339 LR LR 09 39 50.4
comp=Z,48nm,18.4s,baz=240,slow=39
CN2 Changchun 55.87 54 *e*P **P 09 12 59.6 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
ZEA Zeya 56.17 42 *e*P **P 09 13 02.5 +0.7**
HEH HeiHe 56.49 46 *e*P **P 09 13 03.9 -0.3**
HEH pmax pmax
comp=Z,9.0nm,1.4s
BNX BinXian 56.98 52 ⇓P **P 09 13 07.4 -0.4**
BNX pmax pmax
comp=Z,8.0nm,1.2s
YAK Yakutsk 57.37 32 LR LR 09 40 13.7
comp=Z,105nm,20.4s,baz=254,slow=38
TIXI Tiksi 57.80 21 P **P 09 13 12.8 -0.2**
TIXI IAmb IAmb 09 13 14.5
comp=Z,14nm,1.1s
TIXI Tiksi 57.80 21 LR LR 09 41 19.4
comp=Z,200nm,18.0s,baz=296,slow=39
TIXI Tiksi 57.80 21 *i* P **P 09 13 12.1 -1.0**
TIXI pmax pmax
comp=Z,13nm,0.9s
INCN Inchon 57.87 62 P **P 09 13 14.1 -0.1**
INCN Inchon 57.87 62 P **P 09 13 14.1 -0.1**
INCN pmax pmax
comp=Z,12nm,0.7s
MDJ Mudanjiang 58.69 53 P **P 09 13 18.8 -0.9**
MDJ pmax pmax
comp=Z,7.0nm,1.2s
MDJ pmax pmax
comp=Z,100nm,4.3s
KSAR Wonju Array Be 58.85 61 P **P 09 13 20.3 -0.7**
KSAR Wonju Array Be 58.85 61 P **P 09 13 20.3 -0.7**
KSRS Korea Array 58.88 61 P **P 09 13 20.1 -1.0**
comp=Z,2.5nm,0.8s,baz=270,slow=7.2,SNR=10.0
comp=Z,2.5nm,0.8s
KLR Kul'dur 59.40 47 *ce*P **P 09 13 23.6 -1.0**
KLR pmax pmax
comp=Z,7.0nm,1.3s
USA0B Ussuriysk Arra 60.45 53 P **P 09 13 31.4 -0.5**
USA0B IAmb IAmb 09 13 31.5
comp=Z,5.1nm,0.8s
USA0B Ussuriysk Arra 60.45 53 P **P 09 13 31.4 -0.5**
USA0B pmax pmax
comp=Z,5.0nm,0.9s
USRK Ussuriysk Ar. 60.45 53 P **P 09 13 31.3 -0.6**
USRK Ussuriysk Ar. 60.45 53 P **P 09 13 31.3 -0.6**
TSUM Tsumeb 60.72 224 LR LR 09 44 35.1
comp=Z,127nm,19.1s,baz=348,slow=41
DBIC Dimbokro 62.34 262 P **P 09 13 44.9 -0.2**
comp=Z,5.1nm,0.9s,baz=121,slow=5.9,SNR=2.2
DBIC LR LR 09 43 19.7
comp=Z,48nm,18.5s,baz=56,slow=38
comp=Z,5.1nm,0.9s
BOSA Boshof 64.20 211 P **P 09 13 57.2 0.0**
comp=Z,4.3nm,0.8s,baz=47,slow=6.4,SNR=7.6
comp=Z,4.3nm,0.8s
SUMG Summit 65.15 341 P **P 09 14 03.6 +0.4**
SUMG Summit 65.15 341 P **P 09 14 03.6 +0.4**
SUMG pmax pmax
comp=Z,10.0nm,0.6s
YSS Yuzh-Sakhalins 67.10 48 P **P 09 14 14.9 -0.7**
YSS Yuzh-Sakhalins 67.10 48 *ce*P **P 09 14 15.7 +0.1**
YSS pmax pmax
comp=Z,20nm,1.7s
SEY Seymchan 67.62 30 *ce*P **P 09 14 19.2 +0.6**
SEY pmax pmax
comp=Z,12nm,2.5s
BILL Bilibino 70.97 22 *e*P **P 09 14 39.1 -0.2**
BILL *e* 09 17 17.0
BILL pmax pmax
comp=Z,5.0nm,0.9s
BILL MLR MLR
comp=Z,111nm,16.0s
A21K Barrow 78.03 11 P **P 09 15 19.4 -0.8**
baz=330
A19K Wainwright 78.19 12 P **P 09 15 20.1 -1.1**
baz=326
A22K Sinclair Lake 78.57 10 P **P 09 15 22.7 -0.5**
baz=331
B18K Kokolik River 78.75 13 P **P 09 15 24.0 -0.2**
baz=325
C16K Lisburne Hills 78.87 15 P **P 09 15 24.4 -0.5**
baz=322
B20K Meade River 79.08 11 P **P 09 15 26.2 +0.2**
baz=330
C17K DeLong Mountai 79.19 14 P **P 09 15 26.7 0.0**
baz=324
B22K Teshekpuk Lake 79.40 10 IAmb IAmb 09 15 29.2
comp=Z,10nm,0.9s
B22K Teshekpuk Lake 79.40 10 P **P 09 15 28.3 +0.5**
baz=333
C19K Lookout Ridge 79.40 13 P **P 09 15 27.5 -0.4**
baz=327
C18K Utukok River 79.47 13 P **P 09 15 28.4 +0.1**
baz=326
RDOG Red Dog Mine 79.59 14 P **P 09 15 28.7 -0.3**
baz=325

D17K Noatak River 79.85 15 P **P 09 15 30.6 +0.4**
baz=324
B21K Ikpikpuk River 79.85 11 P **P 09 15 30.8 +0.6**
B21K IAmb IAmb 09 15 31.2
comp=Z,9.1nm,1.2s
B21K Ikpikpuk River 79.85 11 P **P 09 15 30.0 -0.2**
baz=332
A36M Sachs Harbour 80.16 1 P **P 09 15 31.6 -0.2**
baz=358
D19K Kuna River 80.21 13 P **P 09 15 32.4 +0.1**
D19K IAmb IAmb 09 15 33.2
comp=Z,7.4nm,1.1s
D19K Kuna River 80.21 13 P **P 09 15 32.0 -0.2**
baz=329,SNR=5.4
C21K Knifeblade Rid 80.23 11 P **P 09 15 32.3 0.0**
baz=332
C23K Itkillik River 80.28 9 IAmb IAmb 09 15 34.3
comp=Z,15nm,1.1s
C23K Itkillik River 80.28 9 P **P 09 15 32.3 -0.2**
baz=335
D20K Etivluk River 80.30 12 P **P 09 15 33.1 +0.4**
baz=330
TNA Tin City 80.37 17 P **P 09 15 32.7 -0.4**
baz=321
E18K Tukpahlearik C 80.61 14 IAmb IAmb 09 15 35.2
comp=Z,6.7nm,0.9s
E18K Tukpahlearik C 80.61 14 P **P 09 15 34.6 +0.2**
baz=327
E17K Hotham Inlet 80.63 14 P **P 09 15 34.4 -0.1**
baz=326
C24K Franklin Bluff 80.66 9 P **P 09 15 35.0 +0.4**
baz=337
E20K Nigu River 80.77 12 P **P 09 15 35.3 0.0**
baz=330
D22K Ayikyak River 80.83 11 IAmb IAmb 09 15 37.5
comp=Z,14nm,1.2s
D22K Ayikyak River 80.83 11 P **P 09 15 35.4 -0.2**
baz=334
C26K Camden Bay 80.95 8 P **P 09 15 36.5 +0.3**
baz=340
E21K Killik River 81.00 11 P **P 09 15 36.0 -0.6**
baz=332
D23K Nanushuk River 81.06 10 P **P 09 15 36.4 -0.4**
baz=335
F15K North Star Dit 81.09 16 P **P 09 15 37.2 +0.2**
baz=323
D24K Happy Valley 81.16 9 P **P 09 15 37.7 +0.4**
baz=337
E19K Redstone River 81.27 13 IAmb IAmb 09 15 39.8
comp=Z,7.6nm,1.4s
E19K Redstone River 81.27 13 P **P 09 15 37.8 -0.2**
baz=330
F17K Baldwin Pennin 81.29 15 P **P 09 15 37.5 -0.5**
baz=326
D25K Kavik River 81.33 8 IAmb IAmb 09 15 39.6
comp=Z,5.1nm,0.9s
D25K Kavik River 81.33 8 P **P 09 15 38.2 -0.1**
baz=339
C27K Jago River 81.36 7 P **P 09 15 38.0 -0.4**
baz=341
F18K Selawik 81.51 14 P **P 09 15 39.1 0.0**
baz=328
TOLK Toolik Lake Re 81.53 10 P **P 09 15 39.5 +0.2**
TOLK IAmb IAmb 09 15 40.6
comp=Z,11nm,1.1s
TOLK Toolik Lake Re 81.53 10 P **P 09 15 39.8 +0.4**
baz=336
E22K Anaktuvuk Pass 81.64 11 P **P 09 15 39.5 -0.5**
baz=334
F19K Shaleruckik Mo 81.70 13 IAmb IAmb 09 15 40.9
comp=Z,7.5nm,1.1s
F19K Shaleruckik Mo 81.70 13 P **P 09 15 39.5 -0.6**
baz=329,SNR=5.2
G15K Niuluk 81.82 16 P **P 09 15 40.8 -0.1**
baz=324
ANM Nome 81.83 17 P **P 09 15 40.4 -0.5**
baz=323
G16K Koyuk River 81.91 16 P **P 09 15 41.1 -0.2**
baz=325
F20K Avaraart Lake 81.92 12 P **P 09 15 40.5 -0.8**
baz=331
D27M Malcolm River 82.02 6 P **P 09 15 41.7 -0.3**
baz=344
E23K Chandalar 82.06 10 P **P 09 15 41.9 -0.3**
baz=336,SNR=6.3
F22K John River 82.15 11 P **P 09 15 42.3 -0.2**
baz=334
D28M Stokes Point 82.15 6 P **P 09 15 42.9 +0.4**
baz=346
F21K Alatna River 82.18 12 P **P 09 15 42.3 -0.5**
baz=333
E24K Your Creek 82.21 9 P **P 09 15 42.8 -0.2**
baz=337
G17K Kiwalik Mounta 82.22 15 P **P 09 15 42.4 -0.5**
baz=327
G18K Tagagawik 82.33 14 P **P 09 15 43.6 +0.1**
baz=328
G19K Purcell Mounta 82.44 13 IAmb IAmb 09 15 44.8
comp=Z,6.3nm,0.9s
G19K Purcell Mounta 82.44 13 P **P 09 15 44.2 +0.1**
baz=330,SNR=6.4
H16K Elim 82.56 16 P **P 09 15 44.4 -0.3**
baz=326
E25K Arctic Village 82.57 8 IAmb IAmb 09 15 46.0
comp=Z,7.4nm,1.1s
E25K Arctic Village 82.57 8 P **P 09 15 44.5 -0.3**
baz=340
COLD Coldfoot 82.73 10 P **P 09 15 45.2 -0.3**
baz=336,SNR=6.8
E28M Babbage River 82.78 6 IAmb IAmb 09 15 47.0
comp=Z,5.0nm,1.2s
E28M Babbage River 82.78 6 P **P 09 15 45.5 -0.4**
baz=345
G22K Bettles 82.79 11 P **P 09 15 45.4 -0.5**
baz=335
G21K Allakaket 82.81 12 P **P 09 15 45.4 -0.6**
baz=333
F24K Squaw Lake 82.81 9 P **P 09 15 46.0 0.0**
baz=338
C36M Paulatuk 82.83 0 P **P 09 15 45.7 -0.3**
baz=359
H17K Granite Mounta 82.86 15 P **P 09 15 46.2 -0.1**
baz=328
E27K Coleen River 82.98 7 P **P 09 15 46.4 -0.5**
E27K IAmb IAmb 09 15 47.7
comp=Z,5.0nm,1.2s
E27K Coleen River 82.98 7 P **P 09 15 46.1 -0.8**
baz=343
H18K Honhosa River 83.03 14 P **P 09 15 46.6 -0.6**
baz=329
F25K Christian Rive 83.05 9 P **P 09 15 46.8 -0.5**
baz=340
H19K Roundabout Mou 83.11 13 IAmb IAmb 09 15 48.4
comp=Z,5.5nm,1.1s
H19K Roundabout Mou 83.11 13 P **P 09 15 47.0 -0.5**
baz=330
E29M Blow River 83.14 6 P **P 09 15 47.3 -0.3**
baz=347
F26K Sheenjek River 83.15 8 P **P 09 15 47.6 -0.2**
baz=341
G23K Bananza Creek 83.23 11 IAmb IAmb 09 15 49.6
comp=Z,5.7nm,1.1s
G23K Bananza Creek 83.23 11 P **P 09 15 47.8 -0.4**
baz=336,SNR=5.3
IMAR Indian Mountai 83.23 12 P **P 09 15 47.5 -0.7**
BMAR Burnt Mountain 83.35 8 P **P 09 15 49.6 +0.7**
H20K Anotleneega Mo 83.45 13 P **P 09 15 49.2 -0.1**
baz=332
INK Inuvik 83.54 4 P **P 09 15 48.9 -0.8**
INK Inuvik 83.54 4 P **P 09 15 49.3 -0.4**
baz=350
INK Inuvik 83.54 4 P **P 09 15 48.9 -0.8**
INK pmax pmax
comp=Z,3.0nm,1.0s
I17K Unalakleet 83.56 16 P **P 09 15 49.4 -0.5**
baz=327
G24K Hadweenzic Riv 83.63 10 P **P 09 15 50.0 -0.3**
baz=338,SNR=9.8
H21K Melozitna Rive 83.70 12 IAmb IAmb 09 15 51.9
comp=Z,8.7nm,1.3s
H21K Melozitna Rive 83.70 12 P **P 09 15 50.5 -0.1**
baz=334
F28M Old Crow 83.71 7 IAmb IAmb 09 15 51.8
comp=Z,4.3nm,1.1s
F28M Old Crow 83.71 7 P **P 09 15 50.7 +0.1**
baz=345
H22K Ishtalitna Cre 83.75 11 P **P 09 15 51.0 +0.1**
baz=335,SNR=6.3

G25K	Bearman Lake baz=339	83.77	9	P	P	09 15 51.2	+0.3
J14K	Nanvaranak Lak baz=324	83.78	18	P	P	09 15 50.8	-0.2
G26K	Porcupine Rive baz=341	83.90	8	P	P	09 15 51.3	-0.3
F30M	Barrier River baz=348	84.07	5	P	P	09 15 51.9	-0.6
J16K	Anvik River baz=327	84.09	16	P	P	09 15 52.5	-0.1
H23K	Yukon River comp=Z,7.4nm,1.1s	84.12	11	IAmb	IAmb	09 15 54.6	
H23K	Yukon River baz=336,SNR=5.6	84.12	11	P	P	09 15 52.9	+0.1
I20K	Naaghedeneel baz=332	84.15	13	P	P	09 15 52.9	0.0
H25L	Birch Creek baz=340	84.28	9	P	P	09 15 53.9	+0.4
G27K	Doyon Strip baz=343	84.30	7	P	P	09 15 53.1	-0.5
J17K	VABM Dome baz=328	84.37	16	P	P	09 15 53.5	-0.6
H24K	Noodor Dome baz=338	84.38	10	P	P	09 15 53.4	-0.8
F31M	Tsiigehtchic baz=350	84.39	4	P	P	09 15 53.5	-0.6
SCHQ	Schefferville comp=Z,1.5nm,0.6s,baz=83,slow=8.1,SNR=1.7 comp=Z,1.5nm,0.6s	84.52	331	P	P	09 15 54.7	-0.3
G29M	Pine Creek baz=346	84.57	6	P	P	09 15 54.4	-0.6
J19K	Poorman comp=Z,6.3nm,1.1s	84.62	14	IAmb	IAmb	09 15 56.4	
J19K	Poorman baz=331	84.62	14	P	P	09 15 55.0	-0.4
MLY	Manley baz=335	84.64	12	P	P	09 15 55.2	-0.3
G30M	tAoh Zraii Nji	84.66	5	P	P	09 15 54.9	-0.6
G30M				IAmb	IAmb	09 15 56.0	
G30M	comp=Z,7.0nm,1.1s tAoh Zraii Nji baz=348	84.66	5	P	P	09 15 55.4	-0.1
K15K	Wolf Creek Mou baz=326	84.69	17	P	P	09 15 55.9	+0.2
J20K	Nowinta River baz=332	84.77	13	P	P	09 15 56.5	+0.4
I23K	Minto, Yukon-K comp=Z,13nm,1.5s	84.78	11	IAmb	IAmb	09 15 57.4	
I23K	Minto, Yukon-K baz=337	84.78	11	P	P	09 15 56.5	+0.5
J18K	Innoko River baz=330	84.85	15	P	P	09 15 56.2	-0.3
G31M	Satah River baz=350	84.86	5	P	P	09 15 56.5	0.0
H27K	Steamboat Moun baz=343,SNR=5.4	84.87	8	P	P	09 15 56.4	-0.2
M11K	Mekoryuk baz=322	84.93	20	P	P	09 15 56.9	0.0
PRP	Porcupine Dome baz=340	85.03	9	P	P	09 15 57.1	-0.5
POKR	Poker Plat Res baz=338	85.12	10	P	P	09 15 57.6	-0.2
K17K	Iditarod baz=329	85.13	16	P	P	09 15 57.8	-0.1
L14K	Kuka Creek baz=325	85.17	18	P	P	09 15 58.1	0.0
L15K	Ungalak Mounta baz=326	85.21	17	P	P	09 15 58.2	-0.1
H29M	Whitestone comp=Z,5.2nm,1.0s	85.21	6	IAmb	IAmb	09 15 59.0	
H29M	Whitestone baz=346	85.21	6	P	P	09 15 57.8	-0.5
EPYK	Eagle Plains baz=348	85.22	6	P	P	09 15 57.7	-0.7
COLA	College baz=338	85.28	10	P	P	09 15 58.8	+0.2
NEA2	Nenana comp=Z,4.9nm,1.4s	85.34	11	IAmb	IAmb	09 16 25.1	
NEA2	Nenana baz=337	85.34	11	P	P	09 15 58.6	-0.3
CHUM	Lake Minchumin baz=334	85.39	13	P	P	09 15 59.3	+0.1
BPAW	Bear Paw Mtn. baz=335,SNR=7.2	85.45	12	P	P	09 15 59.4	-0.1
I27K	Kandik River baz=343	85.46	8	P	P	09 15 59.7	+0.1
TTA	Tatalina baz=331	85.47	15	P	P	09 15 59.7	0.0
K20K	Telida baz=333	85.51	14	P	P	09 15 59.7	-0.2
ILAR	Eielson Array comp=Z,1.1nm,1.1s,baz=334,slow=2.9,SNR=7.4 comp=Z,1.1nm,1.1s	85.53	10	P	P	09 15 58.6	-1.3
I26K	Coal Creek Min baz=342	85.55	8	P	P	09 15 59.7	-0.3
L17K	Donlin baz=329	85.63	16	P	P	09 16 00.3	-0.2
L16K	Owhat River baz=328	85.71	17	P	P	09 16 00.9	+0.1
M13K	Dall Lake baz=325	85.75	19	P	P	09 16 01.0	0.0
I28M	Miner Creek	85.80	7	P	P	09 16 00.7	-0.6
I28M				IAmb	IAmb	09 16 27.3	
I28M	comp=Z,7.3nm,1.4s Miner Creek baz=345	85.80	7	P	P	09 16 01.1	-0.2
HDA	Harding Lake baz=339	85.86	10	P	P	09 16 01.0	-0.5
M14K	Bethel baz=326	85.86	18	P	P	09 16 01.3	-0.2
CAST	Castle Rocks baz=334	85.86	13	P	P	09 16 01.1	-0.4
J25K	Salcha River, comp=Z,9.0nm,1.4s	85.90	10	IAmb	IAmb	09 16 03.1	
J25K	Salcha River, baz=340	85.90	10	P	P	09 16 01.9	+0.1
L18K	Granite Mounta baz=330	85.94	15	P	P	09 16 01.3	-0.6
I29M	Ogilvie Camp, baz=346	86.06	6	P	P	09 16 02.4	-0.1
SPIA	Saint Paul Isl baz=319	86.09	24	P	P	09 16 02.2	-0.6
MCK	McKinley baz=337	86.15	11	P	P	09 16 02.6	-0.4
TRF	Thorofare Moun baz=336	86.17	12	P	P	09 16 02.6	-0.7
M15K	Kasigluk River baz=327	86.25	18	P	P	09 16 03.0	-0.5
J26L	Joseph Creek comp=Z,5.4nm,0.9s	86.27	9	IAmb	IAmb	09 16 04.3	
J26L	Joseph Creek baz=342,SNR=6.5	86.27	9	P	P	09 16 03.0	-0.7
EGAK	Eagle	86.31	8	P	P	09 16 03.1	-0.6
EGAK				IAmb	IAmb	09 16 04.6	
EGAK	comp=Z,5.2nm,1.0s Eagle baz=344,SNR=6.7	86.31	8	P	P	09 16 03.8	+0.1
PPLA	Purkeypile baz=334	86.31	13	P	P	09 16 03.0	-0.9
L20K	Farewell, AK baz=333	86.34	14	P	P	09 16 03.5	-0.5
I30M	Mount Dempster comp=Z,4.2nm,0.8s	86.37	6	IAmb	IAmb	09 16 04.6	
I30M	Mount Dempster baz=348,SNR=6.9	86.37	6	P	P	09 16 04.0	-0.2
M16K	Timber Creek baz=328	86.42	17	P	P	09 16 04.4	0.0
RND	Reindeer	86.47	11	P	P	09 16 03.2	-1.4
RND				IAmb	IAmb	09 16 05.2	
RND	comp=Z,11nm,1.4s Reindeer	86.47	11	P	P	09 16 03.2	-1.4
RND				pmax	pmax		
M17K	comp=Z,11nm,1.4s Holitna River baz=330	86.48	16	P	P	09 16 05.0	+0.4
SCRK	Sand Creek	86.71	9	P	P	09 16 05.7	-0.2
SCRK				IAmb	IAmb	09 16 07.0	
SCRK	comp=Z,8.0nm,1.1s Sand Creek baz=341,SNR=8.3	86.71	9	P	P	09 16 06.2	+0.4
P08K	Saint George I baz=320	86.78	24	P	P	09 16 06.5	+0.3
M18K	Stony River baz=331	86.78	15	P	P	09 16 06.1	+0.1
K27K	Chicken baz=343	86.92	8	P	P	09 16 06.5	-0.2
N16K	Nishlik Lake baz=329	86.94	17	P	P	09 16 07.3	+0.3
J30M	Hart River baz=348	87.01	6	P	P	09 16 07.2	-0.2
DHY	Denali Highway baz=338	87.03	11	P	P	09 16 07.2	-0.3
DAWY	Dawson comp=Z,7.1nm,1.1s	87.20	7	IAmb	IAmb	09 16 09.1	
DAWY	Dawson baz=345,SNR=9.4	87.20	7	P	P	09 16 07.8	-0.4
SKT	Skwentna baz=335	87.27	13	P	P	09 16 07.7	-0.8
N17K	Nushagak Hills baz=330	87.30	16	P	P	09 16 08.5	-0.1
O14K	Tigyukauivet M baz=327	87.30	19	P	P	09 16 08.8	+0.2
WAT6	Susitna Watana baz=338	87.43	11	P	P	09 16 08.6	-0.9
PAX	Paxson baz=340	87.44	10	P	P	09 16 08.7	-0.7
N18K	Kilae Creek baz=331	87.48	16	P	P	09 16 09.6	+0.1
K29M	Barlow Dome	87.62	7	P	P	09 16 10.4	+0.1
K29M				IAmb	IAmb	09 16 11.1	
K29M	comp=Z,5.7nm,0.9s Barlow Dome baz=347,SNR=8.1	87.62	7	P	P	09 16 10.6	+0.3
N19K	Bonanza Creek baz=332	87.69	15	P	P	09 16 10.9	+0.2
L26K	Log Cabin Wild baz=342	87.70	9	P	P	09 16 10.9	+0.3
M22K	Willow	87.76	13	P	P	09 16 10.9	+0.2
M22K	Willow baz=336	87.76	13	P	P	09 16 11.1	+0.3
O15K	Ungalikthiuk R baz=328	87.77	18	P	P	09 16 10.4	-0.5
L27K	Beaver Creek,	87.88	9	P	P	09 16 11.6	+0.2
L27K				IAmb	IAmb	09 16 12.8	
L27K	comp=Z,6.8nm,1.4s Beaver Creek, baz=343	87.88	9	P	P	09 16 10.9	-0.5
SUA	Susitna One baz=336	87.90	13	P	P	09 16 11.3	-0.4
GHO	Glory Hole Cre comp=Z,9.0nm,1.2s	87.97	12	IAmb	IAmb	09 16 13.3	
O17K	Koliganek Bris baz=330	87.97	17	P	P	09 16 11.9	+0.1
MAYO	Mayo, Yukon baz=348	88.02	6	P	P	09 16 12.2	+0.2
PMR	Palmer baz=337	88.09	12	P	P	09 16 12.1	-0.3
M24K	Tolsona, Glenn baz=340	88.14	11	P	P	09 16 12.3	-0.4
L29M	L29M baz=346	88.27	7	P	P	09 16 12.9	-0.4
M26K	Nabesna, AK baz=342	88.35	9	P	P	09 16 13.4	-0.3
O18K	Koktuh Hills baz=332	88.37	16	P	P	09 16 13.6	-0.1
P16K	Nushagak River baz=329	88.39	17	P	P	09 16 13.3	-0.5
WB0	Warramunga Arr	88.39	113	P	P	09 16 15.0	+0.5
WRA	Warramunga Arr	88.44	113	P	P	09 16 14.1	-0.6
WRA	Warramunga Arr comp=Z,3.6nm,1.1s,baz=308,slow=4.4,SNR=13 comp=Z,3.6nm,1.1s	88.44	113	P	P	09 16 15.2	+0.4
WRA	Warramunga Arr	88.44	113	P	P	09 16 14.1	-0.6
WRA				pmax	pmax		
RC01	comp=Z,1.0nm,1.4s Rabbit Creek A baz=336	88.44	13	P	P	09 16 14.2	+0.1
CAPN	Captain Cook N baz=335	88.45	14	P	P	09 16 13.3	-0.7
M27K	Edge Creek, AK	88.55	9	P	P	09 16 15.4	+0.7
M27K				IAmb	IAmb	09 16 16.2	
M27K	comp=Z,4.6nm,1.1s Edge Creek, AK baz=343	88.55	9	P	P	09 16 14.8	0.0
KLU	Klutina baz=340	88.76	11	P	P	09 16 15.2	-0.5
N25K	Chitina, Valde baz=341	88.86	10	P	P	09 16 16.5	+0.3
M29M	Somme Creek baz=346	88.89	7	P	P	09 16 15.5	-0.7
M30M	Minto, Yukon baz=348	88.93	6	P	P	09 16 16.0	-0.4
P19K	Oil Pt baz=333	89.01	15	P	P	09 16 16.1	-0.7
GLI	Glacier Island baz=339	89.13	12	P	P	09 16 16.2	-1.2
YUK3	Moose Creek baz=344	89.29	8	P	P	09 16 17.5	-0.9
BMRM	Bremner River baz=341	89.47	10	P	P	09 16 18.5	-0.4
BRSE	Bradley Lake S baz=336	89.47	14	P	P	09 16 18.8	-0.2
YKA	Yellowknife Ar comp=Z,3.1nm,0.8s,baz=4.1,slow=5.1,SNR=9.1 comp=Z,3.1nm,0.8s	89.48	356	P	P	09 16 19.1	+0.2
M31M	Drury Creek, Y baz=350	89.52	5	P	P	09 16 19.2	0.0
FARO	Faro, Yukon baz=351	89.58	5	P	P	09 16 19.8	+0.3
EYAK	Cordova Ski Ar baz=340	89.67	11	P	P	09 16 20.4	+0.6
NIKH	Nikolski High baz=320	89.83	26	P	P	09 16 20.8	+0.1
CRQE	Cirque baz=342	89.91	10	P	P	09 16 21.0	-0.1
ASAR	Alice Springs comp=Z,0.8nm,0.7s,baz=307,slow=4.7,SNR=11 comp=Z,0.8nm,0.7s	89.98	117	P	P	09 16 22.6	+0.7
R17L	Mt. Peulik Vol baz=331	90.03	17	P	P	09 16 21.1	-0.5
HYT	Haines Junctio baz=347	90.57	7	P	P	09 16 24.4	+0.2
O30N	Mendenhall baz=348	90.77	7	P	P	09 16 25.1	+0.1
KDAK	Kodiak Island baz=334	90.84	15	P	P	09 16 25.4	+0.1
OHAK	Old Harbor baz=333	91.17	16	P	P	09 16 26.6	-0.3
PNL	Peninsula baz=345	91.47	8	P	P	09 16 28.4	+0.1
CHNA	Chernabura Isl baz=328	91.53	20	P	P	09 16 28.5	0.0
P33M	Teslin, Yukon baz=351	91.62	5	P	P	09 16 28.9	-0.1
P29M	Windy Craggy baz=347	91.71	8	P	P	09 16 29.4	0.0
PLBC	Pleasant Camp baz=348	92.03	7	P	P	09 16 31.1	+0.2
TOAD	Toad River Com baz=358	93.35	1	P	P	09 16 37.3	+0.3
HRV	Adam Dziewonsk baz=44	95.40	325	P	P	09 16 47.1	+0.5
WRAK	Wrangell Islan baz=352	95.41	5	P	P	09 16 47.0	+0.6
U33K	Whale Pass baz=351	95.65	6	P	P	09 16 47.7	+0.2
L61B	Northampton baz=43	96.01	325	P	P	09 16 49.3	-0.1
TXAR	Lajitas Array comp=Z,0.5nm,0.7s,baz=141,slow=3.0,SNR=6.9	120.05	341	PKP	PKPdf	09 22 12.7	-0.6

IDC 13 09:20:44.1±2.9, 53°.75N×87°.04E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=27.4km s-min=16.2km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA baz=98,slow=292,SNR=4.3	1.33	280	I	I	09 29 10.0	
ZALV	Zalesovo Beam 1.0nm,0.3s,baz=98,slow=17,SNR=8.8	1.33	280	Pg	Pg	09 21 07.8	-1.7
ZALV				Lg	Lg	09 21 27.2	
KURBB	1.2nm,0.3s,baz=101,slow=31,SNR=14 Kurchatov Arra 0.1nm,0.3s,baz=60,slow=14,SNR=1.8 0.3nm,0.3s	6.10	243	Pn	Pn	09 22 16.1	+0.7
MKAR	Makanchi Array 0.1nm,0.3s,baz=24,slow=14,SNR=5.6 0.2nm,0.2s	7.60	205	Pn	Pn	09 22 37.5	+1.6

SOME ***13*** *09:25:54.5, 43°.73N×69°.60E*
KRNET ***13*** *09:25:54.3±0.1, 43°.64N×69°.44E, mb2.6*
NNC ***13*** *09:25:56.6±1.5, 43°.70N×69°.71E, h0km, mb3.7, mpv3.1,*

Error ellipse: s-maj=10.7km s-min=3.8km az=132.0, Suspected Mining explosion.

ISC 13 09:25:56.4±2.3, 43°.63N±0°.08×69°.5E±0°.1, h0km, n14, σ1§27/23, 12C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	Borolday 2.3nm,0.2s	0.65	157	P	Pn	09 26 12.8	-0.2
BRLS				S	Sn	09 26 26.5	+2.6
KK31	14nm,0.5s Karatay Array 0.5nm,0.2s,baz=320,slow=15,SNR=55	0.91	125	⇑P	Pg	09 26 12.5	-1.4
KK31				⇑S	Sg	09 26 23.8	-1.9
KKAR	22nm,0.5s,baz=317,slow=32,SNR=110 Karatay Array baz=24	0.91	125	⇑eP	Pg	09 26 12.5	-1.4
KKAR				⇑eS	Sg	09 26 25.7	0.0
IUG	baz=24 Iuzhnay 34nm,0.4s	1.54	165	P	Pb	09 26 25.1	-0.7
IUG				S	Sn	09 26 47.4	+1.6
TRKS	55nm,0.6s Terek-Say baz=49	2.43	149	⇑eP	Pn	09 26 38.8	+1.3
TRKS				⇑eS	Sb	09 27 11.2	-0.4
MNAS	baz=49 Manas baz=16	2.49	116	⇑eP	Pn	09 26 38.8	+0.5
MNAS				⇑eS	Sn	09 27 11.2	+1.8
ARK	baz=16 Arkit baz=34	2.58	134	⇑eP	Pn	09 26 39.7	+0.1
ARK				⇑eS	Sn	09 27 13.5	+1.7
MRKS	baz=34 Merke 3.5nm,0.2s	2.87	107	Pg	Pb	09 26 47.8	-0.9
MRKS				Lg	Lg	09 27 26.1	
EKS2	9.3nm,0.4s Erkin-Say baz=6.0	3.29	106	⇑eP	Pn	09 26 49.9	+0.7
EKS2				⇑eS	Sn	09 27 30.2	+1.1
BTLS	baz=6.0 Baital 8.8nm,0.5s	3.56	65	Pg	Pb	09 26 59.0	-1.2
BTLS				Lg	Lg	09 27 45.9	
UCH	4.8nm,0.7s Uchtor baz=9.0	3.95	109	⇓eP	Pn	09 26 59.2	+0.6
UCH				⇓eS	Sn	09 27 46.6	+0.7
KRBS	baz=9.0 Karabastau 3.6nm,0.8s	4.49	87	Pg	Pb	09 27 16.3	+0.2
KRBS				Lg	Lg	09 28 15.4	
DGS	3.1nm,0.6s Degeres 2.4nm,0.5s	4.59	93	Pg	Pb	09 27 18.7	+0.8
DGS				Lg	Lg	09 28 19.6	
KTBS	4.9nm,0.7s Karatobe 3.0nm,0.6s	5.22	87	Pg	Pb	09 27 29.9	+1.3
KTBS				Lg	Lg	09 28 38.5	
	4.6nm,0.7s						

NEIC 13 09:33:20.6±1.3, 31°.38N±0°.02×103°.50W±0°.02, h5km±1km, mb_Lg2.5/41, ML2.9/62, Error ellipse: s-maj=3.2km s-min=3.0km az=12.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	Pecos	0.31	268		Pb	09 33 27.8	-0.9
PECS				Sg	Sb	09 33 33.3	-0.9
MNHN	Monahans	0.64	94		Pg	09 33 32.4	-0.4
MNHN				Sg	Sb	09 33 42.7	-0.8
ALPN	Alpine	1.01	187	Pg	Pg	09 33 39.4	-0.7
ALPN				Sg	Sb	09 33 54.1	-0.3
ODSA	Odessa	1.09	48		Pg	09 33 40.8	-0.9
ODSA				IAML		09 34 05.2	
ODSA	177nm,0.8s			IAML		09 34 13.7	
VHRN	153nm,1.1s Van Horn	1.40	245	Pg	Pn	09 33 47.1	+0.1
SAND	Sanderson	1.85	140		Pb	09 33 54.2	-0.9
TX31	Lajitas Ar. Si	2.05	184		Pn	09 33 57.1	+1.2
TXAR	Lajitas Array	2.05	184		Pb	09 33 57.2	-1.2
OZNA	Ozona	2.09	102		Pb	09 33 57.9	-1.2
OZNA				IAML		09 34 26.9	
OZNA	63nm,0.8s			IAML		09 34 29.1	
SGCY	61nm,0.4s Sterling City	2.10	75		Pn	09 33 57.4	+1.0
SGCY				IAmb_Lg		09 34 28.8	
SGCY	comp=Z,29nm,1.0s			IAML		09 34 29.4	
SGCY	comp=Z,54nm,0.4s			IAML		09 34 32.9	
POST	comp=Z,56nm,0.5s Post	2.39	45		Pn	09 34 01.5	+1.0
POST				IAML		09 34 41.9	
POST	comp=Z,48nm,0.5s			IAML		09 34 46.6	
MSTX	comp=Z,54nm,0.7s Muleshoe	2.65	13		Pn	09 34 05.7	+1.5
MSTX				IAmb_Lg		09 34 46.7	
MSTX	comp=Z,12nm,0.8s			IAML		09 34 47.6	
SN05	comp=N,82nm,0.7s Snyder 5	2.67	55		Pn	09 34 05.9	+1.4
SN05				IAmb_Lg		09 34 46.7	
SN05	comp=Z,25nm,0.8s			IAML		09 34 48.5	
SN07	comp=Z,82nm,0.5s Snyder 07	2.79	52		Pn	09 34 07.3	+1.3
SN07				IAmb_Lg		09 34 50.0	
DKNS	comp=Z,21nm,0.9s Dickens	3.15	43	Pn	Pn	09 34 11.8	+0.8
DKNS				IAML		09 35 03.5	
DKNS	comp=Z,41nm,0.4s			IAmb_Lg		09 35 07.7	
DKNS	comp=Z,18nm,0.8s			IAML		09 35 12.3	
DRIO	comp=Z,44nm,0.7s Del Rio	3.17	127	IAmb_Lg		09 35 06.4	
JCT	comp=Z,17nm,0.8s Junction City	3.31	105	Pn	Pn	09 34 13.9	+0.8
JCT				IAmb_Lg		09 35 11.5	
JCT	comp=Z,12nm,0.8s			IAML		09 35 12.6	
JCT	comp=Z,41nm,0.5s			IAML		09 35 17.0	
APMT	comp=Z,28nm,0.5s Aspermont	3.46	55		Pn	09 34 15.9	+0.8
APMT				IAML		09 35 11.5	
APMT	comp=Z,42nm,0.3s			IAmb_Lg		09 35 17.8	
ABTX	comp=Z,17nm,1.0s Abilene, Hawle	3.50	68		Pn	09 34 15.5	-0.3
ABTX				IAmb_Lg		09 35 19.0	
ABTX	comp=Z,15nm,0.7s			IAML		09 35 24.0	
ABTX	comp=E,31nm,0.6s			IAML		09 35 25.8	
AMTX	comp=N,28nm,0.6s Amarillo	3.81	23	Pn	Pn	09 34 20.6	+0.6
AMTX				IAmb_Lg		09 35 31.2	
121A	comp=Z,12nm,0.8s Cookes Peak, D	3.82	289	Pn	Pn	09 34 20.9	+0.7
121A				IAML		09 35 31.4	
121A	comp=N,19nm,0.7s			IAML		09 35 32.0	
BRDY	comp=E,12nm,0.6s Brady	3.85	90	Pn	Pn	09 34 21.6	+0.9
BRDY				IAML		09 35 26.4	
BRDY	comp=E,15nm,0.9s			IAML		09 35 26.8	
BRDY	comp=E,27nm,0.8s			IAmb_Lg		09 35 29.0	
Y22D	comp=Z,13nm,0.8s IRIS PASSCAL I	3.94	314	Pn	Pn	09 34 20.9	-1.0
HNDO	Hondo	4.09	116	Pn	Pn	09 34 22.7	-1.1
HNDO				IAmb_Lg		09 35 38.7	
ANMO	comp=Z,14nm,0.9s Albuquerque	4.33	326	Pn	Pn	09 34 27.8	+0.4
ANMO				IAML		09 35 37.1	
ANMO	comp=Z,6.9nm,1.2s			IAML		09 35 43.0	

comp=Z,6.1nm,0.8s
PLPT Palo Pinto 4.63 71 Pn Pn 09 34 31.1 -0.1
PLPT IAmb_Lg 09 35 58.1
comp=Z,9.2nm,0.9s
833A Chaparral WMA, 4.69 129 Pn Pn 09 34 33.2 +1.0
833A IAML 09 36 00.2
comp=E,15nm,0.8s
833A IAML 09 36 06.1
comp=N,12nm,1.3s
HPIG 4.82 204 Pn Pn 09 34 32.3 -1.8
HPIG IAML 09 35 51.9
comp=N,5.2nm,0.2s
HPIG IAML 09 36 15.7
comp=E,7.3nm,0.5s
WTFS Witchita Falls 4.87 59 Pn Pn 09 34 35.1 +0.5
DUN6 Lazy B Ranch 4.89 285 IAmb_Lg 09 36 05.0
comp=Z,8.9nm,0.8s
FW03 Perrin-Whitt E 4.90 69 Pn Pn 09 34 34.0 -0.9
FW03 IAmb_Lg 09 36 05.6
comp=Z,6.7nm,0.7s
319A Douglas 4.94 271 Pn Pn 09 34 34.5 -1.1
319A IAML 09 36 04.9
comp=N,9.3nm,0.7s
319A IAML 09 36 13.2
comp=E,9.3nm,1.3s
RTBA Rita Blanca 5.08 7 Pn Pn 09 34 37.5 0.0
435B Jarrell 5.11 95 IAmb_Lg 09 36 07.4
comp=Z,11nm,0.8s
WMOK Wichita Mounta 5.19 49 Pn 09 34 39.1 +0.2
WMOK IAML 09 36 12.5
comp=Z,7.7nm,0.4s
WMOK IAML 09 36 12.5
comp=Z,6.2nm,0.5s
WHTX Lake Whitney, 5.19 82 Pn Pn 09 34 39.0 +0.1
FW13 Cleburne 5.25 78 Pn Pn 09 34 39.6 -0.3
FW13 IAmb_Lg 09 36 20.7
comp=Z,7.3nm,0.8s
FW06 Azle 5.28 71 Pn Pn 09 34 40.8 +0.5
X34A Smith Ranch, M 5.74 55 Pn Pn 09 34 46.6 0.0
T25A Trinidad 5.79 353 Pn Pn 09 34 46.7 -0.7
HBVL Hebbronville 6.03 134 Pn Pn 09 34 47.4 -3.1
X18A Snowflake 6.26 302 Pn Pn 09 34 53.5 -0.4
OK031 S. Brethren Rd 7.18 49 Pn Pn 09 35 05.7 -0.6
X37A Clayton 7.54 63 IAmb_Lg 09 37 36.8
comp=Z,4.3nm,0.7s

IDC 13 09:33:55.7±3.2,54°.22N×87°.18E,h0km,mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=28.6km s-min=17.3km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**260**	I	I	09 42 10.0	
	baz=76,slow=311,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.42**	**260**	Pg	Pn	09 34 20.3	-2.4
	1.2nm,0.3s,baz=78,slow=16,SNR=9.8						
ZALV				Lg	Lg	09 34 41.3	
	1.0nm,0.3s,baz=79,slow=25,SNR=7.1						
KURBB	**Kurchatov Arra**	**6.40**	**239**	Pn	Pn	09 35 32.3	+1.2
	0.1nm,0.3s,baz=56,slow=14,SNR=7.3						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**8.06**	**205**	Pn	Pn	09 35 55.3	+1.4
	0.1nm,0.3s,baz=26,slow=14,SNR=2.2						
MKAR				Sn	Sn	09 37 24.4	-1.3
	0.3nm,0.3s,baz=20,slow=26,SNR=1.9						
MKAR				Lg	Lg	09 38 10.2	
	baz=16,slow=27						
	0.2nm,0.4s						

*BGR **13** 09:46:28.6, 19°.94S×170°.55E, h33km, Ms5.5, Hypocentre not reviewed by the ISC*
*BJI **13** 09:46:46.6±0.0, 18°.93S×169°.15E, h170km, mb5.5/95, mB5.7/73*
*MOS **13** 09:46:47.8±1.0, 18°.95S×169°.02E, h173km, mb6.0/48, MS5.4/8, Error ellipse: s-maj=7.2km s-min=5.8km az=121.1*
*IDC **13** 09:46:48.5±0.4, 18°.95S×169°.07E, h168km±3km, mb5.5/18, mbtmp6.0/20, MS5.3/37, Error ellipse: s-maj=8.5km s-min=7.4km az=98.0*
*IPGP **13** 09:46:49.0, 18°.93S×169°.02E, h178km, Mw6.4, Fault plane solution: NP1:ϕ_s173.00000°, δ79.00000°, λ97.00000°. NP2:ϕ_s320.00000°, δ13.00000°, λ58.00000°.*
*NEIC **13** 09:46:49.1±1.9, 18°.93S±0°.07×169°.05E±0°.07, h167km±1km, mb6.1/641, Mwb6.4/76, Mww6.4/71, Error ellipse: s-maj=11.8km s-min=10.6km az=138.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.58; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-1.54; $M_{r\theta}$0.17; $M_{\theta\phi}$0.56; $M_{\phi r}$-4.77; Fault plane solution: $M_0$5.05000×10^{18} NP1:ϕ_s177.05000°, δ80.81000°, λ95.48000°. NP2:ϕ_s326.03000°, δ10.69000°, λ59.42000°. Principal axes: T 5.0468, Plg54.0000°, Azm94.0000°; N 0.0101, Plg5.0000°, Azm356.0000°; P -5.0569, Plg36.0000°, Azm262.0000°;*
*NEIC **13** 09:46:49.8, 18°.93S×169°.01E, h170km*
*NOU **13** 09:46:49.8, 18°.93S×169°.02E, h176km, ML6.2/212, Vanuatu Islands*
*NEIC **13** 09:46:50, 18°.94S×169°.01E, h180km*
*NEIC **13** 09:46:50, 18°.94S×168°.90E, h180km, Moment Tensor Solution. Duration: 7s6 Moment tensor: Scale 10^{18}Nm; M_{rr}1.07; $M_{\theta\theta}$-0.74; $M_{\phi\phi}$-0.34; $M_{r\theta}$0.12; $M_{\theta\phi}$1.01; $M_{\phi r}$-4.24; Fault plane solution: $M_0$4.43000×10^{18} NP1: ϕ_s174.24000°, δ84.43000°, λ103.76000°. NP2: ϕ_s285.85000°, δ14.83000°, λ22.28000°. Principal axes: T 4.7219, Plg49.0000°, Azm99.0000°; N -0.5787, Plg14.0000°, Azm353.0000°; P -4.1432, Plg38.0000°, Azm252.0000°;*
*GCMT **13** 09:46:53.1±0.0, 18°.99S×168°.88E, h180km, MW6.4/180, Moment Tensor Solution. s175,c450; s180,c762; Duration: 3s9 Moment tensor: Scale 10^{18}Nm; M_{rr}1.57±.02; $M_{\theta\theta}$-0.51±.02; $M_{\phi\phi}$-1.07±.02; $M_{r\theta}$0.40±.02; $M_{\theta\phi}$1.08±.02; $M_{\phi r}$-4.97±.01; Best double couple: $M_0$5.28300×10^{18} NP1:ϕ_s173.00000°, δ82.00000°, λ101.00000°. NP2:ϕ_s299.00000°, δ14.00000°, λ37.00000°. Principal axes: T 5.4120, Plg52.0000°, Azm95.0000°; N -0.2650, Plg11.0000°, Azm351.0000°; P -5.1540, Plg36.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 13 09:46:48.5±0.2,18°.97S±0°.03×169°.06E±0°.03,h173km±1km, h173km:pP-P,n2434,σ1§60/2856,mb6.0/466,169C-119D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.48**	**223**	P	**Pn**	**09 47 30.3**	**-0.2**
LIFNC	**LIFOU**	**2.48**	**223**		**Pn**	**09 47 29.5**	**-1.1**
LIFNC				Sn	**Sn**	**09 48 01.0**	**-2.3**
MARNC	**Mare, Loyalty**	**2.67**	**201**	P	**Pn**	**09 47 32.9**	**0.0**
MARNC	**Mare, Loyalty**	**2.67**	**201**	⇑P	**Pn**	**09 47 31.9**	**-0.9**
YATNC	**Mamie plateau,**	**3.68**	**213**	P	**Pn**	**09 47 44.8**	**-0.5**
PINNC	**Pines Island,**	**3.92**	**202**	P	**Pn**	**09 47 49.9**	**+1.5**
PINNC	**Pines Island,**	**3.92**	**202**		**Pn**	**09 47 48.2**	**-0.2**
PINNC				Sn	**Sn**	**09 48 35.6**	**+0.4**
DZM	**Mont Dzumac**	**3.94**	**218**	P	**Pn**	**09 47 49.8**	**+1.1**
DZM	**Mont Dzumac**	**3.94**	**218**	*e*Pn	**Pn**	**09 47 47.1**	**-1.6**
	29μm,1.2s						
DZM				*e*Sn	**Sn**	**09 48 36.2**	**+0.4**
	78μm,1.1s						
DZM	**Mont Dzumac**	**3.94**	**218**	Pn	**Pn**	**09 47 49.0**	**+0.3**
DZM				Sn	**Sn**	**09 48 35.1**	**-0.7**
DZM	**Mont Dzumac**	**3.94**	**218**	⇑P	**Pn**	**09 47 49.0**	**+0.3**
DZM	**Mont Dzumac**	**3.94**	**218**	P	**Pn**	**09 47 49.0**	**+0.3**
	3μm,0.6s,baz=47,slow=13,SNR=1340						
DZM				S	**Sn**	**09 48 35.8**	**+0.1**
	23μm,0.8s,baz=342,slow=21,SNR=11						
DZM				LR	LR	09 49 23.9	
	comp=Z,93μm,19.4s,baz=64,slow=39						
OUENC	**Ouen Island, N**	**4.01**	**211**	P	**Pn**	**09 47 50.9**	**+1.4**
OUENC	**Ouen Island, N**	**4.01**	**211**	Pn	**Pn**	**09 47 50.0**	**+0.5**
OUENC				Sn	**Sn**	**09 48 37.6**	**+0.4**
NOUC	**Port Laguerre**	**4.04**	**219**	P	**Pn**	**09 47 51.3**	**+1.4**
ONTNC	**Ouen Toro**	**4.12**	**216**	P	**Pn**	**09 47 52.1**	**+1.2**
ONTNC	**Ouen Toro**	**4.12**	**216**		**Pn**	**09 47 51.4**	**+0.5**
ONTNC	**Ouen Toro**	**4.12**	**216**	⇑P	**Pn**	**09 47 51.5**	**+0.7**
KOUNC	**Koumac, New Ca**	**4.76**	**250**	P	**Pn**	**09 48 00.8**	**+1.6**
KOUNC	**Koumac, New Ca**	**4.76**	**250**	Pn	**Pn**	**09 48 00.3**	**+1.1**
KOUNC	**Koumac, New Ca**	**4.76**	**250**	⇑P	**Pn**	**09 48 00.0**	**+0.8**
MSVF	**Nonsavu**	**8.63**	**83**	P	**Pn**	**09 48 54.0**	**+3.8**
MSVF	**Nonsavu**	**8.63**	**83**	Pn	**Pn**	**09 48 54.4**	**+4.1**
MSVF	**Nonsavu**	**8.63**	**83**	*c iP*	**Pn**	**09 48 53.7**	**+3.5**
NFK	**Norfolk Island**	**10.08**	**186**	P	**Pn**	**09 49 11.8**	**+2.7**
NFK	**Norfolk Island**	**10.08**	**186**	P	**Pn**	**09 49 11.1**	**+2.0**
	1μm,0.9s,SNR=7.0						
NFK	**Norfolk Island**	**10.08**	**186**	⇓P	**Pn**	**09 49 11.1**	**+2.0**
HNR	**Honiara**	**12.96**	**316**	P	**Pn**	**09 49 48.2**	**+1.7**
HNR	**Honiara**	**12.96**	**316**	Pn	**Pn**	**09 49 46.9**	**+0.4**
HNR	**Honiara**	**12.96**	**316**	⇓P	**Pn**	**09 49 47.3**	**+0.8**
HNR	**Honiara**	**12.96**	**316**	P	**Pn**	**09 49 46.9**	**+0.4**
FUTU	**Fugatoga**	**13.13**	**71**	P	**Pn**	**09 49 50.2**	**+1.6**
FUNA	**Funafuti**	**14.30**	**45**		**P**	**09 50 05.0**	**-0.5**
LHI	**Lord Howe Isla**	**15.41**	**214**		**P**	**09 50 18.6**	**+1.0**
RAO	**Raoul Island**	**15.67**	**133**	P	**P**	**09 50 22.0**	**+1.4**
RAO	**Raoul Island**	**15.67**	**133**		**P**	**09 50 21.6**	**+1.0**
RAO	**Raoul Island**	**15.67**	**133**	⇑P	**P**	**09 50 21.9**	**+1.4**
RAO	**Raoul Island**	**15.67**	**133**	P	**P**	**09 50 20.8**	**+0.3**
	519nm,0.6s,baz=0.1,slow=7.0,SNR=11						
RAO				LR	LR	09 55 32.4	
	comp=Z,14μm,19.2s,baz=320,slow=33						
RAO	**Raoul Island**	**15.67**	**133**	P	**P**	**09 50 21.6**	**+1.0**
GLKZ	**Green Lake**	**15.68**	**133**	P	**P**	**09 50 20.5**	**-0.1**
OUZ	**Omahuta**	**16.67**	**167**	P	**Pn**	**09 50 34.6**	**+2.4**
OUZ	**Omahuta**	**16.67**	**167**	⇑P	**Pn**	**09 50 34.4**	**+2.2**
OUZ	**Omahuta**	**16.67**	**167**	P	**Pn**	**09 50 34.3**	**+2.2**
OUZ				S	**Sn**	**09 53 43.2**	**+4.1**
AUWSH	**Wavell State H**	**16.94**	**237**	P	**Pn**	**09 50 36.9**	**+1.5**
WCZ	**Waipu Caves**	**17.53**	**166**	P	**Pn**	**09 50 44.4**	**+2.0**
MISM	**Misima Island**	**17.70**	**295**	P	**Pn**	**09 50 45.0**	**+0.4**
EIDS	**Eidsvold**	**17.82**	**246**	P	**Pn**	**09 50 46.6**	**+0.7**
EIDS	**Eidsvold**	**17.82**	**246**		**Pn**	**09 50 46.0**	**+0.1**
EIDS	**Eidsvold**	**17.82**	**246**	⇓P	**Pn**	**09 50 46.8**	**+0.9**
RK1H	**Rockhampton Ha**	**17.86**	**253**	P	**Pn**	**09 50 47.0**	**+0.6**
GRZ	**Great Barrier**	**18.11**	**163**	P	**Pn**	**09 50 50.5**	**+1.3**
ABAZ	**Army Bay**	**18.28**	**165**	P	**Pn**	**09 50 52.6**	**+1.5**
RVAZ	**Riverhead Bore**	**18.38**	**166**	P	**Pn**	**09 50 53.7**	**+1.3**
MBAZ	**Motutapu North**	**18.45**	**165**	P	**Pn**	**09 50 54.1**	**+0.8**
WTAZ	**Waiatarua**	**18.53**	**166**	P	**Pn**	**09 50 55.1**	**+0.9**
WIAZ	**Waiheke Island**	**18.54**	**165**	P	**Pn**	**09 50 54.9**	**+0.7**
ETAZ	**East Tamaki Re**	**18.64**	**165**	P	**Pn**	**09 50 55.9**	**+0.6**
KUZ	**Kuaotunu**	**18.65**	**163**	P	**Pn**	**09 50 55.9**	**+0.4**
KUZ	**Kuaotunu**	**18.65**	**163**	P	**Pn**	**09 50 55.8**	**+0.3**
AWAZ	**Awhitu Peninsu**	**18.68**	**166**	P	**Pn**	**09 50 56.4**	**+0.6**
MKAZ	**Moumakai**	**18.84**	**165**	P	**Pn**	**09 50 57.8**	**+0.1**
AFI	**Afiamalu**	**19.05**	**78**	P	**Pn**	**09 50 59.2**	**-1.3**
AFI	**Afiamalu**	**19.05**	**78**	P	**P**	**09 50 57.5**	**-0.3**
AFI	**Afiamalu**	**19.05**	**78**	P	**P**	**09 50 57.5**	**-0.3**
ARMA	**Armidale**	**19.48**	**231**	P	**Pn**	**09 51 04.5**	**-1.0**
ARMA	**Armidale**	**19.48**	**231**	P	**Pn**	**09 51 04.8**	**-0.8**
ARMA	**Armidale**	**19.48**	**231**	⇓P	**Pn**	**09 51 04.7**	**-0.8**
TOZ	**Tahuroa Road**	**19.52**	**165**	P	**Pn**	**09 51 05.1**	**-0.7**
TGRZ	**Tauranga**	**19.72**	**163**	P	**Pn**	**09 51 07.5**	**-0.6**
NIUE	**Niue**	**19.87**	**94**	P	**P**	**09 51 06.7**	**+0.2**
NIUE	**Niue**	**19.87**	**94**	P	**P**	**09 51 05.2**	**-1.4**
NIUE	**Niue**	**19.87**	**94**	P	**P**	**09 51 05.8**	**-0.7**
NIUE	**Niue**	**19.87**	**94**	⇑P	**P**	**09 51 05.1**	**-1.4**
HIZ	**Hauiti**	**20.11**	**167**	P	Pn	09 51 12.0	-0.9
HIZ	**Hauiti**	**20.11**	**167**	P	Pn	09 51 10.9	-2.0
RMQ	**Roma**	**20.15**	**245**	P	Pn	09 51 11.7	-1.8
RMQ	**Roma**	**20.15**	**245**	P	Pn	09 51 12.0	-1.5
	539nm,1.7s,SNR=30						
MXZ	**Matakaoa Point**	**20.21**	**158**	P	Pn	09 51 12.8	-1.2
MXZ	**Matakaoa Point**	**20.21**	**158**	P	Pn	09 51 12.3	-1.8
AUPHS	**Peel High Scho**	**20.38**	**230**	P	**P**	**09 51 13.9**	**+2.0**
AUAYR	**Ayr State High**	**20.45**	**265**	P	**P**	**09 51 14.2**	**+1.6**
URZ	**Urewera**	**20.46**	**162**	P	Pn	09 51 15.1	-2.0
URZ	**Urewera**	**20.46**	**162**	⇑P	**P**	**09 51 14.4**	**+1.8**
URZ	**Urewera**	**20.46**	**162**	P	**P**	**09 51 14.5**	**+2.0**
	629nm,0.8s,baz=60,slow=5.2,SNR=74						
URZ				S	**S**	**09 54 54.8**	**+2.8**
	30nm,0.8s,baz=76,slow=17,SNR=1.5						
URZ				LR	LR	09 58 15.1	
	comp=Z,7μm,18.8s,baz=184,slow=34						
	629nm,0.8s						
TARA	**Tarawa**	**20.56**	**11**	P	**P**	**09 51 14.4**	**+0.6**
TARA	**Tarawa**	**20.56**	**11**	P	**P**	**09 51 13.8**	**0.0**
TARA	**Tarawa**	**20.56**	**11**	⇑P	**P**	**09 51 13.4**	**-0.4**
KHEZ	**Kahui Hut**	**20.70**	**169**	P	Pn	09 51 18.8	-1.4
RTZ	**Ruatahuna**	**20.75**	**162**	P	**P**	**09 51 17.7**	**+1.9**
RITZ	**Rihia Road**	**20.79**	**165**	P	Pn	09 51 19.2	-2.1
NTLH	**Newcastle Hard**	**20.84**	**225**	P	**P**	**09 51 19.0**	**+2.3**
BKZ	**Black Stump Fm**	**21.13**	**164**	P	**P**	**09 51 21.7**	**+1.9**
BKZ	**Black Stump Fm**	**21.13**	**164**	P	**P**	**09 51 21.3**	**+1.6**
CTA	**Charters Tower**	**21.52**	**263**	P	**P**	**09 51 24.4**	**+0.2**
CTA	**Charters Tower**	**21.52**	**263**	P	**P**	**09 51 24.3**	**+0.2**
	57nm,0.9s,baz=90,slow=11,SNR=203						
CTA				ScP	**ScP**	**09 58 40.6**	**+0.1**
	2.4nm,1.0s,baz=168,slow=2.8,SNR=4.3						
CTA				LR	LR	09 59 06.4	
	comp=Z,1μm,18.4s,baz=104,slow=34						
CTAO	**Charters Tower**	**21.52**	**263**	P	**P**	**09 51 24.4**	**+0.2**
CTAO	**Charters Tower**	**21.52**	**263**	P	**P**	**09 51 24.4**	**+0.2**
CTAO	**Charters Tower**	**21.52**	**263**	⇓P	**P**	**09 51 24.2**	**+0.1**
CTAO	**Charters Tower**	**21.52**	**263**	P	**P**	**09 51 24.4**	**+0.2**
RIV	**Riverview**	**21.77**	**224**	P	**P**	**09 51 28.2**	**+1.7**
RIV	**Riverview**	**21.77**	**224**	P	**P**	**09 51 28.3**	**+1.8**
	2μm,2.5s,SNR=21						
RIV	**Riverview**	**21.77**	**224**	⇑P	**P**	**09 51 28.4**	**+1.8**
AULRC	**Lightning Ridg**	**21.83**	**238**	P	**P**	**09 51 28.0**	**+0.8**
QRZ	**Quartz Range**	**21.98**	**173**	P	**P**	**09 51 30.9**	**+2.3**
QRZ	**Quartz Range**	**21.98**	**173**	P	**P**	**09 51 29.9**	**+1.3**
QRZ				IAmb	IAmb	09 51 34.0	
	comp=Z,918nm,1.0s						
TKNZ	**Takaka Hill**	**22.24**	**172**	P	**P**	**09 51 33.2**	**+2.1**
WOLH	**Wollongong Har**	**22.31**	**223**	P	**P**	**09 51 33.6**	**+1.8**
MRZ	**Mangatainoka R**	**22.33**	**167**	P	**P**	**09 51 32.5**	**+0.6**
MRZ				IAmb	IAmb	09 51 36.1	
	comp=Z,1μm,1.2s						
NNZ	**Nelson**	**22.48**	**171**	P	**P**	**09 51 34.9**	**+1.6**
NNZ				IAmb	IAmb	09 51 39.7	
	comp=Z,465nm,1.1s						
BFZ	**Birch Farm**	**22.50**	**166**	P	**P**	**09 51 34.3**	**+0.8**
BFZ	**Birch Farm**	**22.50**	**166**	P	**P**	**09 51 33.8**	**+0.3**
BFZ				IAmb	IAmb	09 51 41.4	
	comp=Z,477nm,0.8s						
MRNZ	**Matariki Terra**	**22.57**	**173**	P	**P**	**09 51 36.3**	**+2.1**
TCW	**Tory Channel**	**22.61**	**170**	P	**P**	**09 51 35.9**	**+1.4**
AUDCS	**Dubbo College**	**22.61**	**230**	P	**P**	**09 51 36.2**	**+1.5**
BULU	**Kimbe**	**22.63**	**304**	P	**P**	**09 51 35.5**	**+0.5**
TUWZ	**Tuamarina**	**22.77**	**170**	P	**P**	**09 51 37.5**	**+1.5**
SNZO	**South Karori**	**22.78**	**169**	P	**P**	**09 51 37.1**	**+1.0**
SNZO	**South Karori**	**22.78**	**169**	P	**P**	**09 51 36.9**	**+0.9**
SNZO				IAmb	IAmb	09 51 41.6	
	comp=Z,734nm,0.9s						
DSZ	**Denniston Nort**	**22.82**	**175**	P	**P**	**09 51 38.7**	**+2.2**
DSZ				IAmb	IAmb	09 51 41.6	
	comp=Z,1μm,1.3s						
BHW	**Baring Head**	**22.91**	**169**	P	**P**	**09 51 38.0**	**+0.8**
BHW				IAmb	IAmb	09 51 41.5	
	comp=Z,1μm,1.4s						
THZ	**Tophouse**	**22.95**	**173**	P	**P**	**09 51 39.2**	**+1.5**
THZ				IAmb	IAmb	09 51 41.5	
	comp=Z,625nm,0.7s						
AUUHS	**Ulladulla High**	**23.17**	**221**	P	**P**	**09 51 41.2**	**+1.5**
PMG	**Port Moresby**	**23.24**	**291**	P	**P**	**09 51 41.6**	**+1.1**
PMG	**Port Moresby**	**23.24**	**291**	P	**P**	**09 51 41.6**	**+1.1**
	comp=Z,3μm,0.9s,baz=105,slow=6.2,SNR=230						
PMG				ScP	**ScP**	**09 58 45.3**	**+0.2**
	comp=Z,105nm,1.1s,baz=97,slow=2.7,SNR=7.0						
PMG				LR	LR	09 58 52.0	
	comp=Z,18μm,19.0s,baz=145,slow=31						
	comp=Z,3μm,0.9s						
PMG	**Port Moresby**	**23.24**	**291**	P	**P**	**09 51 41.6**	**+1.1**
PMG				pmax	pmax		
	comp=Z,3μm,0.9s						
MTSU	**Mount Surprise**	**23.47**	**268**	P	**P**	**09 51 43.9**	**+1.2**
MTSU	**Mount Surprise**	**23.47**	**268**	P	**P**	**09 51 44.0**	**+1.4**
	comp=Z,2μm,0.9s,SNR=728						
KHZ	**Kahutara**	**23.68**	**172**	P	**P**	**09 51 44.9**	**+0.7**
KHZ				IAmb	IAmb	09 51 46.9	
	comp=Z,548nm,0.7s						
KHZ	**Kahutara**	**23.68**	**172**	⇑P	**P**	**09 51 44.6**	**+0.4**
CNB	**Canberra Magne**	**23.85**	**223**	P	**P**	**09 51 47.6**	**+1.6**
CNB	**Canberra Magne**	**23.85**	**223**	P	**P**	**09 51 47.7**	**+1.8**
	comp=Z,1μm,0.7s,SNR=65						
YNG	**Young**	**23.89**	**226**	P	**P**	**09 51 47.9**	**+1.6**
YNG	**Young**	**23.89**	**226**	P	**P**	**09 51 48.0**	**+1.6**
	comp=Z,3μm,0.8s,SNR=51						
QLP	**Quilpie**	**24.08**	**247**	P	**P**	**09 51 48.7**	**+0.6**
QLP	**Quilpie**	**24.08**	**247**	P	**P**	**09 51 49.0**	**+0.9**
	comp=Z,5μm,0.8s,SNR=662						
QLP	**Quilpie**	**24.08**	**247**	⇓P	**P**	**09 51 48.9**	**+0.8**
CAN	**Canberra**	**24.09**	**223**	P	**P**	**09 51 49.7**	**+1.6**
CAN	**Canberra**	**24.09**	**223**	P	**P**	**09 51 49.6**	**+1.4**
CAN				IAmb	IAmb	09 51 53.3	
	comp=Z,376nm,0.7s						
CAN	**Canberra**	**24.09**	**223**	P	**P**	**09 51 49.4**	**+1.3**
	comp=Z,613nm,0.9s,SNR=32						
CAN	**Canberra**	**24.09**	**223**	⇓P	**P**	**09 51 49.5**	**+1.4**
CAN	**Canberra**	**24.09**	**223**	P	**P**	**09 51 49.6**	**+1.4**
CAN				pmax	pmax		
	comp=Z,376nm,0.7s						
GVZ	**Greta Valley S**	**24.15**	**173**	IAmb	IAmb	09 51 52.6	
	comp=Z,503nm,0.9s						
KAVG	**Kavieng**	**24.18**	**310**	P	**P**	**09 51 48.7**	**-0.4**
OXZ	**Oxford**	**24.41**	**175**	IAmb	IAmb	09 51 53.0	
	comp=Z,414nm,0.7s						
FOZ	**Fox Glacier**	**24.49**	**179**	IAmb	IAmb	09 51 54.4	
	comp=Z,584nm,0.7s						
CMSA	**Cobar Meteorol**	**24.50**	**235**	P	**P**	**09 51 52.7**	**+0.8**
CMSA	**Cobar Meteorol**	**24.50**	**235**	P	**P**	**09 51 52.8**	**+1.0**
	comp=Z,1μm,0.8s,SNR=136						
RPZ	**Rata Peaks**	**24.72**	**177**	P	**P**	**09 51 54.7**	**+0.9**
RPZ	**Rata Peaks**	**24.72**	**177**	P	**P**	**09 51 54.5**	**+0.8**
RPZ				IAmb	IAmb	09 51 56.9	
	comp=Z,382nm,0.7s						
RPZ	**Rata Peaks**	**24.72**	**177**	LR	LR	10 01 01.3	
	comp=Z,6μm,19.6s,baz=8.0,slow=34						
MQZ	**McQueen's Vall**	**24.84**	**174**	IAmb	IAmb	09 51 58.0	
	comp=Z,531nm,1.0s						
JCZ	**Jackson Bay**	**25.03**	**180**	P	**P**	**09 51 58.3**	**+1.7**
MILA	**Mila**	**25.07**	**220**	P	**P**	**09 51 58.1**	**+1.0**
MILA	**Mila**	**25.07**	**220**	P	**P**	**09 51 58.0**	**+1.0**
	comp=Z,443nm,2.0s,SNR=11						
MILA	**Mila**	**25.07**	**220**	⇓P	**P**	**09 51 58.4**	**+1.3**
COEN	**Coen**	**25.31**	**277**	P	**P**	**09 51 59.9**	**+0.5**
COEN	**Coen**	**25.31**	**277**	P	**P**	**09 52 00.2**	**+0.9**
COEN	**Coen**	**25.31**	**277**	P	**P**	**09 52 00.2**	**+0.9**
	comp=Z,1μm,1.2s,SNR=115						
COEN	**Coen**	**25.31**	**277**	⇓P	**P**	**09 52 00.0**	**+0.7**
LBZ	**Lake Benmore**	**25.35**	**178**	IAmb	IAmb	09 52 01.8	
	comp=Z,268nm,0.6s						
WKZ	**Wanaka**	**25.78**	**180**	IAmb	IAmb	09 52 24.2	
	comp=Z,300nm,1.0s						
ODZ	**Otahua Downs**	**26.03**	**177**	P	**P**	**09 52 05.9**	**+0.4**
ODZ	**Otahua Downs**	**26.03**	**177**	P	**P**	**09 52 06.3**	**+0.8**
ODZ				IAmb	IAmb	09 52 08.0	
	comp=Z,451nm,1.5s						
ODZ	**Otahua Downs**	**26.03**	**177**	⇑P	**P**	**09 52 06.0**	**+0.5**
MLZ	**Mavora Lakes**	**26.33**	**181**	P	**P**	**09 52 09.5**	**+1.3**
MLZ				IAmb	IAmb	09 53 10.5	
	comp=Z,312nm,1.2s						
DCZ	**Deep Cove**	**26.46**	**183**	IAmb	IAmb	09 52 58.8	
	comp=Z,283nm,1.1s						
WHZ	**Wether Hill Ro**	**26.86**	**182**	P	**P**	**09 52 13.8**	**+0.9**
AUSSC	**Sale College,**	**27.01**	**221**	P	**P**	**09 52 15.7**	**+1.3**
MANU	**Manus Island**	**27.10**	**306**	P	**P**	**09 52 16.1**	**+0.7**
MANU	**Manus Island**	**27.10**	**306**	P	**P**	**09 52 15.8**	**+0.3**
MANU				IAmb	IAmb	09 52 17.2	
	comp=Z,521nm,1.1s						
MANU	**Manus Island**	**27.10**	**306**	⇓P	**P**	**09 52 15.9**	**+0.5**
INKA	**Innaminka**	**27.37**	**246**	P	**P**	**09 52 18.6**	**+0.9**
CTZ	**Chatham Island**	**27.47**	**157**	P	**P**	**09 52 19.9**	**+1.6**
CTZ	**Chatham Island**	**27.47**	**157**	P	**P**	**09 52 19.6**	**+1.3**
CTZ				IAmb	IAmb	09 52 22.0	
	comp=Z,506nm,1.0s						
SYZ	**Scrubby Hill**	**27.49**	**180**	P	**P**	**09 52 19.9**	**+1.4**
TOO	**Toolangi**	**27.70**	**223**	P	**P**	**09 52 21.7**	**+1.1**
TOO	**Toolangi**	**27.70**	**223**	P	**P**	**09 52 21.6**	**+1.1**
TOO				IAmb	IAmb	09 53 07.0	
	comp=Z,441nm,1.3s						
TOO	**Toolangi**	**27.70**	**223**	P	**P**	**09 52 21.6**	**+1.1**
	comp=Z,299nm,2.5s,SNR=32						
TOO	**Toolangi**	**27.70**	**223**	⇓P	**P**	**09 52 21.7**	**+1.1**
TOO	**Toolangi**	**27.70**	**223**	P	**P**	**09 52 21.7**	**+1.1**
TOO				pmax	pmax		
	comp=Z,441nm,1.3s						
QIS	**Mount Isa**	**27.75**	**262**	P	**P**	**09 52 21.6**	**+0.4**
QIS	**Mount Isa**	**27.75**	**262**	P	**P**	**09 52 21.5**	**+0.4**
	comp=Z,242nm,1.0s,SNR=51						
STKA	**Stephens Creek**	**27.84**	**237**	P	**P

AS01 Alice Springs 32.98 256 P **P** **09 53 07.3 0.0**
AS31 Alice Springs 33.03 256 P **P** **09 53 07.8 +0.1**
ASAR Alice Springs 33.03 256 P **P** **09 53 07.6 -0.1**
comp=Z,1μm,0.6s,baz=82,slow=8.8
ASAR pP **pP** **09 53 41.8 -0.3**
comp=Z,204nm,0.8s,baz=80,slow=8.8,SNR=1.6
ASAR S **S** **09 58 10.2 -3.4**
comp=Z,58nm,1.1s,baz=82,slow=17,SNR=6.2
ASAR ScP **ScP** **09 59 17.0 +1.7**
comp=Z,47nm,1.1s,baz=102,slow=2.9,SNR=8.3
ASAR PKiKP **PKiKP** **10 03 12.2 -1.2**
comp=Z,4.7nm,0.9s,baz=77,slow=1.2,SNR=6.4
ASAR LR LR 10 05 26.9
comp=Z,22μm,21.6s,baz=107,slow=34
ASPA Alice Springs 33.03 256 P **P** **09 53 07.6 0.0**
comp=Z,1μm,0.5s
MULG Mulgathing 33.62 244 P **P** **09 53 13.5 +0.8**
KDU Kakadu 35.70 275 P **P** **09 53 30.5 -0.1**
KDU Kakadu 35.70 275 P **P** **09 53 30.6 -0.1**
comp=Z,935nm,1.2s,SNR=96
KDU Kakadu 35.70 275 ⇓P **P** **09 53 30.6 -0.1**
MTN Manton Dam 36.93 274 P **P** **09 53 40.8 -0.2**
MTN Manton Dam 36.93 274 P **P** **09 53 41.0 0.0**
MTN Manton Dam 36.93 274 P **P** **09 53 41.1 0.0**
comp=Z,2μm,1.1s,SNR=189
MTN Manton Dam 36.93 274 ⇓P **P** **09 53 41.0 0.0**
DRS Darwin Rock St 37.25 274 P **P** **09 53 43.8 0.0**
H11S2 WAKE ISLAND Hy 37.30 356 T T 10 33 39.9
baz=181,slow=76,SNR=4.1
H11S3 WAKE ISLAND Hy 37.31 356 T T 10 33 35.8
baz=181,slow=76,SNR=4.2
H11S1 WAKE ISLAND Hy 37.32 356 T T 10 33 35.0
baz=181,slow=76,SNR=4.7
KMPI Kaimana, Papua 37.74 289 P **P** **09 53 47.9 0.0**
comp=Z,738nm,1.2s,comp=Z,14μmcomp=Z,20μm
WAKE Wake Island 38.09 356 P **P** **09 53 51.3 +0.6**
WAKE Wake Island 38.09 356 P **P** **09 53 51.3 +0.6**
WAKE IAmb IAmb 09 53 58.7
comp=Z,213nm,0.9s
WAKE Wake Island 38.09 356 ⇑P **P** **09 53 51.4 +0.7**
WAKE Wake Island 38.09 356 P **P** **09 53 51.3 +0.6**
WRKA Warakurna 38.17 253 P **P** **09 53 51.4 -0.1**
WRKA Warakurna 38.17 253 P **P** **09 53 51.6 +0.1**
comp=Z,1μm,1.1s,SNR=109
WRKA Warakurna 38.17 253 ⇓P **P** **09 53 51.5 +0.1**
SAUI Saumlaki 38.23 281 P **P** **09 53 52.9 +0.9**
SAUI Saumlaki 38.23 281 P **P** **09 53 52.8 +0.9**
SAUI Saumlaki 38.23 281 ⇓P **P** **09 53 52.7 +0.7**
SAUI Saumlaki 38.23 281 P **P** **09 53 51.2 -0.8**
comp=Z,1μm,1.0s,comp=Z,16μmcomp=Z,29μm
H11N1 WAKE ISLAND Hy 38.51 357 P **P** **09 53 53.4 -0.5**
baz=178,slow=9.7,SNR=3.3
H11N1 T T 10 35 06.3
baz=172,slow=76,SNR=3.3
H11N3 WAKE ISLAND Hy 38.51 357 P **P** **09 53 53.4 -0.5**
baz=178,slow=9.7,SNR=4.1
H11N3 T T 10 35 09.1
baz=172,slow=76,SNR=3.2
H11N2 WAKE ISLAND Hy 38.52 357 P **P** **09 53 54.0 -0.1**
baz=178,slow=9.7,SNR=5.6
H11N2 T T 10 35 06.3
baz=172,slow=76,SNR=3.6
KNRA Kununurra 38.55 268 P **P** **09 53 54.6 0.0**
KNRA Kununurra 38.55 268 P **P** **09 53 54.5 -0.2**
comp=Z,1μm,1.5s,SNR=115
FORT Forrest 38.81 244 P **P** **09 53 56.8 +0.1**
FORT Forrest 38.81 244 P **P** **09 53 57.1 +0.4**
FORT Forrest 38.81 244 P **P** **09 53 57.0 +0.3**
comp=Z,2μm,0.8s,SNR=48
FORT Forrest 38.81 244 ⇓P **P** **09 53 56.9 +0.3**
TBI Tubuai 38.83 104 *e*P **P** **09 53 56.8 -0.1**
TBI Tubuai 38.83 104 *e*P **P** **09 53 57.6 +0.7**
comp=Z,214nm,1.0s
TBI *e*pP **pP** **09 54 32.9 -0.5**
comp=Z,26μm,30.2s
TBI *e*S **S** **09 59 43.1 +1.2**
comp=Z,24μm,29.2s
TBI *e*SS **SS** **10 02 40.4 -0.1**
comp=Z,139μm,28.2s
TBI *e*SS **SS** **10 02 40.7 +0.2**
comp=Z,13μm,25.3s
TBI *e*SS **SnSn** **10 02 44.5 -8.3**
comp=Z,18μm,34.2s
XMAS Kiritimati 38.99 61 P **P** **09 53 59.5 +1.2**
XMAS Kiritimati 38.99 61 P **P** **09 53 59.0 +0.6**
XMAS IAmb IAmb 09 54 01.3
comp=Z,557nm,0.9s
XMAS Kiritimati 38.99 61 ⇑P **P** **09 53 59.1 +0.8**
XMAS Kiritimati 38.99 61 P **P** **09 53 58.9 +0.6**
PAE Paea 39.22 95 *e*P **P** **09 54 00.7 +0.5**
comp=Z,46nm,0.9s
PAE *e*SS SS 10 02 48.2 -0.2
comp=Z,3μm,26.2s
PAE *e*LR LR 10 04 54.4
comp=Z,2μm,23.4s
PPT2 Papeete2 39.24 95 *e*P **P** **09 53 56.0 -4.4**
PPT2 Papeete2 39.24 95 *e*P **P** **09 54 01.0 +0.6**
comp=Z,150nm,0.8s
PPT2 *e*pP **pwP** **09 54 38.7 -1.1**
comp=Z,7μm,29.0s
PPT2 *e*S **S** **09 59 47.3 -0.9**
comp=Z,7μm,25.5s
PPT2 *e*SS **SS** **10 02 50.0 +1.2**
comp=Z,5μm,25.6s
PPT2 *e*SS **SS** **10 02 51.5 +2.7**
comp=Z,30μm,28.5s
PPT2 *e*SS **SS** **10 02 53.2 +4.4**
comp=Z,19μm,35.5s
PPT2 *e*LR LR 10 04 56.1
comp=Z,4μm,23.4s
PPT Papeete 39.24 95 P **P** **09 54 00.7 +0.3**
comp=Z,180nm,0.7s,baz=104,slow=1.5,SNR=24
comp=Z,180nm,0.7s
PPTF Pamatai, Papee 39.25 95 P **P** **09 54 01.0 +0.5**
PPTF Pamatai, Papee 39.25 95 P **P** **09 54 00.5 0.0**
PPTF IAmb IAmb 09 54 08.1
comp=Z,193nm,0.8s
PPTF Pamatai, Papee 39.25 95 ⇑P **P** **09 54 00.7 +0.1**
PPTF Pamatai, Papee 39.25 95 P **P** **09 54 00.8 +0.3**
PPTF PcP **PcP** **09 56 06.8 +0.7**
FAKI Fak Fak 39.37 289 P **P** **09 54 01.3 -0.2**
FAKI Fak Fak 39.37 289 P **P** **09 54 01.4 -0.1**
FAKI Fak Fak 39.37 289 ⇓P **P** **09 54 01.3 -0.2**
FAKI Fak Fak 39.37 289 P **P** **09 54 00.9 -0.6**
comp=Z,1μm,1.0s,comp=Z,20μmcomp=Z,18μm
TVO Taravao 39.52 95 *e*P **P** **09 54 03.7 +1.0**
comp=Z,31nm,0.7s
GUMO Guam 40.19 322 P **P** **09 54 08.2 +0.1**
GUMO Guam 40.19 322 P **P** **09 54 07.0 -1.1**
GUMO IAmb IAmb 09 54 11.0
comp=Z,351nm,1.0s
GUMO Guam 40.19 322 ⇑P **P** **09 54 06.1 -2.0**
GUMO Guam 40.19 322 P **P** **09 54 07.0 -1.1**
GUMO pmax pmax
comp=Z,351nm,1.0s
GUMO Guam 40.19 322 P **P** **09 54 07.2 -1.0**
BNDI Bandanaira 40.81 286 P **P** **09 54 13.0 -0.3**
BNDI Bandanaira 40.81 286 ⇓P **P** **09 54 12.6 -0.7**
BNDI Bandanaira 40.81 286 P **P** **09 54 12.8 -0.5**
FITZ Fitzroy Crossi 41.10 264 P **P** **09 54 16.1 +0.4**
FITZ Fitzroy Crossi 41.10 264 P **P** **09 54 16.4 +0.7**
FITZ Fitzroy Crossi 41.10 264 ⇓P **P** **09 54 16.2 +0.5**
SWI Sorong 41.19 291 P **P** **09 54 16.6 +0.1**
comp=Z,1μm,0.9s,comp=Z,15μmcomp=Z,20μm
JOHN Johnston Islan 41.26 32 P **P** **09 54 17.8 +0.9**
JOHN Johnston Islan 41.26 32 P **P** **09 54 17.6 +0.7**
JOHN Johnston Islan 41.26 32 ⇑P **P** **09 54 17.3 +0.4**
JOHN Johnston Islan 41.26 32 P **P** **09 54 17.6 +0.7**
PMOR Pomariorio Ree 41.28 91 *e*P **P** **09 54 16.7 -0.5**
comp=Z,136nm,0.8s
PMOR *e*pP **pP** **09 54 54.0 0.0**
comp=Z,355nm,1.2s
PMOR *e*SS SS 10 03 36.6 +7.4
comp=Z,16μm,25.0s
PMOR *e*LR LR 10 05 56.6
comp=Z,10μm,22.3s
VAH Vaihoa 41.49 92 *e*P **P** **09 54 17.6 -1.2**
comp=Z,112nm,0.8s
VAH *e*SS SS 10 03 45.3 +12
comp=Z,20μm,25.1s
VAH *e*LR LR 10 06 02.1
comp=Z,12μm,22.6s
NLAI Namlea 43.89 286 P **P** **09 54 38.8 +0.6**
comp=Z,567nm,1.2s
KMBL Kambalda 44.14 244 P **P** **09 54 39.7 -0.4**
KMBL Kambalda 44.14 244 P **P** **09 54 39.8 -0.2**
comp=Z,583nm,0.8s,SNR=28
SOEI Soe 44.24 275 P **P** **09 54 42.4 +1.2**
SOEI Soe 44.24 275 P **P** **09 54 42.4 +1.2**
SOEI Soe 44.24 275 ⇓P **P** **09 54 42.3 +1.1**
SOEI Soe 44.24 275 P **P** **09 54 42.1 +0.9**
comp=Z,1μm,1.1s,comp=Z,17μmcomp=Z,24μm
LBMI Labuha 44.63 289 P **P** **09 54 45.5 +1.4**
comp=Z,520nm,1.0s,comp=Z,10μm
BATI Baumata 44.68 275 P **P** **09 54 46.3 +1.7**
SANI Sanana 45.39 287 P **P** **09 54 50.3 +0.2**
SANI Sanana 45.39 287 ⇓P **P** **09 54 50.2 +0.1**
SANI Sanana 45.39 287 P **P** **09 54 50.7 +0.6**
comp=Z,469nm,1.1s,comp=Z,12μmcomp=Z,23μm
TNTI Ternate 45.39 291 P **P** **09 54 50.8 +0.7**
TNTI Ternate 45.39 291 P **P** **09 54 50.1 0.0**
PSA00 Pilbara Seismi 46.09 258 P **P** **09 54 56.1 +0.6**
PSA00 Pilbara Seismi 46.09 258 P **P** **09 54 55.1 -0.4**
PSA00 Pilbara Seismi 46.09 258 P **P** **09 54 56.0 +0.4**
comp=Z,1μm,1.0s,SNR=86
MBWA Marble Bar 46.24 259 P **P** **09 54 57.2 +0.5**
MBWA Marble Bar 46.24 259 P **P** **09 54 57.1 +0.5**
MBWA Marble Bar 46.24 259 ⇓P **P** **09 54 57.1 +0.5**
MBWA Marble Bar 46.24 259 ⇓P **P** **09 54 57.2 +0.5**
MBWA pP **pP** **09 55 32.9 -0.6**
MBWA pwP **pwP** **09 55 39.8 -0.1**
MBWA ScP **ScP** **10 00 07.4 +0.9**
MMRI Maumere 46.49 276 P **P** **09 54 58.8 +0.1**
MMRI Maumere 46.49 276 P **P** **09 54 58.6 -0.1**
MMRI Maumere 46.49 276 ⇓P **P** **09 54 58.7 -0.1**
MMRI Maumere 46.49 276 P **P** **09 54 58.2 -0.5**
comp=Z,1μm,1.0s,comp=Z,18μmcomp=Z,21μm
MEEK Meekatharra 46.88 251 P **P** **09 55 02.0 +0.3**
MEEK Meekatharra 46.88 251 P **P** **09 55 02.0 +0.3**
comp=Z,2μm,1.3s,SNR=86
EDFI Ende, Flores 46.97 276 P **P** **09 55 01.7 -0.9**
comp=Z,473nm,1.0s,comp=Z,9μmcomp=Z,18μm
BBSI Bau Bau 47.21 280 P **P** **09 55 05.4 +1.1**
comp=Z,517nm,1.2s,comp=Z,12μmcomp=Z,21μm
BASI Baing, Sumba 47.59 273 P **P** **09 55 07.2 0.0**
KLBR Kellerberrin 47.67 244 P **P** **09 55 07.3 -0.4**
KLBR Kellerberrin 47.67 244 P **P** **09 55 07.4 -0.4**
comp=Z,2μm,0.9s,SNR=108
AUALB St Joseph's Co 47.80 240 P **P** **09 55 08.8 +0.3**
NWAO Narrogin (SRO) 48.18 243 P **P** **09 55 11.5 0.0**
NWAO Narrogin (SRO) 48.18 243 P **P** **09 55 11.6 0.0**
NWAO IAmb IAmb 09 55 12.8
comp=Z,579nm,0.9s
NWAO Narrogin (SRO) 48.18 243 P **P** **09 55 11.2 -0.4**
NWAO Narrogin (SRO) 48.18 243 LR LR 10 16 23.9
comp=Z,11μm,18.4s,baz=88,slow=37
NWAO Narrogin (SRO) 48.18 243 P **P** **09 55 11.6 0.0**
NWAO pmax pmax
comp=Z,579nm,1.0s
NWAO Narrogin (SRO) 48.18 243 P **P** **09 55 11.5 0.0**
NWAO pP **pP** **09 55 49.2 +0.7**
KMSI Cibinong 48.32 289 P **P** **09 55 13.4 +0.6**
comp=Z,904nm,0.9s,comp=Z,13μmcomp=Z,19μm
RKGY Rocky Gully 48.52 240 P **P** **09 55 14.3 +0.2**
RKGY Rocky Gully 48.52 240 P **P** **09 55 14.4 +0.3**
comp=Z,628nm,0.7s,SNR=14
BLDU Ballidu 48.54 246 P **P** **09 55 13.9 -0.5**
BLDU Ballidu 48.54 246 P **P** **09 55 13.8 -0.5**
comp=Z,405nm,1.0s,SNR=18
MIDW Midway 48.72 16 P **P** **09 55 16.1 +0.6**
MIDW Midway 48.72 16 P **P** **09 55 15.5 +0.1**
MIDW IAmb IAmb 09 55 16.3
comp=Z,565nm,1.5s
LUWI Luwuk 48.73 286 P **P** **09 55 16.5 +0.6**
LUWI Luwuk 48.73 286 P **P** **09 55 16.2 +0.3**
LUWI IAmb IAmb 09 55 17.9
comp=Z,635nm,0.9s
LUWI Luwuk 48.73 286 ⇓P **P** **09 55 16.6 +0.6**
LUWI Luwuk 48.73 286 P **P** **09 55 15.8 -0.1**
comp=Z,899nm,1.0s,comp=Z,13μmcomp=Z,18μm
MUN Mundaring 49.01 244 P **P** **09 55 17.8 -0.1**
MUN Mundaring 49.01 244 P **P** **09 55 17.5 -0.4**
comp=Z,404nm,0.9s,SNR=14
MORW Morawa 49.11 248 P **P** **09 55 18.4 -0.3**
MORW Morawa 49.11 248 P **P** **09 55 18.7 -0.1**
MORW IAmb IAmb 09 55 19.4
comp=Z,377nm,1.0s
MORW Morawa 49.11 248 P **P** **09 55 18.4 -0.3**
comp=Z,462nm,1.1s,SNR=28
MORW Morawa 49.11 248 ⇓P **P** **09 55 18.6 -0.2**
MTKN Mount Kenneth 49.37 244 P **P** **09 55 21.6 +1.0**
BKSI Bulukumba 49.55 279 P **P** **09 55 21.9 -0.3**
comp=Z,596nm,1.3s,comp=Z,8μmcomp=Z,22μm
KAPI Kappang 50.01 280 P **P** **09 55 26.2 +0.6**
KAPI Kappang 50.01 280 P **P** **09 55 26.5 +0.9**
KAPI Kappang 50.01 280 ⇓P **P** **09 55 26.5 +0.9**
KAPI Kappang 50.01 280 *d*P **P** **09 55 26.1 +0.5**
KAPI pmax pmax
comp=Z,889nm,0.9s
DAV Davao City (W) 50.06 297 P **P** **09 55 26.5 +0.5**
DAV Davao City (W) 50.06 297 P **P** **09 55 26.9 +0.9**
MRSI Marisa 50.12 287 P **P** **09 55 25.3 -1.1**
comp=Z,313nm,0.9s,comp=Z,16μm
PLAI Plampang 50.64 274 P **P** **09 55 30.6 +0.2**
PLAI Plampang 50.64 274 P **P** **09 55 30.7 +0.3**
comp=Z,1μm,1.1s,comp=Z,16μm
H01W1 Cape Leeuwin H 50.86 240 P **P** **09 55 32.6 +1.1**
baz=180,slow=76,SNR=12
H01W3 Cape Leeuwin H 50.87 240 P **P** **09 55 33.1 +1.5**
baz=180,slow=76,SNR=15
H01W2 Cape Leeuwin H 50.87 240 P **P** **09 55 32.8 +1.2**
baz=180,slow=76,SNR=9.1
KEKH Kekaha 50.89 38 P **P** **09 55 32.7 +0.7**
GIRL Giralia 51.15 256 P **P** **09 55 35.0 +0.9**
GIRL Giralia 51.15 256 P **P** **09 55 34.6 +0.6**
comp=Z,876nm,1.1s,SNR=15
GIRL Giralia 51.15 256 ⇓P **P** **09 55 35.2 +1.2**
DRV Dumont d'Urvil 51.24 194 P **P** **09 55 34.4 +0.3**
DRV pP **pP** **09 56 13.2 +1.6**
DRV ScP **ScP** **10 00 29.6 +2.8**
HON Honolulu 51.42 40 IAmb IAmb 09 55 39.2
comp=Z,310nm,0.7s
TOLI2 Tolitoli 51.43 287 P **P** **09 55 35.5 -0.8**
TOLI2 Tolitoli 51.43 287 P **P** **09 55 36.0 -0.3**
TOLI2 IAmb IAmb 09 55 37.3
comp=Z,584nm,0.9s
KIP Kipapa 51.48 40 P **P** **09 55 36.7 +0.2**
KIP Kipapa 51.48 40 P **P** **09 55 36.9 +0.4**
KIP IAmb IAmb 09 55 37.9
comp=Z,478nm,0.8s
KIP Kipapa 51.48 40 P **P** **09 55 36.9 +0.4**
KIP pmax pmax
comp=Z,478nm,0.9s
KIP Kipapa 51.48 40 P **P** **09 55 36.9 +0.4**
KIP PcP **PcP** **09 56 49.9 +1.6**
TWSI Taliwang, Sumb 51.51 274 P **P** **09 55 36.6 -0.3**
comp=Z,1μm,1.0s,comp=Z,17μmcomp=Z,19μm
HUH Hualalai 51.59 44 IAmb IAmb 09 55 48.0
comp=Z,428nm,0.9s
HLP Hilina Pali 51.66 45 P **P** **09 55 39.3 +1.4**
HLP IAmb IAmb 09 55 39.9
comp=Z,447nm,0.9s
PUH Pauahi 51.78 45 P **P** **09 55 39.5 +0.6**
PUH IAmb IAmb 09 55 40.5
comp=Z,481nm,0.8s
POHA Pohakuloa 51.84 44 P **P** **09 55 40.1 +0.6**
POHA Pohakuloa 51.84 44 P **P** **09 55 40.0 +0.5**
POHA IAmb IAmb 09 55 40.8
comp=Z,440nm,0.8s
POHA Pohakuloa 51.84 44 ⇑P **P** **09 55 40.1 +0.6**
POHA Pohakuloa 51.84 44 P **P** **09 55 40.1 +0.6**
POHA pP **pP** **09 56 18.0 0.0**
POHA ScP **ScP** **10 00 30.2 -0.3**
STCH Steam Cracks 51.84 45 P **P** **09 55 40.0 +0.7**
MPSI Mapaga 51.91 286 P **P** **09 55 39.3 -0.5**
comp=Z,615nm,1.0s,comp=Z,8μmcomp=Z,20μm
HPAH Hawaii Prepara 51.93 44 **P** **09 55 40.6 +0.7**
PAH Pahoa 52.04 45 P **P** **09 55 41.4 +0.7**
JCJ Chichijima 52.69 330 P **P** **09 55 45.3 0.0**
JCJ Chichijima 52.69 330 P **P** **09 55 45.6 +0.3**
JCJ IAmb IAmb 09 55 48.3
comp=Z,379nm,1.0s
JCJ Chichijima 52.69 330 ⇑P **P** **09 55 45.2 0.0**
JCJ Chichijima 52.69 330 LR LR 10 17 57.5
comp=Z,872nm,19.1s,baz=160,slow=36
DNP Denpasar 53.10 273 P **P** **09 55 49.1 +0.5**
SRBI Singaraja 53.28 274 P **P** **09 55 49.8 -0.1**
comp=Z,914nm,1.0s,comp=Z,11μmcomp=Z,19μm
JAGI Jajag, Banyuwa 54.16 273 P **P** **09 55 55.5 -0.9**
JAGI Jajag, Banyuwa 54.16 273 ⇓P **P** **09 55 55.5 -0.9**
JAGI Jajag, Banyuwa 54.16 273 P **P** **09 55 54.1 -2.3**
comp=Z,793nm,1.1s,comp=Z,9μmcomp=Z,15μm
ABJI Asem Bagus 54.29 274 P **P** **09 55 56.4 -0.8**
comp=Z,894nm,1.0s,comp=Z,12μmcomp=Z,21μm
MYLDM Lahad Datu 55.27 291 P **P** **09 56 04.9 +0.7**
MYLDM IAmb IAmb 09 56 52.6
comp=Z,338nm,1.1s
MYLDM Lahad Datu 55.27 291 ⇓P **P** **09 56 05.9 +1.7**
MTKI Muara Teweh, K 56.00 282 P **P** **09 56 09.4 -0.1**
comp=Z,278nm,1.0s,comp=Z,9μmcomp=Z,15μm
GRJI Gresik 56.21 274 P **P** **09 56 11.3 +0.3**
comp=Z,537nm,1.0s,comp=Z,10μmcomp=Z,16μm
PTCN Pitcairn Islan 56.34 108 P **P** **09 56 13.1 +1.3**
PTCN IAmb IAmb 09 56 14.4
comp=Z,503nm,1.2s
PWJI Pagerwojo 56.52 273 P **P** **09 56 12.9 -0.2**
comp=Z,436nm,1.0s,comp=Z,7μm
JMZ Minamidaito 2 57.75 319 P **P** **09 56 23.0 +1.5**
JMZ Minamidaito 2 57.75 319 P **P** **09 56 21.9 +0.4**
JMZ IAmb IAmb 09 57 08.0
comp=Z,504nm,1.3s
UGM Wanagama 57.76 273 P **P** **09 56 22.2 +0.3**
UGM Wanagama 57.76 273 P **P** **09 56 22.4 +0.5**
UGM Wanagama 57.76 273 P **P** **09 56 21.3 -0.6**
YOGI Yogyakarta 58.00 273 P **P** **09 56 23.9 +0.3**
comp=Z,1μm,0.9s,comp=Z,9μm
SMRI Semarang 58.10 273 P **P** **09 56 25.2 +0.9**
SMRI Semarang 58.10 273 P **P** **09 56 25.2 +0.9**
SMRI Semarang 58.10 273 ⇓P **P** **09 56 25.1 +0.9**
SMRI Semarang 58.10 273 P **P** **09 56 24.0 -0.3**
comp=Z,605nm,1.0s,comp=Z,14μmcomp=Z,21μm
VNDA Vanda 58.69 182 P **P** **09 56 28.4 +1.1**
VNDA IAmb IAmb 09 56 31.1
comp=Z,311nm,1.6s
VNDA Vanda 58.69 182 P **P** **09 56 28.1 +0.8**
comp=Z,53nm,0.8s,baz=360,slow=7.0,SNR=149
comp=Z,53nm,0.8s
VNDA Vanda 58.69 182 P **P** **09 56 28.4 +1.1**
VNDA pmax pmax
comp=Z,311nm,1.7s
VNDA Vanda 58.69 182 P **P** **09 56 28.3 +1.0**
VNDA PcP **PcP** **09 57 15.6 +0.3**
VNDA sP **sP** **09 57 26.1 +0.5**
VNDA ScP **ScP** **10 01 00.6 +1.2**
JHJ2 Mitsune 58.85 331 P **P** **09 56 29.2 +0.2**
JHJ2 IAmb IAmb 09 57 18.2
comp=Z,200nm,0.9s
JHJ2 Mitsune 58.85 331 ⇑P **P** **09 56 30.1 +1.2**
SBA Scott Base 58.92 181 P **P** **09 56 31.1 +2.1**
SBA Scott Base 58.92 181 P **P** **09 56 31.1 +2.1**
SBA pmax pmax
comp=Z,995nm,1.4s
SBA Scott Base 58.92 181 ⇑P **P** **09 56 31.1 +2.1**
STKI Sintang 59.54 282 P **P** **09 56 34.6 +0.4**
comp=Z,233nm,1.1s,comp=Z,16μm
CMJI Cimerak 59.76 272 P **P** **09 56 34.3 -1.4**
comp=Z,530nm,1.0s,comp=Z,7μmcomp=Z,17μm
SBUM Sibu 59.77 285 P **P** **09 56 36.4 +0.6**
SBUM Sibu 59.77 285 ⇓P **P** **09 56 36.4 +0.6**
SZP Santa 59.99 304 P **P** **09 56 37.6 +0.5**
CASY Casey 60.30 203 ⇓P **P** **09 56 39.0 +0.5**
CASY Casey 60.30 203 P **P** **09 56 39.0 +0.5**
CASY PcP **PcP** **09 57 20.5 -1.4**
CASY sP **sP** **09 57 35.8 0.0**
JCJI Jatiwangi 60.32 273 P **P** **09 56 39.0 -0.5**
comp=Z,1μm,1.0s,comp=Z,16μmcomp=Z,17μm
JOW Kunigami 60.32 318 P **P** **09 56 40.7 +1.5**
JOW Kunigami 60.32 318 P **P** **09 56 39.4 +0.2**
JOW IAmb IAmb 09 56 41.8
comp=Z,151nm,0.9s
JOW Kunigami 60.32 318 ⇓P **P** **09 56 40.4 +1.2**
JOW Kunigami 60.32 318 ScP **ScP** **10 01 09.9 +2.5**
comp=Z,15nm,0.8s,baz=139,slow=7.9,SNR=4.8
JOW S **S** **10 04 40.5 +0.4**
comp=Z,10nm,0.9s,baz=241,slow=18,SNR=1.8
JOW LR LR 10 20 27.4
comp=Z,2μm,20.4s,baz=145,slow=34
JOW Kunigami 60.32 318 P **P** **09 56 40.4 +1.2**
BBJI Bungbulang 60.61 272 P **P** **09 56 41.1 -0.5**
JAM Amami Oshima 60.62 320 P **P** **09 56 42.4 +1.3**
LEM Lembang 60.83 273 P **P** **09 56 43.6 +0.4**
comp=Z,1μm,1.1s,comp=Z,14μm
JSG Sagara 60.90 331 P **P** **09 56 44.5 +1.6**
JSG Sagara 60.90 331 P **P** **09 56 42.6 -0.4**
JSG IAmb IAmb 09 57 53.7
comp=Z,468nm,1.4s
JOD2 Odawara 2 60.98 332 P **P** **09 56 43.9 +0.4**
CCD Concordia, Ant 61.12 192 P **P** **09 56 45.0 +0.6**
CCD pP **PcP** **09 57 25.0 -0.6**
CNJI Cibinong 61.15 272 P **P** **09 56 45.1 0.0**
comp=Z,377nm,1.0s,comp=Z,4μm
JYT Yasato 61.32 334 P **P** **09 56 47.2 +1.4**
XMI Christmas Isla 61.61 268 P **P** **09 56 49.1 +0.8**
XMI Christmas Isla 61.61 268 ⇓P **P** **09 56 49.0 +0.8**
XMIS Christmas Isla 61.64 268 P **P** **09 56 49.1 +0.7**
XMIS Christmas Isla 61.64 268 P **P** **09 56 48.9 +0.5**
JRY Ryogami san 61.70 332 P **P** **09 56 48.9 +0.5**
DBJI Dramaga 61.73 273 P **P** **09 56 49.3 +0.2**
SKJI Sukabumi 61.78 272 P **P** **09 56 48.9 -0.5**
INU Inuyama 61.99 331 P **P** **09 56 51.6 +1.3**
INU Inuyama 61.99 331 P **P** **09 56 51.0 +0.7**
INU Inuyama 61.99 331 ⇓P **P** **09 56 51.4 +1.1**
JGF Kuroka 62.04 331 P **P** **09 56 51.4 +0.7**
JGF Kuroka 62.04 331 P **P** **09 56 50.7 0.0**
JGF Kuroka 62.04 331 ⇑P **P** **09 56 51.4 +0.7**
JGF Kuroka 62.04 331 P **P** **09 56 51.1 +0.4**
JMN Monobe 62.23 327 P **P** **09 56 53.6 +1.7**
JMN Monobe 62.23 327 P **P** **09 56 53.0 +1.1**
JMN IAmb IAmb 09 57 37.3
comp=Z,260nm,1.1s
JMN Monobe 62.23 327 ⇓P **P** **09 56 53.0 +1.1**
JMN Monobe 62.23 327 P **P** **09 56 53.6 +1.7**
YOJ Yonaguni jima 62.26 312 P **P** **09 56 53.1 +0.8**
YOJ Yonaguni jima 62.26 312 P **P** **09 56 52.9 +0.6**
YOJ IAmb IAmb 09 56 56.3
comp=Z,245nm,0.8s
YOJ Yonaguni jima 62.26 312 ⇓P **P** **09 56 52.9 +0.6**
YOJ Yonaguni jima 62.26 312 P **P** **09 56 52.9 +0.6**
YOJ pmax pmax
comp=Z,245nm,0.8s
YOJ Yonaguni jima 62.26 312 P **P** **09 56 52.9 +0.6**
MJAR Matsushiro Arr 62.44 332 P **P** **09 56 53.7 +0.4**
comp=Z,48nm,0.9s,baz=167,slow=7.2,SNR=70
MJAR PKP2bc **P'P'bc** **10 25 59.0 -4.0**
comp=Z,5.4nm,1.0s,baz=318,slow=3.9,SNR=7.8
comp=Z,48nm,0.9s
MAJO Matsushiro 62.44 332 P **P** **09 56 54.0 +0.7**
MAJO Matsushiro 62.44 332 P **P** **09 56 53.6 +0.4**
MAJO Matsushiro 62.44 332 ⇑P **P** **09 56 53.8 +0.5**
MAJO Matsushiro 62.44 332 *i*P **P** **09 56 53.4 +0.1**
MAJO pmax pmax
comp=Z,96nm,1.2s
MAJO Matsushiro 62.44 332 P **P** **09 56 53.7 +0.4**
MAJO pP **PcP** **09 57 31.2 +0.2**
MAJO sP **sP** **09 57 49.8 -2.3**
MAT Matsushiro 62.44 332 P **P** **09 56 53.6 +0.3**
MJB9 Matsu-Tunnel 62.45 332 P **P** **09 56 54.7 +1.4**
SBJI Serang 62.45 273 P **P** **09 56 53.9 +0.1**
comp=Z,1μm,1.1s,comp=Z,14μm
JMM Marumori 62.48 335 P **P** **09 56 54.8 +1.4**
JMM Marumori 62.48 335 P **P** **09 56 54.5 +1.0**
JMM Marumori 62.48 335 ⇑P **P** **09 56 54.5 +1.0**
JMM Marumori 62.48 335 P **P** **09 56 54.5 +1.0**
JGN Niukaw 62.58 331 P **P** **09 56 54.9 +0.7**
TWGBT Beinan 62.62 309 P **P** **09 56 55.4 +0.7**
JWT Tachi 62.70 329 P **P** **09 56 56.1 +1.1**
YULB Yu-li 62.81 310 P **P** **09 56 55.9 -0.1**
JAD Aida 63.04 328 P **P** **09 56 58.2 +1.0**
NACB Ninganchiao 63.08 311 P **P** **09 56 57.9 +0.2**
NACB Ninganchiao 63.08 311 P **P** **09 56 57.9 +0.2**
NACB IAmb IAmb 09 56 59.2
comp=Z,258nm,0.9s
TPUB Ta-pu 63.24 310 P **P** **09 56 58.5 -0.4**
TPUB Ta-pu 63.24 310 P **P** **09 56 58.1 -0.7**
TPUB IAmb IAmb 09 56 59.6
comp=Z,269nm,0.8s
SSLB Suanglung 63.31 310 P **P** **09 56 59.1 -0.2**
SSLB Suanglung 63.31 310 P **P** **09 56 58.9 -0.4**
SSLB IAmb IAmb 09 57 00.5
comp=Z,231nm,0.9s
JNU Nakatsue 63.35 325 P **P** **09 57 00.1 +0.7**
JNU Nakatsue 63.35 325 P **P** **09 56 59.7 +0.3**

JNU IAmb IAmb 09 57 43.6
comp=Z,193nm,1.0s
JNU Nakatsue 63.35 325 ⇓P P 09 56 59.9 +0.5
JNU Nakatsue 63.35 325 S S 10 05 18.8 +0.7
comp=Z,13nm,1.1s,baz=210,slow=9.1,SNR=6.4
JNU LR LR 10 21 44.3
comp=Z,2μm,21.8s,baz=137,slow=33
JNU Nakatsue 63.35 325 P P 09 56 59.9 +0.5
BLSI Bandar Lampung 63.52 273 P P 09 57 00.5 -0.4
comp=Z,481nm,1.0s,comp=Z,7μm
JYA Atsumi 63.54 335 P P 09 57 01.9 +1.4
YHNB Yeheng 63.55 311 P P 09 57 01.6 +0.7
YHNB Yeheng 63.55 311 P P 09 57 01.0 +0.1
YHNB IAmb IAmb 09 57 03.5
comp=Z,408nm,1.0s
JHS Saijyo 63.61 327 P P 09 57 02.0 +1.0
TATO Taipei 63.66 312 P P 09 57 02.6 +1.1
TATO Taipei 63.66 312 P P 09 57 02.1 +0.6
TATO IAmb IAmb 09 57 03.1
comp=Z,394nm,1.1s
TATO Taipei 63.66 312 P P 09 57 01.8 +0.3
TATO pP **pP** **09 57 41.5 -0.3**
JSD Sado 63.67 333 P P 09 57 02.7 +1.4
JSD Sado 63.67 333 P P 09 57 02.2 +0.9
JSD IAmb IAmb 09 57 05.5
comp=Z,135nm,0.8s
JSD Sado 63.67 333 P P 09 57 02.5 +1.3
JOM Ohasama 63.67 336 P P 09 57 02.2 +0.9
KASI Kota Agung 64.18 273 P P 09 57 04.1 -1.1
comp=Z,929nm,0.9s,comp=Z,10μmcomp=Z,18μm
LWLI Liwa 64.76 273 P P 09 57 07.6 -1.5
PMBI Palembang 64.76 276 P P 09 57 10.1 +1.1
PMBI Palembang 64.76 276 P P 09 57 09.1 +0.1
JTM Tenmabayashi 64.90 337 P P 09 57 10.0 +0.8
JTM Tenmabayashi 64.90 337 IAmb IAmb 09 57 11.5
comp=Z,228nm,1.0s
JTM Tenmabayashi 64.90 337 ⇑P P 09 57 10.0 +0.8
JTM Tenmabayashi 64.90 337 P P 09 57 10.0 +0.8
ERM Erimo 65.24 339 P P 09 57 12.4 +1.0
ERM Erimo 65.24 339 P P 09 57 12.3 +1.0
ERM Erimo 65.24 339 *ce*P **P 09 57 12.9 +1.5**
ERM pmax pmax
comp=Z,74nm,0.8s
ERM Erimo 65.24 339 P P 09 57 12.4 +1.0
ERM pP **pP** **09 57 51.6 -0.3**
JEM Erimo 65.24 339 P P 09 57 12.4 +1.0
JEM Erimo 65.24 339 P P 09 57 12.5 +1.1
JOT Ohata 65.43 337 P P 09 57 13.5 +0.9
KNMB Chin-men Tao 65.58 309 P P 09 57 14.6 +0.6
QZH Quanzhou 65.72 310 P P 09 57 15.3 +0.5
QZH pP **pP** **09 57 55.3 -0.1**
QZH S **S** **10 05 48.5 +1.3**
QZH pmax pmax
comp=Z,2μm,7.7s
QZH LR LR
comp=Z,4μm,15.7s
QZH LR LR
comp=Z,3μm,15.6s
QZH LR LR
comp=Z,3μm,15.9s
MNAI Manna 66.01 274 P P 09 57 16.9 -0.1
MNAI Manna 66.01 274 P P 09 57 16.6 -0.4
MNAI Manna 66.01 274 ⇓P P 09 57 16.0 -1.0
MNAI Manna 66.01 274 P P 09 57 16.2 -0.8
comp=Z,1μm,1.2s,comp=Z,17μmcomp=Z,17μm
TPRI Tanjung Pinang 66.32 280 P P 09 57 19.5 +0.6
comp=Z,300nm,1.1s,comp=Z,6μmcomp=Z,19μm
JEW Eniwo 66.56 338 P P 09 57 20.7 +0.9
KUR Kuril'sk 66.75 344 *c i*P **P 09 57 22.8 +1.9**
KUR *i* *PP **pP** **09 58 00.0 -1.6**
KUR *i* S S **10 06 02.3 +3.4**
KUR *e*SS **SS** **10 10 19.0 -1.7**
KUR pmax pmax
comp=Z,2μm,6.0s
KUR pmax pmax
comp=Z,448nm,1.6s
JSH Shimam 66.89 337 P P 09 57 22.7 +0.8
JMP Maruseppu 66.95 340 P P 09 57 23.9 +1.6
DLV T Lat 67.14 292 P P 09 57 24.9 +0.6
DLV T Lat 67.14 292 IAmb IAmb 09 57 27.0
comp=Z,246nm,1.2s
DLV T Lat 67.14 292 ⇓P P 09 57 25.6 +1.3
BTDF Bukit Timah Da 67.18 280 P P 09 57 25.2 +0.8
JKA Kamikawa-asahi 67.29 340 P P 09 57 25.6 +1.2
JKA IAmb IAmb 09 57 28.0
comp=Z,317nm,1.0s
ASAJ Asahikawa 67.30 340 LR LR 10 20 59.8
comp=Z,935nm,20.4s,baz=176,slow=30
ASAJ Asahikawa 67.30 340 P P 09 57 25.6 +1.2
ASAJ pmax pmax
comp=Z,317nm,1.0s
ASAJ Asahikawa 67.30 340 P P 09 57 26.4 +2.0
HKC Hong Kong Obse 67.53 305 ⇑P P 09 57 28.0 +1.6
HKPS Hong Kong Po S 67.55 305 P P 09 57 28.8 +2.3
TJN Taejon 67.70 325 P P 09 57 28.8 +1.6
TJN Taejon 67.70 325 IAmb IAmb 09 58 12.0
comp=Z,574nm,1.1s
TJN Taejon 67.70 325 *ce*P **P 09 57 28.4 +1.2**
SSE Sheshan 67.76 317 P P 09 57 28.1 +0.5
SSE S **S** **10 06 16.5 +4.9**
SSE pmax pmax
comp=Z,30nm,1.0s
SSE pmax pmax
comp=Z,370nm,4.2s
SSE LR LR
comp=Z,1μm,19.2s
SSE LR LR
comp=Z,1μm,19.0s
KSRS Korea Array 68.19 326 P P 09 57 31.1 +1.0
comp=Z,14nm,0.9s,baz=139,slow=5.8,SNR=46
KSRS pP **pP** **09 58 09.3 -1.7**
comp=Z,12nm,0.8s,baz=142,slow=5.7,SNR=3.3
KSRS PP **PP** **09 59 58.0 -5.2**
comp=Z,7.7nm,0.9s,baz=150,slow=8.4,SNR=4.1
KSRS PKIKP **PKiKP** **10 03 50.7 +0.5**
comp=Z,1.4nm,0.6s,baz=162,slow=1.7,SNR=4.9
KSRS PKP2bc **P'P'df** **10 25 44.8 -1.1**
comp=Z,14nm,1.1s,baz=304,slow=2.7,SNR=21
KSAR Wonju Array Be 68.20 326 P P 09 57 31.0 +0.7
KSAR Wonju Array Be 68.20 326 P P 09 57 31.0 +0.7
KS19 Wonju Array Si 68.26 326 P P 09 57 31.4 +0.8
GZH Guangzhou 68.60 305 P P 09 57 34.1 +1.1
GZH pP **pP** **09 58 12.3 -1.7**
GZH S **S** **10 06 24.0 +2.2**
GZH pmax pmax
comp=Z,93nm,1.1s
GZH pmax pmax
comp=Z,2μm,4.5s
GZH LR LR
comp=Z,1μm,13.3s
GZH LR LR
comp=Z,130nm,14.3s
GZH LR LR
comp=Z,4μm,27.5s
INCN Inchon 68.91 325 P P 09 57 35.6 +0.9
INCN Inchon 68.91 325 P P 09 57 36.2 +1.5
INCN Inchon 68.91 325 P P 09 57 36.2 +1.5
INCN pmax pmax
comp=Z,193nm,1.1s
INCN Inchon 68.91 325 P P 09 57 36.1 +1.4
INCN pP **pP** **09 58 15.5 -0.1**
PPSI Pulau Pagai 69.30 274 P P 09 57 38.0 +0.4
comp=Z,577nm,1.0s,comp=Z,8μm
QIZ Qiongzhong 69.30 300 P P 09 57 39.0 +1.5
QIZ Qiongzhong 69.30 300 P P 09 57 39.0 +1.5
QIZ pP **pP** **09 58 17.9 -0.6**
QIZ sP **sP** **09 58 35.8 -1.1**
QIZ S **S** **10 06 33.8 +3.5**
QIZ sS **sS** **10 07 40.6 +1.1**
QIZ pmax pmax
comp=Z,140nm,1.0s
QIZ pmax pmax
comp=Z,2μm,10.4s
QIZ LR LR
comp=Z,2μm,18.0s
QIZ LR LR
comp=Z,1μm,15.3s
QIZ LR LR
comp=Z,2μm,22.7s
QIZ Qiongzhong 69.30 300 P P 09 57 39.0 +1.5
QIZ Qiongzhong 69.30 300 ⇓P P 09 57 38.8 +1.3
QIZ pP **pP** **09 58 18.8 +0.3**
QIZ sP **sP** **09 58 36.9 -0.1**
BKNI Bangkinang 69.37 278 P P 09 57 38.6 +0.6
BKNI Bangkinang 69.37 278 P P 09 57 38.3 +0.3
comp=Z,988nm,1.1s,comp=Z,15μmcomp=Z,15μm
PDSI Padang 69.49 276 P P 09 57 38.6 -0.2
comp=Z,159nm,0.9s,comp=Z,15μmcomp=Z,13μm
COCO West Island 69.50 264 P P 09 57 40.1 +1.3
COCO West Island 69.50 264 P P 09 57 38.2 -0.6
COCO IAmb IAmb 09 57 41.6
comp=Z,368nm,1.0s
COCO West Island 69.50 264 P P 09 57 38.2 -0.6
COCO pmax pmax
comp=Z,368nm,1.0s
YSS Yuzh-Sakhalins 69.78 341 P P 09 57 41.8 +2.0
YSS Yuzh-Sakhalins 69.78 341 P P 09 57 41.7 +2.0
YSS IAmb IAmb 09 57 42.9
comp=Z,192nm,0.9s
YSS Yuzh-Sakhalins 69.78 341 ⇑P P 09 57 41.8 +2.0
YSS Yuzh-Sakhalins 69.78 341 *α i*P **P 09 57 41.7 +2.0**
YSS *e**PP **pP** **09 58 22.0 +1.3**
YSS *e*S **S** **10 06 34.8 +0.1**
YSS pmax pmax
comp=Z,160nm,0.7s
YSS pmax pmax
comp=E,130nm,1.0s
YSS pmax pmax
comp=Z,1μm,4.4s
YSS pmax pmax
comp=N,400nm,4.5s
YSS smax smax
comp=N,4μm,11.3s
YSS smax smax
comp=E,6μm,13.6s
YSS MLR MLR
comp=Z,1μm,15.0s
YSS Yuzh-Sakhalins 69.78 341 ⇑P P 09 57 41.8 +2.0
YSS PcP **PcP** **09 58 03.1 +1.9**
YSS pP **pP** **09 58 22.1 +1.3**
NJ2 Nanjing 69.90 316 *i*P **P 09 57 41.1 +0.3**
NJ2 pP **pP** **09 58 21.3 -0.8**
NJ2 S **S** **10 06 31.8 -5.0**
NJ2 sS **sS** **10 07 49.3 +3.5**
NJ2 pmax pmax
comp=Z,54nm,0.9s
NJ2 pmax pmax
comp=Z,1μm,5.9s
TEY Ternei 70.23 336 *e*P **P 09 57 43.4 +0.9**
TEY *e* 09 58 24.0
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=Z,20nm,0.8s
SKR Severo-Kuril's 70.28 351 *e*P **P 09 57 42.1 -0.6**
SKR *e*S **S** **10 06 36.6 -3.8**
SKR pmax pmax
comp=Z,1μm,6.6s
MSHR Mys Shultsa 70.51 331 *ce*P **P 09 57 46.5 +2.2**
MSHR pmax pmax
comp=Z,44nm,1.3s
VLA Vladivostok 70.61 332 *i* P **P 09 57 45.8 +0.9**
VLA pmax pmax
comp=Z,125nm,2.1s
AMKA Amchitka 70.62 7 P P 09 57 45.4 +0.6
SISI Saibi 70.64 275 P P 09 57 46.3 +0.5
comp=Z,264nm,1.0s,comp=Z,7μmcomp=Z,14μm
PSTR Posyet 70.73 331 *i* P **P 09 57 46.8 +1.2**
QSPA South Pole Qui 71.08 180 P P 09 57 48.4 +0.7
QSPA IAmb IAmb 09 57 50.7
comp=Z,411nm,1.1s
QSPA South Pole Qui 71.08 180 P P 09 57 48.4 +0.7
comp=Z,366nm,1.0s,baz=360,slow=0.9,SNR=706
QSPA pP **pP** **09 58 29.7 +1.0**
comp=Z,110nm,0.9s,baz=257,slow=2.2,SNR=1.2
QSPA S **S** **10 06 50.4 +0.7**
comp=Z,11nm,1.0s,baz=318,slow=22,SNR=12
QSPA LR LR 10 26 08.4
comp=Z,842nm,18.3s,baz=26,slow=33
comp=Z,366nm,1.0s
QSPA South Pole Qui 71.08 180 ⇑P P 09 57 48.3 +0.7
QSPA PcP **PcP** **09 58 08.9 +2.0**
QSPA pP **pP** **09 58 28.7 0.0**
UBPT Khong Chiam 71.24 294 P P 09 57 50.6 +1.3
USA0B Ussuriysk Arra 71.43 333 P P 09 57 51.1 +1.3
USA0B Ussuriysk Arra 71.43 333 *c i*P **P 09 57 50.9 +1.1**
USRK Ussuriysk Ar. 71.43 333 P P 09 57 51.1 +1.4
comp=Z,58nm,1.0s,baz=142,slow=4.6,SNR=85
USRK pP **pP** **09 58 32.1 +1.1**
comp=Z,108nm,0.9s,baz=142,slow=4.7,SNR=9.5
USRK PKP2bc **P'P'bc** **10 25 36.3 -0.6**
comp=Z,3.7nm,1.0s,baz=267,slow=3.8,SNR=8.5
comp=Z,58nm,1.0s
KULM Kulim 71.51 282 P P 09 57 50.8 -0.2
KULM IAmb IAmb 09 59 04.4
comp=Z,405nm,1.6s
SHEM Shemya Is, Ala 71.53 3 LR LR 10 22 42.7
comp=Z,3μm,21.8s,baz=186,slow=30
ADK Adak 71.65 9 P P 09 57 51.2 +0.3
ADK Adak 71.65 9 P P 09 57 51.3 +0.3
ADK IAmb IAmb 09 57 52.4
comp=Z,317nm,1.1s
ADK Adak 71.65 9 ⇑P P 09 57 51.1 +0.3
ADK Adak 71.65 9 P P 09 57 51.3 +0.3
ADK pmax pmax
comp=Z,317nm,1.1s
ADK Adak 71.65 9 P P 09 57 51.1 +0.3
ADK pP **pwP** **09 58 33.1 -1.1**
ADK sP **sP** **09 58 50.3 0.0**
CNSH ChangSha 71.72 309 P P 09 57 52.8 +0.9
CNSH S **S** **10 07 01.4 +3.5**
CNSH pmax pmax
comp=Z,78nm,1.0s
CNSH LR LR
comp=Z,2μm,14.0s
CNSH LR LR
comp=Z,2μm,19.4s
CNSH LR LR
comp=Z,3μm,23.5s
PBSI Pulau Batu 71.83 276 P P 09 57 53.0 +0.1
comp=Z,254nm,1.9s,comp=Z,10μmcomp=Z,16μm
UGL Uglegorsk 71.88 342 *e*P **P 09 57 53.3 +0.9**
UGL *e* 09 58 32.4
UGL *e*S **S** **10 06 57.4 -1.5**
UGL *e* 10 11 37.6
UGL pmax pmax
comp=Z,160nm,1.0s
UGL pmax pmax
comp=Z,1μm,7.0s
UGL smax smax
comp=E,7μm,10.0s
UGL smax smax
comp=N,7μm,9.0s
WHN Wuhan 72.05 312 *i*P **P 09 57 54.1 +0.3**
WHN pP **pP** **09 58 34.9 -0.4**
WHN sP **sP** **09 58 58.0 +4.2**
WHN S **S** **10 07 01.3 -0.3**
WHN SKS **SKSac** **10 07 38.5 -3.1**
WHN pmax pmax
comp=N,280nm,0.8s
WHN pmax pmax
comp=N,3μm,4.1s
RPSI Rantau Prapat 72.18 279 IAmb IAmb 09 57 55.8
comp=Z,261nm,1.1s
PET Petropavlovsk 72.26 353 P P 09 57 55.5 +0.9
PET Petropavlovsk 72.26 353 P P 09 57 55.5 +0.9
PET IAmb IAmb 09 57 57.2
comp=Z,292nm,1.0s
PET Petropavlovsk 72.26 353 ⇑P P 09 57 55.4 +0.8
PET Petropavlovsk 72.26 353 *i*P **P 09 57 55.3 +0.8**
PET *e**PP **pP** **09 58 35.2 -0.6**
PET *e*S **S** **10 07 02.5 -0.5**
PET pmax pmax
comp=Z,340nm,1.0s
PET pmax pmax
comp=Z,2μm,6.2s
PET pmax pmax
comp=Z,1μm,13.8s
PET MLR MLR
comp=Z,900nm,14.0s
PET MLR MLR
comp=Z,1μm,18.0s
ATKA Atka Island 72.36 11 P P 09 57 55.2 0.0
ATKA Atka Island 72.36 11 IAmb IAmb 09 57 56.3
comp=Z,542nm,1.0s
DL2 Dalian 72.70 323 P P 09 57 58.8 +1.3
DL2 S **SKiKP** **10 07 11.3 -2.5**
DL2 pmax pmax
comp=Z,310nm,1.2s
DL2 pmax pmax
comp=Z,780nm,8.5s
MDJ Mudanjiang 72.81 332 P P 09 57 58.8 +0.8
MDJ Mudanjiang 72.81 332 P P 09 57 59.5 +1.5
MDJ PcP **PcP** **09 58 14.5 +0.3**
MDJ pP pP 09 58 39.8 +0.5
MDJ S **SKiKP** **10 07 14.1 +0.3**
MDJ pmax pmax
comp=Z,81nm,1.2s
MDJ pmax pmax
comp=Z,540nm,3.8s
MDJ Mudanjiang 72.81 332 P P 09 57 58.8 +0.8
MDJ IAmb IAmb 09 58 43.5
comp=Z,238nm,1.0s
GSI Gunungsitoli 72.95 277 P P 09 58 00.1 +0.5
GSI Gunungsitoli 72.95 277 IAmb IAmb 09 58 51.1
comp=Z,537nm,1.2s
GSI Gunungsitoli 72.95 277 ⇓P P 09 58 00.1 +0.5
GSI Gunungsitoli 72.95 277 P P 09 57 59.5 -0.1
comp=Z,407nm,1.0s,comp=Z,8μmcomp=Z,15μm
TYV Tymovskoe 73.31 343 *e*P **P 09 58 02.6 +1.8**
TYV *e*S **S** **10 07 18.4 +3.4**
TYV pmax pmax
comp=Z,63nm,1.2s
TYV pmax pmax
comp=Z,800nm,5.9s
TYV smax smax
comp=E,9.0nm,2.0s
TYV smax smax
comp=N,3μm,10.2s
TYV smax smax
comp=E,3μm,10.2s
KCSI Kotacane, Aceh 73.54 280 P P 09 58 01.0 -2.0
TIA Tai'an 73.64 318 P P 09 58 03.6 +0.5
TIA pP **pP** **09 58 41.6 -3.2**
TIA S **S** **10 07 17.8 -1.6**
TIA pmax pmax
comp=E,110nm,0.9s
TIA pmax pmax
comp=E,970nm,9.3s
TIA LR LR
comp=E,3μm,21.6s
TIA LR LR
comp=E,2μm,23.5s
TIA LR LR
comp=E,3μm,23.9s
SNY Shenyang 73.67 326 ⇓P P 09 58 03.8 +0.7
SNY pP **pP** **09 58 43.0 -1.6**
SNY S **S** **10 07 22.5 +3.1**
SNY pmax pmax
comp=E,20nm,0.7s
SNY pmax pmax
comp=E,180nm,3.5s
SNY LR LR
comp=E,1μm,17.8s
SNY LR LR
comp=E,850nm,19.2s
SNY LR LR
comp=E,2μm,20.2s
SRIT Nakonsritamara 73.72 285 P P 09 58 05.7 +1.7
CN2 Changchun 74.15 329 *e*P **P 09 58 06.9 +1.1**
CN2 *e*pP pP 09 58 46.0 -1.2
CN2 *e*sP sP 09 59 03.5 -2.0
CN2 *e*S **S** **10 07 21.1 -3.6**
CN2 SS **SS** **10 12 12.1 -2.2**
CN2 pmax pmax
comp=E,70nm,0.6s
CN2 pmax pmax
comp=E,100nm,5.0s
CN2 LR LR
comp=E,1μm,18.0s
CN2 LR LR
comp=E,1μm,18.0s
CN2 LR LR
comp=E,1μm,19.0s
NIKH Nikolski High 74.16 14 P P 09 58 06.0 +0.3
NIKH Nikolski High 74.16 14 P P 09 58 05.7 0.0
baz=202
NIKH S **S** **10 07 21.4 -3.1**
baz=202
VA02 Isla de Pascua 74.26 114 IAmb IAmb 09 58 11.4
comp=Z,367nm,1.1s
RPN Rapa Nui 74.35 114 P P 09 58 08.7 +1.2
RPN IAmb IAmb 09 58 10.7
comp=Z,462nm,1.1s
RPN Rapa Nui 74.35 114 P P 09 58 08.7 +1.2
RPN pmax pmax
comp=Z,462nm,1.1s
NAYO Nakonayok 74.45 291 P P 09 58 09.7 +1.5
NONG Nongkai 74.47 296 P P 09 58 09.3 +1.1
SNSI Sinabang, Aceh 74.51 278 P P 09 58 09.4 +0.8
comp=Z,528nm,1.0s,comp=Z,17μm
BNX BinXian 74.67 331 ⇑P P 09 58 09.4 +0.6
BNX pP **pP** **09 58 47.1 -3.2**
BNX S **S** **10 07 32.5 +2.1**
BNX sS **sS** **10 08 39.8 -2.2**
BNX pmax pmax
comp=Z,61nm,0.7s
BNX pmax pmax
comp=Z,360nm,4.9s
BNX LR LR
comp=Z,1μm,19.5s
LHMI Lhok Sumawe 74.92 281 P P 09 58 11.0 0.0
LHMI Lhok Sumawe 74.92 281 IAmb IAmb 09 58 12.6
comp=Z,303nm,1.0s
LHMI Lhok Sumawe 74.92 281 P P 09 58 10.8 -0.2
comp=Z,365nm,1.3s,comp=Z,9μm
MLSI Meulaboh, Aceh 75.08 280 P P 09 58 11.7 -0.2
comp=Z,380nm,1.1s,comp=Z,4μm
GRNR Gornyy 75.15 339 *i*P **P 09 58 13.6 +2.1**
GRNR *e*S **S** **10 07 40.6 +5.0**
GRNR pmax pmax
comp=N,40nm,1.1s
GRNR pmax pmax
comp=E,30nm,1.1s
GRNR pmax pmax
comp=Z,130nm,1.1s
GRNR smax smax
comp=E,10.0nm,1.2s
GRNR MLR MLR
comp=E,440nm,17.0s
GRNR MLR MLR
comp=N,470nm,19.0s
GRNR MLR MLR
comp=Z,690nm,16.0s
ENH Enshi 75.37 310 P P 09 58 14.2 +0.9
ENH Enshi 75.37 310 P P 09 58 13.3 0.0
ENH IAmb IAmb 09 58 56.7
comp=Z,293nm,1.1s
UNV Unalaska Valle 75.51 15 P P 09 58 13.0 -0.4
UNV Unalaska Valle 75.51 15 P P 09 58 13.1 -0.4
UNV IAmb IAmb 09 58 14.2
comp=Z,374nm,0.9s
UNV Unalaska Valle 75.51 15 P P 09 58 13.1 -0.4
baz=204
UNV S **S** **10 07 36.5 -2.8**
baz=204
GYA Guiyang 75.53 305 ⇓P P 09 58 15.1 +0.7
GYA pP pP 09 58 57.0 +0.8
GYA S **S** **10 07 41.4 +0.4**
GYA SS **SS** **10 12 37.8 +1.6**
GYA pmax pmax
comp=Z,89nm,1.1s
GYA pmax pmax
comp=Z,2μm,5.5s
KLR Kul'dur 75.56 336 *ce*P **P 09 58 15.3 +1.5**
KLR pmax pmax
comp=Z,118nm,1.7s
LYN LuoYang 75.66 315 *i*P **P 09 58 16.1 +1.3**
LYN pP pP 09 58 56.3 -0.3
LYN sP sP 09 59 10.6 -4.4
LYN S **S** **10 07 43.1 +1.2**
LYN sS sS 10 08 57.5 +5.0
LYN pmax pmax
comp=Z,380nm,0.8s
LYN pmax pmax
comp=Z,2μm,8.6s
HNS HongShan 75.89 318 ⇓P P 09 58 17.4 +1.4
HNS PcP **PcP** **09 58 32.6 +5.0**
HNS pP **pP** **09 58 57.5 -0.4**
HNS PP **PP** **10 01 09.3 +0.3**
HNS S **S** **10 07 46.1 +1.9**
HNS ScS **ScS** **10 08 14.5 +0.2**

HNS				pmax	pmax		
	comp=Z,77nm,1.0s						
HNS				pmax	pmax		
	comp=Z,990nm,7.0s						
NKL	**Nikolayevsk**	**75.91**	**343**	*e*P	**P**	**09 58 14.7**	**-1.0**
NKL				*e*S	**S**	**10 07 44.2**	**+0.5**
NKL				pmax	pmax		
	comp=N,170nm,0.8s						
NKL				pmax	pmax		
	comp=E,272nm,1.1s						
NKL				pmax	pmax		
	comp=Z,908nm,1.1s						
NKL				smax	smax		
	comp=E,978nm,7.7s						
NKL				smax	smax		
	comp=N,2μm,6.6s						
NKL				MLR	MLR		
	comp=E,18μm,15.0s						
NKL				MLR	MLR		
	comp=N,11μm,22.0s						
NKL				MLR	MLR		
	comp=Z,5μm,20.0s						
LVA	**Lava Point**	**75.91**	**15**	IAmb	IAmb	09 58 19.1	
	comp=Z,666nm,1.2s						
SRDT	**SRDT**	**76.41**	**291**	P	**P**	**09 58 21.3**	**+1.9**
BJT	**Baijiatuau**	**76.62**	**321**	P	**P**	**09 58 21.7**	**+1.7**
BJT	**Baijiatuau**	**76.62**	**321**	P	**P**	**09 58 20.7**	**+0.7**
BJT	**Baijiatuau**	**76.62**	**321**	P	**P**	**09 58 20.7**	**+0.7**
BJT				pmax	pmax		
	comp=Z,89nm,1.0s						
BJI	**Beijing**	**76.63**	**321**	P	**P**	**09 58 21.3**	**+1.3**
BJI				pP	**pP**	**09 59 03.4**	**+1.5**
BJI				S	**S**	**10 07 54.8**	**+2.6**
BJI				sS	**sS**	**10 09 08.8**	**+5.5**
BJI				SS	**SS**	**10 12 50.3**	**-1.6**
BJI				pmax	pmax		
	comp=Z,34nm,0.8s						
FALS	**False Pass**	**77.20**	**16**	P	**P**	**09 58 23.7**	**+0.8**
FALS	**False Pass**	**77.20**	**16**	P	**P**	**09 58 22.1**	**-0.8**
	baz=207						
P08K	**Saint George I**	**77.41**	**12**	P	**P**	**09 58 22.5**	**-1.5**
	baz=201						
TIY	**Taiyuan**	**77.53**	**317**	⇓P	**P**	**09 58 26.8**	**+1.5**
TIY				pP	**pP**	**09 59 07.1**	**-0.3**
TIY				sP	**sP**	**09 59 28.0**	**+2.3**
TIY				S	**S**	**10 08 02.6**	**+0.4**
TIY				ScS	**ScS**	**10 08 25.6**	**-2.2**
TIY				sS	**sS**	**10 09 15.1**	**+1.7**
TIY				SS	**SS**	**10 13 03.8**	**-2.0**
TIY				pmax	pmax		
	comp=Z,74nm,0.9s						
TIY				pmax	pmax		
	comp=Z,520nm,6.1s						
CRAI	**Chiangrai**	**77.77**	**296**	IAmb	IAmb	09 58 30.6	
	comp=Z,221nm,0.9s						
XAN	**Xi'an**	**77.81**	**313**	⇓P	**P**	**09 58 28.0**	**+1.1**
XAN				pP	pP	09 59 08.8	-0.1
XAN				sP	sP	09 59 29.3	+2.0
XAN				S	**S**	**10 08 06.6**	**+1.3**
XAN				sS	sS	10 09 20.8	+4.7
XAN				pmax	pmax		
	comp=Z,240nm,0.9s						
XAN				pmax	pmax		
	comp=Z,2μm,6.7s						
XAN				LR	LR		
	comp=Z,1μm,16.6s						
XAN				LR	LR		
	comp=Z,2μm,16.5s						
XAN				LR	LR		
	comp=Z,4μm,21.3s						
SPIA	**Saint Paul Isl**	**77.81**	**11**	P	**P**	**09 58 26.8**	**+0.6**
SPIA	**Saint Paul Isl**	**77.81**	**11**	P	**P**	**09 58 26.4**	**+0.2**
	baz=200,SNR=5.8						
KMI	**Kunming**	**77.99**	**302**	⇓P	**P**	**09 58 30.0**	**+1.7**
KMI				pP	pP	09 59 10.8	+0.5
KMI				sP	sP	09 59 29.9	+1.3
KMI				S	**S**	**10 08 09.8**	**+1.8**
KMI				sS	sS	10 09 17.1	-1.8
KMI				pmax	pmax		
	comp=Z,160nm,1.0s						
KMI				pmax	pmax		
	comp=Z,2μm,6.2s						
KMI				LR	LR		
	comp=Z,880nm,22.7s						
KMI				LR	LR		
	comp=Z,1μm,22.7s						
KMI				LR	LR		
	comp=Z,3μm,25.9s						
HEH	**HeiHe**	**78.11**	**334**	*e*P	**P**	**09 58 28.8**	**+0.8**
HEH				PcP	**PcP**	**09 58 37.0**	**+0.1**
HEH				pP	**pP**	**09 59 10.3**	**+0.4**
HEH				S	**S**	**10 08 08.8**	**+1.1**
HEH				ScS	**ScS**	**10 08 33.8**	**+2.1**
HEH				pmax	pmax		
	comp=Z,42nm,0.8s						
HEH				pmax	pmax		
	comp=Z,820nm,5.3s						
CNBA	**Chernabura Isl**	**78.22**	**18**	IAmb	IAmb	09 58 29.7	
	comp=Z,281nm,1.1s						
CHNA	**Chernabura Isl**	**78.23**	**18**	P	**P**	**09 58 28.4**	**-0.2**
	baz=210,SNR=7.1						
CHNA				S	**S**	**10 08 05.9**	**-2.8**
	baz=210						
CM31	**Chiang Mai Arr**	**78.24**	**294**	IAmb	IAmb	09 58 32.6	
	comp=Z,257nm,1.0s						
CMAR	**Chiang Mai Arr**	**78.24**	**294**	P	**P**	**09 58 31.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**78.24**	**294**	P	**P**	**09 58 31.3**	**+1.8**
	comp=Z,160nm,1.0s,baz=130,slow=4.2,SNR=351						
CMAR				pP	**pP**	**09 59 12.3**	**+0.8**
	comp=Z,112nm,1.1s,baz=125,slow=4.1,SNR=5.4						
CMAR				PKKPbc	**PKKPbc**	**10 17 27.1**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=285,slow=3.5,SNR=15						
CMAR				PKP2bc		10 25 12.7	
	comp=Z,0.5nm,0.4s,baz=258,slow=5.0,SNR=5.3						
CMAR				PKPPKP	**P'P'df**	**10 25 28.8**	**-1.7**
	comp=Z,1.1nm,0.4s,baz=294,slow=3.5,SNR=7.0						
	comp=Z,160nm,1.0s						
S12K	**Black Hills**	**78.31**	**16**	IAmb	IAmb	09 58 30.0	
	comp=Z,435nm,0.9s						
S12K	**Black Hills**	**78.31**	**16**	P	**P**	**09 58 28.9**	**-0.2**
	baz=208						
S12K				S	**S**	**10 08 06.4**	**-3.3**
	baz=208						
CHTO	**Chiang Mai**	**78.39**	**295**	P	**P**	**09 58 31.9**	**+1.6**
CHTO	**Chiang Mai**	**78.39**	**295**	P	**P**	**09 58 31.9**	**+1.6**
CHTO				pmax	pmax		
	comp=Z,195nm,0.9s						
SDPT	**Sand Point**	**78.43**	**17**	P	**P**	**09 58 29.5**	**-0.2**
SDPT	**Sand Point**	**78.43**	**17**	P	**P**	**09 58 29.5**	**-0.2**
SDPT				IAmb	IAmb	09 58 30.4	
	comp=Z,360nm,0.9s						
SDPT	**Sand Point**	**78.43**	**17**	P	**P**	**09 58 29.4**	**-0.3**
	baz=209,SNR=6.6						
SDPT				S	**S**	**10 08 07.9**	**-2.9**
	baz=209						
MAW	**Mawson**	**78.61**	**202**	P	**P**	**09 58 32.5**	**+1.8**
	comp=Z,88nm,0.9s,baz=113,slow=6.3,SNR=105						
MAW				pP	**pP**	**09 59 11.5**	**-0.8**
	comp=Z,69nm,1.0s,baz=77,slow=6.0,SNR=3.4						
MAW				S	**S**	**10 08 14.3**	**+1.6**
	comp=Z,1.9nm,0.6s,baz=295,slow=20,SNR=4.3						
MAW				LR	LR	10 29 24.8	
	comp=Z,2μm,20.2s,baz=96,slow=32						
	comp=Z,88nm,0.9s						
XLT	**XiLinHaoTe**	**79.13**	**324**	⇓*i*P	**P**	**09 58 35.1**	**+1.2**
XLT				PcP	**PcP**	**09 58 43.9**	**+2.2**
XLT				pP	pP	09 59 16.1	0.0
XLT				sP	sP	09 59 35.4	+1.1
XLT				S	**S**	**10 08 18.0**	**-1.1**
XLT				ScS	**ScS**	**10 08 38.0**	**-2.6**
XLT				sS	sS	10 09 35.1	+4.3
XLT				SS	**SS**	**10 13 25.3**	**-4.4**
XLT				pmax	pmax		
	comp=Z,64nm,1.0s						
XLT				pmax	pmax		
	comp=Z,330nm,6.6s						
PZH	**PanZhiHua**	**79.42**	**303**	P	**P**	**09 58 36.5**	**+0.5**
PZH				pP	**pP**	**09 59 18.8**	**+0.7**
PZH				S	**S**	**10 08 22.8**	**-0.2**
PZH				sS	**sS**	**10 09 33.3**	**-0.3**
PZH				SS	**SS**	**10 13 39.9**	**+5.2**
PZH				pmax	pmax		
	comp=Z,140nm,1.1s						
PZH				pmax	pmax		
	comp=Z,4μm,7.5s						
S14K	**Fog Glacier**	**79.50**	**17**	P	**P**	**09 58 35.9**	**+0.3**
	baz=210,SNR=9.7						
MA2	**Magadan**	**79.68**	**351**	P	**P**	**09 58 36.7**	**+0.3**
MA2	**Magadan**	**79.68**	**351**	P	**P**	**09 58 36.4**	**-0.1**
MA2	**Magadan**	**79.68**	**351**	LR	LR	10 32 18.8	
	comp=Z,841nm,18.9s,baz=162,slow=34						
MA2	**Magadan**	**79.68**	**351**	*ce*P	**P**	**09 58 36.9**	**+0.5**
MA2				pmax	pmax		
	comp=Z,155nm,1.0s						
CHGN	**Chignik**	**79.84**	**18**	IAmb	IAmb	09 58 41.0	
	comp=Z,270nm,1.0s						
CHGN	**Chignik**	**79.84**	**18**	P	**P**	**09 58 37.4**	**+0.1**
	baz=211,SNR=12						
HHC	**Hu-ho-hao-te**	**79.91**	**319**	*e*P	**P**	**09 58 39.8**	**+1.5**
HHC				pP	pP	09 59 19.4	-1.0
HHC				PP	**PP**	**10 01 40.3**	**-2.3**
HHC				S	**S**	**10 08 27.8**	**+0.3**
HHC				sS	sS	10 09 43.4	+4.0
HHC				pmax	pmax		
	comp=Z,58nm,0.8s						
CD2	**Chengdu**	**79.94**	**308**	P	**P**	**09 58 39.5**	**+0.9**
CD2				pP	pP	09 59 20.3	-0.5
CD2				sP	sP	09 59 44.1	+5.0
CD2				S	**S**	**10 08 29.3**	**+1.2**
CD2				sS	sS	10 09 42.5	+3.3
CD2				SS	**SS**	**10 13 42.1**	**-0.1**
CD2				pmax	pmax		
	comp=Z,60nm,0.8s						
CD2				pmax	pmax		
	comp=Z,2μm,4.0s						
CD2				LR	LR		
	comp=Z,750nm,15.9s						
CD2				LR	LR		
	comp=Z,390nm,14.0s						
CD2				LR	LR		
	comp=Z,730nm,19.7s						
BTO	**Baotou**	**80.73**	**319**	*e*P	**P**	**09 58 45.3**	**+2.7**
BTO				pP	**pP**	**09 59 24.9**	**+0.1**
BTO				sP	**sP**	**09 59 41.3**	**-1.7**
BTO				PP	**PP**	**10 01 53.9**	**+4.5**
BTO				S	**S**	**10 08 38.1**	**+2.1**
BTO				pmax	pmax		
	comp=Z,51nm,0.8s						
BTO				pmax	pmax		
	comp=Z,1μm,10.3s						
BTO				LR	LR		
	comp=Z,3μm,17.0s						
BTO				LR	LR		
	comp=Z,3μm,20.8s						
BTO				LR	LR		
	comp=Z,4μm,19.4s						
HIA	**Hailar**	**80.80**	**330**	P	**P**	**09 58 44.9**	**+2.2**
HIA	**Hailar**	**80.80**	**330**	P	**P**	**09 58 43.4**	**+0.7**
HIA	**Hailar**	**80.80**	**330**	*i* P	**P**	**09 58 41.8**	**-0.9**
HIA				pmax	pmax		
	comp=Z,24nm,0.8s						
ZEA	**Zeya**	**80.85**	**336**	*e*P	**P**	**09 58 44.3**	**+1.5**
ZEA				*e**PP	**pP**	**09 59 26.3**	**+1.4**
ZEA				*e*		10 01 45.8	
ZEA				*e*S	**S**	**10 08 40.7**	**+4.3**
ZEA				*e*SS	**SS**	**10 13 52.2**	**-2.5**
ZEA				pmax	pmax		
	comp=Z,500nm,6.5s						
ZEA				pmax	pmax		
	comp=Z,60nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,400nm,9.1s						
ZEA				smax	smax		
	comp=E,3μm,11.4s						
ZEA				smax	smax		
	comp=N,4μm,11.0s						
ZEA				MLR	MLR		
	comp=E,300nm,14.0s						
ZEA				MLR	MLR		
	comp=N,600nm,13.0s						
ZEA				MLR	MLR		
	comp=Z,700nm,16.0s						
PBA	**Port Blair**	**81.12**	**286**	P	**P**	**09 58 44.5**	**-0.5**
PBA				IAmb	IAmb	09 59 05.9	
	comp=Z,489nm,1.3s						
SII	**Sitkinak Islan**	**81.34**	**20**	P	**P**	**09 58 46.2**	**+0.9**
SII	**Sitkinak Islan**	**81.34**	**20**	P	**P**	**09 58 46.2**	**+0.9**
SII	**Sitkinak Islan**	**81.34**	**20**	P	**P**	**09 58 46.1**	**+0.9**
	baz=215						
TNCH	**TengChong**	**81.37**	**300**	⇑P	**P**	**09 58 47.3**	**+0.8**
TNCH				pP	pP	09 59 27.4	-1.4
TNCH				sP	sP	09 59 47.5	+0.5
TNCH				S	**S**	**10 08 41.3**	**-2.1**
TNCH				SKS	**SKSac**	**10 08 47.1**	**-2.9**
TNCH				sS	sS	10 09 57.3	+3.2
TNCH				SS	**SS**	**10 14 05.8**	**+1.8**
TNCH				pmax	pmax		
	comp=Z,100nm,0.9s						
TNCH				pmax	pmax		
	comp=Z,1μm,9.0s						
PAF	**Port-aux-Franc**	**81.41**	**221**	P	**P**	**09 58 46.0**	**0.0**
PAF				IAmb	IAmb	09 59 33.4	
	comp=Z,583nm,1.1s						
PAF	**Port-aux-Franc**	**81.41**	**221**	P	**P**	**09 58 46.0**	**0.0**
PAF				pmax	pmax		
	comp=Z,583nm,1.1s						
R17L	**Mt. Peulik Vol**	**81.56**	**18**	P	**P**	**09 58 47.1**	**+0.6**
	baz=213,SNR=49						
R17L				S	**S**	**10 08 42.7**	**-1.0**
	baz=213						
M11K	**Mekoryuk**	**81.58**	**12**	P	**P**	**09 58 48.0**	**+1.6**
	baz=204,SNR=13						
M11K				S	**S**	**10 08 46.5**	**+2.9**
	baz=204						
O14K	**Tigyukauivet M**	**81.65**	**15**	IAmb	IAmb	09 58 49.9	
	comp=Z,352nm,1.2s						
O14K	**Tigyukauivet M**	**81.65**	**15**	P	**P**	**09 58 47.4**	**+0.5**
	baz=208,SNR=13						
O14K				S	**S**	**10 08 45.5**	**+1.0**
	baz=208						
O15K	**Ungalikthiuk R**	**81.94**	**16**	P	**P**	**09 58 48.8**	**+0.3**
	baz=210,SNR=16						
O15K				S	**S**	**10 08 46.0**	**-1.4**
	baz=210						
R18K	**Karluk**	**82.08**	**19**	P	**P**	**09 58 49.7**	**+0.5**
	baz=215						
R18K				S	**S**	**10 08 47.7**	**-1.2**
	baz=215						
N14K	**Kuskokwak Cree**	**82.15**	**14**	P	**P**	**09 58 50.4**	**+1.0**
	baz=208,SNR=36						
N14K				S	**S**	**10 08 48.9**	**-0.5**
	baz=208						
OHAK	**Old Harbor**	**82.16**	**20**	P	**P**	**09 58 50.5**	**+0.9**
OHAK	**Old Harbor**	**82.16**	**20**	P	**P**	**09 58 50.5**	**+0.9**
OHAK				IAmb	IAmb	09 58 57.5	
	comp=Z,232nm,0.8s						
OHAK	**Old Harbor**	**82.16**	**20**	P	**P**	**09 58 50.5**	**+0.9**
	baz=216						
OHAK				S	**S**	**10 08 50.8**	**+1.1**
	baz=216						
M13K	**Dall Lake**	**82.20**	**13**	P	**P**	**09 58 51.3**	**+1.6**
M13K	**Dall Lake**	**82.20**	**13**	P	**P**	**09 58 51.4**	**+1.6**
	baz=206,SNR=12						
M13K				S	**S**	**10 08 51.6**	**+1.6**
	baz=206						
Q17K	**Contact Creek**	**82.23**	**18**	P	**P**	**09 58 50.4**	**+0.3**
	baz=213,SNR=87						
Q17K				S	**S**	**10 08 49.4**	**-1.3**
	baz=213						
P16K	**Nushagak River**	**82.30**	**16**	P	**P**	**09 58 50.6**	**+0.3**
	baz=211						
ACHA	**Angle Creek He**	**82.35**	**18**	IAmb	IAmb	09 58 53.1	
	comp=Z,193nm,0.9s						
Q16K	**King Salmon**	**82.36**	**17**	P	**P**	**09 58 51.1**	**+0.6**
	baz=212						
Q16K				S	**S**	**10 08 51.0**	**-0.7**
	baz=212						
LZH	**Lanzhou**	**82.43**	**312**	⇓P	**P**	**09 58 53.8**	**+2.1**
LZH				pP	pP	09 59 36.1	+1.8
LZH				sP	sP	09 59 53.9	+1.4
LZH				S	**SKSac**	**10 08 57.8**	**+1.3**
LZH				pmax	pmax		
	comp=Z,150nm,1.3s						
LZH				pmax	pmax		
	comp=Z,1μm,4.5s						
LZH				LR	LR		
	comp=Z,2μm,20.3s						
LZH				LR	LR		
	comp=Z,2μm,20.3s						
LZH				LR	LR		
	comp=Z,3μm,21.3s						
SEY	**Seymchan**	**82.69**	**352**	*ce*P	**P**	**09 58 52.6**	**+0.4**
SEY				pmax	pmax		
	comp=Z,104nm,1.3s						
N15K	**Kwethluk River**	**82.74**	**15**	P	**P**	**09 58 54.0**	**+1.4**
N15K				IAmb	IAmb	09 58 55.5	
	comp=Z,495nm,1.4s						
N15K	**Kwethluk River**	**82.74**	**15**	P	**P**	**09 58 54.1**	**+1.6**
	baz=209,SNR=29						
N15K				S	**S**	**10 08 57.5**	**+2.0**
	baz=209						
O16K	**Kokwok River B**	**82.75**	**16**	P	**P**	**09 58 52.5**	**-0.1**
	baz=211,SNR=19						
O16K				S	**S**	**10 08 53.9**	**-1.7**
	baz=211						
Q18K	**Katmai Hardscr**	**82.81**	**18**	P	**P**	**09 58 53.5**	**+0.4**
	baz=214,SNR=141						
Q18K				S	**S**	**10 08 56.0**	**-0.5**
	baz=214						
M14K	**Bethel**	**82.82**	**14**	IAmb	IAmb	09 58 57.8	
	comp=Z,312nm,0.9s						
M14K	**Bethel**	**82.82**	**14**	P	**P**	**09 58 54.1**	**+1.3**
	baz=208,SNR=62						
M14K				S	**S**	**10 08 57.5**	**+1.3**
	baz=208						
KDAK	**Kodiak Island**	**82.84**	**20**	P	**P**	**09 58 53.7**	**+0.6**
KDAK	**Kodiak Island**	**82.84**	**20**	P	**P**	**09 58 54.0**	**+0.9**
	baz=216						
KDAK				S	**S**	**10 08 57.1**	**+0.5**
	baz=216						
KDAK	**Kodiak Island**	**82.84**	**20**	LR	LR	10 29 20.5	
	comp=Z,2μm,20.3s,baz=229,slow=31						
KDAK	**Kodiak Island**	**82.84**	**20**	*c i*P	**P**	**09 58 53.6**	**+0.5**
KDAK				pmax	pmax		
	comp=Z,863nm,1.0s						
P17K	**Kvichak River**	**82.86**	**17**	P	**P**	**09 58 53.3**	**+0.2**
	baz=213,SNR=56						
P17K				S	**S**	**10 08 54.9**	**-1.8**
	baz=213						
M15K	**Kasigluk River**	**83.06**	**14**	P	**P**	**09 58 55.3**	**+1.2**
	baz=209,SNR=52						
M15K				S	**S**	**10 08 57.8**	**-0.9**
	baz=209						
O17K	**Koliganek Bris**	**83.17**	**16**	P	**P**	**09 58 55.0**	**+0.3**
	baz=212,SNR=31						
O17K				S	**S**	**10 08 57.9**	**-2.0**
	baz=212						
L14K	**Kuka Creek**	**83.18**	**13**	P	**P**	**09 58 56.1**	**+1.4**
L14K	**Kuka Creek**	**83.18**	**13**	P	**P**	**09 58 56.1**	**+1.4**
	baz=207,SNR=42						
L14K				S	**SKSac**	**10 09 02.1**	**+2.2**
	baz=207						
N16K	**Nishlik Lake**	**83.34**	**15**	P	**P**	**09 58 57.5**	**+1.8**
	baz=210,SNR=71						
N16K				S	**S**	**10 09 04.7**	**+3.1**
	baz=210						
P18K	**Big Mountain,**	**83.37**	**17**	P	**P**	**09 58 56.1**	**+0.3**
P18K	**Big Mountain,**	**83.37**	**17**	P	**P**	**09 58 56.1**	**+0.3**
	baz=214,SNR=195						
P18K				S	**SKSac**	**10 09 01.2**	**-0.2**
	baz=214						
Q19K	**Cape Douglas,**	**83.45**	**18**	P	**P**	**09 58 56.6**	**+0.4**
Q19K	**Cape Douglas,**	**83.45**	**18**	P	**P**	**09 58 56.8**	**+0.5**
	baz=215,SNR=120						
Q19K				S	**SKSac**	**10 09 03.0**	**+1.1**
	baz=215						
Q20K	**Shuyak Island**	**83.57**	**19**	P	**P**	**09 58 57.7**	**+0.9**
	baz=216,SNR=98						
Q20K				S	**SKSac**	**10 09 04.5**	**+1.9**
	baz=216						
SYI	**Shuyak Island**	**83.57**	**19**	P	**P**	**09 58 57.5**	**+0.7**
L15K	**Ungalak Mounta**	**83.75**	**14**	P	**P**	**09 58 58.5**	**+0.9**
	baz=208,SNR=35						
L15K				S	**S**	**10 09 07.3**	**+1.7**
	baz=208						
O18K	**Koktuh Hills**	**83.76**	**17**	P	**P**	**09 58 58.0**	**+0.3**
	baz=214,SNR=86						
O18K				S	**SKSac**	**10 09 05.9**	**+2.1**
	baz=214						
M16K	**Timber Creek**	**83.77**	**15**	P	**P**	**09 58 59.6**	**+1.9**
	baz=210,SNR=149						
M16K				S	**S**	**10 09 08.3**	**+2.5**
	baz=210						
N17K	**Nushagak Hills**	**83.79**	**16**	IAmb	IAmb	09 59 01.2	
	comp=Z,384nm,1.1s						
N17K	**Nushagak Hills**	**83.79**	**16**	P	**P**	**09 58 59.1**	**+1.2**
	baz=212,SNR=79						
N17K				S	**S**	**10 09 07.0**	**+0.9**
	baz=212						
SMAI	**San Martin Ant**	**84.13**	**162**	P	**P**	**09 59 00.1**	**+0.5**
SMAI				IAmb	IAmb	09 59 01.1	
	comp=Z,302nm,0.7s						
P19K	**Oil Pt**	**84.16**	**18**	P	**P**	**09 59 00.0**	**+0.2**
	baz=216,SNR=67						
L16K	**Owhat River**	**84.24**	**14**	P	**P**	**09 59 01.6**	**+1.4**
	baz=210,SNR=159						
L16K				S	**S**	**10 09 12.0**	**+1.6**
	baz=210						
N18K	**Kilae Creek**	**84.26**	**17**	IAmb	IAmb	09 59 02.4	
	comp=Z,299nm,1.1s						
N18K	**Kilae Creek**	**84.26**	**17**	P	**P**	**09 59 01.0**	**+0.7**
	baz=213,SNR=109						
N18K				S	**S**	**10 09 11.7**	**+0.9**
	baz=213						
J14K	**Nanvaranak Lak**	**84.27**	**12**	IAmb	IAmb	09 59 03.1	
	comp=Z,446nm,1.2s						
J14K	**Nanvaranak Lak**	**84.27**	**12**	P	**P**	**09 59 01.8**	**+1.6**
	baz=206,SNR=64						
J14K				S	**S**	**10 09 13.6**	**+2.9**
	baz=206						
K15K	**Wolf Creek Mou**	**84.28**	**13**	P	**P**	**09 59 02.1**	**+1.8**
K15K	**Wolf Creek Mou**	**84.28**	**13**	P	**P**	**09 59 02.1**	**+1.8**
	baz=208,SNR=166						
K15K				S	**S**	**10 09 13.7**	**+2.7**
	baz=208						
O19K	**Port Alsworth**	**84.29**	**17**	P	**P**	**09 59 00.3**	**-0.1**
	baz=215						
O19K				S	**SKSac**	**10 09 10.0**	**+2.8**
	baz=215						
M17K	**Holitna River**	**84.47**	**15**	P	**P**	**09 59 03.2**	**+1.9**
	baz=212,SNR=147						
M17K				S	**S**	**10 09 13.6**	**+0.8**
	baz=212						
HOM	**Homer**	**84.64**	**19**	P	**P**	**09 59 02.1**	**-0.1**
	baz=217,SNR=53						
HOM				S	**S**	**10 09 13.6**	**-1.0**
	baz=217						
O20K	**Slope Mountain**	**84.69**	**18**	P	**P**	**09 59 02.5**	**-0.1**
	baz=216,SNR=55						
O20K				S	**SKSac**	**10 09 13.3**	**+3.4**
	baz=216						
SVW2	**Sparrevohn**	**84.70**	**16**	P	**P**	**09 59 03.6**	**+1.1**
SVW2	**Sparrevohn**	**84.70**	**16**	IAmb	IAmb	09 59 11.1	
	comp=Z,237nm,1.2s						
N19K	**Bonanza Creek**	**84.76**	**17**	P	**P**	**09 59 02.6**	**-0.3**
N19K				IAmb	IAmb	09 59 04.4	
	comp=Z,240nm,1.1s						
N19K	**Bonanza Creek**	**84.76**	**17**	P	**P**	**09 59 02.6**	**-0.3**
	baz=214,SNR=76						
N19K				S	**SKSac**	**10 09 13.7**	**+3.3**
	baz=214						
L17K	**Donlin**	**84.89**	**15**	P	**P**	**09 59 05.2**	**+1.8**
	baz=211,SNR=216						
L17K				S	**S**	**10 09 18.0**	**+1.1**
	baz=211						
BRLK	**Bradley Lake**	**84.96**	**19**	IAmb	IAmb	09 59 06.9	
	comp=Z,358nm,1.0s						
M18K	**Stony River**	**84.96**	**16**	P	**P**	**09 59 05.1**	**+1.3**
	baz=213,SNR=409						
M18K				S	**S**	**10 09 18.4**	**+0.8**
	baz=213						
SAIH	**SAIHA**	**84.97**	**296**	*e*P	**P**	**09 59 05.2**	**+0.3**
SAIH				*i x*	x	09 59 45.9	
SAIH				*ex*	x	10 09 06.0	
BRSE	**Bradley Lake S**	**84.99**	**19**	P	**P**	**09 59 04.0**	**0.0**
	baz=218,SNR=104						
BRSE				S	**S**	**10 09 17.6**	**-0.4**
	baz=218						
IMP	**Imphal**	**85.07**	**298**	*e*P	**P**	**09 59 05.1**	**-0.2**
IMP				*i* pP	**pP**	**09 59 45.5**	**-2.5**
MOKO	**MOKOCHONG**	**85.19**	**300**	*e*P	**P**	**09 59 05.9**	**0.0**
MOKO				*i x*	x	09 59 47.0	
MOKO				*ex*	x	10 09 06.5	
KOHI	**KOHIMA**	**85.29**	**299**	*e*P	**P**	**09 59 06.0**	**-0.4**
KOHI				*i x*	x	09 59 46.6	
DIBR	**DIBRUGARH**	**85.33**	**301**	*e*P	**P**	**09 59 07.0**	**+0.6**
DIBR				*i x*	x	09 59 46.2	
L18K	**Granite Mounta**	**85.36**	**15**	IAmb	IAmb	09 59 14.1	

comp=Z,328nm,1.4s
L18K Granite Mounta 85.36 15 P P 09 59 06.8 +1.1
baz=212,SNR=71
L18K S **S** **10 09 25.4 +3.9**
baz=212
J16K Anvik River 85.36 13 P P 09 59 07.4 +1.7
J16K Anvik River 85.36 13 P P 09 59 07.4 +1.7
baz=209,SNR=180
J16K S **S** **10 09 26.4 +4.9**
baz=209
K17K Iditarod 85.39 14 IAmb IAmb 09 59 09.4
comp=Z,462nm,1.1s
K17K Iditarod 85.39 14 P P 09 59 07.2 +1.3
baz=211,SNR=124
K17K S **S** **10 09 25.6 +3.8**
baz=211
MCCM Marconi Confer 85.41 47 IAmb IAmb 09 59 13.6
comp=Z,265nm,0.8s
ANM Nome 85.58 11 P P 09 59 08.0 +1.2
ANM IAmb IAmb 09 59 14.5
comp=Z,226nm,1.1s
ANM Nome 85.58 11 P P 09 59 07.9 +1.2
baz=204,SNR=20
ANM S **S** **10 09 27.9 +4.3**
baz=204
ANM Nome 85.58 11 P P 09 59 08.0 +1.2
ANM pmax pmax
comp=Z,226nm,1.1s
JORH JORHAT 85.58 300 *e*P **P 09 59 07.7 0.0**
JORH *i* x x 09 59 49.3
CIT Chita 85.58 329 *e*P **P 09 59 07.8 +0.7**
CIT *e* 09 59 53.3
CIT *e*S **SKSac 10 09 12.5 -3.4**
CIT pmax pmax
comp=Z,363nm,1.3s
SNCC San Nicolas Is 85.62 53 IAmb IAmb 09 59 10.5
comp=Z,331nm,0.9s
SNCC San Nicolas Is 85.62 53 P P 09 59 09.0 +1.3
baz=244,SNR=28
SNCC S **S** **10 09 25.5 +0.1**
baz=244
KMPM Mount Pierce 85.66 45 IAmb IAmb 09 59 11.1
comp=Z,589nm,1.2s
SEW Seward 85.68 19 P P 09 59 06.9 -0.3
baz=219,SNR=41
SEW S **S** **10 09 24.7 0.0**
baz=219
CAPN Captain Cook N 85.68 18 IAmb IAmb 09 59 35.1
comp=Z,366nm,0.9s
CAPN Captain Cook N 85.68 18 P P 09 59 07.9 +0.7
baz=217
CAPN S **S** **10 09 28.8 +4.2**
baz=217
HOPS Hopland Field 85.68 46 IAmb IAmb 09 59 10.7
comp=Z,361nm,1.1s
M19K Big River Lodg 85.69 16 P P 09 59 07.7 +0.3
M19K Big River Lodg 85.69 16 P P 09 59 07.6 +0.3
baz=214
M19K S **S** **10 09 26.6 +1.8**
baz=214
N20K Mount Spurr 85.72 18 P P 09 59 06.4 -1.3
baz=216,SNR=12
N20K S **S** **10 09 25.8 +0.6**
baz=216
SPCR Spurr Chakacha 85.72 18 P P 09 58 59.9 -7.7
baz=216,SNR=11
SPU Mount Spurr 85.75 18 P P 09 59 07.0 -0.8
SAO San Andreas Ge 85.78 49 IAmb IAmb 09 59 11.2
comp=Z,256nm,1.0s
L19K White Mountain 85.79 16 IAmb IAmb 09 59 10.8
comp=Z,153nm,0.8s
L19K White Mountain 85.79 16 P P 09 59 08.8 +0.9
baz=214,SNR=67
L19K S **S** **10 09 28.5 +2.6**
baz=214
J17K VABM Dome 85.80 14 IAmb IAmb 09 59 11.9
comp=Z,276nm,0.9s
J17K VABM Dome 85.80 14 P P 09 59 09.2 +1.3
baz=210,SNR=123
J17K S **S** **10 09 29.9 +4.1**
baz=210
SCZ2 Santa Cruz Isl 85.86 52 P P 09 59 10.0 +1.1
baz=244,SNR=15
I17K Unalakleet 85.87 13 P P 09 59 09.7 +1.5
I17K Unalakleet 85.87 13 P P 09 59 09.8 +1.6
baz=209,SNR=15
I17K S **S** **10 09 30.3 +3.9**
baz=209
O22K Cooper Landing 85.89 19 IAmb IAmb 09 59 15.8
comp=Z,322nm,0.7s
O22K Cooper Landing 85.89 19 P P 09 59 07.8 -0.5
baz=219,SNR=42
O22K S **S** **10 09 27.5 +0.9**
baz=219
JCC Jacoby Creek, 85.92 44 IAmb IAmb 09 59 11.5
comp=Z,242nm,0.9s
BBGB Big Mountain B 85.98 49 P P 09 59 11.6 +2.0
BBGB IAmb IAmb 09 59 13.0
comp=Z,394nm,1.2s
PMPB Monarch Peak 85.99 50 IAmb IAmb 09 59 15.2
comp=Z,306nm,1.0s
SBC Santa Barbara 86.00 52 P P 09 59 10.8 +1.2
baz=244,SNR=13
M20K Styx River 86.01 17 P P 09 59 08.4 -0.7
baz=216
M20K S **S** **10 09 28.1 +0.1**
baz=216
TNA Tin City 86.07 9 P P 09 59 10.3 +1.2
baz=202,SNR=68
TNA S **S** **10 09 33.1 +4.8**
baz=202
KRPM Rodgers 86.09 44 IAmb IAmb 09 59 13.3
comp=Z,373nm,1.0s
PKM Mcpherson Peak 86.12 51 P P 09 59 11.8 +1.4
baz=244,SNR=133
PKM S **S** **10 09 32.1 +1.5**
baz=244
TTA Tatalina 86.12 15 P P 09 59 10.0 +0.4
TTA Tatalina 86.12 15 P P 09 59 10.3 +0.7
baz=213,SNR=49
TTA S **S** **10 09 32.9 +3.7**
baz=213
KHMM Horse Mountain 86.14 44 P P 09 59 12.3 +2.0
SMMC Simmler 86.18 51 P P 09 59 11.9 +1.5
baz=244,SNR=81
SMMC S **S** **10 09 33.3 +2.5**
baz=244
Q23K Middleton Isla 86.18 21 IAmb IAmb 09 59 11.9
comp=Z,306nm,0.9s
Q23K Middleton Isla 86.18 21 P P 09 59 09.5 -0.2
baz=222,SNR=11
Q23K S **S** **10 09 32.2 +2.7**
baz=222
MID Middleton Isla 86.18 21 P P 09 59 09.7 -0.1
MID Middleton Isla 86.18 21 IAmb IAmb 09 59 11.9
comp=Z,295nm,1.0s
G15K Niukluk 86.21 11 P P 09 59 10.7 +0.9
baz=205,SNR=66
G15K S **S** **10 09 32.8 +3.2**
baz=205
ZIRO ZIRO 86.22 301 *i* P **P 09 59 10.4 -0.6**
ZIRO *i* x x 09 59 52.1
ZIRO *ex* x 10 09 10.6
H16K Elim 86.23 12 P P 09 59 11.1 +1.2
baz=207,SNR=38
H16K S **S** **10 09 34.3 +4.5**
baz=207
SCI2 San Clemente I 86.24 53 P P 09 59 11.7 +0.9
baz=245,SNR=43
SCI2 S **S** **10 09 34.1 +2.7**
baz=245
F14K Arctic Creek 86.25 10 P P 09 59 11.1 +1.1
baz=203,SNR=50
F14K S **S** **10 09 33.9 +3.9**
baz=203
P23K Montague Islan 86.25 20 P P 09 59 09.5 -0.7
baz=221,SNR=39
P23K S **S** **10 09 31.6 +1.3**
baz=221
FIS Fire Island 86.26 18 IAmb IAmb 09 59 14.1
comp=Z,313nm,0.8s
L20K Farewell, AK 86.30 16 P P 09 59 10.8 +0.4
baz=215,SNR=157
L20K S **S** **10 09 31.4 +0.7**
baz=215
KRMB Red Mountain 86.34 44 IAmb IAmb 09 59 14.5
comp=Z,336nm,1.2s

SUA Susitna One 86.35 18 P P 09 59 09.9 -0.9
baz=218,SNR=81
SUA S **S** **10 09 32.1 +0.6**
baz=218
RC01 Rabbit Creek A 86.36 19 P P 09 59 10.1 -0.6
RC01 Rabbit Creek A 86.36 19 P P 09 59 10.4 -0.3
baz=219,SNR=77
RC01 S **S** **10 09 31.2 -0.1**
baz=219
ELIB Princess Elisa 86.37 190 *d*P **P 09 59 10.7 -0.2**
comp=Z,53nm,0.9s
ELIB *d*pP **pP 09 59 52.0 -1.6**
J18K Innoko River 86.41 15 IAmb IAmb 09 59 19.6
comp=Z,135nm,0.8s
J18K Innoko River 86.41 15 P P 09 59 11.7 +0.8
baz=212,SNR=113
J18K S **S** **10 09 35.6 +3.9**
baz=212
BCW Bitter Crk WRg 86.44 51 IAmb IAmb 09 59 16.5
comp=Z,306nm,0.9s
KBO Bosley Butte 86.47 43 IAmb IAmb 09 59 15.1
comp=Z,276nm,1.1s
KSXB Camp Six Broad 86.51 44 IAmb IAmb 09 59 16.6
comp=Z,286nm,1.0s
CIS Catalina Islan 86.52 53 P P 09 59 13.1 +0.9
baz=245,SNR=18
SKT Skwentna 86.54 17 P P 09 59 09.6 -1.9
baz=217,SNR=26
SKT S **S** **10 09 31.2 -1.9**
baz=217
ULN Ulaanbaatar 86.55 323 P **P 09 59 13.1 +0.9**
ULN Ulaanbaatar 86.55 323 *ce*P **P 09 59 13.4 +1.3**
ULN pmax pmax
comp=Z,146nm,1.3s
YAK Yakutsk 86.57 343 P P 09 59 12.1 +0.4
YAK IAmb IAmb 09 59 13.7
comp=Z,425nm,1.0s
YAK Yakutsk 86.57 343 LR LR 10 33 39.4
comp=Z,742nm,22.0s,baz=138,slow=32
YAK Yakutsk 86.57 343 *c i*P **P 09 59 12.0 +0.4**
YAK *e**PP **pP 09 59 53.1 -1.2**
YAK *e*S **SKSac 10 09 22.1 +0.7**
YAK pmax pmax
comp=Z,358nm,0.9s
YAK pmax pmax
comp=N,55nm,0.9s
YAK pmax pmax
comp=E,15nm,0.8s
YAK pmax pmax
comp=Z,196nm,3.3s
YAK pmax pmax
comp=N,125nm,3.7s
YAK pmax pmax
comp=E,126nm,3.5s
YAK smax smax
comp=E,4μm,7.0s
YAK smax smax
comp=N,6μm,7.6s
TEZP TEZPUR 86.72 299 *e*P **P 09 59 12.9 -0.3**
TEZP *i* x x 09 59 54.2
TEZP *ex* x 10 09 17.1
F15K North Star Dit 86.75 11 P P 09 59 13.3 +0.8
baz=205,SNR=32
F15K S **S** **10 09 37.7 +2.9**
baz=205
FMP Fort Macarthur 86.75 53 P P 09 59 14.5 +1.3
baz=245,SNR=21
M22K Willow 86.77 18 P P 09 59 11.8 -0.8
baz=218,SNR=165
M22K S **S** **10 09 34.6 -0.5**
baz=218
BILL Bilibino 86.79 359 P P 09 59 13.3 +0.7
BILL IAmb IAmb 09 59 14.4
comp=Z,301nm,1.0s
BILL Bilibino 86.79 359 *c i*P **P 09 59 13.0 +0.4**
BILL *i* *PP **pP 09 59 55.0 -0.3**
BILL *e* 10 02 37.0
BILL *i* S **S 10 09 34.4 -0.7**
BILL pmax pmax
comp=Z,419nm,1.3s
OSI Osito Audit: C 86.81 52 P P 09 59 15.0 +1.4
baz=244,SNR=9.0
OSI S **S** **10 09 41.0 +4.0**
baz=244
GTA Gaotai 86.82 313 ⇓P **P 09 59 14.8 +1.2**
GTA pP pP 09 59 55.4 -1.0
GTA sP sP 10 00 16.6 +2.1
GTA SKS **SKSac 10 09 23.3 -1.0**
GTA S **S 10 09 38.8 +1.8**
GTA SS **SS 10 15 21.4 -2.3**
GTA pmax pmax
comp=Z,86nm,1.1s
GTA pmax pmax
comp=Z,540nm,7.6s
GTA LR LR
comp=Z,1μm,16.7s
GTA LR LR
comp=Z,850nm,19.1s
GTA LR LR
comp=Z,1μm,19.1s
HIN Hinchinbrook I 86.85 20 IAmb IAmb 09 59 15.9
comp=Z,223nm,0.9s
G16K Koyuk River 86.88 12 IAmb IAmb 09 59 16.9
comp=Z,146nm,0.9s
G16K Koyuk River 86.88 12 P P 09 59 14.3 +1.2
baz=207,SNR=59
G16K S **S** **10 09 41.6 +5.5**
baz=207
SONM Songino Array 86.91 323 P P 09 59 14.7 +0.8
SONM Songino Array 86.91 323 P P 09 59 14.8 +1.0
comp=Z,42nm,0.8s,baz=151,slow=5.2,SNR=101
SONM pP **pP 09 59 56.4 -0.2**
comp=Z,77nm,1.0s,baz=135,slow=4.2,SNR=7.4
SONM S **SKSac 10 09 20.7 -3.7**
comp=Z,3.2nm,1.1s,baz=124,slow=2.6,SNR=4.3
SONM PKKPbc **PKKPbc 10 17 06.8 -1.7**
comp=Z,4.5nm,0.5s,baz=267,slow=2.2,SNR=18
SONM PKPPKP **P'P'df 10 25 09.2 -3.6**
comp=Z,1.0nm,0.9s,baz=112,slow=40,SNR=6.6
SONM LR LR 10 37 09.0
comp=Z,932nm,20.6s,baz=121,slow=35
comp=Z,42nm,0.8s
PMR Palmer 86.93 19 P P 09 59 12.8 -0.6
PMR Palmer 86.93 19 P P 09 59 12.7 -0.6
baz=219,SNR=95
PMR S **S** **10 09 37.2 +0.5**
baz=219
DECC Green Verdugo 86.95 52 P P 09 59 15.3 +1.1
baz=245,SNR=18
DECC S **S** **10 09 41.6 +3.4**
baz=245
ARVC Arvin 86.95 51 P P 09 59 15.5 +1.4
baz=244,SNR=73
ARVC S **S** **10 09 42.1 +4.0**
baz=244
H17K Granite Mounta 86.96 13 IAmb IAmb 09 59 19.1
comp=Z,147nm,0.9s
H17K Granite Mounta 86.96 13 P P 09 59 14.4 +0.9
baz=209,SNR=90
H17K S **S** **10 09 39.7 +2.7**
baz=209
H06S1 SOCORRO T 86.97 69 P P 09 59 15.2 +0.6
SNR=15
K20K Telida 86.97 16 P P 09 59 14.0 +0.4
baz=215,SNR=61
K20K S **S** **10 09 38.3 +1.2**
baz=215
AGT Agartala 86.97 296 *e*P **P 09 59 14.4 -0.1**
AGT IAmb IAmb 09 59 18.0
comp=Z,199nm,0.5s
AGT *i* x x 09 59 55.8
H06N1 SOCORRO T-PHAS 86.99 69 P P 09 59 15.9 +1.2
KNK Knik Glacier 87.00 19 P P 09 59 13.5 -0.3
KNK IAmb IAmb 09 59 16.7
comp=Z,154nm,1.0s
KNK Knik Glacier 87.00 19 P P 09 59 13.5 -0.3
baz=220,SNR=55
KNK S **S** **10 09 38.9 +1.4**
baz=220
H06E1 SOCORRO T-PHAS 87.02 69 P P 09 59 16.6 +1.8
SNR=56
GLI Glacier Island 87.02 20 P P 09 59 13.3 -0.6
GLI IAmb IAmb 09 59 16.5
comp=Z,191nm,0.9s
GLI Glacier Island 87.02 20 P P 09 59 13.3 -0.6
baz=221,SNR=100
GLI S **S** **10 09 38.1 +0.4**

baz=221
ORV Oroville 87.02 46 IAmb IAmb 09 59 17.0
comp=Z,269nm,1.0s
PASC Pasadena Art C 87.02 52 IAmb IAmb 09 59 16.1
comp=Z,161nm,0.8s
VOG Valley Oaks Go 87.07 50 P P 09 59 15.5 +0.8
baz=244,SNR=8.8
VOG S **S** **10 09 42.7 +3.5**
baz=244
K02D Willamette Mer 87.07 43 P P 09 59 16.0 +1.4
K02D IAmb IAmb 09 59 18.5
comp=Z,242nm,1.0s
VES Vestal, Richgr 87.07 51 P P 09 59 15.6 +0.9
baz=244,SNR=60
VES S **S** **10 09 38.1 -1.2**
baz=244
SHL Shillong 87.08 298 IAmb IAmb 10 00 06.8
comp=Z,241nm,0.9s
SHL Shillong 87.08 298 *i* P **P 09 59 15.4 +0.2**
SHL *i* x x 09 59 56.8
SHL *ex* x 10 09 24.0
PPLA Purkeypile 87.09 17 P P 09 59 12.7 -1.7
baz=216,SNR=9.2
PPLA S **S** **10 09 38.0 -0.6**
baz=216
CMB Columbia Colle 87.11 48 P P 09 59 16.0 +1.1
CMB IAmb IAmb 09 59 17.4
comp=Z,271nm,0.9s
CMB Columbia Colle 87.11 48 P P 09 59 16.0 +1.1
CMB pmax pmax
comp=Z,271nm,1.0s
AFDM Forest Hills D 87.11 47 IAmb IAmb 09 59 17.4
comp=Z,398nm,1.1s
J19K Poorman 87.12 15 P P 09 59 15.0 +0.7
baz=213,SNR=69
J19K S **S** **10 09 41.8 +3.3**
baz=213
FID Port Fidalgo 87.12 20 IAmb IAmb 09 59 16.9
comp=Z,200nm,0.9s
J01E Myrtle Point 87.12 42 IAmb IAmb 09 59 17.6
comp=Z,337nm,0.9s
GHO Glory Hole Cre 87.14 19 P P 09 59 14.1 -0.4
GHO IAmb IAmb 09 59 15.8
comp=Z,173nm,1.2s
KAIM Kayak Island 87.21 21 IAmb IAmb 09 59 21.0
comp=Z,302nm,0.9s
KAIM Kayak Island 87.21 21 P P 09 59 14.9 +0.1
baz=223,SNR=18
KAIM S **S** **10 09 40.8 +1.3**
baz=223
EYAK Cordova Ski Ar 87.21 21 P P 09 59 14.4 -0.4
EYAK Cordova Ski Ar 87.21 21 P P 09 59 13.8 -0.9
baz=222,SNR=65
EYAK S **S** **10 09 39.0 -0.5**
baz=222
PMSA Palmer Station 87.22 160 P P 09 59 15.1 +0.2
PMSA IAmb IAmb 09 59 16.5
comp=Z,513nm,1.4s
PMSA Palmer Station 87.22 160 *e*P **P 09 59 15.5 +0.5**
PMSA *ep*P **pP 09 59 57.8 -0.3**
CCX Cicese 87.22 55 IAmb IAmb 09 59 18.1
comp=Z,251nm,1.0s
YBH Yreka Blue Hor 87.23 44 IAmb IAmb 09 59 18.5
comp=Z,339nm,1.1s
YBH Yreka Blue Hor 87.23 44 LR LR 10 30 09.3
comp=Z,3μm,21.3s,baz=242,slow=30
CUT Chulitna 87.24 18 IAmb IAmb 09 59 16.1
comp=Z,176nm,0.9s
CUT Chulitna 87.24 18 P P 09 59 13.9 -1.0
baz=218,SNR=8.1
CUT S **S** **10 09 38.7 -1.0**
baz=218
109C Camp Elliot, M 87.31 54 P P 09 59 16.7 +0.8
109C IAmb IAmb 09 59 19.3
comp=Z,334nm,1.0s
109C Camp Elliot, M 87.31 54 P P 09 59 17.0 +1.1
baz=245,SNR=64
109C S **S** **10 09 45.2 +3.5**
baz=245
G17K Kiwalik Mounta 87.31 12 P P 09 59 16.1 +1.0
baz=209,SNR=55
G17K S **S** **10 09 43.6 +3.4**
baz=209
SML Sawmill 87.34 19 P P 09 59 15.1 -0.4
SML Sawmill 87.34 19 P P 09 59 15.1 -0.4
baz=220,SNR=52
SML S **S** **10 09 41.0 +0.1**
baz=220
ELS Elsinore Mount 87.38 53 P P 09 59 17.3 +1.0
ELS IAmb IAmb 09 59 18.2
comp=Z,161nm,1.1s
ISA Isabella, Lake 87.44 51 IAmb IAmb 09 59 20.7
comp=Z,353nm,1.1s
ISA Isabella, Lake 87.44 51 P P 09 59 18.0 +1.4
baz=245,SNR=335
ISA S **S** **10 09 43.5 +0.5**
baz=245
BFSC Mount Baldy Ra 87.45 53 P P 09 59 17.7 +0.9
baz=245,SNR=117
BFSC S **S** **10 09 45.4 +2.2**
baz=245
RAGM Ragged Mountai 87.45 21 IAmb IAmb 09 59 18.1
comp=Z,190nm,1.1s
GCSA Galena City Sc 87.46 14 P P 09 59 16.5 +0.6
baz=212,SNR=12
GCSA S **S** **10 09 44.8 +3.2**
baz=212
EDW2 Edwards Air Fo 87.47 52 P P 09 59 18.0 +1.3
baz=245,SNR=155
EDW2 S **S** **10 09 45.0 +1.8**
baz=245
H18K Honhosa River 87.48 13 P P 09 59 16.1 +0.1
baz=211,SNR=27
H18K S **S** **10 09 43.0 +1.1**
baz=211
HUMO Hull Mountain 87.48 43 IAmb IAmb 09 59 19.7
comp=Z,348nm,1.0s
M23K Glacier View 87.52 19 P P 09 59 15.7 -0.6
baz=220,SNR=27
M23K S **S** **10 09 41.8 -0.6**
baz=220
MURC Murrieta 87.53 53 P P 09 59 18.2 +1.2
baz=245,SNR=97
MURC S **S** **10 09 47.6 +3.8**
baz=245
SUCK Suckling Hills 87.53 22 P P 09 59 16.6 +0.2
CAST Castle Rocks 87.54 16 IAmb IAmb 09 59 16.2
comp=Z,137nm,1.0s
CAST Castle Rocks 87.54 16 P P 09 59 15.2 -1.2
baz=216
CAST S **S** **10 09 40.5 -2.1**
baz=216
BAR Barrett 87.55 54 P P 09 59 18.1 +1.0
TKX Tecate 87.56 54 IAmb IAmb 09 59 20.5
comp=Z,150nm,0.9s
HMT Hamilton 87.56 21 IAmb IAmb 09 59 18.5
comp=Z,310nm,1.3s
CCAC Calif City Air 87.57 52 IAmb IAmb 09 59 22.5
comp=Z,177nm,0.9s
J20K Nowinta River 87.63 15 P P 09 59 17.2 +0.5
baz=215,SNR=78
J20K S **S** **10 09 43.3 -0.1**
baz=215
SCM Sheep Creek Mo 87.67 19 P P 09 59 16.6 -0.5
SCM IAmb IAmb 09 59 23.2
comp=Z,138nm,1.0s
SCM Sheep Creek Mo 87.67 19 P P 09 59 16.8 -0.3
baz=221,SNR=60
SCM S **S** **10 09 43.0 -1.0**
baz=221
SCM Sheep Creek Mo 87.67 19 P P 09 59 16.6 -0.5
SCM pmax pmax
comp=Z,138nm,1.0s
VTX Valle De La Tr 87.72 56 IAmb IAmb 09 59 20.9
comp=Z,212nm,1.1s
EMB Emerald Bay 87.73 47 IAmb IAmb 09 59 20.1
comp=Z,210nm,1.1s
DIB Dawson Inlet, 87.73 31 IAmb IAmb 09 59 24.7
comp=Z,234nm,1.0s
H02S1 DAWSON INLET T 87.73 31 P P 09 59 18.7 +1.3
SNR=69
BGLC Bering Glacier 87.74 22 P P 09 59 17.1 -0.2
baz=224
BGLC S **S** **10 09 45.6 +1.1**
baz=224
I03D Drain, OR 87.75 42 P P 09 59 19.0 +1.2
I03D IAmb IAmb 09 59 20.0

comp=Z,240nm,1.0s
MONP2 Monument Peak 87.83 54 P P 09 59 20.1 +1.5
baz=246,SNR=386
MONP2 S **S 10 09 47.6 +0.6**
baz=246
HG4B Hotspring 87.83 32 IAmb IAmb 09 59 20.9
comp=Z,436nm,1.3s
CHUM Lake Minchumin 87.86 16 P P 09 59 16.9 -0.9
baz=216,SNR=56
CHUM S **S 10 09 44.8 -0.7**
baz=216
MDPB Devils Postpil 87.86 49 IAmb IAmb 09 59 21.5
comp=Z,266nm,1.2s
KLU Klutina 87.86 20 P P 09 59 17.6 -0.3
KLU Klutina 87.86 20 P P 09 59 17.6 -0.3
baz=222,SNR=86
KLU S **S 10 09 45.3 -0.6**
baz=222
TAWA Tawang 87.86 300 *ex* x 10 00 18.7
TAWA *i* x x 10 00 59.9
BMRM Bremner River 87.90 21 P P 09 59 17.8 -0.4
baz=223,SNR=40
BMRM S **S 10 09 45.5 -0.7**
baz=223
OMMB Old Mammoth Mi 87.90 49 IAmb IAmb 09 59 21.9
comp=Z,237nm,1.3s
MPK Martis Peak 87.92 47 P P 09 59 20.8 +1.7
SNH Sunshine Point 87.94 22 IAmb IAmb 09 59 20.2
comp=Z,183nm,1.0s
LRMC Laurel Mtn Rad 87.95 51 P P 09 59 20.5 +1.4
baz=245,SNR=247
LRMC S **S 10 09 51.0 +3.0**
baz=245
KTH Kantishna Hill 87.96 17 IAmb IAmb 09 59 24.2
comp=Z,169nm,1.1s
IKP In-Ko-Pah, Jac 87.97 55 P P 09 59 20.8 +1.6
baz=246,SNR=140
IKP S **S 10 09 52.0 +3.8**
baz=246
WAKR Walker 87.98 48 IAmb IAmb 09 59 22.4
comp=Z,364nm,1.2s
BBRC Big Bear Solar 88.01 53 P P 09 59 20.7 +1.2
baz=246,SNR=88
BBRC S **S 10 09 49.9 +1.1**
baz=246
F17K Baldwin Pennin 88.02 11 P P 09 59 19.5 +1.0
F17K IAmb IAmb 09 59 27.9
comp=Z,146nm,0.8s
F17K Baldwin Pennin 88.02 11 P P 09 59 19.5 +1.0
baz=208,SNR=92
F17K S **S 10 09 50.7 +3.8**
baz=208
MLAC Mammoth, Mammo 88.03 49 P P 09 59 21.0 +1.4
baz=244,SNR=64
MLAC S **S 10 09 52.3 +3.5**
baz=244
G18K Tagagawik 88.06 13 IAmb IAmb 09 59 21.9
comp=Z,235nm,1.1s
G18K Tagagawik 88.06 13 P P 09 59 19.2 +0.5
baz=210,SNR=175
G18K S **S 10 09 49.5 +2.1**
baz=210
I20K Naaghedeneel 88.06 15 IAmb IAmb 09 59 21.8
comp=Z,390nm,1.1s
I20K Naaghedeneel 88.06 15 P P 09 59 19.5 +0.8
baz=214,SNR=91
I20K S **S 10 09 50.9 +3.5**
baz=214
CWC Cottonwood Cre 88.06 50 P P 09 59 20.9 +1.3
baz=245
CWC S **S 10 09 52.0 +3.0**
baz=245
WAT1 Susitna Watana 88.07 18 P P 09 59 18.1 -0.7
baz=220
WAT1 S **S 10 09 46.2 -1.4**
baz=220
PFO Pinyon Flats O 88.09 54 P P 09 59 21.1 +1.2
PFO IAmb IAmb 09 59 21.8
comp=Z,151nm,1.1s
PFO Pinyon Flats O 88.09 54 P P 09 59 21.0 +1.2
baz=246,SNR=90
PFO S **S 10 09 54.4 +5.0**
baz=246
PFO Pinyon Flats O 88.09 54 LR LR 10 32 05.6
comp=Z,2µm,20.3s,baz=246,slow=31
PFO Pinyon Flats O 88.09 54 *c i*P **P 09 59 20.6 +0.8**
PFO pmax pmax
comp=Z,248nm,1.0s
TPFO Pinon Flats 88.10 54 P P 09 59 21.1 +1.2
baz=246,SNR=88
TPFO S **S 10 09 53.1 +3.6**
baz=246
YUH Yuha Desert 88.11 55 IAmb IAmb 09 59 23.9
comp=Z,218nm,1.0s
WAT6 Susitna Watana 88.12 18 P P 09 59 18.6 -0.6
baz=220,SNR=128
WAT6 S **S 10 09 46.0 -2.4**
baz=220
PNTR Pine Nut 88.13 48 P P 09 59 21.1 +1.1
WAX Waxell Ridge 88.13 22 IAmb IAmb 09 59 24.0
comp=Z,140nm,0.7s
PMD Palm Desert 88.17 54 P P 09 59 21.0 +1.0
PMD IAmb IAmb 09 59 22.5
comp=Z,152nm,0.9s
RRX Edison Barstow 88.21 52 P P 09 59 21.6 +1.4
baz=245,SNR=13
RRX S **S 10 09 53.1 +3.0**
baz=245
COR Corvallis 88.21 41 P P 09 59 21.0 +1.1
COR IAmb IAmb 09 59 22.4
comp=Z,256nm,1.1s
COR Corvallis 88.21 41 P P 09 59 21.0 +1.1
COR pmax pmax
comp=Z,256nm,1.1s
H19K Roundabout Mou 88.22 14 IAmb IAmb 09 59 22.4
comp=Z,176nm,1.1s
H19K Roundabout Mou 88.22 14 P P 09 59 20.3 +0.9
baz=212,SNR=125
H19K S **S 10 09 51.1 +2.3**
baz=212
TIN Tinemaha, Big 88.22 50 P P 09 59 21.8 +1.5
baz=245,SNR=11
TIN S **S 10 09 55.1 +4.7**
baz=245
BUCK Buck Mountain 88.22 42 P P 09 59 22.0 +1.9
BUCK IAmb IAmb 09 59 23.1
comp=Z,375nm,1.1s
M24K Tolsona, Glenn 88.24 19 P P 09 59 19.7 0.0
M24K IAmb IAmb 09 59 28.4
comp=Z,216nm,1.1s
M24K Tolsona, Glenn 88.24 19 P P 09 59 19.9 +0.1
baz=222,SNR=31
M24K S **S 10 09 50.3 +0.9**
baz=222
HEBO Mount Hebo 88.24 41 P P 09 59 22.3 +2.2
CRQM Cirque 88.25 21 IAmb IAmb 09 59 24.5
comp=Z,190nm,1.0s
MESA MESA 88.25 22 IAmb IAmb 09 59 23.0
comp=Z,122nm,0.9s
MESA MESA 88.25 22 P P 09 59 20.0 0.0
baz=226,SNR=12
MESA S **S 10 09 50.4 +0.5**
baz=226
CRQE Cirque 88.26 21 P P 09 59 19.5 -0.5
baz=225,SNR=34
CRQE S **S 10 09 49.0 -0.8**
baz=225
SWSC Sam W. Stewart 88.33 54 P P 09 59 22.2 +1.5
baz=246,SNR=105
SWSC S **S 10 09 56.4 +5.1**
baz=246
YERR Yerington 88.33 48 IAmb IAmb 09 59 23.6
comp=Z,222nm,1.1s
MPMC Manual Prospec 88.34 51 P P 09 59 22.3 +1.3
baz=245,SNR=238
MPMC S **S 10 09 53.7 +2.0**
baz=245
TGL Tana Glacier 88.35 21 P P 09 59 20.0 -0.4
N25K Chitina, Valde 88.37 20 P P 09 59 20.2 -0.2
N25K IAmb IAmb 09 59 27.3
comp=Z,132nm,0.9s
N25K Chitina, Valde 88.37 20 P P 09 59 20.2 -0.2
baz=223,SNR=77
N25K S **S 10 09 50.0 -0.7**
baz=223
BPAW Bear Paw Mtn. 88.38 16 P P 09 59 19.0 -1.3
baz=217,SNR=24
BPAW S **S 10 09 49.6 -1.0**
baz=217
I04A Tendick Farm, 88.40 42 P **P 09 59 21.9 +1.0**
ISLE Juniper Island 88.42 22 P **P 09 59 20.4 -0.3**
RND Reindeer 88.43 18 IAmb IAmb 09 59 29.3
comp=Z,263nm,1.1s
F18K Selawik 88.47 12 P P 09 59 21.1 +0.5
baz=210,SNR=108
F18K S **S 10 09 53.7 +2.6**
baz=210
E17K Hotham Inlet 88.49 11 P P 09 59 21.9 +1.3
baz=207,SNR=169
E17K S **S 10 09 55.2 +3.8**
baz=207
CPBX Cerro Prieto 88.50 55 IAmb IAmb 09 59 27.6
comp=Z,211nm,1.0s
HOLB Holberg 88.50 35 IAmb IAmb 09 59 23.9
comp=Z,365nm,1.1s
GSC Goldstone, Bar 88.53 52 IAmb IAmb 09 59 23.8
comp=Z,302nm,1.5s
GSC Goldstone, Bar 88.53 52 P P 09 59 22.9 +1.2
baz=246,SNR=98
GSC S **S 10 09 57.9 +4.6**
baz=246
LHV Little Huntoon 88.53 49 P P 09 59 23.3 +1.7
LHV IAmb IAmb 09 59 24.8
comp=Z,388nm,1.2s
DSP Deep Springs 88.54 50 IAmb IAmb 09 59 24.7
comp=Z,307nm,1.2s
G03D McMinnville, O 88.54 41 P P 09 59 23.2 +1.7
H20K Anotleneega Mo 88.55 14 P P 09 59 21.8 +0.8
baz=214,SNR=135
H20K S **S 10 09 55.0 +3.0**
baz=214
DHY Denali Highway 88.60 18 P P 09 59 21.0 -0.5
baz=221,SNR=54
DHY S **S 10 09 53.4 +0.4**
baz=221
G19K Purcell Mounta 88.60 13 P P 09 59 21.9 +0.7
G19K IAmb IAmb 09 59 25.4
comp=Z,322nm,1.1s
G19K Purcell Mounta 88.60 13 P P 09 59 22.1 +0.8
baz=212,SNR=252
G19K S **S 10 09 55.7 +3.2**
baz=212
BELC Belle Mtn. Jos 88.60 53 P P 09 59 23.7 +1.5
baz=246,SNR=242
BELC S **S 10 09 58.7 +4.5**
baz=246
MCK McKinley 88.66 17 P P 09 59 20.7 -0.9
baz=219,SNR=49
MCK S **S 10 09 51.3 -1.8**
baz=219
RYN Ryan 88.68 48 P P 09 59 23.5 +1.0
RYN IAmb IAmb 09 59 24.6
comp=Z,215nm,1.1s
HEC Hector,Ludlow 88.69 52 P P 09 59 23.6 +1.1
baz=246,SNR=13
HEC S **S 10 09 57.2 +2.4**
baz=246
TABL Table Mountain 88.73 22 P P 09 59 21.8 -0.5
TABL IAmb IAmb 09 59 23.2
comp=Z,119nm,0.8s
MCARA McCarthy VSAT 88.73 21 IAmb IAmb 09 59 24.5
comp=Z,152nm,1.0s
MCARA McCarthy VSAT 88.73 21 P P 09 59 21.8 -0.2
baz=225,SNR=52
MCARA S **S 10 09 52.6 -1.3**
baz=225
NVAR Mina Array Bea 88.75 49 P P 09 59 24.1 +1.2
comp=Z,126nm,1.0s,baz=226,slow=7.5,SNR=609
NVAR S **SKSac 10 09 35.0 -1.2**
comp=Z,0.4nm,0.8s,baz=255,slow=7.0,SNR=1.3
NVAR PKKPbc **PKKPbc 10 17 03.7 +0.1**
comp=Z,1.5nm,0.7s,baz=40,slow=3.7,SNR=9.9
NVAR PKPPKP **P'P'df 10 25 08.7 -1.6**
comp=Z,1.7nm,0.9s,baz=95,slow=1.1,SNR=7.3
comp=Z,126nm,1.0s
HARP HAARP 88.78 20 P P 09 59 21.8 -0.4
baz=223,SNR=24
HARP S **S 10 09 56.0 +1.7**
baz=223
CRAG Craig 88.78 29 P P 09 59 23.2 +0.9
CRAG Craig 88.78 29 P P 09 59 23.5 +1.2
CRAG IAmb IAmb 09 59 25.0
comp=Z,151nm,1.2s
CRAG Craig 88.78 29 P P 09 59 23.7 +1.4
baz=233,SNR=10
CRAG S **S 10 09 57.4 +2.9**
baz=233
SIT Sitka 88.78 27 P P 09 59 22.8 +0.6
SIT Sitka 88.78 27 P P 09 59 22.9 +0.6
SIT Sitka 88.78 27 P P 09 59 23.1 +0.9
baz=231,SNR=10
SIT S **S 10 09 54.6 +0.2**
baz=231
SIT Sitka 88.78 27 P P 09 59 22.9 +0.7
SIT pmax pmax
comp=Z,77nm,1.0s
TROLL Troll, Antarti 88.78 184 ⇑P **P 09 59 22.5 +0.1**
comp=Z,3µm,0.7s
TROLL ⇓pP **pP 10 00 05.9 +0.5**
comp=Z,10µm,0.9s
TROLL ⇑S **S 10 09 48.2 -6.5**
comp=Z,96nm,0.9s
PINM Pinnacle 88.81 23 P P 09 59 22.2 -0.2
baz=227,SNR=21
PINM S **S 10 09 54.8 0.0**
baz=227
D17K Noatak River 88.82 10 P P 09 59 23.5 +1.3
baz=206,SNR=104
D17K S **S 10 09 59.5 +5.1**
baz=206
GRAC Grapevine Rang 88.82 50 IAmb IAmb 09 59 26.0
comp=Z,317nm,1.1s
GRAC Grapevine Rang 88.82 50 P P 09 59 24.7 +1.6
baz=245,SNR=110
GRAC S **S 10 09 58.3 +2.4**
baz=245
PNL Peninsula 88.84 23 P P 09 59 22.2 -0.4
PNL Peninsula 88.84 23 P P 09 59 22.5 -0.1
baz=228,SNR=10
PNL S **S 10 09 52.6 -2.4**
baz=228
BWN Browne 88.85 17 P P 09 59 21.9 -0.6
NV11 Mina Array Sit 88.86 49 P P 09 59 24.6 +1.2
NV11 IAmb IAmb 09 59 26.0
comp=Z,278nm,1.1s
BC3 Big Chuckawall 88.88 54 P P 09 59 25.1 +1.6
baz=246,SNR=157
BC3 S **S 10 10 00.4 +3.7**
baz=246
BCPM Bancas Point 88.94 23 P P 09 59 22.8 -0.2
FURC Furnace Creek, 88.97 51 P P 09 59 25.0 +1.4
baz=246,SNR=392
FURC S **S 10 09 59.0 +1.9**
baz=246
S31K Pelican 88.97 26 IAmb IAmb 09 59 26.2
comp=Z,290nm,1.1s
S31K Pelican 88.97 26 P P 09 59 24.0 +0.9
baz=231,SNR=43
S31K S **S 10 09 58.3 +2.2**
baz=231
C16K Lisburne Hills 88.98 9 P P 09 59 23.7 +0.7
C16K IAmb IAmb 09 59 26.0
comp=Z,130nm,1.1s
C16K Lisburne Hills 88.98 9 P P 09 59 23.7 +0.7
baz=204,SNR=29
C16K S **S 10 09 59.3 +3.4**
baz=204
GOMU GeErMu 88.98 309 P P 09 59 25.6 +1.4
GOMU S **S 10 09 54.4 -3.7**
GOMU SS **SS 10 15 54.8 -0.9**
GOMU pmax pmax
comp=Z,50nm,0.8s
GOMU LR LR
comp=Z,2µm,20.8s
GOMU LR LR
comp=Z,2µm,20.9s
GOMU LR LR
comp=Z,4µm,20.8s
GWY Greenwater Val 88.99 51 IAmb IAmb 09 59 27.5
comp=Z,268nm,0.9s
SRIG Santa Rosalia 89.00 61 P P 09 59 25.2 +1.2
E18K Tukpahlearik C 89.01 11 P P 09 59 24.1 +0.9
E18K IAmb IAmb 09 59 26.3
comp=Z,129nm,0.9s
E18K Tukpahlearik C 89.01 11 P P 09 59 24.2 +1.1
baz=209,SNR=114
E18K S **S 10 09 58.5 +2.3**
baz=209
CTG Chitna Glacier 89.02 22 P P 09 59 23.5 0.0
baz=226,SNR=66
CTG S **S 10 09 54.8 -2.0**
baz=226
BOD Bodaibo 89.02 334 *e*P **P 09 59 23.1 -0.3**
BOD pmax pmax
comp=Z,124nm,1.2s
CTGM Chitina Glacie 89.02 22 P P 09 59 23.4 -0.1
CTGM IAmb IAmb 09 59 24.5
comp=Z,108nm,0.8s
F19K Shaleruckik Mo 89.05 13 P P 09 59 23.9 +0.6
F19K IAmb IAmb 09 59 26.2
comp=Z,180nm,1.1s
F19K Shaleruckik Mo 89.05 13 P P 09 59 24.0 +0.6
baz=211,SNR=203
F19K S **S 10 09 59.6 +3.1**
baz=211
OZB Mount Ozzard 89.08 37 IAmb IAmb 09 59 26.6
comp=Z,180nm,1.0s
NVL N'lazarevskaya 89.10 187 ⇑*i*P **P 09 59 22.9 -0.8**
NVL *e**PP **pP 10 00 02.0 -4.6**
NVL *i* S **SKSac 10 09 35.8 -1.0**
NVL *e*SS **SS 10 15 51.9 -1.7**
NVL pmax pmax
comp=Z,85nm,0.8s
NVL MLR MLR
comp=Z,1µm,19.0s
PAX Paxson 89.10 19 P P 09 59 22.9 -0.9
baz=222,SNR=38
PAX S **S 10 09 54.8 -2.7**
baz=222
MZP Montezuma Peak 89.10 50 P P 09 59 25.6 +1.0
GLA Glamis 89.12 55 P P 09 59 26.2 +1.7
GLA Glamis 89.12 55 P P 09 59 26.4 +1.9
baz=247,SNR=83
GLA S **S 10 10 02.0 +3.1**
baz=247
GLA Glamis 89.12 55 P P 09 59 26.2 +1.7
GLA pmax pmax
comp=Z,721nm,1.4s
KVN Kaiserville 89.16 48 IAmb IAmb 09 59 27.4
comp=Z,260nm,1.1s
U33K Whale Pass 89.17 28 P P 09 59 25.1 +1.1
U33K IAmb IAmb 09 59 26.6
comp=Z,294nm,1.1s
U33K Whale Pass 89.17 28 P P 09 59 25.4 +1.3
baz=233,SNR=37
U33K S **S 10 10 00.6 +2.6**
baz=233
SHOC Shoshone, Teco 89.17 52 P P 09 59 25.8 +1.2
baz=246,SNR=307
SHOC S **S 10 10 03.6 +4.5**
baz=246
RDOG Red Dog Mine 89.17 10 IAmb IAmb 09 59 27.1
comp=Z,118nm,1.0s
RDOG Red Dog Mine 89.17 10 P P 09 59 24.9 +1.0
baz=206,SNR=28
RDOG S **S 10 10 00.6 +2.9**
baz=206
H21K Melozitna Rive 89.17 15 P P 09 59 24.1 +0.1
H21K Melozitna Rive 89.17 15 P P 09 59 24.6 +0.6
baz=216,SNR=134
H21K S **S 10 10 00.7 +2.8**
baz=216
GMRC Granite Mounta 89.18 53 P P 09 59 26.2 +1.3
baz=246,SNR=123
GMRC S **S 10 10 03.2 +3.7**
baz=246
MLY Manley 89.19 16 P P 09 59 23.2 -0.9
baz=218,SNR=66
MLY S **S 10 09 57.5 -0.6**
baz=218
IMAR Indian Mountai 89.22 14 P P 09 59 24.5 +0.3
NLWA Neilton Lookou 89.23 39 P P 09 59 26.6 +1.8
TUQ Turquoise Moun 89.24 52 P P 09 59 26.5 +1.3
baz=246,SNR=189
TUQ S **S 10 10 03.5 +3.4**
baz=246
LSA Lhasa 89.25 302 P P 09 59 26.9 +1.1
LSA Lhasa 89.25 302 P P 09 59 26.3 +0.6
LSA Lhasa 89.25 302 P P 09 59 26.3 +0.6
WCT Wildcat Mounta 89.28 51 P P 09 59 26.7 +1.4
WCT IAmb IAmb 09 59 28.0
comp=Z,345nm,1.1s
NEA2 Nenana 89.29 17 P P 09 59 23.3 -1.2
baz=219,SNR=56
NEA2 S **S 10 09 56.6 -2.4**
baz=219
O28M Mount Upton 89.30 22 P P 09 59 25.1 +0.1
baz=227,SNR=78
O28M S **S 10 09 59.8 +0.1**
baz=227
IRM Iron Mountain 89.31 54 P P 09 59 27.0 +1.6
baz=246,SNR=350
IRM S **S 10 10 02.9 +2.3**
baz=246
GRNB Grenville Isla 89.33 31 P P 09 59 26.6 +1.6
GRNB IAmb IAmb 09 59 27.9
comp=Z,371nm,1.1s
PINE Pine Mountain 89.34 43 P P 09 59 27.3 +1.8
BBB Bella Bella 89.35 33 IAmb IAmb 09 59 27.8
comp=Z,309nm,1.1s
BBB Bella Bella 89.35 33 LR LR 10 31 21.8
comp=Z,2µm,21.7s,baz=250,slow=30
S32K Killisnoo 89.35 27 IAmb IAmb 09 59 26.4
comp=Z,165nm,1.1s
S32K Killisnoo 89.35 27 P P 09 59 25.8 +0.9
baz=232,SNR=39
S32K S **S 10 10 00.1 +0.4**
baz=232
V35K Ketchikan 89.39 29 P P 09 59 26.4 +1.3
V35K Ketchikan 89.39 29 P P 09 59 26.5 +1.4
baz=234,SNR=57
V35K S **S 10 10 01.6 +1.5**
baz=234
SNAA Sanae 89.42 183 P P 09 59 24.8 -0.4
SNAA IAmb IAmb 10 00 09.1
comp=Z,284nm,1.2s
SNAA Sanae 89.42 183 ⇑P **P 09 59 24.9 -0.4**
comp=Z,2µm,1.4s
SNAA ⇓pP **pP 10 00 08.5 +0.2**
comp=Z,2µm,1.2s
SNAA ⇑S **S 10 09 58.7 -1.8**
comp=Z,56nm,1.0s
SNAA Sanae 89.42 183 P **P 09 59 24.9 -0.4**
comp=Z,62nm,1.1s,baz=200,slow=5.0,SNR=109
SNAA pP **pP 10 00 08.2 -0.1**
comp=Z,176nm,1.1s,baz=184,slow=4.7,SNR=9.5
SNAA S **SKSac 10 09 36.2 -2.7**
comp=Z,1.9nm,1.1s,baz=350,slow=23,SNR=1.6
SNAA PKKP **PKKPdf 10 16 57.6 +1.9**
comp=Z,4.4nm,1.1s,baz=55,slow=2.4,SNR=6.1
SNAA LR LR 10 39 20.8
comp=Z,753nm,18.9s,baz=162,slow=35
comp=Z,62nm,1.1s
P29M Windy Craggy 89.45 24 IAmb IAmb 09 59 28.1
comp=Z,188nm,1.1s
P29M Windy Craggy 89.45 24 P P 09 59 25.8 +0.4
baz=229,SNR=70
P29M S **S 10 10 00.5 -0.2**
baz=229
LPIG La Paz 89.45 64 LR LR 10 31 25.0
comp=Z,5µm,20.3s,baz=254,slow=30
R31K City Hall, Gus 89.46 26 P P 09 59 25.9 +0.5
baz=231,SNR=8.2
R31K S **S 10 10 01.5 +0.8**
baz=231
RUBB Prince Rupert 89.46 31 IAmb IAmb 09 59 28.4
comp=Z,267nm,1.1s
WRH Wood River Hil 89.46 17 P P 09 59 24.2 -1.1
M26K Nabesna, AK 89.47 20 P P 09 59 25.1 -0.4
M26K Nabesna, AK 89.47 20 P P 09 59 25.2 -0.2
baz=225,SNR=111
M26K S **S 10 09 59.7 -1.1**
baz=225
C17K DeLong Mountai 89.50 10 P P 09 59 26.5 +1.1
baz=206,SNR=45
C17K S **S 10 10 02.2 +1.4**
baz=206
O29M Mount Kennedy 89.57 23 P P 09 59 25.9 -0.2
baz=228,SNR=14
O29M S **S 10 10 01.6 -0.4**
baz=228
PIX Pinacate 89.61 56 P P 09 59 27.8 +1.1

PIX IAmb IAmb 09 59 29.3
comp=Z,202nm,1.0s
TPNV Topopah Spring 89.61 51 P P 09 59 28.3 +1.4
baz=246,SNR=512
TPNV S S 10 10 07.6 +4.1
baz=246
K24K Donnelly Dome 89.62 18 P P 09 59 25.7 -0.4
baz=222,SNR=69
K24K S S 10 09 60.0 -2.2
baz=222
BLYC Blythe 89.63 54 P P 09 59 28.5 +1.6
I23K Minto, Yukon-K 89.64 16 P P 09 59 25.3 -0.8
baz=219,SNR=31
I23K S S 10 10 00.1 -2.1
baz=219
T33K Petersburg 89.66 28 P P 09 59 27.0 +0.6
baz=233,SNR=20
T33K S S 10 10 03.3 +0.8
baz=233
F20K Avaraart Lake 89.66 13 P P 09 59 27.0 +0.9
F20K Avaraart Lake 89.66 13 P P 09 59 27.0 +0.9
baz=213,SNR=118
F20K S S 10 10 04.8 +2.5
baz=213
CCB Clear Creek Bu 89.68 17 P P 09 59 25.1 -1.2
WRAK Wrangell Islan 89.69 28 P P 09 59 27.7 +1.2
baz=234,SNR=106
WRAK S S 10 10 04.9 +1.9
baz=234
E19K Redstone River 89.69 12 P P 09 59 27.1 +0.7
E19K IAmb IAmb 09 59 32.4
comp=Z,135nm,0.8s
E19K Redstone River 89.69 12 P P 09 59 27.4 +1.0
baz=212,SNR=170
E19K S S 10 10 04.0 +1.4
baz=212
G21K Allakaket 89.71 14 P P 09 59 27.0 +0.6
G21K Allakaket 89.71 14 P P 09 59 27.0 +0.6
baz=215,SNR=118
G21K S S 10 10 04.1 +1.3
baz=215
H22K Ishtalitna Cre 89.72 15 P P 09 59 27.0 +0.5
baz=217,SNR=74
H22K S S 10 10 04.1 +1.2
baz=217
HDA Harding Lake 89.74 18 IAmb IAmb 09 59 28.2
comp=Z,129nm,0.8s
HDA Harding Lake 89.74 18 P P 09 59 25.9 -0.7
baz=221,SNR=140
HDA S S 10 10 01.4 -1.7
baz=221
HDA S S 10 10 01.4 -1.7
baz=221
G05A Wamic 89.77 41 P P 09 59 28.4 +1.2
CLRS Cowichan Lake 89.78 37 P P 09 59 28.4 +1.2
YUK8 Steele Glacier 89.80 22 P P 09 59 27.6 +0.3
baz=228,SNR=115
YUK8 S S 10 10 03.5 -0.8
baz=228
MDM Murphy Dome 89.80 17 P P 09 59 25.9 -1.0
MDM IAmb IAmb 09 59 28.0
comp=Z,180nm,1.1s
L26K Log Cabin Wild 89.81 20 P P 09 59 26.9 -0.1
L26K Log Cabin Wild 89.81 20 P P 09 59 26.8 -0.2
baz=224,SNR=123
L26K S S 10 10 01.7 -2.1
baz=224
M27K Edge Creek, AK 89.81 21 P P 09 59 27.2 +0.1
baz=226,SNR=108
M27K S S 10 10 01.7 -2.4
baz=226
113A Mohawk Valley, 89.83 55 IAmb IAmb 09 59 30.8
comp=Z,337nm,1.2s
COLA College 89.84 17 P P 09 59 25.9 -1.1
COLA College 89.84 17 P P 09 59 26.2 -0.8
COLA IAmb IAmb 09 59 28.2
comp=Z,216nm,0.9s
COLA College 89.84 17 P P 09 59 25.9 -1.1
baz=220
COLA S S 10 10 02.3 -1.6
baz=220
COLA College 89.84 17 *c i*P **P 09 59 25.7 -1.3**
COLA pmax pmax
comp=Z,217nm,0.9s
PLBC Pleasant Camp 89.87 25 P P 09 59 27.8 +0.4
baz=230,SNR=156
PLBC S S 10 10 03.9 -0.6
baz=230
R32K Eaglecrest 89.88 26 P P 09 59 28.1 +0.7
baz=232,SNR=50
R32K S S 10 10 05.3 +0.7
baz=232
YUK3 Moose Creek 89.89 22 P P 09 59 27.6 -0.1
baz=227,SNR=57
YUK3 S S 10 10 03.5 -1.6
baz=227
JIS Juneau Island 89.93 26 P P 09 59 28.2 +0.7
JIS Juneau Island 89.93 26 P P 09 59 28.3 +0.7
JIS IAmb IAmb 09 59 29.7
comp=Z,174nm,1.0s
NEE2 Needles Airpor 89.96 53 P P 09 59 30.1 +1.7
baz=247,SNR=100
NEE2 S S 10 10 09.6 +3.2
baz=247
ZAK Zakamensk 89.98 324 *e*P **P 09 59 28.7 +0.5**
ZAK pmax pmax
comp=Z,31nm,1.3s
C18K Utukok River 89.99 10 P P 09 59 28.5 +0.7
C18K Utukok River 89.99 10 P P 09 59 28.6 +0.8
baz=208,SNR=42
C18K S S 10 10 07.7 +2.3
baz=208
VNA3 Neumayer Olymp 90.01 180 ⇑P **P 09 59 27.6 -0.4**
comp=Z,106nm,0.7s
VNA3 ⇓pP **pP 10 00 10.9 -0.1**
comp=Z,185nm,0.9s
VNA3 ⇑S **S 10 10 00.9 -5.0**
comp=Z,1.2nm,0.5s
ILAR Eielson Array 90.03 17 P P 09 59 27.0 -1.0
ILAR Eielson Array 90.03 17 P P 09 59 26.9 -1.0
comp=Z,66nm,0.8s,baz=239,slow=4.8,SNR=552
ILAR S **SKSac 10 09 39.5 -2.5**
comp=Z,1.4nm,1.0s,baz=226,slow=6.9,SNR=1.9
ILAR PKKPbc **PKKPdf 10 16 55.1 -2.1**
comp=Z,1.0nm,0.7s,baz=352,slow=1.5,SNR=8.9
ILAR LR LR 10 34 23.0
comp=Z,1μm,19.8s,baz=216,slow=32
comp=Z,66nm,0.8s
ILAR Eielson Array 90.03 17 P P 09 59 27.0 -1.0
P30M Million Dollar 90.06 24 P P 09 59 28.7 +0.4
baz=230
P30M S S 10 10 06.2 -0.3
baz=230
YUK6 Outpost Mounta 90.08 23 P P 09 59 28.6 0.0
baz=229,SNR=25
YUK6 S S 10 10 06.7 -0.2
baz=229
PGC Sidney 90.09 38 P P 09 59 29.7 +1.1
H23K Yukon River 90.12 16 P P 09 59 27.9 -0.5
baz=219,SNR=41
H23K S S 10 10 06.4 -0.2
baz=219
PDMCI Parker Dam,Lak 90.14 54 P P 09 59 30.8 +1.7
baz=247,SNR=252
PDMCI S S 10 10 11.8 +3.8
baz=247
POKR Poker Plat Res 90.14 17 P P 09 59 27.3 -1.2
baz=221,SNR=42
POKR S S 10 10 03.7 -3.1
baz=221
V12A Nelson 90.16 52 P P 09 59 30.6 +1.1
V12A IAmb IAmb 09 59 32.2
comp=Z,298nm,1.2s
LON Longmire 90.16 40 P P 09 59 30.1 +1.0
LON IAmb IAmb 09 59 36.0
comp=Z,240nm,1.1s
LON Longmire 90.16 40 P P 09 59 30.1 +1.0
LON pmax pmax
comp=Z,240nm,1.1s
BVCY Beaver Creek 90.19 21 P P 09 59 28.8 0.0
baz=226
BVCY S S 10 10 07.2 -0.2
baz=226
G06A Carlson Farm, 90.19 42 P P 09 59 30.2 +0.9
G06A IAmb IAmb 09 59 31.7
comp=Z,239nm,1.0s
SHPR Sheep Range 90.24 51 IAmb IAmb 09 59 32.8
comp=Z,191nm,1.3s
YUK4 Talbot Arm 90.24 22 P P 09 59 29.9 +0.6
baz=229,SNR=105
YUK4 S S 10 10 07.4 -0.9
baz=229
WVOR Wild Horse Val 90.25 45 P P 09 59 30.9 +1.2
WVOR Wild Horse Val 90.25 45 P P 09 59 30.9 +1.2
WVOR pmax pmax
comp=Z,617nm,1.2s
S11A Rachel 90.26 50 P P 09 59 31.0 +1.1
214A Organ Pipe Nat 90.27 56 P P 09 59 31.6 +1.7
baz=248,SNR=214
214A S S 10 10 12.9 +3.4
baz=248
SKAG Skagway 90.28 25 P P 09 59 29.9 +0.7
SKAG Skagway 90.28 25 P P 09 59 29.9 +0.7
baz=231,SNR=201
SKAG S S 10 10 07.2 -1.1
baz=231
SCRK Sand Creek 90.29 19 P P 09 59 29.0 -0.4
SCRK IAmb IAmb 09 59 34.9
comp=Z,140nm,0.9s
SCRK Sand Creek 90.29 19 P P 09 59 29.2 -0.2
baz=224,SNR=247
SCRK S S 10 10 07.7 -0.8
baz=224
F21K Alatna River 90.30 14 P P 09 59 29.6 +0.4
baz=215,SNR=118
F21K S S 10 10 08.6 +0.4
baz=215
VNA2 Neumayer--Watz 90.30 181 ⇑P **P 09 59 29.2 -0.1**
comp=Z,82nm,0.6s,baz=176,slow=5.0
VNA2 ⇓pP **pP 10 00 12.7 +0.3**
comp=Z,213nm,1.1s,baz=163,slow=4.7
VNA2 ⇑S **S 10 10 07.2 -1.2**
comp=Z,2.8nm,0.8s,baz=42,slow=0.8
HYT Haines Junctio 90.32 23 P P 09 59 29.6 0.0
HYT IAmb IAmb 09 59 30.9
comp=Z,143nm,1.2s
HYT Haines Junctio 90.32 23 P P 09 59 29.7 +0.2
baz=230,SNR=75
HYT S S 10 10 05.9 -2.9
baz=230
L27K Beaver Creek, 90.32 20 P P 09 59 29.2 -0.2
L27K Beaver Creek, 90.32 20 P P 09 59 29.2 -0.2
baz=226,SNR=151
L27K S S 10 10 07.3 -1.3
baz=226
BCAR Beaver Creek A 90.34 20 P P 09 59 29.4 -0.1
J25K Salcha River, 90.35 18 IAmb IAmb 09 59 36.5
comp=Z,100nm,0.8s
J25K Salcha River, 90.35 18 P P 09 59 29.1 -0.5
baz=222,SNR=211
J25K S S 10 10 06.1 -2.7
baz=222
SLGI Shiliguri 90.39 298 *i* x x 10 00 11.4
IRK Irkutsk 90.40 326 *e*P **P 09 59 29.9 -0.1**
IRK pmax pmax
comp=Z,56nm,1.4s
D19K Kuna River 90.41 12 P P 09 59 30.5 +0.7
D19K Kuna River 90.41 12 P P 09 59 30.6 +0.9
baz=211
D19K S S 10 10 09.0 -0.2
baz=211
GTK Tadong 90.46 299 *e*P **P 09 59 30.1 -0.9**
GTK *i* x x 10 00 13.2
U35K Hyder 90.47 29 P P 09 59 31.2 +1.0
baz=236,SNR=11
U35K S S 10 10 09.8 -0.2
baz=236
G22K Bettles 90.51 15 P P 09 59 30.9 +0.8
baz=217
G22K S S 10 10 13.0 +3.0
baz=217
B18K Kokolik River 90.53 10 P P 09 59 31.2 +1.0
baz=208,SNR=8.4
B18K S S 10 10 11.1 +1.0
baz=208
H24K Noodor Dome 90.57 16 P P 09 59 29.0 -1.6
baz=220,SNR=34
H24K S S 10 10 09.9 -0.9
baz=220
E20K Nigu River 90.59 12 P P 09 59 31.6 +1.1
baz=213,SNR=151
E20K S S 10 10 11.8 +1.0
baz=213
VNA1 Neumayer--Stat 90.59 181 ⇑P **P 09 59 30.4 -0.3**
comp=Z,120nm,1.0s
VNA1 ⇓pP **pP 10 00 14.1 +0.5**
comp=Z,289nm,1.1s
W13A Hualapai Mount 90.64 53 P P 09 59 33.3 +1.5
W13A IAmb IAmb 09 59 34.6
comp=Z,290nm,1.1s
R11B Troy Canyon, C 90.66 50 P P 09 59 32.7 +0.9
R11B Troy Canyon, C 90.66 50 P P 09 59 32.6 +0.9
baz=246,SNR=305
R11B S S 10 10 14.8 +1.6
baz=246
C19K Lookout Ridge 90.67 11 P P 09 59 32.2 +1.2
C19K Lookout Ridge 90.67 11 P P 09 59 31.8 +0.9
baz=210,SNR=30
C19K S S 10 10 13.6 +2.0
baz=210
G23K Bananza Creek 90.70 15 P P 09 59 31.6 +0.5
G23K Bananza Creek 90.70 15 P P 09 59 31.6 +0.5
baz=218,SNR=74
G23K S S 10 10 13.7 +1.8
baz=218
PALK Pallekele 90.79 277 P P 09 59 33.4 +0.6
PALK IAmb IAmb 10 00 25.4
comp=Z,184nm,1.1s
PALK Pallekele 90.79 277 LR LR 10 42 59.9
comp=Z,2μm,18.9s,baz=220,slow=37
PALK Pallekele 90.79 277 *i* P **P 09 59 32.3 -0.4**
PALK pmax pmax
comp=Z,141nm,1.1s
J26L Joseph Creek 90.80 19 IAmb IAmb 09 59 35.5
comp=Z,114nm,0.9s
J26L Joseph Creek 90.80 19 P P 09 59 31.8 +0.1
baz=224,SNR=215
J26L S S 10 10 10.5 -2.5
baz=224
O30N Mendenhall 90.81 24 P P 09 59 31.8 0.0
O30N IAmb IAmb 09 59 33.0
comp=Z,160nm,1.1s
O30N Mendenhall 90.81 24 P P 09 59 31.9 0.0
baz=231,SNR=132
O30N S S 10 10 11.0 -2.2
baz=231
F22K John River 90.83 14 P P 09 59 32.4 +0.8
baz=216
F22K S S 10 10 13.8 +0.9
baz=216
Y14A Wickenburg 90.87 54 IAmb IAmb 09 59 35.3
comp=Z,215nm,1.2s
N30M Aishikik Lake 90.88 23 P P 09 59 32.1 0.0
baz=230,SNR=50
N30M S S 10 10 11.3 -2.5
baz=230
D20K Etivluk River 90.89 12 P P 09 59 33.0 +1.1
baz=212,SNR=64
D20K S S 10 10 12.3 -1.2
baz=212
K27K Chicken 90.92 19 P P 09 59 32.5 +0.3
K27K IAmb IAmb 09 59 35.1
comp=Z,116nm,1.1s
K27K Chicken 90.92 19 P P 09 59 32.6 +0.5
baz=226
K27K S S 10 10 13.1 -0.8
baz=226
F07A Phinny Hill Vi 90.93 41 P P 09 59 34.1 +1.5
T35M Bob Quinn 90.96 29 IAmb IAmb 09 59 35.1
comp=Z,188nm,1.1s
T35M Bob Quinn 90.96 29 P P 09 59 33.8 +1.3
baz=236,SNR=106
T35M S S 10 10 17.2 +2.6
baz=236
PRP Porcupine Dome 90.97 17 P P 09 59 31.2 -1.3
baz=222,SNR=75
PRP S S 10 10 11.3 -3.4
baz=222
P32M Atlin 91.01 25 P P 09 59 33.4 +0.6
baz=233,SNR=156
P32M S S 10 10 15.6 +0.6
baz=233
M29M Somme Creek 91.03 22 P P 09 59 32.6 -0.3
M29M Somme Creek 91.03 22 P P 09 59 32.8 0.0
baz=229,SNR=92
M29M S S 10 10 13.9 -1.4
baz=229
COLD Coldfoot 91.06 15 P P 09 59 33.6 +0.9
COLD IAmb IAmb 09 59 35.8
comp=Z,130nm,0.9s
COLD Coldfoot 91.06 15 P P 09 59 33.7 +1.0
baz=218,SNR=220
COLD S S 10 10 17.7 +2.6
baz=218
S34M Telegraph Cree 91.11 27 P P 09 59 34.4 +1.3
baz=235,SNR=178
S34M S S 10 10 16.0 +0.2
baz=235
E21K Killik River 91.19 13 P P 09 59 33.7 +0.3
E21K IAmb IAmb 09 59 35.3
comp=Z,128nm,1.1s
E21K Killik River 91.19 13 P P 09 59 34.1 +0.7
baz=215
E21K S S 10 10 16.1 -0.2
baz=215
WHY Whitehorse 91.21 24 P P 09 59 33.7 +0.1
WHY IAmb IAmb 09 59 34.9
comp=Z,156nm,1.1s
Q32M Nakina River 91.23 26 P P 09 59 34.8 +0.9
Q32M IAmb IAmb 09 59 36.1
comp=Z,272nm,1.1s
Q32M Nakina River 91.23 26 P P 09 59 34.9 +0.9
baz=234,SNR=202
Q32M S S 10 10 18.4 +1.1
baz=234
G24K Hadweenzic Riv 91.33 16 P P 09 59 33.4 -0.6
baz=221,SNR=94
G24K S S 10 10 17.1 -0.5
baz=221
N31M Braeburn, Yuko 91.38 23 P P 09 59 34.4 0.0
N31M IAmb IAmb 09 59 35.7
comp=Z,230nm,1.0s
N31M Braeburn, Yuko 91.38 23 P P 09 59 34.5 +0.2
baz=231,SNR=167
N31M S S 10 10 17.3 -1.0
baz=231
A19K Wainwright 91.39 10 P P 09 59 35.5 +1.4
baz=208,SNR=6.7
A19K S S 10 10 19.2 +1.4
baz=208
E22K Anaktuvuk Pass 91.41 14 IAmb IAmb 09 59 42.7
comp=Z,135nm,0.9s
E22K Anaktuvuk Pass 91.41 14 P P 09 59 35.1 +0.7
baz=217
E22K S S 10 10 17.5 -0.8
baz=217
H25L Birch Creek 91.45 17 P P 09 59 32.7 -1.8
baz=222,SNR=28
H25L S S 10 10 19.0 +0.5
baz=222
Q12A Willow Creek R 91.48 49 IAmb IAmb 09 59 42.7
comp=Z,210nm,1.0s
I26K Coal Creek Min 91.50 18 P P 09 59 34.8 0.0
I26K IAmb IAmb 09 59 43.6
comp=Z,166nm,1.1s
I26K Coal Creek Min 91.50 18 P P 09 59 34.8 0.0
baz=224
I26K S S 10 10 18.3 -0.8
baz=224
BOK Bokaro 91.53 295 *e*P **P 09 59 34.5 -1.4**
BOK *i* x x 10 00 17.3
BOK *ex* x 10 09 49.6
BOK *ex* x 10 11 35.1
MG05 Puerto Natales 91.59 147 P P 09 59 36.4 +0.8
L29M L29M 91.59 21 IAmb IAmb 09 59 44.0
comp=Z,97nm,1.0s
L29M L29M 91.59 21 P P 09 59 35.6 +0.3
baz=229,SNR=74
L29M S S 10 10 18.7 -1.4
baz=229
C21K Knifeblade Rid 91.62 12 P P 09 59 36.8 +1.5
baz=214,SNR=73
C21K S S 10 10 19.8 -0.3
baz=214
M30M Minto, Yukon 91.71 22 IAmb IAmb 09 59 37.8
comp=Z,170nm,1.1s
M30M Minto, Yukon 91.71 22 P P 09 59 36.0 +0.1
baz=230,SNR=269
M30M S S 10 10 19.3 -1.9
baz=230
EGAK Eagle 91.73 19 P P 09 59 35.7 -0.1
EGAK IAmb IAmb 09 59 39.5
comp=Z,194nm,1.0s
EGAK Eagle 91.73 19 P P 09 59 35.8 -0.1
baz=226,SNR=337
EGAK S S 10 10 19.4 -1.8
baz=226
G25K Bearman Lake 91.74 16 P P 09 59 35.6 -0.2
baz=222,SNR=46
G25K S S 10 10 20.8 -0.3
baz=222
P33M Teslin, Yukon 91.75 25 IAmb IAmb 09 59 38.0
comp=Z,145nm,1.0s
P33M Teslin, Yukon 91.75 25 P P 09 59 36.2 +0.1
baz=234,SNR=156
P33M S S 10 10 21.3 -0.4
baz=234
DAWY Dawson 91.81 20 P P 09 59 35.8 -0.5
DAWY Dawson 91.81 20 P P 09 59 36.2 -0.1
baz=228,SNR=133
DAWY S S 10 10 21.6 -0.4
baz=228
D22K Ayikyak River 91.83 13 IAmb IAmb 09 59 38.8
comp=Z,231nm,1.3s
D22K Ayikyak River 91.83 13 P P 09 59 37.6 +1.3
baz=216
D22K S S 10 10 23.1 +1.1
baz=216
E23K Chandalar 91.86 14 P P 09 59 37.2 +0.8
baz=219,SNR=150
E23K S S 10 10 21.8 -0.6
baz=219
F24K Squaw Lake 91.86 15 P P 09 59 37.2 +0.8
F24K Squaw Lake 91.86 15 P P 09 59 37.4 +1.0
baz=220,SNR=107
F24K S S 10 10 21.8 -0.5
baz=220
ELK Elko 91.86 47 P P 09 59 38.4 +1.0
ELK IAmb IAmb 09 59 39.8
comp=Z,108nm,1.1s
ELK Elko 91.86 47 P P 09 59 38.4 +1.0
ELK pmax pmax
comp=Z,108nm,1.1s
MOY Mondy 91.88 325 *e*P **P 09 59 37.5 +0.5**
MOY pmax pmax
comp=Z,50nm,1.9s
DLBC Dease Lake 91.89 27 P P 09 59 37.8 +1.0
baz=236,SNR=288
DLBC S S 10 10 23.3 +0.3
baz=236
DLBC Dease Lake 91.89 27 LR LR 10 36 17.7
comp=Z,2μm,18.7s,baz=241,slow=32
B20K Meade River 91.89 11 P P 09 59 37.4 +0.9
B20K Meade River 91.89 11 P P 09 59 37.5 +1.1
baz=212,SNR=15
B20K S S 10 10 24.3 +1.9
baz=212
GO09 Cerro Castillo 91.90 147 IAmb IAmb 09 59 39.6
comp=Z,295nm,1.2s
CCUT Cedar City 91.97 51 P P 09 59 39.4 +1.4
CCUT IAmb IAmb 09 59 41.0
comp=Z,270nm,1.2s
TUC Tucson 92.00 57 P P 09 59 39.6 +1.6
TUC Tucson 92.00 57 PcP 09 59 39.7 +1.0
TUC Tucson 92.00 57 P P 09 59 39.9 +1.9
baz=249
TUC S S 10 10 32.9 +7.7
baz=249
TUC Tucson 92.00 57 P P 09 59 39.6 +1.6
TUC pmax pmax
comp=Z,362nm,1.1s
R33M Jennings River 92.03 26 P P 09 59 38.5 +1.0
baz=235,SNR=335
R33M S S 10 10 24.4 +0.1
baz=235
B21K Ikpikpuk River 92.04 12 P P 09 59 38.4 +1.2
B21K IAmb IAmb 09 59 42.7
comp=Z,95nm,0.9s
B21K Ikpikpuk River 92.04 12 P P 09 59 38.4 +1.2
baz=214,SNR=44
B21K S S 10 10 24.5 +0.8

	baz=214						
D08A	**Wollman Farm,**	**92.07**	**41**	IAmb	IAmb	09 59 39.8	
	comp=Z,129nm,1.0s						
E24K	**Your Creek**	**92.14**	**15**	P	**P**	**09 59 38.4**	**+0.6**
E24K	**Your Creek**	**92.14**	**15**	P	**P**	**09 59 38.5**	**+0.7**
	baz=220,SNR=41						
E24K				S	**S**	**10 10 25.4**	**+0.6**
	baz=220						
KNB	**Kanab**	**92.17**	**52**	P	**P**	**09 59 40.2**	**+1.4**
KNB				IAmb	IAmb	09 59 41.8	
	comp=Z,274nm,1.1s						
KNB	**Kanab**	**92.17**	**52**	P	**P**	**09 59 40.2**	**+1.4**
KNB				pmax	pmax		
	comp=Z,274nm,1.1s						
I27K	**Kandik River**	**92.17**	**18**	P	**P**	**09 59 37.8**	**-0.1**
	baz=226,SNR=106						
I27K				S	**S**	**10 10 24.2**	**-1.0**
	baz=226						
SZCU	**Shurtz Canyon**	**92.19**	**51**	P	**P**	**09 59 40.4**	**+1.4**
SZCU				IAmb	IAmb	09 59 41.8	
	comp=Z,224nm,1.2s						
N32M	**Quiet Lake**	**92.20**	**24**	P	**P**	**09 59 38.9**	**+0.7**
	baz=233						
N32M				S	**S**	**10 10 24.3**	**-1.4**
	baz=233						
K29M	**Barlow Dome**	**92.28**	**21**	P	**P**	**09 59 38.6**	**0.0**
K29M	**Barlow Dome**	**92.28**	**21**	P	**P**	**09 59 38.6**	**0.0**
	baz=230,SNR=69						
K29M				S	**S**	**10 10 24.2**	**-2.2**
	baz=230						
E09A	**Wood Farm, Sta**	**92.32**	**41**	P	**P**	**09 59 39.8**	**+0.8**
E09A				IAmb	IAmb	09 59 46.6	
	comp=Z,117nm,1.0s						
TOLK	**Toolik Lake Re**	**92.32**	**14**	P	**P**	**09 59 39.1**	**+0.5**
TOLK	**Toolik Lake Re**	**92.32**	**14**	P	**P**	**09 59 39.4**	**+0.8**
	baz=219,SNR=40						
TOLK				S	**S**	**10 10 26.3**	**-0.2**
	baz=219						
D23K	**Nanushuk River**	**92.33**	**14**	P	**P**	**09 59 39.9**	**+1.3**
	baz=218						
D23K				S	**S**	**10 10 26.8**	**+0.4**
	baz=218						
M31M	**Drury Creek, Y**	**92.35**	**23**	IAmb	IAmb	09 59 39.4	
	comp=Z,114nm,1.0s						
M31M	**Drury Creek, Y**	**92.35**	**23**	P	**P**	**09 59 38.2**	**-0.6**
	baz=232,SNR=126						
M31M				S	**S**	**10 10 23.1**	**-3.7**
	baz=232						
B08A	**Colville Reser**	**92.39**	**39**	P	**P**	**09 59 39.9**	**+0.5**
B08A				IAmb	IAmb	09 59 41.2	
	comp=Z,126nm,0.9s						
J29N	**Klondike Camp**	**92.45**	**20**	P	**P**	**09 59 39.7**	**+0.4**
J29N				IAmb	IAmb	09 59 45.5	
	comp=Z,97nm,0.8s						
J29N	**Klondike Camp**	**92.45**	**20**	P	**P**	**09 59 39.9**	**+0.6**
	baz=229,SNR=14						
J29N				S	**S**	**10 10 25.9**	**-1.9**
	baz=229						
F25K	**Christian Rive**	**92.48**	**16**	P	**P**	**09 59 40.1**	**+0.8**
	baz=222,SNR=72						
F25K				S	**S**	**10 10 28.8**	**+0.9**
	baz=222						
G26K	**Porcupine Rive**	**92.50**	**17**	P	**P**	**09 59 40.0**	**+0.7**
	baz=224,SNR=154						
G26K				S	**S**	**10 10 27.5**	**-0.4**
	baz=224						
MFID	**Camas Ranch**	**92.53**	**45**	P	**P**	**09 59 41.2**	**+0.9**
MFID				IAmb	IAmb	09 59 42.5	
	comp=Z,119nm,0.9s						
I28M	**Miner Creek**	**92.57**	**19**	P	**P**	**09 59 39.5**	**-0.4**
I28M	**Miner Creek**	**92.57**	**19**	P	**P**	**09 59 39.5**	**-0.4**
	baz=227,SNR=91						
I28M				S	**S**	**10 10 26.5**	**-2.4**
	baz=227						
H27K	**Steamboat Moun**	**92.63**	**18**	P	**P**	**09 59 40.5**	**+0.5**
	baz=226,SNR=75						
H27K				S	**S**	**10 10 27.2**	**-2.1**
	baz=226						
BMAR	**Burnt Mountain**	**92.64**	**16**	P	**P**	**09 59 40.8**	**+0.7**
F10A	**Beach Ranch, E**	**92.67**	**42**	IAmb	IAmb	09 59 45.2	
	comp=Z,152nm,1.1s						
MAYO	**Mayo, Yukon**	**92.68**	**22**	P	**P**	**09 59 40.8**	**+0.5**
	baz=231,SNR=75						
MAYO				S	**S**	**10 10 27.4**	**-2.3**
	baz=231						
WUAZ	**Wupatki**	**92.70**	**53**	P	**P**	**09 59 42.8**	**+1.5**
WUAZ	**Wupatki**	**92.70**	**53**	P	**P**	**09 59 42.8**	**+1.5**
	baz=249,SNR=247						
WUAZ				S	**S**	**10 10 38.0**	**+6.5**
	baz=249						
FARO	**Faro, Yukon**	**92.75**	**23**	P	**P**	**09 59 40.2**	**-0.5**
FARO				IAmb	IAmb	09 59 47.0	
	comp=Z,146nm,1.4s						
FARO	**Faro, Yukon**	**92.75**	**23**	P	**P**	**09 59 40.3**	**-0.4**
	baz=233,SNR=94						
FARO				S	**S**	**10 10 27.7**	**-2.7**
	baz=233						
C09A	**Chrisman Ranch**	**92.79**	**40**	P	**P**	**09 59 41.8**	**+0.7**
B22K	**Teshekpuk Lake**	**92.87**	**12**	IAmb	IAmb	09 59 46.0	
	comp=Z,75nm,0.9s						
B22K	**Teshekpuk Lake**	**92.87**	**12**	P	**P**	**09 59 42.0**	**+1.0**
	baz=215						
B22K				S	**S**	**10 10 32.0**	**+1.0**
	baz=215						
E25K	**Arctic Village**	**92.89**	**15**	P	**P**	**09 59 42.0**	**+0.8**
E25K	**Arctic Village**	**92.89**	**15**	P	**P**	**09 59 42.0**	**+0.8**
	baz=222,SNR=41						
E25K				S	**S**	**10 10 32.6**	**+1.1**
	baz=222						
D24K	**Happy Valley**	**92.89**	**14**	IAmb	IAmb	09 59 48.9	
	comp=Z,283nm,1.6s						
D24K	**Happy Valley**	**92.89**	**14**	P	**P**	**09 59 42.3**	**+1.2**
	baz=220,SNR=45						
D24K				S	**S**	**10 10 31.2**	**-0.2**
	baz=220						
F26K	**Sheenjek River**	**92.95**	**16**	P	**P**	**09 59 42.4**	**+0.9**
	baz=224,SNR=39						
F26K				S	**S**	**10 10 32.3**	**+0.4**
	baz=224						
G27K	**Doyon Strip**	**93.00**	**17**	P	**P**	**09 59 42.0**	**+0.3**
	baz=226,SNR=60						
G27K				S	**S**	**10 10 32.1**	**-0.3**
	baz=226						
MTPU	**Mount Pierson**	**93.02**	**51**	P	**P**	**09 59 44.6**	**+1.6**
MTPU				IAmb	IAmb	09 59 46.2	
	comp=Z,153nm,1.1s						
I29M	**Ogilvie Camp,**	**93.02**	**19**	P	**P**	**09 59 41.4**	**-0.5**
I29M				IAmb	IAmb	09 59 44.1	
	comp=Z,90nm,1.0s						
I29M	**Ogilvie Camp,**	**93.02**	**19**	P	**P**	**09 59 41.2**	**-0.6**
	baz=229						
I29M				S	**S**	**10 10 30.4**	**-2.3**
	baz=229						
TCRU	**Three Creeks R**	**93.03**	**50**	P	**P**	**09 59 44.6**	**+1.8**
TCRU				IAmb	IAmb	09 59 45.8	
	comp=Z,88nm,0.9s						
C23K	**Itkillik River**	**93.04**	**13**	P	**P**	**09 59 43.1**	**+1.3**
C23K				IAmb	IAmb	09 59 49.1	
	comp=Z,170nm,1.0s						
C23K	**Itkillik River**	**93.04**	**13**	P	**P**	**09 59 43.0**	**+1.3**
	baz=218,SNR=128						
C23K				S	**S**	**10 10 32.3**	**-0.3**
	baz=218						
MDRS	**Chennai**	**93.07**	**283**	*e*S	**SKSac**	**10 10 00.9**	**-0.4**
MDRS				*ex*	x	10 10 01.8	
A21K	**Barrow**	**93.11**	**10**	P	**P**	**09 59 42.7**	**+0.7**
	baz=212,SNR=20						
A21K				S	**S**	**10 10 33.1**	**0.0**
	baz=212						
A22K	**Sinclair Lake**	**93.13**	**11**	P	**P**	**09 59 43.1**	**+1.0**
	baz=214,SNR=43						
A22K				S	**S**	**10 10 33.2**	**-0.1**
	baz=214						
J30M	**Hart River**	**93.15**	**21**	P	**P**	**09 59 42.4**	**-0.2**
	baz=231,SNR=54						
J30M				S	**S**	**10 10 31.4**	**-2.6**
	baz=231						
MSU	**Marysvale**	**93.19**	**50**	P	**P**	**09 59 45.5**	**+1.9**
MSU	**Marysvale**	**93.19**	**50**	P	**P**	**09 59 45.5**	**+1.9**
WTLY	**Watson Lake, Y**	**93.34**	**26**	P	**P**	**09 59 44.1**	**+0.7**
WTLY	**Watson Lake, Y**	**93.34**	**26**	P	**P**	**09 59 44.2**	**+0.8**
	baz=237,SNR=38						
WTLY				S	**S**	**10 10 33.7**	**-2.1**
	baz=237						
DUG	**Dugway, Tooele**	**93.36**	**49**	P	**P**	**09 59 44.8**	**+0.6**
	baz=248,SNR=72						
DUG				S	**S**	**10 10 40.6**	**+3.5**
	baz=248						
C24K	**Franklin Bluff**	**93.36**	**14**	P	**P**	**09 59 44.1**	**+0.8**
	baz=220						
C24K				S	**S**	**10 10 36.1**	**+0.7**
	baz=220						
DUN6	**Lazy B Ranch**	**93.43**	**57**	P	**P**	**09 59 46.2**	**+1.5**
X18A	**Snowflake**	**93.44**	**55**	IAmb	IAmb	09 59 47.5	
	comp=Z,194nm,1.1s						
HLID	**Hailey**	**93.53**	**45**	IAmb	IAmb	09 59 47.8	
	comp=Z,98nm,0.9s						
HLID	**Hailey**	**93.53**	**45**	P	**P**	**09 59 46.1**	**+1.2**
	baz=247,SNR=231						
HLID				S	**S**	**10 10 41.4**	**+2.9**
	baz=247						
I30M	**Mount Dempster**	**93.55**	**20**	P	**P**	**09 59 43.8**	**-0.6**
I30M				IAmb	IAmb	09 59 47.1	
	comp=Z,146nm,1.0s						
I30M	**Mount Dempster**	**93.55**	**20**	P	**P**	**09 59 44.0**	**-0.4**
	baz=231,SNR=226						
I30M				S	**S**	**10 10 33.2**	**-4.3**
	baz=231						
H29M	**Whitestone**	**93.57**	**19**	IAmb	IAmb	09 59 50.8	
	comp=Z,76nm,1.0s						
H29M	**Whitestone**	**93.57**	**19**	P	**P**	**09 59 44.1**	**-0.2**
	baz=229,SNR=71						
H29M				S	**S**	**10 10 34.2**	**-3.2**
	baz=229						
D25K	**Kavik River**	**93.59**	**14**	P	**P**	**09 59 44.6**	**+0.1**
D25K	**Kavik River**	**93.59**	**14**	P	**P**	**09 59 44.7**	**+0.3**
	baz=222,SNR=46						
D25K				S	**S**	**10 10 36.7**	**-0.9**
	baz=222						
NEW	**Newport**	**93.68**	**40**	P	**P**	**09 59 45.6**	**+0.3**
NEW	**Newport**	**93.68**	**40**	P	**P**	**09 59 45.8**	**+0.4**
	baz=246,SNR=72						
NEW				S	**S**	**10 10 39.8**	**+0.5**
	baz=246						
NEW	**Newport**	**93.68**	**40**	LR	LR	10 34 43.0	
	comp=Z,1μm,21.2s,baz=251,slow=31						
NEW	**Newport**	**93.68**	**40**	P	**P**	**09 59 45.6**	**+0.3**
NEW				pmax	pmax		
	comp=Z,74nm,1.0s						
NLU	**North Lily Min**	**93.80**	**49**	P	**P**	**09 59 47.2**	**+0.9**
W18A	**Petrified Fore**	**93.81**	**54**	P	**P**	**09 59 47.6**	**+1.2**
W18A				IAmb	IAmb	09 59 49.0	
	comp=Z,176nm,1.1s						
W18A	**Petrified Fore**	**93.81**	**54**	P	**P**	**09 59 47.7**	**+1.3**
	baz=250,SNR=44						
W18A				S	**S**	**10 10 47.7**	**+6.4**
	baz=250						
E27K	**Coleen River**	**93.98**	**17**	P	**P**	**09 59 47.0**	**+0.8**
	baz=226,SNR=91						
E27K				S	**S**	**10 10 40.3**	**-0.7**
	baz=226						
HVU	**Hansel Valley**	**93.98**	**47**	IAmb	IAmb	09 59 51.1	
	comp=Z,115nm,0.9s						
SPUT	**South Promonto**	**94.03**	**48**	P	**P**	**09 59 48.1**	**+0.9**
HMU	**Henry Mountain**	**94.04**	**51**	P	**P**	**09 59 48.2**	**+0.7**
F28M	**Old Crow**	**94.06**	**17**	P	**P**	**09 59 46.7**	**+0.1**
	baz=228,SNR=74						
F28M				S	**S**	**10 10 40.2**	**-1.5**
	baz=228						
AY02	**Valle Explorad**	**94.06**	**142**	IAmb	IAmb	10 00 10.8	
	comp=Z,208nm,1.1s						
Q16A	**Castle Valley**	**94.08**	**50**	IAmb	IAmb	09 59 50.5	
	comp=Z,153nm,1.1s						
G29M	**Pine Creek**	**94.13**	**18**	P	**P**	**09 59 46.5**	**-0.4**
G29M				IAmb	IAmb	09 59 49.4	
	comp=Z,102nm,0.9s						
G29M	**Pine Creek**	**94.13**	**18**	P	**P**	**09 59 46.4**	**-0.4**
	baz=229,SNR=88						
G29M				S	**S**	**10 10 40.0**	**-2.3**
	baz=229						
LIRD	**Liard River Hi**	**94.13**	**28**	P	**P**	**09 59 47.7**	**+0.7**
	baz=239,SNR=132						
LIRD				S	**S**	**10 10 39.1**	**-3.5**
	baz=239						
MPU	**Maple Canyon**	**94.14**	**49**	P	**P**	**09 59 48.7**	**+0.9**
MPU				IAmb	IAmb	09 59 50.2	
	comp=Z,81nm,1.1s						
EPYK	**Eagle Plains**	**94.17**	**19**	IAmb	IAmb	09 59 48.5	
	comp=Z,171nm,1.1s						
EPYK	**Eagle Plains**	**94.17**	**19**	P	**P**	**09 59 46.9**	**-0.3**
	baz=230,SNR=107						
EPYK				S	**S**	**10 10 39.8**	**-3.0**
	baz=230						
TMUT	**Trail Mountain**	**94.18**	**50**	IAmb	IAmb	09 59 55.3	
	comp=Z,99nm,1.0s						
TOAD	**Toad River Com**	**94.23**	**28**	P	**P**	**09 59 48.1**	**+0.5**
	baz=240,SNR=390						
TOAD				S	**S**	**10 10 44.6**	**+1.1**
	baz=240						
CTU	**Camp Tracy**	**94.30**	**49**	P	**P**	**09 59 49.2**	**+0.7**
TGTN	**Hyland Airport**	**94.33**	**25**	P	**P**	**09 59 48.5**	**+0.5**
	baz=238,SNR=38						
TGTN				S	**S**	**10 10 41.8**	**-2.5**
	baz=238						
C26K	**Camden Bay**	**94.38**	**14**	P	**P**	**09 59 49.3**	**+1.4**
	baz=223,SNR=288						
C26K				S	**S**	**10 10 44.9**	**+0.6**
	baz=223						
TIXI	**Tiksi**	**94.45**	**348**	P	**P**	**09 59 48.0**	**-0.2**
TIXI	**Tiksi**	**94.45**	**348**	LR	LR	10 38 58.4	
	comp=Z,874nm,21.3s,baz=154,slow=33						
TIXI	**Tiksi**	**94.45**	**348**	*ce*P	**P**	**09 59 47.4**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,31nm,1.1s						
C27K	**Jago River**	**94.45**	**15**	P	**P**	**09 59 49.1**	**+0.8**
	baz=224,SNR=212						
C27K				S	**S**	**10 10 43.4**	**-1.6**
	baz=224						
121A	**Cookes Peak, D**	**94.46**	**57**	IAmb	IAmb	09 59 52.4	
	comp=Z,142nm,1.1s						
121A	**Cookes Peak, D**	**94.46**	**57**	P	**P**	**09 59 50.9**	**+1.4**
	baz=250,SNR=92						
121A				S	**S**	**10 10 51.9**	**+5.0**
	baz=250						
SRU	**San Rafael Swe**	**94.62**	**50**	P	**P**	**09 59 50.8**	**+0.8**
SRU				IAmb	IAmb	09 59 53.2	
	comp=Z,88nm,1.1s						
SRU	**San Rafael Swe**	**94.62**	**50**	P	**P**	**09 59 50.8**	**+0.8**
SRU				pmax	pmax		
	comp=Z,88nm,1.1s						
TCUT	**Toone Canyon**	**94.69**	**48**	IAmb	IAmb	09 59 54.7	
	comp=Z,124nm,0.9s						
TRD	**Trivandrum**	**94.69**	**277**	*ex*	x	10 10 09.9	
G30M	**tAoh Zraii Nji**	**94.72**	**19**	P	**P**	**09 59 49.3**	**-0.3**
G30M	**tAoh Zraii Nji**	**94.72**	**19**	P	**P**	**09 59 49.3**	**-0.3**
	baz=231,SNR=309						
G30M				S	**S**	**10 10 45.5**	**-2.0**
	baz=231						
HWUT	**Hardware Ranch**	**94.76**	**48**	P	**P**	**09 59 50.6**	**0.0**
E28M	**Babbage River**	**94.82**	**17**	P	**P**	**09 59 50.5**	**+0.5**
E28M				IAmb	IAmb	09 59 53.1	
	comp=Z,108nm,0.9s						
E28M	**Babbage River**	**94.82**	**17**	P	**P**	**09 59 50.5**	**+0.5**
	baz=228,SNR=235						
E28M				S	**S**	**10 10 47.8**	**-0.5**
	baz=228						
D27M	**Malcolm River**	**94.88**	**16**	IAmb	IAmb	09 59 52.7	
	comp=Z,147nm,1.1s						
D27M	**Malcolm River**	**94.88**	**16**	P	**P**	**09 59 51.1**	**+0.8**
	baz=227,SNR=153						
D27M				S	**S**	**10 10 47.6**	**-1.2**
	baz=227						
BSUT	**Blindstream Ca**	**94.95**	**49**	IAmb	IAmb	09 59 53.8	
	comp=Z,63nm,0.8s						
P18A	**Preston Nutter**	**95.00**	**50**	P	**P**	**09 59 52.5**	**+0.6**
MCMT	**McKenzie Canyo**	**95.06**	**44**	P	**P**	**09 59 52.8**	**+0.8**
MSO	**Missoula**	**95.09**	**42**	P	**P**	**09 59 51.6**	**-0.3**
	baz=248,SNR=21						
MSO				S	**S**	**10 10 52.6**	**+0.9**
	baz=248						
E29M	**Blow River**	**95.13**	**17**	P	**P**	**09 59 51.0**	**-0.4**
E29M	**Blow River**	**95.13**	**17**	P	**P**	**09 59 51.1**	**-0.4**
	baz=229,SNR=85						
E29M				S	**S**	**10 10 47.3**	**-3.6**
	baz=229						
EPT	**El Paso**	**95.23**	**58**	IAmb	IAmb	09 59 55.3	
	comp=Z,156nm,1.0s						
F30M	**Barrier River**	**95.24**	**18**	P	**P**	**09 59 51.8**	**-0.2**
	baz=231,SNR=93						
F30M				S	**S**	**10 10 47.4**	**-4.5**
	baz=231						
G31M	**Satah River**	**95.28**	**19**	P	**P**	**09 59 51.7**	**-0.4**
G31M	**Satah River**	**95.28**	**19**	P	**P**	**09 59 51.9**	**-0.2**
	baz=233,SNR=134						
G31M				S	**S**	**10 10 47.5**	**-4.6**
	baz=233						
PV05	**Paradox Valley**	**95.31**	**52**	P	**P**	**09 59 53.7**	**+0.4**
PV05				IAmb	IAmb	09 59 56.9	
	comp=Z,97nm,1.0s						
KOTAN	**Kotaneelee Air**	**95.39**	**28**	P	**P**	**09 59 53.3**	**+0.5**
	baz=241,SNR=38						
KOTAN				S	**S**	**10 10 52.2**	**-1.3**
	baz=241						
DLMT	**Dillon**	**95.42**	**44**	P	**P**	**09 59 54.2**	**+0.7**
DLMT				IAmb	IAmb	09 59 56.6	
	comp=Z,85nm,0.9s						
MVCO	**Mesa Verde**	**95.47**	**53**	P	**P**	**09 59 54.7**	**+0.7**
	baz=250,SNR=22						
MVCO				S	**S**	**10 11 00.3**	**+4.6**
	baz=250						
D28M	**Stokes Point**	**95.52**	**16**	P	**P**	**09 59 53.6**	**+0.5**
	baz=229,SNR=28						
D28M				S	**S**	**10 10 51.4**	**-2.8**
	baz=229						
ALBI	**Allahabad**	**95.53**	**295**	*e*P	**P**	**09 59 52.3**	**-1.9**
ALBI				*i* x	x	10 00 33.7	
GO07	**Milladeo Hill,**	**95.59**	**139**	P	**P**	**09 59 54.9**	**+0.6**
GO07				IAmb	IAmb	09 59 55.5	
	comp=Z,91nm,0.8s						
Y22D	**IRIS PASSCAL I**	**95.65**	**56**	P	**P**	**09 59 55.9**	**+1.1**
	baz=251,SNR=14						
Y22D				S	**S**	**10 11 02.9**	**+5.7**
	baz=251						
LRM	**Limekiln Ridge**	**95.68**	**44**	P	**P**	**09 59 55.2**	**+0.4**
F31M	**Tsiigehtchic**	**95.76**	**19**	P	**P**	**09 59 54.0**	**-0.3**
	baz=233,SNR=223						
F31M				S	**S**	**10 10 53.4**	**-2.9**
	baz=233						
TPAW	**Teton Pass**	**95.85**	**46**	P	**P**	**09 59 56.3**	**+0.7**
PV15	**Paradox Valley**	**95.85**	**52**	P	**P**	**09 59 56.2**	**+0.4**
PV15				IAmb	IAmb	09 59 59.8	
	comp=Z,56nm,0.9s						
REDW	**Red Top Meadow**	**95.87**	**46**	P	**P**	**09 59 56.2**	**+0.5**
BNM	**Barren Site**	**95.90**	**56**	P	**P**	**09 59 56.8**	**+0.7**
BRLDA	**Berland Lookou**	**95.92**	**35**	P	**P**	**09 59 56.2**	**+0.8**
BRLDA				IAmb	IAmb	10 00 00.3	
	comp=Z,101nm,0.9s						
SNOW	**Snow King Moun**	**95.97**	**46**	P	**P**	**09 59 56.6**	**+0.5**
HYB	**Hyderabad**	**95.98**	**286**	*e*P	**P**	**09 59 55.8**	**-0.7**
HYB				IVmB_BB		09 59 57.0	
	comp=Z,1μm,5.7s						
MOIG	**Morelia**	**95.99**	**71**	IAmb	IAmb	09 59 58.5	
	comp=Z,62nm,1.1s						
IMW	**Indian Meadow**	**96.00**	**46**	IAmb	IAmb	09 59 58.5	
	comp=Z,61nm,1.1s						
MOOW	**Moose Ponds**	**96.08**	**46**	P	**P**	**09 59 57.0**	**+0.4**
MNTX	**Cornudas Mount**	**96.11**	**59**	P	**P**	**09 59 57.8**	**+0.9**
	baz=252,SNR=98						
MNTX				S	**S**	**10 11 01.7**	**+0.7**
	baz=252						
LOHW	**Long Hollow**	**96.13**	**46**	P	**P**	**09 59 57.4**	**+0.5**
BOZ	**Bozeman (W)**	**96.14**	**44**	P	**P**	**09 59 57.4**	**+0.6**
BOZ				IAmb	IAmb	09 59 58.9	
	comp=Z,56nm,1.1s						
BOZ	**Bozeman (W)**	**96.14**	**44**	P	**P**	**09 59 57.5**	**+0.7**
	baz=249,SNR=94						
BOZ				S	**S**	**10 11 01.9**	**+1.0**
	baz=249						
BOZ	**Bozeman (W)**	**96.14**	**44**	P	**P**	**09 59 57.4**	**+0.7**
BOZ				pmax	pmax		
	comp=Z,56nm,1.1s						
VHRN	**Van Horn**	**96.15**	**60**	P	**P**	**09 59 58.2**	**+1.1**
FLWY	**Flagg Ranch**	**96.23**	**46**	P	**P**	**09 59 57.9**	**+0.6**
ANMO	**Albuquerque**	**96.29**	**55**	P	**P**	**09 59 58.3**	**+0.6**
	baz=251						
ANMO				S	**S**	**10 11 03.5**	**+0.7**
	baz=251						
ANMO	**Albuquerque**	**96.29**	**55**	LR	LR	10 37 30.9	
	comp=Z,1μm,18.8s,baz=2.0,slow=32						
INK	**Inuvik**	**96.35**	**18**	P	**P**	**09 59 56.4**	**-0.5**
	baz=233,SNR=117						
INK	**Inuvik**	**96.35**	**18**	LR	LR	10 36 26.0	
	comp=Z,776nm,21.5s,baz=220,slow=31						
YHH	**Holmes Hill**	**96.37**	**45**	P	**P**	**09 59 58.6**	**+0.6**
H17A	**Grant Village**	**96.42**	**45**	P	**P**	**09 59 59.8**	**+1.6**
H17A				IAmb	IAmb	10 00 05.8	
	comp=Z,52nm,0.9s						
H17A	**Grant Village**	**96.42**	**45**	P	**P**	**09 59 59.9**	**+1.7**
	baz=250,SNR=53						
H17A				S	**S**	**10 11 10.6**	**+7.0**
	baz=250						
YNR	**Norris Junctio**	**96.46**	**45**	P	**P**	**10 00 00.4**	**+2.0**
BW06	**Boulder Array**	**96.56**	**47**	P	**P**	**09 59 58.9**	**0.0**
	baz=250,SNR=47						
BW06				S	**S**	**10 11 07.0**	**+2.2**
	baz=250						
PD31	**Pinedale Array**	**96.56**	**47**	IAmb	IAmb	10 00 05.7	
	comp=Z,60nm,1.2s						
PDAR	**Pinedale Array**	**96.56**	**47**	P	**P**	**09 59 58.6**	**-0.2**
	comp=Z,16nm,0.9s,baz=222,slow=2.0,SNR=66						
PDAR				PP	**PP**	**10 03 48.4**	**-7.3**
	comp=Z,5.8nm,1.0s,baz=242,slow=7.9,SNR=4.8						
PDAR				S	**SKSac**	**10 10 16.7**	**-2.6**
	comp=Z,0.9nm,1.0s,baz=249,slow=5.4,SNR=2.4						
PDAR				PKKPbc	**PKKPbc**	**10 16 43.2**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=80,slow=3.3,SNR=4.9						
PDAR				PKPPKP	**P'P'df**	**10 24 56.2**	**+0.6**
	comp=Z,1.0nm,1.0s,baz=113,slow=3.4,SNR=5.9						
PDAR				LR	LR	10 36 05.2	
	comp=Z,996nm,21.1s,baz=246,slow=31						
	comp=Z,16nm,0.9s						
O20A	**White River Ci**	**96.62**	**50**	IAmb	IAmb	10 00 04.0	
	comp=Z,70nm,1.0s						
O20A	**White River Ci**	**96.62**	**50**	P	**P**	**09 59 59.8**	**+0.6**
	baz=251,SNR=60						
O20A				S	**S**	**10 11 10.4**	**+5.0**
	baz=251						
LL02	**Futaleuf**	**96.67**	**140**	IAmb	IAmb	10 00 04.0	
	comp=Z,92nm,1.1s						
H03S1	**Juan Fernandez**	**96.68**	**129**	T	T	11 46 52.3	
	baz=238,slow=74,SNR=10						
H03S3	**Juan Fernandez**	**96.69**	**129**	T	T	11 46 37.4	
	baz=302,slow=74,SNR=18						
LL01	**San Ignacio de**	**96.77**	**139**	P	**P**	**09 59 59.5**	**0.0**
TX31	**Lajitas Ar. Si**	**96.79**	**61**	IAmb	IAmb	10 00 02.1	
	comp=Z,74nm,1.1s						
TXAR	**Lajitas Array**	**96.79**	**61**	P	**P**	**10 00 00.3**	**+0.3**
TXAR	**Lajitas Array**	**96.79**	**61**	P	**P**	**10 00 01.2**	**+1.2**
	comp=Z,43nm,1.0s,baz=226,slow=5.2,SNR=271						
TXAR				PP	**PP**	**10 03 55.5**	**-2.2**
	comp=Z,1.9nm,0.9s,baz=184,slow=3.4,SNR=2.7						
TXAR				S	**SKSac**	**10 10 18.8**	**-2.0**
	comp=Z,0.4nm,0.9s,baz=239,slow=3.6,SNR=1.0						
TXAR				PKKP	**PKKPdf**	**10 16 43.1**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=101,slow=3.0,SNR=8.8						
	comp=Z,43nm,1.0s						
TXAR	**Lajitas Array**	**96.79**	**61**	P	**P**	**10 00 00.3**	**+0.3**
YMP	**Mirror Lake Pl**	**96.82**	**45**	P	**P**	**09 59 59.8**	**-0.2**
S22A	**4UR Ranch

comp=Z,132nm,1.4s
CLN7 Carlsbad 7 97.61 58 P Pdif 10 00 03.8 +0.2
RWWY Rawlins 97.86 49 IAmb IAmb 10 00 05.3
comp=Z,54nm,1.1s
SDCO Great Sand Dun 97.89 53 P Pdif 10 00 05.5 +0.4
SDCO Great Sand Dun 97.89 53 Pdiff Pdif 10 00 05.2 +0.2
baz=252
SDCO S **S 10 11 19.4 +2.8**
baz=252
MNHN Monahans 98.14 60 IAmb IAmb 10 00 07.1
comp=Z,44nm,1.1s
EGMT Eagleton 98.17 42 P Pdif 10 00 06.2 +0.4
EGMT Eagleton 98.17 42 Pdiff Pdif 10 00 06.2 +0.4
baz=251
EGMT S **S 10 11 19.0 +1.0**
baz=251
LR05 Currie 98.20 137 IAmb IAmb 10 00 08.0
comp=Z,101nm,1.2s
SAND Sanderson 98.26 61 P Pdif 10 00 06.8 +0.3
LR03 Panguipulli 98.30 137 IAmb IAmb 10 00 08.7
comp=Z,106nm,1.3s
ISCO Idaho Springs 98.43 51 P Pdif 10 00 08.1 +0.7
ISCO Idaho Springs 98.43 51 Pdiff Pdif 10 00 07.9 +0.5
baz=252
ISCO S **S 10 11 25.7 +4.6**
baz=252
ISCO Idaho Springs 98.43 51 P Pdif 10 00 08.1 +0.7
ISCO pmax pmax
comp=Z,12nm,1.0s
EFI East Falkland 98.51 153 P **P 10 00 06.7 -0.5**
EFI IAmb IAmb 10 00 09.1
comp=Z,112nm,1.1s
EFI East Falkland 98.51 153 *ce*P **P 10 00 03.7 -3.5**
EFI pmax pmax
comp=Z,51nm,1.1s
N23A Red Feather La 98.52 50 P Pdif 10 00 08.5 +0.7
N23A IAmb IAmb 10 00 14.0
comp=Z,57nm,1.0s
N23A Red Feather La 98.52 50 Pdiff Pdif 10 00 08.4 +0.6
baz=252
N23A S **S 10 11 25.5 +3.8**
baz=252
Q24A Divide 98.53 52 P Pdif 10 00 08.5 +0.6
Q24A Divide 98.53 52 Pdiff Pdif 10 00 08.6 +0.7
baz=253
Q24A S **S 10 11 25.3 +3.3**
baz=253
ODSA Odessa 98.54 59 IAmb IAmb 10 00 09.6
comp=Z,75nm,1.1s
T25A Trinidad 98.54 54 P Pdif 10 00 08.2 +0.3
T25A Trinidad 98.54 54 Pdiff Pdif 10 00 08.3 +0.4
baz=253
T25A S **S 10 11 24.8 +2.8**
baz=253
K22A Casper 98.64 48 IAmb IAmb 10 04 10.8
comp=Z,66nm,1.4s
K22A Casper 98.64 48 Pdiff Pdif 10 00 08.2 +0.1
baz=252
BHPL Bhopal 98.72 292 *e*S **SKSac 10 10 28.0 -2.7**
PLCA Paso Flores 98.84 138 P **P 10 00 09.1 0.0**
PLCA Paso Flores 98.84 138 P Pdif 10 00 09.6 +0.5
comp=Z,18nm,1.1s,baz=225,slow=5.5,SNR=18
PLCA PP **PP 10 04 10.9 -1.3**
comp=Z,23nm,1.2s,baz=231,slow=8.8,SNR=6.6
PLCA PKKPbc **PKKPbc 10 16 35.0 -1.5**
comp=Z,5.1nm,1.0s,baz=88,slow=0.4,SNR=6.4
PLCA LR LR 10 35 12.7
comp=Z,920nm,21.8s,baz=236,slow=29
comp=Z,18nm,1.1s
PLCA Paso Flores 98.84 138 P Pdif 10 00 09.1 0.0
PLCA pmax pmax
comp=Z,34nm,1.0s
MSTX Muleshoe 98.89 57 P Pdif 10 00 09.4 +0.1
MSTX IAmb IAmb 10 00 12.0
comp=Z,62nm,0.8s
MSTX Muleshoe 98.89 57 Pdiff Pdif 10 00 09.7 +0.4
baz=253
GO06 Curarrehue 98.90 137 P Pdif 10 00 09.5 +0.1
GO06 IAmb IAmb 10 00 11.2
comp=Z,54nm,1.1s
PHWY Pilot Hill 98.99 50 P Pdif 10 00 10.0 +0.1
PHWY IAmb IAmb 10 04 14.2
comp=Z,57nm,1.2s
C36M Paulatuk 99.80 19 Pdiff **Pdif 10 00 12.1 -0.3**
baz=242
ZSN Zaisan 99.93 317 *e*P **Pdif 10 00 13.4 -0.1**
baz=317
ZSN *e*S **SKSac 10 10 36.4 +0.8**
baz=317
ZSN Zaisan 99.93 317 *e*P **Pdif 10 00 13.4 -0.1**
ZSN *e*S **SKSac 10 10 36.3 +0.8**
AMTX Amarillo 100.02 57 Pdiff **Pdif 10 00 14.7 +0.4**
baz=254
833A Chaparral WMA, 100.08 64 Pdiff **Pdif 10 00 15.6 +1.0**
baz=254
DDI Dehra Dun 100.18 299 *ex* x 10 10 36.1
JCT Junction City 100.33 61 Pdiff **Pdif 10 00 15.8 0.0**
baz=254
KSCO Kaye Shedlock' 100.42 52 Pdiff **Pdif 10 00 16.9 +0.8**
baz=254
YKA Yellowknife Ar 100.51 27 P **Pdif 10 00 15.8 +0.1**
comp=Z,60nm,1.0s,baz=254,slow=4.6,SNR=102
YKA PP **PP 10 04 19.4 -5.5**
comp=Z,2.6nm,0.8s,baz=252,slow=7.5,SNR=4.3
YKA PKKPbc **PKKPbc 10 16 30.0 -2.9**
comp=Z,1.2nm,0.7s,baz=63,slow=3.1,SNR=3.6
A36M Sachs Harbour 100.72 17 Pdiff **Pdif 10 00 16.7 +0.3**
baz=241
RSSD Black Hills 100.80 47 Pdiff **Pdif 10 00 17.9 +0.1**
baz=254
ABTX Abilene, Hawle 101.04 59 Pdiff **Pdif 10 00 18.9 +0.1**
baz=255
SMLA Simla 101.13 299 *ex* x 10 00 59.4
SMLA *e*S **SKSac 10 10 41.9 -0.1**
OGNE Ogallala 101.38 51 Pdif **Pdif 10 00 18.7 -1.5**
OGNE Ogallala 101.38 51 Pdiff **Pdif 10 00 20.6 +0.4**
baz=255
MKAR Makanchi Array 101.43 316 **Pdif 10 00 19.8 -0.5**
MKAR Makanchi Array 101.43 316 P **Pdif 10 00 21.1 +0.8**
comp=Z,12nm,0.9s,baz=94,slow=5.7,SNR=49
MKAR pP **pPdif 10 01 01.2 -2.1**
comp=Z,9.2nm,0.9s,baz=97,slow=5.8,SNR=3.7
MKAR PP **PP 10 04 30.1 -2.3**
comp=Z,16nm,1.1s,baz=104,slow=8.0,SNR=5.2
MKAR PKiKP **PKiKP 10 04 43.1 -0.4**
comp=Z,10nm,0.8s,baz=89,slow=2.4,SNR=18
MKAR S **SKSac 10 10 42.2 -0.7**
comp=Z,2.8nm,1.1s,baz=81,slow=8.9,SNR=3.1
MKAR PKKPbc **PKKPbc 10 16 27.0 -2.7**
comp=Z,4.0nm,0.5s,baz=265,slow=3.8,SNR=26
735A Kenedy 101.57 63 Pdif **Pdif 10 00 20.8 -0.4**
ZAA0 Zalesovo Array 101.80 323 Pdif **Pdif 10 00 21.6 0.0**
ZALV Zalesovo Beam 101.80 323 P **Pdif 10 00 21.6 0.0**
comp=Z,7.4nm,0.9s,baz=107,slow=8.4,SNR=15
ZALV pP **pPdif 10 01 02.6 -2.1**
comp=Z,7.1nm,0.9s,baz=100,slow=7.7,SNR=3.3
ZALV PKiKP **PKiKP 10 04 43.2 -0.7**
comp=Z,5.7nm,0.7s,baz=180,slow=1.5,SNR=6.4
ZALV S **SKSac 10 10 37.4 -6.9**
comp=Z,0.9nm,0.4s,baz=118,slow=3.9,SNR=1.7
ZALV PKKPbc **PKKPbc 10 16 26.4 -2.4**
comp=Z,4.3nm,0.4s,baz=293,slow=3.8,SNR=15
DGMT Dagmar 101.86 43 Pdif **Pdif 10 00 22.6 +0.4**
DGMT Dagmar 101.86 43 Pdiff **Pdif 10 00 22.4 +0.4**
baz=255
BO01 Tunca 102.00 133 Pdif **Pdif 10 00 22.9 -0.3**
DHRM DHARAMSHALA 102.14 300 *ex* x 10 10 46.0
DHRM *ex* x 10 10 46.9
435B Jarrell 102.25 62 Pdiff **Pdif 10 00 24.7 +0.4**
baz=255
WMOK Wichita Mounta 102.28 57 Pdiff **Pdif 10 00 24.5 +0.2**
baz=255
SHLS Shalkode 102.44 311 *e*P **Pdif 10 00 23.1 -1.8**
baz=312
SHLS *e*S **SKSac 10 10 47.0 -1.1**
baz=312
SHLS Shalkode 102.44 311 *e*P **Pdif 10 00 23.1 -1.8**
SHLS *e*S **SKSac 10 10 47.0 -1.1**
CBKS Cedar Bluff 102.55 53 Pdiff **Pdif 10 00 26.1 +0.7**
baz=256
WHTX Lake Whitney, 102.67 60 Pdiff **Pdif 10 00 26.4 +0.4**
baz=256
UZB Uzynbulak 102.75 311 *e*P **Pdif 10 00 25.7 -0.7**
baz=311
UZB *e*S **SKSac 10 10 49.9 +0.2**
baz=311
UZB Uzynbulak 102.75 311 *e*P **Pdif 10 00 25.6 -0.7**
UZB *e*S **SKSac 10 10 49.8 +0.2**
KPKS Kokpek 103.07 312 *e*P **Pdif 10 00 27.4 -0.4**
baz=312
KPKS *e*S **SKSac 10 10 51.3 +0.4**
baz=312
KPKS Kokpek 103.07 312 *e*P **Pdif 10 00 27.3 -0.4**
KPKS *e*S **SKSac 10 10 51.3 +0.4**
SATY Saty 103.17 311 *e*Pdif **Pdif 10 00 27.8 -0.5**
baz=311
SATY Saty 103.17 311 *i* P **Pdif 10 00 27.7 -0.5**
MDOK Medeo 104.16 311 *e*Pdif **Pdif 10 00 32.3 -0.4**
baz=311
MDOK Medeo 104.16 311 *i* P **Pdif 10 00 32.2 -0.4**
BGNE Belgrade 104.34 51 Pdiff **Pdif 10 00 33.8 +0.5**
baz=257
SUSD Miller 104.42 48 Pdiff **Pdif 10 00 33.3 -0.3**
baz=258
NRIK Noril'sk 104.63 339 Pdiff **Pdif 10 00 34.1 +0.2**
comp=Z,24nm,1.0s,baz=108,slow=5.8,SNR=20
NRIK PKiKP **PKiKP 10 04 48.4 -0.2**
comp=Z,7.0nm,0.8s,baz=102,slow=5.1,SNR=4.6
MDND Maddock 104.70 44 Pdiff **Pdif 10 00 34.9 +0.2**
baz=258
KURBB Kurchatov Arra 104.76 319 Pdiff **Pdif 10 00 36.2 +1.4**
comp=Z,1.5nm,0.2s,baz=102,slow=4.2,SNR=9.8
KURBB PKiKP **PKiKP 10 04 48.7 -0.7**
comp=Z,12nm,0.7s,baz=104,slow=1.8,SNR=14
KURBB PKKPbc **PKKPbc 10 16 18.3 -1.6**
comp=Z,5.4nm,0.5s,baz=281,slow=3.6,SNR=19
NATX Nacogdoches 104.92 61 Pdiff **Pdif 10 00 36.4 +0.3**
baz=257
TUL3 Leonard 104.93 57 Pdiff **Pdif 10 00 36.4 +0.4**
baz=257
KSU1 Kansas State U 104.99 53 Pdiff **Pdif 10 00 36.9 +0.7**
baz=258
ECSD EROS Data Cent 105.92 49 Pdiff **Pdif 10 00 40.2 -0.1**
baz=259
SGDS Sogindy 105.95 311 *e*Pdif **Pdif 10 00 39.7 -0.7**
baz=311
MIAR Mount Ida 106.41 59 Pdiff **Pdif 10 00 43.4 +0.8**
baz=258
BTLS Baital 106.65 313 *e*Pdif **Pdif 10 00 42.8 -0.7**
baz=312
AGMN Agassiz Nation 107.25 44 Pdiff **Pdif 10 00 46.0 0.0**
baz=261
ULM Lac du Bonnet 107.54 42 Pdiff **Pdif 10 00 49.0 +1.8**
comp=Z,7.0nm,1.1s,baz=271,slow=5.6,SNR=5.3
ULM PKiKP **PKiKP 10 04 53.0 -1.5**
comp=Z,10nm,0.8s,baz=258,slow=2.6,SNR=11
ULM PKKPbc **PKKPbc 10 16 09.2 -2.0**
comp=Z,2.7nm,0.7s,baz=146,slow=2.1,SNR=3.2
SCIA State Center 108.06 51 Pdiff **Pdif 10 00 49.3 -0.5**
baz=260
VBMS Vicksburg 108.46 62 Pdiff **Pdif 10 00 51.9 +0.2**
baz=259
SPMN Marine on St. 108.86 48 Pdiff **Pdif 10 00 53.4 +0.1**
baz=262
CCM Cathedral Cave 108.92 55 Pdiff **Pdif 10 00 53.7 0.0**
baz=260
IUG Iuzhnay 109.06 309 *e*Pdif **Pdif 10 00 53.2 -1.2**
comp=Z,5.6nm,0.7s,baz=309
IUG Iuzhnay 109.06 309 *i* P **Pdif 10 00 53.2 -1.2**
IUG pmax pmax
comp=Z,6.0nm,0.7s
BRLS Borolday 109.33 310 *e*Pdif **Pdif 10 00 54.7 -0.7**
baz=310
BRLS Borolday 109.33 310 *i* P **Pdif 10 00 54.7 -0.7**
CHM Chimkent 109.40 309 *e*Pdif **Pdif 10 00 54.9 -0.9**
baz=309
CHM Chimkent 109.40 309 *i* P **Pdif 10 00 54.8 -0.9**
OXF Oxford 109.78 59 Pdiff **Pdif 10 00 57.7 +0.1**
baz=260
EYMN Ely 110.10 45 Pdiff **Pdif 10 00 58.5 -0.3**
baz=264
BVA0 Borovoye Array 110.11 321 *i* PKiKP **PKiKP 10 04 59.0 -0.3**
BVAR Borovoye Array 110.11 321 Pdiff **Pdif 10 00 59.6 +1.0**
comp=Z,1.4nm,0.7s,baz=114,slow=3.6,SNR=6.2
BVAR PKiKP **PKiKP 10 04 59.0 -0.3**
comp=Z,16nm,0.4s,baz=124,slow=2.0,SNR=75
BVAR PKKPbc **PKKPbc 10 16 01.1 -2.1**
comp=Z,4.2nm,0.6s,baz=301,slow=3.1,SNR=13
JFWS Jewell Farm 110.38 50 Pdiff **Pdif 10 01 00.1 0.0**
baz=263
HDIL Hopedale 110.78 53 Pdiff **Pdif 10 01 03.0 +1.1**
baz=262
BRAL Brewton 111.17 63 Pdiff **Pdif 10 01 05.7 +1.8**
baz=260
WVT Waverly 111.31 58 Pdiff **Pdif 10 01 05.3 +0.9**
baz=262
LRAL Lakeview Retre 111.52 61 Pdiff **Pdif 10 01 05.9 +0.5**
baz=261
OPO Ambohidratompo 111.82 240 PKiKP **PKiKP 10 05 04.1 +0.3**
comp=Z,3.6nm,0.7s,baz=307,slow=19,SNR=1.8
L44A Lake County Fo 112.01 51 Pdiff **Pdif 10 01 07.3 -0.1**
baz=264
SFIN Lafayette 112.43 53 Pdiff **Pdif 10 01 09.6 +0.3**
baz=264
WCI Wyandotte Cave 112.81 56 Pdiff **Pdif 10 01 11.4 +0.4**
baz=263
LPAZ La Paz 113.72 118 Pdiff **Pdif 10 01 18.8 +2.4**
comp=Z,1.7nm,0.6s,baz=336,slow=2.1,SNR=7.8
LPAZ PKiKP **PKiKP 10 05 08.0 0.0**
comp=Z,9.5nm,0.8s,baz=52,slow=1.0,SNR=22
LPAZ PKKPbc **PKKPbc 10 15 50.3 -0.7**
comp=Z,3.3nm,0.8s,baz=28,slow=5.7,SNR=6.0
O48B Farmland 113.89 54 Pdiff **Pdif 10 01 16.7 +0.9**
baz=265
TIGA Tifton 114.14 63 Pdiff **Pdif 10 01 18.2 +1.2**
baz=262
P49A Miami Univ. Ec 114.17 54 PKiKP PKPdf 10 05 06.4 -1.0
baz=265
GOGA Godfrey 114.51 61 PKiKP PKPdf 10 05 07.6 -0.6
baz=263
GLMI Grayling 114.60 49 PKiKP PKPdf 10 05 07.7 -0.4
baz=267
TZTN Tazewell 114.80 58 PKiKP PKPdf 10 05 08.1 -0.7
baz=264
AAM Ann Arbor 115.17 52 PKiKP **PKPdf 10 05 09.3 +0.1**
baz=267
V53A Saluda 115.30 59 **PKPdf 10 05 08.8 -1.0**
DWPF Disney Wildern 115.51 67 PKiKP **PKiKP 10 05 10.6 +0.2**
baz=261
ACSO Alum Creek Sta 115.55 54 PKiKP **PKiKP 10 05 10.4 +0.3**
baz=266
SVE Sverdlovsk 115.75 325 *e*PKiKP **PKiKP 10 05 10.0 +0.1**
SVE pmax pmax
comp=Z,37nm,0.7s
N51A Ashland 116.05 53 **PKPdf 10 05 10.0 -1.0**
P52A Corning 116.16 55 PKiKP **PKPdf 10 05 09.7 -1.6**
baz=266
CPUP Villa Florida 116.31 134 PKP **PKPdf 10 05 11.5 -0.5**
comp=Z,15nm,1.0s,baz=247,slow=2.0,SNR=23
CPUP SKP **SKPdf 10 08 31.5 +0.2**
comp=Z,14nm,1.1s,baz=255,slow=3.3,SNR=4.6
CPUP PKKPbc **PKKPbc 10 15 41.9 +0.3**
comp=Z,3.8nm,1.0s,baz=60,slow=4.9,SNR=4.1
KMSC Kings Mountain 116.45 60 PKiKP **PKPdf 10 05 10.8 -1.1**
baz=265
AB31 Akbulak array 116.57 316 PKiKP **PKPdf 10 05 10.9 -0.8**
ABKAR Akbulak array 116.57 316 **PKPdf 10 05 11.5 -0.3**
V55A Taylorsville 116.61 59 **PKPdf 10 05 11.5 -0.8**
ROSC El Rosal 116.72 94 **PKPdf 10 05 12.5 -1.1**
ROSC El Rosal 116.72 94 PKP **PKPdf 10 05 13.1 -0.5**
comp=Z,19nm,0.5s,baz=167,slow=6.7,SNR=6.0
O53A New Philadelph 116.90 54 PKiKP **PKPdf 10 05 11.5 -1.2**
baz=267
ARU Arti 116.93 324 PKP **PKPdf 10 05 12.1 -0.1**
comp=Z,76nm,0.4s,baz=90,slow=1.3,SNR=86
ARU Arti 116.93 324 ⇑*i*PKiKP **PKPdf 10 05 12.0 -0.2**
NHSC New Hope 117.21 62 PKPdf **PKiKP 10 05 13.6 +0.1**
NHSC New Hope 117.21 62 PKiKP **PKPdf 10 05 12.5 -1.0**
baz=264
N53A Lisbon 117.21 53 **PKPdf 10 05 12.5 -0.8**
NOR Nord 117.27 1 *i* P **PKPdf 10 05 10.6 -1.7**
NOR IAmb IAmb 10 05 13.8
comp=Z,2.2nm,0.7s
NOR IAMs_20 IAMs_20 10 52 33.7
comp=Z,1μm,20.0s
U56A King 117.32 58 **PKPdf 10 05 12.8 -0.8**
BLA Blacksburg 117.35 57 PKiKP **PKPdf 10 05 12.8 -1.0**
baz=266
M53A WI Miller and 117.36 53 PKiKP **PKPdf 10 05 12.3 -1.2**
baz=268
W57A Gilead 117.55 60 **PKPdf 10 05 13.3 -0.7**
SOHO SOHO 117.56 288 *i* PKPdf **PKPdf 10 05 14.0 -0.4**
SNR=6.3
TBTG Tabatinga, AM 117.59 105 **PKPdf 10 05 13.9 -0.9**
TBTG Tabatinga, AM 117.59 105 *e*P **PKPdf 10 05 13.7 -1.1**
AKTO Aktyubinsk 117.76 318 PKP **PKPdf 10 05 14.0 0.0**
comp=Z,27nm,0.6s,baz=96,slow=3.5,SNR=50
ERPA Erie 117.89 52 PKiKP **PKPdf 10 05 13.1 -1.4**
baz=269
MCWV Mont Chateau 117.93 55 **PKPdf 10 05 13.8 -0.9**
MCWV Mont Chateau 117.93 55 PKiKP **PKPdf 10 05 13.5 -1.2**
baz=268
UOSS Minazif 117.98 289 **PKPdf 10 05 14.0 -1.3**
UOSS Minazif 117.98 289 PKPdf **PKPdf 10 05 14.6 -0.7**
HATD Hatta, Dubai 118.03 289 *i* PKPdf **PKPdf 10 05 15.1 -0.2**
SNR=8.2
X58A Rowland 118.03 60 **PKPdf 10 05 14.2 -0.8**
ASHO Ashiyiah 118.08 288 *i* PKPdf **PKPdf 10 05 15.3 -0.2**
SNR=7.7
MSFE Esma-Masafi 118.09 289 PKPdf **PKPdf 10 05 15.3 -0.2**
ALNE Al Ain 118.25 288 *i* PKPdf **PKPdf 10 05 15.8 0.0**
SNR=9.6
NEEM North Greenlan 118.27 9 *i* P **PKPdf 10 05 13.7 -1.0**
NEEM IAmb IAmb 10 05 14.5
comp=Z,32nm,0.5s
V58A Windy Hill, Pi 118.31 59 **PKPdf 10 05 14.8 -0.7**
Q56A Snyder Ridge, 118.42 55 **PKPdf 10 05 14.6 -1.1**
ETMB Extrema 118.46 113 **PKPdf 10 05 14.9 -1.6**
ETMB Extrema 118.46 113 *e*P **PKPdf 10 05 15.0 -1.5**
NAZ Nazwa, Dubai 118.48 289 PKPdf **PKPdf 10 05 15.3 -0.8**
FAQ Al Faqa, Dubai 118.50 288 PKPdf **PKPdf 10 05 15.3 -1.0**
CHIV Chivirico 118.64 77 **PKPdf 10 05 15.2 -1.3**
ASUD Al Ashush, Dub 118.72 288 PKPdf **PKPdf 10 05 16.5 -0.1**
KBS Kingsbay 119.06 355 *e*Pdif **Pdif 10 01 39.8 +1.9**
KBS *e*PKPdf **PKPdf 10 05 15.7 -0.1**
KBS *e*PP **PP 10 06 38.5 +0.6**
KBS *e*SKPdf **SKPdf 10 08 29.6 -5.3**
KBS *e*SP **SP 10 16 04.4 -2.2**
KBS *e*SS **SS 10 22 42.5 -1.6**
KBS Kingsbay 119.06 355 *c i*PKIKP **PKiKP 10 05 18.0 +2.2**
KBS pmax pmax
comp=Z,47nm,1.3s
KBS Kingsbay 119.06 355 *i* P **PKPdf 10 05 15.5 -0.3**
KBS IAmb IAmb 10 05 15.7
comp=Z,1μm,3.0s
KULLO Kullorsuaq 119.10 13 *i* P **PKPdf 10 05 14.9 -1.0**
KULLO IAmb IAmb 10 05 16.1
comp=Z,15nm,0.9s
KULLO *i* 10 06 33.6
CNNC Cliffs of the 119.27 60 PKiKP **PKPdf 10 05 16.4 -1.0**
baz=267
SPA0 Spitsbergen Ar 119.32 354 *e*Pdif **Pdif 10 01 42.1 +3.0**
SPA0 *e*PKPdf **PKiKP 10 05 16.9 +0.5**
SPA0 *e*PP **PP 10 06 40.8 +1.0**
SPA0 *e*SS SS 10 22 49.6 +2.0
SPITS Spitsbergen Ar 119.32 354 PKP **PKPdf 10 05 15.7 -0.6**
comp=Z,27nm,0.6s,baz=92,slow=5.2,SNR=69
SPITS PKKPbc **PKKPab 10 15 29.8 -0.8**
comp=Z,0.9nm,0.3s,baz=153,slow=5.6,SNR=7.3
SPITS Spitsbergen Ar 119.32 354 PKiKP **PKPdf 10 05 16.0 -0.3**
SPB4 Spitsbergen Ar 119.32 354 PKPdf **PKPdf 10 05 16.0 -0.3**
SSPA Standing Stone 119.45 54 PKiKP **PKPdf 10 05 16.4 -1.2**
baz=270
J55A Hilton 119.48 51 **PKPdf 10 05 16.6 -1.0**
HOPEN Hopen 119.61 351 *e*Pdif **Pdif 10 01 45.5 +5.1**
HOPEN *e*PP **PP 10 06 43.8 +2.0**
HOPEN *e*SP SP 10 16 08.3 -3.2
HOPEN *e*SS **SS 10 22 49.5 -1.7**
SIV San Ignacio 119.67 122 PKP **PKPdf 10 05 18.3 -0.5**
comp=Z,13nm,0.5s,baz=248,slow=3.7,SNR=64
SIV SKP **SKPdf 10 08 37.6 -0.4**
comp=Z,13nm,1.0s,baz=190,slow=1.5,SNR=5.2
SIV PKKPbc **PKKPbc 10 15 29.8 +0.3**
comp=Z,4.0nm,0.8s,baz=40,slow=0.6,SNR=6.5
L56A Greenwood 119.69 52 **PKPdf 10 05 17.0 -1.1**
CBN Corbin Frederi 119.81 56 PKiKP **PKPdf 10 05 17.1 -1.3**
baz=269
MZR Muzera 120.14 286 *i* PKiKP **PKiKP 10 05 20.0 +0.4**
SNR=7.0
UPNV Upernavik 120.47 14 *i* P **PKPdf 10 05 18.3 -0.3**
UPNV IAmb IAmb 10 05 20.2
comp=Z,29nm,0.7s
UPNV *i* 10 06 40.5
SUR Sutherland 120.57 211 PKP **PKiKP 10 05 21.2 +0.7**
comp=Z,34nm,0.9s,baz=147,slow=2.9,SNR=17
MVL Millersville 120.62 54 **PKPdf 10 05 19.0 -0.8**
BINY Binghamton 120.86 52 **PKPdf 10 05 19.4 -0.8**
BINY Binghamton 120.86 52 PKiKP **PKPdf 10 05 19.2 -1.0**
baz=272
PTGB Pitanga 120.92 136 *e*P **PKPdf 10 05 19.9 -1.2**
KSPA Keystone Colle 121.04 52 **PKPdf 10 05 19.7 -0.9**
BOSA Boshof 121.16 217 PKP **PKiKP 10 05 22.1 +0.5**
comp=Z,14nm,0.4s,baz=155,slow=1.7,SNR=52
BOSA PKKPbc **PKKPbc 10 15 21.9 -2.5**
comp=Z,6.3nm,0.6s,baz=326,slow=3.6,SNR=13
AQDB Aquidauana 121.17 130 *e*P **PKPdf 10 05 20.2 -1.3**
J58A Remsen 121.33 50 **PKPdf 10 05 20.2 -0.9**
KIRV Kirov 121.36 328 PKP **PKiKP 10 05 20.8 0.0**
comp=Z,58nm,0.4s,baz=139,slow=2.0,SNR=17
LUPA Lehigh Univers 121.36 54 **PKPdf 10 05 20.7 -0.6**
SDV Santo Domingo 121.43 91 **PKPdf 10 05 21.7 -0.7**
SDV Santo Domingo 121.43 91 *e*P **PKPdf 10 05 21.6 -0.8**
SAML Samuel 121.50 114 **PKPdf 10 05 21.8 -0.5**
SAML Samuel 121.50 114 PKIKP **PKPdf 10 05 21.8 -0.5**
SAML Samuel 121.50 114 *e*P **PKPdf 10 05 21.9 -0.4**
PTLB Pontes e Lacer 121.52 123 **PKPdf 10 05 21.8 -0.5**
PTLB Pontes e Lacer 121.52 123 *e*P **PKPdf 10 05 21.5 -0.7**
L59A Walton 121.56 52 **PKPdf 10 05 21.1 -0.5**
LONY Lake Ozonia 121.75 49 PKPdf **PKPdf 10 05 20.6 -1.2**
LONY Lake Ozonia 121.75 49 PKiKP **PKPdf 10 05 20.7 -1.2**
baz=274
TRCB Terra Rica 121.84 134 *e*P **PKPdf 10 05 22.5 -0.3**
NUUG Nuugaatsiaq 121.97 15 *i* P **PKPdf 10 05 20.6 -0.9**
NUUG IAmb IAmb 10 05 23.2
comp=Z,30nm,0.7s
VILB Vilhena 122.01 119 *e*P **PKPdf 10 05 23.0 -0.3**
DAG Danmarks Havn 122.04 2 *i* P **PKPdf 10 05 20.0 -1.5**
DAG IAmb IAmb 10 05 20.6
comp=Z,20nm,0.6s
DAG *i* 10 06 53.9
BJO1 Bjornoya 122.13 351 *e*Pdif **Pdif 10 01 54.9 +3.3**
BJO1 *e*PKPdf **PKiKP 10 05 22.4 +0.5**
BJO1 *e*PP **PP 10 06 59.4 +0.5**
TRNY Table Rock, Ra 122.22 53 **PKPdf 10 05 22.1 -0.8**
LDASE Londrina, Braz 122.46 135 *e*P **PKPdf 10 05 23.2 -0.9**
PAL Palisades 122.46 53 **PKPdf 10 05 22.5 -0.8**
PAL Palisades 122.46 53 PKiKP **PKPdf 10 05 22.6 -0.8**
baz=273
PAL Palisades 122.46 53 PKIKP **PKPdf 10 05 22.5 -0.8**
RVDE Rio Verde (Bra 122.63 129 *e*P **PKPdf 10 05 23.2 -1.3**
TEFE Tefe 122.66 107 *e*P **PKPdf 10 05 23.5 -1.1**
UMMG Uummannaq 122.81 15 *i* P **PKPdf 10 05 22.6 -0.5**
UMMG IAmb IAmb 10 05 22.9
comp=Z,19nm,1.2s
SDDR Presa de Saban 123.20 79 **PKPdf 10 05 25.3 -0.2**
L61B Northampton 123.30 51 **PKPdf 10 05 24.2 -0.7**
L61B Northampton 123.30 51 PKiKP **PKPdf 10 05 24.1 -0.8**
baz=274
J61A Chester 123.32 50 **PKPdf 10 05 24.4 -0.5**
LVZ Lovozero 123.35 341 **PKPdf 10 05 23.6 -0.7**
LVZ Lovozero 123.35 341 ⇑PKIKP **PKPdf 10 05 20.5 -3.8**
VADS Vadso 123.41 345 *e*Pdif **Pdif 10 02 02.4 +5.0**
VADS IVmB_BB 10 02 25.1
comp=Z,1μm,2.9s
VADS *e*PKPdf **PKiKP 10 05 25.1 +0.6**
VADS *e*PP **PP 10 07 08.4 +0.8**
VADS *e*SP SP 10 16 45.4 -0.1
VADS *e*SS **SS 10 23 37.6 -2.1**
VADS IVMs_BB IVMs_BB 10 42 33.9
comp=Z,1μm,3.3s
FRTB Fartura 123.52 137 *e*P **PKPdf 10 05 25.5 -0.6**
PCMB Pacaembu 123.58 134 *e*P **PKPdf 10 05 26.1 0.0**
LDAQ Lac Daran 123.67 45 **PKPdf 10 05 24.0 -1.5**
UCCT U. Connecticut 123.68 52 **PKPdf 10 05 24.7 -1.0**
LBNH Lisbon 123.68 49 PKiKP **PKPdf 10 05 25.2 -0.4**
baz=276
BELG Belogornoye 123.91 321 *i* PKIKP **PKPdf 10 05 25.3 -0.4**
APA Apatity 123.93 341 ⇓*i*PKIKP **PKPdf 10 05 23.3 -2.1**
APA *i* 10 06 09.0
APA *i* 10 07 09.0
APA *i* 10 12 10.0
APA *i* PS **PS 10 17 15.0 +3.5**
APA pmax pmax
comp=Z,45nm,0.9s
SALV Santo Antonio 123.96 125 *e*P **PKPdf 10 05 27.1 +0.1**
ILULI Ilulissat 124.06 16 *i* P **PKPdf 10 05 24.7 -0.8**
ILULI IAmb IAmb 10 05 27.6

comp=Z,45nm,1.3s
HRV Adam Dziewonsk 124.12 51 PKiKP PKPdf 10 05 25.9 -0.6
HRV Adam Dziewonsk 124.12 51 PKiKP PKPdf 10 05 25.8 -0.6
baz=275
HRV Adam Dziewonsk 124.12 51 PKIKP PKPdf 10 05 25.9 -0.6
SUMG Summit 124.13 10 PKPdf 10 05 25.4 -0.8
SUMG Summit 124.13 10 PKIKP PKPdf 10 05 25.4 -0.8
SUMG Summit 124.13 10 *i* P **PKiKP 10 05 26.4 0.0**
SUMG IAmb IAmb 10 05 28.6
comp=Z,26nm,1.2s
SUMG IAMs_20 IAMs_20 10 45 38.7
comp=Z,2μm,28.0s
KEV Kevo 124.25 345 PKPdf 10 05 25.8 -0.1
KEV Kevo 124.25 345 PKIKP **PKPdf 10 05 25.8 -0.1**
ADZR Andozero 124.27 336 *e*PKIKP **PKPdf 10 05 24.1 -2.0**
ADZR pmax pmax
comp=Z,44nm,0.9s
PET01 Itanhaem-SP 124.29 139 *e*P **PKPdf 10 05 26.4 -1.0**
HAMF Hammerfest 124.36 347 *e*Pdif **Pdif 10 02 05.5 +3.9**
HAMF *e*PKPdf **PKiKP 10 05 26.7 +0.3**
HAMF *e*PP **PP 10 07 13.8 -0.1**
HAMF *e* 10 15 01.9
HAMF *e*SP SP 10 16 55.0 +1.3
HAMF *e*SP **SP 10 16 56.0 +2.3**
HAMF *e*SS **SS 10 23 46.9 -4.7**
DBG Daneborg 124.42 3 *i* P **PKPdf 10 05 24.6 -1.5**
DBG IAmb IAmb 10 05 26.5
comp=Z,18nm,0.8s
L64A Middleborough 124.70 52 PKPdf 10 05 26.7 -0.9
SPB Sao Paulo 124.70 138 *e*P **PKPdf 10 05 25.8 -2.4**
ARCES ARCESS Array B 124.77 345 PKP **PKPdf 10 05 26.5 -0.5**
comp=Z,34nm,0.4s,baz=71,slow=1.6,SNR=305
ARCES PKKPbc **PKKPab 10 15 08.2 +0.9**
comp=Z,5.3nm,1.0s,baz=217,slow=3.6,SNR=8.9
ARCES PKKP **PKKPdf 10 15 49.0 -2.9**
comp=Z,0.7nm,0.5s,baz=193,slow=2.0,SNR=4.0
ARCES SKKPbc SKKPbc 10 18 48.5 +1.5
comp=Z,1.9nm,0.8s,baz=66,slow=1.5,SNR=3.9
SCHQ Schefferville 124.79 36 PKKPbc PKKPbc 10 15 10.3 -0.3
comp=Z,3.0nm,0.5s,baz=105,slow=1.7,SNR=8.6
F62A Pittston Farm, 124.85 47 PKPdf 10 05 27.3 -0.5
MATP Matopo 124.98 227 PKP **PKiKP 10 05 30.7 +1.3**
comp=Z,21nm,1.0s,baz=155,slow=1.5,SNR=28
PKME Peaks-Kenny Pk 125.41 48 PKPdf 10 05 28.4 -0.4
PKME Peaks-Kenny Pk 125.41 48 PKiKP **PKPdf 10 05 28.4 -0.4**
baz=279
VAO Valinhos 125.42 138 *e*P **PKPdf 10 05 29.7 0.0**
PDRB Porto dos Gac 125.58 120 *e*P **PKPdf 10 05 29.9 -0.3**
MAK Makhachkala 125.66 310 *i* P **Pdif 10 02 05.7 -2.3**
MAK *i* 10 05 30.3
MAK *e* 10 07 22.2
MAK *e*PPP PPP 10 10 05.1
MAK *e* 10 12 18.1
MAK *e*SS SS 10 24 14.1 +4.2
MAK pmax pmax
comp=Z,790nm,18.9s
SFJD Kangerlussuaq 125.69 18 PKPdf **PKPdf 10 05 27.7 -1.0**
SFJD Kangerlussuaq 125.69 18 PKIKP **PKPdf 10 05 27.7 -1.0**
SFJD Kangerlussuaq 125.69 18 *i* P **PKPdf 10 05 27.9 -0.9**
SFJD IAmb IAmb 10 05 28.6
comp=Z,22nm,1.2s
SFJD IAMs_20 IAMs_20 11 01 21.2
comp=Z,1μm,20.0s
SFJD IVMs_BB IVMs_BB 11 05 52.6
comp=Z,626nm,10.0s
KTK1 Kautokeino 125.70 346 *e*PKPdf **PKiKP 10 05 29.6 +0.4**
KTK1 *e*PP **PP 10 07 20.2 -2.7**
BB19B Bebedouro 125.80 135 *e*P **PKPdf 10 05 30.3 -0.2**
PCDR Punta Cana, DR 125.82 81 PKPdf 10 05 29.6 -0.8
PARB Paraibuna 126.01 140 *e*P **PKPdf 10 05 30.5 -0.4**
TRO Tromso 126.16 348 *e*PKPdf **PKPdf 10 05 29.0 -0.6**
TRO *e*PP **PP 10 07 22.7 -3.2**
TRO *e*SP SP 10 17 09.6 +0.1
TRO *e*SS **SS 10 24 10.0 -4.1**
TRO IVMs_BB IVMs_BB 10 46 40.9
comp=Z,641nm,3.8s
MACA Manacapuru-AM 126.36 109 PKPdf 10 05 31.3 -0.4
MACA Manacapuru-AM 126.36 109 *e*P **PKPdf 10 05 31.3 -0.4**
CLDB Colider 126.75 120 *e*P **PKPdf 10 05 32.4 0.0**
ICESG Greenland Ices 126.84 12 *i* P **PKPdf 10 05 30.3 -1.1**
ICESG IAmb IAmb 10 05 32.5
comp=Z,29nm,0.8s
GROC Groznyy 126.87 310 *i* PKIKP **PKPdf 10 05 30.6 -1.1**
GROC *e* 10 06 16.7
GROC *e* 10 06 33.2
GROC pmax pmax
comp=Z,2.0nm,0.6s
ARAG Araguaiana, MT 127.03 128 *e*P **PKPdf 10 05 32.7 -0.1**
GGN Saint George 127.15 47 PKPdf 10 05 31.2 -0.9
NUUK Nuuk 127.18 21 *i* P **PKPdf 10 05 31.7 +0.1**
NUUK IAmb IAmb 10 05 33.0
comp=Z,44nm,1.0s
DY2G Dye2 127.30 17 *i* P **PKPdf 10 05 30.3 -1.8**
DY2G IAmb IAmb 10 05 31.6
comp=Z,32nm,1.0s
OBIP Obispado Ponce 127.39 81 PKPdf 10 05 32.5 -0.9
JOF Joensuu 127.44 337 *e*P **PKPdf 10 05 32.0 -0.2**
RAYN Ar Rayn 127.47 285 PKiKP 10 05 34.1 0.0
RAYN Ar Rayn 127.47 285 *i* PKiKP **PKiKP 10 05 34.0 -0.2**
SNR=13
RAYN Ar Rayn 127.47 285 ⇑PKIKP **PKiKP 10 05 34.9 +0.8**
VRH Novokhopyorsk 127.76 321 *e*PKIKP **PKPdf 10 05 33.0 -0.1**
VRH pmax pmax
comp=Z,146nm,1.2s
SJG San Juan 127.83 81 PKPdf 10 05 33.4 -0.8
SJG San Juan 127.83 81 PKIKP **PKPdf 10 05 33.4 -0.8**
IGPR InterUniversit 127.85 82 PKPdf 10 05 33.0 -1.2
GCPR Guaynabo City 127.93 81 PKPdf 10 05 33.5 -0.9
JMIC Jan Mayen 127.97 359 *e*PKPdf **PKPdf 10 05 32.5 -0.5**
JMIC *e*PP **PP 10 07 38.8 +1.1**
JMIC *e*SS SS 10 24 38.6 +2.2
GNI Garni 128.06 306 PKiKP 10 05 35.5 +0.5
GNI Garni 128.06 306 PKiKP **PKiKP 10 05 35.6 +0.7**
GNI Garni 128.06 306 PKP **PKiKP 10 05 35.8 +0.8**
comp=Z,33nm,1.0s,baz=181,slow=4.8,SNR=12
SCO Scoresbysund 128.07 5 *i* P **PKPdf 10 05 33.1 -0.1**
VAS01 Vassouras-RJ 128.13 141 *e*P **PKiKP 10 05 35.2 -0.3**
IPMB Ipameri, GO 128.14 133 *e*P **PKPdf 10 05 34.6 -0.4**
BSCB Bom Sucesso 128.27 138 *e*P **PKPdf 10 05 35.2 0.0**
STEI Steigen 128.33 348 *e*PKPdf **PKPdf 10 05 33.7 0.0**
STEI *e*PP **PP 10 07 38.6 -1.5**
STEI *e*SP SP 10 17 31.5 +3.1
MOS Moscow 128.37 327 *i* PKIKP **PKPdf 10 05 33.2 -1.0**
MOS pmax pmax
comp=Z,159nm,1.3s
NCK Nalchik 128.41 311 *i* PKIKP **PKPdf 10 05 34.6 -0.1**
LOF Lofoten 128.49 349 *e*PKPdf **PKPdf 10 05 31.4 -2.7**
LOF IVmBBB 10 05 34.2
comp=Z,513nm,1.2s
LOF *e*PP **PP 10 07 38.7 -2.5**
LOF *e*SP SP 10 17 32.1 +2.3
LOF *e*SS **SS 10 24 43.6 +0.8**
LOF IVMs_BB IVMs_BB 10 45 33.2
comp=Z,402nm,4.4s
GOF Gofitskoye 128.49 313 *c e*PKHKP PKPpre 10 05 08.3
VALR Valaam 128.53 336 *i* PKIKP **PKPdf 10 05 33.4 -0.9**
LSZ Lusaka 128.60 231 PKiKP 10 05 36.5 -0.2
LSZ Lusaka 128.60 231 PKIKP PKiKP 10 05 36.5 -0.2
KMBO Kilima Mbogo 128.64 253 *i* PKIKP **PKiKP 10 05 38.2 +1.2**
SNR=6.2
ONI Oni 128.67 310 *e*P **PKiKP 10 05 35.7 -0.3**
FAUS Fauske 128.78 347 *e*Pdif **Pdif 10 02 25.0 +3.7**
FAUS *e*PKPdf **PKPdf 10 05 33.5 -1.1**
FAUS *e*PP **PP 10 07 42.5 -0.6**
FAUS *e*SKPdf **SKPdf 10 08 50.1 -3.5**
FAUS *e*SS **SS 10 24 43.8 -2.8**
FAUS IVMs_BB IVMs_BB 10 54 33.5
comp=Z,593nm,22.2s
BOAV Boa Vista 128.79 103 *e*P **PKPdf 10 05 36.1 -0.1**
CLDR Caldiran 128.81 305 *e*P **PKiKP 10 05 36.4 -0.2**
AKH Akhalkalaki 128.83 308 *e*P **PKiKP 10 05 36.6 +0.1**
KBZ Khabaz 128.86 311 PKP **PKiKP 10 05 37.2 +1.0**
comp=Z,16nm,1.0s,baz=217,slow=2.6,SNR=12
DUB01 Friburgo-RJ 128.91 142 *e*P **PKPdf 10 05 36.4 0.0**
LPSR Galich'ya Gora 128.91 323 *e*PKIKP **PKPdf 10 05 33.9 -1.4**
PMNB Patos De Minas 128.96 135 *e*P **PKPdf 10 05 36.5 -0.1**
KIV Kislovodsk 128.97 312 ⇑P **PKPdf 10 05 34.5 -1.4**
KIV Kislovodsk 128.97 312 PKiKP 10 05 36.8 +0.3
KIV Kislovodsk 128.97 312 *i* PKiKP **PKiKP 10 05 36.9 +0.3**
SNR=8.3
KIV Kislovodsk 128.97 312 *i* PKIKP **PKiKP 10 05 36.3 -0.3**
KIV *e* 10 07 43.8
KIV *e*PS **PS 10 17 54.8 -2.0**
KIV *e*SS SS 10 24 50.3 -0.8
KIV pmax pmax
comp=Z,38nm,1.1s
SHA1 Shidzhatmaz 129.03 311 *i* PKIKP **PKiKP 10 05 37.0 +0.1**
VORR Voronezh 129.09 322 *e*PKIKP **PKiKP 10 05 36.2 -0.2**
VORR pmax pmax
comp=Z,244nm,1.2s
SOEG Soedalen 129.12 10 *i* P **PKPdf 10 05 34.3 -0.9**
NPGB Novo Progresso 129.16 116 *e*P **PKPdf 10 05 37.0 -0.1**
OBN Obninsk 129.18 327 ⇓P **PKPdf 10 05 33.5 -2.2**
OBN Obninsk 129.18 327 PKPdf 10 05 36.1 +0.3
OBN Obninsk 129.18 327 *c i* PKIKP **PKPdf 10 05 35.6 -0.1**
OBN *i* 10 06 19.7
OBN *i* 10 06 33.4
OBN *e* 10 07 48.2
OBN *e* 10 12 29.5
OBN *i* SS SS 10 24 47.5 -4.9
OBN pmax pmax
comp=Z,188nm,1.5s
VSR Storozhevoye 129.27 321 *e*PKIKP **PKPdf 10 05 32.8 -3.2**
VORD Divnogorie 129.28 321 *e*PKIKP **PKPdf 10 05 33.0 -3.1**
AGRB Hanur-Agry 129.47 306 *e*P **PKiKP 10 05 38.2 +0.4**
PUL Pulkovo 129.69 334 *i* PKIKP **PKiKP 10 05 37.1 -0.2**
SNDB Serra Nova Dou 129.72 125 *e*P **PKPdf 10 05 37.9 -0.1**
BDFB Brasilia 129.85 131 PKP **PKPdf 10 05 38.2 -0.2**
comp=Z,35nm,0.4s,baz=229,slow=0.5,SNR=48
BDFB SKPbc SKPbc 10 08 44.8 +0.1
comp=Z,55nm,1.1s,baz=133,slow=0.1,SNR=6.8
KONS Konsvik 129.99 348 *e*PKPdf **PKPdf 10 05 36.2 -0.7**
MOR8 Moi Rana 129.99 347 *e*PKPdf **PKPdf 10 05 35.8 -1.2**
MOR8 IVmB_BB 10 05 42.7
comp=Z,193nm,1.4s
MOR8 *e*SP SP 10 17 40.4 -2.6
ERBR Yeremizino-Bor 130.09 314 *i* PKIKP **PKiKP 10 05 38.4 -0.2**
ERBR *e* 10 06 21.7
ERBR *e* 10 07 50.5
ERBR *e* 10 12 27.2
ERBR *e*SS SS 10 25 01.4 -3.1
ERBR pmax pmax
comp=Z,118nm,1.3s
BATM Batumi 130.13 309 *e*P **PKiKP 10 05 39.2 +0.4**
STOK Stokkvaagen 130.15 348 *e*PKPdf **PKPdf 10 05 36.3 -0.9**
STOK IVmB_BB 10 05 42.7
comp=Z,343nm,0.9s
STOK *e*SP SP 10 17 47.4 +3.1
STOK *e*SS **SS 10 25 02.4 -1.0**
ANGG Ammassalik, Gr 130.17 14 *i* P **PKPdf 10 05 35.8 -1.5**
ITTB Itaituba 130.18 113 *e*P **PKPdf 10 05 38.8 -0.1**
LABN Labinsk 130.19 313 *i* PKIKP **PKPdf 10 05 37.1 -0.9**
LABN *e* 10 06 22.7
LABN *e* 10 07 51.7
LABN *e* 10 12 29.6
LABN pmax pmax
comp=Z,38nm,0.5s
KEF Keuruu 130.21 339 *e*P **PKPdf 10 05 36.9 -0.6**
BCA Borcka 130.21 309 ⇑P **PKPdf 10 05 38.0 -0.2**
BCA Borcka 130.21 309 *e*P **PKPdf 10 05 37.4 -0.8**
BBSR BB Station 130.22 63 PKPdf 10 05 37.7 -0.7
FINES FINESS Array B 130.28 338 SKPbc **SKPab 10 08 44.5 -0.2**
comp=Z,68nm,0.8s,baz=72,slow=6.2,SNR=19
FINES PKKP **PKKPdf 10 15 38.0 -3.1**
comp=Z,0.5nm,0.5s,baz=107,slow=2.0,SNR=4.7
FINES SKKPbc **SKKPbc 10 18 29.9 +2.5**
comp=Z,5.9nm,1.0s,baz=202,slow=2.1,SNR=4.0
IVI Ivigtut 130.36 23 *i* P **PKPdf 10 05 37.4 -0.3**
IVI IAmb IAmb 10 05 39.9
comp=Z,36nm,0.8s
VRTB Varto-Mus 130.71 306 *e*P **PKiKP 10 05 41.3 +1.0**
VSLR Vesyoloye 130.95 312 *i* PKIKP **PKPdf 10 05 39.9 +0.4**
DIAM Diamantina, MG 130.96 137 *e*P **PKPdf 10 05 40.7 +0.2**
SVAN Silvan-Diyarba 131.05 304 *e*P **PKiKP 10 05 40.9 0.0**
SOC Sochi 131.15 312 *i* PKIKP **PKPdf 10 05 39.6 -0.3**
SOC *e* 10 06 21.8
SOC *e* 10 07 56.0
SOC *e*PS **PS 10 18 09.3 -6.1**
SOC *e*SSS SSS 10 30 03.8
SOC pmax pmax
comp=Z,45nm,0.9s
BNGB Bingl 131.33 306 *e*P **PKiKP 10 05 41.6 +0.1**
NRS Narsarsuaq 131.37 21 *i* P **PKPdf 10 05 38.6 -1.1**
NRS IAmb IAmb 10 05 42.0
comp=Z,46nm,0.7s
ARBE Arbavere 131.64 336 *e*P **PKPdf 10 05 40.6 +0.4**
MEF Metsahovi 131.72 337 *e*P **PKPdf 10 05 40.4 0.0**
FDF Fort de France 131.88 87 PKPdf 10 05 41.8 -0.3
FDF Fort de France 131.88 87 PKIKP **PKPdf 10 05 41.8 -0.3**
DYBB Diyarbakir 131.91 304 *e*P **PKPdf 10 05 41.9 +0.3**
NSS Namsos 131.94 347 *e*SS SS 10 25 26.7 +1.5
VSU Vasula 131.96 334 ⇑*e*PKIKP **PKPdf 10 05 41.0 +0.1**
VSU pmax pmax
comp=Z,65nm,1.0s
RAF Rauma 132.07 339 *e*P **PKPdf 10 05 40.6 -0.4**
SJMB Sao Joao De Ma 132.21 140 *e*P **PKPdf 10 05 41.6 -1.0**
RIB01 Linhares ES 132.22 141 *e*P **PKiKP 10 05 43.2 -0.5**
PTK Pertek 132.34 306 *e*P **PKiKP 10 05 43.2 -0.5**
ANN Anapa 132.42 314 *i* PKIKP **PKPdf 10 05 42.1 -0.1**
ANN *e* 10 06 23.9
ANN *e* 10 12 34.5
ANN *e*SS SS 10 25 36.1 +3.4
ANN pmax pmax
comp=Z,36nm,0.8s
JANB Januaria 132.85 134 *e*P **PKPdf 10 05 44.1 +0.1**
TSUM Tsumeb 132.85 218 PKPdf 10 05 44.3 +0.3
MTSE Matsula 132.96 336 *e*P **PKPdf 10 05 42.9 +0.1**
URFA Urfa 133.02 304 *e*P **PKiKP 10 05 44.4 -0.5**
ARPR Arapgir-MALATY 133.11 306 *e*P **PKiKP 10 05 45.3 +0.1**
AAL Aland 133.29 339 *e*P **PKPdf 10 05 42.0 -1.4**
RSDY Resadiye-TOKAT 133.61 308 *e*P **PKPdf 10 05 45.0 +0.3**
MNK Minsk 133.83 330 *i* PKIKP **PKPdf 10 05 43.8 -0.8**
MNK *i* 10 06 25.9
MNK *i* 10 08 15.3
MNK *i* PPP PPP 10 11 10.1
MNK *i* 10 12 39.6
MNK *i* SS SS 10 25 50.6 +1.8
MNK *i* SSS SSS 10 30 49.9
MNK pmax pmax
comp=E,7.0nm,0.7s
MNK pmax pmax
comp=Z,70nm,0.9s
MNK pmax pmax
comp=N,29nm,0.9s
MNK MLR MLR
comp=E,239nm,21.0s
MNK MLR MLR
comp=Z,766nm,20.0s
MNK MLR MLR
comp=N,683nm,22.0s
DARE Darende-Malaty 133.87 306 *e*P **PKPdf 10 05 44.9 -0.4**
SVSK Karacayir 133.96 308 *e*P **PKiKP 10 05 46.9 +0.3**
ISAL Salakas 134.02 332 *e*P **PKiKP 10 05 47.4 +1.2**
IIGN Ignalina 134.11 331 *e*P **PKiKP 10 05 47.5 +1.0**
TOKT Tokat 134.21 308 *e*P **PKiKP 10 05 47.7 +0.5**
SDBA SAO DESIDERIO 134.25 130 *e*P **PKPdf 10 05 46.7 0.0**
SLIT Slitere, Latvi 134.29 336 *e*P **PKPdf 10 05 45.0 -0.3**
UPP Uppsala 134.31 340 *e*P **PKPdf 10 05 45.8 +0.5**
GAZ Gaziantep 134.33 304 *e*P **PKiKP 10 05 47.1 -0.5**
KVT Kavak 134.39 309 *e*P **PKiKP 10 05 47.3 -0.2**
KMRS Kahramanmaras 134.51 304 *e*P **PKPdf 10 05 46.1 -0.4**
MOL Molde 134.59 348 *e*PKPdf **PKPdf 10 05 44.8 -1.0**
SIM Simferopol' 134.61 315 *i* PKIKP **PKPdf 10 05 46.4 +0.1**
SIM pmax pmax
comp=Z,71nm,1.2s
MBAR Mbarara 134.70 249 *i* PKIKP **PKPdf 10 05 46.0 -1.7**
SARI SarD1z-Kayseri 134.72 306 *e*P **PKiKP 10 05 48.0 -0.5**
DOMB Dombas 134.76 347 *e*PKPdf **PKPdf 10 05 46.8 +0.7**
DOMB IVmB_BB 10 05 47.8
comp=Z,425nm,1.3s
DOMB *e*PP **PP 10 08 15.9 -5.6**
DOMB *e*SKPdf **SKiKP 10 09 06.5 -0.9**
DOMB *e*SP **SP 10 18 28.4 +4.6**
DOMB *e*SS **SS 10 26 01.6 +2.3**
DIKM Dikmen 134.82 310 ⇑P **PKPdf 10 05 46.3 -0.5**
DIKM Dikmen 134.82 310 *e*P **PKiKP 10 05 49.7 +1.4**
PABE Paberze 135.02 333 *e*P **PKiKP 10 05 47.5 -0.7**
BNN Bunyan 135.06 306 *e*P **PKPdf 10 05 47.4 -0.2**
BNN Bunyan 135.06 306 PKiKP 10 05 48.8 -0.3
NB2 NORSAR Subarra 135.15 345 PKPdf PKPpre 10 05 38.8
comp=Z,50nm,1.2s,baz=31,slow=1.9
NB2 SKPa **SKPbc 10 09 01.2 -0.3**
comp=Z,44nm,1.1s,baz=29,slow=2.9
NB2 NORSAR Subarra 135.15 345 PKPdf PKPpre 10 05 38.8
baz=31,slow=1.9
NOA NORSAR Array B 135.15 345 PKhKP PKPpre 10 05 40.0
comp=Z,1.5nm,0.4s,baz=207,slow=10,SNR=11
NOA PKP **PKPdf 10 05 46.5 -0.4**
comp=Z,5.9nm,0.6s,baz=49,slow=1.8,SNR=34
NOA SKPbc **SKPbc 10 09 00.5 -1.0**
comp=Z,25nm,1.0s,baz=32,slow=2.6,SNR=8.6
AKASG Malin Array Be 135.18 324 PKhKP PKPpre 10 05 40.7
comp=Z,1.3nm,0.4s,baz=44,slow=3.3,SNR=5.7
AKASG PKP **PKPdf 10 05 47.2 0.0**
comp=Z,13nm,0.4s,baz=47,slow=2.7,SNR=20
AKASG PP **PP 10 08 24.6 0.0**
comp=Z,6.6nm,0.9s,baz=55,slow=4.9,SNR=4.2
AKASG SKPbc **SKPbc 10 09 01.9 +0.1**
comp=Z,38nm,0.9s,baz=46,slow=3.9,SNR=21
AKASG SKKPbc **SKKPbc 10 18 06.9 -2.0**
comp=Z,7.3nm,1.1s,baz=252,slow=4.6,SNR=6.9
AKBB Malin Array Si 135.18 324 PKPdf 10 05 46.6 -0.6
AKBB Malin Array Si 135.18 324 PKIKP **PKPdf 10 05 46.6 -0.6**
KIEV Kiev 135.19 324 ⇑P **PKPdf 10 05 44.0 -3.2**
KIEV Kiev 135.19 324 *i* PKPdf **PKPdf 10 05 47.3 +0.1**
SNR=9.1
KIEV Kiev 135.19 324 ⇑PKIKP **PKPdf 10 05 44.0 -3.2**
HFS Hagfors 135.26 343 PKhKP PKPpre 10 05 39.0
comp=Z,4.3nm,0.5s,baz=82,slow=3.3,SNR=8.4
HFS PKP **PKPdf 10 05 47.5 +0.4**
comp=Z,11nm,0.4s,baz=64,slow=3.4,SNR=16
HFS SKPbc **SKPbc 10 09 01.1 -0.8**
comp=Z,39nm,1.0s,baz=338,slow=1.6,SNR=10
HFS PKKP **PKKPdf 10 15 27.4 -4.0**
comp=Z,0.9nm,0.5s,baz=186,slow=4.5,SNR=6.3
HFS SKKPbc **SKKPbc 10 18 09.9 +0.7**
comp=Z,1.5nm,0.8s,baz=160,slow=5.8,SNR=1.9
TAHT Tahtakopru-Hat 135.28 303 *e*P **PKiKP 10 05 49.9 +0.5**
NC602 NORSAR Array S 135.33 344 *i* PKPre 10 05 38.5
NC602 *e*PKPdf **PKPdf 10 05 47.7 +0.6**
NC602 IVmB_BB 10 05 48.4
comp=Z,313nm,0.9s
NC602 *e* 10 16 29.1
NC602 *e*SS SS 10 26 10.1 +4.1
KOZT Kozan 135.36 304 *e*P **PKiKP 10 05 50.5 +0.9**
PBUR Paburge 135.54 334 *e*P **PKiKP 10 05 49.6 +0.3**
BZK Bozkurt 135.63 311 ⇓P **PKPdf 10 05 45.3 -3.0**
BZK Bozkurt 135.63 311 *e*P **PKPdf 10 05 47.9 -0.4**
VIKU Vikbolandet 135.66 340 *e*P **PKPdf 10 05 48.2 +0.4**
CORM Corum 135.66 308 *e*P **PKPdf 10 05 49.2 +0.6**
FOO Floro 135.96 349 *e*PKPdf **PKPdf 10 05 47.3 -1.0**
FOO IVmB_BB 10 05 49.9
comp=Z,479nm,0.4s
FOO *e*PP **PP 10 08 28.3 -0.6**
FOO *e*SP SP 10 18 34.8 +1.0
FOO *e*SS **SS 10 26 11.5 -1.8**
CMRD Camardi-Nigde 135.97 305 *e*P **PKPdf 10 05 49.8 +0.5**
HYA Hoyanger 136.14 348 *e*PKPdf **PKPdf 10 05 47.9 -0.8**
HYA IVmB_BB 10 05 50.6
comp=Z,513nm,1.4s
HYA *ep*PKPdf **pPKPdf 10 06 33.7 -0.5**
HYA *e*PP **PP 10 08 28.1 -1.9**
HYA *e*SP SP 10 18 35.8 +0.3
HYA *e*SS **SS 10 26 18.7 +3.1**
SKAR Skarslia 136.14 346 *e*PKPdf **PKiKP 10 05 49.9 -0.6**
SKAR *ep*PKPdf **pPKPdf 10 06 34.3 0.0**
SKAR *e*PP **PP 10 08 31.7 +1.5**
SKAR *e*SP SP 10 18 38.3 +2.7
SKAR *e*SS **SS 10 26 13.0 -2.9**
OSL Oslo 136.22 344 *e*PKPdf **PKPdf 10 05 41.8 -7.1**
OSL *e*PP **PP 10 08 33.0 +2.3**
OSL *e*SS SS 10 26 12.2 -4.5
CANT Cankiri 136.29 309 *e*P **PKPdf 10 05 49.8 +0.1**
SUW Suwalki 136.33 331 *e*PKP **PKiKP 10 05 50.5 -0.5**
SUW Suwalki 136.33 331 *e*P **PKiKP 10 05 51.0 0.0**
MMAI Mount Meron Ar 136.40 298 PKP **PKPdf 10 05 50.5 +0.3**
comp=Z,13nm,0.7s,baz=46,slow=2.8,SNR=10.0
MMAI pPKP **pPKPdf 10 06 36.0 +0.7**
comp=Z,12nm,0.8s,baz=81,slow=5.2,SNR=2.5
MMAI SKPbc **SKPbc 10 09 06.2 -0.1**
comp=Z,90nm,1.0s,baz=76,slow=3.5,SNR=22
MMAI PKKP **PKKPdf 10 15 28.1 -0.9**
comp=Z,1.0nm,0.4s,baz=55,slow=3.2,SNR=3.6
MMLI Mount Malkishu 136.45 297 *e*P **PKiKP 10 05 51.1 -0.9**
SUE Sulen 136.51 349 *e*PKPdf **PKPdf 10 05 49.8 +0.5**
SUE *ep*PKPdf **pPKPdf 10 06 32.4 -2.4**
SUE *e*PP **PP 10 08 33.2 +0.8**
SUE *e*SP SP 10 18 38.5 0.0
SUE *e*SS **SS 10 26 21.0 +1.0**
BR131 Keskin Array S 136.52 308 *e*P **PKPdf 10 05 51.1 +0.8**
BR131 Keskin Array S 136.52 308 *i* PKIKP **PKPdf 10 05 50.0 -0.3**
BRTR Keskin Array B 136.52 308 PKhKP PKPpre 10 05 41.5
comp=Z,1.9nm,0.6s,baz=142,slow=2.9,SNR=7.6
BRTR PKP **PKiKP 10 05 51.6 -0.5**
comp=Z,6.1nm,0.6s,baz=144,slow=2.7,SNR=17
BRTR SKPbc **SKPbc 10 09 07.2 +0.6**
comp=Z,17nm,1.0s,baz=132,slow=3.7,SNR=8.5
BRTR PKKP **PKKPdf 10 15 27.4 -1.5**
comp=Z,1.1nm,0.6s,baz=186,slow=2.5,SNR=3.6
BRTR SKKPbc **SKKPbc 10 18 00.2 -3.2**
comp=Z,3.2nm,1.0s,baz=222,slow=1.7,SNR=4.3
KAMT Kaman 136.55 308 *e*P **PKiKP 10 05 52.0 -0.1**
KURC Kurucasile-Bar 136.56 311 *e*P **PKPdf 10 05 49.7 -0.4**
PURM Purcari 136.75 319 ⇑P **PKPdf 10 05 48.7 -1.5**
KONO Kongsberg 136.76 345 *e*PKPdf **PKPdf 10 05 48.4 -1.5**
KONO *e*SS SS 10 26 19.7 -3.3
KONO Kongsberg 136.76 345 *i* PKIKP **PKPdf 10 05 49.5 -0.4**
KIZK Mersin 136.87 303 *e*P **PKPdf 10 05 50.7 -0.1**
STRU Stroemstad 136.88 343 *i* P **PKiKP 10 05 51.4 -0.5**
SORM Soroca 136.94 322 ⇑P **PKPdf 10 05 47.2 -3.3**
SORM Soroca 136.94 322 ⇑PKIKP **PKPdf 10 05 47.2 -3.3**
ASK Askoy 136.97 348 *e*PKPdf **PKPdf 10 05 50.1 -0.1**
HRFI Mount Harif 136.99 294 *e*P **PKiKP 10 05 52.3 -0.8**
AFSR Afar-Bala (An 137.01 308 *e*P **PKPdf 10 05 52.0 +0.9**
BER Bergen 137.03 348 *e*PKPdf **PKPdf 10 05 50.0 -0.3**
SILI Silifke-Mersin 137.07 303 *e*P **PKiKP 10 05 52.4 -0.6**
EIL Elat 137.09 293 *e*P **PKPdf 10 05 51.5 +0.1**
ANTO Ankara 137.11 309 ⇑P **PKPdf 10 05 51.5 +0.2**
ANTO Ankara 137.11 309 PKPdf 10 05 51.4 +0.1
ANTO Ankara 137.11 309 ⇑PKIKP **PKPdf 10 05 51.5 +0.2**
KULU Kulu 137.17 307 *e*P **PKiKP 10 05 52.6 -0.7**
KIS Kishinev 137.19 320 *e*PKP **PKPdf 10 05 49.0 -2.1**
comp=Z,170nm,6.0s
KIS *i* sPKP 10 06 36.0
KIS Kishinev 137.19 320 *i* PP PP 10 08 34.0 -3.4
KIS Kishinev 137.19 320 *i* PKS 10 09 16.0
KIS Kishinev 137.19 320 *e*PKIKP **PKPdf 10 05 49.0 -2.1**
KIS *i* 10 06 36.0
KIS *i* 10 08 34.0
KIS pmax pmax
comp=Z,170nm,6.0s
ODD1 Odda 137.20 347 *e*PKPdf **PKPdf 10 05 50.4 -0.4**
KEBE Keben-Mersin 137.22 303 *e*P **PKPdf 10 05 52.2 +0.6**
MILM Milestii Mici 137.23 320 ⇑*i*PKP **PKPdf 10 05 48.5 -2.6**
comp=Z,120nm,1.1s
MILM Milestii Mici 137.23 320 *e*PP PP 10 08 36.0 -1.6
MILM Milestii Mici 137.23 320 LRM MLR 11 06 38.0
comp=Z,700nm,18.0s
MILM Milestii Mici 137.23 320 *c i* PKIKP **PKPdf 10 05 48.5 -2.6**
MILM *i* 10 06 36.0
MILM *e* 10 08 36.0
MILM *e*PS **SP 10 18 50.0 +4.1**
MILM pmax pmax
comp=Z,120nm,1.1s
MILM MLR MLR
comp=Z,700nm,18.0s
MILM Milestii Mici 137.23 320 *e*PS **SP 10 18 50.0 +4.1**
IKL Isikli 137.28 303 *e*P **PKiKP 10 05 52.8 -0.7**
CHBY Cihanbeyli 137.37 307 *e*P **PKPdf 10 05 52.5 +0.7**
AKKU Akkuyu-Mersin 137.41 303 *e*P **PKPdf 10 05 52.7 +0.9**
TJOU Tjoern 137.61 342 *i* P **PKPdf 10 05 49.4 -2.1**
BERE Bereket-Mersin 137.63 303 *e*P **PKPdf 10 05 50.4 -2.0**
BLEU Blekinge 137.67 338 *i* P **PKPdf 10 05 50.6 -1.1**
BLSS Blasjo 137.68 347 *e*PKPdf **PKPdf 10 05 51.1 -0.5**
TEKE Tekeli-Mersin 137.76 303 *e*P **PKiKP 10 05 48.4 -4.1**
CSS Mathiatis 137.81 301 *e*P **PKPdf 10 05 52.1 -0.5**
LADK Ladik-KONYA 137.87 306 *e*P **PKPdf 10 05 51.9 -0.9**
KONT Konya--Tatoy 137.94 306 *e*P **PKPdf 10 05 52.5 -0.3**
HDMB Hadim 138.07 305 *e*P **PKPdf 10 05 52.6 -0.7**
MDUB Mudurnu 138.10 310 *e*P **PKPdf 10 05 52.7 -0.4**
MDUB Mudurnu 138.10 310 PKPdf 10 05 51.9 -1.3
JURR Jurilovca 138.13 317 ⇑P **PKPdf 10 05 51.0 -1.9**
KMY Karmoy 138.13 348 *e*PKPdf **PKPdf 10 05 52.2 -0.2**
LEF Lefka 138.14 302 *e*P **PKiKP 10 05 54.3 -1.0**
DEL Delary 138.21 340 *e*P PKPpre 10 05 43.3
HOMB Homborsund 138.24 345 *e*PKPdf **PKPdf 10 05 53.3 +0.7**
HOMB Homborsund 138.24 345 *i* P **PKiKP 10 05 54.3 -0.4**
LRW Lerwick 138.29 353 *e*P **PKPdf 10 05 48.5 -4.1**

GAZI Gazipasa 138.37 303 eP PKPdf 10 05 52.5 -1.1
TPGR Topolog 138.38 317 ⇑P PKPdf 10 05 48.9 -4.5
CFR Carcaliu 138.43 318 ⇑P PKPdf 10 05 51.3 -2.1
CFR Carcaliu 138.43 318 ⇑PKIKP PKPdf 10 05 51.3 -2.1
LVV L'vov 138.46 326 ePKIKP PKPdf 10 05 53.3 0.0
LVV e 10 06 39.8
LVV ePPP PPP 10 12 42.5
LVV eSS SS 10 26 37.6 -6.6
SEYD Seydisehir-KON 138.47 305 eP PKPdf 10 05 54.2 +0.3
SNART Snartemo 138.50 346 i P PKiKP 10 05 55.3 0.0
CIFT Cifteler, Eski 138.53 308 eP PKPdf 10 05 53.7 -0.2
GULT Gulveren 138.61 310 eP PKPdf 10 05 51.9 -2.1
SRCK Saricakaya, Es 138.65 310 eP PKPdf 10 05 54.2 +0.2
TESR Tescani 138.73 320 ⇑P PKPdf 10 05 49.1 -4.9
TLBR Topalu 138.76 317 ⇑P PKPdf 10 05 54.9 +0.9
HARR Harsova 138.77 317 ⇑P PKPdf 10 05 51.2 -2.8
HARR Harsova 138.77 317 ⇑PKIKP PKPdf 10 05 51.2 -2.8
BEL Belsk 138.84 330 ePKP PKiKP 10 05 56.8 +0.6
BSD Bornholm Skovb 138.92 338 eP PKPdf 10 05 46.4 -7.6
ONER Baraj Valea Uz 138.97 320 ⇑P PKPdf 10 05 51.4 -3.0
SILT Sile 138.99 312 eP PKPdf 10 05 54.0 -0.5
VRI Vrincioaia 138.99 319 ⇑P PKPdf 10 05 53.9 -0.6
VRI Vrincioaia 138.99 319 eP PKPdf 10 05 54.2 -0.3
VRI Vrincioaia 138.99 319 ⇑PKIKP PKPdf 10 05 53.9 -0.6
BURAR Bucovina Array 139.02 323 ⇑P PKPdf 10 05 50.5 -4.1
BURAR Bucovina Array 139.02 323 ⇑PKIKP PKPdf 10 05 50.5 -4.1
PLOR Plostina 139.05 319 ⇑P PKPdf 10 05 54.4 -0.2
PLOR Plostina 139.05 319 ⇑PKIKP PKPdf 10 05 54.4 -0.2
HRT Hereke 139.09 311 eP PKPdf 10 05 54.5 -0.3
SHUT Suhut-Afyon 139.15 307 eP PKPdf 10 05 55.1 0.0
BISRR Bisoca 139.15 319 ⇑P PKPdf 10 05 51.7 -3.1
ADVT Abdulvahap 139.17 310 eP PKPdf 10 05 53.3 -1.6
CAVI Cavuskoy 139.17 310 eP PKPdf 10 05 54.0 -1.0
COP Copenhagen 139.32 340 i P PKPdf 10 05 53.6 -1.1
ISP Isparta 139.37 306 eP PKPdf 10 05 55.8 +0.3
ISP Isparta 139.37 306 i PKIKP PKPdf 10 05 54.8 -0.7
KLYT Kilyos 139.38 312 eP PKiKP 10 05 56.6 -1.0
GKP Gorka Klasztor 139.41 334 ePKP PKPdf 10 05 54.2 -0.7
ISK Istanbul-Kandi 139.43 312 eP PKPdf 10 05 53.9 -1.5
ISK Istanbul-Kandi 139.43 312 P PKPdf 10 05 54.6 -0.8
BOSR Bodos 139.54 320 ⇓P PKPdf 10 05 52.2 -3.3
BGKT Bogazkoy 139.59 312 eP PKPdf 10 05 55.2 -0.4
MLR Muntele Rosu 139.65 319 ⇑P PKPdf 10 05 52.7 -3.1
MLR Muntele Rosu 139.65 319 eP PKPdf 10 05 53.3 -2.5
MLR Muntele Rosu 139.65 319 PKhKP PKPpre 10 05 50.6
comp=Z,11nm,0.8s,baz=321,slow=4.1,SNR=6.2
MLR SKPbc SKPbc 10 09 14.5 -0.8
comp=Z,21nm,0.9s,baz=17,slow=4.4,SNR=6.3
MLR Muntele Rosu 139.65 319 ⇑PKIKP PKPdf 10 05 52.7 -3.1
MUD Monsted U'grnd 139.65 343 i P PKPdf 10 05 49.9 -5.4
KORT Korkueli 139.72 305 eP PKPdf 10 05 55.8 -0.4
ARMT Armutlu 139.75 311 eP PKPdf 10 05 55.9 -0.1
PRD Provadia 139.76 315 P PKPdf 10 05 56.6 +0.7
ARCR ARCALIA 139.80 322 ⇑P PKPdf 10 05 51.3 -4.6
MDNY Mudanya-Bursa 139.80 311 eP PKPdf 10 05 54.9 -1.2
CTYL Yalikoy Yolu 139.83 313 eP PKPdf 10 05 55.4 -0.7
KOLS Kolonicke sedl 139.91 326 ePKIKP PKPdf 10 05 51.5 -4.5
KOLS Kolonicke sedl 139.91 326 ePKP PKPdf 10 05 51.5 -4.5
KOLS ePP SKPbc 10 09 17.5 +1.8
RGN Rugen 139.94 338 ePKPbc 10 06 03.2
baz=36,slow=3.2
BMR Baia Mare 139.97 324 ⇑P PKPdf 10 05 51.8 -4.3
BMR Baia Mare 139.97 324 ⇑PKIKP PKPdf 10 05 51.8 -4.3
SLVT Silivri 139.97 312 eP PKPdf 10 05 55.4 -0.9
BIGH Upper Bighouse 140.20 354 eP PKPdf 10 05 49.0 -7.1
KCTX Karacabey (Bur 140.22 311 eP PKPdf 10 05 57.8 +0.9
VOIR 140.23 320 ⇑P PKPdf 10 05 54.4 -2.4
VOIR 140.23 320 ⇑PKIKP PKPdf 10 05 54.4 -2.4
CRVS Cervenica-Dubn 140.36 326 ePKIKP PKPdf 10 05 52.8 -4.0
CRVS Cervenica-Dubn 140.36 326 ePKP PKPdf 10 05 52.8 -4.0
CRVS ePP SKPbc 10 09 19.0 +2.1
CRVS e 10 17 50.2
OJC Ojcow 140.37 329 ePKP PKPdf 10 05 57.1 +0.3
CJR Cluj-Napoca 140.44 322 ⇓P PKPdf 10 05 54.3 -2.8
CJR Cluj-Napoca 140.44 322 ⇓PKIKP PKPdf 10 05 54.3 -2.8
AKAS Kas 140.50 304 eP PKPdf 10 05 56.9 -0.8
ARR Arges 140.52 320 ⇓P PKPdf 10 05 54.0 -3.4
EDC Edincik 140.54 311 eP PKPdf 10 05 58.4 +1.0
CAME Cameli-Denizli 140.55 305 eP PKPdf 10 05 57.5 -0.2
MESR Meseseni 140.57 323 ⇑P PKPdf 10 05 54.5 -2.8
KULA Kula-Manisa 140.57 308 P PKPdf 10 05 56.4 -1.3
TNR Turnu Rosu 140.59 320 ⇑P PKPdf 10 05 53.2 -4.2
TNR Turnu Rosu 140.59 320 ⇑PKIKP PKPdf 10 05 53.2 -4.2
MRMT Marmara Adasi 140.64 312 eP PKPdf 10 05 57.0 -0.7
NIE Niedzica 140.64 328 ePKP PKPdf 10 05 53.8 -3.5
HUMR Humele 140.72 318 ⇓P PKPdf 10 05 54.9 -2.7
MARR Marisel-Cluj 140.73 322 ⇑P PKPdf 10 05 52.7 -5.0
EDRB Edirne 140.75 314 eP PKPdf 10 05 57.7 0.0
EDRB Edirne 140.75 314 P PKPdf 10 05 56.8 -0.9
COPA Copaceanca 140.75 318 ⇑P PKPdf 10 05 56.1 -1.5
ROSB Rosrio 140.78 120 eP PKPdf 10 05 58.3 -0.4
RKY Sarkoy-Tekirda 140.90 312 eP PKPdf 10 05 57.2 -0.9
DRGR 140.90 323 ⇑P PKPdf 10 05 53.0 -5.0
DRGR 140.90 323 eP PKPdf 10 05 52.9 -5.1
DRGR 140.90 323 ⇑PKHKP PKPpre 10 05 53.0
KRBG Karabiga-Canak 140.93 311 eP PKPdf 10 05 56.4 -1.7
MCD Coleburn Disti 141.03 353 eP PKPdf 10 05 50.6 -7.1
DALY Dalyan (Mula) 141.08 305 eP PKPdf 10 05 58.7 +0.2
ODEM Odemis-Izmir 141.09 308 eP PKPdf 10 05 56.7 -1.9
LANS Liptovska Anna 141.23 328 ePKIKP PKPdf 10 05 56.8 -1.6
LANS Liptovska Anna 141.23 328 ePKP PKPdf 10 05 56.8 -1.6
LANS ePP SKPbc 10 09 21.2 +2.0
YER Yerkesik 141.28 306 eP PKPdf 10 05 58.4 -0.5
LPK Lapseki 141.31 312 eP PKPdf 10 05 56.8 -2.0
AYDB Zeytinkoy-Aydi 141.33 308 eP PKPdf 10 05 58.4 -0.7
ERIK Erikli-Kesan 141.37 312 eP PKPdf 10 05 55.1 -3.8
RUE Ruedersdorf 141.39 336 eP PKPdf 10 05 53.9 -4.6
TURN Turunc 141.41 306 eP PKiKP 10 06 00.7 -1.2
KPL Plockton 141.49 355 eP PKPdf 10 05 52.7 -5.8
GELI Tayfur-Gelibol 141.51 312 eP PKPdf 10 05 54.6 -4.5
KSP Ksiaz 141.57 332 ePKP PKPdf 10 05 54.0 -4.9
DRUM Mains of Drumt 141.60 353 eP PKPdf 10 05 50.7 -8.1
ENEZ Enez 141.60 312 eP PKPdf 10 05 57.4 -1.9
ALN Alexandroupoli 141.61 313 eP PKPdf 10 05 56.1 -3.2
ALN Alexandroupoli 141.61 313 P PKPdf 10 05 49.7 -10
GZR Gura Zlata 141.63 321 ⇑P PKPdf 10 05 56.1 -3.2
GZR Gura Zlata 141.63 321 ⇑PKHKP PKPpre 10 05 56.1
MORC Moravsky Berou 141.75 330 ⇑P PKPdf 10 05 55.9 -3.5
MORC Moravsky Berou 141.75 330 ePKP PKPdf 10 05 54.2 -5.2
MORC e 10 17 41.5
MORC Moravsky Berou 141.75 330 ⇑PKIKP PKPdf 10 05 55.9 -3.5
PSZ Piszkesteto 141.79 326 ⇓P PKPdf 10 05 55.8 -3.7
PSZ Piszkesteto 141.79 326 ⇓PKIKP PKPdf 10 05 55.8 -3.7
KDZ Kurdzhali 141.79 314 eP PKPdf 10 05 59.0 -0.6
SIRR Siria 141.80 323 ⇑P PKPdf 10 05 56.4 -3.1
OSTC Ostas 141.81 332 ePKP PKPdf 10 05 56.2 -3.2
OSTC eSKP SKPbc 10 09 21.5 +0.9
OSTC Ostas 141.81 332 ePKIKP PKPdf 10 05 56.2 -3.2
SURR Surduc 141.82 322 ⇓P PKPdf 10 05 55.4 -4.1
CHVC Chvalec 141.86 332 ePKP PKPdf 10 05 54.8 -4.7
CHVC Chvalec 141.86 332 ePKHKP PKPpre 10 05 54.8
RDO Rodhopi 141.86 313 eP PKPdf 10 05 57.0 -2.7
RDO Rodhopi 141.86 313 P PKPdf 10 05 56.1 -3.6
MAUC Maruska 141.89 329 eSKP SKPbc 10 09 21.7 +0.8
KRLC Kraliky 141.90 331 ePKP PKPdf 10 05 55.0 -4.6
KRLC eSKP SKPbc 10 09 21.4 +0.5
KRLC Kraliky 141.90 331 ePKHKP PKPpre 10 05 55.0
DPC Dobruska-Polom 141.91 332 ePKP PKPdf 10 05 55.0 -4.6
DPC eSKP SKPbc 10 09 22.0 +1.1
DPC Dobruska-Polom 141.91 332 ePKHKP PKPpre 10 05 55.0
UPC Upice 141.94 332 ePKP PKPdf 10 05 55.4 -4.2
UPC Upice 141.94 332 ePKIKP PKPdf 10 05 55.4 -4.2
VYHS Vyhne 141.97 328 ePKIKP PKPdf 10 05 56.4 -3.4
VYHS Vyhne 141.97 328 ePKP PKPdf 10 05 56.4 -3.4
GADA Gvkgeada 141.99 312 eP PKPdf 10 05 56.4 -3.6
MPEP Malo Peshtene 142.07 318 P PKPdf 10 05 59.9 -0.2
HERR Herculane 142.12 320 ⇓P PKPdf 10 05 57.0 -3.1
SMTH Samothraki Isl 142.14 312 P PKPdf 10 05 55.3 -5.0
RZN Rozhen 142.17 315 P PKPdf 10 06 00.4 -0.2
BZS Buzias 142.19 322 ⇑P PKPdf 10 05 56.1 -4.1
BZS Buzias 142.19 322 eP PKPdf 10 05 57.9 -2.3
BZS Buzias 142.19 322 ⇑PKIKP PKPdf 10 05 56.1 -4.1
INVG Invergeldie, C 142.25 354 eP PKPdf 10 05 53.5 -6.5
JAVC Velka Javorina 142.31 329 ePKP PKPdf 10 05 57.5 -2.9
JAVC e 10 17 39.2
VRAC Vranov 142.52 330 ⇓P PKPdf 10 05 56.7 -4.0
VRAC Vranov 142.52 330 ePKP PKPdf 10 05 56.5 -4.2
VRAC e 10 17 39.3
VRAC Vranov 142.52 330 PKhKP PKPpre 10 05 56.8
comp=Z,19nm,1.0s,baz=50,slow=4.5,SNR=14

LAWE Loch Awe, Argy 142.54 355 eP PKPdf 10 05 55.7 -4.8
PVCC Panska Ves 142.55 333 ePKP PKPdf 10 05 57.6 -3.1
PVCC eSKP SKPbc 10 09 23.2 +0.8
PVCC Panska Ves 142.55 333 ePKIKP PKPdf 10 05 57.6 -3.1
BRG Berggiesshubel 142.56 334 i PKP PKPdf 10 05 57.2 -3.5
BRG Amp 10 05 59.4
comp=Z,70nm,1.1s
BRG Berggiesshubel 142.56 334 P PKiKP 10 06 03.9 +0.1
BRG Amp 10 06 04.9
comp=Z,88nm,1.1s
BRG Berggiesshubel 142.56 334 i PKIKP PKPdf 10 05 57.2 -3.5
BRG 10 06 44.8
BRG pmax pmax
comp=Z,70nm,1.1s
BRG pmax pmax
comp=Z,88nm,1.1s
BRG pmax pmax
comp=Z,17nm,0.9s
BRG pmax pmax
comp=Z,30nm,1.1s
BRG pmax pmax
comp=Z,37nm,0.9s
BRG pmax pmax
comp=Z,76nm,1.6s
BRG pmax pmax
comp=Z,20nm,1.4s
BRG pmax pmax
comp=E,410nm,23.2s
ESY Stoneypath 142.59 352 eP PKPdf 10 05 54.8 -5.8
MDVR Moldovita 142.59 321 ⇑P PKPdf 10 05 57.1 -3.9
LIA Limnos Island 142.61 312 eP PKPdf 10 05 57.0 -4.1
LIA Limnos Island 142.61 312 P PKPdf 10 05 58.4 -2.7
KAVA Kavala 142.63 314 P PKPdf 10 05 58.6 -2.5
THAS Thassos island 142.65 313 P PKPdf 10 05 57.0 -4.2
SRO Srobarova 142.68 327 ePKIKP PKPdf 10 05 59.5 -1.5
SRO Srobarova 142.68 327 ePKP PKPdf 10 05 59.5 -1.5
VTS Vitosha 142.75 317 P PKPdf 10 05 59.1 -2.4
KRUC Moravsky 142.79 330 ePKP PKPdf 10 05 57.2 -4.0
KRUC e 10 17 37.9
ASSE Asse, Remlinge 142.83 338 ePKPbc 10 06 48.7
baz=36,slow=3.2
MODS Modra-Piesok 142.83 329 ePKIKP PKPdf 10 05 59.5 -1.8
MODS Modra-Piesok 142.83 329 ePKP PKPdf 10 05 59.5 -1.8
MODS eSKP SKPbc 10 09 24.1 +0.9
PGBU Glenifferbraes 142.90 354 eP PKPdf 10 05 58.2 -2.9
MMB Musomishta 142.90 315 P PKPdf 10 05 58.7 -3.0
GOPC GO Pecny, Ondr 142.91 332 eSKP SKPbc 10 09 24.2 +0.9
NVR Nevrokopi 142.92 315 P PKPdf 10 05 59.2 -2.5
PRU Pruhonice 142.97 333 ePKP PKPdf 10 05 58.5 -2.9
PRU eSKP SKPbc 10 09 24.0 +0.6
PRU Pruhonice 142.97 333 ePKIKP PKPdf 10 05 58.5 -2.9
HSKC Hora Svate Kat 142.97 334 ePKP PKPdf 10 05 58.5 -3.0
HSKC eSKP SKPbc 10 09 23.5 0.0
ZST Bratislava 143.04 328 ePKIKP PKPdf 10 06 00.6 -1.0
ZST Bratislava 143.04 328 ePKP PKPdf 10 06 00.6 -1.0
KOKK Kokkinochori, 143.06 314 P PKPab 10 05 58.1 +0.5
NEUB Neuenburg 143.16 336 ePKPbc 10 05 59.2
baz=36,slow=3.2
KKB Krupnik 143.18 316 P PKPbc 10 05 59.9 +0.3
SRS Serrai 143.20 314 eP PKPab 10 05 58.6 +0.4
SRS Serrai 143.20 314 P PKPab 10 05 58.7 +0.5
BOVS Bovan 143.21 319 ⇑P PKPab 10 05 58.5 +0.4
EKA Eskdalemuir Ar 143.22 353 PKhKP PKPpre 10 05 58.1
comp=E,14nm,0.4s,baz=359,slow=2.8,SNR=44
EKA pPKP pPKPdf 10 06 44.9 -2.4
comp=E,16nm,0.8s,baz=345,slow=2.1,SNR=2.4
EKA SKKPbc SKKPbc 10 17 34.5 -3.4
comp=E,2.1nm,0.8s,baz=206,slow=4.0,SNR=4.7
OUR Ouranopolis 143.27 313 eP PKPbc 10 05 59.6 -0.2
OUR Ouranopolis 143.27 313 P PKPab 10 05 59.1 +0.6
PEHC Pehcevo 143.36 316 i P PKPbc 10 06 00.8 +0.6
APE Apeiranthos 143.39 307 ⇑P PKPbc 10 06 00.6 +0.3
APE Apeiranthos 143.39 307 ⇑PKIKP PKPbc 10 06 00.6 +0.3
SOH Sokhos 143.49 314 P PKPab 10 05 59.8 +0.3
FRGS Fruska Gora 143.50 323 ⇓P PKPbc 10 06 00.2 -0.1
FRGS Fruska Gora 143.50 323 ⇑i P PKPbc 10 06 00.6 +0.2
MORH Mrgy, Hungar 143.52 325 ⇑P PKPbc 10 06 00.6 +0.3
TANN Tannenbergstha 143.52 335 ePKPbc 10 06 00.5
baz=36,slow=3.2
ZVC Zvikov 143.52 332 ePKP PKPbc 10 06 00.7 +0.4
EDMD Edmundbyers 143.56 351 eP PKPab 10 05 57.0 -2.2
NEWG New Galloway 143.56 354 eP PKPab 10 05 59.4 +0.2
PLN Plauen 143.58 335 ePKPbc 10 06 00.7
baz=36,slow=3.2
PLG Polygyros 143.63 313 P PKPab 10 06 00.3 +0.3
KNT Kendrikon 143.65 315 eP PKPab 10 06 00.4 +0.4
KNT Kendrikon 143.65 315 P PKPab 10 06 00.4 +0.4
PAIG Paliouri 143.66 313 eP PKPab 10 05 59.8 -0.2
PAIG Paliouri 143.66 313 P PKPab 10 06 00.2 +0.2
SANT Santorini 143.67 306 ⇑P PKPbc 10 06 00.7 -0.4
SANT Santorini 143.67 306 PKPdf 10 06 03.6 +0.5
MOX Moxa 143.67 336 ePKPbc 10 06 01.0
baz=36,slow=3.2
MOX eL 11 23 28.2
comp=E,809nm,21.4s
CLGH Cloghs, Cushen 143.77 355⇑eP PKPab 10 05 58.5 -1.4
HORT Hortiatis 143.77 314 eP PKPab 10 06 00.7 +0.1
HORT Hortiatis 143.77 314 P PKPab 10 06 00.6 0.0
RONA Rosalia, Austr 143.77 328 i PKP PKPbc 10 06 01.5 +0.4
comp=E,107nm,0.6s,SNR=117
RONA eSKP SKPbc 10 09 26.0 +0.5
comp=E,14nm,0.7s
RONA eSKKP SKKPab 10 17 33.9 +0.1
comp=E,23nm,1.1s
VAY Valandovo 143.79 315 i P PKPbc 10 06 01.1 -0.2
AOS Alonnisos 143.83 311 P PKPab 10 06 00.8 +0.1
CONA Conrad Observa 143.83 329 i PKP PKPbc 10 06 01.8 +0.5
comp=E,59nm,0.5s,SNR=121
CONA i SKP SKPbc 10 09 25.8 +0.2
comp=E,14nm,0.7s
CONA eSKKP SKKPab 10 17 33.0 -0.6
comp=E,21nm,1.2s
GAL1 Galloway 143.86 354⇑eP PKPab 10 05 57.8 -2.5
IDGL Inch Island, C 143.87 357 PKP PKPab 10 05 59.1 -1.2
KYMI Kymi, Euboea I 143.88 310 P PKPab 10 06 00.9 -0.1
CKRC Cesky Krumlov 143.93 331 ePKP PKPbc 10 06 01.9 +0.4
CKRC eSKP SKPbc 10 09 25.9 +0.1
CKRC Cesky Krumlov 143.93 331 ePKIKP PKPbc 10 06 01.9 +0.4
CKRC e 10 09 25.9
KESW Keswick, Cumbr 143.95 352⇑eP PKPab 10 05 59.8 -0.9
MANZ Manzenberg 143.99 335 ePKPbc 10 06 02.3
baz=36,slow=3.2
TEKS Tekeris 144.01 322⇑i P PKPbc 10 06 02.0 +0.1
KHC Kasperske Hory 144.02 332 ePKP PKPbc 10 06 02.4 +0.6
KHC eSKP SKPbc 10 09 26.3 +0.3
KHC eSS SS 10 27 55.0 +6.6
KHC AMS AMS 11 05 50.0
comp=E,2μm,19.9s
KHC Kasperske Hory 144.02 332 ePKIKP PKPbc 10 06 02.4 +0.6
KHC e 10 09 26.3
KHC eSS SS 10 27 55.0 +6.6
KHC MLR MLR
comp=Z,2μm,19.9s
GRG Griva 144.08 315 eP PKPab 10 06 01.4 -0.3
GRG Griva 144.08 315 P PKPab 10 06 01.8 +0.1
ROTZ Rotzenmuhle 144.12 334 ePKPbc 10 06 02.8
baz=36,slow=3.2
UBBA Unterbreizbach 144.14 337 ePKPbc 10 06 02.4
baz=36,slow=3.2
GEC2 GERESS Array S 144.18 332 ePKPbc 10 06 02.6
baz=36,slow=3.2
GERES GERESS Array B 144.18 332 PKP PKPbc 10 06 02.6 +0.3
comp=Z,114nm,0.9s,baz=29,slow=3.3,SNR=250
GERES SKPbc SKPbc 10 09 26.7 +0.2
comp=Z,18nm,0.8s,baz=180,slow=0.3,SNR=4.6
GERES SKKPbc SKKPab 10 17 23.8 -8.3
comp=Z,0.4nm,0.3s,baz=191,slow=4.1,SNR=3.9
DION Dionisos Attik 144.21 309 P PKPab 10 05 59.2 -3.1
SKO Skopje 144.22 317 i P PKPdf 10 06 03.6 -0.3
NEO Neokhori 144.24 312 P PKPab 10 06 01.9 -0.5
WET Wettzell 144.32 333 ePKPbc 10 06 03.3
baz=36,slow=3.2
HPK Haverah Park 144.35 351 eP PKPab 10 06 01.0 -1.3
ATHU Athens Univers 144.37 309 P PKPab 10 06 02.7 -0.2
MHLO Agia Marina, M 144.37 307 P PKPbc 10 06 03.1 -0.1
KASTN Kahler Asten 144.38 339 ePKPbc 10 06 03.2
baz=36,slow=3.2
VLY Voula,Athens 144.40 309 P PKPab 10 06 02.5 -0.5
LIT Litokhoron 144.41 313 eP PKPbc 10 06 03.1 -0.1
LIT Litokhoron 144.41 313 PKPbc 10 06 03.1 -0.1
LIT Litokhoron 144.41 313 P PKPab 10 06 03.0 0.0
LIT Litokhoron 144.41 313 PKIKP PKPbc 10 06 03.2 0.0
IOMK Kirk Michael 144.44 354⇑eP PKPab 10 06 01.5 -1.0

IDI Anoyia 144.44 305 eP PKPbc 10 06 03.8 +0.3
IDI Anoyia 144.44 305 P PKPbc 10 06 03.6 +0.1
IDI Anoyia 144.44 305 PKP PKPbc 10 06 03.6 +0.1
comp=Z,87nm,0.5s,baz=52,slow=5.1,SNR=69
IDI SKPbc SKiKP 10 09 29.6 +1.4
comp=Z,68nm,1.1s,baz=123,slow=7.7,SNR=4.1
IDI SKKPbc SKKPbc 10 17 32.6 +0.8
comp=Z,42nm,1.0s,baz=4.0,slow=5.4,SNR=6.4
ARSA Arzberg 144.46 329 i PKP PKPbc 10 06 03.6 +0.4
comp=Z,297nm,1.3s,SNR=116
ARSA i SKP SKPbc 10 09 27.2 +0.1
comp=Z,4.4nm,0.5s
ARSA eSKKP SKKPab 10 17 31.4 +0.8
comp=Z,11nm,1.3s
SJES Sjenica 144.47 320⇑i P PKPdf 10 06 04.5 +0.1
BBLS Lazi&#263i 144.48 321⇑i P PKPdf 10 06 04.4 0.0
NBCL Cascavel-CE 144.55 128 eP PKPab 10 06 03.4 -0.8
BUG Bochum--Univer 144.56 340 ePKPbc 10 06 03.4
baz=36,slow=3.2
WIM Isle of Man 144.56 354⇑eP PKPab 10 06 03.0 -0.1
GRA1 Grafenberg Arr 144.58 335 PKPdf 10 06 04.2 -0.1
GRF Grafenberg Arr 144.58 335 PKIKP PKPdf 10 06 04.2 -0.1
GRF Grafenberg Arr 144.58 335 ePKPbc 10 06 04.4
baz=36,slow=3.2
GRF eL 11 14 06.1
comp=Z,820nm,21.5s
GRFO Grafenberg 144.58 335 PKPdf 10 06 04.3 0.0
GRFO Grafenberg 144.58 335 PKIKP PKPdf 10 06 04.3 0.0
LMK Market Rasen 144.61 349⇑eP PKPab 10 06 03.1 -0.2
HAPS Han Pijesak,BI 144.62 322⇑i P PKPdf 10 06 04.8 +0.1
VILL Villia 144.63 310 P PKPab 10 06 03.6 -0.3
RUDO Rudo 144.64 321 eP PKPbc 10 06 04.0 +0.2
MOA Molln 144.65 330 i PKP PKPbc 10 06 04.0 +0.3
comp=Z,245nm,0.6s,SNR=328
IVA Berane 144.73 319⇓i PKP PKPdf 10 06 05.0 +0.1
KALN Kalnik 144.74 326 i P PKPdf 10 06 04.6 -0.1
TYRN Tyrnavos 144.75 313 P PKPab 10 06 03.8 -0.4
PLE Pljevlja 144.79 320⇑i PKP PKPdf 10 06 05.4 +0.4
ILTH Belurgan, Co L 144.83 355 PKP PKPbc 10 06 03.3 -0.7
ILTH PKP PKPab 10 06 03.5 -0.5
ILTH Belurgan, Co L 144.83 355 eP PKPbc 10 06 03.3 -0.7
PVY Plav 144.84 319⇓i PKP PKPbc 10 06 04.5 -0.1
AXAR Agios Charalam 144.86 311 P PKPbc 10 06 04.3 -0.4
LBWR Ladybower, Pea 144.90 350⇑eP PKPbc 10 06 04.1 -0.1
MOSL Moslavina 144.92 325 i P PKPab 10 06 04.8 +0.1
LOBO Lobor 144.93 327 i P PKPbc 10 06 04.5 -0.1
LOUT Loutraki 144.95 310 P PKPbc 10 06 04.0 -0.9
THL Klokotos Trika 144.97 313 P PKPbc 10 06 03.9 -1.0
KOME Kolasin 144.98 319⇓i PKP PKPdf 10 06 05.5 +0.2
AGG Agios Georgios 144.99 312 eP PKPbc 10 06 04.9 -0.2
AGG Agios Georgios 144.99 312 P PKPbc 10 06 04.3 -0.8
KRND KRANIDI 145.05 309 P PKPbc 10 06 04.6 -0.7
BIOA Bad Ischl, Aus 145.05 331 i PKP PKPbc 10 06 04.4 -0.6
comp=Z,117nm,0.8s,SNR=98
OHR Ohrid 145.07 316 i P PKPdf 10 06 06.4 +0.9
IMMV Iera Moni Meta 145.09 305 eP PKPab 10 06 06.2 +0.5
IMMV Iera Moni Meta 145.09 305 P PKPab 10 06 05.8 +0.1
SOKA Soboth 145.10 328 ePKP PKPbc 10 06 04.8 -0.5
comp=Z,196nm,0.9s,SNR=298
SOKA eSKP SKPbc 10 09 28.6 -0.1
comp=Z,18nm,1.0s
SOKA eSKKP SKKPab 10 17 29.0 +1.0
comp=Z,24nm,1.3s
WACR West Acre 145.13 348⇑eP PKPbc 10 06 04.5 -0.5
MAKR Makrakomi, Fth 145.13 312 P PKPbc 10 06 05.3 -0.2
PTJ Puntijarka 145.14 326 P PKPab 10 06 05.7 +0.1
UPM Unac-Piva 145.15 320 eP PKPbc 10 06 05.6 -0.1
UPM Unac-Piva 145.15 320⇑i PKP PKPbc 10 06 05.6 -0.1
RCBR Riachuelo 145.18 133 PKPbc PKPbc 10 06 05.7 -0.7
comp=Z,280nm,1.1s,baz=243,slow=3.6,SNR=55
RCBR SKPbc SKiKP 10 09 30.8 +0.4
comp=Z,49nm,1.1s,baz=243,slow=0.5,SNR=3.9
RCBR Riachuelo 145.18 133 eP PKPbc 10 06 05.8 -0.7
ZAG Zagreb 145.19 326 P PKPab 10 06 06.6 +0.9
TNS Taunus Mts 145.20 338 ePKPbc 10 06 06.3
baz=36,slow=3.2
GVD Gavdhos 145.21 304 eP PKPdf 10 06 05.2 -0.6
GVD Gavdhos 145.21 304 P PKPdf 10 06 03.0 -2.8
BLY Banja Luka 145.23 324⇑i P PKPdf 10 06 05.5 -0.1
RODP Rodopos 145.24 306 eP PKPab 10 06 06.5 +0.3
NEST Nestorio 145.24 315 P PKPdf 10 06 05.6 -0.2
KPRO Kipourio 145.24 314 P PKPdf 10 06 05.3 -0.5
WME Myndd Eilian 145.26 353⇑eP PKPbc 10 06 05.4 0.0
STNC Stoke 145.28 351⇑eP PKPbc 10 06 05.5 +0.1
WPS Cemaes, Angles 145.28 353⇑eP PKPdf 10 06 04.7 -0.6
KBN Korca 145.31 315 P PKPab 10 06 06.5 +0.1
PRIJ Prijedor 145.35 325 eP PKPab 10 06 07.1 +0.8
NKME Niksic 145.37 320⇓i PKP PKPdf 10 06 05.4 -0.5
PDG Podgorica 145.37 319 ⇑P PKPdf 10 06 04.6 -1.2
PDG Podgorica 145.37 319 eP PKPbc 10 06 06.2 +0.1
PDG Podgorica 145.37 319 PKPdf 10 06 05.5 -0.3
PDG Podgorica 145.37 319⇑i P PKPdf 10 06 05.2 -0.6
PDG Podgorica 145.37 319⇓i PKP PKPbc 10 06 06.2 +0.1
WLF1 Llynfaes 145.38 353⇑eP PKPdf 10 06 04.8 -0.7
KALE Kalithea 145.39 311 P PKPdf 10 06 05.7 -0.4
AHRW Bad Neuenahr-A 145.39 340 ePKPbc 10 06 06.6
baz=36,slow=3.2
EVR Evrytania 145.40 312 P PKPab 10 06 07.1 +0.3
KNDR Palaiochora Ch 145.40 305 eP PKPab 10 06 07.3 +0.5
RJOB Jochberg 145.41 331 ePKPbc 10 06 06.7
baz=36,slow=3.2
GUR Goura 145.43 310 P PKPdf 10 06 05.7 -0.6
YRC Rhoscolyn 145.44 353 eP PKPbc 10 06 05.8 -0.1
ANX Ano Chora 145.46 311 P PKPbc 10 06 06.7 +0.1
VLI Veliai 145.46 308 P PKPdf 10 06 05.9 -0.3
OBKA Obir 145.46 328 ePKP PKPdf 10 06 05.2 -0.8
comp=Z,176nm,1.2s,SNR=109
OBKA eSKKP SKKPab 10 17 27.6 +1.2
comp=Z,13nm,1.0s
OBKA Obir 145.46 328⇑i P PKPdf 10 06 05.3 -0.7
CRES Cresnjev 145.46 327⇑i P PKPdf 10 06 05.8 -0.1
CWF Charnwood Fore 145.47 350 eP PKPdf 10 06 05.1 -0.6
ANKY Antikythira Is 145.48 306 P PKPab 10 06 07.6 +0.5
MGRS Mrkonjic Grad 145.49 324⇑i P PKPab 10 06 07.5 +0.6
YLL Llanberis 145.50 353⇑eP PKPbc 10 06 06.0 -0.1
CEME Cevo 145.51 319⇓i PKP PKPdf 10 06 06.4 +0.2
KLV Kalavryta, Ach 145.52 310 P PKPdf 10 06 06.1 -0.3
EFP Epalio 145.54 311 P PKPdf 10 06 06.6 -0.1
BRY Bratogost 145.54 320 eP PKPdf 10 06 05.6 -0.7
BRY Bratogost 145.54 320⇓i PKP PKPdf 10 06 06.1 -0.2
DRME Dracevica, Mon 145.54 319⇑i P PKPdf 10 06 05.8 -0.4
DRME Dracevica, Mon 145.54 319⇑i PKP PKPab 10 06 06.9 -0.2
TIR Tirane 145.56 317 ⇑P PKPdf 10 06 05.4 -0.8
TIR Tirane 145.56 317 eP PKPdf 10 06 06.2 0.0
TIR Tirane 145.56 317 ⇑PKIKP PKPdf 10 06 05.4 -0.8
IGLA Glengowla, Co 145.60 358 PKP PKPdf 10 06 05.1 -0.8
IGLA Glengowla, Co 145.60 358 eP PKPdf 10 06 05.0 -0.8
OZLJ Ozalj 145.60 326 i P PKPab 10 06 07.3 +0.1
BEBN Eben Emael 145.62 341 dPKPdf PKPdf 10 06 06.2 +0.2
BEBN dpPKP pPKPab 10 06 50.5 -0.4
BEBN dsPKP 10 07 04.2
FOEL Foel Wylfa 145.62 352 eP PKPdf 10 06 05.5 -0.5
KBA Koelnbreinsper 145.64 330 ePKP PKPdf 10 06 05.2 -1.2
comp=Z,365nm,1.5s,SNR=135
KBA eSKP SKPbc 10 09 28.9 -1.2
comp=Z,16nm,0.9s
ELMS Elmsett, Ipswi 145.65 347 eP PKPdf 10 06 05.7 -0.3
BTNL Ternell 145.66 341 dPKPdf PKPdf 10 06 05.1 -1.0
BTNL dpPKP pPKPab 10 06 51.3 +0.2
BTNL dsPKP 10 07 03.8
BUM Brajici-Budva 145.66 319⇓i PKP PKPdf 10 06 06.3 -0.2
LSK Leskovik 145.67 315 P PKPdf 10 06 06.6 0.0
MEM Membach 145.68 341 dPKPdf PKPdf 10 06 05.9 -0.2
MEM dpPKP pPKPbc 10 06 51.5 +0.1
MEM dsPKP 10 07 04.3
LESA Schwarzleotal 145.69 331 i PKP PKPdf 10 06 05.6 -0.8
comp=Z,192nm,0.5s
LESA eSKP SKPbc 10 09 29.5 -0.5
comp=Z,7.7nm,0.6s
PVO Paravola 145.73 312 P PKPdf 10 06 06.8 +0.2
JAN Janina 145.73 314 P PKPab 10 06 08.6 +0.6
A050A Klekovaca 145.76 324⇑i P PKPdf 10 06 06.1 -0.5
TREB Trebinje 145.76 320 eP PKPab 10 06 07.7 -0.3
BOJS Bojanci 145.79 326 i PKPdf PKPdf 10 06 06.7 +0.3
BOJS ePKPbc PKPab 10 06 08.3 +0

MYKA				*e*SKKP	**SKKPab**	10 17 25.7	+0.9
	comp=Z,16nm,1.3s						
BSTI	**Sart Tilman**	**145.84**	**341**	*d*PKPdf	**PKPdf**	**10 06 06.5**	**+0.1**
BSTI				*dp*PKP	pPKPbc	10 06 52.0	+0.1
BSTI				*ds*PKP		10 07 04.9	
BHOU	**Houvegnez**	**145.90**	**341**	*d*PKPdf	**PKPdf**	**10 06 06.7**	**+0.2**
BHOU				*dp*PKP	**pPKPdf**	**10 06 51.8**	**-0.1**
BHOU				*ds*PKP		10 07 06.2	
DBRK	**Dubrovnik**	**145.91**	**320**	*i* P	**PKPdf**	**10 06 05.7**	**-1.1**
HLM1	**Long Mynd**	**145.94**	**351**	*e*P	**PKPdf**	**10 06 05.8**	**-0.7**
PLIT	**Plitvice**	**146.00**	**325**	*i* P	**PKPdf**	**10 06 05.7**	**-1.2**
RLS	**Riolos of Patr**	**146.01**	**311**	P	**PKPdf**	**10 06 07.4**	**+0.3**
ITM	**Ithomi**	**146.03**	**309**	P	**PKPdf**	**10 06 06.7**	**-0.5**
RICI	**Ricice**	**146.03**	**322**	*i* P	**PKPdf**	**10 06 06.2**	**-0.8**
CEY	**Cerknica**	**146.05**	**328⇑**	*i*P	**PKPdf**	**10 06 06.9**	**-0.1**
BCLA	**Clavier**	**146.06**	**341**	*d*PKPdf	**PKPdf**	**10 06 06.6**	**-0.2**
BCLA				*ds*PKP		10 07 06.3	
STON	**Ston**	**146.07**	**321**	*i* P	**PKPdf**	**10 06 06.0**	**-1.0**
STON	**Ston**	**146.07**	**321⇑**	*i*P	**PKPdf**	**10 06 06.1**	**-0.9**
STU	**Stuttgart**	**146.12**	**336**		**PKPdf**	**10 06 07.3**	**+0.4**
STU	**Stuttgart**	**146.12**	**336**	PKP2	**PKPdf**	**10 06 07.3**	**+0.4**
VOJS	**Vojsko**	**146.12**	**328**	*i* PKPdf	**PKPdf**	**10 06 06.6**	**-0.5**
KIJV	**Kijevo**	**146.13**	**324**	*i* P	**PKPdf**	**10 06 06.6**	**-0.5**
IGT	**Igoumenitsa**	**146.14**	**314**	P	**PKPdf**	**10 06 06.7**	**-0.6**
UDBI	**Údbina**	**146.16**	**325**	*i* P	**PKPdf**	**10 06 06.8**	**-0.4**
BGES	**Gesves**	**146.16**	**341**	*d*PKPdf	**PKPdf**	**10 06 06.7**	**-0.2**
BGES				*dp*PKP	**pPKPdf**	**10 06 52.5**	**+0.3**
BGES				*ds*PKP		10 07 05.2	
SRN	**Sarande**	**146.20**	**315**	P	**PKPdf**	**10 06 06.9**	**-0.4**
MAKA	**Makarska**	**146.22**	**322**	*i* P	**PKPdf**	**10 06 06.4**	**-0.9**
TSLK	**Tsoukalades, L**	**146.25**	**313**	P	**PKPab**	**10 06 09.6**	**-0.3**
VLO	**Vlora**	**146.25**	**316**	P	**PKPab**	**10 06 09.5**	**-0.3**
WATA	**Walderalm**	**146.25**	**332**	*e*PKP	**PKPdf**	**10 06 06.4**	**-1.0**
	comp=Z,88nm,0.6s,SNR=104						
LKD2	**Lefkada island**	**146.26**	**313**	*e*P	**PKPbc**	**10 06 08.9**	**-0.1**
LKD2	**Lefkada island**	**146.26**	**313**	P	**PKPdf**	**10 06 07.3**	**-0.2**
NYDR	**Nydri-Lefkada**	**146.27**	**312**	P	**PKPdf**	**10 06 07.0**	**-0.5**
ABTA	**Abfaltersbach**	**146.27**	**330**	*e*PKP	**PKPdf**	**10 06 06.3**	**-1.1**
	comp=Z,115nm,0.6s,SNR=182						
ABTA				*e*SKKP	**SKKPab**	**10 17 23.6**	**+0.8**
	comp=Z,16nm,1.2s						
PYL	**PYLOS**	**146.28**	**309**	P	**PKPdf**	**10 06 06.7**	**-0.9**
WTTA	**Wattenberg**	**146.28**	**332**	*e*PKP	**PKPdf**	**10 06 07.1**	**-0.4**
	comp=Z,95nm,0.5s,SNR=176						
WTTA				*e*SKP	**SKPbc**	**10 09 31.2**	**-0.3**
	comp=Z,17nm,0.8s						
SABO	**M.te Sabotino**	**146.30**	**329**		**PKPdf**	**10 06 06.9**	**-0.5**
RCHB	**Rochefort**	**146.31**	**341**	*d*PKPdf	**PKPdf**	**10 06 07.0**	**-0.3**
RCHB				*dp*PKP	**pPKPdf**	**10 06 52.6**	**+0.1**
RCHB				*ds*PKP		10 07 05.2	
BMRD	**Maredsous**	**146.32**	**342**	*d*PKPdf	**PKPdf**	**10 06 07.1**	**-0.1**
BMRD				*dp*PKP	pPKPab	10 06 53.6	-0.1
BMRD				*ds*PKP		10 07 06.5	
EVGI	**Lefkada island**	**146.34**	**312**	P	**PKPdf**	**10 06 07.1**	**-0.5**
WLF	**Walferdange**	**146.45**	**340**	*d*PKPdf	**PKPdf**	**10 06 08.2**	**+0.8**
WLF				*dp*PKP	**pPKPdf**	**10 06 53.2**	**+0.4**
WLF	**Walferdange**	**146.45**	**340**	*e*PKPbc		10 06 10.4	
	baz=36,slow=3.2						
MCH1	**Michaelchurch**	**146.46**	**351⇑**	*e*P	**PKPbc**	**10 06 09.0**	**0.0**
FSK	**Fiskardo**	**146.47**	**312**	P	**PKPdf**	**10 06 06.9**	**-1.0**
RETA	**Reutte**	**146.49**	**333**	*e*PKP	**PKPdf**	**10 06 07.0**	**-0.7**
	comp=Z,76nm,0.5s,SNR=122						
RTZL	**Ratzakli, Kefa**	**146.50**	**311**	P	**PKPbc**	**10 06 09.7**	**+0.1**
ELSH	**Elham, Standar**	**146.50**	**346**	*e*P	**PKPdf**	**10 06 07.5**	**+0.1**
SQTA	**Sankt Quirin**	**146.50**	**332**	*e*PKP	**PKPdf**	**10 06 07.4**	**-0.4**
	comp=Z,183nm,0.5s,SNR=178						
IWEX	**Carrickbyrne,**	**146.51**	**355**	PKP	**PKPbc**	**10 06 08.7**	**-0.5**
IWEX	**Carrickbyrne,**	**146.51**	**355**	*e*P	**PKPdf**	**10 06 06.9**	**-0.5**
RABC	**Rab**	**146.54**	**326**	*i* P	**PKPdf**	**10 06 06.6**	**-1.1**
STRD	**Stroud**	**146.54**	**350**	*e*P	**PKPdf**	**10 06 08.3**	**+0.7**
DOU	**Dourbes**	**146.56**	**342**	*d*PKPdf	**PKPdf**	**10 06 07.4**	**-0.3**
DOU				*dp*PKP	pPKPbc	10 06 53.7	-0.3
DOU				*ds*PKP		10 07 07.6	
VLS	**Valsamata**	**146.58**	**312**	P	**PKPdf**	**10 06 07.1**	**-1.0**
LTHK	**Lithakia**	**146.60**	**311**	P	**PKPdf**	**10 06 07.1**	**-1.0**
MORI	**Morici**	**146.61**	**324**	*i* P	**PKPdf**	**10 06 07.2**	**-0.7**
PSDA	**Pessada-Kefalo**	**146.61**	**311**	P	**PKPbc**	**10 06 09.9**	**0.0**
NVLJ	**Novalja**	**146.62**	**326**	*i* P	**PKPdf**	**10 06 07.1**	**-0.8**
HVAR	**Hvar**	**146.62**	**322**	*i* P	**PKPdf**	**10 06 07.5**	**-0.4**
SMRN	**Sveta Marina**	**146.67**	**327**	*i* P	**PKPdf**	**10 06 07.4**	**-0.6**
VIRC	**Vir**	**146.69**	**325**	*i* P	**PKPdf**	**10 06 07.4**	**-0.6**
DMLN	**Damoulianata-K**	**146.71**	**312**	P	**PKPdf**	**10 06 08.8**	**+0.5**
OLDB	**Oldbury-Upon-S**	**146.72**	**350**	*e*P	**PKPdf**	**10 06 06.3**	**-1.5**
RSBS	**Rosebush, Pemb**	**146.73**	**353**	*e*P	**PKPdf**	**10 06 06.8**	**-1.1**
SWN1	**Swindon**	**146.74**	**350**	*e*P	**PKPdf**	**10 06 07.7**	**-0.2**
BFO	**Black Forest**	**146.81**	**336**	PKPbc	**PKPbc**	**10 06 11.0**	**+0.8**
BFO	**Black Forest**	**146.81**	**336**	PKP2	**PKPbc**	**10 06 11.0**	**+0.8**
BFO	**Black Forest**	**146.81**	**336**	*e*PKPbc		10 06 10.7	
	baz=36,slow=3.2						
FETA	**Feichten**	**146.87**	**332**	*i* PKP	**PKPdf**	**10 06 07.9**	**-0.6**
	comp=Z,141nm,0.5s,SNR=244						
FETA				*e*SKP	**SKPbc**	**10 09 34.1**	**+1.4**
	comp=Z,11nm,1.0s						
DUGI	**Dugi Otok**	**146.89**	**325**	*i* P	**PKPdf**	**10 06 07.7**	**-0.7**
HMNX	**Herstmonceux**	**146.94**	**347**	*e*P	**PKPbc**	**10 06 10.5**	**+0.1**
BRJN	**Brijuni**	**146.97**	**327**	*i* P	**PKPdf**	**10 06 07.7**	**-0.7**
DAVA	**Damuels**	**147.03**	**334**	*e*PKP	**PKPdf**	**10 06 08.3**	**-0.4**
	comp=Z,139nm,0.8s,SNR=105						
DAVOX	**Davos/Dischmat**	**147.42**	**333**	PKPbc	**PKPbc**	**10 06 12.8**	**+0.6**
	comp=Z,356nm,0.5s,baz=51,slow=1.4,SNR=513						
HTL	**Hartland**	**147.64**	**352**	*e*P	**PKPdf**	**10 06 08.9**	**-0.5**
TEOL	**Teolo**	**147.69**	**330**		**PKPdf**	**10 06 09.5**	**-0.2**
TUE	**Stuetta**	**147.89**	**333**		**PKPdf**	**10 06 10.1**	**-0.2**
MATE	**Matera**	**147.95**	**318**	*e*P	**PKPdf**	**10 06 08.2**	**-2.0**
DYA	**Yadsworthy**	**148.12**	**352**	*e*P	**PKPdf**	**10 06 09.4**	**-0.8**
CCA1	**Carnmenellis**	**148.53**	**353**	*e*P	**PKPdf**	**10 06 10.0**	**-0.9**
TIP	**Timpagrande**	**148.72**	**316**	⇑P	**PKPdf**	**10 06 10.8**	**-0.9**
TIP	**Timpagrande**	**148.72**	**316**	PKPbc	**PKiKP**	**10 06 16.6**	**-0.3**
NRCA	**Norcia**	**148.72**	**325**	PKPbc	**PKiKP**	**10 06 16.4**	**-0.5**
CAMP	**Campotosto**	**148.75**	**324**	PKPbc	**PKiKP**	**10 06 16.6**	**-0.4**
INTR	**Introdacqua**	**148.81**	**323**		**PKPdf**	**10 06 10.6**	**-1.1**
SENIN	**Lac Senin/Sane**	**148.82**	**335**	PKPbc	**PKPbc**	**10 06 16.3**	**+0.5**
JSA	**Saint Aubin**	**149.04**	**349**	*e*P	**PKPdf**	**10 06 11.4**	**-0.3**
VAE	**Valguarnera**	**151.18**	**315**	PKPbc	**PKPbc**	**10 06 21.1**	**-0.5**
	comp=Z,12nm,0.4s,baz=56,slow=3.6,SNR=6.8						
VAE				PKPab	**PKPab**	**10 06 29.4**	**-0.6**
	comp=Z,189nm,0.9s,baz=81,slow=15,SNR=10.0						
H07N1	**FLORES T-PHASB**	**52.99**	**36**	PKPbc	**PKPbc**	**10 06 24.2**	**-1.4**
	SNR=13						
H07S1	**FLORES T-PHASB**	**53.16**	**36**	PKPbc	**PKPbc**	**10 06 24.9**	**-1.1**
	SNR=16						
CALA	**Caldeira**	**155.10**	**35**	*e*PKPab	**PKPab**	**10 06 48.2**	**+1.6**
ROSA	**Rosais**	**155.25**	**34**	*e*PKPdf	**PKPdf**	**10 06 23.2**	**+1.9**
PCAN	**Candelaria**	**155.31**	**35**	*e*PKPdf	**PKPdf**	**10 06 18.6**	**-2.8**
PCAN	**Candelaria**	**155.31**	**35**	*e*PKPab	**PKPab**	**10 06 47.8**	**+0.4**
PICO	**Pico**	**155.31**	**34**	*e*PKPdf	**PKPdf**	**10 06 23.2**	**+1.7**
PICO	**Pico**	**155.31**	**34**	*e*PKPab	**PKPab**	**10 06 47.2**	**-0.3**
PMAN	**Manadas**	**155.39**	**34**	*e*PKPab	**PKPab**	**10 06 48.4**	**+0.7**
PPNO	**Prainha do Nor**	**155.42**	**34**	*e*PKPab	**PKPab**	**10 06 48.6**	**+0.7**
PID	**Ribeirinha**	**155.52**	**34**	*e*PKPdf	**PKPdf**	**10 06 24.3**	**+2.6**
PID	**Ribeirinha**	**155.52**	**34**	*e*PKPab	**PKPab**	**10 06 48.9**	**+0.6**
KEST	**Kesra**	**155.52**	**317**	PKP	**PKPdf**	**10 06 21.3**	**-0.6**
	comp=Z,15nm,0.8s,baz=102,slow=23,SNR=15						
KEST				PKPab	**PKPab**	**10 06 49.0**	**+0.5**
	comp=Z,16nm,0.5s,baz=324,slow=2.7,SNR=8.2						
KEST				pPKPab	**pPKPab**	**10 07 31.9**	**0.0**
	comp=Z,48nm,0.9s,baz=256,slow=4.9,SNR=2.4						
PSBA	**Serra de Santa**	**155.68**	**32**	*e*PKPab	**PKPab**	**10 06 50.0**	**+1.0**
PAGU	**Agualva, Azore**	**155.75**	**32**	*e*PKPab	**PKPab**	**10 06 50.0**	**+0.7**
ADH	**Angra Heroismo**	**155.81**	**32**	*e*PKPdf	**PKPdf**	**10 06 23.8**	**+1.8**
ADH	**Angra Heroismo**	**155.81**	**32**	*e*PKPab	**PKPab**	**10 06 48.9**	**-0.6**
PBRG	**Braganca**	**156.96**	**352**	*e*PKPdf	**PKPdf**	**10 06 22.9**	**-0.6**
PBRG	**Braganca**	**156.96**	**352**	*e*PKPab	**PKPab**	**10 06 54.8**	**+0.4**
PBRG				*ep*PKPab	**pPKPab**	**10 07 37.9**	**+0.2**
PBRG	**Braganca**	**156.96**	**352**	*e*PP	**PP**	**10 10 34.2**	**+1.8**
PCAB	**Cabril**	**157.20**	**354**	*e*PKPdf	**PKPdf**	**10 06 24.4**	**+0.6**
PCAB	**Cabril**	**157.20**	**354**	*e*PKPab	**PKPab**	**10 06 56.3**	**+0.9**
PCAB				*ep*PKPab	**pPKPab**	**10 07 39.2**	**+0.4**
PSET	**Sete Cidades**	**157.21**	**31**	*e*PKPdf	**PKPdf**	**10 06 26.5**	**+2.6**
PSET	**Sete Cidades**	**157.21**	**31**	*e*PKPab	**PKPab**	**10 06 57.0**	**+1.4**
PCALD	**Caldeiras da R**	**157.35**	**31**	*e*PKPab	**PKPab**	**10 06 57.3**	**+1.1**
CMLA	**Cha da Macela**	**157.36**	**31**	PKPdf	**PKPdf**	**10 06 24.9**	**+0.8**
CMLA					**PKPab**	**10 06 56.8**	**+0.6**
CMLA	**Cha da Macela**	**157.36**	**31**	PKIKP	**PKPdf**	**10 06 24.9**	**+0.8**
POLO	**Lamas de Olo**	**157.51**	**354**	*e*PKPab	**PKPab**	**10 06 57.1**	**+0.3**
POLO				*ep*PKPab	**pPKPab**	**10 07 38.8**	**-1.4**
POLO	**Lamas de Olo**	**157.51**	**354**	*e*PP	**PP**	**10 10 37.3**	**+1.8**
BART	**Pico Bartolome**	**157.52**	**31**	*e*PKPdf	**PKPdf**	**10 06 22.0**	**-2.4**
BART	**Pico Bartolome**	**157.52**	**31**	*e*PKPab	**PKPab**	**10 06 57.9**	**+0.9**
PVRL	**Vila Real**	**157.60**	**354**	*e*PKPab	**PKPab**	**10 06 57.8**	**+0.7**
PSMA	**Santa Maria**	**158.15**	**32**	*e*PKPdf	**PKPdf**	**10 06 25.7**	**+0.6**
PSMA	**Santa Maria**	**158.15**	**32**	*e*PKPab	**PKPab**	**10 06 59.9**	**+0.3**
PVIS	**Viseu**	**158.17**	**354**	*e*PKPdf	**PKPdf**	**10 06 24.8**	**-0.3**
PVIS	**Viseu**	**158.17**	**354**	*e*PKPab	**PKPab**	**10 07 00.3**	**+0.7**
PVIS				*e*LQ	LQ	10 11 24.6	
PSMN	**Pico do Norte,**	**158.18**	**32**	*e*PKPdf	**PKPdf**	**10 06 26.0**	**+0.9**
PSMN	**Pico do Norte,**	**158.18**	**32**	*e*PKPab	**PKPab**	**10 06 59.7**	**-0.1**
MTE	**Manteigas**	**158.45**	**353**		**PKPdf**	**10 06 25.8**	**+0.3**
MTE				PKPab	**PKPab**	**10 07 01.9**	**+1.0**
MTE	**Manteigas**	**158.45**	**353**	*e*PKPdf	**PKPdf**	**10 06 25.3**	**-0.1**
MTE	**Manteigas**	**158.45**	**353**	*e*PKPab	**PKPab**	**10 07 00.8**	**0.0**
MTE	**Manteigas**	**158.45**	**353**	*e*PP	**PP**	**10 10 41.8**	**+1.2**
MTE				*e*LQ	LQ	10 11 23.2	
ESDC	**Sonseca Array**	**158.51**	**345**		**PKPdf**	**10 06 25.0**	**-0.5**
ESDC				PKPab	**PKPab**	**10 07 01.9**	**+0.8**
ESDC	**Sonseca Array**	**158.51**	**345**	PKP	**PKPdf**	**10 06 25.1**	**-0.4**
	comp=Z,5.6nm,1.0s,baz=8.1,slow=2.7,SNR=18						
ESDC				PKPab	**PKPab**	**10 07 01.3**	**+0.1**
	comp=Z,28nm,1.0s,baz=5.9,slow=3.0,SNR=4.2						
ESDC				PP	**PP**	**10 10 39.3**	**-1.7**
	comp=Z,4.1nm,1.0s,baz=5.9,slow=5.5,SNR=4.3						
PAB	**San Pablo**	**158.72**	**346**		**PKPdf**	**10 06 26.2**	**+0.4**
PAB				PKPab	**PKPab**	**10 07 02.9**	**+0.8**
PAB	**San Pablo**	**158.72**	**346**	PKP2	**PKPab**	**10 07 02.9**	**+0.8**
PAB						11 06 26.2	
COI	**Coimbra**	**158.73**	**355**	*e*PP	**PP**	**10 10 42.6**	**+0.6**
PCAS	**Casmilo, Conde**	**158.89**	**355**	*e*PKPdf	**PKPdf**	**10 06 25.2**	**-0.7**
PCAS	**Casmilo, Conde**	**158.89**	**355**	*e*PKPab	**PKPab**	**10 07 03.3**	**+0.6**
PCAS	**Casmilo, Conde**	**158.89**	**355**	*e*PP	**PP**	**10 10 45.8**	**+2.9**
PCAS				*e*LQ	LQ	10 11 26.9	
PCBR	**Castelo Branco**	**158.99**	**353**	*e*PKPdf	**PKPdf**	**10 06 26.0**	**0.0**
PCBR	**Castelo Branco**	**158.99**	**353**	*e*PKPab	**PKPab**	**10 07 02.7**	**-0.4**
PCBR	**Castelo Branco**	**158.99**	**353**	*e*PP	**PP**	**10 10 44.6**	**+1.2**
PCBR				*e*LQ	LQ	10 11 28.2	
PMRV	**Marv??o**	**159.39**	**352**	*e*PKPdf	**PKPdf**	**10 06 26.3**	**-0.2**
PMRV	**Marv??o**	**159.39**	**352**	*e*PKPab	**PKPab**	**10 07 04.8**	**-0.1**
PMRV				*ep*PKPab	**pPKPab**	**10 07 49.1**	**+0.9**
PMRV	**Marv??o**	**159.39**	**352**	*e*PP	**PP**	**10 10 47.7**	**+2.1**
PMRV				*e*LQ	LQ	10 11 30.3	
PSBE	**So Bento**	**159.45**	**355**	*e*PKPdf	**PKPdf**	**10 06 26.6**	**0.0**
PSBE	**So Bento**	**159.45**	**355**	*e*PKPab	**PKPab**	**10 07 05.9**	**+0.7**
PSBE	**So Bento**	**159.45**	**355**	*e*PP	**PP**	**10 10 49.4**	**+3.5**
PSBE				*e*LQ	LQ	10 11 29.8	
PMTG	**Montargil**	**159.84**	**354**	*e*PKPdf	**PKPdf**	**10 06 26.5**	**-0.5**
PMTG				*ep*PKPab	**pPKPab**	**10 07 50.1**	**-0.1**
PMTG	**Montargil**	**159.84**	**354**	*e*PP	**PP**	**10 10 51.4**	**+3.4**
PMTG				*e*LQ	LQ	10 11 32.7	
PESTR	**Estremoz**	**159.97**	**352**	*e*PKPdf	**PKPdf**	**10 06 26.7**	**-0.5**
PESTR	**Estremoz**	**159.97**	**352**	*e*PKPab	**PKPab**	**10 07 07.3**	**-0.1**
PESTR				*ep*PKPab	**pPKPab**	**10 07 50.7**	**0.0**
PESTR	**Estremoz**	**159.97**	**352**	*e*PP	**PP**	**10 10 49.2**	**+0.5**
PESTR				*e*LQ	LQ	10 11 32.2	
LIS	**Lisbon**	**160.26**	**356**	*e*PKPdf	**PKPdf**	**10 06 27.1**	**-0.4**
LIS				*e*PKPab	**PKPab**	**10 07 09.1**	**+0.4**
EVO	**Evora**	**160.35**	**353**	*e*PKPdf	**PKPdf**	**10 06 27.2**	**-0.4**
EVO	**Evora**	**160.35**	**353**	*e*PKPab	**PKPab**	**10 07 09.8**	**+0.8**
EVO				*ep*PKPab	**pPKPab**	**10 07 52.6**	**+0.3**
EVO	**Evora**	**160.35**	**353**	*e*PP	**PP**	**10 10 52.2**	**+1.5**
EVO				*e*LQ	LQ	10 11 33.5	
PBAR	**Barrancos**	**160.57**	**351**	*e*PKPdf	**PKPdf**	**10 06 27.7**	**-0.1**
PBAR	**Barrancos**	**160.57**	**351**	*ep*PKPab	pPKPab	10 07 53.6	+0.3
PBAR	**Barrancos**	**160.57**	**351**	*e*PP	**PP**	**10 10 51.4**	**-0.5**
PBAR				*e*LQ	LQ	10 11 36.5	
PNCL	**Nicolau / Gran**	**160.82**	**354**	*e*PKPdf	**PKPdf**	**10 06 28.0**	**-0.1**
PNCL	**Nicolau / Gran**	**160.82**	**354**	*e*PKPab	**PKPab**	**10 07 12.1**	**+1.0**
PNCL				*ep*PKPab	**pPKPab**	**10 07 54.7**	**+0.3**
PNCL				*e*LQ	LQ	10 11 37.3	
PBEJ	**Beja**	**160.83**	**353**	*e*PKPdf	**PKPdf**	**10 06 28.1**	**0.0**
PBEJ	**Beja**	**160.83**	**353**	*e*PKPab	**PKPab**	**10 07 11.6**	**+0.4**
PBEJ				*ep*PKPab	**pPKPab**	**10 07 56.0**	**+1.6**
PBEJ	**Beja**	**160.83**	**353**	*e*PP	**PP**	**10 10 55.9**	**+2.6**
PBEJ				*e*LQ	LQ	10 11 38.6	
MESJ	**Messejana**	**161.05**	**353**		**PKPdf**	**10 06 29.0**	**+0.6**
MESJ					**PKPab**	**10 07 13.7**	**+1.5**
MESJ	**Messejana**	**161.05**	**353**	*e*PKPdf	**PKPdf**	**10 06 28.3**	**-0.1**
MESJ	**Messejana**	**161.05**	**353**	*e*PKPab	**PKPab**	**10 07 14.6**	**+2.4**
MESJ				*ep*PKPab	**pPKPab**	**10 07 55.6**	**+0.2**
MESJ				*e*LQ	LQ	10 11 38.0	
MESJ	**Messejana**	**161.05**	**353**	*e*PKPdf	**PKPdf**	**10 06 28.1**	**-0.3**
MESJ				*e*PKPab	**PKPab**	**10 07 12.6**	**+0.4**
MESJ				*e*PP	**PP**	**10 10 56.1**	**+1.5**
MESJ	**Messejana**	**161.05**	**353**	PKP2	**PKPab**	**10 07 13.7**	**+1.5**
MESJ						11 06 29.0	
PCVE	**Castro Verde**	**161.24**	**353**	*e*PKPdf	**PKPdf**	**10 06 28.7**	**+0.1**
PCVE	**Castro Verde**	**161.24**	**353**	*e*PKPab	**PKPab**	**10 07 14.1**	**+1.1**
PCVE				*ep*PKPab	**pPKPab**	**10 07 55.4**	**-0.8**
PCVE	**Castro Verde**	**161.24**	**353**	*e*PP	**PP**	**10 10 57.4**	**+1.9**
PCVE				*e*LQ	LQ	10 11 39.1	
PTEO	**Sao Teotonio**	**161.40**	**354**	*e*PKPdf	**PKPdf**	**10 06 28.9**	**+0.2**
PTEO	**Sao Teotonio**	**161.40**	**354**	*e*PKPab	**PKPab**	**10 07 14.3**	**+0.7**
PTEO				*ep*PKPab	**pPKPab**	**10 07 57.6**	**+0.6**
PVAQ	**Vaqueiros**	**161.42**	**352**	*e*PKPdf	**PKPdf**	**10 06 28.9**	**+0.1**
PVAQ	**Vaqueiros**	**161.42**	**352**	*e*PKPab	**PKPab**	**10 07 14.4**	**+0.6**
PVAQ				*ep*PKPab	**pPKPab**	**10 07 57.8**	**+0.8**
PVAQ	**Vaqueiros**	**161.42**	**352**	*e*PP	**PP**	**10 10 57.4**	**+0.9**
PVAQ				*e*LQ	LQ	10 11 40.5	
PBDV	**Barranco-do-Ve**	**161.61**	**352**	*e*PKPdf	**PKPdf**	**10 06 29.4**	**+0.4**
PBDV	**Barranco-do-Ve**	**161.61**	**352**	*e*PKPab	**PKPab**	**10 07 15.3**	**+0.7**
PBDV				*es*PKPab	**pPKPab**	**10 07 58.5**	**+0.6**
PBDV				*es*PKPab	**sPKPab**	**10 08 13.4**	**-2.4**
PBDV	**Barranco-do-Ve**	**161.61**	**352**	*e*PP	**PP**	**10 10 59.8**	**+2.3**
PBDV				*e*LQ	LQ	10 11 44.2	
MORF	**Marmelete**	**161.63**	**354**		**PKPdf**	**10 06 29.1**	**0.0**
MORF					**PKPab**	**10 07 15.8**	**+1.1**
MORF	**Marmelete**	**161.63**	**354**	*e*PKPdf	**PKPdf**	**10 06 29.3**	**+0.3**
MORF	**Marmelete**	**161.63**	**354**	*e*PKPab	**PKPab**	**10 07 15.1**	**+0.4**
MORF				*ep*PKPab	**pPKPab**	**10 07 58.5**	**+0.4**
MORF				*es*PKPab	**sPKPab**	**10 08 13.1**	**-2.9**
MORF	**Marmelete**	**161.63**	**354**	*e*PP	**PP**	**10 10 59.4**	**+1.8**
MORF				*e*LQ	LQ	10 11 44.2	
MORF	**Marmelete**	**161.63**	**354**	*e*PKPdf	**PKPdf**	**10 06 28.9**	**-0.2**
MORF				*e*PKPab	**PKPab**	**10 07 15.1**	**+0.4**
MORF				*e*PP	**PP**	**10 10 59.2**	**+1.5**
MORF				*e*SS	SS	10 31 03.1	+3.3
MORF	**Marmelete**	**161.63**	**354**	PKIKP	**PKPdf**	**10 06 29.1**	**0.0**
MORF						10 07 15.8	
PFVI	**Vila Bisbo**	**161.81**	**355**	PKPdf	**PKPdf**	**10 06 29.1**	**-0.1**
PFVI				PKPab	**PKPab**	**10 07 16.2**	**+0.8**
PFVI	**Vila Bisbo**	**161.81**	**355**	*e*PKPdf	**PKPdf**	**10 06 29.3**	**+0.1**
PFVI	**Vila Bisbo**	**161.81**	**355**	*e*PKPab	**PKPab**	**10 07 16.3**	**+0.8**
PFVI				*ep*PKPab	**pPKPab**	**10 07 58.3**	**-0.5**
PFVI	**Vila Bisbo**	**161.81**	**355**	*e*PP	**PP**	**10 11 01.1**	**+2.5**
PFVI				*e*LQ	LQ	10 11 44.5	
MDT	**Midelt**	**165.09**	**339**	PKP	**PKPdf**	**10 06 32.6**	**+0.1**
	comp=Z,22nm,1.0s,baz=8.5,slow=2.0,SNR=19						
MDT				PKPab	**PKPab**	**10 07 31.1**	**+0.9**
	comp=Z,29nm,1.1s,baz=32,slow=3.1,SNR=6.5						
PMOZ	**Porto Moniz, M**	**165.11**	**21**	*e*PKP	**PKPdf**	**10 06 32.8**	**+0.3**
PMPST	**Porto Santo, M**	**165.15**	**18**	*e*PKP	**PKPdf**	**10 06 32.8**	**+0.4**
LIC	**Lamto**	**166.08**	**205⇑**	*e*PKIKP	**PKPdf**	**10 06 33.2**	**-0.5**
	comp=Z,78nm,1.2s						
LIC	**Lamto**	**166.08**	**205⇑**	*i*PKP2	**PKPab**	**10 07 35.4**	**+0.6**
	comp=Z,38nm,0.6s						
KIC	**Kosan Boka**	**166.09**	**207⇑**	*e*PKIKP	**PKPdf**	**10 06 33.2**	**-0.6**
	comp=Z,66nm,1.1s						
KIC	**Kosan Boka**	**166.09**	**207⇑**	*i*PKP2	**PKPab**	**10 07 35.5**	**+0.6**
	comp=Z,41nm,0.8s						
DBIC	**Dimbokro**	**166.41**	**207**		**PKPdf**	**10 06 33.6**	**-0.4**
DBIC				PKPab	**sPKPdf**	**10 07 37.5**	**+0.7**
DBIC	**Dimbokro**	**166.41**	**207**	PKP	**PKPdf**	**10 06 33.6**	**-0.4**
	comp=Z,31nm,1.0s,baz=179,slow=0.3,SNR=10						
DBIC				PKPab	**sPKPdf**	**10 07 36.9**	**0.0**
	comp=Z,27nm,0.8s,baz=139,slow=4.2,SNR=10						
DBIC				pPKPab	**pPKPab**	**10 08 18.6**	**-0.9**
	comp=Z,48nm,1.1s,baz=109,slow=3.8,SNR=4.8						
DBIC	**Dimbokro**	**166.41**	**207**	PKIKP	**PKPdf**	**10 06 33.6**	**-0.4**
DBIC						10 07 37.5	
TIC	**Toumodi**	**166.46**	**206⇑**	*e*PKIKP	**PKPdf**	**10 06 33.5**	**-0.6**
	comp=Z,126nm,1.2s						
TIC	**Toumodi**	**166.46**	**206⇑**	*i*PKP2	**PKPab**	**10 07 37.1**	**+0.6**
	comp=Z,47nm,0.6s						
TOA0	**Torodi Ar. Sit**	**166.55**	**246**		**PKPdf**	**10 06 34.0**	**0.0**
TOA0				PKPab	**PKPab**	**10 07 37.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**166.55**	**246**	PKP	**PKPdf**	**10 06 33.8**	**-0.3**
	comp=Z,43nm,0.9s,baz=17,slow=2.8,SNR=126						
TORD				pPKP	**pPKPdf**	**10 07 19.0**	**-0.4**
	comp=Z,17nm,0.9s,baz=129,slow=0.3,SNR=2.9						
TORD				PKPab	**PKPab**	**10 07 37.4**	**+0.2**
	comp=Z,48nm,1.0s,baz=76,slow=3.3,SNR=9.9				

EGRO				⇑iVmb_V				10 06 10.0
	comp=N,152nm,SNR=2.1							
EGRO				S		**Sn**		**10 07 02.6 -0.8**
PESTR	**Estremoz**	**5.19**	**70**	*e*P		**Pn**		**10 06 10.5 +2.7**
PESTR				*e*S		**Sn**		**10 07 05.5 -1.0**
PESTR				A		A		10 07 08.6
	comp=N,11nm,0.7s							
PBAR	**Barrancos**	**5.47**	**78**	*e*P		**Pn**		**10 06 14.5 +2.8**
PBAR				*e*S		**Sn**		**10 07 12.3 -1.0**
PBAR				A		A		10 07 18.4
	comp=N,6.8nm,0.1s							
PBAR	**Barrancos**	**5.47**	**78**	Pn		**Pn**		**10 06 14.3 +2.6**
PBAR				Sn		**Sn**		**10 07 09.5 -3.8**
PBAR	**Barrancos**	**5.47**	**78**	*e*PKPab		**Sn**		**10 07 09.8 -3.5**
PMRV	**Marv??o**	**5.51**	**65**	*e*P		**Pn**		**10 06 14.4 +2.1**
PMRV				*e*S		**Sn**		**10 07 12.9 -1.6**
PMRV				A		A		10 07 17.5
	comp=N,10nm,0.3s							
EBAD	**Badajoz**	**5.60**	**72**	Pn		**Pn**		**10 06 15.2 +1.8**
EBAD				Sn		**Sn**		**10 07 13.7 -2.8**
EBAD	**Badajoz**	**5.60**	**72**	P		**Pn**		**10 06 15.9 +2.5**
EBAD				⇑iVmb_V				10 06 16.4
	comp=N,222nm,SNR=4.8							
EBAD				S		**Sn**		**10 07 14.3 -2.1**
PCBR	**Castelo Branco**	**5.62**	**61**	*e*P		**Pn**		**10 06 15.7 +2.0**
PCBR				*e*S		**Sn**		**10 07 16.1 -0.9**
PCBR				A		A		10 07 19.5
	comp=N,6.0nm,0.2s							
EMIN	**Mina Concepcio**	**5.72**	**83**	Pn		**Pn**		**10 06 17.5 +2.4**
EMIN				Sn		**Sn**		**10 07 16.2 -3.3**
EMIN	**Mina Concepcio**	**5.72**	**83**	P		**Pn**		**10 06 17.8 +2.7**
EMIN				⇑iVmb_V				10 06 23.6
	comp=N,104nm,SNR=2.3							
EMIN				S		**Sn**		**10 07 18.0 -1.5**
PVIS	**Viseu**	**5.78**	**51**	*e*P		**Pn**		**10 06 18.2 +2.2**
PVIS				*e*S		**Sn**		**10 07 19.8 -1.3**
PVIS				A		A		10 07 23.7
	comp=N,7.7nm,0.3s							
MTE	**Manteigas**	**5.84**	**55**	*e*P		**Pn**		**10 06 19.0 +2.2**
PVRL	**Vila Real**	**6.22**	**48**	*e*PKPdf		**Pn**		**10 06 24.8 +2.7**
PVRL	**Vila Real**	**6.22**	**48**	*e*P		**Pn**		**10 06 24.6 +2.5**
POLO	**Lamas de Olo**	**6.24**	**47**	*e*PKPdf		**Pn**		**10 06 24.2 +1.9**
POLO	**Lamas de Olo**	**6.24**	**47**	*e*P		**Pn**		**10 06 24.2 +1.9**
POLO				*e*S		**Sn**		**10 07 31.2 -1.3**
POLO				A		A		10 07 43.4
	comp=N,6.5nm,0.8s							
PCAB	**Cabril**	**6.33**	**43**	*e*P		**Pn**		**10 06 25.1 +1.6**
PCAB				*e*S		**Sn**		**10 07 32.0 -2.6**
PCAB				A		A		10 07 47.4
	comp=N,8.2nm,0.4s							
ESPR	**Espera**	**6.39**	**91**	P		**Pn**		**10 06 27.7 +3.4**
ESPR				⇑iVmb_V				10 06 30.4
	comp=N,554nm,SNR=9.0							
ESPR				S		**Sn**		**10 07 36.1 0.0**
ELOB	**Lobios**	**6.42**	**42**	P		**Pn**		**10 06 26.3 +1.5**
ELOB				⇑iVmb_V				10 06 27.3
	comp=N,258nm,SNR=1.9							
ELOB				S		**Sn**		**10 07 34.5 -2.4**
EPLA	**Plasencia**	**6.69**	**63**	P		**Pn**		**10 06 30.2 +1.8**
EPLA				⇑iVmb_V				10 06 31.8
	comp=N,144nm,SNR=2.5							
EPLA				S		**Sn**		**10 07 41.0 -2.5**
ECAB	**El Cabril**	**6.73**	**80**	Pn		**Pn**		**10 06 31.7 +2.7**
ECAB				Sn		**Sn**		**10 07 40.7 -3.7**
ECAB	**El Cabril**	**6.73**	**80**	P		**Pn**		**10 06 32.0 +3.0**
ECAB				⇑iVmb_V				10 06 32.7
	comp=N,152nm,SNR=3.0							
ECAB				S		**Sn**		**10 07 41.6 -2.9**
EMAZ	**Mazaricos**	**6.81**	**32**	P		**Pn**		**10 06 31.9 +1.9**
EMAZ				⇑iVmb_V				10 06 33.1
	comp=N,434nm,SNR=1.8							
EMAZ				S		**Sn**		**10 07 40.7 -5.6**
SRHM	**Skhour des Reh**	**6.82**	**133**	S		**Sn**		**10 07 44.9 -1.8**
ZHG	**ZHG**	**6.99**	**121**	P		**Pn**		**10 06 34.5 +1.8**
ZHG	**ZHG**	**6.99**	**121**	S		**Sn**		**10 07 49.7 -1.3**
EAGO	**Agolada(Pontev**	**7.09**	**37**	P		**Pn**		**10 06 34.5 +0.6**
EAGO				⇑iVmb_V				10 06 38.0
	comp=N,326nm,SNR=2.1							
PBRG	**Braganca**	**7.13**	**48**	*e*P		**Pn**		**10 06 36.7 +2.2**
ECAL	**Calabor**	**7.21**	**47**	Pn		**Pn**		**10 06 36.7 +1.1**
ECAL				Sn		**Sn**		**10 07 52.8 -3.6**
ECAL	**Calabor**	**7.21**	**47**	P		**Pn**		**10 06 37.3 +1.6**
ECAL				⇑iVmb_V				10 06 38.1
	comp=N,185nm,SNR=1.5							
ECAL				S		**Sn**		**10 07 53.1 -3.3**
EADA	**Adamuz**	**7.40**	**80**	Pn		**Pn**		**10 06 40.8 +2.6**
EADA				Sn		**Sn**		**10 07 58.3 -2.6**
EADA	**Adamuz**	**7.40**	**80**	P		**Pn**		**10 06 40.3 +2.1**
EADA				⇑iVmb_V				10 06 43.3
	comp=N,95nm,SNR=0.9							
EADA				S		**Sn**		**10 07 58.6 -2.3**
EGOR	**Sierra Gorda,**	**7.77**	**88**	⇑iVmb_V				10 06 51.2
	comp=N,118nm,SNR=1.6							
EGOR				S		**Sn**		**10 08 14.5 +4.3**
PAB	**San Pablo**	**7.80**	**70**	P		**Pn**		**10 06 43.5 -0.2**
PAB				⇑iVmb_V				10 06 48.0
	comp=N,128nm,SNR=1.5							
PAB				S		**Sn**		**10 08 07.2 -3.6**
TTIG	**Tnine Tigouga,**	**8.04**	**145**	P		**Pn**		**10 06 45.0 -2.2**
TTIG	**Tnine Tigouga,**	**8.04**	**145**	S		**Sn**		**10 08 14.1 -2.8**
EFAM	**Famara**	**8.10**	**178**	P		**Pn**		**10 06 49.5 +1.7**
EFAM				⇑iVmb_V				10 06 53.1
	comp=N,613nm,SNR=1.1							
ESDC	**Sonseca Array**	**8.12**	**70**	P		**Pn**		**10 06 50.2 +2.1**
ESDC				⇑iVmb_V				10 06 56.5
	comp=N,120nm,SNR=1.4							
ESDC				S		**Sn**		**10 08 15.3 -3.3**
TISM	**Timmit**	**8.22**	**130**	P		**Pn**		**10 06 49.8 +0.4**
TISM	**Timmit**	**8.22**	**130**	S		**Sn**		**10 08 15.3 -5.8**
GUD	**Guadarrama**	**8.27**	**63**	⇑iVmb_V				10 06 58.9
	comp=N,213nm,SNR=1.5							
GUD				S		**Sn**		**10 08 20.0 -2.5**
OUZM	**OUZ**	**8.62**	**135**	P		**Pn**		**10 06 55.6 +0.5**
OUZM	**OUZ**	**8.62**	**135**	S		**Sn**		**10 08 28.4 -2.8**
MD31	**MD31**	**8.63**	**118**	P		**Pn**		**10 06 57.1 +2.0**
MD31	**MD31**	**8.63**	**118**	S		**Sn**		**10 08 28.8 -2.4**
CBRE	**Brena Baja,La**	**9.21**	**202**	S		**Sn**		**10 08 43.0 -2.6**

*AEIC **13** 10:08:18.4±2.1,56°.45N±0°.08×149°.23W±0°.08,h7km±7km, Error ellipse: s-maj=12.2km s-min=6.0km az=163.0*

NEIC 13 10:08:11.0±2.4,56°.37N±0°.08×149°.12W±0°.07,h10km±2km, ML3.4/70,ML3.1(AEIC),Error ellipse: s-maj=12.8km s-min=6.5km az=183.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.37**	**308**		Pn	10 08 51.3	+1.5
KDAK	**Kodiak Island**	**2.37**	**308**		Sn	10 09 17.5	-1.4
OHAK	**Old Harbor**	**2.45**	**292**	Pn	Pn	10 08 51.8	+0.9
OHAK					Sn	10 09 19.0	-1.9
SII	**Sitkinak Islan**	**2.82**	**276**	Pn	Pn	10 08 57.2	+1.2
SII				IAML		10 09 42.1	
	comp=N,107nm,0.9s						
SII				IAML		10 09 49.2	
	comp=E,109nm,1.1s						
SYI	**Shuyak Island**	**2.86**	**323**	Pn	Pn	10 08 58.3	+1.7
SYI					Sn	10 09 30.1	-0.9
R18K	**Karluk**	**3.16**	**295**		Pn	10 09 02.5	+1.8
R18K					Sn	10 09 36.8	-1.6
R18K				IAML		10 09 46.8	
	comp=N,69nm,0.4s						
R18K				IAML		10 09 47.0	
	comp=E,75nm,0.6s						
CNPM	**China Poot**	**3.36**	**341**		Pn	10 09 05.2	+1.7
CNPM					Sn	10 09 42.3	-1.2
Q23K	**Middleton Isla**	**3.41**	**25**	Pn	Pn	10 09 04.2	+0.2
Q23K				IAML		10 09 52.4	
	comp=N,55nm,0.8s						
Q23K				IAML		10 09 56.9	
	comp=E,62nm,1.1s						
MID	**Middleton Isla**	**3.41**	**25**	Pn	Pn	10 09 04.6	+0.5
MID				IAML		10 09 52.5	
	comp=N,56nm,0.8s						
MID				IAML		10 09 56.9	
	comp=E,62nm,1.1s						
BRSE	**Bradley Lake S**	**3.49**	**346**		Pn	10 09 06.5	+1.2
BRLK	**Bradley Lake**	**3.54**	**345**		Pn	10 09 07.2	+1.3
BRLK				IAML		10 09 52.8	
	comp=N,40nm,0.8s						
BRLK				IAML		10 09 58.1	
	comp=E,43nm,0.6s						
Q19K	**Cape Douglas,**	**3.54**	**318**		Pn	10 09 06.5	+0.5
Q19K				IAML		10 09 54.6	
	comp=N,120nm,0.7s						
HOM	**Homer**	**3.56**	**339**	Pn	Pn	10 09 06.5	+0.3
KAHG	**Katmai Hook Gl**	**3.63**	**308**		Pn	10 09 10.1	+2.9
P23K	**Montague Islan**	**3.75**	**13**		Pn	10 09 10.5	+1.6
SEW	**Seward**	**3.75**	**357**	Pn	Pn	10 09 09.2	+0.4
ACHA	**Angle Creek He**	**3.84**	**301**	Pn	Pn	10 09 09.5	-0.7
KAHC	**Katmai Hardscr**	**3.92**	**308**		Pn	10 09 13.7	+2.5
ANCK	**Angle Creek**	**3.92**	**301**		Pn	10 09 13.9	+2.7
P19K	**Oil Pt**	**3.96**	**328**	Pn	Pn	10 09 11.6	-0.1
P19K				IAML		10 10 04.5	
	comp=N,59nm,0.7s						
P19K				IAML		10 10 16.2	
	comp=E,78nm,0.8s						
P19K	**Oil Pt**	**3.96**	**328**	S	Pn	10 09 11.2	-0.5
	baz=216						
O22K	**Cooper Landing**	**4.14**	**356**	Pn	Pn	10 09 14.0	-0.1
O20K	**Slope Mountain**	**4.16**	**335**		Pn	10 09 16.7	+2.2
HIN	**Hinchinbrook I**	**4.27**	**18**		Pn	10 09 15.7	-0.3
HIN				IAML		10 10 12.3	
	comp=N,57nm,0.7s						
KAIM	**Kayak Island**	**4.35**	**33**	Pn	Pn	10 09 16.6	-0.5
KAIM				IAML		10 10 18.2	
	comp=N,61nm,0.8s						
P18K	**Big Mountain,**	**4.46**	**315**	Pn	Pn	10 09 17.5	-1.0
RDSO	**Redoubt South**	**4.52**	**337**		Pn	10 09 20.5	+1.0
RSO	**Redoubt South**	**4.53**	**337**		Pn	10 09 19.1	-0.6
EYAK	**Cordova Ski Ar**	**4.55**	**21**	Pn	Pn	10 09 21.1	+1.3
FID	**Port Fidalgo**	**4.61**	**16**	Pn	Pn	10 09 20.0	-0.6
FID				IAML		10 10 19.8	
	comp=N,29nm,1.2s						
FID				IAML		10 10 21.8	
	comp=E,34nm,0.6s						
GLI	**Glacier Island**	**4.65**	**12**	Pn	Pn	10 09 21.4	+0.3
GLI				IAML		10 10 18.4	
	comp=E,30nm,0.6s						
GLI				IAML		10 10 19.7	
	comp=N,25nm,1.0s						
RAGM	**Ragged Mountai**	**4.66**	**28**		Pn	10 09 20.9	-0.4
SUCK	**Suckling Hills**	**4.67**	**35**		Pn	10 09 21.9	+0.5
SUCK				IAML		10 10 22.8	
	comp=N,40nm,0.5s						
SUCK				IAML		10 10 28.9	
	comp=E,30nm,1.1s						
O19K	**Port Alsworth**	**4.72**	**327**		Pn	10 09 21.7	-0.4
HMT	**Hamilton**	**4.73**	**31**		Pn	10 09 23.5	+1.2
NICHA	**Nichawak Mount**	**4.74**	**33**		Pn	10 09 25.0	+2.7
RC01	**Rabbit Creek A**	**4.75**	**356**	Pn	Pn	10 09 20.9	-1.6
RC01				IAML		10 10 25.4	
	comp=E,36nm,0.8s						
RC01				IAML		10 10 25.9	
	comp=N,25nm,0.6s						
O18K	**Koktuh Hills**	**4.76**	**320**	Pn	Pn	10 09 21.0	-1.7
O18K				IAML		10 10 22.5	
	comp=N,17nm,0.7s						
GOAT	**Goat Mountain**	**4.81**	**27**		Pn	10 09 26.1	+2.7
FIS	**Fire Island**	**4.83**	**354**	Pn	Pn	10 09 21.9	-1.6
P17K	**Kvichak River**	**4.84**	**309**		Pn	10 09 26.1	+2.4
BGLC	**Bering Glacier**	**4.86**	**37**		Pn	10 09 27.1	+3.1
GRIN	**Grindle Hills**	**4.97**	**35**		Pn	10 09 28.5	+2.8
SNH	**Sunshine Point**	**5.06**	**38**	Pn	Pn	10 09 26.8	0.0
SNH				IAML		10 10 34.3	
	comp=N,19nm,1.0s						
SNH				IAML		10 10 40.2	
	comp=E,24nm,0.9s						
SPU	**Mount Spurr**	**5.07**	**344**	Pn	Pn	10 09 25.9	-1.0
SPU				IAML		10 10 29.6	
	comp=E,18nm,0.7s						
SPU				IAML		10 10 33.2	
	comp=N,15nm,0.8s						
KNK	**Knik Glacier**	**5.07**	**4**	Pn	Pn	10 09 26.6	-0.4
KNK				IAML		10 10 39.0	
	comp=E,19nm,0.9s						
KNK				IAML		10 12 06.0	
	comp=N,23nm,0.7s						
KHIT	**Khitrov Hills**	**5.12**	**35**		Pn	10 09 30.1	+2.4
CHGN	**Chignik**	**5.17**	**273**	Pn	Pn	10 09 28.2	-0.1
BMRM	**Bremner River**	**5.18**	**25**	Pn	Pn	10 09 27.6	-0.9
SUA	**Susitna One**	**5.18**	**351**	Pn	Pn	10 09 26.8	-1.8
SUA				IAML		10 10 31.1	
	comp=E,14nm,0.8s						
SUA				IAML		10 10 38.1	
	comp=N,12nm,1.1s						
PMR	**Palmer**	**5.24**	**360**		Pn	10 09 29.0	-0.3
WAX	**Waxell Ridge**	**5.25**	**36**		Pn	10 09 29.6	+0.1
WAX				IAML		10 10 32.3	
	comp=E,29nm,0.5s						
WAX				IAML		10 10 54.1	
	comp=N,33nm,0.8s						
N19K	**Bonanza Creek**	**5.27**	**330**	Pn	Pn	10 09 29.7	0.0
STLK	**Strandline Lak**	**5.34**	**346**		Pn	10 09 32.4	+1.8
BARK	**Barkley Ridge**	**5.34**	**38**		Pn	10 09 33.5	+2.8
MESA	**MESA**	**5.38**	**42**	Pn	Pn	10 09 31.1	-0.2
MESA				IAML		10 10 55.9	
	comp=N,24nm,1.0s						
MESA				IAML		10 11 04.0	
	comp=E,21nm,1.0s						
CRQM	**Cirque**	**5.40**	**33**	Pn	Pn	10 09 30.0	-1.7
KLU	**Klutina**	**5.40**	**16**		Pn	10 09 31.1	-0.4
M22K	**Willow**	**5.43**	**355**	Pn	Pn	10 09 30.5	-1.3
SML	**Sawmill**	**5.47**	**4**	Pn	Pn	10 09 32.3	-0.2
TGL	**Tana Glacier**	**5.49**	**34**	Pn	Pn	10 09 31.6	-1.3
BAGL	**Bagley Icefiel**	**5.54**	**39**		Pn	10 09 36.0	+2.7
VRDI	**Verde Repeater**	**5.69**	**29**		Pn	10 09 35.5	-0.2
N25K	**Chitina, Valde**	**5.75**	**22**		Pn	10 09 37.3	+0.9
SKT	**Skwentna**	**5.77**	**349**		Pn	10 09 35.6	-0.9
O16K	**Kokwok River B**	**5.77**	**308**	Pn	Pn	10 09 35.8	-0.7
KIAG	**Kiagna River**	**5.77**	**35**		Pn	10 09 39.2	+2.5
GLB	**Gilahina Butte**	**5.78**	**26**		Pn	10 09 38.0	+1.2
SAMH	**Samovar Hills**	**5.79**	**46**		Pn	10 09 40.4	+3.5
SVW2	**Sparrevohn**	**5.81**	**327**	Pn	Pn	10 09 38.0	+0.8
GRNC	**Granite Creek**	**5.83**	**38**		Pn	10 09 39.8	+2.2
TABL	**Table Mountain**	**5.85**	**42**		Pn	10 09 37.8	-0.1
BALM	**Baldy**	**5.86**	**34**		Pn	10 09 40.3	+2.4
M20K	**Styx River**	**5.91**	**341**		Pn	10 09 38.1	-0.3
YKU2	**Yakutat**	**5.94**	**54**	Pn	Pn	10 09 37.7	-1.1
MCARA	**McCarthy VSAT**	**5.94**	**30**		Pn	10 09 36.8	-2.1
PTPK	**Patty Peak**	**5.94**	**33**		Pn	10 09 41.9	+2.9
M24K	**Tolsona, Glenn**	**5.95**	**13**	Pn	Pn	10 09 37.8	-1.3
PCA	**Pinnacle**	**5.99**	**48**		Pn	10 09 38.6	-1.0
CUT	**Chulitna**	**6.09**	**355**		Pn	10 09 39.9	-0.9
PNL	**Peninsula**	**6.13**	**53**		Pn	10 09 44.9	+3.4
CNBA	**Chernabura Isl**	**6.14**	**260**	Pn	Pn	10 09 42.1	+0.5
CTGM	**Chitina Glacie**	**6.14**	**38**	Pn	Pn	10 09 41.3	-0.5
LOGN	**Logan Glacier**	**6.16**	**40**		Pn	10 09 41.3	-0.7
BCPM	**Bancas Point**	**6.17**	**50**	Pn	Pn	10 09 41.5	-0.6
M19K	**Big River Lodg**	**6.18**	**336**	Pn	Pn	10 09 42.5	+0.3
M18K	**Stony River**	**6.20**	**329**		Pn	10 09 43.6	+1.2
SDPT	**Sand Point**	**6.48**	**266**	Pn	Pn	10 09 46.0	-0.3
L19K	**White Mountain**	**6.53**	**336**	Pn	Pn	10 09 47.0	0.0
M17K	**Holitna River**	**6.64**	**323**	Pn	Pn	10 09 48.2	-0.2
PPLA	**Purkeypile**	**6.73**	**348**	Pn	Pn	10 09 48.7	-1.2
M26K	**Nabesna, AK**	**6.81**	**25**	Pn	Pn	10 09 50.7	-0.1
P29M	**Windy Craggy**	**6.87**	**57**		Pn	10 09 51.7	0.0
N15K	**Kwethluk River**	**6.93**	**308**	Pn	Pn	10 09 53.0	+0.6
L18K	**Granite Mounta**	**7.03**	**330**	Pn	Pn	10 09 53.9	0.0
MENT	**Mentasta**	**7.13**	**20**	Pn	Pn	10 09 54.2	-1.1
S31K	**Pelican**	**7.19**	**72**	Pn	Pn	10 09 56.5	+0.6
L26K	**Log Cabin Wild**	**7.29**	**21**	Pn	Pn	10 09 57.0	-0.4
K20K	**Telida**	**7.44**	**343**	Pn	Pn	10 09 58.6	-0.9
HYT	**Haines Junctio**	**7.53**	**49**	Pn	Pn	10 10 01.8	+1.0
L16K	**Owhat River**	**7.56**	**319**	Pn	Pn	10 10 00.8	-0.3
SIT	**Sitka**	**7.62**	**79**	Pn	Pn	10 10 02.4	+0.4
L27K	**Beaver Creek,**	**7.66**	**26**	Pn	Pn	10 10 03.0	+0.6
BCAR	**Beaver Creek A**	**7.67**	**26**	Pn	Pn	10 10 02.6	0.0
BPAW	**Bear Paw Mtn.**	**7.81**	**354**	Pn	Pn	10 10 04.6	0.0
K17K	**Iditarod**	**7.89**	**328**	Pn	Pn	10 10 04.9	-0.6
SKAG	**Skagway**	**7.97**	**61**	Pn	Pn	10 10 05.8	-0.8
BESE	**Bessie Mountai**	**8.00**	**68**	Pn	Pn	10 10 05.9	-1.3
M14K	**Bethel**	**8.02**	**309**	Pn	Pn	10 10 06.7	-0.6
S32K	**Killisnoo**	**8.03**	**76**	Pn	Pn	10 10 09.3	+1.7
N30M	**Aishikik Lake**	**8.04**	**46**	Pn	Pn	10 10 06.3	-1.5
SCRK	**Sand Creek**	**8.05**	**16**	Pn	Pn	10 10 05.8	-2.0
J18K	**Innoko River**	**8.07**	**335**	Pn	Pn	10 10 07.4	-0.8
O30N	**Mendenhall**	**8.11**	**52**	Pn	Pn	10 10 07.6	-1.1
R32K	**Eaglecrest**	**8.13**	**70**	Pn	Pn	10 10 07.8	-1.1
HDA	**Harding Lake**	**8.14**	**7**		Pn	10 10 07.1	-2.0
M29M	**Somme Creek**	**8.16**	**37**	Pn	Pn	10 10 07.1	-2.3
JIS	**Juneau Island**	**8.20**	**70**	Pn	Pn	10 10 09.7	-0.1
J20K	**Nowinta River**	**8.22**	**344**	Pn	Pn	10 10 08.8	-1.4
J19K	**Poorman**	**8.30**	**340**	Pn	Pn	10 10 12.2	+0.9
CCB	**Clear Creek Bu**	**8.33**	**4**	Pn	Pn	10 10 10.6	-1.0
J25K	**Salcha River,**	**8.48**	**11**		Pn	10 10 12.4	-1.2
M13K	**Dall Lake**	**8.50**	**304**	Pn	Pn	10 10 13.3	-0.6
WHY	**Whitehorse**	**8.60**	**54**	Pn	Pn	10 10 15.9	+0.5
L14K	**Kuka Creek**	**8.61**	**311**	Pn	Pn	10 10 14.1	-1.4
L29M	**L29M**	**8.73**	**35**	Pn	Pn	10 10 16.8	-0.5
P32M	**Atlin**	**8.79**	**62**	Pn	Pn	10 10 18.3	+0.2
I23K	**Minto, Yukon-K**	**8.81**	**359**	Pn	Pn	10 10 17.4	-0.8
U33K	**Whale Pass**	**8.91**	**85**	Pn	Pn	10 10 20.7	+1.1
DAWY	**Dawson**	**9.10**	**28**	Pn	Pn	10 10 22.4	+0.2
EGAK	**Eagle**	**9.29**	**22**	Pn	Pn	10 10 24.5	-0.3
Q32M	**Nakina River**	**9.39**	**67**	Pn	Pn	10 10 26.2	-0.2
P33M	**Teslin, Yukon**	**9.40**	**59**	Pn	Pn	10 10 27.4	+1.0
K29M	**Barlow Dome**	**9.46**	**33**	Pn	Pn	10 10 27.4	+0.3
H21K	**Melozitna Rive**	**9.49**	**351**	Pn	Pn	10 10 28.5	+1.0
M31M	**Drury Creek, Y**	**9.52**	**46**	Pn	Pn	10 10 28.1	+0.1
H18K	**Honhosa River**	**9.89**	**337**	Pn	Pn	10 10 32.2	-0.9
IMAR	**Indian Mountai**	**9.90**	**349**	Pn	Pn	10 10 32.5	-0.6
R33M	**Jennings River**	**10.12**	**65**	Pn	Pn	10 10 38.2	+1.9
I28M	**Miner Creek**	**10.13**	**22**	Pn	Pn	10 10 36.9	+0.5
J30M	**Hart River**	**10.35**	**32**	Pn	Pn	10 10 39.7	+0.3
G23K	**Bananza Creek**	**10.39**	**358**	Pn	Pn	10 10 39.0	-0.8
G21K	**Allakaket**	**10.39**	**350**	Pn	Pn	10 10 40.2	+0.3
DLBC	**Dease Lake**	**10.50**	**71**	Pn	Pn	10 10 43.0	+1.5
G19K	**Purcell Mounta**	**10.52**	**342**	Pn	Pn	10 10 40.1	-1.5
E21K	**Killik River**	**12.32**	**352**	Pn	Pn	10 11 06.1	-0.1
D27M	**Malcolm River**	**13.43**	**13**	Pn	Pn	10 11 22.2	+0.8
C18K	**Utukok River**	**13.49**	**341**	Pn	Pn	10 11 22.5	+0.4

AFAD 13 10:16:40.1±0.0,37°.25N×28°.20E,h7km±3km,ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.09**	**89**	P	Pg	10 16 40.8	-1.6
MULA				S	Sg	10 16 44.8	+0.8
MULA				*i* AML	AML	10 16 45.0	
	comp=N,239nm,0.8s						
TURN	**Turunc**	**0.48**	**176**	P	Pg	10 16 49.8	+0.4
TURN				*i* AML	AML	10 17 02.0	
	comp=N,23nm,1.0s						
TURN				*i* AML	AML	10 17 02.0	
	comp=E,30nm,1.4s						
ESEN	**Aydn-Nazilli**	**0.56**	**12**	P	Pg	10 16 50.5	-0.4
ESEN				S	Sb	10 16 59.4	-0.9
ESEN				*i* AML	AML	10 17 01.0	
	comp=E,14nm,0.9s						
ESEN				*i* AML	AML	10 17 02.0	
	comp=N,7.2nm,0.5s						
TAVA	**DENIZLI_Tavas**	**0.60**	**69**	P	Pg	10 16 50.9	-0.9
TAVA				*i* AML	AML	10 16 58.0	
	comp=E,14nm,1.5s						
TAVA				S	Sg	10 16 59.9	+0.2
TAVA				*i* AML	AML	10 17 11.0	
	comp=N,14nm,1.5s						
DNZT	**Denizli-Tavas-**	**0.66**	**88**	P	Pg	10 16 53.3	+0.6
DNZT				*i* AML	AML	10 17 08.0	
	comp=E,7.3nm,0.8s						
DNZT				*i* AML	AML	10 17 21.0	
	comp=N,10nm,1.8s						
SABU	**Mula-Dalaman**	**0.75**	**125**	P	Pg	10 16 54.9	+0.4
SABU				S	Sb	10 17 05.8	-0.1
SABU				*i* AML	AML	10 17 13.0	
	comp=E,24nm,1.2s						

*IDC **13** 10:22:13.5±1.3,2°.71S×138°.53E,h0km,mb3.9/3, mbtmp3.9/4,ML3.9/1,MS4.0/1,Error ellipse: s-maj=65.8km s-min=27.4km az=95.0*

*NEIC **13** 10:22:17.6±2.2,2°.81S±0°.09×138°.60E±0°.09,h42km±10km, mb4.0/11,Error ellipse: s-maj=17.4km s-min=7.6km az=224.0*

ISC 13 10:22:18.3±0.8,2°.84S±0°.09×138°.58E±0°.09,h50km,n23, σ1§26/23,mb3.9/6,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**6.33**	**269**	Pn	**Pn**	**10 23 48.4**	**-0.7**
FAKI				Sn	**Sn**	**10 25 00.2**	**+0.1**
PMG	**Port Moresby**	**10.73**	**128**	LR	LR	10 30 36.9	
	comp=Z,786nm,19.2s,baz=298,slow=46						
COEN	**

	baz=293						
YULB			*i* S		**Sb**	**10 26 07.8**	**+0.8**
	baz=293						
EHYH	**Wanrong**	**0.40 307**	*i* P		**Pb**	**10 26 01.6**	**+0.1**
EHYH	baz=311		S		**Sb**	**10 26 06.9**	**-0.3**
	baz=311						
EHY	**Hungye**	**0.42 307**	*i* P		**Pb**	**10 26 01.8**	**0.0**
EHY	baz=310		*i* S		**Sb**	**10 26 08.4**	**+0.5**
	baz=310						
EHD	**Haiduan**	**0.46 257**	*i* P		**Pb**	**10 26 02.6**	**+0.1**
EHD	baz=250		S		**Sb**	**10 26 08.8**	**-0.1**
	baz=250						
ECS	**Chishang**	**0.46 250**	*i* P		**Pb**	**10 26 03.1**	**+0.6**
ECS	baz=242		S		**Sn**	**10 26 10.6**	**-0.8**
	baz=242						
EGFH	**Guangfu**	**0.48 330**	P		**Pb**	**10 26 03.3**	**+0.5**
EGFH	baz=341		*e*S		**Sb**	**10 26 10.0**	**+0.5**
	baz=341						
WARBT	**Fenglin Townsh**	**0.54 329**	*i* P		**Pb**	**10 26 03.7**	**-0.2**
WARBT	baz=322		*i* S		**Sb**	**10 26 11.0**	**-0.3**
	baz=322						
SHUL	**Shoufeng**	**0.54 348**	P		**Pb**	**10 26 04.2**	**+0.2**
SHUL	baz=3.0		S		**Sb**	**10 26 12.0**	**+0.6**
	baz=3.0						
ESL	**Shilin**	**0.60 337**	P		**Pb**	**10 26 04.7**	**-0.2**
ESL	baz=347		*i* S		**Sb**	**10 26 12.6**	**-0.5**
	baz=347						
LDUT	**Ludao**	**0.61 199**	*e*P		**Pb**	**10 26 04.8**	**-0.3**
LDUT	baz=194		*e*S		**Sb**	**10 26 13.3**	**-0.1**
	baz=194						
TEYL	**Yanliau Villag**	**0.61 352**	*e*P		**Pn**	**10 26 06.4**	**+0.3**
TEYL	baz=8.0		*e*S		**Sn**	**10 26 15.1**	**-0.1**
	baz=8.0						
ELDTW	**Lidau**	**0.62 264**	*i* P		**Pb**	**10 26 04.7**	**-0.6**
ELDTW	baz=262		*i* S		**Sb**	**10 26 12.4**	**-1.3**
	baz=262						
TTN	**Taitung**	**0.70 225**	*e*S		**Sn**	**10 26 16.5**	**-0.9**
VWDT	baz=212 **VWDT**	**0.71 315**	*i* P		**Pb**	**10 26 06.8**	**+0.1**
VWDT	baz=324		*i* S		**Sb**	**10 26 15.7**	**-0.3**
	baz=324						
TWGBT	**Beinan**	**0.71 232**	P		**Pb**	**10 26 06.4**	**-0.3**
TWGBT	baz=238		S		**Sb**	**10 26 15.1**	**-1.0**
	baz=238						
TWG	**Pinlang**	**0.71 233**	P		**Pb**	**10 26 06.4**	**-0.4**
TWG	baz=238		S		**Sb**	**10 26 15.1**	**-1.1**
	baz=238						
YUS	**Yu-Shan**	**0.71 289**	P		**Pb**	**10 26 07.0**	**-0.1**
YUS	baz=281		S		**Sb**	**10 26 16.1**	**-0.7**
	baz=281						
ETM	**Tongmen**	**0.73 346**	P		**Pb**	**10 26 06.8**	**-0.2**
ETM	baz=338		*e*S		**Sb**	**10 26 16.1**	**-0.6**
	baz=338						
LXIB	**Xiulin Townshi**	**0.80 342**	P		**Pb**	**10 26 07.7**	**-0.7**
LXIB	baz=336		S		**Sb**	**10 26 18.2**	**-0.8**
	baz=336						
TWD	**Chiawan**	**0.82 354**	*e*P		**Pb**	**10 26 08.2**	**-0.5**
TWD	baz=7.0		*e*S		**Sb**	**10 26 19.0**	**-0.4**
	baz=7.0						
OWD	**Renai**	**0.84 326**	*i* P		**Pb**	**10 26 08.7**	**-0.4**
OWD	baz=337		S		**Sb**	**10 26 18.2**	**-1.7**
	baz=337						
STYH	**Taoyuan**	**0.84 264**	P		**Pb**	**10 26 08.8**	**-0.2**
STYH	baz=259		S		**Sb**	**10 26 18.9**	**-1.0**
	baz=259						
SSLB	**Suanglung**	**0.86 308**	P		**Pb**	**10 26 08.9**	**-0.3**
SSLB	baz=310		*i* S		**Sb**	**10 26 18.8**	**-1.6**
	baz=310						
STYT	**Tauyuan**	**0.86 264**	P		**Pb**	**10 26 09.2**	**-0.1**
STYT	baz=258		S		**Sb**	**10 26 19.7**	**-0.8**
	baz=258						
WHYT	**Xinyi Township**	**0.88 300**	P		**Pb**	**10 26 10.1**	**+0.5**
WHYT	baz=306		S		**Sb**	**10 26 20.8**	**-0.3**
	baz=306						
WUSB	**Renai**	**0.90 325**	P		**Pn**	**10 26 09.7**	**-0.4**
WUSB	baz=335		S		**Sb**	**10 26 20.4**	**-1.3**
	baz=335						
NACB	**Ninganchiao**	**0.92 355**	*e*P		**Pn**	**10 26 09.7**	**-0.6**
NACB	baz=345		*e*S		**Sb**	**10 26 20.4**	**-1.7**
	baz=345						
CHGB	**Renai**	**0.93 330**	P		**Pn**	**10 26 10.2**	**-0.5**
CHGB	baz=332		*e*S		**Sb**	**10 26 21.3**	**-1.3**
	baz=332						
ECL	**Taimali**	**0.94 226**	*e*P		**Pn**	**10 26 09.4**	**-1.2**
SMLT	baz=232 **Sun Moon Lake**	**0.96 311**	P		**Pn**	**10 26 10.8**	**-0.1**
SMLT	baz=312		*e*S		**Sb**	**10 26 22.4**	**-0.9**
	baz=312						
WHF	**Hehuan Shan**	**0.97 336**	P		**Pn**	**10 26 10.7**	**-0.6**
WHF	baz=339		*e*S		**Sb**	**10 26 22.3**	**-1.6**
	baz=339						
TPUB	**Ta-pu**	**0.97 273**	P		**Pb**	**10 26 11.4**	**+0.1**
TPUB	baz=272		S		**Sb**	**10 26 23.6**	**-0.1**
	baz=272						
WTP	**Ta-pu**	**0.99 270**	P		**Pb**	**10 26 11.8**	**+0.3**
WTP	baz=262		S		**Sn**	**10 26 24.5**	**0.0**
	baz=262						
SLGT	**Liugui**	**0.99 255**	*e*P		**Pb**	**10 26 11.5**	**0.0**
SLGT	baz=256		*e*S		**Sn**	**10 26 24.3**	**-0.2**
	baz=256						
TYC	**Yuchr**	**1.00 310**	P		**Pn**	**10 26 11.4**	**+0.1**
TYC	baz=318		*e*S		**Sb**	**10 26 23.5**	**-0.9**
	baz=318						
CHN4	**Tsaushan**	**1.01 276**	P		**Pn**	**10 26 11.6**	**0.0**
CHN4	baz=270		S		**Sn**	**10 26 25.2**	**+0.2**
	baz=270						
WCKO	**Fanlu**	**1.01 281**	P		**Pb**	**10 26 12.7**	**+0.9**
WCKO	baz=280		*e*S		**Sn**	**10 26 25.8**	**+0.7**
	baz=280						
SGST	**Jiashian**	**1.03 261**	*e*P		**Pn**	**10 26 11.9**	**+0.1**
SGST	baz=257		*e*S		**Sb**	**10 26 26.0**	**+0.7**
	baz=257						
EOS4	**EOS4**	**1.04 34**	*e*P		**Pb**	**10 26 12.3**	**+0.3**
EOS4	baz=36		*e*S		**Sn**	**10 26 24.4**	**-0.7**
	baz=36						
DPDB	**Guoxing**	**1.04 318**	P		**Pn**	**10 26 12.3**	**+0.3**
DPDB	baz=325		S		**Sn**	**10 26 25.4**	**-0.4**
	baz=325						
FUSS	**Fushou**	**1.07 338**	P		**Pn**	**10 26 12.5**	**-0.1**
FUSS	baz=339		S		**Sn**	**10 26 25.4**	**-1.3**
	baz=339						
CHN1	**Nanshi**	**1.07 266**	*e*P		**Pb**	**10 26 13.5**	**+0.6**
CHN1	baz=260		*e*S		**Sb**	**10 26 27.8**	**+1.4**
	baz=260						
WCS	**Beigang Elemen**	**1.07 318**	P		**Pn**	**10 26 12.5**	**+0.2**
WCS	baz=324		*e*S		**Sn**	**10 26 25.9**	**-0.5**
	baz=324						
SNST	**Tainan City**	**1.10 268**	*e*P		**Pb**	**10 26 13.7**	**+0.4**
SNST	baz=267		*e*S		**Sb**	**10 26 28.3**	**+1.2**
	baz=267						
SSD	**Sandimen**	**1.10 243**	*e*P		**Pb**	**10 26 13.8**	**+0.5**
TWT	baz=235 **Tachien**	**1.10 335**	*i* P		**Pn**	**10 26 13.1**	**+0.2**
TWT	baz=336		S		**Sn**	**10 26 25.9**	**-1.5**
	baz=336						
TWK	**Hsinying**	**1.10 271**	*e*P		**Pb**	**10 26 13.8**	**+0.3**
TWK	baz=269		*e*S		**Sb**	**10 26 28.4**	**+1.0**
	baz=269						
TDCB	**Techi**	**1.11 334**	P		**Pn**	**10 26 13.1**	**+0.1**
TDCB	baz=336		S		**Sn**	**10 26 26.0**	**-1.5**
	baz=336						
WNT	**Mingjian**	**1.11 304**	P		**Pb**	**10 26 14.1**	**+0.6**
WNT	baz=305		*e*S		**Sb**	**10 26 28.2**	**+0.6**
	baz=305						
WGK	**Gukeng**	**1.12 293**	*e*P		**Pb**	**10 26 14.5**	**+0.9**
WGK	baz=292		*e*S		**Sb**	**10 26 28.9**	**+1.1**
	baz=292						
WDLH	**Douliu**	**1.14 292**	*e*P		**Pb**	**10 26 14.6**	**+0.6**
WDLH	baz=292		*e*S		**Sb**	**10 26 29.5**	**+1.1**
	baz=292						
SCST	**Cishan**	**1.16 252**	*e*P		**Pb**	**10 26 15.1**	**+0.7**
SCST	baz=249		*e*S		**Sb**	**10 26 31.6**	**+2.7**
	baz=249						
EAST	**Anshuo**	**1.16 222**	*e*P		**Pb**	**10 26 15.6**	**+1.1**
MASBT	baz=219 **Mashibuluo**	**1.17 237**	*e*P		**Pn**	**10 26 13.6**	**-0.1**
EOS3	baz=230 **EOS3**	**1.18 29**	*e*P		**Pn**	**10 26 13.4**	**-0.3**
EOS3	baz=28		S		**Sn**	**10 26 28.8**	**-0.1**
	baz=28						
EWUT	**Wuta**	**1.19 4**	*e*P		**Pn**	**10 26 14.2**	**+0.2**
EWUT	baz=6.0		*e*S		**Sn**	**10 26 27.9**	**-1.4**
	baz=6.0						
WWF	**Wufeng**	**1.20 311**	P		**Pb**	**10 26 15.6**	**+0.6**
WWF	baz=311		S		**Sb**	**10 26 31.2**	**+1.1**
	baz=311						
NNSB	**Datong**	**1.20 347**	*e*P		**Pn**	**10 26 14.2**	**-0.1**
NNS	baz=348 **Nan Shan**	**1.21 346**	*e*S		**Sn**	**10 26 28.5**	**-1.6**
	baz=348						
LAY	**Lan-yu**	**1.22 186**	*e*P		**Pn**	**10 26 13.8**	**-0.6**
LAY	baz=176		*e*S		**Sn**	**10 26 27.5**	**-2.6**
	baz=176						
WHP	**Taichung City**	**1.22 326**	*e*P		**Pb**	**10 26 16.4**	**+0.9**
WHP	baz=334		*e*S		**Sb**	**10 26 31.3**	**+0.3**
	baz=334						
CHN3	**Shinhua**	**1.23 262**	*e*S		**Sb**	**10 26 35.1**	**+4.1**
TWM1	baz=260 **Shoushan**	**1.24 250**	*e*P		**Pb**	**10 26 16.5**	**+0.7**
LYUB	baz=248 **Lan-yu**	**1.25 184**	*e*S		**Sn**	**10 26 27.8**	**-3.0**
SHHT	baz=182 **Tainan City**	**1.26 260**	*e*P		**Pb**	**10 26 17.9**	**+1.9**
SHHT	baz=257		*e*S		**Sb**	**10 26 36.2**	**+4.5**
	baz=257						
EOS2	**EOS2**	**1.26 23**	*e*P		**Pb**	**10 26 16.1**	**+0.2**
EOS2	baz=21		*e*S		**Sb**	**10 26 32.1**	**+0.4**
	baz=21						
LATG	**Datong**	**1.28 353**	*e*P		**Pn**	**10 26 15.2**	**-0.2**
TCU	baz=355 **Taichung**	**1.28 314**	*e*S		**Sb**	**10 26 33.4**	**+0.8**
ICHU	baz=315 **Yijhu**	**1.30 275**	*e*P		**Pb**	**10 26 16.7**	**0.0**
ICHU	baz=273		*e*S		**Sb**	**10 26 34.0**	**+1.0**
	baz=273						
SCZT	**Fangliau**	**1.32 228**	*e*P		**Pb**	**10 26 16.9**	**-0.2**
NDT	baz=223 **Datong Townshi**	**1.35 353**	*e*P		**Pb**	**10 26 18.0**	**+0.4**
TWC	baz=354 **Suao**	**1.36 6**	*e*S		**Sn**	**10 26 33.3**	**-0.2**
WRL	baz=8.0 **Guolierlin Hig**	**1.36 298**	*e*P		**Pb**	**10 26 17.6**	**-0.2**
WRL	baz=298		*e*S		**Sb**	**10 26 34.7**	**-0.2**
	baz=298						
TWQ1	**Liyutan**	**1.37 323**	P		**Pb**	**10 26 18.3**	**+0.3**
TWQ1	baz=323		S		**Sb**	**10 26 35.6**	**+0.5**
	baz=323						
ENTT	**Nioudou**	**1.38 355**	*e*P		**Pn**	**10 26 17.4**	**+0.7**
NSY	baz=357 **Sanyi**	**1.43 324**	*e*P		**Pb**	**10 26 19.3**	**+0.3**
NSY	baz=325		S		**Sb**	**10 26 38.4**	**+1.5**
	baz=325						
YHNB	**Yeheng**	**1.44 349**	*e*P		**Pn**	**10 26 18.0**	**+0.5**
NSK	baz=360 **Sanguang**	**1.45 348**	*e*P		**Pn**	**10 26 17.9**	**+0.3**
NSK	baz=349		*e*S		**Sn**	**10 26 34.9**	**-1.0**
	baz=349						
NFF	**Wufeng Townshi**	**1.47 339**	*e*P		**Pb**	**10 26 20.2**	**+0.6**
NFF	baz=340		*e*S		**Sb**	**10 26 38.8**	**+0.9**
	baz=340						
TSCK	**Chigu Township**	**1.48 266**	*e*P		**Pn**	**10 26 17.6**	**-0.3**
FUSB	baz=266 **Fushanzhiwuyua**	**1.50 357**	*e*P		**Pb**	**10 26 19.8**	**-0.4**
FUSB	baz=348		*e*S		**Sn**	**10 26 37.4**	**+0.2**
	baz=348						
NSTT	**Nanjuang**	**1.51 335**	*e*S		**Sb**	**10 26 38.4**	**-0.6**
LIOB	baz=337 **Emei**	**1.52 336**	*e*P		**Pb**	**10 26 20.1**	**-0.4**
LIOB	baz=349		*e*S		**Sb**	**10 26 39.4**	**+0.2**
	baz=349						
NWLT	**Wulai**	**1.52 354**	*e*P		**Pb**	**10 26 20.4**	**-0.2**
JYNG	baz=354 **Yonagunijimaku**	**1.66 44**	*e*S		**Sn**	**10 26 41.6**	**+0.8**
YOJ	**Yonaguni jima**	**1.71 45**	*e*S		**Sn**	**10 26 42.7**	**+0.7**
TIPB	**Shuangxi**	**1.71 4**	*e*P		**Pn**	**10 26 22.5**	**+1.2**
TIPB	baz=353		*e*S		**Sb**	**10 26 44.4**	**-0.5**
	baz=353						
HATJ	**Hateruma jima**	**2.10 67**	*e*S		**Sn**	**10 26 52.3**	**+0.5**
IRIF	**Iriomote-Funau**	**2.16 60**	*e*S		**Sn**	**10 26 54.3**	**+1.1**
JKRS	**Kuro-shima**	**2.34 65**	*e*S		**Sn**	**10 26 57.8**	**0.0**
JIJ	**Ishigaki jima**	**2.50 63**	*e*P		**Pn**	**10 26 33.2**	**+1.1**
JIJ			*e*S		**Sn**	**10 27 01.2**	**-0.6**
VWUC	**VWUC**	**2.68 311**	*e*P		**Pn**	**10 26 34.9**	**+0.4**
VWUC	baz=311		*e*S		**Sn**	**10 27 04.6**	**-1.5**
	baz=311						
JISG	**Ishigakijimahi**	**2.74 61**	*e*P		**Pn**	**10 26 36.3**	**+1.0**
JISG			*e*S		**Sn**	**10 27 07.1**	**-0.6**
PTMZ	**Houxiangcun**	**2.94 308**	*e*P		**Pn**	**10 26 38.4**	**+0.3**
PTMZ	baz=308		*e*S		**Sn**	**10 27 11.1**	**-1.5**
	baz=308						
JTJ	**Tarama**	**3.08 63**	*e*P		**Pn**	**10 26 40.4**	**+0.3**
JTJ			*e*S		**Sn**	**10 27 17.0**	**+0.9**

NOU 13 10:25:53.9, 18°.00S×167°.29E, h0km, MLv4.0/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.76**	**181**	P	Pn	10 26 37.7	-1.8
MARNC	**Mare, Loyalty**	**3.53**	**169**	P	Pn	10 26 51.2	+1.1
KOUNC	**Koumac, New Ca**	**3.81**	**228**	P	Pn	10 26 53.5	-0.3
YATNC	**Mamie plateau,**	**4.06**	**185**	P	Pn	10 26 55.9	-1.4
DZM	**Mont Dzumac**	**4.13**	**191**	P	Pn	10 26 58.2	-0.1
NOUC	**Port Laguerre**	**4.18**	**193**	P	Pn	10 26 59.4	+0.4
ONTNC	**Ouen Toro**	**4.36**	**190**	P	Pn	10 27 01.8	+0.4
OUENC	**Ouen Island, N**	**4.42**	**185**	P	Pn	10 27 03.2	+1.0

*IDC **13** 10:27:22.7±3.4, 36°.21N×141°.79E, h0km, mb3.6/2,*

mbtmp3.6/4, ML3.3/2, MS4.2/1, Error ellipse: s-maj=67.7km s-min=32.3km az=64.0

*JMA **13** 10:27:23.0±0.3, 36°.2N±0°.6×14°.2E±°, h36km, MV3.5/36, FAR E OFF IBARAKI PREF*

ISC 13 10:27:21.9±2.4, 36°.22N±0°.04×141°.87E±0°.08, h5km±13km, n21, σ1§21/25, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.04**	**277**	P	**Pg**	**10 27 42.3**	**+0.4**
JHYU				*e*S	**Sb**	**10 27 57.0**	**+0.7**
JHO	**Hitachi**	**1.12**	**291**	P	**Pb**	**10 27 42.9**	**-0.8**
JHO				*e*S	**Sg**	**10 27 57.6**	**-0.2**
JIHU	**Itakohorinouch**	**1.12**	**257**	P	**Pb**	**10 27 42.6**	**-1.0**
JIHU				S	**Sg**	**10 27 58.0**	**+0.2**
ONAJ	**Iwakimizuishiy**	**1.23**	**316**	P	**Pn**	**10 27 44.4**	**-1.3**
JFK	**Kawauchi**	**1.39**	**325**	P	**Pn**	**10 27 47.7**	**-0.3**
BSO1	**Boso 1**	**1.73**	**205**	*e*P	**Pn**	**10 27 51.9**	**-0.2**
BSO1				S	**Sn**	**10 28 14.9**	**+0.7**
BSO3	**Boso 3**	**1.80**	**218**	P	**Pn**	**10 27 53.5**	**+0.2**
JOTO	**OTAMA OYAMA**	**1.81**	**318**	P	**Pn**	**10 27 54.2**	**+0.4**
JOTO				S	**Sn**	**10 28 17.4**	**+0.2**
JMM	**Marumori**	**1.85**	**333**	P	**Pn**	**10 27 54.0**	**-0.3**
JMM				*e*S	**Sn**	**10 28 16.3**	**-1.8**
JAG	**Ashikaga**	**1.96**	**277**	*i* P	**Pn**	**10 27 55.7**	**-0.1**
JKT	**Katashina**	**2.18**	**285**	P	**Pn**	**10 27 59.7**	**+0.8**
JKT				*e*S	**Sn**	**10 28 26.7**	**+0.4**
JRY	**Ryogami san**	**2.41**	**266**	P	**Pn**	**10 28 01.9**	**-0.2**
MJAR	**Matsushiro Arr**	**2.97**	**277**	Pn	**Pn**	**10 28 11.2**	**+1.5**
	1.2nm,0.3s,baz=95,slow=9.4,SNR=58						
MJAR				Sn	**Sb**	**10 28 50.4**	**-1.5**
	0.6nm,0.3s,baz=105,slow=14,SNR=5.4 8.4nm,0.5s						
JHJ	**Hachijo jima 2**	**3.54**	**210**	Pn	**Pn**	**10 28 17.2**	**-0.3**
	32nm,0.3s,baz=58,slow=23,SNR=22						
JHJ				Sn	**Sn**	**10 28 56.1**	**-3.7**
	55nm,0.3s,baz=248,slow=22,SNR=11 52nm,0.3s						
USRK	**Ussuriysk Ar.**	**10.97**	**320**	Pn	Pn	10 30 04.8	+5.3
	0.1nm,0.3s,baz=163,slow=10,SNR=5.5						
JOW	**Kunigami**	**14.89**	**235**	LR	LR	10 35 49.6	
	comp=Z,867nm,20.4s,baz=179,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.42**	**120**	T	T	11 01 43.8	
	baz=312,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**27.43**	**120**	T	T	11 01 44.9	
	baz=312,slow=74,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**27.44**	**120**	T	T	11 01 46.6	
	baz=312,slow=74,SNR=7.2						
SONM	**Songino Array**	**28.55**	**305**	P	**P**	**10 33 19.0**	**+0.4**
	0.5nm,0.8s,baz=107,slow=7.7,SNR=2.5 0.5nm,0.8s						
WRA	**Warramunga Arr**	**56.31**	**189**	P	**P**	**10 37 05.4**	**+1.7**
	0.3nm,0.4s,baz=0.4,slow=7.3,SNR=2.0 0.3nm,0.4s						

*IDC **13** 10:43:57.3±3.4, 7°.27S×128°.67E, h123km±30km, mb4.4/17, mbtmp4.7/19, MS4.5/1, Error ellipse: s-maj=24.5km s-min=9.5km az=73.0*

*DJA **13** 10:43:59.6±0.2, 7°.5±3°×12°.9E±°, h186km±5km, M5.0/19, mB5.4/12, mb4.9/19, MLv5.3/15, Mw(mB)4.8/12*

*NEIC **13** 10:44:00.8±2.0, 7°.29S±0°.07×128°.59E±0°.03, h152km±7km, mb4.7/98, Error ellipse: s-maj=10.3km s-min=3.8km az=198.0*

ISC 13 10:44:00.1±0.3, 7°.34S±0°.04×128°.57E±0°.05, h151km, n242, σ1§22/241, mb4.7/83, 2C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.78**	**103**	P	**Pn**	**10 44 45.3**	**+0.5**
SAUI	**Saumlaki**	**2.78**	**103**	Pn	**Pn**	**10 44 44.9**	**+0.1**
SAUI	**Saumlaki**	**2.78**	**103**	P	**Pn**	**10 44 45.8**	**+1.0**
BNDI	**Bandanaira**	**3.10**	**25**	P	**Pn**	**10 44 48.5**	**-0.3**
BNDI	**Bandanaira**	**3.10**	**25**	P	**Pn**	**10 44 50.4**	**+1.6**
NLAI	**Namlea**	**4.33**	**340**	P	**Pn**	**10 45 06.3**	**+1.5**
SOEI	**Soe**	**4.89**	**240**	P	**Pn**	**10 45 13.6**	**+1.4**
SOEI	**Soe**	**4.89**	**240**	Pn	**Pn**	**10 45 13.0**	**+0.8**
SOEI	**Soe**	**4.89**	**240**	P	**Pn**	**10 45 13.0**	**+0.8**
DRS	**Darwin Rock St**	**5.55**	**156**	P	**Pn**	**10 45 20.4**	**-0.5**
BATI	**Baumata**	**5.62**	**239**	P	**Pn**	**10 45 21.9**	**0.0**
FAKI	**Fak Fak**	**5.72**	**40**	P	**Pn**	**10 45 22.0**	**-1.2**
FAKI	**Fak Fak**	**5.72**	**40**	Pn	**Pn**	**10 45 22.0**	**-1.2**
FAKI	**Fak Fak**	**5.72**	**40**	P	**Pn**	**10 45 22.4**	**-0.8**
	204nm,0.7s,3μm1.0nm						
MTN	**Manton Dam**	**6.02**	**155**	P	**Pn**	**10 45 25.9**	**-1.3**
MTN	**Manton Dam**	**6.02**	**155**	Pn	**Pn**	**10 45 26.6**	**-0.5**
MTN	**Manton Dam**	**6.02**	**155**	P	**Pn**	**10 45 26.4**	**-0.8**
	145nm,0.5s,SNR=15						
BBSI	**Bau Bau**	**6.24**	**287**	P	**Pn**	**10 45 32.0**	**+1.9**
	203nm,1.1s,2μm0.7nm						
KMPI	**Kaimana, Papua**	**6.28**	**55**	P	**Pn**	**10 45 29.5**	**-1.2**
	452nm,0.6s,10μm2.7nm						
MMRI	**Maumere**	**6.40**	**258**	P	**Pn**	**10 45 32.8**	**+0.5**
MMRI	**Maumere**	**6.40**	**258**	Pn	**Pn**	**10 45 33.6**	**+1.3**
MMRI	**Maumere**	**6.40**	**258**	P	**Pn**	**10 45 32.4**	**+0.1**
	449nm,0.8s,5μm1.5nm						
KDU	**Kakadu**	**6.55**	**144**	P	**Pn**	**10 45 33.6**	**-0.7**
KDU	**Kakadu**	**6.55**	**144**	P	**Pn**	**10 45 33.3**	**-0.9**
	84nm,0.3s,SNR=9.4						
EDFI	**Ende, Flores**	**6.96**	**258**	P	**Pn**	**10 45 40.1**	**+0.3**
	203nm,0.9s,2μm0.7nm						
SWI	**Sorong**	**6.97**	**23**	P	**Pn**	**10 45 39.4**	**-0.5**
	144nm,0.7s,2μm0.6nm						
TNTI	**Ternate**	**8.15**	**351**	Pn	**Pn**	**10 45 53.4**	**-2.2**
KNRA	**Kununurra**	**8.29**	**179**	Pn	**Pn**	**10 45 56.1**	**-1.2**
KNRA	**Kununurra**	**8.29**	**179**	P	**Pn**	**10 45 56.0**	**-1.4**
	108nm,0.8s,SNR=11						
BASI	**Baing, Sumba**	**8.40**	**250**	P	**Pn**	**10 45 57.5**	**-1.4**
	720nm,0.8s,9μm						
LUWI	**Luwuk**	**8.52**	**317**	P	**Pn**	**10 45 56.8**	**-3.7**
BKSI	**Bulukumba**	**8.63**	**283**	P	**Pn**	**10 46 03.3**	**+1.3**
	79nm,1.1s						
KAPI	**Kappang**	**9.07**	**284**	Pn	**Pn**	**10 46 06.7**	**-1.1**
KAPI	**Kappang**	**9.07**	**284**	P	**Pn**	**10 46 10.1**	**+2.3**
	17nm,0.7s,baz=149,slow=6.9,SNR=7.3						
MRSI	**Marisa**	**10.20**	**319**	P	**Pn**	**10 46 21.9**	**-1.0**
	26nm,0.7s						
PLAI	**Plampang**	**10.79**	**261**	P	**Pn**	**10 46 28.8**	**-1.8**
PLAI	**Plampang**	**10.79**	**261**	P	**Pn**	**10 46 28.2**	**-2.4**
	84nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.07**	**195**	Pn	**Pn**	**10 46 31.1**	**-3.1**
TOLI2	**Tolitoli**	**11.44**	**317**	P	Pn	10 46 33.6	-5.6
TOLI2	**Tolitoli**	**11.44**	**317**	Pn	**Pn**	**10 46 36.6**	**-2.6**
TWSI	**Taliwang, Sumb**	**11.66**	**262**	P	**Pn**	**10 46 41.1**	**-0.9**
	39nm,0.8s						
TABU	**Tabubil**	**12.74**	**81**	P	**Pn**	**10 46 56.2**	**0.0**
WB0	**Warramunga Arr**	**13.58**	**156**	Pn	**Pn**	**10 47 04.3**	**-2.5**
WRAB	**Tennant Creek**	**13.71**	**156**		**Pn**	**10 47 06.0**	**-2.5**
WRA	**Warramunga Arr**	**13.72**	**157**		**Pn**	**10 47 05.0**	**-3.5**
WRA	**Warramunga Arr**	**13.72**	**157**	P	**Pn**	**10 47 05.7**	**-2.9**
	10nm,0.7s,baz=333,slow=13,SNR=122						
WRA				S	Sn	10 49 31.2	-9.4
	30nm,0.7s,baz=332,slow=22,SNR=9.9						
WB2	**Warramunga Arr**	**13.72**	**156**	Pn	**Pn**	**10 47 05.9**	**-2.7**
WR0	**Warramunga Arr**	**13.81**	**156**		**Pn**	**10 47 06.8**	**-3.0**
JAGI	**Jajag, Banyuwa**	**14.33**	**265**	P	**Pn**	**10 47 14.2**	**-2.0**
COEN	**Coen**	**15.78**	**116**	P	**Pn**	**10 47 33.0**	**-1.3**
COEN	**Coen**	**15.78**	**116**		**Pn**	**10 47 32.9**	**-1.3**
COEN				IAmb	IAmb	10 47 48.4	
	comp=Z,25nm,0.7s						
MBWA	**Marble Bar**	**16.18**	**211**	P	**Pn**	**10 47 38.5**	**-0.6**
MBWA	**Marble Bar**	**16.18**	**211**	Pn	**Pn**	**10 47 37.4**	**-1.7**
PSA00	**Pilbara Seismi**	**16.47**	**210**	P	**P**	**10 47 42.4**	**-0.2**
PSA00	**Pilbara Seismi**	**16.47**	**210**	P	**Pn**	**10 47 42.6**	**0.0**
PSA00				IAmb	IAmb	10 47 44.6	
	comp=Z,27nm,0.7s						
PWJI	**Pagerwojo**	**16.63**	**267**	P	**P**	**10 47 42.0**	**-2.4**
QIS	**Mount Isa**	**16.93**	**142**	P	**Pn**	**10 47 48.9**	**+0.6**
AS31	**Alice Springs**	**17.02**	**163**	P	**Pn**	**10 47 50.0**	**+0.6**
ASAR	**Alice Springs**	**17.02**	**163**	P	**Pn**	**10 47 50.0**	**+0.7**
ASAR	**Alice Springs**	**17.02**	**163**	P	**

BBJI Bungbulang 20.75 268 P **P** **10 48 29.3 0.0**
CTA Charters Tower 21.32 128 P **P** **10 48 33.7 -1.5**
comp=Z,0.3nm,1.0s,baz=256,slow=4.2,SNR=1.6
CTAO Charters Tower 21.32 128 P **P** **10 48 34.9 -0.4**
MEEK Meekatharra 21.40 205 P **P** **10 48 36.8 +0.7**
OOD Oodnadatta 21.43 163 P **P** **10 48 36.9 +0.5**
FORT Forrest 23.32 181 P **P** **10 48 56.0 +1.2**
FORT Forrest 23.32 181 P **P** **10 48 55.4 +0.6**
FORT IAmb IAmb 10 49 35.9
comp=Z,26nm,0.8s
INKA Innaminka 23.34 152 P **P** **10 48 56.3 +1.4**
MULG Mulgathing 23.40 168 P **P** **10 48 56.3 +0.8**
QLP Quilpie 24.25 144 P **P** **10 49 03.9 +0.6**
MORW Morawa 24.63 207 P **P** **10 49 08.6 +1.9**
MORW Morawa 24.63 207 P **P** **10 49 09.3 +2.6**
MORW IAmb IAmb 10 49 11.9
comp=Z,13nm,0.7s
LCRK Leigh Creek 24.70 160 P **P** **10 49 08.3 +1.0**
KMBL Kambalda 24.71 194 P **P** **10 49 07.9 +0.5**
BLDU Ballidu 25.68 204 P **P** **10 49 17.2 +1.0**
KLBR Kellerberrin 26.16 201 P **P** **10 49 21.0 +0.5**
BBOO Buckleboo 26.28 166 P **P** **10 49 21.7 +0.1**
BBOO Buckleboo 26.28 166 P **P** **10 49 22.3 +0.8**
BBOO IAmb IAmb 10 49 22.8
comp=Z,19nm,0.7s
MUN Mundaring 27.09 204 P **P** **10 49 29.5 +0.7**
STKA Stephens Creek 27.27 155 P **P** **10 49 31.1 +0.7**
STKA Stephens Creek 27.27 155 P **P** **10 49 31.3 +0.9**
STKA Stephens Creek 27.27 155 P **P** **10 49 31.1 +0.7**
comp=Z,8.8nm,0.6s,baz=321,slow=8.0,SNR=14
STKA LR LR 11 00 47.6
comp=Z,1μm,18.3s,baz=339,slow=37
comp=Z,8.8nm,0.6s
NWAO Narrogin (SRO) 27.55 201 P **P** **10 49 33.7 +0.8**
NWAO Narrogin (SRO) 27.55 201 P **P** **10 49 33.9 +1.0**
HTT Hallett 27.68 161 P **P** **10 49 35.4 +1.3**
BKNI Bangkinang 28.50 284 P **P** **10 49 41.6 +0.1**
CMSA Cobar Meteorol 28.90 149 P **P** **10 49 46.0 +1.1**
KULM Kulim 30.56 293 P **P** **10 50 00.7 +0.9**
KULM IAmb IAmb 10 50 15.2
comp=Z,24nm,1.3s
ARPS Mount Arapiles 31.69 159 P **P** **10 50 11.3 +1.9**
UBPT Khong Chiam 32.08 315 P **P** **10 50 14.5 +1.4**
YNG Young 32.47 148 P **P** **10 50 15.9 -0.4**
CAN Canberra 33.57 149 P **P** **10 50 26.7 +0.8**
CAN Canberra 33.57 149 P **P** **10 50 26.6 +0.6**
TOO Toolangi 33.79 155 P **P** **10 50 30.3 +2.6**
TOO Toolangi 33.79 155 P **P** **10 50 29.6 +1.8**
TOO IAmb IAmb 10 50 46.1
comp=Z,24nm,1.4s
JOW Kunigami 33.97 360 P **P** **10 50 28.9 -0.4**
JCJ Chichijima 36.69 21 P **P** **10 50 52.5 0.0**
SLVN Son La 37.40 320 P **P** **10 50 57.9 -0.8**
PHRA Phrae 37.96 313 P **P** **10 51 02.8 -0.7**
CM31 Chiang Mai Arr 38.88 312 P **P** **10 51 12.3 +1.2**
CM31 IAmb IAmb 10 51 13.1
comp=Z,27nm,1.3s
CMAR Chiang Mai Arr 38.88 312 P **P** **10 51 11.7 +0.5**
comp=Z,8.8nm,1.0s,baz=144,slow=7.5,SNR=28
CMAR PcP **PcP** **10 53 20.8 +1.7**
comp=Z,2.0nm,0.6s,baz=164,slow=3.0,SNR=8.2
comp=Z,8.8nm,1.0s
CRAI Chiangrai 38.99 315 P **P** **10 51 13.3 +1.3**
CRAI IAmb IAmb 10 51 13.8
comp=Z,14nm,1.1s
CHTO Chiang Mai 39.10 312 P **P** **10 51 13.6 +0.6**
CHTO IAmb IAmb 10 51 15.2
comp=Z,14nm,0.8s
DZM Mont Dzumac 39.31 116 P **P** **10 51 16.1 +1.3**
WHN Wuhan 40.06 341 P **P** **10 51 22.3 +1.6**
NJ2 Nanjing 40.26 347 *eP* **P** **10 51 24.3 +2.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
JNU Nakatsue 40.30 3 P **P** **10 51 22.2 -0.4**
KMI Kunming 40.91 323 ⇑P **P** **10 51 29.5 +1.4**
KMI pmax pmax
comp=Z,10.0nm,1.0s
JMN Monobe 41.15 7 P **P** **10 51 29.4 -0.3**
PZH PanZhiHua 42.54 323 P **P** **10 51 44.3 +3.1**
PZH pmax pmax
comp=Z,10.0nm,1.0s
KSAR Wonju Array Be 44.55 359 P **P** **10 51 55.5 -1.4**
KSRS Korea Array 44.56 359 P **P** **10 51 57.6 +0.6**
comp=Z,2.7nm,0.6s,baz=177,slow=9.5,SNR=18
comp=Z,2.7nm,0.6s
MAJO Matsushiro 44.58 11 P **P** **10 51 55.5 -1.7**
MJAR Matsushiro Arr 44.58 11 P **P** **10 51 55.4 -1.8**
comp=Z,3.8nm,0.7s,baz=189,slow=9.2,SNR=8.3
comp=Z,3.8nm,0.7s
MJB9 Matsu-Tunnel 44.58 11 P **P** **10 51 56.1 -1.2**
KS19 Wonju Array Si 44.61 359 P **P** **10 51 57.6 +0.2**
KS19 IAmb IAmb 10 52 05.0
comp=Z,26nm,1.4s
XAN Xi'an 45.17 337 ⇓P **P** **10 52 01.8 -0.2**
XAN sP sP 10 52 52.6 +2.0
XAN pmax pmax
comp=Z,35nm,1.0s
HNS HongShan 46.36 345 ⇑P **P** **10 52 10.8 -0.3**
HNS pmax pmax
comp=Z,21nm,1.0s
JMM Marumori 46.40 13 P **P** **10 52 11.5 +0.1**
JMM IAmb IAmb 10 52 47.2
comp=Z,18nm,1.1s
SHL Shillong 48.40 314 P **P** **10 52 26.8 -0.6**
SHL IAmb IAmb 10 52 28.3
comp=Z,15nm,0.9s
BJT Baijiatuau 48.50 347 P **P** **10 52 27.5 -0.1**
BJT IAmb IAmb 10 52 28.3
comp=Z,9.8nm,0.7s
BJI Beijing 48.52 347 P **P** **10 52 27.4 -0.3**
BJI pmax pmax
comp=Z,7.0nm,0.8s
LZH Lanzhou 49.05 333 ⇓P **P** **10 52 33.4 +1.2**
LZH pP pwP 10 53 14.8 +3.3
LZH pmax pmax
comp=Z,53nm,1.2s
JTM Tenmabayashi 49.25 13 P **P** **10 52 33.1 -0.2**
JTM IAmb IAmb 10 52 34.0
comp=Z,12nm,0.7s
MSVF Nonsavu 49.26 107 P **P** **10 52 32.3 -1.7**
MSVF IAmb IAmb 10 52 46.1
comp=Z,33nm,1.4s
HHC Hu-ho-hao-te 50.44 343 *eP* **P** **10 52 45.3 +2.8**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,120nm,6.6s
ERM Erimo 50.90 14 P **P** **10 52 44.3 -1.5**
ERM IAmb IAmb 10 52 53.2
comp=Z,11nm,0.9s
WHZ Wether Hill Ro 51.22 145 P **P** **10 52 49.4 +1.3**
USA0B Ussuriysk Arra 51.39 3 P **P** **10 52 49.9 +0.5**
USRK Ussuriysk Ar. 51.39 3 P **P** **10 52 50.1 +0.7**
USRK Ussuriysk Ar. 51.39 3 P **P** **10 52 49.3 -0.1**
comp=Z,3.5nm,0.5s,baz=186,slow=7.8,SNR=18
comp=Z,3.5nm,0.5s
MRNZ Matariki Terra 51.78 138 P **P** **10 52 52.4 0.0**
XLT XiLinHaoTe 52.24 349 *eP* **P** **10 52 56.3 +0.5**
XLT pP pwP 10 53 32.5 -2.9
XLT pmax pmax
comp=Z,14nm,1.1s
TUWZ Tuamarina 52.58 138 P **P** **10 52 59.2 +0.9**
JKA Kamikawa-asahi 52.77 13 P **P** **10 52 59.9 +0.3**
KHZ Kahutara 52.77 139 P **P** **10 53 01.2 +1.5**
GTA Gaotai 53.60 332 P **P** **10 53 06.9 +1.0**
GTA pP pP 10 53 30.0 -9.3
GTA pmax pmax
comp=Z,35nm,0.9s
YSS Yuzh-Sakhalins 55.51 12 P **P** **10 53 17.3 -2.0**
HEH HeiHe 57.37 359 *eP* **P** **10 53 31.9 -0.5**
HEH pmax pmax
comp=Z,6.0nm,1.2s
ULN Ulaanbaatar 58.16 343 P **P** **10 53 39.1 +0.8**
SONM Songino Array 58.33 343 P **P** **10 53 40.0 +0.6**
SONM Songino Array 58.33 343 P **P** **10 53 40.0 +0.6**
comp=Z,13nm,0.9s,baz=160,slow=7.6,SNR=66
comp=Z,13nm,0.9s
WMQ Urumqi 62.92 328 *eP* **P** **10 54 11.6 +1.1**
WMQ pmax pmax
comp=Z,44nm,0.9s
NIL Nilore 66.37 312 P **P** **10 54 32.5 -0.5**
NIL IAmb IAmb 10 54 33.6
comp=Z,8.6nm,0.8s
ZSN Zaisan 66.83 329 *eP* **P** **10 54 35.8 +0.1**
baz=329
SHLS Shalkode 67.13 323 *eP* **P** **10 54 36.6 -1.2**
comp=Z,10.0nm,0.8s,baz=323
KSH Kashi 67.32 318 P **P** **10 54 40.4 +1.3**
KSH pmax pmax
comp=Z,10.0nm,0.8s
TARG Taragay, Kyrgy 67.33 321 P **P** **10 54 37.1 -2.3**
UZB Uzynbulak 67.39 323 *eP* **P** **10 54 39.8 +0.3**
baz=323
SATY Saty 67.71 323 *eP* **P** **10 54 41.9 +0.4**
comp=Z,7.6nm,0.7s,baz=322
MK31 Makanchi Array 67.74 328 P **P** **10 54 42.0 +0.5**
MKAR Makanchi Array 67.74 328 P **P** **10 54 41.9 +0.4**
MKAR Makanchi Array 67.74 328 P **P** **10 54 42.0 +0.6**
comp=Z,9.3nm,0.5s,baz=127,slow=8.1,SNR=73
comp=Z,9.3nm,0.5s
KPKS Kokpek 67.77 323 *eP* **P** **10 54 42.2 +0.4**
comp=Z,8.9nm,0.8s,baz=323
TNSS Tian-Shan 68.58 322 *eP* **P** **10 54 47.1 -0.1**
baz=322
MDOK Medeo 68.59 322 *eP* **P** **10 54 47.1 +0.1**
baz=322
AAA Alma-Ata 68.70 322 *eP* **P** **10 54 47.7 +0.2**
comp=Z,8.3nm,0.4s,baz=322
YAK Yakutsk 69.17 1 P **P** **10 54 50.0 +0.1**
KUU Kurty 69.42 322 *eP* **P** **10 54 52.3 +0.4**
comp=Z,13nm,0.8s,baz=322
AAK Ala-Archa 69.89 320 P **P** **10 54 56.5 +1.5**
AAK IAmb IAmb 10 54 57.1
comp=Z,24nm,1.3s
SGDS Sogindy 70.23 321 *eP* **P** **10 54 57.2 +0.3**
baz=321
SEM Semipalatinsk 71.07 330 *eP* **P** **10 55 02.1 0.0**
comp=Z,6.5nm,0.6s,baz=330
ZAA0 Zalesovo Array 71.27 334 P **P** **10 55 02.5 -0.3**
ZAA0 IAmb IAmb 10 55 03.2
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 71.27 334 P **P** **10 55 02.2 -0.7**
comp=Z,11nm,0.6s,baz=131,slow=5.7,SNR=43
comp=Z,11nm,0.6s
BTLS Baital 71.42 322 *eP* **P** **10 55 04.4 +0.4**
baz=322
CHGR Chuyangaron 71.57 315 P **P** **10 55 05.2 +0.1**
CHGR IAmb IAmb 10 55 06.2
comp=Z,22nm,1.1s
SIMJ Simiganj 71.67 315 P **P** **10 55 05.9 0.0**
KURBB Kurchatov Arra 72.07 329 P **P** **10 55 08.0 +0.3**
comp=Z,17nm,0.6s,baz=130,slow=5.1,SNR=95
comp=Z,17nm,0.6s
KURK Kurchatov 72.08 329 P **P** **10 55 08.1 +0.4**
VNDA Vanda 72.28 173 P **P** **10 55 09.2 +0.6**
VNDA Vanda 72.28 173 P **P** **10 55 08.9 +0.3**
comp=Z,2.0nm,0.6s,baz=314,slow=7.7,SNR=9.6
comp=Z,2.0nm,0.6s
IUG Iuzhnay 72.54 318 *eP* **P** **10 55 11.3 +0.5**
comp=Z,11nm,0.6s,baz=318
KK31 Karatay Array 72.67 319 P **P** **10 55 11.8 +0.3**
KKAR Karatay Array 72.67 319 P **P** **10 55 11.7 +0.2**
BRLS Borolday 73.07 319 *eP* **P** **10 55 14.3 +0.4**
baz=319
MAW Mawson 74.12 201 P **P** **10 55 20.0 +0.6**
comp=Z,3.7nm,0.6s,baz=12,slow=9.6,SNR=7.6
comp=Z,3.7nm,0.6s
BVAR Borovoye Array 77.60 328 P **P** **10 55 39.4 -0.1**
comp=Z,7.1nm,0.6s,baz=104,slow=6.3,SNR=29
comp=Z,7.1nm,0.6s
BRVK Borovoye 77.67 328 P **P** **10 55 39.9 0.0**
TIXI Tiksi 78.83 0 P **P** **10 55 45.6 -0.2**
TIXI IAmb IAmb 10 55 45.9
comp=Z,11nm,0.6s
NRIK Noril'sk 81.55 346 IAmb IAmb 10 56 02.5
comp=Z,12nm,1.0s
NRIK Noril'sk 81.55 346 P **P** **10 56 00.2 -0.3**
comp=Z,8.8nm,0.8s,baz=129,slow=7.1,SNR=10
comp=Z,8.8nm,0.8s
ABKAR Akbulak array 81.90 322 P **P** **10 56 02.5 -0.2**
QSPA South Pole Qui 82.64 180 P **P** **10 56 06.5 0.0**
QSPA IAmb IAmb 10 56 07.6
comp=Z,8.1nm,0.7s
QSPA South Pole Qui 82.64 180 P **P** **10 56 06.7 +0.3**
comp=Z,7.3nm,0.6s,baz=293,slow=0.9,SNR=40
comp=Z,7.3nm,0.6s
ARU Arti 85.25 328 P **P** **10 56 19.2 -0.5**
ARU IAmb IAmb 10 56 20.1
comp=Z,12nm,1.1s
ELIB Princess Elisa 87.74 198 *dP* **P** **10 56 33.2 +1.5**
comp=Z,5.2nm,0.7s
G19K Purcell Mounta 90.41 23 IAmb IAmb 10 56 45.2
comp=Z,6.1nm,1.1s
D19K Kuna River 90.74 21 IAmb IAmb 10 56 46.0
comp=Z,8.4nm,0.9s
KBZ Khabaz 91.90 314 P **P** **10 56 52.3 +0.9**
comp=Z,3.6nm,1.0s,baz=135,slow=5.7,SNR=3.3
comp=Z,3.6nm,1.0s
SUA Susitna One 91.96 28 IAmb IAmb 10 56 51.6
comp=Z,5.0nm,0.9s
B21K Ikpikpuk River 92.27 20 P **P** **10 56 52.1 -0.5**
B21K IAmb IAmb 10 56 52.7
comp=Z,4.8nm,0.6s
MLY Manley 92.68 25 IAmb IAmb 10 56 55.6
comp=Z,3.2nm,0.8s
GHO Glory Hole Cre 92.88 28 P **P** **10 56 55.2 -0.5**
GHO IAmb IAmb 10 57 10.2
comp=Z,4.7nm,0.6s
I23K Minto, Yukon-K 93.28 25 P **P** **10 56 57.0 -0.4**
I23K IAmb IAmb 10 56 57.8
comp=Z,5.8nm,0.8s
G23K Bananza Creek 93.30 23 IAmb IAmb 10 56 58.2
comp=Z,4.0nm,0.9s
NEA2 Nenana 93.30 25 P **P** **10 56 57.4 -0.1**
COLD Coldfoot 93.33 23 P **P** **10 56 57.4 -0.2**
COLD IAmb IAmb 10 56 58.1
comp=Z,4.0nm,1.1s
C23K Itkillik River 93.68 20 P **P** **10 56 58.4 -0.7**
C23K IAmb IAmb 10 57 02.7
comp=Z,4.0nm,1.1s
WRH Wood River Hil 93.70 26 P **P** **10 56 57.8 -1.5**
WRH IAmb IAmb 10 56 58.7
comp=Z,4.3nm,0.8s
DHY Denali Highway 93.80 27 P **P** **10 56 59.4 -0.6**
DHY IAmb IAmb 10 57 00.2
comp=Z,4.7nm,0.8s
CCB Clear Creek Bu 93.85 25 P **P** **10 56 59.1 -0.9**
CCB IAmb IAmb 10 56 59.1
comp=Z,4.7nm,0.8s
H24K Noodor Dome 94.00 24 P **P** **10 57 00.3 -0.4**
H24K IAmb IAmb 10 57 01.3
comp=Z,4.2nm,0.8s
D24K Happy Valley 94.18 21 P **P** **10 56 59.7 -1.7**
D24K IAmb IAmb 10 57 12.0
comp=Z,2.7nm,0.7s
HDA Harding Lake 94.18 26 P **P** **10 57 00.3 -1.2**
HDA IAmb IAmb 10 57 01.3
comp=Z,3.1nm,0.7s
M24K Tolsona, Glenn 94.21 28 P **P** **10 57 00.5 -1.3**
ILAR Eielson Array 94.26 25 P **P** **10 57 00.0 -1.9**
comp=Z,1.1nm,0.7s,baz=275,slow=4.4,SNR=15
comp=Z,1.1nm,0.7s
BELA Belgrano 2 94.40 184 P **P** **10 57 02.5 +0.2**
BELA IAmb IAmb 10 57 03.3
comp=Z,3.9nm,0.7s
PAX Paxson 94.64 27 P **P** **10 57 03.6 -0.2**
PAX IAmb IAmb 10 57 04.7
comp=Z,3.2nm,0.8s
J25K Salcha River, 94.89 26 P **P** **10 57 04.4 -0.4**
SNAA Sanae 95.00 194 P **P** **10 57 05.7 +0.4**
comp=Z,1.8nm,0.9s,baz=189,slow=9.6,SNR=9.7
comp=Z,1.8nm,0.9s
FYU Fort Yukon 95.17 24 P **P** **10 57 05.7 -0.2**
FYU IAmb IAmb 10 57 07.4
comp=Z,4.6nm,1.0s
E25K Arctic Village 95.21 22 P **P** **10 57 05.8 -0.4**
E25K IAmb IAmb 10 57 06.6
comp=Z,2.9nm,1.1s
SCRK Sand Creek 95.42 26 P **P** **10 57 06.6 -0.8**
BMAR Burnt Mountain 95.51 23 P **P** **10 57 08.0 +0.4**
J26L Joseph Creek 95.65 26 P **P** **10 57 07.8 -0.6**
J26L IAmb IAmb 10 57 08.5
comp=Z,3.6nm,0.8s
K27K Chicken 96.26 26 P **P** **10 57 11.8 +0.8**
L27K Beaver Creek, 96.31 27 P **P** **10 57 11.6 +0.3**
L27K IAmb IAmb 10 57 12.2
comp=Z,3.2nm,0.8s
BCAR Beaver Creek A 96.33 27 P **P** **10 57 11.7 +0.3**
G29M Pine Creek 98.04 23 P **P** **10 57 18.2 -0.8**
G29M IAmb IAmb 10 57 20.7
comp=Z,3.2nm,0.9s
ARCES ARCESS Array B 101.40 340 P **Pdif** **10 57 32.2 -1.7**
comp=Z,0.8nm,0.6s,baz=76,slow=7.5,SNR=4.5
ARCES PKiKP **PKiKP** **11 01 57.7 +0.4**
comp=Z,2.8nm,1.1s,baz=93,slow=1.8,SNR=4.0
FINES FINESS Array B 102.38 331 PKiKP **PKiKP** **11 01 57.7 -1.5**
comp=Z,0.8nm,0.7s,baz=108,slow=3.6,SNR=4.8
GERES GERESS Array B 111.77 320 PKiKP **PKiKP** **11 02 17.1 -0.1**
comp=Z,1.4nm,0.5s,baz=131,slow=2.7,SNR=5.7
KEST Kesra 117.89 307 PKP **PKiKP** **11 02 29.9 +0.5**
comp=Z,2.2nm,0.5s,baz=330,slow=0.3,SNR=2.7
PDAR Pinedale Array 118.14 45 PKP **PKPdf** **11 02 29.8 -0.1**
comp=Z,0.9nm,0.6s,baz=242,slow=1.5,SNR=9.9
PDAR PKKPbc **PKKPbc** **11 12 49.6 -0.9**
comp=Z,0.6nm,0.5s,baz=21,slow=3.3,SNR=6.7
EKA Eskdalemuir Ar 118.78 331 PKP **PKiKP** **11 02 30.3 -0.1**
comp=Z,0.6nm,0.5s,baz=116,slow=3.2,SNR=5.4
ULM Lac du Bonnet 123.50 33 PKP **PKPdf** **11 02 38.6 -1.0**
comp=Z,2.4nm,0.6s,baz=256,slow=1.7,SNR=5.9
TXAR Lajitas Array 126.32 59 PKP **PKiKP** **11 02 46.6 +0.4**
comp=Z,0.6nm,0.5s,baz=183,slow=2.9,SNR=13
ESDC Sonseca Array 126.75 315 PKP **PKiKP** **11 02 47.1 +0.4**
comp=Z,1.5nm,1.0s,baz=351,slow=4.3,SNR=5.4
TORD Torodi Ar. Bea 127.48 281 PKP **PKPdf** **11 02 47.6 -0.5**
comp=Z,4.1nm,0.7s,baz=40,slow=2.6,SNR=16
PLCA Paso Flores 129.03 161 PKP **PKiKP** **11 02 51.1 -0.2**
comp=Z,1.5nm,0.7s,baz=205,slow=4.3,SNR=4.3
SCHQ Schefferville 131.06 12 PKP **PKPdf** **11 02 54.0 +0.2**
comp=Z,2.5nm,0.6s,baz=8.3,slow=0.8,SNR=7.5
SCHQ SKPbc **SKPbc** **11 06 03.5 -1.0**
comp=Z,5.2nm,0.6s,baz=342,slow=7.3,SNR=15
DBIC Dimbokro 133.79 272 PKP **PKiKP** **11 03 01.6 +0.1**
comp=Z,3.8nm,0.5s,baz=73,slow=3.0,SNR=5.3
CPUP Villa Florida 146.04 170 PKPbc **PKPbc** **11 03 23.0 0.0**
comp=Z,5.6nm,0.7s,baz=185,slow=2.8,SNR=19
LPAZ La Paz 151.29 145 PKPbc **PKiKP** **11 03 38.6 +0.5**
comp=Z,2.8nm,0.4s,baz=31,slow=2.1,SNR=9.5
LPAZ PKPab **PKPab** **11 03 47.7 +1.7**
comp=Z,7.4nm,0.6s,baz=151,slow=2.2,SNR=18

NEIC 13 10:45:22.3±1.6, 31°37N±0°02×103°48W±0°02, h3km±5km, mb_Lg2.4/21, ML2.7/58, Error ellipse: s-maj=2.4km s-min=2.3km az=187.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.33**	**270**		Pg	10 45 29.7	+0.9
PECS				Sg	Sb	10 45 35.0	-1.8
PECS				IAML		10 45 37.2	
	504nm,0.4s						
PECS				IAML		10 45 39.3	
	762nm,0.7s						
MNHN	**Monahans**	**0.61**	**93**		Pg	10 45 34.4	+0.3
MNHN				Sg	Sg	10 45 43.4	+1.3
ALPN	**Alpine**	**1.00**	**188**	Pg	Pb	10 45 42.1	-0.4
ALPN				Sg	Sb	10 45 55.7	-0.4
ODSA	**Odessa**	**1.09**	**46**		Pg	10 45 43.0	-0.1
ODSA				Sg	Sb	10 45 58.7	+0.2
ODSA				IAML		10 46 07.0	
	118nm,0.8s						
ODSA				IAML		10 46 15.5	
	104nm,1.5s						
VHRN	**Van Horn**	**1.42**	**246**		Pn	10 45 49.2	0.0
SAND	**Sanderson**	**1.83**	**140**	Pn	Pb	10 45 56.0	-0.6
SAND					Sb	10 46 19.6	-0.3
TX31	**Lajitas Ar. Si**	**2.04**	**185**		Pn	10 45 58.7	+1.0
TXAR	**Lajitas Array**	**2.04**	**185**		Pn	10 45 58.2	+0.6
OZNA	**Ozona**	**2.06**	**102**		Pn	10 45 59.1	+1.2
OZNA				IAML		10 46 28.7	
	49nm,0.9s						
OZNA				IAML		10 46 30.8	
	43nm,0.4s						
SGCY	**Sterling City**	**2.08**	**74**		Pn	10 45 59.1	+0.9
SGCY				IAML		10 46 29.2	
	30nm,0.9s						
SGCY				IAmb_Lg		10 46 29.4	
	comp=Z,21nm,0.9s						
SGCY				IAML		10 46 31.2	
	comp=Z,36nm,0.7s						
POST	**Post**	**2.38**	**44**		Pn	10 46 03.0	+0.7
POST				IAmb_Lg		10 46 38.6	
	comp=Z,11nm,0.7s						
POST				IAML		10 46 44.2	
	comp=Z,31nm,0.6s						
POST				IAML		10 46 45.0	
	comp=Z,41nm,0.6s						
MSTX	**Muleshoe**	**2.66**	**13**	Pn	Pn	10 46 07.1	+0.9
MSTX				IAmb_Lg		10 46 45.6	
	comp=Z,16nm,1.3s						
MSTX				IAML		10 46 49.0	
	comp=N,59nm,0.6s						
SN05	**Snyder 5**	**2.66**	**55**		Pn	10 46 07.2	+0.9
SN07	**Snyder 07**	**2.78**	**51**	Pn	Pn	10 46 08.8	+0.9
SN07				IAML		10 46 51.4	
	comp=N,51nm,0.5s						
SN07				IAmb_Lg		10 46 58.0	
	comp=Z,14nm,0.9s						
DRIO	**Del Rio**	**3.14**	**127**	Pn	Pn	10 46 13.8	+1.1
DRIO				IAML		10 47 03.3	
	comp=Z,22nm,0.5s						
DRIO				IAML		10 47 03.3	
	comp=Z,24nm,0.4s						
DRIO				IAmb_Lg		10 47 09.0	
	comp=Z,13nm,0.8s						
DKNS	**Dickens**	**3.15**	**43**	Pn	Pn	10 46 13.4	+0.5
DKNS				IAmb_Lg		10 47 10.6	
	comp=Z,13nm,0.8s						
DKNS				IAML		10 47 11.6	
	comp=Z,38nm,0.9s						
DKNS				IAML		10 47 14.4	
	comp=Z,29nm,0.7s						
JCT	**Junction City**	**3.28**	**105**		Pn	10 46 15.1	+0.4
JCT				IAML		10 47 13.4	
	comp=Z,20nm,0.5s						
JCT				IAML		10 47 17.2	
	comp=Z,28nm,0.5s						
APMT	**Aspermont**	**3.44**	**55**	Pn	Pn	10 46 17.5	+0.5
APMT				IAmb_Lg		10 47 17.6	
	comp=Z,12nm,0.8s						
ABTX	**Abilene, Hawle**	**3.49**	**68**	Pn	Pn	10 46 17.9	+0.3
ABTX				IAML		10 47 18.8	
	comp=E,20nm,0.4s						
ABTX				IAML		10 47 22.8	
	comp=N,22nm,0.6s						
AMTX	**Amarillo**	**3.81**	**23**	Pn	Pn	10 46 22.5	+0.4
AMTX				IAmb_Lg		10 47 30.4	
	comp=Z,13nm,0.7s						
BRDY	**Brady**	**3.83**	**90**	Pn	Pn	10 46 23.1	+0.8
BRDY				IAML		10 47 28.3	
	comp=Z,16nm,0.8s						
BRDY				IAML		10 47 30.5	
	comp=Z,12nm,0.6s						
121A	**Cookes Peak, D**	**3.84**	**289**	Pn	Pn	10 46 22.1	-0.4
121A				IAML		10 47 33.3	
	comp=N,11nm,0.7s						
121A				IAML		10 47 35.7	
	comp=E,9.0nm,0.6s						
HNDO	**Hondo**	**4.06**	**116**	Pn	Pn	10 46 25.0	-0.4
HNDO				IAML		10 47 38.9	
	comp=E,20nm,0.9s						
HNDO				IAML		10 47 39.1	
	comp=E,14nm,0.8s						
ANMO	**Albuquerque**	**4.35**	**326**	Pn	Pn	10 46 31.5	+1.8
ANMO				IAML		10 47 45.1	
	comp=E,6.0nm,0.8s						
ANMO				IAML		10 48 14.0	
	comp=E,4.6nm,4.5s						
SMWD	**Samnorwood**	**4.61**	**35**	Pn	Pn	10 46 33.6	+0.7
SMWD				IAmb_Lg		10 47 53.5	
	comp=Z,9.5nm,0.7s						
WTFS	**Witchita Falls**	**4.86**	**59**	Pn	Pn	10 46 35.8	-0.5
RTBA	**Rita Blanca**	**5.09**	**7**	Pn	Pn	10 46 41.8	+2.2
WHTX	**Lake Whitney,**	**5.17**	**82**	Pn	Pn	10 46 40.6	0.0
WMOK	**Wichita Mounta**	**5.18**	**48**		Pn	10 46 41.3	+0.5
WMOK				IAML		10 48 22.8	
	comp=Z,6.4nm,2.5s						
WMOK				IAML		10 48 51.5	
	comp=Z,5.8nm,4.0s						
X34A	**Smith Ranch, M**	**5.73**	**54**	Pn	Pn	10 46 50.0	+1.6

IGQ 13 10:50:00.1±2.1, 6°S±19°×77°8W±°, h10km, M4.2/3, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZUMB	**Zumba**	**1.53**	**309**	P	Pn	10 50 24.4	-3.2

MCRA	**Macar, Loja**	**2.47 306**	P	Pn	10 50 40.9	+0.4
MCRA			S	Sn	10 51 11.6	+0.8
BOSC	**San Juan Bosco**	**2.72 348**	P	Pn	10 50 42.9	-1.2
ISPG	**Isla Puna-Puer**	**3.61 322**	P	Pn	10 50 57.9	+1.8
MORR	**Playas El Morr**	**3.97 323**	P	Pn	10 51 02.8	+1.8
FLF1	**Flavio Alfaro-**	**5.76 341**	P	Pn	10 51 25.4	-0.4

*LDG **13** 10:55:51.4±0.1, 43.°57N×7.°88E, h15km, Md2.6/2, Ml2.5/10, Error ellipse: s-maj=2.1km s-min=1.7km az=19.0*
*STR **13** 10:55:52.3±0.8, 44.°N±4.°×.°±.°, h23km±3km, MLv2.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=152.5, preliminary*
*ROM **13** 10:55:52.3±0.2, 43.°658N±0.°010×7.°859E±0.°007, h8km, ML2.1/24, Error ellipse: s-maj=1.1km s-min=0.5km az=174.0*
*GEN **13** 10:55:52.9, 43.°65N×7.°84E, h11km±2km, Ml2.1*

ISC 13 10:55:50.7±1.1,**43.°57N**±0.°03×**7.°91E**±0.°02,**h19**km±2km, **n70**,σ0°**62**/118,**1C-1D**,**Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BURY	**Giardini Botan**	**0.34 310**		P	**Pg**	**10 55 57.9**	**+0.1**
BURY				S	**Sg**	**10 56 02.3**	**-0.5**
BURY	**Giardini Botan**	**0.34 310**		Pg	**Pg**	**10 55 58.0**	**+0.1**
BURY	**Giardini Botan**	**0.34 310**		Sg	**Sg**	**10 56 02.3**	**-0.5**
BURY	**Giardini Botan**	**0.34 310**		P	**Pg**	**10 55 58.1**	**+0.1**
BURY				S	**Sg**	**10 56 02.5**	**-0.3**
IMI	**Imperia**	**0.34 358**		⇓P	**Pb**	**10 55 58.4**	**+0.1**
IMI				S	**Sg**	**10 56 02.6**	**-0.5**
IMI				AML	AML		
	comp=E,690μm,0.5s						
IMI				AML	AML		
	comp=N,656μm,0.3s						
IMI				AML	AML		
	comp=N,542μm,0.2s						
IMI				AML	AML		
	comp=E,489μm,0.2s						
IMI	**Imperia**	**0.34 358**		P	**Pb**	**10 55 58.4**	**+0.1**
IMI				S	**Sg**	**10 56 02.8**	**-0.3**
MENA	**Menton**	**0.38 305**		P	**Pb**	**10 55 59.5**	**+0.7**
MENA				S	**Sb**	**10 56 05.0**	**+0.7**
MON	**Monaco**	**0.39 295**		Pg	**Pb**	**10 55 59.5**	**+0.5**
MON				Sg	**Sg**	**10 56 04.9**	**+0.5**
MON	**Monaco**	**0.39 295**		P	**Pb**	**10 56 00.0**	**+1.0**
MON				S	**Sg**	**10 56 05.0**	**+0.7**
SBF	**Sospel**	**0.45 311**		*e*Pg	**Pg**	**10 56 00.0**	**0.0**
SBF				*e*Sg	**Sg**	**10 56 06.5**	**+0.2**
	comp=E,250nm,0.3s						
ESCA	**l'Escarene**	**0.47 304**		Pg	**Pb**	**10 56 00.8**	**+0.4**
ESCA				Sg	**Sg**	**10 56 07.1**	**+0.3**
ESCA	**l'Escarene**	**0.47 304**		P	**Pb**	**10 56 01.3**	**+0.9**
ESCA				S	**Sb**	**10 56 08.0**	**+1.0**
MGRO	**Montegrosso**	**0.48 351**		Sg	**Sg**	**10 56 07.0**	**-0.2**
MGRO	**Montegrosso**	**0.48 351**		Pg	**Pb**	**10 56 01.4**	**+0.7**
SAOF	**Saorge**	**0.49 328**		P	**Pb**	**10 56 00.7**	**0.0**
SAOF				S	**Sg**	**10 56 07.1**	**-0.3**
SAOF				AML	AML		
	comp=E,1255μm,0.6s						
SAOF				AML	AML		
	comp=N,1470μm,0.8s						
SAOF				AML	AML		
	comp=E,1170μm,0.2s						
SAOF				AML	AML		
	comp=N,1060μm,0.2s						
SAOF				AML	AML		
	comp=N,1060μm,1.8s						
SAOF	**Saorge**	**0.49 328**		Pg	**Pg**	**10 56 01.1**	**+0.4**
SAOF				Sg	**Sg**	**10 56 06.9**	**-0.5**
SAOF	**Saorge**	**0.49 328**		P	**Pb**	**10 56 00.7**	**0.0**
SAOF				S	**Sg**	**10 56 07.1**	**-0.3**
RORO	**Rocca Rossa**	**0.55 12**		⇑P	**Pg**	**10 56 02.5**	**+0.7**
RORO				S	**Sb**	**10 56 09.2**	**0.0**
RORO				AML	AML		
	comp=E,300μm,0.2s						
RORO				AML	AML		
	comp=N,299μm,0.3s						
RORO				AML	AML		
	comp=N,245μm,0.1s						
RORO				AML	AML		
	comp=E,280μm,0.1s						
RORO	**Rocca Rossa**	**0.55 12**		Pg	**Pg**	**10 56 02.8**	**+0.9**
RORO	**Rocca Rossa**	**0.55 12**		Sg	**Sg**	**10 56 09.5**	**+0.2**
RORO	**Rocca Rossa**	**0.55 12**		P	**Pg**	**10 56 02.5**	**+0.7**
RORO				S	**Sb**	**10 56 09.3**	**0.0**
TURF	**col de Turini**	**0.55 317**		Pg	**Pb**	**10 56 02.1**	**+0.3**
TURF				Sg	**Sb**	**10 56 09.1**	**-0.3**
TURF	**col de Turini**	**0.55 317**		P	**Pg**	**10 56 02.5**	**+0.6**
TURF				S	**Sb**	**10 56 09.8**	**+0.4**
EILF	**Villa Eilenroc**	**0.57 268**		S	**Sg**	**10 56 10.7**	**+1.0**
MVIF	**Mont Vial**	**0.64 301**		Pg	**Pg**	**10 56 04.0**	**+0.5**
MVIF				Sg	**Sb**	**10 56 12.2**	**+0.4**
MVIF	**Mont Vial**	**0.64 301**		P	**Pg**	**10 56 04.4**	**+0.9**
MVIF				S	**Sg**	**10 56 12.8**	**+0.8**
GBOS	**Grotte di Boss**	**0.67 356**		P	**Pg**	**10 56 04.3**	**+0.3**
GBOS				S	**Sb**	**10 56 12.5**	**-0.3**
GBOS				AML	AML		
	comp=E,99μm,0.3s						
GBOS				AML	AML		
	comp=N,96μm,0.5s						
GBOS				AML	AML		
	comp=N,97μm,0.5s						
GBOS				AML	AML		
	comp=N,91μm,0.2s						
GBOS				AML	AML		
	comp=E,79μm,0.1s						
GBOS	**Grotte di Boss**	**0.67 356**		Pg	**Pg**	**10 56 04.4**	**+0.3**
GBOS	**Grotte di Boss**	**0.67 356**		Sg	**Sb**	**10 56 12.5**	**-0.3**
GBOS	**Grotte di Boss**	**0.67 356**		P	**Pg**	**10 56 04.3**	**+0.3**
GBOS				S	**Sb**	**10 56 12.4**	**-0.3**
CANO	**Canova, Maglio**	**0.68 20**		P	**Pg**	**10 56 04.8**	**+0.7**
CANO				S	**Sg**	**10 56 13.3**	**+0.1**
CANO				AML	AML		
	comp=E,297μm,0.5s						
CANO				AML	AML		
	comp=E,296μm,0.5s						
CANO				AML	AML		
	comp=N,380μm,0.2s						
CANO				AML	AML		
	comp=E,264μm,0.2s						
CANO				AML	AML		
	comp=N,380μm,0.2s						
CANO				AML	AML		
	comp=N,380μm,1.8s						
CANO	**Canova, Maglio**	**0.68 20**		Sg	**Sg**	**10 56 13.7**	**+0.4**
CANO	**Canova, Maglio**	**0.68 20**		Pg	**Pg**	**10 56 04.9**	**+0.7**
CANO	**Canova, Maglio**	**0.68 20**		P	**Pg**	**10 56 04.8**	**+0.7**
CANO				S	**Sg**	**10 56 13.3**	**+0.1**
SPIF	**crte de Spivo**	**0.69 315**		Pg	**Pg**	**10 56 04.7**	**+0.3**
SPIF				Sg	**Sb**	**10 56 13.2**	**-0.1**
CALF	**Calern**	**0.74 285**		Pg	**Pg**	**10 56 05.9**	**+0.6**
CALF				Sg	**Sb**	**10 56 15.4**	**+0.6**
ENR	**Entracque**	**0.75 332**		P	**Pb**	**10 56 05.5**	**+0.3**
ENR				S	**Sb**	**10 56 14.8**	**-0.2**
ENR				AML	AML		
	comp=E,420μm,0.1s						
ENR				AML	AML		
	comp=N,331μm,1.4s						
ENR				AML	AML		
	comp=E,420μm,0.1s						
ENR				AML	AML		
	comp=N,274μm,0.1s						
ENR	**Entracque**	**0.75 332**		Sg	**Sb**	**10 56 14.8**	**-0.2**
ENR	**Entracque**	**0.75 332**		Pg	**Pb**	**10 56 05.5**	**+0.3**
ENR	**Entracque**	**0.75 332**		P	**Pb**	**10 56 05.5**	**+0.3**
ENR				S	**Sb**	**10 56 14.5**	**-0.5**
STV	**Sant Anna di V**	**0.80 328**		P	**Pb**	**10 56 06.3**	**+0.3**
STV				S	**Sb**	**10 56 16.0**	**-0.4**
STV				AML	AML		
	comp=E,497μm,0.4s						
STV				AML	AML		
	comp=N,232μm,1.2s						
STV				AML	AML		
	comp=N,211μm,0.2s						
STV				AML	AML		
	comp=E,463μm,0.2s						
STV				AML	AML		
	comp=N,211μm,1.8s						
STV	**Sant Anna di V**	**0.80 328**		Pg	**Pg**	**10 56 06.6**	**+0.2**
STV	**Sant Anna di V**	**0.80 328**		Sg	**Sb**	**10 56 15.9**	**-0.4**
STV	**Sant Anna di V**	**0.80 328**		P	**Pb**	**10 56 06.3**	**+0.3**
STV				S	**Sb**	**10 56 16.2**	**-0.2**
QLNO	**Quiliano**	**0.82 22**		P	**Pn**	**10 56 07.3**	**+0.1**
QLNO				S	**Sg**	**10 56 17.6**	**+0.1**
QLNO				AML	AML		
	comp=E,89μm,1.0s						
QLNO				AML	AML		
	comp=N,126μm,0.4s						
QLNO				AML	AML		
	comp=N,126μm,0.4s						
QLNO				AML	AML		
	comp=E,84μm,0.2s						
QLNO	**Quiliano**	**0.82 22**		P	**Pn**	**10 56 07.3**	**+0.1**
QLNO				S	**Sg**	**10 56 17.8**	**+0.2**
ISO	**Isola**	**0.88 315**		Pg	**Pb**	**10 56 07.9**	**+0.6**
ISO				Sg	**Sb**	**10 56 18.5**	**-0.1**
ISO	**Isola**	**0.88 315**		P	**Pn**	**10 56 08.3**	**+0.3**
ISO				S	**Sb**	**10 56 18.9**	**+0.3**
SALSA	**La sagne**	**0.94 290**		Pg	**Pn**	**10 56 09.2**	**+0.3**
SALSA				Sg	**Sg**	**10 56 21.6**	**+0.1**
ENAUX	**Enaux**	**0.98 304**		Pg	**Pn**	**10 56 09.9**	**+0.3**
ENAUX				Sg	**Sb**	**10 56 22.5**	**+0.7**
LMR	**La Mourre**	**1.05 258**		*e*Pg	**Pb**	**10 56 10.0**	**-0.2**
LMR				*e*Sg	**Sb**	**10 56 23.0**	**-0.5**
	comp=E,9.2nm,0.2s						
PCP	**Piancastagn**	**1.07 25**		P	**Pb**	**10 56 10.8**	**+0.1**
PCP				S	**Sg**	**10 56 25.6**	**0.0**
PCP				AML	AML		
	comp=E,89μm,1.5s						
PCP				AML	AML		
	comp=N,71μm,1.6s						
PCP				AML	AML		
	comp=E,78μm,0.2s						
PCP				AML	AML		
	comp=N,55μm,0.2s						
PZZ	**Stroppo**	**1.10 329**		P	**Pb**	**10 56 11.6**	**+0.5**
PZZ				S	**Sb**	**10 56 25.3**	**+0.1**
PZZ				AML	AML		
	comp=E,162μm,0.9s						
PZZ				AML	AML		
	comp=N,240μm,0.6s						
PZZ				AML	AML		
	comp=E,161μm,0.3s						
PZZ				AML	AML		
	comp=N,191μm,0.3s						
PZZ	**Stroppo**	**1.10 329**		Pg	**Pb**	**10 56 11.6**	**+0.5**
PZZ	**Stroppo**	**1.10 329**		Sg	**Sb**	**10 56 24.8**	**-0.4**
PZZ	**Stroppo**	**1.10 329**		P	**Pb**	**10 56 11.6**	**+0.5**
PZZ				S	**Sb**	**10 56 25.3**	**+0.1**
TRIGF	**Trigance**	**1.11 280**		Pg	**Pb**	**10 56 11.9**	**+0.6**
TRIGF				Sg	**Sb**	**10 56 25.8**	**+0.5**
RNCA	**Ronca, Sant'Ol**	**1.17 39**		P	**Pb**	**10 56 12.6**	**+0.3**
JAUF	**Jausiers**	**1.20 316**		Pg	**Pb**	**10 56 13.8**	**+0.9**
SURF	**Saint Ours**	**1.21 319**		Pg	**Pg**	**10 56 14.0**	**-0.2**
SURF				Sg	**Sn**	**10 56 29.1**	**+0.4**
PGF	**Pioggiola**	**1.29 142**		*e*Pn	**Pn**	**10 56 13.4**	**-0.4**
PGF				*e*Sn	**Sn**	**10 56 30.0**	**-0.7**
	comp=N,6.6nm,0.2s						
CREF	**Crivoux**	**1.35 317**		Pg	**Pb**	**10 56 16.2**	**+0.8**
BHB	**Bricherasio**	**1.35 340**		P	**Pn**	**10 56 14.8**	**+0.2**
BHB				AML	AML		
	comp=E,55μm,0.7s						
BHB				AML	AML		
	comp=N,48μm,0.1s						
BHB				AML	AML		
	comp=E,46μm,0.3s						
BHB				AML	AML		
	comp=N,48μm,0.1s						
MBDF	**Montbardon**	**1.42 325**		*e*Pg	**Pb**	**10 56 17.4**	**+0.8**
MBDF				*e*Sg	**Sb**	**10 56 35.4**	**+1.0**
	comp=N,66nm,0.5s						
RRL	**Rocca Remolon**	**1.57 330**		P	**Pb**	**10 56 19.8**	**+0.4**
RRL				AML	AML		
	comp=E,27μm,0.5s						
RRL				AML	AML		
	comp=N,23μm,0.8s						
RRL				AML	AML		
	comp=N,21μm,0.3s						
RRL				AML	AML		
	comp=E,27μm,0.5s						
SMRF	**Simiane la Rot**	**1.74 284**		*e*P	**Pb**	**10 56 21.6**	**-0.4**
SMRF				*e*Sg	**Sb**	**10 56 45.3**	**+1.8**
	comp=E,14nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.99 313**		*e*Pg	**Pb**	**10 56 27.4**	**+1.1**
ORIF				*e*Sg	**Sg**	**10 56 53.4**	**-1.4**
	comp=E,11nm,0.4s						
VIVF	**Saint-Julien-l**	**2.66 300**		*e*Pn	**Pn**	**10 56 32.5**	**0.0**
VIVF	**Saint-Julien-l**	**2.66 300**		*e*Pg	**Pg**	**10 56 40.6**	**-1.1**
VIVF				*e*Sn	**Sn**	**10 57 02.6**	**-1.7**
	comp=E,1.7nm,0.3s						
VIVF				*e*Sg	**Sg**	**10 57 14.0**	**-2.2**
	comp=E,2.7nm,0.4s						
LASF	**Ste Croix**	**2.98 281**		*e*Pn	**Pn**	**10 56 37.6**	**+0.7**
LASF				*e*Sn	**Sn**	**10 57 09.9**	**-2.2**
	comp=E,1.0nm,0.2s						

*IDC **13** 11:01:23.5±1.5, 14.°55N×52.°02E, h0km, mb3.9/12, mbtmp3.9/12, Error ellipse: s-maj=36.2km s-min=23.1km az=27.0*
*NEIC **13** 11:01:24.1±2.5, 14.°63N±0.°10×52.°1E±0.°1, h10km±2km, mb4.3/30, Error ellipse: s-maj=17.5km s-min=16.7km az=247.0*
*OMAN **13** 11:01:28.5±1.1, 15.°14N×52.°05E, h10km, mb3.6/7, ml3.8/5, Error ellipse: s-maj=11.2km s-min=9.0km az=145.0*

ISC 13 11:01:24.3±0.6,**14.°75N**±0.°07×**52.°10E**±0.°08,**h10**km,**n72**, σ1°**92**/82,**mb4.1**/24,**Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**2.84 24**		P	**Pn**	**11 02 10.0**	**+0.3**
	SNR=19						
ABTO				S	**Sn**	**11 02 42.4**	**-1.6**
RBK	**Rabkut**	**3.41 36**		P	**Pn**	**11 02 18.3**	**+0.8**
	SNR=6.1						
RBK				S	**Sn**	**11 02 56.7**	**-1.4**
WHFO	**Wadi Hawf**	**3.54 27**		P	**Pn**	**11 02 20.0**	**+0.6**
	SNR=20						
WHFO				S	**Sn**	**11 02 59.8**	**-1.5**
DMTO	**DMTO**	**4.03 42**		P	**Pn**	**11 02 26.4**	**+0.4**
	SNR=13						
DOK	**Doka**	**4.31 27**		P	**Pn**	**11 02 30.6**	**+0.7**
	SNR=7.5						
DOK				S	**Sn**	**11 03 18.2**	**-2.1**
MZR	**Muzera**	**8.31 9**		P	**Pn**	**11 03 24.5**	**-0.4**
	SNR=8.0						
MZR				S	**Sn**	**11 04 54.1**	**-4.8**
MHTO	**MHTO**	**8.35 41**		P	**Pn**	**11 03 25.2**	**-0.2**
BSY	**Bisya**	**9.30 31**		P	**Pn**	**11 03 39.5**	**+1.0**
JMDO	**Jabal Madar**	**9.48 36**		P	**Pn**	**11 03 41.1**	**+0.1**
ARQ	**Araqi**	**9.51 25**		P	**Pn**	**11 03 41.7**	**+0.3**
ARQ				S	**Sn**	**11 05 23.9**	**-4.5**
ALNE	**Al Ain**	**9.88 20**		P	**Pn**	**11 03 47.2**	**+0.8**
ALNE				S	Sn	11 05 29.7	-7.7
SMDO	**Samad**	**10.00 33**		P	**Pn**	**11 03 47.4**	**-0.7**
HOQ	**Hoqain**	**10.07 28**		P	**Pn**	**11 03 49.1**	**0.0**
HOQ				S	**Sn**	**11 05 38.4**	**-3.9**
JLN	**Jalan Bani Buh**	**10.12 42**		P	**Pn**	**11 03 54.3**	**+4.7**
AJN	**Ajban**	**10.13 15**		P	**Pn**	**11 03 50.2**	**+0.3**
AJN				S	Sn	11 05 35.6	-8.1
JRN	**Qarnain Island**	**10.16 4**		P	**Pn**	**11 03 50.1**	**-0.2**
JRN				S	**Sn**	**11 05 39.6**	**-4.8**
SOHO	**SOHO**	**10.23 23**		P	**Pn**	**11 03 51.5**	**+0.3**
SOHO				S	**Sn**	**11 05 41.7**	**-4.4**
ASUD	**Al Ashush, Dub**	**10.29 17**		P	**Pn**	**11 03 53.2**	**+1.2**
ASUD				S	Sn	11 05 40.4	-7.0
BIDO	**Bidbid**	**10.42 32**		P	**Pn**	**11 03 53.9**	**+0.1**
BIDO				S	**Sn**	**11 05 46.0**	**-4.7**
WSAR	**Wadi Sarin**	**10.46 35**		Pn	**Pn**	**11 03 52.9**	**-1.5**
	0.4nm,0.3s,baz=228,slow=14,SNR=5.4						
WSAR				Sn	Sn	11 05 44.2	-7.6
	0.3nm,0.3s,baz=38,slow=19,SNR=1.0						
FAQ	**Al Faqa, Dubai**	**10.47 18**		P	**Pn**	**11 03 54.7**	**+0.1**
FAQ				S	Sn	11 05 43.5	-8.5
ASHO	**Ashiyiah**	**10.56 20**		P	**Pn**	**11 03 56.2**	**+0.3**
ASHO				S	Sn	11 05 46.3	-8.0
RAYN	**Ar Rayn**	**10.72 325**			**Pn**	**11 03 57.2**	**-0.8**
RAYN	**Ar Rayn**	**10.72 325**		P	**Pn**	**11 03 57.0**	**-1.0**
RAYN				S	Sn	11 05 49.5	-8.7
UOSS	**Minazif**	**10.85 20**		Pn	**Pn**	**11 03 58.8**	**-1.0**
SHME	**Shamm**	**11.86 18**		P	**Pn**	**11 04 13.7**	**+0.1**
SHME				S	Sn	11 06 19.2	-6.9
MSEY	**Mahe Island**	**19.59 170**		P	**P**	**11 05 49.0**	**-3.8**
LODK	**Lodwar**	**19.97 237**		P	**P**	**11 05 53.2**	**-3.8**
KBL	**Kabul**	**24.94 35**		P	**P**	**11 06 48.7**	**+0.7**
KBL				IAmb	IAmb	11 06 54.2	
	comp=Z,8.2nm,0.9s						
SIMJ	**Simiganj**	**28.11 29**		P	**P**	**11 07 16.5**	**0.0**
SIMJ				IAmb	IAmb	11 07 35.8	
	comp=Z,7.8nm,1.1s						
CHGR	**Chuyangaron**	**28.17 29**		P	**P**	**11 07 17.2**	**+0.2**
CHGR				IAmb	IAmb	11 07 21.6	
	comp=Z,11nm,0.9s						
PALK	**Pallekele**	**29.02 102**		P	**P**	**11 07 22.3**	**-2.4**
BRTR	**Keskin Array B**	**29.68 330**		P	**P**	**11 07 29.1**	**-1.3**
KBZ	**Khabaz**	**29.93 347**		P	**P**	**11 07 33.5**	**+1.0**
	comp=Z,2.9nm,0.9s,baz=117,slow=4.5,SNR=3.7						
	comp=Z,2.9nm,0.9s						
BTK	**Batken**	**30.07 29**		P	**P**	**11 07 34.0**	**+0.2**
BTK				IAmb	IAmb	11 07 46.2	
	comp=Z,3.6nm,0.9s						
SANT	**Santorini**	**32.08 317**		P	**P**	**11 07 51.1**	**-0.4**
ARSB	**Arslanbob**	**32.09 30**		P	**P**	**11 07 52.4**	**+0.7**
KK31	**Karatay Array**	**32.38 26**		P	**P**	**11 07 56.4**	**+2.3**
KKAR	**Karatay Array**	**32.38 26**		P	**P**	**11 07 53.1**	**-1.0**
AAK	**Ala-Archa**	**33.82 30**		P	**P**	**11 08 06.5**	**-0.4**
AAK				IAmb	IAmb	11 08 16.3	
	comp=Z,3.0nm,0.6s						
BOOM	**Boomskoye usch**	**34.44 32**		P	**P**	**11 08 12.4**	**+0.2**
TARG	**Taragay, Kyrgy**	**34.89 35**		P	**P**	**11 08 16.3**	**-0.2**
TARG				IAmb	IAmb	11 08 30.3	
	comp=Z,3.8nm,1.0s						
ABKAR	**Akbulak array**	**35.01 9**		P	**P**	**11 08 16.3**	**-0.5**
BURAR	**Bucovina Array**	**39.63 331**		P	**P**	**11 08 56.5**	**+0.3**
BUR08	**Bucovina Ar. S**	**39.66 331**		P	**P**	**11 08 56.9**	**+0.4**
AKASG	**Malin Array Be**	**40.35 338**		P	**P**	**11 09 04.4**	**+2.4**
	comp=Z,1.5nm,0.7s,baz=148,slow=7.5,SNR=6.9						
	comp=Z,1.5nm,0.7s						
AKBB	**Malin Array Si**	**40.35 338**		P	**P**	**11 09 03.0**	**+1.0**
AKBB				IAmb	IAmb	11 09 11.6	
	comp=Z,5.4nm,0.9s						
KIEV	**Kiev**	**40.35 338**		P	**P**	**11 09 02.9**	**+0.9**
KIEV				IAmb	IAmb	11 09 11.6	
	comp=Z,4.9nm,0.9s						
MAKZ	**Makanchi**	**40.53 32**		P	**P**	**11 09 04.7**	**+1.0**
MAKZ				IAmb	IAmb	11 09 07.1	
	comp=Z,2.7nm,0.8s						
MK31	**Makanchi Array**	**40.68 32**		P	**P**	**11 09 05.7**	**+0.8**
MKAR	**Makanchi Array**	**40.68 32**		P	**P**	**11 09 04.9**	**0.0**
MKAR	**Makanchi Array**	**40.68 32**		P	**P**	**11 09 07.3**	**+2.4**
	comp=Z,1.0nm,0.7s,baz=227,slow=6.3,SNR=7.9						
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**40.84 17**		P	**P**	**11 09 08.5**	**+2.4**
BVAR	**Borovoye Array**	**40.84 17**		P	**P**	**11 09 08.7**	**+2.6**
	comp=Z,1.5nm,0.8s,baz=214,slow=5.0,SNR=6.6						
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**41.68 25**		P	**P**	**11 09 15.8**	**+2.8**
	comp=Z,1.5nm,0.8s,baz=225,slow=8.1,SNR=8.8						
	comp=Z,1.5nm,0.8s						
KURK	**Kurchatov**	**41.79 25**		P	**P**	**11 09 14.2**	**+0.3**
KURK				IAmb	IAmb	11 09 17.3	
	comp=Z,2.7nm,0.9s						
ARU	**Arti**	**41.89 5**		P	**P**	**11 09 15.0**	**+0.4**
ARU				IAmb	IAmb	11 09 17.9	
	comp=Z,2.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**44.95 79**		P	**P**	**11 09 41.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**44.95 79**		P	**P**	**11 09 41.5**	**+1.6**
	comp=Z,1.9nm,0.6s,baz=274,slow=9.0,SNR=10						
	comp=Z,1.9nm,0.6s						
ZAA0	**Zalesovo Array**	**46.75 26**		P	**P**	**11 09 55.3**	**+1.7**
ZAA0				IAmb	IAmb	11 09 55.4	
	comp=Z,6.2nm,1.5s						
ZALV	**Zalesovo Beam**	**46.75 26**		P	**P**	**11 09 55.0**	**+1.5**
ZALV	**Zalesovo Beam**	**46.75 26**		P	**P**	**11 09 55.2**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=243,slow=6.5,SNR=5.2						
	comp=Z,1.2nm,0.6s						
RGN	**Rugen**	**49.83 331**		P	**P**	**11 10 18.2**	**+0.9**
FIA1	**FINESS Array S**	**50.24 344**		P	**P**	**11 10 21.7**	**+1.4**
FINES	**FINESS Array B**	**50.24 344**		P	**P**	**11 10 22.7**	**+2.4**
FINES	**FINESS Array B**	**50.24 344**		P	**P**	**11 10 22.2**	**+2.0**
	comp=Z,0.9nm,0.5s,baz=143,slow=12,SNR=7.2						
	comp=Z,0.9nm,0.5s						
HFS	**Hagfors**	**53.24 337**		P	**P**	**11 10 44.3**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=123,slow=5.5,SNR=5.0						
	comp=Z,1.1nm,0.7s						
MNAI	**Manna**	**53.85 107**		P	**P**	**11 10 46.5**	**-1.5**
ESDC	**Sonseca Array**	**54.70 308**		P	**P**	**11 10 55.5**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=92,slow=6.7,SNR=4.9						
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**55.44 42**		P	**P**	**11 11 02.1**	**+3.0**
	comp=Z,1.5nm,1.0s,baz=243,slow=9.2,SNR=5.6						
	comp=Z,1.5nm,1.0s						
ASAR	**Alice Springs**	**88.54 115**		P	**P**	**11 14 17.9**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=293,slow=4.1,SNR=6.9						
	comp=Z,0.5nm,0.9s						
NVAR	**Mina Array Bea**	**126.34 351**		PKP	**PKiKP**	**11 20 29.8**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=214,slow=2.0,SNR=5.2						

*NEIC **13** 11:12:05.0±1.3, 17.°6S±0.°1×178.°5W±0.°1, h528km±13km, mb4.4/24, Error ellipse: s-maj=22.4km s-min=9.3km az=52.0*
*IDC **13** 11:12:06.0±2.8, 17.°51S×178.°71W, h537km±30km, mb3.3/10, mbtmp4.1/11, Error ellipse: s-maj=21.0km s-min=14.7km az=153.0*

ISC 13 11:12:06.2±0.5,**17.°5S**±0.°1×**178.°57W**±0.°09,**h547**km,**n50**, σ1°**00**/52,**mb4.4**/21,**4C**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.23 266**		P	**P**	**11 13 22.7**	**+0.2**
AFI	**Afiamalu**	**7.47 62**		P	**P**	**11 13 55.1**	**-3.6**
RAO	**Raoul Island**	**11.68 177**		P	**P**	**11 14 40.5**	**-0.7**
LIFNC	**LIFOU**	**13.79 254**		P	**P**	**11 15 00.7**	**-2.5**
DZM	**Mont Dzumac**	**14.81 250**		P	**P**	**11 15 12.8**	**-1.0**
DZM	**Mont Dzumac**	**14.81 250**		P	**P**	**11 15 12.2**	**-1.6**
	2.1nm,0.7s,baz=166,slow=12,SNR=1.6						
KOUNC	**Koumac, New Ca**	**16.48 257**		P	**P**	**11 15 30.0**	**-0.4**
KOUNC				IAmb	IAmb	11 15 41.2	
	comp=Z,25nm,1.4s						
QRZ	**Quartz Range**	**24.45 196**		P	**P**	**11 16 41.3**	**-0.7**
EIDS	**Eidsvold**	**29.25 249**		P	**P**	**11 17 23.9**	**-0.6**
EIDS				IAmb	IAmb	11 17 59.2	
	comp=Z,13nm,1.4s						
ARMA	**Armidale**	**30.00

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,21nm,0.7s						
PSA00	**Pilbara Seismi**	**57.86**	**255**	P	**P**	**11 21 05.7**	**-0.5**
MBWA	**Marble Bar**	**58.02**	**256**	P	**P**	**11 21 07.0**	**-0.4**
MORW	**Morawa**	**60.49**	**246**	P	**P**	**11 21 23.6**	**-0.2**
MORW				IAmb	IAmb	11 21 37.6	
	comp=Z,28nm,1.5s						
UGM	**Wanagama**	**69.51**	**268**	P	**P**	**11 22 21.0**	**+0.3**
QSPA	**South Pole Qui**	**72.52**	**180**	P	**P**	**11 22 38.5**	**+0.9**
QSPA	**South Pole Qui**	**72.52**	**180**	P	**P**	**11 22 38.5**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=42,slow=1.3,SNR=19						
	comp=Z,2.9nm,0.8s						
NVAR	**Mina Array Bea**	**79.26**	**44**	P	**P**	**11 23 16.6**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=230,slow=8.2,SNR=3.4						
	comp=Z,0.3nm,0.7s						
MAW	**Mawson**	**84.16**	**200**	P	**P**	**11 23 40.3**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=198,slow=6.4,SNR=2.0						
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	**85.56**	**13**	P	**P**	**11 23 45.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=224,slow=5.2,SNR=8.4						
	comp=Z,0.2nm,0.3s						
TXAR	**Lajitas Array**	**85.93**	**58**	P	**P**	**11 23 51.0**	**+2.0**
	comp=Z,0.2nm,0.8s,baz=226,slow=5.9,SNR=3.0						
	comp=Z,0.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**88.62**	**290**	P	**P**	**11 24 03.2**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=112,slow=2.0,SNR=5.6						
	comp=Z,0.5nm,0.4s						
TROLL	**Troll, Antarti**	**90.67**	**180**	⇑P	**P**	**11 24 10.0**	**-0.4**
	comp=Z,111nm,0.5s						
SNAA	**Sanae**	**90.97**	**179**	⇑P	**P**	**11 24 11.3**	**-0.4**
SNAA	**Sanae**	**90.97**	**179**	P	**P**	**11 24 11.4**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=221,slow=4.5,SNR=22						
	comp=Z,0.9nm,0.6s						
VNA3	**Neumayer Olymp**	**91.12**	**176**	⇑P	**P**	**11 24 12.6**	**+0.2**
VNA2	**Neumayer--Watz**	**91.55**	**177**	⇑P	**P**	**11 24 13.9**	**-0.4**
	baz=303,slow=6.5						
BRTR	**Keskin Array B**	**144.41**	**315**	PKP	PKPbc	11 30 41.2	+0.5
	comp=Z,1.2nm,0.6s,baz=151,slow=2.8,SNR=6.3						
MLR	**Muntele Rosu**	**145.44**	**329**	PKPbc	**PKPdf**	**11 30 43.4**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=320,slow=7.9,SNR=3.5						
MMAI	**Mount Meron Ar**	**145.81**	**303**	PKPbc	**PKPbc**	**11 30 45.8**	**+0.8**
	comp=Z,1.6nm,0.4s,baz=68,slow=8.0,SNR=4.7						
GERES	**GERESS Array B**	**147.22**	**345**	PKPbc	**PKPbc**	**11 30 48.2**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=5.7,slow=4.0,SNR=4.4						
DAVOX	**Davos/Dischmat**	**150.01**	**348**	PKPbc	**PKPbc**	**11 30 54.8**	**-0.6**
	comp=Z,2.8nm,0.3s,baz=268,slow=3.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**175.63**	**183**	PKPab	**PKPab**	**11 32 56.3**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=192,slow=3.5,SNR=1.6						

*SSNC **13** 11:27:06.4±1.1, 20°.51N×71°.91W, h34km±999km, MD3.3, ML2.8, MW3.2*
*SDD **13** 11:27:06.7±0.4, 19°.70N×72°.47W, h20km±51km, MD3.4, ML2.8, MW3.3*

ISC 13 11:27:06.4±0.9, 19°.71N±0°.09×72°.42W±0°.04, h10km, n9, σ1°.41/13, 4C, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	**Montecristi**	**0.74**	**76**	⇑*e*Pg	**Pg**	**11 27 20.7**	**+0.1**
MCDR				IAML		11 27 33.5	
	comp=E,576nm,0.3s						
MCDR				IAML		11 27 35.6	
	comp=N,518nm,0.6s						
SDDR	**Presa de Saban**	**1.29**	**124**	⇑*e*Pg	**Pn**	**11 27 29.6**	**-0.9**
SDDR				IAML		11 27 54.8	
	comp=E,65nm,0.7s						
SDDR				IAML		11 27 57.9	
	comp=N,61nm,0.5s						
SDDR	**Presa de Saban**	**1.29**	**124**	*e*P	**Pg**	**11 27 32.3**	**+1.1**
SDDR				*e*S	**Sg**	**11 27 49.9**	**+1.9**
SDDR				IAML		11 27 53.2	
	comp=N,56nm,0.4s						
SDDR				IAML		11 27 54.3	
	comp=N,66nm,0.2s						
JIDR	**Jimani**	**1.33**	**156**	⇑*e*Pg	**Pn**	**11 27 29.7**	**-1.3**
JIDR				IAML		11 27 54.7	
	comp=E,100nm,0.3s						
JIDR				IAML		11 27 54.8	
	comp=N,118nm,0.4s						
LUDR	**Luperon**	**1.39**	**82**	⇑*e*Pg	**Pn**	**11 27 31.5**	**-0.4**
LUDR				IAML		11 27 54.5	
	comp=N,493nm,0.3s						
LUDR				IAML		11 27 54.9	
	comp=E,360nm,0.3s						
MASC	**Masc**	**1.77**	**285**	*e*P	**Pg**	**11 27 39.8**	**-0.5**
MASC				*e*S	**Sg**	**11 28 04.1**	**+0.8**
MASC				IAML		11 28 07.2	
	comp=N,60nm,0.4s						
MASC				IAML		11 28 08.5	
	comp=E,35nm,0.2s						
QMBU	**Quimbuelo**	**2.31**	**283**	*e*P	**Pb**	**11 27 47.0**	**-1.1**
QMBU				*e*S	**Sb**	**11 28 17.0**	**+0.3**
QMBU				IAML		11 28 21.1	
	comp=E,90nm,0.3s						
QMBU				IAML		11 28 22.1	
	comp=N,64nm,0.5s						
GTBY	**Guantanamo Bay**	**2.55**	**275**	*e*P	**Pb**	**11 27 51.3**	**-0.9**
RCC	**Rio Carpintero**	**3.10**	**276**	*e*P	**Pn**	**11 27 58.0**	**+2.7**
RCC				*e*S	**Sb**	**11 28 38.0**	**-1.5**
RCC				IAML		11 28 38.6	
	comp=E,10nm,0.6s						
RCC				IAML		11 28 39.0	
	comp=N,5.8nm,0.2s						

*IDC **13** 11:29:27.9±6.0, 36°.29N×71°.39E, h112km±53km, mb3.4/6, mbtmp3.9/12, Error ellipse: s-maj=44.5km s-min=27.6km az=30.0*
*BJI **13** 11:29:31.1±0.0, 36°.56N×71°.36E, h170km, mb4.4/10, mB4.8/2*
*NEIC **13** 11:29:33.7±0.8, 36°.68N±0°.07×71°.4E±0°.1, h156km±9km, mb4.1/3, Error ellipse: s-maj=12.7km s-min=9.6km az=67.0*
*NNC **13** 11:29:40.4±7.3, 37°.25N×71°.54E, h197km±148km, mb3.3, mpv4.3, Error ellipse: s-maj=84.4km s-min=57.7km az=0.0*

ISC 13 11:29:32.5±0.7, 36°.64N±0°.05×71°.47E±0°.07, h150km, n52, σ1°.78/60, mb3.5/7, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.52**	**339**	Pn	**Pn**	**11 30 15.1**	**+1.0**
CHGR	**Chuyangaron**	**2.72**	**318**	Pn	**Pn**	**11 30 16.9**	**+0.5**
SIMJ	**Simiganj**	**2.80**	**317**	Pn	**Pn**	**11 30 18.2**	**+0.6**
DRK	**Karamyk**	**2.85**	**5**		**Pn**	**11 30 19.4**	**+1.2**
KBL	**Kabul**	**2.88**	**224**	Pn	**Pn**	**11 30 20.1**	**+1.4**
NIL	**Nilore**	**3.32**	**153**	Pn	**Pn**	**11 30 26.9**	**+2.8**
BTK	**Batken**	**3.45**	**352**	Pn	**Pn**	**11 30 27.5**	**+1.8**
KSH	**Kashi**	**4.57**	**50**	P	**Pn**	**11 30 37.6**	**-2.7**
KSH				S	Sn	11 31 24.0	-9.1
KSH				smax	smax		
	comp=N,1μm,0.5s						
KSH				smax	smax		
	comp=E,290nm,0.4s						
ARSB	**Arslanbob**	**4.82**	**14**	Pn	**Pn**	**11 30 44.1**	**+0.5**
JMU	**Jammu**	**4.83**	**143**	*e*P	**Pn**	**11 30 46.0**	**+2.3**
JMU				*e*S	**Sn**	**11 31 39.1**	**-0.1**
THN	**Thein Dam**	**5.47**	**139**	*e*P	**Pn**	**11 30 54.4**	**+2.2**
THN				*e*S	**Sn**	**11 31 54.1**	**-0.2**
THN				IAML		11 31 56.4	
	comp=E,331nm,0.5s						
THN				IAML		11 31 56.9	
	comp=N,226nm,0.6s						
DHRM	**DHARAMSHALA**	**5.93**	**136**	*e*P	**Pn**	**11 31 00.3**	**+1.8**
DHRM				*e*S	**Sn**	**11 32 04.9**	**-0.7**
DHRM				IAML		11 32 08.0	
	comp=N,745nm,0.5s						
DHRM				IAML		11 32 08.5	
	comp=E,643nm,0.9s						
UCH	**Uchtor**	**6.05**	**22**	P	**Pn**	**11 31 00.8**	**+0.5**
	SNR=26						
EKS2	**Erkin-Say**	**6.27**	**16**	P	**Pn**	**11 31 03.6**	**+0.7**
	SNR=15						
AAK	**Ala-Archa**	**6.43**	**20**	P	**Pn**	**11 31 05.5**	**+0.5**
	SNR=5.8						
AAK	**Ala-Archa**	**6.43**	**20**	Pn	**Pn**	**11 31 05.5**	**+0.5**
AAK	**Ala-Archa**	**6.43**	**20**	P	**Pn**	**11 31 05.4**	**+0.4**
	comp=E,9.4nm,0.3s,baz=139,slow=2.0,SNR=12						
AAK				S	**Sn**	**11 32 15.1**	**-2.3**
	comp=E,19nm,0.6s,baz=350,slow=19,SNR=7.6						
AAK	**Ala-Archa**	**6.43**	**20**	⇓P	**Pn**	**11 31 05.7**	**+0.7**
	comp=E,10nm,0.5s						
AAK				⇓S	**Sn**	**11 32 14.5**	**-2.9**
	comp=E,27nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.50**	**354**	Pn	**Pn**	**11 31 06.3**	**+0.5**
KK31	**Karatay Array**	**6.50**	**354**	⇑P	**Pn**	**11 31 06.1**	**+0.3**
	comp=E,37nm,0.6s,baz=183,slow=13,SNR=195						
KK31				⇓S	**Sn**	**11 32 14.6**	**-4.3**
	comp=E,19nm,0.5s,baz=179,slow=30,SNR=3.5						
KKAR	**Karatay Array**	**6.50**	**354**	Pn	**Pn**	**11 31 06.2**	**+0.4**
KKAR	**Karatay Array**	**6.50**	**354**	Pn	**Pn**	**11 31 06.2**	**+0.4**
BHK	**Bhakra**	**6.63**	**140**	*e*P	**Pn**	**11 31 10.1**	**+2.3**
BHK				*e*S	**Sn**	**11 32 20.4**	**-1.9**
BHK				IAML		11 32 21.6	
	comp=N,143nm,0.2s						
BHK				IAML		11 32 23.1	
	comp=E,124nm,0.7s						
BOOM	**Boomskoye usch**	**6.78**	**29**	Pn	**Pn**	**11 31 10.9**	**+1.1**
CHMS	**Chumysh**	**6.83**	**21**	P	**Pn**	**11 31 11.2**	**+0.9**
	SNR=10.0						
USP	**Ospenovka**	**7.01**	**18**	P	**Pn**	**11 31 13.4**	**+0.7**
	SNR=9.5						
TKM2	**Tokmak 2**	**7.03**	**26**	⇑P	**Pn**	**11 31 13.7**	**+0.6**
	comp=E,9.3nm,0.5s						
TKM2				⇑S	**Sn**	**11 32 26.5**	**-5.5**
	comp=E,10nm,0.7s						
TARG	**Taragay, Kyrgy**	**7.07**	**42**	Pn	**Pn**	**11 31 15.0**	**+1.2**
SMLA	**Simla**	**7.26**	**138**	*e*P	**Pn**	**11 31 17.1**	**+1.1**
SMLA				*e*S	**Sn**	**11 32 33.2**	**-3.9**
SMLA				IAML		11 32 36.5	
	comp=E,142nm,0.6s						
SMLA				IAML		11 32 37.0	
	comp=E,203nm,0.3s						
PRZ	**Przheval'sk**	**7.92**	**40**	Pn	**Pn**	**11 31 26.8**	**+1.9**
KUDL	**Kundal**	**9.47**	**152**	*e*P	Pn	11 31 40.0	-5.6
KUDL				*i* x	x	11 31 44.8	
KUDL				*e*S	Sn	11 33 22.7	-7.9
AJM	**Ajmer**	**10.49**	**164**	*e*P	Pn	11 31 47.2	-12
AJM				*e*S	**Sn**	**11 33 50.5**	**-4.6**
AJM				IAML		11 33 53.2	
	comp=N,20nm,1.2s						
MKAR	**Makanchi Array**	**12.96**	**35**	P	**Pn**	**11 32 31.8**	**+0.7**
	comp=N,2.3nm,0.6s,baz=240,slow=14,SNR=4.8						
WMQ	**Urumqi**	**14.31**	**55**	*e*P	**Pn**	**11 32 50.0**	**+1.7**
KURBB	**Kurchatov Arra**	**14.87**	**18**	P	**P**	**11 32 57.9**	**+0.8**
	comp=N,1.0nm,0.5s,baz=211,slow=12,SNR=4.3						
AB31	**Akbulak array**	**15.15**	**330**	⇑P	**Pn**	**11 32 58.6**	**0.0**
	comp=N,3.0nm,0.5s						
ABKAR	**Akbulak array**	**15.15**	**330**	Pn	**Pn**	**11 32 58.1**	**-0.5**
ABKAR				IAmb	IAmb	11 33 00.7	
	comp=Z,5.7nm,0.7s						
BVAR	**Borovoye Array**	**16.40**	**358**	P	**Pn**	**11 33 13.9**	**0.0**
	comp=Z,1.1nm,0.6s,baz=168,slow=15,SNR=5.4						
AKTO	**Aktyubinsk**	**16.85**	**329**	P	**Pn**	**11 33 20.3**	**+0.9**
	comp=Z,6.5nm,0.6s,baz=135,slow=8.8,SNR=18						
ZAA0	**Zalesovo Array**	**19.63**	**24**	P	**P**	**11 33 49.5**	**+0.3**
ZAA0				IAmb	IAmb	11 34 02.0	
	comp=Z,2.7nm,0.7s						
ZALV	**Zalesovo Beam**	**19.63**	**24**	P	**P**	**11 33 49.5**	**+0.2**
ZALV	**Zalesovo Beam**	**19.63**	**24**	P	**P**	**11 33 50.2**	**+1.0**
	comp=Z,2.8nm,0.5s,baz=216,slow=10,SNR=9.9						
CMAR	**Chiang Mai Arr**	**30.19**	**119**	P	**P**	**11 35 29.2**	**+0.4**
HHC	**Hu-ho-hao-te**	**31.36**	**70**	*e*P	**P**	**11 35 40.6**	**+1.6**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,70nm,4.6s						
FINES	**FINESS Array B**	**37.58**	**326**	P	**P**	**11 36 33.8**	**+1.7**
FINES	**FINESS Array B**	**37.58**	**326**	P	**P**	**11 36 33.6**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=123,slow=14,SNR=4.7						
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**41.16**	**337**	P	**P**	**11 37 03.6**	**+2.0**
	comp=Z,0.8nm,0.6s,baz=119,slow=11,SNR=2.5						
	comp=Z,0.8nm,0.6s						
HFS	**Hagfors**	**43.19**	**322**	P	**P**	**11 37 19.2**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=108,slow=9.5,SNR=9.4						
	comp=Z,1.4nm,0.5s						
NB2	**NORSAR Subarra**	**44.49**	**323**	P	**P**	**11 37 29.7**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.49**	**323**	P	**P**	**11 37 29.4**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=96,slow=7.7,SNR=3.9						
	comp=Z,0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**66.10**	**269**	P	**P**	**11 40 02.4**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=30,slow=4.6,SNR=4.0						
	comp=Z,0.6nm,0.6s						
ASAR	**Alice Springs**	**84.03**	**125**	P	**P**	**11 41 45.7**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=322,slow=5.9,SNR=2.0						
	comp=Z,0.4nm,0.9s						

LJU 13 11:51:12.5, 45°.82N×15°.62E, h0km, ML0.5, 2C, Suspected explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCIS	**Gornji Cirnik**	**0.05**	**4**	⇑*i*Pg	Pg	11 51 13.5	0.0
GCIS				IAML		11 51 15.2	
	comp=Z,42nm,0.1s						
CRES	**Cresnjev**	**0.12**	**273**	⇑*i*Pg	Pg	11 51 14.7	0.0
CRES				*i* Sg	Sg	11 51 16.8	+0.6
CRES				IAML		11 51 17.3	
	comp=Z,22nm,0.1s						
GOLS	**Golise**	**0.19**	**0**	*i* Pg	Pg	11 51 16.4	+0.2
GOLS				IAML		11 51 23.0	
	comp=Z,8.4nm,0.2s						
OZLJ	**Ozalj**	**0.23**	**208**	*e*Pg	Pg	11 51 16.8	-0.1
OZLJ				E		11 51 16.9	
OZLJ				Sg	Sg	11 51 20.8	+0.9
LEGS	**Legarje**	**0.25**	**301**	*i* Pg	Pg	11 51 17.4	+0.1
PTJ	**Puntijarka**	**0.26**	**70**	*e*Pg	Pg	11 51 18.0	+0.5
PTJ				E		11 51 18.1	
PTJ				Sg	Sg	11 51 21.2	+0.4
BOJS	**Bojanci**	**0.41**	**220**	*i* Pg	Pg	11 51 20.4	+0.1
LOBO	**Lobor**	**0.46**	**43**	*e*Pg	Pg	11 51 20.9	-0.4
LOBO				E		11 51 20.9	
MOSL	**Moslavina**	**0.82**	**104**	*e*Pg	Pg	11 51 28.2	0.0
MOSL				E		11 51 28.2	

*VIE **13** 11:52:31.6±0.6, 51°.47N×16°.17E, h0km, mb2.4/5, ml2.7/5, Error ellipse: s-maj=9.1km s-min=2.8km az=67.0, Suspected Mining induced.*
*PRU **13** 11:52:31.5, 51°.54N×16°.17E, h0km*
*IDC **13** 11:52:32.8±1.3, 51°.44N×16°.06E, h0km, mbtmp2.9/4, ML2.5/3, Error ellipse: s-maj=21.4km s-min=10.7km az=124.0*

ISC 13 11:52:30.6±0.8, 51°.54N±0°.04×16°.15E±0°.04, h0km, n26, σ1°.20/36, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**172**	*e*Pg	**Pg**	**11 52 44.0**	**-0.1**
KSP				*e*Sg	**Sg**	**11 52 52.7**	**-0.5**
CHVC	**Chvalec**	**0.96**	**184**	*e*PG	**Pg**	**11 52 48.7**	**-0.2**
UPC	**Upice**	**1.04**	**185**	*e*PG	**Pg**	**11 52 50.1**	**-0.4**
DPC	**Dobruska-Polom**	**1.20**	**175**	*e*PG	**Pg**	**11 52 52.8**	**-0.7**
PVCC	**Panska Ves**	**1.42**	**225**	*e*PG	**Pn**	**11 52 56.7**	**-1.0**
PVCC				*e*SG	**Sn**	**11 53 17.5**	**+0.4**
KRLC	**Kraliky**	**1.52**	**164**	*e*PG	**Pn**	**11 52 59.0**	**-0.1**
BRG	**Berggiesshubel**	**1.54**	**245**	Pg	**Pb**	**11 52 59.9**	**-0.1**
HSKC	**Hora Svate Kat**	**1.95**	**242**	*e*PG	**Pn**	**11 53 05.9**	**+0.9**
MORC	**Moravsky Berou**	**1.98**	**153**	*e*PN	**Pn**	**11 53 04.8**	**-0.6**
MORC				*e*SG	**Sb**	**11 53 32.1**	**-0.6**
CLL	**Collm**	**1.98**	**264**	*e*Pg	**Pg**	**11 53 08.0**	**-0.6**
CLL				*ex*	x	11 53 11.0	
CLL				*ex*	x	11 53 37.0	
VRAC	**Vranov**	**2.25**	**173**	*e*PN	**Pn**	**11 53 09.5**	**+0.3**
VRAC				*e*SG	**Sb**	**11 53 40.3**	**-0.3**
VRAC	**Vranov**	**2.25**	**173**	Pn	**Pn**	**11 53 09.5**	**+0.3**
	0.7nm,0.3s,baz=1.9,slow=17,SNR=2.8						
VRAC				Lg	Lg	11 53 39.4	
	2.4nm,0.3s,baz=59,slow=18,SNR=5.9						
	3.0nm,0.4s						
KRUC	**Moravsky**	**2.49**	**176**	*e*PN	**Pn**	**11 53 12.1**	**-0.2**
KRUC				*e*SG	**Sb**	**11 53 47.5**	**+0.2**
OJC	**Ojcow**	**2.67**	**118**	*e*Pg	**Pg**	**11 53 21.4**	**-0.2**
OJC				*e*Sg	**Sg**	**11 53 57.5**	**+1.4**
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PG	**Pb**	**11 53 23.7**	**+0.1**
KHC				*e*SG	**Sg**	**11 54 04.6**	**+0.2**
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**11 53 21.7**	**+0.5**
	1.3nm,0.4s,baz=25,slow=14,SNR=0.8						
GERES				Pg	**Pb**	**11 53 27.4**	**+0.4**
	1.6nm,0.3s,baz=28,slow=15,SNR=11						
GERES				Lg	Lg	11 54 11.2	
	2.6nm,0.3s,baz=33,slow=24,SNR=5.4						
MODS	**Modra-Piesok**	**3.25**	**167**	*e*PN	**Pg**	**11 53 32.8**	**-0.1**
MODS				*e*SG	**Sg**	**11 54 16.8**	**+1.7**
CONA	**Conrad Observa**	**3.62**	**183**	*e*Pn	**Pn**	**11 53 27.3**	**-0.8**
	0.6nm,0.3s						
RONA	**Rosalia, Austr**	**3.85**	**178**	Pg	**Pg**	**11 53 44.3**	**0.0**
	1.4nm,0.3s						
MOA	**Molln**	**3.89**	**199**	*e*Pn	**Pn**	**11 53 31.8**	**+0.1**
	0.8nm,0.2s						
ARSA	**Arzberg**	**4.32**	**186**	*e*Pn	**Pn**	**11 53 38.2**	**+0.7**
	0.9nm,0.3s						
LUNU	**Lund**	**4.40**	**340**	*e*S	**Sn**	**11 54 35.5**	**+5.0**
LUNU	**Lund**	**4.40**	**340**	*e*P	**Pn**	**11 53 35.8**	**-2.8**
KBA	**Koelnbreinsper**	**4.83**	**203**	*i* Pn	**Pn**	**11 53 44.6**	**-0.1**
	1.1nm,0.3s						
AKASG	**Malin Array Be**	**8.27**	**91**	Pn	**Pn**	**11 54 32.4**	**+0.7**
	0.3nm,0.3s,baz=282,slow=12,SNR=1.9						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	**11 55 11.5**	**-1.9**
	0.1nm,0.3s,baz=207,slow=12,SNR=1.5						
FINES				Sn	**Sn**	**11 57 20.8**	**+0.2**
	0.1nm,0.3s,baz=214,slow=15,SNR=3.5						
	0.5nm,0.6s						

KRSC 13 12:05:58.2±1.6, 54°.24N×168°.07E, h8km±26km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.55**	**309**	*e*P	Pn	12 06 24.6	-1.5
BKI				*e*S	Sb	12 06 46.9	-0.1
KBTR	**Krutoberegovo**	**3.60**	**305**	*e*S	Sn	12 07 40.7	+3.9
MKZ	**Mys Kozlova**	**3.72**	**277**	*e*P	Pn	12 06 59.8	+3.9
TUMR	**Tumrok**	**4.71**	**286**	*e*P	Pn	12 07 13.2	+3.7
KMNR	**Kamenistaya**	**4.76**	**292**	*e*S	Sn	12 08 11.4	+5.7
SMAR	**Somma**	**5.59**	**264**	*e*P	Pn	12 07 26.0	+4.2
UGLR	**Uglovaya**	**5.59**	**263**	*e*P	Pn	12 07 26.1	+4.4
KRER	**Koryakskii**	**5.61**	**264**	*e*P	Pn	12 07 26.0	+4.0
KRER				*e*S	Sn	12 08 32.5	+5.8
AVH	**Avacha**	**5.62**	**264**	*e*P	Pn	12 07 26.9	+4.8
AVH				*e*S	Sn	12 08 32.1	+5.2
KRX	**Arik**	**5.66**	**265**	*e*P	Pn	12 07 26.9	+4.3
KRX				*e*S	Sn	12 08 32.0	+4.2
DALK	**Dalny**	**5.68**	**261**	*e*S	Sn	12 08 31.8	+3.8
KOK	**Koryaka**	**5.68**	**264**	*e*P	Pn	12 07 27.5	+4.6
GNL	**Ganaly**	**6.00**	**269**	*e*P	Pn	12 07 33.0	+5.6
MTVR	**Mutnovka**	**6.18**	**257**	*e*P	Pn	12 07 34.2	+4.4
MTVR				*e*S	Sn	12 08 43.5	+2.9
ASAK	**Asacha**	**6.38**	**257**	*e*P	Pn	12 07 36.2	+3.8

*IDC **13** 12:07:56.1±0.7, 18°.90N×94°.70E, h0km, mb4.1/18, mbtmp4.1/19, ML4.2/1, MS3.7/3, Error ellipse: s-maj=23.3km s-min=12.2km az=43.0*
*BJI **13** 12:07:56.4±0.0, 18°.98N×94°.92E, h5km, mb4.4/34, mB4.6/10, ML4.5/1, Ms4.2/14, Ms7.3/8/15*
*NEIC **13** 12:07:58.5±1.2, 18°.95N±0°.07×94°.83E±0°.07, h10km±1km, mb4.7/128, Error ellipse: s-maj=13.3km s-min=10.0km az=223.0*
*NDI **13** 12:07:59.6±3.2, 18°.74N×94°.66E, h10km, mb4.5, ML3.8, mb4.7(NEIC)*
*DJA **13** 12:08:01.1±0.6, 19°N±9°×9°.5E±°, h10km, M5.1/7, mb4.7/7, mB5.1/1, MLv5.2/3, Mw(mB)4.5/1*

ISC 13 12:07:57.5±0.4, 18°.87N±0°.05×94°.79E±0°.05, h10km, n384, σ0°.94/370, mb4.7/85, MS3.8/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**3.93**	**90**		**Pn**	**12 08 59.3**	**+1.3**
CM31	**Chiang Mai Arr**	**3.96**	**95**		**Pn**	**12 08 59.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**3.96**	**95**		**Pn**	**12 08 59.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**3.96**	**95**	Pn	**Pn**	**12 08 59.5**	**+1.2**
	3.9nm,0.3s,baz=269,slow=14,SNR=53						
CMAR				Sn	**Sn**	**12 09 48.4**	**+3.6**
	4.9nm,0.3s,baz=274,slow=25,SNR=7.3						
CMAR				Lg	Lg	12 10 06.2	
	14nm,0.3s,baz=268,slow=31,SNR=10						
CMAR				LR	LR	12 10 41.1	
	comp=Z,497nm,20.9s,baz=275,slow=41						
	9.5nm,0.4s						
SAIH	**SAIHA**	**3.98**	**335**	*ex*	**Pb**	**12 09 09.7**	**+1.8**
SAIH				*ex*	**Sb**	**12 09 59.1**	**+3.0**
SAIH				IAML		12 10 04.9	
	comp=E,433nm,0.5s						
SAIH				IAML		12 10 06.0	
	comp=N,573nm,1.3s						
PHRA	**Phrae**	**5.17**	**93**		**Pn**	**12 09 16.4**	**+1.4**
CRAI	**Chiangrai**	**5.43**	**75**	Pn	**Pn**	**12 09 19.5**	**+0.8**
IMP	**Imphal**	**5.99**	**353**	*e*P	**Pn**	**12 09 29.1**	**+2.8**
IMP				IAML		12 11 06.1	
	comp=E,41nm,0.0s						
KOHI	**KOHIMA**	**6.85**	**355**	*e*P	**Pn**	**12 09 40.8**	**+2.6**
KOHI				*e*S	**Sn**	**12 10 58.0**	**+1.7**
TNCH	**TengChong**	**7.04**	**29**	Pn	**Pn**	**12 09 41.9**	**+1.1**
TNCH				Pg	**Pb**	**12 09 56.3**	**-3.7**
TNCH				smax	smax		
	comp=E,220nm

comp=Z,14nm,1.2s
XAN LR LR
comp=Z,410nm,10.3s
XAN LR LR
comp=Z,430nm,8.0s
XAN LR LR
comp=Z,370nm,12.4s
AJM Ajmer 20.06 296 *e*P Pn 12 12 35.0 +2.1
AJM IAmb IAmb 12 12 37.1
comp=Z,23nm,1.0s
AJM *i* x x 12 12 54.0
SMLA Simla 20.07 311 *e*P Pn 12 12 32.6 -0.2
SMLA IAmb IAmb 12 12 35.6
comp=Z,27nm,1.1s
GTA Gaotai 20.93 11 P **P 12 12 40.1 -0.4**
GTA pP sP 12 12 46.5 +1.6
GTA pmax pmax
comp=Z,10.0nm,1.3s
GTA LR LR
comp=Z,170nm,15.5s
GTA LR LR
comp=Z,170nm,19.1s
GTA LR LR
comp=Z,200nm,14.3s
DHRM DHARAMSHALA 21.31 312 *e*P **P 12 12 46.7 +2.0**
DHRM IAmb IAmb 12 12 48.7
comp=Z,22nm,0.9s
THN Thein Dam 21.82 312 *e*P **P 12 12 51.6 +1.7**
THN IAmb IAmb 12 12 56.0
comp=Z,44nm,1.0s
SBUM Sibu 23.61 132 P **P 12 13 09.2 +0.3**
PMBI Palembang 23.78 155 P **P 12 13 10.3 -0.1**
NIL Nilore 24.22 312 P **P 12 13 15.0 +0.5**
NIL IAmb IAmb 12 13 17.2
comp=Z,35nm,1.2s
HMDM Hanimaadhoo 24.22 243 P **P 12 13 14.8 +0.2**
YULB Yu-li 25.11 75 P **P 12 13 22.3 -0.4**
YULB IAmb IAmb 12 13 49.2
comp=Z,16nm,1.1s
NJ2 Nanjing 25.31 54 *e*P **P 12 13 24.3 -0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
WMQ Urumqi 25.59 348 *e*P **P 12 13 29.1 +2.2**
HHC Hu-ho-hao-te 26.20 30 *e*P **P 12 13 33.4 +0.8**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,110nm,4.8s
HHC LR LR
comp=Z,230nm,14.5s
HHC LR LR
comp=Z,150nm,15.3s
HHC LR LR
comp=Z,290nm,16.0s
KSH Kashi 26.23 326 P **P 12 13 34.1 +1.3**
KSH sP sP 12 13 45.6 +8.3
KSH pmax pmax
comp=Z,33nm,1.3s
MYLDM Lahad Datu 26.83 117 P **P 12 13 38.3 0.0**
MYLDM IAmb IAmb 12 14 08.7
comp=Z,22nm,0.9s
TARG Taragay, Kyrgy 27.00 331 P **P 12 13 39.4 -0.7**
KBL Kabul 27.69 309 P **P 12 13 42.9 -3.2**
GAR Garm 29.19 319 P **P 12 13 59.0 -0.3**
GAR IAmb IAmb 12 14 01.6
comp=Z,12nm,1.0s
AAK Ala-Archa 29.27 328 P **P 12 14 00.7 +0.6**
MK31 Makanchi Array 29.69 343 P **P 12 14 03.6 +0.1**
MKAR Makanchi Array 29.69 343 P **P 12 14 01.8 -1.7**
MKAR Makanchi Array 29.69 343 P **P 12 14 03.4 -0.2**
comp=Z,2.1nm,0.7s,baz=146,slow=9.9,SNR=11
comp=Z,2.1nm,0.7s
CHGR Chuyangaron 29.73 317 P **P 12 14 02.8 -1.3**
CHGR IAmb IAmb 12 14 06.0
comp=Z,10.0nm,0.8s
MAKZ Makanchi 29.79 342 P **P 12 14 05.4 +0.9**
MAKZ IAmb IAmb 12 14 37.0
comp=Z,9.7nm,0.8s
SIMJ Simiganj 29.83 317 P **P 12 14 05.9 +0.9**
SONM Songino Array 30.40 16 P **P 12 14 09.5 -0.5**
SONM Songino Array 30.40 16 P **P 12 14 09.7 -0.3**
comp=Z,3.0nm,1.0s,baz=204,slow=12,SNR=14
SONM LR LR 12 28 19.5
comp=Z,204nm,19.8s,baz=242,slow=40
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 30.60 16 P **P 12 14 11.5 -0.3**
KKAR Karatay Array 31.68 325 P **P 12 14 22.5 +1.3**
KURBB Kurchatov Arra 34.23 342 P **P 12 14 43.0 -0.3**
comp=Z,2.5nm,0.5s,baz=150,slow=8.7,SNR=19
comp=Z,2.5nm,0.5s
KURK Kurchatov 34.28 342 P **P 12 14 43.9 +0.1**
KURK IAmb IAmb 12 14 49.8
comp=Z,7.9nm,0.9s
KSAR Wonju Array Be 34.31 50 P **P 12 14 43.2 -1.0**
JNU Nakatsue 35.21 59 LR LR 12 29 58.7
comp=Z,179nm,21.1s,baz=336,slow=38
ZAA0 Zalesovo Array 35.85 350 P **P 12 14 57.4 +0.1**
ZALV Zalesovo Beam 35.85 350 P **P 12 14 57.0 -0.3**
ZALV Zalesovo Beam 35.85 350 P **P 12 14 57.0 -0.3**
comp=Z,3.6nm,0.6s,baz=177,slow=9.5,SNR=12
comp=Z,3.6nm,0.6s
UOSS Minazif 36.22 287 P **P 12 15 01.6 +0.8**
UOSS IAmb IAmb 12 15 18.5
comp=Z,14nm,1.2s
BVAR Borovoye Array 39.01 337 P **P 12 15 23.1 -0.9**
comp=Z,0.4nm,0.4s,baz=108,slow=9.3,SNR=1.9
comp=Z,0.4nm,0.4s
BRVK Borovoye 39.08 337 P **P 12 15 25.2 +0.6**
USA0B Ussuriysk Arra 40.02 43 P **P 12 15 33.6 +1.0**
USRK Ussuriysk Ar. 40.02 43 P **P 12 15 31.6 -1.0**
USRK Ussuriysk Ar. 40.02 43 P **P 12 15 34.2 +1.6**
comp=Z,1.6nm,0.6s,baz=209,slow=3.5,SNR=5.3
comp=Z,1.6nm,0.6s
SOEI Soe 40.67 132 P **P 12 15 37.6 -0.8**
SOEI Soe 40.67 132 P P 12 15 49.4 +11
JGF Kuroka 41.01 57 P **P 12 15 39.8 -1.2**
ABKAR Akbulak array 41.24 325 P **P 12 15 42.4 -0.2**
JSG Sagara 41.48 59 P **P 12 15 43.1 -1.8**
MJB9 Matsu-Tunnel 41.88 56 P **P 12 15 44.5 -3.6**
MJB9 IAmb IAmb 12 16 01.4
comp=Z,6.1nm,0.4s
MAJO Matsushiro 41.88 56 P **P 12 15 46.7 -1.5**
MAJO IAmb IAmb 12 16 00.5
comp=Z,5.7nm,0.4s
FAKI Fak Fak 42.74 116 P **P 12 15 55.9 +0.6**
PSA00 Pilbara Seismi 47.08 147 P **P 12 16 30.0 +0.2**
PSA00 IAmb IAmb 12 16 53.5
comp=Z,4.5nm,0.8s
FITZ Fitzroy Crossi 47.62 139 P **P 12 16 34.3 +0.3**
MTN Manton Dam 47.70 129 P **P 12 16 34.8 +0.1**
YSS Yuzh-Sakhalins 48.05 43 P **P 12 16 36.5 -0.5**
YSS IAmb IAmb 12 17 09.6
comp=Z,8.9nm,1.1s
KBZ Khabaz 49.83 312 P **P 12 16 51.8 +1.0**
comp=Z,1.3nm,0.4s,baz=130,slow=6.2,SNR=3.3
comp=Z,1.3nm,0.4s
KIV Kislovodsk 50.03 312 P **P 12 16 52.7 +0.3**
NRIK Noril'sk 50.66 357 P **P 12 16 56.9 +0.2**
WB0 Warramunga Arr 54.61 133 P **P 12 17 26.3 -0.3**
WB0 IAmb IAmb 12 17 27.6
comp=Z,5.9nm,0.9s
WRA Warramunga Arr 54.69 133 P **P 12 17 27.7 +0.5**
WRA Warramunga Arr 54.69 133 P **P 12 17 27.4 +0.2**
comp=Z,4.6nm,0.8s,baz=321,slow=7.4,SNR=34
WRA PcP **PcP 12 18 30.9 +0.9**
comp=Z,0.9nm,0.8s,baz=323,slow=3.7,SNR=2.4
comp=Z,4.6nm,0.8s
WRAB Tennant Creek 54.69 133 P **P 12 17 27.4 +0.2**
WRAB IAmb IAmb 12 17 28.1
comp=Z,5.8nm,0.8s
WB2 Warramunga Arr 54.70 133 P **P 12 17 27.9 +0.7**
WB2 IAmb IAmb 12 17 28.0
comp=Z,6.2nm,0.9s
WR0 Warramunga Arr 54.84 133 P **P 12 17 28.5 +0.3**
WR0 IAmb IAmb 12 17 34.5
comp=Z,6.3nm,0.9s
TIXI Tiksi 56.40 12 P **P 12 17 37.7 -1.0**
AS31 Alice Springs 56.95 136 P **P 12 17 43.6 +0.2**
ASAR Alice Springs 56.95 136 P **P 12 17 43.3 -0.1**
ASAR Alice Springs 56.95 136 P **P 12 17 44.2 +0.9**
comp=Z,3.8nm,0.8s,baz=316,slow=7.0,SNR=59
comp=Z,3.8nm,0.8s
COEN Coen 57.75 121 P **P 12 17 48.7 -0.4**
FINES FINESS Array B 63.45 330 P **P 12 18 27.0 -0.3**
FINES FINESS Array B 63.45 330 P **P 12 18 26.7 -0.6**
comp=Z,1.5nm,0.7s,baz=98,slow=7.9,SNR=6.8
comp=Z,1.5nm,0.7s
ARCES ARCESS Array B 65.25 339 P **P 12 18 39.2 +0.2**
ARCES ARCESS Array B 65.25 339 P **P 12 18 38.8 -0.2**
comp=Z,0.5nm,0.5s,baz=87,slow=7.4,SNR=7.8
comp=Z,0.5nm,0.5s
STKA Stephens Creek 67.51 138 P **P 12 18 54.7 +0.7**
comp=Z,3.2nm,0.7s,baz=322,slow=7.1,SNR=6.5
comp=Z,3.2nm,0.7s
HFS Hagfors 69.41 328 P **P 12 19 06.6 +1.0**
comp=Z,1.5nm,0.8s,baz=120,slow=8.5,SNR=2.4
comp=Z,1.5nm,0.8s
GERES GERESS Array B 70.23 316 P **P 12 19 10.9 0.0**
comp=Z,0.3nm,0.3s,baz=15,slow=4.1,SNR=1.9
comp=Z,0.3nm,0.3s
NB2 NORSAR Subarra 70.59 329 P **P 12 19 12.4 -0.4**
comp=Z,1.4nm,0.7s,baz=85,slow=6.2
NOA NORSAR Array B 70.59 329 P **P 12 19 12.5 -0.4**
comp=Z,0.6nm,0.5s,baz=87,slow=6.1,SNR=3.9
comp=Z,0.6nm,0.5s
TNA Tin City 75.97 25 P **P 12 19 44.8 +0.4**
baz=284
C16K Lisburne Hills 76.23 22 P **P 12 19 46.5 +0.7**
F14K Arctic Creek 76.64 25 P **P 12 19 47.5 -0.8**
baz=286
C17K Deong Mountai 76.94 22 P **P 12 19 49.1 -0.9**
baz=288
SPIA Saint Paul Isl 77.00 34 P **P 12 19 49.8 -0.5**
baz=284
A19K Wainwright 77.09 20 P **P 12 19 50.8 +0.1**
baz=290
B18K Kokolik River 77.13 21 P **P 12 19 51.0 +0.1**
baz=289
D17K Noatak River 77.22 22 P **P 12 19 51.3 -0.1**
baz=288
F15K North Star Dit 77.24 25 P **P 12 19 51.5 -0.1**
F15K IAmb IAmb 12 19 52.3
comp=Z,6.4nm,0.8s
F15K North Star Dit 77.24 25 P **P 12 19 51.3 -0.3**
baz=287
ANM Nome 77.29 26 P **P 12 19 51.9 0.0**
baz=287
C18K Utukok River 77.58 21 P **P 12 19 53.9 +0.4**
C18K IAmb IAmb 12 20 08.1
comp=Z,8.7nm,1.2s
C18K Utukok River 77.58 21 P **P 12 19 53.4 -0.1**
baz=290
G15K Niukluk 77.70 25 P **P 12 19 54.4 +0.3**
baz=288
E17K Hotham Inlet 77.88 23 P **P 12 19 55.6 +0.4**
baz=290
C19K Lookout Ridge 77.96 21 P **P 12 19 56.2 +0.6**
C19K Lookout Ridge 77.96 21 P **P 12 19 56.2 +0.6**
baz=291
A21K Barrow 78.05 18 P **P 12 19 56.5 +0.5**
baz=293
E18K Tukpahlearik C 78.21 22 P **P 12 19 57.0 0.0**
E18K IAmb IAmb 12 19 58.0
comp=Z,7.6nm,0.8s
E18K Tukpahlearik C 78.21 22 P **P 12 19 57.4 +0.4**
baz=291
G16K Koyuk River 78.25 25 P **P 12 19 57.7 +0.5**
G16K Koyuk River 78.25 25 P **P 12 19 57.2 0.0**
baz=289
F17K Baldwin Pennin 78.31 23 P **P 12 19 58.5 +0.9**
F17K Baldwin Pennin 78.31 23 P **P 12 19 57.3 -0.3**
baz=290
B20K Meade River 78.41 20 P **P 12 19 58.4 +0.4**
B20K Meade River 78.41 20 P **P 12 19 58.2 +0.2**
baz=293
H16K Elim 78.55 25 P **P 12 19 58.3 -0.6**
baz=290
J14K Nanvaranak Lak 78.62 27 P **P 12 19 59.3 0.0**
baz=292
A22K Sinclair Lake 78.67 18 P **P 12 19 59.1 -0.3**
baz=295
D19K Kuna River 78.69 21 P **P 12 19 59.8 +0.1**
D19K IAmb IAmb 12 20 00.7
comp=Z,8.8nm,0.9s
D19K Kuna River 78.69 21 P **P 12 19 59.5 -0.1**
baz=293
F18K Selawik 78.86 23 P **P 12 20 00.3 -0.3**
baz=292
G17K Kiwalik Mounta 78.88 24 P **P 12 20 00.3 -0.5**
baz=291
D20K Etivluk River 79.11 21 P **P 12 20 02.2 +0.2**
baz=294
EKA Eskdalemuir Ar 79.11 325 P **P 12 20 01.7 -0.5**
comp=Z,0.5nm,0.5s,baz=91,slow=6.6,SNR=2.9
comp=Z,0.5nm,0.5s
H17K Granite Mounta 79.37 25 P **P 12 20 03.2 -0.2**
H17K Granite Mounta 79.37 25 P **P 12 20 03.6 +0.2**
baz=292
B21K Ikpikpuk River 79.37 19 P **P 12 20 04.2 +0.9**
B21K Ikpikpuk River 79.37 19 P **P 12 20 03.4 +0.1**
baz=296
E19K Redstone River 79.40 22 P **P 12 20 03.8 +0.2**
E19K IAmb IAmb 12 20 04.4
comp=Z,6.5nm,0.8s
E19K Redstone River 79.40 22 P **P 12 20 03.2 -0.3**
baz=294
B22K Teshekpuk Lake 79.42 19 P **P 12 20 04.0 +0.4**
B22K IAmb IAmb 12 20 04.6
comp=Z,11nm,0.9s
B22K Teshekpuk Lake 79.42 19 P **P 12 20 03.6 0.0**
baz=296
E20K Nigu River 79.44 21 P **P 12 20 03.8 -0.1**
baz=294
I17K Unalakleet 79.44 26 P **P 12 20 04.1 +0.4**
baz=291
F19K Shaleruckik Mo 79.46 23 P **P 12 20 03.8 0.0**
F19K IAmb IAmb 12 20 05.6
comp=Z,12nm,1.4s
F19K Shaleruckik Mo 79.46 23 P **P 12 20 03.3 -0.5**
baz=293
L14K Kuka Creek 79.48 29 P **P 12 20 04.2 +0.2**
L14K Kuka Creek 79.48 29 P **P 12 20 04.4 +0.4**
baz=290
G18K Tagagawik 79.50 24 P **P 12 20 03.8 -0.3**
G18K Tagagawik 79.50 24 P **P 12 20 04.1 0.0**
baz=293
C21K Knifeblade Rid 79.52 20 P **P 12 20 04.3 +0.2**
baz=296
K15K Wolf Creek Mou 79.66 27 P **P 12 20 04.9 -0.1**
K15K Wolf Creek Mou 79.66 27 P **P 12 20 05.7 +0.6**
baz=291
J16K Anvik River 79.70 26 P **P 12 20 05.9 +0.6**
J16K IAmb IAmb 12 20 06.4
comp=Z,11nm,0.8s
J16K Anvik River 79.70 26 P **P 12 20 05.6 +0.4**
baz=291
L15K Ungalak Mounta 79.90 28 P **P 12 20 06.5 +0.2**
baz=291
H18K Honhosa River 79.90 24 P **P 12 20 06.4 +0.1**
H18K IAmb IAmb 12 20 06.9
comp=Z,6.4nm,0.8s
H18K Honhosa River 79.90 24 P **P 12 20 06.3 0.0**
baz=293
UNV Unalaska Valle 79.98 36 P **P 12 20 06.7 -0.1**
baz=288
G19K Purcell Mounta 79.99 23 P **P 12 20 06.7 -0.1**
G19K IAmb IAmb 12 20 07.5
comp=Z,6.1nm,0.8s
G19K Purcell Mounta 79.99 23 P **P 12 20 06.6 -0.1**
baz=294
M14K Bethel 80.01 29 P **P 12 20 07.5 +0.6**
M14K Bethel 80.01 29 P **P 12 20 06.4 -0.5**
baz=291
E21K Killik River 80.10 20 P **P 12 20 07.5 +0.1**
E21K Killik River 80.10 20 P **P 12 20 07.3 -0.1**
baz=296
F20K Avaraart Lake 80.11 22 P **P 12 20 07.6 +0.3**
F20K IAmb IAmb 12 20 08.1
comp=Z,7.1nm,0.8s
F20K Avaraart Lake 80.11 22 P **P 12 20 07.2 -0.1**
baz=295
J17K VABM Dome 80.30 26 P **P 12 20 09.1 +0.6**
J17K IAmb IAmb 12 20 38.9
comp=Z,19nm,1.4s
J17K VABM Dome 80.30 26 P **P 12 20 08.0 -0.5**
baz=293
D22K Ayikyak River 80.32 20 P **P 12 20 09.4 +0.9**
D22K IAmb IAmb 12 20 09.8
comp=Z,8.6nm,0.8s
D22K Ayikyak River 80.32 20 P **P 12 20 08.9 +0.3**
baz=297
N14K Kuskokwak Cree 80.44 30 P **P 12 20 08.8 -0.4**
baz=291
H19K Roundabout Mou 80.48 24 P **P 12 20 10.0 +0.7**
H19K Roundabout Mou 80.48 24 P **P 12 20 09.3 -0.1**
baz=295
C23K Itkillik River 80.51 19 IAmb IAmb 12 20 10.9
comp=Z,10nm,0.9s
C23K Itkillik River 80.51 19 P **P 12 20 09.6 +0.1**
baz=299,SNR=7.6
M15K Kasigluk River 80.61 29 P **P 12 20 10.5 +0.3**
baz=292
F21K Alatna River 80.82 21 IAmb IAmb 12 20 12.4
comp=Z,8.3nm,0.9s
F21K Alatna River 80.82 21 P **P 12 20 11.0 -0.3**
baz=297
K17K Iditarod 80.89 27 P **P 12 20 11.5 -0.2**
baz=293
D23K Nanushuk River 80.92 19 P **P 12 20 11.9 +0.2**
baz=299
E22K Anaktuvuk Pass 80.96 20 P **P 12 20 11.8 -0.2**
baz=298
H20K Anotleneega Mo 81.09 23 P **P 12 20 12.3 -0.4**
baz=296
N15K Kwethluk River 81.09 29 P **P 12 20 12.7 -0.1**
baz=292
L17K Donlin 81.12 27 P **P 12 20 12.5 -0.4**
baz=294
F22K John River 81.13 21 P **P 12 20 12.9 0.0**
baz=298
G21K Allakaket 81.13 22 P **P 12 20 12.7 -0.2**
baz=297
C24K Franklin Bluff 81.15 18 P **P 12 20 12.5 -0.4**
baz=301
J18K Innoko River 81.24 26 P **P 12 20 13.3 -0.2**
baz=295
M16K Timber Creek 81.27 28 P **P 12 20 13.2 -0.6**
baz=293
IMAR Indian Mountai 81.29 23 P **P 12 20 13.7 0.0**
D24K Happy Valley 81.40 19 IAmb IAmb 12 20 18.2
comp=Z,5.0nm,0.6s
D24K Happy Valley 81.40 19 P **P 12 20 14.2 -0.1**
baz=301
TOLK Toolik Lake Re 81.43 20 P **P 12 20 15.1 +0.6**
TOLK Toolik Lake Re 81.43 20 P **P 12 20 14.4 -0.1**
baz=300,SNR=7.8
J19K Poorman 81.45 25 P **P 12 20 15.1 +0.4**
J19K IAmb IAmb 12 20 15.8
comp=Z,6.9nm,0.9s
J19K Poorman 81.45 25 P **P 12 20 14.8 +0.2**
baz=296
I20K Naaghedeneel 81.55 24 P **P 12 20 14.3 -0.8**
baz=296
N16K Nishlik Lake 81.58 29 P **P 12 20 15.5 +0.1**
baz=293
G22K Bettles 81.64 21 P **P 12 20 15.5 -0.1**
baz=299
E23K Chandalar 81.71 20 P **P 12 20 16.4 +0.3**
baz=300,SNR=6.5
TTA Tatalina 81.76 26 P **P 12 20 16.3 -0.1**
baz=295
L18K Granite Mounta 81.78 27 P **P 12 20 16.5 +0.1**
baz=295
H21K Melozitna Rive 81.78 23 P **P 12 20 16.2 -0.2**
baz=298
COLD Coldfoot 81.94 21 P **P 12 20 17.3 +0.2**
baz=300
J20K Nowinta River 81.96 24 P **P 12 20 17.1 -0.2**
baz=297
D25K Kavik River 82.05 18 IAmb IAmb 12 20 22.1
comp=Z,7.1nm,0.8s
D25K Kavik River 82.05 18 P **P 12 20 17.5 -0.3**
baz=303,SNR=11
E24K Your Creek 82.07 20 IAmb IAmb 12 20 19.2
comp=Z,9.2nm,0.8s
E24K Your Creek 82.07 20 P **P 12 20 18.6 +0.7**
baz=301,SNR=15
C26K Camden Bay 82.15 18 P **P 12 20 18.1 -0.1**
baz=304
H22K Ishtalitna Cre 82.19 22 P **P 12 20 18.5 0.0**
baz=299
G23K Bananza Creek 82.26 21 P **P 12 20 19.3 +0.4**
G23K IAmb IAmb 12 20 20.1
comp=Z,6.4nm,0.9s
G23K Bananza Creek 82.26 21 P **P 12 20 19.2 +0.4**
baz=300,SNR=8.1
K20K Telida 82.36 25 IAmb IAmb 12 20 25.8
comp=Z,5.2nm,0.8s
K20K Telida 82.36 25 P **P 12 20 19.6 +0.1**
baz=297
M18K Stony River 82.46 27 P **P 12 20 20.0 0.0**
baz=296
F24K Squaw Lake 82.56 20 P **P 12 20 20.3 -0.1**
baz=302,SNR=5.7
L19K White Mountain 82.57 26 P **P 12 20 20.5 0.0**
baz=296
C27K Jago River 82.66 18 P **P 12 20 20.4 -0.5**
baz=306
N18K Kilae Creek 82.78 28 P **P 12 20 21.2 -0.5**
baz=296
CHUM Lake Minchumin 82.81 24 P **P 12 20 21.8 +0.1**
baz=298
L20K Farewell, AK 82.84 26 P **P 12 20 21.9 0.0**
baz=297
MLY Manley 82.84 23 P **P 12 20 21.7 -0.3**
baz=300
S14K Fog Glacier 82.86 33 P **P 12 20 22.3 0.0**
baz=293
H23K Yukon River 82.88 22 IAmb IAmb 12 20 23.5
comp=Z,5.5nm,0.8s
H23K Yukon River 82.88 22 P **P 12 20 22.1 0.0**
baz=301,SNR=7.2
M19K Big River Lodg 82.89 26 P **P 12 20 22.6 +0.4**
baz=297
E25K Arctic Village 82.97 19 P **P 12 20 23.0 +0.5**
E25K Arctic Village 82.97 19 P **P 12 20 22.5 -0.1**
baz=304
CAST Castle Rocks 83.12 25 P **P 12 20 23.4 0.0**
baz=299
G24K Hadweenzic Riv 83.13 21 P **P 12 20 23.7 +0.3**
baz=302,SNR=6.7
P17K Kvichak River 83.18 29 P **P 12 20 23.7 0.0**
baz=296
BPAW Bear Paw Mtn. 83.21 24 P **P 12 20 24.6 +0.7**
baz=300
F25K Christian Rive 83.24 20 P **P 12 20 24.4 +0.5**
baz=304,SNR=9.9
I23K Minto, Yukon-K 83.29 23 P **P 12 20 24.8 +0.6**
I23K IAmb IAmb 12 20 26.7
comp=Z,9.0nm,1.2s
I23K Minto, Yukon-K 83.29 23 P **P 12 20 24.9 +0.8**
baz=301
Q16K King Salmon 83.30 30 P **P 12 20 24.1 -0.2**
baz=295
PPLA Purkeypile 83.33 25 P **P 12 20 24.8 +0.2**
baz=299
N19K Bonanza Creek 83.34 27 P **P 12 20 24.7 0.0**
baz=297
CHNA Chernabura Isl 83.42 34 P **P 12 20 25.0 -0.1**
baz=293
M20K Styx River 83.43 26 P **P 12 20 25.3 +0.2**
baz=298
CHGN Chignik 83.43 32 P **P 12 20 25.2 +0.1**
baz=294
O18K Koktuh Hills 83.45 29 P **P 12 20 25.5 +0.3**
baz=296
H24K Noodor Dome 83.45 22 IAmb IAmb 12 20 26.4
comp=Z,6.4nm,1.0s
H24K Noodor Dome 83.45 22 P **P 12 20 24.9 -0.3**
baz=302,SNR=5.4
G25K Bearman Lake 83.55 20 P **P 12 20 25.4 -0.1**
baz=304
SUMG Summit 83.62 347 P **P 12 20 26.1 -0.2**
SUMG IAmb IAmb 12 20 34.6
comp=Z,4.9nm,0.9s
F26K Sheenjek River 83.65 19 P **P 12 20 26.0 -0.1**
baz=305,SNR=11
D27M Malcolm River 83.66 17 P **P 12 20 26.4 +0.3**
D27M Malcolm River 83.66 17 P **P 12 20 26.1 0.0**
baz=308
BMAR Burnt Mountain 83.67 20 P **P 12 20 27.3 +1.1**
NEA2 Nenana 83.68 23 P **P 12 20 26.3 0.0**
NEA2 IAmb IAmb 12 20 26.8
comp=Z,5.1nm,0.8s
NEA2 Nenana 83.68 23 P **P 12 20 25.5 -0.8**
baz=301,SNR=6.8
MDM Murphy Dome 83.80 22 P **P 12 20 27.1 +0.3**
Q17K Contact Creek 83.84 30 P **P 12 20 26.8 -0.5**
baz=296
R17L Mt. Peulik Vol 83.89 31 P **P 12 20 27.6 +0.1**

	baz=296						
H25L	Birch Creek	83.92	21	P	P	12 20 27.8	+0.4
	baz=304						
COLA	College	83.98	22	P	P	12 20 27.5	-0.2
	baz=302						
POKR	Poker Plat Res	84.00	22	P	P	12 20 28.1	+0.2
	baz=303						
SKT	Skwentna	84.04	26	IAmb	IAmb	12 20 28.2	
	comp=Z,5.0nm,0.9s						
SKT	Skwentna	84.04	26	P	P	12 20 27.9	-0.3
	baz=299						
CCB	Clear Creek Bu	84.12	23	P	P	12 20 27.8	-0.6
E27K	Coleen River	84.13	18	IAmb	IAmb	12 20 32.2	
	comp=Z,2.8nm,0.6s						
E27K	Coleen River	84.13	18	P	P	12 20 28.4	-0.2
	baz=308						
MCK	McKinley	84.18	24	P	P	12 20 29.2	+0.3
MCK	McKinley	84.18	24	P	P	12 20 28.8	0.0
	baz=301						
G26K	Porcupine Rive	84.20	20	P	P	12 20 29.0	+0.2
	baz=306,SNR=11						
D28M	Stokes Point	84.22	17	P	P	12 20 28.9	0.0
	baz=310						
IL31		84.38	22	P	P	12 20 28.9	-0.9
IL31				IAmb	IAmb	12 20 30.2	
	comp=Z,4.4nm,0.7s						
ILAR	Eielson Array	84.38	22	P	P	12 20 28.8	-1.1
ILAR	Eielson Array	84.38	22	P	P	12 20 28.6	-1.2
	comp=Z,3.1nm,0.7s,baz=300,slow=4.9,SNR=45						
	comp=Z,3.1nm,0.7s						
RND	Reindeer	84.39	24	IAmb	IAmb	12 20 30.0	
	comp=Z,6.6nm,1.0s						
P19K	Oil Pt	84.43	28	P	P	12 20 30.3	+0.1
	baz=298						
PRP	Porcupine Dome	84.45	21	P	P	12 20 30.8	+0.5
PRP	Porcupine Dome	84.45	21	P	P	12 20 29.7	-0.6
	baz=304,SNR=9.6						
E28M	Babbage River	84.47	17	P	P	12 20 30.6	+0.4
E28M				IAmb	IAmb	12 20 32.8	
	comp=Z,7.9nm,1.4s						
E28M	Babbage River	84.47	17	P	P	12 20 30.5	+0.3
	baz=309						
HDA	Harding Lake	84.56	23	IAmb	IAmb	12 20 39.4	
	comp=Z,4.8nm,1.1s						
HDA	Harding Lake	84.56	23	P	P	12 20 30.0	-0.7
	baz=303						
SUA	Susitna One	84.62	26	P	P	12 20 30.6	-0.6
	baz=300						
M22K	Willow	84.74	26	P	P	12 20 30.6	-1.0
	baz=301						
G27K	Doyon Strip	84.96	19	P	P	12 20 33.2	+0.5
G27K	Doyon Strip	84.96	19	P	P	12 20 32.5	-0.2
	baz=308						
F28M	Old Crow	85.00	18	P	P	12 20 32.5	-0.4
	baz=309						
J25K	Salcha River,	85.01	22	P	P	12 20 32.1	-1.0
J25K				IAmb	IAmb	12 20 34.3	
	comp=Z,10nm,1.4s						
J25K	Salcha River,	85.01	22	P	P	12 20 32.2	-0.9
	baz=304,SNR=6.5						
E29M	Blow River	85.07	17	P	P	12 20 33.6	+0.4
E29M				IAmb	IAmb	12 20 36.8	
	comp=Z,3.5nm,0.6s						
E29M	Blow River	85.07	17	P	P	12 20 32.7	-0.5
	baz=311						
DHY	Denali Highway	85.13	24	P	P	12 20 34.6	+0.8
DHY	Denali Highway	85.13	24	P	P	12 20 33.2	-0.6
	baz=303						
HOM	Homer	85.14	28	P	P	12 20 33.4	-0.3
	baz=299						
PMR	Palmer	85.22	26	P	P	12 20 34.0	-0.1
	baz=301						
RC01	Rabbit Creek A	85.24	26	P	P	12 20 34.3	+0.1
	baz=301						
WAT6	Susitna Watana	85.25	24	P	P	12 20 33.9	-0.6
	baz=302						
K24K	Donnelly Dome	85.32	23	P	P	12 20 33.9	-0.7
	baz=304						
H27K	Steamboat Moun	85.35	20	P	P	12 20 34.7	0.0
	baz=308						
I26K	Coal Creek Min	85.38	21	P	P	12 20 34.9	+0.1
	baz=306						
A36M	Sachs Harbour	85.42	12	P	P	12 20 35.4	+0.5
	baz=322						
SML	Sawmill	85.44	25	IAmb	IAmb	12 20 35.9	
	comp=Z,6.3nm,0.8s						
SML	Sawmill	85.44	25	P	P	12 20 35.0	-0.2
	baz=302						
KNK	Knik Glacier	85.59	26	P	P	12 20 36.0	0.0
	baz=302						
M23K	Glacier View	85.69	25	P	P	12 20 36.1	-0.3
	baz=303						
I27K	Kandik River	85.71	20	P	P	12 20 36.4	-0.2
	baz=308						
J26L	Joseph Creek	85.71	22	IAmb	IAmb	12 20 37.3	
	comp=Z,5.6nm,0.9s						
J26L	Joseph Creek	85.71	22	P	P	12 20 36.0	-0.6
	baz=306,SNR=12						
SCM	Sheep Creek Mo	85.82	25	P	P	12 20 36.4	-0.8
	baz=303						
SEW	Seward	85.87	27	P	P	12 20 36.3	-1.0
	baz=301						
SCRK	Sand Creek	85.87	22	P	P	12 20 37.2	-0.3
SCRK				IAmb	IAmb	12 20 39.1	
	comp=Z,5.6nm,0.7s						
SCRK	Sand Creek	85.87	22	P	P	12 20 36.4	-1.1
	baz=306,SNR=12						
PAX	Paxson	85.91	23	P	P	12 20 36.7	-1.0
	baz=304						
G29M	Pine Creek	86.00	18	P	P	12 20 37.5	-0.5
	baz=311						
M24K	Tolsona, Glenn	86.13	24	P	P	12 20 37.6	-1.1
M24K	Tolsona, Glenn	86.13	24	P	P	12 20 38.0	-0.7
	baz=304						
F30M	Barrier River	86.18	17	P	P	12 20 38.5	-0.3
	baz=313						
INK	Inuvik	86.31	16	P	P	12 20 39.1	-0.3
INK				IAmb	IAmb	12 20 42.5	
	comp=Z,3.3nm,0.6s						
INK	Inuvik	86.31	16	P	P	12 20 39.0	-0.3
	baz=315						
H29M	Whitestone	86.35	19	P	P	12 20 39.0	-0.7
	baz=311						
HARP	HAARP	86.35	24	P	P	12 20 39.4	-0.3
	baz=305						
I28M	Miner Creek	86.36	20	P	P	12 20 40.6	+0.8
I28M	Miner Creek	86.36	20	P	P	12 20 39.1	-0.7
	baz=309						
G30M	tAoh Zraii Nji	86.49	18	P	P	12 20 40.1	-0.3
G30M				IAmb	IAmb	12 21 19.4	
	comp=Z,7.5nm,1.4s						
G30M	tAoh Zraii Nji	86.49	18	P	P	12 20 39.6	-0.7
	baz=312						
K27K	Chicken	86.52	22	P	P	12 20 40.1	-0.4
	baz=307						
KLU	Klutina	86.57	25	IAmb	IAmb	12 20 47.1	
	comp=Z,5.6nm,0.7s						
KLU	Klutina	86.57	25	P	P	12 20 40.1	-0.9
	baz=304						
L26K	Log Cabin Wild	86.67	23	IAmb	IAmb	12 20 45.9	
	comp=Z,10nm,1.4s						
EPYK	Eagle Plains	86.75	18	P	P	12 20 41.8	+0.2
	baz=312						
P23K	Montague Islan	86.79	26	P	P	12 20 41.3	-0.6
	baz=303						
F31M	Tsiigehtchic	86.87	17	IAmb	IAmb	12 20 43.9	
	comp=Z,8.9nm,1.3s						
F31M	Tsiigehtchic	86.87	17	P	P	12 20 41.9	-0.1
	baz=315						
N25K	Chitina, Valde	87.03	24	P	P	12 20 43.2	+0.1
N25K	Chitina, Valde	87.03	24	P	P	12 20 42.8	-0.3
	baz=305,SNR=8.1						
G31M	Satah River	87.09	17	P	P	12 20 43.8	+0.6
	baz=314						
M26K	Nabesna, AK	87.17	23	P	P	12 20 44.8	+1.0
M26K				IAmb	IAmb	12 20 48.1	
	comp=Z,7.1nm,1.2s						
M26K	Nabesna, AK	87.17	23	P	P	12 20 43.8	0.0
	baz=307,SNR=6.1						
EYAK	Cordova Ski Ar	87.17	26	P	P	12 20 43.6	-0.1
	baz=304						
L27K	Beaver Creek,	87.20	22	P	P	12 20 44.1	+0.2
	baz=308						
BMRM	Bremner River	87.39	25	P	P	12 20 44.5	-0.4
	baz=305,SNR=6.5						
DAWY	Dawson	87.42	21	P	P	12 20 44.7	-0.2
	baz=310						
M27K	Edge Creek, AK	87.61	23	P	P	12 20 45.8	-0.2
	baz=308						
I30M	Mount Dempster	87.63	19	IAmb	IAmb	12 20 56.0	
	comp=Z,6.6nm,1.4s						
I30M	Mount Dempster	87.63	19	P	P	12 20 46.1	0.0
	baz=312						
C36M	Paulatuk	87.77	13	P	P	12 20 46.4	0.0
	baz=324						
MCARA	McCarthy VSAT	87.77	24	P	P	12 20 46.9	+0.3
	baz=307						
BVCY	Beaver Creek	87.95	23	P	P	12 20 47.4	-0.1
	baz=308						
KAIM	Kayak Island	88.08	26	P	P	12 20 48.2	+0.1
	baz=306						
J30M	Hart River	88.09	20	P	P	12 20 48.0	-0.2
	baz=312						
K29M	Barlow Dome	88.19	21	P	P	12 20 48.5	-0.2
	baz=311						
L29M	L29M	88.47	21	P	P	12 20 50.1	+0.1
	baz=311						
YUK3	Moose Creek	88.50	23	P	P	12 20 50.8	+0.4
	baz=309						
CTG	Chitna Glacier	88.67	24	P	P	12 20 51.6	+0.5
	baz=308						
TORD	Torodi Ar. Bea	88.69	283	P	P	12 20 52.0	+0.1
	comp=Z,1.0nm,1.1s,baz=39,slow=4.0,SNR=3.4						
	comp=Z,1.0nm,1.1s						
M29M	Somme Creek	88.79	22	IAmb	IAmb	12 20 56.3	
	comp=Z,2.8nm,0.7s						
M29M	Somme Creek	88.79	22	P	P	12 20 51.8	+0.2
	baz=311						
MAYO	Mayo, Yukon	88.89	20	P	P	12 20 52.9	+0.9
	baz=313						
MESA	MESA	88.92	25	P	P	12 20 52.6	+0.3
	baz=308						
YUK8	Steele Glacier	89.07	23	P	P	12 20 53.1	0.0
	baz=310						
O28M	Mount Upton	89.23	24	P	P	12 20 53.7	-0.2
	baz=309						
M30M	Minto, Yukon	89.28	21	P	P	12 20 54.8	+1.0
M30M	Minto, Yukon	89.28	21	P	P	12 20 53.9	+0.1
	baz=312						
YUK4	Talbot Arm	89.44	23	P	P	12 20 54.4	-0.4
	baz=311						
YUK6	Outpost Mounta	89.81	23	P	P	12 20 56.8	+0.3
	baz=311						
N30M	Aishikik Lake	89.93	22	P	P	12 20 58.0	+1.1
N30M	Aishikik Lake	89.93	22	P	P	12 20 56.6	-0.3
	baz=312						
HYT	Haines Junctio	90.20	23	P	P	12 20 58.5	+0.3
	baz=312						
M31M	Drury Creek, Y	90.36	21	P	P	12 20 59.3	+0.5
	baz=314						
N31M	Braeburn, Yuko	90.38	22	P	P	12 20 59.4	+0.5
N31M	Braeburn, Yuko	90.38	22	P	P	12 20 58.7	-0.2
	baz=313						
FARO	Faro, Yukon	90.69	20	P	P	12 21 01.1	+0.8
FARO				IAmb	IAmb	12 21 01.9	
	comp=Z,6.9nm,1.5s						
FARO	Faro, Yukon	90.69	20	P	P	12 21 00.3	-0.1
	baz=315						
O30N	Mendenhall	90.75	22	P	P	12 21 01.3	+0.6
O30N	Mendenhall	90.75	22	P	P	12 21 00.4	-0.3
	baz=313						
P30M	Million Dollar	90.87	23	P	P	12 21 00.4	-0.9
	baz=312						
P29M	Windy Craggy	90.91	24	P	P	12 21 00.9	-0.5
	baz=311						
N32M	Quiet Lake	91.54	21	P	P	12 21 04.5	+0.1
	baz=315						
MSO	Missoula	109.66	21	P	PKiKP	12 26 28.5	-0.4
	baz=331						
EGMT	Eagleton	109.88	17	P	PKiKP	12 26 28.9	-0.3
	baz=335						
DGMT	Dagmar	110.85	13	P	PKiKP	12 26 30.9	-0.1
	baz=341						
SCZ2	Santa Cruz Isl	118.04	32	P	PKPdf	12 26 44.9	-0.2
	baz=323						
OGNE	Ogallala	118.47	14	P	PKPdf	12 26 45.6	-0.4
	baz=342						
TXAR	Lajitas Array	128.88	21	PKP	PKPdf	12 27 06.5	+0.4
	comp=Z,0.2nm,0.6s,baz=104,slow=1.3,SNR=3.9						

*JMA **13** 12:10:18.7±0.2, 22°.9N±0°.5×121°.4E±0°.8, h14km, MV2.9/8, TAIWAN REGION*
*TAP **13** 12:10:20.9, 22°.98N×121°.16E, h8km, ML3.3, C*
ISC 13 12:10:20.8±0.8, **22°.96N**±0°.02×**121°.22E**±0°.02, **h17**km±4km, **n118**, σ1°**10**/167, **5C-9D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	Donghe	0.07	83	⇓iP	Pg	12 10 24.4	+0.3
	baz=95						
EDH				S	Sg	12 10 27.4	+1.0
	baz=95						
ECS	Chishang	0.13	358	⇓iP	Pb	12 10 24.6	-0.2
	baz=22						
ECS				iS	Sg	12 10 28.0	+0.6
	baz=22						
EHD	Haiduan	0.19	355	⇓iP	Pg	12 10 24.9	-0.6
	baz=5.0						
EHD				S	Sg	12 10 27.7	-0.9
	baz=5.0						
CHKT	Chengkung	0.19	44	⇓iP	Pb	12 10 26.4	+0.7
	baz=73						
CHKT				S	Sg	12 10 31.3	+2.7
	baz=73						
TWGBT	Beinan	0.20	223	P	Pb	12 10 25.0	-0.9
TWGBT	Beinan	0.20	223	⇑iP	Pb	12 10 25.1	-0.8
	baz=213						
TWGBT				iS	Sg	12 10 28.2	-0.6
	baz=213						
TWG	Pinlang	0.20	225	⇑iP	Pb	12 10 25.1	-0.9
	baz=213						
TWG				iS	Sg	12 10 28.2	-0.7
	baz=213						
TTN	Taitung	0.22	199	eP	Pb	12 10 27.4	+1.1
	baz=190						
TTN				eS	Sg	12 10 33.4	+3.9
	baz=190						
FULB	Fuli	0.24	15	P	Pb	12 10 27.2	+0.4
	baz=21						
FULB				S	Sb	12 10 32.6	+1.9
	baz=21						
CHKH	Chenggong	0.28	35	P	Pb	12 10 27.9	+0.6
	baz=61						
CHKH				S	Sb	12 10 33.5	+1.9
	baz=61						
ELDTW	Lidau	0.29	320	⇓iP	Pg	12 10 26.3	-1.0
	baz=327						
ELDTW				iS	Sg	12 10 29.7	-2.0
	baz=327						
LDUT	Ludao	0.37	142	P	Pn	12 10 29.8	-1.5
	baz=138						
LDUT				S	Sb	12 10 37.3	+3.1
	baz=138						
EYUL	Yuli	0.39	13	P	Pb	12 10 29.8	+0.5
	baz=16						
EYUL				S	Sb	12 10 36.5	+1.5
	baz=16						
TWF1	Yuli	0.39	10	⇑iP	Pb	12 10 28.7	-0.6
	baz=14						
TWF1				S	Sb	12 10 34.9	-0.1
	baz=14						
ECBN	Changbin	0.41	31	P	Pb	12 10 30.2	+0.6
	baz=53						
ECBN				S	Sb	12 10 38.4	+2.9
	baz=53						
YULB	Yu-li	0.43	9	P	Pg	12 10 29.0	-0.6
YULB	Yu-li	0.43	9	⇑iP	Pg	12 10 29.2	-0.4
	baz=6.0						
YULB				S	Sg	12 10 35.5	-0.1
	baz=6.0						
ECL	Taimali	0.44	214	⇑iP	Pb	12 10 29.3	-0.8
	baz=207						
ECL				S	Sb	12 10 35.4	-1.0
	baz=207						
STYH	Taoyuan	0.46	297	P	Pg	12 10 29.5	-0.6
	baz=305						
STYH				S	Sg	12 10 35.4	-1.0
	baz=305						
STYT	Tauyuan	0.47	295	⇓iP	Pg	12 10 29.7	-0.7
	baz=296						
STYT				iS	Sg	12 10 35.6	-1.3
	baz=296						
SLGT	Liugui	0.53	273	P	Pg	12 10 30.9	-0.5
	baz=272						
SLGT				S	Sg	12 10 37.3	-1.3
	baz=272						
EHYH	Wanrong	0.54	12	eP	Pb	12 10 31.7	-0.1
	baz=6.0						
EHYH				S	Sb	12 10 39.0	-0.3
	baz=6.0						
EHY	Hungye	0.55	9	P	Pb	12 10 31.3	-0.6
	baz=4.0						
EHY				S	Sg	12 10 38.9	-0.2
	baz=4.0						
HGSD	Ruisui	0.56	19	eP	Pb	12 10 32.6	+0.5
	baz=10.0						
HGSD				eS	Sn	12 10 42.1	-0.7
	baz=10.0						
YUS	Yu-Shan	0.58	335	P	Pg	12 10 31.8	-0.7
	baz=337						
YUS				S	Sg	12 10 38.7	-1.7
	baz=337						
SGST	Jiashian	0.60	281	⇓iP	Pg	12 10 31.6	-1.1
	baz=281						
SGST				S	Sg	12 10 40.4	-0.4
	baz=281						
WTP	Ta-pu	0.63	297	⇓iP	Pg	12 10 33.1	-0.2
	baz=301						
WTP				S	Sg	12 10 41.6	-0.1
	baz=301						
TPUB	Ta-pu	0.64	302	P	Pg	12 10 33.2	-0.3
TPUB	Ta-pu	0.64	302	⇓iP	Pg	12 10 33.4	-0.1
	baz=313						
TPUB				iS	Sg	12 10 41.9	-0.2
	baz=313						
MASBT	Mashibuluo	0.65	237	P	Pg	12 10 32.8	-0.8
	baz=239						
MASBT				eS	Sg	12 10 40.1	-2.1
	baz=239						
EAST	Anshuo	0.67	211	P	Pb	12 10 33.3	-0.8
	baz=206						
TAW	Tawu	0.67	207	eP	Pb	12 10 34.1	0.0
	baz=202						
CHN1	Nanshi	0.68	289	P	Pb	12 10 34.4	+0.3
	baz=294						
CHN1				eS	Sg	12 10 43.7	+0.6
	baz=294						
SCST	Cishan	0.68	264	eP	Pb	12 10 34.2	+0.1
	baz=256						
TAWH	Dawu Township	0.69	207	eP	Pb	12 10 33.6	-0.7
	baz=203						
SGLT	Jiouru	0.72	251	eP	Pb	12 10 34.9	+0.1
	baz=248						
SNST	Tainan City	0.72	291	eP	Pb	12 10 35.0	+0.2
	baz=291						
WCKO	Fanlu	0.74	310	P	Pb	12 10 35.9	+0.7
	baz=320						
WCKO				S	Sg	12 10 45.5	+0.4
	baz=320						
TWK	Hsinying	0.74	294	P	Pb	12 10 35.4	+0.2
	baz=294						
TWK				S	Sg	12 10 45.3	+0.1
	baz=294						
TWM1	Shoushan	0.75	259	eP	Pb	12 10 36.0	+0.6
	baz=250						
WARBT	Fenglin Townsh	0.77	11	eP	Pg	12 10 35.0	-0.8
	baz=33						
VWDT	VWDT	0.79	354	eP	Pg	12 10 35.7	-0.5
	baz=351						
VWDT				eS	Sg	12 10 46.3	-0.5
	baz=351						
CHN3	Shinhua	0.80	278	eP	Pn	12 10 37.5	+0.3
	baz=277						
WHYT	Xinyi Township	0.81	335	eP	Pg	12 10 36.2	-0.4
	baz=341						
WHYT				eS	Sg	12 10 46.7	-0.5
	baz=341						
SHHT	Tainan City	0.81	274	eP	Pn	12 10 38.2	+0.9
	baz=273						
SCZT	Fangliau	0.81	224	eP	Pb	12 10 36.2	-0.2
	baz=228						
SSLB	Suanglung	0.86	343	P	Pb	12 10 37.4	+0.2
SSLB	Suanglung	0.86	343	eP	Pg	12 10 37.0	-0.5
	baz=340						
ESL	Shilin	0.87	13	eP	Pb	12 10 37.4	0.0
	baz=33						
SHUL	Shoufeng	0.88	21	eP	Pn	12 10 37.8	-0.6
	baz=10.0						
SHUL				eS	Sn	12 10 52.6	+2.0
	baz=10.0						
CHN2	Minshiung	0.89	310	eP	Pn	12 10 38.8	+0.2
	baz=311						
CHN2				eS	Sn	12 10 51.9	+0.9
	baz=311						
WGK	Gukeng	0.94	320	eP	Pn	12 10 39.9	+0.6
	baz=321						
WSSB	Gushan	0.94	250	eP	Pn	12 10 41.0	+1.7
	baz=249						
WSSB				eS	Sn	12 10 57.1	+4.8
	baz=249						
ICHU	Yijhu	0.95	295	eP	Pn	12 10 39.4	0.0
	baz=294						
WDLH	Douliu	0.96	319	eP	Pn	12 10 40.2	+0.7
	baz=320						
SMLT	Sun Moon Lake	0.96	342	P	Pn	12 10 39.5	-0.1
	baz=350						
SMLT				eS	Sn	12 10 53.2	+0.2
	baz=350						
TEYL	Yanliau Villag	0.96	21	eP	Pn	12 10 39.6	+0.1
	baz=23						
LAY	Lan-yu	0.97	162	eP	Pn	12 10 39.2	-0.3
	baz=147						
SCLT	Jiali	0.97	283	eP	Pn	12 10 40.5	+0.9
	baz=282						
OWD	Renai	0.99	357	eP	Pg	12 10 39.2	-0.8
	baz=349						
OWD				eS	Sn	12 10 54.5	+0.8
	baz=349						
TYC	Yuchr	0.99	340	P	Pn	12 10 40.5	+0.6
	baz=348						
TYC				S	Sn	12 10 55.1	+1.6
	baz=348						
TWP	Hsiaoliuchiu	1.00	233	eP	Pn	12 10 43.7	+3.7
	baz=217						
CHN8	Yiju	1.01	292	eP	Pn	12 10 40.5	+0.5
	baz=292						
CHN8				S	Sn	12 10 55.4	+1.5
	baz=292						
LYUB	Lan-yu	1.01	161	eP	Pg	12 10 37.7	-2.7
	baz=147						
ETM	Tongmen	1.03	14	eP	Pg	12 10 40.0	-0.8
	baz=32						
WUSB	Renai	1.03	355	eP	Pg	12 10 39.9	-0.9
	baz=356						
WNT	Mingjian	1.04	332	eP	Pn	12 10 41.6	+1.1
	baz=334						
WTK	Tuku	1.05	313	eP	Pn	12 10 41.3	+0.5
	baz=314						
HEN	Hengchun	1.05	205	eP	Pn	12 10 42.4	+1.7
	baz=192						
TSCK	Chigu Township	1.06	280	eP	Pn	12 10 43.0	+2.2
	baz=279						
LXIB	Xiulin Townshi	1.07	9	eP	Pn	12 10 41.5	+0.4
	baz=23						
LXIB				eS	Sn	12 10 56.0	+0.4
	baz=23						
WSL	Shuilin Townsh	1.07	301	eP	Pn	12 10 41.8	+0.8
	baz=302						
TWK1	Hengchun	1.09	201	eP	Pn	12 10 43.6	+2.4
	baz=184						
TWKBT	Hengchun	1.09	201	eP	Pn	12 10 42.9	+1.7
	baz=184						
CHGB	Renai	1.09	358	eP	Pb	12 10 41.4	0.0
	baz=349						
CHGB				eS	Sn	12 10 57.6	+1.2
	baz=349						
WCS	Beigang Elemen	1.13	345	eP	Pg	12 10 42.5	-0.1
	baz=355						
TWD	Chiawan	1.16	17	eP	Pg	12 10 43.1	-0.2
	baz=20						
WHF	Hehuan Shan	1.18	2	eP	Pg	12 10 43.2	-0.5
	baz=17						
WRL	Guolierlin Hig	1.22	320	eP	Pb	12 10 43.6	+0.3
	baz=307						
NACB	Ninganchiao	1.25	16	P	Pn	12 10 43.2	-0.3
NACB	Ninganchiao	1.25	16	eP	Pn	12 10 43.3	-0.2
	baz=17						
NACB				eS	Sg	12 11 00.9	-0.4
	baz=17						
TDCB	Techi	1.29	357	eP	Pb	12 10 44.7	+0.1
	baz=357						
TDCB				eS	Sg	12 11 03.0	+0.6
	baz=357						

WHP	**Taichung City** baz=353	**1.33**	**349**	*e*P	**Pg**	**12 10 47.0**	**+0.5**
TWQ1	**Liyutan** baz=341	**1.44**	**343**	P	**Pg**	**12 10 48.5**	**0.0**
NNSB	**Datong** baz=5.0	**1.47**	**6**	*e*P	**Pn**	**12 10 46.5**	**0.0**
NNSB	baz=5.0			*e*S	**Sn**	**12 11 04.8**	**-0.6**
WDGT	**Dungji** baz=281	**1.47**	**282**	*e*P	**Pb**	**12 10 47.4**	**-0.3**
NNS	**Nan Shan** baz=5.0	**1.48**	**5**	P	**Pg**	**12 10 48.5**	**-0.8**
NNS	baz=5.0			*e*S	**Sn**	**12 11 05.9**	**+0.2**
NSY	**Sanyi** baz=343	**1.51**	**344**	*e*P	**Pg**	**12 10 50.2**	**+0.3**
ENA	**Nanau** baz=21	**1.53**	**18**	*e*P	**Pb**	**12 10 48.4**	**-0.4**
EWUT	**Wuta** baz=22	**1.56**	**19**	*e*P	**Pg**	**12 10 50.0**	**-0.8**
LATG	**Datong** baz=31	**1.59**	**10**	*e*P	**Pn**	**12 10 47.8**	**-0.5**
PHUB	**P'eng-hu** baz=289	**1.61**	**290**	*e*P	**Pn**	**12 10 49.1**	**+0.6**
PHUB	baz=289			*e*S	**Sn**	**12 11 08.8**	**0.0**
PNG	**Penghu** baz=290	**1.65**	**292**	*e*P	**Pn**	**12 10 49.5**	**+0.6**
PNG	baz=290			*e*S	**Sn**	**12 11 10.3**	**+0.7**
NDT	**Datong Townshi** baz=28	**1.65**	**9**	*e*P	**Pg**	**12 10 51.3**	**-1.3**
EOS3	**EOS3** baz=37	**1.66**	**37**	*e*P	**Pg**	**12 10 51.1**	**-1.5**
EOS3	baz=37			*e*S	**Sb**	**12 11 11.7**	**+0.5**
NFF	**Wufeng Townshi** baz=355	**1.66**	**357**	*e*P	**Pg**	**12 10 51.7**	**-1.1**
VCHM	**Qimei** baz=278	**1.67**	**279**	*e*P	**Pn**	**12 10 50.2**	**+0.9**
NSTT	**Nanjuang** baz=350	**1.67**	**353**	*e*P	**Pb**	**12 10 50.9**	**-0.2**
LIOB	**Emei** baz=350	**1.69**	**354**	*e*P	**Pb**	**12 10 51.8**	**+0.4**
ENTT	**Nioudou** baz=31	**1.70**	**11**	*e*P	**Pn**	**12 10 50.3**	**+0.7**
YHNB	**Yeheng**	**1.71**	**5**	P	**Pn**	**12 10 50.7**	**+0.9**
YHNB	**Yeheng** baz=19	**1.71**	**5**	P	**Pn**	**12 10 50.8**	**+0.9**
YHNB	baz=19			*e*S	**Sn**	**12 11 11.1**	**-0.1**
NSK	**Sanguang** baz=3.0	**1.71**	**4**	*e*P	**Pn**	**12 10 50.7**	**+0.9**
EOS2	**EOS2** baz=49	**1.72**	**32**	*e*P	**Pg**	**12 10 52.1**	**-1.7**
TWE	**Neicheng** baz=33	**1.80**	**13**	*e*P	**Pb**	**12 10 53.0**	**-0.2**
FUSB	**Fushanzhiwuyua** baz=33	**1.82**	**10**	*e*P	**Pb**	**12 10 53.0**	**-0.6**
NWLT	**Wulai** baz=31	**1.82**	**8**	*e*P	**Pb**	**12 10 53.2**	**-0.5**
TIPB	**Shuangxi** baz=32	**2.07**	**15**	*e*P	**Pn**	**12 10 55.7**	**+0.9**
JYNG	**Yonagunijimaku**	**2.16**	**46**	P	**Pn**	**12 10 56.9**	**+0.9**
YM01	**YM01** baz=38	**2.20**	**8**	*e*P	**Pb**	**12 10 58.8**	**-1.2**
YOJ	**Yonaguni jima**	**2.21**	**47**	P	**Pn**	**12 10 57.6**	**+0.9**
YOJ	**Yonaguni jima** baz=52	**2.21**	**47**	*e*P	**Pn**	**12 10 57.6**	**+0.9**
VWUC	**VWUC** baz=320	**2.59**	**322**	*e*P	**Pn**	**12 11 02.4**	**+0.6**
PTMZ	**Houxiangcun** baz=316	**2.82**	**317**	*e*P	**Pn**	**12 11 06.2**	**+1.1**
KNMB	**Chin-men Tao** baz=300	**3.00**	**300**	*e*P	**Pn**	**12 11 07.4**	**-0.1**
JIJ	**Ishigaki jima**	**3.02**	**62**	P	**Pn**	**12 11 08.7**	**+0.9**
JISG	**Ishigakijimahi**	**3.26**	**60**	P	**Pn**	**12 11 11.8**	**+0.8**
ZPLA	**Ao Xicun** baz=287	**3.33**	**287**	*e*P	**Pn**	**12 11 12.4**	**+0.3**

TAP 13 12:10:37.9, 22°.98N×121°.16E, h10km, ML3.6, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECS	**Chishang** baz=25	**0.12**	**26**	P	Pg	12 10 42.0	+1.1
ECS	baz=25			S	Sg	12 10 44.9	+1.9
EDH	**Donghe** baz=95	**0.13**	**94**	P	Pg	12 10 41.4	+0.4
EDH	baz=95			*e*S	Sg	12 10 44.6	+1.4
EHD	**Haiduan** baz=7.0	**0.17**	**15**	P	Pg	12 10 42.0	+0.3
EHD	baz=7.0			*e*S	Sg	12 10 44.8	+0.6
TWG	**Pinlang** baz=205	**0.18**	**206**	*i* P	Pg	12 10 42.2	+0.4
TWG	baz=205			*i* S	Sg	12 10 45.4	+1.0
TWGBT	**Beinan** baz=205	**0.18**	**204**	*i* P	Pg	12 10 42.1	+0.4
TWGBT	baz=205			*i* S	Sg	12 10 45.2	+0.8
CHKT	**Chengkung** baz=73	**0.22**	**59**	P	Pg	12 10 43.5	+1.0
CHKT	baz=73			S	Sg	12 10 48.2	+2.6
TTN	**Taitung** baz=188	**0.23**	**183**	*e*P	Pg	12 10 44.3	+1.7
TTN	baz=188			*e*S	Sg	12 10 50.1	+4.3
ELDTW	**Lidau** baz=328	**0.24**	**328**	P	Pg	12 10 43.4	+0.4
ELDTW	baz=328			S	Sg	12 10 46.6	+0.2
FULB	**Fuli** baz=23	**0.25**	**30**	*e*P	Pg	12 10 44.3	+1.3
FULB	baz=23			*e*S	Sg	12 10 49.6	+3.1
CHKH	**Chenggong** baz=61	**0.30**	**46**	*e*P	Pb	12 10 45.2	-0.3
CHKH	baz=61			*e*S	Sb	12 10 50.8	+0.3
TWF1	**Yuli** baz=12	**0.39**	**19**	P	Pb	12 10 46.5	-0.5
TWF1	baz=12			*e*S	Sb	12 10 52.0	-1.1
EYUL	**Yuli** baz=11	**0.39**	**22**	*e*P	Pb	12 10 46.8	-0.3
EYUL	baz=11			*e*S	Sb	12 10 52.9	-0.3
STYH	**Taoyuan** baz=304	**0.40**	**298**	*e*P	Pb	12 10 46.5	-0.6
STYH	baz=304			*e*S	Sg	12 10 52.0	+0.9
STYT	**Tauyuan** baz=295	**0.41**	**296**	*i* P	Pg	12 10 46.7	+0.6
STYT	baz=295			*i* S	Sg	12 10 52.5	+1.0
LDUT	**Ludao** baz=138	**0.42**	**137**	*e*P	Pb	12 10 47.0	-0.5
LDUT	baz=138			*e*S	Sb	12 10 54.1	+0.2
ECBN	**Changbin** baz=53	**0.43**	**39**	*e*P	Pb	12 10 47.0	-0.6
ECBN	baz=53			*e*S	Sb	12 10 54.5	+0.4
YULB	**Yu-li** baz=6.0	**0.43**	**17**	*e*P	Pb	12 10 47.1	-0.5
YULB	baz=6.0			*e*S	Sg	12 10 52.5	+0.5
ECL	**Taimali** baz=207	**0.43**	**206**	*i* P	Pg	12 10 46.4	+0.1
ECL	baz=207			S	Sg	12 10 52.5	+0.5
SLGT	**Liugui** baz=271	**0.47**	**271**	P	Pb	12 10 47.9	-0.5
SLGT	baz=271			*e*S	Sb	12 10 54.6	-0.9
YUS	**Yu-Shan** baz=338	**0.54**	**339**	*e*P	Pb	12 10 49.3	-0.5
YUS	baz=338			*e*S	Sg	12 10 55.9	+0.1
SGST	**Jiashian** baz=280	**0.54**	**281**	*e*P	Pg	12 10 48.7	+0.2
SGST	baz=280			*e*S	Sb	12 10 57.5	+0.1
EHY	**Hungye** baz=5.0	**0.54**	**16**	*e*P	Pg	12 10 49.0	+0.5
EHY	baz=5.0			*e*S	Sg	12 10 56.0	+0.3
HGSD	**Ruisui** baz=10.0	**0.56**	**26**	*e*S	Sb	12 10 58.0	-0.1
WTP	**Ta-pu** baz=300	**0.57**	**298**	*e*P	Pb	12 10 50.2	+0.1
WTP	baz=300			*e*S	Sb	12 10 58.5	+0.2
TPUB	**Ta-pu** baz=313	**0.58**	**303**	P	Pb	12 10 50.2	0.0
TPUB	baz=313			*i* S	Sb	12 10 58.6	0.0
MASBT	**Mashibuluo** baz=239	**0.61**	**233**	*e*P	Pg	12 10 49.8	0.0
MASBT	baz=239			*e*S	Sg	12 10 57.4	-0.4
SCST	**Cishan** baz=257	**0.62**	**261**	*e*P	Pb	12 10 51.0	+0.1
SCST	baz=257			*e*S	Sb	12 11 00.1	+0.4
SNST	**Tainan City** baz=290	**0.65**	**291**	*e*S	Sn	12 11 02.4	-1.3
EAST	**Anshuo** baz=206	**0.66**	**206**	*e*P	Pg	12 10 51.1	+0.4
EAST	baz=206			*e*S	Sg	12 11 00.0	+0.6
SGLT	**Jiouru** baz=247	**0.67**	**248**	*e*P	Pb	12 10 51.8	+0.1
TWK	**Hsinying** baz=294	**0.68**	**295**	*e*S	Sb	12 11 02.4	+0.9
WCKO	**Fanlu** baz=320	**0.68**	**312**	*e*S	Sb	12 11 02.0	+0.5
TAWH	**Dawu Township** baz=202	**0.69**	**201**	*e*P	Pg	12 10 51.0	-0.3
TWM1	**Shoushan** baz=252	**0.70**	**257**	*e*P	Pb	12 10 52.5	+0.2
SHHT	**Tainan City** baz=273	**0.75**	**273**	*e*P	Pb	12 10 53.0	-0.1
WHYT	**Xinyi Township** baz=341	**0.76**	**338**	*e*S	Sg	12 11 03.1	+0.4
VWDT	**VWDT** baz=351	**0.77**	**359**	*e*S	Sg	12 11 03.1	+0.3
SCZT	**Fangliau** baz=226	**0.79**	**219**	*e*P	Pg	12 10 53.3	+0.2
SCZT	baz=226			*e*S	Sg	12 11 03.5	+0.2
SSLB	**Suanglung** baz=345	**0.82**	**347**	*e*S	Sg	12 11 04.9	+0.3
CHN2	**Minshiung** baz=310	**0.83**	**311**	*e*P	Pg	12 10 52.4	-1.6
CHN2	baz=310			*e*S	Sn	12 11 08.6	+0.5
CHY	**Chiayi** baz=307	**0.85**	**307**	*e*P	Pg	12 10 52.5	-1.8
ESL	**Shilin** baz=17	**0.86**	**17**	*e*S	Sg	12 11 05.9	0.0
WGK	**Gukeng** baz=321	**0.89**	**322**	*e*P	Pg	12 10 53.3	-1.8
WGK	baz=321			*e*S	Sn	12 11 09.7	+0.1
ICHU	**Yijhu** baz=294	**0.89**	**295**	*e*P	Pg	12 10 54.1	-1.1
ICHU	baz=294			*e*S	Sn	12 11 10.1	+0.5
WDLH	**Douliu** baz=319	**0.91**	**321**	*e*P	Pg	12 10 54.4	-1.0
WDLH	baz=319			*e*S	Sn	12 11 10.1	+0.2
SCLT	**Jiali** baz=295	**0.91**	**282**	*e*P	Pb	12 10 55.7	-0.1
WJS	**Zhushan** baz=334	**0.92**	**335**	*e*P	Pg	12 10 54.7	-1.0
SMLT	**Sun Moon Lake** baz=345	**0.93**	**345**	*e*P	Pg	12 10 55.0	-0.8
CHN8	**Yiju** baz=292	**0.94**	**293**	P	Pb	12 10 56.3	-0.1
CHN8	baz=292			S	Sn	12 11 12.3	+1.4
TYC	**Yuchr** baz=348	**0.96**	**343**	*e*P	Pg	12 10 56.1	-0.3
TYC	baz=348			*e*S	Sn	12 11 12.4	+1.1
OWD	**Renai** baz=360	**0.97**	**1**	*e*P	Pg	12 10 55.0	-1.6
WNT	**Mingjian** baz=332	**0.99**	**334**	*e*P	Pg	12 10 57.0	0.0
WNT	baz=332			*e*S	Sn	12 11 13.5	+1.4
WTK	**Tuku** baz=314	**1.00**	**315**	*e*P	Pg	12 10 56.1	-1.0
WUSB	**Renai** baz=357	**1.00**	**358**	*e*P	Pg	12 10 56.8	-0.5
WSL	**Shuilin Townsh** baz=301	**1.01**	**302**	*e*P	Pb	12 10 57.5	0.0
WSL	baz=301			*e*S	Sn	12 11 14.1	+1.6
HEN	**Hengchun** baz=192	**1.05**	**202**	*e*P	Pn	12 10 59.0	+0.3
LXIB	**Xiulin Townshi** baz=30	**1.06**	**13**	*e*P	Pg	12 10 56.8	-1.5
CHGB	**Renai** baz=360	**1.07**	**1**	*e*P	Pb	12 10 58.7	-0.1
WSF	**Szhu** baz=305	**1.08**	**307**	*e*P	Pb	12 10 58.9	+0.1
WSF	baz=305			*e*S	Sn	12 11 15.5	+1.2
WHF	**Hehuan Shan** baz=16	**1.16**	**5**	*e*P	Pg	12 10 59.9	-0.4
WRL	**Guolierlin Hig** baz=307	**1.16**	**322**	*e*P	Pb	12 11 00.2	0.0
WRL	baz=307			*e*S	Sn	12 11 17.2	+0.9
TWD	**Chiawan** baz=22	**1.16**	**20**	*e*P	Pb	12 10 58.8	-1.4
WTCT	**Ta-ch'eng** baz=303	**1.19**	**318**	P	Pg	12 11 00.9	+0.1
WTCT	baz=303			*e*S	Sn	12 11 18.1	+1.1
NACB	**Ninganchiao** baz=32	**1.25**	**19**	*e*P	Pb	12 11 01.6	0.0
NACB	baz=32			*e*S	Sn	12 11 19.0	+0.5
WHP	**Taichung City** baz=353	**1.30**	**351**	*e*P	Pg	12 11 04.3	+1.3
WHP	baz=353			*e*S	Sg	12 11 22.8	+2.8
TWQ1	**Liyutan** baz=341	**1.40**	**345**	*e*P	Pg	12 11 05.8	+0.9
TWQ1	baz=341			*e*S	Sg	12 11 24.3	+1.2
WDGT	**Dungji** baz=281	**1.41**	**282**	*e*P	Pb	12 11 04.3	0.0
PHUB	**P'eng-hu** baz=289	**1.55**	**290**	*e*P	Pb	12 11 06.5	-0.3
NFF	**Wufeng Townshi** baz=355	**1.64**	**359**	*e*P	Pb	12 11 08.8	+0.4

NOU 13 12:14:21.8, 19°.19S×169°.31E, h89km, MLv3.8/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.51**	**231**	P	Pn	12 15 00.1	-0.6
MARNC	**Mare, Loyalty**	**2.58**	**208**	P	Pn	12 15 01.6	0.0
YATNC	**Mamie plateau,**	**3.64**	**218**	P	Pn	12 15 16.0	0.0
PINNC	**Pines Island,**	**3.83**	**207**	P	Pn	12 15 18.1	-0.4
DZM	**Mont Dzumac**	**3.93**	**223**	P	Pn	12 15 19.9	0.0
OUENC	**Ouen Island, N**	**3.96**	**215**	P	Pn	12 15 20.5	+0.3
KOUNC	**Koumac, New Ca**	**4.92**	**253**	P	Pn	12 15 33.4	+0.1

NEIC ***13*** *12:15:44.2±1.3, 13°.17S±0°.03×167°.4E±0°.2, h174km±13km, mb4.4/16, Error ellipse: s-maj=25.7km s-min=2.7km az=99.0*

IDC ***13*** *12:15:48.9±3.0, 13°.51S×167°.21E, h193km±25km, mb3.5/8, mbtmp3.9/9, Error ellipse: s-maj=25.2km s-min=21.7km az=132.0*

ISC 13 12:15:48.8±1.4, 13°.5S±0°.1×167°.2E±0°.2, h200km, n30, σ1.9 06/28, mb4.1/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**7.24**	**179**	Pn	**Pn**	**12 17 31.0**	**-1.2**
KOUNC	**Koumac, New Ca**	**7.54**	**201**	Pn	**Pn**	**12 17 36.0**	**0.0**
DZM	**Mont Dzumac**	**8.56**	**184**	P	**Pn**	**12 17 50.2**	**+0.8**
	3.9nm,0.8s,baz=180,slow=8.1,SNR=3.9						
DZM				S	**Sn**	**12 19 26.0**	**+0.3**
	5.1nm,1.1s,baz=150,slow=20,SNR=1.3						
EIDS	**Eidsvold**	**19.19**	**230**	P	**Pn**	**12 20 00.3**	**-0.6**
EIDS				IAmb	IAmb	12 20 00.7	
	comp=Z,7.8nm,0.5s						
CTAO	**Charters Tower**	**21.05**	**249**	P	**P**	**12 20 17.5**	**0.0**
CTAO				IAmb	IAmb	12 20 49.4	
	comp=Z,17nm,1.4s						
ARMA	**Armidale**	**22.11**	**218**	P	**P**	**12 20 27.9**	**-0.4**
COEN	**Coen**	**23.30**	**266**	P	**P**	**12 20 36.9**	**-2.2**
COEN				IAmb	IAmb	12 21 07.5	
	comp=Z,12nm,1.1s						
BKZ	**Black Stump Fm**	**26.87**	**164**	P	**P**	**12 21 09.6**	**-1.5**
BKZ				IAmb	IAmb	12 21 32.5	
	comp=Z,7.8nm,1.1s						
STKA	**Stephens Creek**	**29.72**	**228**	P	**P**	**12 21 38.3**	**+1.9**
STKA	**Stephens Creek**	**29.72**	**228**	P	**P**	**12 21 38.1**	**+1.7**
	comp=Z,1.8nm,0.4s,baz=64,slow=10.0,SNR=7.6						
	comp=Z,1.8nm,0.4s						
WR0	**Warramunga Arr**	**31.85**	**254**	P	**P**	**12 21 55.2**	**-0.1**
WR0				IAmb	IAmb	12 22 21.3	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**31.97**	**254**	P	**P**	**12 21 56.1**	**-0.2**
WB0				IAmb	IAmb	12 22 02.0	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**32.03**	**254**	P	**P**	**12 21 56.9**	**+0.1**
WRAB	**Tennant Creek**	**32.03**	**254**	P	**P**	**12 21 56.8**	**-0.1**
WRAB				IAmb	IAmb	12 22 17.5	
	comp=Z,9.8nm,1.3s						
WRA	**Warramunga Arr**	**32.04**	**254**	P	**P**	**12 21 56.2**	**-0.7**
WRA	**Warramunga Arr**	**32.04**	**254**	P	**P**	**12 21 57.5**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=86,slow=9.5,SNR=13						
	comp=Z,0.6nm,0.5s						
AS31	**Alice Springs**	**33.02**	**247**	P	**P**	**12 22 05.5**	**0.0**
ASAR	**Alice Springs**	**33.03**	**247**	P	**P**	**12 22 05.8**	**+0.3**
ASAR	**Alice Springs**	**33.03**	**247**	P	**P**	**12 22 05.9**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=75,slow=9.7,SNR=45						
ASAR				PcP	**PcP**	**12 24 45.0**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=73,slow=2.3,SNR=5.3						
ASAR				ScP	**ScP**	**12 28 11.7**	**+1.8**
	comp=Z,0.7nm,0.8s,baz=87,slow=2.7,SNR=5.1						
	comp=Z,1.3nm,0.5s						
KNRA	**Kununurra**	**37.19**	**262**	P	**P**	**12 22 38.6**	**-2.4**
FORT	**Forrest**	**39.84**	**238**	P	**P**	**12 23 03.7**	**+0.7**
MBWA	**Marble Bar**	**45.77**	**254**	P	**P**	**12 23 50.9**	**+0.2**
MBWA				IAmb	IAmb	12 24 21.8	
	comp=Z,12nm,1.4s						
CMAR	**Chiang Mai Arr**	**74.35**	**294**	P	P	12 27 06.5	+1.4
	comp=Z,0.5nm,0.4s,baz=144,slow=5.4,SNR=2.7						
	comp=Z,0.5nm,0.4s						
QSPA	**South Pole Qui**	**76.53**	**180**	P	**P**	**12 27 17.0**	**+0.3**
QSPA	**South Pole Qui**	**76.53**	**180**	P	**P**	**12 27 17.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=72,slow=1.5,SNR=7.2						
	comp=Z,1.2nm,0.7s						
SONM	**Songino Array**	**81.44**	**324**	P	P	12 27 47.6	+3.9
	comp=Z,0.3nm,0.4s,baz=136,slow=4.4,SNR=1.8						
ILAR	**Eielson Array**	**85.39**	**18**	P	P	12 28 03.8	+0.6
	comp=Z,0.2nm,0.6s,baz=233,slow=5.1,SNR=5.3						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**94.19**	**47**	P	P	12 28 45.8	+0.4
	comp=Z,0.2nm,0.8s,baz=250,slow=2.6,SNR=1.7						
	comp=Z,0.2nm,0.8s						
MKAR	**Makanchi Array**	**96.24**	**316**	P	P	12 28 56.7	+2.4
	comp=Z,0.5nm,0.7s,baz=87,slow=6.2,SNR=3.6						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**119.03**	**346**	PKP	**PKiKP**	**12 34 14.0**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=74,slow=2.4,SNR=5.9						

ROM 13 12:41:40.9±0.1, 42°.829N±0°.003×13°.117E±0°.005, h12km, ML1.0/8, 2D, Error ellipse: s-maj=0.4km s-min=0.1km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.01**	**335**	P	Pg	12 41 43.4	+0.3
NRCA				S	Sg	12 41 44.9	+0.2
NRCA				AML	AML		
	comp=E,445μm,0.1s						
NRCA				AML	AML		
	comp=N,447μm,0.2s						
FEMA	**Monte Fema**	**0.14**	**340**	P	Pg	12 41 44.8	+0.3
FEMA				S	Sg	12 41 47.5	+0.5
MMO1	**Montemonaco**	**0.17**	**65**	P	Pg	12 41 45.2	+0.4
MMO1				S	Sg	12 41 48.2	+0.6
MTRA	**Matera**	**0.22**	**109**	⇓P	Pg	12 41 46.0	+0.4
MTRA				S	Sg	12 41 49.6	+0.8
MTRA				AML	AML		
	comp=N,41μm,1.4s						
MTRA				AML	AML		
	comp=E,65μm,0.5s						
LNSS	**Leonessa**	**0.23**	**194**	P	Pg	12 41 46.3	+0.5
LNSS				S	Sg	12 41 50.5	+1.2
LNSS				AML	AML		
	comp=E,66μm,0.9s						
LNSS				AML	AML		
	comp=N,63μm,0.3s						
LNSS				AML	AML		
	comp=N,63μm,0.3s						
LNSS				AML	AML		
	comp=N,63μm,1.7s						
LNSS				AML	AML		
	comp=E,66μm,0.9s						
CESI	**CESI - Serrava**	**0.23**	**318**	⇓P	Pg	12 41 46.4	+0.4
CESI				S	Sg	12 41 50.3	+1.0
CESI				AML	AML		
	comp=E,62μm,0.3s						
CESI				AML	AML		
	comp=N,78μm,0.3s						
CSP1	**Cessapalombo**	**0.27**	**14**	P	Pg	12 41 46.9	+0.4
CSP1				S	Sg	12 41 51.3	+0.9
MF5	**Montefalcone A**	**0.30**	**57**	P	Pg	12 41 47.5	+0.5
MF5				S	Sb	12 41 52.5	-0.6
RM33	**Pellescritta (**	**0.33**	**167**	P	Pg	12 41 48.1	+0.5
RM33				S	Sg	12 41 52.9	+0.9
RM33				AML	AML		
	comp=N,38μm,1.4s						
RM33				AML	AML		
	comp=N,38μm,0.6s						
RM33				AML	AML		
	comp=E,28μm,0.7s						
CESX	**Cesi**	**0.45**	**241**	P	Pg	12 41 49.6	-0.1

HLW ***13*** *12:42:31.4, 35°.63N×25°.77E, h9km±32km, Ml4.2*

IDC ***13*** *12:42:39.0±0.5, 35°.04N×26°.00E, h0km, mb4.5/23, mbtmp4.5/32, ML4.2/8, MS4.2/68, Error ellipse: s-maj=12.9km s-min=7.8km az=4.0*

MOS ***13*** *12:42:39.0±1.3, 34°.92N×25°.95E, h13km, mb4.8/27, MS4.0/16, Error ellipse: s-maj=5.3km s-min=2.9km az=93.4*

ATH ***13*** *12:42:39.5, 34°.91N×25°.99E, h5km, Mw4.9, Moment Tensor Solution. s9 Moment tensor: M_{rr}0.51; $M_{\theta\theta}$0.23; $M_{\phi\phi}$-0.74; $M_{r\theta}$0.51; $M_{\theta\phi}$2.85; $M_{\phi r}$1.16; Fault plane solution: NP1:ϕ_s3.00000°, δ80.00000°, λ156.00000°. NP2: ϕ_s97.00000°, δ67.00000°, λ11.00000°.*

TIR ***13*** *12:42:39.9, 34°.48N×23°.86E, h15km±77km, Ml4.6*

THE ***13*** *12:42:40.0, 34°.98N×26°.00E, h0km, ML4.7/12, Error ellipse: s-maj=2.2km s-min=0.7km az=166.0*

ISK ***13*** *12:42:41.1, 35°.12N×25°.98E, h6km, ML4.6/26*

GII ***13*** *12:42:41.9±0.5, 34°.668N±0°.003×26°.180E±0°.001, h10km, mB4.7/9, Md4.7/10, Mws4.9, confirmed*

GCMT ***13*** *12:42:41.3±0.5, 34°.93N±0°.03×25°.80E±0°.03, h16km±2km, MW5.1/72, Moment Tensor Solution. s5,c5; s72,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.17±.33; $M_{\theta\theta}$0.82±.25; $M_{\phi\phi}$0.35±.23; $M_{r\theta}$1.75±.73; $M_{\theta\phi}$4.49±.23; $M_{\phi r}$-1.15±.68; Best double couple: $M_0$5.06100×10^{16} NP1:ϕ_s268.00000°, δ74.00000°, λ-24.00000°. NP2: ϕ_s5.00000°, δ67.00000°, λ-163.00000°. Principal axes: T 5.1210, Plg5.0000°, Azm318.0000°; N -0.1170, Plg61.0000°, Azm56.0000°; P -5.0010, Plg28.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MED_RC ***13*** *12:42:41.0±0.3, 34°.89N×25°.95E, h10km, MW4.9/69, Moment Tensor Solution. Mantle waves: s69,c88; Duration: 1s1 Moment tensor: Scale 10^{16}Nm;*

M_{rr}=0.07±.12; $M_{\theta\theta}$0.13±.13; $M_{\phi\phi}$=0.06±.09; $M_{r\theta}$=0.58±.30; $M_{\theta\phi}$2.64±.09; $M_{\phi r}$=0.35±.30; Best double couple: M_0=2.72000×10^16 NP1:ϕ_s=272.00000°, δ83.00000°, λ12.00000°. NP2:ϕ_s=180.00000°, δ79.00000°, λ173.00000°. Principal axes: T 2.8300, Plg13.0000°, Azm136.0000°; N -0.2100, Plg77.0000°, Azm301.0000°; P -2.6100, Plg3.0000°, Azm46.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.

NEIC 13 *12:42:41.3±1.9, 35°.03N±0°.06×25°.97E±0°.04, h10km±1km, mb4.7/153 Error ellipse: s-maj=10.2km s-min=5.7km az=189.0*

MCSM 13 *12:42:44.3±0.3, 35°N±3°×2°6E±°, h10km, mb4.5, mB4.9, Mw(mB)4.2*

AFAD 13 *12:42:44.2±0.0, 35°.21N×25°.91E, h7km±4km, MW4.5*

NAO 13 *12:42:46.1, 35°.08N×24°.47E, h33km, mb3.5*

ISC 13 12:42:40.2±0.8, **34°.96N**±0°.03×**25°.96E**±0°.02, **h10**km±5km, **n919**, σ1°**70**/907, **mb4.6**/108, **MS4.3**/65, **14C-25D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.26**	**54**	P	**Pg**	**12 42 44.8**	**-0.6**
ZKR				S	**Sg**	**12 42 48.9**	**-0.1**
355μm,0.5s							
ZKR	**Zakros**	**0.26**	**54**	P	**Pg**	**12 42 44.9**	**-0.6**
ZKR				S	**Sg**	**12 42 48.9**	**-0.1**
ZKR				AML	AML	12 42 49.6	
ZKR				AML	AML	12 42 50.3	
KSTL	**Kastelli Herak**	**0.81**	**295**	P	Pg	12 42 50.7	-5.1
KSTL				S	**Sg**	**12 42 59.3**	**-7.0**
IACM	**Heraklion**	**0.81**	**295**	P	**Pg**	**12 42 55.7**	**-0.1**
IACM				S	**Sn**	**12 43 09.7**	**-0.1**
139μm,0.9s							
IACM	**Heraklion**	**0.81**	**295**	P	**Pg**	**12 42 55.5**	**-0.3**
IACM				S	**Sb**	**12 43 07.8**	**+0.4**
IACM				AML	AML	12 43 17.0	
IACM				AML	AML	12 43 29.3	
IDI	**Anoyia**	**0.94**	**290**		**Pg**	**12 42 56.9**	**-1.4**
IDI				Sg	**Sg**	**12 43 10.9**	**+0.4**
IDI	**Anoyia**	**0.94**	**290**	P	**Pg**	**12 42 56.8**	**-1.5**
IDI				S	**Sn**	**12 43 12.5**	**-0.6**
12μm,0.7s							
IDI	**Anoyia**	**0.94**	**290**	Pg	**Pg**	**12 42 56.9**	**-1.4**
124nm,0.3s,baz=135,slow=18,SNR=380							
IDI				Lg	Lg	12 43 11.9	
1μm,0.3s,baz=82,slow=19,SNR=20							
IDI	**Anoyia**	**0.94**	**290**	P	**Pg**	**12 42 57.6**	**-0.7**
IDI				S	**Sg**	**12 43 11.0**	**+0.4**
IDI				AML	AML	12 43 23.6	
comp=N,29069μm,0.6s							
IDI				AML	AML	12 43 25.0	
comp=E,29534μm,0.9s							
TMBK	**Timbaki Herakl**	**0.99**	**277**	P	**Pg**	**12 42 58.3**	**-0.9**
TMBK				S	**Sb**	**12 43 12.6**	**+0.1**
KARP	**Karpathos**	**1.14**	**59**	Pg	**Pb**	**12 43 01.4**	**-0.7**
KARP				Sg	**Sb**	**12 43 16.6**	**-0.4**
KARP	**Karpathos**	**1.14**	**59**		**Pb**	**12 43 00.4**	**-1.7**
KARP					**Sg**	**12 43 17.4**	**+0.4**
KARP	**Karpathos**	**1.14**	**59**	P	**Pb**	**12 43 00.5**	**-1.6**
KARP				S	**Sg**	**12 43 17.6**	**+0.6**
comp=E,51μm,0.9s							
KARP	**Karpathos**	**1.14**	**59**	P	**Pb**	**12 43 00.7**	**-1.4**
KARP	**Karpathos**	**1.14**	**59**	P	**Pb**	**12 43 00.7**	**-1.4**
KARP				S	**Sb**	**12 43 16.9**	**-0.1**
KARP				AML	AML	12 43 21.6	
KARP				AML	AML	12 43 22.6	
SANT	**Santorini**	**1.46**	**344**	⇓P	**Pb**	**12 43 07.6**	**0.0**
SANT				⇓S	**Sg**	**12 43 28.0**	**+0.7**
SANT	**Santorini**	**1.46**	**344**	Pn	**Pn**	**12 43 06.6**	**-0.2**
SANT				Sn	**Sn**	**12 43 25.1**	**-1.0**
SANT	**Santorini**	**1.46**	**344**	Pn	**Pn**	**12 43 06.8**	**+0.1**
SANT	**Santorini**	**1.46**	**344**	P	**Pb**	**12 43 07.5**	**-0.1**
SANT				S	**Sg**	**12 43 28.1**	**+0.8**
SANT	**Santorini**	**1.46**	**344**	P	**Pn**	**12 43 06.9**	**+0.1**
SANT				S	**Sb**	**12 43 26.8**	**+0.5**
comp=E,22μm,0.7s							
SANT	**Santorini**	**1.46**	**344**	P	**Pn**	**12 43 06.5**	**-0.2**
SANT				AML	AML	12 43 30.1	
comp=E,67988μm,0.5s							
SANT				AML	AML	12 43 31.6	
comp=N,20856μm,0.5s							
THR6	**Thira Island,**	**1.46**	**342**	P	**Pn**	**12 43 06.7**	**-0.1**
THR8	**Santorini-Mono**	**1.49**	**345**	P	**Pn**	**12 43 06.4**	**-0.8**
SNT5	**Nea Kammeni, S**	**1.51**	**342**	P	**Pn**	**12 43 06.9**	**-0.5**
SNT1	**Gialos, Santor**	**1.51**	**343**	P	**Pn**	**12 43 06.8**	**-0.6**
SNT1				S	**Sb**	**12 43 27.7**	**0.0**
comp=N,19μm,0.7s							
THR3	**Thira Island,**	**1.51**	**343**	P	**Pn**	**12 43 07.2**	**-0.2**
GVD	**Gavdhos**	**1.55**	**266**	P	**Pb**	**12 43 08.8**	**-0.2**
GVD				S	**Sg**	**12 43 29.9**	**-0.1**
comp=N,11μm,1.0s							
GVD	**Gavdhos**	**1.55**	**266**	P	**Pn**	**12 43 07.3**	**-0.6**
GVD				AML	AML	12 43 46.6	
comp=E,24640μm,1.0s							
GVD				AML	AML	12 43 47.0	
comp=N,18018μm,0.8s							
SAP3	**Santorini-Thir**	**1.55**	**341**	P	**Pn**	**12 43 08.1**	**+0.1**
SAP3				S	**Sb**	**12 43 29.4**	**+0.6**
comp=N,67μm,0.8s							
CMBO	**Columbo, Santo**	**1.57**	**343**	P	**Pn**	**12 43 08.4**	**+0.2**
CMBO				S	**Sb**	**12 43 29.4**	**0.0**
comp=N,32μm,0.7s							
CMBO	**Columbo, Santo**	**1.57**	**343**	P	**Pn**	**12 43 08.3**	**+0.1**
CMBO				AML	AML	12 43 32.2	
comp=N,84195μm,0.7s							
CMBO				AML	AML	12 43 34.3	
comp=E,76757μm,0.7s							
CHAN	**Chania**	**1.67**	**290**	P	**Pn**	**12 43 09.3**	**-0.2**
IMMV	**Iera Moni Meta**	**1.70**	**288**	P	**Pb**	**12 43 10.8**	**-0.8**
IMMV				S	**Sb**	**12 43 33.6**	**+0.6**
comp=E,15μm,0.8s							
IMMV	**Iera Moni Meta**	**1.70**	**288**	P	**Pn**	**12 43 09.9**	**-0.1**
IMMV				AML	AML	12 43 51.4	
comp=E,29164μm,0.8s							
IMMV				AML	AML	12 43 53.8	
comp=N,29584μm,0.9s							
KNDR	**Palaiochora Ch**	**1.89**	**279**	P	**Pn**	**12 43 13.3**	**+0.7**
NISR	**Nisiros**	**1.90**	**30**	P	**Pn**	**12 43 12.5**	**-0.2**
NISR	**Nisiros**	**1.90**	**30**	P	**Pn**	**12 43 12.1**	**-0.6**
YAZI	**Mula-Dat§a-**	**2.10**	**35**	P	**Pn**	**12 43 15.5**	**0.0**
APE	**Apeiranthos**	**2.13**	**351**	⇑P	**Pn**	**12 43 16.0**	**0.0**
APE				⇑S	**Sn**	**12 43 43.7**	**+1.2**
APE	**Apeiranthos**	**2.13**	**351**	Pn	**Pn**	**12 43 15.9**	**-0.1**
APE				Sn	**Sn**	**12 43 41.2**	**-1.3**
APE	**Apeiranthos**	**2.13**	**351**	P	**Pn**	**12 43 15.4**	**-0.6**
APE				S	**Sn**	**12 43 41.3**	**-1.3**
APE	**Apeiranthos**	**2.13**	**351**	P	**Pn**	**12 43 15.3**	**-0.6**
APE				S	**Sn**	**12 43 42.5**	**0.0**
comp=N,4μm,0.6s							
APE	**Apeiranthos**	**2.13**	**351**	*i* P	**Pn**	**12 43 15.2**	**-0.8**
APE	**Apeiranthos**	**2.13**	**351**	P	**Pn**	**12 43 15.3**	**-0.6**
APE				AML	AML	12 43 48.5	
comp=E,7705μm,0.5s							
APE				AML	AML	12 43 50.9	
comp=N,9303μm,0.7s							
APE	**Apeiranthos**	**2.13**	**351**	P	**Pn**	**12 43 15.0**	**-1.0**
MHLO	**Agia Marina, M**	**2.14**	**324**	P	**Pn**	**12 43 16.4**	**+0.3**
MHLO				S	**Sn**	**12 43 43.4**	**+0.7**
comp=N,16μm,0.7s							
MHLO	**Agia Marina, M**	**2.14**	**324**	P	**Pn**	**12 43 16.2**	**+0.2**
MHLO				AML	AML	12 43 53.9	
comp=N,33631μm,0.5s							
MHLO				AML	AML	12 44 00.5	
comp=E,31102μm,0.7s							
KLNA	**Kalymnos**	**2.15**	**22**	P	**Pn**	**12 43 16.3**	**+0.1**
KLNA				AML	AML	12 43 52.2	
comp=N,8435μm,0.5s							
KLNA				AML	AML	12 44 00.1	
comp=E,7695μm,0.8s							
ARG	**Arkhangelos**	**2.16**	**54**	Pn	**Pn**	**12 43 16.9**	**+0.6**
ARG	**Arkhangelos**	**2.16**	**54**		**Pn**	**12 43 17.8**	**+1.4**
ARG	**Arkhangelos**	**2.16**	**54**	P	**Pn**	**12 43 17.2**	**+0.9**
ARG	**Arkhangelos**	**2.16**	**54**	P	**Pn**	**12 43 17.8**	**+1.4**
ARG	**Arkhangelos**	**2.16**	**54**	P	**Pn**	**12 43 15.3**	**-1.0**
ARG				AML	AML	12 43 57.4	
comp=E,20975μm,0.8s							
ARG				AML	AML	12 44 07.0	
comp=N,19816μm,1.9s							
DAT	**Datca**	**2.20**	**36**	Pn	**Pn**	**12 43 17.5**	**+0.6**
DAT	**Datca**	**2.20**	**36**	P	**Pn**	**12 43 16.7**	**-0.2**
ANKY	**Antikythira Is**	**2.35**	**293**	P	**Pn**	**12 43 19.5**	**+0.5**
ANKY	**Antikythira Is**	**2.35**	**293**	P	**Pn**	**12 43 18.9**	**-0.1**
ANKY				AML	AML	12 44 11.4	
comp=N,5465μm,0.8s							
ANKY				AML	AML	12 44 23.6	
comp=E,4651μm,1.3s							
BODT	**Bodrum**	**2.36**	**27**	Pn	**Pn**	**12 43 19.6**	**+0.5**
BODT	**Bodrum**	**2.36**	**27**	P	**Pn**	**12 43 21.1**	**+1.9**
BODT	**Bodrum**	**2.36**	**27**	P	**Pn**	**12 43 19.4**	**+0.3**
YKAV	**Yalikavak-Bodr**	**2.41**	**26**	Pn	**Pn**	**12 43 20.2**	**+0.5**
MRSB	**Marmaris-Mugla**	**2.52**	**45**	Pn	**Pn**	**12 43 22.5**	**+1.2**
TURN	**Turunc**	**2.59**	**45**	Pn	**Pn**	**12 43 23.4**	**+1.2**
TNSA	**Tinos**	**2.65**	**346**	P	**Pn**	**12 43 23.6**	**+0.6**
TNSA				AML	AML	12 44 03.4	
comp=E,3623μm,0.6s							
TNSA				AML	AML	12 44 08.4	
comp=N,2924μm,0.9s							
DDIM	**Aydin, Didim**	**2.69**	**22**	P	**Pb**	**12 43 26.4**	**-2.2**
MLSB	**Milas**	**2.75**	**32**	Pn	**Pn**	**12 43 26.0**	**+1.5**
MLSB	**Milas**	**2.75**	**32**	P	**Pn**	**12 43 26.2**	**+1.7**
SMG	**Samos**	**2.83**	**14**	P	**Pn**	**12 43 25.5**	**-0.1**
SMG				AML	AML	12 44 23.7	
comp=N,3715μm,0.8s							
SMG				AML	AML	12 44 30.9	
comp=E,3996μm,0.6s							
DALY	**Dalyan (Mula)**	**2.86**	**49**	Pn	**Pn**	**12 43 27.1**	**+1.1**
YER	**Yerkesik**	**2.87**	**40**	Pn	**Pn**	**12 43 27.1**	**+1.0**
YER	**Yerkesik**	**2.87**	**40**	P	**Pn**	**12 43 26.2**	**+0.1**
GCAM	**G?zelcaml?**	**2.92**	**20**	Pn	**Pn**	**12 43 27.6**	**+0.9**
GCAM	**G?zelcaml?**	**2.92**	**20**	P	**Pb**	**12 43 30.5**	**-1.9**
VLI	**Veliai**	**3.02**	**306**	P	**Pn**	**12 43 28.3**	**+0.2**
VLI	**Veliai**	**3.02**	**306**	P	**Pn**	**12 43 27.5**	**-0.7**
FETY	**Fethiye**	**3.04**	**56**	Pn	**Pn**	**12 43 29.8**	**+1.4**
DGB	**zmir**	**3.17**	**13**	P	**Pn**	**12 43 31.1**	**+0.9**
KSL	**Kastellorizon**	**3.18**	**67**	P	**Pn**	**12 43 29.8**	**-0.5**
KSL				AML	AML	12 44 44.6	
comp=E,5681μm,1.9s							
KSL				AML	AML	12 44 49.5	
comp=N,3826μm,1.8s							
AKAS	**Kas**	**3.23**	**66**	Pn	**Pn**	**12 43 32.1**	**+1.0**
ZEYE	**Izmir, Urla-Ze**	**3.30**	**7**	P	**Pn**	**12 43 32.3**	**+0.3**
KRND	**KRANIDI**	**3.32**	**318**	P	**Pn**	**12 43 32.8**	**+0.5**
KRND	**KRANIDI**	**3.32**	**318**	P	**Pn**	**12 43 32.8**	**+0.5**
KRND				AML	AML	12 44 28.4	
comp=E,2577μm,0.6s							
KRND				AML	AML	12 44 44.7	
comp=N,2013μm,1.0s							
CAME	**Cameli-Denizli**	**3.35**	**53**	Pn	**Pn**	**12 43 33.8**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**3.36**	**27**	Pn	**Pn**	**12 43 33.7**	**+0.8**
VLY	**Voula,Athens**	**3.37**	**329**	P	**Pn**	**12 43 33.2**	**+0.2**
VLY	**Voula,Athens**	**3.37**	**329**	P	**Pn**	**12 43 32.9**	**-0.1**
VLY				AML	AML	12 44 31.6	
comp=E,2700μm,0.6s							
VLY				AML	AML	12 44 35.9	
comp=N,1733μm,0.6s							
CHOS	**Chios island**	**3.42**	**1**	Pn	**Pn**	**12 43 34.5**	**+0.8**
CHOS	**Chios island**	**3.42**	**1**	P	**Pn**	**12 43 33.7**	**0.0**
CHOS	**Chios island**	**3.42**	**1**	P	**Pn**	**12 43 34.3**	**+0.6**
ESEN	**Aydn-Nazilli**	**3.42**	**34**	P	**Pn**	**12 43 36.1**	**+2.5**
URLA	**Izmir**	**3.43**	**8**	P	**Pn**	**12 43 34.1**	**+0.3**
DEMR	**Demre-Antalya**	**3.45**	**67**	Pn	**Pn**	**12 43 35.2**	**+1.1**
DION	**Dionisos Attik**	**3.51**	**333**	P	**Pn**	**12 43 35.6**	**+0.6**
DION	**Dionisos Attik**	**3.51**	**333**	P	**Pn**	**12 43 35.6**	**+0.6**
DION				AML	AML	12 44 28.0	
comp=N,3021μm,0.8s							
DION				AML	AML	12 44 37.7	
comp=E,2931μm,0.8s							
PTL	**Penteli**	**3.51**	**332**	P	**Pn**	**12 43 35.6**	**+0.6**
SLUM	**Salum**	**3.52**	**191**	P	**Pn**	**12 43 35.3**	**+0.3**
baz=187							
NAZL	**Nazilli-Aydin**	**3.53**	**31**	Pn	**Pn**	**12 43 36.3**	**+1.0**
EAG2	**Marmaro, Chios**	**3.58**	**2**	P	**Pn**	**12 43 35.4**	**-0.4**
PSRA	**Psara**	**3.58**	**355**	P	**Pn**	**12 43 35.8**	**-0.1**
ELL	**Elmali**	**3.67**	**60**	Pn	**Pn**	**12 43 38.9**	**+1.7**
ELL	**Elmali**	**3.67**	**60**	Pn	**Pn**	**12 43 38.8**	**+1.7**
ELL	**Elmali**	**3.67**	**60**	P	**Pn**	**12 43 38.8**	**+1.6**
APMY	**Acipayam-Deniz**	**3.68**	**46**	Pn	**Pn**	**12 43 38.7**	**+1.4**
KARB	**zmir-Karabur**	**3.71**	**5**	P	**Pn**	**12 43 38.6**	**+1.0**
ODEM	**Odemis-Izmir**	**3.72**	**27**	Pn	**Pn**	**12 43 38.9**	**+1.1**
KIRA	**zmir-Kiraz**	**3.78**	**31**	P	**Pn**	**12 43 41.2**	**+2.5**
VILL	**Villia**	**3.84**	**327**	P	**Pn**	**12 43 40.1**	**+0.6**
LOUT	**Loutraki**	**3.86**	**322**	P	**Pn**	**12 43 40.5**	**+0.8**
VIL2	**Platees**	**3.90**	**327**	P	**Pn**	**12 43 40.5**	**+0.2**
VIL2				AML	AML	12 44 45.7	
comp=N,1799μm,1.1s							
VIL2				AML	AML	12 44 58.1	
comp=E,2235μm,0.8s							
PYL	**PYLOS**	**3.93**	**301**	P	**Pn**	**12 43 40.7**	**0.0**
ITM	**Ithomi**	**3.95**	**305**	Pn	**Pn**	**12 43 43.1**	**+2.2**
ITM	**Ithomi**	**3.95**	**305**	P	**Pn**	**12 43 41.4**	**+0.5**
ITM				AML	AML	12 45 04.4	
comp=E,982μm,0.8s							
ITM				AML	AML	12 45 07.8	
comp=N,1008μm,1.5s							
KYMI	**Kymi, Euboea I**	**3.96**	**338**	P	**Pn**	**12 43 40.6**	**-0.4**
MANT	**Manisa**	**4.09**	**30**	P	**Pn**	**12 43 45.2**	**+2.1**
ZEDA	**zmir-Bergama**	**4.09**	**12**	P	**Pn**	**12 43 38.4**	**-4.5**
KORT	**Korkueli**	**4.10**	**59**	Pn	**Pn**	**12 43 44.9**	**+1.8**
KULA	**Kula-Manisa**	**4.15**	**31**	Pn	**Pn**	**12 43 45.6**	**+1.8**
KULA	**Kula-Manisa**	**4.15**	**31**	P	**Pn**	**12 43 45.2**	**+1.4**
GUR	**Goura**	**4.16**	**317**	P	**Pn**	**12 43 44.9**	**+1.0**
GUR	**Goura**	**4.16**	**317**	P	**Pn**	**12 43 44.9**	**+1.0**
GUR				AML	AML	12 44 42.6	
comp=N,3102μm,0.9s							
GUR				AML	AML	12 44 50.6	
comp=E,2501μm,0.7s							
DKL	**Dikili**	**4.17**	**10**	P	**Pn**	**12 43 44.0**	**0.0**
SIGR	**SIGRI**	**4.24**	**359**	P	**Pn**	**12 43 44.4**	**-0.5**
SIGR	**SIGRI**	**4.24**	**359**	P	**Pn**	**12 43 44.6**	**-0.3**
KLV	**Kalavryta, Ach**	**4.34**	**316**	P	**Pn**	**12 43 47.4**	**+1.0**
KLV	**Kalavryta, Ach**	**4.34**	**316**	P	**Pn**	**12 43 47.1**	**+0.6**
KLV				AML	AML	12 44 49.0	
comp=E,860μm,0.8s							
KLV				AML	AML	12 44 55.5	
comp=N,972μm,0.8s							
AYVA	**Ayvalik**	**4.38**	**7**	P	**Pb**	**12 43 53.1**	**-4.1**
BASM	**Basmaki-Afyon**	**4.42**	**47**	Pn	**Pn**	**12 43 48.6**	**+1.1**
DB3	**El Dabaa**	**4.48**	**150**	P	**Pn**	**12 43 48.5**	**+0.3**
baz=152							
KOCA	**Canakkale, Ayv**	**4.53**	**2**	P	**Pn**	**12 43 49.3**	**+0.4**
AXAR	**Agios Charalam**	**4.63**	**326**	P	**Pn**	**12 43 51.1**	**+0.8**
AXAR	**Agios Charalam**	**4.63**	**326**	P	**Pn**	**12 43 50.9**	**+0.6**
ISP	**Isparta**	**4.65**	**51**	Pn	**Pn**	**12 43 52.5**	**+1.8**
ISP	**Isparta**	**4.65**	**51**	*ce*P	**Pn**	**12 43 52.2**	**+1.5**
ISP				pmax	pmax		
comp=Z,122nm,0.8s							
ISP	**Isparta**	**4.65**	**51**	P	**Pn**	**12 43 52.8**	**+2.1**
EFP	**Efpalio**	**4.75**	**318**	P	**Pn**	**12 43 53.3**	**+1.4**
EFP	**Efpalio**	**4.75**	**318**	P	**Pn**	**12 43 51.8**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**4.79**	**5**	P	**Pn**	**12 43 52.2**	**-0.3**
BAYC				S	**Sn**	**12 44 46.5**	**-1.6**
NEO	**Neokhori**	**4.86**	**334**	P	**Pn**	**12 43 54.1**	**+0.7**
EZN	**Ezine**	**4.86**	**3**	P	**Pn**	**12 43 53.8**	**+0.3**
BOZC	**Bozcaada**	**4.87**	**1**	P	**Pn**	**12 43 53.5**	**-0.1**
BALY	**Balya**	**4.95**	**15**	P	**Pn**	**12 43 54.7**	**0.0**
LIA	**Limnos Island**	**4.96**	**353**	P	**Pn**	**12 43 55.4**	**+0.5**
AGG	**Agios Georgios**	**4.99**	**325**	Pn	**Pn**	**12 43 57.0**	**+1.9**
AGG	**Agios Georgios**	**4.99**	**325**	P	**Pn**	**12 43 57.7**	**+2.5**
AGG				S	**Sb**	**12 45 03.5**	**-4.1**
AGG	**Agios Georgios**	**4.99**	**325**	P	**Pn**	**12 43 57.1**	**+1.9**
BKES	**Balkesir-Mer**	**5.01**	**18**	P	**Pn**	**12 43 58.9**	**+3.4**
DURS	**Dursunbey**	**5.04**	**23**	P	**Pn**	**12 43 59.4**	**+3.4**
ECEA	**Canakkale, Ece**	**5.07**	**2**	P	**Pn**	**12 43 57.3**	**+1.0**
GOAD	**anakkale-G¶**	**5.19**	**360**	P	**Pn**	**12 43 58.5**	**+0.5**
KNL	**Balıkesir**	**5.44**	**13**	P	Pn	12 44 07.6	+6.2
ERIK	**Erikli-Kesan**	**5.71**	**4**	P	**Pn**	**12 44 06.2**	**+1.1**
LKD2	**Lefkada island**	**5.71**	**313**	P	**Pn**	**12 44 01.7**	**-3.5**
baz=331							
LKD2				S	Sn	12 45 00.4	-10
baz=331							
LKD2				AMP			
comp=E,1.2nm,1.2s,baz=331							
SWA2		**5.72**	**184**	P	**Pn**	**12 44 05.5**	**+0.3**
baz=183							
LIT	**Litokhoron**	**5.82**	**333**	Pn	**Pn**	**12 44 08.8**	**+2.1**
LIT	**Litokhoron**	**5.82**	**333**	P	**Pn**	**12 44 08.8**	**+2.1**
LIT	**Litokhoron**	**5.82**	**333**	P	**Pn**	**12 44 08.8**	**+2.1**
ALN	**Alexandroupoli**	**5.92**	**1**	Pn	**Pn**	**12 44 08.5**	**+0.4**
ALN	**Alexandroupoli**	**5.92**	**1**	P	**Pn**	**12 44 06.5**	**-1.6**
ALN	**Alexandroupoli**	**5.92**	**1**	P	**Pn**	**12 44 08.5**	**+0.4**
CSS	**Mathiatis**	**6.05**	**88**	Pn	**Pn**	**12 44 09.1**	**-0.8**
CSS	**Mathiatis**	**6.05**	**88**	P	**Pn**	**12 44 09.7**	**-0.1**
CSS	**Mathiatis**	**6.05**	**88**	P	**Pn**	**12 44 08.6**	**-1.2**
RDO	**Rodhopi**	**6.18**	**357**	Pn	**Pn**	**12 44 12.0**	**+0.5**
SOH	**Sokhos**	**6.20**	**341**	P	**Pn**	**12 44 16.6**	**+4.7**
IGT	**Igoumenitsa**	**6.40**	**317**	P	**Pn**	**12 44 10.6**	**-4.0**
baz=332							
IGT				S	**Sn**	**12 45 23.5**	**-4.2**
baz=332							
SRS	**Serrai**	**6.42**	**344**	P	**Pn**	**12 44 18.5**	**+3.6**
HMYD	**Mayadein**	**6.58**	**140**	P	**Pn**	**12 44 16.2**	**-0.9**
baz=142							
GRG	**Griva**	**6.61**	**336**	P	**Pn**	**12 44 21.1**	**+3.6**
HNAT	**Natroun**	**6.62**	**142**	P	**Pn**	**12 44 18.3**	**+0.7**
baz=144							
KDZ	**Kurdzhali**	**6.67**	**356**	P	**Pn**	**12 44 23.1**	**+4.7**
LSK	**Leskovik**	**6.70**	**322**	P	**Pn**	**12 44 19.3**	**+0.5**
baz=337							
LSK				S	**Sn**	**12 45 31.2**	**-4.1**
baz=337							
VIZE	**Kirklareli, Vi**	**6.77**	**12**	P	**Pn**	**12 44 22.3**	**+2.6**
RZN	**Rozhen**	**6.79**	**352**	P	**Pn**	**12 44 24.3**	**+4.2**
MMB	**Musomishta**	**6.80**	**346**	P	**Pn**	**12 44 24.2**	**+4.1**
SRN	**Sarande**	**6.82**	**318**	P	**Pn**	**12 44 21.0**	**+0.6**
baz=332							
SRN				S	**Sn**	**12 45 34.4**	**-3.8**
baz=332							
FNA	**Florina**	**6.85**	**329**	P	**Pn**	**12 44 22.6**	**+1.8**
baz=344							
FNA				S	**Sn**	**12 45 41.8**	**+2.9**
baz=344							
FNA	**Florina**	**6.85**	**329**		**Pn**	**12 44 22.7**	**+1.8**
FNA	**Florina**	**6.85**	**329**	P	**Pn**	**12 44 24.7**	**+3.9**
FNA				S	**Sn**	**12 45 41.7**	**+2.9**
VAY	**Valandovo**	**6.89**	**338**	*i* P	**Pn**	**12 44 25.0**	**+3.7**
KBN	**Korca**	**6.98**	**326**	P	**Pn**	**12 44 25.9**	**+3.3**
baz=340							
KBN				S	**Sn**	**12 45 43.2**	**+1.2**
baz=340							
ARMN	**Kirklareli, Me**	**6.99**	**9**	P	**Pn**	**12 44 22.8**	**+0.2**
KOT	**Kottamia**	**7.05**	**134**	P	**Pn**	**12 44 23.8**	**+0.1**
baz=136							
KOT				S	**Sn**	**12 45 45.0**	**+1.0**
baz=136							
KKB	**Krupnik**	**7.22**	**343**	P	**Pn**	**12 44 30.6**	**+4.7**
BR231	**Keskin MP Arra**	**7.29**	**46**		**Pn**	**12 44 27.3**	**+0.4**
ANTO	**Ankara**	**7.31**	**46**	⇓P	**Pn**	**12 44 29.4**	**+2.2**
ANTO	**Ankara**	**7.31**	**46**	Pn	**Pn**	**12 44 28.2**	**+1.1**
ANTO	**Ankara**	**7.31**	**46**	P	**Pn**	**12 44 28.3**	**+1.1**
OHR	**Ohrid**	**7.37**	**328**	*i* P	**Pn**	**12 44 32.4**	**+4.5**
VLO	**Vlora**	**7.51**	**319**	P	**Pn**	**12 44 28.5**	**-1.3**
baz=332							
VLO				S	**Sn**	**12 45 49.3**	**-5.8**
baz=332							
VLO	**Vlora**	**7.51**	**319**	Pn	**Pn**	**12 44 30.3**	**+0.5**
VLO	**Vlora**	**7.51**	**319**	P	**Pn**	**12 44 30.3**	**+0.5**
SUZ	**Suez**	**7.73**	**129**	P	**Pn**	**12 44 32.7**	**-0.2**
baz=132							
BRTR	**Keskin Array B**	**7.74**	**50**		**Pn**	**12 44 34.9**	**+1.8**
BRTR	**Keskin Array B**	**7.74**	**50**	Pn	**Pn**	**12 44 35.0**	**+1.8**
comp=E,1.7nm,0.3s,baz=222,slow=15,SNR=76							
BRTR				Sn	**Sn**	**12 46 02.5**	**+1.6**
comp=E,0.6nm,0.3s,baz=220,slow=25,SNR=1.5							
BRTR				LR	LR	12 48 18.4	
comp=E,3μm,18.3s,baz=240,slow=44							
comp=E,14nm,0.6s							
BRTR	**Keskin Array B**	**7.74**	**50**	*i* P	**Pn**	**12 44 35.0**	**+1.8**
BRTR				pmax	pmax		
comp=Z,15nm,0.6s							
BR131	**Keskin Array S**	**7.74**	**50**		**Pn**	**12 44 33.7**	**+0.5**
BR131	**Keskin Array S**	**7.74**	**50**	*i* P	**Pn**	**12 44 34.8**	**+1.6**
SCTE	**Santa Cesarea**	**7.84**	**313**	Pn	**Pn**	**12 44 34.8**	**+0.5**
SKO	**Skopje**	**7.84**	**334**	*i* P	**Pn**	**12 44 38.1**	**+3.6**
OFRI	**`Ofer**	**7.87**	**105**	P	**Pn**	**12 44 33.0**	**-1.8**
OFRI	**`Ofer**	**7.87**	**105**	S	**Sn**	**12 46 00.2**	**-3.7**
HNTI	**Hanita**	**7.87**	**101**	P	**Pn**	**12 44 33.5**	**-1.4**
HNTI	**Hanita**	**7.87**	**101**	S	**S

EIL Sn Sn 12 46 29.6 -8.4
comp=Z,7.8nm,0.3s,baz=317,slow=24,SNR=6.7
comp=Z,47nm,0.8s
EIL Elat 9.26 122 P Pn 12 44 52.9 -0.9
EIL Elat 9.26 122 S Sn 12 46 32.3 -5.7
EIL Elat 9.26 122 P Pn 12 44 52.2 -1.6
MATE Matera 9.26 311 ⇑P Pn 12 44 54.2 +0.3
BOVS Bovan 9.27 340 ⇓P Pn 12 44 54.7 +0.8
AQBJ Aqaba 9.29 122 P Pn 12 44 54.2 -0.1
GAZ Gaziantep 9.37 73 Pn Pn 12 44 55.8 +0.4
WDD Wied Dalam 9.38 279 Pn Pn 12 44 56.1 +0.7
BZK Bozkurt 9.41 40 Pn Pn 12 44 53.7 -2.1
HSNJ Maan 9.45 117 P Pn 12 44 59.3 +2.7
CUC Castrocucco 9.50 305 Pn 12 44 57.3 +0.1
ASF Jabal al Asfar 9.54 104 Pn Pn 12 44 56.5 -1.3
comp=Z,2.3nm,0.3s,baz=239,slow=0.1,SNR=13
comp=Z,6.9nm,0.4s
ASF Jabal al Asfar 9.54 104 P Pn 12 44 59.7 +1.9
VAE Valguarnera 9.66 288 Pn Pn 12 45 02.0 +2.5
comp=Z,20nm,0.6s,baz=179,slow=13,SNR=3.8
VAE LR LR 12 49 32.6
comp=Z,2μm,18.8s,baz=88,slow=43
HDK1 Dakhla 9.85 162 P Pn 12 45 01.9 -0.1
baz=161
TPGR Topolog 10.06 10 ⇑P Pn 12 45 05.3 +0.5
STON Ston 10.18 323 *e*Pn Pn 12 45 06.3 -0.1
HERR Herculane 10.27 346 ⇓P Pn 12 45 08.2 +0.6
MDVR Moldovita 10.33 343 ⇓P Pn 12 45 09.9 +1.3
VOIR 10.48 356 ⇑P Pn 12 45 12.2 +1.5
VOIR 10.48 356 P Pn 12 45 12.2 +1.5
VOIR 10.48 356 P Pn 12 45 14.4 +3.7
comp=Z,23nm,1.1s,comp=Z,326nm
SGRT San Giovanni R 10.50 313 Pn 12 45 09.3 -1.6
MLR Muntele Rosu 10.52 360 ⇑P Pn 12 45 12.3 +1.1
MLR Muntele Rosu 10.52 360 Pn Pn 12 45 09.9 -1.3
MLR Muntele Rosu 10.52 360 Pn Pn 12 45 11.8 +0.7
comp=Z,0.1nm,0.3s,baz=160,slow=12,SNR=2.8
comp=Z,3.6nm,0.7s
MLR Muntele Rosu 10.52 360 P Pn 12 45 12.2 +1.1
MLR Muntele Rosu 10.52 360 P Pn 12 45 15.1 +4.0
comp=Z,45nm,1.2s,comp=Z,721nm
CLTB Caltabellotta 10.62 288 Pn 12 45 11.8 -0.7
GZR Gura Zlata 10.70 348 ⇓P Pn 12 45 14.7 +1.1
GZR Gura Zlata 10.70 348 P Pn 12 45 14.6 +1.1
SPBR Spulber 10.79 3 ⇑P Pn 12 45 16.4 +1.6
PAOL Paolisi 10.84 307 Pn 12 45 14.9 -0.6
PLOR Plostina 10.89 3 ⇓P Pn 12 45 16.7 +0.5
PLOR Plostina 10.89 3 P Pn 12 45 16.6 +0.5
VRI Vrincioaia 10.90 3 ⇓P Pn 12 45 17.4 +1.0
VRI Vrincioaia 10.90 3 P Pn 12 45 17.4 +1.0
RICI Ricice 10.92 324 *e*Pn Pn 12 45 16.0 -0.7
RICI Sn Sn 12 47 14.2 -4.7
BZS Buzias 11.14 344 ⇑P Pn 12 45 20.9 +1.2
BZS Buzias 11.14 344 P Pn 12 45 20.8 +1.2
SURR Surduc 11.17 346 ⇑P Pn 12 45 20.6 +0.7
FRGS Fruska Gora 11.21 337 P Pn 12 45 24.3 +3.7
comp=Z,25nm,1.7s,comp=Z,369nm
SIM Simferopol' 11.76 30 *e*P Pn 12 45 29.9 +1.8
SIM *e*S Sn 12 47 44.0 +4.5
SIM *e*S Sn 12 47 44.0 +4.5
SIM pmax pmax
comp=Z,11nm,0.4s
SIM smax smax
comp=E,18nm,0.7s
SIM smax smax
comp=N,45nm,1.1s
INTR Introdacqua 11.77 310 Pn 12 45 28.4 0.0
ZIRJ Zirje 11.79 320 *e*Pn Pn 12 45 26.1 -2.3
MORI Morici 11.90 321 *e*Pn Pn 12 45 26.3 -3.7
MORI Sn Sn 12 47 35.2 -7.6
MILM Milestii Mici 12.13 9 *e*P Pn 12 45 36.0 +2.9
MILM *e*S Sn 12 47 49.0 +0.5
MILM *e*Li 12 48 37.0
MILM *e*Lq LQ 12 49 32.0
comp=N,5μm,16.5s
MILM LRM MLR 12 51 24.0
comp=N,1μm,9.2s
MILM Milestii Mici 12.13 9 *e*P Pn 12 45 36.0 +2.9
MILM *e*S Sn 12 47 49.0 +0.5
MILM MLR MLR
comp=Z,1μm,9.2s
DUGI Dugi Otok 12.33 320 *e*Pn Pn 12 45 33.1 -2.7
CAMP Campotosto 12.37 311 Pn 12 45 35.8 -0.7
MORH Mrgy, Hungar 12.53 336 ⇓P Pn 12 45 39.7 +1.1
MORH Mrgy, Hungar 12.53 336 P Pn 12 45 43.5 +4.9
comp=Z,11nm,0.9s
VIRC Vir 12.54 321 *e*Pn Pn 12 45 36.8 -1.9
BURAR Bucovina Array 12.65 358 Pn Pn 12 45 39.1 -1.2
BUR08 Bucovina Ar. S 12.68 358 Pn Pn 12 45 39.1 -1.6
NRCA Norcia 12.71 312 Pn 12 45 40.6 -0.6
CESX Cesi 12.92 310 Pn Pn 12 45 43.1 -0.8
TATN Tataouine 13.06 264 Pn 12 45 47.2 +1.3
ANN Anapa 13.18 38 *e*P Pn 12 45 49.7 +2.3
ANN *e*S Sn 12 48 18.5 +4.5
ANN pmax pmax
comp=Z,25nm,0.8s
ANN MLR MLR
comp=Z,677nm,15.0s
PTJ Puntijarka 13.31 328 P Pn 12 45 53.5 +4.2
KEST Kesra 13.59 278 Pn 12 45 53.1 -0.1
KEST Kesra 13.59 278 Pn Pn 12 45 54.9 +1.8
comp=Z,0.1nm,0.3s,baz=171,slow=7.8,SNR=4.9
KEST LR LR 12 52 06.4
comp=Z,756nm,20.9s,baz=22,slow=42
comp=Z,4.2nm,0.7s
KMPD K-Podol'skiy 13.59 1 P Pn 12 45 56.6 +3.6
SOC Sochi 13.68 47 *e*P Pn 12 45 54.3 0.0
SOC *e* 12 48 27.2
SOC MLR MLR
comp=Z,482nm,16.0s
PSZ Piszkesteto 13.71 343 Pn Pn 12 45 57.0 +2.2
PSZ Piszkesteto 13.71 343 P Pn 12 45 57.0 +2.2
MPLH Magyarpolny 13.74 335 P P 12 46 00.0 -3.8
comp=Z,55nm,1.1s,comp=Z,757nm
CASP Castiglione de 14.11 308 Pn Pn 12 46 00.8 +0.7
KOLS Kolonicke sedl 14.22 350 *e*PN P 12 46 13.1 +3.9
SOKA Soboth 14.31 328 *i* Pn Pn 12 46 05.8 +2.8
comp=Z,7.6nm,0.6s
CRVS Cervenica-Dubn 14.32 348 *e*PN P 12 46 14.1 +3.9
OBKA Obir 14.40 327 *e*Pn Pn 12 46 05.4 +1.2
comp=Z,9.8nm,1.2s
SABO M.te Sabotino 14.46 323 Pn 12 46 04.6 -0.4
VYHS Vyhne 14.52 341 *e*P P 12 46 12.7 +0.3
VYHS Vyhne 14.52 341 *e*PN P 12 46 12.7 +0.3
ARSA Arzberg 14.56 331 *e*Pn Pn 12 46 09.3 +3.0
comp=Z,3.2nm,0.6s
RONA Rosalia, Austr 14.63 333 *e*Pn Pn 12 46 09.5 +2.2
comp=Z,16nm,1.3s
PRED Cave del Predi 14.81 324 Pn 12 46 08.9 -0.9
ZCCA Zocca 14.85 314 Pn Pn 12 46 08.9 -1.4
MODS Modra-Piesok 14.87 337 *e*PN P 12 46 25.9 +10
LABN Labinsk 14.88 45 *e*P Pn 12 46 11.9 +1.2
LABN *e*S Sn 12 48 55.2 -0.4
LABN pmax pmax
comp=Z,28nm,0.4s
LABN MLR MLR
comp=Z,549nm,16.0s
MYKA Terra Mystica 14.91 325 *e*Pn P 12 46 17.9 +1.1
comp=Z,5.9nm,0.8s
LVV L'vov 14.91 355 *e*P P 12 46 20.6 +3.8
LVV MLR MLR
comp=E,2μm,12.0s
LVV MLR MLR
comp=N,1μm,13.0s
LVV MLR MLR
comp=Z,2μm,12.0s
CONA Conrad Observa 14.99 333 *i* Pn Pn 12 46 14.6 +2.4
comp=Z,6.2nm,0.9s
NIE Niedzica 15.03 346 *e*P P 12 46 17.9 -0.3
NIE Niedzica 15.03 346 P P 12 46 17.0 -1.2
comp=Z,4.7nm,1.0s,comp=Z,188nm
STAL STALIGIAL 15.10 322 Pn 12 46 13.1 -0.5
KBA Koelnbreinsper 15.37 326 *e*Pn P 12 46 21.6 -0.6
comp=Z,3.7nm,0.5s
KBA Koelnbreinsper 15.37 326 P P 12 46 21.5 -0.6
ERBR Yeremizino-Bor 15.40 41 *e*P Pn 12 46 17.2 -0.3
ERBR *e*S Sn 12 49 10.4 +2.3
ERBR pmax pmax
comp=Z,43nm,0.7s
CTI Castel Tesino 15.50 320 Pn Pn 12 46 18.7 -0.3
CTI Castel Tesino 15.50 320 P Pn 12 46 18.7 -0.3
CTI pmax pmax
comp=Z,13nm,0.7s
MI29 MI29, Kamyanyy 15.51 5 P P 12 46 22.1 -1.3

ABTA Abfaltersbach 15.53 323 *i* Pn P 12 46 24.5 +0.7
comp=Z,7.3nm,0.6s
MOA Molln 15.55 329 *e*Pn P 12 46 24.7 +0.7
comp=Z,2.2nm,0.5s
ONI Oni 15.60 56 Pn Pn 12 46 20.5 +0.2
ONI IAmb IAmb 12 46 54.5
comp=Z,31nm,0.9s
ONI Oni 15.60 56 P Pn 12 46 20.5 +0.2
ONI pmax pmax
comp=Z,31nm,0.9s
BIOA Bad Ischl, Aus 15.70 328 *i* Pn P 12 46 24.2 -1.4
comp=Z,2.9nm,0.5s
KIV Kislovodsk 15.71 50 Pn Pn 12 46 22.0 +0.4
KIV IAmb IAmb 12 46 53.7
comp=Z,47nm,0.9s
KIV Kislovodsk 15.71 50 *e*P P 12 46 27.2 +1.5
KIV *e*S Sn 12 49 23.4 +7.6
KIV pmax pmax
comp=Z,31nm,1.0s
KIV MLR MLR
comp=Z,362nm,13.0s
KIV Kislovodsk 15.71 50 P P 12 46 24.9 -0.8
comp=Z,50nm,1.1s,comp=Z,368nm
KVAR Kislovodsk Arr 15.71 50 LR LR 12 54 30.7
comp=Z,794nm,21.1s,slow=46
MSSA Maissana 15.71 311 Pn Pn 12 46 23.0 +1.2
KBZ Khabaz 15.73 51 Pn P 12 46 27.6 +1.7
comp=Z,0.6nm,0.3s,baz=248,slow=7.8,SNR=25
KBZ Khabaz 15.73 51 *i* P P 12 46 27.5 +1.7
KBZ pmax pmax
comp=Z,38nm,0.9s
AK07 Malin Array Si 15.76 8 P P 12 46 25.3 -0.8
GNI Garni 15.76 65 LR LR 12 53 49.0
comp=Z,2μm,19.6s,baz=274,slow=43
KRUC Moravsky 15.76 336 *e*P P 12 46 25.0 -1.2
KRUC Moravsky 15.76 336 P P 12 46 25.2 -1.0
AK13 Malin Array Si 15.80 7 P P 12 46 25.9 -0.7
AK10 Malin Array Si 15.81 8 P P 12 46 26.0 -0.7
AK05 Malin Array Si 15.82 8 P P 12 46 26.2 -0.7
AK14 Malin Array Si 15.82 7 P P 12 46 26.2 -0.7
AK09 Malin Array Si 15.83 8 P P 12 46 26.3 -0.6
AK12 Malin Array Si 15.84 7 P P 12 46 26.4 -0.7
AK08 Malin Array Si 15.84 8 P P 12 46 26.5 -0.6
AK02 Malin Array Si 15.86 8 P P 12 46 26.7 -0.6
AK11 Malin Array Si 15.88 7 P P 12 46 26.9 -0.6
AK15 Malin Array Si 15.89 7 P P 12 46 26.1 -1.5
AK01 Malin Array Si 15.90 8 P P 12 46 27.9 +0.2
KIEV Kiev 15.90 8 Pn Pn 12 46 24.5 +0.5
KIEV Kiev 15.90 8 P Pn 12 46 24.5 +0.5
KIEV pmax pmax
comp=Z,28nm,0.9s
KIEV Kiev 15.90 8 P P 12 46 28.1 +0.4
comp=Z,134nm,0.9s
OJC Ojcow 15.90 345 *e*P P 12 46 29.7 +2.0
OJC Ojcow 15.90 345 Pn Pn 12 46 24.6 +0.6
OJC Ojcow 15.90 345 P Pn 12 46 24.6 +0.6
OJC pmax pmax
comp=Z,10.0nm,1.0s
AK19 Malin Array Si 15.90 7 P P 12 46 28.1 +0.3
AKASG Malin Array Be 15.91 8 Pn Pn 12 46 23.5 -0.6
AKASG Malin Array Be 15.91 8 Pn P 12 46 26.6 -1.2
comp=Z,4.8nm,0.3s,baz=198,slow=11,SNR=22
AKASG LR LR 12 52 27.1
comp=Z,1μm,20.4s,baz=186,slow=37
AKASG Malin Array Be 15.91 8 P Pn 12 46 23.5 -0.6
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKBB Malin Array Si 15.91 8 Pn Pn 12 46 24.6 +0.5
AKBB Malin Array Si 15.91 8 P Pn 12 46 24.6 +0.5
AKBB pmax pmax
comp=Z,34nm,1.0s
AKBB Malin Array Si 15.91 8 P P 12 46 28.1 +0.3
VRAC Vranov 15.91 337 *e*P Pn 12 46 25.9 +1.7
VRAC Vranov 15.91 337 Pn Pn 12 46 25.3 +1.1
comp=Z,1.0nm,0.3s,baz=148,slow=9.4,SNR=8.9
VRAC LR LR 12 53 42.6
comp=Z,494nm,18.9s,baz=158,slow=42
comp=Z,4.4nm,0.5s
AK18 Malin Array Si 15.91 7 P P 12 46 27.1 -0.7
AK04 Malin Array Si 15.92 7 P P 12 46 27.2 -0.7
AK20 Malin Array Si 15.93 7 P P 12 46 27.2 -0.8
OKC Ostrava-Krasne 15.93 341 AMS AMS 12 55 50.0
comp=Z,800nm,11.7s
LESA Schwarzleotal 15.94 325 *e*Pn P 12 46 28.4 +0.1
comp=Z,5.0nm,0.5s
AK22 Malin Array Si 15.95 7 P P 12 46 28.4 +0.1
AK23 Malin Array Si 15.96 7 P P 12 46 28.5 +0.2
AK21 Malin Array Si 15.96 7 P P 12 46 28.6 +0.2
MI28 Mi28,Pidlybu 16.01 4 P P 12 46 28.4 -0.5
MORC Moravsky Berou 16.04 340 ⇓P Pn 12 46 27.5 +1.6
MORC Moravsky Berou 16.04 340 Pn 12 46 25.8 -0.1
MORC Moravsky Berou 16.04 340 *e*P P 12 46 27.9 -1.5
MORC Moravsky Berou 16.04 340 P Pn 12 46 25.8 -0.1
MORC pmax pmax
comp=Z,12nm,1.1s
NCK Nalchik 16.08 53 *i* P P 12 46 28.5 -1.3
NAX Nakhchivan 16.14 69 P P 12 46 31.0 +0.4
RNPP5 Staryi Chortor 16.26 360 P P 12 46 30.3 -1.4
TREC Trest 16.27 335 AMS AMS 12 54 00.0
comp=Z,900nm,10.5s
CKRC Cesky Krumlov 16.31 332 AMS AMS 12 54 20.0
comp=Z,1μm,12.9s
WTTA Wattenberg 16.32 323 *i* Pn P 12 46 31.9 -0.8
comp=Z,25nm,1.6s
RNPP8 Varash 16.36 360 P P 12 46 32.9 0.0
WATA Walderalm 16.40 323 *i* Pn P 12 46 33.1 -0.4
comp=Z,5.5nm,0.5s
RNPP9 Sopachiv 16.44 360 P P 12 46 35.7 +2.0
GOF Gofitskoye 16.49 47 *ce*P P 12 46 37.8 +3.5
SQTA Sankt Quirin 16.51 322 *i* Pn P 12 46 35.5 +0.9
comp=Z,7.7nm,0.6s
KRLC Kraliky 16.53 339 *e*P P 12 46 34.8 0.0
KRLC AMS AMS 12 54 40.0
comp=Z,800nm,11.3s
KRLC Kraliky 16.53 339 *e*P P 12 46 34.8 0.0
KRLC MLR MLR
comp=Z,800nm,11.3s
GEC2 GERESS Array S 16.57 331 Pn 12 46 31.9 -0.9
GERES GERESS Array B 16.57 331 Pn Pn 12 46 33.3 +0.5
comp=Z,0.6nm,0.3s,baz=139,slow=12,SNR=12
GERES LR LR 12 54 35.9
comp=Z,769nm,19.5s,baz=145,slow=43
comp=Z,3.2nm,0.6s
FUORN Ofenpass-Fuorn 16.61 319 Pn 12 46 32.1 -1.2
FETA Feichten 16.62 321 *i* Pn P 12 46 37.1 +1.2
comp=Z,11nm,0.8s
KHC Kasperske Hory 16.85 331 Pn 12 46 34.8 -1.4
KHC Kasperske Hory 16.85 331 *e*P Pn 12 46 37.0 +0.8
KHC AMS AMS 12 54 40.0
comp=Z,1μm,11.6s
KHC Kasperske Hory 16.85 331 P Pn 12 46 34.8 -1.4
KHC pmax pmax
comp=Z,29nm,1.5s
KHC Kasperske Hory 16.85 331 P P 12 46 38.8 +0.5
comp=Z,9.5nm,1.1s
ZVC Zvikov 16.86 333 AMS AMS 12 54 40.0
comp=Z,1μm,14.4s
DPC Dobruska-Polom 16.91 338 *e*P P 12 46 38.5 -0.5
DPC AMS AMS 12 54 30.0
comp=Z,900nm,11.7s
DPC Dobruska-Polom 16.91 338 *e*P P 12 46 38.5 -0.5
DPC MLR MLR
comp=Z,900nm,11.7s
RETA Reutte 16.91 322 *i* Pn P 12 46 40.0 +0.9
comp=Z,6.2nm,1.1s
DAVOX Davos/Dischmat 16.91 319 Pn P 12 46 39.1 -0.1
comp=Z,0.6nm,0.3s,baz=113,slow=8.4,SNR=5.5
TUE Stuetta 17.01 318 Pn 12 46 36.4 -2.1
GOPC GO Pecny, Ondr 17.04 335 *e*P P 12 46 40.9 +0.6
GOPC AMS AMS 12 54 50.0
comp=Z,900nm,11.5s
GOPC GO Pecny, Ondr 17.04 335 *e*P P 12 46 40.9 +0.6
GOPC MLR MLR
comp=Z,900nm,11.5s
GANJ Ganja 17.05 65 P P 12 46 42.5 +1.9
OSTC Ostas 17.12 338 AMS AMS 12 55 30.0
comp=Z,1μm,9.9s
UPC Upice 17.14 338 AMS AMS 12 54 40.0
comp=Z,900nm,15.0s
WET Wettzell 17.14 330 P P 12 46 41.8 +0.2
PRU Pruhonice 17.18 334 AMS AMS 12 55 00.0
comp=Z,1μm,12.4s
CHVC Chvalec 17.20 338 *e*P P 12 46 42.3 +0.1
CHVC AMS AMS 12 55 50.0
comp=Z,700nm,10.2s

CHVC Chvalec 17.20 338 *e*P P 12 46 42.3 +0.1
CHVC MLR MLR
comp=Z,700nm,10.2s
DAVA Damuels 17.23 320 *e*Pn P 12 46 44.6 +1.9
comp=Z,4.8nm,0.7s
KSP Ksiaz 17.35 339 *e*P Pn 12 46 41.2 -1.2
GROC Groznyy 17.43 56 *e*P P 12 46 45.7 +1.0
GROC *e*S Sn 12 50 00.8 +3.3
GROC pmax pmax
comp=Z,2.0nm,0.6s
SEKA Sheki 17.82 63 P P 12 46 52.9 +3.7
BNI Bardonecchia 17.84 310 Pn 12 46 47.4 -1.3
BNI Bardonecchia 17.84 310 P Pn 12 46 47.4 -1.3
BNI pmax pmax
comp=Z,13nm,1.1s
LPG La Plagne 18.01 312 P P 12 46 54.2 +2.8
LPL La Plagne 18.03 312 P P 12 46 52.7 +1.1
HSKC Hora Svate Kat 18.10 334 AMS AMS 12 55 30.0
comp=Z,2μm,12.6s
SENIN Lac Senin/Sane 18.12 315 P P 12 46 52.5 -0.1
BRG Berggiesshubel 18.14 335 *e*P P 12 46 52.5 0.0
BRG Amp 12 46 55.9
comp=Z,5.3nm,0.7s
BRG Berggiesshubel 18.14 335 *e*P P 12 46 52.4 0.0
BRG pmax pmax
comp=Z,5.0nm,0.7s
BRG MLR MLR
comp=N,1μm,12.2s
BRG MLR MLR
comp=E,370nm,14.3s
BRG MLR MLR
comp=Z,1μm,10.2s
GRA1 Grafenberg Arr 18.26 328 P 12 46 54.7 +0.8
GRF Grafenberg Arr 18.26 328 P P 12 46 54.7 +0.8
GRF pmax pmax
comp=Z,30nm,1.0s
GRFO Grafenberg 18.26 328 P 12 46 54.8 +0.9
GRFO Grafenberg 18.26 328 P P 12 46 54.8 +0.9
GRFO pmax pmax
comp=Z,27nm,1.0s
SLE Schleitheim 18.26 320 P P 12 46 54.7 +0.8
MAK Makhachkala 18.52 58 *e*P P 12 46 53.9 -2.9
MAK *e*S Sn 12 50 21.7 -2.2
MAK pmax pmax
comp=Z,254nm,1.4s
MAK MLR MLR
comp=Z,677nm,17.0s
VORD Divnogorie 18.68 27 *e*P Pn 12 47 02.9 +4.1
VORD pmax pmax
comp=Z,10.0nm,0.8s
BFO Black Forest 18.70 321 P Pn 12 46 59.4 +0.3
BFO Black Forest 18.70 321 P Pn 12 46 59.4 +0.3
BFO pmax pmax
comp=Z,10.0nm,0.9s
MOX Moxa 18.82 331 P Pn 12 47 00.8 +0.2
CLL Collm 18.83 334 P P 12 46 59.9 -0.1
CLL Collm 18.83 334 *i* P P 12 47 00.2 +0.1
CLL *e*(pP) pP 12 47 03.0 +0.1
CLL *i* x x 12 47 10.6
CLL *e*x x 12 47 16.0
CLL *e*PPP PPP 12 47 21.0
CLL *e*S Sn 12 50 27.0 -4.2
CLL AMS AMS 12 56 00.0
comp=N,1μm,18.5s
CLL AMS AMS 12 56 00.0
comp=E,800nm,18.1s
CLL AMS AMS 12 56 00.0
CLL Collm 18.83 334 P P 12 46 59.9 -0.1
CLL pmax pmax
comp=Z,11nm,0.8s
VSR Storozhevoye 18.84 26 *e*P Pn 12 47 03.8 +3.1
VSR pmax pmax
comp=Z,30nm,1.3s
SUW Suwalki 19.15 355 *e*P P 12 47 02.1 -1.4
SUW Suwalki 19.15 355 P P 12 47 02.3 -1.2
SUW Suwalki 19.15 355 *e*P Pn 12 47 04.1 -0.2
SUW Suwalki 19.15 355 P P 12 47 02.3 -1.2
SUW pmax pmax
comp=Z,90nm,1.0s
VORR Voronezh 19.23 26 P Pn 12 47 08.7 +3.3
VORR pmax pmax
comp=Z,73nm,2.4s
ECH Echery 19.25 319 P Pn 12 47 05.3 -0.4
ECH Echery 19.25 319 P Pn 12 47 05.3 -0.4
ECH pmax pmax
comp=Z,13nm,1.0s
SSB Saint Sauveur 19.30 309 P P 12 47 03.8 -1.5
SSB Saint Sauveur 19.30 309 P P 12 47 03.8 -1.5
SSB pmax pmax
comp=Z,11nm,0.8s
MNK Minsk 19.58 3 *i* P P 12 47 08.2 -0.1
comp=E,4.0nm,0.7s,baz=185
MNK *i* P P 12 47 08.2 -0.1
comp=N,39nm,1.2s,baz=185
MNK *i* P P 12 47 08.2 -0.1
comp=Z,10.0nm,0.7s,baz=185
MNK *i* PP PnPn 12 47 23.1 +0.1
baz=185
MNK *i* PPP PPP 12 47 30.9
baz=185
MNK *i* S Sn 12 50 50.0 +0.7
baz=185
MNK *i* SS SnSn 12 51 06.6 +3.0
baz=185
MNK *i* SSS SSS 12 51 19.5
baz=185
MNK *i* LQ LQ 12 52 55.6
baz=185
MNK *i* LR LR 12 53 58.8
baz=185
MNK *i* LRM MLR 12 55 08.3
comp=E,271nm,12.5s,baz=185
MNK *i* LRM MLR 12 55 09.1
comp=N,451nm,14.2s,baz=185
MNK *i* LRM MLR 12 55 14.5
comp=Z,390nm,15.2s,baz=185
MNK Minsk 19.58 3 *i* P P 12 47 08.2 -0.1
MNK *i* S Sn 12 50 50.0 +0.7
MNK pmax pmax
comp=Z,10.0nm,0.7s
MNK pmax pmax
comp=E,4.0nm,0.7s
MNK pmax pmax
comp=N,39nm,1.2s
MNK MLR MLR
comp=E,271nm,13.0s
MNK MLR MLR
comp=N,451nm,14.0s
MNK MLR MLR
comp=Z,390nm,15.0s
VRH Novokhopyorsk 19.83 30 *e*P Pn 12 47 12.9 +0.4
VRH pmax pmax
comp=Z,20nm,0.6s
LPSR Galich'ya Gora 19.91 24 *e*P Pn 12 47 16.3 +2.8
LPSR pmax pmax
comp=Z,20nm,0.7s
NACGM Naroch 19.95 1 *e*P P 12 47 12.9 +0.6
comp=Z,22nm,1.2s,baz=182
RAYN Ar Rayn 20.47 119 P P 12 47 17.4 -0.9
RAYN Ar Rayn 20.47 119 P P 12 47 17.4 -0.9
RAYN pmax pmax
comp=Z,23nm,1.1s
PABE Paberze 20.59 357 P P 12 47 18.5 -0.7
PABE IAmb IAmb 12 47 29.3
comp=Z,32nm,0.6s
PABE Paberze 20.59 357 *e*P P 12 47 18.6 -0.7
WLF Walferdange 20.66 321 P P 12 47 19.3 -0.7
WLF Walferdange 20.66 321 *d*P P 12 47 19.9 -0.2
WLF Walferdange 20.66 321 P P 12 47 19.3 -0.7
WLF pmax pmax
comp=Z,19nm,0.9s
CEST Esterri de Car 20.67 299 P P 12 47 19.6 -0.8
CEST IAmb IAmb 12 47 39.1
comp=Z,45nm,1.2s
SSF Saint Saulge 20.73 312 P P 12 47 20.5 -0.4
BTNL Ternell 21.25 323 *d*P P 12 47 28.6 +2.2
MEM Membach 21.32 323 *d*P P 12 47 28.8 +1.6
MEM Membach 21.32 323 P P 12 47 29.8 +2.6
RCHB Rochefort 21.43 321 *d*P P 12 47 29.1 +0.8
OBN Obninsk 21.45 17 LR LR 12 55 36.1
comp=Z,389nm,20.5s,baz=196,slow=36
OBN Obninsk 21.45 17 ⇑*e*P P 12 47 30.6 +2.1
OBN *e* 12 47 51.4
OBN *e*S Sn 12 51 30.8 -3.4
OBN *e*SS SnSn 12 51 57.4 +8.1

OBN pmax pmax
comp=Z,28nm,1.1s
OBN MLR MLR
comp=Z,332nm,14.0s
BSTI Sart Tilman 21.52 323 *dP* **P 12 47 31.4 +2.1**
BCLA Clavier 21.55 322 *dP* **P 12 47 31.3 +1.7**
BCLA *dPP* **PnPn 12 47 49.5 -0.5**
TAM Tamanrasset 21.57 241 P **P 12 47 31.0 +0.7**
TAM IAmb IAmb 12 47 46.7
comp=Z,24nm,1.1s
TAM Tamanrasset 21.57 241 P **P 12 47 31.0 +0.7**
TAM pmax pmax
comp=Z,24nm,1.1s
BGES Gesves 21.64 322 *dP* **P 12 47 30.8 +0.2**
DOU Dourbes 21.72 321 *dP* **P 12 47 30.9 -0.5**
DOU *dPP* **PnPn 12 47 52.5 +0.2**
BMRD Maredsous 21.75 321 *dP* **P 12 47 32.8 +1.0**
BMRD *dPP* **PnPn 12 47 52.5 -0.2**
CLF Chambon-Foret 21.93 314 P **P 12 47 34.5 +0.8**
CLF IAmb IAmb 12 47 39.4
comp=Z,46nm,1.0s
MOS Moscow 22.27 18 *eP* **P 12 47 37.2 -0.1**
MOS *e* 12 48 09.4
MOS *eS* **S 12 51 37.0 -5.2**
BELG Belogornoye 23.28 35 P **P 12 47 48.0 +0.1**
comp=Z,14nm,0.5s,baz=315,slow=1.0,SNR=5.4
BELG LR LR 12 58 08.9
comp=Z,468nm,18.8s,baz=242,slow=40
comp=Z,14nm,0.5s
BELG Belogornoye 23.28 35 *i P* **P 12 47 49.9 +2.0**
BELG pmax pmax
comp=Z,16nm,1.3s
VSU Vasula 23.51 1 *i P* **P 12 47 49.1 -1.1**
VSU pmax pmax
comp=Z,17nm,0.8s
MTSE Matsula 23.80 357 *eP* **P 12 47 53.1 +0.2**
ESDC Sonseca Array 24.20 290 P **P 12 47 57.0 -0.1**
comp=Z,5.1nm,0.8s,baz=80,slow=9.2,SNR=22
ESDC LR LR 12 57 18.7
comp=Z,349nm,21.8s,baz=82,slow=36
comp=Z,5.1nm,0.8s
MEF Metsahovi 25.29 358 *eP* **P 12 48 08.3 +1.7**
AAL Aland 25.53 353 *eP* **P 12 48 09.2 +0.5**
RAF Rauma 26.22 355 *eP* **P 12 48 15.4 +0.4**
HFS Hagfors 26.42 346 P **P 12 48 14.0 -2.8**
comp=Z,0.8nm,0.4s,baz=135,slow=14,SNR=2.7
HFS LR LR 12 59 25.8
comp=Z,648nm,19.8s,baz=150,slow=38
FINES FINESS Array B 26.50 0 P **P 12 48 16.2 -1.3**
comp=Z,0.7nm,0.3s,baz=167,slow=11,SNR=12
FINES LR LR 12 58 45.4
comp=Z,700nm,20.2s,baz=178,slow=37
comp=Z,0.7nm,0.3s
FINES FINESS Array B 26.50 0 *i P* **P 12 48 19.3 +1.8**
FINES pmax pmax
comp=Z,3.0nm,0.5s
PESTR Estremoz 27.02 288 P **P 12 48 24.1 +1.6**
PVAQ Vaqueiros 27.21 285 IAmb IAmb 12 48 30.1
comp=Z,13nm,0.9s
KEF Keuruu 27.23 359 *eP* **P 12 48 23.0 -1.2**
MESJ Messejana 27.57 286 IAmb IAmb 12 48 36.4
comp=Z,18nm,1.0s
NB2 NORSAR Subarra 27.76 345 P **P 12 48 27.4 -1.6**
comp=Z,0.2nm,0.3s,baz=156,slow=9.3
NOA NORSAR Array B 27.76 345 P **P 12 48 26.9 -2.1**
comp=Z,0.5nm,0.6s,baz=142,slow=7.3,SNR=4.0
NOA LR LR 13 00 28.0
comp=Z,396nm,18.6s,baz=155,slow=39
AKTO Aktyubinsk 27.90 46 LR LR 13 04 55.2
comp=Z,361nm,18.4s,baz=268,slow=48
ATD Arta Tunnel 27.93 143 LR LR 12 59 45.1
comp=Z,18nm,19.6s,baz=276,slow=37
UOSS Minazif 27.95 103 P **P 12 48 32.1 +1.1**
UOSS IAmb IAmb 12 48 47.2
comp=Z,12nm,0.8s
JOF Joensuu 28.18 5 *eP* **P 12 48 31.5 -1.1**
VAF Ylistaro 28.18 357 *eP* **P 12 48 33.4 +0.8**
KIRV Kirov 28.28 26 LR LR 13 00 22.8
comp=Z,446nm,18.4s,baz=221,slow=38
FURI Furi 28.44 153 LR LR 13 00 31.1
comp=Z,896nm,20.3s,baz=338,slow=38
EKA Eskdalemuir Ar 28.58 324 P **P 12 48 35.8 -0.5**
comp=Z,7.7nm,0.6s,baz=120,slow=9.6,SNR=19
comp=Z,7.7nm,0.6s
ESK Eskdalemuir 28.59 324 P **P 12 48 36.5 +0.1**
ESK IAmb IAmb 12 48 40.8
comp=Z,9.8nm,0.8s
ESK Eskdalemuir 28.59 324 P **P 12 48 36.5 +0.1**
ESK pmax pmax
comp=Z,10.0nm,0.9s
ABKAR Akbulak array 28.69 50 P **P 12 48 37.7 +0.4**
DSB Dublin 29.19 319 P **P 12 48 42.7 +0.9**
HRA Herat 29.74 81 P **P 12 48 48.4 +1.3**
WSAR Wadi Sarin 30.71 104 LR LR 13 05 10.4
comp=Z,678nm,21.5s,baz=328,slow=44
ARU Arti 30.82 36 P **P 12 48 55.7 -0.4**
ARU IAmb IAmb 12 49 19.0
comp=Z,7.1nm,0.9s
ARU Arti 30.82 36 LR LR 13 03 15.5
comp=Z,572nm,18.1s,baz=245,slow=40
ARU Arti 30.82 36 *d i P* **P 12 48 54.9 -1.3**
ARU 12 49 51.5
ARU 12 51 52.2
ARU S **S 12 53 58.0 -1.5**
ARU pmax pmax
comp=Z,4.0nm,1.2s
ARU MLR MLR
comp=Z,504nm,17.0s
ARU Arti 30.82 36 P **P 12 48 58.5 +2.3**
comp=Z,9.8nm,1.6s
TOA0 Torodi Ar. Sit 30.87 231 P **P 12 48 57.7 +0.8**
TORD Torodi Ar. Bea 30.87 231 P **P 12 48 57.6 +0.6**
TORD Torodi Ar. Bea 30.87 231 P **P 12 48 57.2 +0.2**
comp=Z,5.8nm,0.4s,baz=35,slow=8.8,SNR=23
TORD LR LR 13 03 06.8
comp=Z,350nm,21.0s,baz=38,slow=40
comp=Z,5.8nm,0.4s
LODK Lodwar 32.58 162 P **P 12 49 12.4 +0.4**
LODK IAmb IAmb 12 49 19.2
comp=Z,8.3nm,0.9s
SIMJ Simiganj 34.43 71 P **P 12 49 27.8 -0.3**
SIMJ IAmb IAmb 12 49 35.1
comp=Z,11nm,0.9s
CHGR Chuyangaron 34.55 71 P **P 12 49 29.3 +0.2**
CHGR Chuyangaron 34.55 71 P **P 12 49 29.3 +0.2**
CHGR pmax pmax
comp=Z,30nm,0.8s
ARCES ARCESS Array B 34.63 360 P **P 12 49 27.5 -1.8**
comp=Z,1.2nm,0.4s,baz=181,slow=5.6,SNR=26
ARCES LR LR 13 03 13.7
comp=Z,621nm,21.6s,baz=172,slow=36
comp=Z,1.2nm,0.4s
KK31 Karatay Array 35.20 63 P **P 12 49 35.5 +0.9**
KK31 IAmb IAmb 12 49 45.0
comp=Z,8.3nm,0.8s
KK31 Karatay Array 35.20 63 P **P 12 49 35.5 +0.9**
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 35.20 63 P **P 12 49 34.7 +0.1**
KKAR Karatay Array 35.20 63 P **P 12 49 34.7 +0.1**
GAR Garm 35.40 70 P **P 12 49 36.2 -0.2**
MBAR Mbarara 35.66 172 P **P 12 49 39.7 +0.8**
MBAR IAmb IAmb 12 49 45.8
comp=Z,12nm,0.9s
MBAR Mbarara 35.66 172 P **P 12 49 39.7 +0.8**
MBAR pmax pmax
comp=Z,12nm,0.9s
BVAR Borovoye Array 36.01 46 P **P 12 49 41.4 0.0**
comp=Z,4.6nm,0.8s,baz=248,slow=6.1,SNR=13
BVAR LR LR 13 09 39.6
comp=Z,255nm,18.2s,baz=260,slow=45
comp=Z,4.6nm,0.8s
MACI Morro de la Ar 36.58 271 P **P 12 49 48.4 +1.6**
AAK Ala-Archa 38.15 64 P **P 12 50 01.6 +1.7**
AAK IAmb IAmb 12 50 13.8
comp=Z,8.4nm,0.8s
AAK Ala-Archa 38.15 64 LR LR 13 08 04.9
comp=Z,186nm,20.1s,baz=289,slow=40
AAK Ala-Archa 38.15 64 *i P* **P 12 50 01.3 +1.4**
AAK pmax pmax
comp=Z,7.0nm,0.7s
KIBK Kibwezi 38.80 161 P **P 12 50 07.1 +1.6**
KIBK IAmb IAmb 12 50 13.0
comp=Z,13nm,1.0s
NRN Naryn 39.40 65 P **P 12 50 10.4 -0.2**
NRN Naryn 39.40 65 P **P 12 50 10.4 -0.2**

KSH Kashi 39.66 68 P **P 12 50 11.6 -1.0**
KSH sP sP 12 50 18.5 +2.0
KSH pmax pmax
comp=Z,3.0nm,0.6s
DBIC Dimbokro 39.96 232 P **P 12 50 16.1 +1.0**
DBIC IAmb IAmb 12 50 28.7
comp=Z,12nm,0.9s
DBIC Dimbokro 39.96 232 P **P 12 50 15.2 +0.1**
comp=Z,8.0nm,0.7s,baz=39,slow=13,SNR=6.6
DBIC LR LR 13 07 56.8
comp=Z,292nm,20.3s,baz=21,slow=38
comp=Z,8.0nm,0.7s
DBIC Dimbokro 39.96 232 P **P 12 50 16.1 +1.0**
DBIC pmax pmax
comp=Z,12nm,1.0s
JMIC Jan Mayen 40.46 343 LR LR 13 07 10.4
comp=Z,117nm,21.3s,baz=110,slow=36
KURBB Kurchatov Arra 40.73 51 P **P 12 50 21.2 +0.1**
comp=Z,9.1nm,0.6s,baz=277,slow=8.6,SNR=67
KURBB PP **PP 12 51 54.7 -0.1**
comp=Z,3.9nm,0.9s,baz=276,slow=9.3,SNR=1.1
KURBB LR LR 13 12 06.9
comp=Z,414nm,19.4s,baz=230,slow=44
comp=Z,9.1nm,0.6s
KURK Kurchatov 40.79 51 P **P 12 50 21.8 +0.2**
KURK IAmb IAmb 12 50 33.0
comp=Z,12nm,0.7s
KURK Kurchatov 40.79 51 *i P* **P 12 50 20.9 -0.7**
KURK pmax pmax
comp=Z,9.0nm,0.8s
BORG Borgarnes 41.04 331 LR LR 13 08 04.6
comp=Z,214nm,20.5s,baz=114,slow=37
MAKZ Makanchi 43.12 56 P **P 12 50 40.8 +0.1**
MAKZ Makanchi 43.12 56 P **P 12 50 40.8 +0.1**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
BBTS Babate 43.15 253 LR LR 13 12 11.3
comp=Z,336nm,18.8s,baz=303,slow=41
MK31 Makanchi Array 43.33 56 P **P 12 50 42.8 +0.3**
MK31 IAmb IAmb 12 50 52.7
comp=Z,10nm,0.8s
MK31 Makanchi Array 43.33 56 P **P 12 50 42.8 +0.3**
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 43.33 56 P **P 12 50 42.7 +0.3**
comp=Z,13nm,0.8s,baz=278,slow=7.0,SNR=42
MKAR LR LR 13 11 21.8
comp=Z,191nm,20.5s,baz=286,slow=40
comp=Z,13nm,0.8s
SPITS Spitsbergen Ar 43.51 357 P **P 12 50 42.7 -0.8**
comp=Z,1.9nm,0.4s,baz=138,slow=6.3,SNR=5.9
comp=Z,1.9nm,0.4s
ZAA0 Zalesovo Array 44.66 46 P **P 12 50 52.7 -0.3**
ZAA0 IAmb IAmb 12 51 06.7
comp=Z,8.2nm,0.6s
ZALV Zalesovo Beam 44.66 46 P **P 12 50 52.6 -0.4**
ZALV Zalesovo Beam 44.66 46 P **P 12 50 52.8 -0.2**
comp=Z,8.0nm,0.5s,baz=269,slow=8.3,SNR=28
ZALV LR LR 13 12 25.4
comp=Z,208nm,21.0s,baz=266,slow=40
comp=Z,8.0nm,0.5s
ZALV Zalesovo Beam 44.66 46 *i P* **P 12 50 53.0 0.0**
ZALV pmax pmax
comp=Z,8.0nm,0.4s
WMQ Urumqi 47.53 60 *eP* **P 12 51 18.1 +2.3**
WMQ LR LR
comp=N,460nm,13.7s
WMQ LR LR
comp=E,400nm,18.3s
WMQ LR LR
comp=Z,360nm,17.5s
NRIK Noril'sk 47.78 25 P **P 12 51 15.7 -1.6**
NRIK IAmb IAmb 12 51 46.0
comp=Z,5.6nm,0.8s
NRIK Noril'sk 47.78 25 P **P 12 51 15.6 -1.7**
comp=Z,4.9nm,0.5s,baz=182,slow=2.3,SNR=5.7
NRIK LR LR 13 13 19.0
comp=Z,221nm,18.3s,baz=258,slow=39
comp=Z,4.9nm,0.5s
NRIK Noril'sk 47.78 25 *i P* **P 12 51 17.2 -0.1**
NRIK pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 49.40 339 P **P 12 51 31.1 +0.9**
SUMG IAmb IAmb 12 51 43.3
comp=Z,5.8nm,0.7s
SUMG Summit 49.40 339 P **P 12 51 31.1 +0.9**
SUMG pmax pmax
comp=Z,6.0nm,0.7s
LSZ Lusaka 50.01 177 P **P 12 51 35.6 +0.5**
LSZ IAmb IAmb 12 51 41.4
comp=Z,6.0nm,0.8s
LSZ Lusaka 50.01 177 P **P 12 51 35.6 +0.5**
LSZ pmax pmax
comp=Z,6.0nm,0.8s
SFJD Kangerlussuaq 53.17 331 LR LR 13 16 59.3
comp=Z,240nm,18.9s,baz=89,slow=39
ILULI Ilulissat 53.24 334 P **P 12 51 59.0 +0.5**
ILULI IAmb IAmb 12 52 40.5
comp=Z,17nm,1.2s
ILULI Ilulissat 53.24 334 P **P 12 51 59.0 +0.5**
ILULI pmax pmax
comp=Z,17nm,1.2s
TSUM Tsumeb 54.45 190 LR LR 13 19 27.0
comp=Z,665nm,18.5s,baz=342,slow=40
ZAK Zakamensk 56.38 49 *eP* **P 12 52 22.4 +0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
PALK Pallekele 57.17 105 LR LR 13 19 44.2
comp=Z,407nm,20.2s,baz=56,slow=39
GTA Gaotai 57.47 62 *eP* P 12 52 37.3 +7.6
GTA pP sP 12 52 46.1 +12
GTA pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 59.10 51 P **P 12 52 41.9 +0.9**
SONM IAmb IAmb 12 52 47.9
comp=Z,10.0nm,1.5s
SONM Songino Array 59.10 51 P **P 12 52 41.5 +0.5**
comp=Z,2.1nm,0.6s,baz=280,slow=7.8,SNR=9.0
SONM LR LR 13 23 05.8
comp=Z,335nm,20.6s,baz=301,slow=41
comp=Z,2.1nm,0.6s
SONM Songino Array 59.10 51 P **P 12 52 41.9 +0.9**
SONM pmax pmax
comp=Z,10.0nm,1.5s
ULN Ulaanbaatar 59.51 51 P **P 12 52 44.7 +1.0**
ULN IAmb IAmb 12 52 50.7
comp=Z,10.0nm,1.4s
ULN Ulaanbaatar 59.51 51 *i P* **P 12 52 43.3 -0.5**
ULN pmax pmax
comp=Z,8.0nm,1.5s
FRB Frobisher Bay 61.17 330 LR LR 13 19 48.2
comp=Z,254nm,21.3s,baz=48,slow=36
BOSA Boshof 63.24 181 P **P 12 53 10.5 +1.5**
comp=Z,5.7nm,0.7s,baz=10,slow=6.9,SNR=9.0
comp=Z,5.7nm,0.7s
SCHQ Schefferville 63.76 320 P **P 12 53 12.0 -0.1**
SCHQ Schefferville 63.76 320 P **P 12 53 11.8 -0.3**
comp=Z,19nm,0.7s,baz=56,slow=5.3,SNR=29
SCHQ LR LR 13 19 30.8
comp=Z,130nm,21.9s,baz=59,slow=35
comp=Z,19nm,0.7s
RES Resolute Bay 64.02 345 LR LR 13 21 30.8
comp=Z,154nm,18.6s,baz=21,slow=36
HHC Hu-ho-hao-te 65.20 56 *eP* **P 12 53 23.1 +1.2**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,79nm,4.0s
HHC LR LR
comp=N,130nm,18.3s
HHC LR LR
comp=E,180nm,18.3s
HHC LR LR
comp=Z,350nm,18.3s
YAK Yakutsk 65.72 30 LR LR 13 24 50.4
comp=Z,191nm,19.2s,baz=304,slow=39
CHTO Chiang Mai 65.76 83 P **P 12 53 26.1 +0.3**
CHTO IAmb IAmb 12 53 40.2
comp=Z,3.8nm,0.7s
CHTO Chiang Mai 65.76 83 P **P 12 53 26.1 +0.3**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 65.94 84 P **P 12 53 27.2 +0.3**
CMAR Chiang Mai Arr 65.94 84 P **P 12 53 26.9 0.0**
comp=Z,2.5nm,0.8s,baz=294,slow=8.2,SNR=10
comp=Z,2.5nm,0.8s
CMAR Chiang Mai Arr 65.94 84 P **P 12 53 27.2 +0.3**

XAN Xi'an 66.33 64 *eP* **P 12 53 33.0 +3.7**
XAN pmax pmax
comp=Z,14nm,1.0s
BATG Bathurst New B 66.54 312 P **P 12 53 31.6 +1.3**
SUR Sutherland 67.16 185 LR LR 13 24 13.6
comp=Z,403nm,19.0s,baz=8.0,slow=37
SOE Somerset East 67.32 180 P **P 12 53 37.4 +2.1**
D62A Allapoint, All 68.44 313 P **P 12 53 45.3 +3.0**
EMMW East Machias 68.59 310 P **P 12 53 45.1 +1.8**
PKME Peaks-Kenny Pk 69.47 311 P **P 12 53 48.5 -0.2**
baz=61
HEH HeiHe 70.56 42 *eP* **P 12 53 55.8 +0.4**
HEH pmax pmax
comp=Z,7.0nm,0.8s
HEH LR LR
comp=N,210nm,17.2s
HEH LR LR
comp=E,450nm,16.2s
HEH LR LR
comp=Z,510nm,17.3s
A36M Sachs Harbour 71.44 351 P **P 12 53 59.4 -1.0**
baz=25
LBNH Lisbon 71.60 311 P **P 12 54 01.6 -0.2**
baz=59
HRV Adam Dziewonsk 72.27 310 P **P 12 54 04.7 -1.2**
baz=59
VLDQ Val d'Or 72.80 317 P **P 12 54 10.5 +1.6**
LONY Lake Ozonia 73.02 313 P **P 12 54 09.6 -0.7**
baz=58
KLR Kul'dur 73.48 41 LR LR 13 31 28.1
comp=Z,151nm,18.4s,baz=328,slow=40
KLR Kul'dur 73.48 41 *i P* **P 12 54 11.9 -1.0**
KLR pmax pmax
comp=Z,5.0nm,1.0s
SEY Seymchan 73.49 23 LR LR 13 30 20.5
comp=Z,264nm,21.8s,baz=327,slow=39
C36M Paulatuk 73.68 349 P **P 12 54 12.9 -0.8**
baz=25
A21K Barrow 74.00 1 P **P 12 54 14.7 -0.8**
baz=358
PAL Palisades 74.56 309 P **P 12 54 19.4 0.0**
baz=57
NJ2 Nanjing 74.57 62 *eP* **P 12 54 20.4 +0.8**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
B22K Teshekpuk Lake 75.00 360 P **P 12 54 21.1 -0.3**
baz=0.5
BINY Binghamton 75.20 311 P **P 12 54 23.0 -0.1**
baz=56
C26K Camden Bay 75.21 357 P **P 12 54 22.3 -0.3**
baz=7.7
B20K Meade River 75.31 1 P **P 12 54 22.5 -0.7**
baz=357
MA2 Magadan 75.38 26 LR LR 13 31 31.3
comp=Z,137nm,19.0s,baz=308,slow=39
D28M Stokes Point 75.40 354 P **P 12 54 23.0 -0.7**
baz=13
C27K Jago River 75.44 356 P **P 12 54 23.9 -0.1**
baz=8.7
C23K Itkillik River 75.47 359 P **P 12 54 25.5 +1.4**
C23K Itkillik River 75.47 359 P **P 12 54 23.0 -1.2**
baz=2.9
C24K Franklin Bluff 75.55 358 P **P 12 54 23.6 -0.9**
baz=4.5
SADO Sadowa 75.64 315 LR LR 13 27 53.4
comp=Z,149nm,19.9s,baz=67,slow=36
D27M Malcolm River 75.65 355 P **P 12 54 25.8 +0.5**
D27M IAmb IAmb 12 54 31.8
comp=Z,4.9nm,0.9s
D27M Malcolm River 75.65 355 P **P 12 54 24.5 -0.8**
baz=11
B21K Ikpikpuk River 75.72 0 P **P 12 54 25.8 +0.3**
B21K IAmb IAmb 12 54 58.5
comp=Z,9.8nm,1.0s
B21K Ikpikpuk River 75.72 0 P **P 12 54 25.5 -0.1**
baz=360
B18K Kokolik River 75.82 3 P **P 12 54 25.4 -0.7**
baz=353
D25K Kavik River 75.87 357 IAmb IAmb 12 54 42.5
comp=Z,5.2nm,1.0s
D25K Kavik River 75.87 357 P **P 12 54 25.9 -0.6**
baz=6.5
INK Inuvik 75.90 352 P **P 12 54 25.9 -0.6**
INK Inuvik 75.90 352 P **P 12 54 26.1 -0.5**
baz=17
INK Inuvik 75.90 352 LR LR 13 30 12.6
comp=Z,92nm,20.4s,baz=0.5,slow=38
INK Inuvik 75.90 352 P **P 12 54 26.0 -0.6**
INK pmax pmax
comp=Z,5.0nm,1.1s
D24K Happy Valley 76.12 358 P **P 12 54 26.5 -1.3**
baz=4.4
C19K Lookout Ridge 76.16 2 P **P 12 54 27.2 -0.9**
baz=355
E28M Babbage River 76.18 355 IAmb IAmb 12 54 34.6
comp=Z,5.1nm,0.9s
E28M Babbage River 76.18 355 P **P 12 54 27.4 -0.8**
baz=12
C21K Knifeblade Rid 76.19 0 P **P 12 54 28.1 -0.1**
baz=359
E29M Blow River 76.25 354 P **P 12 54 28.1 -0.5**
baz=14,SNR=14
D23K Nanushuk River 76.35 359 P **P 12 54 28.4 -0.8**
baz=2.8
D22K Ayikyak River 76.46 359 IAmb IAmb 12 54 41.9
comp=Z,9.5nm,1.2s
D22K Ayikyak River 76.46 359 P **P 12 54 29.7 -0.1**
baz=1.1
USRK Ussuriysk Ar. 76.51 45 P **P 12 54 30.3 -0.2**
USRK Ussuriysk Ar. 76.51 45 P **P 12 54 30.4 -0.1**
comp=Z,5.1nm,0.8s,baz=268,slow=6.2,SNR=9.8
comp=Z,5.1nm,0.8s
C18K Utukok River 76.56 3 P **P 12 54 29.7 -0.7**
baz=354
D20K Etivluk River 76.62 1 P **P 12 54 30.0 -0.7**
baz=358
C17K DeLong Mountai 76.65 3 P **P 12 54 30.7 -0.2**
baz=352
TOLK Toolik Lake Re 76.65 358 P **P 12 54 30.7 -0.2**
baz=3.8
C16K Lisburne Hills 76.73 4 P **P 12 54 30.9 -0.4**
baz=350
E27K Coleen River 76.74 355 IAmb IAmb 12 54 38.4
comp=Z,5.7nm,1.1s
E27K Coleen River 76.74 355 P **P 12 54 30.7 -0.7**
baz=10
F31M Tsiigehtchic 76.76 352 P **P 12 54 31.0 -0.5**
baz=17
D19K Kuna River 76.81 2 P **P 12 54 31.2 -0.6**
baz=357
F30M Barrier River 76.81 353 P **P 12 54 31.5 -0.3**
baz=15
E21K Killik River 76.91 360 P **P 12 54 31.6 -0.8**
baz=0.1
E25K Arctic Village 77.03 357 P **P 12 54 33.9 +0.8**
E25K IAmb IAmb 12 54 39.8
comp=Z,4.9nm,0.9s
E25K Arctic Village 77.03 357 P **P 12 54 33.1 0.0**
baz=7.1,SNR=8.6
E20K Nigu River 77.08 1 P **P 12 54 32.4 -1.0**
baz=358
RDOG Red Dog Mine 77.08 3 P **P 12 54 33.6 +0.3**
RDOG Red Dog Mine 77.08 3 P **P 12 54 32.9 -0.4**
baz=352
F28M Old Crow 77.18 354 P **P 12 54 34.2 +0.3**
F28M IAmb IAmb 12 54 48.9
comp=Z,6.5nm,1.4s
F28M Old Crow 77.18 354 P **P 12 54 33.2 -0.7**
baz=12
E24K Your Creek 77.19 358 P **P 12 54 33.5 -0.5**
baz=4.7
E23K Chandalar 77.24 358 P **P 12 54 32.7 -1.6**
baz=3.7
SSPA Standing Stone 77.26 311 P **P 12 54 34.0 -0.9**
baz=55
G31M Satah River 77.31 352 IAmb IAmb 12 54 54.5
comp=Z,9.3nm,1.1s
G31M Satah River 77.31 352 P **P 12 54 33.1 -1.5**
baz=16
F26K Sheenjek River 77.38 356 P **P 12 54 34.0 -1.0**
baz=8.3
D17K Noatak River 77.42 4 P **P 12 54 34.1 -1.1**
baz=352
G30M tAoh Zraii Nji 77.47 353 IAmb IAmb 12 54 46.1
comp=Z,8.9nm,1.1s
G30M tAoh Zraii Nji 77.47 353 P **P 12 54 34.3 -1.3**
baz=15

F25K	Christian Rive	77.56	357	P	P	12 54 34.8	-1.3
	baz=7.0						
BMAR	Burnt Mountain	77.67	356	P	P	12 54 37.5	+0.8
G29M	Pine Creek	77.71	354	P	P	12 54 37.2	+0.3
G29M				IAmb	IAmb	12 54 43.3	
	comp=Z,9.8nm,1.0s						
G29M	Pine Creek	77.71	354	P	P	12 54 35.4	-1.5
	baz=13,SNR=8.7						
F24K	Squaw Lake	77.73	358	IAmb	IAmb	12 54 49.0	
	comp=Z,7.5nm,1.0s						
F24K	Squaw Lake	77.73	358	P	P	12 54 36.2	-0.8
	baz=5.2,SNR=7.5						
MDP	Montagnes des	77.76	268	LR	LR	13 28 48.0	
	comp=Z,60nm,21.5s,baz=104,slow=36						
YKA	Yellowknife Ar	77.83	342	P	P	12 54 36.6	-1.0
	comp=Z,0.9nm,0.8s,baz=35,slow=5.4,SNR=3.6						
YKA				LR	LR	13 28 32.3	
	comp=Z,156nm,21.6s,baz=20,slow=35						
	comp=Z,0.9nm,0.8s						
F22K	John River	77.84	359	P	P	12 54 37.0	-0.6
	baz=1.6						
E19K	Redstone River	77.87	1	P	P	12 54 37.5	-0.2
	baz=357						
KSRS	Korea Array	77.88	53	P	P	12 54 38.9	+0.6
	comp=Z,1.8nm,0.6s,baz=302,slow=4.0,SNR=6.3						
KSRS				LR	LR	13 35 29.8	
	comp=Z,130nm,18.7s,baz=300,slow=41						
	comp=Z,1.8nm,0.6s						
COLD	Coldfoot	78.08	358	P	P	12 54 38.3	-0.7
	baz=3.2						
G26K	Porcupine Rive	78.10	356	P	P	12 54 37.9	-1.1
	baz=8.6,SNR=8.3						
G27K	Doyon Strip	78.11	355	IAmb	IAmb	12 54 45.8	
	comp=Z,6.4nm,1.1s						
G27K	Doyon Strip	78.11	355	P	P	12 54 38.3	-0.8
	baz=10,SNR=8.3						
EPYK	Eagle Plains	78.11	353	P	P	12 54 39.1	0.0
EPYK				IAmb	IAmb	12 54 44.4	
	comp=Z,4.7nm,0.7s						
EPYK	Eagle Plains	78.11	353	P	P	12 54 37.5	-1.6
	baz=14						
F21K	Alatna River	78.13	360	IAmb	IAmb	12 54 51.4	
	comp=Z,6.2nm,0.8s						
F21K	Alatna River	78.13	360	P	P	12 54 38.0	-1.3
	baz=0.5,SNR=9.3						
F20K	Avaraart Lake	78.30	1	IAmb	IAmb	12 55 10.8	
	comp=Z,9.0nm,1.4s						
F20K	Avaraart Lake	78.30	1	P	P	12 54 39.2	-0.8
	baz=359						
G25K	Bearman Lake	78.41	357	P	P	12 54 39.8	-0.8
	baz=6.6						
G22K	Bettles	78.42	359	P	P	12 54 40.2	-0.5
	baz=2.1						
H29M	Whitestone	78.42	354	IAmb	IAmb	12 54 46.7	
	comp=Z,7.4nm,0.9s						
H29M	Whitestone	78.42	354	P	P	12 54 39.7	-1.1
	baz=13						
F19K	Shaleruckik Mo	78.48	2	IAmb	IAmb	12 54 52.3	
	comp=Z,6.7nm,1.1s						
F19K	Shaleruckik Mo	78.48	2	P	P	12 54 40.6	-0.5
	baz=357						
G24K	Hadweenzic Riv	78.53	357	P	P	12 54 40.9	-0.6
	baz=5.5						
G23K	Bananza Creek	78.60	358	P	P	12 54 42.6	+0.8
G23K				IAmb	IAmb	12 54 53.5	
	comp=Z,6.9nm,1.1s						
G23K	Bananza Creek	78.60	358	P	P	12 54 40.7	-1.2
	baz=3.4						
F18K	Selawik	78.67	2	P	P	12 54 42.0	-0.1
	baz=355						
H27K	Steamboat Moun	78.67	355	P	P	12 54 42.1	-0.2
	baz=10,SNR=12						
G21K	Allakaket	78.84	360	P	P	12 54 43.0	-0.1
	baz=0.4						
H25L	Birch Creek	78.89	357	P	P	12 54 43.0	-0.4
	baz=6.9						
G19K	Purcell Mounta	79.19	1	IAmb	IAmb	12 54 56.2	
	comp=Z,7.4nm,1.1s						
G19K	Purcell Mounta	79.19	1	P	P	12 54 44.4	-0.6
	baz=357						
I30M	Mount Dempster	79.19	353	IAmb	IAmb	12 55 04.5	
	comp=Z,7.9nm,1.1s						
I30M	Mount Dempster	79.19	353	P	P	12 54 44.5	-0.7
	baz=15,SNR=9.8						
I29M	Ogilvie Camp,	79.25	353	P	P	12 54 45.2	-0.2
I29M	Ogilvie Camp,	79.25	353	P	P	12 54 45.0	-0.4
	baz=13						
I27K	Kandik River	79.29	355	P	P	12 54 45.6	-0.1
	baz=10,SNR=6.6						
I28M	Miner Creek	79.31	354	IAmb	IAmb	12 54 59.1	
	comp=Z,3.8nm,0.7s						
I28M	Miner Creek	79.31	354	P	P	12 54 45.1	-0.7
	baz=12						
IMAR	Indian Mountai	79.38	360	P	P	12 54 46.8	+0.7
G18K	Tagagawik	79.40	2	P	P	12 54 46.5	+0.3
G18K				IAmb	IAmb	12 54 57.1	
	comp=Z,6.9nm,0.9s						
G18K	Tagagawik	79.40	2	P	P	12 54 45.4	-0.8
	baz=356						
H24K	Noodor Dome	79.41	357	P	P	12 54 45.7	-0.6
	baz=5.1						
F14K	Arctic Creek	79.43	5	P	P	12 54 44.9	-1.5
	baz=350						
H22K	Ishtalitna Cre	79.44	359	P	P	12 54 45.4	-1.0
	baz=2.2						
H23K	Yukon River	79.47	358	IAmb	IAmb	12 55 23.9	
	comp=Z,6.7nm,1.0s						
H23K	Yukon River	79.47	358	P	P	12 54 45.6	-1.1
	baz=3.8,SNR=8.9						
O53A	New Philadelph	79.54	312	P	P	12 54 46.3	-1.1
	baz=53						
PRP	Porcupine Dome	79.62	356	P	P	12 54 46.4	-1.2
	baz=7.1						
I26K	Coal Creek Min	79.69	355	P	P	12 54 48.0	+0.2
I26K	Coal Creek Min	79.69	355	P	P	12 54 47.0	-0.8
	baz=9.1						
H21K	Melozitna Rive	79.70	359	P	P	12 54 46.3	-1.5
	baz=1.0						
G17K	Kiwalik Mounta	79.73	3	P	P	12 54 47.0	-1.0
	baz=354						
J30M	Hart River	79.81	352	P	P	12 54 49.2	+0.5
J30M	Hart River	79.81	352	P	P	12 54 47.1	-1.5
	baz=15,SNR=12						
H19K	Roundabout Mou	79.82	1	P	P	12 54 49.5	+1.1
H19K				IAmb	IAmb	12 54 55.0	
	comp=Z,13nm,1.3s						
H19K	Roundabout Mou	79.82	1	P	P	12 54 47.9	-0.5
	baz=358						
H20K	Anotleneega Mo	79.87	0	P	P	12 54 47.8	-0.9
	baz=359						
EGAK	Eagle	80.07	354	P	P	12 54 49.9	+0.1
EGAK	Eagle	80.07	354	P	P	12 54 49.3	-0.6
	baz=11						
FFC	Flin Flon	80.11	332	P	P	12 54 50.0	-0.3
FFC				IAmb	IAmb	12 54 59.0	
	comp=Z,7.7nm,0.9s						
FFC	Flin Flon	80.11	332		P	12 54 50.2	0.0
POKR	Poker Plat Res	80.11	357	P	P	12 54 49.6	-0.5
	baz=5.5						
I23K	Minto, Yukon-K	80.15	358	P	P	12 54 51.3	+1.1
I23K	Minto, Yukon-K	80.15	358	P	P	12 54 49.8	-0.4
	baz=3.9						
H18K	Honhosa River	80.15	2	P	P	12 54 49.7	-0.6
	baz=356						
MLY	Manley	80.30	359	P	P	12 54 52.0	+0.9
MLY				IAmb	IAmb	12 55 02.8	
	comp=Z,8.7nm,1.4s						
MLY	Manley	80.30	359	P	P	12 54 50.4	-0.8
	baz=2.7						
MDM	Murphy Dome	80.30	357	IAmb	IAmb	12 54 58.2	
	comp=Z,7.3nm,1.0s						
ILAR	Eielson Array	80.44	357	P	P	12 54 52.3	+0.5
	comp=Z,1.3nm,0.9s,baz=359,slow=4.3,SNR=15						
ILAR				LR	LR	13 31 10.5	
	comp=Z,80nm,21.1s,baz=350,slow=36						
	comp=Z,1.3nm,0.9s						
H16K	Elim	80.52	4	P	P	12 54 51.3	-0.9
	baz=353						
J25K	Salcha River,	80.52	356	P	P	12 54 53.6	+1.2
J25K	Salcha River,	80.52	356	P	P	12 54 51.4	-0.9
	baz=7.2						
J26L	Joseph Creek	80.52	355	IAmb	IAmb	12 55 03.2	
	comp=Z,11nm,1.5s						
J26L	Joseph Creek	80.52	355	P	P	12 54 51.9	-0.5
	baz=8.7						
DAWY	Dawson	80.62	354	P	P	12 54 53.3	+0.4
DAWY				IAmb	IAmb	12 55 07.1	
	comp=Z,5.2nm,0.7s						
DAWY	Dawson	80.62	354	P	P	12 54 51.9	-1.0
	baz=12,SNR=9.7						
K29M	Barlow Dome	80.66	353	P	P	12 54 52.2	-1.0
	baz=14						
YSS	Yuzh-Sakhalins	80.68	38	eP	P	12 54 54.3	+0.9
YSS				pmax	pmax		
	comp=Z,10.0nm,1.4s						
YSS				MLR	MLR		
	comp=Z,200nm,19.0s						
YSS				MLR	MLR		
	comp=N,200nm,18.0s						
YSS				MLR	MLR		
	comp=E,200nm,19.0s						
NEA2	Nenana	80.70	358	P	P	12 54 52.5	-0.7
	baz=4.1						
MAYO	Mayo, Yukon	80.72	352	P	P	12 54 52.9	-0.5
	baz=15						
WRH	Wood River Hil	80.78	357	P	P	12 54 53.6	-0.1
WRH				IAmb	IAmb	12 55 10.9	
	comp=Z,6.9nm,0.9s						
HDA	Harding Lake	80.80	357	P	P	12 54 54.0	+0.3
HDA				IAmb	IAmb	12 54 54.6	
	comp=Z,5.9nm,0.8s						
HDA	Harding Lake	80.80	357	P	P	12 54 52.5	-1.3
	baz=5.9,SNR=6.0						
ULM	Lac du Bonnet	80.84	326	P	P	12 54 53.5	-0.7
	comp=Z,2.7nm,0.7s,baz=48,slow=7.3,SNR=5.5						
ULM				LR	LR	13 31 37.8	
	comp=Z,210nm,19.5s,baz=34,slow=36						
	comp=Z,2.7nm,0.7s						
K27K	Chicken	80.88	355	P	P	12 54 54.3	+0.1
	baz=9.9						
SCRK	Sand Creek	81.07	356	P	P	12 54 56.4	+1.0
SCRK				IAmb	IAmb	12 55 03.3	
	comp=Z,11nm,1.4s						
SCRK	Sand Creek	81.07	356	P	P	12 54 54.7	-0.6
	baz=8.3						
J20K	Nowinta River	81.19	0	IAmb	IAmb	12 55 08.4	
	comp=Z,5.5nm,0.8s						
J20K	Nowinta River	81.19	0	P	P	12 54 54.6	-1.3
	baz=360						
BPAW	Bear Paw Mtn.	81.24	359	P	P	12 54 55.9	-0.2
	baz=2.5						
I17K	Unalakleet	81.34	3	P	P	12 54 55.2	-1.4
	baz=354						
K24K	Donnelly Dome	81.35	356	P	P	12 54 55.4	-1.3
	baz=6.8						
J19K	Poorman	81.37	1	P	P	12 54 58.3	+1.5
J19K				IAmb	IAmb	12 55 17.9	
	comp=Z,12nm,1.3s						
J19K	Poorman	81.37	1	P	P	12 54 55.9	-0.9
	baz=359						
L29M	L29M	81.44	353	P	P	12 54 57.2	0.0
L29M	L29M	81.44	353	P	P	12 54 56.4	-0.9
	baz=13						
CHUM	Lake Minchumin	81.48	359	P	P	12 54 56.8	-0.6
	baz=1.4						
SJG	San Juan	81.52	286	LR	LR	13 27 07.6	
	comp=Z,39nm,21.2s,baz=76,slow=33						
MCK	McKinley	81.55	358	P	P	12 54 56.7	-1.1
	baz=4.2						
FARO	Faro, Yukon	81.71	350	P	P	12 54 59.7	+1.0
FARO				IAmb	IAmb	12 55 06.8	
	comp=Z,6.9nm,1.3s						
FARO	Faro, Yukon	81.71	350	P	P	12 54 57.7	-1.0
	baz=17						
M30M	Minto, Yukon	81.81	352	P	P	12 54 58.6	-0.7
	baz=14						
BCAR	Beaver Creek A	81.81	354	P	P	12 54 59.9	+0.6
L27K	Beaver Creek,	81.82	354	P	P	12 55 00.5	+1.2
L27K				IAmb	IAmb	12 55 06.9	
	comp=Z,5.8nm,1.1s						
L27K	Beaver Creek,	81.82	354	P	P	12 54 59.1	-0.2
	baz=10						
M31M	Drury Creek, Y	81.88	351	P	P	12 54 59.3	-0.3
	baz=16						
J18K	Innoko River	81.88	1	P	P	12 54 58.8	-0.7
	baz=358						
CAST	Castle Rocks	81.94	359	P	P	12 54 59.8	-0.1
CAST				IAmb	IAmb	12 55 31.0	
	comp=Z,5.0nm,1.0s						
CAST	Castle Rocks	81.94	359	P	P	12 54 59.1	-0.8
	baz=1.6						
J16K	Anvik River	81.95	3	P	P	12 54 58.4	-1.5
	baz=355						
L26K	Log Cabin Wild	81.97	355	P	P	12 54 59.7	-0.3
	baz=8.8						
M29M	Somme Creek	82.12	353	IAmb	IAmb	12 55 14.2	
	comp=Z,6.3nm,0.7s						
M29M	Somme Creek	82.12	353	P	P	12 55 01.0	0.0
	baz=13,SNR=10						
DHY	Denali Highway	82.15	357	P	P	12 55 00.9	-0.2
DHY				IAmb	IAmb	12 55 08.4	
	comp=Z,6.1nm,0.8s						
DHY	Denali Highway	82.15	357	P	P	12 55 01.3	+0.1
	baz=5.5						
JNU	Nakatsue	82.37	55	LR	LR	13 38 24.2	
	comp=Z,182nm,18.2s,baz=318,slow=41						
TTA	Tatalina	82.43	1	P	P	12 55 02.6	+0.1
	baz=358						
PPLA	Purkeypile	82.47	359	P	P	12 55 03.1	+0.3
	baz=1.5						
ASAJ	Asahikawa	82.50	40	LR	LR	13 36 34.2	
	comp=Z,218nm,18.5s,baz=326,slow=39						
M27K	Edge Creek, AK	82.52	354	P	P	12 55 02.6	-0.5
	baz=10.0						
M26K	Nabesna, AK	82.56	355	P	P	12 55 03.4	+0.2
	baz=9.1						
K17K	Iditarod	82.60	2	P	P	12 55 03.4	+0.1
	baz=356						
WAT6	Susitna Watana	82.66	357	P	P	12 55 03.6	-0.2
	baz=5.2						
L20K	Farewell, AK	82.90	360	P	P	12 55 05.0	+0.1
	baz=0.1						
N30M	Aishikik Lake	82.93	352	P	P	12 55 04.3	-0.8
	baz=14						
YUK3	Moose Creek	82.97	354	P	P	12 55 04.8	-0.7
	baz=11						
L17K	Donlin	83.18	2	P	P	12 55 05.6	-0.7
	baz=356						
L19K	White Mountain	83.19	0	P	P	12 55 06.3	-0.1
	baz=359						
YUK4	Talbot Arm	83.22	353	P	P	12 55 05.6	-1.2
	baz=13						
SKT	Skwentna	83.38	359	P	P	12 55 06.8	-0.6
SKT	Skwentna	83.38	359	P	P	12 55 06.9	-0.5
	baz=2.1						
SCM	Sheep Creek Mo	83.39	357	P	P	12 55 09.8	+2.3
SCM	Sheep Creek Mo	83.39	357	P	P	12 55 09.8	+2.3
SCM				pmax	pmax		
	comp=Z,11nm,0.9s						
M23K	Glacier View	83.45	357	P	P	12 55 07.8	0.0
	baz=5.2						
SML	Sawmill	83.46	357	P	P	12 55 07.2	-0.6
	baz=4.7						
N25K	Chitina, Valde	83.47	355	P	P	12 55 07.3	-0.6
	baz=7.8						
O30N	Mendenhall	83.48	351	P	P	12 55 07.5	-0.5
	baz=15						
M20K	Styx River	83.49	360	P	P	12 55 07.8	-0.3
	baz=0.8						
TOAD	Toad River Com	83.50	345	P	P	12 55 08.9	+0.8
	baz=23						
P33M	Teslin, Yukon	83.57	350	P	P	12 55 08.0	-0.5
	baz=17						
M22K	Willow	83.57	358	P	P	12 55 08.3	+0.1
	baz=3.2						
MCARA	McCarthy VSAT	83.58	355	P	P	12 55 09.0	+0.6
	baz=9.1						
YUK6	Outpost Mounta	83.58	352	P	P	12 55 08.3	-0.4
	baz=13						
HYT	Haines Junctio	83.60	352	P	P	12 55 09.4	+0.7
	baz=14						
KLU	Klutina	83.66	356	P	P	12 55 09.0	+0.1
KLU				IAmb	IAmb	12 55 16.9	
	comp=Z,9.2nm,1.5s						
PMR	Palmer	83.70	358	P	P	12 55 09.1	+0.1
	baz=4.0						
T50A	Nancy	83.77	311	IAmb	IAmb	12 55 21.4	
	comp=Z,5.5nm,0.8s						
KNK	Knik Glacier	83.86	357	P	P	12 55 09.6	-0.2
	baz=4.6						
M18K	Stony River	83.88	1	P	P	12 55 10.3	+0.4
	baz=358						
SUA	Susitna One	83.88	358	P	P	12 55 10.6	+0.5
	baz=2.7						
O28M	Mount Upton	83.94	353	P	P	12 55 10.5	-0.1
	baz=11						
M17K	Holitna River	83.94	2	P	P	12 55 09.8	-0.4
	baz=357						
TKL	Tuckaleechee C	83.96	310	LR	LR	13 34 58.6	
	comp=Z,65nm,18.2s,baz=28,slow=37						
I37A	Lemond, Waseca	84.00	321	P	P	12 55 09.9	-1.0
R33M	Jennings River	84.06	348	P	P	12 55 11.7	+0.7
	baz=19						
BMRM	Bremner River	84.10	355	P	P	12 55 11.9	+0.8
	baz=7.8						
GRNC	Granite Creek	84.12	354	P	P	12 55 11.9	+0.5
GRNC				IAmb	IAmb	12 55 29.5	
	comp=Z,5.3nm,0.9s						
RC01	Rabbit Creek A	84.23	358	P	P	12 55 11.6	-0.1
	baz=3.5						
MDND	Maddock	84.27	327	P	P	12 55 12.2	0.0
	baz=42						
M16K	Timber Creek	84.27	2	P	P	12 55 11.5	-0.4
	baz=356						
JOW	Kunigami	84.28	61	LR	LR	13 38 36.5	
	comp=Z,93nm,19.4s,baz=95,slow=40						
P32M	Atlin	84.30	350	P	P	12 55 12.3	+0.1
	baz=17						
PINM	Pinnacle	84.61	353	P	P	12 55 13.3	-0.5
	baz=11						
Q32M	Nakina River	84.68	349	IAmb	IAmb	12 55 33.1	
	comp=Z,4.2nm,0.9s						
Q32M	Nakina River	84.68	349	P	P	12 55 12.7	-1.6
	baz=18						
P29M	Windy Craggy	84.79	352	P	P	12 55 13.7	-0.9
	baz=13						
PLBC	Pleasant Camp	84.79	351	P	P	12 55 13.1	-1.5
	baz=14						
DLBC	Dease Lake	84.80	348	P	P	12 55 13.5	-1.3
	baz=20						
MJAR	Matsushiro Arr	84.96	48	P	P	12 55 15.6	-0.4
	comp=Z,2.9nm,1.0s,baz=305,slow=5.6,SNR=6.6						
MJAR				LR	LR	13 37 56.6	
	comp=Z,120nm,19.1s,baz=311,slow=39						
	comp=Z,2.9nm,1.0s						
S34M	Telegraph Cree	85.49	348	P	P	12 55 20.0	+1.9
O16K	Kokwok River B	85.73	2	P	P	12 55 18.9	-0.4
	baz=357						
Q23K	Middleton Isla	85.74	356	P	P	12 55 19.0	-0.2
	baz=6.3						
BRLDA	Berland Lookou	85.83	339	P	P	12 55 20.7	+0.7
ECSD	EROS Data Cent	85.85	322	P	P	12 55 21.8	+1.6
ECSD				IAmb	IAmb	12 55 24.8	
	comp=Z,9.9nm,1.4s						
ECSD	EROS Data Cent	85.85	322	P	P	12 55 20.0	-0.2
	baz=44						
WVT	Waverly	86.18	312	P	P	12 55 21.7	-0.2
	baz=49						
BDFB	Brasilia	86.24	248	LR	LR	13 35 33.3	
	comp=Z,308nm,19.9s,baz=14,slow=37						
CCM	Cathedral Cave	86.92	315	P	P	12 55 25.7	+0.2
CCM	Cathedral Cave	86.92	315	P	P	12 55 25.7	+0.2
CCM				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KDAK	Kodiak Island	87.60	359	LR	LR	13 39 24.5	
	comp=Z,87nm,18.4s,baz=22,slow=39						
LRAL	Lakeview Retre	87.69	309	P	P	12 55 29.4	+0.1
SHEM	Shemya Is, Ala	88.36	19	LR	LR	13 37 44.7	
	comp=Z,129nm,21.0s,baz=9.0,slow=37						
EGMT	Eagleton	88.39	332	P	P	12 55 31.7	-0.9
BBB	Bella Bella	90.30	344	LR	LR	13 37 55.2	
	comp=Z,65nm,19.9s,baz=9.5,slow=37						
NEW	Newport	90.82	336	LR	LR	13 39 21.4	
	comp=Z,142nm,19.0s,baz=17,slow=38						
PHWY	Pilot Hill	91.97	326	P	P	12 55 48.8	-0.8
PHWY				IAmb	IAmb	12 56 20.2	
	comp=Z,6.2nm,1.2s						
PDAR	Pinedale Array	92.61	329	P	P	12 55 50.2	-2.3
	comp=Z,0.3nm,0.7s,baz=253,slow=0.9,SNR=2.6						
PDAR				LR	LR	13 39 36.8	
	comp=Z,97nm,18.7s,baz=18,slow=37						
JCJ	Chichijima	93.73	53	LR	LR	13 41 43.7	
	comp=Z,76nm,21.2s,baz=285,slow=38						
SIV	San Ignacio	96.62	255	LR	LR	13 43 40.4	
	comp=Z,92nm,18.4s,baz=102,slow=38						
ANMO	Albuquerque	97.46	322	LR	LR	13 41 52.4	
	comp=Z,108nm,19.2s,baz=124,slow=36						
YBH	Yreka Blue Hor	98.44	337	LR	LR	13 43 41.4	
	comp=Z,174nm,18.5s,baz=14,slow=37						
CPUP	Villa Florida	99.53	245	LR	LR	13 44 50.5	
	comp=Z,169nm,18.2s,baz=53,slow=38						
NVAR	Mina Array Bea	99.82	332	LR	LR	13 45 57.3	
	comp=Z,208nm,18.4s,baz=31,slow=38						
WRA	Warramunga Arr	115.91	97	PKP	PKiKP	13 01 23.7	0.0
	comp=Z,0.4nm,0.8s,baz=294,slow=4.0,SNR=2.0						
ASAR	Alice Springs	117.37	101	PKP	PKPdf	13 01 25.7	-0.8
	comp=Z,0.5nm,0.7s,baz=312,slow=1.3,SNR=8.2						
QSPA	South Pole Qui	124.82	180	PKP	PKiKP	13 01 40.9	+1.1
	comp=Z,2.7nm,1.0s,baz=213,slow=1.4,SNR=5.4						

RSNC 13 12:59:05.4±0.0,7°N±1°×7°7W±°,h-1km±2km,M3.0,mb4.5, mB5.0,ML3.0,Mw(mB)4.3,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	Dabeiba	0.44	83	P	Pg	12 59 14.2	+0.3
DBBC				S	Sb	12 59 22.4	-0.9
APAC	Apartado, Choc	0.94	4	P	Pg	12 59 22.9	-0.5
APAC				S	Sn	12 59 39.3	-0.7
SOLC	Bahia Solano	1.05	226	P	Pg	12 59 21.0	-4.5
SOLC				S	Sg	12 59 35.1	-4.0
PTAC	Punta Ardita,	1.17	279	P	Pg	12 59 23.7	-4.1
PTAC				S	Sg	12 59 38.4	-4.5
UREC	San Jos de Ur	1.36	55	P	Pg	12 59 28.8	-2.7
UREC				S	Sg	12 59 46.8	-2.3
CAPC	Capurgana	1.80	337	P	Pn	12 59 32.5	-5.3
CAPC				S	Sn	12 59 59.4	-2.0
ZARC	Zaragoza, Cauc	1.85	73	P	Pn	12 59 35.8	-2.7
ZARC				S	Sn	12 59 59.9	-2.8
LCBC	Los crdobas,	1.91	8	P	Pn	12 59 37.2	-2.0
LCBC				S	Sn	13 00 04.4	+0.5
PTBC	PUERTO BERRIO,	2.22	101	P	Pn	12 59 41.0	-2.5
PTBC				S	Sn	13 00 10.5	-1.2
NORC	Norcasia	2.25	128	P	Pn	12 59 41.5	-2.5
NORC				S	Sn	13 00 10.3	-2.2
ANIL	Santa Ana	2.75	153	P	Pn	12 59 48.4	-2.7
ANIL				S	Sn	13 00 21.4	-3.7
SPBC	San Pablo de B	2.87	117	P	Pn	12 59 51.6	-1.0
SPBC				S	Sb	13 00 34.8	+1.4
YOTC	Yotoco, Valle	2.97	174	P	Pn	12 59 46.6	-7.4
YOTC				S	Sn	13 00 18.6	-12
ROSC	El Rosal	3.13	132	P	Pn	12 59 55.7	-0.7
ROSC				S	Sn	13 00 34.6	-0.1
SJCC	San Jacinto, C	3.26	26	P	Pn	12 59 54.9	-3.0
SJCC				S	Sn	13 00 32.0	-5.5
ORTC	Ortega, Tolima	3.34	155	P	Pn	12 59 56.6	-2.3
ORTC				S	Sn	13 00 36.8	-2.6
OCAC	Ocana	3.54	69	P	Pn	13 00 00.0	-1.8
OCAC				S	Sn	13 00 40.5	-3.9
PRAC	Prado	3.67	151	P	Pn	13 00 02.0	-1.5
AZU	Azuero	3.69	283	P	Pn	12 59 58.5	-5.2
AZU				S	Sn	13 00 37.8	-10
JAMC	Jamundi, Valle	3.72	180	P	Pn	12 59 57.9	-6.5
BCIP	Isla Barro Col	3.84	305	P	Pn	13 00 00.6	-5.2
BCIP				S	Sn	13 00 43.4	-8.4
PAMC	Pamplona, Colo	3.94	84	P	Pn	13 00 05.9	-1.7
PAMC				S	Sn	13 00 53.6	-1.2
VILC	Villavicencio,	4.08	134	P	Pn	13 00 09.0	-0.3
POPC

0.2nm,0.4s,baz=346,slow=26,SNR=1.8
0.6nm,0.5s
MKAR Makanchi Array 67.41 327 P P 13 29 44.0 0.0
0.2nm,0.4s,baz=125,slow=7.5,SNR=4.5
0.2nm,0.4s

KRSC 13 13:23:28.8±0.5, 56°.16N×162°.17E, h65km±5km, MI3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.32**	**72**	*e*P	Pn	13 23 40.3	+0.9
KBG				eS	Sn	13 23 48.9	+1.7
KBTR	**Krutoberegovo**	**0.37**	**82**	*e*P	Pn	13 23 40.9	+1.0
KBTR				eS	Sn	13 23 49.9	+1.9
SRKR	**Sorokina**	**0.74**	**312**	*e*P	Pn	13 23 45.0	+1.1
SRKR				eS	Sn	13 23 56.7	+1.6
ZLN	**Zelenaya**	**0.78**	**260**	*e*P	Pn	13 23 45.4	+1.1
ZLN				eS	Sn	13 23 57.3	+1.5
CIRR	**Tsirk**	**0.80**	**267**	*e*P	Pn	13 23 45.6	+1.0
CIRR				eS	Sn	13 23 57.6	+1.4
LGNR	**Loginova**	**0.83**	**265**	*e*P	Pn	13 23 46.2	+1.0
LGNR				eS	Sn	13 23 58.1	+0.9
BZGR	**Bezymyannyi-Gr**	**0.85**	**256**	*e*P	Pn	13 23 46.2	+1.0
BZGR				eS	Sn	13 23 58.6	+1.1
KLY	**Klyuchi**	**0.86**	**281**	*e*P	Pn	13 23 44.6	-0.6
KLY				eS	Sn	13 23 56.2	-1.1
KRSR	**Krestovskiy**	**0.90**	**274**	*e*P	Pn	13 23 46.2	+0.4
KRSR				eS	Sn	13 23 58.7	+0.3
BZP	**Bezymyannyi-Pe**	**0.95**	**256**	*e*P	Pn	13 23 47.5	+1.1
BZP				eS	Sn	13 24 00.4	+0.8
BZWR	**Bezymyannyi-We**	**0.96**	**259**	*e*P	Pn	13 23 47.7	+1.1
BZWR				eS	Sn	13 24 01.4	+1.6
BZMR	**Bezymyannaya**	**0.97**	**257**	*e*P	Pn	13 23 48.0	+1.2
BZMR				eS	Sn	13 24 01.2	+1.2
KIRR	**Kirishev**	**1.04**	**259**	*e*P	Pn	13 23 49.0	+1.3
KIRR				eS	Sn	13 24 03.5	+1.7
KPT	**Kopyto**	**1.11**	**261**	*e*P	Pn	13 23 50.0	+1.5
KPT				eS	Sn	13 24 04.8	+1.6
KMNR	**Kamenistaya**	**1.16**	**250**	*e*P	Pn	13 23 50.8	+1.6
KMNR				eS	Sn	13 24 06.4	+2.1
KOZ	**Kozyrevsk**	**1.29**	**266**	*e*P	Pn	13 23 53.0	+2.2
KOZ				eS	Sn	13 24 10.6	+3.4
SRDR	**Sredinnyy**	**1.38**	**278**	*e*P	Pn	13 23 54.1	+2.1
SRDR				eS	Sn	13 24 12.3	+2.9
TUMD	**Tumrok D**	**1.39**	**227**	*e*P	Pn	13 23 54.0	+1.9
TUMD				eS	Sn	13 24 11.6	+2.0
TUMR	**Tumrok**	**1.44**	**233**	*e*P	Pn	13 23 55.2	+2.3
TUMR				eS	Sn	13 24 13.4	+2.4
MKZ	**Mys Kozlova**	**1.63**	**189**	*e*P	Pn	13 23 56.2	+1.0
ESO	**Esso**	**1.96**	**265**	*e*P	Pn	13 24 01.4	+1.7
BKI	**Bering**	**2.36**	**112**	*e*P	Pn	13 24 07.8	+2.7
BKI				eS	Sn	13 24 34.5	+1.6
TIGL	**Tigil**	**2.50**	**311**	*e*P	Pn	13 24 10.6	+3.5
OSSR	**Ossora**	**3.14**	**8**	*e*P	Pn	13 24 17.9	+2.2
OSSR				eS	Sn	13 24 54.4	+2.5
SPN	**Mys Shipunski**	**3.31**	**203**	*e*P	Pn	13 24 19.0	+0.9
KRX	**Arik**	**3.47**	**217**	*e*P	Pn	13 24 24.0	+3.6
GNL	**Ganaly**	**3.47**	**226**	*e*P	Pn	13 24 22.8	+2.4
KRER	**Koryakskii**	**3.48**	**216**	*e*P	Pn	13 24 24.4	+3.8
SMAR	**Somma**	**3.50**	**215**	*e*P	Pn	13 24 24.1	+3.2
SMAR				eS	Sn	13 25 02.8	+1.7
AVH	**Avacha**	**3.52**	**216**	*e*P	Pn	13 24 25.3	+4.3
KOK	**Koryaka**	**3.53**	**217**	*e*P	Pn	13 24 25.4	+4.2
UGLR	**Uglovaya**	**3.54**	**215**	*e*P	Pn	13 24 24.2	+2.9
UGLR				eS	Sn	13 25 04.3	+2.4
DALK	**Dalny**	**3.71**	**214**	*e*P	Pn	13 24 26.0	+2.5
DALK				eS	Sn	13 25 08.9	+2.9
PET	**Petropavlovsk**	**3.75**	**215**	*e*P	Pn	13 24 25.8	+1.7
GRL	**Gorelyy**	**4.34**	**215**	*e*P	Pn	13 24 36.0	+3.8
APC	**Apacha**	**4.36**	**224**	*e*P	Pn	13 24 35.2	+2.7
MTVR	**Mutnovka**	**4.36**	**214**	*e*P	Pn	13 24 37.1	+4.5
ASAK	**Asacha**	**4.54**	**215**	*e*P	Pn	13 24 39.3	+4.4

IDC 13 13:41:52.1±8.4, 17°.74S×171°.48W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=364.1km s-min=40.2km az=140.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**51.14**	**258**	P	P	13 50 58.0	+0.8
	0.1nm,0.3s,baz=96,slow=7.5,SNR=9.3						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**51.18**	**254**	P	P	13 50 56.5	-1.1
	0.4nm,0.8s,baz=93,slow=8.0,SNR=5.3						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**84.39**	**10**	P	P	13 54 25.9	-0.1
	0.5nm,1.0s,baz=224,slow=6.3,SNR=4.5						
	0.5nm,1.0s						

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*IDC **13** 13:44:31.4±0.7, 28°.42S×178°.73W, h270km±6km, mb3.3/6, mbtmp3.9/6, Error ellipse: s-maj=21.8km s-min=18.7km az=57.0*

ISC 13 13:44:29.9±0.7, 28°.4S±0°.1×179°.2W±0°.1, h250km, n20, σ1§81/23, mb3.7/8, 4D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.37**	**127**	P	**Pn**	**13 45 09.6**	**+2.4**
	870nm,0.2s,baz=100,slow=8.1,SNR=28						
RAO				S	**S**	**13 45 38.7**	**+2.1**
	620nm,0.3s,baz=99,slow=21,SNR=4.5						
URZ	**Urewera**	**10.29**	**197**	P	**Pn**	**13 46 51.0**	**-1.0**
	6.1nm,1.0s,baz=100,slow=17,SNR=1.2						
URZ				S	S	13 48 40.2	-7.4
	7.5nm,0.3s,baz=69,slow=22,SNR=11						
ASAR	**Alice Springs**	**42.23**	**265**	P	**P**	**13 52 01.9**	**+3.0**
	0.5nm,0.7s,baz=96,slow=7.0,SNR=9.9						
ASAR				PcP	**PcP**	**13 53 47.5**	**-0.5**
	0.3nm,0.5s,baz=107,slow=4.0,SNR=6.1						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**43.03**	**271**	P	**P**	**13 52 08.1**	**+2.7**
	1.0nm,0.7s,baz=108,slow=7.6,SNR=12						
WRA				PcP	**PcP**	**13 53 50.9**	**+0.2**
	0.6nm,0.5s,baz=112,slow=3.2,SNR=5.0						
	1.0nm,0.7s						
QSPA	**South Pole Qui**	**61.68**	**180**	P	**P**	**13 54 21.5**	**+0.1**
	2.1nm,0.6s,baz=1.2,slow=0.3,SNR=23						
	2.1nm,0.6s						
MJAR	**Matsushiro Arr**	**76.04**	**326**	P	**P**	**13 55 48.9**	**-0.9**
	1.2nm,0.7s,baz=165,slow=5.0,SNR=4.3						
	1.2nm,0.7s						
TROLL	**Troll, Antarti**	**79.84**	**181**	⇓P	**P**	**13 56 09.5**	**-0.9**
	comp=Z,180nm,0.6s						
SNAA	**Sanae**	**80.15**	**179**	⇓P	**P**	**13 56 10.0**	**-2.0**
	comp=Z,16nm,0.5s						
SNAA	**Sanae**	**80.15**	**179**	P	**P**	**13 56 10.2**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=247,slow=7.7,SNR=7.3						
	comp=Z,1.0nm,0.7s						
VNA3	**Neumayer Olymp**	**80.34**	**177**	⇓P	**P**	**13 56 11.3**	**-1.5**
	comp=Z,4.1nm,0.7s						
VNA2	**Neumayer--Watz**	**80.76**	**177**	⇓P	**P**	**13 56 13.5**	**-1.6**
	comp=Z,3.7nm,0.6s,baz=193,slow=4.2						
NVAR	**Mina Array Bea**	**87.49**	**43**	P	**P**	**13 56 48.6**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=223,slow=7.6,SNR=4.8						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**115.72**	**311**	PKP	**PKPdf**	**14 02 41.2**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=17,slow=1.1,SNR=1.9						
KURBB	**Kurchatov Arra**	**118.98**	**315**	PKP	**PKPdf**	**14 02 47.5**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=95,slow=1.4,SNR=4.5						
FINES	**FINESS Array B**	**142.94**	**340**	PKP	**PKPdf**	**14 03 29.4**	**-3.6**
	comp=Z,1.4nm,0.5s,baz=69,slow=3.6,SNR=12						
NB2	**NORSAR Subarra**	**146.64**	**351**	PKP	**PKPdf**	**14 03 40.7**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=13,slow=2.9						
NOA	**NORSAR Array B**	**146.64**	**351**	PKPbc	**PKPdf**	**14 03 41.0**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=15,slow=4.5,SNR=6.7						
HFS	**Hagfors**	**147.11**	**348**	PKPbc	**PKPdf**	**14 03 41.8**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=48,slow=2.2,SNR=9.0						
AKASG	**Malin Array Be**	**149.11**	**324**	PKPbc	**PKPbc**	**14 03 48.2**	**0.0**
	comp=Z,1.1nm,0.4s,baz=33,slow=2.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**164.78**	**183**	PKPab	**PKPab**	**14 05 00.0**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=182,slow=2.5,SNR=5.2						

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*IDC **13** 14:31:36.2±1.0, 55°.82S×27°.40W, h0km, mb3.9/3, mbtmp3.8/4, ML3.6/1, MS3.3/1, Error ellipse: s-maj=47.1km s-min=25.7km az=75.0*

ISC 13 14:31:50.1±1.0, 56°.0S±0°.2×27°.5W±0°.3, h112km, n7, σ0§78/6, mb3.7/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.85**	**156**	P	**P**	**14 36 00.8**	**-0.2**
	0.2nm,0.3s,baz=325,slow=9.2,SNR=12						
	0.8nm,0.6s						
QSPA	**South Pole Qui**	**34.23**	**180**	P	**P**	**14 38 25.2**	**+0.5**
	0.6nm,0.5s,baz=210,slow=2.5,SNR=10						
	0.6nm,0.5s						
LPAZ	**La Paz**	**50.20**	**306**	P	**P**	**14 40 35.1**	**+0.1**
	1.0nm,0.4s,baz=172,slow=14,SNR=3.8						
	1.0nm,0.4s						
MATP	**Matopo**	**54.46**	**73**	LR	LR	15 03 14.7	
	comp=Z,24nm,18.4s,baz=238,slow=35						
TORD	**Torodi Ar. Bea**	**73.12**	**30**	P	**P**	**14 43 08.7**	**+0.6**
	0.9nm,0.7s,baz=187,slow=4.4,SNR=4.0						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**149.95**	**312**	PKPbc	**PKPbc**	**14 51 25.0**	**-0.7**
	1.2nm,0.7s,baz=117,slow=3.0,SNR=13						
SONM	**Songino Array**	**150.92**	**87**	PKPbc	**PKPbc**	**14 51 27.8**	**-0.9**
	1.0nm,0.5s,baz=224,slow=3.9,SNR=10						

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*NEIC **13** 14:42:35.1±2.5, 46°.4N±0°.1×153°.2E±0°.2, h35km±2km, mb4.4/12, Error ellipse: s-maj=25.2km s-min=17.4km az=143.0*
*MOS **13** 14:42:38.3±1.2, 46°.63N×152°.60E, h69km, mb4.2/1, Error ellipse: s-maj=14.0km s-min=10.1km az=48.5*
*SKHL **13** 14:42:39.7±0.7, 46°.60N×152°.60E, h85km±5km, mb4.8/5, msha5.5/5*
*IDC **13** 14:42:42.8±4.3, 46°.74N×152°.48E, h90km±36km, mb3.5/10, mbtmp3.9/13, MS3.6/2, Error ellipse: s-maj=34.0km s-min=18.3km az=96.0*

ISC 13 14:42:37.2±0.7, 46°.52N±0°.08×152°.87E±0°.08, h50km, n66, σ1§40/62, mb4.2/14, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.73**	**252**	*i*P	**Pn**	**14 43 33.2**	**+1.0**
KUR				AMB	AMB	14 43 35.5	
	80nm,0.4s						
KUR				*i*S	**Sn**	**14 44 13.8**	**-1.0**
KUR				A	A	14 44 19.3	
	240nm,0.5s						
KUR				A	A	14 44 19.3	
	130nm,0.5s						
KUR	**Kuril'sk**	**3.73**	**252**	⇓*i*PN	**Pn**	**14 43 33.5**	**+1.3**
KUR				*i*S	**Sn**	**14 44 15.0**	**+0.2**
KUR				pmax	pmax		
	comp=N,109nm,0.4s						
KUR				pmax	pmax		
	comp=Z,176nm,0.4s						
KUR				smax	smax		
	comp=N,241nm,0.5s						
KUR				smax	smax		
	comp=E,127nm,0.5s						
SKR	**Severo-Kuril's**	**4.69**	**26**	*e*P	**Pn**	**14 43 48.4**	**+3.0**
SKR				AMB	AMB	14 43 52.4	
	comp=E,30nm,0.4s						
SKR				*e*S	**Sn**	**14 44 39.1**	**+0.7**
SKR				A	A	14 44 41.0	
	comp=E,60nm,0.2s						
SKR				A	A	14 44 41.0	
	comp=E,50nm,0.2s						
SKR	**Severo-Kuril's**	**4.69**	**26**	*e*PN	**Pn**	**14 43 49.0**	**+3.6**
SKR				*e*S	**Sn**	**14 44 36.1**	**-2.3**
SKR				smax	smax		
	comp=N,126nm,0.5s						
SKR				smax	smax		
	comp=E,110nm,0.4s						
SKR				MLR	MLR		
	comp=Z,700nm,11.0s						
SHO	**Shikotan**	**5.03**	**240**	*e*P	**Pn**	**14 43 49.5**	**-0.5**
SHO				AMB	AMB	14 43 53.1	
	comp=Z,50nm,0.4s						
SHO				*e*S	**Sn**	**14 44 45.8**	**-0.9**
SHO				A	A	14 44 48.2	
	comp=Z,50nm,0.4s						
SHO				A	A	14 44 48.2	
	comp=Z,80nm,0.4s						
SHO	**Shikotan**	**5.03**	**240**	*e*PN	**Pn**	**14 43 49.1**	**-0.9**
SHO				*e*S	**Sn**	**14 44 44.2**	**-2.5**
SHO				pmax	pmax		
	comp=Z,35nm,0.3s						
SHO				pmax	pmax		
	comp=N,23nm,0.2s						
SHO				pmax	pmax		
	comp=E,17nm,0.4s						
SHO				smax	smax		
	comp=N,96nm,0.5s						
SHO				smax	smax		
	comp=E,55nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.54**	**246**	*e*P	**Pn**	**14 43 58.4**	**+1.4**
YUK				AMB	AMB	14 44 01.5	
	comp=E,90nm,0.7s						
YUK				*e*S	**Sn**	**14 44 57.7**	**-1.6**
YUK				A	A	14 45 09.0	
	comp=E,170nm,0.7s						
YUK				A	A	14 45 09.0	
	comp=E,230nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**5.54**	**246**	*e*PN	**Pn**	**14 43 58.4**	**+1.4**
YUK				*e*S	**Sn**	**14 44 57.7**	**-1.6**
YUK				pmax	pmax		
	comp=Z,176nm,0.2s						
YUK				pmax	pmax		
	comp=N,38nm,0.1s						
YUK				smax	smax		
	comp=N,165nm,0.5s						
YUK				smax	smax		
	comp=E,84nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.97**	**277**	Pn	**Pn**	**14 44 18.3**	**+1.7**
YSS	**Yuzh-Sakhalins**	**6.97**	**277**	*e*P	**Pn**	**14 44 17.9**	**+1.3**
YSS	**Yuzh-Sakhalins**	**6.97**	**277**	*e*PN	**Pn**	**14 44 17.9**	**+1.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
JKA	**Kamikawa-asahi**	**7.63**	**255**		**Pn**	**14 44 27.6**	**+1.9**
JKA	**Kamikawa-asahi**	**7.63**	**255**	*e*P	**Pn**	**14 44 27.6**	**+1.9**
ASAJ	**Asahikawa**	**7.63**	**255**	P	**Pn**	**14 44 28.4**	**+2.7**
	comp=Z,19nm,1.0s,baz=82,slow=21,SNR=14						
ASAJ	**Asahikawa**	**7.63**	**255**	PN	**Pn**	**14 44 27.6**	**+1.9**
ERM	**Erimo**	**8.30**	**241**		**Pn**	**14 44 35.2**	**+0.3**
ERM	**Erimo**	**8.30**	**241**	PN	**Pn**	**14 44 35.2**	**+0.3**
JTM	**Tenmabayashi**	**10.29**	**240**	Pn	**Pn**	**14 45 00.7**	**-1.4**
MA2	**Magadan**	**13.14**	**355**	Pn	**Pn**	**14 45 40.7**	**-0.2**
MA2	**Magadan**	**13.14**	**355**	P	**Pn**	**14 45 41.6**	**+0.7**
	comp=Z,3.7nm,0.5s,baz=160,slow=15,SNR=4.2						
MA2	**Magadan**	**13.14**	**355**	*e*P	**Pn**	**14 45 40.7**	**-0.2**
MA2	**Magadan**	**13.14**	**355**	PN	**Pn**	**14 45 40.7**	**-0.2**
MJAR	**Matsushiro Arr**	**14.81**	**233**	P	**P**	**14 46 10.3**	**+1.9**
	comp=Z,0.9nm,0.4s,baz=317,slow=8.7,SNR=4.6						
USA0B	**Ussuriysk Arra**	**14.86**	**269**		**Pn**	**14 46 04.5**	**+0.4**
USA0B	**Ussuriysk Arra**	**14.86**	**269**	P	**Pn**	**14 46 04.5**	**+0.4**
USA0B				pmax	pmax		
	comp=Z,4.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**14.86**	**269**		**Pn**	**14 46 05.1**	**+1.0**
USRK	**Ussuriysk Ar.**	**14.86**	**269**	P	**Pn**	**14 46 04.7**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=71,slow=12,SNR=11						
YAK	**Yakutsk**	**20.43**	**328**	P	**P**	**14 47 09.3**	**-0.7**
	comp=Z,11nm,0.7s,baz=308,slow=2.2,SNR=2.6						
	comp=Z,11nm,0.7s						
KSRS	**Korea Array**	**20.57**	**253**	P	Pn	14 47 13.4	-0.9
	comp=Z,1.1nm,0.7s,baz=58,slow=10,SNR=3.4						
	comp=Z,1.1nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.09**	**152**	T	T	15 19 58.4	
	baz=340,slow=76,SNR=229						
H11N1	**WAKE ISLAND Hy**	**29.11**	**152**	T	T	15 20 01.4	
	baz=340,slow=76,SNR=211						
H11N3	**WAKE ISLAND Hy**	**29.11**	**152**	T	T	15 19 59.6	
	baz=340,slow=76,SNR=208						
H11S1	**WAKE ISLAND Hy**	**30.18**	**153**	T	T	15 21 22.6	
	baz=341,slow=76,SNR=334						
H11S3	**WAKE ISLAND Hy**	**30.18**	**153**	T	T	15 21 25.2	
	baz=341,slow=76,SNR=251						
H11S2	**WAKE ISLAND Hy**	**30.19**	**153**	T	T	15 21 25.9	
	baz=341,slow=76,SNR=312						
N17K	**Nushagak Hills**	**31.96**	**46**	P	**P**	**14 48 55.4**	**-2.6**
D19K	**Kuna River**	**32.93**	**31**	P	**P**	**14 49 04.8**	**-1.6**
D19K				IAmb	IAmb	14 49 07.5	
	comp=Z,10nm,1.5s						
B20K	**Meade River**	**33.70**	**28**	P	**P**	**14 49 13.7**	**+0.6**
B21K	**Ikpikpuk River**	**34.45**	**29**	P	**P**	**14 49 19.7**	**+0.1**
B21K				IAmb	IAmb	14 49 37.2	
	comp=Z,8.1nm,1.2s						
D22K	**Ayikyak River**	**34.95**	**31**	P	**P**	**14 49 24.2**	**+0.2**
D22K				IAmb	IAmb	14 49 37.2	
	comp=Z,5.3nm,1.4s						
C23K	**Itkillik River**	**35.85**	**30**	P	**P**	**14 49 30.7**	**-0.9**
KURK	**Kurchatov**	**47.35**	**304**	*e*P	**P**	**14 51 05.0**	**-0.9**
KURK	**Kurchatov**	**47.35**	**304**	P	**P**	**14 51 05.0**	**-0.9**
KURBB	**Kurchatov Arra**	**47.45**	**304**	P	**P**	**14 51 05.0**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=67,slow=8.9,SNR=5.5						
	comp=Z,0.3nm,0.3s						
CBB	**Campbell River**	**51.93**	**54**	P	**P**	**14 51 39.4**	**-1.3**
AAK	**Ala-Archa**	**53.79**	**296**	LR	LR	15 17 16.8	
	comp=Z,27nm,21.3s,baz=126,slow=39						
ABKAR	**Akbulak array**	**58.45**	**310**	P	**P**	**14 52 26.3**	**-1.4**
FIA1	**FINESS Array S**	**64.18**	**335**	P	**P**	**14 53 05.6**	**-0.5**
FIA1				IAmb	IAmb	14 53 22.6	
	comp=Z,8.6nm,1.2s						
FINES	**FINESS Array B**	**64.18**	**335**	P	**P**	**14 53 05.8**	**-0.3**
FINES	**FINESS Array B**	**64.18**	**335**	P	**P**	**14 53 04.9**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=31,slow=7.9,SNR=14						
	comp=Z,1.1nm,0.5s						
FINES	**FINESS Array B**	**64.18**	**335**	P	**P**	**14 53 05.8**	**-0.3**
WRA	**Warramunga Arr**	**68.24**	**199**	P	**P**	**14 53 33.5**	**+0.9**
	comp=Z,0.3nm,0.9s,baz=20,slow=6.8,SNR=1.6						
	comp=Z,0.3nm,0.9s						
NB2	**NORSAR Subarra**	**68.39**	**341**	P	**P**	**14 53 33.0**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.39**	**341**	P	**P**	**14 53 33.0**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=29,slow=6.6,SNR=6.4						
	comp=Z,0.6nm,0.5s						
NOA	**NORSAR Array B**	**68.39**	**341**	P	**P**	**14 53 33.0**	**-0.2**
HFS	**Hagfors**	**68.61**	**339**	P	**P**	**14 53 33.4**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=46,slow=6.4,SNR=15						
	comp=Z,1.6nm,0.5s						
KVAR	**Kislovodsk Ar**	**70.84**	**314**	LR	LR	15 29 46.7	
	comp=Z,91nm,19.4s,baz=242,slow=40						
AKASG	**Malin Array Be**	**71.65**	**326**	P	**P**	**14 53 52.6**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=34,slow=5.9,SNR=4.9						
	comp=Z,1.2nm,0.4s						
ASAR	**Alice Springs**	**71.94**	**198**	P	**P**	**14 53 57.2**	**+2.1**
	comp=Z,0.4nm,1.0s,baz=8.4,slow=5.2,SNR=6.7						
	comp=Z,0.4nm,1.0s						
BUR08	**Bucovina Ar. S**	**75.67**	**326**	P	**P**	**14 54 16.9**	**-0.2**
BUR08				IAmb	IAmb	14 54 17.9	
	comp=Z,2.4nm,0.5s						
BURAR	**Bucovina Array**	**75.69**	**326**	P	**P**	**14 54 16.8**	**-0.4**
BURAR				IAmb	IAmb	14 54 18.1	
	comp=Z,1.8nm,0.6s						
CLL	**Collm**	**76.61**	**335**	*i*P	**P**	**14 54 22.2**	**+0.1**
TXAR	**Lajitas Array**	**77.75**	**60**	P	**P**	**14 54 31.4**	**+2.4**
	comp=Z,0.2nm,0.6s,baz=302,slow=5.6,SNR=3.5						
	comp=Z,0.2nm,0.6s						
H03N2	**Juan Fernandez**	**138.92**	**90**	T	T	17 37 19.2	
	baz=308,slow=77,SNR=25						
H03N1	**Juan Fernandez**	**138.93**	**90**	T	T	17 37 21.4	
	baz=308,slow=77,SNR=23						
H03N3	**Juan Fernandez**	**138.93**	**90**	T	T	17 37 20.1	
	baz=308,slow=77,SNR=20						

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*IDC **13** 14:54:43.1±1.7, 5°.03S×11°.30W, h0km, mb4.0/5, mbtmp4.0/5, MS3.4/12, Error ellipse: s-maj=138.9km s-min=22.8km az=104.0*

ISC 13 14:54:46.3±1.6, 5°.0S±0°.3×11°.3W±0°.9, h18km, n25, σ0§59/9, mb4.2/7, MS3.2/11, 4C, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**4.26**	**228**	T	T	14 59 44.9	
	baz=46,slow=74,SNR=249						
H10N1	**ASCENSION HYDR**	**4.27**	**228**	T	T	14 59 43.7	
	baz=46,slow=74,SNR=697						
H10N3	**ASCENSION HYDR**	**4.28**	**228**	T	T	14 59 46.0	
	baz=46,slow=74,SNR=156						
H10S2	**ASCENSION HYDR**	**5.17**	**220**	T	T	15 00 55.3	
	baz=182,slow=74,SNR=200						
H10S3	**ASCENSION HYDR**	**5.18**	**220**	T	T	15 00 55.6	
	baz=38,slow=74,SNR=67						
DBIC	**Dimbokro**	**13.24**	**29**	LR	LR	15 01 54.1	
	comp=Z,164nm,22.0s,baz=203,slow=32						
BBTS	**Babate**	**20.21**	**345**	LR	LR	15 06 11.4	
	comp=Z,45nm,18.7s,baz=346,slow=34						
TORD	**Torodi Ar. Bea**	**22.15**	**35**	P	**P**	**14 59 41.3**	**0.0**
	2.3nm,0.8s,baz=223,slow=10,SNR=7.0						
TORD				LR	LR	15 07 24.5	
	comp=Z,103nm,19.9s,baz=185,slow=34						
	2.3nm,0.8s						
TSUM	**Tsumeb**	**31.47**	**119**	LR	LR	15 12 05.1	
	comp=Z,52nm,20.6s,baz=331,slow=33						
BDFB	**Brasilia**	**37.60**	**251**	LR	LR	15 14 07.7	
	comp=Z,53nm,19.9s,baz=144,slow=31						
ESDC	**Sonseca Array**	**44.95**	**8**	LR	LR	15 20 47.6	
	comp=Z,23nm,18.9s,baz=138,slow=35						
CPUP	**Villa Florida**	**48.81**	**239**	LR	LR	15 22 59.2	
	comp=Z,23nm,18.3s,baz=87,slow=35						
LPAZ	**La Paz**	**56.83**	**254**	LR	LR	15 27 45.4	
	comp=Z,27nm,19.0s,baz=51,slow=35						
GERES	**GERESS Array B**	**57.88**	**19**	P	**P**	**15 04 37.5**	**+0.3**
	0.7nm,0.6s,baz=168,slow=5.0,SNR=3.9						
	0.7nm,0.6s						
LVC	**Limon Verde**	**58.28**	**247**	LR	LR	15 30 31.2	
	comp=Z,19nm,18.0s,baz=33,slow=37						
NNA	**Nana**	**65.10**	**259**	LR	LR	15 32 18.9	
	comp=Z,53nm,19.6s,baz=110,slow=35						
AKASG	**Malin Array Be**	**65.48**	**27**	LR	LR	15 36 12.1	
	comp=Z,154nm,18.2s,baz=54,slow=38						
VNA2	**Neumayer--Watz**	**65.89**	**179**	⇑P	**P**

comp=N,4μm,1.2s
HMH IAML 15 19 26.8
comp=E,4μm,0.7s
PAH Pahoa 0.31 74 Pg Pg 15 19 18.2 +0.8
MLOA Mauna Loa Obse 0.32 293 Pg Pg 15 19 18.4 +0.7
MLOA IAML 15 19 26.8
comp=N,4μm,1.3s
MLOA IAML 15 19 27.9
comp=E,3μm,1.3s
MWH Moku'aweowe 0.32 284 Pg Pg 15 19 18.3 +0.6
KHU Kahuku 0.37 244 Pg 15 19 19.6 +1.0
KHU IAML 15 19 26.6
comp=E,3μm,0.6s
KHU IAML 15 19 26.7
comp=N,3μm,0.9s
HUH Hualalai 0.61 297 Pg 15 19 24.0 +0.9
HPAH Hawaii Prepara 0.74 327 Pg 15 19 24.8 -0.9
MHA Mahukona 0.98 322 Pg 15 19 28.4 -1.9

*JMA **13** 15:44:06.7±0.3, 44°N±1°×14°8E±°, h19km, MV3.1/23, E OFF HOKKAIDO*
*SKHL **13** 15:44:07.8±0.2, 43°.70N×147°.70E, h73km±7km, mb3.7/2*
ISC 13 15:44:05.9±2.6, 43°.6N±0°.1×147°.9E±0°.1, h46km±55km, n13, σ0§94/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.82**	**290**	*e*P	**Pn**	**15 44 21.6**	**+0.6**
SHO				AMB	AMB	15 44 22.2	
50nm,0.5s							
SHO				*e*S	**Sn**	**15 44 32.4**	**+0.4**
SHO				A	A	15 44 33.4	
800nm,0.3s							
SHO				A	A	15 44 33.4	
160nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.53**	**287**	*e*P	**Pn**	**15 44 31.0**	**+0.3**
YUK				AMB	AMB	15 44 35.6	
40nm,0.3s							
YUK				*e*S	**Sn**	**15 44 47.4**	**-2.1**
YUK				A	A	15 44 49.6	
170nm,0.3s							
YUK				A	A	15 44 49.6	
140nm,0.3s							
NEM2	**Nemuro 2**	**1.58**	**262**	P	**Pn**	**15 44 31.4**	**0.0**
NEM2				S	**Sn**	**15 44 49.4**	**-1.3**
KUR	**Kuril'sk**	**1.63**	**359**	*e*P	**Pn**	**15 44 32.4**	**+0.3**
KUR				*i*S	**Sn**	**15 44 51.0**	**-0.9**
KUR				A	A	15 44 54.1	
120nm,0.2s							
KUR				A	A	15 44 54.1	
100nm,0.2s							
JRA	**Rausu**	**2.04**	**280**	P	**Pn**	**15 44 38.3**	**+0.7**
JRA				S	**Sn**	**15 45 02.1**	**+0.3**
JKHN	**Kushirohamanak**	**2.06**	**256**	P	**Pn**	**15 44 38.5**	**+0.5**
JKHN				S	**Sn**	**15 45 01.4**	**-1.1**
JNSB	**Nemuroshibetsu**	**2.10**	**276**	P	**Pn**	**15 44 39.4**	**+0.9**
JNSB				S	**Sn**	**15 45 03.4**	**-0.1**
JNK	**Nakash**	**2.31**	**271**	P	**Pn**	**15 44 41.4**	**+0.1**
JNK				S	**Sn**	**15 45 07.8**	**-0.7**
JAK	**Akkeshi**	**2.41**	**257**	P	**Pn**	**15 44 43.0**	**+0.2**
JAK				S	**Sn**	**15 45 09.8**	**-1.3**
JTKR	**Abashiri--Toko**	**2.91**	**279**	*e*P	**Pn**	**15 44 50.8**	**+1.2**
JAR	**Ashorobuto**	**3.02**	**266**	P	**Pn**	**15 44 52.4**	**+1.3**
JAR				S	**Sn**	**15 45 25.8**	**-0.3**
JCH	**Churui**	**3.46**	**255**	P	**Pn**	**15 44 58.3**	**+1.1**
JNBK	**Urakawa-nobuka**	**4.00**	**252**	P	**Pn**	**15 45 05.1**	**+0.5**

*IDC **13** 15:46:49.4±0.8, 51°.24N×158°.07E, h0km, mb3.8/16, mbtmp3.8/16, MS2.8/5, Error ellipse: s-maj=22.4km s-min=18.1km az=162.0*
*KRSC **13** 15:46:52.4±1.6, 50°.98N×158°.47E, h42km±22km, Ml4.5, Felt [II-III] at Viluchinsk.*
*MOS **13** 15:46:53.6±1.0, 50°.94N×158°.28E, h48km, mb4.2/1, Error ellipse: s-maj=19.6km s-min=3.8km az=84.8*
ISC 13 15:46:54.6±1.6, 50°.97N±0°.07×158°.33E±0°.07, h41km±14km, n96, σ1§61/112, mb3.8/16, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.86**	**349**	*e*P	**Pn**	**15 47 09.5**	**-0.7**
KDTR				*e*S	**Sn**	**15 47 20.2**	**-1.3**
KDTR	**Khodutka, Kamc**	**0.86**	**349**	PN	**Pn**	**15 47 09.5**	**-0.7**
KDTR				S	**Sn**	**15 47 20.2**	**-1.3**
SKR	**Severo-Kuril's**	**1.43**	**259**	*e*P	**Pn**	**15 47 18.3**	**+0.2**
SKR				*e*S	**Sn**	**15 47 35.9**	**+0.2**
SKR	**Severo-Kuril's**	**1.43**	**259**	PN	**Pn**	**15 47 18.3**	**+0.2**
SKR				S	**Sn**	**15 47 35.9**	**+0.2**
ASAK	**Asacha**	**1.44**	**349**	*e*P	**Pn**	**15 47 18.0**	**-0.3**
ASAK				*e*S	**Sn**	**15 47 35.5**	**-0.5**
ASAK	**Asacha**	**1.44**	**349**	PN	**Pn**	**15 47 18.0**	**-0.3**
ASAK				S	**Sn**	**15 47 35.5**	**-0.5**
MTVR	**Mutnovka**	**1.52**	**357**	*e*P	**Pn**	**15 47 19.1**	**-0.3**
MTVR				*e*S	**Sn**	**15 47 37.1**	**-1.0**
MTVR	**Mutnovka**	**1.52**	**357**	PN	**Pn**	**15 47 19.1**	**-0.3**
MTVR				S	**Sn**	**15 47 37.1**	**-1.0**
GRL	**Gorelyy**	**1.59**	**354**	*e*P	**Pn**	**15 47 20.6**	**+0.2**
GRL				*e*S	**Sn**	**15 47 39.9**	**0.0**
GRL	**Gorelyy**	**1.59**	**354**	PN	**Pn**	**15 47 20.6**	**+0.2**
GRL				S	**Sn**	**15 47 39.9**	**0.0**
KRMR	**Karymshinskiy**	**1.87**	**356**	*e*P	**Pn**	**15 47 24.1**	**0.0**
KRMR				*e*S	**Sn**	**15 47 47.5**	**+1.1**
KRMR	**Karymshinskiy**	**1.87**	**356**	PN	**Pn**	**15 47 24.1**	**0.0**
KRMR				S	**Sn**	**15 47 47.5**	**+1.1**
PET	**Petropavlovsk**	**2.07**	**5**	*e*P	**Pn**	**15 47 26.7**	**0.0**
PET				*e*S	**Sn**	**15 47 51.4**	**+0.1**
PET	**Petropavlovsk**	**2.07**	**5**	*e*PN	**Pn**	**15 47 26.8**	**0.0**
PET				*e*S	**Sn**	**15 47 50.5**	**-0.8**
PET				pmax	pmax		
comp=Z,279nm,0.5s							
PET				smax	smax		
comp=N,1μm,0.5s							
PET				smax	smax		
comp=E,842nm,0.5s							
DALK	**Dalny**	**2.08**	**7**	*e*P	**Pn**	**15 47 27.2**	**+0.2**
DALK				*e*S	**Sn**	**15 47 50.9**	**-0.7**
DALK	**Dalny**	**2.08**	**7**	PN	**Pn**	**15 47 27.2**	**+0.2**
DALK				S	**Sn**	**15 47 50.9**	**-0.7**
APC	**Apacha**	**2.09**	**340**	*e*P	**Pn**	**15 47 27.8**	**+0.7**
APC	**Apacha**	**2.09**	**340**	PN	**Pn**	**15 47 27.8**	**+0.7**
UGLR	**Uglovaya**	**2.26**	**7**	*e*P	**Pn**	**15 47 30.1**	**+0.5**
UGLR	**Uglovaya**	**2.26**	**7**	PN	**Pn**	**15 47 30.1**	**+0.5**
NLC	**Nalytchevo**	**2.29**	**15**	*e*P	**Pn**	**15 47 28.6**	**-1.2**
NLC				*e*S	**Sn**	**15 47 54.5**	**-2.3**
NLC	**Nalytchevo**	**2.29**	**15**	PN	**Pn**	**15 47 28.6**	**-1.2**
NLC				S	**Sn**	**15 47 54.5**	**-2.3**
AVH	**Avacha**	**2.31**	**6**	*e*P	**Pn**	**15 47 31.0**	**+0.8**
AVH	**Avacha**	**2.31**	**6**	PN	**Pn**	**15 47 31.0**	**+0.8**
SMAR	**Somma**	**2.32**	**7**	*e*P	**Pn**	**15 47 31.2**	**+0.9**
SMAR	**Somma**	**2.32**	**7**	PN	**Pn**	**15 47 31.3**	**+0.9**
KOK	**Koryaka**	**2.33**	**4**	*e*P	**Pn**	**15 47 31.8**	**+1.2**
KOK				*e*S	**Sn**	**15 48 00.4**	**+2.4**
KOK	**Koryaka**	**2.33**	**4**	PN	**Pn**	**15 47 31.8**	**+1.2**
KOK				S	**Sn**	**15 48 00.4**	**+2.4**
KRER	**Koryakskii**	**2.35**	**6**	*e*P	**Pn**	**15 47 31.8**	**+0.9**
KRER				*e*S	**Sn**	**15 47 58.5**	**-0.1**
KRER	**Koryakskii**	**2.35**	**6**	PN	**Pn**	**15 47 31.8**	**+0.9**
KRER				S	**Sn**	**15 47 58.5**	**-0.1**
SPN	**Mys Shipunski**	**2.37**	**25**	*e*P	**Pn**	**15 47 31.4**	**+0.4**
SPN				*e*S	**Sn**	**15 47 57.7**	**-1.1**
SPN	**Mys Shipunski**	**2.37**	**25**	PN	**Pn**	**15 47 31.4**	**+0.4**
SPN				S	**Sn**	**15 47 57.7**	**-1.1**
KRX	**Arik**	**2.40**	**5**	*e*P	**Pn**	**15 47 32.6**	**+1.1**
KRX	**Arik**	**2.40**	**5**	PN	**Pn**	**15 47 32.6**	**+1.1**
GNL	**Ganaly**	**2.74**	**355**	*e*P	**Pn**	**15 47 37.1**	**+1.0**
GNL				*e*S	**Sn**	**15 48 10.4**	**+2.3**
GNL	**Ganaly**	**2.74**	**355**	PN	**Pn**	**15 47 37.1**	**+1.0**
GNL				S	**Sn**	**15 48 10.4**	**+2.3**
KII	**Karymskiy**	**3.15**	**12**	*e*P	**Pn**	**15 47 44.1**	**+2.4**
KII				*e*S	**Sn**	**15 48 20.6**	**+2.6**
KII	**Karymskiy**	**3.15**	**12**	PN	**Pn**	**15 47 44.1**	**+2.4**
KII				S	**Sn**	**15 48 20.6**	**+2.6**
MKZ	**Mys Kozlova**	**4.14**	**29**	*e*P	**Pn**	**15 47 54.8**	**-0.4**
MKZ	**Mys Kozlova**	**4.14**	**29**	PN	**Pn**	**15 47 54.8**	**-0.4**
TUMD	**Tumrok D**	**4.42**	**16**	*e*P	**Pn**	**15 48 00.7**	**+1.6**
TUMD				*e*S	**Sn**	**15 48 49.1**	**-0.2**
TUMR	**Tumrok**	**4.46**	**13**	*e*P	**Pn**	**15 48 01.8**	**+2.1**
TUMR	**Tumrok**	**4.46**	**13**	PN	**Pn**	**15 48 00.7**	**+1.0**
KMNR	**Kamenistaya**	**4.93**	**13**	*e*P	**Pn**	**15 48 08.8**	**+2.7**
KMNR	**Kamenistaya**	**4.93**	**13**	PN	**Pn**	**15 48 08.8**	**+2.7**
ESO	**Esso**	**4.97**	**2**	*e*P	**Pn**	**15 48 08.5**	**+1.9**
ESO	**Esso**	**4.97**	**2**	PN	**Pn**	**15 48 08.5**	**+1.9**
KPT	**Kopyto**	**5.13**	**12**	*e*P	**Pn**	**15 48 12.1**	**+3.2**
KPT	**Kopyto**	**5.13**	**12**	PN	**Pn**	**15 48 12.1**	**+3.2**
KIRR	**Kirishev**	**5.14**	**13**	*e*P	**Pn**	**15 48 12.6**	**+3.6**
KIRR	**Kirishev**	**5.14**	**13**	PN	**Pn**	**15 48 12.6**	**+3.6**
BZMR	**Bezymyannaya**	**5.14**	**14**	*e*P	**Pn**	**15 48 11.5**	**+2.4**
BZMR	**Bezymyannaya**	**5.14**	**14**	PN	**Pn**	**15 48 11.5**	**+2.4**
BZWR	**Bezymyannyi-We**	**5.17**	**14**	*e*P	**Pn**	**15 48 11.5**	**+2.0**
BZWR	**Bezymyannyi-We**	**5.17**	**14**	PN	**Pn**	**15 48 11.5**	**+2.0**
KOZ	**Kozyrevsk**	**5.18**	**10**	*e*P	**Pn**	**15 48 13.1**	**+3.6**
KOZ	**Kozyrevsk**	**5.18**	**10**	PN	**Pn**	**15 48 13.1**	**+3.6**
SRDR	**Sredinnyy**	**5.42**	**8**	*e*P	**Pn**	**15 48 15.5**	**+2.6**
SRDR	**Sredinnyy**	**5.42**	**8**	PN	**Pn**	**15 48 15.5**	**+2.6**
KLY	**Klyuchi**	**5.53**	**14**	*e*P	**Pn**	**15 48 17.2**	**+2.9**
KLY	**Klyuchi**	**5.53**	**14**	PN	**Pn**	**15 48 17.2**	**+2.9**
KBTR	**Krutoberegovo**	**5.89**	**25**	*e*P	**Pn**	**15 48 19.9**	**+0.7**
KBTR	**Krutoberegovo**	**5.89**	**25**	PN	**Pn**	**15 48 19.9**	**+0.7**
KBG	**Krutoberegovo**	**5.90**	**24**	*e*P	**Pn**	**15 48 20.0**	**+0.7**
KBG	**Krutoberegovo**	**5.90**	**24**	PN	**Pn**	**15 48 20.0**	**+0.7**
MA2	**Magadan**	**9.64**	**336**	LR	LR	15 53 09.7	
comp=E,38nm,18.5s,baz=106,slow=41							
SHEM	**Shemya Is, Ala**	**9.92**	**74**	LR	LR	15 52 39.9	
comp=E,28nm,21.3s,baz=179,slow=35							
ASAJ	**Asahikawa**	**12.64**	**243**	LR	LR	15 55 44.2	
comp=E,26nm,18.5s,baz=18,slow=42							
YAK	**Yakutsk**	**19.12**	**316**	LR	LR	15 59 09.2	
comp=E,45nm,19.4s,baz=156,slow=39							
ILAR	**Eielson Array**	**31.10**	**43**	P	**P**	**15 53 08.1**	**-0.5**
comp=E,0.4nm,0.7s,baz=262,slow=7.1,SNR=6.3							
comp=E,0.4nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**31.90**	**165**	T	T	16 27 11.2	
baz=350,slow=76,SNR=277							
H11N3	**WAKE ISLAND Hy**	**31.91**	**165**	T	T	16 27 13.5	
baz=350,slow=76,SNR=237							
H11N1	**WAKE ISLAND Hy**	**31.91**	**165**	T	T	16 27 13.5	
baz=350,slow=76,SNR=179							
H11S1	**WAKE ISLAND Hy**	**33.06**	**165**	T	T	16 28 37.2	
baz=351,slow=76,SNR=115							
H11S3	**WAKE ISLAND Hy**	**33.08**	**165**	T	T	16 28 38.5	
baz=351,slow=76,SNR=186							
H11S2	**WAKE ISLAND Hy**	**33.08**	**165**	T	T	16 28 41.2	
baz=351,slow=76,SNR=74							
KURK	**Kurchatov**	**47.95**	**303**	P	**P**	**15 55 27.4**	**-1.3**
KURBB	**Kurchatov Arra**	**48.05**	**303**	P	**P**	**15 55 27.4**	**-2.0**
comp=E,0.8nm,0.5s,baz=62,slow=7.4,SNR=5.7							
comp=E,0.8nm,0.5s							
MKAR	**Makanchi Array**	**48.11**	**296**	P	**P**	**15 55 28.7**	**-1.4**
comp=E,0.2nm,0.4s,baz=56,slow=7.7,SNR=5.9							
MKAR				LR	LR	16 18 53.4	
comp=E,34nm,18.0s,baz=30,slow=40							
comp=E,0.2nm,0.4s							
SPITS	**Spitsbergen Ar**	**49.05**	**350**	P	**P**	**15 55 35.9**	**-0.9**
comp=E,4.3nm,0.8s,baz=50,slow=14,SNR=6.5							
comp=E,4.3nm,0.8s							
BVAR	**Borovoye Array**	**50.87**	**309**	P	**P**	**15 55 48.9**	**-2.0**
comp=E,1.4nm,0.5s,baz=57,slow=7.8,SNR=6.5							
comp=E,1.4nm,0.5s							
CMAR	**Chiang Mai Arr**	**56.67**	**258**	P	**P**	**15 56 35.5**	**+1.7**
comp=E,1.0nm,0.7s,baz=27,slow=6.8,SNR=7.7							
comp=E,1.0nm,0.7s							
NVAR	**Mina Array Bea**	**57.52**	**68**	P	**P**	**15 56 41.4**	**+1.5**
comp=E,0.5nm,0.7s,baz=306,slow=7.7,SNR=3.5							
comp=E,0.5nm,0.7s							
PDAR	**Pinedale Array**	**59.53**	**59**	P	**P**	**15 56 55.2**	**+1.4**
comp=E,0.6nm,0.8s,baz=339,slow=3.8,SNR=5.5							
comp=E,0.6nm,0.8s							
FINES	**FINESS Array B**	**61.63**	**336**	P	**P**	**15 57 05.9**	**-1.6**
comp=E,0.3nm,0.3s,baz=60,slow=5.6,SNR=6.4							
comp=E,0.3nm,0.3s							
NB2	**NORSAR Subarra**	**65.27**	**343**	P	**P**	**15 57 29.9**	**-1.7**
comp=Z,0.5nm,0.7s,baz=22,slow=6.9							
NOA	**NORSAR Array B**	**65.27**	**343**	P	**P**	**15 57 30.1**	**-1.4**
comp=Z,0.4nm,0.5s,baz=21,slow=6.6,SNR=4.7							
comp=Z,0.4nm,0.5s							
HFS	**Hagfors**	**65.63**	**341**	P	**P**	**15 57 31.4**	**-2.4**
comp=Z,0.5nm,0.4s,baz=38,slow=5.6,SNR=6.5							
comp=Z,0.5nm,0.4s							
TXAR	**Lajitas Array**	**72.50**	**65**	P	**P**	**15 58 18.1**	**+1.0**
comp=Z,0.9nm,0.6s,baz=308,slow=4.4,SNR=10							
comp=Z,0.9nm,0.6s							
EKA	**Eskdalemuir Ar**	**72.95**	**349**	P	**P**	**15 58 18.4**	**-0.8**
comp=Z,0.3nm,0.3s,baz=16,slow=4.6,SNR=7.7							
comp=Z,0.3nm,0.3s							
WRA	**Warramunga Arr**	**73.69**	**203**	P	**P**	**15 58 24.9**	**+1.0**
comp=Z,0.7nm,0.8s,baz=14,slow=5.9,SNR=3.6							
comp=Z,0.7nm,0.8s							
ASAR	**Alice Springs**	**77.37**	**203**	P	**P**	**15 58 46.3**	**+1.4**
comp=Z,0.5nm,0.7s,baz=18,slow=4.5,SNR=4.8							
comp=Z,0.5nm,0.7s							
MMAI	**Mount Meron Ar**	**82.45**	**315**	P	**P**	**15 59 12.2**	**-0.4**
comp=Z,0.8nm,0.4s,baz=41,slow=9.5,SNR=4.0							
comp=Z,0.8nm,0.4s							
H03N2	**Juan Fernandez**	**135.30**	**90**	T	T	18 36 30.1	
baz=314,slow=77,SNR=284							
H03N1	**Juan Fernandez**	**135.32**	**90**	T	T	18 36 34.1	
baz=314,slow=77,SNR=271							
H03N3	**Juan Fernandez**	**135.32**	**90**	T	T	18 36 32.4	
baz=314,slow=77,SNR=233							

*IDC **13** 16:02:09.9±2.2, 14°.63N×93°.84W, h0km, mb3.8/6, mbtmp3.9/9, ML4.2/3, MS3.7/39, Error ellipse: s-maj=48.8km s-min=38.4km az=37.0*
*CATAC **13** 16:02:14.6±0.5, 14°.67N×93°.84W, h10km, MB4.9, mb5.1, ML5.0*
*MEX **13** 16:02:15.5±0.6, 14°.79N×93°.90W, h18km±999km, MD4.5*
*SNET **13** 16:02:15.0±1.2, 14°.78N×93°.68W, h0km±106km, ML4.5*
*GCG **13** 16:02:17.9±0.5, 14°.55N×93°.76W, h102km±40km, MD4.7*
*NEIC **13** 16:02:19.0±2.0, 14°.7N±0°.1×93°.69W±0°.05, h59km±11km, mb4.2/28, Error ellipse: s-maj=16.2km s-min=5.1km az=198.0*
ISC 13 16:02:15.6±2.3, 14°.82N±0°.05×93°.94W±0°.03, h27km±18km, n183, σ1§97/205, mb4.1/11, MS3.8/35, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.13**	**38**	*e*P	**Pn**	**16 02 33.0**	**-2.5**
PCIG				*e*S	**Sn**	**16 02 46.0**	**-4.2**
CARR	**Arriaga**	**1.42**	**1**	*e*P	**Pn**	**16 02 37.6**	**-2.0**
CARR				*i*S	**Sn**	**16 02 54.5**	**-3.0**
THIG		**1.63**	**87**	*e*P	Pn	16 02 39.0	-3.4
THIG				*e*S	**Sn**	**16 02 59.3**	**-3.2**
PATR	**El Naranjo**	**1.68**	**80**	*e*P	**Pn**	**16 02 40.3**	**-3.1**
PATR				*e*S	**Sn**	**16 02 59.7**	**-4.4**
PAVE	**Pavencul**	**1.75**	**77**	*e*P	**Pn**	**16 02 41.5**	**-2.8**
PAVE				*e*S	**Sn**	**16 03 00.2**	**-5.6**
CHUJ	**Union Juarez**	**1.80**	**81**	*e*P	Pn	16 02 41.4	-3.6
CHUJ				*e*S	**Sn**	**16 03 02.8**	**-4.2**
NILT	**Santiago Nilte**	**1.86**	**340**	*e*P	**Pn**	**16 02 43.9**	**-1.7**
NILT				*e*S	**Sn**	**16 03 06.5**	**-1.7**
TGIG		**2.10**	**22**	*e*P	**Pn**	**16 02 48.8**	**-0.3**
TGIG				*e*S	**Sn**	**16 03 13.7**	**-0.7**
TGBT	**Tuxtla Gutierr**	**2.12**	**23**	*e*P	**Pn**	**16 02 48.6**	**-0.6**
TGBT				*e*S	**Sn**	**16 03 13.2**	**-1.4**
RTAL	**Retalhuleu**	**2.20**	**97**		**Pn**	**16 02 48.0**	**-2.3**
RTAL	**Retalhuleu**	**2.20**	**97**	*e*P	**Pn**	**16 02 47.8**	**-2.5**
RTAL				*e*S	**Sn**	**16 03 14.4**	**-2.2**
RTAL	**Retalhuleu**	**2.20**	**97**	*e*P	**Pn**	**16 02 48.3**	**-2.0**
RTAL				*e*S	**Sn**	**16 03 15.3**	**-1.3**
RTAL	**Retalhuleu**	**2.20**	**97**	*i*P	**Pn**	**16 02 48.1**	**-2.2**
RTAL				*i*S	**Sn**	**16 03 15.0**	**-1.6**
RTAL				IAML		16 03 25.0	
comp=Z,4μm,1.0s							
CCIG	**Comitan**	**2.27**	**50**		**Pn**	**16 02 52.0**	**+0.5**
CCIG	**Comitan**	**2.27**	**50**	*e*P	**Pn**	**16 02 51.6**	**+0.1**
CCIG	**Comitan**	**2.27**	**50**	*i*P	**Pn**	**16 02 52.1**	**+0.6**
CCIG				*i*S	**Sb**	**16 03 20.7**	**-3.1**
CCIG				IAML		16 03 22.3	
comp=Z,8μm,1.0s							
HUIG	**Huatulco**	**2.29**	**295**	*e*P	**Pn**	**16 02 49.9**	**-1.7**
HUIG				*e*S	**Sn**	**16 03 15.5**	**-3.5**
STG3	**Santiaguito 3,**	**2.30**	**92**	*i*P	**Pn**	**16 02 50.6**	**-1.3**
QUEO	**Labor Ovalle**	**2.35**	**88**	*i*P	**Pn**	**16 02 51.3**	**-1.4**
QUEO				*i*S	**Sn**	**16 03 20.1**	**-0.7**
QUEO				IAML		16 03 34.1	
comp=Z,10μm,1.0s							
SULM	**Suchitepequez,**	**2.36**	**102**	*i*P	**Pn**	**16 02 52.5**	**0.0**
SULM				*i*S	**Sn**	**16 03 19.7**	**-0.9**
HUEH	**Huehuetenango**	**2.41**	**78**		**Pn**	**16 02 53.4**	**0.0**
HUEH	**Huehuetenango**	**2.41**	**78**	*e*P	**Pn**	**16 02 52.6**	**-0.9**
HUEH				*e*S	**Sn**	**16 03 23.5**	**+1.3**
HUEH	**Huehuetenango**	**2.41**	**78**	*e*P	**Pn**	**16 02 53.7**	**+0.3**
HUEH				*e*S	**Sn**	**16 03 22.8**	**+0.6**
HUEH	**Huehuetenango**	**2.41**	**78**	*i*P	**Pn**	**16 02 53.8**	**+0.3**
HUEH				*i*S	**Sn**	**16 03 23.6**	**+1.3**
HUEH				IAML		16 03 32.1	
comp=Z,13μm,1.0s							
CMIG	**Matias Romero**	**2.44**	**338**	Pn	**Pn**	**16 02 52.3**	**-1.3**
comp=Z,34nm,0.3s,baz=160,slow=11,SNR=59							
CMIG				Sn	**Sn**	**16 03 20.2**	**-2.3**
comp=Z,155nm,0.3s,baz=141,slow=17,SNR=20							
CMIG				LR	LR	16 03 29.1	
comp=Z,183nm,21.9s,baz=149,slow=30							
comp=Z,90nm,0.2s							
CMIG	**Matias Romero**	**2.44**	**338**	*e*P	**Pn**	**16 02 52.1**	**-1.4**
CMIG				*e*S	**Sn**	**16 03 20.0**	**-2.5**
SOKI	**Kika Raxquin**	**2.46**	**90**	*i*P	**Pn**	**16 02 53.3**	**-0.9**
SOKI				*i*S	**Sn**	**16 03 23.3**	**-0.3**
SOKI				IAML		16 03 37.2	
comp=Z,2μm,1.0s							
QUIS	**Sacapulas**	**2.80**	**80**	*i*P	**Pn**	**16 02 58.9**	**+0.2**
QUIS				*i*S	**Sn**	**16 03 32.8**	**+1.2**
QUIS				IAML		16 03 37.0	
comp=Z,4μm,1.0s							
FUG	**Fuego 3**	**3.02**	**97**	*i*P	**Pn**	**16 03 01.0**	**-0.9**
TUIG	**Tuzandepetl**	**3.23**	**352**	*e*P	**Pn**	**16 03 00.8**	**-3.7**
PCG	**Pacaya**	**3.26**	**97**	*i*P	**Pn**	**16 03 05.8**	**+0.7**
PCG				*i*S	**Sn**	**16 03 43.2**	**+0.1**
PEIG	**Puerto Escondi**	**3.31**	**291**	*e*P	**Pn**	**16 03 03.0**	**-2.6**
GCG4	**OSOP**	**3.31**	**94**	*i*P	**Pn**	**16 03 04.5**	**-1.3**
GCG4				*i*S	**Sn**	**16 03 44.1**	**-0.2**
GCG4				IAML		16 03 59.7	
comp=Z,2μm,1.0s							
NEUV	**Arroyo Zacate**	**3.39**	**328**	*e*P	**Pn**	**16 03 04.5**	**-2.2**
NEUV				*e*S	**Sn**	**16 03 40.6**	**-5.4**
OXLC	**Oaxaca**	**3.47**	**310**	*i*S	**Sn**	**16 03 41.2**	**-7.1**
OXBJ	**Oaxaca**	**3.49**	**310**	*i*S	Sn	16 03 41.0	-7.7
NBG	**Las Nubes**	**3.49**	**93**	*i*P	**Pn**	**16 03 09.9**	**+1.6**
VHO	**Vista Hermosa**	**3.50**	**310**	*e*P	**Pn**	**16 03 06.5**	**-1.8**
PMUV	**Sontecomapan**	**3.88**	**343**	*e*P	**Pn**	**16 03 10.8**	**-2.7**
PMUV				*e*S	**Sn**	**16 03 52.5**	**-5.6**
YOIG	**Yosondua**	**4.02**	**301**	*e*P	**Pn**	**16 03 16.0**	**+0.4**
YOIG				*e*S	**Sn**	**16 04 01.1**	**-0.8**
SLOZ	**Alcaldia de Sa**	**4.11**	**101**	*e*P	**Pn**	**16 03 15.9**	**-0.7**
SLOZ				IAML		16 04 25.1	
comp=N,341nm,0.6s							
LOAL	**Lomas de Alarc**	**4.12**	**101**	*i*P	**Pn**	**16 03 16.4**	**-0.3**
LOAL				*i*S	**Sn**	**16 04 03.5**	**-0.5**
LOAL				IAML		16 04 28.8	
comp=Z,3μm,1.0s							
MRL	**Marmol**	**4.13**	**86**	*i*P	**Pn**	**16 03 18.2**	**+1.2**
NUBE	**Las Nubes**	**4.14**	**102**	*e*P	**Pn**	**16 03 16.6**	**-0.5**
NUBE				*e*S	**Sn**	**16 04 04.2**	**-0.5**
NUBE	**Las Nubes**	**4.14**	**102**	*i*P	**Pn**	**16 03 16.4**	**-0.7**
NUBE				*i*S	**Sn**	**16 04 03.8**	**-0.9**
NUBE				IAML		16 04 17.8	
comp=Z,1μm,1.0s							
RTR	**El Retiro**	**4.26**	**102**	*e*P	**Pn**	**16 03 18.6**	**-0.3**
CEVE	**Cerro Verde**	**4.30**	**103**	*e*S	**Sn**	**16 04 09.6**	**+0.7**
CEVE				IAML		16 04 23.3	
comp=Z,1μm,0.5s							
CEVE	**Cerro Verde**	**4.30**	**103**	*i*S	**Sn**	**16 04 08.8**	**-0.1**
SNJE	**San Jose**	**4.31**	**102**	*e*P	**Pn**	**16 03 19.7**	**+0.1**
PNIG	**Pinotepa**	**4.32**	**292**	*e*P	**Pn**	**16 03 18.2**	**-1.4**
PNIG				*e*S	**Sn**	**16 04 03.6**	**-5.6**
UNIC	**Universidad Ca**	**4.34**	**100**	*i*S	**Sn**	**16 04 08.7**	**-0.9**
TXIG	**Tlaxiaco**	**4.40**	**304**	*e*P	**Pn**	**16 03 21.5**	**+0.6**
TXIG				*e*S	**Sn**	**16 04 13.0**	**+1.5**
TOIG	**Toxpalan**	**4.43**	**318**	*e*P	**Pn**	**16 03 22.1**	**+1.0**
TOIG				*e*S	**Sn**	**16 04 12.0**	**+0.2**
PETF	**Flores**	**4.45**	**61**		**Pn**	**16 03 21.9**	**+0.6**
PETF	**Flores**	**4.45**	**61**	*e*P	**Pn**	**16 03 21.3**	**+0.1**
PETF				*e*S	**Sn**	**16 04 10.9**	**-1.2**
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LIMN IAmb IAmb 16 04 23.5
comp=Z,90nm,0.9s
LIMN IAML 16 05 59.8
comp=Z,100nm,1.0s
COPN Copaltepe 7.62 109 *i* P **Pn 16 04 03.9 -0.9**
COPN IVmB_BB 16 04 15.8
comp=Z,790nm,1.0s
COPN IAmb IAmb 16 04 16.2
comp=Z,100nm,1.1s
COPN IAML 16 06 01.5
comp=Z,110nm,1.0s
TEIG Tepich 7.63 44 Pn **Pn 16 04 04.5 -0.4**
comp=Z,7.5nm,0.3s,baz=26,slow=5.8,SNR=27
TEIG Sn **Sn 16 05 24.6 -5.9**
comp=Z,14nm,0.3s,baz=313,slow=3.9,SNR=4.3
TEIG LR LR 16 07 31.3
comp=Z,1μm,18.3s,baz=232,slow=42
comp=Z,37nm,0.3s
ZIIG Zihuatanejo 7.74 292 *e*P **Pn 16 04 07.3 +0.9**
SAPS Ciudad Sandino 7.79 109 *i* P **Pn 16 04 05.4 -1.8**
SAPS IAML 16 04 21.8
comp=Z,180nm,1.0s
SAPS IAmb IAmb 16 04 21.9
comp=Z,140nm,0.6s
GTIG Gomez Farias 9.58 330 *e*P **Pn 16 04 31.5 -0.3**
GTIG *e*S **Sn 16 06 18.6 0.0**
JTS Las Juntas de 9.86 116 Pn **Pn 16 04 37.4 +1.7**
comp=Z,0.9nm,0.3s,baz=268,slow=18,SNR=2.3
COIG Colima 10.28 296 *e*P **Pn 16 04 43.6 +2.1**
JUBC Volcan de Coli 10.32 298 *e*P **Pn 16 04 43.4 +1.3**
MNGA Volcan de Coli 10.34 298 *e*P **Pn 16 04 43.5 +1.1**
INCO Volcan de Coli 10.35 298 *e*P **Pn 16 04 45.0 +2.3**
SOMAC Volcano de Col 10.37 298 *e*P **Pn 16 04 43.3 +0.3**
CEGR Campo Tres 10.51 297 *e*P **Pn 16 04 46.1 +1.4**
833A Chaparral WMA, 14.36 340 Pn 16 05 38.7 +1.5
HNDO Hondo 15.45 342 P 16 05 55.0 -1.0
HNDO IAmb IAmb 16 06 06.6
comp=Z,15nm,0.7s
SAND Sanderson 16.85 335 P 16 06 14.9 +3.4
TXAR Lajitas Array 17.01 330 P **P 16 06 13.7 +0.2**
comp=Z,0.1nm,0.3s,baz=144,slow=13,SNR=10
TXAR LR LR 16 13 23.4
comp=Z,49nm,19.5s,baz=131,slow=39
comp=Z,1.0nm,0.7s
BRDY Brady 17.04 345 Pn **Pn 16 06 13.4 +1.5**
BRDY IAmb IAmb 16 06 38.8
comp=Z,9.5nm,0.6s
OZNA Ozona 17.33 339 P 16 06 17.9 +1.0
OZNA IAmb IAmb 16 06 25.0
comp=Z,29nm,1.4s
ALPN Alpine 17.87 332 P **P 16 06 25.9 +3.0**
LPIG La Paz 17.97 303 LR LR 16 12 22.3
comp=Z,163nm,20.8s,baz=158,slow=34
VHRN Van Horn 18.85 329 P **Pn 16 06 36.1 +1.7**
SN05 Snyder 5 19.06 342 P **Pn 16 06 38.1 +1.3**
LRAL Lakeview Retre 19.20 18 P **P 16 06 37.7 +0.3**
APMT Aspermont 19.26 344 P **Pn 16 06 40.0 +0.8**
APMT IAmb IAmb 16 07 04.9
comp=Z,7.8nm,0.6s
MIAR Mount Ida 19.65 1 Pn **Pn 16 06 47.0 +3.3**
DKNS Dickens 19.80 343 Pn 16 06 48.2 +2.5
DKNS IAmb IAmb 16 07 01.7
comp=Z,12nm,0.8s
WMOK Wichita Mounta 20.31 348 P **P 16 06 51.3 +1.8**
W35A Tecumseh 20.42 353 P 16 06 51.2 +0.5
W35A IAmb IAmb 16 07 21.5
comp=Z,13nm,0.8s
MSTX Muleshoe 20.68 339 Pn 16 06 56.2 +0.2
MSTX IAmb IAmb 16 07 17.6
comp=Z,21nm,1.2s
GOGA Godfrey 20.81 25 P **P 16 06 56.1 +1.2**
GOGA IAmb IAmb 16 07 00.8
comp=Z,8.2nm,0.9s
121A Cookes Peak, D 21.68 327 P **P 16 07 06.5 +2.0**
121A IAmb IAmb 16 07 15.2
comp=Z,11nm,0.8s
WVT Waverly 21.92 13 P **P 16 07 05.8 -0.9**
TKL Tuckaleechee C 22.67 22 LR LR 16 18 16.9
comp=Z,189nm,18.4s,baz=206,slow=42
S39A Bolivar 22.79 1 P **P 16 07 15.5 -0.6**
S39A IAmb IAmb 16 07 24.7
comp=Z,4.8nm,0.8s
RTBA Rita Blanca 22.92 342 P **P 16 07 19.4 +1.8**
RTBA IAmb IAmb 16 07 26.8
comp=Z,7.7nm,0.7s
ANMO Albuquerque 22.99 333 P **P 16 07 20.5 +2.1**
CCM Cathedral Cave 23.27 5 P **P 16 07 21.1 +0.1**
SDV Santo Domingo 23.55 102 LR LR 16 18 24.0
comp=Z,174nm,19.0s,baz=263,slow=42
P40A Paris 24.68 4 P **P 16 07 33.3 -0.9**
P40A IAmb IAmb 16 08 04.1
comp=Z,7.4nm,0.7s
ATAH Atahualpa 26.71 144 LR LR 16 16 57.1
comp=Z,119nm,18.8s,baz=332,slow=34
ECSD EROS Data Cent 28.91 356 P **P 16 08 11.2 -1.1**
PCRV Puerto La Cruz 28.97 96 LR LR 16 20 24.2
comp=Z,88nm,20.8s,slow=38
PDAR Pinedale Array 30.92 337 P **P 16 08 31.9 +1.5**
comp=Z,0.3nm,0.4s,baz=135,slow=10,SNR=2.1
PDAR LR LR 16 22 12.4
comp=Z,45nm,20.3s,baz=118,slow=39
comp=Z,0.3nm,0.4s
NVAR Mina Array Bea 31.87 322 P **P 16 08 41.9 +3.2**
comp=Z,1.2nm,0.7s,baz=128,slow=7.9,SNR=10
SADO Sadowa 32.39 20 LR LR 16 23 59.5
comp=Z,241nm,18.1s,baz=286,slow=40
ULM Lac du Bonnet 35.37 358 P **P 16 09 07.4 -1.4**
comp=Z,1.8nm,0.7s,baz=195,slow=16,SNR=2.2
ULM LR LR 16 28 18.9
comp=Z,65nm,18.4s,baz=198,slow=44
comp=Z,1.8nm,0.7s
YBH Yreka Blue Hor 36.57 323 LR LR 16 26 19.4
comp=Z,145nm,18.5s,baz=151,slow=39
ETMB Extrema 36.80 130 P **P 16 09 18.6 -2.9**
NEW Newport 38.45 335 LR LR 16 28 00.4
comp=Z,127nm,18.4s,baz=150,slow=40
MDP Montagnes des 41.74 99 LR LR 16 28 05.3
comp=Z,153nm,21.5s,baz=275,slow=37
RPN Rapa Nui 44.29 200 LR LR 16 24 32.1
comp=Z,91nm,19.3s,baz=182,slow=30
SCHQ Schefferville 45.14 22 LR LR 16 30 55.2
comp=Z,158nm,19.9s,baz=248,slow=38
BBB Bella Bella 46.14 331 LR LR 16 32 17.5
comp=Z,69nm,18.3s,baz=170,slow=39
YKA Yellowknife Ar 49.82 348 P **P 16 11 05.9 +0.1**
comp=Z,1.0nm,0.6s,baz=157,slow=7.5,SNR=7.0
YKA LR LR 16 37 08.0
comp=Z,56nm,18.1s,baz=136,slow=42
comp=Z,1.0nm,0.6s
FRB Frobisher Bay 51.96 14 LR LR 16 36 24.9
comp=Z,62nm,20.7s,baz=190,slow=39
INK Inuvik 59.13 344 LR LR 16 41 21.0
comp=Z,92nm,18.9s,baz=178,slow=40
SFJD Kangerlussuaq 59.32 18 LR LR 16 37 48.0
comp=Z,35nm,20.8s,baz=186,slow=36
RES Resolute Bay 59.87 360 LR LR 16 40 45.1
comp=Z,35nm,18.3s,baz=340,slow=39
ILAR Eielson Array 61.35 337 P **P 16 12 29.0 +0.3**
comp=Z,0.6nm,0.8s,baz=165,slow=4.6,SNR=8.4
ILAR LR LR 16 42 01.2
comp=Z,76nm,18.9s,baz=88,slow=39
comp=Z,0.6nm,0.8s
PPT Papeete 63.60 242 LR LR 16 33 36.5
comp=Z,72nm,21.4s,baz=77,slow=30
PPT2 Papeete2 63.61 242 *e*LR LR 16 31 44.2
comp=Z,100nm,24.8s
TBI Tubuai 66.23 236 *e*LR LR 16 33 05.6
comp=Z,322nm,26.5s
BORG Borgarnes 69.30 26 LR LR 16 44 43.7
comp=Z,33nm,18.6s,baz=289,slow=37
JMIC Jan Mayen 74.62 20 LR LR 16 47 03.0
comp=Z,58nm,21.6s,baz=249,slow=36
SPITS Spitsbergen Ar 79.66 11 LR LR 16 52 25.2
comp=Z,53nm,18.9s,baz=262,slow=38
MDT Midelt 81.58 58 LR LR 16 46 14.2
comp=Z,41nm,19.4s,baz=318,slow=32
NB2 NORSAR Subarra 84.32 28 P **P 16 14 45.7 +0.7**
comp=Z,0.3nm,0.6s,baz=292,slow=5.1
NOA NORSAR Array B 84.32 28 P **P 16 14 44.2 -0.8**
comp=Z,0.7nm,0.7s,baz=291,slow=5.1,SNR=5.0
NOA LR LR 16 52 59.2
comp=Z,29nm,18.0s,baz=290,slow=36
comp=Z,0.7nm,0.7s
HFS Hagfors 85.80 29 LR LR 16 53 04.4
comp=Z,50nm,18.5s,baz=299,slow=36
ARCES ARCESS Array B 85.95 18 P **P 16 14 52.0 -0.9**
comp=Z,0.5nm,0.5s,baz=287,slow=3.7,SNR=2.4
ARCES LR LR 16 55 00.2
comp=Z,42nm,18.2s,baz=294,slow=37
comp=Z,0.5nm,0.5s
DBIC Dimbokro 87.44 84 LR LR 16 51 06.7
comp=Z,29nm,20.4s,baz=259,slow=34
DAVOX Davos/Dischmat 88.52 42 LR LR 16 50 23.2
comp=Z,40nm,21.4s,baz=258,slow=33
TIXI Tiksi 89.07 348 LR LR 17 01 45.4
comp=Z,40nm,19.4s,baz=28,slow=40
FINES FINESS Array B 90.55 25 LR LR 16 55 28.5
comp=Z,46nm,21.6s,baz=250,slow=35
VRAC Vranov 91.72 38 LR LR 16 57 05.4
comp=Z,34nm,18.7s,baz=233,slow=36
TORD Torodi Ar. Bea 92.01 76 LR LR 16 53 45.2
comp=Z,26nm,21.8s,baz=319,slow=34
VAE Valguarnera 95.07 49 LR LR 16 52 13.2
comp=Z,106nm,21.1s,baz=299,slow=32
AKASG Malin Array Be 98.07 33 LR LR 17 03 59.0
comp=Z,31nm,18.1s,baz=238,slow=38
DZM Mont Dzumac 104.17 251 *e*LR LR 16 50 39.3
comp=Z,78nm,24.9s
WRA Warramunga Arr 133.76 256 PKP **PKPdf 16 21 29.2 -1.5**
comp=Z,0.3nm,0.6s,baz=83,slow=2.5,SNR=6.6
ASAR Alice Springs 134.15 251 PKhKP PKPpre 16 21 26.5
comp=Z,0.3nm,0.9s,baz=86,slow=4.1,SNR=1.5

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*JMA **13** 16:47:16.4±0.2, 23°.6N±0°.3×120°.7E±0°.6, h14km±2km, MV3.8/13, TAIWAN REGION*
*ASIES **13** 16:47:16.4, 23°.59N×120°.72E, h17km, ML4.2, Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.71; $M_{\theta\theta}$-2.56; $M_{\phi\phi}$0.85; $M_{r\theta}$-2.91; $M_{\theta\phi}$-3.11; $M_{\phi r}$0.80; Fault plane solution: $M_0$4.88520×10^{21} NP1: ϕ_s276.39000°, δ76.09000°, λ134.70000°. NP2: ϕ_s20.04000°, δ46.37000°, λ19.39000°. Principal axes: T Plg41.1340°, Azm227.7160°; N Plg43.0590°, Azm83.0140°; P Plg18.5410°, Azm334.7500°;*
*TAP **13** 16:47:16.4, 23°.59N×120°.72E, h17km, ML4.2, B*
ISC 13 16:47:16.4±0.8, 23°.59N±0°.01×120°.71E±0°.01, h17km±5km, n170, σ0s63/273, 41C-31D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHN5	**Tsauling** baz=286	**0.03**	**283**	⇓*iP*		**Pg**	**16 47 19.9**	**+0.3**
WHYT	**Xinyi Township** baz=48	**0.17**	**50**	⇑*iP*		**Pb**	**16 47 21.2**	**+0.1**
WHYT	baz=48			*e*S		**Sb**	**16 47 24.4**	**+0.1**
WGK	**Gukeng** baz=306	**0.17**	**305**	⇓*iP*		**Pb**	**16 47 21.6**	**+0.4**
WGK	baz=306			S		**Sb**	**16 47 25.4**	**+1.1**
WCKO	**Fanlu** baz=216	**0.18**	**214**	⇑*iP*		**Pb**	**16 47 21.5**	**+0.2**
WCKO	baz=216			S		**Sb**	**16 47 25.0**	**+0.4**
WDLH	**Douliu** baz=301	**0.19**	**302**	⇓*eP*		**Pb**	**16 47 22.0**	**+0.5**
WDLH	baz=301			*e*S		**Sb**	**16 47 26.2**	**+1.3**
CHN2	**Minshiung** baz=257	**0.23**	**255**	⇑*iP*		**Pb**	**16 47 22.6**	**+0.5**
WJS	**Zhushan** baz=353	**0.23**	**3**	P		**Pb**	**16 47 22.5**	**+0.2**
WJS	baz=353			*e*S		**Sb**	**16 47 26.3**	**+0.2**
YUS	**Yu-Shan** baz=114	**0.24**	**114**	⇓*iP*		**Pb**	**16 47 22.9**	**+0.2**
YUS	baz=114			*e*S		**Sb**	**16 47 27.1**	**+0.3**
CHN4	**Tsaushan** baz=207	**0.26**	**205**	*e*P		**Pb**	**16 47 22.9**	**+0.1**
CHN4	baz=207			*e*S		**Sb**	**16 47 27.7**	**+0.7**
CHY	**Chiayi** baz=251	**0.28**	**251**	*e*P		**Pb**	**16 47 23.3**	**+0.3**
CHY	baz=251			*e*S		**Sb**	**16 47 28.2**	**+0.8**
WNT	**Mingjian** baz=355	**0.29**	**355**	⇓*iP*		**Pb**	**16 47 23.6**	**+0.4**
WNT	baz=355			*e*S		**Sb**	**16 47 28.6**	**+0.8**
SSLB	**Suanglung**	**0.30**	**48**	P		**Pb**	**16 47 23.2**	**-0.2**
SSLB	**Suanglung** baz=47	**0.30**	**48**	⇑*iP*		**Pb**	**16 47 23.1**	**-0.2**
SSLB	baz=47			S		**Sg**	**16 47 27.4**	**+0.2**
TPUB	**Ta-pu** baz=197	**0.30**	**195**	P		**Pb**	**16 47 23.4**	**0.0**
TPUB	**Ta-pu** baz=197	**0.30**	**195**	⇓P		**Pb**	**16 47 23.3**	**-0.1**
TPUB	baz=197			S		**Sb**	**16 47 27.9**	**-0.1**
WTK	**Tuku** baz=289	**0.31**	**288**	*e*P		**Pb**	**16 47 24.0**	**+0.4**
WTK	baz=289			S		**Sb**	**16 47 29.9**	**+1.4**
WNT1	**Nantou City** baz=353	**0.32**	**354**	⇓*iP*		**Pb**	**16 47 24.1**	**+0.4**
WNT1	baz=353			S		**Sb**	**16 47 29.3**	**+0.7**
SMLT	**Sun Moon Lake** baz=30	**0.34**	**30**	⇑*iP*		**Pb**	**16 47 24.3**	**+0.1**
SMLT	baz=30			S		**Sb**	**16 47 29.9**	**+0.6**
TYC	**Yuchr** baz=23	**0.34**	**23**	⇑*iP*		**Pb**	**16 47 24.2**	**+0.2**
TYC	baz=23			S		**Sb**	**16 47 29.8**	**+0.6**
WTP	**Ta-pu** baz=195	**0.35**	**195**	*i* P		**Pb**	**16 47 24.3**	**0.0**
WTP	baz=195			*i* S		**Sb**	**16 47 29.9**	**+0.2**
TWK	**Hsinying** baz=212	**0.38**	**213**	⇑*iP*		**Pb**	**16 47 24.9**	**+0.1**
TWK	baz=212			S		**Sb**	**16 47 31.0**	**+0.6**
WYL	**Yuanlin Townsh** baz=341	**0.39**	**342**	⇓*iP*		**Pb**	**16 47 25.3**	**+0.4**
WYL	baz=341			S		**Sb**	**16 47 31.9**	**+1.2**
SNST	**Tainan City** baz=210	**0.42**	**208**	⇑P		**Pb**	**16 47 25.5**	**+0.1**
SNST	baz=210			*e*S		**Sb**	**16 47 32.3**	**+0.8**
STYH	**Taoyuan** baz=166	**0.42**	**172**	⇓*iP*		**Pb**	**16 47 25.2**	**-0.2**
STYH	baz=166			S		**Sb**	**16 47 31.4**	**-0.1**
VWDT	**VWDT** baz=66	**0.42**	**67**	⇑*iP*		**Pb**	**16 47 25.9**	**+0.4**
VWDT	baz=66			*e*S		**Sb**	**16 47 31.7**	**+0.1**
STYT	**Tauyuan** baz=168	**0.43**	**175**	⇓*iP*		**Pb**	**16 47 25.6**	**0.0**
STYT	baz=168			S		**Sb**	**16 47 31.8**	**0.0**
CHN1	**Nanshi** baz=204	**0.44**	**203**	⇑*iP*		**Pb**	**16 47 25.7**	**0.0**
CHN1	baz=204			*i* S		**Sb**	**16 47 32.7**	**+0.7**
WRL	**Guolierlin Hig** baz=315	**0.44**	**315**	⇓P		**Pb**	**16 47 25.8**	**+0.1**
WRL	baz=315			*e*S		**Sb**	**16 47 33.2**	**+1.1**
RLNB	**Erlin** baz=313	**0.44**	**313**	⇓*iP*		**Pb**	**16 47 25.9**	**+0.1**
WSL	**Shuilin Townsh** baz=262	**0.45**	**262**	⇑*iP*		**Pb**	**16 47 26.2**	**+0.2**
WSL	baz=262			*e*S		**Sb**	**16 47 34.0**	**+1.6**
WWF	**Wufeng** baz=358	**0.45**	**358**	⇓*iP*		**Pb**	**16 47 26.4**	**+0.5**
WWF	baz=358			S		**Sb**	**16 47 33.5**	**+1.1**
WSF	**Szhu** baz=277	**0.45**	**276**	⇑P		**Pb**	**16 47 25.9**	**-0.1**
WSF	baz=277			*i* S		**Sb**	**16 47 33.2**	**+0.8**
ICHU	**Yijhu** baz=241	**0.46**	**240**	⇑P		**Pb**	**16 47 26.5**	**+0.4**
ICHU	baz=241			*e*S		**Sn**	**16 47 34.3**	**-1.7**
WPL	**Puli Township** baz=27	**0.48**	**28**	P		**Pb**	**16 47 26.1**	**-0.2**
WPL	baz=27			*e*S		**Sb**	**16 47 33.1**	**0.0**
WTCT	**Ta-ch'eng** baz=305	**0.48**	**305**	⇓*iP*		**Pg**	**16 47 26.3**	**+0.2**
WTCT	baz=305			*i* S		**Sb**	**16 47 34.1**	**+0.8**
DPDB	**Guoxing** baz=33	**0.48**	**24**	⇑*iP*		**Pb**	**16 47 26.5**	**0.0**
DPDB	baz=33			S		**Sb**	**16 47 33.6**	**+0.2**
ELDTW	**Lidau** baz=145	**0.49**	**145**	⇓*iP*		**Pb**	**16 47 26.6**	**0.0**
ELDTW	baz=145			S		**Sb**	**16 47 33.6**	**0.0**
WCS	**Beigang Elemen** baz=31	**0.50**	**21**	⇑*iP*		**Pb**	**16 47 26.8**	**0.0**
WCS	baz=31			*i* S		**Sb**	**16 47 34.2**	**+0.4**
SGST	**Jiashian** baz=194	**0.52**	**193**	⇑*eP*		**Pg**	**16 47 26.3**	**-0.5**
SGST	baz=194			*e*S		**Sb**	**16 47 34.3**	**-0.1**
CHN8	**Yiju** baz=243	**0.52**	**242**	⇑*iP*		**Pb**	**16 47 27.3**	**+0.2**
CHN8	baz=243			S		**Sb**	**16 47 35.9**	**+1.5**
WUSB	**Renai** baz=42	**0.55**	**43**	⇑*iP*		**Pb**	**16 47 27.5**	**-0.2**
WUSB	baz=42			S		**Sg**	**16 47 34.5**	**-0.2**
TCU	**Taichung** baz=357	**0.56**	**356**	⇓*eP*		**Pb**	**16 47 28.1**	**+0.4**
TCU	baz=357			*e*S		**Sb**	**16 47 36.3**	**+0.8**
OWD	**Renai** baz=38	**0.56**	**49**	⇑*iP*		**Pb**	**16 47 27.9**	**+0.1**
EHY	**Hungye** baz=98	**0.56**	**98**	*e*P		**Pb**	**16 47 28.1**	**+0.2**
EHY	baz=98			S		**Sb**	**16 47 35.8**	**+0.1**
YULB	**Yu-li** baz=110	**0.57**	**110**	P		**Pb**	**16 47 28.2**	**+0.2**
YULB	**Yu-li** baz=110	**0.57**	**110**	⇑*iP*		**Pb**	**16 47 28.1**	**+0.1**
YULB	baz=110			*i* S		**Sb**	**16 47 36.0**	**+0.1**
TWF1	**Yuli** baz=113	**0.58**	**114**	⇓*iP*		**Pb**	**16 47 28.6**	**+0.3**
TWF1	baz=113			S		**Sb**	**16 47 36.6**	**+0.3**
EHYH	**Wanrong** baz=99	**0.59**	**99**	⇑*iP*		**Pb**	**16 47 28.5**	**+0.3**
EHYH	baz=99			*e*S		**Sb**	**16 47 36.3**	**-0.1**
SLGT	**Liugui** baz=177	**0.60**	**186**	*e*P		**Pb**	**16 47 28.6**	**+0.2**
SLGT	baz=177			*e*S		**Sb**	**16 47 37.4**	**+0.8**
SSHA	**Shanhua** baz=222	**0.60**	**221**	P		**Pb**	**16 47 28.8**	**+0.4**
SSHA	baz=222			*e*S		**Sn**	**16 47 38.8**	**-0.7**
CHN3	**Shinhua** baz=225	**0.60**	**212**	⇑*iP*		**Pn**	**16 47 29.6**	**-0.7**
CHN3	baz=225			S		**Sn**	**16 47 39.4**	**-0.2**
EYUL	**Yuli** baz=118	**0.61**	**113**	⇓P		**Pb**	**16 47 28.9**	**+0.3**
EYUL	baz=118			S		**Sb**	**16 47 37.1**	**+0.3**
CHGB	**Renai** baz=41	**0.63**	**42**	⇑*iP*		**Pb**	**16 47 29.0**	**-0.2**
CHGB	baz=41			S		**Sg**	**16 47 37.2**	**-0.2**
EHD	**Haiduan** baz=134	**0.63**	**134**	⇓*iP*		**Pb**	**16 47 29.2**	**+0.2**
EHD	baz=134			S		**Sb**	**16 47 37.5**	**-0.1**
WARBT	**Fenglin Townsh** baz=78	**0.63**	**78**	⇑*iP*		**Pb**	**16 47 29.0**	**0.0**
WARBT	baz=78			*i* S		**Sb**	**16 47 37.2**	**-0.4**
SCLT	**Jiali** baz=229	**0.63**	**229**	⇑*iP*		**Pb**	**16 47 29.4**	**+0.4**
SCLT	baz=229			*e*S		**Sn**	**16 47 39.8**	**-0.5**
SHHT	**Tainan City** baz=225	**0.66**	**211**	⇑P		**Pn**	**16 47 30.5**	**-0.5**
SHHT	baz=225			*e*S		**Sn**	**16 47 41.3**	**+0.4**
HGSD	**Ruisui** baz=98	**0.66**	**98**	P		**Pn**	**16 47 30.1**	**-0.9**
HGSD	baz=98			S		**Sb**	**16 47 39.1**	**+0.7**
FULB	**Fuli** baz=133	**0.66**	**126**	⇓*iP*		**Pn**	**16 47 30.4**	**-0.7**
FULB	baz=133			*e*S		**Sn**	**16 47 40.0**	**-1.0**
ECS	**Chishang** baz=137	**0.68**	**137**	⇓*iP*		**Pn**	**16 47 30.4**	**-0.9**
ECS	baz=137			S		**Sn**	**16 47 40.1**	**-1.4**
ESL	**Shilin** baz=71	**0.70**	**71**	⇑*iP*		**Pg**	**16 47 30.3**	**+0.2**
ESL	baz=71			S		**Sb**	**16 47 39.7**	**+0.2**
TAI1	**Yung-k'ang** baz=220	**0.71**	**219**	P		**Pn**	**16 47 31.0**	**-0.6**
TAI1	baz=220			*e*S		**Sn**	**16 47 42.0**	**-0.1**
WHP	**Taichung City** baz=17	**0.72**	**17**	*e*P		**Pg**	**16 47 30.8**	**+0.2**
WHP	baz=17			*e*S		**Sb**	**16 47 41.0**	**+0.8**
TSCK	**Chigu Township** baz=233	**0.73**	**233**	*e*P		**Pg**	**16 47 31.0**	**+0.3**
TSCK	baz=233			*e*S		**Sn**	**16 47 42.6**	**0.0**
SCST	**Cishan** baz=197	**0.73**	**196**	*e*P		**Pn**	**16 47 31.5**	**-0.5**
SCST	baz=197			*e*S		**Sn**	**16 47 42.7**	**0.0**
ECBN	**Changbin** baz=100	**0.73**	**112**	*e*P		**Pn**	**16 47 32.1**	**+0.1**
ECBN	baz=100			*e*S		**Sn**	**16 47 42.4**	**-0.4**
CHKH	**Chenggong** baz=118	**0.74**	**122**	⇓*eP*		**Pn**	**16 47 31.6**	**-0.6**
WHF	**Hehuan Shan** baz=50	**0.75**	**42**	*e*P		**Pb**	**16 47 31.4**	**+0.1**
WHF	baz=50			*e*S		**Sg**	**16 47 40.8**	**-0.4**
TWQ1	**Liyutan** baz=4.0	**0.76**	**4**	*e*P		**Pg**	**16 47 31.4**	**+0.2**
TWQ1	baz=4.0			S		**Sg**	**16 47 42.2**	**+0.9**
WDJ	**Dajia District** baz=343	**0.76**	**355**	*e*P		**Pg**	**16 47 31.8**	**+0.5**
WDJ	baz=343			*e*S		**Sn**	**16 47 43.0**	**-0.5**
TAI	**Tainan** baz=219	**0.76**	**219**	*e*P		**Pn**	**16 47 31.8**	**-0.6**
LXIB	**Xiulin Townshi** baz=46	**0.77**	**56**	⇑*iP*		**Pg**	**16 47 31.6**	**+0.1**
LXIB	baz=46			S		**Sg**	**16 47 41.9**	**+0.1**
CHKT	**Chengkung** baz=129	**0.77**	**129**	⇓*iP*		**Pn**	**16 47 32.5**	**-0.1**
CHKT	baz=129			*e*S		**Sn**	**16 47 43.3**	**-0.5**
TDCB	**Techi** baz=37	**0.78**	**32**	⇑*iP*		**Pb**	**16 47 31.1**	**-0.5**
TDCB	baz=37			*e*S		**Sb**	**16 47 40.9**	**-1.1**
TWT	**Tachien** baz=39	**0.79**	**33**	*e*P		**Pb**	**16 47 31.3**	**-0.5**
SHUL	**Shoufeng** baz=75	**0.80**	**76**	⇑P		**Pn**	**16 47 32.6**	**-0.4**
SHUL	baz=75			*e*S		**Sn**	**16 47 43.6**	**-1.0**
ETM	**Tongmen** baz=72	**0.81**	**62**	⇑P		**Pb**	**16 47 31.9**	**-0.1**
ETM	baz=72			*e*S		**Sg**	**16 47 43.2**	**+0.4**
TWM1	**Shoushan** baz=189	**0.81**	**199**	*e*P		**Pn**	**16 47 33.4**	**+0.3**
FUSS	**Fushou** baz=36	**0.81**	**36**	*e*P		**Pb**	**16 47 31.8**	**-0.5**
EDH	**Donghe** baz=144	**0.82**	**138**	⇓P		**Pn**	**16 47 33.0**	**-0.3**
EDH	baz=144			*e*S		**Sn**	**16 47 44.7**	**-0.2**

baz=144
NSY Sanyi 0.82 3 ⇓P Pn 16 47 32.9 -0.4
baz=3.0
NSY S Sn 16 47 44.4 -0.8
baz=3.0
TWG Pinlang 0.83 157⇓eP Pg 16 47 32.8 +0.2
baz=157
TWG eS Sg 16 47 44.2 +0.5
baz=157
TWGBT Beinan 0.84 156 P Pg 16 47 32.8 0.0
TWGBT Beinan 0.84 156⇓iP Pg 16 47 32.8 0.0
baz=157
TWGBT S Sg 16 47 44.2 +0.4
baz=157
SSD Sandimen 0.84 185⇑iP Pg 16 47 32.8 0.0
baz=185
SSD eS Sg 16 47 44.2 +0.2
baz=185
TEYL Yanliau Villag 0.86 71 eP Pn 16 47 33.5 -0.2
baz=68
TEYL S Sn 16 47 45.2 -0.6
baz=68
SGLT Jiouru 0.89 193 eP Pn 16 47 34.8 +0.7
baz=194
SNJT Kaohsiung City 0.90 203 eP Pn 16 47 34.7 +0.3
baz=218
SNJT eS Sn 16 47 49.4 +2.4
baz=218
HWA Hwalien 0.90 65 P Pn 16 47 34.2 -0.1
baz=73
HWA S Sn 16 47 46.6 -0.4
baz=73
TTN Taitung 0.92 154 eP Pn 16 47 35.3 +0.7
baz=164
TTN eS Sn 16 47 48.8 +1.4
baz=164
TSPT Pingtung City 0.93 192 eP Pn 16 47 35.5 +0.8
baz=193
TWD Chiawan 0.94 59 ⇑P Pg 16 47 34.4 -0.4
baz=58
TWD eS Sb 16 47 46.6 0.0
baz=58
NMLH Miaoli 0.95 4 eP Pn 16 47 34.9 -0.1
baz=4.0
NMLH eS Sn 16 47 48.3 +0.2
baz=4.0
MASBT Mashibuluo 0.98 184 ⇑P Pb 16 47 35.0 +0.1
baz=185
MASBT eS Sg 16 47 48.1 0.0
baz=185
NACB Ninganchiao 0.99 54 P Pn 16 47 35.4 -0.2
NACB Ninganchiao 0.99 54 ⇑P Pb 16 47 34.9 -0.3
baz=54
NACB S Sb 16 47 47.7 -0.3
baz=54
ETL Fush Village 1.01 56 eP Pb 16 47 35.3 -0.1
baz=43
ECL Taimali 1.01 167 ⇓P Pg 16 47 35.8 -0.2
baz=158
ECL eS Sg 16 47 49.2 -0.1
baz=158
WDGT Dungji 1.02 251⇑iP Pb 16 47 34.8 -0.9
baz=252
WDGT eS Sb 16 47 47.2 -1.6
baz=252
WSSB Gushan 1.03 204 eP Pg 16 47 36.5 0.0
baz=218
NNSB Datong 1.03 36⇑iP Pb 16 47 35.6 -0.4
baz=42
NNSB eS Sb 16 47 48.3 -1.1
baz=42
NNSH Datong 1.03 36 eP Pb 16 47 35.7 -0.3
baz=35
NNS Nan Shan 1.04 35 ⇑P Pb 16 47 35.8 -0.3
baz=43
PHUB P'eng-hu 1.05 266 ⇑P Pb 16 47 35.1 -1.1
baz=266
PHUB eS Sb 16 47 49.2 -0.4
baz=266
PNG Penghu 1.06 269 eP Pb 16 47 35.6 -0.8
baz=269
NSTT Nanjuang 1.07 14⇓iP Pb 16 47 36.5 -0.1
baz=14
NSTT S Sn 16 47 50.8 -0.4
baz=14
LIOB Emei 1.09 15 eP Pn 16 47 36.8 -0.1
baz=14
NJN Zhunan 1.10 7 eP Pg 16 47 37.4 -0.3
baz=7.0
NJN S Sg 16 47 52.3 +0.2
baz=7.0
NFF Wufeng Townshi 1.10 20⇓iP Pn 16 47 37.2 0.0
baz=5.0
NFF eS Sb 16 47 51.3 +0.1
baz=5.0
LDUT Ludao 1.15 143 eP Pb 16 47 37.9 +0.1
baz=153
NJD Zhudong 1.19 17 eP Pb 16 47 38.6 0.0
baz=16
EAHA Aohua 1.19 52 eP Pb 16 47 38.9 +0.3
baz=51
EAHA eS Sg 16 47 54.8 -0.3
baz=51
LATG Datong 1.20 38 eP Pn 16 47 38.4 -0.2
baz=38
LATG eS Sb 16 47 54.1 0.0
baz=38
EAST Anshuo 1.21 174 eP Pb 16 47 39.1 +0.2
baz=175
EAST eS Sg 16 47 55.8 +0.2
baz=175
SCZT Fangliau 1.22 184 eP Pb 16 47 39.1 +0.1
baz=185
SBCB Hsinchu 1.22 12 eP Pb 16 47 39.2 0.0
baz=12
SBCB eS Sg 16 47 55.6 -0.4
baz=12
HSN Hsinchu 1.23 11 eP Pb 16 47 39.0 -0.2
baz=355
NSK Sanguang 1.23 28 eP Pb 16 47 39.3 -0.1
baz=20
NSK eS Sb 16 47 54.0 -0.9
baz=20
YHNB Yeheng 1.23 29 P Pg 16 47 39.9 -0.4
YHNB Yeheng 1.23 29 ⇑P Pb 16 47 39.3 0.0
baz=19
YHNB S Sb 16 47 54.7 -0.4
baz=19
TAW Tawu 1.24 172 eP Pb 16 47 39.6 +0.2
baz=184
TAW eS Sn 16 47 55.5 +0.3
baz=184
VCHM Qimei 1.24 252 ⇑P Pn 16 47 37.9 -1.1
baz=253
VCHM eS Sb 16 47 53.9 -1.2
baz=253
NDT Datong Townshi 1.25 36 eP Pb 16 47 39.3 -0.2
baz=35
ENA Nanau 1.26 48 eP Pb 16 47 39.5 -0.2
baz=48
TWP Hsiaoliuchiu 1.28 195 eP Pb 16 47 40.2 +0.1
baz=196
EWUT Wuta 1.29 49 eP Pb 16 47 39.9 -0.4
baz=48
EWUT eS Sg 16 47 58.0 -0.3
baz=48
ENTT Nioudou 1.30 37 ⇓P Pb 16 47 40.4 -0.1
baz=25
SLIU Shizi 1.37 177 eP Pn 16 47 40.7 -0.1
baz=178
NDS Dongshan 1.39 41 eP Pb 16 47 42.1 +0.2
baz=41
NWLT Wulai 1.39 31 eP Pb 16 47 42.0 +0.1
baz=31
FUSB Fushanzhiwuyua 1.41 34 eP Pb 16 47 42.1 -0.3
baz=29
FUSB eS Sb 16 48 00.9 +0.7
baz=29
TWE Neicheng 1.42 38 eP Pb 16 47 42.8 +0.2
baz=38
TWE eS Sg 16 48 02.4 0.0
baz=38
ESAO Su ao 1.43 46 eP Pb 16 47 42.5 -0.1
baz=46
NCUH Zhongli 1.44 17 eP Pb 16 47 42.9 +0.1
baz=1.0
NCU National Centr 1.44 17 eP Pb 16 47 42.6 -0.3
baz=2.0

NHW Xinwu Township 1.44 12 eP Pn 16 47 42.1 +0.3
baz=12
NHW eS Sb 16 48 00.9 -0.1
baz=12
TWC Suao 1.45 45 eP Pb 16 47 43.2 +0.2
baz=45
TATO Taipei 1.55 27 P Pg 16 47 46.3 0.0
TATO Taipei 1.55 27 eP Pn 16 47 43.6 +0.3
baz=9.0
HEN Hengchun 1.58 179 eP Pb 16 47 44.3 -0.8
baz=180
TWA Mucha 1.60 30 eP Pn 16 47 44.5 +0.5
baz=12
EOS2 EOS2 1.61 59 eP Pg 16 47 46.8 -0.7
baz=73
EOS3 EOS3 1.62 64 eP Pb 16 47 46.0 +0.1
baz=78
TWS1 Kuangyinshan 1.64 23 eP Pb 16 47 45.4 -0.8
baz=12
TWS1 eS Sb 16 48 05.8 -0.7
baz=12
TWK1 Hengchun 1.64 177 eP Pb 16 47 45.2 -1.0
baz=186
TWKBT Hengchun 1.64 177 eP Pn 16 47 45.0 +0.5
baz=186
EGS 1.67 41 eP Pb 16 47 46.8 0.0
baz=55
NTST Danshui 1.71 23 eP Pn 16 47 45.4 -0.1
baz=4.0
TIPB Shuangxi 1.71 36 eP Pb 16 47 46.6 -0.8
baz=22
LAY Lan-yu 1.73 153 eP Pn 16 47 45.9 +0.2
baz=154
YM01 YM01 1.74 27 eP Pn 16 47 46.4 +0.5
baz=8.0
ANP Anpu 1.75 25 eP Pn 16 47 46.4 +0.2
baz=7.0
NWF Wu-fen Shan 1.77 33 eP Pb 16 47 48.9 +0.5
baz=32
WFSB Wu-fen Shan 1.77 33 eP Pg 16 47 49.6 -0.8
baz=33
LYUB Lan-yu 1.77 153 eP Pn 16 47 45.5 -0.8
baz=153
YM08 YM08 1.78 26 eP Pn 16 47 47.4 +0.9
baz=9.0
VWUC VWUC 1.81 321 eP Pn 16 47 45.5 -1.4
baz=320
TNOU National Taiwa 1.83 32 eP Pb 16 47 48.4 -1.1
baz=14
TWB1 Santiao Chiao 1.83 39 eP Pn 16 47 47.7 +0.6
baz=21
JYNG Yonaugunijimaku 2.21 67 P Pn 16 47 53.7 +1.3
KNM Kinmen 2.24 292 eP Pb 16 47 55.0 -1.6
baz=290
YOJ Yonaguni jima 2.27 67 eP Pn 16 47 54.6 +1.4
baz=66
YOJ Yonaguni jima 2.27 67 eP Pn 16 47 54.7 +1.5
KNMB Chin-men Tao 2.30 293 eP Pn 16 47 52.5 -1.0
baz=292
MSUT Lienchiang 2.67 345 eP Pn 16 47 58.6 -0.1
baz=343
IRIF Iriomote-Funau 2.86 74 P Pn 16 48 02.9 +1.6
IRIF S Sn 16 48 37.6 +2.3
HATJ Hateruma jima 2.87 80 S Sn 16 48 37.8 +2.3
JKRS Kuro-shima 3.08 77 P Pn 16 48 05.9 +1.5
JIJ Ishigaki jima 3.23 76 P Pn 16 48 06.7 +0.3
JIJ eS Sn 16 48 45.0 +0.5
JISG Ishigakijimahi 3.43 72 P Pn 16 48 10.1 +0.9
JISG S Sn 16 48 50.4 +0.9

IDC 13 16:55:55.7±4.8, 9°.06N×123°.92E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=269.2km s-min=34.0km az=89.0, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.60	160	P	P	17 02 11.4	-0.2
	0.2nm,0.8s,baz=339,slow=10.0,SNR=1.1						
	0.2nm,0.8s						
ASAR	Alice Springs	33.96	163	P	P	17 02 41.2	+0.1
	0.4nm,0.9s,baz=343,slow=6.9,SNR=5.2						
	0.4nm,0.9s						
ILAR	Eielson Array	81.53	26	P	P	17 08 15.0	0.0
	0.2nm,0.5s,baz=264,slow=6.7,SNR=4.4						
	0.2nm,0.5s						

*UPP **13** 17:01:13.9±0.1, 67°.05N×20°.97E, h0km, ML2.3, Unknown*
*IDC **13** 17:01:14.5±2.2, 67°.03N×20°.97E, h0km, mbtmp2.4/2, ML1.9/2, Error ellipse: s-maj=34.7km s-min=9.6km az=92.0*

ISC 13 17:01:13.8±1.3, 67°.08N±0°.03×20°.93E±0°.05, h10km±12km, n15, σ1°.12/16, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.15	288	P	Pg	17 01 17.5	+0.3
MASU	Masugnsbyn	0.56	47	P	Pg	17 01 24.9	+0.1
KUA	Kurravaara	0.91	346	P	Pg	17 01 31.1	-0.2
RATU	Laukkuluspa	0.91	326	P	Pg	17 01 31.2	-0.1
HARU	Harads	0.92	179	P	Pg	17 01 30.4	-1.0
SALU	Saltoluokta	0.99	289	eP	Pg	17 01 32.9	0.0
SALU	Saltoluokta	0.99	289	P	Pg	17 01 32.8	0.0
LANU	Lannavaara	1.06	22	P	Pg	17 01 33.8	-0.3
KOVU	Salmi	1.19	346	P	Pn	17 01 36.3	-0.2
KALU	Kalix	1.56	140	P	Pb	17 01 41.9	-0.8
SJUU	Sjulsmark	1.60	170	P	Pb	17 01 42.6	-0.7
HEF	Hetta	1.69	37	eP	Pb	17 01 44.6	-0.4
I37NO	I37NO	2.19	338	I	I	17 15 00.0	
	0.1nm,0.6s,baz=157,slow=321,SNR=8.3						
ARCES	ARCESS Array B	3.00	32	Pn	Pn	17 02 03.4	+2.1
	0.2nm,0.3s,baz=213,slow=13,SNR=20						
ARCES				Sn	Sb	17 02 42.1	-1.6
	0.4nm,0.3s,baz=216,slow=22,SNR=6.3						
	0.7nm,0.2s						
FINES	FINESS Array B	6.08	156	Pn	Pn	17 02 45.9	+2.3
	0.1nm,0.3s,baz=343,slow=14,SNR=7.7						
FINES				Sn	Sn	17 03 53.0	-0.1
	0.2nm,0.3s,baz=344,slow=20,SNR=2.4						
FINES				Lg	Lg	17 04 23.8	
	0.2nm,0.3s,baz=343,slow=24,SNR=2.8						
	0.2nm,0.5s						

*NEIC **13** 17:03:34.1±1.9, 58°.7S±0°.1×25°.7W±0°.2, h45km±6km, mb4.9/49, Error ellipse: s-maj=16.2km s-min=13.8km az=172.0*
*IDC **13** 17:03:38.2±0.5, 58°.60S×25°.66W, h80km±4km, mb4.3/10, mbtmp4.6/12, MS3.4/8, Error ellipse: s-maj=17.0km s-min=14.0km az=90.0*

ISC 13 17:03:39.1±0.5, 58°.64S±0°.06×25°.61W±0°.07, h92km±4km, h91km:pP-P, n119, σ1°.26/116, mb4.9/33, 8C-5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.43	301		Pn	17 05 27.8	+3.1
ORCD	Orcadas	9.89	250		Pn	17 05 50.5	-7.5
VNA1	Neumayer--Stat	14.07	156	⇑P	Pn	17 06 54.1	+0.2
	comp=Z,35nm,0.4s						
VNA1				⇑S	Sn	17 09 18.8	-10
	comp=Z,12nm,0.5s						
VNA3	Neumayer Olymp	14.26	159	⇑P	Pn	17 06 56.2	-0.2
	comp=Z,22nm,0.2s						
VNA3				⇓S	Sn	17 09 17.6	-15
	comp=Z,29nm,0.6s						
VNA2	Neumayer--Watz	14.47	156	⇑P	Pn	17 06 58.7	-0.3
	comp=Z,7.9nm,0.2s,baz=313,slow=13						
VNA2				⇓S	Sn	17 09 24.8	-13
	comp=Z,32nm,0.7s,baz=319,slow=19						
SNAA	Sanae	16.03	154		Pn	17 07 19.0	+0.2
SNAA	Sanae	16.03	154	⇑P	P	17 07 19.9	-0.7
	comp=Z,503nm,0.6s						
SNAA				⇓S	Sn	17 10 02.1	-14
	comp=Z,347nm,0.5s						
SNAA	Sanae	16.03	154	P	P	17 07 19.8	-0.7
	comp=Z,7.9nm,0.5s,baz=309,slow=12,SNR=110						
SNAA				S	Sn	17 09 59.4	-16
	comp=Z,2.6nm,0.6s,baz=336,slow=20,SNR=2.3						
SNAA				LR	LR	17 12 01.7	
	comp=Z,78nm,19.2s,baz=314,slow=31						
TROLL	Troll, Antarti	17.55	151	⇑P	Pn	17 07 37.5	0.0
	comp=Z,275nm,0.3s						
TROLL				⇑S	Sn	17 10 40.0	-13
	comp=Z,254nm,0.6s						

PMSA Palmer Station 18.98 235 P P 17 07 50.7 -2.1
PMSA Palmer Station 18.98 235 P Pn 17 07 53.7 -0.7
comp=Z,35nm,0.6s,baz=83,slow=7.5,SNR=12
PMSA LR LR 17 13 59.1
comp=Z,135nm,19.9s,baz=92,slow=33
BELA Belgrano 2 19.57 186 P P 17 07 57.9 -1.2
EFI East Falkland 19.65 277 P P 17 07 58.3 -1.9
SMAI San Martin Ant 20.44 225 P P 17 08 07.8 -0.8
MG03 Isla Dawson 25.00 261 P P 17 08 52.7 -1.2
MG03 IAmb IAmb 17 09 23.6
comp=Z,40nm,1.1s
MG05 Puerto Natales 27.19 264 P P 17 09 11.3 -2.4
GO09 Cerro Castillo 27.33 265 P P 17 09 12.5 -2.4
GO09 IAmb IAmb 17 09 45.1
comp=Z,43nm,1.4s
GO08 Villa O'Higgin 29.10 270 P P 17 09 29.3 -1.4
TRQA Tornquist 31.16 295 P P 17 09 48.7 -0.3
TRQA IAmb IAmb 17 10 12.0
comp=Z,53nm,1.8s
QSPA South Pole Qui 31.61 180 P P 17 09 52.2 -0.6
QSPA IAmb IAmb 17 09 57.8
comp=Z,7.9nm,0.6s
QSPA South Pole Qui 31.61 180 P P 17 09 53.8 +1.0
comp=Z,6.6nm,0.5s,baz=199,slow=2.0,SNR=69
comp=Z,6.6nm,0.5s
QSPA South Pole Qui 31.61 180 P P 17 09 53.6 +0.8
QSPA pP pP 17 10 14.9 +2.0
PLTB Pedras Altas 32.87 313 P P 17 10 03.6 -0.4
PLTB IAmb IAmb 17 10 23.0
comp=Z,34nm,1.7s
PLCA Paso Flores 33.35 282 P P 17 10 07.0 -1.2
PLCA IAmb IAmb 17 10 39.3
comp=Z,32nm,1.7s
PLCA Paso Flores 33.35 282 P P 17 10 06.8 -1.4
comp=Z,3.0nm,0.6s,baz=160,slow=5.4,SNR=12
comp=Z,3.0nm,0.6s
GO06 Curarrehue 34.67 283 P P 17 10 17.9 -1.8
GO06 IAmb IAmb 17 10 23.1
comp=Z,15nm,1.3s
LR04 Corral 35.45 281 P P 17 10 24.5 -1.7
MAW Mawson 37.57 141 P P 17 10 42.6 -1.3
comp=Z,7.2nm,0.7s,baz=237,slow=8.7,SNR=9.4
MAW LR LR 17 23 26.0
comp=Z,62nm,21.6s,baz=211,slow=32
comp=Z,7.2nm,0.7s
BO02 Sierra Bellavi 38.04 289 P P 17 10 46.6 -1.7
BO02 IAmb IAmb 17 10 52.1
comp=Z,35nm,1.6s
GO05 Huala 38.44 287 P P 17 10 50.3 -1.3
GO05 IAmb IAmb 17 11 14.7
comp=Z,14nm,0.9s
BO01 Tunca 38.51 289 P P 17 10 51.1 -1.1
BO01 IAmb IAmb 17 10 55.6
comp=Z,14nm,1.1s
MT09 Talagante 38.95 289 P P 17 10 54.5 -1.6
MT09 IAmb IAmb 17 10 59.4
comp=Z,41nm,1.3s
MT01 Popeta 39.01 289 P P 17 10 54.8 -1.6
MT01 IAmb IAmb 17 10 58.7
comp=Z,20nm,0.9s
CPUP Villa Florida 39.17 312 LR LR 17 25 23.9
comp=Z,34nm,21.9s,baz=201,slow=33
PEL Peldehue 39.31 290 P P 17 10 57.6 -1.4
MT02 Curacav 39.44 290 P P 17 10 57.9 -2.1
MT02 IAmb IAmb 17 11 03.1
comp=Z,30nm,0.9s
VA03 San Esteban 39.56 291 P P 17 11 00.1 -0.9
VA03 IAmb IAmb 17 11 33.7
comp=Z,20nm,1.0s
ZON Zonda 39.65 294 P 17 11 01.1 -0.7
VA06 Catapilco 40.09 290 P P 17 11 04.8 -0.5
VA06 IAmb IAmb 17 11 09.4
comp=Z,17nm,0.8s
SUR Sutherland 40.60 70 P P 17 11 09.3 -0.4
SUR Sutherland 40.60 70 LR LR 17 24 44.1
comp=Z,65nm,18.3s,baz=186,slow=31
CO02 Combarbal 41.05 292 P P 17 11 13.2 -0.2
CO02 IAmb IAmb 17 11 32.7
comp=Z,68nm,1.8s
CO03 El Pedregal 41.20 292 P P 17 11 14.5 -0.1
CO03 IAmb IAmb 17 11 46.5
comp=Z,34nm,1.6s
CO01 Juntas del Tor 41.62 294 P P 17 11 18.3 +0.1
SBA Scott Base 43.55 184 P P 17 11 33.9 +0.9
SBA Scott Base 43.55 184 P P 17 11 34.9 +2.0
SBA pP pP 17 11 56.9 +3.1
VNDA Vanda 44.02 182 P P 17 11 37.9 +1.2
VNDA Vanda 44.02 182 P P 17 11 38.2 +1.5
comp=Z,4.2nm,0.7s,baz=188,slow=5.3,SNR=27
comp=Z,4.2nm,0.7s
VNDA Vanda 44.02 182 P P 17 11 38.1 +1.4
VNDA pP pP 17 11 59.8 +2.1
CCD Concordia, Ant 44.97 169 P P 17 11 45.5 +0.7
H04S2 CROZET ISLANDS 45.77 111 T T 18 02 18.9
baz=226,slow=75,SNR=82
H04S3 CROZET ISLANDS 45.78 111 T T 18 02 20.0
baz=226,slow=75,SNR=59
H04S1 CROZET ISLANDS 45.79 111 T T 18 02 20.0
baz=226,slow=75,SNR=78
BOSA Boshof 45.87 72 P P 17 11 52.9 +0.8
comp=Z,5.4nm,0.5s,baz=223,slow=7.2,SNR=33
BOSA LR LR 17 27 47.4
comp=Z,55nm,18.9s,baz=193,slow=32
comp=Z,5.4nm,0.5s
BOSA Boshof 45.87 72 P P 17 11 53.0 +0.8
BDFB Brasilia 46.03 329 P P 17 11 56.2 +2.7
comp=Z,1.1nm,0.3s,baz=148,slow=9.5,SNR=3.2
LBTB Lobatse 49.03 69 P P 17 12 17.4 +0.9
PTLB Pontes e Lacer 49.75 316 P P 17 12 22.5 +0.5
GO01 Chusmiza 50.04 302 P P 17 12 26.2 +1.5
GO01 IAmb IAmb 17 13 18.3
comp=Z,19nm,1.6s
POGA Pongola 50.16 77 P P 17 12 24.5 -0.5
H10S2 ASCENSION HYDR 50.27 14 T T 18 06 50.9
baz=188,slow=74,SNR=32
H10S3 ASCENSION HYDR 50.27 14 T T 18 07 03.2
baz=32,slow=74,SNR=33
H10N1 ASCENSION HYDR 51.39 14 T T 18 08 27.4
baz=187,slow=75,SNR=15
H10N3 ASCENSION HYDR 51.39 14 T T 18 08 26.9
baz=187,slow=75,SNR=32
H10N2 ASCENSION HYDR 51.41 14 T T 18 08 23.9
baz=187,slow=75,SNR=30
LPAZ La Paz 52.57 305 P P 17 12 43.3 -0.6
LPAZ IAmb IAmb 17 13 15.0
comp=Z,17nm,1.9s
LPAZ La Paz 52.57 305 P P 17 12 45.2 +1.4
comp=Z,2.2nm,0.6s,baz=178,slow=2.8,SNR=8.9
comp=Z,2.2nm,0.6s
LPAZ La Paz 52.57 305 P P 17 12 46.1 +2.3
DRV Dumont d'Urvil 54.55 173 P P 17 12 57.6 +0.7
DRV pP pP 17 13 21.1 +2.5
SAML Samuel 57.23 314 P P 17 13 16.4 -0.3
LSZ Lusaka 58.58 66 P P 17 13 25.7 -0.6
LSZ IAmb IAmb 17 14 32.7
comp=Z,28nm,1.8s
NNA Nana 60.24 299 LR LR 17 41 25.1
comp=Z,20nm,19.0s,baz=186,slow=38
VOI Vohitsoka 62.42 87 P P 17 13 51.5 -0.9
LIC Lamto 66.73 22⇑eP P 17 14 20.7 +0.5
comp=Z,28nm,0.6s
BOAV Boa Vista 66.85 322 P 17 14 20.3 -0.7
BOAV IAmb IAmb 17 14 26.2
comp=Z,16nm,1.5s
KIC Kosan Boka 66.92 23⇓eP P 17 14 22.0 +0.5
comp=Z,17nm,0.7s
TIC Toumodi 67.15 22⇓eP P 17 14 23.4 +0.5
comp=Z,25nm,0.8s
DBIC Dimbokro 67.20 22 P P 17 14 23.4 +0.2
DBIC Dimbokro 67.20 22 P P 17 14 23.7 +0.5
comp=Z,5.6nm,0.5s,baz=178,slow=5.6,SNR=11
comp=Z,5.6nm,0.5s
DBIC Dimbokro 67.20 22 P P 17 14 23.8 +0.5
DBIC pP pP 17 14 47.6 +2.0
TOA0 Torodi Ar. Sit 74.93 28 P P 17 15 10.2 +0.4
TOA0 IAmb IAmb 17 15 11.3
comp=Z,11nm,0.6s
TORD Torodi Ar. Bea 74.93 28 P P 17 15 10.0 +0.2
TORD IAmb IAmb 17 15 11.4
comp=Z,8.7nm,0.7s
TORD Torodi Ar. Bea 74.93 28 P P 17 15 10.7 +0.9
comp=Z,11nm,0.5s,baz=200,slow=5.9,SNR=73
TORD pP pP 17 15 30.0 -2.5
comp=Z,2.9nm,0.5s,baz=192,slow=5.6,SNR=3.5
comp=Z,11nm,0.5s
THZ Tophouse 78.78 194 P P 17 15 32.3 +0.9

DSZ	**Denniston Nort**	**78.94**	**193**	P	**P**	**17 15 31.2**	**-0.9**
MRNZ	**Matariki Terra**	**79.16**	**194**	P	**P**	**17 15 33.0**	**-0.4**
TKNZ	**Takaka Hill**	**79.49**	**194**	P	**P**	**17 15 34.5**	**-0.7**
MRZ	**Mangatainoka R**	**79.50**	**196**	P	**P**	**17 15 35.5**	**+0.3**
BKZ	**Black Stump Fm**	**80.83**	**197**	P	**P**	**17 15 43.0**	**+0.6**
RTZ	**Ruatahuna**	**81.29**	**198**	P	**P**	**17 15 44.8**	**-0.1**
FURI	**Furi**	**84.65**	**63**	LR	LR	17 49 59.8	
	comp=Z,40nm,21.9s,baz=187,slow=33						
STKA	**Stephens Creek**	**89.20**	**169**	P	**P**	**17 16 25.4**	**+1.0**
STKA				IAmb	IAmb	17 17 24.1	
	comp=Z,9.3nm,2.0s						
STKA	**Stephens Creek**	**89.20**	**169**	P	**P**	**17 16 25.3**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=109,slow=4.7,SNR=4.6						
	comp=Z,1.2nm,0.5s						
PPT2	**Papeete2**	**91.30**	**232**	*e*LR	LR	17 45 47.8	
	comp=Z,74nm,27.0s						
ASAR	**Alice Springs**	**96.26**	**161**	P	**P**	**17 16 56.9**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=183,slow=4.1,SNR=21						
ASAR				pP	**pP**	**17 17 19.2**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=182,slow=4.2,SNR=4.8						
	comp=Z,0.9nm,0.5s						
WRA	**Warramunga Arr**	**99.98**	**161**	P	**Pdif**	**17 17 13.2**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=201,slow=4.5,SNR=1.7						
CMAR	**Chiang Mai Arr**	**123.35**	**111**	PKP	**PKiKP**	**17 22 25.6**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=239,slow=4.1,SNR=8.4						
CMAR				pPKP	**pPKPdf**	**17 22 47.5**	**-2.2**
	comp=Z,2.5nm,0.9s,baz=236,slow=3.5,SNR=7.1						
FINES	**FINESS Array B**	**126.28**	**28**	PKP	**PKPdf**	**17 22 29.3**	**0.0**
	comp=Z,0.7nm,0.5s,baz=180,slow=1.7,SNR=6.3						
FINES				pPKP	**pPKPdf**	**17 22 52.6**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=172,slow=2.3,SNR=3.8						
ARCES	**ARCESS Array B**	**133.03**	**22**	PKP	**PKPdf**	**17 22 41.9**	**0.0**
	comp=Z,0.6nm,0.5s,baz=209,slow=2.2,SNR=5.0						
ARCES				pPKP	**pPKPdf**	**17 23 04.5**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=211,slow=1.4,SNR=1.7						
BVAR	**Borovoye Array**	**135.42**	**59**	PKP	**PKiKP**	**17 22 48.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=318,slow=1.9,SNR=4.7						
BVAR				SKPbc	**SKPbc**	**17 26 09.5**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=190,slow=0.9,SNR=3.5						
MKAR	**Makanchi Array**	**136.87**	**73**	PKP	**PKiKP**	**17 22 51.6**	**0.0**
	comp=Z,0.5nm,0.7s,baz=114,slow=1.5,SNR=4.8						
MKAR				pPKP	**pPKPdf**	**17 23 12.6**	**-1.9**
	comp=Z,1.2nm,1.0s,baz=0.0,slow=0.1,SNR=3.4						
MKAR				SKPbc	**SKPbc**	**17 26 13.8**	**-0.3**
	comp=Z,0.8nm,1.0s,baz=194,slow=1.2,SNR=4.3						
YKA	**Yellowknife Ar**	**138.64**	**315**	PKP	**PKPdf**	**17 22 51.9**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=124,slow=2.8,SNR=5.8						
ZAA0	**Zalesovo Array**	**142.69**	**66**	PKPpre	PKPpre	17 22 55.7	
ZALV	**Zalesovo Beam**	**142.69**	**66**	PKPpre	PKPpre	17 22 55.9	
ZALV	**Zalesovo Beam**	**142.69**	**66**	PKhKP	PKPpre	17 22 56.1	
	comp=Z,2.0nm,0.5s,baz=237,slow=3.8,SNR=11						
P33M	**Teslin, Yukon**	**144.66**	**304**	PKPdf	PKPbc	17 23 02.8	+0.2
BESE	**Bessie Mountai**	**144.72**	**301**	PKPdf	**PKPab**	**17 23 01.5**	**-1.2**
MMPY	**Sheldon Lake,**	**145.18**	**309**		**PKPbc**	**17 23 04.0**	**-0.2**
O30N	**Mendenhall**	**146.35**	**304**	PKPdf	**PKPbc**	**17 23 07.3**	**-0.5**
P29M	**Windy Craggy**	**146.53**	**301**	PKPdf	**PKPdf**	**17 23 07.4**	**+0.7**
N30M	**Aishikik Lake**	**147.09**	**305**		**PKPbc**	**17 23 09.9**	**0.0**
M30M	**Minto, Yukon**	**147.45**	**307**		**PKPbc**	**17 23 09.6**	**-1.2**
M29M	**Somme Creek**	**148.10**	**306**		**PKPbc**	**17 23 11.4**	**-1.2**
G30M	**tAoh Zraii Nji**	**148.88**	**315**		**PKPbc**	**17 23 14.1**	**-0.3**
H29M	**Whitestone**	**149.44**	**313**		**PKPbc**	**17 23 15.0**	**-0.8**
SONM	**Songino Array**	**149.96**	**90**		**PKPbc**	**17 23 17.8**	**0.0**
SONM	**Songino Array**	**149.96**	**90**	PKPbc	**PKPbc**	**17 23 18.0**	**+0.2**
	comp=Z,7.1nm,0.7s,baz=224,slow=3.1,SNR=57						
SONM				pPKPbc	**pPKPbc**	**17 23 41.8**	**-0.6**
	comp=Z,7.3nm,0.9s,baz=224,slow=2.8,SNR=9.3						
NRIK	**Noril'sk**	**150.44**	**41**	PKPbc	**PKPbc**	**17 23 18.1**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=247,slow=0.3,SNR=4.0						
ILAR	**Eielson Array**	**152.43**	**308**	PKPbc	**PKPbc**	**17 23 22.1**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=165,slow=2.4,SNR=12						
ILAR				pPKPbc	**pPKPbc**	**17 23 44.5**	**-2.9**
	comp=Z,3.4nm,1.0s,baz=146,slow=1.6,SNR=5.6						

ROM 13 17:04:39.7±0.1, 43°.338N±0°.003×12°.558E±0°.006, h7km, ML0.8/2, 1C, Error ellipse: s-maj=0.5km s-min=0.1km az=254.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.03**	**18**	⇑P	Pg	17 04 41.2	0.0
ATFO				S	Sg	17 04 42.4	+0.1
ATFO				AML	AML		
	comp=N,146μm,0.2s						
ATFO				AML	AML		
	comp=E,251μm,0.2s						
MURB	**Monte Urbino**	**0.08**	**198**	P	Pg	17 04 41.9	+0.2
MURB				S	Sg	17 04 43.4	+0.3
MURB				AML	AML		
	comp=E,101μm,0.3s						
MURB				AML	AML		
	comp=N,103μm,0.2s						
ATVO	**AVT- Monte Val**	**0.12**	**292**	P	Pg	17 04 42.6	+0.3
ATVO				S	Sg	17 04 44.9	+0.8
ATVO				AML	AML		
	comp=N,22μm,0.3s						
ATVO				AML	AML		
	comp=E,25μm,0.2s						
ATPI	**Pietralunga -**	**0.16**	**315**	P	Pg	17 04 43.4	+0.4
ATPI				S	Sg	17 04 46.7	+1.4
ATCC	**AVT- Casa Cast**	**0.16**	**159**	P	Pg	17 04 43.4	+0.4
ATCC				S	Sg	17 04 46.8	+1.4
PIEI	**Pieia**	**0.20**	**355**	P	Pg	17 04 44.3	+0.6
PIEI				S	Sg	17 04 47.7	+1.2
NRCA	**Norcia**	**0.65**	**141**	AML	AML		
	comp=E,74μm,0.4s						
NRCA				AML	AML		
	comp=N,234μm,0.1s						

*NEIC **13** 17:05:52.0±2.8, 15°.07S±0°.09×177°.19W±0°.06, h371km±7km, mb4.2/36, Error ellipse: s-maj=14.8km s-min=6.1km az=204.0*
*IDC **13** 17:05:55.0±5.6, 14°.91S×177°.55W, h406km±59km, mb3.4/7, mbtmp4.1/8, Error ellipse: s-maj=30.2km s-min=19.8km az=136.0*
ISC 13 17:05:51.3±0.6, 15°.0S±0°.1×177°.39W±0°.10, h372km, n50, σ0°.93/50, mb4.1/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.14**	**238**		**Pn**	**17 07 16.0**	**+2.4**
AFI	**Afiamalu**	**5.55**	**79**		**Pn**	**17 07 16.4**	**-1.6**
NIUE	**Niue**	**8.20**	**121**	Pn	**Pn**	**17 07 46.4**	**-1.8**
LIFNC	**LIFOU**	**15.71**	**246**	P	**Pn**	**17 09 13.8**	**-1.9**
PINNC	**Pines Island,**	**16.21**	**240**	P	**Pn**	**17 09 20.7**	**-0.8**
OUENC	**Ouen Island, N**	**16.64**	**241**	P	**Pn**	**17 09 25.6**	**-0.9**
OUENC				IAmb	IAmb	17 09 28.3	
	comp=Z,36nm,1.5s						
DZM	**Mont Dzumac**	**16.85**	**243**	P	**Pn**	**17 09 28.9**	**-0.1**
DZM				IAmb	IAmb	17 10 05.0	
	comp=Z,25nm,1.3s						
DZM	**Mont Dzumac**	**16.85**	**243**	P	**Pn**	**17 09 27.8**	**-1.2**
	comp=Z,2.9nm,0.6s,baz=224,slow=22,SNR=10.0						
ONTNC	**Ouen Toro**	**16.93**	**242**	P	**Pn**	**17 09 29.4**	**-0.4**
CTAO	**Charters Tower**	**34.98**	**256**	P	**P**	**17 12 08.5**	**-1.7**
CTAO				IAmb	IAmb	17 12 35.7	
	comp=Z,19nm,1.4s						
WB0	**Warramunga Arr**	**46.14**	**257**	P	**P**	**17 13 39.9**	**-0.5**
WB2	**Warramunga Arr**	**46.17**	**257**	P	**P**	**17 13 39.5**	**-1.1**
WRA	**Warramunga Arr**	**46.18**	**257**	P	**P**	**17 13 39.8**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=82,slow=6.0,SNR=10						
	comp=Z,0.5nm,0.6s						
AS31	**Alice Springs**	**46.57**	**252**	P	**P**	**17 13 43.3**	**-0.5**
ASAR	**Alice Springs**	**46.57**	**252**	P	**P**	**17 13 42.8**	**-0.9**
ASAR				PcP	**PcP**	**17 15 10.1**	**-0.9**
ASAR	**Alice Springs**	**46.57**	**252**	P	**P**	**17 13 43.7**	**0.0**
	comp=Z,4.0nm,0.6s,baz=85,slow=8.4,SNR=135						
	comp=Z,4.0nm,0.6s						
MTN	**Manton Dam**	**49.92**	**266**	P	**P**	**17 14 08.5**	**-0.6**
MTN				IAmb	IAmb	17 14 08.6	
	comp=Z,39nm,1.4s						
KNRA	**Kununurra**	**51.81**	**262**	P	**P**	**17 14 22.7**	**-0.3**
KNRA				IAmb	IAmb	17 14 50.8	
	comp=Z,14nm,1.5s						
FORT	**Forrest**	**52.16**	**243**	P	**P**	**17 14 25.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**54.52**	**258**	P	**P**	**17 14 43.6**	**+1.1**
VNDA	**Vanda**	**63.39**	**185**	P	**P**	**17 15 42.5**	**+0.7**
KMRM	**Mail Ridge**	**74.18**	**40**	P	**P**	**17 16 49.2**	**+0.9**
O02D	**Mt. Diablo Mer**	**74.73**	**40**	P	**P**	**17 16 52.4**	**+0.9**
O02D				IAmb	IAmb	17 16 55.1	
	comp=Z,4.4nm,1.1s						
QSPA	**South Pole Qui**	**75.02**	**180**	P	**P**	**17 16 53.4**	**+0.7**
QSPA				IAmb	IAmb	17 16 54.4	
	comp=Z,3.0nm,0.8s						
QSPA	**South Pole Qui**	**75.02**	**180**	P	**P**	**17 16 53.7**	**+0.9**
	comp=Z,3.8nm,0.9s,baz=47,slow=1.0,SNR=11						
	comp=Z,3.8nm,0.9s						
NVAR	**Mina Array Bea**	**76.67**	**44**	P	**P**	**17 17 03.1**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=229,slow=7.8,SNR=7.3						
	comp=Z,0.8nm,0.7s						
NV11	**Mina Array Sit**	**76.77**	**44**	P	**P**	**17 17 03.1**	**0.0**
NV11				IAmb	IAmb	17 17 05.3	
	comp=Z,4.4nm,1.2s						
GMN	**Gold Mountain**	**76.80**	**45**	P	**P**	**17 17 03.5**	**+0.1**
KVN	**Kaiserville**	**77.13**	**43**	P	**P**	**17 17 05.2**	**+0.1**
M16K	**Timber Creek**	**77.20**	**9**	P	**P**	**17 17 05.2**	**+0.5**
M17K	**Holitna River**	**77.80**	**10**	P	**P**	**17 17 08.6**	**+0.6**
L18K	**Granite Mounta**	**78.69**	**10**		**P**	**17 17 13.6**	**+0.8**
L18K				IAmb	IAmb	17 17 14.9	
	comp=Z,6.0nm,1.0s						
J16K	**Anvik River**	**79.14**	**8**	P	**P**	**17 17 15.9**	**+0.7**
K20K	**Telida**	**80.20**	**10**	P	**P**	**17 17 20.6**	**-0.2**
K20K				IAmb	IAmb	17 17 53.5	
	comp=Z,9.5nm,1.5s						
J20K	**Nowinta River**	**80.94**	**10**	P	**P**	**17 17 24.6**	**-0.1**
J20K				IAmb	IAmb	17 17 32.3	
	comp=Z,8.1nm,1.5s						
TMUT	**Trail Mountain**	**81.93**	**46**	P	**P**	**17 17 31.5**	**+0.7**
TMUT				IAmb	IAmb	17 17 32.4	
	comp=Z,3.6nm,0.7s						
CCB	**Clear Creek Bu**	**82.56**	**12**	P	**P**	**17 17 32.2**	**-0.9**
CCB				IAmb	IAmb	17 17 33.1	
	comp=Z,4.1nm,0.6s						
TCUT	**Toone Canyon**	**82.62**	**44**	P	**P**	**17 17 34.5**	**+0.2**
BSUT	**Blindstream Ca**	**82.79**	**45**	P	**P**	**17 17 35.3**	**0.0**
BSUT				IAmb	IAmb	17 17 36.7	
	comp=Z,3.0nm,0.8s						
ILAR	**Eielson Array**	**82.87**	**13**	P	**P**	**17 17 34.0**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=224,slow=6.8,SNR=15						
	comp=Z,1.9nm,0.8s						
VHRN	**Van Horn**	**83.09**	**56**	P	**P**	**17 17 37.7**	**+1.0**
VHRN				IAmb	IAmb	17 17 38.3	
	comp=Z,2.3nm,0.7s						
J26L	**Joseph Creek**	**83.38**	**14**	P	**P**	**17 17 37.2**	**-0.1**
J26L				IAmb	IAmb	17 17 38.5	
	comp=Z,3.9nm,0.8s						
TX31	**Lajitas Ar. Si**	**83.63**	**57**	P	**P**	**17 17 40.8**	**+1.4**
TXAR	**Lajitas Array**	**83.63**	**58**	P	**P**	**17 17 41.0**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=221,slow=6.7,SNR=16						
	comp=Z,1.4nm,0.7s						
IMW	**Indian Meadow**	**84.19**	**42**	P	**P**	**17 17 42.8**	**+0.7**
IMW				IAmb	IAmb	17 17 43.8	
	comp=Z,4.1nm,1.1s						
PDAR	**Pinedale Array**	**84.59**	**43**	P	**P**	**17 17 44.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=215,slow=1.8,SNR=5.0						
	comp=Z,0.4nm,0.6s						
BRTR	**Keskin Array B**	**143.37**	**318**	PKP	PKPab	17 24 40.0	+0.4
	comp=Z,1.3nm,0.7s,baz=127,slow=0.6,SNR=6.2						
KHC	**Kasperske Hory**	**144.81**	**347**		**PKPdf**	**17 24 44.1**	**-0.4**
GERES	**GERESS Array B**	**145.06**	**347**	PKP	**PKPdf**	**17 24 45.1**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=354,slow=5.4,SNR=5.4						
MMAI	**Mount Meron Ar**	**145.30**	**307**	PKPbc	**PKPab**	**17 24 46.9**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=74,slow=3.6,SNR=5.6						

PRU 13 17:06:09.2, 49°.82N×18°.50E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.23**	**275**	*e*PG	Pg	17 06 13.1	-0.5
OKC				*e*SG	Sg	17 06 17.0	+0.5
	comp=Z,7.1nm,0.5s						
MORC	**Moravsky Berou**	**0.62**	**266**	*e*PG	Pg	17 06 20.4	-0.7
MORC				*e*SG	Sg	17 06 27.9	-1.3
LANS	**Liptovska Anna**	**0.92**	**136**	*e*PG	Pg	17 06 26.7	-0.1
LANS				*e*SG	Sg	17 06 39.5	+0.8
KRLC	**Kraliky**	**1.14**	**284**	*e*SG	Sg	17 06 45.2	-0.6
	comp=Z,1.8nm,0.3s						
VRAC	**Vranov**	**1.34**	**248**	*e*SG	Sg	17 06 50.2	-2.1
VRAC	**Vranov**	**1.34**	**248**	*e*PG	Pg	17 06 33.5	-1.4
DPC	**Dobruska-Polom**	**1.50**	**292**	*e*SG	Sg	17 06 56.6	-0.8
KRUC	**Moravsky**	**1.57**	**242**	*e*PG	Pn	17 06 36.7	-1.6
KRUC				*e*SG	Sn	17 06 57.3	-2.0

*NAO **13** 17:08:04.6, 35°.08N×24°.47E, h33km, mb3.7*
*ISK **13** 17:08:07.4, 35°.16N×23°.29E, h66km, ML3.6/28*
*ATH **13** 17:08:08.1, 35°.11N×23°.16E, h14km±1km, ML3.7/21, Error ellipse: s-maj=2.5km s-min=0.9km az=47.0*
*IDC **13** 17:08:09.0±2.3, 35°.38N×23°.41E, h35km±18km, mb3.8/16, mbtmp4.0/20, ML4.1/4, MS3.0/10, Error ellipse: s-maj=20.5km s-min=15.6km az=21.0*
*THE **13** 17:08:09.4, 35°.17N×23°.25E, h7km±2km, ML3.8/3, Error ellipse: s-maj=2.4km s-min=0.7km az=57.0*
*GII **13** 17:08:10.0±0.4, 34°.795N±0°.002×23°.887E±0°.001, h10km, Mws4.1, confirmed*
*MCSM **13** 17:08:13.4±2.0, 36°N±19°×2°4E±°, h10km, mb4.0*
ISC 13 17:08:07.9±0.8, 35°.12N±0°.06×23°.17E±0°.05, h37km±1km, n211, σ1°89/189, mb4.0/16, MS3.0/5, 11C-6D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.44**	**74**	P	**Pn**	**17 08 16.3**	**-1.2**
KNDR				S	**Sn**	**17 08 22.3**	**-2.1**
KNDR				AML	AML	17 08 25.2	
KNDR				AML	AML	17 08 27.2	
	comp=N,82203μm,0.6s						
RODP	**Rodopos**	**0.66**	**47**	Pg	**Pn**	**17 08 20.7**	**-0.1**
RODP				Sg	**Sn**	**17 08 30.9**	**+1.0**
IMMV	**Iera Moni Meta**	**0.75**	**62**	Pg	**Pn**	**17 08 21.7**	**-0.2**
IMMV				Sg	**Sn**	**17 08 32.8**	**+0.7**
IMMV	**Iera Moni Meta**	**0.75**	**62**	P	**Pn**	**17 08 22.2**	**+0.3**
IMMV				S	**Sn**	**17 08 31.8**	**-0.3**
	comp=N,11μm,0.9s						
IMMV	**Iera Moni Meta**	**0.75**	**62**	P	**Pn**	**17 08 21.8**	**-0.2**
IMMV				S	**Sn**	**17 08 32.3**	**+0.3**
IMMV				AML	AML	17 08 35.0	
	comp=N,23654μm,1.0s						
IMMV				AML	AML	17 08 41.1	
	comp=E,18381μm,0.5s						
ANKY	**Antikythira Is**	**0.76**	**8**	P	**Pn**	**17 08 22.3**	**+0.3**
ANKY				S	**Sn**	**17 08 33.5**	**+1.2**
	comp=E,10μm,0.5s						
ANKY	**Antikythira Is**	**0.76**	**8**	P	**Pn**	**17 08 22.4**	**+0.3**
ANKY				S	**Sn**	**17 08 32.9**	**+0.7**
ANKY				AML	AML	17 08 38.3	
	comp=N,16176μm,0.6s						
ANKY				AML	AML	17 08 39.1	
	comp=E,22866μm,0.5s						
GVD	**Gavdhos**	**0.80**	**110**	Pg	**Pn**	**17 08 23.2**	**+0.5**
GVD	**Gavdhos**	**0.80**	**110**	P	**Pn**	**17 08 23.8**	**+1.1**
GVD				S	**Sn**	**17 08 35.4**	**+1.9**
	comp=E,8μm,0.6s						
GVD	**Gavdhos**	**0.80**	**110**	P	**Pn**	**17 08 23.8**	**+1.1**
GVD				S	**Sn**	**17 08 35.2**	**+1.7**
GVD				AML	AML	17 08 39.1	
	comp=E,13903μm,0.6s						
GVD				AML	AML	17 08 39.5	
	comp=N,17790μm,0.5s						
CHAN	**Chania**	**0.82**	**60**	P	**Pn**	**17 08 23.2**	**+0.3**
CHAN				S	**Sn**	**17 08 36.0**	**+2.1**
CHAN				AML	AML	17 08 39.0	
	comp=E,32430μm,0.7s						
CHAN				AML	AML	17 08 40.6	
	comp=N,22330μm,0.6s						
TMBK	**Timbaki Herakl**	**1.31**	**91**	P	**Pn**	**17 08 30.9**	**+1.3**
IDI	**Anoyia**	**1.42**	**83**	Pn	**Pn**	**17 08 31.1**	**-0.1**
IDI	**Anoyia**	**1.42**	**83**	P	**Pn**	**17 08 33.2**	**+2.0**
IDI	**Anoyia**	**1.42**	**83**	Pg	**Pn**	**17 08 33.3**	**+2.0**
	comp=N,92nm,0.3s,baz=258,slow=13,SNR=207						
IDI				Lg	Lg	17 08 53.1	
	comp=N,64nm,0.3s,baz=327,slow=23,SNR=6.4						
IDI	**Anoyia**	**1.42**	**83**	P	**Pn**	**17 08 33.2**	**+2.0**
IDI				S	**Sn**	**17 08 51.2**	**+2.5**
IDI				AML	AML	17 09 03.7	
	comp=N,3303μm,0.7s						
IDI				AML	AML	17 09 07.1	
	comp=E,2956μm,0.7s						
IACM	**Heraklion**	**1.57**	**83**	P	**Pn**	**17 08 36.1**	**+2.9**
KSTL	**Kastelli Herak**	**1.57**	**83**	P	**Pn**	**17 08 37.2**	**+4.0**
KSTL				AML	AML	17 09 14.7	
	comp=N,2745μm,0.7s						
KSTL				AML	AML	17 09 25.1	
	comp=E,1856μm,0.8s						
VLI	**Veliai**	**1.61**	**353**	P	**Pn**	**17 08 36.5**	**+2.7**
VLI	**Veliai**	**1.61**	**353**	P	**Pn**	**17 08 36.2**	**+2.4**
VLI				S	**Sn**	**17 08 55.7**	**+2.4**
VLI				AML	AML	17 09 04.8	
	comp=N,4554μm,0.5s						
VLI				AML	AML	17 09 06.2	
	comp=E,3515μm,1.1s						
MHLO	**Agia Marina, M**	**1.86**	**32**	P	**Pn**	**17 08 39.6**	**+2.3**
MHLO	**Agia Marina, M**	**1.86**	**32**	P	**Pn**	**17 08 39.4**	**+2.2**
MHLO				AML	AML	17 09 12.0	
	comp=N,8293μm,0.7s						
MHLO				AML	AML	17 09 20.6	
	comp=E,11210μm,0.8s						
PYL	**PYLOS**	**2.12**	**327**	P	**Pn**	**17 08 44.1**	**+3.3**
PYL	**PYLOS**	**2.12**	**327**	P	**Pn**	**17 08 43.2**	**+2.4**
PYL				AML	AML	17 09 35.1	
	comp=N,890μm,0.7s						
PYL				AML	AML	17 09 35.4	
	comp=E,789μm,0.6s						
SANT	**Santorini**	**2.25**	**55**	⇑P	**Pn**	**17 08 44.8**	**+2.2**
SANT				⇓S	**Sn**	**17 09 15.2**	**+6.2**
SANT	**Santorini**	**2.25**	**55**	Pn	**Pn**	**17 08 42.1**	**-0.5**
SANT	**Santorini**	**2.25**	**55**	P	**Pn**	**17 08 44.2**	**+1.6**
SANT				AML	AML	17 09 27.6	
	comp=N,756μm,0.5s						
SANT				AML	AML	17 09 31.4	
	comp=E,1553μm,0.4s						
KRND	**KRANIDI**	**2.26**	**360**	P	**Pn**	**17 08 44.9**	**+2.2**
KRND				AML	AML	17 09 24.4	
	comp=N,1398μm,0.8s						
KRND				AML	AML	17 09 31.1	
	comp=E,1787μm,0.7s						
CMBO	**Columbo, Santo**	**2.27**	**53**	P	**Pn**	**17 08 44.1**	**+1.3**
CMBO				AML	AML	17 09 31.6	
	comp=N,5006μm,0.6s						
CMBO				AML	AML	17 09 32.2	
	comp=E,5228μm,0.6s						
ITM	**Ithomi**	**2.29**	**334**	Pn	**Pn**	**17 08 44.3**	**+1.1**
ITM	**Ithomi**	**2.29**	**334**	P	**Pn**	**17 08 45.8**	**+2.6**
ITM				AML	AML	17 09 37.8	
	comp=E,1001μm,1.1s						
ITM				AML	AML	17 09 38.1	
	comp=N,870μm,0.7s						
ZKR	**Zakros**	**2.50**	**89**	Pn	**Pn**	**17 08 45.7**	**-0.3**
ZKR	**Zakros**	**2.50**	**89**	P	**Pn**	**17 08 47.5**	**+1.5**
ZKR				AML	AML	17 09 39.1	
	comp=E,1411μm,1.3s						
ZKR				AML	AML	17 09 42.8	
	comp=N,520μm,1.5s						
APE	**Apeiranthos**	**2.73**	**44**	⇑P	**Pn**	**17 08 50.2**	**+0.9**
APE				⇓S	**Sn**	**17 09 26.0**	**+5.0**
APE	**Apeiranthos**	**2.73**	**44**	Pn	**Pn**	**17 08 49.4**	**+0.2**
APE	**Apeiranthos**	**2.73**	**44**	P	**Pn**	**17 08 51.3**	**+2.1**
APE				AML	AML	17 09 37.8	
	comp=N,701μm,0.5s						
APE				AML	AML	17 09 42.6	
	comp=E,587μm,0.5s						
VLY	**Voula,Athens**	**2.78**	**10**	P	**Pn**	**17 08 51.2**	**+1.3**
VLY				AML	AML	17 09 43.4	
	comp=N,915μm,0.7s						
VLY				AML	AML	17 09 43.7	
	comp=E,1667μm,0.7s						
GUR	**Goura**	**2.89**	**347**	P	**Pn**	**17 08 54.2**	**+2.6**
GUR				AML	AML	17 09 52.5	
	comp=N,1113μm,0.8s						
GUR				AML	AML	17 09 53.4	
	comp=E,1418μm,0.9s						
DION	**Dionisos Attik**	**3.02**	**12**	P	**Pn**	**17 08 55.3**	**+2.1**
DION				AML	AML	17 09 41.0	
	comp=N,764μm,0.5s						
DION				AML	AML	17 09 49.4	
	comp=E,1298μm,0.5s						
KLV	**Kalavryta, Ach**	**3.04**	**345**	P	**Pn**	**17 08 56.0**	**+2.5**
KLV				AML	AML	17 09 56.9	
	comp=N,486μm,0.9s						
KLV				AML	AML	17 10 03.3	
	comp=E,561μm,0.8s						
VIL2	**Platees**	**3.09**	**1**	P	**Pn**	**17 08 55.0**	**+0.8**
VIL2				AML	AML	17 09 43.8	
	comp=N,714μm,0.8s						
VIL2				AML	AML	17 09 55.8	
	comp=E,969μm,0.6s						
RLS	**Riolos of Patr**	**3.24**	**336**	P	**Pn**	**17 08 58.2**	**+2.0**
KARP	**Karpathos**	**3.29**	**81**	Pn	**Pn**	**17 08 56.9**	**-0.1**
KARP	**Karpathos**	**3.29**	**81**	P	**Pn**	**17 08 58.7**	**+1.7**
KARP	**Karpathos**	**3.29**	**81**	P	**Pn**	**17 08 58.4**	**+1.4**
KALE	**Kalithea**	**3.37**	**346**	P	**Pn**	**17 08 59.9**	**+1.9**
EFP	**Efpalio**	**3.46**	**343**	P	**Pn**	**17 09 01.4**	**+2.2**
ANX	**Ano Chora**	**3.61**	**344**	P	**Pn**	**17 09 03.5**	**+2.1**
AXAR	**Agios Charalam**	**3.67**	**354**	P	**Pn**	**17 09 04.5**	**+2.4**
BODT	**Bodrum**	**3.88**	**59**	Pn	**Pn**	**17 09 04.9**	**-0.1**
DAT	**Datca**	**3.92**	**65**	Pn	**Pn**	**17 09 05.6**	**-0.1**
SMG	**Samos**	**3.93**	**48**	P	**Pn**	**17 09 07.0**	**+1.3**
AGG	**Agios Georgios**	**3.96**	**351**	Pn	**Pn**	**17

YTIR	Yattir	10.68	107	P		Pn	17 10 35.5	-2.9
YTIR	Yattir	10.68	107	S		Sn	17 12 26.6	-10
YTIR	Yattir	10.68	107	P		Pn	17 10 34.6	-3.8
HMDT	Nahal Hemdat	10.69	102	P		Pn	17 10 37.6	-0.8
HMDT	Nahal Hemdat	10.69	102	S		Sn	17 12 27.7	-9.0
HMDT	Nahal Hemdat	10.69	102	P		Pn	17 10 33.8	-4.6
KSHT	Keshet	10.70	98	P		Pn	17 10 34.7	-4.0
DSI	Dead Sea	10.81	106	P		Pn	17 10 36.7	-3.4
DSI	Dead Sea	10.81	106	S		Sn	17 12 29.6	-10
DSI	Dead Sea	10.81	106	P		Pn	17 10 36.1	-4.0
BALJ	Balqa	10.83	103	P		Pn	17 10 39.2	-1.2
DUGI	Dugi Otok	10.85	327	*e*Pn		Pn	17 10 40.1	-0.4
MSBI	Mazada	10.89	107	P		Pn	17 10 38.8	-2.4
MSBI	Mazada	10.89	107	P		Pn	17 10 39.1	-2.0
MSBI	Mazada	10.89	107	S		Sn	17 12 32.7	-9.0
KRMI	Paran Flat	10.94	114	S		Sn	17 12 32.4	-11
KRMI	Paran Flat	10.94	114	P		Pn	17 10 37.8	-4.1
UDBI	Udbina	10.98	331	*e*Pn		Pn	17 10 42.0	-0.4
PRNI	Paran	11.04	112	P		Pn	17 10 41.6	-1.7
PRNI	Paran	11.04	112	S		Sn	17 12 36.0	-9.4
PRNI	Paran	11.04	112	P		Pn	17 10 39.1	-4.2
GHAJ	Ghor Haditha	11.06	107	P		Pn	17 10 43.2	-0.3
GHAJ	Ghor Haditha	11.06	107	P		Pn	17 10 41.5	-2.0
GHAJ	Ghor Haditha	11.06	107	S		Sn	17 12 37.0	-8.8
VRI	Vrincioaia	11.07	13	⇓P		Pn	17 10 43.0	-0.6
VIRC	Vir	11.09	328	*e*Pn		Pn	17 10 43.5	-0.3
HRFI	Mount Harif	11.22	114	S		Sn	17 12 40.0	-10
HRFI	Mount Harif	11.22	114	P		Pn	17 10 41.4	-4.3
MBRI	Mt Berech	11.25	115	P		Pn	17 10 42.7	-3.4
MBRI	Mt Berech	11.25	115	S		Sn	17 12 40.8	-10
PLIT	Plitvice	11.33	332	*e*Pn		Pn	17 10 46.2	-1.0
EIL	Elat	11.34	115	Pn		Pn	17 10 45.7	-1.7
	comp=E,0.9nm,0.3s,baz=25,slow=2.1,SNR=10							
EIL				Sn		Sn	17 12 41.8	-11
	comp=E,0.3nm,0.3s,baz=54,slow=19,SNR=1.6							
	comp=E,3.0nm,0.4s							
EIL	Elat	11.34	115	P		Pn	17 10 42.8	-4.6
EIL	Elat	11.34	115	S		Sn	17 12 42.6	-10
NVLJ	Novalja	11.38	328	*e*Pn		Pn	17 10 47.3	-0.5
MOSL	Moslavina	11.56	337	*e*Pn		Pn	17 10 47.2	-3.2
MORH	Mrgy, Hungar	11.60	344	⇑P		Pn	17 10 48.9	-2.0
ASF	Jabal al Asfar	11.81	101	Pn		Pn	17 10 53.7	-0.2
	comp=E,0.5nm,0.3s,baz=237,slow=0.2,SNR=8.4							
	comp=E,2.6nm,0.4s							
SOKA	Soboth	13.08	334	*e*Pn		Pn	17 11 11.2	+0.1
	comp=E,0.8nm,0.4s							
OBKA	Obir	13.11	333	*i* Pn		Pn	17 11 16.0	+4.5
	comp=E,1.9nm,0.4s							
ARSA	Arzberg	13.41	337	*e*Pn		Pn	17 11 18.0	+2.4
	comp=E,1.6nm,0.5s							
RONA	Rosalia, Austr	13.58	340	*i* Pn		P	17 11 24.5	-1.8
	comp=E,1.6nm,0.5s							
KBA	Koelnbreinsper	14.04	331	*e*Pn		P	17 11 31.1	-0.6
	comp=E,2.7nm,0.6s							
ABTA	Abfaltersbach	14.12	329	*i* Pn		Pn	17 11 28.7	+3.4
	comp=E,1.5nm,0.6s							
MOA	Molln	14.35	335	*e*Pn		P	17 11 32.6	-2.3
	comp=E,2.1nm,0.5s							
LESA	Schwarzleotal	14.59	331	*i* Pn		P	17 11 39.8	+2.1
	comp=E,3.9nm,0.5s							
WTTA	Wattenberg	14.90	328	*e*Pn		P	17 11 45.5	+4.3
	comp=E,1.6nm,0.5s							
WATA	Walderalm	14.98	328	*e*Pn		P	17 11 43.8	+1.8
	comp=E,2.3nm,0.5s							
VRAC	Vranov	14.99	343	Pn		P	17 11 41.6	-0.3
	comp=E,0.5nm,0.3s,baz=164,slow=11,SNR=4.6							
SQTA	Sankt Quirin	15.05	327	*e*Pn		P	17 11 46.9	+4.0
	comp=E,2.0nm,0.7s							
FETA	Feichten	15.12	326	*e*Pn		P	17 11 43.8	+0.2
	comp=E,4.2nm,1.0s							
GERES	GERESS Array B	15.40	336	Pn		P	17 11 47.2	+0.6
	comp=E,0.2nm,0.3s,baz=144,slow=12,SNR=5.2							
GERES				LR		LR	17 19 32.8	
	comp=E,46nm,19.8s,baz=151,slow=45							
TUE	Stuetta	15.41	322	P		P	17 11 48.7	+1.8
	comp=E,20nm,0.7s							
RETA	Reutte	15.46	327	*e*Pn		P	17 11 48.5	+1.2
	comp=E,1.7nm,0.6s							
KRLC	Kraliky	15.66	345	*e*P		P	17 11 50.5	+1.0
KHC	Kasperske Hory	15.69	336	*e*P		P	17 11 51.0	+1.2
KHC	Kasperske Hory	15.69	336	P		P	17 11 50.7	+0.9
	comp=E,5.0nm,1.1s							
DAVA	Damuels	15.71	325	*i* Pn		P	17 11 50.4	+0.2
	comp=E,6.7nm,0.9s							
DPC	Dobruska-Polom	16.02	344	P		P	17 11 53.5	0.0
	comp=E,3.7nm,0.8s							
AK07	Malin Array Si	16.04	14	P		Pn	17 11 51.8	+1.3
AK13	Malin Array Si	16.07	14	P		P	17 11 52.8	-1.1
AK10	Malin Array Si	16.09	14	P		Pn	17 11 51.8	+0.6
AK14	Malin Array Si	16.10	14	P		Pn	17 11 51.8	+0.5
AK05	Malin Array Si	16.11	14	P		Pn	17 11 51.9	+0.5
AK08	Malin Array Si	16.13	14	P		Pn	17 11 52.4	+0.7
AK02	Malin Array Si	16.14	14	P		Pn	17 11 52.5	+0.7
AK11	Malin Array Si	16.15	14	P		Pn	17 11 53.2	+1.2
AK19	Malin Array Si	16.17	13	P		Pn	17 11 52.4	+0.3
AK01	Malin Array Si	16.18	14	P		Pn	17 11 53.0	+0.7
AK18	Malin Array Si	16.18	14	P		Pn	17 11 52.8	+0.5
AK20	Malin Array Si	16.18	13	P		Pn	17 11 53.5	+1.1
AKASG	Malin Array Be	16.19	14	Pn		Pn	17 11 49.3	-3.1
	comp=E,1.0nm,0.3s,baz=206,slow=11,SNR=2.4							
AKASG				LR		LR	17 18 44.8	
	comp=E,37nm,21.3s,baz=228,slow=40							
	comp=E,0.2nm,0.3s							
AK04	Malin Array Si	16.20	14	P		Pn	17 11 53.2	+0.7
AK22	Malin Array Si	16.21	14	P		P	17 11 54.8	-0.7
AK21	Malin Array Si	16.22	13	P		P	17 11 54.9	-0.7
AK23	Malin Array Si	16.23	14	P		P	17 11 54.8	-0.8
KSP	Ksiaz	16.49	344	P		P	17 11 59.1	+0.5
GNI	Garni	17.80	67	LR		LR	17 20 23.8	
	comp=E,78nm,19.2s,baz=268,slow=42							
NACGM	Naroch	19.95	6	*e*P		P	17 12 35.5	-1.0
	comp=Z,14nm,0.8s,baz=188							
ESDC	Sonseca Array	21.99	290	P		P	17 13 02.6	+3.7
	comp=Z,0.5nm,0.8s,baz=78,slow=12,SNR=2.8							
ESDC				LR		LR	17 21 19.8	
	comp=Z,18nm,21.0s,baz=168,slow=36							
	comp=Z,0.5nm,0.8s							
MDT	Midelt	23.12	272	LR		LR	17 24 22.0	
	comp=Z,47nm,19.1s,baz=158,slow=42							
HFS	Hagfors	25.78	349	P		P	17 13 34.1	-1.0
	comp=Z,2.9nm,0.4s,baz=141,slow=9.6,SNR=36							
	comp=Z,2.9nm,0.4s							
FINES	FINESS Array B	26.41	3	P		P	17 13 39.1	-1.6
	comp=Z,1.4nm,0.5s,baz=157,slow=11,SNR=26							
FINES				PcP		PcP	17 17 06.2	+1.0
	comp=Z,0.7nm,0.6s,baz=145,slow=3.4,SNR=6.1							
	comp=Z,1.4nm,0.5s							
NB2	NORSAR Subarra	27.05	347	P		P	17 13 45.9	-0.7
	comp=Z,0.6nm,0.6s,baz=156,slow=9.3							
NOA	NORSAR Array B	27.05	347	P		P	17 13 45.3	-1.3
	comp=Z,0.4nm,0.6s,baz=156,slow=10,SNR=13							
NOA				LR		LR	17 26 29.8	
	comp=Z,23nm,19.3s,baz=75,slow=41							
	comp=Z,0.4nm,0.6s							
EKA	Eskdalemuir Ar	27.15	326	P		P	17 13 47.4	-0.1
	comp=Z,0.4nm,0.4s,baz=126,slow=7.9,SNR=4.0							
	comp=Z,0.4nm,0.4s							
TORD	Torodi Ar. Bea	29.24	227	P		P	17 14 10.2	+3.7
	comp=Z,0.6nm,0.5s,baz=30,slow=9.8,SNR=5.3							
	comp=Z,0.6nm,0.5s							
FURI	Furi	29.71	148	LR		LR	17 26 35.2	
	comp=Z,36nm,18.8s,baz=226,slow=37							
ARCES	ARCESS Array B	34.50	1	P		P	17 14 50.5	-1.6
	comp=Z,1.4nm,0.5s,baz=183,slow=8.5,SNR=19							
ARCES				PcP		PcP	17 17 26.8	+0.5
	comp=Z,3.0nm,1.1s,baz=139,slow=1.9,SNR=4.3							
ARCES				LR		LR	17 30 18.5	
	comp=Z,46nm,18.0s,baz=172,slow=39							
	comp=Z,1.4nm,0.5s							
BVAR	Borovoye Array	37.56	47	P		P	17 15 16.4	-2.0
	comp=Z,0.6nm,0.4s,baz=243,slow=9.5,SNR=2.3							
	comp=Z,0.6nm,0.4s							
KURBB	Kurchatov Arra	42.42	51	P		P	17 15 58.0	-0.8
	comp=Z,1.7nm,0.2s,baz=275,slow=8.7,SNR=4.1							
	comp=Z,1.7nm,0.2s							
SPITS	Spitsbergen Ar	43.27	358	P		P	17 16 04.9	-0.4
	comp=Z,6.0nm,0.8s,baz=143,slow=13,SNR=8.3							
	comp=Z,6.0nm,0.8s							
MKAR	Makanchi Array	45.16	56	P		P	17 16 20.2	-0.7
	comp=Z,1.0nm,0.3s,baz=267,slow=7.5,SNR=28							
	comp=Z,1.0nm,0.3s							
ZALV	Zalesovo Beam	46.21	46	P		P	17 16 27.2	-1.8
	comp=Z,1.5nm,0.4s,baz=269,slow=9.3,SNR=9.3							
	comp=Z,1.5nm,0.4s							
SONM	Songino Array	60.77	50	P		P	17 18 15.6	-0.5
	comp=Z,0.7nm,0.6s,baz=281,slow=6.6,SNR=5.4							
	comp=Z,0.7nm,0.6s							
CMAR	Chiang Mai Arr	68.20	82	P		P	17 19 04.4	-0.5
	comp=Z,0.3nm,0.5s,baz=291,slow=7.4,SNR=2.1							
	comp=Z,0.3nm,0.5s							
USRK	Ussuriysk Ar.	78.02	44	P		P	17 20 01.6	-0.9
	comp=Z,2.2nm,0.5s,baz=305,slow=4.3,SNR=13							
	comp=Z,2.2nm,0.5s							
KSRS	Korea Array	79.59	51	P		P	17 20 11.2	-0.1
	comp=Z,1.8nm,0.7s,baz=310,slow=4.6,SNR=7.5							
	comp=Z,1.8nm,0.7s							

IDC ***13*** *17:17:12.1±0.9,28°.71S×71°.51W,h0km,mb4.0/2, mbtmp3.8/5,ML3.7/3,MS3.0/3,Error ellipse: s-maj=55.0km s-min=26.0km az=120.0*

SJA ***13*** *17:17:12.3±0.6,28°.66S×71°.69W,h11km±4km,ML4.0, MW3.7*

NEIC ***13*** *17:17:15.5±2.4,28°.66S±0°.03×71°.57W±0°.09,h21km±9km, mb4.2/4,ML4.0(GUC),Error ellipse: s-maj=11.4km s-min=4.4km az=101.0*

GUC ***13*** *17:17:16.2±0.8,28°.72S×71°.32W,h27km±5km,ML3.9*

ISC 13 17:17:15.2±0.9,28°.69S±0°.02×71°.52W±0°.04,h20km±4km, n96,σ1°.66/125,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	Llanos de Chal	0.62	39		Pg	17 17 27.6	+0.1
AC04				Sg	Sb	17 17 35.7	0.0
AC04	Llanos de Chal	0.62	39	*e*P	Pg	17 17 27.8	+0.2
AC04				*e*S	Sb	17 17 36.0	+0.3
AC04				IAML		17 17 36.3	
	comp=Z,5μm,0.3s						
AC04	Llanos de Chal	0.62	39	⇓*i*P	Pg	17 17 28.0	+0.4
AC04				*i* S	Sb	17 17 35.8	+0.2
AC04				IAML		17 17 36.3	
	comp=N,10μm,0.1s						
LCO	Las Campanas	0.79	114		Pb	17 17 30.3	-0.1
LCO				Sg	Sb	17 17 39.9	-0.8
LCO	Las Campanas	0.79	114	*e*P	Pb	17 17 30.5	+0.2
LCO				IAML		17 17 44.7	
	comp=Z,3μm,0.3s						
LCO	Las Campanas	0.79	114	*e*P	Pb	17 17 29.7	-0.7
LCO				*i* S	Sb	17 17 39.5	-1.2
LCO				IAML		17 17 41.5	
	comp=Z,22μm,0.5s						
AC05	El Transito	1.10	98		Pn	17 17 35.6	-0.1
CO05	La Serena	1.25	169		Pb	17 17 38.5	+0.4
CO05					Sb	17 17 53.2	-0.6
CO05	La Serena	1.25	169	*e*P	Pb	17 17 38.5	+0.4
CO05				*i* S	Sb	17 17 53.7	0.0
GO03	Copiap	1.58	46		Pb	17 17 43.1	-0.6
GO03				Sn	Sb	17 18 03.0	-0.2
GO03	Copiap	1.58	46	*e*P	Pb	17 17 43.5	-0.2
GO03				*e*S	Sg	17 18 07.0	+0.8
GO03	Copiap	1.58	46	*e*P	Pb	17 17 43.0	-0.6
GO03				*i* S	Sb	17 18 03.1	-0.1
GO03				IAML		17 18 05.8	
	comp=N,4μm,0.4s						
GO04	Tololo Observa	1.61	157		Pn	17 17 43.5	+0.8
GO04				Sn	Sb	17 18 04.4	+0.2
GO04	Tololo Observa	1.61	157	*e*P	Pb	17 17 44.0	-0.3
GO04				*e*S	Sg	17 18 08.9	+1.7
GO04	Tololo Observa	1.61	157	*e*P	Pb	17 17 44.1	-0.2
GO04				*i* S	Sb	17 18 05.3	+1.0
AC06	Mina Casimiro	1.68	38		Pb	17 17 44.9	-0.5
AC06				Sn	Sn	17 18 05.6	+1.1
AC06	Mina Casimiro	1.68	38	*e*P	Pb	17 17 45.0	-0.4
AC06				*i* S	Sb	17 18 06.5	+0.3
AC06				IAML		17 18 09.1	
	comp=E,3μm,0.6s						
CO01	Juntas del Tor	1.79	136		Pb	17 17 46.8	-0.6
CO01				Sn	Sb	17 18 09.0	-0.6
CO01	Juntas del Tor	1.79	136	*e*P	Pb	17 17 47.2	-0.2
CO01				*e*S	Sb	17 18 09.8	+0.3
CO01				IAML		17 18 11.2	
	comp=Z,1μm,0.5s						
CO01	Juntas del Tor	1.79	136	*e*P	Pn	17 17 46.4	+1.3
CO01				*i* S	Sb	17 18 09.4	-0.2
CO06	Fray Jorge	1.98	183		Pn	17 17 48.1	+0.5
CO03	El Pedregal	2.26	162		Pn	17 17 53.0	+1.4
CO03	El Pedregal	2.26	162	*e*P	Pn	17 17 53.1	+1.6
CO03				*e*S	Sb	17 18 24.2	+1.2
CO03				IAML		17 18 30.9	
	comp=Z,432nm,0.5s						
CO03	El Pedregal	2.26	162	*e*P	Pn	17 17 53.1	+1.6
CO03				IAML		17 18 26.8	
	comp=E,616nm,0.2s						
AROD	Rodeo	2.31	130	*e*P	Pb	17 17 55.9	-0.5
AROD				*e*S	Sb	17 18 26.4	+1.7
CO02	Combarbal	2.55	170		Pn	17 17 56.6	+1.1
CO02	Combarbal	2.55	170	*e*P	Pn	17 17 56.9	+1.4
CO02				*e*S	Sb	17 18 29.9	-1.3
CO02				IAML		17 18 37.3	
	comp=Z,812nm,0.6s						
ACDV	Cuesta del Vie	2.56	126	*e*P	Pb	17 17 59.7	-0.8
ACDV				*e*S	Sg	17 18 35.1	-2.5
ACDV				IAML		17 18 38.2	
	comp=Z,280nm,0.5s						
AC01	Pan de Azucar	2.66	18		Pn	17 17 56.6	-0.4
AC01	Pan de Azucar	2.66	18	*e*P	Pn	17 17 56.5	-0.4
AC01				*e*S	Sb	17 18 33.0	-1.4
AC01				IAML		17 18 43.6	
	comp=Z,332nm,0.4s						
ACCO	Cerro Coronel	2.85	132	*e*P	Pb	17 18 04.8	-0.9
ACCO				*e*S	Sb	17 18 38.6	-1.6
VCA	Vinchina	2.91	92	*e*P	Pn	17 17 49.1	-11
VCA				*e*S	Sb	17 18 41.2	-0.6
VCA				IAML		17 18 53.3	
	comp=Z,826nm,0.4s						
DOCA	Reserva Natura	3.09	137	*e*P	Pn	17 18 03.0	-0.3
DOCA				*e*S	Sb	17 18 45.5	-1.7
DOCA				IAML		17 18 55.8	
	comp=Z,810nm,0.5s						
RTLS	Leoncito	3.65	149	*e*P	Pn	17 18 10.3	-0.5
RTLS				*e*S	Sb	17 18 59.8	-3.3
RTLS				IAML		17 19 13.6	
	comp=Z,1μm,1.4s						
ZON	Zonda	3.76	140		Pn	17 18 14.2	+2.0
VA06	Catapilco	3.86	177		Pn	17 18 14.3	+0.8
GO02	Mina Guanaco	3.91	27		Pn	17 18 14.9	+0.4
GO02	Mina Guanaco	3.91	27	*e*P	Pn	17 18 15.5	+1.0
GO02				*e*S	Sb	17 19 10.3	-0.5
AVFE	Valle Fertil	4.04	120	*e*P	Pn	17 18 19.4	+3.3
AVFE				*e*S	Sn	17 19 04.8	+1.8
AVFE				IAML		17 19 14.4	
	comp=Z,416nm,0.6s						
ACLC	CERRO LA CRUZ	4.07	101	*e*P	Pn	17 18 19.4	+2.9
ACLC				*e*S	Sb	17 19 09.8	-5.3
ACLC				IAML		17 19 17.2	
	comp=Z,204nm,0.5s						
VA03	San Esteban	4.14	169		Pn	17 18 17.9	+0.5
PB14	IPOC Station P	4.17	14		Pn	17 18 16.6	-1.4
PB14	IPOC Station P	4.17	14	*e*P	Pn	17 18 16.8	-1.2
PB14				*e*S	Sb	17 19 21.8	+3.6
PB14				IAML		17 19 31.5	
	comp=Z,133nm,0.7s						
VA01	Torpederas	4.32	181	Pn	Pn	17 18 19.4	-0.4
PEL	Peldehue	4.50	171		Pn	17 18 23.3	+1.1
ASAL	Salagasta	4.53	150	*e*P	Pn	17 18 27.2	+4.6
ASAL				*e*S	Sb	17 19 28.7	+0.6
MT02	Curacav	4.57	176		Pn	17 18 23.1	-0.1
MT05	Renca	4.74	172	Pn	Pn	17 18 25.9	+0.3
MT16	CCHEN	4.80	170	Pn	Pn	17 18 27.7	+1.3
MT03	Universidad Ad	4.87	170		Pn	17 18 30.6	+3.3
ACHE	Chepes	4.88	121	*e*P	Pn	17 18 30.6	+2.9
ACHE				*e*S	Sb	17 19 34.1	-4.4
VA05	Santo Domingo	4.95	181	Pn	Pn	17 18 30.2	+1.8
CYA	Choya	5.04	89	*e*S	Sn	17 19 33.7	+6.4
CYA				IAML		17 19 39.4	
	comp=Z,95nm,0.6s						
MT09	Talagante	5.09	175		Pn	17 18 30.5	+0.1
MT13	San Alfonso	5.15	168	Pn	Pn	17 18 33.0	+1.7
MT01	Popeta	5.16	178		Pn	17 18 31.1	-0.2
PB10	IPOC Station P	5.23	10	Pn	Pn	17 18 31.1	-1.2
LMEL	Las Melosas	5.26	168		Pn	17 18 34.3	+1.5
BO04	La Punta	5.34	172	Pn	Pn	17 18 34.6	+0.8
BO01	Tunca	5.70	176		Pn	17 18 40.0	+1.3
PB15	IPOC Station P	5.76	19		Pn	17 18 39.5	-0.3
PB05	IPOC Station P	5.93	12	Pn	Pn	17 18 39.6	-2.5
BO02	Sierra Bellavi	6.12	174	Pn	Pn	17 18 45.9	+1.3
PB06	IPOC Station P	6.21	17	Pn	Pn	17 18 45.5	-0.5
GO05	Huala	6.31	183	Pn	Pn	17 18 45.8	-1.3
PB04	IPOC Station P	6.45	11	Pn	Pn	17 18 47.7	-1.5
AF01	San Pedro de A	6.46	29	Pn	Pn	17 18 48.0	-1.4
LVC	Limon Verde	6.50	22	Pn	Pn	17 18 48.3	-1.7
LVC	Limon Verde	6.50	22	Pn	Pn	17 18 49.8	-0.2
	comp=Z,0.7nm,0.3s,baz=175,slow=8.8,SNR=8.2						
LVC				Lg	Lg	17 20 25.4	
	comp=Z,6.9nm,0.3s,baz=75,slow=20,SNR=7.7						
LVC				LR	LR	17 21 22.6	
	comp=Z,122nm,18.9s,baz=206,slow=38						
	comp=Z,1.3nm,0.3s						
PB09	IPOC Station P	7.17	17		Pn	17 18 57.6	-1.5
PB01	IPOC Station P	7.83	14	Pn	Pn	17 19 06.0	-2.2
H03N1	Juan Fernandez	7.91	231	T	T	17 27 18.7	
	baz=58,slow=72,SNR=913						
H03N2	Juan Fernandez	7.92	231	T	T	17 27 14.5	
	baz=58,slow=72,SNR=703						
H03N3	Juan Fernandez	7.93	231	T	T	17 27 09.5	
	baz=58,slow=72,SNR=789						
PATCX	Punta Patache	7.93	9	Pn	Pn	17 19 07.0	-2.6
TA01	Diego Aracena	8.18	9	Pn	Pn	17 19 09.4	-3.4
HMBC	Humberstone	8.51	10	Pn	Pn	17 19 13.4	-4.0
PB11	IPOC Station P	9.05	11	Pn	Pn	17 19 21.7	-3.2
GO01	Chusmiza	9.23	14	Pn	Pn	17 19 26.7	-1.0
TRQA	Tornquist	12.27	142	Pn	Pn	17 20 09.0	+0.2
LPAZ	La Paz	12.73	15	Pn	Pn	17 20 18.6	+2.8
	comp=Z,0.3nm,0.3s,baz=203,slow=7.0,SNR=5.4						
LPAZ				LR	LR	17 25 32.6	
	comp=Z,37nm,18.1s,baz=115,slow=39						
CPUP	Villa Florida	12.81	83	Pn	Pn	17 20 16.9	+0.6
	comp=Z,0.2nm,0.3s,baz=257,slow=16,SNR=2.8						
	comp=Z,0.8nm,0.4s						
ITQB	Itaqui	13.05	98	Pn	Pn	17 20 19.0	-0.5
PLTB	Pedras Altas	15.79	106	Pn	Pn	17 20 57.1	+0.7
PLTB				IAmb	IAmb	17 21 08.4	
	comp=Z,23nm,1.5s						
SIV	San Ignacio	15.90	40	Pn	Pn	17 20 58.5	+0.7
	baz=212,slow=7.7,SNR=4.9						
	comp=Z,1.3nm,0.6s						
CZSB	Cruzeiro do Su	20.88	357	P	P	17 21 54.9	-1.3
CZSB				IAmb	IAmb	17 21 59.5	
	comp=Z,15nm,1.1s						
SAML	Samuel	21.15	23	P	P	17 21 57.9	-1.2
EFI	East Falkland	25.07	160	P	P	17 22 38.3	+0.2
RPN	Rapa Nui	33.36	264	LR	LR	17 33 10.9	
	comp=Z,36nm,18.9s,baz=174,slow=29						
QSPA	South Pole Qui	61.53	180	P	P	17 27 30.8	+0.2
	comp=Z,0.5nm,0.6s,baz=117,slow=2.6,SNR=5.0						
	comp=Z,0.5nm,0.6s						
TORD	Torodi Ar. Bea	82.00	70	P	P	17 29 33.9	-0.3
	comp=Z,1.5nm,0.6s,baz=272,slow=5.0,SNR=8.8						
	comp=Z,1.5nm,0.6s						
ASAR	Alice Springs	122.47	208	PKP	PKPdf	17 36 09.2	-0.6
	comp=Z,0.6nm,0.9s,baz=135,slow=1.4,SNR=10						
WRA	Warramunga Arr	125.58	210	PKP	PKiKP	17 36 16.4	+0.2
	comp=Z,0.5nm,0.5s,baz=153,slow=1.6,SNR=19						
KURBB	Kurchatov Arra	148.55	38	PKPbc	PKiKP	17 37 01.4	-0.4
	comp=Z,0.4nm,0.3s,baz=302,slow=3.3,SNR=5.7						
ZALV	Zalesovo Beam	149.42	28	PKPbc	PKiKP	17 37 03.5	0.0
	comp=Z,2.3nm,0.5s,baz=316,slow=4.3,SNR=13						
MKAR	Makanchi Array	152.71	41	PKPbc	PKPbc	17 37 09.1	-1.3
	comp=Z,0.7nm,0.7s,baz=329,slow=2.1,SNR=5.6						
MKAR				PKPab	sPKPbc	17 37 18.9	0.0
	comp=Z,1.1nm,0.9s,baz=15,slow=1.9,SNR=4.6						

DJA ***13*** *18:02:41.8±0.3,3°.N±2°.×9°.9E±°,h189km±5km,M4.8/14, mb4.8/6,mB5.1/1,MLv4.8/14,Mw(mB)4.4/1*

IDC ***13*** *18:02:43.4±0.7,2°.67N×99°.24E,h175km±5km,mb3.8/25, mbtmp4.3/27,Error ellipse: s-maj=14.7km s-min=8.7km az=54.0*

NEIC ***13*** *18:02:43.0±1.4,2°.64N±0°.05×99°.20E±0°.05,h169km±5km, mb4.6/93,Error ellipse: s-maj=7.5km s-min=6.6km az=117.0*

ISC 13 18:02:42.7±0.4,2°.61N±0°.03×99°.21E±0°.04,h172km±4km, h173km:pP-P,n197,σ1°.22/229,mb4.4/68,Northern Sumatera

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

ENH IAmb IAmb 18 08 28.0
comp=Z,9.8nm,0.8s
YULB Yu-li 29.73 44 P **P 18 08 33.8 +0.8**
YULB IAmb IAmb 18 08 52.5
comp=Z,38nm,1.5s
PSA00 Pilbara Seismi 31.39 141 P **P 18 08 46.8 -0.8**
PSA00 IAmb IAmb 18 08 51.5
comp=Z,13nm,1.1s
PSA00 Pilbara Seismi 31.39 141 P **P 18 08 47.1 -0.4**
XAN Xi'an 32.56 15 P **P 18 08 56.5 -1.2**
XAN pP pP 18 09 32.0 -1.8
XAN pmax pmax
comp=Z,15nm,0.7s
FITZ Fitzroy Crossi 33.19 129 P **P 18 09 03.0 -0.2**
FAKI Fak Fak 33.48 99 P **P 18 09 06.6 +0.7**
FAKI Fak Fak 33.48 99 P **P 18 09 06.4 +0.5**
MEEK Meekatharra 34.59 148 P **P 18 09 17.9 +2.5**
comp=Z,22nm,2.3s
DRS Darwin Rock St 34.85 116 P **P 18 09 18.5 +0.9**
MTN Manton Dam 35.22 117 P **P 18 09 21.1 +0.3**
comp=Z,11nm,1.6s
MTN Manton Dam 35.22 117 P **P 18 09 20.6 -0.2**
MTN IAmb IAmb 18 09 40.1
comp=Z,21nm,1.3s
MORW Morawa 35.39 154 P **P 18 09 23.3 +1.2**
comp=Z,15nm,1.6s
MORW Morawa 35.39 154 P **P 18 09 22.0 -0.2**
MORW IAmb IAmb 18 09 55.9
comp=Z,20nm,1.3s
KDU Kakadu 36.36 115 P **P 18 09 31.9 +1.4**
MUN Mundaring 38.00 156 P **P 18 09 45.5 +1.4**
KLBR Kellerberrin 38.31 154 P **P 18 09 49.7 +2.9**
comp=Z,17nm,1.1s
NWAO Narrogin (SRO) 39.24 156 P **P 18 09 55.3 +0.8**
WRKA Warakurna 39.39 136 P **P 18 09 56.1 +0.2**
WB0 Warramunga Arr 41.08 124 P **P 18 10 09.8 -0.1**
WB0 IAmb IAmb 18 10 13.3
comp=Z,6.3nm,0.7s
WRA Warramunga Arr 41.12 125 P **P 18 10 10.0 -0.2**
WRA Warramunga Arr 41.12 125 P **P 18 10 10.4 +0.2**
comp=Z,5.3nm,0.5s,baz=305,slow=9.0,SNR=136
WRA PcP **PcP 18 12 06.7 +0.3**
comp=Z,0.7nm,0.3s,baz=315,slow=2.4,SNR=3.6
WRA ScP **ScP 18 15 38.2 -1.9**
comp=Z,0.8nm,0.9s,baz=312,slow=3.5,SNR=5.7
WRA S **S 18 16 05.0 -5.5**
comp=Z,3.2nm,1.0s,baz=293,slow=16,SNR=10
comp=Z,5.3nm,0.5s
WRAB Tennant Creek 41.13 125 P **P 18 10 10.6 +0.4**
WRAB IAmb IAmb 18 10 13.6
comp=Z,7.1nm,0.8s
WB2 Warramunga Arr 41.13 125 P **P 18 10 10.0 -0.3**
WB2 IAmb IAmb 18 10 12.8
comp=Z,17nm,1.4s
WR0 Warramunga Arr 41.30 124 P **P 18 10 11.5 0.0**
WR0 IAmb IAmb 18 10 14.1
comp=Z,12nm,0.9s
JNU Nakatsue 42.43 41 P **P 18 10 21.6 +1.0**
ASAR Alice Springs 42.69 130 P **P 18 10 21.9 -1.0**
ASAR Alice Springs 42.69 130 P **P 18 10 22.9 0.0**
comp=Z,5.8nm,0.4s,baz=299,slow=7.4,SNR=237
ASAR PcP **PcP 18 12 11.0 -0.6**
comp=Z,0.6nm,0.7s,baz=303,slow=5.1,SNR=1.7
ASAR ScP **ScP 18 15 44.9 -1.5**
comp=Z,0.9nm,1.1s,baz=310,slow=5.9,SNR=4.2
ASAR S **S 18 16 29.5 -4.0**
comp=Z,0.3nm,0.5s,baz=300,slow=14,SNR=6.2
comp=Z,5.8nm,0.4s
AS31 Alice Springs 42.69 130 P **P 18 10 23.2 +0.3**
AS31 IAmb IAmb 18 10 24.9
comp=Z,3.6nm,0.5s
AS01 Alice Springs 42.72 130 P **P 18 10 23.6 +0.5**
FORT Forrest 43.11 143 P **P 18 10 26.7 +0.6**
FORT Forrest 43.11 143 P **P 18 10 26.4 +0.4**
FORT IAmb IAmb 18 10 49.2
comp=Z,20nm,0.9s
KSRS Korea Array 43.56 34 P **P 18 10 29.2 -0.3**
comp=Z,1.3nm,0.6s,baz=213,slow=9.8,SNR=7.4
KSRS pP **pP 18 11 07.5 +0.3**
comp=Z,2.9nm,0.8s,baz=223,slow=9.9,SNR=7.0
comp=Z,1.3nm,0.6s
GAR Garm 44.78 328 P **P 18 10 39.8 +0.4**
ARSB Arslanbob 45.20 332 P **P 18 10 43.4 +0.7**
SIMJ Simiganj 45.24 326 P **P 18 10 42.8 -0.3**
BTK Batken 45.29 329 P **P 18 10 44.9 +1.5**
BTK IAmb IAmb 18 10 49.3
comp=Z,4.0nm,0.3s
SONM Songino Array 45.48 7 P **P 18 10 45.4 +0.6**
SONM pP **pP 18 11 23.3 +0.5**
SONM Songino Array 45.48 7 P **P 18 10 45.1 +0.3**
comp=Z,3.8nm,0.7s,baz=189,slow=9.7,SNR=27
SONM pP **pP 18 11 23.2 +0.4**
comp=Z,3.0nm,0.7s,baz=186,slow=9.9,SNR=8.0
SONM ScP **ScP 18 15 56.0 -1.4**
comp=Z,0.3nm,0.5s,baz=185,slow=2.4,SNR=3.6
comp=Z,3.8nm,0.7s
ULN Ulaanbaatar 45.59 7 P **P 18 10 45.9 +0.3**
ULN **pP 18 11 23.6 -0.1**
QIS Mount Isa 45.80 122 P **P 18 10 48.9 +1.3**
OOD Oodnadatta 46.32 133 P **P 18 10 51.8 +0.3**
MK31 Makanchi Array 46.41 344 **P 18 10 52.2 +0.3**
MK31 pP **pP 18 11 31.5 +1.4**
MKAR Makanchi Array 46.41 344 **P 18 10 51.6 -0.4**
MKAR pP **pP 18 11 30.4 +0.3**
MKAR Makanchi Array 46.41 344 P **P 18 10 52.0 +0.1**
comp=Z,1.3nm,0.4s,baz=159,slow=8.2,SNR=37
MKAR pP **pP 18 11 30.7 +0.6**
comp=Z,2.0nm,0.7s,baz=160,slow=8.4,SNR=3.5
comp=Z,1.3nm,0.4s
MAKZ Makanchi 46.51 344 P **P 18 10 52.6 -0.1**
MAKZ pP **pP 18 11 31.8 +0.9**
COEN Coen 46.59 112 P **P 18 10 54.1 +0.3**
MULG Mulgathing 46.65 137 P **P 18 10 53.8 -0.2**
KK31 Karatay Array 47.73 332 P **P 18 11 01.8 -0.4**
KKAR Karatay Array 47.73 332 P **P 18 11 01.2 -1.0**
JCJ Chichijima 47.77 55 P **P 18 11 01.4 -1.4**
JGF Kuroka 48.21 42 P **P 18 11 06.4 +0.4**
JGF Kuroka 48.21 42 P **P 18 11 05.4 -0.6**
JGF IAmb IAmb 18 11 46.8
comp=Z,11nm,0.5s
MTSU Mount Surprise 48.97 117 P **P 18 11 13.6 +1.5**
BBOO Buckleboo 49.55 138 P **P 18 11 15.8 -0.4**
BBOO Buckleboo 49.55 138 P **P 18 11 15.9 -0.3**
BBOO IAmb IAmb 18 11 33.0
comp=Z,42nm,1.4s
LCRK Leigh Creek 49.64 134 P **P 18 11 18.0 +1.0**
INKA Innaminka 50.07 130 P **P 18 11 21.5 +1.3**
USA0B Ussuriysk Arra 50.54 30 P **P 18 11 24.0 +0.5**
USRK Ussuriysk Ar. 50.54 30 P **P 18 11 23.9 +0.4**
USRK Ussuriysk Ar. 50.54 30 P **P 18 11 23.6 +0.1**
comp=Z,0.9nm,0.4s,baz=223,slow=6.7,SNR=6.0
comp=Z,0.9nm,0.4s
KURBB Kurchatov Arra 50.94 343 P **P 18 11 26.4 +0.1**
comp=Z,1.0nm,0.4s,baz=156,slow=7.3,SNR=14
KURBB PcP **PcP 18 12 41.2 +1.1**
comp=Z,0.5nm,0.7s,baz=152,slow=3.3,SNR=4.2
KURBB ScP **ScP 18 16 20.5 +0.3**
comp=Z,0.6nm,0.8s,baz=157,slow=3.7,SNR=5.9
comp=Z,1.0nm,0.4s
KURK Kurchatov 50.99 343 P **P 18 11 27.2 +0.4**
HTT Hallett 51.84 137 P **P 18 11 34.1 +0.7**
QLP Quilpie 52.25 127 P **P 18 11 37.8 +1.3**
ZAAQ Zalesovo Array 52.52 349 P **P 18 11 37.5 -0.6**
ZALV Zalesovo Beam 52.52 349 P **P 18 11 38.0 0.0**
ZALV Zalesovo Beam 52.52 349 P **P 18 11 37.8 -0.2**
comp=Z,1.7nm,0.3s,baz=160,slow=6.9,SNR=13
ZALV pP **pP 18 12 16.8 -0.3**
comp=Z,3.1nm,0.6s,baz=172,slow=5.0,SNR=3.3
comp=Z,1.7nm,0.3s
STKA Stephens Creek 52.84 134 P **P 18 11 41.4 +0.6**
STKA Stephens Creek 52.84 134 P **P 18 11 40.9 +0.1**
STKA Stephens Creek 52.84 134 P **P 18 11 40.7 -0.1**
comp=Z,3.3nm,0.5s,baz=307,slow=7.3,SNR=19
comp=Z,3.3nm,0.5s
JTM Tenmabayashi 53.53 39 P **P 18 11 45.5 -0.1**
JTM IAmb IAmb 18 12 10.5
comp=Z,24nm,1.3s
BVAR Borovoye Array 55.62 339 P **P 18 12 00.0 -0.4**
comp=Z,1.3nm,0.5s,baz=135,slow=9.5,SNR=11
BVAR pP **pP 18 12 40.3 +0.3**
comp=Z,1.2nm,0.6s,baz=138,slow=9.8,SNR=3.0
comp=Z,1.3nm,0.5s
CMSA Cobar Meteorol 55.68 131 P **P 18 12 02.5 +1.2**
ARPS Mount Arapiles 55.72 139 P **P 18 12 02.3 +0.8**
RAYN Ar Rayn 55.90 297 P **P 18 12 03.1 +0.1**
RAYN IAmb IAmb 18 12 04.4
comp=Z,5.7nm,0.9s
JKA Kamikawa-asahi 56.34 36 P **P 18 12 05.7 -0.1**
JKA IAmb IAmb 18 12 14.6
comp=Z,10nm,1.2s
VOI Vohitsoka 56.70 242 P **P 18 12 09.4 +0.6**
ABKAR Akbulak array 57.25 330 P **P 18 12 11.6 -0.4**
ABKAR Akbulak array 57.25 330 P **P 18 12 11.9 -0.2**
ABKAR IAmb IAmb 18 12 15.2
comp=Z,2.1nm,0.7s
EIDS Eidsvold 57.40 122 P **P 18 12 13.3 -0.2**
EIDS IAmb IAmb 18 12 17.0
comp=Z,17nm,1.4s
ARMA Armidale 59.77 128 P **P 18 12 30.1 +0.1**
ARMA IAmb IAmb 18 12 34.1
comp=Z,18nm,1.3s
CAN Canberra 59.91 134 P **P 18 12 34.3 +3.5**
CAN Canberra 59.91 134 P **P 18 12 31.5 +0.7**
KMBO Kilima Mbogo 62.05 267 P **P 18 12 44.6 -1.3**
KMBO IAmb IAmb 18 12 48.5
comp=Z,4.8nm,0.8s
ONI Oni 63.54 317 P **P 18 12 55.2 +0.3**
ONI IAmb IAmb 18 12 57.0
comp=Z,3.2nm,0.8s
MARD Mardin 63.62 311 P **P 18 12 55.3 -0.4**
MARD IAmb IAmb 18 12 57.0
comp=Z,8.8nm,0.6s
LODK Lodwar 63.76 273 P **P 18 12 57.5 +0.6**
KBZ Khabaz 64.35 318 P **P 18 12 59.4 -0.7**
comp=Z,3.2nm,0.8s,baz=135,slow=7.3,SNR=6.0
comp=Z,3.2nm,0.8s
KOUNC Koumac, New Ca 67.74 113 P **P 18 13 21.6 -0.6**
KOUNC IAmb IAmb 18 13 25.3
comp=Z,19nm,1.1s
BNN Bunyan 67.79 311 P **P 18 13 21.5 -0.9**
BNN IAmb IAmb 18 13 23.6
comp=Z,12nm,0.8s
MA2 Magadan 69.20 25 P **P 18 13 30.9 +0.4**
MA2 IAmb IAmb 18 13 59.3
comp=Z,21nm,1.4s
BR131 Keskin Array S 69.67 312 P **P 18 13 33.6 -0.4**
BR131 IAmb IAmb 18 13 34.6
comp=Z,3.3nm,0.7s
BRTR Keskin Array B 69.67 312 P **P 18 13 33.2 -0.8**
BRTR Keskin Array B 69.67 312 P **P 18 13 33.5 -0.4**
comp=Z,2.1nm,0.6s,baz=131,slow=7.4,SNR=15
comp=Z,2.1nm,0.6s
PET Petropavlovsk 69.95 34 P **P 18 13 34.9 -0.3**
PET IAmb IAmb 18 13 59.1
comp=Z,22nm,1.3s
BZK Bozkurt 69.97 314 P **P 18 13 35.9 +0.3**
TIXI Tiksi 71.47 10 P **P 18 13 44.3 +0.3**
TIXI IAmb IAmb 18 14 24.2
comp=Z,17nm,1.1s
MAW Mawson 74.54 194 P **P 18 14 03.9 +1.9**
comp=Z,1.7nm,0.7s,baz=154,slow=11,SNR=1.8
comp=Z,1.7nm,0.7s
AKASG Malin Array Be 75.39 322 P **P 18 14 06.7 -0.6**
comp=Z,0.4nm,0.3s,baz=101,slow=3.9,SNR=1.9
comp=Z,0.4nm,0.3s
IDI Anoyia 75.71 306 P **P 18 14 09.0 -0.5**
LBTB Lobatse 76.31 244 P **P 18 14 14.3 +1.1**
LBTB IAmb IAmb 18 14 19.1
comp=Z,10nm,1.3s
BOSA Boshof 77.22 240 P **P 18 14 18.7 +0.4**
BOSA IAmb IAmb 18 14 55.0
comp=Z,20nm,1.4s
BOSA Boshof 77.22 240 P **P 18 14 19.3 +1.0**
comp=Z,3.4nm,0.8s,baz=71,slow=5.6,SNR=8.1
comp=Z,3.4nm,0.8s
BURAR Bucovina Array 77.31 318 P **P 18 14 19.7 +1.4**
BURAR IAmb IAmb 18 14 20.3
comp=Z,3.0nm,0.6s
BUR08 Bucovina Ar. S 77.33 318 **P 18 14 19.2 +0.7**
BUR08 IAmb IAmb 18 14 20.2
comp=Z,3.5nm,0.6s
SOE Somerset East 77.72 236 P **P 18 14 22.8 +1.9**
ITM Ithomi 78.30 307 P **P 18 14 23.5 -0.5**
ITM IAmb IAmb 18 14 34.2
comp=Z,13nm,0.9s
RPZ Rata Peaks 78.78 135 P **P 18 14 27.2 +0.8**
DSZ Denniston Nort 78.84 133 P **P 18 14 27.7 +0.9**
QRZ Quartz Range 79.16 132 P **P 18 14 28.9 +0.4**
KOLS Kolonicke sedl 79.46 319 *eP* **P 18 14 31.4 +1.4**
THZ Tophouse 79.64 133 P **P 18 14 31.9 +0.7**
THZ IAmb IAmb 18 14 57.9
comp=Z,25nm,1.2s
FIA1 FINESS Array S 79.69 332 P **P 18 14 31.1 +0.1**
FIA1 IAmb IAmb 18 14 49.1
comp=Z,19nm,1.4s
FINES FINESS Array B 79.69 332 P **P 18 14 31.1 +0.1**
FINES FINESS Array B 79.69 332 P **P 18 14 30.9 0.0**
comp=Z,1.1nm,0.4s,baz=105,slow=5.7,SNR=22
comp=Z,1.1nm,0.4s
NNZ Nelson 79.87 132 P **P 18 14 32.2 -0.1**
CRVS Cervenica-Dubn 79.99 319 *eP* **P 18 14 33.5 +0.6**
TUWZ Tuamarina 80.33 133 P **P 18 14 34.9 +0.1**
MRZ Mangatainoka R 81.39 132 P **P 18 14 39.9 -0.6**
MRZ IAmb IAmb 18 14 47.2
comp=Z,22nm,1.2s
BKZ Black Stump Fm 81.81 130 P **P 18 14 42.8 +0.1**
BKZ IAmb IAmb 18 14 43.4
comp=Z,11nm,0.8s
BFZ Birch Farm 81.89 132 P **P 18 14 43.2 +0.1**
ARCES ARCESS Array B 81.90 340 P **P 18 14 42.7 +0.2**
ARCES ARCESS Array B 81.90 340 P **P 18 14 42.9 +0.4**
comp=Z,1.1nm,0.8s,baz=111,slow=4.9,SNR=5.8
comp=Z,1.1nm,0.8s
GERES GERESS Array B 85.09 319 P **P 18 15 00.1 +0.8**
comp=Z,0.3nm,0.4s,baz=119,slow=8.0,SNR=3.0
comp=Z,0.3nm,0.4s
PRED Cave del Predi 85.12 316 P **P 18 14 59.1 -0.4**
HFS Hagfors 85.51 330 P **P 18 15 01.4 +0.4**
comp=Z,2.4nm,0.5s,baz=129,slow=4.0,SNR=33
HFS pP **pP 18 15 44.7 +0.6**
comp=Z,1.0nm,0.5s,baz=130,slow=6.0,SNR=2.1
comp=Z,2.4nm,0.5s
SPA1 Spitsbergen Ar 85.99 348 P **P 18 15 03.4 +0.3**
SPITS Spitsbergen Ar 85.99 348 P **P 18 15 03.5 +0.4**
comp=Z,3.3nm,0.7s,baz=98,slow=6.5,SNR=4.2
comp=Z,3.3nm,0.7s
NC405 NORSAR Array S 86.52 331 P **P 18 15 06.3 +0.3**
NC405 IAmb IAmb 18 15 37.9
comp=Z,8.8nm,1.3s
NB2 NORSAR Subarra 86.76 331 P **P 18 15 07.2 0.0**
comp=Z,0.4nm,0.6s,baz=93,slow=4.8
NOA NORSAR Array B 86.76 331 P **P 18 15 07.5 +0.3**
comp=Z,0.6nm,0.7s,baz=94,slow=5.7,SNR=3.9
comp=Z,0.6nm,0.7s
NC204 NORSAR Array S 86.98 331 P **P 18 15 09.2 +0.9**
NC204 IAmb IAmb 18 15 25.0
comp=Z,8.0nm,1.4s
SBA Scott Base 87.90 169 P **P 18 15 13.9 +1.6**
SBA IAmb IAmb 18 15 16.9
comp=Z,5.1nm,1.4s
QSPA South Pole Qui 92.54 180 P **P 18 15 35.2 +0.9**
comp=Z,1.5nm,0.7s,baz=285,slow=1.2,SNR=14
comp=Z,1.5nm,0.7s
EKA Eskdalemuir Ar 94.89 326 P **P 18 15 45.3 +0.2**
comp=Z,0.7nm,0.7s,baz=64,slow=4.9,SNR=4.0
comp=Z,0.7nm,0.7s
TORD Torodi Ar. Bea 96.72 283 P **P 18 15 55.0 +0.6**
comp=Z,0.3nm,0.7s,baz=82,slow=5.9,SNR=1.4
comp=Z,0.3nm,0.7s
TXAR Lajitas Array 141.41 33 PKP **PKPdf 18 21 51.3 -2.7**
comp=Z,0.1nm,0.5s,baz=316,slow=2.5,SNR=1.8
TXAR SKPbc **SKPbc 18 25 14.8 -0.3**
comp=Z,0.7nm,0.5s,baz=234,slow=0.8,SNR=7.2
BDFB Brasilia 145.22 246 PKPbc **PKPbc 18 22 01.0 0.0**
comp=Z,1.7nm,0.4s,baz=135,slow=5.7,SNR=3.8
CPUP Villa Florida 147.39 222 PKPbc **PKPbc 18 22 06.8 -0.1**
comp=Z,1.4nm,0.6s,baz=141,slow=6.5,SNR=3.8
LPAZ La Paz 161.56 222 PKP **PKPdf 18 22 25.3 +0.5**
comp=Z,0.5nm,0.4s,baz=191,slow=5.2,SNR=1.7

*BUT **13** 18:04:55.1±2.2,44°.30N±0°.03×114°.95W±0°.05, h6km±4km,*
Error ellipse: s-maj=6.2km s-min=2.9km az=53.0
NEIC 13 18:04:54.6±2.1,44°.30N±0°.03×114°.97W±0°.05,h5km±1km,
ML3.2/114,ML3.6/26(BUT),Error ellipse: s-maj=7.6km
s-min=3.2km az=50.0,Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLID	**Hailey**	**0.84**	**151**		Pg	18 05 10.4	-0.4
HLID	**Hailey**	**0.84**	**151**		Sg	18 05 22.1	+0.5
HLID				IAML		18 05 25.5	
	565nm,0.2s						
HLID				IAML		18 05 28.4	
	758nm,0.5s						
PLID Pearl Lake 1.08 317 Pg 18 05 15.4 +0.1
PLID Sb 18 05 30.0 -0.4
MFID Camas Ranch 1.08 215 Pg 18 05 15.3 -0.1
BMO Blue Mountains 1.76 289 Pn 18 05 25.9 +0.1
DLMT Dillon 2.00 57 Pn 18 05 29.7 +0.6
DLMT Dillon 2.00 57 IAML 18 06 02.5
252nm,1.1s
F10A Beach Ranch, E 2.31 317 Pn 18 05 34.7 +1.2
BPMT Black Pine Rid 2.39 26 Pn 18 05 34.9 +0.2
CMI Centennial Mou 2.41 83 Pb 18 05 37.0 -1.7
MSO Missoula 2.63 16 Pn 18 05 38.2 +0.4
MSO Missoula 2.63 16 IAML 18 06 25.3
104nm,0.7s
MSO IAML 18 06 26.1
120nm,0.8s
BOZ Bozeman (W) 2.70 60 Pn 18 05 41.0 +2.1
BOZ IAML 18 06 20.4
89nm,0.6s
J08A Circle Bar Ran 2.71 251 Pn 18 05 39.2 +0.4
J08A IAML 18 06 28.4
comp=E,130nm,0.9s
J08A IAML 18 06 31.4
comp=N,120nm,0.9s
LNOR Lincton Mounta 2.83 305 Pn 18 05 41.7 +1.2
FXWY Fox Creek 2.92 102 Pn 18 05 44.4 +2.4
IMW Indian Meadow 2.93 97 Pn 18 05 44.1 +1.9
IMW IAML 18 06 35.3
comp=N,114nm,0.5s
YFT Old Faithful 2.97 86 Pn 18 05 44.2 +1.5
YHH Holmes Hill 2.98 79 Pn 18 05 45.0 +2.1
HVU Hansel Valley 2.99 147 Pn 18 05 45.1 +2.3
G08A Pilot Rock 3.01 291 Pn 18 05 43.2 +0.1
TPAW Teton Pass 3.02 104 Pn 18 05 43.4 +0.1
TPAW IAML 18 06 36.6
comp=N,97nm,1.1s
TPAW IAML 18 06 44.1
comp=N,61nm,1.4s
FLWY Flagg Ranch 3.08 93 Pn 18 05 44.9 +0.8
FLWY IAML 18 06 36.1
comp=N,71nm,0.8s
FLWY IAML 18 06 39.8
comp=N,80nm,1.1s
OVMT Ovando 3.09 26 Pn 18 05 44.9 +0.7
MOOW Moose Ponds 3.10 99 Pn 18 05 45.5 +1.2
YNR Norris Junctio 3.10 81 Pn 18 05 46.0 +1.6
YNR IAML 18 06 34.5
comp=E,59nm,0.7s
YNR IAML 18 06 36.5
comp=N,77nm,1.2s
REDW Red Top Meadow 3.12 106 Pn 18 05 46.6 +1.9
E09A Wood Farm, Sta 3.15 316 Pn 18 05 45.2 +0.4
E09A IAML 18 06 41.8
comp=N,73nm,0.9s
E09A IAML 18 06 43.1
comp=E,58nm,0.9s
SNOW Snow King Moun 3.16 104 Pn 18 05 47.4 +2.1
SNOW IAML 18 06 43.6
comp=E,63nm,1.3s
SNOW IAML 18 06 45.5
comp=E,67nm,1.3s
AHID Auburn Hatcher 3.21 117 Pn 18 05 48.4 +2.5
AHID IAML 18 06 40.6
comp=E,78nm,0.6s
AHID IAML 18 06 42.4
comp=E,55nm,0.6s
LOHW Long Hollow 3.23 101 Pn 18 05 48.3 +2.1
LOHW IAML 18 06 40.2
comp=E,36nm,0.8s
WVOR Wild Horse Val 3.26 236 Pn 18 05 47.5 +0.9
WVOR IAML 18 06 43.4
comp=E,44nm,1.1s
WVOR IAML 18 06 46.9
comp=E,43nm,0.9s
LYMT Lyon Mountain 3.27 34 Pn 18 05 45.8 -0.9
I07A Izee 3.27 268 Pn 18 05 47.4 +0.7
YMP Mirror Lake Pl 3.47 81 Pn 18 05 51.1 +1.5
YMP IAML 18 06 53.1
comp=N,30nm,1.5s
SPUT South Promonto 3.52 147 Pn 18 05 52.2 +2.1
SPUT IAML 18 06 45.0
comp=E,44nm,1.4s
SPUT IAML 18 06 47.4
comp=N,34nm,1.4s
ELK Elko 3.56 183 Pn 18 05 52.3 +1.5
E08A Dider Farm, El 3.62 309 Pn 18 05 51.7 +0.4
E08A IAML 18 06 53.4
comp=E,28nm,0.8s
E08A IAML 18 06 54.5
comp=N,41nm,1.1s
BGU Big Grassy Mou 3.66 156 Pn 18 05 54.8 +2.7
BGU IAML 18 06 48.6
comp=E,36nm,1.2s
BGU IAML 18 06 58.8
comp=N,26nm,0.9s
HWUT Hardware Ranch 3.67 136 Pn 18 05 55.0 +2.7
HWUT IAML 18 06 55.6
comp=N,30nm,1.0s
HAWA Hanford 3.84 305 Pn Pn 18 05 54.0 -0.3
F07A Phinny Hill Vi 3.86 296 Pn Pn 18 05 54.8 +0.2
D08A Wollman Farm, 3.91 316 Pn 18 05 56.1 +0.8
D08A IAML 18 07 11.0
comp=E,22nm,0.7s
D08A IAML 18 07 11.4
comp=N,29nm,1.0s
E07A Sunnyside 4.11 305 Pn Pn 18 05 57.8 -0.3
E07A IAML 18 06 49.9
comp=N,41nm,0.5s
E07A IAML 18 06 54.5
comp=E,36nm,0.5s
TCUT Toone Canyon 4.12 139 Pn 18 05 58.7 +0.2
G06A Carlson Farm, 4.14 285 Pn Pn 18 05 58.7 +0.1
G06A IAML 18 07 10.0
comp=N,20nm,1.6s
RLMT Red Lodge 4.15 77 Pn 18 05 59.8 +1.0
RLMT IAML 18 07 12.9
comp=N,35nm,0.7s
RLMT IAML 18 07 15.3
comp=N,39nm,0.5s
BMN Battle Mountai 4.21 204 Pn 18 06 00.7 +1.1
BMN IAML 18 07 06.4
comp=N,40nm,1.2s
PD31 Pinedale Array 4.22 109 Pn 18 06 01.5 +1.7
PDAR Pinedale Array 4.22 109 Pn 18 06 02.7 +2.9
NEW Newport 4.24 340 Pn 18 06 00.3 +0.4
NEW IAML 18 07 12.9
comp=N,35nm,0.5s
CTU Camp Tracy 4.32 145 Pn Pn 18 06 03.3 +2.1
PINE Pine Mountain 4.33 265 Pn Pn 18 06 01.5 +0.2
PINE IAML 18 07 27.6
comp=N,19nm,3.1s
PINE IAML 18 07 29.8
comp=E,26nm,3.5s
MXC Moxie City 4.38 303 Pn Pn 18 06 01.8 0.0
MXC IAML 18 07 23.3
comp=N,18nm,1.4s
MXC IAML 18 07 31.3
comp=E,22nm,1.1s
DUG Dugway, Tooele 4.40 158 Pn 18 06 03.3 +1.1
DUG IAML 18 07 15.3
comp=E,28nm,1.1s
DUG IAML 18 07 24.9
comp=E,34nm,0.9s
G05A Wamic 4.62 284 Pn Pn 18 06 05.6 +0.5
J05D Fort Rock, OR 4.65 260 Pn 18 06 06.4 +0.7
J05D IAML 18 07 30.7
comp=N,25nm,2.8s
J05D IAML 18 07 59.8
comp=E,23nm,3.5s
NLU North Lily Min 4.85 153 Pn 18 06 08.7 +0.3
HOOD Mount Hood Mea 4.86 284 Pn 18 06 08.1 -0.5
HOOD IAML 18 07 49.0
comp=N,26nm,1.5s
BSUT Blindstream Ca 4.88 139 Pn 18 06 09.9 +0.9
LTY Liberty 4.96 309 Pn 18 06 10.4 +0.5
LTY IAML 18 07 12.8
comp=E,16nm,0.5s
LTY IAML 18 07 44.1
comp=N,14nm,1.5s
B08A Colville Reser 5.06 325 Pn Pn 18 06 11.2 0.0
B08A IAML 18 07 43.1
comp=N,21nm,1.0s

B08A			IAML		18 07 46.8	
	comp=E,20nm,1.0s					
EGMT	**Eagleton**	**5.20 42**	Pn	Pn	18 06 13.6	+0.5
K04D	**Chiloquin, OR**	**5.21 254**		Pn	18 06 13.8	+0.4
Q12A	**Willow Creek R**	**5.26 179**		Pn	18 06 15.6	+1.5
SPR3	**Spring Creek 3**	**5.32 175**		Pn	18 06 15.4	+0.4
SPR3			IAML		18 07 50.1	
	comp=N,12nm,0.9s					
SPR3			IAML		18 07 52.5	
	comp=E,14nm,0.9s					
I04A	**Tendick Farm,**	**5.39 267**	Pn	Pn	18 06 15.1	-0.6
LON	**Longmire**	**5.39 299**	Pn	Pn	18 06 14.7	-1.1
LON			IAML		18 07 06.2	
	comp=E,7.6nm,4.2s					
LON			IAML		18 07 56.0	
	comp=N,12nm,3.5s					
RDMU	**Red Mountain**	**5.46 131**	Pn	Pn	18 06 17.8	+0.9
F04A	**Amboy**	**5.52 290**	Pn	Pn	18 06 15.5	-1.9
H04D	**Lebanon**	**5.57 275**	Pn	Pn	18 06 16.5	-1.6
PAHR	**Pah Rah Range**	**5.65 217**		Pn	18 06 18.3	-1.0
KVN	**Kaiserville**	**5.75 205**		Pn	18 06 22.4	+1.7
PSUT	**Pine Spring**	**5.82 171**	Pn	Pn	18 06 22.6	+0.8
P18A	**Preston Nutter**	**5.85 141**		Pn	18 06 23.1	+0.9
HATC	**Hat Creek Radi**	**5.92 236**		Pn	18 06 22.4	-0.7
R11B	**Troy Canyon, C**	**5.96 185**		Pn	18 06 24.5	+0.7
YERR	**Yerington**	**6.20 213**		Pn	18 06 26.6	-0.4
PNTR	**Pine Nut**	**6.25 215**	Pn	Pn	18 06 28.6	+0.8
RYN	**Ryan**	**6.26 206**		Pn	18 06 27.7	-0.2
MPK	**Martis Peak**	**6.27 219**	Pn	Pn	18 06 28.2	+0.2
NV11	**Mina Array Sit**	**6.33 203**		Pn	18 06 28.1	-0.7
NVAR	**Mina Array Bea**	**6.38 204**		Pn	18 06 28.0	-1.5
LHV	**Little Huntoon**	**6.60 205**		Pn	18 06 29.6	-2.7
MZP	**Montezuma Peak**	**6.84 196**		Pn	18 06 37.3	+1.4
PRN	**Pahroc Range**	**6.89 181**		Pn	18 06 37.1	+0.7
GMN	**Gold Mountain**	**7.21 195**		Pn	18 06 42.9	+2.1

*BUT **13** 18:07:45.4±2.0, 44°.29N±0°.02×114°.96W±0°.03, h6km±5km, Error ellipse: s-maj=3.6km s-min=2.9km az=52.0*
NEIC 13 18:07:45.0±1.5, 44°.27N±0°.01×114°.99W±0°.03, h5km±1km, ML2.6/72, ML2.7/15(BUT), Error ellipse: s-maj=3.6km s-min=3.0km az=109.0, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLID	**Hailey**	**0.82**	**149**		Pg	18 08 00.8	0.0
HLID	**Hailey**	**0.82**	**149**		Sg	18 08 12.1	+0.6
MFID	**Camas Ranch**	**1.05**	**216**		Pg	18 08 05.4	+0.2
MFID	**Camas Ranch**	**1.05**	**216**		Sb	18 08 20.2	+0.3
PLID	**Pearl Lake**	**1.09**	**319**		Pg	18 08 05.6	-0.3
PLID					Sg	18 08 20.5	+0.5
PLID	**Pearl Lake**	**1.09**	**319**	IAML		18 08 24.8	
	185nm,0.6s						
PLID				IAML		18 08 25.0	
	212nm,0.3s						
BMO	**Blue Mountains**	**1.75**	**290**		Pn	18 08 16.3	+0.1
DLMT	**Dillon**	**2.02**	**57**		Pb	18 08 22.1	-0.3
DLMT				IAML		18 08 50.7	
	54nm,0.4s						
DLMT				IAML		18 08 53.3	
	51nm,0.8s						
F10A	**Beach Ranch, E**	**2.32**	**318**		Pn	18 08 24.9	+0.8
BPMT	**Black Pine Rid**	**2.42**	**26**	Pn	Pn	18 08 25.3	-0.2
MSO	**Missoula**	**2.66**	**16**		Pn	18 08 29.9	+1.3
MSO				IAML		18 09 15.5	
	24nm,0.7s						
MSO				IAML		18 09 16.4	
	22nm,1.0s						
J08A	**Circle Bar Ran**	**2.68**	**251**		Pn	18 08 29.3	+0.4
J08A				IAML		18 09 20.3	
	comp=E,28nm,0.8s						
J08A				IAML		18 09 21.7	
	comp=N,24nm,0.9s						
BOZ	**Bozeman (W)**	**2.73**	**60**		Pn	18 08 31.9	+2.2
BOZ	**Bozeman (W)**	**2.73**	**60**	IAML		18 09 10.7	
	comp=N,22nm,0.8s						
BOZ				IAML		18 09 14.2	
	comp=N,23nm,0.5s						
LNOR	**Lincton Mounta**	**2.83**	**306**		Pn	18 08 32.0	+1.1
YMC	**Maple Creek**	**2.89**	**79**		Pb	18 08 37.7	+0.5
FXWY	**Fox Creek**	**2.93**	**101**		Pb	18 08 35.2	-2.7
IMW	**Indian Meadow**	**2.94**	**96**	Pn	Pn	18 08 33.9	+1.2
IMW				IAML		18 09 23.3	
	comp=N,25nm,0.6s						
HVU	**Hansel Valley**	**2.97**	**146**	Pn	Pn	18 08 34.1	+1.1
HVU				IAML		18 09 24.6	
	comp=E,22nm,0.5s						
YHH	**Holmes Hill**	**3.00**	**79**		Pn	18 08 36.0	+2.4
G08A	**Pilot Rock**	**3.00**	**291**	Pn	Pn	18 08 33.5	+0.1
TPAW	**Teton Pass**	**3.02**	**104**	Pn	Pn	18 08 35.3	+1.5
TPAW				IAML		18 09 26.9	
	comp=E,18nm,1.2s						
TPAW				IAML		18 09 34.4	
	comp=E,14nm,1.4s						
FLWY	**Flagg Ranch**	**3.09**	**92**	Pn	Pn	18 08 36.2	+1.5
FLWY				IAML		18 09 29.5	
	comp=E,12nm,1.5s						
FLWY				IAML		18 09 30.1	
	comp=E,17nm,1.1s						
MOOW	**Moose Ponds**	**3.11**	**98**	Pn	Pn	18 08 36.8	+1.9
OVMT	**Ovando**	**3.12**	**26**	Pn	Pn	18 08 35.3	+0.3
REDW	**Red Top Meadow**	**3.13**	**105**	Pn	Pb	18 08 39.3	-2.0
E09A	**Wood Farm, Sta**	**3.16**	**316**	Pn	Pn	18 08 36.5	+1.1
E09A				IAML		18 09 33.4	
	comp=E,13nm,0.9s						
E09A				IAML		18 09 34.0	
	comp=N,14nm,0.6s						
SNOW	**Snow King Moun**	**3.17**	**103**	Pn	Pn	18 08 37.9	+2.1
SNOW				IAML		18 09 18.8	
	comp=N,16nm,0.4s						
SNOW				IAML		18 09 37.4	
	comp=N,18nm,0.5s						
AHID	**Auburn Hatcher**	**3.21**	**117**	Pn	Pn	18 08 39.0	+2.8
AHID				IAML		18 09 31.6	
	comp=N,18nm,0.6s						
AHID				IAML		18 09 39.7	
	comp=N,10nm,0.8s						
WVOR	**Wild Horse Val**	**3.23**	**237**	Pn	Pn	18 08 34.8	-1.7
LOHW	**Long Hollow**	**3.23**	**100**	Pn	Pn	18 08 39.2	+2.6
I07A	**Izee**	**3.25**	**268**	Pn	Pn	18 08 38.0	+1.2
I07A				IAML		18 09 22.3	
	comp=E,9.6nm,4.8s						
I07A				IAML		18 09 34.2	
	comp=N,12nm,4.7s						
LYMT	**Lyon Mountain**	**3.30**	**34**	Pn	Pn	18 08 38.6	+1.1
SPUT	**South Promonto**	**3.50**	**147**	Pn	Pn	18 08 40.6	+0.3
SPUT				IAML		18 09 37.8	
	comp=N,6.7nm,0.9s						
SPUT				IAML		18 09 42.1	
	comp=E,8.0nm,0.8s						
ELK	**Elko**	**3.53**	**183**	Pn	Pn	18 08 40.9	+0.1
BGU	**Big Grassy Mou**	**3.65**	**156**	Pn	Pn	18 08 43.8	+1.5
BGU				IAML		18 09 41.2	
	comp=E,7.0nm,0.8s						
HWUT	**Hardware Ranch**	**3.66**	**135**	Pn	Pn	18 08 44.0	+1.5
HWUT				IAML		18 10 31.3	
	comp=E,6.8nm,4.0s						
G06A	**Carlson Farm,**	**4.13**	**285**	Pn	Pn	18 08 49.4	+0.6
G06A				IAML		18 10 00.9	
	comp=N,10nm,3.9s						
RLMT	**Red Lodge**	**4.17**	**76**	Pn	Pn	18 08 49.5	0.0
RLMT				IAML		18 10 03.0	
	comp=N,6.5nm,0.5s						
RLMT				IAML		18 10 05.6	
	comp=N,7.1nm,0.6s						
BMN	**Battle Mountai**	**4.18**	**204**	Pn	Pn	18 08 50.6	+1.0
BMN				IAML		18 09 55.2	
	comp=E,9.7nm,1.2s						
BMN				IAML		18 09 57.4	
	comp=N,7.5nm,1.0s						
NEW	**Newport**	**4.26**	**340**	Pn	Pn	18 08 50.6	0.0
NEW				IAML		18 10 03.9	
	comp=N,9.4nm,0.8s						
NEW				IAML		18 10 07.2	
	comp=N,6.4nm,0.9s						
PINE	**Pine Mountain**	**4.32**	**266**	Pn	Pn	18 08 51.4	-0.1
G05A	**Wamic**	**4.61**	**284**	Pn	Pn	18 08 54.3	-1.1
J05D	**Fort Rock, OR**	**4.63**	**260**	Pn	Pn	18 08 55.5	-0.3
LTY	**Liberty**	**4.97**	**309**	Pn	Pn	18 08 59.8	-0.5
B08A	**Colville Reser**	**5.07**	**325**	Pn	Pn	18 09 02.3	+0.5
SPR3	**Spring Creek 3**	**5.29**	**174**	Pn	Pn	18 09 03.9	-1.1
SPR3				IAML		18 11 36.9	
	comp=N,3.5nm,4.8s						

*IDC **13** 18:18:48.1±1.1, 36°.22N×141°.99E, h0km, mb3.4/8, mbtmp3.5/11, ML3.2/3, MS2.6/1, Error ellipse: s-maj=26.8km s-min=19.9km az=85.0*
*JMA **13** 18:18:52.6±0.4, 36°.3N±0°.6×14°.2E±°, h42km, MV3.2/33, FAR E OFF IBARAKI PREF*
ISC 13 18:18:50.3±0.8, 36°.18N±0°.04×142°.03E±0°.08, h23km, n29, σ1$43/26, mb3.4/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.18**	**278**	P	Pn	18 19 10.7	-0.7
JIHU	**Itakohorinouch**	**1.24**	**261**	P	Pb	18 19 12.8	-0.2
JHO	**Hitachi**	**1.26**	**291**	eP	Pn	18 19 11.3	-1.1
ONAJ	**Iwakimizuishiy**	**1.36**	**313**	eP	Pn	18 19 13.1	-0.8
JFK	**Kawauchi**	**1.51**	**322**	eP	Pn	18 19 15.6	-0.4
BSO1	**Boso 1**	**1.75**	**210**	eP	Pb	18 19 20.8	-0.5
BSO3	**Boso 3**	**1.85**	**223**	P	Pb	18 19 21.9	-1.3
JOTO	**OTAMA OYAMA**	**1.94**	**316**	eP	Pb	18 19 22.6	-2.4
JMM	**Marumori**	**1.96**	**330**	eP	Pn	18 19 22.2	+0.2
JMM				eS	Sn	18 19 44.0	-1.9
JAG	**Ashikaga**	**2.10**	**278**	eP	Pn	18 19 24.2	+0.2
MJAR	**Matsushiro Arr**	**3.11**	**278**	Pn	Pn	18 19 38.4	+0.5
	1.1nm,0.3s,baz=102,slow=8.9,SNR=59						
MJAR				Sn	Sn	18 20 14.8	+0.5
	0.4nm,0.3s,baz=87,slow=13,SNR=4.7						
	8.6nm,0.4s						
JHJ	**Hachijo jima 2**	**3.57**	**212**	Pn	Pn	18 19 44.3	+0.1
	25nm,0.3s,baz=298,slow=19,SNR=14						
JHJ				Sn	Sn	18 20 23.4	-2.3
	51nm,0.3s,baz=242,slow=22,SNR=11						
	45nm,0.3s						
ASAJ	**Asahikawa**	**7.94**	**3**	Pn	Pn	18 20 45.3	+1.0
	0.3nm,0.3s,baz=263,slow=31,SNR=13						
ASAJ				Sn	Sn	18 22 12.7	-0.8
	0.1nm,0.3s,baz=178,slow=15,SNR=2.1						
	0.7nm,0.3s						
JCJ	**Chichijima**	**9.05**	**179**	Pn	Pn	18 20 55.8	-3.7
	2.6nm,0.3s,baz=127,slow=18,SNR=1.7						
JCJ				Sn	Sn	18 22 27.7	-13
	2.3nm,0.3s,baz=283,slow=20,SNR=1.6						
KSRS	**Korea Array**	**11.38**	**281**	LR	LR	18 25 49.4	
	comp=Z,25nm,18.4s,baz=135,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.28**	**120**	T	T	18 53 14.9	
	baz=312,slow=74,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**27.29**	**120**	T	T	18 53 13.9	
	baz=312,slow=74,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**27.30**	**120**	T	T	18 53 16.7	
	baz=312,slow=74,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**27.98**	**122**	T	T	18 54 04.8	
	baz=314,slow=75,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**27.98**	**122**	T	T	18 54 04.7	
	baz=314,slow=75,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**27.99**	**122**	T	T	18 54 05.8	
	baz=314,slow=75,SNR=6.1						
SONM	**Songino Array**	**28.68**	**305**	P	P	18 24 46.3	+0.8
	0.6nm,0.9s,baz=128,slow=9.3,SNR=4.1						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**45.00**	**303**	P	P	18 27 05.2	+1.4
	0.6nm,0.7s,baz=96,slow=10.0,SNR=6.5						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**46.92**	**309**	P	P	18 27 19.5	+0.7
	0.5nm,0.7s,baz=84,slow=7.9,SNR=6.5						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**49.95**	**32**	P	P	18 27 43.2	+1.2
	0.3nm,0.8s,baz=266,slow=7.1,SNR=2.6						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**51.52**	**313**	P	P	18 27 54.0	0.0
	0.2nm,0.5s,baz=100,slow=4.4,SNR=3.0						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**56.28**	**189**	P	P	18 28 30.6	+1.5
	0.1nm,0.3s,baz=7.0,slow=7.4,SNR=4.6						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**60.01**	**189**	P	P	18 28 57.3	+2.1
	0.2nm,0.9s,baz=8.6,slow=6.8,SNR=1.7						
	0.2nm,0.9s						
FINES	**FINESS Array B**	**69.81**	**333**	P	P	18 29 59.0	+0.5
	1.4nm,1.0s,baz=27,slow=6.4,SNR=3.7						
	1.4nm,1.0s						

*TAP **13** 18:28:04.5, 22°.99N×121°.17E, h9km, ML3.5, C*
*ASIES **13** 18:28:04.5, 22°.99N×121°.17E, h9km, ML3.5, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.66; $M_{\theta\theta}$0.67; $M_{\phi\phi}$-1.33; $M_{r\theta}$0.52; $M_{\theta\phi}$0.31; $M_{\phi r}$-0.00; Fault plane solution: $M_0$1.29833×10^{21} NP1: ϕ_s135.72000°, δ62.77000°, λ35.50000°. NP2: ϕ_s27.64000°, δ58.91000°, λ147.70000°. Principal axes: T Plg43.5280°, Azm353.1630°; N Plg46.3730°, Azm168.3970°; P Plg2.3820°, Azm260.8980°;*
ISC 13 18:28:05.0±0.8, 22°.98N±0°.02×121°.19E±0°.02, h18km±4km, n124, σ1$07/175, 10C-15D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	**Donghe**	**0.10**	**94**	⇓iP	Pg	18 28 08.1	-0.5
	baz=96						
EDH				S	Sg	18 28 10.7	-0.4
	baz=96						
ECS	**Chishang**	**0.12**	**12**	⇓P	Pg	18 28 08.3	-0.5
	baz=21						
ECS				S	Sg	18 28 11.1	-0.2
	baz=21						
EHD	**Haiduan**	**0.17**	**4**	⇑iP	Pg	18 28 08.5	-0.9
	baz=4.0						
EHD				S	Sg	18 28 11.9	-0.6
	baz=4.0						
TWGBT	**Beinan**	**0.19**	**212**	P	Pg	18 28 09.2	-0.6
TWGBT	**Beinan**	**0.19**	**212**	⇑iP	Pg	18 28 08.9	-0.8
	baz=208						
TWGBT				iS	Sg	18 28 11.9	-1.1
	baz=208						
TWG	**Pinlang**	**0.19**	**215**	⇑iP	Pg	18 28 08.9	-0.8
	baz=213						
TWG				iS	Sg	18 28 12.1	-0.9
	baz=213						
CHKT	**Chengkung**	**0.20**	**54**	⇓iP	Pg	18 28 10.0	+0.2
	baz=73						
CHKT				S	Sg	18 28 14.3	+1.2
	baz=73						
TTN	**Taitung**	**0.23**	**190**	eP	Pg	18 28 11.1	+0.8
	baz=190						
TTN				eS	Sg	18 28 15.4	+1.5
	baz=190						
FULB	**Fuli**	**0.24**	**23**	⇑iP	Pg	18 28 10.7	+0.3
	baz=21						
FULB				eS	Sg	18 28 15.6	+1.4
	baz=21						
ELDTW	**Lidau**	**0.26**	**322**	iP	Pg	18 28 09.9	-1.0
	baz=327						
ELDTW				iS	Sg	18 28 13.2	-1.8
	baz=327						
CHKH	**Chenggong**	**0.28**	**42**	eP	Pb	18 28 11.4	-0.1
	baz=61						
CHKH				eS	Sb	18 28 17.5	+1.5
	baz=61						
TWF1	**Yuli**	**0.38**	**15**	⇑iP	Pg	18 28 12.3	-0.7
	baz=11						
TWF1				eS	Sg	18 28 17.8	-0.6
	baz=11						
EYUL	**Yuli**	**0.38**	**18**	eP	Pg	18 28 12.0	-0.9
	baz=10.0						
LDUT	**Ludao**	**0.40**	**140**	⇓P	Pb	18 28 13.6	0.0
	baz=138						
LDUT				S	Sb	18 28 20.8	+1.5
	baz=138						
ECBN	**Changbin**	**0.41**	**35**	eP	Pb	18 28 13.6	-0.2
	baz=38						
YULB	**Yu-li**	**0.42**	**13**	P	Pg	18 28 13.1	-0.5
YULB	**Yu-li**	**0.42**	**13**	⇑iP	Pg	18 28 12.8	-0.8
	baz=6.0						
YULB				S	Sg	18 28 18.8	-0.7
	baz=6.0						
STYH	**Taoyuan**	**0.43**	**296**	⇓iP	Pb	18 28 13.2	-0.8
	baz=304						
STYH				S	Sb	18 28 19.2	-1.0
	baz=304						
ECL	**Taimali**	**0.44**	**210**	P	Pg	18 28 13.1	-0.9
	baz=207						
ECL				eS	Sg	18 28 18.8	-1.2
	baz=207						
STYT	**Tauyuan**	**0.44**	**294**	⇓iP	Pg	18 28 13.4	-0.6
	baz=296						
STYT				iS	Sg	18 28 19.2	-0.8
	baz=296						
SLGT	**Liugui**	**0.50**	**272**	⇓iP	Pb	18 28 14.6	-0.8
	baz=272						
SLGT				eS	Sg	18 28 21.1	-0.8
	baz=272						
EHYH	**Wanrong**	**0.53**	**15**	eP	Pg	18 28 14.8	-0.8
	baz=11						
EHY	**Hungye**	**0.54**	**13**	eP	Pg	18 28 14.5	-1.2
	baz=15						
EHY				eS	Sg	18 28 22.2	-0.8
	baz=15						
HGSD	**Ruisui**	**0.55**	**23**	eP	Pg	18 28 15.5	-0.5
	baz=37						
YUS	**Yu-Shan**	**0.55**	**337**	⇑iP	Pg	18 28 15.4	-0.8
	baz=337						
YUS				S	Sg	18 28 21.9	-1.8
	baz=337						
SSD	**Sandimen**	**0.57**	**246**	⇓iP	Pg	18 28 15.1	-1.1
	baz=245						
SSD				iS	Sg	18 28 21.8	-2.1
	baz=245						
SGST	**Jiashian**	**0.57**	**280**	P	Pg	18 28 15.2	-1.1
	baz=280						
SGST				eS	Sb	18 28 23.4	-0.9
	baz=280						
WTP	**Ta-pu**	**0.59**	**297**	⇓iP	Pb	18 28 16.7	-0.2
	baz=301						
WTP				eS	Sb	18 28 24.6	-0.4
	baz=301						
TPUB	**Ta-pu**	**0.61**	**302**	P	Pb	18 28 17.2	+0.1
TPUB	**Ta-pu**	**0.61**	**302**	⇓iP	Pb	18 28 17.0	-0.2
	baz=313						
TPUB				iS	Sb	18 28 25.5	+0.1
	baz=313						
MASBT	**Mashibuluo**	**0.63**	**235**	⇓iP	Pg	18 28 16.6	-0.9
	baz=238						
MASBT				eS	Sg	18 28 24.1	-1.8
	baz=238						
CHN1	**Nanshi**	**0.64**	**289**	⇓iP	Pb	18 28 18.0	+0.2
	baz=294						
CHN1				S	Sb	18 28 27.2	+0.7
	baz=294						
SCST	**Cishan**	**0.65**	**262**	⇓P	Pb	18 28 18.0	+0.1
	baz=256						
CHN4	**Tsaushan**	**0.66**	**304**	eP	Pb	18 28 18.2	+0.2
	baz=314						
CHN4				eS	Sb	18 28 27.4	+0.4
	baz=314						
EAST	**Anshuo**	**0.67**	**208**	eP	Pg	18 28 17.3	-1.0
	baz=206						
EAST				eS	Sg	18 28 26.3	-1.0
	baz=206						
TAW	**Tawu**	**0.68**	**204**	eP	Pg	18 28 17.2	-1.1
	baz=202						
SNST	**Tainan City**	**0.68**	**291**	⇓P	Pb	18 28 18.8	+0.4
	baz=291						
SNST				eS	Sb	18 28 28.9	+1.4
	baz=291						
SGLT	**Jiouru**	**0.69**	**249**	P	Pb	18 28 18.7	+0.1
	baz=247						
SGLT				eS	Sb	18 28 28.5	+0.7
	baz=247						
TAWH	**Dawu Township**	**0.70**	**204**	eP	Pg	18 28 17.3	-1.4
	baz=203						
WCKO	**Fanlu**	**0.71**	**310**	eP	Pb	18 28 19.4	+0.6
	baz=320						
WCKO				eS	Sb	18 28 29.0	+0.7
	baz=320						
TWK	**Hsinying**	**0.71**	**294**	eP	Pb	18 28 19.4	+0.5
	baz=295						
TWK				S	Sb	18 28 29.1	+0.8
	baz=295						
TSPT	**Pingtung City**	**0.71**	**245**	eP	Pb	18 28 18.9	+0.1
	baz=244						
TWM1	**Shoushan**	**0.73**	**258**	⇓iP	Pn	18 28 19.9	-0.5
	baz=250						
WARBT	**Fenglin Townsh**	**0.76**	**14**	eP	Pg	18 28 18.6	-1.1
	baz=32						
CHN3	**Shinhua**	**0.77**	**277**	eP	Pn	18 28 21.7	+0.8
	baz=277						
CHN3				eS	Sn	18 28 34.1	+2.0
	baz=277						
VWDT	**VWDT**	**0.77**	**357**	⇑P	Pg	18 28 19.3	-0.8
	baz=351						
VWDT				eS	Sg	18 28 28.9	-1.4
	baz=351						
WHYT	**Xinyi Township**	**0.78**	**336**	eP	Pb	18 28 19.9	-0.2
	baz=341						
WHYT				eS	Sg	18 28 29.4	-1.2
	baz=341						
SHHT	**Tainan City**	**0.78**	**273**	eP	Pn	18 28 21.8	+0.7
	baz=273						
SHHT				eS	Sn	18 28 33.7	+1.4
	baz=273						
SCZT	**Fangliau**	**0.80**	**221**	iP	Pg	18 28 20.0	-0.7
	baz=226						
SCZT				eS	Sg	18 28 30.2	-1.1
	baz=226						
SSLB	**Suanglung**	**0.83**	**345**	P	Pb	18 28 21.0	0.0
SSLB	**Suanglung**	**0.83**	**345**	eP	Pb	18 28 20.7	-0.3
	baz=340						
SLIU	**Shizi**	**0.84**	**206**	eP	Pg	18 28 20.2	-1.2
	baz=189						
SSHA	**Shanhua**	**0.85**	**281**	eP	Pn	18 28 22.6	+0.6
	baz=294						
CHN2	**Minshiung**	**0.86**	**310**	eP	Pn	18 28 22.6	+0.4
	baz=311						
ESL	**Shilin**	**0.86**	**15**	eP	Pg	18 28 20.6	-1.2
	baz=34						
SHUL	**Shoufeng**	**0.87**	**23**	eP	Pg	18 28 21.3	-0.7
	baz=24						
CHY	**Chiayi**	**0.87**	**306**	eP	Pn	18 28 22.1	-0.3
	baz=307						
CHY				eS	Sn	18 28 35.3	+0.6
	baz=307						
WGK	**Gukeng**	**0.91**	**321**	eP	Pn	18 28 23.2	+0.3
	baz=328						
WGK				eS	Sn	18 28 36.2	+0.5
	baz=328						
ICHU	**Yijhu**	**0.92**	**294**	eP	Pn	18 28 23.7	+0.6
	baz=295						
ICHU				eS	Sn	18 28 37.6	+1.8
	baz=295						
WDLH	**Douliu**	**0.93**	**320**	eP	Pn	18 28 23.7	+0.6
	baz=320						
SMLT	**Sun Moon Lake**	**0.94**	**343**	eP	Pb	18 28 22.8	0.0
	baz=344						
SCLT	**Jiali**	**0.94**	**282**	eP	Pn	18 28 24.2	+0.9
	baz=283						
SCLT				eS	Sn	18 28 39.1	+2.8
	baz=283						
WJS	**Zhushan**	**0.94**	**333**	eP	Pn	18 28 23.7	+0.3
	baz=333						
TEYL	**Yanliau Villag**	**0.96**	**23**	eP	Pg	18 28 23.1	-0.6
	baz=24						
TYC	**Yuchr**	**0.97**	**342**	eP	Pn	18 28 24.1	+0.4
	baz=349						
TYC				eS	Sn	18 28 37.8	+0.7
	baz=349						
OWD	**Renai**	**0.97**	**359**	eP	Pg	18 28 22.7	-1.2
	baz=360						
CHN8	**Yiju**	**0.97**	**292**	P	Pn	18 28 24.3	+0.5
	baz=293						
CHN8				S	Sn	18 28 39.0	+1.8
	baz=293						
TWP	**Hsiaoliuchiu**	**0.99**	**231**	eP	Pn	18 28 26.7	+2.7
	baz=216						
LAY	**Lan-yu**	**0.99**	**160**	eP	Pg	18 28 22.9	-1.4
	baz=147						
WNT	**Mingjian**	**1.01**	**333**	⇑iP	Pn	18 28 25.3	+1.0
	baz=332						
WNT				eS	Sn	18 28 39.3	+1.3
	baz=332						
WUSB	**Renai

	baz=302								
LYUB	**Lan-yu**	**1.04**	**160**	*e*P		**Pg**	**18 28 21.1**	**-4.0**
	baz=147								
LXIB	**Xiulin Townshi**	**1.06**	**11**	*e*P		**Pg**	**18 28 22.7**	**-2.8**
	baz=28								
HEN	**Hengchun**	**1.06**	**203**	*e*P		**Pn**	**18 28 25.9**	**+1.0**
	baz=192								
HWA	**Hwalien**	**1.06**	**21**	*e*P		**Pg**	**18 28 23.9**	**-1.6**
	baz=23								
CHGB	**Renai**	**1.07**	**359**	P		**Pg**	**18 28 24.3**	**-1.5**
	baz=359								
CHGB				S		**Sb**	**18 28 40.2**	**+1.2**
	baz=359								
DPDB	**Guoxing**	**1.08**	**347**	*e*P		**Pn**	**18 28 26.1**	**+0.8**
	baz=347								
TWK1	**Hengchun**	**1.09**	**199**	*e*P		**Pn**	**18 28 26.8**	**+1.3**
	baz=183								
WCS	**Beigang Elemen**	**1.10**	**347**	*e*P		**Pn**	**18 28 26.0**	**+0.4**
	baz=346								
WSF	**Szhu**	**1.11**	**306**	*e*P		**Pn**	**18 28 26.2**	**+0.6**
	baz=306								
WSF				*e*S		**Sn**	**18 28 42.0**	**+1.5**
	baz=306								
WYL	**Yuanlin Townsh**	**1.13**	**330**	*e*P		**Pn**	**18 28 27.3**	**+1.4**
	baz=329								
WYL				*e*S		**Sn**	**18 28 43.5**	**+2.6**
	baz=329								
WWF	**Wufeng**	**1.15**	**337**	*e*P		**Pn**	**18 28 27.8**	**+1.5**
	baz=324								
TWD	**Chiawan**	**1.16**	**19**	*e*P		**Pb**	**18 28 25.2**	**-1.3**
	baz=21								
WHF	**Hehuan Shan**	**1.16**	**3**	*e*P		**Pg**	**18 28 25.7**	**-1.9**
	baz=15								
WRL	**Guolierlin Hig**	**1.18**	**321**	*e*P		**Pn**	**18 28 27.4**	**+0.8**
	baz=308								
RLNB	**Erlin**	**1.19**	**320**	*e*P		**Pn**	**18 28 27.5**	**+0.8**
	baz=307								
NACB	**Ninganchiao**	**1.24**	**17**	P		**Pn**	**18 28 26.7**	**-0.8**
NACB	**Ninganchiao**	**1.24**	**17**	*e*P		**Pn**	**18 28 26.8**	**-0.8**
	baz=33								
TCU	**Taichung**	**1.25**	**338**	*e*P		**Pg**	**18 28 29.5**	**+0.3**
	baz=337								
FUSS	**Fushou**	**1.26**	**2**	*e*P		**Pn**	**18 28 27.6**	**-0.4**
	baz=19								
TWT	**Tachien**	**1.27**	**359**	*e*P		**Pn**	**18 28 28.5**	**+0.5**
	baz=358								
WHP	**Taichung City**	**1.31**	**350**	*e*P		**Pg**	**18 28 30.4**	**+0.1**
	baz=356								
TWQ1	**Liyutan**	**1.41**	**344**	*e*P		**Pg**	**18 28 32.0**	**-0.2**
	baz=342								
TWQ1				*e*S		**Sg**	**18 28 51.7**	**+1.0**
	baz=342								
WDGT	**Dungji**	**1.44**	**281**	*e*P		**Pn**	**18 28 30.2**	**0.0**
	baz=281								
NNSB	**Datong**	**1.45**	**7**	*e*P		**Pb**	**18 28 31.7**	**+0.1**
	baz=18								
WDJ	**Dajia District**	**1.45**	**340**	*e*P		**Pg**	**18 28 33.0**	**0.0**
	baz=338								
NNS	**Nan Shan**	**1.46**	**6**	*e*P		**Pn**	**18 28 31.4**	**+0.7**
	baz=7.0								
EWUT	**Wuta**	**1.55**	**20**	*e*P		**Pn**	**18 28 30.3**	**-1.5**
	baz=23								
LATG	**Datong**	**1.58**	**11**	*e*P		**Pn**	**18 28 30.9**	**-1.3**
	baz=32								
PHUB	**P'eng-hu**	**1.58**	**290**	*e*P		**Pn**	**18 28 31.9**	**-0.3**
	baz=290								
PHUB				S		**Sn**	**18 28 52.9**	**+0.7**
	baz=290								
VCHM	**Qimei**	**1.64**	**278**	*e*P		**Pn**	**18 28 32.9**	**0.0**
	baz=277								
NDT	**Datong Townshi**	**1.64**	**10**	*e*P		**Pb**	**18 28 34.5**	**-0.2**
	baz=30								
NFF	**Wufeng Townshi**	**1.65**	**358**	*e*P		**Pb**	**18 28 34.8**	**-0.1**
	baz=11								
NSTT	**Nanjuang**	**1.65**	**354**	*e*P		**Pb**	**18 28 35.1**	**+0.1**
	baz=353								
EOS3	**EOS3**	**1.66**	**38**	*e*P		**Pn**	**18 28 32.5**	**-0.6**
	baz=41								
LIOB	**Emei**	**1.67**	**354**	*e*P		**Pg**	**18 28 35.8**	**-1.2**
	baz=354								
ENTT	**Nioudou**	**1.69**	**12**	*e*P		**Pn**	**18 28 32.5**	**-1.2**
	baz=32								
YHNB	**Yeheng**	**1.69**	**6**	P		**Pn**	**18 28 34.5**	**+0.7**
YHNB	**Yeheng**	**1.69**	**6**	*e*P		**Pn**	**18 28 34.4**	**+0.7**
	baz=346								
NSK	**Sanguang**	**1.69**	**5**	*e*P		**Pn**	**18 28 34.6**	**+0.8**
	baz=346								
TWE	**Neicheng**	**1.79**	**14**	*e*P		**Pb**	**18 28 37.2**	**-0.1**
	baz=34								
FUSB	**Fushanzhiwuyua**	**1.81**	**11**	*e*P		**Pn**	**18 28 34.8**	**-0.6**
	baz=35								
NWLT	**Wulai**	**1.81**	**9**	*e*P		**Pn**	**18 28 35.6**	**+0.2**
	baz=33								
TIPB	**Shuangxi**	**2.06**	**16**	*e*P		**Pn**	**18 28 39.5**	**+0.7**
	baz=34								
YOJ	**Yonaguni jima**	**2.23**	**48**	P		**Pn**	**18 28 41.3**	**+0.3**
YOJ	**Yonaguni jima**	**2.23**	**48**	*e*P		**Pn**	**18 28 41.1**	**+0.1**
	baz=52								
VWUC	**VWUC**	**2.56**	**322**	*e*P		**Pn**	**18 28 45.8**	**+0.2**
	baz=319								
KNMB	**Chin-men Tao**	**2.96**	**300**	*e*P		**Pn**	**18 28 51.2**	**0.0**
	baz=299								
JMJ	**Miyako jima 2**	**4.17**	**63**	*e*P		**Pn**	**18 29 08.1**	**+0.3**
	baz=62								

ISU 13 18:30:14.6, 39°.75N×72°.51E, h8km, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.81**	**71**	P	Pb	18 30 30.8	-0.3
SFK				S	Sb	18 30 42.9	+0.7
CHMI	**Chimion**	**0.92**	**305**	P	Pb	18 30 32.8	0.0
CHMI				S	Sn	18 30 46.4	-0.8

TAP 13 18:32:05.0, 22°.99N×121°.17E, h8km, ML3.0, 2C-16D, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECS	**Chishang**	**0.12**	**24**	*i* P	Pg	18 32 08.7	+1.0
	baz=18						
ECS				*e*S	Sg	18 32 11.5	+2.0
	baz=18						
EDH	**Donghe**	**0.13**	**97**	⇓*i*P	Pg	18 32 08.5	+0.7
	baz=97						
EDH				*i* S	Sg	18 32 11.3	+1.6
	baz=97						
EHD	**Haiduan**	**0.16**	**13**	⇓P	Pg	18 32 08.9	+0.4
	baz=3.0						
EHD				S	Sg	18 32 11.7	+0.8
	baz=3.0						
TWG	**Pinlang**	**0.19**	**208**	⇓*i*P	Pg	18 32 09.4	+0.5
	baz=214						
TWG				*i* S	Sg	18 32 12.5	+1.0
	baz=214						
TWGBT	**Beinan**	**0.19**	**205**	⇓*i*P	Pg	18 32 09.3	+0.5
	baz=214						
TWGBT				*i* S	Sg	18 32 12.5	+1.0
	baz=214						
CHKT	**Chengkung**	**0.21**	**59**	⇓*i*P	Pg	18 32 10.6	+1.2
	baz=74						
CHKT				S	Sg	18 32 15.4	+3.1
	baz=74						
TTN	**Taitung**	**0.23**	**185**	*e*P	Pg	18 32 11.7	+2.0
	baz=185						
FULB	**Fuli**	**0.24**	**29**	*i* P	Pg	18 32 11.2	+1.3
	baz=20						
FULB				*e*S	Sg	18 32 16.4	+3.3
	baz=20						
ELDTW	**Lidau**	**0.24**	**325**	⇓*i*P	Pg	18 32 10.4	+0.4
	baz=325						
ELDTW				*i* S	Sg	18 32 13.7	+0.5
	baz=325						
CHKH	**Chenggong**	**0.29**	**46**	*e*P	Pb	18 32 12.0	-0.5
	baz=44						
TWF1	**Yuli**	**0.38**	**18**	*e*P	Pg	18 32 12.8	+0.3
	baz=13						
TWF1				*e*S	Sg	18 32 18.8	+1.2
	baz=13						
EYUL	**Yuli**	**0.38**	**21**	*e*P	Pb	18 32 13.7	-0.4
	baz=9.0						
STYH	**Taoyuan**	**0.40**	**297**	⇓*i*P	Pg	18 32 13.6	+0.7
	baz=304						
STYH				S	Sg	18 32 19.4	+1.2
	baz=304						
STYT	**Tauyuan**	**0.42**	**295**	⇓*i*P	Pg	18 32 13.8	+0.6
	baz=295						
STYT				*i* S	Sg	18 32 19.6	+0.9
	baz=295						
LDUT	**Ludao**	**0.42**	**138**	P	Pb	18 32 13.9	-0.7
	baz=139						
LDUT				*e*S	Sb	18 32 21.3	+0.2
	baz=139						
YULB	**Yu-li**	**0.42**	**17**	⇑P	Pg	18 32 13.2	0.0
	baz=10.0						
YULB				S	Sg	18 32 19.3	+0.5
	baz=10.0						
ECL	**Taimali**	**0.44**	**207**	⇓*i*P	Pg	18 32 13.6	+0.1
	baz=217						
ECL				*e*S	Sg	18 32 19.6	+0.4
	baz=217						
SLGT	**Liugui**	**0.48**	**271**	⇓*i*P	Pg	18 32 15.0	+0.7
	baz=266						
SLGT				*e*S	Sg	18 32 21.5	+0.8
	baz=266						
EHY	**Hungye**	**0.54**	**15**	*e*P	Pg	18 32 15.7	+0.3
	baz=3.0						
EHY				*e*S	Sg	18 32 22.8	+0.3
	baz=3.0						
YUS	**Yu-Shan**	**0.54**	**338**	*e*P	Pg	18 32 15.9	+0.4
	baz=337						
YUS				*e*S	Sg	18 32 22.8	+0.1
	baz=337						
SGST	**Jiashian**	**0.55**	**280**	*e*P	Pg	18 32 15.7	+0.1
	baz=283						
SSD	**Sandimen**	**0.55**	**244**	⇓P	Pg	18 32 15.6	-0.1
	baz=252						
HGSD	**Ruisui**	**0.56**	**25**	*e*P	Pb	18 32 16.4	-0.6
	baz=17						
WTP	**Ta-pu**	**0.57**	**297**	⇓P	Pb	18 32 17.1	-0.2
	baz=300						
WTP				S	Sb	18 32 25.5	-0.1
	baz=300						
TPUB	**Ta-pu**	**0.58**	**302**	⇓P	Pb	18 32 17.4	-0.1
	baz=307						
TPUB				S	Sb	18 32 25.7	-0.3
	baz=307						
MASBT	**Mashibuluo**	**0.62**	**233**	⇓*i*P	Pg	18 32 16.9	0.0
	baz=239						
MASBT				*e*S	Sg	18 32 24.6	-0.5
	baz=239						
CHN1	**Nanshi**	**0.62**	**289**	*e*P	Pb	18 32 18.5	+0.4
	baz=294						
SCST	**Cishan**	**0.63**	**261**	*e*P	Pb	18 32 18.2	0.0
	baz=256						
CHN4	**Tsaushan**	**0.64**	**304**	⇓P	Pb	18 32 18.7	+0.2
	baz=314						
CHN4				*e*S	Sb	18 32 28.0	+0.4
	baz=314						
SNST	**Tainan City**	**0.66**	**291**	*e*P	Pb	18 32 19.3	+0.5
	baz=291						
EAST	**Anshuo**	**0.67**	**206**	*e*P	Pg	18 32 18.0	+0.1
	baz=207						
TWK	**Hsinying**	**0.68**	**294**	*e*P	Pb	18 32 19.9	+0.6
	baz=294						
WCKO	**Fanlu**	**0.69**	**311**	*e*P	Pn	18 32 20.7	-0.3
	baz=311						
TWM1	**Shoushan**	**0.71**	**257**	*e*P	Pb	18 32 20.4	+0.8
	baz=250						
WARBT	**Fenglin Townsh**	**0.75**	**15**	*e*P	Pg	18 32 19.1	-0.5
	baz=33						
SHHT	**Tainan City**	**0.76**	**273**	*e*P	Pn	18 32 22.4	+0.4
	baz=273						
WHYT	**Xinyi Township**	**0.76**	**338**	*e*P	Pb	18 32 20.5	-0.1
	baz=343						
SCZT	**Fangliau**	**0.79**	**220**	⇓P	Pg	18 32 20.2	-0.1
	baz=228						
SSLB	**Suanglung**	**0.82**	**346**	*e*P	Pb	18 32 21.4	-0.1
	baz=340						
ESL	**Shilin**	**0.86**	**17**	*e*P	Pb	18 32 21.9	-0.3
	baz=33						
WGK	**Gukeng**	**0.89**	**321**	*e*P	Pn	18 32 23.9	+0.1
	baz=321						
WDLH	**Douliu**	**0.91**	**320**	*e*P	Pn	18 32 24.5	+0.5
	baz=320						
SMLT	**Sun Moon Lake**	**0.92**	**345**	*e*P	Pn	18 32 24.0	-0.4
	baz=344						
CHN8	**Yiju**	**0.95**	**292**	*e*P	Pn	18 32 24.8	+0.2
	baz=293						
TYC	**Yuchr**	**0.95**	**343**	*e*P	Pn	18 32 24.8	+0.1
	baz=347						
WNT	**Mingjian**	**0.99**	**333**	⇑P	Pn	18 32 25.8	+0.6
	baz=333						
WUSB	**Renai**	**1.00**	**357**	*e*P	Pg	18 32 24.2	-0.1
	baz=356						
CHGB	**Renai**	**1.07**	**0**	*e*P	Pg	18 32 25.2	-0.3
	baz=358						

TAP 13 18:32:15.6, 22°.99N×121°.17E, h7km, ML3.6, 1C-3D, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECS	**Chishang**	**0.11**	**25**	*i* P	Pg	18 32 19.2	+1.1
	baz=13						
ECS				S	Sg	18 32 21.9	+2.0
	baz=13						
EDH	**Donghe**	**0.13**	**99**	⇓*i*P	Pg	18 32 19.0	+0.6
	baz=99						
EDH				*i* S	Sg	18 32 21.8	+1.6
	baz=99						
EHD	**Haiduan**	**0.16**	**13**	⇑*i*P	Pg	18 32 19.4	+0.4
	baz=3.0						
EHD				S	Sg	18 32 21.9	+0.7
	baz=3.0						
TWG	**Pinlang**	**0.19**	**207**	⇓*i*P	Pg	18 32 19.8	+0.4
	baz=214						
TWG				*i* S	Sg	18 32 23.1	+1.0
	baz=214						
TWGBT	**Beinan**	**0.19**	**205**	⇓*i*P	Pg	18 32 19.8	+0.3
	baz=214						
TWGBT				*i* S	Sg	18 32 22.9	+0.8
	baz=214						
CHKT	**Chengkung**	**0.21**	**60**	P	Pg	18 32 21.3	+1.4
	baz=68						
CHKT				S	Sg	18 32 25.6	+2.9
	baz=68						
FULB	**Fuli**	**0.24**	**30**	P	Pg	18 32 21.7	+1.4
	baz=20						
FULB				*e*S	Sg	18 32 26.4	+2.8
	baz=20						
TTN	**Taitung**	**0.24**	**184**	*e*P	Pg	18 32 22.5	+2.2
	baz=186						
ELDTW	**Lidau**	**0.24**	**325**	*i* P	Pg	18 32 20.8	+0.4
	baz=325						
ELDTW				*i* S	Sg	18 32 24.1	+0.5
	baz=325						
CHKH	**Chenggong**	**0.29**	**47**	*e*P	Pb	18 32 22.7	-0.4
	baz=44						
TWF1	**Yuli**	**0.38**	**19**	*e*P	Pb	18 32 24.0	-0.6
	baz=12						
TWF1				*e*S	Sb	18 32 29.3	-1.3
	baz=12						
EYUL	**Yuli**	**0.38**	**22**	*e*P	Pb	18 32 24.2	-0.4
	baz=14						
EYUL				*e*S	Sb	18 32 30.2	-0.6
	baz=14						
STYH	**Taoyuan**	**0.40**	**296**	*i* P	Pg	18 32 24.1	+0.7
	baz=296						
STYH				*i* S	Sg	18 32 30.0	+1.3
	baz=296						
STYT	**Tauyuan**	**0.41**	**294**	*i* P	Pg	18 32 24.1	+0.5
	baz=295						
STYT				*i* S	Sg	18 32 30.0	+1.0
	baz=295						
ECBN	**Changbin**	**0.42**	**39**	*e*P	Pb	18 32 24.4	-0.8
	baz=36						
YULB	**Yu-li**	**0.42**	**17**	P	Pg	18 32 24.3	+0.6
	baz=10.0						
YULB				*i* S	Sg	18 32 29.7	+0.6
	baz=10.0						
LDUT	**Ludao**	**0.42**	**139**	*e*P	Pg	18 32 24.3	+0.5
	baz=139						
LDUT				S	Sb	18 32 32.1	+0.2
	baz=139						
ECL	**Taimali**	**0.44**	**206**	*e*P	Pg	18 32 23.9	-0.2
	baz=208						
SLGT	**Liugui**	**0.48**	**270**	P	Pg	18 32 25.5	+0.7
	baz=266						
SLGT				S	Sg	18 32 32.1	+1.0
	baz=266						
EHYH	**Wanrong**	**0.53**	**18**	*e*P	Pb	18 32 26.4	-0.7
	baz=4.0						
EHYH				S	Sg	18 32 33.1	+0.4
	baz=4.0						
EHY	**Hungye**	**0.53**	**16**	*e*P	Pg	18 32 26.3	+0.4
	baz=2.0						
EHY				S	Sg	18 32 33.1	+0.3
	baz=2.0						
YUS	**Yu-Shan**	**0.53**	**338**	*e*P	Pg	18 32 26.6	+0.6
	baz=337						
YUS				*e*S	Sg	18 32 33.3	+0.2
	baz=337						
SGST	**Jiashian**	**0.54**	**280**	*e*P	Pg	18 32 26.6	+0.5
	baz=280						
SGST				*e*S	Sb	18 32 34.9	-0.6
	baz=280						
HGSD	**Ruisui**	**0.55**	**25**	*e*P	Pb	18 32 27.8	+0.3
	baz=16						
WTP	**Ta-pu**	**0.57**	**297**	*e*P	Pb	18 32 27.7	-0.1
	baz=299						
WTP				S	Sb	18 32 35.8	-0.3
	baz=299						
TPUB	**Ta-pu**	**0.58**	**302**	*e*P	Pg	18 32 27.2	+0.4
	baz=307						
TPUB				S	Sb	18 32 36.1	-0.4
	baz=307						
CHN1	**Nanshi**	**0.62**	**288**	P	Pb	18 32 28.9	+0.2
	baz=293						
CHN1				S	Sb	18 32 38.0	+0.5
	baz=293						
MASBT	**Mashibuluo**	**0.62**	**233**	*e*P	Pg	18 32 27.3	-0.2
	baz=239						
MASBT				*e*S	Sg	18 32 35.3	-0.3
	baz=239						
SCST	**Cishan**	**0.63**	**260**	*e*P	Pb	18 32 28.9	+0.1
	baz=256						
SNST	**Tainan City**	**0.66**	**290**	*e*P	Pb	18 32 29.8	+0.5
	baz=290						
SNST				S	Sb	18 32 40.1	+1.4
	baz=290						
EAST	**Anshuo**	**0.67**	**206**	*e*P	Pg	18 32 28.6	+0.1
	baz=207						
SGLT	**Jiouru**	**0.68**	**247**	*e*P	Pb	18 32 29.5	-0.2
	baz=247						
TAW	**Tawu**	**0.68**	**202**	*e*P	Pg	18 32 29.1	+0.4
	baz=203						
TAW				S	Sg	18 32 37.7	+0.2
	baz=203						
TWK	**Hsinying**	**0.68**	**294**	*e*P	Pb	18 32 30.6	+0.8
	baz=303						
TWK				S	Sb	18 32 40.3	+0.9
	baz=303						
WCKO	**Fanlu**	**0.68**	**311**	*e*P	Pb	18 32 30.3	+0.5
	baz=319						
WCKO				*e*S	Sb	18 32 39.8	+0.4
	baz=319						
TWM1	**Shoushan**	**0.71**	**256**	*e*P	Pb	18 32 30.6	+0.4
	baz=250						
CHN3	**Shinhua**	**0.74**	**277**	*e*P	Pn	18 32 32.4	0.0
	baz=277						
WARBT	**Fenglin Townsh**	**0.75**	**16**	*e*P	Pg	18 32 30.5	+0.5
	baz=32						
SHHT	**Tainan City**	**0.75**	**272**	*e*P	Pn	18 32 33.0	+0.4
	baz=274						
SHHT				*e*S	Sn	18 32 46.6	+2.4
	baz=274						
WHYT	**Xinyi Township**	**0.76**	**338**	*e*P	Pb	18 32 30.9	-0.2
	baz=343						
VWDT	**VWDT**	**0.76**	**358**	*e*P	Pg	18 32 30.2	+0.1
	baz=350						
SCZT	**Fangliau**	**0.80**	**219**	P	Pg	18 32 30.8	-0.1
	baz=228						
SSLB	**Suanglung**	**0.81**	**346**	*e*P	Pb	18 32 32.0	-0.1
	baz=345						
SSHA	**Shanhua**	**0.82**	**280**	*e*P	Pn	18 32 33.2	-0.2
	baz=295						
CHN2	**Minshiung**	**0.83**	**310**	*e*P	Pn	18 32 34.1	+0.5
	baz=310						
CHY	**Chiayi**	**0.85**	**307**	*e*P	Pn	18 32 33.7	-0.2
	baz=307						
ESL	**Shilin**	**0.85**	**17**	*e*P	Pg	18 32 32.3	+0.3
	baz=14						
SHUL	**Shoufeng**	**0.87**	**25**	*e*P	Pb	18 32 33.5	+0.5
	baz=22						
WGK	**Gukeng**	**0.89**	**321**	*e*P	Pn	18 32 33.9	-0.5
	baz=327						
WGK				*e*S	Sn	18 32 47.3	-0.2
	baz=327						
ICHU	**Yijhu**	**0.90**	**294**	*e*P	Pn	18 32 34.7	+0.2
	baz=295						
ICHU				*e*S	Sn	18 32 48.2	+0.5
	baz=295						
WDLH	**Douliu**	**0.90**	**320**	*e*P	Pn	18 32 35.2	+0.6
	baz=319						
WDLH				*e*S	Sn	18 32 48.7	+0.8
	baz=319						
WSSB	**Gushan**	**0.90**	**248**	*e*P	Pn	18 32 36.3	+1.6
	baz=265						
WJS	**Zhushan**	**0.92**	**334**	*e*P	Pn	18 32 34.6	-0.2
	baz=333						
SMLT	**Sun Moon Lake**	**0.92**	**345**	*e*P	Pn	18 32 34.8	-0.2
	baz=343						
CHN8	**Yiju**	**0.95**	**292**	*e*P	Pn	18 32 35.1	-0.1
	baz=293						
CHN8				*e*S	Sn	18 32 49.9	+1.0
	baz=293						
TYC	**Yuchr**	**0.95**	**343**	*e*P	Pn	18 32 35.0	-0.3
	baz=347						
TYC				*e*S	Sn	18 32 48.4	-0.7
	baz=347						
OWD	**Renai**	**0.96**	**1**	*e*P	Pg	18 32 33.6	-0.4
	baz=358						
TEYL	**Yanliau Villag**	**0.96**	**24**	*e*P	Pn	18 32 36.5	+1.2
	baz=21						
TWP	**Hsiaoliuchiu**	**0.98**	**229**	*e*P	Pn	18 32 37.1	+1.4
	baz=218						
WNT	**Mingjian**	**0.99**	**333**	P	Pn	18 32 36.1	+0.3
	baz=331						
WNT				*e*S	Sn	18 32 50.8	+0.8
	baz=331						
WTK	**Tuku**	**0.99**	**314**	*e*P	Pn	18 32 36.4	+0.5
	baz=313						
WTK				S	Sn	18 32 51.2	+1.0
	baz=313						
WUSB	**Renai**	**1.00**	**357**	*e*P	Pg	18 32 34.4	-0.3
	baz=355						
TSCK	**Chigu Township**	**1.01**	**279**	*e*P	Pn	18 32 37.3	+1.2
	baz=280						
WSL	**Shuilin Townsh**	**1.01**	**302**	*e*P	Pn	18 32 36.5	+0.4
	baz=302						
ETM	**Tongmen**	**1.01**	**17**	*e*P	Pb	18 32 35.5	0.0
	baz=14						
WNT1	**Nantou City**	**1.01**	**334**	*e*P	Pn	18 32 36.4	+0.2
	baz=331						
WNT1				*e*S	Sn	18 32 50.9	+0.2
	baz=331						
WPL	**Puli Township**	**1.03**	**349**	*e*P	Pn	18 32 36.3	-0.2
	baz=356						
LXIB	**Xiulin Townshi**	**1.05**	**12**	*e*P	Pg	18 32 35.4	-0.4
	baz=25						
HEN	**Hengchun**	**1.06**	**202**	*e*P	Pn	18 32 37.5	+0.7
	baz=193						
DPDB	**Guoxing**	**1.06**	**348**	*e*P	Pn	18 32 37.1	+0.2
	baz=351						
DPDB				*e*S	Sn	18 32 52.5	+0.6
	baz=351						
HWA	**Hwalien**	**1.06**	**22**	*e*P	Pn	18 32 36.6	-0.2
	baz=20						
CHGB	**Renai**	**1.06**	**0**	*e*P	Pg	18 32 36.1	+0.1
	baz=358						
WSF	**Szhu**	**1.08**	**307**	*e*P	Pn	18 32 37.1	+0.1
	baz=306						
WSF				S	Sn	18 32 53.3	+1.0
	baz=306						
WCS	**Beigang Elemen**	**1.09**	**348**	*e*P	Pn	18 32 37.4	+0.2
	baz=350						
WCS				*e*S	Sn	18 32 51.8	-0.7
	baz=350						
TWKBT	**Hengchun**	**1.10**	**197**	*e*P	Pn	18 32 38.0	+0.8
	baz=201						
WYL	**Yuanlin Townsh**	**1.10**	**331**	*e*P	Pn	18 32 37.4	0.0
	baz=328						
WYL				*e*S	Sn	18 32 53.8	+0.9
	baz=328						
WWF	**Wufeng**	**1.13**	**338**	*e*P	Pn	18 32 38.4	+0.6
	baz=334						
WWF				*e*S	Sn	18 32 54.8	+1.2
	baz=334						
WHF	**Hehuan Shan**	**1.15**	**5**	*e*P	Pg	18 32 37.7	0.0
	baz=12						
TWD	**Chiawan**	**1.15**	**20**	*e*P	Pg	18 32 37.7	0.0
	baz=18						

WRL	Guolierlin Hig	1.16	321	eP	Pn	18 32 38.4	+0.2
	baz=308						
WRL				eS	Sn	18 32 55.7	+1.5
	baz=308						
RLNB	Erlin	1.16	321	eP	Pn	18 32 38.4	+0.3
	baz=307						
ETL	Fush Village	1.23	20	eP	Pb	18 32 38.6	-0.7
	baz=17						
TCU	Taichung	1.23	339	eP	Pg	18 32 39.9	+0.6
	baz=337						
NACB	Ninganchiao	1.24	18	eP	Pn	18 32 38.5	-0.8
	baz=29						
FUSS	Fushou	1.25	3	eP	Pg	18 32 39.3	-0.3
	baz=15						
TDCB	Techi	1.25	360	eP	Pn	18 32 39.0	-0.6
	baz=357						
TWT	Tachien	1.26	0	eP	Pg	18 32 40.1	+0.4
	baz=357						
WHP	Taichung City	1.30	351	eP	Pg	18 32 41.3	+0.9
	baz=360						
TWQ1	Liyutan	1.40	345	P	Pg	18 32 43.0	+0.6
	baz=340						
TWQ1				eS	Sg	18 33 02.6	+2.1
	baz=340						
WDGT	Dungji	1.41	281	eP	Pn	18 32 41.9	+0.3
	baz=282						
EAHA	Aohua	1.43	21	eP	Pb	18 32 42.2	-0.3
	baz=19						
WDJ	Dajia District	1.43	340	eP	Pg	18 32 43.5	+0.4
	baz=338						
NNSB	Datong	1.44	8	eP	Pn	18 32 42.5	+0.3
	baz=4.0						
NNS	Nan Shan	1.45	7	eP	Pb	18 32 43.1	+0.1
	baz=4.0						
EWUT	Wuta	1.55	21	eP	Pn	18 32 43.7	+0.2
	baz=19						
PHUB	P'eng-hu	1.56	290	eP	Pn	18 32 43.2	-0.4
	baz=291						
PHUB				S	Sn	18 33 03.3	-0.7
	baz=291						
LATG	Datong	1.57	12	eP	Pb	18 32 44.7	-0.3
	baz=28						
NMLH	Miaoli	1.58	347	eP	Pg	18 32 45.6	-0.2
	baz=342						
PNG	Penghu	1.59	291	eP	Pn	18 32 43.7	-0.4
	baz=292						
VCHM	Qimei	1.61	278	eP	Pn	18 32 44.0	-0.4
	baz=279						
NFF	Wufeng Townshi	1.63	358	eP	Pg	18 32 46.5	-0.4
	baz=5.0						
NFF				eS	Sg	18 33 09.8	+1.7
	baz=5.0						
NDT	Datong Townshi	1.63	11	eP	Pg	18 32 46.7	-0.2
	baz=27						
NSTT	Nanjuang	1.64	355	eP	Pb	18 32 46.1	0.0
	baz=335						
LIOB	Emei	1.65	355	eP	Pg	18 32 47.4	+0.2
	baz=349						
ENTT	Nioudou	1.68	13	eP	Pb	18 32 46.9	+0.1
	baz=28						
YHNB	Yeheng	1.68	7	eP	Pg	18 32 47.4	-0.5
	baz=19						
NSK	Sanguang	1.69	6	eP	Pg	18 32 48.5	+0.6
	baz=2.0						
TWE	Neicheng	1.78	15	eP	Pb	18 32 47.7	-0.8
	baz=30						
FUSB	Fushanzhiwuyua	1.80	12	eP	Pb	18 32 48.5	-0.4
	baz=30						
NWLT	Wulai	1.80	10	eP	Pb	18 32 48.8	-0.1
	baz=24						
NTST	Danshui	2.18	7	eP	Pb	18 32 54.8	-0.5
	baz=32						
YOJ	Yonaguni jima	2.24	49	P	Pn	18 32 52.0	-1.0
	baz=60						
YOJ				eS	Sn	18 33 19.2	-1.6
	baz=60						

IDC ***13*** *18:38:36.0±0.6, 22°.91N×121°.49E, h0km, mb4.2/25, mbtmp4.2/30, ML3.3/4, MS3.8/36, Error ellipse: s-maj=15.8km s-min=13.2km az=60.0*

NIED ***13*** *18:38:38.6, 22°.96N×121°.19E, h25km, MW4.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{16}Nm; M_{rr}1.89; $M_{\theta\theta}$-0.98; $M_{\phi\phi}$-0.91; $M_{r\theta}$-0.36; $M_{\theta\phi}$-0.75; $M_{\phi r}$0.31; Fault plane solution: $M_0$1.85000×10^{16} NP1: ϕ_s=238.00000°, δ47.00000°, λ107.00000°. NP2: ϕ_s=35.00000°, δ46.00000°, λ73.00000°.*

JMA ***13*** *18:38:38.6±0.1, 23°.N±1°×12°.1E±°, h25km±2km, MV4.3/19, TAIWAN REGION*

BJI ***13*** *18:38:38.0±0.0, 22°.95N×121°.27E, h5km, mb4.4/61, mB4.8/28, ML4.8/9, Ms4.7/64, Ms7 4.5/60*

TAP ***13*** *18:38:39.5, 22°.99N×121°.17E, h8km, ML4.8, C*

ASIES ***13*** *18:38:39.5, 22°.99N×121°.17E, h8km, ML4.8, Mw4.5, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}6.48; $M_{\theta\theta}$1.19; $M_{\phi\phi}$-5.45; $M_{r\theta}$0.25; $M_{\theta\phi}$-0.45; $M_{\phi r}$-2.45; Fault plane solution: $M_0$6.54447×10^{22} NP1: ϕ_s=179.90000°, δ56.18000°, λ85.43000°. NP2: ϕ_s=8.06000°, δ34.09000°, λ96.78000°. Principal axes: T Plg78.2810°, Azm73.7930°; N Plg3.7940°, Azm182.4370°; P Plg11.0720°, Azm273.1800°;*

NEIC ***13*** *18:38:40.8, 23°.13N×121°.23E, h13km*

GCMT ***13*** *18:38:40.6±0.4, 23°.09N±0°.04×121°.22E±0°.02, h20km±1km, MW4.8/74, Moment Tensor Solution. s17,c18; s74,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.03±.19; $M_{\theta\theta}$-0.01±.10; $M_{\phi\phi}$-2.01±.12; $M_{r\theta}$-0.36±.21; $M_{\theta\phi}$-0.21±.05; $M_{\phi r}$-0.09±.14; Best double couple: $M_0$2.06300×10^{16} NP1: ϕ_s=195.00000°, δ48.00000°, λ103.00000°. NP2: ϕ_s=357.00000°, δ44.00000°, λ76.00000°. Principal axes: T 2.0910, Plg80.0000°, Azm175.0000°; N -0.0490, Plg9.0000°, Azm6.0000°; P -2.0350, Plg2.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***13*** *18:38:40.6±1.4, 23°.12N±0°.05×121°.23E±0°.05, h12km±3km, mb4.8/102, Mwr4.6/21 Error ellipse: s-maj=8.0km s-min=6.3km az=201.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.21; $M_{\theta\theta}$0.80; $M_{\phi\phi}$-1.01; $M_{r\theta}$0.44; $M_{\theta\phi}$-0.23; $M_{\phi r}$-0.38; Fault plane solution: $M_0$1.12000×10^{16} NP1: ϕ_s=145.31000°, δ80.17000°, λ32.75000°. NP2: ϕ_s=49.04000°, δ57.79000°, λ168.36000°. Principal axes: T 1.1083, Plg30.0000°, Azm12.0000°; N 0.0212, Plg56.0000°, Azm160.0000°; P -1.1295, Plg15.0000°, Azm273.0000°;*

ISC 13 18:38:40.7±0.5, 22°.97N±0°.01×121°.23E±0°.01, h18km±2km, n426, σ1982/521, mb4.7/81, MS4.0/40, 18C-43D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	Donghe	0.07	91	⇓iP	Pg	18 38 43.0	-1.1
	baz=100						
EDH				eS	Sg	18 38 46.6	+0.2
	baz=100						
ECS	Chishang	0.12	355	⇓iP	Pb	18 38 43.1	-0.7
	baz=19						
ECS				S	Sb	18 38 46.0	+0.3
	baz=19						
CHKT	Chengkung	0.18	44	⇓iP	Pb	18 38 44.9	-0.1
	baz=69						
CHKT				S	Sg	18 38 49.7	+1.3
	baz=69						
EHD	Haiduan	0.18	352	⇓iP	Pb	18 38 43.4	-1.8
	baz=3.0						
EHD				eS	Sb	18 38 46.3	-1.7
	baz=3.0						
TWGBT	Beinan	0.21	222	P	Pg	18 38 42.8	-3.0
TWGBT	Beinan	0.21	222	⇓iP	Pg	18 38 43.9	-1.9
	baz=214						
TWGBT				iS	Sg	18 38 46.9	-2.3
	baz=214						
TWG	Pinlang	0.21	224		Pg	18 38 43.1	-2.7
TWG					Sg	18 38 47.1	-2.2
TWG	Pinlang	0.21	224	⇓iP	Pg	18 38 43.9	-1.9
	baz=214						
TWG				iS	Sg	18 38 47.1	-2.2
	baz=214						
FULB	Fuli	0.23	14	⇓iP	Pg	18 38 45.5	-0.7
	baz=21						
FULB				eS	Sb	18 38 50.8	+0.8
	baz=21						
TTN	Taitung	0.23	200	⇓P	Pg	18 38 46.1	0.0
	baz=191						
TTN				eS	Sb	18 38 51.5	+1.5
	baz=191						
CHKH	Chenggong	0.27	35	⇓P	Pg	18 38 46.2	-0.4
	baz=62						
CHKH				eS	Sb	18 38 52.2	+1.2
	baz=62						
ELDTW	Lidau	0.29	317	⇓iP	Pg	18 38 44.8	-2.4
	baz=325						
ELDTW				iS	Sg	18 38 48.0	-3.6
	baz=325						
LDUT	Ludao	0.37	144	⇓iP	Pg	18 38 48.4	-0.1
	baz=139						
LDUT				S	Sb	18 38 55.9	+1.6
	baz=139						
EYUL	Yuli	0.38	12	⇑P	Pg	18 38 47.3	-1.4
	baz=15						
EYUL				eS	Sg	18 38 53.7	-0.3
	baz=15						
TWF1	Yuli	0.38	9	⇑iP	Pg	18 38 47.2	-1.5
	baz=13						
TWF1				S	Sg	18 38 53.2	-0.9
	baz=13						
ECBN	Changbin	0.40	31	⇑iP	Pg	18 38 48.8	-0.2
	baz=53						
ECBN				eS	Sn	18 38 56.7	-1.9
	baz=53						
YULB	Yu-li	0.42	8	P	Pg	18 38 47.8	-1.6
YULB	Yu-li	0.42	8	Pg	Pg	18 38 46.9	-2.5
YULB				Sg	Sg	18 38 53.5	-1.7
YULB	Yu-li	0.42	8	⇑iP	Pg	18 38 47.7	-1.7
	baz=10.0						
YULB				eS	Sg	18 38 53.8	-1.4
	baz=10.0						
ECL	Taimali	0.45	214	P	Pg	18 38 48.0	-2.0
	baz=208						
ECL				eS	Sg	18 38 54.2	-1.9
	baz=208						
STYH	Taoyuan	0.46	295	⇓iP	Pg	18 38 48.1	-2.1
	baz=296						
STYH				S	Sg	18 38 54.0	-2.4
	baz=296						
STYT	Tauyuan	0.48	293	⇓iP	Pg	18 38 48.2	-2.2
	baz=295						
STYT				S	Sg	18 38 54.3	-2.6
	baz=295						
EHYH	Wanrong	0.53	11	eP	Pg	18 38 49.3	-2.0
	baz=5.0						
EHYH				eS	Sg	18 38 57.3	-1.2
	baz=5.0						
EHY	Hungye	0.54	9	⇑eP	Pg	18 38 49.4	-2.1
	baz=3.0						
EHY				eS	Sg	18 38 57.2	-1.6
	baz=3.0						
SLGT	Liugui	0.54	272	⇓iP	Pg	18 38 49.5	-2.1
	baz=266						
SLGT				eS	Sg	18 38 56.4	-2.4
	baz=266						
HGSD	Ruisui	0.55	19	⇑eP	Pg	18 38 50.5	-1.1
	baz=17						
YUS	Yu-Shan	0.57	333	⇓iP	Pg	18 38 50.3	-2.0
	baz=337						
YUS				S	Sg	18 38 57.4	-2.8
	baz=337						
SSD	Sandimen	0.60	248	⇓iP	Pg	18 38 50.0	-2.5
	baz=245						
SSD				S	Sg	18 38 56.6	-4.0
	baz=245						
SGST	Jiashian	0.61	280	⇓iP	Pg	18 38 50.2	-2.6
	baz=280						
SGST				S	Sg	18 38 59.3	-1.6
	baz=280						
WTP	Ta-pu	0.63	296	⇓iP	Pg	18 38 51.6	-1.6
	baz=299						
WTP				S	Sg	18 39 00.4	-1.2
	baz=299						
TPUB	Ta-pu	0.64	301	P	Pb	18 38 52.1	-1.3
TPUB	Ta-pu	0.64	301		Pb	18 38 51.2	-2.2
TPUB				Sg	Sg	18 39 00.2	-1.8
TPUB	Ta-pu	0.64	301	⇓iP	Pb	18 38 51.9	-1.5
	baz=307						
TPUB				S	Sg	18 39 00.1	-2.0
	baz=307						
MASBT	Mashibuluo	0.66	237	⇓iP	Pb	18 38 51.4	-2.3
	baz=239						
MASBT				eS	Sb	18 38 59.1	-3.4
	baz=239						
CHN1	Nanshi	0.68	288	⇓iP	Pb	18 38 53.0	-1.1
	baz=293						
CHN1				S	Sb	18 39 02.2	-1.0
	baz=293						
EAST	Anshuo	0.69	211	eP	Pb	18 38 52.3	-1.8
	baz=207						
EAST				S	Sb	18 39 01.6	-1.7
	baz=207						
SCST	Cishan	0.69	263	⇓P	Pb	18 38 52.7	-1.4
	baz=256						
SCST				eS	Sb	18 39 02.1	-1.2
	baz=256						
TAW	Tawu	0.69	207	eP	Pb	18 38 52.0	-2.2
	baz=203						
TAW				eS	Sb	18 39 01.1	-2.2
	baz=203						
CHN4	Tsaushan	0.70	303	⇓iP	Pb	18 38 53.0	-1.3
	baz=313						
CHN4				eS	Sb	18 39 02.3	-1.4
	baz=313						
TAWH	Dawu Township	0.71	207	eP	Pb	18 38 52.4	-2.1
	baz=203						
TAWH				eS	Sb	18 39 01.9	-1.9
	baz=203						
EGFH	Guangfu	0.71	15	eP	Pb	18 38 52.5	-2.2
	baz=18						
SNST	Tainan City	0.72	290	⇓iP	Pb	18 38 53.7	-1.0
	baz=295						
SNST				eS	Sb	18 39 03.5	-0.7
	baz=295						
SGLT	Jiouru	0.73	250	⇓P	Pb	18 38 53.6	-1.2
	baz=248						
SGLT				eS	Sb	18 39 03.9	-0.6
	baz=248						
TSPT	Pingtung City	0.74	247	eP	Pb	18 38 53.6	-1.4
	baz=245						
TSPT				eS	Sb	18 39 04.2	-0.6
	baz=245						
WCKO	Fanlu	0.74	309	⇓P	Pb	18 38 53.9	-1.2
	baz=319						
WCKO				S	Sb	18 39 04.2	-0.7
	baz=319						
TWK	Hsinying	0.74	293	⇓iP	Pb	18 38 53.9	-1.2
	baz=294						
TWK				iS	Sb	18 39 04.1	-0.9
	baz=294						
WARBT	Fenglin Townsh	0.76	11	⇑eP	Pb	18 38 52.5	-2.9
	baz=33						
TWM1	Shoushan	0.76	259	⇓iP	Pb	18 38 54.8	-0.6
	baz=250						
VWDT	VWDT	0.78	354	⇓P	Pb	18 38 54.1	-1.6
	baz=350						
VWDT				eS	Sb	18 39 04.4	-1.6
	baz=350						
WHYT	Xinyi Township	0.80	334	eP	Pb	18 38 54.9	-1.2
	baz=343						
CHN3	Shinhua	0.81	277	⇓iP	Pn	18 38 56.8	-0.3
	baz=277						
SHHT	Tainan City	0.82	274	⇓P	Pn	18 38 57.1	-0.2
	baz=274						
SHHT				eS	Sn	18 39 10.9	+2.0
	baz=274						
SCZT	Fangliau	0.82	223	⇓iP	Pb	18 38 54.9	-1.6
	baz=227						
SCZT				S	Sb	18 39 05.0	-2.2
	baz=227						
SSLB	Suanglung	0.85	343	P	Pb	18 38 55.5	-1.5
SSLB	Suanglung	0.85	343	Pg	Pb	18 38 54.9	-2.1
SSLB				Sg	Sb	18 39 06.0	-2.1
SSLB	Suanglung	0.85	343	⇓P	Pb	18 38 55.0	-2.0
	baz=341						
SSLB				eS	Sb	18 39 06.0	-2.1
	baz=341						
SLIU	Shizi	0.85	208	eP	Pb	18 38 55.0	-2.0
	baz=206						
SNJT	Kaohsiung City	0.86	255	eP	Pn	18 38 58.6	+0.7
	baz=255						
SNJT				eS	Sn	18 39 12.9	+3.0
	baz=255						
ESL	Shilin	0.86	12	eP	Pb	18 38 54.2	-2.9
	baz=15						
SHUL	Shoufeng	0.87	20	eP	Pb	18 38 56.2	-1.1
	baz=23						
SSHA	Shanhua	0.88	281	eP	Pb	18 38 57.6	+0.1
	baz=294						
SSHA				eS	Sn	18 39 11.3	+0.7
	baz=294						
CHN2	Minshiung	0.89	309	⇓P	Pb	18 38 57.1	-0.6
	baz=310						
CHN2				S	Sg	18 39 10.0	+0.1
	baz=310						
CHY	Chiayi	0.91	305	eP	Pb	18 38 57.5	-0.4
	baz=307						
CHY				eS	Sn	18 39 10.8	-0.5
	baz=307						
TAI1	Yung-k'ang	0.93	274	eP	Pn	18 38 58.9	0.0
	baz=274						
WGK	Gukeng	0.94	319	⇓iP	Pb	18 38 58.3	-0.2
	baz=327						
WGK				S	Sn	18 39 11.9	-0.1
	baz=327						
KAU	Kaohsiung	0.94	245	eP	Pn	18 39 00.3	+1.2
	baz=242						
TEYL	Yanliau Villag	0.95	21	eP	Pb	18 38 57.5	-1.2
	baz=22						
TAI	Tainan	0.95	272	eP	Pg	18 38 59.4	+0.1
	baz=273						
TAI				eS	Sn	18 39 13.9	+1.6
	baz=273						
WSSB	Gushan	0.95	250	eP	Pg	18 39 00.2	+0.9
	baz=250						
WSSB				S	Sn	18 39 15.7	+3.3
	baz=250						
SMLT	Sun Moon Lake	0.96	341	⇓P	Pb	18 38 57.4	-1.5
	baz=344						
WDLH	Douliu	0.96	318	eP	Pb	18 38 58.6	-0.2
	baz=319						
WDLH				eS	Sg	18 39 11.9	-0.1
	baz=319						
ICHU	Yijhu	0.96	294	⇓P	Pb	18 38 58.3	-0.5
	baz=295						
ICHU				S	Sn	18 39 12.1	-0.3
	baz=295						
WJS	Zhushan	0.96	331	eP	Pb	18 38 58.9	0.0
	baz=336						
WJS				eS	Sn	18 39 13.0	+0.4
	baz=336						
LAY	Lan-yu	0.98	162	eP	Pb	18 38 57.4	-1.7
	baz=148						
SCLT	Jiali	0.98	282	⇓P	Pb	18 38 58.8	-0.3
	baz=283						
SCLT				S	Sn	18 39 13.6	+0.7
	baz=283						
OWD	Renai	0.98	357	eP	Pb	18 38 57.4	-1.8
	baz=358						
TYC	Yuchr	0.99	340	⇓eP	Pb	18 38 58.0	-1.3
	baz=347						
TYC				eS	Sn	18 39 13.6	+0.4
	baz=347						
CHN8	Yiju	1.01	292	⇓P	Pb	18 38 59.1	-0.6
	baz=293						
CHN8				S	Sn	18 39 14.2	+0.4
	baz=293						
ETM	Tongmen	1.02	14	eP	Pb	18 38 57.1	-2.7
	baz=15						
SMST	Manzhou Townsh	1.02	201	eP	Pb	18 38 59.6	-0.2
	baz=182						
TWP	Hsiaoliuchiu	1.02	232	⇓eP	Pg	18 39 01.6	+1.1
	baz=217						
WUSB	Renai	1.02	354	eP	Pb	18 38 58.2	-1.7
	baz=347						
WUSB				eS	Sb	18 39 12.8	-0.3
	baz=347						
LYUB	Lan-yu	1.02	161	⇑eP	Pb	18 38 56.4	-3.4
	baz=148						
WNT	Mingjian	1.03	331	⇑P	Pn	18 39 00.1	-0.2
	baz=331						
WNT				S	Sn	18 39 14.5	+0.2
	baz=331						
WTK	Tuku	1.05	313	eP	Pb	18 39 00.0	-0.4
	baz=313						
WTK				S	Sg	18 39 15.0	0.0
	baz=313						
HWA	Hwalien	1.06	19	eP	Pb	18 38 58.9	-1.6
	baz=21						
LXIB	Xiulin Townshi	1.06	9	eP	Pb	18 38 57.3	-3.3
	baz=26						
WNT1	Nantou City	1.06	331	eP	Pb	18 39 00.3	-0.2
	baz=331						
WNT1				S	Sg	18 39 15.8	+0.6
	baz=331						
WPL	Puli Township	1.06	346	eP	Pb	18 38 59.0	-1.6
	baz=356						
HEN	Hengchun	1.07	205	⇑eP	Pg	18 39 01.2	-0.2
	baz=193						
TSCK	Chigu Township	1.07	280	⇓eP	Pg	18 39 01.3	-0.2
	baz=295						
TSCK				S	Sg	18 39 16.9	+1.3
	baz=295						
WSL	Shuilin Townsh	1.07	301	eP	Pb	18 39 00.3	-0.4
	baz=302						
WSL				S	Sg	18 39 15.8	+0.2
	baz=302						
CHGB	Renai	1.08	357	⇑eP	Pb	18 38 59.1	-2.0
	baz=357						
CHGB				S	Sn	18 39 15.2	-0.7
	baz=357						
DPDB	Guoxing	1.09	345	eP	Pb	18 39 00.6	-0.5
	baz=351						
DPDB				eS	Sg	18 39 16.4	+0.1
	baz=351						
TWK1	Hengchun	1.10	201	eP	Pn	18 39 01.3	+0.1
	baz=200						
TWKBT	Hengchun	1.10	201	P	Pb	18 39 00.9	-0.2
	baz=200						
SNW	Nanwan	1.10	204	eP	Pb	18 39 01.7	+0.4
	baz=192						
WCS	Beigang Elemen	1.12	345	⇑eP	Pn	18 39 00.9	-0.5
	baz=354						
WSF	Szhu	1.14	306	P	Pn	18 39 00.9	-0.9
	baz=306						
WSF				S	Sg	18 39 17.3	-0.4
	baz=306						
TWD	Chiawan	1.15	17	eP	Pn	18 38 59.7	-2.3
	baz=19						
WYL	Yuanlin Townsh	1.15	329	eP	Pb	18 39 01.9	-0.2
	baz=328						
WYL				S	Sg	18 39 17.9	-0.2
	baz=328						
WHF	Hehuan Shan	1.17	1	eP	Pn	18 39 01.3	-1.3
	baz=15						
WHF				eS	Sg	18 39 19.0	+0.3
	baz=15						
WWF	Wufeng	1.17	335	eP	Pb	18 39 02.7	+0.3
	baz=334						
WWF				S	Sg	18 39 18.9	+0.1
	baz=334						
WRL	Guolierlin Hig	1.21	320	eP	Pn	18 39 02.0	-0.8
	baz=308						
WRL				eS	Sn	18 39 19.1	+0.4
	baz=308						
RLNB	Erlin	1.22	319	eP	Pn	18 39 02.4	-0.4
	baz=308						
ETL	Fush Village	1.23	17	eP	Pn	18 39 01.9	-1.3
	baz=18						
NACB	Ninganchiao	1.24	15	P	Pn	18 39 01.7	-1.5
NACB	Ninganchiao	1.24	15		Pn	18 39 00.2	-2.9
NACB	Ninganchiao	1.24	15	eP	Pn	18 39 00.4	-2.8
	baz=30						
WTCT	Ta-ch'eng	1.25	316	⇑eP	Pn	18 39 02.8	-0.5
	baz=304						
WTCT				S	Sn	18 39 19.7	+0.2
	baz=304						
FUSS	Fushou	1.27	0	eP	Pn	18 39 02.7	-1.1
	baz=4.0						
TCU	Taichung	1.27	337	⇑P	Pb	18 39 04.1	-0.1
	baz=335						
TCU				eS	Sg	18 39 22.6	+0.6
	baz=335						
TWT	Tachien	1.27	358	eP	Pn	18 39 03.5	-0.4
	baz=357						
TDCB	Techi	1.28	357	⇑P	Pn	18 39 02.7	-1.1
	baz=357						
WHP	Taichung City	1.32	349	eP	Pb	18 39 05.2	0.0
	baz=352						
WHP				eS	Sg	18 39 22.9	-0.7
	baz=352						
EAHA	Aohua	1.43	19	eP	Pn	18 39 04.1	-1.7

baz=21
TWQ1 Liyutan 1.43 343⇑ *i*P Pb 18 39 07.1 +0.2
baz=341
TWQ1 *i*S Sg 18 39 26.0 -1.0
baz=341
NNSB Datong 1.46 5 *e*P Pn 18 39 05.2 -1.1
baz=4.0
NNSB *e*S Sg 18 39 26.6 -1.2
baz=4.0
NNSH Datong 1.46 5 *e*P Pb 18 39 06.6 -0.7
baz=4.0
NNS Nan Shan 1.47 5 *e*P Pn 18 39 05.7 -0.7
baz=5.0
WDJ Dajia District 1.47 338⇑ *i*P Pb 18 39 07.3 -0.2
baz=336
WDJ S Sg 18 39 27.1 -1.2
baz=336
WDGT Dungji 1.48 281 P Pn 18 39 05.4 -1.0
baz=284
WDGT *e*S Sn 18 39 23.3 -1.9
baz=284
EOS4 EOS4 1.52 41 *e*P Pn 18 39 06.0 -0.6
baz=43
ENA Nanau 1.52 18 *e*P Pn 18 39 04.7 -2.3
baz=20
EWUT Wuta 1.55 19 *e*P Pn 18 39 06.0 -1.4
baz=20
LATG Datong 1.58 10 *e*P Pn 18 39 06.3 -1.7
baz=30
NMLH Miaoli 1.61 346 *e*P Pb 18 39 09.5 -0.4
baz=344
PHUB P'eng-hu 1.62 290 P Pn 18 39 07.2 -1.1
baz=291
PHUB S Sn 18 39 27.3 -1.5
baz=291
NDT Datong Townshi 1.64 9 *e*P Pn 18 39 07.7 -1.0
baz=27
EOS3 EOS3 1.64 37 *e*P Pn 18 39 07.3 -1.3
baz=39
PNG Penghu 1.65 291 *e*P Pn 18 39 08.0 -0.8
baz=293
PNG *e*S Sn 18 39 29.1 -0.5
baz=293
NFF Wufeng Townshi 1.65 356 *e*P Pb 18 39 09.7 -1.0
baz=360
NFF *e*S Sg 18 39 34.0 -0.1
baz=360
NSTT Nanjuang 1.66 353 P Pb 18 39 09.8 -1.1
baz=349
NSTT S Sg 18 39 33.5 -1.0
baz=349
VCHM Qimei 1.68 278 *e*P Pn 18 39 08.3 -0.9
baz=292
VCHM *e*S Sn 18 39 28.5 -1.7
baz=292
LIOB Emei 1.68 353 *e*P Pb 18 39 10.2 -0.9
baz=348
LIOB *e*S Sg 18 39 33.9 -0.9
baz=348
ENTT Nioudou 1.69 10 *e*P Pn 18 39 07.5 -1.9
baz=30
ESAO Su ao 1.69 19 *e*P Pn 18 39 08.8 -0.6
baz=39
YHNB Yeheng 1.69 4 P Pb 18 39 10.4 -1.0
YHNB Yeheng 1.69 4 Pn Pn 18 39 08.8 -0.7
YHNB Yeheng 1.69 4 *e*P Pn 18 39 09.1 -0.4
baz=21
NSK Sanguang 1.70 4 *e*P Pn 18 39 09.3 -0.2
baz=2.0
EOS2 EOS2 1.71 32 *e*P Pn 18 39 07.8 -1.7
baz=48
NDS Dongshan 1.71 15 *e*P Pn 18 39 09.5 -0.1
baz=34
TWC Suao 1.72 19 *e*P Pn 18 39 08.5 -1.3
baz=22
NJN Zhunan 1.73 349 *e*P Pn 18 39 10.7 +0.8
baz=347
NJD Zhudong 1.76 356 *e*P Pb 18 39 11.5 -1.0
baz=352
TWE Neicheng 1.79 13 *e*P Pn 18 39 09.4 -1.2
baz=32
HSN1 Hsinchu 1.81 354 *e*P Pb 18 39 12.4 -0.9
baz=350
FUSB Fushanzhiwuyua 1.81 10 *e*P Pn 18 39 11.8 +0.8
baz=32
NWLT Wulai 1.81 8 *e*P Pn 18 39 10.2 -0.8
baz=31
SBCB Hsinchu 1.82 353 *e*P Pb 18 39 12.3 -1.3
baz=347
SBCB *e*S Sg 18 39 37.6 -2.0
baz=347
HSN Hsinchu 1.84 353 *e*P Pb 18 39 14.2 +0.4
baz=350
EGS 1.97 19 *e*P Pn 18 39 13.4 +0.2
baz=23
NCUH Zhongli 1.99 359 *e*P Pb 18 39 14.8 -1.6
baz=354
NCU National Centr 1.99 359 *e*P Pn 18 39 13.9 +0.4
baz=354
TATO Taipei 2.01 7 P Pn 18 39 14.3 +0.6
TATO Taipei 2.01 7 Pn 18 39 13.4 -0.3
TATO Taipei 2.01 7 *e*P Pn 18 39 14.0 +0.3
baz=36
NTY Taoyuan 2.02 2 *e*P Pb 18 39 15.3 -1.6
baz=359
TWA Mucha 2.02 9 *e*P Pn 18 39 13.8 -0.1
baz=28
NHW Xinwu Township 2.03 355 *e*P Pb 18 39 15.5 -1.6
baz=351
TIPB Shuangxi 2.06 15 *e*P Pn 18 39 14.1 -0.5
baz=32
TAP Taipei 2.07 7 *e*P Pb 18 39 16.8 -1.0
baz=37
NHY Taipei 2.08 8 *e*P Pn 18 39 14.0 -0.7
baz=37
TWS1 Kuangyinshan 2.12 5 *e*P Pn 18 39 15.9 +0.6
baz=34
TWB1 Santiao Chiao 2.14 19 *e*P Pn 18 39 14.6 -1.0
baz=23
NWF Wu-fen Shan 2.15 13 *e*P Pn 18 39 16.8 +1.0
baz=30
WFSB Wu-fen Shan 2.15 13 *e*P Pn 18 39 15.3 -0.4
baz=30
JYNG Yonagunijimaku 2.15 47 P Pn 18 39 15.3 -0.4
YM01 YM01 2.19 8 *e*P Pn 18 39 15.1 -1.2
baz=37
NTST Danshui 2.19 5 *e*P Pn 18 39 16.0 -0.2
baz=34
YOJ Yonaguni jima 2.20 47 P Pn 18 39 16.1 -0.3
YOJ Yonaguni jima 2.20 47 Pn 18 39 15.8 -0.6
YOJ Yonaguni jima 2.20 47 P Pn 18 39 15.9 -0.6
baz=60
YOJ S Sn 18 39 43.6 +0.4
baz=60
YOJ Yonaguni jima 2.20 47 P Pn 18 39 15.7 -0.6
ANP Anpu 2.22 7 *e*P Pb 18 39 19.0 -1.4
baz=36
TNOU National Taiwa 2.22 13 *e*P Pn 18 39 16.2 -0.5
baz=29
YM08 YM08 2.23 8 *e*P Pn 18 39 15.6 -1.2
baz=36
TWY Chenhua 2.32 8 *e*P Pn 18 39 19.4 +1.4
baz=36
VWUC VWUC 2.59 321 *e*P Pn 18 39 21.1 -0.6
baz=320
HATJ Hateruma jima 2.60 65 *e*P Pn 18 39 20.4 -1.4
IRIF Iriomote-Funau 2.66 59 *e*P Pn 18 39 22.3 -0.4
PCYT Pengchaiyu 2.75 16 *e*P Pn 18 39 24.0 0.0
baz=42
JKRS Kuro-shima 2.84 63 *e*P Pn 18 39 24.9 -0.3
KNM Kinmen 2.94 300 *e*P Pn 18 39 27.6 +1.0
baz=299
KNMB Chin-men Tao 3.00 300 Pn 18 39 27.0 -0.3
KNMB Chin-men Tao 3.00 300 *e*P Pn 18 39 26.7 -0.7
baz=300
JIJ Ishigaki jima 3.01 62 *e*P Pn 18 39 26.5 -1.0
JIJ *e*S Sn 18 40 02.3 -0.7
QZH Quanzhou 3.11 310 Pn Pn 18 39 28.3 -0.6
QZH Sn Sn 18 40 04.4 -1.2
QZH smax smax
comp=N,2μm,1.2s
QZH smax smax
comp=E,2μm,1.0s
QZH LR LR
comp=N,10μm,10.0s
QZH LR LR
comp=E,8μm,10.1s
QZH LR LR
comp=Z,7μm,9.9s
JISG Ishigakijimahi 3.25 60 *e*P Pn 18 39 29.9 -0.8
JISG *e*S Sn 18 40 08.5 -0.4
MSUT Lienchiang 3.40 340 *e*P Pn 18 39 32.8 -0.1
baz=336
JTJ Tarama 3.58 62 *e*P Pn 18 39 35.0 -0.4
JIRB Irabujima 4.05 62 *e*P Pn 18 39 41.1 -0.7
JMJ2 Miyako jima3 4.14 64 *e*P Pn 18 39 43.1 +0.1
JMJ Miyako jima 2 4.14 63 P Pn 18 39 43.0 -0.1
JMJ Miyako jima 2 4.14 63 *e*P Pn 18 39 42.7 -0.4
baz=60
JIKM Ikemajima 4.16 61 *e*P Pn 18 39 42.7 -0.6
JOGS Gusukube 4.21 64 P Pn 18 39 44.3 +0.2
VDOS Pratas Island 4.75 242 *e*P Pn 18 39 52.3 +0.8
baz=240
JKE Kume jima 2 6.05 55 *e*P Pn 18 40 08.1 -1.3
HKPS Hong Kong Po S 6.59 265 P Pn 18 40 16.7 0.0
HKPS Hong Kong Po S 6.59 265 Pn Pn 18 40 17.0 +0.3
HKPS Sn 18 41 27.5 -3.9
HKPS Hong Kong Po S 6.59 265 *e*P Pn 18 40 16.2 -0.5
baz=264
JOW Kunigami 7.46 58 P Pn 18 40 26.9 -1.8
JOW Kunigami 7.46 58 Pn Pn 18 40 26.8 -1.9
JOW Kunigami 7.46 58 Pn Pn 18 40 25.7 -3.0
2.5nm,0.3s,baz=225,slow=11,SNR=14
JOW Sn Sn 18 41 50.1 -2.7
0.5nm,0.3s,baz=335,slow=26,SNR=1.4
6.9nm,0.2s
JOW Kunigami 7.46 58 *e*P Pn 18 40 26.5 -2.1
baz=57
SSE Sheshan 8.09 360 P Pn 18 40 35.3 -2.0
SSE S Sn 18 42 09.5 +1.2
SSE pmax pmax
comp=Z,11nm,1.0s
SSE pmax pmax
comp=Z,97nm,3.7s
SSE LR LR
comp=N,980nm,8.1s
SSE LR LR
comp=E,1μm,9.5s
CNSH ChangSha 9.11 306 *e*P Pn 18 40 54.4 +3.1
CNSH smax smax
comp=N,340nm,0.9s
CNSH smax smax
comp=E,410nm,1.1s
JMZ Minamidaito 2 9.54 71 Pn Pn 18 40 55.8 -1.4
WHN Wuhan 9.73 322 P Pn 18 41 04.8 +5.0
WHN S Sn 18 42 51.4 +2.8
WHN LR LR
comp=N,5μm,7.8s
WHN LR LR
comp=E,7μm,6.5s
WHN LR LR
comp=Z,8μm,7.2s
QIZ Qiongzhong 11.34 252 P Pn 18 41 22.9 +1.0
QIZ S Sn 18 43 30.3 +2.1
QIZ pmax pmax
comp=Z,31nm,1.9s
QIZ pmax pmax
comp=Z,240nm,3.5s
QIZ LR LR
comp=N,1μm,13.1s
QIZ LR LR
comp=E,540nm,10.1s
QIZ LR LR
comp=Z,1μm,8.8s
QIZ Qiongzhong 11.34 252 Pn Pn 18 41 22.6 +0.8
JNU Nakatsue 13.21 38 Pn 18 41 44.7 -2.8
JNU Nakatsue 13.21 38 Pn Pn 18 41 45.0 -2.5
0.1nm,0.3s,baz=178,slow=8.4,SNR=3.6
JNU LR LR 18 48 04.8
comp=Z,582nm,18.2s,baz=221,slow=43
4.6nm,1.0s
GYA Guiyang 13.69 288 P Pn 18 41 55.5 +1.4
GYA S Sn 18 44 23.4 -2.4
GYA pmax pmax
comp=Z,19nm,1.5s
GYA LR LR
comp=N,2μm,8.0s
GYA LR LR
comp=E,3μm,9.2s
GYA LR LR
comp=Z,4μm,9.4s
LYN LuoYang 13.85 328 P P 18 42 07.3 +2.9
LYN pP 18 42 10.6
LYN sP 18 42 14.8
LYN sS S 18 44 53.4 +1.8
LYN SS SbSb 18 45 02.4 -25
LYN pmax pmax
comp=Z,43nm,1.4s
LYN pmax pmax
comp=Z,270nm,4.2s
LYN LR LR
comp=N,3μm,15.5s
LYN LR LR
comp=E,4μm,15.5s
LYN LR LR
comp=Z,3μm,9.6s
TJN Taejon 14.38 20 Pn Pn 18 42 01.4 -1.9
XAN Xi'an 15.43 318 P Pn 18 42 19.1 +1.5
XAN S Sn 18 45 13.0 +4.8
XAN pmax pmax
comp=Z,30nm,1.5s
XAN pmax pmax
comp=Z,350nm,5.4s
XAN LR LR
comp=Z,3μm,9.8s
XAN LR LR
comp=Z,2μm,11.6s
XAN LR LR
comp=Z,2μm,10.3s
HNS HongShan 15.44 340 ⇓P Pn 18 42 17.4 -0.2
HNS S Sn 18 45 13.3 +5.2
HNS pmax pmax
comp=Z,33nm,1.6s
HNS LR LR
comp=Z,3μm,11.7s
HNS LR LR
comp=Z,2μm,12.6s
HNS LR LR
comp=Z,3μm,11.8s
KSAR Wonju Array Be 15.52 20 Pn Pn 18 42 17.3 -1.3
KSRS Korea Array 15.54 20 Pn Pn 18 42 14.7 -4.2
comp=Z,0.1nm,0.3s,baz=7.8,slow=16,SNR=1.0
KSRS LR LR 18 49 26.3
comp=Z,278nm,20.2s,baz=195,slow=42
comp=Z,0.2nm,0.3s
DL2 Dalian 15.89 1 P P 18 42 27.3 +0.3
DL2 pmax pmax
comp=Z,47nm,1.2s
DL2 pmax pmax
comp=Z,450nm,8.0s
DL2 LR LR
comp=Z,2μm,10.0s
DL2 LR LR
comp=Z,1μm,9.3s
DL2 LR LR
comp=Z,2μm,10.1s
SLVN Son La 16.14 268 Pn 18 42 26.4 -0.4
SLVN PcP 18 47 20.1 -2.1
DAV Davao City (W) 16.36 165 LR LR 18 48 38.1
comp=Z,567nm,20.6s,baz=1.5,slow=37
DLV T Lat 16.36 230 P P 18 42 33.6 +1.0
TIY Taiyuan 16.52 335 *e*P P 18 42 34.9 +0.7
TIY PP sP 18 42 45.1 +3.4
TIY pmax pmax
comp=Z,29nm,1.0s
TIY LR LR
comp=Z,4μm,9.3s
TIY LR LR
comp=Z,3μm,10.3s
TIY LR LR
comp=Z,4μm,11.6s
KMI Kunming 17.03 281 ⇑P P 18 42 41.8 +1.8
KMI S Sn 18 45 48.5 +1.2
KMI pmax pmax
comp=Z,19nm,0.9s
KMI pmax pmax
comp=Z,150nm,5.8s
KMI LR LR
comp=Z,990nm,14.4s
KMI LR LR
comp=Z,990nm,8.8s
KMI LR LR
comp=Z,980nm,9.9s
CD2 Chengdu 17.46 301 P P 18 42 45.0 +0.5
CD2 S S 18 46 02.8 -2.6
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,280nm,2.7s
CD2 LR LR
comp=Z,2μm,8.0s
CD2 LR LR
comp=Z,1μm,9.2s
CD2 LR LR
comp=Z,2μm,10.8s
BJT Baijiatuau 17.53 347 Pn 18 42 40.9 -3.3
BJI Beijing 17.55 347 P P 18 42 48.5 +3.1
BJI pmax pmax
comp=Z,6.0nm,1.3s
BJI pmax pmax
comp=Z,140nm,7.2s
BJI LR LR
comp=Z,650nm,11.8s
BJI LR LR
comp=Z,370nm,12.4s
BJI LR LR
comp=Z,710nm,12.2s
MYLDM Lahad Datu 17.89 189 P 18 42 50.4 +1.1
MYLDM IAmb IAmb 18 43 32.4
comp=Z,42nm,1.1s
PZH PanZhiHua 18.05 285 P P 18 42 51.3 +0.1
PZH S S 18 46 18.6 +1.0
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,130nm,4.9s
PZH LR LR
comp=Z,690nm,7.8s
PZH LR LR
comp=Z,1μm,9.8s
PZH LR LR
comp=Z,2μm,9.8s
INU Inuyama 18.47 45 Pn 18 42 55.6 -0.1
JGF Kuroka 18.84 45 P P 18 42 58.6 -1.1
JCJ Chichijima 19.42 73 P P 18 43 05.3 -0.8
JCJ IAmb IAmb 18 43 11.1
comp=Z,128nm,1.2s
JCJ Chichijima 19.42 73 P P 18 42 59.7 -6.4
comp=Z,27nm,0.8s,baz=222,slow=15,SNR=2.7
JCJ LR LR 18 49 35.1
comp=Z,148nm,19.9s,baz=250,slow=34
HHC Hu-ho-hao-te 19.60 338 *e*P P 18 43 08.0 -0.1
HHC S S 18 46 46.5 -2.2
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,200nm,3.9s
HHC LR LR
comp=Z,760nm,11.5s
HHC LR LR
comp=Z,440nm,10.7s
HHC LR LR
comp=Z,950nm,13.0s
LZH Lanzhou 19.95 315 *e*P P 18 43 08.8 -3.2
LZH sP sP 18 43 18.8 -0.6
LZH S S 18 46 53.0 -2.9
LZH SS SnSn 18 47 19.1 +6.8
LZH pmax pmax
comp=Z,320nm,5.5s
LZH LR LR
comp=N,2μm,12.0s
LZH LR LR
comp=E,2μm,13.1s
LZH LR LR
comp=Z,2μm,13.4s
MAJO Matsushiro 19.96 44 P P 18 43 09.8 -2.1
MJB9 Matsu-Tunnel 19.96 44 P P 18 43 10.0 -2.0
MJAR Matsushiro Arr 19.96 44 P P 18 43 09.7 -2.3
baz=233,slow=8.0,SNR=2.7
MJAR LR LR 18 51 52.2
comp=Z,316nm,20.6s,baz=224,slow=40
comp=Z,3.6nm,0.8s
BTO Baotou 19.96 334 *e*P Pn 18 43 15.8 +2.0
BTO pP sP 18 43 19.8 +0.2
BTO sP pP 18 43 22.8 +5.6
BTO sS sS 18 47 07.0 +1.7
BTO SS SnSn 18 47 26.8 +14
BTO pmax pmax
comp=Z,500nm,6.7s
BTO LR LR
comp=Z,3μm,14.8s
BTO LR LR
comp=Z,5μm,15.9s
BTO LR LR
comp=Z,7μm,11.4s
PHRA Phrae 20.14 261 P P 18 43 14.7 +0.7
TNCH TengChong 20.85 280 P P 18 43 22.0 +0.1
TNCH pP Pn 18 43 25.3 +0.9
TNCH sP sP 18 43 28.9 -0.4
TNCH PP PnPn 18 43 40.8 +0.5
TNCH S S 18 47 03.3 -11
TNCH pmax pmax
comp=Z,18nm,1.5s
TNCH pmax pmax
comp=Z,200nm,4.1s
TNCH LR LR
comp=Z,730nm,9.1s
TNCH LR LR
comp=Z,490nm,9.5s
TNCH LR LR
comp=Z,610nm,12.1s
JSD Sado 20.94 40 P P 18 43 21.8 -0.7
JSD IAmb IAmb 18 43 48.4
comp=Z,53nm,0.9s
CN2 Changchun 21.06 9 *e*P P 18 43 25.5 +1.7
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,500nm,12.0s
CN2 LR LR
comp=Z,500nm,12.0s
CN2 LR LR
comp=Z,700nm,13.0s
CHTO Chiang Mai 21.22 263 P P 18 43 27.1 +1.4
CHTO IAmb IAmb 18 43 35.3
comp=Z,36nm,1.2s
XLT XiLinHaoTe 21.30 350 *e*P P 18 43 25.3 -1.2
XLT pP pP 18 43 29.8 -2.0
XLT PP PnPn 18 43 50.8 +4.4
XLT S S 18 47 20.4 -2.0
XLT sS pS 18 47 31.9 -0.4
XLT SS SnSn 18 47 48.9 +3.6
XLT pmax pmax
comp=Z,16nm,1.4s
XLT pmax pmax
comp=Z,140nm,3.7s
XLT LR LR
comp=Z,810nm,14.0s
XLT LR LR
comp=Z,1μm,11.5s
CM31 Chiang Mai Arr 21.32 262 P P 18 43 28.5 +1.7
CMAR Chiang Mai Arr 21.32 262 P P 18 43 27.5 +0.7
CMAR Chiang Mai Arr 21.32 262 P P 18 43 28.7 +1.9
comp=Z,4.8nm,0.9s,baz=67,slow=8.8,SNR=20
CMAR LR LR 18 52 56.6
comp=Z,380nm,18.2s,baz=75,slow=40
comp=Z,4.8nm,0.9s
TOLI2 Tolitoli 21.74 181 P P 18 43 32.8 +1.6
TOLI2 IAmb IAmb 18 43 39.9
comp=Z,20nm,0.9s
SBUM Sibu 22.20 204 P P 18 43 36.2 +0.1
GTOI Gorontalo 22.27 175 P P 18 43 40.5 +3.5
MRSI Marisa 22.37 178 P P 18 43 44.3 +6.2
comp=Z,42nm,0.9s,comp=Z,576nm
JMM Marumori 22.40 44 P P 18 43 36.3 -2.0
JMM IAmb IAmb 18 43 42.4
comp=Z,58nm,1.4s
MPSI Mapaga 22.54 183 P P 18 43 46.3 +6.5
comp=Z,22nm,0.9s
MDJ Mudanjiang 22.65 16 P P 18 43 38.8 -2.1
MDJ sP pP 18 43 44.8 -1.2
MDJ S S 18 47 47.3 -0.8
MDJ sS pS 18 47 52.5 -1.8
MDJ ScP ScP 18 51 11.1 +1.0
MDJ pmax pmax
comp=Z,5.0nm,1.4s
MDJ LR LR
comp=Z,820nm,13.6s

MDJ LR LR
comp=Z,690nm,12.0s
MDJ LR LR
comp=Z,920nm,14.7s
MDJ Mudanjiang 22.65 16 P **P 18 43 38.2 -2.6**
TNTI Ternate 22.86 164 P **P 18 43 44.7 +1.4**
TNTI IAmb IAmb 18 43 57.1
comp=Z,69nm,1.3s
USA0B Ussuriysk Arra 22.95 20 P **P 18 43 42.4 -1.6**
USRK Ussuriysk Ar. 22.95 20 P **P 18 43 42.2 -1.7**
USRK Ussuriysk Ar. 22.95 20 P **P 18 43 41.5 -2.5**
comp=Z,1.5nm,0.8s,baz=171,slow=10,SNR=3.3
comp=Z,1.5nm,0.8s
LUWI Luwuk 23.92 176 P **P 18 43 54.0 +0.2**
LUWI Luwuk 23.92 176 P **P 18 43 57.6 +3.9**
GUMO Guam 24.28 109 P **P 18 43 57.2 +0.1**
GUMO Guam 24.28 109 LR LR 18 53 59.9
comp=Z,137nm,18.9s,baz=272,slow=38
BKB Balikpapan 24.45 191 P **P 18 43 58.6 -0.1**
GTA Gaotai 24.48 317 *eP* **P 18 43 59.9 +0.9**
GTA pmax pmax
comp=Z,21nm,2.0s
GTA pmax pmax
comp=Z,230nm,7.6s
GTA LR LR
comp=Z,540nm,12.7s
GTA LR LR
comp=Z,480nm,10.4s
GTA LR LR
comp=Z,270nm,12.7s
SRIT Nakonsritamara 25.20 239 P **P 18 44 05.9 +0.4**
SWI Sorong 25.63 156 P **P 18 44 13.9 +4.6**
comp=Z,28nm,0.8s
ERM Erimo 26.37 39 P **P 18 44 16.0 +0.1**
ERM IAmb IAmb 18 44 57.1
comp=Z,23nm,1.3s
KULM Kulim 26.53 232 P **P 18 44 18.8 +1.2**
KULM IAmb IAmb 18 44 54.4
comp=Z,28nm,1.4s
SHL Shillong 26.86 281 P **P 18 44 20.9 +0.3**
SHL IAmb IAmb 18 44 39.8
comp=Z,19nm,0.9s
MYKOM Kota Tinggi 26.98 221 P **P 18 44 22.6 +0.9**
MYKOM IAmb IAmb 18 44 32.1
comp=Z,18nm,0.8s
ULN Ulaanbaatar 27.30 339 P **P 18 44 22.9 -1.6**
ULN IAmb IAmb 18 44 26.3
comp=Z,22nm,1.5s
ASAJ Asahikawa 27.45 35 P **P 18 44 23.8 -1.9**
comp=Z,2.8nm,0.9s,baz=233,slow=13,SNR=1.8
ASAJ LR LR 18 56 28.5
comp=Z,202nm,19.1s,baz=231,slow=39
comp=Z,2.8nm,0.9s
JKA Kamikawa-asahi 27.45 35 P **P 18 44 24.3 -1.3**
JKA IAmb IAmb 18 44 32.8
comp=Z,14nm,1.2s
KLR Kul'dur 27.49 15 P **P 18 44 23.8 -2.1**
comp=Z,0.7nm,0.5s,baz=257,slow=9.6,SNR=2.5
KLR LR LR 18 56 21.6
comp=Z,112nm,18.4s,baz=198,slow=39
comp=Z,0.7nm,0.5s
SONM Songino Array 27.50 338 P **P 18 44 25.6 -0.6**
SONM Songino Array 27.50 338 P **P 18 44 25.8 -0.3**
comp=Z,2.4nm,0.9s,baz=160,slow=9.4,SNR=18
SONM LR LR 18 56 55.7
comp=Z,257nm,21.3s,baz=150,slow=40
comp=Z,2.4nm,0.9s
HEH HeiHe 27.66 9 *eP* **P 18 44 32.3 +4.9**
HEH pmax pmax
comp=Z,4.0nm,1.2s
LSA Lhasa 27.73 290 P **P 18 44 31.4 +2.6**
LSA pmax pmax
comp=Z,15nm,1.3s
LSA Lhasa 27.73 290 P **P 18 44 28.8 0.0**
LSA IAmb IAmb 18 44 40.5
comp=Z,12nm,0.7s
KAPI Kappang 27.85 183 LR LR 18 57 00.5
comp=Z,165nm,19.9s,baz=50,slow=40
FAKI Fak Fak 27.89 156 P **P 18 44 31.0 +1.2**
PBA Port Blair 29.37 252 P **P 18 44 44.1 +1.1**
YSS Yuzh-Sakhalins 29.54 31 P **P 18 44 43.5 -0.6**
YSS IAmb IAmb 18 44 52.3
comp=Z,20nm,1.1s
GSI Gunungsitoli 31.49 230 P **P 18 45 01.5 -0.3**
GSI IAmb IAmb 18 45 30.2
comp=Z,10nm,0.9s
WMQ Urumqi 34.53 315 *eP* **P 18 45 30.1 +2.0**
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ LR LR
comp=Z,510nm,9.7s
WMQ LR LR
comp=Z,460nm,9.1s
WMQ LR LR
comp=Z,150nm,14.1s
ZSN Zaisan 37.94 319 *eP* **P 18 45 57.2 +0.1**
baz=319
MK31 Makanchi Array 39.24 317 P **P 18 46 08.9 +0.7**
MK31 IAmb IAmb 18 46 10.5
comp=Z,14nm,1.0s
MKAR Makanchi Array 39.24 317 P **P 18 46 08.5 +0.4**
MKAR Makanchi Array 39.24 317 P **P 18 46 08.7 +0.6**
comp=Z,8.7nm,0.8s,baz=110,slow=10,SNR=29
MKAR PcP **PcP 18 48 16.4 -0.5**
comp=Z,1.5nm,0.8s,baz=92,slow=4.9,SNR=3.8
comp=Z,8.7nm,0.8s
MAKZ Makanchi 39.44 317 P **P 18 46 10.2 +0.4**
MAKZ IAmb IAmb 18 46 12.3
comp=Z,22nm,1.1s
SHLS Shalkode 39.87 310 *eP* **P 18 46 10.9 -2.6**
baz=310
UZB Uzynbulak 40.18 310 *eP* **P 18 46 16.1 -0.1**
baz=310
KPKS Kokpek 40.50 311 *eP* **P 18 46 18.7 -0.1**
baz=311
SATY Saty 40.59 310 *eP* **P 18 46 19.4 0.0**
baz=310
PMG Port Moresby 40.99 139 LR LR 19 01 53.9
comp=Z,42nm,21.1s,baz=210,slow=34
FITZ Fitzroy Crossi 41.05 174 P **P 18 46 24.6 +1.4**
TDK Taldyqorghan 41.15 313 *eP* **P 18 46 23.8 -0.1**
comp=Z,18nm,1.2s,baz=313
ZAA0 Zalesovo Array 41.28 328 P **P 18 46 24.0 -0.9**
ZAA0 IAmb IAmb 18 46 26.2
comp=Z,17nm,0.9s
ZALV Zalesovo Beam 41.28 328 P **P 18 46 24.4 -0.4**
ZALV Zalesovo Beam 41.28 328 P **P 18 46 24.6 -0.3**
comp=Z,14nm,0.8s,baz=116,slow=7.9,SNR=39
ZALV LR LR 19 05 38.1
comp=Z,88nm,20.7s,baz=116,slow=39
comp=Z,14nm,0.8s
PET Petropavlovsk 41.29 34 P **P 18 46 23.6 -1.3**
MDOK Medeo 41.57 310 *eP* **P 18 46 27.6 0.0**
baz=310
KSH Kashi 41.60 304 P **P 18 46 32.3 +4.4**
KSH sP sP 18 46 36.3 +0.5
KSH pmax pmax
comp=Z,10.0nm,1.5s
KSH LR LR
comp=Z,290nm,16.8s
KSH LR LR
comp=Z,230nm,11.0s
KSH LR LR
comp=Z,350nm,15.1s
TNSS Tian-Shan 41.61 310 *eP* **P 18 46 27.8 -0.4**
baz=310
NRN Naryn 41.94 307 P **P 18 46 31.4 +0.6**
NRN IAmb IAmb 18 46 34.1
comp=Z,25nm,1.2s
PALK Pallekele 41.95 255 LR LR 19 04 55.1
comp=Z,196nm,18.4s,baz=166,slow=38
SEM Semipalatinsk 41.98 321 *eP* **P 18 46 30.8 -0.1**
comp=Z,17nm,1.0s,baz=321
BOOM Boomskoye usch 42.21 309 P **P 18 46 30.4 -2.5**
KUU Kurty 42.26 311 *eP* **P 18 46 33.2 +0.1**
comp=Z,20nm,1.6s,baz=310
H11N1 WAKE ISLAND Hy 42.52 85 T T 19 31 52.2
baz=283,slow=75,SNR=114
H11N2 WAKE ISLAND Hy 42.53 85 T T 19 31 52.2
baz=283,slow=75,SNR=116
COEN Coen 42.53 148 P **P 18 46 34.3 -1.2**
COEN IAmb IAmb 18 46 38.3
comp=Z,32nm,1.4s
H11N3 WAKE ISLAND Hy 42.54 85 T T 19 31 50.1
baz=283,slow=75,SNR=89
H11S3 WAKE ISLAND Hy 42.62 87 T T 19 31 56.2
baz=284,slow=75,SNR=226
H11S1 WAKE ISLAND Hy 42.63 87 T T 19 31 56.6
baz=284,slow=75,SNR=128
H11S2 WAKE ISLAND Hy 42.64 87 T T 19 31 56.4
baz=284,slow=75,SNR=145
KURK Kurchatov 43.05 321 P **P 18 46 38.8 -0.5**
KURK IAmb IAmb 18 46 41.4
comp=Z,23nm,1.2s
KURBB Kurchatov Arra 43.06 321 P **P 18 46 38.8 -0.6**
comp=Z,9.7nm,1.1s,baz=120,slow=7.4,SNR=39
KURBB PcP **PcP 18 48 27.3 -2.0**
comp=Z,0.4nm,0.5s,baz=120,slow=4.1,SNR=1.7
comp=Z,9.7nm,1.1s
FRU1 Bishkek 43.22 309 P **P 18 46 40.3 -0.6**
FRU1 IAmb IAmb 18 46 52.3
comp=Z,11nm,0.5s
NIL Nilore 43.23 295 P **P 18 46 40.5 -0.6**
NIL IAmb IAmb 18 46 43.4
comp=Z,26nm,1.0s
AAK Ala-Archa 43.28 308 P **P 18 46 40.9 -0.6**
AAK Ala-Archa 43.28 308 P **P 18 46 41.8 +0.2**
comp=Z,2.1nm,0.4s,baz=137,slow=12,SNR=5.5
AAK LR LR 19 05 11.1
comp=Z,190nm,19.1s,baz=100,slow=37
comp=Z,2.1nm,0.4s
SGDS Sogindy 43.36 310 *eP* **P 18 46 41.9 -0.1**
baz=310
MBWA Marble Bar 43.89 182 P **P 18 46 47.4 +1.1**
MBWA IAmb IAmb 18 47 00.1
comp=Z,27nm,1.5s
BTLS Baital 44.13 312 *eP* **P 18 46 48.1 0.0**
baz=312
ARSB Arslanbob 44.15 306 P **P 18 46 47.5 -1.1**
PSA00 Pilbara Seismi 44.30 182 P **P 18 46 50.5 +0.9**
PSA00 IAmb IAmb 18 46 58.9
comp=Z,37nm,1.4s
PSA00 Pilbara Seismi 44.30 182 P **P 18 46 50.4 +0.7**
PSA00 IAmb IAmb 18 46 51.5
comp=Z,9.6nm,1.2s
WRA Warramunga Arr 44.53 162 P **P 18 46 52.1 +0.6**
WRA PcP **PP 18 48 37.6 +1.9**
WRA Warramunga Arr 44.53 162 P **P 18 46 48.4 -3.1**
comp=Z,1.6nm,0.8s,baz=344,slow=8.8,SNR=12
WRA PcP **PcP 18 48 32.7 -2.0**
comp=Z,0.9nm,1.0s,baz=336,slow=3.6,SNR=1.9
comp=Z,1.6nm,0.8s
WB2 Warramunga Arr 44.53 162 P **P 18 46 52.1 +0.6**
WB2 IAmb IAmb 18 46 60.0
comp=Z,10.0nm,1.2s
WR0 Warramunga Arr 44.60 162 P **P 18 46 53.2 +1.1**
WR0 IAmb IAmb 18 46 54.2
comp=Z,14nm,1.4s
BTK Batken 45.61 304 P **P 18 46 58.0 -2.2**
BTK IAmb IAmb 18 47 03.1
comp=Z,12nm,1.3s
GIRL Giralia 45.85 189 PcP **PcP 18 48 39.3 +0.2**
GAR Garm 45.89 303 P **P 18 47 00.3 -2.1**
KK31 Karatay Array 46.24 308 P **P 18 47 03.4 -1.6**
KK31 IAmb IAmb 18 47 07.6
comp=Z,12nm,1.1s
KK31 **PcP 18 48 39.8 -0.6**
KKAR Karatay Array 46.24 308 P **P 18 47 03.7 -1.3**
KKAR **PcP 18 48 39.8 -0.6**
KKAR Karatay Array 46.24 308 P **P 18 47 03.1 -1.9**
KKAR IAmb IAmb 18 47 07.7
comp=Z,12nm,1.1s
IUG Iuzhnay 46.46 307 *eP* **P 18 47 06.9 +0.1**
comp=Z,13nm,1.3s,baz=307
BRLS Borolday 46.72 308 *eP* **P 18 47 09.6 +0.8**
baz=308
KBL Kabul 46.73 296 P **P 18 47 09.6 +0.4**
CHGR Chuyangaron 46.77 302 P **P 18 47 07.6 -1.7**
SIMJ Simiganj 46.89 302 P **P 18 47 08.9 -1.4**
SIMJ IAmb IAmb 18 47 16.1
comp=Z,8.3nm,1.2s
AS31 Alice Springs 47.97 164 **P 18 47 19.8 +1.2**
ASAR Alice Springs 47.97 164 P **P 18 47 19.5 +1.0**
ASAR Alice Springs 47.97 164 P **P 18 47 16.4 -2.2**
comp=Z,1.6nm,1.0s,baz=348,slow=6.8,SNR=13
ASAR LR LR 19 09 24.3
comp=Z,103nm,18.1s,baz=320,slow=39
comp=Z,1.6nm,1.0s
BVAR Borovoye Array 48.64 321 P **P 18 47 23.8 +0.3**
comp=Z,2.8nm,0.9s,baz=113,slow=11,SNR=9.7
BVAR PcP **PcP 18 48 47.5 -1.2**
comp=Z,3.0nm,0.9s,baz=90,slow=4.3,SNR=4.5
BVAR LR LR 19 10 26.0
comp=Z,42nm,21.1s,baz=108,slow=39
comp=Z,2.8nm,0.9s
TIXI Tiksi 48.90 3 LR LR 19 08 00.7
comp=Z,120nm,18.9s,baz=198,slow=36
HMDM Hanimaadhoo 48.90 259 P **P 18 47 26.3 +0.3**
CTA Charters Tower 49.27 148 LR LR 19 07 11.9
comp=Z,11nm,20.5s,baz=325,slow=35
HNR Honiara 49.73 126 P **P 18 47 33.1 +0.9**
HNR Honiara 49.73 126 LR LR 19 06 59.9
comp=Z,833nm,19.1s,baz=279,slow=34
ABKAR Abkulak array 54.32 315 P **P 18 48 05.8 -0.2**
ABKAR Abkulak array 54.32 315 P **P 18 48 05.7 -0.3**
ABKAR IAmb IAmb 18 48 07.7
comp=Z,6.3nm,1.1s
TARA Tarawa 54.53 106 P **P 18 48 08.6 +0.6**
AKTO Aktyubinsk 55.67 316 P **P 18 48 16.0 +0.2**
comp=Z,1.9nm,0.9s,baz=98,slow=6.5,SNR=6.5
comp=Z,1.9nm,0.9s
ARU Arti 56.10 324 P **P 18 48 18.5 -0.3**
ARU IAmb IAmb 18 48 20.3
comp=Z,11nm,0.9s
ARU Arti 56.10 324 P **P 18 48 18.7 0.0**
comp=Z,5.7nm,0.6s,baz=104,slow=3.4,SNR=14
ARU LR LR 19 11 50.5
comp=Z,108nm,19.1s,baz=89,slow=35
comp=Z,5.7nm,0.6s
ARU Arti 56.10 324 P **P 18 48 18.3 -0.4**
comp=Z,14nm,1.0s
STKA Stephens Creek 57.92 160 P **P 18 48 28.1 -3.8**
comp=Z,2.7nm,0.7s,baz=324,slow=8.3,SNR=4.9
STKA LR LR 19 14 01.8
comp=Z,41nm,21.7s,baz=210,slow=37
comp=Z,2.7nm,0.7s
KIRV Kirov 61.23 325 P **P 18 48 53.4 -1.0**
comp=Z,8.6nm,0.6s,baz=97,slow=10.0,SNR=5.6
KIRV LR LR 19 17 45.1
comp=Z,97nm,19.3s,baz=98,slow=38
comp=Z,8.6nm,0.6s
LIFNC LIFOU 62.48 131 P **P 18 49 04.8 +1.5**
F15K North Star Dit 62.77 27 P **P 18 49 04.8 +0.2**
F15K IAmb IAmb 18 49 14.1
comp=Z,8.7nm,1.2s
DZM Mont Dzumac 62.79 132 *e*LR LR 19 07 43.5
comp=Z,230nm,26.9s
J14K Nanvaranak Lak 63.08 30 P **P 18 49 07.6 +0.9**
FALS False Pass 63.17 39 P **P 18 49 07.8 +0.4**
F17K Baldwin Pennin 64.19 26 P **P 18 49 14.5 +0.5**
F17K IAmb IAmb 18 49 51.0
comp=Z,7.7nm,1.0s
O14K Tigyukauivet M 64.19 34 P **P 18 49 14.3 +0.2**
TOO Toolangi 64.41 159 P **P 18 49 15.6 -0.2**
ONI Oni 66.06 308 P **P 18 49 26.5 -0.2**
H19K Roundabout Mou 66.16 27 P **P 18 49 26.1 -0.7**
H19K IAmb IAmb 18 49 31.6
comp=Z,9.1nm,1.1s
KBZ Khabaz 66.27 309 P **P 18 49 25.8 -2.1**
comp=Z,8.9nm,1.1s,baz=69,slow=3.9,SNR=7.7
comp=Z,8.9nm,1.1s
KIV Kislovodsk 66.38 309 P **P 18 49 29.4 +0.7**
KIV Kislovodsk 66.38 309 P **P 18 49 29.5 +0.7**
comp=Z,15nm,1.4s,comp=Z,212nm
E21K Killik River 66.95 24 P **P 18 49 31.7 -0.2**
E21K IAmb IAmb 18 49 46.1
comp=Z,13nm,1.5s
RAYN Ar Rayn 68.74 287 P **P 18 49 44.3 +0.3**
RAYN IAmb IAmb 18 49 45.8
comp=Z,11nm,1.2s
KDAK Kodiak Island 68.87 35 LR LR 19 19 16.0
comp=Z,56nm,21.8s,baz=204,slow=36
E24K Your Creek 69.02 24 P **P 18 49 45.2 +0.2**
E24K IAmb IAmb 18 50 23.6
comp=Z,5.2nm,1.2s
F24K Squaw Lake 69.34 24 P **P 18 49 46.5 -0.4**
ILAR Eielson Array 70.27 27 P **P 18 49 51.1 -1.5**
comp=Z,0.2nm,0.7s,baz=246,slow=6.8,SNR=1.5
comp=Z,0.2nm,0.7s
SPITS Spitsbergen Ar 70.67 348 LR LR 19 25 31.8
comp=Z,95nm,19.2s,baz=20,slow=40
ARCES ARCESS Array B 70.67 338 P **P 18 49 53.3 -1.7**
comp=Z,3.1nm,0.8s,baz=27,slow=4.2,SNR=6.4
comp=Z,3.1nm,0.8s
FINES FINESS Array B 72.51 330 P **P 18 50 05.2 -1.0**
comp=Z,3.0nm,0.8s,baz=68,slow=7.7,SNR=12
FINES LR LR 19 22 26.4
comp=Z,84nm,18.4s,baz=58,slow=36
comp=Z,3.0nm,0.8s
M26K Nabesna, AK 72.53 29 P **P 18 50 06.3 -0.1**
M26K IAmb IAmb 18 50 22.3
comp=Z,8.5nm,1.4s
L27K Beaver Creek, 72.86 28 P **P 18 50 08.2 0.0**
ASF Jabal al Asfar 73.57 298 LR LR 19 27 34.6
comp=Z,941nm,21.3s,baz=14,slow=40
AKASG Malin Array Be 73.80 319 P **P 18 50 12.5 -1.5**
comp=Z,0.3nm,0.3s,baz=60,slow=6.2,SNR=5.3
comp=Z,0.3nm,0.3s
BR131 Keskin Array S 73.92 307 P **P 18 50 14.8 -0.4**
BRTR Keskin Array B 73.92 307 P **P 18 50 14.4 -0.8**
BRTR Keskin Array B 73.92 307 P **P 18 50 15.2 +0.1**
comp=Z,2.3nm,1.0s,baz=2.6,slow=5.4,SNR=9.7
BRTR LR LR 19 29 18.8
comp=Z,47nm,18.1s,baz=91,slow=41
comp=Z,2.3nm,1.0s
MMAI Mount Meron Ar 74.53 300 LR LR 19 28 35.8
comp=Z,58nm,19.8s,baz=40,slow=40
SUW Suwalki 76.28 323 *eP* **P 18 50 28.7 +0.4**
BUR08 Bucovina Ar. S 77.27 316 P **P 18 50 33.8 -0.3**
BURAR Bucovina Array 77.27 316 P **P 18 50 33.4 -0.8**
HFS Hagfors 78.64 331 P **P 18 50 40.4 -1.0**
comp=Z,3.8nm,0.8s,baz=92,slow=4.9,SNR=11
HFS LR LR 19 26 42.4
comp=Z,129nm,18.4s,baz=64,slow=37
comp=Z,3.8nm,0.8s
NC405 NORSAR Array S 79.06 332 P **P 18 50 42.8 -0.9**
NC405 IAmb IAmb 18 50 55.3
comp=Z,12nm,1.0s
NB201 NORSAR Array S 79.27 332 IAmb IAmb 18 50 59.7
comp=Z,11nm,1.1s
NB2 NORSAR Subarra 79.31 332 P **P 18 50 43.8 -1.3**
comp=Z,2.1nm,0.8s,baz=60,slow=5.6
NOA NORSAR Array B 79.31 332 P **P 18 50 43.6 -1.5**
comp=Z,3.3nm,0.8s,baz=60,slow=5.5,SNR=18
NOA LR LR 19 28 06.6
comp=Z,79nm,19.3s,baz=80,slow=37
comp=Z,3.3nm,0.8s
NC204 NORSAR Array S 79.39 333 IAmb IAmb 18 50 53.0
comp=Z,4.9nm,0.8s
OJC Ojcow 79.63 320 *eP* **P 18 50 47.6 +0.7**
OJC Ojcow 79.63 320 P **P 18 50 46.1 -0.8**
OJC IAmb IAmb 18 50 50.2
comp=Z,5.7nm,1.0s
RES Resolute Bay 79.84 9 LR LR 19 28 51.1
comp=Z,32nm,20.0s,baz=16,slow=38
VYHS Vyhne 80.90 319 *eP* **P 18 50 54.1 +0.2**
MORC Moravsky Berou 81.14 320 *eP* **P 18 50 57.4 +2.2**
KSP Ksiaz 81.40 322 *eP* **P 18 50 57.0 +0.5**
JAVC Velka Javorina 81.45 320 *eP* **P 18 51 00.2 +3.3**
VRAC Vranov 81.90 320 LR LR 19 28 09.8
comp=Z,91nm,19.3s,baz=58,slow=36
IDI Anoyia 81.96 305 LR LR 19 31 56.9
comp=Z,75nm,21.4s,baz=124,slow=39
KRUC Moravsky 82.12 320 *eP* **P 18 51 01.9 +1.6**
BRG Berggiesshubel 82.72 322 *eP* **P 18 51 06.3 +2.9**
BRG Amp 18 51 07.5
comp=Z,3.2nm,1.1s
CLL Collm 83.04 323 *eP* **P 18 51 05.0 0.0**
CLL *i* Pmax 18 51 07.2
comp=Z,5.0nm,1.1s
CLL *i* pP **PcP 18 51 09.8 +0.1**
GEC2 GERESS Array S 83.80 321 P **P 18 51 09.3 +0.1**
GERES GERESS Array B 83.80 321 P **P 18 51 08.4 -0.7**
GERES GERESS Array B 83.80 321 P **P 18 51 08.9 -0.3**
comp=Z,1.5nm,0.8s,baz=72,slow=4.3,SNR=9.2
comp=Z,1.5nm,0.8s
BBB Bella Bella 83.94 35 LR LR 19 25 37.1
comp=Z,29nm,21.8s,baz=188,slow=34
DAVOX Davos/Dischmat 87.06 320 LR LR 19 30 39.7
comp=Z,66nm,18.1s,baz=83,slow=36
PPT Papeete 95.97 106 LR LR 19 29 14.3
comp=Z,30nm,18.7s,baz=344,slow=32
PPT2 Papeete2 95.98 106 *e*LR LR 19 23 10.0
comp=Z,82nm,23.8s
ESDC Sonseca Array 99.39 320 LR LR 19 38 25.2
comp=Z,55nm,18.9s,baz=32,slow=36

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*ASRS **13** 18:39:55.7±0.2,50°N±1°×8°8E±°,h10km,MLh3.5/18,Error ellipse: s-maj=2.9km s-min=2.0km az=49.8,confirmed*
*NNC **13** 18:39:58.8±1.4,50°.10N×87°.43E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=13.3km s-min=5.1km az=103.0*
ISC 13 18:39:56.1±0.9,50°.08N±0°.02×87°.65E±0°.03,h4km±8km, n22,σ1s93/44,11C-13D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.24**	**355**	⇓Pg		**Pb**		**18 40 02.5**	**+1.7**
AKAR				Sg		**Sb**		**18 40 06.6**	**+2.7**
CHBI	**Chibit, Altay**	**0.25**	**338**	Pg		**Pb**		**18 40 02.4**	**-0.9**
CHBI				Sg		**Sb**		**18 40 06.4**	**-1.7**
DGZ	**Jazzator, Alta**	**0.41**	**201**	⇓Pg		**Pg**		**18 40 03.0**	**-1.0**
DGZ				Sg		**Sg**		**18 40 07.4**	**-1.9**
CUR	**Chagan-Uzun**	**0.45**	**87**	Pg		**Pb**		**18 40 05.4**	**-1.3**
CUR				Sg		**Sg**		**18 40 11.9**	**+1.3**
ULGR	**Ulagan, Altay**	**0.58**	**20**	⇓Pg		**Pn**		**18 40 10.4**	**-0.8**
ULGR				Sg		**Sn**		**18 40 19.0**	**-2.2**
ELDR	**Elanda**	**1.51**	**319**	Pg		**Pb**		**18 40 24.2**	**-0.5**
ELDR				Sg		**Sg**		**18 40 44.1**	**-0.5**
YALR	**Yailyu, Altay**	**1.69**	**359**	⇓Pg		**Pb**		**18 40 27.6**	**-0.1**
YALR				Sg		**Sg**		**18 40 50.7**	**+0.4**
ARTR	**Artybash**	**1.73**	**352**	⇑Pg		**Pg**		**18 40 29.0**	**-0.3**
ARTR				Sg		**Sg**		**18 40 52.8**	**+1.0**
TEL	**Teeli**	**1.88**	**59**	⇓Pg		**Pb**		**18 40 30.9**	**0.0**
TEL				Sg		**Sg**		**18 40 57.6**	**+1.2**
GALT	**Gorno-Altaysk,**	**2.17**	**331**	Pg		**Pg**		**18 40 37.2**	**-0.4**
GALT				Sg		**Sg**		**18 41 07.5**	**+1.9**
TASR	**Tashtagol**	**2.69**	**3**	Pg		**Pg**		**18 40 45.9**	**-1.6**
TASR				Sg		**Sg**		**18 41 22.1**	**-0.2**
ELT	**Eltsovka**	**3.30**	**345**	Pg		**Pb**		**18 40 52.0**	**-3.1**
ELT				Sg		**Sg**		**18 41 39.6**	**-2.5**
DJO	**Djoy, Khakassi**	**3.50**	**38**	Pg		**Pg**		**18 41 01.4**	**-1.8**
DJO				Sg		**Sg**		**18 41 48.2**	**-0.4**
VEH	**Verkhnyaya Baz**	**3.58**	**27**	Pg		**Pg**		**18 41 02.6**	**-2.1**
VEH				Sg		**Sg**		**18 41 49.8**	**-1.3**
DJOS	**Djoyskaya Sosn**	**3.59**	**39**	Sg		**Sg**		**18 41 54.5**	**+3.3**
CERR	**Cheremushki**	**3.64**	**39**	Pg		**Pg**		**18 41 05.0**	**-0.8**
LUZB	**Luzhba, Kemero**	**3.67**	**12**	Sg		**Sg**		**18 41 52.5**	**-1.3**
ZAA0	**Zalesovo Array**	**4.25**	**337**	⇓Pn		**Pn**		**18 41 03.6**	**+2.1**
	0.5nm,0.4s								
ZAA0				⇑Pg		**Pg**		**18 41 15.0**	**-2.4**
	0.5nm,0.4s								
ZAA0				⇓Sn		**Sn**		**18 41 53.2**	**+1.7**
	0.9nm,0.4s								
ZAA0				⇓Lg		Lg		18 42 12.6	
	2.2nm,0.5s								
MK31	**Makanchi Array**	**4.85**	**229**	⇑Pn		**Pn**		**18 41 12.7**	**+2.9**
	3.0nm,0.4s,baz=53,slow=9.7,SNR=98								
MK31				⇑Pg		**Pg**		**18 41 26.5**	**-2.5**
	2.2nm,0.3s,baz=54,slow=15,SNR=3.4								
MK31				⇑Sn		**Sn**		**18 42 08.2**	**+1.8**
	7.5nm,0.6s								
MK31				⇑Lg		Lg		18 42 27.9	
	9.2nm,0.6s,baz=51,slow=30,SNR=7.5								
MAKZ	**Makanchi**	**5.00**	**231**	⇑Pn		**Pn**		**18 41 14.5**	**+2.7**
MAKZ				⇑Pg		**Pg**		**18 41 27.5**	**-4.3**
MAKZ				⇓Sn		**Sn**		**18 42 11.0**	**+0.9**
MAKZ				⇑Lg		Lg		18 42 32.7	
KURK	**Kurchatov**	**5.81**	**280**	⇑Pn		**Pn**		**18 41 25.2**	**+2.3**
	1.7nm,0.7s								
KURK				⇓Sn		**Sn**		**18 42 31.5**	**+1.6**
	3.5nm,0.6s								
KURK				⇓Lg		Lg		18 42 57.2	
	16nm,0.7s								
KURBB	**Kurchatov Arra**	**5.87**	**279**	⇓Pn		**Pn**		**18 41 25.6**	**+2.0**
	2.8nm,0.4s								
KURBB				⇓Sn		**Sn**		**18 42 33.7**	**+2.4**
	8.7nm,0.7s								
KURBB				⇑Lg		Lg		18 42 59.5	
	28nm,0.6s								

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*IDC **13** 18:45:28.9±2.9,13°.03N×89°.56W,h0km,mb3.7/3, mbtmp3.8/3,MS3.4/7,Error ellipse: s-maj=72.9km s-min=53.7km az=26.0*
*CATAC **13** 18:45:31.2±0.4,12°.76N×90°.22W,h11km±4km,ML4.2*
*SNET **13** 18:45:33.2±1.3,12°.84N×90°.26W,h58km,ML4.3*
*GCG **13** 18:45:35.1±0.6,13°.05N×90°.81W,h1km±7km,MD4.0*

ISC 13 18:45:28.9±1.8, 12°.80N±0°.05×90°.29W±0°.04, h3km±10km, n94, σ1§05/120, MS3.4/6, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.16**	**54**	*e*P	**Pb**	**18 45 52.5**	**+0.9**
LALI				*e*S	**Sn**	**18 46 08.3**	**-0.2**
LALI	**Alcalda de L**	**1.16**	**54**	*i* P	**Pg**	**18 45 52.0**	**+0.8**
LALI				*i* S	**Sn**	**18 46 08.2**	**-0.2**
LALI				IAML		18 46 16.0	
	comp=Z,630nm,1.0s						
JAYA	**Jayaque - finc**	**1.17**	**44**	*e*P	**Pn**	**18 45 53.0**	**+0.6**
JAYA				*e*S	**Sn**	**18 46 09.2**	**+0.1**
JAYA	**Jayaque - finc**	**1.17**	**44**	*i* P	**Pn**	**18 45 52.9**	**+0.5**
JAYA				*i* S	**Sn**	**18 46 08.8**	**-0.3**
JAYA				IAML		18 46 12.3	
	comp=Z,8μm,1.0s						
NUBE	**Las Nubes**	**1.20**	**24**	*e*P	**Pn**	**18 45 53.1**	**+0.3**
NUBE				*e*S	**Sn**	**18 46 09.6**	**0.0**
CEVE	**Cerro Verde**	**1.20**	**32**	*e*P	**Pn**	**18 45 53.6**	**+0.7**
CEVE	**Cerro Verde**	**1.20**	**32**	*i* P	**Pn**	**18 45 53.6**	**+0.7**
CEVE				*i* S	**Sn**	**18 46 10.3**	**+0.4**
CEVE				IAML		18 46 11.5	
	comp=Z,4μm,1.0s						
SBLS	**San Blas**	**1.21**	**32**	*e*P	**Pn**	**18 45 53.7**	**+0.6**
SNJE	**San Jose**	**1.25**	**32**	*e*P	**Pn**	**18 45 54.3**	**+0.9**
SNJE				*e*S	**Sn**	**18 46 11.8**	**+0.9**
RTR	**El Retiro**	**1.25**	**30**	*e*P	**Pn**	**18 45 53.6**	**+0.1**
LOAL	**Lomas de Alarc**	**1.28**	**22**	*e*P	**Pn**	**18 45 54.8**	**+0.9**
LOAL				*e*S	**Sn**	**18 46 11.5**	**-0.1**
LOAL	**Lomas de Alarc**	**1.28**	**22**	*i* P	**Pn**	**18 45 54.8**	**+0.9**
LOAL				*i* S	**Sn**	**18 46 11.8**	**+0.2**
LOAL				IAML		18 46 12.5	
	comp=Z,8μm,1.0s						
ITCA	**Escuela Especi**	**1.31**	**49**	*i* P	**Pn**	**18 45 55.0**	**+0.8**
ITCA				IAML		18 46 14.1	
	comp=Z,6μm,1.0s						
PMON	**Piamonte**	**1.31**	**46**	*e*P	**Pg**	**18 45 54.6**	**+0.6**
PMON	**Piamonte**	**1.31**	**46**	*i* P	**Pg**	**18 45 54.6**	**+0.6**
PMON				IAML		18 46 24.3	
	comp=Z,4μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.31**	**22**	*e*P	**Pn**	**18 45 55.1**	**+0.9**
SLOZ				*e*S	**Sn**	**18 46 12.1**	**-0.1**
CEDA	**San Andres**	**1.32**	**41**	*e*S	**Sn**	**18 46 13.4**	**+1.0**
BOQS	**Boqueron**	**1.35**	**47**	*e*P	**Pn**	**18 45 55.5**	**+0.6**
SNET	**Serv Nac Est T**	**1.35**	**49**	*e*P	**Pb**	**18 45 55.3**	**+0.4**
SNET	**Serv Nac Est T**	**1.35**	**49**	*i* P	**Pb**	**18 45 55.3**	**+0.4**
SNET				IAML		18 46 17.9	
	comp=Z,3μm,1.0s						
UEES	**Universidad Ev**	**1.36**	**48**	*i* P	**Pb**	**18 45 55.1**	**-0.1**
UEES				IAML		18 45 59.8	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**1.37**	**52**	*e*P	**Pb**	**18 45 55.5**	**+0.2**
LOMA				*e*S	**Sn**	**18 46 13.4**	**-0.5**
LOMA	**Loma Larga**	**1.37**	**52**	*i* P	**Pb**	**18 45 55.5**	**+0.2**
LOMA				*i* S	**Sn**	**18 46 13.7**	**-0.2**
LOMA				IAML		18 46 14.3	
	comp=Z,3μm,1.0s						
PIC2	**El Picacho**	**1.37**	**47**	*e*P	**Pb**	**18 45 55.7**	**+0.3**
UNIC	**Universidad Ca**	**1.37**	**31**	*i* P	**Pg**	**18 45 56.0**	**+0.8**
UNIC				*i* S	**Sn**	**18 46 14.0**	**+0.2**
UNIC				IAML		18 46 14.0	
	comp=Z,900nm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.42**	**44**	*e*P	**Pg**	**18 45 56.9**	**+0.7**
QUEZ	**Alcaldia de Qu**	**1.42**	**44**	*i* P	**Pb**	**18 45 56.5**	**+0.4**
QUEZ				*i* S	**Sn**	**18 46 15.4**	**+0.4**
QUEZ				IAML		18 46 23.3	
	comp=Z,6μm,1.0s						
UDBS	**Universidad Do**	**1.43**	**50**	*i* P	**Pn**	**18 45 56.3**	**+0.5**
UDBS				*i* S	**Sn**	**18 46 14.2**	**-0.9**
UDBS				IAML		18 46 20.8	
	comp=Z,2μm,1.0s						
LFRS	**El Faro**	**1.44**	**56**	*e*P	**Pn**	**18 45 56.6**	**+0.6**
COEG	**Centro de Oper**	**1.59**	**59**	*e*P	**Pn**	**18 45 58.7**	**+0.6**
COEG				*e*S	**Sg**	**18 46 19.0**	**-1.1**
COEG	**Centro de Oper**	**1.59**	**59**	*i* P	**Pn**	**18 45 58.5**	**+0.4**
COEG				IAML		18 45 59.6	
	comp=Z,4μm,1.0s						
COEG				*i* S	**Sg**	**18 46 18.7**	**-1.4**
PAVA	**Las Pavas**	**1.59**	**55**	*e*P	**Pn**	**18 45 59.4**	**+1.2**
PCG	**Pacaya**	**1.61**	**349**	*e*P	**Pn**	**18 45 58.7**	**+0.2**
PCG				*e*S	**Sg**	**18 46 20.7**	**0.0**
SNVI	**San Vicente**	**1.62**	**60**	*e*P	**Pn**	**18 45 59.3**	**+0.7**
TECO	**Alcaldia de Te**	**1.64**	**63**	*e*P	**Pn**	**18 45 59.9**	**+0.2**
TECO	**Alcaldia de Te**	**1.64**	**63**	*i* P	**Pn**	**18 45 58.7**	**0.0**
TECO				IAML		18 45 59.3	
	comp=Z,820nm,1.0s						
UESV	**Universidad de**	**1.68**	**60**	*e*P	**Pn**	**18 45 60.0**	**+0.7**
UESV	**Universidad de**	**1.68**	**60**	*i* P	**Pn**	**18 45 59.9**	**+0.7**
UESV				IAML		18 46 00.1	
	comp=Z,2μm,1.0s						
FUG	**Fuego 3**	**1.72**	**342**	*e*P	**Pn**	**18 46 00.7**	**+0.8**
FUG				*e*S	**Sb**	**18 46 21.7**	**-1.8**
SCLA	**Alcaldia de Sa**	**1.76**	**59**	*i* P	**Pn**	**18 46 01.5**	**+1.1**
SCLA				*e*S	**Sg**	**18 46 24.3**	**-1.2**
SCLA	**Alcaldia de Sa**	**1.76**	**59**	*i* P	**Pn**	**18 46 01.4**	**+1.1**
SCLA				*i* S	**Sb**	**18 46 23.6**	**-0.8**
SCLA				IAML		18 46 33.6	
	comp=Z,860nm,1.0s						
NBG	**Las Nubes**	**1.77**	**358**	*e*P	**Pg**	**18 46 04.8**	**+1.8**
MTO3	**Montecristo**	**1.82**	**29**	*e*P	**Pb**	**18 46 02.6**	**-0.5**
MTO3				*e*S	**Sg**	**18 46 26.9**	**-0.7**
MTO3	**Montecristo**	**1.82**	**29**	*i* P	**Pb**	**18 46 02.4**	**-0.7**
MTO3				IAML		18 46 03.5	
	comp=Z,960nm,1.0s						
MTO3				*i* S	**Sg**	**18 46 26.8**	**-0.7**
COEB	**Comit de Eme**	**1.84**	**68**	*e*P	**Pn**	**18 46 02.0**	**+0.4**
COEB	**Comit de Eme**	**1.84**	**68**	*i* P	**Pn**	**18 46 01.8**	**+0.2**
COEB				IAML		18 46 34.1	
	comp=Z,570nm,1.0s						
PQSS	**Presa 15 de Se**	**1.87**	**64**	*e*P	**Pn**	**18 46 02.7**	**+0.9**
TECA	**Tecapa**	**1.87**	**68**	*e*P	**Pn**	**18 46 02.4**	**+0.4**
LLGN	**La Laguna**	**1.88**	**44**	*e*P	**Pn**	**18 46 03.1**	**+1.0**
LLGN				*e*S	**Sg**	**18 46 26.9**	**-2.4**
LLGN	**La Laguna**	**1.88**	**44**	*i* P	**Pn**	**18 46 03.0**	**+1.0**
LLGN				*i* S	**Sg**	**18 46 27.8**	**-1.5**
LLGN				IAML		18 46 28.6	
	comp=Z,790nm,1.0s						
ESQI	**Esquipulas**	**1.97**	**28**	*e*P	**Pb**	**18 46 04.8**	**-0.8**
ESQI	**Esquipulas**	**1.97**	**28**	*i* P	**Pb**	**18 46 04.8**	**-0.8**
ESQI				*i* S	**Sg**	**18 46 30.8**	**-1.5**
ESQI				IAML		18 46 39.9	
	comp=Z,830nm,1.0s						
PACA	**Pacayal**	**2.02**	**71**	*e*P	**Pn**	**18 46 05.6**	**+1.5**
PACA	**Pacayal**	**2.02**	**71**	*i* P	**Pn**	**18 46 05.2**	**+1.1**
PACA				*i* S	**Sb**	**18 46 31.2**	**-0.9**
PACA				IAML		18 46 36.8	
	comp=Z,9μm,1.0s						
RANC	**El Ranchito**	**2.04**	**72**	*i* P	**Pn**	**18 46 05.5**	**+1.1**
RANC				IAML		18 46 06.1	
	comp=Z,710nm,1.0s						
RANC				*i* S	**Sn**	**18 46 31.0**	**+0.5**
BLLM	**Bellamira**	**2.09**	**72**	*e*P	**Pn**	**18 46 06.2**	**+1.2**
RTAL	**Retalhuleu**	**2.19**	**321**	*e*P	**Pn**	**18 46 06.4**	**+0.1**
INTP	**Intipuca**	**2.21**	**80**	*e*P	**Pn**	**18 46 06.9**	**+0.3**
STG3	**Santiaguito 3,**	**2.27**	**327**	*e*P	**Pn**	**18 46 08.1**	**+0.6**
STG3				*e*S	**Sn**	**18 46 33.0**	**-3.2**
SOKI	**Kika Raxquin**	**2.28**	**332**	*i* P	**Pn**	**18 46 09.1**	**+1.2**
SOKI				*i* S	**Sn**	**18 46 33.7**	**-3.0**
SOKI				IAML		18 46 38.6	
	comp=Z,630nm,1.0s						
MRL	**Marmol**	**2.34**	**14**	*e*P	**Pg**	**18 46 14.6**	**+0.9**
LCND	**La Caada**	**2.39**	**78**	*e*P	**Pn**	**18 46 09.9**	**+0.9**
LCND	**La Caada**	**2.39**	**78**	*i* P	**Pn**	**18 46 09.6**	**+0.6**
LCND				IAML		18 46 10.5	
	comp=Z,1μm,1.0s						
LCND				*i* S	**Sn**	**18 46 38.3**	**-0.5**
CNCH	**Conchagua**	**2.44**	**79**	*e*P	**Pn**	**18 46 10.2**	**+0.5**
CNCH	**Conchagua**	**2.44**	**79**	*i* P	**Pn**	**18 46 10.1**	**+0.4**
CNCH				*i* S	**Sn**	**18 46 40.4**	**+0.2**
CNCH				IAML		18 46 45.8	
	comp=Z,1μm,1.0s						
AMPH	**Amapala**	**2.60**	**79**	*e*P	**Pn**	**18 46 12.7**	**+0.7**
CRIN	**San Cristobal**	**3.16**	**92**	*e*P	**Pn**	**18 46 20.4**	**+0.8**
CRIN	**San Cristobal**	**3.16**	**92**	*i* P	**Pn**	**18 46 19.9**	**+0.2**
CRIN				*i* S	**Sn**	**18 46 56.8**	**-1.2**
CRIN				IAML		18 47 03.3	
	comp=Z,1μm,1.0s						
TGUH	**Tegucigalpa,Un**	**3.19**	**67**	*i* P	**Pn**	**18 46 21.0**	**+0.9**
TGUH				IAML		18 46 35.8	
	comp=Z,230nm,1.0s						
CNGA	**AI SSO del Vol**	**3.51**	**95**	*i* P	**Pn**	**18 46 24.2**	**-0.3**
CNGA				IAML		18 47 45.8	
	comp=Z,380nm,1.0s						
CNGN	**Cerro Negro**	**3.52**	**95**	*i* P	**Pn**	**18 46 24.9**	**+0.4**
CNGN				*i* S	**Sn**	**18 47 05.7**	**-1.0**
CNGN				IAML		18 47 14.1	
	comp=Z,380nm,1.0s						
SOMN	**Somoto**	**3.63**	**80**	*i* P	**Pn**	**18 46 28.1**	**+1.9**
SOMN				IAML		18 46 28.7	
	comp=Z,170nm,1.0s						
COPN	**Copaltepe**	**3.66**	**99**	*i* P	**Pn**	**18 46 26.4**	**-0.1**
COPN				IAML		18 47 11.7	
	comp=Z,250nm,1.0s						
MOM2	**El Cardon**	**3.73**	**95**	*i* P	**Pn**	**18 46 28.1**	**+0.7**
MOM2				IAML		18 46 28.6	
	comp=Z,320nm,1.0s						
LIMN	**Finca el Limon**	**3.83**	**86**	*i* P	**Pn**	**18 46 29.3**	**+0.4**
LIMN				IAML		18 46 29.9	
	comp=Z,290nm,1.0s						
SAPS	**Ciudad Sandino**	**3.84**	**99**	*i* P	**Pn**	**18 46 29.5**	**+0.5**
SAPS				*i* S	**Sn**	**18 47 13.8**	**-0.9**
SAPS				IAML		18 47 18.9	
	comp=Z,490nm,1.0s						
TISN	**Laguna Tiscapa**	**3.98**	**99**	*i* P	**Pn**	**18 46 31.5**	**+0.6**
TISN				IAML		18 46 32.5	
	comp=Z,46nm,1.0s						
MAS3	**AI N del Volca**	**4.09**	**100**	*i* P	**Pn**	**18 46 32.9**	**+0.5**
MAS3				IAML		18 46 34.2	
	comp=Z,460nm,1.0s						
MAS3				*i* S	**Sn**	**18 47 17.7**	**-3.2**
BOAB	**BOACO BROADBAN**	**4.52**	**94**	*i* P	**Pn**	**18 46 38.2**	**-0.2**
BOAB				IAML		18 46 38.8	
	comp=Z,110nm,1.0s						
BOAB				*i* S	**Sn**	**18 47 31.9**	**+0.4**
TEIG	**Tepich**	**7.63**	**14**	LR	LR	18 50 39.1	
	comp=Z,149nm,20.6s,baz=170,slow=43						
TXAR	**Lajitas Array**	**20.62**	**325**	P	Pn	18 50 12.5	+0.6
	comp=Z,0.8nm,0.6s,baz=145,slow=13,SNR=9.9						
	comp=Z,0.8nm,0.6s						
ATAH	**Atahualpa**	**23.07**	**149**	LR	LR	18 58 32.5	
	comp=Z,49nm,20.4s,baz=271,slow=34						
SJG	**San Juan**	**23.84**	**74**	LR	LR	19 00 47.7	
	comp=Z,106nm,18.4s,baz=217,slow=40						
SADO	**Sadowa**	**33.25**	**15**	LR	LR	19 05 23.4	
	comp=Z,63nm,21.6s,baz=123,slow=36						
NVAR	**Mina Array Bea**	**35.65**	**321**	P	**P**	**18 52 31.3**	**+2.8**
	comp=Z,0.3nm,0.2s,baz=120,slow=10,SNR=4.3						
	comp=Z,0.3nm,0.2s						
SCHQ	**Schefferville**	**45.78**	**19**	P	**P**	**18 53 48.4**	**-3.4**
	comp=Z,1.0nm,0.3s,baz=216,slow=11,SNR=2.6						
	comp=Z,1.0nm,0.3s						
H03N2	**Juan Fernandez**	**47.24**	**167**	T	T	19 44 50.6	
	baz=346						
H03N1	**Juan Fernandez**	**47.25**	**167**	T	T	19 44 51.0	
	baz=346						
H03N3	**Juan Fernandez**	**47.26**	**167**	T	T	19 44 52.6	
	baz=346						
CPUP	**Villa Florida**	**50.40**	**141**	LR	LR	19 15 54.3	
	comp=Z,46nm,19.5s,baz=34,slow=36						
INK	**Inuvik**	**62.05**	**343**	LR	LR	19 26 29.9	
	comp=Z,55nm,18.3s,baz=2.0,slow=40						
RAR	**Rarotonga**	**76.13**	**244**	LR	LR	19 24 18.3	
	comp=Z,64nm,21.6s,baz=278,slow=30						
WRA	**Warramunga Arr**	**136.70**	**254**	PKP	**PKPdf**	**19 04 54.1**	**+0.4**
	comp=Z,0.5nm,1.0s,baz=89,slow=3.4,SNR=2.2						
CMAR	**Chiang Mai Arr**	**147.63**	**343**	PKPbc	**PKPdf**	**19 05 15.9**	**+2.8**
	comp=Z,0.7nm,0.8s,baz=351,slow=3.5,SNR=4.2						

*ASIES **13** 18:47:12.8, 22°.99N×121°.15E, h7km, ML3.9, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-0.90; $M_{\theta\theta}$1.45; $M_{\phi\phi}$-0.55; $M_{r\theta}$-0.37; $M_{\theta\phi}$-1.75; $M_{\phi r}$-1.63; Fault plane solution: $M_0$2.73665×10^{21} NP1: ϕ_s338.93000°, δ70.93000°, λ-37.21000°. NP2:ϕ_s82.86000°, δ55.15000°, λ-156.53000°. Principal axes: T Plg9.9590°, Azm34.0480°; N Plg48.8300°, Azm135.6310°; P Plg39.4330°, Azm295.7450°;*

*JMA **13** 18:47:12.7±0.1, 23°.0N±0°.5×121°.1E±0°.7, h33km, MV3.4/15, TAIWAN REGION*

*TAP **13** 18:47:12.8, 22°.99N×121°.15E, h7km, ML3.9, C*

ISC 13 18:47:13.3±0.8, 22°.98N±0°.02×121°.18E±0°.02, h18km±4km, n142, σ1§28/197, 10C-18D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	**Donghe**	**0.11**	**91**	⇓*i*P	**Pg**	**18 47 16.3**	**-0.8**
	baz=96						
EDH				*i* S	**Sg**	**18 47 19.3**	**-0.4**
	baz=96						
ECS	**Chishang**	**0.12**	**16**	⇑*i*P	**Pg**	**18 47 16.4**	**-0.9**
	baz=19						
ECS				*i* S	**Sg**	**18 47 19.4**	**-0.6**
	baz=19						
EHD	**Haiduan**	**0.17**	**8**	*e*P	**Pg**	**18 47 16.6**	**-1.4**
	baz=10.0						
TWGBT	**Beinan**	**0.18**	**211**	P	**Pg**	**18 47 16.5**	**-1.5**
TWGBT	**Beinan**	**0.18**	**211**	⇑*i*P	**Pg**	**18 47 16.7**	**-1.3**
	baz=202						
TWGBT				*i* S	**Sg**	**18 47 19.8**	**-1.4**
	baz=202						
TWG	**Pinlang**	**0.18**	**213**	⇑*i*P	**Pg**	**18 47 16.8**	**-1.2**
	baz=202						
TWG				*i* S	**Sg**	**18 47 19.9**	**-1.4**
	baz=202						
CHKT	**Chengkung**	**0.21**	**54**	⇑P	**Pg**	**18 47 18.6**	**+0.1**
	baz=58						
CHKT				S	**Sg**	**18 47 23.3**	**+1.4**
	baz=58						
TTN	**Taitung**	**0.22**	**188**	⇑*i*P	**Pg**	**18 47 18.9**	**+0.3**
	baz=189						
TTN				*e*S	**Sg**	**18 47 24.7**	**+2.5**
	baz=189						
FULB	**Fuli**	**0.25**	**25**	⇑P	**Pg**	**18 47 19.0**	**0.0**
	baz=18						
FULB				*e*S	**Sg**	**18 47 24.6**	**+1.7**
	baz=18						
ELDTW	**Lidau**	**0.26**	**325**	⇓*i*P	**Pg**	**18 47 17.9**	**-1.4**
	baz=329						
ELDTW				*i* S	**Sg**	**18 47 21.1**	**-2.3**
	baz=329						
CHKH	**Chenggong**	**0.29**	**42**	⇑P	**Pb**	**18 47 19.8**	**-0.2**
	baz=45						
CHKH				S	**Sb**	**18 47 25.6**	**+1.2**
	baz=45						
TWF1	**Yuli**	**0.39**	**16**	P	**Pg**	**18 47 20.5**	**-0.9**
	baz=17						
TWF1				S	**Sg**	**18 47 26.7**	**-0.2**
	baz=17						
EYUL	**Yuli**	**0.39**	**19**	*e*P	**Pg**	**18 47 20.8**	**-0.6**
	baz=12						
LDUT	**Ludao**	**0.40**	**138**	⇓P	**Pg**	**18 47 21.5**	**-0.1**
	baz=138						
LDUT				*e*S	**Sb**	**18 47 29.2**	**+1.5**
	baz=138						
ECBN	**Changbin**	**0.42**	**36**	⇑*i*P	**Pb**	**18 47 22.2**	**-0.1**
	baz=52						
ECBN				S	**Sb**	**18 47 29.8**	**+1.5**
	baz=52						
STYH	**Taoyuan**	**0.42**	**298**	⇓*i*P	**Pg**	**18 47 21.2**	**-0.7**
	baz=298						
STYH				S	**Sg**	**18 47 26.9**	**-0.9**
	baz=298						
YULB	**Yu-li**	**0.43**	**14**	P	**Pg**	**18 47 21.0**	**-1.1**
YULB	**Yu-li**	**0.43**	**14**	⇑*i*P	**Pg**	**18 47 21.1**	**-1.1**
	baz=18						
YULB				S	**Sg**	**18 47 27.1**	**-1.0**
	baz=18						
ECL	**Taimali**	**0.43**	**209**	⇑*i*P	**Pg**	**18 47 21.0**	**-1.1**
	baz=216						
ECL				*e*S	**Sg**	**18 47 26.7**	**-1.4**
	baz=216						
STYT	**Tauyuan**	**0.43**	**296**	⇓*i*P	**Pg**	**18 47 21.3**	**-0.9**
	baz=296						
STYT				*e*S	**Sg**	**18 47 26.6**	**-1.7**
	baz=296						
SLGT	**Liugui**	**0.49**	**272**	⇓*i*P	**Pg**	**18 47 22.5**	**-0.8**
	baz=266						
SLGT				S	**Sg**	**18 47 28.9**	**-1.1**
	baz=266						
EHYH	**Wanrong**	**0.54**	**16**	*e*P	**Pg**	**18 47 23.1**	**-1.0**
	baz=19						
EHY	**Hungye**	**0.54**	**14**	P	**Pg**	**18 47 23.1**	**-1.1**
	baz=4.0						
EHY				S	**Sg**	**18 47 30.3**	**-1.3**
	baz=4.0						
YUS	**Yu-Shan**	**0.55**	**338**	⇓*i*P	**Pg**	**18 47 23.5**	**-1.1**
	baz=339						
YUS				*i* S	**Sg**	**18 47 30.2**	**-2.0**
	baz=339						
SSD	**Sandimen**	**0.56**	**246**	⇓*i*P	**Pg**	**18 47 23.0**	**-1.4**
	baz=245						
SSD				*e*S	**Sg**	**18 47 28.8**	**-3.1**
	baz=245						
HGSD	**Ruisui**	**0.56**	**23**	*e*P	**Pg**	**18 47 24.0**	**-0.5**
	baz=10.0						
HGSD				S	**Sb**	**18 47 33.8**	**+1.7**
	baz=10.0						
SGST	**Jiashian**	**0.56**	**281**	⇓*i*P	**Pg**	**18 47 23.4**	**-1.1**
	baz=281						
SGST				S	**Sb**	**18 47 31.4**	**-0.7**
	baz=281						
WTP	**Ta-pu**	**0.59**	**297**	⇓*i*P	**Pb**	**18 47 24.7**	**-0.3**
	baz=297						
WTP				S	**Sb**	**18 47 33.4**	**+0.4**
	baz=297						
TPUB	**Ta-pu**	**0.60**	**303**	P	**Pb**	**18 47 24.8**	**-0.4**
TPUB	**Ta-pu**	**0.60**	**303**	⇓*i*P	**Pb**	**18 47 25.0**	**-0.2**
	baz=308						
TPUB				*i* S	**Sb**	**18 47 33.4**	**+0.1**
	baz=308						
MASBT	**Mashibuluo**	**0.62**	**235**	P	**Pg**	**18 47 24.4**	**-1.2**
	baz=233						
MASBT				*e*S	**Sg**	**18 47 31.3**	**-2.6**
	baz=233						
CHN1	**Nanshi**	**0.64**	**289**	⇓*i*P	**Pb**	**18 47 25.9**	**+0.1**
	baz=290						
CHN1				*e*S	**Sb**	**18 47 36.2**	**+1.8**
	baz=290						
SCST	**Cishan**	**0.64**	**262**	*e*P	**Pb**	**18 47 25.7**	**-0.1**
	baz=254						
CHN4	**Tsaushan**	**0.66**	**305**	⇓*i*P	**Pb**	**18 47 26.2**	**0.0**
	baz=315						
CHN4				S	**Sb**	**18 47 34.9**	**0.0**
	baz=315						
EAST	**Anshuo**	**0.67**	**208**	*e*P	**Pg**	**18 47 25.0**	**-1.4**
	baz=206						
EAST				*e*S	**Sg**	**18 47 34.3**	**-1.0**
	baz=206						
TAW	**Tawu**	**0.67**	**203**	*e*P	**Pg**	**18 47 24.3**	**-2.2**
	baz=201						
SNST	**Tainan City**	**0.68**	**291**	⇓P	**Pb**	**18 47 26.8**	**+0.4**
	baz=292						
SNST				*e*S	**Sn**	**18 47 37.4**	**-0.6**
	baz=292						
SGLT	**Jiouru**	**0.68**	**249**	*e*P	**Pb**	**18 47 26.6**	**+0.1**
	baz=240						
TAWH	**Dawu Township**	**0.69**	**203**	*e*P	**Pg**	**18 47 25.3**	**-1.5**
	baz=201						
TSPT	**Pingtung City**	**0.70**	**245**	*e*P	**Pg**	**18 47 26.3**	**-0.7**
	baz=244						
TWK	**Hsinying**	**0.70**	**295**	⇓*i*P	**Pb**	**18 47 27.2**	**+0.3**
	baz=295						
TWK				S	**Sb**	**18 47 36.9**	**+0.6**
	baz=295						
WCKO	**Fanlu**	**0.70**	**311**	*e*P	**Pb**	**18 47 26.8**	**-0.1**
	baz=320						
WCKO				*e*S	**Sb**	**18 47 37.1**	**+0.9**
	baz=320						
TWM1	**Shoushan**	**0.71**	**258**	*e*P	**Pb**	**18 47 27.6**	**+0.4**
	baz=250						
CHN3	**Shinhua**	**0.76**	**278**	⇓*i*P	**Pn**	**18 47 29.8**	**+0.8**
	baz=280						
CHN3				*e*S	**Sn**	**18 47 42.5**	**+2.5**
	baz=280						
WARBT	**Fenglin Townsh**	**0.76**	**14**	*e*P	**Pg**	**18 47 27.0**	**-1.3**
	baz=32						
SHHT	**Tainan City**	**0.77**	**274**	*e*P	**Pn**	**18 47 29.9**	**+0.8**
	baz=274						
SHHT				*e*S	**Sn**	**18 47 43.4**	**+3.1**
	baz=274						
CHN5	**Tsauling**	**0.77**	**323**	⇓*i*P	**Pb**	**18 47 28.3**	**+0.1**
	baz=324						
CHN5				*e*S	**Sn**	**18 47 40.2**	**-0.3**
	baz=324						
VWDT	**VWDT**	**0.78**	**357**	*e*P	**Pg**	**18 47 27.4**	**-1.1**
	baz=352						
VWDT				*e*S	**Sb**	**18 47 39.4**	**+1.0**
	baz=352						
WHYT	**Xinyi Township**	**0.78**	**337**	*e*P	**Pb**	**18 47 27.9**	**-0.4**
	baz=347						
SCZT	**Fangliau**	**0.79**	**221**	*e*P	**Pg**	**18 47 27.6**	**-1.2**
	baz=225						
SCZT				*e*S	**Sg**	**18 47 37.7**	**-1.6**
	baz=225						
SLIU	**Shizi**	**0.83**	**205**	*e*P	**Pg**	**18 47 27.8**	**-1.8**
	baz=203						
SSLB	**Suanglung**	**0.83**	**346**	P	**Pg**	**18 47 28.9**	**-0.7**
SSLB	**Suanglung**	**0.83**	**346**	*e*P	**Pg**	**18 47 28.5**	**-1.2**
	baz=347						
SSHA	**Shanhua**	**0.84**	**281**	*e*P	**Pn**	**18 47 30.4**	**+0.3**
	baz=294						
SSHA				*e*S	**Sn**	**18 47 44.4**	**+2.5**
	baz=294						
ESL	**Shilin**	**0.87**	**15**	*e*P	**Pg**	**18 47 29.0**	**-1.2**
	baz=32						
SHUL	**Shoufeng**	**0.88**	**23**	*e*P	**Pb**	**18 47 30.2**	**+0.2**
	baz=11						
WGK	**Gukeng**	**0.91**	**321**	⇓P	**Pn**	**18 47 31.4**	**+0.3**
	baz=330						
WGK				*e*S	**Sn**	**18 47 44.8**	**+1.1**
	baz=330						
WSSB	**Gushan**	**0.91**	**249**	*e*P	**Pn**	**18 47 33.4**	**+2.2**
	baz=266						
ICHU	**Yijhu**	**0.91**	**295**	*e*P	**Pn**	**18 47 31.3**	**+0.2**
	baz=295						
ICHU				*e*S	**Sn**	**18 47 45.5**	**+1.7**
	baz=295						
WDLH	**Douliu**	**0.92**	**320**	*e*P	**Pn**	**18 47 31.5**	**+0.2**
	baz=320						
WDLH				*e*S	**Sn**	**18 47

	baz=1.0						
TWK1	**Hengchun**	**1.08**	**199**	*e*P	**Pg**	**18 47 33.4**	**-0.9**
	baz=201						
TWKBT	**Hengchun**	**1.08**	**198**	*e*P	**Pn**	**18 47 34.6**	**+1.1**
	baz=201						
WSF	**Szhu**	**1.10**	**307**	*e*P	**Pn**	**18 47 34.2**	**+0.4**
	baz=307						
WSF				*e*S	**Sn**	**18 47 50.3**	**+1.8**
	baz=307						
WCS	**Beigang Elemen**	**1.10**	**347**	*e*P	**Pb**	**18 47 33.9**	**+0.1**
	baz=348						
WWF	**Wufeng**	**1.15**	**337**	*e*P	**Pn**	**18 47 35.7**	**+1.2**
	baz=339						
TWD	**Chiawan**	**1.16**	**19**	*e*P	**Pg**	**18 47 32.9**	**-2.9**
	baz=20						
WHF	**Hehuan Shan**	**1.17**	**4**	*e*P	**Pg**	**18 47 34.7**	**-1.3**
	baz=16						
WRL	**Guolierlin Hig**	**1.18**	**321**	*e*P	**Pb**	**18 47 35.1**	**0.0**
	baz=322						
WTCT	**Ta-ch'eng**	**1.21**	**317**	*e*P	**Pg**	**18 47 35.2**	**-1.5**
	baz=318						
ETL	**Fush Village**	**1.25**	**19**	*e*P	**Pb**	**18 47 34.8**	**-1.5**
	baz=20						
NACB	**Ninganchiao**	**1.25**	**18**	P	**Pn**	**18 47 35.0**	**-0.8**
NACB	**Ninganchiao**	**1.25**	**18**	*e*P	**Pn**	**18 47 33.0**	**-2.9**
	baz=29						
TCU	**Taichung**	**1.26**	**338**	*e*P	**Pn**	**18 47 38.2**	**+2.3**
	baz=340						
FUSS	**Fushou**	**1.27**	**3**	*e*P	**Pg**	**18 47 35.7**	**-2.1**
	baz=18						
TDCB	**Techi**	**1.27**	**359**	*e*P	**Pb**	**18 47 36.5**	**-0.3**
TWT	**Tachien**	**1.27**	**360**	*e*P	**Pg**	**18 47 36.5**	**-1.5**
WHP	**Taichung City**	**1.31**	**351**	*e*P	**Pg**	**18 47 38.0**	**-0.7**
	baz=355						
WHP				*e*S	**Sn**	**18 47 56.5**	**+2.6**
	baz=355						
TWQ1	**Liyutan**	**1.42**	**345**	P	**Pg**	**18 47 40.5**	**-0.1**
	baz=341						
TWQ1				S	**Sg**	**18 47 60.0**	**+0.8**
	baz=341						
WDGT	**Dungji**	**1.43**	**282**	*e*P	**Pn**	**18 47 38.3**	**+0.1**
	baz=282						
WDGT				*e*S	**Sb**	**18 47 56.7**	**-0.5**
	baz=282						
EAHA	**Aohua**	**1.44**	**21**	*e*P	**Pn**	**18 47 37.3**	**-1.1**
	baz=19						
WDJ	**Dajia District**	**1.45**	**340**	*e*P	**Pb**	**18 47 39.9**	**+0.1**
	baz=340						
NNSB	**Datong**	**1.46**	**7**	*e*P	**Pn**	**18 47 39.4**	**+0.6**
	baz=5.0						
NNSB				S	**Sg**	**18 47 59.8**	**-0.7**
	baz=5.0						
NNSH	**Datong**	**1.46**	**7**	*e*P	**Pn**	**18 47 39.4**	**+0.6**
	baz=8.0						
NNS	**Nan Shan**	**1.47**	**7**	*e*P	**Pn**	**18 47 40.0**	**+1.0**
	baz=5.0						
NNS				S	**Sg**	**18 48 00.6**	**-0.2**
	baz=5.0						
PHUB	**P'eng-hu**	**1.57**	**290**	*e*P	**Pn**	**18 47 39.8**	**-0.5**
	baz=290						
PHUB				*e*S	**Sn**	**18 47 59.8**	**-0.3**
	baz=290						
LATG	**Datong**	**1.58**	**11**	*e*P	**Pb**	**18 47 42.2**	**+0.1**
	baz=28						
VCHM	**Qimei**	**1.63**	**279**	P	**Pn**	**18 47 41.0**	**0.0**
	baz=278						
NDT	**Datong Townshi**	**1.65**	**11**	*e*P	**Pn**	**18 47 41.6**	**+0.3**
	baz=22						
NFF	**Wufeng Townshi**	**1.65**	**358**	*e*P	**Pb**	**18 47 43.5**	**+0.4**
	baz=357						
NSTT	**Nanjuang**	**1.66**	**354**	*e*P	**Pn**	**18 47 42.7**	**+1.3**
	baz=353						
LIOB	**Emei**	**1.67**	**355**	*e*P	**Pb**	**18 47 43.2**	**-0.3**
	baz=353						
ENTT	**Nioudou**	**1.69**	**12**	*e*P	**Pn**	**18 47 41.7**	**-0.2**
	baz=26						
YHNB	**Yeheng**	**1.70**	**6**	P	**Pn**	**18 47 43.3**	**+1.3**
YHNB	**Yeheng**	**1.70**	**6**	*e*P	**Pn**	**18 47 41.5**	**-0.5**
	baz=5.0						
NSK	**Sanguang**	**1.70**	**5**	*e*P	**Pn**	**18 47 42.3**	**+0.2**
	baz=5.0						
TWC	**Suao**	**1.74**	**20**	*e*P	**Pn**	**18 47 42.7**	**+0.2**
	baz=37						
TWE	**Neicheng**	**1.79**	**14**	*e*P	**Pn**	**18 47 44.7**	**+1.4**
	baz=28						
FUSB	**Fushanzhiwuyua**	**1.81**	**12**	*e*P	**Pb**	**18 47 45.9**	**0.0**
	baz=27						
NWLT	**Wulai**	**1.82**	**9**	*e*P	**Pb**	**18 47 46.8**	**+0.7**
	baz=26						
TWA	**Mucha**	**2.03**	**10**	*e*P	**Pb**	**18 47 49.8**	**+0.2**
	baz=23						
TIPB	**Shuangxi**	**2.07**	**16**	*e*P	**Pn**	**18 47 47.5**	**+0.3**
	baz=28						
TWS1	**Kuangyinshan**	**2.13**	**6**	*e*P	**Pb**	**18 47 50.8**	**-0.4**
	baz=349						
JYNG	**Yonagunijimaku**	**2.19**	**47**	*e*P	**Pn**	**18 47 48.8**	**+0.1**
JYNG				*e*S	**Sn**	**18 48 15.2**	**0.0**
YM01	**YM01**	**2.19**	**9**	*e*P	**Pn**	**18 47 49.6**	**+0.9**
	baz=348						
ANP	**Anpu**	**2.22**	**8**	*e*P	**Pn**	**18 47 51.5**	**+2.2**
	baz=32						
YOJ	**Yonaguni jima**	**2.24**	**48**	P	**Pn**	**18 47 49.4**	**+0.1**
YOJ	**Yonaguni jima**	**2.24**	**48**	*e*P	**Pn**	**18 47 49.5**	**+0.1**
	baz=48						
YOJ	**Yonaguni jima**	**2.24**	**48**	P	**Pn**	**18 47 49.6**	**+0.2**
VWUC	**VWUC**	**2.56**	**322**	*e*P	**Pn**	**18 47 54.4**	**+0.6**
	baz=323						
HATJ	**Hateruma jima**	**2.64**	**65**	*e*P	**Pn**	**18 47 53.4**	**-1.4**
IRIF	**Iriomote-Funau**	**2.70**	**59**	P	**Pn**	**18 47 56.1**	**+0.3**
JKRS	**Kuro-shima**	**2.88**	**64**	P	**Pn**	**18 47 58.3**	**+0.1**
KNMB	**Chin-men Tao**	**2.96**	**301**	*e*P	**Pn**	**18 47 58.2**	**-1.0**
	baz=303						
JIJ	**Ishigaki jima**	**3.05**	**62**	P	**Pn**	**18 48 00.4**	**-0.1**
JIJ				*e*S	**Sn**	**18 48 35.3**	**-1.3**
JISG	**Ishigakijimahi**	**3.29**	**60**	*e*P	**Pn**	**18 48 02.5**	**-1.3**
JTJ	**Tarama**	**3.63**	**62**	P	**Pn**	**18 48 09.0**	**+0.5**
JIRB	**Irabujima**	**4.09**	**62**	*e*P	**Pn**	**18 48 14.3**	**-0.6**
JMJ2	**Miyako jima3**	**4.18**	**64**	*e*P	**Pn**	**18 48 16.2**	**+0.1**
JMJ	**Miyako jima 2**	**4.19**	**63**	*e*P	**Pn**	**18 48 15.8**	**-0.3**
	baz=61						
JOW	**Kunigami**	**7.50**	**58**	P	**Pn**	**18 49 01.8**	**+0.1**

TAP 13 18:47:34.9, 22°.98N×121°.15E, h9km, ML3.8, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECS	**Chishang**	**0.13**	**29**	*i* P	Pg	18 47 38.7	+0.9
	baz=27						
ECS				*i* S	Sg	18 47 41.7	+1.7
	baz=27						
EDH	**Donghe**	**0.14**	**94**	P	Pg	18 47 38.3	+0.3
	baz=94						
EDH				S	Sg	18 47 41.2	+1.0
	baz=94						
EHD	**Haiduan**	**0.17**	**17**	*e*P	Pg	18 47 38.8	+0.2
	baz=11						
TWG	**Pinlang**	**0.18**	**205**	*i* P	Pg	18 47 39.1	+0.4
	baz=204						
TWG				*i* S	Sg	18 47 42.1	+0.9
	baz=204						
TWGBT	**Beinan**	**0.18**	**202**	*i* P	Pg	18 47 38.9	+0.3
	baz=204						
TWGBT				*i* S	Sg	18 47 42.2	+0.9
	baz=204						
CHKT	**Chengkung**	**0.23**	**59**	P	Pg	18 47 40.7	+1.1
	baz=60						
TTN	**Taitung**	**0.23**	**181**	*e*P	Pg	18 47 41.4	+1.8
	baz=186						
TTN				*e*S	Sg	18 47 46.6	+3.9
	baz=186						
ELDTW	**Lidau**	**0.24**	**329**	*i* P	Pg	18 47 40.1	+0.3
	baz=329						
ELDTW				*i* S	Sg	18 47 43.5	+0.3
	baz=329						
FULB	**Fuli**	**0.25**	**31**	P	Pb	18 47 41.1	-0.6
	baz=25						
FULB				*i* S	Sb	18 47 46.6	+0.5
	baz=25						
CHKH	**Chenggong**	**0.31**	**47**	*e*P	Pb	18 47 42.0	-0.6
	baz=62						
CHKH				*e*S	Sb	18 47 47.5	-0.2
	baz=62						
TWF1	**Yuli**	**0.39**	**20**	*e*P	Pg	18 47 43.0	+0.4
	baz=10.0						
TWF1				*e*S	Sg	18 47 48.4	+0.5
	baz=10.0						
EYUL	**Yuli**	**0.39**	**23**	*e*P	Pb	18 47 43.6	-0.4
	baz=16						
STYH	**Taoyuan**	**0.39**	**298**	P	Pb	18 47 43.4	-0.7
	baz=304						
STYH				S	Sb	18 47 49.3	-0.9
	baz=304						
STYT	**Tauyuan**	**0.41**	**296**	P	Pg	18 47 43.4	+0.5
	baz=296						
STYT				S	Sg	18 47 49.4	+1.2
	baz=296						
ECL	**Taimali**	**0.42**	**205**	*i* P	Pg	18 47 43.2	0.0
	baz=208						
ECL				*e*S	Sg	18 47 49.1	+0.3
	baz=208						
LDUT	**Ludao**	**0.42**	**136**	P	Pg	18 47 43.5	+0.3
	baz=137						
LDUT				S	Sb	18 47 51.1	0.0
	baz=137						
YULB	**Yu-li**	**0.43**	**18**	P	Pg	18 47 43.5	+0.2
	baz=4.0						
YULB				*e*S	Sg	18 47 49.0	0.0
	baz=4.0						
ECBN	**Changbin**	**0.43**	**40**	P	Pb	18 47 44.4	-0.3
	baz=54						
SLGT	**Liugui**	**0.47**	**271**	P	Pb	18 47 44.7	-0.6
	baz=272						
SLGT				*e*S	Sg	18 47 51.2	+1.1
	baz=272						
SGST	**Jiashian**	**0.53**	**281**	*e*P	Pg	18 47 45.9	+0.6
	baz=281						
SGST				*e*S	Sb	18 47 54.0	-0.3
	baz=281						
SSD	**Sandimen**	**0.53**	**244**	*i* P	Pg	18 47 45.2	0.0
	baz=246						
SSD				S	Sg	18 47 51.6	-0.8
	baz=246						
YUS	**Yu-Shan**	**0.54**	**340**	*e*P	Pg	18 47 45.5	+0.1
	baz=341						
EHYH	**Wanrong**	**0.54**	**19**	*e*P	Pg	18 47 45.5	+0.2
	baz=18						
EHY	**Hungye**	**0.54**	**17**	*e*P	Pg	18 47 45.4	-0.1
	baz=21						
WTP	**Ta-pu**	**0.56**	**298**	*e*P	Pb	18 47 47.3	+0.4
	baz=300						
WTP				S	Sb	18 47 55.7	+0.7
	baz=300						
HGSD	**Ruisui**	**0.56**	**26**	*e*P	Pb	18 47 47.9	+0.9
	baz=10.0						
TPUB	**Ta-pu**	**0.57**	**303**	P	Pb	18 47 47.0	-0.2
	baz=313						
TPUB				*i* S	Sb	18 47 55.7	+0.2
	baz=313						
MASBT	**Mashibuluo**	**0.60**	**232**	P	Pg	18 47 46.5	-0.1
	baz=239						
MASBT				*e*S	Sg	18 47 54.2	-0.4
	baz=239						
CHN1	**Nanshi**	**0.61**	**289**	*e*P	Pb	18 47 48.3	+0.6
	baz=289						
SCST	**Cishan**	**0.61**	**261**	P	Pb	18 47 48.1	+0.3
	baz=257						
SCST				*e*S	Sb	18 47 57.2	+0.6
	baz=257						
CHN4	**Tsaushan**	**0.63**	**306**	*e*P	Pb	18 47 48.5	+0.3
	baz=314						
CHN4				*e*S	Sb	18 47 57.9	+0.8
	baz=314						
SNST	**Tainan City**	**0.65**	**291**	*e*P	Pn	18 47 49.4	-0.9
	baz=291						
SNST				*e*S	Sn	18 47 59.8	-0.8
	baz=291						
EAST	**Anshuo**	**0.66**	**205**	P	Pg	18 47 47.6	-0.1
	baz=206						
EAST				*e*S	Sg	18 47 56.6	+0.3
	baz=206						
SGLT	**Jiouru**	**0.66**	**247**	*e*P	Pn	18 47 49.8	-0.7
	baz=246						
TAW	**Tawu**	**0.67**	**201**	*e*P	Pg	18 47 47.8	0.0
	baz=200						
TWK	**Hsinying**	**0.67**	**295**	*e*P	Pb	18 47 49.5	+0.6
	baz=294						
TWK				*e*S	Sn	18 48 00.2	-1.2
	baz=294						
WCKO	**Fanlu**	**0.68**	**312**	*e*P	Pn	18 47 49.8	-0.9
	baz=312						
TAWH	**Dawu Township**	**0.69**	**201**	*e*P	Pg	18 47 47.7	-0.5
	baz=202						
TWM1	**Shoushan**	**0.69**	**257**	*e*P	Pn	18 47 50.5	-0.4
	baz=249						
SHHT	**Tainan City**	**0.74**	**273**	*e*P	Pn	18 47 53.2	+1.7
	baz=273						
WHYT	**Xinyi Township**	**0.76**	**339**	*e*P	Pb	18 47 50.2	-0.1
	baz=345						
VWDT	**VWDT**	**0.77**	**359**	*e*P	Pb	18 47 50.1	-0.3
	baz=355						
SCZT	**Fangliau**	**0.78**	**219**	P	Pg	18 47 50.0	+0.1
	baz=227						
SCZT				*e*S	Sg	18 48 00.3	+0.1
	baz=227						
SSHA	**Shanhua**	**0.81**	**281**	*e*P	Pn	18 47 53.0	+0.5
	baz=293						
SSLB	**Suanglung**	**0.82**	**347**	*e*P	Pn	18 47 53.8	+1.1
	baz=342						
SLIU	**Shizi**	**0.83**	**203**	*e*P	Pg	18 47 50.8	-0.1
	baz=204						
WGK	**Gukeng**	**0.89**	**322**	*e*P	Pn	18 47 54.2	+0.7
	baz=322						
ICHU	**Yijhu**	**0.89**	**295**	*e*P	Pn	18 47 53.6	0.0
	baz=295						
CHN8	**Yiju**	**0.94**	**293**	*e*P	Pn	18 47 54.6	+0.4
	baz=292						

BJI ***13*** *18:54:32.0±0.0, 59°.30N×151°.20W, h50km, mb4.6/28, mB5.0/9, Ms4.6/3, Ms7 4.3/3*

IDC ***13*** *18:54:34.9±1.8, 59°.48N×151°.54W, h42km±17km, mb4.1/25, mbtmp4.4/28, ML4.4/3, MS3.6/39, Error ellipse: s-maj=13.4km s-min=12.2km az=92.0*

NEIC ***13*** *18:54:35.1±1.3, 59°.32N±0°.03×151°.18W±0°.07, h45km±4km, Error ellipse: s-maj=5.3km s-min=3.9km az=124.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-7.90; $M_{\theta\theta}$-1.44; $M_{\phi\phi}$9.34; $M_{r\theta}$1.56; $M_{\theta\phi}$2.43; $M_{\phi r}$-1.71; Fault plane solution: $M_0$9.33000×10^{15} NP1: ϕ_s207.94000°, δ42.95000°, λ-66.40000°. NP2: ϕ_s357.11000°, δ51.36000°, λ-110.44000°. Principal axes: T 9.9631, Plg4.0000°, Azm101.0000°; N -1.4276, Plg16.0000°, Azm10.0000°; P -8.5355, Plg74.0000°, Azm206.0000°;*

AEIC ***13*** *18:54:35.7±1.4, 59°.31N±0°.03×151°.24W±0°.07, h45km±4km, ML4.3, mb4.6/92(NEIC), ML4.5/166(NEIC), Mwr4.6/78(NEIC) Error ellipse: s-maj=5.3km s-min=3.9km az=125.0*

NEIC ***13*** *18:54:36, 59°.32N×151°.22W, h36km*

ISC 13 18:54:34.6±0.5, 59°.33N±0°.04×151°.20W±0°.03, h46km±4km, h46km:pP-P, n707, σ0.990/719, mb4.5/102, MS3.6/35, 19C-7D, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNPM	**China Poot**	**0.19**	**354**		**Pn**	**18 54 42.2**	**-0.3**
CNPM					**Sn**	**18 54 48.0**	**-0.1**
HOM	**Homer**	**0.40**	**325**		**Pn**	**18 54 44.8**	**+0.4**
HOM				Sn	**Sn**	**18 54 52.2**	**+0.9**
HOM	**Homer**	**0.40**	**325**	P	**Pn**	**18 54 44.8**	**+0.4**
	baz=148						
HOM				S	**Sn**	**18 54 51.9**	**+0.6**
	baz=148						
BRLK	**Bradley Lake**	**0.46**	**20**		**Pn**	**18 54 45.1**	**-0.1**
BRLK				Sn	**Sn**	**18 54 52.9**	**+0.3**
BRSE	**Bradley Lake S**	**0.47**	**29**		**Pn**	**18 54 45.8**	**+0.5**
BRSE					**Sn**	**18 54 53.9**	**+1.1**
BRSE	**Bradley Lake S**	**0.47**	**29**	P	**Pn**	**18 54 45.7**	**+0.4**
	baz=211						
BRSE				S	**Sn**	**18 54 53.9**	**+1.1**
	baz=211						
SYI	**Shuyak Island**	**0.95**	**221**		**Pn**	**18 54 52.1**	**+0.6**
SYI				Sn	**Sn**	**18 55 04.7**	**+0.7**
SYI				IAML		18 55 06.7	
	comp=N,16μm,0.9s						
SYI				IAML		18 55 07.3	
	comp=E,15μm,0.5s						
Q20K	**Shuyak Island**	**0.95**	**221**	P	**Pn**	**18 54 52.2**	**+0.6**
	baz=40						
Q20K				S	**Sn**	**18 55 05.4**	**+1.4**
	baz=40						
O20K	**Slope Mountain**	**1.04**	**317**		**Pn**	**18 54 53.5**	**+0.6**
O20K					**Sn**	**18 55 07.6**	**+1.3**
O20K	**Slope Mountain**	**1.04**	**317**	P	**Pn**	**18 54 53.4**	**+0.5**
	baz=137						
O20K				S	**Sn**	**18 55 07.6**	**+1.3**
	baz=137						
P19K	**Oil Pt**	**1.09**	**288**	Pn	**Pn**	**18 54 53.9**	**+0.5**
P19K				Sn	**Sn**	**18 55 08.7**	**+1.3**
P19K	**Oil Pt**	**1.09**	**288**	P	**Pn**	**18 54 53.9**	**+0.5**
	baz=108						
P19K				S	**Sn**	**18 55 09.1**	**+1.7**
	baz=108						
AU22	**Augustine Moun**	**1.11**	**273**		**Pn**	**18 54 54.3**	**+0.6**
AUL	**Augustine Lava**	**1.15**	**273**		**Pn**	**18 54 55.0**	**+0.8**
IVE	**Iliamna Volcan**	**1.15**	**307**		**Pn**	**18 54 54.4**	**0.0**
SEW	**Seward**	**1.17**	**48**		**Pn**	**18 54 55.2**	**+0.7**
SEW	**Seward**	**1.17**	**48**	P	**Pn**	**18 54 55.2**	**+0.7**
	baz=230						
SLKM	**Skilak Lake**	**1.28**	**22**		**Pn**	**18 54 57.0**	**+1.0**
Q19K	**Cape Douglas,**	**1.33**	**253**		**Pn**	**18 54 57.3**	**+0.6**
Q19K					**Sn**	**18 55 14.2**	**+1.0**
RED	**Redoubt Volcan**	**1.35**	**325**		**Pn**	**18 54 57.4**	**+0.3**
RDSO	**Redoubt South**	**1.37**	**326**		**Pn**	**18 54 57.8**	**+0.4**
O22K	**Cooper Landing**	**1.37**	**32**		**Pn**	**18 54 58.2**	**+1.0**
O22K	**Cooper Landing**	**1.37**	**32**	P	**Pn**	**18 54 58.1**	**+0.9**
	baz=214						
RSO	**Redoubt South**	**1.38**	**326**		**Pn**	**18 54 58.1**	**+0.5**
RDT	**Redoubt**	**1.39**	**334**		**Pn**	**18 54 57.8**	**+0.3**
RDWB	**Redoubt West**	**1.42**	**325**		**Pn**	**18 54 58.6**	**+0.4**
CAPN	**Captain Cook N**	**1.44**	**1**		**Pn**	**18 55 00.4**	**+2.2**
NCT	**North Crescent**	**1.51**	**325**		**Pn**	**18 54 59.7**	**+0.4**
KDAK	**Kodiak Island**	**1.72**	**206**		**Pn**	**18 55 02.0**	**0.0**
KDAK				IAML		18 55 33.4	
	comp=E,6μm,0.8s						
KDAK				IAML		18 55 38.4	
	comp=E,5μm,0.6s						
KDAK	**Kodiak Island**	**1.72**	**206**	P	**Pn**	**18 55 02.3**	**+0.3**
	comp=E,528nm,0.3s,baz=49,slow=15,SNR=2981						
KDAK				S	**Sn**	**18 55 22.2**	**-0.5**
	comp=E,975nm,0.4s,baz=319,slow=20,SNR=4.9						
KDAK				LR	LR	18 55 55.3	
	comp=E,1μm,18.7s,baz=41,slow=45						
O19K	**Port Alsworth**	**1.80**	**300**		**Pn**	**18 55 04.2**	**+1.0**
O19K	**Port Alsworth**	**1.80**	**300**	P	**Pn**	**18 55 04.2**	**+1.0**
	baz=118						
FIS	**Fire Island**	**1.88**	**15**		**Pn**	**18 55 06.0**	**+1.7**
FIS				IAML		18 55 47.2	
	comp=E,5μm,0.8s						
FIS				IAML		18 55 51.0	
	comp=N,6μm,0.8s						
SPU	**Mount Spurr**	**1.90**	**347**	Pn	**Pn**	**18 55 05.3**	**+0.7**
RC01	**Rabbit Creek A**	**1.91**	**22**	Pn	**Pn**	**18 55 05.6**	**+1.0**
RC01				IAML		18 55 34.9	
	comp=E,4μm,0.6s						
RC01	**Rabbit Creek A**	**1.91**	**22**	P	**Pn**	**18 55 05.7**	**+1.0**
	baz=204						
KAHG	**Katmai Hook Gl**	**1.93**	**246**		**Pn**	**18 55 05.7**	**+0.7**
N20K	**Mount Spurr**	**1.94**	**345**	P	**Pn**	**18 55 06.0**	**+0.8**
	baz=165						
SPCR	**Spurr Chakacha**	**1.94**	**345**		**Pn**	**18 55 06.0**	**+0.8**
SPCP	**Crater Peak Br**	**2.00**	**347**		**Pn**	**18 55 07.2**	**+1.2**
SPCG	**Spurr Capps Gl**	**2.01**	**349**		**Pn**	**18 55 07.2**	**+1.1**
SPBG	**Spurr Blockage**	**2.02**	**344**		**Pn**	**18 55 07.2**	**+1.0**
P23K	**Montague Islan**	**2.04**	**69**		**Pn**	**18 55 06.5**	**+0.1**
P23K	**Montague Islan**	**2.04**	**69**	P	**Pn**	**18 55 06.9**	**+0.5**
	baz=252						
P18K	**Big Mountain,**	**2.07**	**273**		**Pn**	**18 55 06.6**	**-0.2**
P18K				IAML		18 55 47.1	
	comp=N,4μm,0.7s						
P18K	**Big Mountain,**	**2.07**	**273**	P	**Pn**	**18 55 06.7**	**-0.2**
	baz=90						
KAHC	**Katmai Hardscr**	**2.09**	**252**		**Pn**	**18 55 07.4**	**+0.2**
KAHC	**Katmai Hardscr**	**2.09**	**252**		**Pn**	**18 55 07.2**	**0.0**
KAHC	**Katmai Hardscr**	**2.09**	**252**	P	**Pn**	**18 55 07.4**	**+0.2**
	baz=69						
Q18K	**Katmai Hardscr**	**2.09**	**252**	P	**Pn**	**18 55 07.2**	**-0.1**
	baz=69						
O18K	**Koktuh Hills**	**2.11**	**286**		**Pn**	**18 55 07.0**	**-0.4**
O18K				IAML		18 55 44.7	
	comp=E,4μm,0.7s						
O18K	**Koktuh Hills**	**2.11**	**286**	P	**Pn**	**18 55 07.8**	**+0.4**
	baz=103						
SUA	**Susitna One**	**2.15**	**6**	Pn	**Pn**	**18 55 09.3**	**+1.2**
SUA				IAML		18 56 04.7	
	comp=E,2μm,0.9s						
SUA	**Susitna One**	**2.15**	**6**	P	**Pn**	**18 55 09.2**	**+1.2**
	baz=187						
SPNN	**North Nagishla**	**2.17**	**341**		**Pn**	**18 55 09.8**	**+1.4**
STLK	**Strandline Lak**	**2.20**	**352**		**Pn**	**18 55 10.0**	**+1.4**
N19K	**Bonanza Creek**	**2.22**	**313**		**Pn**	**18 55 08.9**	**-0.1**
N19K				IAML		18 55 52.7	
	comp=N,3μm,0.7s						
N19K				IAML		18 55 53.8	
	comp=E,3μm,0.8s						
N19K	**Bonanza Creek**	**2.22**	**313**	P	**Pn**	**18 55 09.3**	**+0.4**
	baz=131						
KVTA	**Katmai Vly 10**	**2.33**	**248**		**Pn**	**18 55 10.9**	**+0.4**
KABU	**Katmai Buttres**	**2.38**	**245**		**Pn**	**18 55 12.0**	**+0.8**
OHAK	**Old Harbor**	**2.39**	**208**	P	**Pn**	**18 55 11.0**	**-0.2**
OHAK	**Old Harbor**	**2.39**	**208**	Pn	**Pn**	**18 55 10.8**	**-0.4**
OHAK				IAML		18 55 53.5	
	comp=N,3μm,1.0s						
OHAK				IAML		18 55 55.9	
	comp=E,2μm,1.3s						
OHAK	**Old Harbor**	**2.39**	**208**	P	**Pn**	**18 55 11.0**	**-0.2**
	baz=26						
ACHA	**Angle Creek He**	**2.43**	**244**	Pn	**Pn**	**18 55 11.9**	**+0.1**
R18K	**Karluk**	**2.46**	**225**		**Pn**	**18 55 12.6**	**+0.3**
R18K	**Karluk**	**2.46**	**225**	P	**Pn**	**18 55 12.6**	**+0.3**
	baz=42						
Q23K	**Middleton Isla**	**2.48**	**86**		**Pn**	**18 55 12.2**	**-0.2**
Q23K				IAML		18 56 49.4	
	comp=E,2μm,1.4s						
Q23K	**Middleton Isla**	**2.48**	**86**	P	**Pn**	**18 55 13.1**	**+0.7**
	baz=270						
M22K	**Willow**	**2.49**	**12**		**Pn**	**18 55 13.9**	**+1.4**
M22K				IAML		18 56 13.6	
	comp=N,3μm,0.7s						
M22K	**Willow**	**2.49**	**12**	P	**Pn**	**18 55 13.6**	**+1.0**
	baz=193						
MID	**Middleton Isla**	**2.49**	**86**	P	**Pn**	**18 55 13.3**	**+0.8**
MID	**Middleton Isla**	**2.49**	**86**		**Pn**	**18 55 12.3**	**-0.2**
MID				IAML		18 56 49.4	
	comp=E,2μm,1.3s						
PMR	**Palmer**	**2.49**	**23**	P	**Pn**	**18 55 15.6**	**+3.1**
PMR	**Palmer**	**2.49**	**23**		**Pn**	**18 55 13.4**	**+0.8**
PMR	**Palmer**	**2.49**	**23**	P	**Pn**	**18 55 13.2**	**+0.7**
	baz=206						
KNK	**Knik Glacier**	**2.49**	**32**		**Pn**	**18 55 13.5**	**+0.9**
KNK				IAML		18 56 01.9	
	comp=N,2μm,1.1s						
KNK	**Knik Glacier**	**2.49**	**32**	P	**Pn**	**18 55 13.4**	**+0.8**
	baz=214						
ANCK	**Angle Creek**

M20K IAML 18 56 10.9
comp=E,2µm,1.0s
M20K Styx River 2.73 340 P **Pn 18 55 17.1 +1.1**
baz=159
FID Port Fidalgo 2.76 57 Pn 18 55 15.6 -0.7
FID IAML 18 56 02.3
comp=N,2µm,0.8s
FID IAML 18 56 10.4
comp=E,1µm,1.0s
SVW2 Sparrevohn 2.81 311 P **Pn 18 55 17.9 +0.8**
SVW2 Sparrevohn 2.81 311 Pn 18 55 17.1 +0.1
SVW2 IAML 18 56 09.8
comp=E,2µm,1.5s
SML Sawmill 2.86 28 Pn **Pn 18 55 17.9 +0.3**
SML IAML 18 56 08.6
comp=N,2µm,1.1s
SML IAML 18 56 08.7
comp=E,2µm,0.9s
SML Sawmill 2.86 28 P **Pn 18 55 18.5 +0.8**
baz=211
Q16K King Salmon 2.90 259 Pn 18 55 17.9 -0.3
Q16K King Salmon 2.90 259 P **Pn 18 55 17.9 -0.3**
baz=75
EYAK Cordova Ski Ar 3.00 64 P **Pn 18 55 20.6 +1.0**
EYAK Cordova Ski Ar 3.00 64 Pn 18 55 19.7 +0.2
EYAK Cordova Ski Ar 3.00 64 P **Pn 18 55 20.0 +0.5**
baz=248
M23K Glacier View 3.00 33 Pn 18 55 20.8 +1.1
M23K Glacier View 3.00 33 P **Pn 18 55 20.5 +0.9**
baz=216
M19K Big River Lodg 3.02 330 Pn 18 55 20.4 +0.5
M19K IAML 18 56 19.5
comp=E,1µm,0.8s
M19K Big River Lodg 3.02 330 P **Pn 18 55 20.8 +0.8**
baz=148
O17K Koliganek Bris 3.04 281 Pn 18 55 20.5 +0.5
O17K Koliganek Bris 3.04 281 P **Pn 18 55 20.5 +0.5**
baz=96
CUT Chulitna 3.12 8 Pn 18 55 22.1 +0.9
CUT IAML 18 56 29.6
comp=N,2µm,1.2s
CUT IAML 18 56 48.7
comp=E,2µm,0.9s
CUT Chulitna 3.12 8 P **Pn 18 55 22.6 +1.5**
baz=189
SCM Sheep Creek Mo 3.15 36 Pn 18 55 22.7 +1.0
SCM IAML 18 56 14.8
comp=E,1µm,1.2s
SCM IAML 18 56 18.1
comp=N,2µm,1.0s
SCM Sheep Creek Mo 3.15 36 P **Pn 18 55 22.8 +1.0**
baz=219
M18K Stony River 3.15 315 Pn 18 55 21.9 +0.2
M18K Stony River 3.15 315 P **Pn 18 55 21.9 +0.2**
baz=132
PLK4 Peulik 4 3.20 240 Pn 18 55 22.8 +0.4
R17L Mt. Peulik Vol 3.20 240 P **Pn 18 55 22.8 +0.4**
baz=56
SII Sitkinak Islan 3.21 211 P **Pn 18 55 22.1 -0.3**
SII Sitkinak Islan 3.21 211 Pn 18 55 22.0 -0.5
SII Sitkinak Islan 3.21 211 P **Pn 18 55 22.1 -0.3**
baz=28
N17K Nushagak Hills 3.24 294 Pn 18 55 22.6 -0.3
N17K IAML 18 56 16.2
comp=E,1µm,0.8s
N17K IAML 18 56 23.7
comp=N,2µm,1.0s
N17K Nushagak Hills 3.24 294 P **Pn 18 55 23.4 +0.5**
baz=110
DIV Divide 3.25 54 Pn 18 55 23.6 +0.5
L19K White Mountain 3.38 329 Pn **Pn 18 55 25.0 +0.3**
L19K IAML 18 56 27.5
comp=E,1µm,1.3s
L19K IAML 18 56 35.0
comp=N,1µm,1.4s
L19K White Mountain 3.38 329 P **Pn 18 55 25.4 +0.7**
baz=147
KLU Klutina 3.40 48 Pn 18 55 25.9 +0.8
KLU IAML 18 56 24.6
comp=E,810nm,1.1s
KLU IAML 18 56 28.6
comp=N,948nm,1.2s
KLU Klutina 3.40 48 P **Pn 18 55 26.1 +1.1**
baz=233
L20K Farewell, AK 3.42 339 Pn 18 55 26.3 +1.0
L20K Farewell, AK 3.42 339 P **Pn 18 55 26.3 +1.0**
baz=157
RAGM Ragged Mountai 3.46 69 Pn 18 55 26.1 +0.2
RAGM IAML 18 56 51.5
comp=E,935nm,1.1s
GOAT Goat Mountain 3.49 66 Pn 18 55 26.8 +0.4
KAIM Kayak Island 3.49 77 Pn **Pn 18 55 27.6 +1.3**
KAIM Kayak Island 3.49 77 P **Pn 18 55 27.7 +1.3**
baz=263
P16K Nushagak River 3.51 268 Pn 18 55 27.3 +0.7
P16K Nushagak River 3.51 268 P **Pn 18 55 27.3 +0.7**
baz=82
O16K Kokwok River B 3.53 277 Pn **Pn 18 55 27.3 +0.4**
O16K IAML 18 56 28.9
comp=N,2µm,0.9s
O16K IAML 18 56 34.2
comp=E,874nm,1.1s
O16K Kokwok River B 3.53 277 P **Pn 18 55 27.7 +0.8**
baz=92
PPLA Purkeypile 3.61 353 Pn 18 55 29.6 +1.6
HMT Hamilton 3.64 71 Pn 18 55 28.6 +0.2
HMT IAML 18 56 49.1
comp=N,698nm,1.2s
WAT6 Susitna Watana 3.67 26 Pn 18 55 30.3 +1.4
WAT6 Susitna Watana 3.67 26 P **Pn 18 55 29.8 +0.9**
baz=209
BMRM Bremner River 3.68 61 Pn 18 55 29.2 +0.2
BMRM Bremner River 3.68 61 P **Pn 18 55 29.3 +0.4**
baz=246
WAT7 Susitna Watana 3.69 17 Pn 18 55 30.8 +1.6
M24K Tolsona, Glenn 3.72 39 Pn 18 55 30.9 +1.4
M24K Tolsona, Glenn 3.72 39 P **Pn 18 55 31.1 +1.6**
baz=224
M17K Holitna River 3.73 306 Pn **Pn 18 55 29.8 +0.2**
M17K Holitna River 3.73 306 P **Pn 18 55 29.9 +0.3**
baz=122
WAT1 Susitna Watana 3.74 19 Pn 18 55 31.4 +1.7
WAT1 Susitna Watana 3.74 19 P **Pn 18 55 31.4 +1.7**
baz=202
NICHA Nichawak Mount 3.77 73 Pn 18 55 30.8 +0.7
SUCK Suckling Hills 3.83 76 Pn 18 55 32.2 +1.2
L18K Granite Mounta 3.95 319 Pn **Pn 18 55 33.0 +0.4**
L18K IAML 18 56 48.3
comp=E,552nm,0.9s
L18K IAML 18 56 56.6
comp=N,829nm,1.1s
L18K Granite Mounta 3.95 319 P **Pn 18 55 33.0 +0.4**
baz=135
N16K Nishlik Lake 3.98 290 Pn 18 55 34.0 +0.9
N16K Nishlik Lake 3.98 290 P **Pn 18 55 34.0 +0.9**
baz=104
N25K Chitina, Valde 3.98 52 Pn **Pn 18 55 33.9 +0.7**
N25K IAML 18 56 45.4
comp=N,561nm,1.7s
N25K IAML 18 56 45.5
comp=E,472nm,1.5s
N25K Chitina, Valde 3.98 52 P **Pn 18 55 34.1 +1.0**
baz=238
BGLC Bering Glacier 4.08 75 Pn 18 55 35.8 +1.4
BGLC Bering Glacier 4.08 75 P **Pn 18 55 35.8 +1.4**
baz=262
GRIN Grindle Hills 4.09 73 Pn 18 55 35.4 +0.8
CAST Castle Rocks 4.12 354 Pn 18 55 35.6 +0.6
CAST Castle Rocks 4.12 354 P **Pn 18 55 35.7 +0.7**
baz=174
KHIT Khitrov Hills 4.16 71 Pn 18 55 35.9 +0.3
DHY Denali Highway 4.18 25 Pn **Pn 18 55 37.5 +1.5**
DHY Denali Highway 4.18 25 P **Pn 18 55 37.0 +1.1**
baz=208
GLB Gilahina Butte 4.23 57 Pn **Pn 18 55 37.1 +0.5**
GLB IAML 18 56 44.9
comp=N,558nm,0.9s
M16K Timber Creek 4.23 297 Pn 18 55 36.6 +0.1
M16K IAML 18 56 55.3
comp=E,743nm,1.2s
M16K Timber Creek 4.23 297 P **Pn 18 55 37.2 +0.7**
baz=111
KTH Kantishna Hill 4.24 2 Pn 18 55 37.9 +1.3
KTH Kantishna Hill 4.24 2 IAML 18 56 46.0
comp=E,476nm,1.3s
KTH IAML 18 56 56.6
comp=N,550nm,1.1s
RND Reindeer 4.24 14 Pn **Pn 18 55 38.0 +1.3**
RND IAML 18 56 53.8
comp=N,460nm,0.8s
CHIR Chirikof Islan 4.25 216 Pn **Pn 18 55 35.9 -0.9**
CHIR IAML 18 56 53.1
comp=E,616nm,1.4s
CHIR Chirikof Islan 4.25 216 P **Pn 18 55 35.9 -0.9**
baz=32
HARP HAARP 4.26 41 Pn 18 55 38.4 +1.5
HARP HAARP 4.26 41 P **Pn 18 55 38.4 +1.5**
baz=227
K20K Telida 4.27 342 Pn 18 55 38.0 +1.1
K20K Telida 4.27 342 IAML 18 56 59.0
comp=E,622nm,2.0s
K20K IAML 18 57 01.0
comp=N,377nm,1.4s
K20K Telida 4.27 342 P **Pn 18 55 38.0 +1.1**
baz=160
CRQM Cirque 4.29 67 Pn 18 55 37.6 +0.2
CRQM IAML 18 57 02.3
comp=E,362nm,1.2s
CRQM IAML 18 57 15.0
comp=N,424nm,1.4s
TTA Tatalina 4.30 329 Pn 18 55 37.9 +0.4
TTA Tatalina 4.30 329 IAML 18 56 55.5
comp=N,671nm,1.6s
TTA IAML 18 57 03.2
comp=E,434nm,1.2s
TTA Tatalina 4.30 329 P **Pn 18 55 37.9 +0.4**
baz=145
VRDI Verde Repeater 4.30 60 Pn **Pn 18 55 37.8 +0.3**
WACK Wrangell Chich 4.30 49 Pn 18 55 38.7 +1.1
CRQE Cirque 4.30 67 P **Pn 18 55 38.0 +0.4**
baz=254
SNH Sunshine Point 4.31 75 Pn 18 55 38.1 +0.5
WASW Wrangell South 4.33 50 Pn 18 55 38.9 +0.9
WAX Waxell Ridge 4.35 72 Pn 18 55 38.1 0.0
WAX IAML 18 56 30.6
comp=E,354nm,0.4s
WAX IAML 18 57 11.3
comp=N,496nm,1.3s
WAZA Wrangell Mount 4.42 49 Pn 18 55 40.7 +1.4
TGL Tana Glacier 4.43 68 Pn 18 55 39.5 +0.2
O15K Ungalikthiuk R 4.43 272 Pn 18 55 40.1 +0.8
O15K Ungalikthiuk R 4.43 272 P **Pn 18 55 40.1 +0.8**
baz=84
L17K Donlin 4.48 312 Pn 18 55 39.9 +0.1
L17K Donlin 4.48 312 P **Pn 18 55 39.9 +0.1**
baz=126
BARK Barkley Ridge 4.52 73 Pn 18 55 41.3 +0.8
MCK McKinley 4.54 13 Pn 18 55 42.8 +2.0
MCK McKinley 4.54 13 P **Pn 18 55 42.2 +1.4**
baz=195
MCARA McCarthy VSAT 4.55 60 Pn 18 55 41.1 +0.3
MCARA IAML 18 57 26.1
comp=E,644nm,0.9s
MCARA IAML 18 57 30.2
comp=N,460nm,1.0s
MCARA McCarthy VSAT 4.55 60 P **Pn 18 55 41.4 +0.6**
baz=247
N15K Kwethluk River 4.58 284 Pn **Pn 18 55 42.1 +0.8**
N15K Kwethluk River 4.58 284 P **Pn 18 55 42.0 +0.8**
baz=97
PAX Paxson 4.58 35 Pn 18 55 42.4 +1.0
PAX Paxson 4.58 35 P **Pn 18 55 42.4 +1.0**
baz=220
CHUM Lake Minchumin 4.60 354 Pn 18 55 42.2 +0.8
CHUM Lake Minchumin 4.60 354 P **Pn 18 55 42.2 +0.8**
baz=173
ISLE Juniper Island 4.63 70 Pn 18 55 42.1 +0.1
ISLE IAML 18 56 40.8
comp=E,363nm,0.9s
ISLE IAML 18 57 31.5
comp=N,338nm,1.5s
KIAG Kiagna River 4.70 66 Pn 18 55 43.2 +0.2
BAGL Bagley Icefiel 4.73 72 Pn 18 55 44.1 +0.9
PTPK Patty Peak 4.73 63 Pn 18 55 43.9 +0.4
L16K Owhat River 4.73 304 Pn 18 55 43.6 +0.3
L16K IAML 18 57 15.0
comp=N,608nm,1.2s
L16K Owhat River 4.73 304 P **Pn 18 55 43.7 +0.4**
baz=117
BALM Baldy 4.74 65 Pn 18 55 43.9 +0.3
MESA MESA 4.75 76 Pn 18 55 44.9 +1.1
MESA MESA 4.75 76 P **Pn 18 55 44.7 +0.9**
baz=264
BPAW Bear Paw Mtn. 4.79 1 Pn **Pn 18 55 44.7 +0.6**
BPAW Bear Paw Mtn. 4.79 1 P **Pn 18 55 44.5 +0.4**
baz=182
K17K Iditarod 4.84 318 Pn 18 55 45.3 +0.4
K17K Iditarod 4.84 318 P **Pn 18 55 45.2 +0.4**
baz=132
CHGN Chignik 4.91 235 Pn **Pn 18 55 45.8 +0.1**
CHGN IAML 18 57 08.1
comp=N,233nm,0.9s
J18K Innoko River 4.92 330 Pn 18 55 46.4 +0.5
J18K IAML 18 57 19.1
comp=E,345nm,2.1s
J18K IAML 18 57 19.7
comp=N,262nm,0.8s
J18K Innoko River 4.92 330 P **Pn 18 55 46.6 +0.6**
baz=145
BWN Browne 4.92 9 Pn 18 55 47.1 +1.1
GRNC Granite Creek 4.94 69 Pn 18 55 46.6 +0.2
M15K Kasigluk River 4.96 290 Pn 18 55 46.9 +0.5
M15K Kasigluk River 4.96 290 P **Pn 18 55 46.9 +0.5**
baz=102
M26K Nabesna, AK 5.05 49 Pn **Pn 18 55 48.4 +0.6**
M26K IAML 18 57 30.6
comp=N,242nm,1.3s
M26K Nabesna, AK 5.05 49 P **Pn 18 55 48.7 +1.0**
baz=236
J20K Nowinta River 5.06 345 Pn **Pn 18 55 48.2 +0.5**
J20K IAML 18 57 29.3
comp=E,269nm,1.4s
J20K IAML 18 57 43.1
comp=N,222nm,1.6s
J20K Nowinta River 5.06 345 P **Pn 18 55 48.3 +0.5**
baz=163
J19K Poorman 5.13 338 Pn **Pn 18 55 49.5 +0.7**
J19K IAML 18 57 26.7
comp=N,295nm,1.0s
J19K IAML 18 57 44.8
comp=E,281nm,1.3s
J19K Poorman 5.13 338 P **Pn 18 55 49.6 +0.9**
baz=154
O14K Tigyukauivet M 5.16 273 Pn 18 55 50.0 +0.8
O14K IAML 18 57 30.1
comp=E,399nm,1.0s
O14K Tigyukauivet M 5.16 273 P **Pn 18 55 49.9 +0.6**
baz=85
K24K Donnelly Dome 5.18 28 Pn 18 55 52.2 +2.7
K24K Donnelly Dome 5.18 28 P **Pn 18 55 50.9 +1.4**
baz=212
TABL Table Mountain 5.18 73 Pn 18 55 50.5 +0.7
TABL IAML 18 56 51.8
comp=E,224nm,0.7s
TABL IAML 18 56 52.4
comp=N,216nm,0.7s
CTG Chitna Glacier 5.19 67 P **Pn 18 55 50.5 +0.7**
baz=256
CTGM Chitina Glacie 5.19 67 Pn 18 55 50.5 +0.7
VNHG Veniaminof 1 5.28 237 Pn 18 55 50.5 -0.4
L26K Log Cabin Wild 5.30 42 Pn 18 55 52.2 +1.1
L26K IAML 18 57 32.2
comp=N,203nm,2.1s
LOGN Logan Glacier 5.32 69 Pn 18 55 52.2 +0.6
SAMH Samovar Hills 5.33 77 Pn 18 55 53.5 +1.9
N14K Kuskokwak Cree 5.36 281 Pn 18 55 53.0 +1.1
N14K Kuskokwak Cree 5.36 281 P **Pn 18 55 53.0 +1.1**
baz=92
WRH Wood River Hil 5.36 15 Pn 18 55 52.6 +0.7
WRH IAML 18 57 30.7
comp=N,205nm,1.2s
WRH IAML 18 57 34.4
comp=E,164nm,1.4s
NEA2 Nenana 5.37 10 Pn 18 55 52.7 +0.6
NEA2 Nenana 5.37 10 P **Pn 18 55 52.9 +0.7**
baz=192
M27K Edge Creek, AK 5.47 52 Pn 18 55 54.3 +0.7
M27K Edge Creek, AK 5.47 52 P **Pn 18 55 54.8 +1.2**
baz=240
HDA Harding Lake 5.47 20 Pn 18 55 54.5 +1.1
HDA Harding Lake 5.47 20 P **Pn 18 55 54.6 +1.1**
baz=204
DOT Dot Lake 5.51 35 Pn 18 55 55.3 +1.2
J17K VABM Dome 5.56 320 Pn **Pn 18 55 55.1 +0.4**
J17K VABM Dome 5.56 320 P **Pn 18 55 55.5 +0.8**
baz=134
CCB Clear Creek Bu 5.57 15 Pn 18 55 55.5 +0.8
M14K Bethel 5.58 289 Pn **Pn 18 55 55.7 +0.7**
M14K Bethel 5.58 289 P **Pn 18 55 55.3 +0.4**
baz=100
PCA Pinnacle 5.59 77 Pn 18 55 56.4 +1.2
PINM Pinnacle 5.59 77 P **Pn 18 55 56.4 +1.2**
baz=267
L15K Ungalak Mounta 5.60 299 Pn 18 55 55.9 +0.6
L15K Ungalak Mounta 5.60 299 P **Pn 18 55 55.9 +0.6**
baz=110
YUK2 White River 5.67 60 Pn 18 55 57.2 +1.0
I20K Naaghedeneel 5.70 346 Pn 18 55 57.0 +0.5
O28M Mount Upton 5.70 71 Pn 18 55 57.7 +0.9
O28M Mount Upton 5.70 71 P **Pn 18 55 57.7 +0.9**
baz=260
MLY Manley 5.72 2 Pn **Pn 18 55 57.9 +1.0**
MLY Manley 5.72 2 P **Pn 18 55 57.7 +0.8**
baz=182
COLA College 5.78 14 P **Pn 18 55 59.3 +1.7**
COLA College 5.78 14 Pn 18 55 58.0 +0.4
SCRK Sand Creek 5.79 33 Pn 18 55 58.5 +0.7
SCRK Sand Creek 5.79 33 P **Pn 18 55 58.8 +0.9**
baz=220
MDM Murphy Dome 5.81 13 Pn **Pn 18 55 59.0 +0.9**
IL31 5.82 19 Pn **Pn 18 55 59.3 +1.1**
ILAR Eielson Array 5.82 19 Pn **Pn 18 55 59.2 +1.0**
ILAR Eielson Array 5.82 19 P **Pn 18 55 59.0 +0.8**
comp=E,8.3nm,0.3s,baz=203,slow=14,SNR=324
ILAR S **Sn 18 57 02.4 -1.2**
comp=E,21nm,0.6s,baz=199,slow=16,SNR=1.2
ILAR LR LR 18 58 22.2
comp=E,304nm,19.7s,baz=186,slow=40
comp=E,34nm,0.4s
K15K Wolf Creek Mou 5.86 305 Pn 18 55 58.6 -0.2
K15K Wolf Creek Mou 5.86 305 P **Pn 18 55 59.1 +0.3**
baz=116
L27K Beaver Creek, 5.87 46 Pn **Pn 18 55 59.4 +0.4**
L27K Beaver Creek, 5.87 46 P **Pn 18 56 00.2 +1.2**
baz=235
BCAR Beaver Creek A 5.89 47 Pn **Pn 18 55 59.9 +0.7**
BCPM Bancas Point 5.90 79 Pn 18 56 00.2 +0.9
I23K Minto, Yukon-K 5.90 8 Pn 18 56 00.1 +0.9
I23K Minto, Yukon-K 5.90 8 P **Pn 18 56 00.2 +0.9**
baz=189
J25K Salcha River, 5.97 25 Pn **Pn 18 56 01.2 +0.9**
J25K Salcha River, 5.97 25 P **Pn 18 56 01.4 +1.1**
baz=210
J16K Anvik River 6.02 315 Pn **Pn 18 56 01.4 +0.4**
J16K Anvik River 6.02 315 P **Pn 18 56 01.3 +0.4**
baz=127
PNL Peninsula 6.02 82 P **Pn 18 56 01.8 +0.8**
PNL Peninsula 6.02 82 Pn 18 56 01.8 +0.8
PNL Peninsula 6.02 82 P **Pn 18 56 01.8 +0.8**
baz=272
L14K Kuka Creek 6.05 294 Pn 18 56 02.0 +0.7
L14K Kuka Creek 6.05 294 P **Pn 18 56 01.6 +0.2**
baz=105
GCSA Galena City Sc 6.05 336 Pn 18 56 02.1 +0.7
GCSA Galena City Sc 6.05 336 P **Pn 18 56 01.6 +0.2**
baz=152
POKR Poker Plat Res 6.07 15 Pn 18 56 02.5 +0.9
POKR Poker Plat Res 6.07 15 P **Pn 18 56 02.4 +0.9**
baz=199
J26L Joseph Creek 6.31 32 Pn **Pn 18 56 05.7 +0.6**
J26L Joseph Creek 6.31 32 P **Pn 18 56 06.0 +0.9**
baz=218
H21K Melozitna Rive 6.39 354 Pn 18 56 06.8 +0.8
H21K Melozitna Rive 6.39 354 P **Pn 18 56 06.7 +0.6**
baz=173
H20K Anotleneega Mo 6.41 346 Pn 18 56 06.8 +0.4
H20K Anotleneega Mo 6.41 346 P **Pn 18 56 06.8 +0.4**
baz=163
SDPT Sand Point 6.42 236 P **Pn 18 56 06.7 +0.3**
I17K Unalakleet 6.43 319 Pn 18 56 07.0 +0.5
I17K Unalakleet 6.43 319 P **Pn 18 56 06.6 +0.1**
baz=131
O29M Mount Kennedy 6.44 76 Pn 18 56 08.4 +1.5
O29M Mount Kennedy 6.44 76 P **Pn 18 56 07.7 +0.8**
baz=267
YUK4 Talbot Arm 6.55 67 P **Pn 18 56 10.1 +1.6**
baz=257
H23K Yukon River 6.56 6 Pn 18 56 09.7 +1.3
H23K Yukon River 6.56 6 P **Pn 18 56 08.9 +0.5**
baz=188
H22K Ishtalitna Cre 6.59 359 Pn 18 56 09.7 +0.9
H22K Ishtalitna Cre 6.59 359 P **Pn 18 56 09.3 +0.6**
baz=179
YUK6 Outpost Mounta 6.61 70 Pn 18 56 10.0 +0.7
YUK6 Outpost Mounta 6.61 70 P **Pn 18 56 10.0 +0.7**
baz=261
H19K Roundabout Mou 6.68 341 Pn 18 56 10.5 +0.5
H19K Roundabout Mou 6.68 341 P **Pn 18 56 10.8 +0.8**
baz=156
H24K Noodor Dome 6.71 12 Pn **Pn 18 56 11.7 +1.3**
H24K Noodor Dome 6.71 12 P **Pn 18 56 11.1 +0.7**
baz=195
H18K Honhosa River 6.73 333 Pn 18 56 10.9 +0.2
H18K Honhosa River 6.73 333 P **Pn 18 56 11.1 +0.5**
baz=147
PRP Porcupine Dome 6.74 21 Pn 18 56 11.3 +0.4
PRP Porcupine Dome 6.74 21 P **Pn 18 56 11.5 +0.5**
baz=206
IMAR Indian Mountai 6.78 351 Pn 18 56 11.2 -0.2
P29M Windy Craggy 6.86 82 Pn 18 56 12.8 +0.3
P29M Windy Craggy 6.86 82 P **Pn 18 56 13.5 +0.9**
baz=273
J14K Nanvaranak Lak 6.91 305 Pn **Pn 18 56 13.5 +0.4**
J14K Nanvaranak Lak 6.91 305 P **Pn 18 56 13.0 -0.1**
baz=114
H17K Granite Mounta 6.95 328 Pn 18 56 14.1 +0.5
H17K Granite Mounta 6.95 328 P **Pn 18 56 14.2 +0.5**
baz=140
M29M Somme Creek 6.95 58 Pn 18 56 14.3 +0.5
M29M Somme Creek 6.95 58 P **Pn 18 56 14.7 +0.9**
baz=249
HYT Haines Junctio 7.01 72 Pn 18 56 16.2 +1.5
HYT Haines Junctio 7.01 72 P **Pn 18 56 15.8 +1.1**
baz=264
I26K Coal Creek Min 7.06 29 Pn 18 56 16.2 +0.9
I26K Coal Creek Min 7.06 29 P **Pn 18 56 16.4 +1.2**
baz=216
EGAK Eagle 7.21 37 Pn 18 56 18.3 +1.1
EGAK Eagle 7.21 37 P **Pn 18 56 18.5 +1.2**
baz=225
P30M Million Dollar 7.24 78 Pn 18 56 19.1 +1.3
P30M Million Dollar 7.24 78 P **Pn 18 56 19.1 +1.3**
baz=270
G21K Allakaket 7.29 353 Pn **Pn 18 56 19.1 +0.7**
G21K Allakaket 7.29 353 P **Pn 18 56 18.8 +0.5**
baz=171
N30M Aishikik Lake 7.30 67 Pn 18 56 18.8 +0.1
N30M Aishikik Lake 7.30 67 P **Pn 18 56 18.9 +0.3**
baz=259
DAWY Dawson 7.34 45 Pn 18 56 20.1 +1.0
G19K Purcell Mounta 7.35 341 Pn 18 56 19.8 +0.7
G19K Purcell Mounta 7.35 341 P **Pn 18 56 20.1 +0.9**
baz=156
L29M L29M 7.35 53 Pn **Pn 18 56 20.1 +0.8**
L29M L29M 7.35 53 P **Pn 18 56 20.1 +0.8**
baz=245
H25L Birch Creek 7.38 17 Pn 18 56 20.6 +1.0
H25L Birch Creek 7.38 17 P **Pn 18 56 20.6 +1.0**
baz=202
G18K Tagagawik 7.42 336 Pn **Pn 18 56 20.8 +0.6**
G18K Tagagawik 7.42 336 P **Pn 18 56 21.1 +0.9**
baz=149
G23K Bananza Creek 7.42 4 Pn 18 56 20.6 +0.3
G23K Bananza Creek 7.42 4 P **Pn 18 56 20.9 +0.6**
baz=185
PLBC Pleasant Camp 7.57 83 Pn 18 56 23.2 +1.0
PLBC Pleasant Camp 7.57 83 P **Pn 18 56 23.2 +1.0**
baz=275
G17K Kiwalik Mounta 7.58 329 Pn 18 56 22.7 +0.4
G17K Kiwalik Mounta 7.58 329 P **Pn 18 56 22.7 +0.4**
baz=141
G24K Hadweenzic Riv 7.58 11 Pn 18 56 23.0 +0.6
G24K Hadweenzic Riv 7.58 11 P **Pn 18 56 23.0 +0.6**
baz=195
I27K Kandik River 7.69 31 Pn 18 56 25.0 +1.1
I27K Kandik River 7.69 31 P **Pn 18 56 25.0 +1.1**
baz=220

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O30N  Mendenhall      7.70 73          Pn      18 56 25.1 +1.1
O30N  Mendenhall      7.70 73   P      Pn      18 56 24.9 +0.9
      baz=266
M30M  Minto, Yukon    7.72 59          Pn      18 56 24.6 +0.2
M30M  Minto, Yukon    7.72 59   P      Pn      18 56 24.6 +0.2
      baz=252
FYU   Fort Yukon      7.75 18   Pn     Pn      18 56 25.8 +1.2
G25K  Bearman Lake    7.81 15          Pn      18 56 25.9 +0.5
G25K  Bearman Lake    7.81 15   P      Pn      18 56 25.9 +0.5
      baz=200
S31K  Pelican         7.93 94   Pn     Pn      18 56 26.8 -0.2
S31K  Pelican         7.93 94   P      Pn      18 56 26.9 -0.2
      baz=286
K29M  Barlow Dome     7.93 49   Pn     Pn      18 56 27.9 +0.7
N31M  Braeburn, Yuko  7.93 68   Pn     Pn      18 56 28.0 +0.8
COLD  Coldfoot        7.94 3           Pn      18 56 27.6 +0.4
COLD  Coldfoot        7.94 3    P      Pn      18 56 27.6 +0.4
      baz=184
G16K  Koyuk River     7.98 324         Pn      18 56 28.2 +0.4
F21K  Alatna River    7.99 354         Pn      18 56 28.6 +0.7
F21K  Alatna River    7.99 354  P      Pn      18 56 28.4 +0.5
      baz=172
J29N  Klondike Camp   7.99 45          Pn      18 56 29.3 +1.3
F20K  Avaraart Lake   8.01 347  Pn     Pn      18 56 29.3 +1.1
F20K  Avaraart Lake   8.01 347  P      Pn      18 56 28.8 +0.7
      baz=163
I28M  Miner Creek     8.05 36          Pn      18 56 29.6 +0.8
F19K  Shaleruckik Mo  8.09 341  Pn     Pn      18 56 30.3 +1.0
SKAG  Skagway         8.10 82   P      Pn      18 56 30.8 +1.4
SKAG  Skagway         8.10 82          Pn      18 56 30.4 +1.0
F24K  Squaw Lake      8.35 9    Pn     Pn      18 56 34.1 +1.3
F17K  Baldwin Pennin  8.47 332         Pn      18 56 35.2 +0.7
I29M  Ogilvie Camp,   8.50 39          Pn      18 56 36.0 +1.1
E19K  Redstone River  8.59 344  Pn     Pn      18 56 37.1 +1.0
BMAR  Burnt Mountain  8.65 17   Pn     Pn      18 56 37.2 +0.3
G27K  Doyon Strip     8.65 26          Pn      18 56 37.3 +0.3
SIT   Sitka           8.69 98   P      Pn      18 56 37.5  0.0
SIT   Sitka           8.69 98   Pn     Pn      18 56 36.7 -0.8
M31M  Drury Creek, Y  8.71 64          Pn      18 56 38.3 +0.5
R32K  Eaglecrest      8.72 90          Pn      18 56 38.8 +0.8
J30M  Hart River      8.74 47          Pn      18 56 39.2 +0.8
JIS   Juneau Island   8.79 90   P      Pn      18 56 39.7 +0.8
JIS   Juneau Island   8.79 90          Pn      18 56 39.5 +0.6
E24K  Your Creek      8.86 7    Pn     Pn      18 56 41.3 +1.4
F15K  North Star Dit  8.90 322         Pn      18 56 41.3 +0.9
P32M  Atlin           8.90 81   Pn     Pn      18 56 40.9 +0.4
S32K  Killisnoo       8.92 95          Pn      18 56 40.7  0.0
H29M  Whitestone      9.05 35   Pn     Pn      18 56 43.4 +0.9
I30M  Mount Dempster  9.07 43          Pn      18 56 44.5 +1.6
E18K  Tukpahlearik C  9.14 337  Pn     Pn      18 56 45.4 +1.8
E25K  Arctic Village  9.16 13          Pn      18 56 45.1 +1.1
FARO  Faro, Yukon     9.19 64          Pn      18 56 45.0 +0.6
E21K  Killik River    9.22 354  Pn     Pn      18 56 45.8 +0.9
P33M  Teslin, Yukon   9.31 77          Pn      18 56 46.5 +0.3
TOLK  Toolik Lake Re  9.37 4           Pn      18 56 48.0 +1.1
D22K  Ayikyak River   9.61 357  Pn     Pn      18 56 51.6 +1.6
G29M  Pine Creek      9.64 32   Pn     Pn      18 56 51.9 +1.4
D19K  Kuna River      9.68 345  Pn     Pn      18 56 52.3 +1.2
F28M  Old Crow        9.71 26          Pn      18 56 52.0 +0.5
Q32M  Nakina River    9.73 84   Pn     Pn      18 56 52.9 +0.9
E27K  Coleen River    9.83 21   Pn     Pn      18 56 54.7 +1.5
D24K  Happy Valley    9.91 5           Pn      18 56 54.7 +0.5
UNV   Unalaska Valle  10.06 244 P       Pn      18 56 56.5 +0.2
U33K  Whale Pass      10.18 101        Pn      18 56 56.9 -1.1
U33K                                   Sn      18 58 48.5 -2.0
G30M  tAoh Zraii Nji  10.20 35  Pn     Pn      18 56 58.8 +0.6
MMPY  Sheldon Lake,   10.22 63  Pn     Pn      18 56 58.7 +0.2
C18K  Utukok River    10.31 339  Pn    Pn      18 57 00.6 +0.9
R33M  Jennings River  10.32 81          Pn      18 57 00.4 +0.4
B21K  Ikpikpuk River  10.43 353  Pn    Pn      18 57 01.8 +0.5
WRAK  Wrangell Islan  10.45 98          Pn      18 57 01.4 -0.2
C19K  Lookout Ridge   10.45 343  Pn    Pn      18 57 02.1 +0.5
CRAG  Craig           10.48 104  P     Pn      18 57 00.9 -1.1
CRAG  Craig           10.48 104  Pn    Pn      18 57 00.4 -1.6
C23K  Itkillik River  10.55 1           Pn      18 57 04.0 +1.1
S34M  Telegraph Cree  10.55 89  Pn     Pn      18 57 03.8 +0.8
E28M  Babbage River   10.60 24  Pn     Pn      18 57 03.8 +0.3
G31M  Satah River     10.76 38          Pn      18 57 06.4 +0.7
E29M  Blow River      10.78 27          Pn      18 57 06.4 +0.2
D27M  Malcolm River   10.87 20  Pn     Pn      18 57 07.3 -0.1
C16K  Lisburne Hills  10.90 331  Pn    Pn      18 57 08.6 +1.0
DLBC  Dease Lake      10.98 86          Pn      18 57 09.3 +0.3
DLBC  Dease Lake      10.98 86  P       Pn      18 57 09.9 +0.9
      comp=E,5.7nm,0.3s,baz=285,slow=11,SNR=46
DLBC                            LR      LR      19 01 27.2
      comp=E,265nm,20.4s,baz=295,slow=37
      comp=E,18nm,0.5s
B20K  Meade River     11.01 349  Pn    Pn      18 57 09.2 +0.1
B22K  Teshekpuk Lake  11.09 356  Pn    Pn      18 57 10.1 -0.2
F31M  Tsiigehtchic    11.24 36          Pn      18 57 12.4 +0.1
T35M  Bob Quinn       11.30 93  Pn     Pn      18 57 13.5 +0.2
V35K  Ketchikan       11.30 102  Pn    Pn      18 57 13.0 -0.3
WTLY  Watson Lake, Y  11.32 76          Pn      18 57 13.6  0.0
INK   Inuvik          11.86 33  LR     LR      19 02 22.2
      comp=E,257nm,18.8s,baz=182,slow=40
DIB   Dawson Inlet,   12.06 112         Pn      18 57 22.8 -0.8
BBB   Bella Bella     14.78 109  LR     LR      19 03 02.1
      comp=E,262nm,19.7s,baz=344,slow=34
ADK   Adak            16.14 254  P       Pn      18 58 17.7 -0.3
YKA   Yellowknife Ar  17.91 64   P       P       18 58 40.8 +0.7
      comp=E,0.4nm,0.3s,baz=276,slow=10,SNR=22
YKA                            LR      LR      19 06 20.2
      comp=E,374nm,20.3s,baz=300,slow=39
      comp=E,6.8nm,0.8s
BRLDA Berland Lookou  19.13 91          Pn      18 58 54.4 -0.5
BRLDA                          IAmb    IAmb    18 58 59.8
      comp=Z,36nm,0.9s
LON   Longmire        21.48 113  P       P       18 59 19.6 +0.4
B08A  Colville Reser  21.55 107  P       P       18 59 19.9 +0.1
D08A  Wollman Farm,   22.65 109  P       P       18 59 30.9 -0.6
NEW   Newport         22.70 104  P       P       18 59 32.6 +0.4
NEW   Newport         22.70 104  LR      LR      19 07 53.9
      comp=Z,286nm,19.9s,baz=320,slow=35
H04A  Detroit Lake    22.85 117  P       P       18 59 34.3 +0.6
H04A                           IAmb    IAmb    18 59 49.4
      comp=Z,32nm,1.2s
G08A  Pilot Rock      23.90 112  P       P       18 59 44.4 +0.5
F10A  Beach Ranch, E  24.24 108  P       P       18 59 47.9 +0.8
I07A  Izee            24.55 114  P       P       18 59 50.8 +0.9
I07A                           IAmb    IAmb    19 00 11.4
      comp=Z,18nm,1.5s
YBH   Yreka Blue Hor  24.96 122  P       P       18 59 56.3 +2.8
YBH   Yreka Blue Hor  24.96 122  LR      LR      19 07 50.7
      comp=Z,169nm,21.0s,baz=324,slow=32
BMO   Blue Mountains  25.02 110  P       P       18 59 55.8 +1.7
MSO   Missoula        25.26 103  P       P       18 59 55.0 -1.3
RES   Resolute Bay    25.40 31   LR      LR      19 10 56.6
      comp=Z,52nm,19.3s,baz=346,slow=39
LYMT  Lyon Mountain   25.99 101  P       P       19 00 05.0 +1.9
MFID  Camas Ranch     26.80 111  P       P       19 00 11.7 +1.4
BOZ   Bozeman (W)     27.27 103  P       P       19 00 15.3 +0.8
PET   Petropavlovsk   28.03 279  P       P       19 00 23.4 +2.4
MA2   Magadan         28.69 296  P       P       19 00 26.0 -0.8
MA2                            IAmb    IAmb    19 00 27.4
      comp=Z,23nm,0.9s
MA2   Magadan         28.69 296  LR      LR      19 11 24.8
      comp=Z,105nm,20.6s,baz=102,slow=36
MA2   Magadan         28.69 296  P       P       19 00 24.2 -2.6
      comp=Z,32nm,1.0s
RLMT  Red Lodge       28.79 101  P       P       19 00 29.9 +1.7
RLMT                           IAmb    IAmb    19 00 47.4
      comp=Z,9.1nm,1.0s
IMW   Indian Meadow   28.83 104  P       P       19 00 29.8 +1.3
IMW                            IAmb    IAmb    19 00 44.8
      comp=Z,6.7nm,0.7s
FXWY  Fox Creek       28.98 105  P       P       19 00 30.1 +0.3
TPAW  Teton Pass      29.12 105  P       P       19 00 32.0 +0.9
ELK   Elko            29.13 114  P       P       19 00 32.0 +0.8
NVAR  Mina Array Bea  29.60 120  P       P       19 00 38.8 +3.5
      comp=Z,0.8nm,0.7s,baz=308,slow=7.9,SNR=5.8
NVAR                           PcP     PcP     19 03 40.4 +1.3
      comp=Z,0.6nm,0.6s,baz=343,slow=2.8,SNR=4.0
NVAR                           LR      LR      19 11 59.3
      comp=Z,133nm,18.4s,baz=42,slow=35
      comp=Z,0.8nm,0.7s
PDAR  Pinedale Array  30.34 104  P       P       19 00 44.9 +2.9
      comp=Z,0.8nm,0.7s,baz=317,slow=6.3,SNR=6.9
PDAR                           LR      LR      19 12 37.9
      comp=Z,75nm,18.3s,baz=282,slow=36
      comp=Z,0.8nm,0.7s
R11B  Troy Canyon, C  30.89 117  P       P       19 00 47.5 +0.8
SPR3  Spring Creek 3  30.94 115  P       P       19 00 48.5 +1.2
PSUT  Pine Spring     31.54 115  P       P       19 00 53.2 +0.8
RSSD  Black Hills     32.15 97   P       P       19 00 58.9 +1.1
RSSD                           IAmb    IAmb    19 01 15.7
      comp=Z,8.2nm,0.9s
ULM   Lac du Bonnet   32.27 81   LR      LR      19 14 56.6
      comp=Z,149nm,19.1s,baz=345,slow=38
CCUT  Cedar City      32.56 115        P       19 01 03.2 +1.7
PKCU  Pink Cliffs     33.13 114        P       19 01 05.5 -1.0
PKCU                           IAmb    IAmb    19 01 25.1
      comp=Z,5.7nm,1.0s
V12A  Nelson          33.38 119        P       19 01 07.8 -0.7
PFO   Pinyon Flats O  34.45 123  LR      LR      19 13 21.2
      comp=Z,117nm,20.1s,baz=338,slow=32
WUAZ  Wupatki         35.14 115        P       19 01 22.1 -1.7
WUAZ                           IAmb    IAmb    19 01 40.4
      comp=Z,6.1nm,0.8s
YAK   Yakutsk         36.60 309  P       P       19 01 34.5 -1.2
YAK   Yakutsk         36.60 309  LR      LR      19 17 49.5
      comp=Z,116nm,20.4s,baz=66,slow=38
ANMO  Albuquerque     37.93 110  P       P       19 01 48.3 +0.7
ANMO                           PcP     PcP     19 04 03.7 +1.1
ANMO  Albuquerque     37.93 110  LR      LR      19 16 39.2
      comp=Z,100nm,21.1s,baz=122,slow=35
E43A  Lone Tree Farm  39.28 80   P       P       19 01 59.7 +1.2
E43A                           IAmb    IAmb    19 02 22.2
      comp=Z,7.1nm,0.7s
POHA  Pohakuloa       39.65 186  P       P       19 02 02.5 +0.3
SFJD  Kangerlussuaq   41.19 36   LR      LR      19 18 33.5
      comp=Z,61nm,18.5s,baz=268,slow=35
WMOK  Wichita Mounta  41.88 102  P       P       19 02 21.4 +1.2
WMOK                           IAmb    IAmb    19 02 35.3
      comp=Z,5.8nm,0.7s
SPITS Spitsbergen Ar  42.53 4    P       P       19 02 24.3 -0.6
      comp=Z,5.9nm,0.7s,baz=20,slow=4.7,SNR=6.3
      comp=Z,5.9nm,0.7s
U38A  Gravette        42.77 96   P       P       19 02 28.4 +1.0
U38A                           IAmb    IAmb    19 02 42.8
      comp=Z,13nm,0.8s
SCHQ  Schefferville   43.16 57   P       P       19 02 30.9 +0.6
SCHQ                           IAmb    IAmb    19 02 44.4
      comp=Z,7.8nm,0.8s
SCHQ  Schefferville   43.16 57   LR      LR      19 21 10.1
      comp=Z,98nm,18.5s,baz=276,slow=37
KLR   Kul'dur         43.64 292  LR      LR      19 21 03.4
      comp=Z,85nm,19.3s,baz=359,slow=37
OZNA  Ozona           43.80 108  P       P       19 02 34.8 -0.9
OZNA                           IAmb    IAmb    19 02 51.4
      comp=Z,7.5nm,1.1s
TXAR  Lajitas Array   43.89 112  P       P       19 02 39.3 +2.8
      comp=Z,0.8nm,0.8s,baz=334,slow=6.0,SNR=7.6
TXAR                           LR      LR      19 19 33.9
      comp=Z,65nm,20.4s,baz=334,slow=34
      comp=Z,0.8nm,0.8s
SADO  Sadowa          44.34 76   LR      LR      19 22 58.0
      comp=Z,70nm,20.6s,baz=58,slow=38
JCT   Junction City   44.81 107  P       P       19 02 44.7 +0.9
NRIK  Noril'sk        44.90 335  P       P       19 02 44.0  0.0
      comp=Z,2.2nm,0.5s,baz=38,slow=7.7,SNR=2.2
      comp=Z,2.2nm,0.5s
HEH   HeiHe           44.96 296  eP      P       19 02 42.8 -1.9
HEH                            pmax    pmax    19 03 09.4
      comp=Z,9.0nm,0.9s
DRIO  Del Rio         45.28 108  P       P       19 02 48.5 +0.9
DRIO                           IAmb    IAmb    19 03 01.8
      comp=Z,4.5nm,0.8s
USRK  Ussuriysk Ar.   47.11 287  LR      LR      19 24 43.2
      comp=Z,55nm,19.8s,baz=41,slow=39
PLAL  Pickwick Lake   47.13 92   P       P       19 03 03.2 +1.2
PLAL                           IAmb    IAmb    19 03 16.1
      comp=Z,5.0nm,0.8s
BNX   BinXian         48.20 292  ⇑P      P       19 03 09.6 -0.5
BNX                            pmax    pmax    19 03 09.6
      comp=Z,9.0nm,0.6s
L59A  Walton          48.26 75   P       P       19 03 12.6 +1.8
F63A  Nahmakanta, Br  48.55 68   P       P       19 03 14.7 +1.8
F63A                           IAmb    IAmb    19 03 28.0
      comp=Z,9.2nm,1.1s
F64A  Sherman         48.79 67   P       P       19 03 15.4 +0.8
TKL   Tuckaleechee C  48.81 88   LR      LR      19 24 25.0
      comp=Z,115nm,20.0s,baz=1.5,slow=36
K62A  Royalston       49.29 73   P       P       19 03 18.6  0.0
MJAR  Matsushiro Arr  49.75 276  P       P       19 03 21.5 -0.6
      comp=Z,2.9nm,0.9s,baz=22,slow=7.4,SNR=8.1
MJAR                           LR      LR      19 26 37.9
      comp=Z,33nm,18.1s,baz=45,slow=39
      comp=Z,2.9nm,0.9s
MJB9  Matsu-Tunnel    49.75 276        P       19 03 22.9 +0.8
MAJO  Matsushiro      49.75 276  P       P       19 03 22.0 -0.1
BORG  Borgarnes       50.60 25   LR      LR      19 27 18.1
      comp=Z,37nm,20.2s,baz=339,slow=39
ARCES ARCESS Array B  51.41 1    P       P       19 03 33.5 -0.7
      comp=Z,2.3nm,0.5s,baz=8.9,slow=6.4,SNR=21
      comp=Z,2.3nm,0.5s
KSRS  Korea Array     54.23 284  P       P       19 03 55.1 -0.2
      comp=Z,1.6nm,0.5s,baz=40,slow=7.2,SNR=9.3
KSRS                           LR      LR      19 28 00.1
      comp=Z,30nm,19.8s,baz=60,slow=37
      comp=Z,1.6nm,0.5s
KSAR  Wonju Array Be  54.25 284  P       P       19 03 54.9 -0.6
JCJ   Chichijima      55.23 265  LR      LR      19 26 31.6
      comp=Z,15nm,21.2s,baz=5.0,slow=35
ULN   Ulaanbaatar     55.63 307  P       P       19 04 04.8 -0.8
ULN                            IAmb    IAmb    19 04 06.3
      comp=Z,5.1nm,0.7s
ULN                            PcP     PcP     19 05 04.5 -0.2
SONM  Songino Array   55.92 307  P       P       19 04 07.5 -0.2
SONM                           IAmb    IAmb    19 04 08.8
      comp=Z,5.8nm,0.7s
SONM  Songino Array   55.92 307  P       P       19 04 08.1 +0.5
      comp=Z,7.2nm,0.7s,baz=41,slow=7.4,SNR=44
SONM                           LR      LR      19 29 16.7
      comp=Z,106nm,21.6s,baz=35,slow=37
      comp=Z,7.2nm,0.7s
ZAA0  Zalesovo Array  58.45 325  P       P       19 04 23.7 -1.5
ZAA0                           IAmb    IAmb    19 04 25.2
      comp=Z,4.9nm,0.6s
ZALV  Zalesovo Beam   58.45 325  P       P       19 04 24.1 -1.2
ZALV                           PcP     PcP     19 05 15.3 -0.1
ZALV  Zalesovo Beam   58.45 325  P       P       19 04 24.2 -1.0
      comp=Z,4.6nm,0.5s,baz=31,slow=6.9,SNR=24
ZALV                           LR      LR      19 33 39.8
      comp=Z,43nm,19.0s,baz=338,slow=40
      comp=Z,4.6nm,0.5s
NC303 NORSAR Array S  59.02 10   P       P       19 04 28.6 -0.4
NC303                          IAmb    IAmb    19 04 42.3
      comp=Z,9.1nm,1.0s
TEIG  Tepich          59.05 103  LR      LR      19 34 49.7
      comp=Z,32nm,18.6s,baz=37,slow=41
NC405 NORSAR Array S  59.16 10   P       P       19 04 29.2 -0.8
NC405                          IAmb    IAmb    19 04 43.6
      comp=Z,7.6nm,1.0s
NB2   NORSAR Subarra  59.18 10   P       P       19 04 30.4 +0.1
      comp=Z,1.4nm,0.8s,baz=350,slow=6.9
NOA   NORSAR Array B  59.18 10   P       P       19 04 29.5 -0.8
      comp=Z,2.7nm,0.9s,baz=351,slow=6.9,SNR=9.9
      comp=Z,2.7nm,0.9s
HHC   Hu-ho-hao-te    59.31 299  eP      P       19 04 32.3 +0.8
HHC                            pmax    pmax
      comp=Z,15nm,0.7s
HHC                            pmax    pmax
      comp=Z,110nm,5.0s
FIA1  FINESS Array S  59.53 2    P       P       19 04 31.9 -0.7
FINES FINESS Array B  59.54 2    P       P       19 04 32.2 -0.4
FINES FINESS Array B  59.54 2    P       P       19 04 32.5 -0.1
      comp=Z,6.3nm,0.7s,baz=0.1,slow=9.0,SNR=36
      comp=Z,6.3nm,0.7s
HFS   Hagfors         60.28 9    P       P       19 04 37.1 -0.7
      comp=Z,5.4nm,0.9s,baz=7.8,slow=3.2,SNR=20
      comp=Z,5.4nm,0.9s
ARU   Arti            62.18 342  P       P       19 04 48.8 -1.8
ARU   Arti            62.18 342  LR      LR      19 37 57.5
      comp=Z,34nm,18.1s,baz=350,slow=42
ARU   Arti            62.18 342  P       P       19 04 49.3 -1.3
      comp=Z,13nm,0.9s
JOW   Kunigami        62.56 277  LR      LR      19 34 36.4
      comp=Z,20nm,18.0s,baz=106,slow=38
EKA   Eskdalemuir Ar  62.86 20   P       P       19 04 55.3 +0.1
      comp=Z,0.8nm,0.4s,baz=339,slow=6.0,SNR=12
      comp=Z,0.8nm,0.4s
BVAR  Borovoye Array  63.08 333  P       P       19 04 55.7 -1.0
      comp=Z,12nm,0.6s,baz=31,slow=7.1,SNR=92
BVAR                           LR      LR      19 36 21.1
      comp=Z,66nm,18.7s,baz=43,slow=40
      comp=Z,12nm,0.6s
KURK  Kurchatov       63.09 327  P       P       19 04 55.3 -1.5
KURK                           IAmb    IAmb    19 04 56.2
      comp=Z,4.5nm,0.7s
KURBB Kurchatov Arra  63.20 327  P       P       19 04 56.3 -1.2
      comp=Z,2.3nm,0.5s,baz=31,slow=6.5,SNR=14
KURBB                          LR      LR      19 34 53.9
      comp=Z,53nm,21.4s,baz=173,slow=38
      comp=Z,2.3nm,0.5s
LYN   LuoYang         64.02 294  ⇑iP     P       19 05 03.3 +0.1
LYN                            pP      sP      19 05 22.4 +0.8
LYN                            PcP     PcP     19 05 37.6 -0.6
LYN                            S       S       19 13 36.5 +0.6
LYN                            pmax    pmax
      comp=Z,23nm,0.6s
LYN                            LR      LR
      comp=Z,210nm,10.6s
LYN                            LR      LR
      comp=Z,130nm,9.7s
LYN                            LR      LR
      comp=Z,160nm,10.0s
GUMO  Guam            65.20 254  LR      LR      19 32 29.7
      comp=Z,18nm,19.9s,baz=56,slow=35
PABE  Paberze         65.44 3          P       19 05 11.4 -0.6
MK31  Makanchi Array  65.52 323  P       P       19 05 11.0 -1.8
MKAR  Makanchi Array  65.52 323  P       P       19 05 10.9 -1.9
MKAR  Makanchi Array  65.52 323  P       P       19 05 11.2 -1.7
      comp=Z,1.1nm,0.4s,baz=36,slow=6.6,SNR=26
      comp=Z,1.1nm,0.4s
GTA   Gaotai          65.56 306  P       P       19 05 13.0 -0.3
GTA                            pP      sP      19 05 31.8 +0.1
GTA                            pmax    pmax
      comp=Z,5.0nm,0.9s
OBN   Obninsk         65.73 355  ⇑P      P       19 05 14.1 +0.2
OBN   Obninsk         65.73 355  P       P       19 05 13.7 -0.2
      comp=Z,19nm,1.1s
LZH   Lanzhou         66.65 302  eP      P       19 05 20.8 +0.4
LZH                            pmax    pmax
      comp=Z,34nm,1.2s
AKTO  Aktyubinsk      68.04 340  LR      LR      19 39 24.9
      comp=Z,63nm,18.5s,baz=241,slow=40
ABKAR Akbulak array   68.83 339  P       P       19 05 32.8 -0.8
CLL   Collm           68.97 11   ePx     P       19 05 35.0 +0.5
CLL                            i x     x       19 05 40.8
CLL                            i pP    pP      19 05 47.5 -0.4
      comp=Z,5.0nm,0.9s
CLL                            i sP    sP      19 05 53.5 +0.3
BRG   Berggiesshubel  69.49 10   eP      P       19 05 38.8 +1.0
BRG                            Amp             19 05 39.7
      comp=Z,4.0nm,1.1s
HSKC  Hora Svate Kat  69.70 10   eP      P       19 05 40.2 +1.1
HSKC                           epP     pP      19 05 52.5  0.0
KSP   Ksiaz           69.71 8    P       P       19 05 39.9 +0.8
      comp=Z,11nm,1.0s
RNPP5 Staryi Chortor  69.77 2    P       P       19 05 39.5 +0.1
CHVC  Chvalec         69.95 9    eP      P       19 05 41.0 +0.4
MI28  Mi28,Pidlybu    70.09 1    P       P       19 05 41.3 -0.1
DPC   Dobruska-Polom  70.20 8    eP      P       19 05 42.8 +0.6
DPC                            epP     pP      19 05 54.6 -1.0
DPC   Dobruska-Polom  70.20 8    P       P       19 05 43.1 +0.9
      comp=Z,17nm,0.9s
AK21  Malin Array Si  70.25 360  P       P       19 05 41.9 -0.5
AK22  Malin Array Si  70.26 360  P       P       19 05 42.1 -0.4
MI30  MI30,Zelenitsa  70.28 0    P       P       19 05 42.2 -0.4
AK20  Malin Array Si  70.28 360  P       P       19 05 42.2 -0.4
AK03  Malin Array Si  70.30 360  P       P       19 05 42.3 -0.4
AK04  Malin Array Si  70.30 360  P       P       19 05 42.3 -0.4
AK18  Malin Array Si  70.30 360  P       P       19 05 42.3 -0.4
AK19  Malin Array Si  70.30 360  P       P       19 05 42.3 -0.4
AKASG Malin Array Be  70.32 360  P       P       19 05 42.2 -0.6
      comp=Z,3.3nm,0.5s,baz=359,slow=5.6,SNR=10
      comp=Z,3.3nm,0.5s
AKBB  Malin Array Si  70.32 360  P       P       19 05 41.7 -1.1
AKBB  Malin Array Si  70.32 360  P       P       19 05 42.4 -0.4
KIEV  Kiev            70.33 360  ⇓P      P       19 05 42.7 -0.1
KIEV  Kiev            70.33 360  P       P       19 05 41.4 -1.5
KIEV                           IAmb    IAmb    19 05 55.9
      comp=Z,8.7nm,0.7s
KIEV  Kiev            70.33 360  P       P       19 05 42.4 -0.5
      comp=Z,55nm,0.8s
AK01  Malin Array Si  70.33 360  P       P       19 05 42.5 -0.4
AK11  Malin Array Si  70.35 360  P       P       19 05 42.6 -0.4
AK12  Malin Array Si  70.38 360  P       P       19 05 42.9 -0.3
AK08  Malin Array Si  70.39 360  P       P       19 05 43.0 -0.2
AK14  Malin Array Si  70.39 360  P       P       19 05 43.0 -0.3
AK05  Malin Array Si  70.41 360  P       P       19 05 43.1 -0.2
AK09  Malin Array Si  70.41 360  P       P       19 05 43.1 -0.3
AK13  Malin Array Si  70.41 360  P       P       19 05 43.1 -0.3
PRU   Pruhonice       70.42 10   eP      P       19 05 45.3 +1.9
AK10  Malin Array Si  70.42 360  P       P       19 05 43.2 -0.3
AK07  Malin Array Si  70.47 360  P       P       19 05 43.5 -0.2
KRLC  Kraliky         70.51 8    eP      P       19 05 44.6 +0.5
KRLC                           epP     pP      19 05 57.2 -0.3
OJC   Ojcow           70.56 6          P       19 05 44.6 +0.3
OJC                            IAmb    IAmb    19 06 06.6
      comp=Z,5.4nm,0.8s
MORC  Moravsky Berou  70.86 8    ⇑P      P       19 05 47.1 +0.9
MORC  Moravsky Berou  70.86 8          P       19 05 46.8 +0.6
MORC                           IAmb    IAmb    19 06 06.1
      comp=Z,6.3nm,1.2s
MORC  Moravsky Berou  70.86 8    eP      P       19 05 46.7 +0.5
ZVC   Zvikov          70.93 10   eP      P       19 05 47.8 +1.2
LUBAR Lubar, Ukraine  71.10 1    P       P       19 05 47.5 -0.1
KHC   Kasperske Hory  71.18 11   P       P       19 05 48.3 +0.1
KHC                            IAmb    IAmb    19 05 50.4
      comp=Z,7.4nm,1.1s
KHC   Kasperske Hory  71.18 11   eP      P       19 05 48.7 +0.5
KHC                            epP     pP      19 06 01.6  0.0
KHC   Kasperske Hory  71.18 11   P       P       19 05 49.0 +0.8
      comp=Z,6.3nm,1.1s
VRAC  Vranov          71.26 8    ⇓P      P       19 05 49.5 +0.9
VRAC  Vranov          71.26 8    eP      P       19 05 49.3 +0.7
ECH   Echery          71.36 15   P       P       19 05 49.2  0.0
ECH                            IAmb    IAmb    19 05 50.9
      comp=Z,7.1nm,1.1s
NIE   Niedzica        71.39 6    P       P       19 05 50.4 +1.0
      comp=Z,2.6nm,1.1s
BFO   Black Forest    71.39 14   P       P       19 05 49.5  0.0
GERES GERESS Array B  71.48 10   P       P       19 05 49.6 -0.4
GERES GERESS Array B  71.48 10   P       P       19 05 50.3 +0.2
      comp=Z,1.3nm,0.8s,baz=349,slow=4.5,SNR=7.7
      comp=Z,1.3nm,0.8s
KRUC  Moravsky        71.49 9    eP      P       19 05 50.4 +0.4
LANS  Liptovska Anna  71.61 6    eP      P       19 05 52.3 +1.6
JAVC  Velka Javorina  71.78 8    eP      P       19 05 53.5 +1.7
KOLS  Kolonicke sedl  71.96 5    eP      P       19 05 53.9 +1.1
SJG   San Juan        72.10 85   LR      LR      19 40 49.4
      comp=Z,31nm,18.9s,baz=104,slow=38
VYHS  Vyhne           72.22 7    eP      P       19 05 55.6 +1.2
MODS  Modra-Piesok    72.24 8    eP      P       19 05 56.2 +1.7
KK31  Karatay Array   72.28 329  P       P       19 05 53.9 -0.9
KK31                           IAmb    IAmb    19 05 54.8
      comp=Z,4.8nm,0.8s
KKAR  Karatay Array   72.28 329  P       P       19 05 53.4 -1.4
KKAR  Karatay Array   72.28 329  P       P       19 05 53.8 -1.1
KKAR                           IAmb    IAmb    19 05 54.8
      comp=Z,4.8nm,0.8s
ZST   Bratislava      72.40 8    eP      P       19 05 57.3 +1.9
KMPD  K-Podol'skiy    72.45 2    P       P       19 05 54.9 -0.8
MOA   Molln           72.52 10   eP      P       19 05 57.0 +0.9
      comp=Z,3.3nm,1.2s
MOA                            i pP    pP      19 06 08.2 -1.4
      comp=Z,1.7nm,0.8s
CONA  Conrad Observa  72.57 9    i P     P       19 05 57.6 +1.0
      comp=Z,6.7nm,0.9s,SNR=6.1
CONA                           i pP    pP      19 06 10.6 +0.5
      comp=Z,5.3nm,0.8s
DAVA  Damuels         72.61 13   eP      P       19 05 58.6 +1.7
      comp=Z,4.9nm,1.4s
DAVA                           epP     pP      19 06 10.7 +0.3
      comp=Z,2.7nm,0.9s
BIOA  Bad Ischl, Aus  72.61 11   i P     P       19 05 57.7 +0.9
      comp=Z,4.6nm,1.1s
BIOA                           epP     pP      19 06 10.5 +0.3
      comp=Z,2.9nm,0.8s
WATA  Walderalm       72.76 12   i P     P       19 05 59.0 +1.2
      comp=Z,7.3nm,0.9s,SNR=5.5
WATA                           i pP    pP      19 06 11.8 +0.6
      comp=Z,6.8nm,1.0s
LESA  Schwarzleotal   72.78 11   i P     P       19 05 59.1 +1.3
      comp=Z,4.3nm,0.8s
LESA                           i pP    pP      19 06 11.5 +0.2
      comp=Z,2.9nm,0.8s
SQTA  Sankt Quirin    72.83 12   i P     P       19 05 59.6 +1.5
      comp=Z,9.0nm,0.9s
SQTA                           i pP    pP      19 06 12.4 +0.8
      comp=Z,10nm,0.8s
WTTA  Wattenberg      72.83 12   i P     P       19 05 59.4 +1.1
      comp=Z,12nm,1.1s,SNR=5.7
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WTTA				*i* pP		**pP**	**19 06 12.4 +0.7**
	comp=Z,6.6nm,0.8s						
RONA	**Rosalia, Austr**	**72.84**	**9**	*i* P		**P**	**19 05 59.1 +1.0**
	comp=Z,3.7nm,1.0s						
RONA				*e*pP		**pP**	**19 06 12.0 +0.5**
	comp=Z,6.0nm,1.1s						
PSZ	**Piszkesteto**	**72.86**	**6**	⇑P		**P**	**19 05 58.4 +0.1**
PSZ	**Piszkesteto**	**72.86**	**6**	P		**P**	**19 05 58.8 +0.6**
PSZ				IAmb		IAmb	19 06 21.9
	comp=Z,13nm,1.1s						
SORM	**Soroca**	**72.89**	**0**	P		**P**	**19 05 57.5 -0.8**
	comp=Z,8.6nm,0.7s,comp=Z,614nm						
FETA	**Feichten**	**72.97**	**13**	*i* P		**P**	**19 06 00.2 +1.2**
	comp=Z,6.5nm,1.2s						
FETA				*e*pP		**pP**	**19 06 13.2 +0.7**
	comp=Z,5.5nm,0.9s						
KBA	**Koelnbreinsper**	**73.19**	**11**	*i* P		**P**	**19 06 01.7 +1.3**
	comp=Z,16nm,1.2s,SNR=6.0						
KBA				*i* pP		**pP**	**19 06 14.4 +0.6**
	comp=Z,7.4nm,0.6s						
CEI	**Carei**	**73.22**	**4**	⇑P		**P**	**19 06 00.6 +0.4**
ARSA	**Arzberg**	**73.22**	**9**	*e*P		**P**	**19 06 01.5 +1.2**
	comp=Z,5.5nm,1.0s						
ARSA				*i* pP		**pP**	**19 06 15.0 +1.1**
	comp=Z,4.9nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**73.31**	**13**	P		**P**	**19 06 02.1 +0.9**
FUORN				IAmb		IAmb	19 06 03.6
	comp=Z,3.7nm,0.9s						
BUR08	**Bucovina Ar. S**	**73.34**	**3**	P		**P**	**19 06 00.9 -0.2**
BUR08				IAmb		IAmb	19 06 17.4
	comp=Z,3.2nm,0.7s						
TUE	**Stuetta**	**73.35**	**14**	P		**P**	**19 06 00.6 -0.7**
TUE				IAmb		IAmb	19 06 03.6
	comp=Z,5.5nm,1.1s						
TUE	**Stuetta**	**73.35**	**14**	P		**P**	**19 06 02.6 +1.3**
	comp=Z,20nm,0.7s						
BURAR	**Bucovina Array**	**73.37**	**3**	⇑P		**P**	**19 06 02.0 +0.7**
BURAR	**Bucovina Array**	**73.37**	**3**	P		**P**	**19 06 01.7 +0.4**
BURAR				IAmb		IAmb	19 06 23.0
	comp=Z,4.6nm,0.7s						
ABTA	**Abfaltersbach**	**73.44**	**12**	*i* P		**P**	**19 06 02.7 +1.0**
	comp=Z,4.5nm,1.1s						
ABTA				*i* pP		**pP**	**19 06 15.7 +0.5**
	comp=Z,3.2nm,0.9s						
MPLH	**Magyarpolny**	**73.45**	**8**	P		**P**	**19 06 02.6 +0.9**
	comp=Z,20nm,0.9s						
MYKA	**Terra Mystica**	**73.67**	**11**	*e*P		**P**	**19 06 03.9 +0.9**
	comp=Z,3.7nm,1.0s						
SOKA	**Soboth**	**73.75**	**10**	*i* P		**P**	**19 06 04.9 +1.4**
	comp=Z,8.2nm,1.3s,SNR=5.5						
SOKA				*i* pP		**pP**	**19 06 16.6 -0.4**
	comp=Z,7.1nm,1.5s						
OBKA	**Obir**	**73.87**	**10**	*i* P		**P**	**19 06 05.1 +0.9**
	comp=Z,16nm,0.7s,SNR=14						
OBKA				*i* pP		**pP**	**19 06 17.9 +0.2**
	comp=Z,14nm,0.8s						
KSH	**Kashi**	**74.06**	**324**	P		**P**	**19 06 08.1 +2.6**
KSH				pmax		pmax	
	comp=Z,4.0nm,0.8s						
MARR	**Marisel-Cluj**	**74.25**	**4**	⇑P		**P**	**19 06 07.1 +0.6**
BNI	**Bardonecchia**	**74.39**	**16**	P		**P**	**19 06 08.1 +0.7**
BNI				IAmb		IAmb	19 06 10.2
	comp=Z,7.6nm,1.2s						
MORH	**Mrgy, Hungar**	**74.48**	**7**	⇓P		**P**	**19 06 08.3 +0.6**
MORH	**Mrgy, Hungar**	**74.48**	**7**	P		**P**	**19 06 08.5 +0.8**
	comp=Z,3.6nm,1.4s						
SIRR	**Siria**	**74.60**	**5**	⇑P		**P**	**19 06 09.6 +1.2**
OZUR		**74.90**	**2**	⇑P		**P**	**19 06 11.4 +1.2**
BTK	**Batken**	**75.04**	**328**	P		**P**	**19 06 10.3 -0.8**
BTK				IAmb		IAmb	19 06 11.6
	comp=Z,14nm,1.4s						
SURR	**Surduc**	**75.13**	**5**	⇑P		**P**	**19 06 12.4 +1.0**
VRI	**Vrincioaia**	**75.15**	**2**	⇑P		**P**	**19 06 11.8 +0.3**
VRI	**Vrincioaia**	**75.15**	**2**	P		**P**	**19 06 11.1 -0.5**
	comp=Z,4.4nm,1.4s						
PLOR3	**Plostina Array**	**75.16**	**2**	P		**P**	**19 06 11.2 -0.5**
	comp=Z,7.7nm,1.1s						
PLOR	**Plostina**	**75.16**	**2**	⇓P		**P**	**19 06 12.9 +1.2**
PLOR5	**Plostina Array**	**75.17**	**2**	P		**P**	**19 06 11.2 -0.5**
	comp=Z,4.3nm,0.7s						
BZS	**Buzias**	**75.24**	**5**	⇑P		**P**	**19 06 12.9 +0.8**
SPBR	**Spulber**	**75.27**	**1**	⇑P		**P**	**19 06 12.1 -0.2**
MLR	**Muntele Rosu**	**75.51**	**2**	P		**P**	**19 06 14.7 +0.9**
	comp=Z,7.6nm,1.4s						
GZR	**Gura Zlata**	**75.52**	**4**	⇑P		**P**	**19 06 14.6 +0.9**
VOIR		**75.55**	**3**	P		**P**	**19 06 15.0 +1.1**
	comp=Z,3.0nm,1.8s						
FRGS	**Fruska Gora**	**75.61**	**7**	⇑P		**P**	**19 06 15.0 +0.7**
FRGS	**Fruska Gora**	**75.61**	**7**	P		**P**	**19 06 14.3 +0.1**
	comp=Z,9.2nm,1.0s						
PZH	**PanZhiHua**	**75.74**	**298**	P		**P**	**19 06 16.9 +1.5**
PZH				pmax		pmax	
	comp=Z,30nm,1.2s						
PZH				pmax		pmax	
	comp=Z,100nm,5.3s						
CFR	**Carcaliu**	**75.85**	**0**	⇑P		**P**	**19 06 16.1 +0.6**
HERR	**Herculane**	**76.01**	**5**	⇓P		**P**	**19 06 16.9 +0.4**
MDVR	**Moldovita**	**76.08**	**5**	⇓P		**P**	**19 06 17.4 +0.4**
GAR	**Garm**	**76.17**	**328**	P		**P**	**19 06 16.9 -0.8**
TPGR	**Topolog**	**76.17**	**0**	⇑P		**P**	**19 06 17.3 -0.2**
KBZ	**Khabaz**	**76.64**	**350**	P		**P**	**19 06 20.2 +0.2**
	comp=Z,3.5nm,0.8s,baz=80,slow=6.1,SNR=5.4						
	comp=Z,3.5nm,0.8s						
CHGR	**Chuyangaron**	**76.80**	**329**	P		**P**	**19 06 20.5 -0.7**
SIMJ	**Simiganj**	**76.84**	**329**	P		**P**	**19 06 20.1 -1.4**
SIMJ				IAmb		IAmb	19 06 21.7
	comp=Z,10nm,1.1s						
BOVS	**Bovan**	**77.22**	**5**	⇑P		**P**	**19 06 23.5 +0.1**
SDV	**Santo Domingo**	**77.59**	**94**	LR		LR	19 42 17.6
	comp=Z,31nm,19.8s,baz=243,slow=37						
ESDC	**Sonseca Array**	**77.68**	**25**	P		**P**	**19 06 26.6 +0.5**
ESDC				IAmb		IAmb	19 06 28.4
	comp=Z,3.9nm,1.1s						
ESDC	**Sonseca Array**	**77.68**	**25**	P		**P**	**19 06 26.7 +0.6**
	comp=Z,2.7nm,0.9s,baz=338,slow=5.0,SNR=16						
	comp=Z,2.7nm,0.9s						
PDG	**Podgorica**	**78.29**	**7**	⇓P		**P**	**19 06 29.9 +0.6**
PDG	**Podgorica**	**78.29**	**7**	P		**P**	**19 06 28.8 -0.5**
PDG				IAmb		IAmb	19 06 30.3
	comp=Z,8.9nm,0.8s						
SLVN	**Son La**	**79.18**	**293**	P		**P**	**19 06 33.7 -0.9**
RDO	**Rodhopi**	**79.84**	**3**	P		**P**	**19 06 37.7 -0.1**
RDO				IAmb		IAmb	19 06 39.6
	comp=Z,6.1nm,1.0s						
FNA	**Florina**	**80.05**	**6**	P		**P**	**19 06 38.4 -0.7**
FNA				IAmb		IAmb	19 06 40.1
	comp=Z,9.5nm,1.0s						
NIL	**Nilore**	**80.31**	**324**	P		**P**	**19 06 40.2 -0.3**
DAV	**Davao City (W)**	**80.50**	**268**	LR		LR	19 40 51.0
	comp=Z,32nm,19.8s,baz=136,slow=35						
BR131	**Keskin Array S**	**81.22**	**356**	P		**P**	**19 06 45.3 -0.1**
BR131				IAmb		IAmb	19 06 46.6
	comp=Z,5.8nm,0.9s						
BRTR	**Keskin Array B**	**81.22**	**356**	P		**P**	**19 06 45.3 -0.1**
BRTR	**Keskin Array B**	**81.22**	**356**	P		**P**	**19 06 45.1 -0.3**
	comp=Z,3.8nm,0.9s,baz=6.1,slow=3.6,SNR=16						
	comp=Z,3.8nm,0.9s						
BNN	**Bunyan**	**82.00**	**354**	P		**P**	**19 06 48.7 -0.9**
HRA	**Herat**	**82.59**	**333**	P		**P**	**19 06 52.2 -0.6**
KEST	**Kesra**	**83.92**	**16**	P		**P**	**19 07 00.0 +0.6**
	comp=Z,6.9nm,0.9s,baz=6.6,slow=1.5,SNR=5.4						
	comp=Z,6.9nm,0.9s						
CM31	**Chiang Mai Arr**	**83.98**	**296**	P		**P**	**19 06 58.8 -1.1**
CMAR	**Chiang Mai Arr**	**83.98**	**296**	P		**P**	**19 06 58.5 -1.4**
CMAR	**Chiang Mai Arr**	**83.98**	**296**	P		**P**	**19 06 59.2 -0.6**
	comp=Z,5.1nm,0.8s,baz=12,slow=5.6,SNR=24						
	comp=Z,5.1nm,0.8s						
DZM	**Mont Dzumac**	**88.25**	**219**	LR		LR	19 43 25.7
	comp=Z,62nm,18.1s,baz=132,slow=33						
RAYN	**Ar Rayn**	**96.31**	**345**	P		**P**	**19 07 57.9 -0.2**
WRA	**Warramunga Arr**	**99.32**	**247**	P		**Pdif**	**19 08 10.3 -1.3**
	comp=Z,0.5nm,0.9s,baz=31,slow=5.9,SNR=1.9						
	comp=Z,0.5nm,0.9s						
ASAR	**Alice Springs**	**102.73**	**245**	P		**Pdif**	**19 08 26.7 +0.1**
	comp=Z,0.4nm,0.9s,baz=14,slow=7.8,SNR=2.4						
LBTB	**Lobatse**	**145.63**	**5**	PKPdf		**PKPab**	**19 14 08.1 -0.1**
QSPA	**South Pole Qui**	**149.13**	**180**	PKPbc		**PKPbc**	**19 14 16.8 +0.6**
QSPA	**South Pole Qui**	**149.13**	**180**	PKPbc		**PKPbc**	**19 14 16.4 +0.2**
	comp=Z,8.0nm,0.7s,baz=61,slow=0.1,SNR=56						
BOSA	**Boshof**	**149.19**	**6**	PKPbc		**PKPbc**	**19 14 16.5 -1.1**
	comp=Z,2.5nm,0.5s,baz=2.1,slow=3.1,SNR=10						
BELA	**Belgrano 2**	**152.59**	**156**	PKPbc		**PKPbc**	**19 14 23.2 -0.8**

*IDC **13** 18:55:57.7±1.1, 55°.24S×141°.88W, h0km, mb4.1/5, mbtmp4.1/5, MS3.4/2, Error ellipse: s-maj=37.1km s-min=27.9km az=43.0*
*NEIC **13** 18:56:00.2±0.9, 55°.4S±0°.2×141°.8W±0°.3, h10km±2km, mb4.5/8, Error ellipse: s-maj=34.5km s-min=26.0km az=19.0*

ISC 13 18:55:59.5±0.8, 55°.3S±0°.2×141°.8W±0°.2, h10km, n32, σ0s79/23, mb4.5/11, 5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**29.60**	**202**	LR		19 10 35.1	
	comp=Z,69nm,20.5s,baz=358,slow=30						
LTZ	**Lake Taylor**	**32.00**	**274**	P		**19 02 26.1**	**+0.4**
QSPA	**South Pole Qui**	**34.88**	**180**	P		**19 02 51.1**	**+0.4**
QSPA				IAmb	IAmb	19 02 59.1	
	comp=Z,12nm,1.3s						
QSPA	**South Pole Qui**	**34.88**	**180**	P		**19 02 51.9**	**+1.2**
	comp=Z,3.1nm,1.0s,baz=55,slow=7.7,SNR=6.3						
QSPA				LR	LR	19 15 05.4	
	comp=Z,69nm,18.4s,baz=34,slow=33						
	comp=Z,3.1nm,1.0s						
BELA	**Belgrano 2**	**40.01**	**162**	P		**19 03 33.7**	**-0.1**
H03S2	**Juan Fernandez**	**47.80**	**90**	T		19 55 40.1	
	baz=222,slow=74,SNR=21						
H03S1	**Juan Fernandez**	**47.81**	**90**	T		19 55 40.7	
	baz=222,slow=74,SNR=21						
H03S3	**Juan Fernandez**	**47.82**	**90**	T		19 55 39.8	
	baz=222,slow=74,SNR=16						
H03N3	**Juan Fernandez**	**48.08**	**90**	T		19 55 55.0	
	baz=225,slow=72,SNR=17						
H03N2	**Juan Fernandez**	**48.09**	**90**	T		19 55 54.0	
	baz=225,slow=72,SNR=26						
H03N1	**Juan Fernandez**	**48.10**	**90**	T		19 55 55.4	
	baz=225,slow=72,SNR=26						
VNA3	**Neumayer Olymp**	**49.32**	**162**	⇑P		**19 04 47.3**	**-0.7**
	comp=Z,6.8nm,0.8s						
VNA2	**Neumayer--Watz**	**49.99**	**162**	⇑P		**19 04 53.2**	**0.0**
	comp=Z,10nm,0.6s,baz=216,slow=8.2						
VNA1	**Neumayer--Stat**	**50.07**	**162**	⇑P		**19 04 53.7**	**0.0**
	comp=Z,8.1nm,0.8s						
SNAA	**Sanae**	**50.10**	**164**	P		**19 04 53.6**	**-0.5**
SNAA				IAmb	IAmb	19 04 58.2	
	comp=Z,4.5nm,0.9s						
SNAA				PcP		**PcP**	**19 06 12.3**	**-1.1**
SNAA	**Sanae**	**50.10**	**164**	⇑P		**P**	**19 04 54.0**	**-0.1**
	comp=Z,84nm,0.6s						
SNAA	**Sanae**	**50.10**	**164**	P		**P**	**19 04 53.4**	**-0.6**
	comp=Z,3.4nm,0.6s,baz=214,slow=7.4,SNR=37						
	comp=Z,3.4nm,0.6s						
TROLL	**Troll, Antarti**	**50.57**	**166**	⇑P		**P**	**19 04 58.4**	**+0.7**
	comp=Z,161nm,0.7s						
LPAZ	**La Paz**	**67.48**	**86**	P		**P**	**19 06 56.6**	**+0.3**
LPAZ				IAmb	IAmb	19 06 57.3	
	comp=Z,4.4nm,1.4s						
AS31	**Alice Springs**	**67.69**	**260**	P		**P**	**19 06 57.7**	**+0.8**
AS31				IAmb	IAmb	19 06 58.1	
	comp=Z,1.1nm,0.8s						
ASAR	**Alice Springs**	**67.69**	**260**	P		**P**	**19 06 57.0**	**+0.2**
ASAR	**Alice Springs**	**67.69**	**260**	P		**P**	**19 06 56.5**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=139,slow=6.6,SNR=57						
	comp=Z,3.5nm,0.7s						
H01W1	**Cape Leeuwin H**	**69.33**	**238**	T		T	20 23 37.8	
	baz=143,slow=75,SNR=5.0						
H01W2	**Cape Leeuwin H**	**69.34**	**238**	T		T	20 23 38.3	
	baz=143,slow=75,SNR=8.2						
H01W3	**Cape Leeuwin H**	**69.35**	**238**	T		T	20 23 41.5	
	baz=143,slow=75,SNR=6.2						
WB2	**Warramunga Arr**	**70.38**	**263**	P		**P**	**19 07 14.3**	**+0.7**
WRA	**Warramunga Arr**	**70.39**	**263**	P		**P**	**19 07 14.0**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=145,slow=5.5,SNR=11						
	comp=Z,1.5nm,0.9s						
WB0	**Warramunga Arr**	**70.49**	**263**	P		**P**	**19 07 14.6**	**+0.4**
WB0				IAmb	IAmb	19 07 22.8	
	comp=Z,4.5nm,1.1s						
TXAR	**Lajitas Array**	**90.39**	**33**	P		**P**	**19 09 01.6**	**+0.9**
	comp=Z,0.3nm,0.9s,baz=207,slow=7.9,SNR=2.5						
	comp=Z,0.3nm,0.9s						
ESDC	**Sonseca Array**	**148.09**	**102**	PKPbc		**PKPbc**	**19 15 44.1**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=222,slow=2.2,SNR=6.3						
MKAR	**Makanchi Array**	**151.43**	**271**	PKPbc		**PKPbc**	**19 15 50.6**	**-2.0**
	comp=Z,1.3nm,1.0s,baz=127,slow=3.8,SNR=7.4						
BVAR	**Borovoye Array**	**161.10**	**277**	PKPab		**PKPab**	**19 16 41.3**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=104,slow=4.6,SNR=3.8						

BEO 13 19:03:03.1±0.8, 41°.40N×19°.50E, h0km, ML1.5/4, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.28**	**101**	*e*Pg	Pg	19 03 07.7	-0.8
TIR				*e*Sg	Sg	19 03 12.1	-0.1
PDG	**Podgorica**	**1.04**	**350**	*e*Pg	Pg	19 03 22.6	-0.5
PDG				*e*Sg	Sg	19 03 36.7	+0.1
TREB	**Trebinje**	**1.57**	**327**	*e*Pg	Pn	19 03 31.5	-0.7
TREB				*e*Sg	Sn	19 03 52.3	-0.9
DBRK	**Dubrovnik**	**1.62**	**322**	*e*Pn	Pn	19 03 32.3	-0.6
DBRK				Sn	Sn	19 03 54.0	-0.4
STON	**Ston**	**1.98**	**318**	*e*Pn	Pn	19 03 37.0	-0.9
STON				Sn	Sn	19 03 59.5	-3.9
HVAR	**Hvar**	**2.87**	**309**	Sn	Sn	19 04 22.0	-3.4
KIJV	**Kijevo**	**3.46**	**320**	Sn	Sn	19 04 37.7	-2.2
ZIRJ	**Zirje**	**3.63**	**310**	Sn	Sn	19 04 39.9	-4.2

IDC 13 19:06:15.8±3.9, 19°.57S×176°.16W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=196.6km s-min=63.7km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.42**	**256**	P	P	19 14 44.7	0.0
	1.2nm,0.5s,baz=91,slow=8.2,SNR=43						
ASAR				PcP	PcP	19 16 18.4	-1.2
	0.6nm,1.0s,baz=108,slow=3.0,SNR=4.5						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**46.45**	**261**	P	P	19 14 44.8	-0.1
	0.3nm,0.2s,baz=96,slow=7.5,SNR=19						
	0.3nm,0.2s						
BRTR	**Keskin Array B**	**147.46**	**315**	PKPbc	PKPbc	19 26 02.2	-0.1
	0.4nm,0.7s,baz=79,slow=2.2,SNR=2.4						

*IDC **13** 19:09:30.9±1.5, 37°.62S×177°.83E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=37.8km s-min=12.4km az=123.0*
*WEL **13** 19:09:35.8±0.3, 39°.S±2°.×17°.8E±°, h26km±2km, M3.9/24, ML4.2/24, MLv3.9/24, Error ellipse: s-maj=0.0km s-min=0.0km az=117.8, confirmed*

ISC 13 19:09:36.3±0.8, 38°.60S±0°.02×177°.84E±0°.03, h32km±5km, n122, σ1s46/133, mb3.6/4, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GWTS	**Gisborne Waipa**	**0.07**	**111**	P		**Pb**	**19 09 40.6**	**-1.1**
GWTS				S		**Sb**	**19 09 46.7**	**+1.2**
RIGZ	**Rimuhau**	**0.12**	**209**	P		**Pn**	**19 09 41.7**	**-0.3**
RIGZ				S		**Sb**	**19 09 47.5**	**+1.4**
TKGZ	**Te Karaka**	**0.16**	**3**	P		**Pn**	**19 09 41.8**	**-0.6**
TKGZ				S		**Sb**	**19 09 46.9**	**+0.4**
CNGZ	**Carnagh Statio**	**0.31**	**68**	P		**Pn**	**19 09 44.8**	**+0.2**
CNGZ				S		**Sn**	**19 09 53.2**	**+3.1**
PRGZ	**Paritu Road**	**0.33**	**174**	P		**Pb**	**19 09 44.2**	**-0.1**
PRGZ				S		**Sn**	**19 09 53.3**	**+2.9**
RAGZ	**Rawiri**	**0.35**	**287**	P		**Pn**	**19 09 44.0**	**-1.1**
RAGZ				S		**Sn**	**19 09 50.6**	**-0.4**
MWZ	**Matawai**	**0.36**	**317**	P		**Pb**	**19 09 44.1**	**-0.7**
MWZ				S		**Sn**	**19 09 50.6**	**-0.6**
SNGZ	**Shannon Statio**	**0.43**	**245**	P		**Pn**	**19 09 45.5**	**-0.7**
SNGZ				S		**Sn**	**19 09 53.7**	**+0.7**
TWGZ	**Tauwhareparae**	**0.44**	**15**	P		**Pn**	**19 09 46.1**	**-0.2**
KNZ	**Kokohu**	**0.44**	**197**	P		**Pb**	**19 09 45.6**	**-0.3**
KNZ				S		**Sn**	**19 09 54.2**	**+1.0**
MHGZ	**Mahia Peninsul**	**0.56**	**174**	P		**Pb**	**19 09 47.4**	**-0.3**
PUZ	**Puketiti**	**0.62**	**32**	P		**Pb**	**19 09 48.3**	**-0.5**
PUZ				S		**Sn**	**19 09 58.8**	**+1.1**
RUGZ	**Raukumara Rang**	**0.65**	**349**	P		**Pb**	**19 09 48.3**	**-0.9**
RUGZ				S		**Sn**	**19 09 58.1**	**-0.4**
URZ	**Urewera**	**0.66**	**301**	Pg		**Pb**	**19 09 48.4**	**-1.0**
	467nm,0.3s,baz=256,slow=4.0,SNR=2505						
URZ				LR	LR	19 09 50.6	
	comp=Z,72nm,20.7s,baz=343,slow=23						
URZ				Lg	Lg	19 09 58.1	
URZ	**Urewera**	**0.66**	**301**	P		**Pn**	**19 09 48.6**	**-0.8**
RAHZ	**Arahi**	**0.67**	**241**	P		**Pn**	**19 09 49.1**	**-0.4**
RAHZ				S		**Sn**	**19 10 00.2**	**+1.4**
WHHZ	**Waihua**	**0.67**	**224**	P		**Pb**	**19 09 49.2**	**-0.4**
RTZ	**Ruatahuna**	**0.67**	**268**	P		**Pn**	**19 09 49.0**	**-0.6**
RTZ				S		**Sn**	**19 09 58.9**	**-0.2**
PKGZ	**Pakihiroa**	**0.76**	**15**	P		**Pb**	**19 09 50.1**	**-0.9**
PKGZ				S		**Sn**	**19 10 01.7**	**+0.6**
MTHZ	**Maungataniwha**	**0.82**	**252**	P		**Pb**	**19 09 51.1**	**-1.0**
MTHZ				S		**Sn**	**19 10 05.7**	**+3.0**
HAZ	**Te Kaha**	**0.84**	**357**	P		**Pb**	**19 09 51.3**	**-1.1**
HAZ				S		**Sn**	**19 10 03.0**	**-0.1**
MUGZ	**Murupara**	**0.84**	**278**	P		**Pn**	**19 09 51.7**	**-0.2**
MUGZ				S		**Sn**	**19 10 04.3**	**+1.0**
WMGZ	**Waiomatatini S**	**0.90**	**30**	P		**Pn**	**19 09 52.2**	**-0.5**
WMGZ				S		**Sn**	**19 10 08.0**	**+3.4**
ARHZ	**Aropaoanui**	**0.93**	**224**	P		**Pn**	**19 09 52.9**	**-0.2**
NMHZ	**Naumai**	**0.94**	**238**	P		**Pn**	**19 09 53.0**	**-0.4**
EDRZ	**Edgecumbe**	**0.99**	**299**	P		**Pb**	**19 09 54.3**	**-0.7**
WHRZ	**Whale Island**	**1.01**	**317**	P		**Pb**	**19 09 54.8**	**-0.4**
RRRZ	**Republican Roa**	**1.07**	**284**	P		**Pb**	**19 09 55.2**	**-1.1**
MXZ	**Matakaoa Point**	**1.10**	**20**	P		**Pn**	**19 09 55.0**	**-0.4**
MARZ	**Manawahe**	**1.10**	**304**	P		**Pb**	**19 09 55.7**	**-1.1**
TARZ	**Mount Tarawera**	**1.11**	**289**	P		**Pb**	**19 09 56.2**	**-0.7**
MRHZ	**Matea Rd**	**1.14**	**258**	P		**Pn**	**19 09 55.8**	**-0.1**
PRRZ	**Plateau Road**	**1.14**	**275**	P		**Pb**	**19 09 57.1**	**-0.3**
ALRZ	**Allen Road**	**1.17**	**271**	P		**Pb**	**19 09 56.6**	**-1.3**
MKRZ	**Makatiti**	**1.17**	**293**	P		**Pb**	**19 09 58.5**	**+0.5**
WIZ	**White Island**	**1.19**	**334**	P		**Pb**	**19 09 56.9**	**-1.3**
BKZ	**Black Stump Fm**	**1.19**	**241**	P		**Pb**	**19 09 56.2**	**-0.5**
CKHZ	**Cape Kidnapper**	**1.21**	**209**	P		**Pn**	**19 09 56.1**	**-0.9**
HLRZ	**Highlands Stat**	**1.22**	**286**	P		**Pb**	**19 09 58.3**	**-0.4**
MCHZ	**McNeill Hill**	**1.23**	**226**	P		**Pn**	**19 09 56.7**	**-0.4**
HRRZ	**Handcock Road**	**1.24**	**279**	P		**Pb**	**19 09 57.8**	**-1.3**
OMRZ	**Omania**	**1.25**	**293**	P		**Pb**	**19 09 58.0**	**-1.3**
OPRZ	**Ohinepanea**	**1.26**	**306**	P		**Pb**	**19 09 57.7**	**-0.5**
HSRZ	**Hossack Road**	**1.28**	**282**	P		**Pb**	**19 09 58.3**	**-1.5**
LIRZ	**Lichensteins R**	**1.29**	**297**	P		**Pn**	**19 09 58.0**	**0.0**
WPRZ	**Whakapapatarin**	**1.31**	**273**	P		**Pb**	**19 09 59.5**	**-0.9**
UTU	**Utuhina**	**1.36**	**288**	P		**Pb**	**19 10 01.9**	**+0.8**
KWHZ	**Kaweka Forest**	**1.38**	**233**	P		**Pn**	**19 09 58.6**	**-0.7**
KARZ	**Kaharoa**	**1.38**	**294**	P		**Pn**	**19 09 59.0**	**-0.3**
HATZ	**Hinemaiaia**	**1.40**	**257**	P		**Pb**	**19 10 01.8**	**+0.1**
KAHZ	**Kahuranaki**	**1.41**	**212**	P		**Pn**	**19 09 58.9**	**-0.8**
WHTZ	**Whakaora**	**1.47**	**267**	P		**Pb**	**19 10 06.2**	**+3.1**
TGRZ	**Tauranga**	**1.52**	**305**	P		**Pn**	**19 10 01.0**	**-0.1**
KRHZ	**Kereru**	**1.54**	**227**	P		**Pn**	**19 10 00.4**	**-1.2**
KUTZ	**Kaahu Road**	**1.58**	**273**	P		**Pn**	**19 10 02.0**	**-0.1**
PXZ	**Pawanui**	**1.62**	**208**	P		**Pn**	**19 10 00.5**	**-2.0**
RATZ	**Rangitukua**	**1.64**	**260**	P		**Pb**	**19 10 06.4**	**+0.6**
WATZ	**Wairara**	**1.65**	**266**	P		**Pb**	**19 10 07.2**	**+1.2**
KMRZ	**Kaimai**	**1.67**	**296**	P		**Pb**	**19 10 06.6**	**+0.2**
KATZ	**Kakaramea**	**1.71**	**257**	P		**Pb**	**19 10 07.9**	**+0.7**
TMVZ	**Te Maari**	**1.74**	**252**	P		**Pb**	**19 10 04.6**	**+0.2**
ETVZ	**East Tongariro**	**1.74**	**251**	P		**Pn**	**19 10 04.6**	**+0.2**
NTVZ	**North Tongarir**	**1.76**	**253**	P		**Pn**	**19 10 04.3**	**-0.3**
KRVZ	**Karewarewa**	**1.78**	**253**	P		**Pn**	**19 10 05.7**	**+0.8**
OTVZ	**Oturere**	**1.79**	**251**	P		**Pb**	**19 10 06.9**	**-1.5**
SNVZ	**South Ngauruho**	**1.81**	**250**	P		**Pn**	**19 10 05.2**	**-0.2**
MOVZ	**Moawhango**	**1.81**	**243**	P		**Pn**	**19 10 04.9**	**-0.4**
NNVZ	**North Ngauruho**	**1.81**	**252**	P		**Pb**	**19 10 08.4**	**-0.5**
WPHZ	**Waipukurau**	**1.82

NAMS	An Nimas	2.84	90	P	Pn	19 16 21.0	-0.4
ASIR3	ASIR3	3.05	99	P	Pn	19 16 23.8	-0.4
ASIR4	ASIR4	3.06	81	P	Pn	19 16 25.9	+1.8
ENMS	ENMS	3.20	92	P	Pn	19 16 26.3	+0.2
DRBS	Ad Darb	3.25	115	P	Pn	19 16 26.0	-0.7
HAJR	Hajar	3.70	7	P	Pn	19 16 31.2	-1.7
ASIR5	ASIR5	3.84	93	P	Pn	19 16 38.2	+3.2
ASIR2	ASIR2	4.02	105	P	Pn	19 16 38.8	+1.3
TATS	Tathlith	4.06	85	P	Pn	19 16 41.7	+3.7
WSAR	Wadi Sarin	18.56	74	LR	LR	19 27 01.1	
	comp=Z,60nm,19.1s,baz=281,slow=37						
BRTR	Keskin Array B	21.00	348	P	P	19 20 20.7	+1.4
	1.0nm,0.7s,baz=166,slow=12,SNR=6.1						
	1.0nm,0.7s						
GNI	Garni	21.41	12	LR	LR	19 29 15.4	
	comp=Z,78nm,19.2s,baz=161,slow=38						
TORD	Torodi Ar. Bea	36.46	266	P	P	19 22 41.0	-0.1
	1.6nm,0.9s,baz=60,slow=9.3,SNR=6.1						
TORD				LR	LR	19 38 26.0	
	comp=Z,77nm,19.8s,baz=70,slow=38						
	1.6nm,0.9s						
AAK	Ala-Archa	37.83	44	LR	LR	19 42 03.2	
	comp=Z,53nm,18.4s,baz=336,slow=42						
ESDC	Sonseca Array	42.27	308	P	P	19 23 29.8	+0.5
	0.3nm,0.5s,baz=102,slow=11,SNR=1.8						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	44.13	35	P	P	19 23 46.7	+2.5
	2.7nm,0.2s,baz=247,slow=7.7,SNR=3.8						
	2.7nm,0.2s						
MKAR	Makanchi Array	44.62	42	P	P	19 23 50.0	+1.8
	1.1nm,0.8s,baz=248,slow=6.4,SNR=9.6						
	1.1nm,0.8s						
ZALV	Zalesovo Beam	49.12	34	P	P	19 24 24.4	+1.1
	0.3nm,0.3s,baz=280,slow=8.6,SNR=4.2						
	0.3nm,0.3s						
CMAR	Chiang Mai Arr	56.30	80	LR	LR	19 53 23.6	
	comp=Z,14nm,18.6s,baz=210,slow=40						
SONM	Songino Array	60.76	45	P	P	19 25 48.2	+0.4
	0.5nm,0.8s,baz=260,slow=7.0,SNR=4.8						
SONM				LR	LR	19 55 30.4	
	comp=Z,30nm,18.9s,baz=222,slow=39						
	0.5nm,0.8s						
TIXI	Tiksi	71.82	19	LR	LR	20 02 47.3	
	comp=Z,32nm,18.0s,baz=143,slow=39						
YAK	Yakutsk	73.46	29	LR	LR	20 05 32.5	
	comp=Z,24nm,18.9s,baz=263,slow=41						
KLR	Kul'dur	77.33	42	LR	LR	20 06 35.8	
	comp=Z,23nm,20.1s,baz=246,slow=40						
KSRS	Korea Array	77.60	55	LR	LR	20 05 55.4	
	comp=Z,33nm,19.4s,baz=280,slow=39						
ASAJ	Asahikawa	86.04	45	LR	LR	20 09 43.8	
	comp=Z,35nm,18.9s,baz=258,slow=38						
MDP	Montagnes des	90.07	275	LR	LR	20 07 25.1	
	comp=Z,26nm,20.4s,baz=336,slow=35						

IDC 13 19:25:42.7±1.9, 3°.59N×127°.84E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=170.8km s-min=20.0km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.24	165	P	P	19 30 59.6	-1.9
	0.5nm,0.4s,baz=344,slow=9.7,SNR=16						
	0.5nm,0.4s						
ASAR	Alice Springs	27.73	168	P	P	19 31 34.8	+1.7
	0.2nm,0.3s,baz=344,slow=11,SNR=8.1						
	0.2nm,0.3s						
STKA	Stephens Creek	37.62	161	P	P	19 32 59.1	-0.3
	1.9nm,0.7s,baz=297,slow=9.0,SNR=2.9						
	1.9nm,0.7s						
MKAR	Makanchi Array	58.31	325	P	P	19 35 39.6	+0.1
	0.2nm,0.4s,baz=114,slow=7.4,SNR=7.1						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	62.46	327	P	P	19 36 07.9	+0.1
	0.1nm,0.3s,baz=123,slow=6.8,SNR=1.6						
	0.1nm,0.3s						

IDC 13 19:29:52.8±1.9, 2°.94N×126°.47E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=195.2km s-min=21.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.01	162	P	P	19 35 08.3	-1.3
	1.6nm,0.5s,baz=340,slow=10,SNR=13						
	1.6nm,0.5s						
ASAR	Alice Springs	27.42	165	P	P	19 35 42.0	+1.5
	0.3nm,0.7s,baz=334,slow=6.2,SNR=6.9						
	0.3nm,0.7s						
MKAR	Makanchi Array	58.06	326	P	P	19 39 47.4	-0.5
	0.3nm,0.5s,baz=124,slow=8.5,SNR=7.4						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	62.26	328	P	P	19 40 16.9	+0.3
	0.6nm,0.6s,baz=123,slow=5.4,SNR=5.4						
	0.6nm,0.6s						

*HEL **13** 19:35:21.3±0.2, 68°.06N×32°.93E, h0km, ML1.8, Suspected explosion*
*KOLA **13** 19:35:21.5, 68°.11N×32°.97E, h0km, ML2.2, Error ellipse: s-maj=2.8km s-min=1.7km az=90.0, Olenegorsk City, Mines*
*IDC **13** 19:35:24.8±2.6, 68°.05N×32°.03E, h0km, mbtmp2.4/2, ML1.7/2, Error ellipse: s-maj=29.9km s-min=11.9km az=67.0*

ISC 13 19:35:20.4±0.8, 68°.10N±0°.03×32°.93E±0°.03, h0km, n30, σ1§07/52, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	0.49	177	P	Pg	19 35 30.0	+0.2
APA	Apatity	0.56	161	P	Pg	19 35 31.5	+0.4
APA				S	Sg	19 35 39.3	+1.0
LVZ	Lovozero	0.68	106	P	Pg	19 35 33.1	-0.2
LVZ				S	Sg	19 35 42.0	-0.1
LVZ	Lovozero	0.68	106	PG	Pg	19 35 33.1	-0.2
LVZ				SG	Sg	19 35 41.8	-0.3
VRF	Varrio	1.30	256	PN	Pg	19 35 45.2	-0.1
	baz=75						
VRF				MSG		19 36 00.5	
	comp=Z,11nm,0.2s						
VRF				SG	Sg	19 36 02.1	-0.1
TERR	Teriberka	1.36	35	P	Pg	19 35 45.6	-0.9
TERR				S	Sg	19 36 02.8	-1.3
PRVG	Vayda Guba	1.68	351	P	Pb	19 35 52.6	+0.5
PRVG				S	Sn	19 36 12.9	-0.2
RAJF	Raja-Jooseppi	1.76	285	PG	Pn	19 35 52.5	+0.4
RAJF				SG	Sn	19 36 14.6	-0.5
OLKF	Oulanka, Finla	2.25	219	PG	Pn	19 36 00.5	+1.6
OLKF				MSG		19 36 27.1	
	comp=Z,2.7nm,0.2s						
OLKF				SG	Sb	19 36 30.2	-0.1
KU6	Riekki	2.40	211	PG	Pb	19 36 03.4	-1.0
KU6				MSG		19 36 31.3	
	comp=Z,1.8nm,0.2s						
KU6				SG	Sb	19 36 33.8	-0.6
VADS	Vadso	2.40	329	P	Pn	19 36 01.7	+0.9
VADS				S	Sn	19 36 31.9	+0.9
SGF	Sodankyl	2.52	258	PB	Pn	19 36 03.3	+0.8
SGF				SB	Sn	19 36 34.7	+0.8
MSF	Maaselka	2.68	217	PG	Pb	19 36 08.0	-1.0
MSF				SG	Sb	19 36 43.0	+0.6
KEV	Kevo	2.71	311	PN	Pn	19 36 06.4	+1.3
KEV				SN	Sn	19 36 39.8	+1.3
KEV				MSG		19 36 41.9	
	comp=Z,6.2nm,0.2s						
ARA0	ARCESS Array S	3.06	302	PN	Pn	19 36 10.8	+0.9
	baz=116						
ARA0				SN	Sn	19 36 47.4	+0.3
ARCES	ARCESS Array B	3.06	302	Pn	Pn	19 36 10.9	+1.0
	comp=Z,0.1nm,0.3s,baz=119,slow=14,SNR=19						
ARCES				Lg	Lg	19 36 53.0	
	comp=Z,1.1nm,0.3s,baz=117,slow=34,SNR=8.2						
	comp=Z,0.6nm,0.4s						
RNF	Rovaniemi	3.07	244	PN	Pn	19 36 11.1	+1.1
RNF				SN	Sn	19 36 47.9	+0.6
RANF	Ranua	3.19	232	PN	Pn	19 36 12.4	+0.8
RANF				SN	Sn	19 36 50.4	+0.1
HEF	Hetta	3.47	279	PN	Pn	19 36 15.7	+0.2
HEF				SN	Sn	19 36 56.6	-0.6
KLF	Kolari	3.53	260	PN	Pn	19 36 17.1	+0.7
KLF				SG	Sb	19 37 07.6	+0.6
KTK1	Kautokeino	3.68	289	PN	Pn	19 36 19.1	+0.7
KTK1				SB	Sb	19 37 11.8	+0.6
TOF	Tornio	3.93	243	PN	Pn	19 36 21.8	0.0
TOF				SN	Sn	19 37 07.5	-1.0
RMF	Romuvaara	4.08	199	PN	Pn	19 36 24.4	+0.4
LANU	Lannavaara	4.10	274	PN	Pn	19 36 25.5	+1.3
LANU				SB	Sb	19 37 24.5	+1.1
KALU	Kalix	4.38	244	PN	Pn	19 36 28.3	+0.3
KALU				SN	Sn	19 37 19.3	-0.3
ERTU	Ertsjaerv	4.44	255	PN	Pn	19 36 28.7	-0.1
ERTU				SN	Sn	19 37 19.8	-1.3
OBF4	Vikkela, Lumij	4.55	227	PN	Pn	19 36 30.9	+0.6
I37NO	I37NO	5.34	287	I	I	20 06 00.0	
	baz=94,slow=317,SNR=3.4						
FAUS	Fauske	6.74	272	S	Sn	19 38 12.5	-5.2
FINES	FINESS Array B	7.29	207	Pn	Pn	19 37 09.0	+1.0
	baz=29,slow=12,SNR=1.6						
FINES				Lg	Lg	19 39 04.5	
	comp=Z,0.2nm,0.3s,baz=23,slow=29,SNR=5.9						
	comp=Z,0.3nm,0.6s						

*NEIC **13** 19:40:25.1±2.0, 40°.76N±0°.02×124°.75W±0°.04, h10km±2km, Error ellipse: s-maj=5.5km s-min=3.3km az=89.0*

NCEDC 13 19:40:29.1±2.0, 40°.72N±0°.02×124°.54W±0°.05, h17km±6km, ML2.9/15, ML2.8/74(NEIC), Error ellipse: s-maj=5.6km s-min=2.2km az=95.0, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	Capetown	0.29	147		Pb	19 40 36.6	+0.8
KCTM					Sb	19 40 42.2	+1.9
JCC	Jacoby Creek,	0.40	76		Pg	19 40 37.3	0.0
JCC					Sb	19 40 43.4	-0.1
JCC				IAML		19 40 43.9	
	comp=N,691nm,0.3s						
JCC				IAML		19 40 44.0	
	comp=E,881nm,0.7s						
KMPM	Mount Pierce	0.44	133		Pb	19 40 38.3	-0.1
KMPM					Sb	19 40 45.1	+0.4
KMPM				IAML		19 40 46.3	
	comp=E,1μm,1.0s						
KRPM	Rodgers	0.59	42		Pg	19 40 40.2	-0.5
KRPM					Sg	19 40 48.4	-0.2
KSMM	Slide Mountain	0.60	152		Pg	19 40 40.6	-0.4
KCRM	Chalk Rock	0.62	118		Pg	19 40 41.2	-0.2
KHMM	Horse Mountain	0.63	76		Pg	19 40 41.3	-0.3
KHMM					Sg	19 40 50.0	-0.1
KMRM	Mail Ridge	0.81	128		Pb	19 40 44.1	-0.6
KMRM				Sn	Sb	19 40 55.1	-0.1
KMRM				IAML		19 40 56.6	
	comp=N,238nm,0.4s						
KMRM				IAML		19 40 58.9	
	comp=E,266nm,0.3s						
KRMB	Red Mountain	0.93	30		Pb	19 40 45.1	-1.8
KRMB				Sn	Sb	19 40 56.3	-2.7
KPPM	Pickett Peak	0.97	112		Pb	19 40 46.5	-1.1
KOMM	Orleans Mounta	0.99	55		Pb	19 40 46.4	-1.5
KHBM	Hayfork Bally	1.01	93		Pb	19 40 46.6	-1.6
KSXB	Camp Six Broad	1.22	24		Pn	19 40 48.9	-2.5
KSXB				Sn	Sb	19 41 03.7	-3.4
KSXB				IAML		19 41 05.3	
	comp=E,208nm,0.4s						
KIPM	Iron Peak	1.22	138		Pn	19 40 50.0	-1.5
KCPM	Cahto Peak	1.27	144	Pn	Pn	19 40 50.3	-1.7
KCPM				Sn	Sb	19 41 05.7	-2.9
KCPM				IAML		19 41 06.8	
	comp=N,197nm,0.5s						
KCPM				IAML		19 41 07.4	
	comp=E,245nm,0.4s						
LGPM	Granite Peak	1.31	81		Pn	19 40 50.9	-1.8
KBNM	Bluenose Ridge	1.32	128		Pn	19 40 51.8	-1.0
LBPM	Beegum Peak	1.33	107		Pn	19 40 51.1	-1.7
KFPM	Farley Peak	1.38	141		Pn	19 40 51.8	-1.8
N02D	Trinity Center	1.42	79		Pn	19 40 52.2	-1.8
M02C	Callahan	1.44	62		Pn	19 40 52.5	-1.9
O02D	Mt. Diablo Mer	1.44	112	Pn	Pn	19 40 52.7	-1.7
LBKM	Bonanza King	1.47	75		Pn	19 40 53.0	-1.8
KBO	Bosley Butte	1.51	9	Pn	Pn	19 40 52.6	-2.8
KBO				IAML		19 41 11.5	
	comp=E,143nm,0.3s						
GTC	Three Chop Rid	1.52	150		Pn	19 40 53.4	-2.0
DCMP	DeCamp, Califo	1.55	143		Pn	19 40 53.9	-2.0
L02F	Cave Junction	1.58	27		Pn	19 40 54.0	-2.2
L02F				IAML		19 41 15.5	
	comp=E,101nm,0.4s						
LAMM	Antelope Mount	1.70	58		Pn	19 40 56.6	-1.5
GVV	Valley View	1.71	123		Pn	19 40 57.1	-1.1
YBH	Yreka Blue Hor	1.71	53	Pn	Pn	19 40 56.5	-1.7
YBH				IAML		19 41 19.7	
	comp=N,74nm,0.7s						
YBH				IAML		19 41 20.4	
	comp=E,74nm,0.6s						
LSHM	Sage Hen Hill	1.90	87		Pn	19 40 59.6	-1.1
LTCM	Tuscan Springs	1.91	105		Pn	19 40 60.0	-0.9
M03C	McCloud	1.91	72		Pn	19 41 00.2	-0.7
LMPM	Military Pass	1.95	66		Pn	19 41 01.4	-0.2
LHEM	Herd Peak	1.97	62		Pn	19 41 01.4	-0.5
GCK	Clark Valley	1.99	125		Pn	19 41 01.8	-0.2
GTSM	Trough Springs	2.05	133		Pn	19 41 01.7	-1.0
HOPS	Hopland Field	2.06	146		Pn	19 41 00.6	-2.3
LBFM	Black Fox Moun	2.10	72		Pn	19 41 03.3	-0.4
LDBM	Digger Butte	2.12	97		Pn	19 41 02.2	-1.6
O03E	Paynes Creek	2.13	101		Pn	19 41 02.6	-1.4
HUMO	Hull Mountain	2.23	32	Pn	Pn	19 41 03.5	-1.7
LMEM	Manzanita Entr	2.27	94		Pn	19 41 05.2	-0.7
HATC	Hat Creek Radi	2.34	87	Pn	Pn	19 41 05.7	-1.1
HATC				IAML		19 41 49.6	
	comp=E,46nm,3.2s						
LTIM	Timbered Crate	2.35	78		Pn	19 41 06.0	-1.1
LRDM	Redding Peak	2.36	95		Pn	19 41 06.2	-0.8
J01E	Myrtle Point	2.48	10	Pn	Pn	19 41 06.6	-2.0
J01E				IAML		19 42 34.0	
	comp=E,55nm,4.0s						
J01E				IAML		19 42 45.6	
	comp=N,45nm,4.1s						
OSUM	Sutter Buttes	2.52	124		Pn	19 41 06.9	-2.2
DBO	Dodson Butte	2.59	22	Pn	Pn	19 41 08.4	-1.7
DBO				IAML		19 42 05.5	
	comp=E,36nm,4.0s						
SUTB	Sutter Butte	2.59	124		Pn	19 41 07.8	-2.3
ORV	Oroville	2.60	116		Pn	19 41 07.6	-2.8
AFDM	Forest Hills D	3.27	122	Pn	Pn	19 41 18.3	-1.2
I04A	Tendick Farm,	3.46	26	Pn	Pn	19 41 20.7	-1.4
I04A				IAML		19 42 15.2	
	comp=N,14nm,3.3s						
I04A				IAML		19 43 41.7	
	comp=E,20nm,0.1s						
J05D	Fort Rock, OR	3.56	43		Pn	19 41 22.9	-0.7
J05D				IAML		19 42 24.4	
	comp=N,19nm,4.9s						
J05D				IAML		19 43 14.7	
	comp=E,18nm,4.3s						
JCHM	Cahill Ridge	3.61	152		Pn	19 41 21.2	-3.1
MPK	Martis Peak	3.74	111	Pn	Pn	19 41 26.3	0.0
MPK				IAML		19 42 10.5	
	comp=E,21nm,0.9s						
EMB	Emerald Bay	3.83	116	Pn	Pn	19 41 27.1	-0.4
EMB				IAML		19 41 56.0	
	comp=N,19nm,0.9s						
EMB				IAML		19 43 09.2	
	comp=E,18nm,0.9s						
H04D	Lebanon	4.03	19	Pn	Pn	19 41 27.4	-2.6
PINE	Pine Mountain	4.07	40	Pn	Pn	19 41 30.8	+0.2
PAHR	Pah Rah Range	4.07	103	Pn	Pn	19 41 29.7	-1.0
PNTR	Pine Nut	4.13	112		Pn	19 41 31.3	-0.3
PNTR				IAML		19 42 55.1	
	comp=N,9.0nm,4.6s						
PNTR				IAML		19 43 47.5	
	comp=E,8.7nm,4.1s						
H04A	Detroit Lake	4.33	23	Pn	Pn	19 41 33.3	-0.8
H04A				IAML		19 42 49.0	
	comp=N,14nm,4.5s						
YERR	Yerington	4.43	111		Pn	19 41 35.5	-0.1
YERR				IAML		19 42 22.1	
	comp=E,7.7nm,4.5s						
YERR				IAML		19 42 54.1	
	comp=N,7.4nm,4.3s						
WAKR	Walker	4.52	118	Pn	Pn	19 41 36.9	0.0
WAKR				IAML		19 42 53.0	
	comp=N,7.1nm,4.8s						
WAKR				IAML		19 43 21.4	
	comp=E,7.7nm,4.9s						
RYN	Ryan	5.09	112	Pn	Pn	19 41 44.0	-0.7
RYN				IAML		19 43 29.7	
	comp=E,4.4nm,4.4s						
RYN				IAML		19 44 50.1	
	comp=N,4.7nm,4.8s						
KVN	Kaiserville	5.23	107	Pn	Pn	19 41 45.5	-1.0
KVN				IAML		19 43 33.5	
	comp=E,5.4nm,4.8s						
KVN				IAML		19 43 59.0	
	comp=N,4.0nm,4.7s						
J08A	Circle Bar Ran	5.23	58	Pn	Pn	19 41 44.6	-2.0
J08A				IAML		19 43 57.5	
	comp=E,7.4nm,4.3s						
MDPB	Devils Postpil	5.24	124	Pn	Pn	19 41 45.2	-1.7
LHV	Little Huntoon	5.28	116	Pn	Pn	19 41 47.7	+0.6
LHV				IAML		19 43 48.1	
	comp=N,7.4nm,4.2s						
NVAR	Mina Array Bea	5.33	113	Pn	Pn	19 41 47.7	-0.4
MXC	Moxie City	6.62	26	Pn	Pn	19 42 06.1	+0.6

*IDC **13** 19:39:55.0±1.4, 14°.26S×172°.52E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=36.7km s-min=32.4km az=163.0*
*NEIC **13** 19:40:55.4±1.2, 14°.05S±0°.1×171°.5E±0°.2, h622km±10km, mb4.5/17, Error ellipse: s-maj=23.3km s-min=20.2km az=97.0*

ISC 13 19:40:54.6±0.6, 14°.05S±0°.1×171°.3E±0°.1, h600km, n35, σ1§62/31, mb4.3/14, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.48	120	P	P	19 42 56.6	+7.4
LIFNC	LIFOU	7.75	209	P	P	19 42 52.8	+1.3
DZM	Mont Dzumac	9.23	209	P	P	19 43 08.3	+2.4
PINNC	Pines Island,	9.29	203	P	P	19 43 07.7	+1.4
KOUNC	Koumac, New Ca	9.31	225	P	P	19 43 08.7	+2.1
OUENC	Ouen Island, N	9.36	206	P	P	19 43 07.8	+0.8
BKZ	Black Stump Fm	25.46	171	P	P	19 45 36.1	-0.7
BKZ				IAmb	IAmb	19 45 38.2	
	comp=Z,18nm,1.3s						
MRZ	Mangatainoka R	26.80	173	P	P	19 45 48.0	-0.6
MRZ				IAmb	IAmb	19 46 19.8	
	comp=Z,37nm,1.4s						
TUWZ	Tuamarina	27.41	176	P	P	19 45 53.0	-0.8
THZ	Tophouse	27.68	177	P	P	19 45 55.6	-0.6
STKA	Stephens Creek	32.45	232	P	P	19 46 35.0	-2.2
	comp=Z,1.3nm,0.5s,baz=60,slow=8.1,SNR=1.9						
	comp=Z,1.3nm,0.5s						
WR0	Warramunga Arr	35.58	255	P	P	19 47 03.9	+0.4
WR0				IAmb	IAmb	19 47 08.6	
	comp=Z,11nm,1.4s						
WB0	Warramunga Arr	35.70	256	P	P	19 47 04.9	+0.4
WB0				IAmb	IAmb	19 47 22.1	
	comp=Z,10nm,1.4s						
WRA	Warramunga Arr	35.77	255	P	P	19 47 05.2	+0.1
	comp=Z,0.4nm,0.5s,baz=80,slow=5.8,SNR=8.3						
	comp=Z,0.4nm,0.5s						
AS31	Alice Springs	36.55	249	P	P	19 47 11.8	+0.2
ASAR	Alice Springs	36.56	249	P	P	19 47 11.4	-0.1
ASAR	Alice Springs	36.56	249	P	P	19 47 11.4	-0.1
	comp=Z,1.4nm,0.5s,baz=76,slow=9.8,SNR=60						
	comp=Z,1.4nm,0.5s						
BBOO	Buckleboo	37.10	234	P	P	19 47 15.7	-0.1
FORT	Forrest	43.01	240	P	P	19 48 02.7	-0.1
FORT				IAmb	IAmb	19 48 36.8	
	comp=Z,42nm,1.3s						
FITZ	Fitzroy Crossi	43.97	258	P	P	19 48 11.7	+1.3
JMZ	Minamidaito 2	55.58	315	P	P	19 49 34.1	-0.9
VNDA	Vanda	63.69	182	P	P	19 50 28.1	+0.2
VNDA	Vanda	63.69	182	P	P	19 50 28.2	+0.3
	comp=Z,0.3nm,0.5s,baz=359,slow=8.4,SNR=6.2						
	comp=Z,0.3nm,0.5s						
SBA	Scott Base	63.88	181	P	P	19 50 29.9	+0.8
QSPA	South Pole Qui	76.00	180	P	P	19 51 41.3	+0.1
QSPA				IAmb	IAmb	19 51 57.4	
	comp=Z,6.0nm,1.5s						
QSPA	South Pole Qui	76.00	180	P	P	19 51 41.1	-0.1
	comp=Z,0.8nm,0.5s,baz=289,slow=0.9,SNR=13						
	comp=Z,0.8nm,0.5s						
HOPS	Hopland Field	80.73	46	P	P	19 52 05.9	-0.8
HOPS				IAmb	IAmb	19 52 39.3	
	comp=Z,30nm,1.5s						
BWN	Browne	83.52	16		pwP	19 54 32.3	+0.2
ILAR	Eielson Array	84.70	17	P	P	19 52 30.1	+4.2
	comp=Z,0.3nm,0.5s,baz=231,slow=5.3,SNR=4.4						
	comp=Z,0.3nm,0.5s						
YNM	Yellowstone No	91.44	44		pP	19 55 10.1	+2.8
Q24A	Divide	93.79	51	P	P	19 53 11.2	+2.0
Q24A				IAmb	IAmb	19 53 12.9	
	comp=Z,3.7nm,0.8s						
OZNA	Ozona	95.05	60	P	P	19 53 09.4	-5.4
BRDY	Brady	96.91	60	P	P	19 53 21.4	-1.7
BRDY				IAmb	IAmb	19 53 34.0	
	comp=Z,5.1nm,0.7s						
TIRR	Tirgusor	136.24	321		PKPdf	19 59 05.0	-4.0
CLL	Collm	138.89	339	*i* PKPdf	PKPdf	19 59 10.8	-2.8

*LDG **13** 19:43:18.3±0.1, 41°.18N×6°.99W, h4km, Ml3.0/9, Error ellipse: s-maj=1.3km s-min=1.1km az=117.0*
*MDD **13** 19:43:18.5±0.2, 41°.18N×7°.02W, h12km, mb_Lg3.2/79, Error ellipse: s-maj=1.4km s-min=0.9km az=111.0*
*INMG **13** 19:43:18.0±1.9, 41°.17N×6°.97W, h6km±3km, ML2.9, Error ellipse: s-maj=2.2km s-min=1.8km az=107.0*
*IGIL **13** 19:43:19.0, 41°.18N×6°.98W, h12km, ML2.5*
*SFS **13** 19:43:19.1, 41°.25N×6°.99W, h24km, ML3.5/17, ML3.6/12, MLv3.4/17*

ISC 13 19:43:16.1±0.8, 41°.19N±0°.01×6°.95W±0°.01, h9km±8km, n95, σ1§51/218, 3C-1D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVRL	Vila Real	0.59	279⇑	*e*Pg	Pb	19 43 28.5	-0.1
PVRL				*e*Sg	Sb	19 43 36.5	-0.5
PVRL				A	A	19 43 41.1	
	230nm,0.1s						
PBRG	Braganca	0.64	14⇓	*e*Pg	Pb	19 43 29.7	+0.3
PBRG				*e*Sg	Sb	19 43 38.1	-0.4
PBRG				A	A	19 43 42.7	
	214nm,0.2s						
POLO	Lamas de Olo	0.67	287⇑	*i*Pg	Pb	19 43 30.2	+0.2
POLO				*e*Sg	Sb	19 43 38.8	-0.5
POLO				A	A	19 43 39.5	
	69nm,0.5s						
ECAL	Calabor	0.77	12	Pg	Pb	19 43 32.4	+0.6
ECAL				Sg	Sb	19 43 42.2	-0.2
ECAL	Calabor	0.77	12	Pg	Pb	19 43 32.2	+0.5
ECAL				Sg	Sb	19 43 43.7	+1.4
ECAL				*i* Vmb_Lg		19 43 46.7	
EJUZ	Juzbado, Salam	0.81	97	Pg	Pb	19 43 32.9	+0.5
EJUZ				Sg	Sg	19 43 43.0	+0.9
PVIS	Viseu	0.86	237

PMRV	**Marv??o**	**1.79 191**	*e*Pn	**Pn**	**19 43 47.6**	**+0.4**
PMRV	**Marv??o**	**1.79 191**	*e*Pg	**Pg**	**19 43 50.1**	**-0.3**
PMRV			*e*Sg	**Sg**	**19 44 13.2**	**-0.4**
PMRV			A	A	19 44 20.1	
116nm,0.5s						
EAGO	**Agolada(Pontev**	**1.82 333**	Pn	**Pn**	**19 43 48.7**	**+1.0**
EAGO			Sn	**Sn**	**19 44 09.5**	**-1.4**
EAGO			Sg	**Sg**	**19 44 14.9**	**+0.1**
EAGO			*i* Vmb_Lg		19 44 17.7	
EPON	**Pontenova**	**2.14 356**	Pn	**Pn**	**19 43 53.2**	**+1.1**
EPON			Sn	**Sn**	**19 44 18.5**	**-0.3**
EPON			Sg	**Sg**	**19 44 24.8**	**-0.2**
EPON			*i* Vmb_Lg		19 44 30.7	
GUD	**Guadarrama**	**2.19 103**	Pn	**Pn**	**19 43 54.0**	**+1.3**
GUD			Sn	**Sn**	**19 44 20.3**	**+0.3**
GUD			Sg	**Sg**	**19 44 25.9**	**-0.5**
GUD			*i* Vmb_Lg		19 44 28.7	
PSBE	**So Bento**	**2.19 221**	*e*Pn	**Pn**	**19 43 53.1**	**+0.4**
PSBE			*e*Sg	**Sg**	**19 44 26.8**	**+0.4**
PSBE			A	A	19 44 36.2	
44nm,0.6s						
EMAZ	**Mazaricos**	**2.32 320**	Pn	**Pn**	**19 43 55.9**	**+1.4**
EMAZ			Sn	**Sn**	**19 44 23.5**	**+0.3**
EMAZ			Sg	**Sg**	**19 44 30.5**	**-0.1**
EMAZ			*i* Vmb_Lg		19 44 34.8	
PMTG	**Montargil**	**2.33 205**	*e*Pn	**Pn**	**19 43 54.7**	**+0.1**
PMTG			*e*Sn	**Sn**	**19 44 22.7**	**-0.7**
PMTG			*e*Sg	**Sg**	**19 44 30.4**	**-0.6**
PMTG			A	A	19 44 33.3	
29nm,0.5s						
PESTR	**Estremoz**	**2.37 192**	*e*Pn	**Pn**	**19 43 55.7**	**+0.5**
PESTR			*e*Sg	**Sg**	**19 44 30.9**	**-1.3**
PESTR			A	A	19 44 35.6	
47nm,0.5s						
PESTR	**Estremoz**	**2.37 192**	Pn	**Pn**	**19 43 55.6**	**+0.5**
PESTR			Sn	**Sn**	**19 44 24.8**	**+0.5**
EBAD	**Badajoz**	**2.43 181**	Pn	**Pn**	**19 43 57.3**	**+1.4**
EBAD	**Badajoz**	**2.43 181**	Pn	**Pn**	**19 43 57.5**	**+1.5**
EBAD			Sn	**Sn**	**19 44 24.5**	**-1.3**
EBAD			Sg	**Sg**	**19 44 33.6**	**-0.5**
EBAD			*i* Vmb_Lg		19 44 35.9	
EARI	**Arriondas**	**2.48 31**	Pn	**Pn**	**19 43 58.8**	**+2.2**
EARI			Sn	**Sn**	**19 44 26.9**	**-0.1**
EARI			Sg	**Sg**	**19 44 36.1**	**+0.5**
EARI			*i* Vmb_Lg		19 44 42.0	
PAB	**San Pablo**	**2.58 129**	Pn	**Pn**	**19 43 58.8**	**+0.8**
PAB			Sn	**Sn**	**19 44 28.9**	**-0.6**
PAB			Sg	**Sb**	**19 44 36.3**	**+2.1**
PAB			*i* Vmb_Lg		19 44 38.5	
ESDC	**Sonseca Array**	**2.73 123**	Pn	**Pn**	**19 44 01.3**	**+1.1**
ESDC			Sn	**Sn**	**19 44 32.9**	**-0.5**
ESDC			Sg	**Sg**	**19 44 42.2**	**-1.7**
EVO	**Evora**	**2.78 198**	*e*Pn	**Pn**	**19 44 01.4**	**+0.7**
EVO			*e*Sn	**Sn**	**19 44 34.0**	**-0.3**
EVO			*e*Sg	**Sg**	**19 44 44.6**	**-0.7**
EVO			A	A	19 44 47.6	
39nm,0.6s						
EVO	**Evora**	**2.78 198**	Pn	**Pn**	**19 44 01.7**	**+0.9**
EVO			Sn	**Sn**	**19 44 33.2**	**-1.1**
EVO			Sg	**Sb**	**19 44 42.0**	**+2.0**
PACT	**Alcochete**	**2.82 212**	*e*Pn	**Pn**	**19 44 02.6**	**+1.3**
PACT			*e*Sg	**Sg**	**19 44 47.1**	**+0.5**
PACT			A	A	19 44 51.3	
65nm,0.4s						
PMAFR	**Mafra**	**2.86 220**	*e*Pn	**Pn**	**19 44 03.0**	**+1.1**
PMAFR			*e*Sn	**Sn**	**19 44 35.7**	**-0.7**
PMAFR			A	A	19 44 50.9	
16nm,0.5s						
PMAFR	**Mafra**	**2.86 220**	Pn	**Pn**	**19 44 03.1**	**+1.1**
PMAFR			Sn	**Sn**	**19 44 36.3**	**-0.1**
PMAFR			Sg	**Sb**	**19 44 44.7**	**+2.3**
UCM	**Universidad Co**	**2.95 106**	Pn	**Pn**	**19 44 04.8**	**+1.7**
UCM			Sn	**Sn**	**19 44 36.6**	**-2.1**
UCM			Sg	**Sb**	**19 44 48.1**	**+3.2**
PBAR	**Barrancos**	**3.01 181**	*e*Pn	**Pn**	**19 44 05.3**	**+1.3**
PBAR			*e*Sn	**Sn**	**19 44 40.1**	**0.0**
PBAR			*e*Sg	**Sg**	**19 44 52.2**	**-0.6**
PBAR			A	A	19 44 54.8	
24nm,0.6s						
PBAR	**Barrancos**	**3.01 181**	Pn	**Pn**	**19 44 05.2**	**+1.3**
PBAR			Sn	**Sn**	**19 44 38.8**	**-1.3**
PBAR			Sg	**Sb**	**19 44 49.6**	**+2.9**
PBEJ	**Beja**	**3.24 193**	*e*Pn	**Pn**	**19 44 07.9**	**+0.8**
PBEJ			*e*Sn	**Sn**	**19 44 45.4**	**-0.3**
PBEJ			*e*Sg	**Sg**	**19 44 57.8**	**-2.2**
PBEJ			A	A	19 45 06.3	
14nm,0.3s						
PNCL	**Nicolau / Gran**	**3.31 202**	*e*Pn	**Pn**	**19 44 08.8**	**+0.8**
PNCL			*e*Sn	**Sn**	**19 44 46.3**	**-1.1**
PNCL			*e*Sg	**Sg**	**19 44 59.9**	**-2.4**
PNCL			A	A	19 45 03.1	
11nm,0.4s						
PNCL	**Nicolau / Gran**	**3.31 202**	Pn	**Pn**	**19 44 08.9**	**+0.9**
PNCL			Sn	**Sn**	**19 44 46.1**	**-1.3**
PNCL			Sg	**Sb**	**19 44 57.2**	**+2.0**
ELAN	**Lanestosa**	**3.31 51**	Pn	**Pn**	**19 44 10.0**	**+1.8**
ELAN			Sn	**Sn**	**19 44 48.2**	**+0.5**
ELAN			Sg	**Sg**	**19 45 02.7**	**+0.2**
ELAN			*i* Vmb_Lg		19 45 07.8	
ECAB	**El Cabril**	**3.32 159**	Pn	**Pn**	**19 44 09.1**	**+0.8**
ECAB	**El Cabril**	**3.32 159**	Pn	**Pn**	**19 44 09.1**	**+0.8**
ECAB			Sn	**Sn**	**19 44 45.9**	**-2.1**
ECAB			Sg	**Sg**	**19 45 00.7**	**-2.2**
ECAB			*i* Vmb_Lg		19 45 05.1	
EMIN	**Mina Concepcio**	**3.42 176**	Pn	**Pn**	**19 44 10.8**	**+1.2**
EMIN			Sn	**Sn**	**19 44 49.4**	**-0.9**
EMIN			Sg	**Sb**	**19 45 01.3**	**+2.7**
EMIN	**Mina Concepcio**	**3.42 176**	Pn	**Pn**	**19 44 10.5**	**+0.9**
EMIN			Sn	**Sn**	**19 44 48.7**	**-1.6**
EMIN			Sg	**Sg**	**19 45 03.6**	**-2.4**
EMIN			*i* Vmb_Lg		19 45 08.6	
MESJ	**Messejana**	**3.48 197**	*e*Pn	**Pn**	**19 44 11.3**	**+0.8**
MESJ			*e*Sn	**Sn**	**19 44 50.9**	**-1.0**
MESJ			*e*Sg	**Sg**	**19 45 05.2**	**-2.8**
MESJ			A	A	19 45 09.0	
14nm,0.5s						
MESJ	**Messejana**	**3.48 197**	*e*P	**Pn**	**19 44 11.3**	**+0.8**
EADA	**Adamuz**	**3.53 148**	Pn	**Pn**	**19 44 11.8**	**+0.7**
EADA			Sn	**Sn**	**19 44 52.3**	**-0.6**
EADA			Sg	**Sb**	**19 45 03.7**	**+2.1**
EADA	**Adamuz**	**3.53 148**	Pn	**Pn**	**19 44 11.6**	**+0.5**
EADA			Sn	**Sn**	**19 44 51.7**	**-1.2**
EADA			Sg	**Sg**	**19 45 08.0**	**-1.4**
EADA			*i* Vmb_Lg		19 45 10.6	
PCVE	**Castro Verde**	**3.65 194**	*e*Pn	**Pn**	**19 44 13.5**	**+0.7**
PCVE			*e*Sn	**Sn**	**19 44 55.2**	**-0.7**
PCVE			A	A	19 45 17.7	
21nm,0.6s						
PCVE	**Castro Verde**	**3.65 194**	Pn	**Pn**	**19 44 13.1**	**+0.4**
PCVE			Sn	**Sn**	**19 44 53.7**	**-2.2**
PCVE			Sg	**Sb**	**19 45 08.4**	**+3.3**
EGRO	**El Granado**	**3.67 187**	Pn	**Pn**	**19 44 13.4**	**+0.3**
EGRO			Sn	**Sn**	**19 44 55.8**	**-0.6**
EGRO			Sg	**Sb**	**19 45 08.1**	**+3.3**
EGRO	**El Granado**	**3.67 187**	Pn	**Pn**	**19 44 13.6**	**+0.5**
EGRO			Sn	**Sn**	**19 44 55.0**	**-1.4**
EGRO			Sg	**Sg**	**19 45 12.0**	**-2.0**
EGRO			*i* Vmb_Lg		19 45 21.2	
ETOR	**Torete**	**3.72 94**	Pn	**Pn**	**19 44 15.7**	**+1.9**
ETOR			Sn	**Sn**	**19 44 57.6**	**-0.1**
ETOR			Sg	**Sg**	**19 45 14.3**	**-1.2**
PVAQ	**Vaqueiros**	**3.83 189**	*e*Pn	**Pn**	**19 44 15.6**	**+0.4**
PVAQ			*e*Sn	**Sn**	**19 44 59.0**	**-1.2**
PVAQ			*e*Sg	**Sg**	**19 45 16.1**	**-2.9**
PVAQ			A	A	19 45 21.9	
22nm,0.6s						
PVAQ	**Vaqueiros**	**3.83 189**	Pn	**Pn**	**19 44 15.5**	**+0.3**
PVAQ			Sn	**Sn**	**19 44 57.7**	**-2.6**
PVAQ			Sg	**Sb**	**19 45 13.7**	**+3.5**
PTEO	**Sao Teotonio**	**3.89 201**	*e*Sg	**Sg**	**19 45 17.5**	**-3.5**
PTEO			A	A	19 45 23.6	
18nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.01 191**	*e*Pn	**Pn**	**19 44 18.7**	**+0.9**
PBDV			*e*Sn	**Sn**	**19 45 04.0**	**-0.9**
PBDV			*e*Sg	**Sg**	**19 45 22.1**	**-2.9**
PBDV			A	A	19 45 30.5	
16nm,0.5s						
MORF	**Marmelete**	**4.10 199**	*e*Pn	**Pn**	**19 44 19.3**	**+0.4**
MORF			*e*Sn	**Sn**	**19 45 05.3**	**-1.7**
MORF			*e*Sg	**Sg**	**19 45 24.1**	**-3.6**
MORF			A	A	19 45 27.2	
9.5nm,0.2s						
MORF	**Marmelete**	**4.10 199**	*e*P	**Pn**	**19 44 19.5**	**+0.5**
MORF			*e*S	**Sn**	**19 45 03.6**	**-3.4**
MORF			IAML		19 45 06.4	
comp=N,10nm,0.3s						
LIJA	**Lijar**	**4.44 164**	Pn	**Pn**	**19 44 25.3**	**+1.6**
LIJA			Sn	**Sn**	**19 45 14.4**	**-1.1**
E0901	**Celadas (Terue**	**4.47 97**	Pn	**Pn**	**19 44 23.9**	**-0.2**
E0901			Sn	**Sn**	**19 45 16.1**	**-0.2**
E0901			Sg	**Sg**	**19 45 38.8**	**-0.9**
E0901			*i* Vmb_Lg		19 45 50.6	
EORO	**Oroz-Betelu**	**4.53 66**	Pn	**Pn**	**19 44 26.7**	**+1.8**
EORO			Sn	**Sn**	**19 45 18.2**	**+0.4**
EORO			Sg	**Sg**	**19 45 41.2**	**-0.4**
EORO			*i* Vmb_Lg		19 45 46.8	
EGOR	**Sierra Gorda,**	**4.63 151**	Pn	**Pn**	**19 44 28.5**	**+2.1**
EGOR	**Sierra Gorda,**	**4.63 151**	Pn	**Pn**	**19 44 28.4**	**+2.1**
EGOR			Sn	**Sn**	**19 45 17.7**	**-2.6**
EGOR			Sg	**Sg**	**19 45 42.9**	**-1.9**
EGOR			*i* Vmb_Lg		19 45 57.4	
SJPF	**Ste Jean**	**4.67 64**	*e*Pn	**Pn**	**19 44 28.4**	**+1.6**
SJPF	**Ste Jean**	**4.67 64**	*e*P	Pn	19 44 31.7	+4.9
SJPF	**Ste Jean**	**4.67 64**	*e*Pg	**Pg**	**19 44 45.9**	**+0.4**
SJPF			*e*Sn	**Sn**	**19 45 19.9**	**-1.2**
SJPF			*e*Sg	**Sg**	**19 45 45.1**	**-0.9**
comp=N,9.0nm,0.4s						
EQUE	**Quentar**	**4.82 144**	Pn	**Pn**	**19 44 31.0**	**+2.0**
EQUE			Sn	**Sn**	**19 45 24.2**	**-0.7**
EQUE			Sg	**Sg**	**19 45 49.1**	**-1.8**
EQUE			*i* Vmb_Lg		19 45 51.7	
ECHE	**Chera**	**4.84 107**	Pn	**Pn**	**19 44 30.5**	**+1.4**
ECHE			Sn	**Sn**	**19 45 24.6**	**-0.7**
ECHE			Sg	**Sg**	**19 45 49.5**	**-1.8**
ECHE			*i* Vmb_Lg		19 46 01.6	
EVIV	**Cofrentes, Val**	**4.86 111**	Pn	**Pn**	**19 44 30.2**	**+0.8**
EVIV			Sn	**Sn**	**19 45 25.5**	**-0.2**
EVIV			Sg	**Sg**	**19 45 51.4**	**-0.6**
EVIV			*i* Vmb_Lg		19 46 03.0	
EMIJ	**Mijas**	**4.92 159**	Pn	**Pn**	**19 44 32.4**	**+2.1**
EMIJ	**Mijas**	**4.92 159**	Pn	**Pn**	**19 44 32.0**	**+1.8**
EMIJ			Sn	**Sn**	**19 45 25.2**	**-2.0**
EMIJ			*i* Vmb_Lg		19 46 01.0	
EMOS	**Mosqueruela**	**4.98 97**	Pn	**Pn**	**19 44 32.6**	**+1.4**
EMOS			Sn	**Sn**	**19 45 27.0**	**-2.1**
EMOS			Sg	**Sg**	**19 45 55.8**	**-0.3**
EMOS			*i* Vmb_Lg		19 46 00.5	
ELGU	**Los Guajares,**	**5.03 148**	Pn	**Pn**	**19 44 33.6**	**+1.8**
ELGU			Sn	**Sn**	**19 45 28.5**	**-1.5**
ELGU			Sg	**Sg**	**19 45 55.0**	**-2.6**
ELGU			*i* Vmb_Lg		19 46 07.3	
ETSF	**Etsaut**	**5.05 68**	*e*Pn	**Pn**	**19 44 33.3**	**+1.2**
ETSF	**Etsaut**	**5.05 68**	*e*P	Pn	19 44 37.2	+5.1
ETSF	**Etsaut**	**5.05 68**	*e*Pg	**Pg**	**19 44 51.9**	**-1.0**
ETSF			*e*Sn	**Sn**	**19 45 29.7**	**-0.9**
ETSF			*e*Sg	**Sg**	**19 45 56.6**	**-1.8**
comp=N,4.4nm,0.3s						
EZAR	**Zarzadilla de**	**5.24 127**	Pn	**Pn**	**19 44 35.9**	**+1.3**
EZAR			Sn	**Sn**	**19 45 34.1**	**-1.1**
EZAR			Sg	**Sg**	**19 46 01.3**	**-3.0**
EZAR			*i* Vmb_Lg		19 46 17.1	
EBER	**Berja**	**5.32 142**	Pn	**Pn**	**19 44 38.3**	**+2.4**
EBER			Sn	**Sn**	**19 45 35.1**	**-2.3**
EBER			Sg	**Sg**	**19 46 04.3**	**-2.7**
EBER			*i* Vmb_Lg		19 46 20.2	
ERTA	**Horta de San J**	**5.51 90**	Pn	**Pn**	**19 44 39.4**	**+1.1**
ERTA			Sn	**Sn**	**19 45 40.6**	**-1.2**
ERTA			Sg	**Sg**	**19 46 11.0**	**-2.0**
ERTA			*i* Vmb_Lg		19 46 23.5	
ECHI	**Chisagues Biel**	**5.53 72**	Pn	**Pn**	**19 44 39.7**	**+1.1**
ECHI			Sn	**Sn**	**19 45 41.1**	**-1.3**
ECHI			*i* Vmb_Lg		19 46 26.4	
EPF	**Esparros**	**5.72 69**	*e*Pn	**Pn**	**19 44 43.2**	**+1.9**
EPF	**Esparros**	**5.72 69**	*e*Pg	**Pg**	**19 45 04.6**	**-1.1**
EPF			*e*Sn	**Sn**	**19 45 45.0**	**-2.1**
comp=N,2.1nm,0.2s						
EPF			*e*Sg	**Sg**	**19 46 18.1**	**-1.8**
comp=N,3.6nm,0.4s						
EPOB	**Poblet**	**6.05 86**	Pn	**Pn**	**19 44 46.7**	**+0.9**
EPOB			Sn	**Sn**	**19 45 53.3**	**-1.8**
EPOB			Sg	**Sg**	**19 46 27.9**	**-2.4**
EPOB			*i* Vmb_Lg		19 46 32.4	
LFF	**La Frestale**	**6.76 54**	*e*Pn	**Pn**	**19 44 56.0**	**+0.5**
LFF			*e*Sn	**Sn**	**19 46 09.6**	**-3.0**
comp=N,4.1nm,0.4s						
MTLF	**Montolieu**	**7.13 69**	*e*Pn	**Pn**	**19 45 01.9**	**+1.3**
MTLF			*e*Sn	**Sn**	**19 46 18.7**	**-3.0**
comp=N,0.7nm,0.3s						
QUIF	**Quistinic**	**7.25 21**	*e*Pn	**Pn**	**19 45 02.7**	**+0.6**
QUIF			*e*Sn	**Sn**	**19 46 20.4**	**-4.1**
comp=N,1.0nm,0.2s						
MFF	**Saint Martin d**	**7.31 40**	*e*Pn	**Pn**	**19 45 03.6**	**+0.6**
MFF	**Saint Martin d**	**7.31 40**	*e*P	Pn	19 45 08.9	+5.9
MFF			*e*Sn	**Sn**	**19 46 22.4**	**-3.6**
comp=N,1.2nm,0.3s						
RJF	**Les Rejaudoux**	**7.42 54**	*e*Pn	**Pn**	**19 45 04.6**	**0.0**
RJF			*e*Sn	**Sn**	**19 46 25.4**	**-3.4**
comp=N,2.7nm,0.3s						
CAF	**Calviac**	**7.58 57**	*e*Pn	**Pn**	**19 45 06.5**	**-0.3**
LASF	**Ste Croix**	**8.47 66**	*e*Pn	**Pn**	**19 45 19.6**	**+0.6**

IDC 13 20:00:31.9±5.2, 6°38S×128°32E, h298km±59km, mb3.0/3, mbtmp3.9/5, Error ellipse: s-maj=161.9km s-min=16.0km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.70**	**157**	P	P	20 03 46.1	+0.3
2.9nm,0.4s,baz=327,slow=12,SNR=78							
ASAR	**Alice Springs**	**18.01**	**163**	P	P	20 04 22.1	+0.1
4.8nm,0.6s,baz=344,slow=12,SNR=130							
ASAR				S	S	20 07 33.4	+0.6
0.5nm,0.7s,baz=344,slow=25,SNR=3.0							
STKA	**Stephens Creek**	**28.24**	**156**	P	P	20 05 58.0	0.0
2.6nm,0.9s,baz=338,slow=13,SNR=2.9							
2.6nm,0.9s							
MKAR	**Makanchi Array**	**66.80**	**327**	P	P	20 10 52.7	+0.8
0.1nm,0.4s,baz=116,slow=8.5,SNR=1.9							
0.1nm,0.4s							
ZALV	**Zalesovo Beam**	**70.30**	**334**	P	P	20 11 12.4	-0.8
0.3nm,0.3s,baz=140,slow=7.6,SNR=1.5							
0.3nm,0.3s							

ISC 13 20:02:50.8±1.2, 45°12N±0°03×14°70E±0°04, h10km±18km, n8, σ0°54/16, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBRS	**Gornja Briga**	**0.42**	**10**	*i* Pg	**Pg**	**20 02 58.9**	**-0.2**
GBRS				*i* Sg	**Sg**	**20 03 05.4**	**+0.8**
KNDS	**Knezji Dol**	**0.47**	**331**	*i* Pg	**Pg**	**20 02 59.3**	**-0.7**
KNDS				*i* Sg	**Sg**	**20 03 06.5**	**+0.3**
KNDS				IAML		20 03 07.7	
comp=Z,0.9nm,0.1s							
BOJS	**Bojanci**	**0.55**	**45**	*i* Pg	**Pg**	**20 03 01.0**	**-0.4**
BOJS				*i* Sg	**Sg**	**20 03 09.1**	**+0.4**
BOJS				IAML		20 03 10.1	
comp=Z,7.3nm,0.1s							
NVLJ	**Novalja**	**0.57**	**168**	*e*Pg	**Pg**	**20 03 01.8**	**0.0**
NVLJ				Sg	**Sg**	**20 03 09.6**	**+0.4**
CEY	**Cerknica**	**0.65**	**343**	*i* Pg	**Pg**	**20 03 02.9**	**-0.5**
CEY				*i* Sg	**Sg**	**20 03 12.6**	**+0.6**
CEY				IAML		20 03 14.8	
comp=Z,1.6nm,0.1s							
VISS	**Visnje**	**0.69**	**8**	*i* Pg	**Pg**	**20 03 03.7**	**-0.5**
VISS				*i* Sg	**Sg**	**20 03 13.5**	**+0.2**
VISS				IAML		20 03 20.0	
comp=Z,1.5nm,0.1s							
BRJN	**Brijuni**	**0.71**	**253**	*e*Pg	**Pg**	**20 03 04.1**	**-0.3**
BRJN				Sg	**Sb**	**20 03 15.2**	**+0.3**
VIRC	**Vir**	**0.86**	**163**	*e*Pg	**Pg**	**20 03 06.5**	**-0.8**
VIRC				Sg	**Sb**	**20 03 19.4**	**0.0**

*NEIC **13** 20:06:30.6±0.6, 5°86S±0°09×127°73E±0°08, h396km±16km, mb4.0/8, Error ellipse: s-maj=15.2km s-min=8.9km az=141.0*
*IDC **13** 20:06:32.2±3.7, 6°15S×127°48E, h406km±44km, mb2.8/2, mbtmp3.9/4, Error ellipse: s-maj=112.1km s-min=14.3km az=67.0*
ISC 13 20:06:29.7±0.7, **5°89S**±0°06×**127°77E**±0°08, **h400**km, **n21**, **σ2°28/26, mb3.2/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**4.08**	**121**	Pn	**Pn**	**20 07 43.3**	**+0.8**
SAUI				Sn	**S**	**20 08 39.8**	**-1.8**
SOEI	**Soe**	**5.17**	**222**		**Pn**	**20 07 54.2**	**+0.5**
SOEI				Sn	**S**	**20 08 55.2**	**-6.6**
FAKI	**Fak Fak**	**5.36**	**57**	Pn	**Pn**	**20 07 56.0**	**+0.6**
FAKI				Sn	**S**	**20 08 59.0**	**-6.2**
LUWI	**Luwuk**	**6.93**	**314**		**Pn**	**20 08 12.7**	**+0.1**
MTN	**Manton Dam**	**7.67**	**155**	P	**Pn**	**20 08 22.3**	**+1.4**
KNRA	**Kununurra**	**9.78**	**174**		**P**	**20 08 46.0**	**+1.2**
TOLI2	**Tolitoli**	**9.85**	**315**	P	**Pn**	**20 08 46.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**12.31**	**190**	P	**P**	**20 09 13.5**	**+0.7**
WB0	**Warramunga Arr**	**15.23**	**156**	P	**P**	**20 09 45.7**	**+1.0**
WRAB	**Tennant Creek**	**15.36**	**156**	P	**P**	**20 09 47.2**	**+1.1**
WRA	**Warramunga Arr**	**15.36**	**156**	P	**P**	**20 09 47.0**	**+0.8**
3.5nm,0.4s,baz=334,slow=11,SNR=42							
WRA				S	**S**	**20 12 27.0**	**-1.8**
0.6nm,0.5s,baz=326,slow=20,SNR=5.5							
MBWA	**Marble Bar**	**17.06**	**206**	P	**P**	**20 10 02.6**	**-1.7**
MBWA				IAmb	IAmb	20 10 32.6	
comp=Z,17nm,1.5s							
COEN	**Coen**	**17.16**	**119**	P	**P**	**20 10 07.2**	**+1.7**
COEN				IAmb	IAmb	20 10 27.8	
comp=Z,15nm,1.3s							
PSA00	**Pilbara Seismi**	**17.37**	**205**	P	**P**	**20 10 08.5**	**+0.9**
PSA00				IAmb	IAmb	20 10 09.2	
comp=Z,4.0nm,0.7s							
AS31	**Alice Springs**	**18.64**	**162**	P	**P**	**20 10 21.9**	**+0.8**
ASAR	**Alice Springs**	**18.64**	**162**	P	**P**	**20 10 22.2**	**+1.2**
ASAR	**Alice Springs**	**18.64**	**162**	P	**P**	**20 10 22.0**	**+1.0**
comp=Z,2.4nm,0.3s,baz=344,slow=11,SNR=80							
ASAR				S	**S**	**20 13 31.6**	**+0.2**
comp=Z,0.9nm,0.7s,baz=347,slow=21,SNR=5.3							
MAJO	**Matsushiro**	**43.33**	**12**	P	**P**	**20 13 52.9**	**-1.4**
MAJO				IAmb	IAmb	20 14 06.5	
comp=Z,5.0nm,1.1s							
MJB9	**Matsu-Tunnel**	**43.33**	**12**	P	**P**	**20 13 53.8**	**-0.5**
MKAR	**Makanchi Array**	**66.09**	**328**	P	**P**	**20 16 37.8**	**+2.4**
comp=Z,0.2nm,0.4s,baz=118,slow=7.7,SNR=5.6							
comp=Z,0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**70.42**	**329**	P	**P**	**20 17 04.1**	**+2.3**
comp=Z,0.2nm,0.5s,baz=139,slow=5.0,SNR=3.1							
comp=Z,0.2nm,0.5s							

*SJA **13** 20:13:14.9±0.7, 22°58S×66°00W, h276km±4km, ML4.3, MW4.0*
*IDC **13** 20:13:15.9±1.6, 22°56S×65°99W, h248km±25km, mb3.5/2, mbtmp4.1/5, Error ellipse: s-maj=37.8km s-min=15.6km az=111.0*
*VAO **13** 20:13:17.5±0.4, 22°45S×65°97W, h232km±9km, mb4.0*
ISC 13 20:13:16.0±0.7, **22°59S**±0°05×**66°11W**±0°05, **h251**km, **n49, σ1°44/80, mb3.8/4, 4C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.69**	**54**	*e*P	**Pn**	**20 13 52.5**	**+2.2**
YJA				*e*S	**S**	**20 14 19.3**	**+2.2**
AZAP	**Zapla**	**1.89**	**150**	*e*P	**Pn**	**20 13 58.9**	**+1.0**
AZAP				*e*S	S	20 14 40.5	+10
SLA	**San Lorenzo**	**2.20**	**165**	*e*P	**Pn**	**20 14 02.3**	**+1.8**
SLA				*e*S	S	20 14 17.7	-18
LVC	**Limon Verde**	**2.58**	**269**	*e*P	**Pn**	**20 14 06.5**	**+1.9**
LVC				*e*S	**S**	**20 14 45.4**	**+2.5**
LVC	**Limon Verde**	**2.58**	**269**	P	**Pn**	**20 14 06.5**	**+1.9**
37nm,0.3s,baz=90,slow=5.2,SNR=113							
LVC				S	**S**	**20 14 44.2**	**+1.3**
74nm,0.4s,baz=199,slow=23,SNR=47							
LVC	**Limon Verde**	**2.58**	**269**	*e*P	**Pn**	**20 14 06.4**	**+1.9**
LVC				*i* S	**S**	**20 14 44.1**	**+1.3**
LVC	**Limon Verde**	**2.58**	**269**	*e*P	**Pn**	**20 14 06.5**	**+1.9**
LVC				*e*S	**S**	**20 14 44.0**	**+1.1**
PB09	**IPOC Station P**	**3.00**	**285**	*e*P	**Pn**	**20 14 10.6**	**+1.8**
PB09				*e*S	**S**	**20 14 52.9**	**+2.3**
PB09				IAML		20 14 54.1	
comp=Z,196nm,1.0s							
PB09	**IPOC Station P**	**3.00**	**285**	*e*P	**Pn**	**20 14 11.2**	**+2.4**
PB09				*i* S	**S**	**20 14 51.8**	**+1.3**
PB15	**IPOC Station P**	**3.16**	**258**	*e*P	**Pn**	**20 14 12.3**	**+1.8**
PB15				*e*S	**S**	**20 14 54.6**	**+1.0**
PB15	**IPOC Station P**	**3.16**	**258**	*e*P	**Pn**	**20 14 12.2**	**+1.8**
PB15				*i* S	**S**	**20 14 54.1**	**+0.5**
PB06	**IPOC Station P**	**3.20**	**267**	*e*P	**Pn**	**20 14 12.2**	**+1.4**
PB06				*e*S	**S**	**20 14 55.2**	**+0.9**
PB06				IAML		20 15 00.3	
comp=Z,306nm,0.1s							
PB06	**IPOC Station P**	**3.20**	**267**	*e*P	**Pn**	**20 14 12.7**	**+1.8**
PB06				*i* S	**S**	**20 14 54.5**	**+0.2**
PB01	**IPOC Station P**	**3.49**	**295**	*e*P	**Pn**	**20 14 15.7**	**+1.6**
PB01				*e*S	**S**	**20 15 01.0**	**+0.8**
PB01				IAML		20 15 01.8	
comp=Z,267nm,0.3s							
PB01	**IPOC Station P**	**3.49**	**295**	*

SNAA	Sanae	60.41	161	⇑P		P	20 22 59.6 +0.9
	comp=Z,39nm,0.7s						
SNAA	Sanae	60.41	161	P		P	20 22 59.4 +0.7
	comp=Z,1.5nm,0.7s,baz=281,slow=6.8,SNR=9.7						
	comp=Z,1.5nm,0.7s						
TROLL	Troll, Antarti	62.12	161	⇑P		P	20 23 11.2 +0.9
	comp=Z,76nm,0.6s						
TORD	Torodi Ar. Bea	75.30	69	P		P	20 24 30.7 -1.5
	comp=Z,0.7nm,0.4s,baz=258,slow=5.5,SNR=16						
	comp=Z,0.7nm,0.4s						
MKAR	Makanchi Array	144.92	39	PKP		PKPdf	20 32 23.6 +0.4
	comp=Z,0.9nm,0.6s,baz=316,slow=4.2,SNR=9.8						

IDC ***13*** *20:24:25.6±1.5, 7°.57S×126°.89E, h0km, mb3.5/3, mbtmp3.8/5, ML4.4/2, Error ellipse: s-maj=161.7km s-min=28.6km az=65.0*
ISC 13 20:24:40.7±0.9, 7.75S±0°.08×127°.9E±0°.1, h150km, n14, σ2§98/16, mb3.3/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRS	Darwin Rock St	5.50	148	P	Pn	20 26 03.5	+2.6
MTN	Manton Dam	5.97	148	P	Pn	20 26 10.1	+3.0
FAKI	Fak Fak	6.45	42	P	Pn	20 26 12.9	-0.7
KDU	Kakadu	6.65	138	P	Pn	20 26 18.3	+2.2
FITZ	Fitzroy Crossi	10.52	192	P	Pn	20 27 07.8	+0.1
WRA	Warramunga Arr	13.63	153	Pn	Pn	20 27 47.5	-0.6
	1.8nm,0.3s,baz=324,slow=13,SNR=56						
WRA				Sn	Sn	20 30 13.5	-5.5
	1.8nm,0.3s,baz=326,slow=24,SNR=13						
	4.7nm,0.4s						
ASAR	Alice Springs	16.84	161	P	Pn	20 28 30.6	+2.9
	1.0nm,0.3s,baz=341,slow=12,SNR=106						
ASAR				S	S	20 31 31.6	-3.4
	0.8nm,0.5s,baz=46,slow=29,SNR=5.4						
	6.1nm,0.6s						
AS01	Alice Springs	16.85	161	P	Pn	20 28 31.2	+3.3
QIS	Mount Isa	17.03	140	P	Pn	20 28 33.0	+2.9
WRKA	Warakurna	17.20	179	P	Pn	20 28 35.2	+3.1
OOD	Oodnadatta	21.25	161	P	P	20 29 18.4	+3.3
SONM	Songino Array	58.52	343	P	P	20 34 21.2	-0.2
	0.4nm,0.8s,baz=174,slow=4.5,SNR=3.8						
	0.4nm,0.8s						
MKAR	Makanchi Array	67.74	328	P	P	20 35 20.6	-1.5
	0.1nm,0.4s,baz=122,slow=8.5,SNR=6.4						
	0.1nm,0.4s						
KURBB	Kurchatov Arra	72.08	329	P	P	20 35 47.2	-1.2
	0.5nm,0.7s,baz=132,slow=4.8,SNR=4.6						
	0.5nm,0.7s						

IDC ***13*** *20:42:32.7±69.0, 23°.19N×122°.04E, h0km, mb3.5/4, mbtmp3.5/4, MS2.8/1, Error ellipse: s-maj=1229.0km s-min=163.8km az=135.0*
JMA ***13*** *20:42:35.0±0.1, 22°.9N±0°.3×121°.3E±0°.8, h11km±2km, MV3.4/13, TAIWAN REGION*
NEIC ***13*** *20:42:35.9±2.1, 23°.00N±0°.02×121°.26E±0°.03, h10km±7km, ML3.4/18, Error ellipse: s-maj=3.9km s-min=2.8km az=102.0*
ASIES ***13*** *20:42:36, 22°.97N×121°.17E, h10km, ML3.8, Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.35; $M_{\theta\theta}$-0.50; $M_{\phi\phi}$-0.85; $M_{r\theta}$0.80; $M_{\theta\phi}$1.01; $M_{\phi r}$-3.42; Fault plane solution: $M_0$3.83786×10^{21} NP1: ϕ_s164.53000°, δ79.50000°, λ101.90000°. NP2: ϕ_s295.39000°, δ15.82000°, λ41.96000°. Principal axes: T Plg54.0190°, Azm88.8950°; N Plg11.6960°, Azm342.3280°; P Plg33.4660°, Azm244.4630°;*
TAP ***13*** *20:42:36.0, 22°.97N×121°.17E, h10km, ML3.8, C*
ISC 13 20:42:36.6±0.7, 22°.97N±0°.01×121°.23E±0°.02, h17km±4km, n178, σ1§14/238, mb3.4/4, 6C-23D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	Donghe	0.07	88	⇓iP	Pg	20 42 39.5	-0.2
	baz=100						
EDH				S	Sg	20 42 42.4	+0.5
	baz=100						
ECS	Chishang	0.13	354	⇓iP	Pg	20 42 39.8	-0.6
	baz=11						
ECS				iS	Sg	20 42 43.2	+0.2
	baz=11						
CHKT	Chengkung	0.18	43	⇓iP	Pg	20 42 41.6	+0.5
	baz=70						
CHKT				eS	Sg	20 42 46.1	+2.0
	baz=70						
EHD	Haiduan	0.18	352	⇓iP	Pg	20 42 40.1	-1.1
	baz=3.0						
EHD				S	Sg	20 42 42.8	-1.4
	baz=3.0						
TWGBT	Beinan	0.21	223	⇓iP	Pg	20 42 40.4	-1.1
	baz=216						
TWGBT				iS	Sg	20 42 43.4	-1.5
	baz=216						
TWG	Pinlang	0.21	225	Pg	Pg	20 42 39.8	-1.8
TWG				Sg	Sg	20 42 43.6	-1.4
TWG	Pinlang	0.21	225	⇓iP	Pg	20 42 40.4	-1.1
	baz=216						
TWG				iS	Sg	20 42 43.5	-1.4
	baz=216						
TTN	Taitung	0.23	200	P	Pg	20 42 42.5	+0.6
	baz=191						
TTN				eS	Sg	20 42 48.2	+2.8
	baz=191						
FULB	Fuli	0.23	14	⇓iP	Pg	20 42 42.2	+0.2
	baz=17						
FULB				S	Sg	20 42 47.4	+1.8
	baz=17						
CHKH	Chenggong	0.27	34	eP	Pb	20 42 42.8	-0.1
	baz=59						
CHKH				eS	Sb	20 42 49.8	+2.5
	baz=59						
ELDTW	Lidau	0.29	318	P	Pg	20 42 41.5	-1.6
	baz=327						
ELDTW				eS	Sg	20 42 45.0	-2.5
	baz=327						
LDUT	Ludao	0.37	144	P	Pb	20 42 44.8	+0.1
	baz=138						
LDUT				S	Sb	20 42 52.2	+2.1
	baz=138						
EYUL	Yuli	0.38	12	eP	Pg	20 42 44.1	-0.4
	baz=6.0						
EYUL				eS	Sb	20 42 50.4	-0.3
	baz=6.0						
TWF1	Yuli	0.39	9	⇑P	Pg	20 42 43.8	-0.8
	baz=7.0						
TWF1				eS	Sg	20 42 49.4	-0.5
	baz=7.0						
ECBN	Changbin	0.40	30	eP	Pb	20 42 45.0	-0.2
	baz=49						
ECBN				eS	Sb	20 42 53.6	+2.5
	baz=49						
YULB	Yu-li	0.42	8	Pg	Pg	20 42 44.0	-1.3
YULB				Sg	Sg	20 42 50.2	-0.9
YULB				IAML		20 42 51.4	
	comp=N,3μm,0.5s						
YULB	Yu-li	0.42	8	⇑P	Pg	20 42 44.3	-0.9
	baz=15						
YULB				eS	Sg	20 42 50.3	-0.9
	baz=15						
ECL	Taimali	0.45	215	⇓iP	Pg	20 42 44.3	-1.4
	baz=218						
ECL				eS	Sg	20 42 50.1	-1.8
	baz=218						
STYH	Taoyuan	0.47	295	⇓P	Pg	20 42 44.8	-1.2
	baz=304						
STYH				eS	Sg	20 42 50.6	-1.8
	baz=304						
STYT	Tauyuan	0.48	294	⇓iP	Pg	20 42 44.9	-1.4
	baz=296						
STYT				S	Sg	20 42 50.8	-1.9
	baz=296						
EHYH	Wanrong	0.53	11	eP	Pg	20 42 46.3	-0.9
	baz=17						
EHYH				eS	Sb	20 42 54.1	-0.8
	baz=17						
EHY	Hungye	0.54	9	eP	Pg	20 42 45.9	-1.5
	baz=15						
EHY				S	Sg	20 42 53.9	-0.7
	baz=15						
SLGT	Liugui	0.54	273	⇓P	Pg	20 42 46.1	-1.2
	baz=272						
SLGT				eS	Sg	20 42 52.5	-2.1
	baz=272						
HGSD	Ruisui	0.55	19	⇑eP	Pb	20 42 47.2	-0.6
	baz=37						
YUS	Yu-Shan	0.58	333	eP	Pg	20 42 47.2	-1.0
	baz=338						
YUS				eS	Sg	20 42 53.8	-2.2
	baz=338						
SSD	Sandimen	0.60	248	⇓iP	Pg	20 42 46.6	-1.8
	baz=253						
SGST	Jiashian	0.61	281	⇓iP	Pg	20 42 46.8	-1.8
	baz=281						
SGST				eS	Sg	20 42 55.5	-1.3
	baz=281						
WTP	Ta-pu	0.63	296	⇓iP	Pg	20 42 48.3	-0.8
	baz=300						
WTP				S	Sg	20 42 56.9	-0.7
	baz=300						
TPUB	Ta-pu	0.65	301	Pg	Pg	20 42 48.2	-1.1
TPUB				Sg	Sg	20 42 57.1	-0.8
TPUB	Ta-pu	0.65	301	⇓iP	Pg	20 42 48.6	-0.8
	baz=313						
TPUB				iS	Sg	20 42 57.2	-0.7
	baz=313						
MASBT	Mashibuluo	0.66	237	⇓iP	Pg	20 42 48.0	-1.6
	baz=240						
MASBT				eS	Sg	20 42 55.5	-2.8
	baz=240						
CHN1	Nanshi	0.68	288	P	Pg	20 42 49.6	-0.5
	baz=294						
CHN1				eS	Sb	20 42 60.0	+0.7
	baz=294						
EAST	Anshuo	0.68	211	⇓iP	Pg	20 42 48.5	-1.6
	baz=207						
EAST				eS	Sg	20 42 58.3	-0.8
	baz=207						
TAW	Tawu	0.68	207	⇓eP	Pg	20 42 48.3	-1.7
	baz=203						
TAW				eS	Sg	20 42 57.0	-2.1
	baz=203						
SCST	Cishan	0.69	263	⇓P	Pg	20 42 49.5	-0.6
	baz=257						
CHN4	Tsaushan	0.70	303	⇓P	Pg	20 42 49.8	-0.6
	baz=314						
CHN4				S	Sg	20 42 59.6	-0.1
	baz=314						
TAWH	Dawu Township	0.70	207	eP	Pg	20 42 48.6	-1.7
	baz=203						
SNST	Tainan City	0.72	290	⇓P	Pg	20 42 50.3	-0.4
	baz=291						
SNST				eS	Sb	20 43 01.0	+0.6
	baz=291						
SGLT	Jiouru	0.73	251	eP	Pg	20 42 50.1	-0.7
	baz=249						
TSPT	Pingtung City	0.74	247	eP	Pg	20 42 50.5	-0.6
	baz=245						
WCKO	Fanlu	0.74	309	eP	Pg	20 42 50.6	-0.6
	baz=320						
WCKO				eS	Sg	20 43 00.7	-0.3
	baz=320						
TWK	Hsinying	0.75	293	eP	Pg	20 42 50.6	-0.6
	baz=295						
WARBT	Fenglin Townsh	0.76	11	eP	Pg	20 42 49.4	-2.1
	baz=32						
TWM1	Shoushan	0.76	259	⇓iP	Pb	20 42 51.4	0.0
	baz=253						
VWDT	VWDT	0.79	354	⇑iP	Pg	20 42 50.9	-1.0
	baz=351						
VWDT				S	Sb	20 43 02.4	+0.2
	baz=351						
WHYT	Xinyi Township	0.80	334	eP	Pg	20 42 51.7	-0.6
	baz=338						
CHN5	Tsauling	0.81	321	eP	Pg	20 42 51.8	-0.6
	baz=324						
CHN3	Shinhua	0.81	278	eP	Pn	20 42 53.2	0.0
	baz=278						
CHN3				eS	Sn	20 43 06.2	+1.3
	baz=278						
SHHT	Tainan City	0.82	274	eP	Pn	20 42 53.6	+0.3
	baz=273						
SHHT				eS	Sn	20 43 07.5	+2.4
	baz=273						
SCZT	Fangliau	0.82	224	P	Pg	20 42 51.3	-1.3
	baz=213						
SLIU	Shizi	0.85	208	eP	Pg	20 42 51.0	-2.2
	baz=206						
SSLB	Suanglung	0.85	343	Pg	Pg	20 42 51.7	-1.5
SSLB				Sg	Sg	20 43 02.9	-1.6
SSLB				IAML		20 43 08.1	
	comp=E,912nm,0.8s						
SSLB	Suanglung	0.85	343	eP	Pg	20 42 51.9	-1.3
	baz=344						
SSLB				S	Sg	20 43 03.5	-1.1
	baz=344						
SNJT	Kaohsiung City	0.86	256	eP	Pn	20 42 55.2	+1.4
	baz=254						
ESL	Shilin	0.86	12	eP	Pb	20 42 52.7	-0.4
	baz=33						
SHUL	Shoufeng	0.87	20	eP	Pb	20 42 52.8	-0.5
	baz=25						
SSHA	Shanhua	0.89	281	eP	Pb	20 42 54.3	+0.7
	baz=293						
SSHA				eS	Sn	20 43 08.2	+1.5
	baz=293						
CHN2	Minshiung	0.89	309	eP	Pb	20 42 54.1	+0.4
	baz=311						
WGK	Gukeng	0.94	319	P	Pb	20 42 55.0	+0.5
	baz=321						
WGK				eS	Sb	20 43 08.2	+1.5
	baz=321						
WSSB	Gushan	0.95	250	P	Pn	20 42 56.3	+1.1
	baz=249						
WSSB				eS	Sn	20 43 12.1	+3.6
	baz=249						
TAI	Tainan	0.95	272	eP	Pn	20 42 55.7	+0.5
	baz=271						
TEYL	Yanliau Villag	0.95	20	eP	Pn	20 42 55.5	+0.3
	baz=25						
SMLT	Sun Moon Lake	0.96	341	eP	Pg	20 42 54.2	-1.0
	baz=345						
WDLH	Douliu	0.96	318	eP	Pb	20 42 55.2	+0.4
	baz=319						
WDLH				eS	Sn	20 43 09.4	+0.8
	baz=319						
ICHU	Yijhu	0.96	294	eP	Pg	20 42 54.8	-0.5
	baz=294						
ICHU				eS	Sn	20 43 09.6	+1.0
	baz=294						
WJS	Zhushan	0.97	331	eP	Pb	20 42 55.4	+0.4
	baz=334						
LAY	Lan-yu	0.97	162	eP	Pg	20 42 53.5	-2.0
	baz=146						
SCLT	Jiali	0.98	282	eP	Pn	20 42 55.9	+0.4
	baz=293						
SCLT				eS	Sn	20 43 10.5	+1.5
	baz=293						
OWD	Renai	0.98	357	eP	Pg	20 42 54.4	-1.3
	baz=1.0						
TYC	Yuchr	0.99	340	eP	Pb	20 42 55.4	+0.1
	baz=342						
TYC				eS	Sn	20 43 10.5	+1.1
	baz=342						
CHN8	Yiju	1.01	292	P	Pb	20 42 55.9	+0.2
	baz=292						
CHN8				S	Sn	20 43 11.1	+1.2
	baz=292						
TWP	Hsiaoliuchiu	1.02	232	⇓eP	Pn	20 42 57.8	+1.7
	baz=225						
LYUB	Lan-yu	1.02	161	eP	Pg	20 42 53.7	-2.6
	baz=146						
ETM	Tongmen	1.02	13	eP	Pg	20 42 55.3	-1.1
	baz=32						
WUSB	Renai	1.02	354	eP	Pg	20 42 54.9	-1.6
	baz=348						
WUSB				eS	Sb	20 43 09.5	+0.3
	baz=348						
WNT	Mingjian	1.03	331	⇑iP	Pn	20 42 56.8	+0.4
	baz=332						
WNT				eS	Sn	20 43 10.7	+0.2
	baz=332						
WTK	Tuku	1.05	313	eP	Pg	20 42 56.5	-0.5
	baz=313						
WTK				eS	Sn	20 43 12.1	+1.2
	baz=313						
HWA	Hwalien	1.06	19	eP	Pn	20 42 57.6	+0.9
	baz=24						
LXIB	Xiulin Townshi	1.06	9	eP	Pg	20 42 54.0	-3.2
	baz=29						
WNT1	Nantou City	1.06	332	P	Pn	20 42 57.0	+0.3
	baz=332						
WNT1				S	Sn	20 43 12.8	+1.6
	baz=332						
HEN	Hengchun	1.06	206	eP	Pn	20 42 57.6	+0.8
	baz=193						
WPL	Puli Township	1.07	346	eP	Pg	20 42 56.4	-0.9
	baz=349						
TSCK	Chigu Township	1.07	280	eP	Pn	20 42 58.4	+1.6
	baz=279						
WSL	Shuilin Townsh	1.08	301	P	Pg	20 42 57.1	-0.3
	baz=301						
WSL				eS	Sn	20 43 12.6	+1.1
	baz=301						
CHGB	Renai	1.09	357	⇑P	Pg	20 42 56.0	-1.6
	baz=359						
CHGB				eS	Sn	20 43 13.2	+1.1
	baz=359						
DPDB	Guoxing	1.09	345	eP	Pb	20 42 57.2	0.0
	baz=348						
TWK1	Hengchun	1.10	201	eP	Pn	20 42 57.8	+0.7
	baz=183						
TWKBT	Hengchun	1.10	201	eP	Pn	20 42 58.0	+0.8
	baz=183						
TSEB	Hengchuen, Pin	1.11	196	eP	Pn	20 42 58.9	+1.5
	baz=197						
WCS	Beigang Elemen	1.12	345	eP	Pb	20 42 57.4	-0.2
	baz=348						
WSF	Szhu	1.14	306	eP	Pb	20 42 57.6	-0.3
	baz=306						
WSF				S	Sn	20 43 14.4	+1.3
	baz=306						
TWD	Chiawan	1.15	17	eP	Pb	20 42 57.7	-0.4
	baz=22						
WYL	Yuanlin Townsh	1.16	329	eP	Pb	20 42 58.2	+0.1
	baz=329						
WYL				S	Sn	20 43 15.2	+1.8
	baz=329						
WHF	Hehuan Shan	1.17	1	eP	Pg	20 42 57.9	-1.4
	baz=16						
WWF	Wufeng	1.18	335	eP	Pg	20 42 59.5	+0.1
	baz=336						
WWF				eS	Sn	20 43 16.2	+2.3
	baz=336						
WRL	Guolierlin Hig	1.22	320	eP	Pn	20 42 59.1	+0.2
	baz=305						
ETL	Fush Village	1.24	17	eP	Pg	20 42 59.8	-0.7
	baz=22						
NACB	Ninganchiao	1.24	15		Pn	20 42 56.9	-2.4
NACB	Ninganchiao	1.24	15	eP	Pn	20 42 56.9	-2.4
	baz=32						
FUSS	Fushou	1.27	0	eP	Pn	20 42 59.4	-0.4
	baz=20						
TCU	Taichung	1.28	337	eP	Pg	20 43 01.1	-0.2
	baz=339						
TDCB	Techi	1.28	357	eP	Pn	20 42 59.8	0.0
TWT	Tachien	1.28	358	eP	Pn	20 43 00.1	+0.2
WHP	Taichung City	1.33	349	eP	Pg	20 43 01.9	-0.3
	baz=3.0						
EAHA	Aohua	1.43	19	eP	Pg	20 43 03.4	-0.8
	baz=24						
TWQ1	Liyutan	1.44	343	eP	Pg	20 43 03.4	-0.8
	baz=343						
TWQ1				eS	Sg	20 43 23.6	+0.6
	baz=343						
NNSB	Datong	1.46	5	eP	Pb	20 43 03.3	-0.1
	baz=19						
NNSH	Datong	1.46	5	eP	Pg	20 43 03.6	-1.1
	baz=19						
NNS	Nan Shan	1.47	5	eP	Pb	20 43 03.5	0.0
	baz=19						
WDJ	Dajia District	1.48	338	eP	Pg	20 43 04.9	-0.1
	baz=339						
WDGT	Dungji	1.48	282	eP	Pn	20 43 02.3	-0.1
	baz=280						
NSY	Sanyi	1.50	343	eP	Pg	20 43 04.5	-1.0
	baz=330						
NSY				S	Sg	20 43 26.7	+1.5
	baz=330						
EOS4	EOS4	1.52	41	eP	Pn	20 43 03.0	+0.4
	baz=46						
ENA	Nanau	1.52	18	eP	Pb	20 43 04.3	-0.2
	baz=24						
EWUT	Wuta	1.55	19	eP	Pb	20 43 04.8	-0.1
	baz=24						
LATG	Datong	1.58	10	eP	Pb	20 43 05.2	-0.3
	baz=33						
NMLH	Miaoli	1.61	346	eP	Pb	20 43 05.9	-0.1
	baz=349						
PHUB	P'eng-hu	1.62	290	P	Pn	20 43 04.4	0.0
	baz=289						
PHUB				eS	Sn	20 43 23.9	-1.0
	baz=289						
EOS3	EOS3	1.65	37	eP	Pn	20 43 04.2	-0.4
	baz=41						
NDT	Datong Townshi	1.65	9	eP	Pb	20 43 06.6	+0.1
	baz=31						
PNG	Penghu	1.65	291	eP	Pn	20 43 04.5	-0.4
	baz=291						
NFF	Wufeng Townshi	1.66	356	eP	Pb	20 43 06.9	+0.1
	baz=13						
NSTT	Nanjuang	1.67	353	eP	Pb	20 43 06.3	-0.5
	baz=358						
VCHM	Qimei	1.68	278	eP	Pn	20 43 04.6	-0.5
	baz=277						
LIOB	Emei	1.68	353	eP	Pb	20 43 06.9	-0.2
	baz=358						
ENTT	Nioudou	1.69	10	eP	Pn	20 43 05.0	-0.3
	baz=33						
ESAO	Su ao	1.69	19	eP	Pb	20 43 07.6	+0.3
	baz=41						
YHNB	Yeheng	1.70	4	Pn	Pn	20 43 05.2	-0.4
YHNB				IAML		20 43 40.2	
	comp=E,375nm,0.8s						
YHNB				IAML		20 43 43.4	
	comp=N,391nm,0.6s						
YHNB	Yeheng	1.70	4	eP	Pn	20 43 05.8	+0.2
	baz=349						
NSK	Sanguang	1.70	4	eP	Pn	20 43 06.0	+0.4
	baz=348						
NDS	Dongshan	1.71	15	eP	Pb	20 43 07.8	+0.1
	baz=37						
TWC	Suao	1.73	19	eP	Pb	20 43 07.4	-0.5
	baz=42						
TWE	Neicheng	1.79	13	eP	Pb	20 43 08.7	-0.2
	baz=34						
FUSB	Fushanzhiwuyua	1.81	10	eP	Pb	20 43 08.3	-1.0
	baz=35						
NWLT	Wulai	1.82	8	eP	Pg	20 43 10.1	-1.4
	baz=33						
TATO	Taipei	2.01	7	Pn	Pn	20 43 10.1	+0.3
TATO				IAML		20 43 45.2	
	comp=N,358nm,0.8s						
TATO				IAML		20 43 54.2	
	comp=N,391nm,1.1s						
TATO	Taipei	2.01	7	eP	Pn	20 43 10.6	+0.8
	baz=37						
TWA	Mucha	2.03	9	eP	Pg	20 43 13.8	-1.7
	baz=31						
TIPB	Shuangxi	2.06	15	eP	Pn	20 43 10.8	+0.3
	baz=35						
TWS1	Kuangyinshan	2.13	5	eP	Pg	20 43 15.9	-1.6
	baz=348						
TWB1	Santiao Chiao	2.14	19	eP	Pn	20 43 11.6	0.0
	baz=27						
NWF	Wu-fen Shan	2.15	13	eP	Pb	20 43 14.6	-0.6
	baz=34						
WFSB	Wu-fen Shan	2.15	13	eP	Pb	20 43 14.2	-1.0
	baz=34						
JYNG	Yonagunijimaku	2.15	46	P	Pn	20 43 12.0	+0.3
JYNG				S	Sn	20 43 39.5	+1.5
YM01	YM01	2.19	8	eP	Pn	20 43 12.1	-0.2
	baz=38						
YOJ	Yonaguni jima	2.20	47	Pn	Pn	20 43 13.0	+0.5
YOJ				IAML		20 43 47.5	
	comp=E,167nm,0.8s						
YOJ				IAML		20 44 02.1	
	comp=N,169nm,2.0s						
YOJ	Yonaguni jima	2.20	47	P	Pn	20 43 12.7	+0.3
	baz=58						
YOJ				S	Sb	20 43 41.5	-1.6
	baz=58						
YOJ	Yonaguni jima	2.20	47	P	Pn	20 43 12.7	+0.3
YOJ				S	Sn	20 43 40.2	+0.9
TWY	Chenhua	2.32	8	eP	Pb	20 43 18.2	+0.2
	baz=37						
VWUC	VWUC	2.59	321	eP	Pn	20 43 18.5	+0.7
	baz=320						
HATJ	Hateruma jima	2.60	65	eP	Pn	20 43 17.9	0.0
HATJ				eS	Sn	20 43 49.1	+0.1
IRIF	Iriomote-Funau	2.66	59	P	Pn	20 43 19.1	+0.4

IRIF S Sn 20 43 51.6 +1.0
PTMZ Houxiangcun 2.83 317 eP Pn 20 43 20.9 -0.1
baz=316
JKRS Kuro-shima 2.84 63 S Sn 20 43 55.9 +0.8
KNMB Chin-men Tao 3.00 300 Pn Pn 20 43 23.7 +0.3
KNMB IAML 20 44 15.3
comp=N,153nm,0.7s
KNMB IAML 20 44 16.1
comp=E,85nm,0.5s
KNMB Chin-men Tao 3.00 300 eP Pn 20 43 24.0 +0.6
baz=298
JIJ Ishigaki jima 3.01 62 P Pn 20 43 23.4 0.0
JIJ S Sn 20 43 59.8 +0.7
JISG Ishigakijimahi 3.25 60 P Pn 20 43 26.6 -0.2
JISG S Sn 20 44 05.2 +0.2
ZPLA Ao Xicun 3.34 287 eP Pn 20 43 28.0 0.0
baz=286
DSXP Dongshan 3.58 283 eP Pn 20 43 31.9 +0.7
baz=281
JTJ Tarama 3.59 62 eP Pn 20 43 32.1 +0.7
MHZQ Yeshan 3.71 328 eP Pn 20 43 33.7 +0.6
baz=324
LYJJ Jianjiangzhen 3.81 340 eP Pn 20 43 35.0 +0.6
baz=339
XPSS Dashiqiu 4.05 347 eP Pn 20 43 39.0 +1.1
baz=344
SXFK Yanhouchang 4.72 317 eP Pn 20 43 46.9 -0.2
baz=315
HKPS Hong Kong Po S 6.59 265 Pn Pn 20 44 14.3 +1.6
JOW Kunigami 7.46 58 Pn Pn 20 44 24.9 +0.2
KSRS Korea Array 15.54 20 LR LR 20 53 08.9
comp=E,33nm,18.3s,baz=245,slow=42
SONM Songino Array 27.50 338 P P 20 48 21.5 -0.7
comp=E,0.2nm,0.3s,baz=159,slow=8.3,SNR=2.3
comp=E,0.2nm,0.3s
MKAR Makanchi Array 39.24 317 P P 20 50 05.9 +1.7
comp=E,0.6nm,0.7s,baz=109,slow=9.6,SNR=6.3
comp=E,0.6nm,0.7s
ZALV Zalesovo Beam 41.29 328 P P 20 50 21.7 +0.8
comp=E,0.7nm,0.5s,baz=110,slow=8.8,SNR=4.4
comp=E,0.7nm,0.5s
H11N1 WAKE ISLAND Hy 42.52 85 T T 21 35 44.2
baz=283,slow=74,SNR=18
H11N2 WAKE ISLAND Hy 42.52 85 T T 21 35 48.6
baz=283,slow=74,SNR=16
H11N3 WAKE ISLAND Hy 42.54 85 T T 21 35 45.4
baz=283,slow=74,SNR=14
H11S3 WAKE ISLAND Hy 42.62 87 T T 21 35 51.0
baz=284,slow=75,SNR=24
H11S1 WAKE ISLAND Hy 42.63 87 T T 21 35 50.8
baz=284,slow=75,SNR=24
H11S2 WAKE ISLAND Hy 42.64 87 T T 21 35 52.1
baz=284,slow=75,SNR=22
KURBB Kurchatov Arra 43.07 321 P P 20 50 36.0 +0.5
comp=E,0.6nm,0.9s,baz=118,slow=7.7,SNR=4.3
comp=E,0.6nm,0.9s

NEIC 13 21:00:06.5±0.8, 31°.24N±0°.05×103°.56W±0°.04, h3km±6km, mb_Lg2.8/51, ML3.0/66, Error ellipse: s-maj=8.6km s-min=2.0km az=146.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.29**	**297**		Pg	21 00 13.1	+0.9
PECS				IAML		21 00 19.0	
	1μm,0.4s						
PECS				IAML		21 00 20.7	
	2μm,0.4s						
MNHN	**Monahans**	**0.69**	**81**		Pg	21 00 20.0	+0.2
ALPN	**Alpine**	**0.86**	**185**		Pg	21 00 22.7	-0.3
ODSA	**Odessa**	**1.23**	**44**	Pg	Pg	21 00 29.9	-0.2
VHRN	**Van Horn**	**1.30**	**250**		Pg	21 00 31.2	-0.3
VHRN				IAML		21 00 53.6	
	254nm,0.7s						
SAND	**Sanderson**	**1.78**	**136**		Pb	21 00 39.6	-0.2
TX31	**Lajitas Ar. Si**	**1.90**	**183**		Pb	21 00 41.0	-0.8
TXAR	**Lajitas Array**	**1.90**	**183**		Pb	21 00 41.0	-0.9
OZNA	**Ozona**	**2.11**	**98**		Pb	21 00 44.9	-0.6
OZNA				IAmb_Lg		21 01 17.9	
	comp=Z,58nm,0.8s						
SGCY	**Sterling City**	**2.18**	**71**		Pn	21 00 45.2	+1.4
SGCY				IAmb_Lg		21 01 19.9	
	comp=Z,45nm,0.8s						
POST	**Post**	**2.52**	**43**		Pn	21 00 49.4	+0.9
POST				IAmb_Lg		21 01 29.0	
	comp=Z,32nm,0.9s						
SN05	**Snyder 5**	**2.80**	**54**		Pn	21 00 53.6	+1.3
SN05				IAmb_Lg		21 01 38.0	
	comp=Z,36nm,0.8s						
MSTX	**Muleshoe**	**2.80**	**13**		Pn	21 00 54.1	+1.7
SN07	**Snyder 07**	**2.92**	**50**		Pn	21 00 54.8	+0.8
SN07				IAmb_Lg		21 01 47.3	
	comp=Z,42nm,1.0s						
DRIO	**Del Rio**	**3.12**	**125**		Pn	21 00 57.5	+0.9
DKNS	**Dickens**	**3.29**	**42**		Pn	21 01 00.9	+1.9
DKNS				IAmb_Lg		21 01 53.2	
	comp=Z,24nm,0.8s						
APMT	**Aspermont**	**3.58**	**54**	IAmb_Lg		21 02 07.1	
	comp=Z,26nm,0.8s						
121A	**Cookes Peak, D**	**3.82**	**291**	IAML		21 02 15.6	
	comp=E,32nm,0.5s						
121A				IAML		21 02 15.7	
	comp=N,48nm,0.7s						
HNDO	**Hondo**	**4.07**	**114**	IAmb_Lg		21 02 20.2	
	comp=Z,31nm,0.7s						
ANMO	**Albuquerque**	**4.43**	**327**	IAML		21 02 27.5	
	comp=Z,12nm,0.5s						
ANMO				IAML		21 02 30.0	
	comp=Z,13nm,0.8s						
ANMO				IAmb_Lg		21 02 36.8	
	comp=Z,5.3nm,0.8s						
PLPT	**Palo Pinto**	**4.72**	**69**	IAmb_Lg		21 02 46.4	
	comp=Z,17nm,0.9s						
FW03	**Perrin-Whitt E**	**4.99**	**67**	IAmb_Lg		21 02 52.7	
	comp=Z,24nm,0.9s						
FW07	**Weatherford**	**5.12**	**72**	IAmb_Lg		21 02 57.9	
	comp=Z,16nm,0.7s						
RTBA	**Rita Blanca**	**5.23**	**7**	IAmb_Lg		21 03 07.1	
	comp=Z,18nm,0.9s						
WHTX	**Lake Whitney,**	**5.26**	**80**	IAmb_Lg		21 03 07.7	
	comp=Z,19nm,1.0s						
WMOK	**Wichita Mounta**	**5.32**	**48**	IAmb_Lg		21 03 06.6	
	comp=Z,13nm,1.1s						
ELIS	**Ellis County**	**5.92**	**35**	IAmb_Lg		21 03 21.0	
	comp=Z,11nm,0.8s						
LOOK	**Love County**	**6.04**	**61**	IAmb_Lg		21 03 30.1	
	comp=Z,18nm,0.8s						
KAN14	**Manchester OK**	**7.35**	**38**	IAmb_Lg		21 03 55.2	
	comp=Z,12nm,1.0s						
X37A	**Clayton**	**7.65**	**62**	IAmb_Lg		21 04 24.8	
	comp=Z,14nm,1.0s						

*NEIC **13** 21:24:20.3±2.7, 6°.3S±0°.1×142°.5E±0°.1, h10km±2km, mb4.1/9, Error ellipse: s-maj=22.5km s-min=16.5km az=23.0*
*IDC **13** 21:24:20.2±1.5, 6°.40S×142°.58E, h0km, mb3.7/2, mbtmp3.7/5, ML3.8/2, MS3.2/3, Error ellipse: s-maj=32.2km s-min=24.4km az=85.0*
ISC 13 21:24:21.0±0.9, 6°.51S±0°.10×142°.45E±0°.08, h10km, n23, σ2°08/21, MS3.1/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.48**	**122**	Pn	**Pn**	**21 25 42.1**	**-0.7**
PMG	**Port Moresby**	**5.48**	**122**	Pn	**Pn**	**21 25 42.2**	**-0.6**
	5.7nm,0.5s,baz=327,slow=18,SNR=1.5						
PMG				Sn	**Sn**	**21 26 44.5**	**-1.4**
	2.5nm,0.3s,baz=301,slow=12,SNR=2.2						
COEN	**Coen**	**7.44**	**175**		**Pn**	**21 26 11.5**	**+1.8**
FAKI	**Fak Fak**	**10.77**	**289**	Pn	**Pn**	**21 26 52.3**	**-3.2**
MTN	**Manton Dam**	**12.81**	**240**	Pn	**Pn**	**21 27 22.9**	**-0.4**
CTA	**Charters Tower**	**14.00**	**165**	LR	LR	21 33 33.2	
	comp=Z,13nm,19.0s,baz=346,slow=39						
WB0	**Warramunga Arr**	**15.33**	**210**		**Pn**	**21 27 59.8**	**+2.2**
WB0				IAmb	IAmb	21 28 17.6	
	comp=Z,14nm,1.2s						
WR0	**Warramunga Arr**	**15.42**	**209**	Pn	**Pn**	**21 27 59.2**	**+0.4**
WR0				IAmb	IAmb	21 28 23.3	
	comp=Z,6.3nm,0.9s						
WB2	**Warramunga Arr**	**15.50**	**210**	Pn	**Pn**	**21 28 00.9**	**+1.0**
WB2				IAmb	IAmb	21 28 45.3	
	comp=Z,6.3nm,0.9s						
WRA	**Warramunga Arr**	**15.51**	**210**	Pn	**Pn**	**21 28 01.1**	**+1.2**
WRA	**Warramunga Arr**	**15.51**	**210**	Pn	**Pn**	**21 28 00.2**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=12						
WRA				Sn	**Sn**	**21 30 46.3**	**-5.6**
	comp=Z,0.2nm,0.3s,baz=39,slow=22,SNR=2.5						
WRA				Lg	Lg	21 32 40.3	
	comp=Z,0.3nm,0.3s,baz=30,slow=29,SNR=4.2						
	comp=Z,0.7nm,0.4s						
KNRA	**Kununurra**	**16.22**	**235**	Pn	**Pn**	**21 28 08.6**	**-0.6**
KNRA				IAmb	IAmb	21 28 37.7	
	comp=Z,17nm,1.1s						
SOEI	**Soe**	**18.29**	**259**	P	**Pn**	**21 28 35.1**	**-0.1**
SOEI				IAmb	IAmb	21 29 01.6	
	comp=Z,27nm,0.9s						
AS31	**Alice Springs**	**18.94**	**205**	P	**Pn**	**21 28 45.0**	**+2.0**
ASAR	**Alice Springs**	**18.94**	**205**		**Pn**	**21 28 44.7**	**+1.7**
ASAR	**Alice Springs**	**18.94**	**205**	P	**Pn**	**21 28 45.0**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=32,slow=9.5,SNR=40						
ASAR				S	Sn	21 32 06.2	-9.0
	comp=Z,0.3nm,0.6s,baz=25,slow=25,SNR=1.8						
ASAR				Lg	Lg	21 34 24.4	
	baz=21,slow=32						
	comp=Z,1.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.04**	**233**	P	**P**	**21 28 55.8**	**+1.4**
KAPI	**Kappang**	**22.63**	**273**	LR	LR	21 40 47.4	
	comp=Z,71nm,19.3s,baz=92,slow=43						
PSA00	**Pilbara Seismi**	**26.50**	**233**	P	**P**	**21 30 01.1**	**+2.3**
JCJ	**Chichijima**	**33.40**	**360**	LR	LR	21 42 06.6	
	comp=Z,17nm,20.2s,baz=48,slow=32						
VNDA	**Vanda**	**71.72**	**176**	LR	LR	22 07 04.4	
	comp=Z,39nm,18.1s,baz=262,slow=36						
MKAR	**Makanchi Array**	**75.05**	**322**	P	**P**	**21 36 05.1**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=103,slow=4.6,SNR=2.5						
	comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**84.54**	**325**	P	**P**	**21 36 54.4**	**0.0**
	comp=Z,0.9nm,0.7s,baz=95,slow=8.7,SNR=3.8						
	comp=Z,0.9nm,0.7s						

TAP 13 21:28:13.7, 24°.50N×121°.89E, h21km, ML1.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.09**	**329**	*e*P	Pb	21 28 17.6	-0.1
ESAO				*e*S	Sb	21 28 20.3	-0.1
	baz=329						
TWC	**Suao**	**0.12**	**339**	P	Pb	21 28 18.1	-1.9
TWC				*e*S	Sb	21 28 20.8	-3.8
	baz=344						
EWUT	**Wuta**	**0.12**	**243**	*i* P	Pb	21 28 17.9	-2.1
EWUT				*i* S	Sb	21 28 20.7	-3.8
	baz=243						
ENA	**Nanau**	**0.16**	**243**	*e*P	Pb	21 28 18.4	-1.3
ENA				*i* S	Sb	21 28 21.6	-2.2
	baz=241						
NDS	**Dongshan**	**0.21**	**309**	*e*P	Pb	21 28 19.4	-0.2
NDS				*e*S	Sb	21 28 22.8	-0.9
	baz=310						
ILA	**Ilan**	**0.30**	**333**	*e*P	Pb	21 28 20.9	+0.5
	baz=325						
LATG	**Datong**	**0.34**	**276**	*e*P	Pb	21 28 21.6	+0.6
LATG				*e*S	Sb	21 28 26.9	+0.8
	baz=277						
FUSB	**Fushanzhiwuyua**	**0.38**	**313**	*e*P	Pb	21 28 22.6	+0.9
FUSB				*e*S	Sb	21 28 28.3	+1.2
	baz=306						
NACB	**Ninganchiao**	**0.42**	**220**	*e*P	Pb	21 28 21.8	-0.6
NACB				*e*S	Sb	21 28 28.2	-0.1
	baz=217						
EOS3	**EOS3**	**0.44**	**119**	*e*P	Pb	21 28 22.1	-0.6
EOS3				S	Sb	21 28 28.1	-0.6
	baz=120						
NNSB	**Datong**	**0.47**	**261**	*e*P	Pb	21 28 23.5	+0.2
	baz=261						

JMA 13 21:28:38.6±0.2, 24°.2N±0°.4×123°.8E±0°.4, h18km±1km, MV0.3/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**328**	P	Pg	21 28 42.7	0.0
HATJ	**Hateruma jima**	**0.16**	**181**	*i* P	Pg	21 28 43.0	-0.2
HATJ				*e*S	Sg	21 28 46.0	-0.1
JKRS	**Kuro-shima**	**0.18**	**85**	P	Pg	21 28 43.4	0.0
JKRS				*e*S	Sg	21 28 46.7	+0.1
JIJ	**Ishigaki jima**	**0.34**	**65**	P	Pg	21 28 45.5	-0.3
JIJ				*e*S	Sg	21 28 50.2	-0.5
JISG	**Ishigakijimahi**	**0.58**	**51**	*e*S	Sg	21 28 58.5	+0.3
JTJ	**Tarama**	**0.92**	**63**	*e*S	Sn	21 29 09.1	-0.2

*MOS **13** 21:32:52.1±1.0, 56°.16N×149°.37W, h17km, mb4.9/43, MS4.0/7, Error ellipse: s-maj=11.0km s-min=4.7km az=94.6*
*NEIC **13** 21:32:53.2±1.8, 56°.08N±0°.06×149°.35W±0°.09, h10km±1km, mb4.7/285, ML5.0/62, ML4.9(AEIC), Error ellipse: s-maj=10.4km s-min=8.3km az=177.0*
*IDC **13** 21:32:58.4±0.5, 56°.29N×149°.38W, h48km±3km, mb4.1/29, mbtmp4.4/33, MS3.9/66, Error ellipse: s-maj=12.5km s-min=7.0km az=26.0*
*AEIC **13** 21:32:58.3±1.1, 56°.14N±0°.06×149°.37W±0°.09, h12km±4km, Error ellipse: s-maj=9.0km s-min=7.0km az=176.0*
ISC 13 21:32:55.2±0.4, 56°.09N±0°.04×149°.28W±0°.03, h26km±2km, h26km; pP-P, n1077, σ1°.23/1016, mb4.7/206, MS3.9/69, 19C-13D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.48**	**315**	Pn	**Pn**	**21 33 32.7**	**-1.2**
KDAK				Sn	**Sn**	**21 34 00.1**	**-3.2**
KDAK	**Kodiak Island**	**2.48**	**315**	P	**Pn**	**21 33 33.1**	**-0.8**
KDAK				S	**Sn**	**21 34 00.3**	**-3.0**
	baz=132						
KDAK	**Kodiak Island**	**2.48**	**315**	P	**Pn**	**21 33 32.9**	**-1.0**
	155nm,0.3s,baz=164,slow=5.2,SNR=898						
KDAK				S	**Sn**	**21 33 59.6**	**-3.7**
	947nm,0.3s,baz=44,slow=22,SNR=17						
KDAK				LR	LR	21 34 42.7	
	comp=Z,3μm,20.5s,baz=210,slow=45						
KDAK	**Kodiak Island**	**2.48**	**315**	*i* P	**Pn**	**21 33 32.6**	**-1.3**
OHAK	**Old Harbor**	**2.49**	**299**	P	**Pn**	**21 33 32.8**	**-1.2**
OHAK	**Old Harbor**	**2.49**	**299**	Pn	**Pn**	**21 33 32.4**	**-1.5**
OHAK				Sn	**Sn**	**21 33 59.7**	**-3.7**
OHAK	**Old Harbor**	**2.49**	**299**	P	**Pn**	**21 33 32.7**	**-1.2**
OHAK				S	**Sn**	**21 33 59.8**	**-3.7**
	baz=115,SNR=11						
	baz=115						
SII	**Sitkinak Islan**	**2.77**	**282**	P	**Pn**	**21 33 37.4**	**-0.5**
SII	**Sitkinak Islan**	**2.77**	**282**	Pn	**Pn**	**21 33 36.5**	**-1.4**
SII				Sn	**Sn**	**21 34 06.7**	**-3.8**
SII				IAML		21 34 08.8	
	comp=E,3μm,0.6s						
SII	**Sitkinak Islan**	**2.77**	**282**	P	**Pn**	**21 33 36.6**	**-1.4**
	baz=97,SNR=11						
SII				S	**Sn**	**21 34 06.8**	**-3.6**
	baz=97						
SYI	**Shuyak Island**	**3.04**	**328**	Pn	**Pn**	**21 33 40.7**	**-0.8**
SYI				IAML		21 34 18.0	
	comp=E,3μm,0.7s						
SYI	**Shuyak Island**	**3.04**	**328**		**Sn**	**21 34 14.7**	**-2.3**
Q20K	**Shuyak Island**	**3.04**	**328**	P	**Pn**	**21 33 40.5**	**-1.0**
	baz=145,SNR=20						
Q20K				S	**Sn**	**21 34 15.7**	**-1.3**
	baz=145						
R18K	**Karluk**	**3.20**	**300**		**Pn**	**21 33 43.0**	**-0.7**
R18K					**Sn**	**21 34 17.8**	**-3.3**
R18K	**Karluk**	**3.20**	**300**	IAML		21 34 18.3	
	comp=N,2μm,0.6s						
R18K				IAML		21 34 25.4	
	comp=E,3μm,0.4s						
R18K	**Karluk**	**3.20**	**300**	P	**Pn**	**21 33 43.1**	**-0.7**
	baz=115						
R18K				S	**Sn**	**21 34 17.8**	**-3.3**
	baz=115						
CHIR	**Chirikof Islan**	**3.57**	**268**		**Pn**	**21 33 47.5**	**-1.4**
CHIR	**Chirikof Islan**	**3.57**	**268**	P	**Pn**	**21 33 47.5**	**-1.4**
	baz=82,SNR=11						
CHIR				S	**Sn**	**21 34 25.5**	**-4.7**
	baz=82						
CNPM	**China Poot**	**3.60**	**344**	Pn	**Pn**	**21 33 48.2**	**-1.1**
CNPM				IAML		21 34 31.0	
	comp=N,2μm,0.3s						
CNPM				IAML		21 34 31.5	
	comp=E,3μm,0.6s						
CNPM	**China Poot**	**3.60**	**344**		**Sn**	**21 34 28.8**	**-2.2**
Q19K	**Cape Douglas,**	**3.69**	**322**		**Pn**	**21 33 49.9**	**-0.7**
Q19K	**Cape Douglas,**	**3.69**	**322**	P	**Pn**	**21 33 50.3**	**-0.3**
	baz=139						
Q19K				S	**Sn**	**21 34 32.8**	**-0.5**
	baz=139						
Q23K	**Middleton Isla**	**3.70**	**24**		**Pn**	**21 33 49.6**	**-1.0**
Q23K	**Middleton Isla**	**3.70**	**24**	IAML		21 34 31.2	
	comp=E,1μm,0.8s						
Q23K				IAML		21 34 31.5	
	comp=N,1μm,0.8s						
Q23K	**Middleton Isla**	**3.70**	**24**	P	**Pn**	**21 33 49.8**	**-0.8**
	baz=207,SNR=72						
Q23K				S	**Sn**	**21 34 30.2**	**-3.1**
	baz=207						
MID	**Middleton Isla**	**3.70**	**24**	P	**Pn**	**21 33 49.7**	**-0.9**
MID	**Middleton Isla**	**3.70**	**24**		**Pn**	**21 33 49.7**	**-0.9**
MID				IAML		21 34 31.2	
	comp=E,1μm,0.8s						
MID	**Middleton Isla**	**3.70**	**24**	P	**Pn**	**21 33 49.7**	**-0.9**
KAHG	**Katmai Hook Gl**	**3.74**	**312**		**Pn**	**21 33 51.4**	**+0.1**
BRSE	**Bradley Lake S**	**3.75**	**349**		**Pn**	**21 33 49.8**	**-1.5**
BRSE					**Sn**	**21 34 31.4**	**-3.1**
BRSE	**Bradley Lake S**	**3.75**	**349**	P	**Pn**	**21 33 50.1**	**-1.2**
	baz=168,SNR=92						
BRSE				S	**Sn**	**21 34 31.4**	**-3.1**
	baz=168						
BRLK	**Bradley Lake**	**3.78**	**348**		**Pn**	**21 33 50.2**	**-1.6**
BRLK	**Bradley Lake**	**3.78**	**348**	IAML		21 34 34.8	
	comp=N,2μm,0.7s						
BRLK				IAML		21 34 35.0	
	comp=E,2μm,0.7s						
HOM	**Homer**	**3.79**	**342**		**Pn**	**21 33 50.7**	**-1.2**
HOM				IAML		21 34 55.6	
	comp=N,4μm,0.8s						
HOM				IAML		21 35 00.4	
	comp=E,4μm,0.9s						
HOM	**Homer**	**3.79**	**342**	P	**Pn**	**21 33 51.2**	**-0.7**
	baz=160						
HOM				S	**Sn**	**21 34 34.8**	**-0.9**
	baz=160						
KCE	**Katmai Mt Cerb**	**3.87**	**306**		**Pn**	**21 33 53.0**	**0.0**
ACHA	**Angle Creek He**	**3.92**	**305**	Pn	**Pn**	**21 33 53.1**	**-0.6**
KABU	**Katmai Buttres**	**3.93**	**306**		**Pn**	**21 33 53.8**	**-0.1**
ANCK	**Angle Creek**	**3.99**	**305**		**Pn**	**21 33 54.4**	**-0.3**
KVTA	**Katmai Vly 10**	**3.99**	**308**		**Pn**	**21 33 54.6**	**-0.1**
KAHC	**Katmai Hardscr**	**4.02**	**312**		**Pn**	**21 33 54.8**	**-0.4**
Q18K	**Katmai Hardscr**	**4.02**	**312**	P	**Pn**	**21 33 55.2**	**0.0**
	baz=127,SNR=35						
Q18K				S	**Sn**	**21 34 38.9**	**-2.6**
	baz=127						
SEW	**Seward**	**4.03**	**359**		**Pn**	**21 33 53.4**	**-1.7**
SEW	**Seward**	**4.03**	**359**	P	**Pn**	**21 33 53.5**	**-1.6**
	baz=179,SNR=32						
SEW				S	**Sn**	**21 34 37.6**	**-3.9**
	baz=179						
P23K	**Montague Islan**	**4.05**	**14**		**Pn**	**21 33 54.4**	**-1.0**
P23K	**Montague Islan**	**4.05**	**14**	P	**Pn**	**21 33 54.7**	**-0.7**
	baz=196,SNR=139						
P23K				S	**Sn**	**21 34 38.8**	**-3.1**
	baz=196						
P19K	**Oil Pt**	**4.15**	**331**		**Pn**	**21 33 56.0**	**-0.9**
P19K				IAML		21 34 46.0	
	comp=N,3μm,0.5s						
P19K				IAML		21 34 46.2	
	comp=E,4μm,0.5s						
P19K	**Oil Pt**	**4.15**	**331**	P	**Pn**	**21 33 56.1**	**-0.7**
	baz=148,SNR=8.7						
P19K				S	**Sn**	**21 34 43.7**	**-0.7**
	baz=148						
PLK4	**Peulik 4**	**4.18**	**295**		**Pn**	**21 33 56.7**	**-0.7**
R17L	**Mt. Peulik Vol**	**4.18**	**295**	P	**Pn**	**21 33 56.7**	**-0.5**
	baz=108,SNR=12						
R17L				S	**Sn**	**21 34 42.5**	**-2.7**
	baz=108						
CNTC	**Contact Creek**	**4.20**	**304**		**Pn**	**21 33 57.0**	**-0.7**
Q17K	**Contact Creek**	**4.20**	**304**	P	**Pn**	**21 33 57.3**	**-0.4**
	baz=118,SNR=11						
Q17K				S	**Sn**	**21 34 44.3**	**-1.6**
	baz=118						
O20K	**Slope Mountain**	**4.38**	**338**		**Pn**	**21 33 58.7**	**-1.4**
O20K	**Slope Mountain**	**4.38**	**338**	P	**Pn**	**21 33 58.9**	**-1.1**
	baz=155,SNR=12						
O20K				S	**Sn**	**21 34 48.7**	**-1.5**
	baz=155						
IVE	**Iliamna Volcan**	**4.41**	**335**		**Pn**	**21 33 59.1**	**-1.3**
ILSW	**Iliamna Southw**	**4.41**	**334**	IAML		21 34 52.8	
	comp=E,2μm,0.8s						
ILSW				IAML		21 34 54.9	
	comp=N,1μm,0.6s						
O22K	**Cooper Landing**	**4.41**	**357**		**Pn**	**21 33 59.0**	**-1.4**
O22K	**Cooper Landing**	**4.41**	**357**	P	**Pn**	**21 33 59.5**	**-0.9**
	baz=177,SNR=10						
O22K				S	**Sn**	**21 34 48.7**	**-2.2**
	baz=177						
HIN	**Hinchinbrook I**	**4.56**	**18**		**Pn**	**21 34 01.7**	**-0.9**
P18K	**Big Mountain,**	**4.59**	**319**		**Pn**	**21 34 01.8**	**-1.2**
P18K	**Big Mountain,**	**4.59**	**319**	P	**Pn**	**21 34 01.5**	**-1.4**
	baz=134						
P18K				S	**Sn**	**21 34 51.5**	**-3.9**
	baz=134						
KAIM	**Kayak Island**	**4.64**	**32**		**Pn**	**21 34 03.2**	**-0.3**
KAIM	**Kayak Island**	**4.64**	**32**	P	**Pn**	**21 34 03.5**	**0.0**
	baz=217,SNR=470						
KAIM				S	**Sn**	**21 34 55.0**	**-1.4**
	baz=217						
RED	**Redoubt Volcan**	**4.72**	**338**		**Pn**	**21 34 02.6**	**-2.1**
RDSO	**Redoubt South**	**4.74**	**339**		**Pn**	**21 34 02.9**	**-2.2**
Q16K	**King Salmon**	**4.76**	**306**	P	**Pn**	**21 34 05.2**	**0.0**
	baz=120,SNR=7.8						
Q16K				S	**Sn**	**21 34 56.0**	**-3.4**
	baz=120						
RDWB	**Redoubt West**	**4.79**	**338**		**Pn**	**21 34 03.7**	**-2.1**
CAPN	**Captain Cook N**	**4.79**	**349**	Pn	**Pn**	**21 34 05.2**	**-0.4**
CAPN	**Captain Cook N**	**4.79**	**349**	P	**Pn**	**21 34 05.4**	**-0.3**
	baz=168						
CAPN				S	**Sn**	**21 35 01.2**	**+1.0**
	baz=168						
EYAK	**Cordova Ski Ar**	**4.84**	**21**	P	**Pn**	**21 34 06.0**	**-0.3**
EYAK	**Cordova Ski Ar**	**4.84**	**21**		**Pn**	**21 34 05.9**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.84**	**21**	P	**Pn**	**21 34 06.0**	**-0.3**
	baz=205,SNR=354						
EYAK				S	**Sn**	**21 34 58.0**	**-3.5**
	baz=205						
FID	**Port Fidalgo**	**4.90**	**16**		**Pn**	**21 34 06.0**	**-1.1**
FID	**Port Fidalgo**	**4.90**	**16**	IAML		21 34 59.6	
	comp=E,2μm,0.7s						
FID				IAML		21 35 03.1	
	comp=N,2μm,0.5s						
O18K	**Koktuh Hills**	**4.92**	**323**		**Pn**	**21 34 05.7**	**-1.7**
O18K	**Koktuh Hills**	**4.92**	**323**	IAML		21 35 15.0	
	comp=E,550nm,0.9s						
O18K				IAML		21 35 15.0	
	comp=N,606nm,0.9s						
O18K	**Koktuh Hills**	**4.92**	**323**	P	**Pn**	**21 34 06.3**	**-1.1**
	baz=138,SNR=14						
O18K				S	**Sn**	**21 35 00.7**	**-2.7**
	baz=138						
GLI	**Glacier Island**	**4.94**	**13**		**Pn**	**21 34 06.8**	**-0.9**
GLI	**Glacier Island**	**4.94**	**13**	IAML		21 35 02.5	
	comp=E,1μm,0.6s						
GLI				IAML		21 35 07.5	
	comp=N,1μm,0.7s		

	comp=E,2µm,0.6s						
RC01	Rabbit Creek A	5.02	357	P		Pn	21 34 07.6 -1.2
	baz=178,SNR=30						
RC01				S		Sn	21 35 02.5 -3.4
	baz=178						
CHGN	Chignik	5.10	276	Pn		Pn	21 34 08.6 -1.3
CHGN	Chignik	5.10	276	P		Pn	21 34 09.3 -0.6
	baz=88,SNR=7.6						
CHGN				S		Sn	21 35 04.3 -3.6
	baz=88						
GOAT	Goat Mountain	5.10	26			Pn	21 34 09.9 -0.1
BGLC	Bering Glacier	5.14	36			Pn	21 34 10.8 +0.4
BGLC	Bering Glacier	5.14	36	P		Pn	21 34 10.8 +0.4
	baz=222,SNR=38						
BGLC				S		Sn	21 35 06.7 -2.1
	baz=222						
SPU	Mount Spurr	5.31	345	IAML			21 35 12.8
	comp=E,607nm,0.7s						
SPU				IAML			21 35 14.0
	comp=N,655nm,0.7s						
SNH	Sunshine Point	5.34	37			Pn	21 34 13.1 0.0
SNH				IAML			21 35 12.2
	comp=E,2µm,0.7s						
SNH				IAML			21 35 13.5
	comp=N,873nm,0.6s						
N20K	Mount Spurr	5.35	345	P		Pn	21 34 11.6 -1.7
	baz=162,SNR=27						
N20K				S		Sn	21 35 11.9 -2.2
	baz=162						
SPCR	Spurr Chakacha	5.35	345	P		Pn	21 34 04.9 -8.4
	baz=162,SNR=24						
SPCR				S		Sn	21 35 05.4 -8.7
	baz=162						
KNK	Knik Glacier	5.36	4	IAML			21 35 11.7
	comp=N,1µm,0.7s						
KNK				IAML			21 35 11.9
	comp=E,2µm,0.8s						
KNK	Knik Glacier	5.36	4	P		Pn	21 34 12.3 -1.2
	baz=186,SNR=25						
KNK				S		Sn	21 35 09.9 -4.3
	baz=186						
DIV	Divide	5.38	18			Pn	21 34 13.1 -0.7
CYK	Cape Yakataga	5.39	39			Pn	21 34 13.9 +0.1
KHIT	Khitrov Hills	5.40	34			Pn	21 34 13.8 -0.4
SPCP	Crater Peak Br	5.40	345			Pn	21 34 13.0 -1.2
SPCG	Spurr Capps Gl	5.41	346			Pn	21 34 12.4 -1.8
SPBG	Spurr Blockage	5.43	344			Pn	21 34 12.8 -1.7
SUA	Susitna One	5.45	353			Pn	21 34 12.9 -1.8
SUA	Susitna One	5.45	353	P		Pn	21 34 13.2 -1.5
	baz=172,SNR=20						
SUA				S		Sn	21 35 14.1 -2.4
	baz=172						
N19K	Bonanza Creek	5.47	332			Pn	21 34 13.2 -1.8
N19K	Bonanza Creek	5.47	332	P		Pn	21 34 13.5 -1.5
	baz=148,SNR=14						
N19K				S		Sn	21 35 13.7 -3.3
	baz=148						
BMRM	Bremner River	5.47	25	P		Pn	21 34 14.9 -0.1
	baz=209,SNR=296						
BMRM				S		Sn	21 35 13.2 -3.8
	baz=209						
PMR	Palmer	5.52	1	P		Pn	21 34 16.0 +0.4
PMR	Palmer	5.52	1			Pn	21 34 14.7 -0.9
PMR	Palmer	5.52	1	P		Pn	21 34 14.9 -0.7
	baz=181,SNR=18						
PMR				S		Sn	21 35 14.0 -4.1
	baz=181						
PMR	Palmer	5.52	1	P		Pn	21 34 14.7 -0.9
VNHG	Veniaminof 1	5.53	275			Pn	21 34 15.4 -0.4
P16K	Nushagak River	5.54	306	P		Pn	21 34 15.6 -0.2
	baz=118						
O17K	Koliganek Bris	5.56	315	P		Pn	21 34 15.2 -1.0
	baz=128						
SPNN	North Nagishla	5.58	343			Pn	21 34 15.3 -1.4
STLK	Strandline Lak	5.59	347			Pn	21 34 15.3 -1.3
BARK	Barkley Ridge	5.62	37			Pn	21 34 17.1 0.0
MESA	MESA	5.65	40			Pn	21 34 17.5 -0.1
MESA	MESA	5.65	40	P		Pn	21 34 17.6 0.0
	baz=227,SNR=241						
CRQM	Cirque	5.69	32			Pn	21 34 18.0 -0.1
VNSS	Veniaminof 8	5.69	276			Pn	21 34 17.0 -1.1
KLU	Klutina	5.69	16	P		Pn	21 34 17.8 -0.3
	baz=200,SNR=292						
CRQE	Cirque	5.70	32	P		Pn	21 34 18.1 0.0
	baz=218,SNR=1000						
CRQE				S		Sn	21 35 18.5 -4.2
	baz=218						
M22K	Willow	5.70	356	P		Pn	21 34 16.7 -1.3
	baz=176						
GHO	Glory Hole Cre	5.70	2			Pn	21 34 17.7 -0.6
S14K	Fog Glacier	5.74	276	P		Pn	21 34 18.6 -0.2
	baz=87						
VNFG	Fog Glacier, M	5.74	276			Pn	21 34 17.7 -1.0
VNWF	Veniaminof 8	5.75	275			Pn	21 34 18.5 -0.4
SML	Sawmill	5.76	5	P		Pn	21 34 18.6 -0.3
	baz=186,SNR=216						
SML				S		Sn	21 35 20.0 -4.1
	baz=186						
N18K	Kilae Creek	5.77	326			Pn	21 34 17.7 -1.4
N18K	Kilae Creek	5.77	326	P		Pn	21 34 17.6 -1.4
	baz=140,SNR=9.9						
M23K	Glacier View	5.78	7			Pn	21 34 18.8 -0.4
M23K	Glacier View	5.78	7	P		Pn	21 34 19.2 0.0
	baz=189,SNR=108						
M23K				S		Sn	21 35 22.3 -2.2
	baz=189						
SCM	Sheep Creek Mo	5.85	9			Pn	21 34 19.5 -0.7
SCM	Sheep Creek Mo	5.85	9	P		Pn	21 34 20.2 -0.1
	baz=191,SNR=95						
SCM				S		Sn	21 35 23.5 -3.0
	baz=191						
SCM	Sheep Creek Mo	5.85	9	P		Pn	21 34 19.5 -0.7
O16K	Kokwok River B	5.87	310			Pn	21 34 19.9 -0.5
O16K	Kokwok River B	5.87	310	P		Pn	21 34 20.1 -0.4
	baz=123,SNR=12						
CHNA	Chernabura Isl	6.00	262	P		Pn	21 34 20.5 -1.7
	baz=73,SNR=14						
CNBA	Chernabura Isl	6.00	262	Pn		Pn	21 34 20.8 -1.4
SVW2	Sparrevohn	6.00	329	P		Pn	21 34 21.0 -1.3
SKT	Skwentna	6.02	350			Pn	21 34 21.3 -1.3
SKT	Skwentna	6.02	350	P		Pn	21 34 21.2 -1.3
	baz=168,SNR=67						
SKT				S		Sn	21 35 27.4 -3.2
	baz=168						
N25K	Chitina, Valde	6.04	22	P		Pn	21 34 22.9 0.0
	baz=206,SNR=626						
N25K				S		Sn	21 35 27.7 -3.5
	baz=206						
N17K	Nushagak Hills	6.09	320			Pn	21 34 21.7 -1.8
N17K	Nushagak Hills	6.09	320	P		Pn	21 34 22.4 -1.1
	baz=134,SNR=6.5						
GRNC	Granite Creek	6.11	37			Pn	21 34 23.9 0.0
TABL	Table Mountain	6.12	41			Pn	21 34 24.1 +0.1
M20K	Styx River	6.14	343	P		Pn	21 34 22.4 -1.8
	baz=160,SNR=37						
BALM	Baldy	6.14	33			Pn	21 34 23.9 -0.4
YKU2	Yakutat	6.18	52	P		Pn	21 34 26.0 +1.4
YKU2	Yakutat	6.18	52			Pn	21 34 25.4 +0.7
MCARA	McCarthy VSAT	6.23	29			Pn	21 34 25.2 -0.1
MCARA	McCarthy VSAT	6.23	29	P		Pn	21 34 25.3 0.0
	baz=215,SNR=485						
PTPK	Patty Peak	6.23	32			Pn	21 34 25.6 0.0
M24K	Tolsona, Glenn	6.25	14			Pn	21 34 25.5 -0.1
M24K	Tolsona, Glenn	6.25	14	P		Pn	21 34 25.5 -0.1
	baz=197,SNR=106						
PCA	Pinnacle	6.25	46			Pn	21 34 26.0 +0.3
PINM	Pinnacle	6.25	46	P		Pn	21 34 25.9 +0.3
	baz=234,SNR=405						
CUT	Chulitna	6.36	356	P		Pn	21 34 26.2 -0.9
	baz=175						
SDPT	Sand Point	6.37	268	P		Pn	21 34 26.3 -1.0
SDPT	Sand Point	6.37	268	P		Pn	21 34 26.0 -1.3
	baz=78,SNR=14						
PNL	Peninsula	6.38	52	P		Pn	21 34 28.2 +0.8
PNL	Peninsula	6.38	52			Pn	21 34 27.9 +0.5
PNL	Peninsula	6.38	52	P		Pn	21 34 27.5 +0.1
	baz=241,SNR=948						
M18K	Stony River	6.39	331	P		Pn	21 34 25.8 -1.8
	baz=145,SNR=36						
M19K	Big River Lodg	6.40	338			Pn	21 34 25.9 -1.9
M19K	Big River Lodg	6.40	338	P		Pn	21 34 25.8 -1.9
	baz=154						
CTG	Chitna Glacier	6.42	37	P		Pn	21 34 28.3 +0.2
	baz=224,SNR=155						
WASW	Wrangell South	6.42	22			Pn	21 34 27.9 -0.3
BCPM	Bancas Point	6.42	49			Pn	21 34 28.6 +0.6
LOGN	Logan Glacier	6.43	39			Pn	21 34 27.8 -0.5
WACK	Wrangell Chich	6.44	21			Pn	21 34 28.3 -0.2
O15K	Ungalikthiuk R	6.45	303			Pn	21 34 27.9 -0.5
O15K	Ungalikthiuk R	6.45	303	P		Pn	21 34 28.1 -0.3
	baz=114						
WAZA	Wrangell Mount	6.56	22			Pn	21 34 30.2 0.0
WAT6	Susitna Watana	6.56	6			Pn	21 34 29.4 -0.6
WAT6	Susitna Watana	6.56	6	P		Pn	21 34 29.5 -0.6
	baz=188,SNR=137						
N16K	Nishlik Lake	6.66	315	P		Pn	21 34 30.9 -0.3
	baz=127,SNR=11						
HARP	HAARP	6.67	17			Pn	21 34 30.9 -0.6
HARP	HAARP	6.67	17	P		Pn	21 34 31.9 +0.5
	baz=201,SNR=102						
O28M	Mount Upton	6.69	42			Pn	21 34 32.5 +0.5
O28M	Mount Upton	6.69	42	P		Pn	21 34 32.3 +0.3
	baz=230,SNR=416						
L19K	White Mountain	6.75	337	P		Pn	21 34 30.8 -1.7
	baz=153,SNR=29						
WAT7	Susitna Watana	6.77	2			Pn	21 34 32.4 -0.5
WAT1	Susitna Watana	6.77	3			Pn	21 34 32.4 -0.5
WAT1	Susitna Watana	6.77	3	P		Pn	21 34 32.5 -0.4
	baz=184						
M17K	Holitna River	6.81	325			Pn	21 34 31.9 -1.3
M17K	Holitna River	6.81	325	P		Pn	21 34 32.1 -1.2
	baz=138,SNR=18						
L20K	Farewell, AK	6.83	342			Pn	21 34 31.8 -1.7
L20K	Farewell, AK	6.83	342	P		Pn	21 34 31.2 -2.4
	baz=158,SNR=6.7						
N15K	Kwethluk River	7.03	310			Pn	21 34 36.0 -0.4
N15K	Kwethluk River	7.03	310	P		Pn	21 34 36.6 +0.2
	baz=121,SNR=11						
O29M	Mount Kennedy	7.06	49			Pn	21 34 37.7 +0.8
O29M	Mount Kennedy	7.06	49	P		Pn	21 34 37.5 +0.7
	baz=238,SNR=352						
PS1A	Pavlof South-1	7.07	270			Pn	21 34 35.9 -1.0
M16K	Timber Creek	7.07	318			Pn	21 34 35.9 -1.0
M16K	Timber Creek	7.07	318	P		Pn	21 34 36.3 -0.6
	baz=130,SNR=7.1						
DHY	Denali Highway	7.08	7			Pn	21 34 36.5 -0.6
DHY	Denali Highway	7.08	7	P		Pn	21 34 36.9 -0.2
	baz=189,SNR=184						
PVV	Pavlof Volcano	7.10	269			Pn	21 34 36.0 -1.3
M26K	Nabesna, AK	7.10	24			Pn	21 34 37.5 +0.1
M26K	Nabesna, AK	7.10	24	P		Pn	21 34 37.4 0.0
	baz=210,SNR=152						
P29M	Windy Craggy	7.11	55			Pn	21 34 37.9 +0.4
P29M	Windy Craggy	7.11	55	P		Pn	21 34 37.7 +0.3
	baz=246,SNR=736						
O14K	Tigyukauivet M	7.16	301			Pn	21 34 38.2 0.0
O14K	Tigyukauivet M	7.16	301	P		Pn	21 34 38.4 +0.2
	baz=111						
PAX	Paxson	7.17	14			Pn	21 34 38.1 -0.2
PAX	Paxson	7.17	14	P		Pn	21 34 38.1 -0.2
	baz=198,SNR=137						
PAX	Paxson	7.17	14	P		Pn	21 34 38.1 -0.2
HAG	Hague Volcano	7.18	269			Pn	21 34 37.4 -1.0
HAG	Hague Volcano	7.18	269	P		Pn	21 34 37.4 -1.0
YUK8	Steele Glacier	7.19	40	P		Pn	21 34 40.2 +1.4
	baz=228,SNR=214						
S12K	Black Hills	7.20	272	Pn		Pn	21 34 37.8 -0.9
S12K	Black Hills	7.20	272	P		Pn	21 34 37.7 -0.9
	baz=81						
PN7A	Pavlof North-7	7.21	270			Pn	21 34 38.1 -0.7
L18K	Granite Mounta	7.23	331			Pn	21 34 37.3 -1.8
L18K	Granite Mounta	7.23	331	P		Pn	21 34 37.3 -1.8
	baz=145,SNR=6.3						
YUK3	Moose Creek	7.30	35	P		Pn	21 34 41.4 +1.1
	baz=223						
M27K	Edge Creek, AK	7.34	28			Pn	21 34 40.9 +0.1
M27K	Edge Creek, AK	7.34	28	P		Pn	21 34 41.2 +0.4
	baz=215,SNR=331						
RND	Reindeer	7.34	2			Pn	21 34 40.4 -0.3
RND	Reindeer	7.34	2	P		Pn	21 34 40.4 -0.3
S31K	Pelican	7.37	70			Pn	21 34 39.3 -1.7
S31K	Pelican	7.37	70	P		Pn	21 34 39.5 -1.4
	baz=261,SNR=141						
CAST	Castle Rocks	7.49	350			Pn	21 34 41.7 -0.9
CAST	Castle Rocks	7.49	350	P		Pn	21 34 43.1 +0.5
	baz=168						
YUK6	Outpost Mounta	7.50	45			Pn	21 34 44.0 +0.9
YUK6	Outpost Mounta	7.50	45	P		Pn	21 34 44.3 +1.2
	baz=235,SNR=665						
M15K	Kasigluk River	7.56	312			Pn	21 34 43.0 -0.6
M15K	Kasigluk River	7.56	312	P		Pn	21 34 43.4 -0.2
	baz=123,SNR=6.6						
L26K	Log Cabin Wild	7.58	21			Pn	21 34 44.5 +0.6
L26K	Log Cabin Wild	7.58	21	P		Pn	21 34 44.3 +0.4
	baz=206,SNR=64						
N14K	Kuskokwak Cree	7.62	305	P		Pn	21 34 44.5 0.0
	baz=115						
L17K	Donlin	7.63	326			Pn	21 34 42.5 -2.1
L17K	Donlin	7.63	326	P		Pn	21 34 43.1 -1.4
	baz=139						
YUK4	Talbot Arm	7.64	42	P		Pn	21 34 47.7 +2.8
	baz=231,SNR=110						
TTA	Tatalina	7.66	336	P		Pn	21 34 44.7 -0.4
TTA	Tatalina	7.66	336			Pn	21 34 43.0 -2.0
TTA	Tatalina	7.66	336	P		Pn	21 34 42.7 -2.4
	baz=151,SNR=8.7						
TTA	Tatalina	7.66	336	P		Pn	21 34 43.1 -2.0
MCK	McKinley	7.67	1			Pn	21 34 44.7 -0.4
MCK	McKinley	7.67	1	P		Pn	21 34 44.8 -0.4
	baz=182,SNR=41						
MCK	McKinley	7.67	1	P		Pn	21 34 44.7 -0.4
P30M	Million Dollar	7.67	53			Pn	21 34 45.6 +0.4
P30M	Million Dollar	7.67	53	P		Pn	21 34 45.6 +0.4
	baz=244						
K20K	Telida	7.68	344			Pn	21 34 43.5 -1.8
K20K	Telida	7.68	344	P		Pn	21 34 43.6 -1.7
	baz=160						
PLBC	Pleasant Camp	7.69	59			Pn	21 34 45.7 +0.4
PLBC	Pleasant Camp	7.69	59	P		Pn	21 34 45.5 +0.2
	baz=250,SNR=1000						
R31K	City Hall, Gus	7.71	67	P		Pn	21 34 45.2 -0.3
	baz=259						
L16K	Owhat River	7.71	321			Pn	21 34 44.3 -1.4
L16K	Owhat River	7.71	321	P		Pn	21 34 44.4 -1.4
	baz=132,SNR=7.3						
SIT	Sitka	7.77	77	P		Pn	21 34 44.2 -2.3
SIT	Sitka	7.77	77	Pn		Pn	21 34 44.0 -2.5
SIT	Sitka	7.77	77	P		Pn	21 34 44.0 -2.5
	baz=269,SNR=23						
SIT	Sitka	7.77	77	P		Pn	21 34 44.1 -2.5
HYT	Haines Junctio	7.79	48			Pn	21 34 47.5 +0.6
HYT	Haines Junctio	7.79	48	P		Pn	21 34 47.5 +0.6
	baz=238,SNR=89						
K24K	Donnelly Dome	7.94	11			Pn	21 34 48.3 -0.5
K24K	Donnelly Dome	7.94	11	P		Pn	21 34 49.0 +0.2
	baz=195,SNR=75						
L27K	Beaver Creek,	7.95	25			Pn	21 34 48.6 -0.4
L27K	Beaver Creek,	7.95	25	P		Pn	21 34 48.7 -0.2
	baz=212,SNR=95						
BCAR	Beaver Creek A	7.96	25	Pn		Pn	21 34 48.9 -0.2
CHUM	Lake Minchumin	7.96	350			Pn	21 34 47.9 -1.2
CHUM	Lake Minchumin	7.96	350	P		Pn	21 34 48.3 -0.9
	baz=168						
DOT	Dot Lake	8.02	17			Pn	21 34 49.2 -0.7
K17K	Iditarod	8.08	329			Pn	21 34 48.8 -1.9
K17K	Iditarod	8.08	329	P		Pn	21 34 49.2 -1.5
	baz=141,SNR=7.5						
BPAW	Bear Paw Mtn.	8.08	355	P		Pn	21 34 49.0 -1.8
	baz=174,SNR=42						
BWN	Browne	8.11	359			Pn	21 34 49.9 -1.2
M14K	Bethel	8.12	310	Pn		Pn	21 34 51.3 0.0
M14K	Bethel	8.12	310	P		Pn	21 34 51.9 +0.6
	baz=120						
FALS	False Pass	8.13	267	P		Pn	21 34 50.5 -0.9
FALS	False Pass	8.13	267			Pn	21 34 49.8 -1.6
FALS	False Pass	8.13	267	P		Pn	21 34 50.1 -1.2
	baz=75,SNR=19						
SKAG	Skagway	8.19	60	P		Pn	21 34 52.3 +0.1
SKAG	Skagway	8.19	60	P		Pn	21 34 52.8 +0.6
	baz=252,SNR=44						
S32K	Killisnoo	8.20	74			Pn	21 34 51.0 -1.3
S32K	Killisnoo	8.20	74	P		Pn	21 34 50.5 -1.8
	baz=267,SNR=56						
J18K	Innoko River	8.29	336			Pn	21 34 51.7 -1.9
J18K	Innoko River	8.29	336	P		Pn	21 34 51.3 -2.3
	baz=150,SNR=17						
N30M	Aishikik Lake	8.31	45	P		Pn	21 34 54.5 +0.6
	baz=236,SNR=268						
R32K	Eaglecrest	8.31	69	P		Pn	21 34 53.7 -0.3
	baz=262,SNR=38						
ISNN	Isanotski Nort	8.34	267			Pn	21 34 53.3 -1.0
SCRK	Sand Creek	8.34	16			Pn	21 34 53.6 -0.8
SCRK	Sand Creek	8.34	16	P		Pn	21 34 53.5 -0.9
	baz=201,SNR=47						
O30N	Mendenhall	8.36	50	P		Pn	21 34 55.0 +0.4
	baz=242,SNR=111						
JIS	Juneau Island	8.38	69	P		Pn	21 34 54.9 0.0
JIS	Juneau Island	8.38	69			Pn	21 34 54.7 -0.2
HDA	Harding Lake	8.43	7	P		Pn	21 34 55.2 -0.3
	baz=189,SNR=81						
WRH	Wood River Hil	8.43	4			Pn	21 34 53.9 -1.6
M29M	Somme Creek	8.44	37			Pn	21 34 55.9 +0.2
M29M	Somme Creek	8.44	37	P		Pn	21 34 56.4 +0.7
	baz=226,SNR=452						
L15K	Ungalak Mounta	8.44	317			Pn	21 34 53.5 -2.1
L15K	Ungalak Mounta	8.44	317	P		Pn	21 34 55.2 -0.4
	baz=126						
J20K	Nowinta River	8.47	345	P		Pn	21 34 54.5 -1.5
	baz=161,SNR=35						
NEA2	Nenana	8.53	1			Pn	21 34 55.6 -1.4
NEA2	Nenana	8.53	1	P		Pn	21 34 55.5 -1.4
	baz=181,SNR=40						
J19K	Poorman	8.54	341			Pn	21 34 54.9 -2.1
J19K	Poorman	8.54	341	P		Pn	21 34 54.6 -2.3
	baz=156,SNR=28						
M13K	Dall Lake	8.59	306			Pn	21 34 56.4 -1.2
M13K	Dall Lake	8.59	306	P		Pn	21 34 56.5 -1.2
	baz=114						
CCB	Clear Creek Bu	8.62	4			Pn	21 34 57.1 -1.0
L14K	Kuka Creek	8.73	313			Pn	21 34 58.8 -0.9
L14K	Kuka Creek	8.73	313	P		Pn	21 34 58.7 -0.9
	baz=121						
K27K	Chicken	8.74	21			Pn	21 34 59.8 +0.1
K27K	Chicken	8.74	21	P		Pn	21 34 59.5 -0.2
	baz=208						
J25K	Salcha River,	8.77	11			Pn	21 34 59.1 -1.1
J25K	Salcha River,	8.77	11	P		Pn	21 34 58.9 -1.3
	baz=195,SNR=60						
IL31		8.79	7			Pn	21 34 59.9 -0.6
ILAR	Eielson Array	8.79	7			Pn	21 34 60.0 -0.5
ILAR	Eielson Array	8.79	7	P		Pn	21 34 59.5 -0.9
	comp=E,24nm,0.5s,baz=194,slow=13,SNR=150						
ILAR				S		Sn	21 36 33.9 -4.7
	comp=E,44nm,0.7s,baz=206,slow=14,SNR=7.2						
ILAR				LR		LR	21 38 40.1
	comp=E,1µm,19.5s,baz=200,slow=40						
ILAR	Eielson Array	8.79	7	P		Pn	21 35 00.0 -0.5
J17K	VABM Dome	8.83	330			Pn	21 34 58.9 -2.1
J17K	VABM Dome	8.83	330	P		Pn	21 34 59.0 -2.1
	baz=142						
K15K	Wolf Creek Mou	8.83	320			Pn	21 35 00.4 -0.6
K15K	Wolf Creek Mou	8.83	320	P		Pn	21 34 59.5 -1.5
	baz=129						
COLA	College	8.84	4	P		Pn	21 35 01.0 -0.1
COLA	College	8.84	4			Pn	21 35 00.7 -0.4
COLA	College	8.84	4	P		Pn	21 35 01.1 -0.1
	baz=186						
COLA	College	8.84	4	P		Pn	21 35 00.7 -0.4
N31M	Braeburn, Yuko	8.85	47			Pn	21 35 01.4 +0.1
N31M	Braeburn, Yuko	8.85	47	P		Pn	21 35 02.0 +0.8
	baz=239,SNR=150						
J26L	Joseph Creek	8.90	16	P		Pn	21 35 01.6 -0.4
	baz=202,SNR=268						
WECS	Westdahl Cape	8.97	266			Pn	21 35 02.4 -0.7
MLY	Manley	9.00	356			Pn	21 35 02.2 -1.2
MLY	Manley	9.00	356	P		Pn	21 35 03.0 -0.4
	baz=175,SNR=32						
P32M	Atlin	9.01	61	P		Pn	21 35 03.8 +0.3
	baz=254,SNR=146						
L29M	L29M	9.02	34			Pn	21 35 03.8 +0.2
L29M	L29M	9.02	34	P		Pn	21 35 04.3 +0.6
	baz=224,SNR=499						
U33K	Whale Pass	9.04	83	Pn		Pn	21 35 01.3 -2.5
U33K	Whale Pass	9.04	83	P		Pn	21 35 01.5 -2.3
	baz=277,SNR=20						
T33K	Petersburg	9.07	79	P		Pn	21 35 03.0 -1.4
	baz=273						
I23K	Minto, Yukon-K	9.09	360			Pn	21 35 04.3 -0.2
I23K	Minto, Yukon-K	9.09	360	P		Pn	21 35 04.5 -0.1
	baz=180,SNR=22						
M30M	Minto, Yukon	9.10	39			Pn	21 35 05.1 +0.3
M30M	Minto, Yukon	9.10	39	P		Pn	21 35 05.2 +0.5
	baz=230						
I20K	Naaghedeneel	9.10	346	P		Pn	21 35 04.2 -0.5
	baz=162,SNR=6.4						
POKR	Poker Plat Res	9.10	5			Pn	21 35 04.8 0.0
POKR	Poker Plat Res	9.10	5	P		Pn	21 35 04.0 -0.8
	baz=187,SNR=17						
CRAG	Craig	9.13	87	P		Pn	21 35 02.6 -2.5
CRAG	Craig	9.13	87			Pn	21 35 02.8 -2.3
CRAG	Craig	9.13	87	P		Pn	21 35 02.5 -2.5
	baz=281,SNR=8.2						
J16K	Anvik River	9.20	326			Pn	21 35 05.1 -1.0
J16K	Anvik River	9.20	326	P		Pn	21 35 04.6 -1.4
	baz=137						
I21K	Tanana	9.22	353	P		Pn	21 35 06.0 -0.3
	baz=171						
DAWY	Dawson	9.39	28	P		Pn	21 35 08.8 +0.1
	baz=216,SNR=22						
WRAK	Wrangell Islan	9.43	81			Pn	21 35 07.8 -1.4
WRAK	Wrangell Islan	9.43	81	P		Pn	21 35 07.9 -1.4
	baz=275,SNR=5.8						
GCSA	Galena City Sc	9.45	340	P		Pn	21 35 08.2 -1.3
	baz=153						
EGAK	Eagle	9.59	21	P		Pn	21 35 11.4 0.0
	baz=209,SNR=42						
Q32M	Nakina River	9.59	66			Pn	21 35 11.3 -0.3
Q32M	Nakina River	9.59	66	P		Pn	21 35 11.8 +0.2
	baz=260,SNR=42						
AKSA	Akutan Strait	9.61	265			Pn	21 35 10.5 -1.1
P33M	Teslin, Yukon	9.63	58			Pn	21 35 12.3 +0.3
P33M	Teslin, Yukon	9.63	58	P		Pn	21 35 12.2 +0.2
	baz=252,SNR=528						
PRP	Porcupine Dome	9.63	9			Pn	21

IMAR	Indian Mountai	10.16	350		Pn	21 35 16.7 -2.4
FARO	Faro, Yukon	10.22	46		Pn	21 35 21.4 +1.3
FARO	Faro, Yukon	10.22	46	P	Pn	21 35 21.0 +0.9
	baz=240,SNR=68					
I27K	Kandik River	10.24	18	P	Pn	21 35 20.4 +0.1
	baz=205,SNR=132					
H17K	Granite Mounta	10.29	334	P	Pn	21 35 19.8 -1.1
	baz=145					
R33M	Jennings River	10.33	64	Pn	Pn	21 35 21.9 +0.3
R33M	Jennings River	10.33	64	P	Pn	21 35 22.0 +0.3
	baz=260,SNR=214					
H25L	Birch Creek	10.35	8	P	Pn	21 35 21.8 +0.1
	baz=191,SNR=19					
I28M	Miner Creek	10.43	22		Pn	21 35 24.1 +1.1
I28M	Miner Creek	10.43	22	P	Pn	21 35 22.9 0.0
	baz=210,SNR=44					
T35M	Bob Quinn	10.55	77	P	Pn	21 35 25.5 +0.9
	baz=274,SNR=61					
J30M	Hart River	10.64	32	P	Pn	21 35 26.7 +0.9
	baz=223,SNR=145					
G21K	Allakaket	10.65	351		Pn	21 35 25.0 -1.0
G21K	Allakaket	10.65	351	P	Pn	21 35 24.8 -1.2
	baz=167,SNR=78					
G23K	Bananza Creek	10.67	358	Pn	Pn	21 35 25.1 -1.1
G23K	Bananza Creek	10.67	358	P	Pn	21 35 25.7 -0.5
	baz=178,SNR=96					
H16K	Elim	10.68	329	P	Pn	21 35 24.9 -1.5
	baz=137					
G24K	Hadweenzic Riv	10.68	4	P	Pn	21 35 26.5 +0.2
	baz=186,SNR=94					
DLBC	Dease Lake	10.69	69	P	Pn	21 35 26.8 +0.3
	baz=266,SNR=50					
DLBC	Dease Lake	10.69	69	P	Pn	21 35 27.1 +0.6
	comp=E,36nm,0.5s,baz=256,slow=12,SNR=50					
DLBC				S	Sn	21 37 22.5 -2.6
	comp=E,9.9nm,0.5s,baz=68,slow=27,SNR=1.5					
DLBC				LR	LR	21 39 00.4
	comp=E,1µm,19.9s,baz=287,slow=34					
I29M	Ogilvie Camp,	10.72	25	P	Pn	21 35 27.6 +0.7
	baz=215,SNR=66					
G19K	Purcell Mounta	10.76	343	P	Pn	21 35 26.9 -0.5
	baz=156,SNR=8.1					
G25K	Bearman Lake	10.82	7	P	Pn	21 35 28.0 -0.2
	baz=190,SNR=28					
G18K	Tagagawik	10.82	339	P	Pn	21 35 27.3 -1.0
	baz=151,SNR=12					
H27K	Steamboat Moun	10.83	17	P	Pn	21 35 27.8 -0.6
	baz=204,SNR=61					
G22K	Bettles	10.92	355	P	Pn	21 35 28.0 -1.6
	baz=174					
G17K	Kiwalik Mounta	10.93	334	P	Pn	21 35 29.5 -0.2
	baz=144					
I30M	Mount Dempster	11.11	29	P	Pn	21 35 32.7 +0.5
	baz=221,SNR=140					
COLD	Coldfoot	11.19	358	P	Pn	21 35 32.6 -0.6
	baz=178,SNR=24					
G26K	Porcupine Rive	11.20	11	P	Pn	21 35 33.5 +0.1
	baz=196,SNR=25					
HG4B	Hotspring	11.25	102	Pn	Pn	21 35 31.0 -3.2
MMPY	Sheldon Lake,	11.26	47	Pn	Pn	21 35 35.5 +1.2
MMPY	Sheldon Lake,	11.26	47	P	Pn	21 35 35.5 +1.2
	baz=243,SNR=136					
G16K	Koyuk River	11.28	331	Pn	Pn	21 35 33.9 -0.6
G16K	Koyuk River	11.28	331	P	Pn	21 35 33.9 -0.6
	baz=140					
F21K	Alatna River	11.35	352	P	Pn	21 35 35.1 -0.3
	baz=168,SNR=71					
G27K	Doyon Strip	11.35	16	P	Pn	21 35 35.6 +0.1
	baz=202,SNR=59					
F20K	Avaraart Lake	11.41	347	P	Pn	21 35 35.4 -0.8
	baz=162,SNR=36					
H29M	Whitestone	11.42	23	Pn	Pn	21 35 37.4 +0.9
H29M	Whitestone	11.42	23	P	Pn	21 35 37.0 +0.5
	baz=213,SNR=33					
G15K	Niukluk	11.48	327	P	Pn	21 35 36.5 -0.7
	baz=134					
F24K	Squaw Lake	11.49	3	P	Pn	21 35 37.3 -0.1
	baz=184,SNR=20					
F19K	Shaleruckik Mo	11.50	343	P	Pn	21 35 36.9 -0.6
	baz=156,SNR=14					
F22K	John River	11.54	354	P	Pn	21 35 36.8 -1.2
	baz=172,SNR=32					
WTLY	Watson Lake, Y	11.55	61	P	Pn	21 35 38.2 0.0
	baz=259,SNR=10					
SPIA	Saint Paul Isl	11.59	284	P	Pn	21 35 37.6 -1.2
	baz=86					
BMAR	Burnt Mountain	11.59	9		Pn	21 35 38.5 -0.3
ANM	Nome	11.62	324	P	Pn	21 35 37.7 -1.4
	baz=130					
F18K	Selawik	11.64	339	P	Pn	21 35 39.2 -0.1
	baz=150,SNR=7.5					
F25K	Christian Rive	11.67	7	P	Pn	21 35 39.2 -0.7
	baz=190,SNR=32					
NIKH	Nikolski High	11.78	263	P	Pn	21 35 39.8 -1.6
	baz=66					
F17K	Baldwin Pennin	11.85	336	P	Pn	21 35 40.2 -1.9
	baz=146					
F26K	Sheenjek River	11.89	10	P	Pn	21 35 41.9 -1.0
	baz=194,SNR=63					
EPYK	Eagle Plains	11.93	25	P	Pn	21 35 43.3 -0.1
	baz=216,SNR=8.7					
E19K	Redstone River	12.00	345	P	Pn	21 35 43.3 -1.0
	baz=158,SNR=38					
E23K	Chandalar	12.02	359	P	Pn	21 35 44.7 +0.1
	baz=179,SNR=41					
E24K	Your Creek	12.04	1	P	Pn	21 35 45.2 +0.3
	baz=182,SNR=39					
G29M	Pine Creek	12.09	22	P	Pn	21 35 46.5 +1.0
	baz=212,SNR=144					
E22K	Anaktuvuk Pass	12.15	355	P	Pn	21 35 47.3 +0.9
	baz=173					
TGTN	Hyland Airport	12.15	55	P	Pn	21 35 47.5 +1.1
	baz=253,SNR=25					
F15K	North Star Dit	12.16	329	Pn	Pn	21 35 45.0 -1.5
F15K	North Star Dit	12.16	329	P	Pn	21 35 46.2 -0.3
	baz=135					
E25K	Arctic Village	12.20	7	P	Pn	21 35 46.4 -0.7
	baz=190,SNR=20					
F28M	Old Crow	12.37	17	P	Pn	21 35 50.2 +0.9
	baz=206,SNR=77					
E17K	Hotham Inlet	12.51	337	P	Pn	21 35 50.5 -0.7
	baz=146,SNR=12					
F14K	Arctic Creek	12.51	326	P	Pn	21 35 50.4 -0.9
	baz=131					
E18K	Tukpahlearik C	12.54	340	P	Pn	21 35 51.3 -0.4
	baz=150,SNR=14					
G30M	tAoh Zraii Nji	12.54	24	P	Pn	21 35 52.6 +0.9
	baz=216,SNR=44					
E21K	Killik River	12.58	352	P	Pn	21 35 51.5 -0.8
	baz=168					
TOLK	Toolik Lake Re	12.60	360	P	Pn	21 35 52.6 0.0
	baz=180,SNR=59					
E20K	Nigu River	12.62	348	P	Pn	21 35 52.4 -0.4
	baz=162					
E27K	Coleen River	12.64	13	P	Pn	21 35 52.8 -0.4
	baz=200,SNR=39					
LIRD	Liard River Hi	12.80	65	P	Pn	21 35 57.3 +2.0
	baz=265					
D22K	Ayikyak River	12.93	354	Pn	Pn	21 35 57.0 -0.1
D22K	Ayikyak River	12.93	354	P	Pn	21 35 57.2 +0.2
	baz=172,SNR=16					
D23K	Nanushuk River	12.94	358	P	Pn	21 35 57.8 +0.7
	baz=177					
G31M	Satah River	12.96	27	P	Pn	21 35 57.9 +0.4
	baz=221,SNR=93					
BBB	Bella Bella	13.00	99	LR	LR	21 39 50.6
	comp=E,370nm,19.4s,baz=324,slow=32					
TNA	Tin City	13.08	324	P	Pn	21 35 57.5 -1.6
	baz=128					
D19K	Kuna River	13.09	346	P	Pn	21 35 57.9 -1.3
	baz=158,SNR=7.0					
D20K	Etivluk River	13.10	348	P	Pn	21 35 59.5 +0.1
	baz=162,SNR=8.7					
D24K	Happy Valley	13.12	1	P	Pn	21 36 00.7 +1.1
	baz=181,SNR=23					
F30M	Barrier River	13.15	23	P	Pn	21 36 01.4 +1.4
	baz=215,SNR=51					
TOAD	Toad River Com	13.21	68	P	Pn	21 36 01.9 +0.9
	baz=269,SNR=56					
D17K	Noatak River	13.29	337	P	Pn	21 36 01.6 -0.3
	baz=145					
E28M	Babbage River	13.32	16	P	Pn	21 36 04.6 +2.2
	baz=205,SNR=83					
D25K	Kavik River	13.35	4	P	Pn	21 36 03.5 +0.8
	baz=187,SNR=60					
C21K	Knifeblade Rid	13.35	351	P	Pn	21 36 01.7 -1.0
	baz=167,SNR=14					
E29M	Blow River	13.40	18	P	Pn	21 36 04.1 +0.7
	baz=209,SNR=51					
F31M	Tsiigehtchic	13.50	26	P	Pn	21 36 05.0 +0.3
	baz=220,SNR=16					
RDOG	Red Dog Mine	13.55	338	P	Pn	21 36 05.1 -0.3
	baz=146					
C24K	Franklin Bluff	13.69	1	P	Pn	21 36 07.7 +0.4
	baz=182,SNR=33					
C18K	Utukok River	13.72	341	P	Pn	21 36 07.1 -0.7
	baz=151					
D27M	Malcolm River	13.72	13	P	Pn	21 36 08.2 +0.3
	baz=200,SNR=24					
B21K	Ikpikpuk River	13.79	352	P	Pn	21 36 06.8 -1.9
	baz=168,SNR=9.3					
C23K	Itkillik River	13.81	358	P	Pn	21 36 08.4 -0.6
	baz=177,SNR=42					
C27K	Jago River	13.81	8	P	Pn	21 36 09.0 0.0
	baz=193,SNR=103					
C19K	Lookout Ridge	13.86	344	P	Pn	21 36 08.9 -0.9
	baz=155					
KOTAN	Kotaneelee Air	13.90	63	P	Pn	21 36 12.1 +1.8
	baz=264,SNR=15					
C17K	DeLong Mountai	13.95	338	P	Pn	21 36 11.1 +0.1
	baz=146,SNR=7.9					
C26K	Camden Bay	14.02	6	P	Pn	21 36 13.0 +1.2
	baz=190,SNR=46					
D28M	Stokes Point	14.10	15	P	Pn	21 36 14.9 +1.9
	baz=205					
INK	Inuvik	14.22	24	P	Pn	21 36 15.1 +0.5
	baz=218,SNR=138					
INK	Inuvik	14.22	24	P	Pn	21 36 14.8 +0.2
	comp=E,187nm,0.9s,baz=208,slow=15,SNR=192					
INK				LR	LR	21 42 08.7
	comp=E,802nm,18.8s,baz=182,slow=39					
C16K	Lisburne Hills	14.27	335	P	Pn	21 36 14.8 -0.4
	baz=141,SNR=5.6					
B20K	Meade River	14.40	349	P	Pn	21 36 15.5 -1.5
	baz=162					
B22K	Teshekpuk Lake	14.42	354	P	Pn	21 36 16.3 -1.0
	baz=171,SNR=52					
B18K	Kokolik River	14.45	342	P	Pn	21 36 17.2 -0.6
	baz=151					
WRGLY	Wrigley	14.79	51	P	Pn	21 36 22.2 -0.2
	baz=253					
ATKA	Atka Island	15.07	265	Pn	Pn	21 36 24.4 -1.8
A19K	Wainwright	15.09	344	P	Pn	21 36 24.9 -1.4
	baz=154					
A22K	Sinclair Lake	15.17	353	P	Pn	21 36 25.1 -2.3
	baz=168					
A21K	Barrow	15.61	351	P	Pn	21 36 30.0 -3.1
	baz=165					
C36M	Paulatuk	17.41	30	P	Pn	21 36 54.1 -1.8
	baz=233,SNR=69					
NLWA	Neilton Lookou	17.90	108		P	21 37 02.9 +0.3
WISH	Wishkah	18.12	109		P	21 37 05.9 +0.9
WISH				IAmb	IAmb	21 37 08.3
	comp=Z,52nm,1.0s					
BRLDA	Berland Lookou	18.27	83	P	Pn	21 37 05.3 -1.4
BRLDA				IAmb	IAmb	21 37 23.3
	comp=Z,54nm,1.1s					
GNW	Green Mountain	18.35	107	P	Pn	21 37 08.0 +0.4
E03A	Lebam	18.59	110		Pn	21 37 11.8 +1.2
E03A				IAmb	IAmb	21 37 12.8
	comp=Z,48nm,1.0s					
YKA	Yellowknife Ar	18.65	56	P	Pn	21 37 11.3 +0.2
YKA	Yellowknife Ar	18.65	56	P	Pn	21 37 11.6 +0.5
	comp=Z,26nm,0.8s,baz=266,slow=11,SNR=44					
YKA				PcP	PcP	21 41 36.5 -1.6
	comp=Z,1.6nm,0.8s,baz=289,slow=2.2,SNR=3.6					
YKA				LR	LR	21 44 15.9
	comp=Z,699nm,18.4s,baz=274,slow=36					
YKA	Yellowknife Ar	18.65	56	P	Pn	21 37 11.3 +0.2
A36M	Sachs Harbour	18.86	23	P	Pn	21 37 13.7 +0.1
A36M	Sachs Harbour	18.86	23	P	P	21 37 12.8 -0.1
	baz=225,SNR=12					
AMKA	Amchitka	19.07	269	P	P	21 37 15.2 -0.2
LON	Longmire	19.40	107	P	Pn	21 37 19.9 -0.4
LON	Longmire	19.40	107	P	Pn	21 37 19.9 -0.4
LON				pmax	pmax	
	comp=Z,12nm,1.1s					
F04A	Amboy	19.60	110	P	P	21 37 21.0 -0.2
MXC	Moxie City	20.32	106	P	Pn	21 37 30.2 -1.0
H04D	Lebanon	20.38	113	P	P	21 37 30.7 +0.9
H04D				IAmb	IAmb	21 37 45.7
	comp=Z,34nm,1.1s					
HOOD	Mount Hood Mea	20.41	110	IAmb	IAmb	21 37 32.5
	comp=Z,60nm,1.1s					
H04A	Detroit Lake	20.56	112	P	P	21 37 32.5 +0.8
H04A				IAmb	IAmb	21 37 33.9
	comp=Z,35nm,0.9s					
E07A	Sunnyside	20.57	105	P	P	21 37 32.5 +0.7
G05A	Wamic	20.64	110	P	Pn	21 37 33.8 -1.1
G05A				IAmb	IAmb	21 37 40.7
	comp=Z,38nm,0.9s					
I03D	Drain, OR	20.66	116	IAmb	IAmb	21 37 52.3
	comp=Z,55nm,1.3s					
D08A	Wollman Farm,	20.77	103	P	P	21 37 34.8 +0.8
D08A				IAmb	IAmb	21 37 35.8
	comp=Z,28nm,0.9s					
HAWA	Hanford	20.85	105	P	P	21 37 35.9 +1.1
F07A	Phinny Hill Vi	20.95	107	P	P	21 37 36.5 +0.6
F07A				IAmb	IAmb	21 37 38.2
	comp=Z,33nm,0.9s					
E08A	Dider Farm, El	21.04	104	P	P	21 37 37.6 +0.7
E08A				IAmb	IAmb	21 37 38.7
	comp=Z,34nm,1.0s					
NEW	Newport	21.06	98	P	P	21 37 37.8 +0.6
NEW	Newport	21.06	98	P	P	21 37 37.5 +0.4
	baz=304,SNR=6.6					
NEW	Newport	21.06	98	P	P	21 37 38.6 +1.4
	comp=Z,14nm,0.9s,baz=306,slow=7.6,SNR=13					
NEW				LR	LR	21 44 56.2
	comp=Z,67nm,19.8s,baz=310,slow=34					
	comp=Z,14nm,0.9s					
NEW	Newport	21.06	98	P	P	21 37 37.8 +0.6
NEW				pmax	pmax	
	comp=Z,18nm,1.0s					
I04A	Tendick Farm,	21.06	114	P	P	21 37 37.9 +0.7
I04A				IAmb	IAmb	21 37 39.3
	comp=Z,36nm,0.8s					
DBO	Dodson Butte	21.13	117	P	P	21 37 39.3 +1.3
DBO				IAmb	IAmb	21 37 43.7
	comp=Z,31nm,0.9s					
I05D	Terrebonne, OR	21.23	112	P	P	21 37 40.3 +1.2
I05D				IAmb	IAmb	21 37 41.1
	comp=Z,33nm,1.0s					
SHEM	Shemya Is, Ala	21.41	276	LR	LR	21 46 39.7
	comp=Z,182nm,19.1s,baz=108,slow=38					
E09A	Wood Farm, Sta	21.52	103	IAmb	IAmb	21 37 43.8
	comp=Z,36nm,1.2s					
HUMO	Hull Mountain	21.65	117	IAmb	IAmb	21 37 46.2
	comp=Z,27nm,0.9s					
PINE	Pine Mountain	21.82	112	IAmb	IAmb	21 37 48.1
	comp=Z,33nm,1.0s					
J05D	Fort Rock, OR	22.03	114	IAmb	IAmb	21 37 52.1
	comp=Z,52nm,1.0s					
F10A	Beach Ranch, E	22.36	103	IAmb	IAmb	21 37 54.1
	comp=Z,26nm,0.9s					
I07A	Izee	22.37	110	IAmb	IAmb	21 37 53.5
	comp=Z,27nm,1.1s					
YBH	Yreka Blue Hor	22.42	119	P	P	21 37 53.7 +1.9
YBH				IAmb	IAmb	21 37 56.0
	comp=Z,24nm,0.9s					
YBH	Yreka Blue Hor	22.42	119	LR	LR	21 44 28.6
	comp=Z,341nm,19.6s,baz=290,slow=31					
YBH	Yreka Blue Hor	22.42	119	P	P	21 37 53.7 +1.9
YBH				pmax	pmax	
	comp=Z,24nm,1.0s					
KMPM	Mount Pierce	22.76	123	IAmb	IAmb	21 37 59.2
	comp=Z,28nm,0.9s					
KMRM	Mail Ridge	23.10	123	P	P	21 38 01.1 +2.1
KMRM				IAmb	IAmb	21 38 01.7
	comp=Z,30nm,1.0s					
BILL	Bilibino	23.39	318	*ce*P	P	21 38 00.1 -1.4
BILL				*e*		21 38 23.4
BILL				pmax	pmax	
	comp=Z,14nm,1.3s					
BILL				MLR	MLR	
	comp=Z,629nm,17.0s					
O02D	Mt. Diablo Mer	23.58	121	P	P	21 38 04.4 +0.8
O02D				IAmb	IAmb	21 38 06.3
	comp=Z,22nm,1.0s					
MSO	Missoula	23.65	98	P	P	21 38 04.8 +0.5
MSO	Missoula	23.65	98	P	P	21 38 03.4 -1.0
	baz=306					
HATC	Hat Creek Radi	23.73	118	P	P	21 38 05.9 +0.7
WVOR	Wild Horse Val	23.97	112	P	P	21 38 08.3 +0.8
WVOR				IAmb	IAmb	21 38 09.8
	comp=Z,30nm,0.9s					
WVOR	Wild Horse Val	23.97	112	P	P	21 38 08.3 +0.8
WVOR				pmax	pmax	
	comp=Z,31nm,1.0s					
ORV	Oroville	24.68	120	P	P	21 38 13.7 -0.1
ORV				IAmb	IAmb	21 38 14.9
	comp=Z,14nm,0.8s					
ORV	Oroville	24.68	120	P	P	21 38 13.7 -0.1
ORV				pmax	pmax	
	comp=Z,14nm,0.9s					
MFID	Camas Ranch	24.78	107	IAmb	IAmb	21 38 17.6
	comp=Z,15nm,1.0s					
EGMT	Eagleton	25.31	92	P	P	21 38 18.5 -1.0
	baz=304					
AFDM	Forest Hills D	25.41	120	P	P	21 38 21.4 +1.0
AFDM				IAmb	IAmb	21 38 23.8
	comp=Z,15nm,1.2s					
HLID	Hailey	25.45	105	P	P	21 38 20.7 -0.2
	baz=312,SNR=11					
PAHR	Pah Rah Range	25.60	117	P	P	21 38 23.6 +1.2
PAHR	Pah Rah Range	25.60	117	IAmb	IAmb	21 38 24.3
	comp=Z,22nm,1.0s					
BOZ	Bozeman (W)	25.67	98	P	P	21 38 22.9 -0.1
	baz=308					
PNTR	Pine Nut	25.97	118	P	P	21 38 26.2 +0.5
PNTR				IAmb	IAmb	21 38 28.0
	comp=Z,26nm,0.8s					
BMN	Battle Mountai	26.16	113	P	P	21 38 27.2 -0.1
BMN	Battle Mountai	26.16	113	P	P	21 38 27.3 -0.1
BMN				pmax	pmax	
	comp=Z,17nm,1.4s					
YERR	Yerington	26.23	118	P	P	21 38 28.6 +0.5
YERR				IAmb	IAmb	21 38 30.1
	comp=Z,19nm,1.0s					
WAKR	Walker	26.50	119	IAmb	IAmb	21 38 32.4
	comp=Z,9.9nm,0.8s					
KVN	Kaiserville	26.75	116	IAmb	IAmb	21 38 34.9
	comp=Z,31nm,1.5s					
RYN	Ryan	26.86	118	P	P	21 38 34.0 +0.3
RYN				IAmb	IAmb	21 38 35.6
	comp=Z,12nm,0.9s					
RYN				PcP	PcP	21 41 56.1 +0.5
ELK	Elko	26.96	110	P	P	21 38 35.9 +1.2
ELK	Elko	26.96	110	P	P	21 38 35.9 +1.2
ELK				pmax	pmax	
	comp=Z,12nm,1.0s					
H17A	Grant Village	27.01	99	P	P	21 38 36.7 +1.5
	baz=310					
NVAR	Mina Array Bea	27.12	118	P	P	21 38 36.9 +0.8
NVAR				PcP	PcP	21 41 56.0 -0.2
NVAR	Mina Array Bea	27.12	118	P	P	21 38 37.1 +0.9
	comp=Z,10.0nm,0.7s,baz=306,slow=9.0,SNR=73					
NVAR				PcP	PcP	21 41 56.1 -0.1
	comp=Z,2.8nm,0.7s,baz=297,slow=2.5,SNR=12					
NVAR				LR	LR	21 47 36.4
	comp=Z,299nm,18.5s,baz=306,slow=32					
	comp=Z,10.0nm,0.7s					
IMW	Indian Meadow	27.13	100	P	P	21 38 36.9 +0.6
FLWY	Flagg Ranch	27.14	100	P	P	21 38 37.4 +1.1
LHV	Little Huntoon	27.16	118	IAmb	IAmb	21 38 38.8
	comp=Z,26nm,1.2s					
NV11	Mina Array Sit	27.19	117	IAmb	IAmb	21 38 38.8
	comp=Z,13nm,1.1s					
NV11				PcP	PcP	21 41 56.2 -0.1
BBGB	Big Mountain B	27.27	124	IAmb	IAmb	21 38 55.4
	comp=Z,19nm,1.0s					
RLMT	Red Lodge	27.28	97	P	P	21 38 37.8 +0.3
	baz=308					
MDPB	Devils Postpil	27.36	120	IAmb	IAmb	21 38 40.8
	comp=Z,18nm,1.1s					
OMMB	Old Mammoth Mi	27.42	120	IAmb	IAmb	21 38 41.4
	comp=Z,24nm,1.1s					
MLAC	Mammoth, Mammo	27.48	119	P	P	21 38 40.2 +0.8
	baz=322					
REDW	Red Top Meadow	27.52	101		PcP	21 41 57.8 +0.6
PMPB	Monarch Peak	27.68	124	IAmb	IAmb	21 38 48.0
	comp=Z,24nm,1.3s					
RES	Resolute Bay	27.73	28	LR	LR	21 50 30.7
	comp=Z,402nm,18.2s,baz=221,slow=38					
DSP	Deep Springs	28.11	119	P	P	21 38 46.3 +1.6
DSP	Deep Springs	28.11	119	IAmb	IAmb	21 38 47.5
	comp=Z,12nm,1.1s					
DSP				PcP	PcP	21 41 59.0 +0.6
TIN	Tinemaha, Big	28.23	119	P	P	21 38 47.1 +1.1
	baz=322					
Q12A	Willow Creek R	28.43	112	IAmb	IAmb	21 38 50.0
	comp=Z,16nm,1.0s					
R11B	Troy Canyon, C	28.55	114	IAmb	IAmb	21 38 50.8
	comp=Z,16nm,0.9s					
R11B				PcP	PcP	21 41 59.5 -0.2
R11B	Troy Canyon, C	28.55	114	P	P	21 38 49.8 +0.9
	baz=320,SNR=37					
BW06	Boulder Array	28.63	101	P	P	21 38 49.2 -0.4
	baz=312					
PDAR	Pinedale Array	28.63	101	P	P	21 38 49.5 -0.1
PDAR	Pinedale Array	28.63	101	P	P	21 38 49.8 +0.2
	comp=Z,3.6nm,0.7s,baz=311,slow=5.5,SNR=36					
PDAR				PcP	PcP	21 41 58.8 -1.2
	comp=Z,0.7nm,0.6s,baz=228,slow=1.1,SNR=4.6					
PDAR				LR	LR	21 49 23.9
	comp=Z,39nm,19.0s,baz=312,slow=34					
	comp=Z,3.6nm,0.7s					
DUG	Dugway, Tooele	28.64	108	PcP	PcP	21 42 00.1 +0.2
DUG	Dugway, Tooele	28.64	108	P	P	21 38 50.0 +0.4
	baz=316,SNR=5.8					
GRAC	Grapevine Rang	28.70	118	IAmb	IAmb	21 38 52.9
	comp=Z,23nm,1.1s					
GRAC	Grapevine Rang	28.70	118	P	P	21 38 51.1 +1.0
	baz=322,SNR=6.8					
SPR3	Spring Creek 3	28.71	112	P	P	21 38 52.7 +2.2
SPR3	Spring Creek 3	28.71	112	IAmb	IAmb	21 38 53.4
	comp=Z,18nm,1.1s					
SMMC	Simmler	28.79	124	P	P	21 38 50.7 -0.1
	baz=326					
CWC	Cottonwood Cre	28.79	120	P	P	21 38 51.7 +0.7
	baz=323					
SGV	South Grapevin	28.88	118	P	P	21 38 53.3 +1.5
S11A	Rachel	29.01	115	IAmb	IAmb	21 38 55.3
	comp=Z,20nm,0.8s					
NLU	North Lily Min	29.21	108	PcP	PcP	21 42 01.5 +0.1
ISA	Isabella, Lake	29.23	121	P	P	21 38 54.4 -0.4
	baz=324					
PKM	Mcpherson Peak	29.23	124	P	P	21 38 55.8 +0.9
	baz=326,SNR=6.2					
WCT	Wildcat Mounta	29.23	117	P	P	21 38 56.3 +1.5
WCT	Wildcat Mounta	29.23	117	IAmb	IAmb	21 38 57.1
	comp=Z,17nm,1.1s					
TPNV	Topopah Spring	29.30	117	P	P	21 38 56.6 +1.1
	baz=322,SNR=16					
FURC	Furnace Creek,	29.37	118	P	P	21 38 56.9 +1.0
	baz=322,SNR=7.8					
MPMC	Manual Prospec	29.39	120	P	P	21 38 57.0 +0.7
	baz=323,SNR=12					
SEY	Seymchan	29.42	308	*ce*P	P	21 38 55.8 -0.3
SEY				pmax	pmax	
	comp=Z,9.0nm,1.2s					
ARVC	Arvin	29.49	122	P	P	21 38 57.1 +0.1
	baz=325					
BSUT	Blindstream Ca	29.50	105	IAmb	IAmb	21 38 59.4
	comp=Z,12nm,0.9s					
SBC	Santa Barbara	29.64	124	P	P	21 38 59.3 +1.0
	baz=326					
GWY	Greenwater Val	29.69	118	IAmb	IAmb	21 39 00.5
	comp=Z,10nm,0.8s					
LRMC	Laurel Mtn Rad	29.76	120	P	P	21 39 00.4 +0.9
	baz=324,SNR=7.8					
TCRU	Three Creeks R	29.99	110	IAmb	IAmb	21 39 04.2
	comp=Z,12nm,0.8s					

SRU	San Rafael Swe	30.64	107		PcP	21 42 05.1	0.0
TUQ	Turquoise Moun	30.65	118	P	P	21 39 08.2	+0.8
	baz=323,SNR=7.3						
EUNU	Eureka	30.68	18	P	P	21 39 07.2	0.0
EUNU				IAmb	IAmb	21 39 22.1	
	comp=Z,12nm,0.8s						
SNCC	San Nicolas Is	30.72	125	P	P	21 39 07.4	-0.5
	baz=327						
BFSC	Mount Baldy Ra	30.77	122	P	P	21 39 08.7	+0.2
	baz=325,SNR=6.7						
RSSD	Black Hills	30.82	93	P	P	21 39 09.8	+0.8
RSSD				IAmb	IAmb	21 39 10.6	
	comp=Z,7.7nm,0.8s						
RSSD	Black Hills	30.82	93	P	P	21 39 09.3	+0.4
	baz=309						
RSSD	Black Hills	30.82	93	P	P	21 39 09.8	+0.8
RSSD				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HEC	Hector,Ludlow	30.93	119	P	P	21 39 10.6	+0.7
	baz=324,SNR=6.8						
PKCU	Pink Cliffs	30.93	111	IAmb	IAmb	21 39 12.7	
	comp=Z,25nm,1.4s						
O20A	White River Ci	31.15	103	P	P	21 39 12.1	+0.2
	baz=315,SNR=17						
MA2	Magadan	31.16	302	LR	LR	21 53 18.7	
	comp=Z,169nm,18.1s,baz=92,slow=39						
GMRC	Granite Mounta	31.30	119	P	P	21 39 13.2	0.0
	baz=324,SNR=5.7						
HMU	Henry Mountain	31.39	109	IAmb	IAmb	21 39 16.1	
	comp=Z,22nm,1.2s						
U15A	North Rim	31.71	113	PcP	PcP	21 42 08.7	+0.7
BELC	Belle Mtn. Jos	31.76	120	P	P	21 39 17.6	+0.3
	baz=324,SNR=6.2						
NEE2	Needles Airpor	31.83	117	P	P	21 39 19.0	+1.4
	baz=323						
ULM	Lac du Bonnet	31.85	78	P	P	21 39 18.3	+0.7
	comp=Z,2.8nm,0.8s,baz=274,slow=8.7,SNR=3.5						
ULM				LR	LR	21 51 55.9	
	comp=Z,331nm,19.4s,baz=309,slow=36						
	comp=Z,2.8nm,0.8s						
ULM	Lac du Bonnet	31.85	78	*i* P	P	21 39 16.6	-1.1
PFO	Pinyon Flats O	31.86	121	P	P	21 39 18.9	+0.9
PFO				IAmb	IAmb	21 39 19.8	
	comp=Z,15nm,1.4s						
PFO	Pinyon Flats O	31.86	121	P	P	21 39 18.0	-0.1
	baz=325						
PFO	Pinyon Flats O	31.86	121	LR	LR	21 50 42.1	
	comp=Z,205nm,18.1s,baz=346,slow=33						
PFO	Pinyon Flats O	31.86	121	P	P	21 39 18.9	+0.9
PFO				pmax	pmax		
	comp=Z,15nm,1.4s						
TPFO	Pinon Flats	31.86	121	P	P	21 39 18.3	+0.1
	baz=325						
N23A	Red Feather La	31.88	100	P	P	21 39 18.3	-0.1
	baz=313						
W13A	Hualapai Mount	31.93	116	IAmb	IAmb	21 39 21.2	
	comp=Z,14nm,1.1s						
IRM	Iron Mountain	32.05	119	P	P	21 39 20.2	+0.5
	baz=324,SNR=19						
BC3	Big Chuckawall	32.31	120	P	P	21 39 22.3	+0.3
	baz=324						
PDMCI	Parker Dam,Lak	32.43	117	P	P	21 39 23.9	+0.9
	baz=323						
MONP2	Monument Peak	32.47	122	P	P	21 39 24.3	+0.8
	baz=326						
SWSC	Sam W. Stewart	32.72	121	P	P	21 39 26.1	+0.6
	baz=325						
IKP	In-Ko-Pah, Jac	32.81	122	P	P	21 39 27.3	+0.9
	baz=326						
ISCO	Idaho Springs	32.82	101	P	P	21 39 27.1	+0.4
	baz=315						
WUAZ	Wupatki	32.89	113	IAmb	IAmb	21 39 29.5	
	comp=Z,18nm,0.9s						
WUAZ	Wupatki	32.89	113	P	P	21 39 28.2	+1.1
	baz=321,SNR=7.9						
YUH	Yuha Desert	32.90	121	IAmb	IAmb	21 39 29.2	
	comp=Z,11nm,1.1s						
AGMN	Agassiz Nation	32.91	81	P	P	21 39 27.0	0.0
	baz=304						
GLA	Glamis	33.10	120	IAmb	IAmb	21 39 30.9	
	comp=Z,20nm,1.1s						
GLA	Glamis	33.10	120	P	P	21 39 29.6	+0.8
	baz=325						
MVCO	Mesa Verde	33.12	107	IAmb	IAmb	21 39 30.4	
	comp=Z,7.0nm,0.7s						
MVCO	Mesa Verde	33.12	107	P	P	21 39 29.1	-0.1
	baz=318,SNR=6.3						
SUSD	Miller	33.47	89	P	P	21 39 32.1	+0.1
	baz=309						
S22A	4UR Ranch, Cre	33.63	105	P	P	21 39 34.3	+0.6
	baz=317,SNR=7.7						
Q24A	Divide	33.67	102	IAmb	IAmb	21 39 35.9	
	comp=Z,5.7nm,0.7s						
Q24A	Divide	33.67	102	P	P	21 39 34.2	+0.2
	baz=315						
X16A	Lo Mia Camp, P	33.71	114	IAmb	IAmb	21 39 37.1	
	comp=Z,15nm,0.9s						
X16A				PcP	PcP	21 42 14.1	+0.6
113A	Mohawk Valley,	33.85	119	IAmb	IAmb	21 39 37.2	
	comp=Z,11nm,1.0s						
OGNE	Ogallala	34.02	96	P	P	21 39 37.4	+0.6
	baz=313						
W18A	Petrified Fore	34.05	111	P	P	21 39 38.0	+0.7
	baz=321						
SDCO	Great Sand Dun	34.35	104	IAmb	IAmb	21 39 42.1	
	comp=Z,11nm,1.4s						
SDCO	Great Sand Dun	34.35	104	P	P	21 39 40.4	+0.4
	baz=317						
X18A	Snowflake	34.39	112	IAmb	IAmb	21 39 42.0	
	comp=Z,8.4nm,0.8s						
214A	Organ Pipe Nat	34.98	118	IAmb	IAmb	21 39 47.5	
	comp=Z,20nm,1.0s						
214A	Organ Pipe Nat	34.98	118	P	P	21 39 46.1	+1.0
	baz=325,SNR=11						
PIX	Pinacate	34.99	119	IAmb	IAmb	21 39 47.3	
	comp=Z,13nm,1.0s						
KSCO	Kaye Shedlock'	35.02	99	P	P	21 39 46.3	+0.7
	baz=315						
ECSD	EROS Data Cent	35.23	88	P	P	21 39 46.7	-0.4
	baz=310						
T25A	Trinidad	35.38	103	IAmb	IAmb	21 39 50.9	
	comp=Z,11nm,1.1s						
T25A	Trinidad	35.38	103	P	P	21 39 48.9	+0.1
	baz=317,SNR=5.9						
EYMN	Ely	35.52	78	P	P	21 39 50.5	+0.8
EYMN				IAmb	IAmb	21 39 53.9	
	comp=Z,11nm,1.1s						
EYMN	Ely	35.52	78	P	P	21 39 50.0	+0.3
	baz=306,SNR=5.2						
TUC	Tucson	35.71	115	P	P	21 39 52.6	+1.1
	baz=324						
TIXI	Tiksi	35.84	328	P	P	21 39 51.2	-0.8
ANMO	Albuquerque	35.91	108	P	P	21 39 54.3	+1.0
ANMO				PcP	PcP	21 42 20.5	+0.6
ANMO	Albuquerque	35.91	108	P	P	21 39 53.3	-0.1
	baz=320						
ANMO	Albuquerque	35.91	108	LR	LR	21 54 48.1	
	comp=Z,81nm,18.5s,baz=38,slow=36						
E38A	The Farm, Brul	36.27	80	IAmb	IAmb	21 39 59.4	
	comp=Z,14nm,1.2s						
SPMN	Marine on St.	36.42	83	P	P	21 39 57.2	-0.2
	baz=308						
CBKS	Cedar Bluff	36.77	97	P	P	21 40 00.6	+0.1
	baz=315						
RTBA	Rita Blanca	36.81	102	IAmb	IAmb	21 40 02.2	
	comp=Z,7.5nm,0.7s						
121A	Cookes Peak, D	37.08	112	IAmb	IAmb	21 40 05.4	
	comp=Z,11nm,1.0s						
121A	Cookes Peak, D	37.08	112	P	P	21 40 04.5	+1.2
	baz=322,SNR=6.3						
319A	Douglas	37.22	115	IAmb	IAmb	21 40 06.9	
	comp=Z,13nm,1.0s						
KSU1	Kansas State U	38.31	94	P	P	21 40 13.4	0.0
	baz=314						
AMTX	Amarillo	38.54	103	IAmb	IAmb	21 40 17.3	
	comp=Z,20nm,0.9s						
AMTX	Amarillo	38.54	103	P	P	21 40 15.4	-0.1
	baz=319						
FRB	Frobisher Bay	38.57	45	LR	LR	21 56 25.3	
	comp=Z,620nm,18.3s,baz=344,slow=37						
MSTX	Muleshoe	38.63	105	IAmb	IAmb	21 40 17.9	
	comp=Z,13nm,0.9s						
MSTX	Muleshoe	38.63	105	P	P	21 40 15.8	-0.5
	baz=320						
MNTX	Cornudas Mount	38.99	110	P	P	21 40 20.4	+1.2
	baz=322,SNR=15						
SMWD	Samnorwood	39.16	101	IAmb	IAmb	21 40 23.0	
	comp=Z,14nm,0.7s						
JFWS	Jewell Farm	39.31	84	P	P	21 40 21.3	-0.5
	baz=311						
L40A	Anamosa	39.33	86	IAmb	IAmb	21 40 22.4	
	comp=Z,12nm,0.7s						
YAK	Yakutsk	39.51	313	LR	LR	21 57 47.7	
	comp=Z,126nm,19.6s,baz=64,slow=38						
YAK	Yakutsk	39.51	313	*eP*	P	21 40 27.5	+4.4
YAK				*e**PP	pwP	21 40 35.1	-0.5
YAK				*e*		21 41 58.2	
YAK				*e*S	S	21 46 31.8	+8.4
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,24nm,2.1s						
YAK				pmax	pmax		
	comp=N,30nm,2.4s						
YAK				pmax	pmax		
	comp=E,11nm,2.5s						
YAK				smax	smax		
	comp=E,28nm,2.2s						
YAK				smax	smax		
	comp=N,23nm,2.7s						
YAK				MLR	MLR		
	comp=Z,136nm,22.0s						
YAK				MLR	MLR		
	comp=E,98nm,26.0s						
P38A	Dawn	39.67	90	IAmb	IAmb	21 40 25.8	
	comp=Z,18nm,0.9s						
DKNS	Dickens	39.87	104	PcP	PcP	21 42 31.7	-0.2
POST	Post	40.01	105	IAmb	IAmb	21 40 29.0	
	comp=Z,16nm,0.8s						
ODSA	Odessa	40.17	107	IAmb	IAmb	21 40 30.7	
	comp=Z,19nm,0.8s						
WMOK	Wichita Mounta	40.24	100	P	P	21 40 30.2	+0.6
WMOK				IAmb	IAmb	21 40 31.3	
	comp=Z,16nm,0.9s						
WMOK	Wichita Mounta	40.24	100	P	P	21 40 30.1	+0.6
	baz=318,SNR=18						
WMOK	Wichita Mounta	40.24	100	P	P	21 40 30.2	+0.6
WMOK				pmax	pmax		
	comp=Z,16nm,0.9s						
SN07	Snyder 07	40.32	104	IAmb	IAmb	21 40 31.8	
	comp=Z,21nm,1.4s						
OK052	Battle Ridge R	40.41	97	IAmb	IAmb	21 40 32.0	
	comp=Z,11nm,0.7s						
P40A	Paris	40.57	89	IAmb	IAmb	21 40 33.0	
	comp=Z,16nm,0.9s						
W35A	Tecumseh	40.99	98	IAmb	IAmb	21 40 36.9	
	comp=Z,15nm,0.9s						
TUL3	Leonard	41.04	96	P	P	21 40 35.5	-0.6
	baz=317						
SGCY	Sterling City	41.09	105	IAmb	IAmb	21 40 37.9	
	comp=Z,14nm,0.9s						
L44A	Lake County Fo	41.09	83	P	P	21 40 35.7	-0.8
	baz=312						
RLO	Rose Lookout	41.28	95	IAmb	IAmb	21 40 38.8	
	comp=Z,11nm,0.7s						
R40A	Maddies Statio	41.31	91	IAmb	IAmb	21 40 38.2	
	comp=Z,13nm,0.7s						
ABTX	Abilene, Hawle	41.35	103	IAmb	IAmb	21 40 40.0	
	comp=Z,18nm,1.1s						
ABTX	Abilene, Hawle	41.35	103	P	P	21 40 38.9	+0.1
	baz=320						
HDIL	Hopedale	41.41	86	P	P	21 40 38.9	-0.3
	baz=313						
TX31	Lajitas Ar. Si	41.76	110	IAmb	IAmb	21 40 44.5	
	comp=Z,16nm,1.2s						
TXAR	Lajitas Array	41.76	110	P	P	21 40 43.2	+1.0
	comp=Z,5.7nm,0.8s,baz=320,slow=6.3,SNR=56						
TXAR				PcP	PcP	21 42 37.6	-0.6
	comp=Z,2.6nm,0.8s,baz=257,slow=1.6,SNR=9.8						
TXAR				LR	LR	21 57 06.7	
	comp=Z,71nm,19.1s,baz=312,slow=35						
	comp=Z,5.7nm,0.8s						
PLPT	Palo Pinto	41.94	102	IAmb	IAmb	21 40 44.6	
	comp=Z,14nm,1.0s						
CCM	Cathedral Cave	42.05	90	P	P	21 40 43.8	-0.6
CCM	Cathedral Cave	42.05	90	P	P	21 40 43.3	-1.1
	baz=315						
CCM	Cathedral Cave	42.05	90	P	P	21 40 43.8	-0.6
CCM				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SAND	Sanderson	42.08	108	IAmb	IAmb	21 40 46.6	
	comp=Z,20nm,1.3s						
X37A	Clayton	42.24	97	IAmb	IAmb	21 40 47.5	
	comp=Z,14nm,0.8s						
FVM	French Village	42.56	90	IAmb	IAmb	21 40 49.0	
	comp=Z,10.0nm,0.8s						
LPIG	La Paz	42.74	122	LR	LR	21 56 13.1	
	comp=Z,99nm,19.5s,baz=18,slow=32						
WHTX	Lake Whitney,	43.03	102	P	P	21 40 52.6	+0.2
	baz=320						
FCAR	Ozark Folk Cen	43.10	93	IAmb	IAmb	21 40 52.5	
	comp=Z,14nm,1.0s						
SUMG	Summit	43.14	24	P	P	21 40 53.5	+0.2
SUMG				IAmb	IAmb	21 40 54.6	
	comp=Z,22nm,0.8s						
SUMG	Summit	43.14	24	P	P	21 40 53.5	+0.2
SUMG				pmax	pmax		
	comp=Z,22nm,0.8s						
P46A	Rosedale	43.22	85	IAmb	IAmb	21 40 54.8	
	comp=Z,11nm,0.8s						
SFJD	Kangerlussuaq	43.25	35	LR	LR	21 59 08.9	
	comp=Z,202nm,20.1s,baz=320,slow=36						
MIAR	Mount Ida	43.27	96	IAmb	IAmb	21 40 55.4	
	comp=Z,11nm,0.8s						
MIAR	Mount Ida	43.27	96	P	P	21 40 54.2	-0.1
	baz=318,SNR=8.1						
S44A	Carbondale	43.42	89	IAmb	IAmb	21 40 55.9	
	comp=Z,14nm,0.7s						
CGM3	Cape Girardeau	43.47	90	IAmb	IAmb	21 40 55.5	
	comp=Z,7.3nm,0.7s						
JKA	Kamikawa-asahi	43.53	284	P	P	21 40 56.8	+0.4
JKA				IAmb	IAmb	21 41 10.4	
	comp=Z,22nm,1.0s						
ASAJ	Asahikawa	43.54	284	LR	LR	21 59 41.2	
	comp=Z,67nm,19.2s,baz=20,slow=37						
ASAJ	Asahikawa	43.54	284	P	P	21 40 56.8	+0.4
ASAJ				pmax	pmax		
	comp=Z,23nm,1.0s						
DAG	Danmarks Havn	43.79	15	*i* P	P	21 40 57.0	-1.0
435B	Jarrell	43.89	103	P	P	21 41 00.1	+0.8
	baz=321						
O48B	Farmland	43.92	83	P	P	21 40 58.9	-0.6
	baz=314						
SCHQ	Schefferville	44.10	55	P	P	21 41 00.5	-0.3
	comp=Z,2.4nm,0.8s,baz=300,slow=10,SNR=4.0						
SCHQ				LR	LR	21 59 28.0	
	comp=Z,303nm,18.6s,baz=282,slow=36						
	comp=Z,2.4nm,0.8s						
SADO	Sadowa	44.20	74	LR	LR	21 59 09.8	
	comp=Z,146nm,18.6s,baz=312,slow=36						
ERM	Erimo	44.63	281	*i* P	P	21 41 03.4	-1.7
ERM				pmax	pmax		
	comp=Z,28nm,1.1s						
833A	Chaparral WMA,	44.83	107	IAmb	IAmb	21 41 08.7	
	comp=Z,15nm,1.0s						
833A	Chaparral WMA,	44.83	107	P	P	21 41 07.2	+0.3
	baz=323						
T47A	Sharon Grove	45.12	88	IAmb	IAmb	21 41 09.9	
	comp=Z,10nm,0.9s						
ACSO	Alum Creek Sta	45.15	81	P	P	21 41 09.0	-0.3
	baz=314						
ZEA	Zeya	45.24	304	*e*P	P	21 41 19.5	+10
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,100nm,12.0s						
WVT	Waverly	45.33	89	P	P	21 41 10.6	-0.2
WVT				IAmb	IAmb	21 41 11.6	
	comp=Z,8.2nm,0.8s						
WVT	Waverly	45.33	89	P	P	21 41 10.3	-0.5
	baz=316						
WVT	Waverly	45.33	89	P	P	21 41 10.6	-0.2
WVT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HKT	Hockley	45.49	102	P	P	21 41 13.9	+1.8
HKT				IAmb	IAmb	21 41 13.9	
	comp=Z,14nm,1.0s						
HKT	Hockley	45.49	102	*i* P	P	21 41 12.8	+0.8
HKT				pmax	pmax		
	comp=Z,32nm,1.6s						
M53A	WI Miller and	45.59	78	P	P	21 41 12.3	-0.5
	baz=313						
OXF	Oxford	45.62	92	P	P	21 41 12.8	-0.4
	baz=318						
SPITS	Spitsbergen Ar	45.70	4	P	P	21 41 12.8	-0.5
	comp=Z,9.6nm,0.9s,baz=346,slow=17,SNR=3.7						
SPITS				LR	LR	21 59 40.5	
	comp=Z,152nm,20.6s,baz=295,slow=35						
	comp=Z,9.6nm,0.9s						
R50A	Paris	45.76	84	IAmb	IAmb	21 41 14.8	
	comp=Z,12nm,0.8s						
KLR	Kul'dur	45.92	296	LR	LR	22 02 58.3	
	comp=Z,139nm,18.1s,baz=29,slow=39						
KLR	Kul'dur	45.92	296	*i* P	P	21 41 14.9	-0.4
KLR				pmax	pmax		
	comp=Z,8.0nm,1.3s						
PLAL	Pickwick Lake	46.03	91	IAmb	IAmb	21 41 17.1	
	comp=Z,14nm,0.8s						
P52A	Corning	46.03	81	P	P	21 41 15.9	-0.4
	baz=314						
O53A	New Philadelph	46.12	80	P	P	21 41 16.1	-0.9
	baz=314						
U49A	Red Boiling Sp	46.21	87	IAmb	IAmb	21 41 18.6	
	comp=Z,6.0nm,0.8s						
VBMS	Vicksburg	46.70	95	P	P	21 41 21.3	-0.3
	baz=319						
L56A	Greenwood	46.82	76	P	P	21 41 23.1	+0.6
L56A				IAmb	IAmb	21 41 25.1	
	comp=Z,6.5nm,0.8s						
MCWV	Mont Chateau	47.28	80	P	P	21 41 25.5	-0.7
	baz=315						
NCB	Newcomb	47.37	71	P	P	21 41 28.1	+1.3
HEH	HeiHe	47.39	300	*e*P	P	21 41 25.4	-1.4
HEH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TZTN	Tazewell	47.43	85	P	P	21 41 27.2	-0.2
	baz=316						
BINY	Binghamton	47.63	74	P	P	21 41 28.9	+0.1
	baz=314						
CPCT	Cooper Cave	47.68	87	IAmb	IAmb	21 41 29.9	
	comp=Z,7.8nm,0.8s						
V52A	Sevierville	47.91	86	IAmb	IAmb	21 41 31.6	
	comp=Z,6.1nm,0.7s						
TKL	Tuckaleechee C	47.95	86	LR	LR	22 01 36.5	
	comp=Z,251nm,19.4s,baz=333,slow=36						
LRAL	Lakeview Retre	48.06	91	IAmb	IAmb	21 41 32.7	
	comp=Z,4.9nm,0.8s						
LRAL	Lakeview Retre	48.06	91	P	P	21 41 32.3	+0.1
	baz=318						
NRIK	Noril'sk	48.28	337	P	P	21 41 33.6	+0.2
NRIK	Noril'sk	48.28	337	P	P	21 41 32.4	-1.1
	comp=Z,3.7nm,0.5s,baz=54,slow=1.1,SNR=6.3						
NRIK				LR	LR	22 04 47.9	
	comp=Z,377nm,19.8s,baz=357,slow=40						
	comp=Z,3.7nm,0.5s						
NRIK	Noril'sk	48.28	337	*i* P	P	21 41 31.7	-1.8
NRIK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LBNH	Lisbon	48.40	70	P	P	21 41 34.1	-0.6
	baz=313						
BLA	Blacksburg	48.70	82	P	P	21 41 36.5	-0.6
	baz=316						
H11N2	WAKE ISLAND Hy	48.78	240	T	T	22 33 03.4	
	baz=30,slow=74						
H11N3	WAKE ISLAND Hy	48.79	240	T	T	22 33 03.8	
	baz=30,slow=74						
H11N1	WAKE ISLAND Hy	48.80	240	T	T	22 33 09.9	
	baz=30						
PKME	Peaks-Kenny Pk	49.07	67	P	P	21 41 39.1	-0.7
	baz=313						
USRK	Ussuriysk Ar.	49.14	291	P	P	21 41 39.8	-0.6
	comp=Z,2.5nm,0.8s,baz=54,slow=9.5,SNR=4.2						
USRK				pP	pwP	21 41 55.0	+2.1
	comp=Z,2.8nm,0.9s,baz=348,slow=16,SNR=4.4						
	comp=Z,2.5nm,0.8s						
V55A	Taylorsville	49.23	84	IAmb	IAmb	21 41 43.1	
	comp=Z,15nm,1.2s						
BRAL	Brewton	49.43	93	P	P	21 41 43.4	+0.7
	baz=319						
152A	Waverly Hall	49.61	90	IAmb	IAmb	21 41 43.9	
	comp=Z,8.2nm,0.8s						
KMSC	Kings Mountain	49.68	85	P	P	21 41 44.3	-0.4
	baz=317						
GOGA	Godfrey	49.76	88	P	P	21 41 44.8	-0.5
	baz=318						
HODGE	Hodges	49.84	87	IAmb	IAmb	21 41 46.6	
	comp=Z,9.4nm,0.8s						
H11S1	WAKE ISLAND Hy	49.92	240	T	T	22 36 11.7	
	baz=29,slow=76,SNR=7.3						
H11S2	WAKE ISLAND Hy	49.94	239	T	T	22 36 13.5	
	baz=29,slow=76,SNR=6.3						
H11S3	WAKE ISLAND Hy	49.94	240	T	T	22 36 11.6	
	baz=29,slow=76,SNR=7.4						
JMIC	Jan Mayen	50.20	16	LR	LR	22 04 21.3	
	comp=Z,88nm,20.7s,baz=356,slow=38						
EMMW	East Machias	50.40	66		P	21 41 55.9	+6.0
LMN	Caledonia Moun	50.95	64	P	P	21 41 57.6	+3.5
TIGA	Tifton	51.17	90	P	P	21 41 54.8	-1.1
	baz=319						
MAJO	Matsushiro	51.20	280	P	P	21 41 56.2	+0.1
MJAR	Matsushiro Arr	51.20	280	P	P	21 41 55.3	-0.8
	comp=Z,1.4nm,0.6s,baz=44,slow=7.1,SNR=7.6						
MJAR				pP	pwP	21 42 09.2	+0.6
	comp=Z,5.0nm,1.0s,baz=26,slow=6.8,SNR=7.8						
	comp=Z,1.4nm,0.6s						
CNNC	Cliffs of the	51.53	82	P	P	21 41 58.9	+0.4
553A	Crawfordville	51.64	92	P	P	21 41 59.3	-0.2
CN2	Changchun	52.79	295	*e*P	P	21 42 07.0	-0.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BORG	Borgarnes	53.11	25	LR	LR	22 06 01.7	
	comp=Z,200nm,20.1s,baz=329,slow=38						
ARCES	ARCESS Array B	54.62	2	P	P	21 42 19.9	-0.9
	comp=Z,3.2nm,0.5s,baz=2.4,slow=8.1,SNR=38						
ARCES				pP	pwP	21 42 32.4	-1.1
	comp=Z,3.3nm,0.6s,baz=1.8,slow=6.7,SNR=8.3						
	comp=Z,3.2nm,0.5s						
KSRS	Korea Array	56.12	288	P	P	21 42 32.2	+0.1
	comp=Z,1.8nm,0.8s,baz=40,slow=6.9,SNR=6.1						
KSRS				pP	pwP	21 42 45.7	+1.0
	comp=Z,4.2nm,0.9s,baz=52,slow=6.2,SNR=8.6						
KSRS				LR	LR	22 05 16.2	
	comp=Z,29nm,21.5s,baz=180,slow=35						
	comp=Z,1.8nm,0.8s						
LVZ	Lovozero	56.29	358	P	P	21 42 32.1	-0.8
APA	Apatity	56.64	359	↓*i* P	P	21 42 33.8	-1.6
APA				*i*		21 43 33.9	
APA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
APA				MLR	MLR		
	comp=Z,300nm,20.0s						
ZAK	Zakamensk	58.08	314	*e*P	P	21 42 51.4	+5.5
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ULN	Ulaanbaatar	58.46	310	P	P	21 42 48.6	0.0
ULN				IAmb	IAmb	21 43 03.1	
	comp=Z,8.5nm,0.8s						
ULN	Ulaanbaatar	58.46	310	*i* P	P	21 42 47.4	-1.3
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	Songino Array	58.76	310	P	P	21 42 51.1	+0.4
SONM	Songino Array	58.76	310	P	P	21 42 51.1	+0.4
	comp=Z,4.8nm,0.8s,baz=46,slow=7.2,SNR=37						
SONM				pP	pwP	21 43 04.5	+1.2
	comp=Z,16nm,0.9s,baz=47,slow=7.4,SNR=26						
SONM				LR	LR	22 10 38.9	
	comp=Z,148nm,18.1s,baz=25,slow=39						
	comp=Z,4.8nm,0.8s						
SONM	Songino Array	58.76	310	P	P	21 42 51.2	+0.4
SONM				pmax	pm

comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,94nm,4.4s
HHC LR LR
comp=N,210nm,11.1s
HHC LR LR
comp=E,330nm,11.5s
HHC LR LR
comp=Z,370nm,11.4s
KEF Keuruu 61.99 3 *e*P **P 21 43 12.2 -0.2**
NC405 NORSAR Array S 62.18 10 P 21 43 18.2 +4.5
NC405 IAmb IAmb 21 43 27.1
comp=Z,7.2nm,0.8s
NB2 NORSAR Subarra 62.20 11 P **P 21 43 13.1 -0.8**
comp=Z,5.2nm,0.8s,baz=347,slow=6.9
NOA NORSAR Array B 62.20 11 P **P 21 43 13.2 -0.7**
comp=Z,4.3nm,0.8s,baz=349,slow=6.7,SNR=23
NOA LR LR 22 10 41.0
comp=Z,51nm,21.6s,baz=350,slow=36
comp=Z,4.3nm,0.8s
FIA1 FINESS Array S 62.75 3 P **P 21 43 17.5 0.0**
FINES FINESS Array B 62.75 3 P **P 21 43 17.1 -0.4**
comp=Z,8.8nm,0.7s,baz=5.6,slow=7.4,SNR=60
FINES pP **pwP 21 43 30.6 +0.5**
comp=Z,5.1nm,0.6s,baz=360,slow=7.5,SNR=8.0
FINES LR LR 22 11 41.2
comp=Z,38nm,19.4s,baz=359,slow=37
comp=Z,8.8nm,0.7s
VALR Valaam 62.89 360 *i*P **P 21 43 17.2 -1.2**
VALR pmax pmax
comp=Z,15nm,0.7s
HNS HongShan 62.99 297 ⇓P **P 21 43 20.0 +0.6**
HNS S **S 21 51 49.0 +1.1**
HNS LR LR
comp=N,160nm,12.5s
HNS LR LR
comp=E,99nm,11.4s
HNS LR LR
comp=Z,140nm,13.2s
RAF Rauma 63.02 5 *e*P **P 21 43 18.8 -0.4**
HFS Hagfors 63.34 9 P **P 21 43 20.7 -0.7**
comp=Z,2.2nm,0.6s,baz=2.9,slow=3.0,SNR=17
HFS pP **pwP 21 43 33.4 -0.7**
comp=Z,3.4nm,0.6s,baz=8.1,slow=2.1,SNR=5.9
HFS LR LR 22 12 57.1
comp=Z,58nm,19.1s,baz=344,slow=38
comp=Z,2.2nm,0.6s
MEF Metsahovi 63.93 4 *e*P **P 21 43 24.9 -0.4**
KIRV Kirov 64.70 349 LR LR 22 16 03.0
comp=Z,108nm,18.1s,baz=17,slow=40
KIRV Kirov 64.70 349 *i*P **P 21 43 28.9 -1.4**
ARBE Arbavere 64.76 3 *e*P **P 21 43 30.9 +0.2**
SVE Sverdlovsk 64.87 342 *e*P **P 21 43 31.4 -0.1**
SVE pmax pmax
comp=Z,18nm,0.7s
MTSE Matsula 65.41 4 *e*P **P 21 43 34.8 -0.1**
EKA Eskdalemuir Ar 65.56 20 P **P 21 43 35.5 -0.5**
comp=Z,3.4nm,0.8s,baz=339,slow=4.8,SNR=11
EKA pP **pwP 21 43 48.6 0.0**
comp=Z,6.6nm,0.8s,baz=324,slow=5.2,SNR=9.2
comp=Z,3.4nm,0.8s
ARU Arti 65.59 343 P **P 21 43 35.6 -0.6**
ARU Arti 65.59 343 LR LR 22 14 07.5
comp=Z,151nm,20.2s,baz=3.5,slow=38
ARU Arti 65.59 343 *d*P **P 21 43 34.3 -1.9**
ARU 21 44 05.0
ARU S **S 21 52 21.6 +2.1**
ARU SS **SS 21 56 30.8 -1.5**
ARU pmax pmax
comp=Z,4.0nm,0.8s
ARU MLR MLR
comp=Z,147nm,19.0s
ARU Arti 65.59 343 P **P 21 43 35.0 -1.2**
comp=Z,20nm,0.8s
VSU Vasula 65.75 2 *i*P **P 21 43 36.3 -0.9**
VSU pmax pmax
comp=Z,29nm,0.8s
KURK Kurchatov 66.40 329 P **P 21 43 41.2 -0.2**
KURK Kurchatov 66.40 329 *i*P **P 21 43 39.1 -2.3**
KURK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 66.45 335 P **P 21 43 41.7 -0.1**
BRVK Borovoye 66.45 335 P **P 21 43 41.7 -0.1**
BRVK pmax pmax
comp=Z,15nm,1.1s
BVAR Borovoye Array 66.46 335 P **P 21 43 41.5 -0.3**
comp=Z,2.5nm,0.8s,baz=25,slow=8.2,SNR=13
BVAR pP **pwP 21 43 54.7 +0.2**
comp=Z,9.2nm,0.8s,baz=22,slow=4.8,SNR=17
comp=Z,2.5nm,0.8s
KURBB Kurchatov Arra 66.50 329 P **P 21 43 41.9 -0.3**
comp=Z,1.5nm,0.7s,baz=32,slow=6.6,SNR=8.5
KURBB pP **pwP 21 43 55.4 +0.6**
comp=Z,7.9nm,0.7s,baz=32,slow=6.5,SNR=21
KURBB LR LR 22 15 27.7
comp=Z,189nm,21.9s,baz=170,slow=38
comp=Z,1.5nm,0.7s
JTS Las Juntas de 67.30 106 LR LR 22 16 32.3
comp=Z,54nm,18.8s,baz=305,slow=39
XAN Xi'an 68.51 299 *e*P **P 21 43 54.5 -0.7**
XAN pmax pmax
comp=Z,14nm,1.3s
PABE Paberze 68.63 4 *e*P **P 21 43 55.2 -0.2**
MK31 Makanchi Array 68.75 325 *i*P **P 21 43 56.3 -0.1**
MKAR Makanchi Array 68.75 325 P **P 21 43 56.4 -0.1**
MKAR Makanchi Array 68.75 325 P **P 21 43 56.2 -0.2**
comp=Z,1.2nm,0.6s,baz=33,slow=5.8,SNR=17
MKAR pP **pwP 21 44 09.0 -0.2**
comp=Z,7.9nm,0.6s,baz=36,slow=6.6,SNR=26
MKAR LR LR 22 19 07.2
comp=Z,126nm,18.6s,baz=40,slow=40
comp=Z,1.2nm,0.6s
MKAR Makanchi Array 68.75 325 P **P 21 43 56.4 -0.1**
MAKZ Makanchi 68.84 325 P **P 21 43 57.8 +0.8**
MAKZ Makanchi 68.84 325 P **P 21 43 57.8 +0.8**
MAKZ pmax pmax
comp=Z,17nm,0.8s
IIGN Ignalina 68.86 3 *e*P **P 21 43 57.3 +0.4**
OBN Obninsk 69.05 356 ⇑*e*P **P 21 43 55.3 -2.8**
OBN *e* 21 46 29.9
OBN *e*S **S 21 53 06.4 +5.3**
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,66nm,19.0s
WMQ Urumqi 69.49 320 *e*P **P 21 44 03.3 +2.2**
WMQ LR LR
comp=Z,91nm,17.1s
SUW Suwalki 70.09 5 *e*P **P 21 44 04.1 -0.4**
SUW Suwalki 70.09 5 *e*P **P 21 44 04.4 -0.1**
BELG Belogornoye 70.98 349 LR LR 22 19 32.9
comp=Z,131nm,18.2s,baz=50,slow=40
SJG San Juan 71.36 85 LR LR 22 15 27.5
comp=Z,25nm,19.9s,baz=148,slow=36
CLL Collm 71.97 12 IAmb IAmb 21 44 29.9
comp=Z,9.8nm,1.0s
CLL Collm 71.97 12 *i*P **P 21 44 15.9 0.0**
CLL *i*sP **pP 21 44 21.9 -0.8**
CLL *i*x x 21 44 28.9
comp=Z,9.0nm,1.0s
CLL *i*PcP **PcP 21 44 36.1 +1.6**
comp=Z,5.0nm,1.0s
CLL Collm 71.97 12 P **P 21 44 15.6 -0.3**
comp=Z,11nm,0.9s
ABKAR Akbulak array 72.23 340 P **P 21 44 17.5 -0.1**
ABKAR Akbulak array 72.23 340 IAmb IAmb 21 44 31.7
comp=Z,10nm,1.0s
BRG Berggiesshubel 72.50 11 *e*P **P 21 44 19.5 +0.4**
BRG Amp 21 44 20.3
comp=Z,2.9nm,0.9s
BRG Berggiesshubel 72.50 11 P P 21 44 25.7 +6.5
BRG Amp 21 44 26.5
comp=Z,7.0nm,1.0s
BRG Berggiesshubel 72.50 11 *e*P **P 21 44 19.5 +0.4**
BRG 21 44 25.6
BRG 21 44 32.7
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,0.9s
KSP Ksiaz 72.77 10 *e*P **P 21 44 21.5 +0.7**
KSP Ksiaz 72.77 10 P **P 21 44 20.7 0.0**
comp=Z,14nm,1.0s
RNPP9 Sopachiv 72.79 3 P **P 21 44 20.4 -0.4**
RNPP8 Varash 72.86 3 P **P 21 44 21.1 -0.2**
PVCC Panska Ves 72.91 11 *e*P **P 21 44 21.8 +0.2**
PVCC Panska Ves 72.91 11 *e*P **P 21 44 21.8 +0.2**
RNPP5 Staryi Chortor 72.97 3 P **P 21 44 21.8 -0.1**
DPC Dobruska-Polom 73.25 10 *e*P **P 21 44 24.6 +0.9**
DPC Dobruska-Polom 73.25 10 *e*P **P 21 44 24.6 +0.9**
DPC Dobruska-Polom 73.25 10 P **P 21 44 23.6 -0.1**
comp=Z,16nm,1.0s
MI28 Mi28,Pidlybu 73.32 2 P **P 21 44 23.4 -0.6**
PPT Papeete 73.37 180 LR LR 22 09 53.3
comp=Z,210nm,19.1s,baz=332,slow=30
PPT2 Papeete2 73.39 180 *e*LR LR 22 06 49.5
comp=Z,272nm,24.2s
PPT2 *e*LR LR 22 06 55.8
comp=Z,274nm,22.8s
AK21 Malin Array Si 73.49 1 P **P 21 44 24.4 -0.6**
AK23 Malin Array Si 73.51 1 P **P 21 44 24.2 -0.9**
AK22 Malin Array Si 73.51 1 P **P 21 44 24.2 -0.9**
AK20 Malin Array Si 73.53 1 P **P 21 44 24.3 -0.9**
AK03 Malin Array Si 73.55 1 P **P 21 44 24.4 -0.9**
AK18 Malin Array Si 73.55 1 P **P 21 44 24.4 -0.9**
AK19 Malin Array Si 73.55 1 P **P 21 44 24.4 -0.9**
AK04 Malin Array Si 73.55 1 P **P 21 44 24.4 -0.9**
AKASG Malin Array Be 73.57 1 P **P 21 44 24.8 -0.7**
comp=Z,5.2nm,0.7s,baz=1.2,slow=5.9,SNR=15
AKASG pP **pwP 21 44 38.5 +0.3**
comp=Z,5.9nm,0.6s,baz=359,slow=5.7,SNR=7.2
AKASG LR LR 22 16 31.8
comp=Z,53nm,21.9s,baz=9.5,slow=36
comp=Z,5.2nm,0.7s
AKBB Malin Array Si 73.57 1 *i*P **P 21 44 23.7 -1.8**
AKBB pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 73.57 1 P **P 21 44 23.7 -1.8**
KRLC Kraliky 73.57 9 *e*P **P 21 44 26.0 +0.4**
KRLC *e*pP **pP 21 44 32.4 +0.1**
KRLC Kraliky 73.57 9 *e*P **P 21 44 26.0 +0.4**
KRLC *e* 21 44 32.4
KIEV Kiev 73.58 1 ⇑P **P 21 44 24.9 -0.6**
KIEV Kiev 73.58 1 P **P 21 44 25.2 -0.3**
KIEV Kiev 73.58 1 P **P 21 44 25.2 -0.3**
KIEV pmax pmax
comp=Z,39nm,1.4s
KIEV Kiev 73.58 1 P **P 21 44 23.7 -1.8**
comp=Z,86nm,1.2s
AK01 Malin Array Si 73.58 1 P **P 21 44 24.7 -0.8**
AK11 Malin Array Si 73.59 1 P **P 21 44 24.7 -0.9**
AK02 Malin Array Si 73.61 1 P **P 21 44 24.9 -0.8**
AK12 Malin Array Si 73.63 1 P **P 21 44 24.9 -0.9**
AK08 Malin Array Si 73.64 1 P **P 21 44 25.0 -0.8**
AK14 Malin Array Si 73.64 1 P **P 21 44 25.0 -0.9**
AK05 Malin Array Si 73.65 1 P **P 21 44 25.1 -0.8**
AK09 Malin Array Si 73.66 1 P **P 21 44 25.1 -0.9**
AK13 Malin Array Si 73.66 1 P **P 21 44 25.1 -0.9**
OJC Ojcow 73.67 7 *e*P **P 21 44 26.4 +0.3**
OJC Ojcow 73.67 7 IAmb IAmb 21 44 41.3
comp=Z,17nm,1.5s
OJC Ojcow 73.67 7 P **P 21 44 25.3 -0.8**
comp=Z,7.2nm,0.8s
AK10 Malin Array Si 73.67 1 P **P 21 44 25.2 -0.9**
AK07 Malin Array Si 73.72 1 P **P 21 44 25.5 -0.8**
MI29 MI29, Kamyanyy 73.83 2 P **P 21 44 26.2 -0.8**
MORC Moravsky Berou 73.93 9 ⇓P **P 21 44 27.8 0.0**
MORC Moravsky Berou 73.93 9 IAmb IAmb 21 44 41.9
comp=Z,4.7nm,0.8s
MORC Moravsky Berou 73.93 9 *e*P **P 21 44 27.5 -0.2**
MORC Moravsky Berou 73.93 9 P **P 21 44 27.7 0.0**
KHC Kasperske Hory 74.18 12 IAmb IAmb 21 44 43.9
comp=Z,6.7nm,0.9s
KHC Kasperske Hory 74.18 12 *e*P **P 21 44 29.5 +0.4**
KHC *e*pP **pP 21 44 35.8 -0.1**
KHC *e*PCP **pwP 21 44 42.6 +0.7**
KHC Kasperske Hory 74.18 12 *e*P **P 21 44 29.5 +0.4**
KHC *e* 21 44 35.8
KHC *e* 21 44 42.6
KHC Kasperske Hory 74.18 12 P **P 21 44 28.3 -0.8**
comp=Z,8.6nm,1.9s
ECH Echery 74.21 16 IAmb IAmb 21 44 43.5
comp=Z,8.7nm,1.0s
VRAC Vranov 74.31 10 ⇓P **P 21 44 30.5 +0.6**
VRAC Vranov 74.31 10 *e*P **P 21 44 30.0 +0.1**
VRAC Vranov 74.31 10 LR LR 22 17 28.5
comp=Z,36nm,21.7s,baz=346,slow=36
VRAC Vranov 74.31 10 P **P 21 44 30.4 +0.6**
LUBAR Lubar, Ukraine 74.33 2 P **P 21 44 29.1 -0.8**
GERES GERESS Array B 74.47 12 P **P 21 44 30.8 -0.1**
GERES GERESS Array B 74.47 12 P **P 21 44 31.0 0.0**
comp=Z,1.3nm,0.6s,baz=345,slow=4.7,SNR=10
GERES pP **PcP 21 44 44.4 -1.0**
comp=Z,2.5nm,0.7s,baz=357,slow=5.3,SNR=11
GERES LR LR 22 20 35.3
comp=Z,29nm,19.0s,baz=352,slow=38
comp=Z,1.3nm,0.6s
GERES GERESS Array B 74.47 12 P **P 21 44 30.8 -0.1**
NIE Niedzica 74.50 7 *e*P **P 21 44 32.5 +1.5**
NIE Niedzica 74.50 7 P **P 21 44 31.8 +0.8**
comp=Z,4.6nm,1.1s
KRUC Moravsky 74.54 10 *e*P **P 21 44 30.8 -0.4**
CKRC Cesky Krumlov 74.57 11 *e*P **P 21 44 31.5 +0.1**
CKRC Cesky Krumlov 74.57 11 *e*P **P 21 44 31.5 +0.1**
LANS Liptovska Anna 74.71 8 *e*P **P 21 44 33.3 +1.1**
LANS *e* 21 44 40.1
LANS *e* 21 44 46.6
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS Liptovska Anna 74.71 8 *e*P **P 21 44 33.3 +1.1**
LANS *e* 21 44 40.1
LANS *e* 21 44 46.5
TARG Taragay, Kyrgy 74.72 325 IAmb IAmb 21 44 48.7
comp=Z,9.2nm,0.7s
JAVC Velka Javorina 74.86 9 *e*P **P 21 44 33.4 +0.3**
AAK Ala-Archa 74.91 328 LR LR 22 20 25.7
comp=Z,138nm,20.9s,baz=28,slow=38
AAK Ala-Archa 74.91 328 *i*P **P 21 44 30.9 -2.8**
AAK pmax pmax
comp=Z,7.0nm,0.9s
CRVS Cervenica-Dubn 75.09 6 *e*P **P 21 44 34.7 +0.3**
CRVS pmax pmax
comp=Z,23nm,1.9s
CRVS Cervenica-Dubn 75.09 6 *e*P **P 21 44 34.7 +0.3**
KOLS Kolonicke sedl 75.11 6 *e*P P 21 44 42.8 +8.3
KOLS *e* 21 44 49.7
MODS Modra-Piesok 75.30 9 *e*P P 21 44 42.9 +7.3
MODS *e* 21 44 49.7
VYHS Vyhne 75.31 8 *e*P **P 21 44 36.2 +0.5**
VYHS *e* 21 44 42.5
VYHS pmax pmax
comp=Z,7.0nm,1.5s
VYHS Vyhne 75.31 8 *e*P **P 21 44 36.2 +0.5**
VYHS *e* 21 44 42.5
MOA Molln 75.52 11 *i*pP **P 21 44 38.7 +1.8**
comp=Z,4.2nm,1.0s
MOA *i*PcP **pwP 21 44 49.4 -0.3**
comp=Z,4.0nm,1.2s
DAVA Damuels 75.52 14 *i*pP **P 21 44 38.8 +1.7**
comp=Z,2.2nm,0.7s
DAVA *i*PcP **PcP 21 44 49.9 -0.1**
comp=Z,7.2nm,1.3s
BIOA Bad Ischl, Aus 75.60 12 *i*P **P 21 44 37.7 +0.4**
comp=Z,2.3nm,0.6s
BIOA *i*PcP **PcP 21 44 50.4 +0.2**
comp=Z,7.2nm,1.0s
CONA Conrad Observa 75.61 10 *i*pP **P 21 44 38.1 +0.6**
comp=Z,6.0nm,1.6s
CONA *i*PcP **PcP 21 44 50.8 +0.6**
comp=Z,7.0nm,1.0s
KKAR Karatay Array 75.61 331 P **P 21 44 37.6 +0.1**
KKAR Karatay Array 75.61 331 P **P 21 44 37.6 +0.1**
KMPD K-Podol'skiy 75.66 3 P **P 21 44 36.1 -1.5**
WATA Walderalm 75.70 13 *i*P **P 21 44 38.3 +0.2**
comp=Z,2.2nm,0.5s
WATA *i*PcP **PcP 21 44 51.1 +0.3**
comp=Z,13nm,1.0s
LESA Schwarzleotal 75.75 13 *i*P **P 21 44 38.7 +0.4**
comp=Z,6.4nm,1.1s
LESA *i*PcP **PcP 21 44 51.7 +0.8**
comp=Z,6.4nm,1.1s
SQTA Sankt Quirin 75.77 14 *i*pP **P 21 44 39.2 +0.7**
comp=Z,4.2nm,0.8s,SNR=4.2
SQTA *i*PcP **PcP 21 44 51.7 +0.7**
comp=Z,13nm,0.9s
WTTA Wattenberg 75.78 13 *i*pP **P 21 44 39.0 +0.5**
comp=Z,5.1nm,0.8s
WTTA *i*PcP **PcP 21 44 52.1 +0.9**
comp=Z,12nm,0.9s
RONA Rosalia, Austr 75.88 10 *e*pP **P 21 44 39.7 +0.7**
comp=Z,1.5nm,0.6s
RONA *i*PcP **PcP 21 44 52.2 +0.8**
comp=Z,3.2nm,0.8s
FETA Feichten 75.90 14 *i*P **P 21 44 38.3 -1.0**
comp=Z,2.5nm,0.7s
FETA *i*PcP **PcP 21 44 52.8 +1.1**
comp=Z,6.4nm,0.9s
PSZ Piszkesteto 75.97 7 ⇓P **P 21 44 39.8 +0.2**
PSZ Piszkesteto 75.97 7 P **P 21 44 39.7 +0.2**
DAVOX Davos/Dischmat 76.02 15 LR LR 22 19 27.4
comp=Z,33nm,21.6s,baz=288,slow=37
SORM Soroca 76.13 2 ⇓P **P 21 44 40.4 +0.1**
SORM Soroca 76.13 2 P **P 21 44 40.3 +0.1**
SORM Soroca 76.13 2 P **P 21 44 39.6 -0.7**
comp=Z,18nm,1.0s
KBA Koelnbreinsper 76.17 12 *e*pP **P 21 44 41.6 +0.7**
comp=Z,12nm,1.1s,SNR=4.8
KBA *i*PcP **PcP 21 44 53.4 +0.6**
comp=Z,17nm,1.0s
TUE Stuetta 76.24 15 P **P 21 44 41.7 +0.4**
comp=Z,22nm,0.9s
ARSA Arzberg 76.25 11 *i*pP **P 21 44 41.9 +0.9**
comp=Z,2.2nm,0.8s
ARSA *i*PcP **PcP 21 44 53.5 +0.6**
comp=Z,5.1nm,1.0s
ABTA Abfaltersbach 76.40 13 *i*pP **P 21 44 43.2 +1.2**
comp=Z,1.9nm,0.8s
ABTA *i*PcP **pwP 21 44 54.8 +0.1**
comp=Z,5.9nm,1.2s
BUR08 Bucovina Ar. S 76.53 4 IAmb IAmb 21 45 00.6
comp=Z,5.3nm,1.0s
BURAR Bucovina Array 76.56 4 ⇑P **P 21 44 43.3 +0.3**
BURAR Bucovina Array 76.56 4 P **P 21 44 43.1 +0.2**
BURAR Bucovina Array 76.56 4 P **P 21 44 43.2 +0.3**
SOKA Soboth 76.76 11 *i*P **P 21 44 44.5 +0.4**
comp=Z,11nm,1.3s
SOKA *e*PcP **pwP 21 44 56.7 -0.1**
comp=Z,13nm,1.0s
OBKA Obir 76.87 11 *e*P **P 21 44 45.0 +0.3**
comp=Z,7.6nm,0.6s,SNR=15
OBKA *i*PcP **pwP 21 44 56.4 -1.0**
comp=Z,23nm,0.7s
BNI Bardonecchia 77.21 17 IAmb IAmb 21 45 02.0
comp=Z,6.2nm,1.0s
DRGR 77.27 6 ⇓P **P 21 44 46.2 -0.8**
DRGR 77.27 6 P **P 21 44 46.1 -0.8**
KSH Kashi 77.31 326 P P 21 44 56.6 +9.3
KSH sP pwP 21 45 03.8 +3.7
KSH pmax pmax
comp=Z,7.0nm,1.0s
RAR Rarotonga 77.51 190 LR LR 22 18 25.3
comp=Z,141nm,18.0s,baz=304,slow=35
MORH Mrgy, Hungar 77.56 9 ⇑P **P 21 44 48.5 0.0**
MORH Mrgy, Hungar 77.56 9 P **P 21 44 48.4 0.0**
comp=Z,7.2nm,1.3s
HNR Honiara 77.59 231 LR LR 22 11 45.2
comp=Z,1μm,20.4s,baz=72,slow=30
ROSC El Rosal 77.62 100 LR LR 22 23 55.9
comp=Z,34nm,18.2s,baz=96,slow=39
TESR Tescani 77.71 3 P **P 21 44 49.1 -0.2**
comp=Z,6.2nm,1.4s
BOSR Bodos 78.12 4 ⇑P **P 21 44 52.6 +1.0**
TURR Turia 78.15 3 ⇑P **P 21 44 52.1 +0.4**
GHRR 78.18 2 ⇑P **P 21 44 52.9 +1.0**
GHRR 78.18 2 P **P 21 44 50.5 -1.4**
PZH PanZhiHua 78.21 300 P **P 21 44 52.6 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.4s
SURR Surduc 78.27 6 ⇑P **P 21 44 52.1 -0.3**
VRI Vrincioaia 78.36 3 ⇓P **P 21 44 53.6 +0.6**
VRI Vrincioaia 78.36 3 P **P 21 44 53.5 +0.6**
COVR Voineasa-Covas 78.36 3 ⇑P **P 21 44 53.3 +0.4**
PLOR Plostina 78.37 3 ⇑P **P 21 44 53.5 +0.4**
PLOR Plostina 78.37 3 P **P 21 44 53.4 +0.4**
BZS Buzias 78.38 7 ⇓P **P 21 44 53.0 0.0**
BZS Buzias 78.38 7 P **P 21 44 52.9 0.0**
MSVF Nonsavu 78.52 212 P **P 21 44 54.9 +0.8**
MSVF Nonsavu 78.52 212 *i*P **P 21 44 52.6 -1.4**
MSVF pmax pmax
comp=Z,44nm,1.0s
GZR Gura Zlata 78.67 6 ⇑P **P 21 44 53.9 -0.8**
GZR Gura Zlata 78.67 6 P **P 21 44 53.8 -0.8**
FRGS Fruska Gora 78.71 8 P **P 21 44 54.7 -0.1**
comp=Z,9.4nm,0.9s
MLR Muntele Rosu 78.71 3 ⇑P **P 21 44 56.0 +1.0**
MLR Muntele Rosu 78.71 3 P **P 21 44 56.0 +1.0**
VOIR 78.73 4 ⇑P **P 21 44 54.3 -0.8**
VOIR 78.73 4 P **P 21 44 54.2 -0.8**
VOIR 78.73 4 P **P 21 44 54.1 -0.9**
comp=Z,4.1nm,1.6s
ARR Arges 78.78 4 ⇓P **P 21 44 56.4 +1.0**
CFR Carcaliu 79.08 2 ⇑P **P 21 44 56.0 -0.9**
CFR Carcaliu 79.08 2 P **P 21 44 55.9 -0.9**
TBI Tubuai 79.12 180 *e*LR LR 22 09 28.5
comp=Z,914nm,23.8s
HERR Herculane 79.16 6 ⇓P **P 21 44 56.6 -0.7**
MDVR Moldovita 79.21 7 ⇑P **P 21 44 57.5 -0.2**
TPGR Topolog 79.41 2 ⇑P **P 21 44 59.1 +0.4**
KVAR Kislovodsk Arr 79.81 351 LR LR 22 22 10.9
comp=Z,58nm,21.4s,baz=281,slow=37
KIV Kislovodsk 79.81 351 *e*P **P 21 44 58.7 -2.3**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,55nm,19.0s
KBZ Khabaz 80.02 351 P **P 21 45 02.9 +0.9**
comp=Z,1.5nm,0.8s,baz=1.1,slow=6.0,SNR=2.4
KBZ pP **pwP 21 45 16.2 +1.5**
comp=Z,4.7nm,0.8s,baz=346,slow=3.9,SNR=5.7
KBZ LR LR 22 23 30.7
comp=Z,65nm,20.2s,baz=8.0,slow=38
comp=Z,1.5nm,0.8s
KBZ Khabaz 80.02 351 *i*P **P 21 44 59.9 -2.0**
KBZ pmax pmax
comp=Z,8.0nm,1.1s
ESDC Sonseca Array 80.16 26 P **P 21 45 03.5 +0.6**
ESDC Sonseca Array 80.16 26 P **P 21 45 03.0 +0.1**
comp=Z,2.3nm,0.8s,baz=338,slow=5.4,SNR=22
ESDC pP **pwP 21 45 16.3 +0.6**
comp=Z,4.8nm,0.9s,baz=335,slow=5.5,SNR=16
ESDC LR LR 22 21 08.9
comp=Z,124nm,19.2s,baz=334,slow=36
comp=Z,2.3nm,0.8s
SIMJ Simiganj 80.17 331 P **P 21 45 07.2 +4.2**
BOVS Bovan 80.36 7 ⇑P **P 21 45 03.4 -0.4**
PDG Podgorica 81.37 9 ⇓P **P 21 45 08.8 -0.4**
GNI Garni 83.39 349 LR LR 22 28 03.9
comp=Z,68nm,18.0s,baz=18,slow=40
BR131 Keskin Array S 84.52 358 *i*P **P 21 45 27.1 +1.3**
BRTR Keskin Array B 84.52 358 P **P 21 45 26.1 +0.3**
comp=Z,0.5nm,0.5s,baz=1.9,slow=4.4,SNR=9.1
BRTR pP **pwP 21 45 39.6 +1.0**
comp=Z,3.8nm,0.8s,baz=4.6,slow=3.1,SNR=13
BRTR LR LR 22 25 06.8
comp=Z,35nm,20.9s,baz=16,slow=37
comp=Z,0.5nm,0.5s
ATAH Atahualpa 85.42 110 LR LR 22 22 24.8
comp=Z,43nm,19.0s,baz=351,slow=35
VAE Valguarnera 85.77 13 LR LR 22 26 10.4
comp=Z,68nm,20.7s,baz=314,slow=37
CMAR Chiang Mai Arr 86.37 298 P **P 21 45 33.7 -1.5**
CMAR Chiang Mai Arr 86.37 298 P **P 21 45 34.8 -0.3**
comp=Z,4.6nm,0.7s,baz=13,slow=4.8,SNR=28
CMAR pP **pwP 21 45 48.4 +0.4**
comp=Z,6.5nm,0.8s,baz=16,slow=5.1,SNR=12
comp=Z,4.6nm,0.7s
DZM Mont Dzumac 86.39 220 *e*LR LR 22 12 53.8
comp=Z,123nm,22.2s
MDT Midelt 86.47 29 LR LR 22 24 22.7
comp=Z,99nm,19.1s,baz=8.0,slow=36
KEST Kesra 86.74 17 P **P 21 45 36.8 0.0**
comp=Z,1.8nm,0.7s,baz=339,slow=8.6,SNR=1.7
KEST LR LR 22 26 26.6
comp=Z,63nm,20.5s,baz=264,slow=37
comp=Z,1.8nm,0.7s
MDP Montagnes des 89.51 82 LR LR 22 24 28.2
comp=Z,54nm,20.7s,baz=360,slow=34
RPN Rapa Nui 89.58 145 LR LR 22 17 28.6
comp=Z,71nm,18.1s,baz=280,slow=30
NNA Nana 90.31 111 LR LR 22 24 07.8
comp=Z,25nm,19.3s,baz=344,slow=34
MMAI Mount Meron Ar 91.16 356 LR LR 22 34 12.5

comp=Z,32nm,18.7s,baz=248,slow=40
URZ Urewera 98.23 206 LR LR 22 27 41.9
comp=Z,81nm,18.3s,baz=64,slow=33
LPAZ La Paz 98.51 106 LR LR 22 36 04.2
comp=Z,25nm,18.9s,baz=38,slow=38
WRA Warramunga Arr 99.01 248 P **Pdif 21 46 31.6 -1.8**
comp=Z,0.7nm,0.7s,baz=37,slow=5.7,SNR=9.0
comp=Z,0.7nm,0.7s
BBTS Babate 99.20 46 LR LR 22 29 26.5
comp=Z,43nm,18.8s,baz=142,slow=34
ASAR Alice Springs 102.32 246 P **Pdif 21 46 47.5 -0.6**
comp=Z,0.6nm,0.8s,baz=30,slow=6.4,SNR=2.5
QSPA South Pole Qui 145.88 180 PKPbc **PKPdf 21 52 29.7 -0.3**
comp=Z,25nm,0.7s,baz=43,slow=0.3,SNR=136
BOSA Boshof 152.26 10 PKPbc **PKPbc 21 52 47.5 -0.8**
comp=Z,9.6nm,0.8s,baz=14,slow=1.8,SNR=16

AFAD ***13*** *21:34:58.8±0.0, 37.°45N×27.°01E, h13km±2km, ML2.1*
ATH ***13*** *21:34:58.9, 37.°47N×27.°01E, h11km±1km, ML2.7/3, Error ellipse: s-maj=4.7km s-min=1.2km az=81.0*
ISK ***13*** *21:34:58.2, 37.°46N×27.°01E, h2km, ML2.2/23*
THE ***13*** *21:34:58.5, 37.°45N×26.°97E, h7km±2km, ML2.9/1, Error ellipse: s-maj=3.8km s-min=0.5km az=247.0*
ISC 13 21:34:58.5±0.9, 37.°47N±0.°02×27.°02E±0.°02, h11km±7km, n43, σ1§17/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDIM	**Aydin, Didim**	**0.18**	**95**	P	**Pg**	**21 34 57.9**	**-4.4**
DDIM				S	**Sg**	**21 35 06.4**	**+1.4**
DIDI	**Didim-Aydin**	**0.20**	**119**	Pg	**Pg**	**21 35 03.5**	**+0.8**
DIDI				Sg	**Sg**	**21 35 07.4**	**+1.7**
SMG	**Samos**	**0.28**	**328**	P	**Pg**	**21 35 04.5**	**+0.3**
SMG				S	**Sg**	**21 35 08.1**	**+0.1**
	4μm,0.2s						
SMG	**Samos**	**0.28**	**328**	P	**Pg**	**21 35 04.5**	**+0.3**
SMG				S	**Sg**	**21 35 08.1**	**+0.1**
SMG				AML	AML	21 35 09.7	
	comp=N,8574μm,0.3s						
SMG				AML	AML	21 35 09.9	
	comp=E,8312μm,0.2s						
GCAM	**G?zelcaml?**	**0.28**	**37**	Pg	**Pg**	**21 35 05.0**	**+0.8**
GCAM				Sg	**Sb**	**21 35 09.9**	**-0.3**
GCAM	**G?zelcaml?**	**0.28**	**37**	P	**Pn**	**21 35 08.4**	**-0.1**
GCAM				S	**Sb**	**21 35 10.1**	**-0.1**
BODT	**Bodrum**	**0.47**	**151**	Pg	**Pg**	**21 35 07.9**	**+0.2**
BODT				Sg	**Sb**	**21 35 15.3**	**-0.4**
BODT	**Bodrum**	**0.47**	**151**	P	**Pg**	**21 35 07.9**	**+0.2**
BODT				S	**Sb**	**21 35 15.0**	**-0.7**
KLNA	**Kalymnos**	**0.52**	**184**	P	**Pg**	**21 35 08.6**	**0.0**
KLNA				S	**Sg**	**21 35 15.3**	**0.0**
KLNA				AML	AML	21 35 18.1	
	comp=E,2688μm,0.2s						
KLNA				AML	AML	21 35 18.7	
	comp=N,1431μm,0.2s						
BDRM	**Kayabasi**	**0.53**	**140**	P	**Pg**	**21 35 09.1**	**+0.3**
BDRM				*i* AML	AML	21 35 17.0	
	comp=N,124nm,0.2s						
BDRM				S	**Sb**	**21 35 17.0**	**-0.3**
DGB	**zmir**	**0.59**	**349**	P	**Pb**	**21 35 10.9**	**+0.2**
DGB				S	**Sb**	**21 35 19.4**	**+0.4**
DGB				*i* AML	AML	21 35 22.0	
	comp=N,112nm,0.2s						
GMLD	**Gumuldur**	**0.61**	**352**	Pg	**Pb**	**21 35 11.5**	**+0.4**
MLSB	**Milas**	**0.63**	**106**	Pg	**Pg**	**21 35 10.7**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.84**	**55**	Pg	**Pg**	**21 35 14.9**	**+0.3**
YAZI	**Mula-Dat§a-**	**0.86**	**156**	P	**Pb**	**21 35 15.8**	**+0.4**
YAZI				S	**Sb**	**21 35 27.0**	**0.0**
DAT	**Datca**	**0.87**	**149**	Pg	**Pb**	**21 35 15.4**	**-0.1**
DAT	**Datca**	**0.87**	**149**	P	**Pb**	**21 35 15.6**	**0.0**
DAT				S	**Sb**	**21 35 27.7**	**+0.6**
DAT				*i* AML	AML	21 35 46.0	
	comp=N,54nm,2.0s						
DAT	**Datca**	**0.87**	**149**	P	**Pg**	**21 35 15.2**	**0.0**
DAT				S	**Sb**	**21 35 27.8**	**+0.6**
URLA	**Izmir**	**0.95**	**339**	Pg	**Pb**	**21 35 17.5**	**+0.6**
IZMR	**zmir-demi**	**0.99**	**48**	P	**Pb**	**21 35 18.8**	**+1.2**
MULA	**Mugla, Merkez-**	**1.06**	**101**	P	**Pb**	**21 35 19.2**	**+0.4**
MULA				S	**Sg**	**21 35 28.2**	**-4.4**
YER	**Yerkesik**	**1.06**	**108**	Pg	**Pg**	**21 35 18.9**	**0.0**
YER	**Yerkesik**	**1.06**	**108**	P	**Pg**	**21 35 18.8**	**-0.1**
ESEN	**Aydn-Nazilli**	**1.10**	**72**	P	**Pg**	**21 35 19.9**	**+0.2**
ESEN				S	**Sg**	**21 35 30.8**	**-3.2**
NAZL	**Nazilli-Aydin**	**1.12**	**64**	Pn	**Pn**	**21 35 21.4**	**+1.3**
ODEM	**Odemis-Izmir**	**1.16**	**46**	Pn	**Pn**	**21 35 21.9**	**+1.3**
CHOS	**Chios island**	**1.19**	**320**	Pn	**Pg**	**21 35 21.1**	**-0.3**
CHOS	**Chios island**	**1.19**	**320**	P	**Pg**	**21 35 21.0**	**-0.3**
CHOS				S	**Sg**	**21 35 36.6**	**-0.2**
CHOS				AML	AML	21 35 39.4	
	comp=E,295μm,0.3s						
CHOS				AML	AML	21 35 40.9	
	comp=N,232μm,0.3s						
TURN	**Turunc**	**1.20**	**125**	Pn	**Pn**	**21 35 21.8**	**+0.7**
TURN	**Turunc**	**1.20**	**125**	S	**Sb**	**21 35 37.8**	**+1.2**
APE	**Apeiranthos**	**1.26**	**252**	Pn	**Pn**	**21 35 22.8**	**+0.9**
APE	**Apeiranthos**	**1.26**	**252**	P	**Pg**	**21 35 21.1**	**-1.5**
APE				S	**Sg**	**21 35 38.1**	**-0.9**
DALY	**Dalyan (Mula)**	**1.46**	**116**	Pn	**Pg**	**21 35 26.4**	**-0.1**
ARG	**Arkhangelos**	**1.54**	**144**	Pn	**Pb**	**21 35 27.3**	**+0.4**
DKL	**Dikili**	**1.60**	**357**	Pn	**Pb**	**21 35 28.8**	**+0.9**
KULA	**Kula-Manisa**	**1.66**	**51**	Pn	**Pb**	**21 35 29.5**	**+0.4**
SOMA	**Soma-Manisa**	**1.73**	**13**	Pn	**Pb**	**21 35 30.7**	**+0.5**
APMY	**Acipayam-Deniz**	**1.81**	**89**	Pn	**Pb**	**21 35 31.6**	**-0.1**
FETY	**Fethiye**	**1.85**	**116**	Pn	**Pb**	**21 35 32.2**	**0.0**
FETY				Sn	**Sb**	**21 35 56.8**	**+1.4**
CAME	**Cameli-Denizli**	**1.90**	**106**	Pn	**Pn**	**21 35 32.7**	**+1.9**
SIGR	**SIGRI**	**1.96**	**333**	Pn	**Pb**	**21 35 33.7**	**-0.5**
SIGR	**SIGRI**	**1.96**	**333**	P	**Pn**	**21 35 31.2**	**-0.4**
SIGR				S	**Sn**	**21 35 54.4**	**-1.7**
DION	**Dionisos Attik**	**2.52**	**285**	P	**Pn**	**21 35 39.9**	**+0.6**

MEX ***13*** *21:48:18.5±0.9, 13.°78N×92.°50W, h16km±316km, MD4.1*
SNET ***13*** *21:48:19.2±1.4, 13.°88N×92.°72W, h35km±347km, ML3.7*
ISC 13 21:48:13.8±2.6, 13.°83N±0.°08×92.°58W±0.°08, h10km±14km, n12, σ1§57/22, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.12**	**16**	*e*P	**Pn**	**21 48 37.1**	**+1.5**
THIG				*e*S	**Sn**	**21 48 51.0**	**0.0**
CHUJ	**Union Juarez**	**1.34**	**20**	*e*P	**Pb**	**21 48 39.5**	**+0.3**
CHUJ				*e*S	**Sg**	**21 48 54.1**	**-2.9**
PAVE	**Pavencul**	**1.42**	**16**	*e*P	**Pb**	**21 48 40.6**	**+0.1**
PAVE				*e*S	**Sb**	**21 48 58.3**	**-0.4**
HUEH	**Huehuetenango**	**1.81**	**35**	*e*P	**Pg**	**21 48 49.0**	**+0.3**
HUEH				*e*S	**Sg**	**21 49 13.3**	**+1.1**
PCIG		**1.97**	**342**	*e*P	**Pn**	**21 48 48.0**	**+0.8**
PCIG				*e*S	**Sn**	**21 49 09.2**	**-2.7**
CCIG	**Comitan**	**2.48**	**10**	*e*P	**Pb**	**21 48 58.7**	**+0.1**
CCIG				*i* S	**Sb**	**21 49 28.2**	**-1.1**
NUBE	**Las Nubes**	**2.72**	**88**	*e*P	**Pb**	**21 49 02.2**	**-0.4**
NUBE				*e*S	**Sb**	**21 49 35.9**	**-0.4**
CEVE	**Cerro Verde**	**2.87**	**90**	*e*P	**Pb**	**21 49 06.8**	**+1.4**
CEVE				IAML		21 49 48.0	
	comp=Z,278nm,0.4s						
TGIG		**2.98**	**350**	*e*P	**Pn**	**21 49 03.5**	**+2.3**
TGIG				*i* S	**Sn**	**21 49 38.0**	**+0.9**
JAYA	**Jayaque - finc**	**3.05**	**93**	*e*P	**Pb**	**21 49 06.6**	**-1.7**
JAYA				*e*S	**Sb**	**21 49 44.4**	**-1.2**
JAYA				IAML		21 49 48.4	
	comp=Z,157nm,0.3s						
UXUV	**UXUV**	**3.79**	**337**	*e*P	**Pn**	**21 49 14.9**	**+2.7**
UXUV				*i* S	**Sn**	**21 49 55.3**	**-1.6**
CMIG	**Matias Romero**	**3.93**	**326**	*e*P	**Pn**	**21 49 14.3**	**0.0**
CMIG				*i* S	Sn	21 49 52.3	-8.2

BJI ***13*** *22:03:19.3±0.0, 24.°09N×126.°37E, h9km, mb4.4/48, mB4.6/19, Ms4.4/36, Ms7 4.2/37*
IDC ***13*** *22:03:20.4±0.8, 24.°18N×126.°30E, h0km, mb4.2/17, mbtmp4.2/20, ML3.3/3, MS3.6/17, Error ellipse: s-maj=22.4km s-min=16.0km az=92.0*
NEIC ***13*** *22:03:21.5±1.8, 24.°01N±0.°09×126.°35E±0.°07, h10km±1km, mb4.6/48, Error ellipse: s-maj=15.9km s-min=10.7km az=161.0*
JMA ***13*** *22:03:23.4±0.3, 24.°N±2.°×12.°6E±.°, h78km±5km, MD4.5/19, MV4.0/19, NEAR MIYAKOJIMA ISLAND*
NIED ***13*** *22:03:23.4, 24.°16N×126.°26E, h78km, MW4.4, Moment*

Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.96; $M_{\theta\theta}$-2.62; $M_{\phi\phi}$-0.35; $M_{r\theta}$1.24; $M_{\theta\phi}$-2.61; $M_{r\phi}$0.87; Fault plane solution: M_o3.95000×10^{15} NP1:ϕ_s56.00000°, δ56.00000°, λ88.00000°. NP2:ϕ_s238.00000°, δ34.00000°, λ92.00000°.
ISC 13 22:03:22.4±0.9, 24.°05N±0.°05×126.°33E±0.°04, h17km±4km, n153, σ1§70/157, mb4.5/47, MS3.7/24, 2C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.10**	**310**	P	**Pb**	**22 03 42.4**	**-0.6**
JOGS				*e*S	**Sb**	**22 03 55.9**	**-1.3**
JOGS	**Gusukube**	**1.10**	**310**	A	A	22 03 42.4	
	comp=E,27nm,4.8s,comp=N,38nm,0.9s						
JMJ2	**Miyako jima3**	**1.15**	**307**	P	**Pn**	**22 03 42.9**	**-0.8**
JMJ2				*e*S	**Sb**	**22 03 57.0**	**-1.3**
JMJ2	**Miyako jima3**	**1.15**	**307**	A	A	22 03 42.9	
	comp=E,30nm,1.5s,comp=N,30nm,2.1s						
JMJ	**Miyako jima 2**	**1.22**	**309**	P	**Pn**	**22 03 43.0**	**-1.6**
JIRB	**Irabujima**	**1.31**	**307**	P	**Pn**	**22 03 44.9**	**-1.1**
JIRB	**Irabujima**	**1.31**	**307**	A	A	22 03 44.9	
	comp=E,28nm,2.0s,comp=N,18nm,1.9s						
JIKM	**Ikemajima**	**1.32**	**312**	*e*P	**Pn**	**22 03 45.2**	**-0.8**
JIKM				S	**Sn**	**22 04 01.6**	**-1.6**
JIKM	**Ikemajima**	**1.32**	**312**	A	A	22 03 45.2	
	comp=E,23nm,1.6s,comp=N,26nm,2.0s						
JTJ	**Tarama**	**1.60**	**292**	P	**Pn**	**22 03 49.1**	**-0.8**
JTJ				*e*S	**Sn**	**22 04 07.8**	**-2.3**
JTJ	**Tarama**	**1.60**	**292**	A	A	22 03 49.1	
	comp=E,17nm,2.0s,comp=N,17nm,2.6s						
JISG	**Ishigakijimahi**	**1.92**	**287**	P	**Pn**	**22 03 53.3**	**-0.9**
JISG				S	**Sn**	**22 04 16.8**	**-1.3**
JISG	**Ishigakijimahi**	**1.92**	**287**	A	A	22 03 53.3	
	comp=E,11nm,0.7s,comp=N,8.0nm,1.5s						
JIJ	**Ishigaki jima**	**2.02**	**279**	P	**Pn**	**22 03 54.9**	**-0.8**
JIJ				*e*S	**Sn**	**22 04 18.8**	**-1.8**
JIJ	**Ishigaki jima**	**2.02**	**279**	A	A	22 03 54.9	
	comp=E,4.0nm,5.9s,comp=N,4.0nm,3.0s						
JKRS	**Kuro-shima**	**2.13**	**276**	P	**Pn**	**22 03 56.8**	**-0.3**
JKRS				*e*S	**Sn**	**22 04 21.9**	**-1.3**
JKRS	**Kuro-shima**	**2.13**	**276**	A	A	22 03 56.8	
	comp=E,19nm,4.5s,comp=N,16nm,2.3s						
JKE	**Kume jima 2**	**2.31**	**10**	P	**Pn**	**22 03 58.3**	**-1.3**
JKE				S	**Sn**	**22 04 24.7**	**-2.9**
HATJ	**Hateruma jima**	**2.31**	**271**	P	**Pn**	**22 03 59.1**	**-0.6**
HATJ				*e*S	**Sn**	**22 04 25.6**	**-2.1**
HATJ	**Hateruma jima**	**2.31**	**271**	A	A	22 03 59.1	
	comp=E,10.0nm,2.9s,comp=N,8.0nm,2.9s						
IRIF	**Iriomote-Funau**	**2.39**	**277**	P	**Pn**	**22 04 00.1**	**-0.6**
IRIF	**Iriomote-Funau**	**2.39**	**277**	A	A	22 04 00.1	
	comp=E,8.0nm,1.1s,comp=N,7.0nm,1.0s						
JJT3	**Tamagusuku3**	**2.47**	**32**	*e*S	**Sn**	**22 04 28.2**	**-3.5**
JJT3	**Tamagusuku3**	**2.47**	**32**	A	A	22 04 28.2	
	comp=E,8.0nm,2.8s,comp=N,8.0nm,2.9s						
JAGN	**Aguni-jima**	**2.66**	**18**	P	**Pn**	**22 04 05.2**	**+0.7**
JNTH	**Nagotoyohara**	**2.90**	**32**	P	**Pn**	**22 04 07.0**	**-0.8**
YOJ	**Yonaguni jima**	**3.06**	**278**	P	**Pn**	**22 04 09.4**	**-0.5**
YOJ	**Yonaguni jima**	**3.06**	**278**		**Pn**	**22 04 08.9**	**-1.1**
JYNG	**Yonagunijimaku**	**3.12**	**278**	P	**Pn**	**22 04 09.2**	**-1.5**
JYNG				*e*S	**Sn**	**22 04 44.4**	**-3.2**
JOW	**Kunigami**	**3.28**	**32**	Pn	**Pn**	**22 04 13.1**	**0.0**
JOW	**Kunigami**	**3.28**	**32**	Pn	**Pn**	**22 04 12.2**	**-0.9**
	comp=N,5.9nm,0.3s,baz=78,slow=23,SNR=5.3						
JOW				Sn	**Sn**	**22 04 49.8**	**-2.0**
	comp=N,23nm,0.3s,baz=217,slow=22,SNR=6.7						
	comp=N,25nm,0.3s						
JOW	**Kunigami**	**3.28**	**32**	P	**Pn**	**22 04 12.2**	**-0.9**
NACB	**Ninganchiao**	**4.33**	**273**	P	**Pn**	**22 04 25.8**	**-1.6**
NACB	**Ninganchiao**	**4.33**	**273**	Pn	**Pn**	**22 04 26.1**	**-1.4**
TATO	**Taipei**	**4.51**	**283**	P	**Pn**	**22 04 30.3**	**+0.4**
TATO	**Taipei**	**4.51**	**283**		**Pn**	**22 04 30.5**	**+0.6**
YHNB	**Yeheng**	**4.56**	**279**	P	**Pn**	**22 04 30.9**	**+0.2**
YHNB	**Yeheng**	**4.56**	**279**		**Pn**	**22 04 31.0**	**+0.3**
YULB	**Yu-li**	**4.66**	**263**	P	**Pn**	**22 04 30.0**	**-2.0**
YULB	**Yu-li**	**4.66**	**263**	Pn	**Pn**	**22 04 30.1**	**-2.0**
JMZ	**Minamidaito 2**	**4.78**	**67**	Pn	**Pn**	**22 04 32.0**	**-1.6**
SSLB	**Suanglung**	**4.93**	**268**	P	**Pn**	**22 04 35.0**	**-0.7**
SSLB	**Suanglung**	**4.93**	**268**	Pn	**Pn**	**22 04 34.3**	**-1.4**
TWGBT	**Beinan**	**4.98**	**257**	P	**Pn**	**22 04 35.1**	**-1.2**
TWG	**Pinlang**	**4.98**	**257**	Pn	**Pn**	**22 04 34.6**	**-1.9**
TPUB	**Ta-pu**	**5.28**	**263**	P	**Pn**	**22 04 39.8**	**-0.7**
TPUB	**Ta-pu**	**5.28**	**263**	Pn	**Pn**	**22 04 39.8**	**-0.7**
JNU	**Nakatsue**	**9.88**	**23**	Pn	**Pn**	**22 05 41.6**	**-2.1**
	comp=N,0.3nm,0.3s,baz=23,slow=23,SNR=4.9						
JNU				LR	LR	22 09 53.8	
	comp=N,336nm,20.0s,baz=209,slow=40						
	comp=N,3.4nm,0.7s						
KSRS	**Koa Array**	**13.44**	**5**	Pn	**Pn**	**22 06 30.9**	**-1.3**
	comp=N,0.2nm,0.3s,baz=176,slow=13,SNR=6.4						
	comp=N,1.5nm,0.9s						
TIA	**Tai'an**	**14.50**	**329**	P	**P**	**22 06 52.4**	**-1.0**
TIA				pmax	pmax		
	comp=Z,16nm,1.0s						
TIA				LR	LR		
	comp=N,690nm,11.2s						
TIA				LR	LR		
	comp=E,740nm,11.6s						
TIA				LR	LR		
	comp=Z,1μm,13.1s						
DL2	**Dalian**	**15.35**	**346**	P	**P**	**22 07 03.6**	**+0.9**
DL2				*e*S	**S**	**22 10 00.5**	**-3.4**
DL2				pmax	pmax		
	comp=Z,50nm,0.8s						
DL2				LR	LR		
	comp=N,690nm,14.0s						
DL2				LR	LR		
	comp=E,560nm,13.0s						
DL2				LR	LR		
	comp=Z,940nm,11.8s						
LYN	**LuoYang**	**15.98**	**314**	P	**P**	**22 07 10.6**	**+0.8**
LYN				sP	pwP	22 07 17.6	+1.1
LYN				pmax	pmax		
	comp=Z,81nm,0.8s						
LYN				pmax	pmax		
	comp=Z,210nm,7.1s						
LYN				LR	LR		
	comp=Z,1μm,11.9s						
LYN				LR	LR		
	comp=Z,890nm,12.4s						
LYN				LR	LR		
	comp=Z,2μm,13.4s						
MJAR	**Matsushiro Arr**	**16.12**	**37**	Pn	**P**	**22 07 13.9**	**+2.5**
	baz=230,slow=9.9,SNR=15						
QIZ	**Qiongzhong**	**16.13**	**255**	P	**Pn**	**22 07 07.4**	**-1.0**
QIZ				S	**Sn**	**22 10 07.8**	**+0.8**
QIZ				LR	LR		
	comp=Z,250nm,9.8s						
QIZ				LR	LR		
	comp=Z,280nm,9.2s						
QIZ				LR	LR		
	comp=Z,370nm,15.1s						
HNS	**HongShan**	**16.62**	**326**	⇑P	**P**	**22 07 15.8**	**-1.2**
HNS				pmax	pmax		
	comp=Z,17nm,1.1s						
HNS				LR	LR		
	comp=Z,750nm,12.3s						
HNS				LR	LR		
	comp=Z,530nm,12.2s						
HNS				LR	LR		
	comp=Z,770nm,11.4s						
DAV	**Davao City (W)**	**16.89**	**183**	LR	LR	22 13 38.0	
	comp=Z,68nm,20.9s,baz=8.0,slow=36						
BJT	**Baijiatuau**	**18.09**	**334**	P	**Pn**	**22 07 31.9**	**-0.9**
BJI	**Beijing**	**18.10**	**334**	P	**P**	**22 07 33.4**	**+0.1**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,79nm,5.8s						
BJI				LR	LR		
	comp=Z,300nm,10.8s						
BJI				LR	LR		
	comp=Z,240nm,10.7s						
BJI				LR	LR		
	comp=Z,290nm,10.4s						
XAN	**Xi'an**	**18.17**	**307**	P	**Pn**	**22 07 33.6**	**-0.3**
XAN				S	**Sn**	**22 10 57.9**	**+1.6**
XAN				pmax	pmax		
	comp=Z,15nm,0.8s						
XAN				pmax	pmax		
	comp=Z,260nm,6.1s						
XAN				LR	LR		
	comp=Z,590nm,11.8s						
XAN				LR	LR		
	comp=Z,1μm,13.3s						
XAN				LR	LR		
	comp=Z,2μm,13.1s						
CN2	**Changchun**	**19.72**	**358**	*e*P	**Pn**	**22 07 52.6**	**+0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GUMO	**Guam**	**20.37**	**117**	LR	LR	22 16 57.3	
	comp=Z,74nm,18.1s,baz=275,slow=40						
USRK	**Ussuriysk Ar.**	**20.63**	**12**	P	**P**	**22 08 01.7**	**+0.8**
	comp=Z,4.7nm,0.8s,baz=190,slow=9.7,SNR=8.5						
	comp=Z,4.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**20.83**	**327**	*e*P	**P**	**22 08 03.1**	**-0.2**
HHC				pP	pP	22 08 07.8	+0.2
HHC				pmax	pmax		
	comp=Z,27nm,0.9s						
HHC				pmax	pmax		
	comp=Z,95nm,4.0s						
HHC				LR	LR		
	comp=Z,300nm,10.3s						
HHC				LR	LR		
	comp=Z,330nm,11.8s						
HHC				LR	LR		
	comp=Z,490nm,10.7s						
CD2	**Chengdu**	**21.14**	**294**	P	**P**	**22 08 06.1**	**-0.5**
CD2				S	**S**	**22 12 03.3**	**+2.0**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				LR	LR		
	comp=Z,630nm,11.0s						
CD2				LR	LR		
	comp=Z,640nm,12.4s						
CD2				LR	LR		
	comp=Z,590nm,11.4s						
BTO	**Baotou**	**21.45**	**324**	*e*P	**P**	**22 08 10.8**	**+0.9**
BTO				pP	**sP**	**22 08 14.9**	**-1.5**
BTO				sP	**pwP**	**22 08 18.0**	**+1.2**
BTO				PP	**PnPn**	**22 08 34.9**	**+4.7**
BTO				S	**S**	**22 12 09.9**	**+2.6**
BTO				sS	**pS**	**22 12 17.1**	**+1.4**
BTO				SS	**SnSn**	**22 12 40.6**	**+10**
BTO				pmax	pmax		
	comp=Z,32nm,0.7s						
BTO				pmax	pmax		
	comp=Z,200nm,6.3s						
BTO				LR	LR		
	comp=Z,550nm,9.9s						
BTO				LR	LR		
	comp=Z,710nm,13.5s						
BTO				LR	LR		
	comp=Z,1μm,12.0s						
KMI	**Kunming**	**21.48**	**278**	⇑P	**P**	**22 08 12.4**	**+1.9**
KMI				S	**S**	**22 12 04.3**	**-4.0**
KMI				pmax	pmax		
	comp=Z,24nm,1.0s						
KMI				pmax	pmax		
	comp=Z,170nm,6.6s						
KMI				LR	LR		
	comp=Z,170nm,12.7s						
KMI				LR	LR		
	comp=Z,340nm,11.5s						
KMI				LR	LR		
	comp=Z,340nm,15.8s						
XLT	**XiLinHaoTe**	**21.52**	**339**	*e*P	**P**	**22 08 06.8**	**-3.8**
XLT				pP	pP	22 08 11.3	-3.7
XLT				sP	sP	22 08 14.8	-2.2
XLT				PP	**PnPn**	**22 08 32.4**	**+1.3**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PZH	**PanZhiHua**	**22.36**	**281**	P	**P**	**22 08 21.1**	**+1.2**
PZH				S	**S**	**22 12 27.3**	**+2.1**
PZH				pmax	pmax		
	comp=Z,30nm,1.1s						
PZH				pmax	pmax		
	comp=Z,90nm,3.5s						
PZH				LR	LR		
	comp=Z,280nm,15.1s						
PZH				LR	LR		
	comp=Z,330nm,14.8s						
PZH				LR	LR		
	comp=Z,350nm,12.2s						
LZH	**Lanzhou**	**22.80**	**307**	*e*P	**P**	**22 08 23.8**	**-0.7**
LZH				sP	pwP	22 08 32.4	+1.2
LZH				SS	**SnSn**	**22 13 11.5**	**+7.5**
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
LZH				LR	LR		
	comp=Z,480nm,14.1s						
LZH				LR	LR		
	comp=Z,510nm,14.4s						
LZH				LR	LR		
	comp=Z,610nm,14.8s						
TNCH	**TengChong**	**25.30**	**278**	*e*P	**P**	**22 08 49.1**	**+0.7**
TNCH				pP	pP	22 08 51.9	-1.1
TNCH				S	**S**	**22 13 09.0**	**-5.0**
TNCH				sS	pS	22 13 20.1	+0.8
TNCH				pmax	pmax		
	comp=Z,17nm,0.8s						
TNCH				pmax	pmax		
	comp=Z,120nm,3.8s						
TNCH				LR	LR		
	comp=Z,210nm,9.0s						
TNCH				LR	LR		
	comp=Z,340nm,9.6s						
TNCH				LR	LR		
	comp=Z,340nm,11.3s						
CMAR	**Chiang Mai Arr**	**26.10**	**263**	P	**P**	**22 08 56.5**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=63,slow=9.1,SNR=10						
CMAR				LR	LR	22 20 38.5	
	comp=Z,136nm,18.4s,baz=45,slow=40						
	comp=Z,2.0nm,0.8s						
GTA	**Gaotai**	**27.13**	**311**	P	**P**	**22 09 04.0**	**-0.8**
GTA				pP	pwP	22 09 12.3	+0.5
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				LR	LR		
	comp=Z,180nm,12.0s						
GTA				LR	LR		
	comp=Z,470nm,13.1s						
GTA				LR	LR		
	comp=Z,400nm,13.1s						
ULN	**Ulaanbaatar**	**28.28**	**332**	P	**P**	**22 09 13.4**	**-1.6**
SONM	**Songino Array**	**28.54**	**331**	P	**P**	**22 09 15.9**	**-1.3**
SONM	**Songino Array**	**28.54**	**331**	P	**P**	**22 09 16.2**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=147,slow=9.4,SNR=13						
SONM				LR	LR	22 19 59.1	
	comp=Z,109nm,20.1s,baz=12,slow=35						
	comp=Z,2.5nm,0.7s						
SHL	**Shillong**	**31.26**	**280**	P	**P**	**22 09 41.6**	**0.0**
WMQ	**Urumqi**	**37.21**	**312**	*e*P	**P**	**22 10 34.4**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
YAK	**Yakutsk**	**38.04**	**3**	P	**P**	**22 10 39.7**	**+0.2**
MK31	**Makanchi Array**	**41.76**	**314**	P	**P**	**22 11 10.6**	**-0.1**
MKAR	**Makanchi Array**	**41.76**	**314**	P	**P**	**22 11 10.6**	**-0.2**

Code	Station Name	Δ°	ΔZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**47.35**	**305**	P	**P**	**22 11 56.2**	**+0.6**
TIXI	**Tiksi**	**47.65**	**1**	LR	LR	22 32 48.2	
	comp=Z,48nm,19.3s,baz=198,slow=37						
CTA	**Charters Tower**	**47.97**	**154**	LR	LR	22 31 35.0	
	comp=Z,5.2nm,19.8s,baz=326,slow=35						
ASAR	**Alice Springs**	**47.99**	**171**	P	**P**	**22 12 02.2**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=356,slow=14,SNR=6.5						
	comp=Z,0.4nm,0.5s						
BTK	**Batken**	**48.93**	**303**	P	**P**	**22 12 08.5**	**+0.7**
BTK				IAmb	IAmb	22 12 32.2	
	comp=Z,4.5nm,0.9s						
GAR	**Garm**	**49.30**	**302**	P	**P**	**22 12 11.5**	**+0.8**
KK31	**Karatay Array**	**49.30**	**307**	P	**P**	**22 12 11.1**	**+0.5**
KKAR	**Karatay Array**	**49.30**	**307**	P	**P**	**22 12 10.9**	**+0.4**
KKAR	**Karatay Array**	**49.30**	**307**	P	**P**	**22 12 11.1**	**+0.5**
KKAR				IAmb	IAmb	22 12 12.7	
	comp=Z,3.1nm,0.8s						
CHGR	**Chuyangaron**	**50.20**	**301**	P	**P**	**22 12 17.9**	**+0.4**
SIMJ	**Simiganj**	**50.32**	**301**	P	**P**	**22 12 18.7**	**+0.2**
SIMJ				IAmb	IAmb	22 12 28.1	
	comp=Z,4.0nm,0.8s						
KBL	**Kabul**	**50.47**	**296**	P	**P**	**22 12 18.7**	**-1.0**
KBL				IAmb	IAmb	22 12 28.4	
	comp=Z,11nm,1.3s						
BVAR	**Borovoye Array**	**50.79**	**320**	P	**P**	**22 12 21.4**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=111,slow=9.9,SNR=9.1						
	comp=Z,1.9nm,0.6s						
NRIK	**Noril'sk**	**50.82**	**343**	P	**P**	**22 12 21.0**	**-0.6**
NRIK				IAmb	IAmb	22 12 22.7	
	comp=Z,12nm,1.1s						
NRIK	**Noril'sk**	**50.82**	**343**	P	**P**	**22 12 20.9**	**-0.6**
	comp=Z,6.3nm,0.9s,baz=124,slow=7.9,SNR=7.4						
	comp=Z,6.3nm,0.9s						
BRVK	**Borovoye**	**50.86**	**320**	P	**P**	**22 12 22.4**	**+0.3**
BRVK				IAmb	IAmb	22 12 23.5	
	comp=Z,6.3nm,0.9s						
ABKAR	**Akbulak array**	**56.91**	**314**	P	**P**	**22 13 06.2**	**-0.2**
ARU	**Arti**	**58.06**	**323**	P	**P**	**22 13 14.2**	**-0.2**
ARU	**Arti**	**58.06**	**323**	LR	LR	22 38 09.1	
	comp=Z,46nm,20.7s,baz=90,slow=36						
AKTO	**Aktyubinsk**	**58.16**	**316**	LR	LR	22 42 21.5	
	comp=Z,54nm,18.8s,baz=219,slow=40						
KIRV	**Kirov**	**63.03**	**325**	LR	LR	22 42 25.6	
	comp=Z,58nm,18.6s,baz=79,slow=37						
ILAR	**Eielson Array**	**67.17**	**28**	P	**P**	**22 14 16.0**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=262,slow=6.1,SNR=2.3						
	comp=Z,0.3nm,0.7s						
ONI	**Oni**	**69.09**	**308**	P	**P**	**22 14 28.7**	**+1.0**
KBZ	**Khabaz**	**69.21**	**310**	P	**P**	**22 14 29.4**	**+1.2**
	comp=Z,8.5nm,0.9s,baz=101,slow=3.0,SNR=16						
	comp=Z,8.5nm,0.9s						
KIV	**Kislovodsk**	**69.31**	**310**	P	**P**	**22 14 29.0**	**0.0**
E28M	**Babbage River**	**69.34**	**23**	P	**P**	**22 14 29.2**	**+0.5**
E28M				IAmb	IAmb	22 14 51.1	
	comp=Z,2.5nm,0.8s						
I28M	**Miner Creek**	**69.92**	**26**	P	**P**	**22 14 33.2**	**+0.8**
I28M				IAmb	IAmb	22 14 41.7	
	comp=Z,6.2nm,1.3s						
E29M	**Blow River**	**69.98**	**23**	P	**P**	**22 14 33.5**	**+1.0**
E29M				IAmb	IAmb	22 14 52.9	
	comp=Z,4.1nm,1.4s						
GURO	**Guroymak-BITLI**	**71.17**	**304**	P	**P**	**22 14 40.7**	**+0.1**
GURO				IAmb	IAmb	22 14 43.1	
	comp=Z,3.0nm,0.9s						
M29M	**Somme Creek**	**71.33**	**29**	P	**P**	**22 14 40.9**	**-0.1**
M29M				IAmb	IAmb	22 14 52.7	
	comp=Z,3.3nm,0.9s						
ARCES	**ARCESS Array B**	**71.40**	**339**	LR	LR	22 50 03.9	
	comp=Z,30nm,18.1s,baz=122,slow=39						
FINES	**FINESS Array B**	**73.91**	**331**	P	**P**	**22 14 56.3**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=88,slow=6.1,SNR=12						
	comp=Z,1.8nm,0.7s						
ARBE	**Arbavere**	**74.67**	**329**	*e*P	**P**	**22 15 00.7**	**0.0**
VAF	**Ylistaro**	**74.80**	**333**	*e*P	**P**	**22 15 01.8**	**+0.4**
MTSE	**Matsula**	**75.98**	**328**	*e*P	**P**	**22 15 09.0**	**+0.8**
RAF	**Rauma**	**76.00**	**331**	*e*P	**P**	**22 15 09.0**	**+0.7**
IIGN	**Ignalina**	**76.06**	**325**	*e*P	**P**	**22 15 09.3**	**+0.5**
AKASG	**Malin Array Be**	**76.07**	**319**	P	**P**	**22 15 08.8**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=57,slow=6.2,SNR=8.8						
AKASG				LR	LR	22 53 02.4	
	comp=Z,32nm,19.8s,baz=46,slow=39						
	comp=Z,2.3nm,0.7s						
BR131	**Keskin Array S**	**77.01**	**308**	P	**P**	**22 15 14.0**	**-0.6**
BR131				IAmb	IAmb	22 15 16.4	
	comp=Z,6.0nm,0.9s						
BRTR	**Keskin Array B**	**77.01**	**308**	P	**P**	**22 15 14.7**	**0.0**
BRTR	**Keskin Array B**	**77.01**	**308**	P	**P**	**22 15 15.6**	**+0.9**
	comp=Z,4.2nm,0.9s,baz=102,slow=5.3,SNR=19						
	comp=Z,4.2nm,0.9s						
ASF	**Jabal al Asfar**	**77.15**	**300**	LR	LR	22 55 48.7	
	comp=Z,97nm,21.2s,baz=16,slow=41						
PABE	**Paberze**	**77.18**	**325**	*e*P	**P**	**22 15 15.9**	**+0.8**
RES	**Resolute Bay**	**78.00**	**10**	LR	LR	22 52 28.6	
	comp=Z,30nm,19.1s,baz=36,slow=38						
PBUR	**Paburge**	**78.02**	**326**	*e*P	**P**	**22 15 20.4**	**+0.6**
SUW	**Suwalki**	**78.21**	**324**	P	**P**	**22 15 21.6**	**+0.7**
SUW	**Suwalki**	**78.21**	**324**	*e*P	**P**	**22 15 22.0**	**+1.1**
HFS	**Hagfors**	**79.94**	**332**	P	**P**	**22 15 30.5**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=45,slow=6.5,SNR=11						
HFS				LR	LR	22 54 08.9	
	comp=Z,49nm,20.6s,baz=32,slow=38						
	comp=Z,3.7nm,0.8s						
JMIC	**Jan Mayen**	**80.12**	**346**	LR	LR	22 55 40.6	
	comp=Z,26nm,18.3s,baz=217,slow=39						
NC405	**NORSAR Array S**	**80.25**	**333**	P	**P**	**22 15 32.2**	**+0.3**
NC405				IAmb	IAmb	22 15 33.4	
	comp=Z,6.9nm,0.8s						
NC303	**NORSAR Array S**	**80.33**	**334**	P	**P**	**22 15 31.8**	**-0.6**
NC303				IAmb	IAmb	22 15 33.8	
	comp=Z,6.2nm,0.9s						
NB201	**NORSAR Array S**	**80.46**	**333**	P	**P**	**22 15 33.3**	**+0.3**
NB201				IAmb	IAmb	22 15 40.7	
	comp=Z,9.6nm,1.2s						
NB2	**NORSAR Subarra**	**80.50**	**333**	P	**P**	**22 15 33.1**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=57,slow=5.3						
NOA	**NORSAR Array B**	**80.50**	**333**	P	**P**	**22 15 33.2**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=55,slow=5.5,SNR=18						
NOA				LR	LR	22 53 38.7	
	comp=Z,22nm,18.0s,baz=55,slow=38						
	comp=Z,3.3nm,0.8s						
NC602	**NORSAR Array S**	**80.53**	**333**	P	**P**	**22 15 33.4**	**0.0**
NC602				IAmb	IAmb	22 15 48.9	
	comp=Z,13nm,1.5s						
NC204	**NORSAR Array S**	**80.55**	**334**	P	**P**	**22 15 33.2**	**-0.4**
NC204				IAmb	IAmb	22 15 35.0	
	comp=Z,8.1nm,0.9s						
PSZ	**Piszkesteto**	**82.77**	**319**	P	**P**	**22 15 44.9**	**-0.8**
PSZ				IAmb	IAmb	22 16 11.1	
	comp=Z,3.1nm,0.8s						
CLL	**Collm**	**84.94**	**325**	P	**P**	**22 15 57.1**	**+0.6**
CLL				IAmb	IAmb	22 16 05.5	
	comp=Z,5.1nm,1.0s						
GERES	**GERESS Array B**	**85.88**	**322**	P	**P**	**22 16 01.4**	**-0.1**
LON	**Longmire**	**86.55**	**40**	P	**P**	**22 16 05.1**	**+0.3**
LON				IAmb	IAmb	22 16 09.8	
	comp=Z,6.8nm,1.4s						

IDC ***13*** *22:30:48.5±1.5,55°.25N×149°.04W,h0km,mb3.5/8, mbtmp3.6/12,ML3.7/4,MS3.3/5,Error ellipse: s-maj=38.4km s-min=20.7km az=43.0*

NEIC ***13*** *22:30:48.5±1.6,55°.34N±0°.09×149°.0W±0°.1,h7km±7km, ML3.8/34,ML3.8(AEIC),Error ellipse: s-maj=13.6km s-min=8.7km az=177.0*

AEIC ***13*** *22:30:53.9±1.9,55°.42N±0°.08×149°.1W±0°.1,h11km±2km, Error ellipse: s-maj=12.7km s-min=8.7km az=158.0*

ISC 13 22:30:50.2±0.9,55°.49N±0°.08×149°.12W±0°.06,h10km, n218,σ§17/214,mb3.7/8,MS3.1/3,Gulf of Alaska

Code	Station Name	Δ°	ΔZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.90**	**308**	P	**Pn**	**22 31 35.7**	**-0.7**
OHAK	**Old Harbor**	**2.90**	**308**	Pn	**Pn**	**22 31 35.8**	**-0.6**
OHAK	**Old Harbor**	**2.90**	**308**		**Sn**	**22 32 08.2**	**-3.0**
OHAK	**Old Harbor**	**2.90**	**308**	IAML		22 32 09.7	
	comp=E,127nm,0.5s						
OHAK				IAML		22 32 13.3	
	comp=N,151nm,0.6s						
OHAK	**Old Harbor**	**2.90**	**308**	P	**Pn**	**22 31 35.6**	**-0.8**
	baz=126						
OHAK				S	**Sn**	**22 32 08.2**	**-3.0**
	baz=126						
KDAK	**Kodiak Island**	**2.99**	**322**		**Pn**	**22 31 37.1**	**-0.6**
KDAK					**Sn**	**22 32 10.2**	**-3.3**
KDAK	**Kodiak Island**	**2.99**	**322**	Pn	**Pn**	**22 31 37.2**	**-0.4**
	comp=N,5.1nm,0.3s,baz=145,slow=4.6,SNR=93						
KDAK				Sn	**Sn**	**22 32 10.7**	**-2.8**
	comp=N,17nm,0.3s,baz=235,slow=21,SNR=7.7						
KDAK				LR	LR	22 32 58.8	
	comp=N,264nm,21.2s,baz=176,slow=41						
	comp=N,22nm,0.4s						
SII	**Sitkinak Islan**	**3.04**	**293**	P	**Pn**	**22 31 37.5**	**-0.9**
SII	**Sitkinak Islan**	**3.04**	**293**		**Sn**	**22 32 12.7**	**-2.1**
SII	**Sitkinak Islan**	**3.04**	**293**	Pn	**Pn**	**22 31 37.9**	**-0.4**
SII				IAML		22 32 19.8	
	comp=N,340nm,0.7s						
SII				IAML		22 32 20.0	
	comp=E,280nm,0.6s						
SII	**Sitkinak Islan**	**3.04**	**293**	P	**Pn**	**22 31 37.4**	**-1.0**
	baz=110						
SII				S	**Sn**	**22 32 12.7**	**-2.1**
	baz=110						
Q20K	**Shuyak Island**	**3.60**	**332**	P	**Pn**	**22 31 45.5**	**-0.5**
	baz=149						
Q20K				S	**Sn**	**22 32 26.3**	**-2.3**
	baz=149						
SYI	**Shuyak Island**	**3.60**	**332**		**Sn**	**22 32 26.3**	**-2.2**
SYI	**Shuyak Island**	**3.60**	**332**	Pn	**Pn**	**22 31 45.8**	**-0.2**
SYI				IAML		22 32 36.0	
	comp=N,113nm,0.9s						
R18K	**Karluk**	**3.61**	**307**		**Pn**	**22 31 46.2**	**+0.1**
R18K					**Sn**	**22 32 27.1**	**-1.7**
R18K	**Karluk**	**3.61**	**307**	IAML		22 32 31.9	
	comp=E,208nm,0.5s						
R18K				IAML		22 32 36.6	
	comp=N,278nm,0.5s						
R18K	**Karluk**	**3.61**	**307**	P	**Pn**	**22 31 46.2**	**+0.1**
	baz=124						
R18K				S	**Sn**	**22 32 27.1**	**-1.7**
	baz=124						
CHIR	**Chirikof Islan**	**3.70**	**278**	Pn	**Pn**	**22 31 46.2**	**-1.2**
CHIR				IAML		22 32 48.9	
	comp=N,88nm,1.4s						
CHIR				IAML		22 32 54.7	
	comp=E,97nm,1.3s						
CHIR	**Chirikof Islan**	**3.70**	**278**	P	**Pn**	**22 31 46.0**	**-1.4**
	baz=94						
CNPM	**China Poot**	**4.20**	**345**	Pn	**Pn**	**22 31 54.1**	**-0.2**
CNPM				IAML		22 32 48.5	
	comp=N,91nm,0.5s						
CNPM				IAML		22 32 50.7	
	comp=E,79nm,0.7s						
CNPM	**China Poot**	**4.20**	**345**		**Sn**	**22 32 40.5**	**-2.9**
Q23K	**Middleton Isla**	**4.22**	**20**	Pn	**Pn**	**22 31 53.5**	**-1.0**
Q23K				IAML		22 32 40.6	
	comp=E,137nm,0.3s						
Q23K				IAML		22 32 51.6	
	comp=N,86nm,0.5s						
Q23K	**Middleton Isla**	**4.22**	**20**	P	**Pn**	**22 31 53.0**	**-1.5**
	baz=201						
MID	**Middleton Isla**	**4.22**	**20**	P	**Pn**	**22 31 53.4**	**-1.1**
MID	**Middleton Isla**	**4.22**	**20**	Pn	**Pn**	**22 31 53.6**	**-1.0**
MID				IAML		22 32 40.6	
	comp=E,121nm,0.3s						
MID				IAML		22 32 51.2	
	comp=N,84nm,0.6s						
Q19K	**Cape Douglas,**	**4.23**	**326**		**Pn**	**22 31 55.6**	**+0.8**
BRSE	**Bradley Lake S**	**4.35**	**349**		**Pn**	**22 31 55.4**	**-0.9**
BRSE	**Bradley Lake S**	**4.35**	**349**	P	**Pn**	**22 31 55.4**	**-0.9**
	baz=168						
ACHA	**Angle Creek He**	**4.36**	**311**		**Pn**	**22 31 56.8**	**+0.2**
BRLK	**Bradley Lake**	**4.39**	**348**	Pn	**Pn**	**22 31 56.3**	**-0.6**
BRLK				IAML		22 32 50.1	
	comp=E,67nm,0.5s						
BRLK				IAML		22 32 51.0	
	comp=N,56nm,0.3s						
ANCK	**Angle Creek**	**4.43**	**310**		**Pn**	**22 31 57.9**	**+0.4**
KAHC	**Katmai Hardscr**	**4.51**	**317**		**Pn**	**22 31 59.2**	**+0.6**
Q18K	**Katmai Hardscr**	**4.51**	**317**	P	**Pn**	**22 31 59.2**	**+0.6**
	baz=132						
PLK4	**Peulik 4**	**4.54**	**301**		**Pn**	**22 31 59.4**	**+0.3**
R17L	**Mt. Peulik Vol**	**4.54**	**301**	P	**Pn**	**22 31 59.4**	**+0.4**
	baz=116						
P23K	**Montague Islan**	**4.61**	**11**	P	**Pn**	**22 31 59.2**	**-0.6**
	baz=192						
SEW	**Seward**	**4.63**	**358**		**Pn**	**22 32 00.2**	**+0.1**
SEW	**Seward**	**4.63**	**358**	P	**Pn**	**22 32 00.2**	**+0.1**
	baz=177						
Q17K	**Contact Creek**	**4.64**	**310**	P	**Pn**	**22 32 00.6**	**+0.2**
	baz=124						
P19K	**Oil Pt**	**4.72**	**334**	Pn	**Pn**	**22 32 01.4**	**-0.1**
KAIM	**Kayak Island**	**5.11**	**28**		**Pn**	**22 32 06.0**	**-0.8**
KAIM	**Kayak Island**	**5.11**	**28**	P	**Pn**	**22 32 06.0**	**-0.8**
	baz=211						
HIN	**Hinchinbrook I**	**5.11**	**15**		**Pn**	**22 32 06.4**	**-0.4**
P18K	**Big Mountain,**	**5.12**	**322**	Pn	**Pn**	**22 32 05.6**	**-1.3**
P18K				IAML		22 33 09.6	
	comp=N,32nm,0.6s						
CHGN	**Chignik**	**5.30**	**283**	Pn	**Pn**	**22 32 08.5**	**-0.8**
CHGN				IAML		22 33 33.7	
	comp=E,65nm,1.1s						
CHGN				IAML		22 35 32.8	
	comp=N,59nm,0.3s						
RSO	**Redoubt South**	**5.35**	**340**	Pn	**Pn**	**22 32 10.8**	**+0.6**
EYAK	**Cordova Ski Ar**	**5.38**	**18**	P	**Pn**	**22 32 10.0**	**-0.4**
EYAK	**Cordova Ski Ar**	**5.38**	**18**		**Pn**	**22 32 10.0**	**-0.4**
EYAK	**Cordova Ski Ar**	**5.38**	**18**	P	**Pn**	**22 32 10.0**	**-0.4**
	baz=200						
SUCK	**Suckling Hills**	**5.41**	**30**		**Pn**	**22 32 10.2**	**-0.6**
RAGM	**Ragged Mountai**	**5.45**	**24**		**Pn**	**22 32 11.3**	**-0.2**
FID	**Port Fidalgo**	**5.45**	**14**	Pn	**Pn**	**22 32 11.9**	**+0.5**
O18K	**Koktuh Hills**	**5.46**	**326**	Pn	**Pn**	**22 32 12.8**	**+1.2**
NICHA	**Nichawak Mount**	**5.49**	**28**		**Pn**	**22 32 11.3**	**-0.8**
HMT	**Hamilton**	**5.50**	**26**		**Pn**	**22 32 12.0**	**-0.2**
GLI	**Glacier Island**	**5.51**	**10**	Pn	**Pn**	**22 32 12.3**	**+0.1**
GLI	**Glacier Island**	**5.51**	**10**	P	**Pn**	**22 32 12.1**	**-0.1**
	baz=192						
GOAT	**Goat Mountain**	**5.61**	**23**		**Pn**	**22 32 13.3**	**-0.4**
RC01	**Rabbit Creek A**	**5.62**	**357**	Pn	**Pn**	**22 32 14.9**	**+1.1**
GRIN	**Grindle Hills**	**5.71**	**30**		**Pn**	**22 32 14.6**	**-0.4**
SNH	**Sunshine Point**	**5.77**	**33**		**Pn**	**22 32 15.8**	**-0.1**
KHIT	**Khitrov Hills**	**5.86**	**30**		**Pn**	**22 32 16.1**	**-1.0**
SPU	**Mount Spurr**	**5.91**	**346**	Pn	**Pn**	**22 32 18.7**	**+0.9**
KNK	**Knik Glacier**	**5.95**	**3**	Pn	**Pn**	**22 32 19.2**	**+0.9**
WAX	**Waxell Ridge**	**5.98**	**31**		**Pn**	**22 32 18.0**	**-0.8**
BMRM	**Bremner River**	**5.98**	**22**		**Pn**	**22 32 18.4**	**-0.4**
BMRM	**Bremner River**	**5.98**	**22**	P	**Pn**	**22 32 18.4**	**-0.4**
	baz=205						
CNBA	**Chernabura Isl**	**6.04**	**268**	Pn	**Pn**	**22 32 17.4**	**-2.2**
N19K	**Bonanza Creek**	**6.04**	**334**		**Pn**	**22 32 20.1**	**+0.4**
SUA	**Susitna One**	**6.05**	**353**	Pn	**Pn**	**22 32 20.7**	**+1.0**
MESA	**MESA**	**6.06**	**36**		**Pn**	**22 32 19.4**	**-0.5**
MESA	**MESA**	**6.06**	**36**	P	**Pn**	**22 32 19.5**	**-0.5**
	baz=222						
CRQM	**Cirque**	**6.15**	**28**		**Pn**	**22 32 20.9**	**-0.4**
CRQE	**Cirque**	**6.16**	**29**	P	**Pn**	**22 32 20.8**	**-0.5**
	baz=213						
TGL	**Tana Glacier**	**6.24**	**30**		**Pn**	**22 32 21.6**	**-0.8**
KLU	**Klutina**	**6.25**	**14**		**Pn**	**22 32 22.5**	**+0.1**
KLU	**Klutina**	**6.25**	**14**	P	**Pn**	**22 32 22.5**	**+0.1**
	baz=196						
ISLE	**Juniper Island**	**6.26**	**32**		**Pn**	**22 32 22.1**	**-0.5**
GHO	**Glory Hole Cre**	**6.30**	**1**		**Pn**	**22 32 23.8**	**+0.6**
N18K	**Kilae Creek**	**6.32**	**328**		**Pn**	**22 32 23.2**	**-0.1**
O16K	**Kokwok River B**	**6.34**	**314**	Pn	**Pn**	**22 32 24.2**	**+0.5**
SML	**Sawmill**	**6.35**	**3**		**Pn**	**22 32 24.5**	**+0.7**
SCM	**Sheep Creek Mo**	**6.43**	**8**		**Pn**	**22 32 25.7**	**+0.8**
SAMH	**Samovar Hills**	**6.43**	**40**		**Pn**	**22 32 24.8**	**-0.3**
SDPT	**Sand Point**	**6.47**	**273**	P	**Pn**	**22 32 24.0**	**-1.4**
VRDI	**Verde Repeater**	**6.47**	**25**		**Pn**	**22 32 25.0**	**-0.7**
TABL	**Table Mountain**	**6.52**	**37**		**Pn**	**22 32 26.1**	**-0.2**
GRNC	**Granite Creek**	**6.54**	**34**		**Pn**	**22 32 26.0**	**-0.6**
N25K	**Chitina, Valde**	**6.57**	**19**	P	**Pn**	**22 32 26.9**	**0.0**
	baz=203						
SVW2	**Sparrevohn**	**6.57**	**331**	Pn	**Pn**	**22 32 27.8**	**+1.0**
BALM	**Baldy**	**6.60**	**30**		**Pn**	**22 32 26.9**	**-0.5**
PCA	**Pinnacle**	**6.61**	**42**		**Pn**	**22 32 26.8**	**-0.7**
PINM	**Pinnacle**	**6.61**	**42**	P	**Pn**	**22 32 26.8**	**-0.7**
	baz=229						
N17K	**Nushagak Hills**	**6.62**	**323**	Pn	**Pn**	**22 32 27.3**	**-0.2**
SKT	**Skwentna**	**6.63**	**350**	Pn	**Pn**	**22 32 28.8**	**+1.2**
PNL	**Peninsula**	**6.69**	**47**	P	**Pn**	**22 32 28.5**	**0.0**
PNL	**Peninsula**	**6.69**	**47**		**Pn**	**22 32 28.0**	**-0.5**
PNL	**Peninsula**	**6.69**	**47**	P	**Pn**	**22 32 28.0**	**-0.5**
	baz=235						
PTPK	**Patty Peak**	**6.70**	**29**		**Pn**	**22 32 28.4**	**-0.3**
MCARA	**McCarthy VSAT**	**6.71**	**26**		**Pn**	**22 32 29.3**	**+0.5**
MCARA	**McCarthy VSAT**	**6.71**	**26**	P	**Pn**	**22 32 29.3**	**+0.5**
	baz=211						
M20K	**Styx River**	**6.74**	**344**	Pn	**Pn**	**22 32 29.4**	**+0.2**
BCPM	**Bancas Point**	**6.76**	**45**		**Pn**	**22 32 29.1**	**-0.4**
M24K	**Tolsona, Glenn**	**6.81**	**12**		**Pn**	**22 32 31.4**	**+1.3**
CTG	**Chitna Glacier**	**6.85**	**34**	P	**Pn**	**22 32 30.6**	**-0.1**
	baz=220						
O15K	**Ungalikthiuk R**	**6.87**	**307**		**Pn**	**22 32 31.3**	**+0.4**
O15K	**Ungalikthiuk R**	**6.87**	**307**	P	**Pn**	**22 32 31.3**	**+0.4**
	baz=118						
M18K	**Stony River**	**6.96**	**332**	P	**Pn**	**22 32 31.7**	**-0.5**
	baz=147						
WAT6	**Susitna Watana**	**7.14**	**5**		**Pn**	**22 32 35.5**	**+0.7**
WAT6	**Susitna Watana**	**7.14**	**5**	P	**Pn**	**22 32 35.5**	**+0.7**
	baz=186						
L19K	**White Mountain**	**7.34**	**338**		**Pn**	**22 32 38.3**	**+1.0**
M17K	**Holitna River**	**7.35**	**327**		**Pn**	**22 32 37.6**	**0.0**
M17K	**Holitna River**	**7.35**	**327**	P	**Pn**	**22 32 37.6**	**0.0**
	baz=140						
WAT7	**Susitna Watana**	**7.37**	**1**		**Pn**	**22 32 38.3**	**+0.5**
P29M	**Windy Craggy**	**7.39**	**51**		**Pn**	**22 32 37.4**	**-0.7**
P29M	**Windy Craggy**	**7.39**	**51**	P	**Pn**	**22 32 37.4**	**-0.7**
	baz=240						
O29M	**Mount Kennedy**	**7.40**	**45**		**Pn**	**22 32 38.0**	**-0.3**
O29M	**Mount Kennedy**	**7.40**	**45**	P	**Pn**	**22 32 38.0**	**-0.3**
	baz=233						
N15K	**Kwethluk River**	**7.50**	**313**		**Pn**	**22 32 40.4**	**+0.9**
N15K	**Kwethluk River**	**7.50**	**313**	P	**Pn**	**22 32 40.4**	**+0.9**
	baz=124						
S31K	**Pelican**	**7.51**	**65**	Pn	**Pn**	**22 32 37.4**	**-2.2**
O14K	**Tigyukauivet M**	**7.57**	**305**	Pn	**Pn**	**22 32 41.9**	**+1.4**
M16K	**Timber Creek**	**7.59**	**321**		**Pn**	**22 32 41.7**	**+0.9**
M16K	**Timber Creek**	**7.59**	**321**	P	**Pn**	**22 32 42.0**	**+1.2**
	baz=133						
DHY	**Denali Highway**	**7.66**	**6**		**Pn**	**22 32 42.9**	**+1.0**
DHY	**Denali Highway**	**7.66**	**6**	P	**Pn**	**22 32 42.2**	**+0.4**
	baz=187						
PAX	**Paxson**	**7.73**	**12**		**Pn**	**22 32 43.1**	**+0.4**
PAX	**Paxson**	**7.73**	**12**	P	**Pn**	**22 32 43.1**	**+0.4**
	baz=195						
L18K	**Granite Mounta**	**7.80**	**333**	Pn	**Pn**	**22 32 44.2**	**+0.5**
M27K	**Edge Creek, AK**	**7.83**	**26**		**Pn**	**22 32 44.1**	**-0.1**
M27K	**Edge Creek, AK**	**7.83**	**26**	P	**Pn**	**22 32 44.1**	**-0.1**
	baz=211						
SIT	**Sitka**	**7.84**	**73**	Pn	**Pn**	**22 32 40.0**	**-4.2**
PLBC	**Pleasant Camp**	**7.93**	**55**		**Pn**	**22 32 44.2**	**-1.3**
PLBC	**Pleasant Camp**	**7.93**	**55**	P	**Pn**	**22 32 44.2**	**-1.3**
	baz=245						
RND	**Reindeer**	**7.94**	**1**	Pn	**Pn**	**22 32 45.6**	**-0.1**
M15K	**Kasigluk River**	**8.04**	**315**		**Pn**	**22 32 47.9**	**+0.9**
M15K	**Kasigluk River**	**8.04**	**315**	P	**Pn**	**22 32 47.8**	**+0.9**
	baz=126						
N14K	**Kuskokwak Cree**	**8.06**	**309**		**Pn**	**22 32 48.3**	**+1.2**
N14K	**Kuskokwak Cree**	**8.06**	**309**	P	**Pn**	**22 32 48.3**	**+1.2**
	baz=118						
HYT	**Haines Junctio**	**8.13**	**44**		**Pn**	**22 32 48.1**	**-0.3**
L16K	**Owhat River**	**8.24**	**323**	Pn	**Pn**	**22 32 50.9**	**+1.1**
TTA	**Tatalina**	**8.25**	**337**	Pn	**Pn**	**22 32 50.5**	**+0.6**
S32K	**Killisnoo**	**8.29**	**70**		**Pn**	**22 32 47.9**	**-2.4**
S32K	**Killisnoo**	**8.29**	**70**	P	**Pn**	**22 32 47.9**	**-2.4**
	baz=262						
BESE	**Bessie Mountai**	**8.37**	**62**		**Pn**	**22 32 49.9**	**-1.6**
L27K	**Beaver Creek,**	**8.45**	**23**		**Pn**	**22 32 51.8**	**-0.9**
BCAR	**Beaver Creek A**	**8.46**	**23**	Pn	**Pn**	**22 32 53.8**	**+1.0**
M14K	**Bethel**	**8.59**	**313**	Pn	**Pn**	**22 32 55.5**	**+1.0**
K17K	**Iditarod**	**8.64**	**331**	Pn	**Pn**	**22 32 55.2**	**+0.1**
N30M	**Aishikik Lake**	**8.68**	**42**	Pn	**Pn**	**22 32 56.3**	**+0.5**
O30N	**Mendenhall**	**8.68**	**47**		**Pn**	**22 32 56.0**	**+0.2**
BPAW	**Bear Paw Mtn.**	**8.69**	**355**		**Pn**	**22 32 56.5**	**+0.6**
J18K	**Innoko River**	**8.88**	**337**	Pn	**Pn**	**22 32 59.8

comp=Z,0.1nm,0.3s,baz=314,slow=4.5,SNR=1.3
comp=Z,0.1nm,0.3s
DAV Davao City (W) 81.56 270 LR LR 23 14 55.5
comp=Z,97nm,20.6s,baz=125,slow=32

*IDC **13** 22:44:29.6±3.0,21.°60N×144.°50E,h81km±25km,mb3.9/18, mbtmp4.3/21,Error ellipse: s-maj=24.3km s-min=14.1km az=84.0*
*NEIC **13** 22:44:33.8±1.2,21.°59N±0.°07×144.°4E±0.°1,h110km±5km, mb4.4/64,Error ellipse: s-maj=15.0km s-min=9.9km az=90.0*
*JMA **13** 22:44:34.9±0.2,22.°N±2.°×.14.°5E±.°,h118km,MV5.0/48, IOTO ISLANDS REGION*
ISC 13 22:44:33.9±0.6,21.°67N±0.°06×144.°5E±0.°1,h114km,n122, σ1§50/122,mb4.4/47,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**5.37**	**337**	P	**Pn**	**22 45 52.7**	**+1.0**
JHH2				*e*S	**Sn**	**22 46 53.5**	**+1.1**
CBIJ	**Chichi jima**	**5.79**	**339**	P	**Pn**	**22 45 57.9**	**+0.4**
CBIJ				*e*S	**Sn**	**22 47 01.7**	**-0.9**
JCJ	**Chichijima**	**5.79**	**339**	Pn	**Pn**	**22 45 57.8**	**+0.3**
JCJ				Sn	**Sn**	**22 47 02.5**	**-0.1**
JCJ	**Chichijima**	**5.79**	**339**	P	Pn	22 45 52.6	-4.9
	161nm,0.3s,baz=74,slow=23,SNR=84						
JCJ				S	**Sn**	**22 46 58.6**	**-4.0**
	199nm,0.3s,baz=277,slow=23,SNR=10						
GUMO	**Guam**	**8.05**	**177**	Pn	**Pn**	**22 46 27.4**	**-0.7**
JAOM	**Aogashimamukai**	**11.54**	**340**	*e*P	Pn	22 47 07.8	-7.3
JHJ2	**Mitsune**	**12.12**	**341**	Pn	**Pn**	**22 47 23.2**	**+0.4**
JHJ	**Hachijo jima 2**	**12.14**	**341**	P	**Pn**	**22 47 23.0**	**0.0**
	31nm,0.3s,baz=85,slow=18,SNR=5.2						
JHJ				S	Sn	22 49 29.6	-6.9
	34nm,0.4s,baz=81,slow=22,SNR=2.4						
BSO3	**Boso 3**	**13.54**	**346**	P	**Pn**	**22 47 41.4**	**+0.4**
BSO4	**Boso 4**	**13.76**	**346**	*e*P	**P**	**22 47 47.6**	**-1.1**
JKN2	**Miekihoku**	**14.46**	**332**	P	**Pn**	**22 47 53.6**	**+0.5**
JNY	**Yasuok**	**14.82**	**338**	P	**Pn**	**22 47 57.7**	**0.0**
JHU	**Hanno**	**14.84**	**343**	*e*P	**Pn**	**22 47 57.1**	**-0.9**
JAO	**Obara**	**14.95**	**336**	*e*P	**Pn**	**22 48 00.1**	**+0.7**
INU	**Inuyama**	**15.12**	**336**	Pn	**Pn**	**22 48 00.0**	**-1.4**
INU					**P**	**22 48 00.4**	**-3.5**
INU				IAmb	IAmb	22 48 03.4	
	comp=Z,20nm,0.8s						
JGF	**Kuroka**	**15.21**	**337**	Pn	**Pn**	**22 48 02.7**	**0.0**
JGF					**P**	**22 48 03.6**	**-1.4**
JGF				IAmb	IAmb	22 48 10.0	
	comp=Z,15nm,0.6s						
JTO	**Tosashimizu**	**15.22**	**320**	*e*P	**Pn**	**22 48 04.0**	**+1.3**
JMN	**Monobe**	**15.23**	**324**	Pn	**Pn**	**22 48 03.2**	**+0.3**
JMN				IAmb	IAmb	22 48 11.7	
	comp=Z,12nm,0.7s						
JHO	**Hitachi**	**15.27**	**348**	*e*P	**Pn**	**22 48 04.6**	**+1.2**
JAG	**Ashikaga**	**15.34**	**344**	*e*P	**Pn**	**22 48 02.9**	**-1.3**
JAG				*e*S	**Sn**	**22 50 47.6**	**-6.3**
MJAR	**Matsushiro Arr**	**15.79**	**341**	P	**Pn**	**22 48 09.2**	**-0.6**
	comp=Z,4.0nm,0.6s,baz=166,slow=10,SNR=25						
MAJO	**Matsushiro**	**15.79**	**341**		**Pn**	**22 48 11.0**	**+1.1**
MAJO				IAmb	IAmb	22 48 21.8	
	comp=Z,14nm,0.8s						
MJB9	**Matsu-Tunnel**	**15.80**	**341**	P	**Pn**	**22 48 11.4**	**+1.5**
MJB9				IAmb	IAmb	22 48 22.8	
	comp=Z,14nm,0.8s						
JMM	**Marumori**	**16.45**	**350**	P	**P**	**22 48 20.7**	**+2.1**
JNU	**Nakatsue**	**16.59**	**316**	P	**P**	**22 48 22.6**	**+2.3**
JNU				IAmb	IAmb	22 48 26.6	
	comp=Z,14nm,0.8s						
JNU	**Nakatsue**	**16.59**	**316**	P	**Pn**	**22 48 19.9**	**+0.1**
	comp=Z,8.4nm,0.8s,baz=97,slow=7.7,SNR=16						
JHS	**Saijyo**	**16.61**	**326**	P	**P**	**22 48 22.4**	**+2.0**
JOI	**OKI**	**17.55**	**329**	*e*P	**Pn**	**22 48 33.5**	**+2.1**
ERM	**Erimo**	**20.31**	**357**	P	**P**	**22 49 01.8**	**+1.0**
ERM				IAmb	IAmb	22 49 08.5	
	comp=Z,14nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**21.05**	**91**	T	T	23 11 09.7	
	baz=280						
H11N2	**WAKE ISLAND Hy**	**21.05**	**91**	T	T	23 11 20.4	
	baz=280						
H11N3	**WAKE ISLAND Hy**	**21.07**	**91**	T	T	23 11 08.1	
	baz=280						
H11S3	**WAKE ISLAND Hy**	**21.09**	**95**	T	T	23 11 18.4	
	baz=282,slow=75,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	**21.10**	**95**	T	T	23 11 03.0	
	baz=282,slow=75,SNR=6.4						
H11S2	**WAKE ISLAND Hy**	**21.11**	**95**	T	T	23 11 03.8	
	baz=282,slow=75,SNR=5.2						
KSRS	**Korea Array**	**21.27**	**321**	P	**P**	**22 49 11.8**	**+0.7**
	comp=Z,11nm,0.8s,baz=146,slow=8.5,SNR=47						
	comp=Z,11nm,0.8s						
KSAR	**Wonju Array Be**	**21.29**	**321**	P	**P**	**22 49 10.8**	**-0.5**
KS19	**Wonju Array Si**	**21.34**	**321**	P	**P**	**22 49 12.3**	**+0.4**
KS19				IAmb	IAmb	22 49 15.0	
	comp=Z,19nm,0.9s						
JKA	**Kamikawa-asahi**	**22.44**	**356**	P	**P**	**22 49 24.8**	**+1.5**
JKA				IAmb	IAmb	22 49 27.0	
	comp=Z,13nm,0.9s						
USRK	**Ussuriysk Ar.**	**24.73**	**338**	P	**P**	**22 49 45.6**	**+1.1**
USRK	**Ussuriysk Ar.**	**24.73**	**338**	P	**P**	**22 49 45.8**	**+1.2**
	comp=Z,2.7nm,0.5s,baz=144,slow=8.6,SNR=10						
	comp=Z,2.7nm,0.5s						
HEH	**HeiHe**	**31.54**	**339**	*e*P	**P**	**22 50 46.0**	**+0.9**
HEH				pmax	pmax		
	comp=Z,13nm,0.8s						
XLT	**XiLinHaoTe**	**32.31**	**320**	*e*P	P	22 50 59.6	+7.5
XLT				pP	pwP	22 51 23.0	+2.4
XLT				sP	sP	22 51 28.0	-1.1
XLT				PP	**PP**	**22 52 10.8**	**+3.5**
XLT				PcP	**PcP**	**22 53 43.4**	**+5.9**
XLT				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC	**Hu-ho-hao-te**	**33.74**	**312**	*e*P	**P**	**22 51 06.1**	**+1.4**
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,53nm,4.1s						
COEN	**Coen**	**35.43**	**182**	P	**P**	**22 51 18.3**	**-0.9**
PZH	**PanZhiHua**	**39.18**	**286**	P	**P**	**22 51 50.9**	**-0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,90nm,4.7s						
SONM	**Songino Array**	**40.13**	**320**	P	**P**	**22 51 59.0**	**+0.3**
SONM	**Songino Array**	**40.13**	**320**	P	**P**	**22 51 58.6**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=127,slow=7.6,SNR=13						
	comp=Z,0.8nm,0.5s						
WB0	**Warramunga Arr**	**42.35**	**194**	P	**P**	**22 52 15.4**	**-1.5**
WB0				IAmb	IAmb	22 52 21.3	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**42.50**	**194**	P	**P**	**22 52 16.8**	**-1.4**
WR0				IAmb	IAmb	22 52 17.3	
	comp=Z,11nm,1.2s						
WB2	**Warramunga Arr**	**42.53**	**194**	P	**P**	**22 52 17.0**	**-1.3**
WB2				IAmb	IAmb	22 52 17.6	
	comp=Z,9.8nm,1.1s						
WRA	**Warramunga Arr**	**42.53**	**194**	P	**P**	**22 52 16.6**	**-1.8**
WRA	**Warramunga Arr**	**42.53**	**194**	P	**P**	**22 52 16.8**	**-1.6**
	comp=Z,3.6nm,0.5s,baz=15,slow=8.9,SNR=39						
	comp=Z,3.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**43.62**	**206**	P	**P**	**22 52 26.1**	**-1.1**
AS31	**Alice Springs**	**46.23**	**193**	P	**P**	**22 52 46.4**	**-1.4**
ASAR	**Alice Springs**	**46.23**	**193**	P	**P**	**22 52 45.8**	**-2.0**
	comp=Z,1.2nm,0.6s,baz=15,slow=9.8,SNR=25						
	comp=Z,1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**54.98**	**321**	P	**P**	**22 53 51.8**	**-1.4**
ZALV	**Zalesovo Beam**	**54.98**	**321**	P	**P**	**22 53 52.3**	**-0.9**
	comp=Z,1.7nm,0.3s,baz=107,slow=8.4,SNR=13						
	comp=Z,1.7nm,0.3s						
MK31	**Makanchi Array**	**55.60**	**313**	P	**P**	**22 53 57.4**	**-0.4**
MKAR	**Makanchi Array**	**55.60**	**313**	P	**P**	**22 53 57.7**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=90,slow=9.0,SNR=22						
	comp=Z,2.0nm,0.6s						
C16K	**Lisburne Hills**	**55.77**	**20**	P	**P**	**22 53 59.6**	**+1.1**
MAKZ	**Makanchi**	**55.82**	**313**	P	**P**	**22 53 58.3**	**-1.0**
MAKZ				IAmb	IAmb	22 53 59.7	
	comp=Z,2.8nm,0.6s						
K17K	**Iditarod**	**56.09**	**28**	P	**P**	**22 54 00.4**	**-0.5**
H18K	**Honhosa River**	**56.91**	**25**	P	**P**	**22 54 07.1**	**+0.4**
E18K	**Tukpahlearik C**	**56.97**	**22**	P	**P**	**22 54 08.6**	**+1.5**
J19K	**Poorman**	**57.64**	**27**	P	**P**	**22 54 12.9**	**+1.0**
J19K				IAmb	IAmb	22 54 51.5	
	comp=Z,4.3nm,1.3s						
H19K	**Roundabout Mou**	**57.80**	**25**	P	**P**	**22 54 14.2**	**+1.3**
RSO	**Redoubt South**	**58.01**	**31**	P	**P**	**22 54 16.5**	**+1.8**
C19K	**Lookout Ridge**	**58.02**	**21**	P	**P**	**22 54 16.1**	**+1.6**
C19K				IAmb	IAmb	22 54 16.8	
	comp=Z,3.5nm,0.7s						
E19K	**Redstone River**	**58.18**	**23**	P	**P**	**22 54 16.9**	**+1.4**
D19K	**Kuna River**	**58.26**	**21**	P	**P**	**22 54 17.4**	**+1.2**
J20K	**Nowinta River**	**58.31**	**27**	P	**P**	**22 54 18.2**	**+1.6**
J20K				IAmb	IAmb	22 54 52.5	
	comp=Z,5.0nm,1.2s						
KURK	**Kurchatov**	**58.32**	**317**	P	**P**	**22 54 16.4**	**-0.4**
KURK				IAmb	IAmb	22 54 17.0	
	comp=Z,4.2nm,0.9s						
KURBB	**Kurchatov Arra**	**58.37**	**317**	P	**P**	**22 54 16.6**	**-0.6**
	comp=Z,3.7nm,0.5s,baz=92,slow=7.7,SNR=53						
	comp=Z,3.7nm,0.5s						
NRIK	**Noril'sk**	**58.44**	**340**	P	**P**	**22 54 17.5**	**+0.1**
NRIK				IAmb	IAmb	22 54 18.1	
	comp=Z,4.0nm,0.8s						
NRIK	**Noril'sk**	**58.44**	**340**	P	**P**	**22 54 17.2**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=94,slow=8.3,SNR=7.2						
	comp=Z,3.1nm,0.6s						
F20K	**Avaraart Lake**	**58.58**	**23**	P	**P**	**22 54 19.3**	**+1.0**
F20K				IAmb	IAmb	22 54 47.2	
	comp=Z,6.0nm,1.4s						
B20K	**Meade River**	**59.16**	**20**	P	**P**	**22 54 23.7**	**+1.4**
BPAW	**Bear Paw Mtn.**	**59.63**	**27**	P	**P**	**22 54 26.5**	**+0.8**
BOOM	**Boomskoye usch**	**60.08**	**307**	P	**P**	**22 54 29.8**	**+0.4**
BOOM				IAmb	IAmb	22 54 30.5	
	comp=Z,2.9nm,0.6s						
KSH	**Kashi**	**60.25**	**304**	P	**P**	**22 54 33.8**	**+3.3**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
D22K	**Ayikyak River**	**60.26**	**22**	P	**P**	**22 54 31.5**	**+1.6**
B22K	**Teshekpuk Lake**	**60.48**	**20**	P	**P**	**22 54 32.5**	**+1.2**
H23K	**Yukon River**	**60.62**	**26**	P	**P**	**22 54 33.1**	**+0.7**
H23K				IAmb	IAmb	22 55 06.3	
	comp=Z,4.9nm,1.5s						
C23K	**Itkillik River**	**61.24**	**21**	P	**P**	**22 54 37.9**	**+1.4**
TOLK	**Toolik Lake Re**	**61.28**	**22**	P	**P**	**22 54 38.0**	**+1.1**
TOLK				IAmb	IAmb	22 54 38.7	
	comp=Z,3.1nm,0.6s						
H24K	**Noodor Dome**	**61.30**	**26**	P	**P**	**22 54 37.9**	**+0.9**
H24K				IAmb	IAmb	22 54 38.0	
	comp=Z,4.3nm,1.4s						
ILAR	**Eielson Array**	**61.51**	**27**	P	**P**	**22 54 37.6**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=260,slow=6.0,SNR=19						
	comp=Z,1.6nm,0.8s						
E24K	**Your Creek**	**61.54**	**23**	P	**P**	**22 54 40.3**	**+1.7**
E24K				IAmb	IAmb	22 54 41.0	
	comp=Z,2.6nm,0.7s						
D24K	**Happy Valley**	**61.67**	**22**	P	**P**	**22 54 40.6**	**+1.2**
D24K				IAmb	IAmb	22 54 41.7	
	comp=Z,3.6nm,0.7s						
ARSB	**Arslanbob**	**62.37**	**306**	P	**P**	**22 54 45.2**	**+0.4**
D25K	**Kavik River**	**62.56**	**22**	P	**P**	**22 54 46.8**	**+1.4**
BMAR	**Burnt Mountain**	**62.87**	**24**	P	**P**	**22 54 49.4**	**+1.8**
J26L	**Joseph Creek**	**62.89**	**28**	P	**P**	**22 54 48.1**	**+0.4**
J26L				IAmb	IAmb	22 54 48.6	
	comp=Z,3.1nm,0.8s						
BVAR	**Borovoye Array**	**63.48**	**320**	P	**P**	**22 54 51.4**	**-0.3**
	comp=Z,3.7nm,0.4s,baz=88,slow=7.5,SNR=22						
	comp=Z,3.7nm,0.4s						
L27K	**Beaver Creek,**	**63.52**	**29**	P	**P**	**22 54 52.6**	**+0.7**
BCAR	**Beaver Creek A**	**63.54**	**29**	P	**P**	**22 54 53.0**	**+0.9**
KK31	**Karatay Array**	**64.02**	**308**	P	**P**	**22 54 55.4**	**-0.1**
KKAR	**Karatay Array**	**64.02**	**308**	P	**P**	**22 54 55.2**	**-0.3**
D27M	**Malcolm River**	**64.45**	**22**	P	**P**	**22 54 58.7**	**+0.9**
D27M				IAmb	IAmb	22 55 00.2	
	comp=Z,4.1nm,0.6s						
I28M	**Miner Creek**	**64.51**	**27**	P	**P**	**22 54 58.3**	**-0.1**
E28M	**Babbage River**	**64.90**	**23**	P	**P**	**22 55 02.1**	**+1.4**
E28M				IAmb	IAmb	22 55 03.2	
	comp=Z,2.5nm,0.7s						
M29M	**Somme Creek**	**65.04**	**30**	P	**P**	**22 55 02.4**	**+0.5**
M29M				IAmb	IAmb	22 55 04.0	
	comp=Z,2.7nm,0.8s						
L29M	**L29M**	**65.21**	**29**	P	**P**	**22 55 03.4**	**+0.5**
L29M				IAmb	IAmb	22 55 05.1	
	comp=Z,2.6nm,0.7s						
CHGR	**Chuyangaron**	**65.61**	**304**	P	**P**	**22 55 06.0**	**+0.1**
N30M	**Aishikik Lake**	**65.69**	**31**	P	**P**	**22 55 07.3**	**+1.3**
SIMJ	**Simiganj**	**65.73**	**304**	P	**P**	**22 55 06.8**	**+0.1**
I30M	**Mount Dempster**	**66.00**	**27**	P	**P**	**22 55 08.6**	**+0.6**
G30M	**tAoh Zraii Nji**	**66.08**	**25**	P	**P**	**22 55 09.0**	**+0.6**
G31M	**Satah River**	**66.84**	**25**	P	**P**	**22 55 13.8**	**+0.6**
BESE	**Bessie Mountai**	**66.93**	**34**	P	**P**	**22 55 15.1**	**+1.1**
BESE				IAmb	IAmb	22 55 20.0	
	comp=Z,4.9nm,1.0s						
ARU	**Arti**	**70.00**	**324**	P	**P**	**22 55 32.3**	**-0.7**
ARU				IAmb	IAmb	22 55 32.5	
	comp=Z,2.3nm,0.4s						
ABKAR	**Akbulak array**	**70.41**	**316**	P	**P**	**22 55 35.2**	**-0.4**
HOPS	**Hopland Field**	**78.51**	**53**	P	**P**	**22 56 21.7**	**-1.1**
ARCES	**ARCESS Array B**	**79.33**	**342**	P	**P**	**22 56 26.9**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=70,slow=7.9,SNR=19						
	comp=Z,1.4nm,0.5s						
NVAR	**Mina Array Bea**	**82.21**	**52**	P	**P**	**22 56 43.6**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=274,slow=4.3,SNR=5.6						
	comp=Z,0.8nm,0.7s						
KBZ	**Khabaz**	**83.25**	**314**	P	**P**	**22 56 48.0**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=66,slow=2.8,SNR=5.0						
	comp=Z,2.5nm,0.8s						
FINES	**FINESS Array B**	**83.72**	**335**	P	**P**	**22 56 48.4**	**-1.4**
	comp=Z,4.6nm,0.4s,baz=67,slow=4.9,SNR=99						
	comp=Z,4.6nm,0.4s						
PDAR	**Pinedale Array**	**86.56**	**45**	P	**P**	**22 57 05.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=284,slow=3.6,SNR=2.7						
	comp=Z,0.1nm,0.3s						
HFS	**Hagfors**	**89.21**	**338**	P	**P**	**22 57 14.5**	**-2.2**
	comp=Z,1.0nm,0.5s,baz=64,slow=5.0,SNR=9.6						
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**89.40**	**339**	P	**P**	**22 57 15.1**	**-2.5**
	comp=Z,0.7nm,0.7s,baz=43,slow=5.1						
NOA	**NORSAR Array B**	**89.40**	**339**	P	**P**	**22 57 15.5**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=46,slow=4.5,SNR=4.1						
	comp=Z,0.4nm,0.7s						

*ISK **13** 22:47:18.7,37.°16N×30.°92E,h114km±1km,ML2.5/17*
*AFAD **13** 22:47:19.5±0.0,37.°26N×30.°90E,h108km,ML2.5*
*GII **13** 22:47:20.7±0.3,36.°638N±0.°002×31.°199E±0.°001,h0km, Mws4.0,confirmed*
*NIC **13** 22:47:22.0,36.°78N×30.°95E,h104km±3km,Ml2.5/9*
ISC 13 22:47:17.1±1.3,37.°11N±0.°03×30.°97E±0.°03,h128km±7km, n86,σ1§25/116,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.33**	**231**	Pg	**Pn**	**22 47 35.4**	**+0.3**
ANTB				Sg	**Sn**	**22 47 47.7**	**-1.0**
BUCA	**Burdur, Bucak-**	**0.40**	**304**	P	**Pn**	**22 47 35.9**	**+0.4**
BUCA				S	**Sn**	**22 47 47.5**	**-1.9**
BUCA				*i* AML	AML	22 47 49.0	
	comp=E,161nm,0.3s						
BUCA				*i* AML	AML	22 47 50.0	
	comp=N,99nm,0.4s						
BCK	**Bucak**	**0.47**	**319**	Pg	**Pn**	**22 47 35.6**	**-0.3**
BCK				Sg	**Sn**	**22 47 48.5**	**-1.6**
MNVG	**Manavgat-Antal**	**0.48**	**131**	Pg	**Pn**	**22 47 36.5**	**+0.7**
MNVG				Sg	**Sn**	**22 47 50.1**	**+0.2**
KORT	**Korkueli**	**0.51**	**258**	Pg	**Pn**	**22 47 36.7**	**+0.5**
KORT				Sg	**Sn**	**22 47 49.9**	**-0.6**
KORT	**Korkueli**	**0.51**	**258**	P	**Pn**	**22 47 36.7**	**+0.5**
KORT				S	**Sn**	**22 47 50.1**	**-0.5**
KORT				*i* AML	AML	22 47 52.0	
	comp=E,128nm,0.5s						
SEDI	**Konya, Seydise**	**0.71**	**61**	P	**Pn**	**22 47 38.4**	**+0.8**
SEDI				S	**Sn**	**22 47 51.5**	**-1.5**
SEDI				*i* AML	AML	22 47 53.0	
	comp=N,121nm,0.4s						
SEDI				*i* AML	AML	22 47 53.0	
	comp=E,100nm,0.3s						
SEYD	**Seydisehir-KON**	**0.75**	**67**	Pg	**Pn**	**22 47 38.9**	**+1.1**
SEYD				Sg	**Sn**	**22 47 53.1**	**-0.4**
ISP	**Isparta**	**0.80**	**334**	Pg	**Pn**	**22 47 37.9**	**-0.3**
ELL	**Elmali**	**0.92**	**247**	Pg	**Pn**	**22 47 40.4**	**+1.1**
ELL	**Elmali**	**0.92**	**247**	P	**Pn**	**22 47 41.2**	**+1.9**
ELL				S	**Sn**	**22 47 56.3**	**+0.3**
ELL				AML	AML	22 48 00.7	
	0.6nm,0.4s						
ELL				AML	AML	22 48 03.0	
	0.3nm,0.6s						
AKUM	**Antalya-Kumluc**	**0.93**	**213**	P	**Pn**	**22 47 40.1**	**+0.9**
AKUM				S	**Sn**	**22 47 57.0**	**+1.0**
BRDR	**BURDUR-Merkez**	**0.93**	**309**	P	**Pn**	**22 47 39.2**	**-0.1**
BRDR				S	**Sn**	**22 47 54.0**	**-2.1**
ALAN	**Alanya-ANTALYA**	**1.01**	**122**	Pg	**Pn**	**22 47 40.8**	**+0.8**
BASM	**Basmaki-Afyon**	**1.09**	**318**	Pg	**Pn**	**22 47 40.9**	**+0.1**
GOLH	**Golhisar**	**1.13**	**277**	P	**Pn**	**22 47 42.5**	**+1.2**
GOLH				S	**Sn**	**22 47 59.7**	**+0.1**
DOGA	**KONYA_Doganhis**	**1.14**	**29**	P	**Pn**	**22 47 42.6**	**+1.3**
DOGA				S	**Sn**	**22 47 58.8**	**-1.0**
KNIK	**Mula-Seydike**	**1.15**	**257**	P	**Pn**	**22 47 42.9**	**+1.5**
KNIK				S	**Sn**	**22 48 00.1**	**+0.3**
KNIK				*i* AML	AML	22 48 03.0	
	comp=E,50nm,0.4s						
YVAC	**Isparta, Yalva**	**1.18**	**10**	P	**Pn**	**22 47 42.7**	**+0.9**
YVAC				S	**Sn**	**22 47 58.9**	**-1.6**
HDMB	**Hadim**	**1.22**	**96**	Pn	**Pn**	**22 47 44.4**	**+2.1**
INCE	**Denizli-Bozkur**	**1.26**	**299**	P	**Pn**	**22 47 43.0**	**+0.5**
INCE				S	**Sn**	**22 48 01.3**	**-0.7**
CAME	**Cameli-Denizli**	**1.34**	**263**	Pn	**Pn**	**22 47 44.5**	**+1.0**
APMY	**Acipayam-Deniz**	**1.38**	**286**	Pn	**Pn**	**22 47 44.7**	**+0.9**
KONT	**Konya--Tatoy**	**1.39**	**52**	Pn	**Pn**	**22 47 45.1**	**+1.3**
KONT	**Konya--Tatoy**	**1.39**	**52**	P	**Pn**	**22 47 45.7**	**+1.9**
KONT				S	**Sn**	**22 48 03.5**	**-0.7**
GAZI	**Gazipasa**	**1.39**	**128**	Pn	**Pn**	**22 47 46.0**	**+2.1**
AKAS	**Kas**	**1.40**	**232**	Pn	**Pn**	**22 47 45.1**	**+1.0**
KSL	**Kastellorizon**	**1.47**	**230**	P	**Pn**	**22 47 45.7**	**+0.9**
KSL				S	**Sn**	**22 48 05.0**	**-0.7**
KSL				AML	AML	22 48 13.7	
	0.1nm,0.6s						
KSL				AML	AML	22 48 15.0	
	0.1nm,0.6s						
SHUT	**Suhut-Afyon**	**1.48**	**347**	Pn	**Pn**	**22 47 45.7**	**+0.7**
UCKU	**Afyonkarahisar**	**1.57**	**13**	P	**Pn**	**22 47 47.1**	**+1.2**
UCKU				S	**Sn**	**22 48 07.2**	**-0.8**
FETY	**Fethiye**	**1.58**	**253**	Pn	**Pn**	**22 47 47.6**	**+1.5**
DNIZ	**Denizli-Tavas-**	**1.62**	**289**	P	**Pn**	**22 47 47.5**	**+0.9**
DNIZ				S	**Sn**	**22 48 08.4**	**-0.6**
KURO	**Afyon-Bolvadin**	**1.62**	**359**	P	**Pn**	**22 47 47.5**	**+0.9**
KDHN	**Kadinhani**	**1.68**	**32**	P	**Pn**	**22 47 48.1**	**+0.8**
KDHN				S	**Sn**	**22 48 09.6**	**-0.6**
TAVA	**DENIZLI_Tavas**	**1.68**	**283**	P	**Pn**	**22 47 48.4**	**+1.2**
TAVA				S	**Sn**	**22 48 09.1**	**-1.1**
TAVA				*i* AML	AML	22 48 13.0	
	comp=N,57nm,0.4s						
TAVA				*i* AML	AML	22 48 14.0	
	comp=E,37nm,0.4s						
DALY	**Dalyan (Mula)**	**1.88**	**262**	Pn	**Pn**	**22 47 50.3**	**+0.9**
ALIN	**Konya, Altinte**	**1.93**	**51**	P	**Pn**	**22 47 52.1**	**+2.0**
ALIN				S	**Sn**	**22 48 13.9**	**-1.5**
CTIK	**Konya-Celtik**	**1.99**	**15**	P	**Pn**	**22 47 51.8**	**+0.9**
CTIK				S	**Sn**	**22 48 16.1**	**-0.8**
CTIK				*i* AML	AML	22 48 21.0	
	comp=E,34nm,0.6s						
CBEY	**Konya-Cihanbey**	**2.13**	**42**	P	**Pn**	**22 47 55.1**	**+2.4**
CBEY				S	**Sn**	**22 48 19.8**	**-0.2**
CBEY				*i* AML	AML	22 48 22.0	
	comp=N,35nm,0.6s						
ALFC	**Alefka**	**2.35**	**145**	P	**Pn**	**22 47 56.7**	**+1.3**
ALFC				S	**Sn**	**22 48 23.7**	**-1.0**
ALFC				AML	AML	22 48 28.1	
	0.2nm,0.4s						
ALFC				AML	AML	22 48 30.1	
	0.1nm,0.2s						
AKMS	**Akamas**	**2.36**	**152**	P	**Pn**	**22 47 56.8**	**+1.3**
AKMS				S	**Sn**	**22 48 22.9**	**-2.0**
AKMS				AML	AML	22 48 38.8	
	0.1nm,0.5s						
AKMS				AML	AML	22 48 40.8	
	0.2nm,0.5s						
TROD	**Troodos**	**2.65**	**144**	P	**Pn**	**22 47 59.9**	**+0.6**
TROD				S	**Sn**	**22 48 30.8**	**-0.9**
TROD				AML	AML	22 48 44.5	
TROD				AML	AML	22 48 47.5	
	0.1nm,0.8s						
NATA	**Nata**	**2.66**	**150**	P	**Pn**	**22 48 00.8**	**+1.5**
NATA				S	**Sn**	**22 48 30.2**	**-1.6**
NATA				AML	AML	22 48 45.6	
	0.1nm,0.6s						
NATA				AML	AML	22 48 49.1	
	0.2nm,0.8s						
ATHAL	**Athalassa**	**2.78**	**134**	S	**Sn**	**22 48 34.7**	**+0.4**
ATHAL				AML	AML	22 48 39.1	
	0.2nm,0.6s						
ATHAL				AML	AML	22 48 42.0	
	0.2nm,0.5s						
CSS	**Mathiatis**	**2.87**	**138**	P	**Pn**	**22 48 02.6**	**+0.6**
ASGA	**As

comp=Z,58nm,18.7s,baz=358,slow=33
comp=Z,9.2nm,0.7s
AIS Amsterdam Isla 16.92 116 Pn **Pn 23 49 53.3 -1.6**
AIS IAmb IAmb 23 50 30.7
comp=Z,184nm,1.3s
H08S1 Diego Carcia H 27.37 32 T T 00 20 08.6
baz=206,slow=75,SNR=28
H08S2 Diego Garcia H 27.38 32 T T 00 20 02.1
baz=206,slow=75,SNR=19
H08S3 Diego Garcia H 27.39 32 T T 00 20 02.9
baz=206,slow=75,SNR=25
SUR Sutherland 31.69 259 LR LR 00 02 11.1
comp=Z,50nm,20.3s,baz=128,slow=31
KAAM Kaadhehdhoo 34.95 26 P **P 23 52 52.7 +2.3**
MAW Mawson 35.99 177 P **P 23 53 01.3 +2.4**
comp=Z,3.5nm,0.6s,baz=345,slow=9.2,SNR=5.3
MAW LR LR 00 02 51.4
comp=Z,92nm,21.9s,baz=26,slow=28
comp=Z,3.5nm,0.6s
FURI Furi 44.57 332 LR LR 00 12 16.7
comp=Z,33nm,18.9s,baz=188,slow=36
H01W2 Cape Leeuwin H 46.24 110 T T 00 43 38.6
baz=257,slow=75,SNR=23
H01W3 Cape Leeuwin H 46.24 110 T T 00 43 38.8
baz=257,slow=75,SNR=22
H01W1 Cape Leeuwin H 46.26 110 T T 00 43 39.7
baz=257,slow=75,SNR=21
SNAA Sanae 51.19 201 P **P 23 55 01.2 0.0**
SNAA Sanae 51.19 201 P **P 23 55 02.0 +0.7**
comp=Z,2.5nm,0.8s,baz=56,slow=4.7,SNR=7.6
SNAA LR LR 00 12 01.2
comp=Z,37nm,21.1s,baz=50,slow=30
comp=Z,2.5nm,0.8s
RAYN Ar Rayn 56.31 346 P **P 23 55 39.8 +0.6**
QSPA South Pole Qui 58.42 180 P **P 23 55 54.7 +0.9**
QSPA IAmb IAmb 23 55 55.8
comp=Z,7.4nm,0.8s
QSPA South Pole Qui 58.42 180 P **P 23 55 55.3 +1.5**
comp=Z,5.3nm,0.6s,baz=269,slow=1.3,SNR=49
comp=Z,5.3nm,0.6s
VNDA Vanda 62.12 166 P **P 23 56 20.2 +1.5**
comp=Z,1.0nm,0.9s,baz=293,slow=7.2,SNR=3.9
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 63.32 44 P **P 23 56 27.3 -0.2**
CMAR Chiang Mai Arr 63.32 44 P **P 23 56 27.7 +0.2**
comp=Z,4.3nm,0.8s,baz=229,slow=7.1,SNR=14
CMAR LR LR 00 17 57.0
comp=Z,27nm,21.8s,baz=200,slow=30
comp=Z,4.3nm,0.8s
CHTO Chiang Mai 63.60 44 P **P 23 56 28.0 -1.4**
CHTO IAmb IAmb 23 56 33.0
comp=Z,10nm,1.2s
SHL Shillong 65.39 33 P **P 23 56 40.0 -1.1**
SHL IAmb IAmb 23 56 45.4
comp=Z,13nm,1.4s
ASAR Alice Springs 66.21 104 P **P 23 56 46.3 -0.2**
ASAR Alice Springs 66.21 104 P **P 23 56 47.5 +1.0**
comp=Z,2.9nm,0.7s,baz=239,slow=5.9,SNR=29
comp=Z,2.9nm,0.7s
MMAI Mount Meron Ar 67.95 339 P **P 23 56 58.6 +1.3**
comp=Z,1.3nm,0.7s,baz=134,slow=8.3,SNR=1.5
comp=Z,1.3nm,0.7s
WRA Warramunga Arr 68.21 101 P **P 23 57 00.1 +0.8**
comp=Z,3.4nm,0.8s,baz=242,slow=5.5,SNR=18
comp=Z,3.4nm,0.8s
TORD Torodi Ar. Bea 70.23 300 P **P 23 57 13.3 +1.6**
comp=Z,1.2nm,1.0s,baz=107,slow=4.8,SNR=3.8
TORD LR LR 00 27 28.3
comp=Z,65nm,18.2s,baz=146,slow=36
comp=Z,1.2nm,1.0s
SIMJ Simiganj 70.75 9 P **P 23 57 14.7 +0.2**
SIMJ IAmb IAmb 23 57 19.3
comp=Z,8.1nm,1.2s
SMAI San Martin Ant 72.51 199 P **P 23 57 25.7 +1.0**
SMAI IAmb IAmb 23 57 27.5
comp=Z,5.6nm,0.9s
GNI Garni 72.63 349 LR LR 00 26 09.0
comp=Z,24nm,21.5s,baz=166,slow=33
PMSA Palmer Station 73.88 202 LR LR 00 24 30.2
comp=Z,31nm,19.9s,baz=136,slow=31
NRN Naryn 74.62 14 P **P 23 57 37.5 -0.2**
BRTR Keskin Array B 74.71 340 P **P 23 57 38.0 0.0**
comp=Z,0.7nm,0.8s,baz=148,slow=7.4,SNR=5.4
comp=Z,0.7nm,0.8s
KK31 Karatay Array 75.32 9 P **P 23 57 41.2 -0.1**
KKAR Karatay Array 75.32 9 P **P 23 57 41.6 +0.3**
AAK Ala-Archa 75.50 12 P **P 23 57 42.2 -0.3**
AAK IAmb IAmb 23 57 47.2
comp=Z,11nm,1.5s
KBZ Khabaz 76.43 349 LR LR 00 31 21.9
comp=Z,21nm,18.4s,baz=147,slow=36
FNA Florina 79.84 332 P **P 23 58 05.6 -1.1**
ABKAR Akbulak array 80.65 1 P **P 23 58 11.3 +0.6**
TWG Pinlang 80.91 56 P **P 23 58 11.6 -1.2**
MKAR Makanchi Array 81.12 16 P **P 23 58 14.2 +0.8**
comp=Z,0.7nm,0.7s,baz=215,slow=7.0,SNR=5.4
comp=Z,0.7nm,0.7s
CUC Castrocucco 81.53 328 P **P 23 58 14.6 -1.1**
LBZ Lake Benmore 82.10 138 P **P 23 58 17.1 -1.9**
MLR Muntele Rosu 82.30 338 P **P 23 58 19.0 -0.8**
MLR IAmb IAmb 23 58 21.1
comp=Z,6.9nm,1.4s
MLR Muntele Rosu 82.30 338 LR LR 00 31 58.8
comp=Z,29nm,20.8s,baz=180,slow=34
YHNB Yeheng 82.31 55 P **P 23 58 18.9 -1.4**
INZ Inchbonnie 83.83 137 P **P 23 58 26.2 -1.7**
KURBB Kurchatov Arra 83.94 13 P **P 23 58 29.0 +1.0**
comp=Z,0.5nm,0.3s,baz=206,slow=5.5,SNR=7.2
comp=Z,0.5nm,0.3s
KURK Kurchatov 84.04 13 P **P 23 58 28.9 +0.5**
KURK IAmb IAmb 23 58 39.7
comp=Z,4.4nm,1.1s
BURAR Bucovina Array 84.42 338 P **P 23 58 30.1 -0.6**
BVAR Borovoye Array 85.07 7 P **P 23 58 34.0 +0.4**
comp=Z,3.1nm,0.9s,baz=172,slow=5.4,SNR=12
BVAR LR LR 00 36 31.1
comp=Z,26nm,18.2s,baz=167,slow=36
comp=Z,3.1nm,0.9s
BRVK Borovoye 85.09 7 P **P 23 58 34.1 +0.4**
BRVK IAmb IAmb 23 58 37.8
comp=Z,5.8nm,0.9s
SOKA Soboth 87.29 332 *e*PcP P 23 58 55.4 +11
comp=Z,1.7nm,1.0s
OBKA Obir 87.35 331 *i* PcP P 23 58 54.2 +9.0
comp=Z,3.0nm,1.2s
MDT Midelt 87.47 311 LR LR 00 39 36.5
comp=Z,40nm,18.1s,baz=152,slow=37
RONA Rosalia, Austr 87.63 333 *e*P **P 23 58 50.9 +4.5**
comp=Z,4.0nm,1.3s
TEOL Teolo 87.65 329 P **P 23 58 46.8 +0.3**
TEOL IAmb IAmb 23 58 52.6
comp=Z,7.4nm,0.8s
ARU Arti 87.83 0 P **P 23 58 46.8 -0.2**
ARU IAmb IAmb 23 58 51.1
comp=Z,2.1nm,0.7s
CONA Conrad Observa 87.98 333 *e*P **P 23 58 49.2 +1.1**
comp=Z,2.3nm,1.0s
KBA Koelnbreinsper 88.30 331 *e*PcP P 23 59 00.0 +10
comp=Z,2.0nm,0.8s
ZAA0 Zalesovo Array 88.38 15 P **P 23 58 50.7 +1.0**
ZALV Zalesovo Beam 88.38 15 P **P 23 58 50.4 +0.7**
ZALV Zalesovo Beam 88.38 15 P **P 23 58 51.6 +1.9**
comp=Z,0.4nm,0.3s,baz=189,slow=8.5,SNR=3.9
comp=Z,0.4nm,0.3s
ABTA Abfaltersbach 88.38 330 *i* P **P 23 58 54.1 +4.0**
comp=Z,3.5nm,1.4s
MOA Molln 88.55 332 *i* P **P 23 58 49.8 -0.9**
comp=Z,3.0nm,1.2s
BIOA Bad Ischl, Aus 88.67 332 *e*PcP P 23 58 59.5 +8.2
comp=Z,0.8nm,0.4s
LESA Schwarzleotal 88.85 331 *e*P **P 23 58 52.9 +0.6**
comp=Z,1.9nm,0.9s
WTTA Wattenberg 89.16 330 *i* P **P 23 58 57.3 +3.4**
comp=Z,4.3nm,1.0s
WATA Walderalm 89.24 330 *e*PcP P 23 59 03.0 +8.8
comp=Z,3.0nm,0.8s
SQTA Sankt Quirin 89.31 330 *e*PcP P 23 59 02.9 +8.4
comp=Z,5.4nm,1.0s
FETA Feichten 89.36 330 *e*P **P 23 58 58.3 +3.5**
comp=Z,2.4nm,1.1s
RTZ Ruatahuna 89.69 137 P **P 23 58 55.9 -0.8**
DAVA Damuels 89.93 329 *e*PcP P 23 59 07.7 +10
comp=Z,3.8nm,1.0s
SONM Songino Array 90.20 30 P **P 23 59 01.3 +2.6**
comp=Z,0.3nm,0.4s,baz=218,slow=3.5,SNR=3.6
SONM LR LR 00 37 23.0
comp=Z,29nm,18.6s,baz=211,slow=34
comp=Z,0.3nm,0.4s
KIRV Kirov 90.30 355 LR LR 00 39 22.8
comp=Z,18nm,19.0s,baz=230,slow=36
MXZ Matakaoa Point 91.18 136 P **P 23 58 59.8 -3.8**
GRA1 Grafenberg Arr 91.23 332 P **P 23 58 59.9 -3.3**
GRFO Grafenberg 91.23 332 P **P 23 59 00.4 -2.9**
GRFO IAmb IAmb 23 59 23.7
comp=Z,12nm,1.4s
BFO Black Forest 91.40 329 P **P 23 59 03.8 -0.3**
BFO IAmb IAmb 23 59 21.4
comp=Z,3.9nm,1.2s
MACI Morro de la Ar 92.86 302 P **P 23 59 09.3 -2.2**
MESJ Messejana 92.94 313 P **P 23 59 10.9 -0.6**
WLF Walferdange 93.35 329 P **P 23 59 12.1 -0.9**
WLF IAmb IAmb 23 59 15.2
comp=Z,4.7nm,1.0s
MTE Manteigas 94.13 316 P **P 23 59 15.6 -1.3**
MTE IAmb IAmb 23 59 23.4
comp=Z,5.6nm,1.0s
CPUP Villa Florida 95.73 234 P **P 23 59 22.1 -2.6**
CPUP IAmb IAmb 23 59 23.6
comp=Z,6.0nm,1.4s
RAO Raoul Island 99.16 133 P **Pdif 23 59 38.7 -1.4**
ILAR Eielson Array 143.46 18 PKP **PKPdf 00 05 30.9 -1.3**
comp=Z,0.5nm,0.8s,baz=332,slow=3.1,SNR=3.4
YKA Yellowknife Ar 148.90 354 PKPbc **PKPbc 00 05 45.3 -0.1**
comp=Z,2.4nm,0.8s,baz=6.3,slow=2.7,SNR=5.6
ULM Lac du Bonnet 153.36 321 PKPbc **PKPbc 00 05 55.2 -1.0**
comp=Z,2.5nm,0.7s,baz=43,slow=5.8,SNR=3.9

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*NOU **14** 00:02:45.1, 42.°93S×173.°94E, h10km, MLv3.8/6, South Island, New Zealand*
*WEL **14** 00:02:52.9±0.4, 42.°S±2.°×17.°4E±.°, h12km, M3.1/6, ML3.3/5, MLv3.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=113.8, confirmed*
ISC 14 00:02:52.9±1.0, 42.°31S±0.°03×173.°80E±0.°03, h19km±2km, n67, σ1.9 00/82, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIKS	**Kaikoura**	**0.14**	**218**	P	**Pg**	**00 02 57.0**	**-0.1**
KIKS				S	**Sg**	**00 03 00.6**	**+0.6**
KHZ	**Kahutara**	**0.22**	**242**	P	**Pb**	**00 02 57.3**	**-0.5**
KHZ	**Kahutara**	**0.22**	**242**	P	**Pb**	**00 02 57.5**	**-0.2**
KHZ				S	**Sb**	**00 03 01.3**	**+0.3**
KEKS	**Kekerengu Vall**	**0.38**	**21**	P	**Pg**	**00 03 00.3**	**-0.6**
KEKS				S	**Sg**	**00 03 06.8**	**+0.5**
MOLW	**Molesworth Sta**	**0.46**	**299**	P	**Pg**	**00 03 00.5**	**-1.9**
MOLW				S	**Sg**	**00 03 06.6**	**-2.1**
WDFS	**Ward Fire Stat**	**0.55**	**27**	P	**Pb**	**00 03 03.9**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.60**	**5**	P	**Pb**	**00 03 03.8**	**-0.8**
BSWZ				S	**Sb**	**00 03 11.9**	**-0.8**
WTMC	**Te Mara Farm W**	**0.63**	**241**	P	**Pb**	**00 03 05.6**	**+0.4**
WTMC				S	**Sg**	**00 03 15.4**	**+1.5**
CECS	**Cheviot Emerge**	**0.63**	**218**	P	**Pn**	**00 03 06.5**	**-0.3**
CECS				S	**Sn**	**00 03 17.1**	**+0.7**
CMWZ	**Cape Campbell**	**0.64**	**29**	P	**Pb**	**00 03 06.2**	**+0.8**
SEDS	**Seddon Fire St**	**0.67**	**18**	P	**Pb**	**00 03 06.1**	**+0.2**
SEDS				S	**Sg**	**00 03 16.5**	**+1.4**
WVFS	**Wairau Valley**	**0.77**	**334**	P	**Pb**	**00 03 06.6**	**-1.1**
WVFS				S	**Sb**	**00 03 15.9**	**-1.7**
GVZ	**Greta Valley S**	**0.86**	**221**	P	**Pn**	**00 03 10.2**	**+0.2**
GVZ				S	**Sn**	**00 03 23.8**	**+1.7**
THZ	**Tophouse**	**0.86**	**309**	P	**Pb**	**00 03 08.2**	**-1.0**
THZ				S	**Sb**	**00 03 19.2**	**-1.3**
TUWZ	**Tuamarina**	**0.89**	**7**	P	**Pb**	**00 03 09.5**	**-0.2**
NNZ	**Nelson**	**1.14**	**344**	P	**Pn**	**00 03 13.1**	**-0.6**
TCW	**Tory Channel**	**1.16**	**18**	P	**Pn**	**00 03 13.7**	**-0.3**
TCW				S	**Sg**	**00 03 32.6**	**+2.1**
MRNZ	**Matariki Terra**	**1.20**	**319**	P	**Pn**	**00 03 14.7**	**+0.1**
MRNZ				S	**Sn**	**00 03 32.0**	**+1.6**
BHW	**Baring Head**	**1.21**	**42**	P	**Pn**	**00 03 14.4**	**-0.3**
AMCZ	**Amberley**	**1.21**	**224**	P	**Pg**	**00 03 16.1**	**-0.1**
SNZO	**South Karori**	**1.21**	**34**	P	**Pn**	**00 03 14.4**	**-0.3**
LTZ	**Lake Taylor**	**1.22**	**247**	P	**Pn**	**00 03 15.3**	**+0.3**
LTZ				S	**Sg**	**00 03 32.6**	**0.0**
WEL	**Wellington**	**1.26**	**35**	P	**Pn**	**00 03 15.3**	**-0.1**
WEL				S	**Sg**	**00 03 34.3**	**+0.6**
PLWZ	**Palliser**	**1.31**	**56**	P	**Pn**	**00 03 15.8**	**-0.5**
MSWZ	**Moikau Station**	**1.41**	**51**	P	**Pn**	**00 03 16.8**	**-0.7**
TKNZ	**Takaka Hill**	**1.43**	**334**	P	**Pn**	**00 03 18.2**	**+0.4**
OKCZ	**Okains Bay**	**1.51**	**201**	P	**Pn**	**00 03 19.2**	**+0.2**
DUWZ	**D'Urville Isla**	**1.51**	**3**	P	**Pn**	**00 03 18.9**	**-0.1**
CAW	**Cannon Point**	**1.53**	**39**	P	**Pn**	**00 03 18.8**	**-0.4**
DSZ	**Denniston Nort**	**1.59**	**290**	P	**Pn**	**00 03 21.1**	**+1.0**
MQZ	**McQueen's Hall**	**1.63**	**211**	P	**Pn**	**00 03 19.7**	**-0.8**
OXZ	**Oxford**	**1.65**	**231**	P	**Pn**	**00 03 18.8**	**-2.0**
KIW	**Kapiti Island**	**1.67**	**30**	P	**Pn**	**00 03 21.0**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.69**	**202**	P	**Pn**	**00 03 21.4**	**0.0**
MTW	**Mount Morrison**	**1.72**	**48**	P	**Pn**	**00 03 20.7**	**-1.0**
QRZ	**Quartz Range**	**1.77**	**327**	P	**Pn**	**00 03 23.6**	**+1.2**
QRZ	**Quartz Range**	**1.77**	**327**	P	**Pn**	**00 03 23.6**	**+1.2**
INZ	**Inchbonnie**	**1.79**	**256**	P	**Pn**	**00 03 23.4**	**+0.7**
OGWZ	**Otaki Gorge**	**1.81**	**35**	P	**Pn**	**00 03 22.6**	**-0.5**
RACZ	**Rakaia**	**1.86**	**220**	P	**Pn**	**00 03 23.3**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.91**	**43**	P	**Pn**	**00 03 23.5**	**-1.0**
TMWZ	**Te Maipa**	**1.98**	**53**	P	**Pn**	**00 03 23.8**	**-1.5**
MHCZ	**Mount Hutt**	**2.04**	**233**	P	**Pn**	**00 03 25.5**	**-0.7**
MRZ	**Mangatainoka R**	**2.12**	**40**	P	**Pn**	**00 03 26.4**	**-0.9**
WACZ	**Wakanui South**	**2.17**	**221**	P	**Pn**	**00 03 27.7**	**-0.2**
TIWZ	**Tintock**	**2.19**	**46**	P	**Pn**	**00 03 27.3**	**-1.0**
CPWZ	**Castlepoint**	**2.28**	**53**	P	**Pn**	**00 03 29.7**	**+0.2**
PRWZ	**Pori Road**	**2.40**	**44**	P	**Pn**	**00 03 29.8**	**-1.3**
BFZ	**Birch Farm**	**2.46**	**49**	P	**Pn**	**00 03 30.6**	**-1.3**
BFZ	**Birch Farm**	**2.46**	**49**	P	**Pn**	**00 03 30.2**	**-1.7**
ARCZ	**Arundel**	**2.52**	**229**	P	**Pn**	**00 03 32.5**	**-0.3**
WAZ	**Wanganui**	**2.71**	**20**	P	**Pn**	**00 03 36.9**	**+1.5**
TSZ	**Takapari Road**	**2.78**	**37**	P	**Pn**	**00 03 35.2**	**-1.2**
LREZ	**Lake Rotokare**	**2.89**	**9**	P	**Pn**	**00 03 39.3**	**+1.5**
KHEZ	**Kahui Hut**	**3.02**	**3**	P	**Pn**	**00 03 42.0**	**+2.3**
VRZ	**Vera Road**	**3.27**	**13**	P	**Pn**	**00 03 44.5**	**+1.5**
WNVZ	**Wahianoa**	**3.28**	**25**	P	**Pn**	**00 03 43.8**	**+0.4**
WHVZ	**Whangaehu Hut**	**3.32**	**25**	P	**Pn**	**00 03 44.5**	**+0.6**
NGZ	**Ngauruhoe**	**3.42**	**24**	P	**Pn**	**00 03 46.1**	**+0.8**
SNVZ	**South Ngauruho**	**3.42**	**25**	P	**Pn**	**00 03 46.5**	**+1.2**
ETVZ	**East Tongariro**	**3.49**	**25**	P	**Pn**	**00 03 47.0**	**+0.8**
TMVZ	**Te Maari**	**3.51**	**25**	P	**Pn**	**00 03 46.5**	**0.0**
NTVZ	**North Tongarir**	**3.51**	**25**	P	**Pn**	**00 03 46.9**	**+0.4**
ODZ	**Otahua Downs**	**3.56**	**219**	P	**Pn**	**00 03 46.8**	**-0.2**
BKZ	**Black Stump Fm**	**3.75**	**34**	P	**Pn**	**00 03 49.6**	**-0.1**
HIZ	**Hauiti**	**3.88**	**12**	P	**Pn**	**00 03 52.9**	**+1.4**
HIZ	**Hauiti**	**3.88**	**12**	P	**Pn**	**00 03 53.0**	**+1.4**

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*HVO **14** 00:09:20.8±0.9, 19.°40N±0.°01×155.°267W±0.°008, h-0km±3km, ML3.5/35, ML2.9/36(NEIC), Error ellipse: s-maj=1.6km s-min=1.0km az=183.0*
NEIC 14 00:09:20.8±0.9, 19.°411N±0.°009×155.°288W±0.°007, h5km±1km, Error ellipse: s-maj=1.3km s-min=0.9km az=163.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**30**		Pg	00 09 21.7	-0.1
UWE	**Uwekahuna**	**0.01**	**335**		Pg	00 09 21.9	0.0
WRMHI	**West Rim**	**0.01**	**249**		Pg	00 09 22.1	+0.2
UWB	**Uwekahuna B**	**0.02**	**35**		Pg	00 09 21.8	0.0
RIM	**Rim**	**0.02**	**140**		Pg	00 09 21.3	-0.6
SDHHI	**Sand Hill**	**0.02**	**195**		Pg	00 09 21.9	0.0
KKO	**Keanakako`i**	**0.03**	**122**		Pg	00 09 21.2	-0.7
SBLHI	**Steaming Bluff**	**0.03**	**50**		Pg	00 09 21.9	0.0
BYL	**Byron's Ledge**	**0.03**	**88**		Pg	00 09 21.3	-0.6
HATHI	**Halema'uma'u T**	**0.03**	**65**		Pg	00 09 21.7	-0.2
RSD	**Rainshed**	**0.05**	**10**		Pg	00 09 22.1	-0.1
PUH	**Pauahi**	**0.08**	**118**		Pg	00 09 21.9	-0.6
PUH				IAML		00 09 23.2	
	comp=E,9μm,1.0s						
PUH				IAML		00 09 23.3	
	comp=N,7μm,0.3s						
HLP	**Hilina Pali**	**0.12**	**189**		Pg	00 09 23.6	+0.4
HLP				IAML		00 09 26.1	
	comp=N,4μm,1.3s						
HLP				IAML		00 09 26.4	
	comp=E,6μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.12**	**106**		Pg	00 09 22.8	-0.4
MLH	**Mauna Loa**	**0.12**	**312**		Pg	00 09 24.4	+0.9
MLH				IAML		00 09 27.9	
	comp=N,2μm,0.8s						
MLH				IAML		00 09 28.0	
	comp=E,5μm,1.2s						
STCH	**Steam Cracks**	**0.16**	**99**		Pg	00 09 22.9	-1.1
NPOC	**North of Pu'u**	**0.17**	**96**		Pg	00 09 24.5	+0.3
HMH	**Humu'ula Sheep**	**0.27**	**316**		Pg	00 09 25.5	-0.6
HMH					Sg	00 09 30.8	+1.1
HMH				IAML		00 09 35.4	
	comp=N,2μm,0.7s						
HMH				IAML		00 09 35.6	
	comp=E,2μm,1.5s						
JOKA	**Jonika Flow**	**0.27**	**85**	Pg	Pg	00 09 25.0	-1.1
JOKA					Sb	00 09 31.6	-1.5
JOKA				IAML		00 09 33.6	
	comp=E,1μm,0.8s						
JOKA				IAML		00 09 33.6	
	comp=N,3μm,0.9s						
MLOA	**Mauna Loa Obse**	**0.30**	**295**		Pg	00 09 26.9	+0.1
MLOA				IAML		00 09 36.7	
	comp=E,2μm,1.0s						
MLOA				IAML		00 09 37.6	
	comp=N,2μm,1.0s						
MWH	**Moku'aweowe**	**0.30**	**284**	Pg	Pg	00 09 27.3	+0.5
MWH					Sg	00 09 32.0	+1.1
PAH	**Pahoa**	**0.33**	**75**	Pg	Pg	00 09 27.6	+0.4
PHO	**Puu Honuaula**	**0.38**	**79**	Pg	Pg	00 09 27.9	-0.3
HPO	**Honuapo**	**0.41**	**218**		Pg	00 09 28.2	-0.4
POHA	**Pohakuloa**	**0.41**	**326**		Pg	00 09 27.4	-1.5
POHA					Sb	00 09 36.7	-0.8
POHA	**Pohakuloa**	**0.41**	**326**	IAML		00 09 43.9	
	comp=N,2μm,1.2s						
HUH	**Hualalai**	**0.58**	**298**		Pg	00 09 32.6	+0.6
HPAH	**Hawaii Prepara**	**0.73**	**328**	Pg	Pg	00 09 34.7	-0.1
HPAH				IAML		00 09 55.8	
	comp=E,527nm,1.3s						
HPAH				IAML		00 09 59.6	
	comp=N,830nm,1.2s						

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*NEIC **14** 00:11:05.4±1.3, 46.°63N±0.°02×120.°53W±0.°03, h15km±6km, Error ellipse: s-maj=3.6km s-min=1.4km az=222.0*
*PNSN **14** 00:11:05.3, 46.°62N×120.°53W, h15km, MD2.6, Fault plane solution: NP1:φs125.00000°, δ80.00000°, λ-170.00000°.*
SEA 14 00:11:05.3±1.5, 46.°62N±0.°03×120.°53W±0.°03, h15km±5km, ML2.6/19, ML2.8/88(NEIC), Error ellipse: s-maj=4.2km s-min=2.0km az=206.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YA2	**Yakima**	**0.10**	**183**		Pg	00 11 08.8	+0.2
MXC	**Moxie City**	**0.17**	**106**		Pg	00 11 09.7	+0.2
MXC					Sb	00 11 12.9	-0.6
MXC				IAML		00 11 13.1	
	comp=N,2μm,0.6s						
MXC				IAML		00 11 13.2	
	comp=E,2μm,0.4s						
NAC	**Naches**	**0.23**	**298**		Pg	00 11 10.9	+0.4
EBG	**Ellensburg**	**0.29**	**354**		Pb	00 11 12.2	-0.1
TRW	**Toppenish Ridg**	**0.33**	**182**		Pg	00 11 12.4	+0.2
BRVW	**Black Rock Val**	**0.39**	**110**		Pg	00 11 13.6	+0.2
E07A	**Sunnyside**	**0.47**	**98**		Pg	00 11 14.7	+0.1
E07A					Sb	00 11 21.6	-0.5
E07A				IAML		00 11 21.9	
	comp=N,616nm,0.5s						
E07A				IAML		00 11 22.0	
	comp=E,598nm,0.4s						
MDW	**Midway**	**0.53**	**91**		Pg	00 11 15.8	0.0
MDW					Sb	00 11 23.6	-0.2
TBM	**Table Mountain**	**0.55**	**355**		Pb	00 11 16.5	-0.2
BENWA	**Benson Ranch**	**0.57**	**100**		Pg	00 11 16.4	-0.1
SNIWA	**Snively Ranch**	**0.62**	**105**		Pg	00 11 17.4	-0.1
GBB	**Gable Butte**	**0.62**	**91**		Pg	00 11 17.5	0.0
GBB					Sb	00 11 26.5	+0.1
LTY	**Liberty**	**0.64**	**351**		Pg	00 11 17.4	-0.5
LTY					Sg	00 11 26.4	-0.1
LTY				IAML		00 11 27.3	
	comp=E,338nm,0.3s						
WAH2	**Wahluke Slope**	**0.67**	**78**		Pg	00 11 18.5	0.0
PRW	**Prosser**	**0.71**	**125**		Pg	00 11 18.8	-0.4
HAWA	**Hanford**	**0.72**	**108**		Pg	00 11 18.9	-0.5
HAWA					Sg	00 11 29.0	0.0
HAWA				IAML		00 11 29.4	
	comp=E,241nm,0.4s						
GBL	**Gable Mountain**	**0.73**	**92**		Pg	00 11 19.5	-0.2
BLTW	**Bickleton**	**0.75**	**161**		Pg	00 11 19.0	-0.9
LOCW	**Locke Island**	**0.76**	**83**		Pg	00 11 20.1	-0.1
FHE	**Frenchman Hill**	**0.78**	**65**		Pg	00 11 20.4	-0.1
FHE					Sb	00 11 31.4	+0.3
H2OWA	**Water**	**0.79**	**106**		Pg	00 11 20.2	-0.6
H2OWA					Sb	00 11 31.4	0.0
MJ2	**May Junction 2**	**0.81**	**94**		Pg	00 11 20.5	-0.5
MJ2					Sb	00 11 32.2	+0.4
CRF	**Corfu**	**0.81**	**75**		Pg	00 11 20.9	-0.2
F07A	**Phinny Hill Vi**	**0.84**	**150**		Pg	00 11 20.9	-0.7
F07A				IAML		00 11 34.4	
	comp=E,360nm,0.4s						
FMW	**Mount Fremont**	**0.85**	**292**		Pg	00 11 20.8	-1.0
RCM	**Mount Rainier-**	**0.86**	**285**		Sg	00 11 32.8	-0.6
RCS	**Mount Rainier-**	**0.87**	**287**		Pg	00 11 21.2	-1.0
WIW	**Wooded Island**	**0.88**	**102**		Pb	00 11 21.6	-0.7
WIW					Sg	00 11 34.3	+0.5
WIW	**Wooded Island**	**0.88**	**102**		Pb	00 11 21.5	-0.7
ASR	**Mount Adams--S**	**0.88**	**238**		Pb	00 11 22.5	+0.1
OT3	**Othello 3**	**0.89**	**87**		Pb	00 11 22.1	-0.5
LON	**Longmire**	**0.89**	**279**		Pb	00 11 21.3	-1.3
LON	**Longmire**	**0.89**	**279**		Pb	00 11 21.5	-1.1
REMR	**Mount Rainier-**	**0.93**	**283**		Pb	00 11 22.2	-1.0
AWST	**Adams West**	**0.99**	**241**		Pb	00 11 23.6	-0.7
E08A	**Dider Farm, El**	**1.02**	**97**		Pb	00 11 23.6	-1.1
E08A				IAML		00 11 39.0	
	comp=N,320nm,0.2s						
VGB	**Gordon Butte**	**1.12**	**189**		Pb	00 11 25.3	-1.2
WTV	**Waterville**	**1.14**	**20**		Pb	00 11 26.4	-0.5
D05A	**Enumclaw**	**1.15**	**300**		Pn	00 11 26.6	-0.4
D05A				IAML		00 11 44.8	
	comp=E,136nm,0.4s						
D05A				IAML		00 11 45.2	
	comp=N,161nm,0.4s						
D08A	**Wollman Farm,**	**1.18**	**68**	Pn	Pn	00 11 26.4	-1.0
D08A				IAML		00 11 43.5	
	comp=E,161nm,0.2s						
D08A				IAML		00 11 43.6	
	comp=N,129nm,0.1s						
TDL	**Tradedollar La**	**1.20**	**257**		Pn	00 11 26.5	-1.2
ESD	**East Dome**	**1.20**	**250**		Pg	00 11 28.5	0.0
JRO	**Jston Ridge Ob**	**1.22**	**254**	IAML		00 11 45.5	
	comp=E,122nm,0.4s						
WRW	**Wenatchee Ridg**	**1.26**	**349**		Pn	00 11 28.1	-0.4
SAW	**Saint Andrews**	**1.32**	**35**		Pn	00 11 28.9	-0.5
G06A	**Carlson Farm,**	**1.39**	**183**		Pn	00 11 29.3	-1.0
G06A				IAML		00 11 49.0	
	comp=E,99nm,0.3s						
F04A	**Amboy**	**1.48**	**243**		Pn	00 11 30.9	-0.6
G05A	**Wamic**	**1.49**

F03A	**Seaside**	**2.22 253**	Pn	Pn	00 11 42.4 +0.8
H04A	**Detroit Lake**	**2.26 212**		Pn	00 11 43.2 +0.9
H04A			IAML		00 12 15.1
comp=N,71nm,0.5s					
RADR	**Rader Ridge**	**2.27 266**	Pn	Pn	00 11 43.0 +0.7
RADR			IAML		00 12 17.7
comp=N,62nm,2.2s					
RADR			IAML		00 12 56.8
comp=E,65nm,2.0s					
WISH	**Wishkah**	**2.28 284**	Pn	Pn	00 11 43.8 +1.4
WISH			IAML		00 12 37.5
comp=E,70nm,4.1s					
WISH			IAML		00 13 09.2
comp=N,55nm,3.2s					
MBW	**Mount Baker**	**2.35 337**		Pb	00 11 47.0 -0.6
I05D	**Terrebonne, OR**	**2.36 194**		Pn	00 11 44.9 +1.3
F10A	**Beach Ranch, E**	**2.38 105**	Pn	Pn	00 11 43.9 0.0
F10A			IAML		00 12 22.2
comp=E,62nm,0.6s					
G03D	**McMinnville, O**	**2.38 235**	Pn	Pn	00 11 43.8 0.0
G03D			IAML		00 12 27.9
comp=N,52nm,1.8s					
G03D			IAML		00 12 49.4
comp=E,46nm,3.4s					
NLWA	**Neilton Lookou**	**2.41 290**	Pn	Pb	00 11 46.5 -2.0
B04A	**Port Angeles**	**2.48 306**		Pn	00 11 45.4 +0.2
B04A			IAML		00 12 31.2
comp=N,25nm,1.7s					
H04D	**Lebanon**	**2.61 217**	Pn	Pn	00 11 48.5 +1.4
H04D			IAML		00 12 27.8
comp=N,48nm,0.5s					
I07A	**Izee**	**2.64 164**		Pn	00 11 47.5 -0.1
HEBO	**Mount Hebo**	**2.66 239**	Pn	Pn	00 11 48.0 +0.2
OBC	**Olympics--Boni**	**2.80 302**		Pn	00 11 47.5 -2.1
NEW	**Newport**	**2.83 53**		Pn	00 11 49.1 -1.0
NEW			IAML		00 12 41.9
comp=N,22nm,0.4s					
PGC	**Sidney**	**2.83 317**	Pn	Pn	00 11 50.8 +0.7
PINE	**Pine Mountain**	**2.85 186**		Pn	00 11 50.6 +0.2
PINE			IAML		00 12 39.2
comp=N,28nm,0.8s					
PINE			IAML		00 12 43.7
comp=E,30nm,0.8s					
BMO	**Blue Mountains**	**2.87 127**		Pn	00 11 50.4 -0.2
BUCK	**Buck Mountain**	**2.98 216**	Pn	Pn	00 11 53.1 +0.9
C03A	**Quillayute Air**	**3.05 297**	Pn	Pn	00 11 55.9 +2.8
I04A	**Tendick Farm,**	**3.13 206**	Pn	Pn	00 11 54.6 +0.4
I04A			IAML		00 12 40.0
comp=N,17nm,2.9s					
I04A			IAML		00 12 44.3
comp=E,17nm,1.3s					
J05D	**Fort Rock, OR**	**3.38 189**		Pn	00 12 01.3 +3.6
J05D			IAML		00 13 22.7
comp=E,22nm,4.7s					
J05D			IAML		00 13 40.2
comp=N,20nm,3.8s					
PLID	**Pearl Lake**	**3.52 114**	Pn	Pn	00 11 60.0 +0.3
I03D	**Drain, OR**	**3.54 215**	Pn	Pn	00 11 59.4 -0.4
J08A	**Circle Bar Ran**	**3.58 155**		Pn	00 12 00.4 0.0
VCMT	**Victor**	**4.38 90**		Pn	00 12 11.2 -0.2
WVOR	**Wild Horse Val**	**4.40 161**	Pn	Pn	00 12 08.6 -3.1
MSO	**Missoula**	**4.53 85**	Pn	Pn	00 12 11.9 -1.7
MSO			IAML		00 13 37.8
comp=N,8.7nm,1.4s					
MSO			IAML		00 13 40.6
comp=N,8.1nm,0.9s					
LRM	**Limekiln Ridge**	**5.66 95**	Pn	Pn	00 12 28.9 -0.3
MCMT	**McKenzie Canyo**	**5.67 106**	Pn	Pn	00 12 29.4 +0.2
DLMT	**Dillon**	**5.67 100**	Pn	Pn	00 12 29.6 +0.4
BOZ	**Bozeman (W)**	**6.27 96**	Pn	Pn	00 12 37.6 +0.2
YHH	**Holmes Hill**	**7.02 102**	Pn	Pn	00 12 47.9 0.0

*NEIC **14** 00:13:38.8±0.9, 17°.8S±0°.2×178°.6W±0°.1, h590km±8km, mb4.2/24, Error ellipse: s-maj=26.2km s-min=11.1km az=153.0*
*IDC **14** 00:13:39.1±4.9, 17°.49S×178°.77W, h591km±67km, mb3.4/9, mbtmp4.3/10, Error ellipse: s-maj=47.5km s-min=15.7km az=170.0*
ISC 14 00:13:39.1±0.6, **17°.8S**±0°.1×**178°.56W**±0°.09, **h600**km, **n43,** σ0§98/43, **mb4.1**/20, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.23**	**271**	P	**P**	**00 15 00.3**	**+0.6**
AFI	**Afiamalu**	**7.60**	**60**	P	**P**	**00 15 33.4**	**-1.5**
NIUE	**Niue**	**8.29**	**100**	P	**P**	**00 15 38.7**	**-2.5**
PINNC	**Pines Island,**	**13.97**	**248**	P	**P**	**00 16 37.6**	**0.0**
OUENC	**Ouen Island, N**	**14.45**	**249**	P	**P**	**00 16 40.8**	**-1.4**
DZM	**Mont Dzumac**	**14.71**	**251**	P	**P**	**00 16 44.5**	**-0.2**
DZM	**Mont Dzumac**	**14.71**	**251**	P	**P**	**00 16 44.7**	**0.0**
3.2nm,0.6s,baz=82,slow=19,SNR=5.3							
URZ	**Urewera**	**20.70**	**190**	P	**P**	**00 17 42.3**	**+3.3**
5.3nm,0.7s,baz=0.0,slow=14,SNR=1.5							
5.3nm,0.7s							
MSWZ	**Moikau Station**	**24.10**	**191**	P	**P**	**00 18 09.5**	**+0.3**
PPT	**Papeete**	**27.61**	**94**	P	**P**	**00 18 42.4**	**+2.1**
22nm,0.6s,baz=67,slow=15,SNR=2.2							
22nm,0.6s							
PPTF	**Pamatai, Papee**	**27.61**	**94**	P	**P**	**00 18 40.7**	**+0.3**
CTAO	**Charters Tower**	**33.31**	**260**	P	**P**	**00 19 29.1**	**0.0**
COEN	**Coen**	**36.96**	**270**	P	**P**	**00 20 00.1**	**+0.8**
COEN				IAmb	IAmb	00 20 01.5	
comp=Z,13nm,0.9s							
TOO	**Toolangi**	**37.11**	**231**	P	**P**	**00 19 59.1**	**-1.2**
TOO				IAmb	IAmb	00 20 01.3	
comp=Z,16nm,1.2s							
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**00 20 12.3**	**+0.4**
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**00 20 11.9**	**0.0**
comp=Z,2.4nm,0.6s,baz=82,slow=9.3,SNR=5.4							
comp=Z,2.4nm,0.6s							
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**00 20 49.1**	**-0.5**
WR0	**Warramunga Arr**	**44.31**	**259**	P	**P**	**00 20 57.1**	**-0.3**
WR0				IAmb	IAmb	00 20 58.5	
comp=Z,4.9nm,1.1s							
WB0	**Warramunga Arr**	**44.47**	**260**	P	**P**	**00 20 58.5**	**-0.2**
WB0				IAmb	IAmb	00 20 58.7	
comp=Z,4.5nm,0.7s							
WB2	**Warramunga Arr**	**44.49**	**259**	P	**P**	**00 20 58.3**	**-0.6**
WB2				IAmb	IAmb	00 20 59.4	
comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**44.50**	**259**	P	**P**	**00 20 58.5**	**-0.5**
WRA	**Warramunga Arr**	**44.50**	**259**	P	**P**	**00 20 58.5**	**-0.5**
comp=Z,3.5nm,0.7s,baz=96,slow=7.1,SNR=47							
comp=Z,3.5nm,0.7s							
AS31	**Alice Springs**	**44.67**	**254**	P	**P**	**00 21 00.2**	**0.0**
AS31				IAmb	IAmb	00 21 00.9	
comp=Z,4.2nm,0.7s							
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**00 20 60.0**	**-0.3**
comp=Z,15nm,0.7s,baz=87,slow=8.6,SNR=160							
comp=Z,15nm,0.7s							
MTN	**Manton Dam**	**48.65**	**268**	P	**P**	**00 21 29.9**	**-0.2**
MTN				IAmb	IAmb	00 21 30.4	
comp=Z,11nm,0.9s							
FORT	**Forrest**	**49.91**	**245**	P	**P**	**00 21 38.2**	**-1.0**
KNRA	**Kununurra**	**50.35**	**264**	P	**P**	**00 21 42.6**	**0.0**
KNRA				IAmb	IAmb	00 22 17.4	
comp=Z,23nm,1.4s							
FITZ	**Fitzroy Crossi**	**52.90**	**261**	P	**P**	**00 22 00.8**	**-0.1**
MBWA	**Marble Bar**	**57.95**	**256**	P	**P**	**00 22 35.2**	**-0.5**
MBWA				IAmb	IAmb	00 23 05.4	
comp=Z,20nm,1.2s							
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**00 24 45.2**	**+0.4**
comp=Z,1.0nm,0.7s,baz=226,slow=7.9,SNR=8.8							
comp=Z,1.0nm,0.7s							
K15K	**Wolf Creek Mou**	**80.99**	**8**	P	**P**	**00 24 52.6**	**+0.8**
WVOR	**Wild Horse Val**	**81.44**	**40**	P	**P**	**00 24 55.0**	**+0.3**
WVOR				IAmb	IAmb	00 25 25.3	
comp=Z,3.2nm,0.8s							
L18K	**Granite Mounta**	**81.64**	**10**	P	**P**	**00 24 55.9**	**+0.8**
KNK	**Knik Glacier**	**82.56**	**14**	P	**P**	**00 24 59.5**	**-0.3**
KNK				IAmb	IAmb	00 24 59.9	
comp=Z,20nm,1.3s							
U15A	**North Rim**	**82.58**	**48**	P	**P**	**00 25 01.3**	**+0.5**
SCRK	**Sand Creek**	**85.82**	**15**	P	**P**	**00 25 17.9**	**+2.0**
ILAR	**Eielson Array**	**85.84**	**13**	P	**P**	**00 25 15.2**	**-0.6**
comp=Z,0.4nm,0.4s,baz=218,slow=4.7,SNR=5.7							
comp=Z,0.4nm,0.4s							
J25K	**Salcha River,**	**86.04**	**14**	P	**P**	**00 25 16.9**	**+0.1**
TX31	**Lajitas Ar. Si**	**86.08**	**58**	P	**P**	**00 25 17.8**	**0.0**
TX31				IAmb	IAmb	00 25 19.8	
comp=Z,2.4nm,0.9s							
TXAR	**Lajitas Array**	**86.08**	**58**	P	**P**	**00 25 18.1**	**+0.2**
TXAR	**Lajitas Array**	**86.08**	**58**	P	**P**	**00 25 18.8**	**+0.9**
comp=Z,1.4nm,0.8s,baz=218,slow=6.1,SNR=19							
comp=Z,1.4nm,0.8s							
PDAR	**Pinedale Array**	**87.39**	**43**	P	**P**	**00 25 23.9**	**0.0**
comp=Z,0.5nm,0.4s,baz=236,slow=3.5,SNR=8.2							
comp=Z,0.5nm,0.4s							
GERES	**GERESS Array B**	**147.50**	**345**	PKPbc	**PKPbc**	**00 32 16.1**	**-0.7**
comp=Z,0.9nm,1.0s,baz=18,slow=1.2,SNR=3.6							

IDC 14 00:27:53.2±1.6, **0°.82N×124°.68E, h0**km, **mb3.3**/4, **mbtmp3.4/4, MS2.4/1, Error ellipse: s-maj=198.7km s-min=22.7km az=64.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**6.27**	**8**	LR	LR	00 31 59.4	
comp=Z,33nm,18.4s,baz=158,slow=39							
WRA	**Warramunga Arr**	**22.70**	**156**	P	P	00 32 56.9	+0.1
0.7nm,0.5s,baz=334,slow=10,SNR=9.0							
0.7nm,0.5s							
ASAR	**Alice Springs**	**25.94**	**160**	P	P	00 33 27.2	-0.3
0.2nm,0.5s,baz=338,slow=8.1,SNR=5.3							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**58.82**	**327**	P	P	00 37 53.7	+0.1
0.2nm,0.4s,baz=122,slow=8.1,SNR=4.5							
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**63.12**	**329**	P	P	00 38 22.7	0.0
0.2nm,0.7s,baz=136,slow=6.3,SNR=2.3							
0.2nm,0.7s							

*KOLA **14** 00:43:39.9, 77°.02N×19°.00E, h0km, ML2.7, Error ellipse: s-maj=15.9km s-min=7.9km az=120.0, Storfjorden zone*
*NAO **14** 00:43:40.2±1.0, 76°.97N×19°.00E, h17km±11km, ML2.9*
*BER **14** 00:43:42.8±2.2, 76°.99N×19°.17E, h15km±11km, ML2.6, ML2.9(NAO), Confirmed Earthquake*
*FCIAR **14** 00:43:43.0, 77°.07N×20°.27E, h10km, station ZFI2 has station magnitude of 4.00*
ISC 14 00:43:40.2±1.2, **77°.04N**±0°.04×**19°.17E**±0°.03, **h18**km±5km, **n22,** σ1§09/44, **1C, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.82**	**269**	P	**Pb**	**00 43 55.5**	**-0.4**
HSPB				S	**Sb**	**00 44 06.5**	**-0.1**
HSPB	**Hornsund (broa**	**0.82**	**269**	Pg	**Pb**	**00 43 55.4**	**-0.4**
HSPB				Lg	Lg	00 44 05.9	
SPA0	**Spitsbergen Ar**	**1.29**	**334**	Pn	**Pb**	**00 44 04.4**	**+0.4**
baz=150,slow=22							
SPA0				Pg	**Pg**	**00 44 05.3**	**+0.2**
baz=151,slow=22							
SPA0				Sg	**Sg**	**00 44 23.7**	**+1.6**
baz=137,slow=37							
SPA0	**Spitsbergen Ar**	**1.29**	**334**	Pn	**Pb**	**00 44 04.4**	**+0.4**
baz=150,slow=22							
SPA0				Pg	**Pg**	**00 44 05.3**	**+0.2**
baz=151,slow=22							
SPA0				Lg	Lg	00 44 23.7	
baz=137,slow=37							
SPA0	**Spitsbergen Ar**	**1.29**	**334**	↑*i*P	**Pb**	**00 44 04.2**	**+0.2**
SPA0				*e*S	**Sg**	**00 44 22.1**	**0.0**
SPITS	**Spitsbergen Ar**	**1.29**	**334**	P	**Pb**	**00 44 04.1**	**+0.1**
SPITS				S	**Sg**	**00 44 22.7**	**+0.6**
HOPEN	**Hopen**	**1.45**	**109**	*e*P	**Pb**	**00 44 06.0**	**-0.5**
HOPEN				*e*Pg	**Pg**	**00 44 08.4**	**+0.4**
HOPEN				*e*Sg	**Sg**	**00 44 26.3**	**-0.5**
HOPEN				IAML		00 44 28.8	
comp=Z,230nm,0.4s							
HOPEN	**Hopen**	**1.45**	**109**	Pn	**Pb**	**00 44 06.0**	**-0.5**
HOPEN				Pg	**Pg**	**00 44 08.5**	**+0.4**
HOPEN				Lg	Lg	00 44 26.2	
HOPEN	**Hopen**	**1.45**	**109**	*e*P	**Pb**	**00 44 05.6**	**-0.8**
HOPEN				*e*S	**Sn**	**00 44 22.0**	**-1.8**
BRBA	**Barentsburg A**	**1.49**	**316**	*e*P	**Pg**	**00 44 08.4**	**-0.4**
BRBA				*e*S	**Sg**	**00 44 27.4**	**-0.7**
BRBA				IAML		00 44 28.6	
comp=Z,100nm,0.6s							
BRBA	**Barentsburg A**	**1.49**	**316**	Pn	**Pn**	**00 44 06.8**	**+0.9**
BRBA				Pg	**Pg**	**00 44 08.3**	**-0.4**
BRBA				Lg	Lg	00 44 28.3	
BRBB	**Barentsburg B**	**1.51**	**317**	P	**Pn**	**00 44 07.0**	**+0.7**
BRBB				S	**Sb**	**00 44 27.0**	**+0.6**
BRBB	**Barentsburg B**	**1.51**	**317**	*e*Pg	**Pg**	**00 44 08.9**	**-0.3**
BRBB				*e*Sg	**Sg**	**00 44 28.8**	**-0.1**
BRBB	**Barentsburg B**	**1.51**	**317**	Pn	**Pn**	**00 44 06.6**	**+0.4**
BRBB				Pg	**Pg**	**00 44 08.8**	**-0.3**
BRBB				Lg	Lg	00 44 28.6	
KBS	**Kingsbay**	**2.42**	**325**	*e*P	**Pn**	**00 44 19.1**	**+0.2**
KBS				*e*Pg	**Pg**	**00 44 25.1**	**-1.5**
KBS				*e*Sg	**Sg**	**00 44 57.0**	**-1.0**
KBS				IAML		00 45 01.1	
comp=Z,76nm,0.5s							
KBS	**Kingsbay**	**2.42**	**325**	Pn	**Pn**	**00 44 19.0**	**+0.2**
KBS				Pg	**Pg**	**00 44 25.2**	**-1.5**
KBS				Lg	Lg	00 44 56.8	
KBS	**Kingsbay**	**2.42**	**325**	*e*P	**Pn**	**00 44 18.9**	**+0.1**
KBS				*e*S	**Sn**	**00 44 49.8**	**+1.8**
BJO1	**Bjornoya**	**2.55**	**181**	*e*Pg	**Pb**	**00 44 24.4**	**-0.9**
BJO1				*e*Sg	**Sb**	**00 44 57.9**	**+1.6**
BJO1				IAML		00 45 05.0	
comp=Z,42nm,0.8s							
BJO1	**Bjornoya**	**2.55**	**181**	Pg	**Pb**	**00 44 25.7**	**+0.4**
BJO1				Lg	Lg	00 44 57.2	
BJO1	**Bjornoya**	**2.55**	**181**	*e*P	**Pb**	**00 44 25.4**	**+0.1**
BJO1				*e*S	**Sb**	**00 44 56.7**	**+0.4**
ZFI2	**Zemlya Franca-**	**6.58**	**42**	P	**Pn**	**00 45 18.6**	**+2.8**
ZFI2				S	**Sn**	**00 46 27.2**	**-2.9**
comp=Z,49nm,1.6s							
OMEGA	**Omega**	**6.58**	**42**	S	**Sn**	**00 46 27.7**	**-2.6**

*NEIC **14** 00:58:35.9±1.6, 19°.30N±0°.07×145°.5E±0°.2, h197km±11km, mb4.0/12, Error ellipse: s-maj=22.6km s-min=5.7km az=65.0*
*IDC **14** 00:58:40.8±6.9, 19°.32N×145°.07E, h246km±70km, mb3.1/6, mbtmp3.7/7, Error ellipse: s-maj=42.5km s-min=15.5km az=95.0*
ISC 14 00:58:35.5±0.9, **19°.41N**±0°.08×**145°.2E**±0°.2, **h200**km, **n21,** σ1§68/23, **mb3.9**/12, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**8.14**	**341**	Pn	**Pn**	**01 00 33.2**	**+2.6**
JCJ				Sn	**Sn**	**01 02 04.8**	**+2.5**
JCJ	**Chichijima**	**8.14**	**341**	P	**Pn**	**01 00 28.8**	**-1.7**
15nm,0.6s,baz=255,slow=5.8,SNR=1.6							
JCJ				S	**Sn**	**01 01 58.0**	**-4.2**
33nm,0.4s,baz=244,slow=23,SNR=8.4							
JSG	**Sagara**	**16.43**	**339**		**Pn**	**01 02 17.2**	**+2.2**
MJAR	**Matsushiro Arr**	**18.14**	**342**	P	**Pn**	**01 02 35.5**	**+0.4**
0.6nm,0.4s,baz=170,slow=10,SNR=4.4							
MTN	**Manton Dam**	**34.91**	**204**	P	**P**	**01 05 08.1**	**-0.3**
SBUM	**Sibu**	**36.38**	**246**	P	**P**	**01 05 20.6**	**-0.3**
WB0	**Warramunga Arr**	**40.35**	**196**	P	**P**	**01 05 54.0**	**+0.1**
WB0				IAmb	IAmb	01 05 57.9	
comp=Z,6.2nm,1.1s							
WR0	**Warramunga Arr**	**40.49**	**196**	P	**P**	**01 05 55.1**	**0.0**
WR0				IAmb	IAmb	01 05 56.0	
comp=Z,4.2nm,1.1s							
WB2	**Warramunga Arr**	**40.52**	**196**	P	**P**	**01 05 55.4**	**+0.1**
WB2				IAmb	IAmb	01 05 56.3	
comp=Z,4.7nm,0.8s							
WRA	**Warramunga Arr**	**40.53**	**196**	P	**P**	**01 05 55.5**	**+0.2**
WRA	**Warramunga Arr**	**40.53**	**196**	P	**P**	**01 05 55.2**	**-0.1**
comp=Z,3.2nm,0.7s,baz=25,slow=8.2,SNR=32							
comp=Z,3.2nm,0.7s							
ASAR	**Alice Springs**	**44.21**	**195**	P	**P**	**01 06 24.9**	**0.0**
comp=Z,0.5nm,0.6s,baz=19,slow=8.0,SNR=7.9							
comp=Z,0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**60.48**	**318**	P	**P**	**01 08 24.6**	**+0.4**
comp=Z,0.1nm,0.4s,baz=94,slow=7.8,SNR=2.0							
comp=Z,0.1nm,0.4s							
ILAR	**Eielson Array**	**63.22**	**26**	P	**P**	**01 08 42.9**	**+0.6**
comp=Z,0.4nm,0.7s,baz=258,slow=5.3,SNR=3.4							
comp=Z,0.4nm,0.7s							
NVAR	**Mina Array Bea**	**83.08**	**52**	P	**P**	**01 10 40.8**	**+1.5**
comp=Z,1.0nm,0.6s,baz=271,slow=5.8,SNR=12							
comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**86.05**	**335**	P	**P**	**01 10 53.5**	**+0.2**
comp=Z,0.3nm,0.4s,baz=69,slow=4.8,SNR=6.0							
comp=Z,0.3nm,0.4s							
SPUT	**South Promonto**	**86.27**	**48**	P	**P**	**01 10 54.7**	**-0.4**
V12A	**Nelson**	**86.60**	**53**	P	**P**	**01 10 55.5**	**-1.2**
V12A				IAmb	IAmb	01 10 58.4	
comp=Z,1.5nm,0.8s							
CCUT	**Cedar City**	**87.04**	**51**	P	**P**	**01 10 55.7**	**-3.3**
CCUT				IAmb	IAmb	01 10 58.1	
comp=Z,3.1nm,0.9s							
JLU	**Jordanelle**	**87.24**	**48**	P	**P**	**01 10 58.6**	**-1.3**
LCMT	**Little Creek M**	**87.33**	**52**	P	**P**	**01 11 00.2**	**-0.1**
LCMT				IAmb	IAmb	01 11 02.2	
comp=Z,1.9nm,0.7s							

*RSPR **14** 01:25:09.6, 19°.15N×68°.48W, h25km±38km, MD3.1/18*
*SDD **14** 01:25:10.8±2.8, 18°.96N×68°.26W, h20km±52km, MD3.4, ML3.5, MW3.6*
*NEIC **14** 01:25:12.3±2.1, 18°.82N±0°.07×68°.33W±0°.05, h35km±2km, ML3.4/32, Md3.1/15(RSPR), Error ellipse: s-maj=13.2km s-min=7.3km az=200.0*
*OSPL **14** 01:25:13.1±2.2, 18°.84N×68°.08W, h0km±41km, ML3.3*
ISC 14 01:25:10.9±1.2, **18°.91N**±0°.05×**68°.23W**±0°.02, **h10**km±9km, **n69,** σ1§40/96, **22C-21D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.41**	**200**	*i*P	**Pg**	**01 25 20.1**	**+1.0**
PCDR	**Punta Cana, DR**	**0.41**	**200**		**Pg**	**01 25 20.1**	**+1.0**
PCDR					**Sb**	**01 25 27.4**	**+0.6**
PCDR				IAML		01 25 28.2	
comp=N,3μm,0.3s							
PCDR				IAML		01 25 28.3	
comp=E,2μm,0.3s							
PCDR	**Punta Cana, DR**	**0.41**	**200**	*i*P	**Pg**	**01 25 20.1**	**+1.0**
PCDR				*e*S	**Sb**	**01 25 26.9**	**+0.1**
PCDR				IAML		01 25 29.0	
comp=Z,1μm,0.2s							
HIDR	**Higuey Centro**	**0.56**	**236**	↓*e*Pg	**Pg**	**01 25 21.4**	**-0.4**
HIDR				↓*e*Sg	**Sg**	**01 25 28.9**	**-0.2**
HIDR				IAML		01 25 30.4	
comp=N,7μm,0.2s							
MIDR	**Miches**	**0.78**	**276**	↑*e*Pg	**Pg**	**01 25 24.2**	**-1.8**
MIDR				↑*e*Sg	**Sg**	**01 25 34.3**	**-1.9**
MIDR				IAML		01 25 37.1	
comp=N,365nm,0.2s							
SADR	**Isla Saona**	**0.88**	**216**	↑*e*Sg	**Sg**	**01 25 39.1**	**-0.2**
AGPR	**Aguadilla, PR**	**1.15**	**112**	↑*e*P	**Pb**	**01 25 31.6**	**-1.3**
AGPR	**Aguadilla, PR**	**1.15**	**112**	*e*S	**Sb**	**01 25 49.3**	**+1.4**
AGPR	**Aguadilla, PR**	**1.15**	**112**	Pn	**Pb**	**01 25 31.9**	**-1.1**
AGPR				Sn	**Sb**	**01 25 49.6**	**+1.7**
AGPR				IAML		01 25 52.3	
comp=N,795nm,0.5s							
AGPR				IAML		01 25 53.3	
comp=E,826nm,0.3s							
AGPR	**Aguadilla, PR**	**1.15**	**112**	↑*e*Pg	**Pb**	**01 25 31.7**	**-1.2**
AGPR				↓*e*Sg	**Sb**	**01 25 47.6**	**-0.2**
AGPR				IAML		01 25 52.1	
comp=N,738nm,0.5s							
AGPR				IAML		01 25 53.1	
comp=E,818nm,0.2s							
AGPR	**Aguadilla, PR**	**1.15**	**112**	*i*P	**Pb**	**01 25 31.6**	**-1.3**
AGPR				IAML		01 25 54.1	
comp=Z,238nm,0.2s							
PRSN	**Puerto Rico Se**	**1.24**	**123**	↑*e*P	**Pn**	**01 25 31.9**	**-2.5**
PRSN	**Puerto Rico Se**	**1.24**	**123**	*e*S	**Sg**	**01 25 52.9**	**+2.1**
PRSN	**Puerto Rico Se**	**1.24**	**123**	Pn	**Pn**	**01 25 31.7**	**-2.6**
PRSN					**Sb**	**01 25 49.6**	**-0.9**
PRSN				IAML		01 25 58.1	
comp=E,1μm,0.3s							
LSP	**Las Mesas**	**1.31**	**124**	↓*e*P	**Pn**	**01 25 33.8**	**-1.6**
LSP	**Las Mesas**	**1.31**	**124**	*e*S	**Sg**	**01 25 55.8**	**+2.8**
LSP	**Las Mesas**	**1.31**	**124**		**Pn**	**01 25 33.7**	**-1.6**
CRPR	**Cabo Rojo, PR**	**1.39**	**130**	↓*e*P	**Pn**	**01 25 34.6**	**-1.8**
CRPR	**Cabo Rojo, PR**	**1.39**	**130**	*e*S	**Sg**	**01 25 56.5**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.39**	**130**		**Pn**	**01 25 34.2**	**-2.2**
CRPR					**Sn**	**01 25 52.8**	**-2.1**
CRPR	**Cabo Rojo, PR**	**1.39**	**130**	↓*e*Pg	**Pn**	**01 25 36.0**	**-0.4**
CRPR				↑*e*Sg	**Sn**	**01 25 55.2**	**+0.3**
CRPR				IAML		01 26 02.3	
comp=E,132nm,0.2s							
CRPR				IAML		01 26 07.2	
comp=N,172nm,0.3s							
MLPR	**Magueyes Islan**	**1.46**	**129**	↓*e*P	**Pn**	**01 25 34.8**	**-2.6**
MLPR	**Magueyes Islan**	**1.46**	**129**	*e*S	**Sn**	**01 25 55.7**	**-0.9**
MLPR	**Magueyes Islan**	**1.46**	**129**		**Pn**	**01 25 36.0**	**-1.5**
MLPR				Sn	**Sn**	**01 25 54.6**	**-2.1**
MLPR	**Magueyes Islan**	**1.46**	**129**	↑*e*Pg	**Pn**	**01 25 36.4**	**-1.0**
MLPR				↓*e*Sg	**Sn**	**01 25 55.7**	**-0.9**
MLPR				IAML		01 26 01.0	
comp=E,169nm,0.2s							
MLPR				IAML		01 26 04.1	
comp=N,96nm,0.2s							
AOPR	**Arecibo Observ**	**1.51**	**111**	↑*e*P	**Pn**	**01 25 37.7**	**-0.4**
AOPR	**Arecibo Observ**	**1.51**	**111**	*e*S	**Sn**	**01 25 59.2**	**+1.4**
AOPR	**Arecibo Observ**	**1.51**	**111**		**Pn**	**01 25 36.7**	**-1.4**
AOPR				Sn	**Sn**	**01 25 59.2**	**+1.4**
AOPR				IAML		01 26 01.4	
comp=N,524nm,0.4s							
AOPR	**Arecibo Observ**	**1.51**	**111**	↑*e*Pg	**Pn**	**01 25 37.9**	**-0.2**
AOPR				↓*e*Sg	**Sn**	**01 25 57.7**	**-0.1**
AOPR				IAML		01 26 01.3	
comp=N,496nm,0.3s							
AOPR				IAML		01 26 05.5	
comp=E,1μm,0.3s							
UUPR	**Utuado, UP

comp=N,229nm,0.2s
IGPR IAML 01 26 26.3
comp=E,202nm,0.3s
ABDR Alto Bandera 2.27 268⇑ *e*Pg **Pn 01 25 49.8 +0.9**
ABDR *e*Sg **Sn 01 26 18.2 +1.1**
ABDR IAML 01 26 24.0
comp=N,253nm,0.7s
ABDR IAML 01 26 27.9
comp=E,351nm,0.5s
SODR Sosua Marina B 2.37 291⇑ *e*Pg **Pn 01 25 51.2 +1.3**
SODR *e*Sg **Sn 01 26 20.4 +1.4**
SODR IAML 01 26 36.4
comp=E,373nm,1.4s
SODR IAML 01 26 36.6
comp=N,329nm,0.9s
HUMP Col San Antoni 2.38 108⇑ *e*P **Pn 01 25 50.1 -0.1**
HUMP Col San Antoni 2.38 108 *e*S **Sn 01 26 18.2 -1.3**
HUMP Col San Antoni 2.38 108 Pn 01 25 49.9 -0.2
HUMP IAML 01 26 21.4
comp=E,100nm,0.4s
SC01 Santiago de lo 2.42 283 *i* P **Pn 01 25 52.7 +2.1**
SC01 *e*S **Sb 01 26 25.9 +1.5**
SC01 IAML 01 26 34.8
comp=Z,191nm,0.4s
SDDR Presa de Saban 2.89 272 Pn 01 25 56.0 -1.2
SDDR IAML 01 26 42.1
comp=Z,215nm,0.6s
SDDR Presa de Saban 2.89 272⇑ *e*Pg **Pn 01 26 00.1 +2.9**
SDDR ⇓*e*Sg **Sb 01 26 36.2 -2.0**
SDDR IAML 01 26 41.5
comp=E,200nm,0.5s
SDDR IAML 01 26 42.0
comp=N,194nm,0.5s
SDDR Presa de Saban 2.89 272 *i* P **Pn 01 26 00.1 +2.9**
SDDR *e*S **Sb 01 26 36.3 -2.0**
SDDR IAML 01 26 45.1
comp=Z,130nm,0.5s
PODR Polo 2.98 256⇓ *e*Pg **Pn 01 26 01.5 +2.9**
PODR ⇓*e*Sg **Sb 01 26 40.0 -1.0**
PODR IAML 01 26 46.4
comp=N,105nm,0.6s
REDR Restauracion 3.00 275⇓ *e*Pg **Pb 01 26 03.4 -1.2**
REDR ⇓*e*Sg **Sb 01 26 45.2 +3.8**
REDR IAML 01 26 54.1
comp=N,128nm,0.3s
REDR IAML 01 26 54.5
comp=E,160nm,0.2s
GRTK Grand Turk 3.76 314 Pn Pn 01 26 05.3 -3.7

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*JMA **14** 01:30:12.3±0.2,33°.5N±0°.6×14°1E±°,h52km,MV3.3/25,E OFF HACHIJOJIMA ISLAND*
*IDC **14** 01:30:14.6±4.1,33°.41N×140°.92E,h61km±35km,mb3.8/2, mbtmp3.9/3,ML2.7/1,Error ellipse: s-maj=51.7km s-min=13.6km az=87.0*
ISC 14 01:30:12.6±2.0,33°.49N±0°.06×141°.1E±0°.1,h46km±23km, n23,σ0§78/22,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.10**	**250**	P	**Pn**	**01 30 31.9**	**+0.4**
JHJ2				*e*S	**Sn**	**01 30 46.0**	**+0.4**
JHJ	**Hachijo jima 2**	**1.12**	**251**	P	**Pn**	**01 30 32.0**	**+0.1**
	1μm,0.3s,baz=256,slow=19,SNR=316						
JHJ				S	**Sn**	**01 30 45.9**	**-0.3**
	834nm,0.3s,baz=71,slow=23,SNR=8.5						
JHCJ	**Hachijojimakas**	**1.13**	**248**	P	**Pn**	**01 30 32.3**	**+0.3**
JHCJ				S	**Sn**	**01 30 46.0**	**-0.3**
BSO1	**Boso 1**	**1.16**	**357**	P	**Pn**	**01 30 31.6**	**-0.3**
JMKN	**Mikurajimanish**	**1.28**	**289**	P	**Pn**	**01 30 33.8**	**-0.2**
BSO3	**Boso 3**	**1.38**	**341**	*i* P	**Pn**	**01 30 35.2**	**+0.1**
JAOM	**Aogashimamukai**	**1.49**	**227**	*e*P	**Pn**	**01 30 37.2**	**+0.3**
BSO4	**Boso 4**	**1.60**	**339**	P	**Pn**	**01 30 38.8**	**+0.4**
JKO	**Kozu shima**	**1.73**	**294**	P	**Pn**	**01 30 40.3**	**0.0**
JTHY	**Toshimahigashi**	**1.79**	**306**	*e*P	**Pn**	**01 30 41.0**	**0.0**
JIM2	**Oshima 3**	**1.81**	**313**	P	**Pn**	**01 30 40.8**	**-0.6**
JIM2				*e*S	**Sn**	**01 31 01.9**	**-1.2**
JIZS	**Izushimoda**	**2.17**	**305**	P	**Pn**	**01 30 46.6**	**+0.3**
JOD2	**Odawara 2**	**2.40**	**318**	P	**Pn**	**01 30 49.1**	**-0.3**
JOD2				*e*S	**Sn**	**01 31 16.5**	**-1.0**
MJAR	**Matsushiro Arr**	**3.83**	**323**	P	**Pn**	**01 31 10.4**	**+1.4**
	0.6nm,0.3s,baz=150,slow=12,SNR=18						
MJAR				S	**Sn**	**01 31 55.0**	**+2.1**
	1.2nm,0.3s,baz=166,slow=22,SNR=1.6						
	3.7nm,0.3s						
JCJ	**Chichijima**	**6.45**	**171**	P	Pn	01 31 40.4	-4.7
	9.4nm,0.4s,baz=290,slow=23,SNR=7.7						
JCJ				S	Sn	01 32 47.1	-10
	9.6nm,0.4s,baz=293,slow=22,SNR=1.5						
H11N2	**WAKE ISLAND Hy 26.78**	**114**		T	T	02 04 50.0	
	baz=306,slow=75,SNR=5.6						
H11N1	**WAKE ISLAND Hy 26.79**	**114**		T	T	02 04 44.5	
	baz=306,slow=75,SNR=3.6						
H11N3	**WAKE ISLAND Hy 26.80**	**114**		T	T	02 04 48.4	
	baz=306,slow=75,SNR=5.5						
H11S3	**WAKE ISLAND Hy 27.36**	**117**		T	T	02 05 29.6	
	baz=304						
H11S1	**WAKE ISLAND Hy 27.36**	**117**		T	T	02 05 29.0	
	baz=304						
H11S2	**WAKE ISLAND Hy 27.38**	**117**		T	T	02 05 30.9	
	baz=304						
WRA	**Warramunga Arr**	**53.52**	**188**	P	**P**	**01 39 27.9**	**-0.7**
	2.4nm,0.5s,baz=4.7,slow=7.6,SNR=52						
	2.4nm,0.5s						
ASAR	**Alice Springs**	**57.25**	**188**	P	**P**	**01 39 55.5**	**+0.2**
	0.7nm,0.6s,baz=2.6,slow=7.3,SNR=11						
	0.7nm,0.6s						

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*IDC **14** 01:51:34.4±2.1,23°.21N×143°.90E,h0km,mb3.9/9, mbtmp3.8/11,ML3.4/2,MS3.4/1,Error ellipse: s-maj=63.7km s-min=32.5km az=20.0*
ISC 14 01:51:39.5±1.3,23°.8N±0°.2×143°.8E±0°.3,h10km,n14, σ1§50/14,mb3.9/9,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.60**	**337**	Pn	**Pn**	**01 52 33.3**	**-2.1**
	5.7nm,0.3s,baz=285,slow=22,SNR=11						
JCJ				Sn	**Sn**	**01 53 16.9**	**-1.1**
	28nm,0.3s,baz=136,slow=23,SNR=16						
MJAR	**Matsushiro Arr**	**13.60**	**341**	Pn	**Pn**	**01 54 55.9**	**+3.4**
	0.1nm,0.3s,baz=160,slow=13,SNR=2.9						
	0.6nm,0.3s						
KSRS	**Korea Array**	**19.25**	**319**	P	**Pn**	**01 56 06.8**	**+1.9**
	0.3nm,0.3s,baz=120,slow=12,SNR=4.8						
	0.6nm,0.4s						
DAV	**Davao City (W)**	**24.10**	**229**	LR	LR	02 07 44.4	
	comp=Z,80nm,18.3s,baz=164,slow=41						
SONM	**Songino Array**	**38.12**	**319**	P	**P**	**01 58 59.3**	**+0.6**
	0.2nm,0.3s,baz=121,slow=5.8,SNR=1.5						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**52.94**	**321**	P	**P**	**02 00 56.0**	**+0.1**
	0.9nm,0.5s,baz=109,slow=8.0,SNR=4.2						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**53.71**	**312**	P	**P**	**02 01 01.8**	**+0.1**
	0.8nm,0.7s,baz=88,slow=9.6,SNR=6.0						
	0.8nm,0.7s						
NRIK	**Noril'sk**	**56.25**	**339**	P	**P**	**02 01 19.2**	**-0.4**
	1.1nm,0.5s,baz=142,slow=4.0,SNR=1.9						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**56.40**	**316**	P	**P**	**02 01 20.9**	**-0.1**
	1.9nm,0.9s,baz=92,slow=8.0,SNR=11						
	1.9nm,0.9s						
ILAR	**Eielson Array**	**59.96**	**28**	P	**P**	**02 01 45.6**	**0.0**
	0.8nm,0.9s,baz=257,slow=6.3,SNR=6.6						
	0.8nm,0.9s						
BVAR	**Borovoye Array**	**61.46**	**319**	P	**P**	**02 01 56.6**	**+0.5**
	3.0nm,0.6s,baz=90,slow=7.5,SNR=14						
	3.0nm,0.6s						
FINES	**FINESS Array B**	**81.55**	**335**	P	**P**	**02 03 56.0**	**-1.1**
	0.5nm,0.7s,baz=58,slow=5.4,SNR=7.6						
	0.5nm,0.7s						
NOA	**NORSAR Array B**	**87.21**	**339**	P	**P**	**02 04 24.7**	**-1.2**
	0.7nm,0.9s,baz=46,slow=4.6,SNR=3.9						
	0.7nm,0.9s						
LPAZ	**La Paz**	**149.17**	**82**	PKPbc	**PKPdf**	**02 11 26.0**	**+0.4**
	0.8nm,0.5s,baz=303,slow=3.3,SNR=4.2						

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*BJI **14** 01:54:56.7±0.0,7°.96S×128°.80E,h134km,mb4.9/49, mB4.9/13*
*IDC **14** 01:55:01.9±1.2,7°.33S×128°.90E,h143km±9km,mb4.3/21, mbtmp4.7/22,MS3.6/15,Error ellipse: s-maj=14.3km s-min=8.0km az=71.0*
*NEIC **14** 01:55:01.7±1.8,7°.40S±0°.06×128°.83E±0°.04,h140km±7km, mb4.8/61,Error ellipse: s-maj=9.7km s-min=5.2km az=156.0*
*DJA **14** 01:55:01.2±0.2,8°.S±2°.×12°.9E±°,h118km±3km,M5.2/49, mB5.6/28,mb5.1/49,MLv5.6/17,Mw(mB)5.1/28, MwMwp5.1/7,Mwp5.4/7*
*GCMT **14** 01:55:03.7±0.2,7°.44S±0°.02×128°.87E±0°.02,h153km±2km, MW5.1/114,Moment Tensor Solution. s49,c59; s114,c176; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-1.65±.14; Mθθ-0.30±.15; Mφφ1.95±.16; Mrθ1.45±.11; Mθφ2.48±.15; Mφr3.78±.12; Best double couple: Mo4.87500×1016 NP1:φs197.00000°,δ75.00000°, λ-106.00000°. NP2:φs65.00000°,δ21.00000°, λ-44.00000°. Principal axes: T 5.7090, Plg29.0000°, Azm299.0000°; N -1.6660, Plg15.0000°, Azm201.0000°; P -4.0400, Plg57.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 01:55:00.4±0.2,7°.45S±0°.04×128°.88E±0°.04,h131km,n300, σ1§52/293,mb4.8/82,4C-5D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.45**	**103**	P	**Pn**	**01 55 42.6**	**+2.5**
SAUI	**Saumlaki**	**2.45**	**103**		**Pn**	**01 55 42.0**	**+1.9**
SAUI				Sn	**Sn**	**01 56 12.8**	**+2.2**
SAUI	**Saumlaki**	**2.45**	**103**	P	**Pn**	**01 55 42.6**	**+2.5**
BNDI	**Bandanaira**	**3.08**	**19**	P	**Pn**	**01 55 51.1**	**+3.0**
BNDI	**Bandanaira**	**3.08**	**19**	P	**Pn**	**01 55 51.1**	**+3.0**
NLAI	**Namlea**	**4.54**	**337**	P	**Pn**	**01 56 10.4**	**+2.9**
SOEI	**Soe**	**5.11**	**243**	P	**Pn**	**01 56 16.3**	**+1.2**
SOEI	**Soe**	**5.11**	**243**		**Pn**	**01 56 16.3**	**+1.2**
SOEI				Sn	**Sn**	**01 57 12.5**	**-0.8**
SOEI	**Soe**	**5.11**	**243**	P	**Pn**	**01 56 16.6**	**+1.4**
DRS	**Darwin Rock St**	**5.34**	**158**	P	**Pn**	**01 56 19.2**	**+1.1**
FAKI	**Fak Fak**	**5.61**	**37**		**Pn**	**01 56 21.1**	**-0.7**
FAKI	**Fak Fak**	**5.61**	**37**	P	**Pn**	**01 56 21.1**	**-0.7**
FAKI				S	**Sn**	**01 57 21.6**	**-3.6**
MTN	**Manton Dam**	**5.80**	**158**	P	**Pn**	**01 56 25.3**	**+1.0**
MTN	**Manton Dam**	**5.80**	**158**	Pn	**Pn**	**01 56 24.1**	**-0.2**
MTN	**Manton Dam**	**5.80**	**158**	P	**Pn**	**01 56 24.8**	**+0.5**
	649nm,0.4s,SNR=64						
BATI	**Baumata**	**5.84**	**242**	P	**Pn**	**01 56 25.8**	**+0.9**
SANI	**Sanana**	**6.09**	**332**	P	**Pn**	**01 56 31.9**	**+3.7**
SANI	**Sanana**	**6.09**	**332**	P	**Pn**	**01 56 31.2**	**+3.0**
	167nm,0.9s,3μm						
KMPI	**Kaimana, Papua**	**6.10**	**52**	P	**Pn**	**01 56 28.7**	**+0.4**
	484nm,0.6s,9μm						
KDU	**Kakadu**	**6.29**	**146**	P	**Pn**	**01 56 31.3**	**+0.3**
KDU	**Kakadu**	**6.29**	**146**	P	**Pn**	**01 56 31.2**	**+0.3**
	1μm,0.7s,SNR=136						
BBSI	**Bau Bau**	**6.57**	**287**	P	**Pn**	**01 56 37.7**	**+3.0**
	409nm,1.7s,8μm1.8nm						
MMRI	**Maumere**	**6.69**	**259**	P	**Pn**	**01 56 37.5**	**+1.2**
MMRI	**Maumere**	**6.69**	**259**	Pn	**Pn**	**01 56 35.9**	**-0.4**
MMRI	**Maumere**	**6.69**	**259**	P	**Pn**	**01 56 37.1**	**+0.8**
	139nm,0.6s,4μm2.1nm						
LBMI	**Labuha**	**6.90**	**348**	P	**Pn**	**01 56 43.2**	**+4.0**
	246nm,1.0s,5μm1.3nm						
SWI	**Sawu**	**6.96**	**20**	P	**Pn**	**01 56 40.6**	**+0.7**
	114nm,0.8s,3μm1.1nm						
EDFI	**Ende, Flores**	**7.24**	**259**	P	**Pn**	**01 56 44.3**	**+0.5**
KNRA	**Kununurra**	**8.18**	**181**	Pn	**Pn**	**01 56 55.7**	**-0.7**
KNRA	**Kununurra**	**8.18**	**181**	P	**Pn**	**01 56 55.5**	**-0.8**
	785nm,0.7s,SNR=102						
TNTI	**Ternate**	**8.30**	**349**	Pn	**Pn**	**01 56 57.9**	**-0.1**
TNTI	**Ternate**	**8.30**	**349**	P	**Pn**	**01 57 01.0**	**+3.0**
	98nm,1.3s						
BASI	**Baing, Sumba**	**8.66**	**251**	P	**Pn**	**01 57 03.2**	**+0.4**
	389nm,0.7s,6μm						
LUWI	**Luwuk**	**8.81**	**316**	P	**Pn**	**01 57 07.9**	**+3.1**
LUWI	**Luwuk**	**8.81**	**316**	Pn	**Pn**	**01 57 06.1**	**+1.2**
BKSI	**Bulukumba**	**8.96**	**283**	P	**Pn**	**01 57 09.0**	**+2.1**
	179nm,1.0s,3μm7μm						
KAPI	**Kappang**	**9.39**	**284**	P	**Pn**	**01 57 15.1**	**+2.4**
KAPI	**Kappang**	**9.39**	**284**	Pn	**Pn**	**01 57 12.1**	**-0.7**
KAPI	**Kappang**	**9.39**	**284**	P	**Pn**	**01 57 15.3**	**+2.6**
	58nm,1.0s,baz=110,slow=8.5,SNR=13						
KAPI				S	**Sn**	**01 58 58.1**	**+1.4**
	5.0nm,0.4s,baz=84,slow=9.4,SNR=1.4						
KAPI				LR	LR	02 00 40.3	
	comp=Z,430nm,20.0s,baz=108,slow=36						
GTOI	**Gorontalo**	**9.94**	**324**	P	Pn	01 57 26.1	+6.1
	74nm,1.6s,1μm3μm						
FITZ	**Fitzroy Crossi**	**11.05**	**196**	Pn	**Pn**	**01 57 32.6**	**-2.2**
FITZ	**Fitzroy Crossi**	**11.05**	**196**	P	**Pn**	**01 57 32.5**	**-2.4**
	4μm,0.7s,SNR=37						
PLAI	**Plampang**	**11.08**	**262**	P	**Pn**	**01 57 34.9**	**-0.4**
PLAI	**Plampang**	**11.08**	**262**	P	**Pn**	**01 57 34.2**	**-1.1**
	159nm,0.9s,2μm						
SGSI	**Sangihe**	**11.55**	**343**	P	**Pn**	**01 57 43.8**	**+2.2**
	234nm,1.3s,11μm						
TOLI2	**Tolitoli**	**11.73**	**316**	P	**Pn**	**01 57 46.6**	**+2.7**
TOLI2	**Tolitoli**	**11.73**	**316**	Pn	**Pn**	**01 57 45.4**	**+1.6**
TWSI	**Taliwang, Sumb**	**11.95**	**263**	P	**Pn**	**01 57 47.6**	**+0.8**
GENI	**Genyem**	**12.23**	**67**	P	**Pn**	**01 57 52.3**	**+1.9**
JAY	**Jayapura**	**12.75**	**68**	P	**Pn**	**01 57 58.3**	**+1.1**
WB0	**Warramunga Arr**	**13.36**	**157**	Pn	**Pn**	**01 58 01.8**	**-3.3**
WRA	**Warramunga Arr**	**13.50**	**157**	Pn	**Pn**	**01 58 03.3**	**-3.5**
WRA	**Warramunga Arr**	**13.50**	**157**	P	**Pn**	**01 58 03.5**	**-3.3**
	74nm,0.9s,baz=336,slow=12,SNR=173						
WRA				S	Sn	02 00 27.4	-8.6
	108nm,0.6s,baz=328,slow=24,SNR=8.3						
WRA				LR	LR	02 04 36.5	
	comp=Z,253nm,18.9s,baz=321,slow=42						
WRA				ScP	**ScP**	**02 06 43.2**	**-2.1**
	3.5nm,0.6s,baz=323,slow=1.8,SNR=2.8						
JAGI	**Jajag, Banyuwa**	**14.63**	**265**	Pn	**Pn**	**01 58 19.6**	**-1.6**
JAGI	**Jajag, Banyuwa**	**14.63**	**265**	P	**Pn**	**01 58 22.3**	**+1.1**
	71nm,0.5s						
COEN	**Coen**	**15.46**	**116**	Pn	**Pn**	**01 58 31.0**	**-0.6**
COEN	**Coen**	**15.46**	**116**	P	**Pn**	**01 58 30.8**	**-0.8**
	51nm,0.7s,SNR=4.5						
MBWA	**Marble Bar**	**16.25**	**212**	P	**Pn**	**01 58 40.6**	**-0.7**
MBWA	**Marble Bar**	**16.25**	**212**	P	**Pn**	**01 58 40.7**	**-0.6**
MBWA	**Marble Bar**	**16.25**	**212**	P	**Pn**	**01 58 40.8**	**-0.6**
	50nm,1.1s,SNR=4.9						
MYLDM	**Lahad Datu**	**16.27**	**320**	P	**Pn**	**01 58 42.0**	**+0.4**
GRJI	**Gresik**	**16.29**	**271**	P	**P**	**01 58 43.6**	**+1.3**
	223nm,0.9s						
PSA00	**Pilbara Seismi**	**16.53**	**211**	P	**Pn**	**01 58 45.0**	**+0.2**
PSA00	**Pilbara Seismi**	**16.53**	**211**	P	**Pn**	**01 58 43.8**	**-1.0**
PSA00	**Pilbara Seismi**	**16.53**	**211**	P	**Pn**	**01 58 43.8**	**-1.0**
	76nm,0.7s,SNR=6.3						
QIS	**Mount Isa**	**16.66**	**143**	P	**Pn**	**01 58 46.7**	**+0.3**
QIS	**Mount Isa**	**16.66**	**143**	P	**Pn**	**01 58 45.6**	**-0.7**
	95nm,0.8s,SNR=24						
AS31	**Alice Springs**	**16.83**	**164**	P	**P**	**01 58 47.6**	**-0.7**
ASAR	**Alice Springs**	**16.83**	**164**	P	**P**	**01 58 47.5**	**-0.9**
ASAR	**Alice Springs**	**16.83**	**164**	P	**P**	**01 58 47.9**	**-0.5**
	35nm,0.5s,baz=330,slow=8.8,SNR=251						
ASAR				S	**Sn**	**02 01 50.4**	**-5.8**
	29nm,0.8s,baz=330,slow=21,SNR=6.7						
ASAR				ScP	**ScP**	**02 06 49.0**	**-2.3**
	12nm,0.7s,baz=353,slow=1.7,SNR=5.9						
ASPA	**Alice Springs**	**16.83**	**164**	P	**P**	**01 58 47.7**	**-0.7**
	34nm,0.4s,SNR=47						
AS01	**Alice Springs**	**16.84**	**164**	P	**P**	**01 58 48.1**	**-0.4**
PWJI	**Pagerwojo**	**16.93**	**267**	P	**P**	**01 58 48.5**	**-1.0**
	69nm,0.7s,3μm						
WRKA	**Warakurna**	**17.50**	**182**	P	**Pn**	**01 58 56.5**	**0.0**
WRKA	**Warakurna**	**17.50**	**182**	P	**P**	**01 58 55.3**	**-0.4**
	143nm,0.8s,SNR=13						
PMG	**Port Moresby**	**18.18**	**97**	P	**P**	**01 59 04.3**	**+1.1**
PMG	**Port Moresby**	**18.18**	**97**	P	**Pn**	**01 59 06.3**	**+1.7**
	48nm,0.7s,baz=287,slow=13,SNR=8.3						
PMG				S	**S**	**02 02 15.4**	**-10**
	14nm,0.8s,baz=195,slow=14,SNR=1.6						
PMG				LR	LR	02 07 14.6	
	comp=Z,105nm,20.0s,baz=284,slow=40						
UGM	**Wanagama**	**18.20**	**267**	P	**P**	**01 59 01.8**	**-1.7**
UGM	**Wanagama**	**18.20**	**267**	P	**Pn**	**01 59 04.5**	**-0.5**
	83nm,1.5s						
MTSU	**Mount Surprise**	**18.40**	**127**	P	**Pn**	**01 59 07.8**	**+0.5**
MTSU	**Mount Surprise**	**18.40**	**127**	P	**Pn**	**01 59 07.3**	**0.0**
	67nm,0.8s,SNR=22						
STKI	**Sintang**	**18.89**	**293**	P	**Pn**	**01 59 13.3**	**+0.2**
	124nm,1.1s						
MANU	**Manus Island**	**19.18**	**75**	P	**Pn**	**01 59 17.1**	**+0.7**
MANU	**Manus Island**	**19.18**	**75**	P	**P**	**01 59 15.3**	**+1.2**
SBUM	**Sibu**	**19.32**	**300**	P	**P**	**01 59 15.9**	**+0.3**
GIRL	**Giralia**	**20.67**	**221**	P	**P**	**01 59 31.0**	**+1.0**
TV1H	**Townsville Har**	**20.99**	**126**	P	**P**	**01 59 35.5**	**+2.0**
CTA	**Charters Tower**	**21.01**	**128**	P	**P**	**01 59 35.5**	**+1.7**
	0.8nm,0.5s,baz=301,slow=12,SNR=21						
CTA				S	**S**	**02 03 21.9**	**+1.4**
	0.3nm,0.7s,baz=280,slow=18,SNR=4.3						
CTA				LR	LR	02 08 32.3	
	comp=Z,34nm,19.0s,baz=295,slow=38						
CTAO	**Charters Tower**	**21.01**	**128**	P	**P**	**01 59 35.8**	**+2.0**
CTAO	**Charters Tower**	**21.01**	**128**	P	**P**	**01 59 35.0**	**+1.3**
BBJI	**Bungbulang**	**21.05**	**269**	P	**P**	**01 59 33.8**	**-0.6**
LEM	**Lembang**	**21.11**	**270**	P	**P**	**01 59 37.0**	**+1.9**
	39nm,0.7s,9μm						
OOD	**Oodnadatta**	**21.24**	**163**	P	**P**	**01 59 37.0**	**+0.9**
MEEK	**Meekatharra**	**21.44**	**206**	P	**P**	**01 59 38.8**	**+0.5**
MEEK	**Meekatharra**	**21.44**	**206**	P	**P**	**01 59 38.9**	**+0.5**
	50nm,0.6s,SNR=3.2						
AUAYR	**Ayr State High**	**21.65**	**126**	P	**P**	**01 59 42.1**	**+1.5**
INKA	**Innaminka**	**23.10**	**152**	P	**P**	**01 59 56.3**	**+1.4**
FORT	**Forrest**	**23.23**	**182**	P	**P**	**01 59 57.2**	**+1.2**
FORT	**Forrest**	**23.23**	**182**	P	**P**	**01 59 56.3**	**+0.2**
FORT	**Forrest**	**23.23**	**182**	P	**P**	**01 59 56.2**	**+0.2**
	217nm,1.0s,SNR=10						
MULG	**Mulgathing**	**23.23**	**169**	P	**P**	**01 59 57.2**	**+1.1**
QLP	**Quilpie**	**23.98**	**144**	P	**P**	**02 00 04.3**	**+1.3**
QLP	**Quilpie**	**23.98**	**144**	P	**P**	**02 00 04.3**	**+1.3**
	284nm,0.6s,SNR=23						
LCRK	**Leigh Creek**	**24.50**	**160**	P	**P**	**02 00 08.8**	**+1.2**
MORW	**Morawa**	**24.68**	**208**	P	**P**	**02 00 10.8**	**+1.5**
MORW	**Morawa**	**24.68**	**208**	P	**P**	**02 00 10.3**	**+1.0**
MORW				IAmb	IAmb	02 00 12.5	
	comp=Z,38nm,0.7s						
MORW	**Morawa**	**24.68**	**208**	P	**P**	**02 00 11.7**	**+2.5**
	comp=Z,54nm,1.4s,SNR=3.5						
KMBL	**Kambalda**	**24.68**	**194**	P	**P**	**02 00 10.4**	**+1.1**
KMBL	**Kambalda**	**24.68**	**194**	P	**P**	**02 00 10.0**	**+0.7**
	comp=Z,102nm,1.0s,SNR=5.0						
BBOO	**Buckleboo**	**26.10**	**166**	P	**P**	**02 00 22.6**	**+0.5**
BBOO	**Buckleboo**	**26.10**	**166**	P	**P**	**02 00 21.9**	**-0.2**
BBOO	**Buckleboo**	**26.10**	**166**	P	**P**	**02 00 21.9**	**-0.2**
	comp=Z,63nm,0.8s,SNR=2.6						
RK1H	**Rockhampton Ha**	**26.11**	**130**	P	**P**	**02 00 23.3**	**+1.0**
KLBR	**Kellerberrin**	**26.17**	**202**	P	**P**	**02 00 24.2**	**+1.4**
KLBR	**Kellerberrin**	**26.17**	**202**	P	**P**	**02 00 23.4**	**+0.6**
	comp=Z,51nm,0.9s,SNR=3.0						
GUMO	**Guam**	**26.24**	**37**	P	**P**	**02 00 22.9**	**-0.6**
	comp=Z,53nm,0.7s,baz=208,slow=17,SNR=2.1						
	comp=Z,53nm,0.7s						
WHYH	**Whyalla**	**26.71**	**164**	P	**P**	**02 00 28.3**	**+0.8**
STKA	**Stephens Creek**	**27.04**	**156**	P	**P**	**02 00 31.1**	**+0.5**
STKA	**Stephens Creek**	**27.04**	**156**	P	**P**	**02 00 30.8**	**+0.2**
STKA	**Stephens Creek**	**27.04**	**156**	P	**P**	**02 00 30.8**	**+0.2**
	comp=Z,7.5nm,0.9s,SNR=3.6						
STKA	**Stephens Creek**	**27.04**	**156**	P	**P**	**02 00 31.3**	**+0.7**
	comp=Z,15nm,0.6s,baz=326,slow=9.8,SNR=25						
STKA				ScP	**ScP**	**02 07 14.7**	**-2.3**
	comp=Z,12nm,0.6s,baz=17,slow=8.1,SNR=5.6						
STKA				LR	LR	02 12 56.0	
	comp=Z,360nm,18.9s,baz=325,slow=40						
	comp=Z,15nm,0.6s						
NWAO	**Narrogin (SRO)**	**27.56**	**202**	P	**P**	**02 00 35.2**	**0.0**
NWAO	**Narrogin (SRO)**	**27.56**	**202**	P	**P**	**02 00 35.0**	**-0.2**
	comp=Z,125nm,0.9s,SNR=1.5						
NWAO	**Narrogin (SRO)**	**27.56**	**202**	P	**P**	**02 00 36.5**	**+1.3**
	comp=Z,6.7nm,0.3s,baz=42,slow=7.5,SNR=12						
NWAO				LR	LR	02 12 17.0	
	comp=Z,219nm,20.2s,baz=22,slow=37						
	comp=Z,7.6nm,0.3s						
EIDS	**Eidsvold**	**27.68**	**133**	P	**P**	**02 00 36.5**	**+0.1**
EIDS				IAmb	IAmb	02 01 27.7	
	comp=Z,66nm,1.8s						
EIDS	**Eidsvold**	**27.68**	**133**	P	**P**	**02 00 36.8**	**+0.4**
	comp=Z,20nm,1.9s,SNR=2.9						
CMSA	**Cobar Meteorol**	**28.65**	**149**	P	**P**	**02 00 46.0**	**+1.2**
CMSA	**Cobar Meteorol**	**28.65**	**149**	P	**P**	**02 00 45.6**	**+0.8**
	comp=Z,47nm,0.8s,SNR=3.8						
HNR	**Honiara**	**30.79**	**96**	LR	LR	02 12 56.0	
	comp=Z,2μm,22.0s,baz=3.5,slow=35						
KULM	**Kulim**	**30.88**	**293**	P	**P**	**02 01 03.3**	**-1.5**
KULM				IAmb	IAmb	02 01 50.2	
	comp=Z,51nm,1.6s						
ARMA	**Armidale**	**31.25**	**140**	P	**P**	**02 01 09.6**	**+1.5**
ARMA				IAmb	IAmb	02 01 51.5	
	comp=Z,50nm,1.5s						
ARPS	**Mount Arapiles**	**31.49**	**160**	P	**P**	**02 01 11.3**	**+1.5**
ARPS	**Mount Arapiles**	**31.49**	**160**	P	**P**	**02 01 11.1**	**+1.3**
	comp=Z,121nm,0.6s,SNR=12						
YNG	**Young**	**32.22**	**149**	P	**P**	**02 01 18.1**	**+1.8**
YNG	**Young**	**32.22**	**149**	P	**P**	**02 01 17.8**	**+1.5**
	comp=

PZH PanZhiHua 42.81 323 P P 02 02 47.8 +2.2
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.2s
MAJO Matsushiro 44.62 11 P P 02 02 58.4 -1.5
MAJO Matsushiro 44.62 11 P P 02 02 59.0 -0.9
MJAR Matsushiro Arr 44.62 11 P P 02 02 58.7 -1.2
comp=Z,7.1nm,0.8s,baz=190,slow=9.3,SNR=22
MJAR ScP **ScP 02 08 18.3 -2.4**
comp=Z,3.6nm,0.8s,baz=196,slow=5.0,SNR=9.9
comp=Z,7.1nm,0.8s
MJB9 Matsu-Tunnel 44.63 11 P P 02 02 59.4 -0.5
KSRS Korea Array 44.67 359 P P 02 03 00.2 +0.1
comp=Z,1.5nm,0.5s,baz=178,slow=7.0,SNR=7.4
KSRS ScP **ScP 02 08 19.9 -0.8**
comp=Z,3.7nm,0.8s,baz=176,slow=3.7,SNR=12
comp=Z,1.5nm,0.5s
CD2 Chengdu 45.10 329 P P 02 03 02.8 -1.0
CD2 pmax pmax
comp=Z,20nm,0.6s
XAN Xi'an 45.39 337 P P 02 03 04.3 -1.7
XAN pmax pmax
comp=Z,23nm,0.7s
JMM Marumori 46.43 13 P P 02 03 13.6 -0.4
JMM IAmb IAmb 02 03 17.3
comp=Z,19nm,1.0s
HNS HongShan 46.54 344 ⇓P P 02 03 14.4 -0.5
HNS pmax pmax
comp=Z,9.0nm,0.8s
SHL Shillong 48.70 314 P P 02 03 30.2 -1.8
MSVF Nonsavu 48.93 107 P P 02 03 35.1 +1.3
LZH Lanzhou 49.29 333 *e*P **P 02 03 36.4 +0.1**
LZH pP pP 02 04 07.8 +2.4
LZH pmax pmax
comp=Z,50nm,1.3s
LZH LR LR
comp=Z,240nm,14.8s
LZH LR LR
comp=Z,180nm,15.5s
PALK Pallekele 50.22 286 LR LR 02 25 54.6
comp=Z,69nm,18.3s,baz=225,slow=37
HHC Hu-ho-hao-te 50.63 343 *e*P **P 02 03 47.4 +1.1**
HHC pP pwP 02 04 24.1 +4.6
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,57nm,4.8s
FOZ Fox Glacier 50.71 142 P P 02 03 47.4 +0.7
LBZ Lake Benmore 51.40 143 P P 02 03 52.7 +0.7
USA0B Ussuriysk Arra 51.48 3 P P 02 03 52.4 -0.1
USRK Ussuriysk Ar. 51.48 3 P P 02 03 52.2 -0.2
comp=Z,2.1nm,0.5s,baz=183,slow=7.4,SNR=13
USRK ScP **ScP 02 08 48.0 -1.4**
comp=Z,1.1nm,0.6s,baz=200,slow=3.8,SNR=5.1
comp=Z,2.1nm,0.5s
LSA Lhasa 51.76 317 P P 02 03 56.3 +0.9
LSA pmax pmax
comp=Z,32nm,0.6s
LSA Lhasa 51.76 317 P P 02 03 54.4 -1.0
LSA Lhasa 51.76 317 P P 02 03 55.6 +0.2
MDJ Mudanjiang 51.83 1 P P 02 03 57.1 +2.1
MDJ pmax pmax
comp=Z,11nm,1.9s
MDJ pmax pmax
comp=Z,97nm,5.4s
ASAJ Asahikawa 52.80 12 P P 02 04 02.2 0.0
comp=Z,3.0nm,0.3s,baz=238,slow=13,SNR=4.8
ASAJ LR LR 02 26 22.3
comp=Z,26nm,21.7s,baz=196,slow=36
comp=Z,3.0nm,0.3s
BKZ Black Stump Fm 53.08 134 P P 02 04 04.5 0.0
URZ Urewera 53.17 133 LR LR 02 26 10.1
comp=Z,100nm,18.5s,baz=13,slow=35
GTA Gaotai 53.84 332 P P 02 04 09.8 -0.3
GTA pmax pmax
comp=Z,18nm,1.1s
SONM Songino Array 58.52 342 P P 02 04 43.0 -0.2
SONM Songino Array 58.52 342 P P 02 04 43.1 0.0
comp=Z,2.2nm,0.7s,baz=165,slow=7.7,SNR=16
SONM ScP **ScP 02 09 17.9 -2.6**
comp=Z,1.8nm,0.7s,baz=163,slow=5.8,SNR=7.6
comp=Z,2.2nm,0.7s
DRV Dumont d'Urvil 59.62 175 P P 02 04 51.6 +1.3
WMQ Urumqi 63.17 328 *e*P **P 02 05 14.9 +0.3**
WMQ pmax pmax
comp=Z,25nm,0.7s
NIL Nilore 66.67 311 P P 02 05 36.4 -1.1
NIL IAmb IAmb 02 06 00.6
comp=Z,9.4nm,0.6s
NIL Nilore 66.67 311 P P 02 05 36.5 -0.9
ZSN Zaisan 67.08 329 *e*P **P 02 05 40.2 +0.4**
baz=329
SHLS Shalkode 67.40 323 *e*P **P 02 05 40.4 -1.6**
comp=Z,7.7nm,0.8s,baz=323
KSH Kashi 67.60 318 P P 02 05 43.0 -0.3
KSH pP pP 02 06 14.4 -0.3
KSH pmax pmax
comp=Z,10.0nm,0.7s
UZB Uzynbulak 67.66 323 *e*P **P 02 05 43.6 -0.1**
baz=323
CCD Concordia, Ant 67.69 182 P P 02 05 45.0 +1.5
SATY Saty 67.98 322 *e*P **P 02 05 45.7 +0.1**
comp=Z,6.1nm,0.9s,baz=322
MKAR Makanchi Array 68.00 327 P P 02 05 45.1 -0.5
MKAR Makanchi Array 68.00 327 P P 02 05 44.9 -0.7
comp=Z,13nm,0.5s,baz=117,slow=8.4,SNR=161
comp=Z,13nm,0.5s
KPKS Kokpek 68.04 323 *e*P **P 02 05 45.9 -0.1**
comp=Z,8.7nm,0.8s,baz=323
MAKZ Makanchi 68.17 327 P P 02 05 46.2 -0.4
MAKZ IAmb IAmb 02 06 06.7
comp=Z,7.5nm,0.7s
MAKZ Makanchi 68.17 327 P P 02 05 46.0 -0.6
TNSS Tian-Shan 68.86 322 *e*P **P 02 05 51.1 -0.3**
baz=322
MDOK Medeo 68.86 322 *e*P **P 02 05 51.1 -0.1**
baz=322
AAA Alma-Ata 68.97 322 *e*P **P 02 05 51.7 0.0**
comp=Z,7.2nm,0.4s,baz=322
BOOM Boomskoye usch 69.19 321 P P 02 05 52.7 -0.5
BOOM IAmb IAmb 02 06 17.6
comp=Z,7.6nm,0.6s
YAK Yakutsk 69.27 0 P P 02 05 52.0 -1.0
KUU Kurty 69.69 322 *e*P **P 02 05 56.1 +0.1**
comp=Z,19nm,1.0s,baz=322
AAK Ala-Archa 70.17 320 P P 02 05 59.0 -0.2
AAK IAmb IAmb 02 06 00.8
comp=Z,9.5nm,0.8s
AAK Ala-Archa 70.17 320 LR LR 02 36 48.8
comp=Z,26nm,21.9s,baz=99,slow=36
AAK Ala-Archa 70.17 320 P P 02 05 59.5 +0.3
ARSB Arslanbob 70.49 319 P P 02 06 00.4 -0.7
ARSB IAmb IAmb 02 07 18.6
comp=Z,4.5nm,0.4s
SGDS Sogindy 70.51 321 *e*P **P 02 06 01.0 -0.2**
baz=321
GAR Garm 71.20 315 P P 02 06 04.9 -0.6
GAR IAmb IAmb 02 06 08.2
comp=Z,23nm,0.9s
BTK Batken 71.33 317 P P 02 06 05.1 -1.1
BTK IAmb IAmb 02 06 07.0
comp=Z,15nm,1.3s
ZAA0 Zalesovo Array 71.50 334 P P 02 06 05.6 -1.1
ZAA0 IAmb IAmb 02 06 07.4
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 71.50 334 P P 02 06 05.3 -1.4
comp=Z,16nm,0.6s,baz=132,slow=5.9,SNR=45
comp=Z,16nm,0.6s
BTLS Baital 71.69 322 *e*P **P 02 06 07.9 -0.2**
baz=322
CHGR Chuyangaron 71.86 315 P P 02 06 08.7 -0.7
CHGR IAmb IAmb 02 06 10.5
comp=Z,30nm,1.0s
SIMJ Simiganj 71.97 315 P P 02 06 09.3 -0.8
SIMJ IAmb IAmb 02 06 11.2
comp=Z,22nm,1.2s
SIMJ Simiganj 71.97 315 P P 02 06 09.5 -0.6
VNDA Vanda 72.14 173 P P 02 06 10.4 +0.2
VNDA Vanda 72.14 173 P P 02 06 10.5 +0.2
comp=Z,3.7nm,0.7s,baz=324,slow=6.8,SNR=23
VNDA LR LR 02 37 27.8
comp=Z,56nm,18.5s,baz=303,slow=35
comp=Z,3.7nm,0.7s
KURBB Kurchatov Arra 72.31 329 P P 02 06 11.0 -0.7
comp=Z,15nm,0.5s,baz=129,slow=5.2,SNR=144
comp=Z,15nm,0.5s
KURK Kurchatov 72.33 329 P P 02 06 11.1 -0.7
KURK IAmb IAmb 02 06 13.6
comp=Z,41nm,1.2s
IUG Iuzhnay 72.82 318 *e*P **P 02 06 15.0 -0.1**
comp=Z,9.9nm,0.9s,baz=318
KK31 Karatay Array 72.95 319 P P 02 06 15.2 -0.5
KKAR Karatay Array 72.95 319 P P 02 06 15.2 -0.5
KKAR Karatay Array 72.95 319 P P 02 06 15.3 -0.3
KKAR IAmb IAmb 02 06 17.2
comp=Z,8.2nm,1.1s
SBA Scott Base 73.04 172 P P 02 06 16.9 +1.3
BRLS Borolday 73.35 319 *e*P **P 02 06 17.5 -0.6**
baz=319
MAW Mawson 74.13 201 P P 02 06 23.2 +1.1
comp=Z,7.0nm,0.8s,baz=66,slow=7.6,SNR=10
comp=Z,7.0nm,0.8s
HRA Herat 75.36 308 P P 02 06 29.1 -1.0
UOSS Minazif 77.64 297 P P 02 06 41.5 -1.4
UOSS IAmb IAmb 02 09 21.6
comp=Z,50nm,1.6s
BVAR Borovoye Array 77.85 328 P P 02 06 43.1 -0.3
comp=Z,4.8nm,0.4s,baz=123,slow=5.5,SNR=20
comp=Z,4.8nm,0.4s
BRVK Borovoye 77.92 328 P P 02 06 42.7 -1.2
TIXI Tiksi 78.93 360 P P 02 06 48.6 -0.4
TIXI Tiksi 78.93 360 LR LR 02 43 25.0
comp=Z,22nm,19.5s,baz=180,slow=37
PPT2 Papeete2 79.76 107 *e*LR LR 02 31 51.7
comp=Z,74nm,27.5s
VOI Vohitsoka 79.95 249 P P 02 06 54.9 -0.9
NRIK Noril'sk 81.72 346 P P 02 07 03.4 -0.6
comp=Z,1.4nm,0.5s,baz=145,slow=7.2,SNR=1.7
comp=Z,1.4nm,0.5s
ABKAR Akbulak array 82.17 322 P P 02 07 05.6 -1.1
ABKAR Akbulak array 82.17 322 P P 02 07 05.3 -1.4
ABKAR IAmb IAmb 02 07 48.5
comp=Z,5.3nm,1.1s
QSPA South Pole Qui 82.53 180 P P 02 07 08.3 -0.2
QSPA IAmb IAmb 02 07 09.7
comp=Z,13nm,1.0s
QSPA South Pole Qui 82.53 180 P P 02 07 08.9 +0.4
comp=Z,7.2nm,0.8s,baz=309,slow=3.3,SNR=46
comp=Z,7.2nm,0.8s
ARU Arti 85.50 328 P P 02 07 23.1 -0.4
ARU IAmb IAmb 02 07 25.0
comp=Z,7.2nm,0.7s
RAYN Ar Rayn 86.91 294 P P 02 07 29.7 -1.5
ELIB Princess Elisa 87.73 197 *d*P **P 02 07 35.7 +1.3**
comp=Z,4.9nm,1.1s
E19K Redstone River 90.73 22 P P 02 07 47.5 -0.7
E19K IAmb IAmb 02 07 48.4
comp=Z,3.5nm,0.8s
FURI Furi 91.33 279 LR LR 02 47 11.9
comp=Z,32nm,19.9s,baz=202,slow=34
TROLL Troll, Antarti 93.46 195 ⇑P **P 02 08 02.5 +1.6**
comp=Z,158nm,0.7s
DHY Denali Highway 93.75 27 P P 02 08 01.4 -1.0
DHY IAmb IAmb 02 08 05.0
comp=Z,4.1nm,0.8s
ILAR Eielson Array 94.22 25 P P 02 08 02.4 -1.9
comp=Z,0.8nm,0.7s,baz=264,slow=4.6,SNR=7.1
comp=Z,0.8nm,0.7s
SNAA Sanae 94.97 194 P P 02 08 08.1 +0.3
SNAA IAmb IAmb 02 08 09.8
comp=Z,7.5nm,1.2s
SNAA Sanae 94.97 194 ⇑P **P 02 08 09.0 +1.1**
comp=Z,53nm,0.8s
SNAA Sanae 94.97 194 P P 02 08 09.0 +1.1
comp=Z,3.5nm,1.0s,baz=122,slow=2.2,SNR=12
comp=Z,3.5nm,1.0s
L27K Beaver Creek, 96.26 27 P P 02 08 13.1 -0.6
L27K IAmb IAmb 02 08 14.3
comp=Z,1.9nm,0.7s
VNA2 Neumayer--Watz 96.55 193 ⇑P **P 02 08 15.6 +0.7**
comp=Z,1.3nm,0.8s,baz=133,slow=3.4
VNA3 Neumayer Olymp 96.81 192 ⇑P **P 02 08 16.1 0.0**
comp=Z,1.4nm,0.8s
ARCES ARCESS Array B 101.61 340 P Pdif 02 08 35.3 -2.2
comp=Z,1.7nm,0.9s,baz=80,slow=7.5,SNR=5.6
ARCES PKiKP **PKiKP 02 12 59.7 -0.7**
comp=Z,0.9nm,0.8s,baz=96,slow=0.9,SNR=3.6
FINES FINESS Array B 102.62 331 PKiKP **PKiKP 02 13 03.0 +0.6**
comp=Z,0.4nm,0.5s,baz=54,slow=3.6,SNR=3.5
BCLA Clavier 116.73 323 *d*PKPdf **PKPdf 02 13 27.8 -1.5**
BMRD Maredsous 117.09 323 *d*PKPdf **PKPdf 02 13 28.8 -1.2**
PDAR Pinedale Array 117.99 45 PKP **PKPdf 02 13 31.9 -0.5**
comp=Z,0.5nm,0.6s,baz=282,slow=1.1,SNR=4.6
PDAR SKP 02 16 54.0
comp=Z,0.7nm,0.8s,baz=239,slow=0.9,SNR=5.1
KEST Kesra 118.20 307 PKP **PKiKP 02 13 33.5 +0.8**
comp=Z,2.8nm,1.1s,baz=26,slow=3.7,SNR=4.0
EKA Eskdalemuir Ar 119.02 331 PKP **PKPdf 02 13 33.2 -0.3**
comp=Z,0.3nm,0.3s,baz=45,slow=2.5,SNR=8.7
ULM Lac du Bonnet 123.42 33 PKP **PKPdf 02 13 40.9 -1.3**
comp=Z,0.7nm,0.4s,baz=283,slow=5.1,SNR=3.9
TXAR Lajitas Array 126.11 59 PKP **PKiKP 02 13 48.7 +0.2**
comp=Z,0.4nm,0.5s,baz=194,slow=2.5,SNR=13
TORD Torodi Ar. Bea 127.81 281 PKP **PKPdf 02 13 51.5 0.0**
comp=Z,0.8nm,0.5s,baz=74,slow=3.7,SNR=20
PLCA Paso Flores 128.83 161 PKP **PKPdf 02 13 52.9 -0.1**
comp=Z,2.0nm,0.9s,baz=278,slow=4.9,SNR=4.6
PCAB Cabril 128.87 319 *e*LQ LQ 02 17 00.2
POLO Lamas de Olo 128.88 318 *e*LQ LQ 02 17 01.4
MTE Manteigas 129.18 317 *e*LQ LQ 02 17 01.4
PVIS Viseu 129.27 318 *e*LQ LQ 02 17 01.6
PCBR Castelo Branco 129.40 317 *e*LQ LQ 02 17 00.8
PMRV Marv??o 129.53 316 *e*LQ LQ 02 17 02.5
PBAR Barrancos 129.85 314 *e*LQ LQ 02 17 03.7
COI Coimbra 129.86 317 *e*LQ LQ 02 17 04.0
PESTR Estremoz 129.92 315 *e*LQ LQ 02 17 03.8
PCAS Casmilo, Conde 129.99 317 *e*LQ LQ 02 17 04.2
PMTG Montargil 130.27 316 *e*LQ LQ 02 17 05.1
EVO Evora 130.37 315 *e*LQ LQ 02 17 05.9
PSBE So Bento 130.45 317 *e*LQ LQ 02 17 06.0
PBEJ Beja 130.50 315 *e*LQ LQ 02 17 06.1
PVAQ Vaqueiros 130.67 314 *e*LQ LQ 02 17 06.8
PCVE Castro Verde 130.80 314 *e*LQ LQ 02 17 07.2
MESJ Messejana 130.83 315 *e*LQ LQ 02 17 07.4
PBDV Barranco-do-Ve 130.89 314 *e*LQ LQ 02 17 07.9
PNCL Nicolau / Gran 130.92 315 *e*LQ LQ 02 17 07.4
SCHQ Schefferville 131.09 12 SKPbc **SKPbc 02 17 07.3 -2.1**
comp=Z,8.9nm,0.5s,baz=2.1,slow=4.3,SNR=19
MORF Marmelete 131.38 314 *e*LQ LQ 02 17 09.8
DBIC Dimbokro 134.10 272 SKPbc **SKPbc 02 17 18.5 -2.5**
comp=Z,20nm,0.7s,baz=89,slow=3.3,SNR=27
CPUP Villa Florida 145.89 170 PKPbc **PKPbc 02 14 25.9 +0.5**
comp=Z,9.9nm,0.8s,baz=194,slow=2.4,SNR=27
CPUP SKPbc **SKPbc 02 17 51.4 -1.2**
comp=Z,9.9nm,0.8s,baz=173,slow=1.0,SNR=13
LPAZ La Paz 151.02 145 PKPbc **PKPbc 02 14 40.3 +0.6**
comp=Z,5.2nm,0.4s,baz=7.8,slow=2.6,SNR=34

*IDC **14** 01:55:46.4±1.6, 23°.94N×143°.83E, h0km, mb4.0/9, mbtmp3.9/12, ML3.6/3, Error ellipse: s-maj=46.7km s-min=28.1km az=27.0*

ISC 14 01:55:51.7±1.3, 24°.0N±0°.2×143°.8E±0°.2, h35km, n13, σ1ş00/14, mb4.0/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.44**	**335**	Pn		**Pn**	**Pn**	**01 56 41.1**	**-1.7**
	9.7nm,0.3s,baz=107,slow=23,SNR=12								
JCJ				Sn		**Sn**	**Sn**	**01 57 24.6**	**+2.3**
	34nm,0.3s,baz=131,slow=23,SNR=20								
	35nm,0.5s								
MJAR	**Matsushiro Arr**	**13.42**	**340**	Pn		**Pn**	**Pn**	**01 58 58.5**	**-1.3**
	0.1nm,0.3s,baz=158,slow=13,SNR=1.9								
	0.9nm,0.4s								
KSRS	**Korea Array**	**19.12**	**318**	P		**P**	**P**	**02 00 12.1**	**+0.4**
	0.3nm,0.3s,baz=134,slow=12,SNR=5.8								
	1.4nm,0.7s								
ZALV	**Zalesovo Beam**	**52.81**	**321**	P		**P**	**P**	**02 05 03.7**	**+0.3**
	1.4nm,0.3s,baz=108,slow=7.9,SNR=5.2								
	1.4nm,0.3s								
MKAR	**Makanchi Array**	**53.60**	**311**	P		**P**	**P**	**02 05 09.8**	**+0.3**
	0.4nm,0.5s,baz=88,slow=9.5,SNR=5.8								
	0.4nm,0.5s								
KURBB	**Kurchatov Arra**	**56.27**	**316**	P		**P**	**P**	**02 05 29.0**	**+0.4**
	1.3nm,0.6s,baz=92,slow=8.4,SNR=12								
	1.3nm,0.6s								
ILAR	**Eielson Array**	**59.77**	**28**	P		**P**	**P**	**02 05 53.3**	**+0.4**
	0.9nm,0.9s,baz=267,slow=5.8,SNR=6.2								
	0.9nm,0.9s								
BVAR	**Borovoye Array**	**61.33**	**319**	P		**P**	**P**	**02 06 04.3**	**+0.5**
	3.0nm,0.5s,baz=90,slow=7.0,SNR=15								
	3.0nm,0.5s								
ARCES	**ARCESS Array B**	**76.96**	**341**	P		**P**	**P**	**02 07 40.9**	**+0.5**
	1.2nm,0.8s,baz=53,slow=4.7,SNR=3.5								
	1.2nm,0.8s								
NVAR	**Mina Array Bea**	**81.30**	**52**	P		**P**	**P**	**02 08 05.2**	**+0.2**
	0.6nm,0.9s,baz=286,slow=4.5,SNR=4.4								
	0.6nm,0.9s								
FINES	**FINESS Array B**	**81.38**	**335**	P		**P**	**P**	**02 08 04.2**	**-0.4**
	0.4nm,0.5s,baz=60,slow=5.9,SNR=8.6								
	0.4nm,0.5s								
HFS	**Hagfors**	**86.86**	**337**	P		**P**	**P**	**02 08 32.3**	**-0.3**
	1.2nm,0.9s,baz=60,slow=6.8,SNR=1.6								
	1.2nm,0.9s								
TORD	**Torodi Ar. Bea**	**127.72**	**311**	PKP		**PKPdf**	**PKPdf**	**02 14 54.3**	**0.0**
	0.5nm,0.5s,baz=75,slow=1.9,SNR=1.9								

NOU 14 02:23:50.0, 20°.98S×177°.05E, h141km, mb4.6/10, South of Fiji Islands, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.37**	**16**	P		**P**	Pn	02 24 41.6	-0.2
MARNC	**Mare, Loyalty**	**8.43**	**265**	P		**P**	Pn	02 25 48.2	-1.0
PINNC	**Pines Island,**	**9.07**	**258**	P		**P**	Pn	02 25 58.0	+0.2
LIFNC	**LIFOU**	**9.17**	**270**	P		**P**	Pn	02 26 00.7	+1.5
RAO	**Raoul Island**	**9.41**	**152**	P		**P**	Pn	02 26 02.2	-0.1
YATNC	**Mamie plateau,**	**9.52**	**262**	P		**P**	Pn	02 26 02.7	-1.1
OUENC	**Ouen Island, N**	**9.60**	**260**	P		**P**	Pn	02 26 05.3	+0.5
DZM	**Mont Dzumac**	**9.93**	**262**	P		**P**	Pn	02 26 09.1	-0.3
NOUC	**Port Laguerre**	**10.06**	**262**	P		**P**	Pn	02 26 10.8	-0.2
RPZ	**Rata Peaks**	**23.22**	**191**	P		**P**	P	02 28 44.3	-0.2

RSNC 14 02:24:00.0±1.3, 3°N±5°×8°2W±°, h0km±13km, M3.4, mb3.9, mB5.4, ML2.5, Mw(mB)4.8, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PAC1	**Pacto, Paraso**	**4.19**	**127**	P		**P**	Pn	02 25 05.4	0.0
OTAV	**Otavalo**	**4.48**	**125**	P		**P**	Pn	02 25 10.5	+0.9
BBAC	**Balboa, Cauca**	**4.94**	**99**	P		**P**	Pn	02 25 16.3	+0.6
PIAT	**Ana Tenorio**	**5.42**	**135**	P		**P**	Pn	02 25 20.8	-1.6
	1.1nm,1.1s								
POPC	**Popayan, Colom**	**5.45**	**93**	P		**P**	Pn	02 25 20.2	-2.5
	5.1nm,0.9s								
JAMC	**Jamundi, Valle**	**5.45**	**86**	P		**P**	Pn	02 25 23.3	+0.5
	14nm,0.8s								
YOTC	**Yotoco, Valle**	**5.88**	**79**	P		**P**	Pn	02 25 28.0	-0.6
	12nm,1.1s								
PLMC	**San Jos del P**	**6.18**	**70**	P		**P**	Pn	02 25 31.5	-1.1
	13nm,0.7s								
ORTC	**Ortega, Tolima**	**6.95**	**81**	P		**P**	Pn	02 25 45.3	+2.1
	12nm,1.4s								
PRAC	**Prado**	**7.28**	**83**	P		**P**	Pn	02 25 46.1	-1.6
	9.4nm,1.3s								
NORC	**Norcasia**	**7.72**	**69**	P		**P**	Pn	02 25 55.5	+1.6
	12nm,1.4s								
PTBC	**PUERTO BERRIO,**	**8.48**	**64**	P		**P**	Pn	02 26 03.8	-0.4

*IDC **14** 02:36:15.0±0.5, 23°.43N×143°.68E, h0km, mb4.2/21, mbtmp4.2/23, ML3.5/2, MS3.3/10, Error ellipse: s-maj=22.4km s-min=13.2km az=77.0*
*JMA **14** 02:36:17.2±0.2, 24°N±2°×14°4E±°, h0km, MV5.0/32, FAR E OFF OGASAWARA*
*NEIC **14** 02:36:17.0±1.1, 23°.45N±0°.09×143°.6E±0°.1, h10km±1km, mb4.6/54, Error ellipse: s-maj=22.9km s-min=14.0km az=76.0*

ISC 14 02:36:19.7±0.4, 23°.46N±0°.06×143°.61E±0°.09, h31km, n365, σ0ş75/362, mb4.5/52, MS3.3/8, 1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.42**	**338**	*e*P		**Pn**	**Pn**	**02 37 11.0**	**+0.1**
JHH2				S		**Sn**	**Sn**	**02 37 51.4**	**-1.3**
CBIJ	**Chichi jima**	**3.84**	**341**	*e*P		**Pn**	**Pn**	**02 37 16.7**	**0.0**
CBIJ				*e*S		**Sn**	**Sn**	**02 38 00.2**	**-0.7**
JCJ	**Chichijima**	**3.84**	**341**	Pn		**Pn**	**Pn**	**02 37 16.4**	**-0.3**
JCJ	**Chichijima**	**3.84**	**341**	Pn		**Pn**	Pn	02 37 12.0	-4.8
	23nm,0.3s,baz=300,slow=24,SNR=26								
JCJ				Sn		**Sn**	**Sn**	**02 37 55.6**	**-5.3**
	87nm,0.3s,baz=131,slow=23,SNR=22								
BSO1	**Boso 1**	**11.39**	**349**	P		**Pn**	**Pn**	**02 38 58.6**	**-1.2**
JSKK	**Shikinejimakit**	**11.50**	**341**	S		**Sn**	**Sn**	**02 41 07.4**	**-1.7**
BSO3	**Boso 3**	**11.62**	**347**	*e*P		**Pn**	**Pn**	**02 39 02.4**	**-0.8**
BSO4	**Boso 4**	**11.84**	**347**	*e*P		**Pn**	**Pn**	**02 39 06.2**	**-0.1**
JKUC	**kamogawauchiur**	**12.03**	**346**	*e*P		**Pn**	**Pn**	**02 39 08.4**	**-0.7**
JHU	**Hanno**	**12.91**	**344**	*e*P		**Pn**	**Pn**	**02 39 19.6**	**-1.5**
JRY	**Ryogami san**	**13.16**	**343**	*e*P		**Pn**	**Pn**	**02 39 22.2**	**-1.4**
JHO	**Hitachi**	**13.37**	**349**	*e*P		**Pn**	**Pn**	**02 39 25.1**	**-2.2**
JAG	**Ashikaga**	**13.41**	**345**	*e*P		**Pn**	**Pn**	**02 39 27.1**	**-0.9**
JNG	**Nsakai**	**13.75**	**341**	*e*P		**Pn**	**Pn**	**02 39 32.8**	**+0.1**
MJAR	**Matsushiro Arr**	**13.85**	**342**	Pn		**Pn**	**Pn**	**02 39 31.6**	**-2.3**
	0.1nm,0.3s,baz=156,slow=11,SNR=8.3								
	1.2nm,0.5s								
MAJO	**Matsushiro**	**13.85**	**342**	Pn		**Pn**	**Pn**	**02 39 31.8**	**-2.1**
MJB9	**Matsu-Tunnel**	**13.85**	**342**	Pn		**Pn**	**Pn**	**02 39 32.6**	**-1.3**
JMM	**Marumori**	**14.56**	**351**			**Pn**	**Pn**	**02 39 41.5**	**-2.1**
JMM	**Marumori**	**14.56**	**351**	*e*P		**Pn**	**Pn**	**02 39 41.8**	**-1.8**
JNU	**Nakatsue**	**14.77**	**313**	LR		**LR**	LR	02 45 20.2	
	comp=Z,55nm,18.5s,baz=220,slow=37								
JYS	**Shirataka**	**15.02**	**349**	*e*P		**Pn**	**Pn**	**02 39 49.3**	**-0.5**
JTM	**Tenmabayashi**	**17.41**	**354**	Pn		**Pn**	**Pn**	**02 40 19.5**	**-0.7**
ERM	**Erimo**	**18.51**	**359**	P		**P**	**P**	**02 40 32.9**	**-0.5**
KSRS	**Korea Array**	**19.39**	**320**	P		**P**	**P**	**02 40 43.6**	**+0.5**
	0.2nm,0.3s,baz=134,slow=11,SNR=13								
KSRS				LR		LR	LR	02 48 03.6	
	comp=Z,89nm,18.4s,baz=130,slow=36								
	8.0nm,1.1s								
KSAR	**Wonju Array Be**	**19.40**	**320**	P		**P**	**P**	**02 40 41.9**	**-1.4**
KS19	**Wonju Array Si**	**19.45**	**320**	P		**P**	**P**	**02 40 42.4**	**-1.4**
ASAJ	**Asahikawa**	**20.62**	**358**	P		**P**	**P**	**02 40 57.2**	**+0.8**
	2.5nm,0.2s,baz=229,slow=17,SNR=3.6								
ASAJ				LR		LR	LR	02 49 18.1	
	comp=Z,52nm,21.3s,baz=175,slow=38								
	2.5nm,0.2s								
USA0B	**Ussuriysk Arra**	**22.78**	**338**	P		**P**	**P**	**02 41 18.9**	**-0.7**
USRK	**Ussuriysk Ar.**	**22.78**	**338**	P		**P**	**P**	**02 41 19.6**	**0.0**
	2.5nm,0.7s,baz=150,slow=9.9,SNR=6.9								
	2.5nm,0.7s								
DAV	**Davao City (W)**	**23.79**	**230**	LR		**LR**	LR	02 49 30.6	
	comp=Z,109nm,20.4s,baz=133,slow=33								
MDJ	**Mudanjiang**	**24.02**	**335**	P		**P**	**P**	**02 41 33.8**	**+2.0**
MDJ				pmax		pmax	pmax		
	comp=Z,16nm,1.2s								
MDJ				pmax		pmax	pmax		
	comp=Z,100nm,4.8s								
MDJ	**Mudanjiang**	**24.02**	**335**	P		**P**	**P**	**02 41 31.2**	**-0.6**
MDJ				IAmb		IAmb	IAmb	02 41 35.2	
	comp=Z,27nm,1.3s								
BNX	**BinXian**	**25.82**	**333**	⇓P		**P**	**P**	**02 41 48.1**	**-0.1**
BNX				pmax		pmax	pmax		
	comp=Z,16nm,1.0s								
HEH	**HeiHe**	**29.59**	**339**	*e*P		**P**	**P**	**02 42 20.8**	**-1.0**
HEH				pmax		pmax	pmax		
	comp=Z,6.0nm,1.0s								
HEH				pmax		pmax	pmax		
	comp=Z,81nm,4.5s								
HHC	**Hu-ho-hao-te**	**31.96**	**310**	*e*P		**P**	**P**	**02 42 46.8**	**+3.8**
HHC				pmax		pmax	pmax		
	comp=Z,6.0nm,0.6s								
HHC				pmax		pmax	pmax		
	comp=Z,59nm,4.0s								
XAN	**Xi'an**	**32.05**	**297**	*e*P		**P**	**P**	**02 42 41.4**	**-2.4**
COEN	**Coen**	**37.19**	**181**	P		**P**	**P**	**02 43 27.5**	**-0.8**
COEN				IAmb		IAmb	IAmb	02 43 43.8	
	comp=Z,13nm,1.2s								
PZH	**PanZhiHua**	**37.95**	**283**	P		**P**	**P**	**02 43 36.3**	**+1.4**
PZH				pmax		pmax	pmax		
	comp=Z,20nm,0.8s								
PZH				pmax		pmax	pmax		
	comp=Z,110nm,4.8s								
SONM	**Songino Array**	**38.26**	**319**	P		**P**	**P**	**02 43 37.5**	**+0.2**
SONM	**Songino Array**	**38.26**	**319**	P		**P**	**P**

comp=Z,9.2nm,0.9s
WB0 Warramunga Arr 43.90 193 P P 02 44 23.0 -0.7
WB0 IAmb IAmb 02 44 41.2
comp=Z,16nm,1.5s
WRA Warramunga Arr 44.08 193 P P 02 44 24.7 -0.4
WRA Warramunga Arr 44.08 193 P P 02 44 24.4 -0.7
comp=Z,2.2nm,0.6s,baz=17,slow=8.9,SNR=30
WRA PcP **PcP 02 46 10.4 +0.2**
comp=Z,0.9nm,0.7s,baz=4.8,slow=3.7,SNR=4.9
comp=Z,2.2nm,0.6s
FITZ Fitzroy Crossi 44.88 205 P P 02 44 30.4 -1.2
NIKH Nikolski High 46.35 38 P P 02 44 42.9 +0.1
baz=249
SPIA Saint Paul Isl 47.27 32 P P 02 44 50.5 +0.6
baz=244
P08K Saint George I 47.37 33 P P 02 44 51.1 +0.3
baz=246
AS31 Alice Springs 47.78 192 P P 02 44 53.4 -1.0
ASAR Alice Springs 47.78 192 P P 02 44 53.7 -0.7
ASAR Alice Springs 47.78 192 P P 02 44 53.9 -0.4
comp=Z,1.8nm,0.6s,baz=16,slow=10,SNR=32
ASAR PcP **PcP 02 46 23.8 +0.7**
comp=Z,0.6nm,0.8s,baz=23,slow=2.7,SNR=2.8
comp=Z,1.8nm,0.6s
UNV Unalaska Valle 47.97 38 P P 02 44 55.6 +0.2
baz=251
FALS False Pass 50.00 37 P P 02 45 11.2 +0.2
baz=253
DZM Mont Dzumac 50.42 152 P P 02 45 14.2 -0.4
DZM IAmb IAmb 02 45 28.2
comp=Z,8.3nm,0.9s
M11K Mekoryuk 50.53 30 P P 02 45 15.0 +0.1
baz=246
OUENC Ouen Island, N 50.90 152 P P 02 45 18.6 +0.5
S12K Black Hills 50.99 36 P P 02 45 18.4 -0.1
baz=254
M13K Dall Lake 51.85 30 P P 02 45 25.1 +0.3
baz=249
CHNA Chernabura Isl 52.13 38 P P 02 45 27.7 +0.7
baz=257
TNA Tin City 52.17 23 P P 02 45 27.9 +0.8
baz=240
N14K Kuskokwak Cree 52.47 31 P P 02 45 30.0 +0.6
baz=251
L14K Kuka Creek 52.49 29 P P 02 45 30.1 +0.6
baz=249
S14K Fog Glacier 52.50 36 P P 02 45 30.4 +0.6
baz=256
M14K Bethel 52.61 30 P P 02 45 31.1 +0.7
baz=250
J14K Nanvaranak Lak 52.64 27 P P 02 45 31.0 +0.4
baz=247
ANM Nome 52.66 25 P P 02 45 31.5 +0.7
baz=244
F14K Arctic Creek 52.71 24 P P 02 45 31.6 +0.5
baz=242
ZAA0 Zalesovo Array 53.09 321 P P 02 45 33.9 -0.2
ZAA0 IAmb IAmb 02 45 35.2
comp=Z,3.3nm,0.6s
ZALV Zalesovo Beam 53.09 321 P P 02 45 34.2 +0.1
ZALV Zalesovo Beam 53.09 321 P P 02 45 34.5 +0.4
comp=Z,4.0nm,0.5s,baz=112,slow=8.0,SNR=12
comp=Z,4.0nm,0.5s
O15K Ungalikthiuk R 53.14 32 P P 02 45 34.2 -0.1
baz=253
M15K Kasigluk River 53.19 31 P P 02 45 34.8 +0.2
baz=251
N15K Kwethluk River 53.30 31 P P 02 45 35.5 0.0
N15K Kwethluk River 53.30 31 P P 02 45 35.7 +0.1
baz=252
K15K Wolf Creek Mou 53.34 28 P P 02 45 36.3 +0.5
K15K IAmb IAmb 02 45 50.5
comp=Z,12nm,1.3s
K15K Wolf Creek Mou 53.34 28 P P 02 45 35.3 -0.5
baz=249
G15K Niukluk 53.36 25 P P 02 45 36.3 +0.4
baz=245
F15K North Star Dit 53.44 24 P P 02 45 36.8 +0.3
baz=244
MK31 Makanchi Array 53.81 312 P P 02 45 39.6 0.0
MKAR Makanchi Array 53.81 312 P P 02 45 40.0 +0.4
MKAR Makanchi Array 53.81 312 P P 02 45 40.6 +1.0
comp=Z,1.8nm,0.6s,baz=92,slow=8.8,SNR=19
comp=Z,1.8nm,0.6s
H16K Elim 53.92 26 P P 02 45 40.0 0.0
baz=247
N16K Nishlik Lake 54.02 31 P P 02 45 41.3 +0.4
baz=253
MAKZ Makanchi 54.03 312 P P 02 45 41.8 +0.7
MAKZ IAmb IAmb 02 45 43.3
comp=Z,4.5nm,0.9s
L16K Owhat River 54.06 30 P P 02 45 42.1 +1.0
baz=252
J16K Anvik River 54.09 27 P P 02 45 41.0 -0.3
J16K Anvik River 54.09 27 P P 02 45 41.5 +0.2
baz=250
M16K Timber Creek 54.09 30 P P 02 45 42.0 +0.7
baz=253
O16K Kokwok River B 54.10 32 P P 02 45 41.6 +0.2
baz=255
I17K Unalakleet 54.26 27 P P 02 45 43.3 +0.8
baz=249
C16K Lisburne Hills 54.38 21 P P 02 45 43.3 0.0
R17L Mt. Peulik Vol 54.52 35 P P 02 45 45.2 +0.7
baz=258
CHIR Chirikof Islan 54.56 37 P P 02 45 45.2 +0.4
baz=260
O17K Koliganek Bris 54.64 32 P P 02 45 45.5 +0.2
baz=255
L17K Donlin 54.72 29 P P 02 45 46.2 +0.2
baz=253
J17K VABM Dome 54.78 28 P P 02 45 46.3 +0.1
baz=251
N17K Nushagak Hills 54.79 31 P P 02 45 47.0 +0.5
baz=255
G17K Kiwalik Mounta 54.87 25 P P 02 45 47.3 +0.3
baz=248
D17K Noatak River 54.88 22 P P 02 45 47.6 +0.6
baz=244
Q17K Contact Creek 54.90 34 P P 02 45 47.5 +0.1
baz=258
K17K Iditarod 54.90 29 P P 02 45 47.1 -0.1
K17K IAmb IAmb 02 45 49.6
comp=Z,9.7nm,1.1s
K17K Iditarod 54.90 29 P P 02 45 47.9 +0.7
baz=252
M17K Holitna River 54.91 30 P P 02 45 47.5 +0.2
baz=254
H17K Granite Mounta 54.96 26 P P 02 45 48.1 +0.5
baz=249
E17K Hotham Inlet 55.06 23 P P 02 45 48.6 +0.4
baz=246
STKA Stephens Creek 55.06 182 P P 02 45 47.5 -1.1
STKA Stephens Creek 55.06 182 P P 02 45 47.7 -0.9
comp=Z,2.7nm,0.5s,baz=335,slow=7.2,SNR=6.2
comp=Z,2.7nm,0.5s
RDOG Red Dog Mine 55.09 22 P P 02 45 49.1 +0.6
baz=244
C17K DeLong Mountai 55.19 21 P P 02 45 49.5 +0.3
baz=244
Q18K Katmai Hardscr 55.43 34 P P 02 45 51.4 +0.2
baz=258
N18K Kilae Creek 55.45 31 P P 02 45 51.3 +0.2
baz=256
P18K Big Mountain, 55.47 33 P P 02 45 51.3 -0.1
baz=258
SII Sitkinak Islan 55.48 36 P P 02 45 51.6 +0.2
baz=260
R18K Karluk 55.51 35 P P 02 45 51.0 -0.6
baz=259
O18K Koktuh Hills 55.59 32 P P 02 45 52.3 +0.1
baz=257
E18K Tukpahlearik C 55.63 23 P P 02 45 52.3 -0.1
baz=247
H18K Honhosa River 55.65 26 P P 02 45 52.8 +0.2
H18K IAmb IAmb 02 46 12.2
comp=Z,8.5nm,1.4s
H18K Honhosa River 55.65 26 P P 02 45 53.1 +0.5
baz=251
F18K Selawik 55.66 24 P P 02 45 53.1 +0.5
baz=248
M18K Stony River 55.68 30 P P 02 45 53.5 +0.7
baz=256
G18K Tagagawik 55.79 25 P P 02 45 52.8 -0.7
G18K IAmb IAmb 02 45 54.9
comp=Z,6.1nm,0.9s
G18K Tagagawik 55.79 25 P P 02 45 54.1 +0.5
baz=250

J18K Innoko River 55.81 28 P P 02 45 54.3 +0.6
baz=253
C18K Utukok River 55.92 21 P P 02 45 55.4 +0.9
baz=246
FORT Forrest 55.96 196 P P 02 45 54.9 -0.2
TTA Tatalina 55.97 29 P P 02 45 54.7 -0.2
baz=254
B18K Kokolik River 56.03 20 P P 02 45 55.2 +0.1
baz=244
OHAK Old Harbor 56.07 36 P P 02 45 55.7 0.0
baz=261
L19K White Mountain 56.29 30 P P 02 45 57.2 -0.1
baz=256
J19K Poorman 56.42 27 P P 02 45 58.1 0.0
baz=254
F19K Shaleruckik Mo 56.44 24 P P 02 45 59.0 +0.8
baz=250
KURK Kurchatov 56.47 316 P P 02 45 59.0 +0.3
KURK IAmb IAmb 02 46 00.2
comp=Z,9.9nm,1.1s
G19K Purcell Mounta 56.47 25 P P 02 45 59.0 +0.5
baz=251
NRIK Noril'sk 56.49 339 P P 02 45 59.1 +0.6
comp=Z,2.9nm,0.8s,baz=153,slow=9.0,SNR=3.9
comp=Z,2.9nm,0.8s
KURBB Kurchatov Arra 56.52 316 P P 02 45 59.6 +0.7
comp=Z,4.2nm,0.6s,baz=93,slow=8.0,SNR=22
comp=Z,4.2nm,0.6s
P19K Oil Pt 56.52 33 P P 02 45 59.1 +0.2
baz=259
H19K Roundabout Mou 56.53 26 P P 02 45 58.2 -0.5
H19K IAmb IAmb 02 46 00.5
comp=Z,7.7nm,1.2s
H19K Roundabout Mou 56.53 26 P P 02 45 59.6 +0.8
baz=252
KDAK Kodiak Island 56.53 35 P P 02 45 59.1 +0.1
baz=261
KDAK Kodiak Island 56.53 35 LR LR 03 07 20.8
comp=Z,44nm,21.1s,baz=252,slow=33
A19K Wainwright 56.62 20 P P 02 46 00.2 +0.9
baz=245
C19K Lookout Ridge 56.64 21 P P 02 46 00.4 +0.7
C19K IAmb IAmb 02 46 00.7
comp=Z,13nm,1.4s
C19K Lookout Ridge 56.64 21 P P 02 45 59.9 +0.3
baz=247
Q20K Shuyak Island 56.77 34 P P 02 46 00.8 +0.3
baz=261
L20K Farewell, AK 56.81 30 P P 02 46 01.2 +0.3
baz=257
E19K Redstone River 56.85 23 P P 02 46 01.1 0.0
baz=250
D19K Kuna River 56.90 22 P P 02 46 02.1 +0.6
baz=249
O20K Slope Mountain 56.90 32 P P 02 46 01.8 +0.2
baz=259
K20K Telida 56.93 28 P P 02 46 02.5 +0.8
baz=256
M20K Styx River 57.02 30 P P 02 46 02.6 +0.2
baz=258
J20K Nowinta River 57.10 27 P P 02 46 03.5 +0.6
J20K Nowinta River 57.10 27 P P 02 46 03.4 +0.5
baz=255,SNR=8.7
H20K Anotleneega Mo 57.15 26 P P 02 46 03.5 +0.2
baz=254,SNR=6.9
F20K Avaraart Lake 57.27 24 P P 02 46 04.9 +0.8
baz=252
E20K Nigu River 57.49 23 P P 02 46 06.2 +0.5
baz=251
D20K Etivluk River 57.50 22 P P 02 46 05.9 +0.2
baz=250,SNR=7.5
IMAR Indian Mountai 57.73 25 P P 02 46 07.7 +0.4
B20K Meade River 57.77 20 P P 02 46 08.2 +0.7
baz=249
SKT Skentna 57.78 30 P P 02 46 08.2 +0.5
baz=259
BRSE Bradley Lake S 57.78 33 P P 02 46 08.1 +0.3
baz=261
CAST Castle Rocks 57.81 29 P P 02 46 08.3 +0.3
baz=258
G21K Allakaket 57.97 25 P P 02 46 09.8 +0.8
baz=255
H21K Melozitna Rive 58.02 26 P P 02 46 10.1 +0.7
baz=256
SUA Susitna One 58.05 31 P P 02 46 10.2 +0.3
baz=260
F21K Alatna River 58.16 24 P P 02 46 11.2 +0.8
baz=254
I21K Tanana 58.24 27 P P 02 46 11.7 +0.8
baz=257
C21K Knifeblade Rid 58.27 22 P P 02 46 11.7 +0.7
baz=252
E21K Killik River 58.33 23 P P 02 46 12.1 +0.6
baz=253
BOOM Boomskoye usch 58.37 307 P P 02 46 12.9 +0.5
A21K Barrow 58.42 19 P P 02 46 12.9 +0.9
baz=249
BPAW Bear Paw Mtn. 58.43 28 P P 02 46 12.6 +0.3
BPAW IAmb IAmb 02 46 13.6
comp=Z,5.9nm,0.9s
BPAW Bear Paw Mtn. 58.43 28 P P 02 46 12.3 +0.1
baz=258
B21K Ikpikpuk River 58.47 21 P P 02 46 12.9 +0.5
baz=252
RC01 Rabbit Creek A 58.48 32 P P 02 46 12.7 +0.1
baz=262
KSH Kashi 58.59 303 P P 02 46 19.1 +5.1
KSH pmax pmax
comp=Z,5.0nm,0.6s
H22K Ishtalitna Cre 58.65 26 P P 02 46 14.7 +0.9
baz=257
MLY Manley 58.72 27 P P 02 46 14.1 -0.2
baz=258
F22K John River 58.73 24 P P 02 46 15.2 +0.9
baz=255
A22K Sinclair Lake 58.81 20 P P 02 46 15.8 +1.1
baz=250
G22K Bettles 58.84 25 P P 02 46 15.2 +0.2
baz=256
PMR Palmer 58.84 31 P P 02 46 14.8 -0.3
baz=262
D22K Ayikyak River 58.91 22 P P 02 46 15.9 +0.4
baz=254
E22K Anaktuvuk Pass 59.02 23 P P 02 46 16.7 +0.3
baz=255
SML Sawmill 59.25 31 P P 02 46 17.5 -0.5
baz=262
MCK McKinley 59.26 29 P P 02 46 17.8 -0.2
baz=261
WAT1 Susitna Watana 59.29 30 P P 02 46 17.8 -0.5
baz=262
I23K Minto, Yukon-K 59.32 27 P P 02 46 18.6 +0.3
baz=259
NEA2 Nenana 59.34 28 P P 02 46 18.8 +0.2
baz=260
G23K Bananza Creek 59.36 25 P P 02 46 19.4 +0.6
baz=258
H23K Yukon River 59.37 26 P P 02 46 19.7 +0.9
baz=259,SNR=5.9
COLD Coldfoot 59.40 24 P P 02 46 19.8 +0.8
baz=257
P23K Montague Islan 59.49 33 P P 02 46 20.0 +0.3
baz=264
M23K Glacier View 59.53 31 P P 02 46 19.6 -0.3
baz=263
WAT6 Susitna Watana 59.62 30 P P 02 46 20.2 -0.5
baz=262
D23K Nanushuk River 59.63 22 P P 02 46 21.0 +0.5
baz=256
SCM Sheep Creek Mo 59.72 31 P P 02 46 21.1 -0.2
SCM Sheep Creek Mo 59.72 31 P P 02 46 21.2 -0.1
baz=263
E23K Chandalar 59.80 24 P P 02 46 22.5 +0.7
baz=258,SNR=6.8
DHY Denali Highway 59.85 29 P P 02 46 22.7 +0.4
baz=262
C23K Itkillik River 59.87 21 P P 02 46 23.0 +0.9
baz=256,SNR=5.8
TOLK Toolik Lake Re 59.95 23 P P 02 46 23.5 +0.8
TOLK IAmb IAmb 02 46 25.1
comp=Z,5.7nm,1.2s
TOLK Toolik Lake Re 59.95 23 P P 02 46 23.3 +0.6
baz=257
H24K Noodor Dome 60.05 26 P P 02 46 23.9 +0.4
baz=260,SNR=5.9
E24K Your Creek 60.22 24 P P 02 46 24.7 +0.1
baz=259
M24K Tolsona, Glenn 60.29 31 P P 02 46 25.2 -0.1

baz=264
ILAR Eielson Array 60.30 28 P P 02 46 23.5 -1.6
ILAR Eielson Array 60.30 28 P P 02 46 24.3 -0.8
comp=Z,2.7nm,0.9s,baz=258,slow=5.7,SNR=21
ILAR LR LR 03 14 44.5
comp=Z,22nm,18.3s,baz=239,slow=38
comp=Z,2.7nm,0.9s
D24K Happy Valley 60.32 22 P P 02 46 25.4 +0.2
baz=258
F24K Squaw Lake 60.34 24 P P 02 46 26.2 +0.8
baz=260
KLU Klutina 60.35 31 P P 02 46 26.3 +0.6
baz=265
G24K Hadweenzic Riv 60.35 25 P P 02 46 26.3 +0.8
baz=260,SNR=5.9
EYAK Cordova Ski Ar 60.36 32 P P 02 46 26.4 +0.8
baz=265
K24K Donnelly Dome 60.66 29 P P 02 46 27.8 +0.1
baz=264
PAX Paxson 60.71 30 P P 02 46 27.9 -0.2
baz=264
G25K Bearman Lake 60.90 25 P P 02 46 30.0 +0.8
baz=262
J25K Salcha River, 60.92 28 P P 02 46 28.9 -0.6
baz=264
H25L Birch Creek 60.95 26 P P 02 46 29.5 0.0
baz=262
BMRM Bremner River 60.95 32 P P 02 46 30.1 +0.4
baz=266
PRP Porcupine Dome 60.97 27 P P 02 46 29.7 -0.2
baz=263
KAIM Kayak Island 60.98 33 P P 02 46 30.4 +0.5
baz=267
N25K Chitina, Valde 60.99 31 P P 02 46 30.3 +0.2
baz=266
F25K Christian Rive 61.20 24 P P 02 46 32.2 +0.8
baz=262,SNR=7.5
D25K Kavik River 61.21 22 P P 02 46 31.9 +0.5
baz=260,SNR=6.4
E25K Arctic Village 61.31 24 P P 02 46 33.1 +1.1
baz=261,SNR=6.3
SCRK Sand Creek 61.46 29 P P 02 46 32.6 -0.6
SCRK IAmb IAmb 02 46 33.9
comp=Z,4.8nm,0.8s
SCRK Sand Creek 61.46 29 P P 02 46 33.1 -0.1
baz=265,SNR=7.3
BMAR Burnt Mountain 61.59 25 P P 02 46 35.3 +1.4
BVAR Borovoye Array 61.60 319 P P 02 46 35.2 +1.0
comp=Z,8.1nm,0.5s,baz=90,slow=7.9,SNR=33
comp=Z,8.1nm,0.5s
CRQE Cirque 61.67 32 P P 02 46 34.6 -0.1
baz=268
J26L Joseph Creek 61.69 28 P P 02 46 34.5 -0.2
baz=265,SNR=5.8
MCARA McCarthy VSAT 61.74 32 P P 02 46 35.5 +0.5
baz=267
F26K Sheenjek River 61.78 24 P P 02 46 36.2 +1.0
baz=263,SNR=6.0
M26K Nabesna, AK 61.80 30 P P 02 46 36.2 +0.7
baz=267
C26K Camden Bay 61.82 22 P P 02 46 35.9 +0.5
baz=261
G26K Porcupine Rive 61.84 25 P P 02 46 36.4 +0.9
baz=264
I26K Coal Creek Min 61.93 27 P P 02 46 36.7 +0.5
baz=265
C27K Jago River 62.19 22 P P 02 46 38.5 +0.6
baz=262
KK31 Karatay Array 62.29 308 P P 02 46 39.4 +0.4
KK31 IAmb IAmb 02 46 42.4
comp=Z,3.8nm,1.1s
KKAR Karatay Array 62.29 308 P P 02 46 39.3 +0.3
K27K Chicken 62.30 29 P P 02 46 39.2 +0.5
baz=267
M27K Edge Creek, AK 62.32 31 P P 02 46 39.1 0.0
baz=268
L27K Beaver Creek, 62.37 30 P P 02 46 39.6 +0.4
baz=268
BCAR Beaver Creek A 62.39 30 P P 02 46 39.4 +0.1
CTG Chitna Glacier 62.54 32 P P 02 46 40.8 +0.2
baz=269
I27K Kandik River 62.59 27 P P 02 46 41.1 +0.4
baz=266
G27K Doyon Strip 62.66 25 P P 02 46 41.8 +0.7
baz=266
H27K Steamboat Moun 62.67 26 P P 02 46 41.9 +0.7
baz=266,SNR=7.2
EGAK Eagle 62.74 28 P P 02 46 42.4 +0.7
EGAK Eagle 62.74 28 P P 02 46 42.4 +0.7
baz=267
E27K Coleen River 62.79 24 P P 02 46 43.0 +1.1
baz=265
YUK3 Moose Creek 62.97 31 P P 02 46 43.8 +0.3
baz=269
D27M Malcolm River 63.11 23 P P 02 46 44.8 +0.7
baz=265
I28M Miner Creek 63.29 27 P P 02 46 46.1 +0.7
baz=268
F28M Old Crow 63.40 25 P P 02 46 46.5 +0.5
F28M IAmb IAmb 02 46 48.6
comp=Z,3.2nm,0.9s
F28M Old Crow 63.40 25 P P 02 46 47.5 +1.5
baz=267,SNR=5.6
DAWY Dawson 63.49 29 P P 02 46 46.7 0.0
DAWY IAmb IAmb 02 46 49.4
comp=Z,7.1nm,1.5s
DAWY Dawson 63.49 29 P P 02 46 47.3 +0.6
baz=269
PNL Peninsula 63.51 34 P P 02 46 46.7 -0.1
baz=271
E28M Babbage River 63.58 24 P P 02 46 48.5 +1.3
baz=267,SNR=9.4
O29M Mount Kennedy 63.91 33 P P 02 46 50.1 +0.6
baz=272
M29M Somme Creek 63.91 30 P P 02 46 50.4 +0.9
baz=271
H29M Whitestone 63.95 26 P P 02 46 50.4 +0.8
baz=269
CHGR Chuyangaron 63.96 303 P P 02 46 50.6 +0.4
I29M Ogilvie Camp, 63.97 27 P P 02 46 50.9 +1.1
baz=270
YUK6 Outpost Mounta 63.99 32 P P 02 46 50.4 +0.1
baz=272
L29M L29M 64.05 30 P P 02 46 51.1 +0.7
baz=271
G29M Pine Creek 64.10 25 P P 02 46 51.5 +0.9
baz=269
E29M Blow River 64.18 24 P P 02 46 52.2 +1.1
baz=268
K29M Barlow Dome 64.31 29 P P 02 46 52.8 +0.6
baz=271
P29M Windy Craggy 64.36 34 P P 02 46 52.9 +0.4
baz=273
N30M Aishikik Lake 64.59 31 P P 02 46 53.6 -0.4
baz=273
EPYK Eagle Plains 64.62 26 P P 02 46 54.5 +0.4
EPYK Eagle Plains 64.62 26 P P 02 46 54.7 +0.7
baz=270
M30M Minto, Yukon 64.68 30 P P 02 46 54.8 +0.3
baz=272
P30M Million Dollar 64.72 33 P P 02 46 55.4 +0.5
baz=273
I30M Mount Dempster 64.78 27 P P 02 46 55.3 +0.1
baz=271
G30M tAoh Zraii Nji 64.81 25 P P 02 46 55.5 +0.2
baz=271
J30M Hart River 64.82 28 P P 02 46 56.1 +0.6
baz=272
F30M Barrier River 64.97 25 P P 02 46 57.1 +0.9
baz=271
PLBC Pleasant Camp 65.06 34 P P 02 46 57.1 +0.1
baz=274
N31M Braeburn, Yuko 65.22 31 P P 02 46 58.6 +0.6
baz=274
G31M Satah River 65.58 25 P P 02 47 00.6 +0.5
baz=272,SNR=6.2
F31M Tsiigehtchic 65.76 25 P P 02 47 01.8 +0.4
baz=273
INK Inuvik 65.80 24 P P 02 47 01.6 0.0
INK IAmb IAmb 02 47 03.1
comp=Z,3.6nm,0.9s
INK Inuvik 65.80 24 P P 02 47 01.9 +0.4
baz=273,SNR=5.2
M31M Drury Creek, Y 65.82 31 P P 02 47 02.6 +0.7
baz=275
SIT Sitka 65.83 36 P P 02 47 02.4 +0.5
baz=276
R32K Eaglecrest 66.13 35 P P 02 47 04.0 +0.1

	baz=276						
P33M	Teslin, Yukon	66.78	33	P	P	02 47 07.5	-0.6
	baz=277						
U33K	Whale Pass	67.16	37	P	P	02 47 11.0	+0.6
	baz=278						
R33M	Jennings River	67.81	33	P	P	02 47 15.5	+0.7
	baz=279						
S34M	Telegraph Cree	67.96	35	P	P	02 47 16.5	+1.0
	baz=279						
ARU	Arti	68.09	323	P	P	02 47 17.0	+0.6
DLBC	Dease Lake	68.45	34	P	P	02 47 19.2	+0.5
	baz=280						
ABKAR	Akbulak array	68.57	316	P	P	02 47 19.8	+0.3
ABKAR				IAmb	IAmb	02 47 20.3	
	comp=Z,1.7nm,0.6s						
ABKAR	Akbulak array	68.57	316	P	P	02 47 20.0	+0.5
T35M	Bob Quinn	68.58	36	P	P	02 47 20.1	+0.6
	baz=280						
C36M	Paulatuk	69.09	22	P	P	02 47 22.7	+0.4
	baz=281						
BKZ	Black Stump Fm	69.48	153	P	P	02 47 25.0	-0.2
TOAD	Toad River Com	70.82	33	P	P	02 47 33.6	+0.4
	baz=284						
SPITS	Spitsbergen Ar	74.17	350	LR	LR	03 26 25.7	
	comp=Z,18nm,18.1s,baz=280,slow=41						
YKA	Yellowknife Ar	74.72	28	P	P	02 47 56.2	0.0
	comp=Z,1.2nm,0.6s,baz=296,slow=5.7,SNR=4.2						
	comp=Z,1.2nm,0.6s						
ARCES	ARCESS Array B	77.38	341	P	P	02 48 12.3	+1.0
ARCES				IAmb	IAmb	02 48 20.9	
	comp=Z,7.2nm,1.4s						
ARCES	ARCESS Array B	77.38	341	P	P	02 48 12.0	+0.7
	comp=Z,4.3nm,0.9s,baz=46,slow=6.9,SNR=8.3						
	comp=Z,4.3nm,0.9s						
O02D	Mt. Diablo Mer	77.86	51	P	P	02 48 15.2	+0.6
O02D				IAmb	IAmb	02 48 36.7	
	comp=Z,9.8nm,1.5s						
NEW	Newport	78.71	42	P	P	02 48 19.4	+0.2
	baz=292						
CMB	Columbia Colle	80.38	53	P	P	02 48 28.6	+0.2
KBZ	Khabaz	81.44	314	P	P	02 48 34.5	+0.6
	comp=Z,2.4nm,0.7s,baz=43,slow=4.1,SNR=6.0						
	comp=Z,2.4nm,0.7s						
MFID	Camas Ranch	81.46	46	P	P	02 48 34.3	+0.1
NVAR	Mina Array Bea	81.74	52	P	P	02 48 36.0	+0.1
NVAR	Mina Array Bea	81.74	52	P	P	02 48 36.1	+0.2
	comp=Z,1.1nm,0.7s,baz=270,slow=5.9,SNR=11						
	comp=Z,1.1nm,0.7s						
FIA1	FINESS Array S	81.77	334	P	P	02 48 35.4	+0.2
FINES	FINESS Array B	81.77	334	P	P	02 48 35.2	0.0
	comp=Z,0.9nm,0.5s,baz=71,slow=4.4,SNR=21						
	comp=Z,0.9nm,0.5s						
VES	Vestal, Richgr	82.19	54	P	P	02 48 38.2	+0.2
	baz=293						
HLID	Hailey	82.34	46	P	P	02 48 39.1	+0.2
	baz=295						
CWC	Cottonwood Cre	82.70	54	P	P	02 48 41.1	+0.2
	baz=294						
BOZ	Bozeman (W)	83.24	43	P	P	02 48 44.0	+0.5
	baz=297						
MPMC	Manual Prospec	83.29	54	P	P	02 48 44.3	+0.4
	baz=294						
LRMC	Laurel Mtn Rad	83.38	54	P	P	02 48 44.5	+0.1
	baz=294						
R11B	Troy Canyon, C	83.73	51	P	P	02 48 46.9	+0.7
	baz=295						
SCI2	San Clemente I	83.73	57	P	P	02 48 46.4	+0.4
	baz=294						
TPNV	Topopah Spring	83.83	52	P	P	02 48 47.0	+0.3
	baz=295						
GWY	Greenwater Val	83.84	53	P	P	02 48 46.6	-0.2
GWY				IAmb	IAmb	02 48 47.7	
	comp=Z,2.5nm,0.8s						
GSC	Goldstone, Bar	84.11	54	P	P	02 48 48.1	0.0
	baz=294						
FFC	Flin Flon	84.13	32	P	P	02 48 47.8	+0.2
FFC				IAmb	IAmb	02 48 49.4	
	comp=Z,9.2nm,1.3s						
RRX	Edison Barstow	84.14	55	P	P	02 48 48.7	+0.6
	baz=294						
MURC	Murrieta	84.51	56	P	P	02 48 50.5	+0.4
	baz=294						
DUG	Dugway, Tooele	84.87	48	P	P	02 48 52.6	+0.6
	baz=296						
RLMT	Red Lodge	84.94	43	P	P	02 48 52.8	+0.6
	baz=298						
PFO	Pinyon Flats O	85.07	56	P	P	02 48 53.4	+0.4
	baz=295						
TPFO	Pinon Flats	85.07	56	P	P	02 48 53.0	0.0
	baz=295						
GMRC	Granite Mounta	85.17	54	P	P	02 48 53.5	0.0
	baz=295						
MONP2	Monument Peak	85.40	56	P	P	02 48 54.7	0.0
	baz=295						
IKP	In-Ko-Pah, Jac	85.74	56	P	P	02 48 56.7	+0.4
	baz=295						
BC3	Big Chuckawall	85.81	55	P	P	02 48 57.0	+0.3
	baz=295						
IRM	Iron Mountain	85.83	55	P	P	02 48 57.1	+0.4
	baz=296						
BW06	Boulder Array	85.87	45	P	P	02 48 56.7	-0.3
	baz=298						
PDAR	Pinedale Array	85.87	45	P	P	02 48 57.6	+0.7
	comp=Z,0.8nm,0.3s,baz=293,slow=5.4,SNR=2.9						
	comp=Z,0.8nm,0.3s						
MSU	Marysvale	86.06	50	P	P	02 48 57.6	-0.4
GLA	Glamis	86.54	56	P	P	02 49 00.3	+0.1
	baz=296						
NC405	NORSAR Array S	87.23	339	P	P	02 49 02.8	-0.1
NC405				IAmb	IAmb	02 49 03.7	
	comp=Z,5.7nm,0.9s						
HFS	Hagfors	87.26	337	P	P	02 49 02.5	-0.6
	comp=Z,0.9nm,0.6s,baz=80,slow=1.7,SNR=6.4						
	comp=Z,0.9nm,0.6s						
NB2	NORSAR Subarra	87.45	339	P	P	02 49 03.2	-0.8
	comp=Z,1.0nm,0.8s,baz=44,slow=4.6						
NOA	NORSAR Array B	87.45	339	P	P	02 49 03.4	-0.7
	comp=Z,1.6nm,0.8s,baz=51,slow=4.2,SNR=12						
NOA				LR	LR	03 32 17.2	
	comp=Z,13nm,20.3s,baz=290,slow=38						
	comp=Z,1.6nm,0.8s						
O20A	White River Ci	88.00	47	P	P	02 49 06.8	-0.5
	baz=299						
WUAZ	Wupatki	88.00	52	P	P	02 49 07.5	+0.1
	baz=298						
BRTR	Keskin Array B	89.42	314	P	P	02 49 13.4	-0.6
	comp=Z,0.4nm,0.7s,baz=72,slow=4.7,SNR=2.7						
	comp=Z,0.4nm,0.7s						
S22A	4UR Ranch, Cre	90.14	48	P	P	02 49 16.8	-0.8
	baz=300						
ANMO	Albuquerque	91.80	51	P	P	02 49 24.5	-0.7
	baz=300						
T25A	Trinidad	92.10	48	P	P	02 49 25.9	-0.7
	baz=302						
ECSD	EROS Data Cent	93.32	39	P	P	02 49 31.8	0.0
	baz=307						
AMTX	Amarillo	95.17	49	P	P	02 49 40.0	-0.6
	baz=303						
DAVOX	Davos/Dischmat	98.55	330	LR	LR	03 40 31.3	
	comp=Z,25nm,18.2s,baz=279,slow=39						
OXF	Oxford	103.47	43	P	Pdif	02 50 16.4	-1.2
	baz=311						
M53A	WI Miller and	103.49	33	P	Pdif	02 50 16.7	-0.9
	baz=319						
LONY	Lake Ozonia	103.79	27	P	Pdif	02 50 17.6	-1.3
	baz=324						
O53A	New Philadelph	104.11	34	P	Pdif	02 50 19.2	-1.2
	baz=318						
BINY	Binghamton	105.12	29	P	Pdif	02 50 23.9	-1.0
	baz=323						
LBNH	Lisbon	105.18	26	P	Pdif	02 50 24.2	-0.9
	baz=326						
MCWV	Mont Chateau	105.25	33	P	Pdif	02 50 24.4	-1.1
	baz=319						
TORD	Torodi Ar. Bea	127.92	310	PKP	PKPdf	02 55 23.6	+0.3
	comp=Z,0.2nm,0.5s,baz=45,slow=1.7,SNR=1.1						
PLCA	Paso Flores	146.59	129	PKPbc	PKPab	02 55 59.0	-0.4
	comp=Z,1.0nm,0.5s,baz=32,slow=10,SNR=1.6						
LPAZ	La Paz	149.35	82	PKPbc	PKiKP	02 56 08.0	-0.3
	comp=Z,1.8nm,0.6s,baz=353,slow=2.0,SNR=8.7						

GII **14** *02:50:51.1±0.5, 38°.70N×15°.80E, h57km, confirmed*
PDG **14** *02:50:51.8±7.0, 38°.61N×16°.16E, h99km±14km, MD4.6/3, ML4.5/11, Error ellipse: s-maj=6.4km s-min=9.6km az=0.0*
NAO **14** *02:50:52.7, 38°.70N×15°.80E, h57km, mb3.5*
NEIC **14** *02:50:54.7±2.0, 38°.68N±0°.04×15°.97E±0°.07, h66km±6km, mb4.5/55, Error ellipse: s-maj=7.5km s-min=5.4km az=98.0*
LDG **14** *02:50:55.0, 38°.70N×15°.80E, h57km*
MED_RC **14** *02:50:55.0±0.3, 38°.51N×15°.70E, h50km±7km, MW4.3/19, Moment Tensor Solution. Mantle waves: s19,c30; Duration: 1s0 Moment tensor: Scale 10^15 Nm; Mrr=1.22±.41; Mθθ=0.94±.31; Mφφ=0.28±.39; Mrθ=1.25±.15; Mφθ=0.08±.36; Mφr=3.01±.20; Best double couple: M0=3.38000×10^15 NP1:φs=205.00000°, δ83.00000°, λ=-95.00000°. NP2:φs=62.00000°, δ=9.00000°, λ=-53.00000°. Principal axes: T 2.9900, Plg37.0000°, Azm300.0000°; N 0.7700, Plg5.0000°, Azm206.0000°; P -3.7600, Plg52.0000°, Azm109.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
TIR **14** *02:50:55.3, 38°.94N×16°.29E, h51km±67km, Ml4.7*
ROM **14** *02:50:55.1±0.1, 38°.698N±0°.004×15°.764E±0°.005, h57km, ML4.3/323, Mw4.3, Error ellipse: s-maj=0.5km s-min=0.2km az=312.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=0.03; Mθθ=0.26; Mφφ=-0.23; Mθφ=0.78; Mθφ=-0.20; Mφr=3.07; Fault plane solution: M0=3.17196×10^15 NP1:φs=238.00000°, δ=2.00000°, λ=134.00000°. NP2:φs=14.00000°, δ=89.00000°, λ=89.00000°.*
MCSM **14** *02:50:56.1±0.4, 39°N±4°×1°6E±°, h71km±4km, mb4.6, mB4.6, MLv4.5, Mw(mB)3.8*
IDC **14** *02:50:56.5±0.8, 38°.77N×15°.75E, h86km±10km, mb4.0/21, mbtmp4.3/31, MS3.2/19, Error ellipse: s-maj=13.2km s-min=7.5km az=113.0*
AFAD **14** *02:50:59.6±0.0, 38°.50N×17°.02E, h10km±6km, MW4.6*
THE **14** *02:50:59.6, 38°.79N×16°.56E, h12km±19km, ML4.8/31, Error ellipse: s-maj=26.0km s-min=2.2km az=261.0*
ISC 14 02:50:53.7±0.5,**38°.65N**±0°.03×**15°.93E**±0°.03,**h63**km±5km,
n608,σ1**90**/736,**mb4.5**/41,**40C-65D**,**Sicily**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOPP	**Joppolo**	**0.06**	**218**	⇑P		**Pn**	**02 51 04.3**	**+1.3**
JOPP				S		**Sn**	**02 51 10.9**	**+1.1**
JOPP				AML		AML		
JOPP				AML		AML		
JOPP				AML		AML		
JOPP				AML		AML		
GRI	**Girifalco**	**0.42**	**66**	⇓P		**Pn**	**02 51 07.2**	**+2.1**
GRI				S		**Sn**	**02 51 16.2**	**+2.7**
GRI				AML		AML		
GRI				AML		AML		
GRI				AML		AML		
GRI				AML		AML		
GRI				AML		AML		
PLAC	**Placanica**	**0.45**	**117**	⇑P		**Pn**	**02 51 08.1**	**+2.6**
PLAC				S		**Sn**	**02 51 17.7**	**+3.7**
PLAC				AML		AML		
PLAC				AML		AML		
PLAC				AML		AML		
	comp=E,44950μm,0.8s							
PLAC				AML		AML		
	comp=N,50050μm,0.8s							
PLAC				AML		AML		
PLAC				AML		AML		
	comp=N,45472μm,0.3s							
PLAC				AML		AML		
	comp=E,42747μm,0.3s							
PLAC				AML		AML		
IST3	**Stromboli F**	**0.57**	**285**	⇓P		**Pn**	**02 51 06.8**	**+0.2**
IST3				S		**Sn**	**02 51 15.8**	**-0.2**
IST3				AML		AML		
IST3				AML		AML		
IST3				AML		AML		
IST3				AML		AML		
SOI	**Samo**	**0.59**	**170**	⇑P		**Pn**	**02 51 08.9**	**+2.1**
SOI				S		**Sn**	**02 51 19.3**	**+2.9**
SOI				AML		AML		
	comp=N,82250μm,0.6s							
SOI				AML		AML		
	comp=E,82400μm,0.5s							
SOI				AML		AML		
	comp=E,82435μm,0.5s							
SOI				AML		AML		
	comp=N,82270μm,0.6s							
CAR1	**CAROLEI**	**0.64**	**20**	⇑P		**Pn**	**02 51 08.7**	**+1.2**
CAR1				S		**Sn**	**02 51 18.6**	**+1.0**
CAR1				AML		AML		
	comp=E,93050μm,0.3s							
CAR1				AML		AML		
	comp=N,78550μm,0.4s							
CAR1				AML		AML		
	comp=E,89800μm,0.3s							
CAR1				AML		AML		
	comp=N,77400μm,0.7s							
CAR1				AML		AML		
	comp=E,93050μm,0.4s							
CAR1				AML		AML		
	comp=N,77400μm,1.3s							
CAR1				AML		AML		
	comp=N,78550μm,0.5s							
CAR1				AML		AML		
	comp=N,71418μm,0.5s							
CAR1				AML		AML		
	comp=N,78562μm,0.5s							
CAR1				AML		AML		
	comp=E,93207μm,0.3s							
CAR1				AML		AML		
	comp=E,90056μm,0.3s							
MILZ	**Milazzo**	**0.67**	**236**	⇓P		**Pn**	**02 51 08.0**	**+0.3**
MILZ				S		**Sn**	**02 51 17.4**	**-0.6**
MILZ				AML		AML		
MILZ				AML		AML		
MILZ				AML		AML		
MILZ				AML		AML		
MILZ				AML		AML		
MTTG	**Motta San Giov**	**0.68**	**196**	⇓P		**Pn**	**02 51 09.2**	**+1.3**
MTTG				S		**Sn**	**02 51 19.7**	**+1.5**
MTTG				AML		AML		
	comp=E,59600μm,0.4s							
MTTG				AML		AML		
	comp=N,78200μm,0.5s							
MTTG				AML		AML		
	comp=E,59622μm,0.4s							
MTTG				AML		AML		
	comp=N,78224μm,0.5s							
MPNC	**Port Mandanici**	**0.68**	**222**	⇓P		**Pn**	**02 51 08.2**	**+0.3**
MPNC				S		**Sn**	**02 51 17.9**	**-0.4**
MPNC				AML		AML		
MPNC				AML		AML		
MPNC				AML		AML		
	comp=N,86472μm,0.3s							
MPNC				AML		AML		
SERS	**Sersale**	**0.71**	**57**	⇑P		**Pn**	**02 51 11.1**	**+2.7**
SERS				S		**Sn**	**02 51 23.7**	**+4.6**
SERS				AML		AML		
	comp=E,35350μm,0.4s							
SERS				AML		AML		
	comp=N,34750μm,0.4s							
SERS				AML		AML		
	comp=N,34750μm,1.6s							
SERS				AML		AML		
	comp=E,35350μm,1.6s							
SERS				AML		AML		
	comp=E,44700μm,0.4s							
SERS				AML		AML		
	comp=N,40600μm,0.4s							
SERS				AML		AML		
	comp=N,34772μm,0.4s							
SERS				AML		AML		
	comp=E,35363μm,0.4s							
SERS				AML		AML		
	comp=E,44699μm,0.4s							
SERS				AML		AML		
	comp=N,40598μm,0.4s							
SPS2	**Spezzano della**	**0.72**	**26**	⇑P		**Pn**	**02 51 09.8**	**+1.4**
SPS2				S		**Sn**	**02 51 21.1**	**+2.0**
SPS2				AML		AML		
	comp=N,18300μm,1.2s							
SPS2				AML		AML		
	comp=E,26600μm,1.2s							
SPS2				AML		AML		
	comp=E,26600μm,0.8s							
SPS2				AML		AML		
	comp=N,17671μm,0.2s							
SPS2				AML		AML		
	comp=E,25719μm,0.3s							
VPL	**Vulcano Piano**	**0.79**	**250**	⇓P		**Pn**	**02 51 09.5**	**+0.3**
VPL				S		**Sn**	**02 51 19.6**	**-1.1**
VPL				AML		AML		
VPL				AML		AML		
VPL				AML		AML		
VPL				AML		AML		
LLI	**Lipari**	**0.80**	**255**	⇓P		**Pn**	**02 51 09.9**	**+0.7**
LLI				S		**Sn**	**02 51 20.6**	**-0.2**
LLI				AML		AML		
LLI				AML		AML		
LLI				AML		AML		
LLI				AML		AML		
LLI				AML		AML		
TIP	**Timpagrande**	**0.83**	**51**	⇓P		**Pn**	**02 51 12.9**	**+3.1**
TIP				⇑S		**Sn**	**02 51 25.4**	**+3.7**
TIP	**Timpagrande**	**0.83**	**51**			**Pn**	**02 51 12.5**	**+2.7**
TIP				Sn		**Sn**	**02 51 25.9**	**+4.2**
TIP	**Timpagrande**	**0.83**	**51**	P		**Pn**	**02 51 12.7**	**+2.9**
TIP				S		**Sn**	**02 51 25.6**	**+3.9**
TIP				AML		AML		
	comp=E,17050μm,1.2s							
TIP				AML		AML		
	comp=E,14000μm,1.2s							
TIP				AML		AML		
	comp=N,20100μm,0.4s							
TIP				AML		AML		
	comp=N,16350μm,0.4s							
TIP				AML		AML		
	comp=N,20095μm,0.4s							
TIP				AML		AML		
	comp=N,16341μm,0.4s							
TIP				AML		AML		
	comp=E,14411μm,0.5s							
TIP				AML		AML		
	comp=E,11842μm,0.5s							
TIP	**Timpagrande**	**0.83**	**51**	P		**Pn**	**02 51 12.9**	**+3.1**
AIO	**Antillo**	**0.87**	**219**	⇓P		**Pn**	**02 51 11.0**	**+0.7**
AIO				S		**Sn**	**02 51 22.7**	**+0.2**
AIO				AML		AML		
	comp=E,23500μm,1.3s							
AIO				AML		AML		
	comp=N,32850μm,0.8s							
AIO				AML		AML		
	comp=E,23500μm,0.7s							
AIO				AML		AML		
	comp=N,32884μm,0.8s							
AIO				AML		AML		
	comp=E,22060μm,0.5s							
CET2	**Cetraro**	**0.88**	**1**	⇓P		**Pn**	**02 51 11.2**	**+0.9**
CET2				S		**Sn**	**02 51 22.7**	**+0.1**
CET2				AML		AML		
CET2				AML		AML		
CET2				AML		AML		
CET2				AML		AML		
CET2				AML		AML		
NOV	**Novara**	**0.88**	**225**	⇓P		**Pn**	**02 51 10.9**	**+0.5**
NOV				S		**Sn**	**02 51 23.0**	**+0.3**
NOV				AML		AML		
	comp=E,35850μm,0.4s							
NOV				AML		AML		
	comp=N,33750μm,1.0s							
NOV				AML		AML		
	comp=E,35850μm,1.6s							
NOV				AML		AML		
	comp=N,27581μm,0.5s							
NOV				AML		AML		
	comp=E,35849μm,0.4s							
MUCR	**Ucria**	**1.03**	**234**	⇓P		**Pn**	**02 51 12.8**	**+0.5**
MUCR				S		**Sn**	**02 51 26.1**	**0.0**
MUCR				AML		AML		
	comp=E,27900μm,0.6s							
MUCR				AML		AML		
	comp=E,27900μm,1.4s							
MUCR				AML		AML		
	comp=N,44000μm,0.5s							
MUCR				AML		AML		
	comp=E,27905μm,0.6s							
MUCR				AML		AML		
	comp=N,44010μm,0.5s							
TDS	**Terranova Sìba**	**1.05**	**17**	⇑P		**Pn**	**02 51 13.7**	**+1.2**
TDS				S		**Sn**	**02 51 27.9**	**+1.3**
TDS				AML		AML		
	comp=N,13150μm,0.3s							
TDS				AML		AML		
	comp=E,18000μm,0.5s							
TDS				AML		AML		
	comp=N,13151μm,0.3s							
TDS				AML		AML		
	comp=E,17995μm,0.5s							
IFIL	**Filicudi I Eol**	**1.07**	**266**	⇓P		**Pn**	**02 51 10.6**	**-2.2**
PIPA	**Pietrapaola**	**1.08**	**39**	⇓P		**Pn**	**02 51 15.7**	**+2.8**
PIPA				AML		AML		
	comp=N,15450μm,0.6s							
PIPA				AML		AML		
	comp=E,17200μm,0.8s							
PIPA				AML		AML		
	comp=E,17350μm,0.8s							
PIPA				AML		AML		
	comp=N,14800μm,0.6s							
PIPA				AML		AML		
	comp=E,17200μm,1.2s							
PIPA				AML		AML		
	comp=E,17350μm,1.2s							
PIPA				AML		AML		
	comp=E,16968μm,0.4s							
PIPA				AML		AML		
	comp=E,16999μm,0.4s							
PIPA				AML		AML		
	comp=N,15422μm,0.6s							
PIPA				AML		AML		
	comp=N,14791μm,0.6s							
EMSG	**Monte Spagnolo**	**1.13**	**223**	P		**Pn**	**02 51 15.6**	**+1.8**
EMSG				AML		AML		
	comp=E,69950μm,0.5s							
EMSG				AML		AML		
	comp=N,64100μm,0.7s							
EMSG				AML		AML		
	comp=N,64117μm,0.7s							
EMSG				AML		AML		
	comp=E,69950μm,0.5s							
EPZF	**Pizzo Felice**	**1.18**	**226**	⇓P		**Pn**	**02 51 16.1**	**+1.7**
EPZF				AML		AML		
	comp=N,76550μm,0.4s							
EPZF				AML		AML		
	comp=E,86800μm,1.0s							
EPZF				AML		AML		
	comp=N,76541μm,0.4s							
EPZF				AML		AML		
	comp=E,68804μm,0.5s							
MNO	**Monte Soro**	**1.21**	**234**	⇓P		**Pn**	**02 51 15.5**	**+0.7**
MNO				AML		AML		
	comp=E,38100μm,0.5s							
MNO				AML		AML		
	comp=N,56700μm,0.8s							
MNO				AML		AML		
	comp=N,56700μm,1.2s							
MNO				AML		AML		
	comp=E,38150μm,0.5s							
MNO				AML		AML		
	comp=N,56716μm,0.8s							
MNO				AML		AML		
	comp=E,38105μm,0.5s							
ESLN	**Serra La Nave**	**1.22**	**219**	P		**Pn**	**02 51 16.6**	**+1.7**
ESLN				AML		AML		
	comp=N,22900μm,0.7s							
ESLN				AML		AML		
	comp=E,21600μm,0.4s							
ESLN				AML		AML		
	comp=N,22883μm,0.7s							
ESLN				AML		AML		
	comp=E,21611μm,0.4s							
IACL	**Alicudi**	**1.24**	**265**	⇓P		**Pn**	**02 51 14.8**	**-0.2**
IACL				S		**Sn**	**02 51 29.3**	**-1.5**
IACL				AML		AML		
	comp=N,17750μm,0.5s							
IACL				AML		AML		
	comp=E,22800μm,0.8s							
IACL				AML		AML		
	comp=N,17750μm,1.5s							
IACL				AML		AML		
	comp=N,17740μm,0.5s							
IACL				AML		AML		
	comp=E,18153μm,0.6s							
SALB	**San Lorenzo Be**	**1.27**	**15**	P		**Pn**	**02 51 17.3**	**+1.8**
SALB				AML		AML		
	comp=E,18400μm,0.3s							
SALB				AML		AML		

	comp=N,18100µm,0.6s					
SALB			AML	AML		
	comp=N,18100µm,1.4s					
SALB			AML	AML		
	comp=N,18138µm,0.6s					
SALB			AML	AML		
	comp=E,18398µm,0.3s					
EPOZ	**Pozzillo**	**1.32**	**211**	P	**Pn**	**02 51 15.8 -0.2**
EPOZ				AML	AML	
	comp=N,41000µm,0.5s					
EPOZ				AML	AML	
	comp=E,34000µm,0.6s					
EPOZ				AML	AML	
	comp=N,41022µm,0.5s					
EPOZ				AML	AML	
	comp=E,34001µm,0.6s					
ESML	**S. M. di Licod**	**1.32**	**219**	P	**Pn**	**02 51 17.9 +1.8**
ESML				AML	AML	
	comp=E,26500µm,0.7s					
ESML				AML	AML	
	comp=E,26500µm,1.3s					
ESML				AML	AML	
	comp=N,18500µm,1.6s					
ESML				AML	AML	
	comp=E,26438µm,0.7s					
ESML				AML	AML	
	comp=N,18116µm,0.7s					
CUC	**Castrocucco**	**1.34**	**356**		**Pn**	**02 51 16.7 +0.3**
CUC				Sn	**Sn**	**02 51 32.7 -0.7**
CUC	**Castrocucco**	**1.34**	**356**	⇓P	**Pn**	**02 51 16.9 +0.5**
CUC				S	**Sn**	**02 51 33.7 +0.3**
CUC				AML	AML	
	comp=E,16050µm,0.5s					
CUC				AML	AML	
	comp=N,10700µm,0.3s					
CUC				AML	AML	
	comp=E,19550µm,0.5s					
CUC				AML	AML	
	comp=N,13250µm,0.3s					
CUC				AML	AML	
	comp=E,19550µm,1.5s					
CUC				AML	AML	
	comp=E,16050µm,1.5s					
CUC				AML	AML	
	comp=N,10725µm,0.3s					
CUC				AML	AML	
	comp=N,13283µm,0.3s					
CUC				AML	AML	
	comp=E,19569µm,0.5s					
CUC				AML	AML	
	comp=E,16064µm,0.5s					
GALF	**Gagliano Caste**	**1.43**	**229**	P	**Pn**	**02 51 19.6 +2.0**
GALF				AML	AML	
	comp=E,4770µm,0.6s					
GALF				AML	AML	
	comp=E,13600µm,0.5s					
GALF				AML	AML	
	comp=N,16300µm,0.5s					
GALF				AML	AML	
	comp=N,5345µm,0.5s					
GALF				AML	AML	
	comp=E,4770µm,1.4s					
GALF				AML	AML	
	comp=E,13600µm,1.5s					
GALF				AML	AML	
	comp=E,4768µm,0.6s					
GALF				AML	AML	
	comp=N,5345µm,0.5s					
GALF				AML	AML	
	comp=E,13631µm,0.5s					
GALF				AML	AML	
	comp=N,16281µm,0.5s					
ORI	**Oriolo Calabro**	**1.47**	**16**	P	**Pn**	**02 51 20.3 +2.3**
ORI				AML	AML	
	comp=N,30200µm,0.4s					
ORI				AML	AML	
	comp=E,34150µm,0.5s					
ORI				AML	AML	
	comp=N,30200µm,0.4s					
ORI				AML	AML	
	comp=E,34149µm,0.5s					
BULG	**Bulgheria - Ca**	**1.49**	**343**	⇓P	**Pn**	**02 51 19.0 +0.7**
BULG				S	**Sn**	**02 51 36.5 -0.4**
BULG				AML	AML	
	comp=N,68550µm,0.4s					
BULG				AML	AML	
	comp=E,38150µm,0.4s					
BULG				AML	AML	
	comp=E,35800µm,0.4s					
BULG				AML	AML	
	comp=N,71000µm,0.4s					
BULG				AML	AML	
	comp=N,68532µm,0.4s					
BULG				AML	AML	
	comp=N,71000µm,0.4s					
BULG				AML	AML	
	comp=E,38141µm,0.4s					
BULG				AML	AML	
	comp=E,35778µm,0.4s					
HAGA	**Augusta**	**1.50**	**204**	P	**Pn**	**02 51 18.7 +0.3**
HAGA				S	**Sn**	**02 51 37.1 +0.2**
HAGA				AML	AML	
	comp=N,10000µm,1.1s					
HAGA				AML	AML	
	comp=E,7230µm,0.9s					
HAGA				AML	AML	
	comp=N,10000µm,0.9s					
HAGA				AML	AML	
	comp=E,7227µm,0.4s					
HAGA				AML	AML	
	comp=N,9923µm,0.6s					
AGST	**Augusta-Monte**	**1.50**	**202**	P	**Pn**	**02 51 18.4 0.0**
AGST				AML	AML	
	comp=E,14200µm,0.4s					
AGST				AML	AML	
	comp=N,14900µm,0.6s					
AGST				AML	AML	
	comp=N,13338µm,0.2s					
AGST				AML	AML	
	comp=E,14222µm,0.4s					
MGR	**Morigerati**	**1.51**	**349**	⇓P	**Pn**	**02 51 19.4 +0.8**
MGR				S	**Sn**	**02 51 37.1 -0.3**
MGR				AML	AML	
	comp=E,18200µm,1.3s					
MGR				AML	AML	
	comp=E,16000µm,1.3s					
MGR				AML	AML	
	comp=N,14550µm,0.4s					
MGR				AML	AML	
	comp=N,10700µm,1.1s					
MGR				AML	AML	
	comp=E,16949µm,0.6s					
MGR				AML	AML	
	comp=N,10577µm,0.4s					
MGR				AML	AML	
	comp=N,14547µm,0.4s					
MGR				AML	AML	
	comp=E,15495µm,0.5s					
CAGR	**Agira**	**1.53**	**228**	P	**Pn**	**02 51 21.5 +2.6**
CAGR				AML	AML	
	comp=N,16550µm,0.5s					
CAGR				AML	AML	
	comp=E,19000µm,0.7s					
CAGR				AML	AML	
	comp=N,16571µm,0.5s					
CAGR				AML	AML	
	comp=E,19022µm,0.7s					
PLLN	**Pollina**	**1.55**	**245**	⇓P	**Pn**	**02 51 19.4 +0.2**
PLLN				S	**Sn**	**02 51 37.6 -0.8**
PLLN				AML	AML	
	comp=E,17150µm,0.7s					
PLLN				AML	AML	
	comp=N,20950µm,0.7s					
PLLN				AML	AML	
	comp=E,17172µm,0.7s					
PLLN				AML	AML	
	comp=N,20989µm,0.7s					
MTSN	**Montesano sull**	**1.62**	**355**	P	**Pn**	**02 51 20.8 +0.6**
MTSN				S	**Sn**	**02 51 40.5 +0.4**
MTSN				AML	AML	
	comp=E,11410µm,0.4s					
MTSN				AML	AML	
	comp=N,11600µm,0.3s					
MTSN				AML	AML	
	comp=N,11577µm,0.3s					
MTSN				AML	AML	
	comp=E,11409µm,0.4s					

CSLB	**Castelbuono**	**1.64**	**245**	⇓P	**Pn**	**02 51 20.3 0.0**
CSLB				S	**Sn**	**02 51 40.1 -0.3**
CSLB				AML	AML	
	comp=E,2905µm,0.7s					
CSLB				AML	AML	
	comp=N,2870µm,0.6s					
CSLB				AML	AML	
	comp=N,2870µm,1.4s					
CSLB				AML	AML	
	comp=E,2905µm,1.3s					
CSLB				AML	AML	
	comp=N,2870µm,0.6s					
CSLB				AML	AML	
	comp=E,2907µm,0.7s					
GIB	**Gibilmanna**	**1.64**	**247**	⇓P	**Pn**	**02 51 20.4 0.0**
GIB				S	**Sn**	**02 51 39.2 -1.3**
GIB				AML	AML	
	comp=N,9255µm,0.7s					
GIB				AML	AML	
	comp=E,10485µm,0.6s					
GIB				AML	AML	
	comp=N,9255µm,1.3s					
GIB				AML	AML	
	comp=E,10474µm,0.6s					
GIB				AML	AML	
	comp=N,9256µm,0.7s					
PETRA	**Petralia Sopra**	**1.65**	**241**	⇓P	**Pn**	**02 51 21.3 +0.7**
PETRA				S	**Sn**	**02 51 40.3 -0.5**
PETRA				AML	AML	
	comp=E,9115µm,0.7s					
PETRA				AML	AML	
	comp=E,9115µm,1.3s					
PETRA				AML	AML	
	comp=N,7450µm,0.7s					
PETRA				AML	AML	
	comp=N,7451µm,0.7s					
PETRA				AML	AML	
	comp=E,9118µm,0.7s					
MCEL	**Monticello**	**1.67**	**357**	⇓P	**Pn**	**02 51 23.0 +2.1**
MCEL				AML	AML	
	comp=E,9485µm,0.4s					
MCEL				AML	AML	
	comp=N,8965µm,0.4s					
MCEL				AML	AML	
	comp=E,9775µm,0.4s					
MCEL				AML	AML	
	comp=N,8680µm,0.4s					
MCEL				AML	AML	
	comp=N,8974µm,0.4s					
MCEL				AML	AML	
	comp=N,8664µm,0.4s					
MCEL				AML	AML	
	comp=E,9495µm,0.4s					
MCEL				AML	AML	
	comp=E,9764µm,0.4s					
VAE	**Valguarnera**	**1.68**	**226**	P	**Pn**	**02 51 24.0 +3.1**
	comp=E,272nm,0.4s,baz=345,slow=6.9,SNR=100					
VAE				S	**Sn**	**02 51 46.2 +4.9**
	comp=E,1µm,0.8s,baz=63,slow=14,SNR=12					
VAE				LR	LR	02 52 05.0
	comp=E,798nm,20.1s,baz=323,slow=40					
CMPR	**Campora**	**1.73**	**344**	⇓P	**Pn**	**02 51 22.2 +0.6**
CMPR				S	**Sn**	**02 51 42.2 -0.6**
CMPR				AML	AML	
	comp=E,13850µm,1.4s					
CMPR				AML	AML	
	comp=N,8660µm,0.5s					
CMPR				AML	AML	
	comp=N,8660µm,1.5s					
CMPR				AML	AML	
	comp=E,13696µm,0.3s					
CMPR				AML	AML	
	comp=N,8659µm,0.5s					
SLCN	**Sala Consilina**	**1.75**	**353**	⇑P	**Pn**	**02 51 22.6 +0.7**
SLCN				S	**Sn**	**02 51 43.4 +0.1**
SLCN				AML	AML	
	comp=E,15000µm,0.9s					
SLCN				AML	AML	
	comp=E,16050µm,0.7s					
SLCN				AML	AML	
	comp=N,13950µm,0.5s					
SLCN				AML	AML	
	comp=N,13000µm,0.5s					
SLCN				AML	AML	
	comp=E,16050µm,1.3s					
SLCN				AML	AML	
	comp=E,15000µm,1.1s					
SLCN				AML	AML	
	comp=N,12993µm,0.5s					
SLCN				AML	AML	
	comp=N,13964µm,0.5s					
SLCN				AML	AML	
	comp=E,13996µm,0.4s					
SLCN				AML	AML	
	comp=E,12961µm,0.7s					
RESU	**Resuttano**	**1.79**	**236**	P	**Pn**	**02 51 24.4 +2.1**
RESU				AML	AML	
	comp=E,4925µm,0.7s					
RESU				AML	AML	
	comp=N,5810µm,0.6s					
RESU				AML	AML	
	comp=N,5808µm,0.6s					
RESU				AML	AML	
	comp=E,4921µm,0.7s					
RAFF	**Raffo Rosso**	**1.89**	**221**	Pn	**Pn**	**02 51 25.1 +1.4**
RAFF				Sn	**Sn**	**02 51 49.7 +3.2**
MCT	**Mte Cammarata**	**2.08**	**241**	AML	AML	
	comp=E,2530µm,1.1s					
MCT				AML	AML	
	comp=E,2530µm,0.9s					
MCT				AML	AML	
	comp=N,3905µm,0.7s					
MCT				AML	AML	
	comp=E,2527µm,0.9s					
MCT				AML	AML	
	comp=N,3907µm,0.7s					
MATE	**Matera**	**2.08**	**16**	⇑P	**Pn**	**02 51 26.9 +0.6**
NOCI	**Noci**	**2.31**	**22**	P	**Pn**	**02 51 29.3 -0.1**
	baz=17					
NOCI				S	**Sn**	**02 51 55.2 -1.4**
	baz=17					
NOCI				AMP		
	comp=N,11nm,0.3s,baz=17					
CLTB	**Caltabellotta**	**2.39**	**244**	Pn	**Pn**	**02 51 32.9 +2.3**
PAOL	**Paolisi**	**2.60**	**337**	Pn	**Pn**	**02 51 34.5 +1.1**
WDD	**Wied Dalam**	**3.02**	**202**	Pn	**Pn**	**02 51 39.9 +0.7**
SGRT	**San Giovanni R**	**3.10**	**357**	P	**Pn**	**02 51 41.2 +0.9**
	baz=353					
SGRT				S	**Sn**	**02 52 16.2 0.0**
	baz=353					
SGRT	**San Giovanni R**	**3.10**	**357**	Pn	**Pn**	**02 51 40.8 +0.5**
VLO	**Vlora**	**3.30**	**56**	P	**Pn**	**02 51 45.2 +2.4**
	baz=57					
VLO				S	**Sn**	**02 52 19.4 -1.5**
	baz=57					
VLO	**Vlora**	**3.30**	**56**	Pn	**Pn**	**02 51 43.9 +1.1**
VLO	**Vlora**	**3.30**	**56**	P	**Pn**	**02 51 43.9 +1.1**
SRN	**Sarande**	**3.39**	**68**	P	**Pn**	**02 51 44.9 +0.8**
	baz=70					
SRN				S	**Sn**	**02 52 20.5 -2.6**
	baz=70					
SRN	**Sarande**	**3.39**	**68**	P	**Pn**	**02 51 44.5 +0.4**
SRN				S	**Sn**	**02 52 20.7 -2.4**
	comp=N,978nm,0.4s					
DMLN	**Damoulianata-K**	**3.51**	**95**	P	**Pn**	**02 51 47.1 +1.3**
DMLN				S	**Sn**	**02 52 24.7 -1.5**
	comp=N,8µm,0.4s					
FSK	**Fiskardo**	**3.64**	**92**	P	**Pn**	**02 51 48.9 +1.4**
FSK				S	**Sn**	**02 52 27.2 -1.9**
	comp=N,3µm,0.2s					
VLS	**Valsamata**	**3.69**	**96**	P	**Pn**	**02 51 49.3 +1.1**
VLS				S	**Sn**	**02 52 28.4 -2.1**
	comp=N,5µm,0.4s					
VLS	**Valsamata**	**3.69**	**96**	AML	AML	
	comp=E,1727µm,0.4s					
VLS				AML	AML	
	comp=E,1730µm,0.4s					
VLS				AML	AML	
	comp=N,1925µm,0.3s					
VLS				AML	AML	
	comp=N,1922µm,0.3s					
INTR	**Introdacqua**	**3.70**	**336**	Pn	**Pn**	**02 51 50.4 +2.0**
PSDA	**Pessada-Kefalo**	**3.70**	**97**	P	**Pn**	**02 51 49.3 +1.0**
PSDA				S	**Sn**	**02 52 29.2 -1.4**
	comp=N,6µm,0.2s					
TSLK	**Tsoukalades, L**	**3.70**	**86**	P	**Pn**	**02 51 50.0 +1.7**
TSLK				S	**Sn**	**02 52 29.0 -1.7**

	comp=N,6µm,0.6s					
LKD2	**Lefkada island**	**3.70**	**86**	P	**Pn**	**02 51 49.9 +1.4**
	baz=91					
LKD2				S	**Sn**	**02 52 23.5 -7.2**
	baz=91					
LKD2	**Lefkada island**	**3.70**	**86**	P	**Pn**	**02 51 49.8 +1.4**
LKD2				S	**Sn**	**02 52 28.7 -2.1**
	comp=N,5µm,0.4s					
EVGI	**Lefkada island**	**3.70**	**89**	P	**Pn**	**02 51 49.8 +1.4**
NYDR	**Nydri-Lefkada**	**3.73**	**88**	P	**Pn**	**02 51 49.9 +1.1**
NYDR				S	**Sn**	**02 52 28.8 -2.7**
	comp=N,3µm,0.4s					
RTZL	**Ratzakli, Kefa**	**3.85**	**97**	P	**Pn**	**02 51 51.4 +1.0**
RTZL				S	**Sn**	**02 52 30.6 -3.7**
	comp=N,2µm,0.4s					
LSK	**Leskovik**	**3.92**	**66**	P	**Pn**	**02 51 52.5 +1.1**
	baz=68					
LSK				S	**Sn**	**02 52 35.0 -1.1**
	baz=68					
LSK	**Leskovik**	**3.92**	**66**	P	**Pn**	**02 51 52.2 +0.8**
LSK				S	**Sn**	**02 52 34.5 -1.6**
	comp=N,3µm,0.5s					
JAN	**Janina**	**3.96**	**74**	P	**Pn**	**02 51 55.4 +3.5**
LTHK	**Lithakia**	**3.98**	**102**	P	**Pn**	**02 51 52.5 +0.3**
LTHK				S	**Sn**	**02 52 34.4 -3.1**
	comp=N,6µm,0.5s					
TIR	**Tirane**	**4.05**	**47**	⇓P	**Pn**	**02 51 54.0 +0.9**
TIR				⇑S	**Sn**	**02 52 39.2 0.0**
TIR	**Tirane**	**4.05**	**47**		**Pn**	**02 51 53.5 +0.4**
TIR	**Tirane**	**4.05**	**47**	P	**Pn**	**02 51 53.7 +0.7**
TIR				S	**Sn**	**02 52 37.8 -1.4**
	comp=N,735nm,0.2s					
TIR	**Tirane**	**4.05**	**47**	P	**Pn**	**02 51 53.8 +0.7**
KBN	**Korca**	**4.24**	**61**	P	**Pn**	**02 51 58.1 +2.4**
	baz=62					
KBN				S	**Sn**	**02 52 42.0 -1.9**
	baz=62					
KBN	**Korca**	**4.24**	**61**	Pn	**Pn**	**02 51 57.7 +2.0**
KBN	**Korca**	**4.24**	**61**	P	**Pn**	**02 51 57.3 +1.6**
BUM	**Brajici-Budva**	**4.29**	**31**	⇓*i*Pn	**Pn**	**02 51 56.0 -0.5**
BUM				*i* Sn	**Sn**	**02 52 42.4 -2.8**
DRME	**Dracevica, Mon**	**4.32**	**34**	⇓*i*Pn	**Pn**	**02 51 56.5 -0.3**
DRME	**Dracevica, Mon**	**4.32**	**34**	⇓*i*Pn	**Pn**	**02 51 56.5 -0.3**
DRME				*i* Sn	**Sn**	**02 52 42.1 -3.7**
PENT	**Pentalofos**	**4.32**	**67**	P	**Pn**	**02 51 59.0 +2.1**
CAMP	**Campotosto**	**4.33**	**334**		**Pn**	**02 52 00.2 +3.2**
NEST	**Nestorio**	**4.33**	**64**	P	**Pn**	**02 51 59.5 +2.4**
DBRK	**Dubrovnik**	**4.35**	**22**	*i* Pn	**Pn**	**02 51 57.1 -0.2**
PVO	**Paravola**	**4.38**	**89**	P	**Pn**	**02 52 00.3 +2.6**
PVO				S	**Sn**	**02 52 47.9 +0.5**
	comp=N,19µm,0.5s					
RLS	**Riolos of Patr**	**4.39**	**96**	P	**Pn**	**02 51 59.6 +1.8**
KPRO	**Kipourio**	**4.41**	**71**	P	**Pn**	**02 52 00.2 +2.1**
STON	**Ston**	**4.42**	**17**	*e*Pn	**Pn**	**02 51 58.5 +0.2**
STON				Sn	**Sn**	**02 52 45.9 -2.5**
STON	**Ston**	**4.42**	**17**	AML	AML	
	comp=E,477µm,0.4s					
STON				AML	AML	
	comp=E,520µm,1.4s					
STON				AML	AML	
	comp=N,484µm,0.4s					
STON				AML	AML	
	comp=E,520µm,0.6s					
STON				AML	AML	
	comp=N,484µm,0.4s					
STON	**Ston**	**4.42**	**17**	⇓*i*Pn	**Pn**	**02 51 57.7 -0.5**
TREB	**Trebinje**	**4.46**	**24**	⇑*i*Pn	**Pn**	**02 51 58.1 -0.6**
OHR	**Ohrid**	**4.48**	**55**	*i* Pn	**Pn**	**02 52 01.0 +1.9**
CEME	**Cevo**	**4.51**	**29**	⇓*i*Pn	**Pn**	**02 51 58.8 -0.6**
CEME				*i* Sn	**Sn**	**02 52 47.9 -2.7**
HVAR	**Hvar**	**4.54**	**5**	*e*Pn	**Pn**	**02 52 00.2 +0.4**
PUK	**Puka**	**4.54**	**41**	P	**Pn**	**02 52 00.2 +0.3**
	baz=40					
PUK				S	**Sn**	**02 52 49.4 -2.0**
	baz=40					
PUK				AMP		
	comp=N,4.3nm,0.4s,baz=40					
PUK	**Puka**	**4.54**	**41**		**Pn**	**02 51 59.8 -0.1**
PDG	**Podgorica**	**4.54**	**33**	⇑P	**Pn**	**02 52 00.1 +0.2**
PDG	**Podgorica**	**4.54**	**33**	Pn	**Pn**	**02 51 59.8 -0.1**
PDG	**Podgorica**	**4.54**	**33**	⇓*i*Pn	**Pn**	**02 51 59.6 -0.3**
PDG	**Podgorica**	**4.54**	**33**	⇓*i*Pn	**Pn**	**02 51 59.4 -0.5**
PDG				*i* Sn	**Sn**	**02 52 48.7 -2.7**
EVR	**Evrytania**	**4.60**	**85**	P	**Pn**	**02 52 04.5 +3.7**
EVR				S	**Sn**	**02 52 53.3 +0.3**
	comp=N,2µm,0.4s					
UPR	**University Cam**	**4.61**	**93**	P	**Pn**	**02 52 04.1 +3.3**
UPR				S	**Sn**	**02 52 54.1 +1.1**
BRY	**Bratogost**	**4.69**	**24**	*e*Pn	**Pn**	**02 52 01.4 -0.5**
BRY	**Bratogost**	**4.69**	**24**	⇑*i*Pn	**Pn**	**02 52 01.1 -0.8**
BRY				*i* Sn	**Sn**	**02 52 52.8 -2.2**
EFP	**Efpalio**	**4.69**	**91**	P	**Pn**	**02 52 04.2 +2.3**
EFP				S	**Sn**	**02 52 54.1 -0.9**
	comp=N,5µm,0.6s					
ANX	**Ano Chora**	**4.69**	**89**	P	**Pn**	**02 52 04.8 +2.8**
NRCA	**Norcia**	**4.69**	**334**		**Pn**	**02 52 04.8 +2.8**
CESX	**Cesi**	**4.70**	**328**		**Pn**	**02 52 03.9 +1.8**
MAKA	**Makarska**	**4.70**	**10**	*e*Pn	**Pn**	**02 52 02.5 +0.4**
FNA	**Florina**	**4.71**	**61**		**Pn**	**02 52 03.8 +1.6**
FNA	**Florina**	**4.71**	**61**	P	**Pn**	**02 52 03.8 +1.6**
FNA				S	**Sn**	**02 52 54.5 -1.0**
FNA	**Florina**	**4.71**	**61**	P	**Pn**	**02 52 03.5 +1.3**
NKME	**Niksic**	**4.71**	**28**	⇑*i*Pn	**Pn**	**02 52 01.6 -0.6**
NKME				*i* Sn	**Sn**	**02 52 52.6 -2.9**
THL	**Klokotos Trika**	**4.82**	**77**	P	**Pn**	**02 52 06.0 +2.3**
THL				S	**Sn**	**02 52 56.8 -1.3**
	comp=N,1µm,0.4s					
GUMA	**Gualdo di Mace**	**4.83**	**337**		**Pn**	**02 52 06.5 +2.7**
MAKR	**Makrakomi, Fth**	**4.86**	**84**	P	**Pn**	**02 52 07.5 +3.3**
ALIK	**Aliki, Aigiali**	**4.87**	**93**	P	**Pn**	**02 52 07.3 +3.0**
BCI	**Bajram Curri**	**4.87**	**39**	P	**Pn**	**02 52 04.8 +0.5**
	baz=38					
KALE	**Kalithea**	**4.88**	**91**	P	**Pn**	**02 52 07.0 +2.5**
RICI	**Ricice**	**4.92**	**10**	*e*Pn	**Pn**	**02 52 05.1 0.0**
PYL	**PYLOS**	**4.93**	**109**	P	**Pn**	**02 52 06.2 +1.1**
PYL				S	**Sn**	**02 52 57.4 -3.4**
	comp=N,2µm,0.7s					
KLV	**Kalavryta, Ach**	**4.93**	**95**	P	**Pn**	**02 52 06.9 +1.7**
ITM	**Ithomi**	**4.96**	**105**	Pn	**Pn**	**02 52 06.7 +1.0**
ITM	**Ithomi**	**4.96**	**105**	P	**Pn**	**02 52 06.6 +1.0**
ITM				S	**Sn**	**02 52 57.1 -4.7**
	comp=N,2µm,0.3s					
PVY	**Plav**	**4.99**	**37**	⇓*i*Pn	**Pn**	**02 52 07.0 +0.9**
PVY				*i* Sn	**Sn**	**02 52 59.2 -3.3**
KOME	**Kolasin**	**5.00**	**32**	⇓*i*Pn	**Pn**	**02 52 05.9 -0.3**
KOME				*i* Sn	**Sn**	**02 52 59.7 -3.0**
ZIRJ	**Zirje**	**5.00**	**358**	*e*Pn	**Pn**	**02 52 06.8 +0.7**
TYRN	**Tyrnavos**	**5.01**	**76**	P	**Pn**	**02 52 08.3 +2.0**
AGG	**Agios Georgios**	**5.01**	**84**	Pn	**Pn**	**02 52 09.2 +2.8**
AGG	**Agios Georgios**	**5.01**	**84**	P	**Pn**	**02 52 08.9 +2.6**
AGG				S	**Sn**	**02 53 01.7 -1.3**
AGG	**Agios Georgios**	**5.01**	**84**	P	**Pn**	**02 52 09.1 +2.8**
AGG				S	**Sn**	**02 53 01.8 -1.1**
	comp=N,3µm,0.5s					
UPM	**Unac-Piva**	**5.07**	**25**	*e*Pn	**Pn**	**02 52 07.2 -0.1**
UPM	**Unac-Piva**	**5.07**	**25**	⇓*i*Pn	**Pn**	**02 52 07.2 -0.1**
UPM				*i* Sn	**Sn**	**02 53 01.9 -2.8**
KTI	**Kastanea**	**5.09**	**68**	P	**Pn**	**02 52 09.8 +2.3**
GUR	**Goura**	**5.09**	**96**	P	**Pn**	**02 52 09.8 +2.3**
IVA	**Berane**	**5.18**	**34**	⇓*i*Pn	**Pn**	**02 52 09.1 +0.4**
IVA				*i* Sn	**Sn**	**02 53 04.0 -3.1**
MORI	**Morici**	**5.21**	**358**	*e*Pn	**Pn**	**02 52 10.3 +1.3**
AXAR	**Agios Charalam**	**5.26**	**87**	P	**Pn**	**02 52 12.3 +2.5**
LIT	**Litokhoron**	**5.29**	**72**	Pn	**Pn**	**02 52 11.7 +1.6**
LIT	**Litokhoron**	**5.29**	**72**	P	**Pn**	**02 52 11.6 +1.6**
LIT				S	**Sn**	**02 53 06.2 -3.5**
LIT	**Litokhoron**	**5.29**	**72**	P	**Pn**	**02 52 11.3 +1.2**
PLE	**Pljevlja**	**5.36**	**28**	⇓*i*Pn	**Pn**	**02 52 12.4 +1.3**
PLE				*i* Sn	**Sn**	**02 53 08.6 -2.9**
SKO	**Skopje**	**5.36**	**50**	*i* Pn	**Pn**	**02 52 12.2 +1.2**
KIJV	**Kijevo**	**5.36**	**4**	*e*Pn	**Pn**	**02 52 12.7 +1.6**
DUGI	**Dugi Otok**	**5.38**	**353**	*e*Pn	**Pn**	**02 52 12.1 +0.8**
SJES	**Sjenica**	**5.53**	**32**	⇓*i*Pn	**Pn**	**02 52 14.5 +1.0**
LOUT	**Loutraki**	**5.58**	**95**	P	**Pn**	**02 52 15.9 +1.8**
RUDO	**Rudo**	**5.60**	**27**	⇑*i*Pn	**Pn**	**02 52 14.2 -0.1**
CASP	**Castiglione de**	**5.65**	**319**		**Pn**	**02 52 16.2 +1.2**
VIRC	**Vir**	**5.67**	**354**	*e*Pn	**Pn**	**02 52 16.7 +1.4**
VIRC				Sn	**Sn**	**02 53 19.6 +0.5**
NEO	**Neokhori**	**5.72**	**81**	P	**Pn**	**02 52 17.5 +1.5**
VAY	**Valandovo**	**5.75**	**60**	*i* Pn	**Pn**	**02 52 17.3 +0.8**
THE	**Thessaloniki**	**5.78**	**68**	P	**Pn**	**02 52 17.3 +0.5**
VILL	**Villia**	**5.82**	**93**	P	**Pn**	**02 52 19.1 +1.7**

VILL S Sn 02 53 20.4 -2.4
comp=N,3µm,0.5s
MGRS Mrkonjic Grad 5.83 8 *e*Pn Pn 02 52 20.1 +2.7
BBLS Lazi&#263i 5.83 26 ⇓*i*Pn Pn 02 52 17.9 +0.4
KRND KRANIDI 5.84 100 P Pn 02 52 19.3 +1.7
A050A Klekovaca 5.84 4 ⇑*i*Pn Pn 02 52 19.8 +2.1
HORT Hortiatis 5.87 68 P Pn 02 52 18.7 +0.6
UDBI Udbina 5.87 359 *e*Pn Pn 02 52 20.6 +2.4
VLI Veliai 5.88 107 P Pn 02 52 21.0 +2.8
HAPS Han Pijesak,BI 5.89 22 ⇑*i*Pn Pn 02 52 19.0 +0.7
KNT Kendrikon 5.92 63 P Pn 02 52 19.4 +0.7
KNT S Sn 02 53 20.2 -4.8
comp=N,330nm,0.5s
NVLJ Novalja 5.96 353 *i*Pn Pn 02 52 20.7 +1.5
KEST Kesra 6.01 243 P Pn 02 52 22.4 +2.4
comp=N,10nm,0.7s,baz=8.7,slow=8.6,SNR=19
KEST S Sn 02 53 26.0 -1.5
comp=N,8.9nm,0.8s,baz=6.3,slow=20,SNR=1.1
KEST LR LR 02 55 06.3
comp=N,248nm,21.6s,baz=32,slow=42
OSSC Osservatorio P 6.02 325 Pn 02 52 22.9 +2.9
PLG Polygyros 6.06 71 P Pn 02 52 21.1 +0.4
PLG S Sn 02 53 23.6 -5.1
comp=N,2µm,0.6s
SOH Sokhos 6.12 67 P Pn 02 52 22.9 +1.4
SOH S Sn 02 53 26.8 -3.3
comp=N,898nm,0.5s
PAIG Paliouri 6.14 76 P Pn 02 52 22.6 +0.8
PAIG S Sn 02 53 25.7 -5.0
comp=N,750nm,0.6s
RABC Rab 6.15 352 *e*Pn Pn 02 52 23.2 +1.3
ATH Athens Observa 6.16 94 P Pn 02 52 23.8 +1.8
ATH S Sn 02 53 28.3 -2.8
comp=N,3µm,0.5s
BLY Banja Luka 6.16 8 ⇓*i*Pn Pn 02 52 23.3 +1.3
ATHU Athens Univers 6.21 94 P Pn 02 52 24.4 +1.6
ATHU S Sn 02 53 29.0 -3.4
comp=N,915nm,0.4s
AOS Alonnisos 6.22 83 P Pn 02 52 23.7 +0.8
PLIT Plitvice 6.23 358 *e*Pn Pn 02 52 25.2 +2.2
VLY Voula,Athens 6.24 95 P Pn 02 52 24.4 +1.3
PTL Penteli 6.27 93 P Pn 02 52 25.2 +1.7
PTL S Sn 02 53 30.3 -3.4
comp=N,2µm,0.5s
PRIJ Prijedor 6.35 5 *e*Pn Pn 02 52 27.1 +2.6
KKB Krupnik 6.36 58 *i*P Pn 02 52 25.8 +1.0
KKB *i*S Sn 02 53 31.8 -4.2
SRS Serrai 6.39 65 P Pn 02 52 25.8 +0.7
SRS S Sn 02 53 32.1 -4.5
comp=N,308nm,0.6s
KYMI Kymi, Euboea I 6.40 88 P Pn 02 52 26.8 +1.6
KYMI S Sn 02 53 31.8 -5.0
comp=N,798nm,0.6s
OUR Ouranopolis 6.45 72 P Pn 02 52 26.9 +0.9
TEKS Tekeris 6.48 23 *e*Pn Pn 02 52 24.9 -1.5
ANKY Antikythira Is 6.50 113 P Pn 02 52 28.6 +1.9
SMRN Sveta Marina 6.52 349 *e*Pn Pn 02 52 27.6 +0.8
PGF Pioggiola 6.55 309 *e*P Pn 02 52 28.8 +1.3
PGF *e*Sn Sn 02 53 34.4 -6.4
comp=N,33nm,0.5s
KOKK Kokkinochori, 6.58 68 P Pn 02 52 28.8 +1.0
BOVS Bovan 6.62 39 ⇑P Pn 02 52 28.5 +0.2
MMB Musomishta 6.66 62 *i*P Pn 02 52 30.2 +1.4
MMB *i*S Sn 02 53 38.8 -4.4
NVR Nevrokopi 6.66 64 P Pn 02 52 31.0 +2.1
NVR S Sn 02 53 39.9 -3.4
comp=N,225nm,0.5s
SKY Skiros Island 6.74 85 P Pn 02 52 31.6 +1.6
RIY Rijeka 6.75 351 *e*Pn Pn 02 52 32.4 +2.3
ZCCA Zocca 6.80 328 Pn 02 52 32.5 +1.7
VTS Vitosha 6.82 52 *i*P Pn 02 52 32.1 +0.9
VTS *i*S Sn 02 53 42.3 -5.2
BOJS Bojanci 6.87 356 *i*Pn Pn 02 52 33.7 +2.1
BOJS *i*Sn Sn 02 53 47.9 -0.4
BOJS IAML 02 53 53.6
comp=Z,23nm,0.4s
BOJS Bojanci 6.87 356 ⇑*i*Pn Pn 02 52 33.7 +2.1
KNDS Knezji Dol 6.97 351 *e*Pn Pn 02 52 34.2 +1.1
OZLJ Ozalj 6.97 357 *e*Pn Pn 02 52 35.4 +2.4
MOSL Moslavina 6.98 5 *e*Pn Pn 02 52 33.4 +0.1
MHLO Agia Marina, M 7.00 104 P Pn 02 52 34.2 +0.7
MHLO S Sn 02 53 46.3 -5.3
KAVA Kavala 7.01 68 P Pn 02 52 33.9 +0.3
SKDS Skadanscina 7.04 349 *e*Pn Pn 02 52 34.5 +0.5
THAS Thassos island 7.06 71 P Pn 02 52 34.1 -0.2
THAS S Sn 02 53 46.6 -6.5
comp=Z,155nm,0.6s
FRGS Fruska Gora 7.12 23 *e*Pn Pn 02 52 34.1 -1.0
CEY Cerknica 7.17 352 *e*Pn Pn 02 52 36.9 +1.1
ZAG Zagreb 7.17 0 *e*Pn Pn 02 52 37.3 +1.5
CRES Cresnjev 7.18 357 *e*Pn Pn 02 52 37.3 +1.3
CRES Cresnjev 7.18 357 *e*Pn Pn 02 52 37.2 +1.3
IMMV Iera Moni Meta 7.18 114 P Pn 02 52 37.1 +1.1
PTJ Puntijarka 7.25 0 *e*Pn Pn 02 52 37.7 +0.7
LIA Limnos Island 7.29 77 P Pn 02 52 38.4 +1.0
RZN Rozhen 7.40 63 *i*P Pn 02 52 40.6 +1.5
RZN *i*S Sn 02 53 57.0 -4.6
PRMA PARMA 7.41 327 Pn 02 52 39.6 +0.5
TEOL Teolo 7.42 336 Pn 02 52 38.2 -1.0
MSSA Maissana 7.43 322 Pn Pn 02 52 40.8 +1.4
KALN Kalnik 7.49 3 *e*Pn Pn 02 52 40.5 +0.4
TATN Tataouine 7.49 218 Pn Pn 02 52 39.4 -0.9
MDVR Moldovita 7.50 33 ⇓P Pn 02 52 40.6 +0.3
LOBO Lobor 7.50 1 *e*Pn Pn 02 52 41.2 +0.9
SABO M.te Sabotino 7.52 347 Pn 02 52 40.9 +0.2
MPEP Malo Peshtene 7.55 49 *i*P Pn 02 52 42.1 +1.1
GVD Gavdhos 7.57 118 P Pn 02 52 42.1 +0.7
VALD Valchedram 7.57 46 *i*P Pn 02 52 43.5 +2.2
PLD Plovdiv 7.58 60 *i*P Pn 02 52 43.6 +2.2
SMTH Samothraki Isl 7.64 73 P Pn 02 52 42.7 +0.5
PUNG Punghina 7.70 41 ⇓P Pn 02 52 44.3 +1.3
APE Apeiranthos 7.76 99 P Pn 02 52 43.8 -0.1
APE S Sn 02 54 02.4 -7.9
APE Apeiranthos 7.76 99 P Pn 02 52 44.6 +0.7
SIGR SIGRI 7.76 83 P Pn 02 52 45.4 +1.5
RDO Rodhopi 7.79 68 Pn 02 52 44.0 -0.4
RDO Rodhopi 7.79 68 P Pn 02 52 44.9 +0.6
KDZ Kurdzhali 7.80 65 *i*P Pn 02 52 45.5 +1.1
SAP3 Santorini-Thir 7.80 104 P Pn 02 52 45.6 +1.1
THR5 Thira Island, 7.81 104 P Pn 02 52 45.8 +1.2
MORH Mrgy, Hungar 7.82 14 ⇑P Pn 02 52 44.5 -0.2
CMBO Columbo, Santo 7.83 103 P Pn 02 52 46.2 +1.3
THR9 Santorini-Faro 7.83 104 P Pn 02 52 45.0 +0.1
THR3 Thira Island, 7.85 104 P Pn 02 52 46.8 +1.7
THR2 Thira island, 7.87 103 P Pn 02 52 46.6 +1.2
THR6 Thira Island, 7.87 104 P Pn 02 52 46.6 +1.2
GOAD anakkale-G¶ 7.87 76 P Pn 02 52 46.1 +0.6
GOAD S Sn 02 54 06.3 -6.7
HERR Herculane 7.89 36 ⇓P Pn 02 52 45.7 +0.1
SANT Santorini 7.91 104 Pn 02 52 46.5 +0.6
SANT Santorini 7.91 104 P Pn 02 52 48.0 +2.1
SANT S Sn 02 54 10.9 -3.1
THR8 Santorini-Mono 7.91 104 P Pn 02 52 46.9 +0.9
IDI Anoyia 7.92 112 Pn 02 52 46.5 +0.4
IDI Anoyia 7.92 112 P Pn 02 52 45.9 -0.2
IDI Anoyia 7.92 112 P Pn 02 52 46.0 -0.1
comp=Z,24nm,0.3s,baz=313,slow=14,SNR=41
IDI S Sn 02 54 08.6 -5.7
comp=Z,67nm,0.2s,baz=298,slow=17,SNR=6.1
OBKA Obir 7.92 353 *i*Pn Pn 02 52 47.4 +1.3
comp=Z,9.8nm,0.4s
OBKA *e*Sn Sn 02 54 15.4 +1.2
comp=Z,43nm,1.0s
OBKA Obir 7.92 353 *e*Pn Pn 02 52 47.0 +0.9
CHOS Chios island 7.94 89 P Pn 02 52 48.2 +1.7
BOZC Bozcaada 7.95 78 P Pn 02 52 47.9 +1.5
BOZC S Sn 02 54 06.4 -8.4
STAL STALIGIAL 7.97 344 Pn 02 52 47.0 +0.2
KOCA Canakkale, Ayv 7.99 81 P Pn 02 52 47.9 +0.9
CTI Castel Tesino 8.04 338 Pn 02 52 48.1 +0.2
SOKA Soboth 8.05 356 *i*Pn Pn 02 52 49.1 +1.2
comp=Z,3.2nm,0.3s
SOKA *e*Sn Sn 02 54 16.8 -0.6
comp=Z,9.6nm,0.7s
PRK Paraskevi 8.08 83 P Pn 02 52 49.7 +1.4
SRE Strehaia 8.10 40 ⇓P Pn 02 52 50.4 +1.8
ALN Alexandroupoli 8.11 71 Pn Pn 02 52 49.1 +0.5
ALN Alexandroupoli 8.11 71 P Pn 02 52 49.1 +0.5
DIM Dimitrovgrad 8.11 62 *i*P Pn 02 52 50.1 +1.5
MYKA Terra Mystica 8.15 349 *i*Pn Pn 02 52 51.7 +2.4
comp=Z,6.9nm,0.5s
MYKA *e*Sn Sn 02 54 19.6 -0.3
comp=Z,4.8nm,0.6s
EZN Ezine 8.15 78 P Pn 02 52 50.8 +1.6
EZN Ezine 8.15 78 P Pn 02 52 50.5 +1.2
comp=Z,49nm,0.6s
SBF Sospel 8.25 312 *e*P Pn 02 52 52.1 +1.5
SBF *e*Sn Sn 02 54 14.1 -8.2
comp=Z,14nm,0.6s
GZR Gura Zlata 8.44 35 ⇑P Pn 02 52 53.8 +0.5
SURR Surduc 8.45 31 ⇑P Pn 02 52 53.0 -0.3
ABTA Abfaltersbach 8.47 344 *i*Pn Pn 02 52 55.0 +1.3
comp=Z,12nm,0.5s
ABTA *i*Sn Sn 02 54 29.1 +1.4
comp=Z,14nm,0.7s
LMR La Mourre 8.52 306 *e*P Pn 02 52 54.5 +0.2
LMR *e*Sn Sn 02 54 21.5 -7.3
comp=Z,11nm,0.4s
MPLH Magyarpolny 8.60 7 P Pn 02 52 56.4 +1.1
comp=Z,31nm,1.0s
ARSA Arzberg 8.60 358 *i*Pn Pn 02 52 56.7 +1.3
comp=Z,2.1nm,0.3s
ARSA *i*Sn Sn 02 54 29.3 -1.5
comp=Z,5.4nm,0.5s
KBA Koelnbreinsper 8.63 348 *i*Pn Pn 02 52 57.7 +1.8
comp=Z,4.3nm,0.4s
KBA *e*Sn Sn 02 54 32.2 +0.3
comp=Z,17nm,0.8s
SMG Samos 8.64 93 P Pn 02 52 57.6 +1.6
ELND Elena 8.67 57 ⇓P Pn 02 52 58.0 +1.6
ZIMR 8.70 52 ⇓P Pn 02 52 58.2 +1.5
SIRR Siria 8.71 27 ⇓P Pn 02 52 56.7 -0.2
EDRB Edirne 8.86 65 P Pn 02 53 00.0 +1.0
COPA Copaceanca 8.87 49 ⇓P Pn 02 53 00.8 +1.8
DEV Deva 8.88 33 ⇑P Pn 02 52 59.7 +0.6
SZH Strazhitsa 8.89 56 *i*P Pn 02 53 00.9 +1.6
JMB Yambol 8.93 61 *i*P Pn 02 53 01.0 +1.1
LOT Lotru 8.95 38 ⇓P Pn 02 53 01.5 +1.3
HUMR Humele 8.97 46 ⇓P Pn 02 53 02.1 +1.7
FUORN Ofenpass-Fuorn 8.99 334 Pn Pn 02 53 01.8 +0.9
RONA Rosalia, Austr 9.05 2 *i*Pn Pn 02 53 03.6 +2.1
comp=Z,5.8nm,0.3s
RONA *i*Sn Sn 02 54 42.5 +0.7
comp=Z,2.8nm,0.3s
LESA Schwarzleotal 9.09 346 *i*Pn Pn 02 53 03.9 +1.9
comp=Z,9.3nm,0.4s
LESA *i*Sn Sn 02 54 44.1 +1.3
comp=Z,3.4nm,0.4s
BODT Bodrum 9.14 96 P Pn 02 53 04.0 +1.2
MBDF Montbardon 9.15 314 *e*P Pn 02 53 07.5 +4.5
MBDF *e*Sn Sn 02 54 36.2 -8.3
comp=Z,6.0nm,0.6s
WTTA Wattenberg 9.16 341 *i*Pn Pn 02 53 07.5 +4.3
comp=Z,4.2nm,0.4s
WTTA *i*Sn Sn 02 54 45.6 +0.8
comp=Z,3.2nm,0.3s
BIOA Bad Ischl, Aus 9.19 350 *i*Pn Pn 02 53 06.0 +2.6
comp=Z,8.6nm,0.4s
BIOA *i*Sn Sn 02 54 46.1 +0.9
comp=Z,15nm,0.6s
FETA Feichten 9.19 337 *i*Pn Pn 02 53 06.3 +2.7
comp=Z,1.9nm,0.5s
FETA *i*Sn Sn 02 54 46.3 +0.7
comp=Z,2.2nm,0.6s
TUE Stuetta 9.20 330 Pn Pn 02 53 03.2 -0.5
TUE Stuetta 9.20 330 P Pn 02 53 05.4 +1.7
comp=Z,49nm,0.8s
SQTA Sankt Quirin 9.23 340 *i*Pn Pn 02 53 07.2 +3.1
comp=Z,12nm,0.4s
SQTA *e*Sn Sn 02 54 47.9 +1.4
comp=Z,9.1nm,0.6s
WATA Walderalm 9.24 341 *i*Pn Pn 02 53 06.5 +2.2
comp=Z,4.2nm,0.5s
WATA *i*Sn Sn 02 54 47.9 +1.1
comp=Z,4.5nm,0.3s
DAVOX Davos/Dischmat 9.26 333 P Pn 02 53 06.5 +1.9
comp=Z,6.0nm,0.5s,baz=154,slow=16,SNR=17
DAVOX S Sn 02 54 47.1 -0.1
comp=Z,2.4nm,0.5s,baz=143,slow=22,SNR=1.5
DAVOX LR LR 02 57 17.9
comp=Z,232nm,20.8s,baz=155,slow=42
CONA Conrad Observa 9.27 360 *i*Pn Pn 02 53 06.2 +1.6
comp=Z,2.0nm,0.4s
CONA *e*Sn Sn 02 54 45.2 -2.2
comp=Z,4.9nm,0.7s
MOA Molln 9.27 353 *i*Pn Pn 02 53 07.2 +2.7
comp=Z,14nm,0.5s
MOA *i*Sn Sn 02 54 47.5 +0.2
comp=Z,3.7nm,0.4s
ARR Arges 9.32 41 ⇓P Pn 02 53 06.9 +1.6
TNR Turnu Rosu 9.34 39 ⇑P Pn 02 53 07.3 +1.8
RJOB Jochberg 9.36 347 *e*Pn 02 53 07.8
SGRR Singureni 9.37 50 ⇑P Pn 02 53 07.3 +1.4
BNI Bardonecchia 9.40 316 Pn 02 53 07.3 +0.8
SMRF Simiane la Rot 9.43 308 *e*Pn Pn 02 53 05.6 -1.2
SMRF Simiane la Rot 9.43 308 *e*P Pn 02 53 09.5 +2.7
SMRF *e*Sn Sn 02 54 43.0 -8.2
comp=Z,7.3nm,0.7s
DAT Datca 9.43 98 P Pn 02 53 08.2 +1.3
KARP Karpathos 9.49 106 Pn 02 53 08.3 +0.6
KARP Karpathos 9.49 106 P Pn 02 53 07.9 +0.3
KARP Karpathos 9.49 106 P Pn 02 53 09.2 +1.6
comp=Z,111nm,0.6s
DRGR 9.54 29 ⇓P Pn 02 53 09.0 +0.8
ZST Bratislava 9.58 5 *e*SN Sn 02 54 52.8 -1.9
VOIR 9.59 42 ⇑P Pn 02 53 10.9 +2.0
VOIR 9.59 42 P Pn 02 53 10.5 +1.6
comp=Z,19nm,0.9s
RETA Reutte 9.60 339 *i*Pn Pn 02 53 09.7 +0.6
comp=Z,8.7nm,0.5s
RETA *i*Sn Sn 02 54 53.2 -2.3
comp=Z,2.1nm,0.3s
LPG La Plagne 9.66 318 *e*P Pn 02 53 14.7 +4.6
LPG *e*Sn Sn 02 54 48.2 -8.9
comp=Z,3.9nm,0.7s
LPL La Plagne 9.68 318 *e*P Pn 02 53 14.4 +4.1
LPL *e*Sn Sn 02 54 48.6 -8.9
comp=Z,2.5nm,0.5s
DAVA Damuels 9.70 335 *i*Pn Pn 02 53 13.4 +2.9
comp=Z,4.0nm,0.7s
DAVA *i*Sn Sn 02 54 56.1 -1.8
comp=Z,1.9nm,0.4s
PSZ Piszkesteto 9.70 16 Pn 02 53 09.0 -1.5
MODS Modra-Piesok 9.77 5 *e*PN Pn 02 53 14.5 +3.2
MODS *e*SN Sn 02 54 54.3 -5.1
ORIF Oris-en-Rattie 9.77 313 *e*P Pn 02 53 15.4 +4.0
ORIF *e*Sn Sn 02 54 50.6 -9.0
comp=Z,2.1nm,0.5s
YER Yerkesik 9.88 95 P Pn 02 53 13.8 +0.8
CTYL Yalikoy Yolu 9.88 70 P Pn 02 53 12.7 -0.2
KULA Kula-Manisa 9.97 87 P Pn 02 53 16.2 +2.0
UBR Ueberruh 9.97 337 *e*Pn 02 53 17.2
SENIN Lac Senin/Sane 9.99 323 Pn 02 53 16.6 +2.0
ARG Arkhangelos 10.00 100 Pn 02 53 15.3 +0.7
ARG Arkhangelos 10.00 100 P Pn 02 53 15.9 +1.4
VYHS Vyhne 10.06 11 *e*PN Pn 02 53 20.3 +5.0
MLR Muntele Rosu 10.10 44 ⇑P Pn 02 53 18.2 +2.3
MLR Muntele Rosu 10.10 44 Pn 02 53 17.5 +1.5
MLR Muntele Rosu 10.10 44 P Pn 02 53 18.0 +2.0
comp=Z,21nm,0.7s,baz=188,slow=8.3,SNR=41
DOPR Dopca 10.12 41 ⇑P Pn 02 53 17.7 +1.6
ISR Istrita 10.21 47 P Pn 02 53 19.3 +1.9
comp=Z,73nm,0.7s
CKRC Cesky Krumlov 10.23 354 *e*P Pn 02 53 19.1 +1.4
GEC2 GERESS Array S 10.32 352 Pn 02 53 19.1 +0.3
GEC2 GERESS Array S 10.32 352 *e*Pn 02 53 19.6
GERES GERESS Array B 10.32 352 Pn 02 53 19.2 +0.3
GERES GERESS Array B 10.32 352 P Pn 02 53 19.8 +0.9
comp=Z,8.5nm,0.6s,baz=169,slow=15,SNR=44
GERES S Sn 02 55 11.8 -1.1
comp=Z,4.3nm,0.5s,baz=173,slow=26,SNR=6.9
KECS Kecovo 10.37 17 *e*PN Pn 02 53 21.7 +2.2
OZUR 10.41 41 ⇑P Pn 02 53 22.1 +1.9
KRUC Moravsky 10.41 2 *e*PN Pn 02 53 21.6 +1.5
KRUC *e*SN Sn 02 55 12.1 -3.0
VIVF Saint-Julien-I 10.44 310 *e*P Pn 02 53 22.7 +2.1
VIVF *e*Sn Sn 02 55 06.6 -9.3
comp=Z,1.7nm,0.6s
ARCR ARCALIA 10.45 34 ⇑P Pn 02 53 20.5 -0.1
TURR Turia 10.50 42 ⇑P Pn 02 53 23.5 +2.1
YLV Yalova 10.55 75 P Pn 02 53 23.4 +1.3
comp=Z,15nm,0.6s
LASF Ste Croix 10.56 305 *e*P Pn 02 53 23.1 +0.9
LASF *e*Sn Sn 02 55 09.4 -10
comp=Z,4.3nm,0.8s
KHC Kasperske Hory 10.61 352 Pn Pn 02 53 23.2 +0.3
KHC Kasperske Hory 10.61 352 *e*P Pn 02 53 23.6 +0.7
KHC *e*S Sn 02 55 18.0 -2.0
KHC Kasperske Hory 10.61 352 P Pn 02 53 23.2 +0.3
comp=Z,13nm,0.7s
TREC Trest 10.64 358 *e*P Pn 02 53 25.2 +1.9
VRAC Vranov 10.66 2 *e*PN Pn 02 53 25.0 +1.5
VRAC *e*SN Sn 02 55 18.3 -3.0
VRAC Vranov 10.66 2 P Pn 02 53 25.0 +1.5
comp=Z,3.5nm,0.5s,baz=192,slow=11,SNR=9.3
VRAC LR LR 02 57 40.6
comp=Z,70nm,21.5s,baz=184,slow=38
PLOR Plostina 10.71 44 ⇑P Pn 02 53 26.2 +2.0
PLOR3 Plostina Array 10.71 44 P Pn 02 53 25.8 +1.6
comp=Z,21nm,0.8s
WET Wettzell 10.72 349 *e*Pn 02 53 25.0
SSB Saint Sauveur 10.75 312 Pn 02 53 25.0 +0.2
CABF La Chapelle 10.76 321 *e*P Pn 02 53 26.4 +1.5
VRI Vrincioaia 10.76 45 ⇓P Pn 02 53 27.2 +2.2
LANS Liptovska Anna 10.80 12 *e*PN Pn 02 53 27.6 +2.2
HARR Harsova 10.81 52 ⇑P Pn 02 53 27.5 +2.0
TLBR Topalu 10.81 53 ⇓P Pn 02 53 27.5 +1.9
ZVC Zvikov 10.86 354 *e*P Pn 02 53 27.2 +1.0
MFTR Murfatlar 10.88 56 ⇑P Pn 02 53 28.6 +2.1
BFO Black Forest 11.13 333 Pn Pn 02 53 29.9 0.0
BFO Black Forest 11.13 333 *e*Pn 02 53 31.4
KSL Kastellorizon 11.14 99 P Pn 02 53 30.3 +0.1
MORC Moravsky Berou 11.18 5 Pn Pn 02 53 31.3 +0.7
MORC Moravsky Berou 11.18 5 *e*PN Pn 02 53 32.4 +1.8
MORC *e*SN Sn 02 55 32.2 -1.7
CFR Carcaliu 11.18 50 ⇑P Pn 02 53 33.0 +2.4
TPGR Topolog 11.20 52 ⇑P Pn 02 53 31.9 +1.1
STU Stuttgart 11.22 337 Pn Pn 02 53 31.7 +0.5
BURAR Bucovina Array 11.23 34 ⇑P Pn 02 53 33.8 +2.4
BURAR Bucovina Array 11.23 34 Pn Pn 02 53 31.6 +0.3
ELL Elmali 11.24 95 Pn Pn 02 53 33.3 +1.7
BUR08 Bucovina Ar. S 11.24 34 Pn Pn 02 53 32.7 +1.1
GOPC GO Pecny, Ondr 11.29 356 *e*P Pn 02 53 33.0 +0.9
HINF Hinteralfeld 11.29 327 *e*P Pn 02 53 32.9 +0.7
MTLF Montolieu 11.37 299 *e*P Pn 02 53 32.5 -0.7
MTLF *e*Sn Sn 02 55 28.4 -10
comp=Z,9.1nm,0.9s
PRU Pruhonice 11.38 355 AMS AMS 02 58 10.0
comp=Z,100nm,18.5s
ROTZ Rotzenmuhle 11.43 348 *e*Pn 02 53 33.5
ECH Echery 11.48 329 Pn Pn 02 53 34.4 -0.3
ISP Isparta 11.51 90 Pn Pn 02 53 34.7 -0.6
GRFO Grafenberg 11.54 345 Pn Pn 02 53 34.8 -0.7
CDF Champ du Feu 11.59 330 *e*P Pn 02 53 37.3 +1.0
TLCR 11.60 52 ⇑P Pn 02 53 38.5 +2.2
HAU Haudompre 11.66 326 *e*P Pn 02 53 37.7 +0.6
CEST Esterri de Car 11.83 294 Pn Pn 02 53 40.3 +0.8
MDUB Mudurnu 11.93 76 Pn 02 53 40.9 0.0
SMF Signal de Mont 11.95 316 *e*P Pn 02 53 42.5 +1.4
CAF Calviac 12.09 306 *e*P Pn 02 53 44.1 +1.0
BRG Berggiesshubel 12.30 354 *e*P Pn 02 53 46.3 +0.4
BRG Amp 02 53 48.2
comp=Z,4.1nm,0.7s
BRG Berggiesshubel 12.30 354 P P 02 53 55.2 -0.7
BRG Amp 02 53 55.9
comp=Z,4.4nm,0.8s
AVF Avril sur Loir 12.30 315 *e*P Pn 02 53 47.3 +1.4
LOR Lormes 12.33 318 *e*Pn Pn 02 53 44.9 -1.4
LOR Lormes 12.33 318 *e*P Pn 02 53 49.4 +3.1
PAGF Fort de Pagny 12.35 327 *e*P Pn 02 53 47.4 +0.9
MOX Moxa 12.38 347 *e*Pn 02 53 47.7
SFTF Sexfontaines 12.39 324 *e*P Pn 02 53 48.1 +1.0
BGF Bois d'Agland 12.45 314 *e*P Pn 02 53 49.0 +1.1
KMPD K-Podol'skiy 12.49 34 P Pn 02 53 50.3 +1.9
EPF Esparros 12.59 295 *e*P Pn 02 53 50.9 +1.0
MEZF Maizieres J'vi 12.60 325 *e*P Pn 02 53 51.2 +1.2
TCF Toulx Ste Croi 12.67 311 *e*P Pn 02 53 52.1 +1.2
CLL Collm 12.82 352 *e*P Pn 02 53 52.1 -0.8
CLL Collm 12.82 352 *e*P Pn 02 53 53.0 +0.1
comp=Z,8.0nm,0.7s
CLL *e*x x 02 53 59.0
CLL *e*x x 02 54 06.0
CLL *e*sPP 02 54 22.0
CLL AMS AMS 02 59 00.0
comp=Z,100nm,18.7s
CLL Collm 12.82 352 P Pn 02 53 54.5 +1.6
comp=Z,9.0nm,1.1s
LFF La Frestale 12.95 304 *e*P Pn 02 53 55.4 +0.7
WLF Walferdange 13.04 331 Pn Pn 02 53 56.0 +0.1
WLF Walferdange 13.04 331 *d*P Pn 02 53 57.4 +1.5
SORM Soroca 13.08 40 ⇑P Pn 02 53 57.0 +0.6
SORM Soroca 13.08 40 P Pn 02 53 57.0 +0.6
comp=Z,9.7nm,0.5s
BHOU Houvegnez 13.66 332 *d*P Pn 02 54 06.5 +2.2
comp=Z,5.2nm,1.2s
BR131 Keskin Array S 13.78 80 Pn 02 54 06.0 -0.1
BRTR Keskin Array B 13.78 80 Pn Pn 02 54 05.4 -0.8
BRTR Keskin Array B 13.78 80 P Pn 02 54 08.4 +2.3
comp=Z,2.1nm,0.6s,baz=269,slow=13,SNR=17
BRTR S Sn 02 56 35.1 -2.5
comp=Z,0.3nm,0.4s,baz=274,slow=29,SNR=1.9
BRTR LR LR 03 00 10.1
comp=Z,52nm,20.5s,baz=208,slow=40
RCHB Rochefort 13.79 330 *d*P Pn 02 54 06.9 +0.9
comp=Z,6.7nm,1.2s
BTNL Ternell 13.81 333 *d*P Pn 02 54 08.6 +2.4
MEM Membach 13.87 333 *d*P P 02 54 15.0 +1.6
BCLA Clavier 13.98 331 *d*P Pn 02 54 10.6 +2.2
comp=Z,4.0nm,1.4s
DOU Dourbes 14.00 328 *d*P P 02 54 18.6 +3.8
BGES Gesves 14.03 330 *d*P Pn 02 54 11.4 +2.2
comp=Z,3.8nm,1.1s
LUBAR Lubar, Ukraine 14.07 33 P Pn 02 54 08.9 -0.9
BMRD Maredsous 14.09 329 *d*P Pn 02 54 10.2 +0.2
RNPP5 Staryi Chortor 14.40 26 P Pn 02 54 14.1 +0.1
CSS Mathiatis 14.42 99 Pn 02 54 12.8 -1.6
RNPP8 Varash 14.48 26 P Pn 02 54 15.8 +0.8
RNPP9 Sopachiv 14.55 26 P Pn 02 54 16.8 +0.8
MI28 Mi28,Pidlybu 14.81 30 P Pn 02 54 20.2 +0.8
MI30 MI30,Zelenitsa 14.88 32 P Pn 02 54 21.0 +0.7
AK07 Malin Array Si 15.17 34 P Pn 02 54 24.3 +0.4
AK14 Malin Array Si 15.18 34 P Pn 02 54 24.5 +0.4
AK19 Malin Array Si 15.21 33 P Pn 02 54 24.8 +0.3
AK12 Malin Array Si 15.21 34 P Pn 02 54 24.9 +0.4
AK05 Malin Array Si 15.22 34 P Pn 02 54 25.0 +0.4
AK10 Malin Array Si 15.22 34 P Pn 02 54 25.0 +0.3
AK20 Malin Array Si 15.22 33 P Pn 02 54 25.0 +0.3
AK18 Malin Array Si 15.23 33 P Pn 02 54 25.2 +0.4
AK11 Malin Array Si 15.24 34 P Pn 02 54 25.3 +0.4
AK02 Malin Array Si 15.24 34 P Pn 02 54 25.3 +0.4
AK09 Malin Array Si 15.25 34 P Pn 02 54 25.4 +0.4
AK08 Malin Array Si 15.25 34 P Pn 02 54 25.4 +0.4
LDF La Druitiere 15.26 316 *e*P P 02 54 28.6 -0.2
AK01 Malin Array Si 15.27 34 P Pn 02 54 25.7 +0.4
KIEV Kiev 15.27 34 Pn 02 54 25.0 -0.3
KIEV Kiev 15.27 34 P Pn 02 54 25.8 +0.5
comp=Z,35nm,0.9s
AK04 Malin Array Si 15.28 34 P Pn 02 54 25.7 +0.4
AKASG Malin Array Be 15.29 34 P Pn 02 54 26.1 +0.6
comp=Z,2.0nm,0.5s,baz=229,slow=10.0,SNR=10
AKASG LR LR 03 01 33.7
comp=Z,44nm,20.7s,baz=198,slow=42
AKBB Malin Array Si 15.29 34 Pn Pn 02 54 24.9 -0.5
AKBB Malin Array Si 15.29 34 P Pn 02 54 25.8 +0.3
AK23 Malin Array Si 15.29 33 P Pn 02 54 25.9 +0.4
AK03 Malin Array Si 15.30 34 P Pn 02 54 26.0 +0.3
ESBB Sonseca Array 15.47 280 Pn 02 54 28.8 +0.9
ESDC Sonseca Array 15.47 280 Pn 02 54 28.7 +0.8
ESDC Sonseca Array 15.47 280 P Pn 02 54 27.9 0.0
comp=Z,8.7nm,0.9s,baz=80,slow=9.7,SNR=40
ESDC LR LR 02 59 44.1
comp=Z,113nm,19.1s,baz=90,slow=34
BNN Bunyan 15.54 83 Pn 02 54 29.1 +0.1
FLN La Foliniere 15.56 316 *e*P P 02 54 31.8 -0.3
GRR Gorron 15.56 314 *e*P P 02 54 32.3 +0.2
PAB San Pablo 15.77 280 Pn Pn 02 54 32.2 +0.3
SUW Suwalki 16.14 16 Pn Pn 02 54 35.6 -0.7
SUW IAmb IAmb 02 55 05.9
comp=Z,27nm,1.0s
QUIF Quistinic 16.67 310 *e*P Pn 02 54 43.8 +0.9
MMAI Mount Meron Ar 16.75 104 P Pn 02 54 41.7 -2.5
comp=Z,2.8nm,0.2s,baz=307,slow=12,SNR=29
MMAI S Sn 02 57 36.9 -13
comp=Z,4.6nm,0.3s,baz=293,slow=17,SNR=11
MMAI LR LR 03 02 55.5
comp=Z,40nm,21.2s,baz=192,slow=42
SLTI Sal'it 16.82 107 P Pn 02 54 44.3 -0.7
GAZ Gaziantep 16.86 88 Pn 02 54 44.3 -1.2
GAZ IAmb IAmb 02 54 50.2

comp=Z,27nm,1.2s
GEM Giv'at Ha'Em 16.87 103 P **Pn 02 54 43.7 -1.9**
NATI Neve Ativ 16.91 102 P **Pn 02 54 45.3 -0.7**
KZIT Kziot 17.01 111 P **Pn 02 54 46.4 -0.9**
AMAZ Amatzia 17.07 109 P **Pn 02 54 47.6 -0.5**
KSHT Keshet 17.08 103 P **Pn 02 54 46.9 -1.3**
HMDT Nahal Hemdat 17.18 106 P **Pn 02 54 48.5 -0.9**
YTIR Yattir 17.30 109 P **Pn 02 54 50.8 -0.2**
DSI Dead Sea 17.39 108 P **Pn 02 54 52.2 +0.1**
ARPR Arapgir-MALATY 17.45 82 P **Pn 02 54 52.0 -0.8**
ARPR IAmb IAmb 02 54 59.2
comp=Z,38nm,1.1s
MSBI Mazada 17.51 109 P **Pn 02 54 52.8 -0.6**
PBRG Braganca 17.59 288 *eP* **P 02 54 56.3 +1.6**
comp=Z,13nm,1.0s
MDT Midelt 17.65 257 P **P 02 54 56.7 +1.2**
comp=Z,8.2nm,0.8s,baz=78,slow=11,SNR=22
MDT LR LR 03 00 59.8
comp=Z,70nm,20.4s,baz=78,slow=34
GHAJ Ghor Haditha 17.66 109 P **Pn 02 54 54.3 -1.1**
GHAJ IAmb IAmb 02 55 00.2
comp=Z,30nm,0.8s
GHAJ Ghor Haditha 17.66 109 P **Pn 02 54 55.2 -0.2**
KRMI Paran Flat 17.67 113 P **Pn 02 54 54.5 -1.0**
PABE Paberze 17.70 15 **Pn 02 54 54.7 -0.9**
PABE Paberze 17.70 15 *eP* **P 02 54 56.9 +1.2**
PRNI Paran 17.75 112 P **Pn 02 54 55.0 -1.4**
ZFRI Zfri 17.76 111 P **Pn 02 54 56.4 -0.2**
MNK Minsk 17.82 23 *i P* **P 02 54 55.2 -1.8**
comp=E,1μm,0.8s
MNK *i P* **P 02 54 55.2 -1.8**
comp=N,9.0nm,0.8s
MNK *i P* **P 02 54 55.2 -1.8**
comp=Z,9.0nm,0.7s,baz=213
MNK *i* pP **pP 02 55 04.7 -5.8**
MNK *i* sP sP 02 55 09.8 -8.8
MNK *i* S **Sn 02 58 14.1 -0.7**
MNK *i* SS SnSn 02 58 48.0 +19
MNK *i* LQ LQ 03 00 21.6
MNK *i* LR LR 03 00 47.5
MNK *i* LRM MLR 03 01 40.3
comp=Z,36nm,17.1s
MNK *i* LRM MLR 03 02 15.7
comp=N,30nm,17.6s
MNK *i* LRM MLR 03 02 47.5
comp=E,45nm,17.3s
NACGM Naroch 17.84 21 *eP* **Pn 02 54 57.9 +0.6**
HRFI Mount Harif 17.94 113 P **P 02 54 58.0 -0.6**
MBRI Mt Berech 17.99 114 P **P 02 54 58.6 -0.6**
PBAR Barrancos 18.00 276 *eP* **P 02 54 59.6 +0.4**
comp=E,29nm,1.5s
IIGN Ignalina 18.09 19 *eP* **Pn 02 55 01.6 +1.3**
EIL Élat 18.09 114 P **P 02 55 00.2 +0.1**
comp=E,9.1nm,0.3s,baz=331,slow=4.4,SNR=24
EIL S Sn 02 58 05.2 -16
comp=E,36nm,0.3s,baz=353,slow=0.7,SNR=9.1
EIL Elat 18.09 114 P **P 02 54 60.0 -0.2**
PMRV Marv??o 18.13 280 *eP* **Pn 02 55 01.4 +0.4**
comp=E,27nm,1.2s
PMRV *e*LR LR 02 59 58.3
comp=E,66nm,22.0s
PCBR Castelo Branco 18.16 281 *eP* **Pn 02 55 01.8 +0.4**
comp=E,14nm,1.0s
MTE Manteigas 18.19 283 P **Pn 02 55 02.0 +0.3**
MTE Manteigas 18.19 283 *eP* **Pn 02 55 02.3 +0.6**
comp=E,24nm,1.3s
MTE *e*LR LR 03 00 03.3
comp=E,109nm,20.0s
ASF Jabal al Asfar 18.25 104 P **Pn 02 55 04.4 +1.7**
comp=E,2.8nm,0.4s,baz=232,slow=0.4,SNR=8.4
ISAL Salakas 18.26 19 *eP* **Pn 02 55 04.6 +2.2**
PVRL Vila Real 18.30 286 *eP* **P 02 55 02.3 -0.3**
comp=E,18nm,1.4s
PESTR Estremoz 18.34 278 P **Pn 02 55 03.6 +0.1**
PESTR Estremoz 18.34 278 *eP* **P 02 55 03.5 +0.6**
comp=E,15nm,1.1s
POLO Lamas de Olo 18.36 286 *eP* **Pn 02 55 05.7 +1.8**
comp=E,12nm,1.4s
PVIS Viseu 18.44 284 *eP* **P 02 55 04.6 +0.5**
comp=E,20nm,1.6s
PCAB Cabril 18.55 287 *eP* **P 02 55 05.7 +0.5**
comp=E,25nm,1.7s
PVAQ Vaqueiros 18.66 274 P **P 02 55 05.9 -0.6**
PVAQ Vaqueiros 18.66 274 *eP* **P 02 55 06.2 -0.3**
comp=E,31nm,1.7s
PBEJ Beja 18.67 276 *eP* **P 02 55 07.2 +0.6**
comp=E,18nm,1.7s
EVO Evora 18.71 277 *eP* **P 02 55 06.5 -0.5**
comp=E,22nm,2.1s
PMTG Montargil 18.81 279 *eP* **P 02 55 08.0 0.0**
comp=E,19nm,1.8s
COI Coimbra 18.86 282 P **Pn 02 55 09.7 0.0**
COI IAmb IAmb 02 55 11.4
comp=Z,30nm,0.8s
COI Coimbra 18.86 282 *eP* **Pn 02 55 10.6 +0.9**
comp=Z,52nm,0.9s
PCVE Castro Verde 18.87 274 *eP* **P 02 55 09.2 +0.4**
comp=Z,22nm,1.3s
PCAS Casmilo, Conde 18.93 282 *eP* **Pn 02 55 10.6 -0.1**
comp=Z,39nm,1.3s
MESJ Messejana 18.98 275 P **P 02 55 09.8 -0.2**
MESJ IAmb IAmb 02 55 13.4
comp=Z,27nm,1.2s
MESJ Messejana 18.98 275 *eP* **P 02 55 10.4 +0.5**
comp=Z,28nm,1.2s
MESJ Messejana 18.98 275 *eP* **P 02 55 10.1 +0.2**
MESJ IAmb IAmb 02 55 13.1
comp=Z,39nm,1.4s
PNCL Nicolau / Gran 19.17 276 *eP* **P 02 55 12.0 0.0**
comp=Z,16nm,1.6s
PSBE So Bento 19.20 280 *eP* **P 02 55 13.1 +0.7**
comp=Z,55nm,2.2s
MORF Marmelete 19.41 274 P **P 02 55 14.4 -0.3**
PTEO Sao Teotonio 19.42 274 *eP* **P 02 55 15.3 +0.5**
comp=Z,44nm,1.4s
PFVI Vila Bisbo 19.59 273 P **P 02 55 15.7 -0.8**
PFVI IAmb IAmb 02 55 20.3
comp=Z,17nm,0.7s
PFVI Vila Bisbo 19.59 273 *eP* **P 02 55 17.1 +0.6**
comp=Z,30nm,1.4s
MTSE Matsula 20.71 12 *eP* **P 02 55 28.7 +0.2**
KIV Kislovodsk 20.74 67 P **P 02 55 27.8 -1.3**
KIV IAmb IAmb 02 55 32.8
comp=Z,37nm,1.2s
KIV Kislovodsk 20.74 67 P **P 02 55 29.4 +0.3**
comp=Z,21nm,1.2s,comp=Z,212nm
KVAR Kislovodsk Arr 20.75 67 P Pn 02 55 31.5 -0.6
comp=Z,4.1nm,0.7s,baz=272,slow=22,SNR=3.4
comp=Z,4.1nm,0.7s
KBZ Khabaz 20.88 67 P Pn 02 55 33.3 -0.2
comp=Z,13nm,0.8s,baz=292,slow=8.0,SNR=21
comp=Z,13nm,0.8s
KARS Kars 20.97 76 P **P 02 55 30.6 -1.1**
EKA Eskdalemuir Ar 21.05 329 P **P 02 55 32.3 +0.1**
comp=Z,2.4nm,0.5s,baz=143,slow=10,SNR=26
comp=Z,2.4nm,0.5s
ESK Eskdalemuir 21.06 329 P **P 02 55 31.8 -0.5**
ESK IAmb IAmb 02 56 09.5
comp=Z,32nm,1.4s
ONI Oni 21.22 71 P **P 02 55 34.2 0.0**
ONI IAmb IAmb 02 55 38.5
comp=Z,29nm,1.4s
OBN Obninsk 21.55 33 P **P 02 55 36.1 -1.3**
OBN Obninsk 21.55 33 P **P 02 55 37.1 -0.4**
comp=Z,31nm,0.5s,baz=164,slow=3.9,SNR=6.3
comp=Z,31nm,0.5s
OBN Obninsk 21.55 33 P **P 02 55 37.2 -0.3**
comp=Z,52nm,0.8s
HFS Hagfors 21.55 357 P **P 02 55 36.7 -0.8**
comp=Z,2.4nm,0.4s,baz=168,slow=11,SNR=27
HFS LR LR 03 04 54.2
comp=Z,29nm,18.2s,baz=128,slow=39
comp=Z,2.4nm,0.4s
ARBE Arbavere 21.77 14 *eP* **P 02 55 43.9 +4.0**
MEF Metsahovi 22.24 11 *eP* **P 02 55 44.1 -0.8**
GNI Garni 22.28 77 P **P 02 55 45.3 -0.4**
GNI Garni 22.28 77 P **P 02 55 45.8 +0.1**
comp=Z,57nm,0.9s
NC602 NORSAR Array S 22.28 354 P **P 02 55 44.6 -0.7**
NB2 NORSAR Subarra 22.61 354 P **P 02 55 47.2 -1.7**
comp=Z,2.6nm,0.8s,baz=171,slow=11
NOA NORSAR Array B 22.61 354 P **P 02 55 48.1 -0.8**
comp=Z,2.3nm,0.8s,baz=169,slow=12,SNR=15
NOA LR LR 03 06 00.9
comp=Z,30nm,18.1s,baz=115,slow=40
comp=Z,2.3nm,0.8s

RAF Rauma 22.69 7 *eP* **P 02 55 48.3 -1.4**
FINES FINESS Array B 23.67 12 P **P 02 55 57.9 -1.3**
FINES FINESS Array B 23.67 12 P **P 02 55 58.0 -1.1**
comp=Z,3.2nm,0.5s,baz=194,slow=8.6,SNR=62
FINES PcP **PcP 02 59 40.8 -0.9**
comp=Z,0.7nm,0.7s,baz=198,slow=4.1,SNR=2.3
comp=Z,3.2nm,0.5s
FIA1 FINESS Array S 23.67 12 P **P 02 55 58.0 -1.2**
FIA1 IAmb IAmb 02 56 21.5
comp=Z,18nm,0.8s
KEF Keuruu 24.18 10 *eP* **P 02 56 02.7 -1.0**
VAF Ylistaro 24.76 7 *eP* **P 02 56 08.0 -1.1**
BELG Belogornoye 25.87 48 LR LR 03 07 36.6
comp=Z,54nm,21.4s,baz=233,slow=39
JOF Joensuu 26.03 16 *eP* **P 02 56 23.8 +3.2**
TORD Torodi Ar. Bea 28.37 210 P **P 02 56 42.3 +0.4**
comp=Z,0.9nm,0.5s,baz=21,slow=9.1,SNR=23
comp=Z,0.9nm,0.5s
ARCES ARCESS Array B 31.37 6 P **P 02 57 06.5 -1.5**
comp=Z,1.2nm,0.6s,baz=188,slow=8.9,SNR=17
comp=Z,1.2nm,0.6s
ABKAR Abkulak array 32.98 57 P **P 02 57 22.3 0.0**
ABKAR Abkulak array 32.98 57 P **P 02 57 22.4 0.0**
ABKAR IAmb IAmb 02 57 24.1
comp=Z,3.9nm,0.5s
ARU Arti 33.15 43 P **P 02 57 23.5 -0.2**
ARU IAmb IAmb 02 57 25.2
comp=Z,11nm,1.0s
ARU Arti 33.15 43 P **P 02 57 24.2 +0.5**
comp=Z,15nm,1.1s
BORG Borgarnes 33.98 332 LR LR 03 11 26.7
comp=Z,32nm,20.6s,baz=113,slow=36
UOSS Minazif 36.56 100 P **P 02 57 53.8 +0.3**
UOSS IAmb IAmb 02 57 55.6
comp=Z,9.8nm,0.9s
DBIC Dimbokro 36.97 216 P **P 02 57 57.7 +0.7**
DBIC IAmb IAmb 02 58 40.6
comp=Z,10nm,1.1s
DBIC Dimbokro 36.97 216 P **P 02 57 58.4 +1.4**
comp=Z,1.6nm,0.4s,baz=31,slow=8.7,SNR=6.3
DBIC LR LR 03 12 26.9
comp=Z,28nm,20.1s,baz=62,slow=35
comp=Z,1.6nm,0.4s
HRA Herat 37.16 82 P **P 02 57 59.1 +0.4**
HRA IAmb IAmb 02 58 01.6
comp=Z,11nm,0.9s
BVAR Borovoye Array 39.59 50 P **P 02 58 20.0 +1.4**
comp=Z,5.6nm,0.6s,baz=268,slow=7.5,SNR=21
comp=Z,5.6nm,0.6s
SPB2 Spitsbergen Ar 39.63 0 P **P 02 58 18.0 -0.7**
SPITS Spitsbergen Ar 39.64 0 P **P 02 58 17.8 -1.0**
comp=Z,1.9nm,0.4s,baz=150,slow=10,SNR=6.9
comp=Z,1.9nm,0.4s
KK31 Karatay Array 40.90 66 P **P 02 58 30.4 +0.7**
KK31 IAmb IAmb 02 58 32.6
comp=Z,6.7nm,0.7s
KKAR Karatay Array 40.90 66 P **P 02 58 30.8 +1.1**
KKAR Karatay Array 40.90 66 P **P 02 58 30.5 +0.9**
KKAR IAmb IAmb 02 58 32.6
comp=Z,6.7nm,0.7s
SIMJ Simiganj 40.95 73 P **P 02 58 30.0 -0.2**
SIMJ IAmb IAmb 02 58 33.6
comp=Z,5.9nm,1.1s
CHGR Chuyangaron 41.07 73 P **P 02 58 32.1 +1.0**
GAR Garm 41.83 72 P **P 02 58 38.1 +0.7**
BTK Batken 41.89 70 P **P 02 58 38.7 +0.8**
BTK IAmb IAmb 02 58 40.9
comp=Z,5.1nm,0.8s
AAK Ala-Archa 43.85 65 P **P 02 58 55.1 +1.4**
AAK IAmb IAmb 02 58 58.6
comp=Z,4.5nm,0.8s
AAK Ala-Archa 43.85 65 LR LR 03 23 10.6
comp=Z,26nm,18.0s,baz=246,slow=44
KMBO Kilima Mbogo 44.18 149 P **P 02 58 57.8 +1.1**
KURBB Kurchatov Arra 44.84 53 P **P 02 59 02.6 +1.2**
comp=Z,3.5nm,0.5s,baz=284,slow=8.9,SNR=18
comp=Z,3.5nm,0.5s
KURK Kurchatov 44.88 53 P **P 02 59 02.8 +1.1**
KURK IAmb IAmb 02 59 03.8
comp=Z,10nm,0.8s
KSH Kashi 45.84 69 P **P 02 59 05.3 -4.3**
KSH pmax pmax
comp=Z,5.0nm,0.5s
TARG Taragay, Kyrgy 46.47 66 P **P 02 59 14.2 -0.6**
TARG IAmb IAmb 02 59 18.7
comp=Z,5.2nm,0.6s
MAKZ Makanchi 47.90 58 P **P 02 59 26.2 +0.8**
MAKZ IAmb IAmb 02 59 27.7
comp=Z,6.5nm,0.9s
ZAA0 Zalesovo Array 48.05 48 P **P 02 59 27.1 +0.6**
ZALV Zalesovo Beam 48.05 48 P **P 02 59 27.1 +0.6**
ZALV Zalesovo Beam 48.05 48 P **P 02 59 27.4 +0.9**
comp=Z,15nm,0.5s,baz=282,slow=8.2,SNR=56
comp=Z,15nm,0.5s
MK31 Makanchi Array 48.11 58 P **P 02 59 28.0 +0.9**
MKAR Makanchi Array 48.11 58 P **P 02 59 28.1 +1.0**
MKAR Makanchi Array 48.11 58 P **P 02 59 28.4 +1.3**
comp=Z,12nm,0.7s,baz=282,slow=6.5,SNR=115
MKAR LR LR 03 21 49.3
comp=Z,34nm,18.4s,baz=265,slow=38
comp=Z,12nm,0.7s
DRLN Deer Lake 51.96 307 P **P 02 59 56.4 +0.3**
LSZ Lusaka 54.86 165 P **P 03 00 18.6 +0.8**
LSZ IAmb IAmb 03 00 20.0
comp=Z,3.8nm,0.8s
SCHQ Schefferville 55.64 316 P **P 03 00 21.8 -1.1**
comp=Z,2.4nm,0.7s,baz=65,slow=12,SNR=4.0
comp=Z,2.4nm,0.7s
HAL Halifax 57.51 304 P **P 03 00 36.4 +0.1**
SONM Songino Array 62.91 49 P **P 03 01 13.8 +0.5**
SONM IAmb IAmb 03 01 14.9
comp=Z,3.5nm,0.8s
SONM Songino Array 62.91 49 P **P 03 01 14.1 +0.7**
comp=Z,4.5nm,0.8s,baz=286,slow=7.8,SNR=31
comp=Z,4.5nm,0.8s
SHL Shillong 63.98 77 P **P 03 01 20.4 -0.5**
SHL IAmb IAmb 03 01 21.2
comp=Z,8.8nm,0.9s
BOSA Boshof 67.48 171 P **P 03 01 43.5 +0.6**
comp=Z,1.8nm,0.5s,baz=10,slow=6.3,SNR=12
comp=Z,1.8nm,0.5s
HHC Hu-ho-hao-te 69.70 54 *eP* **P 03 01 57.4 +0.6**
HHC pP pP 03 02 09.3 -4.6
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,48nm,4.4s
PZH PanZhiHua 70.89 71 P **P 03 02 05.5 +1.1**
PZH pmax pmax
comp=Z,20nm,0.6s
PZH pmax pmax
comp=Z,80nm,5.4s
C23K Itkillik River 71.38 355 P **P 03 02 06.5 +0.2**
CMAR Chiang Mai Arr 73.37 80 P **P 03 02 20.4 +1.2**
comp=Z,2.8nm,0.5s,baz=302,slow=6.7,SNR=14
CMAR LR LR 03 39 15.8
comp=Z,14nm,18.1s,baz=195,slow=40
comp=Z,2.8nm,0.5s
KLR Kul'dur 75.75 38 LR LR 03 39 02.8
comp=Z,42nm,18.3s,baz=194,slow=38
USRK Ussuriysk Ar. 79.35 41 P **P 03 02 52.6 +0.1**
comp=Z,1.5nm,0.8s,baz=286,slow=4.8,SNR=2.7
comp=Z,1.5nm,0.8s
NJ2 Nanjing 79.64 57 *eP* **P 03 02 54.5 +0.1**
NJ2 sP **sP 03 03 19.0 +0.4**
NJ2 pmax pmax
comp=Z,14nm,0.8s
KSRS Korea Array 81.76 48 P **P 03 03 06.6 +1.0**
comp=Z,1.4nm,0.6s,baz=314,slow=4.3,SNR=4.6
comp=Z,1.4nm,0.6s
NVAR Mina Array Bea 92.52 326 LR LR 03 44 49.9
comp=Z,18nm,20.0s,baz=28,slow=35
CPUP Villa Florida 94.13 240 LR LR 03 46 02.0
comp=Z,30nm,20.1s,baz=42,slow=35
WRA Warramunga Arr 124.15 89 PKP **PKPdf 03 09 44.9 -0.5**
comp=Z,0.4nm,0.7s,baz=315,slow=2.0,SNR=2.3
ASAR Alice Springs 125.81 93 PKP **PKPdf 03 09 48.1 -0.4**
comp=Z,0.7nm,0.8s,baz=285,slow=1.8,SNR=5.4
DZM Mont Dzumac 149.84 65 PKPbc **PKPbc 03 10 36.8 -0.2**
comp=Z,3.8nm,1.0s,baz=170,slow=6.1,SNR=1.7

AFAD ***14*** *02:55:49.6±0.0,39°.58N×25°.98E,h9km±1km,ML2.3*
THE ***14*** *02:55:49.8,39°.59N×25°.96E,h7km±2km,ML2.4/6,Error ellipse: s-maj=2.7km s-min=1.0km az=138.0*
ISK ***14*** *02:55:49.1,39°.59N×25°.97E,h8km,ML2.6/13*

ATH ***14*** *02:55:50.1,39°.57N×25°.97E,h10km±1km,ML2.3/6,Error ellipse: s-maj=2.2km s-min=0.9km az=252.0*

ISC 14 02:55:49.6±0.8,39°.59N±0°.02×25°.98E±0°.02,h13km±7km, n43,σ0°.47/74,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.15**	**125**	P	**Pg**	**02 55 53.1**	**-0.2**
KOCA				S	**Sg**	**02 55 55.6**	**-0.3**
KOCA				*i* AML	AML	02 55 57.0	
comp=N,1μm,0.2s							
GPNR	**Gulpinar-Canak**	**0.18**	**138**	Pg	**Pg**	**02 55 53.5**	**-0.2**
GPNR				Sg	**Sg**	**02 55 56.3**	**-0.2**
BOZC	**Bozcaada**	**0.26**	**12**	P	**Pg**	**02 55 55.0**	**-0.1**
BOZC				P	**Pb**	**02 55 55.2**	**-1.0**
BOZC				*i* AML	AML	02 55 59.0	
comp=N,519nm,0.4s							
BOZC				*i* AML	AML	02 55 59.0	
comp=E,540nm,0.2s							
BOZC				*i* AML	AML	02 55 59.0	
comp=N,446nm,0.4s							
BOZC				*i* AML	AML	02 55 59.0	
comp=E,564nm,0.2s							
BOZC				S	**Sg**	**02 55 59.2**	**+0.4**
BOZC				S	**Sg**	**02 55 59.3**	**+0.4**
EZNE	**Ezine-Canakkal**	**0.34**	**60**	Pg	**Pg**	**02 55 56.5**	**-0.1**
EZNE				Sg	**Sg**	**02 56 01.9**	**+0.7**
EZN	**Ezine**	**0.36**	**48**	Pg	**Pg**	**02 55 56.7**	**-0.1**
EZN				Sg	**Sg**	**02 56 02.2**	**+0.5**
EZN	**Ezine**	**0.36**	**48**	P	**Pg**	**02 55 56.9**	**+0.1**
EZN				S	**Sg**	**02 56 02.1**	**+0.4**
842nm,0.3s							
SIGR	**SIGRI**	**0.39**	**195**	Pg	**Pg**	**02 55 57.4**	**0.0**
SIGR				Sg	**Sg**	**02 56 03.1**	**+0.5**
SIGR	**SIGRI**	**0.39**	**195**	P	**Pg**	**02 55 57.3**	**0.0**
SIGR				S	**Sg**	**02 56 02.7**	**+0.1**
785nm,0.3s							
SIGR	**SIGRI**	**0.39**	**195**	P	**Pg**	**02 55 57.3**	**0.0**
SIGR				S	**Sg**	**02 56 02.4**	**-0.2**
SIGR				AML	AML	02 56 05.1	
comp=E,1216μm,0.2s							
SIGR				AML	AML	02 56 05.3	
comp=N,1530μm,0.3s							
PRK	**Paraskevi**	**0.41**	**146**	P	**Pg**	**02 55 57.9**	**+0.2**
PRK				S	**Sg**	**02 56 03.6**	**+0.3**
comp=N,1μm,0.3s							
PRK	**Paraskevi**	**0.41**	**146**	P	**Pg**	**02 55 58.0**	**+0.2**
PRK				S	**Sg**	**02 56 02.1**	**-1.2**
PRK				AML	AML	02 56 04.3	
comp=E,2173μm,0.3s							
PRK				AML	AML	02 56 04.7	
comp=N,2185μm,0.3s							
BAYC	**CANAKKALE_Bayr**	**0.46**	**70**	P	**Pg**	**02 55 58.8**	**0.0**
BAYC				S	**Sg**	**02 56 04.8**	**-0.2**
BAYC				*i* AML	AML	02 56 06.0	
comp=N,198nm,0.1s							
ECEA	**Canakkale, Ece**	**0.48**	**18**	P	**Pg**	**02 55 59.3**	**+0.2**
ECEA				S	**Sg**	**02 56 06.3**	**+0.8**
ECEA				*i* AML	AML	02 56 07.0	
comp=N,249nm,0.6s							
ECEA				*i* AML	AML	02 56 07.0	
comp=N,201nm,0.6s							
CNKL	**anakkale-Mer**	**0.57**	**33**	P	**Pg**	**02 56 00.7**	**-0.1**
CNKL				P	**Pg**	**02 56 00.8**	**-0.1**
CNKL				S	**Sg**	**02 56 08.7**	**+0.2**
CNKL				*i* AML	AML	02 56 09.0	
comp=N,305nm,0.3s							
CNKL				*i* AML	AML	02 56 09.0	
comp=N,301nm,0.3s							
CNKL				S	**Sb**	**02 56 09.2**	**-0.4**
CNKL				*i* AML	AML	02 56 13.0	
comp=N,151nm,0.5s							
CNKL				*i* AML	AML	02 56 13.0	
comp=N,151nm,0.5s							
GOAD	**anakkale-G¶**	**0.58**	**355**	P	**Pg**	**02 56 00.9**	**-0.1**
GOAD				*i* AML	AML	02 56 09.0	
comp=N,136nm,0.3s							
GOAD				S	**Sg**	**02 56 09.2**	**+0.6**
GADA	**Gvkgeada**	**0.61**	**354**	Pg	**Pg**	**02 56 01.3**	**-0.2**
AYVA	**Ayvalik**	**0.62**	**117**	P	**Pg**	**02 56 01.7**	**+0.1**
AYVA				*i* AML	AML	02 56 14.0	
comp=N,200nm,0.3s							
LIA	**Limnos Island**	**0.69**	**297**	P	**Pg**	**02 56 03.3**	**+0.3**
LIA				S	**Sb**	**02 56 12.7**	**-0.2**
comp=N,755nm,0.3s							
LIA	**Limnos Island**	**0.69**	**297**	P	**Pg**	**02 56 03.3**	**+0.3**
LIA				S	**Sb**	**02 56 12.7**	**-0.2**
LIA				AML	AML	02 56 16.1	
comp=E,2166μm,0.3s							
LIA				AML	AML	02 56 16.5	
comp=N,847μm,0.3s							
EFSA	**Agios Efstrati**	**0.77**	**267**	P	**Pg**	**02 56 04.6**	**+0.1**
BUHA	**Balikesir, Bur**	**0.85**	**95**	P	**Pg**	**02 56 05.7**	**-0.4**
BUHA				S	**Sg**	**02 56 17.1**	**-0.2**
DKL	**Dikili**	**0.88**	**125**	Pg	**Pb**	**02 56 07.5**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.89**	**25**	Pg	**Pg**	**02 56 06.7**	**-0.2**
SMTH	**Samothraki Isl**	**0.95**	**339**	P	**Pg**	**02 56 07.9**	**0.0**
SMTH				S	**Sg**	**02 56 20.5**	**+0.2**
SMTH	**Samothraki Isl**	**0.95**	**339**	P	**Pg**	**02 56 07.9**	**0.0**
SMTH				S	**Sg**	**02 56 20.4**	**+0.1**
LPK	**Lapseki**	**0.99**	**37**	Pg	**Pg**	**02 56 08.2**	**-0.5**
FOCM	**Foa**	**1.05**	**146**	Pg	**Pg**	**02 56 09.9**	**0.0**
PSRA	**Psara**	**1.09**	**197**	P	**Pg**	**02 56 09.9**	**-0.8**
PSRA				S	**Sb**	**02 56 25.1**	**+0.6**
CAVK	**Edirne/Enez-Ca**	**1.11**	**7**	P	**Pg**	**02 56 10.7**	**-0.4**
CAVK				S	**Sg**	**02 56 25.4**	**-0.1**
CAVK				*i* AML	AML	02 56 32.0	
comp=N,57nm,0.4s							
CAVK				*i* AML	AML	02 56 36.0	
comp=N,73nm,0.6s							
ENEZ	**Enez**	**1.16**	**7**	Pn	**Pb**	**02 56 11.3**	**-0.1**
ENEZ	**Enez**	**1.16**	**7**	P	**Pb**	**02 56 11.4**	**0.0**
ERIK	**Erikli-Kesan**	**1.16**	**21**	Pn	**Pb**	**02 56 11.6**	**+0.1**
CHOS	**Chios island**	**1.20**	**177**	Pn	**Pb**	**02 56 12.8**	**+0.5**
CHOS	**Chios island**	**1.20**	**177**	P	**Pb**	**02 56 12.7**	**+0.5**
CHOS	**Chios island**	**1.20**	**177**	P	**Pb**	**02 56 12.5**	**+0.2**
CHOS				S	**Sb**	**02 56 27.0**	**-0.6**
CHOS				AML	AML	02 56 35.3	
comp=N,303μm,0.2s							
CHOS				AML	AML	02 56 35.3	
comp=E,378μm,0.2s							
KRBG	**Karabiga-Canak**	**1.29**	**51**	Pn	**Pn**	**02 56 13.6**	**+0.3**
ALN	**Alexandroupoli**	**1.31**	**2**	P	**Pn**	**02 56 13.7**	**+0.2**
ALN				S	**Sg**	**02 56 32.2**	**+0.4**
comp=E,35nm,0.6s							
ALN	**Alexandroupoli**	**1.31**	**2**	P	**Pn**	**02 56 13.8**	**+0.2**
ALN				S	**Sb**	**02 56 31.5**	**+0.8**
ALN				AML	AML	02 56 33.8	
comp=E,62μm,0.3s							
ALN				AML	AML	02 56 39.3	
comp=N,78μm,0.5s							
URLA	**Izmir**	**1.32**	**158**	Pn	**Pn**	**02 56 13.6**	**-0.1**
THAS	**Thassos island**	**1.40**	**317**	P	**Pn**	**02 56 14.9**	**0.0**
THAS				S	**Sb**	**02 56 31.8**	**-1.7**
comp=N,58nm,0.4s							
THAS	**Thassos island**	**1.40**	**317**	P	**Pn**	**02 56 14.7**	**-0.2**
THAS				S	**Sb**	**02 56 32.2**	**-1.3**
THAS				AML	AML	02 56 32.7	
comp=N,123μm,0.4s							
THAS				AML	AML	02 56 37.0	
comp=E,114μm,0.3s							
RDO	**Rodhopi**	**1.59**	**348**	P	**Pn**	**02 56 18.4**	**+0.9**
RDO	**Rodhopi**	**1.59**	**348**	P	**Pn**	**02 56 18.0**	**+0.5**

SCB 14 03:00:43.9±0.7,17°.23S×65°.85W,h13km±4km,ML2.3/2, MW3.6,Error ellipse: s-maj=3.0km s-min=2.9km az=358.0,Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOET	**ToroToro**	**0.88**	**177**	Pg	Pg	03 01 00.7	-0.3
SOET				Sg	Sg	03 01 12.5	0.0
SOET				IAML		03 01 14.0	
70nm,0.2s							
AOEA	**Aiquile**	**1.11**	**148**	Pg	Pb	03 01 04.9	-0.3
AOEA	**Aiquile**	**1.11**	**148**	Pg	Pb	03 01 05.0	-0.2
BBOE	**La Paz, Chanca**	**2.08**	**281**	Pn	Pg	03 01 24.5	+0.6
SOEJ	**Jacaque**	**2.25**	**276**	Pn	Pg	03 01 27.0	-0.1
SOEO	**Opoqueri**	**2.34**	**235**	Pn	Pg	03 01 28.0	-0.9
LPAZ	**La Paz**	**2.38**	**293**	Pn	Pg	03 01 28.3	-1.2
LPAZ				Sg	Sg	03 02 01.4	+1.0
LPAZ				IAML		03 02 02.6	
18nm,0.3s							

BBOD	**La Paz, Gloria**	**2.69 282**	Pn	Pb	03 01 32.8	+0.5
BBSD	**Serra de San D**	**5.01 90**	Pn	Pn	03 02 03.8	+4.9

*HVO **14** 03:00:53.7±0.8, 19°.413N±0°.010×155°.266W±0°.006, h0km±4km, ML3.6/47, ML3.3/32(NEIC), Error ellipse: s-maj=1.5km s-min=0.5km az=156.0*
*NEIC **14** 03:00:54.5±1.0, 19°.395N±0°.009×155°.254W±0°.009, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.8km az=113.0*
*IDC **14** 03:00:54.8±13.0, 19°.48N×155°.32W, h0km, mb3.6/4, mbtmp3.6/4, MS3.4/2, Error ellipse: s-maj=280.3km s-min=54.7km az=34.0*

ISC 14 03:00:55.1±0.9, 19°.41N±0°.04×155°.26W±0°.03, h10km, n39, σ1°.55/32, mb3.7/4, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.00**	**272**		**Pg**	**03 00 54.3**	**-2.7**
HATHI	**Halema'uma'u T**	**0.01**	**348**		**Pg**	**03 00 54.4**	**-2.7**
KKO	**Keanakako'i**	**0.02**	**207**		**Pg**	**03 00 55.1**	**-1.9**
SBLHI	**Steaming Bluff**	**0.02**	**329**		**Pg**	**03 00 54.8**	**-2.3**
RIM	**Rim**	**0.02**	**221**		**Pg**	**03 00 55.4**	**-1.7**
UWB	**Uwekahuna B**	**0.02**	**305**		**Pg**	**03 00 55.3**	**-1.8**
OBL	**Observatory Le**	**0.03**	**283**		**Pg**	**03 00 55.3**	**-1.8**
UWE	**Uwekahuna**	**0.03**	**286**		**Pg**	**03 00 55.0**	**-2.2**
WRMHI	**West Rim**	**0.04**	**262**		**Pg**	**03 00 56.0**	**-1.2**
SDHHI	**Sand Hill**	**0.04**	**236**		**Pg**	**03 00 56.2**	**-1.0**
PUH	**Pauahi**	**0.06**	**133**		**Pg**	**03 00 55.9**	**-1.4**
PUH				IAML		03 00 56.4	
	comp=E,10μm,1.9s						
KNHH	**Kane Nui o Ham**	**0.09**	**111**		**Pg**	**03 00 56.6**	**-1.1**
HLP	**Hilina Pali**	**0.12**	**202**		**Pg**	**03 00 57.1**	**-1.0**
HLP				IAML		03 00 59.4	
	comp=N,7μm,1.2s						
HLP				IAML		03 00 60.0	
	comp=E,12μm,1.0s						
STCH	**Steam Cracks**	**0.13**	**102**		**Pg**	**03 00 57.2**	**-1.0**
STCH				IAML		03 00 59.3	
	comp=N,5μm,0.8s						
MLH	**Mauna Loa**	**0.14**	**304**		**Pg**	**03 00 57.6**	**-0.9**
MLH				IAML		03 01 00.8	
	comp=N,13μm,0.7s						
MLH				IAML		03 01 00.8	
	comp=E,16μm,0.5s						
JOKA	**Jonika Flow**	**0.24**	**85**		**Pg**	**03 00 58.9**	**-1.2**
JOKA				IAML		03 01 06.8	
	comp=E,6μm,0.8s						
JOKA				IAML		03 01 06.9	
	comp=N,8μm,0.8s						
HMH	**Humu'ula Sheep**	**0.28**	**312**		**Pg**	**03 01 00.1**	**-0.9**
HMH				IAML		03 01 08.6	
	comp=E,6μm,0.5s						
PAH	**Pahoa**	**0.30**	**74**	Pg	**Pg**	**03 01 00.5**	**-0.8**
MLOA	**Mauna Loa Obse**	**0.32**	**292**	Pg	**Pg**	**03 01 01.1**	**-0.7**
MWH	**Moku'aweowe**	**0.33**	**283**		**Pg**	**03 01 01.2**	**-0.7**
PHO	**Puu Honuaula**	**0.35**	**79**		**Pg**	**03 01 00.8**	**-1.4**
KHU	**Kahuku**	**0.38**	**244**	Pg	**Pg**	**03 01 02.4**	**-0.3**
KHU					**Sg**	**03 01 05.0**	**-2.6**
KHU				IAML		03 01 10.2	
	comp=E,5μm,0.6s						
KHU				IAML		03 01 10.6	
	comp=N,3μm,0.8s						
HPO	**Honuapo**	**0.43**	**221**		**Pg**	**03 01 02.6**	**-0.9**
POHA	**Pohakuloa**	**0.43**	**323**	Pg	**Pg**	**03 01 03.4**	**-0.2**
HUH	**Hualalai**	**0.61**	**297**		**Pg**	**03 01 06.7**	**-0.4**
I59US	**HAWAII INFRASO**	**0.62**	**287**	Pg	**Pg**	**03 01 06.4**	**-0.9**
	baz=118,slow=46						
HPAH	**Hawaii Prepara**	**0.74**	**326**	Pg	**Pg**	**03 01 07.2**	**-2.2**
H11N3	**WAKE ISLAND Hy**	**35.60**	**277**	T	T	03 45 00.1	
	baz=84,slow=74						
H11N2	**WAKE ISLAND Hy**	**35.61**	**277**	T	T	03 45 00.8	
	baz=84,slow=74						
H11N1	**WAKE ISLAND Hy**	**35.62**	**277**	T	T	03 44 59.0	
	baz=84						
H11S2	**WAKE ISLAND Hy**	**35.94**	**275**	T	T	03 45 23.5	
	baz=82						
H11S1	**WAKE ISLAND Hy**	**35.94**	**275**	T	T	03 45 23.8	
	baz=82						
H11S3	**WAKE ISLAND Hy**	**35.96**	**275**	T	T	03 45 28.5	
	baz=82						
NVAR	**Mina Array Bea**	**37.17**	**51**	P	**P**	**03 08 07.7**	**+1.0**
	comp=N,0.2nm,0.7s,baz=248,slow=9.2,SNR=2.3						
	comp=N,0.2nm,0.7s						
PDAR	**Pinedale Array**	**44.85**	**48**	P	**P**	**03 09 10.9**	**+1.0**
	comp=N,0.3nm,0.3s,baz=230,slow=5.5,SNR=3.7						
	comp=N,0.3nm,0.3s						
ILAR	**Eielson Array**	**45.68**	**5**	P	**P**	**03 09 16.4**	**+0.6**
	comp=N,1.3nm,1.0s,baz=201,slow=7.7,SNR=8.4						
	comp=N,1.3nm,1.0s						
TXAR	**Lajitas Array**	**47.70**	**68**	P	**P**	**03 09 33.6**	**+1.3**
	comp=N,1.7nm,1.0s,baz=263,slow=5.9,SNR=10.0						
	comp=N,1.7nm,1.0s						
ULM	**Lac du Bonnet**	**55.81**	**42**	LR	LR	03 30 14.4	
	comp=N,40nm,21.2s,baz=261,slow=32						
JMIC	**Jan Mayen**	**86.94**	**10**	LR	LR	03 53 50.4	
	comp=N,18nm,18.3s,baz=198,slow=37						

*IDC **14** 03:13:38.7±4.9, 36°.84N×71°.63E, h100km±42km, mb3.2/10, mbtmp3.7/16, Error ellipse: s-maj=35.4km s-min=18.4km az=23.0*
*NEIC **14** 03:13:42.1±1.0, 37°.14N±0°.03×71°.47E±0°.06, h115km±5km, mb4.1/8, Error ellipse: s-maj=7.6km s-min=2.7km az=56.0*
*NNC **14** 03:13:46.0±3.9, 37°.48N×71°.27E, h102km±96km, mb3.5, mpv4.1, Error ellipse: s-maj=30.6km s-min=25.7km az=8.0*

ISC 14 03:13:39.6±0.6, 37°.04N±0°.05×71°.54E±0°.06, h106km, n60, σ2°.16/71, mb3.6/13, 5C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.19**	**334**	Pn	**Pn**	**03 14 16.4**	**+1.5**
GAR				Sn	**Sn**	**03 14 41.7**	**-0.1**
DRK	**Karamyk**	**2.45**	**5**		**Pn**	**03 14 20.4**	**+2.0**
CHGR	**Chuyangaron**	**2.49**	**311**	Pn	**Pn**	**03 14 19.7**	**+0.9**
SIMJ	**Simiganj**	**2.58**	**310**	Pn	**Pn**	**03 14 20.8**	**+0.8**
BTK	**Batken**	**3.07**	**350**	Pn	**Pn**	**03 14 28.9**	**+2.5**
KBL	**Kabul**	**3.21**	**220**	Pn	**Pn**	**03 14 31.9**	**+3.4**
NIL	**Nilore**	**3.66**	**157**	Pn	**Pn**	**03 14 38.2**	**+3.9**
JMU	**Jammu**	**5.12**	**146**	*e*S	**Sn**	**03 15 50.3**	**-1.5**
JMU				IAML		03 15 54.1	
	comp=N,211nm,0.7s						
UCH	**Uchtor**	**5.67**	**23**	P	**Pn**	**03 15 03.4**	**+1.7**
	SNR=26						
THN	**Thein Dam**	**5.74**	**142**	*e*P	**Pn**	**03 15 05.3**	**+3.0**
THN				*e*S	**Sn**	**03 16 05.1**	**-1.6**
THN				IAML		03 16 09.9	
	comp=N,58nm,0.3s						
THN				IAML		03 16 10.2	
	comp=E,114nm,0.3s						
EKS2	**Erkin-Say**	**5.87**	**16**	P	**Pn**	**03 15 06.3**	**+2.1**
	SNR=6.2						
AAK	**Ala-Archa**	**6.04**	**21**	P	**Pn**	**03 15 08.3**	**+1.9**
	comp=E,18nm,0.4s,baz=192,slow=6.4,SNR=20						
AAK				S	**Sn**	**03 16 13.8**	**-0.4**
	comp=E,8.8nm,0.4s,baz=184,slow=9.8,SNR=9.7						
AAK	**Ala-Archa**	**6.04**	**21**	⇑P	**Pn**	**03 15 08.2**	**+1.8**
	comp=E,13nm,0.5s						
AAK				⇓S	**Sn**	**03 16 13.3**	**-0.9**
	comp=E,47nm,0.9s						
KK31	**Karatay Array**	**6.11**	**353**	Pn	**Pn**	**03 15 08.3**	**+1.0**
KK31	**Karatay Array**	**6.11**	**353**	⇓P	**Pn**	**03 15 08.4**	**+1.0**
	comp=E,9.9nm,0.3s,baz=178,slow=13,SNR=226						
KK31				⇓S	**Sn**	**03 16 12.9**	**-2.9**
	comp=E,3.9nm,0.3s,baz=171,slow=21,SNR=7.2						
KKAR	**Karatay Array**	**6.11**	**353**	Pn	**Pn**	**03 15 08.2**	**+0.9**
KKAR	**Karatay Array**	**6.11**	**353**	Pn	**Pn**	**03 15 08.3**	**+1.0**
DHRM	**DHARAMSHALA**	**6.18**	**139**	*e*P	**Pn**	**03 15 11.7**	**+3.2**
DHRM				*e*S	**Sn**	**03 16 15.7**	**-2.2**
DHRM				IAML		03 16 20.6	
	comp=E,264nm,0.2s						
DHRM				IAML		03 16 20.6	
	comp=N,196nm,0.5s						
BOOM	**Boomskoye usch**	**6.41**	**31**	Pn	**Pn**	**03 15 13.2**	**+1.6**
CHMS	**Chumysh**	**6.44**	**21**	P	**Pn**	**03 15 13.7**	**+1.9**
	SNR=11						
CHMS	**Chumysh**	**6.44**	**21**	⇑P	**Pn**	**03 15 13.4**	**+1.5**
	comp=N,16nm,0.6s						
CHMS				⇓S	**Sn**	**03 16 23.3**	**-0.6**
	comp=N,23nm,0.8s						
USP	**Ospenovka**	**6.62**	**19**	P	**Pn**	**03 15 15.7**	**+1.5**
	SNR=13						
TKM2	**Tokmak 2**	**6.65**	**27**	P	**Pn**	**03 15 16.6**	**+1.8**
	SNR=10						
TKM2	**Tokmak 2**	**6.65**	**27**	⇑P	**Pn**	**03 15 16.2**	**+1.4**
	comp=N,3.7nm,0.6s						
TKM2				⇑S	**Sn**	**03 16 28.1**	**-1.1**
	comp=N,11nm,0.8s						
TARG	**Taragay, Kyrgy**	**6.74**	**44**	Pn	**Pn**	**03 15 18.3**	**+2.0**
BHK	**Bhakra**	**6.91**	**143**	*e*S	**Sn**	**03 16 32.5**	**-2.8**
BHK				IAML		03 16 35.7	
	comp=N,101nm,0.2s						
SMLA	**Simla**	**7.51**	**140**	*e*P	**Pn**	**03 15 28.1**	**+1.6**
SMLA				*e*S	**Sn**	**03 16 45.0**	**-5.0**
SMLA				IAML		03 16 49.6	
	comp=E,111nm,0.4s						
SMLA				IAML		03 16 51.0	
	comp=N,67nm,0.3s						
KLP	**Kalpa**	**7.80**	**133**	*e*P	**Pn**	**03 15 30.6**	**-0.1**
KLP				*e*S	**Sn**	**03 16 52.9**	**-4.7**
KLP				IAML		03 17 02.9	
	comp=E,84nm,0.4s						
KLP				IAML		03 17 03.4	
	comp=E,48nm,0.5s						
KUDL	**Kundal**	**9.80**	**153**	*e*P	**Pn**	**03 15 59.2**	**+1.8**
KUDL				*e*S	Sn	03 17 36.8	-8.8
MK31	**Makanchi Array**	**12.60**	**36**	⇑P	**P**	**03 16 42.6**	**+0.5**
	comp=E,1.7nm,0.7s,baz=224,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**12.60**	**36**	P	**Pn**	**03 16 34.2**	**-0.7**
	comp=E,0.3nm,0.5s,baz=221,slow=14,SNR=4.2						
KURBB	**Kurchatov Arra**	**14.48**	**18**	P	**Pn**	**03 17 02.1**	**+2.9**
	comp=E,2.7nm,0.7s,baz=205,slow=10,SNR=8.5						
AB31	**Akbulak array**	**14.84**	**329**	P	**Pn**	**03 17 03.0**	**-0.8**
	comp=E,0.3nm,0.3s,baz=163,slow=8.9,SNR=21						
AB31				S	Sn	03 19 37.6	-10
	comp=E,1.6nm,0.6s,baz=149,slow=22,SNR=8.2						
ABKAR	**Akbulak array**	**14.84**	**329**	Pn	**Pn**	**03 17 02.5**	**-1.2**
BVAR	**Borovoye Array**	**16.01**	**357**	P	**Pn**	**03 17 19.4**	**+1.0**
	comp=E,0.8nm,0.4s,baz=184,slow=10,SNR=3.6						
AKTO	**Aktyubinsk**	**16.54**	**328**	P	**P**	**03 17 27.0**	**+1.2**
	comp=E,1.7nm,0.5s,baz=124,slow=11,SNR=7.0						
AKTO				S	**Sn**	**03 20 18.6**	**-10**
	comp=E,1.3nm,0.7s,baz=212,slow=12,SNR=1.8						
ZAA0	**Zalesovo Array**	**19.25**	**24**	P	**P**	**03 17 55.5**	**+0.2**
ZALV	**Zalesovo Beam**	**19.25**	**24**	P	**P**	**03 17 55.5**	**+0.2**
ZALV	**Zalesovo Beam**	**19.25**	**24**	P	**P**	**03 17 55.7**	**+0.3**
	comp=E,2.2nm,0.4s,baz=218,slow=11,SNR=8.9						
SONM	**Songino Array**	**27.67**	**56**	P	**P**	**03 19 18.3**	**+0.8**
	comp=E,0.3nm,0.5s,baz=270,slow=4.3,SNR=2.0						
	comp=E,0.3nm,0.5s						
FIA1	**FINESS Array S**	**37.28**	**326**	P	**P**	**03 20 42.3**	**+1.5**
FINES	**FINESS Array B**	**37.28**	**326**	P	**P**	**03 20 42.3**	**+1.5**
FINES	**FINESS Array B**	**37.28**	**326**	P	**P**	**03 20 42.6**	**+1.8**
	comp=E,0.4nm,0.5s,baz=119,slow=10,SNR=11						
	comp=E,0.4nm,0.5s						
ARCES	**ARCESS Array B**	**40.82**	**337**	P	**P**	**03 21 11.1**	**+0.9**
ARCES	**ARCESS Array B**	**40.82**	**337**	P	**P**	**03 21 11.6**	**+1.4**
	comp=E,0.4nm,0.3s,baz=109,slow=7.8,SNR=9.7						
	comp=E,0.4nm,0.3s						
HFS	**Hagfors**	**42.92**	**322**	P	**P**	**03 21 29.1**	**+1.7**
	comp=E,2.5nm,0.6s,baz=97,slow=12,SNR=22						
	comp=E,2.5nm,0.6s						
NC405	**NORSAR Array S**	**43.98**	**323**	P	**P**	**03 21 37.3**	**+1.4**
NC405				IAmb	IAmb	03 21 51.3	
	comp=Z,7.9nm,1.2s						
NB2	**NORSAR Subarra**	**44.22**	**323**	P	**P**	**03 21 38.9**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.22**	**323**	P	**P**	**03 21 38.9**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=95,slow=7.7,SNR=8.7						
	comp=Z,0.7nm,0.5s						
ESDC	**Sonseca Array**	**57.59**	**298**	P	**P**	**03 23 19.4**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=62,slow=7.5,SNR=2.3						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**66.17**	**269**	P	**P**	**03 24 15.0**	**-1.1**
	comp=Z,0.4nm,1.0s,baz=53,slow=6.3,SNR=1.7						
	comp=Z,0.4nm,1.0s						
C19K	**Lookout Ridge**	**67.69**	**18**	P	**P**	**03 24 26.1**	**+1.2**
D19K	**Kuna River**	**68.50**	**18**	P	**P**	**03 24 30.8**	**+0.8**
D19K				IAmb	IAmb	03 24 46.2	
	comp=Z,2.9nm,1.2s						
TOLK	**Toolik Lake Re**	**70.29**	**15**	P	**P**	**03 24 42.0**	**+1.0**
IMAR	**Indian Mountai**	**71.53**	**18**	P	**P**	**03 24 48.8**	**+0.3**
BMAR	**Burnt Mountain**	**72.32**	**14**	P	**P**	**03 24 54.8**	**+1.6**
INK	**Inuvik**	**73.30**	**9**	P	**P**	**03 25 00.0**	**+1.1**
INK				IAmb	IAmb	03 25 11.4	
	comp=Z,2.7nm,1.2s						
ILAR	**Eielson Array**	**74.14**	**16**	P	**P**	**03 25 03.7**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=333,slow=5.4,SNR=2.5						
	comp=Z,0.3nm,0.8s						
WRA	**Warramunga Arr**	**81.91**	**122**	P	**P**	**03 25 46.7**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=326,slow=5.1,SNR=4.8						
	comp=Z,0.3nm,0.8s						
ASAR	**Alice Springs**	**84.21**	**125**	P	**P**	**03 25 58.6**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=312,slow=4.4,SNR=1.5						
	comp=Z,0.2nm,0.6s						

*IDC **14** 03:14:25.6±2.0, 1°.35N×91°.18E, h0km, mb3.6/7, mbtmp3.6/7, MS3.4/2, Error ellipse: s-maj=68.4km s-min=32.5km az=52.0*

ISC 14 03:14:27.2±1.7, 1°.4N±0°.3×91°.2E±0°.4, h10km, n12, σ0°.42/7, mb3.6/7, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.70**	**244**	T	T	03 41 10.7	
	baz=63						
H08S3	**Diego Garcia H**	**20.71**	**244**	T	T	03 41 06.5	
	baz=63						
H08S1	**Diego Garcia H**	**20.72**	**244**	T	T	03 41 16.9	
	baz=63						
MKAR	**Makanchi Array**	**45.92**	**351**	P	**P**	**03 22 50.0**	**-0.1**
	0.4nm,0.6s,baz=180,slow=7.3,SNR=3.8						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**47.28**	**119**	P	**P**	**03 23 01.2**	**0.0**
	0.4nm,0.9s,baz=297,slow=8.7,SNR=1.8						
	0.4nm,0.9s						
SONM	**Songino Array**	**48.13**	**14**	P	**P**	**03 23 07.9**	**+0.4**
	1.1nm,0.6s,baz=191,slow=9.4,SNR=7.3						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**50.25**	**350**	P	**P**	**03 23 23.2**	**-0.3**
	0.3nm,0.5s,baz=180,slow=6.8,SNR=2.6						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**52.68**	**355**	P	**P**	**03 23 41.1**	**-0.6**
	0.7nm,0.3s,baz=189,slow=8.8,SNR=4.0						
	0.7nm,0.3s						
AKTO	**Aktyubinsk**	**56.42**	**335**	LR	LR	03 50 27.5	
	comp=Z,24nm,18.2s,baz=250,slow=38						
FINES	**FINESS Array B**	**77.14**	**333**	P	**P**	**03 26 20.7**	**-0.1**
	0.5nm,0.7s,baz=126,slow=9.5,SNR=2.4						
	0.5nm,0.7s						
GERES	**GERESS Array B**	**80.77**	**319**	P	**P**	**03 26 41.4**	**+0.3**
	0.5nm,0.8s,baz=76,slow=4.1,SNR=4.4						
	0.5nm,0.8s						
DAVOX	**Davos/Dischmat**	**83.07**	**317**	LR	LR	04 08 36.8	
	comp=Z,21nm,18.1s,baz=272,slow=39						

IDC 14 03:17:09.2±7.6, 14°.57N×144°.83E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=300.7km s-min=32.2km az=82.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.82**	**197**	P	P	03 24 10.4	-0.2
	0.5nm,0.9s,baz=18,slow=7.9,SNR=1.6						
	0.5nm,0.9s						
SONM	**Songino Array**	**45.92**	**324**	P	P	03 25 34.3	+0.5
	0.5nm,0.6s,baz=141,slow=7.1,SNR=4.1						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**60.77**	**316**	P	P	03 27 24.4	+1.4
	0.5nm,0.4s,baz=94,slow=8.4,SNR=5.1						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**63.86**	**319**	P	P	03 27 43.5	-0.1
	3.4nm,0.3s,baz=98,slow=7.6,SNR=7.5						
	3.4nm,0.3s						
BVAR	**Borovoye Array**	**69.14**	**321**	P	P	03 28 15.5	-1.9
	0.7nm,0.5s,baz=85,slow=8.0,SNR=3.9						
	0.7nm,0.5s						

*SJA **14** 03:17:49.6±0.6, 21°.86S×67°.35W, h212km±4km, ML3.8, MW3.7*
*NEIC **14** 03:17:51.8±2.0, 21°.90S±0°.07×67°.3W±0°.1, h181km±9km, mb4.0/8, ML4.2(GUC), Error ellipse: s-maj=13.8km s-min=10.3km az=89.0*
*IDC **14** 03:17:51.3±0.8, 21°.83S×67°.21W, h172km±9km, mb3.4/6, mbtmp3.9/10, Error ellipse: s-maj=16.4km s-min=11.5km az=113.0*
*VAO **14** 03:17:52.0±0.4, 21°.69S×67°.24W, h166km±12km, mb4.4*
*SCB **14** 03:17:52.1±1.3, 21°.96S×67°.28W, h181km±12km, ML3.8/2, MW3.5, Error ellipse: s-maj=8.0km s-min=4.5km az=0.0*
*GUC **14** 03:17:53.0±0.8, 21°.88S×67°.51W, h200km±8km, ML4.2*

ISC 14 03:17:51.5±0.6, 21°.87S±0°.04×67°.30W±0°.04, h185km±6km, n112, σ1°.56/144, mb3.6/6, 11C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.35**	**217**		**Pn**	**03 18 24.1**	**+1.3**
LVC	**Limon Verde**	**1.66**	**243**	*e*P	**Pn**	**03 18 26.6**	**+0.7**
LVC				*e*S	**Sn**	**03 18 53.2**	**+0.8**
LVC	**Limon Verde**	**1.66**	**243**	P	**Pn**	**03 18 26.3**	**+0.5**
	144nm,0.4s,baz=92,slow=7.5,SNR=341						
LVC				S	**Sn**	**03 18 51.9**	**-0.5**
	70nm,0.3s,baz=108,slow=20,SNR=39						
LVC	**Limon Verde**	**1.66**	**243**	⇑*i*P	**Pn**	**03 18 26.5**	**+0.7**
LVC				*i* S	**Sn**	**03 18 52.1**	**-0.3**
LVC				IAML		03 18 53.6	
	895nm,0.5s						
LVC	**Limon Verde**	**1.66**	**243**	*e*P	**Pn**	**03 18 26.5**	**+0.7**
LVC				*e*S	**Sn**	**03 18 52.2**	**-0.3**
MOCB	**Mochara**	**1.67**	**69**	Pg	**Pn**	**03 18 27.2**	**+1.2**
MOCB				Sg	**Sn**	**03 18 52.9**	**+0.2**
MOCB				IAML		03 18 56.7	
	1μm,0.3s						
YJA	**Yavi**	**1.69**	**101**	*e*P	**Pn**	**03 18 27.6**	**+1.4**
YJA				*e*S	**Sn**	**03 18 54.6**	**+1.6**
YJA				IAML		03 18 56.7	
	comp=Z,280nm,0.4s						
PB09	**IPOC Station P**	**1.80**	**272**		**Pn**	**03 18 27.7**	**+0.6**
PB09	**IPOC Station P**	**1.80**	**272**	*e*P	**Pn**	**03 18 27.8**	**+0.8**
PB09				*e*S	**Sn**	**03 18 55.6**	**+1.0**
PB09				IAML		03 19 01.2	
	comp=Z,276nm,0.6s						
PB09	**IPOC Station P**	**1.80**	**272**	⇑*i*P	**Pn**	**03 18 27.8**	**+0.8**
PB09	**IPOC Station P**	**1.80**	**272**	Pg	**Pn**	**03 18 28.0**	**+1.0**
PB09				Sg	**Sn**	**03 18 55.7**	**+1.1**
PB09				IAML		03 19 00.7	
	comp=Z,202nm,0.2s						
PB06	**IPOC Station P**	**2.26**	**248**		**Pn**	**03 18 32.0**	**+0.1**
PB06	**IPOC Station P**	**2.26**	**248**	*e*P	**Pn**	**03 18 31.9**	**0.0**
PB06				*e*S	**Sn**	**03 19 03.0**	**-0.3**
PB06				IAML		03 19 06.0	
	comp=Z,261nm,0.4s						
PB06	**IPOC Station P**	**2.26**	**248**	⇑*i*P	**Pn**	**03 18 31.9**	**+0.1**
PB06				*i* S	**Sn**	**03 19 02.0**	**-1.3**
PB06				IAML		03 19 04.2	
	comp=E,614nm,0.2s						
PB15	**IPOC Station P**	**2.41**	**236**		**Pn**	**03 18 34.0**	**+0.4**
PB15	**IPOC Station P**	**2.41**	**236**	*e*P	**Pn**	**03 18 34.0**	**+0.4**
PB15				*e*S	**Sn**	**03 19 06.4**	**0.0**
PB15	**IPOC Station P**	**2.41**	**236**	⇑*i*P	**Pn**	**03 18 34.0**	**+0.4**
PB15				*i* S	**Sn**	**03 19 06.1**	**-0.3**
PB15	**IPOC Station P**	**2.41**	**236**	Pg	**Pn**	**03 18 34.3**	**+0.7**
AOVT	**TarijaAcel**	**2.44**	**83**	Pg	**Pn**	**03 18 35.3**	**+1.3**
PX03	**IPOC Station P**	**2.62**	**303**	⇓*i*P	**Pn**	**03 18 35.2**	**-0.8**
PX03				IAML		03 19 11.5	
	comp=N,594nm,0.3s						
PB04	**IPOC Station P**	**2.68**	**260**		**Pn**	**03 18 36.8**	**0.0**
PB04	**IPOC Station P**	**2.68**	**260**	*e*P	**Pn**	**03 18 36.6**	**-0.1**
PB04				*e*S	**Sn**	**03 19 10.4**	**-1.5**
PB04				IAML		03 19 11.0	
	comp=Z,462nm,0.2s						
PB04	**IPOC Station P**	**2.68**	**260**	⇑*i*P	**Pn**	**03 18 36.3**	**-0.4**
PB04				*i* S	**Sn**	**03 19 09.3**	**-2.6**
PB04				IAML		03 19 12.0	
	comp=N,666nm,0.2s						
GO01	**Chusmiza**	**2.82**	**321**		**Pn**	**03 18 39.6**	**+0.9**
GO01	**Chusmiza**	**2.82**	**321**	*e*P	**Pn**	**03 18 39.4**	**+0.7**
GO01				*e*S	**Sn**	**03 19 19.8**	**+4.4**
GO01	**Chusmiza**	**2.82**	**321**	⇑*i*P	**Pn**	**03 18 39.4**	**+0.7**
GO01				IAML		03 19 22.1	
	comp=N,1μm,0.1s						
GO01	**Chusmiza**	**2.82**	**321**	Pg	**Pn**	**03 18 39.8**	**+1.1**
PATCX	**Punta Patache**	**2.85**	**291**		**Pn**	**03 18 38.6**	**-0.1**
PATCX	**Punta Patache**	**2.85**	**291**	*e*P	**Pn**	**03 18 38.5**	**-0.3**
PATCX				*e*S	**Sn**	**03 19 13.8**	**-1.7**
PATCX				IAML		03 19 14.9	
	comp=Z,271nm,0.2s						
PATCX	**Punta Patache**	**2.85**	**291**	⇑*i*P	**Pn**	**03 18 38.4**	**-0.3**
PATCX				*i* S	**Sn**	**03 19 13.1**	**-2.4**
PATCX				IAML		03 19 15.0	
	comp=N,650nm,0.4s						
PB05	**IPOC Station P**	**2.85**	**249**		**Pn**	**03 18 38.7**	**0.0**
HMBC	**Humberstone**	**2.89**	**303**		**Pn**	**03 18 38.8**	**-0.4**
HMBC	**Humberstone**	**2.89**	**303**	*e*P	**Pn**	**03 18 38.7**	**-0.5**
HMBC				*e*S	**Sn**	**03 19 15.3**	**-1.0**
HMBC				IAML		03 19 19.2	
	comp=Z,298nm,0.5s						
HMBC	**Humberstone**	**2.89**	**303**	⇑*i*P	**Pn**	**03 18 38.7**	**-0.5**
HMBC				*i* S	**Sn**	**03 19 13.6**	**-2.8**
HMBC				IAML		03 19 16.7	
	comp=N,404nm,0.5s	

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LPAZ                                  S    Sn    03 20 18.8  -0.2
     comp=Z,5.4nm,0.5s,baz=243,slow=12,SNR=4.0
LPAZ  La Paz          5.61 352  Pg   Pn    03 19 15.7 +1.6
LPAZ  La Paz          5.61 352  eP   Pn    03 19 11.9  -2.2
LPAZ                                  eS   Sn    03 20 14.3  -4.7
AC06  Mina Casimiro   6.13 206          Pn    03 19 18.1  -2.1
AC05  El Transito     7.44 201  Pn   Pn    03 19 35.3  -2.2
BBSD  Serra de San D  7.84  55  eP   Pn    03 19 40.5  -2.3
SIV   San Ignacio     8.30  46  P    Pn    03 19 46.7  -2.2
     comp=Z,24nm,0.3s,baz=228,slow=10,SNR=140
SIV                                   S    Sn    03 21 14.2  -7.9
     comp=Z,5.7nm,0.3s,baz=135,slow=24,SNR=7.9
CO01  Juntas del Tor  8.45 197  Pn   Pn    03 19 50.3  -0.7
PTLB  Pontes e Lacer  10.03  52          Pn    03 20 10.3  -1.2
PTLB  Pontes e Lacer  10.03  52  eP   Pn    03 20 09.5  -1.9
CPUP  Villa Florida   10.13 118  Pn   Pn    03 20 13.3  +0.6
CPUP  Villa Florida   10.13 118  P    Pn    03 20 11.2  -1.5
     comp=Z,0.9nm,0.6s,baz=300,slow=13,SNR=3.4
VILB  Vilhena         11.16  39          Pn    03 20 25.9  -0.2
VILB  Vilhena         11.16  39  eP   Pn    03 20 25.8  -0.3
ITQB  Itaqui          12.36 131  Pn   Pn    03 20 41.5  +0.2
CRSM  Crissiumal (Br  13.29 118  eP   P     03 20 54.9  -1.5
SAML  Samuel          13.45  18  Pn   Pn    03 20 56.0  +0.8
TRCB  Terra Rica      13.61  97  eP   Pn    03 20 58.0  +0.8
RODS  Rosario do Sul  13.76 130  eP   P     03 21 00.8  -0.7
TBOT  Tacuaremb       14.08 136  eP   P     03 21 05.7  +0.6
PTGB  Pitanga         14.29 104  eP   P     03 21 07.6  0.0
ITAB  Concordia       14.80 114  P    P     03 21 13.4  +0.2
PCMB  Pacaembu        14.91  92  eP   P     03 21 14.5  0.0
LDASE Londrina, Braz  15.02  99  eP   P     03 21 17.0  +1.3
PLTB  Pedras Altas    15.69 132  P    Pn    03 21 21.9  -0.9
PLTB                                  IAmb  IAmb  03 21 22.8
     comp=Z,8.8nm,1.3s
FRTB  Fartura         16.45  98  eP   Pn    03 21 32.3  +0.3
TRQA  Tornquist       16.77 165  P    P     03 21 33.6  -1.2
SNDB  Serra Nova Dou  18.19  60  eP   P     03 21 50.5  -0.1
IPMB  Ipameri, GO     18.36  81  eP   Pn    03 21 53.5  -1.2
VAO   Valinhos        18.84  97  P    P     03 21 57.4  -0.1
VAO   Valinhos        18.84  97  eP   P     03 21 57.7  +0.1
BDFB  Brasilia        19.28  75  P    P     03 22 02.0  -0.5
BDFB  Brasilia        19.28  75  P    P     03 22 02.6  +0.2
     comp=Z,1.7nm,0.4s,baz=307,slow=2.8,SNR=6.8
SNAA  Sanae           61.44 161  P    P     03 27 50.4  +2.4
     comp=Z,0.3nm,0.5s,baz=343,slow=11,SNR=1.5
     comp=Z,0.3nm,0.5s
TXAR  Lajitas Array   61.79 324  P    P     03 27 51.9  +1.0
     comp=Z,0.1nm,0.5s,baz=138,slow=8.5,SNR=2.2
     comp=Z,0.1nm,0.5s
QSPA  South Pole Qui  68.32 180  P    P     03 28 34.2  +1.7
QSPA                                  IAmb  IAmb  03 28 38.2
     comp=Z,4.2nm,1.3s
QSPA  South Pole Qui  68.32 180  P    P     03 28 34.6  +2.0
     comp=Z,1.9nm,1.1s,baz=208,slow=0.2,SNR=7.9
     comp=Z,1.9nm,1.1s
PDAR  Pinedale Array  75.18 329  P    P     03 29 15.6  +1.8
     comp=Z,0.3nm,0.5s,baz=133,slow=7.8,SNR=4.0
     comp=Z,0.3nm,0.5s
TOA0  Torodi Ar. Sit  76.08  70  P    P     03 29 19.5  +0.3
TORD  Torodi Ar. Bea  76.08  70  P    P     03 29 19.5  +0.3
TORD                                  IAmb  IAmb  03 29 20.4
     comp=Z,2.6nm,0.7s
TORD  Torodi Ar. Bea  76.08  70  P    P     03 29 19.3  +0.2
     comp=Z,3.2nm,0.5s,baz=255,slow=5.3,SNR=64
     comp=Z,3.2nm,0.5s
ULM   Lac du Bonnet   76.13 342  P    P     03 29 18.6  0.0
ULM                                   IAmb  IAmb  03 29 19.7
     comp=Z,1.7nm,0.7s
ULM   Lac du Bonnet   76.13 342  P    P     03 29 19.0  +0.3
     comp=Z,1.1nm,0.5s,baz=146,slow=7.2,SNR=3.3
     comp=Z,1.1nm,0.5s
WRA   Warramunga Arr  133.37 209  PKP  PKiKP 03 36 48.4  +0.8
     comp=Z,0.3nm,0.8s,baz=165,slow=1.9,SNR=1.4
MKAR  Makanchi Array  145.04  37  PKP  PKPbc 03 37 05.4  -1.1
     comp=Z,0.5nm,0.8s,baz=336,slow=2.7,SNR=4.0
```

FUNV ***14*** *03:42:43.5, 12°.63N×71°.35W, h9km, MW3.2*
RSNC ***14*** *03:42:46.5±0.0, 12°N±4°×7°1W±°, h-2km±2km, M2.4, mB5.6, ML2.4, Mw(mB)5.1*

ISC 14 03:42:43.1±1.6, 12°.5N±0°.1×71°.32W±0°.04, h10km, n17, σ1°78/29, Near north coast of Colombia

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Code  Station Name    Δ°   AZ°  Phase ID                Time      Res
                                Op    ISC               h m s     ISC
URIC  Uribia, Colomb  1.04 219  P     Pn                03 43 04.3 +0.5
URIC                            S     Sn                03 43 18.8 +0.4
AUA1  Aruba           1.28  90  P     Pg                03 43 08.6 +1.0
AUA1                            S     Sg                03 43 25.7 +1.4
CRJC  Cerrejon, Guaj  2.13 226  P     Pb                03 43 20.9 -1.0
CRJC                            S     Sb                03 43 47.3 -1.2
JACV  Jacura          2.82 120  eP    Pn                03 43 29.1 +0.9
JACV                            eS    Sn                03 44 02.6 +0.2
TEPV  Terepaima       3.29 140  eP    Pn                03 43 35.5 +0.9
TEPV                            eS    Sn                03 44 14.1 +0.2
TURV  Turiamo         3.98 121  eP    Pn                03 43 43.5 -0.7
SOCV  Socops          4.23 174  eP    Pn                03 43 49.7 +2.0
SOCV                            eS    Sn                03 44 36.5 -0.7
BENV  Beln            4.45 124  eP    Pn                03 43 51.1 +0.5
BENV                            eS    Sn                03 44 41.0 -1.6
SJCC  San Jacinto, C  4.59 236  P     Pn                03 43 55.9 +3.2
SJCC                            S     Sn                03 44 43.5 -2.7
OCAC  Ocana           4.68 205  P     Pn                03 43 55.3 +1.3
OCAC                            S     Sn                03 44 45.4 -3.1
CAPV  Capacho         4.72 192  eP    Pn                03 43 55.1 +0.5
CAPV                            eS    Sn                03 44 47.8 -1.8
BAUV  El Baul         4.79 137  eP    Pn                03 43 56.6 +1.2
BAUV                            eS    Sn                03 44 49.2 -1.8
TACV  Tcata           4.83 119  eP    Pn                03 43 55.4 -0.6
TACV                            eS    Sn                03 44 49.2 -2.7
PAMC  Pamplona, Colo  5.32 195  P     Pn                03 44 05.3 +2.2
PAMC                            S     Sn                03 45 03.9 -0.8
PTBC  PUERTO BERRIO,  6.70 208  P     Pn                03 44 25.5 +3.9
CACV  CAICARA DEL OR  6.81 136  eP    Pn                03 44 28.5 +5.4
PCRV  Puerto La Cruz  6.95 109  eP    Pn                03 44 24.4 -0.7
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IDC ***14*** *03:57:45.3±0.7, 55°.94N×113°.43E, h0km, mb3.6/13, mbtmp3.7/18, ML3.7/5, MS3.0/9, Error ellipse: s-maj=18.3km s-min=15.8km az=29.0*
MOS ***14*** *03:57:45.6±1.2, 55°.88N×113°.48E, h13km, mb4.1/4, Error ellipse: s-maj=10.5km s-min=6.1km az=79.7*
BYKL ***14*** *03:57:46.4±0.2, 55°.92N×113°.39E, h8km±3km*

ISC 14 03:57:46.7±0.9, 55°.94N±0°.02×113°.36E±0°.02, h10km±6km, n88, σ2°49/130, mb3.6/12, MS2.9/5, 9C-3D, East of Lake Baykal

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Code  Station Name    Δ°   AZ°  Phase ID                Time      Res
                                Op    ISC               h m s     ISC
SVKR  Severomuysk     0.21  33  ⇑iPg  Pg                03 57 51.3 +0.3
SVKR                            Pmax                    03 57 51.6
     10μm,0.5s
SVKR                            eSg   Sg                03 57 55.1 +1.1
SVKR                            Smax                    03 57 56.3
     24μm,0.8s
SVKR  Severomuysk     0.21  33  ⇑iPG  Pg                03 57 51.3 +0.3
SVKR                            e                       03 57 55.6
SVKR                            pmax  pmax
     comp=Z,5μm,0.1s
SVKR                            smax  smax
     comp=N,24μm,0.9s
UKT   Uakit           0.48 161  ⇑iPg  Pg                03 57 54.3 -1.7
UKT                             Pmax                    03 57 54.7
     comp=N,592nm,0.8s
UKT                             eSg   Sg                03 58 00.6 -1.8
UKT                             Smax                    03 58 01.8
     comp=N,8μm,1.1s
UKT   Uakit           0.48 161  ⇑iPG  Pg                03 57 54.3 -1.7
UKT                             e                       03 58 00.8
UKT                             pmax  pmax
     comp=Z,95nm,0.1s
UKT                             smax  smax
     comp=E,2μm,0.2s
YOA   Uoyan           0.94 282  ⇑iPg  Pb                03 58 04.3 -0.7
YOA                             Pmax                    03 58 08.0
     comp=E,1μm,0.4s
YOA                             eSg   Sb                03 58 17.9 +0.4
YOA                             Smax                    03 58 21.0
     comp=E,11μm,0.3s
YOA   Uoyan           0.94 282  ePG   Pb                03 58 04.4 -0.6
YOA                             e                       03 58 16.6
YOA                             pmax  pmax
     comp=Z,716nm,0.2s
YOA                             smax  smax
     comp=N,11μm,0.4s
KMO   Kumora          1.22 268  ⇓iPg  Pn                03 58 09.0 -0.9
KMO                             Pmax                    03 58 09.3
     comp=N,580nm,0.5s
KMO                             eSg   Sb                03 58 25.6  0.0
KMO                             Smax                    03 58 26.9
     comp=N,4μm,0.8s
KMO   Kumora          1.22 268  ⇓iPG  Pn                03 58 08.9 -0.9
KMO                             e                       03 58 24.4
KMO                             pmax  pmax
     comp=Z,543nm,0.4s
KMO                             smax  smax
     comp=N,4μm,0.8s
NLYR  Nelyaty         1.42  66  ePg   Pn                03 58 11.8 -0.8
NLYR                            Pmax                    03 58 13.5
     comp=N,470nm,0.7s
NLYR                            eSg   Sn                03 58 30.9 -0.5
NLYR                            e                       03 58 34.0
NLYR                            max                     03 58 34.5
     comp=N,7μm,0.9s
NLYR  Nelyaty         1.42  66  ePG   Pn                03 58 12.1 -0.5
NLYR                            e                       03 58 30.9
NLYR                            pmax  pmax
     comp=Z,469nm,0.8s
NLYR                            smax  smax
     comp=N,7μm,1.1s
YLYR  Ulyunkhan       1.65 230  ⇑iPg  Pn                03 58 16.0 +0.3
YLYR                            Pmax                    03 58 17.3
     comp=N,733nm,0.4s
YLYR                            eSg   Sb                03 58 38.2 +0.2
YLYR                            Smax                    03 58 43.1
     comp=N,4μm,0.3s
YLYR  Ulyunkhan       1.65 230  ⇑iPN  Pn                03 58 16.0 +0.3
YLYR                            e                       03 58 38.0
YLYR                            pmax  pmax
     comp=Z,740nm,0.2s
YLYR                            smax  smax
     comp=E,4μm,0.2s
BOD   Bodaibo         1.91  10  ePn   Pn                03 58 20.2 +0.8
BOD                             ePg   Pb                03 58 20.9  -0.8
BOD                             Pmax                    03 58 22.7
     comp=E,1μm,0.8s
BOD                             eSg   Sb                03 58 45.7 +0.1
BOD                             Smax                    03 58 47.3
     comp=E,2μm,0.7s
BOD   Bodaibo         1.91  10  ePN   Pn                03 58 20.8 +1.4
BOD                             e                       03 58 46.4
BOD                             pmax  pmax
     comp=Z,1μm,0.8s
BOD                             smax  smax
     comp=E,2μm,0.7s
NIZB  Nizh Angarsk    2.16 267  ePg   Pb                03 58 25.3  -0.5
NIZB                            Pmax                    03 58 29.3
     comp=E,305nm,0.6s
NIZB                            eSg   Sb                03 58 54.5 +1.9
NIZB                            Smax                    03 58 57.0
     comp=E,2μm,0.2s
NIZB                            e                       03 58 59.4
NIZB  Nizh Angarsk    2.16 267  ePN   Pb                03 58 25.7  -0.1
NIZB                            e                       03 58 54.6
NIZB                            pmax  pmax
     comp=Z,303nm,0.3s
NIZB                            smax  smax
     comp=N,2μm,0.3s
CRS   Chara           2.89  69  ePn   Pn                03 58 33.4 +0.6
CRS                             ePg   Pb                03 58 38.4  0.0
CRS                             Pmax                    03 58 43.0
     comp=N,287nm,1.0s
CRS                             eSg   Sb                03 59 15.8 +2.0
CRS                             Smax                    03 59 23.5
     comp=N,959nm,1.0s
CRS   Chara           2.89  69  ePN   Pb                03 58 38.1  -0.3
CRS                             e                       03 59 15.8
CRS                             pmax  pmax
     comp=Z,307nm,0.9s
CRS                             smax  smax
     comp=E,933nm,1.0s
SYVR  Suvo            3.00 222  ePn   Pn                03 58 35.0 +0.6
SYVR                            ePg   Pb                03 58 39.1  -1.2
SYVR                            Pmax                    03 58 44.6
     comp=E,215nm,0.8s
SYVR                            eSn   Sn                03 59 09.9  -0.5
SYVR                            eSg   Sb                03 59 19.2 +2.2
SYVR                            Smax                    03 59 30.0
     comp=E,2μm,0.8s
SYVR  Suvo            3.00 222  ePN   Pn                03 58 35.0 +0.6
SYVR                            e                       03 58 38.9
SYVR                            e                       03 59 19.0
SYVR                            pmax  pmax
     comp=Z,221nm,0.9s
SYVR                            smax  smax
     comp=E,2μm,0.7s
MXMB  Maximikha       3.80 227  ePg   Pb                03 58 54.9 +1.1
MXMB                            eSg   Sb                03 59 44.4 +4.6
KHNR  Khani           3.80  72  ePn   Pn                03 58 45.2  -0.2
KHNR                            ePg   Pb                03 58 54.6 +0.7
KHNR                            eSn   Sn                03 59 27.3  -2.9
KHNR                            eSg   Sb                03 59 43.9 +3.9
CIT   Chita           3.93 178  ePg   Pb                03 58 56.6 +0.5
CIT                             Pmax                    03 59 00.3
     comp=E,204nm,0.6s
CIT                             eSg   Sb                03 59 47.6 +3.9
CIT                             Smax                    04 00 03.7
     comp=E,1μm,0.7s
CIT   Chita           3.93 178  ePN   Pn                03 58 46.3  -0.9
CIT                             e                       03 58 55.8
CIT                             eS    Sn                03 59 32.5  -0.9
CIT                             e                       03 59 47.5
CIT                             pmax  pmax
     comp=Z,204nm,1.4s
CIT                             smax  smax
     comp=N,1μm,1.2s
OGRR  Ongureny        4.05 238  ⇑iPn   Pn                03 58 49.7 +0.9
OGRR                            e                       03 58 53.0
OGRR                            ⇑ePg  Pb                03 58 58.2  0.0
OGRR                            Pmax                    03 59 01.7
     comp=N,145nm,1.2s
OGRR                            eSn   Sn                03 59 35.1  -1.2
OGRR                            eSg   Sb                03 59 51.3 +4.1
OGRR                            Smax                    03 59 59.9
     comp=N,530nm,0.7s
OGRR  Ongureny        4.05 238  ePN   Pn                03 58 49.7 +0.9
OGRR                            e                       03 58 59.4
OGRR                            e                       03 59 50.2
OGRR                            pmax  pmax
     comp=Z,146nm,1.2s
OGRR                            smax  smax
     comp=N,679nm,1.8s
TUP   Tupik           4.08 109  ⇓iPn   Pn                03 58 48.8  -0.3
TUP                             ePg   Pb                03 58 59.3 +0.8
TUP                             Pmax                    03 59 00.2
     comp=N,130nm,1.1s
TUP                             eSn   Sn                03 59 35.0  -1.9
TUP                             eSg   Sb                03 59 52.0 +4.2
TUP                             Smax                    03 59 58.7
     comp=N,744nm,1.2s
GORB  Goryachinsk     4.19 227  ePg   Pb                03 59 01.4 +1.0
GORB                            eSg   Sb                03 59 56.9 +5.8
UZR   Uzur            4.19 234  e     Pb                03 58 59.6  -0.8
UZR                             max                     03 59 02.3
     comp=N,98nm,0.7s
UZR                             eSg   Sb                03 59 55.4 +4.3
UZR                             Smax                    04 00 01.3
     comp=N,771nm,0.4s
KELR  Kotokel         4.44 226  ePg   Pb                03 59 05.5 +0.8
KELR                            eSn   Sn                03 59 45.1  -0.7
KELR                            eSg   Sb                04 00 04.3 +6.0
ZRHB  Zarechye        4.98 230  ePg   Pb                03 59 16.7 +2.8
ZRHB                            Pmax                    03 59 21.4
     comp=N,251nm,0.7s
ZRHB                            eSg   Sg                04 00 22.1  -4.2
ZRHB                            Smax                    04 00 30.9
     comp=N,2μm,0.9s
TRG   Tyrgan          5.19 235  ePn   Pn                03 59 04.9 +0.4
TRG                             ePg   Pb                03 59 18.5 +0.9
TRG                             Pmax                    03 59 31.6
     comp=N,27nm,0.7s
TRG                             eSg   Sb                04 00 26.3 +6.3
TRG                             Smax                    04 00 35.1
     comp=N,447nm,0.8s
TRG   Tyrgan          5.19 235  ePN   Pn                03 59 03.8  -0.7
TRG                             e                       03 59 18.9
TRG                             eS    Sn                04 00 03.2  -1.2
TRG                             e                       04 00 26.1
TRG                             pmax  pmax
     comp=Z,27nm,0.4s
TRG                             smax  smax
     comp=N,358nm,0.4s
UUDB  Ulan-Yde        5.29 222  ePn   Pn                03 59 07.0 +1.2
UUDB                            ePg   Pb                03 59 21.0 +1.8
UUDB                            Pmax                    03 59 25.8
     comp=N,67nm,0.7s
UUDB                            eSg   Sg                04 00 30.5  -5.9
UUDB                            Smax                    04 00 36.5
     comp=N,563nm,1.1s
FFNB  Fofonovo        5.51 228  ePg   Pb                03 59 24.9 +2.0
FFNB                            eSg   Sg                04 00 37.3  -6.1
KAB   Kabansk         5.55 228  eSg   Sg                04 00 39.4  -5.4
KAB                             Smax                    04 01 04.6
     comp=N,1μm,1.3s
HRMR  Khuramsha       5.75 224  ePn   Pn                03 59 12.6 +0.5
HRMR                            ePg   Pb                03 59 30.3 +3.2
HRMR                            Pmax                    03 59 31.8
     comp=N,159nm,0.6s
HRMR                            eSn   Sn                04 00 16.5  -1.7
HRMR                            eSg   Sg                04 00 45.7  -5.5
HRMR                            Smax                    04 00 53.7
     comp=N,1μm,0.8s
BGT   Bolshoye Golou  6.10 234  ePn   Pn                03 59 16.3  -0.6
BGT                             ePg   Pb                03 59 35.8 +2.8
BGT                             Pmax                    03 59 40.6
     comp=N,32nm,0.8s
BGT                             eSg   Sb                04 00 54.3 +8.3
BGT                             Smax                    04 01 03.5
     comp=N,307nm,0.9s
KPC   Khapcheranga    6.28 186  ePn   Pn                03 59 19.6 +0.2
KPC                             ePg   Pb                03 59 39.5 +3.4
KPC                             Pmax                    03 59 43.7
     comp=N,33nm,1.1s
KPC                             eSg   Sg                04 01 01.6  -6.5
KPC                             Smax                    04 01 07.7
     comp=N,739nm,1.2s
KPC   Khapcheranga    6.28 186  ePN   Pn                03 59 19.5 +0.2
KPC                             e                       03 59 38.8
KPC                             e                       04 00 59.0
KPC                             pmax  pmax
     comp=Z,32nm,0.7s
KPC                             smax  smax
     comp=E,739nm,1.1s
LSTR  Listvyanka      6.48 235  ePg   Pb                03 59 42.3 +2.8
LSTR                            Pmax                    03 59 44.7
     comp=E,19nm,1.4s
LSTR                            eSg   Sb                04 01 06.6  +10
LSTR                            Smax                    04 01 14.3
     comp=E,416nm,1.8s
IRK   Irkutsk         6.50 239  ePg   Pb                03 59 42.7 +2.8
IRK                             eSg   Sb                04 01 07.3  +10
IRK                             Smax                    04 01 09.3
     comp=E,615nm,0.5s
IRK   Irkutsk         6.50 239  ePG   Pb                03 59 43.8 +3.9
IRK                             e                       04 01 07.4
IRK                             pmax  pmax
     comp=Z,35nm,1.0s
IRK                             smax  smax
     comp=N,414nm,1.5s
IVK   Ivanovka        6.72 236  ePn   Pn                03 59 26.6 +1.2
IVK                             ePg   Pb                03 59 46.6 +3.0
IVK                             Pmax                    03 59 48.6
     comp=N,12nm,0.5s
IVK                             eSg   Sb                04 01 13.7  +10
IVK                             Smax                    04 01 28.9
     comp=N,361nm,1.8s
TLY   Talaya          7.16 237  ePg   Pb                03 59 54.8 +3.7
TLY                             Pmax                    03 59 59.2
     comp=N,25nm,0.9s
TLY                             eSg   Sb                04 01 26.8  +10
TLY                             Smax                    04 01 38.2
     comp=N,195nm,1.0s
HIA   Hailar          7.73 147  iPN   Pn                03 59 40.2 +0.9
ZAK   Zakamensk       8.22 232  ePg   Pb                04 00 15.1 +5.9
ZAK                             Pmax                    04 00 19.6
     comp=N,14nm,1.0s
ZAK                             eSg   Sg                04 02 01.7  -8.7
ZAK                             Smax                    04 02 31.5
     comp=N,152nm,1.3s
ZAK   Zakamensk       8.22 232  ePN   Pn                03 59 50.1 +4.0
ZEA   Zeya            8.32 100  ePN   Pn                03 59 48.7 +1.4
ZEA                             eS    Sn                04 01 33.3  +12
ZEA                             pmax  pmax
     comp=Z,10.0nm,0.7s
ZEA                             smax  smax
     comp=N,20nm,0.8s
ZEA                             MLR   MLR
     comp=E,500nm,6.0s
ZEA                             MLR   MLR
     comp=Z,300nm,5.0s
MOY   Mondy           8.48 245  ePn   Pn                03 59 51.6 +2.0
MOY                             e                       04 00 01.4
MOY                             ePg   Pb                04 00 18.2 +4.7
MOY                             Pmax                    04 00 34.5
     comp=Z,35nm,1.4s
MOY                             eSg   Sg                04 02 07.9  -11
MOY                             Smax                    04 02 15.4
     comp=Z,486nm,1.6s
MOY   Mondy           8.48 245  ePG   Pb                04 00 20.5 +7.0
MOY                             eS    Sn                04 01 23.9  -1.4
MOY                             e                       04 02 07.9
MOY                             pmax  pmax
     comp=Z,21nm,0.6s
MOY                             smax  smax
     comp=N,489nm,1.5s
ORL   Orlik           8.63 252  ePn   Pn                03 59 53.1 +1.4
ORL                             max                     04 00 06.7
     comp=N,27nm,1.3s
ORL                             ePg   Pg                04 00 21.9  -10
ORL                             eSn   Sn                04 01 26.9  -2.3
ORL                             eSg   Sg                04 02 13.1  -10
ORL                             Smax                    04 02 22.7
     comp=N,269nm,1.4s
ORL   Orlik           8.63 252  ePG   Pg                04 00 22.6  -9.3
ORL                             eS    Sn                04 01 29.0  -0.2
ORL                             e                       04 02 13.2
ORL                             pmax  pmax
     comp=Z,27nm,1.1s
ORL                             smax  smax
     comp=N,270nm,1.3s
ULN   Ulaanbaatar     8.98 208  iPN   Pn                03 59 56.3  -0.2
SONM  Songino Array   9.19 211  Pn    Pn                03 59 59.3  0.0
     comp=N,0.3nm,0.3s,baz=20,slow=14,SNR=4.8
SONM                            Pg                      04 00 31.6
     comp=N,0.6nm,0.3s,baz=22,slow=13,SNR=5.0
SONM                            Lg    Lg                04 02 33.4
     comp=N,6.1nm,0.3s,baz=22,slow=24,SNR=16
SONM                            LR    LR                04 03 46.3
     comp=N,124nm,20.6s,baz=25,slow=39
     comp=N,0.5nm,0.4s
HEH   HeiHe           10.18 118 eP    Pn                04 00 12.4  -0.4
HEH                             S     Sn                04 02 01.3  -5.7
HEH                             smax  smax
     comp=N,130nm,0.8s
HEH                             smax  smax
     comp=E,100nm,0.8s
YAK   Yakutsk         10.38  47 Lg    Lg                04 03 02.9
     comp=E,7.1nm,0.3s,baz=155,slow=20,SNR=14
YAK                             LR    LR                04 04 28.7
     comp=E,66nm,18.1s,baz=246,slow=39
KLR   Kul'dur         13.02 113 Pn    Pn                04 00 51.5  -0.1
     comp=E,0.4nm,0.3s,baz=313,slow=13,SNR=9.6
KLR                             Lg    Lg                04 04 32.0
     comp=E,0.1nm,0.3s,baz=228,slow=18,SNR=2.8
KLR                             LR    LR                04 06 12.9
     comp=E,64nm,19.4s,baz=334,slow=39
     comp=E,2.7nm,0.6s
KLR   Kul'dur         13.02 113 iP    Pn                04 00 51.1  -0.5
ZALV  Zalesovo Beam   16.47 275 Pn    Pn                04 01 37.6  0.0
     comp=E,0.2nm,0.3s,baz=14,slow=7.7,SNR=2.7
ZALV                            Lg    Lg                04 06 22.6
     comp=E,0.2nm,0.3s,baz=58,slow=19,SNR=1.7
     comp=E,0.4nm,0.3s
USRK  Ussuriysk Ar.   16.70 127 Lg    Lg                04 06 30.7
     comp=E,0.2nm,0.3s,baz=316,slow=18,SNR=7.0
TIXI  Tiksi           17.08  17 P     Pn                04 01 43.1  -2.2
     comp=E,0.6nm,0.3s,baz=279,slow=5.7,SNR=1.7
TIXI                            S     Sn                04 04 39.5  -15
     comp=E,7.6nm,0.7s,baz=159,slow=11,SNR=3.5
TIXI                            Lg    Lg                04 06 42.1
     comp=E,0.9nm,0.3s,baz=290,slow=13,SNR=1.9
TIXI                            LR    LR                04 08 28.0
     comp=E,66nm,20.5s,baz=187,slow=38
     comp=E,3.2nm,0.5s
```

TIXI	**Tiksi**	**17.08**	**17**	*i* P		**Pn**	**04 01 45.2**	**0.0**
NRIK	**Noril'sk**	**17.70**	**329**	P		**Pn**	**04 01 53.0**	**+0.1**
comp=E,0.7nm,0.3s,baz=91,slow=5.2,SNR=2.8								
NRIK				S		Sn	04 04 55.5	-14
comp=E,2.0nm,0.4s,baz=221,slow=20,SNR=1.8								
NRIK				Lg		Lg	04 07 01.1	
comp=E,0.6nm,0.3s,baz=153,slow=14,SNR=2.3								
comp=E,3.0nm,0.5s								
NRIK	**Noril'sk**	**17.70**	**329**	*i* P		**Pn**	**04 01 49.9**	**-3.0**
SEY	**Seymchan**	**20.76**	**54**	P		**P**	**04 02 28.5**	**+1.2**
comp=E,1.2nm,0.5s,baz=269,slow=7.1,SNR=5.6								
SEY				Lg		Lg	04 08 26.7	
comp=E,0.3nm,0.3s,baz=343,slow=19,SNR=4.3								
comp=E,1.2nm,0.5s								
SEY	**Seymchan**	**20.76**	**54**	*i* P		**P**	**04 02 26.4**	**-0.9**
SEY				pmax		pmax		
comp=Z,8.0nm,1.8s								
KSRS	**Korea Array**	**20.94**	**146**	P		**P**	**04 02 30.3**	**+0.8**
comp=Z,0.4nm,0.3s,baz=323,slow=20,SNR=2.0								
comp=Z,0.4nm,0.3s								
KURK	**Kurchatov**	**21.24**	**270**	P		**P**	**04 02 35.6**	**+3.0**
MK31	**Makanchi Array**	**21.28**	**258**	*i* P		**P**	**04 02 33.1**	**-0.1**
MKAR	**Makanchi Array**	**21.28**	**258**	P		**P**	**04 02 35.4**	**+2.2**
comp=Z,1.3nm,0.8s,baz=59,slow=9.0,SNR=11								
MKAR				Lg		Lg	04 08 50.0	
baz=48,slow=20,SNR=2.0								
MKAR				LR		LR	04 11 05.9	
comp=Z,66nm,19.7s,baz=44,slow=38								
comp=Z,1.3nm,0.8s								
KURBB	**Kurchatov Arra**	**21.33**	**270**	P		**P**	**04 02 35.6**	**+1.9**
comp=Z,1.2nm,0.2s,baz=69,slow=12,SNR=12								
KURBB				Lg		Lg	04 08 53.4	
comp=Z,0.1nm,0.3s,baz=68,slow=31,SNR=4.1								
comp=Z,1.2nm,0.2s								
ASAJ	**Asahikawa**	**22.01**	**110**	LR		LR	04 10 25.1	
comp=Z,28nm,20.4s,baz=108,slow=35								
BVAR	**Borovoye Array**	**24.84**	**281**	P		**P**	**04 03 11.1**	**+2.2**
comp=Z,1.1nm,0.4s,baz=69,slow=8.1,SNR=9.9								
comp=Z,1.1nm,0.4s								
AAK	**Ala-Archa**	**28.21**	**258**	LR		LR	04 15 18.2	
comp=Z,56nm,20.0s,baz=62,slow=37								
SHEM	**Shemya Is, Ala**	**34.56**	**69**	LR		LR	04 20 30.0	
comp=Z,14nm,18.8s,baz=72,slow=40								
FINES	**FINESS Array B**	**42.45**	**315**	P		**P**	**04 05 39.6**	**-1.7**
comp=Z,0.5nm,0.6s,baz=32,slow=11,SNR=4.5								
comp=Z,0.5nm,0.6s								
FINES	**FINESS Array B**	**42.45**	**315**	*i* P		**P**	**04 05 43.5**	**+2.3**
FINES				pmax		pmax		
comp=Z,1.0nm,0.8s								
KIV	**Kislovodsk**	**45.06**	**286**	*e*P		**P**	**04 06 04.1**	**+1.5**
KIV				pmax		pmax		
comp=Z,7.0nm,1.1s								
ILAR	**Eielson Array**	**45.08**	**37**	P		**P**	**04 06 03.6**	**+1.2**
comp=Z,0.7nm,0.9s,baz=304,slow=7.2,SNR=7.6								
comp=Z,0.7nm,0.9s								
HFS	**Hagfors**	**48.05**	**318**	P		**P**	**04 06 24.8**	**-0.9**
comp=Z,0.4nm,0.7s,baz=40,slow=11,SNR=1.1								
comp=Z,0.4nm,0.7s								
NOA	**NORSAR Array B**	**48.35**	**320**	P		**P**	**04 06 27.9**	**-0.1**
comp=Z,0.4nm,0.7s,baz=49,slow=7.7,SNR=2.8								
NOA				LR		LR	04 28 31.9	
comp=Z,12nm,18.4s,baz=285,slow=38								
comp=Z,0.4nm,0.7s								
BRTR	**Keskin Array B**	**52.87**	**288**	P		**P**	**04 07 02.2**	**-0.3**
comp=Z,0.8nm,1.0s,baz=90,slow=2.5,SNR=3.6								
comp=Z,0.8nm,1.0s								
WRA	**Warramunga Arr**	**77.65**	**160**	P		**P**	**04 09 42.4**	**-0.7**
comp=Z,1.2nm,0.8s,baz=352,slow=6.5,SNR=7.7								
comp=Z,1.2nm,0.8s								
WRA	**Warramunga Arr**	**77.65**	**160**	*i* P		**P**	**04 09 43.7**	**+0.6**
WRA				pmax		pmax		
comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**81.20**	**161**	P		**P**	**04 10 02.0**	**-0.3**
comp=Z,0.3nm,0.6s,baz=359,slow=6.1,SNR=4.7								
comp=Z,0.3nm,0.6s								
TORD	**Torodi Ar. Bea**	**90.89**	**295**	P		**P**	**04 10 50.6**	**-0.1**
comp=Z,1.6nm,1.2s,baz=28,slow=6.7,SNR=4.1								
comp=Z,1.6nm,1.2s								
QSPA	**South Pole Qui**	**145.70**	**180**	PKPbc		**PKPdf**	**04 17 22.9**	**-0.9**
comp=Z,3.0nm,1.1s,baz=277,slow=1.0,SNR=6.0								

IDC ***14*** *04:02:58.7±6.1, 18°.72N×104°.22W, h0km, mb3.0/2, mbtmp3.0/3, ML2.8/1, MS2.9/2, Error ellipse: s-maj=125.1km s-min=49.5km az=107.0*
MEX ***14*** *04:03:04.1±0.7, 18°.95N×104°.96W, h5km±10km, MD4.0*
ISC 14 04:03:02.0±1.9**, 18°.98N**±0°.06×**104°.87W**±0°.05**, h2**km±11**km, n27,** σ1**s38/37, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIHU	**Emiliano Zapat**	**0.32**	**24**	*e*P	**Pb**	**04 03 11.3**	**+0.9**
CIHU				*e*S	**Sb**	**04 03 16.1**	**+0.1**
CJM	**Chamela**	**0.55**	**343**	*i* P	**Pb**	**04 03 14.5**	**+0.2**
CJM				*e*S	**Sb**	**04 03 22.0**	**-0.6**
CDAR	**Ciudad de Arme**	**0.82**	**92**	*i* P	**Pb**	**04 03 18.9**	**0.0**
CDAR				*e*S	**Sb**	**04 03 30.1**	**-0.3**
CEGR	**Campo Tres**	**1.05**	**67**	*i* P	**Pb**	**04 03 23.1**	**+0.2**
CEGR				*i* S	**Sb**	**04 03 37.6**	**+0.4**
COMA	**Comala**	**1.11**	**71**	*e*P	**Pn**	**04 03 25.8**	**+1.2**
COMA				*e*S	**Sn**	**04 03 42.3**	**+1.8**
COIG	**Colima**	**1.14**	**79**	*e*P	**Pg**	**04 03 23.9**	**+0.1**
COIG				*e*S	**Sg**	**04 03 39.0**	**+0.4**
MNGA	**Volcan de Coli**	**1.28**	**67**	*e*P	**Pn**	**04 03 27.2**	**0.0**
MNGA				*e*S	**Sb**	**04 03 43.7**	**-0.3**
SOMAC	**Volcano de Col**	**1.30**	**65**	*e*P	**Pg**	**04 03 27.2**	**+0.3**
SOMAC				*e*S	**Sn**	**04 03 45.0**	**-0.6**
INCO	**Volcan de Coli**	**1.32**	**65**	*e*P	**Pn**	**04 03 27.7**	**-0.1**
INCO				*e*S	**Sn**	**04 03 45.7**	**-0.5**
JUBC	**Volcan de Coli**	**1.34**	**66**	*e*P	**Pb**	**04 03 28.2**	**+0.2**
JUBC				*e*S	**Sg**	**04 03 44.6**	**-0.7**
MMIG	**Aquila**	**1.60**	**115**	*e*P	**Pn**	**04 03 29.4**	**-1.9**
MMIG				*e*S	**Sb**	**04 03 52.7**	**-0.3**
PUVA	**Puert Vallarta**	**1.68**	**349**	*e*P	**Pn**	**04 03 30.7**	**-1.7**
PUVA				*e*S	**Sn**	**04 03 53.0**	**-1.4**
ANIG	**Ahuacatlan**	**2.10**	**9**	*e*P	**Pn**	**04 03 38.4**	**+0.2**
ANIG				*e*S	**Sn**	**04 04 04.4**	**-0.5**
ZIIG	**Zihuatanejo**	**3.51**	**112**	*e*P	**Pn**	**04 03 58.3**	**+0.7**
ZIIG				*e*S	**Sn**	**04 04 36.7**	**-3.0**
MOIG	**Morelia**	**3.55**	**78**	*e*P	**Pn**	**04 03 55.4**	**-3.0**
MOIG				*e*S	**Sn**	**04 04 40.1**	**-0.9**
ARIG	**Puente Sto Nin**	**4.35**	**98**	*e*P	**Pn**	**04 04 10.5**	**+1.4**
ARIG				*e*S	**Sn**	**04 05 02.5**	**+2.0**
ZAIG	**Zacatecas**	**4.35**	**29**	*e*P	**Pb**	**04 04 16.2**	**-3.1**
ZAIG				*e*S	**Sn**	**04 05 00.1**	**-0.7**
H06E1	**SOCORRO T-PHAS**	**5.73**	**269**	T	T	04 10 29.9	
SNR=27							
H06N1	**SOCORRO T-PHAS**	**5.79**	**270**	T	T	04 11 03.8	
SNR=7.5							
TXAR	**Lajitas Array**	**10.37**	**6**	Pn	**Pn**	**04 05 34.3**	**+2.4**
baz=184,slow=13,SNR=4.3							
TXAR				Lg	Lg	04 08 32.4	
baz=180,slow=32,SNR=2.0							
0.3nm,0.8s							
ANMO	**Albuquerque**	**15.97**	**355**	LR	LR	04 12 42.5	
comp=Z,37nm,19.4s,baz=263,slow=36							
PFO	**Pinyon Flats O**	**17.88**	**327**	LR	LR	04 13 30.1	
comp=Z,44nm,19.9s,baz=275,slow=34							
NVAR	**Mina Array Bea**	**22.63**	**332**	P	**P**	**04 08 06.8**	**+2.3**
0.5nm,0.6s,baz=147,slow=11,SNR=5.5							
0.5nm,0.6s							
PDAR	**Pinedale Array**	**24.05**	**352**	P	**P**	**04 08 19.0**	**+0.3**
0.2nm,0.6s,baz=155,slow=11,SNR=2.3							
0.2nm,0.6s							
H03N2	**Juan Fernandez**	**57.70**	**154**	T	T	05 15 35.4	
baz=333,slow=77,SNR=19							
H03N1	**Juan Fernandez**	**57.71**	**154**	T	T	05 15 34.7	
baz=333,slow=77,SNR=25							
H03N3	**Juan Fernandez**	**57.72**	**154**	T	T	05 15 19.7	
baz=333,slow=77,SNR=14							

HVO ***14*** *04:13:33.6±0.7, 19°.419N±0°.005×155°.277W±0°.008, h1km±3km, ML4.4/8, ML3.5/39(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=61.0*
IDC ***14*** *04:13:35.0±13.0, 19°.63N×155°.38W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=271.3km s-min=55.8km az=34.0*
NEIC ***14*** *04:13:34.1±0.8, 19°.412N±0°.010×155°.280W±0°.008, h5km, Error ellipse: s-maj=2.0km s-min=1.3km az=173.0*
ISC 14 04:13:33.3±1.3**, 19°.44N**±0°.03×**155°.28W**±0°.02**, h1**km±8**km, n45,** σ1**s28/37, mb4.0/6, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.02**	**162**		**Pg**	**04 13 34.3**	**+0.4**
RSD	**Rainshed**	**0.02**	**17**		**Pg**	**04 13 35.2**	**+1.3**
SBLHI	**Steaming Bluff**	**0.02**	**137**		**Pg**	**04 13 34.8**	**+0.9**
UWE	**Uwekahuna**	**0.02**	**201**		**Pg**	**04 13 34.5**	**+0.6**
OBL	**Observatory Le**	**0.03**	**180**		**Pg**	**04 13 34.5**	**+0.6**
HATHI	**Halema'uma'u T**	**0.03**	**133**		**Pg**	**04 13 34.5**	**+0.6**
BYL	**Byron's Ledge**	**0.04**	**144**		**Pg**	**04 13 34.5**	**+0.4**
WRMHI	**West Rim**	**0.04**	**202**		**Pg**	**04 13 35.7**	**+1.6**
KKO	**Keanakako`i**	**0.05**	**159**		**Pg**	**04 13 35.2**	**+0.9**
RIM	**Rim**	**0.05**	**169**		**Pg**	**04 13 34.8**	**+0.6**
SDHHI	**Sand Hill**	**0.05**	**190**		**Pg**	**04 13 36.0**	**+1.6**
PUH	**Pauahi**	**0.09**	**137**	Pg	**Pg**	**04 13 36.0**	**+0.9**
PUH				IAML		04 13 37.3	
comp=E,29μm,0.8s							
PUH				IAML		04 13 37.4	
comp=N,20μm,0.7s							
MLH	**Mauna Loa**	**0.11**	**298**		**Pg**	**04 13 37.1**	**+1.6**
MLH				IAML		04 13 38.9	
comp=E,21μm,0.5s							
MLH				IAML		04 13 40.0	
comp=N,18μm,0.9s							
KNHH	**Kane Nui o Ham**	**0.13**	**120**		**Pg**	**04 13 36.6**	**+0.8**
HLP	**Hilina Pali**	**0.15**	**189**		**Pg**	**04 13 36.1**	**-0.1**
HLP				IAML		04 13 39.3	
comp=N,13μm,1.4s							
HLP				IAML		04 13 39.8	
comp=E,9μm,0.4s							
STCH	**Steam Cracks**	**0.16**	**111**		**Pg**	**04 13 37.0**	**+0.6**
STCH				IAML		04 13 40.6	
comp=N,22μm,0.9s							
STCH				IAML		04 13 41.2	
comp=E,30μm,0.8s							
HTC	**Hot Caves**	**0.23**	**208**		**Pg**	**04 13 38.6**	**+0.9**
HMH	**Humu'ula Sheep**	**0.25**	**310**		**Pg**	**04 13 39.6**	**+1.5**
HMH				IAML		04 13 47.0	
comp=N,11μm,0.9s							
HMH				IAML		04 13 48.0	
comp=E,10μm,0.3s							
JOKA	**Jonika Flow**	**0.26**	**92**		**Pg**	**04 13 38.8**	**+0.4**
JOKA				IAML		04 13 43.4	
comp=E,6μm,1.2s							
JOKA				IAML		04 13 47.4	
comp=N,15μm,0.8s							
MLOA	**Mauna Loa Obse**	**0.29**	**289**	Pg	**Pg**	**04 13 40.1**	**+1.2**
MLOA				IAML		04 13 48.2	
comp=N,14μm,0.6s							
MLOA				IAML		04 13 50.9	
comp=E,13μm,0.8s							
MWH	**Moku'aweowe**	**0.30**	**278**	Pg	**Pg**	**04 13 40.0**	**+0.9**
PAH	**Pahoa**	**0.32**	**81**	Pg	**Pg**	**04 13 40.5**	**+1.0**
KHU	**Kahuku**	**0.37**	**238**	Pg	**Pg**	**04 13 41.0**	**+0.5**
KHU				IAML		04 13 48.7	
comp=E,8μm,0.8s							
KHU				IAML		04 13 49.3	
comp=N,6μm,0.8s							
PHO	**Puu Honuaula**	**0.37**	**84**		**Pg**	**04 13 41.4**	**+0.9**
POHA	**Pohakuloa**	**0.39**	**323**	Pg	**Pg**	**04 13 42.0**	**+1.1**
HPO	**Honaupo**	**0.43**	**216**		**Pg**	**04 13 42.2**	**+0.6**
HUH	**Hualalai**	**0.57**	**295**		**Pg**	**04 13 45.6**	**+1.3**
I59US	**HAWAII INFRASO**	**0.59**	**284**	Pg	**Pg**	**04 13 45.6**	**+0.9**
baz=118,slow=31							
HPAH	**Hawaii Prepara**	**0.70**	**326**		**Pg**	**04 13 46.4**	**-0.4**
MHA	**Mahukona**	**0.94**	**322**	Pg	**Pg**	**04 13 50.0**	**-1.5**
HLK	**Haleakala**	**1.59**	**325**	Pn	Pn	04 13 58.9	-4.0
KHLH	**Kahului Airpor**	**1.80**	**324**	Pn	**Pn**	**04 14 02.4**	**-3.2**
KIP	**Kipapa**	**3.23**	**308**	Pn	**Pn**	**04 14 22.3**	**-2.9**
H11N3	**WAKE ISLAND Hy**	**35.57**	**277**	T	T	04 57 37.8	
baz=84,slow=73,SNR=9.7							
H11N2	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	04 57 39.4	
baz=84,slow=73,SNR=9.3							
H11N1	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	04 57 36.7	
baz=84,slow=73,SNR=6.7							
H11S2	**WAKE ISLAND Hy**	**35.91**	**275**	T	T	04 58 02.1	
baz=83							
H11S1	**WAKE ISLAND Hy**	**35.91**	**275**	T	T	04 58 01.8	
baz=83							
H11S3	**WAKE ISLAND Hy**	**35.93**	**275**	T	T	04 58 03.3	
baz=83							
NVAR	**Mina Array Bea**	**37.17**	**51**	P	**P**	**04 20 47.1**	**+0.9**
comp=N,0.5nm,0.8s,baz=245,slow=10,SNR=3.9							
comp=N,0.5nm,0.8s							
PDAR	**Pinedale Array**	**44.85**	**48**	P	**P**	**04 21 51.3**	**+1.8**
comp=N,0.1nm,0.3s,baz=256,slow=7.3,SNR=1.6							
comp=N,0.1nm,0.3s							
ILAR	**Eielson Array**	**45.65**	**5**	P	**P**	**04 21 55.5**	**+0.2**
comp=N,0.9nm,0.8s,baz=197,slow=8.1,SNR=6.0							
comp=N,0.9nm,0.8s							
TXAR	**Lajitas Array**	**47.71**	**68**	P	**P**	**04 22 13.7**	**+1.7**
comp=N,1.2nm,0.7s,baz=256,slow=8.4,SNR=21							
comp=N,1.2nm,0.7s							
HHC	**Hu-ho-hao-te**	**79.85**	**310**	*e*P	P	04 25 39.6	-4.4
HHC				pmax	pmax		
comp=Z,14nm,0.5s							
HHC				pmax	pmax		
comp=Z,56nm,4.5s							
PZH	**PanZhiHua**	**92.46**	**299**	P	**P**	**04 26 46.1**	**-0.7**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,220nm,4.7s							

SJA ***14*** *04:29:30.8±0.8, 22°.03S×67°.26W, h205km±6km, ML3.5, MW3.3*
SCB ***14*** *04:29:33.0±1.3, 22°.05S×67°.31W, h178km±12km, ML3.3/3, Error ellipse: s-maj=6.1km s-min=4.8km az=0.0*
GUC ***14*** *04:29:33.1±0.7, 22°.01S×67°.56W, h214km±8km, ML3.7*
IDC ***14*** *04:29:35.1±2.8, 21°.82S×67°.35W, h209km±28km, mb3.1/2, mbtmp3.4/4, Error ellipse: s-maj=45.9km s-min=25.3km az=70.0*
ISC 14 04:29:32.8±0.9**, 22°.06S**±0°.04×**67°.31W**±0°.04**, h185**km±8**km, n50,** σ1**s45/81, 7C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.58**	**249**	*e*P	**Pn**	**04 30 07.2**	**+0.8**
LVC				*e*S	**Sn**	**04 30 33.5**	**+1.2**
LVC	**Limon Verde**	**1.58**	**249**	⇑*i*P	**Pn**	**04 30 06.9**	**+0.6**
LVC				*i* S	**Sn**	**04 30 32.6**	**+0.3**
LVC				IAML		04 30 35.6	
141nm,0.2s							
LVC	**Limon Verde**	**1.58**	**249**	Pg	**Pn**	**04 30 07.1**	**+0.8**
YJA	**Yavi**	**1.67**	**94**	*e*P	**Pn**	**04 30 07.2**	**-0.1**
YJA				*e*S	**Sn**	**04 30 29.5**	**-4.5**
MOCB	**Mochara**	**1.75**	**63**	Pg	**Pn**	**04 30 08.2**	**0.0**
MOCB				Sg	**Sn**	**04 30 34.5**	**-1.0**
MOCB				IAML		04 30 34.9	
451nm,0.4s							
PB09	**IPOC Station P**	**1.81**	**278**	*e*P	**Pn**	**04 30 09.2**	**+0.8**
PB09				*e*S	**Sn**	**04 30 37.3**	**+1.2**
PB09	**IPOC Station P**	**1.81**	**278**	⇑*i*P	**Pn**	**04 30 09.1**	**+0.7**
PB09	**IPOC Station P**	**1.81**	**278**	Pg	**Pn**	**04 30 09.2**	**+0.8**
PB06	**IPOC Station P**	**2.19**	**252**	*e*P	**Pn**	**04 30 12.8**	**+0.3**
PB06				*e*S	**Sn**	**04 30 44.5**	**+1.3**
PB06				IAML		04 30 46.9	
comp=Z,57nm,0.1s							
PB06	**IPOC Station P**	**2.19**	**252**	*e*P	**Pn**	**04 30 11.9**	**-0.5**
PB06				*i* S	**Sn**	**04 30 42.6**	**-0.6**
PB06				IAML		04 30 45.4	
comp=N,161nm,0.1s							
PB06	**IPOC Station P**	**2.19**	**252**	Pg	**Pn**	**04 30 13.2**	**+0.8**
PB06				Sg	**Sn**	**04 30 43.0**	**-0.2**
PB06				IAML		04 30 45.7	
comp=N,49nm,0.1s							
PB15	**IPOC Station P**	**2.30**	**240**	*e*P	**Pn**	**04 30 10.3**	**-3.4**
PB15				*e*S	**Sn**	**04 30 45.8**	**+0.2**
PB15				IAML		04 30 49.2	
comp=Z,370nm,0.1s							
PB15	**IPOC Station P**	**2.30**	**240**	⇓*i*P	**Pn**	**04 30 14.1**	**+0.4**
PB15				*i* S	**Sn**	**04 30 45.6**	**0.0**
PB15	**IPOC Station P**	**2.30**	**240**	Pg	**Pn**	**04 30 14.7**	**+1.0**
PB04	**IPOC Station P**	**2.64**	**264**	*e*P	**Pn**	**04 30 17.9**	**+0.3**
PB04				*e*S	**Sn**	**04 30 50.8**	**-1.7**
PB04				IAML		04 30 52.6	
comp=Z,120nm,0.2s							
PB04	**IPOC Station P**	**2.64**	**264**	⇓*i*P	**Pn**	**04 30 17.6**	**0.0**
PB04				*i* S	**Sn**	**04 30 50.3**	**-2.2**
PB04	**IPOC Station P**	**2.64**	**264**	Pg	**Pn**	**04 30 18.1**	**+0.5**
PB04				Sg	**Sn**	**04 30 51.0**	**-1.5**
PB04				IAML		04 30 52.0	
comp=Z,91nm,0.4s							
PX03	**IPOC Station P**	**2.72**	**307**	*e*P	**Pn**	**04 30 17.8**	**-0.7**
PX03				*i* S	**Sn**	**04 30 52.6**	**-1.4**
PATCX	**Punta Patache**	**2.92**	**294**	*e*P	**Pn**	**04 30 20.5**	**-0.3**
PATCX				*e*S	**Sn**	**04 30 57.2**	**-1.0**
PATCX				IAML		04 30 59.4	
comp=Z,121nm,0.6s							
PATCX	**Punta Patache**	**2.92**	**294**	⇑*i*P	**Pn**	**04 30 20.3**	**-0.5**
PATCX				*i* S	**Sn**	**04 30 55.9**	**-2.3**
PATCX				IAML		04 30 58.6	
comp=E,229nm,0.2s							
GO01	**Chusmiza**	**2.96**	**323**	*e*P	**Pn**	**04 30 21.6**	**-0.1**
GO01				*e*S	**Sn**	**04 31 02.0**	**+2.2**
GO01	**Chusmiza**	**2.96**	**323**	⇑*i*P	**Pn**	**04 30 22.1**	**+0.4**
GO01				*i* S	**Sn**	**04 31 00.3**	**+0.8**
GO01	**Chusmiza**	**2.96**	**323**	Pg	**Pn**	**04 30 22.3**	**+0.6**
HMBC	**Humberstone**	**2.98**	**306**	*e*P	**Pn**	**04 30 20.9**	**-0.8**
HMBC				*e*S	**Sn**	**04 30 58.3**	**-1.5**
HMBC				IAML		04 30 58.9	
comp=Z,168nm,0.5s							
HMBC	**Humberstone**	**2.98**	**306**	⇑*i*P	**Pn**	**04 30 20.9**	**-0.8**
HMBC				*i* S	**Sn**	**04 30 57.4**	**-2.4**
HMBC				IAML		04 31 00.6	
comp=E,167nm,0.4s							
HMBC	**Humberstone**	**2.98**	**306**	Pg	**Pn**	**04 30 21.5**	**-0.2**
AZAP	**Zapla**	**2.99**	**137**	*e*P	**Pn**	**04 30 21.9**	**+0.2**
TA01	**Diego Aracena**	**3.06**	**299**	*e*P	**Pn**	**04 30 21.2**	**-1.2**
TA01				*e*S	**Sn**	**04 30 59.0**	**-2.1**
TA01				IAML		04 31 01.4	
comp=Z,51nm,0.6s							
TA01	**Diego Aracena**	**3.06**	**299**	⇑*i*P	**Pn**	**04 30 21.6**	**-0.8**
TA01				*i* S	**Sn**	**04 30 58.1**	**-2.9**
TA01				IAML		04 30 59.8	
comp=E,164nm,0.2s							
PB11	**IPOC Station P**	**3.17**	**316**	*e*P	**Pn**	**04 30 23.2**	**-0.6**
PB11				*e*S	**Sn**	**04 31 03.0**	**-0.8**
PB11				IAML		04 31 04.3	
comp=Z,89nm,0.2s							
PB11	**IPOC Station P**	**3.17**	**316**	⇑*i*P	**Pn**	**04 30 23.3**	**-0.6**
PB11				*i* S	**Sn**	**04 31 01.7**	**-2.0**
PB11				IAML		04 31 03.3	
comp=E,162nm,0.2s							
PB11	**IPOC Station P**	**3.17**	**316**	Pg	**Pn**	**04 30 23.5**	**-0.4**
TA02	**Huaiquique**	**3.17**	**304**	*e*P	**Pn**	**04 30 23.9**	**0.0**
TA02				*e*S	**Sn**	**04 31 01.6**	**-2.1**
TA02				IAML		04 31 05.3	
comp=Z,108nm,0.1s							
PB10	**IPOC Station P**	**3.32**	**244**	*e*P	**Pn**	**04 30 25.7**	**+0.1**
PB10				*e*S	**Sn**	**04 31 04.6**	**-2.3**
PB10	**IPOC Station P**	**3.32**	**244**	*e*P	**Pn**	**04 30 25.2**	**-0.4**
PB10				*i* S	**Sn**	**04 31 03.8**	**-3.1**
PB10	**IPOC Station P**	**3.32**	**244**	Pg	**Pn**	**04 30 26.0**	**+0.4**
SOEO	**Opoqueri**	**3.52**	**351**	Pg	**Pn**	**04 30 29.2**	**+0.6**
ALOL	**LOMAS DE OLMED**	**3.53**	**120**	*e*P	**Pn**	**04 30 27.3**	**-1.0**
GO02	**Mina Guanaco**	**3.73**	**214**	*e*P	**Pn**	**04 30 31.4**	**+0.5**
GO02				*e*S	**Sn**	**04 31 15.8**	**-0.7**
PB14	**IPOC Station P**	**3.82**	**227**	*e*P	**Pn**	**04 30 31.9**	**-0.1**
PB14				*e*S	**Sn**	**04 31 16.6**	**-2.0**
PB14				IAML		04 31 16.7	
comp=Z,39nm,0.4s							
PB14	**IPOC Station P**	**3.82**	**227**	Pg	**Pn**	**04 30 32.0**	**-0.1**
SOET	**ToroToro**	**4.17**	**20**	Pg	**Pn**	**04 30 36.4**	**-0.2**
AC01	**Pan de Azucar**	**5.06**	**216**	*e*P	**Pn**	**04 30 46.7**	**-0.9**
AC01				*e*S	**Sn**	**04 31 42.6**	**-3.9**
AC01				IAML		04 32 17.0	
comp=Z,19nm,2.4s							
BBOE	**La Paz, Chanca**	**5.26**	**353**	Pg	**Pn**	**04 30 51.2**	**+0.4**
BBOD	**La Paz, Gloria**	**5.53**	**347**	Pg	**Pn**	**04 30 54.8**	**+0.5**
LPAZ	**La Paz**	**5.79**	**352**	P	**Pn**	**04 30 56.9**	**-0.9**
comp=Z,0.7nm,0.3s,baz=180,slow=2.0,SNR=5.1							
LPAZ				S	**Sn**	**04 32 03.5**	**-1.1**
comp=Z,1.8nm,1.0s,baz=242,slow=21,SNR=2.1							
LPAZ	**La Paz**	**5.79**	**352**	Pg	**Pn**	**04 30 57.9**	**+0.1**
CPUP	**Villa Florida**	**10.05**	**117**	P	**Pn**	**04 31 56.8**	**+3.8**
comp=Z,1.0nm,0.7s,baz=284,slow=8.3,SNR=3.3							
QSPA	**South Pole Qui**	**68.14**	**180**	P	**P**	**04 40 14.1**	**+1.5**
comp=Z,0.3nm,0.4s,baz=130,slow=6.2,SNR=1.0							
comp=Z,0.3nm,0.4s							
TORD	**Torodi Ar. Bea**	**76.15**	**70**	P	**P**	**04 41 00.4**	**-0.5**
comp=Z,0.3nm,0.5s,baz=256,slow=5.0,SNR=5.4							
comp=Z,0.3nm,0.5s							

HEL ***14*** *04:32:04.7±0.4, 67°.83N×20°.34E, h0km, ML1.5, Explosion*
IDC ***14*** *04:32:04.2±0.9, 67°.76N×20°.31E, h0km, mbt

s-min=0.0km az=126.8, confirmed, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSBS	**Neils Beach**	**0.83**	**152**	P	Pb	04 33 16.5	-0.4
NSBS				S	Sg	04 33 26.8	+0.1
JCZ	**Jackson Bay**	**0.94**	**149**	P	Pg	04 33 18.4	+0.3
MECS	**Makarora Emerg**	**1.26**	**140**	P	Pg	04 33 23.7	-0.4
MECS				S	Sg	04 33 39.7	-0.8
FOZ	**Fox Glacier**	**1.27**	**103**	P	Pg	04 33 23.1	-1.2
FOZ				S	Sg	04 33 40.3	-0.4
MSZ	**Milford Sound**	**1.42**	**185**	P	Pn	04 33 25.0	-1.4
MSZ				S	Sb	04 33 43.2	-2.1
FJDS	**Franz Josef DO**	**1.51**	**95**	S	Sn	04 33 46.3	-1.5
WNPS	**Wanaka Nationa**	**1.61**	**153**	S	Sn	04 33 49.5	-0.8
GCSZ	**Gaunt Creek Bo**	**1.61**	**93**	P	Pn	04 33 28.0	-1.1
GCSZ				S	Sn	04 33 50.3	0.0
GCSZ	**Gaunt Creek Bo**	**1.61**	**93**	P	Pn	04 33 27.8	-1.4
GCSZ				S	Sb	04 33 50.8	-0.1
WHFS	**Whataroa Fire**	**1.64**	**91**	S	Sn	04 33 51.2	+0.3
WKZ	**Wanaka**	**1.69**	**158**	P	Pn	04 33 30.8	+0.5
WKZ				S	Sn	04 33 51.9	-0.4
TWAS	**Twizel Area Sc**	**1.75**	**125**	P	Pg	04 33 33.0	-0.4
LBZ	**Lake Benmore**	**1.87**	**128**	P	Pn	04 33 33.3	+0.7
LBZ				S	Sb	04 33 59.1	+0.8
WVZ	**Waitaha Valley**	**1.93**	**85**	P	Pn	04 33 32.3	-1.1
WVZ				S	Sg	04 34 01.9	+0.1
MLZ	**Mavora Lakes**	**2.10**	**180**	P	Pn	04 33 36.6	+0.7
EAZ	**Earnscleugh**	**2.15**	**157**	P	Pn	04 33 36.7	+0.3
EAZ				S	Sn	04 34 04.8	+1.3
RPZ	**Rata Peaks**	**2.19**	**103**	P	Pn	04 33 37.7	+0.7
RPZ				S	Sn	04 34 05.0	+0.6
ARCZ	**Arundel**	**2.33**	**108**	P	Pn	04 33 39.3	+0.3
TMZ	**Timaru**	**2.37**	**119**	P	Pn	04 33 40.7	+1.1
INZ	**Inchbonnie**	**2.50**	**79**	P	Pn	04 33 40.4	-0.9
INZ				S	Sg	04 34 19.0	-1.2
ODZ	**Otahua Downs**	**2.55**	**135**	P	Pn	04 33 41.9	+1.1
WHZ	**Wether Hill Ro**	**2.63**	**183**	P	Pn	04 33 43.4	+0.2
WACZ	**Wakanui South**	**2.79**	**105**	P	Pn	04 33 45.2	-0.1
OXZ	**Oxford**	**2.86**	**93**	P	Pn	04 33 45.9	-0.4
TUZ	**Tuapeka**	**2.90**	**159**	P	Pb	04 33 51.8	-0.3
LTZ	**Lake Taylor**	**3.08**	**82**	P	Pn	04 33 49.7	+0.3
DSZ	**Denniston Nort**	**3.12**	**62**	P	Pn	04 33 49.3	-0.5
MQZ	**McQueen's Vall**	**3.33**	**99**	P	Pn	04 33 51.9	-0.8
SYZ	**Scrubby Hill**	**3.35**	**168**	P	Pn	04 33 53.3	+0.3
THZ	**Tophouse**	**3.84**	**69**	P	Pn	04 33 59.5	-0.3
MRNZ	**Matariki Terra**	**3.91**	**63**	P	Pn	04 34 00.7	0.0
KHZ	**Kahutara**	**4.08**	**80**	P	Pn	04 34 03.3	+0.4
QRZ	**Quartz Range**	**4.09**	**55**	P	Pn	04 34 02.3	-0.8
TKNZ	**Takaka Hill**	**4.24**	**60**	P	Pn	04 34 05.1	0.0
NNZ	**Nelson**	**4.41**	**64**	P	Pn	04 34 07.8	+0.3
BSWZ	**Blackbirch Sta**	**4.53**	**72**	P	Pn	04 34 10.2	+0.9
TUWZ	**Tuamarina**	**4.69**	**69**	P	Pn	04 34 12.0	+0.6
DUWZ	**D'Urville Isla**	**4.97**	**62**	P	Pn	04 34 16.1	+0.8
TCW	**Tory Channel**	**5.01**	**68**	P	Pn	04 34 16.3	+0.5
KIW	**Kapiti Island**	**5.60**	**67**	P	Pn	04 34 23.8	-0.1
OGWZ	**Otaki Gorge**	**5.79**	**67**	P	Pn	04 34 25.9	-0.7
MRZ	**Mangatainoka R**	**6.14**	**67**	P	Pn	04 34 30.3	-1.0
WAZ	**Wanganui**	**6.23**	**58**	P	Pn	04 34 34.1	+1.5
PKVZ	**Pokaka**	**6.74**	**56**	P	Pn	04 34 40.2	+0.6
WNVZ	**Wahianoa**	**6.87**	**58**	P	Pn	04 34 44.2	+2.7
WHVZ	**Whangaehu Hut**	**6.89**	**57**	P	Pn	04 34 43.0	+1.2
NGZ	**Ngauruhoe**	**6.96**	**57**	P	Pn	04 34 44.0	+1.2

*TIR **14** 04:52:41.9, 41°.45N×19°.65E, h26km±1km, MI2.3*
*PDG **14** 04:52:42.7±0.4, 41°.43N×19°.57E, h8km±1km, ML2.5/11, Error ellipse: s-maj=1.3km s-min=2.0km az=0.0*
*BEO **14** 04:52:43.9±0.5, 41°.44N×19°.63E, h12km±2km, ML2.2/7*
*RHSSO **14** 04:52:45.2±0.8, 41°.44N×19°.26E, h8km±2km, ML2.5/10*

ISC 14 04:52:43.1±1.1, 41°.45N±0°.02×19°.63E±0°.03, h13km±8km, n51, σ0°.94/86, 5C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.20**	**120**	P	**Pb**	**04 52 48.1**	**-0.6**
TIR	baz=121			S	**Sb**	**04 52 52.0**	**-0.3**
TIR	baz=121			AMP			
TIR	comp=E,4.4nm,0.5s,baz=121 **Tirane**	**0.20**	**120**	*e*Pg	**Pb**	**04 52 48.1**	**-0.6**
TIR				*e*Sg	**Sb**	**04 52 52.2**	**-0.2**
PUK	**Puka**	**0.62**	**18**	P	**Pg**	**04 52 54.8**	**-0.6**
PUK	baz=16			S	**Sg**	**04 53 03.9**	**+0.2**
PUK	baz=16			AMP			
DRME	comp=E,0.7nm,0.2s,baz=16 **Dracevica, Mon**	**0.81**	**336**	*e*Pg	**Pg**	**04 52 57.8**	**-1.0**
DRME				*e*Sg	**Sb**	**04 53 10.2**	**+0.4**
DRME	**Dracevica, Mon**	**0.81**	**336**	↑*i*Pg	**Pg**	**04 52 58.2**	**-0.6**
DRME				*i* Sg	**Sb**	**04 53 10.2**	**+0.4**
BCI	**Bajram Curri**	**0.97**	**20**	P	**Pb**	**04 53 01.0**	**-0.8**
BCI	baz=18			S	**Sg**	**04 53 14.8**	**+0.2**
BCI	baz=18			AMP			
BUM	comp=E,0.6nm,0.5s,baz=18 **Brajici-Budva**	**1.01**	**327**	*e*Pg	**Pb**	**04 53 01.7**	**-0.8**
BUM				*i* Sg	**Sn**	**04 53 16.9**	**-0.3**
PDG	**Podgorica**	**1.02**	**344**	*e*Pg	**Pn**	**04 53 03.7**	**+0.6**
PDG				*e*Sg	**Sn**	**04 53 17.9**	**+0.7**
PDG	**Podgorica**	**1.02**	**344**	*e*Pg	**Pn**	**04 53 03.1**	**0.0**
PDG				*e*Sg	**Sn**	**04 53 17.2**	**0.0**
PDG	**Podgorica**	**1.02**	**344**	↑*i*Pg	**Pb**	**04 53 01.9**	**-0.7**
PDG				*i* Sg	**Sn**	**04 53 18.0**	**+0.7**
PVY	**Plav**	**1.17**	**12**	*e*Pg	**Pn**	**04 53 04.7**	**-0.6**
PVY				*i* Sg	**Sg**	**04 53 23.9**	**+3.0**
KBN	**Korca**	**1.20**	**133**	S	**Sg**	**04 53 23.6**	**+1.7**
KBN	baz=133			AMP			
CEME	comp=E,0.2nm,0.7s,baz=133 **Cevo**	**1.22**	**334**	↓↓*i*Pg	**Pn**	**04 53 05.6**	**-0.3**
CEME				*i* Sg	**Sg**	**04 53 23.9**	**+1.5**
KOME	**Kolasin**	**1.40**	**357**	*e*Pg	**Pb**	**04 53 09.1**	**-0.1**
KOME				*i* Sg	**Sg**	**04 53 30.2**	**+1.9**
NKME	**Niksic**	**1.41**	**339**	↑↑*i*Pg	**Pn**	**04 53 08.0**	**-0.5**
NKME				*i* Sg	**Sg**	**04 53 29.6**	**+1.1**
IVA	**Berane**	**1.44**	**8**	*e*Pg	**Pb**	**04 53 09.6**	**-0.1**
IVA				*i* Sg	**Sg**	**04 53 31.6**	**+2.2**
FNA	**Florina**	**1.48**	**116**	P	**Pn**	**04 53 08.8**	**-0.6**
FNA	baz=116			S	**Sg**	**04 53 30.6**	**-0.1**
FNA	baz=116			AMP			
LSK	comp=N,0.1nm,0.5s,baz=116 **Leskovik**	**1.49**	**150**	P	**Pb**	**04 53 10.3**	**-0.4**
LSK	baz=150			S	**Sg**	**04 53 30.2**	**-1.0**
TREB	baz=150 **Trebinje**	**1.58**	**324**	*e*Pg	**Pb**	**04 53 11.8**	**-0.4**
TREB				*e*Sg	**Sg**	**04 53 33.6**	**-0.5**
TREB	**Trebinje**	**1.58**	**324**	*e*Pg	**Pn**	**04 53 10.8**	**0.0**
TREB				*e*Sg	**Sn**	**04 53 30.4**	**-0.8**
SRN	**Sarande**	**1.59**	**170**	S	**Sg**	**04 53 35.3**	**+1.0**
DBRK	baz=170 **Dubrovnik**	**1.65**	**318**	*e*Pn	**Pb**	**04 53 13.1**	**-0.1**
DBRK				Sn	**Sn**	**04 53 33.1**	**+0.4**
BRY	**Bratogost**	**1.66**	**331**	*e*Pn	**Pb**	**04 53 13.0**	**-0.6**
BRY				*e*Sn	**Sn**	**04 53 33.8**	**+0.5**
BRY	**Bratogost**	**1.66**	**331**	↑↑*i*Pn	**Pb**	**04 53 13.1**	**-0.6**
BRY				*i* Sn	**Sg**	**04 53 36.9**	**+0.3**
SJES	**Sjenica**	**1.83**	**8**	*e*Pg	**Pb**	**04 53 17.0**	**+0.5**
SJES	**Sjenica**	**1.83**	**8**	*e*Pn	**Pb**	**04 53 17.3**	**+0.8**
SJES				*e*Sn	**Sg**	**04 53 41.5**	**-0.5**
UPM	**Unac-Piva**	**1.83**	**343**	*e*Pn	**Pb**	**04 53 16.3**	**-0.3**
UPM				*e*Sn	**Sb**	**04 53 39.2**	**-0.3**
UPM	**Unac-Piva**	**1.83**	**343**	↑↑*i*Pn	**Pn**	**04 53 14.8**	**+0.4**
UPM				*i* Sn	**Sg**	**04 53 41.3**	**-0.8**
KLINJ	**Klinje**	**1.89**	**336**	*e*Pn	**Pb**	**04 53 16.7**	**-0.7**
KLINJ				*e*Sn	**Sn**	**04 53 39.5**	**+0.8**
PLE	**Pljevlja**	**1.89**	**355**	↓↓*i*Pn	**Pn**	**04 53 15.7**	**+0.6**
PLE				*i* Sn	**Sg**	**04 53 43.2**	**-0.7**
STON	**Ston**	**2.02**	**315**	*e*Pn	**Pb**	**04 53 19.3**	**-0.3**
STON				*e*Sn	**Sn**	**04 53 41.9**	**+0.1**
STON	**Ston**	**2.02**	**315**	*e*Pn	**Pn**	**04 53 17.2**	**+0.4**
STON				*e*Sn	**Sn**	**04 53 40.6**	**-1.2**
NOCI	**Noci**	**2.05**	**252**	P	**Pb**	**04 53 20.2**	**+0.1**
NOCI	baz=253			S	**Sb**	**04 53 46.0**	**+0.6**
SELS	**Selova**	**2.09**	**31**	*e*Pn	**Pb**	**04 53 19.7**	**-1.1**
SELS				*e*Sn	**Sn**	**04 53 43.8**	**+0.2**
RUDO	**Rudo**	**2.18**	**355**	*e*Pn	**Pb**	**04 53 21.9**	**-0.4**
RUDO				*e*Sn	**Sb**	**04 53 49.0**	**-0.2**
BBLS	**Lazi&#263i**	**2.42**	**356**	*e*Pn	**Pb**	**04 53 25.7**	**-0.8**
BBLS				*e*Sn	**Sb**	**04 53 54.9**	**-1.4**
MAKA	**Makarska**	**2.67**	**314**	*e*Pn	**Pn**	**04 53 25.0**	**-0.7**
HAPS	**Han Pijesak,Bl**	**2.68**	**350**	*e*Pn	**Pb**	**04 53 28.6**	**-2.4**
HAPS				*e*Sn	**Sn**	**04 54 01.1**	**+2.7**
RICI	**Ricice**	**2.75**	**319**	*e*Pn	**Pn**	**04 53 26.6**	**-0.4**
LKD2	**Lefkada island**	**2.77**	**163**	P	**Pn**	**04 53 27.6**	**+0.4**
HVAR	baz=163 **Hvar**	**2.92**	**307**	*e*Pn	**Pn**	**04 53 28.5**	**-0.8**
MORI	**Morici**	**3.77**	**311**	*e*Pn	**Pn**	**04 53 41.4**	**+0.6**
A050A	**Klekovaca**	**3.79**	**324**	*e*Pn	**Pn**	**04 53 41.8**	**+0.6**
A050A				*e*Sn	**Sn**	**04 54 24.3**	**-1.3**
DUGI	**Dugi Otok**	**4.22**	**309**	*e*Pn	**Pn**	**04 53 46.7**	**-0.3**
NVLJ	**Novalja**	**4.67**	**313**	*e*Pn	**Pn**	**04 53 52.9**	**-0.4**
BART	**Pico Bartolome**	**34.41**	**279**	*e*P	**P**	**04 59 32.7**	**+2.6**
PGRON	**Lagoa das Cont**	**34.57**	**279**	*e*P	**P**	**04 59 30.1**	**-1.3**
PCALD	**Caldeiras da R**	**34.64**	**279**	*e*P	**P**	**04 59 31.7**	**-0.3**
CMLA	**Cha da Macela**	**34.68**	**279**	*e*P	**P**	**04 59 33.4**	**+1.0**
PDA	**Ponta Delgada**	**34.79**	**279**	*e*P	**P**	**04 59 33.7**	**+0.4**
PSET	**Sete Cidades**	**34.81**	**279**	*e*P	**P**	**04 59 34.3**	**+0.8**

*IDC **14** 05:04:41.9±1.6, 15°.45S×172°.53W, h0km, mb4.2/5, mbtmp4.2/5, Error ellipse: s-maj=42.6km s-min=38.2km az=92.0*

ISC 14 05:04:45.0±1.6, 15°.1S±0°.3×172°.4W±0°.3, h35km, n8, σ0°70/8, mb4.3/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.86**	**200**	P	**P**	**05 10 04.8**	**+0.6**
	4.8nm,0.5s,baz=18,slow=3.2,SNR=1.7 4.8nm,0.5s						
STKA	**Stephens Creek**	**45.02**	**240**	P	**P**	**05 12 56.9**	**-0.5**
	3.1nm,0.7s,baz=86,slow=7.2,SNR=5.3 3.1nm,0.7s						
WRA	**Warramunga Arr**	**50.85**	**256**	P	**P**	**05 13 43.1**	**+0.3**
	1.6nm,0.8s,baz=92,slow=7.5,SNR=14 1.6nm,0.8s						
ASAR	**Alice Springs**	**51.12**	**252**	P	**P**	**05 13 44.9**	**+0.2**
	2.7nm,0.6s,baz=86,slow=8.2,SNR=43 2.7nm,0.6s						
QSPA	**South Pole Qui**	**74.94**	**180**	P	**P**	**05 16 21.9**	**-0.5**
	2.0nm,0.8s,baz=317,slow=1.1,SNR=6.1 2.0nm,0.8s						
MKAR	**Makanchi Array**	**111.31**	**315**	PKiKP	**PKiKP**	**05 23 16.0**	**+0.7**
	0.4nm,0.5s,baz=113,slow=3.1,SNR=2.9						
BRTR	**Keskin Array B**	**146.53**	**322**	PKPbc	**PKiKP**	**05 24 26.5**	**+0.4**
	1.5nm,0.7s,baz=68,slow=1.7,SNR=5.8						
MMAI	**Mount Meron Ar**	**149.12**	**310**	PKPbc	**PKPab**	**05 24 33.7**	**-0.9**
	4.3nm,0.9s,baz=46,slow=5.3,SNR=2.3						

CATAC 14 05:05:03.5±0.6, 11°.93N×88°.47W, h20km, ML3.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.47**	**25**	*i* P	Pb	05 05 30.1	-0.2
CNCH				*i* S	Sb	05 05 48.3	-0.3
CNCH				IAML		05 05 52.6	
LCND	comp=Z,450nm,1.0s **La Caada**	**1.48**	**22**	*i* P	Pn	05 05 28.6	-0.4
LCND				IAML		05 05 48.0	
RANC	comp=Z,120nm,1.0s **El Ranchito**	**1.50**	**7**	*i* P	Pn	05 05 29.6	+0.1
RANC				*i* S	Sb	05 05 49.6	+0.1
RANC				IAML		05 06 34.7	
PACA	comp=Z,230nm,1.0s **Pacayal**	**1.53**	**5**	*i* P	Pn	05 05 30.0	+0.1
PACA				*i* S	Sb	05 05 49.9	-0.5
PACA				IAML		05 05 54.1	
COEB	comp=Z,1μm,1.0s **Comit de Eme**	**1.56**	**358**	*i* P	Pn	05 05 29.1	-1.1
COEB				*i* S	Sn	05 05 50.4	+0.5
COEB				IAML		05 06 53.1	
AMPH	comp=Z,120nm,1.0s **Amapala**	**1.56**	**30**	*i* P	Pn	05 05 30.3	+0.2
AMPH				*i* S	Sb	05 05 51.2	+0.2
CRIN	**San Cristobal**	**1.58**	**61**	*i* P	Pn	05 05 30.2	-0.3
CRIN				IAML		05 06 12.2	
TECO	comp=Z,400nm,1.0s **Alcaldia de Te**	**1.62**	**349**	*i* P	Pn	05 05 30.4	-0.6
TECO				*i* S	Sb	05 05 52.2	-0.7
TECO				IAML		05 05 55.3	
PQSS	comp=Z,47nm,1.0s **Presa 15 de Se**	**1.68**	**357**	*i* P	Pn	05 05 31.8	0.0
PQSS				IAML		05 05 55.5	
UESV	comp=Z,53nm,1.0s **Universidad de**	**1.72**	**350**	*i* P	Pn	05 05 32.7	+0.3
UESV				IAML		05 06 25.2	
PACN	comp=Z,160nm,1.0s **Al O del Volca**	**1.73**	**71**	*i* P	Pn	05 05 33.1	+0.6
PACN				*i* S	Sn	05 05 54.8	+0.7
PACN				IAML		05 06 00.2	
SCLA	comp=Z,99nm,1.0s **Alcaldia de Sa**	**1.78**	**352**	*i* P	Pn	05 05 33.9	+0.7
SCLA				*i* S	Sn	05 05 54.1	-1.1
SCLA				IAML		05 06 04.3	
ILCN	comp=Z,75nm,1.0s **San Idelfonso**	**1.84**	**70**	*i* P	Pn	05 05 33.0	-1.1
ILCN				*i* S	Sn	05 05 55.6	-1.2
ILCN				IAML		05 05 58.7	
COPN	comp=Z,40nm,1.0s **Copaltepe**	**1.85**	**82**	*i* P	Pn	05 05 34.6	+0.4
COPN				IAML		05 06 07.7	
NUBE	comp=Z,65nm,1.0s **Las Nubes**	**2.34**	**327**	*i* P	Pn	05 05 41.5	+0.5
NUBE				*i* S	Sn	05 06 08.4	-0.8
NUBE				IAML		05 07 35.9	
LIMN	comp=Z,200nm,1.0s **Finca el Limon**	**2.34**	**61**	*i* P	Pn	05 05 41.0	0.0

*SNET **14** 05:06:49.0±0.9, 12°.18N×88°.89W, h15km±3km, ML3.4*
*CATAC **14** 05:06:49.1±0.6, 12°.15N×88°.82W, h15km±5km, mb3.8, ML3.5*

ISC 14 05:06:48.8±2.8, 12°.16N±0°.07×88°.85W±0°.05, h14km±16km, n55, σ0°64/73, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**1.29**	**37**	*e*P	**Pn**	**05 07 12.3**	**-0.2**
INTP				*e*S	**Sg**	**05 07 30.4**	**-0.2**
COEB	**Comit de Eme**	**1.37**	**13**	*e*P	**Pn**	**05 07 13.2**	**-0.4**
COEB				*e*S	**Sb**	**05 07 31.7**	**+0.1**
COEB	**Comit de Eme**	**1.37**	**13**	*i* P	**Pn**	**05 07 13.5**	**-0.1**
COEB				IAML		05 07 35.4	
LCY	comp=Z,330nm,1.0s **Lacayo**	**1.37**	**23**	*e*P	**Pn**	**05 07 13.4**	**-0.2**
TECA	**Tecapa**	**1.37**	**14**	*e*P	**Pn**	**05 07 13.3**	**-0.4**
TECO	**Alcaldia de Te**	**1.37**	**3**	*e*P	**Pn**	**05 07 12.7**	**-0.8**
TECO				*e*S	**Sn**	**05 07 31.2**	**-0.3**
TECO	**Alcaldia de Te**	**1.37**	**3**	*i* P	**Pn**	**05 07 13.1**	**-0.5**
TECO				IAML		05 07 36.1	
RANC	comp=Z,320nm,1.0s **El Ranchito**	**1.38**	**23**	*e*P	**Pn**	**05 07 13.8**	**0.0**
VSM	**San Miguel**	**1.38**	**24**	*e*P	**Pn**	**05 07 14.2**	**+0.3**
VSM				*e*S	**Sb**	**05 07 33.0**	**+0.8**
PACA	**Pacayal**	**1.40**	**22**	*e*P	**Pn**	**05 07 14.3**	**+0.3**
PACA				*e*S	**Sb**	**05 07 32.8**	**+0.2**
PACA	**Pacayal**	**1.40**	**22**	*i* P	**Pb**	**05 07 15.1**	**+0.3**
PACA				IAML		05 07 35.9	
BLLM	comp=Z,5μm,1.0s **Bellamira**	**1.41**	**25**	*e*P	**Pn**	**05 07 13.9**	**-0.2**
UESV	**Universidad de**	**1.47**	**2**	*e*P	**Pn**	**05 07 14.5**	**-0.5**
UESV	**Universidad de**	**1.47**	**2**	*i* P	**Pn**	**05 07 14.8**	**-0.1**
UESV				IAML		05 07 37.3	
LCND	comp=Z,530nm,1.0s **La Caada**	**1.48**	**39**	*e*P	**Pn**	**05 07 14.5**	**-0.5**
LCND				*e*S	**Sb**	**05 07 35.5**	**+0.8**
LCND				IAML		05 07 41.6	
LCND	comp=Z,277nm,0.3s **La Caada**	**1.48**	**39**	*i* P	**Pn**	**05 07 14.7**	**-0.3**
LCND				IAML		05 07 28.9	
PQSS	comp=Z,260nm,1.0s **Presa 15 de Se**	**1.48**	**11**	*e*P	**Pn**	**05 07 14.9**	**-0.2**
PQSS				*e*S	**Sb**	**05 07 35.0**	**+0.1**
PQSS				IAML		05 07 36.8	
PQSS	comp=Z,428nm,0.2s **Presa 15 de Se**	**1.48**	**11**	*i* P	**Pn**	**05 07 15.5**	**+0.4**
PQSS				IAML		05 07 36.7	
CNCH	comp=Z,880nm,1.0s **Conchagua**	**1.49**	**42**	*e*P	**Pn**	**05 07 15.4**	**+0.2**
CNCH	**Conchagua**	**1.49**	**42**	*i* P	**Pn**	**05 07 15.6**	**+0.3**
CNCH				IAML		05 07 40.7	
LOMA	comp=Z,620nm,1.0s **Loma Larga**	**1.51**	**348**	*e*P	**Pn**	**05 07 14.6**	**-0.9**
LOMA	**Loma Larga**	**1.51**	**348**	*i* P	**Pn**	**05 07 15.3**	**-0.3**
LOMA				IAML		05 07 38.1	
SCLA	comp=Z,660nm,1.0s **Alcaldia de Sa**	**1.54**	**4**	*e*P	**Pn**	**05 07 15.9**	**0.0**
SCLA	**Alcaldia de Sa**	**1.54**	**4**	*i* P	**Pn**	**05 07 16.3**	**+0.4**
SCLA				*i* S	**Sb**	**05 07 36.8**	**+0.3**
SCLA				IAML		05 07 39.5	
SNET	comp=Z,210nm,1.0s **Serv Nac Est T**	**1.56**	**346**	*e*P	**Pn**	**05 07 15.5**	**-0.8**
JAYA	**Jayaque - finc**	**1.59**	**339**	*e*P	**Pn**	**05 07 16.0**	**-0.8**
JAYA				*e*S	**Sn**	**05 07 36.7**	**-0.6**
JAYA				IAML		05 07 39.3	
JAYA	comp=Z,813nm,0.2s **Jayaque - finc**	**1.59**	**339**	*i* P	**Pn**	**05 07 16.5**	**-0.3**
JAYA				IAML		05 07 38.4	
PMON	comp=Z,2μm,1.0s **Piamonte**	**1.61**	**344**	*e*P	**Pn**	**05 07 16.2**	**-0.7**
PMON	**Piamonte**	**1.61**	**344**	*i* P	**Pn**	**05 07 16.7**	**-0.2**
PMON				*i* S	**Sn**	**05 07 38.0**	**+0.5**
PMON				IAML		05 07 41.2	
AMPH	comp=Z,840nm,1.0s **Amapala**	**1.61**	**46**	*e*P	**Pn**	**05 07 16.7**	**-0.2**
BOQS	**Boqueron**	**1.62**	**345**	*e*P	**Pn**	**05 07 16.9**	**-0.3**
BOQS				*e*S	**Sb**	**05 07 38.5**	**-0.5**
CRIN	**San Cristobal**	**1.84**	**73**	*e*P	**Pn**	**05 07 20.0**	**-0.1**
SNJE	**San Jose**	**1.85**	**337**	*e*P	**Pn**	**05 07 20.3**	**0.0**
RTR	**El Retiro**	**1.89**	**336**	*e*P	**Pn**	**05 07 20.8**	**-0.1**
UNIC	**Universidad Ca**	**1.93**	**340**	*e*P	**Pn**	**05 07 21.1**	**-0.3**
UNIC	**Universidad Ca**	**1.93**	**340**	*i* P	**Pn**	**05 07 22.2**	**+0.9**
UNIC				*i* S	**Sb**	**05 07 46.7**	**-1.2**
UNIC				IAML		05 08 30.7	
NUBE	comp=Z,210nm,1.0s **Las Nubes**	**1.95**	**333**	*e*P	**Pn**	**05 07 21.3**	**-0.4**
NUBE	**Las Nubes**	**1.95**	**333**	*i* P	**Pn**	**05 07 21.6**	**-0.1**
NUBE				IAML		05 07 46.9	
LLGN	comp=Z,330nm,1.0s **La Laguna**	**1.99**	**357**	*i* P	**Pn**	**05 07 22.5**	**+0.3**
LLGN				*i* S	**Sb**	**05 07 49.2**	**-0.5**
LLGN				IAML		05 07 59.6	
PACN	comp=Z,310nm,1.0s **Al O del Volca**	**2.04**	**80**	*i* P	**Pn**	**05 07 22.2**	**-0.6**
PACN				IAML		05 07 24.9	
SLOZ	comp=Z,300nm,1.0s **Alcaldia de Sa**	**2.06**	**334**	*e*P	**Pn**	**05 07 22.8**	**-0.3**
CNGN	**Cerro Negro**	**2.13**	**81**	*e*P	**Pn**	**05 07 23.8**	**-0.2**
ILCN	**San Idelfonso**	**2.14**	**79**	*i* P	**Pn**	**05 07 22.3**	**-1.9**
ILCN				*i* S	**Sn**	**05 07 51.2**	**+0.6**
ILCN				IAML		05 07 52.7	
LEVN	comp=Z,100nm,1.0s **Ruinas Leon Vi**	**2.20**	**83**	*i* P	**Pn**	**05 07 25.4**	**+0.5**
LEVN				*i* S	**Sb**	**05 07 54.2**	**-1.3**
LEVN				IAML		05 07 59.5	
COPN	comp=Z,290nm,1.0s **Copaltepe**	**2.21**	**89**	*i* P	**Pn**	**05 07 24.4**	**-0.7**
COPN				IAML		05 07 52.3	
SAPS	comp=Z,120nm,1.0s **Ciudad Sandino**	**2.39**	**90**	*i* P	**Pn**	**05 07 27.1**	**-0.5**
SAPS				*i* S	**Sn**	**05 07 56.6**	**-0.1**
SAPS				IAML		05 08 07.2	
ESQI	comp=Z,280nm,1.0s **Esquipulas**	**2.43**	**349**	*i* P	**Pn**	**05 07 30.3**	**+2.0**
ESQI				*i* S	**Sn**	**05 07 58.4**	**+0.5**
ESQI				IAML		05 08 05.8	
TGUH	comp=Z,140nm,1.0s **Tegucigalpa,Un**	**2.43**	**39**	*e*P	**Pn**	**05 07 28.1**	**-0.2**
R4DEC	**Barrio San Lui**	**2.55**	**90**	*i* P	**Pn**	**05 07 29.1**	**-0.6**
R4DEC				IAML		05 07 30.2	
R0529	comp=Z,290nm,1.0s **La Mascota**	**2.56**	**91**	*i* P	**Pn**	**05 07 29.7**	**-0.2**
R0529				IAML		05 07 30.0	
LIMN	comp=Z,340nm,1.0s **Finca el Limon**	**2.59**	**69**	*i* P	**Pn**	**05 07 29.7**	**-0.7**
LIMN				IAML		05 07 30.8	
WILN	comp=Z,72nm,1.0s **Americas 2**	**2.60**	**90**	*i* P	**Pn**	**05 07 30.2**	**-0.3**
WILN				IAML		05 07 30.7	
YUSH	comp=Z,200nm,1.0s **Yuscaran**	**2.65**	**47**	*e*P	**Pn**	**05 07 31.5**	**+0.3**
BOAB	**BOACO BROADBAN**	**3.13**	**84**	*i* P	**Pn**	**05 07 37.4**	**-0.3**
BOAB				IAML		05 08 30.4	
LCR2	comp=Z,38nm,1.0s **La Lucha 2**	**5.33**	**116**	*i* P	**Pn**	**05 08 10.2**	**+2.0**
LCR2				IAmb	IAmb	05 08 11.0	
LCR2	comp=Z,18nm,1.7s			IAML		05 08 17.4	
	comp=Z,37nm,1.0s						

*NEIC **14** 05:07:56.2±0.8, 19°.37N±0°.01×155°.301W±0°.004, h8km±1.6km, Error ellipse: s-maj=1.6km s-min=0.6km az=177.0*

HVO 14 05:07:55.8±0.8, 19°.398N±0°.006×155°.291W±0°.007, h1km±4km, ML3.5/43, ML3.1/30(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=141.0, Hawaiian Islands

| Code | Station Name | Δ

h5km±1km, Error ellipse: s-maj=1.7km s-min=1.1km az=177.0

NEIC ***14*** *05:08:03.7, 19°.60N×155°.28W, h12km, Moment Tensor Solution. Duration: 2±2 Moment tensor: Scale 10^{16}Nm; M_{rr}=9.61; $M_{\theta\theta}$=4.55; $M_{\phi\phi}$=5.07; $M_{r\theta}$=-3.07; $M_{\theta\phi}$=4.13; $M_{r\phi}$=1.50; Fault plane solution: M_0=9.81000×10^{16} NP1:ϕ_s=59.20000°, δ=50.40000°, λ=-69.00000°. NP2:ϕ_s=208.15000°, δ=44.00000°, λ=-113.42000°. Principal axes: T 9.0050, Plg3.0000°, Azm134.0000°; N 1.6034, Plg16.0000°, Azm225.0000°; P -10.6084, Plg74.0000°, Azm33.0000°;*

HVO ***14*** *05:08:03.7±0.8, 19°.40N±0°.01×155°.276W±0°.008, $h_0$km±2km, Md4.3/4, mb4.7/45(NEIC), ML3.9/25(NEIC), Mww5.3/21(NEIC) Error ellipse: s-maj=1.8km s-min=1.0km az=177.0*

NEIC ***14*** *05:08:03.7, 19°.40N×155°.28W, h12km*

BJI ***14*** *05:08:04.0±0.0, 19°.40N×155°.30W, h5km, mb5.2/17, mB5.7/23, Ms5.1/24, Ms7 4.9/25*

GCMT ***14*** *05:08:13.7±0.1, 19°.39N±0°.01×155°.15W±0°.01, h12km, MW5.2/155, Moment Tensor Solution. s83,c120; s155,c265; Duration: 1±0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.93±.01; $M_{\theta\theta}$=0.50±.01; $M_{\phi\phi}$=0.42±.01; $M_{r\theta}$=0.30±.03; $M_{\theta\phi}$=0.34±.01; $M_{\phi r}$=0.13±.03; Best double couple: M_0=0.91500×10^{17} NP1:ϕ_s=243.00000°, δ=51.00000°, λ=-71.00000°. NP2:ϕ_s=35.00000°, δ=42.00000°, λ=-112.00000°. Principal axes: T 0.8160, Plg5.0000°, Azm320.0000°; N 0.1970, Plg14.0000°, Azm52.0000°; P -1.0130, Plg75.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 05:08:04.6±0.8, 19°.40N±0°.03×155°.29W±0°.03, h5km±4km, n526, σ1$30/468, mb4.7/34, MS4.5/68, 2C, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**98**		**Pg**	**05 08 04.6**	**-1.2**
SDHHI	**Sand Hill**	**0.01**	**230**		**Pg**	**05 08 05.2**	**-0.6**
WRMHI	**West Rim**	**0.02**	**304**		**Pg**	**05 08 05.4**	**-0.4**
KKO	**Keanakako`i**	**0.02**	**87**		**Pg**	**05 08 04.7**	**-1.1**
OBL	**Observatory Le**	**0.02**	**2**		**Pg**	**05 08 04.8**	**-1.0**
UWE	**Uwekahuna**	**0.03**	**342**	IAML		05 08 04.4	
	comp=E,360μm,0.8s						
UWE				IAML		05 08 04.5	
	comp=N,473μm,1.0s						
UWE				Pg	**Pg**	**05 08 04.5**	**-1.3**
BYL	**Byron's Ledge**	**0.03**	**57**	Pg	**Pg**	**05 08 04.4**	**-1.4**
UWB	**Uwekahuna B**	**0.03**	**13**		**Pg**	**05 08 04.9**	**-1.0**
HATHI	**Halema'uma'u T**	**0.03**	**41**	IAML		05 08 04.4	
	comp=E,221μm,1.1s						
HATHI				Pg	**Pg**	**05 08 04.8**	**-1.2**
RSD	**Rainshed**	**0.07**	**6**	Pg	**Pg**	**05 08 04.8**	**-1.5**
RSD				IAML		05 08 05.7	
	comp=E,87μm,1.0s						
RSD				IAML		05 08 06.0	
	comp=N,134μm,1.7s						
HLP	**Hilina Pali**	**0.10**	**192**	Pg	**Pg**	**05 08 05.7**	**-1.2**
HLP				IAML		05 08 08.5	
	comp=E,110μm,0.8s						
HLP				IAML		05 08 08.7	
	comp=N,101μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.11**	**99**	Pg	**Pg**	**05 08 05.6**	**-1.4**
MLH	**Mauna Loa**	**0.14**	**315**	Pg	**Pg**	**05 08 06.1**	**-1.4**
MLH				IAML		05 08 07.5	
	comp=N,33μm,0.9s						
MLH				IAML		05 08 07.5	
	comp=E,31μm,1.0s						
STCH	**Steam Cracks**	**0.15**	**94**	Pg	**Pg**	**05 08 06.7**	**-1.0**
STCH				IAML		05 08 07.9	
	comp=N,16μm,1.2s						
STCH				IAML		05 08 11.2	
	comp=E,41μm,1.1s						
JOKA	**Jonika Flow**	**0.27**	**82**	Pg	**Pg**	**05 08 09.1**	**-0.7**
JOKA				IAML		05 08 15.3	
	comp=E,13μm,1.6s						
JOKA				IAML		05 08 16.9	
	comp=N,18μm,0.8s						
HMH	**Humu'ula Sheep**	**0.28**	**318**	Pg	**Pg**	**05 08 08.9**	**-1.2**
HMH				IAML		05 08 17.1	
	comp=E,20μm,1.7s						
HMH				IAML		05 08 17.3	
	comp=N,25μm,1.9s						
MWH	**Moku'aweowe**	**0.31**	**287**	Pg	**Pg**	**05 08 09.5**	**-1.3**
PAH	**Pahoa**	**0.33**	**73**	Pg	**Pg**	**05 08 10.0**	**-1.1**
KHU	**Kahuku**	**0.35**	**244**	Pg	**Pg**	**05 08 10.5**	**-0.9**
ALEP	**Alea Permanent**	**0.37**	**293**		**Sg**	**05 08 15.9**	**-0.9**
PHO	**Puu Honuaula**	**0.38**	**77**	Pg	**Pg**	**05 08 10.7**	**-1.4**
HPO	**Honuapo**	**0.40**	**220**	Pg	**Pg**	**05 08 11.9**	**-0.4**
POHA	**Pohakuloa**	**0.43**	**327**	Pg	**Pg**	**05 08 11.6**	**-1.4**
HUH	**Hualalai**	**0.59**	**299**	Pg	**Pg**	**05 08 15.5**	**-0.6**
I59US	**HAWAII INFRASO**	**0.61**	**289**	Pg	**Pn**	**05 08 19.0**	**-1.0**
	baz=114,slow=24						
I59US				I	I	05 11 30.0	
	comp=N,0.1nm,1.0s,baz=107,slow=317,SNR=7.4						
SNCC	**San Nicolas Is**	**34.71**	**59**	P	**P**	**05 14 54.0**	**-1.6**
	baz=256						
SCZ2	**Santa Cruz Isl**	**34.81**	**58**	P	**P**	**05 14 54.1**	**-2.5**
	baz=254						
SBC	**Santa Barbara**	**34.87**	**57**	P	**P**	**05 14 55.9**	**-1.1**
	baz=254						
SCI2	**San Clemente I**	**35.45**	**60**	P	**P**	**05 15 01.9**	**-0.1**
	baz=257						
YBH	**Yreka Blue Hor**	**35.48**	**44**	LR	LR	05 28 26.8	
	comp=N,210nm,18.2s,baz=249,slow=34						
CHNA	**Chernabura Isl**	**35.52**	**356**	P	**P**	**05 15 03.6**	**+1.3**
	baz=173						
H11N3	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	05 52 14.8	
	baz=84,slow=73,SNR=31						
H11N2	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	05 52 15.5	
	baz=84,slow=73,SNR=28						
H11N1	**WAKE ISLAND Hy**	**35.60**	**277**	T	T	05 52 15.7	
	baz=84,slow=73,SNR=19						
VOG	**Valley Oaks Go**	**35.69**	**54**	P	**P**	**05 15 04.1**	**+0.1**
	baz=252						
OSI	**Osito Audit: C**	**35.71**	**57**	P	**P**	**05 15 03.1**	**-1.2**
	baz=254						
VES	**Vestal, Richgr**	**35.77**	**55**	P	**P**	**05 15 03.9**	**-0.8**
	baz=252						
FMP	**Fort Macarthur**	**35.82**	**59**	P	**P**	**05 15 06.1**	**+1.0**
	baz=256						
H11S2	**WAKE ISLAND Hy**	**35.92**	**275**	T	T	05 52 37.3	
	baz=83,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**35.92**	**275**	T	T	05 52 38.9	
	baz=83,slow=75,SNR=9.8						
DECC	**Green Verdugo**	**35.92**	**58**	P	**P**	**05 15 04.6**	**-1.5**
	baz=255						
H11S3	**WAKE ISLAND Hy**	**35.93**	**275**	T	T	05 52 39.1	
	baz=83,slow=75,SNR=9.4						
ISA	**Isabella, Lake**	**36.19**	**56**	P	**P**	**05 15 08.1**	**-0.4**
	baz=253						
EDW2	**Edwards Air Fo**	**36.36**	**57**	P	**P**	**05 15 08.6**	**-1.3**
	baz=255						
BFSC	**Mount Baldy Ra**	**36.46**	**58**	P	**P**	**05 15 08.8**	**-2.0**
	baz=256						
MLAC	**Mammoth, Mammo**	**36.53**	**52**	P	**P**	**05 15 11.0**	**-0.5**
	baz=250						
109C	**Camp Elliot, M**	**36.61**	**61**	P	**P**	**05 15 10.3**	**-1.6**
	baz=258						
MURC	**Murrieta**	**36.69**	**60**	P	**P**	**05 15 11.7**	**-1.0**
	baz=257						
CWC	**Cottonwood Cre**	**36.73**	**55**	P	**P**	**05 15 12.1**	**-1.0**
	baz=253						
LRMC	**Laurel Mtn Rad**	**36.76**	**56**	P	**P**	**05 15 11.5**	**-1.9**
	baz=254						
TIN	**Tinemaha, Big**	**36.80**	**54**	P	**P**	**05 15 13.3**	**-0.4**
	baz=252						
CHGN	**Chignik**	**36.92**	**357**	P	**P**	**05 15 14.8**	**+0.6**
	baz=175						
BBRC	**Big Bear Solar**	**37.06**	**59**	P	**P**	**05 15 14.7**	**-1.3**
	baz=256						
MPMC	**Manual Prospec**	**37.07**	**55**	P	**P**	**05 15 14.9**	**-1.2**
	baz=254						
DSP	**Deep Springs**	**37.10**	**53**	P	**P**	**05 15 14.8**	**-1.2**
DSP				IAmb	IAmb	05 15 33.8	
	comp=Z,14nm,1.5s						
SII	**Sitkinak Islan**	**37.12**	**1**	P	**P**	**05 15 15.5**	**-0.5**
	baz=182						
RRX	**Edison Barstow**	**37.15**	**58**	P	**P**	**05 15 14.9**	**-1.6**
	baz=256						
PPT	**Papeete**	**37.16**	**171**	LR	LR	05 27 00.8	
	comp=Z,1μm,19.8s,baz=334,slow=31						
MONP2	**Monument Peak**	**37.17**	**61**	P	**P**	**05 15 14.4**	**-2.6**
	baz=258						
PPT2	**Papeete2**	**37.18**	**171**	*e*P	**P**	**05 15 14.9**	**-2.0**
	comp=Z,83nm,24.0s						
PPT2				*e*S	**S**	**05 21 05.9**	**+1.6**
	comp=Z,386nm,25.2s						
PPT2				*e*LQ	LQ	05 23 34.7	
	comp=Z,521nm,22.8s						
PPT2				*e*LR	LR	05 25 15.1	
	comp=Z,3μm,27.0s						
PPT2				*e*LR	LR	05 25 15.2	
	comp=Z,4μm,25.2s						
NVAR	**Mina Array Bea**	**37.20**	**51**	P	**P**	**05 15 14.9**	**-2.2**
NVAR	**Mina Array Bea**	**37.20**	**51**	P	**P**	**05 15 19.7**	**+2.5**
	comp=Z,0.5nm,0.6s,baz=244,slow=10,SNR=7.4						
NVAR				LR	LR	05 26 32.6	
	comp=Z,271nm,21.2s,baz=244,slow=29 comp=Z,0.5nm,0.6s						
PFO	**Pinyon Flats O**	**37.29**	**60**	P	**P**	**05 15 17.8**	**-0.1**
	baz=258						
PFO	**Pinyon Flats O**	**37.29**	**60**	LR	LR	05 27 06.0	
	comp=Z,247nm,18.3s,baz=264,slow=30						
TPFO	**Pinon Flats**	**37.29**	**60**	P	**P**	**05 15 17.6**	**-0.3**
	baz=258						
IKP	**In-Ko-Pah, Jac**	**37.38**	**61**	P	**P**	**05 15 17.6**	**-1.1**
	baz=259						
GSC	**Goldstone, Bar**	**37.41**	**57**	P	**P**	**05 15 18.0**	**-0.9**
	baz=255						
GRAC	**Grapevine Rang**	**37.44**	**54**	P	**P**	**05 15 18.5**	**-0.5**
	baz=252						
HEC	**Hector,Ludlow**	**37.66**	**58**	P	**P**	**05 15 20.3**	**-0.8**
	baz=256						
FURC	**Furnace Creek,**	**37.67**	**55**	P	**P**	**05 15 20.1**	**-0.8**
	baz=254						
SWSC	**Sam W. Stewart**	**37.70**	**61**	P	**P**	**05 15 20.2**	**-1.0**
	baz=259						
BELC	**Belle Mtn. Jos**	**37.75**	**59**	P	**P**	**05 15 20.4**	**-1.4**
	baz=257						
OHAK	**Old Harbor**	**37.80**	**2**	P	**P**	**05 15 21.3**	**-0.4**
	baz=183						
WCT	**Wildcat Mounta**	**37.95**	**55**	P	**P**	**05 15 24.7**	**+1.3**
SHOC	**Shoshone, Teco**	**37.98**	**56**	P	**P**	**05 15 22.4**	**-1.2**
	baz=255						
BC3	**Big Chuckawall**	**38.12**	**60**	P	**P**	**05 15 23.9**	**-1.0**
	baz=258						
R18K	**Karluk**	**38.12**	**1**	P	**P**	**05 15 24.7**	**+0.3**
	baz=181						
TUQ	**Turquoise Moun**	**38.14**	**57**	P	**P**	**05 15 23.6**	**-1.5**
	baz=256						
R17L	**Mt. Peulik Vol**	**38.19**	**359**	P	**P**	**05 15 25.5**	**+0.5**
	baz=178						
GMRC	**Granite Mounta**	**38.20**	**58**	P	**P**	**05 15 23.3**	**-2.2**
	baz=257						
TPNV	**Topopah Spring**	**38.28**	**55**	P	**P**	**05 15 24.1**	**-2.2**
	baz=254						
KDAK	**Kodiak Island**	**38.38**	**2**	P	**P**	**05 15 27.4**	**+0.8**
	baz=184						
KDAK	**Kodiak Island**	**38.38**	**2**	LR	LR	05 27 34.3	
	comp=Z,977nm,21.7s,baz=211,slow=30						
IRM	**Iron Mountain**	**38.47**	**59**	P	**P**	**05 15 25.4**	**-2.4**
	baz=258						
GLA	**Glamis**	**38.52**	**61**	P	**P**	**05 15 27.0**	**-1.2**
	baz=260						
P08K	**Saint George I**	**38.65**	**347**	P	**P**	**05 15 29.0**	**+0.2**
	baz=158						
Q17K	**Contact Creek**	**38.82**	**359**	P	**P**	**05 15 30.8**	**+0.4**
	baz=179						
BBB	**Bella Bella**	**39.00**	**27**	LR	LR	05 27 39.4	
	comp=Z,246nm,20.1s,baz=229,slow=30						
J08A	**Circle Bar Ran**	**39.01**	**44**	P	**P**	**05 15 32.7**	**+0.5**
NEE2	**Needles Airpor**	**39.03**	**58**	P	**P**	**05 15 32.7**	**+0.3**
	baz=258						
V12A	**Nelson**	**39.06**	**57**	P	**P**	**05 15 32.5**	**-0.2**
R11B	**Troy Canyon, C**	**39.19**	**53**	P	**P**	**05 15 34.5**	**+0.6**
R11B				IAmb	IAmb	05 15 51.2	
	comp=Z,24nm,1.9s						
R11B	**Troy Canyon, C**	**39.19**	**53**	P	**P**	**05 15 32.9**	**-1.1**
	baz=252						
Q18K	**Katmai Hardscr**	**39.20**	**0**	P	**P**	**05 15 34.7**	**+1.0**
	baz=180						
Q20K	**Shuyak Island**	**39.22**	**2**	P	**P**	**05 15 34.4**	**+0.8**
	baz=184						
PDMCI	**Parker Dam,Lak**	**39.32**	**59**	P	**P**	**05 15 34.7**	**-0.1**
	baz=258						
PRN	**Pahroc Range**	**39.33**	**54**	P	**P**	**05 15 35.6**	**+0.6**
P16K	**Nushagak River**	**39.63**	**358**	P	**P**	**05 15 37.3**	**+0.2**
	baz=176						
CRAG	**Craig**	**39.72**	**20**	P	**P**	**05 15 38.8**	**+1.0**
	baz=214						
P17K	**Kvichak River**	**39.76**	**359**	P	**P**	**05 15 39.0**	**+0.9**
	baz=178						
O15K	**Ungalikthiuk R**	**39.87**	**356**	P	**P**	**05 15 39.4**	**+0.3**
	baz=173						
P18K	**Big Mountain,**	**39.95**	**0**	P	**P**	**05 15 40.7**	**+1.0**
	baz=180						
214A	**Organ Pipe Nat**	**40.03**	**63**	P	**P**	**05 15 40.4**	**-0.4**
	baz=262						
O14K	**Tigyukauivet M**	**40.04**	**355**	P	**P**	**05 15 41.1**	**+0.6**
	baz=171						
V35K	**Ketchikan**	**40.10**	**21**	P	**P**	**05 15 41.7**	**+0.7**
	baz=216						
O16K	**Kokwok River B**	**40.20**	**358**	P	**P**	**05 15 42.9**	**+1.2**
	baz=176						
P19K	**Oil Pt**	**40.23**	**2**	P	**P**	**05 15 42.8**	**+0.7**
	baz=183						
U33K	**Whale Pass**	**40.26**	**19**	P	**P**	**05 15 41.9**	**-0.3**
	baz=213						
SPR3	**Spring Creek 3**	**40.32**	**52**	P	**P**	**05 15 40.8**	**-2.7**
O17K	**Koliganek Bris**	**40.35**	**359**	P	**P**	**05 15 43.4**	**+0.4**
	baz=177						
O18K	**Koktuh Hills**	**40.41**	**0**	P	**P**	**05 15 43.2**	**-0.4**
	baz=180						
SIT	**Sitka**	**40.42**	**17**	P	**P**	**05 15 44.8**	**+1.2**
	baz=210						
BRSE	**Bradley Lake S**	**40.43**	**4**	P	**P**	**05 15 44.0**	**+0.3**
	baz=187						
Q23K	**Middleton Isla**	**40.50**	**7**	P	**P**	**05 15 44.2**	**-0.1**
	baz=193						
RAR	**Rarotonga**	**40.60**	**186**	LR	LR	05 28 40.9	
	comp=Z,744nm,19.9s,baz=344,slow=31						
CCUT	**Cedar City**	**40.66**	**55**	P	**P**	**05 15 46.7**	**+0.5**
O20K	**Slope Mountain**	**40.68**	**2**	P	**P**	**05 15 45.4**	**-0.5**
	baz=184						
N14K	**Kuskokwak Cree**	**40.74**	**355**	P	**P**	**05 15 44.8**	**-1.4**
	baz=171						
WRAK	**Wrangell Islan**	**40.75**	**19**	P	**P**	**05 15 44.9**	**-1.5**
	baz=214						
O19K	**Port Alsworth**	**40.76**	**1**	P	**P**	**05 15 45.7**	**-0.6**
	baz=181						
N15K	**Kwethluk River**	**40.87**	**356**	P	**P**	**05 15 47.2**	**-0.1**
	baz=173						
SEW	**Seward**	**40.88**	**4**	P	**P**	**05 15 47.7**	**+0.3**
	baz=188						
P23K	**Montague Islan**	**40.95**	**6**	P	**P**	**05 15 48.0**	**0.0**
	baz=191						
F10A	**Beach Ranch, E**	**40.98**	**41**	P	**P**	**05 15 47.4**	**-1.1**
F10A				IAmb	IAmb	05 16 21.5	
	comp=Z,15nm,1.4s						
S31K	**Pelican**	**40.98**	**15**	P	**P**	**05 15 47.9**	**-0.3**
	baz=208						
S32K	**Killisnoo**	**40.99**	**17**	P	**P**	**05 15 48.8**	**+0.5**
	baz=210						
N16K	**Nishlik Lake**	**41.11**	**357**	P	**P**	**05 15 48.5**	**-0.8**
	baz=175						
N17K	**Nushagak Hills**	**41.11**	**359**	P	**P**	**05 15 49.0**	**-0.2**
	baz=177						
U35K	**Hyder**	**41.11**	**21**	P	**P**	**05 15 49.3**	**0.0**
	baz=218						
KAIM	**Kayak Island**	**41.23**	**8**	P	**P**	**05 15 50.6**	**+0.3**
	baz=196						
N18K	**Kilae Creek**	**41.24**	**360**	P	**P**	**05 15 50.5**	**+0.1**
	baz=179						
N19K	**Bonanza Creek**	**41.38**	**1**	P	**P**	**05 15 51.6**	**0.0**
	baz=181						
M15K	**Kasigluk River**	**41.43**	**356**	P	**P**	**05 15 52.1**	**+0.2**
	baz=172						
X16A	**Lo Mia Camp, P**	**41.53**	**60**	P	**P**	**05 15 52.3**	**-1.2**
X16A				IAmb	IAmb	05 16 06.0	
	comp=Z,19nm,1.8s						
BGLC	**Bering Glacier**	**41.58**	**9**	P	**P**	**05 15 53.4**	**+0.3**
	baz=197						
M14K	**Bethel**	**41.58**	**355**	P	**P**	**05 15 53.7**	**+0.6**
	baz=170						
M16K	**Timber Creek**	**41.66**	**357**	P	**P**	**05 15 54.1**	**+0.3**
	baz=175						
EYAK	**Cordova Ski Ar**	**41.67**	**7**	P	**P**	**05 15 54.0**	**+0.2**
	baz=194						
R32K	**Eaglecrest**	**41.70**	**16**	P	**P**	**05 15 55.0**	**+0.9**
	baz=210						
TUC	**Tucson**	**41.78**	**63**	P	**P**	**05 15 53.7**	**-1.6**
	baz=263						
WUAZ	**Wupatki**	**41.78**	**58**	P	**P**	**05 15 54.6**	**-0.8**
	baz=259						
HLID	**Hailey**	**41.79**	**46**	P	**P**	**05 15 54.3**	**-1.1**
	baz=248						
DUG	**Dugway, Tooele**	**41.79**	**51**	P	**P**	**05 15 54.4**	**-1.1**
	baz=253						
N20K	**Mount Spurr**	**41.82**	**2**	P	**P**	**05 15 53.4**	**-1.7**
	baz=184						
PNL	**Peninsula**	**41.82**	**12**	P	**P**	**05 15 55.1**	**-0.1**
	baz=203						
RC01	**Rabbit Creek A**	**41.84**	**4**	P	**P**	**05 15 54.4**	**-0.8**
	baz=188						
MESA	**MESA**	**41.84**	**10**	P	**P**	**05 15 55.8**	**+0.3**
	baz=199						
GLI	**Glacier Island**	**41.84**	**6**	P	**P**	**05 15 56.0**	**+0.7**
	baz=192						
T35M	**Bob Quinn**	**41.88**	**20**	P	**P**	**05 15 56.1**	**+0.3**
	baz=217						
LPIG	**La Paz**	**41.90**	**75**	LR	LR	05 28 49.1	
	comp=Z,247nm,20.7s,baz=268,slow=30						
M17K	**Holitna River**	**41.99**	**358**	P	**P**	**05 15 57.6**	**+1.1**
	baz=177						
M18K	**Stony River**	**42.05**	**360**	P	**P**	**05 15 57.3**	**+0.3**
	baz=179						
PINM	**Pinnacle**	**42.06**	**11**	P	**P**	**05 15 57.3**	**+0.1**
	baz=201						
P29M	**Windy Craggy**	**42.13**	**13**	P	**P**	**05 15 58.3**	**+0.6**
	baz=205						
NEW	**Newport**	**42.14**	**38**	P	**P**	**05 15 58.2**	**+0.2**
	baz=240						
NEW	**Newport**	**42.14**	**38**	LR	LR	05 31 54.4	
	comp=Z,167nm,19.6s,baz=238,slow=33						
SUA	**Susitna One**	**42.15**	**3**	P	**P**	**05 15 58.5**	**+0.6**
	baz=186						
CRQE	**Cirque**	**42.21**	**9**	P	**P**	**05 15 59.0**	**+0.5**
	baz=197						
BMRM	**Bremner River**	**42.21**	**8**	P	**P**	**05 15 58.8**	**+0.5**
	baz=195						
L14K	**Kuka Creek**	**42.23**	**355**	P	**P**	**05 15 59.5**	**+1.2**
	baz=170						
KNK	**Knik Glacier**	**42.25**	**5**	P	**P**	**05 15 58.5**	**-0.2**
	baz=190						
PLBC	**Pleasant Camp**	**42.28**	**14**	P	**P**	**05 15 58.2**	**-0.6**
	baz=207						
HVU	**Hansel Valley**	**42.30**	**49**	P	**P**	**05 15 58.6**	**-1.0**
L16K	**Owhat River**	**42.38**	**357**	P	**P**	**05 15 59.5**	**-0.1**
	baz=174						
PMR	**Palmer**	**42.38**	**4**	P	**P**	**05 15 59.2**	**-0.4**
	baz=189						
L15K	**Ungalak Mounta**	**42.47**	**356**	P	**P**	**05 15 59.8**	**-0.5**
	baz=171						
M22K	**Willow**	**42.47**	**4**	P	**P**	**05 16 00.5**	**+0.2**
	baz=187						
M19K	**Big River Lodg**	**42.47**	**1**	P	**P**	**05 16 00.4**	**0.0**
	baz=181						
M20K	**Styx River**	**42.47**	**2**	P	**P**	**05 15 59.9**	**-0.7**
	baz=183						
SKAG	**Skagway**	**42.53**	**15**	P	**P**	**05 16 01.0**	**+0.1**
	baz=208						
KLU	**Klutina**	**42.57**	**7**	P	**P**	**05 16 01.4**	**+0.1**
	baz=193						
O29M	**Mount Kennedy**	**42.57**	**12**	P	**P**	**05 16 01.2**	**-0.2**
	baz=204						
SKT	**Skwentna**	**42.62**	**3**	P	**P**	**05 16 00.9**	**-0.8**
SKT				IAmb	IAmb	05 16 08.0	
	comp=Z,16nm,1.2s						
SKT	**Skwentna**	**42.62**	**3**	P	**P**	**05 16 02.2**	**+0.5**
	baz=185						
SML	**Sawmill**	**42.65**	**5**	P	**P**	**05 16 02.6**	**+0.7**
	baz=190						
CTG	**Chitna Glacier**	**42.68**	**10**	P	**P**	**05 16 01.3**	**-1.0**
	baz=200						
M23K	**Glacier View**	**42.69**	**5**	P	**P**	**05 16 01.6**	**-0.6**
	baz=190						
O28M	**Mount Upton**	**42.70**	**11**	P	**P**	**05 16 01.7**	**-0.9**
	baz=201,SNR=5.9						
P30M	**Million Dollar**	**42.74**	**13**	P	**P**	**05 16 01.5**	**-1.2**
	baz=206						
L19K	**White Mountain**	**42.75**	**0**	P	**P**	**05 16 02.4**	**-0.3**
	baz=181						
L17K	**Donlin**	**42.75**	**358**	P	**P**	**05 16 03.2**	**+0.5**
	baz=176						
SCM	**Sheep Creek Mo**	**42.76**	**6**	P	**P**	**05 16 02.8**	**-0.1**
	baz=191						
HMU	**Henry Mountain**	**42.77**	**55**	P	**P**	**05 16 02.4**	**-1.2**
L18K	**Granite Mounta**	**42.80**	**359**	P	**P**	**05 16 03.3**	**+0.3**
	baz=178						
MCARA	**McCarthy VSAT**	**42.83**	**9**	P	**P**	**05 16 03.5**	**+0.2**
	baz=197						
N25K	**Chitina, Valde**	**42.83**	**7**	P	**P**	**05 16 03.6**	**+0.1**
	baz=195						
TBI	**Tubuai**	**42.86**	**172**	*e*S	**S**	**05 22 29.6**	**+0.5**
	comp=Z,1μm,26.5s						
TBI				*e*LQ	LQ	05 26 03.4	
	comp=Z,3μm,26.0s						
TBI				*e*LR	LR	05 27 49.8	
	comp=Z,13μm,28.2s						
TBI				*e*LR	LR	05 27 53.0	
	comp=Z,2μm,27.0s						
Q32M	**Nakina River**	**42.90**	**17**	P	**P**	**05 16 04.3**	**+0.1**
	baz=213						
W18A	**Petrified Fore**	**43.03**	**59**	P	**P**	**05 16 05.4**	**-0.2**
	baz=261						
P32M	**Atlin**	**43.05**	**16**	P	**P**	**05 16 06.5**	**+1.4**
	baz=210						
L20K	**Farewell, AK**	**43.05**	**1**	P	**P**	**05 16 05.9**	**+0.7**
	baz=182						
K15K	**Wolf Creek Mou**	**43.08**	**356**	P	**P**	**05 16 09.2**	**+3.9**
	baz=171						
CUT	**Chulitna**	**43.11**	**3**	P	**P**	**05 16 08.2**	**+2.6**
	baz=187						
DLBC	**Dease Lake**	**43.13**	**19**	P	**P**	**05 16 07.2**	**+1.3**
	baz=216						
DLBC	**Dease Lake**	**43.13**	**19**	LR	LR	05 29 33.3	
	comp=Z,623nm,21.9s,baz=237,slow=29						
M24K	**Tolsona, Glenn**	**43.14**	**6**	P	**P**	**05 16 07.4**	**+1.4**
	baz=193						
YUK6	**Outpost Mounta**	**43.20**	**12**	P	**P**	**05 16 07.5**	**+0.9**
	baz=204						
YUK8	**Steele Glacier**	**43.25**	**11**	P	**P**	**05 16 08.2**	**+1.2**
	baz=202						
HYT	**Haines Junctio**	**43.26**	**13**	P	**P**	**05 16 08.8**	**+1.8**
	baz=205						
K17K	**Iditarod**	**43.33**	**358**	P	**P**	**05 16 09.4**	**+2.1**
	baz=176						
MSO	**Missoula**	**43.40**	**41**	P	**P**	**05 16 07.5**	**-0.8**
	baz=245						
WAT6	**Susitna Watana**	**43.46**	**5**	P	**P**	**05 16 08.9**	**+0.3**
	baz=190						
TTA	**Tatalina**	**43.50**	**360**	P	**P**	**05 16 09.5**

	baz=173						
J17K	VABM Dome	44.04	358	P	P	05 16 13.3	+0.2
	baz=175						
CAST	Castle Rocks	44.04	2	P	P	05 16 14.9	+1.7
	baz=184						
J18K	Innoko River	44.05	359	P	P	05 16 13.6	+0.5
	baz=178						
PAX	Paxson	44.06	6	P	P	05 16 14.2	+0.9
	baz=193,SNR=6.1						
TPAW	Teton Pass	44.13	47	P	P	05 16 14.7	+0.2
TPAW				IAmb	IAmb	05 16 27.6	
	comp=Z,16nm,1.2s						
N31M	Braeburn, Yuko	44.23	13	P	P	05 16 14.9	+0.3
N31M	Braeburn, Yuko	44.23	13	P	P	05 16 15.0	+0.3
	baz=207						
121A	Cookes Peak, D	44.33	63	P	P	05 16 16.5	+0.4
	baz=265						
L26K	Log Cabin Wild	44.36	8	P	P	05 16 17.1	+1.4
	baz=196						
MVCO	Mesa Verde	44.37	56	P	P	05 16 16.2	-0.3
	baz=260						
BOZ	Bozeman (W)	44.39	44	P	P	05 16 17.7	+1.4
	baz=249						
CHUM	Lake Minchumin	44.50	2	P	P	05 16 15.7	-1.0
	baz=184						
MCK	McKinley	44.51	4	P	P	05 16 17.6	+0.7
	baz=188						
N32M	Quiet Lake	44.56	15	P	P	05 16 18.1	+0.8
	baz=210						
M29M	Somme Creek	44.56	11	P	P	05 16 16.8	-0.6
M29M				IAmb	IAmb	05 16 26.1	
	comp=Z,7.3nm,0.8s						
M29M	Somme Creek	44.56	11	P	P	05 16 18.0	+0.5
	baz=203,SNR=10						
J19K	Poorman	44.57	360	P	P	05 16 18.3	+1.0
	baz=180						
L27K	Beaver Creek,	44.60	9	P	P	05 16 18.9	+1.3
L27K				IAmb	IAmb	05 16 31.7	
	comp=Z,21nm,1.6s						
L27K	Beaver Creek,	44.60	9	P	P	05 16 18.0	+0.4
	baz=198,SNR=7.0						
I17K	Unalakleet	44.61	357	P	P	05 16 17.1	-0.5
	baz=173						
H17A	Grant Village	44.68	46	P	P	05 16 19.0	+0.2
	baz=251						
J20K	Nowinta River	44.76	1	P	P	05 16 19.5	+0.7
	baz=182						
BPAW	Bear Paw Mtn.	44.77	3	P	P	05 16 19.6	+0.7
	baz=186						
K24K	Donnelly Dome	44.84	6	P	P	05 16 20.5	+0.9
	baz=193						
BW06	Boulder Array	44.88	48	P	P	05 16 20.0	-0.4
	baz=253						
PDAR	Pinedale Array	44.88	48	P	P	05 16 23.3	+2.9
	comp=Z,1.8nm,0.9s,baz=251,slow=4.5,SNR=12						
	comp=Z,1.8nm,0.9s						
M30M	Minto, Yukon	45.00	12	P	P	05 16 20.7	-0.2
	baz=205						
LIRD	Liard River Hi	45.16	21	P	P	05 16 22.3	+0.3
	baz=220						
O20A	White River Ci	45.16	52	P	P	05 16 22.0	-0.7
	baz=257						
M31M	Drury Creek, Y	45.17	14	P	P	05 16 20.9	-1.2
	baz=208						
Y22D	IRIS PASSCAL I	45.20	61	P	P	05 16 22.7	-0.3
	baz=264						
SCRK	Sand Creek	45.20	7	P	P	05 16 22.3	-0.2
	baz=195						
L29M	L29M	45.24	11	P	P	05 16 23.1	+0.3
	baz=203						
HDA	Harding Lake	45.33	5	P	P	05 16 23.1	-0.3
	baz=191						
GCSA	Galena City Sc	45.33	359	P	P	05 16 23.3	0.0
	baz=178						
NEA2	Nenana	45.36	4	P	P	05 16 23.8	+0.2
	baz=188,SNR=7.8						
I20K	Naaghedeneel	45.37	0	P	P	05 16 22.4	-1.3
	baz=181						
FARO	Faro, Yukon	45.43	14	P	P	05 16 23.5	-0.7
	baz=210,SNR=6.8						
H16K	Elim	45.45	356	P	P	05 16 23.0	-1.3
	baz=171						
K27K	Chicken	45.49	8	P	P	05 16 24.6	-0.1
	baz=198						
CCB	Clear Creek Bu	45.50	5	P	P	05 16 25.9	+1.2
CCB				IAmb	IAmb	05 16 30.6	
	comp=Z,9.3nm,1.1s						
H17K	Granite Mounta	45.62	357	P	P	05 16 25.8	+0.2
	baz=174						
ANM	Nome	45.65	354	P	P	05 16 25.8	-0.1
	baz=167						
ANMO	Albuquerque	45.67	60	P	P	05 16 26.0	-0.8
	baz=263						
ANMO	Albuquerque	45.67	60	LR	LR	05 30 54.4	
	comp=Z,247nm,20.9s,baz=357,slow=30						
J25K	Salcha River,	45.68	6	P	P	05 16 26.5	+0.3
J25K	Salcha River,	45.68	6	P	P	05 16 27.1	+0.9
	baz=193,SNR=8.3						
IL31		45.70	5	P	P	05 16 26.5	+0.3
IL31				IAmb	IAmb	05 16 31.4	
	comp=Z,13nm,1.4s						
ILAR	Eielson Array	45.70	5	P	P	05 16 27.9	+1.6
ILAR	Eielson Array	45.70	5	P	P	05 16 28.9	+2.7
	comp=Z,4.5nm,1.0s,baz=195,slow=7.0,SNR=22						
ILAR				LR	LR	05 32 29.7	
	comp=Z,424nm,19.6s,baz=202,slow=32						
	comp=Z,4.5nm,1.0s						
MLY	Manley	45.71	3	P	P	05 16 28.0	+1.6
MLY	Manley	45.71	3	P	P	05 16 26.8	+0.4
	baz=186						
COLA	College	45.72	4	P	P	05 16 26.4	0.0
	baz=190						
J26L	Joseph Creek	45.76	7	P	P	05 16 28.0	+1.1
	baz=196,SNR=8.4						
S22A	4UR Ranch, Cre	45.77	56	P	P	05 16 26.0	-1.7
	baz=260						
H18K	Honhosa River	45.77	358	P	P	05 16 28.4	+1.5
	baz=176						
RLMT	Red Lodge	45.80	45	P	P	05 16 28.3	+0.7
	baz=251						
I21K	Tanana	45.81	2	P	P	05 16 27.6	+0.5
	baz=184						
I23K	Minto, Yukon-K	45.90	3	P	P	05 16 29.6	+1.8
	baz=188						
DAWY	Dawson	45.92	10	P	P	05 16 27.9	-0.2
	baz=201,SNR=6.3						
G15K	Niukluk	45.94	355	P	P	05 16 27.4	-0.8
	baz=168						
POKR	Poker Plat Res	45.99	5	P	P	05 16 28.8	+0.2
	baz=190						
K29M	Barlow Dome	46.02	11	P	P	05 16 29.8	+0.8
	baz=204						
H20K	Anotleneega Mo	46.07	0	P	P	05 16 29.4	+0.2
	baz=180						
H19K	Roundabout Mou	46.11	359	P	P	05 16 30.2	+0.8
	baz=178						
TGTN	Hyland Airport	46.15	18	P	P	05 16 31.0	+1.0
	baz=216						
G16K	Koyuk River	46.21	356	P	P	05 16 31.8	+1.5
	baz=171						
G17K	Kiwalik Mounta	46.22	357	P	P	05 16 30.8	+0.5
	baz=173						
H21K	Melozitna Rive	46.27	1	P	P	05 16 32.7	+2.0
	baz=183						
MNTX	Cornudas Mount	46.30	64	P	P	05 16 30.6	-0.9
	baz=267						
EGAK	Eagle	46.33	8	P	P	05 16 31.4	+0.2
	baz=198,SNR=9.5						
KOTAN	Kotaneelee Air	46.38	21	P	P	05 16 32.5	+0.8
	baz=222						
J29N	Klondike Camp	46.47	10	P	P	05 16 33.8	+1.3
	baz=202						
EGMT	Eagleton	46.48	41	P	P	05 16 33.5	+0.7
	baz=248						
G18K	Tagagawik	46.53	358	P	P	05 16 35.5	+2.7
	baz=176						
H22K	Ishtalitna Cre	46.55	2	P	P	05 16 33.4	+0.4
	baz=185						
PRP	Porcupine Dome	46.55	6	P	P	05 16 33.6	+0.5
	baz=193,SNR=7.1						
H23K	Yukon River	46.56	3	P	P	05 16 32.4	-0.6
	baz=187						
I26K	Coal Creek Min	46.59	7	P	P	05 16 33.4	+0.2
	baz=196						
VHRN	Van Horn	46.60	66	P	P	05 16 33.8	-0.3
VHRN				IAmb	IAmb	05 16 41.3	
	comp=Z,8.1nm,1.1s						
F14K	Arctic Creek	46.63	354	P	P	05 16 34.0	+0.5
	baz=166						
H24K	Noodor Dome	46.67	4	P	P	05 16 35.3	+1.3
H24K				IAmb	IAmb	05 16 47.0	
	comp=Z,9.9nm,1.2s						
H24K	Noodor Dome	46.67	4	P	P	05 16 34.4	+0.4
	baz=190,SNR=6.0						
F15K	North Star Dit	46.70	355	P	P	05 16 34.6	+0.4
	baz=168						
G19K	Purcell Mounta	46.74	359	P	P	05 16 35.7	+1.2
	baz=178						
SDCO	Great Sand Dun	46.81	56	P	P	05 16 35.2	-0.6
	baz=261						
TNA	Tin City	46.89	353	P	P	05 16 36.1	+0.5
	baz=164						
J30M	Hart River	46.91	11	P	P	05 16 36.9	+1.0
	baz=205,SNR=6.8						
K22A	Casper	47.01	49	P	P	05 16 37.3	+0.2
	baz=256						
N23A	Red Feather La	47.04	52	P	P	05 16 36.2	-1.3
N23A	Red Feather La	47.04	52	P	P	05 16 38.3	+0.7
	baz=258						
I27K	Kandik River	47.06	8	P	P	05 16 38.1	+1.1
	baz=198,SNR=5.9						
ISCO	Idaho Springs	47.07	53	P	P	05 16 37.0	-0.9
	baz=259						
G21K	Allakaket	47.11	1	P	P	05 16 38.8	+1.5
	baz=182						
I28M	Miner Creek	47.14	9	P	P	05 16 37.7	0.0
I28M				IAmb	IAmb	05 16 43.3	
	comp=Z,9.4nm,1.3s						
I28M	Miner Creek	47.14	9	P	P	05 16 39.5	+1.8
	baz=200,SNR=6.2						
F17K	Baldwin Pennin	47.19	357	P	P	05 16 39.4	+1.5
	baz=172						
H25L	Birch Creek	47.26	5	P	P	05 16 39.9	+1.5
	baz=192						
F18K	Selawik	47.27	358	P	P	05 16 40.5	+2.0
	baz=174						
Q24A	Divide	47.28	55	P	P	05 16 40.1	+0.6
	baz=260						
I29M	Ogilvie Camp,	47.30	10	P	P	05 16 42.8	+3.9
	baz=202						
G23K	Bananza Creek	47.42	3	P	P	05 16 41.2	+1.4
	baz=187,SNR=5.6						
F19K	Shaleruckik Mo	47.45	359	P	P	05 16 41.7	+1.7
	baz=177						
I30M	Mount Dempster	47.49	11	P	P	05 16 40.7	+0.3
I30M	Mount Dempster	47.49	11	P	P	05 16 42.5	+2.0
	baz=204,SNR=10						
G24K	Hadweenzic Riv	47.55	4	P	P	05 16 41.5	+0.7
	baz=190,SNR=6.4						
G22K	Bettles	47.57	2	P	P	05 16 41.8	+1.0
	baz=185						
T25A	Trinidad	47.59	57	P	P	05 16 42.0	+0.2
	baz=263						
F20K	Avaraart Lake	47.63	360	P	P	05 16 43.6	+2.3
	baz=179						
H27K	Steamboat Moun	47.67	7	P	P	05 16 44.4	+2.6
	baz=198,SNR=7.5						
TXAR	Lajitas Array	47.73	68	P	P	05 16 43.6	+0.7
TXAR	Lajitas Array	47.73	68	P	P	05 16 44.1	+1.3
	comp=Z,3.7nm,0.8s,baz=255,slow=8.4,SNR=14						
TXAR				LR	LR	05 32 33.7	
	comp=Z,82nm,21.6s,baz=249,slow=30						
	comp=Z,3.7nm,0.8s						
ALPN	Alpine	47.76	66	P	P	05 16 42.1	-1.0
F21K	Alatna River	47.82	1	P	P	05 16 45.6	+2.7
	baz=182,SNR=7.9						
E17K	Hotham Inlet	47.85	357	P	P	05 16 44.6	+1.5
	baz=172						
COLD	Coldfoot	47.92	3	P	P	05 16 44.6	+0.9
	baz=186						
E19K	Redstone River	48.06	359	P	P	05 16 46.4	+1.7
	baz=178						
H29M	Whitestone	48.09	9	P	P	05 16 46.6	+1.6
	baz=202,SNR=7.5						
G26K	Porcupine Rive	48.11	6	P	P	05 16 48.3	+3.3
	baz=195,SNR=8.2						
E18K	Tukpahlearik C	48.13	357	P	P	05 16 47.2	+2.0
	baz=173						
F22K	John River	48.14	2	P	P	05 16 47.8	+2.4
	baz=184						
G27K	Doyon Strip	48.21	7	P	P	05 16 48.4	+2.5
	baz=197						
F24K	Squaw Lake	48.34	4	P	P	05 16 49.4	+2.5
	baz=189						
EPYK	Eagle Plains	48.48	10	P	P	05 16 48.9	+0.8
	baz=204						
MNHN	Monahans	48.53	65	P	P	05 16 48.9	-0.1
MNHN				IAmb	IAmb	05 16 59.7	
	comp=Z,4.2nm,0.8s						
D17K	Noatak River	48.54	356	P	P	05 16 49.1	+0.7
	baz=170						
F25K	Christian Rive	48.57	5	P	P	05 16 48.8	+0.1
	baz=192						
MSTX	Muleshoe	48.62	62	P	P	05 16 49.6	-0.1
MSTX	Muleshoe	48.62	62	P	P	05 16 50.0	+0.2
	baz=266						
ODSA	Odessa	48.73	64	P	P	05 16 49.7	-0.8
E22K	Anaktuvuk Pass	48.77	2	P	P	05 16 51.9	+1.6
	baz=184						
E23K	Chandalar	48.78	3	P	P	05 16 50.7	+0.3
	baz=187						
G29M	Pine Creek	48.79	9	P	P	05 16 51.4	+1.1
	baz=202,SNR=8.5						
F26K	Sheenjek River	48.80	6	P	P	05 16 51.6	+1.1
	baz=194,SNR=7.1						
E20K	Nigu River	48.85	360	P	P	05 16 51.5	+0.6
	baz=179						
E24K	Your Creek	48.85	3	P	P	05 16 53.0	+2.1
	baz=188						
RDOG	Red Dog Mine	48.88	356	P	P	05 16 52.2	+1.2
	baz=170						
WRGLY	Wrigley	48.89	18	P	P	05 16 52.4	+1.3
	baz=221						
E21K	Killik River	49.04	1	P	P	05 16 53.7	+1.4
	baz=182						
SAND	Sanderson	49.07	67	P	P	05 16 53.6	+0.5
SAND				IAmb	IAmb	05 16 59.7	
	comp=Z,7.0nm,1.0s						
E25K	Arctic Village	49.10	5	P	P	05 16 55.1	+2.4
	baz=192,SNR=5.5						
RSSD	Black Hills	49.11	48	P	P	05 16 51.9	-1.6
RSSD				IAmb	IAmb	05 16 59.8	
	comp=Z,5.9nm,0.9s						
RSSD	Black Hills	49.11	48	P	P	05 16 55.1	+1.6
	baz=257						
D19K	Kuna River	49.12	359	P	P	05 16 54.0	+1.1
	baz=176						
G30M	tAoh Zraii Nji	49.13	10	P	P	05 16 54.3	+1.3
	baz=204,SNR=5.5						
F28M	Old Crow	49.19	8	P	P	05 16 55.8	+2.4
	baz=199,SNR=6.8						
KSCO	Kaye Shedlock'	49.23	55	P	P	05 16 55.7	+1.3
	baz=262						
C16K	Lisburne Hills	49.27	355	P	P	05 16 56.5	+2.5
	baz=167						
D20K	Etivluk River	49.31	359	P	P	05 16 55.8	+1.4
	baz=178						
C17K	DeLong Mountai	49.32	356	P	P	05 16 56.0	+1.7
	baz=170						
TOLK	Toolik Lake Re	49.36	3	P	P	05 16 57.7	+2.9
	baz=187						
C18K	Utukok River	49.38	357	P	P	05 16 57.8	+2.9
	baz=173						
G31M	Satah River	49.40	11	P	P	05 16 58.1	+3.1
G31M	Satah River	49.40	11	P	P	05 16 56.9	+1.9
	baz=206,SNR=10						
D22K	Ayikyak River	49.50	1	P	P	05 16 57.9	+2.1
	baz=183						
E27K	Colleen River	49.54	7	P	P	05 16 58.6	+2.5
	baz=197						
AMTX	Amarillo	49.58	60	P	P	05 16 58.4	+1.4
	baz=266						
D23K	Nanushuk River	49.64	2	P	P	05 16 57.7	+0.9
	baz=186,SNR=5.2						
C21K	Knifeblade Rid	49.75	0	P	P	05 16 59.6	+1.9
	baz=181						
C19K	Lookout Ridge	49.77	358	P	P	05 16 59.0	+1.1
	baz=175						
F30M	Barrier River	49.77	10	P	P	05 17 00.5	+2.6
	baz=204						
D24K	Happy Valley	49.91	3	P	P	05 16 59.5	+0.6
	baz=188						
OZNA	Ozona	49.92	66	P	P	05 16 59.0	-0.7
OZNA				IAmb	IAmb	05 17 06.3	
	comp=Z,11nm,1.1s						
F31M	Tsiigehtchic	49.96	11	P	P	05 17 00.6	+1.4
	baz=207,SNR=8.7						
F31M	Tsiigehtchic	49.96	11	P	P	05 17 00.4	+1.1
	baz=207,SNR=8.7						
OGNE	Ogallala	49.96	52	P	P	05 17 00.2	+0.4
	baz=261						
B18K	Kokolik River	50.12	357	P	P	05 17 01.1	+0.7
	baz=172						
DGMT	Dagmar	50.13	42	P	P	05 17 01.4	+0.4
	baz=253						
E28M	Babbage River	50.17	7	P	P	05 17 02.5	+1.6
	baz=200,SNR=6.8						
E29M	Blow River	50.18	8	P	P	05 17 02.8	+1.9
	baz=202,SNR=5.9						
B21K	Ikpikpuk River	50.22	0	P	P	05 17 03.7	+2.5
	baz=181						
D25K	Kavik River	50.22	4	P	P	05 17 03.6	+2.4
	baz=191						
C24K	Franklin Bluff	50.48	3	P	P	05 17 04.8	+1.7
	baz=188						
C23K	Itkillik River	50.52	2	P	P	05 17 04.6	+1.2
	baz=186						
D27M	Malcolm River	50.62	7	P	P	05 17 05.4	+1.0
	baz=198						
B20K	Meade River	50.62	359	P	P	05 17 04.9	+0.7
	baz=178						
C27K	Jago River	50.72	5	P	P	05 17 06.9	+1.9
	baz=194,SNR=6.2						
INK	Inuvik	50.77	10	P	P	05 17 05.6	+0.2
INK				IAmb	IAmb	05 17 10.9	
	comp=Z,12nm,1.1s						
INK	Inuvik	50.77	10	P	P	05 17 06.8	+1.4
	baz=207,SNR=9.4						
INK	Inuvik	50.77	10	LR	LR	05 34 45.1	
	comp=Z,546nm,21.5s,baz=186,slow=31						
C26K	Camden Bay	50.91	5	P	P	05 17 07.8	+1.4
	baz=193						
B22K	Teshekpuk Lake	50.95	1	P	P	05 17 08.9	+2.2
	baz=182						
D28M	Stokes Point	50.96	7	P	P	05 17 08.9	+2.2
	baz=200						
JCT	Junction City	51.07	66	P	P	05 17 10.1	+1.8
	baz=271						
ABTX	Abilene, Hawle	51.19	63	P	P	05 17 10.5	+1.3
	baz=270						
YKA	Yellowknife Ar	51.34	23	P	P	05 17 12.9	+3.2
	comp=Z,1.5nm,0.9s,baz=228,slow=6.4,SNR=4.2						
YKA				LR	LR	05 35 35.3	
	comp=Z,187nm,20.9s,baz=273,slow=32						
	comp=Z,1.5nm,0.9s						
CBKS	Cedar Bluff	51.45	55	P	P	05 17 11.7	+0.6
	baz=264						
833A	Chaparral WMA,	51.50	69	P	P	05 17 12.8	+1.3
	baz=273						
A22K	Sinclair Lake	51.61	0	P	P	05 17 13.8	+2.2
	baz=180						
A21K	Barrow	51.93	359	P	P	05 17 17.0	+3.0
	baz=178						
WMOK	Wichita Mounta	51.95	61	P	P	05 17 14.9	+0.1
	baz=268						
HNR	Honiara	52.59	241	LR	LR	05 36 05.3	
	comp=Z,2µm,21.8s,baz=356,slow=32						
SUSD	Miller	52.76	48	P	P	05 17 22.8	+2.1
	baz=261						
BGNE	Belgrade	52.93	52	P	P	05 17 23.7	+1.7
	baz=264						
MDND	Maddock	52.95	44	P	P	05 17 22.9	+0.9
	baz=258						
435B	Jarrell	52.97	66	P	P	05 17 23.9	+1.4
	baz=272						
WHTX	Lake Whitney,	53.05	64	P	P	05 17 23.6	+0.6
	baz=271						
C36M	Paulatuk	53.48	13	P	P	05 17 25.8	+0.3
	baz=218						
KSU1	Kansas State U	53.90	55	P	P	05 17 29.3	+0.2
	baz=266						
ECSD	EROS Data Cent	54.33	50	P	P	05 17 31.6	-0.5
	baz=263						
TUL3	Leonard	54.42	59	P	P	05 17 32.6	-0.4
	baz=269						
A36M	Sachs Harbour	55.39	11	P	P	05 17 39.6	+0.3
	baz=215						
NATX	Nacogdoches	55.43	64	P	P	05 17 41.4	+1.0
	baz=273						
MA2	Magadan	55.47	330	LR	LR	05 37 08.0	
	comp=Z,929nm,21.8s,baz=124,slow=31						
AGMN	Agassiz Nation	55.50	44	P	P	05 17 41.5	+0.9
	baz=260						
DZM	Mont Dzumac	55.66	224	*e*P	P	05 17 41.9	-0.2
	comp=Z,73nm,23.4s						
DZM				*e*S	S	05 25 26.5	-2.6
	comp=Z,211nm,24.8s						
DZM				*e*SS	SS	05 29 13.9	-0.8
	comp=Z,188nm,23.8s						
DZM				*e*LR	LR	05 33 51.9	
	comp=Z,710nm,23.4s						
DZM	Mont Dzumac	55.66	224	LR	LR	05 35 43.2	
	comp=Z,303nm,21.3s,baz=6.5,slow=30						
ULM	Lac du Bonnet	55.84	42	P	P	05 17 44.2	+1.2
ULM				IAmb	IAmb	05 17 52.1	
	comp=Z,8.2nm,1.2s						
ULM	Lac du Bonnet	55.84	42	P	P	05 17 44.1	+1.2
	comp=Z,4.0nm,0.9s,baz=274,slow=6.9,SNR=7.2						
ULM				LR	LR	05 39 17.1	
	comp=Z,129nm,19.6s,baz=244,slow=33						
	comp=Z,4.0nm,0.9s						
SEY	Seymchan	56.12	334	LR	LR	05 41 11.7	
	comp=Z,209nm,19.9s,baz=150,slow=35						
MIAR	Mount Ida	56.24	61	P	P	05 17 46.8	+0.6
	baz=271						
SCIA	State Center	56.65	52	P	P	05 17 47.1	-1.9
	baz=267						
ASAJ	Asahikawa	56.84	310	LR	LR	05 36 57.6	
	comp=Z,1µm,21.9s,baz=134,slow=30						
SPMN	Marine on St.	57.19	48	P	P	05 17 52.7	-0.1
	baz=265						
R40A	Maddies Statio	57.27	56	P	P	05 17 52.7	-0.6
R40A				IAmb	IAmb	05 17 58.7	
	comp=Z,10nm,1.2s						
GUMO	Guam	57.44	274	LR	LR	05 37 55.1	
	comp=Z,285nm,21.8s,baz=66,slow=31						
JCJ	Chichijima	57.47	290	LR	LR	05 37 34.4	
	comp=Z,289nm,21.7s,baz=90,slow=31						
CCM	Cathedral Cave	58.07	57	P	P	05 17 58.8	-0.2
	baz=270						
T42A	Van Buren	58.21	58	P	P	05 18 00.1	0.0
T42A				IAmb	IAmb	05 18 10.2	
	comp=Z,9.0nm,1.2s						
EYMN	Ely	58.35	45	P	P	05 18 01.3	+0.4
	baz=264						
JFWS	Jewell Farm	58.89	51	P	P	05 18 05.4	+0.7
	baz=268						
VBMS	Vicksburg	58.92	64	P	P	05 18 05.6	+0.6
	baz=274						
G40A	Rib Lake	59.03	48	P	P	05 18 04.8	-0.8
HDIL	Hopedale	59.57	54	P	P	05 18 09.8	+0.4
	baz=270						
OXF	Oxford	59.68	61	P	P	05 18 12.6	+2.3
	baz=274						
WVT	Waverly	60.87	59	P	P	05 18 18.0	-0.4
	baz=274						
SFIN	Lafayette	61.25	54	P	P	05 18 22.6	+1.7
	baz=272						
LRAL	Lakeview Retre	61.81	62	P	P	05 18 26.1	+1.3
	baz=276						
BRAL	Brewton	61.96	64	P	P	05 18 27.7	+1.8
	baz=277						
WCI	Wyandotte Cave	61.97	56	P	P	05 18 25.4	-0.4
	baz=273						
TEIG	Tepich	62.63	77	LR	LR	05 42 02.8	
	comp=Z,145nm,20.5s,baz=244,slow=32						
O48B	Farmland	62.74	54	P	P	05 18 31.3	+0.4
	baz=273						
URZ	Urewera	62.94	204	LR	LR	05 41 20.6	
	comp=Z,329nm,20.7s,baz=116,slow=32						
P49A	Miami Univ. Ec	63.12	55	P	P	05 18 35.9	+2.4
	baz=274						
PMG	Port Moresby	63.51	248	LR	LR	05 41 15.6	
	comp=Z,193nm,20.9s,baz=28,slow=32						
AAM	Ann Arbor	63.76	52	P	P	05 18 38.6	+0.9
	baz=273						
TKL	Tuckaleechee C	64.19	59	LR	LR	05 45 09.7	
	comp=Z,88nm,19.0s,baz=278,slow=34						
RPN	Rapa Nui	64.20	135	LR	LR	05 40 28.8	
	comp=Z,460nm,18.1s,baz=280,slow=30						
TZTN	Tazewell	64.28	58	P	P	05 18 40.7	-0.5
	baz=276						
ACSO	Alum Creek Sta	64.40	54	P	P	05 18 41.5	-0.4
	baz=274						
KLR	Kul'dur	64.50	316	LR	LR	05 42 03.2	

comp=Z,384nm,20.7s,baz=114,slow=32
GOGA Godfrey 64.70 62 P P 05 18 43.8 -0.2
baz=277
TIGA Tifton 64.86 64 P P 05 18 44.3 -0.7
baz=278
P52A Corning 65.10 55 P P 05 18 46.6 +0.1
baz=275
O53A New Philadelph 65.75 54 P P 05 18 51.3 +0.6
baz=275
YAK Yakutsk 66.04 330 LR LR 05 43 45.5
comp=Z,901nm,21.9s,baz=103,slow=32
M53A WI Miller and 66.05 52 P P 05 18 52.4 -0.2
baz=275
KMSC Kings Mountain 66.23 59 P P 05 18 52.1 -1.8
baz=278
ERPA Erie 66.49 52 P P 05 18 53.5 -1.9
baz=275
BLA Blacksburg 66.70 57 P P 05 18 56.1 -0.8
baz=277
DWPF Disney Wildern 67.25 67 P P **05 18 59.5 -1.0**
baz=281
JTS Las Juntas de 68.21 86 LR LR 05 41 32.4
comp=Z,331nm,21.4s,baz=280,slow=29
SSPA Standing Stone 68.23 53 P P 05 19 06.0 -0.4
baz=277
CBN Corbin Frederi 68.96 56 P P 05 19 10.6 -0.4
baz=279
CNNC Cliffs of the 69.01 59 P P 05 19 10.2 -1.2
baz=279
CTA Charters Tower 69.43 239 LR LR 05 46 14.1
comp=Z,12nm,19.4s,baz=40,slow=33
BINY Binghamton 69.44 51 P P 05 19 14.1 +0.1
baz=278
JOW Kunigami 69.76 292 LR LR 05 45 17.5
comp=Z,133nm,21.3s,baz=60,slow=32
LONY Lake Ozonia 70.12 49 P P 05 19 18.0 -0.2
baz=278
PAL Palisades 71.16 52 P P 05 19 24.6 +0.1
baz=280
FRB Frobisher Bay 71.36 28 LR LR 05 47 08.5
comp=Z,129nm,21.6s,baz=310,slow=32
L61B Northampton 71.83 51 P P 05 19 28.1 -0.4
baz=280
LBNH Lisbon 72.06 49 P P 05 19 29.5 -0.4
baz=280
HRV Adam Dziewonsk 72.63 50 P P 05 19 33.2 -0.2
baz=281
DL2 Dalian 72.83 306 P P 05 19 39.3 +4.7
DL2 pmax pmax
comp=Z,48nm,1.0s
DL2 pmax pmax
comp=Z,440nm,7.7s
DL2 LR LR
comp=Z,300nm,21.4s
DL2 LR LR
comp=Z,450nm,19.0s
DL2 LR LR
comp=Z,870nm,22.6s
M65A Busby, Falmout 73.48 51 P P 05 19 38.2 -0.2
baz=281
NJ2 Nanjing 76.57 299 *e*P **P 05 19 54.3 -2.1**
NJ2 pmax pmax
comp=Z,18nm,0.5s
DAV Davao City (W) 77.47 273 LR LR 05 48 13.3
comp=Z,247nm,21.8s,baz=75,slow=31
SFJD Kangerlussuaq 77.90 23 LR LR 05 50 24.3
comp=Z,282nm,21.7s,baz=303,slow=32
HNS HongShan 78.49 306 ⇑P P 05 20 13.8 +6.8
STKA Stephens Creek 79.07 231 LR LR 05 49 16.0
comp=Z,195nm,22.0s,baz=25,slow=32
WRA Warramunga Arr 79.26 244 LR LR 05 51 34.0
comp=Z,258nm,20.7s,baz=44,slow=33
HHC Hu-ho-hao-te 79.88 310 *e*P **P 05 20 14.5 -0.3**
HHC PP **PP 05 23 23.3 +7.4**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,270nm,5.9s
HHC LR LR
comp=Z,190nm,17.7s
HHC LR LR
comp=Z,380nm,21.6s
HHC LR LR
comp=Z,550nm,18.9s
ROSC El Rosal 79.90 88 LR LR 05 47 18.3
comp=Z,185nm,20.2s,baz=176,slow=29
LYN LuoYang 81.03 303 ⇑P P 05 20 27.6 +6.7
LYN pmax pmax
comp=Z,410nm,3.9s
LYN LR LR
comp=N,340nm,15.4s
LYN LR LR
comp=E,410nm,18.6s
LYN LR LR
comp=Z,880nm,20.3s
NRIK Noril'sk 81.04 341 LR LR 05 56 36.0
comp=Z,316nm,20.1s,baz=56,slow=36
ASAR Alice Springs 81.22 241 LR LR 05 50 59.7
comp=Z,165nm,20.3s,baz=42,slow=32
SONM Songino Array 81.26 318 LR LR 05 53 39.4
comp=Z,468nm,20.7s,baz=62,slow=34
SDV Santo Domingo 82.09 83 LR LR 05 50 06.4
comp=Z,133nm,21.3s,baz=241,slow=31
SPITS Spitsbergen Ar 82.50 2 LR LR 05 53 02.8
comp=Z,187nm,21.5s,baz=334,slow=32
SJG San Juan 83.36 73 LR LR 05 58 42.4
comp=Z,35nm,18.5s,baz=266,slow=36
XAN Xi'an 83.98 304 *e*P **P 05 20 37.8 +1.4**
XAN pmax pmax
comp=Z,10.0nm,1.7s
XAN pmax pmax
comp=Z,470nm,6.6s
XAN LR LR
comp=Z,370nm,20.6s
XAN LR LR
comp=Z,570nm,21.9s
XAN LR LR
comp=Z,810nm,21.6s
KAPI Kappang 86.91 264 LR LR 05 55 58.5
comp=Z,98nm,19.7s,baz=77,slow=33
JMIC Jan Mayen 86.96 10 LR LR 05 56 33.0
comp=Z,114nm,21.5s,baz=338,slow=33
LZH Lanzhou 87.17 307 P **P 05 20 55.3 +2.9**
LZH pmax pmax
comp=Z,440nm,8.9s
LZH LR LR
comp=Z,360nm,16.8s
LZH LR LR
comp=Z,560nm,17.2s
LZH LR LR
comp=Z,640nm,16.8s
QIZ Qiongzhong 88.22 289 P **P 05 21 00.3 +2.8**
QIZ S **S 05 31 41.6 -1.6**
QIZ SS **SS 05 37 30.3 -1.5**
QIZ pmax pmax
comp=Z,410nm,6.9s
QIZ LR LR
comp=Z,230nm,17.3s
QIZ LR LR
comp=Z,330nm,17.8s
QIZ LR LR
comp=Z,350nm,19.2s
GYA Guiyang 88.41 297 P **P 05 20 55.3 -3.2**
GYA pmax pmax
comp=Z,20nm,0.6s
GYA LR LR
comp=Z,690nm,27.1s
GTA Gaotai 88.81 312 P P 05 21 06.4 +6.3
GTA pmax pmax
comp=Z,290nm,8.4s
GTA LR LR
comp=Z,250nm,17.1s
GTA LR LR
comp=Z,500nm,24.5s
GTA LR LR
comp=Z,510nm,23.5s
BORG Borgarnes 89.02 18 LR LR 05 59 42.9
comp=Z,81nm,20.2s,baz=326,slow=34
CD2 Chengdu 89.17 302 P **P 05 20 59.8 -2.1**
CD2 pmax pmax
comp=Z,290nm,5.3s
CD2 LR LR
comp=Z,220nm,10.6s
CD2 LR LR
comp=Z,270nm,15.4s
CD2 LR LR
comp=Z,380nm,16.5s
H03N2 Juan Fernandez 89.70 126 T T 07 00 12.4
baz=298,slow=76,SNR=6.2
H03N3 Juan Fernandez 89.72 126 T T 07 00 11.1
baz=298,slow=76,SNR=8.2
H03N1 Juan Fernandez 89.72 126 T T 07 00 10.2
baz=298,slow=76,SNR=5.6
ZALV Zalesovo Beam 90.68 329 LR LR 05 59 40.5
comp=Z,496nm,20.7s,baz=70,slow=34
PZH PanZhiHua 92.48 299 P **P 05 21 16.3 -1.2**
PZH S **S 05 32 19.3 -3.3**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,220nm,6.5s
PZH LR LR
comp=Z,170nm,19.2s
PZH LR LR
comp=Z,230nm,20.6s
PZH LR LR
comp=Z,320nm,20.6s
WMQ Urumqi 94.74 320 *e*P **P 05 21 28.3 +0.9**
WMQ LR LR
comp=Z,540nm,21.9s
WMQ LR LR
comp=Z,380nm,24.3s
KURBB Kurchatov Arra 95.77 329 LR LR 06 02 31.6
comp=Z,507nm,21.8s,baz=108,slow=34
MKAR Makanchi Array 96.19 324 LR LR 06 02 05.4
comp=Z,385nm,21.9s,baz=62,slow=34
BVAR Borovoye Array 97.78 334 LR LR 06 06 39.6
comp=Z,192nm,20.0s,baz=53,slow=36
CMAR Chiang Mai Arr 98.03 293 LR LR 06 05 28.4
comp=Z,140nm,19.2s,baz=75,slow=35
PLCA Paso Flores 98.56 130 LR LR 05 55 57.4
comp=Z,426nm,21.0s,baz=273,slow=29
SIV San Ignacio 99.04 104 LR LR 05 59 43.7
comp=Z,391nm,20.1s,baz=294,slow=31
ARU Arti 99.27 342 LR LR 06 07 00.8
comp=Z,429nm,21.8s,baz=42,slow=36
VNDA Vanda 99.89 189 LR LR 05 57 16.5
comp=Z,183nm,21.8s,baz=24,slow=30
TORD Torodi Ar. Bea 140.50 37 PKP **PKPdf 05 27 34.1 -1.9**
comp=Z,0.7nm,1.1s,baz=344,slow=4.4,SNR=2.1

NAO ***14*** *05:08:42.3,36.68N±20.41E,h33km,mb3.8*
IDC ***14*** *05:08:44.5±0.7,37.72N±21.85E,h0km,mb4.0/15, mbtmp3.9/25,ML3.6/8,MS2.8/5,Error ellipse: s-maj=14.1km s-min=12.3km az=179.0*
ATH ***14*** *05:08:45.9,37.71N±21.82E,h11km±1km,ML3.9/24, Manual Solution by A.Moschou This location: 2020/07/01 03:37:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
THE ***14*** *05:08:46.0,37.69N±21.82E,h0km±2km,ML3.9/6,Error ellipse: s-maj=2.8km s-min=0.7km az=224.0*
NEIC ***14*** *05:08:46.9±1.8,37.69N±0.02×21.84E±0.07,h10km±1km, mb4.3/14,Error ellipse: s-maj=10.0km s-min=3.5km az=99.0*
ISC 14 05:08:46.3±0.8,37.71N±0.02×21.83E±0.02,h12km±5km, n235,σ1§20/268,mb4.2/21,9C-3D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.20**	**209**	P		**Pg**		**05 08 50.4**	**-0.3**
AMT				S		**Sg**		**05 08 53.4**	**-0.4**
ZARO	**Zacharo**	**0.27**	**213**	P		**Pg**		**05 08 51.6**	**-0.2**
ZARO				S		**Sg**		**05 08 55.5**	**-0.1**
KLV1	**Kalavrita**	**0.39**	**34**	P		**Pg**		**05 08 54.2**	**+0.1**
KLV1				S		**Sb**		**05 09 00.5**	**-0.7**
KLV	**Kalavryta, Ach**	**0.42**	**37**	P		**Pg**		**05 08 54.0**	**-0.6**
KLV				S		**Sg**		**05 09 00.6**	**+0.4**
	13μm,0.3s								
KLV	**Kalavryta, Ach**	**0.42**	**37**	P		**Pg**		**05 08 54.4**	**-0.2**
KLV				S		**Sg**		**05 09 00.6**	**+0.4**
RLS	**Riolos of Patr**	**0.45**	**320**	P		**Pg**		**05 08 54.7**	**-0.5**
RLS				S		**Sg**		**05 09 01.6**	**+0.3**
	17μm,0.6s								
RLS	**Riolos of Patr**	**0.45**	**320**	P		**Pg**		**05 08 54.7**	**-0.5**
RLS				S		**Sg**		**05 09 01.7**	**+0.4**
GUR	**Goura**	**0.46**	**61**	P		**Pg**		**05 08 55.1**	**-0.3**
GUR				S		**Sg**		**05 09 02.4**	**+0.8**
	28μm,0.4s								
GUR	**Goura**	**0.46**	**61**	P		**Pg**		**05 08 55.2**	**-0.3**
GUR				S		**Sg**		**05 09 02.4**	**+0.8**
ITM	**Ithomi**	**0.53**	**172**	Pg		**Pg**		**05 08 56.3**	**-0.5**
ITM	**Ithomi**	**0.53**	**172**	P		**Pg**		**05 08 56.0**	**-0.7**
ITM	**Ithomi**	**0.53**	**172**	P		**Pg**		**05 08 56.2**	**-0.5**
ITM				S		**Sg**		**05 09 04.4**	**+0.6**
PATC	**Patra C**	**0.56**	**354**	P		**Pg**		**05 08 57.5**	**+0.2**
UPR	**University Cam**	**0.57**	**356**	P		**Pg**		**05 08 57.4**	**-0.1**
ALIK	**Aliki, Aigiali**	**0.59**	**22**	P		**Pg**		**05 08 57.4**	**-0.5**
ALIK				S		**Sb**		**05 09 08.2**	**+1.3**
KLMT	**Kalamata**	**0.67**	**164**	P		**Pg**		**05 08 59.0**	**-0.4**
VVK	**Vomvokou**	**0.71**	**359**	P		**Pg**		**05 09 00.2**	**+0.1**
ARS1	**Argos**	**0.71**	**96**	P		**Pg**		**05 09 00.6**	**-0.2**
ARS1				S		**Sb**		**05 09 10.3**	**-0.1**
EFP	**Efpalio**	**0.72**	**5**	P		**Pg**		**05 08 59.5**	**-0.7**
EFP				S		**Sn**		**05 09 12.7**	**-0.5**
	10μm,0.3s								
EFP	**Efpalio**	**0.72**	**5**	P		**Pg**		**05 08 59.9**	**-0.3**
EFP				S		**Sb**		**05 09 10.5**	**0.0**
KALE	**Kalithea**	**0.72**	**20**	P		**Pg**		**05 08 59.6**	**-0.7**
KALE				S		**Sb**		**05 09 11.8**	**+1.1**
	15μm,0.4s								
KALE	**Kalithea**	**0.72**	**20**	P		**Pg**		**05 08 59.8**	**-0.5**
KALE				S		**Sg**		**05 09 10.1**	**+0.3**
SERG	**Sergoula**	**0.72**	**14**	P		**Pg**		**05 09 00.0**	**-0.3**
SERG				S		**Sb**		**05 09 11.3**	**+0.5**
MSL1	**Messolongi**	**0.74**	**334**	P		**Pn**		**05 09 01.9**	**-0.6**
LTHK	**Lithakia**	**0.79**	**270**	P		**Pg**		**05 09 01.3**	**-0.3**
LTHK	**Lithakia**	**0.79**	**270**	P		**Pg**		**05 09 01.4**	**-0.2**
LTHK				S		**Sb**		**05 09 13.0**	**+0.5**
KRI1	**kERI**	**0.81**	**267**	P		**Pb**		**05 09 02.7**	**+0.4**
PYL	**PYLOS**	**0.82**	**185**	P		**Pg**		**05 09 00.9**	**-1.2**
PYL				S		**Sb**		**05 09 14.0**	**+0.7**
	6μm,0.4s								
PYL	**PYLOS**	**0.82**	**185**	P		**Pg**		**05 09 01.2**	**-0.9**
PYL				S		**Sg**		**05 09 12.9**	**+0.2**
ANX	**Ano Chora**	**0.89**	**4**	P		**Pg**		**05 09 02.3**	**-1.1**
ANX	**Ano Chora**	**0.89**	**4**	P		**Pg**		**05 09 02.7**	**-0.7**
ANX				S		**Sb**		**05 09 15.7**	**+0.2**
RTZL	**Ratzakli, Kefa**	**0.92**	**294**	P		**Pg**		**05 09 03.7**	**-0.3**
DLFA	**Delphi**	**0.93**	**34**	P		**Pg**		**05 09 02.8**	**-1.5**
DLFA				S		**Sb**		**05 09 17.0**	**+0.3**
PVO	**Paravola**	**0.94**	**345**	P		**Pg**		**05 09 03.9**	**-0.5**
PVO	**Paravola**	**0.94**	**345**	P		**Pg**		**05 09 04.3**	**-0.1**
PVO				S		**Sg**		**05 09 16.2**	**-0.5**
LOUT	**Loutraki**	**0.94**	**73**	P		**Pg**		**05 09 03.7**	**-0.8**
PSDA	**Pessada-Kefalo**	**1.07**	**293**	P		**Pb**		**05 09 06.0**	**-0.7**
PSDA	**Pessada-Kefalo**	**1.07**	**293**	P		**Pb**		**05 09 06.0**	**-0.7**
VLS	**Valsamata**	**1.09**	**296**	P		**Pb**		**05 09 05.7**	**-1.3**
VLS	**Valsamata**	**1.09**	**296**	P		**Pb**		**05 09 06.2**	**-0.8**
KRND	**KRANIDI**	**1.10**	**107**	P		**Pb**		**05 09 06.4**	**-0.8**
KRND	**KRANIDI**	**1.10**	**107**	P		**Pb**		**05 09 06.9**	**-0.3**
KRND				S		**Sn**		**05 09 22.3**	**-0.2**
EVR	**Evrytania**	**1.21**	**359**	P		**Pg**		**05 09 09.7**	**+0.2**
EVR	**Evrytania**	**1.21**	**359**	P		**Pg**		**05 09 09.8**	**+0.2**
EVR				S		**Sb**		**05 09 24.6**	**-0.1**
AXAR	**Agios Charalam**	**1.24**	**31**	P		**Pn**		**05 09 08.3**	**-1.1**
AXAR	**Agios Charalam**	**1.24**	**31**	P		**Pn**		**05 09 08.9**	**-0.6**
VIL2	**Platees**	**1.24**	**66**	P		**Pb**		**05 09 09.7**	**0.0**
VIL2				S		**Sg**		**05 09 27.0**	**+0.8**
FSK	**Fiskardo**	**1.25**	**307**	P		**Pn**		**05 09 08.9**	**-0.7**
FSK	**Fiskardo**	**1.25**	**307**	P		**Pn**		**05 09 09.1**	**-0.5**
FSK				S		**Sg**		**05 09 26.7**	**+0.1**
VILL	**Villia**	**1.25**	**68**	P		**Pn**		**05 09 09.7**	**0.0**
DMLN	**Damoulianata-K**	**1.27**	**295**	P		**Pn**		**05 09 09.8**	**0.0**
EVGI	**Lefkada island**	**1.30**	**315**	P		**Pn**		**05 09 10.0**	**-0.2**
EVGI	**Lefkada island**	**1.30**	**315**	P		**Pn**		**05 09 10.1**	**-0.2**
EVGI				S		**Sn**		**05 09 27.6**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.32**	**10**	P		**Pn**		**05 09 10.6**	**0.0**
MAKR	**Makrakomi, Fth**	**1.32**	**10**	P		**Pb**		**05 09 11.2**	**+0.1**
MAKR				S		**Sn**		**05 09 28.4**	**+0.2**
VLI	**Veliai**	**1.32**	**138**	P		**Pn**		**05 09 10.7**	**+0.1**
VLI	**Veliai**	**1.32**	**138**	P		**Pn**		**05 09 10.6**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.34**	**319**	P		**Pn**		**05 09 10.6**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.34**	**319**	P		**Pn**		**05 09 10.6**	**-0.2**
AGG	**Agios Georgios**	**1.37**	**16**	Pn		**Pn**		**05 09 11.2**	**0.0**
AGG	**Agios Georgios**	**1.37**	**16**	P		**Pn**		**05 09 10.8**	**-0.4**
AGG	**Agios Georgios**	**1.37**	**16**	P		**Pn**		**05 09 11.0**	**-0.2**
AGG				S		**Sb**		**05 09 29.3**	**0.0**
LKD2	**Lefkada island**	**1.42**	**320**	P		**Pn**		**05 09 12.1**	**+0.2**
LKD2	**Lefkada island**	**1.42**	**320**	P		**Pn**		**05 09 12.1**	**+0.2**
TSLK	**Tsoukalades, L**	**1.45**	**321**	P		**Pb**		**05 09 12.9**	**-0.3**
TSLK	**Tsoukalades, L**	**1.45**	**321**	P		**Pb**		**05 09 13.0**	**-0.2**
ATH	**Athens Observa**	**1.51**	**79**	P		**Pb**		**05 09 13.8**	**-0.5**
ATH	**Athens Observa**	**1.51**	**79**	P		**Pn**		**05 09 13.7**	**+0.5**
VLY	**Voula,Athens**	**1.56**	**84**	P		**Pn**		**05 09 14.4**	**+0.6**
VLY	**Voula,Athens**	**1.56**	**84**	P		**Pb**		**05 09 14.6**	**-0.5**
ATHU	**Athens Univers**	**1.57**	**80**	P		**Pn**		**05 09 14.4**	**+0.5**
ATHU	**Athens Univers**	**1.57**	**80**	P		**Pn**		**05 09 14.2**	**+0.2**
ATHU				S		**Sb**		**05 09 35.1**	**+0.1**
PTL	**Penteli**	**1.64**	**77**	P		**Pn**		**05 09 15.6**	**+0.6**
PTL	**Penteli**	**1.64**	**77**	P		**Pn**		**05 09 15.5**	**+0.6**
PTL				S		**Sn**		**05 09 35.6**	**-0.5**
DION	**Dionisos Attik**	**1.70**	**77**	P		**Pb**		**05 09 17.4**	**-0.1**
THL	**Klokotos Trika**	**1.86**	**4**	P		**Pb**		**05 09 19.3**	**-0.9**
NEO	**Neokhori**	**1.93**	**34**	P		**Pn**		**05 09 18.9**	**0.0**
NEO	**Neokhori**	**1.93**	**34**	P		**Pn**		**05 09 19.0**	**0.0**
KYMI	**Kymi, Euboea I**	**2.01**	**62**	P		**Pn**		**05 09 20.3**	**+0.3**
TYRN	**Tyrnavos**	**2.02**	**9**	P		**Pn**		**05 09 20.5**	**+0.3**
JAN	**Janina**	**2.09**	**339**	P		**Pg**		**05 09 26.4**	**0.0**
AOS	**Alonnisos**	**2.17**	**47**	P		**Pn**		**05 09 21.9**	**-0.3**
KPRO	**Kipourio**	**2.27**	**351**	P		**Pb**		**05 09 27.7**	**+0.4**
LIT	**Litokhoron**	**2.44**	**12**			**Pb**		**05 09 27.0**	**+1.0**
LIT	**Litokhoron**	**2.44**	**12**	P		**Pn**		**05 09 27.0**	**+1.0**
PENT	**Pentalofos**	**2.54**	**348**	P		**Pb**		**05 09 31.6**	**-0.3**
SRN	**Sarande**	**2.60**	**327**	P		**Pn**		**05 09 30.4**	**+2.3**
LSK	**Leskovik**	**2.62**	**339**	P		**Pb**		**05 09 31.5**	**-1.7**
PAIG	**Paliouri**	**2.64**	**33**	P		**Pn**		**05 09 28.7**	**0.0**
KTI	**Kastanea**	**2.69**	**5**	P		**Pn**		**05 09 31.6**	**+2.1**
NEST	**Nestorio**	**2.77**	**348**	P		**Pb**		**05 09 34.5**	**-1.3**
PLG	**Polygyros**	**2.94**	**25**	P		**Pn**		**05 09 34.3**	**+1.4**
APE	**Apeiranthos**	**3.01**	**101**	⇓P		**Pb**		**05 09 37.1**	**-2.8**
APE	**Apeiranthos**	**3.01**	**101**	P		**Pn**		**05 09 34.7**	**+0.8**
KBN	**Korca**	**3.02**	**345**			**Pn**		**05 09 35.8**	**+1.8**
KBN	**Korca**	**3.02**	**345**	P		**Pb**		**05 09 37.9**	**-2.1**
HORT	**Hortiatis**	**3.05**	**18**	P		**Pn**		**05 09 34.6**	**+0.2**
FNA	**Florina**	**3.09**	**354**			**Pn**		**05 09 37.3**	**+2.4**
FNA	**Florina**	**3.09**	**354**	P		**Pn**		**05 09 37.7**	**+2.8**
OUR	**Ouranopolis**	**3.11**	**32**	P		**Pn**		**05 09 35.2**	**+0.1**
GRG	**Griva**	**3.27**	**8**	P		**Pn**		**05 09 38.7**	**+1.3**
VLO	**Vlora**	**3.30**	**327**			**Pn**		**05 09 39.2**	**+1.5**
SOH	**Sokhos**	**3.33**	**20**	P		**Pn**		**05 09 39.6**	**+1.5**
IDI	**Anoyia**	**3.45**	**134**	Pn		**Pn**		**05 09 41.1**	**+1.2**
IDI	**Anoyia**	**3.45**	**134**	Pn		**Pn**		**05 09 40.7**	**+0.8**
	12nm,0.4s,baz=292,slow=8.2,SNR=31								
IDI				Sn				**05 10 22.6**	**+1.9**
	6.8nm,0.3s,baz=286,slow=19,SNR=3.5								
OHR	**Ohrid**	**3.49**	**347**	*i* Pn		**Pb**		**05 09 44.5**	**-3.6**
KOKK	**Kokkinochori,**	**3.53**	**28**	P		**Pn**		**05 09 41.6**	**+0.7**
SCTE	**Santa Cesarea**	**3.53**	**313**	Pn		**Pn**		**05 09 42.0**	**+1.1**
KNT	**Kendrikon**	**3.54**	**13**	P		**Pn**		**05 09 42.8**	**+1.7**
VAY	**Valandovo**	**3.65**	**9**	*i* Pn		**Pb**		**05 09 47.1**	**-3.6**
TIR	**Tirane**	**3.94**	**338**			**Pn**		**05 09 47.5**	**+0.9**
TIP	**Timpagrande**	**4.25**	**292**	Pn		**Pn**		**05 09 51.6**	**+0.8**
RDO	**Rodhopi**	**4.47**	**39**			**Pn**		**05 09 55.4**	**+1.5**
ALN	**Alexandroupoli**	**4.56**	**44**	Pn		**Pn**		**05 09 56.2**	**+1.1**
PUK	**Puka**	**4.58**	**342**			**Pn**		**05 09 56.8**	**+1.4**
KARP	**Karpathos**	**4.80**	**115**	Pn		**Pn**		**05 09 60.0**	**+1.6**
DRME	**Dracevica, Mon**	**4.91**	**336**	*e*Pn		**Pn**		**05 10 01.1**	**+1.2**
PDG	**Podgorica**	**5.11**	**338**	⇑P		**Pn**		**05 10 04.5**	**+1.9**
PDG	**Podgorica**	**5.11**	**338**	Pn		**Pn**		**05 10 04.7**	**+2.1**
PDG	**Podgorica**	**5.11**	**338**	*e*Pn		**Pn**		**05 10 05.1**	**+2.5**
CUC	**Castrocucco**	**5.22**	**298**	Pn		**Pn**		**05 10 06.1**	**+1.9**
ARG	**Arkhangelos**	**5.25**	**105**	Pn		**Pn**		**05 10 06.1**	**+1.5**
TREB	**Trebinje**	**5.67**	**333**	*e*Pn		**Pn**		**05 10 10.0**	**-0.3**
DBRK	**Dubrovnik**	**5.70**	**331**	*e*Pn		**Pn**		**05 10 10.8**	**+0.1**
SJES	**Sjenica**	**5.72**	**346**	*e*Pn		**Pn**		**05 10 13.1**	**+1.9**
BRY	**Bratogost**	**5.76**	**335**	*e*Pn		**Pn**		**05 10 11.6**	**-0.1**
VAE	**Valguarnera**	**5.90**	**270**	Pn		**Pn**		**05 10 14.0**	**+0.5**
	9.4nm,0.4s,baz=38,slow=7.4,SNR=1.7								
VAE				Sn				**05 11 22.3**	**+1.3**
	1.7nm,0.3s,baz=43,slow=19,SNR=3.5								
BOVS	**Bovan**	**5.92**	**359**	⇑P		**Pn**		**05 10 15.7**	**+2.0**
UPM	**Unac-Piva**	**5.92**	**339**	*e*Pn		**Pn**		**05 10 15.7**	**+1.7**
RAFF	**Raffo Rosso**	**5.96**	**268**	Pn		**Pn**		**05 10 14.5**	**+0.2**
STON	**Ston**	**6.05**	**330**	*e*Pn		**Pn**		**05 10 15.5**	**0.0**
STON				Sn		**Sn**		**05 11 23.9**	**-0.7**
STON	**Ston**	**6.05**	**330**	*e*Pn		**Pn**		**05 10 14.7**	**-0.7**
ELND	**Elena**	**6.06**	**29**	⇓P		**Pn**		**05 10 19.9**	**+4.2**
SGRT	**San Giovanni R**	**6.19**	**313**	Pn		**Pn**		**05 10 18.2**	**+0.7**
RUDO	**Rudo**	**6.19**	**343**	*e*Pn		**Pn**		**05 10 17.6**	**+0.1**
PAOL	**Paolisi**	**6.53**	**303**	Pn		**Pn**		**05 10 23.0**	**+0.8**
MAKA	**Makarska**	**6.67**	**328**	*e*Pn		**Pn**		**05 10 24.0**	**0.0**
RICI	**Ricice**	**6.79**	**330**	*e*Pn		**Pn**		**05 10 26.1**	**+0.3**
RICI				Sn		**Sn**		**05 11 42.2**	**-0.9**
HVAR	**Hvar**	**6.83**	**325**	*e*Pn		**Pn**		**05 10 26.4**	**+0.1**
TEKS	**Tekeris**	**7.05**	**346**	*e*Pn		**Pn**		**05 10 29.1**	**-0.2**
HERR	**Herculane**	**7.18**	**3**	⇑P		**Pn**		**05 10 35.3**	**+4.3**
INTR	**Introdacqua**	**7.46**	**308**			**Pn**		**05 10 35.5**	**+0.6**
KIJV	**Kijevo**	**7.51**	**329**	*e*Pn		**Pn**		**05 10 35.5**	**-0.1**
ZIRJ	**Zirje**	**7.57**	**324**	*e*Pn		**Pn**		**05 10 36.3**	**-0.1**
FRGS	**Fruska Gora**	**7.59**	**349**	*e*Pn		**Pn**		**05 10 37.1**	**+0.4**
MGRS	**Mrkonjic Grad**	**7.60**	**333**	*e*Pn		**Pn**		**05 10 37.2**	**+0.4**
MORI	**Morici**	**7.71**	**325**	*e*Pn		**Pn**		**05 10 39.5**	**+1.3**
GZR	**Gura Zlata**	**7.71**	**5**	⇑P		Pn		05 10 44.0	+5.6
BLY	**Banja Luka**	**7.86**	**335**	*e*Pn		**Pn**		**05 10 39.0**	**-1.3**
A050A	**Klekovaca**	**7.86**	**331**	*e*Pn		**Pn**		**05 10 41.2**	**+0.8**
ARR	**Arges**	**7.93**	**14**	⇑P		**Pn**		**05 10 45.0**	**+3.6**
CAMP	**Campotosto**	**8.05**	**309**			**Pn**		**05 10 44.8**	**+1.7**
VOIR		**8.09**	**16**	⇑P		**Pn**		**05 10 47.5**	**+3.9**
DUGI	**Dugi Otok**	**8.11**	**323**	*e*Pn		**Pn**		**05 10 44.1**	**+0.4**
UDBI	**Udbina**	**8.21**	**328**	*e*Pn		**Pn**		**05 10 46.3**	**+1.1**
VIRC	**Vir**	**8.34**	**324**	*e*Pn		**Pn**		**05 10 47.3**	**+0.4**
MLR	**Muntele Rosu**	**8.36**	**20**	⇑P		Pn		05 10 57.7	+10
MLR	**Muntele Rosu**	**8.36**	**20**	Pn		**Pn**		**05 10 46.8**	**-0.6**
	0.3nm,0.3s,baz=135,slow=9.9,SNR=2.6								
	1.4nm,0.6s								
NRCA	**Norcia**	**8.40**	**310**			**Pn**		**05 10 49.6**	**+1.7**
GUMA	**Gualdo di Mace**	**8.40**	**312**	Pn		**Pn**		**05 10 50.0**	**+2.1**
PLIT	**Plitvice**	**8.55**	**329**	*e*Pn		**Pn**		**05 10 50.7**	**+0.9**
NVLJ	**Novalja**	**8.63**	**325**	*e*Pn		**Pn**		**05 10 51.2**	**+0.4**
MOSL	**Moslavina**	**8.76**	**336**	*e*Pn		**Pn**		**05 10 51.8**	**-1.0**
PLOR	**Plostina**	**8.89**	**22**	⇓P		Pn		05 10 59.7	+5.2
TURR	**Turia**	**8.90**	**19**	⇑P		**Pn**		**05 10 58.8**	**+4.1**
VRI	**Vrincioaia**	**8.93**	**23**	⇑P		**Pn**		**05 10 59.5**	**+4.5**
BOJS	**Bojanci**	**9.21**	**330**	*e*Pn		**Pn**		**05 10 58.5**	**-0.4**
SMRN	**Sveta Marina**	**9.32**	**324**	*e*Pn		**Pn**		**05 11 00.9**	**+0.6**
CRES	**Cresnjev**	**9.40**	**332**	*e*Pn		**Pn**		**05 11 00.9**	**-0.6**
BRJN	**Brijuni**	**9.41**	**322**	*e*Pn		**Pn**		**05 11 01.5**	**-0.1**
BRTR	**Keskin Array B**	**9.45**	**74**	Pn		**Pn**		**05 11 03.8**	**+1.5**
	0.2nm,0.3s,baz=307,slow=5.2,S

DAVOX LR LR 05 17 59.9
comp=Z,38nm,18.4s,baz=84,slow=44
0.7nm,0.3s
DAVA Damuels 13.00 321 *e*Pn **P 05 12 01.4 0.0**
0.9nm,0.3s
EIL Elat 13.54 122 Pn **Pn 05 11 56.6 -1.6**
0.2nm,0.3s,baz=329,slow=16,SNR=2.7
EIL Sn Sn 05 14 18.8 -10
0.5nm,0.3s,baz=272,slow=12,SNR=2.8
2.7nm,0.7s
SENIN Lac Senin/Sane 13.82 313 **Pn 05 12 03.4 +1.3**
AKASG Malin Array Be 14.02 20 LR LR 05 17 21.8
comp=Z,27nm,19.6s,baz=46,slow=37
KBZ Khabaz 17.05 63 P **Pn 05 12 43.9 -0.4**
0.1nm,0.3s,baz=217,slow=15,SNR=1.6
0.4nm,0.3s
ESBB Sonseca Array 20.21 284 P **P 05 13 21.6 +0.6**
ESDC Sonseca Array 20.21 284 P **P 05 13 21.4 +0.4**
2.1nm,0.7s,baz=76,slow=11,SNR=26
2.1nm,0.7s
PAB San Pablo 20.52 283 P **P 05 13 24.8 +0.5**
MTSE Matsula 21.06 3 *e*P **P 05 13 30.5 +0.5**
ARBE Arbavere 21.91 6 *e*P **P 05 13 40.3 +1.3**
HFS Hagfors 23.04 350 P **P 05 13 50.4 -0.6**
4.3nm,0.4s,baz=156,slow=11,SNR=43
HFS LR LR 05 23 31.3
comp=Z,30nm,20.2s,baz=192,slow=38
4.3nm,0.4s
KONO Kongsberg 23.32 344 P **P 05 13 54.1 +0.2**
KONO IAmb IAmb 05 14 18.6
comp=Z,19nm,1.4s
FINES FINESS Array B 23.91 5 P **P 05 13 59.0 -0.6**
comp=Z,0.6nm,0.4s,baz=172,slow=10.0,SNR=16
FINES PcP **PcP 05 17 41.7 -0.1**
comp=Z,0.4nm,0.5s,baz=126,slow=2.6,SNR=3.8
comp=Z,0.6nm,0.4s
NC602 NORSAR Array S 23.95 348 P **P 05 13 59.6 -0.4**
NC602 IAmb IAmb 05 14 01.2
comp=Z,8.8nm,0.7s
NB2 NORSAR Subarra 24.29 347 P **P 05 14 03.0 -0.3**
comp=Z,1.6nm,0.6s,baz=162,slow=9.3
NOA NORSAR Array B 24.29 347 P **P 05 14 03.0 -0.3**
comp=Z,1.5nm,0.8s,baz=153,slow=9.1,SNR=27
NOA LR LR 05 24 31.1
comp=Z,12nm,19.8s,baz=170,slow=39
comp=Z,1.5nm,0.8s
EKA Eskdalemuir Ar 24.41 324 P **P 05 14 04.8 +0.4**
comp=Z,3.7nm,0.6s,baz=123,slow=9.0,SNR=24
comp=Z,3.7nm,0.6s
KEF Keuruu 24.56 3 *e*P **P 05 14 06.4 +0.8**
VAF Ylistaro 25.37 1 *e*P **P 05 14 13.9 +1.0**
JOF Joensuu 25.90 10 *e*P **P 05 14 17.4 -0.4**
ABKAR Akbulak array 29.66 55 **P 05 14 52.1 +0.5**
TOA0 Torodi Ar. Sit 30.34 222 P **P 05 14 57.8 -0.1**
TOA0 IAmb IAmb 05 14 59.2
comp=Z,6.6nm,1.5s
TORD Torodi Ar. Bea 30.34 222 P **P 05 14 58.3 +0.4**
TORD Torodi Ar. Bea 30.34 222 P **P 05 14 57.9 0.0**
comp=Z,1.4nm,0.7s,baz=34,slow=9.2,SNR=13
comp=Z,1.4nm,0.7s
ARCES ARCESS Array B 31.95 2 P **P 05 15 11.6 +0.1**
ARCES ARCESS Array B 31.95 2 P **P 05 15 11.5 -0.1**
comp=Z,0.4nm,0.3s,baz=186,slow=8.5,SNR=8.7
comp=Z,0.4nm,0.3s
BRVK Borovoye 36.57 49 P **P 05 15 52.5 +0.7**
BRVK IAmb IAmb 05 15 53.5
comp=Z,4.2nm,0.7s
BVAR Borovoye Array 36.63 49 P **P 05 15 53.5 +1.1**
comp=Z,3.3nm,0.5s,baz=270,slow=5.9,SNR=17
comp=Z,3.3nm,0.5s
DBIC Dimbokro 39.27 225 P **P 05 16 15.2 +0.2**
comp=Z,5.3nm,1.0s,baz=27,slow=4.5,SNR=3.7
comp=Z,5.3nm,1.0s
SPITS Spitsbergen Ar 40.64 358 P **P 05 16 26.8 +1.1**
comp=Z,0.8nm,0.4s,baz=170,slow=15,SNR=1.1
comp=Z,0.8nm,0.4s
KURBB Kurchatov Arra 41.68 53 P **P 05 16 34.7 +0.2**
comp=Z,2.8nm,0.6s,baz=281,slow=8.6,SNR=21
comp=Z,2.8nm,0.6s
KURK Kurchatov 41.73 53 P **P 05 16 35.1 +0.2**
KURK IAmb IAmb 05 16 35.9
comp=Z,3.1nm,0.7s
MK31 Makanchi Array 44.66 58 P **P 05 16 58.4 -0.3**
MK31 IAmb IAmb 05 17 04.6
comp=Z,1.5nm,0.5s
MKAR Makanchi Array 44.66 58 P **P 05 16 58.4 -0.3**
MKAR Makanchi Array 44.66 58 P **P 05 16 58.6 -0.2**
comp=Z,1.1nm,0.4s,baz=272,slow=7.7,SNR=15
comp=Z,1.1nm,0.4s
ZAA0 Zalesovo Array 45.23 48 P **P 05 17 03.2 +0.1**
ZALV Zalesovo Beam 45.23 48 P **P 05 17 04.0 +0.9**
ZALV Zalesovo Beam 45.23 48 P **P 05 17 03.1 0.0**
comp=Z,10nm,0.5s,baz=272,slow=8.5,SNR=40
SCHQ Schefferville 59.50 318 P **P 05 18 49.4 +0.3**
SCHQ Schefferville 59.50 318 P **P 05 18 49.0 0.0**
comp=Z,1.0nm,0.3s,baz=71,slow=7.4,SNR=2.8
comp=Z,1.0nm,0.3s
ULM Lac du Bonnet 76.69 324 P **P 05 20 37.0 0.0**
comp=Z,0.8nm,0.4s,baz=72,slow=3.2,SNR=2.9
comp=Z,0.8nm,0.4s
KSRS Korea Array 78.82 51 P **P 05 20 48.7 -0.4**
comp=Z,0.7nm,0.5s,baz=290,slow=6.6,SNR=1.8
comp=Z,0.7nm,0.5s
WRA Warramunga Arr 119.48 93 PKP **PKPdf 05 27 34.8 -1.3**
comp=Z,0.5nm,0.8s,baz=312,slow=1.8,SNR=5.1
ASAR Alice Springs 121.09 97 PKP **PKPdf 05 27 38.4 -0.7**
comp=Z,0.3nm,0.5s,baz=304,slow=1.7,SNR=4.4

IDC ***14*** *05:09:42.1±0.5, 18°.76N×147°.04E, h0km, mb4.5/26, mbtmp4.5/28, ML4.4/2, MS4.1/19, Error ellipse: s-maj=18.5km s-min=10.7km az=78.0*
DJA ***14*** *05:09:44.8±2.5, 19°N±4°×14°7E±°, h16km±18km, M5.1/16, mB5.5/3, mb5.2/16, MLv5.1/1, Mw(mB)5.0/3*
BJI ***14*** *05:09:45.4±0.0, 18°.81N×147°.00E, h30km, mb4.9/58, mB4.9/23, Ms4.5/43, Ms7 4.3/44*
GCMT ***14*** *05:09:46.8±0.3, 18°.63N±0°.02×147°.19E±0°.04, h21km±1km, MW4.9/76, Moment Tensor Solution. s20,c23; s76,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.36±.19; $M_{\theta\theta}$-2.07±.12; $M_{\phi\phi}$-0.28±.12; $M_{r\theta}$1.42±.17; $M_{\theta\phi}$0.25±.06; $M_{r\phi}$0.43±.20; Best double couple: $M_0$2.67100×10^{16} NP1:ϕ_s86.00000°, δ62.00000°, λ80.00000°. NP2: ϕ_s287.00000°, δ30.00000°, λ109.00000°. Principal axes: T 2.8490, Plg71.0000°, Azm332.0000°; N -0.3550, Plg9.0000°, Azm91.0000°; P -2.4930, Plg16.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***14*** *05:09:49.8±1.0, 18°.81N±0°.07×146°.9E±0°.1, h44km±7km, mb4.9/84 Error ellipse: s-maj=20.4km s-min=10.5km az=88.0*
ISC 14 05:09:48.5±0.6, 18°.74N±0°.05×147°.06E±0°.07, h42km±5km, h42km:pP-P, n512, σ1§06/512, mb4.9/93, MS4.3/35, 6C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**		**5.54 203**	Pn	**Pn**	**05 11 09.3**	**+0.9**
GUMO	**Guam**		**5.54 203**	Pn	**Pn**	**05 11 07.9**	**-0.6**
	86nm,0.3s,baz=112,slow=4.6,SNR=23						
GUMO				Sn	**Sn**	**05 12 13.4**	**+2.5**
	baz=107,slow=21						
GUMO				LR	LR	05 12 56.8	
	comp=Z,612nm,21.6s,baz=40,slow=35						
	226nm,0.3s						
JCJ	**Chichijima**		**9.45 333**	Pn	**Pn**	**05 12 00.1**	**-2.0**
JCJ	**Chichijima**		**9.45 333**	Pn	Pn	05 11 55.0	-7.1
	7.3nm,0.3s,baz=106,slow=22,SNR=9.2						
JCJ				Sn	Sn	05 13 35.4	-12
	4.4nm,0.3s,baz=121,slow=21,SNR=3.5						
JCJ				LR	LR	05 15 18.6	
	comp=Z,892nm,21.8s,baz=159,slow=36						
JHJ2	**Mitsune**		**15.72 337**	Pn	**Pn**	**05 13 25.2**	**-1.8**
JHJ2				IAmb	IAmb	05 13 32.7	
	comp=Z,78nm,0.7s						
JHJ	**Hachijo jima 2**		**15.74 337**	Pn	**Pn**	**05 13 29.4**	**+2.2**
	comp=Z,4.6nm,0.3s,baz=171,slow=12,SNR=4.5						
JHJ				LR	LR	05 18 54.7	
	comp=Z,445nm,21.5s,baz=108,slow=35						
JSG	**Sagara**		**17.73 335**	Pn	**Pn**	**05 13 50.1**	**-2.1**
JSG				IAmb	IAmb	05 14 00.6	
	comp=Z,103nm,1.1s						
H11S3	**WAKE ISLAND Hy 18.61**		**88**	T	T	05 32 53.6	
	baz=274,slow=74,SNR=123						
H11S1	**WAKE ISLAND Hy 18.62**		**88**	T	T	05 32 55.9	
	baz=274,slow=74,SNR=108						
H11S2	**WAKE ISLAND Hy 18.62**		**88**	T	T	05 32 53.5	
	baz=274,slow=74,SNR=97						
H11N1	**WAKE ISLAND Hy 18.75**		**84**	T	T	05 33 05.6	
	baz=272,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy 18.76**		**84**	T	T	05 33 11.6	
	baz=272,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy 18.77**		**84**	T	T	05 33 06.0	
	baz=272,slow=75,SNR=12						
INU	**Inuyama**		**18.79 334**	P	**P**	**05 14 03.2**	**-1.1**
JGF	**Kuroka**		**18.86 335**	P	**P**	**05 14 05.1**	**-0.1**
JMN	**Monobe**		**19.01 324**	P	**P**	**05 14 06.5**	**-0.3**
JOW	**Kunigami**		**19.09 298**	LR	LR	05 20 28.7	
	comp=Z,1μm,20.0s,baz=120,slow=34						
MJAR	**Matsushiro Arr**		**19.37 338**	P	**P**	**05 14 09.7**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=164,slow=10.0,SNR=19						
MJAR				S	**Sn**	**05 17 49.6**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=82,slow=27,SNR=1.3						
	comp=Z,12nm,0.8s						
MAJO	**Matsushiro**		**19.37 338**	P	**P**	**05 14 10.5**	**-0.3**
MJB9	**Matsu-Tunnel**		**19.38 338**	P	**P**	**05 14 10.9**	**+0.1**
JMM	**Marumori**		**19.83 345**	P	**P**	**05 14 15.9**	**+0.2**
JMM				IAmb	IAmb	05 14 27.8	
	comp=Z,46nm,1.0s						
JNU	**Nakatsue**		**20.38 318**		**P**	**05 14 20.5**	**-1.3**
JNU	**Nakatsue**		**20.38 318**	P	**P**	**05 14 21.0**	**-0.8**
	comp=Z,23nm,0.9s,baz=112,slow=6.3,SNR=16						
JNU				LR	LR	05 21 47.8	
	comp=Z,403nm,19.9s,baz=140,slow=36						
	comp=Z,23nm,0.9s						
MANU	**Manus Island**		**20.66 179**	P	**P**	**05 14 25.4**	**+0.6**
MANU				IAmb	IAmb	05 14 26.7	
	comp=Z,41nm,0.8s						
JAY	**Jayapura**		**22.03 197**	P	**P**	**05 14 41.1**	**+1.5**
	comp=Z,28nm,0.9s						
GENI	**Genyem**		**22.26 198**	P	**P**	**05 14 43.0**	**+1.0**
	comp=Z,43nm,0.7s						
JTM	**Tenmabayashi**		**22.57 348**	P	**P**	**05 14 45.4**	**+0.3**
JTM				IAmb	IAmb	05 14 51.2	
	comp=Z,46nm,1.0s						
ERM	**Erimo**		**23.44 353**	P	**P**	**05 14 53.5**	**-0.5**
YHNB	**Yeheng**		**24.56 288**	P	**P**	**05 15 03.6**	**-1.1**
YHNB				IAmb	IAmb	05 15 19.8	
	comp=Z,72nm,1.5s						
TJN	**Taejon**		**24.69 319**	P	**P**	**05 15 04.2**	**-1.4**
KSRS	**Korea Array**		**25.06 322**	P	**P**	**05 15 08.0**	**-1.0**
	comp=Z,13nm,0.7s,baz=143,slow=8.9,SNR=50						
KSRS				LR	LR	05 24 53.7	
	comp=Z,870nm,19.9s,baz=130,slow=36						
	comp=Z,13nm,0.7s						
KSAR	**Wonju Array Be**		**25.08 322**	P	**P**	**05 15 07.9**	**-1.2**
KS19	**Wonju Array Si**		**25.13 322**	P	**P**	**05 15 08.1**	**-1.4**
INCN	**Inchon**		**25.85 320**	P	**P**	**05 15 15.4**	**-0.7**
INCN				IAmb	IAmb	05 15 16.9	
	comp=Z,59nm,1.2s						
PMG	**Port Moresby**		**27.97 180**	LR	LR	05 28 28.1	
	comp=Z,181nm,18.0s,baz=2.0,slow=40						
USA0B	**Ussuriysk Arra**		**28.36 337**	P	**P**	**05 15 38.1**	**-0.4**
USRK	**Ussuriysk Ar.**		**28.36 337**	P	**P**	**05 15 39.2**	**+0.7**
USRK	**Ussuriysk Ar.**		**28.36 337**	P	**P**	**05 15 36.9**	**-1.6**
	comp=Z,8.6nm,0.8s,baz=148,slow=8.5,SNR=17						
USRK				LR	LR	05 27 14.3	
	comp=Z,268nm,18.5s,baz=155,slow=37						
	comp=Z,8.6nm,0.8s						
NJ2	**Nanjing**		**28.62 303**	*e*P	**P**	**05 15 40.9**	**-0.1**
NJ2				pP	**pP**	**05 15 50.9**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,150nm,6.2s						
NJ2				LR	LR		
	comp=Z,370nm,18.5s						
NJ2				LR	LR		
	comp=Z,700nm,18.9s						
NJ2				LR	LR		
	comp=Z,600nm,19.9s						
MDJ	**Mudanjiang**		**29.65 334**	P	**P**	**05 15 50.3**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,21nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,100nm,6.2s						
MDJ				LR	LR		
	comp=Z,280nm,16.2s						
MDJ				LR	LR		
	comp=Z,340nm,16.1s						
MDJ				LR	LR		
	comp=Z,390nm,15.2s						
MDJ	**Mudanjiang**		**29.65 334**	P	**P**	**05 15 49.8**	**-0.2**
MDJ				IAmb	IAmb	05 15 51.8	
	comp=Z,16nm,0.9s						
DL2	**Dalian**		**29.83 318**	P	P	05 15 56.5	+4.8
DL2				S	**S**	**05 20 52.1**	**+6.4**
DL2				pmax	pmax		
	comp=Z,76nm,1.6s						
DL2				LR	LR		
	comp=Z,460nm,15.3s						
DL2				LR	LR		
	comp=Z,430nm,17.1s						
DL2				LR	LR		
	comp=Z,700nm,18.0s						
SNY	**Shenyang**		**30.49 324**	⇑P	**P**	**05 15 57.0**	**-0.4**
SNY				S	**S**	**05 21 01.1**	**+5.2**
SNY				pmax	pmax		
	comp=Z,13nm,0.8s						
SNY				pmax	pmax		
	comp=Z,93nm,5.7s						
SNY				LR	LR		
	comp=Z,140nm,15.6s						
SNY				LR	LR		
	comp=Z,180nm,14.7s						
SNY				LR	LR		
	comp=Z,290nm,15.7s						
CN2	**Changchun**		**30.89 329**	*e*P	**P**	**05 16 00.8**	**-0.2**
CN2				*e*pP	pP	05 16 10.3	-1.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				LR	LR		
	comp=Z,160nm,16.0s						
CN2				LR	LR		
	comp=Z,230nm,16.0s						
BNX	**BinXian**		**31.47 333**	⇓P	**P**	**05 16 06.3**	**+0.3**
BNX				pmax	pmax		
	comp=Z,18nm,0.7s						
TIA	**Tai'an**		**31.57 310**	P	**P**	**05 16 07.0**	**-0.1**
TIA				pmax	pmax		
	comp=Z,33nm,1.2s						
TIA				LR	LR		
	comp=Z,210nm,17.7s						
TIA				LR	LR		
	comp=Z,470nm,21.6s						
TIA				LR	LR		
	comp=Z,700nm,24.5s						
COEN	**Coen**		**32.72 187**	P	**P**	**05 16 17.5**	**+0.3**
COEN				IAmb	IAmb	05 16 19.1	
	comp=Z,24nm,0.9s						
HNS	**HongShan**		**33.83 310**	⇑P	**P**	**05 16 26.8**	**0.0**
HNS				S	**S**	**05 21 50.0**	**+1.9**
HNS				pmax	pmax		
	comp=Z,110nm,1.1s						
HNS				LR	LR		
	comp=Z,480nm,20.0s						
HNS				LR	LR		
	comp=Z,480nm,16.1s						
HNS				LR	LR		
	comp=Z,370nm,16.7s						
BJT	**Baijiatuau**		**34.00 315**	P	**P**	**05 16 27.4**	**-0.9**
BJT	**Baijiatuau**		**34.00 315**	P	**P**	**05 16 28.3**	**0.0**
BJT				pP	**pP**	**05 16 38.5**	**-0.2**
BJI	**Beijing**		**34.01 315**	P	**P**	**05 16 27.8**	**-0.5**
BJI				pmax	pmax		
	comp=Z,15nm,1.3s						
BJI				pmax	pmax		
	comp=Z,34nm,3.5s						
BJI				LR	LR		
	comp=Z,170nm,16.4s						
BJI				LR	LR		
	comp=Z,150nm,15.1s						
BJI				LR	LR		
	comp=Z,220nm,19.7s						
LYN	**LuoYang**		**34.49 304**	*e*P	**P**	**05 16 32.5**	**-0.1**
LYN				pmax	pmax		
	comp=Z,15nm,0.8s						
LYN				LR	LR		
	comp=Z,390nm,19.0s						
LYN				LR	LR		
	comp=Z,430nm,18.9s						
LYN				LR	LR		
	comp=Z,780nm,20.6s						
HEH	**HeiHe**		**35.14 338**	*e*P	**P**	**05 16 37.6**	**-0.4**
HEH				pmax	pmax		
	comp=Z,22nm,1.0s						
HEH				LR	LR		
	comp=Z,330nm,20.6s						
HEH				LR	LR		
	comp=Z,830nm,22.9s						
HEH				LR	LR		
	comp=Z,1μm,23.9s						
QIZ	**Qiongzhong**		**35.17 277**	P	**P**	**05 16 38.3**	**-0.4**
QIZ				S	**S**	**05 22 09.4**	**+0.1**
QIZ				LR	LR		
	comp=Z,270nm,15.3s						
QIZ				LR	LR		
	comp=Z,290nm,14.1s						
QIZ				LR	LR		
	comp=Z,260nm,14.7s						
KAPI	**Kappang**		**35.80 231**	LR	LR	05 29 07.7	
	comp=Z,102nm,20.7s,baz=54,slow=33						
XLT	**XiLinHaoTe**		**36.10 321**	*e*P	**P**	**05 16 46.3**	**-0.2**
XLT				S	**S**	**05 22 23.4**	**+0.3**
XLT				pmax	pmax		
	comp=Z,30nm,1.1s						
XLT				LR	LR		
	comp=Z,41nm,15.7s						
XLT				LR	LR		
	comp=Z,370nm,18.2s						
XLT				LR	LR		
	comp=Z,550nm,17.5s						
XAN	**Xi'an**		**37.17 302**	P	**P**	**05 16 54.8**	**-0.9**
XAN				pP	pP	05 17 01.4	-4.8
XAN				pmax	pmax		
	comp=Z,11nm,1.3s						
XAN				LR	LR		
	comp=Z,420nm,15.8s						
XAN				LR	LR		
	comp=Z,650nm,20.6s						
XAN				LR	LR		
	comp=Z,830nm,18.5s						
HHC	**Hu-ho-hao-te**		**37.50 314**	*e*P	**P**	**05 16 57.9**	**-0.5**
HHC				sP	pP	05 17 11.6	+2.7
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,4.5s						
HHC				LR	LR		
	comp=Z,220nm,14.7s						
HHC				LR	LR		
	comp=Z,290nm,17.8s						
HHC				LR	LR		
	comp=Z,390nm,16.4s						
HIA	**Hailar**		**37.55 330**	P	**P**	**05 16 58.0**	**-0.7**
HIA				IAmb	IAmb	05 16 59.4	
	comp=Z,16nm,0.8s						
HIA	**Hailar**		**37.55 330**	P	**P**	**05 16 58.7**	**0.0**
BTO	**Baotou**		**38.47 313**	*e*P	**P**	**05 17 08.1**	**+1.5**
BTO				pP	**pP**	**05 17 18.0**	**+0.9**
BTO				sP	**pwP**	**05 17 21.8**	**+0.3**
BTO				PP	**PnPn**	**05 18 40.8**	**+3.6**
BTO				S	**S**	**05 23 02.3**	**+3.1**
BTO				sS	**sS**	**05 23 17.8**	**+0.9**
BTO				SS	**SnSn**	**05 25 43.4**	**-4.8**
BTO				pmax	pmax		
	comp=Z,81nm,0.8s						
BTO				pmax	pmax		
	comp=Z,400nm,3.7s						
BTO				LR	LR		
	comp=Z,630nm,18.2s						
BTO				LR	LR		
	comp=Z,730nm,16.9s						
BTO				LR	LR		
	comp=Z,740nm,16.5s						
WB0	**Warramunga Arr**		**40.23 199**	P	**P**	**05 17 21.2**	**-0.1**
WB0				IAmb	IAmb	05 17 25.9	
	comp=Z,31nm,1.7s						
WR0	**Warramunga Arr**		**40.37 198**	P	**P**	**05 17 23.0**	**+0.6**
WRAB	**Tennant Creek**		**40.41 199**	P	**P**	**05 17 24.3**	**+1.5**
WRAB				IAmb	IAmb	05 17 28.1	
	comp=Z,21nm,1.4s						
WB2	**Warramunga Arr**		**40.41 199**	P	**P**	**05 17 23.1**	**+0.3**
WB2				IAmb	IAmb	05 17 28.2	
	comp=Z,21nm,1.3s						
WRA	**Warramunga Arr**		**40.42 199**	P	**P**	**05 17 23.0**	**+0.1**
	comp=Z,5.7nm,0.8s,baz=21,slow=8.4,SNR=24						
WRA				PcP	**PcP**	**05 19 25.7**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=17,slow=3.3,SNR=5.3						
	comp=Z,5.7nm,0.8s						
LZH	**Lanzhou**		**41.70 304**	*e*P	**P**	**05 17 34.3**	**+0.8**
LZH				pP	pP	05 17 44.4	+0.2
LZH				pmax	pmax		
	comp=Z,35nm,1.2s						
LZH				LR	LR		
	comp=Z,360nm,16.8s						
LZH				LR	LR		
	comp=Z,560nm,17.2s						
LZH				LR	LR		
	comp=Z,640nm,16.8s						
FITZ	**Fitzroy Crossi**		**42.23 211**	P	**P**	**05 17 37.5**	**-0.2**
PZH	**PanZhiHua**		**42.37 289**	P	**P**	**05 17 39.8**	**+0.8**
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
ULN	**Ulaanbaatar**		**43.54 321**	P	**P**	**05 17 48.4**	**+0.1**
ULN				IAmb	IAmb	05 17 49.8	
	comp=Z,14nm,0.8s						
ULN	**Ulaanbaatar**		**43.54 321**	P	**P**	**05 17 48.5**	**+0.1**
ULN				pP	**pP**	**05 17 59.9**	**+0.6**
SONM	**Songino Array**		**43.92 321**	P	**P**	**05 17 51.6**	**+0.2**
SONM				IAmb	IAmb	05 17 52.7	
	comp=Z,12nm,0.8s						
SONM	**Songino Array**		**43.92 321**	P	**P**	**05 17 51.2**	**-0.1**
	comp=Z,9.3nm,0.7s,baz=136,slow=8.7,SNR=47						
SONM				PcP	**PcP**	**05 19 37.2**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=156,slow=5.3,SNR=2.4						
	comp=Z,9.3nm,0.7s						
AS31	**Alice Springs**		**44.06 197**		**P**	**05 17 53.9**	**+1.4**
ASAR	**Alice Springs**		**44.06 197**	P	**P**	**05 17 53.3**	**+0.8**
ASAR	**Alice Springs**		**44.06 197**	P	**P**	**05 17 50.8**	**-1.7**
	comp=Z,2.5nm,0.8s,baz=19,slow=7.7,SNR=15						
ASAR				PcP	**PcP**	**05 19 38.5**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=19,slow=3.7,SNR=2.9						
	comp=Z,2.5nm,0.8s						
CMAR	**Chiang Mai Arr**		**45.49 278**	P	**P**	**05 18 03.0**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=68,slow=7.8,SNR=5.7						
	comp=Z,1.3nm,0.7s						
GTA	**Gaotai**		**45.55 307**	P	**P**	**05 18 04.8**	**+0.4**
GTA				pP	pP	05 18 15.1	0.0
GTA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GTA				LR	LR		
	comp=Z,300nm,17.1s						
GTA				LR	LR		
	comp=Z,440nm,16.7s						
GTA				LR	LR		
	comp=Z,430nm,17.1s						
NIKH	**Nikolski High**		**48.24 34**	P	**P**	**05 18 26.2**	**+1.1**
	baz=242						
GOMU	**GeErMu**		**48.92 302**	P	**P**	**05 18 32.8**	**+1.8**
GOMU				S	S	05 25 22.9	-10
GOMU				pmax	pmax		
	comp=Z,20nm,0.8s						
GOMU				LR	LR		
	comp=Z,280nm,15.9s						
GOMU				LR	LR		
	comp=Z,330nm,16.1s						
GOMU				LR	LR		
	comp=Z,360nm,16.4s						
P08K	**Saint George I**		**49.69 30**	P	**P**	**05 18 37.1**	**+1.0**
	baz=239						
STKA	**Stephens Creek**		**50.60 186**	P	**P**	**05 18 42.7**	**-0.6**
STKA	**Stephens Creek**		**50.60 186**	P	**P**	**05 18 42.6**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=353,slow=8.5,SNR=2.4						
	comp=Z,2.5nm,0.8s						
BBOO	**Buckleboo**		**52.33 192**	P	**P**	**05 18 56.8**	**+0.6**
FORT	**Forrest**		**52.52 201**	P	**P**	**05 18 57.7**	**+0.2**
S12K	**Black Hills**		**53.01 33**	P	**P**	**05 19 01.4**	**+0.4**
	baz=247						
SDPT	**Sand Point**		**53.71 34**	P	**P**	**05 19 06.8**	**+0.7**
	baz=249						
M13K	**Dall Lake**		**54.40 28**	P	**P**	**05 19 11.8**	**+0.8**
	baz=243						
L14K	**Kuka Creek**		**55.12 27**	P	**P**	**05 19 16.7**	**+0.4**
	baz=243						

M14K	Bethel	55.17	28	P	P	05 19 17.2 +0.7
	baz=244					
WMQ	Urumqi	55.26	311	eP	P	05 19 18.8 +1.1
WMQ				pmax	pmax	
	comp=Z,23nm,0.9s					
WMQ				LR	LR	
	comp=Z,210nm,23.5s					
TNA	Tin City	55.31	21	P	P	05 19 18.7 +1.2
	baz=235					
J14K	Nanvaranak Lak	55.43	25	P	P	05 19 19.0 +0.6
	baz=241					
O15K	Ungalikthiuk R	55.48	30	P	P	05 19 19.8 +0.9
	baz=247					
ANM	Nome	55.66	23	P	P	05 19 20.1 0.0
	baz=238					
M15K	Kasigluk River	55.71	28	P	P	05 19 21.6 +1.1
	baz=245					
N15K	Kwethluk River	55.76	29	P	P	05 19 21.7 +0.8
	baz=246					
L15K	Ungalak Mounta	55.78	27	P	P	05 19 22.2 +1.2
	baz=244					
F14K	Arctic Creek	55.81	22	P	P	05 19 21.7 +0.5
	baz=236					
K15K	Wolf Creek Mou	56.04	26	P	P	05 19 23.5 +0.6
	baz=243					
P16K	Nushagak River	56.31	31	P	P	05 19 25.8 +1.0
	baz=249					
G15K	Niukluk	56.37	23	P	P	05 19 25.3 +0.2
	baz=239					
O16K	Kokwok River B	56.46	30	P	P	05 19 25.8 0.0
	baz=248					
CHIR	Chirikof Islan	56.47	35	P	P	05 19 26.2 +0.2
	baz=253					
N16K	Nishlik Lake	56.48	29	P	P	05 19 27.3 +1.3
	baz=247					
F15K	North Star Dit	56.52	22	P	P	05 19 26.5 +0.2
	baz=238					
M16K	Timber Creek	56.61	28	P	P	05 19 27.7 +0.7
	baz=247					
R17L	Mt. Peulik Vol	56.63	33	P	P	05 19 27.7 +0.5
	baz=251					
L16K	Owhat River	56.66	27	P	P	05 19 28.0 +0.7
	baz=246					
Q16K	King Salmon	56.83	31	P	P	05 19 29.2 +0.7
	baz=250					
H16K	Elim	56.86	23	P	P	05 19 29.2 +0.6
	baz=241					
J16K	Anvik River	56.87	25	P	P	05 19 29.6 +0.8
	baz=244					
O17K	Koliganek Bris	57.00	30	P	P	05 19 30.3 +0.6
	baz=249					
Q17K	Contact Creek	57.08	32	P	P	05 19 31.1 +0.7
	baz=252					
I17K	Unalakleet	57.10	25	P	P	05 19 31.1 +0.7
	baz=243					
P17K	Kvichak River	57.11	31	P	P	05 19 30.5 0.0
	baz=250					
G16K	Koyuk River	57.19	23	P	P	05 19 31.5 +0.6
	baz=241					
N17K	Nushagak Hills	57.23	29	P	P	05 19 32.2 +0.8
	baz=249					
L17K	Donlin	57.35	27	P	P	05 19 33.8 +1.6
	baz=247					
M17K	Holitna River	57.44	28	P	P	05 19 33.6 +0.8
	baz=248					
SII	Sitkinak Islan	57.45	34	P	P	05 19 34.0 +1.0
	baz=254					
J17K	VABM Dome	57.54	26	P	P	05 19 34.6 +1.2
	baz=245					
K17K	Iditarod	57.58	26	P	P	05 19 35.5 +1.7
K17K	Iditarod	57.58	26	P	P	05 19 34.7 +0.9
	baz=246,SNR=6.0					
R18K	Karluk	57.59	33	P	P	05 19 35.0 +1.1
	baz=253					
ZSN	Zaisan	57.69	315	eP	P	05 19 34.2 -0.6
	comp=Z,10nm,0.7s,baz=315					
C16K	Lisburne Hills	57.70	19	P	P	05 19 35.3 +0.8
C16K				IAmb	IAmb	05 19 36.0
	comp=Z,16nm,0.8s					
C16K	Lisburne Hills	57.70	19	P	P	05 19 35.4 +0.9
	baz=236					
G17K	Kiwalik Mounta	57.86	23	P	P	05 19 37.2 +1.5
	baz=242					
H17K	Granite Mounta	57.88	24	P	P	05 19 36.9 +1.1
H17K				IAmb	IAmb	05 19 38.0
	comp=Z,12nm,0.8s					
H17K	Granite Mounta	57.88	24	P	P	05 19 37.1 +1.2
	baz=244,SNR=6.7					
N18K	Kilae Creek	57.88	29	P	P	05 19 36.7 +0.8
	baz=250					
O18K	Koktuh Hills	57.92	30	P	P	05 19 37.4 +1.1
	baz=251					
L18K	Granite Mounta	58.08	27	P	P	05 19 38.4 +1.2
	baz=248					
F17K	Baldwin Pennin	58.09	22	P	P	05 19 38.3 +1.1
	baz=241					
D17K	Noatak River	58.11	20	P	P	05 19 37.8 +0.5
	baz=239,SNR=9.1					
M18K	Stony River	58.19	28	P	P	05 19 38.8 +0.7
	baz=250					
E17K	Hotham Inlet	58.21	21	P	P	05 19 38.9 +0.8
	baz=240,SNR=5.2					
RDOG	Red Dog Mine	58.35	20	P	P	05 19 39.6 +0.5
	baz=239					
O19K	Port Alsworth	58.46	30	P	P	05 19 40.5 +0.6
	baz=252					
C17K	DeLong Mountai	58.49	19	P	P	05 19 40.8 +0.7
	baz=238					
J18K	Innoko River	58.54	26	P	P	05 19 41.5 +1.0
	baz=248					
H18K	Honhosa River	58.57	24	P	P	05 19 40.8 +0.1
H18K				IAmb	IAmb	05 19 42.2
	comp=Z,14nm,0.8s					
H18K	Honhosa River	58.57	24	P	P	05 19 41.2 +0.5
	baz=245,SNR=7.4					
N19K	Bonanza Creek	58.58	29	P	P	05 19 41.8 +0.9
N19K				IAmb	IAmb	05 19 43.0
	comp=Z,11nm,0.8s					
N19K	Bonanza Creek	58.58	29	P	P	05 19 41.9 +1.0
	baz=251					
KDAK	Kodiak Island	58.62	33	P	P	05 19 41.9 +0.8
	baz=255					
KDAK	Kodiak Island	58.62	33	LR	LR	05 43 14.2
	comp=Z,73nm,20.1s,baz=270,slow=34					
TTA	Tatalina	58.63	27	P	P	05 19 41.8 +0.6
	baz=249					
F18K	Selawik	58.73	22	P	P	05 19 42.6 +0.8
	baz=243					
ZAA0	Zalesovo Array	58.77	322	P	P	05 19 41.3 -0.9
ZAA0				IAmb	IAmb	05 19 46.1
	comp=Z,8.1nm,0.9s					
ZALV	Zalesovo Beam	58.77	322	P	P	05 19 41.5 -0.8
ZALV	Zalesovo Beam	58.77	322	P	P	05 19 41.6 -0.6
	comp=Z,7.2nm,0.8s,baz=99,slow=6.8,SNR=17					
ZALV				PcP	PcP	05 20 31.1 -0.5
	comp=Z,4.4nm,0.7s,baz=105,slow=5.5,SNR=3.8					
	comp=Z,7.2nm,0.8s					
G18K	Tagagawik	58.78	23	P	P	05 19 42.5 +0.4
G18K	Tagagawik	58.78	23	P	P	05 19 43.1 +1.0
	baz=244,SNR=7.6					
E18K	Tukpahlearik C	58.79	21	P	P	05 19 43.0 +0.8
E18K				IAmb	IAmb	05 19 44.2
	comp=Z,10nm,0.8s					
E18K	Tukpahlearik C	58.79	21	P	P	05 19 42.8 +0.7
	baz=241,SNR=6.4					
P19K	Oil Pt	58.81	31	P	P	05 19 42.9 +0.4
	baz=253					
L19K	White Mountain	58.87	28	P	P	05 19 43.9 +1.1
	baz=250					
Q20K	Shuyak Island	58.94	32	P	P	05 19 44.5 +1.2
	baz=255					
M19K	Big River Lodg	58.98	28	P	P	05 19 44.2 +0.7
	baz=251					
J19K	Poorman	59.19	26	P	P	05 19 45.8 +0.8
J19K				IAmb	IAmb	05 19 46.4
	comp=Z,14nm,1.1s					
J19K	Poorman	59.19	26	P	P	05 19 45.4 +0.4
	baz=248,SNR=5.8					
C18K	Utukok River	59.20	20	P	P	05 19 45.7 +0.7
	baz=240					
MK31	Makanchi Array	59.37	314	P	P	05 19 46.6 0.0
MK31				IAmb	IAmb	05 19 47.6
	comp=Z,6.4nm,0.8s					
MKAR	Makanchi Array	59.37	314	P	P	05 19 46.4 -0.2
MKAR	Makanchi Array	59.37	314	P	P	05 19 46.5 -0.1
	comp=Z,5.0nm,0.7s,baz=92,slow=9.1,SNR=40					
	comp=Z,5.0nm,0.7s					
B18K	Kokolik River	59.38	19	P	P	05 19 47.2 +1.0
	baz=239					
L20K	Farewell, AK	59.40	28	P	P	05 19 47.5 +1.1
	baz=251					
H19K	Roundabout Mou	59.45	24	P	P	05 19 47.7 +1.0
H19K				IAmb	IAmb	05 19 48.8
	comp=Z,14nm,0.8s					
H19K	Roundabout Mou	59.45	24	P	P	05 19 47.9 +1.1
	baz=247,SNR=13					
G19K	Purcell Mounta	59.46	23	P	P	05 19 47.5 +0.7
G19K	Purcell Mounta	59.46	23	P	P	05 19 47.5 +0.7
	baz=246,SNR=12					
F19K	Shaleruckik Mo	59.51	22	P	P	05 19 48.0 +0.9
	baz=245					
M20K	Styx River	59.53	28	P	P	05 19 48.4 +0.9
	baz=252					
MAKZ	Makanchi	59.58	314	P	P	05 19 47.5 -0.6
MAKZ				IAmb	IAmb	05 19 49.1
	comp=Z,11nm,0.8s					
MAKZ	Makanchi	59.58	314	P	P	05 19 48.1 0.0
MAKZ				pP	pP	05 19 59.1 -0.2
K20K	Telida	59.61	27	P	P	05 19 48.7 +0.8
K20K	Telida	59.61	27	P	P	05 19 49.2 +1.3
	baz=250,SNR=6.3					
N20K	Mount Spurr	59.75	29	P	P	05 19 49.5 +0.5
	baz=253					
SPCR	Spurr Chakacha	59.75	29	P	P	05 19 50.4 +1.4
	baz=253					
J20K	Nowinta River	59.86	26	P	P	05 19 50.6 +1.0
	baz=250,SNR=11					
C19K	Lookout Ridge	59.93	19	P	P	05 19 50.7 +0.6
	baz=242,SNR=8.8					
I20K	Naaghedeneel	59.95	25	P	P	05 19 50.9 +0.8
	baz=249					
E19K	Redstone River	59.97	22	P	P	05 19 50.5 +0.3
E19K				IAmb	IAmb	05 20 01.2
	comp=Z,7.7nm,1.1s					
E19K	Redstone River	59.97	22	P	P	05 19 50.9 +0.6
	baz=245,SNR=5.2					
A19K	Wainwright	60.03	18	P	P	05 19 51.8 +1.2
	baz=240					
H20K	Anotleneega Mo	60.04	24	P	P	05 19 51.6 +0.7
	baz=248,SNR=11					
BRSE	Bradley Lake S	60.05	31	P	P	05 19 51.6 +0.5
	baz=256					
D19K	Kuna River	60.12	20	P	P	05 19 51.9 +0.5
	baz=243,SNR=6.5					
PPLA	Purkeypile	60.27	27	P	P	05 19 53.4 +0.8
	baz=252					
SKT	Skwentna	60.29	29	P	P	05 19 52.5 -0.1
SKT				IAmb	IAmb	05 19 53.3
	comp=Z,9.0nm,0.8s					
SKT	Skwentna	60.29	29	P	P	05 19 53.2 +0.6
	baz=254,SNR=5.2					
F20K	Avaraart Lake	60.33	22	P	P	05 19 53.8 +1.0
	baz=247					
CAST	Castle Rocks	60.47	27	P	P	05 19 54.8 +1.0
	baz=252					
SUA	Susitna One	60.50	29	P	P	05 19 54.6 +0.4
	baz=254					
CHUM	Lake Minchumin	60.52	26	P	P	05 19 54.4 +0.3
	baz=252					
IMAR	Indian Mountai	60.66	24	P	P	05 19 56.1 +1.1
E20K	Nigu River	60.66	21	P	P	05 19 56.0 +0.9
	baz=246,SNR=12					
D20K	Etivluk River	60.72	20	P	P	05 19 56.3 +0.9
	baz=245,SNR=13					
SEW	Seward	60.77	31	P	P	05 19 56.4 +0.6
	baz=256					
M22K	Willow	60.87	29	P	P	05 19 56.6 +0.1
	baz=255					
RC01	Rabbit Creek A	60.88	30	P	P	05 19 56.8 +0.2
	baz=256					
H21K	Melozitna Rive	60.91	24	P	P	05 19 57.2 +0.4
H21K				IAmb	IAmb	05 19 58.9
	comp=Z,11nm,0.8s					
H21K	Melozitna Rive	60.91	24	P	P	05 19 57.5 +0.7
	baz=250,SNR=12					
G21K	Allakaket	60.94	23	P	P	05 19 57.9 +1.0
	baz=249,SNR=5.7					
KTH	Kantishna Hill	61.01	27	P	P	05 19 57.9 +0.3
I21K	Tanana	61.07	25	P	P	05 19 59.0 +1.1
	baz=251					
B20K	Meade River	61.11	19	P	P	05 19 58.5 +0.5
	baz=244					
BPAW	Bear Paw Mtn.	61.15	26	P	P	05 19 59.2 +0.8
	baz=253,SNR=8.1					
SHLS	Shalkode	61.19	309	eP	P	05 19 56.3 -2.9
	comp=Z,6.7nm,1.0s,baz=309					
F21K	Alatna River	61.21	22	P	P	05 19 59.1 +0.4
F21K	Alatna River	61.21	22	P	P	05 19 59.6 +0.8
	baz=249					
PMR	Palmer	61.28	29	P	P	05 20 00.1 +0.8
	baz=256					
E21K	Killik River	61.49	21	P	P	05 20 01.4 +0.7
	baz=248					
C21K	Knifeblade Rid	61.50	20	P	P	05 20 01.3 +0.6
	baz=246,SNR=5.6					
UZB	Uzynbulak	61.51	309	eP	P	05 20 00.4 -1.1
	comp=Z,5.3nm,0.7s,baz=309					
MLY	Manley	61.53	25	P	P	05 20 01.8 +0.8
	baz=253,SNR=18					
H22K	Ishtalitna Cre	61.54	24	P	P	05 20 01.4 +0.4
	baz=252					
KNK	Knik Glacier	61.55	30	P	P	05 20 01.1 -0.1
	baz=257					
SML	Sawmill	61.70	29	P	P	05 20 02.3 0.0
	baz=257,SNR=7.0					
B21K	Ikpikpuk River	61.74	20	P	P	05 20 02.5 +0.2
	baz=246					
KPKS	Kokpek	61.76	310	eP	P	05 20 02.3 -0.7
	comp=Z,5.5nm,1.1s,baz=310					
F22K	John River	61.78	22	P	P	05 20 03.2 +0.6
	baz=250					
BWN	Browne	61.81	26	P	P	05 20 03.5 +0.7
G22K	Bettles	61.83	23	P	P	05 20 03.1 +0.2
	baz=251					
WAT1	Susitna Watana	61.85	28	P	P	05 20 03.4 +0.2
	baz=256					
A21K	Barrow	61.86	18	P	P	05 20 03.4 +0.4
	baz=244					
MCK	McKinley	61.91	27	P	P	05 20 03.8 +0.2
	baz=255					
ZHN	Zhinishke	61.94	309	eP	P	05 20 03.3 -1.0
	baz=309					
SATY	Saty	61.96	309	eP	P	05 20 03.7 -0.8
	comp=Z,5.2nm,0.8s,baz=309					
M23K	Glacier View	61.98	29	P	P	05 20 03.9 -0.2
	baz=257					
NRIK	Noril'sk	62.02	340	P	P	05 20 03.6 -0.5
	comp=Z,6.4nm,0.6s,baz=103,slow=8.3,SNR=9.7					
	comp=Z,6.4nm,0.6s					
GLI	Glacier Island	62.08	30	P	P	05 20 05.3 +0.5
	baz=258					
NEA2	Nenana	62.09	26	P	P	05 20 05.4 +0.7
NEA2				IAmb	IAmb	05 20 06.8
	comp=Z,10.0nm,0.8s					
NEA2	Nenana	62.09	26	P	P	05 20 05.7 +1.0
	baz=254,SNR=9.5					
D22K	Ayikyak River	62.09	21	P	P	05 20 05.5 +0.8
	baz=249,SNR=6.7					
KURK	Kurchatov	62.10	318	P	P	05 20 04.7 -0.4
KURK	Kurchatov	62.10	318	P	P	05 20 04.5 -0.5
I23K	Minto, Yukon-K	62.12	25	P	P	05 20 06.0 +1.1
I23K				IAmb	IAmb	05 20 07.0
	comp=Z,14nm,1.1s					
I23K	Minto, Yukon-K	62.12	25	P	P	05 20 05.5 +0.7
	baz=254,SNR=7.8					
E22K	Anaktuvuk Pass	62.13	22	P	P	05 20 05.5 +0.5
	baz=250					
KURBB	Kurchatov Arra	62.15	318	P	P	05 20 05.0 -0.4
	comp=Z,24nm,0.9s,baz=97,slow=7.6,SNR=116					
	comp=Z,24nm,0.9s					
WAT6	Susitna Watana	62.16	28	P	P	05 20 05.7 +0.3
	baz=257,SNR=7.2					
SCM	Sheep Creek Mo	62.17	29	P	P	05 20 05.7 +0.3
	baz=258,SNR=6.0					
A22K	Sinclair Lake	62.20	18	P	P	05 20 06.5 +1.2
	baz=245					
H23K	Yukon River	62.24	25	P	P	05 20 06.6 +0.8
	baz=253,SNR=11					
G23K	Bananza Creek	62.32	24	P	P	05 20 07.3 +1.1
G23K	Bananza Creek	62.32	24	P	P	05 20 07.4 +1.1
	baz=252,SNR=5.8					
B22K	Teshekpuk Lake	62.41	19	P	P	05 20 07.4 +0.6
	baz=247					
DHY	Denali Highway	62.43	28	P	P	05 20 08.2 +1.0
	baz=257					
MDM	Murphy Dome	62.53	26	P	P	05 20 08.5 +0.8
MDM				IAmb	IAmb	05 20 09.5
	comp=Z,10nm,0.9s					
COLA	College	62.66	26	P	P	05 20 09.4 +0.9
	baz=256					
COLA	College	62.66	26	P	P	05 20 10.3 +1.8
EYAK	Cordova Ski Ar	62.67	31	P	P	05 20 09.5 +0.9
	baz=260					
KLU	Klutina	62.76	30	P	P	05 20 10.1 +0.7
	baz=259					
M24K	Tolsona, Glenn	62.77	29	P	P	05 20 10.2 +0.9
	baz=258					
D23K	Nanushuk River	62.80	21	P	P	05 20 11.0 +1.5
	baz=251,SNR=8.1					
E23K	Chandalar	62.88	22	P	P	05 20 11.5 +1.4
	baz=252,SNR=14					
POKR	Poker Plat Res	62.90	26	P	P	05 20 11.2 +1.0
	baz=256					
H24K	Noodor Dome	62.90	25	P	P	05 20 11.0 +0.8
H24K				IAmb	IAmb	05 20 20.9
	comp=Z,11nm,1.1s					
H24K	Noodor Dome	62.90	25	P	P	05 20 11.0 +0.8
	baz=255					
HDA	Harding Lake	62.93	26	P	P	05 20 10.6 +0.3
	baz=257					
MDOK	Medeo	62.95	309	eP	P	05 20 09.8 -1.3
	baz=309					
TNSS	Tian-Shan	63.03	309	eP	P	05 20 10.9 -1.0
	baz=309					
ILAR	Eielson Array	63.04	26	P	P	05 20 10.4 -0.6
ILAR	Eielson Array	63.04	26	P	P	05 20 09.8 -1.3
	comp=Z,4.9nm,0.8s,baz=259,slow=5.4,SNR=46					
	comp=Z,4.9nm,0.8s					
TOLK	Toolik Lake Re	63.08	22	P	P	05 20 12.5 +1.2
	baz=252,SNR=7.4					
C23K	Itkillik River	63.12	20	P	P	05 20 12.4 +1.0
C23K				IAmb	IAmb	05 20 13.5
	comp=Z,15nm,0.8s					
C23K	Itkillik River	63.12	20	P	P	05 20 12.5 +1.0
	baz=250,SNR=8.8					
KAIM	Kayak Island	63.22	32	P	P	05 20 13.4 +1.1
	baz=261					
PAX	Paxson	63.26	28	P	P	05 20 13.1 +0.5
	baz=259,SNR=5.0					
G24K	Hadweenzic Riv	63.29	24	P	P	05 20 13.4 +0.7
	baz=255,SNR=6.9					
HARP	HAARP	63.29	29	P	P	05 20 13.7 +0.9
	baz=259					
E24K	Your Creek	63.29	22	P	P	05 20 13.4 +0.6
	baz=253					
BMRM	Bremner River	63.29	30	P	P	05 20 13.5 +0.7
	baz=260					
K24K	Donnelly Dome	63.29	27	P	P	05 20 13.5 +0.7
	baz=258					
F24K	Squaw Lake	63.35	23	P	P	05 20 14.5 +1.3
F24K	Squaw Lake	63.35	23	P	P	05 20 13.9 +0.8
	baz=254					
N25K	Chitina, Valde	63.41	30	P	P	05 20 14.4 +0.7
	baz=260,SNR=5.2					
KUU	Kurty	63.46	310	eP	P	05 20 13.3 -1.0
	comp=Z,14nm,1.3s,baz=310					
D24K	Happy Valley	63.50	21	P	P	05 20 15.1 +1.1
D24K	Happy Valley	63.50	21	P	P	05 20 14.8 +0.8
	baz=252,SNR=11					
J25K	Salcha River,	63.64	26	P	P	05 20 15.1 0.0
J25K	Salcha River,	63.64	26	P	P	05 20 14.3 -0.8
	baz=258,SNR=5.9					
C24K	Franklin Bluff	63.71	21	P	P	05 20 16.0 +0.6
	baz=252					
PRP	Porcupine Dome	63.77	25	P	P	05 20 16.7 +0.6
	baz=257					
H25L	Birch Creek	63.82	25	P	P	05 20 16.4 +0.2
	baz=257					
G25K	Bearman Lake	63.83	24	P	P	05 20 17.3 +1.1
	baz=256					
KSH	Kashi	63.90	305	P	P	05 20 20.5 +3.1
KSH				pP	pP	05 20 30.3 +1.6
KSH				pmax	pmax	
	comp=Z,4.0nm,0.6s					
KSH				LR	LR	
	comp=Z,2μm,19.9s					
KSH				LR	LR	
	comp=Z,760nm,18.9s					
KSH				LR	LR	
	comp=Z,300nm,17.2s					
CRQE	Cirque	63.99	31	P	P	05 20 18.1 +0.6
	baz=262					
SCRK	Sand Creek	64.11	27	P	P	05 20 18.5 +0.2
	baz=260,SNR=7.6					
MCARA	McCarthy VSAT	64.11	30	P	P	05 20 18.8 +0.6
	baz=262					
F25K	Christian Rive	64.20	23	P	P	05 20 19.6 +0.8
	baz=256,SNR=19					
L26K	Log Cabin Wild	64.22	28	P	P	05 20 20.0 +1.1
	baz=261					
M26K	Nabesna, AK	64.28	29	P	P	05 20 20.5 +1.1
	baz=261					
E25K	Arctic Village	64.36	23	P	P	05 20 20.7 +0.9
E25K	Arctic Village	64.36	23	P	P	05 20 20.6 +0.9
	baz=256,SNR=6.8					
D25K	Kavik River	64.38	21	P	P	05 20 21.2 +1.3
	baz=255					
J26L	Joseph Creek	64.38	27	P	P	05 20 20.2 +0.1
	baz=260,SNR=14					
BMAR	Burnt Mountain	64.56	23	P	P	05 20 22.2 +1.1
GRNC	Granite Creek	64.64	31	P	P	05 20 22.7 +0.8
GRNC				IAmb	IAmb	05 20 23.6
	comp=Z,9.2nm,0.8s					
SGDS	Sogindy	64.71	310	eP	P	05 20 21.6 -0.9
	baz=310					
G26K	Porcupine Rive	64.77	24	P	P	05 20 23.7 +1.3
	baz=258,SNR=12					
F26K	Sheenjek River	64.78	23	P	P	05 20 23.6 +1.1
	baz=258,SNR=13					
M27K	Edge Creek, AK	64.79	29	P	P	05 20 23.4 +0.6
M27K	Edge Creek, AK	64.79	29	P	P	05 20 23.2 +0.4
	baz=262,SNR=6.0					
CTG	Chitna Glacier	64.87	31	P	P	05 20 24.0 +0.6
	baz=264					
L27K	Beaver Creek,	64.91	28	P	P	05 20 24.0 +0.6
L27K				IAmb	IAmb	05 20 25.1
	comp=Z,6.2nm,0.8s					
L27K	Beaver Creek,	64.91	28	P	P	05 20 24.1 +0.7
	baz=262,SNR=8.5					
BCAR	Beaver Creek A	64.93	28	P	P	05 20 24.0 +0.5
K27K	Chicken	64.94	27	P	P	05 20 24.6 +1.0
	baz=261					
C26K	Camden Bay	65.03	21	P	P	05 20 25.5 +1.5
	baz=256					
BTLS	Baital	65.07	312	eP	P	05 20 23.9 -0.9
	comp=Z,5.5nm,1.1s,baz=312					
PINM	Pinnacle	65.31	32	P	P	05 20 27.0 +0.8
	baz=265					
C27K	Jago River	65.37	21	P	P	05 20 27.1 +0.9
	baz=257					
YUK3	Moose Creek	65.38	30	P	P	05 20 27.3 +0.5
	baz=264,SNR=7.9					
I27K	Kandik River	65.38	26	P	P	05 20 26.3 -0.2
	baz=261,SNR=5.7					
O28M	Mount Upton	65.41	31	P	P	05 20 27.6 +0.6
	baz=265,SNR=11					
EGAK	Eagle	65.45	27	P	P	05 20 27.1 +0.3
	baz=262,SNR=6.1					
H27K	Steamboat Moun	65.52	25	P	P	05 20 27.8 +0.5
	baz=261,SNR=9.7					
G27K	Doyon Strip	65.57	24	P	P	05 20 28.4 +0.8
G27K	Doyon Strip	65.57	24	P	P	05 20 28.1 +0.5
	baz=260					
PNL	Peninsula	65.71	32	P	P	05 20 28.9 +0.3
	baz=266					
E27K	Coleen River	65.83	23	P	P	05 20 30.0 +0.7
	baz=260					
I28M	Miner Creek	66.05	26	P	P	05 20 31.3 +0.5
I28M				IAmb	IAmb	05 20 44.0
	comp=Z,35nm,2.0s					
I28M	Miner Creek	66.05	26	P	P	05 20 31.3 +0.5
	baz=263,SNR=7.9					
DAWY	Dawson	66.12	27	P	P	05 20 32.1 +0.8
	baz=264,SNR=8.7					
O29M	Mount Kennedy	66.16	32	P	P	05 20 33.1 +1.4
	baz=266					
YUK4	Talbot Arm	66.21	30	P	P	05 20 33.1 +1.1
	baz=266					
D27M	Malcolm River	66.24	22	P	P	05 20 32.9 +0.9
	baz=260					
YUK6	Outpost Mounta	66.31	31	P	P	05 20 33.8 +1.1
	baz=266					
F28M	Old Crow	66.38	24	P	P	05 20 34.0 +1.2
	baz=262					

M29M	Somme Creek	66.38	29	P	P	05 20 34.1 +1.0
M29M				IAmb	IAmb	05 20 35.3
	comp=Z,9.4nm,0.8s					
M29M	Somme Creek	66.38	29	P	P	05 20 34.3 +1.3
	baz=265,SNR=18					
P29M	Windy Craggy	66.55	32	P	P	05 20 35.6 +1.5
	baz=267,SNR=6.0					
L29M	L29M	66.59	29	P	P	05 20 35.8 +1.5
	baz=265,SNR=18					
E28M	Babbage River	66.65	23	P	P	05 20 36.0 +1.6
	baz=262,SNR=5.4					
J29N	Klondike Camp	66.67	27	P	P	05 20 35.7 +0.9
	baz=265					
I29M	Ogilvie Camp,	66.72	26	P	P	05 20 35.5 +0.5
	baz=264					
HYT	Haines Junctio	66.72	31	P	P	05 20 36.6 +1.3
HYT				IAmb	IAmb	05 20 37.7
	comp=Z,12nm,0.8s					
HYT	Haines Junctio	66.72	31	P	P	05 20 36.7 +1.5
	baz=267,SNR=14					
H29M	Whitestone	66.79	25	P	P	05 20 36.5 +1.0
	baz=264,SNR=5.2					
K29M	Barlow Dome	66.92	28	P	P	05 20 37.5 +1.0
	baz=266,SNR=14					
P30M	Million Dollar	66.96	32	P	P	05 20 38.8 +2.1
	baz=268					
N30M	Aishikik Lake	66.96	30	P	P	05 20 38.0 +1.3
	baz=267,SNR=9.5					
G29M	Pine Creek	67.00	24	P	P	05 20 38.0 +1.2
	baz=264					
M30M	Minto, Yukon	67.16	29	P	P	05 20 38.9 +0.9
	baz=267					
E29M	Blow River	67.22	23	P	P	05 20 38.5 +0.4
	baz=263					
PLBC	Pleasant Camp	67.24	33	P	P	05 20 39.5 +1.1
	baz=268,SNR=6.7					
BVAR	Borovoye Array	67.27	320	P	P	05 20 38.3 -0.4
	comp=Z,18nm,0.9s,baz=95,slow=7.4,SNR=60					
	comp=Z,18nm,0.9s					
S31K	Pelican	67.27	34	P	P	05 20 39.8 +1.2
	baz=269					
BRVK	Borovoye	67.33	320	P	P	05 20 39.2 +0.1
O30N	Mendenhall	67.42	31	P	P	05 20 40.1 +0.6
	baz=268					
EPYK	Eagle Plains	67.47	25	P	P	05 20 40.2 +0.5
	baz=265					
J30M	Hart River	67.49	27	P	P	05 20 41.0 +1.0
	baz=266,SNR=6.9					
I30M	Mount Dempster	67.52	26	P	P	05 20 40.6 +0.4
	baz=266					
N31M	Braeburn, Yuko	67.59	30	P	P	05 20 41.9 +1.3
	baz=268,SNR=7.5					
G30M	tAoh Zraii Nji	67.71	24	P	P	05 20 41.3 0.0
	baz=266					
KKAR	Karatay Array	67.74	310	P	P	05 20 41.5 -0.4
SIT	Sitka	67.76	35	P	P	05 20 42.3 +0.6
	baz=270					
F30M	Barrier River	67.93	24	P	P	05 20 42.9 +0.3
	baz=266,SNR=5.5					
S32K	Killisnoo	68.16	35	P	P	05 20 45.1 +0.9
	baz=271					
IUG	Iuzhnay	68.18	309	eP	P	05 20 43.8 -1.0
	baz=309					
R32K	Eaglecrest	68.18	34	P	P	05 20 45.4 +1.0
	baz=271					
BRLS	Borolday	68.24	310	eP	P	05 20 44.8 -0.2
	baz=309					
M31M	Drury Creek, Y	68.27	30	P	P	05 20 45.9 +1.1
	baz=269,SNR=5.9					
G31M	Satah River	68.48	25	P	P	05 20 46.8 +0.8
	baz=267,SNR=7.3					
P32M	Atlin	68.59	32	P	P	05 20 47.5 +0.6
	baz=271					
F31M	Tsiigehtchic	68.71	24	P	P	05 20 48.0 +0.6
	baz=268					
FARO	Faro, Yukon	68.76	30	P	P	05 20 48.5 +0.6
	baz=270					
INK	Inuvik	68.83	23	P	P	05 20 48.3 +0.1
	baz=268,SNR=8.2					
N32M	Quiet Lake	68.89	31	P	P	05 20 49.8 +1.0
	baz=271					
U33K	Whale Pass	69.00	36	P	P	05 20 50.0 +0.6
	baz=273					
CRAG	Craig	69.03	37	P	P	05 20 50.8 +1.2
	baz=273					
P33M	Teslin, Yukon	69.03	32	P	P	05 20 50.1 +0.4
	baz=271					
Q32M	Nakina River	69.35	33	P	P	05 20 52.1 +0.3
	baz=272					
V35K	Ketchikan	69.89	37	P	P	05 20 55.6 +0.6
	baz=274					
S34M	Telegraph Cree	69.99	34	P	P	05 20 56.1 +0.5
	baz=274					
R33M	Jennings River	70.00	33	P	P	05 20 56.2 +0.4
	baz=273					
T35M	Bob Quinn	70.53	35	P	P	05 20 60.0 +1.0
	baz=275					
DLBC	Dease Lake	70.54	34	P	P	05 21 00.0 +1.0
	baz=274,SNR=6.4					
TGTN	Hyland Airport	71.19	30	P	P	05 21 03.5 +0.6
	baz=275					
PPT	Papeete	71.97	116	LR	LR	05 46 20.4
	comp=Z,138nm,19.5s,baz=301,slow=30					
PPT2	Papeete2	71.98	116	eLR	LR	05 43 15.0
PPT2				eLR	LR	05 43 21.4
	comp=Z,143nm,31.2s					
C36M	Paulatuk	72.23	22	P	P	05 21 09.2 +0.4
	baz=276					
BBB	Bella Bella	72.29	40	LR	LR	05 49 54.7
	comp=Z,90nm,19.1s,baz=284,slow=33					
TOAD	Toad River Com	72.99	33	P	P	05 21 14.0 +0.3
	baz=278					
ARU	Arti	73.78	325	P	P	05 21 17.6 -0.7
ARU				IAmb	IAmb	05 21 23.8
	comp=Z,17nm,1.1s					
ABKAR	Abkulak array	74.19	317	P	P	05 21 20.3 -0.6
ABKAR	Abkulak array	74.19	317	P	P	05 21 20.5 -0.4
ABKAR				IAmb	IAmb	05 21 21.0
	comp=Z,7.9nm,0.8s					
TBI	Tubuai	74.75	122	eLR	LR	05 44 22.2
	comp=Z,552nm,32.8s					
AKTO	Aktyubinsk	75.19	319	P	P	05 21 25.4 -1.2
	comp=Z,2.5nm,0.6s,baz=87,slow=6.5,SNR=8.0					
	comp=Z,2.5nm,0.6s					
YKA	Yellowknife Ar	77.35	28	P	P	05 21 38.5 -0.1
	comp=Z,2.9nm,0.8s,baz=291,slow=5.3,SNR=6.2					
	comp=Z,2.9nm,0.8s					
YBH	Yreka Blue Hor	77.94	50	LR	LR	05 56 26.2
	comp=Z,79nm,18.6s,baz=282,slow=36					
KIRV	Kirov	78.11	328	P	P	05 21 43.5 +0.6
	comp=Z,10nm,0.7s,baz=85,slow=2.8,SNR=6.4					
	comp=Z,10nm,0.7s					
NEW	Newport	80.01	42	P	P	05 21 54.0 +0.3
	baz=287					
NEW	Newport	80.01	42	LR	LR	05 54 27.2
	comp=Z,115nm,18.7s,baz=288,slow=34					
BELG	Belogornoye	80.96	322	P	P	05 21 58.2 -0.3
	comp=Z,41nm,0.8s,baz=90,slow=6.1,SNR=18					
PKM	Mcpherson Peak	81.99	56	P	P	05 22 05.1 +0.5
	baz=287					
NVAR	Mina Array Bea	82.10	52	P	P	05 22 05.3 +0.1
NVAR	Mina Array Bea	82.10	52	P	P	05 22 06.1 +0.9
	comp=Z,2.2nm,0.8s,baz=265,slow=6.3,SNR=19					
	comp=Z,2.2nm,0.8s					
VES	Vestal, Richgr	82.28	55	P	P	05 22 06.8 +1.0
	baz=288					
ARCES	ARCESS Array B	82.85	342	P	P	05 22 07.6 -0.6
ARCES	ARCESS Array B	82.85	342	P	P	05 22 06.6 -1.6
	comp=Z,2.8nm,0.8s,baz=28,slow=5.5,SNR=3.8					
	comp=Z,2.8nm,0.8s					
CWC	Cottonwood Cre	82.87	54	P	P	05 22 09.7 +0.5
	baz=288					
OSI	Osito Audit: C	82.93	56	P	P	05 22 10.0 +0.6
	baz=288					
GRAC	Grapevine Rang	83.24	53	P	P	05 22 11.9 +1.0
	baz=288					
HLID	Hailey	83.27	46	P	P	05 22 12.0 +0.8
	baz=290					
EDW2	Edwards Air Fo	83.42	56	P	P	05 22 13.1 +1.2
	baz=288					
MPMC	Manual Prospec	83.44	54	P	P	05 22 12.9 +0.7
	baz=288					
FMP	Fort Macarthur	83.54	57	P	P	05 22 14.0 +1.5
	baz=288					
SCI2	San Clemente I	83.57	57	P	P	05 22 14.2 +1.5
	baz=288					
FURC	Furnace Creek,	83.79	54	P	P	05 22 15.0 +1.3
	baz=289					
BFSC	Mount Baldy Ra	83.88	56	P	P	05 22 15.4 +1.0
	baz=289					
TPNV	Topopah Spring	84.11	53	P	P	05 22 16.0 +0.4
	baz=289					
R11B	Troy Canyon, C	84.15	52	P	P	05 22 16.7 +1.0
	baz=289					
GSC	Goldstone, Bar	84.21	55	P	P	05 22 16.7 +0.7
	baz=289					
SHOC	Shoshone, Teco	84.43	54	P	P	05 22 17.3 +0.3
	baz=289					
BOZ	Bozeman (W)	84.44	44	P	P	05 22 17.5 +0.5
	baz=291					
MURC	Murrieta	84.45	57	P	P	05 22 17.6 +0.4
	baz=289					
JOF	Joensuu	84.52	336	eP	P	05 22 16.5 -0.4
EGMT	Eagleton	84.75	41	P	P	05 22 18.8 +0.3
	baz=292					
109C	Camp Elliot, M	84.75	57	P	P	05 22 19.4 +0.8
	baz=289					
TUQ	Turquoise Moun	84.85	54	P	P	05 22 19.4 +0.1
	baz=289					
PFO	Pinyon Flats O	85.03	56	P	P	05 22 20.4 +0.2
	baz=289					
TPFO	Pinon Flats	85.03	56	P	P	05 22 20.4 +0.2
	baz=289					
BELC	Belle Mtn. Jos	85.26	56	P	P	05 22 21.9 +0.5
	baz=290					
GMRC	Granite Mounta	85.27	55	P	P	05 22 21.9 +0.5
	baz=290					
MONP2	Monument Peak	85.29	57	P	P	05 22 22.0 +0.4
	baz=289					
IMW	Indian Meadow	85.51	45	P	P	05 22 23.3 +0.7
DUG	Dugway, Tooele	85.55	49	P	P	05 22 23.5 +0.9
	baz=291					
FXWY	Fox Creek	85.55	45	P	P	05 22 23.4 +0.6
H17A	Grant Village	85.57	45	P	P	05 22 24.4 +1.5
V12A	Nelson	85.58	54	P	P	05 22 23.5 +0.6
IKP	In-Ko-Pah, Jac	85.62	57	P	P	05 22 24.2 +1.1
	baz=290					
MOOW	Moose Ponds	85.70	45	P	P	05 22 24.2 +0.8
SWSC	Sam W. Stewart	85.77	57	P	P	05 22 24.6 +0.9
	baz=290					
BC3	Big Chuckawall	85.80	56	P	P	05 22 24.8 +0.7
	baz=290					
IRM	Iron Mountain	85.88	55	P	P	05 22 25.1 +0.8
	baz=290					
RLMT	Red Lodge	86.16	44	P	P	05 22 26.4 +0.7
	baz=293					
LCMT	Little Creek M	86.35	52	P	P	05 22 27.1 +0.4
FFC	Flin Flon	86.36	33	P	P	05 22 26.5 +0.3
FFC				IAmb	IAmb	05 22 27.1
	comp=Z,6.0nm,1.0s					
PDMCI	Parker Dam,Lak	86.61	55	P	P	05 22 29.2 +1.3
	baz=290					
BW06	Boulder Array	86.87	46	P	P	05 22 29.7 +0.5
	baz=293					
PDAR	Pinedale Array	86.87	46	P	P	05 22 28.9 -0.4
	comp=Z,0.7nm,0.7s,baz=288,slow=1.4,SNR=6.5					
	comp=Z,0.7nm,0.7s					
PKCU	Pink Cliffs	86.89	52	P	P	05 22 31.7 +2.1
KBZ	Khabaz	87.03	315	P	P	05 22 29.1 -0.5
	comp=Z,2.0nm,0.8s,baz=153,slow=2.3,SNR=4.0					
	comp=Z,2.0nm,0.8s					
FIA1	FINESS Array S	87.38	336	P	P	05 22 31.2 +0.2
FINES	FINESS Array B	87.38	336	P	P	05 22 31.6 +0.6
FINES	FINESS Array B	87.38	336	P	P	05 22 29.6 -1.5
	comp=Z,1.6nm,0.5s,baz=72,slow=6.2,SNR=19					
FINES				LR	LR	06 02 51.4
	comp=Z,148nm,21.9s,baz=40,slow=36					
	comp=Z,1.6nm,0.5s					
KEF	Keuruu	87.42	337	eP	P	05 22 30.4 -0.8
VAF	Ylistaro	87.69	338	eP	P	05 22 31.0 -1.4
WUAZ	Wupatki	88.30	53	P	P	05 22 36.6 +0.5
	baz=292					
214A	Organ Pipe Nat	88.48	57	P	P	05 22 37.7 +0.8
	baz=291					
MEF	Metsahovi	88.78	335	eP	P	05 22 36.5 -1.1
O20A	White River Ci	88.81	48	P	P	05 22 38.6 0.0
	baz=294					
K22A	Casper	88.97	45	P	P	05 22 39.7 +0.5
	baz=295					
MVCO	Mesa Verde	89.79	51	P	P	05 22 44.0 +0.7
	baz=294					
TUC	Tucson	89.95	56	P	P	05 22 45.0 +1.1
TUC				IAmb	IAmb	05 22 46.4
	comp=Z,7.5nm,1.4s					
TUC	Tucson	89.95	56	P	P	05 22 45.0 +1.1
	baz=292					
RSSD	Black Hills	89.97	43	P	P	05 22 44.3 +0.4
	baz=296					
N23A	Red Feather La	90.10	46	P	P	05 22 45.8 +1.1
	baz=295					
S22A	4UR Ranch, Cre	90.79	50	P	P	05 22 48.9 +0.9
	baz=295					
ISCO	Idaho Springs	90.79	47	P	P	05 22 49.0 +1.1
	baz=295					
NACGM	Naroch	90.87	330	eP	P	05 22 46.9 -0.7
	comp=Z,24nm,0.8s,baz=55					
Q24A	Divide	91.47	48	P	P	05 22 51.5 +0.4
	baz=296					
SDCO	Great Sand Dun	91.75	49	P	P	05 22 53.1 +0.7
	baz=296					
PABE	Paberze	91.82	332	eP	P	05 22 51.8 -0.1
ULM	Lac du Bonnet	91.83	35	LR	LR	06 03 53.0
	comp=Z,87nm,18.5s,baz=301,slow=35					
121A	Cookes Peak, D	92.20	55	P	P	05 22 55.4 +0.9
	baz=294					
ANMO	Albuquerque	92.22	52	P	P	05 22 55.1 +0.5
	baz=295					
OGNE	Ogallala	92.73	45	P	P	05 22 57.0 +0.4
	baz=298					
T25A	Trinidad	92.79	49	P	P	05 22 57.5 +0.4
	baz=296					
HFS	Hagfors	92.82	339	P	P	05 22 54.5 -2.0
	comp=Z,0.4nm,0.5s,baz=349,slow=4.7,SNR=1.5					
HFS				LR	LR	06 04 17.6
	comp=Z,152nm,21.8s,baz=8.5,slow=35					
	comp=Z,0.4nm,0.5s					
AGMN	Agassiz Nation	92.89	37	P	P	05 22 57.0 0.0
	baz=303					
NOA	NORSAR Array B	92.98	340	P	P	05 22 57.8 +0.5
	comp=Z,0.7nm,0.8s,baz=46,slow=5.5,SNR=3.4					
	comp=Z,0.7nm,0.8s					
SUW	Suwalki	93.09	331	eP	P	05 22 57.7 -0.2
LPIG	La Paz	93.42	63	LR	LR	05 57 45.2
	comp=Z,94nm,19.1s,baz=255,slow=31					
MILM	Milestii Mici	94.30	323	ePP	PKiKP	05 27 43.0 -4.0
MILM				eL	L	06 06 49.0
MILM				LRM	MLR	06 15 41.0
	comp=Z,250nm,18.5s					
MNTX	Cornudas Mount	94.40	55	P	P	05 23 04.8 +0.4
	baz=295					
BRTR	Keskin Array B	95.00	315	P	P	05 23 05.4 -1.8
	comp=Z,0.4nm,0.3s,baz=62,slow=9.9,SNR=2.3					
	comp=Z,0.4nm,0.3s					
BGNE	Belgrade	95.08	43	P	P	05 23 07.7 +0.3
	baz=300					
CBKS	Cedar Bluff	95.30	46	P	P	05 23 08.6 +0.2
	baz=299					
MSTX	Muleshoe	95.39	52	P	P	05 23 09.2 +0.2
	baz=297					
EYMN	Ely	95.51	35	P	P	05 23 09.0 -0.1
	baz=306					
TXAR	Lajitas Array	96.75	56	P	P	05 23 16.1 +0.9
	comp=Z,0.2nm,0.7s,baz=269,slow=6.0,SNR=2.7					
	comp=Z,0.2nm,0.7s					
KSU1	Kansas State U	97.27	45	P	P	05 23 17.5 +0.2
	baz=301					
WMOK	Wichita Mounta	97.95	49	P	P	05 23 20.2 -0.3
	baz=299					
ABTX	Abilene, Hawle	98.33	52	P	P	05 23 22.2 -0.1
	baz=299					
VRAC	Vranov	99.27	330	LR	LR	06 12 44.0
	comp=Z,170nm,18.4s,baz=21,slow=38					
ATD	Arta Tunnel	99.48	286	eP	PKiKP	05 27 50.8 -6.3
CCM	Cathedral Cave	101.36	43	P	Pdif	05 23 35.5 -0.1
	baz=305					
O48B	Farmland	103.81	39	P	Pdif	05 23 46.0 -0.5
	baz=310					
WCI	Wyandotte Cave	104.40	41	P	Pdif	05 23 48.3 -0.8
	baz=308					
P49A	Miami Univ. Ec	104.53	39	P	Pdif	05 23 48.9 -0.8
	baz=310					
M53A	WI Miller and	105.58	35	P	PKiKP	05 28 07.6 +0.1
	baz=314					
LONY	Lake Ozonia	106.39	30	P	PKiKP	05 28 08.6 -0.2
	baz=319					
LRAL	Lakeview Retre	107.10	45	P	PKiKP	05 28 10.4 -0.1
	baz=307					
TZTN	Tazewell	107.16	41	P	PKiKP	05 28 10.5 0.0
	baz=310					
L61B	Northampton	108.94	30	P	PKiKP	05 28 13.8 +0.2
	baz=320					
KMBO	Kilima Mbogo	109.11	275	eP	PKiKP	05 28 09.7 -5.3
HRV	Adam Dziewonsk	109.42	29	P	PKiKP	05 28 14.5 0.0
	baz=321					
KMSC	Kings Mountain	109.43	41	P	PKiKP	05 28 15.4 +0.6
	baz=312					
PAL	Palisades	109.44	32	P	PKiKP	05 28 15.5 +0.9
	baz=319					
TROLL	Troll, Antarti	122.91	192	⇑PKPdf	PKiKP	05 28 40.6 +0.8
	comp=Z,69nm,0.5s					
SNAA	Sanae	124.22	191	⇑PKPdf	PKPdf	05 28 42.6 +0.6
	comp=Z,35nm,0.8s					
SNAA	Sanae	124.22	191	PKP	PKPdf	05 28 42.3 +0.3
	comp=Z,1.1nm,0.7s,baz=163,slow=17,SNR=8.2					
VNA2	Neumayer--Watz	125.64	190	⇑PKPdf	PKiKP	05 28 45.7 +0.6
	comp=Z,4.0nm,0.7s,baz=134,slow=0.9					
VNA3	Neumayer Olymp	125.72	189	⇑PKPdf	PKPdf	05 28 45.6 +0.8
	comp=Z,2.8nm,0.7s					
TORD	Torodi Ar. Bea	133.42	310	PKP	PKPdf	05 29 00.7 -0.5
	comp=Z,0.9nm,0.8s,baz=31,slow=4.3,SNR=4.3					
LPAZ	La Paz	146.38	91	PKPbc	PKPbc	05 29 27.7 +1.2
	comp=Z,4.5nm,0.9s,baz=341,slow=3.9,SNR=12					

IDC 14 05:46:01.4±1.5, 41°.50N×100°.35W, h0km, mbtmp2.9/3, ML2.8/3, Error ellipse: s-maj=17.1km s-min=11.4km az=123.0
NEIC 14 05:46:02.2±0.8, 41°.36N±0°.06×100°.18W±0°.06, h5km±2km, mb_Lg2.4/25, Error ellipse: s-maj=9.5km s-min=7.0km az=192.0
ISC 14 05:46:00.3±1.0, 41°.46N±0°.06×100°.15W±0°.05, h10km, n40, σ1§81/33, Nebraska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K30B	Basset	1.28	18		Pb	05 46 25.6	+1.1
BGNE	Belgrade	1.50	91		Pn	05 46 27.5	+0.2
OGNE	Ogallala	1.51	251		Pn	05 46 28.1	+0.6
CBKS	Cedar Bluff	2.66	173		Pn	05 46 43.5	+0.2
L34A	Svendsen Farm,	2.87	79		Pn	05 46 47.6	+1.5
KSCO	Kaye Shedlock'	3.09	219		Pn	05 46 49.8	+0.5
SUSD	Miller	3.11	16	Pn	Pn	05 46 52.5	+3.1
R32A	Long Quarter,	3.23	159	Pn	Pn	05 46 51.7	+0.6
N35A	Tabor	3.46	98	Pn	Pn	05 46 56.2	+2.1
ECSD	EROS Data Cent	3.46	48	Pn	Pn	05 46 58.1	+3.8
KSU1	Kansas State U	3.59	130	Pn	Pn	05 46 58.1	+2.1
RSSD	Black Hills	3.91	314	Pn	Pn	05 47 03.0	+2.4
RSSD				IAmb_Lg		05 48 08.8	
	comp=Z,6.2nm,0.8s						
PHWY	Pilot Hill	4.00	269	Pn	Pn	05 47 03.1	+1.2
N23A	Red Feather La	4.41	265	Pn	Pn	05 47 10.1	+2.6
N23A				IAmb_Lg		05 48 21.6	
	comp=Z,9.5nm,0.8s						
ISCO	Idaho Springs	4.47	250	Pn	Pn	05 47 11.6	+3.1
Q24A	Divide	4.57	239	IAmb_Lg		05 48 26.0	
	comp=Z,6.6nm,0.7s						
KAN09	Caldwell North	4.74	155		Pn	05 47 12.2	+0.4
OK032	Salt Plains WL	4.89	161	Pn	Pn	05 47 14.5	+0.7
U32A	Winter Ranch,	5.15	170	IAmb_Lg		05 48 50.6	
	comp=Z,9.2nm,0.8s						
SCIA	State Center	5.21	83	IAmb_Lg		05 49 03.0	
	comp=Z,6.8nm,0.8s						
RWWY	Rawlins	5.30	275	Pn	Pn	05 47 21.3	+1.5
T35A	Sooner Cattle	5.34	147	Pn	Pn	05 47 20.7	+0.6
P38A	Dawn	5.37	108	IAmb_Lg		05 49 05.1	
	comp=Z,4.5nm,1.0s						
ELIS	Ellis County	5.42	174	IAmb_Lg		05 49 00.2	
	comp=Z,7.2nm,0.7s						
T25A	Trinidad	5.43	219	Pn	Pn	05 47 21.4	-0.1
SDCO	Great Sand Dun	5.55	230	Pn	Pn	05 47 23.6	+0.3
SMWD	Samnorwood	6.34	181	IAmb_Lg		05 49 27.5	
	comp=Z,4.7nm,0.8s						
S22A	4UR Ranch, Cre	6.35	236	Pn	Pn	05 47 35.2	+1.0
S39A	Bolivar	6.48	123	Pn	Pn	05 47 36.5	+0.8
S39A				IAmb_Lg		05 49 34.9	
	comp=Z,4.0nm,1.1s						
TUL3	Leonard	6.50	147	Pn	Pn	05 47 36.6	+0.6
WMOK	Wichita Mounta	6.80	170	Pn	Pn	05 47 39.9	-0.2
R40A	Maddies Statio	6.84	115	Pn	Pn	05 47 41.7	+1.1
HHAR	Hobbs	7.08	135	Pn	Pn	05 47 44.2	+0.1
PDAR	Pinedale Array	7.12	284	Pn	Pn	05 47 46.4	+1.7
	comp=Z,0.1nm,0.3s,baz=104,slow=14,SNR=2.1						
PDAR				Sn	Sn	05 49 04.4	-1.2
	comp=Z,0.2nm,0.3s,baz=95,slow=17,SNR=1.7						
PDAR				Lg	Lg	05 49 39.4	
	comp=Z,0.5nm,0.3s,baz=97,slow=27,SNR=3.2						
	comp=Z,0.2nm,0.4s						
RDMU	Red Mountain	7.18	266	IAmb_Lg		05 50 00.9	
	comp=Z,4.1nm,1.0s						
DKNS	Dickens	7.80	185	IAmb_Lg		05 50 22.0	
	comp=Z,4.7nm,1.0s						
X37A	Clayton	7.83	150	Pn	Pn	05 47 54.1	-0.1
ANMO	Albuquerque	8.18	219	Pg	Pb	05 48 29.6	+7.5
	comp=Z,0.2nm,0.3s,baz=40,slow=7.9,SNR=6.0						
ANMO				Lg	Lg	05 50 13.4	
	comp=Z,0.1nm,0.3s,baz=61,slow=19,SNR=3.3						
ULM	Lac du Bonnet	9.28	17	Pn	Pn	05 48 13.7	-0.4
	comp=Z,0.4nm,0.3s,baz=203,slow=7.7,SNR=1.7						
ULM				Sn	Sn	05 49 53.4	-5.1
	comp=Z,0.4nm,0.3s,baz=232,slow=5.4,SNR=1.5						
ULM				Lg	Lg	05 50 47.3	
	baz=205,slow=15						
	comp=Z,1.1nm,0.3s						
TXAR	Lajitas Array	12.43	194	Pn	Pn	05 48 56.9	-0.4
	baz=19,slow=11,SNR=1.3						
TXAR				Lg	Lg	05 52 29.5	
	baz=12,slow=24,SNR=2.0						

SNET 14 06:20:40.8±1.0, 14°.57N×91°.90W, h93km±5km, ML4.2
CATAC 14 06:20:41.2±0.7, 14°.48N×92°.01W, h78km±7km, MB4.9, mb4.2, ML4.2
NEIC 14 06:20:42.6±2.3, 14°.65N±0°.10×91°.74W±0°.09, h100km±9km, mb4. 1/26, Error ellipse: s-maj=16.2km s-min=10.6km az=220.0
IDC 14 06:20:47.4±2.7, 14°.90N×91°.19W, h150km±24km, mb3.5/5, mbtmp3.9/8, MS2.9/1, Error ellipse: s-maj=28.7km s-min=17.3km az=62.0
GCG 14 06:20:47.4±0.5, 14°.65N×91°.55W, h50km±15km, MD4.1
ISC 14 06:20:40.9±0.8, 14°.60N±0°.06×91°.89W±0°.06, h101km±5km, n96, σ1§25/108, mb4.0/12, 2C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.20	111		Pn	06 20 54.7	-0.5
RTAL	Retalhuleu	0.20	111	eP	Pn	06 20 54.3	-1.0
RTAL				eS	Sn	06 21 04.6	-1.3
RTAL	Retalhuleu	0.20	111	i P	Pn	06 20 54.5	-0.7
RTAL				i S	Sn	06 21 04.6	-1.3
RTAL				IAML		06 21 07.0	
	comp=Z,28μm,1.0s						
STG3	Santiaguito 3,	0.33	70	‖ i P	Pn	06 20 55.9	-0.1
SULM	Suchitepequez,	0.43	133	⇑ eP	Pn	06 20 56.6	+0.3
SOKI	Kika Raxquin	0.52	64	i P	Pn	06 20 57.2	-0.2
SOKI				i S	Sn	06 21 10.8	+1.0
SOKI				IAML		06 21 15.0	
	comp=Z,5μm,1.0s						
HUEH	Huehuetenango	0.81	27		Pn	06 21 00.1	+0.4
HUEH	Huehuetenango	0.81	27	eP	Pn	06 21 00.2	+0.5

LOAL *i* S **Sn** **06 21 42.2 +0.7**
LOAL IAML 06 22 07.2
comp=Z,2μm,1.0s
NUBE Las Nubes 2.16 108 *e*P **Pn** **06 21 15.3 -0.4**
NUBE *e*S **Sn** **06 21 43.2 +0.9**
NUBE Las Nubes 2.16 108 *i* P **Pn** **06 21 15.2 -0.5**
NUBE IAML 06 21 45.2
comp=Z,1μm,1.0s
MRL Marmol 2.19 77⇑*i*P **Pn** **06 21 17.4 +1.2**
MRL *e*S **Sn** **06 21 42.5 -0.6**
RTR El Retiro 2.28 107 *e*P **Pn** **06 21 17.5 +0.1**
SBLS San Blas 2.32 109 *e*P **Pn** **06 21 18.2 +0.2**
CEVE Cerro Verde 2.32 109 *e*P **Pn** **06 21 19.0 +1.0**
CEVE IAML 06 21 56.1
comp=Z,2μm,0.4s
CEVE Cerro Verde 2.32 109 *i* P **Pn** **06 21 19.6 +1.6**
CEVE IAML 06 21 55.6
comp=Z,2μm,1.0s
SNJE San Jose 2.33 108 *e*P **Pn** **06 21 17.9 -0.1**
UNIC Universidad Ca 2.35 105 *e*P **Pn** **06 21 18.5 +0.3**
UNIC Universidad Ca 2.35 105 *i* P **Pn** **06 21 17.9 -0.3**
UNIC IAML 06 22 02.7
comp=Z,250nm,1.0s
MTO3 Montecristo 2.46 94 **Pn** **06 21 18.8 -0.9**
MTO3 Montecristo 2.46 94 *e*P **Pn** **06 21 20.5 +0.8**
MTO3 Montecristo 2.46 94 *i* P **Pn** **06 21 19.3 -0.4**
MTO3 IAML 06 21 47.4
comp=Z,220nm,1.0s
ESQI Esquipulas 2.47 91 **Pn** **06 21 19.7 0.0**
ESQI Esquipulas 2.47 91 *e*P **Pn** **06 21 19.9 +0.2**
ESQI *e*S **Sn** **06 21 50.7 +1.2**
ESQI Esquipulas 2.47 91 *i* P **Pn** **06 21 19.9 +0.2**
ESQI IAML 06 22 00.3
comp=Z,330nm,1.0s
CEDA San Andres 2.54 108 *e*P **Pn** **06 21 21.3 +0.6**
CEDA IAML 06 21 57.3
comp=Z,534nm,0.4s
CEDA San Andres 2.54 108 *i* P **Pn** **06 21 21.9 +1.2**
CEDA IAML 06 22 01.7
comp=Z,1μm,1.0s
JAYA Jayaque - finc 2.54 111 *e*P **Pn** **06 21 20.5 -0.4**
JAYA IAML 06 21 54.1
comp=Z,1μm,0.2s
JAYA Jayaque - finc 2.54 111 *i* P **Pn** **06 21 20.8 0.0**
JAYA IAML 06 21 55.1
comp=Z,3μm,1.0s
PMON Piamonte 2.65 109 *e*P **Pn** **06 21 22.1 0.0**
PMON Piamonte 2.65 109 *i* P **Pn** **06 21 22.6 +0.5**
PMON IAML 06 22 08.1
comp=Z,1μm,1.0s
QUEZ Alcaldia de Qu 2.65 106 *i* P **Pn** **06 21 24.7 +2.6**
QUEZ IAML 06 22 08.7
comp=Z,2μm,1.0s
UEES Universidad Ev 2.71 108 *i* P **Pn** **06 21 24.8 +1.8**
UEES IAML 06 22 09.5
comp=Z,400nm,1.0s
LOMA Loma Larga 2.80 109 *e*P **Pn** **06 21 24.9 +0.8**
LOMA Loma Larga 2.80 109 *i* P **Pn** **06 21 26.0 +1.8**
LOMA IAML 06 22 03.3
comp=Z,860nm,1.0s
PANCS Alcalda de 2.80 110 *i* P **Pn** **06 21 25.4 +1.2**
PANCS IAML 06 22 01.6
comp=Z,2μm,1.0s
PETF Flores 3.02 40 Pn **Pn** **06 21 26.8 -0.2**
COEG Centro de Oper 3.08 108 *e*P **Pn** **06 21 27.9 +0.1**
COEG Centro de Oper 3.08 108 *i* P **Pn** **06 21 28.1 +0.3**
COEG *i* S **Sn** **06 22 06.3 +2.4**
COEG IAML 06 22 16.7
comp=Z,280nm,1.0s
UESV Universidad de 3.16 107 *i* P **Pn** **06 21 32.3 +3.5**
UESV IAML 06 22 19.2
comp=Z,230nm,1.0s
SCLA Alcaldia de Sa 3.19 106 *i* P **Pn** **06 21 29.2 -0.1**
SCLA IAML 06 22 44.3
comp=Z,75nm,1.0s
TECO Alcaldia de Te 3.19 109 *i* P **Pn** **06 21 29.2 -0.1**
TECO IAML 06 22 27.8
comp=Z,130nm,1.0s
TGUH Tegucigalpa,Un 4.50 96 Pn **Pn** **06 21 46.0 -1.1**
PACN Al O del Volca 5.38 112 *i* P **Pn** **06 22 00.3 +1.5**
PACN IVmB_BB 06 22 12.1
comp=Z,1μm,1.0s
PACN IAML 06 22 29.6
comp=Z,100nm,1.0s
MACN El Madrono 5.49 112 *i* P **Pn** **06 22 03.5 +3.1**
LIMN Finca el Limon 5.58 105 *i* P **Pn** **06 22 01.7 +0.1**
LIMN IAmb IAmb 06 22 03.0
comp=Z,25nm,1.2s
LIMN IAML 06 22 50.1
comp=Z,39nm,1.0s
COPN Copaltepe 5.69 114 *i* P **Pn** **06 22 04.1 +1.1**
COPN IAmb IAmb 06 22 31.9
comp=Z,40nm,0.9s
COPN IAML 06 24 06.7
comp=Z,47nm,1.0s
BOAB BOACO BROADBAN 6.42 109 Pn **Pn** **06 22 13.2 +0.3**
TEIG Tepich 6.58 31 Pn **Pn** **06 22 14.1 -0.9**
TEIG Tepich 6.58 31 P **Pn** **06 22 14.5 -0.6**
comp=Z,94nm,0.4s,baz=27,slow=1.9,SNR=125
TEIG S Sn 06 23 21.2 -7.4
comp=Z,21nm,0.5s,baz=17,slow=23,SNR=0.9
TEIG LR LR 06 25 06.2
comp=Z,93nm,19.2s,baz=66,slow=43
ACON Acoyapa 7.04 111 Pn **Pn** **06 22 21.8 +0.4**
TLIG Tlapa 7.07 296 Pn **Pn** **06 22 24.5 +2.7**
JTS Las Juntas de 8.01 121 Pn **Pn** **06 22 36.1 +1.4**
JTS Las Juntas de 8.01 121 P **Pn** **06 22 37.3 +2.6**
comp=Z,4.1nm,0.4s,baz=96,slow=2.8,SNR=3.0
JTS S **Sn** **06 23 59.7 -4.0**
comp=Z,3.0nm,0.5s,baz=317,slow=17,SNR=1.6
553A Crawfordville 16.97 23 **P** **06 24 34.2 +1.8**
656A Willston 17.05 29 **P** **06 24 34.8 +1.4**
BRDY Brady 17.85 340 P **Pn** **06 24 44.2 +1.4**
352A Blakely 17.97 20 P **Pn** **06 24 45.0 +0.7**
352A IAmb IAmb 06 24 49.1
comp=Z,8.1nm,0.8s
250A Grady 18.05 16 **Pn** **06 24 45.6 +0.4**
250A IAmb IAmb 06 24 47.1
comp=Z,18nm,1.3s
146A Union 18.14 8 P **Pn** **06 24 47.4 +1.1**
TXAR Lajitas Array 18.27 325 P **Pn** **06 24 49.9 +2.0**
TXAR Lajitas Array 18.27 325 P **Pn** **06 24 50.2 +2.3**
comp=Z,0.6nm,0.6s,baz=154,slow=12,SNR=13
TX31 Lajitas Ar. Si 18.27 325 P **Pn** **06 24 49.8 +1.9**
Z47A Carrollton 18.84 10 P **Pn** **06 24 54.8 +0.2**
PLPT Palo Pinto 19.06 343 P **Pn** **06 24 56.4 -0.8**
PLPT IAmb IAmb 06 24 57.6
comp=Z,9.0nm,0.6s
Y49A Blount Mountai 19.81 14 P **P** **06 25 03.8 +0.3**
Y49A IAmb IAmb 06 25 27.3
comp=Z,14nm,1.5s
APMT Aspermont 20.09 340 P Pn 06 25 07.7 -1.6
APMT IAmb IAmb 06 25 09.4
comp=Z,6.3nm,0.7s
VHRN Van Horn 20.11 325 P Pn 06 25 09.0 -0.7
GOGA Godfrey 20.23 21 P **P** **06 25 08.5 +0.4**
GOGA IAmb IAmb 06 25 09.6
comp=Z,5.5nm,0.6s
Y52A Lilburn 20.45 19 P **P** **06 25 10.8 +0.4**
Y52A IAmb IAmb 06 25 14.0
comp=Z,7.7nm,0.6s
WVT Waverly 21.75 9 P **P** **06 25 24.2 -0.1**
WVT IAmb IAmb 06 25 25.0
comp=Z,4.6nm,0.6s
SMWD Samnorwood 21.76 341 P **P** **06 25 24.6 +0.1**
SMWD IAmb IAmb 06 25 51.3
comp=Z,4.7nm,0.6s
PBMO Poplar Bluff 22.13 3 P **P** **06 25 27.4 -0.9**
PBMO IAmb IAmb 06 25 29.4
comp=Z,8.9nm,1.0s
TKL Tuckaleechee C 22.20 18 P **P** **06 25 28.1 -1.0**
comp=Z,2.5nm,0.7s,baz=190,slow=9.1,SNR=6.8
comp=Z,2.5nm,0.7s
T42A Van Buren 22.35 2 P **P** **06 25 29.9 -0.7**
V52A Sevierville 22.43 18 P **P** **06 25 31.6 +0.2**
V52A IAmb IAmb 06 26 04.4
comp=Z,11nm,1.4s
U49A Red Boiling Sp 22.50 13 P **P** **06 25 31.0 -1.1**
V53A Saluda 22.51 20 P **P** **06 25 32.6 +0.3**
V53A IAmb IAmb 06 26 14.2
comp=Z,6.6nm,1.1s
T47A Sharon Grove 22.70 10 P **P** **06 25 33.7 -0.6**
T47A IAmb IAmb 06 25 34.5
comp=Z,10nm,0.7s
T50A Nancy 23.20 14 P **P** **06 25 38.0 -1.1**
OLIL Olney 24.27 7 P **P** **06 25 48.3 -0.5**
V12A Nelson 29.44 320 P **P** **06 26 37.5 +2.2**
V12A IAmb IAmb 06 26 39.7
comp=Z,2.6nm,0.8s
NVAR Mina Array Bea 33.28 320 P P 06 27 13.1 +4.0
comp=Z,2.3nm,0.6s,baz=130,slow=8.6,SNR=28
comp=Z,2.3nm,0.6s
SCHQ Schefferville 44.63 20 P **P** **06 28 39.8 -3.5**
comp=Z,1.2nm,0.6s,baz=217,slow=10,SNR=2.2
comp=Z,1.2nm,0.6s
ILAR Eielson Array 62.34 337 P **P** **06 30 53.0 +0.6**
comp=Z,0.5nm,0.8s,baz=127,slow=5.5,SNR=6.6
comp=Z,0.5nm,0.8s
EKA Eskdalemuir Ar 77.42 36 P **P** **06 32 22.4 -2.5**
comp=Z,0.5nm,0.5s,baz=267,slow=5.8,SNR=5.9
comp=Z,0.5nm,0.5s
WRA Warramunga Arr 135.64 256 PKP **PKiKP** **06 39 50.3 -1.7**
comp=Z,0.4nm,0.8s,baz=87,slow=2.5,SNR=2.1
CMAR Chiang Mai Arr 145.46 342 PKPbc **PKPab** **06 40 08.7 +0.2**
comp=Z,1.4nm,0.3s,baz=335,slow=2.6,SNR=5.1

MOS ***14*** *06:26:41.5±1.7,56°.14N×113°.95E,h18km,mb4.1/4, Error ellipse: s-maj=10.9km s-min=7.3km az=69.6*
IDC ***14*** *06:26:41.3±1.0,56°.21N×114°.00E,h0km,mb3.6/9, mbtmp3.7/13,ML3.8/3,MS2.9/4, Error ellipse: s-maj=24.5km s-min=19.9km az=33.0*
BYKL ***14*** *06:26:42.2±0.2,56°.08N×113°.91E,h6km±3km*
ISC 14 06:26:41.9±0.9,56°.12N±0°.02×113°.89E±0°.02,h10km±6km, n82,σ3.8 13/135,mb3.7/12,4C-6D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.18**	**268**	*e*Pg	**Pg**	**06 26 45.6**	**-0.3**
SVKR				Pmax		06 26 47.5	
3μm,0.1s							
SVKR				*e*Sg	**Sg**	**06 26 49.0**	**+0.4**
SVKR				Smax		06 26 51.3	
54μm,0.8s							
SVKR	**Severomuysk**	**0.18**	**268**	*e*PG	**Pg**	**06 26 45.6**	**-0.3**
SVKR				pmax	pmax		
comp=Z,943nm,0.2s							
UKT	**Uakit**	**0.65**	**193**⇑	*i*Pg	**Pg**	**06 26 52.5**	**-2.0**
UKT				Pmax		06 26 55.0	
comp=Z,633nm,0.5s							
UKT				*e*Sg	**Sg**	**06 27 01.0**	**-2.1**
UKT				Smax		06 27 08.3	
comp=Z,2μm,0.7s							
UKT	**Uakit**	**0.65**	**193**⇑	*i*PG	**Pg**	**06 26 52.5**	**-2.0**
UKT				*e*		06 27 01.4	
UKT				pmax	pmax		
comp=Z,67nm,0.2s							
UKT				smax	smax		
comp=E,2μm,0.6s							
NLYR	**Nelyaty**	**1.07**	**69**⇓	*i*Pg	**Pg**	**06 27 01.1**	**-1.4**
NLYR				*e*Pb	**Pb**	**06 27 02.7**	**+0.1**
NLYR				*e*		06 27 05.1	
NLYR				max		06 27 05.2	
comp=E,805nm,0.4s							
NLYR				*e*Sg	**Sg**	**06 27 16.2**	**-0.3**
NLYR				Smax		06 27 21.9	
comp=E,2μm,0.7s							
NLYR	**Nelyaty**	**1.07**	**69**⇓	*i*PG	**Pg**	**06 27 01.1**	**-1.4**
NLYR				*e*		06 27 17.4	
NLYR				pmax	pmax		
comp=Z,821nm,0.2s							
NLYR				smax	smax		
comp=N,2μm,0.9s							
YOA	**Uoyan**	**1.21**	**271**	*e*Pg	**Pn**	**06 27 04.2**	**-0.7**
YOA				*e*Pb	**Pg**	**06 27 05.6**	**+0.5**
YOA				max		06 27 09.9	
comp=N,986nm,0.4s							
YOA				*e*Sg	**Sb**	**06 27 21.0**	**+0.4**
YOA				*e*		06 27 29.2	
YOA				max		06 27 30.5	
comp=N,12μm,0.5s							
YOA	**Uoyan**	**1.21**	**271**	*e*PG	**Pg**	**06 27 05.6**	**+0.5**
YOA				*e*		06 27 20.1	
YOA				pmax	pmax		
comp=Z,425nm,0.3s							
YOA				smax	smax		
comp=N,12μm,0.6s							
KMO	**Kumora**	**1.53**	**262**⇓	*i*Pg	**Pn**	**06 27 09.3**	**0.0**
KMO				*e*		06 27 11.1	
KMO				max		06 27 14.4	
comp=N,874nm,0.4s							
KMO				*e*Sg	**Sg**	**06 27 30.9**	**-0.1**
KMO				Smax		06 27 35.3	
comp=N,4μm,1.0s							
KMO	**Kumora**	**1.53**	**262**⇓	*i*PN	**Pn**	**06 27 09.2**	**0.0**
KMO				*e*		06 27 28.5	
KMO				pmax	pmax		
comp=Z,644nm,0.3s							
KMO				smax	smax		
comp=N,4μm,1.0s							
BOD	**Bodaibo**	**1.70**	**2**	*e*Pg	**Pb**	**06 27 13.0**	**-0.2**
BOD				*e*		06 27 14.7	
BOD				max		06 27 14.9	
comp=N,929nm,0.4s							
BOD				*e*Sg	**Sg**	**06 27 36.2**	**-0.3**
BOD				Smax		06 27 39.5	
comp=N,1μm,0.5s							
BOD	**Bodaibo**	**1.70**	**2**	*e*PN	**Pb**	**06 27 13.2**	**0.0**
BOD				*e*		06 27 36.8	
BOD				pmax	pmax		
comp=Z,935nm,0.4s							
BOD				smax	smax		
comp=E,2μm,0.4s							
YLYR	**Ulyunkhan**	**1.99**	**232**⇑	*i*Pn	**Pn**	**06 27 16.9**	**+1.3**
comp=E,56nm,0.9s							
YLYR				⇑*i*Pn	**Pn**	**06 27 16.9**	**+1.3**
comp=E,80nm,0.9s							
YLYR				⇓*i*Pn	**Pn**	**06 27 16.9**	**+1.3**
comp=E,88nm,0.9s							
YLYR				*e*Pg	**Pb**	**06 27 18.2**	**0.0**
YLYR				Pmax		06 27 18.7	
comp=E,275nm,0.7s							
YLYR				*e*Sg	**Sb**	**06 27 44.3**	**+1.2**
YLYR				Smax		06 27 48.9	
comp=E,1μm,0.6s							
YLYR	**Ulyunkhan**	**1.99**	**232**	*e*PN	**Pn**	**06 27 16.9**	**+1.3**
YLYR				*e*		06 27 18.4	
YLYR				*e*S	**Sn**	**06 27 41.8**	**+1.2**
YLYR				*e*		06 27 43.5	
YLYR				pmax	pmax		
comp=Z,199nm,0.4s							
YLYR				smax	smax		
comp=N,1μm,0.6s							
NIZB	**Nizh Angarsk**	**2.47**	**264**	*e*Pn	**Pn**	**06 27 24.2**	**+2.1**
NIZB				*e*Pg	**Pb**	**06 27 26.7**	**+0.4**
NIZB				Pmax		06 27 29.8	
comp=N,124nm,0.8s							
NIZB				*e*Sn	**Sn**	**06 27 52.4**	**0.0**
NIZB				*e*Sg	**Sb**	**06 27 58.6**	**+1.8**
NIZB				Smax		06 28 07.4	
comp=N,920nm,0.9s							
NIZB	**Nizh Angarsk**	**2.47**	**264**	*e*PN	**Pn**	**06 27 24.3**	**+2.1**
NIZB				*e*		06 27 26.7	
NIZB				*e*S	**Sn**	**06 27 54.9**	**+2.5**
NIZB				*e*		06 27 58.4	
NIZB				pmax	pmax		
comp=Z,125nm,0.8s							
NIZB				smax	smax		
comp=N,921nm,0.7s							
CRS	**Chara**	**2.55**	**70**	*e*Pn	**Pn**	**06 27 24.2**	**+0.9**
CRS				*e*		06 27 25.6	
CRS				*e*Pg	**Pb**	**06 27 28.1**	**+0.4**
CRS				Pmax		06 27 30.5	
comp=N,1μm,1.1s							
CRS				*e*Sg	**Sg**	**06 28 02.2**	**-1.5**
CRS				Smax		06 28 05.9	
comp=N,1μm,1.1s							
CRS	**Chara**	**2.55**	**70**	*e*PN	**Pn**	**06 27 25.4**	**+2.1**
CRS				*e*		06 27 28.2	
CRS				*e*		06 28 02.8	
CRS				pmax	pmax		
comp=Z,1μm,0.6s							
CRS				smax	smax		
comp=E,1μm,0.6s							
SYVR	**Suvo**	**3.34**	**224**	*e*Pn	**Pn**	**06 27 34.3**	**+0.2**
SYVR				*e*Pg	**Pb**	**06 27 41.9**	**+0.7**
SYVR				Pmax		06 27 47.7	
comp=E,110nm,1.4s							
SYVR				*e*Sn	**Sn**	**06 28 13.9**	**+0.1**
SYVR				*e*Sg	**Sb**	**06 28 24.8**	**+3.0**
SYVR				Smax		06 28 37.2	
comp=E,913nm,1.4s							
SYVR	**Suvo**	**3.34**	**224**	*e*PN	**Pn**	**06 27 35.3**	**+1.2**
SYVR				*e*		06 27 40.5	
SYVR				*e*		06 28 25.3	
SYVR				pmax	pmax		
comp=Z,112nm,1.0s							
SYVR				smax	smax		
comp=N,927nm,1.4s							
KHNR	**Khani**	**3.47**	**74**	*e*Pn	**Pn**	**06 27 36.9**	**+1.0**
KHNR				*e*		06 27 38.6	
KHNR				*e*Pg	**Pb**	**06 27 45.3**	**+2.0**
KHNR				*e*Sn	**Sn**	**06 28 18.6**	**+1.6**
KHNR				*e*Sg	**Sg**	**06 28 30.3**	**-2.8**
KHNR				*e*SgSg	**SbSb**	**06 28 38.6**	**+8.0**
TUP	**Tupik**	**3.86**	**114**	*e*Pn	**Pn**	**06 27 41.1**	**-0.3**
TUP				*e*		06 27 42.9	
TUP				*e*Pg	**Pb**	**06 27 51.6**	**+1.5**
TUP				Pmax		06 27 53.4	
comp=N,150nm,0.5s							
TUP				*e*Sn	**Sn**	**06 28 25.6**	**-1.2**
TUP				*e*Sg	**Sb**	**06 28 41.6**	**+4.7**
TUP				Smax		06 28 49.1	
comp=N,683nm,0.9s							
TUP	**Tupik**	**3.86**	**114**⇓	*i*PN	**Pn**	**06 27 41.0**	**-0.3**
TUP				*e*		06 27 51.4	
TUP				*e*S	**Sn**	**06 28 25.2**	**-1.6**
TUP				*e*		06 28 40.8	
TUP				pmax	pmax		
comp=Z,150nm,0.5s							
TUP				smax	smax		
comp=E,685nm,0.9s							
CIT	**Chita**	**4.12**	**183**	*e*Pg	**Pb**	**06 27 55.1**	**+0.7**
CIT				Pmax		06 27 57.0	
comp=E,85nm,0.3s							
CIT				*e*Sg	**Sb**	**06 28 48.8**	**+4.6**
CIT				Smax		06 29 05.3	
comp=E,691nm,0.7s							
CIT	**Chita**	**4.12**	**183**	*e*PN	**Pn**	**06 27 44.7**	**-0.1**
CIT				*e*		06 27 54.1	
CIT				*e*S	**Sn**	**06 28 33.6**	**+0.6**
CIT				*e*		06 28 47.8	
CIT				pmax	pmax		
comp=Z,90nm,0.3s							
CIT				smax	smax		
comp=E,475nm,0.4s							
MXMB	**Maximikha**	**4.14**	**228**	*e*Sg	**Sg**	**06 28 51.0**	**-3.7**
OGRR	**Ongureny**	**4.40**	**238**	*e*Pn	**Pn**	**06 27 50.7**	**+2.0**
OGRR				*e*Pg	**Pb**	**06 28 00.9**	**+1.6**
OGRR				Pmax		06 28 03.9	
comp=E,63nm,1.5s							
OGRR				*e*Sn	**Sn**	**06 28 38.3**	**-1.7**
OGRR				*e*Sg	**Sb**	**06 28 57.9**	**+5.5**
OGRR				Smax		06 29 06.2	
comp=E,258nm,1.4s							
OGRR	**Ongureny**	**4.40**	**238**	*e*PN	**Pn**	**06 27 49.5**	**+0.8**
OGRR				*e*		06 28 01.1	
OGRR				*e*		06 28 57.7	
OGRR				pmax	pmax		
comp=Z,63nm,1.9s							
OGRR				smax	smax		
comp=N,212nm,1.9s							
GORB	**Goryachinsk**	**4.53**	**228**	*e*Pn	**Pn**	**06 27 51.1**	**+0.6**
GORB				*e*Pg	**Pb**	**06 28 03.1**	**+1.7**
GORB				*e*Sn	**Sn**	**06 28 41.9**	**-1.3**
GORB				*e*Sg	**Sb**	**06 29 02.4**	**+6.3**
UZR	**Uzur**	**4.54**	**234**	*e*Pg	**Pb**	**06 28 02.6**	**+1.1**
UZR				Pmax		06 28 05.4	
comp=N,32nm,0.5s							
UZR				*e*Sn	**Sn**	**06 28 40.4**	**-2.9**
UZR				*e*Sg	**Sb**	**06 29 01.8**	**+5.6**
UZR				Smax		06 29 14.6	
comp=N,295nm,0.7s							
KELR	**Kotokel**	**4.78**	**228**	*e*Pg	**Pb**	**06 28 07.1**	**+1.4**
KELR				*e*Sn	**Sn**	**06 28 48.5**	**-0.8**
KELR				*e*Sg	**Sb**	**06 29 09.3**	**+6.1**
ZRHB	**Zarechye**	**5.32**	**231**	*e*Pg	**Pb**	**06 28 17.5**	**+2.6**
ZRHB				Pmax		06 28 27.6	
comp=N,69nm,0.8s							
ZRHB				*e*Sn	**Sn**	**06 29 00.1**	**-2.6**
ZRHB				*e*Sg	**Sg**	**06 29 26.8**	**-5.8**
ZRHB				Smax		06 29 54.7	
comp=N,677nm,1.0s							
TRG	**Tyrgan**	**5.54**	**236**	*e*Pn	**Pn**	**06 28 05.1**	**+0.7**
TRG				*e*Pg	**Pb**	**06 28 21.4**	**+2.7**
TRG				Pmax		06 28 29.2	
comp=N,25nm,1.1s							
TRG				*e*Sn	**Sn**	**06 29 06.2**	**-1.9**
TRG				*e*Sg	**Sg**	**06 29 33.5**	**-6.2**
TRG				Smax		06 29 37.5	
comp=N,131nm,1.2s							
TRG	**Tyrgan**	**5.54**	**236**	*e*PN	**Pn**	**06 28 07.7**	**+3.3**
TRG				*e*		06 28 23.7	
TRG				*e*S	**Sn**	**06 29 09.8**	**+1.7**
TRG				*e*		06 29 34.7	
TRG				pmax	pmax		
comp=Z,25nm,1.1s							
TRG				smax	smax		
comp=N,133nm,1.1s							
UUDB	**Ulan-Yde**	**5.63**	**223**	*e*Pg	**Pb**	**06 28 23.4**	**+3.3**
UUDB				Pmax		06 28 31.9	
comp=N,34nm,0.6s							
UUDB				*e*Sn	**Sn**	**06 29 07.6**	**-2.6**
UUDB				*e*Sg	**Sg**	**06 29 35.9**	**-6.5**
UUDB				Smax		06 29 41.8	
comp=N,327nm,1.4s							
FFNB	**Fofonovo**	**5.85**	**229**	*e*Pn	**Pn**	**06 28 10.0**	**+1.3**
FFNB				*e*Pg	**Pb**	**06 28 27.4**	**+3.4**
FFNB				*e*Sg	**Sg**	**06 29 43.3**	**-6.3**
KAB	**Kabansk**	**5.90**	**229**	*e*Sg	**Sg**	**06 29 44.5**	**-6.5**
KAB				Smax		06 30 27.8	
comp=N,916nm,1.4s							
STDB	**Stepnoy Dvoret**	**5.94**	**231**	*e*Sg	**Sg**	**06 29 45.5**	**-6.8**
HRMR	**Khuramsha**	**6.09**	**225**	*e*Pn	**Pn**	**06 28 13.1**	**+1.2**
HRMR				*e*Pg	**Pb**	**06 28 31.4**	**+3.4**
HRMR				Pmax		06 28 39.3	
comp=N,29nm,0.5s							
HRMR				*e*Sn	**Sn**	**06 29 20.3**	**-1.3**
HRMR				*e*Sg	**Sg**	**06 29 50.5**	**-6.7**
HRMR				Smax		06 29 58.5	
comp=N,485nm,0.7s							
BGT	**Bolshoye Golou**	**6.45**	**234**	*e*Pg	**Pb**	**06 28 37.7**	**+3.6**
BGT				Pmax		06 28 40.2	
comp=N,5.0nm,0.1s							
BGT				*e*Sn	**Sn**	**06 29 27.2**	**-3.2**
BGT				*e*Sg	**Sg**	**06 30 01.4**	**-7.3**
BGT				Smax		06 30 12.4	
comp=N,76nm,0.3s							
KPC	**Khapcheranga**	**6.50**	**189**	*e*Pn	**Pn**	**06 28 18.2**	**+0.7**
KPC				*e*Pg	**Pb**	**06 28 38.4**	**+3.4**
KPC				Pmax		06 28 43.6	
comp=N,16nm,1.4s							
KPC				*e*Sn	**Sn**	**06 29 27.3**	**-4.4**
KPC				*e*Sg	Sb	06 30 02.0	+9.4
KPC				Smax		06 30 13.9	
comp=N,213nm,1.7s							
LSTR	**Listvyanka**	**6.83**	**235**	*e*Sg	**Sg**	**06 30 13.6**	**-7.4**
LSTR				Smax		06 30 21.1	
comp=N,141nm,1.6s							
IRK	**Irkutsk**	**6.85**	**239**	*e*Sg	**Sg**	**06 30 14.0**	**-7.6**
IRK				Smax		06 30 16.8	
comp=N,292nm,0.1s							
IRK	**Irkutsk**	**6.85**	**239**	*e*PG	**Pb**	**06 28 45.2**	**+4.2**
IRK				*e*		06 30 14.1	
IRK				pmax	pmax		
comp=Z,99nm,0.1s							
IRK				smax	smax		
comp=N,332nm,0.5s							
TLY	**Talaya**	**7.51**	**238**	*e*Pg	**Pb**	**06 28 56.5**	**+4.3**
TLY				Pmax		06 29 31.8	
comp=N,12nm,0.9s							
TLY				*e*Sg	Sg	06 30 33.4	-9.3
TLY				Smax		06 30 49.7	
comp=N,62nm,1.2s							
ARS	**Arshan**	**7.96**	**243**	*e*Pg	Pb	06 29 04.8	+5.0
ARS				Pmax		06 29 12.2	
comp=N,23nm,0.4s							
ARS				*e*		06 30 20.2	
ARS				*e*Sg	Sg	06 30 46.9	-10
ARS				Smax		06 30 57.4	
comp=N,264nm,0.8s							
ZEA	**Zeya**	**8.06**	**102**	*e*PN	Pn	06 28 48.8	+10
ZEA				*e*		06 30 54.3	

ZAK	**Zakamensk**	**8.57 232**	*e*Sg	Sg	06 31 07.9	-8.8
ZAK			Smax		06 31 29.4	
	comp=N,92nm,1.3s					
MOY	**Mondy**	**8.82 245**	*e*Pn	**Pn**	**06 28 51.9**	**+2.4**
MOY			max		06 29 34.2	
	comp=N,18nm,1.6s					
MOY			*e*Sg	Sg	06 31 14.3	-10
MOY			Smax		06 31 18.1	
	comp=N,124nm,1.4s					
MOY	**Mondy**	**8.82 245**	*e*PN	Pn	06 29 01.9	+12
MOY			*i*		06 31 17.8	
ORL	**Orlik**	**8.97 252**	*e*Pn	**Pn**	**06 28 53.3**	**+1.8**
ORL			*e*Pg	Pg	06 29 23.7	-10
ORL			Pmax		06 29 34.2	
	comp=N,26nm,0.8s					
ORL			*e*Sn	**Sn**	**06 30 29.1**	**-3.5**
ORL			Smax		06 31 18.1	
	comp=N,82nm,1.3s					
ORL			*e*Sg	Sg	06 31 19.0	-11
ORL	**Orlik**	**8.97 252**	*e*P	**Pn**	**06 28 54.2**	**+2.7**
ORL			*e*S	**Sn**	**06 30 32.2**	**-0.4**
ORL			pmax	pmax		
	comp=Z,13nm,1.4s					
ORL			smax	smax		
	comp=N,82nm,1.5s					
ULN	**Ulaanbaatar**	**9.28 210**	*i* P	**Pn**	**06 28 54.3**	**-1.5**
SONM	**Songino Array**	**9.50 212**	Pn	**Pn**	**06 29 01.1**	**+2.4**
	comp=N,0.6nm,0.3s,baz=31,slow=41,SNR=2.8					
SONM			Lg	Lg	06 31 38.0	
	comp=N,1.5nm,0.3s,baz=24,slow=32,SNR=17					
	comp=N,0.3nm,0.4s					
SONM	**Songino Array**	**9.50 212**	*e*P	Pn	06 29 12.0	+13
SONM			pmax	pmax		
	comp=Z,1.0nm,0.3s					
YAK	**Yakutsk**	**10.04 47**	Sn	**Sn**	**06 30 51.2**	**-7.2**
	comp=Z,2.2nm,0.3s,baz=291,slow=3.4,SNR=1.1					
YAK			Lg	Lg	06 31 51.3	
	comp=Z,3.8nm,0.3s,baz=309,slow=24,SNR=14					
YAK	**Yakutsk**	**10.04 47**	*i* P	**Pn**	**06 29 05.4**	**-0.5**
KLR	**Kul'dur**	**12.82 115**	Pn	**Pn**	**06 29 45.8**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=306,slow=17,SNR=6.7					
KLR			Lg	Lg	06 33 21.4	
	comp=Z,0.4nm,0.3s,baz=43,slow=15,SNR=6.7					
	comp=Z,1.7nm,0.5s					
USRK	**Ussuriysk Ar.**	**16.58 128**	Lg	Lg	06 35 16.1	
	baz=150,slow=27					
USRK			LR	LR	06 37 45.1	
	comp=Z,33nm,20.0s,baz=303,slow=40					
ZALV	**Zalesovo Beam**	**16.75 275**	Pn	**P**	**06 30 38.7**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=58,slow=14,SNR=4.1					
ZALV			Lg	Lg	06 35 25.3	
	baz=20,slow=19					
ZALV	**Zalesovo Beam**	**16.75 275**	*i* P	**P**	**06 30 41.4**	**+2.8**
ZALV			pmax	pmax		
	comp=Z,1.0nm,0.6s					
TIXI	**Tiksi**	**16.82 16**	Pn	**Pn**	**06 30 34.1**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=217,slow=10,SNR=2.4					
TIXI			Lg	Lg	06 35 29.7	
	comp=Z,0.2nm,0.3s,baz=359,slow=22,SNR=1.1					
TIXI			LR	LR	06 37 01.2	
	comp=Z,52nm,19.4s,baz=242,slow=37					
TIXI	**Tiksi**	**16.82 16**	*i* P	**Pn**	**06 30 33.9**	**-3.2**
TIXI			pmax	pmax		
	comp=Z,2.0nm,0.4s					
NRIK	**Noril'sk**	**17.70 329**	P	**Pn**	**06 30 46.4**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=112,slow=6.1,SNR=2.2					
NRIK			S	**Sn**	**06 33 54.5**	**-10**
	comp=Z,6.4nm,0.6s,baz=1.3,slow=21,SNR=6.0					
NRIK			Lg	Lg	06 35 58.8	
	comp=Z,0.1nm,0.3s,baz=18,slow=15,SNR=1.1					
	comp=Z,1.9nm,0.4s					
KSRS	**Korea Array**	**20.93 147**	LR	LR	06 40 15.2	
	comp=Z,22nm,19.3s,baz=300,slow=39					
KURK	**Kurchatov**	**21.54 270**	*i* P	**P**	**06 31 31.7**	**+0.8**
KURK			pmax	pmax		
	comp=Z,8.0nm,1.3s					
MK31	**Makanchi Array**	**21.61 258**	*i* P	**P**	**06 31 31.2**	**-0.7**
MKAR	**Makanchi Array**	**21.61 258**	P	**P**	**06 31 33.5**	**+1.6**
	comp=Z,2.0nm,0.7s,baz=55,slow=9.0,SNR=16					
MKAR			LR	LR	06 40 16.7	
	comp=Z,67nm,20.6s,baz=70,slow=38					
	comp=Z,2.0nm,0.7s					
MKAR	**Makanchi Array**	**21.61 258**	*e*P	**P**	**06 31 37.2**	**+5.3**
MKAR			pmax	pmax		
	comp=Z,2.0nm,0.7s					
KURBB	**Kurchatov Arra**	**21.63 270**	P	**P**	**06 31 34.6**	**+2.6**
	comp=Z,3.0nm,0.8s,baz=66,slow=12,SNR=13					
	comp=Z,3.0nm,0.8s					
BVAR	**Borovoye Array**	**25.09 281**	P	**P**	**06 32 07.5**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=62,slow=10.0,SNR=3.9					
	comp=Z,2.3nm,0.8s					
BILL	**Bilibino**	**26.33 42**	*e*P	**P**	**06 32 20.2**	**+2.8**
BILL			*e*		06 32 56.4	
BILL			*e*PPP	PPP	06 33 07.6	
BILL			pmax	pmax		
	comp=Z,2.0nm,1.0s					
ARCES	**ARCESS Array B**	**38.64 326**	P	**P**	**06 34 04.8**	**0.0**
	comp=Z,0.8nm,0.9s,baz=66,slow=9.0,SNR=1.3					
	comp=Z,0.8nm,0.9s					
OBN	**Obninsk**	**41.52 302**	*e*P	**P**	**06 34 29.1**	**+0.3**
OBN			*e*		06 36 02.7	
OBN			*e*PPP	PPP	06 36 30.8	
OBN			pmax	pmax		
	comp=Z,3.0nm,0.7s					
FINES	**FINESS Array B**	**42.53 315**	P	**P**	**06 34 38.3**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=68,slow=12,SNR=5.7					
	comp=Z,0.9nm,0.7s					
FINES	**FINESS Array B**	**42.53 315**	*i* P	P	06 34 45.2	+8.1
FINES			pmax	pmax		
	comp=Z,1.0nm,0.6s					
ILAR	**Eielson Array**	**44.76 37**	P	**P**	**06 34 55.8**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=287,slow=4.4,SNR=2.9					
	comp=Z,0.3nm,0.8s					
ILAR	**Eielson Array**	**44.76 37**	*e*P	P	06 35 03.8	+8.9
HFS	**Hagfors**	**48.11 319**	P	**P**	**06 35 21.8**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=74,slow=11,SNR=2.2					
	comp=Z,1.5nm,0.9s					
BORG	**Borgarnes**	**54.70 338**	*i* P	**P**	**06 36 10.3**	**-0.2**
WRA	**Warramunga Arr**	**77.72 160**	P	**P**	**06 38 39.8**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=352,slow=6.1,SNR=3.1					
	comp=Z,0.4nm,0.7s					
ASAR	**Alice Springs**	**81.27 161**	P	**P**	**06 38 58.5**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=12,slow=4.7,SNR=2.0					
	comp=Z,0.3nm,0.8s					

IDC 14 06:47:29.8±5.5, 20°.20S×179°.22W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=296.8km s-min=78.5km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.48**	**257**	P	P	06 55 34.0	-1.1
	1.3nm,0.8s,baz=94,slow=7.6,SNR=11						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**43.51**	**262**	P	P	06 55 36.2	+0.8
	0.8nm,0.3s,baz=95,slow=8.4,SNR=43						
	0.8nm,0.3s						
HFS	**Hagfors**	**139.06**	**350**	PKP	PKPdf	07 06 56.8	-1.3
	1.0nm,0.3s,baz=46,slow=2.2,SNR=15						
AKASG	**Malin Array Be**	**142.19**	**330**	PKP	PKPdf	07 07 04.5	+0.6
	0.3nm,0.3s,baz=42,slow=3.2,SNR=1.5						

*IDC **14** 07:10:59.5±1.7, 35°.14N×27°.55E, h0km, mb3.3/3, mbtmp3.3/5, ML3.2/2, Error ellipse: s-maj=37.1km s-min=26.1km az=150.0*
*AFAD **14** 07:11:00.8±0.0, 35°.09N×27°.40E, h17km±1km, ML2.6*
*THE **14** 07:11:05.2, 35°.24N×27°.56E, h2km±4km, ML3.0/3, Error ellipse: s-maj=5.9km s-min=1.8km az=197.0*
*ISK **14** 07:11:05.2, 35°.27N×27°.57E, h17km, ML3.1/16*
*ATH **14** 07:11:05.0, 35°.23N×27°.57E, h11km±3km, ML3.1/3, Error ellipse: s-maj=4.9km s-min=1.5km az=333.0*
*GII **14** 07:11:06.2±0.4, 35°.112N±0°.004×27°.560E±0°.001, h40km, Mws3.1, confirmed*

ISC 14 07:11:04.0±1.3, 35°.15N±0°.04×27°.60E±0°.03, h23km±12km, n63, σ1§76/86, mb3.2/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.53**	**318**	Pg	**Pb**	**07 11 13.8**	**-0.9**
KARP				Sg	**Sb**	**07 11 21.4**	**-0.6**
KARP	**Karpathos**	**0.53**	**318**	P	**Pb**	**07 11 13.6**	**-1.0**
KARP				S	**Sb**	**07 11 20.8**	**-1.2**
	4μm,0.2s						
KARP	**Karpathos**	**0.53**	**318**	P	**Pb**	**07 11 13.7**	**-1.0**
KARP				S	**Sb**	**07 11 20.8**	**-1.2**
KARP				AML	AML	07 11 22.4	
	comp=E,9197μm,0.2s						
KARP				AML	AML	07 11 22.4	
	comp=N,6741μm,0.2s						
ZKR	**Zakros**	**1.14**	**268**	Pn	**Pb**	**07 11 26.7**	**+1.8**
ZKR	**Zakros**	**1.14**	**268**	P	**Pb**	**07 11 26.0**	**+1.1**
ZKR	**Zakros**	**1.14**	**268**	P	**Pb**	**07 11 26.0**	**+1.1**
ZKR				S	**Sn**	**07 11 40.6**	**+1.3**
ZKR				AML	AML	07 11 48.9	
	comp=E,1328μm,0.3s						
ZKR				AML	AML	07 11 52.1	
	comp=N,995μm,0.5s						
ARG	**Arkhangelos**	**1.14**	**22**	Pg	**Pb**	**07 11 25.0**	**-0.1**
ARG				Sg	**Sn**	**07 11 40.7**	**+1.1**
ARG	**Arkhangelos**	**1.14**	**22**	P	**Pb**	**07 11 24.7**	**-0.3**
ARG				S	**Sn**	**07 11 42.3**	**+2.7**
	comp=N,855nm,0.3s						
ARG	**Arkhangelos**	**1.14**	**22**	P	**Pb**	**07 11 24.9**	**-0.1**
ARG				S	**Sn**	**07 11 40.2**	**+0.6**
ARG				AML	AML	07 11 42.9	
	comp=N,1377μm,0.3s						
ARG				AML	AML	07 11 44.4	
	comp=E,1975μm,0.4s						
NISR	**Nisiros**	**1.50**	**345**	P	**Pn**	**07 11 29.8**	**+0.3**
YAZI	**Mula-Dat§a-**	**1.53**	**356**	P	**Pb**	**07 11 30.5**	**-1.1**
YAZI				S	**Sb**	**07 11 52.3**	**+1.7**
YAZI				*i* AML	AML	07 11 57.0	
	comp=E,58nm,0.4s						
YAZI				*i* AML	AML	07 11 57.0	
	comp=E,96nm,0.4s						
DAT	**Datca**	**1.57**	**359**	Pn	**Pb**	**07 11 31.5**	**-0.9**
DAT				Sn	**Sb**	**07 11 50.8**	**-1.1**
DAT	**Datca**	**1.57**	**359**	P	**Pn**	**07 11 31.2**	**+0.6**
DAT				S	**Sb**	**07 11 51.7**	**-0.2**
MRSB	**Marmaris-Mugla**	**1.63**	**17**	Pn	**Pb**	**07 11 32.7**	**-0.7**
TURN	**Turunc**	**1.70**	**18**	Pn	**Pb**	**07 11 33.6**	**-0.9**
TURN	**Turunc**	**1.70**	**18**	P	**Pb**	**07 11 34.3**	**-0.2**
TURN				S	**Sb**	**07 11 59.4**	**+3.9**
TURN				*i* AML	AML	07 12 06.0	
	comp=E,176nm,0.3s						
TURN				*i* AML	AML	07 12 07.0	
	comp=E,168nm,0.7s						
IZZE	**Mula-Seydike**	**1.84**	**45**	P	**Pb**	**07 11 35.8**	**-1.1**
DALY	**Dalyan (Mula)**	**1.87**	**27**	Pn	**Pb**	**07 11 36.1**	**-1.3**
KSL	**Kastellorizon**	**1.90**	**58**	P	**Pb**	**07 11 36.9**	**-1.0**
KSL				S	**Sn**	**07 11 59.5**	**+1.4**
	comp=E,125nm,0.5s						
KSL	**Kastellorizon**	**1.90**	**58**	P	**Pb**	**07 11 36.6**	**-1.3**
KSL				S	**Sb**	**07 11 59.7**	**-1.5**
FETY	**Fethiye**	**1.91**	**39**	Pn	**Pb**	**07 11 36.9**	**-1.2**
BDRM	**Kayabasi**	**1.91**	**356**	P	**Pn**	**07 11 34.3**	**-0.9**
BODT	**Bodrum**	**1.92**	**353**	Pn	**Pb**	**07 11 36.5**	**-1.8**
BODT	**Bodrum**	**1.92**	**353**	P	**Pn**	**07 11 35.3**	**0.0**
BODT				S	**Sb**	**07 12 02.1**	**+0.3**
BODT	**Bodrum**	**1.92**	**353**	P	**Pn**	**07 11 35.8**	**+0.5**
AKAS	**Kas**	**1.96**	**56**	Pn	**Pb**	**07 11 38.0**	**-1.0**
AKAS				Sn	**Sb**	**07 12 02.4**	**-0.6**
SABU	**Mula-Dalaman**	**2.00**	**33**	P	**Pb**	**07 11 38.1**	**-1.6**
SABU				*i* AML	AML	07 12 20.0	
	comp=E,87nm,0.9s						
SABU				*i* AML	AML	07 12 24.0	
	comp=E,116nm,0.9s						
YER	**Yerkesik**	**2.05**	**15**	Pn	**Pb**	**07 11 38.8**	**-1.8**
YER	**Yerkesik**	**2.05**	**15**	S	**Sb**	**07 12 09.7**	**+4.0**
YER	**Yerkesik**	**2.05**	**15**	P	**Pb**	**07 11 38.9**	**-1.7**
SANT	**Santorini**	**2.12**	**306**	Pn	**Pb**	**07 11 39.9**	**-1.9**
THR8	**Santorini-Mono**	**2.13**	**307**	P	**Pb**	**07 11 39.8**	**-2.1**
MLSB	**Milas**	**2.14**	**4**	Pn	**Pn**	**07 11 39.4**	**+1.0**
MLSB	**Milas**	**2.14**	**4**	P	**Pb**	**07 11 40.0**	**-2.1**
MLSB				S	**Sb**	**07 12 09.9**	**+1.7**
MLSB				*i* AML	AML	07 12 19.0	
	comp=E,28nm,1.0s						
MLSB				*i* AML	AML	07 12 50.0	
	comp=E,17nm,1.3s						
THR6	**Thira Island,**	**2.16**	**304**	P	**Pb**	**07 11 40.3**	**-2.0**
MULA	**Mugla, Merkez-**	**2.18**	**15**	P	**Pb**	**07 11 42.4**	**-0.4**
MULA				S	**Sb**	**07 12 14.9**	**+5.6**
THR3	**Thira Island,**	**2.18**	**306**	P	**Pn**	**07 11 40.5**	**+1.6**
IDI	**Anoyia**	**2.22**	**274**	Pn	**Pb**	**07 11 41.9**	**-1.6**
CAME	**Cameli-Denizli**	**2.26**	**37**	Pn	**Pn**	**07 11 41.9**	**+1.9**
KNIK	**Mula-Seydike**	**2.33**	**43**	P	**Pb**	**07 11 43.2**	**-2.1**
KNIK				S	**Sb**	**07 12 12.9**	**-0.7**
KNIK				*i* AML	AML	07 12 15.0	
	comp=E,18nm,0.6s						
KNIK				*i* AML	AML	07 12 28.0	
	comp=E,28nm,0.6s						
TAVA	**DENIZLI_Tavas**	**2.54**	**24**	P	**Pn**	**07 11 45.8**	**+1.9**
TAVA				*i* AML	AML	07 12 28.0	
	comp=E,40nm,0.3s						
TAVA				*i* AML	AML	07 12 32.0	
	comp=E,88nm,0.8s						
APE	**Apeiranthos**	**2.54**	**319**	Pn	**Pn**	**07 11 45.4**	**+1.5**
APE	**Apeiranthos**	**2.54**	**319**	P	**Pn**	**07 11 44.8**	**+0.9**
APE				S	**Sn**	**07 12 15.8**	**+1.6**
APE	**Apeiranthos**	**2.54**	**319**	P	**Pn**	**07 11 44.7**	**+0.9**
GCAM	**G?zelcaml?**	**2.56**	**353**	Pn	**Pn**	**07 11 45.6**	**+1.6**
ESEN	**Aydn-Nazilli**	**2.71**	**13**	P	**Pn**	**07 11 48.0**	**+1.9**
ESEN				S	**Sb**	**07 12 23.1**	**-1.4**
ESEN				*i* AML	AML	07 12 38.0	
	comp=E,33nm,0.9s						
ESEN				*i* AML	AML	07 12 39.0	
	comp=E,31nm,0.7s						
DNIZ	**Denizli-Tavas-**	**2.73**	**25**	P	**Pn**	**07 11 48.4**	**+2.0**
DNIZ				S	**Sb**	**07 12 30.2**	**+5.1**
KIRA	**zmir-Kiraz**	**3.10**	**12**	P	**Pn**	**07 11 53.1**	**+1.4**
KIRA				*i* AML	AML	07 12 32.0	
	comp=E,5.6nm,0.5s						
KIRA				*i* AML	AML	07 13 01.0	
	comp=E,20nm,0.6s						
CSS	**Mathiatis**	**4.70**	**91**	P	**Pn**	**07 12 15.4**	**+1.8**
BRTR	**Keskin Array B**	**6.62**	**45**	Pn	**Pn**	**07 12 39.6**	**-0.5**
	comp=E,0.2nm,0.3s,baz=223,slow=13,SNR=3.9						
BRTR				Sn	**Sn**	**07 13 51.7**	**-3.2**
	comp=E,0.1nm,0.3s,baz=24,slow=36,SNR=1.9						
	comp=E,0.6nm,0.5s						
MMAI	**Mount Meron Ar**	**6.81**	**106**	Pn	**Pn**	**07 12 42.6**	**-0.1**
	comp=E,0.9nm,0.3s,baz=285,slow=38,SNR=2.1						
MMAI				Sn	**Sn**	**07 13 57.4**	**-2.1**
	comp=E,0.7nm,0.3s,baz=314,slow=26,SNR=1.1						
	comp=E,0.5nm,0.2s						
KZIT	**Kziot**	**7.11**	**125**	S	**Sn**	**07 14 07.5**	**+0.8**
KZIT	**Kziot**	**7.11**	**125**	P	**Pn**	**07 12 48.1**	**+1.6**
HMDT	**Nahal Hemdat**	**7.21**	**111**	P	**Pn**	**07 12 50.5**	**+2.5**
DSI	**Dead Sea**	**7.42**	**117**	P	**Pn**	**07 12 52.6**	**+1.7**
MSBI	**Mazada**	**7.54**	**118**	P	**Pn**	**07 12 54.3**	**+1.8**
KRMI	**Paran Flat**	**7.83**	**128**	P	**Pn**	**07 12 58.3**	**+1.7**
KRMI	**Paran Flat**	**7.83**	**128**	S	**Sn**	**07 14 24.7**	**+0.3**
PRNI	**Paran**	**7.86**	**125**	P	**Pn**	**07 12 59.0**	**+2.0**
EIL	**Elat**	**8.28**	**129**	P	**Pn**	**07 13 04.7**	**+2.1**
ESDC	**Sonseca Array**	**25.40**	**290**	P	**P**	**07 16 28.7**	**-1.0**
	comp=E,0.2nm,0.5s,baz=80,slow=10,SNR=2.7						
	comp=E,0.2nm,0.5s						
FINES	**FINESS Array B**	**26.33**	**358**	P	**P**	**07 16 36.7**	**-1.1**
	comp=E,0.4nm,0.6s,baz=158,slow=11,SNR=4.1						
	comp=E,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**32.05**	**233**	P	**P**	**07 17 27.5**	**-1.6**
	comp=E,0.6nm,0.9s,baz=32,slow=10,SNR=2.9						
	comp=E,0.6nm,0.9s						

*NOU **14** 07:11:53.6, 24°.28S×178°.60E, h206km, mb4.1/13, South of Fiji Islands*
*IDC **14** 07:12:02.2±2.5, 23°.98S×179°.91W, h484km±24km, mb3.3/7, mbtmp4.1/8, Error ellipse: s-maj=26.9km s-min=20.4km az=179.0*
*NEIC **14** 07:12:03.5±1.4, 24°.1S±0°.2×179°.7W±0°.2, h513km±21km, mb4.4/18, Error ellipse: s-maj=41.8km s-min=10.2km az=49.0*

ISC 14 07:12:03.5±0.8, 24°.17S±0°.09×179°.9W±0°.1, h500km, n43, σ1§01/45, mb4.2/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.69**	**343**	P	**P**	**07 13 46.1**	**-0.7**
DZM	**Mont Dzumac**	**12.79**	**277**	P	**P**	**07 14 51.8**	**+1.2**
	3.0nm,0.9s,baz=317,slow=20,SNR=1.5						
URZ	**Urewera**	**14.29**	**190**	P	**P**	**07 15 07.1**	**+1.1**
	5.4nm,0.7s,baz=19,slow=22,SNR=1.4						
URZ				S	**S**	**07 17 35.1**	**-1.5**
	5.0nm,0.8s,baz=56,slow=18,SNR=1.0						
BKZ	**Black Stump Fm**	**15.27**	**191**	P	**P**	**07 15 15.2**	**-1.3**
BFZ	**Birch Farm**	**16.79**	**190**	P	**P**	**07 15 32.3**	**+0.1**
BFZ	**Birch Farm**	**16.79**	**190**	P	**P**	**07 15 31.9**	**-0.4**
TCW	**Tory Channel**	**17.69**	**195**	P	**P**	**07 15 41.4**	**+0.5**
QRZ	**Quartz Range**	**17.80**	**199**	P	**P**	**07 15 41.7**	**-0.2**
QRZ	**Quartz Range**	**17.80**	**199**	P	**P**	**07 15 42.1**	**+0.2**
DSZ	**Denniston Nort**	**18.86**	**200**	P	**P**	**07 15 52.0**	**+0.3**
KHZ	**Kahutara**	**19.01**	**195**	P	**P**	**07 15 54.6**	**+1.7**
RPZ	**Rata Peaks**	**20.88**	**199**	P	**P**	**07 16 10.3**	**+0.3**
	3.3nm,0.4s,baz=275,slow=10,SNR=2.1						
	3.3nm,0.4s						
JCZ	**Jackson Bay**	**21.93**	**202**	P	**P**	**07 16 22.9**	**+3.3**
ARMA	**Armidale**	**26.06**	**250**	P	**P**	**07 16 57.4**	**+0.8**
ARMA				IAmb	IAmb	07 17 09.2	
	comp=Z,20nm,1.4s						
EIDS	**Eidsvold**	**26.41**	**261**	P	**P**	**07 16 59.8**	**+0.3**
EIDS				IAmb	IAmb	07 17 00.7	
	comp=Z,5.0nm,0.7s						
CNB	**Canberra Magne**	**28.84**	**240**	P	**P**	**07 17 21.9**	**+1.1**
YNG	**Young**	**29.39**	**243**	P	**P**	**07 17 26.4**	**+0.8**
CMSA	**Cobar Meteorol**	**31.25**	**249**	P	**P**	**07 17 41.8**	**+0.1**
CTA	**Charters Tower**	**31.62**	**271**	P	**P**	**07 17 45.3**	**+0.3**
CTAO	**Charters Tower**	**31.62**	**271**	P	**P**	**07 17 45.3**	**+0.3**
CTAO	**Charters Tower**	**31.62**	**271**	P	**P**	**07 17 44.7**	**-0.2**
CTAO				IAmb	IAmb	07 17 46.0	
	comp=Z,20nm,1.1s						
TOO	**Toolangi**	**32.42**	**237**	P	**P**	**07 17 53.1**	**+1.4**
TOO	**Toolangi**	**32.42**	**237**	P	**P**	**07 17 51.9**	**+0.3**
TOO				IAmb	IAmb	07 18 00.8	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**34.76**	**248**	P	**P**	**07 18 11.9**	**+0.5**
STKA	**Stephens Creek**	**34.76**	**248**	P	**P**	**07 18 11.8**	**+0.5**
STKA	**Stephens Creek**	**34.76**	**248**	P	**P**	**07 18 11.8**	**+0.5**
	comp=Z,1.8nm,0.4s,baz=85,slow=9.3,SNR=6.7						
	comp=Z,1.8nm,0.4s						
BBOO	**Buckleboo**	**39.47**	**247**	P	**P**	**07 18 49.0**	**-1.2**
BBOO				IAmb	IAmb	07 19 16.8	
	comp=Z,30nm,1.4s						
AS31	**Alice Springs**	**42.13**	**261**	P	**P**	**07 19 11.0**	**-0.6**
ASAR	**Alice Springs**	**42.13**	**261**	P	**P**	**07 19 10.6**	**-1.0**
ASAR	**Alice Springs**	**42.13**	**261**	P	**P**	**07 19 11.2**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=98,slow=7.1,SNR=47						
ASAR				ScP	**ScP**	**07 23 58.5**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=102,slow=4.3,SNR=5.8						
	comp=Z,2.5nm,0.5s						
WB0	**Warramunga Arr**	**42.52**	**267**	P	**P**	**07 19 13.5**	**-1.3**
WB0				IAmb	IAmb	07 19 14.4	
	comp=Z,8.8nm,0.8s						
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**07 19 13.5**	**-1.3**
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**07 19 13.8**	**-1.0**
	comp=Z,5.2nm,0.5s,baz=97,slow=8.3,SNR=153						
WRA				ScP	**ScP**	**07 24 00.1**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=101,slow=4.4,SNR=2.7						
	comp=Z,5.2nm,0.5s						
FORT	**Forrest**	**46.35**	**250**	P	**P**	**07 19 42.8**	**-1.4**
FORT				IAmb	IAmb	07 19 43.5	
	comp=Z,13nm,0.6s						
KNRA	**Kununurra**	**48.83**	**270**	P	**P**	**07 20 02.1**	**-0.8**
KNRA				IAmb	IAmb	07 20 02.8	
	comp=Z,5.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.95**	**266**	P	**P**	**07 20 18.1**	**-0.5**
MORW	**Morawa**	**56.92**	**250**	P	**P**	**07 21 00.0**	**-0.7**
MORW				IAmb	IAmb	07 21 13.1	
	comp=Z,19nm,1.4s						
QSPA	**South Pole Qui**	**65.92**	**180**	P	**P**	**07 22 00.1**	**+0.8**
QSPA				IAmb	IAmb	07 22 19.9	
	comp=Z,8.8nm,1.5s						
QSPA	**South Pole Qui**	**65.92**	**180**	P	**P**	**07 22 00.6**	**+1.3**
	comp=Z,1.9nm,1.0s,baz=58,slow=2.6,SNR=6.5						
	comp=Z,1.9nm,1.0s						
SNAA	**Sanae**	**84.40**	**179**	P	**P**	**07 23 41.5**	**-0.9**
NVAR	**Mina Array Bea**	**84.84**	**44**	P	**P**	**07 23 45.7**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=232,slow=6.8,SNR=2.4						
	comp=Z,0.2nm,0.6s						
TXAR	**Lajitas Array**	**90.45**	**58**	P	**P**	**07 24 11.4**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=217,slow=5.2,SNR=7.1						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**142.83**	**349**	PKhKP	PKPpre	07 30 35.1	
	comp=Z,0.8nm,0.5s,baz=62,slow=3.8,SNR=9.7						

*TIR **14** 08:06:18.9, 41°.46N×19°.61E, h20km±1km, Md2.5, Ml2.3*
*BEO **14** 08:06:19.2±0.4, 41°.41N×19°.73E, h24km±3km, ML2.1/9*
*PDG **14** 08:06:20.7±0.2, 41°.53N×19°.70E, h12km, ML2.4/11, Error ellipse: s-maj=0.6km s-min=1.2km az=0.0*
*RHSSO **14** 08:06:21.6±0.9, 41°.49N×19°.45E, h5km±2km, ML2.5/7*

ISC 14 08:06:19.6±1.1, 41°.46N±0°.02×19°.67E±0°.03, h14km±9km, n36, σ0§83/70, 7C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.18**	**127**	P	**Pb**	**08 06 24.4**	**-0.3**
	baz=118						
TIR				S	**Sb**	**08 06 28.2**	**+0.1**
	baz=118						
TIR				AMP			
	comp=E,7.0nm,0.1s,baz=118						
TIR	**Tirane**	**0.18**	**127**	*e*Pg	**Pb**	**08 06 24.3**	**-0.4**
TIR				*e*Sg	**Sb**	**08 06 28.7**	**+0.6**
PUK	**Puka**	**0.61**	**16**	P	**

UPM			*i* Sn	**Sb**	**08 07 17.2**	**+1.2**
PLE	**Pljevlja**	**1.89 354**	*i* Pn	**Pb**	**08 06 52.8**	**-1.1**
PLE			*i* Sn	**Sb**	**08 07 18.0**	**+0.7**
STON	**Ston**	**2.04 315**	*e*Pn	**Pn**	**08 06 53.3**	**-0.2**
STON			*e*Sn	**Sn**	**08 07 18.4**	**-0.3**
STON	**Ston**	**2.04 315**	*e*Pn	**Pn**	**08 06 54.2**	**+0.7**
STON			Sn	**Sn**	**08 07 18.2**	**-0.4**
STON	**Ston**	**2.04 315**	*e*Pn	**Pn**	**08 06 54.4**	**+0.9**
STON			*e*Sn	**Sn**	**08 07 18.9**	**+0.2**
SELS	**Selova**	**2.06 31**	*e*Pg	**Pb**	**08 06 55.9**	**-0.9**
SELS			*e*Sg	**Sg**	**08 07 24.9**	**-1.0**
RUDO	**Rudo**	**2.17 354**	*e*Pn	**Pb**	**08 06 57.2**	**-1.5**
RUDO			*e*Sn	**Sb**	**08 07 24.7**	**-0.8**
MAKA	**Makarska**	**2.69 314**	*e*Pn	**Pn**	**08 07 02.2**	**-0.2**
MAKA			Sn	**Sn**	**08 07 33.5**	**-1.2**
A050A	**Klekovaca**	**3.80 324**	*e*Pn	**Pn**	**08 07 19.2**	**+1.4**
A050A			*e*Sn	**Sn**	**08 08 01.6**	**-0.8**

IDC 14 08:22:35.0±1.6, 26°.50N×142°.21E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=107.7km s-min=13.9km az=91.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.59**	**358**	Pn	Pn	08 22 50.9	+0.2
	172nm,0.3s,baz=184,slow=4.7,SNR=27						
JCJ				Sn	Sn	08 23 00.9	-0.1
	75nm,0.3s,baz=304,slow=23,SNR=16						
WRA	**Warramunga Arr**	**46.80**	**190**	P	P	08 31 06.4	-0.1
	1.5nm,0.5s,baz=10,slow=8.4,SNR=27						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**50.52**	**190**	P	P	08 31 34.2	-0.9
	0.1nm,0.4s,baz=19,slow=8.5,SNR=2.0						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**78.49**	**334**	P	P	08 34 38.2	+0.5
	0.5nm,0.4s,baz=77,slow=5.2,SNR=14						
	0.5nm,0.4s						
NOA	**NORSAR Array B**	**84.17**	**338**	P	P	08 35 07.9	0.0
	0.2nm,0.6s,baz=46,slow=4.5,SNR=2.1						
	0.2nm,0.6s						

*IDC **14** 08:25:35.0±6.2, 23°.37N×143°.80E, h0km, mb3.5/5, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=256.2km s-min=24.0km az=78.0*

ISC 14 08:25:35.1±4.3, 23°.6N±0°.4×14°.4E±°, h10km, n7, σ2$14/8, mb3.6/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.98**	**332**	Pn	**Pn**	**08 26 35.6**	**-0.5**
	2.4nm,0.3s,baz=274,slow=21,SNR=1.9						
JCJ				Sn	**Sn**	**08 27 19.9**	**-2.9**
	6.5nm,0.3s,baz=290,slow=21,SNR=2.0						
	37nm,0.8s						
KSRS	**Korea Array**	**19.70**	**318**	P	**Pn**	**08 30 08.8**	**+2.8**
	0.9nm,0.7s,baz=128,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**44.34**	**193**	P	**P**	**08 33 44.5**	**-1.1**
	0.2nm,0.4s,baz=11,slow=8.5,SNR=2.8						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**48.05**	**193**	P	**P**	**08 34 13.2**	**-1.6**
	0.2nm,0.4s,baz=14,slow=12,SNR=1.8						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**54.19**	**312**	P	**P**	**08 35 01.7**	**+0.8**
	0.2nm,0.5s,baz=80,slow=9.6,SNR=2.2						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**56.86**	**316**	P	**P**	**08 35 19.4**	**-0.5**
	0.3nm,0.5s,baz=93,slow=8.3,SNR=5.3						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**61.91**	**319**	P	**P**	**08 35 56.1**	**+1.3**
	1.4nm,0.4s,baz=75,slow=7.1,SNR=6.5						
	1.4nm,0.4s						

*IDC **14** 08:44:31.0±4.5, 5°.74S×149°.99E, h117km±37km, mb3.4/9, mbtmp3.8/10, Error ellipse: s-maj=47.8km s-min=18.1km az=93.0*

ISC 14 08:44:29.4±0.9, 5°.7S±0°.1×150°.0E±0°.2, h100km, n12, σ1$28/13, mb3.5/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.64**	**216**	P	**Pn**	**08 45 38.6**	**+1.3**
	119nm,0.6s,baz=48,slow=5.7,SNR=40						
PMG				S	**Sn**	**08 46 28.3**	**-1.8**
	64nm,0.4s,baz=350,slow=17,SNR=3.0						
CTA	**Charters Tower**	**14.79**	**194**	P	**P**	**08 47 58.6**	**+1.7**
	0.2nm,0.5s,baz=13,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**20.79**	**226**	P	**P**	**08 49 01.6**	**-1.1**
	3.0nm,0.6s,baz=50,slow=10,SNR=40						
	3.0nm,0.6s						
ASAR	**Alice Springs**	**23.65**	**219**	P	**P**	**08 49 32.0**	**+0.1**
	0.7nm,0.4s,baz=51,slow=8.7,SNR=16						
	0.7nm,0.4s						
MJAR	**Matsushiro Arr**	**43.40**	**346**	P	**P**	**08 52 23.0**	**+0.8**
	0.7nm,0.6s,baz=170,slow=8.1,SNR=4.7						
	0.7nm,0.6s						
KSRS	**Korea Array**	**47.56**	**336**	P	**P**	**08 52 56.0**	**+1.1**
	0.9nm,0.6s,baz=155,slow=7.0,SNR=4.3						
	0.9nm,0.6s						
SONM	**Songino Array**	**65.57**	**329**	P	**P**	**08 55 03.5**	**+0.9**
	0.3nm,0.6s,baz=123,slow=5.3,SNR=2.4						
	0.3nm,0.6s						
VNDA	**Vanda**	**72.10**	**177**	P	**P**	**08 55 41.6**	**-0.8**
	0.7nm,0.9s,baz=277,slow=7.6,SNR=2.5						
	0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**80.31**	**327**	P	**P**	**08 56 28.2**	**-1.1**
	0.6nm,0.5s,baz=100,slow=7.6,SNR=2.2						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**84.02**	**23**	P	**P**	**08 56 47.5**	**-1.0**
	0.4nm,0.8s,baz=252,slow=5.2,SNR=5.0						
	0.4nm,0.8s						
QSPA	**South Pole Qui**	**84.31**	**180**	P	**P**	**08 56 50.1**	**0.0**
	0.6nm,0.7s,baz=302,slow=1.8,SNR=6.6						
	0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**147.84**	**286**	PKPbc	**PKPbc**	**09 04 02.7**	**-1.2**
	0.3nm,0.5s,baz=70,slow=4.9,SNR=2.0						

NOU 14 09:05:53.2, 21°.52S×170°.35E, h0km, mb4.2/9, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.16**	**271**	P	Pn	09 06 29.8	-0.7
PINNC	**Pines Island,**	**2.91**	**247**	P	Pn	09 06 40.6	-0.1
LIFNC	**LIFOU**	**3.00**	**284**	P	Pn	09 06 41.0	-1.0
YATNC	**Mamie plateau,**	**3.26**	**260**	P	Pn	09 06 44.5	-1.1
OUENC	**Ouen Island, N**	**3.38**	**254**	P	Pn	09 06 47.3	+0.1
DZM	**Mont Dzumac**	**3.67**	**261**	P	Pn	09 06 51.5	+0.1
ONTNC	**Ouen Toro**	**3.70**	**257**	P	Pn	09 06 51.7	0.0
NOUC	**Port Laguerre**	**3.81**	**261**	P	Pn	09 06 53.0	-0.1
KOUNC	**Koumac, New Ca**	**5.75**	**279**	P	Pn	09 07 21.0	+1.2

IDC 14 09:06:02.6±2.3, 3°.56N×128°.73E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=149.5km s-min=26.8km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.00**	**167**	P	P	09 11 19.4	+0.2
	1.0nm,0.5s,baz=347,slow=10,SNR=17						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**27.53**	**170**	P	P	09 11 50.9	-0.3
	0.2nm,0.7s,baz=349,slow=7.0,SNR=2.1						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**58.84**	**324**	P	P	09 16 03.1	0.0
	0.2nm,0.3s,baz=114,slow=7.7,SNR=4.7						
	0.2nm,0.3s						

*NIED **14** 09:13:52.0, 38°.89N×141°.97E, h49km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.31; $M_{\theta\theta}$-0.63; $M_{\phi\phi}$-3.69; $M_{r\theta}$1.76; $M_{\theta\phi}$-1.53; $M_{\phi r}$4.69; Fault plane solution: $M_0$6.62000×10^{14} NP1:ϕ_s21.00000°, δ70.00000°, λ89.00000°. NP2:ϕ_p204.00000°, δ20.00000°, λ93.00000°.*

*NEIC **14** 09:13:53.0±1.8, 38°.90N±0°.05×141°.9E±0°.1, h57km±10km, mb4.2/12 Error ellipse: s-maj=13.8km s-min=7.2km az=98.0*

*JMA **14** 09:13:52.0±0.1, 38°.9N±0°.3×142°.0E±0°.7, h49km, MD4.0/40, MV4.2/40, KINKAZAN REGION*

JMA Felt II J1 at KINKAZAN REGION .

*IDC **14** 09:13:53.5±2.2, 38°.89N×141°.95E, h66km±19km, mb3.7/12, mbtmp4.0/16, MS2.9/7, Error ellipse: s-maj=20.0km s-min=13.0km az=98.0*

ISC 14 09:13:51.3±1.2, 38°.86N±0°.05×142°.08E±0°.08, h48km±9km, n75, σ1$21/70, mb4.2/21, MS3.1/3, 16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.39**	**305**	⇓*i*P	**Pn**	**09 14 01.3**	**+0.1**
OFUJ				⇓S	**Sn**	**09 14 07.6**	**-0.6**
OFUJ	**Ofunato**	**0.39**	**305**	A	A	09 14 01.3	
	comp=E,38nm,0.8s,comp=N,9.0nm,0.5s						
JKMT	**Kesennumamotoy**	**0.47**	**264**	⇓*i*P	**Pn**	**09 14 02.1**	**-0.1**
JKMT				⇓S	**Sn**	**09 14 08.8**	**-1.0**
JKMT	**Kesennumamotoy**	**0.47**	**264**	A	A	09 14 02.1	
	comp=E,14nm,0.2s,comp=N,12nm,0.2s						
JMK	**Ichinoseki**	**0.68**	**278**	⇓*i*P	**Pn**	**09 14 04.4**	**-0.2**
JMK				⇓S	**Sn**	**09 14 13.1**	**-1.2**
JIO	**Ouri**	**0.70**	**235**	⇓*i*P	**Pn**	**09 14 04.9**	**0.0**
JIO				⇓S	**Sn**	**09 14 13.6**	**-1.2**
JOM	**Ohasama**	**0.86**	**315**	⇓*i*P	**Pn**	**09 14 07.0**	**-0.2**
JOM				⇓S	**Sn**	**09 14 17.7**	**-1.1**
JOM	**Ohasama**	**0.86**	**315**	A	A	09 14 07.0	
	comp=E,14nm,0.4s,comp=N,10.0nm,0.3s						
JOFO	**Osakifurukawao**	**0.95**	**255**	A	A	09 14 08.2	
	comp=E,13nm,0.3s,comp=N,17nm,0.3s						
JOU	**Okura**	**1.21**	**246**	⇓*i*P	**Pn**	**09 14 11.6**	**-0.3**
JOU				⇓S	**Sn**	**09 14 26.3**	**-0.8**
JRG	**Rokugo**	**1.24**	**296**	⇓*i*P	**Pn**	**09 14 11.9**	**-0.4**
JYK	**Kaneyama**	**1.34**	**273**	⇓*i*P	**Pn**	**09 14 13.3**	**-0.3**
JMM	**Marumori**	**1.41**	**226**		**Pn**	**09 14 14.5**	**-0.1**
JMM	**Marumori**	**1.41**	**226**	⇓*i*P	**Pn**	**09 14 14.3**	**-0.3**
JMM				⇓S	**Sn**	**09 14 31.2**	**-0.9**
JANG	**Nango**	**1.57**	**344**	P	**Pn**	**09 14 16.8**	**0.0**
JTM	**Tenmabayashi**	**2.08**	**338**		**Pn**	**09 14 23.9**	**+0.2**
JSD	**Sado**	**3.11**	**256**	Pn	**Pn**	**09 14 38.0**	**+0.2**
ERM	**Erimo**	**3.26**	**14**		**Pn**	**09 14 40.8**	**+0.9**
MJAR	**Matsushiro Arr**	**3.84**	**234**	P	**Pn**	**09 14 50.0**	**+2.1**
	comp=N,8.4nm,0.5s,baz=36,slow=12,SNR=79						
MJAR				S	**Sn**	**09 15 33.1**	**+1.3**
	comp=N,6.8nm,0.6s,baz=353,slow=9.8,SNR=5.9						
MJAR				LR	LR	09 16 28.7	
	comp=N,64nm,20.5s,baz=32,slow=41						
MAJO	**Matsushiro**	**3.84**	**234**	Pn	**Pn**	**09 14 49.2**	**+1.3**
MJB9	**Matsu-Tunnel**	**3.84**	**234**		**Pn**	**09 14 47.6**	**-0.3**
JGF	**Kuroka**	**4.97**	**231**		**Pn**	**09 15 04.3**	**+0.8**
ASAJ	**Asahikawa**	**5.27**	**4**	P	**Pn**	**09 15 08.1**	**+0.6**
	comp=N,4.0nm,0.4s,baz=208,slow=18,SNR=16						
ASAJ				S	**Sn**	**09 16 06.0**	**-0.9**
	comp=N,7.3nm,0.4s,baz=170,slow=22,SNR=1.8						
JKA	**Kamikawa-asahi**	**5.27**	**4**		**Pn**	**09 15 08.3**	**+0.9**
INU	**Inuyama**	**5.35**	**231**		**Pn**	**09 15 09.9**	**+1.3**
JHJ2	**Mitsune**	**6.02**	**198**	Pn	**Pn**	**09 15 18.4**	**+0.6**
JHJ	**Hachijo jima 2**	**6.02**	**199**	P	**Pn**	**09 15 19.4**	**+1.6**
	comp=N,43nm,0.6s,baz=113,slow=17,SNR=1.7						
JHJ				S	**Sn**	**09 16 22.1**	**-3.3**
	comp=N,29nm,0.3s,baz=257,slow=22,SNR=5.6						
YSS	**Yuzh-Sakhalins**	**8.11**	**3**	Pn	**Pn**	**09 15 47.2**	**+0.9**
JMN	**Monobe**	**8.37**	**235**	Pn	**Pn**	**09 15 50.4**	**+0.4**
USA0B	**Ussuriysk Arra**	**9.26**	**308**	Pn	**Pn**	**09 16 01.7**	**-0.4**
USRK	**Ussuriysk Ar.**	**9.26**	**308**	Pn	**Pn**	**09 16 01.4**	**-0.7**
USRK	**Ussuriysk Ar.**	**9.26**	**308**	P	**Pn**	**09 16 02.3**	**+0.3**
	comp=N,7.6nm,0.7s,baz=118,slow=14,SNR=15						
JNU	**Nakatsue**	**10.72**	**241**	LR	LR	09 20 47.5	
	comp=N,55nm,18.7s,baz=40,slow=39						
KSRS	**Korea Array**	**11.23**	**267**	P	**Pn**	**09 16 33.0**	**+3.8**
	comp=N,0.8nm,0.5s,baz=78,slow=14,SNR=3.0						
KSRS				LR	LR	09 20 24.4	
	comp=N,26nm,19.4s,baz=85,slow=35						
KLR	**Kul'dur**	**12.74**	**328**	LR	LR	09 21 28.0	
	comp=N,62nm,18.3s,baz=170,slow=36						
MA2	**Magadan**	**21.46**	**12**	LR	LR	09 27 37.5	
	comp=N,16nm,19.4s,baz=200,slow=38						
HHC	**Hu-ho-hao-te**	**23.45**	**285**	*e*P	**P**	**09 18 56.9**	**+0.4**
HHC				pP	pP	09 19 11.4	+3.0
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,68nm,6.7s						
SONM	**Songino Array**	**27.25**	**301**	P	**P**	**09 19 31.5**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=93,slow=9.1,SNR=3.5						
	comp=Z,0.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.69**	**125**	T	T	09 50 09.6	
	baz=317,slow=75,SNR=548						
H11N1	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	09 50 10.3	
	baz=317,slow=75,SNR=616						
H11N3	**WAKE ISLAND Hy**	**28.71**	**125**	T	T	09 50 10.9	
	baz=317,slow=75,SNR=533						
H11S1	**WAKE ISLAND Hy**	**29.46**	**127**	T	T	09 51 04.4	
	baz=318,slow=76,SNR=135						
H11S3	**WAKE ISLAND Hy**	**29.47**	**127**	T	T	09 51 04.8	
	baz=318,slow=76,SNR=202						
H11S2	**WAKE ISLAND Hy**	**29.48**	**127**	T	T	09 51 04.0	
	baz=318,slow=76,SNR=160						
PZH	**PanZhiHua**	**35.84**	**262**	P	**P**	**09 20 47.9**	**+1.3**
PZH				pmax	pmax		
	comp=Z,40nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.7s						
WMQ	**Urumqi**	**40.51**	**295**	*e*P	**P**	**09 21 24.8**	**-0.8**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
ZALV	**Zalesovo Beam**	**41.10**	**311**	P	**P**	**09 21 28.8**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=89,slow=9.7,SNR=6.6						
	comp=Z,1.8nm,0.3s						
C18K	**Utukok River**	**42.41**	**27**	P	**P**	**09 21 40.5**	**-0.4**
C18K				IAmb	IAmb	09 22 04.5	
	comp=Z,5.5nm,1.2s						
M17K	**Holitna River**	**42.88**	**38**	P	**P**	**09 21 42.0**	**-2.7**
MK31	**Makanchi Array**	**43.62**	**301**	P	**P**	**09 21 50.9**	**+0.1**
MK31				IAmb	IAmb	09 21 51.4	
	comp=Z,3.2nm,0.8s						
MKAR	**Makanchi Array**	**43.62**	**301**	P	**P**	**09 21 50.3**	**-0.5**
MKAR	**Makanchi Array**	**43.62**	**301**	P	**P**	**09 21 50.6**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=86,slow=9.2,SNR=16						
	comp=Z,2.5nm,0.6s						
E19K	**Redstone River**	**43.62**	**29**	P	**P**	**09 21 51.3**	**+0.8**
MAKZ	**Makanchi**	**43.83**	**301**	P	**P**	**09 21 52.5**	**-0.1**
KURK	**Kurchatov**	**45.24**	**307**	P	**P**	**09 22 03.5**	**-0.1**
KURBB	**Kurchatov Arra**	**45.31**	**307**	P	**P**	**09 22 03.8**	**-0.4**
	comp=Z,6.0nm,0.6s,baz=81,slow=8.1,SNR=32						
	comp=Z,6.0nm,0.6s						
ILAR	**Eielson Array**	**47.68**	**33**	P	**P**	**09 22 24.1**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=264,slow=5.9,SNR=8.7						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**49.75**	**311**	P	**P**	**09 22 38.4**	**-0.3**
	comp=Z,3.1nm,0.5s,baz=66,slow=8.7,SNR=12						
	comp=Z,3.1nm,0.5s						
I28M	**Miner Creek**	**50.54**	**32**	P	**P**	**09 22 47.3**	**+2.7**
I30M	**Mount Dempster**	**52.05**	**32**	P	**P**	**09 22 58.4**	**+2.5**
I30M				IAmb	IAmb	09 23 13.7	
	comp=Z,4.6nm,1.4s						
G31M	**Satah River**	**52.54**	**30**	P	**P**	**09 23 01.1**	**+1.8**
G31M				IAmb	IAmb	09 23 09.7	
	comp=Z,5.3nm,1.4s						
KK31	**Karatay Array**	**52.68**	**299**	P	**P**	**09 22 58.7**	**-2.1**
KK31				IAmb	IAmb	09 23 01.1	
	comp=Z,2.2nm,0.8s						
KKAR	**Karatay Array**	**52.68**	**299**	P	**P**	**09 22 59.3**	**-1.5**
KKAR	**Karatay Array**	**52.68**	**299**	P	**P**	**09 22 58.9**	**-1.9**
KKAR				IAmb	IAmb	09 23 01.1	
	comp=Z,2.2nm,0.8s						
C36M	**Paulatuk**	**55.56**	**25**	P	**P**	**09 23 22.6**	**+1.4**
ABKAR	**Akbulak array**	**57.18**	**309**	P	**P**	**09 23 32.7**	**-0.4**
WRA	**Warramunga Arr**	**58.94**	**189**	P	**P**	**09 23 45.4**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=5.2,slow=7.0,SNR=24						
	comp=Z,0.9nm,0.5s						
ASAR	**Alice Springs**	**62.66**	**188**	P	**P**	**09 24 11.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=12,slow=6.1,SNR=7.8						
	comp=Z,0.4nm,0.5s						
FINES	**FINESS Array B**	**67.45**	**332**	P	**P**	**09 24 41.3**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=29,slow=11,SNR=10						
	comp=Z,1.4nm,0.6s						
HFS	**Hagfors**	**72.64**	**336**	P	**P**	**09 25 13.3**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=46,slow=8.5,SNR=6.0						
	comp=Z,1.4nm,0.8s						
NOA	**NORSAR Array B**	**72.71**	**337**	LR	LR	09 59 57.0	
	comp=Z,9.0nm,18.7s,baz=130,slow=38						
AKASG	**Malin Array Be**	**73.18**	**322**	P	**P**	**09 25 15.3**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=45,slow=6.2,SNR=4.4						
	comp=Z,0.5nm,0.3s						
CLL	**Collm**	**79.78**	**330**	*e*P	**P**	**09 25 54.0**	**-0.1**
DAVOX	**Davos/Dischmat**	**84.64**	**329**	LR	LR	10 07 11.7	
	comp=Z,31nm,18.0s,baz=266,slow=38						
TXAR	**Lajitas Array**	**88.60**	**53**	P	**P**	**09 26 39.9**	**+0.5**
	comp=Z,0.1nm,0.6s,baz=316,slow=2.5,SNR=1.8						
	comp=Z,0.1nm,0.6s						

IDC 14 09:55:40.7±8.0, 30°.28S×178°.03W, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=331.9km s-min=62.4km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.09**	**267**	P	P	10 03 42.6	-0.2
	0.3nm,0.8s,baz=105,slow=7.4,SNR=1.9						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**44.06**	**272**	P	P	10 03 50.5	-0.1
	0.2nm,0.5s,baz=110,slow=8.0,SNR=6.1						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**145.02**	**340**	PKPbc	PKPbc	10 15 17.8	-0.8
	0.3nm,0.6s,baz=64,slow=6.3,SNR=4.1						

*IDC **14** 10:07:06.4±1.6, 61°.65N×151°.80W, h64km±16km, mb3.1/4, mbtmp3.6/7, MS2.6/2, Error ellipse: s-maj=26.3km s-min=9.5km az=108.0*

*NEIC **14** 10:07:08.7±1.1, 61°.62N±0°.03×151°.60W±0°.06, h82km±4km, Error ellipse: s-maj=4.5km s-min=4.3km az=139.0*

*AEIC **14** 10:07:09.7±1.0, 61°.63N±0°.03×151°.55W±0°.05, h78km±4km, ML3.2, ML3.4/214(NEIC), Error ellipse: s-maj=4.2km s-min=3.5km az=213.0*

ISC 14 10:07:08.4±0.7, 61°.62N±0°.03×151°.59W±0°.04, h85km±5km, n414, σ0$70/432, mb3.5/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.17**	**224**		**Pn**	**10 07 20.7**	**-0.1**
STLK					**Sn**	**10 07 29.6**	**-0.3**
SKT	**Skwentna**	**0.36**	**4**	Pn	**Pn**	**10 07 21.3**	**-0.3**
SKT					**Sn**	**10 07 31.4**	**-0.1**
SKT				IAML		10 07 31.8	
	comp=E,2μm,0.3s						
SKT	**Skwentna**	**0.36**	**4**	P	**Pn**	**10 07 21.6**	**-0.1**
	baz=181						
SKT				S	**Sn**	**10 07 31.4**	**-0.1**
	baz=181						
SPCG	**Spurr Capps Gl**	**0.39**	**212**		**Pn**	**10 07 21.8**	**-0.1**
SPCG					**Sn**	**10 07 31.5**	**-0.5**
SUA	**Susitna One**	**0.43**	**111**	Pn	**Pn**	**10 07 22.8**	**+0.5**
SUA					**Sn**	**10 07 33.0**	**+0.4**
SUA				IAML		10 07 33.9	
	comp=E,1μm,0.8s						
SUA				IAML		10 07 34.6	
	comp=N,1μm,0.4s						
SUA	**Susitna One**	**0.43**	**111**	P	**Pn**	**10 07 22.8**	**+0.5**
	baz=295						
SPCP	**Crater Peak Br**	**0.45**	**217**		**Pn**	**10 07 22.4**	**0.0**
SPCP					**Sn**	**10 07 32.6**	**-0.2**
SPCN	**Chakachatna No**	**0.49**	**216**		**Pn**	**10 07 22.8**	**+0.1**
SPU	**Mount Spurr**	**0.49**	**207**		**Pn**	**10 07 22.5**	**-0.2**
SPU					**Sn**	**10 07 33.0**	**-0.3**
SPU				IAML		10 07 33.8	
	comp=N,2μm,0.6s						
SPU				IAML		10 07 33.8	
	comp=E,2μm,0.4s						
N20K	**Mount Spurr**	**0.52**	**215**	P	**Pn**	**10 07 22.7**	**-0.2**
	baz=36						
N20K				S	**Sn**	**10 07 33.3**	**-0.3**
	baz=36						
SPCR	**Spurr Chakacha**	**0.52**	**215**		**Pn**	**10 07 22.7**	**-0.2**
SPCR					**Sn**	**10 07 33.4**	**-0.2**
SPBG	**Spurr Blockage**	**0.52**	**226**		**Pn**	**10 07 23.0**	**+0.1**
SPBG					**Sn**	**10 07 34.1**	**+0.4**
SPNN	**North Nagishla**	**0.59**	**245**		**Pn**	**10 07 23.8**	**+0.2**
SPNN					**Sn**	**10 07 35.6**	**+0.7**
M22K	**Willow**	**0.71**	**79**		**Pn**	**10 07 24.9**	**+0.4**
M22K	**Willow**	**0.71**	**79**	P	**Pn**	**10 07 24.9**	**+0.4**
	baz=261						
M20K	**Styx River**	**0.78**	**290**		**Pn**	**10 07 25.5**	**+0.1**
M20K					**Sn**	**10 07 38.1**	**+0.1**
M20K				IAML		10 07 38.7	
	comp=E,414nm,0.6s						
M20K	**Styx River**	**0.78**	**290**	P	**Pn**	**10 07 25.5**	**+0.1**
	baz=108						
M20K				S	**Sn**	**10 07 38.3**	**+0.2**
	baz=108						
FIS	**Fire Island**	**0.81**	**125**		**Pn**	**10 07 26.8**	**+1.1**
FIS				IAML		10 07 51.6	
	comp=E,1μm,0.5s						
CAPN	**Captain Cook N**	**0.88**	**166**		**Pn**	**10 07 28.4**	**+2.0**
CAPN					**Sn**	**10 07 40.1**	**+0.4**
CAPN	**Captain Cook N**	**0.88**	**166**	P	**Pn**	**10 07 28.3**	**+2.0**
	baz=348						
CUT	**Chulitna**	**1.00**	**38**		**Pn**	**10 07 28.5**	**+0.7**
CUT					**Sn**	**10 07 43.5**	**+1.2**
CUT	**Chulitna**	**1.00**	**38**	P	**Pn**	**10 07 28.5**	**+0.7**
	baz=219						
RC01	**Rabbit Creek A**	**1.04**	**120**	Pn	**Pn**	**10 07 28.7**	**+0.5**
RC01				IAML		10 07 46.2	
	comp=N,1μm,0.2s						
RC01				IAML		10 07 46.6	
	comp=E,1μm,0.5s						
RC01	**Rabbit Creek A**	**1.04**	**120**	P	**Pn**	**10 07 28.5**	**+0.3**
	baz=303						
RDT	**Redoubt**	**1.12**

M23K	Glacier View	1.85	83		Pn	10 07 37.9 -0.5
M23K	Glacier View	1.85	83	P	Pn	10 07 37.9 -0.5
	baz=267					
WAT1	Susitna Watana	1.87	48		Pn	10 07 38.9 +0.2
WAT1	Susitna Watana	1.87	48	P	Pn	10 07 39.0 +0.2
	baz=231					
BRLK	Bradley Lake	1.90	169		Pn	10 07 40.4 +1.3
BRSE	Bradley Lake S	1.93	167		Pn	10 07 40.7 +1.1
BRSE	Bradley Lake S	1.93	167	P	Pn	10 07 40.7 +1.1
	baz=349					
O19K	Port Alsworth	1.96	224		Pn	10 07 40.2 +0.4
O19K				IAML		10 08 12.9
	comp=N,247nm,0.5s					
O19K				IAML		10 08 19.3
	comp=E,227nm,0.5s					
O19K	Port Alsworth	1.96	224	P	Pn	10 07 40.2 +0.4
	baz=42					
KTH	Kantishna Hill	1.96	9		Pn	10 07 40.4 +0.4
KTH				IAML		10 08 07.0
	comp=E,426nm,0.7s					
KTH				IAML		10 08 07.6
	comp=N,344nm,0.7s					
HOM	Homer	1.97	181		Pn	10 07 41.2 +1.2
HOM	Homer	1.97	181	P	Pn	10 07 40.9 +0.9
	baz=1.5					
SVW2	Sparrevohn	1.99	256	P	Pn	10 07 40.2 -0.1
SVW2	Sparrevohn	1.99	256		Pn	10 07 40.3 0.0
SVW2				IAML		10 08 04.8
	comp=E,113nm,0.7s					
M18K	Stony River	2.03	268		Pn	10 07 41.0 +0.2
M18K	Stony River	2.03	268	P	Pn	10 07 41.0 +0.2
	baz=84					
SCM	Sheep Creek Mo	2.04	82		Pn	10 07 40.6 -0.4
SCM	Sheep Creek Mo	2.04	82	P	Pn	10 07 40.5 -0.5
	baz=266					
WAT6	Susitna Watana	2.05	60		Pn	10 07 41.1 -0.1
WAT6	Susitna Watana	2.05	60	P	Pn	10 07 41.1 -0.1
	baz=244					
K20K	Telida	2.09	328		Pn	10 07 41.6 +0.1
K20K	Telida	2.09	328	P	Pn	10 07 41.7 +0.1
	baz=145					
CNPM	China Poot	2.11	175	Pn	Pn	10 07 42.5 +0.6
P19K	Oil Pt	2.13	203	Pn	Pn	10 07 43.0 +0.8
P19K	Oil Pt	2.13	203	P	Pn	10 07 43.0 +0.8
	baz=22					
RND	Reindeer	2.20	34	Pn	Pn	10 07 43.0 -0.1
RND				IAML		10 08 12.3
	comp=E,218nm,0.4s					
RND				IAML		10 08 14.3
	comp=N,186nm,0.4s					
N18K	Kilae Creek	2.29	248	Pn	Pn	10 07 44.4 +0.1
N18K	Kilae Creek	2.29	248	P	Pn	10 07 44.4 +0.1
	baz=64					
CHUM	Lake Minchumin	2.29	352		Pn	10 07 44.5 +0.2
CHUM	Lake Minchumin	2.29	352	P	Pn	10 07 44.5 +0.2
	baz=171					
GLI	Glacier Island	2.30	107		Pn	10 07 42.6 -1.7
GLI				IAML		10 08 26.3
	comp=N,322nm,0.5s					
GLI	Glacier Island	2.30	107	P	Pn	10 07 42.8 -1.5
	baz=291					
AU22	Augustine Moun	2.42	202		Pn	10 07 47.1 +1.1
AUL	Augustine Lava	2.42	203		Pn	10 07 46.9 +0.8
DHY	Denali Highway	2.45	52	Pn	Pn	10 07 46.3 -0.2
DHY				IAML		10 08 20.5
	comp=E,323nm,0.7s					
DHY				IAML		10 08 21.1
	comp=N,190nm,0.5s					
DHY	Denali Highway	2.45	52	P	Pn	10 07 46.4 0.0
	baz=235					
MCK	McKinley	2.45	29		Pn	10 07 46.6 +0.2
MCK	McKinley	2.45	29	P	Pn	10 07 46.6 +0.2
	baz=211					
TTA	Tatalina	2.45	304	Pn	Pn	10 07 46.2 -0.3
TTA	Tatalina	2.45	304	P	Pn	10 07 46.4 -0.1
	baz=120					
L18K	Granite Mounta	2.49	286	Pn	Pn	10 07 47.1 +0.2
L18K	Granite Mounta	2.49	286	P	Pn	10 07 47.1 +0.2
	baz=101					
BPAW	Bear Paw Mtn.	2.50	6	Pn	Pn	10 07 46.8 -0.3
BPAW				IAML		10 08 18.8
	comp=E,198nm,0.3s					
BPAW				IAML		10 08 19.1
	comp=N,147nm,0.3s					
BPAW	Bear Paw Mtn.	2.50	6	P	Pn	10 07 47.1 0.0
	baz=186					
O18K	Koktuh Hills	2.51	227	Pn	Pn	10 07 47.7 +0.5
O18K				IAML		10 08 19.4
	comp=N,71nm,0.7s					
O18K	Koktuh Hills	2.51	227	P	Pn	10 07 47.7 +0.5
	baz=44					
M24K	Tolsona, Glenn	2.61	77	Pn	Pn	10 07 48.9 +0.3
M24K	Tolsona, Glenn	2.61	77	P	Pn	10 07 48.9 +0.3
	baz=262					
P23K	Montague Islan	2.62	127		Pn	10 07 47.1 -1.5
P23K	Montague Islan	2.62	127	P	Pn	10 07 47.5 -1.1
	baz=311					
FID	Port Fidalgo	2.62	107		Pn	10 07 46.7 -2.0
FID				IAML		10 08 29.5
	comp=N,200nm,0.4s					
KLU	Klutina	2.71	90		Pn	10 07 48.8 -1.2
KLU				IAML		10 08 34.5
	comp=E,243nm,0.6s					
KLU				IAML		10 08 35.5
	comp=N,235nm,0.4s					
KLU	Klutina	2.71	90	P	Pn	10 07 48.9 -1.2
	baz=276					
BWN	Browne	2.74	20		Pn	10 07 51.2 +1.0
BWN				IAML		10 08 47.0
	comp=N,176nm,0.5s					
BWN				IAML		10 08 55.0
	comp=E,166nm,0.8s					
M17K	Holitna River	2.81	268	Pn	Pn	10 07 51.4 +0.2
M17K				IAML		10 08 48.9
	comp=E,78nm,0.9s					
M17K				IAML		10 08 53.1
	comp=N,81nm,0.7s					
M17K	Holitna River	2.81	268	P	Pn	10 07 51.4 +0.2
	baz=83					
J20K	Nowinta River	2.82	337	Pn	Pn	10 07 51.6 +0.2
J20K				IAML		10 08 25.4
	comp=E,64nm,1.2s					
J20K				IAML		10 08 25.9
	comp=N,81nm,0.9s					
J20K	Nowinta River	2.82	337	P	Pn	10 07 51.5 +0.2
	baz=154					
DIV	Divide	2.84	97		Pn	10 07 50.4 -1.4
P18K	Big Mountain,	2.87	220	Pn	Pn	10 07 52.4 +0.4
P18K	Big Mountain,	2.87	220	P	Pn	10 07 52.5 +0.4
	baz=37					
Q19K	Cape Douglas,	2.89	202		Pn	10 07 52.9 +0.6
Q19K				IAML		10 09 04.7
	comp=N,205nm,0.8s					
Q19K	Cape Douglas,	2.89	202	P	Pn	10 07 52.8 +0.5
	baz=20					
N17K	Nushagak Hills	2.93	250	Pn	Pn	10 07 53.0 +0.1
N17K	Nushagak Hills	2.93	250	P	Pn	10 07 53.0 +0.1
	baz=65					
J18K	Innoko River	3.01	310	Pn	Pn	10 07 54.4 +0.5
J18K	Innoko River	3.01	310	P	Pn	10 07 54.3 +0.5
	baz=125					
J19K	Poorman	3.02	324	Pn	Pn	10 07 54.5 +0.5
J19K	Poorman	3.02	324	P	Pn	10 07 54.2 +0.2
	baz=140					
EYAK	Cordova Ski Ar	3.03	108	P	Pn	10 07 53.9 -0.3
EYAK	Cordova Ski Ar	3.03	108		Pn	10 07 53.9 -0.3
EYAK	Cordova Ski Ar	3.03	108	P	Pn	10 07 53.5 -0.7
	baz=294					
Q20K	Shuyak Island	3.05	188	P	Pn	10 07 55.1 +0.7
	baz=7.6					
SYI	Shuyak Island	3.05	188	Pn	Pn	10 07 55.3 +0.9
SYI				IAML		10 08 37.6
	comp=N,180nm,0.8s					
SYI				IAML		10 08 38.3
	comp=E,179nm,0.7s					
HARP	HAARP	3.13	73		Pn	10 07 56.0 +0.4
HARP	HAARP	3.13	73	P	Pn	10 07 56.0 +0.4
	baz=259					
PAX	Paxson	3.16	62		Pn	10 07 56.3 +0.2
PAX	Paxson	3.16	62	P	Pn	10 07 56.3 +0.2
	baz=247					
NEA2	Nenana	3.19	20		Pn	10 07 55.7 -0.7
NEA2				IAML		10 08 33.8
	comp=N,73nm,0.5s					
NEA2				IAML		10 08 34.2
	comp=E,76nm,0.3s					
NEA2	Nenana	3.19	20	P	Pn	10 07 55.7 -0.7
	baz=202					
L17K	Donlin	3.22	282		Pn	10 07 57.0 +0.3
L17K	Donlin	3.22	282	P	Pn	10 07 57.0 +0.3
	baz=96					
WRH	Wood River Hil	3.27	28		Pn	10 07 57.0 -0.5
WRH				IAML		10 08 40.1
	comp=E,82nm,0.5s					
WRH				IAML		10 08 40.9
	comp=N,62nm,0.6s					
O17K	Koliganek Bris	3.28	238		Pn	10 07 58.1 +0.6
O17K	Koliganek Bris	3.28	238	P	Pn	10 07 58.1 +0.6
	baz=53					
K17K	Iditarod	3.33	292		Pn	10 07 59.0 +0.7
K17K	Iditarod	3.33	292	P	Pn	10 07 58.8 +0.5
	baz=106					
N25K	Chitina, Valde	3.34	87	Pn	Pn	10 07 57.8 -0.6
N25K				IAML		10 08 50.7
	comp=E,125nm,0.6s					
N25K	Chitina, Valde	3.34	87	P	Pn	10 07 57.4 -1.0
	baz=274					
P17K	Kvichak River	3.42	227		Pn	10 08 00.4 +1.0
P17K	Kvichak River	3.42	227	P	Pn	10 08 00.4 +1.0
	baz=43					
BMRM	Bremner River	3.43	98	P	Pn	10 07 58.2 -1.5
	baz=284					
KAHC	Katmai Hardscr	3.44	211		Pn	10 08 00.4 +0.6
KAHC	Katmai Hardscr	3.44	211		Pn	10 08 00.1 +0.3
KAHC	Katmai Hardscr	3.44	211	P	Pn	10 08 00.4 +0.6
	baz=28					
Q18K	Katmai Hardscr	3.44	211	P	Pn	10 08 00.1 +0.3
	baz=28					
I20K	Naaghedeneel	3.44	339	Pn	Pn	10 07 59.8 0.0
I20K				IAML		10 09 06.6
	comp=E,127nm,0.7s					
I20K				IAML		10 09 28.8
	comp=N,120nm,0.7s					
I20K	Naaghedeneel	3.44	339	P	Pn	10 08 00.2 +0.5
	baz=156					
MLY	Manley	3.44	6	Pn	Pn	10 07 59.8 -0.1
MLY				IAML		10 08 39.3
	comp=N,66nm,0.9s					
MLY				IAML		10 08 56.8
	comp=E,45nm,0.5s					
MLY	Manley	3.44	6	P	Pn	10 07 59.7 -0.1
	baz=186					
WACK	Wrangell Chich	3.47	81		Pn	10 08 00.0 -0.3
KAHG	Katmai Hook Gl	3.47	207		Pn	10 08 00.8 +0.6
CCB	Clear Creek Bu	3.49	28		Pn	10 07 59.7 -0.6
CCB				IAML		10 08 46.1
	comp=E,46nm,0.5s					
CCB				IAML		10 09 04.7
	comp=N,37nm,0.5s					
GOAT	Goat Mountain	3.49	104		Pn	10 07 58.9 -1.6
HDA	Harding Lake	3.51	35		Pn	10 08 00.3 -0.3
HDA				IAML		10 08 43.1
	comp=E,117nm,0.5s					
HDA				IAML		10 09 05.5
	comp=N,134nm,0.4s					
HDA	Harding Lake	3.51	35	P	Pn	10 08 00.5 -0.1
	baz=219					
WASW	Wrangell South	3.54	82		Pn	10 08 00.9 -0.4
WAZA	Wrangell Mount	3.56	79		Pn	10 08 01.6 +0.1
M16K	Timber Creek	3.60	264		Pn	10 08 02.3 +0.4
M16K	Timber Creek	3.60	264	P	Pn	10 08 02.3 +0.4
	baz=77					
N16K	Nishlik Lake	3.68	255		Pn	10 08 03.5 +0.5
N16K	Nishlik Lake	3.68	255	P	Pn	10 08 03.5 +0.5
	baz=68					
COLA	College	3.68	26	P	Pn	10 08 02.8 0.0
COLA	College	3.68	26		Pn	10 08 02.8 0.0
MDM	Murphy Dome	3.68	23	Pn	Pn	10 08 02.9 0.0
MDM				IAML		10 08 57.7
	comp=N,39nm,0.7s					
MDM				IAML		10 09 12.8
	comp=E,48nm,0.8s					
I23K	Minto, Yukon-K	3.68	15		Pn	10 08 03.0 0.0
I23K				IAML		10 08 49.4
	comp=E,33nm,0.8s					
I23K				IAML		10 09 05.4
	comp=N,46nm,0.8s					
I23K	Minto, Yukon-K	3.68	15	P	Pn	10 08 02.8 -0.1
	baz=197					
GLB	Gilahina Butte	3.73	89	Pn	Pn	10 08 03.1 -0.6
GLB				IAML		10 09 03.4
	comp=E,84nm,0.5s					
KVTA	Katmai Vly 10	3.74	211		Pn	10 08 04.7 +0.8
L16K	Owhat River	3.76	275		Pn	10 08 04.4 +0.3
L16K	Owhat River	3.76	275	P	Pn	10 08 04.2 +0.2
	baz=88					
O16K	Kokwok River B	3.80	240		Pn	10 08 05.0 +0.4
O16K	Kokwok River B	3.80	240	P	Pn	10 08 04.9 +0.4
	baz=55					
IL31		3.81	32		Pn	10 08 04.6 -0.1
ILAR	Eielson Array	3.81	32	Pn	Pn	10 08 04.4 -0.3
ILAR	Eielson Array	3.81	32	P	Pn	10 08 04.2 -0.5
	comp=E,27nm,0.4s,baz=220,slow=14,SNR=294					
ILAR				S	Sn	10 08 46.3 -2.1
	comp=E,12nm,0.6s,baz=212,slow=14,SNR=1.8					
KDAK	Kodiak Island	3.88	188	Pn	Pn	10 08 04.3 -1.4
KDAK				IAML		10 09 03.4
	comp=E,87nm,0.7s					
KDAK				IAML		10 09 04.4
	comp=E,71nm,0.7s					
KDAK	Kodiak Island	3.88	188	P	Pn	10 08 04.9 -0.8
	comp=E,14nm,0.3s,baz=60,slow=7.9,SNR=130					
KDAK				S	Sn	10 08 48.0 -2.1
	comp=E,22nm,0.3s,baz=326,slow=23,SNR=12					
KDAK				LR	LR	10 09 12.1
	comp=E,23nm,18.6s,baz=51,slow=32					
J17K	VABM Dome	3.90	300	Pn	Pn	10 08 06.1 +0.1
J17K	VABM Dome	3.90	300	P	Pn	10 08 06.0 +0.1
	baz=114					
ACHA	Angle Creek He	3.90	210		Pn	10 08 07.0 +0.9
VRDI	Verde Repeater	3.93	92	Pn	Pn	10 08 06.4 -0.1
VRDI				IAML		10 09 15.3
	comp=N,54nm,0.6s					
VRDI				IAML		10 09 16.3
	comp=E,36nm,0.5s					
ANCK	Angle Creek	3.96	212		Pn	10 08 07.6 +0.9
POKR	Poker Plat Res	3.98	26		Pn	10 08 07.1 +0.1
POKR				IAML		10 09 08.4
	comp=N,34nm,0.5s					
POKR				IAML		10 09 13.3
	comp=E,32nm,0.7s					
POKR	Poker Plat Res	3.98	26	P	Pn	10 08 07.0 0.0
	baz=210					
CNTC	Contact Creek	4.00	215		Pn	10 08 08.2 +0.8
Q17K	Contact Creek	4.00	215	P	Pn	10 08 08.2 +0.7
	baz=31					
DOT	Dot Lake	4.03	56		Pn	10 08 07.5 -0.1
H21K	Melozitna Rive	4.09	353	Pn	Pn	10 08 08.9 +0.5
H21K				IAML		10 08 56.9
	comp=E,34nm,1.1s					
H21K				IAML		10 08 59.3
	comp=N,35nm,0.7s					
H21K	Melozitna Rive	4.09	353	P	Pn	10 08 08.3 -0.2
	baz=172					
L26K	Log Cabin Wild	4.09	66		Pn	10 08 09.0 +0.4
L26K	Log Cabin Wild	4.09	66	P	Pn	10 08 08.6 0.0
	baz=254					
P16K	Nushagak River	4.11	234		Pn	10 08 09.8 +1.1
P16K	Nushagak River	4.11	234	P	Pn	10 08 09.8 +1.1
	baz=48					
MCARA	McCarthy VSAT	4.11	90		Pn	10 08 08.9 +0.1
MCARA	McCarthy VSAT	4.11	90	P	Pn	10 08 08.7 -0.1
	baz=277					
J25K	Salcha River,	4.12	41	Pn	Pn	10 08 09.4 +0.4
J25K				IAML		10 09 05.3
	comp=E,54nm,0.7s					
J25K				IAML		10 09 06.6
	comp=N,55nm,0.4s					
J25K	Salcha River,	4.12	41	P	Pn	10 08 08.8 -0.2
	baz=226					
M26K	Nabesna, AK	4.13	75	Pn	Pn	10 08 08.9 -0.2
M26K				IAML		10 09 21.1
	comp=E,66nm,0.5s					
M26K				IAML		10 09 24.7
	comp=N,81nm,0.6s					
M26K	Nabesna, AK	4.13	75	P	Pn	10 08 08.7 -0.4
	baz=263					
SUCK	Suckling Hills	4.13	109	Pn	Pn	10 08 08.6 -0.5
SUCK				IAML		10 09 20.1
	comp=E,38nm,0.8s					
SUCK				IAML		10 09 21.2
	comp=N,65nm,0.5s					
H20K	Anotleneega Mo	4.16	341		Pn	10 08 09.7 +0.3
H20K	Anotleneega Mo	4.16	341	P	Pn	10 08 09.7 +0.3
	baz=157					
CRQM	Cirque	4.18	98		Pn	10 08 09.4 -0.5
SCRK	Sand Creek	4.21	53	Pn	Pn	10 08 10.3 0.0
SCRK				IAML		10 09 08.0
	comp=N,62nm,0.8s					
SCRK				IAML		10 09 08.0
	comp=E,45nm,0.8s					
SCRK	Sand Creek	4.21	53	P	Pn	10 08 10.0 -0.3
	baz=239					
KHIT	Khitrov Hills	4.22	103		Pn	10 08 09.9 -0.6
H22K	Ishtalitna Cre	4.29	1		Pn	10 08 11.3 +0.1
H22K	Ishtalitna Cre	4.29	1	P	Pn	10 08 11.3 +0.1
	baz=181					
H23K	Yukon River	4.32	11		Pn	10 08 12.1 +0.5
H23K				IAML		10 09 01.7
	comp=N,38nm,0.7s					
H23K				IAML		10 09 02.1
	comp=E,33nm,0.7s					
H23K	Yukon River	4.32	11	P	Pn	10 08 11.7 +0.1
	baz=193					
R18K	Karluk	4.32	201		Pn	10 08 12.2 +0.6
R18K	Karluk	4.32	201	P	Pn	10 08 12.2 +0.6
	baz=19					
TGL	Tana Glacier	4.33	98		Pn	10 08 11.4 -0.5
N15K	Kwethluk River	4.40	254	Pn	Pn	10 08 13.6 +0.9
N15K				IAML		10 09 34.1
	comp=N,30nm,1.1s					
N15K				IAML		10 09 37.0
	comp=E,25nm,0.7s					
N15K	Kwethluk River	4.40	254	P	Pn	10 08 13.4 +0.6
	baz=67					
PTPK	Patty Peak	4.41	92		Pn	10 08 12.9 -0.1
WAX	Waxell Ridge	4.41	102	Pn	Pn	10 08 11.3 -1.6
H19K	Roundabout Mou	4.48	333	Pn	Pn	10 08 14.2 +0.4
H19K	Roundabout Mou	4.48	333	P	Pn	10 08 14.1 +0.4
	baz=148					
IMAR	Indian Mountai	4.48	349		Pn	10 08 14.1 +0.3
BALM	Baldy	4.49	93		Pn	10 08 13.8 -0.2
OHAK	Old Harbor	4.50	192	P	Pn	10 08 13.2 -0.8
OHAK	Old Harbor	4.50	192	Pn	Pn	10 08 13.4 -0.7
OHAK				IAML		10 09 18.0
	comp=E,25nm,0.7s					
OHAK				IAML		10 09 22.3
	comp=N,30nm,0.8s					
OHAK	Old Harbor	4.50	192	P	Pn	10 08 14.4 +0.4
	baz=11					
M15K	Kasigluk River	4.50	262		Pn	10 08 14.2 +0.1
M15K	Kasigluk River	4.50	262	P	Pn	10 08 14.5 +0.4
	baz=74					
J16K	Anvik River	4.51	296	Pn	Pn	10 08 14.8 +0.6
J16K	Anvik River	4.51	296	P	Pn	10 08 14.4 +0.3
	baz=107					
PLK5	Peulik 5	4.51	219		Pn	10 08 15.8 +1.6
H24K	Noodor Dome	4.54	20	Pn	Pn	10 08 14.8 +0.1
H24K				IAML		10 09 07.1
	comp=E,26nm,0.8s					
H24K				IAML		10 09 07.1
	comp=N,22nm,0.6s					
H24K	Noodor Dome	4.54	20	P	Pn	10 08 15.1 +0.4
	baz=203					
PLK2	Peulik 2	4.55	214		Pn	10 08 16.1 +1.3
BARK	Barkley Ridge	4.59	101		Pn	10 08 14.1 -1.3
PLK1	Peulik 1	4.60	216		Pn	10 08 16.4 +1.1
ISLE	Juniper Island	4.60	99	Pn	Pn	10 08 14.4 -1.2
ISLE				IAML		10 09 28.5
	comp=E,57nm,0.7s					
M27K	Edge Creek, AK	4.64	77		Pn	10 08 16.3 +0.2
M27K				IAML		10 09 41.2
	comp=E,23nm,0.9s					
M27K				IAML		10 09 43.5
	comp=N,25nm,1.1s					
M27K	Edge Creek, AK	4.64	77	P	Pn	10 08 16.5 +0.4
	baz=265					
J26L	Joseph Creek	4.66	48	Pn	Pn	10 08 16.7 +0.5
J26L	Joseph Creek	4.66	48	P	Pn	10 08 16.4 +0.1
	baz=235					
H18K	Honhosa River	4.67	322		Pn	10 08 17.2 +0.7
H18K	Honhosa River	4.67	322	P	Pn	10 08 17.1 +0.7
	baz=136					
PLK4	Peulik 4	4.68	213		Pn	10 08 17.9 +1.3
R17L	Mt. Peulik Vol	4.68	213	P	Pn	10 08 17.8 +1.3
	baz=29					
L15K	Ungalak Mounta	4.72	275		Pn	10 08 17.5 +0.4
L15K	Ungalak Mounta	4.72	275	P	Pn	10 08 17.5 +0.4
	baz=86					
K15K	Wolf Creek Mou	4.74	283		Pn	10 08 18.1 +0.7
K15K	Wolf Creek Mou	4.74	283	P	Pn	10 08 18.0 +0.6
	baz=94					
BAGL	Bagley Icefiel	4.75	100		Pn	10 08 16.7 -0.8
PRP	Porcupine Dome	4.76	32	Pn	Pn	10 08 18.5 +0.8
PRP				IAML		10 09 13.4
	comp=N,37nm,0.4s					
PRP				IAML		10 09 13.9
	comp=E,37nm,0.7s					
PRP	Porcupine Dome	4.76	32	P	Pn	10 08 18.4 +0.8
	baz=217					
I17K	Unalakleet	4.76	302	Pn	Pn	10 08 18.1 +0.5
I17K	Unalakleet	4.76	302	P	Pn	10 08 18.2 +0.6
	baz=114					
O15K	Ungalikthiuk R	4.76	243		Pn	10 08 18.4 +0.7
O15K	Ungalikthiuk R	4.76	243	P	Pn	10 08 18.4 +0.7
	baz=55					
L27K	Beaver Creek,	4.77	68	Pn	Pn	10 08 17.6 -0.3
L27K				IAML		10 09 39.3
	comp=E,14nm,0.8s					
L27K				IAML		10 09 48.5
	comp=N,24nm,1.1s					
L27K	Beaver Creek,	4.77	68	P	Pn	10 08 17.5 -0.3
	baz=257					
BCAR	Beaver Creek A	4.79	68	Pn	Pn	10 08 17.8 -0.3
GRNC	Granite Creek	4.84	96		Pn	10 08 18.4 -0.6
GRNC				IAML		10 09 34.7
	comp=N,41nm,0.6s					
GRNC				IAML		10 09 40.7
	comp=E,26nm,0.8s					
G21K	Allakaket	4.99	351		Pn	10 08 21.1 +0.4
G21K				IAML		10 09 19.2
	comp=E,20nm,0.7s					
G21K				IAML		10 09 21.6
	comp=N,21nm,0.6s					
G21K	Allakaket	4.99	351	P	Pn	10 08 20.8 +0.1
	baz=169					
K27K	Chicken	4.99	57		Pn	10 08 20.3 -0.4
K27K	Chicken	4.99	57	IAML		10 09 26.8
	comp=N,26nm,0.8s					
K27K				IAML		10 09 49.0
	comp=E,21nm,0.9s					
K27K	Chicken	4.99	57	P	Pn	10 08 20.3 -0.4
	baz=245					
CTG	Chitna Glacier	4.99	93	P	Pn	10 08 20.3 -0.6
	baz=282					
CTGM	Chitina Glacie	4.99	93		Pn	10 08 20.5 -0.4
CTGM				IAML		10 09 40.8
	comp=N,43nm,0.6s					
CTGM				IAML		10 09 41.8
	comp=E,22nm,0.8s					
H17K	Granite Mounta	5.02	315	Pn	Pn	10 08 22.1 +1.0
H17K	Granite Mounta	5.02	315	P	Pn	10 08 20.8 -0.3
	baz=128					
M14K	Bethel	5.09	265	Pn	Pn	10 08 22.5 +0.4
M14K				IAML		10 10 14.7
	comp=N,14nm,1.2s					
M14K				IAML		10 10 15.5
	comp=E,12nm,1.1s					
M14K	Bethel	5.09	265	P	Pn	10 08 22.7 +0.6
	baz=76					
YUK2	White River	5.12	83		Pn	10 08 22.1 -0.5
G19K	Purcell Mounta	5.15	334	Pn	Pn	10 08 23.1 +0.3
G19K	Purcell Mounta	5.15	334	P	Pn	10 08 23.2 +0.3
	baz=149					
G23K	Bananza Creek	5.16	7	Pn	Pn	10 08 24.1 +1.1
G23K				IAML		10 09 20.0
	comp=E,14nm,0.6s					
G23K				IAML		10 09 22.5
	comp=N,21nm,0.6s					
G23K	Bananza Creek	5.16	7	P	Pn	10 08 23.1 0.0
	baz=188					
LOGN	Logan Glacier	5.18	94		Pn	10 08 22.7 -0.8
LOGN				IAML		10 09 49.6
	comp=N,27nm,0.5s					
LOGN				IAML		10 09 53.6
	comp=E,25nm,1.0s					
SII	Sitkinak Islan	5.25	196	P	Pn	10 08 25.7 +1.4
SII	Sitkinak Islan	5.25	196	Pn	Pn	10 08 24.4 0.0

SII	Sitkinak Islan	5.25	196	P	Pn	10 08 24.0	-0.3
	baz=14						
I26K	Coal Creek Min	5.29	42	Pn	Pn	10 08 25.2	+0.4
I26K	Coal Creek Min	5.29	42	P	Pn	10 08 24.9	+0.2
	baz=229						
YUK3	Moose Creek	5.30	83		Pn	10 08 24.7	-0.4
YUK3	Moose Creek	5.30	83	P	Pn	10 08 24.7	-0.4
	baz=273						
G18K	Tagagawik	5.31	327		Pn	10 08 25.9	+0.8
G18K	Tagagawik	5.31	327	P	Pn	10 08 25.9	+0.8
	baz=140						
H25L	Birch Creek	5.31	26		Pn	10 08 26.0	+1.0
H25L	Birch Creek	5.31	26	P	Pn	10 08 25.8	+0.7
	baz=211						
L14K	Kuka Creek	5.33	272		Pn	10 08 26.3	+1.0
L14K	Kuka Creek	5.33	272	IAML		10 10 29.1	
	comp=E,13nm,1.1s						
L14K				IAML		10 11 10.2	
	comp=N,13nm,1.2s						
L14K	Kuka Creek	5.33	272	P	Pn	10 08 26.1	+0.9
	baz=82						
O14K	Tigyukauivet M	5.35	248	Pn	Pn	10 08 26.3	+0.7
O14K				IAML		10 10 05.5	
	comp=N,14nm,1.1s						
O14K				IAML		10 10 17.9	
	comp=E,11nm,0.8s						
O14K	Tigyukauivet M	5.35	248	P	Pn	10 08 26.6	+1.0
	baz=59						
G24K	Hadweenzic Riv	5.41	18		Pn	10 08 26.8	+0.4
G24K	Hadweenzic Riv	5.41	18	IAML		10 09 27.4	
	comp=N,16nm,0.7s						
G24K				IAML		10 09 28.8	
	comp=E,12nm,0.7s						
G24K	Hadweenzic Riv	5.41	18	P	Pn	10 08 26.8	+0.4
	baz=201						
O28M	Mount Upton	5.58	94		Pn	10 08 29.2	+0.2
O28M	Mount Upton	5.58	94	P	Pn	10 08 29.5	+0.5
	baz=284						
G17K	Kiwalik Mounta	5.62	318		Pn	10 08 30.0	+0.8
G17K	Kiwalik Mounta	5.62	318	P	Pn	10 08 30.0	+0.8
	baz=130						
COLD	Coldfoot	5.66	5	Pn	Pn	10 08 30.6	+0.7
COLD	Coldfoot	5.66	5	P	Pn	10 08 30.6	+0.7
	baz=186						
EGAK	Eagle	5.68	52		Pn	10 08 29.9	-0.2
EGAK	Eagle	5.68	52	P	Pn	10 08 29.7	-0.5
	baz=241						
F21K	Alatna River	5.68	353	Pn	Pn	10 08 31.1	+1.0
F21K	Alatna River	5.68	353	P	Pn	10 08 30.9	+0.8
	baz=171						
FYU	Fort Yukon	5.69	27	Pn	Pn	10 08 31.0	+0.8
G25K	Bearman Lake	5.69	22		Pn	10 08 31.0	+0.8
G25K	Bearman Lake	5.69	22	P	Pn	10 08 31.0	+0.8
	baz=207						
J14K	Nanvaranak Lak	5.72	287		Pn	10 08 31.3	+0.7
J14K	Nanvaranak Lak	5.72	287	P	Pn	10 08 31.3	+0.7
	baz=96						
F20K	Avaraart Lake	5.74	344	Pn	Pn	10 08 31.8	+0.9
F20K	Avaraart Lake	5.74	344	P	Pn	10 08 31.8	+0.9
	baz=160						
PCA	Pinnacle	5.75	100	Pn	Pn	10 08 30.8	-0.3
PINM	Pinnacle	5.75	100	P	Pn	10 08 30.2	-1.0
	baz=290						
F19K	Shaleruckik Mo	5.88	335		Pn	10 08 33.6	+0.8
F19K	Shaleruckik Mo	5.88	335	P	Pn	10 08 33.6	+0.8
	baz=150						
I27K	Kandik River	5.98	44		Pn	10 08 34.2	0.0
I27K	Kandik River	5.98	44	P	Pn	10 08 34.2	0.0
	baz=233						
DAWY	Dawson	6.10	61		Pn	10 08 36.0	+0.1
DAWY	Dawson	6.10	61	P	Pn	10 08 35.7	-0.1
	baz=252						
F24K	Squaw Lake	6.13	13	Pn	Pn	10 08 37.5	+1.2
F24K	Squaw Lake	6.13	13	P	Pn	10 08 36.7	+0.4
	baz=197						
M29M	Somme Creek	6.23	77	Pn	Pn	10 08 38.0	+0.3
M29M	Somme Creek	6.23	77	P	Pn	10 08 37.8	+0.1
	baz=268						
PNL	Peninsula	6.31	103	P	Pn	10 08 38.6	-0.1
PNL	Peninsula	6.31	103		Pn	10 08 38.1	-0.7
PNL	Peninsula	6.31	103	P	Pn	10 08 38.1	-0.7
	baz=294						
G26K	Porcupine Rive	6.33	29		Pn	10 08 39.0	+0.1
G26K	Porcupine Rive	6.33	29	P	Pn	10 08 39.5	+0.6
	baz=216						
E19K	Redstone River	6.34	340	Pn	Pn	10 08 40.2	+1.1
E19K	Redstone River	6.34	340	P	Pn	10 08 38.7	-0.4
	baz=155						
CHGN	Chignik	6.39	216	Pn	Pn	10 08 40.2	+0.3
H27K	Steamboat Moun	6.40	39		Pn	10 08 40.0	0.0
H27K	Steamboat Moun	6.40	39	P	Pn	10 08 40.0	0.0
	baz=228						
L29M	L29M	6.44	71	Pn	Pn	10 08 40.7	+0.2
L29M	L29M	6.44	71	P	Pn	10 08 39.5	-1.0
	baz=263						
I28M	Miner Creek	6.47	49	Pn	Pn	10 08 40.9	0.0
I28M	Miner Creek	6.47	49	P	Pn	10 08 40.8	-0.2
	baz=239						
F25K	Christian Rive	6.52	20		Pn	10 08 41.7	+0.2
F25K	Christian Rive	6.52	20	P	Pn	10 08 41.0	-0.6
	baz=206						
E23K	Chandalar	6.52	7		Pn	10 08 43.0	+1.4
E23K	Chandalar	6.52	7	P	Pn	10 08 42.1	+0.5
	baz=188						
BMAR	Burnt Mountain	6.56	24		Pn	10 08 42.8	+0.6
E24K	Your Creek	6.61	10	Pn	Pn	10 08 44.2	+1.4
E24K	Your Creek	6.61	10	P	Pn	10 08 44.0	+1.1
	baz=193						
G27K	Doyon Strip	6.77	35	Pn	Pn	10 08 45.2	+0.2
G27K	Doyon Strip	6.77	35	P	Pn	10 08 45.0	+0.1
	baz=224						
K29M	Barlow Dome	6.84	65	Pn	Pn	10 08 45.7	-0.3
K29M	Barlow Dome	6.84	65	P	Pn	10 08 46.0	0.0
	baz=257						
HYT	Haines Junctio	6.85	90	Pn	Pn	10 08 46.0	-0.2
HYT	Haines Junctio	6.85	90	P	Pn	10 08 45.6	-0.6
	baz=283						
F26K	Sheenjek River	6.88	24		Pn	10 08 46.6	+0.1
F26K	Sheenjek River	6.88	24	P	Pn	10 08 46.6	+0.1
	baz=211						
N30M	Aishikik Lake	6.93	85		Pn	10 08 46.3	-1.0
N30M	Aishikik Lake	6.93	85	P	Pn	10 08 46.0	-1.2
	baz=278						
E25K	Arctic Village	7.01	19		Pn	10 08 48.8	+0.6
E25K	Arctic Village	7.01	19	P	Pn	10 08 48.5	+0.3
	baz=204						
M30M	Minto, Yukon	7.01	76	Pn	Pn	10 08 48.0	-0.3
M30M	Minto, Yukon	7.01	76	P	Pn	10 08 48.4	+0.1
	baz=269						
I29M	Ogilvie Camp,	7.02	52		Pn	10 08 48.1	-0.3
P29M	Windy Craggy	7.10	100		Pn	10 08 49.5	0.0
F15K	North Star Dit	7.10	311	Pn	Pn	10 08 50.5	+1.0
H29M	Whitestone	7.42	46	Pn	Pn	10 08 53.8	0.0
H29M	Whitestone	7.42	46	P	Pn	10 08 53.0	-0.8
	baz=238						
J30M	Hart River	7.52	60	Pn	Pn	10 08 56.3	+1.0
J30M	Hart River	7.52	60	P	Pn	10 08 54.7	-0.6
	baz=254						
O30N	Mendenhall	7.54	90		Pn	10 08 54.2	-1.3
O30N	Mendenhall	7.54	90	P	Pn	10 08 54.2	-1.3
	baz=283						
N31M	Braeburn, Yuko	7.55	84	Pn	Pn	10 08 55.2	-0.5
I30M	Mount Dempster	7.71	55	Pn	Pn	10 08 57.5	-0.4
I30M	Mount Dempster	7.71	55	P	Pn	10 08 57.3	-0.6
	baz=249						
E27K	Coleen River	7.83	28	Pn	Pn	10 08 59.6	+0.2
E27K	Coleen River	7.83	28	P	Pn	10 08 58.6	-0.8
	baz=217						
F28M	Old Crow	7.83	35	Pn	Pn	10 08 59.8	+0.4
F28M	Old Crow	7.83	35	P	Pn	10 08 59.1	-0.3
	baz=225						
G29M	Pine Creek	7.93	42	Pn	Pn	10 09 01.0	+0.3
G29M	Pine Creek	7.93	42	P	Pn	10 09 00.5	-0.2
	baz=234						
D25K	Kavik River	8.03	13		Pn	10 09 02.3	+0.2
EPYK	Eagle Plains	8.07	47		Pn	10 09 01.8	-1.0
SKAG	Skagway	8.30	98	Pn	Pn	10 09 05.5	-0.3
G30M	tAoh Zraii Nji	8.55	44	Pn	Pn	10 09 08.6	-0.7
FARO	Faro, Yukon	8.62	78		Pn	10 09 10.3	+0.1
E28M	Babbage River	8.64	31	Pn	Pn	10 09 10.3	-0.1
C27K	Jago River	8.66	19		Pn	10 09 09.8	-0.9
C27K	Jago River	8.66	19	P	Pn	10 09 09.8	-0.9
	baz=206						
D27M	Malcolm River	8.82	25	Pn	Pn	10 09 13.4	+0.4
D27M	Malcolm River	8.82	25	P	Pn	10 09 11.3	-1.7
	baz=215						
E29M	Blow River	8.91	34	Pn	Pn	10 09 14.2	+0.2
E29M	Blow River	8.91	34	P	Pn	10 09 13.5	-0.5
	baz=227						
G31M	Satah River	9.20	47	Pn	Pn	10 09 16.7	-1.2
G31M	Satah River	9.20	47	P	Pn	10 09 16.7	-1.2
	baz=243						
P33M	Teslin, Yukon	9.25	90	Pn	Pn	10 09 18.6	-0.2
F31M	Tsiigehtchic	9.62	45		Pn	10 09 21.9	-1.8
F31M	Tsiigehtchic	9.62	45	P	Pn	10 09 21.9	-1.8
	baz=241						
Q32M	Nakina River	9.95	97	Pn	Pn	10 09 26.2	-2.3
INK	Inuvik	10.14	41	Pn	Pn	10 09 31.2	+0.4
INK	Inuvik	10.14	41	P	Pn	10 09 30.8	+0.1
	comp=E,3.1nm,0.5s,baz=236,slow=11,SNR=37						
INK				S	Sn	10 11 21.1	-1.3
	comp=E,0.4nm,0.4s,baz=99,slow=24,SNR=1.5						
DLBC	Dease Lake	11.23	97	LR	LR	10 13 52.5	
	comp=E,114nm,19.9s,baz=24,slow=36						
C36M	Paulatuk	13.67	44	Pn	Pn	10 10 15.0	-3.2
NVAR	Mina Array Bea	30.97	123	P	P	10 13 19.4	+1.9
	comp=E,0.2nm,0.4s,baz=323,slow=10,SNR=3.6						
	comp=E,0.2nm,0.4s						
TXAR	Lajitas Array	44.95	113	P	P	10 15 16.2	+1.4
	comp=E,0.1nm,0.5s,baz=335,slow=4.0,SNR=2.3						
	comp=E,0.1nm,0.5s						
SONM	Songino Array	54.40	306	P	P	10 16 26.8	+0.5
	comp=E,0.5nm,0.5s,baz=38,slow=7.5,SNR=3.1						
	comp=E,0.5nm,0.5s						
FINES	FINESS Array B	57.25	1	P	P	10 16 45.0	-1.2
	comp=E,1.0nm,1.0s,baz=348,slow=4.5,SNR=1.8						
	comp=E,1.0nm,1.0s						
QSPA	South Pole Qui	151.43	180	PKPbc	PKPbc	10 26 50.2	-0.4
	comp=E,1.2nm,0.7s,baz=182,slow=2.5,SNR=18						

MOS ***14*** *10:09:23.4±0.7, 43°.21N×144°.37E, h142km, mb4.2/1, Error ellipse: s-maj=16.2km s-min=10.7km az=83.5*
IDC ***14*** *10:09:25.0±1.3, 43°.30N×144°.36E, h140km±9km, mb3.5/19, mbtmp3.9/20, Error ellipse: s-maj=16.0km s-min=15.1km az=111.0*
NIED ***14*** *10:09:24.5, 43°.22N×144°.36E, h131km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr0.75; Mθθ0.51; Mφφ-1.26; Mrθ2.93; Mrφ-1.60; Mθφ0.96; Fault plane solution: M0 3.64000×10^14 NP1:φs69.00000°, δ83.00000°, λ119.00000°. NP2:φs171.00000°, δ30.00000°, λ14.00000°.*
JMA ***14*** *10:09:24.5±0.1, 43°.2N±0°.5×144°.4E±0°.7, h131km±1km, MV3.9/40, KUSHIRO REGION*
JMA Felt I J1 at KUSHIRO REGION .
SKHL ***14*** *10:09:25.2±0.3, 43°.30N×144°.40E, h130km±4km, mb4.6/1, msha5.4/3*

ISC 14 10:09:23.9±0.6, 43°.21N±0°.05×144°.38E±0°.04, h134km±5km, n57, σ0990/71, mb3.8/18, 9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	0.32	133	*i* P	Pn	10 09 42.8	+0.2
JAK				S	Sn	10 09 56.6	0.0
JNK	Nakash	0.45	33	⇓P	Pn	10 09 43.5	+0.3
JNK				⇓*e*S	Sn	10 09 57.6	-0.2
JAR	Ashorobuto	0.45	281	⇓*i*P	Pn	10 09 43.7	+0.5
JAR				⇓S	Sn	10 09 57.7	-0.1
JOB	Onbets	0.50	233	*i* P	Pn	10 09 44.1	+0.7
JOB				S	Sn	10 09 58.6	+0.4
JKHN	Kushirohamanak	0.59	102	*i* P	Pn	10 09 44.3	+0.4
JKHN				S	Sn	10 09 59.1	0.0
JTKR	Abashiri--Toko	0.83	336	*i* P	Pn	10 09 46.1	+0.4
JTKR				S	Sn	10 10 02.0	-0.3
JRA	Rausu	0.91	36	⇓*i*P	Pn	10 09 46.7	+0.4
JRA				⇓*e*S	Sn	10 10 03.9	+0.5
JCH	Churui	0.96	232	*i* P	Pn	10 09 47.1	+0.3
JCH				S	Sn	10 10 03.5	-0.6
NEM2	Nemuro 2	1.01	81	*i* P	Pn	10 09 47.3	+0.1
NEM2				S	Sn	10 10 03.8	-1.1
JMP	Maruseppu	1.09	317	⇓*i*P	Pn	10 09 48.2	+0.2
RUSJ	Misakicho	1.09	35	*e*PN	Pn	10 09 48.6	+0.6
JFR	Furan	1.31	269	*i* P	Pn	10 09 50.4	+0.2
YUK	Yuzh-Kuril'sk	1.35	52	*e*P	Pn	10 09 51.2	+0.5
YUK				*e*S	Sn	10 10 11.0	-0.1
YUK				A	A	10 10 14.5	
	720nm,0.4s						
YUK				A	A	10 10 14.5	
	710nm,0.4s						
YUK	Yuzh-Kuril'sk	1.35	52	*e*PN	Pn	10 09 51.2	+0.5
YUK				*e*S	Sn	10 10 12.4	+1.3
YUK				smax	smax		
	comp=N,723nm,0.4s						
YUK				smax	smax		
	comp=E,712nm,0.2s						
JKK2	Kamakawa 2	1.36	300	⇓*i*P	Pn	10 09 51.1	+0.4
JEM	Erimo	1.50	217	P	Pn	10 09 52.4	+0.2
JNBK	Urakawa-nobuka	1.52	233	*i* P	Pn	10 09 52.5	+0.1
JNBK				S	Sn	10 10 12.9	-1.3
JBT2	Biratori 2	1.54	254	P	Pn	10 09 53.2	+0.5
JBT2				S	Sn	10 10 14.6	0.0
ASAJ	Asahikawa	1.58	306	P	Pn	10 09 54.0	+0.8
	comp=E,380nm,0.3s,baz=152,slow=10,SNR=1482						
ASAJ				S	Sn	10 10 16.3	+0.8
	comp=E,39nm,0.5s,baz=238,slow=34,SNR=1.1						
SHO	Shikotan	1.90	69	*e*P	Pn	10 09 56.8	0.0
SHO				*e*S	Sn	10 10 20.5	-1.6
SHO				A	A	10 10 21.0	
	comp=E,360nm,0.3s						
SHO				A	A	10 10 21.0	
	comp=E,380nm,0.3s						
SHO	Shikotan	1.90	69	*e*PN	Pn	10 09 56.8	0.0
SHO				*e*S	Sn	10 10 20.5	-1.6
SHO				smax	smax		
	comp=N,360nm,0.3s						
SHO				smax	smax		
	comp=E,384nm,0.3s						
JHR	Hokuryu	2.00	286	⇓P	Pn	10 09 59.1	+1.0
KUR	Kuril'sk	3.22	50	*e*P	Pn	10 10 14.6	+1.2
KUR				AMB	AMB	10 10 19.2	
	comp=E,30nm,0.3s						
KUR				*e*S	Sn	10 10 51.5	-0.2
KUR				A	A	10 10 58.0	
	comp=E,120nm,0.3s						
KUR				A	A	10 10 58.0	
	comp=E,80nm,0.3s						
KUR	Kuril'sk	3.22	50	*e*PN	Pn	10 10 14.6	+1.2
KUR				*e*S	Sn	10 10 54.5	+2.8
KUR				pmax	pmax		
	comp=Z,32nm,0.6s						
KUR				smax	smax		
	comp=E,89nm,0.4s						
KUR				smax	smax		
	comp=N,75nm,0.3s						
YSS	Yuzh-Sakhalins	3.92	343	*e*P	Pn	10 10 22.8	+0.3
YSS				AMB	AMB	10 10 27.3	
	comp=N,10.0nm,1.1s						
YSS				*e*S	Sn	10 11 07.1	-1.0
YSS				A	A	10 11 10.3	
	comp=N,30nm,1.3s						
YSS	Yuzh-Sakhalins	3.92	343	*e*PN	Pn	10 10 22.8	+0.3
YSS				*e*S	Sn	10 11 07.1	-1.0
YSS				pmax	pmax		
	comp=Z,1.0nm,1.1s						
YSS				pmax	pmax		
	comp=Z,30nm,1.3s						
MJAR	Matsushiro Arr	8.18	217	P	Pn	10 11 20.5	+0.8
	comp=Z,1.7nm,0.6s,baz=29,slow=12,SNR=14						
SEY	Seymchan	20.30	11	P	P	10 13 46.9	-1.9
	comp=Z,5.2nm,0.8s,baz=189,slow=9.3,SNR=17						
	comp=Z,5.2nm,0.8s						
SEY	Seymchan	20.30	11	*e*P	P	10 13 45.8	-3.0
SONM	Songino Array	26.82	293	P	P	10 14 52.5	+0.9
	comp=Z,1.2nm,0.6s,baz=81,slow=8.9,SNR=8.0						
	comp=Z,1.2nm,0.6s						
H11N2	WAKE ISLAND Hy	30.10	134	T	T	10 46 47.4	
	baz=328,slow=75,SNR=64						
H11N1	WAKE ISLAND Hy	30.11	134	T	T	10 46 48.3	
	baz=328,slow=75,SNR=53						
H11N3	WAKE ISLAND Hy	30.11	134	T	T	10 46 48.7	
	baz=328,slow=75,SNR=62						
H11S1	WAKE ISLAND Hy	31.01	136	T	T	10 47 56.5	
	baz=328,slow=76,SNR=122						
H11S3	WAKE ISLAND Hy	31.02	136	T	T	10 47 54.7	
	baz=328,slow=76,SNR=98						
H11S2	WAKE ISLAND Hy	31.03	136	T	T	10 47 55.9	
	baz=328,slow=76,SNR=80						
ZALV	Zalesovo Beam	39.71	307	P	P	10 16 42.8	0.0
	comp=Z,0.6nm,0.3s,baz=79,slow=8.0,SNR=4.0						
	comp=Z,0.6nm,0.3s						
MKAR	Makanchi Array	43.04	297	P	P	10 17 08.9	-1.2
	comp=Z,1.5nm,0.9s,baz=79,slow=8.8,SNR=5.7						
	comp=Z,1.5nm,0.9s						
ILAR	Eielson Array	43.11	36	P	P	10 17 10.8	+0.5
	comp=Z,2.3nm,1.1s,baz=256,slow=5.5,SNR=18						
	comp=Z,2.3nm,1.1s						
KURK	Kurchatov	44.15	304	P	P	10 17 19.7	+0.9
KURBB	Kurchatov Arra	44.24	304	P	P	10 17 19.7	+0.2
	comp=Z,1.7nm,0.6s,baz=71,slow=9.0,SNR=13						
	comp=Z,1.7nm,0.6s						
BVAR	Borovoye Array	48.28	309	P	P	10 17 51.6	+0.5
	comp=Z,1.6nm,0.4s,baz=81,slow=9.8,SNR=8.2						
	comp=Z,1.6nm,0.4s						
SPITS	Spitsbergen Ar	54.92	349	P	P	10 18 39.1	-0.9
	comp=Z,2.8nm,0.7s,baz=105,slow=11,SNR=1.5						
	comp=Z,2.8nm,0.7s						
ARCES	ARCESS Array B	59.04	339	P	P	10 19 09.3	+0.2
	comp=Z,0.6nm,0.6s,baz=44,slow=7.9,SNR=7.9						
	comp=Z,0.6nm,0.6s						
WRA	Warramunga Arr	63.52	191	P	P	10 19 40.2	+0.5
	comp=Z,0.6nm,1.0s,baz=8.5,slow=6.7,SNR=2.1						
	comp=Z,0.6nm,1.0s						
FINES	FINESS Array B	64.42	332	P	P	10 19 45.0	-0.3
	comp=Z,3.5nm,0.4s,baz=43,slow=7.8,SNR=51						
	comp=Z,3.5nm,0.4s						
FINES	FINESS Array B	64.42	332	P	P	10 19 45.0	-0.3
ASAR	Alice Springs	67.24	190	P	P	10 20 05.0	+1.3
	comp=Z,0.2nm,0.6s,baz=5.9,slow=6.7,SNR=4.9						
	comp=Z,0.2nm,0.6s						
ASAR	Alice Springs	67.24	190	P	P	10 20 05.0	+1.3
NB2	NORSAR Subarra	69.36	338	P	P	10 20 16.2	-0.3
	comp=Z,0.7nm,0.5s,baz=34,slow=6.5						
NOA	NORSAR Array B	69.36	338	P	P	10 20 15.6	-1.0
	comp=Z,1.2nm,0.7s,baz=34,slow=6.4,SNR=8.1						
	comp=Z,1.2nm,0.7s						
HFS	Hagfors	69.39	336	P	P	10 20 16.4	-0.3
	comp=Z,2.7nm,0.5s,baz=46,slow=6.4,SNR=21						
	comp=Z,2.7nm,0.5s						
NVAR	Mina Array Bea	69.56	56	P	P	10 20 17.7	-0.7
	comp=Z,0.4nm,0.7s,baz=83,slow=17,SNR=4.0						
	comp=Z,0.4nm,0.7s						
AKASG	Malin Array Be	70.80	322	P	P	10 20 24.7	-0.8
	comp=Z,0.9nm,0.5s,baz=44,slow=6.5,SNR=3.9						
	comp=Z,0.9nm,0.5s						
PDAR	Pinedale Array	71.78	48	P	P	10 20 32.8	+1.0
	comp=Z,0.3nm,0.5s,baz=254,slow=0.8,SNR=6.1						
	comp=Z,0.3nm,0.5s						
EKA	Eskdalemuir Ar	78.03	342	P	P	10 21 07.5	+0.3
	comp=Z,0.7nm,0.5s,baz=22,slow=4.8,SNR=6.2						
	comp=Z,0.7nm,0.5s						
TXAR	Lajitas Array	84.61	54	P	P	10 21 43.4	+0.9
	comp=Z,0.1nm,0.5s,baz=302,slow=5.0,SNR=3.7						
	comp=Z,0.1nm,0.5s						

JMA 14 10:20:49.0±0.3, 37°.2N±1°.0×14°.4E±°, h37km, MV3.7/29, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.64	296	*i* P	Pn	10 21 30.7	+1.8
JIKH				S	Sn	10 22 01.7	+2.1
JIO	Ouri	2.78	298	P	Pn	10 21 32.7	+1.8
JIO				S	Sn	10 22 05.4	+2.2
JFK	Kawauchi	2.87	275	*e*S	Sn	10 22 07.2	+1.7
JKMT	Kesennumamotoy	2.87	306	S	Sn	10 22 06.9	+1.4
JMK	Ichinoseki	3.12	306	*e*P	Pn	10 21 37.5	+1.9
JMK				S	Sn	10 22 13.6	+2.1
JOU	Okura	3.24	293	P	Pn	10 21 39.8	+2.5
JOU				S	Sn	10 22 17.3	+2.7
JYK	Kaneyama	3.68	300	P	Pn	10 21 45.9	+2.6
JYK				S	Sn	10 22 28.3	+2.8
JRG	Rokugo	3.74	308	P	Pn	10 21 47.3	+3.1
JRG				S	Sn	10 22 30.2	+3.2
JTM	Tenmabayashi	4.48	325	P	Pn	10 21 56.4	+2.2
JTM				S	Sn	10 22 45.2	+0.2
JRY	Ryogami san	4.62	257	P	Pn	10 21 57.5	+1.2
JRY				*e*S	Sn	10 22 48.6	-0.1
JCH	Churui	5.50	351	P	Pn	10 22 07.6	-0.7
JCH				*e*S	Sn	10 23 06.8	-3.5
NEM2	Nemuro 2	6.26	9	*e*P	Pn	10 22 12.1	-6.6
NEM2				*e*S	Sn	10 23 21.3	-7.7
JTKR	Abashiri--Toko	6.80	357	*e*S	Sn	10 23 37.0	-5.3

IDC ***14*** *10:40:04.2±1.1, 0°.16N×123°.45E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=80.2km s-min=19.7km az=67.0*
DJA ***14*** *10:40:20.1±0.5, 0°.S±3°×12°.4E±°, h111km±6km, M3.6/8, MLv3.6/8*

ISC 14 10:40:17.4±0.9, 0°.09N±0°.10×123°.85E±0°.07, h110km, n10, σ1955/12, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.50	15	P	Pn	10 40 40.2	+5.9
KMSI				S	Sn	10 40 56.0	+9.0
LUWI	Luwuk	1.56	224	P	Pn	10 40 45.7	+0.8
LUWI				S	Sn	10 41 04.4	-1.4
MRSI	Marisa	1.95	282	P	Pn	10 40 50.9	+1.1
MRSI				S	Sn	10 41 14.6	+0.1
SANI	Sanana	3.01	135	P	Pn	10 41 04.8	+1.2
SANI				S	Sn	10 41 39.5	+0.4
MPSI	Mapaga	3.96	274	P	Pn	10 41 18.8	+2.5
WRA	Warramunga Arr	22.40	153	P	P	10 45 06.4	-0.7
	1.8nm,0.6s,baz=334,slow=10,SNR=27						
	1.8nm,0.6s						
ASAR	Alice Springs	25.55	158	P	P	10 45 37.2	+1.1
	0.6nm,0.4s,baz=330,slow=8.6,SNR=25						
	0.6nm,0.4s						
USRK	Ussurlysk Ar.	44.52	8	P	P	10 48 18.5	+0.5
	0.4nm,0.3s,baz=182,slow=6.7,SNR=2.5						
	0.4nm,0.3s						
MKAR	Makanchi Array	58.99	328	P	P	10 50 04.1	-1.5
	0.5nm,0.5s,baz=125,slow=7.6,SNR=5.5						
	0.5nm,0.

2μm,0.9s
FSK Fiskardo 1.07 37 P **Pg 10 48 28.1 -0.8**
FSK S **Sb 10 48 42.9 +0.7**
EVGI Lefkada island 1.24 35 P **Pb 10 48 31.2 -0.3**
EVGI Lefkada island 1.24 35 P **Pb 10 48 31.3 -0.1**
EVGI S **Sn 10 48 49.0 +1.3**
NYDR Nydri-Lefkada 1.33 34 P **Pn 10 48 32.8 +0.3**
NYDR S **Sb 10 48 50.1 +0.1**
2μm,0.5s
NYDR Nydri-Lefkada 1.33 34 P **Pn 10 48 32.8 +0.3**
NYDR S **Sn 10 48 51.1 +1.1**
LKD2 Lefkada island 1.38 31 P **Pn 10 48 33.3 +0.2**
LKD2 S **Sb 10 48 51.2 -0.2**
1μm,0.6s
LKD2 Lefkada island 1.38 31 P **Pn 10 48 33.4 +0.2**
LKD2 S **Sb 10 48 52.0 +0.6**
TSLK Tsoukalades, L 1.41 30 P **Pn 10 48 34.1 +0.6**
TSLK S **Sg 10 48 53.9 +0.1**
2μm,0.9s
TSLK Tsoukalades, L 1.41 30 P **Pn 10 48 34.1 +0.6**
TSLK S **Sg 10 48 53.1 -0.6**
RLS Riolos of Patr 1.43 71 P **Pn 10 48 34.4 +0.6**
RLS Riolos of Patr 1.43 71 P **Pn 10 48 34.2 +0.4**
PVO Paravola 1.73 54 P **Pn 10 48 39.3 +1.4**
PYL PYLOS 1.74 113 P **Pn 10 48 39.4 +1.3**
PYL PYLOS 1.74 113 P **Pn 10 48 37.4 -0.7**
PYL S **Sn 10 49 00.3 +0.2**
ITM Ithomi 1.79 103 P **Pn 10 48 38.8 +0.1**
ITM S **Sn 10 49 01.4 +0.3**
EFP Efpalio 1.89 64 P **Pn 10 48 41.3 +1.2**
KLV Kalavryta, Ach 1.95 76 P **Pn 10 48 41.9 +0.9**
ANX Ano Chora 1.98 59 P **Pn 10 48 42.7 +1.3**
GUR Goura 2.08 80 P **Pn 10 48 43.7 +0.9**
EVR Evrytania 2.08 50 P **Pn 10 48 45.5 +2.6**
MAKR Makrakomi, Fth 2.34 52 P **Pn 10 48 48.3 +1.9**
AGG Agios Georgios 2.47 54 P **Pn 10 48 49.5 +1.3**
THL Klokotos Trika 2.64 42 P **Pn 10 48 51.7 +1.3**
KPRO Kipourio 2.66 28 P **Pn 10 48 52.6 +1.8**
TYRN Tyrnavos 2.86 42 P **Pn 10 48 54.2 +0.7**
NEST Nestorio 2.98 19 P **Pn 10 48 56.6 +1.4**
FNA Florina 3.42 21 P **Pn 10 49 01.6 +0.5**
VAE Valguarnera 4.24 270 Pn **Pn 10 49 13.7 +1.1**
4.5nm,0.5s,baz=216,slow=21,SNR=0.7
IDI Anoyia 4.75 118 **Pn 10 49 21.3 +1.9**
4.5nm,0.7s,baz=219,slow=11,SNR=1.2
DBRK Dubrovnik 5.20 347 *e*Pn **Pn 10 49 23.4 -2.3**
STON Ston 5.49 344 *e*Pn **Pn 10 49 27.6 -1.9**
RICI Ricice 6.21 342 *e*Pn **Pn 10 49 37.8 -1.7**
ZIRJ Zirje 6.80 334 *e*Pn **Pn 10 49 46.6 -1.0**
KIJV Kijevo 6.88 339 *e*Pn **Pn 10 49 47.3 -1.3**
MORI Morici 6.96 335 *e*Pn **Pn 10 49 48.5 -1.3**
DUGI Dugi Otok 7.30 332 *e*Pn **Pn 10 49 53.1 -1.4**
KEST Kesra 8.56 261 Pn **Pn 10 50 14.2 +2.3**
0.2nm,0.3s,baz=20,slow=12,SNR=2.4
KEST LR LR 10 53 41.8
comp=Z,70nm,18.9s,baz=183,slow=39
2.0nm,0.6s
MLR Muntele Rosu 9.14 29 Pn **Pn 10 50 17.6 -2.2**
0.1nm,0.3s,baz=138,slow=17,SNR=1.7
0.7nm,0.3s
OBKA Obir 9.70 338 *e*Pn **Pn 10 50 27.3 -0.1**
0.7nm,0.3s
SOKA Soboth 9.71 340 *i* Pn **Pn 10 50 25.9 -1.7**
0.7nm,0.3s
ABTA Abfaltersbach 10.59 332 *e*Pn **Pn 10 50 39.0 -0.6**
MOA Molln 11.00 340 *i* Pn **Pn 10 50 44.6 -0.5**
0.4nm,0.2s
LESA Schwarzleotal 11.11 334 *i* Pn **Pn 10 50 47.8 +1.1**
1.0nm,0.6s
GERES GERESS Array B 12.06 341 Sn Sn 10 53 05.6 -8.4
0.3nm,0.3s,baz=157,slow=30,SNR=3.9
EIL Elat 14.92 118 Pn **Pn 10 51 36.9 -1.9**
0.2nm,0.3s,baz=56,slow=23,SNR=1.1
EIL Sn Sn 10 54 07.9 -16
0.3nm,0.3s,baz=199,slow=23,SNR=1.4
1.0nm,0.5s
HFS Hagfors 22.88 352 P **P 10 53 10.5 -0.5**
3.2nm,0.9s,baz=160,slow=9.2,SNR=8.5
3.2nm,0.9s
EKA Eskdalemuir Ar 23.55 326 P **P 10 53 16.9 -1.1**
2.2nm,1.0s,baz=124,slow=8.8,SNR=2.7
2.2nm,1.0s
NOA NORSAR Array B 24.06 350 P **P 10 53 21.2 -1.6**
0.6nm,0.8s,baz=152,slow=12,SNR=3.6
0.6nm,0.8s
FINES FINESS Array B 24.19 7 P **P 10 53 21.7 -2.3**
1.9nm,0.9s,baz=170,slow=12,SNR=6.1
1.9nm,0.9s
TORD Torodi Ar. Bea 29.20 218 P **P 10 54 10.7 +1.3**
0.3nm,0.6s,baz=34,slow=10,SNR=1.4
0.3nm,0.6s
MKAR Makanchi Array 46.12 58 P **P 10 56 30.8 -1.2**
0.3nm,0.4s,baz=271,slow=8.1,SNR=4.9
0.3nm,0.4s
SONM Songino Array 61.29 50 LR LR 11 29 35.5
comp=Z,42nm,19.2s,baz=190,slow=41

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*IDC **14** 10:48:58.8±1.0, 37.°66N×19.°86E, h0km, mb3.5/9, mbtmp3.6/15, ML3.4/4, MS2.6/2, Error ellipse: s-maj=20.5km s-min=17.4km az=3.0*
*THE **14** 10:49:03.1, 37.°59N×19.°81E, h21km±1km, ML3.6/7, Error ellipse: s-maj=2.7km s-min=1.4km az=122.0*
ISC 14 10:49:02.9±1.6, **37.°68N**±0.°05×**19.°72E**±0.°04, **h29**km±13km, **n33**, σ1§**71**/46, **mb3.6**/9, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMLN	**Damoulianata-K**	**0.76**	**42**	P	**Pn**	**10 49 17.1**	**-0.7**
DMLN				S	**Sn**	**10 49 29.3**	**+1.0**
7μm,0.8s							
PSDA	**Pessada-Kefalo**	**0.81**	**57**	P	**Pn**	**10 49 17.9**	**-0.5**
PSDA				S	**Sn**	**10 49 29.9**	**+0.5**
4μm,0.8s							
VLS	**Valsamata**	**0.85**	**54**	P	**Pn**	**10 49 18.5**	**-0.5**
VLS				S	**Sn**	**10 49 31.1**	**+0.6**
5μm,0.5s							
LTHK	**Lithakia**	**0.89**	**87**	P	**Pn**	**10 49 18.6**	**-0.8**
LTHK				S	**Sn**	**10 49 29.9**	**-1.4**
5μm,0.6s							
RTZL	**Ratzakli, Kefa**	**0.92**	**64**	P	**Pn**	**10 49 19.8**	**-0.1**
RTZL				S	**Sn**	**10 49 33.0**	**+0.8**
3μm,0.9s							
FSK	**Fiskardo**	**1.03**	**40**	P	**Pn**	**10 49 21.4**	**0.0**
FSK				S	**Sn**	**10 49 36.0**	**+1.2**
3μm,1.2s							
EVGI	**Lefkada island**	**1.20**	**38**	P	**Pb**	**10 49 24.7**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.29**	**36**	S	**Sb**	**10 49 43.3**	**+0.5**
LKD2	**Lefkada island**	**1.33**	**33**	P	**Pb**	**10 49 27.2**	**-0.2**
VAE	**Valguarnera**	**4.22**	**269**	Pn	**Pn**	**10 50 05.0**	**-0.3**
16nm,0.4s,baz=184,slow=10,SNR=2.3							
VAE				Sn	**Sn**	**10 50 54.4**	**+0.7**
4.6nm,0.3s,baz=156,slow=16,SNR=1.6							
IDI	**Anoyia**	**4.80**	**118**	Pn	**Pn**	**10 50 11.1**	**-2.1**
9.8nm,0.3s,baz=336,slow=12,SNR=1.9							
IDI				Sn	**Sn**	**10 51 06.0**	**-1.9**
7.7nm,0.3s,baz=74,slow=24,SNR=9.6							
DBRK	**Dubrovnik**	**5.13**	**347**	*e*Pn	**Pn**	**10 50 17.3**	**-0.5**
DBRK				Sn	**Sn**	**10 51 12.8**	**-3.2**
STON	**Ston**	**5.42**	**344**	*e*Pn	**Pn**	**10 50 20.6**	**-1.0**
STON				Sn	**Sn**	**10 51 18.5**	**-4.5**
MAKA	**Makarska**	**5.97**	**341**	*e*Pn	**Pn**	**10 50 29.4**	**+0.1**
MAKA				Sn	**Sn**	**10 51 32.4**	**-4.3**
RICI	**Ricice**	**6.14**	**342**	*e*Pn	**Pn**	**10 50 31.4**	**-0.2**
RICI				Sn	**Sn**	**10 51 37.7**	**-3.1**
KIJV	**Kijevo**	**6.80**	**339**	*e*Pn	**Pn**	**10 50 41.1**	**+0.3**
KIJV				Sn	**Sn**	**10 51 53.5**	**-3.7**
MORI	**Morici**	**6.89**	**335**	*e*Pn	**Pn**	**10 50 41.3**	**-0.6**
KEST	**Kesra**	**8.55**	**260**	Pn	**Pn**	**10 51 05.8**	**+1.0**
0.3nm,0.3s,baz=189,slow=7.6,SNR=3.6							
KEST				Sn	**Sn**	**10 52 40.1**	**-0.3**
0.2nm,0.3s,baz=260,slow=12,SNR=1.5							
3.3nm,0.7s							
MLR	**Muntele Rosu**	**9.09**	**29**	Pn	**Pn**	**10 51 14.6**	**+2.4**
0.4nm,0.3s,baz=205,slow=8.4,SNR=4.5							
DAVOX	**Davos/Dischmat**	**11.65**	**324**	Pn	**Pn**	**10 51 48.0**	**+0.7**
0.1nm,0.3s,baz=353,slow=20,SNR=1.0							
DAVOX				LR	LR	10 57 01.1	
comp=Z,45nm,20.4s,baz=88,slow=41							
0.8nm,0.5s							
VRAC	**Vranov**	**11.85**	**350**	LR	LR	10 56 44.3	
comp=Z,23nm,19.9s,baz=120,slow=39							
GERES	**GERESS Array B**	**11.99**	**341**	Pn	**Pn**	**10 51 55.5**	**+3.6**
0.2nm,0.3s,baz=148,slow=10,SNR=2.3							
GERES				Sn	Sn	10 53 56.6	-8.0
0.6nm,0.3s,baz=157,slow=24,SNR=6.6							
EIL	**Elat**	**14.97**	**118**	Pn	**Pn**	**10 52 29.4**	**-3.1**
0.3nm,0.3s,baz=291,slow=10,SNR=1.8							
EIL				Sn	Sn	10 55 01.2	-16
0.5nm,0.3s,baz=200,slow=21,SNR=1.5							
2.5nm,0.7s							
ESDC	**Sonseca Array**	**18.59**	**283**	P	**Pn**	**10 53 18.9**	**+0.7**
baz=81,slow=9.6,SNR=4.1							
0.7nm,0.6s							
HFS	**Hagfors**	**22.80**	**352**	P	**P**	**10 54 03.4**	**+0.3**
1.6nm,0.5s,baz=153,slow=10.0,SNR=6.8							
1.6nm,0.5s							
EKA	**Eskdalemuir Ar**	**23.48**	**326**	P	**P**	**10 54 10.4**	**+0.5**
1.8nm,0.8s,baz=130,slow=12,SNR=2.4							
1.8nm,0.8s							
NOA	**NORSAR Array B**	**23.99**	**350**	P	**P**	**10 54 15.2**	**+0.4**
0.6nm,0.7s,baz=159,slow=11,SNR=2.9							
0.6nm,0.7s							
FINES	**FINESS Array B**	**24.12**	**7**	P	**P**	**10 54 15.6**	**-0.3**
1.1nm,0.6s,baz=178,slow=10,SNR=5.0							
1.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**29.24**	**218**	P	**P**	**10 55 03.6**	**+1.2**
0.3nm,0.5s,baz=37,slow=8.0,SNR=5.9							
0.3nm,0.5s							
ARCES	**ARCESS Array B**	**32.07**	**4**	P	**P**	**10 55 27.3**	**+0.5**
0.1nm,0.4s,baz=185,slow=9.1,SNR=1.1							
0.1nm,0.4s							
KURBB	**Kurchatov Arra**	**43.04**	**53**	P	**P**	**10 56 59.7**	**0.0**
0.2nm,0.3s,baz=273,slow=8.4,SNR=1.2							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**46.10**	**58**	P	**P**	**10 57 23.4**	**-1.0**
0.3nm,0.3s,baz=272,slow=7.1,SNR=4.8							
0.3nm,0.3s							
ZALV	**Zalesovo Beam**	**46.50**	**48**	P	**P**	**10 57 27.3**	**0.0**
0.5nm,0.4s,baz=282,slow=7.9,SNR=1.4							
0.5nm,0.4s							

IDC 14 10:57:12.2±2.2, **6.°86S**×**128.°34E**, **h0**km, **mb3.5**/1, **mbtmp3.0**/3, **ML2.5**/2, **Error ellipse: s-maj=212.8km s-min=33.0km az=71.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.25**	**156**	Pn	Pn	11 00 35.3	-0.2
baz=330,slow=14,SNR=1.0							
WRA				Sn	Sn	11 02 59.0	-16
0.1nm,0.3s,baz=340,slow=22,SNR=2.5							
0.1nm,0.4s							
ASAR	**Alice Springs**	**17.55**	**163**	P	Pn	11 01 18.6	+0.2
baz=338,slow=9.0,SNR=4.1							
0.2nm,0.9s							
SONM	**Songino Array**	**57.80**	**343**	P	P	11 07 05.4	-0.1
0.3nm,0.5s,baz=139,slow=7.1,SNR=1.9							
0.3nm,0.5s							

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*KOLA **14** 11:04:57.3, 67.°51N×30.°51E, h0km, ML2.1, Error ellipse: s-maj=9.9km s-min=4.0km az=30.0, Kovdor City, Mines*
*HEL **14** 11:04:57.0±0.3, 67.°56N×30.°37E, h0km, ML1.8, Explosion*
*IDC **14** 11:04:58.5±2.3, 67.°65N×30.°02E, h0km, mbtmp2.4/2, ML1.8/2, Error ellipse: s-maj=37.2km s-min=11.4km az=69.0*
ISC 14 11:04:56.1±0.7, **67.°59N**±0.°02×**30.°49E**±0.°02, **h0**km, **n32**, σ0§**96**/48, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**0.37**	**296**	PG	**Pg**	**11 05 03.3**	**+0.1**
baz=119							
VRF				SG	**Sg**	**11 05 07.8**	**-0.2**
APA0	**Apatity Array**	**0.96**	**88**	P	**Pg**	**11 05 13.8**	**-0.6**
APA0				S	**Sg**	**11 05 27.0**	**+0.1**
APA0	**Apatity Array**	**0.96**	**88**	P	**Pg**	**11 05 14.6**	**+0.2**
APA0				S	**Sg**	**11 05 27.8**	**+0.9**
APA	**Apatity**	**1.12**	**90**	S	**Sn**	**11 05 35.3**	**+0.2**
RAJF	**Raja-Jooseppi**	**1.21**	**319**	PG	**Pg**	**11 05 18.9**	**-0.4**
RAJF				SB	**Sg**	**11 05 34.9**	**0.0**
OLKF	**Oulanka, Finla**	**1.34**	**199**	PG	**Pg**	**11 05 20.6**	**-1.1**
baz=16							
OLKF				MSG		11 05 36.1	
comp=Z,9.2nm,0.2s							
OLKF				SN	**Sg**	**11 05 39.1**	**+0.1**
SGF	**Sodankyl**	**1.53**	**266**	PG	**Pn**	**11 05 24.3**	**-0.3**
SGF				SG	**Sn**	**11 05 44.5**	**-0.7**
KU6	**Riekki**	**1.58**	**189**	PG	**Pn**	**11 05 24.9**	**-0.4**
KU6				MSG		11 05 43.4	
comp=Z,6.7nm,0.2s							
KU6				SN	**Sn**	**11 05 45.9**	**-0.6**
LVZ	**Lovozero**	**1.62**	**77**	P	**Pb**	**11 05 26.5**	**-0.2**
LVZ				S	**Sn**	**11 05 47.0**	**-0.4**
LVZ	**Lovozero**	**1.62**	**77**	S	**Sg**	**11 05 48.1**	**+0.2**
LVZ	**Lovozero**	**1.62**	**77**	SN	**Sb**	**11 05 47.9**	**+0.1**
MSF	**Maaselka**	**1.78**	**200**	PG	**Pn**	**11 05 28.3**	**+0.3**
MSF				SN	**Sn**	**11 05 51.6**	**+0.3**
RNF	**Rovaniemi**	**2.01**	**243**	PG	**Pn**	**11 05 31.9**	**+0.8**
RNF				SG	**Sb**	**11 05 59.8**	**+1.0**
RANF	**Ranua**	**2.15**	**225**	PG	**Pn**	**11 05 34.3**	**+1.2**
baz=42							
RANF				SG	**Sb**	**11 06 03.4**	**+0.4**
PRVG	**Vayda Guba**	**2.26**	**15**	P	**Pb**	**11 05 36.4**	**-1.3**
PRVG				S	**Sb**	**11 06 05.3**	**-0.7**
PRVG	**Vayda Guba**	**2.26**	**15**	S	**Sb**	**11 06 06.3**	**+0.2**
TERR	**Teriberka**	**2.36**	**44**	S	**Sb**	**11 06 08.9**	**0.0**
KEV	**Kevo**	**2.52**	**331**	PB	**Pn**	**11 05 40.0**	**+1.8**
baz=154							
KEV				MSG		11 06 11.6	
comp=Z,5.4nm,0.2s							
KEV				SB	**Sb**	**11 06 12.2**	**-1.5**
KLF	**Kolari**	**2.54**	**265**	PN	**Pn**	**11 05 39.2**	**+0.7**
KLF				MSG		11 06 10.6	
comp=Z,4.6nm,0.2s							
KLF				SG	**Sb**	**11 06 14.4**	**+0.2**
VADS	**Vadso**	**2.58**	**351**	P	**Pn**	**11 05 39.8**	**+0.8**
VADS				S	**Sn**	**11 06 10.7**	**-0.3**
ARA0	**ARCESS Array S**	**2.68**	**319**	SG	**Sb**	**11 06 18.4**	**+0.2**
ARCES	**ARCESS Array B**	**2.68**	**319**	Pn	**Pn**	**11 05 41.4**	**+1.0**
comp=Z,0.3nm,0.3s,baz=135,slow=16,SNR=21							
ARCES				Lg	Lg	11 06 16.8	
comp=Z,0.4nm,0.3s,baz=134,slow=28,SNR=10							
comp=Z,0.6nm,0.2s							
HEF	**Hetta**	**2.70**	**291**	MSG		11 06 15.5	
comp=Z,2.9nm,0.2s							
HEF				SB	**Sb**	**11 06 18.4**	**-0.4**
KTK1	**Kautokeino**	**3.05**	**301**	PB	**Pn**	**11 05 48.2**	**+2.7**
KTK1				SG	**Sb**	**11 06 29.8**	**+0.9**
OUL	**Oulu**	**3.12**	**219**	PB	**Pn**	**11 05 48.2**	**+1.8**
LANU	**Lannavaara**	**3.25**	**282**	PN	**Pn**	**11 05 49.8**	**+1.5**
LANU				SN	**Sn**	**11 06 25.6**	**-2.1**
KALU	**Kalix**	**3.32**	**242**	SG	**Sb**	**11 06 38.7**	**+2.1**
RMF	**Romuvaara**	**3.39**	**184**	PN	**Pn**	**11 05 50.5**	**+0.3**
OBF4	**Vikkela, Lumij**	**3.54**	**221**	PN	**Pn**	**11 05 52.4**	**+0.3**
OUF	**Merijarvi**	**4.00**	**219**	PN	**Pn**	**11 05 58.6**	**+0.1**
baz=35							
I37NO	**I37NO**	**4.65**	**294**	I	I	11 32 55.0	
baz=104,slow=319,SNR=5.9							
FINES	**FINESS Array B**	**6.45**	**199**	Pn	**Pn**	**11 06 33.2**	**+1.1**
comp=Z,0.1nm,0.3s,baz=19,slow=14,SNR=1.5							
FINES				Lg	Lg	11 08 15.3	
comp=Z,0.1nm,0.3s,baz=18,slow=28,SNR=4.7							
comp=Z,0.2nm,0.5s							

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*IDC **14** 11:20:32.4±1.0, 6.°05N×127.°53E, h0km, mb3.9/8, mbtmp3.9/9, ML4.4/1, MS3.0/4, Error ellipse: s-maj=53.1km s-min=15.8km az=61.0*
*NEIC **14** 11:20:42.1±1.3, 5.°50N±0.°05×126.°5E±0.°1, h53km±12km, mb4.3/9, Error ellipse: s-maj=18.4km s-min=6.5km az=76.0*
ISC 14 11:20:39.4±0.8, **5.°54N**±0.°06×**126.°6E**±0.°1, **h35**km, **n30**, σ1§**26**/25, **mb4.2**/13, **MS2.8**/3, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.83**	**326**		**Pn**	**11 21 10.3**	**+1.8**
DAV	**Davao City (W)**	**1.83**	**326**	Pn	**Pn**	**11 21 10.4**	**+2.0**
119nm,0.3s,baz=265,slow=1.1,SNR=6.4							
DAV				Sn	Sn	11 21 39.1	+8.7
94nm,0.3s,baz=158,slow=22,SNR=3.6							
DAV				LR	LR	11 22 14.9	
comp=Z,283nm,20.0s,baz=133,slow=47							
479nm,0.5s							
TNTI	**Ternate**	**4.79**	**171**	Pn	**Pn**	**11 21 50.7**	**+1.6**
TOLI2	**Tolitoli**	**7.29**	**233**	Pn	**Pn**	**11 22 23.2**	**-0.3**
TOLI2				Sn	**Sn**	**11 23 44.5**	**-0.6**
SBUM	**Sibu**	**14.67**	**258**		**P**	**11 24 12.9**	**+2.6**
KNRA	**Kununurra**	**21.19**	**174**	P	**P**	**11 25 22.7**	**+0.7**
KNRA				IAmb	IAmb	11 25 25.9	
comp=Z,6.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**23.51**	**182**	P	**P**	**11 25 45.9**	**-0.4**
PMG	**Port Moresby**	**25.30**	**126**	LR	LR	11 37 04.3	
comp=Z,46nm,18.2s,baz=191,slow=40							
WB0	**Warramunga Arr**	**26.29**	**163**	P	**P**	**11 26 12.2**	**+0.4**
WB0				IAmb	IAmb	11 26 55.1	
comp=Z,7.5nm,1.3s							
WRAB	**Tennant Creek**	**26.43**	**163**	P	**P**	**11 26 13.5**	**+0.4**
WRA	**Warramunga Arr**	**26.44**	**163**	P	**P**	**11 26 13.5**	**+0.3**
comp=Z,0.5nm,0.6s,baz=344,slow=9.9,SNR=19							
comp=Z,0.5nm,0.6s							
WB2	**Warramunga Arr**	**26.44**	**163**	P	**P**	**11 26 13.4**	**+0.2**
WB2				IAmb	IAmb	11 26 25.5	
comp=Z,13nm,1.5s							
WR0	**Warramunga Arr**	**26.51**	**163**	P	**P**	**11 26 14.0**	**+0.2**
WR0				IAmb	IAmb	11 26 29.2	
comp=Z,10nm,1.4s							
ASAR	**Alice Springs**	**29.89**	**166**	P	**P**	**11 26 43.8**	**-0.2**
comp=Z,0.3nm,0.5s,baz=346,slow=7.0,SNR=7.5							
comp=Z,0.3nm,0.5s							
CMAR	**Chiang Mai Arr**	**29.89**	**298**	LR	LR	11 40 42.2	
comp=Z,21nm,18.2s,baz=205,slow=40							
MJAR	**Matsushiro Arr**	**32.64**	**17**	LR	LR	11 39 02.4	
comp=Z,20nm,20.1s,baz=208,slow=35							
FORT	**Forrest**	**36.14**	**178**	P	**P**	**11 27 38.9**	**+0.5**
BBOO	**Buckleboo**	**39.18**	**167**	P	**P**	**11 28 04.2**	**+0.1**
BBOO				IAmb	IAmb	11 28 23.5	
comp=Z,17nm,1.4s							
STKA	**Stephens Creek**	**39.86**	**160**	P	**P**	**11 28 10.2**	**+0.4**
comp=Z,1.7nm,0.9s,baz=307,slow=10,SNR=1.9							
comp=Z,1.7nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**41.15**	**68**	T	T	12 12 11.2	
baz=257,slow=75,SNR=15							
H11S1	**WAKE ISLAND Hy**	**41.16**	**68**	T	T	12 12 11.5	
baz=257,slow=75,SNR=9.7							
H11S2	**WAKE ISLAND Hy**	**41.17**	**68**	T	T	12 12 11.5	
baz=257,slow=75,SNR=20							
MK31	**Makanchi Array**	**56.01**	**325**	P	**P**	**11 30 13.8**	**-0.8**
MKAR	**Makanchi Array**	**56.01**	**325**	P	**P**	**11 30 13.4**	**-1.3**
MKAR	**Makanchi Array**	**56.01**	**325**	P	**P**	**11 30 13.7**	**-1.0**
comp=Z,0.7nm,0.4s,baz=120,slow=9.2,SNR=8.6							
comp=Z,0.7nm,0.4s							
KURBB	**Kurchatov Arra**	**60.16**	**327**	P	**P**	**11 30 42.1**	**-1.4**
comp=Z,1.8nm,0.6s,baz=126,slow=6.4,SNR=13							
comp=Z,1.8nm,0.6s							
BVAR	**Borovoye Array**	**65.75**	**327**	P	**P**	**11 31 20.3**	**-0.4**
comp=Z,1.6nm,0.7s,baz=125,slow=6.3,SNR=7.8							
comp=Z,1.6nm,0.7s							
ABKAR	**Akbulak array**	**70.68**	**320**	P	**P**	**11 31 51.2**	**-0.5**
ARCES	**ARCESS Array B**	**88.72**	**340**	P	**P**	**11 33 27.6**	**-1.4**
comp=Z,0.9nm,0.8s,baz=79,slow=7.5,SNR=5.3							
comp=Z,0.9nm,0.8s							
FINES	**FINESS Array B**	**90.19**	**332**	P	**P**	**11 33 33.1**	**-2.9**
comp=Z,0.4nm,0.6s,baz=77,slow=4.1,SNR=4.6							
comp=Z,0.4nm,0.6s							

IDC 14 11:24:23.1±10.0, **1.°16S**×**136.°31E**, **h0**km, **mb3.8**/2, **mbtmp3.9**/3, **ML3.7**/1, **Error ellipse: s-maj=157.5km s-min=109.9km az=154.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.77**	**186**	P	P	11 28 44.1	+0.1
0.2nm,0.3s,baz=7.2,slow=12,SNR=12							
2.5nm,0.7s							
ASAR	**Alice Springs**	**22.50**	**186**	P	P	11 29 24.8	+0.3
1.4nm,0.5s,baz=9.5,slow=11,SNR=23							
1.4nm,0.5s							
STKA	**Stephens Creek**	**30.96**	**171**	P	P	11 30 41.6	-0.5
0.9nm,0.4s,baz=339,slow=18,SNR=2.9							
0.9nm,0.4s							

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*JSN **14** 11:32:36.2±0.8, 18.°05N×76.°21W, h11km±5km, MD3.6*
*SSNC **14** 11:32:37.8±1.2, 18.°27N×76.°37W, h5km±8km, MD2.9, ML2.4*
ISC 14 11:32:37.7±1.3, **18.°3N**±0.°1×**76.°36W**±0.°08, **h18**km, **n16**, σ1§**31**/20, **1D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.40**	**240**	‖*i*P	**Pg**	**11 32 44.8**	**-1.3**
HOJ	**Hope**	**0.46**	**234**	*i* P	**Pg**	**11 32 46.2**	**-0.8**
STH	**Stony Hill**	**0.47**	**245**	*i* P	**Pg**	**11 32 46.6**	**-0.7**
STH	**Stony Hill**	**0.47**	**245**	*e*P	**Pg**	**11 32 46.5**	**-0.7**
STH				*e*S	**Sg**	**11 32 53.7**	**+0.1**
MTDJ	**Mount Denham**	**1.11**	**268**	*i* P	**Pn**	**11 32 58.4**	**-0.2**
MTDJ				*i* S	**Sb**	**11 33 14.9**	**+2.2**
MTDJ	**Mount Denham**	**1.11**	**268**	*e*P	**Pn**	**11 32 58.4**	**-0.2**
MTDJ				IAML		11 33 24.3	
144nm,0.6s							
MTDJ				IAML		11 33 25.4	
comp=Z,141nm,0.4s							
CHIV	**Chivirico**	**1.69**	**358**	*e*P	**Pn**	**11 33 06.0**	**-0.4**
MARVS	**Santiago de Cu**	**1.77**	**14**	*e*P	**Pn**	**11 33 06.9**	**-0.6**
MARVS				IAML		11 33 30.0	
comp=E,28nm,0.3s							
MARVS				IAML		11 33 31.6	
comp=N,48nm,0.3s							
RCC	**Rio Carpintero**	**1.82**	**20**	*e*P	**Pn**	**11 33 07.7**	**-0.5**
RCC				IAML		11 33 31.9	
comp=N,31nm,0.5s							
RCC				IAML		11 33 32.7	
comp=E,18nm,0.4s							
LMGC	**Las Mercedes**	**1.88**	**341**	*e*P	**Pn**	**11 33 08.1**	**-0.8**
GTBY	**Guantanamo Bay**	**2.02**	**36**	*e*P	**Pn**	**11 33 10.7**	**-0.3**
GTBY				*e*S	**Sn**	**11 33 36.0**	**+0.1**
QMBU	**Quimbuelo**	**2.41**	**37**	*e*P	**Pn**	**11 33 14.5**	**-1.8**
HLGC	**Holguin**	**2.61**	**6**	*e*P	**Pn**	**11 33 19.3**	**+0.2**
NMDO	**Nuevo Mundo**	**2.62**	**30**	*e*P	**Pn**	**11 33 17.9**	**-1.3**
NMDO				*e*S	**Sn**	**11 33 49.0**	**-1.4**
MOAC	**Moa**	**2.71**	**29**	*e*

baz=291
ENTT eS Sn 11 46 26.6 -0.3
baz=291
EAHA Aohua 0.25 196⇑eP Pn 11 46 18.9 +0.1
baz=199
EAHA S Sn 11 46 27.5 +0.6
baz=199
LATG Datong 0.27 262⇑iP Pn 11 46 19.2 +0.3
baz=273
LATG eS Sn 11 46 27.6 +0.3
baz=273
EHP Heping Village 0.27 195 eP Pn 11 46 19.4 +0.6
baz=195
EHP eS Sn 11 46 28.1 +1.0
baz=195
NDT Datong Townshi 0.28 276⇑iP Pn 11 46 19.2 +0.3
baz=279
NDT i S Sn 11 46 27.2 0.0
baz=279
FUSB Fushanzhiwuyua 0.28 312⇑iP Pn 11 46 19.3 +0.3
baz=304
FUSB i S Sn 11 46 27.3 0.0
baz=304
NTC Toucheng 0.28 2 P Pn 11 46 19.6 +0.7
baz=358
NTC S Sn 11 46 28.4 +1.2
baz=358
EGS 0.29 21⇑iP Pn 11 46 19.7 +0.7
baz=30
EGS eS Sn 11 46 27.5 +0.2
baz=30
NWLT Wulai 0.35 306 ⇑P Pn 11 46 19.5 0.0
baz=309
NWLT i S Sn 11 46 27.6 -0.5
baz=309
TIPB Shuangxi 0.40 1⇑iP Pn 11 46 20.4 +0.6
baz=353
TIPB i S Sn 11 46 29.2 +0.4
baz=353
EOS2 EOS2 0.41 112⇑eP Pn 11 46 21.0 +1.3
baz=126
YHNB Yeheng 0.41 284 P Pn 11 46 20.0 0.0
YHNB Yeheng 0.41 284⇑iP Pn 11 46 20.0 0.0
baz=296
YHNB eS Sn 11 46 28.5 -0.5
baz=296
NNSB Datong 0.42 250⇑iP Pn 11 46 20.4 +0.4
baz=244
NNSB S Sn 11 46 28.5 -0.7
baz=244
NNS Nan Shan 0.42 252⇑iP Pn 11 46 20.5 +0.4
baz=246
NNS eS Sn 11 46 29.1 -0.2
baz=246
NSK Sanguang 0.43 284⇑iP Pn 11 46 20.1 0.0
baz=297
NSK S Sn 11 46 28.5 -0.8
baz=297
NACB Ninganchiao 0.45 207 P Pn 11 46 20.0 -0.2
NACB Ninganchiao 0.45 207⇑iP Pn 11 46 19.7 -0.5
baz=206
NACB S Sn 11 46 28.4 -0.9
baz=206
ETL Fush Village 0.45 203 eP Pn 11 46 19.9 -0.4
baz=212
ETL eS Sn 11 46 28.8 -0.7
baz=212
TWA Mucha 0.46 333⇑iP Pn 11 46 20.6 +0.3
baz=326
TWA i S Sn 11 46 29.6 0.0
baz=326
TWB1 Santiao Chiao 0.46 20⇑iP Pn 11 46 20.7 +0.4
baz=32
TWB1 S Sn 11 46 29.9 +0.3
baz=32
NHDH Xindian Distri 0.47 326 P Pn 11 46 20.6 +0.2
baz=318
NHDH i S Sn 11 46 29.4 -0.3
baz=318
NWF Wu-fen Shan 0.50 356⇑iP Pn 11 46 21.2 +0.5
baz=351
NWF i S Sn 11 46 30.9 +0.6
baz=351
WFSB Wu-fen Shan 0.50 356⇑iP Pn 11 46 21.2 +0.6
baz=351
WFSB S Sn 11 46 31.1 +0.9
baz=351
TATO Taipei 0.50 323 P Pn 11 46 20.7 +0.1
NHY Taipei 0.52 334 eP Pn 11 46 21.0 +0.2
baz=329
NHY i S Sn 11 46 30.8 +0.3
baz=329
TWD Chiawan 0.53 202 eP Pn 11 46 20.4 -0.5
baz=209
TWD eS Sn 11 46 29.2 -1.5
baz=209
EOS3 EOS3 0.54 122⇓eP Pn 11 46 21.8 +1.0
baz=132
TAP Taipei 0.54 329 iP Pn 11 46 21.4 +0.4
baz=324
TAP i S Sn 11 46 30.9 0.0
baz=324
TNOU National Taiwa 0.58 356 eP Pn 11 46 21.7 +0.3
baz=351
TNOU eS Sn 11 46 31.4 -0.2
baz=351
YM01 YM01 0.61 339⇑iP Pn 11 46 22.0 +0.2
baz=332
YM01 S Sn 11 46 31.9 -0.4
baz=332
HWA Hwalien 0.62 198 eP Pn 11 46 21.9 +0.1
baz=207
HWA eS Sn 11 46 33.7 +1.4
baz=207
NFF Wufeng Townshi 0.64 275⇓iP Pn 11 46 22.3 +0.2
baz=286
NFF i S Sn 11 46 32.4 -0.4
baz=286
TWS1 Kuangyinshan 0.64 326 eP Pn 11 46 22.4 +0.4
baz=320
TWS1 S Sn 11 46 33.2 +0.6
baz=320
EOS4 EOS4 0.64 134 eP Pn 11 46 22.0 +0.3
baz=141
EOS4 eS Sn 11 46 32.2 +0.1
baz=141
YM08 YM08 0.65 341 P Pn 11 46 22.1 0.0
baz=337
YM08 S Sn 11 46 31.9 -1.0
baz=337
WHF Hehuan Shan 0.66 230 eP Pn 11 46 23.0 +0.3
baz=227
WHF S Sn 11 46 33.5 -0.3
baz=227
LXIB Xiulin Townshi 0.66 214⇑iP Pn 11 46 21.9 -0.5
baz=204
LXIB S Sn 11 46 32.9 -0.5
baz=204
TWT Tachien 0.67 242 P Pn 11 46 23.5 +1.0
baz=236
TWT S Sn 11 46 33.8 +0.3
baz=236
ANP Anpu 0.67 336 eP Pn 11 46 22.5 0.0
baz=332
ANP i S Sn 11 46 32.9 -0.5
baz=332
ETM Tongmen 0.67 206 eP Pn 11 46 21.8 -0.6
baz=205
ETM eS Sn 11 46 32.4 -0.9
baz=205
NTST Danshui 0.68 331⇓eP Pn 11 46 22.9 +0.4
baz=338
NTST S Sn 11 46 34.4 +1.0
baz=338
TDCB Techi 0.68 242⇑iP Pn 11 46 23.4 +0.8
baz=238
TDCB eS Sn 11 46 33.0 -0.7
baz=238
NCUH Zhongli 0.70 305 ⇓P Pn 11 46 22.9 +0.3
baz=297
NCUH eS Sn 11 46 33.8 0.0
baz=297
TEYL Yanliau Villag 0.73 196 eP Pn 11 46 23.0 -0.1
baz=205
TEYL eS Sn 11 46 33.5 -0.9
baz=205
LIOB Emei 0.73 276⇓iP Pn 11 46 23.4 +0.3
baz=277
LIOB eS Sn 11 46 33.9 -0.6
baz=277
NSTT Nanjuang 0.74 275⇓iP Pn 11 46 23.4 +0.2
baz=286
NSTT S Sn 11 46 34.5 -0.2
baz=286
CHGB Renai 0.78 229⇑iP Pn 11 46 24.4 +0.6
baz=229
CHGB S Sn 11 46 35.4 -0.3
baz=229
SBCB Hsinchu 0.79 286⇓iP Pn 11 46 24.0 +0.3
baz=298
SBCB S Sn 11 46 35.6 +0.1
baz=298
HSN Hsinchu 0.80 287 P Pn 11 46 23.9 +0.1
baz=290
HSN i S Sn 11 46 35.4 -0.5
baz=290
SHUL Shoufeng 0.81 197 eP Pn 11 46 24.4 +0.4
baz=205
SHUL eS Sn 11 46 36.8 +0.6
baz=205
ESL Shilin 0.83 205 eP Pn 11 46 23.2 -1.0
baz=204
ESL eS Sn 11 46 35.1 -1.4
baz=204
WHP Taichung City 0.85 250⇓iP Pn 11 46 25.6 +1.1
baz=250
WHP eS Sn 11 46 38.2 +1.2
baz=250
OWD Renai 0.85 224 eP Pn 11 46 24.9 +0.4
baz=218
WUSB Renai 0.86 228⇑iP Pn 11 46 25.4 +0.7
baz=228
WUSB S Sn 11 46 37.4 +0.1
baz=228
NMLH Miaoli 0.93 268 eP Pn 11 46 26.0 +0.6
baz=269
NMLH eS Sn 11 46 39.0 +0.4
baz=269
WARBT Fenglin Townsh 0.94 205 eP Pn 11 46 24.4 -1.1
baz=201
WARBT eS Sn 11 46 36.8 -2.0
baz=201
EGFH Guangfu 0.97 202 eP Pn 11 46 25.1 -0.8
baz=205
EGFH eS Sn 11 46 37.8 -1.5
baz=205
WCS Beigang Elemen 0.97 238 ⇓P Pn 11 46 27.0 +1.1
baz=248
WCS eS Sn 11 46 40.6 +1.1
baz=248
TWQ1 Liyutan 0.98 257⇓iP Pn 11 46 26.4 +0.5
baz=257
TWQ1 S Sn 11 46 39.5 -0.1
baz=257
VWDT VWDT 1.02 217⇑iP Pn 11 46 27.1 +0.6
baz=211
VWDT eS Sn 11 46 40.5 0.0
baz=211
JYNG Yonagunijimaku 1.03 96 iP Pn 11 46 26.9 +0.3
JYNG S Sn 11 46 40.9 0.0
PCYT Pengchaiyu 1.08 12 eP Pn 11 46 27.6 +0.4
baz=13
PCYT eS Sn 11 46 42.4 +0.6
baz=13
SMLT Sun Moon Lake 1.08 231 P Pn 11 46 28.6 +1.3
baz=225
SMLT eS Sn 11 46 43.7 +1.6
baz=225
YOJ Yonaguni jima 1.09 96 P Pn 11 46 27.5 +0.2
YOJ Yonaguni jima 1.09 96⇓iP Pn 11 46 27.6 +0.2
baz=87
YOJ i S Sn 11 46 42.4 +0.2
baz=87
YOJ Yonaguni jima 1.09 96 P Pn 11 46 27.7 +0.3
YOJ S Sn 11 46 42.1 -0.1
WDJ Dajia District 1.09 258 P Pn 11 46 28.2 +0.8
baz=259
WDJ S Sn 11 46 43.0 +0.8
baz=259
TYC Yuchr 1.10 233 eP Pn 11 46 28.7 +1.2
baz=228
TYC i S Sn 11 46 43.7 +1.4
baz=228
SSLB Suanglung 1.11 225 P Pn 11 46 29.1 +1.4
SSLB Suanglung 1.11 225 iP Pn 11 46 28.8 +1.1
baz=230
SSLB eS Sn 11 46 43.2 +0.6
baz=230
TCU Taichung 1.12 248 eP Pn 11 46 28.6 +0.8
baz=259
TCU eS Sn 11 46 42.8 0.0
baz=259
HGSD Ruisui 1.13 199 eP Pn 11 46 28.0 +0.1
baz=206
HGSD eS Sn 11 46 43.2 +0.1
baz=206
EHY Hungye 1.15 203 eP Pn 11 46 27.1 -1.1
baz=201
EHYH Wanrong 1.16 202 eP Pn 11 46 26.6 -1.6
baz=201
WHYT Xinyi Township 1.24 225 eP Pn 11 46 30.8 +1.5
baz=234
WHYT i S Sn 11 46 47.6 +2.0
baz=234
WJS Zhushan 1.24 233 eP Pn 11 46 30.6 +1.3
baz=246
WJS eS Sn 11 46 47.1 +1.6
baz=246
WNT Mingjian 1.24 236 P Pn 11 46 30.4 +1.0
baz=248
WNT i S Sn 11 46 47.0 +1.4
baz=248
YULB Yu-li 1.27 202 P Pn 11 46 28.9 -0.8
YULB Yu-li 1.27 202 eP Pn 11 46 28.3 -1.3
baz=201
ECBN Changbin 1.29 195 eP Pn 11 46 29.8 -0.2
baz=201
EYUL Yuli 1.30 201 eP Pn 11 46 30.1 0.0
baz=204
TWF1 Yuli 1.30 201 eP Pn 11 46 29.0 -1.1
baz=204
CHN5 Tsauling 1.42 227 eP Pn 11 46 33.1 +1.4
baz=238
CHN5 eS Sn 11 46 51.4 +1.5
baz=238
CHKH Chenggong 1.43 196 P Pn 11 46 31.7 0.0
baz=201
CHKH eS Sn 11 46 49.4 -0.4
baz=201
WGK Gukeng 1.45 233 eP Pn 11 46 33.3 +1.4
baz=245
WGK S Sn 11 46 51.9 +1.6
baz=245
FULB Fuli 1.45 199 eP Pn 11 46 32.1 0.0
baz=204
WDLH Douliu 1.46 233 iP Pn 11 46 33.4 +1.2
baz=245
WDLH eS Sn 11 46 52.6 +1.9
baz=245
WRL Guolierlin Hig 1.47 243 P Pn 11 46 32.7 +0.4
baz=253
WRL eS Sn 11 46 51.6 +0.7
baz=253
CHKT Chengkung 1.52 196 eP Pn 11 46 33.0 0.0
baz=185
CHKT eS Sn 11 46 51.5 -0.5
baz=185
EHD Haiduan 1.52 202 eP Pn 11 46 32.7 -0.3
baz=200
ELDTW Lidau 1.56 208 eP Pn 11 46 33.4 -0.2
baz=200
ECS Chishang 1.57 201 eP Pn 11 46 33.4 -0.2
baz=199
WTCT Ta-ch'eng 1.57 244 eP Pn 11 46 33.7 +0.1
baz=252
WTCT i S Sn 11 46 53.4 +0.3
baz=252
WTK Tuku 1.57 236 eP Pn 11 46 34.7 +1.1
baz=248
WTK S Sn 11 46 54.6 +1.3
baz=248
WCKO Fanlu 1.58 225 iP Pn 11 46 35.5 +1.7
baz=233
WCKO eS Sn 11 46 55.5 +1.9
baz=233
CHN2 Minshiung 1.60 230 eP Pn 11 46 35.3 +1.2
baz=240
EDH Donghe 1.66 197 eP Pn 11 46 34.6 -0.2
baz=204
EDH S Sn 11 46 55.0 -0.3
baz=204
TPUB Ta-pu 1.67 221 P Pn 11 46 36.8 +1.9
TPUB Ta-pu 1.67 221 eP Pn 11 46 36.4 +1.4
baz=233
TPUB eS Sn 11 46 56.5 +0.9
baz=233
STYH Taoyuan 1.69 215 eP Pn 11 46 37.2 +2.1
baz=206
STYH eS Sn 11 46 58.1 +2.0
baz=206
WTP Ta-pu 1.72 220 eP Pn 11 46 36.9 +1.3
baz=231
WTP eS Sn 11 46 59.0 +2.1
baz=231
WSF Szhu 1.73 238 eP Pn 11 46 36.4 +0.7
baz=238
WSF i S Sn 11 46 57.7 +0.7
baz=238
IRIF Iriomote-Funau 1.76 97 P Pn 11 46 36.2 +0.2
IRIF S Sn 11 46 57.4 -0.2
TWK Hsinying 1.78 223 eP Pn 11 46 37.7 +1.2
baz=236
TWK eS Sn 11 46 59.6 +1.3
baz=236
WSL Shuilin Townsh 1.79 235 eP Pn 11 46 37.3 +0.8
baz=244
WSL eS Sn 11 47 00.3 +1.9
baz=244
SNST Tainan City 1.81 222 eP Pn 11 46 38.2 +1.4
baz=235
SNST eS Sn 11 46 59.8 +0.9
baz=235
CHN1 Nanshi 1.82 221 eP Pn 11 46 38.1 +1.2
baz=234
CHN1 eS Sn 11 47 00.9 +1.8
baz=234
ICHU Yijhu 1.85 230 eP Pn 11 46 38.6 +1.3
baz=231
ICHU eS Sn 11 47 00.9 +1.0
baz=231
SGST Jiashian 1.86 218 eP Pn 11 46 38.2 +0.7
baz=229
SGST eS Sn 11 47 02.4 +2.2
baz=229
TWG Pinlang 1.87 202 eP Pn 11 46 36.5 -1.1
baz=190
TWG eS Sn 11 46 58.5 -1.9
baz=190
TWGBT Beinan 1.87 201 P Pn 11 46 37.0 -0.6
TWGBT Beinan 1.87 201 eP Pn 11 46 36.5 -1.2
baz=193
SLGT Liugui 1.90 215 eP Pn 11 46 40.0 +2.0
baz=215
SLGT eS Sn 11 47 03.6 +2.4
baz=215
CHN8 Yiju 1.91 231 eP Pn 11 46 39.1 +1.0
baz=231
CHN8 eS Sn 11 47 02.4 +1.1
baz=231
TTN Taitung 1.91 199 eP Pn 11 46 39.8 +1.7
baz=189
LDUT Ludao 1.92 190 eP Pn 11 46 37.4 -0.8
baz=182
LDUT i S Sn 11 47 00.4 -1.1
baz=182
JKRS Kuro-shima 2.03 99 P Pn 11 46 40.4 +0.7
JKRS S Sn 11 47 04.8 +0.7
SCLT Jiali 2.04 227 eP Pn 11 46 40.9 +1.1
baz=228
SCLT eS Sn 11 47 05.6 +1.3
baz=228
SHHT Tainan City 2.05 221 eP Pn 11 46 42.2 +2.2
baz=232
SCST Cishan 2.07 216 eP Pn 11 46 41.9 +1.6
baz=229
SCST eS Sn 11 47 06.6 +1.4
baz=229
ECL Taimali 2.12 202 eP Pn 11 46 40.9 0.0
baz=194
TSCK Chigu Township 2.13 229 eP Pn 11 46 42.5 +1.5
baz=228
JIJ Ishigaki jima 2.13 95 P Pn 11 46 41.1 0.0
JIJ S Sn 11 47 06.2 -0.4
TWM1 Shoushan 2.16 217 eP Pn 11 46 43.3 +1.8
baz=227
VWUC VWUC 2.19 281 iP Pn 11 46 41.6 -0.3
baz=281
MASBT Mashibuluo 2.23 209 eP Pn 11 46 44.0 +1.5
baz=223
JISG Ishigakijimahi 2.27 89 iP Pn 11 46 43.3 +0.3
JISG eS Sn 11 47 10.1 +0.1
PNG Penghu 2.30 245 P Pn 11 46 42.8 -0.5
baz=245
PNG eS Sn 11 47 08.4 -2.2
baz=245
PHUB P'eng-hu 2.31 243 iP Pn 11 46 43.1 -0.3
baz=244
PHUB eS Sn 11 47 08.7 -2.1
baz=244
EAST Anshuo 2.35 202 eP Pn 11 46 44.0 -0.2
baz=194
TAW Tawu 2.36 201 eP Pn 11 46 44.5 +0.3
baz=193
WDGT Dungji 2.37 237 eP Pn 11 46 44.2 -0.1
baz=238
WDGT eS Sn 11 47 11.9 -0.4
baz=238
TAWH Dawu Township 2.38 201 eP Pn 11 46 45.1 +0.6
baz=193
WSSB Gushan 2.39 217 eP Pn 11 46 45.6 +0.9
baz=216
SCZT Fangliau 2.45 207 eP Pn 11 46 47.8 +2.4
baz=205
PTMZ Houxiangcun 2.49 281 iP Pn 11 46 45.7 -0.3
baz=281
LAY Lan-yu 2.53 186 P Pn 11 46 46.2 -0.4
baz=180
LAY i S Sn 11 47 14.7 -1.7
baz=180
LYUB Lan-yu 2.57 185 eP Pn 11 46 45.5 -1.5
baz=177
VCHM Qimei 2.57 239 eP Pn 11 46 46.1 -1.0
baz=239
JTJ Tarama 2.63 88 eP Pn 11 46 49.0 +1.2
JTJ eS Sn 11 47 19.4 +0.7
LYJJ Jianjiangzhen 2.71 317⇓eP Pn 11 46 48.2 -0.7
baz=315
XPSS Dashiqiu 2.77 328⇓eP Pn 11 46 49.3 -0.4
baz=326
TWKBT Hengchun 2.78 200 eP Pn 11 46 50.9 +1.1
baz=190
MHZQ Yeshan 2.94 302 eP Pn 11 46 51.2 -0.9
baz=300
JIRB Irabujima 3.06 85 eP Pn 11 46 55.3 +1.6
JIRB eS Sn 11 47 30.8 +1.6
KNM Kinmen 3.09 268 eP Pn 11 46 55.1 +1.1
baz=268
KNMB Chin-men Tao 3.12 269 eP Pn 11 46 53.9 -0.7
baz=269
JMJ Miyako jima 2 3.17 85 P Pn 11 46 58.0 +2.8
ZPLA Ao Xicun 3.77 261 eP Pn 11 47 03.1 -0.1
baz=262
DSXP Dongshan 4.10 259 eP Pn 11 47 07.5 -0.4
baz=259
SXFK Yanhouchang 4.19 297 eP Pn 11 47 08.2 -0.8
baz=295
JOW Kunigami 6.25 68 Pn Pn 11 47 37.3 +0.2
2.7nm,0.3s,baz=236,slow=7.3,SNR=20
JOW Sn Sn 11 48 44.6 -2.6
1.0nm,0.3s,baz=143,slow=19,SNR=1.2
7.2nm,0.2s
KSRS Korea Array 13.86 21 Pn P 11 49 26.3 -0.3
0.2nm,0.3s,baz=202,slow=12,SNR=6.8
CMAR Chiang Mai Arr 22.12 258 LR LR 11 59 45.1
comp=Z,16nm,18.1s,baz=200,slow=38
SONM Songino Array 26.24 336 P P 11 51 36.6 +0.7
0.6nm,0.6s,baz=148,slow=8.5,SNR=4.5
0.6nm,0.6s
WRA Warramunga Arr 45.90 163 P P 11 54 22.0 -1.1
0.2nm,0.3s,baz=346,slow=8.7,SNR=5.4
0.2nm,0.3s
ASAR Alice Springs 49.37 165 P P 11 54 49.9 -0.1
0.3nm,0.6s,baz=341,slow=7.1,SNR=5.3
0.3nm,0.6s

*ASRS **14** 11:47:42.4±0.5, 48°.N×2°.×8°.0E±°, h9km, MLh3.3/6, Error ellipse: s-maj=5.6km s-min=3.7km az=68.3, confirmed*
*SOME **14** 11:47:43.9, 47°.58N×80°.00E, h0km*
*NNC **14** 11:47:46.4±0.9, 47°.80N×80°.74E, h12km±9km, mb3.6, mpv3.3, Error ellipse: s-maj=11.4km s-min=3.0km az=52.0*
ISC 14 11:47:46.4±1.2, 47.79N±0°.03×80.71E±0°.03, h9km±12km, n32, σ2°91/45, 11C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.30**	**138**	⇑P	**Pn**	**11 48 09.3**	**-1.5**
	3.7nm,0.3s						
MAKZ				⇑S	**Sb**	**11 48 27.0**	**-0.9**
	46nm,0.4s						
MAKZ	**Makanchi**	**1.30**	**138**	Pg	**Pn**	**11 48 09.9**	**-1.0**
MAKZ				Sg	**Sb**	**11 48 27.3**	**-0.6**
MK31	**Makanchi Array**	**1.46**	**132**	⇓P	**Pn**	**11 48 13.0**	**-0.1**
	1.2nm,0.2s,baz=42,slow=16,SNR=322						
MK31				⇑S	**Sg**	**11 48 32.7**	**-0.7**
	25nm,0.4s,baz=315,slow=10,SNR=26						
MKAR	**Makanchi Array**	**1.46**	**132**	Pg	**Pb**	**11 48 13.4**	**-0.4**
MKAR				Sg	**Sg**	**11 48 33.2**	**-0.3**
ZSN	**Zaisan**	**2.83**	**95**	*e*P	**Pg**	**11 48 39.7**	**-1.0**
	4.9nm,0.2s						
ZSN				*e*S	**Sg**	**11 49 20.8**	**+3.5**
	4.0nm,0.2s						
ZSN	**Zaisan**	**2.83**	**95**	Pg	Pg	11 48 48.9	+8.2
	3.6nm,0.3s						
ZSN				Lg	Lg	11 49 23.5	
	7.2nm,0.5s						
KURBB	**Kurchatov Arra**	**3.18**	**334**	⇑Pn	**Pn**	**11 48 36.4**	**-0.2**
	0.9nm,0.3s						
KURBB				⇑Pg	**Pb**	**11 48 44.7**	**+1.6**
	2.8nm,0.5s						
KURBB				⇑Sn	**Sn**	**11 49 15.4**	**+0.8**
	4.0nm,0.4s						
KURBB				⇑Lg	Lg	11 49 30.6	
	26nm,0.5s						
KURK	**Kurchatov**	**3.24**	**336**	⇑Pn	**Pn**	**11 48 34.3**	**-3.1**
	2.3nm,1.2s						
KURK				⇑Pg	**Pb**	**11 48 44.8**	**+0.8**
	1.4nm,0.4s						
KURK				⇑Sn	**Sn**	**11 49 15.7**	**-0.3**
	3.6nm,0.5s						
KURK				⇑Lg	Lg	11 49 30.1	
	18nm,0.5s						
KURK	**Kurchatov**	**3.24**	**336**	Pg	**Pb**	**11 48 45.0**	**+0.9**
KURK				Sg	**Sg**	**11 49 30.7**	**+0.4**
DJR	**Jarkent**	**3.51**	**191**	*e*P	**Pn**	**11 48 44.9**	**+3.6**
	1.1nm,0.1s						
DJR				*e*S	**Sb**	**11 49 28.4**	**-3.2**
	9.1nm,0.3s						
DJR	**Jarkent**	**3.51**	**191**	Pg	**Pb**	**11 48 51.4**	**+2.5**
	3.0nm,0.2s						
DJR				Lg	Lg	11 49 28.5	
	9.6nm,0.4s						
KNOS	**Konyrlen**	**3.59**	**198**	Pg	**Pb**	**11 48 52.4**	**+2.3**
	1.4nm,0.5s						
KNOS				Lg	Lg	11 49 30.0	
	7.8nm,0.2s						
BLB	**Baldybastay**	**4.00**	**204**	Pg	**Pb**	**11 49 00.0**	**+2.8**
	21nm,0.5s						
BLB				Lg	Lg	11 49 43.1	
	30nm,0.6s						
ARXS	**Arharly**	**4.10**	**210**	*e*P	**Pb**	**11 48 54.8**	**-4.0**
	0.9nm,0.1s						
ARXS				*e*S	**Sb**	**11 49 45.3**	**-3.2**
	23nm,0.3s						
ARXS	**Arharly**	**4.10**	**210**	Pg	**Pb**	**11 49 01.7**	**+2.9**
	1.8nm,0.3s						
ARXS				Lg	Lg	11 49 46.5	
	32nm,0.3s						
KTMS	**Ketmen**	**4.35**	**183**	Pg	**Pg**	**11 49 09.1**	**-0.6**
	0.6nm,0.2s						
KTMS				Lg	Lg	11 49 58.7	
	2.9nm,0.2s						
PDGK	**Podgornoye**	**4.54**	**191**	Pg	**Pg**	**11 49 10.8**	**-2.5**
	1.2nm,0.5s						
PDGK				Lg	Lg	11 50 01.3	
	3.1nm,0.4s						
KPKS	**Kokpek**	**4.55**	**199**	Pg	**Pg**	**11 49 11.0**	**-2.5**
	1.4nm,0.2s						
KPKS				Lg	Lg	11 50 01.7	
	14nm,0.5s						
SHLS	**Shalkode**	**4.71**	**191**	Pg	**Pb**	**11 49 12.4**	**+3.1**
	3.0nm,0.3s						
SHLS				Lg	Lg	11 50 03.9	
	13nm,0.3s						
UZB	**Uzynbulak**	**4.79**	**195**	Pg	**Pb**	**11 49 13.9**	**+3.4**
	2.8nm,0.3s						
UZB				Lg	Lg	11 50 06.5	
	7.5nm,0.5s						
ELDR	**Elanda**	**4.91**	**44**	Sg	**Sg**	**11 50 27.8**	**+3.9**
KUU	**Kurty**	**4.95**	**220**	Pg	**Pb**	**11 49 16.6**	**+3.4**
	2.8nm,0.1s						
KUU				Lg	Lg	11 50 11.3	
	5.8nm,0.1s						
KTBS	**Karatobe**	**4.95**	**216**	Pg	**Pb**	**11 49 16.3**	**+3.0**
	1.1nm,0.3s						
KTBS				Lg	Lg	11 50 10.8	
	6.7nm,0.5s						
SATY	**Saty**	**5.00**	**200**	Pg	**Pg**	**11 49 19.0**	**-3.1**
	0.9nm,0.1s						
SATY				Lg	Lg	11 50 15.2	
	11nm,0.3s						
AKAR	**Aktash**	**5.20**	**58**	Pn	**Pn**	**11 49 01.6**	**-2.9**
AKAR				Pg	**Pg**	**11 49 22.3**	**-3.7**
AKAR				Sg	**Sg**	**11 50 40.3**	**+6.9**
MDOK	**Medeo**	**5.29**	**210**	Pg	**Pg**	**11 49 23.7**	**-4.0**
	2.8nm,0.3s						
MDOK				Lg	Lg	11 50 23.4	
	5.1nm,0.5s						
KRBS	**Karabastau**	**5.40**	**223**	Pg	**Pb**	**11 49 24.3**	**+3.4**
	1.1nm,0.3s						
KRBS				Lg	Lg	11 50 25.6	
	3.0nm,0.3s						
TNSS	**Tian-Shan**	**5.44**	**211**	Pg	**Pb**	**11 49 26.3**	**+4.6**
	1.6nm,0.3s						
TNSS				Lg	Lg	11 50 27.7	
	3.8nm,0.5s						
ULGR	**Ulagan, Altay**	**5.54**	**56**	Pn	**Pn**	**11 49 08.7**	**-0.3**
ULGR				Sg	Sg	11 50 53.7	+10
CUR	**Chagan-Uzun**	**5.54**	**62**	Pn	Pn	11 49 02.2	-7.0
CUR				Pg	**Pg**	**11 49 31.2**	**-1.3**
CUR				Sg	Sg	11 50 52.9	+8.7
KST	**Kastek**	**5.80**	**217**	Pg	**Pb**	**11 49 32.3**	**+4.5**
	2.6nm,0.4s						
KST				Lg	Lg	11 50 38.2	
	4.5nm,0.5s						
ARTR	**Artybash**	**5.85**	**44**	Sg	**Sg**	**11 50 58.4**	**+4.3**

IDC 14 11:53:16.6±2.0, 0°.27N×125°.48E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=190.2km s-min=26.6km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.88**	**157**	P	P	11 58 09.6	-1.8
	0.5nm,0.5s,baz=335,slow=12,SNR=10						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.16**	**162**	P	P	11 58 45.0	+1.2
	0.3nm,0.3s,baz=346,slow=12,SNR=25						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**59.72**	**327**	P	P	12 03 23.1	-0.1
	0.2nm,0.4s,baz=119,slow=7.5,SNR=4.1						
	0.2nm,0.4s						

IDC 14 12:18:31.2±2.1, 5°.06S×127°.76E, h0km, mb3.5/1, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=132.2km s-min=30.9km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.12**	**157**	Pn	Pn	12 22 20.5	+1.0
	0.2nm,0.3s,baz=335,slow=13,SNR=19						
WRA				Sn	Sn	12 25 08.6	-11
	0.1nm,0.3s,baz=331,slow=22,SNR=2.0						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**19.43**	**163**	P	P	12 22 59.0	-0.4
	0.5nm,0.3s,baz=351,slow=11,SNR=51						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**65.39**	**327**	P	P	12 29 15.8	0.0
	0.2nm,0.4s,baz=117,slow=8.0,SNR=2.2						
	0.2nm,0.4s						

*MOS **14** 12:35:18.4±1.0, 40°.43N×49°.42E, h66km, mb4.1/1, Error ellipse: s-maj=38.2km s-min=5.7km az=121.9*
*DRS **14** 12:35:18.9, 40°.83N×49°.74E, h69km*
*AZER **14** 12:35:20.3, 41°.07N×49°.44E, h11km, ml2.8*
ISC 14 12:35:20.6±1.2, 41°.16N±0°.02×49°.51E±0°.03, h8km±9km, n54, σ1°36/103, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIZA	**Siyzn**	**0.47**	**259**	P	**Pb**	**12 35 30.7**	**-0.4**
SIZA				S	**Sb**	**12 35 39.6**	**+1.4**
ATGJ	**Altiaghaj**	**0.53**	**235**	P	**Pg**	**12 35 30.0**	**-0.7**
ATGJ				S	**Sg**	**12 35 39.0**	**+1.3**
NDR	**Nardaran**	**0.69**	**148**	P	**Pg**	**12 35 33.6**	**-0.2**
NDR				S	**Sg**	**12 35 43.5**	**+0.8**
GBS	**Qobustan**	**0.76**	**214**	P	**Pg**	**12 35 35.2**	**0.0**
GBS				S	**Sb**	**12 35 48.5**	**+1.9**
GOBA	**Gobu**	**0.78**	**167**	P	**Pg**	**12 35 35.9**	**+0.3**
GOBA				S	**Sb**	**12 35 48.2**	**+1.1**
PQL	**Pirkuli**	**0.79**	**242**	P	**Pg**	**12 35 35.7**	**0.0**
PQL				S	**Sg**	**12 35 47.5**	**+1.6**
QUBA	**Quba, Azerbaij**	**0.79**	**284**	P	**Pb**	**12 35 37.1**	**+0.6**
QUBA				S	**Sb**	**12 35 48.8**	**+1.5**
QSAR	**Qusar**	**1.00**	**291**	P	**Pn**	**12 35 41.0**	**+0.1**
QSAR				S	**Sn**	**12 35 55.9**	**+0.6**
XNQ	**Khinaliq**	**1.03**	**271**	P	**Pg**	**12 35 40.4**	**0.0**
XNQ				S	**Sb**	**12 35 55.2**	**+0.7**
IML	**Ismayilli**	**1.07**	**250**	P	**Pg**	**12 35 40.7**	**-0.4**
IML				S	**Sg**	**12 35 56.1**	**+1.2**
KSMR	**Kasumkent**	**1.12**	**293**	*e*Pg	**Pn**	**12 35 43.4**	**+0.6**
	480nm,0.2s						
KSMR				*e*Sg	**Sn**	**12 35 59.8**	**+1.4**
	360nm,2.2s						
KSMR	**Kasumkent**	**1.12**	**293**	*e*P	**Pn**	**12 35 43.3**	**+0.6**
KSMR				*e*S	**Sn**	**12 35 59.8**	**+1.4**
KSMR				*i* S		12 36 00.7	
KSMR				pmax	pmax		
	comp=Z,192nm,0.5s						
KSMR				smax	smax		
	comp=N,2μm,0.4s						
KSMR				smax	smax		
	comp=E,2μm,0.4s						
KSMR				smax	smax		
	comp=N,2μm,0.3s						
DRN	**Derbent**	**1.23**	**315**	*e*Pg	**Pn**	**12 35 46.0**	**+1.9**
	comp=N,640nm,0.1s						
DRN				*e*Sg	**Sn**	**12 36 04.5**	**+3.5**
	comp=N,280nm,0.7s						
DRN	**Derbent**	**1.23**	**315**	*e*P	**Pn**	**12 35 46.0**	**+1.9**
DRN				*e*S	**Sn**	**12 36 04.4**	**+3.5**
DRN				*i* S		12 36 05.6	
DRN				pmax	pmax		
	comp=Z,103nm,0.6s						
DRN				smax	smax		
	comp=N,656nm,0.3s						
DRN				smax	smax		
	comp=E,379nm,0.3s						
DRN				smax	smax		
	comp=N,510nm,0.3s						
ALIB	**&Aumlli-Bayram**	**1.26**	**198**	P	**Pn**	**12 35 45.5**	**+1.0**
ALIB				S	**Sg**	**12 36 01.0**	**-0.2**
QBL	**Gabala**	**1.28**	**261**	P	**Pg**	**12 35 44.5**	**-0.6**
QBL				S	**Sn**	**12 36 03.7**	**+1.5**
AKT	**Akhty**	**1.37**	**284**	*e*Pg	**Pb**	**12 35 47.1**	**+0.5**
	comp=N,440nm,0.2s						
AKT				*e*Sg	**Sn**	**12 36 06.2**	**+1.6**
	comp=N,320nm,0.4s						
AKT	**Akhty**	**1.37**	**284**	*e*P	**Pb**	**12 35 47.0**	**+0.5**
AKT				*e*S	**Sn**	**12 36 06.2**	**+1.6**
AKT				*i* S		12 36 06.9	
AKT				pmax	pmax		
	comp=Z,156nm,0.4s						
AKT				smax	smax		
	comp=E,409nm,0.3s						
AKT				smax	smax		
	comp=N,370nm,0.5s						
AKT				smax	smax		
	comp=E,332nm,0.3s						
ZRD	**Zardab**	**1.64**	**238**	Pn	**Pn**	**12 35 49.6**	**-0.1**
ZRD				Sn	**Sn**	**12 36 12.2**	**+1.2**
URKR	**Urkarakh**	**1.72**	**306**	*e*Pg	**Pg**	**12 35 53.7**	**+0.1**
	comp=E,280nm,0.1s						
URKR				*e*Sg	**Sg**	**12 36 18.4**	**+2.5**
	comp=E,560nm,0.2s						
URKR	**Urkarakh**	**1.72**	**306**	*e*P	**Pg**	**12 35 53.7**	**+0.1**
URKR				*e*S	**Sg**	**12 36 18.4**	**+2.5**
URKR				*i* S		12 36 19.1	
URKR				pmax	pmax		
	comp=Z,73nm,0.3s						
URKR				smax	smax		
	comp=N,119nm,0.6s						
URKR				smax	smax		
	comp=E,164nm,0.6s						
URKR				smax	smax		
	comp=E,123nm,0.6s						
SGKR	**Sergokala**	**1.89**	**314**	*e*Pn	**Pg**	**12 35 56.5**	**-0.3**
	comp=E,80nm,0.0s						
SGKR				*e*Sn	**Sg**	**12 36 23.3**	**+1.9**
	comp=E,440nm,0.2s						
SGKR	**Sergokala**	**1.89**	**314**	*e*P	**Pg**	**12 35 56.5**	**-0.3**
SGKR				*e*S	**Sg**	**12 36 23.3**	**+1.9**
SGKR				*i* S		12 36 23.9	
SGKR				pmax	pmax		
	comp=Z,17nm,0.1s						
SGKR				smax	smax		
	comp=N,214nm,0.4s						
SGKR				smax	smax		
	comp=E,110nm,0.5s						
SGKR				smax	smax		
	comp=N,159nm,0.5s						
KMKR	**Kumukh**	**2.05**	**299**	*e*Pn	**Pb**	**12 35 58.1**	**-0.1**
	comp=N,80nm,0.0s						
KMKR				*e*Sn	**Sg**	**12 36 26.1**	**-0.2**
	comp=N,480nm,0.1s						
KMKR	**Kumukh**	**2.05**	**299**	*e*P	**Pb**	**12 35 58.0**	**-0.1**
KMKR				*e*S	**Sg**	**12 36 26.1**	**-0.2**
KMKR				*i* S		12 36 27.2	
KMKR				pmax	pmax		
	comp=Z,16nm,0.1s						
KMKR				smax	smax		
	comp=E,106nm,0.6s						
KMKR				smax	smax		
	comp=N,142nm,0.5s						
KMKR				smax	smax		
	comp=N,117nm,0.4s						
AGDM	**Agdam**	**2.11**	**241**	Pn	**Pn**	**12 35 55.6**	**-0.6**
AGDM				Sn	**Sn**	**12 36 23.9**	**+1.4**
GNBR	**Gunib**	**2.26**	**304**	*e*Pn	**Pb**	**12 36 00.6**	**-1.1**
	comp=N,550nm,0.0s						
GNBR				*e*Sn	**Sb**	**12 36 31.0**	**+1.2**
	comp=N,600nm,0.1s						
GNBR	**Gunib**	**2.26**	**304**	*e*P	**Pb**	**12 36 00.5**	**-1.1**
GNBR				*e*S	**Sb**	**12 36 31.0**	**+1.2**
GNBR				*i* S		12 36 31.9	
GNBR				pmax	pmax		
	comp=Z,23nm,0.6s						
GNBR				smax	smax		
	comp=N,91nm,0.6s						
GNBR				smax	smax		
	comp=E,78nm,0.6s						
GNBR				smax	smax		
	comp=N,78nm,0.6s						
MAK	**Makhachkala**	**2.33**	**321**	*e*P	**Pg**	**12 36 04.3**	**-1.0**
MAK				*e*S	**Sg**	**12 36 37.9**	**+2.4**
MAK				*e*S		12 36 46.7	
MAK				pmax	pmax		
	comp=Z,101nm,0.2s						
MAK				smax	smax		
	comp=N,202nm,0.5s						
MAK				smax	smax		
	comp=E,197nm,0.5s						
MAK				smax	smax		
	comp=N,142nm,0.4s						
MAK				MLR	MLR		
	comp=Z,111nm,2.0s						
ARKR	**Arakani**	**2.36**	**308**	*e*Pn	**Pb**	**12 36 03.2**	**-0.2**
	comp=Z,320nm,0.0s						
ARKR				*e*Sn	**Sg**	**12 36 35.5**	**-1.0**
	comp=Z,480nm,0.1s						
ARKR	**Arakani**	**2.36**	**308**	*e*P	**Pb**	**12 36 03.2**	**-0.2**
ARKR				*e*S	**Sg**	**12 36 35.4**	**-1.0**
ARKR				*i* S		12 36 36.1	
ARKR				pmax	pmax		
	comp=Z,14nm,0.3s						
ARKR				smax	smax		
	comp=N,53nm,0.5s						
ARKR				smax	smax		
	comp=E,49nm,0.4s						
ARKR				smax	smax		
	comp=N,41nm,0.6s						
BUJR	**Buynaksk**	**2.44**	**314**	*e*Pn	**Pb**	**12 36 03.8**	**-0.9**
	comp=N,400nm,0.1s						
BUJR				*e*Sn	**Sb**	**12 36 36.4**	**+1.5**
	comp=N,520nm,0.2s						
BUJR	**Buynaksk**	**2.44**	**314**	*e*P	**Pb**	**12 36 03.8**	**-0.9**
BUJR				*e*S	**Sb**	**12 36 36.4**	**+1.5**
BUJR				*i* S		12 36 37.0	
BUJR				pmax	pmax		
	comp=Z,115nm,0.4s						
BUJR				smax	smax		
	comp=E,165nm,0.7s						
BUJR				smax	smax		
	comp=N,196nm,0.5s						
BUJR				smax	smax		
	comp=N,162nm,0.5s						
YRD	**Yardimli**	**2.45**	**204**	Sn	**Sn**	**12 36 32.3**	**+1.1**
GANJ	**Ganja**	**2.47**	**259**	Pn	**Pn**	**12 36 00.8**	**-0.4**
GANJ				Sn	**Sn**	**12 36 30.3**	**-1.2**
XNZR	**Khunzakh**	**2.50**	**304**	*e*Pn	**Pb**	**12 36 04.8**	**-1.1**
	comp=N,560nm,0.0s						
XNZR				*e*Sn	**Sb**	**12 36 38.5**	**+1.6**
	comp=N,560nm,0.0s						
HNZR	**Khunzah**	**2.50**	**305**	*e*P	**Pb**	**12 36 04.8**	**-1.1**
HNZR				*e*S	**Sb**	**12 36 38.5**	**+1.5**
HNZR				*i* S		12 36 39.6	
HNZR				pmax	pmax		
	comp=Z,21nm,0.6s						
HNZR				smax	smax		
	comp=N,40nm,0.6s						
HNZR				smax	smax		
	comp=E,35nm,0.6s						
HNZR				smax	smax		
	comp=N,36nm,0.1s						
UNCR	**Uncukul**	**2.55**	**308**	*e*Pn	**Pb**	**12 36 05.1**	**-1.4**
	comp=N,600nm,0.0s						
UNCR				*e*Sn	**Sb**	**12 36 39.4**	**+1.3**
	comp=N,840nm,0.1s						
UNCR	**Uncukul**	**2.55**	**308**	*e*P	**Pb**	**12 36 05.1**	**-1.4**
UNCR				*e*S	**Sb**	**12 36 39.3**	**+1.3**
UNCR				*i* S		12 36 40.3	
UNCR				pmax	pmax		
	comp=Z,18nm,0.6s						
UNCR				smax	smax		
	comp=N,63nm,0.8s						
UNCR				smax	smax		
	comp=E,42nm,0.5s						
UNCR				smax	smax		
	comp=N,68nm,0.9s						
KRNR	**Karanay**	**2.55**	**311**	*e*Pn	**Pb**	**12 36 06.0**	**-0.6**
	comp=N,400nm,0.0s						
KRNR				*e*Sn	**Sg**	**12 36 40.5**	**-2.0**
	comp=N,400nm,0.0s						
KRNR	**Karanay**	**2.55**	**311**	*e*P	**Pb**	**12 36 06.0**	**-0.6**
KRNR				*e*S	**Sg**	**12 36 40.5**	**-2.0**
KRNR				*i* S		12 36 41.2	
KRNR				pmax	pmax		
	comp=Z,9.0nm,0.4s						
KRNR				smax	smax		
	comp=E,32nm,0.4s						
KRNR				smax	smax		
	comp=N,33nm,0.4s						
KRNR				smax	smax		
	comp=N,26nm,0.5s						
DBC	**Dubki**	**2.72**	**314**	*e*Pn	**Pb**	**12 36 07.9**	**-1.6**
	comp=N,700nm,0.0s						
DBC				*e*Sn	**Sb**	**12 36 43.6**	**+0.5**
	comp=N,600nm,0.1s						
DBC	**Dubki**	**2.72**	**314**	*e*P	**Pb**	**12 36 07.9**	**-1.6**
DBC				*e*S	**Sb**	**12 36 43.6**	**+0.5**
DBC				*i* S		12 36 44.5	
DBC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
DBC				smax	smax		
	comp=N,32nm,0.5s						
DBC				smax	smax		
	comp=E,68nm,0.6s						
DBC				smax	smax		
	comp=E,51nm,0.3s						
DLMR	**Dylym**	**2.86**	**313**	*e*Pn	**Pb**	**12 36 10.0**	**-1.9**
	comp=E,80nm,0.0s						
DLMR				*e*Sn	**Sb**	**12 36 47.6**	**+0.5**
	comp=E,360nm,0.2s						
DLMR	**Dylym**	**2.86**	**313**	*e*P	**Pb**	**12 36 10.0**	**-1.9**
DLMR				*e*S	**Sb**	**12 36 47.6**	**+0.5**
DLMR				*i* S		12 36 48.3	
DLMR				pmax	pmax		
	comp=Z,28nm,0.1s						
DLMR				smax	smax		
	comp=N,156nm,0.6s						
DLMR				smax	smax		
	comp=E,215nm,0.4s						
DLMR				smax	smax		
	comp=E,207nm,0.4s						
BTLR	**Botlikh**	**2.87**	**303**	*e*Pn	**Pb**	**12 36 09.8**	**-2.3**
	comp=E,480nm,0.0s						
BTLR				*e*Sn	**Sb**	**12 36 47.6**	**+0.1**
	comp=E,440nm,0.0s						
BTLR	**Botlikh**	**2.87**	**303**	*e*P	**Pb**	**12 36 09.8**	**-2.3**
BTLR				*e*S	**Sb**	**12 36 47.5**	**+0.1**
BTLR				*i* S		12 36 48.3	
BTLR				pmax	pmax		
	comp=Z,20nm,0.5s						
BTLR				smax	smax		
	comp=E,21nm,0.6s						
BTLR				smax	smax		
	comp=N,31nm,0.4s						
BTLR				smax	smax		
	comp=N,24nm,0.4s						
GDB	**GEDABAY**	**2.88**	**262**	Pn	**Pn**	**12 36 06.3**	**-0.6**
GDB				Sn	**Sn**	**12 36 41.4**	**-0.3**
DVE	**Vedeno**	**3.09**	**307**	P	**Pb**	**12 36 13.0**	**-2.8**
DVE				S	**Sb**	**12 36 52.4**	**-1.2**
QZX	**Qazax, Azerbai**	**3.12**	**269**	Pg	**Pb**	**12 36 14.9**	**-1.4**
QZX				Sg	**Sg**	**12 36 58.6**	**-2.3**
KBZ	**Khabaz**	**5.52**	**300**	*i* P	**Pn**	**12 36 42.0**	**-1.0**
SHA1	**Shidzhatmaz**	**5.68**	**299**	*i* P	**Pn**	**12 36 46.7**	**+1.2**
OBN	**Obninsk**	**16.37**	**333**	*e*P	**P**	**12 39 12.4**	**-1.0**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,25nm,6.0s						
BILL	**Bilibino**	**61.34**	**23**	*e*P	**P**	**12 45 34.2**	**-2.0**
BILL				*e*		12 46 11.9	
BILL				*e*		12 47 49.0	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.5s						

*NOU **14** 12:38:19.3, 36°.19S×179°.89W, h172km, MLv4.2/5, East of North Island, N.Z.*
*WEL **14** 12:38:44.1±0.7, 37°.S±4°.×17°.8E±°, h12km, M2.8/12, ML3.0/19, MLv2.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=49.0, confirmed*
ISC 14 12:38:45.4±2.1, 37.11S±0°.07×178°.09E±0°.09, h55km±18km, n52, σ1°27/64, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.49**	**159**	P	**Pn**	**12 38 55.7**	**-1.2**
MXZ	**Matakaoa Point**	**0.49**	**159**	P	**Pn**	**12 38 55.4**	**-1.5**
MXZ				S	**Sn**	**12 39 05.0**	**-0.1**
HAZ	**Te Kaha**	**0.69**	**200**	P	**Pn**	**12 38 57.7**	**-1.6**
WMGZ	**Waiomatatini S**	**0.76**	**160**	P	**Pn**	**12 39 00.0**	**-0.1**
WMGZ				S	**Sn**	**12 39 13.7**	**+2.9**
PKGZ	**Pakihiroa**	**0.78**	**181**	P	**Pn**	**12 39 00.4**	**0.0**
PKGZ				S	**Sn**	**12 39 13.7**	**+2.2**
WIZ	**White Island**	**0.83**	**239**	P	**Pn**	**12 38 59.7**	**-1.3**
RUGZ	**Raukumara Rang**	**0.92**	**201**	P	**Pn**	**12 39 00.9**	**-1.3**
RUGZ				S	**Sn**	**12 39 15.9**	**+1.2**
PUZ	**Puketiti**	**0.97**	**172**	P	**Pn**	**12 39 02.2**	**-0.7**
PUZ				S	**Sn**	**12 39 16.6**	**+0.7**
TWGZ	**Tauwhareparae**	**1.07**	**184**	P	**Pn**	**12 39 04.3**	**0.0**
TWGZ				S	**Sn**	**12 39 20.8**	**+2.6**
MWZ	**Matawai**	**1.30**	**200**	P	**Pn**	**12 39 06.4**	**-1.0**
MWZ				S	**Sn**	**12 39 25.5**	**+1.7**
TKGZ	**Te Karaka**	**1.34**	**188**	P	**Pn**	**12 39 07.3**	**-0.6**
TKGZ				S	**Sn**	**12 39 26.5**	**+1.8**
CNGZ	**Carnagh Statio**	**1.38**	**176**	P	**Pn**	**12 39 07.5**	**-0.9**

URZ Urewera 1.39 214 P **Pn 12 39 07.3 -1.2**
URZ S **Sn 12 39 24.6 -1.1**
OPRZ Ohinepanea 1.42 238 P **Pn 12 39 08.0 -1.0**
RAGZ Rawiri 1.49 201 P **Pn 12 39 08.9 -0.9**
TGRZ Tauranga 1.58 246 P **Pn 12 39 10.3 -0.8**
RIGZ Rimuhau 1.62 189 P **Pn 12 39 10.6 -1.0**
MUGZ Murupara 1.72 217 P **Pn 12 39 12.1 -0.8**
KARZ Kaharoa 1.73 238 P **Pn 12 39 12.5 -0.6**
RTZ Ruatahuna 1.74 210 P **Pn 12 39 12.3 -1.1**
RRRZ Republican Roa 1.75 225 P **Pn 12 39 12.7 -0.7**
SNGZ Shannon Statio 1.77 199 P **Pn 12 39 13.7 -0.1**
SNGZ S **Sn 12 39 36.2 +1.0**
KUZ Kuaotunu 1.93 280 P **Pn 12 39 14.9 -0.9**
KUZ Kuaotunu 1.93 280 P **Pn 12 39 14.9 -0.9**
KUZ S **Sn 12 39 38.0 -0.9**
RAHZ Arahi 1.97 203 P **Pn 12 39 16.6 +0.1**
MTHZ Maungataniwha 2.00 209 P **Pn 12 39 16.5 -0.3**
MTHZ S **Sn 12 39 41.9 +1.1**
ALRZ Allen Road 2.00 223 P **Pn 12 39 16.6 -0.3**
TOZ Tahuroa Road 2.15 252 P **Pn 12 39 18.2 -0.6**
MRHZ Matea Rd 2.17 217 P **Pn 12 39 18.8 -0.4**
NMHZ Naumai 2.23 207 P **Pn 12 39 20.0 0.0**
ARHZ Aropaoanui 2.32 201 P **Pn 12 39 20.4 -0.8**
MKAZ Moumakai 2.34 269 P **Pn 12 39 21.1 -0.3**
BKZ Black Stump Fm 2.41 211 P **Pn 12 39 22.0 -0.4**
BKZ Black Stump Fm 2.41 211 P **Pn 12 39 21.7 -0.7**
ETAZ East Tamaki Re 2.53 272 P **Pn 12 39 24.2 +0.1**
MCHZ McNeill Hill 2.58 205 P **Pn 12 39 23.7 -1.0**
KWHZ Kaweka Forest 2.66 209 P **Pn 12 39 24.7 -1.1**
TMVZ Te Maari 2.75 222 P **Pn 12 39 27.1 0.0**
NTVZ North Tongarir 2.75 223 P **Pn 12 39 27.4 +0.3**
ETVZ East Tongariro 2.76 222 P **Pn 12 39 27.0 -0.3**
OTVZ Oturere 2.80 222 P **Pn 12 39 27.7 -0.2**
RVAZ Riverhead Bore 2.83 276 P **Pn 12 39 28.3 +0.2**
KAHZ Kahuranaki 2.85 199 P **Pn 12 39 26.4 -1.9**
KRHZ Kereru 2.87 208 P **Pn 12 39 26.9 -1.7**
HIZ Hauiti 2.92 240 P **Pn 12 39 30.1 +0.8**
MOVZ Moawhango 2.94 218 P **Pn 12 39 28.7 -1.0**
WNVZ Wahianoa 2.96 221 P **Pn 12 39 29.7 -0.4**
PNHZ Pukenui 3.17 207 P **Pn 12 39 30.3 -2.5**
WCZ Waipu Caves 3.23 290 P **Pn 12 39 33.9 +0.3**
VRZ Vera Road 3.31 231 P **Pn 12 39 35.6 +0.9**
PRHZ Porangahau 3.35 199 P **Pn 12 39 32.3 -3.0**
BFZ Birch Farm 3.85 201 P **Pn 12 39 38.4 -3.7**

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*IDC **14** 12:40:46.7±1.5,5°.68S×145°.77E, h0km, mb3.4/3, mbtmp3.4/6, ML2.7/3, Error ellipse: s-maj=46.7km s-min=24.3km az=91.0*

ISC 14 12:40:51.8±1.2, 5.7S±0.1×145.7E±0.2, h35km, n6, σ1ᵽ55/7, mb3.7/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.94**	**158**	Pn	**Pn**	**12 41 48.2**	**-1.6**
	14nm,0.3s,baz=337,slow=6.8,SNR=36						
PMG				Sn	**Sn**	**12 42 37.2**	**+2.4**
	5.3nm,0.3s,baz=119,slow=23,SNR=8.8						
	32nm,0.3s						
CTA	**Charters Tower**	**14.29**	**178**	Pn	**Pn**	**12 44 11.0**	**-0.8**
	baz=2.8,slow=15,SNR=2.4						
	0.4nm,1.0s						
WRA	**Warramunga Arr**	**17.94**	**217**	P	**Pn**	**12 44 59.1**	**+0.5**
	0.2nm,0.3s,baz=40,slow=12,SNR=8.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**21.15**	**211**	P	**P**	**12 45 34.3**	**+0.3**
	0.4nm,0.5s,baz=43,slow=7.1,SNR=18						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**85.74**	**23**	P	**P**	**12 53 27.5**	**+0.5**
	0.4nm,0.8s,baz=246,slow=4.5,SNR=2.8						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**85.78**	**324**	P	**P**	**12 53 27.6**	**+0.1**
	0.2nm,0.4s,baz=121,slow=14,SNR=1.8						
	0.2nm,0.4s						

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*IDC **14** 13:00:22.0±1.1,52°.17N×171°.59W, h0km, mb3.6/12, mbtmp3.6/13, ML3.1/1, Error ellipse: s-maj=31.7km s-min=20.2km az=7.0*
*AEIC **14** 13:00:27.5±2.1,52°.10N±0°.10×171°.42W±0°.08, h26km±4km, Error ellipse: s-maj=15.8km s-min=3.6km az=156.0*
*NEIC **14** 13:00:29.7±1.3,52°.4N±0°.1×171°.54W±0°.07, h32km±10km, mb3.6/12, ML3.6/8, ML3.1(AEIC), Error ellipse: s-maj=20.7km s-min=0.9km az=162.0*

ISC 14 13:00:28.4±0.8, 52°.3N±0°.1×171°.50W±0°.05, h35km, n54, σ1ᵽ37/49, mb3.7/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**1.12**	**60**		**Pn**	**13 00 47.8**	**+0.2**
CLES					**Sn**	**13 01 03.7**	**+1.9**
CLCO	**Concord Point,**	**1.20**	**64**		**Pn**	**13 00 48.6**	**-0.1**
CLCO					**Sn**	**13 01 06.1**	**+2.4**
KOFP	**Korovin Flat P**	**1.59**	**271**		**Pn**	**13 00 55.2**	**+1.1**
KOKL	**Mount Kliuchef**	**1.66**	**273**		**Pn**	**13 00 56.6**	**+1.6**
ATKA	**Atka Island**	**1.66**	**269**		**Pn**	**13 00 55.2**	**+0.3**
ATKA					**Sn**	**13 01 16.2**	**+1.2**
NIKH	**Nikolski High**	**1.76**	**66**		**Pn**	**13 00 56.0**	**-0.3**
OKWE	**Okmok W'ng Wal**	**2.31**	**57**		**Pn**	**13 01 04.9**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**2.38**	**61**		**Pn**	**13 01 06.1**	**+1.3**
GSTR	**Great Sitkin T**	**2.81**	**268**		**Pn**	**13 01 12.3**	**+1.5**
GSMY	**Great Sitkin M**	**2.81**	**267**		**Pn**	**13 01 12.2**	**+1.3**
GSTD	**Great Sitkin T**	**2.87**	**267**		**Pn**	**13 01 13.4**	**+1.7**
MAPS	**Pakushin South**	**3.15**	**59**		**Pn**	**13 01 17.4**	**+1.9**
ADK	**Adak**	**3.22**	**265**		**Pn**	**13 01 17.8**	**+1.4**
ADK					**Sn**	**13 01 55.3**	**+1.8**
ADK	**Adak**	**3.22**	**265**	IAML		13 02 07.0	
	115nm,0.5s						
ADK				IAML		13 02 09.3	
	192nm,0.3s						
MSW	**Makushin Switc**	**3.29**	**58**		**Pn**	**13 01 18.9**	**+1.6**
UNV	**Unalaska Valle**	**3.40**	**60**		**Pn**	**13 01 19.6**	**+0.7**
UNV					**Sn**	**13 02 01.7**	**+3.8**
KIWB	**Kanaga Island**	**3.51**	**265**		**Pn**	**13 01 21.1**	**+0.7**
LVA	**Lava Point**	**3.79**	**58**	Pn	**Pn**	**13 01 24.8**	**+0.6**
LVA				IAML		13 02 27.4	
	comp=N,154nm,1.0s						
LVA				IAML		13 02 31.3	
	comp=E,99nm,0.9s						
SPIA	**Saint Paul Isl**	**4.97**	**8**	Pn	**Pn**	**13 01 39.6**	**-0.7**
AMKA	**Amchitka**	**5.77**	**265**	Pn	**Pn**	**13 01 52.7**	**+1.2**
WAX	**Waxell Ridge**	**17.73**	**51**	P	**P**	**13 04 35.0**	**+2.2**
ILAR	**Eielson Array**	**17.78**	**36**	P	**P**	**13 04 33.7**	**+0.5**
	comp=E,0.1nm,0.3s,baz=233,slow=9.0,SNR=2.4						
	comp=E,0.3nm,0.8s						
H24K	**Noodoo Dome**	**18.06**	**32**		**Pn**	**13 04 36.6**	**+0.4**
CTGM	**Chitina Glacie**	**18.59**	**50**	P	**P**	**13 04 43.1**	**+0.8**
J26L	**Joseph Creek**	**18.88**	**39**	P	**P**	**13 04 45.1**	**-0.3**
B21K	**Ikpikpuk River**	**19.11**	**18**	P	**P**	**13 04 48.3**	**+0.6**
I26K	**Coal Creek Min**	**19.42**	**37**	P	**P**	**13 04 50.4**	**-0.8**
I26K				IAmb	IAmb	13 04 59.1	
	comp=Z,3.7nm,1.3s						
EGAK	**Eagle**	**19.94**	**39**	P	**P**	**13 04 56.1**	**-0.7**
EGAK				IAmb	IAmb	13 05 01.4	
	comp=Z,5.2nm,1.4s						
M29M	**Somme Creek**	**20.28**	**47**	P	**P**	**13 05 00.1**	**-0.7**
M29M				IAmb	IAmb	13 05 01.3	
	comp=Z,3.0nm,1.2s						
SKAG	**Skagway**	**21.31**	**56**	P	**P**	**13 05 12.8**	**+1.1**
H29M	**Whitestone**	**21.59**	**37**	P	**P**	**13 05 15.7**	**+0.9**
H29M				IAmb	IAmb	13 05 50.7	
	comp=Z,3.2nm,1.2s						
G29M	**Pine Creek**	**22.01**	**35**	P	**P**	**13 05 19.8**	**+0.6**
G29M				IAmb	IAmb	13 05 29.1	
	comp=Z,4.9nm,1.3s						
R33M	**Jennings River**	**23.54**	**56**	P	**P**	**13 05 37.5**	**+2.3**
R33M				IAmb	IAmb	13 05 40.2	
	comp=Z,2.1nm,1.1s						
DLBC	**Dease Lake**	**24.06**	**59**	P	**P**	**13 05 41.5**	**+1.5**
	comp=Z,1.6nm,0.6s,baz=314,slow=5.5,SNR=4.9						
	comp=Z,1.6nm,0.6s						
INK	**Inuvik**	**24.15**	**34**	P	**P**	**13 05 39.0**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=211,slow=6.9,SNR=6.6						
	comp=Z,0.4nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**36.59**	**216**	T	T	13 46 11.3	
	baz=21,slow=76,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**36.59**	**216**	T	T	13 46 04.7	
	baz=21,slow=76,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**36.61**	**216**	T	T	13 46 12.0	
	baz=21,slow=76,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	**37.78**	**215**	T	T	13 47 38.4	
	baz=22,slow=76,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**37.80**	**215**	T	T	13 47 39.8	
	baz=22,slow=76,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**37.80**	**215**	T	T	13 47 34.7	
	baz=22,slow=76,SNR=6.3						
NVAR	**Mina Array Bea**	**38.97**	**89**	P	**P**	**13 07 50.8**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=301,slow=7.0,SNR=3.1						
	comp=Z,0.2nm,0.7s						
PDAR	**Pinedale Array**	**41.70**	**78**	P	**P**	**13 08 12.5**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=289,slow=8.5,SNR=2.6						
	comp=Z,0.1nm,0.4s						
TXAR	**Lajitas Array**	**54.06**	**87**	P	**P**	**13 09 47.9**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=305,slow=5.4,SNR=4.2						
	comp=Z,0.2nm,0.7s						
ARCES	**ARCESS Array B**	**57.87**	**353**	P	**P**	**13 10 15.1**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=355,slow=10.0,SNR=1.6						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**61.67**	**317**	P	**P**	**13 10 42.3**	**0.0**
	comp=Z,1.0nm,0.2s,baz=45,slow=7.7,SNR=1.9						
	comp=Z,1.0nm,0.2s						
MKAR	**Makanchi Array**	**62.91**	**312**	P	**P**	**13 10 49.1**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=56,slow=6.7,SNR=2.7						
	comp=Z,0.2nm,0.4s						
BVAR	**Borovoye Array**	**63.01**	**323**	P	**P**	**13 10 51.6**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=44,slow=8.6,SNR=6.6						
	comp=Z,1.1nm,0.5s						
FINES	**FINESS Array B**	**65.77**	**351**	P	**P**	**13 11 08.7**	**-0.4**
	comp=Z,0.8nm,1.0s,baz=26,slow=6.7,SNR=3.8						
	comp=Z,0.8nm,1.0s						
HFS	**Hagfors**	**67.87**	**357**	P	**P**	**13 11 21.0**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=356,slow=4.9,SNR=4.5						
	comp=Z,0.5nm,0.5s						
ASAR	**Alice Springs**	**89.34**	**228**	P	**P**	**13 13 19.5**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=27,slow=5.4,SNR=7.0						
	comp=Z,0.5nm,0.7s						
H03N2	**Juan Fernandez**	**117.11**	**110**	T	T	15 27 06.8	
	baz=315,slow=76						
H03N1	**Juan Fernandez**	**117.13**	**110**	T	T	15 27 08.0	
	baz=315,slow=76						
H03N3	**Juan Fernandez**	**117.13**	**110**	T	T	15 27 08.1	
	baz=315						

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*IDC **14** 13:49:44.4±0.7,6°.45S×130°.76E, h0km, mb4.2/11, mbtmp4.2/12, ML4.9/2, Error ellipse: s-maj=39.3km s-min=15.0km az=68.0*
*DJA **14** 13:49:55.4±0.2,7°.S±2°.×13°.1E±°, h96km±5km, M4.7/12, mB5.2/7, mb4.6/12, MLv4.8/11, Mw(mB)4.5/7*
*NEIC **14** 13:49:57±2.5,6°.52S±0°.07×130°.7E±0°.1, h102km±8km, mb4.4/11, Error ellipse: s-maj=17.5km s-min=9.7km az=88.0*

ISC 14 13:49:55.9±0.5, 6°.52S±0°.04×130°.75E±0°.06, h100km, n75, σ1ᵽ65/77, mb4.3/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.55**	**159**	P	**Pn**	**13 50 23.5**	**+0.6**
SAUI	**Saumlaki**	**1.55**	**159**		**Pn**	**13 50 24.4**	**+1.5**
SAUI	**Saumlaki**	**1.55**	**159**	P	**Pn**	**13 50 23.0**	**+0.1**
SAUI				S	**Sn**	**13 50 44.3**	**+1.0**
BNDI	**Bandanaira**	**2.15**	**337**	P	**Pn**	**13 50 31.4**	**+0.9**
BNDI	**Bandanaira**	**2.15**	**337**	P	**Pn**	**13 50 30.9**	**+0.4**
FAKI	**Fak Fak**	**3.88**	**23**	P	**Pn**	**13 50 53.7**	**+0.2**
FAKI	**Fak Fak**	**3.88**	**23**	Pn	**Pn**	**13 50 52.9**	**-0.6**
FAKI	**Fak Fak**	**3.88**	**23**	P	**Pn**	**13 50 53.2**	**-0.3**
FAKI				S	**Sn**	**13 51 36.8**	**-1.3**
KMPI	**Kaimana, Papua**	**4.09**	**46**	P	**Pn**	**13 50 54.5**	**-1.9**
KMPI				S	**Sn**	**13 51 42.1**	**-1.2**
SWI	**Sorong**	**5.64**	**5**	P	**Pn**	**13 51 16.4**	**-1.0**
	89nm,0.4s,6μm						
DRS	**Darwin Rock St**	**5.88**	**179**	P	**Pn**	**13 51 19.5**	**-1.1**
MTN	**Manton Dam**	**6.30**	**177**	P	**Pn**	**13 51 25.0**	**-1.3**
MTN	**Manton Dam**	**6.30**	**177**		**Pn**	**13 51 25.2**	**-1.1**
KDU	**Kakadu**	**6.36**	**165**	P	**Pn**	**13 51 26.0**	**-1.2**
SANI	**Sanana**	**6.50**	**313**	P	**Pn**	**13 51 30.9**	**+1.9**
SANI	**Sanana**	**6.50**	**313**	P	**Pn**	**13 51 30.3**	**+1.3**
	27nm,1.1s						
LBMI	**Labuha**	**6.68**	**331**	P	**Pn**	**13 51 30.6**	**-0.9**
	175nm,0.7s,0.7nm						
SOEI	**Soe**	**7.17**	**243**	P	**Pn**	**13 51 37.9**	**-0.4**
SOEI	**Soe**	**7.17**	**243**		**Pn**	**13 51 37.4**	**-1.0**
SOEI	**Soe**	**7.17**	**243**	P	**Pn**	**13 51 37.7**	**-0.6**
	40nm,0.5s,1μm0.4nm						
BATI	**Baumata**	**7.91**	**242**	P	**Pn**	**13 51 47.4**	**-0.8**
	35nm,0.4s,1μm0.3nm						
EDFI	**Ende, Flores**	**9.24**	**256**	P	**Pn**	**13 52 05.9**	**-0.6**
KNRA	**Kununurra**	**9.31**	**192**	Pn	**Pn**	**13 52 04.4**	**-2.8**
TABU	**Tabubil**	**10.50**	**84**	P	**Pn**	**13 52 25.7**	**+2.2**
FITZ	**Fitzroy Crossi**	**12.54**	**203**	P	**Pn**	**13 52 48.2**	**-2.6**
FITZ	**Fitzroy Crossi**	**12.54**	**203**		Pn	13 52 45.7	-5.1
PLAI	**Plampang**	**13.06**	**259**	P	**Pn**	**13 52 57.2**	**-0.5**
WB0	**Warramunga Arr**	**13.64**	**165**		**Pn**	**13 53 00.6**	**-4.6**
WRAB	**Tennant Creek**	**13.79**	**166**		**Pn**	**13 53 03.5**	**-3.6**
WRA	**Warramunga Arr**	**13.79**	**166**	Pn	**Pn**	**13 53 03.3**	**-3.9**
	6.5nm,0.3s,baz=346,slow=13,SNR=152						
WRA				Sn	Sn	13 55 28.3	-11
	8.0nm,0.3s,baz=340,slow=22,SNR=6.0						
WB2	**Warramunga Arr**	**13.79**	**166**		**Pn**	**13 53 03.2**	**-4.1**
WR0	**Warramunga Arr**	**13.86**	**165**		**Pn**	**13 53 04.1**	**-4.1**
COEN	**Coen**	**14.29**	**122**	P	**P**	**13 53 15.7**	**-2.1**
COEN	**Coen**	**14.29**	**122**	Pn	**Pn**	**13 53 14.6**	**+0.9**
QIS	**Mount Isa**	**16.39**	**149**	P	**Pn**	**13 53 39.8**	**-0.3**
AS31	**Alice Springs**	**17.32**	**170**	P	**P**	**13 53 50.2**	**-1.2**
AS31				IAmb	IAmb	13 53 52.6	
	comp=Z,7.1nm,0.4s						
ASAR	**Alice Springs**	**17.32**	**170**		**P**	**13 53 50.4**	**-1.0**
ASAR	**Alice Springs**	**17.32**	**170**	P	**P**	**13 53 49.9**	**-1.6**
	comp=Z,3.3nm,0.3s,baz=344,slow=8.3,SNR=222						
ASAR				S	Sn	13 56 50.1	-14
	comp=Z,8.5nm,0.8s,baz=351,slow=26,SNR=12						
	comp=Z,11nm,0.6s						
AS01	**Alice Springs**	**17.32**	**170**	P	**P**	**13 53 50.4**	**-1.1**
MTSU	**Mount Surprise**	**17.56**	**132**	P	**Pn**	**13 53 56.4**	**+1.9**
MBWA	**Marble Bar**	**18.04**	**215**	P	**P**	**13 53 58.6**	**-0.8**
MBWA	**Marble Bar**	**18.04**	**215**	P	**P**	**13 53 58.3**	**-1.1**
WRKA	**Warakurna**	**18.56**	**187**	P	**P**	**13 54 05.0**	**-0.1**
CTA	**Charters Tower**	**20.21**	**133**	P	**P**	**13 54 22.2**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=265,slow=11,SNR=1.7						
OOD	**Oodnadatta**	**21.67**	**168**	P	**P**	**13 54 40.6**	**+2.0**
MEEK	**Meekatharra**	**23.11**	**209**	P	**P**	**13 54 54.5**	**+1.1**
INKA	**Innaminka**	**23.14**	**157**	P	**P**	**13 54 56.2**	**+2.6**
MULG	**Mulgathing**	**23.84**	**173**	P	**P**	**13 55 01.5**	**+1.5**
FORT	**Forrest**	**24.27**	**186**	P	**P**	**13 55 05.8**	**+2.0**
FORT	**Forrest**	**24.27**	**186**	P	**P**	**13 55 05.8**	**+2.0**
FORT				IAmb	IAmb	13 55 24.8	
	comp=Z,14nm,0.8s						
LCRK	**Leigh Creek**	**24.82**	**164**	P	**P**	**13 55 11.1**	**+2.3**
BBOO	**Buckleboo**	**26.62**	**170**	P	**P**	**13 55 26.3**	**+1.1**
BBOO	**Buckleboo**	**26.62**	**170**	P	**P**	**13 55 24.7**	**-0.5**
BBOO				IAmb	IAmb	13 55 37.4	
	comp=Z,30nm,1.5s						
STKA	**Stephens Creek**	**27.19**	**159**	P	**P**	**13 55 31.3**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=338,slow=11,SNR=2.3						
	comp=Z,1.4nm,0.5s						
CMSA	**Cobar Meteorol**	**28.55**	**153**	P	**P**	**13 55 45.3**	**+2.9**
CMAR	**Chiang Mai Arr**	**40.00**	**309**	P	**P**	**13 57 21.6**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=131,slow=7.3,SNR=11						
	comp=Z,1.4nm,0.6s						
MJAR	**Matsushiro Arr**	**43.40**	**9**	P	**P**	**13 57 48.9**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=188,slow=8.5,SNR=8.9						
	comp=Z,1.2nm,0.8s						
KSRS	**Korea Array**	**43.82**	**357**	P	**P**	**13 57 52.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=169,slow=7.4,SNR=2.4						
	comp=Z,0.5nm,0.5s						
ULN	**Ulaanbaatar**	**58.04**	**341**	P	**P**	**13 59 40.6**	**+1.9**
SONM	**Songino Array**	**58.23**	**341**	P	**P**	**13 59 40.6**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=160,slow=7.2,SNR=11						
	comp=Z,1.7nm,0.6s						
MK31	**Makanchi Array**	**68.23**	**326**	P	**P**	**14 00 46.6**	**+0.7**
MK31				IAmb	IAmb	14 00 48.1	
	comp=Z,3.6nm,0.6s						
MKAR	**Makanchi Array**	**68.23**	**326**	P	**P**	**14 00 46.1**	**+0.2**
MKAR	**Makanchi Array**	**68.23**	**326**	P	**P**	**14 00 47.3**	**+1.4**
	comp=Z,4.3nm,0.5s,baz=115,slow=7.9,SNR=59						
	comp=Z,4.3nm,0.5s						
MAKZ	**Makanchi**	**68.42**	**326**	P	**P**	**14 00 48.3**	**+1.3**
MAKZ				IAmb	IAmb	14 00 49.1	
	comp=Z,3.9nm,0.6s						
ZALV	**Zalesovo Beam**	**71.48**	**333**	P	**P**	**14 01 06.2**	**+0.6**
ZALV	**Zalesovo Beam**	**71.48**	**333**	P	**P**	**14 01 05.9**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=124,slow=5.1,SNR=11						
	comp=Z,2.7nm,0.5s						
KURBB	**Kurchatov Arra**	**72.49**	**328**	P	**P**	**14 01 12.8**	**+1.1**
	comp=Z,3.3nm,0.6s,baz=128,slow=5.0,SNR=31						
	comp=Z,3.3nm,0.6s						
KURK	**Kurchatov**	**72.50**	**328**	P	**P**	**14 01 12.5**	**+0.8**
KURK				IAmb	IAmb	14 01 13.6	
	comp=Z,5.0nm,0.9s						
BVAR	**Borovoye Array**	**78.06**	**328**	P	**P**	**14 01 44.4**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=112,slow=8.6,SNR=12						
	comp=Z,1.3nm,0.3s						
ABKAR	**Akbulak array**	**82.60**	**321**	P	**P**	**14 02 07.8**	**-0.2**
QSPA	**South Pole Qui**	**83.45**	**180**	P	**P**	**14 02 13.4**	**+1.1**
QSPA				IAmb	IAmb	14 02 39.8	
	comp=Z,8.8nm,1.5s						
QSPA	**South Pole Qui**	**83.45**	**180**	P	**P**	**14 02 13.7**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=302,slow=4.5,SNR=12						
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**92.60**	**25**	P	**P**	**14 02 56.1**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=281,slow=5.0,SNR=6.1						
	comp=Z,0.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**129.44**	**282**	PKP	**PKiKP**	**14 08 54.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=64,slow=2.9,SNR=3.5						
LPAZ	**La Paz**	**150.63**	**141**	PKPbc	**PKiKP**	**14 09 39.7**	**+0.9**
	comp=Z,2.1nm,0.4s,baz=283,slow=14,SNR=13						

YARS 14 13:52:09.8, 69°.93N×140°.02E, h10km, mb4.7/2, Ms3.3/1, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEPR	**Deputatskiy**	**0.54**	**185**	*i* Pg	Pg	13 52 20.7	+0.3
	627nm,0.2s						
DEPR				*e*Sg	Sg	13 52 26.9	-0.6
	4μm,0.2s						
YBGR	**Belaya Gora**	**2.61**	**120**	*e*Pg	Pb	13 52 55.8	-0.9
	25nm,0.2s						
YBGR				*e*Sg	Sg	13 53 36.0	+2.4
	816nm,0.3s						
BTGS	**Batagay**	**3.01**	**223**	*e*Pn	Pn	13 52 57.9	+0.4
BTGS				*e*Pg	Pg	13 53 05.7	-1.8
	7.1nm,0.2s						
BTGS				*e*Sn	Sn	13 53 36.2	+2.5
	50nm,0.3s						
BTGS				*e*Lg	Lg	13 53 45.8	
	52nm,0.4s						
TIXI	**Tiksi**	**4.07**	**300**	*e*Pn	Pn	13 53 12.1	0.0
TIXI				*e*Pg	Pg	13 53 25.2	-2.5
	8.7nm,0.1s						
TIXI				*e*Lg	Lg	13 54 18.5	
	9.0nm,0.1s						
YAK	**Yakutsk**	**8.97**	**213**	*e*Pg	Pg	13 54 53.8	-7.5
	5.0nm,0.8s						
YAK				*e*Lg	Lg	13 56 54.9	
	14nm,1.6s						
CGD	**Chagda**	**11.92**	**204**	*e*Pg	Pg	13 55 47.7	
	5.4nm,1.9s						
CGD				*e*Lg	Lg	13 58 27.9	
	39nm,1.4s						

IDC 14 14:20:09.6±5.9, 5°.44S×148°.00E, h0km, mb3.2/2, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=178.8km s-min=33.8km az=103.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.61**	**221**	P	P	14 24 39.4	-0.3
	0.1nm,0.3s,baz=45,slow=10,SNR=5.8						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**22.64**	**215**	P	P	14 25 12.5	-0.1
	0.2nm,0.5s,baz=49,slow=8.8,SNR=4.5						
	0.2nm,0.5s						
SONM	**Songino Array**	**64.41**	**330**	P	P	14 30 48.0	+0.2
	0.8nm,0.8s,baz=134,slow=8.3,SNR=3.2						
	0.8nm,0.8s						

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*GII **14** 14:21:39.0±0.3, 33°.645N±0°.004×35°.671E±0°.001, h2km, Mws1.8, confirmed*
*GRAL **14** 14:21:39.5±0.3, 33°.63N×35°.59E, h8km±2km, MD2.8*

ISC 14 14:21:38.6±1.0, 33.71N±0.04×35.66E±0.05, h12km±7km, n19, σ0ᵽ50/21, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	**Deir Qamar**	**0.07**	**265**	*e*P	**Pg**	**14 21 41.5**	**+0.2**
DQRL				*e*S	**Sg**	**14 21 43.0**	**-0.2**
QRWL	**Qaraoun**	**0.17**	**173**	*e*P	**Pg**	**14 21 41.9**	**-0.5**
BHL	**Bhannes**	**0.19**	**359**	*e*P	**Pb**	**14 21 44.8**	**+0.6**
ZAHL	**Zahle**	**0.24**	**52**	*e*P	**Pb**	**14 21 45.7**	**+0.7**
RCY	**Rachaya**	**0.26**	**145**	*e*P	**Pg**	**14 21 44.2**	**+0.1**
RCY				*e*S	**Sg**	**14 21 47.6**	**-0.2**
NATI	**Neve Ativ**	**0.45**	**172**	S	**Sg**	**14 21 54.3**	**+0.8**
NATI	**Neve Ativ**	**0.45**	**172**	P	**Pg**	**14 21 47.3**	**-0

TURN Sg Sn 14 26 25.4 -1.6
TURN Turunc 1.02 83 P Pn 14 26 08.5 +0.3
TURN *i* AML AML 14 26 26.0
comp=N,6µm,0.4s
TURN S Sn 14 26 26.0 -1.0
TURN *i* AML AML 14 26 27.0
comp=N,4µm,0.6s
SMG Samos 1.06 354 P Pn 14 26 08.2 -0.5
SMG Samos 1.06 354 P Pn 14 26 08.1 -0.5
GCAM G?zelcaml? 1.07 11 Pg Pn 14 26 08.5 -0.1
KARP Karpathos 1.11 172 Pn Pn 14 26 09.5 +0.4
KARP Karpathos 1.11 172 Pn Pn 14 26 09.4 +0.2
KARP Karpathos 1.11 172 P Pn 14 26 09.8 +0.7
KARP Karpathos 1.11 172 P Pn 14 26 09.6 +0.4
KARP Karpathos 1.11 172 P Pn 14 26 09.8 +0.7
KARP S Sn 14 26 28.1 -0.5
KARP AML AML 14 26 32.4
comp=E,13836µm,0.2s
KARP AML AML 14 26 32.6
comp=N,15802µm,0.2s
YER Yerkesik 1.15 65 Pn Pn 14 26 10.2 +0.7
YER Yerkesik 1.15 65 P Pn 14 26 10.1 +0.6
YER S Sn 14 26 28.1 -1.2
MULA Mugla, Merkez- 1.23 60 P Pn 14 26 10.9 +0.6
MULA S Sn 14 26 30.0 -0.7
MULA *i* AML AML 14 26 31.0
comp=N,630nm,0.6s
MULA *i* AML AML 14 26 32.0
comp=N,1µm,0.5s
THR8 Santorini-Mono 1.23 259 P Pn 14 26 10.6 +0.4
APE Apeiranthos 1.24 290 Pn Pn 14 26 10.7 +0.4
APE Apeiranthos 1.24 290 P Pn 14 26 10.7 +0.4
APE Apeiranthos 1.24 290 P Pn 14 26 10.6 +0.4
APE Apeiranthos 1.24 290 P Pn 14 26 10.6 +0.4
SANT Santorini 1.26 258 Pn Pn 14 26 10.9 +0.4
SANT Santorini 1.26 258 P Pn 14 26 12.2 +1.7
THR3 Thira Island, 1.29 260 P Pn 14 26 11.7 +0.9
DALY Dalyan (Mula) 1.35 82 Pn Pn 14 26 11.9 +0.5
AYDB Zeytinkoy-Aydi 1.48 29 Pn Pn 14 26 12.3 -0.6
ESEN Aydn-Nazilli 1.58 43 P Pn 14 26 14.1 +0.3
ESEN *i* AML AML 14 26 36.0
comp=N,207nm,0.5s
ESEN S Sn 14 26 36.2 -0.8
ESEN *i* AML AML 14 26 39.0
comp=N,193nm,0.6s
SABU Mula-Dalaman 1.61 83 P Pn 14 26 14.8 +0.7
SABU S Sn 14 26 36.3 -1.2
SABU *i* AML AML 14 26 39.0
comp=N,1µm,0.3s
SABU *i* AML AML 14 26 40.0
comp=N,2µm,0.6s
ZKR Zakros 1.65 202 Pn Pn 14 26 16.3 +1.7
ZKR Zakros 1.65 202 P Pn 14 26 16.6 +2.0
ZKR S Sn 14 26 39.1 +0.8
comp=N,6µm,0.4s
ZKR Zakros 1.65 202 P Pn 14 26 16.0 +1.4
ZKR S Sn 14 26 38.8 +0.4
ZKR AML AML 14 26 41.3
comp=E,20435µm,0.4s
ZKR AML AML 14 26 43.4
comp=N,3778µm,0.5s
NAZL Nazilli-Aydin 1.68 38 Pn Pn 14 26 14.5 -0.4
FETY Fethiye 1.69 90 Pn Pn 14 26 15.5 +0.5
FETY Fethiye 1.69 90 P Pn 14 26 16.0 +1.0
FETY S Sn 14 26 39.1 0.0
URLA Izmir 1.73 350 Pn Pn 14 26 15.2 -0.3
TAVA DENIZLI_Tavas 1.75 62 P Pn 14 26 16.1 +0.4
TAVA S Sn 14 26 39.3 -1.0
TAVA *i* AML AML 14 26 40.0
comp=N,324nm,0.4s
TAVA *i* AML AML 14 26 41.0
comp=N,354nm,0.7s
DNZT Denizli-Tavas- 1.75 68 P Pn 14 26 16.3 +0.5
DNZT S Sn 14 26 39.8 -0.7
DNZT *i* AML AML 14 26 40.0
comp=N,307nm,0.7s
DNZT *i* AML AML 14 26 41.0
comp=N,367nm,0.6s
IZZE Mula-Seydike 1.82 96 P Pn 14 26 16.8 +0.4
IZZE S Sn 14 26 40.3 -1.4
IZZE *i* AML AML 14 26 41.0
comp=N,2µm,0.4s
IZZE *i* AML AML 14 26 45.0
comp=N,1µm,0.4s
ODEM Odemis-Izmir 1.84 28 Pn Pn 14 26 16.5 -0.3
CHOS Chios island 1.88 337 Pn Pn 14 26 16.8 -0.4
CHOS Chios island 1.88 337 P Pn 14 26 17.2 0.0
CHOS Chios island 1.88 337 P Pn 14 26 16.8 -0.4
CAME Cameli-Denizli 1.89 80 Pn Pn 14 26 17.6 +0.2
DNIZ Denizli-Tavas- 1.91 59 P Pn 14 26 18.1 +0.5
DNIZ S Sn 14 26 43.4 -0.3
DNIZ *i* AML AML 14 26 44.0
comp=N,762nm,0.4s
DNIZ *i* AML AML 14 26 46.0
comp=N,1µm,0.3s
CAEL Denizli, Camel 1.94 75 P Pn 14 26 18.7 +0.8
CAEL S Sn 14 26 44.9 +0.6
CAEL *i* AML AML 14 26 49.0
comp=N,2µm,0.5s
CAEL *i* AML AML 14 26 49.0
comp=N,2µm,0.5s
APMY Acipayam-Deniz 2.03 65 Pn Pn 14 26 19.3 +0.3
IACM Heraklion 2.05 230 P Pn 14 26 20.0 +0.9
IACM S Sn 14 26 46.4 0.0
IACM AML AML 14 26 54.0
comp=N,23218µm,0.4s
IACM AML AML 14 26 54.6
comp=E,19505µm,0.5s
KSTL Kastelli Herak 2.05 230 P Pn 14 26 19.4 +0.3
KSTL S Sn 14 26 44.0 -2.4
comp=E,1µm,0.6s
KSTL Kastelli Herak 2.05 230 P Pn 14 26 19.3 +0.2
KSTL S Sn 14 26 44.2 -2.2
KSTL AML AML 14 26 46.0
comp=E,3849µm,0.5s
KSTL AML AML 14 26 46.3
comp=N,9444µm,0.6s
KNIK Mula-Seydike 2.09 84 P Pn 14 26 20.3 +0.5
KNIK S Sn 14 26 47.5 0.0
KNIK *i* AML AML 14 26 49.0
comp=N,393nm,0.3s
KNIK *i* AML AML 14 26 50.0
comp=N,440nm,0.4s
GOLH Golhisar 2.15 73 P Pn 14 26 21.6 +1.2
GOLH *i* AML AML 14 26 49.0
comp=N,777nm,0.4s
GOLH S Sn 14 26 49.2 +0.6
GOLH *i* AML AML 14 26 51.0
comp=N,614nm,0.3s
AKAS Kas 2.16 100 Pn Pn 14 26 21.2 +0.7
AKAS Kas 2.16 100 P Pn 14 26 21.3 +0.8
AKAS S Sn 14 26 48.5 -0.4
AKAS *i* AML AML 14 26 49.0
comp=N,2µm,0.3s
AKAS *i* AML AML 14 26 51.0
comp=N,2µm,0.4s
KSL Kastellorizon 2.16 103 P Pn 14 26 21.1 +0.7
KSL S Sn 14 26 47.2 -1.5
comp=N,5µm,0.3s
KSL Kastellorizon 2.16 103 P Pn 14 26 20.9 +0.5
KSL S Sn 14 26 47.6 -1.0
KSL AML AML 14 26 48.5
comp=N,6862µm,0.3s
KSL AML AML 14 26 48.9
comp=E,14617µm,0.3s
IDI Anoyia 2.17 232 Pn Pn 14 26 21.3 +0.6
IDI Anoyia 2.17 232 P Pn 14 26 21.0 +0.3
IDI S Sn 14 26 47.3 -1.8
comp=E,1µm,0.5s
IDI Anoyia 2.17 232 P Pn 14 26 20.9 +0.3
comp=E,90nm,0.4s,baz=59,slow=5.2,SNR=502
IDI S Sn 14 26 47.1 -2.0
comp=E,430nm,0.4s,baz=18,slow=19,SNR=23
IDI Anoyia 2.17 232 P Pn 14 26 21.0 +0.3
IDI S Sn 14 26 47.7 -1.4
IDI AML AML 14 26 50.4
comp=N,3789µm,0.4s
IDI AML AML 14 26 50.4
comp=E,2778µm,0.3s
GOMA Golmarmara-Man 2.19 20 Pn Pn 14 26 20.4 -0.3
KULA Kula-Manisa 2.29 35 Pn Pn 14 26 21.7 -0.4
KULA Kula-Manisa 2.29 35 P Pn 14 26 22.2 +0.1
KULA S Sn 14 26 49.0 -2.7
ELL Elmali 2.36 87 Pn Pn 14 26 23.6 +0.7

ELL Elmali 2.36 87 P Pn 14 26 23.7 +0.8
PRNS Prines Rethymn 2.38 238 P Pn 14 26 24.0 +0.9
PRNS S Sn 14 26 52.1 -1.4
comp=E,322nm,0.5s
DEMR Demre-Antalya 2.40 99 Pn Pn 14 26 23.8 +0.6
SOMA Soma-Manisa 2.54 10 Pn Pn 14 26 24.9 -0.1
CHAN Chania 2.63 246 P Pn 14 26 27.2 +1.0
CHAN S Sn 14 26 58.0 -1.0
CHAN AML AML 14 27 01.2
comp=E,2342µm,0.2s
CHAN AML AML 14 27 01.7
comp=N,1639µm,0.3s
PRK Paraskevi 2.65 348 P Pn 14 26 26.4 0.0
PRK Paraskevi 2.65 348 P Pn 14 26 26.2 -0.2
IMMV Iera Moni Meta 2.70 245 P Pn 14 26 27.4 +0.3
IMMV Iera Moni Meta 2.70 245 P Pn 14 26 27.8 +0.8
IMMV AML AML 14 27 02.3
comp=E,2168µm,0.2s
IMMV AML AML 14 27 03.0
comp=N,1944µm,0.2s
SIGR SIGRI 2.71 341 P Pn 14 26 26.9 -0.2
SIGR SIGRI 2.71 341 P Pn 14 26 26.6 -0.5
VLY Voula,Athens 2.81 296 P Pn 14 26 29.2 +0.8
VLY Voula,Athens 2.81 296 P Pn 14 26 29.1 +0.8
DION Dionisos Attik 2.81 301 P Pn 14 26 30.2 +1.7
DION Dionisos Attik 2.81 301 P Pn 14 26 29.9 +1.4
RODP Rodopos 2.83 248 P Pn 14 26 29.5 +0.9
RODP S Sn 14 27 01.5 -1.9
comp=N,208nm,0.2s
PTL Penteli 2.85 300 P Pn 14 26 29.7 +0.8
PTL Penteli 2.85 300 P Pn 14 26 29.8 +0.9
ATHU Athens Univers 2.87 298 P Pn 14 26 29.9 +0.8
ATHU Athens Univers 2.87 298 P Pn 14 26 29.9 +0.8
GVD Gavdhos 2.97 233 P Pn 14 26 32.4 +2.0
GVD S Sn 14 27 07.0 +0.4
GVD Gavdhos 2.97 233 P Pn 14 26 31.8 +1.3
GVD S Sn 14 27 07.2 +0.7
GVD AML AML 14 27 11.0
comp=N,3326µm,0.5s
GVD AML AML 14 27 11.7
comp=E,3423µm,0.4s
KNDR Palaiochora Ch 3.02 243 P Pn 14 26 33.4 +2.3
KNDR S Sn 14 27 08.0 +0.2
KNDR AML AML 14 27 13.4
comp=E,3884µm,0.6s
KNDR AML AML 14 27 14.3
comp=N,3595µm,0.6s
KYMI Kymi, Euboea I 3.02 312 P Pn 14 26 31.6 +0.5
KYMI Kymi, Euboea I 3.02 312 P Pn 14 26 31.3 +0.2
ISP Isparta 3.06 66 Pn Pn 14 26 32.1 +0.5
ANKY Antikythira Is 3.07 256 P Pn 14 26 32.4 +0.6
ANKY Antikythira Is 3.07 256 P Pn 14 26 32.3 +0.6
ANKY AML AML 14 27 12.8
comp=E,680µm,0.6s
ANKY AML AML 14 27 12.8
comp=N,662µm,0.6s
KRND KRANIDI 3.15 285 P Pn 14 26 33.9 +1.2
KRND KRANIDI 3.15 285 P Pn 14 26 33.9 +1.2
MNVA Monemvasia 3.17 272 P Pn 14 26 34.8 +1.9
EZN Ezine 3.21 351 P Pn 14 26 33.2 -0.3
VLI Veliai 3.25 272 P Pn 14 26 34.3 +0.3
VLI S Sn 14 27 09.4 -3.6
comp=N,295nm,0.4s
VLI Veliai 3.25 272 P Pn 14 26 34.4 +0.3
VLI AML AML 14 27 14.2
comp=N,861µm,0.6s
VLI AML AML 14 27 16.4
comp=E,324µm,0.4s
VILL Villia 3.29 298 P Pn 14 26 35.9 +1.4
VIL2 Platees 3.34 299 P Pn 14 26 35.6 +0.4
LOUT Loutraki 3.46 294 P Pn 14 26 37.9 +1.2
LOUT Loutraki 3.46 294 P Pn 14 26 38.0 +1.3
LIA Limnos Island 3.54 337 P Pn 14 26 37.8 +0.1
LIA Limnos Island 3.54 337 P Pn 14 26 37.7 0.0
GUR Goura 3.92 291 P Pn 14 26 44.9 +2.2
GUR Goura 3.92 291 P Pn 14 26 44.1 +1.4
SMTH Samothraki Isl 3.98 344 P Pn 14 26 43.1 -0.4
AXAR Agios Charalam 4.03 303 P Pn 14 26 45.8 +1.7
ITM Ithomi 4.08 279 Pn Pn 14 26 46.5 +1.7
ITM Ithomi 4.08 279 P Pn 14 26 46.5 +1.7
ITM S Sn 14 27 32.1 -0.4
comp=E,188nm,0.3s
ITM Ithomi 4.08 279 P Pn 14 26 46.4 +1.6
ITM AML AML 14 27 37.8
comp=N,350µm,0.3s
ITM AML AML 14 27 37.8
comp=E,395µm,0.3s
KLV Kalavryta, Ach 4.09 291 P Pn 14 26 46.0 +1.0
KLV Kalavryta, Ach 4.09 291 P Pn 14 26 46.0 +1.0
KLV AML AML 14 27 37.2
comp=E,123µm,0.3s
KLV AML AML 14 27 38.0
comp=N,107µm,0.4s
PYL PYLOS 4.21 275 P Pn 14 26 46.7 +0.2
PYL S Sn 14 27 33.2 -2.2
comp=N,192nm,0.2s
PYL PYLOS 4.21 275 P Pn 14 26 46.7 +0.2
PYL AML AML 14 27 36.2
comp=N,315µm,0.2s
PYL AML AML 14 27 38.9
comp=E,454µm,0.3s
KALE Kalithea 4.22 296 P Pn 14 26 48.5 +1.8
KALE Kalithea 4.22 296 P Pn 14 26 48.0 +1.3
ALN Alexandroupoli 4.30 351 Pn 14 26 47.3 -0.3
ALN Alexandroupoli 4.30 351 P Pn 14 26 47.4 -0.3
ALN Alexandroupoli 4.30 351 P Pn 14 26 47.2 -0.5
THAS Thassos island 4.33 337 P Pn 14 26 48.0 0.0
OUR Ouranopolis 4.37 328 P Pn 14 26 48.9 +0.4
AGG Agios Georgios 4.38 304 Pn Pn 14 26 50.6 +1.9
AGG Agios Georgios 4.38 304 P Pn 14 26 50.2 +1.5
AGG Agios Georgios 4.38 304 P Pn 14 26 50.2 +1.5
EFP Efpalio 4.41 295 P Pn 14 26 50.2 +1.2
EFP Efpalio 4.41 295 P Pn 14 26 50.3 +1.3
ANX Ano Chora 4.46 297 P Pn 14 26 51.4 +1.5
ANX Ano Chora 4.46 297 P Pn 14 26 51.1 +1.2
MAKR Makrakomi, Fth 4.50 303 P Pn 14 26 52.5 +2.1
MAKR Makrakomi, Fth 4.50 303 P Pn 14 26 52.6 +2.2
RLS Riolos of Patr 4.61 289 P Pn 14 26 54.7 +3.0
RLS Riolos of Patr 4.61 289 P Pn 14 26 54.8 +3.0
RDO Rodhopi 4.63 346 Pn 14 26 51.9 -0.1
RDO Rodhopi 4.63 346 P Pn 14 26 52.0 +0.1
EVR Evrytania 4.68 300 P Pn 14 26 55.9 +3.1
KAVA Kavala 4.75 337 P Pn 14 26 53.9 +0.4
PVO Paravola 4.75 296 P Pn 14 26 56.9 +3.3
KOKK Kokkinochori, 4.77 332 P Pn 14 26 54.4 +0.6
THL Klokotos Trika 4.88 308 P Pn 14 26 57.5 +2.2
THL Klokotos Trika 4.88 308 P Pn 14 26 57.1 +1.8
LTHK Lithakia 5.02 284 P Pn 14 26 56.9 -0.2
LTHK S Sn 14 27 50.0 -4.5
comp=E,342nm,0.3s
LTHK Lithakia 5.02 284 P Pn 14 26 57.0 -0.2
RTZL Ratzakli, Kefa 5.15 288 P Pn 14 26 59.5 +0.7
SRS Serrai 5.18 330 P Pn 14 27 00.2 +0.8
NVR Nevrokopi 5.29 334 P Pn 14 27 02.4 +1.7
PSDA Pessada-Kefalo 5.30 288 P Pn 14 27 00.7 -0.1
PSDA S Sn 14 27 56.5 -4.7
comp=E,280nm,0.2s
VLS Valsamata 5.31 289 P Pn 14 27 01.2 +0.2
VLS S Sn 14 27 56.7 -4.8
comp=E,182nm,0.4s
VLS Valsamata 5.31 289 P Pn 14 27 01.2 +0.2
SLUM Salum 5.35 196 P Pn 14 27 02.5 +0.9
baz=200
SLUM S Sn 14 27 57.7 -4.8
baz=200
EVGI Lefkada island 5.39 293 P Pn 14 27 02.8 +0.7
NYDR Nydri-Lefkada 5.39 294 P Pn 14 27 03.5 +1.4
CSS Mathiatis 5.43 106 Pn 14 27 01.6 -1.0
CSS Mathiatis 5.43 106 P Pn 14 27 00.7 -1.9
CSS Mathiatis 5.43 106 P Pn 14 27 02.1 -0.5
TSLK Tsoukalades, L 5.46 295 P Pn 14 27 04.5 +1.5
DMLN Damoulianata-K 5.49 289 P Pn 14 27 03.5 +0.1
DB3 El Dabaa 5.75 166 P Pn 14 27 07.6 +0.7
baz=167
FNA Florina 6.02 315 Pn Pn 14 27 11.9 +1.4
FNA Florina 6.02 315 P Pn 14 27 12.2 +1.7
BR131 Keskin Array S 6.08 58 Pn 14 27 13.1 +1.8
BRTR Keskin Array B 6.08 58 Pn 14 27 12.9 +1.6
BRTR Keskin Array B 6.08 58 P Pn 14 27 12.0 +0.7
comp=E,8.5nm,0.8s,baz=229,slow=14,SNR=31
BRTR S Sn 14 28 22.2 +2.2
comp=E,4.5nm,0.8s,baz=225,slow=24,SNR=6.2
SCTE Santa Cesarea 7.51 300 Pn Pn 14 27 29.9 -0.4

BHL Bhannes 7.60 109 *e*P Pn 14 27 31.2 -0.6
HNTI Hanita 7.62 115 P Pn 14 27 31.1 -0.8
HWQ Hawqa 7.69 105 *e*P Pn 14 27 32.5 -0.4
PUK Puka 7.69 317 Pn Pn 14 27 33.1 +0.3
QRWL Qaraoun 7.77 111 *e*P Pn 14 27 33.3 -0.7
BEIL Beino 7.79 103 *e*P Pn 14 27 33.2 -0.9
ZAHL Zahle 7.80 108 *e*P Pn 14 27 32.7 -1.7
MMA0 Mount Meron ar 7.82 115 P Pn 14 27 33.3 -1.3
MMA0B Mount Meron ar 7.82 115 P Pn 14 27 33.5 -1.1
MMAI Mount Meron Ar 7.82 115 P Pn 14 27 33.8 -0.8
comp=E,24nm,0.3s,baz=307,slow=12,SNR=216
MMAI S Sn 14 28 56.8 -4.9
comp=E,9.6nm,0.3s,baz=310,slow=25,SNR=17
RCY Rachaya 7.91 111 *e*P Pn 14 27 34.8 -1.2
GEM Giv'at Ha'Em 7.91 113 P Pn 14 27 34.3 -1.5
GEM Giv'at Ha'Em 7.91 113 S Sn 14 28 59.6 -4.3
GEM Giv'at Ha'Em 7.91 113 P Pn 14 27 35.2 -0.6
NATI Neve Ativ 7.94 113 P Pn 14 27 35.0 -1.2
NATI Neve Ativ 7.94 113 P Pn 14 27 35.7 -0.5
NATI Neve Ativ 7.94 113 S Sn 14 29 01.3 -3.3
KSHT Keshet 8.13 114 P Pn 14 27 38.5 -0.3
KSHT Keshet 8.13 114 S Sn 14 29 05.8 -3.5
MMLI Mount Malkishu 8.13 119 S Sn 14 29 05.2 -4.1
MMLI Mount Malkishu 8.13 119 P Pn 14 27 38.7 -0.1
SHMJ Saham 8.22 116 P Pn 14 27 39.5 -0.5
QRNJ Al-Qirein 8.30 119 P Pn 14 27 41.1 +0.2
HMDT Nahal Hemdat 8.31 119 P Pn 14 27 39.6 -1.5
AMAZ Amatzia 8.33 126 P Pn 14 27 41.9 +0.5
AMAZ Amatzia 8.33 126 S Sn 14 29 11.3 -2.7
AMAZ Amatzia 8.33 126 P Pn 14 27 40.3 -1.1
KZIT Kziot 8.42 131 P Pn 14 27 42.2 -0.4
KZIT Kziot 8.42 131 S Sn 14 29 11.9 -4.3
KZIT Kziot 8.42 131 P Pn 14 27 42.4 -0.2
UJAP Al Uja 8.44 121 P Pn 14 27 43.0 +0.2
TIP Timpagrande 8.46 290 Pn Pn 14 27 41.7 -1.5
BALJ Balqa 8.48 120 Pn 14 27 43.0 -0.4
BALJ Balqa 8.48 120 P Pn 14 27 43.8 +0.4
YTIR Yattir 8.57 126 P Pn 14 27 45.0 +0.4
YTIR Yattir 8.57 126 S Sn 14 29 17.2 -2.7
YTIR Yattir 8.57 126 P Pn 14 27 44.3 -0.3
DSI Dead Sea 8.61 124 P Pn 14 27 45.5 +0.4
DSI Dead Sea 8.61 124 P Pn 14 27 44.0 -1.1
DSI Dead Sea 8.61 124 S Sn 14 29 18.3 -2.5
MSBI Mazada 8.76 125 P Pn 14 27 46.9 -0.2
MSBI Mazada 8.76 125 P Pn 14 27 46.8 -0.2
LISJ El Lisan 8.88 125 P Pn 14 27 49.8 +1.1
KARJ KARJ 9.07 125 P Pn 14 27 43.8 -7.5
DBRK Dubrovnik 9.08 314 *e*Pn Pn 14 27 51.6 +0.3
ZFRI Zfri 9.15 129 P Pn 14 27 51.6 -0.7
PRNI Paran 9.18 131 P Pn 14 27 52.1 -0.7
PRNI Paran 9.18 131 P Pn 14 27 52.1 -0.7
KRMI Paran Flat 9.18 133 P Pn 14 27 54.5 +1.7
KRMI Paran Flat 9.18 133 P Pn 14 27 51.8 -1.0
SWQJ Swaqa 9.27 123 P Pn 14 27 53.6 -0.4
ASF Jabal al Asfar 9.33 116 P Pn 14 27 55.1 +0.3
comp=E,7.9nm,0.3s,baz=214,slow=2.9,SNR=9.8
ASF Jabal al Asfar 9.33 116 P Pn 14 27 54.1 -0.7
CUC Castrocucco 9.39 294 Pn Pn 14 27 54.7 -0.8
HRFI Mount Harif 9.43 132 P Pn 14 27 55.7 -0.3
HRFI Mount Harif 9.43 132 S Sn 14 29 37.2 -3.3
HRFI Mount Harif 9.43 132 P Pn 14 27 56.1 0.0
STON Ston 9.46 314 *e*Pn Pn 14 27 56.0 -0.3
MBRI Mt Berech 9.53 134 P Pn 14 27 58.1 +0.6
HFRF Wahat Farafira 9.54 173 P Pn 14 27 57.6 0.0
baz=173
EIL Elat 9.64 134 P Pn 14 27 59.3 +0.3
comp=E,9.3nm,0.5s,baz=332,slow=3.2,SNR=15
EIL S Sn 14 29 41.0 -4.8
comp=E,24nm,0.4s,baz=340,slow=8.9,SNR=12
EIL Elat 9.64 134 P Pn 14 27 58.5 -0.4
EIL Elat 9.64 134 P Pn 14 27 59.3 +0.3
EIL Elat 9.64 134 S Sn 14 29 42.2 -3.6
AQBJ Aqaba 9.66 133 P Pn 14 27 59.3 +0.2
VAE Valguarnera 10.08 278 P Pn 14 28 02.4 -2.3
comp=E,17nm,0.5s,baz=90,slow=7.8,SNR=4.3
VAE S Sn 14 29 51.6 -4.7
comp=E,12nm,0.3s,baz=156,slow=20,SNR=5.0
WDD Wied Dalam 10.10 269 Pn Pn 14 28 03.9 -0.9
SGRT San Giovanni R 10.10 304 Pn Pn 14 28 04.4 -0.5
MAKA Makarska 10.11 314 *e*Pn Pn 14 28 04.8 -0.2
RICI Ricice 10.18 315 *e*Pn Pn 14 28 06.2 +0.4
HVAR Hvar 10.38 312 *e*Pn Pn 14 28 07.8 -0.8
ZIRJ Zirje 11.14 312 *e*Pn Pn 14 28 18.4 -0.2
MORI Morici 11.22 313 *e*Pn Pn 14 28 19.9 +0.3
HDK1 Dakhla 11.26 169 P Pn 14 28 23.3 +2.9
baz=169
DUGI Dugi Otok 11.68 313 *e*Pn Pn 14 28 23.8 -1.8
VIRC Vir 11.86 314 *e*Pn Pn 14 28 28.2 +0.3
VYHS Vyhne 13.26 336 *e*P P 14 28 53.0 +2.5
SOKA Soboth 13.41 322 *e*Pn Pn 14 28 48.8 +0.8
comp=E,5.9nm,1.2s
OBKA Obir 13.53 321 *e*Pn Pn 14 28 50.6 +1.0
comp=E,5.6nm,1.5s
RONA Rosalia, Austr 13.57 328 *e*Pn Pn 14 28 52.6 +2.5
comp=E,3.1nm,1.0s
ARSA Arzberg 13.58 325 *i* Pn P 14 28 55.4 +1.3
comp=E,2.3nm,0.8s
SABO M.te Sabotino 13.70 317 Pn 14 28 52.6 +1.0
CASP Castiglione de 13.83 301 Pn Pn 14 28 52.9 -0.4
CONA Conrad Observa 13.94 327 *e*Pn P 14 28 59.8 +1.7
comp=E,4.0nm,1.6s
JAVC Velka Javorina 13.97 334 *e*P P 14 29 00.5 +2.0
MYKA Terra Mystica 14.08 319 *e*Pn P 14 29 01.3 +1.5
comp=E,2.1nm,0.5s
AKASG Malin Array Be 14.14 6 P Pn 14 28 57.7 +0.6
comp=E,3.0nm,0.6s,baz=196,slow=12,SNR=13
KEST Kesra 14.27 272 P Pn 14 28 59.3 +0.2
comp=E,6.2nm,1.1s,baz=49,slow=11,SNR=3.1
KEST S Sn 14 31 29.8 -7.5
comp=E,2.2nm,0.9s,baz=72,slow=20,SNR=1.5
OJC Ojcow 14.52 341 P P 14 29 05.4 +0.9
KBA Koelnbreinsper 14.53 320 *e*Pn P 14 29 06.3 +1.5
comp=E,18nm,1.2s
MOA Molln 14.60 324 *e*Pn P 14 29 06.9 +1.5
comp=E,1.6nm,0.7s
KRUC Moravsky 14.61 331 *e*P Pn 14 29 05.6 +2.5
VRAC Vranov 14.74 332 *e*P Pn 14 29 06.7 +2.0
VRAC Vranov 14.74 332 P Pn 14 29 06.3 +1.6
comp=E,2.9nm,0.5s,baz=161,slow=11,SNR=4.0
ABTA Abfaltersbach 14.76 318 *i* Pn Pn 14 29 05.6 +0.5
comp=E,5.7nm,0.7s
BIOA Bad Ischl, Aus 14.79 322 *e*Pn Pn 14 29 07.4 +1.9
comp=E,4.0nm,0.9s
MORC Moravsky Berou 14.80 335 P P 14 29 08.4 +0.8
MORC Moravsky Berou 14.80 335 *e*P P 14 29 07.6 +2.1
CTI Castel Tesino 14.84 314 Pn 14 29 08.6 +2.6
LESA Schwarzleotal 15.10 320 *e*Pn Pn 14 29 11.0 +1.7
comp=E,5.3nm,0.9s
CKRC Cesky Krumlov 15.29 327 *e*P P 14 29 14.8 +1.8
MSSA Maissana 15.32 305 Pn 14 29 12.4 +0.4
MSSA IAmb IAmb 14 29 13.9
comp=Z,13nm,0.7s
WTTA Wattenberg 15.55 318 *i* Pn P 14 29 19.1 +3.0
comp=Z,3.6nm,0.6s
GERES GERESS Array B 15.58 326 P Pn 14 29 16.3 +1.1
comp=Z,1.8nm,0.8s,baz=146,slow=13,SNR=12
WATA Walderalm 15.63 318 *e*Pn P 14 29 18.8 +1.9
comp=Z,9.7nm,1.3s
DPC Dobruska-Polom 15.70 334 *e*P Pn 14 29 17.7 +1.0
SQTA Sankt Quirin 15.76 317 *e*Pn P 14 29 20.5 +2.1
comp=Z,2.6nm,0.6s
KHC Kasperske Hory 15.85 326 *e*P Pn 14 29 20.5 +2.1
FETA Feichten 15.91 316 *e*Pn P 14 29 21.8 +1.7
comp=Z,4.7nm,1.0s
UPC Upice 15.94 334 *e*P Pn 14 29 20.7 +1.1
RETA Reutte 16.16 317 *e*Pn Pn 14 29 23.4 +1.0
comp=Z,3.1nm,0.8s
DAVOX Davos/Dischmat 16.26 314 P Pn 14 29 24.4 +0.7
comp=Z,2.6nm,0.6s,baz=145,slow=17,SNR=3.5
DAVA Damuels 16.54 315 *i* Pn Pn 14 29 27.7 +0.7
comp=Z,6.4nm,0.8s
BNI Bardonecchia 17.47 305 P 14 29 37.6 +0.4
CLL Collm 17.73 330 *e*P P 14 29 40.0 +0.2
comp=Z,6.0nm,0.7s
BFO Black Forest 17.99 316 P P 14 29 43.3 +0.6
NACGM Naroch 18.26 360 *e*P Pn 14 29 50.7 +3.4
PABE Paberze 18.97 355 P P 14 29 52.7 -0.6
BTNL Ternell 20.45 319 *d*P P 14 30 10.8 +1.5
MEM Membach 20.52 319 *d*P P 14 30 11.0 +0.9
CEST Esterri de Car 20.65 295 P P 14 30 11.6 -0.1
CEST IAmb IAmb 14 30 13.5
comp=Z,9.7nm,0.9s
BGES Gesves 20.89 318 *d*P P 14 30 15.6 +1.7

comp=Z,6.2nm,1.0s
BMRD Maredsous 21.01 317 *d*P **P 14 30 17.4 +2.0**
DEL Delary 21.71 340 *i* P **P 14 30 21.0 -1.7**
ESBB Sonseca Array 24.46 287 IAmb IAmb 14 30 50.4
comp=Z,5.9nm,0.7s
ESDC Sonseca Array 24.46 287 P 14 30 49.3 +0.5
ESDC Sonseca Array 24.46 287 P **P 14 30 49.5 +0.8**
comp=Z,6.1nm,0.8s,baz=82,slow=9.3,SNR=63
comp=Z,6.1nm,0.8s
PAB San Pablo 24.76 286 P 14 30 52.0 +0.5
FINES FINESS Array B 24.82 359 P **P 14 30 51.3 -0.5**
FINES FINESS Array B 24.82 359 P **P 14 30 51.5 -0.3**
comp=Z,3.0nm,0.4s,baz=163,slow=11,SNR=30
FINES PcP **PcP 14 34 24.0 +0.2**
comp=Z,0.7nm,0.5s,baz=150,slow=3.1,SNR=7.3
comp=Z,3.0nm,0.4s
FIA1 FINESS Array S 24.82 359 P **P 14 30 51.3 -0.5**
FIA1 IAmb IAmb 14 30 53.4
comp=Z,9.2nm,0.6s
HFS Hagfors 25.00 344 P **P 14 30 53.0 -0.4**
comp=Z,4.1nm,0.6s,baz=156,slow=11,SNR=28
HFS PcP **PcP 14 34 23.7 -0.5**
comp=Z,1.9nm,0.9s,baz=193,slow=4.4,SNR=2.1
comp=Z,4.1nm,0.6s
NC405 NORSAR Array S 26.32 343 P **P 14 31 03.6 -1.7**
NC405 IAmb IAmb 14 31 46.1
comp=Z,10.0nm,1.4s
NB201 NORSAR Array S 26.37 343 P **P 14 31 04.8 -0.9**
NB201 IAmb IAmb 14 31 24.9
comp=Z,7.4nm,1.0s
NB2 NORSAR Subarra 26.38 343 P **P 14 31 04.9 -1.0**
comp=Z,0.4nm,0.5s,baz=157,slow=10
NOA NORSAR Array B 26.38 343 P **P 14 31 05.1 -0.8**
comp=Z,0.3nm,0.5s,baz=144,slow=9.3,SNR=6.7
comp=Z,0.3nm,0.5s
PBRG Braganca 26.52 292 *e*P **P 14 31 10.7 +3.3**
comp=Z,15nm,1.5s
PBAR Barrancos 26.98 284 *e*P **P 14 31 12.1 +0.6**
comp=Z,14nm,1.6s
PMRV Marv??o 27.12 286 *e*P **P 14 31 13.0 +0.3**
comp=Z,14nm,1.8s
PCBR Castelo Branco 27.15 287 *e*P **P 14 31 13.6 +0.6**
comp=Z,14nm,1.5s
MTE Manteigas 27.16 289 P **P 14 31 11.8 -1.4**
MTE IAmb IAmb 14 31 38.8
comp=Z,10nm,1.3s
MTE Manteigas 27.16 289 *e*P **P 14 31 14.0 +0.8**
comp=Z,20nm,2.0s
POLO Lamas de Olo 27.31 291 *e*P **P 14 31 15.6 +1.1**
comp=Z,12nm,1.9s
PESTR Estremoz 27.33 285 *e*P **P 14 31 15.1 +0.5**
PVIS Viseu 27.41 289 *e*P **P 14 31 16.5 +1.1**
PVAQ Vaqueiros 27.62 282 *e*P **P 14 31 17.9 +0.7**
comp=Z,24nm,1.8s
EKA Eskdalemuir Ar 27.73 322 P **P 14 31 17.1 -0.9**
comp=Z,0.7nm,0.6s,baz=115,slow=6.4,SNR=1.6
comp=Z,0.7nm,0.6s
TORD Torodi Ar. Bea 32.58 231 P **P 14 32 00.8 -0.3**
comp=Z,1.6nm,0.6s,baz=39,slow=10,SNR=9.7
comp=Z,1.6nm,0.6s
ARCES ARCESS Array B 32.95 359 P **P 14 32 03.2 -0.6**
ARCES IAmb IAmb 14 32 27.0
comp=Z,8.8nm,1.5s
ARCES ARCESS Array B 32.95 359 P **P 14 32 02.7 -1.0**
comp=Z,0.6nm,0.3s,baz=183,slow=9.1,SNR=18
comp=Z,0.6nm,0.3s
KURBB Kurchatov Arra 39.04 52 P **P 14 32 56.5 +0.8**
comp=Z,3.0nm,0.5s,baz=275,slow=8.4,SNR=9.6
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 41.73 58 P **P 14 33 19.1 +1.1**
MK31 IAmb IAmb 14 33 19.8
comp=Z,5.1nm,0.5s
MKAR Makanchi Array 41.73 58 P **P 14 33 18.2 +0.3**
MKAR Makanchi Array 41.73 58 P **P 14 33 19.1 +1.2**
comp=Z,4.7nm,0.4s,baz=267,slow=8.5,SNR=52
MKAR PcP **PcP 14 35 12.3 +0.7**
comp=Z,0.4nm,0.5s,baz=279,slow=4.8,SNR=3.1
MKAR ScP **ScP 14 38 45.7 -2.2**
comp=Z,0.5nm,0.7s,baz=252,slow=6.2,SNR=5.1
comp=Z,4.7nm,0.4s
SPITS Spitsbergen Ar 41.88 357 P **P 14 33 18.8 +0.1**
comp=Z,4.9nm,0.7s,baz=146,slow=12,SNR=8.8
comp=Z,4.9nm,0.7s
SCO Scoresbysund 42.49 338 P **P 14 33 26.2 +2.4**
SCO IAmb IAmb 14 33 29.7
comp=Z,11nm,1.1s
ZAA0 Zalesovo Array 42.91 47 P **P 14 33 27.7 +0.4**
ZAA0 IAmb IAmb 14 33 28.4
comp=Z,4.9nm,0.6s
ZALV Zalesovo Beam 42.91 47 P **P 14 33 27.8 +0.4**
comp=Z,5.0nm,0.4s,baz=268,slow=8.5,SNR=23
comp=Z,5.0nm,0.4s
SUMG Summit 48.13 338 P **P 14 34 07.4 -1.2**
SUMG IAmb IAmb 14 34 09.0
comp=Z,4.2nm,0.6s
SONM Songino Array 57.40 52 P **P 14 35 17.6 +0.9**
SONM Songino Array 57.40 52 P **P 14 35 17.7 +0.9**
comp=Z,1.7nm,0.5s,baz=286,slow=7.4,SNR=13
comp=Z,1.7nm,0.5s
DRLN Deer Lake 60.02 311 P **P 14 35 33.4 -1.2**
SCHQ Schefferville 63.01 320 P **P 14 35 53.3 -1.3**
SCHQ Schefferville 63.01 320 P **P 14 35 54.0 -0.6**
comp=Z,3.7nm,0.5s,baz=68,slow=5.9,SNR=14
comp=Z,3.7nm,0.5s
PZH PanZhiHua 63.05 76 P **P 14 35 55.3 -0.1**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.7s
HHC Hu-ho-hao-te 63.59 57 *e*P **P 14 35 59.9 +1.2**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,86nm,4.2s
GBN Guysborough 64.10 308 P **P 14 36 02.2 +0.4**
CMAR Chiang Mai Arr 64.95 85 P **P 14 36 08.4 +0.7**
comp=Z,0.3nm,0.4s,baz=296,slow=8.0,SNR=2.4
comp=Z,0.3nm,0.4s
LMN Caledonia Moun 65.95 310 P **P 14 36 14.4 +0.6**
BATG Bathurst New B 66.03 312 P **P 14 36 14.8 +0.5**
F64A Sherman 68.10 311 P **P 14 36 27.7 +0.3**
F64A IAmb IAmb 14 36 57.1
comp=Z,5.9nm,1.2s
E62A Clayton Lake 68.42 313 P **P 14 36 30.1 +0.8**
E62A IAmb IAmb 14 36 41.8
comp=Z,11nm,1.4s
A36M Sachs Harbour 69.91 351 P **P 14 36 36.7 -1.3**
A36M IAmb IAmb 14 37 04.2
comp=Z,11nm,1.1s
C36M Paulatuk 72.18 350 P **P 14 36 50.6 -1.1**
C36M IAmb IAmb 14 37 05.2
comp=Z,9.3nm,1.5s
USRK Ussuriysk Ar. 74.75 46 P **P 14 37 07.5 +0.3**
comp=Z,2.2nm,0.5s,baz=296,slow=4.3,SNR=21
comp=Z,2.2nm,0.5s
KSRS Korea Array 76.21 54 P **P 14 37 16.2 +0.6**
comp=Z,0.7nm,0.5s,baz=307,slow=4.4,SNR=6.9
comp=Z,0.7nm,0.5s
ILAR Eielson Array 78.80 357 P **P 14 37 29.5 -0.1**
comp=Z,0.3nm,0.7s,baz=336,slow=4.1,SNR=3.3
comp=Z,0.3nm,0.7s
MJAR Matsushiro Arr 83.23 49 P **P 14 37 53.4 -0.2**
comp=Z,0.5nm,0.6s,baz=312,slow=12,SNR=4.8
comp=Z,0.5nm,0.6s
WRA Warramunga Arr 115.29 97 PKP **PKPdf 14 44 08.6 +0.6**
comp=Z,0.5nm,1.0s,baz=299,slow=5.1,SNR=1.8
ASAR Alice Springs 116.86 100 PKP **PKPdf 14 44 11.6 +0.6**
comp=Z,0.1nm,0.3s,baz=310,slow=1.6,SNR=5.3

IDC 14 14:38:01.7±6.5, 23°.82N×145°.61E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=255.0km s-min=25.3km az=77.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.86**	**195**	P	P	14 46 18.5	+0.6
	0.2nm,0.6s,baz=18,slow=9.5,SNR=7.3						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**48.55**	**194**	P	P	14 46 45.9	-1.0
	0.3nm,1.0s,baz=7.1,slow=6.7,SNR=1.5						
	0.3nm,1.0s						
MKAR	**Makanchi Array**	**54.95**	**311**	P	P	14 47 33.9	-0.6
	0.2nm,0.4s,baz=90,slow=10,SNR=4.1						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**57.54**	**316**	P	P	14 47 52.9	0.0
	0.4nm,0.5s,baz=94,slow=8.4,SNR=4.7						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**62.54**	**319**	P	P	14 48 27.4	+0.2
	1.4nm,0.6s,baz=92,slow=7.9,SNR=5.7						
	1.4nm,0.6s						

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*IDC **14** 14:40:11.9±3.4, 5°.00S×103°.07E, h43km±29km, mb4.3/22, mbtmp4.5/22, MS3.5/26, Error ellipse: s-maj=22.6km s-min=11.9km az=58.0*
*NEIC **14** 14:40:11.8±1.9, 5°.21S±0°.08×102°.88E±0°.09, h45km±7km, mb4.9/41, Error ellipse: s-maj=15.0km s-min=9.2km az=53.0*
*DJA **14** 14:40:13.1±0.2, 5°S±2°×10°3E±°, h45km±3km, M4.8/30, mB5.3/8, mb4.9/30, MLv4.9/23, Mw(mB)4.7/8*
ISC 14 14:40:13.4±0.5, **5°.17S**±0°.06×**102°.99E**±0°.05, **h57**km±3km, **h57**km:**pP-P, n193,** σ1$**23**/182, **mb4.8**/53, **MS3.5**/28, **1C-1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.80**	**357**	P	**Pn**	**14 40 28.8**	**0.0**
MNAI	**Manna**	**0.80**	**357**	Pn	**Pn**	**14 40 28.0**	**-0.9**
MNAI	**Manna**	**0.80**	**357**	P	**Pn**	**14 40 28.6**	**-0.2**
MNAI				S	**Sn**	**14 40 40.7**	**+0.6**
LWLI	**Liwa**	**1.07**	**82**	P	**Pn**	**14 40 31.4**	**-1.0**
LWLI				S	**Sn**	**14 40 44.4**	**-2.1**
KASI	**Kota Agung**	**1.54**	**103**	P	**Pn**	**14 40 37.5**	**-1.1**
KASI				S	**Sn**	**14 40 57.3**	**-0.2**
BLSI	**Bandar Lampung**	**2.25**	**95**	P	**Pn**	**14 40 47.6**	**-0.7**
PMBI	**Palembang**	**2.85**	**39**		**Pn**	**14 40 58.0**	**+1.6**
PMBI	**Palembang**	**2.85**	**39**	P	**Pn**	**14 40 56.8**	**+0.4**
SBJI	**Serang**	**3.26**	**107**	P	**Pn**	**14 41 01.9**	**-0.2**
TNG	**Tangerang**	**3.77**	**106**	P	**Pn**	**14 41 09.8**	**+0.7**
TNG				P	**Pn**	**14 41 09.8**	**+0.7**
PPSI	**Pulau Pagai**	**3.81**	**309**	P	**Pn**	**14 41 10.1**	**+0.4**
DBJI	**Dramaga**	**3.98**	**110**	P	**Pn**	**14 41 12.9**	**+0.8**
SKJI	**Sukabumi**	**3.99**	**117**	P	**Pn**	**14 41 12.5**	**+0.4**
PPBI	**Pangkal Pinang**	**4.33**	**47**	P	**Pn**	**14 41 17.5**	**+0.7**
CNJI	**Cibinong**	**4.63**	**118**	P	**Pn**	**14 41 19.6**	**-1.3**
LEM	**Lembang**	**4.89**	**110**	P	**Pn**	**14 41 23.9**	**-0.7**
PDSI	**Padang**	**4.92**	**329**	P	**Pn**	**14 41 24.9**	**-0.1**
BBJI	**Bungbulang**	**5.16**	**116**	P	**Pn**	**14 41 27.7**	**-0.5**
SISI	**Saibi**	**5.45**	**314**	P	**Pn**	**14 41 32.4**	**+0.2**
	148nm,0.5s,1.3nm						
XMIS	**Christmas Isla**	**5.90**	**154**	P	Pn	14 41 32.7	-5.6
	131nm,1.4s						
CMJI	**Cimerak**	**6.01**	**116**	P	**Pn**	**14 41 38.3**	**-1.6**
	77nm,0.4s,3μm0.6nm						
TPRI	**Tanjung Pinang**	**6.24**	**14**	P	**Pn**	**14 41 43.3**	**+0.4**
	57nm,0.5s,0.4nm						
BTDF	**Bukit Timah Da**	**6.53**	**7**	P	**Pn**	**14 41 49.2**	**+2.2**
MYKOM	**Kota Tinggi**	**6.96**	**7**	Pn	**Pn**	**14 41 53.6**	**+0.8**
SMRI	**Semarang**	**7.64**	**105**	P	**Pn**	**14 42 01.2**	**-1.0**
	53nm,0.7s,0.5nm						
UGM	**Wanagama**	**7.96**	**110**	P	**Pn**	**14 42 06.9**	**+0.3**
UGM	**Wanagama**	**7.96**	**110**	Pn	**Pn**	**14 42 06.9**	**+0.3**
GSI	**Gunungsitoli**	**8.40**	**320**	P	**Pn**	**14 42 11.1**	**-1.5**
GSI	**Gunungsitoli**	**8.40**	**320**	Pn	**Pn**	**14 42 10.9**	**-1.7**
GSI	**Gunungsitoli**	**8.40**	**320**	P	**Pn**	**14 42 11.2**	**-1.4**
	42nm,0.5s						
PWJI	**Pagerwojo**	**9.20**	**108**	P	**Pn**	**14 42 23.2**	**-0.3**
	59nm,1.9s						
JAGI	**Jajag, Banyuwa**	**11.55**	**107**	P	**Pn**	**14 42 55.7**	**-0.1**
JAGI	**Jajag, Banyuwa**	**11.55**	**107**	P	**Pn**	**14 42 54.3**	**-1.5**
	44nm,0.7s						
SBUM	**Sibu**	**11.93**	**51**	Pn	**Pn**	**14 43 04.7**	**+3.8**
LHMI	**Lhok Sumawe**	**11.96**	**330**	P	**Pn**	**14 43 02.5**	**+1.2**
PLAI	**Plampang**	**15.12**	**105**	P	**Pn**	**14 43 42.3**	**-1.4**
PLAI	**Plampang**	**15.12**	**105**	P	**Pn**	**14 43 42.5**	**-1.2**
	47nm,1.0s						
KAPI	**Kappang**	**16.69**	**90**	LR	LR	14 50 21.2	
	comp=Z,126nm,20.7s,baz=260,slow=37						
BKSI	**Bukukumba**	**17.06**	**91**	P	**Pn**	**14 44 07.6**	**-0.6**
	29nm,1.0s,713nm						
MPSI	**Mapaga**	**17.75**	**73**	P	**P**	**14 44 19.3**	**+2.4**
	19nm,0.7s						
BASI	**Baing, Sumba**	**18.13**	**107**	P	**Pn**	**14 44 22.9**	**+1.5**
	130nm,1.3s						
MYLDM	**Lahad Datu**	**18.59**	**57**	P	**Pn**	**14 44 26.4**	**-0.5**
TOLI2	**Tolitoli**	**18.83**	**71**	P	**Pn**	**14 44 29.8**	**-0.1**
TOLI2	**Tolitoli**	**18.83**	**71**	P	**Pn**	**14 44 29.7**	**-0.2**
EDFI	**Ende, Flores**	**18.89**	**102**	P	**Pn**	**14 44 31.6**	**+0.9**
MMRI	**Maumere**	**19.41**	**101**	P	**P**	**14 44 35.6**	**+0.4**
	33nm,0.9s						
MRSI	**Marisa**	**19.74**	**74**	P	**Pn**	**14 44 40.1**	**-0.5**
	39nm,0.8s,938nm						
BATI	**Baumata**	**21.08**	**105**	P	**P**	**14 44 53.7**	**+0.4**
	51nm,0.7s						
SOEI	**Soe**	**21.58**	**103**	P	**P**	**14 44 58.7**	**0.0**
SOEI	**Soe**	**21.58**	**103**	P	**P**	**14 44 56.8**	**-1.9**
SOEI	**Soe**	**21.58**	**103**	P	**P**	**14 44 59.3**	**+0.6**
	27nm,0.9s						
PHRA	**Phrae**	**23.67**	**353**	P	**P**	**14 45 19.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**23.81**	**350**	P	**P**	**14 45 19.6**	**-1.7**
	7.7nm,0.7s,baz=181,slow=8.9,SNR=56						
CMAR				PcP	**PcP**	**14 49 04.6**	**+1.0**
	0.9nm,0.6s,baz=202,slow=2.7,SNR=5.5						
CMAR				LR	LR	14 54 19.7	
	comp=Z,107nm,18.6s,baz=170,slow=36						
	7.7nm,0.7s						
CHTO	**Chiang Mai**	**24.16**	**351**	P	**P**	**14 45 22.0**	**-2.5**
FITZ	**Fitzroy Crossi**	**25.59**	**122**	P	**P**	**14 45 37.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**25.59**	**122**	P	**P**	**14 45 36.1**	**-1.5**
DAV	**Davao City (W)**	**25.61**	**62**	LR	LR	14 56 38.4	
	comp=Z,86nm,18.4s,baz=215,slow=39						
KNRA	**Kununurra**	**27.38**	**114**	P	**P**	**14 45 52.3**	**-1.3**
KNRA				IAmb	IAmb	14 45 53.4	
	comp=Z,16nm,0.8s						
DRS	**Darwin Rock St**	**28.49**	**107**	P	**P**	**14 46 03.7**	**+0.1**
MTN	**Manton Dam**	**28.80**	**107**	P	**P**	**14 46 06.7**	**+0.4**
MTN	**Manton Dam**	**28.80**	**107**	P	**P**	**14 46 05.1**	**-1.2**
H08S2	**Diego Garcia H**	**30.41**	**264**	T	T	15 18 38.9	
	baz=86,slow=76,SNR=6.0						
H08S3	**Diego Garcia H**	**30.41**	**264**	T	T	15 18 42.5	
	baz=86,slow=76,SNR=17						
H08S1	**Diego Garcia H**	**30.42**	**264**	T	T	15 18 44.2	
	baz=86,slow=76,SNR=18						
NWAO	**Narrogin (SRO)**	**30.65**	**156**	LR	LR	14 58 13.1	
	comp=Z,100nm,19.6s,baz=266,slow=35						
WRKA	**Warakurna**	**31.30**	**132**	P	**P**	**14 46 28.6**	**+0.1**
H01W3	**Cape Leeuwin H**	**31.32**	**162**	T	T	15 19 39.0	
	baz=340,slow=76,SNR=23						
H01W2	**Cape Leeuwin H**	**31.33**	**162**	T	T	15 19 40.0	
	baz=340,slow=76,SNR=18						
H01W1	**Cape Leeuwin H**	**31.33**	**162**	T	T	15 19 49.6	
	baz=340,slow=76,SNR=18						
PZH	**PanZhiHua**	**31.50**	**358**	P	**P**	**14 46 32.9**	**+2.6**
PZH				pmax	pmax		
	comp=Z,30nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.6s						
WB0	**Warramunga Arr**	**33.83**	**118**	P	**P**	**14 46 50.0**	**-0.6**
WB0				IAmb	IAmb	14 46 50.8	
	comp=Z,9.5nm,0.7s						
WRA	**Warramunga Arr**	**33.84**	**119**	P	**P**	**14 46 49.5**	**-1.3**
WRA	**Warramunga Arr**	**33.84**	**119**	P	**P**	**14 46 50.2**	**-0.5**
	comp=Z,9.3nm,0.7s,baz=296,slow=10,SNR=108						
WRA				PcP	**PcP**	**14 49 28.5**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=295,slow=2.3,SNR=4.3						
	comp=Z,9.3nm,0.7s						
WRAB	**Tennant Creek**	**33.85**	**118**	P	**P**	**14 46 50.1**	**-0.7**
WRAB				IAmb	IAmb	14 46 51.2	
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**33.85**	**119**	P	**P**	**14 46 49.5**	**-1.3**
WB2				IAmb	IAmb	14 46 51.1	
	comp=Z,13nm,0.8s						
WR0	**Warramunga Arr**	**34.03**	**118**	P	**P**	**14 46 51.4**	**-0.9**
WR0				IAmb	IAmb	14 46 52.8	
	comp=Z,15nm,0.6s						
ASAR	**Alice Springs**	**34.99**	**125**	P	**P**	**14 47 00.8**	**+0.1**
	comp=Z,4.6nm,0.7s,baz=300,slow=8.1,SNR=62						
ASAR				PcP	**PcP**	**14 49 32.0**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=314,slow=2.4,SNR=5.7						
ASAR				S	**S**	**14 52 26.3**	**-2.6**
	comp=Z,1.0nm,1.1s,baz=299,slow=16,SNR=4.4						
ASAR				ScP	**ScP**	**14 53 14.0**	**+1.0**
	comp=Z,0.7nm,1.0s,baz=285,slow=4.4,SNR=4.9						
ASAR				LR	LR	15 02 23.7	
	comp=Z,98nm,19.1s,baz=290,slow=38						
	comp=Z,4.6nm,0.7s						
AS31	**Alice Springs**	**34.99**	**125**	P	**P**	**14 47 00.3**	**-0.4**
AS01	**Alice Springs**	**35.03**	**125**	P	**P**	**14 47 01.1**	**+0.1**
OOD	**Oodnadatta**	**38.37**	**130**	P	**P**	**14 47 29.4**	**+0.1**
MULG	**Mulgathing**	**38.48**	**134**	P	**P**	**14 47 30.7**	**+0.5**
QIS	**Mount Isa**	**38.70**	**117**	P	**P**	**14 47 32.1**	**-0.1**
XAN	**Xi'an**	**39.39**	**8**	P	**P**	**14 47 36.6**	**-1.2**
XAN				pmax	pmax		
	comp=Z,16nm,0.9s						
XAN				LR	LR		
	comp=Z,250nm,17.2s						
NJ2	**Nanjing**	**39.98**	**21**	*e*P	**P**	**14 47 44.6**	**+2.0**
NJ2				pP	**pP**	**14 47 55.0**	**-1.9**
NJ2				pmax	pmax		
	comp=Z,12nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,120nm,3.8s						
JOW	**Kunigami**	**40.13**	**36**	LR	LR	15 03 28.7	
	comp=Z,40nm,20.1s,baz=172,slow=35						
LYN	**LuoYang**	**40.50**	**12**	⇓P	**P**	**14 47 46.8**	**-0.1**
LYN				pP	pP	14 48 04.6	+3.3
LYN				pmax	pmax		
	comp=Z,38nm,0.9s						
COEN	**Coen**	**40.52**	**105**	P	**P**	**14 47 46.4**	**-1.0**
COEN	**Coen**	**40.52**	**105**	P	**P**	**14 47 45.5**	**-1.9**
COEN				IAmb	IAmb	14 49 16.9	
	comp=Z,50nm,1.6s						
LZH	**Lanzhou**	**41.04**	**1**	*e*P	**P**	**14 47 53.3**	**+1.8**
LZH				sP	sP	14 48 13.6	+1.3
LZH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BBOO	**Buckleboo**	**41.31**	**136**	P	**P**	**14 47 53.6**	**-0.1**
LCRK	**Leigh Creek**	**41.60**	**131**	P	**P**	**14 47 56.9**	**+0.8**
INKA	**Innaminka**	**42.32**	**126**	P	**P**	**14 48 03.4**	**+1.4**
MTSU	**Mount Surprise**	**42.36**	**111**	P	**P**	**14 48 02.2**	**-0.2**
HTT	**Hallett**	**43.66**	**135**	P	**P**	**14 48 13.5**	**+0.7**
PMG	**Port Moresby**	**43.99**	**98**	P	**P**	**14 48 13.9**	**-1.8**
PMG				IAmb	IAmb	14 48 45.4	
	comp=Z,32nm,1.1s						
GTA	**Gaotai**	**44.45**	**356**	P	**P**	**14 48 18.8**	**-0.3**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				LR	LR		
	comp=Z,140nm,19.1s						
GTA				LR	LR		
	comp=Z,74nm,17.5s						
GTA				LR	LR		
	comp=Z,150nm,16.3s						
CTAO	**Charters Tower**	**44.58**	**113**	P	**P**	**14 48 20.5**	**+0.2**
CTAO	**Charters Tower**	**44.58**	**113**	P	**P**	**14 48 19.8**	**-0.5**
CTAO				IAmb	IAmb	14 48 21.3	
	comp=Z,12nm,0.8s						
CTAO	**Charters Tower**	**44.58**	**113**	P	**P**	**14 48 20.5**	**+0.2**
CTAO				pP	**pP**	**14 48 35.3**	**+0.8**
QLP	**Quilpie**	**44.73**	**123**	P	**P**	**14 48 22.9**	**+1.5**
STKA	**Stephens Creek**	**44.83**	**131**	P	**P**	**14 48 23.1**	**+1.0**
STKA	**Stephens Creek**	**44.83**	**131**	P	**P**	**14 48 22.6**	**+0.5**
STKA	**Stephens Creek**	**44.83**	**131**	P	**P**	**14 48 22.6**	**+0.5**
	comp=Z,6.2nm,0.7s,baz=308,slow=8.2,SNR=16						
STKA				LR	LR	15 07 54.5	
	comp=Z,56nm,19.9s,baz=242,slow=37						
	comp=Z,6.2nm,0.7s						
JNU	**Nakatsue**	**46.36**	**33**	P	**P**	**14 48 32.8**	**-1.4**
JNU				IAmb	IAmb	14 48 36.0	
	comp=Z,8.8nm,0.8s						
JNU	**Nakatsue**	**46.36**	**33**	LR	LR	15 08 37.1	
	comp=Z,17nm,19.7s,baz=208,slow=37						
HHC	**Hu-ho-hao-te**	**46.46**	**9**	*e*P	P	14 48 39.6	+4.7
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,56nm,4.6s						
NIL	**Nilore**	**47.78**	**326**	P	**P**	**14 48 43.1**	**-2.1**
NIL	**Nilore**	**47.78**	**326**	P	**P**	**14 48 44.7**	**-0.5**
NIL				pP	**pP**	**14 48 59.9**	**+0.3**
NIL				sP	**sP**	**14 49 05.9**	**-0.1**
CMSA	**Cobar Meteorol**	**47.81**	**129**	P	**P**	**14 48 46.6**	**+1.1**
KSRS	**Korea Array**	**48.35**	**27**	P	**P**	**14 48 48.0**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=237,slow=7.4,SNR=11						
	comp=Z,2.2nm,0.7s						
JCJ	**Chichijima**	**49.64**	**48**	LR	LR	15 08 41.5	
	comp=Z,17nm,22.0s,baz=208,slow=35						
WMQ	**Urumqi**	**50.68**	**346**	*e*P	**P**	**14 49 08.4**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,25nm,0.9s						
WMQ				LR	LR		
	comp=Z,380nm,12.9s						
WMQ				LR	LR		
	comp=Z,310nm,13.9s						
KSH	**Kashi**	**50.98**	**333**	P	**P**	**14 49 08.5**	**-1.1**
KSH				pP	pP	14 49 23.4	-0.9
KSH				pmax	pmax		
	comp=Z,14nm,0.7s						
WUS	**Wushi**	**51.02**	**337**	P	**P**	**14 49 10.0**	**+0.1**
WUS				pP	**pP**	**14 49 25.4**	**+0.8**
YNG	**Young**	**51.02**	**131**	P	**P**	**14 49 11.1**	**+1.1**
JHJ	**Hachijo jima 2**	**51.63**	**40**	LR	LR	15 11 22.3	
	comp=Z,16nm,19.6s,baz=132,slow=36						
CN2	**Changchun**	**52.79**	**20**	*e*P	**P**	**14 49 21.5**	**-1.4**
CN2				*e*S	**S**	**14 56 53.8**	**+6.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SONM	**Songino Array**	**52.86**	**3**	P	**P**	**14 49 23.2**	**-0.3**
SONM				IAmb	IAmb	14 49 25.0	
	comp=Z,10nm,0.8s						
SONM	**Songino Array**	**52.86**	**3**	P	**P**	**14 49 22.5**	**-1.0**
	comp=Z,9.6nm,0.8s,baz=183,slow=9.2,SNR=59						
SONM				PcP	**PcP**	**14 50 31.8**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=186,slow=3.9,SNR=4.1						
SONM				LR	LR	15 12 50.6	
	comp=Z,50nm,18.6s,baz=234,slow=37						
	comp=Z,9.6nm,0.8s						
ULN	**Ulaanbaatar**	**52.93**	**3**	P	**P**	**14 49 24.4**	**+0.4**
ULN				pP	**pP**	**14 49 39.7**	**+0.8**
MAJO	**Matsushiro**	**52.97**	**36**	P	**P**	**14 49 22.2**	**-2.2**
MJAR	**Matsushiro Arr**	**52.97**	**36**	P	**P**	**14 49 22.1**	**-2.3**
	comp=Z,2.6nm,0.8s,baz=216,slow=7.1,SNR=18						
MJAR				LR	LR	15 12 07.6	
	comp=Z,22nm,19.6s,baz=224,slow=36						
	comp=Z,2.6nm,0.8s						
AAK	**Ala-Archa**	**54.16**	**334**	LR	LR	15 17 17.6	
	comp=Z,38nm,18.9s,baz=168,slow=41						
MK31	**Makanchi Array**	**54.89**	**343**	IAmb	IAmb	14 49 38.4	
	comp=Z,5.8nm,0.7s						
MKAR	**Makanchi Array**	**54.89**	**343**	P	**P**	**14 49 36.5**	**-1.7**
MKAR	**Makanchi Array**	**54.89**	**343**	P	**P**	**14 49 37.5**	**-0.8**
	comp=Z,9.3nm,0.7s,baz=146,slow=8.2,SNR=73						
MKAR				LR	LR	15 15 05.4	
	comp=Z,28nm,19.3s,baz=156,slow=38						
	comp=Z,9.3nm,0.7s						
MAKZ	**Makanchi**	**55.00**	**342**	P	**P**	**14 49 38.2**	**-0.8**
MAKZ				pP	**pP**	**14 49 53.3**	**-0.6**
MDJ	**Mudanjiang**	**55.01**	**23**	P	**

baz=62
H04N3 CROZET ISLANDS 60.14 219 T T 15 54 57.9
baz=62
H04S1 CROZET ISLANDS 60.36 218 T T 15 55 04.0
baz=63,slow=75,SNR=22
H04S3 CROZET ISLANDS 60.37 218 T T 15 54 59.7
baz=63,slow=75,SNR=30
H04S2 CROZET ISLANDS 60.38 218 T T 15 55 01.2
baz=63,slow=75,SNR=25
ASAJ Asahikawa 60.62 32 LR LR 15 17 10.1
comp=Z,23nm,19.9s,baz=201,slow=37
JKA Kamikawa-asahi 60.62 32 P **P** **14 50 17.2 -1.2**
ZAA0 Zalesovo Array 60.84 348 P **P** **14 50 19.0 -0.7**
ZALV Zalesovo Beam 60.84 348 P **P** **14 50 18.8 -1.0**
comp=Z,7.5nm,0.4s,baz=162,slow=5.6,SNR=40
ZALV LR LR 15 19 19.4
comp=Z,67nm,18.6s,baz=143,slow=39
comp=Z,7.5nm,0.4s
DZM Mont Dzumac 63.49 112 LR LR 15 18 34.5
comp=Z,50nm,19.2s,baz=262,slow=36
BVAR Borovoye Array 64.18 339 P **P** **14 50 41.1 -0.9**
comp=Z,8.4nm,0.5s,baz=134,slow=8.5,SNR=34
comp=Z,8.4nm,0.5s
BRVK Borovoye 64.25 339 P **P** **14 50 41.3 -1.1**
BRVK IAmb IAmb 14 50 42.0
comp=Z,6.7nm,0.6s
BRVK Borovoye 64.25 339 P **P** **14 50 41.6 -0.9**
BRVK pP **pP** **14 50 57.4 -0.2**
FURI Furi 65.62 282 LR LR 15 17 03.3
comp=Z,32nm,18.5s,baz=43,slow=34
ABKAR Akbulak array 65.84 331 P **P** **14 50 52.3 -0.6**
ABKAR IAmb IAmb 14 50 53.2
comp=Z,16nm,0.9s
ABKAR Akbulak array 65.84 331 P **P** **14 50 52.2 -0.7**
MAW Mawson 68.01 195 P **P** **14 51 08.0 +1.6**
comp=Z,2.5nm,0.8s,baz=85,slow=3.7,SNR=4.0
comp=Z,2.5nm,0.8s
YAK Yakutsk 70.08 13 LR LR 15 25 56.5
comp=Z,42nm,18.4s,baz=243,slow=39
CCD Concordia, Ant 70.85 175 P **P** **14 51 27.2 +2.9**
CCD pP **pP** **14 51 42.3 +2.8**
OXZ Oxford 71.27 134 P **P** **14 51 26.3 -0.6**
ARU Arti 71.29 336 P **P** **14 51 26.4 -0.4**
ARU pP **pP** **14 51 42.3 +0.2**
KBZ Khabaz 72.64 319 P **P** **14 51 35.2 +0.1**
comp=Z,5.0nm,0.9s,baz=112,slow=4.7,SNR=7.3
comp=Z,5.0nm,0.9s
RTZ Ruatahuna 74.29 129 P **P** **14 51 44.0 -1.1**
MMAI Mount Meron Ar 74.31 306 P **P** **14 51 44.4 -0.9**
comp=Z,3.7nm,0.6s,baz=100,slow=9.4,SNR=6.3
comp=Z,3.7nm,0.6s
MA2 Magadan 74.71 23 LR LR 15 27 03.8
comp=Z,25nm,18.6s,baz=160,slow=38
NRIK Noril'sk 75.10 354 IAmb IAmb 14 51 48.7
comp=Z,10nm,1.1s
NRIK Noril'sk 75.10 354 P **P** **14 51 47.6 -1.4**
comp=Z,4.4nm,0.6s,baz=177,slow=5.6,SNR=8.3
comp=Z,4.4nm,0.6s
BOSA Boshof 76.78 242 LR LR 15 22 37.5
comp=Z,43nm,18.0s,baz=108,slow=33
BRTR Keskin Array B 77.65 312 P **P** **14 52 03.9 -0.3**
comp=Z,4.1nm,0.7s,baz=131,slow=7.5,SNR=19
comp=Z,4.1nm,0.7s
TIXI Tiksi 78.52 8 LR LR 15 31 50.3
comp=Z,39nm,18.0s,baz=224,slow=40
SUR Sutherland 80.66 238 LR LR 15 20 24.9
comp=Z,34nm,21.7s,baz=132,slow=30
AKASG Malin Array Be 83.80 322 P **P** **14 52 35.7 -0.9**
comp=Z,0.9nm,0.5s,baz=91,slow=4.7,SNR=2.8
comp=Z,0.9nm,0.5s
QSPA South Pole Qui 84.81 180 P **P** **14 52 41.5 -0.2**
QSPA IAmb IAmb 14 53 08.4
comp=Z,19nm,1.8s
QSPA South Pole Qui 84.81 180 P **P** **14 52 42.4 +0.7**
comp=Z,1.3nm,1.0s,baz=249,slow=1.1,SNR=2.3
comp=Z,1.3nm,1.0s
BURAR Bucovina Array 85.59 318 P **P** **14 52 45.9 0.0**
BURAR IAmb IAmb 14 52 48.6
comp=Z,3.5nm,0.7s
JOF Joensuu 86.34 334 *e*P **P** **14 52 49.7 +0.6**
KOLS Kolonicke sedl 87.78 319 *e*P **P** **14 52 58.1 +1.7**
FIA1 FINESS Array S 88.29 332 P **P** **14 52 58.0 -0.5**
FINES FINESS Array B 88.29 332 P **P** **14 52 57.0 -1.5**
FINES FINESS Array B 88.29 332 P **P** **14 52 57.5 -1.0**
comp=Z,2.0nm,0.6s,baz=108,slow=5.5,SNR=24
comp=Z,2.0nm,0.6s
CRVS Cervenica-Dubn 88.31 319 *e*P **P** **14 52 59.8 +0.9**
KEF Keuruu 89.01 333 *e*P **P** **14 53 02.2 +0.3**
VYHS Vyhne 89.96 319 *e*P **P** **14 53 08.3 +1.6**
VAF Ylistaro 90.19 333 *e*P **P** **14 53 07.8 +0.4**
ARCES ARCESS Array B 90.45 340 P **P** **14 53 07.2 -1.3**
comp=Z,1.0nm,0.7s,baz=92,slow=6.1,SNR=8.7
comp=Z,1.0nm,0.7s
MODS Modra-Piesok 90.98 318 *e*P **P** **14 53 12.1 +0.7**
HFS Hagfors 94.09 330 P **P** **14 53 24.8 -0.8**
comp=Z,0.8nm,0.7s,baz=158,slow=4.2,SNR=1.8
comp=Z,0.8nm,0.7s
SPITS Spitsbergen Ar 94.33 348 LR LR 15 41 20.2
comp=Z,53nm,18.4s,baz=82,slow=39
NVAR Mina Array Bea 130.02 43 PKP **PKPdf** **14 59 16.9 -0.7**
comp=Z,0.4nm,0.6s,baz=298,slow=2.2,SNR=4.9
PDAR Pinedale Array 132.75 33 PKP **PKPdf** **14 59 22.3 -0.4**
comp=Z,0.3nm,0.6s,baz=45,slow=2.3,SNR=3.6
BDFB Brasilia 144.62 234 PKP **PKPdf** **14 59 44.7 -0.2**
comp=Z,2.6nm,0.6s,baz=138,slow=8.9,SNR=3.4
TXAR Lajitas Array 145.17 43 PKP **PKPab** **14 59 44.8 -0.4**
comp=Z,5.9nm,0.8s,baz=276,slow=1.4,SNR=74

*IDC **14** 14:44:11.3±2.8, 22°.77N×11°.91W, h0km, mb3.8/4, mbtmp3.7/7, ML3.8/3, MS3.2/1, Error ellipse: s-maj=95.7km s-min=26.5km az=85.0*
ISC 14 14:44:12.5±1.7, 22°.7N±0°.1×11°.7W±0°.3, h10km, n12, σ0°65/10, mb3.9/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**		**9.18 211**	Lg	Lg	14 48 52.0	
	1.9nm,0.3s,baz=30,slow=20,SNR=1.7						
TORD	**Torodi Ar. Bea**		**15.89 124**	Pn	**P**	**14 47 59.0**	**-1.1**
	0.2nm,0.3s,baz=312,slow=12,SNR=10						
TORD				Sn	**Sn**	**14 50 53.1**	**+0.4**
	0.1nm,0.3s,baz=308,slow=22,SNR=3.0						
	0.7nm,0.5s						
DBIC	**Dimbokro**		**17.24 156**	P	**Pn**	**14 48 13.8**	**+0.3**
	0.4nm,0.3s,baz=320,slow=12,SNR=2.0						
DBIC				Lg	Lg	14 53 18.1	
	baz=60,slow=20,SNR=2.3						
	1.9nm,0.6s						
ESDC	**Sonseca Array**		**18.19 20**	P	**P**	**14 48 25.5**	**0.0**
	0.1nm,0.3s,baz=214,slow=11,SNR=4.4						
	0.4nm,0.8s						
I42PT	**GRACIOSA ISLAN**		**21.43 323**	I	I	16 43 50.0	
	baz=141,slow=320,SNR=1.9						
GERES	**GERESS Array B**		**32.99 31**	P	**P**	**14 50 47.6**	**0.0**
	0.6nm,0.7s,baz=225,slow=11,SNR=4.8						
	0.6nm,0.7s						
HFS	**Hagfors**		**41.47 19**	P	**P**	**14 51 58.5**	**-0.8**
	1.6nm,0.5s,baz=212,slow=8.1,SNR=10						
	1.6nm,0.5s						
EIL	**Elat**		**42.24 70**	LR	LR	15 12 16.7	
	comp=Z,30nm,18.4s,baz=170,slow=40						
FINES	**FINESS Array B**		**46.52 24**	P	**P**	**14 52 40.9**	**+0.2**
	0.7nm,0.5s,baz=224,slow=5.3,SNR=8.5						
	0.7nm,0.5s						
MKAR	**Makanchi Array**		**76.47 45**	P	**P**	**14 56 03.5**	**+0.8**
	0.5nm,0.5s,baz=290,slow=4.9,SNR=7.7						
	0.5nm,0.5s						
WRA	**Warramunga Arr**		**148.31 92**	PKPbc	**PKPbc**	**15 03 60.0**	**+0.2**
	0.7nm,0.7s,baz=295,slow=1.9,SNR=5.0						
ASAR	**Alice Springs**		**148.43 99**	PKPbc	**PKiKP**	**15 04 01.4**	**-0.3**
	0.6nm,0.7s,baz=302,slow=1.9,SNR=13						

*GII **14** 15:01:08.2±0.3, 33°.84N×35°.837E±0°.001, h0km, confirmed*
*GRAL **14** 15:01:10.2±0.3, 33°.79N×35°.78E, h6km±6km, MD2.7*
ISC 14 15:01:10.1±1.1, 33°.80N±0°.03×35°.79E±0°.05, h0km, n17, σ0°50/19, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAHL	**Zahle**		**0.10 52**	*e*P	**Pg**	**15 01 12.6**	**+0.6**
BHL	**Bhannes**		**0.16 313**	*e*P	**Pg**	**15 01 13.2**	**+0.2**
DQRL	**Deir Qamar**		**0.20 244**	*e*P	**Pg**	**15 01 14.0**	**0.0**
RCY	**Rachaya**		**0.30 173**	*e*P	**Pg**	**15 01 15.6**	**-0.2**
RCY				*e*S	**Sg**	**15 01 19.6**	**-0.1**
HWQ	**Hawqa**		**0.50 15**	*e*P	**Pg**	**15 01 19.5**	**-0.1**
HWQ				*e*S	**Sg**	**15 01 26.2**	**+0.1**
NATI	**Neve Ativ**		**0.54 185**	P	**Pg**	**15 01 20.5**	**+0.2**
NATI	**Neve Ativ**		**0.54 185**	S	**Sb**	**15 01 30.4**	**-0.2**
GEM	**Giv'at Ha'Em**		**0.59 190**	P	**Pg**	**15 01 21.5**	**+0.1**
GEM	**Giv'at Ha'Em**		**0.59 190**	S	**Sb**	**15 01 32.4**	**+0.1**
KSHT	**Keshet**		**0.81 179**	P	**Pg**	**15 01 25.5**	**-0.1**
KSHT	**Keshet**		**0.81 179**	S	**Sb**	**15 01 38.6**	**0.0**
MMC7	**Mount Meron ar**		**0.84 203**	P	**Pg**	**15 01 26.4**	**+0.2**
MMA0B	**Mount Meron ar**		**0.84 203**	P	**Pg**	**15 01 26.6**	**+0.4**
MMA0B	**Mount Meron ar**		**0.84 203**	S	**Sb**	**15 01 39.9**	**+0.3**
HNTI	**Hanita**		**0.88 216**	P	**Pg**	**15 01 27.2**	**+0.3**
HMDT	**Nahal Hemdat**		**1.56 188**	P	**Pn**	**15 01 38.2**	**-0.8**
HMDT	**Nahal Hemdat**		**1.56 188**	S	**Sg**	**15 02 01.6**	**+1.6**

WEL 14 15:10:33.9±0.4, 40°S±2°×17°7E±°, h20km±3km, M3.2/18, ML3.5/18, MLv3.2/18, Error ellipse: s-maj=0.0km s-min=0.0km az=124.2, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**		**0.10 79**	P	Pg	15 10 38.6	+0.7
PRHZ				S	Sg	15 10 42.4	+1.8
ANWZ	**Angora Road**		**0.17 187**	P	Pg	15 10 39.8	+1.1
ANWZ				S	Sg	15 10 44.8	+2.8
WPHZ	**Waipukurau**		**0.23 348**	P	Pg	15 10 40.3	+0.8
WPHZ				S	Sg	15 10 45.6	+2.4
DVHZ	**Dannevirke**		**0.26 267**	P	Pg	15 10 40.8	+0.8
DVHZ				S	Sg	15 10 45.8	+1.8
PXZ	**Pawanui**		**0.38 47**	P	Pb	15 10 42.5	+0.7
PXZ				S	Sn	15 10 50.4	-0.4
PNHZ	**Pukenui**		**0.44 328**	P	Pg	15 10 43.6	+0.6
PNHZ				S	Sn	15 10 51.0	-1.5
BFZ	**Birch Farm**		**0.44 206**	P	Pg	15 10 43.7	+0.7
BFZ				S	Sn	15 10 51.5	-1.0
TSZ	**Takapari Road**		**0.47 298**	P	Pg	15 10 44.1	+0.5
TSZ				S	Sn	15 10 52.0	-1.3
PRWZ	**Pori Road**		**0.49 236**	P	Pn	15 10 45.0	-0.7
PRWZ				S	Sn	15 10 53.4	-0.3
KAHZ	**Kahuranaki**		**0.57 30**	P	Pg	15 10 45.8	+0.5
KAHZ				S	Sn	15 10 55.7	0.0
POWZ	**Post Office Ro**		**0.57 259**	P	Pn	15 10 46.2	-0.7
POWZ				S	Sn	15 10 56.0	+0.2
KRHZ	**Kereru**		**0.65 351**	P	Pg	15 10 46.9	+0.1
KRHZ				S	Sn	15 10 57.6	-0.1
CPWZ	**Castlepoint**		**0.66 200**	P	Pn	15 10 48.0	-0.2
CPWZ				S	Sn	15 10 59.1	+1.1
TIWZ	**Tintock**		**0.68 224**	P	Pg	15 10 47.6	+0.2
TIWZ				S	Sn	15 10 58.0	-0.4
CKHZ	**Cape Kidnapper**		**0.77 35**	P	Pb	15 10 48.3	-0.2
MRZ	**Mangatainoka R**		**0.80 242**	P	Pb	15 10 49.1	0.0
MRZ				S	Sn	15 11 01.1	-0.3
MCHZ	**McNeill Hill**		**0.85 10**	P	Pg	15 10 50.3	-0.3
MCHZ				S	Sn	15 11 03.6	+0.9
KWHZ	**Kaweka Forest**		**0.86 356**	P	Pb	15 10 50.3	+0.1
OHWZ	**Ohakea**		**0.91 275**	P	Pg	15 10 52.5	+0.8
TMWZ	**Te Maipa**		**0.94 209**	P	Pb	15 10 50.8	-0.7
HOWZ	**Holdsworth Sta**		**0.97 231**	P	Pb	15 10 51.2	-0.8
MOVZ	**Moawhango**		**1.05 326**	P	Pn	15 10 53.6	+0.1
ARHZ	**Aropaoanui**		**1.09 20**	P	Pn	15 10 53.4	-0.6
BKZ	**Black Stump Fm**		**1.12 360**	P	Pn	15 10 53.7	-0.8
OGWZ	**Otaki Gorge**		**1.15 242**	P	Pn	15 10 54.2	-0.6
MTW	**Mount Morrison**		**1.16 221**	P	Pn	15 10 53.3	-1.6
WNVZ	**Wahianoa**		**1.19 324**	P	Pg	15 10 56.3	-0.6
MTVZ	**Mangateitei**		**1.20 318**	P	Pg	15 10 56.8	-0.4
NMHZ	**Naumai**		**1.21 11**	P	Pn	15 10 55.2	-0.5
TUVZ	**Tukino**		**1.21 327**	P	Pg	15 10 56.8	-0.5
WHVZ	**Whangaehu Hut**		**1.23 325**	P	Pb	15 10 56.6	+0.1
TRVZ	**Turoa**		**1.23 323**	P	Pb	15 10 56.9	+0.3
MAVZ	**Matarangi**		**1.25 324**	P	Pb	15 10 57.3	+0.3
FWVZ	**Far West T-bar**		**1.26 324**	P	Pb	15 10 57.4	+0.3
TRWZ	**Traveller**		**1.27 209**	P	Pn	15 10 55.1	-1.4
WAZ	**Wanganui**		**1.28 294**	P	Pb	15 10 57.6	+0.3
SNVZ	**South Ngauruho**		**1.28 328**	P	Pb	15 10 57.9	+0.5
OTVZ	**Oturere**		**1.29 330**	P	Pb	15 10 57.7	+0.1
ETVZ	**East Tongariro**		**1.30 332**	P	Pb	15 10 57.7	0.0
NGZ	**Ngauruhoe**		**1.31 328**	P	Pb	15 10 58.4	+0.5
COVZ	**Chateau Observ**		**1.31 325**	P	Pb	15 10 58.1	+0.2
TMVZ	**Te Maari**		**1.32 332**	P	Pb	15 10 58.0	0.0
PKVZ	**Pokaka**		**1.34 318**	P	Pb	15 10 58.8	+0.5
NNVZ	**North Ngauruho**		**1.34 329**	P	Pb	15 10 59.0	+0.6
KIW	**Kapiti Island**		**1.34 244**	P	Pn	15 10 56.7	-0.8
NTVZ	**North Tongarir**		**1.35 331**	P	Pb	15 10 58.9	+0.4
PAWZ	**Paruwai Farm**		**1.37 216**	P	Pn	15 10 56.0	-1.9
CAW	**Cannon Point**		**1.37 233**	P	Pn	15 10 56.5	-1.4
RAHZ	**Arahi**		**1.44 18**	P	Pn	15 10 58.1	-0.8
KATZ	**Kakaramea**		**1.45 334**	P	Pb	15 11 00.3	0.0
MRHZ	**Matea Rd**		**1.45 357**	P	Pn	15 10 59.3	+0.2
MTHZ	**Maungataniwha**		**1.46 10**	P	Pn	15 10 58.1	-0.9
MSWZ	**Moikau Station**		**1.48 220**	P	Pn	15 10 57.2	-2.1
RATZ	**Rangitukua**		**1.53 338**	P	Pb	15 11 02.4	+0.9
PLWZ	**Palliser**		**1.59 216**	P	Pn	15 10 58.8	-2.2
SNGZ	**Shannon Statio**		**1.64 24**	P	Pn	15 11 00.4	-1.1
BHW	**Baring Head**		**1.67 227**	P	Pn	15 11 00.3	-1.7
RTZ	**Ruatahuna**		**1.71 13**	P	Pn	15 11 01.4	-1.2
VRZ	**Vera Road**		**1.78 310**	P	Pb	15 11 05.9	+0.2
PRRZ	**Plateau Road**		**1.79 357**	P	Pb	15 11 05.1	-0.9
RIGZ	**Rimuhau**		**1.85 32**	P	Pn	15 11 02.7	-1.9
HRRZ	**Handcock Road**		**1.90 355**	P	Pg	15 11 09.7	-0.7
RAGZ	**Rawiri**		**1.92 22**	P	Pn	15 11 04.0	-1.5
TCW	**Tory Channel**		**1.93 241**	P	Pn	15 11 04.3	-1.2
DUWZ	**D'Urville Isla**		**2.03 255**	P	Pb	15 11 08.9	-1.2
URZ	**Urewera**		**2.08 13**	P	Pn	15 11 05.9	-1.7
MWZ	**Matawai**		**2.10 22**	P	Pn	15 11 06.0	-2.0
NEZ	**North Egmont**		**2.12 298**	P	Pb	15 11 10.2	-1.3
TKGZ	**Te Karaka**		**2.12 30**	P	Pn	15 11 06.0	-2.1
HIZ	**Hauiti**		**2.18 324**	P	Pb	15 11 12.5	-0.2
TUWZ	**Tuamarina**		**2.25 239**	P	Pn	15 11 08.5	-1.5
TWGZ	**Tauwhareparae**		**2.40 29**	P	Pn	15 11 10.2	-1.8
RUGZ	**Raukumara Rang**		**2.49 22**	P	Pn	15 11 11.4	-2.0
PKGZ	**Pakihiroa**		**2.71 27**	P	Pn	15 11 14.0	-2.3
HAZ	**Te Kaha**		**2.72 22**	P	Pn	15 11 14.8	-1.5
MRNZ	**Matariki Terra**		**3.05 247**	P	Pn	15 11 21.2	+0.2
THZ	**Tophouse**		**3.10 240**	P	Pn	15 11 20.3	-1.3

*LDG **14** 15:24:55.7±0.1, 38°.34N×1°.27W, h10km, Ml2.5/3, Error ellipse: s-maj=2.2km s-min=1.7km az=147.0*
*SFS **14** 15:24:55.5, 38°.36N×1°.25W, h16km, ML3.5/16, ML3.2/12, MLv2.9/16*
*MDD **14** 15:24:55.5±0.2, 38°.33N×1°.27W, h11km, mb_Lg2.9/57, Error ellipse: s-maj=1.7km s-min=1.0km az=118.0*
*INMG **14** 15:24:55.8±1.1, 38°.30N×1°.26W, h22km±2km, ML2.5, Error ellipse: s-maj=1.5km s-min=1.5km az=148.0*
ISC 14 15:24:53.3±1.0, 38°.40N±0°.02×1°.29W±0°.02, h16km±8km, n77, σ1°57/172, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**		**0.56 176**	Pg	**Pg**	**15 25 04.4**	**0.0**
EMUR				Sg	**Sg**	**15 25 12.1**	**+0.2**
EMUR	**La Murta**		**0.56 176**	Pg	**Pg**	**15 25 04.2**	**-0.2**
EMUR				Sg	**Sg**	**15 25 11.7**	**-0.2**
EMUR				*i* Vmb_Lg		15 25 13.8	
ETRV	**Los Montesinos**		**0.57 132**	Pg	**Pb**	**15 25 05.2**	**+0.4**
ETRV				Sg	**Sg**	**15 25 11.2**	**-0.9**
ETRV				*i* Vmb_Lg		15 25 18.1	
EZAR	**Zarzadilla de**		**0.61 211**	Pg	**Pg**	**15 25 05.6**	**+0.2**
EZAR				Sg	**Sg**	**15 25 14.4**	**+0.8**
EZAR				*i* Vmb_Lg		15 25 16.8	
AFON	**Font Roja**		**0.65 66**	Pg	**Pn**	**15 25 08.4**	**+0.4**
AFON				Sg	**Sn**	**15 25 16.3**	**-1.6**
AFON				*i* Vmb_Lg		15 25 24.0	
TLOR	**Lorca, Murcia**		**0.81 203**	Pg	**Pg**	**15 25 09.0**	**0.0**
TLOR	**Lorca, Murcia**		**0.81 203**	Pg	**Pg**	**15 25 09.3**	**+0.3**
TLOR				Sg	**Sb**	**15 25 21.0**	**+1.3**
ELOR	**Lorca, Murcia**		**0.84 205**	Pg	**Pb**	**15 25 10.6**	**+1.0**
ELOR				Sg	**Sg**	**15 25 20.8**	**+0.1**
ELOR				*i* Vmb_Lg		15 25 24.3	
CART	**Cartagena**		**0.85 164**	Pg	**Pg**	**15 25 09.6**	**-0.1**
CART				Sg	**Sg**	**15 25 20.8**	**-0.1**
EVIV	**Cofrentes, Val**		**0.87 9**	Pg	**Pn**	**15 25 11.8**	**+0.8**
EVIV				Sg	**Sn**	**15 25 24.9**	**+1.4**
EVIV				*i* Vmb_Lg		15 25 26.5	
EBEN2	**Beniarda presa**		**0.91 72**	Pg	**Pn**	**15 25 12.7**	**+1.2**
EBEN2				Sg	**Sn**	**15 25 24.9**	**+0.7**
EBEN2				*i* Vmb_Lg		15 25 28.9	
ECHE	**Chera**		**1.21 12**	Sg	**Sn**	**15 25 33.9**	**+2.0**
ECHE				Pg	**Pn**	**15 25 17.1**	**+1.4**
ECHE	**Chera**		**1.21 12**	Pg	**Pn**	**15 25 17.4**	**+1.7**
ECHE				Sg	**Sn**	**15 25 34.5**	**+2.6**
ECHE				*i* Vmb_Lg		15 25 37.3	
ENIJ	**Nijar**		**1.60 207**	Pn	**Pn**	**15 25 21.6**	**+0.6**
ENIJ				Sn	**Sn**	**15 25 41.4**	**0.0**
ENIJ	**Nijar**		**1.60 207**	Pn	**Pn**	**15 25 21.8**	**+0.8**
ENIJ				Sn	**Sn**	**15 25 40.6**	**-0.8**
ENIJ				Sg	**Sb**	**15 25 43.4**	**+0.8**
ENIJ				*i* Vmb_Lg		15 25 51.9	
E0802	**Ubeda,Jaen**		**1.68 258**	Pn	**Pn**	**15 25 23.8**	**+1.7**
E0802				Pg	**Pg**	**15 25 26.0**	**+0.3**
E0802				Sn	**Sn**	**15 25 43.8**	**+0.4**
E0802				Sg	**Sg**	**15 25 48.2**	**+0.7**
EBER	**Berja**		**1.96 221**	Pn	**Pn**	**15 25 27.8**	**+1.7**
EBER	**Berja**		**1.96 221**	Pn	**Pn**	**15 25 27.7**	**+1.6**
EBER				Sn	**Sn**	**15 25 50.2**	**-0.4**
EBER				Sg	**Sg**	**15 25 56.7**	**+0.1**
EBER				*i* Vmb_Lg		15 26 02.6	
EMOS	**Mosqueruela**		**2.06 18**	Pn	**Pb**	**15 25 29.6**	**-0.9**
EMOS				Sn	**Sb**	**15 25 54.4**	**-1.5**
EMOS				Sg	**Sg**	**15 26 01.7**	**+2.1**
EMOS				*i* Vmb_Lg		15 26 10.9	
E0901	**Celadas (Terue**		**2.08 3**	Pn	**Pb**	**15 25 29.1**	**-1.7**
E0901				Sn	**Sb**	**15 25 55.0**	**-1.4**
E0901				*i* Vmb_Lg		15 26 16.2	
EQTA	**Presa de Quent**		**2.08 236**	Sg	**Sb**	**15 25 59.4**	**+3.0**
EQTA				Pg	**Pg**	**15 25 33.0**	**-0.2**
EQUE	**Quentar**		**2.08 236**	Pn	**Pn**	**15 25 29.7**	**+2.1**
EQUE				Sn	**Sn**	**15 25 53.1**	**-0.1**
EQUE				Sg	**Sg**	**15 26 00.4**	**+0.2**
EQUE				*i* Vmb_Lg		15 26 05.5	
ECOL	**Islas Columbre**		**2.14 45**	Pn	**Pb**	**15 25 29.9**	**-1.8**
ECOL				Sn	**Sb**	**15 25 55.8**	**-2.3**
EIBI	**Ibiza**		**2.15 72**	Pn	**Pb**	**15 25 29.8**	**-2.1**
EIBI				Sn	**Sb**	**15 25 56.4**	**-2.0**
EIBI	**Ibiza**		**2.15 72**	Pn	**Pb**	**15 25 29.9**	**-2.1**
EIBI				Sn	**Sn**	**15 25 55.3**	**+0.3**
EIBI				*i* Vmb_Lg		15 26 05.9	
ELGU	**Los Guajares,**		**2.40 231**	Pn	**Pn**	**15 25 34.2**	**+2.1**
ELGU				Sn	**Sn**	**15 26 02.0**	**+0.7**
ELGU				Sg	**Sg**	**15 26 10.2**	**-0.4**
ELGU				*i* Vmb_Lg		15 26 17.6	
UCM	**Universidad Co**		**2.43 322**	Sg	**Sg**	**15 26 11.3**	**-0.2**
UCM				Pg	**Pg**	**15 25 40.7**	**+0.7**
ESDC	**Sonseca Array**		**2.44 302**	Pn	**Pn**	**15 25 34.1**	**+1.5**
ESDC				Pg	**Pg**	**15 25 40.3**	**+0.3**
ESDC				Sn	**Sn**	**15 26 04.2**	**+2.2**
ESDC				Sg	**Sg**	**15 26 12.7**	**+1.0**
ETOR	**Torete**		**2.48 347**	Pn	**Pb**	**15 25 36.9**	**-0.7**
ETOR				Pg	**Pg**	**15 25 41.8**	**+0.8**
ETOR				Sn	**Sn**	**15 26 05.4**	**+2.2**
ETOR				Sg	**Sg**	**15 26 14.8**	**+1.6**
EGOR	**Sierra Gorda,**		**2.58 241**	Pn	**Pn**	**15 25 36.9**	**+2.4**
EGOR				Sn	**Sn**	**15 26 06.5**	**+0.8**
EGOR				Sg	**Sg**	**15 26 17.3**	**+1.1**
EGOR				*i* Vmb_Lg		15 26 25.2	
EADA	**Adamuz**		**2.59 266**	Pn	**Pn**	**15 25 35.6**	**+0.9**
EADA				Pg	**Pg**	**15 25 42.6**	**-0.4**
EADA				Sg	**Sg**	**15 26 17.7**	**+1.0**
EADA	**Adamuz**		**2.59 266**	Pn	**Pn**	**15 25 35.6**	**+0.9**
EADA				Pg	**Pg**	**15 25 42.2**	**-0.8**
EADA				Sn	**Sn**	**15 26 07.3**	**+1.4**
EADA				Sg	**Sg**	**15 26 17.3**	**+0.6**
EADA				*i* Vmb_Lg		15 26 20.3	
PAB	**San Pablo**		**2.64 297**	Pn	**Pn**	**15 25 36.9**	**+1.6**
PAB				Sn	**Sn**	**15 26 09.6**	**+2.5**
PAB				Sg	**Sg**	**15 26 19.1**	**+0.9**
PAB				*i* Vmb_Lg		15 26 22.1	
ERTA	**Horta de San J**		**2.84 26**	Pn	**Pn**	**15 25 40.3**	**+2.2**
ERTA				Sn	**Sn**	**15 26 13.7**	**+1.6**
ERTA				*i* Vmb_Lg		15 26 29.3	
GUD	**Guadarrama**		**3.15 316**	Pn	**Pn**	**15 25 45.0**	**+2.6**
GUD				Pg	**Pg**	**15 25 53.1**	**-0.5**
GUD				Sn	**Sn**	**15 26 21.5**	**+1.8**
GUD				Sg	**Sg**	**15 26 34.6**	**+0.2**
GUD				*i* Vmb_Lg		15 26 45.7	
ECAB	**El Cabril**		**3.27 266**	Pn	**Pn**	**15 25 44.7**	**+0.8**
ECAB				Sg	**Sg**	**15 26 37.6**	**-0.5**
ECAB	**El Cabril**		**3.27 266**	Pn	**Pn**	**15 25 44.7**	**+0.8**
ECAB				Sn	**Sn**	**15 26 23.4**	**+1.0**
ECAB				Sg	**Sg**	**15 26 38.2**	**0.0**
ECAB				*i* Vmb_Lg		15 26 43.7	
ESAC	**San Caprasio**		**3.38 11**	Pn	**Pn**	**15 25 46.3**	**+0.8**
ESAC				Sn	**Sn**	**15 26 26.1**	**+0.9**
ESAC				*i* Vmb_Lg		15 26 49.1	
EPOB	**Poblet**		**3.47 31**	Pn	**Pn**	**15 25 48.7**	**+2.1**
EPOB				Sn	**Sn**	**15 26 29.3**	**+1.8**
EPOB				*i* Vmb_Lg		15 27 11.6	
ETOS	**Mallorca**		**3.48 66**	Pn	**Pn**	**15 25 48.1**	**+1.3**
ETOS				Sn	**Sn**

EVO A A 15 27 50.9
4.8nm,0.6s
PBDV Barranco-do-Ve 5.38 260 *e*Pn **Pn 15 26 13.9 +1.0**
PBDV *e*Sn **Sn 15 27 12.9 -1.7**
PBDV A A 15 28 08.4
3.4nm,0.5s
PBDV Barranco-do-Ve 5.38 260 Pn **Pn 15 26 14.0 +1.0**
PCVE Castro Verde 5.38 264 *e*Pn **Pn 15 26 13.8 +0.9**
PBRG Braganca 5.38 311 *e*Pn **Pn 15 26 14.9 +1.9**
PBRG *e*Sn **Sn 15 27 12.2 -2.5**
PBRG *e*Sg **Sg 15 27 43.4 -2.7**
PBRG A A 15 27 51.4
6.2nm,0.5s
PMTG Montargil 5.46 279 *e*Pn **Pn 15 26 15.8 +1.8**
PMTG *e*Sg **Sg 15 27 46.2 -2.4**
PMTG A A 15 28 02.7
4.7nm,0.5s
ECAL Calabor 5.47 312 Pn **Pn 15 26 15.6 +1.5**
ECAL Sn **Sn 15 27 15.8 -1.0**
ECAL Sg **Sg 15 27 48.4 -0.3**
ECAL *i* Vmb_Lg 15 28 00.2
MESJ Messejana 5.49 266 *e*Pn **Pn 15 26 15.7 +1.3**
MESJ A A 15 27 57.1
3.4nm,0.7s
PVIS Viseu 5.60 296 *e*Pn **Pn 15 26 17.5 +1.5**
PVIS *e*Sn **Sn 15 27 20.1 +0.1**
PVIS A A 15 27 58.6
2.9nm,0.4s
PNCL Nicolau / Gran 5.70 269 *e*Pn **Pn 15 26 18.9 +1.6**
PNCL *e*Sg **Sg 15 27 50.1 -6.2**
PNCL A A 15 28 08.7
2.6nm,0.6s
EARI Arriondas 5.72 330 Pn **Pn 15 26 20.2 +2.6**
EARI Sn **Sn 15 27 23.2 +0.2**
EARI Sg **Sg 15 27 56.7 -0.2**
EARI *i* Vmb_Lg 15 28 10.4
PCAS Casmilo, Conde 5.83 289 *e*Pn **Pn 15 26 21.1 +2.0**
PCAS *e*Sn **Sn 15 27 25.3 -0.4**
PCAS *e*Sg **Sg 15 27 57.1 -3.3**
PCAS A A 15 28 17.1
5.3nm,0.6s
MORF Marmelete 5.93 262 *e*Pn **Pn 15 26 21.7 +1.2**
PFVI Vila Bisbo 6.10 260 *e*Pn **Pn 15 26 24.3 +1.5**
ELOB Lobios 6.23 306 Pn **Pn 15 26 26.0 +1.3**
ELOB Sn **Sn 15 27 35.0 -0.7**
ELOB Sg **Sg 15 28 12.7 -0.6**
ELOB *i* Vmb_Lg 15 28 19.2
CAF Calviac 6.99 20 *e*Pn **Pn 15 26 35.5 +0.5**

*IDC **14** 15:25:23.7±0.9, 36'.88S×96'.23W, h0km, mb3.9/7, mbtmp3.9/7, MS3.5/13, Error ellipse: s-maj=50.0km s-min=22.4km az=83.0*
ISC 14 15:25:25.3±0.9, 36'.9S±0'.1×96'.2W±0'.3, h10km, n32, σ1°56/11, mb4.0/10, MS3.5/12, 4C, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**14.44**	**83**	T	T	15 43 51.8	
baz=252,slow=74,SNR=109							
H03S1	**Juan Fernandez**	**14.45**	**83**	T	T	15 43 47.4	
baz=252,slow=74,SNR=91							
H03S3	**Juan Fernandez**	**14.45**	**83**	T	T	15 43 50.5	
baz=252,slow=74,SNR=128							
H03N2	**Juan Fernandez**	**14.55**	**81**	T	T	15 43 44.5	
baz=249,slow=72,SNR=170							
H03N3	**Juan Fernandez**	**14.55**	**82**	T	T	15 43 54.7	
baz=249,slow=72,SNR=120							
H03N1	**Juan Fernandez**	**14.57**	**81**	T	T	15 43 49.1	
baz=249,slow=72,SNR=102							
RPN	**Rapa Nui**	**14.77**	**307**	LR	LR	15 33 04.9	
comp=Z,88nm,21.1s,baz=170,slow=31							
PLCA	**Paso Flores**	**20.34**	**109**	LR	LR	15 35 45.7	
comp=Z,45nm,21.4s,baz=254,slow=31							
LVC	**Limon Verde**	**27.53**	**67**	LR	LR	15 39 20.1	
comp=Z,54nm,19.6s,baz=220,slow=30							
NNA	**Nana**	**30.30**	**40**	LR	LR	15 40 33.5	
comp=Z,132nm,21.3s,baz=206,slow=30							
LPAZ	**La Paz**	**32.23**	**58**	P	**P**	**15 31 54.8 +0.1**	
1.3nm,0.7s,baz=228,slow=13,SNR=3.8							
LPAZ				LR	LR	15 41 50.2	
comp=Z,42nm,20.9s,baz=250,slow=31							
1.3nm,0.7s							
ATAH	**Atahualpa**	**33.78**	**33**	LR	LR	15 42 41.3	
comp=Z,93nm,20.2s,baz=220,slow=31							
SDV	**Santo Domingo**	**51.48**	**33**	LR	LR	15 54 17.6	
comp=Z,32nm,18.8s,baz=198,slow=34							
QSPA	**South Pole Qui**	**53.33**	**180**	P	**P**	**15 34 44.3 -0.1**	
1.8nm,1.1s,baz=108,slow=3.2,SNR=2.6							
1.8nm,1.1s							
VNA3	**Neumayer Olymp**	**54.47**	**157**	⇑P	**P**	**15 34 51.3 -1.3**	
comp=Z,3.1nm,0.8s							
VNA1	**Neumayer--Stat**	**55.04**	**156**	⇑P	**P**	**15 34 55.4 -1.2**	
comp=Z,3.3nm,0.7s							
VNA2	**Neumayer--Watz**	**55.26**	**156**	⇑P	**P**	**15 35 01.3 +3.0**	
comp=Z,1.2nm,0.3s,baz=260,slow=6.7							
PCRV	**Puerto La Cruz**	**55.42**	**39**	LR	LR	15 56 38.5	
comp=Z,107nm,20.1s,slow=34							
SNAA	**Sanae**	**56.49**	**158**	P	**P**	**15 35 06.0 -1.1**	
comp=Z,1.3nm,1.0s,baz=250,slow=7.2,SNR=2.7							
comp=Z,1.3nm,1.0s							
VNDA	**Vanda**	**56.82**	**195**	LR	LR	15 54 47.8	
comp=Z,71nm,18.2s,baz=278,slow=31							
TEIG	**Tepich**	**57.30**	**9**	LR	LR	15 54 20.1	
comp=Z,47nm,19.2s,baz=232,slow=30							
TROLL	**Troll, Antarti**	**57.98**	**159**	⇑P	**P**	**15 35 15.7 -2.0**	
comp=Z,82nm,0.8s							
MDP	**Montagnes des**	**58.28**	**54**	LR	LR	15 57 34.9	
comp=Z,46nm,21.5s,baz=140,slow=33							
SJG	**San Juan**	**61.63**	**33**	LR	LR	16 01 26.3	
comp=Z,27nm,18.1s,baz=152,slow=35							
TXAR	**Lajitas Array**	**66.24**	**353**	P	**P**	**15 36 13.6 +0.1**	
comp=Z,0.6nm,0.8s,baz=172,slow=6.8,SNR=7.7							
comp=Z,0.6nm,0.8s							
MAW	**Mawson**	**74.63**	**172**	P	**P**	**15 37 05.5 +1.3**	
comp=Z,1.8nm,0.7s,baz=207,slow=14,SNR=2.8							
comp=Z,1.8nm,0.7s							
NVAR	**Mina Array Bea**	**77.67**	**342**	P	**P**	**15 37 22.2 +0.1**	
comp=Z,1.2nm,0.9s,baz=171,slow=6.4,SNR=6.4							
comp=Z,1.2nm,0.9s							
PDAR	**Pinedale Array**	**80.20**	**350**	P	**P**	**15 37 35.3 -0.6**	
comp=Z,0.6nm,0.6s,baz=160,slow=5.6,SNR=5.5							
comp=Z,0.6nm,0.6s							
SCHQ	**Schefferville**	**94.78**	**17**	LR	LR	16 19 20.3	
comp=Z,32nm,18.1s,baz=290,slow=34							
H01W1	**Cape Leeuwin H**	**103.19**	**205**	T	T	17 35 19.9	
baz=154,slow=75,SNR=6.8							
H01W2	**Cape Leeuwin H**	**103.20**	**205**	T	T	17 35 16.0	
baz=154,slow=75,SNR=6.7							
H01W3	**Cape Leeuwin H**	**103.21**	**205**	T	T	17 35 22.0	
baz=154,slow=75,SNR=5.2							

*NEIC **14** 15:26:55.5±0.3, 36'.27N±0'.01×98'.23W±0'.02, h5km±1km, Error ellipse: s-maj=3.4km s-min=2.3km az=290.0*
TUL 14 15:26:55.7±0.2, 36'.279N±0'.010×98'.23W±0'.01, h7km±4km, ML2.6, mb_Lg2.1/17(NEIC), **ML2.5**/44(NEIC), **Error ellipse: s-maj=1.8km s-min=0.8km az=224.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.30**	**42**	Pg	Pg	15 27 02.0	+0.4
CROK				IAML		15 27 06.8	
comp=N,440nm,0.3s							
CROK				IAML		15 27 07.0	
comp=E,640nm,0.3s							
OK038	**West end E0370**	**0.46**	**296**		Pg	15 27 04.8	+0.2
OK038				IAML		15 27 16.9	
comp=E,604nm,0.3s							
OK038				IAML		15 27 17.0	
comp=E,429nm,0.4s							
OK032	**Salt Plains WL**	**0.52**	**2**		Pg	15 27 06.0	+0.2
OK032				IAML		15 27 15.2	
comp=E,510nm,0.1s							
KAN14	**Manchester OK**	**0.71**	**18**		Pg	15 27 09.4	0.0
KAN14				IAML		15 27 19.2	
comp=N,155nm,0.2s							
CSTR	**Hydro, Custer**	**0.73**	**211**	Pg	Pg	15 27 10.0	+0.2
OK029	**Liberty Lake**	**0.79**	**127**	Pg	Pg	15 27 10.6	-0.3
KAN17	**Caldwell West**	**0.85**	**26**	Pg	Pg	15 27 11.9	-0.2
KAN17				IAML		15 27 23.7	
comp=E,127nm,0.2s							
KAN17				IAML		15 27 30.4	
comp=N,143nm,0.2s							
BLOK	**Blackwell**	**0.95**	**59**	Pg	Pg	15 27 13.6	-0.3
BLOK				IAML		15 27 33.3	
comp=E,211nm,0.2s							
KAN13	**South Haven SW**	**0.95**	**39**		Pg	15 27 13.7	-0.3
KAN13				IAML		15 27 30.4	
comp=N,239nm,0.3s							
KAN09	**Caldwell North**	**0.99**	**30**	Pg	Pg	15 27 14.3	-0.3
OK051	**E0350 and S346**	**1.15**	**78**		Pg	15 27 17.2	-0.5
OK031	**S. Brethren Rd**	**1.17**	**106**	Pg	Pg	15 27 17.6	-0.6
OK031				IAML		15 27 35.8	
comp=N,130nm,0.1s							
OK052	**Battle Ridge R**	**1.19**	**103**	Pg	Pg	15 27 17.8	-0.7
OK052				IAML		15 27 36.1	
comp=N,107nm,0.2s							
FNO	**Franklin**	**1.22**	**146**	Pg	Pg	15 27 18.2	-1.0
FNO				IAML		15 27 39.6	
comp=E,136nm,0.4s							
FNO				IAML		15 27 39.7	
comp=N,74nm,0.3s							
QUOK	**Quay**	**1.24**	**95**	Pg	Pg	15 27 18.8	-0.7
QUOK				IAML		15 27 36.5	
comp=N,156nm,0.2s							
T35A	**Sooner Cattle**	**1.52**	**65**	Pg	Pn	15 27 23.6	+0.2
T35A				IAmb_Lg		15 27 45.0	
comp=Z,6.5nm,1.0s							
WMOK	**Wichita Mounta**	**1.60**	**196**		Pn	15 27 24.2	-0.3
X34A	**Smith Ranch, M**	**1.71**	**169**		Pb	15 27 26.9	-0.6
TUL3	**Leonard**	**2.01**	**100**	IAmb_Lg		15 28 03.2	
comp=Z,18nm,0.9s							
SMWD	**Samnorwood**	**2.01**	**235**	Pn	Pb	15 27 31.8	-0.9
WTFS	**Witchita Falls**	**2.52**	**184**	IAmb_Lg		15 28 13.4	
comp=Z,6.7nm,1.1s							
AMTX	**Amarillo**	**3.14**	**245**	IAmb_Lg		15 28 34.2	
comp=Z,4.0nm,0.8s							
DKNS	**Dickens**	**3.42**	**221**	IAmb_Lg		15 28 43.1	
comp=Z,3.4nm,1.0s							
MIAR	**Mount Ida**	**4.18**	**113**	IAmb_Lg		15 29 15.5	
comp=Z,3.5nm,0.7s							
X40A	**Basin Creek Fa**	**4.76**	**111**	IAmb_Lg		15 29 30.0	
comp=Z,5.0nm,0.7s							
BRDY	**Brady**	**5.02**	**188**	IAmb_Lg		15 29 40.5	
comp=Z,2.9nm,0.7s							
JCT	**Junction City**	**5.93**	**193**	IAmb_Lg		15 30 07.5	
comp=Z,8.1nm,1.1s							

*WEL **14** 15:45:48.4±0.4, 44'.5±3'.×16'.8E±'., h5km, M2.9/6, ML3.1/11, MLv2.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=125.9, confirmed*
*NOU **14** 15:45:49.0, 44'.42S×168'.33E, h0km, MLv3.5/5, South Island, New Zealand*
ISC 14 15:45:47.5±1.2, 44'.47S±0'.03×168'.35E±0'.03, h8km±10km, n32, σ1°09/47, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.37**	**236**	P	**Pb**	**15 45 56.1**	**-0.1**
MSZ				S	**Sb**	**15 46 01.4**	**-0.8**
GLNY	**Glenorchy**	**0.40**	**174**	P	**Pg**	**15 45 55.0**	**-0.3**
GLNY				S	**Sg**	**15 46 00.1**	**-0.4**
JCZ	**Jackson Bay**	**0.50**	**39**	P	**Pb**	**15 45 58.0**	**-0.7**
JCZ	**Jackson Bay**	**0.50**	**39**	P	**Pb**	**15 45 58.2**	**-0.5**
JCZ				S	**Sb**	**15 46 05.1**	**-1.1**
NSBS	**Neils Beach**	**0.52**	**25**	P	**Pb**	**15 45 58.2**	**-0.7**
NSBS				S	**Sb**	**15 46 06.5**	**-0.1**
WKZ	**Wanaka**	**0.60**	**127**	P	**Pb**	**15 46 00.3**	**0.0**
WKZ				S	**Sb**	**15 46 08.5**	**-0.4**
QTPS	**Queenstown Pol**	**0.61**	**159**	P	**Pb**	**15 45 59.8**	**-0.5**
WNPS	**Wanaka Nationa**	**0.61**	**112**	P	**Pg**	**15 45 59.2**	**-0.1**
WNPS				S	**Sg**	**15 46 07.5**	**+0.2**
MECS	**Makarora Emerg**	**0.68**	**70**	P	**Pb**	**15 46 01.6**	**0.0**
MLZ	**Mavora Lakes**	**0.91**	**190**	P	**Pb**	**15 46 05.7**	**+0.1**
MLZ				S	**Sn**	**15 46 18.9**	**-1.1**
EAZ	**Earnscleugh**	**1.02**	**139**	P	**Pn**	**15 46 07.7**	**-0.5**
EAZ				S	**Sn**	**15 46 23.8**	**+1.1**
DCZ	**Deep Cove**	**1.31**	**220**	P	**Pb**	**15 46 12.2**	**-0.1**
DCZ				S	**Sg**	**15 46 29.7**	**+0.1**
LBZ	**Lake Benmore**	**1.32**	**87**	P	**Pg**	**15 46 13.7**	**+0.9**
LBZ				S	**Sn**	**15 46 29.8**	**-0.2**
FOZ	**Fox Glacier**	**1.41**	**49**	P	**Pg**	**15 46 14.4**	**-0.2**
FOZ				S	**Sg**	**15 46 35.0**	**+2.1**
WHZ	**Wether Hill Ro**	**1.45**	**191**	P	**Pg**	**15 46 15.0**	**-0.4**
WHZ				S	**Sg**	**15 46 35.6**	**+1.4**
ODZ	**Otahua Downs**	**1.73**	**110**	P	**Pg**	**15 46 20.6**	**-0.1**
ODZ	**Otahua Downs**	**1.73**	**110**	P	**Pg**	**15 46 20.3**	**-0.4**
ODZ				S	**Sg**	**15 46 43.7**	**+0.5**
TUZ	**Tuapeka**	**1.74**	**149**	P	**Pg**	**15 46 20.3**	**-0.6**
TUZ				S	**Sg**	**15 46 44.2**	**+0.7**
GCSZ	**Gaunt Creek Bo**	**1.83**	**52**	P	**Pb**	**15 46 20.2**	**-1.1**
TMZ	**Timaru**	**1.91**	**88**	P	**Pb**	**15 46 22.3**	**-0.3**
RPZ	**Rata Peaks**	**2.09**	**70**	P	**Pb**	**15 46 24.9**	**-0.8**
RPZ	**Rata Peaks**	**2.09**	**70**	P	**Pb**	**15 46 24.6**	**-1.0**
ARCZ	**Arundel**	**2.10**	**77**	P	**Pb**	**15 46 24.9**	**-1.0**
SYZ	**Scrubby Hill**	**2.14**	**165**	P	**Pb**	**15 46 26.4**	**-0.1**
SYZ	**Scrubby Hill**	**2.14**	**165**	P	**Pb**	**15 46 26.1**	**-0.5**
SYZ				S	**Sb**	**15 46 54.4**	**+1.2**
WVZ	**Waitaha Valley**	**2.22**	**52**	P	**Pb**	**15 46 28.4**	**+0.6**
APZ	**The Paps**	**2.38**	**186**	P	**Pb**	**15 46 29.5**	**-1.1**
MHCZ	**Mount Hutt**	**2.50**	**69**	P	**Pb**	**15 46 30.6**	**-2.1**
WACZ	**Wakanui South**	**2.56**	**79**	P	**Pb**	**15 46 31.8**	**-1.9**
INZ	**Inchbonnie**	**2.84**	**53**	P	**Pb**	**15 46 35.8**	**-2.7**
LTZ	**Lake Taylor**	**3.31**	**61**	P	**Pb**	**15 46 43.8**	**-2.7**
QRZ	**Quartz Range**	**4.77**	**42**	P	**Pn**	**15 47 02.0**	**+2.3**

*NEIC **14** 15:49:48.4±2.7, 20'.8S±0'.1×177'.25W±0'.10, h322km±7km, mb4.7/85, Error ellipse: s-maj=16.2km s-min=12.8km az=167.0*
*NOU **14** 15:49:48.3, 20'.90S×177'.05W, h330km, mb4.6/67, Fiji Islands Region*
*IDC **14** 15:49:55.2±1.9, 20'.86S×177'.49W, h385km±18km, mb3.6/14, mbtmp4.4/15, Error ellipse: s-maj=16.3km s-min=11.8km az=149.0*
ISC 14 15:49:52.8±0.4, 20'.88S±0'.06×177'.44W±0'.07, h365km, n491, σ1°17/467, mb4.5/67, 11C-12D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.28**	**306**	P	**Pn**	**15 51 12.5**	**-3.8**
MSVF	**Nonsavu**	**5.28**	**306**	Pn	**Pn**	**15 51 12.1**	**-4.3**
NIUE	**Niue**	**7.29**	**77**	P	Pn	15 51 29.7	-9.2
NIUE	**Niue**	**7.29**	**77**	Pn	Pn	15 51 29.6	-9.4
GLKZ	**Green Lake**	**8.36**	**183**	S	S	15 53 14.0	-14
AFI	**Afiamalu**	**8.79**	**39**	Pn	Pn	15 51 45.1	-12
PINNC	**Pines Island,**	**14.15**	**260**	P	**Pn**	**15 52 59.7**	**+0.3**
PINNC	**Pines Island,**	**14.15**	**260**		**Pn**	**15 52 59.8**	**+0.3**
LIFNC	**LIFOU**	**14.32**	**268**	P	**Pn**	**15 53 01.2**	**-0.2**
LIFNC	**LIFOU**	**14.32**	**268**	Pn	**Pn**	**15 53 01.2**	**-0.2**
YATNC	**Mamie plateau,**	**14.63**	**263**	P	**Pn**	**15 53 05.3**	**+0.3**
ONTNC	**Ouen Toro**	**15.05**	**262**	P	**Pn**	**15 53 08.9**	**-0.9**
DZM	**Mont Dzumac**	**15.05**	**263**	P	**Pn**	**15 53 09.4**	**-0.5**
DZM	**Mont Dzumac**	**15.05**	**263**	Pn	**Pn**	**15 53 09.6**	**-0.3**
DZM				IAmb	IAmb	15 53 13.2	
comp=Z,60nm,1.3s							
DZM	**Mont Dzumac**	**15.05**	**263**	P	**Pn**	**15 53 08.8**	**-1.1**
comp=Z,20nm,0.6s,baz=84,slow=19,SNR=35							
NOUC	**Port Laguerre**	**15.18**	**262**	P	**Pn**	**15 53 11.0**	**-0.3**
RAR	**Rarotonga**	**16.50**	**94**	P	Pn	15 53 38.7	+12
comp=Z,25nm,0.9s,baz=268,slow=10,SNR=3.1							
RAR				S	S	15 56 30.9	+14
comp=Z,21nm,1.0s,baz=316,slow=18,SNR=1.7							
KUZ	**Kuaotunu**	**16.89**	**199**	P	**P**	**15 53 25.4**	**-1.6**
KUZ	**Kuaotunu**	**16.89**	**199**	P	**P**	**15 53 27.3**	**+0.2**
MXZ	**Matakaoa Point**	**17.03**	**192**	P	**P**	**15 53 27.9**	**-0.6**
MXZ	**Matakaoa Point**	**17.03**	**192**	P	**P**	**15 53 27.8**	**-0.6**
KOUNC	**Koumac, New Ca**	**17.10**	**268**	P	**P**	**15 53 30.8**	**+1.4**
WIAZ	**Waiheke Island**	**17.12**	**201**	P	**P**	**15 53 30.4**	**+0.9**
WMGZ	**Waiomatatini S**	**17.26**	**191**	P	**P**	**15 53 29.2**	**-1.7**
WMGZ				S	**S**	**15 56 30.7**	**-1.0**
HAZ	**Te Kaha**	**17.32**	**193**	P	**P**	**15 53 28.9**	**-2.6**
HAZ				S	**S**	**15 56 33.4**	**+0.5**
ETAZ	**East Tamaki Re**	**17.34**	**201**	P	**P**	**15 53 28.9**	**-2.9**
PKGZ	**Pakihiroa**	**17.37**	**192**	P	**P**	**15 53 30.7**	**-1.4**
PKGZ				S	**S**	**15 56 31.3**	**-2.6**
PUZ	**Puketiti**	**17.53**	**191**	P	**P**	**15 53 30.5**	**-3.3**
PUZ				S	**S**	**15 56 32.8**	**-4.3**
RUGZ	**Raukumara Rang**	**17.54**	**193**	P	**P**	**15 53 31.5**	**-2.6**
RUGZ				S	**S**	**15 56 34.3**	**-3.2**
TOZ	**Tahuroa Road**	**17.87**	**199**		**P**	**15 53 35.8**	**-1.6**
URZ	**Urewera**	**17.95**	**194**	P	**P**	**15 53 34.7**	**-3.6**
URZ	**Urewera**	**17.95**	**194**	P	**P**	**15 53 33.8**	**-4.4**
comp=Z,37nm,0.4s,baz=13,slow=16,SNR=41							
URZ				S	**S**	**15 56 43.7**	**-1.4**
comp=Z,23nm,0.5s,baz=345,slow=19,SNR=12							
URZ	**Urewera**	**17.95**	**194**	P	**P**	**15 53 34.3**	**-3.9**
URZ				S	**S**	**15 56 45.2**	**+0.1**
TKGZ	**Te Karaka**	**17.96**	**192**	P	**P**	**15 53 34.2**	**-4.3**
TKGZ				S	**S**	**15 56 42.9**	**-2.6**
RTZ	**Ruatahuna**	**18.32**	**194**	P	**P**	**15 53 37.7**	**-4.6**
RTZ				IAmb	IAmb	15 53 42.5	
comp=Z,71nm,1.4s							
HIZ	**Hauiti**	**18.79**	**199**	P	**P**	**15 53 46.4**	**-0.8**
BKZ	**Black Stump Fm**	**18.95**	**195**	P	**P**	**15 53 46.1**	**-2.9**
BKZ	**Black Stump Fm**	**18.95**	**195**	P	**P**	**15 53 43.8**	**-5.2**
BKZ				IAmb	IAmb	15 53 54.7	
comp=Z,27nm,0.5s							
BFZ	**Birch Farm**	**20.46**	**194**	P	**P**	**15 54 01.6**	**-2.2**
MRZ	**Mangatainoka R**	**20.59**	**195**	P	**P**	**15 53 59.8**	**-5.2**
MSWZ	**Moikau Station**	**21.39**	**195**	P	**P**	**15 54 08.4**	**-3.8**
SNZO	**South Karori**	**21.43**	**196**	P	**P**	**15 54 10.3**	**-2.2**
QRZ	**Quartz Range**	**21.64**	**201**	P	**P**	**15 54 13.6**	**-0.8**
TKNZ	**Takaka Hill**	**21.68**	**200**	P	**P**	**15 54 13.6**	**-1.3**
NNZ	**Nelson**	**21.72**	**199**	P	**P**	**15 54 12.4**	**-2.8**
THZ	**Tophouse**	**22.36**	**199**	P	**P**	**15 54 18.8**	**-2.3**
THZ				IAmb	IAmb	15 54 24.8	
comp=Z,38nm,0.9s							
THZ	**Tophouse**	**22.36**	**199**	P	**P**	**15 54 21.0**	**-0.1**
THZ				S	**S**	**15 58 03.8**	**+4.2**
DSZ	**Denniston Nort**	**22.70**	**201**	P	**P**	**15 54 24.7**	**+0.6**
KHZ	**Kahutara**	**22.77**	**197**	P	**P**	**15 54 23.5**	**-1.2**
KHZ	**Kahutara**	**22.77**	**197**	P	**P**	**15 54 22.6**	**-2.1**
KHZ				IAmb	IAmb	15 54 32.1	
comp=Z,52nm,1.1s							
KHZ	**Kahutara**	**22.77**	**197**	P	**P**	**15 54 23.2**	**-1.5**
GVZ	**Greta Valley S**	**23.43**	**198**	P	**P**	**15 54 29.1**	**-1.5**
LTZ	**Lake Taylor**	**23.48**	**199**	P	**P**	**15 54 28.7**	**-2.5**
LTZ				IAmb	IAmb	15 54 33.3	
comp=Z,52nm,1.1s							
LTZ	**Lake Taylor**	**23.48**	**199**	P	**P**	**15 54 29.2**	**-2.0**
INZ	**Inchbonnie**	**23.70**	**201**	P	**P**	**15 54 31.4**	**-1.7**
INZ	**Inchbonnie**	**23.70**	**201**	P	**P**	**15 54 31.5**	**-1.6**
AMCZ	**Amberley**	**23.73**	**198**	P	**P**	**15 54 34.5**	**+1.2**
OXZ	**Oxford**	**24.05**	**199**	P	**P**	**15 54 33.8**	**-2.5**
RPZ	**Rata Peaks**	**24.71**	**200**	P	**P**	**15 54 41.8**	**-0.4**
ODZ	**Otahua Downs**	**26.03**	**199**	P	**P**	**15 54 53.4**	**-0.5**
WKZ	**Wanaka**	**26.38**	**202**	P	**P**	**15 54 55.8**	**-1.2**
DCZ	**Deep Cove**	**27.60**	**204**	P	**P**	**15 55 08.1**	**+0.3**
DCZ				IAmb	IAmb	15 55 11.1	
comp=Z,22nm,0.8s							
ARMA	**Armidale**	**29.37**	**245**	P	**P**	**15 55 25.0**	**+1.2**
ARMA	**Armidale**	**29.37**	**245**	P	**P**	**15 55 24.5**	**+0.7**
CNB	**Canberra Magne**	**32.45**	**237**	P	**P**	**15 55 51.7**	**+1.2**
CAN	**Canberra**	**32.73**	**237**	P	**P**	**15 55 54.0**	**+1.1**
CAN	**Canberra**	**32.73**	**237**	P	**P**	**15 55 52.5**	**-0.4**
CAN				IAmb	IAmb	15 55 57.4	
comp=Z,41nm,1.5s							
MILA	**Mila**	**33.16**	**234**	P	**P**	**15 55 57.6**	**+1.0**
TV1H	**Townsville Har**	**33.59**	**266**	P	**P**	**15 56 01.2**	**+0.9**
CTA	**Charters Tower**	**33.97**	**265**	P	**P**	**15 56 04.4**	**+0.8**
CTAO	**Charters Tower**	**33.97**	**265**	P	**P**	**15 56 04.4**	**+0.8**
CTAO	**Charters Tower**	**33.97**	**265**	P	**P**	**15 56 04.0**	**+0.3**
CMSA	**Cobar Meteorol**	**34.59**	**244**	P	**P**	**15 56 09.8**	**+1.1**
CMSA	**Cobar Meteorol**	**34.59**	**244**	P	**P**	**15 56 09.9**	**+1.1**
QLP	**Quilpie**	**35.45**	**253**	P	**P**	**15 56 17.0**	**+1.0**
MTSU	**Mount Surprise**	**36.09**	**268**	P	**P**	**15 56 22.1**	**+0.5**
MTSU	**Mount Surprise**	**36.09**	**268**	P	**P**	**15 56 22.1**	**+0.5**
comp=Z,12nm,0.8s,SNR=4.1							
TOO	**Toolangi**	**36.10**	**234**	P	**P**	**15 56 21.9**	**+0.5**
TOO	**Toolangi**	**36.10**	**234**	P	**P**	**15 56 21.2**	**-0.2**
TAU	**Tasmania Unive**	**36.72**	**225**	P	**P**	**15 56 27.8**	**+1.3**
TAU	**Tasmania Unive**	**36.72**	**225**	P	**P**	**15 56 26.0**	**-0.5**
TAU				IAmb	IAmb	15 56 48.0	
comp=Z,51nm,1.4s							
STKA	**Stephens Creek**	**38.09**	**245**	P	**P**	**15 56 39.8**	**+1.7**
STKA	**Stephens Creek**	**38.09**	**245**	P	**P**	**15 56 39.1**	**+1.0**
comp=Z,5.2nm,0.6s,baz=94,slow=11,SNR=10.0							
comp=Z,5.2nm,0.6s							
COEN	**Coen**	**38.13**	**274**	P	**P**	**15 56 39.4**	**+0.8**
COEN	**Coen**	**38.13**	**274**	P	**P**	**15 56 39.4**	**+0.8**
HTT	**Hallett**	**40.51**	**243**	P	**P**	**15 56 58.9**	**+1.0**
LCRK	**Leigh Creek**	**40.87**	**247**	P	**P**	**15 57 01.8**	**+1.1**
BBOO	**Buckleboo**	**42.85**	**244**	P	**P**	**15 57 17.1**	**+0.5**
BBOO	**Buckleboo**	**42.85**	**244**	P	**P**	**15 57 17.0**	**+0.5**
OOD	**Oodnadatta**	**43.05**	**251**	P	**P**	**15 57 19.5**	**+1.3**
MULG	**Mulgathing**	**44.46**	**248**	P	**P**	**15 57 29.3**	**0.0**
WR0	**Warramunga Arr**	**44.88**	**262**	P	**P**	**15 57 32.3**	**-0.4**
AS01	**Alice Springs**	**44.90**	**257**	P	**P**	**15 57 33.0**	**+0.1**
AS31	**Alice Springs**	**44.94**	**257**	P	**P**	**15 57 33.6**	**+0.4**
ASAR	**Alice Springs**	**44.94**	**257**	P	**P**	**15 57 33.1**	**-0.1**
comp=Z,4.8nm,0.7s,baz=89,slow=8.2,SNR=60							
ASAR				PcP	**PcP**	**15

KIWB	Kanaga Island	72.42	0	P	P	16 00 37.6	-2.2
ADK	Adak	72.45	0	P	P	16 00 38.8	-1.2
ADK	Adak	72.45	0	P	P	16 00 38.3	-1.7
ATKA	Atka Island	72.83	2	P	P	16 00 40.7	-1.5
ATKA	Atka Island	72.83	2	P	P	16 00 38.9	-3.2
JNU	Nakatsue	72.91	316	P	P	16 00 44.2	+1.0
YOJ	Yonaguni jima	73.38	305	P	P	16 00 47.0	+0.9
YULB	Yu-li	74.14	303	P	P	16 00 50.4	-0.1
JKA	Kamikawa-asahi	74.31	331	P	P	16 00 52.1	+1.1
JKA				IAmb	IAmb	16 00 53.8	
	comp=Z,16nm,0.9s						
NACB	Ninganchiao	74.32	304	P	P	16 00 51.9	+0.4
SSLB	Suanglung	74.62	303	P	P	16 00 53.2	0.0
SSLB	Suanglung	74.62	303	P	P	16 00 52.8	-0.4
UNV	Unalaska Valle	75.01	7	P	P	16 00 53.4	-1.3
PET	Petropavlovsk	76.47	345	P	P	16 01 02.5	-0.4
PET	Petropavlovsk	76.47	345	P	P	16 01 02.1	-0.8
PET				IAmb	IAmb	16 01 24.4	
	comp=Z,24nm,1.4s						
KSRS	Korea Array	77.52	318	P	P	16 01 10.0	+0.9
	comp=Z,2.9nm,0.9s,baz=128,slow=5.7,SNR=12						
	comp=Z,2.9nm,0.9s						
MURC	Murrieta	78.92	48	P	P	16 01 17.6	+0.7
	baz=236						
VES	Vestal, Richgr	78.93	45	P	P	16 01 18.0	+1.2
	baz=234						
BFSC	Mount Baldy Ra	78.96	47	P	P	16 01 18.4	+1.2
	baz=235						
MONP2	Monument Peak	79.07	49	P	P	16 01 18.0	+0.1
	baz=236						
EDW2	Edwards Air Fo	79.10	46	P	P	16 01 19.3	+1.4
	baz=235						
IKP	In-Ko-Pah, Jac	79.15	49	P	P	16 01 19.3	+1.1
	baz=236						
ISA	Isabella, Lake	79.23	45	P	P	16 01 20.2	+1.6
	baz=234						
O02D	Mt. Diablo Mer	79.23	40	P	P	16 01 18.9	+0.5
O02D				IAmb	IAmb	16 01 21.4	
	comp=Z,15nm,0.9s						
PFO	Pinyon Flats O	79.44	48	P	P	16 01 21.1	+1.4
	baz=236						
TPFO	Pinon Flats	79.44	48	P	P	16 01 21.1	+1.3
	baz=236						
SWSC	Sam W. Stewart	79.53	49	P	P	16 01 21.2	+1.1
	baz=237						
USRK	Ussuriysk Ar.	79.57	326		P	16 01 20.9	+0.9
USRK	Ussuriysk Ar.	79.57	326	P	P	16 01 21.4	+1.4
	comp=Z,5.6nm,0.8s,baz=131,slow=3.4,SNR=14						
	comp=Z,5.6nm,0.8s						
SII	Sitkinak Islan	79.60	13	P	P	16 01 20.0	+0.1
LRMC	Laurel Mtn Rad	79.65	46	P	P	16 01 22.2	+1.3
	baz=235						
CWC	Cottonwood Cre	79.94	45	P	P	16 01 23.7	+1.3
	baz=235						
BELC	Belle Mtn. Jos	79.97	48	P	P	16 01 24.0	+1.4
	baz=236,SNR=6.6						
MPMC	Manual Prospec	80.11	45	P	P	16 01 24.6	+1.2
	baz=235						
GSC	Goldstone, Bar	80.14	46	P	P	16 01 24.4	+1.0
	baz=236						
BC3	Big Chuckawall	80.16	48	P	P	16 01 25.1	+1.5
	baz=237						
R17L	Mt. Peulik Vol	80.17	11	P	P	16 01 22.9	-0.1
	baz=200						
HEC	Hector,Ludlow	80.20	47	P	P	16 01 25.0	+1.2
	baz=236						
OHAK	Old Harbor	80.40	13	P	P	16 01 24.4	+0.3
	baz=203						
R18K	Karluk	80.48	12	P	P	16 01 24.2	-0.3
	baz=202						
NJ2	Nanjing	80.52	309	eP	P	16 01 26.3	+1.0
NJ2				pP	pP	16 02 38.8	-9.4
NJ2				sP	sP	16 03 10.4	-16
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,270nm,8.5s						
GMRC	Granite Mounta	80.64	47	P	P	16 01 27.3	+1.2
	baz=236						
IRM	Iron Mountain	80.65	48	P	P	16 01 27.8	+1.8
	baz=237,SNR=7.0						
TUQ	Turquoise Moun	80.81	47	P	P	16 01 27.5	+0.5
	baz=236						
SHOC	Shoshone, Teco	80.83	46	P	P	16 01 28.3	+1.4
	baz=236						
Q17K	Contact Creek	80.86	11	P	P	16 01 26.0	-0.6
	baz=200						
O14K	Tigyukauivet M	80.94	8	P	P	16 01 26.4	-0.5
	baz=195						
KDAK	Kodiak Island	81.06	13	P	P	16 01 26.6	-1.0
	baz=203						
MDJ	Mudanjiang	81.13	325	P	P	16 01 29.5	+1.3
MDJ				pmax	pmax		
	comp=Z,15nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,79nm,3.6s						
MDJ	Mudanjiang	81.13	325	IAmb	IAmb	16 01 30.8	
	comp=Z,12nm,0.9s						
214A	Organ Pipe Nat	81.14	51	P	P	16 01 29.6	+0.9
	baz=239						
Q18K	Katmai Hardscr	81.38	12	P	P	16 01 28.7	-0.6
	baz=201						
PDMCI	Parker Dam,Lak	81.43	48	P	P	16 01 30.8	+0.8
	baz=237						
TPNV	Topopah Spring	81.44	45	P	P	16 01 31.3	+1.0
	baz=236						
N14K	Kuskokwak Cree	81.54	8	P	P	16 01 29.4	-0.5
	baz=195						
P17K	Kvichak River	81.64	11	P	P	16 01 30.1	-0.4
	baz=200						
O16K	Kokwok River B	81.74	10	P	P	16 01 29.9	-1.1
	baz=198						
Q19K	Cape Douglas,	81.91	12	P	P	16 01 31.4	-0.6
	baz=202						
N15K	Kwethluk River	81.99	9	P	P	16 01 31.5	-0.9
	baz=196						
P18K	Big Mountain,	82.04	11	P	P	16 01 31.8	-0.8
	baz=201						
Y14A	Wickenburg	82.04	49	IAmb	IAmb	16 01 35.8	
	comp=Z,6.2nm,0.9s						
O17K	Koliganek Bris	82.07	10	P	P	16 01 31.9	-0.8
	baz=199						
J05D	Fort Rock, OR	82.08	38	P	P	16 01 35.0	+1.5
M14K	Bethel	82.31	8	P	P	16 01 34.0	+0.1
	baz=194						
M15K	Kasigluk River	82.41	8	P	P	16 01 34.6	+0.1
	baz=196						
H04A	Detroit Lake	82.42	36	IAmb	IAmb	16 01 36.8	
	comp=Z,9.1nm,0.7s						
N16K	Nishlik Lake	82.47	9	P	P	16 01 34.9	+0.1
	baz=197						
O18K	Koktuh Hills	82.47	11	P	P	16 01 34.4	-0.4
	baz=201						
R11B	Troy Canyon, C	82.65	44	P	P	16 01 37.0	+0.5
	baz=236						
N17K	Nushagak Hills	82.77	10	P	P	16 01 37.8	+1.5
	baz=199						
L14K	Kuka Creek	82.79	7	P	P	16 01 36.6	+0.3
	baz=194						
TUC	Tucson	82.80	52	P	P	16 01 39.3	+2.0
	baz=240						
CN2	Changchun	82.92	322	eP	P	16 01 38.9	+1.4
M16K	Timber Creek	82.97	9	P	P	16 01 38.2	+0.8
	baz=197,SNR=6.5						
BRSE	Bradley Lake S	83.25	13	P	P	16 01 38.3	-0.5
	baz=205						
L15K	Ungalak Mounta	83.26	8	P	P	16 01 38.6	-0.1
	baz=195,SNR=5.5						
X16A	Lo Mia Camp, P	83.39	49	IAmb	IAmb	16 01 43.4	
	comp=Z,9.3nm,1.0s						
N19K	Bonanza Creek	83.50	11	P	P	16 01 39.0	-1.1
	baz=201						
L16K	Owhat River	83.56	9	P	P	16 01 40.7	+0.4
	baz=197						
M17K	Holitna River	83.56	10	P	P	16 01 40.7	+0.4
	baz=199						
I07A	Izee	83.56	38	IAmb	IAmb	16 01 43.3	
	comp=Z,14nm,0.9s						
G06A	Carlson Farm,	83.63	37	IAmb	IAmb	16 01 43.2	
	comp=Z,14nm,1.0s						
CCUT	Cedar City	83.69	46	IAmb	IAmb	16 01 44.6	
	comp=Z,6.2nm,0.9s						
U15A	North Rim	83.83	47	IAmb	IAmb	16 01 45.4	
	comp=Z,9.8nm,0.8s						
K15K	Wolf Creek Mou	83.85	7	P	P	16 01 42.5	+0.7
	baz=195,SNR=6.5						
SEW	Seward	83.86	14	P	P	16 01 44.3	+2.5
	baz=206						
M18K	Stony River	83.90	10	P	P	16 01 42.1	+0.1
	baz=200						
WUAZ	Wupatki	84.00	49	P	P	16 01 44.9	+1.6
	baz=239						
J14K	Nanvaranak Lak	84.07	6	P	P	16 01 42.8	+0.1
	baz=193						
L17K	Donlin	84.13	9	P	P	16 01 42.7	-0.4
	baz=198						
L18K	Granite Mounta	84.45	10	IAmb	IAmb	16 01 46.1	
	comp=Z,9.0nm,0.7s						
L18K	Granite Mounta	84.45	10	P	P	16 01 45.5	+0.7
	baz=199,SNR=6.9						
M19K	Big River Lodg	84.53	11	P	P	16 01 44.5	-0.7
	baz=201						
G08A	Pilot Rock	84.60	37	P	P	16 01 47.4	+1.3
G08A				IAmb	IAmb	16 01 48.3	
	comp=Z,13nm,0.9s						
K17K	Iditarod	84.69	9	P	P	16 01 45.9	0.0
	baz=198						
L19K	White Mountain	84.72	10	P	P	16 01 46.2	+0.1
	baz=201						
M20K	Styx River	84.74	11	P	P	16 01 46.1	-0.2
	baz=203						
SUA	Susitna One	84.82	13	P	P	16 01 45.8	-0.9
	baz=205						
CRAG	Craig	84.85	24	P	P	16 01 46.6	-0.2
	baz=221						
J16K	Anvik River	84.93	8	P	P	16 01 47.7	+0.6
	baz=196						
GLI	Glacier Island	85.08	14	P	P	16 01 47.5	-0.4
	baz=208						
121A	Cookes Peak, D	85.13	53	P	P	16 01 50.8	+1.8
	baz=241						
L20K	Farewell, AK	85.16	11	P	P	16 01 47.9	-0.4
	baz=202						
M22K	Willow	85.21	13	P	P	16 01 47.9	-0.6
	baz=205						
J17K	VABM Dome	85.23	8	P	P	16 01 49.2	+0.6
	baz=197						
KNK	Knik Glacier	85.25	14	P	P	16 01 49.1	+0.4
	baz=207						
PMR	Palmer	85.27	13	P	P	16 01 48.5	-0.2
	baz=206						
U33K	Whale Pass	85.34	23	P	P	16 01 48.2	-1.0
	baz=221						
DUG	Dugway, Tooele	85.46	44	P	P	16 01 49.3	-1.1
	baz=238						
J18K	Innoko River	85.63	9	IAmb	IAmb	16 01 51.5	
	comp=Z,5.6nm,0.7s						
J18K	Innoko River	85.63	9	P	P	16 01 50.6	0.0
	baz=199						
BMRM	Bremner River	85.76	15	P	P	16 01 51.2	-0.1
	baz=210						
MESA	MESA	85.78	17	P	P	16 01 52.0	+0.4
	baz=213						
WRAK	Wrangell Islan	85.86	23	P	P	16 01 52.4	+0.7
	baz=221						
S32K	Killisnoo	85.86	22	P	P	16 01 51.6	-0.1
	baz=219						
SCM	Sheep Creek Mo	85.88	14	P	P	16 01 51.4	-0.4
	baz=208						
KLU	Klutina	85.90	15	P	P	16 01 51.2	-0.8
	baz=209						
HEH	HeiHe	85.91	328	eP	P	16 01 52.1	-0.1
HEH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
K20K	Telida	85.95	10	P	P	16 01 51.7	-0.4
	baz=202						
CRQE	Cirque	85.96	16	P	P	16 01 51.8	-0.5
	baz=212						
PNL	Peninsula	86.08	18	P	P	16 01 52.3	-0.5
	baz=215						
HNS	HongShan	86.19	312	⇓P	P	16 01 55.3	+1.5
HNS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
G15K	Niukluk	86.22	6	P	P	16 01 53.2	-0.2
	baz=192						
B08A	Colville Reser	86.25	35	IAmb	IAmb	16 01 55.3	
	comp=Z,9.4nm,0.9s						
HLID	Hailey	86.28	40	P	P	16 01 55.7	+1.3
	baz=236						
J19K	Poorman	86.29	9	P	P	16 01 53.8	+0.1
	baz=200						
N25K	Chitina, Valde	86.31	15	P	P	16 01 54.1	+0.1
	baz=210						
ELIB	Princess Elisa	86.32	186	dP	P	16 01 54.9	+0.8
CAST	Castle Rocks	86.35	11	P	P	16 01 52.8	-1.2
	baz=204,SNR=5.4						
WAT6	Susitna Watana	86.45	13	P	P	16 01 54.4	-0.3
	baz=208						
TNA	Tin City	86.48	4	P	P	16 01 54.7	+0.1
	baz=189						
WAT1	Susitna Watana	86.50	13	P	P	16 01 54.3	-0.5
	baz=207						
F14K	Arctic Creek	86.50	5	P	P	16 01 54.5	-0.2
	baz=190						
P29M	Windy Craggy	86.54	19	P	P	16 01 54.3	-0.7
	baz=217						
MNTX	Cornudas Mount	86.55	54	P	P	16 01 56.9	+1.2
	baz=243						
H17K	Granite Mounta	86.61	7	P	P	16 01 54.7	-0.4
	baz=196						
J20K	Nowinta River	86.70	10	P	P	16 01 55.8	+0.1
	baz=202						
CHUM	Lake Minchumin	86.73	11	P	P	16 01 55.5	-0.2
	baz=203						
O28M	Mount Upton	86.76	17	P	P	16 01 55.9	-0.5
	baz=214						
GCSA	Galena City Sc	86.82	9	P	P	16 01 55.8	-0.3
	baz=199						
TXAR	Lajitas Array	86.82	57	P	P	16 01 58.7	+1.5
	comp=Z,1.9nm,0.7s,baz=218,slow=5.7,SNR=27						
	comp=Z,1.9nm,0.7s						
PLBC	Pleasant Camp	86.83	20	P	P	16 01 56.0	-0.3
	baz=218						
O29M	Mount Kennedy	86.83	18	P	P	16 01 55.5	-1.0
	baz=216						
F15K	North Star Dit	86.87	5	P	P	16 01 56.5	+0.1
	baz=192						
DHY	Denali Highway	86.97	13	P	P	16 01 57.6	+0.4
	baz=208						
BSUT	Blindstream Ca	86.98	44	P	P	16 01 59.5	+1.5
T35M	Bob Quinn	87.06	24	P	P	16 01 57.8	+0.2
	baz=223						
P30M	Million Dollar	87.17	19	P	P	16 01 58.5	+0.4
	baz=217						
MCK	McKinley	87.23	12	P	P	16 01 58.2	0.0
	baz=206						
ANMO	Albuquerque	87.23	51	P	P	16 01 59.9	+0.8
	baz=242						
PAX	Paxson	87.29	14	P	P	16 01 58.3	-0.3
	baz=210						
YUK8	Steele Glacier	87.30	17	P	P	16 01 58.8	-0.1
	baz=215						
TROLL	Troll, Antarti	87.35	180	⇑P	P	16 01 59.7	+0.7
	comp=Z,89nm,0.6s						
NEW	Newport	87.38	36	P	P	16 01 58.9	-0.4
	baz=234						
M26K	Nabesna, AK	87.39	15	P	P	16 01 59.9	+0.8
	baz=212						
S34M	Telegraph Cree	87.41	23	IAmb	IAmb	16 02 01.3	
	comp=Z,6.6nm,0.8s						
S34M	Telegraph Cree	87.41	23	P	P	16 02 00.2	+1.0
	baz=222,SNR=7.0						
YUK6	Outpost Mounta	87.42	18	P	P	16 01 59.9	+0.5
	baz=216						
YUK3	Moose Creek	87.51	17	P	P	16 02 00.2	+0.3
	baz=214						
HYT	Haines Junctio	87.57	18	P	P	16 02 00.6	+0.5
	baz=217						
SNAA	Sanae	87.62	178	⇑P	P	16 02 00.5	+0.3
	comp=Z,14nm,0.7s						
SNAA	Sanae	87.62	178	P	P	16 02 00.3	+0.1
	comp=Z,0.5nm,0.5s,baz=180,slow=9.1,SNR=6.8						
	comp=Z,0.5nm,0.5s						
H19K	Roundabout Mou	87.62	9	P	P	16 02 00.8	+0.9
	baz=199						
M27K	Edge Creek, AK	87.63	16	P	P	16 02 00.9	+0.6
	baz=213						
VNA3	Neumayer Olymp	87.73	176	⇑P	P	16 02 01.4	+0.7
	comp=Z,4.1nm,0.7s						
Q32M	Nakina River	87.79	22	P	P	16 02 01.9	+0.7
	baz=221						
H20K	Anotleneega Mo	87.81	9	P	P	16 02 00.6	-0.3
	baz=201						
O30N	Mendenhall	87.95	19	P	P	16 02 02.3	+0.6
	baz=218						
NEA2	Nenana	87.98	12	P	P	16 02 00.7	-1.0
	baz=206						
MLY	Manley	88.07	11	P	P	16 02 01.1	-1.1
	baz=205,SNR=5.0						
G19K	Purcell Mounta	88.12	8	P	P	16 02 02.8	+0.5
	baz=199						
VNA2	Neumayer--Watz	88.17	177	⇑P	P	16 02 03.6	+0.8
	comp=Z,6.4nm,0.7s,baz=201,slow=4.1						
DLBC	Dease Lake	88.20	23	P	P	16 02 04.0	+1.0
	baz=223						
N30M	Aishikik Lake	88.20	18	P	P	16 02 03.8	+0.9
	baz=217						
HDA	Harding Lake	88.24	13	P	P	16 02 02.4	-0.5
	baz=208,SNR=8.9						
L27K	Beaver Creek,	88.24	15	P	P	16 02 03.4	+0.4
	baz=213						
S22A	4UR Ranch, Cre	88.28	48	P	P	16 02 04.6	+0.5
	baz=242						
H21K	Melozitna Rive	88.29	10	P	P	16 02 03.3	+0.1
	baz=203,SNR=5.6						
MSO	Missoula	88.35	38	P	P	16 02 03.9	0.0
	baz=237						
I23K	Minto, Yukon-K	88.42	11	P	P	16 02 02.4	-1.3
	baz=206						
O20A	White River Ci	88.45	46	P	P	16 02 04.3	-0.4
	baz=241						
COLA	College	88.47	12	P	P	16 02 03.6	-0.3
	baz=207						
MDM	Murphy Dome	88.47	12	IAmb	IAmb	16 02 03.6	
	comp=Z,5.9nm,0.8s						
E17K	Hotham Inlet	88.47	6	P	P	16 02 04.3	+0.3
	baz=194						
SCRK	Sand Creek	88.50	14	P	P	16 02 04.7	+0.4
	baz=211						
P33M	Teslin, Yukon	88.55	21	P	P	16 02 04.5	-0.1
	baz=221						
R33M	Jennings River	88.56	22	P	P	16 02 04.7	0.0
	baz=222						
ILAR	Eielson Array	88.57	13	P	P	16 02 03.5	-0.9
	comp=Z,2.1nm,0.6s,baz=220,slow=6.0,SNR=37						
	comp=Z,2.1nm,0.6s						
M29M	Somme Creek	88.60	17	IAmb	IAmb	16 02 06.2	
	comp=Z,5.2nm,0.8s						
M29M	Somme Creek	88.60	17	P	P	16 02 05.4	+0.6
	baz=216,SNR=6.9						
N31M	Braeburn, Yuko	88.61	19	P	P	16 02 04.9	+0.2
	baz=218						
F19K	Shaleruckik Mo	88.69	8	P	P	16 02 04.4	-0.5
	baz=198						
H22K	Ishtalitna Cre	88.74	10	P	P	16 02 04.7	-0.6
	baz=204,SNR=12						
J25K	Salcha River,	88.75	13	IAmb	IAmb	16 02 05.9	
	comp=Z,3.7nm,0.6s						
J25K	Salcha River,	88.75	13	P	P	16 02 05.0	-0.3
	baz=210,SNR=5.9						
POKR	Poker Plat Res	88.77	12	P	P	16 02 04.3	-1.0
	baz=208						
XAN	Xi'an	88.78	307	P	P	16 02 08.1	+1.9
XAN				pmax	pmax		
	comp=Z,21nm,0.9s						
BW06	Boulder Array	88.88	43	P	P	16 02 07.2	+0.5
	baz=240,SNR=6.2						
PDAR	Pinedale Array	88.88	43	P	P	16 02 07.3	+0.5
	comp=Z,1.9nm,0.7s,baz=223,slow=3.4,SNR=6.1						
	comp=Z,1.9nm,0.7s						
E18K	Tukpahlearik C	88.92	6	P	P	16 02 05.7	-0.3
	baz=196						
G21K	Allakaket	88.98	9	P	P	16 02 06.3	0.0
	baz=202						
K27K	Chicken	88.99	15	P	P	16 02 07.2	+0.8
	baz=213						
H23K	Yukon River	89.00	11	P	P	16 02 05.9	-0.6
	baz=206						
BOZ	Bozeman (W)	89.04	40	P	P	16 02 08.8	+1.5
	baz=238						
J26L	Joseph Creek	89.05	14	IAmb	IAmb	16 02 08.3	
	comp=Z,11nm,1.2s						
J26L	Joseph Creek	89.05	14	P	P	16 02 07.1	+0.3
	baz=211,SNR=7.5						
F20K	Avaraart Lake	89.16	8	IAmb	IAmb	16 02 08.0	
	comp=Z,4.8nm,0.9s						
F20K	Avaraart Lake	89.16	8	P	P	16 02 07.4	+0.3
	baz=200						
M30M	Minto, Yukon	89.17	18	P	P	16 02 07.6	+0.2
	baz=217,SNR=8.3						
SDCO	Great Sand Dun	89.21	49	P	P	16 02 08.9	+0.4
	baz=243						
L29M	L29M	89.23	17	IAmb	IAmb	16 02 09.3	
	comp=Z,12nm,1.0s						
L29M	L29M	89.23	17	P	P	16 02 08.6	+1.0
	baz=216,SNR=8.0						
E19K	Redstone River	89.35	8	P	P	16 02 08.2	+0.2
	baz=199						
PRP	Porcupine Dome	89.50	13	P	P	16 02 09.0	0.0
	baz=209						
F21K	Alatna River	89.64	9	P	P	16 02 09.3	-0.1
	baz=202,SNR=5.1						
G22K	Bettles	89.66	10	P	P	16 02 09.5	0.0
	baz=204						
DAWY	Dawson	89.68	16	P	P	16 02 09.6	-0.1
	baz=215,SNR=7.4						
G23K	Bananza Creek	89.72	11	P	P	16 02 10.6	+0.8
	baz=205						
I26K	Coal Creek Min	89.83	14	P	P	16 02 10.3	0.0
	baz=212						
EGAK	Eagle	89.84	15	P	P	16 02 10.5	+0.1
	baz=213,SNR=6.1						
FARO	Faro, Yukon	89.92	19	P	P	16 02 10.9	+0.1
	baz=220						
K29M	Barlow Dome	89.99	17	IAmb	IAmb	16 02 12.8	
	comp=Z,6.6nm,0.8s						
K29M	Barlow Dome	89.99	17	P	P	16 02 11.8	+0.6
	baz=217						
HHC	Hu-ho-hao-te	89.99	314	eP	P	16 02 13.4	+1.6
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,43nm,5.3s						
F22K	John River	90.10	9	P	P	16 02 11.6	+0.1
	baz=203,SNR=5.9						
H25L	Birch Creek	90.10	12	P	P	16 02 12.5	+1.0
	baz=209						
COLD	Coldfoot	90.16	10	P	P	16 02 12.2	+0.4
	baz=205,SNR=6.8						
G24K	Hadweenzic Riv	90.16	11	P	P	16 02 12.0	+0.1
	baz=208						
D19K	Kuna River	90.23	7	P	P	16 02 11.8	-0.3
	baz=198						
E20K	Nigu River	90.24	8	P	P	16 02 12.2	0.0
	baz=200						
RLMT	Red Lodge	90.24	41	P	P	16 02 13.4	+0.4
	baz=240						
TOAD	Toad River Com	90.28	24	P	P	16 02 13.3	+0.7
	baz=227						
I27K	Kandik River	90.42	14	P	P	16 02 12.9	-0.2
	baz=213						
G25K	Bearman Lake	90.48	12	P	P	16 02 14.0	+0.7
	baz=209						
D20K	Etivluk River	90.61	7	P	P	16 02 14.0	+0.1
	baz=199						
BRLDA	Berland Lookou	90.64	31	IAmb	IAmb	16 02 16.7	
	comp=Z,13nm,0.9s						
C19K	Lookout Ridge	90.66	6	P	P	16 02 14.3	+0.2
	baz=196						
I28M	Miner Creek	90.69	15	P	P	16 02 14.2	-0.2
	baz=214,SNR=5.8						
E21K	Killik River	90.70	8	P	P	16 02 14.1	-0.3
	baz=202						
AMTX	Amarillo	90.72	53	P	P	16 02 15.4	+0.1
	baz=245						
E22K	Anaktuvuk Pass	90.73	9	P	P	16 02 14.3	-0.2
	baz=204						
CMAR	Chiang Mai Arr	90.73	289	P	P	16 02 17.0	+1.4
	comp=Z,2.1nm,0.7s,baz=115,slow=2.8,SNR=12						
	comp=Z,2.1nm,0.7s						
F24K	Squaw Lake	90.82	11	P	P	16 02 15.1	+0.2
	baz=207						
J30M	Hart River	90.89	16	P	P	16 02 15.4	0.0
	baz=218						
H27K	Steamboat Moun	90.97	14	P	P	16 02 15.8	+0.1
	baz=213						
E23K	Chandalar	91.01	10	P	P	16 02 16.0	+0.1
	baz=206						
I29M	Ogilvie Camp,	91.01	15	P	P	16 02 16.0	+0.1
	baz=216						
TGTN	Hyland Airport	91.03	21	P	P	16 02 15.3	-0.7
	baz=225						
G26K	Porcupine Rive	91.10	13	P	P	16 02 16.7	+0.6
	baz=211,SNR=5.6						

E24K	**Your Creek**	**91.21**	**10**	P	**P**	**16 02 16.6**	**-0.1**
	baz=207						
C21K	**Knifeblade Rid**	**91.26**	**8**	P	**P**	**16 02 17.0**	**+0.1**
	baz=201						
D22K	**Ayikyak River**	**91.29**	**9**	IAmb	IAmb	16 02 18.2	
	comp=Z,5.8nm,0.7s						
D22K	**Ayikyak River**	**91.29**	**9**	P	**P**	**16 02 17.4**	**+0.4**
	baz=203						
F25K	**Christian Rive**	**91.29**	**12**	P	**P**	**16 02 17.1**	**0.0**
	baz=209						
PZH	**PanZhiHua**	**91.35**	**298**	P	**P**	**16 02 19.3**	**+0.9**
PZH				pmax	pmax		
	comp=Z,40nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,6.2s						
I30M	**Mount Dempster**	**91.39**	**16**	P	**P**	**16 02 17.5**	**-0.2**
	baz=218,SNR=7.9						
EGMT	**Eagleton**	**91.39**	**38**	P	**P**	**16 02 17.2**	**-0.9**
	baz=240						
G27K	**Doyon Strip**	**91.43**	**13**	P	**P**	**16 02 17.6**	**-0.2**
	baz=213						
TOLK	**Toolik Lake Re**	**91.54**	**10**	P	**P**	**16 02 18.0**	**-0.2**
	baz=206						
A19K	**Wainwright**	**91.58**	**6**	P	**P**	**16 02 18.4**	**+0.2**
	baz=195						
KOTAN	**Kotaneelee Air**	**91.58**	**24**	P	**P**	**16 02 18.8**	**+0.2**
	baz=228						
D23K	**Nanushuk River**	**91.66**	**9**	P	**P**	**16 02 18.7**	**0.0**
	baz=205						
F26K	**Sheenjek River**	**91.67**	**12**	P	**P**	**16 02 19.3**	**+0.5**
	baz=211						
H29M	**Whitestone**	**91.69**	**15**	IAmb	IAmb	16 02 19.9	
	comp=Z,6.2nm,0.7s						
H29M	**Whitestone**	**91.69**	**15**	P	**P**	**16 02 19.0**	**+0.1**
	baz=216,SNR=6.8						
E25K	**Arctic Village**	**91.77**	**11**	P	**P**	**16 02 19.4**	**+0.1**
	baz=209						
B20K	**Meade River**	**91.78**	**7**	P	**P**	**16 02 19.3**	**+0.1**
	baz=199						
D24K	**Happy Valley**	**92.12**	**10**	P	**P**	**16 02 21.1**	**+0.3**
	baz=206						
EPYK	**Eagle Plains**	**92.21**	**15**	P	**P**	**16 02 21.9**	**+0.6**
	baz=217						
G29M	**Pine Creek**	**92.33**	**15**	P	**P**	**16 02 22.0**	**+0.2**
	baz=216						
C23K	**Itkillik River**	**92.47**	**9**	P	**P**	**16 02 23.0**	**+0.6**
	baz=205						
F28M	**Old Crow**	**92.49**	**14**	P	**P**	**16 02 22.8**	**+0.2**
	baz=215						
B22K	**Teshekpuk Lake**	**92.54**	**8**	P	**P**	**16 02 22.7**	**0.0**
	baz=202						
E27K	**Coleen River**	**92.60**	**13**	P	**P**	**16 02 23.9**	**+0.8**
	baz=213						
G30M	**tAoh Zraii Nji**	**92.82**	**15**	IAmb	IAmb	16 02 24.9	
	comp=Z,9.7nm,1.0s						
G30M	**tAoh Zraii Nji**	**92.82**	**15**	P	**P**	**16 02 23.9**	**-0.3**
	baz=218,SNR=6.5						
RSSD	**Black Hills**	**93.07**	**44**	P	**P**	**16 02 26.2**	**+0.1**
	baz=244						
G31M	**Satah River**	**93.26**	**16**	IAmb	IAmb	16 02 26.8	
	comp=Z,6.2nm,0.8s						
G31M	**Satah River**	**93.26**	**16**	P	**P**	**16 02 25.9**	**-0.2**
	baz=220,SNR=6.0						
E28M	**Babbage River**	**93.38**	**13**	P	**P**	**16 02 26.9**	**+0.3**
	baz=215						
C27K	**Jago River**	**93.41**	**11**	P	**P**	**16 02 25.9**	**-0.8**
	baz=211						
F30M	**Barrier River**	**93.42**	**15**	P	**P**	**16 02 26.4**	**-0.5**
	baz=218						
C26K	**Camden Bay**	**93.45**	**11**	P	**P**	**16 02 27.3**	**+0.4**
	baz=210						
E29M	**Blow River**	**93.56**	**14**	P	**P**	**16 02 26.9**	**-0.5**
	baz=216						
F31M	**Tsiigehtchic**	**93.79**	**15**	P	**P**	**16 02 28.1**	**-0.3**
	baz=220,SNR=7.8						
D28M	**Stokes Point**	**94.14**	**13**	P	**P**	**16 02 29.4**	**-0.7**
	baz=216						
INK	**Inuvik**	**94.50**	**15**	P	**P**	**16 02 31.2**	**-0.5**
	baz=220						
SONM	**Songino Array**	**96.38**	**319**	P	**P**	**16 02 40.8**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=134,slow=4.2,SNR=3.2						
	comp=Z,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**111.12**	**321**	PKiKP	**PKiKP**	**16 07 41.6**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=82,slow=1.9,SNR=5.0						
MKAR	**Makanchi Array**	**111.84**	**313**	PKiKP	**PKiKP**	**16 07 44.0**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=82,slow=0.9,SNR=15						
KURBB	**Kurchatov Arra**	**114.68**	**317**	PKP	PKPdf	16 07 49.4	-0.6
	comp=Z,0.9nm,0.5s,baz=104,slow=1.8,SNR=10						
BVAR	**Borovoye Array**	**119.70**	**320**	PKP	**PKPdf**	**16 07 59.4**	**-0.2**
	comp=Z,3.7nm,0.4s,baz=101,slow=4.6,SNR=25						
SPITS	**Spitsbergen Ar**	**122.28**	**357**	PKP	**PKPdf**	**16 08 03.0**	**-0.9**
	comp=Z,2.9nm,0.7s,baz=17,slow=1.5,SNR=5.5						
ARCES	**ARCESS Array B**	**129.39**	**350**	PKP	**PKPdf**	**16 08 17.2**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=17,slow=1.2,SNR=30						
FINES	**FINESS Array B**	**136.28**	**344**	PKhKP	PKPpre	16 08 18.0	
	comp=Z,0.5nm,0.6s,baz=42,slow=4.5,SNR=5.4						
FINES				PKP	**PKPdf**	**16 08 29.7**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=48,slow=2.1,SNR=9.9						
NB2	**NORSAR Subarra**	**139.42**	**354**	PKP	PKPdf	16 08 26.9	-10
	comp=Z,0.5nm,0.6s,baz=29,slow=3.3						
NOA	**NORSAR Array B**	**139.42**	**354**	PKP	**PKPdf**	**16 08 36.5**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=14,slow=3.9,SNR=4.2						
KBZ	**Khabaz**	**139.53**	**314**	PKP	**PKPdf**	**16 08 37.5**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=90,slow=1.0,SNR=1.8						
KBZ				SKPbc	**SKPbc**	**16 11 35.1**	**-2.7**
	comp=Z,1.4nm,0.7s,baz=63,slow=2.3,SNR=3.5						
HFS	**Hagfors**	**139.99**	**351**	PKhKP	PKPpre	16 08 29.1	
	comp=Z,2.0nm,0.4s,baz=39,slow=3.6,SNR=17						
AKASG	**Malin Array Be**	**143.60**	**331**	PKP	PKPab	16 08 41.9	-0.2
	comp=Z,3.7nm,0.4s,baz=42,slow=3.9,SNR=23						
AKBB	**Malin Array Si**	**143.60**	**331**		PKPab	16 08 41.9	-0.2
KIEV	**Kiev**	**143.61**	**331**		PKPab	16 08 41.9	-0.2
LODK	**Lodwar**	**143.67**	**246**	PKPdf	**PKPdf**	**16 08 46.7**	**+1.0**
RNPP9	**Sopachiv**	**144.49**	**335**	PKP	PKPbc	16 08 44.8	-0.7
RNPP8	**Varash**	**144.56**	**335**	PKP	PKPbc	16 08 44.7	-1.0
EKA	**Eskdalemuir Ar**	**145.33**	**6**	PKPbc	**PKPdf**	**16 08 47.5**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=335,slow=3.1,SNR=11						
BRTR	**Keskin Array B**	**147.48**	**312**		**PKPbc**	**16 08 54.6**	**-0.1**
BRTR	**Keskin Array B**	**147.48**	**312**	PKPbc	**PKPbc**	**16 08 54.3**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=115,slow=3.4,SNR=9.3						
BUR08	**Bucovina Ar. S**	**147.63**	**331**		**PKiKP**	**16 08 55.9**	**-0.6**
BURAR	**Bucovina Array**	**147.65**	**331**		**PKiKP**	**16 08 55.8**	**-0.7**
KOLS	**Kolonicke sedl**	**147.88**	**335**	*e*PKP	**PKiKP**	**16 08 56.1**	**-0.7**
CRVS	**Cervenica-Dubn**	**148.21**	**336**	*e*PKP	**PKPbc**	**16 08 56.8**	**+0.7**
MMAI	**Mount Meron Ar**	**148.46**	**299**	PKPbc	**PKPbc**	**16 08 57.5**	**+0.2**
	comp=Z,2.8nm,0.4s,baz=74,slow=5.1,SNR=9.9						
OSTC	**Ostas**	**148.49**	**343**↑	*e*PKP	**PKiKP**	**16 08 57.8**	**-0.2**
CLL	**Collm**	**148.55**	**347**↓	*i*PKPbc	**PKPbc**	**16 08 57.2**	**+0.4**
	comp=Z,16nm,0.6s						
DPC	**Dobruska-Polom**	**148.64**	**343**↑	*e*PKP	**PKiKP**	**16 08 58.1**	**-0.3**
LANS	**Liptovska Anna**	**148.73**	**338**	*e*PKP	**PKiKP**	**16 08 59.0**	**+0.4**
BRG	**Berggiesshubel**	**148.76**	**346**	Amp		16 08 58.5	
	comp=Z,7.6nm,0.5s						
BRG	**Berggiesshubel**	**148.76**	**346**	*i*PKP	**PKiKP**	**16 08 58.0**	**-0.5**
KRLC	**Kralicky**	**148.76**	**342**↑	*e*PKP	**PKPbc**	**16 08 57.9**	**+0.4**
MORC	**Moravsky Berou**	**148.81**	**341**	*e*PKP	**PKPbc**	**16 08 58.1**	**+0.5**
PRU	**Pruhonice**	**149.44**	**345**↑	*e*PKP	**PKiKP**	**16 08 59.6**	**-0.4**
VYHS	**Vyhne**	**149.50**	**338**	*e*PKP	**PKiKP**	**16 09 00.2**	**0.0**
ZVC	**Zvikov**	**150.03**	**345**↑	*e*PKP	**PKiKP**	**16 09 01.7**	**+0.5**
MODS	**Modra-Piesok**	**150.13**	**340**	*e*PKP	**PKiKP**	**16 09 01.2**	**-0.3**
MEM	**Membach**	**150.21**	**356**	*d*PKP	**PKPbc**	**16 09 00.7**	**-0.2**
BTNL	**Ternell**	**150.22**	**355**	*d*PKP	**PKPbc**	**16 09 01.0**	**0.0**
BSTI	**Sart Tilman**	**150.26**	**356**	*d*PKP	**PKPbc**	**16 09 00.9**	**-0.1**
BCLA	**Clavier**	**150.44**	**356**	*d*PKPdf	**PKPdf**	**16 08 52.8**	**-2.9**
KHC	**Kasperske Hory**	**150.47**	**345**↑	*e*PKP	**PKiKP**	**16 09 02.3**	**+0.1**
BGES	**Gesves**	**150.49**	**357**	*d*PKPdf	**PKPdf**	**16 08 55.5**	**-0.4**
BGES				*d*PKP	**PKPbc**	**16 09 00.3**	**-1.2**
CKRC	**Cesky Krumlov**	**150.58**	**344**↑	*e*PKP	**PKiKP**	**16 09 02.6**	**+0.2**
BMRD	**Maredsous**	**150.59**	**357**	*d*PKP	**PKiKP**	**16 09 02.1**	**-0.2**
GERES	**GERESS Array B**	**150.71**	**345**	PKPbc	**PKPbc**	**16 09 01.8**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=29,slow=2.2,SNR=12						
DOU	**Dourbes**	**150.80**	**357**	*d*PKP	**PKiKP**	**16 09 02.8**	**0.0**
CONA	**Conrad Observa**	**150.96**	**341**	*i*PKiKP	**PKiKP**	**16 09 03.1**	**-0.2**
	comp=Z,4.9nm,0.6s						
RONA	**Rosalia, Austr**	**151.03**	**341**	*i*PKiKP	**PKiKP**	**16 09 03.4**	**0.0**
	comp=Z,4.2nm,0.5s						
WLF	**Walferdange**	**151.14**	**355**	*d*PKP	**PKiKP**	**16 09 03.9**	**+0.4**
MOA	**Molln**	**151.48**	**343**	*e*PKP	**PKPbc**	**16 09 03.3**	**-0.6**
	comp=Z,1.4nm,0.5s						
ARSA	**Arzberg**	**151.67**	**341**	*i*PKP	**PKPbc**	**16 09 02.3**	**-2.1**
	comp=Z,3.3nm,1.2s						
BIOA	**Bad Ischl, Aus**	**151.79**	**344**	*e*PKiKP	**PKPbc**	**16 09 04.6**	**-0.1**
	comp=Z,8.3nm,1.2s						
LESA	**Schwarzleotal**	**152.28**	**345**	*i*PKiKP	**PKPbc**	**16 09 05.8**	**-0.1**
	comp=Z,3.6nm,0.9s						
SOKA	**Soboth**	**152.33**	**341**	*i*PKP	**PKPbc**	**16 09 05.4**	**-0.6**
	comp=Z,1.2nm,0.5s						
KBA	**Koelnbreinsper**	**152.43**	**344**	*i*PKiKP	**PKPbc**	**16 09 06.3**	**0.0**
	comp=Z,1.9nm,0.5s						
WATA	**Walderalm**	**152.61**	**347**	*e*PKiKP	**PKPbc**	**16 09 06.7**	**0.0**
	comp=Z,1.3nm,0.4s						
OBKA	**Obir**	**152.62**	**342**	*e*PKiKP	**PKPbc**	**16 09 06.6**	**-0.1**
	comp=Z,1.3nm,0.5s						
WTTA	**Wattenberg**	**152.67**	**346**	*i*PKiKP	**PKPbc**	**16 09 06.8**	**-0.1**
	comp=Z,2.5nm,0.4s						
MYKA	**Terra Mystica**	**152.77**	**343**	*e*PKiKP	**PKPbc**	**16 09 06.5**	**-0.5**
	comp=Z,1.3nm,0.5s						
SQTA	**Sankt Quirin**	**152.80**	**347**	*i*PKiKP	**PKPbc**	**16 09 06.9**	**-0.1**
	comp=Z,3.1nm,0.8s						
ABTA	**Abfaltersbach**	**152.95**	**345**	*i*PKiKP	**PKPbc**	**16 09 07.0**	**-0.4**
	comp=Z,4.5nm,0.5s						
FETA	**Feichten**	**153.09**	**348**	*e*PKiKP	**PKiKP**	**16 09 08.0**	**+0.1**
	comp=Z,1.6nm,0.6s						
ESDC	**Sonseca Array**	**160.45**	**15**	PKPab	**PKPab**	**16 09 52.1**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=349,slow=4.7,SNR=2.6						
TORD	**Torodi Ar. Bea**	**172.26**	**174**	PKP	**PKPdf**	**16 09 18.8**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=151,slow=3.3,SNR=7.7						

*IDC **14** 15:54:53.5±1.6, 3.°59S×129.°79E, h0km, mb4.1/6, mbtmp4.0/7, ML3.4/1, MS3.0/1, Error ellipse: s-maj=139.1km s-min=20.2km az=69.0*

ISC 14 15:54:56.7±2.3, **3.°1S**±0.°5×**13.°1E**±.°, **h35**km, **n8**, σ0°**28**/7, **mb4.0**/5, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.01**	**170**	Pn	**Pn**	**15 58 51.7**	**-0.3**
	0.1nm,0.3s,baz=343,slow=12,SNR=5.9						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**20.60**	**173**	P	**P**	**15 59 33.4**	**+0.3**
	10nm,0.6s,baz=350,slow=10,SNR=44						
	10nm,0.6s						
STKA	**Stephens Creek**	**30.25**	**162**	P	**P**	**16 01 04.5**	**+0.1**
	1.1nm,0.4s,baz=336,slow=20,SNR=1.9						
	1.1nm,0.4s						
ASAJ	**Asahikawa**	**48.12**	**11**	LR	LR	16 23 37.7	
	comp=Z,17nm,20.8s,baz=118,slow=35						
MKAR	**Makanchi Array**	**65.67**	**325**	P	**P**	**16 05 37.8**	**+0.1**
	0.9nm,0.6s,baz=124,slow=7.9,SNR=9.7						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**69.86**	**327**	P	**P**	**16 06 04.0**	**+0.2**
	0.8nm,0.7s,baz=127,slow=5.5,SNR=4.5						
	0.8nm,0.7s						
BVAR	**Borovoye Array**	**75.44**	**327**	P	**P**	**16 06 36.8**	**-0.2**
	0.5nm,0.5s,baz=117,slow=8.3,SNR=3.0						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**86.84**	**180**	P	**P**	**16 07 37.6**	**0.0**
	2.3nm,1.1s,baz=354,slow=1.2,SNR=2.6						
	2.3nm,1.1s						

*FUNV **14** 16:01:32.9, 7.°22N×72.°07W, h9km, MW3.1*
*RSNC **14** 16:01:35.1±0.0, 7.°N±7.°×7.°2W±.°, h0km±6km, M2.3, ML2.4*

ISC 14 16:01:32.5±1.1, **7.°28N**±0.°04×**72.°02W**±0.°03, **h12**km±11km, **n8**, σ1°**07**/16, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.65**	**333**	*e*P	**Pb**	**16 01 46.1**	**+0.2**
CAPV				*e*S	**Sb**	**16 01 55.4**	**+0.5**
PAMC	**Pamplona, Colo**	**0.68**	**275**	P	**Pg**	**16 01 45.2**	**-0.6**
PAMC				S	**Sg**	**16 01 54.1**	**-0.7**
TAMC	**Tame, Arauca**	**0.87**	**165**	P	**Pg**	**16 01 49.2**	**-0.2**
TAMC				S	**Sg**	**16 02 01.4**	**+0.5**
SOCV	**Socops**	**1.52**	**49**	*e*P	**Pb**	**16 02 00.9**	**+0.3**
SOCV				*e*S	**Sg**	**16 02 21.8**	**+0.2**
OCAC	**Ocana**	**1.60**	**306**	P	**Pg**	**16 02 03.0**	**-0.2**
OCAC				S	**Sg**	**16 02 24.4**	**+0.4**
PTBC	**PUERTO BERRIO,**	**2.53**	**253**	P	**Pb**	**16 02 17.5**	**-0.3**
PTBC				S	**Sb**	**16 02 49.5**	**+0.6**
ZARC	**Zaragoza, Cauc**	**2.82**	**274**	P	**Pn**	**16 02 19.4**	**+2.0**
ZARC				S	**Sb**	**16 02 55.1**	**-2.3**
BAUV	**El Baul**	**4.27**	**67**	*e*P	**Pn**	**16 02 37.6**	**+0.2**
BAUV				*e*S	**Sn**	**16 03 25.6**	**-1.6**

*ISK **14** 16:05:28.2, 38.°84N×26.°60E, h12km, ML3.0/36*
*AFAD **14** 16:05:28.2±0.0, 38.°85N×26.°57E, h7km±2km, MW3.2*
*ATH **14** 16:05:28.7, 38.°84N×26.°59E, h12km±1km, ML3.0/9, Error ellipse: s-maj=2.4km s-min=0.9km az=270.0*
*THE **14** 16:05:29.2, 38.°85N×26.°50E, h11km±2km, ML3.0/4, Error ellipse: s-maj=2.6km s-min=0.9km az=272.0*

ISC 14 16:05:28.4±0.8, **38.°84N**±0.°01×**26.°58E**±0.°02, **h15**km±6km, **n91**, σ0°**51**/131, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOCM	**Foa**	**0.17**	**138**	Pg	**Pg**	**16 05 32.3**	**-0.3**
FOCM				Sg	**Sg**	**16 05 35.1**	**-0.3**
CAND	**Candarli**	**0.20**	**57**	Pg	**Pg**	**16 05 32.9**	**-0.2**
CAND				Sg	**Sg**	**16 05 36.3**	**+0.1**
KARB	**zmir-Karabur**	**0.22**	**217**	P	**Pg**	**16 05 33.4**	**+0.1**
KARB				*i* AML	AML	16 05 37.0	
	comp=N,5μm,0.5s						
KARB				*i* AML	AML	16 05 37.0	
	comp=E,5μm,0.3s						
KARB				S	**Sg**	**16 05 37.4**	**+0.6**
KARB				*i* AML	AML	16 05 38.0	
	comp=Z,3μm,0.3s						
IZMD	**zmir-Dikili-**	**0.30**	**62**	P	**Pg**	**16 05 34.7**	**-0.1**
IZMD				P	**Pb**	**16 05 34.9**	**-0.7**
IZMD				S	**Sg**	**16 05 39.2**	**0.0**
IZMD				S	**Sg**	**16 05 39.2**	**0.0**
IZMD				*i* AML	AML	16 05 41.0	
	comp=Z,627nm,0.5s						
IZMD				*i* AML	AML	16 05 41.0	
	comp=Z,746nm,0.4s						
IZMD				*i* AML	AML	16 05 46.0	
	comp=N,897nm,0.6s						
IZMD				*i* AML	AML	16 05 46.0	
	comp=E,939nm,0.6s						
IZMD				*i* AML	AML	16 05 46.0	
	comp=N,895nm,0.6s						
IZMD				*i* AML	AML	16 05 46.0	
	comp=E,917nm,0.6s						
DKL	**Dikili**	**0.34**	**48**	Pg	**Pg**	**16 05 35.4**	**0.0**
DKL				Sg	**Sg**	**16 05 40.4**	**+0.3**
ZEDA	**zmir-Bergama**	**0.40**	**72**	P	**Pg**	**16 05 36.6**	**+0.1**
ZEDA				S	**Sg**	**16 05 42.4**	**+0.3**
ZEDA				*i* AML	AML	16 05 43.0	
	comp=Z,615nm,0.1s						
ZEDA				*i* AML	AML	16 05 49.0	
	comp=N,1μm,0.3s						
ZEDA				*i* AML	AML	16 05 49.0	
	comp=E,1μm,0.4s						
PRK	**Paraskevi**	**0.47**	**329**	P	**Pg**	**16 05 37.8**	**0.0**
PRK				S	**Sg**	**16 05 44.0**	**-0.2**
	3μm,0.4s						
PRK	**Paraskevi**	**0.47**	**329**	P	**Pg**	**16 05 37.8**	**0.0**
PRK				S	**Sg**	**16 05 43.9**	**-0.2**
PRK				AML	AML	16 05 45.1	
	comp=E,8505μm,0.4s						
PRK				AML	AML	16 05 45.2	
	comp=N,4532μm,0.4s						
AYVA	**Ayvalik**	**0.47**	**10**	P	**Pg**	**16 05 37.5**	**-0.3**
AYVA				S	**Sg**	**16 05 44.5**	**+0.3**
AYVA				*i* AML	AML	16 05 45.0	
	comp=N,489nm,0.4s						
AYVA				*i* AML	AML	16 05 46.0	
	comp=N,583nm,0.2s						
AYVA				*i* AML	AML	16 05 51.0	
	comp=N,547nm,0.3s						
EAG2	**Marmaro, Chios**	**0.48**	**231**	P	**Pg**	**16 05 38.1**	**+0.3**
EAG2				S	**Sb**	**16 05 44.9**	**-0.4**
EAG2				AML	AML	16 05 45.4	
	comp=E,24243μm,0.4s						
EAG2				AML	AML	16 05 46.5	
	comp=N,31496μm,0.3s						
URLA	**Izmir**	**0.48**	**179**	Pg	**Pg**	**16 05 37.9**	**-0.1**
URLA				Sg	**Sb**	**16 05 45.9**	**+0.4**
URLA	**Izmir**	**0.48**	**179**	P	**Pg**	**16 05 37.9**	**-0.1**
URLA				S	**Sb**	**16 05 45.7**	**+0.1**
URLA				*i* AML	AML	16 05 47.0	
	comp=N,427nm,0.3s						
URLA				*i* AML	AML	16 05 47.0	
	comp=N,810nm,0.3s						
URLA				*i* AML	AML	16 05 49.0	
	comp=N,641nm,0.5s						
CESE	**eme**	**0.56**	**204**	Pg	**Pg**	**16 05 39.1**	**-0.3**
ZEYE	**Izmir, Urla-Ze**	**0.61**	**186**	P	**Pg**	**16 05 39.9**	**-0.4**
ZEYE				S	**Sb**	**16 05 50.0**	**+0.9**
ZEYE				*i* AML	AML	16 05 53.0	
	comp=N,1μm,0.4s						
ZEYE				*i* AML	AML	16 05 54.0	
	comp=N,1μm,0.2s						
ZEYE				*i* AML	AML	16 05 54.0	
	comp=N,1μm,0.2s						
CHOS	**Chios island**	**0.61**	**222**	P	**Pg**	**16 05 40.6**	**+0.1**
CHOS				S	**Sg**	**16 05 48.8**	**+0.1**
CHOS	**Chios island**	**0.61**	**222**	P	**Pg**	**16 05 40.7**	**+0.1**
CHOS				S	**Sg**	**16 05 48.6**	**-0.1**
SIGR	**SIGRI**	**0.68**	**303**	P	**Pg**	**16 05 41.7**	**+0.1**
SIGR				S	**Sg**	**16 05 50.6**	**0.0**
	comp=N,990nm,0.3s						
SIGR	**SIGRI**	**0.68**	**303**	P	**Pg**	**16 05 41.8**	**+0.1**
SIGR				S	**Sg**	**16 05 50.3**	**-0.3**
SIGR				AML	AML	16 05 54.2	
	comp=N,1846μm,0.3s						
SIGR				AML	AML	16 05 54.4	
	comp=E,2101μm,0.3s						
GPNR	**Gulpinar-Canak**	**0.71**	**330**	Pg	**Pb**	**16 05 42.8**	**+0.4**
KOCA	**Canakkale, Ayv**	**0.74**	**332**	P	**Pg**	**16 05 43.0**	**+0.1**
KOCA				S	**Sb**	**16 05 53.0**	**-0.1**
KOCA				*i* AML	AML	16 05 56.0	
	comp=E,1μm,0.8s						
KOCA				*i* AML	AML	16 05 57.0	
	comp=E,719nm,0.3s						
KOCA				*i* AML	AML	16 05 58.0	
	comp=E,818nm,0.2s						
BUHA	**Balikesir, Bur**	**0.76**	**30**	P	**Pg**	**16 05 42.8**	**-0.5**
BUHA				S	**Sg**	**16 05 53.3**	**+0.1**
BUHA				*i* AML	AML	16 05 57.0	
	comp=E,928nm,0.5s						
BUHA				*i* AML	AML	16 05 58.0	
	comp=E,260nm,0.3s						
BUHA				*i* AML	AML	16 05 58.0	
	comp=E,520nm,0.3s						
SOMA	**Soma-Manisa**	**0.80**	**67**	Pg	**Pn**	**16 05 44.8**	**-0.5**
GMLD	**Gumuldur**	**0.81**	**161**	Pg	**Pb**	**16 05 44.2**	**+0.1**
DGB	**zmir**	**0.82**	**163**	P	**Pg**	**16 05 44.0**	**-0.4**
DGB				S	**Sb**	**16 05 55.8**	**+0.5**
DGB				*i* AML	AML	16 05 59.0	
	comp=E,222nm,0.3s						
DGB				*i* AML	AML	16 05 59.0	
	comp=E,312nm,0.2s						
DGB				*i* AML	AML	16 05 59.0	
	comp=E,399nm,0.4s						
PSRA	**Psara**	**0.85**	**250**	P	**Pn**	**16 05 45.4**	**-0.5**
PSRA				S	**Sg**	**16 05 55.6**	**-0.5**
PSRA				AML	AML	16 05 59.1	
	comp=E,4074μm,0.2s						
PSRA				AML	AML	16 05 59.2	
	comp=N,3472μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.90**	**358**	P	**Pb**	**16 05 45.0**	**-0.7**
BAYC				S	**Sb**	**16 05 57.2**	**-0.3**
BAYC				*i* AML	AML	16 05 59.0	
	comp=N,452nm,0.3s						
BAYC				*i* AML	AML	16 06 00.0	
	comp=N,510nm,0.3s						
BAYC				*i* AML	AML	16 06 00.0	
	comp=N,710nm,0.2s						
EZNE	**Ezine-Canakkal**	**0.93**	**350**	Pg	**Pn**	**16 05 46.9**	**0.0**
AKS	**Akhisar**	**0.96**	**87**	Pg	**Pn**	**16 05 47.5**	**+0.1**
AKHS	**Akhisar**	**0.96**	**87**	P	**Pn**	**16 05 47.3**	**-0.1**
AKHS				S	**Sg**	**16 05 59.5**	**-0.1**
AKHS				*i* AML	AML	16 06 03.0	
	comp=N,228nm,0.3s						
AKHS				*i* AML	AML	16 06 04.0	
	comp=N,142nm,0.2s						
EZN	**Ezine**	**1.00**	**349**	Pg	**Pn**	**16 05 47.9**	**-0.1**
EZN	**Ezine**	**1.00**	**349**	P	**Pb**	**16 05 47.5**	**0.0**
EZN				S	**Sb**	**16 06 00.6**	**+0.1**
	comp=N,955nm,0.7s						
STEP	**BALIKESIR_Sava**	**1.03**	**58**	P	**Pn**	**16 05 48.9**	**+0.5**
STEP				S	**Sn**	**16 06 02.7**	**+0.1**
STEP				*i* AML	AML	16 06 05.0	
	comp=N,399nm,0.4s						
STEP				*i* AML	AML	16 06 05.0	
	comp=N,777nm,0.5s						
STEP				*i* AML	AML	16 06 05.0	
	comp=N,977nm,0.7s						
GOMA	**Golmarmara-Man**	**1.05**	**97**	Pg	**Pn**	**16 05 48.6**	**0.0**
BOZC	**Bozcaada**	**1.08**	**338**	P	**Pb**	**16 05 48.9**	**0.0**
BOZC				P	**Pn**	**16 05 49.0**	**0.0**
BOZC				S	**Sb**	**16 06 03.0**	**+0.3**
BOZC				S	**Sb**	**16 06 03.1**	**+0.3**
BOZC				*i* AML	AML	16

EDC	Edincik	1.80 33	Pn	Pn	16 05 59.1	+0.2
MLSB	Milas	1.81 148	Pn	Pb	16 06 00.4	-0.9
SMTH	Samothraki Isl	1.82 334	P	Pn	16 05 59.4	+0.2
SMTH	Samothraki Isl	1.82 334	P	Pn	16 05 59.2	0.0
ERIK	Erikli-Kesan	1.83 358	Pn	Pn	16 06 00.0	+0.7
BODT	Bodrum	1.87 162	Pn	Pn	16 05 59.9	0.0
SIMA	Simav-Kutahya	1.89 82	Pn	Pn	16 06 01.1	+0.9
ENEZ	Enez	1.92 350	Pn	Pn	16 06 01.4	+0.8
ENEZ	Enez	1.92 350	P	Pb	16 06 01.9	-1.2
MRMT	Marmara Adasi	1.92 24	Pn	Pn	16 06 01.4	+0.7
KYMI	Kymi, Euboea I	1.95 265	P	Pn	16 06 01.3	+0.3
APE	Apeiranthos	1.96 206	P	Pn	16 06 00.4	-0.7
KCTX	Karacabey (Bur	1.97 43	Pn	Pn	16 06 02.1	+0.7
ALN	Alexandroupoli	2.09 349	P	Pn	16 06 03.5	+0.5
ALN	Alexandroupoli	2.09 349	P	Pn	16 06 03.1	+0.2
ALN			AML	AML	16 06 36.1	
	comp=N,236μm,0.7s					
ALN			AML	AML	16 06 38.2	
	comp=E,172μm,0.7s					
ORLT	Orhaneli	2.16 55	Pn	Pn	16 06 04.9	+1.0
YER	Yerkesik	2.17 141	Pn	Pn	16 06 05.1	+1.0
DION	Dionisos Attik	2.22 251	P	Pn	16 06 05.2	+0.5
DION			S	Sn	16 06 31.4	-0.5
THAS	Thassos island	2.27 321	P	Pn	16 06 05.5	+0.1
THAS	Thassos island	2.27 321	P	Pn	16 06 05.5	+0.1
UKOP	Uzunkopru-Edir	2.28 1	Pn	Pn	16 06 06.7	+1.1
MDNY	Mudanya-Bursa	2.34 49	Pn	Pn	16 06 07.4	+1.0
VLY	Voula,Athens	2.41 247	P	Pn	16 06 06.8	-0.4
RDO	Rodhopi	2.44 341	P	Pn	16 06 08.7	+1.0
RDO			AML	AML	16 06 47.7	
	comp=N,81μm,0.5s					
RDO			AML	AML	16 06 49.2	
	comp=E,57μm,0.7s					
OUR	Ouranopolis	2.50 307	P	Pn	16 06 09.0	+0.5
KAVA	Kavala	2.68 324	P	Pn	16 06 11.1	+0.1
KOKK	Kokkinochori,	2.80 316	P	Pn	16 06 13.0	+0.3
SRS	Serrai	3.23 316	P	Pn	16 06 19.1	+0.5
NVR	Nevrokopi	3.26 321	P	Pn	16 06 20.5	+1.4
NVR			AML	AML	16 07 15.9	
	comp=E,55μm,0.7s					
NVR			AML	AML	16 07 18.7	
	comp=N,43μm,0.5s					
KLV	Kalavryta, Ach	3.57 258	P	Pn	16 06 23.6	+0.2
ANX	Ano Chora	3.66 268	P	Pn	16 06 25.7	+1.2

*SJA **14** 16:10:30.4±0.8, 19°.73S×69°.33W, h103km±4km, ML3.3, MW3.5*

*GUC **14** 16:10:32.7±0.6, 19°.82S×69°.23W, h94km±3km, ML3.1*

ISC 14 16:10:34.1±1.4,**19°.83S**±0°.04×**69°.35W**±0°.06,**h86**km±8km, **n24**,σ0**99**/41,**2C-1D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.22**	**42**	*e*P	**Pn**	**16 10 46.2**	**-1.0**
GO01				*e*S	**Sn**	**16 10 57.3**	**+0.3**
GO01	**Chusmiza**	**0.22**	**42**	*e*P	**Pn**	**16 10 46.4**	**-0.9**
GO01				*e*S	**Sn**	**16 10 57.3**	**+0.3**
GO01				IAML		16 10 57.9	
	comp=E,6μm,0.1s						
PB11	**IPOC Station P**	**0.30**	**283**	*e*P	**Pn**	**16 10 46.4**	**-0.9**
PB11				*e*S	**Sn**	**16 10 57.9**	**+0.9**
PB11				IAML		16 10 59.3	
	comp=Z,532nm,0.1s						
PB11	**IPOC Station P**	**0.30**	**283**	⇑*i*P	**Pn**	**16 10 46.6**	**-0.7**
PB11				*e*S	**Sn**	**16 10 57.8**	**+0.8**
PB11				IAML		16 10 58.4	
	comp=N,2μm,0.2s						
HMBC	**Humberstone**	**0.68**	**229**	*e*P	**Pn**	**16 10 49.5**	**-0.7**
HMBC				*e*S	**Sn**	**16 11 03.8**	**+1.7**
HMBC				IAML		16 11 05.7	
	comp=Z,594nm,0.2s						
HMBC	**Humberstone**	**0.68**	**229**	*i*P	**Pn**	**16 10 49.5**	**-0.7**
HMBC				*e*S	**Sn**	**16 11 03.2**	**+1.1**
HMBC				IAML		16 11 05.1	
	comp=E,636nm,0.3s						
TA02	**Huaiquique**	**0.86**	**239**	*e*P	Pn	16 10 46.2	-5.7
TA02				*e*P		16 10 51.9	
TA02				*e*S	**Sn**	**16 11 06.4**	**+1.2**
TA02				IAML		16 11 09.6	
	comp=Z,722nm,0.1s						
TA02	**Huaiquique**	**0.86**	**239**	*e*P	**Pn**	**16 10 51.6**	**-0.3**
TA02				*e*S	**Sn**	**16 11 05.9**	**+0.7**
TA02				IAML		16 11 09.8	
	comp=N,676nm,0.2s						
TA01	**Diego Aracena**	**1.07**	**227**	*e*P	**Pn**	**16 10 53.6**	**-0.7**
TA01				*e*S	**Sn**	**16 11 10.7**	**+1.2**
TA01	**Diego Aracena**	**1.07**	**227**	⇓*i*P	**Pn**	**16 10 53.5**	**-0.9**
TA01				*e*S	**Sn**	**16 11 09.9**	**+0.3**
TA01				IAML		16 11 15.4	
	comp=N,209nm,0.2s						
PATCX	**Punta Patache**	**1.24**	**217**	*e*P	**Pn**	**16 10 55.7**	**-0.8**
PATCX				*e*S	**Sn**	**16 11 14.0**	**+0.6**
PATCX				IAML		16 11 17.8	
	comp=Z,218nm,0.2s						
PATCX	**Punta Patache**	**1.24**	**217**	⇑*i*P	**Pn**	**16 10 55.6**	**-0.9**
PATCX				*e*S	**Sn**	**16 11 13.5**	**+0.1**
PATCX				IAML		16 11 17.6	
	comp=E,324nm,0.5s						
AP01	**Chacalluta**	**1.73**	**327**	*e*P	**Pn**	**16 11 01.6**	**-1.0**
AP01				IAML		16 11 33.9	
	comp=Z,269nm,0.2s						
AP01	**Chacalluta**	**1.73**	**327**	*e*P	**Pn**	**16 11 01.3**	**-1.3**
AP01				*e*S	**Sn**	**16 11 24.6**	**+0.3**
AP01				IAML		16 11 31.3	
	comp=N,452nm,0.4s						
PB09	**IPOC Station P**	**1.96**	**177**	*e*P	**Pn**	**16 11 04.9**	**-0.9**
PB09				*e*S	**Sn**	**16 11 31.3**	**+1.4**
PB09				IAML		16 11 34.5	
	comp=Z,118nm,0.4s						
PB09	**IPOC Station P**	**1.96**	**177**	*e*P	**Pn**	**16 11 05.1**	**-0.7**
PB09				*e*S	**Sn**	**16 11 30.4**	**+0.5**
PB09				IAML		16 11 35.6	
	comp=E,114nm,0.5s						
PB04	**IPOC Station P**	**2.60**	**197**	*e*P	**Pn**	**16 11 15.2**	**+0.8**
PB04				*e*S	Sn	16 11 33.2	-12
PB04				IAML		16 11 57.1	
	comp=Z,76nm,0.5s						
PB04	**IPOC Station P**	**2.60**	**197**	*e*P	**Pn**	**16 11 13.2**	**-1.1**
LVC	**Limon Verde**	**2.79**	**172**	*e*P	**Pn**	**16 11 16.2**	**-0.9**
LVC				*e*S	**Sn**	**16 11 52.2**	**+2.1**
LVC	**Limon Verde**	**2.79**	**172**	*e*P	**Pn**	**16 11 16.0**	**-1.1**
LVC				*e*S	**Sn**	**16 11 49.6**	**-0.6**
LVC				IAML		16 11 59.5	
	comp=Z,198nm,0.3s						
PB06	**IPOC Station P**	**2.87**	**184**	*e*P	**Pn**	**16 11 16.7**	**-1.3**
PB15	**IPOC Station P**	**3.36**	**182**	*e*P	**Pn**	**16 11 24.4**	**-0.2**
PB15				*e*S	**Sn**	**16 12 04.2**	**+0.6**
PB15				IAML		16 12 14.1	
	comp=Z,132nm,0.2s						
LPAZ	**La Paz**	**3.71**	**18**	*e*P	**Pn**	**16 11 30.5**	**+0.8**
PB10	**IPOC Station P**	**3.83**	**197**	*e*P	**Pn**	**16 11 29.4**	**-1.4**
PB10				*e*S	Sn	16 12 28.6	+14

*NEIC **14** 16:12:04.5±1.4, 65°.77N±0°.02×147°.85W±0°.09, h15km±4km, Error ellipse: s-maj=5.4km s-min=2.8km az=104.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.89; $M_{\theta\theta}$-0.47; $M_{\phi\phi}$1.36; $M_{r\theta}$1.06; $M_{\theta\phi}$-4.00; $M_{\phi r}$0.10; Fault plane solution: $M_0$4.31000×10^{14} NP1: ϕ_s277.71000°, δ82.75000°, λ-163.72000°. NP2: ϕ_s185.60000°, δ73.85000°, λ-7.55000°. Principal axes: T 4.6067, Plg6.0000°, Azm51.0000°; N -0.6850, Plg72.0000°, Azm301.0000°; P -3.9216, Plg17.0000°, Azm143.0000°;*

*NEIC **14** 16:12:04.8, 65°.78N×147°.82W, h15km*

*AEIC **14** 16:12:05.0±1.3, 65°.78N±0°.02×147°.83W±0°.06, h18km±5km, ML3.9, ML4.0/190(NEIC), Mwr3.7/83(NEIC), Error ellipse: s-maj=3.7km s-min=2.9km az=96.0*

ISC 14 16:12:04.7±0.8,**65°.77N**±0°.02×**147°.85W**±0°.02,**h16**km±5km, **n339**,σ0**71**/319,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H24K	**Noodor Dome**	**0.07**	**349**		**Pg**	**16 12 07.8**	**-0.2**
H24K				IAML		16 12 10.4	
	comp=N,48μm,0.5s						
H24K	**Noodor Dome**	**0.07**	**349**	P	**Pg**	**16 12 08.1**	**+0.1**
	baz=163						
H24K				S	**Sg**	**16 12 10.2**	**+0.1**
	baz=163						
POKR	**Poker Plat Res**	**0.67**	**165**		**Pb**	**16 12 18.3**	**+0.2**
POKR					**Sg**	**16 12 26.3**	**-0.5**
POKR	**Poker Plat Res**	**0.67**	**165**	IAML		16 12 27.5	
	comp=N,7μm,0.3s						
POKR	**Poker Plat Res**	**0.67**	**165**	P	**Pb**	**16 12 18.3**	**+0.2**
	baz=346						
H23K	**Yukon River**	**0.70**	**276**		**Pg**	**16 12 18.4**	**-0.1**
H23K				IAML		16 12 31.1	
	comp=N,6μm,0.7s						
H23K	**Yukon River**	**0.70**	**276**		**Sg**	**16 12 27.9**	**+0.2**
H23K	**Yukon River**	**0.70**	**276**	P	**Pb**	**16 12 19.1**	**+0.6**
	baz=93						
MDM	**Murphy Dome**	**0.83**	**191**		**Pb**	**16 12 20.7**	**+0.1**
MDM				IAML		16 12 33.5	
	comp=E,6μm,0.8s						
MDM				IAML		16 12 34.5	
	comp=N,6μm,0.5s						
I23K	**Minto, Yukon-K**	**0.89**	**226**		**Pb**	**16 12 21.2**	**-0.4**
I23K				IAML		16 12 35.8	
	comp=E,6μm,0.7s						
I23K	**Minto, Yukon-K**	**0.89**	**226**		**Sn**	**16 12 34.6**	**-0.4**
I23K	**Minto, Yukon-K**	**0.89**	**226**	P	**Pb**	**16 12 21.6**	**0.0**
	baz=44						
I23K				S	**Sn**	**16 12 34.6**	**-0.4**
	baz=44						
COLA	**College**	**0.90**	**180**		**Pg**	**16 12 22.3**	**+0.2**
COLA	**College**	**0.90**	**180**		**Sg**	**16 12 34.7**	**+0.9**
COLA	**College**	**0.90**	**180**	S	**Sg**	**16 12 34.7**	**+0.9**
	baz=0.7						
G24K	**Hadweenzic Riv**	**0.95**	**9**		**Pg**	**16 12 23.1**	**0.0**
G24K					**Sg**	**16 12 35.7**	**+0.1**
G24K	**Hadweenzic Riv**	**0.95**	**9**	IAML		16 12 37.8	
	comp=N,6μm,0.8s						
G24K	**Hadweenzic Riv**	**0.95**	**9**	P	**Pg**	**16 12 23.1**	**0.0**
	baz=189						
G24K				S	**Sg**	**16 12 35.7**	**+0.1**
	baz=189						
H25L	**Birch Creek**	**0.97**	**58**		**Pg**	**16 12 23.4**	**-0.1**
H25L	**Birch Creek**	**0.97**	**58**	P	**Pg**	**16 12 23.4**	**-0.1**
	baz=240						
PRP	**Porcupine Dome**	**0.99**	**103**		**Pb**	**16 12 23.6**	**0.0**
PRP				IAML		16 12 36.1	
	comp=E,6μm,0.6s						
PRP	**Porcupine Dome**	**0.99**	**103**	P	**Pb**	**16 12 23.6**	**0.0**
	baz=286						
IL31		**1.08**	**158**		**Pn**	**16 12 25.2**	**+0.1**
ILAR	**Eielson Array**	**1.08**	**158**		**Pb**	**16 12 24.8**	**-0.1**
CCB	**Clear Creek Bu**	**1.12**	**179**		**Pn**	**16 12 25.8**	**+0.1**
CCB				IAML		16 12 47.6	
	comp=N,3μm,0.5s						
G25K	**Bearman Lake**	**1.23**	**34**		**Pn**	**16 12 26.9**	**-0.2**
G25K	**Bearman Lake**	**1.23**	**34**	P	**Pn**	**16 12 26.9**	**-0.2**
	baz=216						
NEA2	**Nenana**	**1.29**	**204**		**Pn**	**16 12 27.5**	**-0.4**
NEA2	**Nenana**	**1.29**	**204**	P	**Pn**	**16 12 27.9**	**-0.1**
	baz=23						
G23K	**Bananza Creek**	**1.30**	**318**		**Pn**	**16 12 28.2**	**0.0**
G23K	**Bananza Creek**	**1.30**	**318**		**Sn**	**16 12 45.6**	**+0.5**
G23K	**Bananza Creek**	**1.30**	**318**	P	**Pn**	**16 12 28.1**	**0.0**
	baz=136						
G23K				S	**Sn**	**16 12 45.6**	**+0.5**
	baz=136						
WRH	**Wood River Hil**	**1.30**	**185**		**Pn**	**16 12 28.4**	**+0.2**
WRH	**Wood River Hil**	**1.30**	**185**		**Sb**	**16 12 46.2**	**+1.0**
FYU	**Fort Yukon**	**1.33**	**52**		**Pn**	**16 12 28.1**	**-0.5**
FYU				IAML		16 12 49.0	
	comp=E,2μm,0.5s						
FYU				IAML		16 12 49.7	
	comp=N,3μm,0.4s						
HDA	**Harding Lake**	**1.42**	**164**		**Pn**	**16 12 29.8**	**+0.1**
HDA				IAML		16 12 50.7	
	comp=N,3μm,0.3s						
HDA	**Harding Lake**	**1.42**	**164**		**Sb**	**16 12 48.9**	**+0.4**
HDA	**Harding Lake**	**1.42**	**164**	P	**Pn**	**16 12 29.8**	**+0.1**
	baz=345						
HDA				S	**Sb**	**16 12 48.9**	**+0.4**
	baz=345						
HDA				S	**Sb**	**16 12 48.9**	**+0.4**
	baz=345						
MLY	**Manley**	**1.42**	**240**	Pn	**Pn**	**16 12 29.4**	**-0.4**
MLY				IAML		16 12 53.2	
	comp=E,2μm,0.7s						
MLY				IAML		16 12 53.3	
	comp=N,2μm,0.6s						
MLY	**Manley**	**1.42**	**240**	P	**Pn**	**16 12 29.4**	**-0.4**
	baz=57						
H22K	**Ishtalitna Cre**	**1.46**	**277**		**Pn**	**16 12 29.9**	**-0.5**
H22K					**Sb**	**16 12 50.0**	**+0.2**
H22K	**Ishtalitna Cre**	**1.46**	**277**	P	**Pn**	**16 12 29.9**	**-0.5**
	baz=93						
H22K				S	**Sb**	**16 12 49.9**	**+0.2**
	baz=93						
J25K	**Salcha River,**	**1.56**	**137**		**Pn**	**16 12 31.8**	**+0.1**
J25K				IAML		16 12 54.4	
	comp=E,2μm,0.5s						
J25K	**Salcha River,**	**1.56**	**137**	P	**Pn**	**16 12 31.9**	**+0.1**
	baz=320						
BWN	**Browne**	**1.74**	**204**		**Pn**	**16 12 33.9**	**-0.4**
BWN				IAML		16 13 00.6	
	comp=N,2μm,0.5s						
BWN				IAML		16 13 02.9	
	comp=E,2μm,1.1s						
COLD	**Coldfoot**	**1.75**	**328**		**Pn**	**16 12 34.7**	**+0.4**
COLD	**Coldfoot**	**1.75**	**328**	P	**Pn**	**16 12 34.7**	**+0.4**
	baz=146						
F24K	**Squaw Lake**	**1.76**	**359**	Pn	**Pn**	**16 12 34.9**	**+0.3**
F24K				IAML		16 13 01.8	
	comp=N,2μm,0.6s						
F24K				IAML		16 13 03.5	
	comp=E,2μm,0.6s						
F24K	**Squaw Lake**	**1.76**	**359**	P	**Pn**	**16 12 34.9**	**+0.3**
	baz=179						
G22K	**Bettles**	**1.88**	**310**		**Pn**	**16 12 36.1**	**0.0**
G22K	**Bettles**	**1.88**	**310**	P	**Pn**	**16 12 36.1**	**0.0**
	baz=126						
I26K	**Coal Creek Min**	**2.01**	**101**		**Pn**	**16 12 37.5**	**-0.4**
I26K	**Coal Creek Min**	**2.01**	**101**	P	**Pn**	**16 12 37.5**	**-0.4**
	baz=286						
G26K	**Porcupine Rive**	**2.02**	**52**		**Pn**	**16 12 37.3**	**-0.8**
G26K	**Porcupine Rive**	**2.02**	**52**	P	**Pn**	**16 12 37.3**	**-0.8**
	baz=236						
F25K	**Christian Rive**	**2.03**	**25**		**Pn**	**16 12 38.1**	**-0.2**
F25K	**Christian Rive**	**2.03**	**25**	P	**Pn**	**16 12 38.1**	**-0.2**
	baz=207						
H21K	**Melozitna Rive**	**2.05**	**269**	Pn	**Pn**	**16 12 37.9**	**-0.6**
H21K				IAML		16 13 09.4	
	comp=E,1μm,0.7s						
H21K				IAML		16 13 10.4	
	comp=N,825nm,1.1s						
H21K	**Melozitna Rive**	**2.05**	**269**	P	**Pn**	**16 12 38.0**	**-0.6**
	baz=84						
MCK	**McKinley**	**2.10**	**193**		**Pn**	**16 12 39.4**	**+0.3**
MCK	**McKinley**	**2.10**	**193**	P	**Pn**	**16 12 39.4**	**+0.3**
	baz=12						
BMAR	**Burnt Mountain**	**2.12**	**36**		**Pn**	**16 12 38.6**	**-0.9**
BPAW	**Bear Paw Mtn.**	**2.14**	**220**		**Pn**	**16 12 39.2**	**-0.5**
BPAW				IAML		16 13 15.6	
	comp=N,991nm,0.5s						
BPAW				IAML		16 13 17.4	
	comp=E,786nm,0.5s						
BPAW	**Bear Paw Mtn.**	**2.14**	**220**	P	**Pn**	**16 12 39.3**	**-0.4**
	baz=37						
K24K	**Donnelly Dome**	**2.16**	**155**		**Pn**	**16 12 40.3**	**+0.3**
K24K	**Donnelly Dome**	**2.16**	**155**	P	**Pn**	**16 12 40.3**	**+0.3**
	baz=337						
J26L	**Joseph Creek**	**2.21**	**123**		**Pn**	**16 12 40.7**	**0.0**
J26L	**Joseph Creek**	**2.21**	**123**	P	**Pn**	**16 12 40.9**	**+0.1**
	baz=307						
E24K	**Your Creek**	**2.33**	**354**	Pn	**Pn**	**16 12 43.0**	**+0.5**
E24K				IAML		16 13 18.4	
	comp=E,975nm,0.5s						
E24K				IAML		16 13 19.0	
	comp=N,1μm,0.5s						
E24K	**Your Creek**	**2.33**	**354**	P	**Pn**	**16 12 42.9**	**+0.5**
	baz=173						
E23K	**Chandalar**	**2.41**	**344**	P	**Pn**	**16 12 44.2**	**+0.8**
	baz=162						
RND	**Reindeer**	**2.41**	**191**		**Pn**	**16 12 44.2**	**+0.8**
G21K	**Allakaket**	**2.42**	**291**		**Pn**	**16 12 43.8**	**+0.2**
G21K	**Allakaket**	**2.42**	**291**	IAML		16 13 23.8	
	comp=N,656nm,0.6s						
G21K	**Allakaket**	**2.42**	**291**	P	**Pn**	**16 12 43.8**	**+0.2**
	baz=105						
F26K	**Sheenjek River**	**2.43**	**35**		**Pn**	**16 12 43.3**	**-0.4**
F26K	**Sheenjek River**	**2.43**	**35**	P	**Pn**	**16 12 43.3**	**-0.4**
	baz=219						
IMAR	**Indian Mountai**	**2.44**	**278**		**Pn**	**16 12 42.9**	**-0.8**
SCRK	**Sand Creek**	**2.44**	**136**		**Pn**	**16 12 44.4**	**+0.5**
SCRK				IAML		16 13 27.5	
	comp=N,574nm,0.5s						
SCRK	**Sand Creek**	**2.44**	**136**	P	**Pn**	**16 12 44.2**	**+0.3**
	baz=320						
F22K	**John River**	**2.46**	**317**		**Pn**	**16 12 44.8**	**+0.8**
F22K	**John River**	**2.46**	**317**	P	**Pn**	**16 12 44.8**	**+0.8**
	baz=133						
E25K	**Arctic Village**	**2.53**	**20**	IAML		16 13 27.0	
	comp=N,517nm,1.0s						
E25K				IAML		16 13 28.7	
	comp=E,547nm,0.8s						
E25K	**Arctic Village**	**2.53**	**20**	P	**Pn**	**16 12 45.0**	**0.0**
	baz=202						
I27K	**Kandik River**	**2.58**	**91**		**Pn**	**16 12 45.5**	**-0.3**
I27K	**Kandik River**	**2.58**	**91**	P	**Pn**	**16 12 45.5**	**-0.3**
	baz=277						
KTH	**Kantishna Hill**	**2.59**	**212**		**Pn**	**16 12 45.7**	**-0.2**
KTH				IAML		16 13 28.9	
	comp=N,532nm,0.8s						
H27K	**Steamboat Moun**	**2.62**	**77**	P	**Pn**	**16 12 45.7**	**-0.7**
	baz=263						
CHUM	**Lake Minchumin**	**2.69**	**227**		**Pn**	**16 12 46.7**	**-0.5**
CHUM	**Lake Minchumin**	**2.69**	**227**	P	**Pn**	**16 12 46.7**	**-0.5**
	baz=43						
F21K	**Alatna River**	**2.69**	**305**	Pn	**Pn**	**16 12 47.6**	**+0.3**
F21K				IAML		16 13 36.6	
	comp=E,442nm,0.8s						
F21K	**Alatna River**	**2.69**	**305**	P	**Pn**	**16 12 47.3**	**0.0**
	baz=120						
DHY	**Denali Highway**	**2.71**	**175**		**Pn**	**16 12 49.2**	**+1.5**
DHY				IAML		16 13 29.6	
	comp=N,440nm,0.8s						
DHY	**Denali Highway**	**2.71**	**175**	P	**Pn**	**16 12 49.0**	**+1.4**
	baz=356						
G27K	**Doyon Strip**	**2.71**	**64**		**Pn**	**16 12 47.1**	**-0.4**
G27K	**Doyon Strip**	**2.71**	**64**	P	**Pn**	**16 12 47.1**	**-0.4**
	baz=250						
E22K	**Anaktuvuk Pass**	**2.85**	**329**		**Pn**	**16 12 50.6**	**+1.2**
E22K	**Anaktuvuk Pass**	**2.85**	**329**	P	**Pn**	**16 12 50.6**	**+1.2**
	baz=145						
H20K	**Anotleneega Mo**	**2.93**	**268**		**Pn**	**16 12 50.2**	**-0.4**
H20K	**Anotleneega Mo**	**2.93**	**268**	P	**Pn**	**16 12 50.2**	**-0.4**
	baz=81						
I20K	**Naaghedeneel**	**2.95**	**254**	Pn	**Pn**	**16 12 50.4**	**-0.4**
I20K	**Naaghedeneel**	**2.95**	**254**	P	**Pn**	**16 12 50.6**	**-0.2**
	baz=68						
WAT1	**Susitna Watana**	**2.96**	**186**	P	**Pn**	**16 12 52.3**	**+1.2**
	baz=5.7						
TOLK	**Toolik Lake Re**	**2.97**	**348**	Pn	**Pn**	**16 12 53.0**	**+1.9**
TOLK				IAML		16 13 46.0	
	comp=N,462nm,0.7s						
TOLK				IAML		16 13 46.3	
	comp=E,509nm,1.4s						
WAT7	**Susitna Watana**	**2.98**	**189**		**Pn**	**16 12 52.4**	**+1.1**
EGAK	**Eagle**	**2.98**	**106**		**Pn**	**16 12 51.2**	**-0.1**
EGAK	**Eagle**	**2.98**	**106**	P	**Pn**	**16 12 51.1**	**-0.1**
	baz=293						
CAST	**Castle Rocks**	**2.98**	**220**		**Pn**	**16 12 50.7**	**-0.6**
CAST				IAML		16 13 43.4	
	comp=E,341nm,0.6s						
CAST	**Castle Rocks**	**2.98**	**220**	P	**Pn**	**16 12 50.7**	**-0.6**
	baz=36						
PAX	**Paxson**	**2.99**	**159**	P	**Pn**	**16 12 52.2**	**+0.7**
	baz=341						
K27K	**Chicken**	**3.01**	**123**		**Pn**	**16 12 51.9**	**+0.2**
K27K	**Chicken**	**3.01**	**123**	IAML		16 13 39.5	
	comp=N,635nm,0.6s						
K27K				IAML		16 13 45.4	
	comp=E,620nm,0.8s						
K27K	**Chicken**	**3.01**	**123**	P	**Pn**	**16 12 51.9**	**+0.2**
	baz=308						
J20K	**Nowinta River**	**3.12**	**242**		**Pn**	**16 12 52.9**	**-0.3**
J20K	**Nowinta River**	**3.12**	**242**	P	**Pn**	**16 12 52.9**	**-0.3**
	baz=56						
WAT6	**Susitna Watana**	**3.20**	**179**		**Pn**	**16 12 54.9**	**+0.5**
WAT6	**Susitna Watana**	**3.20**	**179**	P	**Pn**	**16 12 54.9**	**+0.5**
	baz=359						
I28M	**Miner Creek**	**3.30**	**92**	Pn	**Pn**	**16 12 55.8**	**+0.1**
I28M				IAML		16 13 51.0	
	comp=N,478nm,0.6s						
I28M				IAML		16 13 57.4	
	comp=E,486nm,0.5s						
I28M	**Miner Creek**	**3.30**	**92**	P	**Pn**	**16 12 55.5**	**-0.1**
	baz=279						
D23K	**Nanushuk River**	**3.40**	**342**		**Pn**	**16 12 58.9**	**+2.0**
D23K	**Nanushuk River**	**3.40**	**342**	P	**Pn**	**16 12 58.9**	**+2.0**
	baz=160						
F20K	**Avaraart Lake**	**3.42**	**296**		**Pn**	**16 12 57.2**	**0.0**
F20K	**Avaraart Lake**	**3.42**	**296**	P	**Pn**	**16 12 57.2**	**0.0**
	baz=108						
PPLA	**Purkeypile**	**3.45**	**215**	P	**Pn**	**16 12 57.5**	**-0.2**
	baz=31						
E27K	**Coleen River**	**3.46**	**42**		**Pn**	**16 12 57.1**	**-0.6**
E27K	**Coleen River**	**3.46**	**42**	P	**Pn**	**16 12 57.1**	**-0.6**
	baz=228						
H19K	**Roundabout Mou**	**3.57**	**270**	IAML		16 14 03.3	
	comp=N,403nm,0.8s						
H19K	**Roundabout Mou**	**3.57**	**270**	P	**Pn**	**16 12 58.7**	**-0.6**
	baz=82						
HARP	**HAARP**	**3.58**	**160**		**Pn**	**16 13 00.3**	**+0.8**
HARP	**HAARP**	**3.58**	**160**	P	**Pn**	**16 13 00.3**	**+0.8**
	baz=342						
E21K	**Killik River**	**3.60**	**321**	P	**Pn**	**16 13 00.9**	**+1.2**
	baz=135						
K20K	**Telida**	**3.61**	**231**		**Pn**	**16 12 59.0**	**-0.9**
K20K				IAML		16 14 11.0	
	comp=E,215nm,0.8s						
K20K				IAML		16 14 11.6	
	comp=N,329nm,0.8s						
K20K	**Telida**	**3.61**	**231**	P	**Pn**	**16 12 59.0**	**-0.9**
	baz=45						
D25K	**Kavik River**	**3.62**	**8**		**Pn**	**16 13 01.2**	**+1.2**
D25K				IAML		16 14 00.7	
	comp=E,365nm,0.9s						
D25K				IAML		16 14 05.4	
	comp=N,216nm,0.6s						
D25K	**Kavik River**	**3.62**	**8**	P	**Pn**	**16 13 00.9**	**+0.9**
	baz=190						
D22K	**Ayikyak River**	**3.65**	**331**		**Pn**	**16 13 01.9**	**+1.6**
D22K				IAML		16 14

GHO			IAML		16 14 15.8
	comp=N,160nm,0.7s				
GHO			IAML		16 14 16.5
	comp=E,180nm,0.8s				
WACK	**Wrangell Chich**	**4.10 156**		**Pn**	**16 13 07.4 +0.6**
E19K	**Redstone River**	**4.11 299**		**Pn**	**16 13 07.2 +0.5**
E19K	**Redstone River**	**4.11 299**	IAML		16 14 20.9
	comp=E,224nm,0.8s				
E19K			IAML		16 14 25.9
	comp=N,253nm,0.7s				
E19K	**Redstone River**	**4.11 299**	P	**Pn**	**16 13 07.2 +0.5**
	baz=110				
E20K	**Nigu River**	**4.12 311**		**Pn**	**16 13 08.3 +1.4**
E20K	**Nigu River**	**4.12 311**	P	**Pn**	**16 13 08.3 +1.4**
	baz=123				
G29M	**Pine Creek**	**4.12 69**		**Pn**	**16 13 07.1 +0.1**
G29M	**Pine Creek**	**4.12 69**	P	**Pn**	**16 13 07.1 +0.1**
	baz=258				
SKT	**Skwentna**	**4.13 205**	P	**Pn**	**16 13 08.1 +1.0**
	baz=22				
F19K	**Shaleruckik Mo**	**4.15 289**		**Pn**	**16 13 07.4 +0.2**
F19K			IAML		16 14 16.9
	comp=N,208nm,0.8s				
F19K			IAML		16 14 19.7
	comp=E,165nm,0.8s				
F19K	**Shaleruckik Mo**	**4.15 289**	P	**Pn**	**16 13 07.7 +0.4**
	baz=100				
C27K	**Jago River**	**4.18 20**		**Pn**	**16 13 08.7 +0.9**
C27K	**Jago River**	**4.18 20**	P	**Pn**	**16 13 08.7 +0.9**
	baz=204				
C23K	**Itkillik River**	**4.22 347**	IAML		16 14 25.5
	comp=E,148nm,0.9s				
C23K			IAML		16 14 28.6
	comp=N,206nm,0.9s				
C23K	**Itkillik River**	**4.22 347**	P	**Pn**	**16 13 09.6 +1.3**
	baz=164				
L20K	**Farewell, AK**	**4.23 221**	P	**Pn**	**16 13 08.0 -0.4**
	baz=36				
M27K	**Edge Creek, AK**	**4.31 140**	IAML		16 14 41.1
	comp=E,178nm,0.7s				
M27K	**Edge Creek, AK**	**4.31 140**	P	**Pn**	**16 13 10.0 +0.4**
	baz=325				
E28M	**Babbage River**	**4.31 45**		**Pn**	**16 13 08.1 -1.4**
E28M	**Babbage River**	**4.31 45**	P	**Pn**	**16 13 08.5 -1.0**
	baz=233				
C26K	**Camden Bay**	**4.32 14**		**Pn**	**16 13 10.4 +0.9**
C26K	**Camden Bay**	**4.32 14**	P	**Pn**	**16 13 10.4 +0.9**
	baz=196				
C21K	**Knifeblade Rid**	**4.33 325**	P	**Pn**	**16 13 11.2 +1.5**
	baz=138				
KLU	**Klutina**	**4.38 168**		**Pn**	**16 13 12.3 +1.9**
KLU	**Klutina**	**4.38 168**	IAML		16 14 25.4
	comp=E,126nm,0.6s				
KLU			IAML		16 14 33.4
	comp=N,121nm,0.8s				
KLU	**Klutina**	**4.38 168**	P	**Pn**	**16 13 12.4 +1.9**
	baz=350				
D27M	**Malcolm River**	**4.38 34**		**Pn**	**16 13 10.3 -0.2**
D27M	**Malcolm River**	**4.38 34**	P	**Pn**	**16 13 10.7 +0.3**
	baz=220				
KNK	**Knik Glacier**	**4.38 184**	IAML		16 14 14.5
	comp=N,161nm,0.9s				
H18K	**Honhosa River**	**4.43 267**		**Pn**	**16 13 11.3 +0.2**
H18K	**Honhosa River**	**4.43 267**	IAML		16 14 28.8
	comp=N,120nm,0.8s				
H18K			IAML		16 14 40.2
	comp=E,141nm,1.1s				
H18K	**Honhosa River**	**4.43 267**	P	**Pn**	**16 13 11.3 +0.2**
	baz=77				
G18K	**Tagagawik**	**4.45 277**		**Pn**	**16 13 11.8 +0.5**
G18K	**Tagagawik**	**4.45 277**	P	**Pn**	**16 13 11.9 +0.5**
	baz=86				
J18K	**Innoko River**	**4.46 243**	IAML		16 14 37.6
	comp=E,153nm,0.7s				
J18K	**Innoko River**	**4.46 243**	P	**Pn**	**16 13 11.8 +0.2**
	baz=55				
SUA	**Susitna One**	**4.51 198**	IAML		16 14 33.1
	comp=N,143nm,1.4s				
SUA			IAML		16 14 41.8
	comp=E,102nm,2.0s				
D20K	**Etivluk River**	**4.51 315**		**Pn**	**16 13 14.0 +1.8**
D20K	**Etivluk River**	**4.51 315**	P	**Pn**	**16 13 14.0 +1.8**
	baz=127				
M20K	**Styx River**	**4.55 213**	IAML		16 14 32.1
	comp=E,104nm,1.1s				
M20K			IAML		16 14 33.6
	comp=N,112nm,0.6s				
M20K	**Styx River**	**4.55 213**	P	**Pn**	**16 13 13.4 +0.6**
	baz=29				
TTA	**Tatalina**	**4.55 235**	IAML		16 14 43.9
	comp=N,137nm,0.8s				
B21K	**Ikpikpuk River**	**4.65 329**		**Pn**	**16 13 15.1 +1.0**
B21K	**Ikpikpuk River**	**4.65 329**	IAML		16 14 44.3
	comp=N,176nm,0.8s				
B21K			IAML		16 14 46.5
	comp=E,129nm,1.0s				
B21K	**Ikpikpuk River**	**4.65 329**	P	**Pn**	**16 13 15.1 +1.0**
	baz=143				
E29M	**Blow River**	**4.70 51**	P	**Pn**	**16 13 14.2 -0.5**
	baz=241				
GLB	**Gilahina Butte**	**4.70 156**		**Pn**	**16 13 15.9 +1.0**
L19K	**White Mountain**	**4.74 224**	IAML		16 14 51.9
	comp=N,122nm,1.2s				
L19K	**White Mountain**	**4.74 224**	P	**Pn**	**16 13 15.0 -0.4**
	baz=38				
RC01	**Rabbit Creek A**	**4.77 191**		**Pn**	**16 13 17.3 +1.5**
RC01	**Rabbit Creek A**	**4.77 191**	IAML		16 14 35.3
	comp=N,91nm,0.6s				
RC01			IAML		16 14 38.0
	comp=E,128nm,0.5s				
RC01	**Rabbit Creek A**	**4.77 191**	P	**Pn**	**16 13 17.3 +1.5**
	baz=9.4				
I30M	**Mount Dempster**	**4.81 91**		**Pn**	**16 13 16.2 -0.2**
I30M	**Mount Dempster**	**4.81 91**	IAML		16 14 47.4
	comp=N,105nm,0.8s				
I30M			IAML		16 14 52.9
	comp=E,108nm,0.5s				
I30M	**Mount Dempster**	**4.81 91**	P	**Pn**	**16 13 16.2 -0.2**
	baz=282				
G30M	**tAoh Zraii Nji**	**4.83 70**		**Pn**	**16 13 15.9 -0.8**
G30M	**tAoh Zraii Nji**	**4.83 70**	IAML		16 14 45.2
	comp=E,94nm,0.7s				
G30M			IAML		16 14 48.0
	comp=N,88nm,1.0s				
G30M	**tAoh Zraii Nji**	**4.83 70**	P	**Pn**	**16 13 15.9 -0.8**
	baz=261				
M19K	**Big River Lodg**	**4.84 220**		**Pn**	**16 13 16.4 -0.4**
M19K	**Big River Lodg**	**4.84 220**	IAML		16 14 38.2
	comp=N,80nm,0.8s				
M19K			IAML		16 14 39.2
	comp=E,101nm,0.8s				
M19K	**Big River Lodg**	**4.84 220**	P	**Pn**	**16 13 16.4 -0.4**
	baz=34				
D19K	**Kuna River**	**4.85 309**		**Pn**	**16 13 18.1 +1.1**
D19K	**Kuna River**	**4.85 309**	IAML		16 14 47.1
	comp=E,139nm,1.1s				
D19K			IAML		16 15 04.1
	comp=N,87nm,1.1s				
D19K	**Kuna River**	**4.85 309**	P	**Pn**	**16 13 18.1 +1.1**
	baz=119				
F18K	**Selawik**	**4.86 285**		**Pn**	**16 13 17.7 +0.7**
F18K	**Selawik**	**4.86 285**	P	**Pn**	**16 13 17.7 +0.7**
	baz=94				
SPCG	**Spurr Capps GI**	**4.86 204**		**Pn**	**16 13 18.1 +0.9**
MCARA	**McCarthy VSAT**	**4.90 152**	IAML		16 14 52.2
	comp=E,80nm,0.9s				
MCARA			IAML		16 14 56.4
	comp=N,90nm,1.1s				
SPU	**Mount Spurr**	**4.97 204**		**Pn**	**16 13 19.6 +1.0**
L29M	**L29M**	**4.98 118**		**Pn**	**16 13 19.3 +0.5**
L29M	**L29M**	**4.98 118**	P	**Pn**	**16 13 19.3 +0.5**
	baz=307				
D28M	**Stokes Point**	**5.00 40**		**Pn**	**16 13 19.5 +0.7**
D28M	**Stokes Point**	**5.00 40**	P	**Pn**	**16 13 19.5 +0.7**
	baz=229				
J30M	**Hart River**	**5.00 99**		**Pn**	**16 13 19.4 +0.4**
J30M			IAML		16 14 49.2
	comp=N,135nm,0.6s				
J30M			IAML		16 14 58.5
	comp=E,119nm,0.8s				
J30M	**Hart River**	**5.00 99**	P	**Pn**	**16 13 19.5 +0.4**
	baz=289				
BMRM	**Bremner River**	**5.03 162**		**Pn**	**16 13 21.1 +1.7**
BMRM	**Bremner River**	**5.03 162**	P	**Pn**	**16 13 21.1 +1.7**
	baz=345				
B22K	**Teshekpuk Lake**	**5.05 338**	IAML		16 14 18.1
	comp=N,81nm,0.6s				
B22K			IAML		16 15 04.0
	comp=E,100nm,1.0s				
B22K	**Teshekpuk Lake**	**5.05 338**	P	**Pn**	**16 13 20.4 +0.8**
	baz=153				
YUK2	**White River**	**5.06 139**		**Pn**	**16 13 20.1 +0.3**
H17K	**Granite Mounta**	**5.12 266**	IAML		16 14 53.9
	comp=E,102nm,1.0s				
H17K			IAML		16 14 58.7
	comp=N,110nm,1.5s				
H17K	**Granite Mounta**	**5.12 266**	P	**Pn**	**16 13 21.3 +0.7**
	baz=75				
F30M	**Barrier River**	**5.13 63**	P	**Pn**	**16 13 20.9 +0.1**
	baz=255				
YUK3	**Moose Creek**	**5.17 137**		**Pn**	**16 13 21.7 +0.1**
YUK3	**Moose Creek**	**5.17 137**	P	**Pn**	**16 13 21.7 +0.1**
	baz=324				
L18K	**Granite Mounta**	**5.27 232**		**Pn**	**16 13 22.6 -0.1**
L18K	**Granite Mounta**	**5.27 232**	IAML		16 15 04.7
	comp=N,112nm,0.8s				
L18K	**Granite Mounta**	**5.27 232**	P	**Pn**	**16 13 22.6 -0.1**
	baz=44				
M29M	**Somme Creek**	**5.29 125**		**Pn**	**16 13 23.9 +0.8**
M29M	**Somme Creek**	**5.29 125**	P	**Pn**	**16 13 23.9 +0.8**
	baz=313				
G17K	**Kiwalik Mounta**	**5.31 273**	P	**Pn**	**16 13 24.2 +1.0**
	baz=81				
E18K	**Tukpahlearik C**	**5.35 294**		**Pn**	**16 13 24.9 +1.2**
E18K	**Tukpahlearik C**	**5.35 294**	P	**Pn**	**16 13 24.9 +1.2**
	baz=102				
J17K	**VABM Dome**	**5.39 249**		**Pn**	**16 13 23.6 -0.7**
J17K	**VABM Dome**	**5.39 249**	P	**Pn**	**16 13 23.6 -0.7**
	baz=59				
CRQM	**Cirque**	**5.46 155**		**Pn**	**16 13 27.2 +1.8**
CRQE	**Cirque**	**5.47 155**	P	**Pn**	**16 13 27.2 +1.7**
	baz=339				
K17K	**Iditarod**	**5.49 241**		**Pn**	**16 13 24.9 -0.8**
K17K	**Iditarod**	**5.49 241**	P	**Pn**	**16 13 25.5 -0.2**
	baz=51				
B20K	**Meade River**	**5.52 325**	P	**Pn**	**16 13 27.4 +1.3**
	baz=136				
M18K	**Stony River**	**5.57 223**	P	**Pn**	**16 13 26.6 -0.2**
	baz=36				
G31M	**Satah River**	**5.59 72**		**Pn**	**16 13 25.4 -1.5**
G31M	**Satah River**	**5.59 72**	P	**Pn**	**16 13 25.8 -1.2**
	baz=264				
C19K	**Lookout Ridge**	**5.62 312**		**Pn**	**16 13 28.1 +0.6**
C19K	**Lookout Ridge**	**5.62 312**	P	**Pn**	**16 13 28.1 +0.6**
	baz=121				
CTG	**Chitna Glacier**	**5.63 146**	P	**Pn**	**16 13 28.3 +0.4**
	baz=332				
CTGM	**Chitina Glacie**	**5.64 146**		**Pn**	**16 13 28.3 +0.4**
GRNC	**Granite Creek**	**5.75 149**		**Pn**	**16 13 31.0 +1.5**
E17K	**Hotham Inlet**	**5.76 290**	P	**Pn**	**16 13 30.2 +0.8**
	baz=97				
N19K	**Bonanza Creek**	**5.80 214**		**Pn**	**16 13 30.3 +0.2**
N19K	**Bonanza Creek**	**5.80 214**	P	**Pn**	**16 13 30.3 +0.2**
	baz=28				
F31M	**Tsiigehtchic**	**5.86 67**		**Pn**	**16 13 30.5 -0.3**
F31M	**Tsiigehtchic**	**5.86 67**	P	**Pn**	**16 13 30.5 -0.3**
	baz=260				
L17K	**Donlin**	**5.87 236**		**Pn**	**16 13 30.3 -0.6**
L17K	**Donlin**	**5.87 236**	P	**Pn**	**16 13 30.3 -0.6**
	baz=47				
A22K	**Sinclair Lake**	**5.88 337**		**Pn**	**16 13 30.9 0.0**
A22K	**Sinclair Lake**	**5.88 337**	P	**Pn**	**16 13 30.9 0.0**
	baz=150				
C18K	**Utukok River**	**5.94 305**		**Pn**	**16 13 32.3 +0.5**
C18K	**Utukok River**	**5.94 305**	P	**Pn**	**16 13 31.8 0.0**
	baz=113				
G16K	**Koyuk River**	**6.03 273**		**Pn**	**16 13 33.3 +0.2**
G16K	**Koyuk River**	**6.03 273**	P	**Pn**	**16 13 33.3 +0.2**
	baz=80				
J16K	**Anvik River**	**6.04 252**	P	**Pn**	**16 13 33.2 0.0**
	baz=60				
YUK4	**Talbot Arm**	**6.04 133**	P	**Pn**	**16 13 32.7 -0.8**
	baz=321				
M17K	**Holitna River**	**6.12 229**		**Pn**	**16 13 34.4 +0.1**
M17K	**Holitna River**	**6.12 229**	P	**Pn**	**16 13 34.4 +0.1**
	baz=40				
N18K	**Kilae Creek**	**6.26 219**		**Pn**	**16 13 36.6 +0.3**
N18K	**Kilae Creek**	**6.26 219**	P	**Pn**	**16 13 36.6 +0.3**
	baz=32				
D17K	**Noatak River**	**6.34 295**		**Pn**	**16 13 37.5 +0.3**
D17K	**Noatak River**	**6.34 295**	P	**Pn**	**16 13 37.5 +0.3**
	baz=101				
A21K	**Barrow**	**6.43 334**	P	**Pn**	**16 13 39.0 +0.4**
	baz=146				
B18K	**Kokolik River**	**6.44 310**		**Pn**	**16 13 38.9 +0.3**
B18K	**Kokolik River**	**6.44 310**	P	**Pn**	**16 13 38.9 +0.3**
	baz=117				
YUK6	**Outpost Mounta**	**6.45 134**		**Pn**	**16 13 39.3 +0.3**
YUK6	**Outpost Mounta**	**6.45 134**	P	**Pn**	**16 13 39.3 +0.3**
	baz=323				
N30M	**Aishikik Lake**	**6.45 127**		**Pn**	**16 13 39.2 +0.3**
N30M	**Aishikik Lake**	**6.45 127**	P	**Pn**	**16 13 39.2 +0.3**
	baz=317				
CNPM	**China Poot**	**6.46 196**		**Pn**	**16 13 39.5 +0.6**
C17K	**DeLong Mountai**	**6.56 301**		**Pn**	**16 13 40.5 +0.1**
C17K	**DeLong Mountai**	**6.56 301**	P	**Pn**	**16 13 40.5 +0.1**
	baz=107				
L16K	**Owhat River**	**6.57 237**		**Pn**	**16 13 40.2 -0.2**
L16K	**Owhat River**	**6.57 237**	P	**Pn**	**16 13 40.2 -0.2**
	baz=47				
PCA	**Pinnacle**	**6.66 145**		**Pn**	**16 13 41.8 +0.1**
PINM	**Pinnacle**	**6.66 145**	P	**Pn**	**16 13 41.8 0.0**
	baz=332				
A19K	**Wainwright**	**6.67 318**		**Pn**	**16 13 42.0 +0.3**
A19K	**Wainwright**	**6.67 318**	P	**Pn**	**16 13 42.0 +0.3**
	baz=126				
N17K	**Nushagak Hills**	**6.74 223**		**Pn**	**16 13 42.8 -0.1**
N17K	**Nushagak Hills**	**6.74 223**	P	**Pn**	**16 13 42.8 -0.1**
	baz=35				
HYT	**Haines Junctio**	**6.80 132**		**Pn**	**16 13 44.4 +0.7**
HYT	**Haines Junctio**	**6.80 132**	P	**Pn**	**16 13 44.4 +0.7**
	baz=321				
G15K	**Niukluk**	**6.81 271**		**Pn**	**16 13 44.0 +0.2**
G15K	**Niukluk**	**6.81 271**	P	**Pn**	**16 13 44.0 +0.2**
	baz=76				
O18K	**Koktuh Hills**	**6.82 213**		**Pn**	**16 13 44.3 +0.3**
O18K	**Koktuh Hills**	**6.82 213**	P	**Pn**	**16 13 44.3 +0.3**
	baz=26				
M16K	**Timber Creek**	**6.89 231**		**Pn**	**16 13 44.2 -0.7**
M16K	**Timber Creek**	**6.89 231**	P	**Pn**	**16 13 44.2 -0.7**
	baz=41				
K15K	**Wolf Creek Mou**	**6.94 246**		**Pn**	**16 13 45.6 0.0**
K15K	**Wolf Creek Mou**	**6.94 246**	P	**Pn**	**16 13 45.6 0.0**
	baz=54				
P18K	**Big Mountain,**	**7.24 211**		**Pn**	**16 13 50.1 +0.3**
P18K	**Big Mountain,**	**7.24 211**	P	**Pn**	**16 13 50.1 +0.3**
	baz=25				
N16K	**Nishlik Lake**	**7.25 228**		**Pn**	**16 13 49.9 0.0**
N16K	**Nishlik Lake**	**7.25 228**	P	**Pn**	**16 13 49.9 0.0**
	baz=38				
C16K	**Lisburne Hills**	**7.29 298**		**Pn**	**16 13 50.2 -0.1**
C16K	**Lisburne Hills**	**7.29 298**	P	**Pn**	**16 13 50.2 -0.1**
	baz=102				
L15K	**Ungalak Mounta**	**7.31 242**		**Pn**	**16 13 49.8 -0.8**
L15K	**Ungalak Mounta**	**7.31 242**	P	**Pn**	**16 13 49.8 -0.8**
	baz=50				
O17K	**Koliganek Bris**	**7.35 219**		**Pn**	**16 13 51.0 -0.2**
O17K	**Koliganek Bris**	**7.35 219**	P	**Pn**	**16 13 51.0 -0.2**
	baz=31				
J14K	**Nanvaranak Lak**	**7.47 253**	Pn	**Pn**	**16 13 53.9 +1.1**
J14K	**Nanvaranak Lak**	**7.47 253**	P	**Pn**	**16 13 52.4 -0.5**
	baz=59				
KAHC	**Katmai Hardscr**	**7.88 208**		**Pn**	**16 13 58.9 +0.3**
Q18K	**Katmai Hardscr**	**7.88 208**	P	**Pn**	**16 13 58.9 +0.3**
	baz=22				
N15K	**Kwethluk River**	**7.91 230**	Pn	**Pn**	**16 13 58.0 -0.8**
N15K	**Kwethluk River**	**7.91 230**	P	**Pn**	**16 13 58.6 -0.2**
	baz=39				
L14K	**Kuka Creek**	**7.96 243**	Pn	**Pn**	**16 14 00.1 +0.6**
L14K	**Kuka Creek**	**7.96 243**	P	**Pn**	**16 13 59.7 +0.2**
	baz=50				
M14K	**Bethel**	**8.10 238**	Pn	**Pn**	**16 14 01.5 0.0**
M14K	**Bethel**	**8.10 238**	P	**Pn**	**16 14 01.4 0.0**
	baz=46				
C36M	**Paulatuk**	**9.73 58**	Pn	**Pn**	**16 14 22.0 -1.7**
C36M	**Paulatuk**	**9.73 58**	P	**Pn**	**16 14 22.1 -1.7**
	baz=260				
Q32M	**Nakina River**	**9.92 126**	Pn	**Pn**	**16 14 28.3 +1.7**
A36M	**Sachs Harbour**	**10.20 42**		**Pn**	**16 14 29.6 -0.5**
A36M	**Sachs Harbour**	**10.20 42**	P	**Pn**	**16 14 29.7 -0.5**
	baz=244				
DLBC	**Dease Lake**	**11.08 123**	Pn	**Pn**	**16 14 43.9 +1.6**

DJA 14 16:14:11.7±1.7, 3°S±5°×14°0E±°, h22km±18km, M4.3/4, mb5.3/1, MLv3.8/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.88**	**20**	P	Pn	16 14 29.3	+0.5
GENI				S	Sb	16 14 40.1	+0.4
JAY	**Jayapura**	**1.23**	**43**	P	Pb	16 14 34.3	-0.1
JAY				S	Sb	16 14 50.1	+0.2
MMPI	**Merauke**	**5.03**	**174**	P	Pn	16 15 26.2	+0.3

*IDC **14** 16:18:57.7±2.3, 10°±21S×124°±06E, h0km, mb3.5/1, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=220.3km s-min=33.9km az=54.0*
*DJA **14** 16:19:06.2±0.5, 10°S±3°×12°4E±°, h28km±3km, M3.6/8, mb4.1/1, MLv3.3/8*

ISC 14 16:19:03.2±0.8, 10°35S±0°06×124°23E±0°06, h35km, n16, σ2.40/19, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.57**	**284**	P	**Pn**	**16 19 17.7**	**+2.8**
SOEI	**Soe**	**0.59**	**4**	P	**Pn**	**16 19 17.2**	**+1.9**
SOEI	**Soe**	**0.59**	**4**	P	**Pn**	**16 19 17.0**	**+1.7**
SOEI				S	**Sn**	**16 19 23.4**	**-0.3**
MMRI	**Maumere**	**2.60**	**311**	P	**Pn**	**16 19 45.0**	**+2.3**
MMRI	**Maumere**	**2.60**	**311**	P	**Pn**	**16 19 44.5**	**+1.8**
MMRI				S	**Sn**	**16 20 11.9**	**-1.2**
EDFI	**Ende, Flores**	**2.96**	**302**	P	**Pn**	**16 19 48.8**	**+0.9**
EDFI				S	**Sn**	**16 20 21.7**	**-0.6**
BASI	**Baing, Sumba**	**3.59**	**272**	P	**Pn**	**16 19 59.5**	**+3.1**
PLAI	**Plampang**	**6.54**	**283**	P	**Pn**	**16 20 39.9**	**+3.0**
MTN	**Manton Dam**	**7.21**	**111**	P	**Pn**	**16 20 50.6**	**+4.4**
FITZ	**Fitzroy Crossi**	**7.83**	**170**	P	Pn	16 20 59.7	+5.1
KDU	**Kakadu**	**8.41**	**107**	P	Pn	16 21 08.2	+5.5
WRA	**Warramunga Arr**	**13.64**	**136**	Pn	**Pn**	**16 22 14.1**	**-0.3**
	0.1nm,0.3s,baz=310,slow=15,SNR=9.7						
WRA				Sn	**Sn**	**16 24 42.2**	**-2.5**
	0.6nm,0.3s,baz=316,slow=25,SNR=14						
	0.1nm,0.4s						
WRKA	**Warakurna**	**15.11**	**166**	P	**P**	**16 22 38.0**	**-1.0**
ASAR	**Alice Springs**	**16.15**	**146**	Pn	**P**	**16 22 50.4**	**-0.2**
	0.1nm,0.3s,baz=320,slow=12,SNR=10						
ASAR				Sn	**Sn**	**16 25 41.3**	**-4.4**
	0.2nm,0.3s,baz=313,slow=21,SNR=11						
	0.4nm,0.6s						
AS01	**Alice Springs**	**16.17**	**146**	P	**P**	**16 22 51.0**	**+0.2**
MKAR	**Makanchi Array**	**68.08**	**330**	P	**P**	**16 29 58.1**	**-1.3**
	0.3nm,0.5s,baz=137,slow=7.8,SNR=3.5						
	0.3nm,0.5s						

DJA 14 16:25:19.3±0.4, 3°S±11°×14°0E±°, h31km±8km, M4.5/6, mb5.3/2, MLv4.1/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.25**	**290**	P	Pn	16 25 27.7	+0.9
GENI				S	Sn	16 25 33.7	+2.0
JAY	**Jayapura**	**0.35**	**62**	P	Pn	16 25 29.0	+0.8
JAY				S	Sn	16 25 35.9	+1.7
MMPI	**Merauke**	**5.75**	**180**	P	Pn	16 26 43.3	+0.7
	312nm,1.0s						
KMPI	**Kaimana, Papua**	**6.76**	**262**	P	Pn	16 26 55.6	-0.8

WEL 14 16:37:09.3±0.5, 40°S±3°×17°7E±°, h31km±5km, M3.3/13, ML3.7/13, MLv3.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=101.5, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRHZ	**Kereru**	**0.16**	**279**	P	Pn	16 37 16.5	+0.8
KRHZ				S	Sn	16 37 21.9	+2.4
MCHZ	**McNeill Hill**	**0.24**	**23**	P	Pn	16 37 17.5	+0.8
MCHZ				S	Sn	16 37 23.9	+2.4
KAHZ	**Kahuranaki**	**0.26**	**119**	P	Pn	16 37 17.6	+0.5
KAHZ				S	Sn	16 37 24.4	+2.3
KWHZ	**Kaweka Forest**	**0.27**	**334**	P	Pn	16 37 17.5	+0.3
KWHZ				S	Sn	16 37 23.9	+1.6
PNHZ	**Pukenui**	**0.38**	**230**	P	Pn	16 37 19.2	+0.5
PNHZ				S	Sn	16 37 26.8	+1.8
CKHZ	**Cape Kidnapper**	**0.39**	**89**	P	Pn	16 37 19.0	+0.3
CKHZ				S	Sn	16 37 26.7	+1.7
WPHZ	**Waipukurau**	**0.41**	**195**	P	Pn	16 37 19.5	+0.4
WPHZ				S	Sn	16 37 27.6	+2.0
PXZ	**Pawanui**	**0.42**	**149**	P	Pn	16 37 19.4	+0.2
PXZ				S	Sn	16 37 28.7	+2.8
BKZ	**Black Stump Fm**	**0.51**	**353**	P	Pn	16 37 20.7	+0.3
BKZ				S	Sn	16 37 29.1	+1.1
ARHZ	**Aropaoanui**	**0.52**	**39**	P	Pn	16 37 20.9	+0.5
NMHZ	**Naumai**	**0.60**	**17**	P	Pn	16 37 22.4	+0.7
NMHZ				S	Sn	16 37 32.2	+1.9
PRHZ	**Porangahau**	**0.60**	**176**	P	Pn	16 37 21.7	+0.1
TSZ	**Takapari Road**	**0.61**	**230**	P	Pn	16 37 22.4	+0.5
TSZ				S	Sn	16 37 31.8	+1.1
MOVZ	**Moawhango**	**0.69**	**292**	P	Pn	16 37 24.0	+1.1
MOVZ				S	Sn	16 37 34.3	+1.7
DVHZ	**Dannevirke**	**0.70**	**206**	P	Pn	16 37 23.1	0.0
WHHZ	**Waihua**	**0.78**	**41**	P	Pb	16 37 24.5	+0.1
ANWZ	**Angora Road**	**0.80**	**186**	P	Pn	16 37 24.3	0.0
TUVZ	**Tukino**	**0.82**	**299**	P	Pb	16 37 26.6	+1.4
TUVZ				S	Sb	16 37 39.6	+3.7
WNVZ	**Wahianoa**	**0.83**	**294**	P	Pb	16 37 26.6	+1.3
WNVZ				S	Sb	16 37 39.6	+3.4
MTHZ	**Maungataniwha**	**0.84**	**14**	P	Pb	16 37 25.4	0.0
MRHZ	**Matea Rd**	**0.84**	**351**	P	Pb	16 37 25.9	+0.4
MRHZ				S	Sb	16 37 38.9	+2.5
RAHZ	**Arahi**	**0.85**	**28**	P	Pb	16 37 25.4	-0.1
RAHZ				S	Sb	16 37 39.6	+3.0
ETVZ	**East Tongariro**	**0.86**	**308**	P	Pb	16 37 26.7	+1.0
WHVZ	**Whangaehu Hut**	**0.86**	**296**	P	Pb	16 37 27.2	+1.4
WHVZ				S	Sb	16 37 41.3	+4.3
HATZ	**Hinemaiaia**	**0.86**	**334**	P	Pb	16 37 26.7	+0.9
HATZ				S	Sb	16 37 38.6	+1.6
OTVZ	**Oturere**	**0.87**	**305**	P	Pb	16 37 27.2	+1.3
SNVZ	**South Ngauruho**	**0.87**	**303**	P	Pb	16 37 27.4	+1.4
SNVZ				S	Sb	16 37 42.1	+4.7
TMVZ	**Te Maari**	**0.87**	**309**	P	Pb	16 37 26.9	+0.9
TMVZ				S	Sb	16 37 40.5	+3.1
TRVZ	**Turoa**	**0.88**	**294**	P	Pb	16 37 27.6	+1.5
TRVZ				S	Sb	16 37 41.2	+3.6
MAVZ	**Matarangi**	**0.88**	**297**	P	Pb	16 37 27.5	+1.3
FWVZ	**Far West T-bar**	**0.89**	**297**	P	Pb	16 37 27.6	+1.1
NTVZ	**North Tongarir**	**0.90**	**309**	P	Pb	16 37

TARZ	**Mount Tarawera**	**1.43 358**	P	Pn	16 37 34.1	+0.9
URZ	**Urewera**	**1.47 17**	P	Pn	16 37 33.3	-0.2
HOWZ	**Holdsworth Sta**	**1.47 213**	P	Pn	16 37 32.9	-0.8
VRZ	**Vera Road**	**1.51 290**	P	Pb	16 37 36.6	0.0
UTU	**Utuhina**	**1.52 349**	P	Pb	16 37 41.7	+4.9
MWZ	**Matawai**	**1.52 29**	P	Pn	16 37 33.9	-0.5
TMWZ	**Te Maipa**	**1.53 200**	P	Pn	16 37 33.4	-1.0
TLZ	**Tolley Road**	**1.56 328**	P	Pb	16 37 37.5	-0.1
OGWZ	**Otaki Gorge**	**1.57 223**	P	Pn	16 37 34.6	-0.4
TKGZ	**Te Karaka**	**1.58 39**	P	Pn	16 37 34.4	-0.6
LREZ	**Lake Rotokare**	**1.69 276**	P	Pb	16 37 42.5	+2.8
MTW	**Mount Morrison**	**1.70 209**	P	Pn	16 37 35.6	-1.2
KIW	**Kapiti Island**	**1.75 226**	P	Pn	16 37 37.1	-0.3
HIZ	**Hauiti**	**1.77 310**	P	Pn	16 37 39.1	+1.4
CAW	**Cannon Point**	**1.84 218**	P	Pn	16 37 37.6	-1.1
TWGZ	**Tauwhareparae**	**1.85 37**	P	Pn	16 37 38.3	-0.5
TRWZ	**Traveller**	**1.86 201**	P	Pn	16 37 37.4	-1.6
DREZ	**Durham Road**	**1.90 284**	P	Pb	16 37 44.6	+1.3
RUGZ	**Raukumara Rang**	**1.91 27**	P	Pn	16 37 39.1	-0.5
PAWZ	**Paruwai Farm**	**1.92 207**	P	Pn	16 37 38.3	-1.6
NEZ	**North Egmont**	**1.96 281**	P	Pb	16 37 46.1	+1.7
MSWZ	**Moikau Station**	**2.02 210**	P	Pn	16 37 39.2	-1.9
PUZ	**Puketiti**	**2.06 40**	P	Pn	16 37 40.5	-1.3
TOZ	**Tahuroa Road**	**2.11 336**	P	Pn	16 37 44.0	+1.6
WEL	**Wellington**	**2.12 220**	P	Pn	16 37 41.2	-1.4
HAZ	**Te Kaha**	**2.13 27**	P	Pn	16 37 42.4	-0.2
PKGZ	**Pakihiroa**	**2.15 34**	P	Pn	16 37 42.3	-0.7
PLWZ	**Palliser**	**2.15 207**	P	Pn	16 37 41.0	-2.0
BHW	**Baring Head**	**2.17 216**	P	Pn	16 37 40.8	-2.4
DUWZ	**D'Urville Isla**	**2.33 240**	P	Pn	16 37 46.5	+1.1
TCW	**Tory Channel**	**2.34 228**	P	Pn	16 37 44.2	-1.3
WMGZ	**Waiomatatini S**	**2.34 38**	P	Pn	16 37 44.3	-1.3
TUWZ	**Tuamarina**	**2.67 228**	P	Pn	16 37 48.7	-1.3
BSWZ	**Blackbirch Sta**	**2.90 224**	P	Pn	16 37 51.3	-1.9
TKNZ	**Takaka Hill**	**3.08 243**	P	Pn	16 37 56.7	+0.9
QRZ	**Quartz Range**	**3.31 248**	P	Pn	16 37 59.4	+0.5
MRNZ	**Matariki Terra**	**3.39 238**	P	Pn	16 37 59.9	0.0
THZ	**Tophouse**	**3.49 232**	P	Pn	16 38 00.2	-1.2
KHZ	**Kahutara**	**3.58 219**	P	Pn	16 37 59.5	-3.1

KRSC 14 16:48:38.9±0.9, 54.21N×161.42E, h62km±12km, MI3.8,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.39**	**27**	*eP*	Pn	16 48 51.3	+1.3
MKZ				*eS*	Sn	16 48 59.2	+1.2
TUMD	**Tumrok D**	**1.16**	**330**	*eP*	Pn	16 49 00.0	+0.9
TUMD				*eS*	Sn	16 49 14.4	+0.3
KII	**Karymskiy**	**1.17**	**262**	*eP*	Pn	16 49 01.0	+1.6
TUMR	**Tumrok**	**1.30**	**326**	*eP*	Pn	16 49 02.9	+1.8
TUMR				*eS*	Sn	16 49 19.1	+1.3
SPN	**Mys Shipunski**	**1.39**	**217**	*eP*	Pn	16 49 03.6	+1.5
SPN				*eS*	Sn	16 49 20.8	+1.2
NLC	**Nalytchevo**	**1.61**	**231**	*eP*	Pn	16 49 07.0	+1.9
NLC				*eS*	Sn	16 49 26.4	+1.5
KMNR	**Kamenistaya**	**1.69**	**337**	*eP*	Pn	16 49 09.1	+2.7
KMNR				*eS*	Sn	16 49 31.0	+3.9
BZP	**Bezymyannyi-Pe**	**1.78**	**344**	*eP*	Pn	16 49 10.0	+2.4
BZP				*eS*	Sn	16 49 31.1	+1.8
BZGR	**Bezymyannyi-Gr**	**1.78**	**347**	*eP*	Pn	16 49 10.1	+2.6
BZGR				*eS*	Sn	16 49 31.7	+2.4
BZMR	**Bezymyannaya**	**1.81**	**343**	*eP*	Pn	16 49 10.4	+2.4
BZMR				*eS*	Sn	16 49 31.1	+1.2
SMAR	**Somma**	**1.82**	**240**	*eP*	Pn	16 49 10.7	+2.5
SMAR				*eS*	Sn	16 49 32.4	+2.1
KRER	**Koryakskii**	**1.83**	**241**	*eP*	Pn	16 49 10.9	+2.6
KRER				*eS*	Sn	16 49 33.0	+2.6
BZWR	**Bezymyannyi-We**	**1.84**	**344**	*eP*	Pn	16 49 11.0	+2.6
BZWR				*eS*	Sn	16 49 33.8	+3.2
UGLR	**Uglovaya**	**1.84**	**238**	*eP*	Pn	16 49 11.1	+2.8
UGLR				*eS*	Sn	16 49 32.6	+2.0
ZLN	**Zelenaya**	**1.85**	**349**	*eP*	Pn	16 49 11.1	+2.7
ZLN				*eS*	Sn	16 49 33.3	+2.5
KRX	**Arik**	**1.85**	**244**	*eP*	Pn	16 49 11.0	+2.5
KRX				*eS*	Sn	16 49 32.5	+1.5
AVH	**Avacha**	**1.85**	**240**	*eP*	Pn	16 49 11.4	+2.9
AVH				*eS*	Sn	16 49 34.1	+3.2
KIRR	**Kirishev**	**1.85**	**341**	*eP*	Pn	16 49 10.9	+2.4
KIRR				*eS*	Sn	16 49 34.1	+3.1
KPT	**Kopyto**	**1.89**	**339**	*eP*	Pn	16 49 11.5	+2.5
KPT				*eS*	Sn	16 49 34.8	+3.0
KOK	**Koryaka**	**1.89**	**242**	*eP*	Pn	16 49 11.6	+2.6
KOK				*eS*	Sn	16 49 34.1	+2.3
LGNR	**Loginova**	**1.92**	**348**	*eP*	Pn	16 49 12.6	+3.0
CIRR	**Tsirk**	**1.95**	**349**	*eP*	Pn	16 49 12.5	+2.7
CIRR				*eS*	Sn	16 49 36.3	+3.0
DALK	**Dalny**	**1.98**	**234**	*eP*	Pn	16 49 12.3	+2.2
DALK				*eS*	Sn	16 49 35.4	+1.6
INSR	**Institute**	**2.03**	**237**	*eP*	Pn	16 49 13.3	+2.6
INSR				*eS*	Sn	16 49 37.6	+2.5
PET	**Petropavlovsk**	**2.03**	**235**	*eP*	Pn	16 49 13.4	+2.6
PET				*eS*	Sn	16 49 37.4	+2.3
KOZ	**Kozyrevsk**	**2.06**	**335**	*eP*	Pn	16 49 13.6	+2.5
KOZ				*eS*	Sn	16 49 38.7	+3.0
KRSR	**Krestovskiy**	**2.07**	**347**	*eP*	Pn	16 49 13.7	+2.3
KRSR				*eS*	Sn	16 49 37.8	+1.6
GNL	**Ganaly**	**2.12**	**257**	*eP*	Pn	16 49 14.5	+2.4
KLY	**Klyuchi**	**2.15**	**349**	*eP*	Pn	16 49 14.6	+2.2
KLY				*eS*	Sn	16 49 40.1	+2.0
KBTR	**Krutoberegovo**	**2.16**	**21**	*eP*	Pn	16 49 15.1	+2.6
KBTR				*eS*	Sn	16 49 40.0	+1.9
KBG	**Krutoberegovo**	**2.18**	**19**	*eP*	Pn	16 49 15.7	+2.9
KBG				*eS*	Sn	16 49 41.6	+3.0
ESO	**Esso**	**2.33**	**319**	*eP*	Pn	16 49 16.5	+1.7
ESO				*eS*	Sn	16 49 43.1	+0.9
SRDR	**Sredinnyy**	**2.33**	**336**	*eP*	Pn	16 49 16.6	+1.7
SRDR				*eS*	Sn	16 49 42.8	+0.5
KRMR	**Karymshinskiy**	**2.40**	**236**	*eP*	Pn	16 49 18.5	+2.7
KRMR				*eS*	Sn	16 49 47.2	+3.1
SRKR	**Sorokina**	**2.45**	**357**	*eS*	Sn	16 49 47.5	+2.0
MTVR	**Mutnovka**	**2.60**	**230**	*eP*	Pn	16 49 21.7	+3.0
MTVR				*eS*	Sn	16 49 51.8	+2.6
GRL	**Gorelyy**	**2.60**	**232**	*eP*	Pn	16 49 21.9	+3.1
GRL				*eS*	Sn	16 49 52.1	+2.9
ASAK	**Asacha**	**2.79**	**231**	*eP*	Pn	16 49 24.6	+3.3
ASAK				*eS*	Sn	16 49 57.7	+3.9
BKI	**Bering**	**2.82**	**67**	*eP*	Pn	16 49 23.7	+2.2
BKI				*eS*	Sn	16 49 54.8	+0.5
APC	**Apacha**	**2.85**	**245**	*eP*	Pn	16 49 25.0	+3.1
APC				*eS*	Sn	16 49 57.0	+1.9
KDTR	**Khodutka, Kamc**	**3.14**	**221**	*eP*	Pn	16 49 28.0	+2.1
KDTR				*eS*	Sn	16 50 02.6	+0.4

KRSC 14 16:56:51.2±0.5, 53.27N×159.36E, h97km±4km, MI3.5,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.10**	**186**	*eP*	Pn	16 57 05.6	+0.9
NLC				*eS*	Sn	16 57 16.5	+1.8
UGLR	**Uglovaya**	**0.33**	**259**	*eP*	Pn	16 57 07.0	+1.3
UGLR				*eS*	Sn	16 57 18.1	+1.7
SMAR	**Somma**	**0.34**	**268**	*eP*	Pn	16 57 06.9	+1.0
SMAR				*eS*	Sn	16 57 17.4	+0.6
KRER	**Koryakskii**	**0.37**	**275**	*eP*	Pn	16 57 07.0	+1.0
KRER				*eS*	Sn	16 57 18.4	+1.4
AVH	**Avacha**	**0.38**	**269**	*eP*	Pn	16 57 06.9	+1.0
AVH				*eS*	Sn	16 57 18.7	+1.8
SPN	**Mys Shipunski**	**0.43**	**114**	*eP*	Pn	16 57 07.0	+0.8
SPN				*eS*	Sn	16 57 18.4	+1.1
KOK	**Koryaka**	**0.44**	**273**	*eP*	Pn	16 57 07.1	+0.8
KOK				*eS*	Sn	16 57 18.6	+1.1
KRX	**Arik**	**0.44**	**282**	*eP*	Pn	16 57 07.3	+1.0
KRX				*eS*	Sn	16 57 18.7	+1.0
DALK	**Dalny**	**0.44**	**237**	*eP*	Pn	16 57 06.7	+0.6
DALK				*eS*	Sn	16 57 18.2	+0.8
PET	**Petropavlovsk**	**0.50**	**240**	*eP*	Pn	16 57 07.3	+0.7
PET				*eS*	Sn	16 57 18.6	+0.6
INSR	**Institute**	**0.50**	**246**	*eP*	Pn	16 57 07.3	+0.6
INSR				*eS*	Sn	16 57 19.3	+1.2
KII	**Karymskiy**	**0.77**	**4**	*eP*	Pn	16 57 10.7	+1.7
KII				*eS*	Sn	16 57 23.8	+1.5
KRMR	**Karymshinskiy**	**0.87**	**240**	*eP*	Pn	16 57 10.5	+0.6
KRMR				*eS*	Sn	16 57 24.8	+0.9
GNL	**Ganaly**	**0.95**	**297**	*eP*	Pn	16 57 11.7	+0.8
GNL				*eS*	Sn	16 57 26.4	+0.7
GRL	**Gorelyy**	**1.06**	**228**	*eP*	Pn	16 57 13.4	+1.2
GRL				*eS*	Sn	16 57 30.5	+2.5
MTVR	**Mutnovka**	**1.07**	**223**	*eP*	Pn	16 57 13.5	+1.2
MTVR				*eS*	Sn	16 57 30.7	+2.6
ASAK	**Asacha**	**1.26**	**225**	*eP*	Pn	16 57 15.7	+1.3
ASAK				*eS*	Sn	16 57 33.7	+1.7
APC	**Apacha**	**1.38**	**256**	*eP*	Pn	16 57 17.0	+1.3
APC				*eS*	Sn	16 57 35.5	+1.3
KDTR	**Khodutka, Kamc**	**1.67**	**209**	*eP*	Pn	16 57 19.7	+0.4
KDTR				*eS*	Sn	16 57 41.9	+1.3
MKZ	**Mys Kozlova**	**1.90**	**46**	*eP*	Pn	16 57 22.7	+0.5
TUMD	**Tumrok D**	**2.03**	**17**	*eP*	Pn	16 57 25.5	+1.5
TUMD				*eS*	Sn	16 57 51.9	+2.9
TUMR	**Tumrok**	**2.06**	**13**	*eP*	Pn	16 57 26.6	+2.0
KMNR	**Kamenistaya**	**2.54**	**11**	*eP*	Pn	16 57 33.2	+2.5
BZP	**Bezymyannyi-Pe**	**2.73**	**14**	*eP*	Pn	16 57 35.5	+2.1
KPT	**Kopyto**	**2.74**	**10**	*eP*	Pn	16 57 34.5	+1.1
KIRR	**Kirishev**	**2.75**	**12**	*eP*	Pn	16 57 35.5	+1.9
BZMR	**Bezymyannaya**	**2.75**	**13**	*eP*	Pn	16 57 35.9	+2.4
BZWR	**Bezymyannyi-We**	**2.77**	**13**	*eP*	Pn	16 57 36.3	+2.3
BZGR	**Bezymyannyi-Gr**	**2.78**	**16**	*eP*	Pn	16 57 35.8	+1.8
ZLN	**Zelenaya**	**2.87**	**16**	*eP*	Pn	16 57 38.2	+3.0
SRDR	**Sredinnyy**	**3.06**	**4**	*eP*	Pn	16 57 38.8	+1.2
KLY	**Klyuchi**	**3.14**	**13**	*eP*	Pn	16 57 41.0	+2.4
SKR	**Severo-Kuril's**	**3.28**	**219**	*eP*	Pn	16 57 42.2	+1.6
SKR				*eS*	Sn	16 58 22.4	+3.7
KBTR	**Krutoberegovo**	**3.56**	**33**	*eP*	Pn	16 57 46.0	+1.7
KBTR				*eS*	Sn	16 58 27.4	+2.1

*IDC **14** 17:09:24.2±1.2, 7.44N×73.91W, h108km±14km, mb3.4/10, mbtmp3.8/13, MS2.5/3, Error ellipse: s-maj=17.7km s-min=8.9km az=126.0*
*RSNC **14** 17:09:24.8±0.0, 8.1N±1.1×7.4W±.1, h60km±2km, M3.8, mB5.5, ML3.6, Mw(mB)5.0*
*NEIC **14** 17:09:25.4±1.8, 7.37N±0.08×73.86W±0.10, h112km±7km, mb4.1/24, Error ellipse: s-maj=15.4km s-min=9.4km az=124.0*
ISC 14 17:09:22.7±0.6, 7.52N±0.02×73.98W±0.03, h85km±5km, n90, σ1.9/67/113, mb4.0/18, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMM07	**Puerto Wilches**	**0.21**	**142**	P	Pn	17 09 34.4	-0.7
VMM07				S	**Sn**	**17 09 42.8**	**-1.5**
VMM05	**San Martn**	**0.57**	**48**	P	**Pn**	**17 09 38.1**	**+0.6**
VMM05				S	**Sn**	**17 09 48.9**	**+0.4**
EZNC	**La Esperanza**	**0.67**	**81**	P	**Pn**	**17 09 39.1**	**+0.6**
EZNC				S	**Sn**	**17 09 50.6**	**+0.4**
VMM09	**Lebrija**	**0.79**	**120**	P	**Pn**	**17 09 39.9**	**0.0**
VMM09				S	**Sn**	**17 09 52.2**	**-0.4**
VMM10	**El Carmen**	**0.79**	**161**	P	**Pn**	**17 09 38.7**	**-1.1**
VMM10				S	**Sn**	**17 09 50.4**	**-2.1**
ZARC	**Zaragoza, Cauc**	**0.87**	**268**	P	Pn	17 09 38.1	-2.5
ZARC				S	Sn	17 09 50.2	-3.8
OCAC	**Ocana**	**0.97**	**43**	P	**Pn**	**17 09 42.3**	**+0.4**
OCAC				S	**Sn**	**17 09 57.4**	**+1.3**
AGCC	**Aguachica**	**1.06**	**22**	P	**Pn**	**17 09 42.8**	**0.0**
AGCC				S	**Sn**	**17 09 58.3**	**+0.4**
PTBC	**PUERTO BERRIO,**	**1.08**	**206**	P	Pn	17 09 41.1	-2.0
PTBC				S	**Sn**	**17 09 54.8**	**-3.6**
PAMC	**Pamplona, Colo**	**1.28**	**98**	P	**Pn**	**17 09 47.4**	**+1.4**
PAMC				S	**Sn**	**17 10 05.7**	**+2.3**
UREC	**San Jos de Ur**	**1.55**	**278**	P	Pn	17 09 47.5	-1.5
UREC				S	**Sn**	**17 10 07.1**	**-1.7**
SPBC	**San Pablo de B**	**1.86**	**183**	P	**Pn**	**17 09 52.2**	**-0.9**
SPBC				S	**Sn**	**17 10 15.7**	**-0.4**
NORC	**Norcasia**	**2.14**	**204**	P	**Pn**	**17 09 55.6**	**-1.1**
NORC				S	**Sn**	**17 10 21.4**	**-1.2**
DBBC	**Dabeiba**	**2.27**	**257**	P	**Pn**	**17 09 58.8**	**+0.4**
DBBC				S	Sn	17 10 17.8	-7.9
ARGC	**Ariguani, Magd**	**2.33**	**354**	P	**Pn**	**17 10 01.0**	**+1.7**
ARGC				S	**Sn**	**17 10 27.8**	**+0.6**
TAMC	**Tame, Arauca**	**2.43**	**116**	P	**Pn**	**17 10 02.2**	**+1.7**
TAMC				S	**Sn**	**17 10 32.8**	**+3.3**
APAC	**Apartado, Choc**	**2.60**	**278**	P	**Pn**	**17 10 03.0**	**+0.2**
APAC				S	**Sn**	**17 10 32.3**	**-1.3**
SJCC	**San Jacinto, C**	**2.64**	**333**	P	**Pn**	**17 10 02.8**	**-0.6**
SJCC				S	**Sn**	**17 10 32.9**	**-1.7**
GUY2C	**Guyana, Caldas**	**2.67**	**211**	P	**Pn**	**17 10 05.4**	**+1.3**
ROSC	**El Rosal**	**2.69**	**187**		**Pn**	**17 10 05.1**	**+0.8**
ROSC				Sn	**Sn**	**17 10 34.2**	**-1.9**
ROSC	**El Rosal**	**2.69**	**187**	P	**Pn**	**17 10 05.4**	**+1.1**
	86nm,0.4s,baz=0.0,slow=3.0,SNR=24						
ROSC				S	**Sn**	**17 10 37.8**	**+1.6**
	294nm,0.4s,baz=6.4,slow=19,SNR=8.6						
ROSC	**El Rosal**	**2.69**	**187**	P	**Pn**	**17 10 05.4**	**+1.1**
ROSC				S	**Sn**	**17 10 36.9**	**+0.7**
LCBC	**Los crdobas,**	**2.71**	**299**	P	Pn	17 10 03.4	-0.8
LCBC				S	**Sn**	**17 10 36.7**	**+0.5**
CHIC	**Chingaza**	**2.89**	**175**	P	**Pn**	**17 10 08.3**	**+1.3**
CHIC				S	**Sn**	**17 10 44.2**	**+3.2**
CVER	**Cruz Verde, Cu**	**2.98**	**182**	P	**Pn**	**17 10 09.8**	**+1.4**
ANIL	**Santa Ana**	**3.33**	**205**	P	**Pn**	**17 10 15.9**	**+3.0**
ANIL				S	**Sn**	**17 10 55.7**	**+4.1**
VILC	**Villavicencio,**	**3.40**	**175**	P	**Pn**	**17 10 15.3**	**+1.5**
VILC				S	**Sn**	**17 10 56.0**	**+2.9**
PLMC	**San Jos del P**	**3.46**	**221**	P	**Pn**	**17 10 14.6**	**+0.1**
CAPC	**Capurgana**	**3.52**	**289**	P	Pn	17 10 13.2	-1.9
CAPC				S	Sn	17 10 50.7	-5.0
SDV	**Santo Domingo**	**3.58**	**68**		**Pn**	**17 10 18.5**	**+2.3**
SDV				Sn	**Sn**	**17 10 59.4**	**+1.8**
SDV	**Santo Domingo**	**3.58**	**68**	P	**Pn**	**17 10 17.2**	**+1.0**
	52nm,0.3s,baz=248,slow=12,SNR=9.4						
SDV				S	**Sn**	**17 10 59.7**	**+2.2**
	252nm,0.4s,baz=252,slow=20,SNR=7.9						
SDV				LR	LR	17 11 19.7	
	comp=Z,26nm,18.7s,baz=187,slow=32						
SDV	**Santo Domingo**	**3.58**	**68**	P	**Pn**	**17 10 18.7**	**+2.5**
SDV				S	**Sn**	**17 10 59.4**	**+1.8**
CRJC	**Cerrejon, Guaj**	**3.64**	**17**	P	**Pn**	**17 10 18.3**	**+1.4**
CRJC				S	**Sn**	**17 10 59.5**	**+0.6**
PTGC	**Puerto Gaitan,**	**3.78**	**151**	P	**Pn**	**17 10 19.0**	**+0.2**
PTGC				S	**Sn**	**17 11 03.3**	**+1.2**
ORTC	**Ortega, Tolima**	**3.81**	**199**	P	**Pn**	**17 10 20.0**	**+0.9**
ORTC				S	**Sn**	**17 11 04.5**	**+1.7**
PTAC	**Punta Ardita,**	**3.81**	**265**	P	**Pn**	**17 10 18.3**	**-0.9**
PTAC				S	Sn	17 10 58.1	-4.9
PRAC	**Prado**	**3.89**	**193**	P	**Pn**	**17 10 21.4**	**+1.1**
PRAC				S	**Sn**	**17 11 08.9**	**+4.0**
YOTC	**Yotoco, Valle**	**4.23**	**214**	P	**Pn**	**17 10 23.5**	**-1.5**
URIC	**Uribia, Colomb**	**4.59**	**25**	P	**Pn**	**17 10 31.3**	**+1.5**
URIC				S	**Sn**	**17 11 23.3**	**+1.4**
MALC	**Bahia Malaga**	**4.83**	**224**	P	**Pn**	**17 10 33.8**	**+0.8**
JAMC	**Jamundi, Valle**	**5.05**	**212**	P	**Pn**	**17 10 35.6**	**-0.6**
GUVC	**San Jose del G**	**5.13**	**165**	P	**Pn**	**17 10 37.9**	**+0.8**
GUVC				S	**Sn**	**17 11 35.2**	**+0.2**
GARC	**Garzon, Huila**	**5.51**	**196**	P	**Pn**	**17 10 45.1**	**+2.5**
BAUV	**El Baul**	**6.05**	**76**		**Pn**	**17 10 49.3**	**-0.3**
BAUV				Sn	**Sn**	**17 11 54.2**	**-3.2**
AUA1	**Aruba**	**6.31**	**38**	Pn	Pn	17 10 50.3	-2.9
HATO	**Hato, Curacao**	**6.78**	**47**	Pn	Pn	17 10 55.3	-4.3
PCRV	**Puerto La Cruz**	**9.60**	**73**	P	**Pn**	**17 11 39.2**	**+0.9**
	8.4nm,0.5s,baz=252,slow=9.6,SNR=14						
PCRV				S	**Sn**	**17 13 20.8**	**-3.7**
	14nm,0.3s,baz=270,slow=20,SNR=10						
BOAV	**Boa Vista**	**14.34**	**110**		**Pn**	**17 12 39.7**	**-2.1**
ETMB	**Extrema**	**18.88**	**156**	P	**P**	**17 13 35.1**	**-1.4**
SAML	**Samuel**	**19.59**	**146**	P	**P**	**17 13 42.8**	**-1.5**
SAML					**S**	**17 17 16.7**	**-4.3**
NNA	**Nana**	**19.59**	**188**	LR	LR	17 22 41.0	
	comp=Z,30nm,20.0s,baz=11,slow=41						
MDP	**Montagnes des**	**21.34**	**95**	P	**P**	**17 14 01.4**	**-1.9**
	1.6nm,0.6s,baz=270,slow=13,SNR=2.8						
MDP				LR	LR	17 21 41.3	
	comp=Z,21nm,20.8s,baz=320,slow=35						
	1.6nm,0.6s						
LPAZ	**La Paz**	**24.36**	**166**	P	**P**	**17 14 33.1**	**-0.5**
LPAZ	**La Paz**	**24.36**	**166**	P	**P**	**17 14 31.8**	**-1.9**
	0.5nm,0.3s,baz=323,slow=5.1,SNR=2.0						
	0.5nm,0.3s						
Y49A	**Blount Mountai**	**28.61**	**338**		pP	17 15 41.5	+10
X51A	**Calhoun**	**28.72**	**341**		pP	17 15 36.0	+4.2
V55A	**Taylorsville**	**28.96**	**348**		pP	17 15 41.9	+7.8
U56A	**King**	**29.28**	**349**		pP	17 15 43.1	+6.1
CCM	**Cathedral Cave**	**34.18**	**335**	P	**P**	**17 16 00.2**	**+0.3**
BDFB	**Brasilia**	**34.52**	**132**	P	**P**	**17 16 01.6**	**-1.7**
	1.9nm,0.5s,baz=250,slow=7.9,SNR=2.5						
	1.9nm,0.5s						
TXAR	**Lajitas Array**	**35.36**	**312**	P	**P**	**17 16 10.1**	**-0.3**
	0.2nm,0.4s,baz=120,slow=9.6,SNR=6.4						
TXAR				pP	**pP**	**17 16 36.7**	**+6.2**
	0.5nm,0.6s,baz=124,slow=8.3,SNR=6.0						
	0.2nm,0.4s						
LMN	**Caledonia Moun**	**39.00**	**10**	P	**P**	**17 16 42.2**	**+1.3**
X18A	**Snowflake**	**42.62**	**314**	P	**P**	**17 17 11.6**	**+0.6**
X18A				IAmb	IAmb	17 17 40.1	
	comp=Z,3.0nm,1.1s						
PV13	**Radium Mtn., P**	**43.82**	**319**	P	**P**	**17 17 20.7**	**0.0**
PV13				IAmb	IAmb	17 17 58.4	
	comp=Z,2.3nm,1.0s						
PV03	**Paradox Valley**	**43.89**	**320**	P	**P**	**17 17 21.7**	**+0.5**
PV03				IAmb	IAmb	17 17 22.5	
	comp=Z,2.7nm,0.8s						
MTPU	**Mount Pierson**	**45.97**	**317**	P	**P**	**17 17 38.8**	**+0.8**
MSU	**Marysvale**	**46.21**	**318**	P	**P**	**17 17 40.4**	**+0.7**
PDAR	**Pinedale Array**	**47.01**	**324**	P	**P**	**17 17 45.8**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=131,slow=11,SNR=4.6						
	comp=Z,0.2nm,0.4s						
SCHQ	**Schefferville**	**47.52**	**6**	P	**P**	**17 17 51.2**	**+1.8**
SCHQ				IAmb	IAmb	17 18 24.6	
	comp=Z,3.5nm,0.9s						
SCHQ	**Schefferville**	**47.52**	**6**	P	**P**	**17 17 49.3**	**0.0**
	comp=Z,1.7nm,0.5s,baz=189,slow=15,SNR=2.3						
	comp=Z,1.7nm,0.5s						
DUG	**Dugway, Tooele**	**47.53**	**319**	P	**P**	**17 17 50.5**	**+0.7**
BGU	**Big Grassy Mou**	**48.06**	**320**	P	**P**	**17 17 54.0**	**+0.1**
BGU				IAmb	IAmb	17 17 54.4	
	comp=Z,1.7nm,0.6s						
NVAR	**Mina Array Bea**	**50.38**	**315**	P	**P**	**17 18 11.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=119,slow=7.3,SNR=2.6						
	comp=Z,0.3nm,0.5s						
YBH	**Yreka Blue Hor**	**54.85**	**317**	P	**P**	**17 18 42.9**	**-1.6**
KSXB	**Camp Six Broad**	**55.68**	**316**	P	**P**	**17 18 50.1**	**-0.4**
YKA	**Yellowknife Ar**	**62.31**	**340**	P	**P**	**17 19 36.5**	**+0.7**
YKA	**Yellowknife Ar**	**62.31**	**340**	P	**P**	**17 19 35.5**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=137,slow=6.7,SNR=8.6						
	comp=Z,2.6nm,0.6s						
G31M	**Satah River**	**71.75**	**339**	P	**P**	**17 20 36.2**	**+0.7**
G31M				IAmb	IAmb	17 20 37.4	
	comp=Z,2.4nm,0.9s						
H29M	**Whitestone**	**72.98**	**338**	P	**P**	**17 20 43.1**	**+0.2**
E29M	**Blow River**	**73.60**	**340**	P	**P**	**17 20 46.8**	**+0.3**
E29M				IAmb	IAmb	17 20 47.3	
	comp=Z,2.3nm,0.6s						
E28M	**Babbage River**	**74.24**	**340**	P	**P**	**17 20 50.4**	**+0.1**
E28M				IAmb	IAmb	17 20 55.9	
	comp=Z,2.7nm,1.2s						
BMAR	**Burnt Mountain**	**75.69**	**338**	P	**P**	**17 20 59.2**	**+0.5**
ILAR	**Eielson Array**	**75.97**	**335**	P	**P**	**17 20 59.8**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=123,slow=4.6,SNR=5.2						
	comp=Z,0.5nm,0.8s						
G23K	**Bananza Creek**	**77.62**	**337**	P	**P**	**17 21 10.5**	**+1.0**
J20K	**Nowinta River**	**78.98**	**334**	P	**P**	**17 21 17.0**	**0.0**
J20K				IAmb	IAmb	17 21 45.3	
	comp=Z,9.5nm,1.5s						
C16K	**Lisburne Hills**	**83.57**	**338**	P	**P**	**17 21 41.8**	**+0.5

	comp=N,194nm,0.3s						
AGPR				IAML		17 26 08.2	
	comp=E,212nm,0.3s						
OBIP	**Obispado Ponce**	**0.95 199**	⇑	*e*P	**Pb**	**17 25 56.2**	**+0.2**
OBIP	**Obispado Ponce**	**0.95 199**		*e*S	**Sb**	**17 26 07.7**	**-0.5**
OBIP	**Obispado Ponce**	**0.95 199**			**Pb**	**17 25 56.1**	**+0.2**
OBIP				IAML		17 26 09.0	
	comp=E,156nm,0.1s						
OBIP	**Obispado Ponce**	**0.95 199**			**Sb**	**17 26 07.7**	**-0.5**
IGPR	**InterUniversit**	**0.99 170**	⇑	*e*P	**Pb**	**17 25 56.6**	**-0.1**
IGPR	**InterUniversit**	**0.99 170**		*e*S	**Sn**	**17 26 09.0**	**-0.2**
IGPR	**InterUniversit**	**0.99 170**			**Sn**	**17 26 09.0**	**-0.2**
IGPR	**InterUniversit**	**0.99 170**			**Pb**	**17 25 56.6**	**-0.1**
IGPR				IAML		17 26 11.4	
	comp=E,340nm,0.2s						
IGPR				IAML		17 26 14.1	
	comp=N,266nm,0.2s						
LSP	**Las Mesas**	**1.08 225**	⇑	*e*P	**Pb**	**17 25 58.1**	**0.0**
LSP	**Las Mesas**	**1.08 225**		*e*S	**Sn**	**17 26 11.2**	**-0.2**
LSP	**Las Mesas**	**1.08 225**			**Pb**	**17 25 58.1**	**0.0**
LSP					**Sn**	**17 26 11.2**	**-0.2**
PRSN	**Puerto Rico Se**	**1.09 228**		*e*S	**Sn**	**17 26 11.9**	**+0.3**
PRSN	**Puerto Rico Se**	**1.09 228**			**Sn**	**17 26 11.9**	**+0.3**
PRSN	**Puerto Rico Se**	**1.09 228**		Pn	**Pb**	**17 25 58.3**	**-0.1**
PRSN	**Puerto Rico Se**	**1.09 228**		IAML		17 26 12.9	
	comp=E,546nm,0.2s						
PRSN				IAML		17 26 12.9	
	comp=N,289nm,0.2s						
GBPR	**Guanica, Bosqu**	**1.12 210**	⇑	*e*P	**Pb**	**17 25 58.9**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.12 210**		*e*S	**Sb**	**17 26 12.7**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.12 210**			**Pb**	**17 25 58.9**	**+0.1**
GBPR					**Sb**	**17 26 12.7**	**-0.3**
MLPR	**Magueyes Islan**	**1.21 217**	⇑	*e*P	**Pn**	**17 25 58.8**	**-0.3**
MLPR	**Magueyes Islan**	**1.21 217**		*e*S	**Sn**	**17 26 13.6**	**-1.0**
MLPR	**Magueyes Islan**	**1.21 217**			**Pn**	**17 25 58.8**	**-0.3**
MLPR					**Sn**	**17 26 13.6**	**-1.0**
MLPR	**Magueyes Islan**	**1.21 217**		IAML		17 26 14.3	
	comp=E,103nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.22 220**	⇑	*e*P	**Pb**	**17 26 00.1**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.22 220**		*e*S	**Sn**	**17 26 14.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.22 220**			**Pb**	**17 26 00.1**	**-0.4**
CRPR					**Sn**	**17 26 14.8**	**0.0**
PCDR	**Punta Cana, DR**	**2.03 258**		Pn	**Pb**	**17 26 13.0**	**-1.4**
PCDR				IAML		17 26 46.2	
	comp=E,110nm,2.3s						
SABA	**Saba**	**3.18 114**		Pn	**Pn**	**17 26 26.6**	**+0.3**
SDDR	**Presa de Saban**	**4.73 271**		Pn	**Pn**	**17 26 48.8**	**+1.1**

*TIR **14** 17:30:39.3, 41.°49N×19.°45E, h33km±2km, Ml3.0*
*PDG **14** 17:30:41.3±0.2, 41.°47N×19.°63E, h11km, MD3.0/1, ML2.9/11, Error ellipse: s-maj=0.5km s-min=1.1km az=0.0*
*THE **14** 17:30:42.3, 41.°45N×19.°64E, h6km±2km, ML2.5/4, Error ellipse: s-maj=7.5km s-min=2.2km az=35.0*
*BEO **14** 17:30:42.2±0.4, 41.°47N×19.°66E, h5km±2km, ML2.7/8*
*RHSSO **14** 17:30:44.5±0.7, 41.°57N×19.°41E, h9km±2km, ML2.9/9*

ISC 14 17:30:40.0±1.0, 41.°39N±0.°02×19.°48E±0.°02, h7km±9km, n62, σ19°15/114, 9C-3D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**98**	P	**Pg**	**17 30 45.8**	**+0.1**
	baz=114						
TIR				S	**Sg**	**17 30 49.6**	**0.0**
	baz=114						
TIR				AMP			
	comp=E,7.4nm,0.2s,baz=114						
TIR	**Tirane**	**0.29**	**98**	P	**Pg**	**17 30 45.5**	**-0.2**
TIR				S	**Sg**	**17 30 49.7**	**+0.1**
	comp=E,2μm,0.5s						
TIR	**Tirane**	**0.29**	**98**	*e*Pg	**Pg**	**17 30 45.6**	**-0.2**
TIR				*e*Sg	**Sg**	**17 30 49.6**	**0.0**
PUK	**Puka**	**0.72**	**25**	P	**Pg**	**17 30 52.5**	**-1.3**
	baz=30						
PUK				S	**Sg**	**17 31 02.9**	**-0.3**
	baz=30						
PUK				AMP			
	comp=N,2.7nm,0.2s,baz=30						
DRME	**Dracevica, Mon**	**0.83**	**344**	*e*Pg	**Pg**	**17 30 55.9**	**+0.1**
DRME				*e*Sg	**Sg**	**17 31 05.2**	**-1.4**
DRME	**Dracevica, Mon**	**0.83**	**344**	⇑ *i*Pg	**Pg**	**17 30 56.0**	**+0.1**
DRME				*i* Sg	**Sb**	**17 31 08.5**	**+0.5**
VLO	**Vlora**	**0.92**	**179**	P	**Pn**	**17 30 59.0**	**-0.3**
	baz=178						
VLO				S	**Sn**	**17 31 13.4**	**+0.6**
	baz=178						
BUM	**Brajici-Budva**	**1.01**	**334**	⇓ *i*Pg	**Pg**	**17 30 59.6**	**+0.2**
BUM				*i* Sg	**Sn**	**17 31 15.6**	**+0.5**
PDG	**Podgorica**	**1.05**	**351**	*e*Pg	**Pg**	**17 31 00.2**	**0.0**
PDG				*e*Sg	**Sg**	**17 31 14.9**	**+1.0**
PDG	**Podgorica**	**1.05**	**351**	⇑ *i*Pg	**Pg**	**17 31 00.0**	**-0.2**
PDG				*e*Sg	**Sg**	**17 31 12.1**	**-1.8**
PDG	**Podgorica**	**1.05**	**351**	⇑ *i*Pg	**Pg**	**17 31 00.4**	**+0.2**
PDG				*i* Sg	**Sb**	**17 31 15.6**	**+1.1**
BCI	**Bajram Curri**	**1.07**	**24**	P	**Pg**	**17 30 58.7**	**-1.8**
	baz=27						
BCI				S	**Sg**	**17 31 11.9**	**-2.4**
	baz=27						
BCI				AMP			
	comp=E,1.3nm,0.4s,baz=27						
CEME	**Cevo**	**1.23**	**340**	⇑ *i*Pg	**Pn**	**17 31 03.9**	**+0.3**
CEME				*i* Sg	**Sn**	**17 31 22.5**	**+2.0**
KBN	**Korca**	**1.25**	**127**	P	**Pn**	**17 31 04.2**	**+0.3**
	baz=130						
KBN				S	**Sn**	**17 31 23.6**	**+2.5**
	baz=130						
KBN	**Korca**	**1.25**	**127**	P	**Pn**	**17 31 04.2**	**+0.3**
KBN				S	**Sn**	**17 31 21.0**	**0.0**
	comp=E,178nm,1.0s						
PVY	**Plav**	**1.25**	**16**	⇓ *i*Pg	**Pg**	**17 31 02.7**	**-1.4**
PVY				*i* Sg	**Sg**	**17 31 20.8**	**+0.5**
NKME	**Niksic**	**1.43**	**344**	⇓ *i*Pg	**Pn**	**17 31 06.7**	**+0.3**
NKME				*i* Sg	**Sg**	**17 31 28.6**	**+2.6**
KOME	**Kolasin**	**1.46**	**1**	⇑ *i*Pg	**Pn**	**17 31 07.1**	**+0.3**
KOME				*i* Sg	**Sg**	**17 31 28.5**	**+1.6**
LSK	**Leskovik**	**1.50**	**145**	P	**Pg**	**17 31 08.8**	**0.0**
	baz=146						
LSK				S	**Sg**	**17 31 30.2**	**+1.9**
	baz=146						
IVA	**Berane**	**1.51**	**11**	⇑ *i*Pg	**Pn**	**17 31 07.4**	**-0.1**
IVA				*i* Sg	**Sb**	**17 31 29.3**	**+1.5**
NEST	**Nestorio**	**1.54**	**129**	P	**Pg**	**17 31 09.5**	**+0.1**
NEST				S	**Sg**	**17 31 29.6**	**+0.2**
	comp=E,70nm,1.1s						
FNA	**Florina**	**1.55**	**112**	P	**Pg**	**17 31 08.7**	**-1.1**
	baz=115						
FNA				S	**Sg**	**17 31 30.2**	**+0.2**
	baz=115						
FNA	**Florina**	**1.55**	**112**	P	**Pb**	**17 31 08.3**	**-0.8**
FNA				S	**Sg**	**17 31 29.3**	**-0.6**
	comp=E,212nm,0.6s						
SRN	**Sarande**	**1.56**	**165**	P	**Pg**	**17 31 08.9**	**-1.0**
	baz=165						
SRN				S	**Sg**	**17 31 32.2**	**+2.1**
	baz=165						
TREB	**Trebinje**	**1.57**	**328**	*e*Pg	**Pg**	**17 31 09.9**	**-0.2**
TREB				*e*Sg	**Sg**	**17 31 32.0**	**+1.5**
TREB	**Trebinje**	**1.57**	**328**	*e*Pg	**Pb**	**17 31 09.7**	**+0.3**
TREB				*e*Sg	**Sn**	**17 31 28.3**	**-0.6**
DBRK	**Dubrovnik**	**1.62**	**322**	*e*Pn	**Pb**	**17 31 09.7**	**-0.5**
DBRK				Sn	**Sb**	**17 31 31.4**	**+0.6**
BRY	**Bratogost**	**1.67**	**335**	*e*Pg	**Pb**	**17 31 11.2**	**+0.1**
BRY				*e*Sg	**Sn**	**17 31 31.9**	**+0.5**
BRY	**Bratogost**	**1.67**	**335**	⇑ *i*Pn	**Pb**	**17 31 10.8**	**-0.3**
BRY				*i* Sn	**Sg**	**17 31 34.6**	**+1.1**
PENT	**Pentalofos**	**1.73**	**133**	P	**Pg**	**17 31 12.3**	**-0.9**
UPM	**Unac-Piva**	**1.86**	**347**	*e*Pn	**Pb**	**17 31 14.3**	**-0.1**
UPM				*e*Sn	**Sn**	**17 31 36.0**	**-0.3**
UPM	**Unac-Piva**	**1.86**	**347**	⇑ *i*Pn	**Pn**	**17 31 13.7**	**+1.3**
UPM				*i* Sn	**Sb**	**17 31 38.9**	**+0.9**
SJES	**Sjenica**	**1.90**	**11**	*e*Pg	**Pb**	**17 31 14.7**	**-0.4**
SJES				*e*Sg	**Sn**	**17 31 38.8**	**+1.6**
SJES	**Sjenica**	**1.90**	**11**	*e*Pn	**Pn**	**17 31 14.2**	**+1.2**
SJES				*e*Sn	**Sn**	**17 31 37.0**	**-0.2**
NOCI	**Noci**	**1.93**	**253**	P	**Pb**	**17 31 14.1**	**-1.3**
	baz=250						
NOCI				S	**Sb**	**17 31 38.5**	**-1.1**
	baz=250						
PLE	**Pljevlja**	**1.94**	**358**	⇑ *i*Pn	**Pn**	**17 31 14.3**	**+0.8**
PLE				*i* Sn	**Sn**	**17 31 40.1**	**+2.0**
STON	**Ston**	**1.99**	**319**	*e*Pn	**Pb**	**17 31 16.9**	**+0.5**
STON				*e*Sn	**Sb**	**17 31 41.7**	**+0.3**
STON	**Ston**	**1.99**	**319**	*e*Pn	**Pn**	**17 31 14.0**	**0.0**
STON				Sn	**Sn**	**17 31 39.0**	**-0.1**
STON	**Ston**	**1.99**	**319**	*e*Pn	**Pb**	**17 31 16.3**	**-0.1**
STON				*e*Sn	**Sn**	**17 31 38.9**	**-0.1**
SELS	**Selova**	**2.19**	**33**	*e*Pn	**Pn**	**17 31 16.8**	**-0.1**
SELS				*e*Sn	**Sn**	**17 31 42.4**	**-1.9**
RUDO	**Rudo**	**2.23**	**358**	*e*Pn	**Pn**	**17 31 19.3**	**+2.0**
RUDO				*e*Sn	**Sn**	**17 31 44.5**	**-0.6**
IVAS	**Ivanjica**	**2.24**	**13**	*e*Pn	**Pn**	**17 31 18.7**	**+1.2**
GRG	**Griva**	**2.25**	**100**	P	**Pn**	**17 31 17.8**	**+0.2**
BBLS	**Lazi&#263i**	**2.47**	**359**	*e*Pn	**Pn**	**17 31 22.5**	**+1.7**
BBLS	**Lazi&#263i**	**2.47**	**359**	*e*Pn	**Pb**	**17 31 23.2**	**-1.6**
BBLS				*e*Sn	**Sn**	**17 31 50.8**	**-0.4**
BOSS	**Bosilegrad**	**2.49**	**63**	*e*Pn	**Pn**	**17 31 21.6**	**+0.6**
MAKA	**Makarska**	**2.63**	**317**	*e*Pn	**Pn**	**17 31 23.2**	**+0.3**
MAKA				Sn	**Sn**	**17 31 54.7**	**-0.3**
GRUS	**Gruza**	**2.66**	**20**	*e*Pn	**Pn**	**17 31 24.4**	**+1.2**
RICI	**Ricice**	**2.73**	**321**	*e*Pn	**Pn**	**17 31 24.5**	**+0.3**
RICI				Sn	**Sn**	**17 31 56.5**	**-1.0**
SGRT	**San Giovanni R**	**2.83**	**279**	P	**Pn**	**17 31 25.9**	**+0.3**
	baz=277						
TEKS	**Tekeris**	**3.16**	**1**	*e*Pn	**Pn**	**17 31 32.1**	**+2.0**
TEKS				*e*Sn	**Sn**	**17 32 07.7**	**-0.3**
KIJV	**Kijevo**	**3.46**	**320**	*e*Pn	**Pn**	**17 31 35.0**	**+0.7**
ZIRJ	**Zirje**	**3.63**	**310**	*e*Pn	**Pn**	**17 31 36.7**	**+0.2**
MORI	**Morici**	**3.73**	**313**	*e*Pn	**Pn**	**17 31 39.0**	**+1.1**
MORI				Sn	**Sn**	**17 32 21.6**	**-0.4**
A050A	**Klekovaca**	**3.77**	**326**	*e*Pn	**Pn**	**17 31 39.8**	**+1.2**
A050A				*e*Sn	**Sn**	**17 32 22.0**	**-1.3**
FRGS	**Fruska Gora**	**3.77**	**4**	*e*Pn	**Pn**	**17 31 39.6**	**+1.0**
FRGS				*e*Sn	**Sn**	**17 32 22.2**	**-1.0**
UDBI	**Udbina**	**4.16**	**320**	*e*Pn	**Pn**	**17 31 45.2**	**+1.3**
UDBI				Sn	**Sn**	**17 32 31.8**	**-1.0**
DUGI	**Dugi Otok**	**4.17**	**310**	*e*Pn	**Pn**	**17 31 44.9**	**+0.9**
DUGI				Sn	**Sn**	**17 32 31.2**	**-1.8**
BOJS	**Bojanci**	**5.14**	**325**	*e*Pn	**Pn**	**17 31 59.0**	**+1.7**
BOJS				*e*Sn	**Sn**	**17 32 54.1**	**-2.7**
CRES	**Cresnjev**	**5.31**	**328**	*e*Pn	**Pn**	**17 32 00.6**	**+0.9**
CRES				*e*Sn	**Sn**	**17 32 58.6**	**-2.5**
CEY	**Cerknica**	**5.69**	**321**	*e*Pn	**Pn**	**17 32 05.7**	**+0.8**
CEY				*e*Sn	**Sn**	**17 33 07.7**	**-2.7**
SKDS	**Skadanscina**	**5.75**	**318**	*e*Sn	**Sn**	**17 33 09.1**	**-2.9**

TAP 14 17:38:23.9, 24.°45N×121.°73E, h6km±1km, ML0.9, 1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.02**	**147**	P	Pg	17 38 25.7	+0.7
	baz=136						
ENA				*i* S	Sg	17 38 26.6	+0.8
	baz=136						
EWUT	**Wuta**	**0.05**	**91**	⇓ *i*P	Pg	17 38 25.8	+0.5
	baz=91						
EWUT				*e*S	Sg	17 38 26.5	+0.2
	baz=91						
NDS	**Dongshan**	**0.19**	**357**	P	Pg	17 38 28.4	+0.7
	baz=356						
NDS				*i* S	Sg	17 38 32.0	+1.8
	baz=356						
LATG	**Datong**	**0.20**	**296**	P	Pg	17 38 29.4	+1.4
	baz=295						
LATG				S	Sg	17 38 32.9	+2.2
	baz=295						
ENTT	**Nioudou**	**0.24**	**323**	*e*P	Pg	17 38 30.4	+1.7
	baz=323						
ENTT				S	Sg	17 38 33.5	+1.6
	baz=323						
NDT	**Datong Townshi**	**0.25**	**309**	*e*P	Pb	17 38 30.3	-0.5
	baz=308						
NDT				*i* S	Sb	17 38 34.4	-1.1
	baz=308						
NACB	**Ninganchiao**	**0.30**	**204**	*i* P	Pb	17 38 30.9	-0.7
	baz=204						
NACB				*i* S	Sb	17 38 36.0	-0.7
	baz=204						
NNSB	**Datong**	**0.32**	**267**	*i* P	Pb	17 38 31.3	-0.7
	baz=266						
NNSB				*e*S	Sg	17 38 35.4	+1.2
	baz=266						
NNS	**Nan Shan**	**0.32**	**269**	P	Pb	17 38 31.2	-0.9
	baz=268						
NNS				*e*S	Sb	17 38 36.2	-1.5
	baz=268						

JMA 14 17:38:56.0±0.1, 24.°3N±0.°2×123.°8E±0.°3, h17km±1km, MV0.6/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.09**	**339**	P	Pg	17 38 59.4	0.0
IRIF				*e*S	Sg	17 39 01.9	+0.1
HATJ	**Hateruma jima**	**0.20**	**169**	P	Pg	17 39 00.6	-0.2
HATJ				*e*S	Sg	17 39 04.0	0.0
JKRS	**Kuro-shima**	**0.22**	**93**	P	Pg	17 39 01.2	0.0
JKRS				*e*S	Sg	17 39 04.6	-0.1
JIJ	**Ishigaki jima**	**0.36**	**72**	*e*P	Pg	17 39 03.4	-0.2
JIJ				*e*S	Sg	17 39 08.3	-0.4
JISG	**Ishigakijimahi**	**0.60**	**56**	*e*P	Pg	17 39 07.6	-0.3

*ISN **14** 17:50:14.6±0.5, 34.°56N×45.°80E, h6km±21km, ML3.4*
*TEH **14** 17:50:16.0, 34.°58N×45.°80E, h9km±21km, ML3.3*

ISC 14 17:50:16.8±1.1, 34.°56N±0.°03×45.°80E±0.°03, h8km±9km, n23, σ0°89/33, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.18**	**253**	Pg	**Pg**	**17 50 20.0**	**-0.4**
KGS1				Sg	**Sg**	**17 50 23.8**	**+0.8**
GLG1	**Gilan-e-Gharb**	**0.45**	**168**	Pg	**Pg**	**17 50 25.2**	**-0.4**
GLG1				Sg	**Sb**	**17 50 33.0**	**-1.1**
IDHR	**Dehrash**	**0.51**	**74**	Pg	**Pg**	**17 50 25.8**	**-0.8**
IDHR				Sg	**Sb**	**17 50 34.3**	**-1.5**
IGHG	**Ghaleghazi**	**0.68**	**109**	Pg	**Pg**	**17 50 29.4**	**-0.5**
IGHG				Sg	**Sb**	**17 50 40.6**	**-0.1**
ILBA	**Ilam Banvizeh**	**0.99**	**160**	Pg	**Pg**	**17 50 35.0**	**-0.8**
ILIN	**Lien**	**1.02**	**69**	Pg	**Pg**	**17 50 35.0**	**-1.5**
ILIN				Sg	**Sb**	**17 50 50.2**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.07**	**105**	Pg	**Pg**	**17 50 36.4**	**-0.9**
KCHF				Sg	**Sn**	**17 50 52.7**	**-0.7**
IBDR	**Badra**	**1.45**	**176**	*e*Pn	**Pn**	**17 50 43.0**	**-0.3**
IBDR				*e*Sn	**Sg**	**17 51 04.0**	**+0.7**
IKRK	**Kirkuk**	**1.46**	**306**	*e*Pg	**Pn**	**17 50 43.0**	**-0.5**
IKRK				*e*Sg	**Sn**	**17 51 03.0**	**+0.1**
IKRK				AML	AML	17 51 07.5	
	comp=E,715nm,0.7s						
IKRK				AML	AML	17 51 11.1	
	comp=N,563nm,0.7s						
SNQR	**Sonqor, Kerman**	**1.54**	**78**	Pg	**Pn**	**17 50 44.9**	**+0.1**
SNQR				Sg	**Sg**	**17 51 07.4**	**+1.1**
SDS1	**Sardasht. Az.**	**1.61**	**351**	Pg	**Pn**	**17 50 46.3**	**+0.6**
IBZA	**Bozab**	**1.71**	**92**	Pg	**Pn**	**17 50 47.7**	**+0.5**
BHD	**Baghdad**	**1.74**	**223**	*e*Pn	**Pn**	**17 50 47.0**	**-0.4**
BHD				*e*Sn	**Sn**	**17 51 11.0**	**+1.2**
BHD				AML	AML	17 51 17.3	
	comp=E,603nm,0.3s						
IKFM	**Kafar-mosalman**	**1.99**	**121**	Pn	**Pn**	**17 50 51.9**	**+1.1**
MAHB	**Mahabad**	**2.21**	**358**	Pn	**Pn**	**17 50 54.9**	**+1.0**
HSAM	**Samen**	**2.35**	**98**	Pn	**Pn**	**17 50 56.3**	**+0.4**
IAZR	**Azarshahr**	**3.12**	**3**	Pn	**Pn**	**17 51 06.9**	**+0.4**
QABG	**Abgarm-Qazvin**	**3.31**	**69**	Pn	**Pn**	**17 51 10.3**	**+1.2**
IRAZ	**Razeghan**	**3.50**	**75**	Pn	**Pn**	**17 51 12.9**	**+1.2**
IHRS	**Heris**	**3.88**	**15**	Pn	**Pn**	**17 51 18.1**	**+1.0**
JHBN	**Jahan bin**	**4.69**	**118**	Pn	**Pn**	**17 51 29.0**	**+0.8**
ZNGN	**Zangian**	**4.88**	**118**	Pn	**Pn**	**17 51 32.0**	**+1.2**
KLNJ	**Kolanjah**	**6.03**	**124**	Pn	**Pn**	**17 51 47.3**	**+0.6**

*NAO **14** 18:12:53.4±1.9, 75.°52N×6.°99E, ML3.1*
*BER **14** 18:12:55.3±3.6, 75.°42N×7.°52E, h10km, mb(Pn)3.8, ML3.1(NAO), Confirmed Earthquake*
*DNK **14** 18:12:56.8±0.7, 75.°61N×6.°67E, h9km±16km, ML1.9*
*FCIAR **14** 18:12:58.0, 75.°24N×8.°80E, h10km, station SPA0 has station magnitude of 3.13*

ISC 14 18:12:56.5±1.8, 75.°50N±0.°06×8.°6E±0.°1, h10km, n32, σ2°24/42, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.23**	**44**	Pn	**Pn**	**18 13 34.4**	**+0.9**
HSPB				Sn	**Sn**	**18 14 03.3**	**+2.2**
BRBA	**Barentsburg A**	**2.87**	**24**	*e*P	**Pn**	**18 13 42.9**	**+0.7**
BRBA				*e*S	**Sn**	**18 14 16.5**	**-0.3**
BRBA				IAML		18 14 18.1	
	comp=Z,7.3nm,0.5s						
BRBA	**Barentsburg A**	**2.87**	**24**	Pn	**Pn**	**18 13 42.9**	**+0.7**
BJO1	**Bjornoya**	**2.88**	**105**	*e*P	**Pn**	**18 13 43.0**	**+0.6**
BJO1				*e*S	**Sn**	**18 14 15.8**	**-1.1**
BJO1				IAML		18 14 17.3	
	comp=Z,15nm,0.2s						
BJO1	**Bjornoya**	**2.88**	**105**	Pn	**Pn**	**18 13 45.1**	**+2.7**
BJO1				Sn	**Sn**	**18 14 15.4**	**-1.5**
BJO1	**Bjornoya**	**2.88**	**105**	P	**Pn**	**18 13 43.4**	**+1.0**
BJO1				*e*S	**Sn**	**18 14 14.9**	**-2.1**
BRBB	**Barentsburg B**	**2.90**	**24**	*e*P	**Pn**	**18 13 43.5**	**+0.9**
BRBB	**Barentsburg B**	**2.90**	**24**	Pn	**Pn**	**18 13 43.9**	**+1.2**
SPA0	**Spitsbergen Ar**	**3.22**	**30**	Pn	**Pn**	**18 13 48.4**	**+1.3**
	baz=205,slow=18						
SPA0				Sn	**Sn**	**18 14 25.5**	**+0.1**
	baz=202,slow=28						
SPA0	**Spitsbergen Ar**	**3.22**	**30**	Pn	**Pn**	**18 13 48.4**	**+1.3**
	baz=205,slow=18						
SPA0				Sn	**Sn**	**18 14 25.5**	**+0.1**
	baz=202,slow=28						
SPA0	**Spitsbergen Ar**	**3.22**	**30**	*e*P	**Pn**	**18 13 48.4**	**+1.3**
SPA0				*e*S	**Sn**	**18 14 25.3**	**-0.1**
KBS	**Kingsbay**	**3.52**	**11**	*e*P	**Pn**	**18 13 51.1**	**-0.1**
KBS				*e*S	**Sn**	**18 14 29.2**	**-3.5**
KBS				IAML		18 14 33.5	
	comp=Z,6.0nm,0.3s						
KBS	**Kingsbay**	**3.52**	**11**	Pn	**Pn**	**18 13 51.0**	**-0.1**
KBS	**Kingsbay**	**3.52**	**11**	*e*P	**Pn**	**18 13 50.5**	**-0.7**
KBS				*e*S	**Sn**	**18 14 32.0**	**-0.8**
KBS	**Kingsbay**	**3.52**	**11**	*e*P	**Pn**	**18 13 51.1**	**-0.1**
HOPEN	**Hopen**	**4.10**	**68**	*e*P	**Pn**	**18 14 00.9**	**+1.8**
HOPEN				*e*S	**Sn**	**18 14 47.0**	**0.0**
HOPEN				IAML		18 14 51.8	
	comp=Z,15nm,0.6s						
HOPEN	**Hopen**	**4.10**	**68**	Pn	**Pn**	**18 14 01.1**	**+2.0**
HOPEN				Sn	**Sn**	**18 14 46.7**	**-0.3**
HOPEN	**Hopen**	**4.10**	**68**	*e*P	**Pn**	**18 14 00.6**	**+1.5**
HOPEN				*e*S	**Sn**	**18 14 46.3**	**-0.7**
DAG	**Danmarks Havn**	**6.63**	**294**	*e*P	Pn	18 14 29.1	-4.8
DAG				*e*S	Sn	18 15 33.3	-16
DAG	**Danmarks Havn**	**6.63**	**294**	*i* S	Sn	18 15 33.3	-16
DAG				IAML		18 15 35.1	
	comp=Z,4.3nm,0.3s						
TRO	**Tromso**	**6.65**	**147**	Pn	**Pn**	**18 14 35.9**	**+1.8**
KIF	**Kilpisjarvi**	**7.49**	**144**	Pn	**Pn**	**18 14 47.6**	**+2.0**
KIF	**Kilpisjarvi**	**7.49**	**144**	Pn	**Pn**	**18 14 47.6**	**+2.0**
DBG	**Daneborg**	**7.57**	**275**	*e*P	Pn	18 14 38.8	-8.0
DBG				*e*S	Sn	18 15 55.0	-17
DBG	**Daneborg**	**7.57**	**275**	Pn	Pn	18 14 38.8	-8.0
DBG				Sn	Sn	18 15 54.4	-18
DBG	**Daneborg**	**7.57**	**275**	*e*P	Pn	18 14 39.0	-7.8
DBG				*i* S	Sn	18 15 54.1	-18
DBG				IAML		18 15 57.9	
	comp=Z,3.4nm,0.3s						
NOR	**Nord**	**7.81**	**332**	*e*	**Sn**	**18 16 16.8**	**-1.5**
ARA0	**ARCESS Array S**	**7.82**	**131**	Pn	**Pn**	**18 14 53.8**	**+3.6**
	baz=323,slow=9.3						
ARA0				Sn	**Sn**	**18 16 12.9**	**-5.7**
	baz=336,slow=22						
ARA0	**ARCESS Array S**	**7.82**	**131**	Pn	**Pn**	**18 14 53.8**	**+3.6**
	baz=323,slow=9.3						
ARA0				Sn	**Sn**	**18 16 12.9**	**-5.7**
	baz=336,slow=22						
ZFI2	**Zemlya Franca-**	**9.38**	**38**	P	**Pn**	**18 15 12.7**	**+1.2**
ZFI2				S	**Sn**	**18 16 51.6**	**-5.2**
OMEGA	**Omega**	**9.39**	**39**	S	**Sn**	**18 16 54.0**	**-3.0**
SCO	**Scoresbysund**	**10.15**	**256**	*e*S	Sn	18 16 54.6	-21

IDC 14 18:25:46.4±4.0, 6.°28S×128.°53E, h419km±53km, mb2.5/1, mbtmp3.2/3, Error ellipse: s-maj=177.3km s-min=18.4km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.71**	**158**	P	P	18 28 55.2	0.0
	0.2nm,0.4s,baz=334,slow=12,SNR=18						
WRA				S	S	18 31 32.5	+1.1
	0.8nm,0.8s,baz=339,slow=20,SNR=2.1						
ASAR	**Alice Springs**	**18.04**	**164**	P	P	18 29 30.9	0.0
	0.2nm,0.3s,baz=343,slow=11,SNR=6.9						
ASAR				S	S	18 32 36.4	+0.5
	0.4nm,0.9s,baz=341,slow=19,S

PUH				IAML		19 07 16.9	
	comp=E,6μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.09**	**113**		Pg	19 07 16.9	+0.7
HLP	**Hilina Pali**	**0.13**	**201**		Pg	19 07 17.6	+0.7
HLP				IAML		19 07 20.4	
	comp=E,7μm,1.3s						
HLP				IAML		19 07 20.6	
	comp=N,7μm,1.0s						
STCH	**Steam Cracks**	**0.13**	**103**		Pg	19 07 17.7	+0.8
STCH				IAML		19 07 20.6	
	comp=E,9μm,1.3s						
STCH				IAML		19 07 20.8	
	comp=N,6μm,0.6s						
MLH	**Mauna Loa**	**0.14**	**303**		Pg	19 07 18.1	+0.9
MLH				IAML		19 07 21.5	
	comp=E,5μm,0.5s						
JOKA	**Jonika Flow**	**0.24**	**86**		Pg	19 07 19.5	+0.4
JOKA				IAML		19 07 26.8	
	comp=N,2μm,0.5s						
JOKA				IAML		19 07 27.3	
	comp=E,3μm,1.4s						
HMH	**Humu'ula Sheep**	**0.28**	**312**		Pg	19 07 20.5	+0.7
HMH				IAML		19 07 25.8	
	comp=N,3μm,1.2s						
HMH				IAML		19 07 29.4	
	comp=E,4μm,0.7s						
PAH	**Pahoa**	**0.31**	**75**	Pg	Pg	19 07 20.9	+0.6
MLOA	**Mauna Loa Obse**	**0.32**	**292**		Pg	19 07 21.3	+0.7
MLOA				IAML		19 07 29.3	
	comp=E,3μm,1.3s						
MWH	**Moku'aweowe**	**0.33**	**282**	Pg	Pg	19 07 21.4	+0.7
PHO	**Puu Honuaula**	**0.36**	**79**		Pg	19 07 21.5	+0.3
KHU	**Kahuku**	**0.38**	**243**		Pg	19 07 22.6	+1.0
POHA	**Pohakuloa**	**0.43**	**323**	Pg	Pg	19 07 23.3	+0.7
POHA				IAML		19 07 37.8	
	comp=E,2μm,0.8s						
HPO	**Honuapo**	**0.43**	**221**		Pg	19 07 23.2	+0.5
HUH	**Hualalai**	**0.60**	**296**		Pg	19 07 26.9	+0.8
HPAH	**Hawaii Prepara**	**0.74**	**326**		Pg	19 07 27.6	-1.0
HPAH					Sg	19 07 37.5	-0.7

*NNC **14** 19:27:08.0±2.1, 36°.73N×70°.78E, h85km±47km, mb3.1, mpv3.6, Error ellipse: s-maj=15.3km s-min=13.5km az=158.0*
*IDC **14** 19:27:22.2±25.0, 36°.42N×72°.12E, h324km±229km, mb2.9/4, mbtmp3.5/7, Error ellipse: s-maj=304.2km s-min=111.1km az=161.0*
ISC 14 19:27:06.8±1.9, 36°.6N±0°.1×70°.8E±0°.1, h100km, n14, σ1§18/18, mb3.6/4, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.46**	**358**	⇑P	**Pn**	**19 28 40.2**	**+1.0**
	2.3nm,0.3s,baz=178,slow=12,SNR=130						
KK31				⇓S	**Sn**	**19 29 50.7**	**-0.7**
	9.3nm,0.6s,baz=184,slow=21,SNR=13						
AAK	**Ala-Archa**	**6.62**	**24**	⇑S	**Sn**	**19 29 56.5**	**+1.0**
	14nm,0.6s						
CHMS	**Chumysh**	**7.03**	**24**	⇓P	**Pn**	**19 28 47.0**	**0.0**
	1.5nm,0.3s						
CHMS				⇑S	**Sn**	**19 30 05.2**	**-0.1**
	9.2nm,0.7s						
TKM2	**Tokmak 2**	**7.26**	**29**	⇓P	**Pn**	**19 28 49.9**	**-0.5**
	1.1nm,0.6s						
TKM2				⇑S	**Sn**	**19 30 11.8**	**+0.5**
	5.3nm,0.9s						
MK31	**Makanchi Array**	**13.25**	**37**	P	**Pn**	**19 30 12.9**	**+2.0**
	0.1nm,0.3s,baz=204,slow=9.8,SNR=6.6						
MKAR	**Makanchi Array**	**13.25**	**37**	P	**P**	**19 30 15.1**	**-1.9**
	0.2nm,0.3s,baz=212,slow=11,SNR=7.7						
AB31	**Akbulak array**	**14.89**	**331**	⇑P	**Pn**	**19 30 32.0**	**0.0**
	0.2nm,0.3s,baz=148,slow=13,SNR=19						
AB31				S	**Sn**	**19 33 16.1**	**0.0**
	2.3nm,0.7s,baz=152,slow=23,SNR=12						
KURBB	**Kurchatov Arra**	**15.03**	**19**	P	**Pn**	**19 30 35.4**	**+1.7**
	0.4nm,0.3s,baz=206,slow=10.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**19 31 27.4**	**-2.1**
	0.8nm,0.4s,baz=218,slow=10,SNR=4.6						
FINES	**FINESS Array B**	**37.29**	**326**	P	**P**	**19 34 10.3**	**+1.6**
	0.5nm,0.7s,baz=125,slow=8.7,SNR=6.4						
	0.5nm,0.7s						
ARCES	**ARCESS Array B**	**40.96**	**338**	P	**P**	**19 34 38.8**	**-0.4**
	1.0nm,0.9s,baz=116,slow=8.3,SNR=1.7						
	1.0nm,0.9s						
HFS	**Hagfors**	**42.87**	**322**	P	**P**	**19 34 55.2**	**+0.4**
	0.5nm,0.4s,baz=81,slow=8.9,SNR=7.4						
	0.5nm,0.4s						
NB2	**NORSAR Subarra**	**44.19**	**323**	P	**P**	**19 35 06.0**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.19**	**323**	P	**P**	**19 35 05.4**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=95,slow=7.7,SNR=2.5						
	comp=Z,0.4nm,0.5s						

*AFAD **14** 19:30:02.3±0.0, 40°.43N×40°.75E, h7km±1km, ML1.9*
*ISK **14** 19:30:02.6, 40°.66N×40°.59E, h10km, ML2.7/7*
ISC 14 19:30:01.6±1.1, 40°.52N±0°.03×40°.69E±0°.03, h3km±14km, n16, σ1§04/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRIK	**Erzurum-spir**	**0.26**	**134**	P	**Pg**	**19 30 05.9**	**-0.6**
KRIK				*i* AML	AML	19 30 08.0	
	comp=N,419nm,0.2s						
KRIK				S	**Sg**	**19 30 08.5**	**-1.5**
KRIK				*i* AML	AML	19 30 09.0	
	comp=E,354nm,0.3s						
IZDR	**Rize**	**0.29**	**341**	P	**Pb**	**19 30 10.5**	**+1.0**
IZDR				S	**Sb**	**19 30 15.9**	**+1.2**
IZDR				*i* AML	AML	19 30 16.0	
	comp=N,89nm,0.1s						
IZDR				*i* AML	AML	19 30 16.0	
	comp=E,94nm,0.1s						
BAYB	**BAYBURT**	**0.42**	**232**	P	**Pg**	**19 30 10.7**	**+1.0**
BAYB				S	**Sg**	**19 30 16.7**	**+1.6**
BAYB				*i* AML	AML	19 30 20.0	
	comp=N,90nm,0.3s						
BAYT	**Aydıntepe-Bayb**	**0.43**	**254**	Pg	**Pb**	**19 30 11.8**	**-0.2**
BAYT				Sg	**Sb**	**19 30 18.0**	**-1.0**
KOPT	**Kop Dagi**	**0.52**	**196**	P	**Pg**	**19 30 11.5**	**-0.1**
KOPT				S	**Sg**	**19 30 18.8**	**+0.5**
KOPT				*i* AML	AML	19 30 20.0	
	comp=N,82nm,0.3s						
KOPT				*i* AML	AML	19 30 21.0	
	comp=E,96nm,0.5s						
KOPT				*i* AML	AML	19 30 22.0	
	comp=Z,72nm,0.4s						
CHOM	**Cayeli-Rize**	**0.58**	**6**	Pg	**Pg**	**19 30 10.5**	**-2.3**
CHOM				Sg	**Sg**	**19 30 18.9**	**-1.5**
ERZM	**Erzurum**	**0.80**	**139**	P	**Pg**	**19 30 16.3**	**-0.7**
ERZM				S	**Sg**	**19 30 26.2**	**-1.1**
DDEM	**Demirkent**	**0.89**	**65**	P	**Pg**	**19 30 19.1**	**+0.4**
DDEM				S	**Sg**	**19 30 30.5**	**+0.2**
DDEM				*i* AML	AML	19 30 34.0	
	comp=E,50nm,0.3s						
DDEM				*i* AML	AML	19 30 35.0	
	comp=N,75nm,0.4s						
DBAD	**Bademkaya**	**0.92**	**56**	P	**Pg**	**19 30 19.9**	**+0.7**
DBAD				S	**Sg**	**19 30 32.2**	**+1.1**
DBAD				*i* AML	AML	19 30 35.0	
	comp=N,29nm,0.5s						
HOPA	**Hopa-Artvin**	**1.04**	**33**	Pg	**Pg**	**19 30 21.7**	**+0.1**
DAGI	**Agillar**	**1.09**	**59**	P	**Pg**	**19 30 22.8**	**+0.3**
DAGI				S	**Sg**	**19 30 36.8**	**+0.3**
KELT	**Kelkit**	**1.15**	**252**	P	**Pg**	**19 30 23.9**	**+0.2**
KELT				S	**Sg**	**19 30 39.1**	**+0.4**
KELT				*i* AML	AML	19 30 40.0	
	comp=N,32nm,0.1s						
KELT				*i* AML	AML	19 30 40.0	
	comp=E,33nm,0.1s						
BCA	**Borcka**	**1.17**	**37**	Pn	**Pg**	**19 30 24.3**	**+0.3**
BCA				Sn	**Sb**	**19 30 39.9**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.27**	**87**	Pn	**Pg**	**19 30 27.9**	**+2.0**
BATM	**Batumi**	**1.33**	**35**	Pn	**Pn**	**19 30 26.8**	**-0.3**
ESPY	**Espiye-Giresun**	**1.54**	**286**	Pn	**Pn**	**19 30 29.3**	**-0.7**

IDC 14 19:46:24.2±2.4, 10°.32N×126°.49E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=221.1km s-min=26.2km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.05**	**166**	P	P	19 52 44.4	+0.3
	0.2nm,0.7s,baz=347,slow=9.0,SNR=1.4						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**34.54**	**168**	P	P	19 53 14.2	-0.4
	0.2nm,0.4s,baz=349,slow=6.9,SNR=6.1						
	0.2nm,0.4s						
H11S3	**WAKE ISLAND Hy 39.70**		**74**	T	T	20 37 00.3	
	baz=262,slow=76,SNR=6.4						
H11S1	**WAKE ISLAND Hy 39.72**		**73**	T	T	20 37 01.3	
	baz=262,slow=76,SNR=5.4						
H11S2	**WAKE ISLAND Hy 39.72**		**74**	T	T	20 37 00.3	
	baz=262,slow=76,SNR=6.5						
H11N1	**WAKE ISLAND Hy 40.04**		**72**	T	T	20 37 28.9	
	baz=265,slow=74,SNR=16						
H11N2	**WAKE ISLAND Hy 40.04**		**72**	T	T	20 37 30.5	
	baz=265,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy 40.05**		**72**	T	T	20 37 31.6	
	baz=265,slow=74,SNR=14						
MKAR	**Makanchi Array**	**52.12**	**323**	P	P	19 55 35.7	-0.6
	0.1nm,0.4s,baz=116,slow=6.6,SNR=1.5						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**85.95**	**332**	P	P	19 59 06.7	+0.6
	0.2nm,0.4s,baz=64,slow=6.3,SNR=3.9						
	0.2nm,0.4s						

FUNV 14 20:14:16.3, 10°.16N×62°.23W, h22km, MW3.7, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**2.37**	**271**	*e*P	Pn	20 14 53.2	-0.7
PCRV				*e*S	Sn	20 15 20.2	-2.2
LUEV	**Luepa**	**4.35**	**170**	*e*P	Pn	20 15 19.3	-2.0
LUEV				*e*S	Sn	20 16 07.6	-3.9
TACV	**Tcata**	**4.73**	**270**	*e*P	Pn	20 15 24.4	-1.9
TACV				*e*S	Sn	20 16 15.8	-4.7
CACV	**CAICARA DEL OR**	**4.98**	**239**	*e*P	Pn	20 15 22.0	-7.7
CACV				*e*S	Sn	20 16 11.8	-15
BENV	**Beln**	**5.30**	**268**	*e*P	Pn	20 15 32.2	-2.0
BENV				*e*S	Sn	20 16 29.0	-5.6
TURV	**Turiamo**	**5.53**	**274**	*e*P	Pn	20 15 35.9	-1.5
TURV				*e*S	Sn	20 16 34.3	-6.0
BAUV	**El Baul**	**5.86**	**259**	*e*P	Pn	20 15 40.0	-1.9
BAUV				*e*S	Sn	20 16 41.9	-6.6
MAPV	**Macapo**	**6.15**	**268**	*e*P	Pn	20 15 43.9	-2.0
MAPV				*e*S	Sn	20 16 48.9	-6.7

*KRNET **14** 20:22:02.8±0.1, 41°.58N×74°.62E, h17km, mb3.8*
*IDC **14** 20:22:02.9±1.2, 41°.65N×74°.39E, h0km, mb3.6/7, mbtmp3.6/12, ML2.9/5, Error ellipse: s-maj=17.4km s-min=11.8km az=123.0*
*SOME **14** 20:22:03.5, 41°.60N×74°.65E, h15km*
*KNET **14** 20:22:03.4±0.7, 41°.65N×74°.67E, h18km±3km, ml3.5, Error ellipse: s-maj=4.7km s-min=2.7km az=27.0*
*MOS **14** 20:22:04.4±1.0, 41°.63N×74°.53E, h17km, mb4.2/3, Error ellipse: s-maj=6.6km s-min=4.3km az=71.9*
*NNC **14** 20:22:04.3±0.8, 41°.67N×74°.59E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=5.8km s-min=3.7km az=3.0*
ISC 14 20:22:03.4±1.0, 41°.61N±0°.02×74°.59E±0°.01, h4km±7km, n151, σ1§27/244, mb3.8/9, 40C-44D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.32**	**321**	⇓*e*P	**Pg**	**20 22 09.8**	**+0.2**
	baz=22						
ARLS				⇓*i*S	**Sg**	**20 22 14.8**	**+1.0**
	baz=22						
ARLS	**Aral**	**0.32**	**321**	*e*PG	**Pg**	**20 22 09.8**	**+0.2**
ARLS				S	**Sg**	**20 22 14.8**	**+1.0**
UCH	**Uchtor**	**0.62**	**355**	P	**Pg**	**20 22 15.4**	**+0.1**
	1μm,0.2s,SNR=3247						
UCH				⇓S	**Sg**	**20 22 24.6**	**+1.2**
	2μm,0.2s						
UCH	**Uchtor**	**0.62**	**355**	⇓*e*P	**Pg**	**20 22 15.4**	**+0.1**
	baz=53						
UCH				⇓*e*S	**Sg**	**20 22 24.5**	**+1.1**
	baz=53						
UCH	**Uchtor**	**0.62**	**355**	*e*PG	**Pg**	**20 22 15.4**	**+0.1**
UCH				S	**Sg**	**20 22 24.5**	**+1.1**
AAK	**Ala-Archa**	**1.03**	**356**	⇑P	**Pg**	**20 22 22.5**	**-0.6**
	155nm,0.2s,SNR=78						
AAK				⇓S	**Sg**	**20 22 36.6**	**+0.1**
	501nm,0.2s						
AAK	**Ala-Archa**	**1.03**	**356**	Pg	**Pg**	**20 22 22.7**	**-0.4**
	65nm,0.3s,baz=52,slow=20,SNR=145						
AAK				Lg	Lg	20 22 35.0	
	148nm,0.3s,baz=151,slow=16,SNR=12						
AAK	**Ala-Archa**	**1.03**	**356**	⇑P	**Pg**	**20 22 22.6**	**-0.4**
	92nm,0.3s						
AAK				⇑S	**Sg**	**20 22 36.9**	**+0.4**
	146nm,0.2s						
AAK	**Ala-Archa**	**1.03**	**356**	⇑*e*P	**Pg**	**20 22 22.7**	**-0.4**
	baz=55						
AAK				⇑*e*S	**Sg**	**20 22 37.1**	**+0.7**
	baz=55						
AAK	**Ala-Archa**	**1.03**	**356**	*e*PG	**Pg**	**20 22 22.7**	**-0.4**
AAK				S	**Sg**	**20 22 37.1**	**+0.7**
NRN	**Naryn**	**1.07**	**99**	⇓*e*P	**Pg**	**20 22 21.9**	**-2.1**
	baz=98						
NRN				⇓*e*S	**Sg**	**20 22 36.1**	**-1.8**
	baz=98						
NRN	**Naryn**	**1.07**	**99**	*e*PG	**Pg**	**20 22 21.9**	**-2.1**
KBK	**Karagaybulak**	**1.08**	**14**	⇑P	**Pg**	**20 22 23.4**	**-0.7**
	195nm,0.1s,SNR=231						
KBK				⇓S	**Sg**	**20 22 38.5**	**+0.4**
	2μm,0.3s						
KBK	**Karagaybulak**	**1.08**	**14**	⇓*e*P	**Pg**	**20 22 23.5**	**-0.6**
	baz=13						
KBK				⇓*e*S	**Sg**	**20 22 38.4**	**+0.4**
	baz=13						
KBK	**Karagaybulak**	**1.08**	**14**	*e*PG	**Pg**	**20 22 23.5**	**-0.6**
KBK				S	**Sg**	**20 22 38.4**	**+0.4**
FRU1	**Bishkek**	**1.20**	**1**	⇑*e*P	**Pg**	**20 22 26.0**	**-0.4**
	baz=0.0						
FRU1				⇑*e*S	**Sb**	**20 22 42.9**	**+0.3**
	baz=0.0						
FRU1	**Bishkek**	**1.20**	**1**	*e*PG	**Pg**	**20 22 26.0**	**-0.4**
FRU1				S	**Sb**	**20 22 42.9**	**+0.3**
EKS2	**Erkin-Say**	**1.21**	**330**	⇑P	**Pg**	**20 22 26.2**	**-0.4**
	60nm,0.2s,SNR=192						
EKS2				⇓S	**Sg**	**20 22 42.6**	**+0.3**
	289nm,0.3s						
EKS2	**Erkin-Say**	**1.21**	**330**	⇑*e*P	**Pg**	**20 22 26.0**	**-0.6**
	baz=30						
EKS2				⇑*e*S	**Sb**	**20 22 42.9**	**-0.1**
	baz=30						
EKS2	**Erkin-Say**	**1.21**	**330**	*e*PG	**Pg**	**20 22 26.0**	**-0.6**
EKS2				S	**Sb**	**20 22 42.9**	**-0.1**
ARSB	**Arslanbob**	**1.24**	**257**	⇓*e*P	**Pg**	**20 22 26.2**	**-1.0**
	baz=59						
ARSB				⇓*e*S	**Sg**	**20 22 43.2**	**-0.1**
	baz=59						
ARSB	**Arslanbob**	**1.24**	**257**	*e*PG	**Pg**	**20 22 26.2**	**-1.0**
ARSB				S	**Sg**	**20 22 43.2**	**-0.1**
BOOM	**Boomskoye usch**	**1.33**	**48**	⇑*e*P	**Pn**	**20 22 27.6**	**-1.4**
	baz=47						
BOOM				⇑*e*S	**Sg**	**20 22 45.7**	**-0.6**
	baz=47						
BOOM	**Boomskoye usch**	**1.33**	**48**	*e*PG	**Pn**	**20 22 27.6**	**-1.4**
BOOM				S	**Sg**	**20 22 45.7**	**-0.6**
ULHL	**Ulahol**	**1.39**	**62**	⇑P	**Pn**	**20 22 27.7**	**-2.1**
	178nm,0.3s,SNR=231						
ULHL				⇓S	**Sg**	**20 22 45.7**	**-2.3**
	469nm,0.3s						
ULHL	**Ulahol**	**1.39**	**62**	⇓*e*P	**Pn**	**20 22 28.4**	**-1.3**
	baz=61						
ULHL				⇓*e*S	**Sg**	**20 22 47.0**	**-1.0**
	baz=61						
ULHL	**Ulahol**	**1.39**	**62**	*e*PG	**Pn**	**20 22 28.4**	**-1.3**
ULHL				S	**Sg**	**20 22 47.0**	**-1.0**
CHMS	**Chumysh**	**1.39**	**5**	⇓P	**Pn**	**20 22 29.1**	**-0.6**
	57nm,0.1s,SNR=148						
CHMS				⇑S	**Sb**	**20 22 47.7**	**-0.5**
	570nm,0.3s						
CHMS	**Chumysh**	**1.39**	**5**	⇓P	**Pn**	**20 22 29.0**	**-0.6**
	67nm,0.5s						
CHMS				⇑S	**Sb**	**20 22 47.4**	**-0.8**
	211nm,0.3s						
CHMS				Lg	Lg	20 24 05.2	
	229nm,0.5s						
CHMS	**Chumysh**	**1.39**	**5**	⇓*e*P	**Pn**	**20 22 29.0**	**-0.6**
	baz=4.0						
CHMS				⇓*e*S	**Sb**	**20 22 48.1**	**0.0**
	baz=4.0						
CHMS	**Chumysh**	**1.39**	**5**	*e*PG	**Pn**	**20 22 29.0**	**-0.6**
CHMS				S	**Sb**	**20 22 48.1**	**0.0**
TKM2	**Tokmak 2**	**1.51**	**29**	⇑P	**Pn**	**20 22 30.7**	**-0.7**
	86nm,0.1s,SNR=138						
TKM2				⇓S	**Sn**	**20 22 50.9**	**-0.7**
	313nm,0.2s						
TKM2	**Tokmak 2**	**1.51**	**29**	⇓P	**Pn**	**20 22 30.8**	**-0.6**
	61nm,0.4s						
TKM2				⇑S	**Sn**	**20 22 50.6**	**-1.0**
	335nm,0.5s						
TKM2	**Tokmak 2**	**1.51**	**29**	⇓*e*P	**Pn**	**20 22 30.7**	**-0.7**
	baz=28						
TKM2				⇓*e*S	**Sn**	**20 22 51.3**	**-0.3**
	baz=28						
TKM2	**Tokmak 2**	**1.51**	**29**	*e*PG	**Pn**	**20 22 30.7**	**-0.7**
TKM2				S	**Sn**	**20 22 51.3**	**-0.3**
MRKS	**Merke**	**1.52**	**319**	*e*P	**Pn**	**20 22 31.6**	**+0.1**
	276nm,0.2s						
MRKS				*e*S	**Sb**	**20 22 52.1**	**+0.2**
	756nm,0.3s						
MRKS	**Merke**	**1.52**	**319**	P	**Pn**	**20 22 31.6**	**+0.1**
	276nm,0.2s						
MRKS				S	**Sb**	**20 22 52.1**	**+0.2**
	756nm,0.3s						
USP	**Ospenovka**	**1.66**	**358**	P	**Pb**	**20 22 34.0**	**-0.5**
	136nm,0.2s,SNR=198						
USP				⇑S	**Sg**	**20 22 56.3**	**-0.3**
	1μm,0.4s						
USP	**Ospenovka**	**1.66**	**358**	⇑*e*P	**Pn**	**20 22 33.6**	**+0.3**
	baz=57						
USP				⇑*e*S	**Sb**	**20 22 56.2**	**+0.5**
	baz=57						
USP	**Ospenovka**	**1.66**	**358**	*e*PN	**Pn**	**20 22 33.6**	**+0.3**
USP				S	**Sb**	**20 22 56.2**	**+0.5**
OHH	**Osh**	**1.74**	**232**	⇑*e*P	**Pn**	**20 22 34.6**	**+0.1**
	baz=33						
OHH				⇑*e*S	**Sb**	**20 22 57.9**	**-0.4**
	baz=33						
OHH	**Osh**	**1.74**	**232**	*e*PN	**Pn**	**20 22 34.6**	**+0.1**
OHH				S	**Sb**	**20 22 57.9**	**-0.4**
KST	**Kastek**	**1.76**	**35**	*e*P	**Pb**	**20 22 35.6**	**-0.6**
	155nm,0.5s						
KST				*e*S	**Sb**	**20 22 59.0**	**+0.3**
	390nm,0.5s						
KST	**Kastek**	**1.76**	**35**	P	**Pb**	**20 22 35.6**	**-0.6**
	155nm,0.5s						
KST				S	**Sb**	**20 22 59.0**	**+0.3**
	390nm,0.5s						
MNAS	**Manas**	**1.78**	**300**	⇑*e*P	**Pb**	**20 22 36.0**	**-0.7**
	baz=1.0						
MNAS				⇑*e*S	**Sg**	**20 23 00.2**	**-0.5**
	baz=1.0						
MNAS	**Manas**	**1.78**	**300**	*e*PN	**Pb**	**20 22 36.0**	**-0.7**
MNAS				S	**Sg**	**20 23 00.2**	**-0.5**
SFK	**Sufi-Kurgan**	**1.80**	**208**	⇑*e*P	**Pn**	**20 22 35.4**	**0.0**
	baz=9.0						
SFK				⇑*e*S	**Sn**	**20 22 59.2**	**+0.4**
	baz=9.0						
SFK	**Sufi-Kurgan**	**1.80**	**208**	*e*PN	**Pn**	**20 22 35.4**	**0.0**
SFK				S	**Sn**	**20 22 59.2**	**+0.4**
SGDS	**Sogindy**	**1.84**	**1**	P	**Pb**	**20 22 37.2**	**-0.4**
	78nm,0.2s						
SGDS				S	**Sb**	**20 23 01.7**	**+0.6**
	367nm,0.2s						
SGDS	**Sogindy**	**1.84**	**1**	*e*PN	**Pb**	**20 22 37.0**	**-0.6**
DGS	**Degeres**	**1.85**	**28**	*e*P	**Pb**	**20 22 37.9**	**+0.1**
	629nm,0.3s						
DGS				*e*S	**Sg**	**20 23 02.6**	**-0.2**
	1μm,0.4s						
DGS	**Degeres**	**1.85**	**28**	P	**Pb**	**20 22 38.1**	**+0.3**
	629nm,0.5s						
DGS				S	**Sg**	**20 23 02.6**	**-0.2**
	251nm,0.4s						
ARK	**Arkit**	**1.98**	**276**	⇓*e*P	**Pn**	**20 22 38.7**	**+1.0**
	baz=77						
ARK				⇓*e*S	**Sb**	**20 23 04.8**	**-0.2**
	baz=77						
ARK	**Arkit**	**1.98**	**276**	*e*PN	**Pn**	**20 22 38.7**	**+1.0**
ARK				S	**Sb**	**20 23 04.8**	**-0.2**
KDJ	**Kajisay**	**2.00**	**74**	⇓*e*P	**Pn**	**20 22 38.7**	**+0.5**
	baz=73						
KDJ				⇓*e*S	**Sn**	**20 23 04.8**	**+1.0**
	baz=73						
MTBS	**Maitube**	**2.04**	**41**	*e*P	**Pb**	**20 22 40.7**	**-0.4**
	229nm,0.2s						
MTBS				*e*S	**Sb**	**20 23 07.6**	**+0.8**
	438nm,0.3s						
MTBS	**Maitube**	**2.04**	**41**	Pg	**Pb**	**20 22 40.7**	**-0.4**
	229nm,0.2s						
MTBS				Lg	Lg	20 23 07.6	
	438nm,0.3s						
KASK	**Kaskelen**	**2.21**	**43**	⇓P	**Pb**	**20 22 43.4**	**-0.6**
KRBS	**Karabastau**	**2.23**	**21**	*e*P	**Pb**	**20 22 44.4**	**+0.1**
	155nm,0.1s						
KRBS				*e*S	**Sb**	**20 23 13.7**	**+1.4**
	375nm,0.4s						
KRBS	**Karabastau**	**2.23**	**21**	Pg	**Pb**	**20 22 44.2**	**-0.1**
	155nm,0.3s						
KRBS				Lg	Lg	20 23 13.7	
	375nm,0.4s						
TNSS	**Tian-Shan**	**2.25**	**50**	*e*P	**Pb**	**20 22 44.1**	**-0.9**
	112nm,0.2s						
TNSS				*e*S	**Sb**	**20 23 13.4**	**+0.1**
	190nm,0.3s						
TNSS	**Tian-Shan**	**2.25**	**50**	Pg	**Pb**	**20 22 44.1**	**-0.9**
	130nm,0.3s						
TNSS				Lg	Lg	20 23 13.4	
	190nm,0.3s						
KSH	**Kashi**	**2.34**	**153**	Pn	**Pb**	**20 22 47.0**	**+0.7**
KSH				Sn	**Sg**	**20 23 25.6**	**+6.9**
KSH				smax	smax		
	comp=N,110nm,1.0s						
KSH				smax	smax		
	comp=E,190nm,0.6s						
AAA	**Alma-Ata**	**2.35**	**46**	*e*P	**Pb**	**20 22 46.5**	**+0.2**
	comp=E,443nm,0.2s						
AAA				*e*S	**Sb**	**20 23 17.1**	**+1.4**
	comp=E,1μm,0.6s						
AAA	**Alma-Ata**	**2.35**	**46**	Pg	**Pb**	**20 22 46.2**	**-0.1**
	comp=E,454nm,0.3s						
AAA				Lg	Lg	20 23 17.1	
	comp=E,1μm,0.6s						
AAA	**Alma-Ata**	**2.35**	**46**	*e*PN	**Pb**	**20 22 45.8**	**-0.5**
KNDC	**Almaty**	**2.38**	**47**	⇑Pn	**Pb**	**20 22 46.4**	**-0.5**
	comp=E,188nm,0.3s						
KNDC				⇑Sn	**Sb**	**20 23 16.6**	**0.0**
	comp=E,496nm,0.6s						
KNDC	**Almaty**	**2.38**	**47**	PN	**Pb**

PRZ ⇑eS Sn 20 23 27.9 +0.3
baz=71
PRZ Przheval'sk 2.97 72 ePN Pn 20 22 52.0 +0.5
PRZ S Sn 20 23 27.9 +0.3
DRK Karamyk 3.01 226⇑eP Pn 20 22 52.6 +0.5
baz=27
DRK ⇑eS Sn 20 23 29.1 +0.3
baz=27
DRK Karamyk 3.01 226 ePN Pn 20 22 52.6 +0.5
DRK S Sn 20 23 29.1 +0.3
SATY Saty 3.18 62 eP Pb 20 23 00.3 -0.2
comp=E,12nm,0.2s
SATY eS Sb 20 23 40.9 +1.3
comp=E,198nm,0.3s
SATY Saty 3.18 62 Pg Pb 20 23 00.3 -0.2
comp=E,12nm,0.5s
SATY Lg Lg 20 23 40.9
comp=E,198nm,0.3s
KURS Kuram 3.24 53 eP Pb 20 23 02.0 +0.5
comp=E,17nm,0.3s
KURS eS Sb 20 23 44.0 +2.6
comp=E,51nm,0.5s
KURS Kuram 3.24 53 Pg Pb 20 23 01.7 +0.2
comp=E,12nm,0.5s
KURS Lg Lg 20 23 44.0
comp=E,51nm,0.5s
ZHN Zhinishke 3.25 60 eP Pb 20 23 01.9 +0.3
comp=E,14nm,0.2s
ZHN eS Sb 20 23 43.7 +2.1
comp=E,362nm,0.1s
ZHN Zhinishke 3.25 60 Pg Pb 20 23 01.9 +0.3
comp=E,14nm,0.2s
ZHN Lg Lg 20 23 43.7
comp=E,275nm,0.3s
KK31 Karatay Array 3.37 298 Pn Pn 20 22 57.8 +1.0
comp=E,0.9nm,0.3s,baz=116,slow=12,SNR=153
KK31 ⇓Pg Pb 20 23 04.3 +0.6
comp=E,5.6nm,0.3s,baz=119,slow=16,SNR=35
KK31 ⇓Lg Lg 20 23 48.3
comp=E,40nm,0.4s,baz=120,slow=24,SNR=10
KK31 Karatay Array 3.37 298 i PN Pb 20 23 05.0 +1.3
KK31 pmax pmax
comp=Z,6.0nm,0.3s
KKAR Karatay Array 3.37 298⇓eP Pn 20 22 58.1 +1.3
baz=98
KKAR ⇓eS Sn 20 23 38.4 +1.1
baz=98
KKAR Karatay Array 3.37 298 ePN Pn 20 22 58.1 +1.3
KKAR S Sn 20 23 38.4 +1.1
IUG luzhnay 3.44 280 eP Pb 20 23 06.7 +1.7
comp=Z,82nm,0.2s
IUG eS Sg 20 23 52.0 -2.0
comp=Z,328nm,0.3s
IUG luzhnay 3.44 280 Pg Pb 20 23 06.6 +1.7
comp=Z,82nm,0.5s
IUG Lg Lg 20 23 52.0
comp=Z,146nm,0.5s
IUG luzhnay 3.44 280 ePN Pn 20 22 59.8 +1.9
BTLS Baital 3.45 354 eP Pb 20 23 05.6 +0.5
comp=Z,13nm,0.2s
BTLS eS Sb 20 23 49.9 +2.6
comp=Z,292nm,0.3s
BTLS Baital 3.45 354 Pg Pb 20 23 05.7 +0.6
comp=Z,13nm,0.5s
BTLS Lg Lg 20 23 49.9
comp=Z,28nm,0.4s
BTLS Baital 3.45 354 ePN Pn 20 22 59.7 +1.8
ARXS Arharly 3.52 41 eP Pb 20 23 07.5 +1.2
comp=Z,39nm,0.4s
ARXS eS Sg 20 23 53.1 -3.4
comp=Z,208nm,0.5s
ARXS Arharly 3.52 41 Pg Pb 20 23 07.5 +1.2
comp=Z,39nm,0.4s
ARXS Lg Lg 20 23 53.1
comp=Z,208nm,0.5s
ARXS Arharly 3.52 41 ePN Pn 20 23 00.4 +1.4
KPKS Kokpek 3.55 57 eP Pb 20 23 07.4 +0.6
comp=Z,9.5nm,0.2s
KPKS eS Sb 20 23 52.9 +2.7
comp=Z,156nm,0.3s
KPKS Kokpek 3.55 57 Pg Pb 20 23 07.4 +0.6
comp=Z,9.5nm,0.2s
KPKS Lg Lg 20 23 52.9
comp=Z,156nm,0.3s
KPKS Kokpek 3.55 57 ePN Pn 20 23 01.0 +1.7
UZB Uzynbulak 3.62 63 eP Pb 20 23 07.8 -0.3
comp=Z,9.0nm,0.5s
UZB eS Sb 20 23 53.8 +1.3
comp=Z,62nm,0.3s
UZB Uzynbulak 3.62 63 Pg Pb 20 23 07.8 -0.3
comp=Z,9.0nm,0.5s
UZB Lg Lg 20 23 53.8
comp=Z,62nm,0.3s
CHM Chimkent 3.78 282 eP Pg 20 23 14.6 -1.3
comp=Z,18nm,0.2s
CHM eS Sg 20 24 05.2 +0.3
comp=Z,229nm,0.5s
BLB Baldybastay 3.79 48 Pg Pb 20 23 11.7 +0.8
comp=Z,301nm,0.5s
BLB Lg Lg 20 24 00.8
comp=Z,160nm,0.6s
BRLS Borolday 3.80 293 eP Pg 20 23 13.9 -2.2
comp=Z,13nm,0.2s
BRLS eS Sg 20 24 04.2 -1.2
comp=Z,45nm,0.2s
BRLS Borolday 3.80 293 Pg Pb 20 23 13.7 +2.7
comp=Z,13nm,0.6s
BRLS Lg Lg 20 24 04.2
comp=Z,45nm,0.3s
SHLS Shalkode 3.93 65 eP Pg 20 23 18.8 +0.1
comp=Z,9.5nm,0.3s
SHLS eS Sg 20 24 12.6 +3.1
comp=Z,112nm,0.6s
SHLS Shalkode 3.93 65 Pg Pg 20 23 18.7 +0.1
comp=Z,9.5nm,0.3s
SHLS Lg Lg 20 24 12.6
comp=Z,112nm,0.6s
SHLS Shalkode 3.93 65 ePN Pb 20 23 13.0 -0.2
PDGK Podgornoye 4.01 63 Pg Pb 20 23 14.9 +0.2
comp=Z,2.3nm,0.2s
PDGK Lg Lg 20 24 06.0
comp=Z,36nm,0.5s
PDGK Podgornoye 4.01 63 ⇓Pn Pn 20 23 08.3 +2.6
comp=Z,2.0nm,0.6s
PDGK ⇓Pg Pg 20 23 18.8 -1.5
comp=Z,9.9nm,0.6s
PDGK ⇓Lg Lg 20 24 12.9
comp=Z,79nm,0.8s
PDGK Podgornoye 4.01 63 i PN Pn 20 23 07.2 +1.5
PDGK pmax pmax
comp=Z,2.0nm,0.5s
GAR Garm 4.18 233⇑eP Pn 20 23 08.9 +0.8
baz=33
GAR ⇑eS Sn 20 23 57.1 -0.3
baz=33
GAR Garm 4.18 233 ePN Pn 20 23 08.9 +0.8
GAR S Sn 20 23 57.1 -0.3
KNOS Konyrlen 4.34 49 Pg Pb 20 23 21.5 +1.1
comp=Z,1.0nm,0.3s
KNOS Lg Lg 20 24 16.6
comp=Z,43nm,0.5s
KTMS Ketmen 4.64 65 eP Pb 20 23 27.7 +2.3
comp=Z,2.9nm,0.1s
KTMS eS Sg 20 24 27.8 -4.5
comp=Z,22nm,0.4s
KTMS Ketmen 4.64 65 Pg Pb 20 23 28.1 +2.7
comp=Z,3.1nm,0.3s
KTMS Lg Lg 20 24 28.0
comp=Z,22nm,0.4s
DJR Jarkent 4.69 53 eP Pb 20 23 27.5 +1.4
comp=Z,5.7nm,0.5s
DJR eS Sb 20 24 27.6 +4.7
comp=Z,38nm,0.5s
DJR Jarkent 4.69 53 Pg Pb 20 23 27.5 +1.4
comp=Z,5.7nm,0.5s
DJR Lg Lg 20 24 27.6
comp=Z,38nm,0.5s
CHGR Chuyangaron 5.10 236⇓eP Pn 20 23 21.5 +0.8
baz=37
CHGR ⇓eS Sn 20 24 19.1 -1.0
baz=37
CHGR Chuyangaron 5.10 236 ePN Pn 20 23 21.5 +0.8
CHGR S Sn 20 24 19.1 -1.0
MAKZ Makanchi 7.42 43⇑Pn Pn 20 23 55.0 +2.5
comp=Z,1.5nm,0.5s
MAKZ ⇓Lg Lg 20 25 59.5
comp=Z,11nm,0.9s

MK31 Makanchi Array 7.58 44 Pn Pn 20 23 56.1 +1.5
comp=Z,7.3nm,0.7s,baz=226,slow=14,SNR=18
MK31 ⇓Lg Lg 20 26 05.6
comp=Z,6.2nm,0.7s,baz=228,slow=30,SNR=5.0
MK31 Makanchi Array 7.58 44 i P Pn 20 23 56.6 +2.0
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 7.58 44 Pn Pn 20 23 56.7 +2.1
comp=Z,0.4nm,0.3s,baz=227,slow=15,SNR=22
MKAR Lg Lg 20 26 01.1
comp=Z,0.7nm,0.3s,baz=237,slow=26,SNR=4.2
comp=Z,1.2nm,0.5s
KURBB Kurchatov Arra 9.42 16 Pn Pn 20 24 18.6 -1.1
baz=202,slow=12,SNR=6.1
KURBB Lg Lg 20 26 57.8
comp=Z,0.3nm,0.3s,baz=202,slow=30,SNR=7.9
comp=Z,0.3nm,0.4s
KURBB Kurchatov Arra 9.42 16⇑Lg Lg 20 27 01.6
comp=Z,53nm,0.7s
KURK Kurchatov 9.52 16 P Pn 20 24 18.7 -2.5
BVA0 Borovoye Array 11.77 347⇓Pn Pn 20 24 51.9 0.0
comp=Z,4.4nm,1.4s,baz=149,slow=11,SNR=10.0
BVA0 ⇓Lg Lg 20 28 13.8
comp=Z,11nm,0.8s,baz=152,slow=28,SNR=3.9
BVA0 Borovoye Array 11.77 347 P Pn 20 24 51.9 0.0
BVAR Borovoye Array 11.77 347 Pn Pn 20 24 49.2 -2.7
comp=Z,0.1nm,0.3s,baz=153,slow=11,SNR=9.6
BVAR Lg Lg 20 28 11.2
comp=Z,0.1nm,0.3s,baz=150,slow=27,SNR=5.8
comp=Z,1.4nm,0.6s
AB31 Akbulak array 12.80 312 i P Pn 20 25 06.6 +0.6
ZALV Zalesovo Beam 14.11 26 Pn Pn 20 25 23.2 -0.7
comp=Z,0.2nm,0.3s,baz=215,slow=10.0,SNR=3.0
ZALV Sn Sn 20 28 03.7 +2.9
comp=Z,0.2nm,0.3s,baz=215,slow=17,SNR=1.6
ZALV Lg Lg 20 29 29.2
comp=Z,0.2nm,0.3s,baz=203,slow=22,SNR=3.7
comp=Z,0.4nm,0.3s
ZALV Zalesovo Beam 14.11 26 i P P 20 25 31.2 -0.5
ZALV pmax pmax
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 14.48 313 Pn Pn 20 25 25.6 -3.4
comp=Z,0.2nm,0.3s,baz=121,slow=13,SNR=2.2
comp=Z,2.3nm,0.7s
ARU Arti 18.10 330 P Pn 20 26 13.8 -1.7
ARU Arti 18.10 330 P P 20 26 16.3 +0.3
ARU S S 20 29 43.0 -0.8
SONM Songino Array 23.33 64 P P 20 27 13.5 +0.9
comp=Z,0.3nm,0.8s,baz=258,slow=8.8,SNR=2.1
comp=Z,0.3nm,0.8s
OBN Obninsk 28.25 312 eP P 20 27 59.5 +2.2
OBN e 20 28 47.3
OBN ePPP PPP 20 28 56.3
OBN e 20 31 12.3
OBN pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 35.02 321 P P 20 28 56.1 -0.6
comp=Z,0.7nm,0.4s,baz=110,slow=10,SNR=10
comp=Z,0.7nm,0.4s
FINES FINESS Array B 35.02 321 i P P 20 28 55.5 -1.2
FINES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 37.62 334 P P 20 29 18.8 -0.1
comp=Z,2.5nm,0.5s,baz=108,slow=9.2,SNR=29
comp=Z,2.5nm,0.5s
HFS Hagfors 40.95 318 P P 20 29 46.0 -0.7
comp=Z,1.1nm,0.6s,baz=108,slow=9.8,SNR=5.2
comp=Z,1.1nm,0.6s
NB2 NORSAR Subarra 42.14 320 P P 20 29 55.3 -1.3
comp=Z,0.3nm,0.4s,baz=85,slow=7.4
NOA NORSAR Array B 42.14 320 P P 20 29 55.5 -1.0
comp=Z,0.3nm,0.5s,baz=79,slow=8.6,SNR=2.4
comp=Z,0.3nm,0.5s
GERES GERESS Array B 42.47 301 P P 20 29 58.3 -1.2
comp=Z,0.2nm,0.4s,baz=76,slow=5.2,SNR=1.7
comp=Z,0.2nm,0.4s
BILL Bilibino 52.79 28 eP P 20 31 21.6 +2.4
BILL e 20 32 30.9
BILL e 20 33 21.1
BILL pmax pmax
comp=Z,2.0nm,1.1s
TORD Torodi Ar. Bea 68.63 269 P P 20 33 05.7 -2.3
comp=Z,0.4nm,0.6s,baz=57,slow=6.4,SNR=4.3
comp=Z,0.4nm,0.6s

NEIC 14 20:28:19.6±0.5, 35°.911N±0°.009×96°.86W±0°.02, h9km±4km, mb_Lg2.1/25, ML2.2/46, Error ellipse: s-maj=1.9km s-min=1.2km az=100.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.04**	**17**	Pg	Pg	20 28 21.1	-0.2
OK031				Sg	Sg	20 28 22.2	-0.4
OK052	**Battle Ridge R**	**0.09**	**27**	Pg	Pg	20 28 22.1	+0.1
OK052				Sg	Sg	20 28 23.8	+0.2
QUOK	**Quay**	**0.29**	**25**	Pg	Pg	20 28 25.6	+0.3
QUOK				Sg	Sg	20 28 29.7	+0.6
QUOK				IAML		20 28 31.6	
	comp=N,232nm,0.2s						
DEOK	**Depew**	**0.30**	**103**	Pg	Pg	20 28 26.0	+0.5
DEOK				Sg	Sg	20 28 30.3	+0.9
ADOK	**Arcadia Dam**	**0.49**	**239**	Pg	Pg	20 28 29.4	+0.3
ADOK				Sg	Sg	20 28 36.1	+0.5
OK029	**Liberty Lake**	**0.50**	**257**	Pg	Pg	20 28 29.5	+0.2
OK029				Sg	Sg	20 28 36.4	+0.6
OK029				IAML		20 28 42.6	
	comp=N,152nm,0.7s						
OK048	**Pawnee Station**	**0.51**	**352**	Pg	Pg	20 28 29.6	+0.1
OK048				Sg	Sg	20 28 36.5	+0.3
OK048				IAML		20 28 40.0	
	comp=N,158nm,0.4s						
OK048				IAML		20 28 41.6	
	comp=N,115nm,0.2s						
OK051	**E0350 and S346**	**0.59**	**1**	Pg	Pg	20 28 31.1	0.0
OK051				Sg	Sg	20 28 39.0	+0.1
OK051				IAML		20 28 42.5	
	comp=N,195nm,0.1s						
OK051				IAML		20 28 42.6	
	comp=N,156nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.69**	**223**	Pg	Pg	20 28 32.2	-0.7
OKCSW				IAML		20 28 47.2	
	comp=N,158nm,0.2s						
W35A	**Tecumseh**	**0.76**	**181**	Pg	Pg	20 28 34.0	-0.2
W35A				Sg	Sg	20 28 44.6	+0.6
W35A				IAML		20 28 45.0	
	comp=E,121nm,0.4s						
FNO	**Franklin**	**0.79**	**214**	Pg	Pg	20 28 34.1	-0.7
FNO				Sg	Sg	20 28 45.5	+0.5
FNO				IAML		20 28 45.9	
	comp=E,82nm,0.4s						
FNO				IAML		20 28 45.9	
	comp=N,76nm,0.2s						
TUL3	**Leonard**	**0.86**	**90**	Pg	Pg	20 28 36.0	-0.2
TUL3				Sg	Sg	20 28 47.5	+0.1
BLOK	**Blackwell**	**0.90**	**341**	Pg	Pg	20 28 36.6	-0.2
BLOK				Sg	Sg	20 28 48.4	0.0
T35A	**Sooner Cattle**	**1.04**	**15**	Pg	Pg	20 28 39.1	-0.4
T35A				Sg	Sg	20 28 52.8	-0.3
T35A				IAML		20 29 00.9	
	comp=N,40nm,0.2s						
CROK	**Carrier**	**1.09**	**303**	Pg	Pg	20 28 40.0	-0.5
KAN13	**South Haven SW**	**1.21**	**336**	Pg	Pb	20 28 42.1	-0.5
GC02	**Grant County #**	**1.24**	**319**		Pn	20 28 42.5	-0.7
KAN17	**Caldwell West**	**1.35**	**327**	Pn	Pn	20 28 44.6	-0.1
KAN09	**Caldwell North**	**1.37**	**334**	Pn	Pn	20 28 44.8	-0.1
KAN14	**Manchester OK**	**1.37**	**320**	Pn	Pn	20 28 44.9	-0.1
OK032	**Salt Plains WL**	**1.41**	**310**	Pn	Pn	20 28 45.3	-0.2
KAN01	**Argonia South**	**1.44**	**330**	Pn	Pb	20 28 46.4	-0.2
RLO	**Rose Lookout**	**1.51**	**80**	Pn	Pn	20 28 47.0	+0.2
OK038	**West end E0370**	**1.63**	**291**	Pn	Pn	20 28 48.5	0.0
OK038				IAmb_Lg		20 29 11.2	
	comp=Z,10nm,0.9s						
X37A	**Clayton**	**1.79**	**137**	Pn	Pn	20 28 51.3	+0.6
U32A	**Winter Ranch,**	**1.80**	**286**	Pn	Pn	20 28 51.4	+0.5
U32A				IAmb_Lg		20 29 21.2	
	comp=Z,7.1nm,0.7s						
U38A	**Gravette**	**2.07**	**74**	Pn	Pb	20 28 56.1	-1.1
MIAR	**Mount Ida**	**3.01**	**116**	Pn	Pn	20 29 09.0	+1.6
WHAR	**Wooly Hollow**	**3.77**	**98**	Pn	Pn	20 29 18.0	0.0
WHAR				IAmb_Lg		20 30 27.0	
	comp=Z,3.4nm,0.9s						
FCAR	**Ozark Folk Cen**	**3.84**	**89**	IAmb_Lg		20 30 21.9	
	comp=Z,4.9nm,0.7s						
MGMO	**Mountain Grove**	**3.90**	**70**	IAmb_Lg		20 30 23.3	
	comp=Z,6.1nm,0.7s						

AMTX	**Amarillo**	**4.07**	**257**	IAmb_Lg		20 30 35.9
	comp=Z,5.1nm,0.8s					
R40A	**Maddies Statio**	**4.37**	**56**	IAmb_Lg		20 30 44.0
	comp=Z,4.6nm,0.8s					
P38A	**Dawn**	**4.55**	**34**	IAmb_Lg		20 30 52.1
	comp=Z,4.2nm,0.8s					
LCAR	**Lake Charles**	**4.62**	**86**	IAmb_Lg		20 30 50.0
	comp=Z,3.5nm,0.7s					
T42A	**Van Buren**	**4.78**	**75**	IAmb_Lg		20 30 58.9
	comp=Z,4.2nm,0.8s					
CGM3	**Cape Girardeau**	**5.95**	**74**	IAmb_Lg		20 31 34.5
	comp=Z,3.8nm,0.8s					
T25A	**Trinidad**	**6.21**	**284**	IAmb_Lg		20 31 40.4
	comp=Z,3.2nm,0.8s					

*MDD **14** 20:37:30.8±0.6, 36°.19N×7°.85W, h16km±5km, mb_Lg2.9/31, Error ellipse: s-maj=4.0km s-min=2.4km az=45.0*
*CNRM **14** 20:37:31.6, 36°.15N×7°.98W, h67km, ML2.0*
*IGIL **14** 20:37:32.7, 36°.21N×7°.84W, h23km, ML2.2*
*INMG **14** 20:37:33.8±1.4, 36°.22N×7°.84W, h31km±8km, ML2.3, Error ellipse: s-maj=3.4km s-min=2.4km az=62.0*
*SFS **14** 20:37:34.0, 36°.34N×7°.78W, h21km, ML2.8/17, ML2.7/13, MLv2.4/17*

ISC 14 20:37:31.1±1.4, 36°.26N±0°.04×7°.77W±0°.03, h23km±14km, n78, σ1s21/132, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.99**	**352**	eP	Pb	20 37 50.6	+1.1
PBDV				eS	Sn	20 38 03.4	+0.5
PBDV				A	A	20 38 09.3	
	46nm,0.3s						
PBDV	**Barranco-do-Ve**	**0.99**	**352**	Pg	Pb	20 37 50.4	+0.9
PBDV				Sg	Sb	20 38 01.7	-0.5
PVAQ	**Vaqueiros**	**1.14**	**2**	eP	Pb	20 37 52.7	+0.5
PVAQ				eS	Sb	20 38 06.7	+0.2
PVAQ				A	A	20 38 10.9	
	39nm,0.2s						
PVAQ	**Vaqueiros**	**1.14**	**2**	Pn	Pb	20 37 52.6	+0.5
PVAQ				Sn	Sb	20 38 06.9	+0.4
PVAQ	**Vaqueiros**	**1.14**	**2**	P	Pb	20 37 52.9	+0.8
PVAQ	**Vaqueiros**	**1.14**	**2**	S	Sn	20 38 09.1	+2.5
PFVI	**Vila Bisbo**	**1.22**	**316**	eP	Pn	20 37 52.9	+0.2
PFVI				eS	Sb	20 38 07.7	-1.0
PFVI				A	A	20 38 14.9	
	28nm,0.2s						
PFVI	**Vila Bisbo**	**1.22**	**316**	Pn	Pn	20 37 52.9	+0.2
PFVI	**Vila Bisbo**	**1.22**	**316**	P	Pn	20 37 53.1	+0.4
PFVI	**Vila Bisbo**	**1.22**	**316**	S	Sb	20 38 09.4	+0.7
MORF	**Marmelete**	**1.26**	**326**	eP	Pn	20 37 53.6	+0.3
MORF				eS	Sb	20 38 08.9	-1.1
MORF				A	A	20 38 14.0	
	51nm,0.2s						
MORF	**Marmelete**	**1.26**	**326**	eP	Pn	20 37 53.7	+0.4
MORF				eS	Sb	20 38 09.3	-0.7
MORF				IAML		20 38 13.2	
	comp=E,49nm,0.1s						
EGRO	**El Granado**	**1.29**	**10**	Pn	Pn	20 37 54.8	+1.1
EGRO				Sn	Sb	20 38 09.5	-1.3
EGRO	**El Granado**	**1.29**	**10**	Pn	Pn	20 37 54.6	+0.9
EGRO				Sn	Sb	20 38 10.6	-0.2
EGRO				i Vmb_Lg		20 38 16.2	
PCVE	**Castro Verde**	**1.39**	**351**	eP	Pn	20 37 56.2	+1.2
PCVE				eS	Sn	20 38 12.7	+0.1
PCVE				A	A	20 38 21.6	
	comp=E,31nm,0.4s						
PCVE	**Castro Verde**	**1.39**	**351**	Pn	Pn	20 37 56.1	+1.1
PCVE				Sn	Sn	20 38 12.1	-0.6
PTEO	**Sao Teotonio**	**1.49**	**329**	eP	Pn	20 37 57.3	+0.8
PTEO				eS	Sn	20 38 15.3	0.0
PTEO				A	A	20 38 20.9	
	comp=E,18nm,0.4s						
MESJ	**Messejana**	**1.62**	**347**	eP	Pn	20 37 59.4	+1.2
MESJ				eS	Sn	20 38 17.8	-0.5
MESJ				A	A	20 38 25.8	
	comp=E,30nm,0.1s						
MESJ	**Messejana**	**1.62**	**347**	eP	Pn	20 37 59.2	+1.0
MESJ				eS	Sn	20 38 18.3	0.0
MESJ				IAML		20 38 23.6	
	comp=E,17nm,0.2s						
ESPR	**Espera**	**1.66**	**68**	Pn	Pn	20 38 00.2	+1.5
ESPR				Sn	Sn	20 38 19.6	+0.3
ESPR	**Espera**	**1.66**	**68**	Pn	Pn	20 37 59.9	+1.2
ESPR				Sn	Sn	20 38 19.9	+0.6
ESPR				i Vmb_Lg		20 38 20.9	
EMIN	**Mina Concepcio**	**1.74**	**30**	Pn	Pn	20 38 00.9	+1.0
EMIN				Sn	Sn	20 38 21.6	+0.2
EMIN	**Mina Concepcio**	**1.74**	**30**	Pn	Pn	20 38 01.5	+1.6
EMIN				Sn	Sn	20 38 21.7	+0.2
EMIN				i Vmb_Lg		20 38 28.2	
PBEJ	**Beja**	**1.76**	**358**	eP	Pn	20 38 02.0	+1.8
PBEJ				eS	Sn	20 38 23.1	+1.1
PBEJ				A	A	20 38 31.4	
	comp=E,18nm,0.3s						
EJIF	**Jimena Fronter**	**1.87**	**83**	Pn	Pn	20 38 03.5	+1.9
EJIF				Sn	Sn	20 38 25.7	+1.1
PNCL	**Nicolau / Gran**	**1.94**	**342**	eP	Pn	20 38 03.3	+0.6
PNCL				eS	Sn	20 38 25.9	-0.5
PNCL				A	A	20 38 34.0	
	comp=E,26nm,0.3s						
PNCL	**Nicolau / Gran**	**1.94**	**342**	Pn	Pn	20 38 03.3	+0.6
PNCL				Sn	Sn	20 38 25.5	-0.9
ECEU	**Ceuta**	**1.97**	**100**	Pn	Pn	20 38 02.6	-0.5
ECEU				Sn	Sn	20 38 28.1	+1.0
ECEU				i Vmb_Lg		20 38 47.8	
PBAR	**Barrancos**	**2.00**	**17**	eP	Pn	20 38 04.7	+1.3
PBAR				eS	Sn	20 38 28.4	+0.7
PBAR				A	A	20 38 39.6	
	comp=E,6.4nm,0.2s						
PBAR	**Barrancos**	**2.00**	**17**	Pn	Pn	20 38 04.6	+1.1
PBAR				Sn	Sn	20 38 26.9	-0.8
EVO	**Evora**	**2.27**	**355**	eP	Pn	20 38 08.4	+1.1
EVO				eS	Sn	20 38 35.3	+0.7
EVO				A	A	20 38 48.0	
	comp=E,12nm,0.3s						
EVO	**Evora**	**2.27**	**355**	Pn	Pn	20 38 08.4	+1.1
EVO				Sn	Sn	20 38 34.1	-0.5
CHEFC	**Chefchaouen**	**2.29**	**120**	P	Pn	20 38 09.3	+1.8
EBAD	**Badajoz**	**2.56**	**13**	Pn	Pn	20 38 11.9	+0.8
EBAD				Sn	Sn	20 38 40.4	-1.2
EBAD	**Badajoz**	**2.56**	**13**	Pn	Pn	20 38 11.2	0.0
EBAD				Sn	Sn	20 38 40.9	-0.8
EBAD				i Vmb_Lg		20 38 43.9	
PESTR	**Estremoz**	**2.60**	**3**	eP	Pn	20 38 13.2	+1.4
PESTR				eS	Sn	20 38 42.0	-0.8
PESTR				A	A	20 38 59.5	
	comp=E,6.1nm,0.2s						
PESTR	**Estremoz**	**2.60**	**3**	Pn	Pn	20 38 12.9	+1.1
PESTR				Sn	Sn	20 38 42.1	-0.6
ECAB	**El Cabril**	**2.61**	**45**	Pn	Pn	20 38 13.1	+1.2
ECAB				Sn	Sn	20 38 40.8	-2.0
ECAB	**El Cabril**	**2.61**	**45**	Pn	Pn	20 38 12.7	+0.8
ECAB				Sn	Sn	20 38 42.2	-0.7
ECAB				i Vmb_Lg		20 38 49.1	
PACT	**Alcochete**	**2.64**	**342**	eS	Sn	20 38 45.2	+1.6
PACT				A	A	20 39 00.0	
	comp=E,21nm,0.6s						
PMTG	**Montargil**	**2.83**	**353**	eP	Pn	20 38 15.9	+1.1
PMTG				eS	Sn	20 38 47.2	-1.0
PMTG				A	A	20 38 49.6	
	comp=E,5.0nm,0.3s						
PMAFR	**Mafra**	**2.95**	**336**	eP	Pn	20 38 17.8	+1.3
PMAFR				eS	Sn	20 38 49.5	-1.6
PMAFR	**Mafra**	**2.95**	**336**	Pn	Pn	20 38 17.8	+1.3
ZHG	**ZHG**	**2.96**	**161**	P	Pn	20 38 17.3	+0.6
EGOR	**Sierra Gorda,**	**3.06**	**73**	Pn	Pn	20 38 20.8	+2.6
EGOR	**Sierra Gorda,**	**3.06**	**73**	Pn	Pn	20 38 18.3	+0.1
EGOR				Sn	Sn	20 38 53.0	-1.2
EGOR				i Vmb_Lg		20 38 58.3	
PMRV	**Marv??o**	**3.18**	**5**	eP	Pn	20 38 20.7	+1.0
PMRV				eS	Sn	20 38 56.5	-0.3
EADA	**Adamuz**	**3.18**	**52**	Pn	Pn	20 38 20.5	+0.8
EADA				Sn	Sn	20 38 55.8	-1.2
EADA				i Vmb_Lg		20 39 00.2	
PSBE	**So Bento**	**3.35**	**346**	eP	Pn	20 38 23.3	+1.3
PSBE				eS	Sn	20 39 00.7	-0.4
ELGU	**Los Guajares,**	**3.39**	**78**	Pn	Pn	20 38 24.2	+1.6
ELGU				Sn	Sn	20 39 01.4	-0.8
ELGU	**Los Guajares,**	**3.39**	**78**	Pn	Pn	20 38 23.7	+1.0
ELGU				Sn	Sn	20 39 01.9	-0.3

ELGU				*i* Vmb_Lg		20 39 08.6	
PCBR	**Castelo Branco**	**3.58**	**4**	*eP*	**Pn**	**20 38 26.5**	**+1.3**
PCBR				*eS*	**Sn**	**20 39 06.8**	**0.0**
EQUE	**Quentar**	**3.60**	**74**	Pn	**Pn**	**20 38 26.6**	**+1.0**
EQUE				Sn	**Sn**	**20 39 07.6**	**+0.1**
EQUE				*i* Vmb_Lg		20 39 12.5	
AKLM	**AKL**	**3.64**	**118**	P	**Pn**	**20 38 27.1**	**+1.0**
AKLM	**AKL**	**3.64**	**118**	S	**Sn**	**20 39 06.4**	**-1.9**
PCAS	**Casmilo, Conde**	**3.83**	**352**	*eP*	**Pn**	**20 38 30.1**	**+1.5**
PCAS				*eS*	**Sn**	**20 39 11.8**	**-1.1**
CZD	**Col de Zad**	**3.93**	**144**	P	**Pn**	**20 38 30.5**	**+0.3**
EBER	**Berja**	**3.98**	**79**	Pn	**Pn**	**20 38 31.0**	**+0.2**
EBER				Sn	**Sn**	**20 39 15.9**	**-0.9**
EBER				*i* Vmb_Lg		20 39 27.0	
GOG	**Mont Gurugu**	**4.02**	**104**	P	**Pn**	**20 38 32.4**	**+1.1**
EPLA	**Plasencia**	**4.02**	**19**	Pn	**Pn**	**20 38 33.1**	**+1.8**
EPLA				Sn	**Sn**	**20 39 16.4**	**-1.3**
EPLA				*i* Vmb_Lg		20 39 17.8	
MD31	**MD31**	**4.20**	**143**	P	**Pn**	**20 38 33.2**	**-0.6**
PAB	**San Pablo**	**4.25**	**38**	Pn	**Pn**	**20 38 36.1**	**+1.6**
PAB				Sn	**Sn**	**20 39 20.2**	**-3.3**
PAB				*i* Vmb_Lg		20 39 24.7	
PVIS	**Viseu**	**4.45**	**359**	*eS*	**Sn**	**20 39 26.7**	**-1.6**
ESDC	**Sonseca Array**	**4.54**	**40**	Pn	**Pn**	**20 38 39.1**	**+0.6**
ESDC				Sn	**Sn**	**20 39 29.5**	**-1.1**
TISM	**Timmit**	**4.66**	**166**	P	Pn	20 38 37.2	-2.9
PVRL	**Vila Real**	**5.01**	**0**	*eS*	**Sn**	**20 39 38.9**	**-3.1**
POLO	**Lamas de Olo**	**5.11**	**360**	*eP*	**Pn**	**20 38 47.3**	**+1.1**
POLO				*eS*	**Sn**	**20 39 42.8**	**-1.7**
EZAR	**Zarzadilla de**	**5.12**	**70**	Pn	**Pn**	**20 38 47.4**	**+1.0**
EZAR				Sn	**Sn**	**20 39 43.5**	**-1.3**
EZAR				*i* Vmb_Lg		20 39 49.6	
GUD	**Guadarrama**	**5.21**	**32**	Pn	**Pn**	**20 38 47.2**	**-0.6**
GUD				Sn	**Sn**	**20 39 45.1**	**-2.2**
GUD				*i* Vmb_Lg		20 39 51.5	
TIO	**Tiouine**	**5.34**	**175**	P	Pn	20 38 48.9	-0.7
UCM	**Universidad Co**	**5.38**	**40**	Pn	**Pn**	**20 38 52.2**	**+2.2**
UCM				Sn	**Sn**	**20 39 49.8**	**-1.5**
OUZM	**OUZ**	**5.40**	**171**	P	**Pn**	**20 38 50.1**	**-0.3**
ELOB	**Lobios**	**5.60**	**358**	Pn	**Pn**	**20 38 52.9**	**-0.2**
ELOB				Sn	**Sn**	**20 39 54.3**	**-2.5**
ELOB				*i* Vmb_Lg		20 40 25.3	
TTIG	**Tnine Tigouga,**	**5.73**	**186**	P	Pn	20 38 50.5	-4.3
ECAL	**Calabor**	**5.73**	**8**	Pn	**Pn**	**20 38 55.2**	**+0.4**
ECAL				Sn	**Sn**	**20 39 57.9**	**-2.0**
ECAL				*i* Vmb_Lg		20 40 00.1	
EVIV	**Cofrentes, Val**	**6.06**	**58**	Pn	**Pn**	**20 38 59.0**	**-0.3**
EVIV				Sn	**Sn**	**20 40 06.5**	**-1.6**
EVIV				*i* Vmb_Lg		20 40 21.4	
ECHE	**Chera**	**6.32**	**56**	Pn	**Pn**	**20 39 02.6**	**-0.3**
ECHE				Sn	**Sn**	**20 40 12.6**	**-1.8**
ECHE				*i* Vmb_Lg		20 41 21.6	
ETOR	**Torete**	**6.38**	**43**	Pn	**Pn**	**20 39 04.9**	**+1.1**
ETOR				Sn	**Sn**	**20 40 13.2**	**-2.8**

*IDC **14** 21:38:02.7±1.5, 8.′33S×124.″57E, h0km, mb3.6/3, mbtmp3.5/6, ML3.4/3, Error ellipse: s-maj=96.8km s-min=27.0km az=53.0*
*DJA **14** 21:38:12.3±0.5, 9.′5±3.″3×12.″4E±.″, h101km±6km, M3.6/10, mb4.1/1, MLv3.3/10*
ISC 14 21:38:12.1±1.0, 9.′17S±0.′07×123.′62E±0.′07, h100km, n14, σ1°79/18, mb3.5/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.87**	**132**	P	**Pn**	**21 38 32.1**	**+0.8**
SOEI				S	**Sn**	**21 38 46.0**	**+0.3**
BATI	**Baumata**	**1.04**	**177**	P	**Pn**	**21 38 33.1**	**+0.1**
BATI				S	**Sn**	**21 38 48.9**	**+0.2**
MMRI	**Maumere**	**1.46**	**291**	P	**Pn**	**21 38 38.8**	**+0.9**
MMRI				S	**Sn**	**21 38 58.5**	**+1.0**
EDFI	**Ende, Flores**	**1.95**	**282**	P	**Pn**	**21 38 44.9**	**+0.8**
EDFI				S	**Sn**	**21 39 08.5**	**0.0**
BASI	**Baing, Sumba**	**3.17**	**250**	P	**Pn**	**21 39 00.1**	**-0.1**
BBSI	**Bau Bau**	**3.80**	**344**	P	**Pn**	**21 39 08.5**	**-0.1**
WBSI	**Waikabubak, Su**	**4.20**	**263**	P	**Pn**	**21 39 12.4**	**-1.6**
BKSI	**Bulukumba**	**5.16**	**318**	P	**Pn**	**21 39 28.0**	**+1.0**
KAPI	**Kappang**	**5.63**	**317**	Pn	**Pn**	**21 39 29.0**	**-4.5**
	0.4nm,0.3s,baz=72,slow=9.6,SNR=9.5						
	4.3nm,0.6s						
WRA	**Warramunga Arr**	**14.91**	**137**	Pn	**Pn**	**21 41 34.5**	**-3.3**
	0.2nm,0.3s,baz=320,slow=13,SNR=18						
WRA				Sn	Sn	21 44 07.2	-15
	0.6nm,0.3s,baz=319,slow=25,SNR=9.6						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**17.46**	**147**	P	**Pn**	**21 42 10.6**	**+1.2**
	0.2nm,0.3s,baz=318,slow=11,SNR=14						
ASAR				S	Sn	21 45 11.6	-12
	2.0nm,0.8s,baz=318,slow=23,SNR=11						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**66.77**	**330**	P	**P**	**21 48 55.2**	**+2.4**
	0.4nm,0.6s,baz=140,slow=7.7,SNR=4.4						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**70.90**	**337**	P	**P**	**21 49 18.8**	**+0.5**
	0.5nm,0.5s,baz=127,slow=5.1,SNR=2.2						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**71.21**	**332**	P	**P**	**21 49 21.9**	**+1.7**
	0.2nm,0.5s,baz=133,slow=6.8,SNR=2.1						
	0.2nm,0.5s						

*NEIC **14** 22:28:53.0±1.1, 37.′07N±0.′01×117.′09W±0.′02, h13km±8km, Error ellipse: s-maj=2.3km s-min=1.1km az=50.0*
*REN **14** 22:28:53.4±1.3, 37.′07N±0.′01×117.′07W±0.′01, h8km±5km, ML2.6/38, ML2.3/66(NEIC), Error ellipse: s-maj=2.2km s-min=1.5km az=209.0*
*ANF **14** 22:28:53.4±0.2, 37.′07N×117.″06W, h8km±1km, ML2.6/15, Error ellipse: s-maj=1.8km s-min=1.3km az=168.0*
ISC 14 22:28:53.3±0.8, 37.′07N±0.′02×117.′09W±0.′02, h17km±6km, n61, σ0°85/82, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGV	**South Grapevin**	**0.10**	**150**		**Pg**	**22 28 57.7**	**+0.7**
GRAC	**Grapevine Rang**	**0.23**	**252**	Pg	**Pb**	**22 28 58.6**	**-0.5**
GRAC				Sg	**Sb**	**22 29 02.5**	**-0.4**
GRAC	**Grapevine Rang**	**0.23**	**252**	P	**Pb**	**22 28 58.8**	**-0.3**
	baz=72,SNR=431						
GRAC				S	**Sb**	**22 29 02.7**	**-0.2**
	baz=72						
GMN	**Gold Mountain**	**0.27**	**330**		**Pg**	**22 28 58.9**	**-0.5**
GMN					**Sg**	**22 29 02.9**	**-0.8**
GMN				IAML		22 29 03.2	
	comp=N,436nm,0.3s						
GMN				IAML		22 29 03.3	
	comp=E,447nm,0.4s						
WCT	**Wildcat Mounta**	**0.46**	**126**		**Pg**	**22 29 02.0**	**-0.7**
WCT					**Sg**	**22 29 07.9**	**-1.2**
WCT				IAML		22 29 08.9	
	comp=E,196nm,0.2s						
WCT				IAML		22 29 09.7	
	comp=N,188nm,0.2s						
LCH	**Last Change Ra**	**0.47**	**291**		**Pb**	**22 29 02.9**	**-0.4**
LCH					**Sg**	**22 29 09.3**	**0.0**
LCH				IAML		22 29 11.4	
	comp=N,207nm,0.3s						
LCH				IAML		22 29 12.4	
	comp=E,282nm,0.3s						
FURC	**Furnace Creek,**	**0.62**	**163**		**Pb**	**22 29 05.8**	**0.0**
FURC					**Sb**	**22 29 14.4**	**+0.1**
FURC	**Furnace Creek,**	**0.62**	**163**	P	**Pb**	**22 29 05.7**	**0.0**
	baz=345,SNR=43						
FURC				S	**Sb**	**22 29 14.2**	**-0.1**
	baz=345						
MZP	**Montezuma Peak**	**0.68**	**340**		**Pg**	**22 29 06.2**	**-0.5**
MZP					**Sg**	**22 29 15.1**	**-0.6**
MZP				IAML		22 29 15.8	
	comp=N,132nm,0.2s						
TPNV	**Topopah Spring**	**0.69**	**100**		**Pg**	**22 29 06.5**	**-0.4**
TPNV	**Topopah Spring**	**0.69**	**100**	P	**Pg**	**22 29 06.3**	**-0.5**
	baz=281,SNR=187						
TPNV				S	**Sg**	**22 29 15.5**	**-0.4**
	baz=281						
SDH	**Striped Hills**	**0.74**	**124**		**Pg**	**22 29 07.2**	**-0.5**
DSP	**Deep Springs**	**0.76**	**294**	Pg	**Pg**	**22 29 07.9**	**-0.3**
DSP				Sg	**Sb**	**22 29 18.3**	**0.0**
DSP				IAML		22 29 19.9	
	comp=N,96nm,0.4s						
NSP	**Numbskull Pass**	**0.78**	**115**		**Pg**	**22 29 07.8**	**-0.8**
CPY	**CP-1**	**0.84**	**99**		**Pg**	**22 29 08.8**	**-0.9**
AMDNV	**Amargosa**	**0.89**	**133**		**Pg**	**22 29 10.0**	**-0.7**
TIN	**Tinemaha, Big**	**0.91**	**270**	S	**Sn**	**22 29 24.3**	**+0.1**
	baz=89						
GWY	**Greenwater Val**	**0.94**	**159**		**Pb**	**22 29 11.3**	**0.0**
GWY				Sg	**Sb**	**22 29 23.7**	**+0.1**
GWY				IAML		22 29 28.8	
	comp=N,153nm,0.3s						
GWY				IAML		22 29 29.1	
	comp=E,138nm,0.3s						
MCY	**Mercury**	**0.99**	**114**		**Pb**	**22 29 11.6**	**-0.5**
TPH	**Tonopah**	**1.01**	**354**		**Pb**	**22 29 12.4**	**-0.2**
TPH				Sg	**Sg**	**22 29 25.6**	**-0.7**
MPMC	**Manual Prospec**	**1.05**	**198**	P	**Pn**	**22 29 13.7**	**+0.2**
	baz=18						
MPMC				S	**Sn**	**22 29 27.9**	**-0.1**
	baz=18						
MLNR	**Milner Canyon**	**1.13**	**298**		**Pn**	**22 29 14.7**	**+0.1**
BHPR	**Bishop**	**1.14**	**282**		**Pg**	**22 29 15.1**	**-0.3**
S11A	**Rachel**	**1.22**	**61**		**Pb**	**22 29 15.9**	**-0.1**
S11A					**Sg**	**22 29 32.2**	**-0.7**
SHOC	**Shoshone, Teco**	**1.34**	**150**		**Pg**	**22 29 18.8**	**-0.3**
SHOC	**Shoshone, Teco**	**1.34**	**150**	P	**Pg**	**22 29 18.7**	**-0.5**
	baz=332						
SHOC				S	**Sg**	**22 29 36.6**	**0.0**
	baz=332						
BENR	**Benton**	**1.35**	**299**		**Pg**	**22 29 19.1**	**-0.3**
MLAC	**Mammoth, Mammo**	**1.50**	**293**	Pg	**Pg**	**22 29 22.2**	**0.0**
	baz=111						
NV11	**Mina Array Sit**	**1.60**	**329**		**Pb**	**22 29 22.1**	**-0.5**
OMMB	**Old Mammoth Mi**	**1.62**	**290**		**Pb**	**22 29 22.5**	**-0.4**
LHV	**Little Huntoon**	**1.63**	**317**		**Pb**	**22 29 22.5**	**-0.4**
LHV				IAML		22 29 32.4	
	comp=E,36nm,0.6s						
LHV				IAML		22 29 52.5	
	comp=N,36nm,0.8s						
SHPR	**Sheep Range**	**1.65**	**109**		**Pb**	**22 29 23.4**	**0.0**
NV08	**Mina Array Sit**	**1.65**	**324**		**Pb**	**22 29 22.8**	**-0.6**
LRMC	**Laurel Mtn Rad**	**1.65**	**197**	Pb	**Pg**	**22 29 24.3**	**-0.9**
	baz=17						
LRMC				Sb	**Sg**	**22 29 46.9**	**+0.3**
	baz=17						
PRN	**Pahroc Range**	**1.67**	**78**		**Pb**	**22 29 22.8**	**-0.8**
NVAR	**Mina Array Bea**	**1.67**	**325**		**Pn**	**22 29 22.9**	**+0.9**
MDPB	**Devils Postpil**	**1.68**	**290**		**Pn**	**22 29 22.9**	**+0.7**
NV09	**Mina Array Sit**	**1.69**	**325**		**Pb**	**22 29 23.4**	**-0.6**
R11B	**Troy Canyon, C**	**1.75**	**43**	Pn	**Pb**	**22 29 25.0**	**-0.2**
R11B				IAML		22 29 50.5	
	comp=E,35nm,0.3s						
R11B				IAML		22 29 53.9	
	comp=N,28nm,0.5s						
R11B	**Troy Canyon, C**	**1.75**	**43**	Pb	**Pb**	**22 29 25.1**	**0.0**
	baz=223,SNR=20						
R11B				Sb	**Sg**	**22 29 49.1**	**-0.7**
	baz=223						
GSC	**Goldstone, Bar**	**1.77**	**172**	Pb	**Pg**	**22 29 26.6**	**-0.9**
	baz=353						
GSC				Sb	**Sg**	**22 29 50.6**	**+0.1**
	baz=353						
ISA	**Isabella, Lake**	**1.79**	**219**	Pg	**Pg**	**22 29 27.6**	**-0.2**
	baz=38						
ISA				Sb	**Sg**	**22 29 51.0**	**0.0**
	baz=38						
TUQ	**Turquoise Moun**	**1.88**	**150**	Pb	**Pg**	**22 29 28.2**	**-1.3**
	baz=331						
TUQ				S	**Sb**	**22 29 50.3**	**-0.3**
	baz=331						
RYN	**Ryan**	**1.93**	**324**		**Pn**	**22 29 26.4**	**+0.8**
RYN				IAML		22 29 58.2	
	comp=E,24nm,0.3s						
RYN				IAML		22 29 58.2	
	comp=N,24nm,0.4s						
KVN	**Kaiserville**	**2.14**	**338**		**Pn**	**22 29 29.3**	**+0.9**
KVN				IAML		22 30 02.7	
	comp=E,22nm,0.7s						
KVN				IAML		22 30 02.8	
	comp=N,21nm,0.8s						
RRX	**Edison Barstow**	**2.19**	**178**	Sb	**Sg**	**22 30 02.7**	**-1.0**
	baz=358						
V12A	**Nelson**	**2.25**	**126**		**Pn**	**22 29 31.5**	**+1.6**
V12A				IAML		22 30 06.8	
	comp=N,12nm,0.5s						
V12A				IAML		22 30 07.9	
	comp=E,13nm,0.5s						
EDW2	**Edwards Air Fo**	**2.30**	**199**	Sb	**Sg**	**22 30 06.6**	**-0.7**
	baz=19						
HEC	**Hector,Ludlow**	**2.31**	**164**	Sb	**Sg**	**22 30 07.0**	**-0.7**
	baz=345						
WAKR	**Walker**	**2.35**	**308**		**Pn**	**22 29 32.5**	**+1.2**
GMRC	**Granite Mounta**	**2.56**	**153**	Pb	**Pb**	**22 29 39.8**	**+1.0**
	baz=334						
GMRC				Sb	**Sg**	**22 30 13.8**	**-1.8**
	baz=334						
YERR	**Yerington**	**2.56**	**319**		**Pn**	**22 29 35.7**	**+1.5**
YERR				IAML		22 30 17.8	
	comp=N,10nm,0.5s						
YERR				IAML		22 30 20.2	
	comp=E,12nm,0.6s						
Q12A	**Willow Creek R**	**2.66**	**41**		**Pn**	**22 29 37.4**	**+1.9**
Q12A				IAML		22 30 22.8	
	comp=N,18nm,0.8s						
Q12A				IAML		22 30 27.2	
	comp=E,15nm,0.7s						
CMB	**Columbia Colle**	**2.79**	**291**		**Pn**	**22 29 39.2**	**+2.0**
PNTR	**Pine Nut**	**2.83**	**316**		**Pn**	**22 29 39.3**	**+1.3**
PNTR				IAML		22 30 31.5	
	comp=N,10.0nm,2.0s						
PNTR				IAML		22 31 03.1	
	comp=E,8.0nm,1.1s						
PSUT	**Pine Spring**	**2.95**	**59**		**Pn**	**22 29 40.4**	**+0.7**
PSUT				IAML		22 30 30.8	
	comp=E,16nm,0.4s						
CCUT	**Cedar City**	**3.01**	**80**		**Pn**	**22 29 41.8**	**+1.3**
CCUT				IAML		22 30 49.5	
	comp=E,6.6nm,4.3s						
LCMT	**Little Creek M**	**3.08**	**90**		**Pn**	**22 29 42.1**	**+0.8**
LCMT				IAML		22 30 30.7	
	comp=N,7.4nm,0.6s						
LCMT				IAML		22 30 34.5	
	comp=E,6.5nm,0.6s						
KNB	**Kanab**	**3.42**	**90**		**Pn**	**22 29 46.8**	**+0.8**
KNB				IAML		22 30 45.0	
	comp=E,7.8nm,0.7s						
KNB				IAML		22 30 46.3	
	comp=N,9.5nm,1.0s						
PKCU	**Pink Cliffs**	**3.83**	**83**	Pn	**Pn**	**22 29 52.8**	**+0.9**
MTPU	**Mount Pierson**	**4.02**	**74**	Pn	**Pn**	**22 29 57.9**	**+3.4**
MTPU				IAML		22 30 26.6	
	comp=N,4.5nm,4.4s						
MTPU				IAML		22 31 08.6	
	comp=E,3.7nm,3.5s						

*IDC **14** 23:00:09.3±0.6, 9.′15S×67.′37E, h0km, mb3.9/21, mbtmp3.9/21, MS3.6/34, Error ellipse: s-maj=20.6km s-min=16.5km az=69.0*
*NEIC **14** 23:00:10.1±2.0, 9.′4S±0.′1×67.′25E±0.′06, h10km±1km, mb4.5/17, Error ellipse: s-maj=24.2km s-min=5.4km az=157.0*
*GCMT **14** 23:00:13.1±0.4, 9.′20S±0.′02×67.′11E±0.′03, h16km±2km, MW4.8/79, Moment Tensor Solution. s12,c12; s79,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.08±.10; $M_{\theta\theta}$-1.47±.08; $M_{\phi\phi}$1.40±.08; $M_{r\theta}$-0.53±.28; $M_{\theta\phi}$-0.15±.09; $M_{r\phi}$0.66±.28; Best double couple: $M_0$1.67400×10^{16} NP1:ϕ_s43.00000°, δ60.00000°, λ5.00000°. Principal axes: T 1.7090, Plg24.0000°, Azm263.0000°; N -0.0660, Plg60.0000°, Azm124.0000°; P -1.6380, Plg18.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 23:00:10.0±0.5, 9.′3S±0.′1×67.′33E±0.′09, h10km, n87, σ1°28/43, mb4.1/39, MS3.6/35, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**5.39**	**70**	Pn	**Pn**	**23 01 29.7**	**-0.9**
PALK	**Pallekele**	**21.16**	**39**	LR	LR	23 10 57.4	
	comp=Z,148nm,21.1s,baz=320,slow=31						
ABPO	**Ambohimpanom**	**21.74**	**241**	P	**P**	**23 04 59.5**	**-2.6**
ABPO				IAmb	IAmb	23 05 21.1	
	comp=Z,29nm,1.4s						
ATD	**Arta Tunnel**	**31.94**	**310**	LR	LR	23 17 40.6	
	comp=Z,5.8nm,19.0s,baz=128,slow=33						
WSAR	**Wadi Sarin**	**33.42**	**345**	LR	LR	23 17 25.0	
	comp=Z,89nm,18.8s,baz=138,slow=31						
FURI	**Furi**	**33.77**	**302**	LR	LR	23 19 29.3	
	comp=Z,68nm,18.4s,baz=128,slow=34						
MNAI	**Manna**	**35.69**	**85**	P	**P**	**23 07 05.7**	**-3.3**
KULM	**Kulim**	**36.22**	**68**	P	**P**	**23 07 14.2**	**+0.7**
KULM				IAmb	IAmb	23 07 16.6	
	comp=Z,10nm,0.8s						
H04N2	**CROZET ISLANDS**	**39.09**	**197**	T	T	23 49 57.8	
	baz=22,slow=75,SNR=7.1						
H04N1	**CROZET ISLANDS**	**39.09**	**197**	T	T	23 49 59.4	
	baz=22,slow=75,SNR=7.4						
H04N3	**CROZET ISLANDS**	**39.11**	**197**	T	T	23 50 01.7	
	baz=22,slow=75,SNR=8.8						
CMAR	**Chiang Mai Arr**	**41.62**	**48**	P	**P**	**23 08 00.4**	**+1.7**
	comp=Z,3.4nm,0.7s,baz=241,slow=9.5,SNR=19						
	comp=Z,3.4nm,0.7s						
CHTO	**Chiang Mai**	**41.85**	**48**	P	**P**	**23 08 01.9**	**+1.3**
SHL	**Shillong**	**42.08**	**34**	P	**P**	**23 08 03.5**	**+0.9**
SHL				IAmb	IAmb	23 08 04.6	
	comp=Z,7.1nm,0.7s						
BOSA	**Boshof**	**43.91**	**238**	P	**P**	**23 08 14.8**	**-2.6**
BOSA	**Boshof**	**43.91**	**238**	P	**P**	**23 08 20.6**	**+3.2**
	comp=Z,2.1nm,0.7s,baz=84,slow=8.2,SNR=4.3						
BOSA				LR	LR	23 24 31.3	
	comp=Z,77nm,18.1s,baz=68,slow=33						
	comp=Z,2.1nm,0.7s						
SUR	**Sutherland**	**48.70**	**235**	LR	LR	23 27 35.3	
	comp=Z,72nm,18.1s,baz=100,slow=34						
TSUM	**Tsumeb**	**49.07**	**253**	LR	LR	23 27 32.9	
	comp=Z,53nm,21.4s,baz=142,slow=33						
H01W3	**Cape Leeuwin H**	**49.71**	**128**	T	T	00 02 42.0	
	baz=291,slow=75						
H01W2	**Cape Leeuwin H**	**49.71**	**128**	T	T	00 02 40.9	
	baz=291,slow=75						
H01W1	**Cape Leeuwin H**	**49.72**	**128**	T	T	00 02 43.0	
	baz=291,slow=75						
NWAO	**Narrogin (SRO)**	**51.58**	**125**	LR	LR	23 26 54.6	
	comp=Z,90nm,22.0s,baz=350,slow=31						
MMAI	**Mount Meron Ar**	**51.91**	**326**	LR	LR	23 27 55.9	
	comp=Z,64nm,21.3s,baz=92,slow=32						
AAK	**Ala-Archa**	**52.08**	**7**	LR	LR	23 29 14.2	
	comp=Z,56nm,20.1s,baz=188,slow=34						
KAPI	**Kappang**	**52.15**	**89**	LR	LR	23 30 07.8	
	comp=Z,60nm,18.2s,baz=258,slow=34						
GNI	**Garni**	**53.44**	**338**	LR	LR	23 31 01.3	
	comp=Z,35nm,18.4s,baz=174,slow=35						
KBZ	**Khabaz**	**57.24**	**339**	LR	LR	23 34 59.5	
	comp=Z,27nm,18.2s,baz=172,slow=37						
MK31	**Makanchi Array**	**57.40**	**12**	P	**P**	**23 09 59.4**	**+0.7**
MKAR	**Makanchi Array**	**57.40**	**12**	P	**P**	**23 09 59.7**	**+1.0**
MKAR	**Makanchi Array**	**57.40**	**12**	P	**P**	**23 09 57.9**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=206,slow=7.7,SNR=5.1						
MKAR				LR	LR	23 32 24.2	
	comp=Z,54nm,19.8s,baz=142,slow=34						
	comp=Z,0.6nm,0.7s						
BRTR	**Keskin Array B**	**57.90**	**330**	P	**P**	**23 10 02.4**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=141,slow=9.3,SNR=1.7						
	comp=Z,0.5nm,0.9s						
MAW	**Mawson**	**58.33**	**182**	P	**P**	**23 10 05.9**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=324,slow=8.7,SNR=2.1						
	comp=Z,1.1nm,0.7s						
ABKAR	**Akbulak array**	**58.65**	**354**	P	**P**	**23 10 05.5**	**-1.9**
ABKAR	**Akbulak array**	**58.65**	**354**	P	**P**	**23 10 06.6**	**-0.8**
ABKAR				IAmb	IAmb	23 10 19.8	
	comp=Z,2.7nm,1.1s						
AKTO	**Aktyubinsk**	**60.02**	**353**	LR	LR	23 35 02.7	
	comp=Z,16nm,18.4s,baz=104,slow=35						
DAV	**Davao City (W)**	**60.26**	**76**	LR	LR	23 38 08.1	
	comp=Z,38nm,18.0s,baz=240,slow=38						
KURBB	**Kurchatov Arra**	**60.44**	**8**	P	**P**	**23 10 18.6**	**-1.2**
	comp=Z,1.3nm,1.0s,baz=209,slow=7.3,SNR=6.4						
KURBB				LR	LR	23 33 41.5	
	comp=Z,68nm,21.2s,baz=175,slow=33						
	comp=Z,1.3nm,1.0s						
KURK	**Kurchatov**	**60.55**	**8**	P	**P**	**23 10 21.3**	**+0.8**
KURK				IAmb	IAmb	23 10 28.2	
	comp=Z,4.7nm,1.1s						
BVAR	**Borovoye Array**	**62.11**	**2**	P	**P**	**23 10 31.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=179,slow=13,SNR=1.3						
BVAR				LR	LR	23 36 57.3	
	comp=Z,40nm,19.4s,baz=180,slow=36						
	comp=Z,0.7nm,0.5s						
BELG	**Belogornoye**	**63.71**	**347**	LR	LR	23 39 21.6	
	comp=Z,36nm,18.6s,baz=22,slow=37						
ZALV	**Zalesovo Beam**	**64.70**	**11**	P	**P**	**23 10 46.9**	**-1.3**
ZALV	**Zalesovo Beam**	**64.70**	**11**	P	**P**	**23 10 48.4**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=197,slow=4.6,SNR=3.7						
ZALV				LR	LR	23 36 56.9	
	comp=Z,54nm,20.4s,baz=151,slow=34						
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**64.92**	**112**	P	**P**	**23 10 51.5**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=277,slow=6.1,SNR=18						
	comp=Z,1.9nm,0.8s						
WRA	**Warramunga Arr**	**65.35**	**108**	P	**P**	**23 10 52.8**	**-0.4**
WRA	**Warramunga Arr**	**65.35**	**108**	P	**P**	**23 10 54.1**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=280,slow=6.5,SNR=13						
	comp=Z,2.8nm,0.9s						
WB2	**Warramunga Arr**	**65.36**	**108**	P	**P**	**23 10 52.5**	**-0.7**
WB2				IAmb	IAmb	23 10 55.7	
	comp=Z,4.3nm,0.9s						
WB0	**Warramunga Arr**	**65.40**	**107**	P	**P**	**23 10 53.5**	**0.0**
ARU	**Arti**	**65.87**	**355**	LR	LR	23 38 11.1	
	comp=Z,43nm,19.6s,baz=148,slow=35						
SONM	**Songino Array**	**66.55**	**28**	P	**P**	**23 10 59.9**	**-0.5**
SONM				IAmb	IAmb	23 11 05.3	
	comp=Z,2.5nm,1.1s						
SONM	**Songino Array**	**66.55**	**28**	P	**P**	**23 11 00.7**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=236,slow=5.8,SNR=5.9						
SONM				LR	LR	23 39 20.9	
	comp=

KLR	**Kul'dur**	**80.88**	**37**	LR	LR	23 51 25.1	
	comp=Z,21nm,18.3s,baz=222,slow=38						
HFS	**Hagfors**	**81.13**	**336**	P	**P**	**23 12 24.8**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=120,slow=8.8,SNR=2.7						
	comp=Z,1.2nm,0.8s						
ESDC	**Sonseca Array**	**81.81**	**312**	P	**P**	**23 12 30.0**	**+0.4**
	comp=Z,0.7nm,1.0s,baz=120,slow=6.1,SNR=2.2						
ESDC				LR	LR	23 48 19.7	
	comp=Z,22nm,18.3s,baz=128,slow=35						
	comp=Z,0.7nm,1.0s						
NOA	**NORSAR Array B**	**82.65**	**336**	P	**P**	**23 12 33.6**	**+0.1**
	comp=Z,1.3nm,1.2s,baz=115,slow=5.1,SNR=1.3						
NOA				LR	LR	23 53 45.0	
	comp=Z,11nm,18.0s,baz=140,slow=39						
	comp=Z,1.3nm,1.2s						
ARCES	**ARCESS Array B**	**83.76**	**346**	P	**P**	**23 12 39.7**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=117,slow=5.3,SNR=2.2						
	comp=Z,0.8nm,0.8s						
YAK	**Yakutsk**	**85.72**	**25**	LR	LR	23 50 02.8	
	comp=Z,34nm,19.5s,baz=245,slow=35						
BBTS	**Babate**	**86.46**	**285**	LR	LR	23 49 25.7	
	comp=Z,41nm,21.0s,baz=322,slow=34						
TIXI	**Tiksi**	**90.17**	**16**	LR	LR	23 54 11.2	
	comp=Z,44nm,20.9s,baz=210,slow=36						
DZM	**Mont Dzumac**	**94.88**	**113**	LR	LR	23 57 33.2	
	comp=Z,34nm,18.0s,baz=262,slow=36						
PMSA	**Palmer Station**	**97.75**	**199**	LR	LR	23 49 11.8	
	comp=Z,24nm,21.7s,baz=146,slow=30						
PDAR	**Pinedale Array**	**146.53**	**356**	PKPbc	**PKPab**	**23 19 54.3**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=103,slow=6.4,SNR=4.0						
NVAR	**Mina Array Bea**	**150.54**	**9**	PKPbc	**PKPbc**	**23 20 03.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=263,slow=6.0,SNR=3.7						
TXAR	**Lajitas Array**	**158.34**	**338**	PKPab	**PKPab**	**23 20 42.4**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=73,slow=4.3,SNR=5.2						

*CNRM **14** 23:11:40.0, 35.°62N×4.°61W, h109km, ML2.7*
*IGIL **14** 23:11:40.8, 35.°72N×4.°60W, h18km, ML2.8*
*MDD **14** 23:11:41.8±0.4, 35.°72N×4.°60W, h90km±5km, Mb2.8/12, Error ellipse: s-maj=3.6km s-min=2.7km az=135.0*
*SFS **14** 23:11:41.6, 35.°70N×4.°60W, h87km, ML2.9/24, MLv2.8/24*
*INMG **14** 23:11:42.1±1.4, 35.°75N×4.°66W, h115km±10km, ML2.6, Error ellipse: s-maj=4.6km s-min=3.3km az=105.0*

ISC 14 23:11:39.7±1.2, 35.°72N±0.°02×4.°58W±0.°03, h105km±8km, n98, σ1.9°60/155, 11C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEU	**Ceuta**	**0.67**	**286**	Pn	**Pn**	**23 11 56.9**	**-0.3**
CEU				Sn	**Sn**	**23 12 08.5**	**-1.9**
PALE	**Palemas**	**0.72**	**134**	P	**Pn**	**23 11 58.0**	**+0.3**
PALE	**Palemas**	**0.72**	**134**	S	**Sn**	**23 12 11.0**	**-0.4**
EMIJ	**Mijas**	**0.86**	**350**	Sn	**Sn**	**23 12 11.4**	**-2.2**
EMIJ	**Mijas**	**0.86**	**350**	P	**Pn**	**23 11 59.1**	**0.0**
EMIJ				S	**Sn**	**23 12 11.5**	**-2.1**
CHEFC	**Chefchaouen**	**0.87**	**226**	P	**Pn**	**23 12 01.2**	**+2.0**
CHEFC	**Chefchaouen**	**0.87**	**226**	S	**Sn**	**23 12 13.5**	**-0.5**
EJIF	**Jimena Fronter**	**1.02**	**316**	P	**Pn**	**23 12 02.9**	**+2.2**
EJIF				S	**Sn**	**23 12 16.9**	**+0.3**
EMAL	**Malaga-Limoner**	**1.05**	**7**	Pn	**Pn**	**23 12 01.2**	**+0.3**
EMAL				Sn	**Sn**	**23 12 16.0**	**-1.0**
RSA	**Sarsar**	**1.31**	**231**	P	**Pn**	**23 12 06.1**	**+2.1**
RSA	**Sarsar**	**1.31**	**231**	S	**Sn**	**23 12 21.8**	**-0.6**
AKLM	**AKL**	**1.34**	**154**	P	**Pn**	**23 12 05.6**	**+1.2**
AKLM	**AKL**	**1.34**	**154**	S	**Sn**	**23 12 20.0**	**-3.1**
LIJA	**Lijar**	**1.36**	**331**	Pn	**Pn**	**23 12 06.3**	**+1.8**
LIJA				Sn	**Sn**	**23 12 23.5**	**+0.1**
ELGU	**Los Guajares,**	**1.38**	**34**	Pn	**Pn**	**23 12 04.8**	**0.0**
ELGU				Sn	**Sn**	**23 12 22.1**	**-1.8**
ELGU	**Los Guajares,**	**1.38**	**34**	P	**Pn**	**23 12 04.9**	**+0.1**
ELGU				⇑iVmb_V		23 12 05.3	
	473nm,SNR=5.3						
ELGU				S	**Sn**	**23 12 22.3**	**-1.6**
GOG	**Mont Gurugu**	**1.39**	**111**	P	**Pn**	**23 12 04.9**	**0.0**
GOG	**Mont Gurugu**	**1.39**	**111**	S	**Sn**	**23 12 23.9**	**-0.1**
EGOR	**Sierra Gorda,**	**1.44**	**15**	Pn	**Pn**	**23 12 06.6**	**+1.1**
EGOR	**Sierra Gorda,**	**1.44**	**15**	P	**Pn**	**23 12 07.1**	**+1.5**
EGOR				⇑iVmb_V		23 12 10.4	
	105nm,SNR=2.0						
EGOR				S	**Sn**	**23 12 27.9**	**+2.7**
ESPR	**Espera**	**1.54**	**318**	Pn	**Pn**	**23 12 08.3**	**+1.6**
ESPR				Sn	**Sn**	**23 12 27.8**	**+0.7**
ESPR	**Espera**	**1.54**	**318**	P	**Pn**	**23 12 08.5**	**+1.9**
ESPR				⇑iVmb_V		23 12 08.8	
	194nm,SNR=3.0						
ESPR				S	**Sn**	**23 12 27.3**	**+0.2**
EQUE	**Quentar**	**1.74**	**31**	P	**Pn**	**23 12 11.9**	**+2.6**
EQUE				S	**Sn**	**23 12 32.4**	**+0.6**
EQTA	**Presa de Quent**	**1.74**	**31**	Pn	**Pn**	**23 12 10.7**	**+1.4**
EBER	**Berja**	**1.80**	**49**	Pn	**Pn**	**23 12 11.6**	**+1.6**
EBER	**Berja**	**1.80**	**49**	P	**Pn**	**23 12 11.4**	**+1.4**
EBER				S	**Sn**	**23 12 33.4**	**+0.1**
LCRM	**LCR**	**2.04**	**187**	P	**Pn**	**23 12 13.5**	**+0.4**
LCRM	**LCR**	**2.04**	**187**	S	**Sn**	**23 12 39.5**	**+0.8**
IFR	**Ifrane**	**2.24**	**192**	Pn	**Pn**	**23 12 15.9**	**+0.1**
IFR				Sn	**Sn**	**23 12 40.3**	**-3.0**
EADA	**Adamuz**	**2.44**	**0**	Pn	**Pn**	**23 12 19.5**	**+1.4**
EADA				Sn	**Sn**	**23 12 46.6**	**-1.1**
EADA	**Adamuz**	**2.44**	**0**	P	**Pn**	**23 12 19.7**	**+1.5**
EADA				⇑iVmb_V		23 12 20.1	
	681nm,SNR=18						
EADA				S	**Sn**	**23 12 46.5**	**-1.2**
ECAB	**El Cabril**	**2.44**	**344**	Pn	**Pn**	**23 12 19.0**	**+0.8**
ECAB				Sn	**Sn**	**23 12 46.4**	**-1.3**
ECAB	**El Cabril**	**2.44**	**344**	P	**Pn**	**23 12 19.0**	**+0.8**
ECAB				⇑iVmb_V		23 12 19.2	
	530nm,SNR=14						
ECAB				S	**Sn**	**23 12 47.0**	**-0.7**
EMIN	**Mina Concepcio**	**2.65**	**321**	Pn	**Pn**	**23 12 21.7**	**+0.9**
EMIN				Sn	**Sn**	**23 12 50.7**	**-1.7**
EMIN	**Mina Concepcio**	**2.65**	**321**	P	**Pn**	**23 12 21.6**	**+0.8**
EMIN				⇑iVmb_V		23 12 21.8	
	871nm,SNR=13						
EMIN				S	**Sn**	**23 12 50.7**	**-1.7**
CZD	**Col de Zad**	**2.71**	**188**	P	**Pn**	**23 12 21.1**	**-0.8**
CZD	**Col de Zad**	**2.71**	**188**	S	**Sn**	**23 12 52.6**	**-1.8**
ZHG	**ZHG**	**2.84**	**217**	P	**Pn**	**23 12 24.0**	**+0.5**
ZHG	**ZHG**	**2.84**	**217**	S	**Sn**	**23 12 59.2**	**+2.1**
MD31	**MD31**	**2.85**	**183**	P	**Pn**	**23 12 24.0**	**+0.3**
MD31	**MD31**	**2.85**	**183**	S	**Sn**	**23 12 56.0**	**-1.4**
EGRO	**El Granado**	**2.96**	**309**	Pn	**Pn**	**23 12 25.7**	**+0.8**
EGRO				Sn	**Sn**	**23 12 58.1**	**-1.6**
EGRO	**El Granado**	**2.96**	**309**	P	**Pn**	**23 12 25.7**	**+0.8**
EGRO				⇑iVmb_V		23 12 25.8	
	2μm,SNR=17						
EGRO				S	**Sn**	**23 12 57.7**	**-2.0**
PVAQ	**Vaqueiros**	**3.03**	**305**	*e*P	**Pn**	**23 12 26.5**	**+0.6**
PVAQ				*e*S	**Sn**	**23 12 59.8**	**-1.8**
PVAQ				A	A	23 13 02.1	
	25nm,0.5s						
PVAQ	**Vaqueiros**	**3.03**	**305**	Pn	**Pn**	**23 12 26.5**	**+0.6**
PVAQ				Sn	**Sn**	**23 12 59.7**	**-1.9**
PVAQ	**Vaqueiros**	**3.03**	**305**	P	**Pn**	**23 12 25.9**	**0.0**
PVAQ	**Vaqueiros**	**3.03**	**305**	S	**Sn**	**23 13 03.7**	**+2.1**
PBDV	**Barranco-do-Ve**	**3.10**	**300**	*e*P	**Pn**	**23 12 27.5**	**+0.7**
PBDV				*e*S	**Sn**	**23 13 01.7**	**-1.5**
PBDV				A	A	23 13 03.4	
	10.0nm,0.1s						
PBDV	**Barranco-do-Ve**	**3.10**	**300**	Pn	**Pn**	**23 12 27.5**	**+0.7**
PBDV				Sn	**Sn**	**23 13 01.5**	**-1.7**
PBAR	**Barrancos**	**3.14**	**322**	*e*P	**Pn**	**23 12 28.4**	**+1.0**
PBAR				*e*S	**Sn**	**23 13 02.6**	**-1.6**
PBAR				A	A	23 13 04.4	
	10.0nm,0.2s						
PBAR	**Barrancos**	**3.14**	**322**	Pn	**Pn**	**23 12 28.4**	**+1.0**
PBAR				Sn	**Sn**	**23 13 02.1**	**-2.1**
PCVE	**Castro Verde**	**3.37**	**305**	*e*P	**Pn**	**23 12 31.1**	**+0.6**
PCVE				*e*S	**Sn**	**23 13 07.4**	**-2.3**
PCVE				A	A	23 13 10.0	
	16nm,0.2s						
PCVE	**Castro Verde**	**3.37**	**305**	Pn	**Pn**	**23 12 31.0**	**+0.6**
PCVE				Sn	**Sn**	**23 13 08.0**	**-1.7**
PBEJ	**Beja**	**3.50**	**312**	*e*P	**Pn**	**23 12 33.2**	**+1.1**
PBEJ				*e*S	**Sn**	**23 13 11.2**	**-1.5**
PBEJ				A	A	23 13 12.8	
	8.2nm,0.2s						
EBAD	**Badajoz**	**3.60**	**328**	Pn	**Pn**	**23 12 34.8**	**+1.3**
EBAD				Sn	**Sn**	**23 13 13.6**	**-1.5**
EBAD	**Badajoz**	**3.60**	**328**	P	**Pn**	**23 12 34.7**	**+1.3**
EBAD				⇑iVmb_V		23 12 34.8	
	428nm,SNR=10						
EBAD				S	**Sn**	**23 13 13.9**	**-1.2**
MESJ	**Messejana**	**3.61**	**307**	*e*P	**Pn**	**23 12 34.4**	**+0.8**
MESJ				*e*S	**Sn**	**23 13 13.1**	**-2.2**
MESJ				A	A	23 13 16.5	
	9.5nm,0.2s						
MESJ	**Messejana**	**3.61**	**307**	*e*P	**Pn**	**23 12 34.3**	**+0.7**
MESJ				*e*S	**Sn**	**23 13 13.1**	**-2.2**
MESJ				IAML		23 13 15.5	
	comp=N,20nm,0.2s						
MORF	**Marmelete**	**3.64**	**297**	*e*P	**Pn**	**23 12 34.5**	**+0.4**
MORF				*e*S	**Sn**	**23 13 14.3**	**-1.9**
MORF				A	A	23 13 17.1	
	comp=N,16nm,0.2s						
MORF	**Marmelete**	**3.64**	**297**	*e*P	**Pn**	**23 12 34.5**	**+0.4**
MORF				*e*S	**Sn**	**23 13 14.2**	**-2.0**
MORF				IAML		23 13 15.9	
	comp=N,25nm,0.2s						
PFVI	**Vila Bisbo**	**3.70**	**294**	*e*P	**Pn**	**23 12 35.5**	**+0.6**
PFVI				*e*S	**Sn**	**23 13 15.9**	**-1.8**
PFVI				A	A	23 13 17.4	
	comp=N,10nm,0.2s						
PFVI	**Vila Bisbo**	**3.70**	**294**	Pn	**Pn**	**23 12 35.4**	**+0.6**
PFVI				Sn	**Sn**	**23 13 15.6**	**-2.0**
PFVI	**Vila Bisbo**	**3.70**	**294**	P	**Pn**	**23 12 35.5**	**+0.6**
PFVI	**Vila Bisbo**	**3.70**	**294**	S	**Sn**	**23 13 18.7**	**+1.0**
PTEO	**Sao Teotonio**	**3.80**	**300**	*e*P	**Pn**	**23 12 37.3**	**+1.2**
PTEO				*e*S	**Sn**	**23 13 18.6**	**-1.3**
PTEO				A	A	23 13 21.5	
	comp=N,11nm,0.3s						
PAB	**San Pablo**	**3.82**	**3**	P	**Pn**	**23 12 37.6**	**+1.0**
PAB				⇑iVmb_V		23 12 37.7	
	comp=N,101nm,SNR=3.0						
PAB				S	**Sn**	**23 13 18.3**	**-2.3**
EVO	**Evora**	**3.92**	**317**	*e*P	**Pn**	**23 12 39.0**	**+1.2**
EVO				*e*S	**Sn**	**23 13 21.3**	**-1.7**
EVO				A	A	23 13 23.9	
	comp=N,14nm,0.1s						
PESTR	**Estremoz**	**3.95**	**324**	*e*P	**Pn**	**23 12 39.4**	**+1.2**
PESTR				*e*S	**Sn**	**23 13 21.7**	**-2.0**
PESTR				A	A	23 13 23.7	
	comp=N,4.7nm,0.1s						
PESTR	**Estremoz**	**3.95**	**324**	Pn	**Pn**	**23 12 39.5**	**+1.2**
PESTR				Sn	**Sn**	**23 13 21.6**	**-2.0**
PESTR	**Estremoz**	**3.95**	**324**	P	**Pn**	**23 12 39.6**	**+1.3**
PESTR	**Estremoz**	**3.95**	**324**	S	**Sn**	**23 13 25.4**	**+1.7**
PNCL	**Nicolau / Gran**	**3.96**	**308**	*e*P	**Pn**	**23 12 39.1**	**+0.7**
PNCL				*e*S	**Sn**	**23 13 21.8**	**-2.1**
PNCL				A	A	23 13 24.8	
	comp=N,7.6nm,0.3s						
PNCL	**Nicolau / Gran**	**3.96**	**308**	Pn	**Pn**	**23 12 39.0**	**+0.7**
PNCL				Sn	**Sn**	**23 13 22.0**	**-1.9**
ESDC	**Sonseca Array**	**3.98**	**7**	S	**Sn**	**23 13 21.7**	**-2.6**
PMRV	**Marv??o**	**4.32**	**330**	*e*P	**Pn**	**23 12 44.4**	**+1.2**
PMRV				*e*S	**Sn**	**23 13 30.1**	**-2.5**
PMRV				A	A	23 13 46.7	
	comp=N,2.5nm,0.4s						
PMTG	**Montargil**	**4.43**	**320**	*e*P	**Pn**	**23 12 45.9**	**+1.3**
PMTG				*e*S	**Sn**	**23 13 32.5**	**-2.6**
PMTG				A	A	23 13 45.7	
	comp=N,3.2nm,0.1s						
EPLA	**Plasencia**	**4.50**	**345**	P	**Pn**	**23 12 47.0**	**+1.5**
EPLA				⇑iVmb_V		23 12 47.2	
	comp=N,152nm,SNR=5.3						
EPLA				S	**Sn**	**23 13 34.7**	**-2.1**
PACT	**Alcochete**	**4.56**	**313**	*e*P	**Pn**	**23 12 48.1**	**+1.8**
PACT				*e*S	**Sn**	**23 13 39.0**	**+0.8**
PCBR	**Castelo Branco**	**4.71**	**332**	*e*P	**Pn**	**23 12 49.7**	**+1.3**
PCBR				*e*S	**Sn**	**23 13 40.0**	**-1.9**
GUD	**Guadarrama**	**4.93**	**4**	P	**Pn**	**23 12 52.6**	**+1.1**
GUD				S	**Sn**	**23 13 44.8**	**-2.6**
PMAFR	**Mafra**	**4.95**	**312**	*e*P	**Pn**	**23 12 55.4**	**+3.8**
PMAFR				*e*S	**Sn**	**23 13 46.5**	**-1.2**
PSBE	**So Bento**	**5.05**	**320**	*e*P	**Pn**	**23 12 54.5**	**+1.4**
PSBE				*e*S	**Sn**	**23 13 47.7**	**-2.6**
OUZM	**OUZ**	**5.13**	**201**	P	**Pn**	**23 12 56.3**	**+1.9**
OUZM	**OUZ**	**5.13**	**201**	S	**Sn**	**23 13 53.7**	**+1.2**
TIO	**Tiouine**	**5.28**	**206**	Pn	**Pn**	**23 12 57.2**	**+0.8**
TIO				Sn	**Sn**	**23 13 53.3**	**-2.7**
TIO	**Tiouine**	**5.28**	**206**	P	**Pn**	**23 12 56.9**	**+0.5**
TIO	**Tiouine**	**5.28**	**206**	S	**Sn**	**23 13 53.8**	**-2.3**
PCAS	**Casmilo, Conde**	**5.32**	**326**	*e*P	**Pn**	**23 12 58.4**	**+1.7**
PCAS				*e*S	**Sn**	**23 13 53.8**	**-2.9**
ETOR	**Torete**	**5.46**	**21**	P	**Pn**	**23 13 00.1**	**+1.4**
ETOR				S	**Sn**	**23 13 56.9**	**-3.4**
PVIS	**Viseu**	**5.63**	**333**	*e*P	**Pn**	**23 13 01.9**	**+1.0**
PVIS				*e*S	**Sn**	**23 14 03.3**	**-1.0**
TTIG	**Tnine Tigouga,**	**6.09**	**213**	P	**Pn**	**23 13 06.1**	**-1.2**
POLO	**Lamas de Olo**	**6.18**	**337**	*e*P	**Pn**	**23 13 10.4**	**+2.0**
PBRG	**Braganca**	**6.30**	**345**	*e*P	**Pn**	**23 13 12.1**	**+2.0**
ECAL	**Calabor**	**6.43**	**345**	Pn	**Pn**	**23 13 13.8**	**+1.9**
ECAL	**Calabor**	**6.43**	**345**	P	**Pn**	**23 13 13.6**	**+1.8**
ECAL				⇑iVmb_V		23 13 15.1	
	comp=N,54nm,SNR=0.8						
PCAB	**Cabril**	**6.56**	**337**	*e*P	**Pn**	**23 13 15.7**	**+2.2**
ELOB	**Lobios**	**6.71**	**337**	P	**Pn**	**23 13 17.1**	**+1.5**
ELAN	**Lanestosa**	**7.55**	**6**	P	**Pn**	**23 13 29.7**	**+2.7**

NEIC 14 23:48:37.8±1.4, 31.°69N±0.°04×104.°50W±0.°03, h5km±2km, mb_Lg2.6/37, ML2.6/24, Error ellipse: s-maj=7.1km s-min=4.2km az=345.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.63**	**120**		Pg	23 48 50.4	+0.5
PECS				Sg	Sg	23 48 58.0	-0.2
PECS				IAML		23 48 59.3	
	400nm,0.3s						
PECS				IAML		23 48 60.0	
	248nm,0.4s						
VHRN	**Van Horn**	**0.99**	**205**	Pg	Pg	23 48 56.5	-0.4
VHRN				Sg	Sg	23 49 09.7	-0.1
VHRN				IAML		23 49 16.0	
	175nm,0.5s						
HTMS	**Hat Mesa**	**1.07**	**43**	Pg	Pg	23 48 58.2	-0.1
CPRX	**Cap Rock**	**1.44**	**22**		Pb	23 49 05.0	-0.2
ALPN	**Alpine**	**1.51**	**150**		Pn	23 49 05.1	-0.6
MNHN	**Monahans**	**1.53**	**103**		Pn	23 49 05.8	-0.1
EPT	**El Paso**	**1.71**	**273**		Pn	23 49 08.9	+0.5
EPT				IAML		23 49 35.9	
	comp=N,58nm,0.5s						
ODSA	**Odessa**	**1.71**	**75**		Pn	23 49 08.6	+0.1
TX31	**Lajitas Ar. Si**	**2.46**	**163**	Pn	Pn	23 49 19.8	+1.1
TXAR	**Lajitas Array**	**2.46**	**163**	Pn	Pn	23 49 19.5	+0.8
SAND	**Sanderson**	**2.68**	**130**		Pn	23 49 22.2	+0.5
SAND				IAmb_Lg		23 50 09.3	
	comp=Z,25nm,0.9s						
MSTX	**Muleshoe**	**2.70**	**32**	Pn	Pn	23 49 23.8	+1.8
SGCY	**Sterling City**	**2.88**	**85**	Pn	Pn	23 49 25.6	+1.1
SGCY				IAmb_Lg		23 50 14.6	
	comp=Z,15nm,0.7s						
POST	**Post**	**2.88**	**61**		Pn	23 49 24.6	+0.1
121A	**Cookes Peak, D**	**2.91**	**288**		Pn	23 49 26.2	+1.3
121A				IAML		23 50 22.8	
	comp=E,24nm,0.6s						
121A				IAML		23 50 23.9	
	comp=N,18nm,0.6s						
CRNM	**Carthage**	**2.93**	**321**	Pn	Pn	23 49 25.1	-0.2
OZNA	**Ozona**	**2.99**	**104**		Pn	23 49 28.3	+2.3
BNM	**Barren Site**	**3.03**	**324**	Pn	Pn	23 49 28.1	+1.3
SN05	**Snyder 5**	**3.28**	**68**	IAmb_Lg		23 50 28.2	
	comp=Z,17nm,0.8s						
SN07	**Snyder 07**	**3.36**	**65**		Pn	23 49 31.6	+0.6
SN07				IAmb_Lg		23 50 26.6	
	comp=Z,16nm,0.7s						
DKNS	**Dickens**	**3.60**	**56**		Pn	23 49 35.9	+1.5
ANMO	**Albuquerque**	**3.63**	**334**		Pn	23 49 37.7	+2.7
AMTX	**Amarillo**	**3.96**	**36**		Pn	23 49 39.6	+0.2
AMTX				IAmb_Lg		23 50 50.9	
	comp=Z,15nm,0.8s						
DRIO	**Del Rio**	**4.04**	**123**		Pn	23 49 42.5	+2.1
DRIO				IAmb_Lg		23 50 48.5	
	comp=Z,17nm,0.7s						
APMT	**Aspermont**	**4.04**	**65**		Pn	23 49 42.7	+2.3
APMT				IAmb_Lg		23 50 48.4	
	comp=Z,18nm,0.9s						
319A	**Douglas**	**4.09**	**267**		Pn	23 49 43.5	+2.3
JCT	**Junction City**	**4.21**	**105**	Pn	Pn	23 49 42.7	0.0
ABTX	**Abilene, Hawle**	**4.22**	**76**		Pn	23 49 44.7	+1.8
ABTX				IAmb_Lg		23 50 55.7	
	comp=Z,12nm,0.8s						
BRDY	**Brady**	**4.72**	**93**		Pn	23 49 51.6	+1.9
BRDY				IAmb_Lg		23 51 20.2	
	comp=Z,11nm,0.9s						
SMWD	**Samnorwood**	**4.93**	**45**		Pn	23 49 52.3	-0.3
RTBA	**Rita Blanca**	**4.96**	**17**		Pn	23 49 54.4	+1.3
RTBA				IAmb_Lg		23 51 26.4	
	comp=Z,8.6nm,0.9s						
PLPT	**Palo Pinto**	**5.36**	**76**	Pn	Pn	23 49 58.6	+0.1
T25A	**Trinidad**	**5.43**	**1**	IAmb_Lg		23 51 33.2	
	comp=Z,14nm,1.2s						
WMOK	**Wichita Mounta**	**5.67**	**56**		Pn	23 50 04.5	+1.6
435B	**Jarrell**	**5.99**	**97**	IAmb_Lg		23 51 51.5	
	comp=Z,7.5nm,0.8s						
U32A	**Winter Ranch,**	**6.53**	**43**	IAmb_Lg		23 52 15.7	
	comp=Z,9.6nm,0.8s						
NOKA	**Waynoka**	**6.75**	**42**	IAmb_Lg		23 52 27.7	
	comp=Z,7.5nm,0.7s						

IDC 15 00:14:47.9±4.0, 5.°06S×151.°43E, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=154.0km s-min=53.7km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.26**	**227**	P	P	00 19 47.1	+0.4
	0.5nm,0.5s,baz=52,slow=10,SNR=7.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.05**	**221**	P	P	00 20 13.6	-0.5
	0.8nm,0.8s,baz=58,slow=8.9,SNR=6.9						
	0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.08**	**287**	PKPbc	PKPbc	00 34 38.9	-0.3
	0.6nm,1.0s,baz=100,slow=3.0,SNR=1.3						

*IDC **15** 00:41:48.6±1.0, 9.°28S×66.°80E, h0km, mb3.8/9, mbtmp3.8/9, MS3.4/8, Error ellipse: s-maj=31.4km s-min=27.8km az=94.0*

ISC 15 00:41:50.0±1.0, 9.°2S±0.°2×66.°8E±0.°2, h10km, n27, σ1.9°11/13, mb4.0/9, MS3.5/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**5.85**	**75**	T	T	00 49 06.6	
	baz=245,slow=76						
H08S3	**Diego Garcia H**	**5.87**	**75**	T	T	00 49 02.4	
	baz=245,slow=76						
H08S2	**Diego Garcia H**	**5.87**	**75**	T	T	00 49 00.0	
	baz=245,slow=76						
PALK	**Pallekele**	**21.48**	**41**	LR	LR	00 52 34.7	
	comp=Z,151nm,18.0s,baz=317,slow=30						
H04N2	**CROZET ISLANDS**	**38.97**	**197**	T	T	01 30 37.4	
	baz=25,slow=75,SNR=4.8						
H04N1	**CROZET ISLANDS**	**38.98**	**197**	T	T	01 30 38.3	
	baz=25,slow=75,SNR=5.4						
H04N3	**CROZET ISLANDS**	**38.99**	**197**	T	T	01 30 38.7	
	baz=25,slow=75,SNR=4.6						
CMAR	**Chiang Mai Arr**	**42.01**	**49**	P	**P**	**00 49 41.5**	**-0.3**
	0.5nm,0.4s,baz=234,slow=8.8,SNR=1.2						
	0.5nm,0.4s						
BOSA	**Boshof**	**43.46**	**238**	P	**P**	**00 49 54.3**	**+0.5**
	2.6nm,0.8s,baz=56,slow=13,SNR=1.4						
	2.6nm,0.8s						
H01W3	**Cape Leeuwin H**	**50.16**	**128**	T	T	01 44 02.9	
	baz=290,slow=75,SNR=271						
H01W2	**Cape Leeuwin H**	**50.17**	**128**	T	T	01 44 03.2	
	baz=290,slow=75,SNR=331						
H01W1	**Cape Leeuwin H**	**50.18**	**128**	T	T	01 44 04.2	
	baz=290,slow=75,SNR=244						
AAK	**Ala-Archa**	**52.10**	**7**	LR	LR	01 10 20.2	
	comp=Z,47nm,20.8s,baz=196,slow=33						
KAPI	**Kappang**	**52.69**	**89**	LR	LR	01 10 57.1	
	comp=Z,56nm,19.3s,baz=236,slow=33						
MKAR	**Makanchi Array**	**57.47**	**13**	P	**P**	**00 51 38.6**	**-0.6**
	0.4nm,0.7s,baz=190,slow=6.2,SNR=3.6						
MKAR				LR	LR	01 15 23.5	
	comp=Z,46nm,18.3s,baz=214,slow=35						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**60.48**	**9**	P	**P**	**00 52 00.7**	**+0.8**
	1.0nm,0.8s,baz=204,slow=6.9,SNR=4.2						
	1.0nm,0.8s						
BVAR	**Borovoye Array**	**62.09**	**2**	P	**P**	**00 52 12.6**	**+1.8**
	1.4nm,0.8s,baz=151,slow=6.4,SNR=6.8						
BVAR				LR	LR	01 19 14.4	
	comp=Z,24nm,18.6s,baz=175,slow=36						
	1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**64.77**	**12**	P	**P**	**00 52 29.1**	**+0.5**
	0.7nm,0.7s,baz=193,slow=6.1,SNR=3.8						
	0.7nm,0.7s						
**ASA

PTJ1 IAML 01 04 04.8
comp=Z,3μm,1.0s
BCO2 Palmira 3.42 3 *eP* **Pn 01 04 04.4 -1.5**
BCO2 *eS* Sn 01 04 36.8 -9.4
AZU Azuero 3.47 44 ‖ *iP* **Pn 01 04 04.5 -1.9**
AZU *eS* **Sn 01 04 39.1 -8.2**
AZU Azuero 3.47 44 P **Pn 01 04 04.5 -1.9**
AZU S **Sn 01 04 41.8 -5.5**
AZU Azuero 3.47 44 *eP* **Pn 01 04 04.5 -1.9**
BRU2 Volcan 3.49 0 Pn **Pn 01 04 05.5 -1.4**
BRU2 Volcan 3.49 0 *eP* **Pn 01 04 05.3 -1.5**
BRU2 *eS* Sn 01 04 35.5 -12
BRU2 Volcan 3.49 0 *iP* **Pn 01 04 04.6 -2.2**
BRU2 IAML 01 04 06.1
comp=Z,580nm,1.0s
BRU2 Volcan 3.49 0 *eP* **Pn 01 04 04.8 -2.0**
BRU2 *eS* **Sn 01 04 43.5 -4.5**
CHIT3 Chitre 3.50 40 *eP* **Pn 01 04 05.1 -1.6**
CHIT3 *eS* Sn 01 04 31.7 -16
CHGR2 Aguacate 3.68 9 *eP* **Pn 01 04 07.7 -1.6**
CHGR2 *eS* Sn 01 04 37.9 -14
EDPN Palmar Norte 3.74 348 *eP* **Pn 01 04 08.0 -2.0**
EDBA Buenos Aires 3.90 352 *eP* **Pn 01 04 11.6 -0.8**
OCHAL Ojochal 3.91 346 *iP* **Pn 01 04 11.1 -1.3**
OCHAL IAML 01 04 11.5
comp=Z,1μm,1.0s
DRK0 Durika 4.00 352 *eP* **Pn 01 04 12.3 -1.5**
DRK0 *eS* Sn 01 04 46.6 -14
DRK0 Durika 4.00 352 *iP* **Pn 01 04 12.2 -1.5**
DRK0 IAML 01 05 03.1
comp=Z,2μm,1.0s
DRK0 Durika 4.00 352 *eP* **Pn 01 04 12.2 -1.5**
CNI2 El Empalme, Bo 4.13 3 *eP* **Pn 01 04 16.1 +0.8**
CNI2 *eS* **Sn 01 04 59.6 -3.8**
BUS1 Rivas 4.37 346 *eP* **Pn 01 04 17.8 -1.3**
LLNJ Naranjito 4.39 342 *eP* **Pn 01 04 18.0 -1.1**
RAZU San Marcos de 4.54 343 *eP* **Pn 01 04 21.1 -0.2**
ABE2 San Pablo 4.60 343 *eP* **Pn 01 04 21.4 -0.7**
ZANG Zanguenga, Cho 4.61 37 *eP* **Pn 01 04 22.7 +0.7**
LCR2 La Lucha 2 4.62 344 Pn **Pn 01 04 21.1 -1.2**
LCR2 La Lucha 2 4.62 344 *iP* **Pn 01 04 21.2 -1.1**
LCR2 IAML 01 04 22.2
comp=Z,670nm,1.0s
LCR2 La Lucha 2 4.62 344 *eP* **Pn 01 04 21.6 -0.8**
REPA Paraso 4.67 346 *eP* **Pn 01 04 23.7 +0.7**
BITO Garabito Jaco 4.71 336 *eP* **Pn 01 04 22.3 -1.1**
ACOS Acosta 4.72 342 *eP* **Pn 01 04 22.8 -0.8**
VERB Verbena 4.74 348 *eP* **Pn 01 04 23.5 -0.4**
RAFA San Farael, Vo 4.78 347 *iP* **Pn 01 04 24.5 -0.1**
RAFA IAML 01 04 25.8
comp=Z,3μm,1.0s
RAFA San Farael, Vo 4.78 347 *eP* **Pn 01 04 24.6 -0.1**
VTCV VTCV, Calle Va 4.78 348 *eP* **Pn 01 04 24.6 0.0**
BCIP Isla Barro Col 4.80 36 Pn **Pn 01 04 24.7 +0.1**
BCIP Isla Barro Col 4.80 36 *eP* **Pn 01 04 25.2 +0.6**
BCIP *eS* Sn 01 05 10.9 -9.0
BCIP Isla Barro Col 4.80 36 P **Pn 01 04 24.9 +0.3**
BCIP S **Sn 01 05 16.3 -3.6**
BCIP Isla Barro Col 4.80 36 *iP* **Pn 01 04 24.1 -0.5**
BCIP IAML 01 04 25.1
comp=Z,170nm,1.0s
BCIP Isla Barro Col 4.80 36 *eP* **Pn 01 04 23.9 -0.7**
VICA Volcano Irazu 4.81 346 *eP* **Pn 01 04 25.1 -0.1**
LUJA Lujan 4.81 344 *eP* **Pn 01 04 25.6 +0.6**
SJS3 Mercedes San J 4.82 344 *eP* **Pn 01 04 24.6 -0.4**
CENT San Jose 4.82 344 *eP* **Pn 01 04 25.5 +0.5**
SJS Escuela Geolog 4.82 344 *eP* **Pn 01 04 24.5 -0.6**
VTR0 Volcan Turrial 4.82 348 *eP* **Pn 01 04 25.9 +0.5**
CVTR Volcan Turrial 4.83 348 *eP* **Pn 01 04 25.4 +0.1**
CORON Coronado 4.84 345 *eP* **Pn 01 04 25.6 +0.3**
IRES Siquirres 4.85 351 *eP* **Pn 01 04 25.8 +0.5**
SANTA Santa Ana 4.85 342 *eP* **Pn 01 04 24.7 -0.7**
CVIMO Finca Echandi 4.87 348 *eP* **Pn 01 04 26.0 +0.1**
BELE Belen 4.89 343 *eP* **Pn 01 04 25.4 -0.7**
HDC Heredia 4.90 343 Pn **Pn 01 04 25.9 -0.2**
HDC Heredia 4.90 343 *iP* **Pn 01 04 25.6 -0.5**
HDC IAML 01 04 32.9
comp=Z,2μm,1.0s
HDC Heredia 4.90 343 *eP* **Pn 01 04 25.7 -0.4**
HDC3 Heredia 3 4.90 344 *iP* **Pn 01 04 25.7 -0.4**
HDC3 IAML 01 04 32.9
comp=Z,2μm,1.0s
FRIJ El Hiral 4.91 37 *eP* **Pn 01 04 26.6 +0.5**
TCS1 Tacares 4.99 342 *iP* **Pn 01 04 26.4 -1.0**
TCS1 IAML 01 04 32.8
comp=Z,3μm,1.0s
SARCI Sarchi 5.05 341 *eP* **Pn 01 04 27.9 -0.3**
GR1C Gorgona, Isla 5.06 116 P **Pn 01 04 28.2 0.0**
GR1C S **Sn 01 05 20.9 -5.5**
RAMO San Ramon 5.09 340 *eP* **Pn 01 04 28.9 +0.2**
CARI Cariari 5.16 349 *eP* **Pn 01 04 30.2 +0.6**
PTAC Punta Ardita, 5.21 69 P **Pn 01 04 30.7 +0.4**
comp=Z,718nm,0.5s,comp=Z,16μm
PTAC S **Sn 01 05 25.1 -5.0**
comp=Z,718nm,0.5s,comp=Z,16μm
TUMC Tumaco 5.25 131 P **Pn 01 04 32.0 +1.2**
comp=Z,249nm,0.7s
CHPO Chepo, Panama 5.25 42 *eP* **Pn 01 04 31.4 +0.5**
NYURE Nandayure 5.33 332 *eP* **Pn 01 04 31.0 -0.9**
SOCE Pocosol 5.42 340 **Pn 01 04 33.0 -0.2**
SOCE Pocosol 5.42 340 *iP* **Pn 01 04 32.9 -0.2**
SOCE IAML 01 04 34.3
comp=Z,840nm,1.0s
SOCE Pocosol 5.42 340 *eP* **Pn 01 04 32.9 -0.2**
JTS Las Juntas de 5.46 336 **Pn 01 04 32.9 -0.8**
JTS Las Juntas de 5.46 336 P **Pn 01 04 32.9 -0.8**
JTS S **Sn 01 05 35.2 -1.1**
JTS Las Juntas de 5.46 336 *eP* **Pn 01 04 32.9 -0.8**
MALC Bahia Malaga 5.50 103 P **Pn 01 04 34.7 +0.5**
comp=Z,244nm,0.6s
MALC S **Sn 01 05 35.7 -1.5**
comp=Z,244nm,0.6s
VACR Volcan Arenal 5.52 339 *eP* **Pn 01 04 34.7 +0.1**
NICO Nicoya 5.54 331 *eP* **Pn 01 04 33.5 -1.4**
CEDE Laguna Cedeo 5.54 339 *eP* **Pn 01 04 35.3 +0.4**
CNAS Canas 5.64 335 *eP* **Pn 01 04 37.5 +1.3**
COVE Coope Vega, Sa 5.66 343 *iP* **Pn 01 04 36.3 -0.2**
COVE IAML 01 05 05.3
comp=Z,610nm,1.0s
CUI Cuipilapa 5.88 336 *eP* **Pn 01 04 39.1 -0.3**
VRLE La Escondida, 6.08 334 *eP* **Pn 01 04 42.6 +0.3**
CAPC Capurgana 6.27 58 P **Pn 01 04 46.6 +1.7**
comp=Z,104nm,0.5s,comp=Z,2μm
CAPC P **Pn 01 04 46.6 +1.7**
comp=Z,104nm,0.5s,comp=Z,2μm
PAC1 Pacto, Paraso 6.33 142 P **Pn 01 04 45.2 -0.6**
PAC1 S **Sn 01 05 55.9 -2.0**
BBAC Balboa, Cauca 6.33 121 P **Pn 01 04 44.8 -1.1**
comp=Z,40nm,0.6s,comp=Z,2μm
BBAC S **Sn 01 05 52.8 -5.4**
comp=Z,40nm,0.6s,comp=Z,2μm
JAMC Jamundi, Valle 6.35 109 P **Pn 01 04 46.0 -0.2**
comp=Z,124nm,0.4s,comp=Z,2μm
JAMC S **Sn 01 05 56.0 -2.7**
comp=Z,124nm,0.4s,comp=Z,2μm
PLMC San Jos del P 6.41 93 P **Pn 01 04 46.7 -0.1**
PLMC S **Sn 01 05 57.2 -2.6**
YOTC Yotoco, Valle 6.47 101 P **Pn 01 04 47.6 -0.1**
comp=Z,65nm,0.4s,comp=Z,1μm
YOTC S **Sn 01 05 57.9 -3.4**
comp=Z,65nm,0.4s,comp=Z,1μm
POPC Popayan, Colom 6.60 114 P **Pn 01 04 49.3 -0.3**
comp=Z,102nm,0.6s,comp=Z,1μm
POPC S **Sn 01 06 00.0 -4.8**
comp=Z,102nm,0.6s,comp=Z,1μm
APAC Apartado, Choc 6.62 66 P **Pn 01 04 52.6 +3.0**
comp=Z,136nm,0.4s,comp=Z,2μm
APAC S **Sn 01 06 08.6 +3.7**
comp=Z,136nm,0.4s,comp=Z,2μm
TULM Tulcn-Chalpat 6.68 133 **Pn 01 04 52.8 +1.9**
DBBC Dabeiba 6.68 75 P **Pn 01 04 52.1 +1.5**
DBBC S **Sn 01 06 09.4 +2.8**
GCUF Volcan Galeras 6.69 127 P **Pn 01 04 53.3 +2.2**
comp=Z,60nm,0.4s,comp=Z,1μm
PULU Pululahua 6.70 141 **Pn 01 04 52.9 +1.8**
IMBA Imbabura, San 6.70 138 **Pn 01 04 53.7 +2.6**
PPLP Puerto Lpez 7.05 164 P **Pn 01 04 55.1 -0.5**
comp=Z,5.5nm,0.8s
PPLP S **Sn 01 06 09.3 -6.2**
comp=Z,5.5nm,0.8s
ESPN Las Esperanzas 7.05 347 **Pn 01 04 55.5 -0.1**
ACON Acoyapa 7.08 340 **Pn 01 04 55.9 -0.1**
ACON Acoyapa 7.08 340 P **Pn 01 04 55.6 -0.4**
comp=Z,51nm,0.5s,comp=Z,1μm
ACON Acoyapa 7.08 340 *eP* **Pn 01 04 55.7 -0.3**
LCBC Los crdobas, 7.22 60 P Pn 01 05 02.9 +5.0
comp=Z,60nm,0.5s
SLOR San Lorenzo - 7.30 145 Pn **Pn 01 05 02.5 +3.1**
ANTS Antisana-Sarah 7.31 142 **Pn 01 05 02.1 +2.4**
ANIL Santa Ana 7.32 96 P **Pn 01 05 01.1 +1.6**
comp=Z,123nm,0.5s,comp=Z,3μm
UREC San Jos de Ur 7.54 71 P **Pn 01 05 04.5 +2.2**
comp=Z,72nm,0.4s,comp=Z,1μm
UREC S **Sn 01 06 24.2 -3.3**
comp=Z,72nm,0.4s,comp=Z,1μm
ORTC Ortega, Tolima 7.56 100 P **Pn 01 05 04.7 +2.1**
comp=Z,85nm,0.6s,comp=Z,2μm
ORTC S **Sn 01 06 28.0 -0.1**
comp=Z,85nm,0.6s,comp=Z,2μm
BETC Betania 7.69 109 P **Pn 01 05 07.8 +3.4**
comp=Z,315nm,0.7s
BOAB BOACO BROADBAN 7.70 338 Pn **Pn 01 05 04.0 -0.5**
BOAB BOACO BROADBAN 7.70 338 *iP* **Pn 01 05 04.8 +0.3**
BOAB IAmb IAmb 01 05 20.2
comp=Z,34nm,0.8s
BOAB IAML 01 05 22.3
comp=Z,44nm,1.0s
SAPS Ciudad Sandino 7.76 332 *iP* **Pn 01 05 08.0 +2.6**
SAPS IVmB_BB 01 05 09.1
comp=Z,2μm,1.0s
SAPS IAML 01 05 09.2
comp=Z,250nm,1.0s
SAPS IAmb IAmb 01 05 09.2
comp=Z,150nm,0.5s
NORC Norcasia 7.80 88 P **Pn 01 05 09.7 +3.7**
comp=Z,11nm,0.9s
GARC Garzon, Huila 7.82 113 P **Pn 01 05 08.7 +2.3**
PRAC Prado 7.95 101 P **Pn 01 05 10.5 +2.6**
comp=Z,49nm,0.7s,comp=Z,1μm
PRAC S **Sn 01 06 37.8 +0.1**
comp=Z,49nm,0.7s,comp=Z,1μm
ZARC Zaragoza, Cauc 8.10 74 P **Pn 01 05 12.3 +2.3**
comp=Z,23nm,0.6s,comp=Z,464nm
CNGN Cerro Negro 8.19 331 **Pn 01 05 13.7 +2.5**
CNGN Cerro Negro 8.19 331 P **Pn 01 05 14.0 +2.7**
comp=Z,60nm,0.4s
CNGN Cerro Negro 8.19 331 *iP* **Pn 01 05 13.8 +2.5**
CNGN IAML 01 05 19.7
comp=Z,95nm,1.0s
PTBC PUERTO BERRIO, 8.30 81 P **Pn 01 05 17.0 +4.3**
comp=Z,11nm,0.9s
ROSC El Rosal 8.36 93 Pn **Pn 01 05 17.2 +3.2**
LIMN Finca el Limon 8.54 335 *iP* **Pn 01 05 17.4 +1.3**
LIMN IAmb IAmb 01 05 17.8
comp=Z,29nm,0.4s
LIMN IAML 01 05 19.1
comp=Z,47nm,1.0s
SPBC San Pablo de B 8.60 87 P **Pn 01 05 17.0 0.0**
comp=Z,12nm,0.6s,comp=Z,1μm
SJCC San Jacinto, C 8.76 58 P **Pn 01 05 21.7 +2.6**
comp=Z,31nm,0.8s
VILC Villavicencio, 9.05 97 P **Pn 01 05 27.3 +4.1**
CNCH Conchagua 9.42 328 *iP* **Pn 01 05 31.1 +2.8**
LCND La Caada 9.48 328 *iP* **Pn 01 05 31.8 +2.9**
ARGC Ariguani, Magd 9.54 61 P **Pn 01 05 34.4 +4.7**
comp=Z,50nm,0.9s
OCAC Ocana 9.77 72 P **Pn 01 05 36.0 +2.9**
comp=Z,50nm,0.7s,comp=Z,814nm
SCLA Alcaldia de Sa 10.26 325 *iP* **Pn 01 05 43.8 +4.1**
NUBE Las Nubes 11.05 321 *iP* **Pn 01 05 54.9 +4.3**
MTO3 Montecristo 11.19 325 **Pn 01 05 56.2 +3.7**
CRJC Cerrejon, Guaj 11.27 59 P **Pn 01 05 56.1 +2.5**
comp=Z,23nm,0.7s
URIC Uribia, Colomb 12.36 58 P **Pn 01 06 11.9 +3.5**
comp=Z,29nm,0.9s
SDV Santo Domingo 12.50 73 Pn **Pn 01 06 12.1 +1.6**
SDV Santo Domingo 12.50 73 P P 01 06 16.5 -5.8
comp=Z,25nm,1.2s
CZSB Cruzeiro do Su 16.32 142 P **Pn 01 06 58.5 -3.2**
AOPR Arecibo Observ 20.28 49 Pn Pn 01 07 50.1 -0.1
HUMP Col San Antoni 20.85 51 P Pn 01 07 55.6 -1.2
HUMP IAmb IAmb 01 07 56.4
comp=Z,23nm,0.8s
ETMB Extrema 22.24 132 P **P 01 08 09.3 0.0**
ETMB IAmb IAmb 01 08 11.7
comp=Z,12nm,1.2s
T42A Van Buren 32.52 347 P **P 01 09 42.0 -1.2**
T42A IAmb IAmb 01 09 43.6
comp=Z,3.1nm,0.9s
319A Douglas 35.99 319 P **P 01 10 14.3 +0.8**
AQDB Aquidauana 36.86 135 P **P 01 10 20.5 -0.4**
AQDB IAmb IAmb 01 10 21.7
comp=Z,6.5nm,1.1s
SDCO Great Sand Dun 38.42 330 P **P 01 10 35.2 +0.9**
SRU San Rafael Swe 42.05 327 P **P 01 11 04.9 +0.7**
HHC Hu-ho-hao-te 132.27 345 *eP* **PKPdf 01 22 24.3 -2.6**
PZH PanZhiHua 148.12 352 PKPbc **PKPdf 01 22 55.5 -0.3**

IDC ***15*** *01:17:14.0±1.8, 3°.30N×127°.38E, h0km, mb3.6/5, mbtmp3.6/5, MS2.9/1, Error ellipse: s-maj=227.6km s-min=21.6km az=69.0*
ISC 15 01:17:20.1±1.5, 3°.4N±0°.5×12°.8E±°, h45km, n7, σ0°67/6, mb3.7/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.10**	**164**	P	**P**	**01 22 30.8**	**-0.9**
	2.1nm,0.7s,baz=341,slow=10.0,SNR=14						
	2.1nm,0.7s						
ASAR	**Alice Springs**	**27.57**	**167**	P	**P**	**01 23 02.8**	**-0.3**
	0.1nm,0.3s,baz=346,slow=8.1,SNR=2.1						
	0.1nm,0.3s						
MJAR	**Matsushiro Arr**	**34.45**	**15**	LR	LR	01 40 48.9	
	comp=Z,20nm,18.2s,baz=204,slow=41						
STKA	**Stephens Creek**	**37.50**	**160**	P	**P**	**01 24 30.3**	**+0.6**
	0.8nm,0.3s,baz=318,slow=8.6,SNR=3.7						
	0.8nm,0.3s						
SONM	**Songino Array**	**47.91**	**341**	P	**P**	**01 25 53.8**	**-0.2**
	0.3nm,0.4s,baz=146,slow=8.8,SNR=2.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**58.33**	**325**	P	**P**	**01 27 10.9**	**+0.2**
	0.3nm,0.5s,baz=124,slow=7.2,SNR=2.5						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**123.81**	**288**	PKP	**PKiKP**	**01 36 14.4**	**-0.1**
	0.3nm,0.8s,baz=76,slow=3.3,SNR=1.6						

IDC ***15*** *01:33:05.0±2.1, 2°.11N×128°.67E, h236km±20km, mb3.5/15, mbtmp4.1/15, Error ellipse: s-maj=27.3km s-min=8.9km az=75.0*
NEIC ***15*** *01:33:05.6±1.2, 2°.09N±0°.08×128°.47E±0°.09, h235km±5km, mb4.3/35, Error ellipse: s-maj=13.2km s-min=11.8km az=81.0*
DJA ***15*** *01:33:06.4±0.4, 2°N±4°×12°8E±°, h227km±4km, M4.2/10, mb4.0/6, MLv4.2/10*
ISC 15 01:33:06.1±0.4, 2°.00N±0°.06×128°.40E±0°.07, h250km, n70, σ1°19/77, mb4.0/31, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.60**	**220**	Pn	**Pn**	**01 33 44.0**	**-1.2**
TNTI					**S**	**01 34 14.5**	**-1.6**
TNTI	**Ternate**	**1.60**	**220**	P	**Pn**	**01 33 44.4**	**-0.9**
TNTI				S	**S**	**01 34 13.9**	**-2.2**
SWI	**Sorong**	**4.03**	**135**	P	**Pn**	**01 34 10.0**	**-0.3**
KMSI	**Cibinong**	**4.64**	**252**	S	**S**	**01 35 13.4**	**-1.1**
SANI	**Sanana**	**4.69**	**211**	P	**Pn**	**01 34 15.9**	**-2.3**
SANI				S	**S**	**01 35 10.7**	**-4.9**
GTOI	**Gorontalo**	**5.56**	**256**	P	**Pn**	**01 34 29.9**	**+1.0**
FAKI	**Fak Fak**	**6.21**	**142**		**Pn**	**01 34 37.1**	**0.0**
FAKI	**Fak Fak**	**6.21**	**142**	P	**Pn**	**01 34 36.8**	**-0.2**
	30nm,1.0s,0.1nm						
LUWI	**Luwuk**	**6.39**	**242**		**S**	**01 35 54.7**	**+1.0**
LUWI	**Luwuk**	**6.39**	**242**	P	**Pn**	**01 34 39.6**	**+0.4**
	32nm,0.9s						
TOLI2	**Tolitoli**	**7.67**	**264**		**Pn**	**01 34 55.6**	**+0.2**
BKB	**Balikpapan**	**11.95**	**254**	Pn	**Pn**	**01 35 46.6**	**-2.6**
SOEI	**Soe**	**12.38**	**199**	Pn	**Pn**	**01 35 55.9**	**+1.2**
JAY	**Jayapura**	**13.09**	**110**	P	**P**	**01 36 05.5**	**+0.5**
MTN	**Manton Dam**	**14.99**	**170**	P	**P**	**01 36 26.3**	**+0.3**
MTN				IAmb	IAmb	01 36 28.7	
	comp=Z,12nm,0.4s						
KNRA	**Kununurra**	**17.57**	**179**	P	**P**	**01 36 55.7**	**+1.6**
KNRA				IAmb	IAmb	01 36 58.0	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.15**	**188**	P	**P**	**01 37 22.4**	**+0.4**
UGM	**Wanagama**	**20.37**	**241**	P	Pn	01 37 28.3	-1.5
COEN	**Coen**	**21.58**	**138**	P	**P**	**01 37 36.1**	**-0.4**
COEN				IAmb	IAmb	01 37 40.0	
	comp=Z,9.5nm,1.1s						
TWG	**Pinlang**	**21.89**	**342**	P	**P**	**01 37 37.2**	**-2.0**
TWG				IAmb	IAmb	01 37 37.8	
	comp=Z,14nm,0.6s						
WB0	**Warramunga Arr**	**22.41**	**165**	P	**P**	**01 37 44.7**	**+0.6**
WB0				IAmb	IAmb	01 37 45.9	
	comp=Z,5.9nm,0.6s						
TPUB	**Ta-pu**	**22.48**	**341**	P	**P**	**01 37 43.8**	**-0.8**
WRAB	**Tennant Creek**	**22.56**	**165**	P	**P**	**01 37 46.2**	**+0.7**
WRAB				IAmb	IAmb	01 37 46.6	
	comp=Z,4.1nm,0.9s						
WRA	**Warramunga Arr**	**22.57**	**165**	P	**P**	**01 37 45.5**	**0.0**
WRA	**Warramunga Arr**	**22.57**	**165**	P	**P**	**01 37 45.3**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=344,slow=11,SNR=41						
WRA				PcP	**PcP**	**01 41 31.3**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=356,slow=1.9,SNR=6.0						
WRA				ScP	**ScP**	**01 44 45.1**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=339,slow=3.1,SNR=1.5						
	comp=Z,2.3nm,0.5s						
WB2	**Warramunga Arr**	**22.57**	**165**	P	**P**	**01 37 46.2**	**+0.7**
WB2				IAmb	IAmb	01 37 47.9	
	comp=Z,7.5nm,1.1s						
WR0	**Warramunga Arr**	**22.64**	**165**	P	**P**	**01 37 46.7**	**+0.6**
WR0				IAmb	IAmb	01 37 50.8	
	comp=Z,3.2nm,0.8s						
YOJ	**Yonaguni jima**	**22.93**	**347**	P	**P**	**01 37 47.4**	**-1.3**
NACB	**Ninganchiao**	**23.01**	**344**	P	**P**	**01 37 48.4**	**-1.0**
NACB				IAmb	IAmb	01 37 55.7	
	comp=Z,26nm,1.3s						
YHNB	**Yeheng**	**23.54**	**344**	P	**P**	**01 37 55.2**	**+0.9**
YHNB				IAmb	IAmb	01 38 00.3	
	comp=Z,17nm,1.2s						
KNMB	**Chin-men Tao**	**24.34**	**337**	P	**P**	**01 38 02.6**	**+1.1**
JOW	**Kunigami**	**24.69**	**360**	P	**P**	**01 38 03.5**	**-1.1**
JOW				IAmb	IAmb	01 38 16.5	
	comp=Z,23nm,1.1s						
AS31	**Alice Springs**	**26.07**	**168**	P	**P**	**01 38 18.1**	**+1.0**
ASAR	**Alice Springs**	**26.07**	**168**	P	**P**	**01 38 18.1**	**+1.0**
ASAR	**Alice Springs**	**26.07**	**168**	P	**P**	**01 38 17.6**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=358,slow=8.4,SNR=33						
ASAR				PcP	**PcP**	**01 41 38.6**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=357,slow=2.3,SNR=12						
ASAR				ScP	**ScP**	**01 44 55.2**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=337,slow=2.8,SNR=6.1						
	comp=Z,1.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**33.19**	**301**	P	**P**	**01 39 21.9**	**+2.0**
	comp=Z,1.0nm,0.3s,baz=119,slow=8.3,SNR=4.1						
	comp=Z,1.0nm,0.3s						
INU	**Inuyama**	**34.13**	**13**	P	**P**	**01 39 26.5**	**-1.2**
INU				IAmb	IAmb	01 39 27.4	
	comp=Z,12nm,1.5s						
KSRS	**Korea Array**	**35.29**	**359**	P	**P**	**01 39 36.8**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=178,slow=9.2,SNR=7.3						
	comp=Z,1.5nm,0.7s						
BBOO	**Buckleboo**	**35.37**	**169**	P	**P**	**01 39 39.3**	**+1.0**
BBOO				IAmb	IAmb	01 39 40.4	
	comp=Z,43nm,1.5s						
MJAR	**Matsushiro Arr**	**35.55**	**14**	P	**P**	**01 39 37.8**	**-1.9**
	comp=Z,1.3nm,0.4s,baz=186,slow=9.0,SNR=10						
	comp=Z,1.3nm,0.4s						
MAJO	**Matsushiro**	**35.55**	**14**	P	**P**	**01 39 37.8**	**-2.0**
MAJO				IAmb	IAmb	01 39 39.6	
	comp=Z,3.0nm,0.7s						
MJB9	**Matsu-Tunnel**	**35.55**	**14**	P	**P**	**01 39 38.7**	**-1.1**
MJB9				IAmb	IAmb	01 39 41.0	
	comp=Z,2.9nm,0.8s						
STKA	**Stephens Creek**	**35.94**	**161**	P	**P**	**01 39 44.0**	**+0.9**
STKA	**Stephens Creek**	**35.94**	**161**	P	**P**	**01 39 43.7**	**+0.6**
	comp=Z,3.9nm,0.3s,baz=337,slow=8.6,SNR=14						
	comp=Z,3.9nm,0.3s						
USRK	**Ussuriysk Ar.**	**42.14**	**4**	P	**P**	**01 40 33.0**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=97,slow=12,SNR=3.8						
	comp=Z,1.4nm,0.7s						
ULN	**Ulaanbaatar**	**49.28**	**341**	P	**P**	**01 41 30.5**	**+0.5**
SONM	**Songino Array**	**49.47**	**341**	P	**P**	**01 41 31.6**	**+0.2**
SONM	**Songino Array**	**49.47**	**341**	P	**P**	**01 41 31.6**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=150,slow=7.5,SNR=8.5						
SONM				PcP	**sP**	**01 42 50.5**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=157,slow=4.7,SNR=1.6						
	comp=Z,1.2nm,0.6s						
FUNA	**Funafuti**	**51.70**	**102**	P	**P**	**01 41 48.0**	**-0.4**
MK31	**Makanchi Array**	**59.92**	**325**		**P**	**01 42 46.5**	**+0.3**
MKAR	**Makanchi Array**	**59.92**	**325**	P	**P**	**01 42 46.3**	**+0.2**
MKAR	**Makanchi Array**	**59.92**	**325**	P	**P**	**01 42 46.6**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=112,slow=8.2,SNR=19						
	comp=Z,1.4nm,0.4s						
AMCZ	**Amberley**	**59.99**	**144**	P	**P**	**01 42 45.5**	**-1.1**
GVZ	**Greta Valley S**	**60.10**	**143**	P	**P**	**01 42 47.8**	**+0.5**
MAKZ	**Makanchi**	**60.11**	**325**	P	**P**	**01 42 47.8**	**+0.4**
MAKZ				IAmb	IAmb	01 42 48.2	
	comp=Z,3.4nm,0.7s						
BFZ	**Birch Farm**	**60.81**	**140**	P	**P**	**01 42 50.8**	**-1.4**
ZALV	**Zalesovo Beam**	**62.88**	**333**	P	**P**	**01 43 05.4**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=105,slow=11,SNR=2.4						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**64.09**	**327**	P	**P**	**01 43 13.9**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=127,slow=6.1,SNR=30						
	comp=Z,2.2nm,0.5s						
KURK	**Kurchatov**	**64.09**	**327**	P	**P**	**01 43 14.0**	**+0.4**
KURK				IAmb	IAmb	01 43 14.6	
	comp=Z,3.9nm,0.8s						
KK31	**Karatay Array**	**65.63**	**317**	P	**P**	**01 43 23.7**	**-0.1**
KKAR	**Karatay Array**	**65.63**	**317**	P	**P**	**01 43 23.4**	**-0.4**
BVAR	**Borovoye Array**	**69.67**	**327**	P	**P**	**01 43 48.9**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=90,slow=7.8,SNR=2.4						
	comp=Z,0.5nm,0.7s						
J18K	**Innoko River**	**81.49**	**26**	P	**P**	**01 44 56.3**	**+0.9**
VNDA	**Vanda**	**81.51**	**173**	P	**P**	**01 44 55.6**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=323,slow=8.0,SNR=6.5						
	comp=Z,0.6nm,0.5s						
C19K	**Lookout Ridge**	**81.77**	**20**	P	**P**	**01 44 58.2**	**+1.4**
C19K				IAmb	IAmb	01 45 16.8	
	comp=Z,3.1nm,1.2s						
ILAR	**Eielson Array**	**85.94**	**25**	P	**P**	**01 45 17.9**	**0.0**
	comp=Z,0.3nm,0.8s,baz=190,slow=4.6,SNR=2.7						
	comp=Z,0.3nm,0.8s						
QSPA	**South Pole Qui**	**91.92**	**180**	P	**P**	**01 45 47.4**	**+1.4**
QSPA				IAmb	IAmb	01 45 51.0	
	comp=Z,4.7nm,1.2s						
QSPA	**South Pole Qui**	**91.92**	**180**	P	**P**	**01 45 47.1**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=260,slow=6.1,SNR=13						
	comp=Z,0.8nm,0.6s						
TXAR	**Lajitas Array**	**121.30**	**54**	PKP	**PKiKP**	**01 51 29.9**	**-0.6**
	comp=Z,0.1nm,0.6s,baz=219,slow=1.6,SNR=1.5						
TORD	**Torodi Ar. Bea**	**125.04**	**287**	PKP	**PKiKP**	**01 51 37.8**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=133,slow=2.5,SNR=4.3						

KRSC 15 01:33:11.6±1.2, 48°.13N×157°.51E, h16km±15km, Ml3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**3.70**	**5**	*eP*	Pn	01 34 11.4	+3.3
KDTR				*eS*	Sn	01 34 55.6	+4.3
ASAK	**Asacha**	**4.27**	**3**	*eP*

σ2♀04/17, **Flores Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.56**	**178**	P	**Pn**	**01 49 55.1**	**-1.0**
MMRI				S	**Sn**	**01 50 17.9**	**+1.5**
BBSI	**Bau Bau**	**1.62**	**14**	P	**Pn**	**01 49 56.2**	**-0.6**
EDFI	**Ende, Flores**	**1.74**	**196**	P	**Pn**	**01 49 58.2**	**-0.5**
BKSI	**Bulukumba**	**2.68**	**310**	P	**Pn**	**01 50 10.6**	**-0.9**
KAPI	**Kappang**	**3.16**	**310**	Pn	**Pn**	**01 50 18.1**	**0.0**
	1.7nm,0.3s,baz=104,slow=8.3,SNR=3.0						
KAPI				Sn	**Sn**	**01 51 00.3**	**+4.3**
	4.5nm,0.3s,baz=159,slow=14,SNR=4.2						
KAPI				LR	LR	01 51 39.9	
	comp=Z,496nm,18.7s,baz=122,slow=38						
	5.1nm,0.3s						
SOEI	**Soe**	**3.38**	**142**	P	**Pn**	**01 50 23.7**	**+2.5**
BATI	**Baumata**	**3.45**	**155**	P	**Pn**	**01 50 24.8**	**+2.7**
BASI	**Baing, Sumba**	**3.51**	**207**	P	**Pn**	**01 50 23.2**	**+0.3**
PLAI	**Plampang**	**4.70**	**248**	P	**Pn**	**01 50 39.5**	**+0.2**
PLAI				S	**Sn**	**01 51 36.6**	**+2.7**
TWSI	**Taliwang, Sumb**	**5.51**	**252**	P	**Pn**	**01 50 50.2**	**-0.2**
	32nm,1.0s,1μm0.2nm						
LUWI	**Luwuk**	**6.01**	**6**	P	**Pn**	**01 50 55.6**	**-1.7**
GTOI	**Gorontalo**	**7.70**	**6**	P	**Pn**	**01 51 19.8**	**-0.7**
	6.4nm,1.2s,0.0nm						
WRA	**Warramunga Arr**	**17.41**	**139**	P	**Pn**	**01 53 28.4**	**-3.0**
	0.2nm,0.3s,baz=320,slow=13,SNR=7.2						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**19.98**	**147**	P	**P**	**01 54 00.0**	**-1.0**
	2.1nm,0.8s,baz=323,slow=9.8,SNR=20						
ASAR				LR	LR	02 02 22.5	
	comp=Z,70nm,19.4s,baz=304,slow=38						
	2.1nm,0.8s						
SONM	**Songino Array**	**56.42**	**347**	P	P	01 58 55.8	-14
	0.3nm,1.0s,baz=163,slow=5.6,SNR=1.5						
	0.3nm,1.0s						

NEIC ***15*** *01:51:58.6±1.0,26°.65N±0°.06×58°.83E±0°.05,h10km±1km, mb4.6/81, Error ellipse: s-maj=11.6km s-min=6.8km az=31.0*
MOS ***15*** *01:51:59.7±0.9,26°.68N×58°.95E,h31km,mb4.6/33, Error ellipse: s-maj=6.7km s-min=4.5km az=79.3*
OMAN ***15*** *01:51:59.0±0.7,26°.40N×58°.95E,h10km,mb5.1/19, ml4.7/23,ms5.0/4, Error ellipse: s-maj=5.9km s-min=5.5km az=91.0*
TEH ***15*** *01:52:00.5,26°.52N×58°.92E,h100km,ML4.7*
IDC ***15*** *01:52:03.1±2.3,26°.61N×58°.98E,h46km±24km,mb3.9/29, mbtmp4.2/30,ML4.4/2,MS3.1/1, Error ellipse: s-maj=13.4km s-min=10.4km az=177.0*
DSN ***15*** *01:52:05.8±1.9,26°.13N×58°.65E,h15km,ML4.4/15, Error ellipse: s-maj=20.3km s-min=17.1km az=21.0*
SGS ***15*** *01:52:17.4,26°.37N×57°.66E,h7km,Ml4.5*
ISC 15 01:52:01.2±2.1,26°.54N±0°.04×59°.00E±0°.04,h32km±15km**, n368,**σ1♀**59**/404**,mb4.4**/97**,1C,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JASK	**Jask - Hormozg**	**1.22**	**237**	Pg	**Pn**	**01 52 23.8**	**+1.6**
JASK	**Jask - Hormozg**	**1.22**	**237**	P	**Pn**	**01 52 23.9**	**+1.7**
	SNR=2269						
JASK				S	**Sn**	**01 52 39.7**	**+2.1**
	SNR=6.1						
CHBR	**Chabahar**	**1.63**	**125**	Pg	**Pn**	**01 52 29.4**	**+1.6**
KHNJ	**Kahnooj**	**1.81**	**321**	Pg	**Pn**	**01 52 31.2**	**+0.9**
NGCH	**Negor - Chabah**	**2.25**	**121**	Pn	**Pn**	**01 52 38.0**	**+1.7**
NGCH	**Negor - Chabah**	**2.25**	**121**	P	**Pn**	**01 52 38.3**	**+2.0**
	SNR=16						
IBND	**Bandar-abas**	**2.37**	**293**	Pn	**Pn**	**01 52 39.2**	**+1.2**
BANOM	**Banah**	**2.50**	**256**	*e*P	**Pn**	**01 52 39.6**	**-0.2**
	SNR=37						
BANOM	**Banah**	**2.50**	**256**	P	**Pn**	**01 52 39.6**	**-0.2**
BANOM				S	**Sn**	**01 53 08.1**	**-1.1**
SHME	**Shamm**	**2.62**	**260**	*e*P	**Pn**	**01 52 41.7**	**+0.5**
	SNR=61						
SHME	**Shamm**	**2.62**	**260**	P	**Pn**	**01 52 41.8**	**+0.5**
	SNR=86						
SHME				S	**Sn**	**01 53 11.4**	**-0.6**
KBAM	**BAM**	**2.63**	**349**	Pn	**Pn**	**01 52 42.3**	**+0.8**
GENO	**Geno**	**2.67**	**289**	Pn	**Pn**	**01 52 42.9**	**+0.7**
MDH	**Madha**	**2.73**	**244**	*e*P	**Pn**	**01 52 42.1**	**-0.7**
	SNR=71						
MDH	**Madha**	**2.73**	**244**	P	**Pn**	**01 52 42.2**	**-0.7**
	SNR=285						
MDH				S	**Sn**	**01 53 11.3**	**-3.6**
	SNR=9.4						
MASF	**Masafi**	**2.81**	**246**	P	**Pn**	**01 52 43.0**	**-1.0**
	SNR=88						
MASF				S	**Sn**	**01 53 13.1**	**-3.8**
MSFE	**Esma-Masafi**	**2.82**	**246**	*e*P	**Pn**	**01 52 43.3**	**-0.8**
	SNR=88						
UOSS	**Minazif**	**2.98**	**238**	Pn	**Pn**	**01 52 45.1**	**-1.2**
UOSS	**Minazif**	**2.98**	**238**	*e*P	**Pn**	**01 52 45.3**	**-1.1**
	SNR=106						
UOSS	**Minazif**	**2.98**	**238**	P	**Pn**	**01 52 45.2**	**-1.1**
UOSS				S	**Sn**	**01 53 17.0**	**-4.1**
HATD	**Hatta, Dubai**	**3.10**	**237**	*e*P	**Pn**	**01 52 46.9**	**-1.1**
	SNR=76						
HATD				S	**Sn**	**01 53 19.7**	**-4.4**
HATD	**Hatta, Dubai**	**3.10**	**237**	P	**Pn**	**01 52 46.9**	**-1.1**
	SNR=120						
HATD				S	**Sn**	**01 53 20.3**	**-3.7**
BIDO	**Bidbid**	**3.11**	**195**	P	**Pn**	**01 52 47.8**	**-0.3**
	SNR=248						
BIDO				S	**Sn**	**01 53 21.9**	**-2.3**
SRVN	**Saravan**	**3.15**	**73**	Pn	**Pn**	**01 52 51.8**	**+3.0**
UMQ	**Umm Al-Quwin**	**3.17**	**252**	P	**Pn**	**01 52 52.1**	**+3.2**
	SNR=11						
UMQ				S	**Sn**	**01 53 27.3**	**+1.7**
ASHO	**Ashiyiah**	**3.24**	**236**	*e*P	**Pn**	**01 52 49.4**	**-0.5**
	SNR=566						
ASHO	**Ashiyiah**	**3.24**	**236**	P	**Pn**	**01 52 49.4**	**-0.5**
	SNR=565						
ASHO				S	**Sn**	**01 53 27.1**	**-0.3**
ZHDN	**Zahedan**	**3.26**	**29**	Pn	**Pn**	**01 52 52.4**	**+2.0**
SOHO	**SOHO**	**3.28**	**223**	*e*P	**Pn**	**01 52 49.8**	**-0.6**
	SNR=398						
SOHO	**SOHO**	**3.28**	**223**	P	**Pn**	**01 52 49.8**	**-0.6**
SOHO				S	**Sn**	**01 53 25.3**	**-3.0**
WSAR	**Wadi Sarin**	**3.31**	**186**	P	**Pn**	**01 52 51.5**	**+0.6**
	89nm,0.3s,baz=28,slow=13,SNR=442						
WSAR				S	**Sn**	**01 53 26.8**	**-2.3**
	1μm,0.3s,baz=7.3,slow=23,SNR=31						
WSAR				LR	LR	01 54 31.2	
	comp=Z,339nm,21.9s,baz=27,slow=44						
HOQ	**Hoqain**	**3.32**	**208**	Pn	**Pn**	**01 52 50.5**	**-0.5**
HOQ	**Hoqain**	**3.32**	**208**	P	**Pn**	**01 52 50.6**	**-0.5**
	SNR=1655						
HOQ				S	**Sn**	**01 53 25.9**	**-3.6**
NAZ	**Nazwa, Dubai**	**3.39**	**244**	*e*P	**Pn**	**01 52 53.7**	**+1.8**
	SNR=47						
NAZ	**Nazwa, Dubai**	**3.39**	**244**	P	**Pn**	**01 52 53.5**	**+1.6**
	SNR=47						
NAZ				S	**Sn**	**01 53 33.0**	**+2.0**
CHMN	**Cheshme madani**	**3.55**	**339**	Pn	**Pn**	**01 52 55.4**	**+1.0**
FAQ	**Al Faqa, Dubai**	**3.56**	**241**	*i* P	**Pn**	**01 52 55.4**	**+1.2**
	SNR=105						
FAQ	**Al Faqa, Dubai**	**3.56**	**241**	P	**Pn**	**01 52 55.5**	**+1.2**
	SNR=204						
FAQ				S	**Sn**	**01 53 36.6**	**+1.3**
SMDO	**Samad**	**3.58**	**194**	P	**Pn**	**01 52 54.9**	**+0.3**
	SNR=176						
SMDO				S	**Sn**	**01 53 33.8**	**-2.1**
NGRK	**Negar Kerman**	**3.68**	**328**	Pn	**Pn**	**01 52 58.6**	**+2.3**
ASUD	**Al Ashush, Dub**	**3.83**	**241**	*i* P	**Pn**	**01 53 00.4**	**+2.4**
	SNR=361						
ASUD	**Al Ashush, Dub**	**3.83**	**241**	P	**Pn**	**01 53 00.5**	**+2.6**
	SNR=365						
ASUD				S	**Sn**	**01 53 42.5**	**+0.7**
ALNE	**Al Ain**	**3.85**	**231**	*i* P	**Pn**	**01 53 00.1**	**+1.9**
	SNR=69						
ALNE	**Al Ain**	**3.85**	**231**	P	**Pn**	**01 53 00.1**	**+1.9**
	SNR=84						
ALNE				S	**Sn**	**01 53 43.1**	**+0.8**
ARQ	**Araqi**	**3.91**	**216**	P	**Pn**	**01 53 01.5**	**+2.4**
	SNR=1927						
ARQ				S	**Sn**	**01 53 46.4**	**+2.5**
WBK	**Wadi Bani Khal**	**3.92**	**180**	P	**Pn**	**01 52 59.7**	**+0.5**
	SNR=336						
WBK				S	**Sn**	**01 53 42.0**	**-2.2**
	SNR=17						
BSY	**Bisya**	**4.12**	**204**	P	**Pn**	**01 53 04.2**	**+2.1**
	SNR=152						
BSY				S	**Sn**	**01 53 50.2**	**+0.9**
	SNR=7.9						
AJN	**Ajban**	**4.13**	**242**	*i* P	**Pn**	**01 53 03.5**	**+1.4**
	SNR=86						
AJN	**Ajban**	**4.13**	**242**	P	**Pn**	**01 53 03.7**	**+1.6**
	SNR=86						
AJN				S	**Sn**	**01 53 48.7**	**-0.6**
	SNR=7.9						
KRM1	**Kerman Provinc**	**4.23**	**339**	Pn	**Pn**	**01 53 04.8**	**+1.2**
JMDO	**Jabal Madar**	**4.24**	**191**	P	**Pn**	**01 53 04.8**	**+1.2**
	SNR=115						
JMDO				S	**Sn**	**01 53 51.1**	**-0.9**
LAR1	**LAR**	**4.27**	**286**	Pn	**Pn**	**01 53 03.8**	**-0.3**
JLN	**Jalan Bani Buh**	**4.39**	**175**	P	**Pn**	**01 53 05.7**	**0.0**
JLN				S	**Sn**	**01 53 51.2**	**-4.6**
KHGB	**Koh Gabri**	**4.42**	**330**	Pn	**Pn**	**01 53 07.4**	**+1.1**
ZRDN	**Zarand Kerman**	**4.91**	**334**	Pn	**Pn**	**01 53 14.2**	**+1.2**
LMD1	**Lamerd**	**5.27**	**280**	Pn	**Pn**	**01 53 17.6**	**-0.2**
BSRN	**Basiran**	**5.40**	**1**	Pn	**Pn**	**01 53 20.5**	**+0.7**
MZWR	**Madinat Zayed**	**5.41**	**240**	P	**Pn**	**01 53 20.1**	**+0.5**
MZWR				S	**Sn**	**01 54 18.6**	**-2.1**
MHTO	**MHTO**	**5.61**	**190**	P	**Pn**	**01 53 24.0**	**+1.5**
	SNR=161						
MHTO				S	**Sn**	**01 54 25.3**	**-0.6**
QIR1	**Qir**	**5.63**	**291**	Pn	**Pn**	**01 53 22.6**	**-0.1**
JRN	**Qarnain Island**	**5.77**	**255**	P	**Pn**	**01 53 24.8**	**+0.1**
JRN				S	**Sn**	**01 54 27.0**	**-2.9**
IBAF	**Bafgh**	**5.86**	**330**	Pn	**Pn**	**01 53 26.5**	**+0.5**
IKOO	**Kooshah**	**5.86**	**0**	Pn	**Pn**	**01 53 26.9**	**+0.8**
GHWR	**Ruwais**	**6.11**	**246**	P	**Pn**	**01 53 28.7**	**-0.6**
GHWR				S	**Sn**	**01 54 34.2**	**-4.0**
MZR	**Muzera**	**6.13**	**236**	*i* P	**Pn**	**01 53 30.1**	**+0.4**
	SNR=14						
MZR	**Muzera**	**6.13**	**236**	P	**Pn**	**01 53 30.2**	**+0.5**
	SNR=7.2						
MZR				S	**Sn**	**01 54 35.2**	**-3.5**
	SNR=6.7						
IMEH	**Mehriz**	**6.17**	**322**	Pn	**Pn**	**01 53 31.1**	**+0.7**
IDAH	**Dahanechah**	**6.22**	**7**	Pn	**Pn**	**01 53 32.3**	**+1.2**
ITEG	**Tejag**	**6.33**	**358**	Pn	**Pn**	**01 53 33.7**	**+1.1**
SHI	**Shiraz**	**6.51**	**300**	Pn	**Pn**	**01 53 35.1**	**+0.2**
DQM	**DQM**	**6.72**	**192**	P	**Pn**	**01 53 37.9**	**+0.1**
DQM				S	**Sn**	**01 54 51.1**	**-2.1**
TPRV	**Parvadeh(Tabas**	**6.77**	**343**	Pn	**Pn**	**01 53 39.3**	**+0.9**
AFRZ	**Afriz**	**6.86**	**0**	Pn	**Pn**	**01 53 41.0**	**+1.3**
ICHK	**Chekchek**	**6.95**	**326**	Pn	**Pn**	**01 53 42.1**	**+1.1**
SLWR	**Sila**	**7.06**	**251**	P	**Pn**	**01 53 41.4**	**-0.9**
ISAD	**Sadrabad**	**7.08**	**320**	Pn	**Pn**	**01 53 43.5**	**+0.5**
SHRT	**Shahrakht**	**7.17**	**9**	Pn	**Pn**	**01 53 45.2**	**+1.4**
AHBU	**AHRAM**	**7.21**	**290**	Pn	**Pn**	**01 53 44.3**	**-0.2**
TKDS	**Koohdasht(Taba**	**7.23**	**347**	Pn	**Pn**	**01 53 45.7**	**+0.9**
SHMA	**Al-Shehemyia**	**7.25**	**266**	P	**Pn**	**01 53 45.8**	**+0.8**
	SNR=45						
TRNA	**Turayna**	**7.26**	**257**	P	**Pn**	**01 53 45.0**	**-0.1**
	SNR=28						
SHBH1	**SHBH1**	**7.38**	**248**	S	**Sn**	**01 55 05.3**	**-4.0**
SHBH1				P	**Pn**	**01 53 46.5**	**-0.3**
SMRA	**Abu-Samra**	**7.59**	**258**	P	**Pn**	**01 53 50.0**	**+0.3**
	SNR=12						
SAKB	**Bahrain**	**7.62**	**268**	P	**Pn**	**01 53 50.7**	**+0.6**
IRAM	**Ramesheh**	**7.81**	**314**	Pn	**Pn**	**01 53 53.0**	**+0.1**
KLNJ	**Kolanjah**	**7.88**	**306**	Pn	**Pn**	**01 53 53.9**	**0.0**
ANAR	**Anarak**	**8.05**	**327**	Pn	**Pn**	**01 53 56.7**	**+0.7**
HOFOF	**Al Hofuf**	**8.27**	**264**	P	**Pn**	**01 53 58.6**	**-0.3**
HOFOF				S	**Sn**	**01 55 25.3**	**-5.9**
HRA	**Herat**	**8.30**	**19**	Pn	**Pn**	**01 54 00.3**	**+0.7**
IGAR	**Gharneh**	**8.42**	**316**	Pn	**Pn**	**01 54 01.5**	**+0.3**
IZEF	**Zefreh**	**8.58**	**319**	Pn	**Pn**	**01 54 03.8**	**+0.2**
IBRJ	**Brojen**	**8.62**	**310**	Pn	**Pn**	**01 54 04.4**	**+0.4**
ABEH	**Behbahan**	**8.69**	**300**	Pn	**Pn**	**01 54 04.9**	**+0.2**
TBJM	**Torbat-e-JAM**	**8.77**	**7**	Pn	**Pn**	**01 54 07.9**	**+1.9**
ZNGN	**Zangian**	**9.02**	**310**	Pn	**Pn**	**01 54 09.6**	**+0.1**
SHAO	**Shalim**	**9.04**	**201**	P	**Pn**	**01 54 08.4**	**-1.2**
SHAO	**Shalim**	**9.04**	**201**	P	**Pn**	**01 54 09.0**	**-0.6**
DOK	**Doka**	**9.08**	**211**	P	**Pn**	**01 54 09.3**	**-0.8**
	SNR=12						
JHBN	**Jahan bin**	**9.22**	**310**	Pn	**Pn**	**01 54 11.9**	**-0.4**
IKLH	**Kolahrood**	**9.33**	**318**	Pn	**Pn**	**01 54 14.1**	**+0.4**
DMTO	**DMTO**	**9.55**	**204**	P	**Pn**	**01 54 15.7**	**-0.9**
	SNR=15						
DMTO				P	**Pn**	**01 54 15.7**	**-0.9**
	SNR=15						
ISFB	**Sefidab**	**9.72**	**325**	Pn	**Pn**	**01 54 19.8**	**+0.8**
IMYA	**Miami**	**9.81**	**5**	Pn	**Pn**	**01 54 22.3**	**+2.1**
WHFO	**Wadi Hawf**	**9.86**	**210**	P	**Pn**	**01 54 19.3**	**-1.5**
	SNR=22						
SBZV	**Sabzevar**	**9.88**	**353**	Pn	**Pn**	**01 54 22.9**	**+1.6**
IAKL	**Akhelmad**	**10.03**	**359**	Pn	**Pn**	**01 54 25.4**	**+2.0**
RBK	**Rabkut**	**10.04**	**207**	P	**Pn**	**01 54 22.3**	**-1.0**
KBD	**Kabd**	**10.35**	**287**	P	**Pn**	**01 54 26.2**	**-1.2**
ABTO	**Aybut**	**10.56**	**211**	P	**Pn**	**01 54 28.3**	**-2.3**
	SNR=14						
ABTO				P	**Pn**	**01 54 28.3**	**-2.3**
	SNR=14						
KHRJ	**Al Kharj**	**10.60**	**258**	P	**Pn**	**01 54 29.1**	**-1.9**
QYSM	**Um Kedad**	**10.88**	**280**	P	**Pn**	**01 54 32.5**	**-2.2**
RMAH	**Rumah**	**10.97**	**266**	P	**Pn**	**01 54 35.0**	**-1.0**
KBL	**Kabul**	**11.76**	**45**	Pn	**Pn**	**01 54 47.0**	**0.0**
KBL	**Kabul**	**11.76**	**45**	P	**Pn**	**01 54 47.0**	**0.0**
QABG	**Abgarm-Qazvin**	**12.18**	**321**	Pn	**Pn**	**01 54 53.4**	**+0.6**
RAYN	**Ar Rayn**	**12.60**	**259**	Pn	**Pn**	**01 54 55.4**	**-3.0**
RAYN	**Ar Rayn**	**12.60**	**259**	P	**Pn**	**01 54 55.2**	**-3.2**
RAYN	**Ar Rayn**	**12.60**	**259**	P	**Pn**	**01 54 55.4**	**-3.0**
NIL	**Nilore**	**14.21**	**57**	Pn	**Pn**	**01 55 19.5**	**-0.9**
NIL	**Nilore**	**14.21**	**57**	P	**Pn**	**01 55 19.5**	**-0.9**
SIMJ	**Simiganj**	**14.72**	**32**	Pn	**Pn**	**01 55 26.0**	**-1.2**
CHGR	**Chuyangaron**	**14.79**	**33**	Pn	**Pn**	**01 55 27.9**	**-0.2**
CHGR	**Chuyangaron**	**14.79**	**33**	P	**Pn**	**01 55 28.0**	**-0.2**
GAR	**Garm**	**15.63**	**35**	Pn	**Pn**	**01 55 37.9**	**-1.4**
GAR				IAmb	IAmb	01 55 38.7	
	comp=Z,30nm,0.8s						
BTK	**Batken**	**16.69**	**33**	Pn	**Pn**	**01 55 51.6**	**-1.1**
BTK				IAmb	IAmb	01 55 56.1	
	comp=Z,45nm,0.9s						
BTK	**Batken**	**16.69**	**33**	P	**Pn**	**01 55 51.6**	**-1.1**
BTK				pmax	pmax		
	comp=Z,45nm,1.0s						
DRK	**Karamyk**	**16.76**	**36**	P	**Pn**	**01 55 52.0**	**-1.8**
DRK	**Karamyk**	**16.76**	**36**	P	**Pn**	**01 55 52.0**	**-1.8**
DRK				pmax	pmax		
	comp=Z,37nm,0.5s						
TRKS	**Terek-Say**	**17.99**	**31**	P	**Pn**	**01 56 06.6**	**-2.3**
IUG	**Iuzhnay**	**18.01**	**27**	*e*P	**Pn**	**01 56 07.6**	**-1.5**
GNI	**Garni**	**18.02**	**322**	P	**P**	**01 56 10.2**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=233,slow=21,SNR=1.9						
	comp=Z,4.6nm,0.5s						
ARK	**Arkit**	**18.58**	**32**	P	**P**	**01 56 14.8**	**-0.9**
GURO	**Guroymak-BITLI**	**18.62**	**314**	P	**P**	**01 56 12.7**	**-3.5**
ARSB	**Arslanbob**	**18.72**	**35**	P	**P**	**01 56 16.8**	**-0.5**
ARSB	**Arslanbob**	**18.72**	**35**	P	**P**	**01 56 16.8**	**-0.5**
ARSB				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KK31	**Karatay Array**	**19.00**	**27**	P	**P**	**01 56 19.8**	**-0.4**
KK31	**Karatay Array**	**19.00**	**27**	P	**P**	**01 56 19.8**	**-0.4**
KK31				pmax	pmax		
	comp=Z,15nm,0.7s						
KKAR	**Karatay Array**	**19.00**	**27**	P	**P**	**01 56 19.5**	**-0.7**
KKAR	**Karatay Array**	**19.00**	**27**	P	**P**	**01 56 19.6**	**-0.6**
KKAR				IAmb	IAmb	01 56 21.8	
	comp=Z,15nm,0.7s						
KKAR	**Karatay Array**	**19.00**	**27**	P	**P**	**01 56 19.6**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,15nm,0.7s						
KSH	**Kashi**	**19.19**	**43**	P	**P**	**01 56 17.8**	**-4.6**
KSH				pmax	pmax		
	comp=Z,19nm,0.7s						
ARLS	**Aral**	**19.80**	**36**	P	**P**	**01 56 30.0**	**+0.9**
ASF	**Jabal al Asfar**	**20.05**	**291**	P	**P**	**01 56 32.6**	**+0.7**
	comp=Z,6.5nm,0.3s,baz=360,slow=0.0,SNR=14						
	comp=Z,6.5nm,0.3s						
ASF	**Jabal al Asfar**	**20.05**	**291**	P	Pn	01 56 34.1	+0.3
EKS2	**Erkin-Say**	**20.11**	**33**	P	Pn	01 56 34.3	-0.1
	SNR=7.2						
UCH	**Uchtor**	**20.16**	**35**	P	**P**	**01 56 33.9**	**+0.5**
	SNR=22						
NRN	**Naryn**	**20.42**	**39**	P	**P**	**01 56 34.9**	**-1.1**
NRN	**Naryn**	**20.42**	**39**	P	**P**	**01 56 34.9**	**-1.1**
NRN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AAK	**Ala-Archa**	**20.45**	**34**	P	Pn	01 56 37.5	-0.9
	SNR=12						
AAK	**Ala-Archa**	**20.45**	**34**	P	**P**	**01 56 36.0**	**-0.1**
AAK				IAmb	IAmb	01 56 42.6	
	comp=Z,41nm,1.1s						
AAK	**Ala-Archa**	**20.45**	**34**	P	**P**	**01 56 37.2**	**+1.1**
	comp=Z,23nm,0.7s,baz=211,slow=8.1,SNR=21						
	comp=Z,23nm,0.7s						
AAK	**Ala-Archa**	**20.45**	**34**	P	**P**	**01 56 37.3**	**+1.1**
AAK				P	**P**	**01 56 37.3**	**+1.1**
AAK	**Ala-Archa**	**20.45**	**34**	*i* P	**P**	**01 56 36.3**	**+0.1**
AAK				pmax	pmax		
	comp=Z,26nm,0.8s						
SWQJ	**Swaqa**	**20.61**	**289**	P	Pn	01 56 40.2	-0.2
HSUJ	**Al Zarqa**	**20.63**	**291**	P	Pn	01 56 41.0	+0.5
FRU1	**Bishkek**	**20.64**	**34**	P	**P**	**01 56 38.9**	**+0.7**
FRU1				IAmb	IAmb	01 56 49.4	
	comp=Z,35nm,1.0s						
FRU1	**Bishkek**	**20.64**	**34**	P	**P**	**01 56 38.9**	**+0.7**
FRU1				pmax	pmax		
	comp=Z,35nm,1.0s						
KBK	**Karagaybulak**	**20.69**	**35**	P	Pn	01 56 40.5	-0.8
	SNR=14						
HSNJ	**Maan**	**20.83**	**286**	P	Pn	01 56 44.4	+1.4
CHMS	**Chumysh**	**20.84**	**34**	P	**P**	**01 56 40.2**	**0.0**
	SNR=7.1						
USP	**Ospenovka**	**20.91**	**33**	P	**P**	**01 56 42.2**	**+1.1**
	SNR=11						
GHAJ	**Ghor Haditha**	**21.04**	**289**	P	**P**	**01 56 40.0**	**-2.4**
GHAJ	**Ghor Haditha**	**21.04**	**289**	P	**P**	**01 56 45.4**	**+3.0**
NCK	**Nalchik**	**21.04**	**327**	*i* P	**P**	**01 56 41.2**	**-1.2**
NCK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BALJ	**Balqa**	**21.09**	**291**	P	**P**	**01 56 40.7**	**-2.3**
BALJ	**Balqa**	**21.09**	**291**	P	**P**	**01 56 45.0**	**+2.0**
ULHL	**Ulahol**	**21.09**	**38**	P	**P**	**01 56 43.9**	**+0.7**
	SNR=34						
BOOM	**Boomskoye usch**	**21.10**	**37**	P	**P**	**01 56 43.2**	**0.0**
BOOM	**Boomskoye usch**	**21.10**	**37**	P	**P**	**01 56 43.2**	**0.0**
BOOM				pmax	pmax		
	comp=Z,33nm,0.7s						
SHMJ	**Saham**	**21.10**	**292**	P	**P**	**01 56 46.9**	**+3.8**
SGDS	**Sogindy**	**21.12**	**33**	*e*P	**P**	**01 56 43.5**	**+0.2**
SGDS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
QRNJ	**Al-Qirein**	**21.18**	**291**	P	**P**	**01 56 48.3**	**+4.3**
HMDT	**Nahal Hemdat**	**21.21**	**291**	P	**P**	**01 56 49.1**	**+4.8**
TKM2	**Tokmak 2**	**21.22**	**35**	P	**P**	**01 56 45.9**	**+1.4**
	SNR=27						
MSBI	**Mazada**	**21.22**	**288**	P	**P**	**01 56 47.7**	**+3.4**
NATI	**Neve Ativ**	**21.23**	**294**	P	**P**	**01 56 49.5**	**+5.1**
DSI	**Dead Sea**	**21.23**	**289**	P	**P**	**01 56 47.5**	**+3.0**
GEM	**Giv'at Ha'Em**	**21.28**	**294**	P	**P**	**01 56 51.1**	**+6.1**
GAZ	**Gaziantep**	**21.28**	**305**	P	**P**	**01 56 43.9**	**-1.1**
GAZ				IAmb	IAmb	01 56 47.8	
	comp=Z,26nm,0.8s						
ZFRI	**Zfri**	**21.30**	**286**	P	**P**	**01 56 48.5**	**+3.3**
ATD	**Arta Tunnel**	**21.32**	**229**	P	**P**	**01 56 47.2**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=328,slow=7.1,SNR=5.9						
	comp=Z,0.9nm,0.8s						
ARPR	**Arapgir-MALATY**	**21.35**	**311**	P	**P**	**01 56 43.9**	**-2.0**
ARPR				IAmb	IAmb	01 57 01.5	
	comp=Z,24nm,0.9s						
AQBJ	**Aqaba**	**21.35**	**284**	P	**P**	**01 56 47.9**	**+2.1**
PRNI	**Paran**	**21.43**	**286**	P	**P**	**01 56 48.4**	**+1.7**
YTIR	**Yattir**	**21.43**	**289**	P	**P**	**01 56 49.3**	**+2.5**
EIL	**Elat**	**21.43**	**284**	P	**P**	**01 56 48.1**	**+1.4**
	comp=Z,72nm,0.9s,baz=66,slow=3.2,SNR=26						
	comp=Z,72nm,0.9s						
EIL	**Elat**	**21.43**	**284**	P	**P**	**01 56 48.5**	**+1.8**
MMA0	**Mount Meron ar**	**21.45**	**293**	P	**P**	**01 56 50.0**	**+3.0**
MMAI	**Mount Meron Ar**	**21.45**	**293**	P	**P**	**01 56 47.8**	**+0.8**
	comp=Z,3.2nm,0.4s,baz=97,slow=14,SNR=20						
MMAI				S	**S**	**02 00 43.5**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=107,slow=32,SNR=4.1						
	comp=Z,3.2nm,0.4s						
MBRI	**Mt Berech**	**21.47**	**284**	P	**P**	**01 56 49.3**	**+2.1**
KBZ	**Khabaz**	**21.55**	**327**	P	**P**	**

MKAR					pmax	pmax		
	comp=Z,8.0nm,0.7s							
BVAR	**Borovoye Array**	**27.79**	**15**		P	**P**	**01 57 47.0**	**-0.2**
	comp=Z,5.9nm,0.6s,baz=198,slow=7.8,SNR=35							
	comp=Z,5.9nm,0.6s							
BVAR	**Borovoye Array**	**27.79**	**15**		P	**P**	**01 57 47.0**	**-0.2**
BRVK	**Borovoye Array**	**27.79**	**15**		P	**P**	**01 57 46.5**	**-0.7**
BRVK					IAmb	IAmb	01 57 48.0	
	comp=Z,10nm,1.1s							
BRVK	**Borovoye**	**27.79**	**15**		P	**P**	**01 57 46.5**	**-0.7**
BRVK					pmax	pmax		
	comp=Z,10.0nm,1.1s							
VRH	**Novokhopyorsk**	**27.92**	**336**	*e*	P	**P**	**01 57 49.1**	**+0.8**
VRH					pmax	pmax		
	comp=Z,7.0nm,1.8s							
KURBB	**Kurchatov Arra**	**28.31**	**27**		P	**P**	**01 57 52.2**	**+0.4**
	comp=Z,6.1nm,0.8s,baz=225,slow=8.6,SNR=61							
	comp=Z,6.1nm,0.8s							
KURK	**Kurchatov**	**28.41**	**27**		P	**P**	**01 57 52.5**	**-0.3**
KURK					IAmb	IAmb	01 57 54.3	
	comp=Z,5.3nm,0.7s							
KURK	**Kurchatov**	**28.41**	**27**		P	**P**	**01 57 52.9**	**+0.2**
KURK	**Kurchatov**	**28.41**	**27**	*i*	P	**P**	**01 57 53.0**	**+0.2**
KURK					pmax	pmax		
	comp=Z,5.0nm,0.7s							
WMQ	**Urumqi**	**28.90**	**46**	*e*	P	P	01 58 03.8	+6.5
WMQ					pmax	pmax		
	comp=Z,24nm,0.7s							
ARU	**Arti**	**29.86**	**360***c*	*i*	P	**P**	**01 58 05.3**	**-0.2**
ARU							01 58 58.0	
ARU					S	**S**	**02 03 02.3**	**+2.0**
ARU					SS	**SnSn**	**02 04 28.2**	**-4.2**
ARU					pmax	pmax		
	comp=Z,3.0nm,1.0s							
KIRV	**Kirov**	**32.72**	**351**	*i*	P	**P**	**01 58 30.3**	**-0.3**
AKASG	**Malin Array Be**	**33.13**	**325**		P	**P**	**01 58 33.2**	**-1.1**
	comp=Z,1.6nm,0.4s,baz=130,slow=8.2,SNR=6.1							
	comp=Z,1.6nm,0.4s							
AKBB	**Malin Array Si**	**33.13**	**325**		P	**P**	**01 58 32.7**	**-1.6**
AKBB					IAmb	IAmb	01 58 45.2	
	comp=Z,6.7nm,0.7s							
AKBB	**Malin Array Si**	**33.13**	**325**	*i*	P	**P**	**01 58 33.5**	**-0.8**
AKBB					pmax	pmax		
	comp=Z,2.0nm,0.6s							
KIEV	**Kiev**	**33.13**	**325**		P	**P**	**01 58 33.4**	**-0.9**
KIEV					IAmb	IAmb	01 58 45.2	
	comp=Z,6.0nm,0.7s							
KIEV	**Kiev**	**33.13**	**325**		P	**P**	**01 58 33.4**	**-0.9**
KIEV					pmax	pmax		
	comp=Z,6.0nm,0.7s							
ZAA0	**Zalesovo Array**	**33.37**	**28**		P	**P**	**01 58 36.0**	**-0.3**
ZAA0					IAmb	IAmb	01 58 38.0	
	comp=Z,7.2nm,0.8s							
ZALV	**Zalesovo Beam**	**33.37**	**28**		P	**P**	**01 58 35.5**	**-0.9**
ZALV	**Zalesovo Beam**	**33.37**	**28**		P	**P**	**01 58 36.1**	**-0.3**
	comp=Z,5.3nm,0.5s,baz=241,slow=10,SNR=29							
	comp=Z,5.3nm,0.5s							
BURAR	**Bucovina Array**	**33.80**	**317**			**P**	**01 58 38.6**	**-1.7**
BUR08	**Bucovina Ar. S**	**33.82**	**317**		P	**P**	**01 58 39.0**	**-1.5**
FNA	**Florina**	**34.11**	**304**		P	**P**	**01 58 42.1**	**-0.9**
FNA					IAmb	IAmb	01 58 56.8	
	comp=Z,4.2nm,0.6s							
FNA	**Florina**	**34.11**	**304**		P	**P**	**01 58 42.2**	**-0.9**
FNA					pmax	pmax		
	comp=Z,4.0nm,0.6s							
KBN	**Korca**	**34.51**	**304**		P	**P**	**01 58 45.3**	**-1.3**
KBN	**Korca**	**34.51**	**304**		P	**P**	**01 58 45.3**	**-1.3**
KBN					pmax	pmax		
	comp=Z,10.0nm,0.7s							
KMBO	**Kilima Mbogo**	**34.60**	**221**		P	**P**	**01 58 48.1**	**+0.4**
KMBO	**Kilima Mbogo**	**34.60**	**221**		P	**P**	**01 58 48.1**	**+0.4**
KMBO					pmax	pmax		
	comp=Z,6.0nm,1.2s							
KOLS	**Kolonicke sedl**	**36.14**	**318**	*e*	P	**P**	**01 59 02.0**	**+1.6**
KOLS				*e*			01 59 12.0	
KOLS	**Kolonicke sedl**	**36.14**	**318**	*e*	P	**P**	**01 59 02.0**	**+1.6**
KOLS				*e*			01 59 12.0	
TIP	**Timpagrande**	**37.34**	**301**		P	**P**	**01 59 09.5**	**-1.3**
PZH	**PanZhiHua**	**38.11**	**80**		P	**P**	**01 59 18.9**	**+1.3**
PZH					pmax	pmax		
	comp=Z,20nm,0.9s							
PZH					pmax	pmax		
	comp=Z,170nm,4.5s							
OJC	**Ojcow**	**38.13**	**319**		P	**P**	**01 59 16.3**	**-1.0**
OJC					IAmb	IAmb	01 59 37.0	
	comp=Z,12nm,1.1s							
OJC	**Ojcow**	**38.13**	**319**		P	**P**	**01 59 16.3**	**-1.0**
OJC					pmax	pmax		
	comp=Z,12nm,1.1s							
CUC	**Castrocucco**	**38.16**	**302**		P	**P**	**01 59 15.7**	**-2.0**
MBAR	**Mbarara**	**38.34**	**230**	*i*	P	**P**	**01 59 19.8**	**+0.2**
MBAR					pmax	pmax		
	comp=Z,2.0nm,0.8s							
VSU	**Vasula**	**39.08**	**334**	*i*	P	**P**	**01 59 25.6**	**+0.5**
MORC	**Moravsky Berou**	**39.32**	**317**		P	**P**	**01 59 26.0**	**-1.3**
MORC	**Moravsky Berou**	**39.32**	**317**		P	**P**	**01 59 26.0**	**-1.3**
MORC					pmax	pmax		
	comp=Z,3.0nm,1.1s							
RONA	**Rosalia, Austr**	**39.43**	**314**	*e*	P	**P**	**01 59 27.6**	**-0.6**
	comp=Z,1.5nm,0.6s							
VALR	**Valaam**	**39.63**	**339**	*i*	P	**P**	**01 59 28.7**	**-0.9**
VALR					pmax	pmax		
	comp=Z,9.0nm,1.4s							
CONA	**Conrad Observa**	**39.78**	**314**	*e*	pP	**P**	**01 59 31.3**	**+0.1**
	comp=Z,0.5nm,0.6s							
ARSA	**Arzberg**	**39.81**	**313**	*e*	P	**P**	**01 59 31.0**	**-0.4**
	comp=Z,2.1nm,0.9s							
KRLC	**Kraliky**	**39.88**	**318**	*e*	P	**P**	**01 59 32.3**	**+0.3**
KRLC	**Kraliky**	**39.88**	**318**	*e*	P	**P**	**01 59 32.3**	**+0.3**
DPC	**Dobruska-Polom**	**40.26**	**318**	*e*	P	**P**	**01 59 36.2**	**+1.1**
DPC	**Dobruska-Polom**	**40.26**	**318**	*e*	P	**P**	**01 59 36.2**	**+1.1**
CHVC	**Chvalec**	**40.50**	**318**	*e*	P	**P**	**01 59 37.0**	**-0.1**
CHVC				*ex*		x	01 59 47.2	
CHVC	**Chvalec**	**40.50**	**318**	*e*	P	**P**	**01 59 37.0**	**-0.1**
CHVC				*e*			01 59 47.2	
NRCA	**Norcia**	**40.56**	**306**		P	**P**	**01 59 36.1**	**-1.6**
MOA	**Molln**	**40.79**	**313**	*e*	P	**P**	**01 59 38.9**	**-0.6**
	comp=Z,2.0nm,0.7s							
CKRC	**Cesky Krumlov**	**41.02**	**315**	*e*	P	**P**	**01 59 40.9**	**-0.5**
CKRC				*ex*		x	01 59 51.7	
CKRC	**Cesky Krumlov**	**41.02**	**315**	*e*	P	**P**	**01 59 40.9**	**-0.5**
CKRC				*e*			01 59 51.7	
BIOA	**Bad Ischl, Aus**	**41.16**	**313**	*e*	P	**P**	**01 59 41.6**	**-0.9**
	comp=Z,2.1nm,0.6s							
ZVC	**Zvikov**	**41.27**	**316**	*e*	P	**P**	**01 59 42.9**	**-0.5**
FINES	**FINESS Array B**	**41.31**	**337**		P	**P**	**01 59 43.3**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=133,slow=8.5,SNR=23							
	comp=Z,0.8nm,0.4s							
GERES	**GERESS Array B**	**41.42**	**315**		P	**P**	**01 59 43.8**	**-1.0**
GERES	**GERESS Array B**	**41.42**	**315**		P	**P**	**01 59 44.2**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=116,slow=9.1,SNR=9.0							
	comp=Z,1.1nm,0.8s							
GERES	**GERESS Array B**	**41.42**	**315**	*e*	P	**P**	**01 59 44.4**	**-0.3**
GERES					pmax	pmax		
	comp=Z,1.0nm,0.8s							
KHC	**Kasperske Hory**	**41.57**	**315**		P	**P**	**01 59 44.5**	**-1.5**
KHC					IAmb	IAmb	02 00 02.5	
	comp=Z,14nm,1.5s							
KHC	**Kasperske Hory**	**41.57**	**315**	*e*	P	**P**	**01 59 44.8**	**-1.1**
KHC				*ex*		x	01 59 56.1	
KHC	**Kasperske Hory**	**41.57**	**315**	*e*	P	**P**	**01 59 44.8**	**-1.1**
KHC				*e*			01 59 56.1	
ABTA	**Abfaltersbach**	**41.69**	**311**	*e*	P	**P**	**01 59 45.4**	**-1.6**
	comp=Z,3.3nm,1.3s							
LESA	**Schwarzleotal**	**41.73**	**312**	*e*	P	**P**	**01 59 46.1**	**-1.2**
	comp=Z,1.6nm,0.8s							
WTTA	**Wattenberg**	**42.38**	**312**	*e*	P	**P**	**01 59 51.8**	**-0.9**
	comp=Z,4.3nm,1.3s							
WATA	**Walderalm**	**42.44**	**312**	*e*	P	**P**	**01 59 52.0**	**-1.2**
	comp=Z,2.6nm,1.1s							
SONM	**Songino Array**	**42.52**	**47**		P	**P**	**01 59 54.8**	**+1.0**
SONM	**Songino Array**	**42.52**	**47**		P	**P**	**01 59 54.2**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=251,slow=9.3,SNR=14							
	comp=Z,3.1nm,0.8s							
SONM	**Songino Array**	**42.52**	**47**		P	**P**	**01 59 54.8**	**+1.0**
SONM					pmax	pmax		
	comp=Z,4.0nm,1.1s							
CLL	**Collm**	**42.56**	**318**		P	**P**	**01 59 53.0**	**-0.9**
CLL					IAmb	IAmb	02 00 06.4	
	comp=Z,18nm,1.5s							
CLL	**Collm**	**42.56**	**318**	*e*	P	**P**	**01 59 54.0**	**+0.1**
	comp=Z,5.0nm,1.0s							
CLL				*i*	x	x	02 00 05.3	
	comp=Z,7.0nm,0.9s							
CLL				*ex*		x	02 00 11.0	
CLL	**Collm**	**42.56**	**318**		P	**P**	**01 59 53.0**	**-0.9**
CLL					pmax	pmax		
	comp=Z,17nm,1.5s							
SQTA	**Sankt Quirin**	**42.66**	**312**	*e*	P	**P**	**01 59 53.1**	**-1.8**
	comp=Z,1.0nm,0.4s							
FETA	**Feichten**	**42.94**	**311**	*e*	P	**P**	**01 59 55.7**	**-1.6**
	comp=Z,2.1nm,0.6s							
ULN	**Ulaanbaatar**	**42.96**	**47**		P	**P**	**01 59 57.8**	**+0.4**
ULN	**Ulaanbaatar**	**42.96**	**47**		P	**P**	**01 59 59.2**	**+1.8**
ULN	**Ulaanbaatar**	**42.96**	**47**		P	**P**	**01 59 57.8**	**+0.4**
ULN					pmax	pmax		
	comp=Z,3.0nm,0.7s							
KEST	**Kesra**	**43.09**	**295**		P	**P**	**01 59 59.5**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=309,slow=2.0,SNR=4.5							
	comp=Z,1.6nm,0.6s							
DAVA	**Damuels**	**43.56**	**312**	*e*	P	**P**	**02 00 00.9**	**-1.4**
	comp=Z,3.1nm,0.9s							
HHC	**Hu-ho-hao-te**	**45.35**	**58**	*e*	P	**P**	**02 00 17.9**	**+1.3**
HHC					sP	pP	02 00 27.3	+0.8
HHC					pmax	pmax		
	comp=Z,5.0nm,0.9s							
HHC					pmax	pmax		
	comp=Z,61nm,5.6s							
HFS	**Hagfors**	**45.56**	**330**		P	**P**	**02 00 16.8**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=116,slow=6.9,SNR=18							
	comp=Z,3.4nm,0.7s							
NRIK	**Noril'sk**	**45.99**	**14**		P	**P**	**02 00 21.0**	**0.0**
NRIK					IAmb	IAmb	02 00 21.8	
	comp=Z,8.2nm,1.4s							
NRIK	**Noril'sk**	**45.99**	**14**		P	**P**	**02 00 20.8**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=200,slow=7.2,SNR=3.6							
	comp=Z,1.6nm,0.6s							
NRIK	**Noril'sk**	**45.99**	**14**		P	**P**	**02 00 21.0**	**0.0**
NRIK					pmax	pmax		
	comp=Z,8.0nm,1.4s							
LYN	**LuoYang**	**46.28**	**67**		P	**P**	**02 00 19.9**	**-4.0**
LYN					pmax	pmax		
	comp=Z,19nm,1.3s							
NB2	**NORSAR Subarra**	**47.06**	**331**		P	**P**	**02 00 28.0**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=114,slow=7.9							
NOA	**NORSAR Array B**	**47.06**	**331**		P	**P**	**02 00 28.5**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=115,slow=7.8,SNR=10							
	comp=Z,1.2nm,0.7s							
ARCES	**ARCESS Array B**	**47.25**	**345**		P	**P**	**02 00 30.2**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=137,slow=8.5,SNR=31							
	comp=Z,0.7nm,0.3s							
XLT	**XiLinHaoTe**	**48.77**	**54**	*e*	P	**P**	**02 00 41.8**	**-1.4**
XLT					sP	pP	02 00 47.9	-5.2
XLT					PcP	**PcP**	**02 02 02.4**	**-5.4**
XLT					pmax	pmax		
	comp=Z,6.0nm,0.8s							
NJ2	**Nanjing**	**51.92**	**69**	*e*	P	**P**	**02 01 07.8**	**+0.7**
NJ2					pmax	pmax		
	comp=Z,11nm,0.5s							
EKA	**Eskdalemuir Ar**	**52.86**	**321**		P	**P**	**02 01 12.9**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=97,slow=8.1,SNR=10							
	comp=Z,0.5nm,0.3s							
ESDC	**Sonseca Array**	**53.35**	**301**		P	**P**	**02 01 17.5**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=72,slow=7.0,SNR=9.7							
	comp=Z,0.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**55.12**	**268**		P	**P**	**02 01 30.2**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=65,slow=8.1,SNR=45							
	comp=Z,1.3nm,0.5s							
SPITS	**Spitsbergen Ar**	**55.19**	**350**		P	**P**	**02 01 29.9**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=152,slow=9.2,SNR=2.3							
	comp=Z,2.5nm,0.7s							
KSRS	**Korea Array**	**58.30**	**61**		P	**P**	**02 01 52.9**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=274,slow=5.9,SNR=5.7							
	comp=Z,0.9nm,0.5s							
BOSA	**Boshof**	**63.70**	**213**		P	**P**	**02 02 30.2**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=49,slow=6.1,SNR=4.8							
	comp=Z,3.1nm,0.8s							
C23K	**Itkillik River**	**81.55**	**10**		P	**P**	**02 04 15.8**	**+0.5**
C23K					IAmb	IAmb	02 04 16.7	
	comp=Z,4.7nm,0.7s							
E18K	**Tukpahlearik C**	**81.75**	**14**		P	**P**	**02 04 16.6**	**+0.2**
E18K					IAmb	IAmb	02 04 17.0	
	comp=Z,5.2nm,0.8s							
D22K	**Ayikyak River**	**82.07**	**11**		P	**P**	**02 04 18.5**	**+0.4**
D22K					IAmb	IAmb	02 04 19.7	
	comp=Z,5.1nm,1.1s							
F15K	**North Star Dit**	**82.15**	**17**		P	**P**	**02 04 18.8**	**+0.2**
F15K					IAmb	IAmb	02 04 19.5	
	comp=Z,4.9nm,0.8s							
D25K	**Kavik River**	**82.64**	**9**		P	**P**	**02 04 21.1**	**0.0**
TOLK	**Toolik Lake Re**	**82.80**	**10**		P	**P**	**02 04 21.9**	**-0.1**
TOLK					IAmb	IAmb	02 04 23.3	
	comp=Z,4.3nm,0.8s							
F19K	**Shaleruckik Mo**	**82.86**	**14**		P	**P**	**02 04 22.0**	**-0.2**
G19K	**Purcell Mounta**	**83.59**	**14**		P	**P**	**02 04 25.4**	**-0.6**
G19K					IAmb	IAmb	02 04 26.9	
	comp=Z,5.9nm,1.2s							
E25K	**Arctic Village**	**83.87**	**9**		P	**P**	**02 04 27.8**	**+0.4**
E25K					IAmb	IAmb	02 04 28.5	
	comp=Z,2.0nm,0.8s							
H17K	**Granite Mounta**	**83.96**	**16**		P	**P**	**02 04 28.1**	**+0.2**
H17K					IAmb	IAmb	02 04 28.4	
	comp=Z,3.3nm,0.7s							
G21K	**Allakaket**	**84.00**	**13**		P	**P**	**02 04 27.6**	**-0.5**
G21K					IAmb	IAmb	02 04 28.4	
	comp=Z,2.1nm,0.7s							
IMAR	**Indian Mountai**	**84.42**	**13**		P	**P**	**02 04 30.0**	**-0.2**
BMAR	**Burnt Mountain**	**84.66**	**9**		P	**P**	**02 04 32.1**	**+0.7**
H21K	**Melozitna Rive**	**84.90**	**13**		P	**P**	**02 04 33.0**	**+0.3**
H21K					IAmb	IAmb	02 04 33.1	
	comp=Z,2.2nm,0.8s							
J16K	**Anvik River**	**85.15**	**17**		P	**P**	**02 04 34.2**	**+0.2**
J16K					IAmb	IAmb	02 04 44.3	
	comp=Z,4.2nm,0.9s							
K15K	**Wolf Creek Mou**	**85.71**	**18**		P	**P**	**02 04 37.3**	**+0.5**
J19K	**Poorman**	**85.76**	**15**		P	**P**	**02 04 37.1**	**+0.2**
F31M	**Tsiigehtchic**	**85.82**	**5**		P	**P**	**02 04 35.5**	**-1.6**
MLY	**Manley**	**85.85**	**12**		P	**P**	**02 04 37.3**	**-0.2**
J20K	**Nowinta River**	**85.92**	**14**		P	**P**	**02 04 38.2**	**+0.4**
J20K					IAmb	IAmb	02 04 57.4	
	comp=Z,5.4nm,1.4s							
K17K	**Iditarod**	**86.21**	**16**		P	**P**	**02 04 39.2**	**0.0**
G31M	**Satah River**	**86.28**	**5**		P	**P**	**02 04 38.9**	**-0.5**
G31M					IAmb	IAmb	02 04 51.4	
	comp=Z,3.5nm,1.1s							
WB0	**Warramunga Arr**	**86.37**	**114**		P	**P**	**02 04 41.0**	**+0.3**
WB0					IAmb	IAmb	02 04 53.7	
	comp=Z,7.4nm,1.4s							
WRA	**Warramunga Arr**	**86.41**	**114**		P	**P**	**02 04 41.8**	**+0.9**
WRA	**Warramunga Arr**	**86.41**	**114**		P	**P**	**02 04 41.4**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=314,slow=4.2,SNR=19							
	comp=Z,1.3nm,0.6s							
WRA	**Warramunga Arr**	**86.41**	**114**		P	**P**	**02 04 41.8**	**+0.9**
WRAB	**Tennant Creek**	**86.41**	**114**		P	**P**	**02 04 42.1**	**+1.2**
WRAB					IAmb	IAmb	02 04 42.3	
	comp=Z,2.3nm,0.6s							
WRAB	**Tennant Creek**	**86.41**	**114**		P	**P**	**02 04 42.1**	**+1.2**
WRAB					pmax	pmax		
	comp=Z,2.0nm,0.6s							
WB2	**Warramunga Arr**	**86.42**	**114**		P	**P**	**02 04 42.0**	**+1.0**
WB2					IAmb	IAmb	02 04 42.3	
	comp=Z,4.3nm,0.8s							
BPAW	**Bear Paw Mtn.**	**86.64**	**13**		P	**P**	**02 04 41.2**	**-0.2**
BPAW					IAmb	IAmb	02 04 42.0	
	comp=Z,2.8nm,0.8s							
K20K	**Telida**	**86.66**	**14**		P	**P**	**02 04 41.4**	**0.0**
K20K					IAmb	IAmb	02 04 42.6	
	comp=Z,5.8nm,1.2s							
L16K	**Owhat River**	**86.75**	**17**		P	**P**	**02 04 42.3**	**+0.5**
ILAR	**Eielson Array**	**86.78**	**11**		P	**P**	**02 04 40.7**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=327,slow=5.0,SNR=6.1							
	comp=Z,0.5nm,0.7s							
I28M	**Miner Creek**	**87.14**	**8**		P	**P**	**02 04 43.8**	**-0.1**
J26L	**Joseph Creek**	**87.56**	**10**		P	**P**	**02 04 46.0**	**+0.1**
J26L					IAmb	IAmb	02 04 46.6	
	comp=Z,2.0nm,0.8s							
ASAR	**Alice Springs**	**87.91**	**118**		P	**P**	**02 04 49.3**	**+1.2**
ASAR	**Alice Springs**	**87.91**	**118**		P	**P**	**02 04 48.9**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=307,slow=5.1,SNR=28							
	comp=Z,1.8nm,0.7s							
ASAR	**Alice Springs**	**87.91**	**118**		P	**P**	**02 04 49.3**	**+1.2**
DHY	**Denali Highway**	**88.26**	**12**		P	**P**	**02 04 50.0**	**+0.7**
N19K	**Bonanza Creek**	**88.78**	**16**		P	**P**	**02 04 51.8**	**+0.1**
N19K					IAmb	IAmb	02 05 10.3	
	comp=Z,4.8nm,1.1s							
SUA	**Susitna One**	**89.06**	**14**		P	**P**	**02 04 52.4**	**-0.6**

IDC ***15*** *01:57:15.4±0.6, 13°.81N×51°.76E, h0km, mb5.0/43, mbtmp5.0/43, ML4.5/1, MS5.5/17, Error ellipse:*
s-maj=13.2km s-min=11.5km az=18.0
BJI ***15*** *01:57:16.0±0.0, 13°.55N×51°.53E, h29km, mb5.1/75, mB5.3/56, Ms5.5/82, Ms7 5.4/78*
MOS ***15*** *01:57:16.5±0.9, 13°.98N×51°.73E, h10km, mb5.7/74, MS5.3/37, Error ellipse: s-maj=6.9km s-min=3.2km az=101.5*
DSN ***15*** *01:57:18.6±1.4, 14°.21N×51°.77E, h15km, mb6.0/6, ML5.1/2, Error ellipse: s-maj=24.8km s-min=12.0km az=133.0*
NEIC ***15*** *01:57:19.6, 14°.05N×51°.84E, h22km, Moment Tensor Solution. Duration: 4s1.0 Moment tensor: Scale 10^18 Nm; Mrr-0.07; Mθθ 1.23; Mφφ-1.15; Mrθ 0.03; Mφθ 0.75; Mφr-0.39; Fault plane solution: M0 1.46000×10^18 NP1: φs29.89000°, δ81.26000°, λ-166.80000°. NP2: φs297.84000°, δ76.95000°, λ-8.97000°. Principal axes: T 1.4487, Plg3.0000°, Azm163.0000°; N 0.0289, Plg74.0000°, Azm63.0000°; P -1.4776, Plg15.0000°, Azm254.0000°;*
NEIC ***15*** *01:57:19.4±2.5, 14°.06N±0°.08×51°.74E±0°.08, h10km±1km, mb5.4/189, Ms_20 5.4/445, Mww6.0/45 Error ellipse: s-maj=14.3km s-min=11.9km az=138.0*
NEIC ***15*** *01:57:19.6, 14°.05N×51°.74E, h22km*
OMAN ***15*** *01:57:22.3±0.0, 14°.70N×51°.51E, h10km, mb5.3/43, ml5.6/6, ms6.2/4, Mwp5.9/25, Error ellipse: s-maj=0.9km s-min=0.8km az=345.0*
GCMT ***15*** *01:57:22.4±0.1, 13°.99N×51°.59E, h23km, MW6.0/167, Moment Tensor Solution. s148,c329; s167,c548; Duration: 2s6 Moment tensor: Scale 10^18 Nm; Mrr 0.05±.01; Mθθ 1.17±.01; Mφφ-1.21±.01; Mrθ 0.28±.02; Mφθ 0.83±.01; Mφr 0.24±.02; Best double couple: M0 1.49800×10^18 NP1: φs27.00000°, δ85.00000°, λ167.00000°. NP2: φs118.00000°, δ77.00000°, λ5.00000°. Principal axes: T 1.5110, Plg13.0000°, Azm342.0000°; N -0.0180, Plg76.0000°, Azm186.0000°; P -1.4860, Plg6.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 15 01:57:18.4±0.4, 14°.10N±0°.03×51°.79E±0°.03, h7km±2km, h7km:pP-P, n1343, σ1s97/1292, mb5.4/357, MS5.4/345, 104C-51D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.55**	**24**	P	**Pn**	**01 58 12.6**	**-1.4**
	SNR=318						
ABTO				S	**Sn**	**01 58 53.5**	**-2.7**
RBK	**Rabkut**	**4.11**	**34**	P	**Pn**	**01 58 21.2**	**-0.4**
	SNR=1004						
RBK				P	**Pn**	**01 58 21.2**	**-0.4**
	SNR=1004						
RBK				S	**Sn**	**01 59 08.1**	**-1.9**
	SNR=6.1						
RBK				S	**Sn**	**01 59 08.1**	**-1.9**
	SNR=6.1						
WHFO	**Wadi Hawf**	**4.25**	**26**	P	**Pn**	**01 58 22.4**	**-1.2**
	SNR=900						
WHFO				P	**Pn**	**01 58 22.4**	**-1.2**
	SNR=900						
WHFO				S	**Sn**	**01 59 11.4**	**-2.1**
WHFO				S	**Sn**	**01 59 11.4**	**-2.1**
DMTO	**DMTO**	**4.71**	**40**	P	**Pn**	**01 58 29.7**	**-0.2**
	SNR=261						
DMTO				P	**Pn**	**01 58 29.7**	**-0.2**
	SNR=261						
DMTO				S	**Sn**	**01 59 23.3**	**-1.5**
DMTO				S	**Sn**	**01 59 23.3**	**-1.5**
DOK	**Doka**	**5.03**	**26**	P	**Pn**	**01 58 33.3**	**-0.9**
	SNR=199						
DOK				P	**Pn**	**01 58 33.3**	**-0.9**
	SNR=199						
DOK				S	**Sn**	**01 59 29.9**	**-2.7**
DOK				S	**Sn**	**01 59 29.9**	**-2.7**
SHAO	**Shalim**	**5.37**	**43**	*i* P	**Pn**	**01 58 38.4**	**-0.6**
	SNR=55						
SHAO	**Shalim**	**5.37**	**43**	P	**Pn**	**01 58 39.3**	**+0.3**
	SNR=55						
SHAO				P	**Pn**	**01 58 39.3**	**+0.3**
	SNR=55						
SHAO				S	**Sn**	**01 59 40.7**	**-0.4**
SHAO				S	**Sn**	**01 59 40.7**	**-0.4**
DQM	**DQM**	**7.99**	**43**	P	**Pn**	**01 59 15.3**	**+0.3**
	SNR=11						
DQM				P	**Pn**	**01 59 15.3**	**+0.3**
	SNR=11						
DQM				S	**Sn**	**02 00 44.9**	**-0.8**
DQM				S	**Sn**	**02 00 44.9**	**-0.8**
MZR	**Muzera**	**9.00**	**10**	*i* P	**Pn**	**01 59 26.7**	**-2.2**
	SNR=227						
MZR	**Muzera**	**9.00**	**10**	P	**Pn**	**01 59 26.7**	**-2.2**
	SNR=38						
MZR				P	**Pn**	**01 59 26.7**	**-2.2**
	SNR=38						
MZR				S	**Sn**	**02 01 04.6**	**-5.9**
MZR				S	**Sn**	**02 01 04.6**	**-5.9**
MHTO	**MHTO**	**9.04**	**40**	P	**Pn**	**01 59 28.8**	**-0.5**
	SNR=118						
MHTO				P	**Pn**	**01 59 28.8**	**-0.5**
	SNR=118						
MHTO				S	**Sn**	**

WBK S **Sn** **02 01 52.3 -4.1**
SOHO SOHO 10.94 23 *i* P **Pn** **01 59 53.9 -1.5**
SNR=31
SOHO SOHO 10.94 23 P **Pn** **01 59 53.6 -1.8**
SOHO P **Pn** **01 59 53.6 -1.8**
ASUD Al Ashush, Dub 10.99 17 *i* P **Pn** **01 59 54.0 -2.1**
SNR=876
ASUD Al Ashush, Dub 10.99 17 P **Pn** **01 59 55.7 -0.4**
SNR=187
RAYN Ar Rayn 11.10 329 Pn **Pn** **01 59 53.7 -3.9**
RAYN Ar Rayn 11.10 329 *i* P **Pn** **01 59 55.7 -1.9**
SNR=15
RAYN Ar Rayn 11.10 329 P **Pn** **01 59 54.7 -2.9**
RAYN S Sn 02 01 49.8 -12
RAYN Ar Rayn 11.10 329 P **Pn** **01 59 53.7 -3.9**
BIDO Bidbid 11.13 32 P **Pn** **01 59 56.7 -1.3**
SNR=85
BIDO S **Sn** **02 01 59.4 -3.3**
WSAR Wadi Sarin 11.16 34 Pn **Pn** **01 59 57.4 -1.1**
34nm,0.3s,baz=248,slow=12,SNR=53
WSAR LR LR 02 04 17.6
comp=Z,27μm,19.4s,baz=236,slow=37
FAQ Al Faqa, Dubai 11.18 18 *i* P **Pn** **01 59 58.0 -0.7**
SNR=76
FAQ Al Faqa, Dubai 11.18 18 P **Pn** **01 59 58.0 -0.7**
SNR=76
FAQ P **Pn** **01 59 58.0 -0.7**
SNR=76
ASHO Ashiyiah 11.27 20 *i* P **Pn** **01 59 57.9 -2.1**
SNR=41
ASHO Ashiyiah 11.27 20 P **Pn** **01 59 57.9 -2.1**
SNR=41
ASHO P **Pn** **01 59 57.9 -2.1**
SNR=41
ASHO S **Sn** **02 02 01.9 -4.5**
ASHO S **Sn** **02 02 01.9 -4.5**
HATD Hatta, Dubai 11.43 20 *i* P **Pn** **01 59 60.0 -2.2**
SNR=42
HATD Hatta, Dubai 11.43 20 P **Pn** **02 00 00.7 -1.5**
SNR=42
HATD P **Pn** **02 00 00.7 -1.5**
SNR=42
HATD S **Sn** **02 02 03.0 -7.1**
HATD S **Sn** **02 02 03.0 -7.1**
NAZ Nazwa, Dubai 11.43 18 *i* P **Pn** **02 00 00.7 -1.5**
SNR=69
NAZ Nazwa, Dubai 11.43 18 P **Pn** **02 00 01.0 -1.1**
SNR=69
NAZ P **Pn** **02 00 01.0 -1.1**
SNR=69
UOSS Minazif 11.56 20 Pn **Pn** **02 00 01.5 -2.4**
UOSS Minazif 11.56 20 *i* P **Pn** **02 00 01.5 -2.4**
SNR=42
UOSS Minazif 11.56 20 P **Pn** **02 00 02.2 -1.8**
UOSS P **Pn** **02 00 02.2 -1.8**
UOSS S **Sn** **02 02 07.6 -5.9**
UOSS S **Sn** **02 02 07.6 -5.9**
SHMA Al-Shehemyia 11.72 356 P Pn 02 00 00.8 -5.3
SNR=30
SHMA S Sn 02 02 07.5 -10
SNR=11
SAKB Bahrain 11.88 355 P Pn 02 00 02.9 -5.3
SAKB S Sn 02 02 11.4 -10
MDH Madha 11.92 20 *i* P **Pn** **02 00 06.8 -2.0**
SNR=20
MDH Madha 11.92 20 P **Pn** **02 00 07.5 -1.3**
SNR=19
MDH P **Pn** **02 00 07.5 -1.3**
SNR=19
MSFE Esma-Masafi 11.93 19 *i* P **Pn** **02 00 07.0 -2.1**
SNR=79
UMQ Umm Al-Quwin 11.94 17 *i* P **Pn** **02 00 07.7 -1.4**
SNR=32
UMQ Umm Al-Quwin 11.94 17 P **Pn** **02 00 07.7 -1.4**
SNR=32
MASF Masafi 11.95 19 P **Pn** **02 00 07.0 -2.1**
SNR=111
MASF P **Pn** **02 00 07.0 -2.1**
SNR=111
MASF S **Sn** **02 02 18.8 -4.0**
MASF S **Sn** **02 02 18.8 -4.0**
BANOM Banah 12.50 19 *i* P **Pn** **02 00 14.6 -2.3**
SNR=25
BANOM Banah 12.50 19 P **Pn** **02 00 14.5 -2.4**
SHME Shamm 12.57 18 *i* P **Pn** **02 00 14.5 -3.2**
SNR=44
SHME Shamm 12.57 18 P **Pn** **02 00 15.4 -2.4**
SNR=44
SHME P **Pn** **02 00 15.4 -2.4**
SNR=44
JASK Jask - Hormozg 13.03 25 P **Pn** **02 00 22.0 -1.9**
SNR=40
JASK S **Sn** **02 02 44.1 -5.1**
FURI Furi 13.84 249 **Pn** **02 00 35.1 -0.3**
FURI Furi 13.84 249 *e*P **Pn** **02 00 36.2 +0.8**
FURI *e*S **S** **02 03 28.2 -3.9**
NGCH Negor - Chabah 14.24 37 P **Pn** **02 00 39.7 -0.8**
NGCH S **Sn** **02 03 13.2 -5.6**
KBD Kabd 15.48 346 P **Pn** **02 00 53.3 -3.8**
BHUJ Bhuj 19.20 59 *e*P **Pn** **02 01 46.4 +2.5**
BHUJ IAmb IAmb 02 01 49.3
comp=Z,166nm,1.1s
BHUJ *e*x x 02 01 49.3
LODK Lodwar 19.37 238 **P** **02 01 43.9 -1.0**
LODK IAmb IAmb 02 01 53.6
comp=Z,370nm,1.3s
LODK Lodwar 19.37 238 *e*P **P** **02 01 43.5 -1.4**
LODK *e*S **S** **02 05 27.0 +2.5**
LODK Lodwar 19.37 238 *e*P **P** **02 01 45.0 +0.1**
KMBO Kilima Mbogo 20.88 225 P **P** **02 01 59.1 -2.5**
KMBO IAmb IAmb 02 02 14.9
comp=Z,145nm,1.1s
KMBO Kilima Mbogo 20.88 225 *i* P **P** **02 01 59.2 -2.3**
SNR=65
KMBO Kilima Mbogo 20.88 225 *e*P **P** **02 02 01.1 -0.6**
KMBO IAmb IAmb 02 02 14.3
comp=Z,465nm,1.1s
KMBO Kilima Mbogo 20.88 225 *e*P **P** **02 02 01.0 -0.6**
KMBO Kilima Mbogo 20.88 225 P **P** **02 01 59.1 -2.5**
KMBO pmax pmax
comp=Z,145nm,1.1s
KMBO MLR MLR
comp=Z,31μm,22.0s
KIBK Kibwezi 21.27 221 P **P** **02 02 02.6 -3.0**
KIBK IAmb IAmb 02 02 10.4
comp=Z,233nm,1.1s
KIBK Kibwezi 21.27 221 *e*P **P** **02 02 02.1 -3.4**
GOA Goa 21.35 83 *e*P **P** **02 02 08.1 +1.8**
POO Poona 21.62 75 *e*P **P** **02 02 09.7 +0.4**
MNCI Minicoy 21.65 103 P **P** **02 02 08.5 -1.0**
KAD Karad 21.79 79 *e*P **P** **02 02 12.5 +1.3**
KAD IAmb IAmb 02 02 14.1
comp=Z,220nm,1.3s
JASL Jaisalmer 21.95 51 *e*P **P** **02 02 14.3 +1.6**
JASL IAmb IAmb 02 02 19.7
comp=Z,116nm,0.5s
EIL Elat 21.96 318 P **P** **02 02 13.3 +0.5**
comp=Z,68nm,1.0s,baz=43,slow=14,SNR=7.8
EIL LR LR 02 10 03.8
comp=Z,20μm,18.5s,baz=139,slow=35
comp=Z,68nm,1.0s
HRA Herat 22.31 23 P **P** **02 02 17.7 +0.9**
ASF Jabal al Asfar 22.56 325 P **P** **02 02 20.3 +1.0**
comp=Z,90nm,0.9s,baz=248,slow=0.0,SNR=33
ASF LR LR 02 11 41.5
comp=Z,29μm,18.5s,baz=155,slow=38
comp=Z,90nm,0.9s
GHAJ Ghor Haditha 22.69 322 P **P** **02 02 21.8 +1.2**
BALJ Balqa 23.21 323 **P** **02 02 26.6 +0.6**
BALJ IAmb IAmb 02 02 44.8
comp=Z,241nm,1.3s
MMAI Mount Meron Ar 24.02 324 P **P** **02 02 34.6 +0.5**
comp=Z,46nm,1.0s,baz=120,slow=15,SNR=23
MMAI LR LR 02 12 15.1
comp=Z,16μm,20.5s,baz=88,slow=37
comp=Z,46nm,1.0s
LKRN Lenkeran, Azer 24.66 354 P **P** **02 02 41.0 +1.3**
AJM Ajmer 24.68 57 *e*P **P** **02 02 42.1 +2.0**
AJM IAmb IAmb 02 02 44.4
comp=Z,68nm,1.0s
MBAR Mbarara 25.45 237 P **P** **02 02 45.9 -1.5**
MBAR IAmb IAmb 02 03 04.2
comp=Z,78nm,1.4s
MBAR Mbarara 25.45 237 *e*P **P** **02 02 47.3 0.0**
MBAR IAmb IAmb 02 03 03.8
comp=Z,82nm,1.4s
MBAR Mbarara 25.45 237 P **P** **02 02 49.8 +2.5**
MBAR P **P** **02 02 49.8 +2.5**
MBAR Mbarara 25.45 237 *c* *i*P **P** **02 02 46.1 -1.2**
MBAR pmax pmax
comp=Z,51nm,1.3s
MBAR pmax pmax
comp=Z,13nm,1.0s
NAX Nakhchivan 25.59 349 P **P** **02 02 49.4 +1.2**
KBL Kabul 25.64 34 P **P** **02 02 51.4 +2.4**
KBL Kabul 25.64 34 P **P** **02 02 51.4 +2.4**
KBL pmax pmax
comp=Z,180nm,1.2s
DODT Dodoma, Tanzan 25.68 219 *i* P **P** **02 02 50.2 +0.9**
DODT *i* S **S** **02 07 26.1 +7.6**
GURO Guroymak-BITLI 25.84 342 **P** **02 02 52.7 +2.1**
GURO IAmb IAmb 02 03 06.7
comp=Z,100nm,1.0s
BHPL Bhopal 25.90 66 *e*P **P** **02 02 52.9 +1.6**
BHPL IAmb IAmb 02 02 54.2
comp=Z,89nm,1.1s
HYB Hyderabad 25.96 79 *e*P **P** **02 02 51.9 +0.1**
GUNA GUNA 26.24 63 *e*P **P** **02 02 56.3 +2.0**
GUNA IAmb IAmb 02 02 59.3
comp=Z,365nm,1.3s
GAZ Gaziantep 26.40 333 P **P** **02 02 57.3 +1.7**
GAZ IAmb IAmb 02 03 24.7
comp=Z,120nm,1.0s
AGRT Agri 26.57 345 P **P** **02 02 59.7 +2.5**
CSS Mathiatis 26.62 325 P **P** **02 02 57.9 +0.3**
CSS Mathiatis 26.62 325 P **P** **02 02 57.1 -0.5**
comp=Z,64nm,1.2s,comp=Z,1μm
GNI Garni 26.68 348 P **P** **02 02 59.7 +1.5**
GNI Garni 26.68 348 IAMs_20 IAMs_20 02 14 41.6
comp=Z,12μm,20.0s
GNI Garni 26.68 348 P **P** **02 02 58.6 +0.4**
GNI Garni 26.68 348 P **P** **02 02 59.3 +1.1**
comp=Z,164nm,1.0s,baz=159,slow=0.9,SNR=57
comp=Z,164nm,1.0s
GNI Garni 26.68 348 P **P** **02 02 59.4 +1.1**
GNI P **P** **02 02 59.4 +1.1**
GNI Garni 26.68 348 ⇑ *i* P **P** **02 02 58.2 0.0**
GNI pmax pmax
comp=Z,156nm,1.0s
GNI MLR MLR
comp=Z,12μm,17.0s
GANJ Ganja 26.88 351 P **P** **02 03 01.1 +1.3**
KUDL Kundal 26.88 55 *e*P **P** **02 03 02.0 +2.1**
NGP Nagpur 26.89 71 *e*P **P** **02 03 01.5 +1.4**
NGP IAMs_20 IAMs_20 02 11 44.6
comp=Z,13μm,20.7s
MNGR Mingechevir, A 26.89 352 P **P** **02 03 01.2 +1.3**
SEKA Sheki 27.31 352 P **P** **02 03 04.8 +1.1**
KARS Kars 27.51 346 P **P** **02 03 06.8 +1.2**
KARS Kars 27.51 346 P **P** **02 03 06.8 +1.2**
KARS pmax pmax
comp=Z,993nm,1.2s
NIL Nilore 27.54 41 P **P** **02 03 10.5 +4.6**
JHNI Jhansi 27.54 62 *e*P **P** **02 03 07.7 +1.7**
JHNI IAmb IAmb 02 03 09.4
comp=Z,172nm,1.8s
ARPR Arapgir-MALATY 27.58 337 P **P** **02 03 08.3 +1.9**
ARPR IAMs_20 IAMs_20 02 15 21.4
comp=Z,10μm,21.0s
TRLG Trialeti 28.15 348 P **P** **02 03 13.0 +1.6**
BNN Bunyan 28.39 333 P **P** **02 03 13.9 +0.3**
BCA Borcka 28.65 344 ⇑P **P** **02 03 16.7 +1.0**
DHRM DHARAMSHALA 28.77 47 *e*P **P** **02 03 18.4 +1.3**
BATM Batumi 28.78 344 P **P** **02 03 16.7 -0.1**
SMLA Simla 28.81 50 *e*P **P** **02 03 19.7 +2.5**
SIMJ Simiganj 28.82 29 P **P** **02 03 18.9 +1.5**
GUDG Gudauri 28.96 349 P **P** **02 03 21.3 +2.6**
MAK Makhachkala 29.00 354 *e*P **P** **02 03 18.7 0.0**
MAK *e*S **S** **02 08 10.2 +0.2**
MAK pmax pmax
comp=Z,201nm,0.8s
MAK MLR MLR
comp=Z,10μm,13.0s
PALK Pallekele 29.19 100 LR LR 02 13 21.0
comp=Z,7μm,20.3s,baz=26,slow=33
ONI Oni 29.29 347 IAmb IAmb 02 04 22.0
comp=Z,68nm,1.1s
ONI Oni 29.29 347 P **P** **02 03 22.5 +1.1**
GROC Groznyy 29.46 351 *e*P **P** **02 03 23.4 +0.6**
GROC pmax pmax
comp=Z,2.0nm,0.8s
GAR Garm 29.71 30 P **P** **02 03 27.5 +2.3**
GAR IAmb IAmb 02 03 39.0
comp=Z,100nm,1.1s
KLP Kalpa 29.81 50 *e*P **P** **02 03 29.1 +2.6**
KLP IAmb IAmb 02 03 30.1
comp=Z,51nm,0.9s
ELL Elmali 29.84 323 P **P** **02 03 27.2 +0.7**
ELL Elmali 29.84 323 P **P** **02 03 27.2 +0.7**
ELL pmax pmax
comp=Z,1μm,1.5s
BR131 Keskin Array S 30.10 331 P **P** **02 03 29.2 +0.4**
BR131 Keskin Array S 30.10 331 ⇓ *i*P **P** **02 03 30.1 +1.4**
BRTR Keskin Array B 30.10 331 P **P** **02 03 29.4 +0.6**
comp=Z,21nm,1.0s,baz=150,slow=9.3,SNR=51
BRTR LR LR 02 18 18.2
comp=Z,7μm,18.2s,baz=158,slow=42
comp=Z,21nm,1.0s
BRTR Keskin Array B 30.10 331 *i* P **P** **02 03 29.8 +1.1**
BRTR pmax pmax
comp=Z,21nm,1.0s
NCK Nalchik 30.13 348 *i* P **P** **02 03 30.7 +1.9**
NCK pmax pmax
comp=Z,54nm,1.0s
ISP Isparta 30.25 325 IAMs_20 IAMs_20 02 16 09.4
comp=Z,12μm,20.0s
ISP Isparta 30.25 325 *c*e P **P** **02 03 30.3 +0.3**
ISP pmax pmax
comp=Z,81nm,1.3s
LGTI Lohaghat 30.41 55 *e*P **P** **02 03 32.4 +0.9**
KBZ Khabaz 30.50 347 P **P** **02 03 34.0 +2.1**
comp=Z,73nm,0.9s,baz=169,slow=6.1,SNR=95
comp=Z,73nm,0.9s
KBZ Khabaz 30.50 347 *c*e P **P** **02 03 34.4 +2.4**
KBZ pmax pmax
comp=Z,118nm,0.9s
SHA1 Shidzhatmaz 30.56 347 *c*e P **P** **02 03 34.9 +2.1**
BR231 Keskin MP Arra 30.60 330 P **P** **02 03 33.8 +0.7**
ANTO Ankara 30.61 331 ⇓ P **P** **02 03 34.6 +1.4**
ANTO Ankara 30.61 331 P **P** **02 03 34.1 +0.9**
ANTO Ankara 30.61 331 IAMs_20 IAMs_20 02 15 25.4
comp=Z,9μm,22.0s
ANTO Ankara 30.61 331 P **P** **02 03 33.9 +0.8**
ANTO Ankara 30.61 331 P **P** **02 03 34.6 +1.4**
ANTO Ankara 30.61 331 P **P** **02 03 33.9 +0.8**
comp=Z,56nm,1.0s,comp=Z,668nm
KARP Karpathos 30.75 318 IAMs_20 IAMs_20 02 18 07.9
comp=Z,9μm,21.0s
KIV Kislovodsk 30.76 347 ⇓ P **P** **02 03 36.4 +2.0**
KIV Kislovodsk 30.76 347 P **P** **02 03 36.1 +1.7**
KIV Kislovodsk 30.76 347 *i* P **P** **02 03 35.2 +0.7**
SNR=16
KIV Kislovodsk 30.76 347 P **P** **02 03 35.4 +1.0**
KIV P **P** **02 03 35.4 +1.0**
KIV P **P** **02 03 35.4 +1.0**
KIV Kislovodsk 30.76 347 *e*P **P** **02 03 36.1 +1.7**
KIV *e* 02 04 31.5
KIV *e*S **S** **02 08 40.3 +2.4**
KIV pmax pmax
comp=Z,126nm,1.0s
KIV pmax pmax
comp=Z,36nm,2.5s
KIV MLR MLR
comp=Z,8μm,15.0s
KIV Kislovodsk 30.76 347 P **P** **02 03 35.1 +0.7**
comp=Z,139nm,1.4s,comp=Z,1μm
BTK Batken 30.78 29 P **P** **02 03 37.1 +2.4**
BTK Batken 30.78 29 P **P** **02 03 37.1 +2.4**
BTK pmax pmax
comp=Z,153nm,1.5s
DRK Karamyk 30.81 31 IAmb IAmb 02 03 53.2
comp=Z,44nm,0.9s
HNLY HANLEY 30.96 48 *e*P **P** **02 03 39.0 +2.1**
HNLY IAmb IAmb 02 03 40.6
comp=Z,22nm,0.8s
YER Yerkesik 31.07 322 P **P** **02 03 37.8 +0.6**
SOC Sochi 31.16 343 *e*P **P** **02 03 37.5 -0.3**
SOC *e* 02 04 37.3
SOC *e*S **S** **02 08 46.1 +2.2**
SOC pmax pmax
comp=Z,35nm,1.0s
SOC MLR MLR
comp=Z,4μm,13.0s
DAT Datca 31.23 321 P **P** **02 03 38.5 -0.2**
KSMZ Kasama 31.58 221 *i* P P 02 03 49.1 +7.1
KSMZ *i* 02 08 49.6
KSMZ *i* 02 08 54.4
KSMZ *i* 02 08 59.9
BODT Bodrum 31.61 321 P **P** **02 03 41.9 0.0**
GOF Gofitskoye 31.74 348 *c*e P **P** **02 03 44.0 +1.1**
KULA Kula-Manisa 31.78 324 P **P** **02 03 43.6 +0.1**
MDUB Mudurnu 31.85 329 P **P** **02 03 45.0 +0.9**
LABN Labinsk 31.87 345 *e*P **P** **02 03 41.5 -2.6**
LABN *e* 02 04 46.8
LABN *e*S **S** **02 08 52.8 -2.2**
LABN pmax pmax
comp=Z,65nm,0.7s
LABN MLR MLR
comp=Z,5μm,13.0s
IDI Anoyia 32.10 316 P **P** **02 03 46.8 +0.4**
comp=Z,24nm,0.8s,baz=130,slow=14,SNR=6.9
comp=Z,24nm,0.8s
IUG Iuzhnay 32.10 26 *e*P **P** **02 03 46.8 +0.4**
comp=Z,51nm,0.7s,baz=26
IUG *e*S **S** **02 09 00.1 +1.0**
baz=26
IUG Iuzhnay 32.10 26 *e*P **P** **02 03 46.7 +0.4**
IUG *e*S **S** **02 09 00.0 +1.0**
IUG pmax pmax
comp=Z,51nm,0.7s
SANT Santorini 32.35 318 ⇑P **P** **02 03 50.1 +1.6**
SANT Santorini 32.35 318 P **P** **02 03 49.3 +0.8**
THR8 Santorini-Mono 32.36 318 P **P** **02 03 48.7 +0.2**
THR2 Thira island, 32.41 318 P **P** **02 03 49.5 +0.5**
THR3 Thira Island, 32.41 318 P **P** **02 03 49.1 +0.1**
APE Apeiranthos 32.73 319 ⇑P **P** **02 03 52.8 +1.1**
APE Apeiranthos 32.73 319 P **P** **02 03 51.9 +0.1**
APE Apeiranthos 32.73 319 P **P** **02 03 52.8 +1.1**
BRLS Borolday 32.75 25 *e*P **P** **02 03 49.7 -2.2**
baz=25
BRLS *e*S **S** **02 09 05.9 -3.0**
baz=25
BRLS Borolday 32.75 25 *e*P **P** **02 03 49.7 -2.2**
BRLS *e*S **S** **02 09 05.9 -3.0**
OPO Ambohidratompo 32.78 188 LR LR 02 15 58.1
comp=Z,10μm,19.1s,baz=176,slow=35
YLV Yalova 32.85 328 P **P** **02 03 52.6 -0.2**
comp=Z,45nm,1.1s,comp=Z,853nm
ERBR Yeremizino-Bor 32.93 345 *e*P **P** **02 03 52.2 -1.2**
ERBR *e* 02 05 01.9
ERBR *e*S **S** **02 09 11.9 +0.3**
ERBR *e*SS **SnSn** **02 11 08.8 +0.1**
ERBR *e*SSS SSS 02 11 29.0
ERBR pmax pmax
comp=Z,127nm,1.0s
ERBR MLR MLR
comp=Z,8μm,16.0s
ANN Anapa 32.95 341 *e*P **P** **02 03 53.9 +0.4**
ANN *e* 02 05 02.7
ANN *e*S **S** **02 09 13.8 +2.0**
ANN *e*SS **SnSn** **02 11 11.5 +2.5**
ANN pmax pmax
comp=Z,117nm,1.6s
KSH Kashi 33.07 36 P **P** **02 03 51.8 -3.0**
KSH sP pwP 02 04 01.5 +0.4
KSH PP **PnPn** **02 04 59.8 -4.4**
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH LR LR
comp=Z,3μm,22.7s
KSH LR LR
comp=Z,4μm,23.4s
KSH LR LR
comp=Z,4μm,24.4s
KK31 Karatay Array 33.09 26 *i* P **P** **02 03 56.1 +1.2**
KKAR Karatay Array 33.09 26 P **P** **02 03 56.0 +1.2**
KKAR Karatay Array 33.09 26 IAmb IAmb 02 04 01.9
comp=Z,22nm,0.8s
KKAR Karatay Array 33.09 26 P **P** **02 03 56.1 +1.2**
ABPO Ambohimpanom 33.21 188 P **P** **02 03 55.6 -0.7**
ABPO IAmb IAmb 02 04 11.6
comp=Z,49nm,1.1s
ABPO Ambohimpanom 33.21 188 *e*P **P** **02 03 54.1 -2.1**
ABPO IAmb IAmb 02 04 09.1
comp=Z,23nm,0.9s
ABPO Ambohimpanom 33.21 188 P **P** **02 03 55.6 -0.7**
ABPO pmax pmax
comp=Z,49nm,1.1s
CHOS Chios island 33.22 321 P **P** **02 03 56.9 +0.8**
ISK Istanbul-Kandi 33.38 328 P **P** **02 03 56.8 -0.5**
ANKY Antikythira Is 33.50 315 P **P** **02 03 59.2 +0.7**
BOK Bokaro 33.59 68 *e*P **P** **02 04 01.7 +2.3**
BOK IAMs_20 IAMs_20 02 15 05.8
comp=Z,15μm,27.0s
PRK Paraskevi 33.65 323 P **P** **02 04 00.6 +0.9**
SIGR SIGRI 33.87 322 P **P** **02 04 03.0 +1.3**
EZN Ezine 34.00 324 P **P** **02 04 03.4 +0.6**
EZN Ezine 34.00 324 P **P** **02 04 03.2 +0.4**
comp=Z,70nm,1.1s,comp=Z,875nm
VLI Veliai 34.21 316 P **P** **02 04 03.8 -0.9**
SIM Simferopol' 34.22 337 *c*e P **P** **02 04 05.6 +1.0**
SIM 02 05 24.0
SIM *e*S **S** **02 09 34.0 +2.4**
SIM pmax pmax
comp=Z,97nm,1.1s
SIM MLR MLR
comp=Z,4μm,24.0s
VLY Voula,Athens 34.30 319 P **P** **02 04 04.9 -0.5**
DION Dionisos Attik 34.34 319 P **P** **02 04 06.7 +0.9**
PTL Penteli 34.37 319 P **P** **02 04 06.0 -0.1**
ATHU Athens Univers 34.37 319 P **P** **02 04 05.8 -0.3**
ATH Athens Observa 34.42 319 P **P** **02 04 06.1 -0.3**
KRND KRANIDI 34.45 318 P **P** **02 04 05.5 -1.2**
AAK Ala-Archa 34.53 30 P **P** **02 04 09.8 +2.2**
AAK IAmb IAmb 02 04 31.0
comp=Z,50nm,0.9s
AAK Ala-Archa 34.53 30 *i* P **P** **02 04 09.0 +1.4**
SNR=12
AAK Ala-Archa 34.53 30 P **P** **02 04 09.3 +1.7**
comp=Z,12nm,0.7s,baz=226,slow=8.5,SNR=14
comp=Z,12nm,0.7s
AAK Ala-Archa 34.53 30 P **P** **02 04 09.6 +2.1**
AAK Ala-Archa 34.53 30 P **P** **02 04 09.8 +2.2**
AAK pmax pmax
comp=Z,50nm,1.0s
KYMI Kymi, Euboea I 34.57 320 P **P** **02 04 07.3 -0.5**
ENEZ Enez 34.71 325 P **P** **02 04 08.3 -0.6**
LIA Limnos Island 34.71 323 P **P** **02 04 10.0 +1.1**
VILL Villia 34.79 319 P **P** **02 04 09.2 -0.5**
ALN Alexandroupoli 34.88 325 P **P** **02 04 10.8 +0.4**
ALN IAmb IAmb 02 04 12.7
comp=Z,97nm,1.2s
ALN Alexandroupoli 34.88 325 P **P** **02 04 10.8 +0.4**
ALN Alexandroupoli 34.88 325 P **P** **02 04 10.8 +0.4**
ALN pmax pmax
comp=Z,97nm,1.2s
LOUT Loutraki 34.91 318 P **P** **02 04 09.8 -0.9**
KLMT Kalamata 34.99 316 P **P** **02 04 10.2 -1.2**
AOS Alonnisos 35.04 321 P **P** **02 04 12.0 +0.2**
PYL PYLOS 35.11 316 P **P** **02 04 10.9 -1.6**
BOOM Boomskoye usch 35.14 32 IAmb IAmb 02 04 36.6
comp=Z,46nm,1.0s
ITM Ithomi 35.14 316 P **P** **02 04 11.9 -0.9**
ITM IAmb IAmb 02 04 52.4
comp=Z,121nm,1.5s
ITM Ithomi 35.14 316 P **P** **02 04 12.7 -0.1**
EDRB Edirne 35.15 327 P **P** **02 04 12.8 +0.1**
SGDS Sogindy 35.21 29 *e*P **P** **02 04 13.7 +0.4**
baz=29
SGDS *e*S **S** **02 09 48.2 +1.1**
baz=29
SGDS Sogindy 35.21 29 *e*P **P** **02 04 13.7 +0.4**
SGDS *e*S S **02 09 48.1 +1.1**
RER Riviere de l'E 35.25 174 IAMs_20 IAMs_20 02 18 20.2
comp=Z,8μm,18.0s
TKM2 Tokmak 2 35.28 31 P **P** **02 04 14.6 +0.5**
GUR Goura 35.29 318 P **P** **02 04 13.6 -0.5**
RDO Rodhopi 35.33 325 P **P** **02 04 14.9 +0.7**
RDO IAmb IAmb 02 04 16.6
comp=Z,65nm,1.1s
RDO Rodhopi 35.33 325 P **P** **02 04 14.5 +0.3**
THAS Thassos island 35.44 323 P **P** **02 04 16.1 +0.9**
KLV Kalavryta, Ach 35.47 318 P **P** **02 04 15.2 -0.4**
AXAR Agios Charalam 35.56 319 P **P** **02 04 16.1 -0.2**

TARG	Taragay, Kyrgy	35.59 34	IAmb	IAmb	02 04 46.9	
	comp=Z,119nm,1.3s					
PAIG	Paliouri	35.62 322	P	P	02 04 17.1	+0.3
KALE	Kalithea	35.67 318	P	P	02 04 16.9	-0.5
AB31	Akbulak array	35.70 9	P	P	02 04 17.9	+0.6
ABKAR	Akbulak array	35.70 9	P	P	02 04 18.7	+1.4
ABKAR	Akbulak array	35.70 9	IAmb	IAmb	02 04 19.7	
	comp=Z,157nm,1.1s					
OUR	Ouranopolis	35.70 322	P	P	02 04 18.1	+0.7
JMB	Yambol	35.71 327	P	P	02 04 18.0	+0.4
KDZ	Kurdzhali	35.76 325	P	P	02 04 18.8	+0.8
KAVA	Kavala	35.81 324	P	P	02 04 18.9	+0.5
EFP	Efpalio	35.85 318	P	P	02 04 18.2	-0.6
DIM	Dimitrovgrad	35.91 326	P	P	02 04 21.4	+2.1
AGG	Agios Georgios	35.91 319	P	P	02 04 18.7	-0.7
AGG			IAmb	IAmb	02 04 42.5	
	comp=Z,81nm,1.3s					
AGG	Agios Georgios	35.91 319	P	P	02 04 18.8	-0.6
AGG	Agios Georgios	35.91 319	P	P	02 04 18.7	-0.7
AGG			pmax	pmax		
	comp=Z,81nm,1.3s					
RLS	Riolos of Patr	35.93 317	P	P	02 04 19.9	+0.4
ANX	Ano Chora	35.93 318	P	P	02 04 19.1	-0.5
KOKK	Kokkinochori,	35.99 323	P	P	02 04 20.3	+0.3
MFTR	Murfatlar	36.00 331	⇑P	P	02 04 19.9	-0.1
MAKR	Makrakomi, Fth	36.04 319	P	P	02 04 19.9	-0.5
PLG	Polygyros	36.04 322	P	P	02 04 19.6	-0.9
VOI	Vohitsoka	36.11 188	P	P	02 04 21.0	-0.3
VOI			IAmb	IAmb	02 04 35.5	
	comp=Z,73nm,1.1s					
VOI	Vohitsoka	36.11 188	*e*P	P	02 04 19.9	-1.4
RZN	Rozhen	36.14 325	P	P	02 04 22.7	+1.2
BTLS	Baital	36.16 27	*e*P	P	02 04 21.6	+0.2
	baz=27					
BTLS			*e*S	S	02 10 02.6	+1.0
	baz=27					
BTLS	Baital	36.16 27	*e*P	P	02 04 21.6	+0.2
BTLS			*e*S	S	02 10 02.5	+1.0
EVR	Evrytania	36.19 319	P	P	02 04 21.9	+0.1
MDOK	Medeo	36.19 32	*e*P	P	02 04 22.0	+0.1
	baz=32					
MDOK			*e*S	S	02 10 03.1	+0.7
	baz=32					
MDOK			LR	LR	02 22 17.2	
	comp=Z,932nm,14.5s,baz=32					
MDOK	Medeo	36.19 32	*e*P	P	02 04 22.0	+0.1
MDOK			*e*S	S	02 10 03.0	+0.7
MDOK			MLR	MLR		
	comp=Z,932nm,15.0s					
PVO	Paravola	36.20 318	P	P	02 04 22.2	+0.4
ICOR	Ion Corvin	36.25 330	⇑P	P	02 04 22.5	+0.3
ELND	Elena	36.37 327	⇑P	P	02 04 23.2	0.0
KUU	Kurty	36.37 30	*e*P	P	02 04 23.4	+0.2
	comp=Z,65nm,1.3s,baz=30					
KUU			LR	LR	02 22 43.2	
	comp=Z,1μm,11.9s,baz=30					
KUU	Kurty	36.37 30	*e*P	P	02 04 23.4	+0.2
KUU			pmax	pmax		
	comp=Z,65nm,1.3s					
SOH	Sokhos	36.38 322	P	P	02 04 23.8	+0.5
TYRN	Tyrnavos	36.38 320	P	P	02 04 22.6	-0.7
HORT	Hortiatis	36.39 322	P	P	02 04 22.3	-1.2
NVR	Nevrokopi	36.41 324	P	P	02 04 25.0	+1.4
SRS	Serrai	36.42 323	P	P	02 04 23.7	0.0
THL	Klokotos Trika	36.43 320	P	P	02 04 23.0	-0.7
PRZ	Przheval'sk	36.43 34	IAmb	IAmb	02 04 49.2	
	comp=Z,77nm,1.1s					
PLD	Plovdiv	36.44 325	P	P	02 04 24.8	+1.0
LIT	Litokhoron	36.45 321	IAmb	IAmb	02 04 27.9	
	comp=Z,32nm,0.7s					
LIT	Litokhoron	36.45 321	P	P	02 04 23.5	-0.5
TLBR	Topalu	36.46 331	⇑P	P	02 04 24.5	+0.6
THE	Thessaloniki	36.49 322	P	P	02 04 23.6	-0.6
TPGR	Topolog	36.52 332	⇑P	P	02 04 24.7	+0.3
SZH	Strazhitsa	36.55 328	P	P	02 04 26.0	+1.3
AKTO	Aktyubinsk	36.59 7	P	P	02 04 26.1	+1.1
	comp=Z,91nm,0.9s,baz=198,slow=7.7,SNR=133					
	comp=Z,91nm,0.9s					
MMB	Musomishta	36.61 324	P	P	02 04 25.5	+0.2
HARR	Harsova	36.62 331	⇑P	P	02 04 26.0	+0.7
HARR	Harsova	36.62 331	P	P	02 04 25.9	+0.7
EVGI	Lefkada island	36.77 317	P	P	02 04 26.3	-0.4
NYDR	Nydri-Lefkada	36.79 318	P	P	02 04 26.6	-0.2
SATY	Saty	36.83 33	*e*P	P	02 04 27.4	+0.1
	baz=33					
SATY			*i*S	S	02 10 12.9	+0.9
	baz=33					
SATY	Saty	36.83 33	*e*P	P	02 04 27.4	+0.1
SATY			*i*S	S	02 10 12.9	+0.9
KNT	Kendrikon	36.86 323	P	P	02 04 27.2	-0.2
KTI	Kastanea	36.86 321	P	P	02 04 26.3	-1.2
LKD2	Lefkada island	36.86 318	P	P	02 04 26.3	-1.2
CFR	Carcaliu	36.90 332	⇑P	P	02 04 27.8	+0.2
CFR	Carcaliu	36.90 332	P	P	02 04 27.8	+0.2
ZHN	Zhinishke	36.92 33	*e*P	P	02 04 28.3	+0.2
	baz=33					
ZHN	Zhinishke	36.92 33	*e*P	P	02 04 28.2	+0.2
GRG	Griva	37.03 322	P	P	02 04 28.1	-0.8
KPRO	Kipourio	37.06 320	P	P	02 04 28.4	-0.8
ZIMR		37.14 328	⇓P	P	02 04 30.8	+1.0
ZIMR		37.14 328	P	P	02 04 30.7	+1.0
VAY	Valandovo	37.15 322	*i*P	P	02 04 30.2	+0.4
KKB	Krupnik	37.15 324	P	P	02 04 29.9	0.0
JAN	Janina	37.22 319	P	P	02 04 32.9	+2.4
UZB	Uzynbulak	37.22 34	*e*P	P	02 04 30.7	+0.1
	baz=34					
UZB	Uzynbulak	37.22 34	*e*P	P	02 04 30.7	+0.1
SGRR	Singureni	37.23 329	⇑P	P	02 04 31.6	+1.1
PGOR	Pogoanele	37.23 330	⇓P	P	02 04 32.0	+1.5
KPKS	Kokpek	37.26 33	*e*P	P	02 04 30.7	-0.2
	comp=Z,31nm,0.7s,baz=33					
KPKS			*e*S	S	02 10 18.8	+0.3
	baz=33					
KPKS	Kokpek	37.26 33	*e*P	P	02 04 30.7	-0.2
KPKS			*e*S	S	02 10 18.7	+0.3
KPKS			pmax	pmax		
	comp=Z,31nm,0.7s					
SCHLR	Schela	37.26 332	⇓P	P	02 04 30.8	+0.1
SCHL	Schela	37.28 332	⇑P	P	02 04 31.8	+0.9
NEGRR	Negrea	37.29 332	⇑P	P	02 04 31.5	+0.6
ARXS	Arharly	37.34 31	*e*P	P	02 04 32.0	+0.5
SCTR	Scanteiesti	37.34 332	⇑P	P	02 04 31.7	+0.4
IZVR	Izvoarele	37.34 332	⇑P	P	02 04 32.4	+1.0
LSZ	Lusaka	37.37 220	P	P	02 04 31.8	-0.3
LSZ	Lusaka	37.37 220	P	P	02 04 36.3	+4.2
LSZ			P	P	02 04 36.3	+4.2
LSZ	Lusaka	37.37 220	P	P	02 04 31.8	-0.3
LSZ			pmax	pmax		
	comp=Z,30nm,0.9s					
LSZ			MLR	MLR		
	comp=Z,25μm,20.0s					
SULR		37.42 330	⇑P	P	02 04 33.6	+1.5
TUDR		37.43 332	⇑P	P	02 04 33.2	+1.1
VLDR	Vladesti	37.43 332	⇑P	P	02 04 32.9	+0.8
SHLS	Shalkode	37.46 34	*e*P	P	02 04 34.7	+2.0
	baz=34					
SHLS	Shalkode	37.46 34	*e*P	P	02 04 34.7	+2.0
NEST	Nestorio	37.53 320	P	P	02 04 32.7	-0.5
FNA	Florina	37.54 321	P	P	02 04 32.3	-1.0
FNA			IAmb	IAmb	02 04 34.4	
	comp=Z,60nm,1.0s					
FNA	Florina	37.54 321	P	P	02 04 32.4	-0.9
FNA	Florina	37.54 321	P	P	02 04 32.3	-1.0
FNA			pmax	pmax		
	comp=Z,60nm,1.0s					
COPA	Copaceanca	37.55 328	⇑P	P	02 04 34.5	+1.3
VARL	Varlezi	37.58 332	⇑P	P	02 04 34.2	+0.9
VTS	Vitosha	37.59 325	P	P	02 04 34.3	+0.5
PDGK	Podgornoye	37.59 34	P	P	02 04 34.1	+0.3
LSK	Leskovik	37.66 319	P	P	02 04 34.3	0.0
KRI	Karoi	37.73 216	*e*P	P	02 04 34.2	-1.0
MPEP	Malo Peshtene	37.80 326	P	P	02 04 35.9	+0.6
KBN	Korca	37.81 320	P	P	02 04 35.3	-0.3
ODBI	Odobesti	37.84 331	⇑P	P	02 04 36.3	+0.7
PANC	Panciu	37.88 332	⇑P	P	02 04 36.3	+0.4
VLAD	Vladila	37.88 327	⇑P	P	02 04 37.1	+1.2
SRN	Sarande	37.89 319	P	P	02 04 35.8	-0.3
VRH	Novokhopyorsk	37.89 350	*e*P	P	02 04 35.9	-0.1
VRH			pmax	pmax		
	comp=Z,310nm,0.8s					
GHRR		37.90 332	⇑P	P	02 04 37.1	+1.0
GHRR		37.90 332	P	P	02 04 37.0	+0.9
MILM	Milestii Mici	37.95 334	⇓P	P	02 04 36.5	0.0
MILM	Milestii Mici	37.95 334	⇑*i*P	P	02 04 36.0	-0.5
	comp=Z,210nm,1.8s					
MILM	Milestii Mici	37.95 334	*e*PP	PP	02 06 02.0	-1.2
MILM	Milestii Mici	37.95 334	*c i*P	P	02 04 36.0	-0.5
MILM			*e*		02 06 02.0	
MILM			*e*S	S	02 10 31.0	+2.4
MILM			pmax	pmax		
	comp=Z,210nm,1.8s					
HUMR	Humele	37.95 328	⇑P	P	02 04 37.6	+1.1
SPBR	Spulber	37.97 331	⇑P	P	02 04 37.6	+0.9
KIS	Kishinev	38.01 334	*e*P	P	02 04 36.0	-1.0
	comp=Z,27nm,0.4s					
KIS	Kishinev	38.01 334	*e*PP	PP	02 06 06.0	+2.2
KIS	Kishinev	38.01 334	*e*P	P	02 04 36.0	-1.0
KIS			*e*		02 06 06.0	
KIS			*e*S	S	02 10 30.0	+0.5
KIS			pmax	pmax		
	comp=Z,87nm,0.4s					
KIS			smax	smax		
	comp=E,600nm,21.0s					
KIS	Kishinev	38.01 334	P	P	02 04 36.1	-1.0
	comp=E,47nm,0.5s,comp=E,810nm					
VRI	Vrincioaia	38.06 331	⇓P	P	02 04 38.3	+0.7
VRI	Vrincioaia	38.06 331	P	P	02 04 38.2	+0.7
VRI	Vrincioaia	38.06 331	P	P	02 04 37.9	+0.3
	comp=E,80nm,1.4s,comp=E,1μm					
PLOR5	Plostina Array	38.08 331	P	P	02 04 38.3	+0.6
	comp=E,78nm,1.1s,comp=E,2μm					
PLOR	Plostina	38.09 331	⇓P	P	02 04 38.8	+1.0
PLOR	Plostina	38.09 331	P	P	02 04 38.8	+1.0
PLOR3	Plostina Array	38.09 331	P	P	02 04 38.4	+0.5
	comp=E,71nm,1.5s,comp=E,2μm					
VORD	Divnogorie	38.14 347	*e*P	P	02 04 37.8	-0.2
VORD			*e*		02 06 05.1	
VORD			pmax	pmax		
	comp=Z,190nm,1.1s					
MLR	Muntele Rosu	38.16 330	⇓P	P	02 04 39.8	+1.2
MLR	Muntele Rosu	38.16 330	IAmb	IAmb	02 04 49.5	
	comp=Z,102nm,1.4s					
MLR	Muntele Rosu	38.16 330	P	P	02 04 39.0	+0.5
	comp=Z,18nm,0.9s,baz=248,slow=1.3,SNR=22					
	comp=Z,18nm,0.9s					
MLR	Muntele Rosu	38.16 330	P	P	02 04 39.7	+1.2
MLR	Muntele Rosu	38.16 330	P	P	02 04 38.5	0.0
	comp=Z,57nm,1.2s,comp=Z,977nm					
VALD	Valchedram	38.19 326	P	P	02 04 40.0	+1.4
TDK	Taldyqorghan	38.19 31	*e*P	P	02 04 38.7	+0.1
	comp=Z,100nm,0.9s,baz=31					
TDK			LR	LR	02 23 30.9	
	comp=Z,2μm,12.8s,baz=31					
TDK	Taldyqorghan	38.19 31	*e*P	P	02 04 38.6	0.0
TDK			pmax	pmax		
	comp=Z,100nm,0.9s					
TDK			MLR	MLR		
	comp=Z,2μm,13.0s					
SKO	Skopje	38.22 322	*i*P	P	02 04 39.2	+0.3
COVR	Voineasa-Covas	38.30 331	⇑P	P	02 04 40.3	+0.8
BELG	Belogornoye	38.34 356	P	P	02 04 40.4	+0.6
	comp=Z,160nm,0.9s,baz=108,slow=0.4,SNR=75					
BELG			LR	LR	02 25 35.9	
	comp=Z,5μm,18.0s,baz=184,slow=44					
	comp=Z,160nm,0.9s					
VSR	Storozhevoye	38.40 347	*e*P	P	02 04 39.8	-0.5
VSR			*e*		02 06 05.5	
VSR			pmax	pmax		
	comp=Z,240nm,0.9s					
TURR	Turia	38.54 331	⇓P	P	02 04 42.5	+1.0
VOIR		38.56 329	⇑P	P	02 04 42.2	+0.3
VOIR		38.56 329	P	P	02 04 42.1	+0.3
VOIR		38.56 329	P	P	02 04 42.0	+0.2
	comp=Z,48nm,1.4s,comp=Z,799nm					
TESR	Tescani	38.59 332	⇑P	P	02 04 41.7	-0.2
TESR	Tescani	38.59 332	P	P	02 04 41.6	-0.3
	comp=Z,104nm,0.9s,comp=Z,1μm					
OZUR		38.68 331	⇑P	P	02 04 43.3	+0.6
ARR	Arges	38.71 329	⇑P	P	02 04 43.9	+0.8
BOSR	Bodos	38.72 331	⇓P	P	02 04 43.6	+0.5
DOPR	Dopca	38.77 330	⇑P	P	02 04 43.8	+0.2
TIR	Tirane	38.80 321	P	P	02 04 44.0	+0.3
TIR			IAMs_20	IAMs_20	02 23 30.9	
	comp=Z,6μm,22.0s					
TIR	Tirane	38.80 321	P	P	02 04 44.1	+0.3
TIR			pmax	pmax		
	comp=Z,36nm,1.0s					
TIR			MLR	MLR		
	comp=Z,6μm,22.0s					
VORR	Voronezh	38.82 348	*e*P	P	02 04 44.3	+0.5
VORR			*e*		02 06 11.0	
VORR			pmax	pmax		
	comp=Z,201nm,1.6s					
SRE	Strehaia	38.96 327	⇑P	P	02 04 45.9	+0.7
SRE	Strehaia	38.96 327	P	P	02 04 45.8	+0.7
TNR	Turnu Rosu	39.09 329	⇑P	P	02 04 46.3	0.0
TNR	Turnu Rosu	39.09 329	P	P	02 04 46.2	0.0
SORM	Soroca	39.10 335	⇑P	P	02 04 45.8	-0.4
SORM	Soroca	39.10 335	P	P	02 04 45.7	-0.4
SORM	Soroca	39.10 335	P	P	02 04 44.7	-1.5
	comp=Z,44nm,1.0s					
BOVS	Bovan	39.10 325	⇑P	P	02 04 45.7	-0.6
FOMA	Nahampoana Res	39.12 187	P	P	02 04 46.9	+0.4
PUK	Puka	39.18 321	IAmb	IAmb	02 04 47.9	
	comp=Z,68nm,1.1s					
LOT	Lotru	39.20 328	⇑P	P	02 04 47.3	+0.1
RMGR	Halanga-Turnu	39.23 327	⇑P	P	02 04 48.3	+0.9
SHL	Shillong	39.26 67	P	P	02 04 47.0	-1.0
SHL				P	02 04 48.0	-0.1
SHL	Shillong	39.26 67	*e*P	P	02 04 47.8	-0.3
SHL	Shillong	39.26 67	P	P	02 04 48.0	-0.1
	SNR=7.3					
SHL	Shillong	39.26 67	P	P	02 04 47.1	-1.0
SHL			*PP	P	02 04 48.0	-0.1
SHL			pmax	pmax		
	comp=Z,51nm,1.0s					
DJES	Djerdap	39.33 327	⇓P	P	02 04 48.8	+0.6
MDB	Medias	39.39 330	⇓P	P	02 04 49.8	+1.1
MDB	Medias	39.39 330	P	P	02 04 49.7	+1.1
PRAR	RASCA	39.41 332	⇓P	P	02 04 49.6	+0.7
LSA	Lhasa	39.47 60	P	P	02 04 50.1	-0.1
LSA			S	S	02 10 50.3	-2.7
LSA			LR	LR		
	comp=Z,2μm,22.7s					
LSA			LR	LR		
	comp=Z,940nm,15.5s					
LSA			LR	LR		
	comp=Z,2μm,21.0s					
LSA	Lhasa	39.47 60	P	P	02 04 50.0	-0.1
LSA			P	P	02 04 50.0	-0.1
HERR	Herculane	39.52 327	⇓P	P	02 04 49.7	-0.1
TGMR	Targu Mures	39.59 330	⇑P	P	02 04 51.2	+0.9
TIP	Timpagrande	39.66 316	⇓P	P	02 04 51.6	+0.5
TIP	Timpagrande	39.66 316	P	P	02 04 51.7	+0.6
TIP				pP	02 04 52.1	+0.1
TIP	Timpagrande	39.66 316	P	P	02 04 49.0	-2.1
	comp=Z,34nm,1.1s,comp=Z,663nm					
GZR	Gura Zlata	39.68 328	⇓P	P	02 04 51.8	+0.6
GZR	Gura Zlata	39.68 328	P	P	02 04 51.7	+0.6
LPSR	Galich'ya Gora	39.76 348	*e*P	P	02 04 51.2	-0.4
LPSR			*e*		02 06 20.5	
LPSR			pmax	pmax		
	comp=Z,250nm,1.0s					
WDD	Wied Dalam	39.78 310	P	P	02 04 51.9	-0.1
WDD			IAMs_20	IAMs_20	02 22 32.7	
	comp=Z,7μm,18.0s					
PDG	Podgorica	39.80 322	⇑P	P	02 04 51.1	-0.9
PDG	Podgorica	39.80 322	P	P	02 04 50.4	-1.7
PDG	Podgorica	39.80 322	⇑*i*P	P	02 04 50.7	-1.4
MDVR	Moldovita	39.84 326	⇑P	P	02 04 51.9	-0.6
SJES	Sjenica	39.86 323	⇑*i*P	P	02 04 51.4	-1.4
DEV	Deva	39.95 328	⇓P	P	02 04 53.2	-0.1
DEV	Deva	39.95 328	P	P	02 04 53.2	-0.1
PBA	Port Blair	39.97 89	P	P	02 04 54.5	+0.6
BURAR	Bucovina Array	40.06 332	⇓P	P	02 04 55.5	+1.1
BURAR	Bucovina Array	40.06 332	P	P	02 04 54.8	+0.5
BURAR				pP	02 04 55.2	0.0
ARCR	ARCALIA	40.08 331	⇓P	P	02 04 55.4	+1.0
BUR08	Bucovina Ar. S	40.09 332	P	P	02 04 54.7	+0.1
BUR08				pP	02 04 55.3	-0.2
CJR	Cluj-Napoca	40.17 330	⇑P	P	02 04 56.2	+0.9
CJR	Cluj-Napoca	40.17 330	P	P	02 04 56.1	+0.9
KMPD	K-Podol'skiy	40.23 334	P	P	02 04 54.6	-0.9
SURR	Surduc	40.26 328	⇓P	P	02 04 56.0	+0.1
MARR	Marisel-Cluj	40.38 329	⇓P	P	02 04 57.5	+0.4
RUDO	Rudo	40.42 323	*e*P	P	02 04 53.8	-3.5
MATE	Matera	40.43 318	⇑P	P	02 04 57.1	-0.2
BZS	Buzias	40.43 327	⇑P	P	02 04 57.4	0.0
BZS	Buzias	40.43 327	P	P	02 04 57.3	0.0
UPM	Unac-Piva	40.45 322	*e*P	P	02 04 56.1	-1.7
BRY	Bratogost	40.50 322	*e*P	P	02 04 56.2	-1.9
TREB	Trebinje	40.51 321	*e*P	P	02 04 58.1	+0.1
VAE	Valguarnera	40.53 312	P	P	02 04 59.0	+0.6
	comp=Z,10nm,0.9s,baz=163,slow=14,SNR=3.2					
	comp=Z,10nm,0.9s					
BANR	Banloc	40.54 326	⇑P	P	02 04 58.7	+0.6
BBLS	Lazi&#263i	40.55 323	⇑*i*P	P	02 04 57.8	-0.7
DRGR		40.67 329	⇓P	P	02 04 59.8	+0.4
DRGR		40.67 329	P	P	02 04 59.7	+0.4
CUC	Castrocucco	40.69 316	P	P	02 04 59.2	-0.5
CUC				pP	02 04 59.3	-1.2
AK07	Malin Array Si	40.72 338	P	P	02 04 59.7	+0.1
AK10	Malin Array Si	40.74 338	P	P	02 04 59.9	+0.1
AK09	Malin Array Si	40.74 338	P	P	02 04 59.6	-0.2
LUBAR	Lubar, Ukraine	40.76 336	P	P	02 04 59.5	-0.4
AK08	Malin Array Si	40.77 338	P	P	02 04 59.6	-0.4
AK05	Malin Array Si	40.78 338	P	P	02 04 59.5	-0.6
MESR	Meseseni	40.80 330	⇓P	P	02 05 00.7	+0.4
AK02	Malin Array Si	40.81 338	P	P	02 04 59.8	-0.5
AK12	Malin Array Si	40.81 338	P	P	02 04 59.6	-0.8
AK14	Malin Array Si	40.82 338	P	P	02 05 00.1	-0.3
AK13	Malin Array Si	40.82 338	P	P	02 05 00.2	-0.3
AK01	Malin Array Si	40.83 338	P	P	02 05 00.3	-0.2
AKASG	Malin Array Be	40.84 338	P	P	02 05 00.3	-0.3
AKASG	Malin Array Be	40.84 338	P	P	02 05 00.7	+0.2
	comp=Z,49nm,0.8s,baz=150,slow=7.3,SNR=60					
	comp=Z,49nm,0.8s					
AKBB	Malin Array Si	40.84 338	IAmb	IAmb	02 05 04.9	
	comp=Z,86nm,0.9s					
AKBB	Malin Array Si	40.84 338	*c e*P	P	02 05 00.7	+0.1
AKBB			pmax	pmax		
	comp=Z,107nm,1.1s					
AKBB	Malin Array Si	40.84 338	P	P	02 05 00.6	0.0
KIEV	Kiev	40.84 338	⇑P	P	02 05 00.8	+0.3
KIEV	Kiev	40.84 338	P	P	02 05 00.6	0.0
KIEV			IAmb	IAmb	02 05 04.9	
	comp=Z,77nm,0.9s					
KIEV	Kiev	40.84 338	*i*P	P	02 05 00.4	-0.1
	SNR=61					
KIEV	Kiev	40.84 338	P	P	02 05 00.6	0.0
KIEV			pmax	pmax		
	comp=Z,77nm,0.9s					
KIEV			MLR	MLR		
	comp=Z,4μm,22.0s					
KIEV	Kiev	40.84 338	P	P	02 04 58.6	-2.0
	comp=Z,369nm,1.0s,comp=Z,4μm					
AK11	Malin Array Si	40.84 338	P	P	02 05 00.4	-0.2
SIRR	Siria	40.84 328	⇑P	P	02 05 01.5	+0.7
TEKS	Tekeris	40.90 324	*e*P	P	02 04 59.8	-1.4
BMR	Baia Mare	40.90 331	⇓P	P	02 05 02.3	+1.1
BMR	Baia Mare	40.90 331	P	P	02 05 02.3	+1.1
STON	Ston	40.99 321	⇑*i*P	P	02 05 01.1	-0.8
FRGS	Fruska Gora	41.12 325	⇑P	P	02 05 03.0	0.0
FRGS	Fruska Gora	41.12 325	⇑*i*P	P	02 05 02.1	-1.0
FRGS	Fruska Gora	41.12 325	P	P	02 05 02.0	-1.0
	comp=Z,37nm,1.0s,comp=Z,739nm					
MI29	MI29, Kamyanyy	41.12 337	P	P	02 05 02.7	-0.2
MAKZ	Makanchi	41.24 32	P	P	02 05 05.4	+1.4
MAKZ			IAmb	IAmb	02 05 16.6	
	comp=Z,157nm,1.8s					
MAKZ	Makanchi	41.24 32	P	P	02 05 05.4	+1.4
MAKZ			pmax	pmax		
	comp=Z,157nm,1.8s					
MAKZ			MLR	MLR		
	comp=Z,900nm,20.0s					
MATP	Matopo	41.24 214	LR	LR	02 22 12.0	
	comp=Z,7μm,19.3s,baz=46,slow=36					
MI30	MI30,Zelenitsa	41.25 337	P	P	02 05 03.4	-0.6
BORR	Bors	41.33 329	⇑P	P	02 05 05.6	+0.9
MK31	Makanchi Array	41.39 32		pP	02 05 06.8	+0.5
MK31	Makanchi Array	41.39 32	*c e*P	P	02 05 06.2	+0.9
MKAR	Makanchi Array	41.39 32	P	P	02 05 06.3	+1.1
	comp=Z,16nm,0.6s,baz=220,slow=9.1,SNR=47					
	comp=Z,16nm,0.6s					
CLTB	Caltabellotta	41.44 312	P	P	02 05 05.5	-0.3
CLTB			IAmb	IAmb	02 06 05.5	
	comp=Z,121nm,1.3s					
BRVK	Borovoye	41.55 17	P	P	02 05 07.4	+1.0
BRVK	Borovoye	41.55 17	P	P	02 05 07.4	+1.0
BRVK			pmax	pmax		
	comp=Z,29nm,0.7s					
BVA0	Borovoye Array	41.55 17	*i*P	P	02 05 07.3	+0.8
BVAR	Borovoye Array	41.55 17	P	P	02 05 07.5	+1.0
	comp=Z,32nm,0.7s,baz=193,slow=6.1,SNR=70					
BVAR			LR	LR	02 25 20.2	
	comp=Z,4μm,20.0s,baz=215,slow=40					
	comp=Z,32nm,0.7s					
MAKA	Makarska	41.63 321	*i*P	P	02 05 07.1	-0.1
RICI	Ricice	41.68 322	*i*P	P	02 05 07.6	-0.1
TATN	Tatacuine	41.79 303	P	P	02 05 09.2	+0.4
HVAR	Hvar	41.92 321	*i*P	P	02 05 09.2	-0.4
PAOL	Paolisi	42.03 317	IAmb	IAmb	02 05 39.2	
	comp=Z,94nm,1.6s					
MUSN	Musina, Limpop	42.07 211	*e*P	P	02 05 10.9	-0.2
MUSN			IAmb	IAmb	02 05 25.5	
	comp=Z,71nm,1.1s					
UZHM	Uzhgorod	42.15 331	P	P	02 05 10.8	-0.6
LVV	L'vov	42.22 333	*d i*P	P	02 05 11.7	-0.3
LVV					02 06 59.0	
LVV			S	S	02 11 30.8	-1.7
LVV			pmax	pmax		
	comp=Z,150nm,1.2s					
LVV			MLR	MLR		
	comp=N,2μm,17.0s					
LVV			MLR	MLR		
	comp=E,3μm,17.0s					
LVV			MLR	MLR		
	comp=Z,4μm,19.0s					
MGRS	Mrkonjic Grad	42.23 323	⇑*i*P	P	02 05 12.3	+0.1
BSZH	Besenyszg	42.24 328	⇑P	P	02 05 12.9	+0.7
BLY	Banja Luka	42.36 323	⇑*i*P	P	02 05 13.1	-0.1
MOPA	Mopani	42.37 208	*e*P	P	02 05 14.7	+1.2
MOPA			IAmb	IAmb	02 05 35.5	
	comp=Z,274nm,1.4s					
KOLS	Kolonicke sedl	42.37 331	*e*P	P	02 05 14.5	+1.3
KOLS			pmax	pmax		
	comp=Z,50nm,0.8s					
KOLS	Kolonicke sedl	42.37 331

comp=Z,302nm,1.7s
OBN Obninsk 42.61 347 P **P 02 05 14.1 -0.9**
comp=Z,128nm,1.1s,comp=Z,2µm
RNPP8 Varash 42.62 336 P **P 02 05 15.0 -0.2**
WMQ Urumqi 42.62 39 *e*P **P 02 05 18.0 +2.6**
WMQ sP pwP 02 05 26.4 +4.7
WMQ S **S 02 11 43.4 +4.6**
WMQ SS **SS 02 14 45.4 -3.4**
WMQ pmax pmax
comp=Z,36nm,1.1s
WMQ pmax pmax
comp=Z,160nm,3.6s
WMQ LR LR
comp=Z,3µm,24.2s
WMQ LR LR
comp=Z,2µm,20.5s
WMQ LR LR
comp=Z,3µm,20.3s
RNPP9 Sopachiv 42.66 336 P **P 02 05 15.3 -0.2**
CRVS Cervenica-Dubn 42.73 331 *e*P **P 02 05 16.9 +0.7**
CRVS pmax pmax
comp=Z,115nm,1.3s
CRVS Cervenica-Dubn 42.73 331 *e*P **P 02 05 16.9 +0.7**
CRVS *e*PP **PcP 02 07 05.3 -2.5**
MORI Morici 42.75 321 *i* P **P 02 05 15.8 -0.5**
PSZ Piszkesteto 42.84 328 ⇑P **P 02 05 17.1 0.0**
PSZ Piszkesteto 42.84 328 P **P 02 05 17.1 0.0**
MOS Moscow 42.97 348 *e*P **P 02 05 16.0 -1.9**
MOS *e* 02 06 55.4
MOS *e*S **S 02 11 37.1 -6.2**
MOS pmax pmax
comp=Z,335nm,1.5s
MOS pmax pmax
comp=Z,500nm,1.5s
MOS MLR MLR
comp=Z,4µm,17.0s
UDBI Udbina 43.08 322 *i* P **P 02 05 19.0 -0.1**
MOSL Moslavina 43.11 324 *i* P **P 02 05 18.6 -0.7**
ZSN Zaisan 43.15 33 *e*P **P 02 05 19.8 +0.1**
baz=33
ZSN *e*S **S 02 11 47.2 +0.9**
baz=33
ZSN Zaisan 43.15 33 *e*P **P 02 05 19.7 +0.1**
ZSN *e*S **S 02 11 47.2 +0.9**
SVE Sverdlovsk 43.18 7⇑*e*P **P 02 05 20.9 +1.3**
SVE *e* 02 07 11.6
SVE *e*S **S 02 11 48.2 +1.8**
SVE *e* 02 15 13.4
SVE pmax pmax
comp=Z,95nm,1.4s
DUGI Dugi Otok 43.21 321 *i* P **P 02 05 19.6 -0.6**
PLIT Plitvice 43.35 322 *i* P **P 02 05 20.9 -0.4**
HOED Hoedspruit, Li 43.36 208 *e*P **P 02 05 23.6 +2.1**
HOED IAmb IAmb 02 05 35.4
comp=Z,140nm,1.4s
VIRC Vir 43.38 321 *i* P **P 02 05 20.6 -0.8**
CAMP Campotosto 43.51 318 P **P 02 05 22.9 +0.1**
CAMP IAmb IAmb 02 05 36.5
comp=Z,105nm,1.8s
KALN Kalnik 43.58 324 *i* P **P 02 05 22.8 -0.3**
SRO Srobarova 43.59 327 *e*P **P 02 05 23.6 +0.5**
SRO pmax pmax
comp=Z,42nm,1.1s
SRO Srobarova 43.59 327 *e*P **P 02 05 23.6 +0.5**
SRO *e*PP **PcP 02 07 12.9 +2.3**
MPLH Magyarpolny 43.60 326 P **P 02 05 22.5 -0.7**
comp=Z,130nm,1.4s,comp=Z,2µm
NVLJ Novalja 43.63 322 *i* P **P 02 05 22.6 -0.8**
NIE Niedzica 43.64 330 *e*P **P 02 05 23.2 -0.3**
NIE *e*L L 02 21 47.2
comp=Z,5µm,31.6s
NIE Niedzica 43.64 330 P **P 02 05 22.8 -0.8**
comp=Z,9.2nm,2.0s,comp=Z,357nm
KEST Kesra 43.67 307 P **P 02 05 24.5 +0.4**
KEST IAmb IAmb 02 06 06.7
comp=Z,145nm,1.9s
KEST Kesra 43.67 307 P **P 02 05 24.1 +0.1**
comp=Z,16nm,1.1s,baz=342,slow=1.4,SNR=8.4
KEST LR LR 02 23 46.7
comp=Z,7µm,19.8s,baz=28,slow=36
comp=Z,16nm,1.1s
PTJ Puntijarka 43.73 324 P **P 02 05 24.4 0.0**
VYHS Vyhne 43.75 328 *e*P **P 02 05 24.4 0.0**
VYHS pmax pmax
comp=Z,29nm,1.1s
VYHS Vyhne 43.75 328 *e*P **P 02 05 24.4 0.0**
VYHS *e*PP **PcP 02 07 13.2 +2.0**
LOBO Lobor 43.81 324 *i* P **P 02 05 25.0 +0.1**
GUMA Gualdo di Mace 43.82 319 IAmb IAmb 02 05 38.0
comp=Z,48nm,0.9s
NRCA Norcia 43.85 318 IAmb IAmb 02 05 40.6
comp=Z,58nm,1.3s
OZLJ Ozalj 43.85 323 *i* P **P 02 05 24.1 -1.1**
LANS Liptovska Anna 43.87 330 *e*P **P 02 05 25.8 +0.4**
LANS pmax pmax
comp=Z,12nm,1.1s
LANS Liptovska Anna 43.87 330 *e*P **P 02 05 25.8 +0.4**
LANS *e*PP **PcP 02 07 13.4 +1.8**
PILG Pilgrimsrest, 43.91 208 *e*P **P 02 05 26.3 +0.1**
PILG IAmb IAmb 02 05 40.0
comp=Z,55nm,1.1s
BOJS Bojanci 43.92 323 *i* P **P 02 05 25.5 -0.3**
BOJS *e* 02 13 54.9
BOJS *e*SS SS 02 15 31.6 +18
BOJS Bojanci 43.92 323⇑*i*P **P 02 05 25.1 -0.7**
CRES Cresnjev 43.98 323⇑*i*P **P 02 05 26.0 -0.3**
CESX Cesi 44.09 318 IAmb IAmb 02 05 48.7
comp=Z,61nm,1.4s
GBRS Gornja Briga 44.19 323 *e*P **P 02 05 27.7 -0.3**
GOMU GeErMu 44.27 52 P **P 02 05 30.9 +1.7**
GOMU S **S 02 11 59.6 -4.2**
GOMU pmax pmax
comp=Z,35nm,0.5s
GOMU LR LR
comp=Z,2µm,19.6s
GOMU LR LR
comp=Z,4µm,19.1s
GOMU LR LR
comp=Z,10µm,19.0s
RIY Rijeka 44.27 322 P **P 02 05 27.9 -0.7**
SMRN Sveta Marina 44.31 322 *i* P **P 02 05 28.0 -0.9**
LEPH Lephalale, Lim 44.42 212 *e*P **P 02 05 31.1 +1.0**
LEPH IAmb IAmb 02 05 44.8
comp=Z,144nm,1.1s
OJC Ojcow 44.43 331 *e*P **P 02 05 29.4 -0.4**
OJC *e*L L 02 22 16.8
comp=Z,9µm,31.9s
OJC Ojcow 44.43 331 P **P 02 05 28.2 -1.6**
MNK Minsk 44.44 340 *i* P **P 02 05 27.6 -2.2**
comp=E,20nm,1.1s,baz=146
MNK *i* P **P 02 05 27.6 -2.2**
comp=N,46nm,1.1s,baz=146
MNK *i* P **P 02 05 27.6 -2.2**
comp=Z,5µm,22.9s,baz=146
MNK *i* PP **PcP 02 07 11.5 -1.9**
baz=146
MNK *i* PPP PPP 02 07 47.8
baz=146
MNK *i* S **S 02 12 03.5 -1.3**
baz=146
MNK *i* SS **SS 02 15 24.3 +0.4**
baz=146
MNK *i* LQ LQ 02 20 33.7
baz=146
MNK *i* LR LR 02 24 12.7
baz=146
MNK *i* LRM MLR 02 24 51.5
comp=E,3µm,19.8s,baz=146
MNK *i* LRM MLR 02 25 00.8
comp=N,6µm,20.9s,baz=146
MNK *i* LRM MLR 02 25 16.1
comp=Z,5µm,22.9s,baz=146
MNK Minsk 44.44 340 *i* P **P 02 05 27.6 -2.2**
MNK *i* 02 07 11.4
MNK *i* PPP PPP 02 07 47.7
MNK *i* S **S 02 12 03.5 -1.3**
MNK *i* SS **SS 02 15 24.3 +0.4**
MNK pmax pmax
comp=N,46nm,1.1s
MNK pmax pmax
comp=E,20nm,1.1s
MNK pmax pmax
comp=Z,5µm,22.9s
MNK MLR MLR
comp=E,3µm,20.0s
MNK MLR MLR
comp=N,6µm,21.0s
MNK MLR MLR
comp=Z,5µm,23.0s
KIRV Kirov 44.44 358 P **P 02 05 30.1 +0.4**
comp=Z,57nm,0.7s,baz=181,slow=3.7,SNR=35
comp=Z,57nm,0.7s
KIRV Kirov 44.44 358 *ce*P **P 02 05 29.8 +0.1**
ZST Bratislava 44.46 327 *e*P **P 02 05 30.3 +0.2**
ZST pmax pmax
comp=Z,115nm,1.2s
ZST Bratislava 44.46 327 *e*P **P 02 05 30.3 +0.2**
ZST *e*PP **PP 02 07 20.3 +6.5**
MODS Modra-Piesok 44.48 327 *e*P **P 02 05 30.1 -0.2**
MODS pmax pmax
comp=Z,118nm,1.2s
MODS Modra-Piesok 44.48 327 *e*P **P 02 05 30.1 -0.2**
MODS *e*PP **PP 02 07 20.1 +6.1**
SMOL Smolenice 44.49 328 *e*P **P 02 05 30.2 -0.1**
SMOL pmax pmax
comp=Z,19nm,1.3s
BRJN Brijuni 44.49 321 *i* P **P 02 05 29.9 -0.4**
DULL Dullstroom, Mp 44.52 208 *e*P **P 02 05 31.7 +0.6**
DULL IAmb IAmb 02 05 45.7
comp=Z,60nm,1.0s
CEY Cerknica 44.53 323⇑*i*P **P 02 05 30.0 -0.7**
VNDS Vrh nad Dolski 44.57 323 *e*P **P 02 05 31.1 0.0**
TAM Tamanrasset 44.58 288 P **P 02 05 31.1 -0.5**
JAVC Velka Javorina 44.58 328 *e*P **P 02 05 31.2 +0.1**
JAVC *e*PP **PP 02 07 18.6 +3.5**
JAVC *e*S **S 02 12 06.5 -0.7**
RONA Rosalia, Austr 44.59 326 *e*P **P 02 05 31.3 0.0**
comp=Z,13nm,1.0s,SNR=36
RONA *e*PP **PP 02 07 20.4 +5.1**
comp=Z,17nm,1.1s,SNR=5.7
LJU Ljubljana 44.64 323 *i* P **P 02 05 31.8 +0.2**
LJU *e* 02 14 06.0
SKDS Skadanscina 44.67 322 *e*P **P 02 05 31.3 -0.6**
SOKA Soboth 44.70 324 *e*P **P 02 05 32.2 +0.1**
comp=Z,25nm,1.3s,SNR=24
SOKA *e*PP **PP 02 07 21.5 +5.0**
comp=Z,3.6nm,0.6s
ARSA Arzberg 44.75 325 *e*P **P 02 05 32.7 +0.2**
comp=Z,13nm,0.7s,SNR=32
ARSA *e*PP **PP 02 07 21.8 +4.9**
comp=Z,12nm,0.8s,SNR=6.2
MAUC Maruska 44.82 329 *e*P **P 02 05 32.9 -0.1**
OBKA Obir 44.88 324 *e*P **P 02 05 33.9 +0.3**
comp=Z,45nm,1.2s,SNR=27
OBKA *e*PP **PP 02 07 21.8 +3.4**
comp=Z,9.4nm,0.9s
OBKA Obir 44.88 324⇑*i*P **P 02 05 33.3 -0.3**
CONA Conrad Observa 44.96 326 *e*P **P 02 05 34.4 +0.1**
comp=Z,16nm,0.8s,SNR=53
CONA *i* PP **PP 02 07 23.4 +4.2**
comp=Z,12nm,0.8s
OKC Ostrava-Krasne 44.97 330 *e*P **P 02 05 33.8 -0.3**
OKC *e*S S 02 12 22.4 +10
OKC Ostrava-Krasne 44.97 330 *e*P **P 02 05 33.8 -0.3**
OKC *e*S S 02 12 22.4 +10
BEL Belsk 45.10 333 *e*P **P 02 05 35.0 -0.1**
BEL *e*L L 02 25 39.9
comp=Z,23µm,25.1s
CRLN Carolina, Mapu 45.13 208 *e*P **P 02 05 34.3 -1.6**
CRLN IAmb IAmb 02 05 58.7
comp=Z,53nm,1.3s
NACGM Naroch 45.13 340 *e*P **P 02 05 35.7 +0.4**
comp=E,2µm,1.1s
SABO M.te Sabotino 45.15 323 IAmb IAmb 02 05 59.4
comp=Z,97nm,1.2s
TNCH TengChong 45.16 69 P **P 02 05 37.0 +0.7**
TNCH S **S 02 12 21.8 +5.2**
TNCH pmax pmax
comp=Z,220nm,4.1s
TNCH LR LR
comp=Z,2µm,21.9s
TNCH LR LR
comp=Z,1µm,22.4s
TNCH LR LR
comp=Z,6µm,28.3s
MORC Moravsky Berou 45.23 329⇓P **P 02 05 36.6 +0.3**
MORC Moravsky Berou 45.23 329 P **P 02 05 35.5 -0.8**
MORC IAmb IAmb 02 05 37.4
comp=Z,69nm,1.3s
MORC Moravsky Berou 45.23 329 *e*P **P 02 05 35.7 -0.6**
MORC *e*PP **PP 02 07 25.3 +3.3**
MORC *e*S **S 02 12 13.9 -2.7**
MORC Moravsky Berou 45.23 329 P **P 02 05 36.5 +0.3**
LHMI Lhok Sumawe 45.31 97 IAMs_20 IAMs_20 02 21 57.3
comp=Z,5µm,21.0s
KRUC Moravsky 45.37 328 *e*P **P 02 05 36.5 -0.8**
KRUC *e*PP **PP 02 07 26.0 +2.6**
KRUC *e*S **S 02 12 17.1 -1.4**
CHTO Chiang Mai 45.37 77 P **P 02 05 37.5 -0.3**
CHTO Chiang Mai 45.37 77 P **P 02 05 37.5 -0.3**
CHTO pmax pmax
comp=Z,33nm,1.3s
CHTO MLR MLR
comp=Z,3µm,22.0s
CMAR Chiang Mai Arr 45.38 78 P **P 02 05 36.5 -1.4**
CMAR Chiang Mai Arr 45.38 78 P **P 02 05 37.0 -0.9**
comp=Z,52nm,0.8s,baz=275,slow=8.7,SNR=142
comp=Z,52nm,0.8s
CMAR Chiang Mai Arr 45.38 78 *i* P **P 02 05 36.7 -1.2**
CMAR pmax pmax
comp=Z,53nm,0.8s
VRAC Vranov 45.41 328⇑P **P 02 05 37.7 0.0**
VRAC Vranov 45.41 328 *e*P **P 02 05 37.0 -0.7**
VRAC *e*PP **PP 02 07 26.7 +2.8**
VRAC *e*S **S 02 12 18.6 -0.6**
VRAC Vranov 45.41 328 P **P 02 05 37.5 -0.2**
comp=Z,18nm,1.0s,baz=132,slow=7.1,SNR=40
comp=Z,18nm,1.0s
MYKA Terra Mystica 45.47 323 *e*P **P 02 05 38.2 0.0**
comp=Z,45nm,0.9s,SNR=31
MYKA *i* PP **PP 02 07 27.3 +2.7**
comp=Z,17nm,0.9s,SNR=6.7
POGA Pongola 45.57 205 P **P 02 05 39.0 -0.2**
POGA Pongola 45.57 205 *e*P **P 02 05 40.5 +1.3**
POGA IAmb IAmb 02 05 53.4
comp=Z,102nm,1.2s
IIGN Ignalina 45.69 340 *e*P **P 02 05 39.9 +0.2**
SUW Suwalki 45.72 337 *e*P **P 02 05 40.9 +0.9**
SUW *e*L L 02 21 07.4
comp=Z,5µm,34.9s
SUW Suwalki 45.72 337 P **P 02 05 40.2 +0.2**
SUW Suwalki 45.72 337 *e*P **P 02 05 39.8 -0.2**
SUW Suwalki 45.72 337 P **P 02 05 40.2 +0.2**
SUW pmax pmax
comp=Z,232nm,1.2s
SUW MLR MLR
comp=Z,4µm,22.0s
MOA Molln 45.79 325 *e*P **P 02 05 40.7 -0.1**
comp=Z,15nm,0.8s,SNR=43
MOA *e*PP **PP 02 07 28.2 +0.2**
comp=Z,19nm,0.9s
KRLC Kraliky 45.80 329 *e*PP **PP 02 07 29.3 +1.3**
KBA Koelnbreinsper 45.89 324 *e*P **P 02 05 41.4 -0.3**
comp=Z,33nm,1.0s,SNR=30
KBA *e*PP **PP 02 07 30.3 +1.2**
comp=Z,22nm,1.0s,SNR=5.8
ISAL Salakas 45.90 340 *e*P **P 02 05 41.8 +0.4**
ZCCA Zocca 45.94 319 P **P 02 05 42.1 +0.1**
ZCCA IAmb IAmb 02 06 05.8
comp=Z,89nm,1.3s
TREC Trest 45.98 327 *e*P **P 02 05 41.6 -0.6**
TREC *e*S **S 02 12 35.2 +7.8**
TREC Trest 45.98 327 *e*P **P 02 05 41.6 -0.6**
TREC *e*S **S 02 12 35.2 +7.8**
TEOL Teolo 45.99 321 IAmb IAmb 02 05 46.3
comp=Z,44nm,0.9s
BIOA Bad Ischl, Aus 46.06 325 *e*P **P 02 05 42.3 -0.5**
comp=Z,9.5nm,0.6s,SNR=28
BIOA *e*PP **PP 02 07 30.4 -0.4**
comp=Z,21nm,1.1s
HRAO HartRAO 46.16 211 *e*P **P 02 05 45.1 +1.1**
ABTA Abfaltersbach 46.19 323 *e*P **P 02 05 44.0 0.0**
comp=Z,10nm,0.7s,SNR=23
ABTA *e*PP **PP 02 07 34.0 +1.7**
comp=Z,5.6nm,0.8s
DPC Dobruska-Polom 46.20 329 *e*P **P 02 05 43.7 -0.2**
DPC AMS AMS 02 27 00.0
comp=Z,4µm,22.6s
DPC Dobruska-Polom 46.20 329 *e*P **P 02 05 43.7 -0.2**
DPC MLR MLR
comp=Z,4µm,22.6s
DPC Dobruska-Polom 46.20 329 P **P 02 05 42.0 -1.9**
comp=Z,47nm,1.6s,comp=Z,746nm
CKRC Cesky Krumlov 46.33 326 *e*P **P 02 05 44.1 -0.8**
CKRC AMS AMS 02 28 50.0
comp=Z,2µm,19.0s
CKRC Cesky Krumlov 46.33 326 *e*P **P 02 05 44.1 -0.8**
CKRC MLR MLR
comp=Z,2µm,19.0s
CTI Castel Tesino 46.34 322 IAmb IAmb 02 05 48.7
comp=Z,31nm,0.9s
OSTC Ostas 46.38 329 *e*P **P 02 05 44.9 -0.4**
OSTC *e*S S 02 12 44.5 +11
OSTC AMS AMS 02 27 10.0
comp=Z,6µm,23.0s
OSTC Ostas 46.38 329 *e*P **P 02 05 44.9 -0.4**
OSTC *e*S S 02 12 44.5 +11
OSTC MLR MLR
comp=Z,6µm,23.0s
UPC Upice 46.45 329 *e*P **P 02 05 45.6 -0.3**
UPC *e*S **S 02 12 42.6 +8.5**
UPC AMS AMS 02 27 10.0
comp=Z,5µm,23.3s
UPC Upice 46.45 329 *e*P **P 02 05 45.6 -0.3**
UPC *e*S **S 02 12 42.6 +8.5**
UPC MLR MLR
comp=Z,5µm,23.3s
LESA Schwarzleotal 46.46 324 *i* P **P 02 05 44.8 -1.2**
comp=Z,31nm,1.1s
LESA *e*PP **PP 02 07 34.3 -0.8**
comp=Z,8.8nm,0.8s
CHVC Chvalec 46.48 329 *e*P **P 02 05 45.9 -0.2**
CHVC *e*PP **PP 02 07 35.7 +0.4**
CHVC AMS AMS 02 27 10.0
comp=Z,5µm,22.7s
CHVC Chvalec 46.48 329 *e*P **P 02 05 45.9 -0.2**
CHVC *e* 02 07 35.7
CHVC MLR MLR
comp=Z,5µm,22.7s
LBTB Lobatse 46.52 213 P **P 02 05 46.8 0.0**
LBTB Lobatse 46.52 213 *e*P **P 02 05 46.6 -0.1**
LBTB IAmb IAmb 02 06 01.3
comp=Z,107nm,0.9s
LBTB Lobatse 46.52 213 P **P 02 05 46.8 0.0**
LBTB pmax pmax
comp=Z,116nm,1.0s
KSP Ksiaz 46.53 330 *e*P **P 02 05 46.4 -0.1**
KSP *e*L L 02 23 03.6
comp=Z,8µm,33.4s
KSP Ksiaz 46.53 330 P **P 02 05 45.3 -1.1**
comp=Z,48nm,1.6s,comp=Z,997nm
PRMA PARMA 46.55 319 P **P 02 05 47.2 +0.5**
KCSI Kotacane, Aceh 46.55 99 P **P 02 05 49.7 +2.5**
PABE Paberze 46.59 339 IAMs_20 IAMs_20 02 27 34.2
comp=Z,4µm,20.0s
PABE Paberze 46.59 339 *e*P **P 02 05 46.9 +0.1**
GEC2 GERESS Array S 46.67 326 IAmb IAmb 02 06 00.3
comp=Z,35nm,1.2s
GERES GERESS Array B 46.67 326 P **P 02 05 46.1 -1.6**
GERES GERESS Array B 46.67 326 P **P 02 05 46.7 -1.0**
comp=Z,3.5nm,0.5s,baz=126,slow=6.8,SNR=40
comp=Z,3.5nm,0.5s
NWCL Newcastle 46.69 207 *e*P **P 02 05 46.0 -2.1**
NWCL IAmb IAmb 02 05 59.7
comp=Z,86nm,1.0s
ZVC Zvikov 46.75 327 *e*P **P 02 05 47.0 -1.2**
ZVC AMS AMS 02 26 10.0
comp=Z,2µm,19.1s
PRU Pruhonice 46.89 328 *e*P **P 02 05 48.8 -0.5**
PRU *e*x x 02 06 00.3
PRU *e*S **S 02 12 48.0 +7.7**
PRU AMS AMS 02 22 00.0
comp=Z,4µm,24.0s
PRU Pruhonice 46.89 328 *e*P **P 02 05 48.8 -0.5**
PRU *e*S **S 02 12 48.0 +7.7**
PRU MLR MLR
comp=Z,4µm,24.0s
KHC Kasperske Hory 46.90 326 IAmb IAmb 02 06 01.1
comp=Z,94nm,1.8s
KHC Kasperske Hory 46.90 326 *e*P **P 02 05 47.9 -1.5**
KHC *e*PP **PP 02 07 37.4 -2.3**
KHC *e*S **S 02 12 46.3 +5.7**
KHC AMS AMS 02 29 10.0
comp=Z,3µm,20.9s
KHC Kasperske Hory 46.90 326 *e*P **P 02 05 47.9 -1.5**
KHC *e* 02 07 37.4
KHC *e*S **S 02 12 46.3 +5.7**
KHC MLR MLR
comp=Z,3µm,20.9s
VSVD Vaisvydziai 46.97 339 *e*P **P 02 05 49.9 +0.1**
WTTA Wattenberg 46.97 323 *i* P **P 02 05 49.1 -1.1**
comp=Z,46nm,1.1s,SNR=56
WTTA *e*PP **PP 02 07 38.2 -2.4**
comp=Z,20nm,1.1s
PRA Prague 46.99 328 *e*P **P 02 05 49.6 -0.5**
PRA *e*S **S 02 12 48.5 +6.7**
PRA AMS AMS 02 27 40.0
comp=Z,4µm,23.0s
PRA Prague 46.99 328 *e*P **P 02 05 49.6 -0.5**
PRA *e*S **S 02 12 48.5 +6.7**
PRA MLR MLR
comp=Z,4µm,23.0s
WATA Walderalm 47.05 323 *e*P **P 02 05 49.4 -1.3**
comp=Z,55nm,1.2s,SNR=45
WATA *e*PP **PP 02 07 38.7 -2.6**
comp=Z,13nm,0.7s
PRYS Parys 47.18 210 *e*P **P 02 05 53.5 +1.5**
PRYS IAmb IAmb 02 06 13.7
comp=Z,144nm,1.6s
PVCC Panska Ves 47.20 328 *e*P **P 02 05 51.1 -0.6**
PVCC *e*x x 02 06 00.7
PVCC AMS AMS 02 25 20.0
comp=Z,4µm,26.6s
PVCC Panska Ves 47.20 328 *e*P **P 02 05 51.1 -0.6**
PVCC MLR MLR
comp=Z,4µm,26.6s
SQTA Sankt Quirin 47.20 323 *e*P **P 02 05 50.8 -1.1**
comp=Z,17nm,0.7s,SNR=37
SQTA *e*PP **PP 02 07 41.7 -1.1**
comp=Z,11nm,0.7s
TSUM Tsumeb 47.22 226 P **P 02 05 51.5 -0.9**
TSUM IAmb IAmb 02 06 07.5
comp=Z,31nm,1.1s
TSUM Tsumeb 47.22 226 *e*P **P 02 05 53.0 +0.7**
TSUM IAmb IAmb 02 06 07.1
comp=Z,31nm,1.1s
FETA Feichten 47.38 322 *e*P **P 02 05 52.5 -0.9**
comp=Z,19nm,1.0s,SNR=21
FETA *e*PP **PP 02 07 41.6 -2.9**
comp=Z,7.7nm,0.9s
RICC Richard 47.45 328 *e*P **P 02 05 52.9 -0.7**
FUORN Ofenpass-Fuorn 47.46 322 IAmb IAmb 02 06 06.5
comp=Z,63nm,1.7s
ZAA0 Zalesovo Array 47.47 26 IAmb IAmb 02 06 15.2
comp=Z,36nm,0.8s
ZALV Zalesovo Beam 47.47 26 P **P 02 05 53.7 0.0**
ZALV Zalesovo Beam 47.47 26 P **P 02 05 53.2 -0.5**
comp=Z,22nm,0.6s,baz=230,slow=8.0,SNR=30
comp=Z,22nm,0.6s
ZALV Zalesovo Beam 47.47 26 P **P 02 05 53.7 0.0**
RETA Reutte 47.60 323 *e*P **P 02 05 53.7 -1.2**
comp=Z,40nm,1.2s,SNR=23
GKP Gorka Klasztor 47.66 333 *e*P **P 02 05 54.9 -0.3**
GKP *e*L L 02 28 51.4
comp=Z,25nm,19.6s
GKP Gorka Klasztor 47.66 333 *e*P **P 02 05 55.4 +0.2**
BRG Berggiesshubel 47.72 328⇑*i*P **P 02 05 55.2 -0.6**
BRG Amp 02 05 56.5
comp=Z,31nm,1.2s
BRG Berggiesshubel 47.72 328 P P 02 06 03.8 +8.1
BRG Amp 02 06 08.6
comp=Z,30nm,1.2s
BRG PP **PP 02 07 44.3 -3.1**
BRG Amp 02 07 46.2
comp=Z,29nm,1.2s
BRG Berggiesshubel 47.72 328⇑*i*P **P 02 05 55.1 -0.6**
BRG 02 06 03.8
BRG 02 07 44.2
BRG S **S 02 12 56.0 +3.8**
BRG pmax pmax
comp=Z,31nm,1.2s
BRG pmax pmax
comp=Z,30nm,1.2s
BRG pmax pmax
comp=Z,29nm,1.2s

BRG				pmax	pmax	
	comp=Z,4.0nm,1.0s					
BRG				smax	smax	
	comp=N,2μm,17.6s					
BRG				MLR	MLR	
	comp=Z,4μm,25.8s					
BRG				MLR	MLR	
	comp=E,4μm,20.6s					
PBUR	**Paburge**	**47.72**	**338**	*e*P	**P**	**02 05 55.9 +0.3**
HSKC	**Hora Svate Kat**	**47.83**	**328**	*e*S	**S**	**02 13 00.6 +6.8**
HSKC				AMS	AMS	02 28 10.0
	comp=E,4μm,21.1s					
TUE	**Stuetta**	**47.95**	**321**	P	**P**	**02 05 55.9 -1.9**
	comp=E,66nm,1.0s,comp=E,2μm					
DAVA	**Damuels**	**48.02**	**322**	*e*P	**P**	**02 05 57.2 -1.1**
	comp=E,62nm,1.4s,SNR=30					
VSU	**Vasula**	**48.09**	**343**	*ce*P	**P**	**02 05 58.3 -0.2**
VSU				pmax	pmax	
	comp=Z,132nm,1.7s					
SNKL	**Senekal, Frees**	**48.11**	**209**	*e*P	**P**	**02 06 02.7 +3.5**
SNKL				IAmb	IAmb	02 06 14.1
	comp=Z,148nm,1.0s					
PZH	**PanZhiHua**	**48.18**	**67**	P	**P**	**02 06 04.4 +4.6**
PZH				S	**S**	**02 13 06.6 +7.0**
PZH				pmax	pmax	
	comp=Z,40nm,1.1s					
PZH				pmax	pmax	
	comp=Z,260nm,7.7s					
PZH				LR	LR	
	comp=Z,2μm,23.0s					
PZH				LR	LR	
	comp=Z,2μm,23.0s					
PZH				LR	LR	
	comp=Z,4μm,24.0s					
PUL	**Pulkovo**	**48.27**	**346**	*ce*P	**P**	**02 06 00.5 +0.7**
PUL				pmax	pmax	
	comp=Z,90nm,0.8s					
SWZ	**Schweizer**	**48.41**	**212**	*e*P	**P**	**02 05 60.0 -1.5**
SWZ				IAmb	IAmb	02 06 15.4
	comp=Z,54nm,1.0s					
CLL	**Collm**	**48.46**	**328**	P	**P**	**02 06 00.9 -0.6**
CLL				IAmb	IAmb	02 06 36.2
	comp=Z,95nm,1.8s					
CLL	**Collm**	**48.46**	**328**	⇑*i*P	**P**	**02 06 00.5 -0.9**
	comp=Z,141nm,2.3s					
CLL				*i* pP	**sP**	**02 06 04.7 +2.0**
CLL				*i* x	x	02 06 07.7
CLL				*e*PcP	**PcP**	**02 07 31.0 +3.4**
	comp=Z,28nm,1.5s					
CLL				*e*PP	**PP**	**02 07 57.0 +2.9**
	comp=Z,64nm,1.6s					
CLL				*e*PPP	PPP	02 08 44.0
CLL				*e*S	**S**	**02 13 09.0 +6.4**
CLL				*e*Smax		02 13 41.0
	comp=N,2μm,37.4s					
CLL				*e*Smax		02 13 41.0
	comp=E,4μm,43.4s					
CLL				*e*Smax		02 13 41.0
	comp=Z,1μm,37.0s					
CLL				*e*SS	**SS**	**02 16 42.0 +10**
CLL				AMS	AMS	02 22 00.0
CLL				R2		04 25 00.0
CLL				R2		04 46 00.0
	comp=N,200nm,22.3s					
CLL				R2		04 46 00.0
	comp=E,100nm,20.7s					
CLL				R2		04 46 00.0
	comp=Z,300nm,20.2s					
CLL	**Collm**	**48.46**	**328**	P	**P**	**02 05 59.8 -1.6**
	comp=Z,24nm,1.9s,comp=Z,622nm					
GRFO	**Grafenberg**	**48.49**	**326**	P	**P**	**02 06 00.9 -0.9**
GRFO				IAmb	IAmb	02 07 51.9
	comp=Z,81nm,1.3s					
TOA0	**Torodi Ar. Sit**	**48.62**	**275**	IAmb	IAmb	02 06 21.5
	comp=Z,67nm,1.5s					
TORD	**Torodi Ar. Bea**	**48.62**	**275**	P	**P**	**02 06 03.2 0.0**
TORD				IAmb	IAmb	02 06 21.4
	comp=Z,42nm,1.4s					
TORD	**Torodi Ar. Bea**	**48.62**	**275**	P	**P**	**02 06 01.7 -1.5**
	comp=Z,6.9nm,0.7s,baz=85,slow=5.7,SNR=19					
	comp=Z,6.9nm,0.7s					
RUE	**Ruedersdorf**	**48.77**	**330**	*e*P	**P**	**02 06 04.2 +0.4**
SLIT	**Slitere, Latvi**	**48.83**	**339**	*e*P	**P**	**02 06 04.2 +0.1**
KULM	**Kulim**	**48.87**	**95**	P	**P**	**02 06 03.2 -2.0**
KULM				IAmb	IAmb	02 06 12.5
	comp=Z,46nm,1.1s					
KULM				IAMs_20	IAMs_20	02 25 11.6
	comp=Z,4μm,19.0s					
KMI	**Kunming**	**48.99**	**69**	⇓P	**P**	**02 06 06.1 -0.1**
KMI				PP	**PP**	**02 07 55.6 -4.1**
KMI				S	**S**	**02 13 14.8 +3.5**
KMI				pmax	pmax	
	comp=Z,27nm,0.8s					
KMI				LR	LR	
	comp=Z,4μm,20.8s					
KMI				LR	LR	
	comp=Z,5μm,19.6s					
KMI				LR	LR	
	comp=Z,7μm,31.3s					
BNI	**Bardonecchia**	**48.99**	**318**	P	**P**	**02 06 04.7 -1.2**
BNI	**Bardonecchia**	**48.99**	**318**	P	**P**	**02 06 04.7 -1.2**
BNI				pmax	pmax	
	comp=Z,33nm,1.4s					
BNI				MLR	MLR	
	comp=Z,3μm,20.0s					
GTA	**Gaotai**	**49.02**	**50**	P	**P**	**02 06 06.9 +0.7**
GTA				sP	pwP	02 06 17.9 +5.5
GTA				S	**S**	**02 13 17.8 +6.5**
GTA				sS	sS	02 13 25.8 +13
GTA				pmax	pmax	
	comp=Z,9.0nm,1.2s					
GTA				pmax	pmax	
	comp=Z,170nm,8.0s					
GTA				LR	LR	
	comp=Z,3μm,23.1s					
GTA				LR	LR	
	comp=Z,3μm,24.7s					
GTA				LR	LR	
	comp=Z,5μm,24.9s					
SLE	**Schleitheim**	**49.07**	**322**	P	**P**	**02 06 05.0 -1.3**
ARBE	**Arbavere**	**49.12**	**343**	*e*P	**P**	**02 06 04.9 -1.4**
LPL	**La Plagne**	**49.15**	**319**	P	**P**	**02 06 04.9 -2.3**
MTSE	**Matsula**	**49.18**	**341**	*e*P	**P**	**02 06 07.2 +0.3**
BFO	**Black Forest**	**49.44**	**323**	P	**P**	**02 06 08.3 -0.7**
BFO				IAmb	IAmb	02 06 09.6
	comp=Z,84nm,1.2s					
BFO	**Black Forest**	**49.44**	**323**	P	**P**	**02 06 08.3 -0.7**
BFO				pmax	pmax	
	comp=Z,84nm,1.2s					
VALR	**Valaam**	**49.55**	**347**	⇑*i*P	**P**	**02 06 09.9 +0.3**
VALR				pmax	pmax	
	comp=Z,156nm,0.9s					
BOSA	**Boshof**	**49.61**	**211**	P	**P**	**02 06 10.5 -0.2**
BOSA	**Boshof**	**49.61**	**211**	*e*P	**P**	**02 06 11.8 +1.1**
BOSA				IAmb	IAmb	02 06 24.5
	comp=Z,47nm,1.1s					
BOSA	**Boshof**	**49.61**	**211**	P	**P**	**02 06 06.8 -3.9**
	comp=Z,4.7nm,0.7s,baz=34,slow=6.1,SNR=9.1					
BOSA				LR	LR	02 28 20.6
	comp=Z,12μm,18.7s,baz=38,slow=38					
BOSA	**Boshof**	**49.61**	**211**	P	**P**	**02 06 10.5 -0.2**
BOSA				pmax	pmax	
	comp=Z,58nm,1.2s					
WIN	**Windhoek**	**49.83**	**224**	P	**P**	**02 06 11.9 -0.6**
WIN				IAmb	IAmb	02 06 28.1
	comp=Z,40nm,1.1s					
WIN	**Windhoek**	**49.83**	**224**	P	**P**	**02 06 11.9 -0.6**
WIN				pmax	pmax	
	comp=Z,40nm,1.1s					
WIN				MLR	MLR	
	comp=Z,13μm,19.0s					
SLVN	**Son La**	**49.99**	**74**	IAMs_20	IAMs_20	02 27 07.2
	comp=Z,4μm,21.0s					
ECH	**Echery**	**50.08**	**322**	P	**P**	**02 06 13.4 -0.4**
ECH	**Echery**	**50.08**	**322**	P	**P**	**02 06 13.5 -0.4**
ECH				pmax	pmax	
	comp=Z,35nm,1.2s					
ECH				MLR	MLR	
	comp=Z,2μm,22.0s					
MEF	**Metsahovi**	**50.22**	**343**	*e*P	**P**	**02 06 15.2 +0.5**
RGN	**Rugen**	**50.26**	**332**	P	**P**	**02 06 16.6 +1.5**
BLEU	**Blekinge**	**50.31**	**335**	*i* P	**P**	**02 06 14.0 -1.4**
CD2	**Chengdu**	**50.40**	**61**	P	**P**	**02 06 13.8 -2.9**
CD2				S	**S**	**02 13 28.1 -2.4**
CD2				pmax	pmax	
	comp=Z,150nm,7.5s					
CD2				LR	LR	
	comp=Z,2μm,20.9s					
CD2				LR	LR	
	comp=Z,2μm,20.3s					
CD2				LR	LR	
	comp=Z,2μm,22.8s					
PDSI	**Padang**	**50.45**	**103**	P	**P**	**02 06 18.4 +1.2**
ADZR	**Andozero**	**50.65**	**352**	*i* P	**P**	**02 06 18.1 +0.2**
ADZR				pmax	pmax	
	comp=Z,60nm,0.9s					
FINES	**FINESS Array B**	**50.78**	**344**	P	**P**	**02 06 17.9 -1.0**
	comp=Z,52nm,0.8s,baz=143,slow=8.5,SNR=184					
	comp=Z,52nm,0.8s					
FIA1	**FINESS Array S**	**50.78**	**344**		**P**	**02 06 19.1 +0.2**
JOF	**Joensuu**	**50.86**	**348**	*e*P	**P**	**02 06 19.8 +0.2**
LUNU	**Lund**	**50.88**	**333**	*i* P	**P**	**02 06 20.6 +0.8**
HVD	**Gariep Dam**	**51.14**	**209**	*e*P	**P**	**02 06 22.2 0.0**
HVD				IAmb	IAmb	02 06 36.7
	comp=Z,52nm,0.9s					
DEL	**Delary**	**51.23**	**334**	*i* P	**P**	**02 06 19.4 -3.0**
LZH	**Lanzhou**	**51.31**	**55**	*e*P	**P**	**02 06 24.6 +1.0**
LZH				pP	pwP	02 06 29.9 +0.1
LZH				sP	sP	02 06 33.1 +8.1
LZH				S	**S**	**02 13 42.3 -0.9**
LZH				sS	sS	02 13 58.4 +13
LZH				pmax	pmax	
	comp=Z,22nm,0.9s					
LZH				LR	LR	
	comp=Z,2μm,18.5s					
LZH				LR	LR	
	comp=Z,3μm,18.5s					
LZH				LR	LR	
	comp=Z,6μm,20.1s					
WLF	**Walferdange**	**51.33**	**323**	P	**P**	**02 06 23.1 -0.2**
WLF				IAmb	IAmb	02 06 24.1
	comp=Z,72nm,1.0s					
WLF	**Walferdange**	**51.33**	**323**	*d*P	**P**	**02 06 22.8 -0.5**
	comp=Z,42nm,1.1s					
WLF	**Walferdange**	**51.33**	**323**	P	**P**	**02 06 23.1 -0.2**
WLF				pmax	pmax	
	comp=Z,72nm,1.0s					
WLF				MLR	MLR	
	comp=Z,2μm,21.0s					
BJUU	**Bjuv**	**51.34**	**333**	*i* P	**P**	**02 06 21.8 -1.5**
COP	**Copenhagen**	**51.36**	**333**	*i* P	**P**	**02 06 20.8 -2.6**
VIKU	**Vikbolandet**	**51.48**	**337**	*e*P	**P**	**02 06 24.5 +0.3**
AAL	**Aland**	**51.55**	**340**	*e*P	**P**	**02 06 23.7 -1.0**
RAF	**Rauma**	**51.65**	**342**	*e*P	**P**	**02 06 25.5 0.0**
KEF	**Keuruu**	**51.70**	**344**	*e*P	**P**	**02 06 26.1 +0.3**
BHOU	**Houvegnez**	**51.73**	**324**	*d*P	**P**	**02 06 26.3 -0.1**
	comp=Z,20nm,1.1s					
BHOU				*d*PP	**PP**	**02 08 27.0 +3.1**
BTNL	**Ternell**	**51.77**	**325**	*d*P	**P**	**02 06 26.7 +0.1**
	comp=Z,13nm,1.1s					
CEST	**Esterri de Car**	**51.78**	**313**	IAmb	IAmb	02 06 43.8
	comp=Z,42nm,1.2s					
MEM	**Membach**	**51.85**	**325**	*d*P	**P**	**02 06 27.0 -0.2**
	comp=Z,14nm,0.9s					
MEM				*d*PP	**PP**	**02 08 27.6 +2.6**
KEIM	**Keimoes**	**51.95**	**215**	*e*P	**P**	**02 06 30.9 +2.7**
KEIM				IAmb	IAmb	02 06 42.6
	comp=Z,45nm,0.9s					
FABU	**Falkenberg**	**52.06**	**334**	*i* P	**P**	**02 06 27.2 -1.4**
RCHB	**Rochefort**	**52.09**	**324**	*d*P	**P**	**02 06 28.3 -0.7**
	comp=Z,21nm,1.2s					
RCHB				*d*PP	**PP**	**02 08 28.4 +1.3**
BSTI	**Sart Tilman**	**52.09**	**324**	*d*P	**P**	**02 06 29.1 +0.1**
BEBN	**Eben Emael**	**52.12**	**325**	*d*P	**P**	**02 06 28.9 -0.3**
BCLA	**Clavier**	**52.16**	**324**	*d*P	**P**	**02 06 28.4 -1.1**
BCLA				*d*PP	**PP**	**02 08 29.9 +2.1**
AUGR	**Augrabies**	**52.22**	**215**	*e*P	**P**	**02 06 31.9 +1.6**
AUGR				IAmb	IAmb	02 06 52.6
	comp=Z,190nm,1.9s					
BGES	**Gesves**	**52.27**	**324**	*d*P	**P**	**02 06 30.4 0.0**
	comp=Z,16nm,1.3s					
BGES				*d*PP	**PP**	**02 08 30.8 +2.1**
BMRD	**Maredsous**	**52.42**	**324**	*d*P	**P**	**02 06 31.3 -0.1**
	comp=Z,20nm,1.1s					
BMRD				*d*PP	**PP**	**02 08 31.6 +1.5**
DOU	**Dourbes**	**52.42**	**323**	*d*P	**P**	**02 06 31.0 -0.4**
	comp=Z,34nm,1.1s					
DOU				*d*PP	**PP**	**02 08 30.9 +0.8**
BORU	**Boraas**	**52.44**	**335**	*i* P	**P**	**02 06 30.2 -1.3**
GYA	**Guiyang**	**52.58**	**67**	⇓P	**P**	**02 06 32.3 -0.9**
GYA				pP	pwP	02 06 39.6 +0.3
GYA				PP	**PP**	**02 08 32.6 +0.4**
GYA				S	**S**	**02 13 58.0 -2.9**
GYA				pmax	pmax	
	comp=Z,45nm,1.0s					
GYA				LR	LR	
	comp=Z,3μm,21.3s					
GYA				LR	LR	
	comp=Z,4μm,20.8s					
GYA				LR	LR	
	comp=Z,8μm,24.6s					
ONAU	**Onsala**	**52.65**	**334**	*i* P	**P**	**02 06 33.2 +0.2**
MYKOM	**Kota Tinggi**	**52.86**	**99**	P	**P**	**02 06 34.3 -1.0**
MYKOM				IAmb	IAmb	02 06 59.8
	comp=Z,86nm,1.3s					
SOE	**Somerset East**	**52.87**	**208**	*e*P	**P**	**02 06 37.7 +2.7**
SOE				IAmb	IAmb	02 06 50.0
	comp=Z,70nm,1.1s					
GRHM	**Grahamstown, E**	**52.99**	**207**	*e*P	**P**	**02 06 37.4 +1.6**
GRHM				IAmb	IAmb	02 06 50.1
	comp=Z,101nm,1.1s					
VAF	**Ylistaro**	**53.00**	**344**	*e*P	**P**	**02 06 35.9 +0.4**
GRAF	**Camdeboo Natio**	**53.01**	**209**	*e*P	**P**	**02 06 33.5 -2.5**
GRAF				IAmb	IAmb	02 07 17.1
	comp=Z,192nm,1.7s					
MUD	**Monsted U'grnd**	**53.29**	**332**	*i* P	**P**	**02 06 37.0 -0.7**
MUD				*i* P	**pP**	**02 06 37.7 -0.9**
MUD				IAmb	IAmb	02 06 39.0
	comp=Z,27nm,1.0s					
BRAK	**Brakfontein**	**53.37**	**211**	*e*P	**P**	**02 06 40.1 +1.4**
BRAK				IAmb	IAmb	02 07 01.5
	comp=Z,803nm,2.6s					
ROOI	**Rooidraai Farm**	**53.63**	**210**	*e*P	**P**	**02 06 43.5 +2.9**
HFS	**Hagfors**	**53.72**	**337**	P	**P**	**02 06 40.3 -0.5**
	comp=Z,30nm,0.8s,baz=142,slow=7.5,SNR=47					
	comp=Z,30nm,0.8s					
STRU	**Stroemstad**	**53.98**	**335**	*i* P	**P**	**02 06 42.1 -0.6**
GRAN	**Grantham**	**54.15**	**211**	*e*P	**P**	**02 06 41.8 -2.7**
GRAN				IAmb	IAmb	02 07 00.8
	comp=Z,20nm,0.9s					
MOY	**Mondy**	**54.26**	**36**	*e*P	**P**	**02 06 46.0 +0.9**
MOY				pmax	pmax	
	comp=Z,73nm,1.7s					
HOMB	**Homborsund**	**54.64**	**334**	*e*P	**P**	**02 06 47.1 -0.4**
HOMB				IAmb	IAmb	02 06 47.5
	comp=Z,46nm,1.1s					
HOMB				*e*S	**S**	**02 14 28.7 +1.2**
HOMB				IAMs_20	IAMs_20	02 34 10.6
	comp=Z,3μm,19.9s					
HOMB	**Homborsund**	**54.64**	**334**	*i* P	**P**	**02 06 46.3 -1.2**
OSL	**Oslo**	**54.73**	**336**	*e*P	**P**	**02 06 47.8 -0.3**
OSL				IAmb	IAmb	02 06 49.0
	comp=Z,47nm,1.1s					
OSL				*e*S	**S**	**02 14 28.9 +0.1**
OSL				IAMs_20	IAMs_20	02 31 34.5
	comp=Z,4μm,21.9s					
CVNA	**Calvinia**	**54.76**	**214**	*e*P	**P**	**02 06 50.5 +1.6**
CVNA				IAmb	IAmb	02 07 03.6
	comp=Z,35nm,0.9s					
APA	**Apatity**	**54.77**	**351**	⇑*i*P	**P**	**02 06 47.0 -1.4**
APA				*i* PPP	PPP	02 09 59.0
APA				*i* S	**S**	**02 14 27.0 -2.1**
APA				*i* SSS	SSS	02 20 13.0
APA				pmax	pmax	
	comp=Z,22nm,0.9s					
APA				MLR	MLR	
	comp=Z,5μm,22.0s					
MERW	**Merweville**	**54.78**	**211**	*e*P	**P**	**02 06 52.1 +3.1**
MERW				IAmb	IAmb	02 07 16.6
	comp=Z,141nm,1.6s					
ELSH	**Elham, Standar**	**54.87**	**323**	*e*P	**P**	**02 06 48.8 -0.5**
ESDC	**Sonseca Array**	**54.87**	**309**	P	**P**	**02 06 47.5 -2.2**
ESDC	**Sonseca Array**	**54.87**	**309**	P	**P**	**02 06 47.0 -2.7**
	comp=Z,18nm,1.0s,baz=88,slow=6.0,SNR=95					
ESDC				LR	LR	02 30 07.4
	comp=Z,3μm,20.5s,baz=97,slow=36					
	comp=Z,18nm,1.0s					
LVZ	**Lovozero**	**54.91**	**352**	P	**P**	**02 06 49.2 -0.2**
LVZ				IAmb	IAmb	02 06 55.0
	comp=Z,48nm,0.9s					
LVZ	**Lovozero**	**54.91**	**352**	*i* P	**P**	**02 06 48.3 -1.1**
LVZ				pmax	pmax	
	comp=Z,51nm,0.9s					
LVZ	**Lovozero**	**54.91**	**352**	P	**P**	**02 06 48.1 -1.3**
	comp=Z,66nm,1.0s,comp=Z,655nm					
SUR	**Sutherland**	**54.91**	**212**	P	**P**	**02 06 54.7 +4.6**
NC602	**NORSAR Array S**	**54.92**	**337**	IAmb	IAmb	02 06 49.7
	comp=Z,35nm,0.9s					
NC602	**NORSAR Array S**	**54.92**	**337**	*e*P	**P**	**02 06 48.5 -1.1**
NC602				IAmb	IAmb	02 06 49.5
	comp=Z,36nm,0.9s					
NC602				*e*S	**S**	**02 14 30.8 -0.5**
NC602				IAMs_20	IAMs_20	02 31 35.9
	comp=Z,6μm,25.0s					
KONO	**Kongsberg**	**55.00**	**335**	P	**P**	**02 06 49.6 -0.6**
KONO				IAmb	IAmb	02 06 50.5
	comp=Z,92nm,1.6s					
KONO	**Kongsberg**	**55.00**	**335**	IAMs_20	IAMs_20	02 34 12.5
	comp=Z,4μm,19.0s					
KONO	**Kongsberg**	**55.00**	**335**	*e*P	**P**	**02 06 48.6 -1.5**
KONO				IAmb	IAmb	02 06 50.2
	comp=Z,105nm,1.6s					
KONO				*e*S	**S**	**02 14 33.2 +0.8**
KONO				IAMs_20	IAMs_20	02 34 06.2
	comp=Z,4μm,18.9s					
KONO	**Kongsberg**	**55.00**	**335**	*ce*P	**P**	**02 06 49.5 -0.6**
KONO				pmax	pmax	
	comp=Z,38nm,1.3s					
NC405	**NORSAR Array S**	**55.10**	**338**	P	**P**	**02 06 50.2 -0.7**
NC405				IAmb	IAmb	02 07 27.0
	comp=Z,29nm,1.1s					
XAN	**Xi'an**	**55.10**	**58**	P	**P**	**02 06 50.8 -0.7**
XAN				S	**S**	**02 14 35.1 +0.3**
XAN				ScS	**ScS**	**02 16 33.5 -8.1**
XAN				pmax	pmax	
	comp=Z,60nm,1.0s					
XAN				pmax	pmax	
	comp=Z,650nm,7.3s					
XAN				LR	LR	
	comp=Z,3μm,19.8s					
XAN				LR	LR	
	comp=Z,2μm,23.9s					
XAN				LR	LR	
	comp=Z,3μm,23.4s					
PAB	**San Pablo**	**55.14**	**309**	P	**P**	**02 06 51.1 -0.6**
PAB				IAmb	IAmb	02 08 53.6
	comp=Z,68nm,1.2s					
PAB	**San Pablo**	**55.14**	**309**	IAMs_20	IAMs_20	02 30 12.4
	comp=Z,3μm,19.0s					
PAB	**San Pablo**	**55.14**	**309**	P	**P**	**02 06 51.1 -0.6**
PAB				pmax	pmax	
	comp=Z,68nm,1.3s					
PAB				MLR	MLR	
	comp=Z,3μm,19.0s					
DLV	**T Lat**	**55.17**	**85**	P	**P**	**02 06 51.8 -0.6**
DLV	**T Lat**	**55.17**	**85**	IAMs_20	IAMs_20	02 28 43.5
	comp=Z,4μm,20.0s					
PMBI	**Palembang**	**55.17**	**104**	IAMs_20	IAMs_20	02 26 46.5
	comp=Z,3μm,22.0s					
NB201	**NORSAR Array S**	**55.22**	**337**	IAmb	IAmb	02 07 15.5
	comp=Z,48nm,1.4s					
LWLI	**Liwa**	**55.22**	**106**	P	**P**	**02 06 52.6 0.0**
SNART	**Snartemo**	**55.24**	**333**	*e*P	**P**	**02 06 51.7 -0.2**
SNART	**Snartemo**	**55.24**	**333**	*i* P	**P**	**02 06 51.7 -0.2**
NAO01	**NORSAR Array S**	**55.24**	**337**	P	**P**	**02 06 50.9 -1.0**
NAO01				IAmb	IAmb	02 06 52.5
	comp=Z,65nm,1.1s					
NB2	**NORSAR Subarra**	**55.24**	**337**	P	**P**	**02 06 50.3 -1.7**
	comp=Z,40nm,1.1s,baz=124,slow=7.4					
NB2	**NORSAR Subarra**	**55.24**	**337**	P	**P**	**02 06 50.3 -1.7**
	baz=124,slow=7.4					
NOA	**NORSAR Array B**	**55.24**	**337**	P	**P**	**02 06 50.2 -1.7**
	comp=Z,12nm,0.9s,baz=123,slow=7.7,SNR=35					
	comp=Z,12nm,0.9s					
NC303	**NORSAR Array S**	**55.30**	**338**	P	**P**	**02 06 52.4 0.0**
NBO00	**NORSAR Array S**	**55.40**	**337**	P	**P**	**02 06 52.1 -1.0**
NBO00				IAmb	IAmb	02 06 53.6
	comp=Z,34nm,1.1s					
NC204	**NORSAR Array S**	**55.56**	**337**	P	**P**	**02 06 53.7 -0.6**
QIZ	**Qiongzhong**	**55.66**	**76**	P	**P**	**02 06 55.5 -0.1**
QIZ				S	**S**	**02 14 43.3 +0.8**
QIZ				SS	**SS**	**02 18 30.8 +3.0**
QIZ				LR	LR	
	comp=Z,1μm,24.9s					
QIZ				LR	LR	
	comp=Z,2μm,26.1s					
QIZ				LR	LR	
	comp=Z,4μm,36.9s					
KIC	**Kosan Boka**	**56.05**	**268**	⇑*e*P	**P**	**02 06 57.9 -0.6**
	comp=Z,29nm,1.2s					
DBIC	**Dimbokro**	**56.09**	**269**	P	**P**	**02 06 58.2 -0.5**
DBIC				IAmb	IAmb	02 08 58.3
	comp=Z,57nm,1.3s					
DBIC	**Dimbokro**	**56.09**	**269**	*e*P	**P**	**02 06 56.5 -2.2**
DBIC	**Dimbokro**	**56.09**	**269**	P	**P**	**02 06 57.4 -1.4**
	comp=Z,5.6nm,0.8s,baz=51,slow=8.5,SNR=2.3					
	comp=Z,5.6nm,0.8s					
DBIC	**Dimbokro**	**56.09**	**269**	P	**P**	**02 06 58.2 -0.5**
DBIC				pmax	pmax	
	comp=Z,57nm,1.3s					
SONM	**Songino Array**	**56.12**	**41**	P	**P**	**02 06 59.8 +1.2**
SONM				IAmb	IAmb	02 07 20.0
	comp=Z,31nm,1.0s					
SONM	**Songino Array**	**56.12**	**41**	P	**P**	**02 06 58.6 -0.1**
	comp=Z,5.2nm,0.8s,baz=245,slow=7.7,SNR=18					
	comp=Z,5.2nm,0.8s					
SONM	**Songino Array**	**56.12**	**41**	P	**P**	**02 06 59.8 +1.2**
SONM				pmax	pmax	
	comp=Z,31nm,1.0s					
BLS5	**Blasjo**	**56.17**	**334**	*e*P	**P**	**02 06 58.8 +0.2**
BLS5				IAmb	IAmb	02 07 04.7
	comp=Z,48nm,1.2s					
BLS5				*e*S	**S**	**02 14 56.8 +8.6**
BLS5				IAMs_20	IAMs_20	02 33 45.0
	comp=Z,4μm,21.5s					
TIC	**Toumodi**	**56.25**	**269**	⇑*e*PKIKP		02 08 58.2
	comp=Z,62nm,1.0s					
TIC	**Toumodi**	**56.25**	**269**	⇑*e*P	**P**	**02 07 02.5 +2.5**
	comp=Z,24nm,1.0s					
WOL	**Wolverton**	**56.30**	**323**	*e*P	**P**	**02 06 58.8 -0.9**
WOL				IAmb	IAmb	02 06 59.8
	comp=Z,105nm,1.3s					
IRK	**Irkutsk**	**56.35**	**36**	*e*P	**P**	**02 07 03.6 +3.6**
IRK				pmax	pmax	
	comp=Z,71nm,1.5s					
LIC	**Lamto**	**56.35**	**268**	⇑*e*PKIKP		02 08 58.0
	comp=Z,43nm,0.7s					
LIC	**Lamto**	**56.35**	**268**	⇑*e*P	**P**	**02 07 00.2 -0.5**
	comp=Z,24nm,0.9s					
ODD1	**Odda**	**56.37**	**335**	*e*P	**P**	**02 06 59.8 -0.3**
ODD1				IAmb	IAmb	02 07 00.8
	comp=Z,29nm,1.0s					
ODD1				*e*S	**S**	**02 14 53.2 +2.4**
ODD1				IAMs_20	IAMs_20	02 33 52.2
	comp=Z,4μm,20.6s					
ULN	**Ulaanbaatar**	**56.55**	**42**	P	**P**	**02 07 02.5 +0.7**
ULN	**Ulaanbaatar**	**56.55**	**42**	P	**P**	**02 07 03.1 +1.4**
ULN	**Ulaanbaatar**	**56.55**	**42**	*ce*P	**P**	**02 07 01.9 +0.2**
ULN				pmax	pmax	
	comp=Z,23nm,1.0s					
KMY	**Karmoy**	**56.57**	**333**	*e*P	**P**	**02 07 00.5 -0.9**
KMY				IAmb	IAmb	02 07 01.6
	comp=Z,57nm,1.3s					
KMY				*e*S	**S**	**02 14 57.4 +4.0**
KMY				IAMs_20	IAMs_20	02 33 52.8
	comp=Z,3μm,19.8s					
DOMB	**Dombas**	**56.67**	**338**	*e*P	**P**	**02 07 01.9 -0.2**
DOMB				IAmb	IAmb	02 07 02.6
	comp=Z,46nm,1.2s					
DOMB				*e*S	**S**	**02 14 55.8 +1.1**
DOMB				IAMs_20	IAMs_20	02 32 41.2
	comp=Z,5μm,23.7s					
SWN1	**Swindon**	**56.71**	**323**	*e*P	**P**	**02 07 01.9 -0.7**
SWN1				IAmb	IAmb	02 07 03.5
	comp=Z,169nm,1.3s				

BTO				LR	LR		
	comp=Z,6μm,23.1s						
BTO				LR	LR		
	comp=Z,8μm,20.8s						
BTO				LR	LR		
	comp=Z,11μm,21.0s						
PBAR	**Barrancos**	**56.99**	**306**	*eP*	**P**	**02 07 03.6**	**-1.2**
	comp=Z,30nm,1.3s						
PBAR	**Barrancos**	**56.99**	**306**	*e*PP	**PP**	**02 09 04.0**	**-7.4**
STRD	**Stroud**	**57.02**	**323**	*eP*	**P**	**02 07 03.6**	**-1.1**
STRD				IAmb	IAmb	02 07 07.6	
	comp=Z,107nm,0.8s						
STRD				IAMs_20	IAMs_20	02 28 33.7	
	comp=Z,5μm,37.4s						
BER	**Bergen**	**57.17**	**335**	*eP*	**P**	**02 07 05.1**	**-0.6**
BER				IAmb	IAmb	02 07 05.3	
	comp=Z,46nm,1.3s						
BER				*e*S	**S**	**02 15 02.0**	**+0.7**
BER				IAMs_20	IAMs_20	02 34 25.3	
	comp=Z,4μm,20.2s						
GDLE	**Glaisdale, N Y**	**57.26**	**326**	*eP*	**P**	**02 07 05.5**	**-1.0**
GDLE				IAmb	IAmb	02 07 06.8	
	comp=Z,65nm,0.9s						
GDLE				IAMs_20	IAMs_20	02 26 05.1	
	comp=Z,8μm,44.0s						
HYA	**Hoyanger**	**57.26**	**336**	*eP*	**P**	**02 07 06.4**	**+0.2**
HYA				IAmb	IAmb	02 07 06.6	
	comp=Z,23nm,1.1s						
HYA				*e*S	**S**	**02 15 05.1**	**+2.7**
HYA				IAMs_20	IAMs_20	02 32 56.9	
	comp=Z,4μm,24.2s						
NSS	**Namsos**	**57.28**	**341**	*eP*	**P**	**02 07 05.7**	**-0.7**
NSS				IAmb	IAmb	02 07 09.0	
	comp=Z,20nm,0.9s						
NSS				*e*S	**S**	**02 15 06.6**	**+4.0**
NSS				IAMs_20	IAMs_20	02 33 39.1	
	comp=Z,4μm,21.9s						
ASK	**Askoy**	**57.28**	**335**	*eP*	**P**	**02 07 06.7**	**+0.2**
PBRG	**Braganca**	**57.35**	**311**	*eP*	**P**	**02 07 06.5**	**-0.9**
	comp=Z,39nm,1.5s						
PBRG	**Braganca**	**57.35**	**311**	*e*PP	**PP**	**02 09 07.4**	**-7.2**
LBWR	**Ladybower, Pea**	**57.36**	**325**	*eP*	**P**	**02 07 05.7**	**-1.5**
LBWR				IAmb	IAmb	02 07 07.3	
	comp=Z,26nm,1.1s						
LBWR				IAMs_20	IAMs_20	02 26 09.5	
	comp=Z,8μm,49.2s						
MONM	**Monmouth**	**57.41**	**323**	*eP*	**P**	**02 07 06.0**	**-1.6**
MONM				IAmb	IAmb	02 07 07.1	
	comp=Z,39nm,1.3s						
MONM				IAMs_20	IAMs_20	02 29 02.7	
	comp=Z,4μm,31.0s						
PVAQ	**Vaqueiros**	**57.42**	**305**	P	**P**	**02 07 07.2**	**-0.6**
PVAQ	**Vaqueiros**	**57.42**	**305**	*eP*	**P**	**02 07 06.6**	**-1.3**
	comp=Z,36nm,1.6s						
PVAQ	**Vaqueiros**	**57.42**	**305**	*e*PP	**PP**	**02 09 08.4**	**-6.8**
PVAQ				*e*S	**S**	**02 15 11.8**	**+6.5**
PVAQ				*e*LQ	LQ	02 21 40.2	
PVAQ				*e*LR	LR	02 27 21.1	
	comp=Z,2μm,20.0s						
PMRV	**Marv??o**	**57.44**	**308**	*eP*	**P**	**02 07 07.4**	**-0.6**
	comp=Z,52nm,1.6s						
PMRV	**Marv??o**	**57.44**	**308**	*e*PP	PP	02 09 07.4	-8.0
PMRV				*e*S	S	02 15 25.5	+20
PMRV	**Marv??o**	**57.44**	**308**	*e*LQ	LQ	02 25 57.5	
PMRV				*e*LR	LR	02 31 09.7	
	comp=Z,2μm,16.0s						
PESTR	**Estremoz**	**57.51**	**307**	*eP*	**P**	**02 07 07.3**	**-1.2**
	comp=Z,20nm,1.4s						
PESTR	**Estremoz**	**57.51**	**307**	*e*PP	PP	02 09 07.8	-8.3
STNC	**Stoke**	**57.51**	**325**	*eP*	**P**	**02 07 07.3**	**-0.9**
STNC				IAmb	IAmb	02 07 08.6	
	comp=Z,68nm,1.1s						
MOL	**Molde**	**57.56**	**337**	*eP*	**P**	**02 07 08.4**	**+0.1**
PCBR	**Castelo Branco**	**57.57**	**308**	*eP*	**P**	**02 07 08.0**	**-0.9**
	comp=Z,30nm,1.3s						
PBEJ	**Beja**	**57.61**	**306**	*eP*	**P**	**02 07 08.3**	**-0.9**
	comp=Z,37nm,1.4s						
PBEJ	**Beja**	**57.61**	**306**	*e*PP	PP	02 09 08.6	-8.4
PCVE	**Castro Verde**	**57.70**	**306**	*eP*	**P**	**02 07 09.2**	**-0.6**
	comp=Z,35nm,1.7s						
PCVE	**Castro Verde**	**57.70**	**306**	*e*PP	PP	02 09 09.2	-8.5
VADS	**Vadso**	**57.71**	**351**	*eP*	**P**	**02 07 09.0**	**-0.3**
VADS				IAmb	IAmb	02 07 28.7	
	comp=Z,58nm,0.9s						
VADS				*e*S	**S**	**02 15 08.9**	**+0.9**
VADS				IAMs_20	IAMs_20	02 30 29.2	
	comp=Z,5μm,29.8s						
MTE	**Manteigas**	**57.71**	**309**	P	**P**	**02 07 09.6**	**-0.3**
MTE				IAMs_20	IAMs_20	02 31 41.3	
	comp=Z,3μm,20.0s						
MTE	**Manteigas**	**57.71**	**309**	*eP*	**P**	**02 07 09.9**	**-0.1**
	comp=Z,40nm,1.6s						
MTE	**Manteigas**	**57.71**	**309**	*e*PP	PP	02 09 09.5	-8.3
MTE				*e*S	**S**	**02 15 14.8**	**+5.6**
MTE				*e*LQ	LQ	02 21 45.0	
MTE				*e*LR	LR	02 26 00.9	
	comp=Z,2μm,18.0s						
KEV	**Kevo**	**57.76**	**350**	P	**P**	**02 07 09.6**	**0.0**
KEV	**Kevo**	**57.76**	**350**	P	**P**	**02 07 09.6**	**0.0**
KEV				pmax	pmax		
	comp=Z,81nm,0.9s						
KEV				MLR	MLR		
	comp=Z,4μm,20.0s						
SUE	**Sulen**	**57.78**	**335**	*eP*	**P**	**02 07 11.3**	**+1.4**
SUE				IAmb	IAmb	02 07 12.6	
	comp=Z,30nm,1.1s						
SUE				*e*S	**S**	**02 15 12.4**	**+3.2**
SUE				IAMs_20	IAMs_20	02 35 49.2	
	comp=Z,4μm,18.7s						
EVO	**Evora**	**57.79**	**307**	*eP*	**P**	**02 07 09.9**	**-0.6**
	comp=Z,39nm,1.6s						
EVO	**Evora**	**57.79**	**307**	*e*PP	PP	02 09 10.4	-8.2
KTK1	**Kautokeino**	**57.80**	**348**	*eP*	**P**	**02 07 09.8**	**-0.3**
KTK1				IAmb	IAmb	02 07 10.4	
	comp=Z,66nm,1.3s						
KTK1				*e*S	**S**	**02 15 11.9**	**+2.5**
KTK1				IAMs_20	IAMs_20	02 34 42.6	
	comp=Z,5μm,23.2s						
ARCES	**ARCESS Array B**	**57.82**	**349**	P	**P**	**02 07 09.9**	**-0.3**
ARCES				IAmb	IAmb	02 07 29.7	
	comp=Z,46nm,0.8s						
ARCES	**ARCESS Array B**	**57.82**	**349**	P	**P**	**02 07 09.8**	**-0.3**
	comp=Z,13nm,0.7s,baz=144,slow=6.4,SNR=69						
	comp=Z,13nm,0.7s						
ARCES	**ARCESS Array B**	**57.82**	**349**	P	**P**	**02 07 09.9**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,46nm,0.9s						
MESJ	**Messejana**	**57.87**	**306**	P	**P**	**02 07 10.1**	**-0.9**
MESJ	**Messejana**	**57.87**	**306**	*eP*	**P**	**02 07 10.0**	**-1.1**
	comp=Z,40nm,1.6s						
MESJ	**Messejana**	**57.87**	**306**	*e*PP	PP	02 09 10.6	-8.6
MESJ	**Messejana**	**57.87**	**306**	*eP*	**P**	**02 07 09.9**	**-1.1**
MESJ				*e*S	**S**	**02 15 10.3**	**-0.9**
MESJ				IAMs_20	IAMs_20	02 28 34.1	
	comp=N,8μm,38.1s						
MESJ	**Messejana**	**57.87**	**306**	*eP*	**P**	**02 07 09.9**	**-1.1**
MESJ				*e*S	**S**	**02 15 10.3**	**-0.9**
FOO	**Floro**	**57.96**	**336**	*eP*	**P**	**02 07 09.8**	**-1.3**
PVRL	**Vila Real**	**57.98**	**310**	*eP*	**P**	**02 07 11.4**	**-0.4**
	comp=N,76nm,1.5s						
PVRL	**Vila Real**	**57.98**	**310**	*e*PP	PP	02 09 11.9	-8.3
FOEL	**Foel Wylfa**	**58.00**	**324**	*eP*	**P**	**02 07 10.8**	**-1.0**
FOEL				IAmb	IAmb	02 07 11.9	
	comp=Z,56nm,1.1s						
PVIS	**Viseu**	**58.02**	**309**	*eP*	**P**	**02 07 10.8**	**-1.3**
	comp=Z,50nm,1.5s						
PVIS	**Viseu**	**58.02**	**309**	*e*PP	PP	02 09 12.1	-8.5
PMTG	**Montargil**	**58.03**	**307**	*eP*	**P**	**02 07 11.0**	**-1.1**
PMTG	**Montargil**	**58.03**	**307**	*e*PP	PP	02 09 11.6	-9.0
EDMD	**Edmundbyers**	**58.04**	**327**	*eP*	**P**	**02 07 10.0**	**-1.9**
EDMD				IAmb	IAmb	02 07 12.0	
	comp=Z,77nm,1.3s						
EDMD				IAMs_20	IAMs_20	02 26 27.8	
	comp=Z,10μm,49.1s						
POLO	**Lamas de Olo**	**58.05**	**310**	*eP*	**P**	**02 07 12.0**	**-0.4**
	comp=Z,28nm,1.7s						
POLO	**Lamas de Olo**	**58.05**	**310**	*e*PP	PP	02 09 11.7	-9.2
LYN	**LuoYang**	**58.08**	**58**	⇑P	**P**	**02 07 13.1**	**+0.6**
LYN				S	**S**	**02 15 08.4**	**-5.6**
LYN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
LYN				pmax	pmax		
	comp=Z,310nm,5.1s						
LYN				LR	LR		
	comp=Z,3μm,20.3s						
LYN				LR	LR		
	comp=Z,2μm,22.0s						
LYN				LR	LR		
	comp=Z,3μm,29.2s						
HHC	**Hu-ho-hao-te**	**58.12**	**51**	*eP*	**P**	**02 07 14.3**	**+1.4**
HHC				*e*S	**S**	**02 15 16.8**	**+2.2**
HHC				sS	sS	02 15 30.5	+14
HHC				SS	**SS**	**02 19 05.3**	**-0.7**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,250nm,4.1s						
HHC				LR	LR		
	comp=Z,2μm,17.1s						
HHC				LR	LR		
	comp=Z,2μm,16.9s						
HHC				LR	LR		
	comp=Z,4μm,18.2s						
HTL	**Hartland**	**58.13**	**322**	*eP*	**P**	**02 07 11.7**	**-0.9**
HTL				IAmb	IAmb	02 07 12.6	
	comp=Z,48nm,1.2s						
HTL				IAMs_20	IAMs_20	02 34 34.2	
	comp=Z,3μm,23.7s						
PNCL	**Nicolau / Gran**	**58.14**	**306**	*eP*	**P**	**02 07 11.0**	**-1.9**
PNCL	**Nicolau / Gran**	**58.14**	**306**	*e*PP	PP	02 09 12.5	-9.2
MORF	**Marmelete**	**58.15**	**305**	*e*S	**S**	**02 15 14.1**	**-0.8**
MORF				IAMs_20	IAMs_20	02 28 57.1	
	comp=N,6μm,22.7s						
STOK	**Stokkvaagen**	**58.21**	**343**	*eP*	**P**	**02 07 12.8**	**0.0**
PTEO	**Sao Teotonio**	**58.23**	**306**	*e*PP	PP	02 09 13.1	-9.3
PFVI	**Vila Bisbo**	**58.26**	**305**	*eP*	**P**	**02 07 12.2**	**-1.6**
	comp=N,75nm,1.5s						
PFVI	**Vila Bisbo**	**58.26**	**305**	*e*PP	PP	02 09 13.4	-9.4
PCAB	**Cabril**	**58.28**	**310**	*eP*	**P**	**02 07 13.4**	**-0.5**
	comp=N,55nm,1.9s						
PCAB	**Cabril**	**58.28**	**310**	*e*PP	PP	02 09 14.0	-8.9
KONS	**Konsvik**	**58.30**	**343**	*eP*	**P**	**02 07 11.9**	**-1.6**
FAUS	**Fauske**	**58.34**	**344**	*eP*	**P**	**02 07 12.9**	**-0.9**
FAUS				IAmb	IAmb	02 07 13.8	
	comp=Z,137nm,1.6s						
FAUS				*e*S	**S**	**02 15 18.4**	**+2.0**
FAUS				IAMs_20	IAMs_20	02 32 47.3	
	comp=Z,7μm,26.4s						
TIY	**Taiyuan**	**58.36**	**54**	*eP*	P	02 07 22.9	+8.3
TIY				S	**S**	**02 15 24.0**	**+6.2**
TIY				pmax	pmax		
	comp=Z,220nm,6.1s						
TIY				LR	LR		
	comp=N,2μm,20.6s						
TIY				LR	LR		
	comp=E,3μm,22.0s						
TIY				LR	LR		
	comp=Z,4μm,21.3s						
PCAS	**Casmilo, Conde**	**58.38**	**308**	*eP*	**P**	**02 07 14.0**	**-0.6**
PCAS	**Casmilo, Conde**	**58.38**	**308**	*e*PP	PP	02 09 14.4	-9.3
PSBE	**So Bento**	**58.53**	**308**	*eP*	**P**	**02 07 14.7**	**-1.0**
PSBE	**So Bento**	**58.53**	**308**	*e*PP	PP	02 09 15.5	-10
LIS	**Lisbon**	**58.70**	**307**	*e*S	**S**	**02 15 21.2**	**-0.8**
LIS				IAMs_20	IAMs_20	02 29 01.4	
	comp=N,13μm,40.1s						
STEI	**Steigen**	**58.76**	**345**	*eP*	**P**	**02 07 15.1**	**-1.6**
STEI				IAmb	IAmb	02 07 29.7	
	comp=Z,55nm,0.8s						
STEI				*e*S	**S**	**02 15 22.3**	**+0.5**
STEI				IAMs_20	IAMs_20	02 34 07.9	
	comp=Z,7μm,22.7s						
WLF1	**Llynfaes**	**58.82**	**324**	*eP*	**P**	**02 07 16.2**	**-1.2**
WLF1				IAmb	IAmb	02 07 17.3	
	comp=Z,217nm,1.6s						
EKA	**Eskdalemuir Ar**	**58.86**	**327**	P	**P**	**02 07 16.2**	**-1.5**
	comp=Z,12nm,0.7s,baz=115,slow=6.7,SNR=18						
	comp=Z,12nm,0.7s						
ESK	**Eskdalemuir**	**58.88**	**327**	P	**P**	**02 07 16.8**	**-1.0**
ESK				IAmb	IAmb	02 07 50.7	
	comp=Z,99nm,1.8s						
ESK	**Eskdalemuir**	**58.88**	**327**	P	**P**	**02 07 16.8**	**-1.0**
ESK				pmax	pmax		
	comp=Z,99nm,1.8s						
WPS	**Cemaes, Angles**	**58.91**	**324**	*eP*	**P**	**02 07 17.0**	**-1.0**
WPS				IAmb	IAmb	02 07 18.1	
	comp=Z,65nm,1.1s						
HAMF	**Hammerfest**	**59.10**	**349**	*eP*	**P**	**02 07 18.5**	**-0.5**
HAMF				IAmb	IAmb	02 07 19.9	
	comp=Z,25nm,0.6s						
HAMF				*e*S	**S**	**02 15 29.2**	**+3.0**
HAMF				IAMs_20	IAMs_20	02 34 27.3	
	comp=Z,5μm,22.1s						
EDI	**Edinburgh**	**59.10**	**328**	*eP*	**P**	**02 07 18.0**	**-1.3**
EDI				IAmb	IAmb	02 07 19.3	
	comp=Z,40nm,1.0s						
EDI				IAMs_20	IAMs_20	02 26 55.6	
	comp=Z,8μm,43.8s						
TRO	**Tromso**	**59.20**	**347**	*eP*	**P**	**02 07 18.4**	**-1.3**
TRO				IAmb	IAmb	02 07 27.6	
	comp=Z,87nm,1.3s						
TRO				*e*S	**S**	**02 15 30.1**	**+2.6**
LOF	**Lofoten**	**59.34**	**344**	*eP*	**P**	**02 07 21.3**	**+0.6**
LOF				IAmb	IAmb	02 07 26.1	
	comp=Z,21nm,1.0s						
LOF				*e*S	**S**	**02 15 36.7**	**+7.3**
LOF				IAMs_20	IAMs_20	02 33 28.9	
	comp=Z,5μm,25.3s						
HKPS	**Hong Kong Po S**	**59.45**	**72**	IAMs_20	IAMs_20	02 31 39.9	
	comp=Z,3μm,22.0s						
WHN	**Wuhan**	**59.46**	**63**	P	**P**	**02 07 23.1**	**+0.8**
WHN				S	**S**	**02 15 34.8**	**+2.6**
WHN				LR	LR		
	comp=Z,3μm,12.8s						
WHN				LR	LR		
	comp=Z,9μm,20.2s						
WHN				LR	LR		
	comp=Z,12μm,22.2s						
NRIK	**Noril'sk**	**59.62**	**14**	P	**P**	**02 07 22.8**	**+0.1**
NRIK				IAmb	IAmb	02 07 57.1	
	comp=Z,40nm,1.1s						
NRIK	**Noril'sk**	**59.62**	**14**	P	**P**	**02 07 21.9**	**-0.7**
	comp=Z,16nm,1.0s,baz=219,slow=6.2,SNR=19						
	comp=Z,16nm,1.0s						
NRIK	**Noril'sk**	**59.62**	**14**	*ce*P	**P**	**02 07 22.4**	**-0.3**
NRIK				pmax	pmax		
	comp=Z,47nm,1.5s						
INVG	**Invergeldie, C**	**59.73**	**328**	*eP*	**P**	**02 07 22.4**	**-1.3**
INVG				IAmb	IAmb	02 07 23.3	
	comp=Z,19nm,1.0s						
INVG				IAMs_20	IAMs_20	02 30 07.0	
	comp=Z,3μm,28.3s						
MCD	**Coleburn Disti**	**59.77**	**329**	*eP*	**P**	**02 07 22.7**	**-1.2**
MCD				IAmb	IAmb	02 07 23.6	
	comp=Z,83nm,1.3s						
LRW	**Lerwick**	**59.87**	**332**	*eP*	**P**	**02 07 23.1**	**-1.4**
H04N1	**CROZET ISLANDS**	**59.98**	**180**	T	T	03 12 08.7	
	baz=1.0,slow=75,SNR=6.7						
H04N2	**CROZET ISLANDS**	**59.98**	**180**	T	T	03 12 08.8	
	baz=1.0,slow=75,SNR=6.3						
H04N3	**CROZET ISLANDS**	**59.99**	**180**	T	T	03 12 13.4	
	baz=1.0,slow=75,SNR=18						
HNS	**HongShan**	**60.12**	**55**	⇑P	**P**	**02 07 27.3**	**+0.6**
HNS				PP	**PP**	**02 09 42.9**	**+3.7**
HNS				pmax	pmax		
	comp=Z,11nm,1.5s						
HNS				LR	LR		
	comp=Z,2μm,21.1s						
HNS				LR	LR		
	comp=Z,2μm,21.1s						
HNS				LR	LR		
	comp=Z,2μm,21.6s						
STKI	**Sintang**	**60.66**	**98**	P	**P**	**02 07 27.6**	**-3.2**
	comp=Z,64nm,0.7s						
KPL	**Plockton**	**60.89**	**328**	*eP*	**P**	**02 07 30.2**	**-1.3**
KPL				IAmb	IAmb	02 07 31.3	
	comp=Z,22nm,1.0s						
KPL				IAMs_20	IAMs_20	02 30 34.7	
	comp=Z,6μm,36.4s						
BJI	**Beijing**	**61.51**	**52**	P	**P**	**02 07 36.6**	**+0.6**
BJI				S	**S**	**02 15 59.6**	**+1.6**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BJI				pmax	pmax		
	comp=Z,160nm,6.2s						
BJI				LR	LR		
	comp=Z,690nm,20.8s						
BJI				LR	LR		
	comp=Z,820nm,18.7s						
BJI				LR	LR		
	comp=Z,1μm,18.5s						
CIT	**Chita**	**61.71**	**38**	*eP*	P	02 07 47.1	+10
CIT				pmax	pmax		
	comp=Z,78nm,1.4s						
XLT	**XiLinHaoTe**	**61.87**	**48**	*eP*	**P**	**02 07 40.0**	**+1.4**
XLT				pP	pwP	02 07 46.4	+1.5
XLT				sP	sP	02 07 49.0	+9.0
XLT				S	**S**	**02 15 59.6**	**-3.2**
XLT				sS	sS	02 16 20.3	+16
XLT				pmax	pmax		
	comp=Z,11nm,0.9s						
XLT				pmax	pmax		
	comp=Z,260nm,6.3s						
XLT				LR	LR		
	comp=Z,170nm,20.4s						
XLT				LR	LR		
	comp=Z,900nm,25.1s						
XLT				LR	LR		
	comp=Z,2μm,18.3s						
TIA	**Tai'an**	**61.98**	**56**	P	**P**	**02 07 39.1**	**-0.3**
TIA				pmax	pmax		
	comp=Z,15nm,0.9s						
TIA				pmax	pmax		
	comp=Z,150nm,3.7s						
TIA				LR	LR		
	comp=Z,2μm,25.0s						
TIA				LR	LR		
	comp=Z,880nm,25.0s						
TIA				LR	LR		
	comp=Z,2μm,25.0s						
BJO1	**Bjornoya**	**63.10**	**351**	*eP*	**P**	**02 07 44.6**	**-1.5**
BJO1				IAmb	IAmb	02 07 46.2	
	comp=Z,35nm,0.7s						
BJO1				*e*S	**S**	**02 16 14.9**	**-2.1**
BJO1				IAMs_20	IAMs_20	02 29 53.0	
	comp=Z,4μm,31.9s						
NJ2	**Nanjing**	**63.33**	**61**	*eP*	**P**	**02 07 47.3**	**-1.1**
NJ2				S	**S**	**02 16 20.8**	**-0.5**
NJ2				SS	**SS**	**02 20 26.4**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,24nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,180nm,3.9s						
NJ2				LR	LR		
	comp=Z,2μm,19.9s						
NJ2				LR	LR		
	comp=Z,2μm,20.8s						
NJ2				LR	LR		
	comp=Z,3μm,20.2s						
BOD	**Bodaibo**	**63.48**	**32**	*eP*	**P**	**02 07 50.3**	**+1.4**
BOD				pmax	pmax		
	comp=Z,41nm,1.5s						
HOPEN	**Hopen**	**63.98**	**353**	*eP*	**P**	**02 07 51.6**	**-0.3**
HOPEN				IAmb	IAmb	02 07 57.1	
	comp=Z,60nm,1.1s						
HOPEN				*e*S	**S**	**02 16 26.5**	**-1.5**
HOPEN				IAMs_20	IAMs_20	02 34 16.6	
	comp=Z,5μm,32.9s						
PMAR	**Madeira**	**64.70**	**300**	*eP*	**P**	**02 07 59.6**	**+1.9**
PMOZ	**Porto Moniz, M**	**64.94**	**300**	*e*LQ	LQ	02 31 04.0	
PMOZ				*e*LR	LR	02 33 30.0	
	comp=Z,3μm,18.0s						
SSE	**Sheshan**	**65.34**	**62**	P	**P**	**02 08 02.1**	**+0.5**
SSE				S	**S**	**02 16 44.4**	**-1.8**
SSE				pmax	pmax		
	comp=Z,15nm,0.7s						
SSE				pmax	pmax		
	comp=Z,120nm,3.8s						
SSE				LR	LR		
	comp=Z,880nm,19.5s						
SSE				LR	LR		
	comp=Z,630nm,19.2s						
TPUB	**Ta-pu**	**65.34**	**71**	IAMs_20	IAMs_20	02 36 09.9	
	comp=Z,2μm,22.0s						
DL2	**Dalian**	**65.65**	**54**	P	**P**	**02 08 02.6**	**-0.9**
DL2				S	**S**	**02 16 49.1**	**-0.7**
DL2				pmax	pmax		
	comp=Z,30nm,0.9s						
DL2				pmax	pmax		
	comp=Z,510nm,6.4s						
DL2				LR	LR		
	comp=Z,3μm,22.9s						
DL2				LR	LR		
	comp=Z,1μm,18.2s						
DL2				LR	LR		
	comp=Z,2μm,21.1s						
TWG	**Pinlang**	**65.80**	**71**	IAmb	IAmb	02 08 14.0	
	comp=Z,43nm,1.0s						
TWG				IAMs_20	IAMs_20	02 37 15.1	
	comp=Z,2μm,20.0s						
TWGBT	**Beinan**	**65.80**	**71**	P	**P**	**02 08 06.3**	**+1.5**
YULB	**Yu-li**	**65.95**	**70**	IAMs_20	IAMs_20	02 36 39.9	
	comp=Z,3μm,21.0s						
BKB	**Balikpapan**	**66.24**	**98**	IAMs_20	IAMs_20	02 34 49.9	
	comp=Z,3μm,20.0s						
SPB2	**Spitsbergen Ar**	**66.42**	**353**	P	**P**	**02 08 08.1**	**+0.3**
SPB2				IAmb	IAmb	02 10 33.2	
	comp=Z,37nm,0.9s						
SPA0	**Spitsbergen Ar**	**66.43**	**353**	*eP*	**P**	**02 08 08.0**	**+0.2**
SPA0				*e*S	**S**	**02 16 59.8**	**+1.8**
SPITS	**Spitsbergen Ar**	**66.43**	**353**	P	**P**	**02 08 07.1**	**-0.7**
	comp=Z,7.3nm,0.7s,baz=130,slow=9.8,SNR=15						
	comp=Z,7.3nm,0.7s						
SPITS	**Spitsbergen Ar**	**66.43**	**353**	P	**P**	**02 08 08.4**	**+0.6**
SPITS				pmax	pmax		
	comp=Z,65nm,1.1s						
JMIC	**Jan Mayen**	**67.28**	**342**	*eP*	**P**	**02 08 13.8**	**+0.5**
JMIC				*e*S	**S**	**02 17 15.5**	**+7.1**
JMI	**Jan Mayen**	**67.32**	**342**	*eP*	**P**	**02 08 14.6**	**+1.0**
KBS	**Kingsbay**	**67.57**	**352**	IAMs_20	IAMs_20	02 39 52.7	
	comp=Z,2μm,18.0s						
KBS	**Kingsbay**	**67.57**	**352**	*eP*	**P**	**02 08 17.1**	**+2.1**
KBS				IAmb	IAmb	02 08 38.8	
	comp=Z,13nm,0.8s						
KBS				*e*S	**S**	**02 17 16.1**	**+4.3**
KBS				IAMs_20	IAMs_20	02 35 55.6	
	comp=Z,4μm,31.5s						
CN2	**Changchun**	**68.62**	**48**	P	**P**	**02 08 22.3**	**0.0**
CN2				S	**S**	**02 17 23.8**	**-1.6**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,2μm,17.0s						
CN2				LR	LR		
	comp=Z,1μm,17.0s						
CN2				LR	LR		
	comp=Z,2μm,17.0s						
TOLI2	**Tolitoli**	**69.37**	**94**	P	**P**	**02 08 25.5**	**-1.9**
TOLI2	**Tolitoli**	**69.37**	**94**	IAmb	IAmb	02 10 26.8	
	comp=Z,16nm,0.8s						
TOLI2				IAMs_20	IAMs_20	02 38 01.8	
	comp=Z,2μm,21.0s						
KAPI	**Kappang**	**70.03**	**101**	P	**P**	**02 08 29.4**	**-2.1**
KAPI	**Kappang**	**70.03**	**101**	LR	LR	02 36 24.5	
	comp=Z,2μm,20.9s,baz=278,slow=34						
KAPI	**Kappang**	**70.03**	**101**	P	**P**	**02 08 29.4**	**-2.1**
KAPI				pmax	pmax		
	comp=Z,90nm,1.2s						
BNX	**BinXian**	**70.03**	**46**	⇓P	**P**	**02 08 30.9**	**-0.1**
BNX				pP	**pwP**	**02 08 37.0**	**-0.3**
BNX				sP	**sP**	**02 08 39.1**	**+6.7**
BNX				PP	**PP**	**02 11 04.3**	**-1.4**
BNX				S	**S**	**02 17 43.3**	**+1.3**
BNX				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BNX				pmax	pmax		
	comp=Z,210nm,

ZEA	**Zeya**	**70.16**	**38**	*e*P	**P**	**02 08 36.1**	**+4.5**
ZEA				*e*		02 11 09.4	
ZEA				*e*S	**S**	**02 17 45.4**	**+2.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
ZEA				pmax	pmax		
	comp=Z,100nm,7.7s						
ZEA				pmax	pmax		
	comp=Z,200nm,7.0s						
ZEA				smax	smax		
	comp=E,200nm,9.3s						
ZEA				smax	smax		
	comp=N,400nm,16.5s						
ZEA				MLR	MLR		
	comp=E,700nm,17.0s						
ZEA				MLR	MLR		
	comp=Z,800nm,20.0s						
KSAR	**Wonju Array Be**	**70.61**	**55**	P	**P**	**02 08 34.0**	**-0.7**
KSAR	**Wonju Array Be**	**70.61**	**55**	P	**P**	**02 08 34.0**	**-0.7**
KSRS	**Korea Array**	**70.64**	**55**	P	**P**	**02 08 33.3**	**-1.5**
	comp=Z,2.3nm,0.6s,baz=265,slow=7.6,SNR=10						
	comp=Z,2.3nm,0.6s						
MDJ	**Mudanjiang**	**71.59**	**47**	P	**P**	**02 08 39.3**	**-1.2**
MDJ				S	**S**	**02 18 05.4**	**+5.2**
MDJ				ScS	**SKSac**	**02 18 42.4**	**-2.2**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,220nm,7.2s						
MDJ				LR	LR		
	comp=Z,2μm,20.6s						
MDJ				LR	LR		
	comp=Z,1μm,19.2s						
MDJ				LR	LR		
	comp=Z,2μm,20.6s						
DBG	**Daneborg**	**71.67**	**344**	*i* P	**P**	**02 08 40.5**	**+0.1**
DBG				IAmb	IAmb	02 08 41.9	
	comp=Z,8.6nm,0.9s						
DAG	**Danmarks Havn**	**71.92**	**347**	P	**P**	**02 08 40.9**	**-0.9**
DAG	**Danmarks Havn**	**71.92**	**347**	*i* P	**P**	**02 08 41.0**	**-0.9**
DAG				IAmb	IAmb	02 08 42.2	
	comp=Z,11nm,0.9s						
YAK	**Yakutsk**	**71.98**	**29**	*e*P	**P**	**02 08 41.2**	**-1.2**
YAK				*e*		02 09 00.7	
YAK				*e*		02 11 25.9	
YAK				*e*PPP	PPP	02 13 04.6	
YAK				*e*S	**S**	**02 18 03.8**	**-0.2**
YAK				*e*		02 18 45.7	
YAK				*e*SS	**SS**	**02 22 40.2**	**-0.1**
YAK				pmax	pmax		
	comp=Z,71nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,1.4s						
YAK				pmax	pmax		
	comp=E,22nm,1.4s						
YAK				pmax	pmax		
	comp=Z,189nm,3.4s						
YAK				pmax	pmax		
	comp=E,97nm,3.7s						
YAK				smax	smax		
	comp=E,115nm,2.9s						
YAK				smax	smax		
	comp=N,104nm,2.8s						
YAK				MLR	MLR		
	comp=Z,2μm,23.0s						
YAK				MLR	MLR		
	comp=E,2μm,23.0s						
YAK				MLR	MLR		
	comp=N,463nm,12.0s						
PSTR	**Posyet**	**72.56**	**49**	*i* P	**P**	**02 08 44.5**	**-1.8**
TIXI	**Tiksi**	**72.64**	**19**	P	**P**	**02 08 46.2**	**-0.1**
TIXI				IAmb	IAmb	02 08 58.6	
	comp=Z,58nm,1.1s						
TIXI	**Tiksi**	**72.64**	**19**	IAMs_20	IAMs_20	02 45 11.9	
	comp=Z,2μm,20.0s						
TIXI	**Tiksi**	**72.64**	**19**	*i* P	**P**	**02 08 44.5**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,58nm,1.1s						
KLR	**Kul'dur**	**72.92**	**42**	*i* P	**P**	**02 08 46.9**	**-1.5**
KLR				pmax	pmax		
	comp=Z,17nm,1.2s						
EDFI	**Ende, Flores**	**72.97**	**104**	P	P	02 08 41.9	-7.4
NOR	**Nord**	**73.04**	**352**	*i* P	**P**	**02 08 47.5**	**-1.0**
NOR				IAmb	IAmb	02 08 49.1	
	comp=Z,4.2nm,1.0s						
USA0B	**Ussuriysk Arra**	**73.33**	**48**	*i* P	**P**	**02 08 50.3**	**-0.5**
USRK	**Ussuriysk Ar.**	**73.33**	**48**	P	**P**	**02 08 49.1**	**-1.7**
	comp=Z,4.3nm,1.0s,baz=278,slow=5.9,SNR=6.4						
	comp=Z,4.3nm,1.0s						
JNU	**Nakatsue**	**73.40**	**59**	IAmb	IAmb	02 09 36.4	
	comp=Z,60nm,1.3s						
BATI	**Baumata**	**75.26**	**105**	P	**P**	**02 09 00.1**	**-2.5**
SOEI	**Soe**	**75.69**	**104**	P	**P**	**02 09 03.9**	**-1.3**
SOEI	**Soe**	**75.69**	**104**	IAMs_20	IAMs_20	02 36 25.3	
	comp=Z,2μm,22.0s						
SOEI	**Soe**	**75.69**	**104**	P	**P**	**02 09 02.7**	**-2.5**
	comp=Z,80nm,1.3s						
GRNR	**Gornyy**	**75.84**	**41⇑**	*i* P	P	02 09 12.3	+6.9
GRNR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,870nm,21.0s						
GRNR				MLR	MLR		
	comp=N,710nm,23.0s						
GRNR				MLR	MLR		
	comp=Z,1μm,18.0s						
TEY	**Ternei**	**76.54**	**47**	*e*P	**P**	**02 09 08.9**	**-0.5**
SUMG	**Summit**	**76.73**	**342**	IAmb	IAmb	02 09 18.3	
	comp=Z,46nm,1.3s						
SUMG				IAMs_20	IAMs_20	02 46 05.9	
	comp=Z,3μm,21.0s						
SUMG	**Summit**	**76.73**	**342**	*i* P	**P**	**02 09 10.4**	**0.0**
SUMG				IAmb	IAmb	02 09 12.1	
	comp=Z,11nm,1.0s						
ANGG	**Ammassalik, Gr**	**77.04**	**335**	IAMs_20	IAMs_20	02 47 41.2	
	comp=Z,1μm,18.0s						
ICESG	**Greenland Ices**	**77.46**	**338**	*i* P	**P**	**02 09 12.6**	**-2.0**
INU	**Inuyama**	**78.15**	**56**	IAmb	IAmb	02 09 47.9	
	comp=Z,32nm,1.2s						
MJB9	**Matsu-Tunnel**	**78.91**	**55**	IAmb	IAmb	02 09 43.4	
	comp=Z,81nm,2.0s						
MAJO	**Matsushiro**	**78.92**	**55**	P	**P**	**02 09 23.8**	**+0.9**
MAJO	**Matsushiro**	**78.92**	**55**	IAMs_20	IAMs_20	02 47 51.5	
	comp=Z,2μm,20.0s						
MAJO	**Matsushiro**	**78.92**	**55**	P	**P**	**02 09 23.8**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,17nm,1.1s						
MAJO				MLR	MLR		
	comp=Z,2μm,20.0s						
MJAR	**Matsushiro Arr**	**78.92**	**55**	P	**P**	**02 09 21.5**	**-1.4**
	comp=Z,2.3nm,0.6s,baz=269,slow=2.8,SNR=18						
	comp=Z,2.3nm,0.6s						
NEEM	**North Greenlan**	**79.11**	**347**	*i* P	**P**	**02 09 22.9**	**-0.6**
NEEM				IAmb	IAmb	02 09 25.6	
	comp=Z,17nm,1.0s						
FITZ	**Fitzroy Crossi**	**79.52**	**112**	P	**P**	**02 09 24.4**	**-2.0**
TYV	**Tymovskoe**	**79.75**	**40**	*e*P	**P**	**02 09 31.4**	**+4.3**
TYV				*e*S	**SKSac**	**02 19 43.0**	**-1.5**
TYV				pmax	pmax		
	comp=Z,200nm,3.3s						
TYV				pmax	pmax		
	comp=Z,12nm,1.2s						
TYV				smax	smax		
	comp=N,200nm,7.2s						
TYV				smax	smax		
	comp=E,100nm,7.2s						
SWI	**Sorong**	**80.00**	**93**	P	**P**	**02 09 26.8**	**-2.4**
	comp=E,44nm,0.9s						
DY2G	**Dye2**	**80.38**	**336**	*i* P	**P**	**02 09 30.2**	**-0.3**
DY2G				IAmb	IAmb	02 09 31.4	
	comp=Z,19nm,1.0s						
JTM	**Tenmabayashi**	**80.40**	**50**	IAmb	IAmb	02 09 46.8	
	comp=Z,46nm,0.9s						
YSS	**Yuzh-Sakhalins**	**80.50**	**44**	IAMs_20	IAMs_20	02 49 57.8	
	comp=Z,2μm,22.0s						
YSS	**Yuzh-Sakhalins**	**80.50**	**44**	*e*P	**P**	**02 09 30.4**	**-0.8**
YSS				*e*		02 09 37.6	
YSS				*e*		02 12 29.4	
YSS				*e*S	**S**	**02 19 33.2**	**-5.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
NRS	**Narsarsuaq**	**81.22**	**331**	IAMs_20	IAMs_20	02 52 05.7	
	comp=Z,2μm,20.0s						
UMMG	**Uummannaq**	**81.34**	**341**	*i* P	**P**	**02 09 34.9**	**-0.3**
ILULI	**Ilulissat**	**81.44**	**339**	IAMs_20	IAMs_20	02 50 51.4	
	comp=Z,2μm,20.0s						
KULLO	**Kullorsuaq**	**81.45**	**345**	*i* P	**P**	**02 09 35.7**	**0.0**
MAW	**Mawson**	**81.88**	**176**	P	**P**	**02 09 34.4**	**-3.5**
	comp=Z,0.6nm,0.3s,baz=44,slow=16,SNR=2.1						
MAW				LR	LR	02 39 32.3	
	comp=Z,4μm,21.3s,baz=341,slow=31						
	comp=Z,0.6nm,0.3s						
SFJD	**Kangerlussuaq**	**81.92**	**337**	IAMs_20	IAMs_20	02 49 54.9	
	comp=Z,2μm,20.0s						
SFJD	**Kangerlussuaq**	**81.92**	**337**	P	**P**	**02 09 37.6**	**-0.7**
	comp=Z,11nm,0.8s,baz=116,slow=1.6,SNR=3.8						
	comp=Z,11nm,0.8s						
SFJD	**Kangerlussuaq**	**81.92**	**337**	*i* P	**P**	**02 09 37.7**	**-0.7**
SEY	**Seymchan**	**82.32**	**27**	*i* P	**P**	**02 09 40.3**	**-0.3**
SEY				pmax	pmax		
	comp=Z,41nm,1.1s						
MA2	**Magadan**	**82.46**	**30**		**pwP**	**02 09 47.0**	**-0.8**
MA2				IAMs_20	IAMs_20	02 53 41.7	
	comp=Z,2μm,20.0s						
MA2	**Magadan**	**82.46**	**30**	*i* P	**P**	**02 09 40.6**	**-0.8**
MA2				pmax	pmax		
	comp=Z,57nm,1.4s						
IVI	**Ivigtut**	**82.50**	**331**	*i* P	**P**	**02 09 42.7**	**+1.2**
TULEG	**Thule**	**83.13**	**348**	IAMs_20	IAMs_20	02 51 02.0	
	comp=Z,2μm,21.0s						
NUUK	**Nuuk**	**83.21**	**335**	*i* P	**P**	**02 09 43.7**	**-1.4**
NUUK				IAmb	IAmb	02 09 46.0	
	comp=Z,7.0nm,0.9s						
KDU	**Kakadu**	**84.24**	**105**	P	**P**	**02 09 49.6**	**-1.7**
	comp=Z,34nm,0.9s,SNR=5.7						
FORT	**Forrest**	**85.70**	**123**	P	**P**	**02 09 57.8**	**-0.6**
BILL	**Bilibino**	**85.81**	**20**	IAMs_20	IAMs_20	02 53 12.9	
	comp=Z,2μm,20.0s						
BILL	**Bilibino**	**85.81**	**20⇑**	*i* P	**P**	**02 09 57.8**	**-0.5**
BILL				*e*		02 13 24.0	
BILL				*i* S	**S**	**02 20 35.3**	**+3.9**
BILL				pmax	pmax		
	comp=Z,19nm,0.9s						
WRA	**Warramunga Arr**	**87.92**	**111**	P	**P**	**02 10 07.9**	**-1.6**
WRA	**Warramunga Arr**	**87.92**	**111**	P	**P**	**02 10 07.1**	**-2.4**
	comp=Z,3.7nm,0.7s,baz=296,slow=4.4,SNR=35						
	comp=Z,3.7nm,0.7s						
WRA	**Warramunga Arr**	**87.92**	**111**	P	**P**	**02 10 07.9**	**-1.6**
WRA				pmax	pmax		
	comp=Z,10.0nm,1.8s						
WB0	**Warramunga Arr**	**87.92**	**111**	IAmb	IAmb	02 12 08.9	
	comp=Z,20nm,0.9s						
WRAB	**Tennant Creek**	**87.93**	**111**	P	**P**	**02 10 06.5**	**-3.0**
WRAB				IAmb	IAmb	02 12 09.1	
	comp=Z,28nm,0.8s						
WRAB	**Tennant Creek**	**87.93**	**111**	P	**P**	**02 10 06.5**	**-3.0**
WRAB				pmax	pmax		
	comp=Z,28nm,0.9s						
ELIB	**Princess Elisa**	**87.94**	**189**	*d*P	**P**	**02 10 09.9**	**+1.4**
	comp=Z,8.2nm,1.1s						
WB2	**Warramunga Arr**	**87.94**	**111**	P	**P**	**02 10 07.7**	**-1.9**
WR0	**Warramunga Arr**	**88.11**	**111**	IAmb	IAmb	02 12 09.7	
	comp=Z,20nm,0.9s						
ASPA	**Alice Springs**	**88.54**	**115**	P	**P**	**02 10 12.1**	**-0.3**
	comp=Z,3.5nm,1.1s,SNR=5.0						
ASAR	**Alice Springs**	**88.55**	**115**	P	**P**	**02 10 10.4**	**-2.0**
ASAR	**Alice Springs**	**88.55**	**115**	P	**P**	**02 10 10.2**	**-2.2**
	comp=Z,4.0nm,0.9s,baz=290,slow=4.4,SNR=24						
	comp=Z,4.0nm,0.9s						
ASAR	**Alice Springs**	**88.55**	**115**	P	**P**	**02 10 10.4**	**-2.0**
PET	**Petropavlovsk**	**88.69**	**35**		pP	02 10 17.2	+3.7
PET	**Petropavlovsk**	**88.69**	**35**	*e*P	**P**	**02 10 12.1**	**-0.4**
PET				*e*		02 13 39.4	
PET				*e*S	**S**	**02 20 57.2**	**-2.4**
PET				*e*PS	**PS**	**02 22 07.7**	**+3.9**
PET				*e*PPS	PPS	02 22 32.3	
PET				*e*SS	**SS**	**02 26 51.6**	**+1.4**
PET				pmax	pmax		
	comp=Z,16nm,1.6s						
PET				pmax	pmax		
	comp=Z,100nm,10.3s						
PET				pmax	pmax		
	comp=Z,100nm,13.0s						
NVL	**N'lazarevskaya**	**88.96**	**192**	*e*P	**P**	**02 10 16.9**	**+3.7**
NVL				*e*S	**SKSac**	**02 20 44.6**	**+1.8**
NVL				*e*SSS	SSS	02 30 28.8	
NVL				pmax	pmax		
	comp=Z,40nm,1.1s						
NVL				MLR	MLR		
	comp=Z,1μm,17.0s						
GENI	**Genyem**	**89.06**	**93**	P	**P**	**02 10 10.6**	**-4.4**
	comp=Z,58nm,1.1s						
RCBR	**Riachuelo**	**89.17**	**264**	IAMs_20	IAMs_20	02 47 55.4	
	comp=Z,2μm,22.0s						
JAY	**Jayapura**	**89.56**	**93**	P	**P**	**02 10 14.1**	**-3.3**
DRLN	**Deer Lake**	**91.56**	**322**	IAmb	IAmb	02 10 38.0	
	comp=Z,33nm,1.1s						
TROLL	**Troll, Antarti**	**91.91**	**194**	⇑P	**P**	**02 10 29.9**	**+2.8**
	comp=Z,160nm,0.8s						
A21K	**Barrow**	**92.63**	**9**	P	**P**	**02 10 31.1**	**+0.7**
	baz=332						
A19K	**Wainwright**	**92.87**	**11**	P	**P**	**02 10 33.1**	**+1.6**
	baz=328						
SNAA	**Sanae**	**92.97**	**195**	*e*P	**P**	**02 10 34.0**	**+2.1**
SNAA	**Sanae**	**92.97**	**195**	⇑P	**P**	**02 10 33.8**	**+1.8**
	comp=Z,26nm,0.8s						
A22K	**Sinclair Lake**	**93.15**	**8**	P	**P**	**02 10 34.1**	**+1.3**
	baz=334						
B18K	**Kokolik River**	**93.45**	**11**	P	**P**	**02 10 33.4**	**-0.9**
	baz=328						
C16K	**Lisburne Hills**	**93.63**	**13**	IAMs_20	IAMs_20	02 55 59.9	
	comp=Z,1μm,22.0s						
B20K	**Meade River**	**93.71**	**10**	IAMs_20	IAMs_20	02 58 56.9	
	comp=Z,1μm,22.0s						
B20K	**Meade River**	**93.71**	**10**	P	**P**	**02 10 35.1**	**-0.3**
	baz=332						
VNA1	**Neumayer--Stat**	**93.83**	**197**	⇑P	P	02 10 42.3	+6.5
	comp=Z,3.0nm,0.4s						
C17K	**DeLong Mountai**	**93.93**	**12**	P	**P**	**02 10 36.0**	**-0.6**
	baz=326						
C19K	**Lookout Ridge**	**94.09**	**11**		pwP	02 10 45.8	+2.0
C19K	**Lookout Ridge**	**94.09**	**11**	P	**P**	**02 10 36.7**	**-0.6**
	baz=330						
SCHQ	**Schefferville**	**94.10**	**329**	P	**P**	**02 10 36.8**	**-0.8**
	comp=Z,4.6nm,0.9s,baz=51,slow=10.0,SNR=4.8						
	comp=Z,4.6nm,0.9s						
C18K	**Utukok River**	**94.18**	**12**	IAmb	IAmb	02 10 52.7	
	comp=Z,18nm,1.1s						
C18K				IAMs_20	IAMs_20	03 01 21.2	
	comp=Z,2μm,21.0s						
C18K	**Utukok River**	**94.18**	**12**	P	**P**	**02 10 36.9**	**-0.9**
	baz=328						
B21K	**Ikpikpuk River**	**94.46**	**9**	P	**P**	**02 10 38.1**	**-0.8**
	baz=334						
VNA3	**Neumayer Olymp**	**94.53**	**197**	⇑P	P	02 10 44.8	+5.7
	comp=Z,3.7nm,0.6s						
D17K	**Noatak River**	**94.59**	**13**	P	**P**	**02 10 39.0**	**-0.5**
	baz=326						
C23K	**Itkillik River**	**94.82**	**8**	IAmb	IAmb	02 10 56.4	
	comp=Z,39nm,1.6s						
C23K	**Itkillik River**	**94.82**	**8**	P	**P**	**02 10 40.5**	**0.0**
	baz=338						
C21K	**Knifeblade Rid**	**94.85**	**9**	P	**P**	**02 10 39.8**	**-1.0**
	baz=334						
D19K	**Kuna River**	**94.89**	**11**	IAmb	IAmb	02 10 57.6	
	comp=Z,30nm,1.3s						
D19K				IAMs_20	IAMs_20	03 00 30.9	
	comp=Z,1μm,20.0s						
D19K	**Kuna River**	**94.89**	**11**	P	**P**	**02 10 40.3**	**-0.6**
	baz=331						
D20K	**Etivluk River**	**94.95**	**10**	P	**P**	**02 10 41.3**	**0.0**
	baz=332						
E18K	**Tukpahlearik C**	**95.34**	**12**		**pwP**	**02 10 50.2**	**+0.6**
E18K				IAMs_20	IAMs_20	03 01 40.1	
	comp=Z,1μm,20.0s						
E18K	**Tukpahlearik C**	**95.34**	**12**	P	**P**	**02 10 43.3**	**+0.3**
	baz=329						
C26K	**Camden Bay**	**95.39**	**6**	P	**P**	**02 10 43.5**	**+0.3**
	baz=344						
D22K	**Ayikyak River**	**95.42**	**9**		**pwP**	**02 10 50.6**	**+0.6**
D22K				IAMs_20	IAMs_20	02 56 56.0	
	comp=Z,1μm,22.0s						
D22K	**Ayikyak River**	**95.42**	**9**	P	**P**	**02 10 43.1**	**-0.2**
	baz=336						
E20K	**Nigu River**	**95.43**	**10**	P	**P**	**02 10 43.2**	**-0.3**
	baz=333						
D23K	**Nanushuk River**	**95.62**	**8**	P	**P**	**02 10 44.7**	**+0.5**
	baz=338						
E21K	**Killik River**	**95.63**	**9**	P	**P**	**02 10 44.8**	**+0.4**
	baz=335						
F14K	**Arctic Creek**	**95.66**	**15**	P	**P**	**02 10 43.2**	**-1.3**
	baz=323						
C27K	**Jago River**	**95.78**	**5**	P	**P**	**02 10 44.7**	**-0.2**
	baz=345						
D25K	**Kavik River**	**95.81**	**6**	IAMs_20	IAMs_20	02 57 00.1	
	comp=Z,1μm,22.0s						
D25K	**Kavik River**	**95.81**	**6**	P	**P**	**02 10 45.1**	**0.0**
	baz=342						
E19K	**Redstone River**	**95.96**	**11**	P	**P**	**02 10 44.5**	**-1.3**
	baz=332						
F17K	**Baldwin Pennin**	**96.05**	**13**	IAMs_20	IAMs_20	02 58 40.7	
	comp=Z,1μm,22.0s						
TOLK	**Toolik Lake Re**	**96.08**	**8**	IAmb	IAmb	02 11 03.5	
	comp=Z,24nm,1.4s						
TOLK	**Toolik Lake Re**	**96.08**	**8**	P	**P**	**02 10 46.2**	**-0.2**
	baz=339						
E22K	**Anaktuvuk Pass**	**96.24**	**9**	IAMs_20	IAMs_20	03 02 47.5	
	comp=Z,1μm,21.0s						
E22K	**Anaktuvuk Pass**	**96.24**	**9**	P	**P**	**02 10 47.2**	**+0.1**
	baz=337						
F18K	**Selawik**	**96.24**	**12**	P	**P**	**02 10 46.7**	**-0.3**
	baz=330						
D27M	**Malcolm River**	**96.39**	**5**	IAMs_20	IAMs_20	02 58 55.3	
	comp=Z,1μm,22.0s						
D27M	**Malcolm River**	**96.39**	**5**	P	**P**	**02 10 46.8**	**-1.0**
	baz=348						
F19K	**Shaleruckik Mo**	**96.41**	**11**	IAmb	IAmb	02 11 03.1	
	comp=Z,11nm,1.1s						
F19K	**Shaleruckik Mo**	**96.41**	**11**	P	**P**	**02 10 46.8**	**-1.0**
	baz=331						
F20K	**Avaraart Lake**	**96.59**	**11**	P	**P**	**02 10 46.7**	**-2.0**
	baz=333						
E23K	**Chandalar**	**96.62**	**8**	P	**P**	**02 10 47.9**	**-1.1**
	baz=339						
ANM	**Nome**	**96.64**	**15**	IAMs_20	IAMs_20	02 58 23.5	
	comp=Z,2μm,21.0s						
G16K	**Koyuk River**	**96.69**	**14**	IAMs_20	IAMs_20	03 00 08.7	
	comp=Z,1μm,22.0s						
E24K	**Your Creek**	**96.75**	**8**	IAmb	IAmb	02 11 04.3	
	comp=Z,18nm,1.6s						
E24K	**Your Creek**	**96.75**	**8**	P	**P**	**02 10 48.6**	**-0.9**
	baz=340						
F22K	**John River**	**96.76**	**9**	P	**P**	**02 10 48.8**	**-0.7**
	baz=337						
F21K	**Alatna River**	**96.82**	**10**		pwP	02 10 58.0	+1.7
E25K	**Arctic Village**	**97.05**	**6**	IAmb	IAmb	02 11 05.6	
	comp=Z,22nm,1.4s						
E25K	**Arctic Village**	**97.05**	**6**	P	**P**	**02 10 50.0**	**-0.8**
	baz=343						
G18K	**Tagagawik**	**97.06**	**12**	IAMs_20	IAMs_20	03 02 30.4	
	comp=Z,1μm,20.0s						
E28M	**Babbage River**	**97.12**	**4**	IAMs_20	IAMs_20	02 57 17.7	
	comp=Z,1μm,22.0s						
G19K	**Purcell Mounta**	**97.15**	**11**	IAMs_20	IAMs_20	02 59 56.8	
	comp=Z,2μm,22.0s						
G19K	**Purcell Mounta**	**97.15**	**11**	P	**P**	**02 10 50.7**	**-0.6**
	baz=332						
F24K	**Squaw Lake**	**97.35**	**8**	P	Pdif	02 10 52.7	+0.4
	baz=341						
E27K	**Coleen River**	**97.37**	**5**	P	**P**	**02 10 51.7**	**-0.5**
	baz=347						
PMG	**Port Moresby**	**97.41**	**98**	LR	LR	02 57 19.3	
	comp=Z,295nm,18.7s,baz=280,slow=37						
G21K	**Allakaket**	**97.46**	**10**	IAMs_20	IAMs_20	03 02 51.9	
	comp=Z,1μm,21.0s						
G21K	**Allakaket**	**97.46**	**10**	P	**P**	**02 10 50.8**	**-1.8**
	baz=335						
F25K	**Christian Rive**	**97.55**	**7**	P	**P**	**02 10 52.4**	**-0.7**
	baz=343						
F26K	**Sheenjek River**	**97.61**	**6**	P	**P**	**02 10 52.9**	**-0.4**
	baz=344						
H19K	**Roundabout Mou**	**97.82**	**11**	IAMs_20	IAMs_20	03 00 17.5	
	comp=Z,2μm,22.0s						
H19K	**Roundabout Mou**	**97.82**	**11**	P	**P**	**02 10 53.1**	**-1.1**
	baz=332						
BMAR	**Burnt Mountain**	**97.82**	**6**	P	Pdif	02 10 59.8	+5.4
G23K	**Bananza Creek**	**97.82**	**9**		**pwP**	**02 11 02.1**	**+1.2**
G23K				IAMs_20	IAMs_20	03 03 48.4	
	comp=Z,1μm,20.0s						
G23K	**Bananza Creek**	**97.82**	**9**	P	**P**	**02 10 53.0**	**-1.4**
	baz=339						
F28M	**Old Crow**	**98.07**	**4**	P	**P**	**02 10 55.2**	**-0.2**
	baz=349						
H20K	**Anotleneega Mo**	**98.15**	**11**	P	**P**	**02 10 55.0**	**-0.8**
	baz=334						
G24K	**Hadweenzic Riv**	**98.18**	**8**	IAMs_20	IAMs_20	02 59 36.9	
	comp=Z,1μm,22.0s						
G24K	**Hadweenzic Riv**	**98.18**	**8**	P	**P**	**02 10 55.1**	**-0.8**
	baz=341						
I17K	**Unalakleet**	**98.35**	**14**	IAMs_20	IAMs_20	02 58 35.6	
	comp=Z,1μm,22.0s						
H21K	**Melozitna Rive**	**98.36**	**10**	IAmb	IAmb	02 11 13.6	
	comp=Z,12nm,1.3s						
H21K				IAMs_20	IAMs_20	03 04 00.8	
	comp=Z,1μm,22.0s						
H21K	**Melozitna Rive**	**98.36**	**10**	P	**P**	**02 10 56.6**	**-0.2**
	baz=336						
FYU	**Fort Yukon**	**98.58**	**7**	IAMs_20	IAMs_20	03 00 36.4	
	comp=Z,1μm,22.0s						
G27K	**Doyon Strip**	**98.71**	**5**	P	**P**	**02 10 57.2**	**-1.1**
	baz=347						
I20K	**Naaghedeneel**	**98.85**	**11**	IAMs_20	IAMs_20	03 04 54.7	
	comp=Z,992nm,19.0s						
J16K	**Anvik River**	**98.88**	**14**	IAMs_20	IAMs_20	03 02 48.8	
	comp=Z,1μm,21.0s						
H24K	**Noodor Dome**	**98.95**	**8**	IAMs_20	IAMs_20	03 02 53.1	
	comp=Z,1μm,20.0s						
PQI	**Presque Isle**	**99.01**	**323**	IAMs_20	IAMs_20	03 00 14.6	
	comp=Z,1μm,19.0s						
G31M	**Satah River**	**99.09**	**2**	IAMs_20	IAMs_20	03 00 43.6	
	comp=Z,1μm,22.0s						
J17K	**VABM Dome**	**99.14**	**14**	IAMs_20	IAMs_20	02 59 12.5	
	comp=Z,1μm,22.0s						
MLY	**Manley**	**99.28**	**9**	IAMs_20	IAMs_20	03 04 33.0	
	comp=Z,1μm,21.0s						
H27K	**Steamboat Moun**	**99.29**	**5**	P	**Pdif**	**02 10 59.2**	**-1.7**
	baz=347						
J19K	**Poorman**	**99.35**	**12**	IAMs_20	IAMs_20	03 02 42.0	
	comp=Z,1μm,21.0s						
I23K	**Minto, Yukon-K**	**99.39**	**9**	IAMs_20	IAMs_20	03 03 57.8	
	comp=Z,1μm,20.0s						
K15K	**Wolf Creek Mou**	**99.50**	**15**	IAMs_20	IAMs_20	03 05 15.0	
	comp=Z,2μm,20.0s						
PRP	**Porcupine Dome**	**99.56**	**7**	IAMs_20	IAMs_20	03 00 07.2	
	comp=Z,1μm,22.0s						
EMMW	**East Machias**	**99.69**	**321**	IAMs_20	IAMs_20	02 56 54.7	
	comp=Z,1μm,20.0s						
POKR	**Poker Plat Res**	**99.69**	**8**	IAMs_20	IAMs_20	03 02 44.8	
	comp=Z,1μm,22

M17K	Holitna River	101.26	14	IAMs_20	IAMs_20	03 00 25.6	
	comp=Z,1μm,20.0s						
J29N	Klondike Camp	101.32	4	IAMs_20	IAMs_20	03 06 29.6	
	comp=Z,1μm,20.0s						
J30M	Hart River	101.32	4	IAMs_20	IAMs_20	03 03 18.8	
	comp=Z,1μm,22.0s						
DHY	Denali Highway	101.64	9	IAMs_20	IAMs_20	03 04 48.3	
	comp=Z,1μm,22.0s						
N15K	Kwethluk River	101.67	16	IAMs_20	IAMs_20	03 06 25.6	
	comp=Z,1μm,20.0s						
M20K	Styx River	101.75	12	IAMs_20	IAMs_20	03 04 25.8	
	comp=Z,1μm,22.0s						
SKT	Skwentna	101.97	11	IAMs_20	IAMs_20	03 03 37.2	
	comp=Z,1μm,22.0s						
N17K	Nushagak Hills	102.09	14	IAMs_20	IAMs_20	03 04 20.5	
	comp=Z,1μm,21.0s						
O14K	Tigyukauivet M	102.13	17	IAMs_20	IAMs_20	03 05 29.9	
	comp=Z,1μm,21.0s						
L26K	Log Cabin Wild	102.22	7	IAMs_20	IAMs_20	03 01 02.7	
	comp=Z,1μm,21.0s						
N18K	Kilae Creek	102.25	14	IAMs_20	IAMs_20	03 00 58.8	
	comp=Z,1μm,21.0s						
L27K	Beaver Creek,	102.36	6	IAMs_20	IAMs_20	03 02 50.2	
	comp=Z,1μm,22.0s						
N19K	Bonanza Creek	102.44	13	IAMs_20	IAMs_20	03 03 05.8	
	comp=Z,1μm,22.0s						
SUA	Susitna One	102.59	11	IAMs_20	IAMs_20	03 03 55.7	
	comp=Z,1μm,21.0s						
LBNH	Lisbon	102.64	322	IAMs_20	IAMs_20	03 02 11.6	
	comp=Z,1μm,19.0s						
L29M	L29M	102.65	5	IAMs_20	IAMs_20	03 02 40.0	
	comp=Z,1μm,22.0s						
O16K	Kokwok River B	102.68	15	IAMs_20	IAMs_20	03 07 36.2	
	comp=Z,1μm,20.0s						
SML	Sawmill	102.69	10	IAMs_20	IAMs_20	03 03 53.2	
	comp=Z,1μm,21.0s						
M24K	Tolsona, Glenn	102.74	9	IAMs_20	IAMs_20	03 00 56.3	
	comp=Z,1μm,21.0s						
M26K	Nabesna, AK	102.87	7	IAMs_20	IAMs_20	03 01 15.0	
	comp=Z,1μm,21.0s						
FIS	Fire Island	102.99	11	IAMs_20	IAMs_20	03 06 36.1	
	comp=Z,1μm,21.0s						
M27K	Edge Creek, AK	103.04	6	IAMs_20	IAMs_20	03 03 22.3	
	comp=Z,1μm,22.0s						
VT1	Waterbury	103.08	323	IAMs_20	IAMs_20	03 00 15.3	
	comp=Z,1μm,20.0s						
RC01	Rabbit Creek A	103.12	11	IAMs_20	IAMs_20	03 07 07.9	
	comp=Z,1μm,20.0s						
O18K	Koktuh Hills	103.14	14	IAMs_20	IAMs_20	03 01 34.7	
	comp=Z,1μm,22.0s						
HNH	Hanover	103.15	322	IAMs_20	IAMs_20	02 57 19.3	
	comp=Z,1μm,20.0s						
BCX	Boston College	103.24	320	IAMs_20	IAMs_20	02 58 29.6	
	comp=Z,1μm,19.0s						
WES	Weston	103.30	320	IAMs_20	IAMs_20	03 04 02.3	
	comp=Z,1μm,21.0s						
M65A	Busby, Falmout	103.33	319	IAMs_20	IAMs_20	02 59 11.1	
	comp=Z,1μm,21.0s						
N25K	Chitina, Valde	103.44	8	IAMs_20	IAMs_20	03 01 49.8	
	comp=Z,1μm,21.0s						
O22K	Cooper Landing	103.69	11	IAMs_20	IAMs_20	03 07 44.8	
	comp=Z,1μm,20.0s						
P19K	Oil Pt	103.77	13	IAMs_20	IAMs_20	03 06 53.7	
	comp=Z,1μm,19.0s						
MCARA	McCarthy VSAT	103.85	7	IAMs_20	IAMs_20	03 07 00.8	
	comp=Z,1μm,21.0s						
L61B	Northampton	104.10	321	IAMs_20	IAMs_20	03 02 51.4	
	comp=Z,1μm,21.0s						
BRLK	Bradley Lake	104.14	12	IAMs_20	IAMs_20	03 03 36.9	
	comp=Z,1μm,22.0s						
CNPM	China Poot	104.29	12	IAMs_20	IAMs_20	03 01 44.7	
	comp=Z,916nm,19.0s						
HIN	Hinchinbrook I	104.32	9	IAMs_20	IAMs_20	03 07 40.2	
	comp=Z,1μm,20.0s						
Q19K	Cape Douglas,	104.33	13	IAMs_20	IAMs_20	03 03 07.7	
	comp=Z,1μm,21.0s						
N31M	Braeburn, Yuko	104.43	4	IAMs_20	IAMs_20	03 03 37.9	
	comp=Z,1μm,22.0s						
CRQM	Cirque	104.45	8	IAMs_20	IAMs_20	03 07 17.8	
	comp=Z,1μm,20.0s						
CTGM	Chitina Glacie	104.46	7	IAMs_20	IAMs_20	03 07 47.8	
	comp=Z,1μm,21.0s						
TGL	Tana Glacier	104.49	7	IAMs_20	IAMs_20	03 07 08.6	
	comp=Z,1μm,20.0s						
LOGN	Logan Glacier	104.63	6	IAMs_20	IAMs_20	03 07 53.4	
	comp=Z,1μm,21.0s						
GRNC	Granite Creek	104.64	7	IAMs_20	IAMs_20	03 02 31.6	
	comp=Z,1μm,22.0s						
ISLE	Juniper Island	104.70	7	IAMs_20	IAMs_20	03 02 22.1	
	comp=Z,1μm,22.0s						
HMT	Hamilton	104.70	8	IAMs_20	IAMs_20	03 03 34.4	
	comp=Z,2μm,22.0s						
WAX	Waxell Ridge	104.78	7	IAMs_20	IAMs_20	03 07 37.4	
	comp=Z,2μm,21.0s						
S12K	Black Hills	104.87	19	IAMs_20	IAMs_20	03 07 32.4	
	comp=Z,1μm,20.0s						
SYI	Shuyak Island	104.90	13	IAMs_20	IAMs_20	03 06 28.6	
	comp=Z,2μm,22.0s						
N32M	Quiet Lake	104.90	2	IAMs_20	IAMs_20	03 05 33.4	
	comp=Z,1μm,22.0s						
TABL	Table Mountain	104.99	7	IAMs_20	IAMs_20	03 08 03.9	
	comp=Z,1μm,20.0s						
MESA	MESA	105.16	7	IAMs_20	IAMs_20	03 04 52.2	
	comp=Z,2μm,22.0s						
BCPM	Bancas Point	105.63	6	IAMs_20	IAMs_20	03 05 06.7	
	comp=Z,1μm,22.0s						
P33M	Teslin, Yukon	105.86	2	IAMs_20	IAMs_20	03 06 54.6	
	comp=Z,1μm,22.0s						
BINY	Binghamton	106.24	322	IAMs_20	IAMs_20	03 04 25.9	
	comp=Z,1μm,20.0s						
SII	Sitkinak Islan	106.34	15	IAMs_20	IAMs_20	03 07 21.3	
	comp=Z,1μm,22.0s						
R33M	Jennings River	106.73	1	IAMs_20	IAMs_20	03 08 12.7	
	comp=Z,1μm,22.0s						
Q32M	Nakina River	107.13	2	IAMs_20	IAMs_20	03 07 43.2	
	comp=Z,2μm,21.0s						
ILAM	Ilet Lapin Mar	107.47	291	IAMs_20	IAMs_20	02 57 30.0	
	comp=Z,1μm,21.0s						
MPOM	Morne Pois Mar	107.57	290	IAMs_20	IAMs_20	03 00 37.5	
	comp=Z,1μm,21.0s						
SVN	Savane Anatole	107.72	291	IAMs_20	IAMs_20	02 57 25.1	
	comp=Z,2μm,22.0s						
BIM	Bigot	107.74	290	IAMs_20	IAMs_20	03 02 24.9	
	comp=Z,1μm,19.0s						
S31K	Pelican	107.90	4	IAMs_20	IAMs_20	03 06 33.7	
	comp=Z,1μm,22.0s						
S34M	Telegraph Cree	108.21	2	IAMs_20	IAMs_20	03 06 52.9	
	comp=Z,1μm,20.0s						
SMRT	St. Maarten	108.27	295	IAMs_20	IAMs_20	03 04 16.9	
	comp=Z,1μm,20.0s						
SSPA	Standing Stone	108.32	322	IAMs_20	IAMs_20	03 01 53.1	
	comp=Z,1μm,22.0s						
GRGR	Grenville	109.08	288	IAMs_20	IAMs_20	03 00 27.7	
	comp=Z,1μm,20.0s						
T35M	Bob Quinn	109.17	1	IAMs_20	IAMs_20	03 10 30.1	
	comp=Z,1μm,20.0s						
GLMI	Grayling	109.27	329	IAMs_20	IAMs_20	03 06 37.6	
	comp=Z,1μm,20.0s						
M53A	WI Miller and	109.44	324	IAMs_20	IAMs_20	03 03 10.6	
	comp=Z,1μm,22.0s						
CBN	Corbin Frederi	109.49	320	IAMs_20	IAMs_20	03 07 35.1	
	comp=Z,1μm,20.0s						
WRAK	Wrangell Islan	109.67	2	IAMs_20	IAMs_20	03 10 31.3	
	comp=Z,1μm,21.0s						
EYMN	Ely	110.10	335	IAMs_20	IAMs_20	03 06 56.3	
	comp=Z,1μm,20.0s						
MCWV	Mont Chateau	110.11	322	IAMs_20	IAMs_20	03 03 33.2	
	comp=Z,906nm,21.0s						
U35K	Hyder	110.24	1	IAMs_20	IAMs_20	03 09 55.5	
	comp=Z,1μm,20.0s						
COWI	Conover	110.50	332	IAMs_20	IAMs_20	03 04 07.1	
	comp=Z,1μm,20.0s						
AAM	Ann Arbor	110.52	326	IAMs_20	IAMs_20	03 02 27.0	
	comp=Z,1μm,20.0s						
P52A	Corning	111.47	323	IAMs_20	IAMs_20	03 04 13.2	
	comp=Z,1μm,22.0s						
AGMN	Agassiz Nation	111.54	337	IAMs_20	IAMs_20	03 05 36.2	
	comp=Z,1μm,21.0s						
BLA	Blacksburg	112.00	320	IAMs_20	IAMs_20	03 04 13.6	
	comp=Z,1μm,21.0s						
O48B	Farmland	112.75	325	IAMs_20	IAMs_20	03 07 59.0	
	comp=Z,1μm,22.0s						
L44A	Lake County Fo	112.84	329	IAMs_20	IAMs_20	03 08 15.1	
	comp=Z,1μm,21.0s						
P49A	Miami Univ. Ec	113.01	325	IAMs_20	IAMs_20	03 07 03.9	
	comp=Z,1μm,21.0s						
HQIL	Hanson Quary C	113.08	328	IAMs_20	IAMs_20	03 08 36.6	
	comp=Z,1μm,19.0s						
JFWS	Jewell Farm	113.44	330	IAMs_20	IAMs_20	03 07 34.8	
	comp=Z,1μm,22.0s						
DGMT	Dagmar	114.15	343	IAMs_20	IAMs_20	03 06 50.1	
	comp=Z,1μm,22.0s						
TZTN	Tazewell	114.34	322	IAMs_20	IAMs_20	03 07 19.5	
	comp=Z,1μm,21.0s						
HDIL	Hopedale	114.73	328	IAMs_20	IAMs_20	03 04 49.3	
	comp=Z,1μm,22.0s						
SCIA	State Center	115.61	332	IAMs_20	IAMs_20	03 09 30.2	
	comp=Z,1μm,22.0s						
ECSD	EROS Data Cent	115.61	335	IAMs_20	IAMs_20	03 08 01.1	
	comp=Z,1μm,19.0s						
HATO	Hato, Curacao	115.74	291	IAMs_20	IAMs_20	03 00 19.7	
	comp=Z,1μm,22.0s						
LAO	LASA Array	116.34	343	IAMs_20	IAMs_20	03 07 03.1	
	comp=Z,1μm,22.0s						
152A	Waverly Hall	117.62	319		PKPdf	02 16 02.6	-3.1
DZM	Mont Dzumac	117.77	108	eP	PKiKP	02 16 08.4	+2.0
	comp=Z,86nm,22.6s						
DZM	Mont Dzumac	117.77	108	eLR	LR	02 51 48.6	
	comp=Z,3μm,21.1s						
RSSD	Black Hills	118.01	340	IAMs_20	IAMs_20	03 08 14.1	
	comp=Z,1μm,22.0s						
PLAL	Pickwick Lake	118.09	323	IAMs_20	IAMs_20	03 14 44.7	
	comp=Z,1μm,20.0s						
DWPF	Disney Wildern	118.26	313	IAMs_20	IAMs_20	03 06 10.9	
	comp=Z,1μm,21.0s						
LIFNC	LIFOU	118.40	106	IAMs_20	IAMs_20	03 03 46.2	
	comp=Z,1μm,20.0s						
RLMT	Red Lodge	118.61	345	IAMs_20	IAMs_20	03 12 16.8	
	comp=Z,1μm,21.0s						
NLWA	Neilton Lookou	118.67	357	IAMs_20	IAMs_20	03 15 48.4	
	comp=Z,1μm,19.0s						
LRAL	Lakeview Retre	118.80	321	IAMs_20	IAMs_20	03 16 09.5	
	comp=Z,1μm,21.0s						
DLMT	Dillon	119.15	347	IAMs_20	IAMs_20	03 17 59.2	
	comp=Z,967nm,19.0s						
FLWY	Flagg Ranch	119.94	346	IAMs_20	IAMs_20	03 12 38.0	
	comp=Z,1μm,21.0s						
BRAL	Brewton	120.10	319	IAMs_20	IAMs_20	03 11 50.0	
	comp=Z,1μm,21.0s						
OGNE	Ogallala	120.10	337	IAMs_20	IAMs_20	03 10 08.8	
	comp=Z,1μm,21.0s						
BMO	Blue Mountains	120.50	351	IAMs_20	IAMs_20	03 14 04.8	
	comp=Z,1μm,21.0s						
PDAR	Pinedale Array	120.88	344	PKPdf	PKPdf	02 16 11.1	-1.0
PDAR	Pinedale Array	120.88	344	PKP	PKPdf	02 16 10.7	-1.4
	comp=Z,1.8nm,0.8s,baz=69,slow=2.8,SNR=11						
HLID	Hailey	121.25	348	IAMs_20	IAMs_20	03 13 27.7	
	comp=Z,1μm,20.0s						
AHID	Auburn Hatcher	121.27	345	IAMs_20	IAMs_20	03 12 12.4	
	comp=Z,1μm,21.0s						
MIAR	Mount Ida	121.49	327	IAMs_20	IAMs_20	03 17 27.2	
	comp=Z,1μm,20.0s						
VBMS	Vicksburg	121.49	323	IAMs_20	IAMs_20	03 14 22.6	
	comp=Z,924nm,21.0s						
MFID	Camas Ranch	121.66	349	IAMs_20	IAMs_20	03 19 59.4	
	comp=Z,1μm,21.0s						
LPAZ	La Paz	122.15	259	PKP	PKPdf	02 16 14.4	-1.2
	comp=Z,0.6nm,0.6s,baz=39,slow=6.5,SNR=2.7						
ISCO	Idaho Springs	122.40	339	IAMs_20	IAMs_20	03 18 56.4	
	comp=Z,951nm,20.0s						
OK029	Liberty Lake	122.47	330	IAMs_20	IAMs_20	03 14 14.9	
	comp=Z,923nm,20.0s						
WMOK	Wichita Mounta	123.96	331	IAMs_20	IAMs_20	03 19 51.4	
	comp=Z,961nm,20.0s						
ELK	Elko	124.12	348	IAMs_20	IAMs_20	03 12 21.8	
	comp=Z,1μm,21.0s						
NATX	Nacogdoches	124.19	325	IAMs_20	IAMs_20	03 18 53.0	
	comp=Z,1μm,20.0s						
YBH	Yreka Blue Hor	124.22	355	IAMs_20	IAMs_20	03 14 17.2	
	comp=Z,1μm,21.0s						
JCC	Jacoby Creek,	125.23	356	IAMs_20	IAMs_20	03 15 15.9	
	comp=Z,861nm,19.0s						
MVCO	Mesa Verde	125.69	341	IAMs_20	IAMs_20	03 18 02.9	
	comp=Z,873nm,20.0s						
HKT	Hockley	126.22	325	IAMs_20	IAMs_20	03 15 52.5	
	comp=Z,1μm,20.0s						
R11B	Troy Canyon, C	126.50	348	IAMs_20	IAMs_20	03 16 11.8	
	comp=Z,974nm,20.0s						
NVAR	Mina Array Bea	126.93	350	PKPdf	PKiKP	02 16 24.5	+0.2
NVAR	Mina Array Bea	126.93	350	PKP	PKPdf	02 16 23.9	+0.1
	comp=Z,5.4nm,0.8s,baz=17,slow=1.1,SNR=15						
HOPS	Hopland Field	126.97	355	IAMs_20	IAMs_20	03 16 12.0	
	comp=Z,1μm,22.0s						
ANMO	Albuquerque	127.03	338	IAMs_20	IAMs_20	03 18 54.2	
	comp=Z,1μm,21.0s						
CMB	Columbia Colle	127.63	352	IAMs_20	IAMs_20	03 15 55.4	
	comp=Z,1μm,22.0s						
MCCM	Marconi Confer	127.79	355	IAMs_20	IAMs_20	03 20 27.8	
	comp=Z,851nm,20.0s						
JCT	Junction City	127.92	329	IAMs_20	IAMs_20	03 17 34.4	
	comp=Z,1μm,22.0s						
SAO	San Andreas Ge	129.01	353	IAMs_20	IAMs_20	03 21 28.1	
	comp=Z,1μm,20.0s						
TXAR	Lajitas Array	130.74	331	PKPdf	PKPdf	02 16 30.9	-0.3
TXAR	Lajitas Array	130.74	331	PKP	PKPdf	02 16 31.3	+0.2
	comp=Z,2.2nm,0.9s,baz=98,slow=2.5,SNR=8.8						
TXAR	Lajitas Array	130.74	331	PKIKP	PKPdf	02 16 30.9	-0.3
TGUH	Tegucigalpa,Un	130.76	303	IAMs_20	IAMs_20	03 12 26.9	
	comp=Z,940nm,20.0s						
TUC	Tucson	130.93	340	IAMs_20	IAMs_20	03 16 44.3	
	comp=Z,992nm,21.0s						
PASC	Pasadena Art C	131.06	349	IAMs_20	IAMs_20	03 17 15.3	
	comp=Z,1μm,21.0s						
109C	Camp Elliot, M	132.09	347	IAMs_20	IAMs_20	03 19 56.6	
	comp=Z,1μm,21.0s						
UNM	Universidad Na	136.17	319	IAMs_20	IAMs_20	03 23 49.9	
	comp=Z,757nm,20.0s						
TBI	Tubuai	157.90	118	ePKIKP	PKPdf	02 17 17.8	+1.1
	comp=Z,971nm,38.5s						
TBI	Tubuai	157.90	118	eSS	SS	02 41 26.1	-2.5
	comp=Z,3μm,31.8s						
TBI	Tubuai	157.90	118	eLR	LR	03 10 29.8	
	comp=Z,11μm,30.0s						
TBI				eLR	LR	03 10 33.3	
	comp=Z,2μm,28.8s						
PPT2	Papeete2	159.16	102	ePKIKP	PKPdf	02 17 15.5	-2.9
	comp=Z,55nm,25.2s						
PPT2	Papeete2	159.16	102	eSS	SS	02 41 34.6	-8.4
	comp=Z,1μm,39.0s						
PPT2	Papeete2	159.16	102	eLR	LR	03 11 03.5	
	comp=Z,2μm,23.0s						
PPT2				eLR	LR	03 11 03.6	
	comp=Z,2μm,31.5s						

*IDC **15** 01:59:03.4±0.6, 14°.05N×51°.72E, h0km, mb4.8/34, mbtmp4.8/36, ML4.7/2, MS5.2/3, Error ellipse: s-maj=15.8km s-min=14.4km az=22.0*

*NEIC **15** 01:59:08.9±1.4, 14°.15N±0°.08×51°.64E±0°.08, h10km±1km, mb5.5/81, Error ellipse: s-maj=15.1km s-min=12.3km az=144.0*

*GCMT **15** 01:59:09.9±0.2, 13°.83N±0°.01×51°.59E±0°.01, h24km±1km, MW5.9/137, Moment Tensor Solution. s137, c275; Duration: 2s1 Moment tensor: Scale 1017Nm; Mrr-1.68±.32; Mθθ6.47±.23; Mφφ-4.79±.18; Mrθ0.66±.27; Mrφ5.30±.16; Mθφ0.75±.31; Best double couple: M07.79000×1017 NP1:φs203.00000°, δ90.00000°, λ-173.00000°. NP2:φs113.00000°, δ83.00000°, λ0.00000°. Principal axes: T 8.6480, Plg5.0000°, Azm338.0000°; N -1.7160, Plg83.0000°, Azm204.0000°; P -6.9320, Plg5.0000°, Azm69.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 01:59:08.8±0.4, 14°.17N±0°.06×51°.68E±0°.06, h21km, n184, σ1.9, 70/175, mb5.3/74, MS5.2/3, 5C-11D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	9.01	254	Pn	Pn	02 01 17.7	-0.1
ATD	Arta Tunnel	9.01	254	Pn	Pn	02 01 16.4	-1.4
	5.6nm,0.3s,baz=80,slow=12,SNR=19						
	17nm,0.4s						
RAYN	Ar Rayn	10.99	329	Pn	Pn	02 01 45.0	+0.1
WSAR	Wadi Sarin	11.17	35	Pn	Pn	02 01 46.1	-1.2
	6.2nm,0.3s,baz=217,slow=20,SNR=1.4						
	72nm,0.8s						
FURI	Furi	13.77	249		Pn	02 02 23.3	0.0
LODK	Lodwar	19.32	238	P	P	02 03 32.9	-0.1
LODK				IAmb	IAmb	02 03 37.5	
	comp=Z,756nm,1.6s						
KMBO	Kilima Mbogo	20.86	224	P	P	02 03 49.9	0.0
KIBK	Kibwezi	21.25	221	P	P	02 03 51.8	-2.1
KIBK				IAmb	IAmb	02 04 03.4	
	comp=Z,171nm,1.2s						
EIL	Elat	21.84	318	P	P	02 03 57.9	-2.1
	comp=Z,15nm,0.8s,baz=61,slow=10,SNR=1.0						
	comp=Z,15nm,0.8s						
ASF	Jabal al Asfar	22.45	325	P	P	02 04 05.5	-1.1
	comp=Z,31nm,1.1s,baz=223,slow=0.0,SNR=0.8						
	comp=Z,31nm,1.1s						
GHAJ	Ghor Haditha	22.57	322	P	P	02 04 08.9	+1.1
GHAJ				IAmb	IAmb	02 04 19.4	
	comp=Z,283nm,1.2s						
MMAI	Mount Meron Ar	23.91	324	P	P	02 04 21.9	+0.5
	comp=Z,56nm,1.1s,baz=134,slow=12,SNR=3.0						
	comp=Z,56nm,1.1s						
MBAR	Mbarara	25.41	236	P	P	02 04 35.9	+0.6
KBL	Kabul	25.64	35	P	P	02 04 39.4	+2.1
KBL				IAmb	IAmb	02 04 56.4	
	comp=Z,80nm,1.1s						
HYB	Hyderabad	26.05	79	eP	P	02 04 41.4	+0.4
ELL	Elmali	29.73	323	P	P	02 05 15.9	+2.1
BR131	Keskin Array S	29.99	331	P	P	02 05 17.1	+1.0
BRTR	Keskin Array B	29.99	331	P	P	02 05 16.9	+0.8
BRTR	Keskin Array B	29.99	331	P	P	02 05 16.1	0.0
	comp=Z,22nm,1.1s,baz=142,slow=13,SNR=2.4						
	comp=Z,22nm,1.1s						
ISP	Isparta	30.14	325	P	P	02 05 18.1	+0.7
ISP				IAmb	IAmb	02 05 21.3	
	comp=Z,103nm,1.3s						
ANTO	Ankara	30.50	331	P	P	02 05 22.0	+1.5
IDI	Anoyia	31.98	316	P	P	02 05 35.0	+1.3
IDI				IAmb	IAmb	02 05 50.3	
	comp=Z,68nm,1.0s						
IDI	Anoyia	31.98	316	P	P	02 05 33.7	0.0
	comp=Z,62nm,1.1s,baz=114,slow=10.0,SNR=3.7						
	comp=Z,62nm,1.1s						
SANT	Santorini	32.23	318	P	P	02 05 38.6	+2.8
KKAR	Karatay Array	33.07	26	P	P	02 05 46.5	+3.5
ALN	Alexandroupoli	34.76	325	P	P	02 05 59.9	+2.2
ALN				IAmb	IAmb	02 06 14.0	
	comp=Z,122nm,1.2s						
BOOM	Boomskoye usch	35.14	32	P	P	02 06 05.2	+4.0
BOOM				IAmb	IAmb	02 06 15.0	
	comp=Z,48nm,1.1s						
RDO	Rodhopi	35.22	325	P	P	02 06 03.9	+2.3
RDO				IAmb	IAmb	02 06 17.9	
	comp=Z,91nm,1.1s						
ROCAM	Rodrigues Isla	35.62	161	P	P	02 06 07.8	+2.6
ABKAR	Akbulak array	35.64	9	P	P	02 06 07.6	+2.4
ABKAR				IAmb	IAmb	02 06 10.6	
	comp=Z,78nm,1.1s						
AGG	Agios Georgios	35.80	319	P	P	02 06 06.9	+0.1
AGG				IAmb	IAmb	02 06 21.9	
	comp=Z,125nm,1.4s						
AKTO	Aktyubinsk	36.54	7	P	P	02 06 09.8	-3.1
	comp=Z,20nm,0.9s,baz=194,slow=14,SNR=1.5						
	comp=Z,20nm,0.9s						
FNA	Florina	37.43	321	P	P	02 06 21.5	+0.8
FNA				IAmb	IAmb	02 06 35.5	
	comp=Z,64nm,1.0s						
KBN	Korca	37.70	320	P	P	02 06 24.1	+1.1
MLR	Muntele Rosu	38.05	330	P	P	02 06 24.5	-1.4
	comp=Z,18nm,1.0s,baz=174,slow=16,SNR=1.9						
	comp=Z,18nm,1.0s						
SCTE	Santa Cesarea	38.86	318	P	P	02 06 33.8	+1.1
SHL	Shillong	39.33	67	P	P	02 06 37.5	+0.5
CUC	Castrocucco	40.58	316	P	P	02 06 47.2	+0.2
AKASG	Malin Array Be	40.74	338	P	P	02 06 49.8	+1.7
	comp=Z,52nm,1.1s,baz=151,slow=7.4,SNR=4.8						
MAKZ	Makanchi	41.23	32	P	P	02 06 55.3	+3.0
MAKZ				IAmb	IAmb	02 07 03.6	
	comp=Z,92nm,1.4s						
CLTB	Caltabellotta	41.32	312	P	P	02 06 54.4	+1.2
CLTB				IAmb	IAmb	02 07 43.7	
	comp=Z,123nm,1.4s						
MK31	Makanchi Array	41.38	32	P	P	02 06 56.1	+2.5
MKAR	Makanchi Array	41.38	32	P	P	02 06 56.1	+2.5
MKAR	Makanchi Array	41.38	32	P	P	02 06 51.2	-2.4
	comp=Z,5.4nm,0.9s,baz=197,slow=3.8,SNR=1.8						
MKAR				LR	LR	02 26 28.2	
	comp=Z,3μm,19.0s,baz=250,slow=40						
	comp=Z,5.4nm,0.9s						
SGRT	San Giovanni R	41.50	318	P	P	02 06 54.2	-0.4
BVAR	Borovoye Array	41.52	17	P	P	02 06 53.3	-1.2
	comp=Z,21nm,1.1s,baz=166,slow=8.6,SNR=2.8						
	comp=Z,21nm,1.1s						
TATN	Tataouine	41.67	303	P	P	02 06 57.5	+1.4
TATN				IAmb	IAmb	02 07 12.1	
	comp=Z,100nm,1.6s						
KURBB	Kurchatov Arra	42.38	25	P	P	02 07 00.6	-0.9
	comp=Z,8.6nm,1.0s,baz=225,slow=8.0,SNR=2.2						
KURBB				LR	LR	02 27 38.1	
	comp=Z,3μm,18.4s,baz=236,slow=40						
	comp=Z,8.6nm,1.0s						
OBN	Obninsk	42.52	347	P	P	02 07 04.4	+1.8
INTR	Introdacqua	42.82	318	P	P	02 07 06.7	+1.3
KEST	Kesra	43.55	307	P	P	02 07 12.0	+0.6
KEST	Kesra	43.55	307	P	P	02 07 10.1	-1.3
	comp=Z,20nm,1.0s,baz=103,slow=9.5,SNR=3.0						
	comp=Z,20nm,1.0s					

comp=Z,9.4nm,1.0s
ECH Echery 49.96 322 P P 02 08 02.3 +0.9
SLVN Son La 50.06 74 P P 02 08 03.6 +1.1
SLVN IAmb IAmb 02 08 11.6
comp=Z,51nm,1.2s
FIA1 FINESS Array S 50.69 344 P P 02 08 08.0 +1.5
FINES FINESS Array B 50.69 344 P P 02 08 07.8 +1.3
FINES FINESS Array B 50.69 344 P P 02 08 05.8 -0.7
comp=Z,52nm,1.0s,baz=134,slow=8.2,SNR=7.1
comp=Z,52nm,1.0s
BKNI Bangkinang 50.72 101 P P 02 08 05.7 -1.9
WLF Walferdange 51.22 323 P P 02 08 12.1 +1.3
WLF IAmb IAmb 02 08 25.1
comp=Z,63nm,1.0s
WLF Walferdange 51.22 323 dP P 02 08 11.5 +0.8
BHOU Houvegnez 51.62 324 dP P 02 08 15.2 +1.5
BTNL Ternell 51.66 325 dP P 02 08 15.9 +1.8
MEM Membach 51.74 325 dP P 02 08 16.3 +1.7
RCHB Rochefort 51.97 324 dP P 02 08 17.4 +1.0
BSTI Sart Tilman 51.97 324 dP P 02 08 18.2 +1.9
BCLA Clavier 52.05 324 dP P 02 08 18.3 +1.4
BGES Gesves 52.16 324 dP P 02 08 19.8 +2.0
BMRD Maredsous 52.30 324 dP P 02 08 20.4 +1.5
DOU Dourbes 52.31 323 dP P 02 08 19.9 +1.1
CLF Chambon-Foret 52.86 320 P P 02 08 23.5 +0.6
SOE Somerset East 52.88 208 P P 02 08 25.3 +1.8
SOE IAmb IAmb 02 08 31.8
comp=Z,124nm,1.3s
HFS Hagfors 53.62 338 P P 02 08 25.9 -2.5
comp=Z,28nm,1.1s,baz=134,slow=11,SNR=2.3
comp=Z,28nm,1.1s
ESBB Sonseca Array 54.75 309 P 02 08 38.4 +1.3
ESBB IAmb IAmb 02 08 51.6
comp=Z,52nm,1.1s
ESDC Sonseca Array 54.75 309 P P 02 08 38.4 +1.3
ESDC IAmb IAmb 02 08 51.6
comp=Z,60nm,1.1s
ESDC Sonseca Array 54.75 309 P P 02 08 35.4 -1.7
comp=Z,24nm,1.0s,baz=86,slow=6.2,SNR=5.9
comp=Z,24nm,1.0s
NC602 NORSAR Array S 54.82 337 P P 02 08 37.9 +0.8
NC602 IAmb IAmb 02 08 39.4
comp=Z,49nm,1.2s
NC405 NORSAR Array S 55.00 338 P P 02 08 39.4 +0.9
NB201 NORSAR Array S 55.12 337 P P 02 08 39.6 +0.3
NB201 IAmb IAmb 02 10 20.9
comp=Z,47nm,1.4s
NAO01 NORSAR Array S 55.14 337 P P 02 08 40.5 +1.1
NAO01 IAmb IAmb 02 08 42.3
comp=Z,45nm,1.1s
NB2 NORSAR Subarra 55.14 337 P P 02 08 39.8 +0.3
comp=Z,33nm,1.4s,baz=124,slow=7.4
NB2 NORSAR Subarra 55.14 337 P P 02 08 39.8 +0.3
baz=124,slow=7.4
NOA NORSAR Array B 55.14 337 P P 02 08 37.8 -1.7
comp=Z,16nm,1.1s,baz=126,slow=7.5,SNR=4.2
comp=Z,16nm,1.1s
NC303 NORSAR Array S 55.20 338 P P 02 08 42.2 +2.4
NC303 IAmb IAmb 02 10 12.1
comp=Z,72nm,1.6s
NBO00 NORSAR Array S 55.30 337 P P 02 08 42.2 +1.6
NC204 NORSAR Array S 55.46 337 P P 02 08 42.1 +0.3
SFS San Fernando 55.98 305 P P 02 08 46.9 +1.0
DBIC Dimbokro 55.99 269 P P 02 08 44.5 -1.8
comp=Z,5.9nm,0.8s,baz=73,slow=11,SNR=2.0
comp=Z,5.9nm,0.8s
SONM Songino Array 56.13 41 P P 02 08 44.9 -2.2
comp=Z,1.9nm,0.8s,baz=264,slow=11,SNR=0.7
comp=Z,1.9nm,0.8s
PESTR Estremoz 57.39 307 P P 02 08 56.5 +0.6
MTE Manteigas 57.59 309 P P 02 08 57.8 +0.4
MTE IAmb IAmb 02 09 10.7
comp=Z,37nm,1.3s
ARCES ARCESS Array B 57.74 349 P P 02 08 56.1 -1.7
comp=Z,11nm,0.7s,baz=155,slow=6.4,SNR=3.6
comp=Z,11nm,0.7s
MESJ Messejana 57.75 306 P P 02 08 59.0 +0.6
MESJ IAmb IAmb 02 09 11.6
comp=Z,56nm,1.4s
PFVI Vila Bisbo 58.14 305 P P 02 09 01.8 +0.6
PFVI IAmb IAmb 02 09 15.2
comp=Z,64nm,1.0s
EKA Eskdalemuir Ar 58.75 327 P P 02 09 03.5 -1.6
comp=Z,5.1nm,0.6s,baz=116,slow=6.7,SNR=6.0
comp=Z,5.1nm,0.6s
SPITS Spitsbergen Ar 66.35 353 P P 02 09 54.3 -1.2
comp=Z,21nm,1.0s,baz=127,slow=9.6,SNR=2.9
comp=Z,21nm,1.0s
KSRS Korea Array 70.68 55 P P 02 10 21.6 -1.6
comp=Z,2.2nm,0.8s,baz=283,slow=7.4,SNR=0.6
comp=Z,2.2nm,0.8s
MBWA Marble Bar 75.45 117 P P 02 10 52.4 +0.6
MBWA IAmb IAmb 02 11 02.1
comp=Z,47nm,1.3s
SUMG Summit 76.63 342 P P 02 10 59.5 +1.3
MJAR Matsushiro Arr 78.96 55 P P 02 11 10.1 -1.2
comp=Z,1.8nm,0.8s,baz=288,slow=5.9,SNR=2.3
comp=Z,1.8nm,0.8s
FITZ Fitzroy Crossi 79.64 112 P P 02 11 18.1 +2.9
FITZ IAmb IAmb 02 11 26.3
comp=Z,1μm,1.4s
JTM Tenmabayashi 80.44 50 P P 02 11 19.9 +0.7
JTM IAmb IAmb 02 11 32.1
comp=Z,40nm,0.9s
MAW Mawson 81.95 176 P P 02 11 24.9 -1.6
comp=Z,4.3nm,0.7s,baz=314,slow=4.9,SNR=2.4
comp=Z,4.3nm,0.7s
ELIB Princess Elisa 87.99 189 dP P 02 12 01.1 +4.2
comp=Z,13nm,1.1s
WRA Warramunga Arr 88.04 111 P P 02 11 56.2 -2.0
comp=Z,2.5nm,0.8s,baz=300,slow=3.9,SNR=1.4
comp=Z,2.5nm,0.8s
ASAR Alice Springs 88.67 115 P P 02 11 59.5 -1.7
comp=Z,1.6nm,0.6s,baz=286,slow=5.0,SNR=5.2
comp=Z,1.6nm,0.6s
RCBR Riachuelo 89.08 264 LR LR 02 49 28.8
comp=Z,1μm,20.4s,baz=63,slow=34
TROLL Troll, Antarti 91.95 194 ⇑PKPdf P 02 12 24.9 +9.4
comp=Z,360nm,1.0s
A21K Barrow 92.58 9 P P 02 12 20.1 +1.7
baz=333
A19K Wainwright 92.82 11 P P 02 12 21.2 +1.7
baz=328
SNAA Sanae 93.01 195 ⇑PKPdf **P 02 12 25.1 +4.7**
comp=Z,112nm,1.1s
SNAA Sanae 93.01 195 P P 02 12 16.7 -3.6
comp=Z,1.8nm,1.1s,baz=49,slow=9.3,SNR=1.5
comp=Z,1.8nm,1.1s
B18K Kokolik River 93.41 11 P P 02 12 23.7 +1.4
baz=328
B20K Meade River 93.66 10 P P 02 12 25.3 +1.9
baz=332
VNA2 Neumayer--Watz 93.77 196 ⇑PKPdf P 02 12 31.4 +7.6
comp=Z,16nm,0.6s,baz=14,slow=1.8
VNA1 Neumayer--Stat 93.86 197 ⇑PKPdf P 02 12 29.2 +5.1
comp=Z,7.8nm,0.8s
C17K DeLong Mountai 93.88 12 P P 02 12 25.5 +1.0
baz=326
SCHQ Schefferville 93.99 329 P P 02 12 24.1 -1.2
comp=Z,2.0nm,0.8s,baz=60,slow=5.2,SNR=2.0
comp=Z,2.0nm,0.8s
B21K Ikpikpuk River 94.41 9 P P 02 12 28.2 +1.4
baz=334
D17K Noatak River 94.55 13 P P 02 12 29.3 +1.8
baz=326
VNA3 Neumayer Olymp 94.57 197 ⇑PKPdf **P 02 12 29.9 +2.5**
comp=Z,7.2nm,0.9s
C23K Itkillik River 94.77 8 P P 02 12 30.3 +1.8
baz=338
C21K Knifeblade Rid 94.80 9 P P 02 12 30.2 +1.6
baz=334
D19K Kuna River 94.84 11 P P 02 12 30.4 +1.5
baz=331
E20K Nigu River 95.38 10 P P 02 12 33.3 +1.9
baz=333
D23K Nanushuk River 95.57 8 P P 02 12 33.3 +1.1
baz=338
E21K Killik River 95.58 9 P P 02 12 32.9 +0.7
baz=335
C27K Jago River 95.72 5 P P 02 12 34.6 +1.7
baz=345
D25K Kavik River 95.75 6 P P 02 12 34.7 +1.6
baz=342
E19K Redstone River 95.91 11 P P 02 12 36.1 +2.3
baz=332
TOLK Toolik Lake Re 96.02 8 P P 02 12 33.7 -0.6
baz=339
E22K Anaktuvuk Pass 96.18 9 P P 02 12 35.5 +0.4
baz=337
F19K Shaleruckik Mo 96.36 11 P P 02 12 36.1 +0.3
baz=331
F20K Avaraart Lake 96.55 10 P P 02 12 37.1 +0.5
baz=333
E23K Chandalar 96.56 8 P P 02 12 37.4 +0.5
baz=339
F21K Alatna River 96.77 10 P P 02 12 39.3 +1.6
baz=336
E25K Arctic Village 96.99 6 P P 02 12 39.9 +1.2
baz=343
G18K Tagagawik 97.01 12 P P 02 12 38.8 0.0
baz=330
F25K Christian Rive 97.49 7 P Pdif 02 12 41.9 +0.8
baz=343
F26K Sheenjek River 97.55 6 P Pdif 02 12 42.6 +1.3
baz=345
H21K Melozitna Rive 98.31 10 P Pdif 02 12 45.8 +1.1
baz=336
H22K Ishtalitna Cre 98.33 9 P Pdif 02 12 46.5 +1.7
baz=338
J19K Poorman 99.30 12 P Pdif 02 12 50.2 +1.1
baz=333
PDAR Pinedale Array 120.78 344 PKP **PKPdf 02 17 56.2 -3.8**
comp=Z,0.7nm,0.8s,baz=54,slow=6.1,SNR=1.6
MFID Camas Ranch 121.57 349 PKPdf **PKiKP 02 18 03.5 +2.0**
LPAZ La Paz 122.07 260 PKP **PKiKP 02 18 05.3 +1.6**
comp=Z,0.4nm,0.4s,baz=2.8,slow=2.2,SNR=1.8
PLCA Paso Flores 123.45 230 PKP **PKiKP 02 18 07.0 +1.8**
comp=Z,2.6nm,1.1s,baz=188,slow=15,SNR=1.8
WMOK Wichita Mounta 123.85 331 PKiKP 02 18 07.4 +1.3
NVAR Mina Array Bea 126.85 350 PKiKP 02 18 13.8 +1.6
NVAR Mina Array Bea 126.85 350 PKP **PKPdf 02 18 07.9 -3.9**
comp=Z,0.6nm,0.7s,baz=328,slow=1.2,SNR=2.2
TXAR Lajitas Array 130.64 331 PKP **PKPdf 02 18 14.7 -4.4**
comp=Z,1.7nm,1.0s,baz=132,slow=3.5,SNR=3.1
HMH Humu'ula Sheep 137.09 39 PKPdf 02 18 27.5 -4.1
MWH Moku'aweowe 137.11 39 PKPpre 02 18 24.2

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*UPP **15** 02:20:11.4±0.0, 67°.85N×20°.21E, h0km, ML2.5, Confirmed Induced event*
*HEL **15** 02:20:11.4±0.1, 67°.84N×20°.15E, h0km, ML1.6, Explosion*
*IDC **15** 02:20:12.4±0.9, 67°.80N×20°.74E, h0km, mbtmp3.0/5, ML2.2/5, Error ellipse: s-maj=15.1km s-min=6.4km az=116.0*
ISC 15 02:20:11.6±0.8, 67°.83N±0°.02×20°.22E±0°.03, h0km, n37, σ1§13/57, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**20**	P	**Pg**	**02 20 14.0**	**-0.2**
KUA				S	**Sg**	**02 20 15.6**	**-0.3**
RATU	**Laukkuluspa**	**0.24**	**269**	P	**Pg**	**02 20 16.1**	**0.0**
KOVU	**Salmi**	**0.40**	**357**	P	**Pg**	**02 20 18.7**	**-0.5**
LANU	**Lannavaara**	**0.71**	**71**	P	**Pg**	**02 20 24.8**	**-0.4**
LANU	**Lannavaara**	**0.71**	**71**	PG	**Pg**	**02 20 24.6**	**-0.6**
LANU				SG	**Sg**	**02 20 33.8**	**-0.5**
DUNU	**Dundret**	**0.72**	**169**	P	**Pg**	**02 20 25.3**	**-0.2**
SALU	**Saltoluokta**	**0.80**	**236**	P	**Pg**	**02 20 26.6**	**-0.3**
KIF	**Kilpisjarvi**	**1.20**	**10**	eP	**Pg**	**02 20 34.4**	**-0.2**
HEF	**Hetta**	**1.42**	**64**	eP	**Pn**	**02 20 37.3**	**-1.3**
HEF	**Hetta**	**1.42**	**64**	PG	**Pn**	**02 20 37.3**	**-1.3**
baz=248							
HEF				MSG		02 20 54.7	
comp=Z,4.7nm,0.2s							
HEF				SG	**Sg**	**02 20 55.8**	**-1.3**
ERTU	**Ertsjaerv**	**1.49**	**148**	P	**Pn**	**02 20 39.0**	**-0.7**
ERTU	**Ertsjaerv**	**1.49**	**148**	PG	**Pn**	**02 20 38.8**	**-0.9**
ERTU				SN	**Sg**	**02 20 59.8**	**+0.3**
KLF	**Kolari**	**1.56**	**111**	PG	**Pn**	**02 20 39.8**	**-0.8**
KLF				MSG		02 20 58.8	
comp=Z,4.6nm,0.2s							
KLF				SN	**Sb**	**02 21 01.6**	**+0.1**
KTK1	**Kautokeino**	**1.63**	**42**	PG	**Pn**	**02 20 41.0**	**-0.6**
KTK1				SN	**Sg**	**02 21 05.2**	**+1.3**
HARU	**Harads**	**1.70**	**170**	P	**Pn**	**02 20 42.7**	**+0.2**
TRO	**Tromso**	**1.87**	**346**	PG	**Pn**	**02 20 44.7**	**-0.2**
TRO				SN	**Sn**	**02 21 09.1**	**-0.1**
KALU	**Kalix**	**2.34**	**146**	PB	**Pn**	**02 20 52.2**	**+1.0**
baz=327							
KALU				SG	**Sb**	**02 21 23.3**	**-0.6**
TOF	**Tornio**	**2.39**	**135**	PG	**Pn**	**02 20 53.3**	**+1.4**
TOF				MSG		02 21 22.7	
comp=Z,3.7nm,0.2s							
TOF				SG	**Sb**	**02 21 25.7**	**+0.3**
SGF	**Sodankyl**	**2.44**	**96**	PB	**Pn**	**02 20 53.4**	**+0.6**
SGF				SG	**Sb**	**02 21 27.1**	**+0.1**
RNF	**Rovaniemi**	**2.57**	**116**	PB	**Pn**	**02 20 56.2**	**+1.8**
RNF				SG	**Sb**	**02 21 30.0**	**-0.6**
ARA0	**ARCESS Array S**	**2.58**	**46**	SB	**Sn**	**02 21 27.7**	**+1.0**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**02 20 54.6**	**-0.1**
comp=Z,1.0nm,0.3s,baz=225,slow=16,SNR=76							
ARCES				Lg	Lg	02 21 29.3	
comp=Z,2.6nm,0.3s,baz=222,slow=26,SNR=27							
comp=Z,2.2nm,0.3s							
RAJF	**Raja-Jooseppi**	**3.10**	**74**	PN	**Pn**	**02 21 01.8**	**+0.2**
RAJF				SB	**Sb**	**02 21 44.2**	**-1.5**
KEV	**Kevo**	**3.14**	**49**	PN	**Pn**	**02 21 02.4**	**+0.2**
KEV				SN	**Sn**	**02 21 40.8**	**+0.5**
RANF	**Ranua**	**3.17**	**122**	PB	**Pn**	**02 21 03.6**	**+1.0**
RANF				SG	**Sb**	**02 21 49.2**	**+1.5**
BURU	**Burvik**	**3.29**	**171**	PB	**Pn**	**02 21 05.8**	**+1.4**
BURU				SB	**Sb**	**02 21 48.7**	**-2.8**
VRF	**Varrio**	**3.57**	**87**	PG	**Pb**	**02 21 15.8**	**+0.3**
baz=280							
VRF				SG	**Sb**	**02 22 02.0**	**+2.7**
OUL	**Oulu**	**3.58**	**138**	PG	**Pb**	**02 21 16.5**	**+0.8**
OUL				SG	**Sb**	**02 22 00.8**	**+1.3**
OBF0	**Syolatti, Pyha**	**3.72**	**152**	PG	**Pb**	**02 21 20.1**	**+2.0**
OLKF	**Oulanka, Finla**	**3.90**	**109**	PN	**Pn**	**02 21 13.5**	**+0.8**
OLKF				SG	**Sg**	**02 22 14.2**	**-2.5**
UMAU	**Umeaa**	**3.97**	**177**	PN	**Pn**	**02 21 15.3**	**+1.7**
baz=360							
MSF	**Maaselka**	**3.98**	**115**	PN	**Pn**	**02 21 14.8**	**+1.0**
KU6	**Riekki**	**4.22**	**111**	PN	**Pn**	**02 21 17.7**	**+0.6**
baz=295							
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**02 21 54.2**	**+0.6**
comp=Z,0.1nm,0.3s,baz=347,slow=11,SNR=5.8							
FINES				Sn	**Sn**	**02 23 10.6**	**-2.0**
comp=Z,0.2nm,0.3s,baz=349,slow=21,SNR=5.9							
FINES				Lg	Lg	02 23 44.3	
comp=Z,0.2nm,0.3s,baz=348,slow=27,SNR=6.7							
comp=Z,0.7nm,0.7s							
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**02 22 06.7**	**-0.1**
baz=26,slow=12,SNR=1.6							
NOA				Lg	Lg	02 24 18.8	
baz=42,slow=12,SNR=1.8							
comp=Z,0.1nm,0.4s							
HFS	**Hagfors**	**8.23**	**203**	Pn	**Pn**	**02 22 10.7**	**-1.4**
comp=Z,0.1nm,0.3s,baz=12,slow=7.4,SNR=1.9							
HFS				Sn	**Sn**	**02 23 44.0**	**-1.8**
comp=Z,0.1nm,0.3s,baz=22,slow=28,SNR=2.7							
HFS				Lg	Lg	02 24 31.2	
comp=Z,0.2nm,0.3s,baz=25,slow=29,SNR=4.2							
comp=Z,0.9nm,0.8s							
SPITS	**Spitsbergen Ar**	**10.46**	**356**	Pn	**Pn**	**02 22 42.3**	**-0.3**
baz=163,slow=5.6							
comp=Z,4.3nm,1.0s							

IDC 15 02:22:25.3±1.8, 6°.45S×129°.41E, h0km, mb4.0/2, mbtmp3.8/4, ML3.9/2, Error ellipse: s-maj=116.5km s-min=28.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.24**	**161**	Pn	Pn	02 25 47.9	-0.5
0.6nm,0.3s,baz=339,slow=13,SNR=19							
WRA				Sn	Sn	02 28 13.4	-14
0.7nm,0.3s,baz=352,slow=21,SNR=8.5							
0.7nm,0.7s							
ASAR	**Alice Springs**	**17.65**	**166**	P	Pn	02 26 33.2	+0.4
0.3nm,0.3s,baz=345,slow=9.7,SNR=19							
ASAR				S	Sn	02 29 36.2	-14
0.2nm,0.5s,baz=359,slow=28,SNR=1.9							
1.0nm,0.6s							
MKAR	**Makanchi Array**	**67.45**	**327**	P	P	02 33 23.7	+0.7
1.7nm,0.5s,baz=118,slow=7.5,SNR=22							
1.7nm,0.5s							
KURBB	**Kurchatov Arra**	**71.74**	**329**	P	P	02 33 48.1	-1.2
0.3nm,0.4s,baz=121,slow=5.5,SNR=4.3							
0.3nm,0.4s							

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*SOME **15** 02:22:59.0, 43°.90N×84°.23E, h10km*
*NNC **15** 02:23:08.5±4.1, 43°.82N×83°.98E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=43.4km s-min=16.0km az=136.0*
ISC 15 02:22:59.1±3.3, 43°.7N±0°.1×84°.6E±0°.2, h10km, n9, σ1§93/16, **3C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.07**	**267**	eP	**Pb**	**02 23 51.9**	**-2.0**
0.9nm,0.2s							
KTMS				eS	**Sb**	**02 24 29.4**	**-2.1**
5.3nm,0.2s							
DJR	**Jarkent**	**3.51**	**283**	eP	**Pb**	**02 23 59.2**	**-2.1**
0.6nm,0.1s							
DJR				eS	**Sb**	**02 24 41.8**	**-2.3**
10nm,0.3s							
MK31	**Makanchi Array**	**3.52**	**334**	⇓Pn	**Pb**	**02 23 59.3**	**-2.2**
0.4nm,0.3s,baz=151,slow=16,SNR=18							
MK31				⇑Lg	Lg	02 24 50.0	
0.9nm,0.1s,baz=157,slow=28							
MAKZ	**Makanchi**	**3.64**	**331**	⇓Pn	**Pb**	**02 24 03.4**	**-0.1**
PDGK	**Podgornoye**	**3.71**	**267**	⇑Pn	**Pb**	**02 24 01.7**	**-3.1**
1.5nm,0.5s							
PDGK				⇑Sn	**Sn**	**02 24 42.5**	**+2.1**
2.8nm,0.5s							
SHLS	**Shalkode**	**3.75**	**264**	eP	**Pn**	**02 23 58.9**	**+1.7**
3.7nm,0.3s							
SHLS				eS	**Sn**	**02 24 41.3**	**-0.1**
10nm,0.3s							
UZB	**Uzynbulak**	**4.07**	**265**	eP	**Pb**	**02 24 10.0**	**-1.0**
1.5nm,0.2s							
UZB				eS	**Sb**	**02 25 00.3**	**0.0**
2.8nm,0.2s							
KPKS	**Kokpek**	**4.28**	**269**	eP	**Pb**	**02 24 13.7**	**-0.7**
1.5nm,0.1s							
KPKS				eS	**Sb**	**02 25 06.8**	**+0.6**
6.1nm,0.3s							
ARXS	**Arharly**	**4.90**	**279**	eP	**Pb**	**02 24 25.3**	**+0.3**
0.7nm,0.4s							
ARXS				eS	**Sb**	**02 25 26.6**	**+2.6**
2.9nm,0.5s							

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*DJA **15** 02:39:02.1±0.4, 8°.S±4°.×12°.0E±°, h189km±7km, M4.1/13, mb4.3/3, MLv4.0/13*
*IDC **15** 02:39:03.4±2.1, 7°.97S×120°.29E, h221km±18km, mb3.4/7, mbtmp4.0/9, Error ellipse: s-maj=64.6km s-min=8.7km az=53.0*
*NEIC **15** 02:39:03.0±0.9, 8°.1S±0°.1×120°.18E±0°.09, h197km±13km, mb4.2/12, Error ellipse: s-maj=19.1km s-min=7.9km az=217.0*
ISC 15 02:39:01.7±0.6, 8°.14S±0°.05×120°.07E±0°.05, h201km, n59, σ1§18/63, **mb4.0/9, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.71**	**111**	P	**Pn**	**02 39 36.9**	**-0.7**
BASI	**Baing, Sumba**	**2.13**	**166**	P	**Pn**	**02 39 40.3**	**-1.3**
BASI				S	**S**	**02 40 10.5**	**-1.7**
MMRI	**Maumere**	**2.20**	**103**	P	**Pn**	**02 39 42.6**	**+0.2**
MMRI	**Maumere**	**2.20**	**103**		**Pn**	**02 39 42.2**	**-0.2**
MMRI	**Maumere**	**2.20**	**103**	P	**Pn**	**02 39 42.7**	**+0.3**
PLAI	**Plampang**	**2.37**	**253**	P	**Pn**	**02 39 43.8**	**-0.4**
PLAI	**Plampang**	**2.37**	**253**	P	**Pn**	**02 39 43.8**	**-0.4**
PLAI				S	**S**	**02 40 14.8**	**-1.9**
BKSI	**Bulukumba**	**2.80**	**1**	P	**Pn**	**02 39 48.5**	**-0.6**
KAPI	**Kappang**	**3.12**	**354**		**Pn**	**02 39 53.0**	**+0.1**
KAPI	**Kappang**	**3.12**	**354**	P	**Pn**	**02 39 53.0**	**+0.1**
53nm,0.5s,baz=176,slow=8.5,SNR=51							
TWSI	**Taliwang, Sumb**	**3.21**	**259**	P	**Pn**	**02 39 53.6**	**-0.3**
BBSI	**Bau Bau**	**3.62**	**43**	P	**Pn**	**02 40 00.2**	**+1.3**
BATI	**Baumata**	**4.10**	**120**	P	**Pn**	**02 40 05.3**	**+0.5**
SOEI	**Soe**	**4.45**	**111**	P	**Pn**	**02 40 10.5**	**+1.2**
SOEI	**Soe**	**4.45**	**111**		**Pn**	**02 40 09.3**	**0.0**
SOEI	**Soe**	**4.45**	**111**	P	**Pn**	**02 40 09.4**	**+0.1**
JAGI	**Jajag, Banyuwa**	**5.87**	**266**	P	**Pn**	**02 40 27.5**	**+0.2**
48nm,1.3s							
LUWI	**Luwuk**	**7.55**	**21**	Pn	**Pn**	**02 40 48.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**11.29**	**152**	Pn	**Pn**	**02 41 36.8**	**-0.7**
KNRA	**Kununurra**	**11.33**	**132**	Pn	**Pn**	**02 41 36.7**	**-1.4**
MTN	**Manton Dam**	**11.84**	**114**		**Pn**	**02 41 44.0**	**-0.6**
MBWA	**Marble Bar**	**12.95**	**181**		**P**	**02 42 03.7**	**+1.9**
SBUM	**Sibu**	**13.11**	**323**	P	**P**	**02 42 04.8**	**+1.1**
FAKI	**Fak Fak**	**13.18**	**68**	P	**Pn**	**02 42 00.7**	**-0.9**
FAKI	**Fak Fak**	**13.18**	**68**	Pn	**Pn**	**02 42 00.1**	**-1.5**
WB0	**Warramunga Arr**	**18.06**	**131**	P	**P**	**02 42 58.7**	**+0.5**
WB0				IAmb	IAmb	02 42 59.1	
comp=Z,5.3nm,0.7s							
WRA	**Warramunga Arr**	**18.13**	**132**	P	**P**	**02 42 58.9**	**-0.1**
WRA	**Warramunga Arr**	**18.13**	**132**	P	**P**	**02 42 59.0**	**0.0**
comp=Z,2.4nm,0.3s,baz=304,slow=12,SNR=178							
WRA				S	**S**	**02 46 14.4**	**-1.8**
comp=Z,1.7nm,0.6s,baz=303,slow=24,SNR=7.3							
WRAB	**Tennant Creek**	**18.13**	**132**	P	**P**	**02 42 59.8**	**+0.8**
WB2	**Warramunga Arr**	**18.14**	**132**	P	**P**	**02 42 59.8**	**+0.7**
WR0	**Warramunga Arr**	**18.29**	**131**	P	**P**	**02 43 01.5**	**+0.8**
WR0				IAmb	IAmb	02 43 02.1	
comp=Z,10nm,0.8s							
MEEK	**Meekatharra**	**18.45**	**184**	P	**P**	**02 43 04.5**	**+2.1**
WRKA	**Warakurna**	**18.55**	**156**	P	**P**	**02 43 05.4**	**+1.9**
AS31	**Alice Springs**	**20.35**	**141**	P	**P**	**02 43 24.0**	**+1.0**
AS31				IAmb	IAmb	02 43 26.3	
comp=Z,3.1nm,0.4s							
ASAR	**Alice Springs**	**20.35**	**141**	P	**P**	**02 43 24.1**	**+1.1**
ASAR	**Alice Springs**	**20.35**	**141**	P	**P**	**02 43 23.6**	**+0.7**
comp=Z,2.0nm,0.4s,baz=321,slow=11,SNR=59							
ASAR				S	**S**	**02 46 59.3**	**-0.6**
comp=Z,0.7nm,0.8s,baz=310,slow=17,SNR=6.0							
comp=Z,2.0nm,0.4s							
MORW	**Morawa**	**21.16**	**190**	P	**P**	**02 43 32.7**	**+1.3**
MORW	**Morawa**	**21.16**	**190**	P	**P**	**02 43 32.5**	**+1.1**
QIS	**Mount Isa**	**22.56**	**125**	P	**P**	**02 43 46.6**	**+1.4**
BLDU	**Ballidu**	**22.58**	**188**	P	**P**	**02 43 46.0**	**+0.8**
KMBL	**Kambalda**	**23.17**	**176**	P	**P**	**02 43 51.6**	**+1.0**
COEN	**Coen**	**23.39**	**106**	P	**P**	**02 43 52.8**	**+0.1**
COEN	**Coen**	**23.39**	**106**	P	**P**	**02 43 52.9**	**+0.2**
COEN				IAmb	IAmb	02 44 10.2	
comp=Z,11nm,1.1s							
KLBR	**Kellerberrin**	**23.43**	**185**	P	**P**	**02 43 54.5**	**+1.6**
FORT	**Forrest**	**23.73**	**163**	P	**P**	**02 43 57.0**	**+1.4**
FORT	**Forrest**	**23.73**	**163**	P	**P**	**02 43 57.1**	**+1.4**
OOD	**Oodnadatta**	**24.50**	**145**	P	**P**	**02 44 04.1**	**+1.4**
NWAO	**Narrogin (SRO)**	**24.80**	**186**	P	**P**	**02 44 06.9**	**+1.5**
NWAO	**Narrogin (SRO)**	**24.80**	**186**	P	**P**	**02 44 08.2**	**+2.9**
NWAO				IAmb	IAmb	02 44 11.7	
comp=Z,4.7nm,0.8s							
MULG	**Mulgathing**	**25.63**	**151**	P	**P**	**02 44 14.1**	**+1.2**
BBOO	**Buckleboo**	**28.68**	**151**	P	**P**	**02 44 41.2**	**+1.2**
BBOO				IAmb	IAmb	02 44 52.6	
comp=Z,5.8nm,1.0s							
STKA	**Stephens Creek**	**30.96**	**143**	P	**P**	**02 45 02.2**	**+2.0**
STKA	**Stephens Creek**	**30.96**	**143**	P	**P**	**02 45 01.4**	**+1.2**
comp=Z,1.8nm,0.5s,baz=321,slow=11,SNR=4.0							
comp=Z,1.8nm,0.5s							
SONM	**Songino Array**	**57.03**	**349**	P	**P**	**02 48 27.4**	**+0.7**
comp=Z,0.6nm,0.5s,baz=168,slow=10,SNR=2.4							
comp=Z,0.6nm,0.5s							
MKAR	**Makanchi Array**	**64.19**	**332**	P	**P**	**02 49 14.3**	**-0.6**
comp=Z,1.4nm,0.5s,baz=142,slow=7.6,SNR=14							
comp=Z,1.4nm,0.5s							
ZALV	**Zalesovo Beam**	**68.63**	**339**	P	**P**	**02 49 41.4**	**-1.5**
comp=Z,1.0nm,0.3s,baz=150,slow=6.2,SNR=3.5							
comp=Z,1.0nm,0.3s							
KURBB	**Kurchatov Arra**	**68.68**	**333**	P	**P**	**02 49 42.0**	**-1.3**
comp=Z,0.4nm,0.4s,baz=140,slow=6.1,SNR=1.9							
comp=Z,0.4nm,0

2.5nm,0.9s
ESDC Sonseca Array 25.29 109 P **P 02 51 13.4 -1.0**
1.2nm,0.9s,baz=317,slow=9.2,SNR=12
1.2nm,0.9s
FINES FINESS Array B 33.19 51 P **P 02 52 24.9 +0.5**
1.5nm,0.8s,baz=297,slow=15,SNR=5.1
1.5nm,0.8s
KEST Kesra 35.73 101 P **P 02 52 46.8 +0.1**
4.0nm,0.8s,baz=344,slow=7.4,SNR=4.6
4.0nm,0.8s
BRTR Keskin Array B 47.70 77 P **P 02 54 25.0 +0.3**
0.8nm,0.8s,baz=329,slow=5.0,SNR=2.5
0.8nm,0.8s
PDAR Pinedale Array 48.60 289 P **P 02 54 32.2 +0.4**
0.1nm,0.5s,baz=68,slow=12,SNR=1.7
0.1nm,0.5s
ILAR Eielson Array 51.30 329 P **P 02 54 50.6 -1.1**
0.1nm,0.6s,baz=53,slow=6.0,SNR=1.5
0.1nm,0.6s
WRA Warramunga Arr 146.09 17 PKPbc **PKPab 03 05 29.0 +0.3**
0.6nm,0.9s,baz=341,slow=3.1,SNR=3.4
ASAR Alice Springs 149.63 19 PKPbc **PKiKP 03 05 39.3 +0.7**
0.4nm,0.9s,baz=358,slow=2.7,SNR=3.2

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*IDC **15** 03:03:49.8±11.0, 17°.28S×178°.78W, h555km±144km, mb3.3/7, mbtmp4.2/7, Error ellipse: s-maj=90.6km s-min=35.8km az=164.0*
ISC 15 03:03:49.3±1.5, 17°.25±0°.6×178°.8W±0°.4, h550km, n8, σ0°41/8, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.62**	**240**	P	**P**	**03 10 25.8**	**-0.2**
	4.9nm,0.9s,baz=347,slow=3.2,SNR=5.8						
	4.9nm,0.9s						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**03 11 11.8**	**+0.2**
	2.5nm,0.5s,baz=96,slow=7.2,SNR=91						
	2.5nm,0.5s						
ASAR	**Alice Springs**	**44.61**	**254**	P	**P**	**03 11 13.6**	**+0.3**
	11nm,0.6s,baz=87,slow=8.7,SNR=216						
	11nm,0.6s						
NVAR	**Mina Array Bea**	**79.21**	**44**	P	**P**	**03 14 58.3**	**+0.4**
	0.9nm,0.8s,baz=222,slow=9.7,SNR=5.9						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**85.32**	**13**	P	**P**	**03 15 28.1**	**+0.1**
	0.4nm,0.4s,baz=222,slow=4.9,SNR=15						
	0.4nm,0.4s						
TXAR	**Lajitas Array**	**85.96**	**58**	P	**P**	**03 15 32.2**	**+0.2**
	1.3nm,0.8s,baz=212,slow=7.1,SNR=12						
	1.3nm,0.8s						
PDAR	**Pinedale Array**	**87.13**	**44**	P	**P**	**03 15 36.9**	**-0.5**
	0.6nm,0.6s,baz=231,slow=2.9,SNR=6.7						
	0.6nm,0.6s						
GERES	**GERESS Array B**	**146.87**	**345**	PKPbc	**PKPbc**	**03 22 29.7**	**-0.5**
	0.7nm,0.7s,baz=358,slow=4.0,SNR=5.2						

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*JMA **15** 03:08:40.2±0.1, 24°.3N±0°.3×123°.8E±0°.3, h16km±1km, MV2.1/9, NEAR ISHIGAKIJIMA ISLAND*
ISC 15 03:08:40.9±1.1, 24°.26N±0°.04×123°.82E±0°.03, h12km±7km, n10, σ0°75/18, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.11**	**313**	P	**Pg**	**03 08 43.7**	**-0.1**
IRIF				S	**Sg**	**03 08 46.4**	**+0.4**
JKRS	**Kuro-shima**	**0.18**	**97**	P	**Pg**	**03 08 44.7**	**-0.2**
JKRS				S	**Sg**	**03 08 48.1**	**+0.5**
HATJ	**Hateruma jima**	**0.20**	**183**	P	**Pg**	**03 08 44.7**	**-0.6**
HATJ				S	**Sg**	**03 08 48.0**	**-0.3**
JIJ	**Ishigaki jima**	**0.32**	**71**	P	**Pg**	**03 08 46.7**	**-0.6**
JIJ				S	**Sg**	**03 08 51.2**	**-0.3**
JISG	**Ishigakijimahi**	**0.56**	**54**	*i* P	**Pg**	**03 08 51.1**	**-0.6**
JISG				S	**Sg**	**03 08 59.2**	**+0.1**
YOJ	**Yonaguni jima**	**0.76**	**285**	*e*P	**Pg**	**03 08 55.0**	**-0.6**
YOJ				S	**Sg**	**03 09 05.5**	**-0.1**
JYNG	**Yonagunijimaku**	**0.82**	**284**	P	**Pg**	**03 08 55.9**	**-0.8**
JYNG				S	**Sg**	**03 09 07.3**	**0.0**
JTJ	**Tarama**	**0.89**	**65**	*e*P	**Pg**	**03 08 57.3**	**-0.7**
JTJ				S	**Sg**	**03 09 09.7**	**0.0**
WRA	**Warramunga Arr**	**45.12**	**166**	P	**P**	**03 16 56.5**	**-0.7**
	0.3nm,0.4s,baz=343,slow=10,SNR=8.1						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**48.64**	**168**	P	**P**	**03 17 26.8**	**+2.0**
	0.3nm,0.5s,baz=342,slow=7.0,SNR=9.1						
	0.3nm,0.5s						

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*NOU **15** 03:19:51.7, 21°.97S×178°.72W, h638km, mb4.8/16, Fiji Islands Region*
*IDC **15** 03:19:52.6±2.0, 22°.03S×179°.47W, h556km±20km, mb3.5/9, mbtmp4.4/10, Error ellipse: s-maj=19.9km s-min=16.4km az=40.0*
*NEIC **15** 03:19:55.2±1.8, 22°.2S±0°.2×179°.5W±0°.1, h583km±11km, mb4.5/29, Error ellipse: s-maj=22.1km s-min=14.4km az=190.0*
ISC 15 03:19:54.5±0.5, 22°.33S±0°.07×179°.47W±0°.08, h579km, n95, σ1°74/107, mb4.5/25, 3C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.14**	**333**	P	**P**	**03 21 28.5**	**+1.1**
MSVF	**Nonsavu**	**5.14**	**333**	P	**P**	**03 21 28.4**	**+1.1**
RAO	**Raoul Island**	**7.03**	**169**	P	**P**	**03 21 42.8**	**-1.0**
RAO	**Raoul Island**	**7.03**	**169**	P	**P**	**03 21 41.8**	**-1.9**
	949nm,0.3s,baz=121,slow=20,SNR=10						
GLKZ	**Green Lake**	**7.04**	**169**	P	**P**	**03 21 45.1**	**+1.3**
NIUE	**Niue**	**9.50**	**72**	P	**P**	**03 22 07.8**	**0.0**
AFI	**Afiamalu**	**11.11**	**42**	P	**P**	**03 22 22.7**	**-1.6**
PINNC	**Pines Island,**	**12.11**	**266**	P	**P**	**03 22 35.0**	**+0.8**
DZM	**Mont Dzumac**	**13.06**	**268**	P	**P**	**03 22 46.0**	**+1.9**
DZM	**Mont Dzumac**	**13.06**	**268**	P	**P**	**03 22 44.1**	**0.0**
	14nm,0.6s,baz=108,slow=21,SNR=23						
WIAZ	**Waiheke Island**	**15.15**	**197**	P	**P**	**03 23 07.6**	**+3.1**
KOUNC	**Koumac, New Ca**	**15.23**	**274**	P	**P**	**03 23 05.8**	**+0.3**
KOUNC				IAmb	IAmb	03 23 19.3	
	comp=Z,15nm,0.7s						
MKAZ	**Moumakai**	**15.44**	**196**	P	**P**	**03 23 07.8**	**+0.6**
HAZ	**Te Kaha**	**15.55**	**188**	P	**P**	**03 23 09.3**	**+0.9**
HAZ				S	**S**	**03 25 41.4**	**-5.4**
RUGZ	**Raukumara Rang**	**15.78**	**188**	P	**P**	**03 23 08.5**	**-2.1**
TWGZ	**Tauwhareparae**	**15.95**	**187**	P	**P**	**03 23 13.4**	**+1.3**
TWGZ				S	**S**	**03 25 51.1**	**-2.2**
TOZ	**Tahuroa Road**	**15.95**	**195**	P	**P**	**03 23 14.4**	**+2.3**
TOZ				IAmb	IAmb	03 23 17.0	
	comp=Z,12nm,0.6s						
TOZ	**Tahuroa Road**	**15.95**	**195**	P	**P**	**03 23 15.3**	**+3.2**
URZ	**Urewera**	**16.15**	**190**	P	**P**	**03 23 13.4**	**-0.5**
URZ	**Urewera**	**16.15**	**190**	P	**P**	**03 23 12.4**	**-1.6**
	comp=Z,10nm,0.3s,baz=346,slow=3.5,SNR=27						
URZ				S	**S**	**03 25 50.9**	**-5.6**
	comp=Z,10nm,0.6s,baz=293,slow=23,SNR=11						
URZ	**Urewera**	**16.15**	**190**	P	**P**	**03 23 12.3**	**-1.6**
URZ				S	**S**	**03 25 51.0**	**-5.4**
MWZ	**Matawai**	**16.16**	**189**	P	**P**	**03 23 14.6**	**+0.5**
MWZ				S	**S**	**03 25 53.3**	**-3.4**
MUGZ	**Murupara**	**16.41**	**191**	P	**P**	**03 23 16.8**	**+0.4**
MUGZ				S	**S**	**03 25 58.4**	**-2.5**
HRRZ	**Handcock Road**	**16.42**	**192**	P	**P**	**03 23 18.3**	**+1.8**
RIGZ	**Rimuhau**	**16.49**	**188**	P	**P**	**03 23 17.2**	**0.0**
RIGZ				S	**S**	**03 26 01.2**	**-1.0**
RTZ	**Ruatahuna**	**16.52**	**190**	P	**P**	**03 23 17.5**	**+0.1**
RTZ				S	**S**	**03 26 00.5**	**-2.1**
SNGZ	**Shannon Statio**	**16.62**	**189**	P	**P**	**03 23 18.6**	**+0.3**
SNGZ				S	**S**	**03 26 04.2**	**-0.1**
MTHZ	**Maungataniwha**	**16.77**	**190**	P	**P**	**03 23 20.2**	**+0.6**
MTHZ				S	**S**	**03 26 03.2**	**-3.5**
RAHZ	**Arahi**	**16.79**	**189**	P	**P**	**03 23 20.6**	**+0.8**
RAHZ				S	**S**	**03 26 05.4**	**-1.7**
HIZ	**Hauiti**	**16.85**	**196**	P	**P**	**03 23 23.5**	**+3.2**
NMHZ	**Naumai**	**17.01**	**190**	P	**P**	**03 23 21.0**	**-0.8**
NMHZ				S	**S**	**03 26 11.7**	**+1.0**
BKZ	**Black Stump Fm**	**17.13**	**191**	P	**P**	**03 23 22.3**	**-0.7**
BKZ				S	**S**	**03 26 06.6**	**-6.1**
TMVZ	**Te Maari**	**17.23**	**193**	P	**P**	**03 23 25.6**	**+1.6**
ETVZ	**East Tongariro**	**17.25**	**193**	P	**P**	**03 23 25.3**	**+1.2**
QRZ	**Quartz Range**	**19.64**	**198**	P	**P**	**03 23 46.6**	**+0.9**
THZ	**Tophouse**	**20.41**	**197**	P	**P**	**03 23 53.8**	**+1.1**
THZ				IAmb	IAmb	03 24 12.8	
	comp=Z,21nm,1.2s						
ARMA	**Armidale**	**27.06**	**247**	P	**P**	**03 24 53.7**	**+1.7**
ARMA	**Armidale**	**27.06**	**247**	P	**P**	**03 24 53.8**	**+1.7**
EIDS	**Eidsvold**	**27.08**	**258**	P	**P**	**03 24 52.4**	**+0.3**
EIDS				IAmb	IAmb	03 24 53.3	
	comp=Z,9.1nm,0.6s						
SYDH	**Sydney Hard Ro**	**28.55**	**240**	P	**P**	**03 25 06.4**	**+1.6**
AULRC	**Lightning Ridg**	**30.06**	**250**	P	**P**	**03 25 19.2**	**+1.3**
CNB	**Canberra Magne**	**30.08**	**238**	P	**P**	**03 25 19.2**	**+1.1**
CAN	**Canberra**	**30.37**	**238**	P	**P**	**03 25 21.4**	**+0.9**
CAN				IAmb	IAmb	03 25 22.9	
	comp=Z,15nm,0.9s						
CTAO	**Charters Tower**	**32.00**	**268**	P	**P**	**03 25 34.3**	**-0.2**
CTAO	**Charters Tower**	**32.00**	**268**	P	**P**	**03 25 34.3**	**-0.2**
CMSA	**Cobar Meteorol**	**32.28**	**246**	P	**P**	**03 25 37.6**	**+0.9**
QLP	**Quilpie**	**33.24**	**255**	P	**P**	**03 25 45.4**	**+0.5**
TOO	**Toolangi**	**33.73**	**235**	P	**P**	**03 25 50.1**	**+1.2**
TOO				IAmb	IAmb	03 25 50.7	
	comp=Z,8.6nm,0.7s						
STKA	**Stephens Creek**	**35.78**	**246**	P	**P**	**03 26 07.1**	**+1.0**
STKA	**Stephens Creek**	**35.78**	**246**	P	**P**	**03 26 06.4**	**+0.4**
STKA	**Stephens Creek**	**35.78**	**246**	P	**P**	**03 26 07.0**	**+1.0**
	comp=Z,10.0nm,0.5s,baz=93,slow=10,SNR=31						
	comp=Z,10.0nm,0.5s						
COEN	**Coen**	**36.39**	**277**	P	**P**	**03 26 11.0**	**-0.2**
COEN				IAmb	IAmb	03 26 12.2	
	comp=Z,6.7nm,0.8s						
LCRK	**Leigh Creek**	**38.58**	**249**	P	**P**	**03 26 28.0**	**-0.9**
BBOO	**Buckleboo**	**40.53**	**245**	P	**P**	**03 26 43.9**	**-0.5**
BBOO				IAmb	IAmb	03 26 45.2	
	comp=Z,9.2nm,0.7s						
MULG	**Mulgathing**	**42.17**	**249**	P	**P**	**03 26 57.1**	**-0.4**
AS01	**Alice Springs**	**42.76**	**259**	P	**P**	**03 27 01.8**	**-0.4**
AS31	**Alice Springs**	**42.80**	**259**	P	**P**	**03 27 02.4**	**-0.1**
AS31				IAmb	IAmb	03 27 02.9	
	comp=Z,6.1nm,0.7s						
ASAR	**Alice Springs**	**42.80**	**259**	P	**P**	**03 27 02.5**	**0.0**
	comp=Z,24nm,0.8s,baz=101,slow=8.1,SNR=221						
	comp=Z,24nm,0.8s						
WR0	**Warramunga Arr**	**42.84**	**264**	P	**P**	**03 27 02.0**	**-0.8**
WR0				IAmb	IAmb	03 27 03.4	
	comp=Z,7.4nm,0.5s						
WB0	**Warramunga Arr**	**43.01**	**265**	P	**P**	**03 27 03.3**	**-0.8**
WB2	**Warramunga Arr**	**43.02**	**264**	P	**P**	**03 27 03.4**	**-0.8**
WB2				IAmb	IAmb	03 27 04.1	
	comp=Z,20nm,0.8s						
WRAB	**Tennant Creek**	**43.02**	**264**	P	**P**	**03 27 03.2**	**-1.0**
WRAB				IAmb	IAmb	03 27 04.0	
	comp=Z,16nm,0.9s						
WRA	**Warramunga Arr**	**43.03**	**264**	P	**P**	**03 27 03.3**	**-1.0**
WRA	**Warramunga Arr**	**43.03**	**264**	P	**P**	**03 27 03.2**	**-1.0**
	comp=Z,14nm,0.5s,baz=96,slow=7.8,SNR=256						
WRA				ScP	**ScP**	**03 31 38.8**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=86,slow=4.4,SNR=5.6						
	comp=Z,14nm,0.5s						
FORT	**Forrest**	**47.33**	**248**	P	**P**	**03 27 36.4**	**-0.5**
WRKA	**Warakurna**	**47.67**	**256**	P	**P**	**03 27 39.2**	**-0.5**
MTN	**Manton Dam**	**47.85**	**273**	P	**P**	**03 27 39.8**	**-1.2**
MTN	**Manton Dam**	**47.85**	**273**	P	**P**	**03 27 40.0**	**-1.0**
FAKI	**Fak Fak**	**50.62**	**285**	P	**P**	**03 28 00.6**	**-0.9**
FAKI				IAmb	IAmb	03 28 25.8	
	comp=Z,18nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.46**	**264**	P	**P**	**03 28 06.6**	**-0.8**
SOEI	**Soe**	**55.22**	**274**	P	**P**	**03 28 34.7**	**+0.5**
SBA	**Scott Base**	**55.97**	**183**	P	**P**	**03 28 40.3**	**+2.1**
VNDA	**Vanda**	**55.98**	**185**	P	**P**	**03 28 40.3**	**+2.0**
VNDA	**Vanda**	**55.98**	**185**	P	**P**	**03 28 40.5**	**+2.3**
	comp=Z,0.6nm,0.5s,baz=0.1,slow=7.2,SNR=11						
	comp=Z,0.6nm,0.5s						
MBWA	**Marble Bar**	**56.14**	**259**	P	**P**	**03 28 39.7**	**-0.7**
MBWA				IAmb	IAmb	03 28 40.3	
	comp=Z,19nm,0.8s						
NWAO	**Narrogin (SRO)**	**56.34**	**245**	P	**P**	**03 28 41.4**	**-0.2**
NWAO				IAmb	IAmb	03 28 43.3	
	comp=Z,32nm,1.1s						
MORW	**Morawa**	**57.88**	**249**	P	**P**	**03 28 51.7**	**-0.5**
QSPA	**South Pole Qui**	**67.74**	**180**	P	**P**	**03 29 56.0**	**+1.1**
QSPA	**South Pole Qui**	**67.74**	**180**	P	**P**	**03 29 56.9**	**+2.0**
	comp=Z,4.2nm,0.8s,baz=340,slow=0.1,SNR=26						
	comp=Z,4.2nm,0.8s						
MJAR	**Matsushiro Arr**	**70.89**	**325**	P	**P**	**03 30 12.5**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=151,slow=6.5,SNR=6.7						
	comp=Z,1.5nm,0.8s						
SMAI	**San Martin Ant**	**77.39**	**159**	P	**P**	**03 30 51.9**	**+1.9**
NJ2	**Nanjing**	**80.01**	**311**	*e*P	**P**	**03 31 06.0**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NVAR	**Mina Array Bea**	**83.29**	**44**	P	**P**	**03 31 21.8**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=230,slow=9.0,SNR=4.0						
	comp=Z,0.6nm,0.9s						
TROLL	**Troll, Antarti**	**85.90**	**181**	⇑P	**P**	**03 31 33.5**	**0.0**
	comp=Z,57nm,0.3s						
SNAA	**Sanae**	**86.22**	**179**	⇑P	**P**	**03 31 34.9**	**0.0**
	comp=Z,6.2nm,0.3s						
VNA3	**Neumayer Olymp**	**86.41**	**177**	⇑P	**P**	**03 31 35.7**	**0.0**
	comp=Z,0.8nm,0.2s						
TXAR	**Lajitas Array**	**89.19**	**58**	P	**P**	**03 31 49.8**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=213,slow=6.5,SNR=3.5						
	comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P	**P**	**03 31 52.0**	**+1.1**
	comp=Z,2.3nm,0.6s,baz=139,slow=3.3,SNR=9.1						
	comp=Z,2.3nm,0.6s						
HHC	**Hu-ho-hao-te**	**89.66**	**315**	*e*P	**P**	**03 31 50.1**	**-1.4**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PZH	**PanZhiHua**	**90.37**	**298**	P	**P**	**03 31 53.3**	**-1.8**
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,150nm,5.5s						
BVAR	**Borovoye Array**	**119.58**	**319**	PKP	**PKPdf**	**03 37 37.2**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=65,slow=1.7,SNR=4.9						
HFS	**Hagfors**	**141.10**	**350**	PKhKP	PKPpre	03 38 12.3	
	comp=Z,1.3nm,0.8s,baz=63,slow=4.2,SNR=7.9						
AKASG	**Malin Array Be**	**143.91**	**329**	PKP	PKPbc	03 38 21.6	-2.0
	comp=Z,1.5nm,0.5s,baz=44,slow=4.0,SNR=11						
BRTR	**Keskin Array B**	**147.00**	**309**	PKPbc	**PKPbc**	**03 38 31.9**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=123,slow=5.5,SNR=4.6						
MMAI	**Mount Meron Ar**	**147.47**	**297**	PKPbc	**PKPbc**	**03 38 33.4**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=72,slow=6.2,SNR=2.8						

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*IDC **15** 03:38:11.6±3.3, 38°.02N×21°.85E, h0km, mb3.3/5, mbtmp3.4/5, Error ellipse: s-maj=65.7km s-min=32.0km az=2.0*
*THE **15** 03:38:11.2, 37°.69N×21°.82E, h4km±1km, ML2.9/8, Error ellipse: s-maj=1.5km s-min=0.6km az=277.0*
*ATH **15** 03:38:11.2, 37°.69N×21°.79E, h8km±1km, ML2.8/15, Manual Solution by I.Dede This location: 2020/07/03 21:19:18 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
ISC 15 03:38:11.1±1.0, 37°.70N±0°.02×21°.80E±0°.02, h8km±8km, n64, σ0°65/81, mb3.5/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.44**	**38**	P	**Pg**	**03 38 18.9**	**-0.8**
KLV				S	**Sg**	**03 38 25.6**	**+0.1**
KLV	**Kalavryta, Ach**	**0.44**	**38**	P	**Pg**	**03 38 19.3**	**-0.4**
KLV				S	**Sg**	**03 38 25.9**	**+0.4**
RLS	**Riolos of Patr**	**0.45**	**324**	P	**Pg**	**03 38 19.6**	**-0.2**
RLS	**Riolos of Patr**	**0.45**	**324**	P	**Pg**	**03 38 19.9**	**+0.1**
RLS				S	**Sg**	**03 38 25.6**	**-0.1**
GUR	**Goura**	**0.49**	**60**	P	**Pg**	**03 38 20.0**	**-0.6**
GUR				S	**Sg**	**03 38 27.3**	**+0.3**
	2μm,0.4s						
GUR	**Goura**	**0.49**	**60**	P	**Pg**	**03 38 20.7**	**+0.1**
GUR				S	**Sg**	**03 38 27.9**	**+0.8**
ITM	**Ithomi**	**0.52**	**169**	P	**Pg**	**03 38 20.9**	**-0.3**
ITM				S	**Sg**	**03 38 28.3**	**+0.2**
	792nm,0.3s						
ITM	**Ithomi**	**0.52**	**169**	P	**Pg**	**03 38 21.6**	**+0.4**
ITM				S	**Sb**	**03 38 29.4**	**-0.9**
UPR	**University Cam**	**0.59**	**359**	P	**Pg**	**03 38 22.2**	**-0.2**
ALIK	**Aliki, Aigiali**	**0.61**	**23**	P	**Pg**	**03 38 22.6**	**-0.3**
ALIK				S	**Sb**	**03 38 33.3**	**+0.4**
KLMT	**Kalamata**	**0.67**	**162**	P	**Pg**	**03 38 24.0**	**+0.1**
EFP	**Efpalio**	**0.73**	**6**	P	**Pg**	**03 38 24.8**	**-0.4**
EFP				S	**Sb**	**03 38 36.4**	**0.0**
	715nm,0.2s						
EFP	**Efpalio**	**0.73**	**6**	P	**Pg**	**03 38 24.9**	**-0.4**
EFP				S	**Sg**	**03 38 35.4**	**+0.6**
KALE	**Kalithea**	**0.74**	**21**	P	**Pg**	**03 38 24.7**	**-0.7**
KALE				S	**Sg**	**03 38 36.1**	**+1.0**
	1μm,0.4s						
KALE	**Kalithea**	**0.74**	**21**	P	**Pg**	**03 38 25.0**	**-0.4**
KALE				S	**Sg**	**03 38 36.0**	**+1.0**
LTHK	**Lithakia**	**0.77**	**271**	P	**Pg**	**03 38 26.1**	**+0.3**
LTHK	**Lithakia**	**0.77**	**271**	P	**Pg**	**03 38 26.4**	**+0.6**
PYL	**PYLOS**	**0.80**	**184**	P	**Pg**	**03 38 25.9**	**-0.5**
PYL				S	**Sb**	**03 38 38.4**	**+0.2**
	715nm,0.4s						
PYL	**PYLOS**	**0.80**	**184**	P	**Pg**	**03 38 26.2**	**-0.2**
ANX	**Ano Chora**	**0.90**	**6**	P	**Pg**	**03 38 27.5**	**-0.9**
ANX				S	**Sg**	**03 38 41.0**	**+0.9**
	732nm,0.5s						
ANX	**Ano Chora**	**0.90**	**6**	P	**Pg**	**03 38 27.9**	**-0.5**
RTZL	**Ratzakli, Kefa**	**0.90**	**295**	P	**Pg**	**03 38 28.6**	**+0.2**
PVO	**Paravola**	**0.94**	**347**	P	**Pg**	**03 38 28.8**	**-0.4**
PVO	**Paravola**	**0.94**	**347**	P	**Pg**	**03 38 29.7**	**+0.5**
LOUT	**Loutraki**	**0.97**	**72**	P	**Pg**	**03 38 30.0**	**+0.3**
LOUT	**Loutraki**	**0.97**	**72**	P	**Pb**	**03 38 30.3**	**+0.1**
PSDA	**Pessada-Kefalo**	**1.05**	**294**	P	**Pg**	**03 38 31.0**	**-0.3**
PSDA	**Pessada-Kefalo**	**1.05**	**294**	P	**Pg**	**03 38 30.9**	**-0.3**
VLS	**Valsamata**	**1.07**	**297**	P	**Pg**	**03 38 30.9**	**-0.8**
KRND	**KRANIDI**	**1.11**	**106**	P	**Pg**	**03 38 32.0**	**-0.5**
KRND	**KRANIDI**	**1.11**	**106**	P	**Pg**	**03 38 32.2**	**-0.3**
EVR	**Evrytania**	**1.22**	**0**	P	**Pb**	**03 38 34.8**	**+0.3**
EVR	**Evrytania**	**1.22**	**0**	P	**Pg**	**03 38 34.5**	**0.0**
FSK	**Fiskardo**	**1.24**	**308**	P	**Pg**	**03 38 33.8**	**-1.1**
AXAR	**Agios Charalam**	**1.26**	**32**	P	**Pg**	**03 38 34.2**	**-1.1**
AXAR				S	**Sg**	**03 38 51.4**	**-0.3**
	642nm,0.5s						
AXAR	**Agios Charalam**	**1.26**	**32**	P	**Pg**	**03 38 35.4**	**+0.1**
VIL2	**Platees**	**1.27**	**66**	P	**Pg**	**03 38 35.3**	**-0.1**
VILL	**Villia**	**1.28**	**68**	P	**Pg**	**03 38 35.1**	**-0.6**
EVGI	**Lefkada island**	**1.29**	**316**	P	**Pn**	**03 38 35.2**	**-0.2**
EVGI	**Lefkada island**	**1.29**	**316**	P	**Pn**	**03 38 35.3**	**-0.2**
VLI	**Veliai**	**1.33**	**137**	P	**Pn**	**03 38 35.2**	**-0.8**
VLI				S	**Sn**	**03 38 54.7**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.34**	**320**	P	**Pn**	**03 38 35.5**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.34**	**320**	P	**Pn**	**03 38 35.2**	**-0.9**
MAKR	**Makrakomi, Fth**	**1.34**	**11**	P	**Pn**	**03 38 35.1**	**-1.1**
MAKR				S	**Sn**	**03 38 56.6**	**+2.4**
	468nm,0.6s						
MAKR	**Makrakomi, Fth**	**1.34**	**11**	P	**Pn**	**03 38 36.1**	**0.0**
AGG	**Agios Georgios**	**1.39**	**17**	P	**Pn**	**03 38 36.0**	**-0.8**
AGG	**Agios Georgios**	**1.39**	**17**	P	**Pn**	**03 38 36.4**	**-0.5**
LKD2	**Lefkada island**	**1.42**	**321**	P	**Pn**	**03 38 37.1**	**-0.1**
TSLK	**Tsoukalades, L**	**1.45**	**322**	P	**Pn**	**03 38 37.8**	**+0.2**
TSLK	**Tsoukalades, L**	**1.45**	**322**	P	**Pn**	**03 38 37.9**	**+0.4**
ATH	**Athens Observa**	**1.54**	**79**	P	**Pn**	**03 38 39.7**	**+0.8**
VLY	**Voula,Athens**	**1.58**	**84**	P	**Pn**	**03 38 39.4**	**-0.1**
ATHU	**Athens Univers**	**1.59**	**80**	P	**Pn**	**03 38 39.8**	**+0.2**
DION	**Dionisos Attik**	**1.73**	**77**	P	**Pn**	**03 38 42.0**	**+0.5**
THL	**Klokotos Trika**	**1.87**	**5**	P	**Pn**	**03 38 44.5**	**+1.1**
KYMI	**Kymi, Euboea I**	**2.04**	**62**	P	**Pn**	**03 38 45.3**	**-0.4**
TYRN	**Tyrnavos**	**2.04**	**9**	P	**Pb**	**03 38 47.6**	**-0.8**
STON	**Ston**	**6.05**	**330**	*e*Pn	**Pn**	**03 39 40.2**	**-0.5**
RICI	**Ricice**	**6.79**	**330**	*e*Pn	**Pn**	**03 39 50.5**	**-0.6**
ESDC	**Sonseca Array**	**20.19**	**284**	P	**P**	**03 42 47.1**	**+0.9**
	0.4nm,0.9s,baz=77,slow=12,SNR=4.3						
	0.4nm,0.9s						
HFS	**Hagfors**	**23.05**	**350**	P	**P**	**03 43 16.2**	**-0.3**
	0.7nm,0.5s,baz=161,slow=10,SNR=7.0						
	0.7nm,0.5s						
NOA	**NORSAR Array B**	**24.30**	**347**	P	**P**	**03 43 27.0**	**-1.8**
	0.3nm,0.8s,baz=152,slow=11,SNR=3.4						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**41.70**	**53**	P	**P**	**03 46 00.3**	**+0.2**
	0.4nm,0.3s,baz=262,slow=6.3,SNR=1.5						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**45.26**	**48**	P	**P**	**03 46 28.1**	**-0.8**
	0.6nm,0.4s,baz=270,slow=8.7,SNR=4.1						
	0.6nm,0.4s						

IDC 15 03:47:25.1±43.0, 20°.58S×112°.58W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=1252.0km s-min=39.1km az=40.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**32.45**	**120**	T	T	04 28 35.7	
	baz=283,slow=75,SNR=7.3						
H03N3	**Juan Fernandez**	**32.46**	**120**	T	T	04 28

IDC 15 04:09:27.4±5.0,3'.07S×139'.83E,h98km±45km,mb4.2/16, mbtmp4.5/17,MS3.9/3,Error ellipse: s-maj=29.7km s-min=11.6km az=77.0
DJA 15 04:09:27.3±0.2,3'S±3'×14'0E±'.,h95km±2km,M5.1/42, mb5.1/42,mB5.5/12,MLv5.3/6,Mw(mB)4.9/12, MwMwp4.9/1,Mwp5.2/1
ISC 15 04:09:28.5±0.3,3'.11S±0'.05×139'.73E±0'.06,h100km,n432, σ1°06/406,mb4.7/97,1C,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.68**	**40**	P		**Pn**		**04 09 41.8**	**-4.0**
GENI	**Genyem**	**0.68**	**40**	P		**Pn**		**04 09 43.6**	**-2.2**
GENI				S		**Sn**		**04 09 55.7**	**-3.0**
JAY	**Jayapura**	**1.14**	**59**	P		**Pn**		**04 09 47.6**	**-3.0**
TABU	**Tabubil**	**2.61**	**145**	P		**Pn**		**04 10 08.0**	**-1.2**
MMPI	**Merauke**	**5.36**	**173**	P		**Pn**		**04 10 46.9**	**+0.7**
KMPI	**Kaimana, Papua**	**6.04**	**265**	P		**Pn**		**04 10 57.7**	**+2.3**
	223nm,0.8s,4μm6μm1.7nm								
FAKI	**Fak Fak**	**7.47**	**271**	P		Pn		04 11 10.2	-4.7
FAKI	**Fak Fak**	**7.47**	**271**	Pn		**Pn**		**04 11 13.3**	**-1.6**
FAKI	**Fak Fak**	**7.47**	**271**	P		**Pn**		**04 11 14.2**	**-0.7**
	92nm,0.8s,0.4nm								
SWI	**Sorong**	**8.75**	**285**	P		**Pn**		**04 11 33.6**	**+1.3**
	128nm,0.6s,1μm								
PMG	**Port Moresby**	**9.68**	**131**	P		**Pn**		**04 11 47.7**	**+2.9**
	32nm,0.8s,baz=335,slow=3.4,SNR=8.4								
SAUI	**Saumlaki**	**9.68**	**240**	Pn		**Pn**		**04 11 44.3**	**-0.7**
SAUI	**Saumlaki**	**9.68**	**240**	P		**Pn**		**04 11 46.8**	**+1.8**
COEN	**Coen**	**11.30**	**163**	P		**Pn**		**04 12 06.6**	**-0.4**
COEN	**Coen**	**11.30**	**163**	Pn		**Pn**		**04 12 05.3**	**-1.6**
COEN	**Coen**	**11.30**	**163**	P		**Pn**		**04 12 05.4**	**-1.6**
	37nm,1.1s,SNR=4.7								
KDU	**Kakadu**	**11.92**	**217**	P		**Pn**		**04 12 12.7**	**-2.5**
KDU	**Kakadu**	**11.92**	**217**	P		**Pn**		**04 12 12.5**	**-2.7**
DRS	**Darwin Rock St**	**12.73**	**223**	P		**Pn**		**04 12 24.7**	**-1.3**
MTN	**Manton Dam**	**12.88**	**221**	P		**Pn**		**04 12 26.1**	**-1.8**
MTN	**Manton Dam**	**12.88**	**221**	Pn		**Pn**		**04 12 24.8**	**-3.1**
MTN	**Manton Dam**	**12.88**	**221**	P		**Pn**		**04 12 26.0**	**-1.9**
	225nm,0.5s,SNR=33								
SANI	**Sanana**	**13.77**	**274**	P		**Pn**		**04 12 39.6**	**+0.1**
	32nm,0.8s								
MTSU	**Mount Surprise**	**15.59**	**164**	P		**P**		**04 13 04.2**	**-0.8**
	14nm,1.0s,SNR=5.8								
KMSI	**Cibinong**	**16.16**	**283**	P		**Pn**		**04 13 07.2**	**-2.7**
	314nm,1.0s								
KNRA	**Kununurra**	**16.51**	**220**	P		**Pn**		**04 13 14.4**	**+0.2**
	138nm,0.7s,SNR=15								
SOEI	**Soe**	**16.71**	**246**	P		**Pn**		**04 13 15.2**	**-1.7**
SOEI	**Soe**	**16.71**	**246**			**P**		**04 13 17.9**	**+0.4**
SOEI	**Soe**	**16.71**	**246**	P		**P**		**04 13 18.7**	**+1.2**
	192nm,0.8s,2μm								
LUWI	**Luwuk**	**17.07**	**277**	P		**P**		**04 13 22.0**	**+0.7**
	130nm,1.0s,1μm								
QIS	**Mount Isa**	**17.34**	**180**	P		**P**		**04 13 23.1**	**-1.2**
QIS	**Mount Isa**	**17.34**	**180**	P		**P**		**04 13 23.0**	**-1.2**
	55nm,0.7s,SNR=14								
WB0	**Warramunga Arr**	**17.35**	**197**	Pn		**P**		**04 13 22.0**	**-2.4**
WB0				IAmb		IAmb		04 13 41.7	
	comp=Z,24nm,0.6s								
BATI	**Baumata**	**17.43**	**245**	P		**Pn**		**04 13 26.5**	**+0.9**
	comp=Z,126nm,0.6s,comp=Z,1μm								
WR0	**Warramunga Arr**	**17.49**	**196**			**P**		**04 13 24.1**	**-1.9**
WR0				IAmb		IAmb		04 13 29.9	
	comp=Z,36nm,0.8s								
WRAB	**Tennant Creek**	**17.52**	**197**			**P**		**04 13 23.4**	**-2.9**
WRAB				IAmb		IAmb		04 13 29.4	
	comp=Z,35nm,0.9s								
WB2	**Warramunga Arr**	**17.53**	**197**			**P**		**04 13 24.6**	**-1.8**
WB2				IAmb		IAmb		04 13 39.6	
	comp=Z,30nm,0.7s								
WRA	**Warramunga Arr**	**17.54**	**197**			**P**		**04 13 22.8**	**-3.6**
WRA	**Warramunga Arr**	**17.54**	**197**	P		**P**		**04 13 24.6**	**-1.8**
	comp=Z,18nm,0.8s,baz=16,slow=13,SNR=66								
WRA				S		Sn		04 16 27.8	-14
	comp=Z,15nm,0.9s,baz=14,slow=22,SNR=6.8								
CTAO	**Charters Tower**	**18.04**	**160**	Pn		**Pn**		**04 13 33.3**	**+0.5**
MMRI	**Maumere**	**18.24**	**252**			**Pn**		**04 13 36.1**	**+0.9**
MMRI				IAmb		IAmb		04 13 38.8	
	comp=Z,43nm,0.5s								
MMRI	**Maumere**	**18.24**	**252**	P		**Pn**		**04 13 36.8**	**+1.6**
	comp=Z,62nm,0.5s								
TOLI2	**Tolitoli**	**19.40**	**282**	P		**P**		**04 13 45.8**	**-1.1**
BKSI	**Bulukumba**	**19.67**	**263**	P		**Pn**		**04 13 51.4**	**-0.8**
	comp=Z,115nm,0.8s,comp=Z,1μm								
KAPI	**Kappang**	**20.01**	**264**	P		Pn		04 13 55.3	-0.9
KAPI				IAmb		IAmb		04 13 56.8	
	comp=Z,32nm,1.0s								
KAPI	**Kappang**	**20.01**	**264**	P		**P**		**04 13 54.6**	**+1.0**
	comp=Z,22nm,0.6s,baz=73,slow=8.0,SNR=8.4								
	comp=Z,22nm,0.6s								
MPSI	**Mapaga**	**20.11**	**279**	P		**P**		**04 13 54.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.31**	**222**	P		**P**		**04 13 56.1**	**-0.6**
AS01	**Alice Springs**	**21.18**	**195**	P		**P**		**04 14 06.3**	**+0.2**
AS31	**Alice Springs**	**21.19**	**195**	P		**P**		**04 14 06.1**	**0.0**
AS31				IAmb		IAmb		04 14 13.0	
	comp=Z,13nm,0.5s								
ASAR	**Alice Springs**	**21.20**	**195**	P		**P**		**04 14 06.5**	**+0.2**
ASAR	**Alice Springs**	**21.20**	**195**	P		**P**		**04 14 06.3**	**+0.1**
	comp=Z,16nm,0.5s,baz=27,slow=10,SNR=123								
ASAR				S		S		04 17 40.5	-16
	comp=Z,1.8nm,0.7s,baz=4.8,slow=12,SNR=1.5								
	comp=Z,16nm,0.5s								
ASPA	**Alice Springs**	**21.20**	**195**	P		**P**		**04 14 06.7**	**+0.5**
	comp=Z,26nm,0.6s,SNR=35								
QLP	**Quilpie**	**23.73**	**170**	P		**P**		**04 14 33.4**	**+1.7**
QLP	**Quilpie**	**23.73**	**170**	P		**P**		**04 14 33.3**	**+1.6**
	comp=Z,50nm,0.8s,SNR=5.0								
WRKA	**Warakurna**	**24.42**	**206**	P		**P**		**04 14 38.7**	**+0.8**
WRKA	**Warakurna**	**24.42**	**206**	P		**P**		**04 14 39.1**	**+1.2**
	comp=Z,47nm,0.6s,SNR=4.2								
INKA	**Innaminka**	**24.51**	**178**	P		**P**		**04 14 40.3**	**+1.7**
EIDS	**Eidsvold**	**24.68**	**155**	P		**P**		**04 14 41.9**	**+1.7**
EIDS				IAmb		IAmb		04 14 43.4	
	comp=Z,25nm,0.9s								
EIDS	**Eidsvold**	**24.68**	**155**	P		**P**		**04 14 42.3**	**+2.1**
	comp=Z,30nm,0.9s,SNR=4.6								
OOD	**Oodnadatta**	**24.85**	**189**	P		**P**		**04 14 43.5**	**+1.8**
MBWA	**Marble Bar**	**26.47**	**226**	P		**P**		**04 14 56.4**	**-0.1**
MBWA	**Marble Bar**	**26.47**	**226**	P		**P**		**04 14 56.4**	**-0.1**
LCRK	**Leigh Creek**	**27.23**	**183**	P		**P**		**04 15 04.3**	**+1.1**
MULG	**Mulgathing**	**27.55**	**191**	P		**P**		**04 15 07.1**	**+1.0**
STKA	**Stephens Creek**	**28.67**	**177**	P		**P**		**04 15 16.2**	**+0.2**
STKA	**Stephens Creek**	**28.67**	**177**	P		**P**		**04 15 16.0**	**0.0**
STKA	**Stephens Creek**	**28.67**	**177**	P		**P**		**04 15 16.4**	**+0.4**
	comp=Z,3.3nm,0.8s,SNR=2.8								
STKA	**Stephens Creek**	**28.67**	**177**	P		**P**		**04 15 16.6**	**+0.6**
	comp=Z,8.3nm,0.5s,baz=348,slow=8.6,SNR=24								
	comp=Z,8.3nm,0.5s								
CMSA	**Cobar Meteorol**	**28.83**	**169**	P		**P**		**04 15 19.3**	**+1.9**
CMSA	**Cobar Meteorol**	**28.83**	**169**	P		**P**		**04 15 18.6**	**+1.2**
	comp=Z,28nm,1.0s,SNR=5.0								
FORT	**Forrest**	**29.65**	**201**	P		**P**		**04 15 26.4**	**+1.7**
FORT	**Forrest**	**29.65**	**201**	P		**P**		**04 15 25.2**	**+0.6**
FORT	**Forrest**	**29.65**	**201**	P		**P**		**04 15 25.8**	**+1.1**
	comp=Z,86nm,1.1s,SNR=3.0								
BBOO	**Buckleboo**	**29.74**	**186**	P		**P**		**04 15 25.8**	**+0.3**
BBOO	**Buckleboo**	**29.74**	**186**	P		**P**		**04 15 25.2**	**-0.3**
BBOO				IAmb		IAmb		04 15 26.4	
	comp=Z,29nm,1.1s								
HTT	**Hallett**	**30.17**	**181**	P		**P**		**04 15 29.7**	**+0.3**
HTT	**Hallett**	**30.17**	**181**	P		**P**		**04 15 30.1**	**+0.7**
	comp=Z,27nm,0.8s,SNR=2.7								
MEEK	**Meekatharra**	**30.93**	**219**	P		**P**		**04 15 37.4**	**+1.3**
MEEK	**Meekatharra**	**30.93**	**219**	P		**P**		**04 15 36.8**	**+0.7**
	comp=Z,54nm,0.9s,SNR=2.7								
GIRL	**Giralia**	**31.43**	**230**	P		**P**		**04 15 41.5**	**+1.0**
GIRL	**Giralia**	**31.43**	**230**	P		**P**		**04 15 42.0**	**+1.5**
JOW	**Kunigami**	**31.76**	**340**	LR		LR		04 27 25.1	
	comp=Z,204nm,20.7s,baz=78,slow=34								
YNG	**Young**	**32.06**	**166**	P		**P**		**04 15 47.6**	**+1.7**
	comp=Z,124nm,1.9s,SNR=4.1								
KMBL	**Kambalda**	**32.76**	**209**	P		**P**		**04 15 52.7**	**+0.7**
KMBL	**Kambalda**	**32.76**	**209**	P		**P**		**04 15 52.6**	**+0.5**
	comp=Z,37nm,1.0s,SNR=1.9								
CAN	**Canberra**	**33.18**	**166**	P		**P**		**04 15 56.6**	**+0.9**
ARPS	**Mount Arapiles**	**33.55**	**177**	P		**P**		**04 16 00.7**	**+1.8**
ARPS	**Mount Arapiles**	**33.55**	**177**	P		**P**		**04 15 59.8**	**+0.9**
	comp=Z,75nm,0.9s,SNR=9.2								
MORW	**Morawa**	**34.25**	**219**	P		**P**		**04 16 06.3**	**+1.2**
MORW	**Morawa**	**34.25**	**219**	P		**P**		**04 16 05.8**	**+0.8**
MORW	**Morawa**	**34.25**	**219**	P		**P**		**04 16 05.1**	**+0.1**
	comp=Z,56nm,1.3s,SNR=2.9								
TOO	**Toolangi**	**34.70**	**172**	P		**P**		**04 16 09.8**	**+1.0**
MILA	**Mila**	**34.88**	**167**	P		**P**		**04 16 11.6**	**+1.2**
BLDU	**Ballidu**	**34.95**	**216**	P		**P**		**04 16 12.3**	**+1.2**
BLDU	**Ballidu**	**34.95**	**216**	P		**P**		**04 16 11.6**	**+0.5**
	comp=Z,51nm,1.2s,SNR=2.1								
KLBR	**Kellerberrin**	**35.08**	**214**	P		**P**		**04 16 13.2**	**+1.0**
KLBR	**Kellerberrin**	**35.08**	**214**	P		**P**		**04 16 12.5**	**+0.3**
	comp=Z,82nm,0.7s,SNR=3.8								
MUN	**Mundaring**	**36.24**	**215**	P		**P**		**04 16 22.1**	**0.0**
NWAO	**Narrogin (SRO)**	**36.38**	**213**	P		**P**		**04 16 24.0**	**+0.7**
NWAO	**Narrogin (SRO)**	**36.38**	**213**	P		**P**		**04 16 23.9**	**+0.7**
JNU	**Nakatsue**	**37.00**	**348**	P		**P**		**04 16 26.9**	**-1.6**
JMN	**Monobe**	**37.06**	**352**	P		**P**		**04 16 27.8**	**-1.1**
PDSI	**Padang**	**39.30**	**272**	P		**P**		**04 16 46.5**	**-1.6**
	comp=Z,80nm,0.8s								
MJAR	**Matsushiro Arr**	**39.47**	**358**	P		**P**		**04 16 47.1**	**-2.1**
	comp=Z,1.3nm,0.6s,baz=178,slow=7.5,SNR=8.5								
MJAR				LR		LR		04 30 14.8	
	comp=Z,220nm,20.2s,baz=92,slow=32								
	comp=Z,1.3nm,0.6s								
MAJO	**Matsushiro**	**39.48**	**358**	P		**P**		**04 16 49.5**	**+0.3**
MAJO	**Matsushiro**	**39.48**	**358**	P		**P**		**04 16 48.8**	**-0.4**
MJB9	**Matsu-Tunnel**	**39.48**	**358**	P		**P**		**04 16 48.9**	**-0.3**
KULM	**Kulim**	**39.92**	**282**	P		**P**		**04 16 52.8**	**-0.4**
NJ2	**Nanjing**	**40.20**	**332**	*eP*		**P**		**04 16 57.3**	**+2.1**
NJ2				pP		pP		04 17 04.4	-14
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
NJ2				pmax		pmax			
	comp=Z,180nm,4.3s								
TAU	**Tasmania Unive**	**40.20**	**171**	P		**P**		**04 16 56.7**	**+1.6**
SISI	**Saibi**	**40.64**	**272**	P		**P**		**04 16 58.6**	**-0.6**
JMM	**Marumori**	**40.78**	**1**	P		**P**		**04 16 59.7**	**-0.3**
JMM	**Marumori**	**40.78**	**1**	P		**P**		**04 16 59.0**	**-0.9**
JMM				IAmb		IAmb		04 17 05.5	
	comp=Z,13nm,0.8s								
KSRS	**Korea Array**	**41.83**	**346**	P		**P**		**04 17 08.2**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=164,slow=9.6,SNR=8.2								
KSRS				PcP		**PcP**		**04 19 02.5**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=186,slow=4.0,SNR=5.0								
	comp=Z,1.8nm,0.6s								
GSI	**Gunungsitoli**	**42.36**	**275**	P		**P**		**04 17 11.9**	**-1.4**
GSI	**Gunungsitoli**	**42.36**	**275**	P		**P**		**04 17 11.2**	**-2.1**
GSI	**Gunungsitoli**	**42.36**	**275**	P		**P**		**04 17 11.9**	**-1.4**
KCSI	**Kotacane, Aceh**	**42.45**	**279**	P		**P**		**04 17 12.4**	**-1.6**
	comp=Z,47nm,0.8s								
JTM	**Tenmabayashi**	**43.70**	**1**	P		**P**		**04 17 24.1**	**+0.5**
JTM	**Tenmabayashi**	**43.70**	**1**	P		**P**		**04 17 23.1**	**-0.5**
LYN	**LuoYang**	**45.40**	**328**	P		**P**		**04 17 36.8**	**-0.4**
LYN				pmax		pmax			
	comp=Z,24nm,1.0s								
LYN				pmax		pmax			
	comp=Z,260nm,5.5s								
LYN				LR		LR			
	comp=E,350nm,24.1s								
LYN				LR		LR			
	comp=Z,500nm,25.4s								
CMAR	**Chiang Mai Arr**	**45.52**	**300**	P		**P**		**04 17 38.0**	**-0.5**
	comp=Z,2.5nm,0.3s,baz=121,slow=6.2,SNR=26								
	comp=Z,2.5nm,0.3s								
KMI	**Kunming**	**45.55**	**310**	⇑P		**P**		**04 17 38.9**	**0.0**
KMI				pmax		pmax			
	comp=Z,18nm,0.6s								
XAN	**Xi'an**	**46.99**	**324**	P		**P**		**04 17 49.1**	**-0.7**
XAN				pP		pP		04 17 59.6	-14
XAN				pmax		pmax			
	comp=Z,20nm,0.9s								
PZH	**PanZhiHua**	**47.05**	**311**	P		**P**		**04 17 51.8**	**+1.3**
PZH				pmax		pmax			
	comp=Z,20nm,0.9s								
PZH				pmax		pmax			
	comp=Z,160nm,3.5s								
JKA	**Kamikawa-asahi**	**47.09**	**3**	P		**P**		**04 17 49.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**47.61**	**352**	P		**P**		**04 17 54.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**47.61**	**352**	P		**P**		**04 17 54.2**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=175,slow=7.9,SNR=6.8								
	comp=Z,4.2nm,0.8s								
BJI	**Beijing**	**48.07**	**336**	P		**P**		**04 17 56.8**	**-1.2**
BJI				pmax		pmax			
	comp=Z,5.0nm,0.6s								
TKNZ	**Takaka Hill**	**48.16**	**146**	P		**P**		**04 17 59.0**	**+0.4**
MRNZ	**Matariki Terra**	**48.29**	**147**	P		**P**		**04 18 00.1**	**+0.4**
CN2	**Changchun**	**48.44**	**346**	P		**P**		**04 18 00.8**	**+0.1**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
TUWZ	**Tuamarina**	**48.97**	**146**	P		**P**		**04 18 05.1**	**+0.2**
HHC	**Hu-ho-hao-te**	**50.75**	**332**	*eP*		P		04 18 22.5	+4.0
HHC				pP		pP		04 18 31.5	-11
HHC				pmax		pmax			
	comp=Z,9.0nm,0.5s								
HHC				pmax		pmax			
	comp=Z,72nm,4.6s								
BTO	**Baotou**	**51.29**	**331**	*eP*		**P**		**04 18 25.4**	**+2.9**
BTO				pP		**pP**		**04 18 48.8**	**+2.1**
BTO				sP		**sP**		**04 18 59.8**	**+1.9**
BTO				pmax		pmax			
	comp=Z,12nm,0.8s								
BTO				pmax		pmax			
	comp=Z,240nm,4.6s								
XLT	**XiLinHaoTe**	**51.40**	**338**	*eP*		P		04 18 29.1	+5.9
XLT				pP		pP		04 18 49.5	+2.1
XLT				sP		sP		04 19 05.9	+7.3
XLT				PcP		**PcP**		**04 19 42.8**	**+6.3**
XLT				PP		**PP**		**04 20 27.8**	**+6.4**
XLT				pmax		pmax			
	comp=Z,5.0nm,0.9s								
XLT				pmax		pmax			
	comp=Z,90nm,4.4s								
LZH	**Lanzhou**	**51.41**	**323**	*eP*		**P**		**04 18 24.4**	**+0.8**
LZH				pP		pP		04 18 33.0	-15
LZH				pmax		pmax			
	comp=Z,24nm,1.0s								
HEH	**HeiHe**	**54.20**	**350**	*eP*		**P**		**04 18 43.4**	**-0.3**
HEH				pmax		pmax			
	comp=Z,11nm,1.0s								
SHL	**Shillong**	**54.40**	**305**	P		**P**		**04 18 45.3**	**-0.5**
GTA	**Gaotai**	**56.00**	**323**	P		**P**		**04 18 57.5**	**+0.5**
GTA				pP		pP		04 19 04.9	-17
GTA				pmax		pmax			
	comp=Z,10.0nm,0.5s								
GTA				LR		LR			
	comp=N,120nm,17.1s								
GTA				LR		LR			
	comp=E,210nm,18.7s								
GTA				LR		LR			
	comp=Z,200nm,19.9s								
ULN	**Ulaanbaatar**	**58.26**	**335**	P		**P**		**04 19 11.5**	**-1.3**
ULN				IAmb		IAmb		04 19 13.3	
	comp=Z,3.1nm,0.7s								
SONM	**Songino Array**	**58.52**	**334**	P		**P**		**04 19 13.7**	**-0.8**
SONM	**Songino Array**	**58.52**	**334**	P		**P**		**04 19 13.8**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=142,slow=7.5,SNR=5.0								
	comp=Z,0.9nm,0.5s								
AMKA	**Amchitka**	**63.87**	**26**	P		**P**		**04 19 49.8**	**-0.6**
WMQ	**Urumqi**	**65.95**	**321**	*eP*		**P**		**04 20 06.4**	**+2.2**
GSTR	**Great Sitkin T**	**66.48**	**28**	P		**P**		**04 20 06.6**	**-0.8**
MK31	**Makanchi Array**	**70.73**	**322**	P		**P**		**04 20 33.7**	**-0.2**
MKAR	**Makanchi Array**	**70.73**	**322**	P		**P**		**04 20 33.6**	**-0.3**
	comp=Z,9.0nm,0.8s,baz=105,slow=8.1,SNR=49								
	comp=Z,9.0nm,0.8s								
MAKZ	**Makanchi**	**70.92**	**322**	P		**P**		**04 20 33.6**	**-1.5**
MAKZ				IAmb		IAmb		04 20 35.6	
	comp=Z,11nm,0.8s								
KSH	**Kashi**	**72.10**	**313**	P		**P**		**04 20 43.5**	**+1.1**
KSH				pmax		pmax			
	comp=Z,9.0nm,1.0s								
KSH				LR		LR			
	comp=N,260nm,17.9s								
KSH				LR		LR			
	comp=E,210nm,17.2s								
KSH				LR		LR			
	comp=Z,230nm,18.9s								
NIL	**Nilore**	**72.38**	**307**	P		**P**		**04 20 43.5**	**-0.6**
ZALV	**Zalesovo Beam**	**72.79**	**330**	P		**P**		**04 20 44.9**	**-1.2**
ZALV	**Zalesovo Beam**	**72.79**	**330**	P		**P**		**04 20 44.5**	**-1.6**
	comp=Z,2.9nm,0.6s,baz=121,slow=4.7,SNR=11								
	comp=Z,2.9nm,0.6s								
BOOM	**Boomskoye usch**	**73.15**	**316**	P		**P**		**04 20 48.7**	**+0.1**
BOOM				IAmb		IAmb		04 20 49.4	
	comp=Z,7.9nm,0.6s								
KURK	**Kurchatov**	**74.63**	**325**	P		**P**		**04 20 56.1**	**-0.8**
KURK				IAmb		IAmb		04 20 56.9	
	comp=Z,5.5nm,0.7s								
KURBB	**Kurchatov Arra**	**74.64**	**325**	P		**P**		**04 20 56.1**	**-0.8**
	comp=Z,4.5nm,0.9s,baz=114,slow=5.4,SNR=28								
	comp=Z,4.5nm,0.9s								
VNDA	**Vanda**	**75.29**	**175**	P		**P**		**04 20 58.0**	**-2.2**
	comp=Z,1.2nm,0.7s,baz=350,slow=6.5,SNR=13								
	comp=Z,1.2nm,0.7s								
SBA	**Scott Base**	**76.05**	**174**	P		**P**		**04 21 05.3**	**+0.8**
GAR	**Garm**	**76.12**	**311**	P		**P**		**04 21 04.9**	**-1.0**
GAR				IAmb		IAmb		04 21 06.4	
	comp=Z,17nm,1.2s								
CHNA	**Chernabura Isl**	**76.18**	**31**	P		**P**		**04 21 06.2**	**+0.6**
	baz=244								
S14K	**Fog Glacier**	**76.84**	**30**	P		**P**		**04 21 10.0**	**+0.5**
	baz=243								
CHGR	**Chuyangaron**	**76.91**	**311**	P		**P**		**04 21 09.5**	**-0.7**
SIMJ	**Simiganj**	**77.02**	**311**	P		**P**		**04 21 10.4**	**-0.5**
SIMJ				IAmb		IAmb		04 21 11.3	
	comp=Z,12nm,1.1s								
KK31	**Karatay Array**	**77.13**	**315**	P		**P**		**04 21 10.2**	**-1.1**
KKAR	**Karatay Array**	**77.13**	**315**	P		**P**		**04 21 10.6**	**-0.7**
KKAR	**Karatay Array**	**77.13**	**315**	P		**P**		**04 21 11.0**	**-0.3**
KKAR				IAmb		IAmb		04 21 13.0	
	comp=Z,2.5nm,0.8s								
L14K	**Kuka Creek**	**77.83**	**25**	P		**P**		**04 21 14.6**	**-0.2**
L14K				IAmb		IAmb		04 21 16.1	
	comp=Z,11nm,0.8s								
L14K	**Kuka Creek**	**77.83**	**25**	P		**P**		**04 21 15.0**	**+0.3**
	baz=240								
M14K	**Bethel**	**77.84**	**25**	P		**P**		**04 21 14.8**	**+0.1**
	baz=240								
O15K	**Ungalikthiuk R**	**78.03**	**27**	P		**P**		**04 21 15.9**	**-0.1**
	baz=243								
J14K	**Nanvaranak Lak**	**78.21**	**23**	P		**P**		**04 21 17.1**	**+0.3**
	baz=238								
M15K	**Kasigluk River**	**78.36**	**26**	P		**P**		**04 21 18.5**	**+0.8**
	baz=242								
N15K	**Kwethluk River**	**78.37**	**26**	P		**P**		**04 21 18.1**	**+0.3**
	baz=242								
L15K	**Ungalak Mounta**	**78.50**	**25**	P		**P**		**04 21 18.8**	**+0.4**
	baz=241								
F14K	**Arctic Creek**	**78.68**	**20**	P		**P**		**04 21 19.4**	**0.0**
	baz=235								
K15K	**Wolf Creek Mou**	**78.78**	**24**	P		**P**		**04 21 20.2**	**+0.2**
K15K				IAmb		IAmb		04 21 29.1	
	comp=Z,13nm,1.4s								
K15K	**Wolf Creek Mou**	**78.78**	**24**	P		**P**		**04 21 20.0**	**0.0**
	baz=240								
P16K	**Nushagak River**	**78.81**	**28**	P		**P**		**04 21 20.6**	**+0.4**
	baz=244								
R17L	**Mt. Peulik Vol**	**79.00**	**29**	P		**P**		**04 21 21.3**	**0.0**
	baz=246								
O16K	**Kokwok River B**	**79.01**	**27**	P		**P**		**04 21 21.3**	**0.0**
O16K				IAmb		IAmb		04 21 22.9	
	comp=Z,8.9nm,1.1s								
O16K	**Kokwok River B**	**79.01**	**27**	P		**P**		**04 21 22.0**	**+0.8**
	baz=244								
N16K	**Nishlik Lake**	**79.10**	**26**	P		**P**		**04 21 22.3**	**+0.5**
	baz=243								
G15K	**Niukluk**	**79.22**	**21**	P		**P**		**04 21 21.7**	**-0.5**
	baz=238								
M16K	**Timber Creek**	**79.26**	**26**	P		**P**		**04 21 22.6**	**0.0**
M16K				IAmb		IAmb		04 21 24.1	
	comp=Z,12nm,0.9s								
M16K	**Timber Creek**	**79.26**	**26**	P		**P**		**04 21 22.2**	**-0.5**
	baz=243,SNR=5.1								
L16K	**Owhat River**	**79.36**	**25**	P		**P**		**04 21 22.8**	**-0.3**
L16K				IAmb		IAmb		04 21 23.8	
	comp=Z,7.3nm,0.9s								
L16K	**Owhat River**	**79.36**	**25**	P		**P**		**04 21 22.5**	**-0.7**
	baz=242		

E18K	Tukpahlearik C	81.66	20	IAmb	IAmb	04 21 36.6		
	comp=Z,7.5nm,0.9s							
E18K	Tukpahlearik C	81.66	20	P	P	04 21 35.3	-0.1	
	baz=240,SNR=6.8							
O20K	Slope Mountain	81.74	28	P	P	04 21 35.7	-0.3	
	baz=249							
J19K	Poorman	81.95	24	P	P	04 21 37.2	+0.3	
	baz=246,SNR=6.2							
HOM	Homer	82.05	29	P	P	04 21 36.8	-0.8	
	baz=250							
L20K	Farewell, AK	82.07	25	P	P	04 21 37.2	-0.4	
	baz=247							
C18K	Utukok River	82.08	18	P	P	04 21 37.4	-0.2	
	baz=240							
M20K	Styx River	82.17	26	P	P	04 21 37.5	-0.7	
	baz=248							
B18K	Kokolik River	82.26	18	P	P	04 21 38.0	-0.5	
	baz=239							
H19K	Roundabout Mou	82.27	22	P	P	04 21 38.9	+0.3	
H19K	Roundabout Mou	82.27	22	P	P	04 21 38.1	-0.4	
	baz=245,SNR=5.3							
G19K	Purcell Mounta	82.30	21	P	P	04 21 38.7	0.0	
	baz=244,SNR=6.2							
K20K	Telida	82.33	25	IAmb	IAmb	04 21 40.3		
	comp=Z,7.5nm,0.8s							
K20K	Telida	82.33	25	P	P	04 21 38.8	-0.1	
	baz=247,SNR=7.6							
F19K	Shaleruckik Mo	82.36	21	P	P	04 21 39.2	+0.2	
	baz=243							
J20K	Nowinta River	82.62	24	IAmb	IAmb	04 21 41.7		
	comp=Z,7.7nm,0.9s							
J20K	Nowinta River	82.62	24	P	P	04 21 40.4	0.0	
	baz=247,SNR=6.5							
I20K	Naaghedeneel	82.73	23	P	P	04 21 40.5	-0.5	
	baz=247							
C19K	Lookout Ridge	82.82	18	P	P	04 21 41.3	-0.2	
C19K				IAmb	IAmb	04 21 42.9		
	comp=Z,12nm,0.9s							
C19K	Lookout Ridge	82.82	18	P	P	04 21 41.2	-0.2	
	baz=241,SNR=6.7							
E19K	Redstone River	82.83	20	IAmb	IAmb	04 21 42.6		
	comp=Z,7.5nm,0.8s							
E19K	Redstone River	82.83	20	P	P	04 21 41.0	-0.4	
	baz=244,SNR=12							
H20K	Anotleneega Mo	82.85	22	P	P	04 21 41.3	-0.3	
	baz=246,SNR=5.7							
A19K	Wainwright	82.91	17	P	P	04 21 41.2	-0.5	
	baz=240							
SKT	Skwentna	82.91	26	P	P	04 21 40.3	-1.7	
SKT	Skwentna	82.91	26	P	P	04 21 41.2	-0.8	
	baz=250							
D19K	Kuna River	83.00	19	P	P	04 21 42.4	0.0	
D19K				IAmb	IAmb	04 21 43.3		
	comp=Z,9.3nm,0.9s							
D19K	Kuna River	83.00	19	P	P	04 21 41.7	-0.7	
	baz=243,SNR=7.0							
SUA	Susitna One	83.08	27	P	P	04 21 42.0	-1.0	
F20K	Avaraart Lake	83.18	21	P	P	04 21 43.3	+0.1	
F20K	Avaraart Lake	83.18	21	P	P	04 21 43.2	-0.1	
	baz=245							
SEW	Seward	83.24	28	P	P	04 21 42.8	-0.8	
	baz=252							
RC01	Rabbit Creek A	83.42	27	P	P	04 21 43.5	-1.1	
	baz=251							
M22K	Willow	83.46	27	P	P	04 21 44.0	-0.8	
	baz=251							
IMAR	Indian Mountai	83.48	22	P	P	04 21 44.1	-0.7	
E20K	Nigu River	83.54	20	P	P	04 21 44.9	-0.3	
	baz=245,SNR=13							
D20K	Etivluk River	83.59	19	P	P	04 21 45.8	+0.4	
	baz=244,SNR=6.8							
H21K	Melozitna River	83.71	23	P	P	04 21 45.5	-0.5	
H21K	Melozitna Rive	83.71	23	P	P	04 21 46.3	+0.3	
	baz=248							
G21K	Allakaket	83.77	22	P	P	04 21 46.9	+0.6	
G21K	Allakaket	83.77	22	P	P	04 21 46.4	+0.1	
	baz=247							
I21K	Tanana	83.86	23	P	P	04 21 46.0	-0.7	
	baz=249							
PMR	Palmer	83.86	27	P	P	04 21 46.2	-0.6	
	baz=252							
BPAW	Bear Paw Mtn.	83.88	24	P	P	04 21 46.2	-0.7	
	baz=250							
B20K	Meade River	83.99	18	P	P	04 21 47.5	+0.2	
	baz=244							
F21K	Alatna River	84.06	21	P	P	04 21 47.6	-0.2	
	baz=247							
KNK	Knik Glacier	84.11	27	P	P	04 21 48.0	-0.1	
	baz=252							
P23K	Montague Islan	84.19	29	P	P	04 21 48.2	-0.3	
	baz=254							
SML	Sawmill	84.29	27	P	P	04 21 48.6	-0.5	
SML	Sawmill	84.29	27	P	P	04 21 48.6	-0.5	
	baz=252							
MLY	Manley	84.30	24	IAmb	IAmb	04 21 51.0		
	comp=Z,6.0nm,0.8s							
MLY	Manley	84.30	24	P	P	04 21 48.6	-0.5	
	baz=250							
H22K	Ishtalitna Cre	84.35	23	P	P	04 21 48.8	-0.4	
	baz=249							
E21K	Killik River	84.36	20	P	P	04 21 49.8	+0.5	
E21K	Killik River	84.36	20	P	P	04 21 48.9	-0.4	
	baz=247							
C21K	Knifeblade Rid	84.38	19	P	P	04 21 48.8	-0.5	
	baz=246							
WAT1	Susitna Watana	84.50	26	P	P	04 21 49.1	-1.0	
	baz=252							
Q23K	Middleton Isla	84.55	30	P	P	04 21 49.7	-0.6	
	baz=254							
M23K	Glacier View	84.56	27	P	P	04 21 50.3	-0.1	
	baz=253							
GLI	Glacier Island	84.59	28	P	P	04 21 48.7	-1.8	
GLI	Glacier Island	84.59	28	P	P	04 21 49.8	-0.8	
	baz=254							
MCK	McKinley	84.61	25	P	P	04 21 50.0	-0.6	
	baz=252							
B21K	Ikpikpuk River	84.63	19	P	P	04 21 50.4	-0.1	
	baz=246							
F22K	John River	84.63	21	P	P	04 21 50.3	-0.4	
	baz=248							
SCM	Sheep Creek Mo	84.75	27	P	P	04 21 51.0	-0.4	
	baz=253							
WAT6	Susitna Watana	84.78	26	P	P	04 21 51.8	+0.1	
	baz=253							
NEA2	Nenana	84.83	24	P	P	04 21 51.6	-0.1	
	baz=252							
FID	Port Fidalgo	84.84	28	P	P	04 21 50.9	-1.0	
I23K	Minto, Yukon-K	84.89	24	IAmb	IAmb	04 21 53.1		
	comp=Z,11nm,1.2s							
I23K	Minto, Yukon-K	84.89	24	P	P	04 21 51.6	-0.3	
	baz=251,SNR=7.7							
D22K	Ayikyak River	84.97	20	P	P	04 21 52.1	-0.2	
	baz=248							
E22K	Anaktuvuk Pass	84.99	20	P	P	04 21 52.5	0.0	
E22K	Anaktuvuk Pass	84.99	20	P	P	04 21 52.4	-0.1	
	baz=249							
H23K	Yukon River	85.03	23	IAmb	IAmb	04 21 54.1		
	comp=Z,6.9nm,0.8s							
H23K	Yukon River	85.03	23	P	P	04 21 52.0	-0.7	
	baz=251,SNR=12							
A22K	Sinclair Lake	85.08	17	P	P	04 21 52.7	-0.1	
	baz=246							
DHY	Denali Highway	85.08	26	IAmb	IAmb	04 21 53.6		
	comp=Z,8.0nm,0.8s							
DHY	Denali Highway	85.08	26	P	P	04 21 52.3	-0.9	
	baz=253							
G23K	Bananza Creek	85.14	22	IAmb	IAmb	04 21 54.5		
	comp=Z,6.6nm,0.9s							
G23K	Bananza Creek	85.14	22	P	P	04 21 52.8	-0.4	
	baz=251,SNR=9.8							
WRH	Wood River Hil	85.19	24	IAmb	IAmb	04 21 53.1		
	comp=Z,8.4nm,1.0s							
COLD	Coldfoot	85.25	22	P	P	04 21 53.5	-0.3	
	baz=250,SNR=5.9							
B22K	Teshekpuk Lake	85.29	18	P	P	04 21 54.2	+0.3	
	baz=247							
KLU	Klutina	85.30	28	P	P	04 21 54.1	-0.1	
	baz=255							
M24K	Tolsona, Glenn	85.35	27	P	P	04 21 54.3	-0.2	
	baz=254							
CCB	Clear Creek Bu	85.36	24	IAmb	IAmb	04 21 54.2		
	comp=Z,12nm,1.1s							
COLA	College	85.41	24	P	P	04 21 54.7	+0.2	
	baz=253							
KAIM	Kayak Island	85.62	29	P	P	04 21 56.1	+0.3	
	baz=256							
HDA	Harding Lake	85.65	25	P	P	04 21 55.2	-0.6	
	baz=254							
D23K	Nanushuk River	85.67	20	P	P	04 21 55.8	0.0	
	baz=250							
ABKAR	Akbulak array	85.68	320	P	P	04 21 53.8	-2.5	
ABKAR	Akbulak array	85.68	320	IAmb	IAmb	04 21 55.7		
	comp=Z,3.7nm,0.9s							
H24K	Noodor Dome	85.69	23	P	P	04 21 55.6	-0.4	
	baz=253,SNR=6.0							
E23K	Chandalar	85.74	21	P	P	04 21 56.5	+0.2	
	baz=251,SNR=8.7							
IL31		85.78	24	IAmb	IAmb	04 21 55.3		
	comp=Z,6.4nm,0.8s							
ILAR	Eielson Array	85.78	24	P	P	04 21 54.8	-1.6	
ILAR	Eielson Array	85.78	24	P	P	04 21 54.2	-2.2	
	comp=Z,5.7nm,0.8s,baz=260,slow=4.8,SNR=47							
	comp=Z,5.7nm,0.8s							
BMRM	Bremner River	85.78	28	P	P	04 21 56.2	-0.3	
BMRM				IAmb	IAmb	04 21 56.7		
	comp=Z,14nm,1.0s							
BMRM	Bremner River	85.78	28	P	P	04 21 56.0	-0.6	
	baz=256							
IL03	Eielson Array	85.79	24	P	P	04 21 55.0	-1.4	
PAX	Paxson	85.89	26	P	P	04 21 56.3	-0.9	
	baz=255							
N25K	Chitina, Valde	85.94	28	P	P	04 21 57.6	+0.3	
N25K				IAmb	IAmb	04 22 06.7		
	comp=Z,11nm,1.3s							
N25K	Chitina, Valde	85.94	28	P	P	04 21 57.0	-0.4	
	baz=256							
TOLK	Toolik Lake Re	85.94	20	IAmb	IAmb	04 21 58.6		
	comp=Z,12nm,1.1s							
TOLK	Toolik Lake Re	85.94	20	P	P	04 21 56.9	-0.3	
	baz=251,SNR=8.7							
K24K	Donnelly Dome	85.98	25	P	P	04 21 57.0	-0.4	
	baz=255							
C23K	Itkillik River	86.00	19	P	P	04 21 57.3	-0.1	
	baz=250,SNR=18							
G24K	Hadweenzic Riv	86.10	22	P	P	04 21 57.6	-0.4	
	baz=253							
E24K	Your Creek	86.14	21	P	P	04 21 58.1	-0.1	
	baz=252							
F24K	Squaw Lake	86.19	22	IAmb	IAmb	04 22 00.2		
	comp=Z,12nm,1.2s							
F24K	Squaw Lake	86.19	22	P	P	04 21 58.2	-0.2	
	baz=252,SNR=8.6							
BGLC	Bering Glacier	86.22	29	P	P	04 21 58.3	-0.3	
	baz=257							
GLB	Gilahina Butte	86.27	28	P	P	04 21 58.3	-0.7	
GLB				IAmb	IAmb	04 21 59.4		
	comp=Z,8.9nm,0.9s							
J25K	Salcha River,	86.36	25	P	P	04 21 59.3	-0.1	
	baz=255							
D24K	Happy Valley	86.37	20	P	P	04 22 00.0	+0.8	
D24K	Happy Valley	86.37	20	P	P	04 21 59.3	+0.1	
	baz=252,SNR=7.9							
CRQE	Cirque	86.45	29	P	P	04 21 59.5	-0.5	
	baz=257							
PRP	Porcupine Dome	86.53	24	P	P	04 21 59.8	-0.5	
	baz=255							
H25L	Birch Creek	86.62	23	P	P	04 22 00.5	+0.1	
	baz=254							
MCARA	McCarthy VSAT	86.63	28	P	P	04 22 00.7	0.0	
	baz=257							
G25K	Bearman Lake	86.64	22	P	P	04 22 00.3	-0.3	
	baz=254							
SCRK	Sand Creek	86.79	25	P	P	04 22 01.1	-0.4	
	baz=256							
QSPA	South Pole Qui	86.84	180	P	P	04 22 01.1	-0.7	
	comp=Z,1.7nm,0.8s,baz=302,slow=1.2,SNR=16							
	comp=Z,1.7nm,0.8s							
L26K	Log Cabin Wild	86.85	26	P	P	04 22 01.6	-0.1	
	baz=257							
F25K	Christian Rive	87.04	22	P	P	04 22 02.7	+0.1	
	baz=255,SNR=13							
J26L	Joseph Creek	87.09	25	IAmb	IAmb	04 22 03.1		
	comp=Z,8.8nm,1.5s							
J26L	Joseph Creek	87.09	25	P	P	04 22 02.4	-0.6	
	baz=257							
E25K	Arctic Village	87.21	21	P	P	04 22 03.4	0.0	
	baz=255,SNR=14							
D25K	Kavik River	87.25	20	P	P	04 22 03.4	-0.2	
	baz=254							
CTG	Chitna Glacier	87.34	29	P	P	04 22 03.5	-0.8	
	baz=259							
M27K	Edge Creek, AK	87.36	27	P	P	04 22 04.6	+0.2	
M27K				IAmb	IAmb	04 22 05.4		
	comp=Z,8.7nm,0.9s							
M27K	Edge Creek, AK	87.36	27	P	P	04 22 04.3	0.0	
	baz=258							
BMAR	Burnt Mountain	87.39	22	P	P	04 22 05.2	+0.9	
L27K	Beaver Creek,	87.53	27	P	P	04 22 05.1	+0.1	
L27K				IAmb	IAmb	04 22 06.2		
	comp=Z,6.8nm,0.9s							
L27K	Beaver Creek,	87.53	27	P	P	04 22 04.9	-0.1	
	baz=258,SNR=6.5							
BCAR	Beaver Creek A	87.55	27	P	P	04 22 05.6	+0.5	
G26K	Porcupine Rive	87.58	23	P	P	04 22 05.0	0.0	
	baz=256,SNR=20							
F26K	Sheenjek River	87.62	22	P	P	04 22 05.4	0.0	
	baz=256,SNR=30							
K27K	Chicken	87.62	26	P	P	04 22 05.6	+0.2	
	baz=258							
PINM	Pinnacle	87.70	30	P	P	04 22 05.8	-0.1	
	baz=260							
O28M	Mount Upton	87.86	29	P	P	04 22 07.0	+0.1	
	baz=260							
C26K	Camden Bay	87.90	20	P	P	04 22 07.4	+0.8	
	baz=255							
YUK3	Moose Creek	87.91	28	P	P	04 22 07.3	+0.2	
	baz=260							
I27K	Kandik River	88.14	24	P	P	04 22 08.0	+0.1	
	baz=258,SNR=13							
YUK8	Steele Glacier	88.15	28	P	P	04 22 07.8	-0.5	
	baz=260							
EGAK	Eagle	88.16	25	IAmb	IAmb	04 22 08.8		
	comp=Z,7.4nm,1.0s							
EGAK	Eagle	88.16	25	P	P	04 22 07.7	-0.2	
	baz=259,SNR=6.1							
C27K	Jago River	88.24	20	P	P	04 22 09.1	+0.9	
	baz=256							
H27K	Steamboat Moun	88.30	23	P	P	04 22 08.7	+0.1	
	baz=258,SNR=14							
G27K	Doyon Strip	88.36	23	P	P	04 22 09.4	+0.5	
G27K	Doyon Strip	88.36	23	P	P	04 22 09.6	+0.7	
	baz=259							
O29M	Mount Kennedy	88.56	30	P	P	04 22 10.5	+0.4	
	baz=261							
E27K	Coleen River	88.67	22	IAmb	IAmb	04 22 12.7		
	comp=Z,3.7nm,0.9s							
E27K	Coleen River	88.67	22	P	P	04 22 11.0	+0.7	
	baz=258							
YUK4	Talbot Arm	88.69	28	P	P	04 22 11.6	+0.8	
	baz=261							
YUK6	Outpost Mounta	88.77	29	P	P	04 22 10.8	-0.3	
	baz=261							
DAWY	Dawson	88.79	26	P	P	04 22 11.2	+0.2	
	baz=260,SNR=6.3							
I28M	Miner Creek	88.79	24	IAmb	IAmb	04 22 12.2		
	comp=Z,6.2nm,1.1s							
I28M	Miner Creek	88.79	24	P	P	04 22 11.5	+0.5	
	baz=260,SNR=5.4							
M29M	Somme Creek	88.94	27	P	P	04 22 11.5	-0.3	
M29M				IAmb	IAmb	04 22 13.0		
	comp=Z,6.3nm,0.8s							
M29M	Somme Creek	88.94	27	P	P	04 22 12.4	+0.6	
	baz=261,SNR=5.4							
HYT	Haines Junctio	89.17	29	P	P	04 22 13.0	+0.1	
	baz=262,SNR=5.6							
L29M	L29M	89.20	27	IAmb	IAmb	04 22 14.3		
	comp=Z,6.9nm,0.9s							
L29M	L29M	89.20	27	P	P	04 22 13.7	+0.8	
	baz=262,SNR=5.1							
F28M	Old Crow	89.20	22	P	P	04 22 12.6	-0.2	
F28M	Old Crow	89.20	22	P	P	04 22 13.1	+0.3	
	baz=260							
P30M	Million Dollar	89.34	30	P	P	04 22 13.6	0.0	
	baz=263							
N30M	Aishikik Lake	89.45	28	P	P	04 22 13.8	-0.3	
	baz=262							
I29M	Ogilvie Camp,	89.45	25	P	P	04 22 14.5	+0.5	
	baz=261							
E28M	Babbage River	89.50	21	P	P	04 22 14.5	+0.4	
	baz=260							
PLBC	Pleasant Camp	89.56	31	P	P	04 22 15.2	+0.6	
	baz=263							
K29M	Barlow Dome	89.57	26	IAmb	IAmb	04 22 15.9		
	comp=Z,11nm,1.4s							
K29M	Barlow Dome	89.57	26	P	P	04 22 14.8	+0.1	
	baz=262,SNR=6.2							
M30M	Minto, Yukon	89.73	27	IAmb	IAmb	04 22 15.9		
	comp=Z,7.3nm,1.2s							
M30M	Minto, Yukon	89.73	27	P	P	04 22 15.6	+0.2	
	baz=263							
G29M	Pine Creek	89.80	23	P	P	04 22 16.1	+0.5	
	baz=262							
SIT	Sitka	89.83	33	P	P	04 22 15.8	-0.1	
	baz=264							
O30N	Mendenhall	89.84	29	P	P	04 22 16.1	+0.1	
	baz=263							
N31M	Braeburn, Yuko	90.08	29	P	P	04 22 17.4	+0.4	
	baz=264							
SKAG	Skagway	90.08	31	P	P	04 22 17.2	+0.2	
	baz=264							
J30M	Hart River	90.18	25	P	P	04 22 17.8	+0.2	
	baz=263							
EPYK	Eagle Plains	90.24	24	P	P	04 22 18.1	+0.4	
	baz=263							
I30M	Mount Dempster	90.24	25	P	P	04 22 18.1	+0.2	
	baz=263							
G30M	tAoh Zraii Nji	90.51	23	P	P	04 22 18.5	-0.4	
	baz=263							
F30M	Barrier River	90.75	22	P	P	04 22 20.4	+0.4	
	baz=264							
U33K	Whale Pass	90.97	34	P	P	04 22 21.0	-0.1	
	baz=266							
FARO	Faro, Yukon	91.29	28	P	P	04 22 22.1	-0.6	
FARO				IAmb	IAmb	04 22 23.1		
	comp=Z,4.6nm,0.9s							
FARO	Faro, Yukon	91.29	28	P	P	04 22 22.9	+0.2	
	baz=266							
N32M	Quiet Lake	91.34	29	P	P	04 22 23.1	+0.2	
	baz=266							
P33M	Teslin, Yukon	91.41	30	P	P	04 22 23.4	+0.1	
	baz=266							
ARCES	ARCESS Array B	101.22	341	P	Pdif	04 23 05.7	-1.8	
	comp=Z,1.0nm,0.6s,baz=74,slow=7.6,SNR=4.3							
EKA	Eskdalemuir Ar	119.95	337	PKP	PKPdf	04 28 05.7	-1.6	
	comp=Z,0.2nm,0.3s,baz=11,slow=2.6,SNR=4.6							
DBIC	Dimbokro	144.54	277	PKP	PKPbc	04 28 52.5	-0.8	
	comp=Z,12nm,0.7s,baz=71,slow=3.3,SNR=14							
LPAZ	La Paz	146.39	126	PKPbc	PKPab	04 28 59.6	-1.1	
	comp=Z,4.8nm,0.7s,baz=232,slow=1.7,SNR=25							
CPUP	Villa Florida	146.40	152	PKPbc	PKPbc	04 28 57.9	-0.8	
	comp=Z,1.3nm,0.8s,baz=167,slow=2.5,SNR=3.8							

NEIC ***15*** *04:46:56.5±1.3, 48°.3N±0°.2×153°.1E±0°.1, h145km±7km, mb4.1/41, Error ellipse: s-maj=23.3km s-min=9.9km az=165.0*

IDC ***15*** *04:46:58.8±3.3, 48°.40N×153°.02E, h165km±31km, mb3.5/22, mbtmp3.9/23, MS3.5/1, Error ellipse: s-maj=15.7km s-min=11.9km az=141.0*

ISC 15 04:46:56.8±0.6, 48°.3N±0°.1×153°.11E±0°.09, h150km, n94, σ0982/90, mb4.0/53, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKA	Kamikawa-asahi	8.41	244		Pn	04 48 55.2	-0.4
ASAJ	Asahikawa	8.41	244	P	Pn	04 48 56.5	+0.9
	6.5nm,0.6s,baz=63,slow=16,SNR=6.3						
ERM	Erimo	9.43	232		Pn	04 49 06.5	-2.7
KLR	Kul'dur	14.12	282	P	P	04 50 13.1	0.0
	0.8nm,0.4s,baz=36,slow=8.7,SNR=2.3						
KSRS	Korea Array	21.32	249	P	P	04 51 32.9	+1.2
	2.5nm,0.6s,baz=46,slow=9.6,SNR=11						
	2.5nm,0.6s						
JNU	Nakatsue	22.56	236	P	P	04 51 46.9	+2.5
	3.8nm,0.8s,baz=14,slow=6.6,SNR=4.0						
	3.8nm,0.8s						
L16K	Owhat River	29.56	45	P	P	04 52 46.1	-0.9
L16K				IAmb	IAmb	04 52 50.7	
	comp=Z,4.9nm,1.2s						
M16K	Timber Creek	29.76	47	P	P	04 52 48.9	+0.1
M17K	Holitna River	30.51	46	P	P	04 52 56.1	+0.7
G18K	Tagagawik	30.52	37	P	P	04 52 56.1	+0.7
N17K	Nushagak Hills	30.61	48	P	P	04 52 56.9	+0.6
N17K				IAmb	IAmb	04 53 28.1	
	comp=Z,6.6nm,1.3s						
H11N2	WAKE ISLAND Hy	30.61	154	T	T	05 25 03.4	
	baz=342,slow=76,SNR=11						
H11N1	WAKE ISLAND Hy	30.63	154	T	T	05 25 04.9	
	baz=342,slow=76,SNR=13						
H11N3	WAKE ISLAND Hy	30.63	154	T	T	05 25 06.4	
	baz=342,slow=76,SNR=8.5						
C19K	Lookout Ridge	30.97	31	P	P	04 52 59.5	+0.1
TTA	Tatalina	31.27	43	P	P	04 53 02.8	+0.7
TTA				IAmb	IAmb	04 53 21.6	
	comp=Z,4.5nm,1.4s						
J19K	Poorman	31.52	41	P	P	04 53 03.6	-0.7
J19K				IAmb	IAmb	04 53 43.1	
	comp=Z,6.9nm,1.4s						
H11S1	WAKE ISLAND Hy	31.71	155	T	T	05 26 20.8	
	baz=342,slow=76,SNR=30						
H11S3	WAKE ISLAND Hy	31.72	155	T	T	05 26 22.8	
	baz=342,slow=76,SNR=28						
H11S2	WAKE ISLAND Hy	31.73	155	T	T	05 26 15.3	
	baz=342,slow=76,SNR=30						
B20K	Meade River	32.05	30	P	P	04 53 08.9	+0.1
B20K				IAmb	IAmb	04 53 49.5	
	comp=Z,5.9nm,1.5s						
IMAR	Indian Mountai	32.52	38	P	P	04 53 12.9	0.0
H21K	Melozitna Rive	32.87	38	P	P	04 53 16.7	+0.7
E22K	Anaktuvuk Pass	33.54	34	P	P	04 53 22.2	+0.4
E22K				IAmb	IAmb	04 53 23.8	
	comp=Z,4.4nm,1.2s						
H23K	Yukon River	34.23	38	P	P	04 53 29.0	+1.3
WRH	Wood River Hil	34.83	40	P	P	04 53 33.5	+0.7
WRH				IAmb	IAmb	04 54 08.2	
	comp=Z,7.5nm,1.5s						
SML	Sawmill	34.85	45	P	P	04 53 33.8	+0.6
CCB	Clear Creek Bu	34.95	40	P	P	04 53 34.7	+0.8
DHY	Denali Highway	35.20	43	P	P	04 53 35.2	-1.1
DHY				IAmb	IAmb	04 54 08.0	
	comp=Z,5.6nm,1.4s						
HDA	Harding Lake	35.32	41	P	P	04 53 37.8	+0.7
HDA				IAmb	IAmb	04 53 38.2	
	comp=Z,2.4nm,0.5s						
ILAR	Eielson Array	35.34	40	P	P	04 53 37.8	+0.5
	comp=Z,0.5nm,0.5s,baz=255,slow=6.2,SNR=11						
	comp=Z,0.5nm,0.5s						
D25K	Kavik River	35.64	32	P	P	04 53 39.8	-0.1
PRP	Porcupine Dome	35.89	39	P	P	04 53 42.8	+0.7
PRP				IAmb	IAmb	04 53 44.4	
	comp=Z,2.4nm,0.8s						
J25K	Salcha River,	36.00	40	P	P	04 53 41.8	-1.2
BMAR	Burnt Mountain	36.23	35	P	P	04 53 46.5	+1.6
SCRK	Sand Creek	36.65	41	P	P	04 53 47.8	-0.8
K27K	Chicken	37.48	41	P	P	04 53 56.1	+0.7
K27K				IAmb	IAmb	04 53 57.3	
	comp=Z,3.3nm,0.9s						
L27K	Beaver Creek,	37.72	42	P	P	04 53 58.9	+1.4
L27K				IAmb	IAmb	04 54 00.9	
	comp=Z,3.3nm,1.1s						
BCAR	Beaver Creek A	37.73	42	P	P	04 53 58.6	+1.0
F28M	Old Crow	38.04	35	P	P	04 54 01.3	+1.3
I28M	Miner Creek

comp=Z,1.2nm,0.7s
BVAR Borovoye Array 49.88 308 P **P 04 55 33.3 -1.2**
comp=Z,0.6nm,0.3s,baz=46,slow=9.5,SNR=4.7
BVAR PcP **PcP 04 56 52.1 -0.5**
comp=Z,0.7nm,0.3s,baz=38,slow=3.8,SNR=2.0
comp=Z,0.6nm,0.3s
CMAR Chiang Mai Arr 52.76 255 P **P 04 55 57.4 +1.1**
comp=Z,1.8nm,0.3s,baz=37,slow=8.3,SNR=6.0
comp=Z,1.8nm,0.3s
KKAR Karatay Array 55.26 298 P **P 04 56 14.1 -0.1**
ARCES ARCESS Array B 56.38 340 P **P 04 56 20.9 -0.9**
comp=Z,1.0nm,0.9s,baz=23,slow=8.0,SNR=3.6
comp=Z,1.0nm,0.9s
ABKAR Akbulak array 57.43 309 P **P 04 56 29.4 -0.1**
NVAR Mina Array Bea 61.72 63 P **P 04 56 59.8 +0.6**
comp=Z,0.3nm,0.6s,baz=298,slow=7.5,SNR=4.0
comp=Z,0.3nm,0.6s
FIA1 FINESS Array S 62.63 334 P **P 04 57 03.5 -1.2**
FINES FINESS Array B 62.63 334 P **P 04 57 03.6 -1.0**
FINES FINESS Array B 62.63 334 P **P 04 57 03.8 -0.9**
comp=Z,0.7nm,0.4s,baz=31,slow=7.5,SNR=20
comp=Z,0.7nm,0.4s
PDAR Pinedale Array 63.83 54 P **P 04 57 13.6 +0.4**
PDAR Pinedale Array 63.83 54 P **P 04 57 14.3 +1.1**
comp=Z,0.6nm,0.7s,baz=288,slow=0.9,SNR=7.8
comp=Z,0.6nm,0.7s
NOA NORSAR Array B 66.75 341 P **P 04 57 31.0 -0.4**
comp=Z,0.3nm,0.6s,baz=28,slow=6.6,SNR=2.0
comp=Z,0.3nm,0.6s
HFS Hagfors 67.00 339 P **P 04 57 32.4 -0.5**
comp=Z,1.1nm,0.4s,baz=57,slow=5.5,SNR=23
comp=Z,1.1nm,0.4s
WB0 Warramunga Arr 69.81 199 P **P 04 57 49.6 -1.3**
WB0 IAmb IAmb 04 57 50.9
comp=Z,4.3nm,0.9s
WR0 Warramunga Arr 69.96 199 P **P 04 57 50.9 -0.8**
WB2 Warramunga Arr 69.99 199 P **P 04 57 51.5 -0.4**
WB2 IAmb IAmb 04 58 27.6
comp=Z,5.6nm,1.2s
WRA Warramunga Arr 69.99 199 P **P 04 57 51.3 -0.7**
comp=Z,1.4nm,0.7s,baz=17,slow=6.5,SNR=9.4
comp=Z,1.4nm,0.7s
AKASG Malin Array Be 70.25 326 P **P 04 57 52.3 -0.9**
comp=Z,0.9nm,0.4s,baz=35,slow=6.2,SNR=3.1
comp=Z,0.9nm,0.4s
D41A Chassel 70.92 40 P **P 04 57 56.9 -0.5**
D41A IAmb IAmb 04 58 23.3
comp=Z,6.5nm,1.2s
SCHQ Schefferville 71.87 23 P **P 04 58 02.8 -0.2**
comp=Z,1.9nm,0.8s,baz=337,slow=7.7,SNR=1.5
comp=Z,1.9nm,0.8s
ASAR Alice Springs 73.69 198 P **P 04 58 14.6 +0.6**
comp=Z,0.5nm,0.5s,baz=13,slow=5.9,SNR=6.0
comp=Z,0.5nm,0.5s
EKA Eskdalemuir Ar 74.82 346 P **P 04 58 20.1 0.0**
comp=Z,0.8nm,0.7s,baz=18,slow=4.8,SNR=4.1
comp=Z,0.8nm,0.7s
CLL Collm 75.04 335 *i* P **P 04 58 21.3 -0.2**
comp=Z,4.0nm,0.8s
TX31 Lajitas Ar. Si 76.73 61 P **P 04 58 31.6 0.0**
TXAR Lajitas Array 76.73 61 P **P 04 58 31.6 0.0**
TXAR Lajitas Array 76.73 61 P **P 04 58 31.9 +0.4**
comp=Z,0.8nm,0.6s,baz=297,slow=4.4,SNR=14
comp=Z,0.8nm,0.6s
GRA1 Grafenberg Arr 77.00 336 P **P 04 58 33.1 +0.5**
GERES GERESS Array B 77.05 334 P **P 04 58 32.9 -0.2**
GERES GERESS Array B 77.05 334 P **P 04 58 33.2 +0.1**
comp=Z,0.4nm,0.5s,baz=0.9,slow=8.1,SNR=5.0
comp=Z,0.4nm,0.5s
CONA Conrad Observa 77.21 332 *eP* **P 04 58 34.7 +0.8**
comp=Z,1.2nm,0.7s
RONA Rosalia, Austr 77.28 332 *eP* **P 04 58 35.4 +1.1**
comp=Z,2.1nm,0.8s
D62A Allapoint, All 78.15 28 P **P 04 58 38.6 -0.5**
D62A IAmb IAmb 04 59 08.8
comp=Z,6.8nm,1.1s
E62A Clayton Lake 78.41 28 P **P 04 58 40.7 +0.2**
SOKA Soboth 78.58 332 *eP* **P 04 58 41.8 +0.2**
comp=Z,1.2nm,0.7s
LESA Schwarzleotal 78.63 334 *eP* **P 04 58 42.2 +0.4**
comp=Z,1.7nm,0.6s
KBA Koelnbreinsper 78.74 333 *eP* **P 04 58 43.1 +0.5**
comp=Z,1.5nm,0.6s
BATG Bathurst New B 78.88 26 P **P 04 58 43.2 +0.2**
WATA Walderalm 79.03 334 *eP* **P 04 58 45.2 +1.1**
comp=Z,1.9nm,0.6s
WTTA Wattenberg 79.08 334 *eP* **P 04 58 45.3 +0.9**
comp=Z,2.5nm,0.6s
SQTA Sankt Quirin 79.24 335 *eP* **P 04 58 45.7 +0.6**
comp=Z,0.8nm,0.4s
M55A Ridgway 79.55 37 P **P 04 58 46.7 -0.1**
M55A IAmb IAmb 04 58 47.6
comp=Z,4.7nm,1.0s
FETA Feichten 79.56 335 *eP* **P 04 58 47.2 +0.2**
comp=Z,1.6nm,1.0s
LMN Caledonia Moun 80.54 26 P **P 04 58 51.5 -0.6**
QSPA South Pole Qui 138.05 180 PKP **PKPdf 05 06 02.7 +0.3**
comp=Z,0.5nm,0.4s,baz=264,slow=2.2,SNR=8.4

IDC 15 04:50:37.8±3.0, 14°.26N×52°.27E, h0km, mb3.8/5, mbtmp3.8/5, MS3.6/5, Error ellipse: s-maj=75.8km s-min=30.2km az=12.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**26.62**	**347**	LR		LR	05 09 34.3	
	comp=Z,162nm,19.3s,baz=48,slow=43							
KBZ	**Khabaz**	**30.45**	**347**	LR		LR	05 11 21.2	
	comp=Z,186nm,19.2s,baz=75,slow=41							
MKAR	**Makanchi Array**	**41.01**	**32**	P		P	04 58 22.2	-0.5
	0.4nm,0.6s,baz=218,slow=8.3,SNR=2.8							
	0.4nm,0.6s							
CMAR	**Chiang Mai Arr**	**44.89**	**78**	P		P	04 58 54.6	+0.2
	4.7nm,0.9s,baz=274,slow=9.1,SNR=15							
	4.7nm,0.9s							
ZALV	**Zalesovo Beam**	**47.11**	**26**	P		P	04 59 10.5	-1.0
	0.4nm,0.3s,baz=243,slow=9.0,SNR=3.9							
	0.4nm,0.3s							
FINES	**FINESS Array B**	**50.75**	**344**	P		P	04 59 40.3	+1.1
	1.3nm,0.7s,baz=146,slow=10,SNR=5.7							
	1.3nm,0.7s							
ESDC	**Sonseca Array**	**55.14**	**309**	P		P	05 00 11.6	-0.6
	0.8nm,0.9s,baz=99,slow=6.4,SNR=6.8							
	0.8nm,0.9s							
ARCES	**ARCESS Array B**	**57.75**	**349**	LR		LR	05 28 44.4	
	comp=Z,57nm,18.3s,baz=146,slow=40							
KSRS	**Korea Array**	**70.16**	**55**	LR		LR	05 36 00.9	
	comp=Z,22nm,20.2s,baz=215,slow=39							
JHJ	**Hachijo jima 2**	**80.31**	**58**	LR		LR	05 40 34.4	
	comp=Z,33nm,19.4s,baz=112,slow=37							

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*JMA **15** 05:01:37.3±0.2, 35°.2N±0°.5×140°.6E±0°.9, h54km±1km, MV3.1/39, E OFF BOSO PENINSULA*
JMA Felt I J1 at E OFF BOSO PENINSULA .
*IDC **15** 05:01:39.3±2.4, 35°.00N×140°.59E, h64km±23km, mb3.4/5, mbtmp3.7/6, MS2.8/2, Error ellipse: s-maj=30.1km s-min=8.7km az=75.0*
ISC 15 05:01:38.0±0.9, 35°.09N±0°.04×140°.57E±0°.05, h50km±6km, n32, σ1§13/33, mb3.8/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.21**	**285**	P		**Pn**	**05 01 46.2**	**-0.2**
KTR				*e*S		**Sn**	**05 01 52.6**	**+0.3**
BSO4	**Boso 4**	**0.22**	**241**	P		**Pn**	**05 01 46.8**	**+0.5**
BSO3	**Boso 3**	**0.29**	**189**	P		**Pn**	**05 01 47.5**	**+0.7**
BSO3				X			05 01 56.3	
JKUC	**kamogawauchiur**	**0.31**	**282**	*i* P		**Pn**	**05 01 47.0**	**-0.2**
JKUC				S		**Sn**	**05 01 53.7**	**0.0**
JCN	**Nagara**	**0.44**	**317**	*i* P		**Pn**	**05 01 48.3**	**-0.3**
JCN				S		**Sn**	**05 01 56.6**	**+0.5**
BSO1	**Boso 1**	**0.55**	**142**	*i* P		**Pn**	**05 01 49.9**	**+0.6**
BSO1				X			05 01 59.9	
JSMT	**Sammumatsuo**	**0.56**	**350**	P		**Pn**	**05 01 49.0**	**-0.9**
JSMT				S		**Sn**	**05 01 58.0**	**-0.5**
JIM2	**Oshima 3**	**1.01**	**248**	P		**Pn**	**05 01 55.1**	**-0.7**
JIM2				S		**Sn**	**05 02 07.8**	**-1.2**
JOD2	**Odawara 2**	**1.23**	**278**	P		**Pn**	**05 01 57.9**	**-0.9**
JOD2				S		**Sn**	**05 02 12.4**	**-1.8**
JMYK	**Miyake Tsubota**	**1.33**	**220**	P		**Pn**	**05 02 00.2**	**0.0**
JMYK				*e*S		**Sn**	**05 02 17.2**	**+0.4**
JIZS	**Izushimoda**	**1.44**	**255**	P		**Pn**	**05 02 01.3**	**-0.4**
JIZS				S		**Sn**	**05 02 18.7**	**-0.7**
JMKN	**Mikurajimanish**	**1.45**	**214**	P		**Pn**	**05 02 01.6**	**-0.2**
JSG	**Sagara**	**2.00**	**259**	P		Pn	05 02 17.1	+7.7
JHJ	**Hachijo jima 2**	**2.08**	**199**	P		**Pn**	**05 02 10.3**	**0.0**
	90nm,0.2s,baz=331,slow=16,SNR=66							
JHJ				S		**Sn**	**05 02 34.9**	**-0.1**
	119nm,0.3s,baz=260,slow=17,SNR=5.0							
MJAR	**Matsushiro Arr**	**2.40**	**308**	P		**Pn**	**05 02 15.1**	**+0.2**
	6.9nm,0.5s,baz=130,slow=13,SNR=28							
MJAR				S		**Sn**	**05 02 47.1**	**+4.0**
	12nm,0.4s,baz=301,slow=38,SNR=4.7							
MJAR				LR		LR	05 03 15.2	
	comp=Z,29nm,21.4s,baz=168,slow=39							
MAJO	**Matsushiro**	**2.40**	**308**	P		**Pn**	**05 02 15.5**	**+0.6**
JGF	**Kuroka**	**2.67**	**282**	P		**Pn**	**05 02 19.8**	**+1.2**
JMM	**Marumori**	**2.77**	**4**	P		**Pn**	**05 02 19.4**	**-0.5**
INU	**Inuyama**	**2.92**	**276**	P		**Pn**	**05 02 24.6**	**+2.7**
JCJ	**Chichijima**	**8.09**	**170**	P		Pn	05 03 26.8	-6.1
	9.6nm,0.3s,baz=0.5,slow=19,SNR=12							
JCJ				S		Sn	05 04 51.8	-11
	35nm,0.9s,baz=301,slow=19,SNR=1.7							
H11N2	**WAKE ISLAND Hy 27.82**	**116**		T		T	05 36 33.0	
	baz=310,slow=75,SNR=39							
H11N1	**WAKE ISLAND Hy 27.83**	**117**		T		T	05 36 37.5	
	baz=310,slow=75,SNR=27							
H11N3	**WAKE ISLAND Hy 27.84**	**116**		T		T	05 36 35.2	
	baz=310,slow=75,SNR=39							
H11S3	**WAKE ISLAND Hy 28.45**	**119**		T		T	05 37 19.3	
	baz=311,slow=76,SNR=20							
H11S1	**WAKE ISLAND Hy 28.46**	**119**		T		T	05 37 17.9	
	baz=311,slow=76,SNR=40							
H11S2	**WAKE ISLAND Hy 28.47**	**119**		T		T	05 37 17.8	
	baz=311,slow=76,SNR=22							
KURBB	**Kurchatov Arra**	**46.68**	**309**	P		**P**	**05 10 01.1**	**-0.4**
	0.8nm,0.6s,baz=85,slow=7.1,SNR=8.5							
	0.8nm,0.6s							
ILAR	**Eielson Array**	**51.50**	**31**	P		**P**	**05 10 37.8**	**-0.4**
	0.6nm,0.7s,baz=269,slow=6.7,SNR=8.0							
	0.6nm,0.7s							
WRA	**Warramunga Arr**	**55.05**	**187**	P		**P**	**05 11 04.4**	**-0.4**
	0.6nm,0.5s,baz=4.9,slow=7.7,SNR=9.1							
	0.6nm,0.5s							
STKA	**Stephens Creek**	**66.62**	**179**	LR		LR	05 41 06.6	
	comp=Z,53nm,19.9s,baz=217,slow=36							
FINES	**FINESS Array B**	**70.21**	**332**	P		**P**	**05 12 44.8**	**-0.5**
	1.8nm,1.0s,baz=103,slow=12,SNR=4.1							
	1.8nm,1.0s							
NVAR	**Mina Array Bea**	**76.70**	**52**	P		**P**	**05 13 25.4**	**+1.2**
	0.3nm,0.7s,baz=266,slow=6.9,SNR=4.6							
	0.3nm,0.7s							

KRSC 15 05:10:52.8±1.0, 49°.37N×156°.50E, h35km±16km, Ml3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.33**	**349**	*e*S		Sb	05 11 33.0	-1.0
KDTR	**Khodutka, Kamc**	**2.64**	**22**	*e*P		Pn	05 11 35.9	+3.1
KDTR				*e*S		Sb	05 12 08.2	-3.1
ASAK	**Asacha**	**3.14**	**16**	*e*P		Pn	05 11 43.7	+3.9
MTVR	**Mutnovka**	**3.29**	**18**	*e*P		Pn	05 11 45.7	+3.8
MTVR				*e*S		Sn	05 12 24.7	+4.8
GRL	**Gorelyy**	**3.33**	**17**	*e*P		Pn	05 11 46.6	+4.1
UGLR	**Uglovaya**	**4.11**	**20**	*e*P		Pn	05 11 56.5	+3.4
KOK	**Koryaka**	**4.15**	**18**	*e*P		Pn	05 11 58.7	+5.0
KRX	**Arik**	**4.21**	**18**	*e*P		Pn	05 11 59.1	+4.5

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*IDC **15** 05:55:56.3±1.1, 0°.94N×123°.04E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=222.9km s-min=20.1km az=63.0*
*DJA **15** 05:56:12.4±1.2, 0°N±3°×12°.2E±°, h29km±11km, M3.6/7, MLv3.6/7*
ISC 15 05:56:09.5±1.0, 0°.25N±0°.09×121°.92E±0°.06, h100km, n10, σ1§77/13, mb3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.15**	**71**	P		**Pn**	**05 56 31.6**	**0.0**
GTOI				S		**Sn**	**05 56 48.3**	**-0.1**
LUWI	**Luwuk**	**1.54**	**147**	P		**Pn**	**05 56 36.9**	**+0.6**
LUWI				S		**Sn**	**05 56 57.8**	**+1.2**
MPSI	**Mapaga**	**2.02**	**272**	P		**Pn**	**05 56 44.6**	**+2.2**
KMSI	**Cibinong**	**2.08**	**81**	P		**Pn**	**05 56 46.0**	**+2.8**
KMSI				S		**Sn**	**05 57 10.7**	**+1.8**
WRA	**Warramunga Arr**	**23.47**	**149**	P		**P**	**06 01 08.5**	**-1.9**
	1.0nm,1.1s,baz=327,slow=11,SNR=5.2							
	1.0nm,1.1s							
ASAR	**Alice Springs**	**26.47**	**155**	P		**P**	**06 01 36.8**	**-0.7**
	0.2nm,0.6s,baz=345,slow=14,SNR=4.2							
	0.2nm,0.6s							
MKAR	**Makanchi Array**	**57.84**	**329**	P		**P**	**06 05 50.6**	**-0.1**
	1.3nm,0.7s,baz=128,slow=8.7,SNR=10							
	1.3nm,0.7s							
ZALV	**Zalesovo Beam**	**61.64**	**336**	P		**P**	**06 06 14.0**	**-2.6**
	1.3nm,0.8s,baz=110,slow=6.3,SNR=4.4							
	1.3nm,0.8s							
KURBB	**Kurchatov Arra**	**62.21**	**330**	P		**P**	**06 06 19.7**	**-0.8**
	1.6nm,0.9s,baz=125,slow=6.5,SNR=11							
	1.6nm,0.9s							
BVAR	**Borovoye Array**	**67.71**	**329**	P		**P**	**06 06 54.6**	**-1.5**
	0.5nm,0.7s,baz=140,slow=9.1,SNR=3.7							
	0.5nm,0.7s							

TRN 15 06:20:38.2, 17°.36N×62°.01W, h63km, MD3.5, North-west of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.39**	**143**	*e*P		Pn	06 20 51.0	+1.6
ANBD				*e*S		Sn	06 20 59.9	+2.4
MBFL	**Flemmings, Mon**	**0.64**	**197**	*e*P		Pn	06 20 53.4	+1.4
MBFL				*e*S		Sn	06 21 04.0	+2.0
SEUS	**St. Eustatius**	**0.93**	**278**	*e*P		Pn	06 20 56.7	+1.3
ABD	**La Joyeuse, An**	**1.02**	**150**	*e*P		Pn	06 20 58.0	+1.4
SMRT	**St. Maarten**	**1.22**	**304**	*e*P		Pn	06 20 59.8	+0.5
CBE	**Ff, Capester**	**1.34**	**163**	*e*P		Pn	06 21 02.8	+1.8
TBG	**Guadaloupe-3**	**1.54**	**167**	*e*P		Pn	06 21 05.4	+1.8
TBG				*e*S		Sn	06 21 25.1	+2.5
TDBA	**Terre de Bas,**	**1.55**	**166**	*e*P		Pn	06 21 05.6	+2.0
MAGL	**Barre de l'ile**	**1.57**	**153**	*e*P		Pn	06 21 05.6	+1.6
SLBI	**Saint Lucia, B**	**3.47**	**163**	*e*P		Pn	06 21 31.5	+1.7
SLBI				*e*S		Sn	06 22 10.4	+0.7
AOPR	**Arecibo Observ**	**4.62**	**283**	*e*P		Pn	06 21 47.1	+1.6
AOPR				*e*S		Sn	06 22 38.8	+0.8

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*NEIC **15** 06:58:44.1±1.4, 12°.60N±0°.08×88°.90W±0°.07, h56km±10km, mb4.3/14, Error ellipse: s-maj=13.0km s-min=7.5km az=217.0*
*CATAC **15** 06:58:45.7±0.3, 12°.75N×88°.76W, h37km±6km, ML4.6*
*IDC **15** 06:58:45.8±0.8, 13°.09N×88°.30W, h62km±6km, mb3.6/9, mbtmp3.9/10, MS3.1/12, Error ellipse: s-maj=47.2km s-min=14.5km az=55.0*
*SNET **15** 06:58:45.8±0.8, 12°.77N×88°.78W, h38km±91km, ML4.7*
*GCG **15** 06:58:46.1±1.4, 12°.78N×88°.76W, h116km±174km, MD4.3*
*UCR **15** 06:58:52.4±1.2, 12°.66N×88°.31W, h19km, MW4.2*
ISC 15 06:58:45.0±0.6, 12°.75N±0°.04×88°.77W±0°.03, h62km±5km, n480, σ1§03/487, mb4.3/61, 28C-10D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
COEB	**Comit de Eme**	**0.78**	**17**	*i* P		**Pn**	**06 59 00.8**	**+0.4**
COEB				*i* S		**Sn**	**06 59 11.3**	**-0.5**
COEB				IAML			06 59 15.3	
	comp=Z,26μm,1.0s							
TECO	**Alcaldia de Te**	**0.78**	**359**	*i* P		**Pn**	**06 59 00.7**	**+0.3**
TECO				*i* S		**Sn**	**06 59 11.3**	**-0.4**
TECO				IAML			06 59 14.1	
	comp=Z,21μm,1.0s							
LCY	**Lacayo**	**0.81**	**35**	⇑*i*P		**Pn**	**06 59 01.2**	**+0.3**
RANC	**El Ranchito**	**0.82**	**35**	*i* P		**Pn**	**06 59 01.4**	**+0.4**
RANC				*i* S		**Sn**	**06 59 12.8**	**0.0**
RANC				IAML			06 59 17.1	
	comp=Z,13μm,1.0s							
PACA	**Pacayal**	**0.83**	**31**	⇓*e*P		**Pn**	**06 59 01.6**	**+0.5**
PACA	**Pacayal**	**0.83**	**31**	*i* P		**Pn**	**06 59 01.7**	**+0.5**
PACA				*i* S		**Sn**	**06 59 13.0**	**0.0**
PACA				IAML			06 59 16.2	
	comp=Z,120μm,1.0s							
SNVI	**San Vicente**	**0.86**	**356**	⇑*i*P		**Pn**	**06 59 01.9**	**+0.4**
COEG	**Centro de Oper**	**0.87**	**353**	*i* P		**Pn**	**06 59 01.7**	**+0.2**
COEG				*i* S		**Sn**	**06 59 13.9**	**+0.2**
COEG				IAML			06 59 22.9	
	comp=Z,22μm,1.0s							
UESV	**Universidad de**	**0.88**	**359**	⇑*e*P		**Pn**	**06 59 02.1**	**+0.5**
UESV	**Universidad de**	**0.88**	**359**	*i* P		**Pn**	**06 59 02.1**	**+0.5**
UESV				IAML			06 59 16.5	
	comp=Z,18μm,1.0s							
PQSS	**Presa 15 de Se**	**0.89**	**13**	*i* P		**Pn**	**06 59 02.1**	**+0.4**
PQSS				IAML			06 59 17.0	
	comp=Z,42μm,1.0s							
LALI	**Alcalda de L**	**0.91**	**324**	⇑*i*P		**Pn**	**06 59 02.1**	**+0.2**
LALI				*e*S		**Sn**	**06 59 13.7**	**-0.7**
LFRS	**El Faro**	**0.91**	**342**	⇓*i*P		**Pn**	**06 59 02.2**	**+0.1**
CNRM	**Centro Naciona**	**0.93**	**39**	*i* P		**Pn**	**06 59 02.6**	**+0.4**
CNRM				*i* S		**Sn**	**06 59 15.9**	**+1.0**
CNRM				IAML			06 59 18.9	
	comp=Z,83μm,1.0s							
PANCS	**Alcalda de**	**0.94**	**335**	*i* P		**Pn**	**06 59 02.6**	**+0.2**
PANCS				*i* S		**Sn**	**06 59 14.7**	**-0.7**
PANCS				IAML			06 59 16.5	
	comp=Z,22μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.94**	**2**	*i* P		**Pn**	**06 59 03.1**	**+0.6**
SCLA				IAML			06 59 03.7	
	comp=Z,11μm,1.0s							
SCLA				*i* S		**Sn**	**06 59 17.0**	**+1.6**
LOMA	**Loma Larga**	**0.97**	**336**	*i* P		**Pn**	**06 59 03.1**	**+0.2**
LOMA				*i* S		**Sn**	**06 59 16.1**	**0.0**
LOMA				IAML			06 59 19.4	
	comp=Z,18μm,1.0s							
AEIL	**Aeropuerto Ilo**	**1.00**	**340**	*e*P		**Pn**	**06 59 03.7**	**+0.5**
AEIL				IAML			06 59 25.4	
	comp=Z,23μm,0.3s							
LCND	**La Caada**	**1.02**	**57**	*e*P		**Pn**	**06 59 03.7**	**+0.3**
LCND				*e*S		**Sn**	**06 59 17.4**	**+0.4**
LCND				IAML			06 59 18.5	
	comp=Z,18μm,0.4s							
LCND	**La Caada**	**1.02**	**57**	*i* P		**Pn**	**06 59 03.7**	**+0.3**
LCND				*i* P			06 59 03.9	
LCND				*i* S		**Sn**	**06 59 17.4**	**+0.4**
LCND				*i* S			06 59 17.6	
LCND				IAML			06 59 20.3	
	comp=Z,17μm,1.0s							
LCND				IAML			07 00 09.4	
	comp=Z,37μm,1.0s							
UDBS	**Universidad Do**	**1.03**	**339**	*i* P		**Pn**	**06 59 03.9**	**+0.4**
UDBS				*i* S		**Sn**	**06 59 17.8**	**+0.5**
UDBS				IAML			06 59 21.7	
	comp=Z,25μm,1.0s							
IGN	**Direccin Gen**	**1.03**	**338**	*i* P		**Pn**	**06 59 04.0**	**+0.4**
IGN				*i* S		**Sn**	**06 59 17.8**	**+0.4**
IGN				IAML			06 59 19.3	
	comp=Z,62μm,1.0s							
SNET	**Serv Nac Est T**	**1.03**	**334**	Pn		**Pn**	**06 59 03.9**	**+0.3**
SNET	**Serv Nac Est T**	**1.03**	**334**	⇑*e*P		**Pn**	**06 59 03.9**	**+0.3**
SNET				IAML			06 59 19.7	
	comp=Z,11μm,0.3s							
SNET	**Serv Nac Est T**	**1.03**	**334**	⇑*i*P		**Pn**	**06 59 03.8**	**+0.2**
SNET				*i* S		**Sn**	**06 59 17.1**	**-0.3**
SNET				IAML			06 59 19.4	
	comp=Z,33μm,1.0s							
ITCA	**Escuela Especi**	**1.04**	**332**	*i* P		**Pn**	**06 59 04.0**	**+0.2**
ITCA				*i* S		**Sn**	**06 59 17.6**	**-0.1**
ITCA				IAML			06 59 18.7	
	comp=Z,30μm,1.0s							
CNCH	**Conchagua**	**1.05**	**60**	*e*P		**Pn**	**06 59 04.2**	**+0.4**
CNCH	**Conchagua**	**1.05**	**60**	*i* P		**Pn**	**06 59 04.4**	**+0.5**
CNCH				*i* S		**Sn**	**06 59 17.5**	**-0.4**
CNCH				IAML			06 59 20.3	
	comp=Z,24μm,1.0s							
UEES	**Universidad Ev**	**1.06**	**335**	*e*P		**Pn**	**06 59 04.3**	**+0.3**
UEES				*e*S		**Sn**	**06 59 18.1**	**0.0**
UEES	**Universidad Ev**	**1.06**	**335**	⇑*i*P		**Pn**	**06 59 04.3**	**+0.3**
UEES				*i* S		**Sn**	**06 59 18.3**	**+0.2**
UEES				IAML			06 59 23.0	
	comp=Z,6μm,1.0s							
PMON	**Piamonte**	**1.09**	**331**	⇑*i*P		**Pn**	**06 59 04.7**	**+0.3**
PMON				*i* S		**Sn**	**06 59 19.4**	**+0.5**
PMON				IAML			06 59 23.9	
	comp=Z,23μm,1.0s							
BOQS	**Boqueron**	**1.10**	**333**	⇑*e*P		**Pn**	**06 59 05.1**	**+0.5**
JAYA	**Jayaque - finc**	**1.11**	**324**	⇑*i*P		**Pn**	**06 59 04.8**	**0.0**
JAYA				*i* S		**Sn**	**06 59 19.5**	**0.0**
JAYA				IAML			06 59 20.5	
	comp=Z,52μm,1.0s							
QUEZ	**Alcaldia de Qu**	**1.18**	**336**	*i* P		**Pn**	**06 59 06.1**	**+0.6**
QUEZ				*i* S		**Sn**	**06 59 21.8**	**+0.9**
QUEZ				IAML			06 59 31.2	
	comp=Z,28μm,1.0s							
AMPH	**Amapala**	**1.21**	**64**	⇑*i*P		**Pn**	**06 59 06.3**	**+0.5**
AMPH				*i* S		**Sn**	**06 59 22.4**	**+1.1**
CEDA	**San Andres**	**1.21**	**330**	⇑*i*P		**Pn**	**06 59 06.3**	**+0.4**
CEDA				*i* S		**Sn**	**06 59 22.1**	**+0.6**
CEDA				IAML			06 59 26.7	
	comp=Z,23μm,1.0s							
CEVE	**Cerro Verde**	**1.35**	**322**	*e*P		**Pn**	**06 59 08.8**	**+0.8**
CEVE				*e*S		**Sn**	**06 59 26.7**	**+1.5**
CEVE				IAML			06 59 33.7	
	comp=Z,20μm,0.4s							
CEVE	**Cerro Verde**	**1.35**	**322**	*i* P		**Pn**	**06 59 08.5**	**+0.5**
CEVE				*i* S		**Sn**	**06 59 26.1**	**+0.8**
CEVE				IAML			06 59 33.6	
	comp=Z,18μm,1.0s							
SBLS	**San Blas**	**1.36**	**323**	⇑*e*P		**Pn**	**06 59 08.9**	**+0.8**
LLGN	**La Laguna**	**1.41**	**353**	⇑*i*P		**Pn**	**06 59 09.4**	**+0.7**
LLGN	**La Laguna**	**1.41**	**353**	*i* P		**Pn**	**06 59 09.3**	**+0.7**
LLGN				IAML			06 59 29.8	
	comp=Z,6μm,1.0s							
UNIC	**Universidad Ca**	**1.44**	**328**	*e*P		**Pn**	**06 59 09.6**	**+0.7**
UNIC	**Universidad Ca**	**1.44**	**328**	⇑*i*P		**Pn**	**06 59 09.8**	**+0.8**
UNIC				*i* S		**Sn**	**06 59 27.9**	**+0.9**
UNIC				IAML			06 59 29.3	
	comp=Z,3μm,1.0s							
NUBE	**Las Nubes**	**1.51**	**

comp=Z,2μm,1.0s
COPN Copaltepe 2.20 105⇓ iP Pn 06 59 19.6 +0.4
COPN IAML 06 59 46.9
comp=Z,1μm,1.0s
YUSH Yuscaran 2.22 57⇑ iP Pn 06 59 20.4 +0.8
MOM2 El Cardon 2.25 98 i P Pn 06 59 20.3 +0.4
MOM2 i S Sn 06 59 47.5 +0.9
MOM2 IAML 06 59 53.6
comp=Z,820nm,1.0s
BRAN Las Pilas 2.36 90⇓ iP Pn 06 59 23.3 +1.9
BRAN i S Sn 06 59 51.2 +1.9
BRAN IAML 06 59 53.9
comp=Z,1μm,1.0s
LIMN Finca el Limon 2.36 82⇑ iP Pn 06 59 22.0 +0.5
LIMN IAML 06 59 59.5
comp=Z,1μm,1.0s
SAPS Ciudad Sandino 2.38 104⇓ iP Pn 06 59 22.0 +0.3
SAPS i S Sn 06 59 49.6 -0.2
SAPS IAML 06 59 53.4
comp=Z,2μm,1.0s
NBG Las Nubes 2.38 320 eP Pn 06 59 24.6 +2.7
NBG eS Sn 06 59 53.5 +3.3
OCON Estacion meteo 2.40 68⇑ iP Pn 06 59 22.3 +0.4
OCON IAML 06 59 51.7
comp=Z,1μm,1.0s
APYN Apoyeque 2.42 102 i P Pn 06 59 23.3 +1.1
APYN IAML 06 59 54.1
comp=Z,27nm,1.0s
PCG Pacaya 2.42 313 eP Pn 06 59 26.6 +4.2
APQ2 Apoyeque 2.45 103⇓ iP Pn 06 59 23.3 +0.7
APQ2 i S Sn 06 59 51.7 +0.3
APQ2 IAML 07 00 04.5
comp=Z,1μm,1.0s
MRL Marmol 2.48 339 eP Pn 06 59 25.5 +2.2
MRL eS Sn 06 59 57.8 +5.3
GCG4 OSOP 2.50 317 i P Pn 06 59 24.6 +1.1
GCG4 IAML 06 59 37.9
comp=Z,1μm,1.0s
TISN Laguna Tiscapa 2.52 104⇓ iP Pn 06 59 24.2 +0.7
TISN IAML 06 59 54.8
comp=Z,110nm,1.0s
USIM UNAN 2.52 104 i P Pn 06 59 24.6 +1.1
USIM IAML 07 01 25.0
comp=Z,6μm,1.0s
FUG Fuego 3 2.63 310 eP Pn 06 59 28.5 +3.4
FUG eS Sn 06 59 57.8 +1.8
BOAB BOACO BROADBAN 3.04 95 Pn Pn 06 59 31.1 +0.4
SULM Suchitepequez, 3.13 300 eP Pn 06 59 34.6 +2.8
RTAL Retalhuleu 3.34 302 Pn Pn 06 59 33.7 -1.1
STG3 Santiaguito 3, 3.35 306 eP Pn 06 59 37.7 +2.7
STG3 eS Sn 07 00 18.7 +5.1
ACON Acoyapa 3.60 102 Pn 06 59 38.1 -0.2
HUEH Huehuetenango 3.68 314 Pn 06 59 38.5 -1.1
PETF Flores 4.27 346 Pn 06 59 48.9 +1.4
ESPN Las Esperanzas 4.40 97 Pn 06 59 49.5 +0.2
JTS Las Juntas de 4.47 123 Pn 06 59 49.2 -1.1
JTS Las Juntas de 4.47 123 P Pn 06 59 52.3 +2.1
comp=Z,11nm,0.3s,baz=302,slow=21,SNR=31
JTS S Sn 07 00 40.6 -0.4
comp=Z,33nm,0.4s,baz=294,slow=20,SNR=1.2
JTS Las Juntas de 4.47 123 eP Pn 06 59 52.3 +2.1
SOCE Pocosol 4.70 120 Pn Pn 06 59 52.4 -1.1
CCIG Comitan 4.79 318 Pn 06 59 53.4 -1.4
HDC Heredia 5.32 120 Pn Pn 07 00 01.5 -0.5
ACOS Acosta 5.39 123 eP Pn 07 00 07.9 +4.9
ACOS eS Sn 07 01 04.4 +0.6
ABE2 San Pablo 5.53 123 eP Pn 07 00 09.1 +4.1
LCR2 La Lucha 2 5.55 122 Pn Pn 07 00 05.1 -0.1
LLNJ Naranjito 5.62 125 eP Pn 07 00 10.0 +4.0
LLNJ eS Sn 07 01 09.9 +0.6
BUS1 Rivas 5.86 122 eP Pn 07 00 13.3 +3.6
BRU2 Volcan 7.15 123 Pn Pn 07 00 29.8 +2.7
CMIG Matias Romero 7.32 307 P Pn 07 00 31.3 +2.1
comp=Z,5.1nm,0.3s,baz=136,slow=7.5,SNR=29
CMIG S Sn 07 01 50.8 0.0
comp=Z,6.2nm,0.3s,baz=35,slow=23,SNR=6.7
TEIG Tepich 7.45 4 Pn Pn 07 00 32.4 +1.4
TEIG Tepich 7.45 4 P Pn 07 00 33.3 +2.3
comp=Z,86nm,0.6s,baz=187,slow=2.7,SNR=68
TEIG LR LR 07 03 46.0
comp=Z,172nm,20.0s,baz=216,slow=42
MTDJ Mount Denham 12.12 62 Pn Pn 07 01 36.2 +1.3
MOIG Morelia 13.77 302 Pn Pn 07 01 52.5 -4.9
ZAIG Zacatecas 16.48 309 Pn Pn 07 02 30.9 -1.5
HBVL Hebbronville 17.00 328 P Pn 07 02 39.1 +0.5
656A Willston 17.52 18 P Pn 07 02 45.3 +0.3
656A IAmb IAmb 07 03 03.5
comp=Z,20nm,0.9s
SDV Santo Domingo 18.22 100 LR LR 07 11 51.8
comp=Z,33nm,18.0s,baz=44,slow=44
HKT Hockley 18.32 340 P P 07 02 54.3 +0.1
833A Chaparral WMA, 18.39 329 P P 07 02 54.2 -0.8
833A IAmb IAmb 07 02 57.9
comp=Z,18nm,0.7s
833A Chaparral WMA, 18.39 329 P Pn 07 02 56.6 +0.9
baz=146,SNR=6.5
HNVL Huntsville, TX 18.96 342 P P 07 03 01.4 +0.2
HNVL IAmb IAmb 07 03 09.9
comp=Z,23nm,1.0s
352A Blakely 18.97 10 P Pn 07 03 02.3 -0.3
352A IAmb IAmb 07 03 05.0
comp=Z,30nm,1.0s
TIGA Tifton 19.20 14 P Pn 07 03 05.8 +0.5
TIGA IAmb IAmb 07 03 23.9
comp=Z,18nm,0.8s
TIGA Tifton 19.20 14 P Pn 07 03 06.5 +1.2
baz=196
HNDO Hondo 19.34 331 IAmb IAmb 07 03 07.3
comp=Z,13nm,0.8s
VBMS Vicksburg 19.44 356 P Pn 07 03 08.5 +0.3
VBMS Vicksburg 19.44 356 P Pn 07 03 09.3 +1.2
baz=175
NATX Nacogdoches 19.68 345 P Pn 07 03 11.3 +0.3
NATX Nacogdoches 19.68 345 P Pn 07 03 10.4 -0.6
baz=163
435B Jarrell 19.71 337 P P 07 03 10.4 +1.0
435B IAmb IAmb 07 03 11.7
comp=Z,11nm,0.8s
435B Jarrell 19.71 337 P Pn 07 03 10.8 -0.5
baz=154
146A Union 19.80 359 IAmb IAmb 07 03 13.5
comp=Z,16nm,0.8s
DRIO Del Rio 19.91 328 P P 07 03 12.2 +0.6
152A Waverly Hall 20.17 10 P P 07 03 15.6 +1.2
LRAL Lakeview Retre 20.25 4 P Pn 07 03 17.9 +0.2
baz=185
JCT Junction City 20.38 332 P P 07 03 17.7 +0.9
JCT IAmb IAmb 07 03 18.6
comp=Z,15nm,1.0s
JCT Junction City 20.38 332 P P 07 03 17.5 +0.8
baz=148,SNR=5.2
BRDY Brady 20.72 335 P P 07 03 20.9 +0.6
BRDY IAmb IAmb 07 03 25.1
comp=Z,8.9nm,0.7s
FW14 Alvarado 21.03 340 P P 07 03 24.9 +1.3
FW14 IAmb IAmb 07 03 40.2
comp=Z,20nm,0.8s
GOGA Godfrey 21.13 12 P P 07 03 25.5 +0.9
GOGA Godfrey 21.13 12 P P 07 03 25.9 +1.3
baz=195
CCAR Cane Creek 21.25 353 P P 07 03 26.7 +0.8
OZNA Ozona 21.38 330 P P 07 03 27.0 -0.5
OZNA IAmb IAmb 07 03 30.6
comp=Z,19nm,0.8s
Y52A Lilburn 21.45 11 P P 07 03 28.8 +0.7
Y52A IAmb IAmb 07 03 46.7
comp=Z,14nm,0.9s
FW07 Weatherford 21.51 339 P P 07 03 29.7 +1.0
FW07 IAmb IAmb 07 03 35.9
comp=Z,11nm,0.7s
TX31 Lajitas Ar. Si 21.54 322 P P 07 03 28.6 -0.6
TXAR Lajitas Array 21.54 322 P P 07 03 28.6 -0.6
TXAR Lajitas Array 21.54 322 P P 07 03 31.3 +2.1
comp=Z,4.1nm,0.7s,baz=142,slow=11,SNR=51
TXAR pP pP 07 03 44.3 +1.6
comp=Z,1.1nm,0.5s,baz=144,slow=9.3,SNR=6.7
TXAR ScP ScP 07 11 04.1 +2.5
comp=Z,0.4nm,0.8s,baz=205,slow=4.0,SNR=4.3
comp=Z,4.1nm,0.7s
X48A Hartselle 21.66 4 P P 07 03 30.5 +0.2
OXF Oxford 21.67 359 P P 07 03 30.7 +0.2
OXF IAmb IAmb 07 03 56.7
comp=Z,12nm,0.8s
OXF Oxford 21.67 359 P P 07 03 31.2 +0.7
baz=179
NHSC New Hope 21.73 20 P P 07 03 32.8 +1.7
baz=203
PLPT Palo Pinto 21.80 338 P P 07 03 31.4 -0.4
PLPT IAmb IAmb 07 04 00.0
comp=Z,9.0nm,0.7s
Z35A Perchaven, San 21.90 341 P P 07 03 32.2 -0.7
Z35A IAmb IAmb 07 03 37.4
comp=Z,12nm,0.8s
MIAR Mount Ida 22.13 349 P P 07 03 35.9 +0.5
MIAR IAmb IAmb 07 03 54.5
comp=Z,9.2nm,0.8s
MIAR Mount Ida 22.13 349 P P 07 03 36.5 +1.0
baz=168,SNR=10
PLAL Pickwick Lake 22.14 2 P P 07 03 36.1 +0.6
ABTX Abilene, Hawle 22.15 335 P P 07 03 35.6 0.0
ABTX IAmb IAmb 07 03 54.8
comp=Z,5.7nm,0.6s
ABTX Abilene, Hawle 22.15 335 P P 07 03 35.7 0.0
baz=151
UALR University of 22.16 352 P P 07 03 35.7 -0.1
UALR IAmb IAmb 07 03 56.4
comp=Z,13nm,1.1s
ATAH Atahualpa 22.29 152 LR LR 07 11 13.3
comp=Z,44nm,20.9s,baz=5.6,slow=33
ALPN Alpine 22.29 324 P P 07 03 36.8 -0.5
SJG San Juan 22.44 73 LR LR 07 12 41.0
comp=Z,30nm,19.0s,baz=309,slow=38
LOOK Love County 22.49 341 P P 07 03 40.7 +1.4
LOOK IAmb IAmb 07 04 03.4
comp=Z,12nm,0.6s
JSC Jenkinsville 22.50 16 P P 07 03 39.7 +0.4
JSC IAmb IAmb 07 03 59.7
comp=Z,10nm,1.1s
SWET Sewanee 22.51 6 P P 07 03 39.5 -0.1
MNHN Monahans 22.55 327 P P 07 03 39.3 -0.7
X37A Clayton 22.55 346 P 07 03 40.3 +0.4
X37A IAmb IAmb 07 04 01.1
comp=Z,6.7nm,0.6s
WHAR Wooly Hollow 22.66 353 P P 07 03 41.6 +0.5
WHAR IAmb IAmb 07 04 04.7
comp=Z,10nm,1.1s
SN05 Snyder 5 22.90 333 IAmb IAmb 07 03 45.9
comp=Z,13nm,0.6s
APMT Aspermont 22.95 335 P P 07 03 43.4 -0.7
APMT IAmb IAmb 07 03 46.6
comp=Z,8.5nm,0.7s
ODSA Odessa 23.06 329 IAmb IAmb 07 03 46.5
comp=Z,13nm,0.7s
SN07 Snyder 07 23.08 333 IAmb IAmb 07 03 47.2
comp=Z,8.7nm,0.6s
FCAR Ozark Folk Cen 23.24 353 IAmb IAmb 07 04 12.2
comp=Z,7.4nm,0.8s
TKL Tuckaleechee C 23.25 10 LR LR 07 12 22.6
comp=Z,44nm,21.6s,baz=184,slow=36
KMSC Kings Mountain 23.29 16 P P 07 03 49.1 +1.7
baz=199
WVT Waverly 23.29 2 P P 07 03 48.6 +1.2
baz=183
LPIG La Paz 23.31 302 LR LR 07 11 52.3
comp=Z,23nm,21.1s,baz=36,slow=33
POST Post 23.33 332 P P 07 03 47.0 -0.9
V53A Saluda 23.44 12 IAmb IAmb 07 04 13.4
comp=Z,11nm,0.9s
W35A Tecumseh 23.48 343 IAmb IAmb 07 03 50.7
comp=Z,6.1nm,0.6s
WMOK Wichita Mounta 23.70 339 P P 07 03 51.3 +0.1
WMOK Wichita Mounta 23.70 339 P P 07 03 51.1 -0.1
baz=156,SNR=9.6
FNO Franklin 23.73 342 P 07 03 52.2 +0.7
HHAR Hobbs 23.89 350 IAmb IAmb 07 03 54.9
comp=Z,5.4nm,0.6s
TUL3 Leonard 23.91 346 IAmb IAmb 07 04 19.8
comp=Z,9.3nm,0.8s
TUL3 Leonard 23.91 346 P P 07 03 52.9 -0.2
baz=163
PBMO Poplar Bluff 23.97 357 IAmb IAmb 07 04 12.1
comp=Z,8.0nm,0.9s
TZTN Tazewell 24.15 10 P P 07 03 56.9 +1.6
baz=193
T47A Sharon Grove 24.18 3 IAmb IAmb 07 04 21.1
comp=Z,6.8nm,0.8s
MNTX Cornudas Mount 24.27 324 P P 07 03 55.9 -0.5
baz=138,SNR=8.5
MGMO Mountain Grove 24.50 353 IAmb IAmb 07 04 16.8
comp=Z,11nm,0.9s
MSTX Muleshoe 24.67 331 IAmb IAmb 07 04 01.2
comp=Z,12nm,0.8s
MSTX Muleshoe 24.67 331 P P 07 04 00.2 +0.1
baz=146,SNR=8.4
S44A Carbondale 24.84 359 IAmb IAmb 07 04 21.6
comp=Z,9.4nm,0.8s
AMTX Amarillo 24.95 334 IAmb IAmb 07 04 06.1
comp=Z,17nm,0.9s
AMTX Amarillo 24.95 334 P P 07 04 03.0 +0.4
baz=149
CROK Carrier 25.06 342 IAmb IAmb 07 04 04.6
comp=Z,12nm,0.9s
S39A Bolivar 25.17 351 IAmb IAmb 07 04 07.5
comp=Z,12nm,0.7s
CCM Cathedral Cave 25.30 355 P P 07 04 05.6 -0.1
CCM IAmb IAmb 07 04 23.6
comp=Z,8.9nm,0.8s
CCM Cathedral Cave 25.30 355 P P 07 04 05.4 -0.2
baz=175
OK032 Salt Plains WL 25.41 342 IAmb IAmb 07 04 07.3
comp=Z,13nm,0.8s
WCI Wyandotte Cave 25.47 5 P P 07 04 07.3 +0.1
baz=186
BLA Blacksburg 25.48 16 P P 07 04 07.9 +0.5
baz=199
KAN17 Caldwell West 25.50 343 IAmb IAmb 07 04 08.0
comp=Z,12nm,0.7s
KAN09 Caldwell North 25.54 343 IAmb IAmb 07 04 08.5
comp=Z,12nm,0.8s
KAN01 Argonia South 25.60 343 IAmb IAmb 07 04 09.0
comp=Z,9.9nm,0.8s
R40A Maddes Statio 25.62 354 IAmb IAmb 07 04 25.9
comp=Z,7.8nm,1.1s
RTBA Rita Blanca 26.72 334 IAmb IAmb 07 04 40.4
comp=Z,11nm,0.9s
R32A Long Quarter, 27.05 343 IAmb IAmb 07 04 23.3
comp=Z,6.3nm,0.8s
ANMO Albuquerque 27.29 327 LR LR 07 17 59.2
comp=Z,39nm,18.0s,baz=218,slow=42
P52A Corning 27.41 11 P P 07 04 25.5 +0.8
baz=194
O48B Farmland 27.58 6 P P 07 04 26.7 +0.4
baz=188
CBKS Cedar Bluff 27.72 341 P P 07 04 27.5 -0.1
baz=157
MCWV Mont Chateau 27.94 15 P P 07 04 30.6 +1.2
baz=199
T25A Trinidad 28.04 333 P P 07 04 30.9 +0.3
baz=146
O53A New Philadelph 28.19 12 P P 07 04 32.5 +0.8
baz=196
KSCO Kaye Shedlock' 28.90 337 P P 07 04 38.4 +0.2
baz=152
SDCO Great Sand Dun 29.03 332 P P 07 04 40.0 +0.5
baz=145,SNR=6.0
S22A 4UR Ranch, Cre 29.66 330 P P 07 04 44.4 -0.6
baz=143
JFWS Jewell Farm 30.08 358 P P 07 04 48.8 +0.4
baz=177
ISCO Idaho Springs 30.77 334 P P 07 04 54.6 -0.4
baz=147
ECSD EROS Data Cent 31.60 349 P P 07 05 02.1 +0.3
baz=166
ETMB Extrema 31.70 134 P P 07 05 04.3 +1.4
ETMB IAmb IAmb 07 05 05.2
comp=Z,4.6nm,0.9s
N23A Red Feather La 31.82 335 P P 07 05 03.5 -0.6
baz=147
O20A White River Ci 32.22 331 IAmb IAmb 07 05 26.6
comp=Z,4.8nm,0.8s
O20A White River Ci 32.22 331 P P 07 05 06.4 -1.1
baz=143
MONP2 Monument Peak 32.26 313 P P 07 05 06.6 -1.4
baz=122
SPMN Marine on St. 32.55 355 P P 07 05 09.6 -0.5
baz=173,SNR=11
TPFO Pinon Flats 32.66 314 P P 07 05 08.4 -3.0
baz=123
PFO Pinyon Flats O 32.67 314 P P 07 05 08.8 -2.6
baz=123
PFO Pinyon Flats O 32.67 314 LR LR 07 18 12.8
comp=Z,43nm,18.4s,baz=206,slow=36
L61B Northampton 32.72 22 P P 07 05 11.6 0.0
baz=210
SADO Sadowa 32.95 13 LR LR 07 18 35.6
comp=Z,30nm,18.6s,baz=355,slow=37
RWWY Rawlins 33.01 334 IAmb IAmb 07 05 16.8
comp=Z,6.0nm,1.1s
SAML Samuel 33.33 129 P P 07 05 16.6 -0.6
SAML IAmb IAmb 07 05 18.4
comp=Z,4.0nm,0.9s
K22A Casper 33.53 336 P P 07 05 17.9 -1.1
baz=148
F33A 5 Mile Ranch, 33.59 350 IAmb IAmb 07 05 38.8
comp=Z,3.7nm,0.7s
GSC Goldstone, Bar 33.84 316 P P 07 05 20.6 -1.0
baz=125
RSSD Black Hills 33.90 340 P P 07 05 22.0 -0.2
baz=153
CIS Catalina Islan 33.95 312 P P 07 05 20.8 -1.7
baz=121
LONY Lake Ozonia 34.00 18 P P 07 05 23.0 +0.3
baz=205
R11B Troy Canyon, C 34.90 322 P P 07 05 29.8 -1.1
baz=130
BW06 Boulder Array 34.91 333 P P 07 05 29.9 -1.0
baz=143
PDAR Pinedale Array 34.91 333 P P 07 05 30.2 -0.7
comp=Z,0.4nm,0.6s,baz=133,slow=7.8,SNR=5.1
PDAR pP pP 07 05 47.2 +0.9
comp=Z,0.4nm,0.6s,baz=139,slow=9.9,SNR=3.9
PDAR PcP PcP 07 08 03.0 +0.5
comp=Z,0.6nm,0.5s,baz=140,slow=4.7,SNR=8.3
comp=Z,0.4nm,0.6s
ARVC Arvin 35.13 314 P P 07 05 31.5 -1.1
baz=122
EYMN Ely 35.16 357 P P 07 05 32.7 0.0
baz=176
ISA Isabella, Lake 35.18 316 P P 07 05 31.2 -2.0
baz=123
LPAZ La Paz 35.34 144 P P 07 05 34.9 -0.4
comp=Z,1.1nm,0.8s,baz=315,slow=2.9,SNR=3.0
LPAZ LR LR 07 20 17.3
comp=Z,31nm,20.3s,baz=271,slow=36
comp=Z,1.1nm,0.8s
SBC Santa Barbara 35.41 313 P P 07 05 32.9 -2.1
baz=120
PKM Mcpherson Peak 35.70 313 P P 07 05 36.5 -1.3
baz=121
AGMN Agassiz Nation 35.93 352 P P 07 05 38.8 -0.5
baz=168,SNR=6.0
LOHW Long Hollow 36.04 333 IAmb IAmb 07 05 58.5
comp=Z,2.4nm,0.7s
SMMC Simmler 36.05 314 P P 07 05 39.1 -1.5
baz=121
TPAW Teton Pass 36.10 332 IAmb IAmb 07 06 03.0
comp=Z,5.1nm,1.1s
PKME Peaks-Kenny Pk 36.40 23 P P 07 05 43.3 0.0
baz=213
IMW Indian Meadow 36.42 333 IAmb IAmb 07 05 47.0
comp=Z,1.9nm,0.5s
NVAR Mina Array Bea 36.63 320 P P 07 05 46.3 +0.6
comp=Z,0.8nm,0.7s,baz=132,slow=7.7,SNR=9.7
NVAR pP pP 07 06 02.5 +1.3
comp=Z,0.5nm,0.6s,baz=123,slow=8.3,SNR=3.0
NVAR PcP PcP 07 08 09.6 +1.9
comp=Z,1.6nm,0.7s,baz=130,slow=4.0,SNR=13
comp=Z,0.8nm,0.7s
H17A Grant Village 36.65 334 P P 07 05 44.9 -0.9
baz=143
RLMT Red Lodge 36.69 335 IAmb IAmb 07 05 47.8
comp=Z,2.5nm,0.7s
RLMT Red Lodge 36.69 335 P P 07 05 44.7 -1.4
baz=146
HLID Hailey 37.82 329 P P 07 05 54.1 -1.5
baz=137
ULM Lac du Bonnet 37.84 353 P P 07 05 53.9 -1.6
comp=Z,2.2nm,0.3s,baz=179,slow=7.8,SNR=4.5
ULM LR LR 07 23 42.5
comp=Z,42nm,19.7s,baz=266,slow=40
comp=Z,2.2nm,0.3s
DGMT Dagmar 37.85 343 P P 07 05 55.3 -0.3
baz=155,SNR=5.5
BOZ Bozeman (W) 38.06 334 IAmb IAmb 07 06 00.0
comp=Z,2.0nm,0.6s
BOZ Bozeman (W) 38.06 334 P P 07 05 57.4 -0.2
baz=142,SNR=7.5
VILB Vilhena 38.14 131 P P 07 05 58.9 +0.4
EGMT Eagleton 39.28 338 P P 07 06 07.4 -0.3
baz=147,SNR=13
MSO Missoula 40.03 333 P P 07 06 14.3 +0.3
MSO Missoula 40.03 333 P P 07 06 13.3 -0.7
baz=140
YBH Yreka Blue Hor 41.30 321 LR LR 07 24 42.6
comp=Z,72nm,19.3s,baz=162,slow=38
NEW Newport 42.53 332 P P 07 06 33.7 -0.7
baz=137
H03N2 Juan Fernandez 46.88 169 T T 07 57 19.4
baz=347,slow=76,SNR=5.1
H03N1 Juan Fernandez 46.89 169 T T 07 57 21.2
baz=347,slow=76,SNR=7.0
H03N3 Juan Fernandez 46.90 169 T T 07 57 28.0
baz=347,slow=76,SNR=8.1
BRLDA Berland Lookou 47.03 337 P P 07 07 10.2 0.0
BDFB Brasilia 49.21 124 P P 07 07 27.4 -0.1
comp=Z,1.9nm,0.8s,baz=29,slow=22,SNR=4.2
comp=Z,1.9nm,0.8s
CPUP Villa Florida 49.44 142 P P 07 07 29.5 +0.6
comp=Z,0.9nm,0.7s,baz=297,slow=2.3,SNR=3.0
comp=Z,0.9nm,0.7s
YKA Yellowknife Ar 52.99 345 P P 07 07 54.6 -0.4
comp=Z,2.7nm,0.6s,baz=144,slow=7.6,SNR=31
YKA pP pP 07 08 10.7 -0.6
comp=Z,2.8nm,1.0s,baz=149,slow=7.5,SNR=5.4
comp=Z,2.7nm,0.6s
TOAD Toad River Com 53.47 337 P P 07 07 58.8 +0.1
baz=134
V35K Ketchikan 53.93 331 P P 07 08 01.5 -0.5
baz=125
KOTAN Kotaneelee Air 53.95 339 P P 07 08 01.7 -0.5
baz=136
T35M Bob Quinn 54.29 333 P P 07 08 04.4 -0.3
baz=128
CRAG Craig 54.72 331 P P 07 08 07.9 +0.1
baz=124
WRAK Wrangell Islan 54.89 332 P P 07 08 08.5 -0.5
baz=125
U33K Whale Pass 55.08 331 P P 07 08 09.9 -0.4
baz=124
DLBC Dease Lake 55.09 335 P P 07 08 10.0 -0.5
baz=129
S34M Telegraph Cree 55.23 334 P P 07 08 11.0 -0.5
baz=127
R33M Jennings River 56.06 336 P P 07 08 17.4 -0.1
baz=128
Q32M Nakina River 56.34 335 P P 07 08 19.0 -0.6
baz=126
S32K Killisnoo 56.49 332 P P 07 08 20.1 -0.3
baz=123
SIT Sitka 56.62 332 P P 07 08 20.9 -0.4
baz=122
R32K Eaglecrest 56.91 333 P P 07 08 22.7 -0.8
baz=124
P33M Teslin, Yukon 57.30 336 P P 07 08 26.1 -0.2
baz=126
P32M Atlin 57.31 335 P P 07 08 25.4 -0.9
baz=125
S31K Pelican 57.51 332 P P 07 08 27.2 -0.4
baz=122
N32M Quiet Lake 57.97 336 P P 07 08 30.5 -0.4
baz=127
PLBC Pleasant Camp 58.36 334 P P 07 08 33.5 -0.1
baz=122
FARO Faro, Yukon 58.72 337 P P 07 08 35.7 -0.3
baz=127
O30N Mendenhall 58.95 335 P P 07 08 36.9 -0.9
baz=123
P30M Million Dollar 58.97 334 P P 07 08 37.8 -0.1
baz=122
P29M Windy Craggy 59.05 333 P P 07 08 38.2 -0.2
baz=121
M31M Drury Creek, Y 59.09 337 P P 07 08 38.3 -0.4
baz=126
N31M Braeburn, Yuko 59.23 336 P P 07 08 39.1 -0.5
baz=124
HYT Haines Junctio 59.57 335 P P 07 08 41.8 -0.4
baz=122
N30M Aishikik Lake 59.74 335 P P 07 08 43.0 -0.1
baz=123
O29M Mount Kennedy 59.75 334 P P 07 08 43.0 -0.4

	baz=121						
YUK6	Outpost Mounta	59.99 335	P	P	07 08 44.5	-0.6	
	baz=121						
M30M	Minto, Yukon	60.23 337	P	P	07 08 45.8	-0.8	
	baz=124						
YUK4	Talbot Arm	60.31 335	P	P	07 08 46.4	-0.9	
	baz=121						
PINM	Pinnacle	60.38 333	P	P	07 08 46.3	-1.3	
	baz=119						
O28M	Mount Upton	60.68 334	P	P	07 08 48.7	-1.2	
	baz=119						
YUK8	Steele Glacier	60.75 335	P	P	07 08 49.9	-0.5	
	baz=120						
M29M	Somme Creek	60.81 336	P	P	07 08 49.3	-1.2	
	baz=122						
C36M	Paulatuk	60.82 346	P	P	07 08 50.1	-0.2	
	baz=140						
L29M	L29M	61.03 337	P	P	07 08 51.3	-0.7	
	baz=122						
J30M	Hart River	61.18 339	P	P	07 08 52.4	-0.7	
	baz=125						
K29M	Barlow Dome	61.20 338	P	P	07 08 52.7	-0.5	
	baz=123						
CTG	Chitna Glacier	61.27 334	P	P	07 08 53.7	0.0	
	baz=118						
YUK3	Moose Creek	61.28 335	P	P	07 08 53.4	-0.5	
	baz=119						
I30M	Mount Dempster	61.57 339	P	P	07 08 54.4	-1.2	
	baz=125						
BGLC	Bering Glacier	61.74 332	P	P	07 08 56.0	-0.7	
	baz=116						
G31M	Satah River	61.89 341	P	P	07 08 56.4	-1.2	
G31M	Satah River	61.89 341	P	P	07 08 57.2	-0.4	
	baz=128,SNR=5.6						
CRQE	Cirque	61.93 333	P	P	07 08 57.0	-1.2	
	baz=116						
F31M	Tsiigehtchic	62.05 342	P	P	07 08 57.2	-1.5	
	baz=129						
M27K	Edge Creek, AK	62.15 335	P	P	07 08 58.0	-1.7	
	baz=118						
KAIM	Kayak Island	62.18 332	P	P	07 08 58.3	-1.4	
	baz=115						
MCARA	McCarthy VSAT	62.18 334	P	P	07 08 58.4	-1.3	
	baz=117						
I29M	Ogilvie Camp,	62.32 339	P	P	07 08 59.5	-1.0	
	baz=123						
EPYK	Eagle Plains	62.35 340	P	P	07 09 00.3	-0.4	
	baz=125						
L27K	Beaver Creek,	62.46 336	P	P	07 09 00.7	-0.8	
	baz=119						
INK	Inuvik	62.54 343	P	P	07 09 01.4	-0.5	
INK	Inuvik	62.54 343	P	P	07 09 00.7	-1.1	
	baz=130,SNR=5.5						
G30M	tAoh Zraii Nji	62.54 341	P	P	07 09 00.9	-1.1	
	baz=126						
M26K	Nabesna, AK	62.63 335	P	P	07 09 01.4	-1.4	
	baz=117						
BMRM	Bremner River	62.70 333	P	P	07 09 01.4	-1.8	
	baz=115						
F30M	Barrier River	62.78 342	P	P	07 09 02.5	-1.0	
	baz=127						
H29M	Whitestone	62.81 340	P	P	07 09 02.4	-1.4	
	baz=124						
Q23K	Middleton Isla	62.88 331	P	P	07 09 02.3	-2.0	
	baz=112						
I28M	Miner Creek	62.94 339	P	P	07 09 03.5	-1.3	
	baz=122						
N25K	Chitina, Valde	62.96 334	P	P	07 09 03.2	-1.8	
	baz=115						
K27K	Chicken	63.02 337	P	P	07 09 04.4	-0.9	
	baz=119						
EYAK	Cordova Ski Ar	63.04 332	P	P	07 09 04.8	-0.6	
	baz=114						
EGAK	Eagle	63.04 338	P	P	07 09 04.5	-0.8	
	baz=120						
L26K	Log Cabin Wild	63.06 335	P	P	07 09 04.2	-1.3	
	baz=117						
G29M	Pine Creek	63.08 340	P	P	07 09 04.6	-1.0	
	baz=124						
A36M	Sachs Harbour	63.09 348	P	P	07 09 04.8	-0.8	
	baz=140						
KLU	Klutina	63.49 333	P	P	07 09 07.7	-0.8	
	baz=114						
P23K	Montague Islan	63.59 331	P	P	07 09 07.9	-1.1	
	baz=112						
I27K	Kandik River	63.62 338	P	P	07 09 07.9	-1.4	
	baz=120						
SCRK	Sand Creek	63.75 336	P	P	07 09 08.9	-1.3	
	baz=117						
GLI	Glacier Island	63.78 332	P	P	07 09 09.0	-1.3	
	baz=112						
J26L	Joseph Creek	63.82 337	P	P	07 09 09.8	-0.8	
	baz=118						
M24K	Tolsona, Glenn	63.85 334	P	P	07 09 09.7	-1.1	
	baz=114						
E29M	Blow River	63.88 342	P	P	07 09 11.2	+0.3	
E29M			IAmb	IAmb	07 09 11.7		
	comp=Z,2.0nm,0.8s						
E29M	Blow River	63.88 342	P	P	07 09 10.4	-0.5	
	baz=125						
H27K	Steamboat Moun	63.91 339	P	P	07 09 10.7	-0.4	
	baz=120						
PAX	Paxson	63.91 335	P	P	07 09 10.5	-0.8	
	baz=115						
UWE	Uwekahuna	63.94 285	P	P	07 09 09.4	-2.8	
I26K	Coal Creek Min	64.04 338	P	P	07 09 11.3	-0.6	
	baz=118						
F28M	Old Crow	64.07 341	P	P	07 09 11.6	-0.6	
	baz=123,SNR=8.0						
SCM	Sheep Creek Mo	64.24 333	P	P	07 09 12.5	-0.9	
	baz=113						
G27K	Doyon Strip	64.24 339	P	P	07 09 12.9	-0.4	
	baz=120						
K24K	Donnelly Dome	64.39 336	P	P	07 09 13.5	-0.8	
	baz=115						
M23K	Glacier View	64.40 333	P	P	07 09 13.3	-1.1	
	baz=112						
E28M	Babbage River	64.50 342	IAmb	IAmb	07 09 15.2		
	comp=Z,2.9nm,0.8s						
E28M	Babbage River	64.50 342	P	P	07 09 14.2	-0.7	
	baz=123						
J25K	Salcha River,	64.57 337	P	P	07 09 14.5	-1.0	
	baz=116						
KNK	Knik Glacier	64.59 333	P	P	07 09 15.2	-0.4	
	baz=111						
SEW	Seward	64.59 331	P	P	07 09 14.9	-0.6	
	baz=110						
D28M	Stokes Point	64.67 342	P	P	07 09 14.8	-1.1	
	baz=124						
SML	Sawmill	64.67 333	P	P	07 09 15.5	-0.7	
	baz=112						
WAT6	Susitna Watana	64.71 334	P	P	07 09 15.4	-1.1	
	baz=113						
DHY	Denali Highway	64.75 335	P	P	07 09 16.4	-0.4	
	baz=113						
O22K	Cooper Landing	64.84 331	P	P	07 09 17.2	0.0	
	baz=110						
E27K	Coleen River	64.93 341	IAmb	IAmb	07 09 18.5		
	comp=Z,2.2nm,0.8s						
E27K	Coleen River	64.93 341	P	P	07 09 17.4	-0.4	
	baz=121						
PMR	Palmer	64.95 333	P	P	07 09 18.0	+0.1	
	baz=111						
PRP	Porcupine Dome	65.02 337	P	P	07 09 17.8	-0.7	
	baz=116						
G26K	Porcupine Rive	65.05 339	P	P	07 09 19.0	+0.6	
	baz=118						
RC01	Rabbit Creek A	65.05 332	P	P	07 09 18.2	-0.4	
	baz=110						
BRSE	Bradley Lake S	65.08 330	P	P	07 09 17.9	-1.0	
	baz=108						
HDA	Harding Lake	65.10 336	P	P	07 09 18.9	+0.1	
	baz=114						
WAT1	Susitna Watana	65.15 334	P	P	07 09 18.5	-0.7	
	baz=112						
ILAR	Eielson Array	65.23 336	P	P	07 09 19.1	-0.6	
	comp=Z,0.9nm,0.9s,baz=168,slow=4.7,SNR=15						
ILAR			pP	pP	07 09 35.5	-0.9	
	comp=Z,0.7nm,0.9s,baz=117,slow=3.9,SNR=4.6						
	comp=Z,0.9nm,0.9s						
D27M	Malcolm River	65.28 342	P	P	07 09 19.5	-0.6	
	baz=122						
KDAK	Kodiak Island	65.43 328	P	P	07 09 20.1	-0.9	
	baz=106						
M22K	Willow	65.45 333	P	P	07 09 20.3	-0.8	
	baz=110						
H25L	Birch Creek	65.46 338	P	P	07 09 20.7	-0.4	
	baz=116						
HOM	Homer	65.49 330	P	P	07 09 20.5	-0.9	
	baz=108						
F26K	Sheenjek River	65.52 340	P	P	07 09 21.1	-0.5	
	baz=118						
Q20K	Shuyak Island	65.56 329	P	P	07 09 20.9	-1.0	
	baz=106						
MCK	McKinley	65.64 335	P	P	07 09 21.8	-0.6	
	baz=112						
CUT	Chulitna	65.74 333	P	P	07 09 22.1	-0.8	
	baz=110						
G25K	Bearman Lake	65.78 339	P	P	07 09 23.6	+0.4	
	baz=116						
SII	Sitkinak Islan	65.96 327	P	P	07 09 23.4	-1.2	
	baz=104						
F25K	Christian Rive	65.98 339	P	P	07 09 24.0	-0.6	
	baz=117						
NEA2	Nenana	66.02 336	P	P	07 09 24.3	-0.5	
	baz=101						
H24K	Noodor Dome	66.04 337	P	P	07 09 24.4	-0.5	
	baz=114						
O20K	Slope Mountain	66.09 331	P	P	07 09 24.3	-1.1	
	baz=107						
SKT	Skwentna	66.16 333	P	P	07 09 25.4	-0.3	
	baz=109						
E25K	Arctic Village	66.20 340	P	P	07 09 25.5	-0.4	
	baz=117						
G24K	Hadweenzic Riv	66.25 338	P	P	07 09 25.7	-0.5	
	baz=115						
P19K	Oil Pt	66.26 330	P	P	07 09 25.3	-1.2	
	baz=106						
Q19K	Cape Douglas,	66.27 329	P	P	07 09 26.1	-0.4	
	baz=106						
C27K	Jago River	66.32 342	P	P	07 09 26.2	-0.4	
	baz=120						
R18K	Karluk	66.34 328	P	P	07 09 26.0	-0.9	
	baz=104						
I23K	Minto, Yukon-K	66.34 336	P	P	07 09 26.2	-0.6	
	baz=112						
BPAW	Bear Paw Mtn.	66.62 335	P	P	07 09 28.5	-0.2	
	baz=110						
H23K	Yukon River	66.67 337	P	P	07 09 28.3	-0.7	
	baz=112						
F24K	Squaw Lake	66.73 339	P	P	07 09 28.7	-0.6	
	baz=114						
C26K	Camden Bay	66.82 342	P	P	07 09 29.2	-0.6	
	baz=118						
MLY	Manley	66.85 336	P	P	07 09 28.9	-1.2	
	baz=111						
M20K	Styx River	66.85 332	P	P	07 09 29.3	-0.9	
	baz=107						
Q18K	Katmai Hardscr	66.89 329	P	P	07 09 28.8	-1.8	
	baz=104						
D25K	Kavik River	67.00 341	P	P	07 09 31.5	+0.5	
	baz=117						
CHUM	Lake Minchumin	67.11 335	P	P	07 09 31.2	-0.5	
	baz=109						
E24K	Your Creek	67.17 339	P	P	07 09 31.8	-0.3	
	baz=114						
N19K	Bonanza Creek	67.18 331	P	P	07 09 31.7	-0.6	
	baz=106						
P18K	Big Mountain,	67.18 329	P	P	07 09 31.7	-0.6	
	baz=104						
G23K	Bananza Creek	67.18 338	P	P	07 09 31.9	-0.3	
	baz=112						
Q17K	Contact Creek	67.25 328	P	P	07 09 32.2	-0.7	
	baz=103						
O18K	Koktuh Hills	67.28 330	P	P	07 09 31.8	-1.2	
	baz=104						
L20K	Farewell, AK	67.36 333	P	P	07 09 32.3	-1.1	
	baz=107						
R17L	Mt. Peulik Vol	67.36 327	P	P	07 09 33.1	-0.4	
	baz=102						
H22K	Ishlitna Cre	67.40 337	P	P	07 09 32.5	-1.0	
	baz=110						
M19K	Big River Lodg	67.43 332	P	P	07 09 32.4	-1.4	
	baz=106						
COLD	Coldfoot	67.44 338	P	P	07 09 33.6	-0.1	
	baz=112						
E23K	Chandalar	67.55 339	P	P	07 09 34.7	+0.1	
	baz=113						
K20K	Telida	67.69 334	P	P	07 09 35.3	-0.1	
	baz=107						
L19K	White Mountain	67.71 332	P	P	07 09 34.9	-0.8	
	baz=106						
D24K	Happy Valley	67.72 340	P	P	07 09 35.3	-0.2	
	baz=114						
P17K	Kvichak River	67.74 329	P	P	07 09 34.7	-1.0	
	baz=103						
TOLK	Toolik Lake Re	67.76 340	P	P	07 09 35.5	-0.4	
	baz=113						
G22K	Bettles	67.81 338	P	P	07 09 36.1	+0.1	
	baz=111						
N18K	Kilae Creek	67.81 331	P	P	07 09 35.8	-0.5	
	baz=104						
H21K	Melozitna River	67.87 336	P	P	07 09 36.7	+0.1	
	baz=109						
C24K	Franklin Bluff	67.91 341	P	P	07 09 37.0	+0.3	
	baz=114						
J20K	Nowinta River	67.96 335	P	P	07 09 37.1	0.0	
	baz=107						
M18K	Stony River	67.98 332	P	P	07 09 37.2	-0.1	
	baz=104						
O17K	Koliganek Bris	68.19 330	P	P	07 09 37.9	-0.7	
	baz=103						
CHGN	Chignik	68.21 326	P	P	07 09 37.7	-1.1	
	baz=100						
F22K	John River	68.26 338	P	P	07 09 38.5	-0.4	
	baz=110						
D23K	Nanushuk River	68.26 340	P	P	07 09 38.0	-0.9	
	baz=112						
I20K	Naaghedeneel	68.28 335	P	P	07 09 38.3	-0.8	
	baz=107						
E22K	Anaktuvuk Pass	68.34 339	P	P	07 09 38.5	-1.0	
	baz=111						
N17K	Nushagak Hills	68.40 330	P	P	07 09 39.3	-0.6	
	baz=103						
G21K	Allakaket	68.42 337	P	P	07 09 39.5	-0.4	
	baz=109						
TTA	Tatalina	68.43 333	P	P	07 09 39.3	-0.8	
	baz=105						
P16K	Nushagak River	68.49 329	P	P	07 09 39.0	-1.4	
	baz=102						
J19K	Poorman	68.53 334	P	P	07 09 40.5	-0.2	
	baz=106						
L18K	Granite Mounta	68.56 332	P	P	07 09 40.6	-0.3	
	baz=104						
C23K	Itkillik River	68.57 341	P	P	07 09 40.1	-0.7	
	baz=113						
CHNA	Chernabura Isl	68.63 324	P	P	07 09 40.9	-0.6	
	baz=98						
F21K	Alatna River	68.64 338	P	P	07 09 41.0	-0.3	
	baz=109,SNR=5.2						
O16K	Kokwok River B	68.65 329	P	P	07 09 41.1	-0.4	
	baz=102						
M17K	Holitna River	68.71 331	P	P	07 09 41.5	-0.3	
	baz=103						
D22K	Ayikyak River	68.91 340	P	P	07 09 42.7	-0.3	
	baz=110						
N16K	Nishlik Lake	69.16 330	P	P	07 09 44.4	-0.3	
	baz=101						
E21K	Killik River	69.20 339	P	P	07 09 45.2	+0.4	
	baz=109						
SDPT	Sand Point	69.21 325	P	P	07 09 44.2	-0.8	
	baz=98						
L17K	Donlin	69.27 332	P	P	07 09 45.0	-0.3	
	baz=102						
H19K	Roundabout Mou	69.28 336	P	P	07 09 45.4	+0.1	
	baz=105						
M16K	Timber Creek	69.36 331	P	P	07 09 45.8	0.0	
	baz=101						
K17K	Iditarod	69.40 333	P	P	07 09 46.1	+0.1	
	baz=103						
F20K	Avaraart Lake	69.42 337	P	P	07 09 46.2	+0.2	
	baz=107						
B22K	Teshekpuk Lake	69.65 341	P	P	07 09 48.3	+0.9	
	baz=110						
C21K	Knifeblade Rid	69.71 340	P	P	07 09 48.4	+0.5	
	baz=108						
B21K	Ikpikpuk River	69.80 340	P	P	07 09 48.5	+0.1	
	baz=109						
J17K	VABM Dome	69.89 333	P	P	07 09 49.1	+0.1	
	baz=102						
E20K	Nigu River	69.93 339	P	P	07 09 48.6	-0.7	
	baz=107						
H18K	Honhosa River	69.97 335	P	P	07 09 49.5	-0.1	
	baz=104						
M15K	Kasigluk River	70.13 330	P	P	07 09 49.6	-0.9	
	baz=100						
F19K	Shaleruckik Mo	70.14 337	P	P	07 09 50.8	+0.2	
	baz=105						
D20K	Etivluk River	70.21 339	P	P	07 09 51.6	+0.6	
	baz=106						
G18K	Tagagawik	70.26 336	P	P	07 09 51.1	-0.2	
	baz=104						
D19K	Kuna River	70.69 339	P	P	07 09 53.5	-0.4	
	baz=105						
M14K	Bethel	70.75 330	P	P	07 09 54.6	+0.2	
	baz=99						
B20K	Meade River	70.76 340	P	P	07 09 54.6	+0.3	
	baz=106						
K15K	Wolf Creek Mou	70.79 332	P	P	07 09 54.8	+0.2	
	baz=100						
F18K	Selawik	70.81 336	P	P	07 09 54.1	-0.5	
	baz=103						
G17K	Kiwalik Mounta	70.98 335	P	P	07 09 55.4	-0.3	
	baz=101						
L14K	Kuka Creek	71.19 331	P	P	07 09 57.2	+0.2	
	baz=98						
F17K	Baldwin Pennin	71.41 336	P	P	07 09 57.9	-0.3	
	baz=101						
WRA	Warramunga Arr	138.11 254	PKP	PKiKP	07 18 05.7	-0.1	
	comp=Z,0.8nm,0.7s,baz=89,slow=2.1,SNR=11						
WRA			pPKP	pPKPdf	07 18 23.1	+1.1	
	comp=Z,0.9nm,0.9s,baz=87,slow=2.1,SNR=3.7						
ASAR	Alice Springs	138.18 249	PKhKP	PKPpre	07 17 56.8		
	comp=Z,0.2nm,0.5s,baz=101,slow=3.2,SNR=4.2						
ASAR			PKP	PKiKP	07 18 05.0	-0.9	
	comp=Z,0.4nm,0.6s,baz=64,slow=2.2,SNR=3.4						
ASAR			pPKP	pPKPdf	07 18 24.4	+2.4	
	comp=Z,0.3nm,0.6s,baz=114,slow=2.3,SNR=2.2						
CMAR	Chiang Mai Arr	148.07 346	PKPbc	PKPbc	07 18 23.4	-1.1	
	comp=Z,2.8nm,0.3s,baz=326,slow=2.7,SNR=4.9						

NAO ***15*** *07:10:50.7, 33°.09N×46°.35E, h33km, mb4.1*
ISN ***15*** *07:10:58.2±2.0, 34°.63N×46°.42E, h26km±35km, ML4.7*
TEH ***15*** *07:10:59.3, 34°.61N×46°.28E, h8km±25km, ML4.6*
IDC ***15*** *07:10:59.2±0.7, 34°.64N×46°.22E, h0km, mb4.2/22, mbtmp4.3/30, ML4.5/6, MS3.6/37, Error ellipse: s-maj=15.8km s-min=11.9km az=168.0*
MOS ***15*** *07:11:00.2±1.4, 34°.63N×46°.21E, h14km, mb4.6/27, Error ellipse: s-maj=6.6km s-min=3.5km az=117.6*
DSN ***15*** *07:11:00.8±0.4, 34°.42N×46°.15E, h15km, mb5.1/1, Error ellipse: s-maj=9.7km s-min=4.8km az=48.0*
THR ***15*** *07:11:01.0±1.0, 34°.61N×46°.22E, h14km±7km, ML4.6*
NEIC ***15*** *07:11:01.4±1.9, 34°.64N±0°.06×46°.25E±0°.08, h10km±1km, mb4.5/99, Error ellipse: s-maj=12.5km s-min=8.3km az=59.0*
AFAD ***15*** *07:11:02.2±0.0, 34°.56N×45°.63E, h6km±3km, MW4.6*
GII ***15*** *07:11:51.8±0.3, 34°.52N±0°.02×46°.104E±0°.008, h1km, Mws4.8, confirmed*

ISC 15 07:11:00.8±0.6, 34°.59N±0°.02×46°.23E±0°.02, h13km±4km, n811, σ1°.99/757, mb4.5/111, MS3.6/43, 43C-13D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.17	50	Pg	Pg	07 11 03.6	-1.3
IGHG	Ghaleghazi	0.38	133	Pg	Pg	07 11 08.4	-0.2
KGS1	Ghasr-e-Shirin	0.54	261	Pg	Pg	07 11 11.5	+0.2
KGS1				Sg	Sb	07 11 20.5	+0.8
GLG1	Gilan-e-Gharb	0.55	209	Pg	Pg	07 11 11.6	+0.1
GLG1				Sg	Sb	07 11 20.5	+0.4
ILIN	Lien	0.68	61	Pg	Pg	07 11 12.8	-1.4
KCHF	Cheshme Sefid,	0.74	115	Pg	Pg	07 11 14.1	-1.1
KCHF				Sg	Sb	07 11 26.1	+0.4
ILBA	Ilam Banvizeh	0.97	181	*e*Pg	Pg	07 11 19.7	+0.2
ILBA				*e*Sg	Sb	07 11 33.1	+1.0
ILBA				IAML		07 11 41.2	
	comp=E,17μm,0.5s						
ILBA	Ilam Banvizeh	0.97	181	Pg	Pg	07 11 19.3	-0.1
SNGE	Sanandaj	1.04	61	*e*Pg	Pg	07 11 05.5	-15
SNGE				IAML		07 11 24.6	
	comp=N,9μm,0.5s						
SNQR	Sonqor, Kerman	1.18	77	Pg	Pb	07 11 21.8	-1.5
IBZA	Bozab	1.35	95	Pg	Pn	07 11 25.0	-0.6
IBDR	Badra	1.50	190	*e*Pg	Pn	07 11 25.0	-2.4
	baz=15						
IBDR				*e*Sg	Sn	07 11 48.0	+1.2
IBDR				AML	AML	07 11 56.0	
	comp=E,8μm,0.5s						
IBDR				AML	AML	07 11 56.7	
	comp=N,5μm,0.6s						
SDS1	Sardasht. Az.	1.67	339	Pg	Pb	07 11 30.8	-0.7
IKFM	Kafar-mosalman	1.71	128	Pg	Pb	07 11 32.2	+0.1
SRSL	SARDASHT	1.74	338	*e*Pg	Pb	07 11 32.0	-0.8
SRSL				*e*Sg	Sg	07 11 55.7	-1.2
SRSL				IAML		07 12 03.4	
	comp=E,5μm,0.3s						
SRSL				IAML		07 12 03.7	
	comp=N,9μm,0.8s						
IKRK	Kirkuk	1.75	298	*e*Pn	Pn	07 11 31.0	+0.1
IKRK				*e*Sn	Sb	07 11 54.0	-0.6
IKRK				AML	AML	07 12 03.8	
	comp=N,19μm,1.0s						
IKRK				AML	AML	07 12 04.7	
	comp=E,10μm,0.5s						
IDOB	Doab	1.80	116	Pg	Pn	07 11 33.3	+1.6
HSAM	Samen	2.00	100	Pn	Pn	07 11 36.2	+1.7
MAHB	Mahabad	2.21	349	Pn	Pb	07 11 39.3	-1.4
IHSH	Hashtrud	2.83	17	Pn	Pn	07 11 47.9	+1.8
ZNJK	Zanjan	2.88	43	*e*Pn	Pb	07 11 49.6	-2.6
QABG	Abgarm-Qazvin	2.96	67	Pn	Pn	07 11 49.9	+2.1
IAZR	Azarshahr	3.09	356	Pn	Pn	07 11 51.9	+2.4
ASAO	Ashtian	3.13	90	*e*Pn	Pn	07 11 52.4	+2.3
ASAO				*e*Sg	Sb	07 12 38.5	+3.9
IRAZ	Razeghan	3.14	74	Pn	Pn	07 11 51.8	+1.6
KHMZ	Khomeyn	3.21	104	*e*Pn	Pn	07 11 53.5	+2.5
KHMZ				IAML		07 12 51.6	
	comp=N,747nm,0.7s						
YOVA	Hakkari_Yksek	3.38	333	P	Pn	07 11 55.6	+2.1
YOVA				S	Sn	07 12 32.7	-0.7
ISRB	Sarab	3.43	19	Pn	Pn	07 11 56.1	+2.0
JIR1	Jirandeh	3.59	53	Pn	Pn	07 11 58.2	+1.9
HAKT	HAKKARI	3.60	326	P	Pn	07 11 57.5	+1.0
HAKT				S	Sn	07 12 40.2	+1.2
ITBZ	Tabriz	3.63	359	Pn	Pn	07 11 58.7	+1.7
ISHB	Shabestar	3.72	353	Pn	Pn	07 11 59.6	+1.5
IHRS	Heris	3.77	10	Pn	Pn	07 12 00.8	+1.9
GIDE	GILAN DEYLAMAN	3.79	51	*e*Pn	Pn	07 12 01.6	+2.5
GIDE				IAML		07 13 08.5	
	comp=N,561nm,0.5s						
GIDE				IAML		07 13 14.8	
	comp=E,634nm,0.8s						
IMHD	Mahdasht	3.79	72	Pn	Pn	07 12 01.1	+2.0
AHWZ	Ahwaz	3.83	147	Pn	Pn	07 12 01.8	+2.4
IQOM	Qom	3.99	85	Pn	Pn	07 12 03.4	+1.4
THKV	Tehran--Karaj	4.03	70	*e*Pn	Pn	07 12 04.5	+2.1
IMRD	Marand	4.13	354	Pn	Pn	07 12 05.9	+2.1
GHVR	GHOM	4.18	90	*e*Pn	Pn	07 12 06.4	+2.0
GHVR				IAML		07 13 25.2	
	comp=N,569nm,0.5s						
GHVR				IAML		07 13 26.9	
	comp=E,641nm,0.8s						
CHTH	Charan	4.21	70	*e*Pn	Pn	07 12 07.3	+2.4
IHSB	Hasanabad	4.22	77	Pn	Pn	07 12 06.4	+1.5
SIRN	Sirnak	4.24	314	P	Pn	07 12 06.6	+1.4
SIRN				S	Sn	07 12 54.2	-0.3
IPIR	Pirpir	4.33	115	Pn	Pn	07 12 08.7	+2.1
GAS1	Astara - Iran	4.33	28	Pn	Pn	07 12 08.6	+2.3
QAMS	Qamsar	4.37	100	Pn	Pn	07 12 08.4	+1.3
KLST	Kelardasht - M	4.38	63	Pn	Pn	07 12 09.4	+2.1
JHBN	Jahan bin	4.39	121	Pn	Pn	07 12 09.4	+1.9
GRMI	Germi	4.41	17	*e*Pn	Pn	07 12 09.9	+2.3
GRMI	Germi	4.41	17	Pn	Pn	07 12 09.5	+1.9
OZAP	Van, Ozalp-Mer	4.44	337	P	Pn	07 12 11.5	+3.5
PERV	Siirt/Pervari-	4.48	319	P	Pn	07 12 10.4	+1.9
GEVA	Gevas	4.51	326	P	Pn	07 12 11.3	+2.3
TVAN	Van	4.54	331	P	Pn	07 12 12.6	+3.2
TVAN				S	Sb	07 13 12.7	-2.5
IVRN	Varamin	4.54	83	Pn	Pn	07 12 11.2	+1.9
AKDM	Akdamar-Van	4.56	326	P	Pn	07 12 09.8	+0.2
ZNGN	Zangian	4.59	121	Pn	Pn	07 12 12.0	+1.8
VANB	Van	4.60	331	*e*P	Pn	07 12 10.5	+0.3
IKLH	Kolahrood	4.62	104	Pn	Pn	07 12 12.7	+2.1
DAMV	Damavand	4.82	76	*e*Pn	Pn	07 12 15.5	+2.2
MIDY	Mardin/Midyat-	4.82	307	P	Pn	07 12 13.7	+0.6
IDMV	Damavand	4.86	77	Pn	Pn	07 12 15.6	+1.8
SRTM	Siirt_Merkez	4.86

VMUR Van-Muradiye 4.88 335 P **Pn 07 12 17.6 +3.5**
CLDR Caldiran 4.91 338 *i* P **Pn 07 12 17.4 +2.9**
CLDR Caldiran 4.91 338 P **Pn 07 12 17.4 +2.9**
KRSH Karshahi 4.93 96 Pn **Pn 07 12 16.6 +1.9**
ISFB Sefidab 4.97 91 Pn **Pn 07 12 16.7 +1.5**
IBRJ Brojen 4.99 121 Pn **Pn 07 12 17.1 +1.4**
BLIS Bitlis-Merkez 5.05 320 P **Pn 07 12 18.1 +1.7**
BTMN Batman 5.19 311 P **Pn 07 12 19.2 +1.1**
MARD Mardin 5.19 303 P **Pn 07 12 17.9 -0.4**
GURO Guroymak-BITLI 5.20 321 *i* P **Pn 07 12 19.9 +1.5**
GURO Guroymak-BITLI 5.20 321 Pn **Pn 07 12 19.7 +1.3**
IPRN Peran 5.25 70 Pn **Pn 07 12 20.8 +1.7**
IGAR Gharneh 5.32 113 Pn **Pn 07 12 22.2 +2.1**
IZEF Zefreh 5.35 107 Pn **Pn 07 12 22.6 +1.9**
SVAN Silvan-Diyarba 5.39 313 *i* P **Pn 07 12 22.5 +1.5**
SVAN Silvan-Diyarba 5.39 313 P **Pn 07 12 21.2 +0.2**
IFIR Firoozkooh 5.45 77 Pn **Pn 07 12 24.1 +2.2**
MAZI Mazidag 5.49 303 *eP* Pn 07 12 27.4 +5.0
DORK Agr/Tutak/Do 5.53 331 P **Pn 07 12 25.3 +2.4**
KBD Kabd 5.54 167 P **Pn 07 12 24.9 +1.9**
KBD S **Sn 07 13 25.3 -1.3**
ILAS Lasjerd 5.58 80 Pn **Pn 07 12 25.4 +1.6**
MUSM Mu-Merkez 5.60 319 P **Pn 07 12 25.0 +1.1**
AGRB Hanur-Agry 5.61 333 *eP* **Pn 07 12 26.3 +2.3**
TASB TASBURUN-IGDIR 5.61 344 *eP* **Pn 07 12 28.6 +4.6**
GNI Garni 5.67 348 *eP* Pn 07 12 30.5 +5.6
GNI Garni 5.67 348 Pn **Pn 07 12 25.2 +0.3**
GNI Garni 5.67 348 P **Pn 07 12 28.5 +3.6**
GNI Garni 5.67 348 Pn Pn 07 12 30.5 +5.6
comp=E,2.1nm,0.3s,baz=19,slow=3.6,SNR=6.2
GNI Lg Lg 07 14 05.9
comp=E,1.3nm,0.3s,baz=61,slow=22,SNR=5.6
GNI Garni 5.67 348 P **Pb 07 12 35.3 -4.4**
GNI S **Sb 07 13 48.3 +0.6**
GNI Garni 5.67 348 *i* P **Pn 07 12 23.6 -1.3**
KOTA Agri, Merkez-K 5.73 336 P **Pn 07 12 29.4 +3.7**
KLNJ Kolanjah 5.76 127 Pn **Pn 07 12 27.7 +1.4**
NASN Na'in 5.77 106 *ePn* **Pn 07 12 29.0 +2.6**
IRAM Ramesheh 5.86 117 Pn **Pn 07 12 29.5 +2.0**
DYBB Diyarbakir 5.95 306 *eP* **Pn 07 12 32.6 +3.9**
EATA Eleskirt 6.05 332 P **Pn 07 12 33.3 +3.1**
HANI Diyarbakir_Han 6.05 311 P **Pn 07 12 30.3 +0.2**
BNGB Bingl 6.25 316 P **Pn 07 12 33.6 +0.7**
IANJ Anjilo 6.36 80 Pn **Pn 07 12 36.3 +1.8**
ANAR Anarak 6.39 101 Pn **Pn 07 12 37.0 +2.2**
SANL SANLIURFA_Merk 6.42 296 P **Pn 07 12 36.0 +1.0**
KARS Kars 6.52 338 Pn **Pn 07 12 35.5 -1.1**
KARS Kars 6.52 338 P **Pn 07 12 35.5 -1.1**
ERZM Erzurum 6.57 325 P **Pn 07 12 38.8 +1.4**
KOVA Elazig, Kovanc 6.59 310 P **Pn 07 12 38.2 +0.7**
HANM anlurfa/Hi 6.66 299 P **Pn 07 12 39.1 +0.8**
ISAD Sadrabad 6.79 111 Pn **Pn 07 12 42.1 +1.6**
TNCL Tunceli-Merkez 7.01 312 P **Pn 07 12 44.0 +0.8**
ELZG Elazig 7.01 306 P **Pn 07 12 44.0 +0.7**
KOPT Kop Dagi 7.08 322 P **Pn 07 12 48.4 +4.0**
AHBU AHRAM 7.16 142 Pn **Pn 07 12 46.7 +1.5**
DDEM Demirkent 7.22 332 P **Pn 07 12 49.8 +3.7**
DAGI Agillar 7.32 333 P **Pn 07 12 51.2 +3.7**
DSBU Dashti - Bushe 7.55 144 Pn **Pn 07 12 52.4 +1.8**
IMEH Mehriz 7.73 112 Pn **Pn 07 12 54.4 +1.1**
ARPR Arapgir-MALATY 7.76 308 **Pn 07 12 54.8 +1.2**
GAZ Gaziantep 7.76 292 Pn **Pn 07 12 54.1 +0.6**
SHRO Shahrood 8.12 77 *ePn* **Pn 07 13 01.4 +2.9**
ASF Jabal al Asfar 8.17 255 Pn **Pn 07 13 00.2 +1.1**
comp=E,2.6nm,0.3s,baz=223,slow=0.1,SNR=17
comp=E,11nm,0.4s
ASF Jabal al Asfar 8.17 255 P **Pn 07 13 00.5 +1.3**
ONI Oni 8.28 346 Pn **Pn 07 13 00.0 -0.5**
ONI Oni 8.28 346 P **Pn 07 13 00.0 -0.5**
MAK Makhachkala 8.41 6 *eP* Pn 07 12 56.9 -5.5
MAK *eS* **Sn 07 14 30.1 -7.1**
MAK pmax pmax
comp=Z,120nm,1.5s
MAK MLR MLR
comp=Z,937nm,15.0s
GHIR Ghir-Karzin 8.53 136 *ePn* **Pn 07 13 04.9 +0.7**
MRVT Maraveh tapeh 8.54 66 *ePn* **Pn 07 13 06.9 +2.7**
MRVT Maraveh tapeh 8.54 66 Pn **Pn 07 13 06.5 +2.3**
KSHT Keshet 8.82 262 P Pg 07 13 59.5 +10
KSHT Keshet 8.82 262 S **Sg 07 15 39.4 -4.4**
NATI Neve Ativ 8.82 264 P **Pn 07 13 10.2 +2.2**
TPRV Parvadeh(Tabas 8.84 97 Pn **Pn 07 13 10.5 +2.2**
GEM Giv'at Ha'Em 8.89 264 P Pg 07 14 00.0 +9.1
GEM Giv'at Ha'Em 8.89 264 S **Sg 07 15 39.9 -6.2**
TABS Tabas 9.08 93 *ePn* **Pn 07 13 14.6 +3.0**
TKDS Koohdasht(Taba 9.09 93 Pn **Pn 07 13 13.8 +2.1**
NCK Nalchik 9.12 348 *i* P **Pn 07 13 11.3 -0.8**
NCK pmax pmax
comp=Z,14nm,0.5s
MMA0B Mount Meron ar 9.15 263 P Pn 07 14 04.3 +52
MMA0B Mount Meron ar 9.15 263 S Sn 07 15 47.4 +52
MMAI Mount Meron Ar 9.15 263 Pn **Pn 07 13 13.4 +0.9**
comp=Z,3.6nm,0.3s,baz=81,slow=16,SNR=12
MMAI Lg Lg 07 15 45.3
comp=Z,3.9nm,0.3s,baz=105,slow=29,SNR=5.2
MMAI LR LR 07 17 31.5
comp=Z,358nm,19.7s,baz=19,slow=43
comp=Z,4.6nm,0.4s
BALJ Balqa 9.21 257 Pn **Pn 07 13 15.1 +1.8**
HMDT Nahal Hemdat 9.25 258 P Pn 07 14 05.3 +51
HMDT Nahal Hemdat 9.25 258 S Sn 07 15 48.6 +51
MMLI Mount Malkishu 9.28 260 P Pn 07 14 05.8 +51
MMLI Mount Malkishu 9.28 260 S Sn 07 15 49.6 +51
HNTI Hanita 9.32 264 S Sn 07 15 51.4 +52
HNTI Hanita 9.32 264 P Pn 07 14 06.1 +51
BNN Bunyan 9.36 300 **Pn 07 13 16.5 +1.0**
SAKB Bahrain 9.36 155 P **Pn 07 13 15.6 +0.3**
SAKB S **Sn 07 14 56.9 -3.5**
BLGI Bet Lehem HaGe 9.39 262 P Pn 07 14 07.6 +52
BLGI Bet Lehem HaGe 9.39 262 S Sn 07 15 52.4 +51
UJAP Al Uja 9.39 257 P Pn 07 14 07.3 +52
UJAP Al Uja 9.39 257 S Sn 07 15 52.9 +52
SBZV Sabzevar 9.45 76 Pn **Pn 07 13 19.0 +2.1**
KBZ Khabaz 9.48 345 Pn Pn 07 13 23.7 +6.7
comp=Z,0.2nm,0.3s,baz=163,slow=9.8,SNR=8.1
KBZ LR LR 07 17 38.2
comp=Z,173nm,19.5s,baz=148,slow=42
KBZ Khabaz 9.48 345 *i* P **Pn 07 13 17.1 +0.1**
KBZ pmax pmax
comp=Z,5.0nm,1.5s
SHA1 Shidzhatmaz 9.54 344 *i* P **Pn 07 13 18.0 -0.1**
BJRD Bojnurd 9.55 68 *ePn* **Pn 07 13 21.3 +3.1**
OFRI `Ofer 9.58 261 P Pn 07 14 09.6 +51
OFRI `Ofer 9.58 261 S Sn 07 15 58.2 +52
DSI Dead Sea 9.59 255 S Sn 07 15 56.9 +51
DSI Dead Sea 9.59 255 P Pn 07 14 09.3 +51
SHMA Al-Shehemyia 9.62 154 P **Pn 07 13 19.3 +0.4**
SHMA S **Sn 07 15 04.6 -2.3**
SLTI Sal'it 9.64 259 P Pn 07 14 10.1 +51
SLTI Sal'it 9.64 259 S Sn 07 15 58.4 +51
MSBI Mazada 9.70 253 P Pn 07 14 11.1 +51
MSBI Mazada 9.70 253 S Sn 07 15 59.9 +51
KVAR Kislovodsk Arr 9.74 345 LR LR 07 16 46.1
comp=Z,661nm,21.3s,baz=61,slow=36
KIV Kislovodsk 9.74 345 Pn **Pn 07 13 19.9 -0.8**
KIV Kislovodsk 9.74 345 *eP* **Pn 07 13 18.9 -1.8**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,88nm,11.0s
YTIR Yattir 9.88 254 P Pn 07 14 14.1 +52
YTIR Yattir 9.88 254 S Sn 07 16 04.9 +52
AMAZ Amatzia 9.97 255 P Pn 07 14 14.8 +51
AMAZ Amatzia 9.97 255 S Sn 07 16 06.9 +51
KRBR Kerman 10.03 114 *ePn* **Pn 07 13 27.4 +2.6**
ZFRI Zfri 10.16 250 P Pn 07 14 17.8 +52
ZFRI Zfri 10.16 250 S Sn 07 16 11.2 +51
SOC Sochi 10.30 333 *eP* **Pn 07 13 25.2 -3.0**
SOC *e* 07 15 19.8
SOC pmax pmax
comp=Z,13nm,0.8s
SOC MLR MLR
comp=Z,392nm,18.0s
PRNI Paran 10.38 249 P **Pn 07 13 32.3 +2.9**
PRNI Paran 10.38 249 P Pn 07 14 21.3 +52
PRNI Paran 10.38 249 S Sn 07 16 17.2 +52
HRFI Mount Harif 10.50 247 P Pn 07 14 22.1 +51
HRFI Mount Harif 10.50 247 S Sn 07 16 19.9 +51
ITEG Tejag 10.56 96 Pn **Pn 07 13 34.2 +2.2**
SMRA Abu-Samra 10.59 157 P **Pn 07 13 32.6 +0.3**
SMRA S **Sn 07 15 27.7 -3.1**

CSS Mathiatis 10.62 276 Pn **Pn 07 13 35.2 +2.5**
CSS Mathiatis 10.62 276 P Pn 07 13 38.3 +5.7
KZIT Kziot 10.62 253 P Pn 07 14 23.8 +51
KZIT Kziot 10.62 253 S Sn 07 16 22.9 +51
AFRZ Afriz 10.68 93 Pn **Pn 07 13 36.4 +2.8**
KRMI Paran Flat 10.70 249 P Pn 07 14 25.3 +51
KRMI Paran Flat 10.70 249 S Sn 07 16 24.4 +51
MBRI Mt Berech 10.71 247 P **Pn 07 13 37.1 +3.1**
MBRI Mt Berech 10.71 247 P Pn 07 14 25.1 +51
MBRI Mt Berech 10.71 247 S Sn 07 16 24.9 +51
TRNA Turayna 10.73 155 P **Pn 07 13 35.0 +0.8**
SNR=10
TRNA S **Sn 07 15 28.8 -5.4**
EIL2 Elat 10.74 246 P Pn 07 14 25.8 +51
EIL2 Elat 10.74 246 S Sn 07 16 25.7 +51
EIL Elat 10.75 246 Pn **Pn 07 13 35.2 +0.8**
comp=Z,1.6nm,0.3s,baz=49,slow=9.1,SNR=7.1
EIL Lg Lg 07 16 45.4
comp=Z,1.8nm,0.3s,baz=321,slow=13,SNR=4.4
EIL LR LR 07 18 01.9
comp=Z,159nm,18.4s,baz=68,slow=39
comp=Z,6.3nm,0.5s
EIL Elat 10.75 246 P Pn 07 14 25.3 +51
EIL Elat 10.75 246 S Sn 07 16 25.4 +51
RAYN Ar Rayn 11.05 183 Pn **Pn 07 13 37.1 -1.5**
RAYN Ar Rayn 11.05 183 *i* P **Pn 07 13 36.6 -2.0**
SNR=17
RAYN Ar Rayn 11.05 183 P **Pn 07 13 37.1 -1.5**
BSRN Basiran 11.11 100 *ePn* **Pn 07 13 42.3 +2.9**
BNDS Bandar-Abbas 11.14 127 *ePn* **Pn 07 13 40.4 +0.4**
JRN Qarnain Island 11.20 147 P **Pn 07 13 40.6 0.0**
JRN S **Sn 07 15 38.3 -7.4**
BR131 Keskin Array S 11.28 301 **Pn 07 13 44.5 +2.8**
BR131 Keskin Array S 11.28 301 P **Pn 07 13 44.5 +2.8**
BRTR Keskin Array B 11.28 301 **Pn 07 13 42.7 +0.9**
BRTR Keskin Array B 11.28 301 Pn **Pn 07 13 43.4 +1.6**
comp=Z,14nm,0.9s,baz=115,slow=11,SNR=36
BRTR LR LR 07 19 16.0
comp=Z,115nm,21.6s,baz=116,slow=44
BRTR Keskin Array B 11.28 301 *i* P **Pn 07 13 45.5 +3.8**
BRTR pmax pmax
comp=Z,12nm,0.9s
SLWR Sila 11.51 154 P **Pn 07 13 44.9 0.0**
SLWR S **Sn 07 15 48.4 -5.0**
SHRT Shahrakht 11.69 91 *ePn* **Pn 07 13 50.5 +3.1**
ANTO Ankara 11.93 300 Pn Pn 07 13 55.5 +4.8
ANTO Ankara 11.93 300 P Pn 07 13 55.5 +4.8
BR231 Keskin MP Arra 11.93 300 Pn Pn 07 13 56.0 +5.3
SHME Shamm 12.07 132 P **Pn 07 13 51.7 -0.8**
SHME Shamm 12.07 132 P **Pn 07 13 52.8 +0.3**
SHME P **Pn 07 13 52.8 +0.3**
SHME S **Sn 07 16 02.1 -4.9**
SHME S **Sn 07 16 02.1 -4.9**
GHWR Ruwais 12.07 150 P **Pn 07 13 52.8 +0.3**
GHWR S **Sn 07 16 03.5 -3.6**
UMQ Umm Al-Quwin 12.17 135 P **Pn 07 13 51.8 -2.1**
UMQ Umm Al-Quwin 12.17 135 P **Pn 07 13 55.0 +1.1**
BANOM Banah 12.26 132 P **Pn 07 13 53.3 -1.8**
BANOM Banah 12.26 132 P **Pn 07 13 55.2 0.0**
BANOM S **Sn 07 16 05.5 -6.1**
AJN Ajban 12.56 140 *i* P **Pn 07 13 58.8 -0.4**
SNR=8.6
AJN Ajban 12.56 140 P **Pn 07 13 59.8 +0.6**
SNR=7.4
AJN S **Sn 07 16 12.8 -6.2**
MASF Masafi 12.58 134 P **Pn 07 13 58.9 -0.6**
SNR=6.8
MASF S **Sn 07 16 12.7 -6.9**
NAZ Nazwa, Dubai 12.59 137 *i* P **Pn 07 13 59.6 0.0**
SNR=29
NAZ Nazwa, Dubai 12.59 137 P **Pn 07 13 59.7 0.0**
SNR=21
NAZ S **Sn 07 16 14.1 -5.6**
MSFE Esma-Masafi 12.59 134 *i* P **Pn 07 13 58.8 -0.9**
SNR=11
MZWR Madinat Zayed 12.69 146 P **Pn 07 14 01.4 +0.4**
MZWR S **Sn 07 16 16.8 -5.3**
ASUD Al Ashush, Dub 12.69 139 *i* P **Pn 07 14 00.8 -0.2**
SNR=23
ASUD Al Ashush, Dub 12.69 139 P **Pn 07 14 00.9 -0.2**
SNR=34
ASUD S **Sn 07 16 17.5 -4.7**
MDH Madha 12.72 134 *i* P **Pn 07 14 00.2 -1.1**
SNR=9.9
MDH Madha 12.72 134 P **Pn 07 14 00.3 -1.1**
MDH S **Sn 07 16 16.6 -6.3**
FAQ Al Faqa, Dubai 12.74 138 *i* P **Pn 07 14 01.1 -0.6**
SNR=18
FAQ Al Faqa, Dubai 12.74 138 P **Pn 07 14 01.3 -0.4**
SNR=11
UOSS Minazif 12.93 135 Pn **Pn 07 14 03.1 -1.2**
UOSS Minazif 12.93 135 *i* P **Pn 07 14 02.9 -1.4**
SNR=11
UOSS Minazif 12.93 135 P **Pn 07 14 03.0 -1.3**
UOSS S Sn 07 16 18.2 -10
HATD Hatta, Dubai 12.98 136 *i* P **Pn 07 14 04.1 -0.9**
SNR=26
HATD Hatta, Dubai 12.98 136 P **Pn 07 14 04.0 -1.0**
SNR=11
HATD S **Sn 07 16 22.1 -7.3**
ASHO Ashiyiah 13.05 137 *i* P **Pn 07 14 04.8 -1.2**
SNR=6.1
ASHO Ashiyiah 13.05 137 P **Pn 07 14 05.0 -1.0**
SNR=15
ASHO S **Sn 07 16 24.3 -6.7**
ISP Isparta 13.09 289 Pn **Pn 07 14 05.9 -0.6**
ISP Isparta 13.09 289 *i* P **Pn 07 14 06.7 +0.2**
MZR Muzera 13.18 149 P **Pn 07 14 07.4 -0.2**
SNR=12
MZR S **Sn 07 16 28.3 -5.8**
JASK Jask - Hormozg 13.29 128 P **Pn 07 14 07.6 -1.5**
JASK S **Sn 07 16 32.0 -4.8**
ZHSF Zahedan 13.29 108 *ePn* **Pn 07 14 12.7 +3.4**
MDUB Mudurnu 13.29 301 **Pn 07 14 08.8 -0.5**
ALNE Al Ain 13.38 139 *i* P **Pn 07 14 09.5 -0.9**
SNR=17
ALNE Al Ain 13.38 139 P **Pn 07 14 10.1 -0.3**
SNR=6.7
ALNE S **Sn 07 16 34.1 -4.9**
SOHO SOHO 13.75 137 *i* P **Pn 07 14 13.6 -1.9**
SNR=17
SOHO SOHO 13.75 137 P **Pn 07 14 13.8 -1.6**
SOHO S Sn 07 16 40.1 -7.9
UMZA Um Al Zommool 14.19 144 P **Pn 07 14 19.6 -1.8**
UMZA S **Sn 07 16 51.0 -7.8**
ARQ Araqi 14.37 139 P **Pn 07 14 22.4 -1.7**
SNR=18
ARQ S **Sn 07 16 58.6 -4.7**
HOQ Hoqain 14.62 136 P **Pn 07 14 25.4 -2.0**
HOQ P **Pn 07 14 25.4 -2.0**
HOQ S **Sn 07 17 03.6 -5.8**
HOQ S **Sn 07 17 03.6 -5.8**
KLYT Kilyos 15.10 301 P **Pn 07 14 34.1 +0.4**
comp=Z,54nm,1.3s
BIDO Bidbid 15.15 134 P **Pn 07 14 31.5 -3.0**
BIDO P **Pn 07 14 31.5 -3.0**
BSY Bisya 15.22 138 P **Pn 07 14 33.1 -2.4**
BSY S **Sn 07 17 18.8 -5.2**
SMDO Samad 15.45 135 P **Pn 07 14 36.6 -2.1**
SMDO S **Sn 07 17 20.4 -9.3**
KARP Karpathos 15.65 279 P **P 07 14 44.1 -1.0**
WSAR Wadi Sarin 15.66 133 Pn **Pn 07 14 39.7 -1.5**
comp=Z,7.6nm,0.3s,baz=330,slow=11,SNR=42
WSAR LR LR 07 21 20.1
comp=Z,318nm,21.9s,baz=336,slow=40
comp=Z,26nm,0.5s
WSAR Wadi Sarin 15.66 133 P **Pn 07 14 39.4 -1.9**
WSAR S Sn 07 17 23.1 -12
JMDO Jabal Madar 16.02 136 P **Pn 07 14 43.6 -2.3**
SNR=8.0
WBK Wadi Bani Khal 16.34 134 P **Pn 07 14 48.6 -1.4**
SNR=9.7
WBK S **Sn 07 17 45.4 -5.8**
MFTR Murfatlar 16.74 310 ⇓P **P 07 14 56.8 -0.3**
VRH Novokhopyorsk 16.92 350 *eP* **P 07 14 59.1 0.0**
VRH pmax pmax
comp=Z,23nm,1.5s
JLN Jalan Bani Buh 16.95 134 P **Pn 07 14 55.1 -2.6**
MHTO MHTO 17.05 140 P **Pn 07 14 56.6 -2.4**
MHTO P **Pn 07 14 56.6 -2.4**
MHTO S **Sn 07 17 59.2 -9.3**
MHTO S **Sn 07 17 59.2 -9.3**
TPGR Topolog 17.08 312 ⇓P **P 07 15 01.3 +0.4**

VORD Divnogorie 17.12 345 *eP* **P 07 15 02.0 +0.7**
VORD pmax pmax
comp=Z,160nm,1.0s
ALN Alexandroupoli 17.14 297 P **Pn 07 15 00.9 +0.9**
ALN IAmb IAmb 07 15 05.0
comp=Z,35nm,1.0s
ALN Alexandroupoli 17.14 297 P **Pn 07 15 01.0 +0.9**
ALN pmax pmax
comp=Z,35nm,1.0s
PURM Purcari 17.18 319 ⇑P **P 07 15 02.1 +0.1**
PURM Purcari 17.18 319 P **P 07 15 02.2 +0.1**
comp=Z,273nm,0.6s,comp=Z,6μm
HARR Harsova 17.29 311 ⇑P **P 07 15 03.3 0.0**
HARR Harsova 17.29 311 P **P 07 15 03.3 0.0**
VSR Storozhevoye 17.39 345 *eP* **Pn 07 15 03.6 +0.6**
VSR pmax pmax
comp=Z,20nm,0.6s
DOK Doka 17.39 154 P **Pn 07 15 01.0 -2.3**
CFR Carcaliu 17.41 313 ⇓P **P 07 15 05.1 +0.5**
CFR Carcaliu 17.41 313 P **P 07 15 05.0 +0.5**
IDI Anoyia 17.51 278 P **P 07 15 07.0 +1.1**
IDI IAmb IAmb 07 15 11.8
comp=Z,72nm,1.2s
IDI Anoyia 17.51 278 P **Pn 07 15 05.2 +0.5**
comp=Z,18nm,0.7s,baz=71,slow=16,SNR=11
RDO Rodhopi 17.58 298 P **P 07 15 06.2 -0.3**
DQM DQM 17.71 143 P **Pn 07 15 05.6 -1.6**
VORR Voronezh 17.81 346 *eP* **P 07 15 10.0 +1.1**
VORR pmax pmax
comp=Z,9.0nm,1.0s
ABKAR Abkulak array 17.81 31 P **Pn 07 15 08.3 +0.1**
ABKAR Abkulak array 17.81 31 **Pn 07 15 08.2 0.0**
ABKAR IAmb IAmb 07 15 35.7
comp=Z,6.8nm,0.9s
BELG Belogornoye 17.82 3 P **P 07 15 11.8 +2.7**
comp=Z,28nm,0.7s,baz=175,slow=2.2,SNR=12
BELG LR LR 07 23 37.1
comp=Z,126nm,18.7s,baz=156,slow=43
ELND Elena 17.89 304 ⇑P **P 07 15 11.0 +1.0**
WHFO Wadi Hawf 17.92 156 P **Pn 07 15 07.1 -2.8**
SNR=9.0
MILM Milestii Mici 18.00 318 ⇑P **P 07 15 12.0 +1.0**
MILM Milestii Mici 18.00 318 ⇓*i*P **P 07 15 11.5 +0.5**
comp=Z,28nm,1.2s
MILM *eL* L 07 23 24.0
MILM LRM MLR 07 24 18.0
comp=Z,200nm,14.0s
MILM Milestii Mici 18.00 318 *d i*P **P 07 15 11.5 +0.5**
MILM pmax pmax
comp=Z,30nm,1.2s
MILM MLR MLR
comp=Z,200nm,14.0s
AKTO Aktyubinsk 18.02 25 P **P 07 15 12.3 +1.1**
comp=Z,0.8nm,0.3s,baz=211,slow=13,SNR=12
AKTO LR LR 07 24 19.3
comp=Z,122nm,18.3s,baz=224,slow=44
comp=Z,3.4nm,0.5s
ABTO Aybut 18.29 158 P **Pn 07 15 12.4 -2.1**
ISR Istrita 18.36 311 P **P 07 15 16.6 +1.4**
comp=Z,24nm,1.3s
RBK Rabkut 18.45 155 P **P 07 15 13.7 -2.6**
DMTO DMTO 18.52 153 P **P 07 15 15.0 -2.0**
SPBR Spulber 18.55 313 ⇑P **Pn 07 15 18.4 +1.1**
VRI Vrincioaia 18.62 313 ⇑P **Pn 07 15 19.4 +1.2**
VRI Vrincioaia 18.62 313 P **Pn 07 15 19.4 +1.2**
VRI Vrincioaia 18.62 313 P **Pn 07 15 19.4 +1.2**
comp=Z,12nm,0.8s
PLOR Plostina 18.66 313 ⇑P **Pn 07 15 19.7 +0.9**
PLOR Plostina 18.66 313 P **Pn 07 15 19.6 +0.9**
PLOR3 Plostina Array 18.66 313 P **P 07 15 17.2 -1.2**
comp=Z,15nm,0.9s
NEHR Nehoiu 18.67 311 ⇑P **Pn 07 15 20.1 +1.3**
SIMJ Simiganj 18.71 71 P **Pn 07 15 21.0 +1.4**
LPSR Galich'ya Gora 18.74 346 *eP* **P 07 15 19.5 +0.3**
LPSR pmax pmax
comp=Z,120nm,0.8s
KBL Kabul 18.79 84 P **Pn 07 15 21.8 +1.3**
KBL Kabul 18.79 84 P **Pn 07 15 21.8 +1.3**
KBL pmax pmax
comp=Z,14nm,1.2s
CHGR Chuyangaron 18.83 71 P **Pn 07 15 23.6 +2.7**
CHGR Chuyangaron 18.83 71 P **Pn 07 15 23.7 +2.7**
CHGR pmax pmax
comp=Z,15nm,0.9s
MLR Muntele Rosu 18.91 311 IAmb IAmb 07 15 35.1
comp=Z,18nm,0.7s
MLR Muntele Rosu 18.91 311 P **Pn 07 15 22.4 +0.5**
comp=Z,0.7nm,0.3s,baz=14,slow=5.6,SNR=6.3
comp=Z,3.7nm,0.4s
COVR Voineasa-Covas 18.92 312 ⇑P **Pn 07 15 21.9 0.0**
SORM Soroca 18.99 321 ⇑P **P 07 15 21.7 -0.3**
SORM Soroca 18.99 321 P **P 07 15 21.7 -0.3**
SORM Soroca 18.99 321 P **P 07 15 21.2 -0.8**
comp=Z,23nm,0.7s,comp=Z,15μm
TESR Tescani 19.00 315 ⇑P **Pn 07 15 23.7 +0.9**
TESR Tescani 19.00 315 P **Pn 07 15 23.2 +0.4**
comp=Z,26nm,0.8s
TURR Turia 19.14 313 ⇑P **Pn 07 15 26.2 +1.6**
OZUR 19.30 313 ⇑P **Pn 07 15 26.4 -0.1**
VOIR 19.45 310 ⇑P **Pn 07 15 29.2 +0.8**
VOIR 19.45 310 P **Pn 07 15 29.1 +0.8**
VOIR 19.45 310 P **Pn 07 15 28.6 +0.3**
DOPR Dopca 19.48 312 ⇓P **Pn 07 15 29.3 +0.7**
AGG Agios Georgios 19.62 290 IAmb IAmb 07 15 34.5
comp=Z,22nm,0.9s
LIT Litokhoron 19.64 293 IAmb IAmb 07 15 38.4
comp=Z,25nm,1.0s
ARR Arges 19.68 310 ⇓P **Pn 07 15 31.9 +0.8**
PRAR RASCA 19.70 316 ⇑P **Pn 07 15 30.9 -0.2**
GAR Garm 19.76 70 **Pn 07 15 33.0 +0.8**
GAR IAmb IAmb 07 15 50.3
comp=Z,19nm,0.8s
ITM Ithomi 19.85 285 P **P 07 15 31.2 -0.3**
ITM IAmb IAmb 07 15 37.0
comp=Z,22nm,0.6s
TNR Turnu Rosu 20.03 310 ⇑P Pn 07 15 34.9 -0.3
TNR Turnu Rosu 20.03 310 P Pn 07 15 34.9 -0.3
MDB Medias 20.18 311 ⇓P Pn 07 15 37.1 +0.2
MDB Medias 20.18 311 P Pn 07 15 37.0 +0.1
AK07 Malin Array Si 20.21 327 P **P 07 15 34.4 -0.8**
LOT Lotru 20.27 309 ⇑P Pn 07 15 37.7 -0.4
AKASG Malin Array Be 20.31 328 P **P 07 15 35.7 -0.6**
comp=Z,6.3nm,0.6s,baz=140,slow=9.2,SNR=6.9
AKASG LR LR 07 24 48.6
comp=Z,187nm,19.0s,baz=106,slow=41
comp=Z,6.3nm,0.6s
AKASG Malin Array Be 20.31 328 *eP* **P 07 15 37.2 +0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKBB Malin Array Si 20.31 328 P **P 07 15 35.6 -0.7**
AKBB IAmb IAmb 07 15 42.9
comp=Z,17nm,0.7s
AKBB Malin Array Si 20.31 328 *ceP* **P 07 15 35.5 -0.8**
AKBB pmax pmax
comp=Z,12nm,0.8s
KIEV Kiev 20.31 328 ⇑P **P 07 15 37.0 +0.7**
KIEV Kiev 20.31 328 P **P 07 15 35.6 -0.7**
KIEV IAmb IAmb 07 15 42.9
comp=Z,15nm,0.6s
KIEV Kiev 20.31 328 P **P 07 15 35.3 -1.0**
KIEV Kiev 20.31 328 P **P 07 15 35.6 -0.7**
KIEV pmax pmax
comp=Z,15nm,0.6s
BURAR Bucovina Array 20.41 316 ⇑P **P 07 15 38.8 +1.2**
BURAR Bucovina Array 20.41 316 P **P 07 15 38.1 +0.5**
BURAR IAmb IAmb 07 15 42.2
comp=Z,19nm,0.8s
BUR08 Bucovina Ar. S 20.44 316 P **P 07 15 38.4 +0.5**
LUBAR Lubar, Ukraine 20.45 324 P **P 07 15 36.9 -0.9**
FNA Florina 20.58 295 P **P 07 15 40.2 +0.7**
FNA Florina 20.58 295 P **P 07 15 40.2 +0.7**
FNA pmax pmax
comp=Z,46nm,1.2s
ARCR ARCALIA 20.65 314 ⇑P Pn 07 15 42.0 -0.4
KK31 Karatay Array 20.68 59 P Pn 07 15 43.0 +0.2
KK31 Karatay Array 20.68 59 P Pn 07 15 43.0 +0.2
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 20.68 59 P Pn 07 15 42.7 -0.1
KKAR Karatay Array 20.68 59 P Pn 07 15 43.0 +0.2
KKAR IAmb IAmb 07 15 58.5
comp=Z,5.9nm,0.8s
KKAR Karatay Array 20.68 59 P Pn 07 15 42.7 -0.1
KKAR pmax pmax

comp=Z,6.0nm,0.9s
MI29 MI29, Kamyanyy 20.74 325 P P 07 15 40.2 -0.8
DJES Djerdap 20.78 306 ⇑P Pn 07 15 43.5 -0.5
GZR Gura Zlata 20.89 308 ⇓P Pn 07 15 44.3 -0.9
CJR Cluj-Napoca 20.93 312 ⇑P Pn 07 15 45.0 -0.7
CJR Cluj-Napoca 20.93 312 P Pn 07 15 45.0 -0.7
HERR Herculane 20.93 307 ⇑P Pn 07 15 45.2 -0.5
DEV Deva 21.00 309 ⇑P Pn 07 15 45.8 -0.6
DEV Deva 21.00 309 P Pn 07 15 45.8 -0.7
BOVS Bovan 21.00 303 ⇑P P 07 15 44.6 +0.7
MI28 MI28,Pidlybu 21.17 326 P P 07 15 44.7 -0.9
MARR Marisel-Cluj 21.20 312 ⇓P P 07 15 47.4 +1.2
MDVR Moldovita 21.36 306 ⇑P P 07 15 49.0 +1.1
BMR Baia Mare 21.44 314 ⇑P P 07 15 49.8 +1.1
BMR Baia Mare 21.44 314 P P 07 15 49.7 +1.1
SURR Surduc 21.45 309 ⇑P P 07 15 49.9 +1.2
DRGR 21.51 312 ⇓P P 07 15 50.7 +1.2
DRGR 21.51 312 P P 07 15 50.6 +1.2
MESR Meseseni 21.52 313 ⇑P P 07 15 50.8 +1.3
OBN Obninsk 21.59 345 P P 07 15 50.3 +0.2
OBN Obninsk 21.59 345 P P 07 15 49.8 -0.3
comp=Z,19nm,0.5s,baz=308,slow=2.2,SNR=7.5
comp=Z,19nm,0.5s
OBN Obninsk 21.59 345⇑*e*P P 07 15 50.9 +0.8
OBN *e* 07 16 13.4
OBN *e*S **S 07 19 42.5 -6.4**
OBN pmax pmax
comp=Z,39nm,1.0s
OBN MLR MLR
comp=Z,104nm,24.0s
BZS Buzias 21.72 308 ⇓P P 07 15 53.3 +1.7
BZS Buzias 21.72 308 P P 07 15 53.3 +1.7
PUK Puka 21.91 298 IAmb IAmb 07 16 03.0
comp=Z,26nm,1.3s
SIRR Siria 21.95 309 ⇑P P 07 15 55.5 +1.5
MOS Moscow 21.96 347 *e*P **P 07 15 55.1 +1.0**
MOS *e* 07 16 19.2
MOS *e*S **S 07 19 59.2 +3.1**
MOS pmax pmax
comp=Z,58nm,0.8s
SJES Sjenica 22.12 301 *e*P **P 07 15 55.9 -0.1**
RNPP5 Staryi Chortor 22.21 325 P P 07 15 56.7 -0.1
LVV L'vov 22.28 320 *e*P **P 07 15 58.7 +1.1**
RNPP8 Varash 22.29 325 P P 07 15 57.6 -0.1
NIL Nilore 22.37 85 P P 07 15 59.5 +0.8
NIL IAmb IAmb 07 16 05.2
comp=Z,28nm,1.0s
NIL Nilore 22.37 85 P P 07 15 59.5 +0.8
NIL pmax pmax
comp=Z,28nm,1.0s
PDG Podgorica 22.45 298 ⇑P P 07 16 01.6 +2.2
PDG Podgorica 22.45 298 *e*P **P 07 16 04.0 +4.6**
DRME Dracevica, Mon 22.45 298 *e*P **P 07 15 59.5 0.0**
RUDO Rudo 22.63 301 *e*P **P 07 16 00.9 -0.5**
BBLS Lazi&#263i 22.67 302 *e*P **P 07 16 01.3 -0.6**
TEKS Tekeris 22.77 304 *e*P **P 07 16 03.3 +0.4**
KOLS Kolonicke sedl 22.78 316 *e*P **P 07 16 04.8 +1.9**
KOLS Kolonicke sedl 22.78 316 *e*P **P 07 16 04.8 +1.9**
HAPS Han Pijesak,Bl 23.04 302 *e*P **P 07 16 05.3 -0.5**
BRY Bratogost 23.06 299 *e*P **P 07 16 06.5 +0.5**
TREB Trebinje 23.16 299 *e*P **P 07 16 06.2 -0.7**
CRVS Cervenica-Dubn 23.23 315 *e*P **P 07 16 08.7 +1.1**
CRVS Cervenica-Dubn 23.23 315 *e*P **P 07 16 08.7 +1.1**
ARU Arti 23.41 17 P **P 07 16 10.0 +0.8**
ARU Arti 23.41 17 LR LR 07 28 13.4
comp=Z,180nm,18.1s,baz=272,slow=44
ARU Arti 23.41 17*c i*P **P 07 16 10.5 +1.2**
ARU 07 16 37.1
ARU S **S 07 20 27.4 +5.4**
ARU SS **SnSn 07 21 03.6 +6.3**
ARU pmax pmax
comp=Z,15nm,1.4s
ARU MLR MLR
comp=Z,164nm,17.0s
ARU Arti 23.41 17 P **P 07 16 10.1 +0.8**
comp=Z,25nm,0.9s,comp=Z,203nm
AAK Ala-Archa 23.42 62 LR LR 07 26 42.6
comp=Z,113nm,18.1s,baz=258,slow=40
AAK Ala-Archa 23.42 62 *i* P **P 07 16 09.5 -0.2**
AAK pmax pmax
comp=Z,2.0nm,0.5s
STON Ston 23.66 299 *e*P **P 07 16 10.5 -1.3**
MNK Minsk 23.68 333 *i* P **P 07 16 09.0 -3.0**
comp=E,6.0nm,0.8s,baz=140
MNK *i* P **P 07 16 09.0 -3.0**
comp=N,17nm,0.8s,baz=140
MNK *i* P **P 07 16 09.0 -3.0**
comp=Z,5.0nm,0.6s,baz=140
MNK *i* PP **PnPn 07 16 35.6 -3.6**
baz=140
MNK *i* PPP PPP 07 16 43.5
baz=140
MNK *i* PcP **PcP 07 19 54.1 -1.9**
baz=140
MNK *i* S **S 07 20 24.0 -2.4**
baz=140
MNK *i* SS **SnSn 07 21 01.4 -2.6**
baz=140
MNK *i* SSS SSS 07 21 14.8
baz=140
MNK *i* LQ LQ 07 23 54.9
baz=140
MNK *i* LR LR 07 25 24.5
baz=140
MNK *i* LRM MLR 07 25 54.1
comp=N,200nm,17.9s,baz=140
MNK *i* LRM MLR 07 25 54.8
comp=E,60nm,18.1s,baz=140
MNK *i* LRM MLR 07 26 18.0
comp=Z,62nm,15.7s,baz=140
MNK Minsk 23.68 333 *i* P **P 07 16 08.9 -3.0**
MNK *i* PPP PPP 07 16 43.5
MNK *i* 07 19 54.0
MNK *i* S **S 07 20 23.9 -2.4**
MNK *i* SSS SSS 07 21 14.8
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=N,17nm,0.9s
MNK MLR MLR
comp=N,200nm,18.0s
MNK MLR MLR
comp=E,60nm,18.0s
MNK MLR MLR
comp=Z,62nm,16.0s
PSZ Piszkesteto 23.72 312 ⇑P P 07 16 14.0 +1.5
PSZ Piszkesteto 23.72 312 P P 07 16 12.8 +0.3
PSZ IAmb IAmb 07 16 16.8
comp=Z,14nm,0.8s
PSZ Piszkesteto 23.72 312 P P 07 16 12.8 +0.3
PSZ pmax pmax
comp=Z,14nm,0.8s
MORH Mrgy, Hungar 23.88 307 ⇑P P 07 16 15.3 +1.4
MORH Mrgy, Hungar 23.88 307 P P 07 16 14.0 +0.1
comp=Z,12nm,1.7s
TIP Timpagrande 23.96 290 ⇓P P 07 16 18.4 +3.6
TIP Timpagrande 23.96 290 P P 07 16 14.3 -0.5
TIP IAmb IAmb 07 16 34.1
comp=Z,17nm,1.3s
KIRV Kirov 24.09 4 LR LR 07 27 30.0
comp=Z,175nm,18.5s,baz=186,slow=41
KIRV Kirov 24.09 4*c*e**P P 07 16 17.8 +2.0**
SVE Sverdlovsk 24.30 19 *e*P **P 07 16 21.6 +3.8**
SVE pmax pmax
comp=Z,16nm,0.9s
NRN Naryn 24.35 65 IAmb IAmb 07 16 37.4
comp=Z,6.0nm,0.6s
NACGM Naroch 24.41 332 *e*P **P 07 16 19.9 +1.2**
comp=E,586nm,0.9s
MGRS Mrkonjic Grad 24.42 302 *e*P **P 07 16 21.4 +2.3**
BLY Banja Luka 24.43 303 *e*P **P 07 16 19.1 0.0**
BOOM Boomskoye usch 24.45 62 P P 07 16 21.6 +2.1
BOOM Boomskoye usch 24.45 62 P P 07 16 21.6 +2.1
BOOM pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 24.51 315 *e*P **P 07 16 21.2 +1.4**
LANS Liptovska Anna 24.51 315 *e*P **P 07 16 21.2 +1.4**
VYHS Vyhne 24.60 313 *e*P **P 07 16 21.8 +1.2**
VYHS Vyhne 24.60 313 *e*P **P 07 16 21.8 +1.2**
CUC Castrocucco 24.72 292 P P 07 16 22.2 +0.4
CUC IAmb IAmb 07 16 38.4
comp=Z,16nm,1.1s

KIJV Kijevo 24.81 301 *i* P **P 07 16 22.5 0.0**
A050A Klekovaca 24.82 302 *e*P **P 07 16 23.1 +0.4**
SGRT San Giovanni R 24.92 296 IAmb IAmb 07 16 30.5
comp=Z,13nm,1.2s
MOSL Moslavina 24.95 305 *i* P **P 07 16 24.5 +0.6**
BVAR Borovoye Array 25.16 36 P P 07 16 26.9 +1.2
comp=Z,5.2nm,0.7s,baz=236,slow=10.0,SNR=15
BVAR LR LR 07 27 54.2
comp=Z,65nm,20.4s,baz=215,slow=40
comp=Z,5.2nm,0.7s
MORI Morici 25.27 301 *i* P **P 07 16 26.8 +0.1**
SUW Suwalki 25.28 327 P P 07 16 27.5 +0.9
SUW Suwalki 25.28 327 *e*P **P 07 16 28.3 +1.7**
SUW Suwalki 25.28 327 P P 07 16 27.5 +0.9
SUW pmax pmax
comp=Z,84nm,1.1s
KALN Kalnik 25.30 306 *i* P **P 07 16 28.4 +1.4**
JAVC Velka Javorina 25.46 313 *e*P **P 07 16 30.3 +1.9**
MODS Modra-Piesok 25.51 311 *e*P **P 07 16 31.7 +2.9**
MODS Modra-Piesok 25.51 311 *e*P **P 07 16 31.7 +2.9**
ZST Bratislava 25.55 311 *e*P **P 07 16 31.8 +2.6**
ZST Bratislava 25.55 311 *e*P **P 07 16 31.8 +2.6**
MAUC Maruska 25.57 314 *e*P **P 07 16 30.3 +0.9**
OKC Ostrava-Krasne 25.58 315 *e*P **P 07 16 29.6 +0.2**
OKC AMS AMS 07 29 30.0
comp=Z,100nm,13.6s
OKC Ostrava-Krasne 25.58 315 *e*P **P 07 16 29.6 +0.2**
OKC MLR MLR
comp=Z,100nm,13.6s
PAOL Paolisi 25.73 294 P P 07 16 31.7 +0.7
PAOL IAmb IAmb 07 16 35.2
comp=Z,13nm,1.2s
DUGI Dugi Otok 25.76 301 *i* P **P 07 16 30.5 -0.6**
CRES Cresnjev 25.89 305 *e*P **P 07 16 32.8 +0.5**
RONA Rosalia, Austr 25.89 309 *e*P **P 07 16 32.7 +0.4**
comp=Z,13nm,0.7s,SNR=18
MORC Moravsky Berou 25.91 315 ⇑P P 07 16 33.5 +0.9
MORC Moravsky Berou 25.91 315 *e*P **P 07 16 32.7 +0.2**
MORC Moravsky Berou 25.91 315 P P 07 16 33.4 +0.9
BOJS Bojanci 25.95 304 *e*P **P 07 16 33.0 +0.2**
PABE Paberze 25.95 330 P P 07 16 33.5 +0.8
PABE Paberze 25.95 330 *e*P **P 07 16 32.5 -0.2**
CONA Conrad Observa 26.24 310 *e*P **P 07 16 37.0 +1.4**
comp=Z,25nm,1.6s,SNR=10.0
ARSA Arzberg 26.24 308 *e*P **P 07 16 36.3 +0.8**
comp=Z,4.6nm,0.6s,SNR=7.3
VRAC Vranov 26.29 313 ⇑P P 07 16 37.0 +1.2
VRAC Vranov 26.29 313 *e*P **P 07 16 36.6 +0.7**
VRAC Vranov 26.29 313 LR LR 07 28 15.5
comp=Z,94nm,21.7s,baz=102,slow=40
VRAC Vranov 26.29 313 P P 07 16 37.0 +1.2
VSVD Vaisvydziai 26.31 331 *e*P **P 07 16 35.8 -0.1**
KRUC Moravsky 26.31 312 *e*P **P 07 16 36.6 +0.5**
INTR Introdacqua 26.32 296 P P 07 16 36.2 -0.1
INTR IAmb IAmb 07 17 05.2
comp=Z,17nm,1.4s
SOKA Soboth 26.40 307 *e*P **P 07 16 38.2 +1.2**
comp=Z,4.1nm,1.1s,SNR=5.1
KRLC Kraliky 26.48 315 *e*P **P 07 16 37.7 0.0**
KRLC Kraliky 26.48 315 *e*P **P 07 16 37.7 0.0**
FURI Furi 26.50 197 LR LR 07 27 34.0
comp=Z,169nm,20.1s,baz=24,slow=38
CEY Cerknica 26.57 304 *e*P **P 07 16 38.5 +0.1**
OBKA Obir 26.67 306 *e*P **P 07 16 40.9 +1.4**
comp=Z,7.8nm,1.3s
OBKA Obir 26.67 306 *e*P **P 07 16 40.9 +1.4**
CAMP Campotosto 26.74 297 P P 07 16 40.4 +0.3
CAMP IAmb IAmb 07 16 52.0
comp=Z,15nm,1.0s
DPC Dobruska-Polom 26.86 315 *e*P **P 07 16 41.4 +0.3**
DPC AMS AMS 07 29 20.0
comp=Z,100nm,18.5s
DPC Dobruska-Polom 26.86 315 *e*P **P 07 16 41.4 +0.3**
DPC MLR MLR
comp=Z,100nm,18.5s
DPC Dobruska-Polom 26.86 315 P P 07 16 41.0 -0.1
comp=Z,8.8nm,0.9s
TREC Trest 26.95 312 AMS AMS 07 29 20.0
comp=Z,200nm,14.9s
NRCA Norcia 26.98 298 IAmb IAmb 07 17 00.3
comp=Z,12nm,1.1s
KSP Ksiaz 27.09 316 P P 07 16 43.3 +0.2
comp=Z,8.0nm,1.3s
UPC Upice 27.11 315 AMS AMS 07 29 30.0
comp=Z,100nm,13.7s
CHVC Chvalec 27.12 315 *e*P **P 07 16 43.7 +0.3**
CHVC Chvalec 27.12 315 *e*P **P 07 16 43.7 +0.3**
SABO M.te Sabotino 27.18 305 IAmb IAmb 07 17 01.4
comp=Z,8.3nm,0.9s
VSU Vasula 27.18 337 *i* P **P 07 16 43.8 0.0**
VSU pmax pmax
comp=Z,7.0nm,0.8s
MOA Molln 27.23 309 *e*P **P 07 16 44.8 +0.3**
comp=Z,3.0nm,0.5s
CESX Cesi 27.35 297 P P 07 16 45.6 +0.1
CKRC Cesky Krumlov 27.51 311 *e*P **P 07 16 47.5 +0.6**
CKRC AMS AMS 07 30 40.0
comp=Z,100nm,11.3s
CKRC Cesky Krumlov 27.51 311 *e*P **P 07 16 47.5 +0.6**
CKRC MLR MLR
comp=Z,100nm,11.3s
BIOA Bad Ischl, Aus 27.59 308 *e*P **P 07 16 47.6 -0.1**
comp=Z,2.0nm,0.4s
KBA Koelnbreinsper 27.62 307 *e*P **P 07 16 48.0 -0.1**
comp=Z,3.8nm,0.6s,SNR=8.0
PRU Pruhonice 27.78 313 AMS AMS 07 30 00.0
comp=Z,100nm,14.0s
PRA Prague 27.87 313 AMS AMS 07 30 00.0
comp=Z,100nm,13.4s
GEC2 GERESS Array S 27.90 311 P P 07 16 50.2 -0.3
GERES GERESS Array B 27.90 311 P P 07 16 51.0 +0.5
GERES GERESS Array B 27.90 311 P P 07 16 50.2 -0.3
comp=Z,1.0nm,0.5s,baz=106,slow=9.8,SNR=8.4
comp=Z,1.0nm,0.5s
KHC Kasperske Hory 28.07 311 P P 07 16 52.1 +0.1
KHC Kasperske Hory 28.07 311 *e*P **P 07 16 53.3 +1.4**
KHC AMS AMS 07 31 00.0
comp=Z,100nm,11.7s
KHC Kasperske Hory 28.07 311*ce*P **P 07 16 50.7 -1.2**
KHC pmax pmax
comp=Z,21nm,1.7s
KHC Kasperske Hory 28.07 311 P P 07 16 52.0 +0.1
comp=Z,4.7nm,1.7s
ABTA Abfaltersbach 28.09 306 *e*P **P 07 16 51.8 -0.4**
comp=Z,6.2nm,1.7s
LESA Schwarzleotal 28.15 307 *e*P **P 07 16 52.2 -0.5**
comp=Z,2.2nm,0.6s
ARBE Arbavere 28.20 338 *e*P **P 07 16 52.7 -0.1**
KURBB Kurchatov Arra 28.38 46 P P 07 16 56.2 +1.6
comp=Z,1.2nm,0.6s,baz=251,slow=9.2,SNR=8.8
KURBB LR LR 07 29 50.1
comp=Z,123nm,19.0s,baz=160,slow=40
comp=Z,1.2nm,0.6s
KURK Kurchatov 28.46 46 *i* P **P 07 16 56.0 +0.7**
KURK pmax pmax
comp=Z,3.0nm,0.8s
BRG Berggiesshubel 28.46 315 *e*P **P 07 16 59.0 +3.7**
BRG Amp 07 17 00.2
comp=Z,3.3nm,0.7s
BRG Amp 07 29 53.0
comp=N,0.1nm,15.7s
BRG Amp 07 30 10.0
comp=E,0.1nm,20.9s
BRG Amp 07 30 16.0
comp=Z,0.1nm,13.2s
BRG Berggiesshubel 28.46 315 *e*P **P 07 16 59.0 +3.7**
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG MLR MLR
comp=N,80nm,15.7s
BRG MLR MLR
comp=E,116nm,20.9s
BRG MLR MLR
comp=Z,147nm,13.2s
CTI Castel Tesino 28.52 304 IAmb IAmb 07 17 03.7
comp=Z,4.3nm,0.7s
VALR Valaam 28.53 345 *i* P **P 07 16 56.4 +0.6**
VALR pmax pmax
comp=Z,10.0nm,0.9s
HSKC Hora Svate Kat 28.67 314 AMS AMS 07 31 10.0
comp=Z,100nm,14.0s
WTTA Wattenberg 28.80 307 *e*P **P 07 16 58.1 -0.5**
comp=Z,7.6nm,0.5s
WATA Walderalm 28.85 307 *e*P **P 07 16 58.4 -0.7**
comp=Z,5.2nm,0.5s

SQTA Sankt Quirin 29.07 306 *e*P **P 07 17 00.4 -0.6**
comp=Z,7.9nm,0.5s,SNR=12
CLL Collm 29.18 315 *i* P **P 07 17 03.2 +1.5**
comp=Z,24nm,1.9s
CLL *i* x x 07 17 11.1
CLL *e*PPP PPP 07 18 04.0
CLL *e*x x 07 18 10.0
CLL AMS AMS 07 31 00.0
comp=Z,100nm,18.9s
CLL Collm 29.18 315 P **P 07 17 01.1 -0.6**
comp=Z,7.5nm,2.0s
MEF Metsahovi 29.31 338 *e*P **P 07 17 01.9 -0.8**
FETA Feichten 29.35 306 *i* P **P 07 17 03.1 -0.3**
comp=Z,2.2nm,0.5s
MK31 Makanchi Array 29.67 55 P P 07 17 06.2 0.0
MK31 Makanchi Array 29.67 55 P P 07 17 06.2 0.0
MK31 pmax pmax
comp=Z,4.0nm,1.3s
MKAR Makanchi Array 29.67 55 P P 07 17 07.3 +1.1
MKAR Makanchi Array 29.67 55 P P 07 17 07.2 +1.0
comp=Z,0.9nm,0.6s,baz=249,slow=6.0,SNR=11
MKAR LR LR 07 30 27.8
comp=Z,158nm,19.1s,baz=285,slow=39
comp=Z,0.9nm,0.6s
MKAR Makanchi Array 29.67 55 P P 07 17 07.3 +1.1
GRA1 Grafenberg Arr 29.71 311 P P 07 17 06.6 +0.2
GRA1 IAmb IAmb 07 17 21.2
comp=Z,12nm,1.2s
GRF Grafenberg Arr 29.71 311 P P 07 17 06.6 +0.2
GRF pmax pmax
comp=Z,12nm,1.2s
GRFO Grafenberg 29.71 311 P P 07 17 06.2 -0.2
GRFO Grafenberg 29.71 311 P P 07 17 06.2 -0.2
GRFO pmax pmax
comp=Z,19nm,1.3s
FINES FINESS Array B 29.80 341 P P 07 17 05.9 -1.2
comp=Z,1.0nm,0.3s,baz=145,slow=10,SNR=25
FINES LR LR 07 29 37.6
comp=Z,145nm,20.9s,baz=130,slow=38
comp=Z,1.0nm,0.3s
FINES FINESS Array B 29.80 341 *e*P **P 07 17 06.4 -0.7**
FINES pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 29.85 346 *e*P **P 07 17 07.8 +0.3**
DAVOX Davos/Dischmat 29.87 305 LR LR 07 31 23.8
comp=Z,70nm,18.9s,baz=92,slow=41
DAVA Damuels 29.97 306 *e*P **P 07 17 08.2 -0.8**
comp=Z,9.9nm,0.4s,SNR=14
KEST Kesra 30.07 283 P P 07 17 14.6 +4.8
comp=Z,2.1nm,0.5s,baz=48,slow=12,SNR=4.2
KEF Keuruu 30.72 340 *e*P **P 07 17 14.5 -0.7**
AAL Aland 30.75 334 *e*P **P 07 17 15.6 +0.1**
RAF Rauma 30.77 337 *e*P **P 07 17 14.5 -1.0**
DEL Delary 31.03 325 *e*P **P 07 17 18.2 +0.2**
DEL Delary 31.03 325 *i* P **P 07 17 17.0 -1.0**
ECH Echery 31.95 307 IAmb IAmb 07 17 29.9
comp=Z,6.8nm,1.1s
VAF Ylistaro 32.04 340 *e*P **P 07 17 26.0 -0.8**
WMQ Urumqi 33.13 61 *e*P **P 07 17 39.0 +2.3**
WMQ pmax pmax
comp=Z,22nm,0.7s
HFS Hagfors 33.14 330 P P 07 17 36.2 -0.3
comp=Z,4.8nm,0.6s,baz=126,slow=7.7,SNR=42
HFS LR LR 07 34 11.4
comp=Z,73nm,18.4s,baz=122,slow=42
comp=Z,4.8nm,0.6s
ZAA0 Zalesovo Array 33.17 42 P P 07 17 36.4 -0.4
ZALV Zalesovo Beam 33.17 42 P P 07 17 36.4 -0.4
ZALV Zalesovo Beam 33.17 42 P P 07 17 36.7 -0.2
comp=Z,0.6nm,0.4s,baz=275,slow=7.1,SNR=2.3
ZALV LR LR 07 34 09.1
comp=Z,64nm,18.7s,baz=288,slow=42
comp=Z,0.6nm,0.4s
LVZ Lovozero 34.01 352 P P 07 17 42.9 -1.1
comp=Z,16nm,0.9s
NB2 NORSAR Subarra 34.66 331 P P 07 17 48.3 -1.4
comp=Z,2.7nm,0.9s,baz=125,slow=8.6
NOA NORSAR Array B 34.66 331 P P 07 17 48.8 -0.9
comp=Z,1.0nm,0.6s,baz=125,slow=8.7,SNR=10
NOA LR LR 07 33 37.3
comp=Z,55nm,20.1s,baz=130,slow=39
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 36.83 348 P P 07 18 07.5 -0.7
comp=Z,0.4nm,0.4s,baz=162,slow=8.4,SNR=11
ARCES LR LR 07 34 23.0
comp=Z,120nm,20.1s,baz=113,slow=38
comp=Z,0.4nm,0.4s
ARCES ARCESS Array B 36.83 348 *e*P **P 07 18 06.7 -1.5**
TAM Tamanrasset 37.36 263 P P 07 18 15.2 +1.8
TAM Tamanrasset 37.36 263 P P 07 18 15.2 +1.8
TAM pmax pmax
comp=Z,6.0nm,1.2s
EKA Eskdalemuir Ar 39.59 317 P P 07 18 31.1 -0.4
comp=Z,8.8nm,0.5s,baz=107,slow=8.5,SNR=39
comp=Z,8.8nm,0.5s
ESDC Sonseca Array 39.92 292 P P 07 18 34.7 0.0
ESDC Sonseca Array 39.92 292 P P 07 18 34.6 0.0
comp=Z,3.1nm,0.8s,baz=68,slow=8.3,SNR=18
ESDC PcP **PcP 07 20 42.0 +1.9**
comp=Z,0.5nm,0.6s,baz=52,slow=3.4,SNR=4.0
comp=Z,3.1nm,0.8s
PBRG Braganca 41.69 296 *e*P **P 07 18 52.7 +3.5**
PVRL Vila Real 42.49 296 *e*P **P 07 18 58.3 +2.5**
MTE Manteigas 42.51 294 P P 07 18 56.1 +0.2
MTE Manteigas 42.51 294 *e*P **P 07 18 58.2 +2.3**
comp=Z,40nm,1.5s
POLO Lamas de Olo 42.53 296 *e*P **P 07 18 56.5 +0.3**
comp=Z,13nm,1.6s
PBAR Barrancos 42.55 291 *e*P **P 07 18 56.5 +0.3**
comp=Z,15nm,1.2s
PCBR Castelo Branco 42.56 293 *e*P **P 07 18 56.7 +0.5**
comp=Z,25nm,2.3s
PMRV Marv??o 42.57 293 *e*P **P 07 18 56.8 +0.4**
comp=Z,15nm,2.0s
PCAB Cabril 42.66 296 *e*P **P 07 18 59.5 +2.4**
PVIS Viseu 42.72 295 *e*P **P 07 19 00.5 +2.9**
PESTR Estremoz 42.83 292 P P 07 18 58.4 -0.1
PESTR IAmb IAmb 07 19 04.2
comp=Z,8.2nm,0.9s
PESTR Estremoz 42.83 292 *e*P **P 07 18 58.8 +0.3**
COI Coimbra 43.20 294 *e*P P 07 19 06.3 +4.9
comp=Z,37nm,1.5s
PCAS Casmilo, Conde 43.29 294 *e*P **P 07 19 03.0 +0.8**
PSBE So Bento 43.62 293 *e*P **P 07 19 07.5 +2.6**
TORD Torodi Ar. Bea 45.53 253 P P 07 19 21.2 +0.9
TORD Torodi Ar. Bea 45.53 253 P P 07 19 21.5 +1.2
comp=Z,2.3nm,0.7s,baz=53,slow=9.4,SNR=8.7
comp=Z,2.3nm,0.7s
SPITS Spitsbergen Ar 45.53 352 P P 07 19 20.1 +0.4
comp=Z,2.0nm,0.4s,baz=141,slow=11,SNR=18
comp=Z,2.0nm,0.4s
SONM Songino Array 46.04 54 LR LR 07 43 09.4
comp=Z,65nm,19.1s,baz=252,slow=42
JMIC Jan Mayen 46.37 338 LR LR 07 39 58.5
comp=Z,44nm,19.3s,baz=149,slow=38
ULN Ulaanbaatar 46.48 54 P P 07 19 29.6 +1.9
ULN IAmb IAmb 07 19 49.1
comp=Z,4.5nm,1.1s
ULN Ulaanbaatar 46.48 54 *i* P **P 07 19 28.0 +0.3**
ULN pmax pmax
comp=Z,6.0nm,1.6s
PZH PanZhiHua 47.98 84 P P 07 19 40.5 +0.9
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,130nm,4.9s
CMAR Chiang Mai Arr 49.29 95 P P 07 19 49.5 -0.1
comp=Z,2.2nm,0.6s,baz=292,slow=8.4,SNR=7.9
comp=Z,2.2nm,0.6s
BORG Borgarnes 49.79 329 LR LR 07 42 31.9
comp=Z,61nm,18.7s,baz=73,slow=38
BTO Baotou 49.92 63 *e*P **P 07 19 54.9 +0.6**
BTO pP **sP 07 19 59.4 -1.4**
BTO sP **pP 07 20 02.0 +3.1**
BTO pmax pmax
comp=Z,13nm,0.8s
BTO pmax pmax
comp=Z,230nm,8.6s
HHC Hu-ho-hao-te 50.99 63 *e*P **P 07 20 01.9 -0.5**
HHC pP pP 07 20 06.8 -0.2
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,62nm,5.3s
XAN Xi'an 51.01 72 P P 07 20 04.9 +2.3
XAN pP sP 07 20 08.8 -0.2

XAN pmax pmax
comp=Z,16nm,1.0s
DBIC Dimbokro 54.55 252 P P 07 20 28.7 -0.2
comp=Z,5.7nm,0.9s,baz=55,slow=6.2,SNR=2.4
comp=Z,5.7nm,0.9s
TIXI Tiksi 55.28 22 LR LR 07 49 37.6
comp=Z,55nm,18.1s,baz=255,slow=42
TIXI Tiksi 55.28 22 *ce*P **P 07 20 34.9 +1.5**
TIXI pmax pmax
comp=Z,14nm,2.5s
SUMG Summit 55.81 339 P **P 07 20 38.8 +1.1**
SUMG Summit 55.81 339 P **P 07 20 38.8 +1.1**
SUMG pmax pmax
comp=Z,12nm,1.2s
YAK Yakutsk 57.13 34 LR LR 07 49 30.0
comp=Z,76nm,18.6s,baz=280,slow=40
NJ2 Nanjing 59.49 70 *e*P **P 07 21 04.0 +0.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
SFJD Kangerlussuaq 61.25 334 LR LR 07 47 27.3
comp=Z,63nm,20.0s,baz=65,slow=36
KSRS Korea Array 64.08 61 P **P 07 21 33.8 -0.8**
comp=Z,1.4nm,0.5s,baz=291,slow=7.7,SNR=8.9
comp=Z,1.4nm,0.5s
BOSA Boshof 65.92 200 P **P 07 21 47.7 +1.1**
comp=Z,2.5nm,0.6s,baz=33,slow=4.9,SNR=4.0
BOSA LR LR 07 51 45.7
comp=Z,78nm,19.3s,baz=23,slow=37
comp=Z,2.5nm,0.6s
SEY Seymchan 66.57 29 *ce*P **P 07 21 53.6 +3.3**
SEY pmax pmax
comp=Z,4.0nm,0.6s
BILL Biiibino 68.39 21⇑ *e*P **P 07 22 01.7 0.0**
BILL *e* 07 22 32.0
BILL *e* 07 24 37.9
BILL *e*S **S 07 30 57.9 -4.5**
BILL pmax pmax
comp=Z,11nm,2.0s
BILL MLR MLR
comp=Z,52nm,17.0s
YSS Yuzh-Sakhalins 69.66 47 *i* P **P 07 22 10.6 +0.7**
YSS pmax pmax
comp=Z,21nm,1.0s
ASAJ Asahikawa 70.96 49 LR LR 07 57 07.6
comp=Z,29nm,21.1s,baz=127,slow=39
MJAR Matsushiro Arr 71.81 58 LR LR 07 55 51.8
comp=Z,47nm,18.7s,baz=258,slow=38
A36M Sachs Harbour 73.54 357 P **P 07 22 32.3 -0.6**
A36M Sachs Harbour 73.54 357 P **P 07 22 32.8 0.0**
baz=7.3
A22K Sinclair Lake 73.61 7 P **P 07 22 33.5 +0.2**
baz=342
A19K Wainwright 73.64 9 P **P 07 22 32.9 -0.6**
baz=337
SCHQ Schefferville 74.10 326 P **P 07 22 37.5 +1.0**
comp=Z,3.7nm,0.6s,baz=46,slow=5.6,SNR=14
comp=Z,3.7nm,0.6s
B18K Kokolik River 74.32 10 P **P 07 22 36.9 -0.5**
baz=336
B20K Meade River 74.32 8 P **P 07 22 37.0 -0.4**
baz=340
B22K Teshekpuk Lake 74.40 7 P **P 07 22 38.3 +0.4**
baz=343
C16K Lisburne Hills 74.76 12 P **P 07 22 40.0 -0.1**
baz=333
C19K Lookout Ridge 74.86 9 P **P 07 22 40.9 +0.2**
baz=338
C17K DeLong Mountai 74.93 11 P **P 07 22 41.4 +0.3**
baz=335
B21K Ikpikpuk River 74.97 7 P **P 07 22 40.9 -0.3**
baz=342
C18K Utukok River 75.06 10 P **P 07 22 45.2 +3.3**
C18K Utukok River 75.06 10 P **P 07 22 41.3 -0.6**
baz=337,SNR=5.0
C23K Itkillik River 75.15 6 P **P 07 22 42.2 -0.1**
baz=346
C21K Knifeblade Rid 75.40 8 P **P 07 22 43.4 -0.3**
baz=342
C24K Franklin Bluff 75.42 5 P **P 07 22 43.8 0.0**
baz=347
D20K Etivluk River 75.61 8 P **P 07 22 44.7 -0.3**
baz=341
D19K Kuna River 75.63 9 P **P 07 22 47.3 +2.2**
D19K IAmb IAmb 07 22 48.4
comp=Z,6.2nm,1.0s
D19K Kuna River 75.63 9 P **P 07 22 44.7 -0.4**
baz=340
D17K Noatak River 75.65 11 P **P 07 22 45.1 -0.1**
baz=335
C27K Jago River 75.83 4 P **P 07 22 46.0 -0.2**
baz=352
D22K Ayikyak River 75.89 7 IAmb IAmb 07 22 53.0
comp=Z,3.9nm,0.8s
D22K Ayikyak River 75.89 7 P **P 07 22 46.2 -0.4**
baz=344
D25K Kavik River 75.97 5 P **P 07 22 47.4 +0.3**
baz=349
D23K Nanushuk River 75.99 6 P **P 07 22 47.6 +0.4**
baz=346
E20K Nigu River 76.09 8 P **P 07 22 48.3 +0.5**
baz=341
C36M Paulatuk 76.12 356 P **P 07 22 47.7 -0.1**
baz=8.2
E21K Killik River 76.17 8 P **P 07 22 48.0 -0.2**
baz=343
E18K Tukpahlearik C 76.29 10 P **P 07 22 52.0 +3.1**
E18K IAmb IAmb 07 22 53.2
comp=Z,4.9nm,0.9s
E18K Tukpahlearik C 76.29 10 P **P 07 22 48.1 -0.7**
baz=338
D27M Malcolm River 76.33 3 P **P 07 22 48.4 -0.8**
baz=354
TOLK Toolik Lake Re 76.40 6 P **P 07 22 48.9 -0.6**
baz=347,SNR=6.9
E22K Anaktuvuk Pass 76.69 7 P **P 07 22 50.0 -1.2**
baz=345
TNA Tin City 76.71 14 P **P 07 22 49.9 -1.3**
baz=332
E19K Redstone River 76.72 9 P **P 07 22 51.3 0.0**
baz=340,SNR=7.7
E23K Chandalar 76.97 6 P **P 07 22 51.4 -1.4**
baz=347
E28M Babbage River 77.02 2 IAmb IAmb 07 22 57.7
comp=Z,3.4nm,0.9s
E28M Babbage River 77.02 2 P **P 07 22 51.6 -1.4**
baz=355
E24K Your Creek 77.05 6 P **P 07 22 51.9 -1.4**
baz=348
F14K Arctic Creek 77.09 13 P **P 07 22 51.9 -1.5**
baz=333
F17K Baldwin Pennin 77.10 11 P **P 07 22 51.7 -1.7**
baz=337
F18K Selawik 77.19 10 P **P 07 22 51.9 -2.0**
baz=338
F15K North Star Dit 77.20 13 P **P 07 22 52.1 -1.8**
baz=334
E25K Arctic Village 77.22 5 P **P 07 22 53.5 -0.6**
baz=350
F19K Shaleruckik Mo 77.24 9 IAmb IAmb 07 22 58.1
comp=Z,4.2nm,0.9s
F19K Shaleruckik Mo 77.24 9 P **P 07 22 52.7 -1.5**
baz=340
F22K John River 77.26 7 P **P 07 22 52.5 -1.8**
baz=344
E29M Blow River 77.28 2 P **P 07 22 52.9 -1.5**
baz=356
F20K Avaraart Lake 77.30 9 P **P 07 22 53.3 -1.3**
baz=342
E27K Coleen River 77.36 3 IAmb IAmb 07 22 59.7
comp=Z,3.7nm,0.9s
E27K Coleen River 77.36 3 P **P 07 22 53.1 -1.8**
baz=353
F21K Alatna River 77.40 8 IAmb IAmb 07 22 60.0
comp=Z,3.8nm,0.8s
F21K Alatna River 77.40 8 P **P 07 22 53.8 -1.3**
baz=343,SNR=7.1
INK Inuvik 77.41 360 P **P 07 22 54.6 -0.5**
baz=0.2
INK Inuvik 77.41 360 LR LR 08 05 31.3
comp=Z,28nm,18.2s,baz=200,slow=42
F24K Squaw Lake 77.64 6 IAmb IAmb 07 23 01.5
comp=Z,4.7nm,1.1s
F24K Squaw Lake 77.64 6 P **P 07 22 56.7 +0.1**
baz=348
F26K Sheenjek River 77.73 4 P **P 07 22 57.1 +0.1**
baz=351
COLD Coldfoot 77.73 6 P **P 07 22 55.4 -1.6**
baz=346

F25K Christian Rive 77.73 5 P **P 07 22 55.7 -1.4**
baz=350
G16K Koyuk River 77.88 12 P **P 07 22 57.3 -0.5**
baz=336
G22K Bettles 77.90 7 P **P 07 22 57.8 0.0**
baz=345
G15K Niukluk 77.95 13 P **P 07 22 57.9 -0.4**
baz=335
G19K Purcell Mounta 77.98 9 P **P 07 22 59.3 +0.9**
G19K Purcell Mounta 77.98 9 P **P 07 22 58.1 -0.3**
baz=340,SNR=8.4
G18K Tagagawik 78.00 10 P **P 07 22 57.9 -0.6**
baz=339
F28M Old Crow 78.00 2 IAmb IAmb 07 23 12.2
comp=Z,2.9nm,0.9s
F28M Old Crow 78.00 2 P **P 07 22 56.9 -1.6**
baz=355
G17K Kiwalik Mounta 78.06 11 P **P 07 22 58.5 -0.3**
baz=338
G21K Allakaket 78.08 8 P **P 07 22 59.7 +0.8**
G21K IAmb IAmb 07 23 03.3
comp=Z,4.5nm,0.8s
G21K Allakaket 78.08 8 P **P 07 22 58.6 -0.3**
baz=344
F30M Barrier River 78.10 1 P **P 07 22 58.2 -0.8**
baz=358,SNR=5.9
G23K Bananza Creek 78.25 7 P **P 07 23 00.0 +0.1**
baz=346
F31M Tsiigehtchic 78.28 360 P **P 07 23 00.4 +0.4**
F31M Tsiigehtchic 78.28 360 P **P 07 22 59.0 -1.0**
baz=0.0,SNR=9.4
G24K Hadweenzic Riv 78.48 6 P **P 07 23 00.3 -0.8**
baz=348
G26K Porcupine Rive 78.49 4 P **P 07 23 01.6 +0.5**
baz=352,SNR=7.0
IMAR Indian Mountai 78.56 8 P **P 07 23 02.3 +0.8**
H16K Elim 78.60 12 P **P 07 23 00.4 -1.4**
baz=336
H17K Granite Mounta 78.70 11 P **P 07 23 01.8 -0.6**
baz=338
G30M tAoh Zraii Nji 78.73 1 IAmb IAmb 07 23 14.0
comp=Z,5.2nm,0.9s
G30M tAoh Zraii Nji 78.73 1 P **P 07 23 01.9 -0.6**
baz=358
G27K Doyon Strip 78.74 3 P **P 07 23 03.7 +1.1**
G27K IAmb IAmb 07 23 07.8
comp=Z,5.2nm,1.1s
G27K Doyon Strip 78.74 3 P **P 07 23 00.2 -2.4**
baz=353
H18K Honhosa River 78.74 10 P **P 07 22 59.3 -3.3**
baz=340
G29M Pine Creek 78.76 2 IAmb IAmb 07 23 11.0
comp=Z,5.2nm,1.1s
G29M Pine Creek 78.76 2 P **P 07 22 59.6 -3.1**
baz=356
G31M Satah River 78.80 0 P **P 07 23 03.6 +0.8**
G31M Satah River 78.80 0 P **P 07 23 01.1 -1.8**
baz=360,SNR=11
H20K Anotleneega Mo 78.89 9 P **P 07 23 01.9 -1.6**
baz=342,SNR=10
H22K Ishtalitna Cre 78.91 7 P **P 07 23 02.2 -1.4**
baz=345
H21K Melozitna Rive 78.98 8 P **P 07 23 04.7 +0.7**
H21K IAmb IAmb 07 23 09.0
comp=Z,5.8nm,0.9s
H21K Melozitna Rive 78.98 8 P **P 07 23 03.3 -0.6**
baz=344,SNR=6.0
H25L Birch Creek 79.03 5 P **P 07 23 02.6 -1.5**
baz=350
H23K Yukon River 79.16 7 P **P 07 23 04.0 -0.9**
baz=347
H24K Noodor Dome 79.30 6 P **P 07 23 04.0 -1.7**
baz=348
H27K Steamboat Moun 79.32 3 P **P 07 23 04.4 -1.4**
baz=354
EPYK Eagle Plains 79.33 1 P **P 07 23 03.7 -2.1**
baz=358
GCSA Galena City Sc 79.34 10 P **P 07 23 05.3 -0.5**
baz=341
H29M Whitestone 79.45 2 P **P 07 23 07.3 +0.9**
H29M IAmb IAmb 07 23 12.2
comp=Z,3.5nm,0.8s
H29M Whitestone 79.45 2 P **P 07 23 06.1 -0.4**
baz=356
I21K Tanana 79.54 8 P **P 07 23 06.1 -0.8**
baz=345
I17K Unalakleet 79.56 12 P **P 07 23 05.7 -1.3**
baz=338
I20K Naaghedeneel 79.61 9 P **P 07 23 06.8 -0.5**
baz=343
PRP Porcupine Dome 79.80 5 P **P 07 23 08.2 -0.3**
baz=350
MLY Manley 79.82 7 IAmb IAmb 07 23 13.4
comp=Z,4.3nm,0.8s
MLY Manley 79.82 7 P **P 07 23 07.9 -0.7**
baz=346
I23K Minto, Yukon-K 79.84 7 P **P 07 23 07.7 -0.8**
baz=347
I27K Kandik River 79.94 3 P **P 07 23 08.5 -0.7**
baz=353
POKR Poker Plat Res 80.04 6 P **P 07 23 09.1 -0.6**
baz=349
J14K Nanvaranak Lak 80.09 13 P **P 07 23 09.2 -0.7**
baz=335
MDM Murphy Dome 80.13 6 IAmb IAmb 07 23 20.3
comp=Z,5.5nm,1.0s
J16K Anvik River 80.13 12 P **P 07 23 09.4 -0.8**
baz=338
I26K Coal Creek Min 80.16 4 P **P 07 23 09.9 -0.3**
baz=352
I28M Miner Creek 80.17 3 P **P 07 23 10.0 -0.5**
baz=355
J19K Poorman 80.23 10 P **P 07 23 10.4 -0.4**
baz=342
J20K Nowinta River 80.25 9 IAmb IAmb 07 23 15.7
comp=Z,4.5nm,0.8s
J20K Nowinta River 80.25 9 P **P 07 23 11.0 +0.2**
baz=343
J17K VABM Dome 80.28 11 P **P 07 23 10.4 -0.6**
baz=339
I29M Ogilvie Camp, 80.31 2 P **P 07 23 10.5 -0.6**
baz=356
NEA2 Nenana 80.41 7 P **P 07 23 11.1 -0.6**
baz=347
ILAR Eielson Array 80.43 6 P **P 07 23 12.3 +0.5**
comp=Z,0.9nm,0.8s,baz=323,slow=3.9,SNR=11
comp=Z,0.9nm,0.8s
ILAR Eielson Array 80.43 6 *e*P **P 07 23 13.7 +1.9**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
I30M Mount Dempster 80.49 1 P **P 07 23 12.7 +0.4**
I30M IAmb IAmb 07 23 15.3
comp=Z,3.4nm,0.8s
I30M Mount Dempster 80.49 1 P **P 07 23 11.5 -0.8**
baz=358
J18K Innoko River 80.58 10 P **P 07 23 12.2 -0.4**
baz=341
BPAW Bear Paw Mtn. 80.70 8 P **P 07 23 10.6 -2.6**
baz=346
J25K Salcha River, 80.70 5 P **P 07 23 12.1 -1.2**
baz=350
CHUM Lake Minchumin 80.76 8 P **P 07 23 12.7 -0.8**
baz=345
HDA Harding Lake 80.78 6 P **P 07 23 11.6 -2.1**
baz=349
EGAK Eagle 80.79 3 P **P 07 23 11.1 -2.6**
baz=354
K15K Wolf Creek Mou 80.88 13 P **P 07 23 11.7 -2.6**
baz=337
J26L Joseph Creek 80.93 4 P **P 07 23 12.4 -2.2**
baz=352
K17K Iditarod 81.04 11 P **P 07 23 13.0 -2.1**
baz=340
K20K Telida 81.05 9 P **P 07 23 13.0 -2.1**
baz=343
J30M Hart River 81.14 1 IAmb IAmb 07 23 20.4
comp=Z,5.3nm,0.9s
J30M Hart River 81.14 1 P **P 07 23 13.2 -2.5**
baz=358
TTA Tatalina 81.19 10 P **P 07 23 13.3 -2.7**
baz=342
SCRK Sand Creek 81.43 5 P **P 07 23 18.8 +1.5**
SCRK IAmb IAmb 07 23 22.1
comp=Z,5.5nm,1.0s
SCRK Sand Creek 81.43 5 P **P 07 23 15.7 -1.5**
baz=352,SNR=5.2
K24K Donnelly Dome 81.47 5 P **P 07 23 16.5 -0.9**
baz=350

K27K Chicken 81.49 4 P **P 07 23 15.8 -1.6**
baz=353
L14K Kuka Creek 81.55 14 P **P 07 23 16.4 -1.3**
baz=336
DAWY Dawson 81.57 2 P **P 07 23 16.8 -1.2**
baz=355
L17K Donlin 81.59 11 P **P 07 23 16.1 -1.9**
baz=340
L16K Owhat River 81.79 12 P **P 07 23 19.7 +0.6**
baz=339
K29M Barlow Dome 81.85 2 P **P 07 23 19.2 -0.3**
baz=357
L20K Farewell, AK 81.92 9 P **P 07 23 18.8 -0.9**
baz=343
YKA Yellowknife Ar 82.03 351 P **P 07 23 19.5 -0.7**
comp=Z,1.4nm,0.9s,baz=38,slow=5.7,SNR=5.0
YKA LR LR 08 01 41.4
comp=Z,25nm,19.1s,baz=0.5,slow=37
comp=Z,1.4nm,0.9s
DHY Denali Highway 82.06 6 P **P 07 23 19.6 -1.1**
baz=349
L19K White Mountain 82.07 10 P **P 07 23 18.9 -1.7**
baz=343
M14K Bethel 82.23 14 P **P 07 23 20.3 -1.1**
baz=337
PAX Paxson 82.32 5 P **P 07 23 20.9 -1.0**
baz=350
M19K Big River Lodg 82.40 10 P **P 07 23 20.6 -1.7**
baz=343
M17K Holitna River 82.42 11 P **P 07 23 20.8 -1.6**
baz=340
L27K Beaver Creek, 82.47 4 P **P 07 23 21.5 -1.2**
baz=353
WAT6 Susitna Watana 82.51 6 P **P 07 23 21.2 -1.9**
baz=348
M15K Kasigluk River 82.52 13 P **P 07 23 22.3 -0.6**
baz=338
L29M L29M 82.57 2 P **P 07 23 22.7 -0.5**
baz=356
M18K Stony River 82.59 10 P **P 07 23 22.9 -0.4**
baz=342
M20K Styx River 82.59 9 P **P 07 23 22.4 -1.0**
baz=344
SKT Skwentna 82.69 8 P **P 07 23 22.4 -1.4**
baz=345
M26K Nabesna, AK 83.06 4 P **P 07 23 25.0 -0.7**
baz=352
N16K Nishlik Lake 83.07 12 P **P 07 23 24.3 -1.5**
baz=340
N15K Kwethluk River 83.12 13 P **P 07 23 24.7 -1.4**
baz=338
M30M Minto, Yukon 83.14 1 P **P 07 23 25.6 -0.5**
baz=358
M27K Edge Creek, AK 83.17 4 P **P 07 23 25.6 -0.8**
baz=353
SML Sawmill 83.22 7 P **P 07 23 25.8 -0.7**
baz=348
M29M Somme Creek 83.23 2 P **P 07 23 25.2 -1.6**
baz=356
SCM Sheep Creek Mo 83.28 6 P **P 07 23 25.5 -1.5**
baz=349
M23K Glacier View 83.29 7 P **P 07 23 26.0 -0.9**
baz=348
N17K Nushagak Hills 83.29 11 P **P 07 23 25.8 -1.1**
baz=341
SUA Susitna One 83.29 8 P **P 07 23 25.7 -1.3**
baz=346
PMR Palmer 83.34 7 P **P 07 23 25.0 -2.1**
baz=347
N19K Bonanza Creek 83.43 10 P **P 07 23 28.6 +0.8**
N19K Bonanza Creek 83.43 10 P **P 07 23 26.5 -1.3**
baz=343
FARO Faro, Yukon 83.52 360 P **P 07 23 26.4 -1.7**
baz=0.3
M31M Drury Creek, Y 83.54 0 P **P 07 23 27.5 -0.7**
baz=360
KNK Knik Glacier 83.59 7 P **P 07 23 28.3 -0.2**
baz=348
KLU Klutina 83.75 6 P **P 07 23 28.6 -0.8**
baz=350
RC01 Rabbit Creek A 83.77 8 P **P 07 23 28.5 -0.9**
baz=347
YUK3 Moose Creek 83.82 3 P **P 07 23 27.4 -2.4**
baz=354
O17K Koliganek Bris 84.02 12 P **P 07 23 29.0 -1.6**
baz=341
P08K Saint George I 84.22 19 P **P 07 23 29.3 -2.3**
baz=331
N30M Aishikik Lake 84.25 2 P **P 07 23 29.2 -2.8**
baz=357
YUK4 Talbot Arm 84.32 2 P **P 07 23 29.1 -3.4**
baz=356
LONY Lake Ozonia 84.62 322 P **P 07 23 32.8 -1.2**
baz=45
YUK6 Outpost Mounta 84.73 2 P **P 07 23 32.8 -1.7**
baz=356
SEW Seward 84.76 8 P **P 07 23 33.5 -0.9**
baz=347
O28M Mount Upton 84.83 3 P **P 07 23 34.3 -0.9**
baz=355
HYT Haines Junctio 84.88 2 P **P 07 23 34.5 -0.6**
baz=357
BGLC Bering Glacier 85.31 5 P **P 07 23 35.5 -1.6**
baz=352
Q18K Katmai Hardscr 85.43 11 P **P 07 23 35.4 -2.6**
baz=343
Q17K Contact Creek 85.65 12 P **P 07 23 39.2 +0.2**
baz=342
P32M Atlin 86.17 360 P **P 07 23 42.3 +0.8**
baz=0.0
PLBC Pleasant Camp 86.27 1 P **P 07 23 42.8 +0.8**
baz=358
TOAD Toad River Com 86.64 356 P **P 07 23 44.5 +0.7**
baz=7.0
OHAK Old Harbor 87.06 10 P **P 07 23 44.2 -1.7**
baz=344
S31K Pelican 87.78 1 P **P 07 23 48.1 -1.2**
baz=358
P52A Corning 92.08 323 P **P 07 24 09.0 -0.8**
baz=40
ECSD EROS Data Cent 95.01 334 P **P 07 24 23.0 -0.2**
baz=30
KMSC Kings Mountain 95.07 319 P **P 07 24 24.3 +0.7**
baz=41
TKL Tuckaleechee C 95.96 321 LR LR 08 08 04.0
comp=Z,27nm,21.7s,baz=35,slow=36
NEW Newport 96.18 349 LR LR 08 10 43.7
comp=Z,38nm,19.7s,baz=1.5,slow=37
PDAR Pinedale Array 99.89 342 LR LR 08 11 54.8
comp=Z,20nm,19.3s,baz=14,slow=37
QSPA South Pole Qui 124.42 180 PKP **PKPdf 07 29 57.8 -0.9**
comp=Z,1.5nm,1.1s,baz=286,slow=7.4,SNR=1.6

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*IDC **15** 07:22:29.6±4.3,31°.14S×71°.32W,h0km,mb4.2/3, mbtmp4.0/7,ML3.6/4,MS2.5/2,Error ellipse: s-maj=84.5km s-min=46.8km az=82.0*
*SJA **15** 07:22:36.2±0.7,30°.83S×71°.55W,h41km±5km,ML3.8, MW3.9*
*GUC **15** 07:22:37.0±0.8,30°.83S×71°.39W,h55km±2km,ML4.1*
*NEIC **15** 07:22:37.9±1.9,30°.83S±0°.05×71°.53W±0°.07,h48km±9km, mb4.1/10,ML4.1(GUC),Error ellipse: s-maj=8.4km s-min=6.8km az=107.0*
ISC 15 07:22:37.2±0.7,30°.86S±0°.03×71°.54W±0°.04,h54km±6km, n109,σ1§79/127,mb4.0/6,5C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
CO06	**Fray Jorge**	**0.20**	**336**		**Pn**	**07 22 47.3**		**+1.3**
CO06	**Fray Jorge**	**0.20**	**336**	⇓*i*P	**Pn**	**07 22 47.1**		**+1.2**
CO06				*i* S	**Sn**	**07 22 54.1**		**+1.9**
CO06				IAML		07 22 54.7		
comp=N,29μm,0.2s								
CO02	**Combarbal**	**0.58**	**127**		**Pn**	**07 22 50.1**		**+0.3**
CO02				Sn	**Sn**	**07 22 59.1**		**+0.4**
CO02	**Combarbal**	**0.58**	**127**	*e*P	**Pn**	**07 22 49.8**		**0.0**
CO02				*e*S	**Sn**	**07 22 59.3**		**+0.5**
CO02				IAML		07 22 59.7		
comp=Z,9μm,0.1s								
CO02	**Combarbal**	**0.58**	**127**	⇑*i*P	**Pn**	**07 22 50.0**		**+0.3**
CO02				*i* S	**Sn**	**07 22 59.2**		**+0.4**
CO02				IAML		07 22 59.9		
comp=N,43μm,0.2s								
CO03	**El Pedregal**	**0.73**	**89**	Pn	**Pn**	**07 22 51.3**		**-0.3**
CO03				Sn	**Sn**	**07 23 01.4**		**-0.8**

CO03	**El Pedregal**	**0.73**	**89**	*eP*		**Pn**	**07 22 51.1**	**-0.5**
CO03				*eS*		**Sn**	**07 23 02.4**	**+0.3**
CO03				IAML			07 23 03.9	
comp=Z,2μm,0.3s								
CO03	**El Pedregal**	**0.73**	**89**	⇑*iP*		**Pn**	**07 22 51.1**	**-0.5**
CO03				*i* S		**Sn**	**07 23 01.3**	**-0.8**
GO04	**Tololo Observa**	**0.94**	**43**			**Pn**	**07 22 54.5**	**+0.1**
GO04	**Tololo Observa**	**0.94**	**43**	*eP*		**Pn**	**07 22 54.2**	**-0.2**
GO04				*eS*		**Sn**	**07 23 07.1**	**+0.1**
GO04	**Tololo Observa**	**0.94**	**43**	⇑*iP*		**Pn**	**07 22 54.2**	**-0.2**
GO04				*i* S		**Sn**	**07 23 06.7**	**-0.4**
CO05	**La Serena**	**0.97**	**16**			**Pn**	**07 22 55.1**	**+0.4**
CO05	**La Serena**	**0.97**	**16**	⇑*iP*		**Pn**	**07 22 55.1**	**+0.4**
CO05				*i* S		**Sn**	**07 23 08.2**	**+0.8**
CO05				IAML			07 23 08.8	
comp=N,5μm,0.3s								
CO01	**Juntas del Tor**	**1.53**	**55**			**Pn**	**07 23 03.2**	**+0.9**
CO01	**Juntas del Tor**	**1.53**	**55**	*eP*		**Pn**	**07 23 02.9**	**+0.5**
CO01				*eS*		Sn	07 23 11.0	-10
CO01				IAML			07 23 22.1	
comp=Z,4μm,0.4s								
CO01	**Juntas del Tor**	**1.53**	**55**	⇑*iP*		**Pn**	**07 23 03.0**	**+0.7**
CO01				*i* S		**Sn**	**07 23 21.7**	**+0.4**
CO01				IAML			07 23 22.4	
comp=N,4μm,0.2s								
VA06	**Catapilco**	**1.71**	**173**	Pn		**Pn**	**07 23 05.4**	**+0.8**
VA06	**Catapilco**	**1.71**	**173**	*eP*		**Pn**	**07 23 05.6**	**+1.0**
AROD	**Rodeo**	**1.91**	**69**	*eP*		**Pn**	**07 23 09.8**	**+2.1**
AROD				*eS*		**Sn**	**07 23 32.9**	**+2.1**
LCO	**Las Campanas**	**1.98**	**22**	Pn		**Pn**	**07 23 09.1**	**+0.5**
LCO	**Las Campanas**	**1.98**	**22**	*eP*		**Pn**	**07 23 09.2**	**+0.5**
LCO				*eS*		**Sn**	**07 23 33.5**	**+1.1**
LCO				IAML			07 23 33.7	
comp=Z,1μm,0.5s								
LCO	**Las Campanas**	**1.98**	**22**	⇓*iP*		**Pn**	**07 23 09.0**	**+0.5**
LCO				*i* S		**Sn**	**07 23 33.1**	**+0.8**
VA03	**San Esteban**	**2.08**	**156**			**Pn**	**07 23 11.5**	**+1.8**
VA03	**San Esteban**	**2.08**	**156**	*eP*		**Pn**	**07 23 10.7**	**+1.0**
VA03				*eS*		**Sn**	**07 23 39.1**	**+4.6**
VA03				IAML			07 23 49.3	
comp=Z,462nm,0.6s								
VA03	**San Esteban**	**2.08**	**156**	⇓*iP*		**Pn**	**07 23 11.4**	**+1.8**
DOCA	**Reserva Natura**	**2.12**	**93**	*eP*		Pn	07 22 54.4	-16
DOCA				*eS*		Sn	07 23 25.1	-11
DOCA				IAML			07 23 40.2	
comp=Z,2μm,1.1s								
RTLS	**Leoncito**	**2.14**	**117**	*eP*		Pn	07 22 55.8	-15
RTLS				*eS*		**Sn**	**07 23 29.2**	**-7.0**
RTLS				IAML			07 23 43.1	
comp=Z,1μm,0.6s								
ACCO	**Cerro Coronel**	**2.15**	**83**	*eP*		**Pn**	**07 23 13.6**	**+2.7**
ACCO				*eS*		**Sn**	**07 23 40.7**	**+4.1**
ROCH	**El Roble**	**2.15**	**168**	*eP*		**Pn**	**07 23 12.1**	**+1.2**
ROC1	**El Roble**	**2.16**	**168**	*eP*		**Pn**	**07 23 12.1**	**+1.1**
ROC1				*eS*		**Sn**	**07 23 31.3**	**-5.4**
VA01	**Torpederas**	**2.16**	**182**			**Pn**	**07 23 11.0**	**+0.3**
VA01	**Torpederas**	**2.16**	**182**	*eS*		**Sn**	**07 23 38.2**	**+1.9**
VA01				IAML			07 23 49.9	
comp=Z,305nm,0.6s								
VA01	**Torpederas**	**2.16**	**182**	*eP*		**Pn**	**07 23 11.2**	**+0.5**
ACDV	**Cuesta del Vie**	**2.20**	**72**	*eP*		**Pn**	**07 23 14.3**	**+2.8**
ACDV				*eS*		**Sn**	**07 23 40.3**	**+2.7**
ACDV				IAML			07 23 45.2	
comp=Z,328nm,0.4s								
AC05	**El Transito**	**2.30**	**29**			**Pn**	**07 23 13.4**	**+0.6**
AC05	**El Transito**	**2.30**	**29**	*eP*		**Pn**	**07 23 13.9**	**+1.2**
AC05				*eS*		**Sn**	**07 23 41.8**	**+1.9**
AC05				IAML			07 23 43.7	
comp=Z,490nm,0.6s								
AC05	**El Transito**	**2.30**	**29**	*eP*		**Pn**	**07 23 13.6**	**+0.9**
AC05				*i* S		**Sn**	**07 23 41.6**	**+1.7**
AC05				IAML			07 23 47.3	
comp=E,782nm,0.3s								
PEL	**Peldehue**	**2.39**	**163**	Pn		**Pn**	**07 23 15.4**	**+1.5**
PEL	**Peldehue**	**2.39**	**163**	*eP*		**Pn**	**07 23 15.8**	**+1.8**
PEL				*eS*		Sn	07 23 25.8	-16
PEL	**Peldehue**	**2.39**	**163**	*eP*		**Pn**	**07 23 15.6**	**+1.6**
MT02	**Curacav**	**2.42**	**172**			**Pn**	**07 23 15.6**	**+1.3**
MT02	**Curacav**	**2.42**	**172**	*eP*		**Pn**	**07 23 14.9**	**+0.6**
MT02				*eS*		Sn	07 23 26.0	-17
MT02				IAML			07 23 57.0	
comp=Z,313nm,0.5s								
MT02	**Curacav**	**2.42**	**172**	*eP*		**Pn**	**07 23 15.1**	**+0.8**
ZON	**Zonda**	**2.55**	**106**			**Pn**	**07 23 18.7**	**+2.6**
ZON	**Zonda**	**2.55**	**106**	*eP*		**Pn**	**07 23 13.6**	**-2.5**
ZON				*eS*		**Sn**	**07 23 48.9**	**+2.9**
ZON				IAML			07 23 49.9	
comp=Z,334nm,0.6s								
MT10	**Hacienda Santa**	**2.55**	**161**	*eP*		**Pn**	**07 23 17.8**	**+1.5**
MT05	**Renca**	**2.62**	**165**	*eP*		**Pn**	**07 23 16.6**	**-0.4**
MT05				*eS*		Sn	07 23 32.6	-15
MT05				IAML			07 24 04.5	
comp=Z,420nm,0.4s								
MT05	**Renca**	**2.62**	**165**	*eP*		**Pn**	**07 23 20.0**	**+2.9**
MT14	**Cerro Calı́n**	**2.67**	**162**	*eP*		**Pn**	**07 23 19.6**	**+1.7**
AC04	**Llanos de Chal**	**2.68**	**9**	Pn		**Pn**	**07 23 18.1**	**+0.3**
AC04	**Llanos de Chal**	**2.68**	**9**	*eP*		**Pn**	**07 23 18.1**	**+0.3**
AC04				*eS*		**Sn**	**07 23 51.5**	**+2.5**
AC04				IAML			07 23 59.2	
comp=Z,289nm,0.5s								
MT16	**CCHEN**	**2.70**	**162**			**Pn**	**07 23 20.4**	**+2.1**
MT16	**CCHEN**	**2.70**	**162**	*eP*		**Pn**	**07 23 19.9**	**+1.6**
RTCV	**Cerro Valdivia**	**2.75**	**112**	*eP*		**Pn**	**07 23 21.2**	**+2.2**
RTCV				*eS*		Sn	07 23 33.2	-18
MT03	**Universidad Ad**	**2.77**	**162**			**Pn**	**07 23 20.6**	**+1.4**
MT03	**Universidad Ad**	**2.77**	**162**	*eP*		**Pn**	**07 23 20.9**	**+1.7**
MT03				*eS*		**Sn**	**07 23 54.0**	**+2.6**
MT03				IAML			07 24 06.2	
comp=Z,387nm,0.8s								
MT03	**Universidad Ad**	**2.77**	**162**	*eP*		**Pn**	**07 23 20.8**	**+1.6**
VA05	**Santo Domingo**	**2.79**	**181**			**Pn**	**07 23 19.5**	**+0.2**
ASAL	**Salagasta**	**2.88**	**128**	*eP*		**Pn**	**07 23 24.4**	**+3.7**
ASAL				*eS*		Sn	07 24 12.7	+19
MT09	**Talagante**	**2.95**	**171**			**Pn**	**07 23 23.1**	**+1.5**
MT09	**Talagante**	**2.95**	**171**	*eP*		**Pn**	**07 23 23.1**	**+1.5**
ARCO	**CERRO ARCO**	**2.97**	**132**	*eS*		Sn	07 23 44.8	-12
ARCO				IAML			07 23 44.8	
comp=Z,156nm,0.6s								
MT12	**Pirque**	**2.99**	**164**	*eP*		**Pn**	**07 23 23.7**	**+1.6**
MT01	**Popeta**	**3.01**	**175**			**Pn**	**07 23 23.4**	**+1.0**
MT01	**Popeta**	**3.01**	**175**	*eP*		**Pn**	**07 23 23.2**	**+0.9**
MT01				IAML			07 24 17.0	
comp=Z,177nm,0.6s								
MT01	**Popeta**	**3.01**	**175**	*eP*		**Pn**	**07 23 23.1**	**+0.7**
MT13	**San Alfonso**	**3.07**	**160**			**Pn**	**07 23 25.0**	**+1.7**
MT13	**San Alfonso**	**3.07**	**160**	*eP*		**Pn**	**07 23 25.1**	**+1.9**
MT13				IAML			07 24 19.0	
comp=Z,181nm,0.5s								
MT13	**San Alfonso**	**3.07**	**160**	*eP*		**Pn**	**07 23 25.2**	**+1.9**
LMEL	**Las Melosas**	**3.19**	**160**			**Pn**	**07 23 27.3**	**+2.3**
LMEL	**Las Melosas**	**3.19**	**160**	*eP*		**Pn**	**07 23 27.4**	**+2.3**
AAGR	**Agrelo**	**3.20**	**135**	*eP*		**Pn**	**07 23 29.4**	**+4.3**
GO03	**Copiap**	**3.45**	**20**	Pn		**Pn**	**07 23 28.8**	**+0.3**
GO03	**Copiap**	**3.45**	**20**	*eS*		**Sn**	**07 24 08.1**	**-0.1**
AVFE	**Valle Fertil**	**3.52**	**88**	*eP*		**Pn**	**07 23 31.1**	**+1.6**
AVFE				IAML			07 24 34.3	
comp=Z,132nm,0.4s								
BO01	**Tunca**	**3.54**	**174**	Pn		**Pn**	**07 23 31.3**	**+1.6**
BO01	**Tunca**	**3.54**	**174**	*eP*		**Pn**	**07 23 30.6**	**+0.9**
AC06	**Mina Casimiro**	**3.64**	**17**			**Pn**	**07 23 30.9**	**-0.2**
BO02	**Sierra Bellavi**	**3.98**	**171**			**Pn**	**07 23 37.0**	**+1.3**
GO05	**Huala**	**4.15**	**184**			**Pn**	**07 23 37.5**	**-0.6**
AC01	**Pan de Azucar**	**4.77**	**10**	Pn		**Pn**	**07 23 44.9**	**-1.6**
ML02	**Panimavida**	**4.89**	**179**			**Pn**	**07 23 48.1**	**0.0**
GO02	**Mina Guanaco**	**5.93**	**17**	Pn		**Pn**	**07 23 59.7**	**-3.0**
PB14	**IPOC Station P**	**6.29**	**9**	Pn		**Pn**	**07 24 06.1**	**-1.6**
H03N1	**Juan Fernandez**	**6.76**	**246**	T		T	07 31 08.2	
baz=73,slow=72,SNR=1160								
VA04	**Juan Fernndez**	**6.77**	**244**	Pn		**Pn**	**07 24 14.4**	**+0.5**
H03N3	**Juan Fernandez**	**6.77**	**246**	T		T	07 31 12.7	
baz=73,slow=72,SNR=686								
H03N2	**Juan Fernandez**	**6.78**	**246**	T		T	07 31 08.1	
baz=73,slow=72,SNR=783								
LVC	**Limon Verde**	**8.54**	**17**	Pn		**Pn**	**07 24 37.7**	**-0.9**
LVC	**Limon Verde**	**8.54**	**17**	Pn		**Pn**	**07 24 37.6**	**-1.0**
comp=Z,0.5nm,0.3s,baz=302,slow=2.8,SNR=1.7								
LVC				Sn		Sn	07 26 25.4	+12
baz=171,slow=19								
LVC				LR		LR	07 28 03.3	
comp=Z,47nm,20.4s,baz=212,slow=38								
comp=Z,1.2nm,0.3s								
ITQB	**Itaqui**	**12.95**	**89**	Pn		**Pn**	**07 25 37.7**	**-0.7**
CPUP	**Villa Florida**	**13.27**	**74**	Pn		**Pn**	**07 25 40.1**	**-2.8**
CPUP	**Villa Florida**	**13.27**	**74**	Pn		**Pn**	**07 25 38.5**	**-4.4**
comp=Z,0.1nm,0.3s,baz=270,slow=7.1,SNR=2.1								
CPUP				LR		LR	07 30 19.2	
comp=Z,15nm,20.3s,baz=216,slow=36								
comp=Z,0.9nm,0.6s								
LPAZ	**La Paz**	**14.84**	**13**	Pn		**Pn**	**07 26 05.9**	**+1.5**
LPAZ	**La Paz**	**14.84**	**13**	Pn		**Pn**	**07 26 05.5**	**+1.1**
comp=Z,0.1nm,0.3s,baz=202,slow=6.0,SNR=10								
comp=Z,1.6nm,0.7s								
PLTB	**Pedras Altas**	**15.36**	**98**	Pn		**Pn**	**07 26 10.2**	**-0.4**
SIV	**San Ignacio**	**17.62**	**35**	P		**Pn**	**07 26 37.9**	**-1.2**
baz=209,slow=8.7,SNR=24								
comp=Z,3.1nm,0.6s								
PTLB	**Pontes e Lacer**	**19.09**	**39**	P		**P**	**07 26 55.2**	**-0.2**
GO09	**Cerro Castillo**	**20.40**	**181**	P		**P**	**07 27 11.1**	**+1.5**
GO09				IAmb		IAmb	07 27 32.0	
comp=Z,27nm,1.4s								
VILB	**Vilhena**	**20.67**	**33**			**P**	**07 27 12.6**	**-0.1**
VILB				IAmb		IAmb	07 27 17.9	
comp=Z,6.4nm,0.7s								
ETMB	**Extrema**	**21.52**	**14**	P		**P**	**07 27 22.8**	**+1.1**
ETMB				IAmb		IAmb	07 27 25.6	
comp=Z,4.9nm,0.8s								
VAO	**Valinhos**	**23.23**	**76**	P		**P**	**07 27 39.4**	**-0.5**
VAO				IAmb		IAmb	07 27 46.3	
comp=Z,8.9nm,1.3s								
BDFB	**Brasília**	**26.31**	**60**	P		**P**	**07 28 07.1**	**-1.0**
BDFB				IAmb		IAmb	07 28 07.7	
comp=Z,4.5nm,0.8s								
BDFB	**Brasília**	**26.31**	**60**	P		**P**	**07 28 07.1**	**-1.0**
comp=Z,3.5nm,0.7s,baz=243,slow=7.8,SNR=7.6								
comp=Z,3.5nm,0.7s								
MACA	**Manacapuru-AM**	**29.40**	**23**	P		**P**	**07 28 34.3**	**-1.2**
BAUV	**El Baul**	**39.72**	**5**	P		**P**	**07 30 05.3**	**+0.9**
SNAA	**Sanae**	**54.34**	**159**	P		**P**	**07 31 58.3**	**+0.4**
SNAA				IAmb		IAmb	07 32 09.4	
comp=Z,3.6nm,1.3s								
DBIC	**Dimbokro**	**73.79**	**72**	P		**P**	**07 34 05.3**	**-0.9**
comp=Z,4.8nm,1.1s,baz=207,slow=6.8,SNR=4.4								
comp=Z,4.8nm,1.1s								
TORD	**Torodi Ar. Bea**	**82.75**	**70**	P		**P**	**07 34 56.0**	**+0.3**
comp=Z,0.5nm,0.6s,baz=238,slow=4.8,SNR=1.9								
comp=Z,0.5nm,0.6s								

*NNC **15** 07:24:52.6±0.8, 44°.73N×83°.53E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=6.4km s-min=4.9km az=160.0*

SOME 15 07:24:58.1, 44°.17N×82°.60E, h20km, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.78**	**247**	*eP*	Pb	07 25 30.4	+0.3
0.4nm,0.2s							
KTMS				*eS*	Sb	07 25 52.4	+0.4
2.4nm,0.2s							
DJR	**Jarkent**	**2.03**	**276**	*eP*	Pb	07 25 35.4	+1.1
1.4nm,0.1s							
DJR				*eS*	Sb	07 26 01.4	+2.4
4.6nm,0.3s							
DJR	**Jarkent**	**2.03**	**276**	Pg	Pb	07 25 35.3	+1.1
1.4nm,0.1s							
DJR				Lg	Lg	07 26 01.5	
4.6nm,0.3s							
PDGK	**Podgornoye**	**2.40**	**251**	Pg	Pb	07 25 41.0	+0.3
0.5nm,0.3s							
PDGK				Lg	Lg	07 26 10.6	
2.9nm,0.5s							
KNOS	**Konyrlen**	**2.46**	**276**	Pg	Pb	07 25 43.0	+1.2
1.0nm,0.4s							
KNOS				Lg	Lg	07 26 14.1	
2.9nm,0.3s							
SHLS	**Shalkode**	**2.49**	**247**	*eP*	Pn	07 25 38.3	+0.7
2.9nm,0.4s							
SHLS				*eS*	Sn	07 26 05.8	-1.7
7.3nm,0.3s							
SHLS	**Shalkode**	**2.49**	**247**	Pg	Pn	07 25 38.3	+0.7
2.9nm,0.4s							
SHLS				Lg	Lg	07 26 05.8	
7.3nm,0.3s							
MK31	**Makanchi Array**	**2.64**	**355**	⇑Pn		Pn	07 25 30.9	-8.6
0.5nm,0.5s,baz=156,slow=16,SNR=8.9							
MK31				⇑Lg		Lg	07 26 04.0	
1.3nm,0.3s,baz=157,slow=28							
MAKZ	**Makanchi**	**2.68**	**351**	⇑Pn		Pn	07 25 32.5	-7.6
6.6nm,2.0s,baz=156,slow=16							
MAKZ				⇓Lg		Lg	07 26 07.1	
1.6nm,0.6s,baz=156,slow=16							
KPKS	**Kokpek**	**2.92**	**257**	*eP*	Pb	07 25 50.7	+1.2
1.6nm,0.2s							
KPKS				*eS*	Sb	07 26 27.4	+2.6
4.2nm,0.4s							
KPKS	**Kokpek**	**2.92**	**257**	Pg	Pb	07 25 50.7	+1.2
1.6nm,0.2s							
KPKS				Lg	Lg	07 26 27.4	
4.2nm,0.4s							
BLB	**Baldybastay**	**2.97**	**270**	Pg	Pb	07 25 51.6	+1.3
2.8nm,0.1s							
BLB				Lg	Lg	07 26 29.0	
7.9nm,0.4s							
ARXS	**Arharly**	**3.43**	**272**	*eP*	Pb	07 26 00.9	+2.6
0.7nm,0.2s							
ARXS				*eS*	Sb	07 26 44.5	+5.0
2.7nm,0.2s							

*NEIC **15** 07:26:11.3±1.6, 6°.98S±0°.07×106°.09E±0°.04, h10km±1km, mb4.4/22, Error ellipse: s-maj=11.7km s-min=6.6km az=356.0*

*DJA **15** 07:26:12.9±0.2, 7°S±2°×10°6E±°, h10km, M4.7/18, mb4.8/3, MLv4.7/18*

*IDC **15** 07:26:14.2±2.9, 6°.61S×106°.57E, h22km±17km, mb4.1/15, mbtmp4.2/15, MS3.5/17, Error ellipse: s-maj=28.9km s-min=13.8km az=61.0*

ISC 15 07:26:11.0±1.2, 6°.96S±0°.04×106°.24E±0°.04, h6km±7km**, n97**, σ1°59/87**, mb4.5**/30**, MS3.6**/18**, 2C, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.32**	**98**	Pg	**Pg**	**07 26 18.0**	**+0.8**
DBJI	**Dramaga**	**0.65**	**51**	Pg	**Pg**	**07 26 23.3**	**-0.2**
DBJI				S	**Sg**	**07 26 30.9**	**-1.0**
SBJI	**Serang**	**0.84**	**353**	P	**Pn**	**07 26 29.3**	**-0.1**
SBJI				S	**Sn**	**07 26 41.2**	**-0.9**
TNG	**Tangerang**	**0.88**	**27**	P	**Pg**	**07 26 28.4**	**+0.5**
TNG				P	**Pg**	**07 26 28.4**	**+0.5**
TNG				S	**Sg**	**07 26 39.5**	**+0.1**
CNJI	**Cibinong**	**0.95**	**111**	P	**Pb**	**07 26 28.1**	**-1.7**
CNJI				S	**Sb**	**07 26 39.7**	**-3.0**
LEM	**Lembang**	**1.38**	**85**	P	**Pn**	**07 26 36.2**	**-0.7**
LEM				S	**Sn**	**07 26 55.5**	**0.0**
BLSI	**Bandar Lampung**	**1.87**	**328**	P	**Pb**	**07 26 45.9**	**+0.4**
JCJI	**Jatiwangi**	**2.07**	**77**	P	**Pn**	**07 26 46.0**	**-0.3**
JCJI				S	**Sn**	**07 27 11.8**	**-0.7**
KASI	**Kota Agung**	**2.24**	**309**	P	**Pb**	**07 26 51.7**	**-0.2**
KASI				S	**Sg**	**07 27 22.0**	**-1.1**
CMJI	**Cimerak**	**2.34**	**111**	P	**Pn**	**07 26 49.9**	**-0.1**
CMJI				S	**Sn**	**07 27 16.8**	**-2.3**
KPJI	**Karang Pucung**	**2.70**	**98**	P	**Pn**	**07 26 56.9**	**+2.0**
LWLI	**Liwa**	**2.90**	**312**	P	**Pb**	**07 27 01.7**	**-1.6**
XMIS	**Christmas Isla**	**3.54**	**189**		**Pn**	**07 27 05.6**	**-1.0**
MNAI	**Manna**	**4.17**	**308**	Pn	**Pn**	**07 27 12.8**	**-2.3**
MNAI	**Manna**	**4.17**	**308**	P	**Pn**	**07 27 18.9**	**+3.8**
SMRI	**Semarang**	**4.17**	**91**		**Pn**	**07 27 18.0**	**+2.8**
SMRI	**Semarang**	**4.17**	**91**	P	**Pn**	**07 27 17.7**	**+2.5**
UGM	**Wanagama**	**4.35**	**103**		**Pn**	**07 27 19.2**	**+1.4**
UGM	**Wanagama**	**4.35**	**103**	P	**Pn**	**07 27 18.6**	**+0.9**
PWJI	**Pagerwojo**	**5.62**	**101**	P	**Pn**	**07 27 35.1**	**0.0**
132nm,0.8s,1.2nm							
JAGI	**Jajag, Banyuwa**	**7.99**	**101**	Pn	**Pn**	**07 28 08.0**	**+0.3**
JAGI	**Jajag, Banyuwa**	**7.99**	**101**	P	**Pn**	**07 28 10.5**	**+2.8**
SBUM	**Sibu**	**11.09**	**33**	Pn	**Pn**	**07 28 50.5**	**+0.2**
GSI	**Gunungsitoli**	**11.92**	**313**	Pn	**Pn**	**07 28 59.0**	**-2.7**
MMRI	**Maumere**	**15.94**	**97**	Pn	**Pn**	**07 29 55.9**	**-0.2**
MMRI				IAmb	IAmb	07 30 10.8	
comp=Z,43nm,0.8s							
GIRL	**Giralia**	**17.39**	**155**	P	**Pn**	**07 30 12.9**	**-1.5**
LUWI	**Luwuk**	**17.50**	**71**	P	**Pn**	**07 30 15.6**	**-0.3**
MBWA	**Marble Bar**	**19.23**	**139**	P	**P**	**07 30 36.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.91**	**122**	P	**P**	**07 31 05.5**	**+0.4**
DAV	**Davao City (W)**	**23.80**	**55**	LR	LR	07 40 40.9	
comp=Z,88nm,20.5s,baz=225,slow=37							
MTN	**Manton Dam**	**25.20**	**105**	P	**P**	**07 31 37.5**	**-0.1**
MTN				IAmb	IAmb	07 32 05.3	
comp=Z,9.7nm,1.1s							
QIZ	**Qiongzhong**	**26.07**	**8**	P	**P**	**07 31 46.3**	**+0.8**
QIZ				S	**S**	**07 36 19.4**	**+2.2**
QIZ				LR	LR		
comp=N,390nm,13.9s							
QIZ				LR	LR		
comp=E,540nm,14.5s							
QIZ				LR	LR		
comp=Z,400nm,11.8s							
FAKI	**Fak Fak**	**26.22**	**82**	P	**P**	**07 31 48.1**	**+1.2**
CMAR	**Chiang Mai Arr**	**26.26**	**344**	P	**P**	**07 31 46.7**	**-0.6**
comp=Z,0.5nm,0.4s,baz=174,slow=9.8,SNR=0.9							
comp=Z,0.5nm,0.4s							
NWAO	**Narrogin (SRO)**	**27.78**	**160**	LR	LR	07 42 45.6	
comp=Z,138nm,18.9s,baz=14,slow=35							
H01W3	**Cape Leeuwin H**	**28.73**	**166**	T	T	08 02 33.6	
baz=344,slow=76,SNR=42							
H01W1	**Cape Leeuwin H**	**28.74**	**166**	T	T	08 02 40.1	
baz=344,slow=76,SNR=45							
H01W2	**Cape Leeuwin H**	**28.74**	**166**	T	T	08 02 39.7	
baz=344,slow=76,SNR=49							
WB0	**Warramunga Arr**	**30.14**	**118**	P	**P**	**07 32 22.3**	**+0.3**
WB0				IAmb	IAmb	07 32 22.4	
comp=Z,5.9nm,0.8s							
WRA	**Warramunga Arr**	**30.16**	**118**	P	**P**	**07 32 22.1**	**-0.1**
WRA	**Warramunga Arr**	**30.16**	**118**	P	**P**	**07 32 22.0**	**-0.1**
comp=Z,3.6nm,0.7s,baz=300,slow=9.2,SNR=30							
WRA				PcP	**PcP**	**07 35 23.6**	**0.0**
comp=Z,1.6nm,0.5s,baz=316,slow=2.0,SNR=14							
WRA				LR	LR	07 47 10.1	
comp=Z,132nm,18.1s,baz=6.5,slow=42							
comp=Z,3.6nm,0.7s							
WRAB	**Tennant Creek**	**30.16**	**118**	P	**P**	**07 32 21.9**	**-0.3**
WRAB				IAmb	IAmb	07 32 24.8	
comp=Z,6.5nm,0.7s							
WB2	**Warramunga Arr**	**30.17**	**118**	P	**P**	**07 32 22.2**	**-0.1**
WB2				IAmb	IAmb	07 32 24.7	
comp=Z,5.5nm,0.7s							
WR0	**Warramunga Arr**	**30.34**	**118**	P	**P**	**07 32 24.0**	**+0.2**
WR0				IAmb	IAmb	07 32 24.5	
comp=Z,6.1nm,0.7s							
AS31	**Alice Springs**	**31.33**	**125**	P	**P**	**07 32 32.3**	**-0.2**
ASAR	**Alice Springs**	**31.33**	**125**	P	**P**	**07 32 31.8**	**-0.7**
ASAR	**Alice Springs**	**31.33**	**125**	P	**P**	**07 32 32.5**	**0.0**
comp=Z,1.2nm,0.6s,baz=297,slow=8.8,SNR=14							
ASAR				PcP	**PcP**	**07 35 26.6**	**0.0**
comp=Z,1.8nm,0.8s,baz=290,slow=2.0,SNR=13							
ASAR				ScP	**ScP**	**07 39 08.1**	**-2.5**
comp=Z,0.7nm,0.9s,baz=300,slow=2.7,SNR=5.7							
ASAR				LR	LR	07 45 32.4	
comp=Z,69nm,20.1s,baz=286,slow=37							
comp=Z,1.2nm,0.6s							
H08S2	**Diego Garcia H**	**33.47**	**267**	T	T	08 08 20.6	
baz=91,slow=75,SNR=599							
H08S3	**Diego Garcia H**	**33.48**	**267**	T	T	08 08 20.4	
baz=91,slow=75,SNR=269							
H08S1	**Diego Garcia H**	**33.49**	**267**	T	T	08 08 22.0	
baz=91,slow=75,SNR=581							
PZH	**PanZhiHua**	**33.55**	**353**	P	**P**	**07 32 54.9**	**+3.0**
PZH				pmax	pmax		
comp=Z,20nm,1.0s							
PZH				pmax	pmax		
comp=Z,110nm,5.1s							
COEN	**Coen**	**36.95**	**104**	P	**P**	**07 33 20.3**	**-1.0**
COEN				IAmb	IAmb	07 33 47.6	
comp=Z,11nm,1.1s							
BBOO	**Buckleboo**	**37.79**	**137**	P	**P**	**07 33 28.8**	**+0.5**
BBOO				IAmb	IAmb	07 33 48.6	
comp=Z,7.7nm,1.1s							
NJ2	**Nanjing**	**40.62**	**17**	*eP*	**P**	**07 33 53.3**	**+1.5**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.5s							
CTAO	**Charters Tower**	**40.91**	**113**	P	**P**	**07 33 55.6**	**+1.1**
CTAO				IAmb	IAmb	07 33 57.5	
comp=Z,6.2nm,0.9s							
STKA	**Stephens Creek**	**41.23**	**132**	P	**P**	**07 33 57.9**	**+0.9**
STKA	**Stephens Creek**	**41.23**	**132**	P	**P**	**07 33 58.0**

comp=Z,100nm,0.7s
SNAA Sanae 89.34 197 ⇑P **P 07 39 10.5 +2.4**
comp=Z,46nm,0.8s
SNAA Sanae 89.34 197 P **P 07 39 11.2 +3.1**
comp=Z,3.2nm,1.0s,baz=109,slow=3.2,SNR=5.5
comp=Z,3.2nm,1.0s
VNA3 Neumayer Olymp 91.51 197 P **P 07 39 18.7 +0.5**
comp=Z,11nm,0.8s
ARCES ARCESS Array B 93.24 340 LR LR 08 26 45.6
comp=Z,35nm,18.8s,baz=102,slow=39
NOA NORSAR Array B 98.48 331 LR LR 08 30 44.7
comp=Z,17nm,18.7s,baz=115,slow=39
DAVOX Davos/Dischmat 99.38 316 LR LR 08 34 33.7
comp=Z,19nm,18.0s,baz=72,slow=41
CPUP Villa Florida 143.26 205 PKhKP PKPpre 07 45 45.0
comp=Z,2.1nm,0.7s,baz=150,slow=9.8,SNR=5.1
TXAR Lajitas Array 144.10 48 PKP PKPbc 07 45 46.8 +0.2
comp=Z,0.5nm,0.8s,baz=246,slow=2.2,SNR=6.0
TXAR SKPbc **SKPbc 07 49 25.6 -2.7**
comp=Z,0.4nm,0.6s,baz=270,slow=1.5,SNR=5.9
BDFB Brasilia 146.02 228 PKPbc **PKiKP 07 45 55.2 -1.2**
comp=Z,6.0nm,0.8s,baz=166,slow=4.8,SNR=15

IDC 15 07:55:22.7±4.0, 0°.89S×131°.20E, h0km, mb3.4/2, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=260.2km s-min=29.3km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.19**	**171**	P	P	07 59 48.0	-0.2
	0.1nm,0.3s,baz=354,slow=11,SNR=1.8						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**22.80**	**174**	P	P	08 00 27.2	0.0
	0.6nm,0.6s,baz=356,slow=8.5,SNR=8.3						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**63.87**	**325**	P	P	08 05 57.4	+0.1
	0.7nm,0.9s,baz=136,slow=7.0,SNR=2.6						
	0.7nm,0.9s						

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*TIR **15** 08:14:12.5, 37°.38N×21°.13E, h22km±3km, Ml3.1*
*IDC **15** 08:14:14.5±1.5, 37°.92N×22°.12E, h0km, mb3.4/5, mbtmp3.5/5, Error ellipse: s-maj=44.1km s-min=26.2km az=156.0*
*ATH **15** 08:14:16.3, 37°.98N×22°.00E, h9km±1km, ML3.2/22, Error ellipse: s-maj=1.2km s-min=0.6km az=22.0*
*THE **15** 08:14:16.4, 37°.97N×22°.01E, h6km±1km, ML3.3/16, Error ellipse: s-maj=1.3km s-min=0.6km az=13.0*
ISC 15 08:14:16.2±0.8, 37°.97N±0°.02×22°.01E±0°.02, h10km±6km, n86, σ0°77/125, mb3.5/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.14**	**57**	P	**Pg**	**08 14 19.4**	**0.0**
KLV				S	**Sg**	**08 14 21.7**	**0.0**
	24μm,0.1s						
KLV	**Kalavryta, Ach**	**0.14**	**57**	P	**Pg**	**08 14 19.3**	**0.0**
KLV				S	**Sg**	**08 14 21.6**	**0.0**
KLV				AML	AML	08 14 22.1	
	comp=E,38814μm,0.1s						
KLV				AML	AML	08 14 22.1	
	comp=N,55377μm,0.1s						
GUR	**Goura**	**0.27**	**97**	P	**Pg**	**08 14 21.6**	**-0.1**
GUR				S	**Sg**	**08 14 25.6**	**+0.3**
	comp=N,21μm,0.3s						
GUR	**Goura**	**0.27**	**97**	P	**Pg**	**08 14 21.6**	**-0.1**
GUR				S	**Sg**	**08 14 25.6**	**+0.3**
GUR				AML	AML	08 14 28.1	
	comp=E,44147μm,0.4s						
GUR				AML	AML	08 14 28.8	
	comp=N,39607μm,0.2s						
ALIK	**Aliki, Aigiali**	**0.30**	**16**	P	**Pg**	**08 14 22.2**	**-0.1**
ALIK				S	**Sg**	**08 14 26.9**	**+0.5**
UPR	**University Cam**	**0.36**	**331**	P	**Pg**	**08 14 23.1**	**-0.2**
UPR				S	**Sg**	**08 14 28.1**	**0.0**
KALE	**Kalithea**	**0.43**	**14**	P	**Pg**	**08 14 24.5**	**-0.3**
KALE				S	**Sg**	**08 14 31.4**	**+0.9**
	comp=N,16μm,0.5s						
KALE	**Kalithea**	**0.43**	**14**	P	**Pg**	**08 14 24.3**	**-0.4**
KALE				S	**Sg**	**08 14 30.4**	**-0.1**
KALE				AML	AML	08 14 32.2	
	comp=E,35702μm,0.3s						
KALE				AML	AML	08 14 34.3	
	comp=N,19324μm,0.4s						
RLS	**Riolos of Patr**	**0.44**	**282**	P	**Pg**	**08 14 24.2**	**-0.6**
RLS				S	**Sg**	**08 14 30.8**	**+0.3**
	comp=N,3μm,0.3s						
RLS	**Riolos of Patr**	**0.44**	**282**	P	**Pg**	**08 14 24.1**	**-0.6**
RLS				S	**Sg**	**08 14 30.8**	**+0.3**
RLS				AML	AML	08 14 33.5	
	comp=E,6473μm,0.5s						
RLS				AML	AML	08 14 34.9	
	comp=N,6629μm,0.2s						
EFP	**Efpalio**	**0.46**	**350**	P	**Pg**	**08 14 25.0**	**-0.3**
EFP				S	**Sb**	**08 14 32.6**	**-0.8**
	comp=N,4μm,0.2s						
EFP	**Efpalio**	**0.46**	**350**	P	**Pg**	**08 14 25.0**	**-0.3**
EFP				S	**Sg**	**08 14 31.6**	**+0.1**
EFP				AML	AML	08 14 34.0	
	comp=N,11682μm,0.2s						
EFP				AML	AML	08 14 34.7	
	comp=E,5192μm,0.2s						
ANX	**Ano Chora**	**0.63**	**354**	P	**Pg**	**08 14 27.6**	**-0.8**
ANX				S	**Sg**	**08 14 37.1**	**+0.4**
	comp=E,5μm,0.4s						
ANX	**Ano Chora**	**0.63**	**354**	P	**Pg**	**08 14 27.5**	**-0.9**
ANX				S	**Sg**	**08 14 36.8**	**+0.2**
ANX				AML	AML	08 14 38.4	
	comp=N,8980μm,0.3s						
ANX				AML	AML	08 14 38.7	
	comp=E,8343μm,0.3s						
PVO	**Paravola**	**0.75**	**330**	P	**Pg**	**08 14 30.5**	**-0.2**
PVO				S	**Sb**	**08 14 42.1**	**+0.4**
	comp=E,4μm,0.4s						
PVO	**Paravola**	**0.75**	**330**	P	**Pg**	**08 14 30.4**	**-0.2**
PVO				S	**Sg**	**08 14 40.9**	**+0.4**
LOUT	**Loutraki**	**0.77**	**88**	P	**Pg**	**08 14 30.4**	**-0.6**
LOUT	**Loutraki**	**0.77**	**88**	P	**Pg**	**08 14 30.2**	**-0.7**
LOUT				S	**Sb**	**08 14 41.8**	**-0.3**
LOUT				AML	AML	08 14 47.1	
	comp=E,646μm,0.3s						
LOUT				AML	AML	08 14 49.9	
	comp=N,366μm,0.2s						
ITM	**Ithomi**	**0.79**	**185**	P	**Pg**	**08 14 31.1**	**-0.4**
ITM				S	**Sb**	**08 14 43.9**	**+1.1**
	comp=N,1μm,0.3s						
ITM	**Ithomi**	**0.79**	**185**	P	**Pg**	**08 14 31.1**	**-0.4**
ITM				S	**Sb**	**08 14 42.9**	**0.0**
ITM				AML	AML	08 14 47.5	
	comp=E,2758μm,0.2s						
ITM				AML	AML	08 14 50.5	
	comp=N,2445μm,0.4s						
KLMT	**Kalamata**	**0.91**	**177**	P	**Pg**	**08 14 33.0**	**-0.7**
KLMT				S	**Sb**	**08 14 47.3**	**+1.2**
	comp=N,2μm,0.3s						
AXAR	**Agios Charalam**	**0.95**	**33**	P	**Pg**	**08 14 33.1**	**-1.3**
AXAR				S	**Sb**	**08 14 48.1**	**+0.7**
	comp=N,3μm,0.3s						
AXAR	**Agios Charalam**	**0.95**	**33**	P	**Pg**	**08 14 33.2**	**-1.3**
AXAR				S	**Sg**	**08 14 46.9**	**+0.2**
AXAR				AML	AML	08 14 53.0	
	comp=E,7958μm,0.3s						
AXAR				AML	AML	08 14 56.6	
	comp=N,5036μm,0.3s						
EVR	**Evrytania**	**0.96**	**351**	P	**Pg**	**08 14 34.7**	**0.0**
EVR				S	**Sn**	**08 14 49.5**	**-0.1**
	comp=N,915nm,0.5s						
EVR	**Evrytania**	**0.96**	**351**	P	**Pg**	**08 14 34.7**	**0.0**
EVR				S	**Sb**	**08 14 47.6**	**-0.2**
EVR				AML	AML	08 14 52.0	
	comp=E,1634μm,0.2s						
EVR				AML	AML	08 14 52.5	
	comp=N,2151μm,0.3s						
LTHK	**Lithakia**	**0.96**	**255**	P	**Pg**	**08 14 33.4**	**-1.3**
LTHK	**Lithakia**	**0.96**	**255**	P	**Pg**	**08 14 34.4**	**-0.3**
LTHK				AML	AML	08 14 59.0	
	comp=N,4453μm,0.6s						
LTHK				AML	AML	08 14 59.6	
	comp=E,4328μm,0.5s						
RTZL	**Ratzakli, Kefa**	**0.98**	**277**	P	**Pg**	**08 14 34.2**	**-0.9**
RTZL				S	**Sn**	**08 14 50.7**	**+0.7**
	comp=E,1μm,0.2s						
VIL2	**Platees**	**1.02**	**76**	P	**Pg**	**08 14 35.8**	**-0.1**
VIL2				AML	AML	08 14 54.2	
	comp=N,1529μm,0.4s						
VIL2				AML	AML	08 14 56.0	
	comp=E,3027μm,0.9s						
MAKR	**Makrakomi, Fth**	**1.05**	**5**	P	**Pg**	**08 14 35.8**	**-0.6**
MAKR				S	**Sb**	**08 14 51.1**	**+0.8**
	comp=E,2μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.05**	**5**	P	**Pg**	**08 14 35.6**	**-0.8**
MAKR				S	**Sb**	**08 14 50.8**	**+0.5**
MAKR				AML	AML	08 14 54.6	
	comp=E,4433μm,0.4s						
MAKR				AML	AML	08 14 55.1	
	comp=N,5014μm,0.4s						
VILL	**Villia**	**1.05**	**79**	P	**Pg**	**08 14 36.0**	**-0.4**
KRND	**KRANIDI**	**1.08**	**122**	P	**Pg**	**08 14 36.2**	**-0.7**
KRND	**KRANIDI**	**1.08**	**122**	P	**Pg**	**08 14 36.8**	**-0.1**
KRND				S	**Sb**	**08 14 51.9**	**+0.8**
KRND				AML	AML	08 14 55.8	
	comp=N,1972μm,0.4s						
KRND				AML	AML	08 14 55.9	
	comp=E,2351μm,0.3s						
AGG	**Agios Georgios**	**1.08**	**13**	P	**Pg**	**08 14 35.4**	**-1.6**
PYL	**PYLOS**	**1.09**	**191**	P	**Pg**	**08 14 36.3**	**-0.9**
PYL				S	**Sn**	**08 14 53.4**	**+0.7**
	comp=E,660nm,0.3s						
PYL	**PYLOS**	**1.09**	**191**	P	**Pg**	**08 14 36.4**	**-0.9**
PYL				S	**Sb**	**08 14 52.0**	**+0.6**
PYL				AML	AML	08 14 57.2	
	comp=E,1341μm,0.3s						
PYL				AML	AML	08 14 59.4	
	comp=N,1304μm,0.3s						
SMHA	**Samh**	**1.11**	**285**	P	**Pg**	**08 14 36.5**	**-1.0**
PSDA	**Pessada-Kefalo**	**1.13**	**278**	P	**Pb**	**08 14 36.5**	**-1.3**
PSDA				S	**Sn**	**08 14 54.5**	**+0.8**
PSDA	**Pessada-Kefalo**	**1.13**	**278**	P	**Pb**	**08 14 36.5**	**-1.3**
FSK	**Fiskardo**	**1.24**	**294**	P	**Pn**	**08 14 38.6**	**-1.0**
FSK				S	**Sn**	**08 14 58.4**	**+2.1**
	comp=N,1μm,0.2s						
FSK	**Fiskardo**	**1.24**	**294**	P	**Pn**	**08 14 38.6**	**-1.0**
FSK				AML	AML	08 15 00.3	
	comp=N,1546μm,0.2s						
FSK				AML	AML	08 15 00.6	
	comp=E,3104μm,0.2s						
EVGI	**Lefkada island**	**1.25**	**302**	P	**Pn**	**08 14 38.9**	**-0.8**
EVGI	**Lefkada island**	**1.25**	**302**	P	**Pn**	**08 14 38.6**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.27**	**306**	P	**Pn**	**08 14 39.0**	**-0.9**
NYDR	**Nydri-Lefkada**	**1.27**	**306**	P	**Pn**	**08 14 39.1**	**-0.9**
DMLN	**Damoulianata-K**	**1.32**	**282**	P	**Pn**	**08 14 39.9**	**-0.8**
DMLN	**Damoulianata-K**	**1.32**	**282**	P	**Pn**	**08 14 39.7**	**-1.0**
LKD2	**Lefkada island**	**1.34**	**308**	P	**Pn**	**08 14 40.6**	**-0.4**
	baz=346						
LKD2				S	**Sg**	**08 15 00.2**	**+0.9**
	baz=346						
LKD2				AMP			
	comp=E,1.5nm,0.5s,baz=346						
LKD2	**Lefkada island**	**1.34**	**308**	P	**Pn**	**08 14 40.5**	**-0.5**
LKD2	**Lefkada island**	**1.34**	**308**	P	**Pn**	**08 14 40.1**	**-0.9**
ATH	**Athens Observa**	**1.35**	**89**	P	**Pn**	**08 14 41.0**	**-0.1**
ATH	**Athens Observa**	**1.35**	**89**	P	**Pn**	**08 14 40.7**	**-0.5**
ATH				AML	AML	08 15 01.7	
	comp=E,1618μm,0.7s						
ATH				AML	AML	08 15 02.8	
	comp=N,1287μm,0.3s						
TSLK	**Tsoukalades, L**	**1.36**	**309**	P	**Pn**	**08 14 41.4**	**+0.1**
TSLK	**Tsoukalades, L**	**1.36**	**309**	P	**Pn**	**08 14 40.9**	**-0.4**
ATHU	**Athens Univers**	**1.41**	**90**	P	**Pn**	**08 14 41.6**	**-0.3**
ATHU	**Athens Univers**	**1.41**	**90**	P	**Pn**	**08 14 41.6**	**-0.3**
ATHU				AML	AML	08 15 02.8	
	comp=N,559μm,0.5s						
ATHU				AML	AML	08 15 03.0	
	comp=E,274μm,0.6s						
VLY	**Voula,Athens**	**1.42**	**94**	P	**Pn**	**08 14 41.6**	**-0.4**
VLY	**Voula,Athens**	**1.42**	**94**	P	**Pn**	**08 14 41.7**	**-0.4**
VLY				S	**Sn**	**08 14 59.9**	**-1.0**
VLY				AML	AML	08 15 03.9	
	comp=E,1648μm,0.3s						
VLY				AML	AML	08 15 08.0	
	comp=N,987μm,0.3s						
VLI	**Veliai**	**1.45**	**149**	P	**Pb**	**08 14 43.4**	**+0.1**
VLI	**Veliai**	**1.45**	**149**	P	**Pb**	**08 14 43.1**	**-0.2**
VLI				AML	AML	08 15 06.5	
	comp=N,492μm,0.4s						
VLI				AML	AML	08 15 09.8	
	comp=E,710μm,0.5s						
PTL	**Penteli**	**1.47**	**86**	P	**Pn**	**08 14 42.5**	**-0.3**
PTL	**Penteli**	**1.47**	**86**	P	**Pn**	**08 14 42.3**	**-0.5**
DION	**Dionisos Attik**	**1.52**	**85**	P	**Pb**	**08 14 44.5**	**-0.1**
DION				S	**Sb**	**08 14 04.3**	**+0.3**
	comp=E,1μm,0.3s						
DION	**Dionisos Attik**	**1.52**	**85**	P	**Pn**	**08 14 44.0**	**+0.4**
DION				AML	AML	08 15 07.8	
	comp=N,1521μm,0.4s						
DION				AML	AML	08 15 08.1	
	comp=E,1689μm,0.3s						
THL	**Klokotos Trika**	**1.59**	**0**	P	**Pn**	**08 14 45.1**	**+0.6**
THL	**Klokotos Trika**	**1.59**	**0**	P	**Pn**	**08 14 44.5**	**0.0**
THL				S	**Sn**	**08 15 03.8**	**-1.3**
THL				AML	AML	08 15 11.1	
	comp=N,341μm,0.6s						
THL				AML	AML	08 15 12.3	
	comp=E,453μm,1.0s						
NEO	**Neokhori**	**1.64**	**35**	P	**Pn**	**08 14 44.7**	**-0.5**
TYRN	**Tyrnavos**	**1.75**	**6**	P	**Pn**	**08 14 46.7**	**+0.1**
TYRN	**Tyrnavos**	**1.75**	**6**	P	**Pn**	**08 14 46.8**	**+0.2**
KYMI	**Kymi, Euboea I**	**1.78**	**67**	P	**Pn**	**08 14 46.6**	**-0.4**
KYMI	**Kymi, Euboea I**	**1.78**	**67**	P	**Pn**	**08 14 45.7**	**-1.3**
AOS2	**Alonissos-2**	**1.86**	**50**	P	**Pn**	**08 14 46.8**	**-1.4**
LIT	**Litokhoron**	**2.16**	**10**	P	**Pn**	**08 14 52.3**	**0.0**
LSK	**Leskovik**	**2.44**	**334**	P	**Pb**	**08 14 59.4**	**-0.8**
	baz=352						
LSK				S	**Sg**	**08 15 37.0**	**+2.5**
	baz=352						
SRN	**Sarande**	**2.47**	**321**	P	**Pn**	**08 14 58.3**	**+1.8**
	baz=341						
SRN				S	**Sb**	**08 15 31.5**	**+0.4**
	baz=341						
FNA	**Florina**	**2.85**	**350**	P	**Pn**	**08 15 04.0**	**+2.1**
	baz=3.0						
FNA				AMP			
	comp=E,0.1nm,0.3s,baz=3.0						
SCTE	**Santa Cesarea**	**3.47**	**308**	P	**Pn**	**08 15 10.1**	**-0.1**
	baz=324						
SCTE				S	**Sn**	**08 15 52.2**	**+0.9**
	baz=324						
SGRT	**San Giovanni R**	**6.12**	**310**	P	**Pn**	**08 15 47.1**	**+0.3**
	baz=319						
KIJV	**Kijevo**	**7.37**	**327**	*e*Pn	**Pn**	**08 16 04.0**	**+0.1**
DUGI	**Dugi Otok**	**7.99**	**321**	*e*Pn	**Pn**	**08 16 12.7**	**+0.4**
ESDC	**Sonseca Array**	**20.29**	**283**	P	**P**	**08 18 53.1**	**+1.0**
	comp=E,0.4nm,0.6s,baz=76,slow=11,SNR=3.0						
	comp=E,0.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**24.28**	**324**	P	**P**	**08 19 34.4**	**+0.9**
	comp=E,0.7nm,0.6s,baz=131,slow=9.7,SNR=2.4						
	comp=E,0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**30.63**	**222**	P	**P**	**08 20 30.6**	**-0.1**
	comp=E,0.5nm,0.6s,baz=39,slow=10,SNR=2.2						
	comp=E,0.5nm,0.6s						
MKAR	**Makanchi Array**	**44.41**	**59**	P	**P**	**08 22 27.0**	**0.0**
	comp=E,0.2nm,0.5s,baz=285,slow=7.6,SNR=3.7						
	comp=E,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**44.96**	**48**	P	**P**	**08 22 29.9**	**-1.3**
	comp=E,0.7nm,0.4s,baz=284,slow=7.7,SNR=3.5						
	comp=E,0.7nm,0.4s						

SVSA 15 08:14:40.5±1.4, 37°.36N×24°.68W, h5km, ML3.7(INMG), 2C-1D, Error ellipse: s-maj=5.6km s-min=2.4km az=82.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.47**	**221**	⇑*e*P	Pg	08 14 48.7	-0.8
PSMN				*e*S	Sg	08 14 55.0	-0.5
PSMN				A	A	08 15 09.8	
	760nm,0.6s						
PSMA	**Santa Maria**	**0.51**	**225**	⇑*e*P	Pg	08 14 49.0	-1.2
PSMA				*e*S	Sg	08 14 55.6	-1.2
PSMA				A	A	08 15 01.7	
	573nm,0.6s						
BART	**Pico Bartolome**	**0.57**	**318**	⇓*e*P	Pg	08 14 49.9	-1.6
BART				*e*S	Sg	08 14 57.4	-1.6
BART				A	A	08 15 04.7	
	2μm,0.6s						
PPOV	**Povoa§£o**	**0.60**	**311**	*e*P	Pg	08 14 50.6	-1.4
PPOV				*e*S	Sg	08 14 57.8	-1.9
PPOV				A	A	08 14 59.3	
	1μm,0.2s						
PNOR2	**Nordeste**	**0.60**	**323**	*e*P	Pg	08 14 50.6	-1.5
PNOR2				*e*S	Sg	08 14 58.3	-1.7
PNOR2				A	A	08 15 01.9	
	1μm,0.2s						
PGRON	**Lagoa das Cont**	**0.69**	**307**	*e*P	Pg	08 14 51.9	-1.9
PGRON				*e*S	Sg	08 15 00.8	-1.9
PGRON				A	A	08 15 02.3	
	1μm,0.2s						
PCALD	**Caldeiras da R**	**0.78**	**305**	*e*P	Pg	08 14 53.1	-2.3
PCALD				*e*S	Sg	08 15 02.6	-2.9
PCALD				A	A	08 15 04.4	
	1μm,0.4s						
CMLA	**Cha da Macela**	**0.78**	**302**	*e*P	Pg	08 14 53.3	-2.3
CMLA				*e*S	Sg	08 15 03.4	-2.3
CMLA				A	A	08 15 10.8	
	2μm,0.4s						
POVGA	**Lagoa**	**0.82**	**299**	*e*P	Pg	08 14 54.1	-2.1
POVGA				*e*S	Sg	08 15 03.9	-2.9
POVGA				A	A	08 15 04.8	
	2μm,0.5s						
PDA	**Ponta Delgada**	**0.87**	**297**	*e*P	Pn	08 14 59.2	-0.2
PDA				*e*S	Sb	08 15 09.7	-0.4
PDA				A	A	08 15 11.3	
	609nm,0.2s						
PSET	**Sete Cidades**	**0.95**	**300**	*e*P	Pg	08 14 56.0	-2.7
PSET				*e*S	Sg	08 15 07.3	-3.7
PSET				A	A	08 15 12.9	
	1μm,0.5s						
PSCM	**Serra do Cume**	**2.35**	**306**	*e*P	Pn	08 15 15.4	-4.3
PSCM				*e*S	Sn	08 15 41.8	-7.1
PSCM				A	A	08 15 44.4	
	544nm,0.2s						
ADH	**Angra Heroismo**	**2.40**	**304**	*e*P	Pn	08 15 15.0	-5.4
ADH				*e*S	Sn	08 15 41.4	-8.8
ADH				A	A	08 15 46.7	
	302nm,0.3s						
PAGU	**Agualva, Azore**	**2.43**	**306**	*e*P	Pn	08 15 16.6	-4.2
PAGU				*e*S	Sn	08 15 44.1	-6.8
PAGU				A	A	08 15 46.4	
	565nm,0.3s						
PSBA	**Serra de Santa**	**2.52**	**305**	*e*P	Pn	08 15 18.3	-3.8
PSBA				*e*S	Sn	08 15 46.6	-6.6
PSBA				A	A	08 15 51.3	
	358nm,0.4s						
PID	**Ribeirinha**	**2.93**	**293**	*e*P	Pn	08 15 24.3	-3.4
PID				*e*S	Sn	08 15 55.9	-7.4
PID				A	A	08 16 00.6	
	53nm,0.6s						
PPNO	**Prainha do Nor**	**3.04**	**293**	*e*P	Pn	08 15 25.9	-3.5
PPNO				*e*S	Sn	08 15 59.0	-7.2
PPNO				A	A	08 16 00.9	
	69nm,0.3s						
PGRA	**Graciosa**	**3.09**	**304**	*e*P	Pb	08 15 37.5	+1.6
PGRA				*e*S	Sb	08 16 10.8	-3.2
PGRA				A	A	08 16 19.1	
	69nm,0.4s						
ROSA	**Rosais**	**3.12**	**297**	*e*P	Pn	08 15 26.9	-3.5
ROSA				*e*S	Sn	08 16 01.1	-7.0
PICO	**Pico**	**3.17**	**292**	*e*P	Pn	08 15 27.9	-3.2
PICO				*e*S	Sn	08 16 02.4	-7.0
PICO				A	A	08 16 04.5	
	114nm,0.5s						
PCAN	**Candelaria**	**3.21**	**291**	*e*P	Pn	08 15 28.0	-3.5
PCAN				*e*S	Sn	08 16 04.0	-6.1
PCAN				A	A	08 16 06.2	
	62nm,0.4s						
HOR	**Horta**	**3.33**	**292**	*e*P	Pn	08 15 29.6	-3.7
CALA	**Caldeira**	**3.40**	**292**	*e*P	Pn	08 15 31.0	-3.3
CALA				*e*S	Sn	08 16 07.6	-7.5
CALA				A	A	08 16 10.3	
	116nm,0.3s						
PCED	**Cedros**	**3.42**	**293**	*e*P	Pn	08 15 30.9	-3.6
PCED				*e*S	Sn	08 16 08.3	-7.1
PCED				A	A	08 16 14.5	
	45nm,0.4s						

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*IDC **15** 08:16:03.5±0.8, 52°.88N×168°.17W, h0km, mb3.9/14, mbtmp3.9/15, ML4.0/1, MS3.2/4, Error ellipse: s-maj=25.9km s-min=16.5km az=177.0*
*NEIC **15** 08:16:04.0±2.3, 52°.41N±0°.04×167°.98W±0°.06, h10km±1km, mb3.7/55, ML3.8/10, ML3.6(AEIC), Error ellipse: s-maj=7.2km s-min=4.6km az=135.0*
*AEIC **15** 08:16:08.7±2.5, 52°.59N±0°.06×168°.06W±0°.06, h26km±7km, Error ellipse: s-maj=9.5km s-min=5.0km az=162.0*
ISC 15 08:16:08.2±0.8, 52°.53N±0°.08×168°.03W±0°.05, h37km±1km, n164, σ1§47/159, mb3.9/17, MS3.2/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.67**	**312**	P	**Pn**	**08 16 21.0**	**-0.2**
NIKH	**Nikolski High**	**0.67**	**312**	Pn	**Pn**	**08 16 20.6**	**-0.6**
NIKH	**Nikolski High**	**0.67**	**312**		**Sn**	**08 16 28.9**	**-1.6**
OKSP	**Okmok Steeple**	**0.74**	**348**		**Pn**	**08 16 21.9**	**-0.2**
OKFG	**Magazine Ridge**	**0.89**	**5**		**Pn**	**08 16 24.2**	**+0.1**
OKFG					**Sn**	**08 16 35.1**	**-0.7**
OKCE	**Okmok Cone E**	**0.91**	**355**		**Pn**	**08 16 24.5**	**+0.1**
OKCE					**Sn**	**08 16 35.2**	**-1.1**
OKNC	**Okmok New Cone**	**0.93**	**357**		**Pn**	**08 16 25.2**	**+0.5**
OKNC					**Sn**	**08 16 37.9**	**+1.0**
OKWE	**Okmok W'ng Wal**	**0.96**	**352**		**Pn**	**08 16 25.1**	**0.0**
CLCO	**Concord Point,**	**1.06**	**285**		**Pn**	**08 16 27.0**	**+0.6**
CLCO					**Sn**	**08 16 40.3**	**+0.3**
CLES	**Cleveland East**	**1.17**	**285**	Pn	**Pn**	**08 16 28.4**	**+0.4**
CLES				Sn	**Sn**	**08 16 42.3**	**-0.4**
CLES				IAML		08 16 45.0	
	comp=N,3μm,0.3s						
MAPS	**Pakushin South**	**1.44**	**27**		**Pn**	**08 16 31.8**	**+0.1**
MAPS					**Sn**	**08 16 49.0**	**-0.3**
MGOD	**Makushin Gods**	**1.45**	**28**		**Pn**	**08 16 31.9**	**+0.1**
MSW	**Makushin Switc**	**1.58**	**28**		**Pn**	**08 16 34.0**	**+0.4**
UNV	**Unalaska Valle**	**1.61**	**34**	P	**Pn**	**08 16 34.7**	**+0.8**
UNV	**Unalaska Valle**	**1.61**	**34**		**Sn**	**08 16 53.2**	**-0.2**
UNV	**Unalaska Valle**	**1.61**	**34**	Pn	**Pn**	**08 16 34.6**	**+0.6**
MTBL	**Makushin Table**	**1.66**	**29**		**Pn**	**08 16 35.7**	**+1.0**
AKRB	**Akutan Reef Bi**	**1.99**	**35**		**Pn**	**08 16 41.0**	**+1.8**
ZRO	**Akutan Zero**	**1.99**	**37**		**Pn**	**08 16 40.5**	**+1.2**
AKBBA	**Akutan Broad B**	**2.02**	**38**		**Pn**	**08 16 40.7**	**+1.2**
AKV	**Akutan Volcano**	**2.03**	**37**		**Pn**	**08 16 41.2**	**+1.4**
LVA	**Lava Point**	**2.03**	**35**	Pn	**Pn**	**08 16 41.3**	**+1.6**
LVA	**Lava Point**	**2.03**	**35**		**Sn**	**08 17 05.8**	**+2.0**
LVA	**Lava Point**	**2.03**	**35**	IAML		08 17 09.3	
	comp=E,1μm,1.1s						
LVA				IAML		08 17 09.5	
	comp=N,2μm,0.7s						
AHB	**Akutan Harbor**	**2.07**	**39**		**Pn**	**08 16 41.6**	**+1.3**
AKGG	**Akutan

M11K Mekoryuk 7.94 7 Pn Pn 08 18 02.9 +2.1
O15K Ungalikthiuk R 8.10 31 Pn 08 18 05.3 +2.3
N14K Kuskokwak Cree 8.21 23 Pn 08 18 06.8 +2.3
M13K Dall Lake 8.32 16 Pn 08 18 09.3 +3.3
PLK4 Peulik 4 8.42 48 Pn 08 18 10.5 +3.0
N15K Kwethluk River 8.83 27 Pn Pn **08 18 13.5 +0.5**
M14K Bethel 8.89 20 Pn Pn **08 18 14.1 +0.2**
O16K Kokwok River B 8.99 34 Pn Pn **08 18 15.4 +0.1**
L14K Kuka Creek 9.30 16 Pn Pn **08 18 20.7 +1.2**
O17K Koliganek Bris 9.47 36 Pn 08 18 24.2 +2.4
OHAK Old Harbor 9.71 55 P Pn **08 18 24.7 -0.3**
OHAK Old Harbor 9.71 55 Pn 08 18 23.1 -1.9
M16K Timber Creek 9.85 27 Pn Pn **08 18 28.1 +1.1**
N17K Nushagak Hills 10.00 32 Pn Pn **08 18 29.2 +0.2**
O18K Koktuh Hills 10.23 39 Pn Pn **08 18 33.2 +1.0**
KDAK Kodiak Island 10.28 53 Pn Pn **08 18 31.5 -1.3**
KDAK Kodiak Island 10.28 53 Pn Pn **08 18 32.1 -0.7**
comp=N,1.4nm,0.3s,baz=264,slow=6.6,SNR=22
KDAK Sn **Sn 08 20 20.1 -6.5**
comp=N,0.2nm,0.3s,baz=180,slow=14,SNR=1.3
comp=N,4.6nm,0.4s
Q19K Cape Douglas, 10.33 46 Pn Pn **08 18 32.1 -1.5**
K15K Wolf Creek Mou 10.39 17 Pn Pn **08 18 36.9 +2.4**
J14K Nanvaranak Lak 10.53 11 Pn Pn **08 18 35.8 -0.4**
M17K Holitna River 10.59 29 Pn Pn **08 18 37.5 +0.3**
SYI Shuyak Island 10.73 49 Pn Pn **08 18 38.2 -0.9**
N19K Bonanza Creek 11.14 36 Pn Pn **08 18 43.8 -0.9**
K17K Iditarod 11.45 23 Pn Pn **08 18 51.1 +2.2**
J16K Anvik River 11.48 17 Pn Pn **08 18 47.1 -2.1**
CNPM China Poot 11.70 47 Pn Pn **08 18 51.3 -0.9**
J17K VABM Dome 11.87 20 Pn Pn **08 18 56.4 +1.7**
L19K White Mountain 11.98 31 Pn Pn **08 18 57.7 +1.5**
SKT Skwentna 12.98 37 Pn Pn **08 19 10.7 +1.0**
K20K Telida 13.11 29 Pn Pn **08 19 09.8 -1.7**
H17K Granite Mounta 13.12 15 Pn Pn **08 19 11.8 +0.1**
RC01 Rabbit Creek A 13.15 42 Pn Pn **08 19 11.2 -0.9**
J20K Nowinta River 13.72 26 Pn 08 19 20.0 +0.1
KNK Knik Glacier 13.84 42 Pn Pn **08 19 18.5 -3.0**
SML Sawmill 14.10 41 Pn Pn **08 19 24.2 -0.9**
G18K Tagagawik 14.22 16 Pn Pn **08 19 26.7 +0.1**
HIN Hinchinbrook I 14.22 48 Pn Pn **08 19 24.2 -2.4**
SCM Sheep Creek Mo 14.52 42 Pn 08 19 29.5 -1.3
BPAW Bear Paw Mtn. 14.59 31 Pn Pn **08 19 33.3 +1.7**
G19K Purcell Mounta 14.72 18 Pn Pn **08 19 33.3 0.0**
RND Reindeer 14.84 35 Pn Pn **08 19 34.4 -0.6**
KLU Klutina 14.95 44 Pn 08 19 33.7 -2.8
M24K Tolsona, Glenn 15.13 42 Pn Pn **08 19 37.8 -1.2**
N25K Chitina, Valde 15.57 45 Pn Pn **08 19 43.0 -1.6**
N25K IAmb IAmb 08 19 49.8
comp=Z,5.8nm,0.8s
WRH Wood River Hil 15.77 33 Pn Pn **08 19 47.7 +0.6**
I23K Minto, Yukon-K 15.82 30 Pn 08 19 47.6 -0.2
I23K IAmb IAmb 08 19 50.8
comp=Z,4.2nm,0.9s
GLB Gilahina Butte 15.84 46 Pn Pn **08 19 47.5 -0.7**
GLB IAmb IAmb 08 19 52.3
comp=Z,5.5nm,0.6s
CCB Clear Creek Bu 15.98 33 Pn Pn **08 19 49.2 -0.6**
MDM Murphy Dome 16.05 31 Pn Pn **08 19 50.2 -0.5**
H23K Yukon River 16.25 28 Pn Pn **08 19 54.1 +0.8**
IL31 16.37 33 Pn Pn **08 19 53.2 -1.5**
ILAR Eielson Array 16.37 33 Pn Pn **08 19 53.8 -0.9**
comp=Z,0.2nm,0.3s,baz=228,slow=11,SNR=13
ILAR LR LR 08 26 26.4
comp=Z,39nm,18.6s,baz=343,slow=39
GRNC Granite Creek 16.53 50 Pn 08 19 56.8 -0.2
M26K Nabesna, AK 16.59 44 Pn 08 19 56.7 -0.9
M26K IAmb IAmb 08 20 00.9
comp=Z,6.8nm,0.6s
L26K Log Cabin Wild 16.72 41 P Pn **08 19 59.7 +0.4**
L26K IAmb IAmb 08 20 01.4
comp=Z,3.3nm,0.7s
H24K Noodor Dome 16.75 29 IAmb IAmb 08 20 15.6
comp=Z,3.2nm,0.8s
G23K Bananza Creek 16.78 25 IAmb IAmb 08 20 05.7
comp=Z,2.4nm,0.7s
J25K Salcha River, 16.79 35 Pn Pn **08 19 59.3 -0.9**
SCRK Sand Creek 16.94 38 Pn 08 20 01.2 -0.9
M27K Edge Creek, AK 17.05 45 P Pn **08 20 03.3 -0.2**
M27K IAmb IAmb 08 20 06.3
comp=Z,5.0nm,0.8s
PRP Porcupine Dome 17.28 32 P Pn **08 20 05.2 -1.1**
L27K Beaver Creek, 17.36 42 P Pn **08 20 06.7 -0.5**
J26L Joseph Creek 17.38 37 Pn 08 20 07.2 -0.3
J26L IAmb IAmb 08 20 08.9
comp=Z,4.6nm,0.7s
BCAR Beaver Creek A 17.38 42 P Pn **08 20 06.8 -0.7**
FYU Fort Yukon 18.04 30 P P **08 20 16.1 +0.4**
FYU IAmb IAmb 08 20 21.1
comp=Z,2.7nm,0.6s
B21K Ikpikpuk River 18.26 15 P P **08 20 18.1 +0.1**
B21K IAmb IAmb 08 20 36.8
comp=Z,4.5nm,1.0s
TOLK Toolik Lake Re 18.39 22 P Pn **08 20 21.0 +1.2**
M29M Somme Creek 18.56 46 IAmb IAmb 08 20 24.1
comp=Z,4.8nm,0.7s
DAWY Dawson 18.77 41 P P **08 20 24.1 +0.2**
L29M L29M 18.93 44 IAmb IAmb 08 20 29.6
comp=Z,3.9nm,0.7s
E25K Arctic Village 18.99 26 P Pn **08 20 26.9 -0.1**
E25K IAmb IAmb 08 20 29.4
comp=Z,4.0nm,0.7s
C23K Itkillik River 19.15 18 P P **08 20 27.9 +0.1**
C23K IAmb IAmb 08 20 40.5
comp=Z,4.8nm,0.9s
I28M Miner Creek 19.19 37 P P **08 20 28.6 +0.2**
I28M IAmb IAmb 08 20 33.3
comp=Z,3.2nm,0.6s
O30N Mendenhall 19.23 52 IAmb IAmb 08 20 45.5
comp=Z,5.1nm,0.8s
G27K Doyon Strip 19.32 32 P P **08 20 29.3 -0.4**
G27K IAmb IAmb 08 20 29.9
comp=Z,2.4nm,0.5s
M30M Minto, Yukon 19.34 46 P Pn **08 20 31.1 -0.2**
K29M Barlow Dome 19.45 43 P P **08 20 31.7 +0.5**
K29M IAmb IAmb 08 20 32.0
comp=Z,3.5nm,1.1s
I29M Ogilvie Camp, 19.75 38 P P **08 20 33.7 -0.8**
I29M IAmb IAmb 08 20 41.6
comp=Z,3.9nm,1.1s
H29M Whitestone 20.13 36 P P **08 20 37.5 -1.0**
E27K Coleen River 20.16 29 P P **08 20 39.7 +0.8**
E27K IAmb IAmb 08 21 08.5
comp=Z,3.3nm,1.1s
J30M Hart River 20.20 41 P P **08 20 39.3 -0.2**
J30M IAmb IAmb 08 20 48.5
comp=Z,1.8nm,0.8s
M31M Drury Creek, Y 20.33 48 P Pn 08 20 42.4 -0.5
M31M IAmb IAmb 08 20 46.6
comp=Z,4.8nm,0.8s
F28M Old Crow 20.35 31 P P **08 20 40.1 -0.8**
F28M IAmb IAmb 08 20 50.4
comp=Z,1.9nm,0.8s
I30M Mount Dempster 20.43 39 P P **08 20 40.8 -1.2**
I30M IAmb IAmb 08 20 42.1
comp=Z,3.1nm,0.8s
G29M Pine Creek 20.59 34 P P **08 20 42.6 -0.9**
P33M Teslin, Yukon 20.75 54 P P **08 20 44.1 -1.3**
P33M IAmb IAmb 08 20 56.1
comp=Z,4.6nm,1.1s
EPYK Eagle Plains 20.79 36 P P **08 20 44.4 -1.3**
G30M tAoh Zraii Nji 21.24 35 P P **08 20 49.0 -1.6**
E29M Blow River 21.40 31 P P **08 20 51.4 -0.8**
E29M IAmb IAmb 08 21 03.6
comp=Z,3.4nm,1.0s
G31M Satah River 21.91 36 P P **08 20 55.5 -2.2**
G31M IAmb IAmb 08 20 56.7
comp=Z,4.3nm,1.1s
F31M Tsiigehtchic 22.31 35 P P **08 20 59.8 -2.1**
F31M IAmb IAmb 08 21 14.1
comp=Z,4.1nm,1.1s
INK Inuvik 22.77 33 P P **08 21 05.2 -1.6**
TIXI Tiksi 33.02 329 LR LR 08 35 08.9
comp=Z,46nm,18.0s,baz=142,slow=35
NVAR Mina Array Bea 36.85 92 P P **08 23 14.5 +1.7**
comp=Z,0.2nm,0.5s,baz=313,slow=11,SNR=2.7
NVAR PcP **PcP 08 25 34.8 +0.8**
comp=Z,0.4nm,0.6s,baz=298,slow=3.0,SNR=5.0
comp=Z,0.2nm,0.5s
H11N2 WAKE ISLAND Hy 38.09 220 T T 09 04 29.1
baz=24,slow=76,SNR=57
H11N3 WAKE ISLAND Hy 38.10 220 T T 09 04 30.1
baz=24,slow=76,SNR=62
H11N1 WAKE ISLAND Hy 38.11 220 T T 09 04 30.9
baz=24,slow=76,SNR=41
H11S1 WAKE ISLAND Hy 39.28 220 T T 09 05 57.9
baz=24,slow=76,SNR=145
H11S2 WAKE ISLAND Hy 39.29 220 T T 09 06 02.8
baz=24,slow=76,SNR=88
H11S3 WAKE ISLAND Hy 39.30 220 T T 09 06 03.0
baz=24,slow=76,SNR=97
PDAR Pinedale Array 39.57 80 P **P 08 23 37.6 +1.9**
comp=Z,0.5nm,0.5s,baz=312,slow=3.6,SNR=7.8
comp=Z,0.5nm,0.5s
MJAR Matsushiro Arr 40.52 269 P **P 08 23 43.9 +0.5**
comp=Z,1.0nm,0.5s,baz=42,slow=6.3,SNR=6.3
comp=Z,1.0nm,0.5s
SONM Songino Array 51.92 301 P **P 08 25 13.3 +0.4**
comp=Z,0.4nm,0.5s,baz=80,slow=7.9,SNR=2.0
comp=Z,0.4nm,0.5s
TXAR Lajitas Array 51.93 90 P **P 08 25 15.1 +1.9**
comp=Z,1.0nm,0.4s,baz=307,slow=6.1,SNR=27
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 57.86 318 LR LR 08 51 34.5
comp=Z,32nm,18.4s,baz=178,slow=37
BVAR Borovoye Array 64.05 325 P **P 08 26 36.5 -1.1**
comp=Z,0.5nm,0.5s,baz=64,slow=9.8,SNR=3.7
comp=Z,0.5nm,0.5s
FINES FINESS Array B 65.82 353 P **P 08 26 47.4 -1.6**
comp=Z,0.9nm,0.5s,baz=15,slow=7.9,SNR=5.4
comp=Z,0.9nm,0.5s
NOA NORSAR Array B 66.78 0 P **P 08 26 54.0 -1.3**
comp=Z,0.4nm,0.7s,baz=356,slow=5.6,SNR=3.8
comp=Z,0.4nm,0.7s
HFS Hagfors 67.68 359 P **P 08 26 59.5 -1.4**
comp=Z,1.3nm,0.4s,baz=27,slow=3.6,SNR=20
comp=Z,1.3nm,0.4s
AKASG Malin Array Be 76.12 349 P **P 08 27 50.4 -1.2**
comp=Z,1.9nm,0.6s,baz=16,slow=6.1,SNR=2.6
AKASG LR LR 09 08 31.0
comp=Z,9.5nm,18.4s,baz=150,slow=42
comp=Z,1.9nm,0.6s
CMAR Chiang Mai Arr 77.38 284 P **P 08 27 59.6 +0.4**
comp=Z,0.6nm,0.3s,baz=17,slow=6.6,SNR=1.5
comp=Z,0.6nm,0.3s
ESDC Sonseca Array 87.14 12 P **P 08 28 49.6 -0.4**
comp=Z,0.3nm,0.5s,baz=345,slow=4.5,SNR=2.3
comp=Z,0.3nm,0.5s
WRA Warramunga Arr 87.75 233 P **P 08 28 53.2 +0.3**
comp=Z,0.6nm,0.9s,baz=31,slow=6.0,SNR=4.7
comp=Z,0.6nm,0.9s
ASAR Alice Springs 91.13 231 P **P 08 29 09.8 +1.0**
comp=Z,0.8nm,0.9s,baz=42,slow=5.8,SNR=5.2
comp=Z,0.8nm,0.9s

*IDC **15** 08:24:52.1±1.0, 33°.37S×78°.18E, h0km, mb4.0/7, mbtmp4.0/7, MS3.5/8, Error ellipse: s-maj=33.0km s-min=27.6km az=46.0*
ISC 15 08:24:53.6±0.9, 33°.4S±0°.2×78°.2E±0°.2, h10km, n26, σ0.985/8, mb4.0/7, MS3.6/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**23.86**	**230**	T	T		08 54 42.6	
baz=66,slow=74,SNR=930								
H04N1	**CROZET ISLANDS**	**23.88**	**230**	T	T		08 54 43.3	
baz=66,slow=74,SNR=1127								
H04N3	**CROZET ISLANDS**	**23.88**	**230**	T	T		08 54 43.1	
baz=66,slow=74,SNR=1208								
H04S1	**CROZET ISLANDS**	**24.07**	**228**	T	T		08 55 07.5	
baz=65,slow=76,SNR=150								
H04S3	**CROZET ISLANDS**	**24.08**	**228**	T	T		08 55 04.2	
baz=65,slow=76,SNR=100								
H04S2	**CROZET ISLANDS**	**24.08**	**228**	T	T		08 55 09.7	
baz=65,slow=76,SNR=140								
H08S2	**Diego Garcia H**	**26.12**	**347**	T	T		08 57 20.3	
baz=170,slow=76,SNR=360								
H08S1	**Diego Carcia H**	**26.12**	**347**	T	T		08 57 24.5	
baz=170,slow=76,SNR=329								
H08S3	**Diego Garcia H**	**26.14**	**347**	T	T		08 57 21.8	
baz=170,slow=76,SNR=390								
H01W2	**Cape Leeuwin H**	**29.69**	**103**	T	T		09 02 21.7	
baz=262,slow=74,SNR=25								
H01W3	**Cape Leeuwin H**	**29.70**	**103**	T	T		09 02 22.0	
baz=262,slow=74,SNR=26								
H01W1	**Cape Leeuwin H**	**29.71**	**103**	T	T		09 02 22.9	
baz=262,slow=74,SNR=28								
NWAO	**Narrogin (SRO)**	**32.56**	**100**	LR	LR		08 40 47.8	
comp=Z,146nm,22.0s,baz=212,slow=29								
BOSA	**Boshof**	**45.24**	**261**	LR	LR		08 48 01.1	
comp=Z,42nm,19.2s,baz=154,slow=31								
ASAR	**Alice Springs**	**49.40**	**94**	P	**P**		**08 33 43.8**	**0.0**
1.3nm,0.8s,baz=242,slow=6.8,SNR=11								
ASAR				LR	LR		08 52 22.5	
comp=Z,119nm,18.4s,baz=292,slow=33								
1.3nm,0.8s								
WRA	**Warramunga Arr**	**51.37**	**90**	P	**P**		**08 33 58.9**	**+0.2**
1.9nm,0.8s,baz=246,slow=7.4,SNR=7.5								
1.9nm,0.8s								
TSUM	**Tsumeb**	**55.45**	**269**	LR	LR		08 54 50.8	
comp=Z,52nm,19.9s,baz=152,slow=32								
QSPA	**South Pole Qui**	**56.80**	**180**	P	**P**		**08 34 37.9**	**0.0**
2.6nm,1.0s,baz=79,slow=1.9,SNR=13								
2.6nm,1.0s								
DAV	**Davao City (W)**	**60.29**	**57**	LR	LR		09 03 27.3	
comp=Z,26nm,18.1s,baz=233,slow=38								
CTA	**Charters Tower**	**61.26**	**96**	LR	LR		08 58 51.4	
comp=Z,5.4nm,20.2s,baz=274,slow=33								
MKAR	**Makanchi Array**	**79.86**	**3**	P	**P**		**08 37 01.6**	**-0.4**
0.6nm,0.7s,baz=186,slow=22,SNR=2.7								
0.6nm,0.7s								
BRTR	**Keskin Array B**	**83.59**	**327**	P	**P**		**08 37 22.8**	**+0.7**
0.5nm,0.7s,baz=145,slow=5.3,SNR=1.7								
0.5nm,0.7s								
TORD	**Torodi Ar. Bea**	**86.18**	**288**	P	**P**		**08 37 35.1**	**-0.4**
0.6nm,0.8s,baz=96,slow=6.4,SNR=2.0								
TORD				LR	LR		09 14 44.1	
comp=Z,40nm,18.1s,baz=149,slow=35								
0.6nm,0.8s								
ZALV	**Zalesovo Beam**	**87.13**	**4**	P	**P**		**08 37 40.2**	**+1.0**
1.4nm,0.5s,baz=182,slow=4.3,SNR=6.5								
1.4nm,0.5s								
DBIC	**Dimbokro**	**87.86**	**279**	LR	LR		09 14 37.2	
comp=Z,22nm,18.4s,baz=116,slow=34								
YKA	**Yellowknife Ar**	**149.72**	**12**	PKPbc	**PKPab**		**08 44 46.8**	**-1.3**
0.3nm,0.6s,baz=324,slow=3.1,SNR=4.2								

*IDC **15** 08:53:44.4±5.7, 17°.50N×144°.95E, h121km±47km, mb3.2/4, mbtmp3.7/5, Error ellipse: s-maj=117.0km s-min=21.3km az=113.0*
*NEIC **15** 08:53:49.8±0.9, 17°.04N±0°.08×146°.02E±0°.06, h152km±8km, mb4.1/28, Error ellipse: s-maj=12.2km s-min=7.5km az=164.0*
ISC 15 08:53:49.0±0.7, 17.04N±0°.07×146°.0E±0°.1, h150km, n41, σ0.979/39, mb4.0/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.60**	**198**	Pn	**Pn**		**08 54 45.0**	**+0.8**
GUMO	**Guam**	**3.60**	**198**	P	**Pn**		**08 54 44.3**	**+0.1**
25nm,0.3s,baz=31,slow=3.0,SNR=6.8								
GUMO				S		**Sn**	**08 55 27.0**	**+0.1**
24nm,0.3s,baz=342,slow=20,SNR=2.3								
JCJ	**Chichijima**	**10.62**	**341**	Pn	**Pn**		**08 56 17.6**	**+0.4**
JHJ2	**Mitsune**	**16.95**	**342**	P	**P**		**08 57 36.6**	**-0.2**
JOW	**Kunigami**	**19.11**	**304**	P	**P**		**08 58 01.4**	**+1.0**
H11N1	**WAKE ISLAND Hy**	**19.99**	**79**	T	T		09 19 06.1	
baz=264,slow=74,SNR=8.1								
H11N2	**WAKE ISLAND Hy**	**20.00**	**79**	T	T		09 19 06.8	
baz=264,slow=74,SNR=6.5								
H11N3	**WAKE ISLAND Hy**	**20.01**	**79**	T	T		09 19 07.3	
baz=264,slow=74,SNR=6.0								
COEN	**Coen**	**30.93**	**185**	P	**P**		**08 59 52.4**	**+0.5**
COEN				IAmb	IAmb		09 00 06.5	
comp=Z,7.0nm,1.1s								
WB0	**Warramunga Arr**	**38.32**	**198**	P	**P**		**09 00 55.4**	**0.0**
WR0	**Warramunga Arr**	**38.46**	**198**	P	**P**		**09 00 56.1**	**-0.4**
WR0				IAmb	IAmb		09 01 21.1	
comp=Z,2.9nm,1.1s								
WRAB	**Tennant Creek**	**38.49**	**198**	P	**P**		**09 00 56.6**	**-0.2**
WRAB				IAmb	IAmb		09 01 03.1	
comp=Z,3.0nm,1.1s								
WB2	**Warramunga Arr**	**38.49**	**198**	P	**P**		**09 00 56.8**	**0.0**
WB2				IAmb	IAmb		09 00 57.3	
comp=Z,2.3nm,0.9s								
WRA	**Warramunga Arr**	**38.50**	**198**	P	**P**		**09 00 56.3**	**-0.6**
WRA	**Warramunga Arr**	**38.50**	**198**	P	**P**		**09 00 56.2**	**-0.6**
comp=Z,0.6nm,0.4s,baz=13,slow=8.7,SNR=16								
comp=Z,0.6nm,0.4s								
HIA	**Hailar**	**38.56**	**332**	P	**P**		**09 00 57.0**	**-0.1**

AS31 Alice Springs 42.15 197 P **P 09 01 25.6 -1.3**
ASAR Alice Springs 42.15 197 P **P 09 01 26.6 -0.3**
comp=Z,0.3nm,0.5s,baz=9.5,slow=7.3,SNR=7.3
comp=Z,0.3nm,0.5s
CHTO Chiang Mai 44.72 280 P **P 09 01 47.4 -0.2**
CHTO IAmb IAmb 09 02 00.1
comp=Z,5.1nm,1.1s
BBOO Buckleboo 50.47 191 P **P 09 02 31.6 0.0**
LSA Lhasa 51.50 295 P **P 09 02 39.4 -0.7**
N15K Kwethluk River 57.72 29 P **P 09 03 24.5 +0.6**
N15K IAmb IAmb 09 03 35.6
comp=Z,6.1nm,1.1s
M16K Timber Creek 58.57 28 P **P 09 03 30.8 +1.1**
M16K IAmb IAmb 09 03 52.2
comp=Z,2.9nm,1.1s
J16K Anvik River 58.82 25 P **P 09 03 32.0 +0.6**
J16K IAmb IAmb 09 03 37.4
comp=Z,4.7nm,1.1s
N17K Nushagak Hills 59.19 29 P **P 09 03 32.4 -1.7**
N17K IAmb IAmb 09 03 38.1
comp=Z,1.7nm,1.1s
C16K Lisburne Hills 59.63 19 P **P 09 03 36.9 0.0**
RDOG Red Dog Mine 60.28 20 P **P 09 03 39.4 -1.9**
E18K Tukpahlearik C 60.73 21 P **P 09 03 45.0 +0.7**
E18K IAmb IAmb 09 03 57.2
comp=Z,2.2nm,0.9s
G19K Purcell Mounta 61.41 23 P **P 09 03 49.6 +0.6**
G19K IAmb IAmb 09 03 50.5
comp=Z,1.4nm,0.6s
C19K Lookout Ridge 61.86 19 P **P 09 03 52.7 +0.6**
C19K IAmb IAmb 09 03 53.3
comp=Z,2.9nm,0.8s
E19K Redstone River 61.91 21 P **P 09 03 53.4 +1.0**
E19K IAmb IAmb 09 03 54.0
comp=Z,1.5nm,0.8s
D19K Kuna River 62.06 20 P **P 09 03 53.8 +0.5**
F20K Avaraart Lake 62.27 22 P **P 09 03 55.5 +0.8**
IMAR Indian Mountai 62.61 24 P **P 09 03 58.0 +1.0**
H21K Melozitna Rive 62.86 24 P **P 09 03 59.1 +0.4**
I21K Tanana 63.03 25 P **P 09 04 00.7 +0.9**
ILAR Eielson Array 65.00 26 P **P 09 04 11.3 -1.3**
comp=Z,0.4nm,0.5s,baz=250,slow=5.6,SNR=8.6
comp=Z,0.4nm,0.5s
D25K Kavik River 66.32 21 P **P 09 04 21.5 +0.3**
D25K IAmb IAmb 09 04 22.2
comp=Z,2.4nm,0.7s
NVAR Mina Array Bea 83.92 52 P **P 09 06 03.6 +0.9**
comp=Z,0.2nm,0.5s,baz=266,slow=6.0,SNR=4.1
comp=Z,0.2nm,0.5s
OVMT Ovando 84.96 42 P **P 09 06 06.7 -1.0**
CASY Casey 87.20 194 P **P 09 06 17.5 -0.3**

IDC 15 08:58:17.4±1.7, 32°.56N×98°.64E, h0km, mb3.4/4, mbtmp3.5/5, MS3.2/4, Error ellipse: s-maj=58.2km s-min=25.2km az=40.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.93**	**323**	P	P		09 02 38.5	-1.2
1.0nm,0.7s,baz=136,slow=12,SNR=4.1								
KURBB	**Kurchatov Arra**	**23.36**	**326**	P	P		09 03 28.4	+1.1
0.3nm,0.5s,baz=130,slow=12,SNR=4.0								
0.3nm,0.5s								
KSRS	**Korea Array**	**24.43**	**70**	P	P		09 03 37.5	-0.2
0.7nm,0.5s,baz=258,slow=8.8,SNR=5.1								
0.7nm,0.5s								
KLR	**Kul'dur**	**29.75**	**46**	LR	LR		09 16 19.6	
comp=Z,45nm,18.8s,baz=242,slow=36								
YAK	**Yakutsk**	**35.56**	**25**	LR	LR		09 21 34.6	
comp=Z,25nm,18.7s,baz=136,slow=39								
GUMO	**Guam**	**46.13**	**103**	LR	LR		09 28 40.6	
comp=Z,13nm,18.0s,baz=192,slow=40								
FINES	**FINESS Array B**	**53.74**	**325**	P	P		09 07 40.7	-0.3
0.7nm,0.6s,baz=91,slow=6.3,SNR=4.4								
0.7nm,0.6s								
WRA	**Warramunga Arr**	**62.39**	**142**	P	P		09 08 42.0	-0.1
0.5nm,1.0s,baz=342,slow=6.7,SNR=1.7								
0.5nm,1.0s								
KDAK	**Kodiak Island**	**72.14**	**32**	LR	LR		09 42 13.3	
comp=Z,36nm,18.7s,baz=205,slow=36								

*IDC **15** 09:05:33.4±1.7, 4°.85S×154°.91E, h500km±19km, mb3.3/12, mbtmp4.1/14, Error ellipse: s-maj=14.8km s-min=10.8km az=108.0*
*NEIC **15** 09:05:34.3±1.0, 4°.8S±0°.1×155°.0E±0°.1, h513km±11km, mb4.2/18, Error ellipse: s-maj=24.0km s-min=11.6km az=52.0*
ISC 15 09:05:32.9±0.6, 4°.79S±0°.09×155°.0E±0°.1, h500km, n39, σ0.970/43, mb3.9/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.99**	**239**	P	**P**		**09 07 40.1**	**+0.4**
PMG	**Port Moresby**	**8.99**	**239**	P	**P**		**09 07 39.1**	**-0.6**
19nm,0.8s,baz=40,slow=4.3,SNR=4.5								
COEN	**Coen**	**14.76**	**231**	P	**P**		**09 08 41.4**	**+0.7**
CTA	**Charters Tower**	**17.41**	**208**	P	**P**		**09 09 07.9**	**0.0**
0.6nm,0.5s,baz=34,slow=11,SNR=17								
CTAO	**Charters Tower**	**17.41**	**208**	P	**P**		**09 09 07.4**	**-0.4**
DZM	**Mont Dzumac**	**20.47**	**148**	P	**P**		**09 09 35.4**	**-0.6**
DZM				IAmb	IAmb		09 09 36.0	
comp=Z,11nm,0.9s								
DZM	**Mont Dzumac**	**20.47**	**148**	P	**P**		**09 09 35.3**	**-0.6**
comp=Z,6.4nm,0.7s,baz=318,slow=22,SNR=7.7								
comp=Z,6.4nm,0.7s								
EIDS	**Eidsvold**	**20.80**	**190**	P	**P**		**09 09 38.8**	**0.0**
EIDS				IAmb	IAmb		09 09 41.0	
comp=Z,4.4nm,0.7s								
WR0	**Warramunga Arr**	**24.95**	**231**	P	**P**		**09 10 16.2**	**+0.1**
WR0				IAmb	IAmb		09 10 42.7	
comp=Z,6.3nm,1.3s								
WB0	**Warramunga Arr**	**24.95**	**232**	P	**P**		**09 10 16.3**	**+0.1**
WB0				IAmb	IAmb		09 10 18.8	
comp=Z,8.4nm,1.4s								
WRAB	**Tennant Creek**	**25.08**	**231**	P	**P**		**09 10 17.1**	**-0.2**
WRAB				IAmb	IAmb		09 10 27.4	
comp=Z,6.6nm,1.4s								
WB2	**Warramunga Arr**	**25.09**	**231**	P	**P**		**09 10 17.6**	**+0.3**
WB2				IAmb	IAmb		09 10 18.9	
comp=Z,8.5nm,1.2s								
WRA	**Warramunga Arr**	**25.09**	**231**	P	**P**		**09 10 17.6**	**+0.2**
comp=Z,1.5nm,0.4s,baz=54,slow=9.3,SNR=47								
WRA				PcP	**PcP**		**09 13 36.0**	**+0.8**
comp=Z,1.2nm,0.5s,baz=56,slow=2.4,SNR=11								
WRA				S	**S**		**09 14 05.5**	**-0.8**
comp=Z,3.1nm,0.9s,baz=56,slow=15,SNR=11								
comp=Z,1.5nm,0.4s								
AS31	**Alice Springs**	**27.64**	**225**	P	**P**		**09 10 39.5**	**-0.4**
ASAR	**Alice Springs**	**27.64**	**225**	P	**P**		**09 10 39.6**	**-0.3**
comp=Z,1.9nm,0.5s,baz=55,slow=8.8,SNR=54								
ASAR				PcP	**PcP**		**09 13 41.9**	**+0.5**
comp=Z,1.1nm,0.5s,baz=58,slow=2.8,SNR=13								
ASAR				S	**S**		**09 14 45.4**	**-0.9**
comp=Z,1.0nm,0.5s,baz=58,slow=14,SNR=11								
comp=Z,1.9nm,0.5s								
KNRA	**Kununurra**	**27.91**	**245**	P	**P**		**09 10 41.4**	**-0.9**
KNRA				IAmb	IAmb		09 10 53.4	
comp=Z,11nm,1.4s								
FITZ	**Fitzroy Crossi**	**31.56**	**243**	P	**P**		**09 11 12.7**	**-1.2**
BBOO	**Buckleboo**	**32.99**	**210**	P	**P**		**09 11 26.8**	**+0.9**
FORT	**Forrest**	**36.18**	**221**	P	**P**		**09 11 51.8**	**-0.9**
JMN	**Monobe**	**43.19**	**334**	P	**P**		**09 12 49.7**	**+0.6**
JMN				IAmb	IAmb		09 12 50.4	
comp=Z,7.5nm,0.7s								
MJAR	**Matsushiro Arr**	**44.00**	**340**	P	**P**		**09 12 54.3**	**-1.1**
comp=Z,0.9nm,0.6s,baz=167,slow=7.6,SNR=5.4								
comp=Z,0.9nm,0.6s								
MAJO	**Matsushiro**	**44.00**	**340**	P	**P**		**09 12 54.8**	**-0.6**
MAJO				IAmb	IAmb		09 12 55.1	
comp=Z,3.7nm,0.8s								
MJB9	**Matsu-Tunnel**	**44.00**	**340**	P	**P**		**09 12 55.7**	**+0.3**
KSRS	**Korea Array**	**48.99**

MK31	Makanchi Array	81.73 318	P	P	09 16 58.9	0.0
MKAR	Makanchi Array	81.73 318	P	P	09 16 59.0	+0.1
MKAR	Makanchi Array	81.73 318	P	P	09 16 59.4	+0.6
	comp=Z,1.0nm,0.6s,baz=103,slow=5.4,SNR=10					
	comp=Z,1.0nm,0.6s					
ZALV	Zalesovo Beam	82.34 326	P	P	09 17 01.2	-0.5
	comp=Z,1.0nm,0.4s,baz=160,slow=4.7,SNR=4.4					
	comp=Z,1.0nm,0.4s					
QSPA	South Pole Qui	85.17 180	P	P	09 17 15.9	+0.2
QSPA			IAmb	IAmb	09 17 16.9	
	comp=Z,8.7nm,1.1s					
QSPA	South Pole Qui	85.17 180	P	P	09 17 15.9	+0.2
	comp=Z,3.1nm,0.6s,baz=208,slow=0.8,SNR=32					
	comp=Z,3.1nm,0.6s					
MAW	Mawson	86.40 203	P	P	09 17 21.6	+0.2
	comp=Z,2.0nm,0.5s,baz=111,slow=8.4,SNR=10					
	comp=Z,2.0nm,0.5s					
NVAR	Mina Array Bea	90.39 52	P	P	09 17 41.7	+0.7
	comp=Z,0.1nm,0.3s,baz=267,slow=6.3,SNR=2.7					
	comp=Z,0.1nm,0.3s					
LPAZ	La Paz	132.52 117	PKP	PKPdf	09 23 52.0	+0.1
	comp=Z,1.0nm,0.5s,baz=272,slow=5.5,SNR=6.8					
BDFB	Brasilia	149.52 132	PKPbc	PKPbc	09 24 26.5	-0.1
	comp=Z,3.2nm,0.4s,baz=202,slow=3.2,SNR=8.4					
TORD	Torodi Ar. Bea	152.34 289	PKPbc	PKPbc	09 24 32.7	-0.2
	comp=Z,1.0nm,0.5s,baz=78,slow=3.0,SNR=9.5					

NOU ***15*** *09:10:27.2, 43°.58S×172°.98E, h12km, MLv4.4/14, South Island, New Zealand*
NEIC ***15*** *09:10:28.4±1.9, 43°.51S±0°.03×172°.83E±0°.05, h22km±10km, ML3.7/61, Error ellipse: s-maj=5.7km s-min=3.9km az=98.0*
WEL ***15*** *09:10:28.4±0.4, 43°S±3°×17°3E±°, h9km±3km, M4.0/14, ML4.2/14, MLv4.0/14, Error ellipse: s-maj=0.0km s-min=0.0km az=43.7, confirmed*
WEL ***15*** *09:10:28.5, 43°.48S×172°.80E, h5km, ML4.0, Mw3.7, Moment Tensor Solution. s5 Moment tensor: Mrr=0.33; Mθθ=42.19; Mφφ=-41.86; Mrθ=18.12; Mθφ=0.11; Mφr=-4.72; Fault plane solution: NP1:φs=137.00000°, δ71.00000°, λ10.00000°. NP2:φs=44.00000°, δ81.00000°, λ160.00000°.*
SOUTH ISLAND

ISC 15 09:10:28.3±0.8, 43°.50S±0°.02×172°.81E±0°.03, h11km±5km, n159, σ1§13/175, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBLC	New Brighton L	0.06	262	P	Pg	09 10 29.8	-0.6
NBLC				S	Sg	09 10 31.7	-0.3
SUMS	Sumner	0.08	207	P	Pg	09 10 31.4	+0.7
RCBS	Redcliffs Bore	0.08	222	P	Pg	09 10 31.5	+0.8
GODS	Godley Drive	0.08	199	P	Pg	09 10 30.2	-0.6
MTPS	Mount Pleasant	0.10	214	P	Pg	09 10 30.5	-0.6
HVSC	Heathcote Vall	0.11	221	P	Pg	09 10 30.3	-0.7
OPWS	Opawa School	0.12	241	P	Pg	09 10 30.6	-0.7
MPSS	Mairehau Prima	0.12	270	P	Pg	09 10 30.2	-1.0
STAS	St Albans Chri	0.12	263	P	Pg	09 10 30.4	-0.9
MNZS	Menzies Bay Ba	0.18	139	P	Pb	09 10 34.0	+0.2
MNZS				S	Sg	09 10 37.6	+2.6
MQZ	McQueen's Vall	0.23	208		Pb	09 10 33.9	-0.7
MQZ				Sg	Sg	09 10 37.5	+1.0
MQZ				IAML		09 10 40.1	
	comp=N,9μm,0.3s						
MQZ	McQueen's Vall	0.23	208	P	Pb	09 10 34.0	-0.7
MQZ				S	Sg	09 10 37.8	+1.3
OKCZ	Okains Bay	0.29	141	P	Pb	09 10 36.0	+0.3
OKCZ				S	Sb	09 10 41.2	+0.7
AMCZ	Amberley	0.34	341	Pg	Pg	09 10 35.6	+0.4
AMCZ				Sg	Sg	09 10 40.6	+0.9
AMCZ	Amberley	0.34	341	P	Pg	09 10 35.7	+0.6
AKCZ	Akaroa Harbour	0.38	169	P	Pb	09 10 37.3	+0.2
AKCZ				S	Sb	09 10 43.2	+0.1
GVZ	Greta Valley S	0.56	18		Pb	09 10 40.1	-0.1
GVZ				Sg	Sb	09 10 48.3	+0.1
GVZ				IAML		09 10 49.5	
	comp=N,6μm,0.2s						
GVZ	Greta Valley S	0.56	18	P	Pb	09 10 40.3	+0.1
GVZ				S	Sb	09 10 48.2	+0.1
OXZ	Oxford	0.59	287	Pg	Pg	09 10 39.5	-0.2
OXZ				Sg	Sg	09 10 47.2	-0.2
OXZ	Oxford	0.59	287	P	Pg	09 10 39.7	0.0
OXZ				S	Sg	09 10 47.4	0.0
LTZ	Lake Taylor	0.82	331		Pg	09 10 44.1	0.0
LTZ				Sg	Sg	09 10 55.0	+0.3
LTZ	Lake Taylor	0.82	331	P	Pg	09 10 44.4	+0.3
LTZ				S	Sg	09 10 55.1	+0.3
WACZ	Wakanui South	0.83	237	P	Pb	09 10 45.2	+0.4
WACZ				S	Sb	09 10 57.0	+1.0
MHCZ	Mount Hutt	0.90	268	P	Pg	09 10 45.6	-0.1
KHZ	Kahutara	1.21	27	P	Pn	09 10 50.3	-0.9
KHZ	Kahutara	1.21	27		Pn	09 10 50.2	-1.0
KHZ	Kahutara	1.21	27	P	Pn	09 10 50.0	-1.2
KHZ				S	Sb	09 11 06.7	-0.2
ARCZ	Arundel	1.26	249	P	Pn	09 10 50.9	-1.1
INZ	Inchbonnie	1.26	307	Pn	Pn	09 10 51.6	-0.3
INZ				IAML		09 11 13.9	
	comp=E,864nm,0.7s						
INZ				IAML		09 11 15.5	
	comp=N,1μm,0.7s						
INZ	Inchbonnie	1.26	307	P	Pn	09 10 50.9	-1.1
INZ				S	Sn	09 11 09.2	+0.3
RPZ	Rata Peaks	1.29	260	P	Pn	09 10 51.6	-0.8
RPZ	Rata Peaks	1.29	260	Pn	Pn	09 10 51.2	-1.1
RPZ				IAML		09 11 10.3	
	comp=N,991nm,0.6s						
RPZ				IAML		09 11 15.7	
	comp=N,1μm,0.4s						
RPZ	Rata Peaks	1.29	260	P	Pn	09 10 51.3	-1.1
WVZ	Waitaha Valley	1.57	285	P	Pn	09 10 55.5	-0.7
TMZ	Timaru	1.57	235	P	Pn	09 10 55.5	-0.7
THZ	Tophouse	1.74	2	Pn	Pn	09 10 57.6	-1.0
THZ				IAML		09 11 22.7	
	comp=N,487nm,0.6s						
THZ				IAML		09 11 31.1	
	comp=E,548nm,0.8s						
THZ	Tophouse	1.74	2	P	Pn	09 10 57.8	-0.8
GCSZ	Gaunt Creek Bo	1.82	275	P	Pn	09 10 59.6	0.0
DSZ	Denniston Nort	1.90	337	Pn	Pn	09 11 00.2	-0.6
DSZ				IAML		09 11 32.0	
	comp=E,726nm,0.6s						
DSZ				IAML		09 11 33.2	
	comp=N,758nm,0.4s						
DSZ	Denniston Nort	1.90	337	P	Pn	09 11 00.1	-0.6
BSWZ	Blackbirch Sta	1.95	24	Pn	Pn	09 11 00.6	-0.8
BSWZ				IAML		09 11 28.7	
	comp=N,362nm,0.6s						
BSWZ	Blackbirch Sta	1.95	24	P	Pn	09 11 00.9	-0.5
CMWZ	Cape Campbell	2.04	31	Pn	Pn	09 11 02.4	-0.2
CMWZ				IAML		09 11 54.7	
	comp=E,460nm,1.4s						
CMWZ				IAML		09 12 00.1	
	comp=N,544nm,1.1s						
CMWZ	Cape Campbell	2.04	31	P	Pn	09 11 02.9	+0.3
LBZ	Lake Benmore	2.09	244	Pn	Pn	09 11 03.3	-0.1
LBZ				IAML		09 11 41.2	
	comp=N,463nm,0.4s						
LBZ				IAML		09 11 41.9	
	comp=E,564nm,0.6s						
LBZ	Lake Benmore	2.09	244	P	Pn	09 11 02.9	-0.4
MRNZ	Matariki Terra	2.10	359	Pn	Pn	09 11 03.1	-0.4
MRNZ	Matariki Terra	2.10	359	P	Pn	09 11 03.4	-0.1
FOZ	Fox Glacier	2.18	268	Pn	Pn	09 11 04.9	+0.4
FOZ				IAML		09 11 49.9	
	comp=N,326nm,1.3s						
FOZ				IAML		09 11 50.2	
	comp=E,342nm,1.1s						
FOZ	Fox Glacier	2.18	268	P	Pn	09 11 05.0	+0.4
ODZ	Otahua Downs	2.19	224	P	Pn	09 11 04.0	-0.7
ODZ	Otahua Downs	2.19	224	Pn	Pn	09 11 04.1	-0.7
ODZ				IAML		09 11 43.0	
	comp=N,862nm,0.6s						
ODZ	Otahua Downs	2.19	224	P	Pn	09 11 04.1	-0.7
TUWZ	Tuamarina	2.23	23	Pn	Pn	09 11 04.8	-0.5
TUWZ	Tuamarina	2.23	23	P	Pn	09 11 05.0	-0.3
NNZ	Nelson	2.32	11	Pn	Pn	09 11 06.2	-0.3
NNZ	Nelson	2.32	11	P	Pn	09 11 06.2	-0.3
TKNZ	Takaka Hill	2.47	3	Pn	Pn	09 11 08.4	-0.1
TKNZ	Takaka Hill	2.47	3	P	Pn	09 11 08.8	+0.2
TCW	Tory Channel	2.53	26	Pn	Pn	09 11 07.8	-1.6
TCW	Tory Channel	2.53	26	P	Pn	09 11 08.1	-1.3
BHW	Baring Head	2.59	37	Pn	Pn	09 11 08.6	-1.5
BHW	Baring Head	2.59	37	P	Pn	09 11 08.9	-1.3
SNZO	South Karori	2.60	33	P	Pn	09 11 09.1	-1.2
SNZO	South Karori	2.60	33	Pn	Pn	09 11 09.1	-1.2
SNZO				IAML		09 11 41.0	
	comp=N,204nm,0.5s						
PLWZ	Palliser	2.65	44	Pn	Pn	09 11 08.9	-2.1
WEL	Wellington	2.65	34	P	Pn	09 11 09.8	-1.2
QRZ	Quartz Range	2.68	356	P	Pn	09 11 10.9	-0.6
QRZ	Quartz Range	2.68	356	Pn	Pn	09 11 11.2	-0.3
QRZ	Quartz Range	2.68	356	P	Pn	09 11 10.8	-0.6
MSWZ	Moikau Station	2.76	42	Pn	Pn	09 11 10.9	-1.7
MSWZ				IAML		09 11 43.3	
	comp=E,280nm,0.5s						
MSWZ				IAML		09 11 43.8	
	comp=N,167nm,0.4s						
MSWZ	Moikau Station	2.76	42	P	Pn	09 11 10.8	-1.7
DUWZ	D'Urville Isla	2.82	17	P	Pn	09 11 12.9	-0.5
HHSZ	Highcliff Hill	2.86	213	P	Pn	09 11 13.3	-0.6
PAWZ	Paruwai Farm	2.87	43	P	Pn	09 11 12.4	-1.7
CAW	Cannon Point	2.92	36	P	Pn	09 11 13.3	-1.4
JCZ	Jackson Bay	2.97	257	P	Pn	09 11 15.5	0.0
JCZ	Jackson Bay	2.97	257	P	Pn	09 11 15.5	0.0
TRWZ	Traveller	2.99	46	P	Pn	09 11 14.4	-1.4
WKZ	Wanaka	3.03	243	Pn	Pn	09 11 15.1	-1.2
WKZ				IAML		09 12 12.1	
	comp=N,322nm,0.8s						
WKZ	Wanaka	3.03	243	P	Pn	09 11 15.6	-0.7
EAZ	Earnscleugh	3.05	234	P	Pn	09 11 15.8	-0.7
KIW	Kapiti Island	3.06	31	P	Pn	09 11 15.5	-1.3
MTW	Mount Morrison	3.08	41	P	Pn	09 11 15.2	-1.7
OGWZ	Otaki Gorge	3.21	34	P	Pn	09 11 17.1	-1.5
HOWZ	Holdsworth Sta	3.29	39	P	Pn	09 11 18.7	-1.1
TUZ	Tuapeka	3.34	222	P	Pn	09 11 20.0	-0.5
MRZ	Mangatainoka R	3.51	37	Pn	Pn	09 11 20.8	-2.0
MRZ				IAML		09 12 04.4	
	comp=N,137nm,0.3s						
MRZ				IAML		09 12 05.2	
	comp=E,108nm,0.2s						
MRZ	Mangatainoka R	3.51	37	P	Pn	09 11 20.9	-2.0
TIWZ	Tintock	3.56	41	P	Pn	09 11 22.6	-0.9
MSZ	Milford Sound	3.71	250	P	Pn	09 11 24.7	-0.9
PRWZ	Pori Road	3.77	40	P	Pn	09 11 25.7	-0.7
BFZ	Birch Farm	3.81	43	P	Pn	09 11 25.1	-1.8
BFZ	Birch Farm	3.81	43	Pn	Pn	09 11 25.1	-1.8
BFZ				IAML		09 12 12.0	
	comp=N,111nm,0.6s						
BFZ				IAML		09 12 24.5	
	comp=E,106nm,3.4s						
BFZ	Birch Farm	3.81	43	P	Pn	09 11 24.9	-2.0
MLZ	Mavora Lakes	3.84	239	Pn	Pn	09 11 26.1	-1.4
MLZ				IAML		09 12 39.4	
	comp=E,177nm,0.6s						
MLZ				IAML		09 12 44.5	
	comp=N,175nm,2.6s						
MLZ	Mavora Lakes	3.84	239	P	Pn	09 11 26.4	-1.1
SYZ	Scrubby Hill	4.00	219	P	Pn	09 11 29.6	+0.1
SYZ	Scrubby Hill	4.00	219	P	Pn	09 11 29.7	+0.2
DVHZ	Dannevirke	4.06	39	P	Pn	09 11 28.3	-2.2
WAZ	Wanganui	4.08	24	P	Pn	09 11 31.7	+0.9
ANWZ	Angora Road	4.09	43	P	Pn	09 11 29.9	-0.9
NMEZ	Namu Road	4.16	12	P	Pn	09 11 32.8	+1.1
WHZ	Wether Hill Ro	4.21	234	Pn	Pn	09 11 30.6	-1.9
WHZ	Wether Hill Ro	4.21	234	P	Pn	09 11 30.7	-1.7
PREZ	Palmer Road	4.28	14	P	Pn	09 11 34.4	+1.0
KHEZ	Kahui Hut	4.30	13	P	Pn	09 11 33.8	0.0
KHEZ	Kahui Hut	4.30	13	P	Pn	09 11 34.6	+0.8
NBEZ	Newall Road No	4.30	11	P	Pn	09 11 34.0	+0.3
NEZ	North Egmont	4.34	13	P	Pn	09 11 34.9	+0.6
PNHZ	Pukenui	4.39	36	P	Pn	09 11 33.0	-2.0
PKE	Pukeiti	4.39	12	P	Pn	09 11 35.8	+0.7
DREZ	Durham Road	4.43	14	P	Pn	09 11 36.3	+0.7
DCZ	Deep Cove	4.50	242	Pn	Pn	09 11 35.1	-1.3
DCZ				IAML		09 13 13.1	
	comp=N,93nm,3.4s						
DCZ				IAML		09 13 57.7	
	comp=E,100nm,4.6s						
DCZ	Deep Cove	4.50	242	P	Pn	09 11 35.2	-1.3
MHEZ	Mangahewa	4.56	15	P	Pn	09 11 38.2	+0.9
VRZ	Vera Road	4.61	19	P	Pn	09 11 38.4	+0.4
MOVZ	Moawhango	4.65	29	P	Pn	09 11 37.5	-1.1
WNVZ	Wahianoa	4.67	28	P	Pn	09 11 39.6	+0.7
TRVZ	Turoa	4.68	27	P	Pn	09 11 39.6	+0.5
WHVZ	Whangaehu Hut	4.70	27	P	Pn	09 11 39.5	0.0
MAVZ	Mataranga	4.71	27	P	Pn	09 11 40.1	+0.5
FWVZ	Far West T-bar	4.72	27	P	Pn	09 11 40.1	+0.4
TUVZ	Tukino	4.74	28	P	Pn	09 11 39.4	-0.5
APZ	The Paps	4.76	224	P	Pn	09 11 39.2	-1.0
COVZ	Chateau Observ	4.76	27	P	Pn	09 11 40.7	+0.5
ETVZ	East Tongariro	4.88	28	P	Pn	09 11 41.5	-0.2
TMVZ	Te Maari	4.89	27	P	Pn	09 11 41.1	-0.8
NTVZ	North Tongarir	4.90	27	P	Pn	09 11 42.0	-0.1
PYZ	Puysegur Point	5.11	236	P	Pn	09 11 44.0	-0.8
PYZ	Puysegur Point	5.11	236	Pn	Pn	09 11 42.6	-2.2
BKZ	Black Stump Fm	5.14	34	P	Pn	09 11 43.5	-1.9
BKZ	Black Stump Fm	5.14	34	Pn	Pn	09 11 43.1	-2.2
BKZ				IAML		09 13 06.3	
	comp=E,70nm,3.6s						
BKZ	Black Stump Fm	5.14	34	P	Pn	09 11 43.7	-1.6
HIZ	Hauiti	5.22	18	P	Pn	09 11 46.1	-0.3
HIZ	Hauiti	5.22	18	Pn	Pn	09 11 45.5	-0.9
HIZ	Hauiti	5.22	18	P	Pn	09 11 46.0	-0.3
NMHZ	Naumai	5.33	36	P	Pn	09 11 46.6	-1.3
MTHZ	Maungataniwha	5.55	35	P	Pn	09 11 49.4	-1.5
TLZ	Tolley Road	5.56	23	P	Pn	09 11 50.3	-0.8
WPRZ	Whakapapatarin	5.58	28	P	Pn	09 11 50.0	-1.4
RAHZ	Arahi	5.60	37	P	Pn	09 11 50.6	-1.1
ALRZ	Allen Road	5.61	30	P	Pn	09 11 50.2	-1.6
PRRZ	Plateau Road	5.69	30	P	Pn	09 11 51.0	-1.7
RTZ	Ruatahuna	5.81	34	Pn	Pn	09 11 52.1	-2.4
MUGZ	Murupara	5.84	32	P	Pn	09 11 52.8	-2.2
TOZ	Tahuroa Road	6.12	20	Pn	Pn	09 11 57.1	-1.5
TOZ	Tahuroa Road	6.12	20	P	Pn	09 11 57.8	-0.8
URZ	Urewera	6.17	33	P	Pn	09 11 57.0	-2.4
URZ	Urewera	6.17	33	P	Pn	09 11 56.3	-3.1
MWZ	Matawai	6.28	36	P	Pn	09 11 58.0	-3.0
AWAZ	Awhitu Peninsu	6.58	13	P	Pn	09 12 05.0	0.0
TWGZ	Tauwhareparae	6.61	38	P	Pn	09 12 05.1	-0.4
MKAZ	Moumaka	6.64	17	P	Pn	09 12 05.0	-0.8
RUGZ	Raukumara Rang	6.65	35	P	Pn	09 12 03.3	-2.8
ETAZ	East Tamaki Re	6.74	15	P	Pn	09 12 07.1	-0.1
HAZ	Te Kaha	6.87	35	P	Pn	09 12 06.1	-2.9
WIAZ	Waiheke Island	6.93	16	P	Pn	09 12 09.6	-0.2
OUZ	Omahuta	8.29	4	P	Pn	09 12 29.5	+1.0

IDC 15 09:18:37.0±7.9, 35°.02S×179°.08W, h81km±61km, mb3.6/3, mbtmp3.9/4, ML3.3/1, MS2.3/1, Error ellipse: s-maj=55.2km s-min=30.7km az=50.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	4.45	222	P	Pn	09 19 41.3	-0.8
	1.6nm,0.3s,baz=338,slow=5.4,SNR=17						
URZ				S	Sn	09 20 33.9	+1.3
	29nm,0.4s,baz=58,slow=22,SNR=18						
	20nm,0.9s						
CTA	Charters Tower	33.95	287	LR	LR	09 36 23.0	
	comp=Z,4.2nm,18.3s,baz=280,slow=31						
ASAR	Alice Springs	42.18	273	P	P	09 26 21.7	-0.2
	1.8nm,0.5s,baz=114,slow=7.8,SNR=47						
	1.8nm,0.5s						
WRA	Warramunga Arr	43.58	278	P	P	09 26 32.6	-0.7
	1.6nm,0.6s,baz=120,slow=7.4,SNR=16						
	1.6nm,0.6s						
QSPA	South Pole Qui	55.10	180	P	P	09 27 59.9	-0.6
	0.5nm,0.6s,baz=337,slow=1.5,SNR=6.0						
	0.5nm,0.6s						
FINES	FINESS Array B	149.09	337	PKPbc	PKiKP	09 38 16.0	-0.2
	0.6nm,0.7s,baz=63,slow=6.4,SNR=4.0						

IDC ***15*** *09:18:47.1±4.3, 22°.41S×175°.09W, h0km, mb3.8/5, mbtmp3.8/5, MS3.2/1, Error ellipse: s-maj=169.6km s-min=38.3km az=144.0*
NEIC ***15*** *09:18:48.5±1.7, 22°.58S±0°.07×174°.1W±0°.1, h66km±9km, mb4.5/14, Error ellipse: s-maj=16.2km s-min=5.4km az=126.0*

ISC 15 09:18:39.9±0.7, 22°.5S±0°.1×173°.73W±0°.09, h10km, n27, σ1§67/24, mb4.5/13, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	4.90	47	Pn	Pb	09 20 03.9	-1.9
RAO	Raoul Island	7.75	208	Pn	Pn	09 20 33.3	+0.6
AFI	Afiamalu	8.70	13	Pn	Pn	09 20 52.8	+6.8
MSVF	Nonsavu	9.04	300	Pn	Pn	09 20 53.5	+2.8
RAR	Rarotonga	13.02	87	Pn	P	09 21 57.4	+1.9
PPT	Papeete	23.20	82	LR	LR	09 33 05.8	
	comp=Z,57nm,18.3s,baz=300,slow=35						
EIDS	Eidsvold	32.25	258	P	P	09 25 07.0	-1.7
EIDS				IAmb	IAmb	09 25 13.1	
	comp=Z,11nm,1.5s						
CTA	Charters Tower	37.29	266	P	P	09 25 52.0	-0.5
	comp=Z,0.5nm,1.2s,baz=88,slow=6.1,SNR=3.0						
	comp=Z,0.5nm,1.2s						
CTAO	Charters Tower	37.29	266	P	P	09 25 51.8	-0.7
STKA	Stephens Creek	40.60	247	P	P	09 26 19.7	-0.4
	comp=Z,2.2nm,0.8s,baz=90,slow=9.1,SNR=3.1						
	comp=Z,2.2nm,0.8s						
BBOO	Buckleboo	45.30	246	P	P	09 26 57.6	-0.5
AS31	Alice Springs	47.97	258	P	P	09 27 17.1	-2.1
ASAR	Alice Springs	47.97	258	P	P	09 27 16.9	-2.4
ASAR	Alice Springs	47.97	258	P	P	09 27 17.8	-1.5
	comp=Z,1.4nm,0.7s,baz=98,slow=8.0,SNR=8.8						
	comp=Z,1.4nm,0.7s						
WR0	Warramunga Arr	48.10	263	P	P	09 27 18.4	-1.9
WB2	Warramunga Arr	48.28	263	P	P	09 27 20.2	-1.5
WB2				IAmb	IAmb	09 27 31.2	
	comp=Z,5.9nm,1.2s						
WB0	Warramunga Arr	48.28	263	P	P	09 27 20.0	-1.7
WB0				IAmb	IAmb	09 27 47.9	
	comp=Z,9.4nm,1.4s						
WRAB	Tennant Creek	48.28	263	P	P	09 27 20.1	-1.5
WRAB				IAmb	IAmb	09 27 55.3	
	comp=Z,8.4nm,1.4s						
WRA	Warramunga Arr	48.29	263	P	P	09 27 19.2	-2.5
WRA	Warramunga Arr	48.29	263	P	P	09 27 19.7	-2.0
	comp=Z,1.0nm,0.7s,baz=102,slow=7.8,SNR=7.3						
	comp=Z,1.0nm,0.7s						
KNRA	Kununurra	54.51	266	P	P	09 28 07.4	-0.9
KNRA				IAmb	IAmb	09 28 18.3	
	comp=Z,5.6nm,0.9s						
SBA	Scott Base	56.23	185	P	P	09 28 20.0	+0.2
VNDA	Vanda	56.36	186	P	P	09 28 22.2	+1.5
VNDA				IAmb	IAmb	09 28 25.3	
	comp=Z,3.9nm,1.4s						
QSPA	South Pole Qui	67.62	180	P	P	09 29 37.4	+0.6
QSPA				IAmb	IAmb	09 29 58.7	
	comp=Z,8.4nm,1.5s						
AMKA	Amchitka	73.77	355	P	P	09 30 15.2	+1.2
SNAA	Sanae	85.91	177	P	P	09 31 18.9	-0.9
SNAA				IAmb	IAmb	09 31 48.1	
	comp=Z,5.8nm,1.4s						
ILAR	Eielson Array	89.40	11	P	P	09 31 46.1	+10
	comp=Z,0.4nm,0.8s,baz=220,slow=5.0,SNR=4.2						
	comp=Z,0.4nm,0.8s						

VIE ***15*** *09:34:49.2±0.4, 51°.54N×16°.36E, h0km, mb2.3/8, ml3.0/7, Error ellipse: s-maj=4.4km s-min=3.5km az=41.0, Suspected Mining induced.*
DNK ***15*** *09:34:50.6±0.8, 51°.47N×16°.06E, h30km±50km, ML1.9*
IPEC ***15*** *09:34:50.0±0.3, 51°.51N×16°.21E, h1km, ML2.5/5, Error ellipse: s-maj=2.9km s-min=1.4km az=61.0*
IDC ***15*** *09:34:50.8±1.1, 51°.49N×16°.03E, h0km, mbtmp3.0/5, ML2.7/5, Error ellipse: s-maj=18.2km s-min=8.6km az=120.0*
BGR ***15*** *09:34:51.2±0.5, 51°.45N×16°.14E, h1km, ML2.8/13, Error ellipse: s-maj=7.8km s-min=3.3km az=27.0*
PRU ***15*** *09:34:52.4, 51°.44N×16°.11E, h0km*

ISC 15 09:34:48.4±0.8, 51°.60N±0°.03×16°.17E±0°.02, h0km, n57, σ1§04/103, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.76	174	*e*Pg	Pg	09 35 03.4	+0.4
KSP				*e*Sg	Sg	09 35 12.3	-0.5
KSP	Ksiaz	0.76	174	*e*Pg	Pg	09 35 03.4	+0.4
KSP				*e*Sg	Sg	09 35 12.3	-0.5
CHVC	Chvalec	1.01	184	*e*PG	Pg	09 35 08.5	+0.6
CHVC				*e*SG	Sg	09 35 20.6	-0.4
OSTC	Ostas	1.04	178	*e*PG	Pg	09 35 08.9	+0.5
OSTC				*e*SG	Sg	09 35 21.6	-0.3
	comp=Z,69nm,0.4s						
UPC	Upice	1.10	185	*e*PG	Pg	09 35 09.5	+0.1
UPC				*e*SG	Sg	09 35 23.0	-0.7
DPC	Dobruska-Polom	1.25	175	*e*PG	Pg	09 35 12.4	-0.1
DPC				*e*SG	Sg	09 35 27.7	-1.0
	comp=Z,45nm,0.3s						
DPC	Dobruska-Polom	1.25	175	*e*Pg	Pg	09 35 12.2	-0.2
DPC				*e*Sg	Sg	09 35 27.7	-1.0
PVCC	Panska Ves	1.47	224	*e*PG	Pg	09 35 17.0	+0.4
PVCC				*e*SG	Sg	09 35 35.4	-0.3
	comp=Z,146nm,0.2s						
KRLC	Kraliky	1.57	165	*e*PG	Pn	09 35 17.9	+0.2
KRLC				*e*SG	Sn	09 35 37.5	-1.3
	comp=Z,59nm,0.3s						
BRG	Berggiesshubel	1.58	243	Pg	Pg	09 35 19.2	+0.6
BRG				Sg	Sb	09 35 39.5	+0.6
BRG				Amp		09 35 41.3	
	comp=Z,62nm,0.5s						
BRG	Berggiesshubel	1.58	243

comp=Z,24nm,0.6s
MANZ Manzenberg 3.04 239 *e*Pn **Pn 09 35 38.6 +0.8**
MANZ *e*Pg **Pg 09 35 45.9 -0.7**
ROTZ Rotzenmuhle 3.12 215 *e*Pn **Pn 09 35 39.5 +0.7**
GERES GERESS Array B 3.18 211 Pn **Pn 09 35 40.6 +0.9**
comp=Z,0.6nm,0.3s,baz=34,slow=14,SNR=9.8
GERES Pg **Pb 09 35 46.3 +0.5**
comp=Z,1.6nm,0.3s,baz=31,slow=16,SNR=14
GERES Lg Lg 09 36 25.2
comp=Z,3.0nm,0.3s,baz=29,slow=25,SNR=8.8
comp=Z,0.9nm,0.3s
LANS Liptovska Anna 3.24 138 *e*PN **Pn 09 35 41.7 +1.2**
LANS *e*PG **Pg 09 35 52.6 +2.2**
LANS *e*SG **Sg 09 36 32.3 0.0**
MODS Modra-Piesok 3.31 167 *e*PG **Pg 09 35 51.7 -0.1**
MODS *e*SG **Sg 09 36 33.5 -1.1**
NIE Niedzica 3.42 128 *e*Pg **Pg 09 35 53.9 -0.2**
NIE *e*Sg **Sb 09 36 34.8 +2.7**
ZST Bratislava 3.46 170 *e*SG **Sg 09 36 38.3 -1.2**
VYHS Vyhne 3.55 150 *e*PN **Pn 09 35 45.0 +0.2**
VYHS *e*PG **Pg 09 35 57.3 +0.8**
VYHS *e*SG **Sg 09 36 40.9 -1.6**
BSD Bornholm Skovb 3.60 348 *i* P **Pn 09 35 46.5 +1.1**
BSD *i* S **Sn 09 36 27.0 -1.6**
BSD IAML 09 36 31.2
comp=Z,2.1nm,0.4s
CLZ Clausthal 3.61 276 *e*Pn **Pn 09 35 47.6 +2.0**
CONA Conrad Observa 3.68 183 *e*Pn **Pn 09 35 47.3 +0.7**
comp=Z,0.6nm,0.2s,SNR=6.1
RONA Rosalia, Austr 3.91 179 *e*Pn **Pn 09 35 50.1 +0.4**
comp=Z,0.4nm,0.2s
MOA Molln 3.95 199 *i* Pn **Pn 09 35 50.3 0.0**
comp=Z,1.1nm,0.2s,SNR=5.2
BIOA Bad Ischl, Aus 4.24 204 *e*Pn **Pn 09 35 54.8 +0.5**
comp=Z,3.0nm,0.3s
LUNU Lund 4.35 339 *i* P **Pn 09 35 56.5 +0.8**
LUNU *i* S **Sn 09 36 45.7 -1.5**
ARSA Arzberg 4.37 186 *e*Pn **Pn 09 35 57.1 +1.0**
comp=Z,1.1nm,0.3s
BLEU Blekinge 4.72 358 *i* P **Pn 09 36 02.7 +1.9**
BLEU IAML 09 37 04.6
comp=Z,0.2nm,0.4s
KOLS Kolonicke sedl 4.74 122 *e*PG **Pg 09 36 20.5 +1.3**
LESA Schwarzleotal 4.76 210 *e*Pn **Pn 09 36 01.8 +0.4**
comp=Z,0.6nm,0.2s
BJUU Bjuv 4.85 339 *e*P **Pn 09 36 03.3 +0.7**
DEL Delary 5.06 345 *i* P **Pn 09 36 06.5 +0.9**
DEL IAML 09 37 06.1
comp=Z,0.9nm,0.4s
WTTA Wattenberg 5.25 216 *e*Pn **Pn 09 36 09.2 +0.9**
comp=Z,1.3nm,0.3s
DAVOX Davos/Dischmat 6.34 223 Pn **Pn 09 36 24.5 +1.2**
comp=Z,0.3nm,0.3s,baz=11,slow=10,SNR=2.5
DAVOX Lg Lg 09 38 09.9
comp=Z,0.3nm,0.3s,baz=216,slow=18,SNR=4.0
comp=Z,0.8nm,0.4s
AKASG Malin Array Be 8.26 91 Pn **Pn 09 36 51.0 +1.6**
comp=Z,0.5nm,0.3s,baz=280,slow=12,SNR=2.9
comp=Z,0.5nm,0.3s
FINES FINESS Array B 11.27 25 Pn **Pn 09 37 28.3 -2.2**
baz=212,slow=13,SNR=1.9
FINES Sn **Sn 09 39 32.7 -4.3**
comp=Z,0.1nm,0.3s,baz=211,slow=21,SNR=5.0
comp=Z,0.7nm,0.9s

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*HVO **15** 10:07:29.7±1.1, 19°.413N±0°.009×155°.264W±0°.006, h1km±2km, ML3.5/48, ML3.0/34(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=191.0*
*NEIC **15** 10:07:30.6±1.2, 19°.402N±0°.010×155°.261W±0°.005, h5km±1km, Error ellipse: s-maj=1.9km s-min=1.6km az=358.0*
*IDC **15** 10:07:31.2±4.9, 19°.33N×155°.28W, h0km, mb3.3/5, mbtmp3.3/5, MS3.2/1, Error ellipse: s-maj=115.1km s-min=17.6km az=8.0*
ISC 15 10:07:32.1±0.9, 19°.40N±0°.04×155°.25W±0°.03, h10km, n40, σ2°.30/37, mb3.3/5, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**315**	Pg	**Pg**	**10 07 30.4**	**-3.6**
KKO	**Keanakako`i**	**0.01**	**243**		**Pg**	**10 07 31.1**	**-2.9**
HATHI	**Halema'uma'u T**	**0.02**	**335**	Pg	**Pg**	**10 07 30.4**	**-3.6**
RIM	**Rim**	**0.02**	**246**		**Pg**	**10 07 31.4**	**-2.6**
SBLHI	**Steaming Bluff**	**0.03**	**326**		**Pg**	**10 07 31.1**	**-3.0**
UWB	**Uwekahuna B**	**0.03**	**309**		**Pg**	**10 07 30.9**	**-3.2**
OBL	**Observatory Le**	**0.03**	**293**		**Pg**	**10 07 31.1**	**-3.0**
SDHHI	**Sand Hill**	**0.04**	**249**		**Pg**	**10 07 32.2**	**-2.0**
UWE	**Uwekahuna**	**0.04**	**293**	Pg	**Pg**	**10 07 31.3**	**-2.9**
WRMHI	**West Rim**	**0.04**	**273**		**Pg**	**10 07 31.9**	**-2.3**
PUH	**Pauahi**	**0.05**	**132**	Pg	**Pg**	**10 07 31.7**	**-2.5**
PUH				IAML		10 07 32.7	
	comp=N,8μm,0.4s						
PUH					**Sg**	**10 07 33.3**	**-2.3**
RSD	**Rainshed**	**0.06**	**337**	Pg	**Pg**	**10 07 31.8**	**-2.6**
RSD				IAML		10 07 32.1	
	comp=N,7μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.08**	**108**		**Pg**	**10 07 32.6**	**-2.0**
HLP	**Hilina Pali**	**0.12**	**206**		**Pg**	**10 07 33.6**	**-1.4**
HLP				IAML		10 07 34.6	
	comp=N,2μm,0.9s						
HLP				IAML		10 07 35.2	
	comp=E,4μm,0.9s						
STCH	**Steam Cracks**	**0.12**	**99**	Pg	**Pg**	**10 07 33.1**	**-1.9**
STCH				IAML		10 07 35.7	
	comp=E,9μm,0.7s						
STCH				IAML		10 07 36.5	
	comp=N,6μm,0.4s						
NPOC	**North of Pu'u**	**0.14**	**95**		**Pg**	**10 07 33.4**	**-1.9**
JCUZ	**Jacuzzi**	**0.14**	**98**		**Pg**	**10 07 33.5**	**-1.9**
MLH	**Mauna Loa**	**0.15**	**305**	Pg	**Pg**	**10 07 33.7**	**-2.0**
MLH				IAML		10 07 36.0	
	comp=E,5μm,1.0s						
MLH				IAML		10 07 36.8	
	comp=N,3μm,0.6s						
HTC	**Hot Caves**	**0.22**	**220**		**Pg**	**10 07 34.8**	**-1.8**
JOKA	**Jonika Flow**	**0.23**	**83**		**Pg**	**10 07 35.0**	**-1.9**
JOKA				IAML		10 07 42.3	
	comp=E,4μm,2.0s						
JOKA				IAML		10 07 42.8	
	comp=N,3μm,0.9s						
HMH	**Humu'ula Sheep**	**0.29**	**312**	Pg	**Pg**	**10 07 36.6**	**-1.5**
HMH				IAML		10 07 41.8	
	comp=N,3μm,0.5s						
HMH				IAML		10 07 45.0	
	comp=E,5μm,0.7s						
PAH	**Pahoa**	**0.30**	**73**	Pg	**Pg**	**10 07 36.7**	**-1.5**
MLOA	**Mauna Loa Obse**	**0.33**	**293**	Pg	**Pg**	**10 07 37.4**	**-1.5**
MWH	**Moku'aweowe**	**0.34**	**284**		**Pg**	**10 07 37.2**	**-1.8**
PHO	**Puu Honuaula**	**0.35**	**77**		**Pg**	**10 07 36.8**	**-2.2**
KHU	**Kahuku**	**0.38**	**245**	Pg	**Pg**	**10 07 38.2**	**-1.4**
KHU				IAML		10 07 49.3	
	comp=E,3μm,0.7s						
KHU				IAML		10 07 50.3	
	comp=N,3μm,0.8s						
HPO	**Honuapo**	**0.42**	**222**	Pg	**Pg**	**10 07 37.3**	**-3.1**
POHA	**Pohakuloa**	**0.44**	**323**		**Pg**	**10 07 38.8**	**-1.9**
HUH	**Hualalai**	**0.62**	**297**		**Pg**	**10 07 43.1**	**-1.0**
I59US	**HAWAII INFRASO**	**0.63**	**287**	Pg	**Pg**	**10 07 43.5**	**-0.9**
	baz=115,slow=39						
HPAH	**Hawaii Prepara**	**0.75**	**326**	Pg	**Pg**	**10 07 43.7**	**-2.9**
H11N3	**WAKE ISLAND Hy**	**35.61**	**277**	T	T	10 51 42.1	
	baz=85,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy**	**35.62**	**277**	T	T	10 51 44.3	
	baz=85,slow=74,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**35.63**	**277**	T	T	10 51 39.9	
	baz=85,slow=74,SNR=5.1						
NVAR	**Mina Array Bea**	**37.17**	**51**	P	**P**	**10 14 45.0**	**+1.4**
	comp=N,0.2nm,0.8s,baz=232,slow=7.4,SNR=2.5						
	comp=N,0.2nm,0.8s						
PDAR	**Pinedale Array**	**44.85**	**48**	P	**P**	**10 15 47.2**	**+0.3**
	comp=N,0.1nm,0.5s,baz=248,slow=4.8,SNR=1.8						
	comp=N,0.1nm,0.5s						
ILAR	**Eielson Array**	**45.68**	**5**	P	**P**	**10 15 53.2**	**+0.3**
	comp=N,0.3nm,0.8s,baz=188,slow=5.5,SNR=2.7						
	comp=N,0.3nm,0.8s						
TXAR	**Lajitas Array**	**47.70**	**68**	P	**P**	**10 16 10.3**	**+1.0**
	comp=N,0.6nm,0.8s,baz=253,slow=7.2,SNR=6.9						
	comp=N,0.6nm,0.8s						
INK	**Inuvik**	**50.76**	**10**	LR	LR	10 34 07.5	
	comp=N,24nm,21.0s,baz=13,slow=31						
YKA	**Yellowknife Ar**	**51.32**	**23**	P	**P**	**10 16 38.3**	**+2.1**
	comp=N,0.7nm,0.8s,baz=215,slow=6.0,SNR=6.1						
	comp=N,0.7nm,0.8s						

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*NEIC **15** 10:07:37.5±1.2, 19°.417N±0°.008×155°.269W±0°.005, h5km±3km, Error ellipse: s-maj=1.2km s-min=0.5km az=204.0*
HVO 15 10:07:36.8±1.0, 19°.417N±0°.004×155°.277W±0°.008, h1km±6km, ML3.8/47, mb4.4/17(NEIC), ML3.8/19(NEIC), Error ellipse: s-maj=1.1km s-min=0.6km az=80.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**279**		Pg	10 07 37.5	+0.3
UWB	**Uwekahuna B**	**0.01**	**353**		Pg	10 07 37.8	+0.6
SBLHI	**Steaming Bluff**	**0.01**	**39**		Pg	10 07 37.5	+0.3
HATHI	**Halema'uma'u T**	**0.02**	**67**	Pg	Pg	10 07 37.7	+0.5
HATHI					Sg	10 07 38.2	+0.6
UWE	**Uwekahuna**	**0.02**	**287**	Pg	Pg	10 07 37.5	+0.2
UWE					Sg	10 07 38.1	+0.5
BYL	**Byron's Ledge**	**0.02**	**106**	Pg	Pg	10 07 37.5	+0.3
BYL					Sg	10 07 38.6	+1.1
KKO	**Keanakako`i**	**0.02**	**151**		Pg	10 07 38.8	+1.5
RIM	**Rim**	**0.02**	**172**		Pg	10 07 37.8	+0.5
WRMHI	**West Rim**	**0.02**	**245**		Pg	10 07 38.8	+1.4
SDHHI	**Sand Hill**	**0.03**	**211**		Pg	10 07 39.0	+1.6
RSD	**Rainshed**	**0.05**	**359**	Pg	Pg	10 07 38.1	+0.4
RSD				IAML		10 07 38.1	
	comp=N,115μm,1.1s						
RSD					Sg	10 07 39.6	+1.2
PUH	**Pauahi**	**0.07**	**126**	Pg	Pg	10 07 39.1	+0.9
PUH				IAML		10 07 39.1	
	comp=N,84μm,1.1s						
PUH					Sg	10 07 40.8	+1.6
KNHH	**Kane Nui o Ham**	**0.11**	**110**	Pg	Pg	10 07 38.7	-0.1
MLH	**Mauna Loa**	**0.13**	**307**		Pg	10 07 40.4	+1.1
MLH	**Mauna Loa**	**0.13**	**307**		Sg	10 07 43.4	+2.4
MLH	**Mauna Loa**	**0.13**	**307**	IAML		10 07 43.4	
	comp=E,52μm,0.8s						
MLH	**Mauna Loa**	**0.13**	**307**	IAML		10 07 42.6	
	comp=N,47μm,0.9s						
STCH	**Steam Cracks**	**0.15**	**102**	Pg	Pg	10 07 39.4	-0.3
STCH				IAML		10 07 44.1	
	comp=N,42μm,0.8s						
STCH				IAML		10 07 44.2	
	comp=E,45μm,0.9s						
HMH	**Humu'ula Sheep**	**0.27**	**314**	Pg	Pg	10 07 42.4	+0.5
HMH				IAML		10 07 49.7	
	comp=N,21μm,0.6s						
HMH				IAML		10 07 51.0	
	comp=E,18μm,0.9s						
MLOA	**Mauna Loa Obse**	**0.31**	**293**	Pg	Pg	10 07 43.2	+0.5
MLOA				IAML		10 07 51.0	
	comp=N,12μm,0.5s						
MLOA				IAML		10 07 52.3	
	comp=E,14μm,1.2s						
KHU	**Kahuku**	**0.36**	**242**	Pg	Pg	10 07 43.4	-0.3
PHO	**Puu Honuaula**	**0.37**	**80**	Pg	Pg	10 07 43.4	-0.5
HPO	**Honuapo**	**0.42**	**219**	Pg	Pg	10 07 45.0	+0.2
HUH	**Hualalai**	**0.59**	**297**	Pg	Pg	10 07 48.2	+0.1
HPAH	**Hawaii Prepara**	**0.73**	**327**	Pg	Pg	10 07 49.6	-1.2
KTH	**Kantishna Hill**	**44.20**	**3**	P	P	10 15 47.6	+0.2
CCB	**Clear Creek Bu**	**45.48**	**5**	P	P	10 15 57.5	+0.2
J25K	**Salcha River,**	**45.66**	**6**	P	P	10 15 58.7	-0.2
J25K				IAmb	IAmb	10 16 00.7	
	comp=Z,4.7nm,1.1s						
MLY	**Manley**	**45.69**	**3**	P	P	10 15 58.7	-0.4
J26L	**Joseph Creek**	**45.74**	**7**	P	P	10 15 58.9	-0.6
MDM	**Murphy Dome**	**45.76**	**4**	P	P	10 15 58.5	-1.2
MDM				IAmb	IAmb	10 16 00.0	
	comp=Z,3.1nm,0.9s						
EGAK	**Eagle**	**46.31**	**8**	P	P	10 16 03.9	0.0
EGAK				IAmb	IAmb	10 16 06.5	
	comp=Z,5.5nm,1.2s						
I26K	**Coal Creek Min**	**46.57**	**7**	P	P	10 16 05.9	0.0
I26K				IAmb	IAmb	10 16 07.7	
	comp=Z,3.3nm,0.9s						
SDCO	**Great Sand Dun**	**46.80**	**56**	P	P	10 16 07.9	-0.7
N23A	**Red Feather La**	**47.02**	**52**	P	P	10 16 09.4	-0.8
F21K	**Alatna River**	**47.80**	**1**	P	P	10 16 14.8	-0.8
F21K				IAmb	IAmb	10 16 18.2	
	comp=Z,3.2nm,1.1s						
H29M	**Whitestone**	**48.07**	**9**	P	P	10 16 17.2	-0.4
MSTX	**Muleshoe**	**48.61**	**62**	P	P	10 16 22.1	-0.4
E22K	**Anaktuvuk Pass**	**48.75**	**2**	P	P	10 16 22.4	-0.5
E22K				IAmb	IAmb	10 16 24.6	
	comp=Z,3.8nm,1.1s						
G31M	**Satah River**	**49.38**	**11**	P	P	10 16 27.5	-0.2
G31M				IAmb	IAmb	10 16 29.2	
	comp=Z,4.2nm,0.9s						
PBMO	**Poplar Bluff**	**58.73**	**58**	P	P	10 17 35.1	-1.4
PBMO				IAmb	IAmb	10 17 36.5	
	comp=Z,3.3nm,0.9s						
G40A	**Rib Lake**	**59.01**	**48**	P	P	10 17 37.0	-1.4
G40A				IAmb	IAmb	10 17 38.2	
	comp=Z,3.3nm,0.8s						

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*IDC **15** 10:21:33.0±1.2, 41°.43N×19°.63E, h0km, mb3.5/9, mbtmp3.6/13, ML3.6/4, MS2.9/2, Error ellipse: s-maj=18.0km s-min=14.0km az=15.0*
*TIR **15** 10:21:34.2, 41°.52N×19°.45E, h50km±2km, Ml3.7*
*SKO **15** 10:21:34.4, 41°.40N×19°.42E, h0km*
*PDG **15** 10:21:34.9±0.2, 41°.45N×19°.51E, h17km, MD3.6/7, ML3.5/11, Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*
*BEO **15** 10:21:35.7±0.4, 41°.39N×19°.59E, h16km±2km, ML3.3/19*
*THE **15** 10:21:36.1, 41°.48N×19°.59E, h5km±1km, ML3.2/7, Error ellipse: s-maj=2.3km s-min=1.4km az=158.0*
*RHSSO **15** 10:21:37.2±0.6, 41°.51N×19°.45E, h8km±2km, ML3.6/14*
ISC 15 10:21:34.9±0.9, 41°.43N±0°.02×19°.50E±0°.02, h14km±6km, n161, σ1°.14/236, mb3.8/6, 40C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**107**	⇑P	**Pg**	**10 21 41.0**	**+0.1**
TIR				⇑S	**Sg**	**10 21 45.3**	**+0.3**
TIR	**Tirane**	**0.29**	**107**	P	**Pg**	**10 21 40.8**	**-0.1**
	baz=119						
TIR				S	**Sg**	**10 21 44.4**	**-0.6**
	baz=119						
TIR	**Tirane**	**0.29**	**107**	P	**Pg**	**10 21 40.6**	**-0.3**
TIR				S	**Sg**	**10 21 44.7**	**-0.3**
	14μm,0.4s						
TIR	**Tirane**	**0.29**	**107**	*e*Pg	**Pg**	**10 21 40.6**	**-0.3**
TIR				*e*Sg	**Sg**	**10 21 45.0**	**0.0**
PUK	**Puka**	**0.68**	**26**	P	**Pg**	**10 21 47.2**	**-1.0**
	baz=32						
PUK				S	**Sb**	**10 21 58.4**	**+0.5**
	baz=32						
PUK				AMP			
	comp=N,12nm,0.4s,baz=32						
DRME	**Dracevica, Mon**	**0.79**	**343**	⇑*i*Pg	**Pg**	**10 21 49.9**	**-0.4**
DRME				*e*Sg	**Sg**	**10 22 00.5**	**-0.2**
DRME	**Dracevica, Mon**	**0.79**	**343**	⇓*i*Pg	**Pg**	**10 21 49.7**	**-0.6**
DRME				*i* Sg	**Sb**	**10 22 02.1**	**+1.0**
VLO	**Vlora**	**0.96**	**180**	P	**Pn**	**10 21 55.2**	**+1.2**
VLO				S	**Sn**	**10 22 09.8**	**+2.3**
	comp=N,2μm,0.5s						
BUM	**Brajici-Budva**	**0.98**	**333**	⇑*i*Pg	**Pg**	**10 21 53.1**	**-0.8**
BUM				*i* Sg	**Sn**	**10 22 08.6**	**+0.5**
PDG	**Podgorica**	**1.01**	**350**	⇑P	**Pn**	**10 21 55.5**	**+0.7**
PDG				⇑S	**Sn**	**10 22 09.9**	**+1.0**
PDG	**Podgorica**	**1.01**	**350**	*e*Pg	**Pn**	**10 21 55.3**	**+0.5**
PDG				*e*Sg	**Sn**	**10 22 10.7**	**+1.8**
PDG	**Podgorica**	**1.01**	**350**	⇑*i*Pg	**Pg**	**10 21 53.5**	**-1.1**
PDG				*e*Sg	**Sg**	**10 22 06.7**	**-1.1**
PDG	**Podgorica**	**1.01**	**350**	⇑*i*Pg	**Pg**	**10 21 53.4**	**-1.1**
PDG				*i* Sg	**Sn**	**10 22 09.4**	**+0.5**
BCI	**Bajram Curri**	**1.03**	**24**	P	**Pg**	**10 21 53.3**	**-1.5**
	baz=28						
BCI				S	**Sb**	**10 22 08.8**	**+0.9**
	baz=28						
BCI				AMP			
	comp=N,7.0nm,0.4s,baz=28						
OHR	**Ohrid**	**1.03**	**108**	*i* Pg	**Pg**	**10 21 53.6**	**-1.2**
OHR				*i* Sg	**Sb**	**10 22 08.8**	**+0.8**
CEME	**Cevo**	**1.20**	**339**	⇓*i*Pg	**Pg**	**10 21 57.0**	**-1.0**
CEME				*i* Sg	**Sn**	**10 22 15.5**	**+2.0**
PVY	**Plav**	**1.21**	**16**	⇑*i*Pg	**Pg**	**10 21 57.4**	**-0.9**
PVY				*i* Sg	**Sn**	**10 22 16.2**	**+2.3**
KBN	**Korca**	**1.27**	**129**	P	**Pn**	**10 21 58.5**	**+0.2**
	baz=131						
KBN				S	**Sn**	**10 22 16.2**	**+1.1**
	baz=131						
KBN				AMP			
	comp=N,4.2nm,0.5s,baz=131						
KBN	**Korca**	**1.27**	**129**	P	**Pb**	**10 21 59.1**	**+0.5**
KBN				S	**Sn**	**10 22 17.5**	**+2.4**
	comp=N,928nm,0.7s						
NKME	**Niksic**	**1.40**	**343**	⇑*i*Pg	**Pn**	**10 22 00.6**	**+0.5**
NKME				*i* Sg	**Sg**	**10 22 20.7**	**+0.8**
KOME	**Kolasin**	**1.42**	**0**	⇑*i*Pg	**Pn**	**10 22 00.9**	**+0.5**
KOME				*i* Sg	**Sg**	**10 22 21.2**	**+0.5**
BEY	**Berane**	**1.47**	**11**	*i* Pg	**Pn**	**10 22 01.6**	**+0.5**
IVA	**Berane**	**1.47**	**11**	⇑*i*Pg	**Pn**	**10 22 01.6**	**+0.5**
IVA				*i* Sg	**Sg**	**10 22 22.6**	**+0.3**
LSK	**Leskovik**	**1.53**	**147**	P	**Pn**	**10 22 03.0**	**+1.1**
	baz=147						
LSK				S	**Sg**	**10 22 24.7**	**+0.6**
	baz=147						
LSK				AMP			
	comp=N,3.5nm,0.6s,baz=147						
LSK	**Leskovik**	**1.53**	**147**	P	**Pn**	**10 22 03.1**	**+1.1**
TREB	**Trebinje**	**1.54**	**327**	*e*Pg	**Pg**	**10 22 04.3**	**-0.3**
TREB				*e*Sg	**Sg**	**10 22 26.8**	**+2.1**
TREB	**Trebinje**	**1.54**	**327**	⇓*i*Pg	**Pg**	**10 22 04.2**	**-0.3**
TREB				*e*Sg	**Sn**	**10 22 23.0**	**+1.1**
SKO	**Skopje**	**1.55**	**69**	*i* Pn	**Pn**	**10 22 03.0**	**+0.8**
NEST	**Nestorio**	**1.55**	**130**	P	**Pb**	**10 22 04.1**	**+0.6**
NEST				S	**Sg**	**10 22 24.9**	**0.0**
	comp=N,455nm,0.8s						
FNA	**Florina**	**1.56**	**114**	P	**Pn**	**10 22 03.0**	**+0.7**
	baz=116						
FNA				S	**Sb**	**10 22 24.1**	**+0.9**
	baz=116						
FNA				AMP			
	comp=N,1.6nm,0.6s,baz=116						
FNA	**Florina**	**1.56**	**114**	P	**Pn**	**10 22 02.6**	**+0.3**
FNA				S	**Sb**	**10 22 23.9**	**+0.7**
	comp=N,1μm,0.5s						
FNA	**Florina**	**1.56**	**114**	*e*Pg	**Pn**	**10 22 02.7**	**+0.4**
FNA				*e*Sg	**Sn**	**10 22 22.7**	**+0.3**
FNA	**Florina**	**1.56**	**114**	*i* Pg	**Pn**	**10 22 02.8**	**+0.5**
SCTE	**Santa Cesarea**	**1.57**	**210**	P	**Pn**	**10 22 02.6**	**+0.2**
	baz=208						
SCTE				S	**Sb**	**10 22 24.9**	**+1.4**
	baz=208						
SCTE				AMP			
	comp=E,0.6nm,0.2s,baz=208						
DBRK	**Dubrovnik**	**1.60**	**321**	*e*Pn	**Pb**	**10 22 04.1**	**-0.1**
SRN	**Sarande**	**1.60**	**166**	P	**Pn**	**10 22 04.0**	**+1.3**
	baz=165						
SRN				S	**Sb**	**10 22 25.8**	**+1.6**
	baz=165						
SRN				AMP			
	comp=E,1.3nm,0.5s,baz=165						
SRN	**Sarande**	**1.60**	**166**	P	**Pn**	**10 22 04.0**	**+1.3**
BRY	**Bratogost**	**1.63**	**334**	*e*Pn	**Pb**	**10 22 05.5**	**+0.5**
BRY				*e*Sn	**Sb**	**10 22 26.3**	**+0.8**
BRY	**Bratogost**	**1.63**	**334**	⇓*i*Pn	**Pn**	**10 22 05.3**	**+0.1**
BRY				*i* Sn	**Sb**	**10 22 25.9**	**+0.4**
PENT	**Pentalofos**	**1.75**	**134**	P	**Pb**	**10 22 07.1**	**+0.2**
UPM	**Unac-Piva**	**1.82**	**346**	⇑*i*Pn	**Pb**	**10 22 08.3**	**+0.1**
UPM	**Unac-Piva**	**1.82**	**346**	⇑*i*Pn	**Pn**	**10 22 06.4**	**+0.3**
UPM				*i* Sn	**Sb**	**10 22 31.1**	**+0.1**
SJES	**Sjenica**	**1.86**	**11**	*e*Pg	**Pb**	**10 22 09.1**	**+0.3**
SJES				*e*Sg	**Sg**	**10 22 35.5**	**+0.7**
SJES	**Sjenica**	**1.86**	**11**	⇑*i*Pn	**Pb**	**10 22 08.9**	**+0.1**
SJES				*e*Sn	**Sb**	**10 22 31.8**	**-0.2**
PLE	**Pljevlja**	**1.90**	**358**	⇑*i*Pn	**Pn**	**10 22 07.6**	**+0.5**
PLE				*i* Sn	**Sb**	**10 22 33.1**	**0.0**
NOCI	**Noci**	**1.95**	**252**	P	**Pn**	**10 22 08.3**	**+0.7**
	baz=249						
NOCI				S	**Sn**	**10 22 31.7**	**-0.3**
	baz=249						
STON	**Ston**	**1.97**	**318**	*e*Pn	**Pn**	**10 22 09.3**	**+1.5**
STON				*e*Sn	**Sn**	**10 22 33.8**	**+1.5**
STON	**Ston**	**1.97**	**318**	*e*Pn	**Pn**	**10 22 08.7**	**+0.9**
STON				Sn	**Sn**	**10 22 33.8**	**+1.5**
STON	**Ston**	**1.97**	**318**	*e*Pn	**Pn**	**10 22 08.9**	**+1.1**
STON				*e*Sn	**Sn**	**10 22 33.2**	**+0.9**
KPRO	**Kipourio**	**2.04**	**136**	P	**Pb**	**10 22 11.4**	**-0.5**
KPRO				S	**Sb**	**10 22 36.9**	**-0.3**
	comp=E,335nm,0.6s						
JAN	**Janina**	**2.05**	**149**	P	**Pb**	**10 22 13.2**	**+1.2**
SELS	**Selova**	**2.15**	**33**	*e*Pn	**Pn**	**10 22 11.5**	**+1.0**
SELS				*e*Sn	**Sn**	**10 22 37.6**	**+0.6**
RUDO	**Rudo**	**2.19**	**356**	⇓*i*Pn	**Pn**	**10 22 12.7**	**+1.8**
RUDO				*e*Sn	**Sn**	**10 22 39.1**	**+1.3**
IVAS	**Ivanjica**	**2.20**	**12**	*e*Pn	**Pn**	**10 22 12.1**	**+1.0**
IVAS				*e*Sn	**Sn**	**10 22 39.0**	**+0.9**
KTI	**Kastanea**	**2.24**	**117**	P	**Pn**	**10 22 12.8**	**+1.1**
GRG	**Griva**	**2.24**	**101**	P	**Pn**	**10 22 12.5**	**+0.8**
MATE	**Matera**	**2.25**	**251**	⇑P	**Pn**	**10 22 12.8**	**+1.0**
MATE				⇓S	**Sb**	**10 22 43.0**	**-0.1**
VAY	**Valandovo**	**2.31**	**92**	*i* Pn	**Pn**	**10 22 14.8**	**+2.2**
BBLS	**Lazi&#263i**	**2.43**	**358**	*e*Pn	**Pn**	**10 22 16.2**	**+1.8**
BBLS				*e*Sn	**Sn**	**10 22 45.5**	**+1.5**
BBLS	**Lazi&#263i**	**2.43**	**358**	⇑*i*Pn	**Pn**	**10 22 15.9**	**+1.5**
BBLS				*e*Sn	**Sn**	**10 22 44.9**	**+0.9**
BOSS	**Bosilegrad**	**2.46**	**63**	*e*Pn	**Pn**	**10 22 15.8**	**+1.1**
KNT	**Kendrikon**	**2.57**	**95**	P	**Pn**	**10 22 16.9**	**+0.7**
MAKA	**Makarska**	**2.61**	**316**	*i* Pn	**Pn**	**10 22 18.0**	**+1.3**
MAKA				Sn	**Sn**	**10 22 49.3**	**+1.1**
GRUS	**Gruza**	**2.61**	**20**	*e*Pn	**Pn**	**10 22 18.0**	**+1.2**
GRUS				*e*Sn	**Sn**	**10 22 48.6**	**+0.3**
THL	**Klokotos Trika**	**2.67**	**133**	P	**Pn**	**10 22 18.7**	**+1.1**
HAPS	**Han Pijesak,BI**	**2.68**	**352**	*e*Pn	**Pn**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZS				⇑S	Sn	10 23 34.6	+0.8
BZS	**Buzias**	**4.46**	**19**	*e*Pn	**Pn**	**10 22 42.8**	**+0.7**
NVLJ	**Novalja**	**4.62**	**314**	*e*Pn	**Pn**	**10 22 45.2**	**+0.9**
GZR	**Gura Žlata**	**4.62**	**30**	⇑P	**Pn**	**10 22 46.1**	**+1.7**
GZR				⇑S	Sn	10 23 38.8	+0.9
MOSL	**Moslavina**	**4.63**	**335**	*e*Pn	**Pn**	**10 22 45.2**	**+0.7**
SURR	**Surduc**	**4.72**	**23**	⇑P	**Pn**	**10 22 45.8**	**0.0**
SURR				⇑S	Sn	10 23 41.5	+1.2
MORH	**Mrgy, Hungar**	**4.82**	**353**	⇑P	**Pn**	**10 22 48.1**	**+1.0**
ELND	**Elena**	**4.97**	**70**	⇑P	**Pn**	**10 22 49.8**	**+0.7**
LOT	**Lotru**	**5.08**	**36**	⇑P	**Pn**	**10 22 51.2**	**+0.5**
SIRR	**Siria**	**5.08**	**17**	⇑P	**Pn**	**10 22 51.5**	**+0.9**
SIRR				⇑S	Sn	10 23 49.5	+0.3
BOJS	**Bojanci**	**5.11**	**324**	*i* Pn	**Pn**	**10 22 52.4**	**+1.3**
BOJS				*e*Sn	Sn	10 23 48.4	-1.5
BOJS	**Bojanci**	**5.11**	**324**	*e*Pn	**Pn**	**10 22 52.4**	**+1.3**
BOJS				*e*Sn	Sn	10 23 49.3	-0.6
CRES	**Cresnjev**	**5.28**	**328**	*i* Sn	**Sn**	**10 23 53.7**	**-0.4**
CRES	**Cresnjev**	**5.28**	**328**	*e*Pn	**Pn**	**10 22 54.3**	**+0.9**
CRES				*e*Sn	Sn	10 23 52.8	-1.3
SMRN	**Sveta Marina**	**5.31**	**314**	*e*Pn	**Pn**	**10 22 54.9**	**+1.1**
GBRS	**Gornja Briga**	**5.33**	**322**	*i* Pn	**Pn**	**10 22 55.8**	**+1.6**
BRJN	**Brijuni**	**5.45**	**311**	*e*Pn	**Pn**	**10 22 56.7**	**+1.0**
CEY	**Cerknica**	**5.67**	**321**	⇓*i*Pn	**Pn**	**10 23 00.0**	**+1.3**
CEY				*e*Sn	Sn	10 24 02.6	-1.0
VOIR		**5.69**	**43**	⇑P	**Pn**	**10 23 00.1**	**+1.1**
SKDS	**Skadanscina**	**5.73**	**318**	*e*Pn	**Pn**	**10 23 00.8**	**+1.2**
SKDS				*e*Sn	Sn	10 24 03.1	-2.1
GBAS	**Gorenja Brezov**	**5.80**	**323**	*i* Pn	**Pn**	**10 23 02.2**	**+1.5**
DRGR		**5.83**	**22**	*e*Pn	**Pn**	**10 23 01.7**	**+0.6**
SOKA	**Soboth**	**6.15**	**330**	*e*Pn	**Pn**	**10 23 05.9**	**+0.4**
	comp=E,1.3nm,0.3s,SNR=4.3						
MLR	**Muntele Rosu**	**6.20**	**47**	Pn	**Pn**	**10 23 08.8**	**+2.6**
	comp=E,1.1nm,0.3s,baz=149,slow=21,SNR=6.9						
MLR				Sn	Sn	10 24 15.8	-1.1
	baz=202,slow=16						
	comp=E,5.7nm,0.6s						
OBKA	**Obir**	**6.21**	**327**	*i* Pn	**Pn**	**10 23 07.2**	**+1.0**
	comp=E,2.5nm,0.3s,SNR=4.7						
OBKA	**Obir**	**6.21**	**327**	⇑*i*Pn	**Pn**	**10 23 07.1**	**+0.9**
OBKA				*e*Sn	Sn	10 24 14.9	-2.1
ARSA	**Arzberg**	**6.48**	**335**	*e*Pn	**Pn**	**10 23 10.6**	**+0.7**
	comp=E,0.6nm,0.3s						
PSZ	**Piszkesteto**	**6.49**	**2**	⇑P	**Pn**	**10 23 10.3**	**+0.2**
PLOR	**Plostina**	**6.81**	**47**	⇑P	**Pn**	**10 23 16.7**	**+2.2**
VRI	**Vrincioaia**	**6.86**	**47**	⇓P	**Pn**	**10 23 17.8**	**+2.6**
CONA	**Conrad Observa**	**6.99**	**339**	*e*Pn	**Pn**	**10 23 18.5**	**+1.5**
	comp=E,0.3nm,0.3s						
VYHS	**Vyhne**	**7.08**	**356**	*e*PN	Pn	10 23 24.1	+6.0
VYHS				*e*SN	**Sn**	**10 24 40.2**	**+1.9**
KECS	**Kecovo**	**7.09**	**5**	*e*PN	Pn	10 23 23.3	+5.1
KECS				*e*SN	**Sn**	**10 24 42.0**	**+3.5**
KBA	**Koelnbreinsper**	**7.17**	**324**	*e*Pn	**Pn**	**10 23 21.3**	**+1.8**
	comp=E,2.0nm,0.3s						
ABTA	**Abfaltersbach**	**7.32**	**319**	*e*Pn	**Pn**	**10 23 21.9**	**+0.5**
	comp=E,0.7nm,0.2s						
MOA	**Molln**	**7.42**	**332**	*e*Pn	**Pn**	**10 23 24.8**	**+2.0**
	comp=E,1.9nm,0.4s						
BIOA	**Bad Ischl, Aus**	**7.53**	**328**	*e*Pn	**Pn**	**10 23 26.3**	**+2.0**
	comp=E,2.5nm,0.3s						
LESA	**Schwarzleotal**	**7.73**	**323**	*e*Pn	**Pn**	**10 23 27.3**	**+0.3**
	comp=E,0.8nm,0.3s						
WTTA	**Wattenberg**	**8.11**	**319**	*e*Pn	**Pn**	**10 23 33.2**	**+0.8**
	comp=E,1.1nm,0.2s,SNR=5.8						
WATA	**Walderalm**	**8.19**	**319**	*e*Pn	**Pn**	**10 23 34.7**	**+1.3**
	comp=E,0.8nm,0.2s,SNR=6.2						
SQTA	**Sankt Quirin**	**8.29**	**317**	*i* Pn	**Pn**	**10 23 36.6**	**+1.7**
	comp=E,1.1nm,0.2s						
FETA	**Feichten**	**8.42**	**315**	*e*Pn	**Pn**	**10 23 37.6**	**+1.0**
	comp=E,0.7nm,0.3s						
GERES	**GERESS Array B**	**8.47**	**333**	Pn	**Pn**	**10 23 39.8**	**+2.6**
	comp=E,0.3nm,0.3s,baz=157,slow=16,SNR=3.7						
GERES				Sn	**Sn**	**10 25 13.7**	**+1.1**
	comp=E,0.3nm,0.3s,baz=150,slow=26,SNR=4.4						
	comp=E,0.3nm,0.3s						
DAVOX	**Davos/Dischmat**	**8.74**	**311**	Pn	**Pn**	**10 23 43.5**	**+2.4**
	comp=E,0.6nm,0.3s,baz=146,slow=16,SNR=5.9						
DAVOX				Sn	**Sn**	**10 25 18.2**	**-1.3**
	comp=E,0.3nm,0.3s,baz=143,slow=20,SNR=1.6						
	comp=E,1.3nm,0.5s						
AKASG	**Malin Array Be**	**11.46**	**33**	LR	LR	10 29 42.7	
	comp=E,23nm,18.9s,baz=96,slow=43						
HFS	**Hagfors**	**19.07**	**351**	P	**P**	**10 25 55.8**	**-0.9**
	comp=E,0.2nm,0.3s,baz=164,slow=12,SNR=10						
	comp=E,1.3nm,0.7s						
NOA	**NORSAR Array B**	**20.28**	**348**	P	**P**	**10 26 09.1**	**-0.8**
	comp=E,0.1nm,0.4s,baz=151,slow=10,SNR=3.5						
	comp=E,0.1nm,0.4s						
EKA	**Eskdalemuir Ar**	**20.36**	**321**	P	**P**	**10 26 11.1**	**+0.2**
	comp=E,0.5nm,0.6s,baz=111,slow=10,SNR=2.2						
	comp=E,0.5nm,0.6s						
FINES	**FINESS Array B**	**20.43**	**9**	P	**P**	**10 26 10.0**	**-1.5**
	comp=E,2.2nm,0.3s,baz=187,slow=10,SNR=46						
	comp=E,2.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**32.18**	**214**	P	**P**	**10 28 03.4**	**+0.9**
	comp=E,0.4nm,0.7s,baz=35,slow=9.0,SNR=2.5						
	comp=E,0.4nm,0.7s						
BVAR	**Borovoye Array**	**35.72**	**53**	P	**P**	**10 28 31.9**	**-0.9**
	comp=E,0.6nm,0.6s,baz=290,slow=9.3,SNR=4.1						
	comp=E,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**41.00**	**56**	P	**P**	**10 29 16.5**	**-0.8**
	comp=E,0.1nm,0.3s,baz=283,slow=9.6,SNR=1.4						
	comp=E,0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**44.16**	**50**	P	**P**	**10 29 42.0**	**-0.9**
	comp=E,2.4nm,0.5s,baz=287,slow=8.9,SNR=9.2						
	comp=E,2.4nm,0.5s						
MKAR	**Makanchi Array**	**44.34**	**61**	P	**P**	**10 29 43.8**	**-0.7**
	comp=E,1.1nm,0.6s,baz=286,slow=7.3,SNR=12						
	comp=E,1.1nm,0.6s						
SONM	**Songino Array**	**59.03**	**52**	P	**P**	**10 31 32.9**	**-1.5**
	comp=E,0.4nm,0.3s,baz=286,slow=7.3,SNR=2.1						
	comp=E,0.4nm,0.3s						
YAK	**Yakutsk**	**62.67**	**30**	LR	LR	11 00 54.6	
	comp=E,22nm,18.6s,baz=243,slow=38						

*IDC **15** 10:35:59.9±1.0, 6°.33S×143°.11E, h0km, mb4.1/5, mbtmp4.1/7, ML3.6/1, MS3.0/2, Error ellipse: s-maj=43.5km s-min=23.6km az=58.0*
*NEIC **15** 10:36:05.1±2.6, 6°.5S±0°.1×143°.0E±0°.1, h18km±5km, mb4.0/12, Error ellipse: s-maj=18.2km s-min=11.8km az=224.0*
ISC 15 10:36:05.9±0.8, **6°.4S**±0°.1×**143°.05E**±0°.09, **h35**km, **n26**, σ1§**48**/**26**, **mb4.1/7**, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.04**	**126**	Pn	**Pn**	**10 37 18.3**	**-0.7**
	24nm,0.7s,baz=283,slow=1.1,SNR=6.3						
PMG				Sn	**Sn**	**10 38 15.9**	**-0.1**
	1.1nm,0.3s,baz=227,slow=19,SNR=1.7						
COEN	**Coen**	**7.49**	**179**	Pn	**Pn**	**10 37 52.0**	**-0.7**
FAKI	**Fak Fak**	**11.31**	**287**	Pn	**Pn**	**10 38 45.3**	**+0.2**
MTN	**Manton Dam**	**13.37**	**241**		**Pn**	**10 39 11.4**	**-1.9**
WB0	**Warramunga Arr**	**15.71**	**212**		**Pn**	**10 39 44.8**	**+0.1**
WR0	**Warramunga Arr**	**15.79**	**211**		**Pn**	**10 39 43.1**	**-2.7**
WR0				IAmb	IAmb	10 39 58.0	
	comp=Z,8.1nm,0.9s						
WRAB	**Tennant Creek**	**15.87**	**211**	Pn	**Pn**	**10 39 45.5**	**-1.2**
WRAB				IAmb	IAmb	10 39 58.4	
	comp=Z,7.1nm,0.8s						
WB2	**Warramunga Arr**	**15.87**	**211**		**Pn**	**10 39 45.9**	**-1.0**
WB2				IAmb	IAmb	10 39 58.5	
	comp=Z,7.9nm,0.9s						
WRA	**Warramunga Arr**	**15.88**	**211**	Pn	**Pn**	**10 39 46.4**	**-0.6**
WRA	**Warramunga Arr**	**15.88**	**211**	Pn	**Pn**	**10 39 45.2**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=28,slow=11,SNR=15						
	comp=Z,1.5nm,0.6s						
AS31	**Alice Springs**	**19.27**	**206**	P	**Pn**	**10 40 30.6**	**+1.7**
AS31				IAmb	IAmb	10 40 34.5	
	comp=Z,5.3nm,0.7s						
ASAR	**Alice Springs**	**19.27**	**206**	P	**Pn**	**10 40 30.5**	**+1.6**
ASAR	**Alice Springs**	**19.27**	**206**	P	**Pn**	**10 40 30.2**	**+1.4**
	comp=Z,15nm,0.6s,baz=32,slow=9.9,SNR=83						
ASAR				LR	LR	10 48 25.2	
	comp=Z,113nm,21.2s,baz=337,slow=38						
GUMO	**Guam**	**19.96**	**5**	LR	LR	10 47 15.6	
	comp=Z,22nm,20.2s,baz=162,slow=34						
FITZ	**Fitzroy Crossi**	**20.57**	**234**	P	**P**	**10 40 43.2**	**+1.4**
STKA	**Stephens Creek**	**25.36**	**183**	P	**P**	**10 41 29.8**	**0.0**
DZM	**Mont Dzumac**	**27.43**	**127**	P	**P**	**10 41 50.7**	**+1.9**
MK31	**Makanchi Array**	**75.36**	**322**	P	**P**	**10 47 47.7**	**+1.8**
MK31				IAmb	IAmb	10 47 49.2	
	comp=Z,2.8nm,1.2s						
MKAR	**Makanchi Array**	**75.36**	**322**	P	**P**	**10 47 46.2**	**+0.3**
MKAR	**Makanchi Array**	**75.36**	**322**	P	**P**	**10 47 44.7**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=99,slow=6.5,SNR=6.5						
	comp=Z,1.2nm,0.7s						
KURK	**Kurchatov**	**79.23**	**324**	P	**P**	**10 48 10.4**	**+3.0**
KURK				IAmb	IAmb	10 48 22.4	
	comp=Z,5.3nm,1.4s						
KURBB	**Kurchatov Arra**	**79.24**	**324**	P	**P**	**10 48 07.2**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=107,slow=4.7,SNR=2.8						
	comp=Z,0.7nm,0.8s						
QSPA	**South Pole Qui**	**83.55**	**180**	P	**P**	**10 48 30.9**	**+0.7**
QSPA	**South Pole Qui**	**83.55**	**180**	P	**P**	**10 48 30.2**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=41,slow=0.6,SNR=11						
	comp=Z,2.1nm,0.8s						
BVAR	**Borovoye Array**	**84.82**	**325**	P	**P**	**10 48 37.2**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=106,slow=8.5,SNR=14						
	comp=Z,3.6nm,0.8s						
ILAR	**Eielson Array**	**87.43**	**24**	P	**P**	**10 48 47.2**	**-2.2**
	comp=Z,0.4nm,0.8s,baz=253,slow=4.8,SNR=5.4						
	comp=Z,0.4nm,0.8s						

*IDC **15** 10:50:55.3±11.0, 6°.96S×129°.43E, h116km±111km, mb3.7/4, mbtmp3.9/6, ML3.5/2, Error ellipse: s-maj=132.8km s-min=39.5km az=62.0*
*NEIC **15** 10:50:57.4±1.4, 7°.4S±0°.1×128°.27E±0°.06, h122km±11km, mb3.9/5, Error ellipse: s-maj=17.1km s-min=7.0km az=160.0*
ISC 15 10:50:58.7±0.9, **7°.53S**±0°.09×**128°.45E**±0°.10, **h150**km, **n24**, σ1§**89**/**25**, **mb3.8/6**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.86**	**99**	Pn	**Pn**	**10 51 43.8**	**-0.5**
SOEI	**Soe**	**4.69**	**242**	Pn	**Pn**	**10 52 04.6**	**-3.6**
MTN	**Manton Dam**	**5.90**	**154**	Pn	**Pn**	**10 52 25.3**	**+1.2**
FAKI	**Fak Fak**	**5.94**	**40**	Pn	**Pn**	**10 52 23.2**	**-1.4**
KNRA	**Kununurra**	**8.10**	**178**	Pn	**Pn**	**10 52 54.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**10.86**	**194**	Pn	**Pn**	**10 53 29.7**	**-0.3**
WB0	**Warramunga Arr**	**13.46**	**155**	Pn	**Pn**	**10 54 03.6**	**-0.2**
WRAB	**Tennant Creek**	**13.59**	**156**	Pn	**Pn**	**10 54 04.3**	**-1.2**
WRA	**Warramunga Arr**	**13.60**	**156**	Pn	**Pn**	**10 54 04.4**	**-1.1**
WRA	**Warramunga Arr**	**13.60**	**156**	P	**Pn**	**10 54 04.9**	**-0.7**
	0.3nm,0.3s,baz=342,slow=13,SNR=23						
WRA				S	Sn	10 56 27.2	-9.0
	2.3nm,0.6s,baz=330,slow=21,SNR=7.9						
	0.3nm,0.3s						
WB2	**Warramunga Arr**	**13.60**	**156**	Pn	**Pn**	**10 54 03.8**	**-1.9**
WR0	**Warramunga Arr**	**13.69**	**155**	Pn	**Pn**	**10 54 06.2**	**-0.7**
COEN	**Coen**	**15.80**	**115**	P	**P**	**10 54 34.0**	**+0.1**
COEN				IAmb	IAmb	10 54 57.3	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**16.88**	**163**		**Pn**	**10 54 48.4**	**+2.2**
ASAR	**Alice Springs**	**16.88**	**163**	P	**Pn**	**10 54 48.0**	**+1.8**
ASAR	**Alice Springs**	**16.88**	**163**	P	**Pn**	**10 54 49.0**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=342,slow=10,SNR=21						
ASAR				S	**S**	**10 57 49.4**	**-4.6**
	comp=Z,0.6nm,0.5s,baz=315,slow=17,SNR=5.7						
	comp=Z,1.1nm,0.6s						
MORW	**Morawa**	**24.41**	**207**	P	**P**	**10 56 06.5**	**+3.1**
STKA	**Stephens Creek**	**27.15**	**155**	P	**P**	**10 56 28.6**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=312,slow=9.5,SNR=3.1						
	comp=Z,0.9nm,0.5s						
MK31	**Makanchi Array**	**67.84**	**328**	P	**P**	**11 01 39.6**	**-1.1**
MK31				IAmb	IAmb	11 02 00.7	
	comp=Z,1.2nm,1.1s						
MKAR	**Makanchi Array**	**67.84**	**328**	P	**P**	**11 01 40.7**	**0.0**
MKAR	**Makanchi Array**	**67.84**	**328**	P	**P**	**11 01 42.0**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=114,slow=7.8,SNR=8.7						
	comp=Z,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**71.39**	**335**	P	**P**	**11 02 01.2**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=142,slow=7.3,SNR=2.2						
	comp=Z,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**72.17**	**329**	P	**P**	**11 02 07.2**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=123,slow=5.5,SNR=1.2						
	comp=Z,1.1nm,0.3s						
QSPA	**South Pole Qui**	**82.45**	**180**	P	**P**	**11 03 05.8**	**+1.6**
QSPA				IAmb	IAmb	11 03 21.3	
	comp=Z,3.2nm,1.4s						

*NEIC **15** 11:37:04.2±0.9, 47°.29N±0°.02×122°.15W±0°.05, h30km±9km, Error ellipse: s-maj=4.7km s-min=3.0km az=77.0*
*PNSN **15** 11:37:05.2, 47°.29N×122°.14W, h24km, MD2.1, Fault plane solution: NP1:φ=35.00000°, δ=75.00000°, λ=10.00000°.*
SEA 15 11:37:05.2±1.9, **47°.29N**±0°.03×**122°.14W**±0°.04, **h24**km±7km, **ML2.1**/15, **ML2.5**/42(NEIC), **Error ellipse: s-maj=4.1km s-min=3.1km az=217.0, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
D05A	**Enumclaw**	**0.14**	**134**		Pb	11 37 10.1	+0.1
D05A					Sb	11 37 14.1	+0.7
D05A	**Enumclaw**	**0.14**	**134**	IAML		11 37 14.3	
	comp=N,551nm,0.6s						
RAW	**Raver**	**0.15**	**71**		Pb	11 37 10.1	-0.1
PAYL	**Puyallup Schoo**	**0.15**	**231**		Pb	11 37 10.1	-0.1
PAYL					Sb	11 37 14.7	+1.2
GSM	**Grass Mountain**	**0.25**	**110**		Pb	11 37 11.2	-0.3
VVHS	**Vashon High Sc**	**0.25**	**303**		Pb	11 37 11.3	-0.1
GHW	**Garrison Hill**	**0.26**	**200**		Pb	11 37 11.0	-0.6
GHW					Sb	11 37 16.0	+0.1
RATT	**Rattlesnake La**	**0.27**	**59**		Pb	11 37 11.2	-0.4
RATT					Sb	11 37 16.0	0.0
SP2	**Seward Park 2**	**0.28**	**345**		Pb	11 37 11.9	+0.1
B941	**Kapowsin**	**0.31**	**190**		Pb	11 37 11.4	-0.8
PCFR	**Pierce County**	**0.36**	**215**		Pb	11 37 12.4	-0.6
PCFR					Sb	11 37 18.3	-0.1
FMW	**Mount Fremont**	**0.48**	**138**		Pb	11 37 14.3	-0.8
FMW					Sb	11 37 21.3	-0.6
RCS	**Mount Rainier-**	**0.50**	**146**		Pb	11 37 14.8	-0.7
RCS					Sb	11 37 22.3	-0.4
REMR	**Mount Rainier-**	**0.51**	**156**		Pb	11 37 14.6	-1.0
GNW	**Green Mountain**	**0.54**	**301**		Pb	11 37 15.0	-1.1
BLH	**Bald Hill**	**0.55**	**8**		Pb	11 37 15.5	-0.8
LON	**Longmire**	**0.58**	**157**		Pb	11 37 15.6	-1.2
LON	**Longmire**	**0.58**	**157**		Sb	11 37 23.8	-0.9
LON	**Longmire**	**0.58**	**157**	Pn	Pb	11 37 15.7	-1.1
LON	**Longmire**	**0.58**	**157**	IAML		11 37 24.1	
	comp=E,144nm,0.1s						
LON				IAML		11 37 24.1	
	comp=N,121nm,0.1s						
C04A	**Brinnon**	**0.71**	**308**		Pb	11 37 17.7	-1.1
C04A					Sb	11 37 27.6	-0.6
HDW	**Hoodsport**	**0.72**	**301**		Pb	11 37 17.9	-1.1
B013	**Quilcene**	**0.74**	**315**		Pb	11 37 18.1	-1.3
B013					Sb	11 37 28.4	-0.7
JCW	**Jim Creek**	**0.92**	**9**		Pb	11 37 21.5	-0.9
LTY	**Liberty**	**1.00**	**91**	Pn	Pn	11 37 22.8	-1.0
WISH	**Wishkah**	**1.12**	**262**	Pn	Pn	11 37 24.2	-1.1
NLWA	**Neilton Lookou**	**1.18**	**276**	Pn	Pn	11 37 24.8	-1.4
B04A	**Port Angeles**	**1.20**	**310**	Pn	Pn	11 37 25.3	-1.2
E03A	**Lebam**	**1.23**	**233**		Pn	11 37 26.1	-0.7
F04D	**Rainier, OR**	**1.35**	**207**	Pn	Pn	11 37 26.6	-1.8
F04A	**Amboy**	**1.37**	**188**		Pn	11 37 28.0	-0.7
RADR	**Rader Ridge**	**1.43**	**233**	Pn	Pn	11 37 29.5	-0.1
MXC	**Moxie City**	**1.45**	**119**	Pn	Pn	11 37 30.4	+0.5
PGC	**Sidney**	**1.62**	**328**	Pn	Pn	11 37 32.2	-0.1
F03A	**Seaside**	**1.67**	**216**	Pn	Pn	11 37 31.1	-1.8
E07A	**Sunnyside**	**1.73**	**114**	Pn	Pn	11 37 33.8	+0.1
F07A	**Phinny Hill Vi**	**2.07**	**132**	Pn	Pn	11 37 37.4	-0.9
F07A				IAML		11 38 35.5	
	comp=N,77nm,0.5s						
F07A				IAML		11 38 36.6	
	comp=E,42nm,0.4s						
G05A	**Wamic**	**2.12**	**164**	Pn	Pn	11 37 37.3	-1.8
D08A	**Wollman Farm,**	**2.21**	**95**	Pn	Pn	11 37 39.6	-0.7
D08A				IAML		11 38 40.4	
	comp=N,18nm,0.4s						
G03D	**McMinnville, O**	**2.22**	**201**	Pn	Pn	11 37 39.1	-1.4
HEBO	**Mount Hebo**	**2.36**	**209**	Pn	Pn	11 37 41.0	-1.4
H04A	**Detroit Lake**	**2.60**	**181**	Pn	Pn	11 37 46.7	+0.9
H04A				IAML		11 38 53.0	
	comp=N,48nm,0.5s						

*PNSN **15** 11:37:31.0, 47°.28N×122°.12W, h27km, MD2.6, Fault plane solution: NP1:φ=220.00000°, δ=80.00000°, λ=-10.00000°.*
*NEIC **15** 11:37:30.6±1.8, 47°.28N±0°.02×122°.14W±0°.03, h31km±6km, Error ellipse: s-maj=2.9km s-min=2.3km az=59.0*
SEA 15 11:37:31.0±1.6, **47°.28N**±0°.02×**122°.12W**±0°.03, **h27**km±6km, **ML2.6**/36, **ML2.6**/52(NEIC), **Error ellipse: s-maj=3.2km s-min=2.7km az=56.0, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
D05A	**Enumclaw**	**0.13**	**134**		Pb	11 37 36.0	-0.1
D05A					Sb	11 37 40.0	+0.4
D05A	**Enumclaw**	**0.13**	**134**	IAML		11 37 40.2	
	comp=N,2μm,0.6s						
D05A				IAML		11 37 40.5	
	comp=E,1μm,0.4s						
RAW	**Raver**	**0.14**	**64**		Pb	11 37 35.9	-0.4
PAYL	**Puyallup Schoo**	**0.15**	**238**		Pb	11 37 35.9	-0.5
PAYL					Sb	11 37 40.7	+0.7
TBPA	**Tacoma Substat**	**0.17**	**264**		Pb	11 37 36.3	-0.2
TBPA					Sb	11 37 41.3	+1.1
GSM	**Grass Mountain**	**0.23**	**108**		Pb	11 37 37.0	-0.4
GHW	**Garrison Hill**	**0.26**	**204**		Pb	11 37 36.8	-0.7
GHW					Sb	11 37 41.8	-0.2
RATT	**Rattlesnake La**	**0.26**	**55**		Pb	11 37 37.1	-0.7
RATT					Sb	11 37 41.9	-0.4
VVHS	**Vashon High Sc**	**0.27**	**303**		Pb	11 37 37.2	-0.6
BSFP	**Boeing Fire Pr**	**0.27**	**334**		Sn	11 37 43.7	-0.8
TKCO	**King County**	**0.29**	**335**		Sb	11 37 43.5	+0.7
SP2	**Seward Park 2**	**0.29**	**343**		Pb	11 37 37.7	-0.4
SP2					Sb	11 37 43.4	+0.4
B941	**Kapowsin**	**0.30**	**193**		Pb	11 37 37.2	-0.9
PCFR	**Pierce County**	**0.36**	**217**		Pb	11 37 38.3	-0.8
PCFR					Sb	11 37 44.2	-0.3
ALCT	**Alcott Element**	**0.38**	**9**		Pb	11 37 39.2	-0.2
NOWS	**NOAA--Sand Poi**	**0.42**	**348**		Pb	11 37 40.3	+0.3
LAWT	**Lawton Element**	**0.42**	**335**		Pb	11 37 40.4	+0.3
OBSR	**Observation Ro**	**0.43**	**151**		Pb	11 37 39.8	-0.5
BABE	**Bainbridge Sch**	**0.43**	**320**		Pb	11 37 40.6	+0.4
BABE					Sn	11 37 49.1	+0.7
FMW	**Mount Fremont**	**0.46**	**138**		Pb	11 37 40.2	-0.6
EARN	**East Ridge Ele**	**0.47**	**7**		Pb	11 37 40.5	-0.3
RCS	**Mount Rainier-**	**0.48**	**146**		Pb	11 37 40.7	-0.6
REMR	**Mount Rainier-**	**0.49**	**157**		Pb	11 37 40.5	-0.8
C05A	**Tolt Reservoir**	**0.51**	**35**		Pb	11 37 40.8	-0.7
C05A					Sb	11 37 48.1	-0.5
RCM	**Mount Rainier-**	**0.51**	**149**		Pb	11 37 41.2	-0.6
GMW	**Gold Mountain**	**0.53**	**301**		Pb	11 37 40.5	-1.3
GNW	**Green Mountain**	**0.56**	**301**		Pb	11 37 42.1	-0.1
GNW	**Green Mountain**	**0.56**	**301**	IAML		11 37 54.8	
	comp=E,278nm,0.2s						
GNW				IAML		11 37 54.8	
	comp=N,183nm,0.2s						
LYNC	**Lynnwood City**	**0.56**	**348**		Pb	11 37 41.9	-0.4
BLH	**Bald Hill**	**0.56**	**6**		Pb	11 37 41.3	-1.1
LON	**Longmire**	**0.57**	**158**		Pb	11 37 41.4	-1.0
LON	**Longmire**	**0.57**	**158**		Pb	11 37 41.4	-1.0
LON					Sb	11 37 49.7	-0.5
LON	**Longmire**	**0.57**	**158**	IAML		11 37 50.0	
	comp=E,544nm,0.2s						
LON				IAML		11 37 50.0	
	comp=N,465nm,0.1s						
EVGW	**Everett Gatewa**	**0.58**	**358**		Sb	11 37 51.1	+0.6
EGRN	**Evergreen Coll**	**0.62**	**251**		Pb	11 37 42.5	-0.8
EGRN					Sb	11 37 51.5	0.0
C04A	**Brinnon**	**0.73**	**308**		Pb	11 37 43.5	-1.5
C04A					Sb	11 37 53.5	-1.1
HDW	**Hoodsport**	**0.73**	**301**		Pb	11 37 43.8	-1.4
CPW	**Capitol Peak**	**0.76**	**247**		Pb	11 37 44.4	-1.2
CPW					Sb	11 37 54.9	-0.6
B013	**Quilcene**	**0.76**	**

G05A IAML 11 38 37.5
comp=N,22nm,3.8s
G05A IAML 11 38 41.7
comp=E,22nm,0.7s
B08A Colville Reser 2.17 59 Pn Pn 11 38 04.6 -0.8
B08A IAML 11 38 39.6
comp=E,62nm,0.3s
D08A Wollman Farm, 2.19 95 Pn Pn 11 38 05.6 -0.1
G03D McMinnville, O 2.21 201 Pn Pn 11 38 05.8 -0.1
G03D IAML 11 38 36.7
comp=E,42nm,0.3s
G03D IAML 11 38 48.1
comp=N,50nm,1.6s
G06A Carlson Farm, 2.29 153 Pn Pn 11 38 07.0 +0.1
HEBO Mount Hebo 2.35 209 Pn Pn 11 38 08.6 +0.7
JBO Jordan Butte 2.41 138 Pn 11 38 07.2 -1.4
H04A Detroit Lake 2.59 181 Pn 11 38 13.4 +2.2

*NEIC **15** 11:43:08.7±0.9, 19°.419N±0°.009×155°.286W±0°.007, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.6km az=230.0*
HVO 15 11:43:08.5±1.0, **19°.419N**±0°.010×**155°.276W**±0°.007, **h2**km±2km, **ML3.5**/5/38, **ML3.0**/31(NEIC), **Error ellipse: s-maj=1.4km s-min=0.9km az=188.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.01**	**340**		Pg	11 43 09.4	+0.3
OBL	**Observatory Le**	**0.01**	**261**		Pg	11 43 09.3	+0.2
SBLHI	**Steaming Bluff**	**0.01**	**41**		Pg	11 43 09.6	+0.5
HATHI	**Halema'uma'u T**	**0.01**	**73**		Pg	11 43 09.6	+0.5
BYL	**Byron's Ledge**	**0.02**	**114**		Pg	11 43 09.6	+0.5
UWE	**Uwekahuna**	**0.02**	**278**		Pg	11 43 09.3	+0.2
KKO	**Keanakako`i**	**0.02**	**156**		Pg	11 43 09.6	+0.4
RIM	**Rim**	**0.02**	**176**		Pg	11 43 09.4	+0.2
WRMHI	**West Rim**	**0.03**	**242**		Pg	11 43 09.2	0.0
SDHHI	**Sand Hill**	**0.03**	**211**		Pg	11 43 09.5	+0.2
RSD	**Rainshed**	**0.04**	**357**		Pg	11 43 10.2	+0.7
RSD				IAML		11 43 10.7	
	comp=N,11μm,0.3s						
PUH	**Pauahi**	**0.07**	**128**		Pg	11 43 10.6	+0.6
PUH				IAML		11 43 12.1	
	comp=E,8μm,0.9s						
PUH				IAML		11 43 12.1	
	comp=N,6μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.11**	**111**		Pg	11 43 11.3	+0.7
HLP	**Hilina Pali**	**0.13**	**194**		Pg	11 43 11.3	+0.3
MLH	**Mauna Loa**	**0.13**	**306**		Pg	11 43 11.9	+0.8
MLH	**Mauna Loa**	**0.13**	**306**	IAML		11 43 15.0	
	comp=E,11μm,0.3s						
MLH				IAML		11 43 15.3	
	comp=N,16μm,0.3s						
STCH	**Steam Cracks**	**0.15**	**103**		Pg	11 43 11.9	+0.6
STCH				IAML		11 43 16.3	
	comp=E,6μm,0.9s						
STCH				IAML		11 43 16.0	
	comp=N,4μm,0.9s						
NPOC	**North of Pu'u**	**0.16**	**99**		Pg	11 43 12.2	+0.6
JCUZ	**Jacuzzi**	**0.17**	**102**		Pg	11 43 12.4	+0.6
HTC	**Hot Caves**	**0.21**	**213**		Pg	11 43 14.2	+1.6
JOKA	**Jonika Flow**	**0.26**	**87**		Pg	11 43 13.6	+0.1
JOKA				IAML		11 43 19.8	
	comp=N,3μm,0.8s						
JOKA				IAML		11 43 21.5	
	comp=E,1μm,0.6s						
HMH	**Humu'ula Sheep**	**0.27**	**313**		Pg	11 43 14.3	+0.6
HMH	**Humu'ula Sheep**	**0.27**	**313**	IAML		11 43 22.6	
	comp=E,5μm,0.9s						
HMH				IAML		11 43 22.9	
	comp=N,3μm,0.7s						
MLOA	**Mauna Loa Obse**	**0.31**	**292**		Pg	11 43 14.8	+0.4
MLOA	**Mauna Loa Obse**	**0.31**	**292**	IAML		11 43 24.3	
	comp=N,4μm,0.8s						
MLOA				IAML		11 43 24.7	
	comp=E,4μm,0.9s						
MWH	**Moku'aweowe**	**0.31**	**282**		Pg	11 43 14.8	+0.2
PAH	**Pahoa**	**0.32**	**76**		Pg	11 43 15.6	+1.0
KHU	**Kahuku**	**0.36**	**242**		Pg	11 43 15.4	-0.1
ALEP	**Alea Permanent**	**0.37**	**289**		Pg	11 43 15.8	+0.1
PHO	**Puu Honuaula**	**0.37**	**80**	Pg	Pg	11 43 14.8	-0.8
POHA	**Pohakuloa**	**0.41**	**324**	Pg	Pg	11 43 16.2	-0.3
POHA				IAML		11 43 24.4	
	comp=E,1μm,0.3s						
POHA				IAML		11 43 30.7	
	comp=E,1μm,1.5s						
HPO	**Honuapo**	**0.42**	**219**		Sg	11 43 23.3	+1.2
HPO	**Honuapo**	**0.42**	**219**		Pg	11 43 16.1	-0.5
HUH	**Hualalai**	**0.59**	**297**		Pg	11 43 19.9	0.0
CPH	**Captain Cook**	**0.61**	**277**		Pg	11 43 19.7	-0.5
HPAH	**Hawaii Prepara**	**0.73**	**327**		Pg	11 43 21.3	-1.2

*DSN **15** 11:48:20.1±2.5, 28°.45N×57°.83E, h15km, ML4.3/11, Error ellipse: s-maj=30.7km s-min=22.5km az=88.0*
*IDC **15** 11:48:20.3±0.7, 28°.04N×57°.70E, h0km, mb4.0/23, mbtmp4.1/27, ML4.1/4, MS3.4/32, Error ellipse: s-maj=16.6km s-min=13.1km az=176.0*
*NEIC **15** 11:48:23.7±2.8, 28°.14N±0°.08×57°.6E±0°.1, h10km±1km, mb4.5/40, Error ellipse: s-maj=18.3km s-min=11.8km az=120.0*
*TEH **15** 11:48:24.8, 28°.13N×57°.79E, h28km±18km, ML4.6*
*THR **15** 11:48:25.7±0.9, 28°.20N×57°.73E, h16km±9km, ML4.7*
*OMAN **15** 11:48:29.8±1.2, 27°.77N×57°.58E, h10km, mb5.2/9, ml4.2/21, Error ellipse: s-maj=9.4km s-min=7.5km az=30.0*
ISC 15 11:48:22.9±0.3, **28°.15N**±0°.02×**57°.75E**±0°.03, **h10**km, **n240**, σ2°.**19**/257, **mb4.2**/57, **MS3.4**/30, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.21**	**191**	Sg	**Sg**	**11 48 37.6**	**+7.3**
KBAM	**BAM**	**1.16**	**32**	Pg	**Pn**	**11 48 47.2**	**+1.9**
IBND	**Bandar-abas**	**1.28**	**237**	Pg	**Pg**	**11 48 49.2**	**+1.6**
GENO	**Geno**	**1.59**	**242**	Pg	**Pg**	**11 48 53.9**	**+0.5**
BNDS	**Bandar-Abbas**	**1.59**	**242**	*e*Pg	**Pg**	**11 48 55.3**	**+1.9**
BNDS				*e*Sg	**Sg**	**11 49 16.4**	**+2.3**
BNDS				IAML		11 49 20.1	
	comp=E,13μm,0.4s						
BNDS				IAML		11 49 23.4	
	comp=N,6μm,0.5s						
CHMN	**Cheshme madani**	**1.71**	**354**	Pg	**Pg**	**11 48 56.3**	**+0.5**
KRBR	**Kerman**	**2.02**	**335**	*e*Pn	**Pb**	**11 49 00.5**	**+0.6**
KRBR				*e*Sg	**Sg**	**11 49 27.9**	**0.0**
KRBR				IAML		11 49 36.1	
	comp=E,6μm,0.5s						
KRBR				IAML		11 49 39.8	
	comp=N,4μm,0.4s						
TVBK	**TV Kerman**	**2.02**	**335**	Pn	**Pb**	**11 49 00.3**	**+0.3**
JASK	**Jask - Hormozg**	**2.28**	**177**	Pn	**Pn**	**11 49 02.0**	**+1.4**
JASK	**Jask - Hormozg**	**2.28**	**177**	P	**Pb**	**11 49 03.3**	**-0.9**
	SNR=28						
KRM1	**Kerman Provinc**	**2.38**	**350**	Pn	**Pb**	**11 49 05.5**	**-0.5**
KHGB	**Koh Gabri**	**2.48**	**334**	Pn	**Pb**	**11 49 06.7**	**-1.0**
SHME	**Shamm**	**2.54**	**215**	*e*P	**Pb**	**11 49 06.5**	**-2.1**
	SNR=11						
SHME	**Shamm**	**2.54**	**215**	P	**Pb**	**11 49 06.8**	**-1.9**
	SNR=21						
SHME				S	**Sn**	**11 49 36.8**	**+1.6**
BANOM	**Banah**	**2.57**	**211**	*e*P	**Pn**	**11 49 06.4**	**+1.7**
	SNR=17						
BANOM				S	**Sb**	**11 49 40.1**	**-0.8**
BANOM	**Banah**	**2.57**	**211**	P	**Pb**	**11 49 07.0**	**-2.2**
BANOM				S	**Sn**	**11 49 35.4**	**-0.7**
ZHDN	**Zahedan**	**2.96**	**64**	Pn	**Pb**	**11 49 13.0**	**-2.9**
ZHSF	**Zahedan**	**3.02**	**61**	*e*Pn	**Pb**	**11 49 14.7**	**-2.2**
LAR1	**LAR**	**3.03**	**262**	Pn	**Pn**	**11 49 13.7**	**+2.7**
MASF	**Masafi**	**3.12**	**208**	S	**Sn**	**11 49 46.6**	**-2.9**
MDH	**Madha**	**3.13**	**205**	P	**Pn**	**11 49 11.7**	**-0.6**
MDH	**Madha**	**3.13**	**205**	P	**Pn**	**11 49 13.0**	**+0.7**
	SNR=5.6						
MDH				S	**Sn**	**11 49 48.0**	**-1.7**
MSFE	**Esma-Masafi**	**3.13**	**207**	*i* P	**Pn**	**11 49 14.2**	**+1.9**
	SNR=21						
UMQ	**Umm Al-Quwin**	**3.21**	**216**	P	**Pn**	**11 49 16.6**	**+3.1**
UOSS	**Minazif**	**3.48**	**204**		**Pn**	**11 49 19.0**	**+1.8**
UOSS	**Minazif**	**3.48**	**204**	*i* P	**Pn**	**11 49 16.9**	**-0.3**
	SNR=11						
UOSS	**Minazif**	**3.48**	**204**	P	**Pn**	**11 49 19.1**	**+1.8**
UOSS				S	**Sn**	**11 49 57.1**	**-1.4**
CHBR	**Chabahar**	**3.53**	**136**	Pn	**Pn**	**11 49 19.1**	**+1.3**
HATD	**Hatta, Dubai**	**3.62**	**204**	P	**Pn**	**11 49 18.8**	**-0.3**
HATD	**Hatta, Dubai**	**3.62**	**204**	P	**Pn**	**11 49 21.9**	**+2.8**
	SNR=13						
HATD				S	**Sn**	**11 49 57.5**	**-4.4**
NAZ	**Nazwa, Dubai**	**3.67**	**211**	P	**Pn**	**11 49 22.3**	**+2.6**
ASHO	**Ashiyiah**	**3.77**	**204**	*i* P	**Pn**	**11 49 23.5**	**+2.2**
	SNR=9.2						
ASHO	**Ashiyiah**	**3.77**	**204**	P	**Pn**	**11 49 24.5**	**+3.2**
	SNR=9.7						
ASHO				S	**Sn**	**11 50 02.9**	**-2.9**
FAQ	**Al Faqa, Dubai**	**3.91**	**210**	*i* P	**Pn**	**11 49 25.8**	**+2.7**
	SNR=18						
FAQ	**Al Faqa, Dubai**	**3.91**	**210**	P	**Pn**	**11 49 26.0**	**+2.9**
	SNR=12						
FAQ				S	**Sn**	**11 50 04.4**	**-4.6**
BSRN	**Basiran**	**3.98**	**17**	*e*Pn	**Pn**	**11 49 27.4**	**+3.3**
BSRN	**Basiran**	**3.98**	**17**	Pn	**Pn**	**11 49 27.6**	**+3.5**
NGCH	**Negor - Chabah**	**4.11**	**132**	Pn	**Pn**	**11 49 27.9**	**+2.1**
ASUD	**Al Ashush, Dub**	**4.13**	**212**	*i* P	**Pn**	**11 49 29.1**	**+3.0**
	SNR=14						
ASUD	**Al Ashush, Dub**	**4.13**	**212**	P	**Pn**	**11 49 29.3**	**+3.2**
	SNR=14						
ASUD				S	**Sn**	**11 50 11.8**	**-2.7**
LMD1	**Lamerd**	**4.15**	**260**	Pn	**Pn**	**11 49 28.5**	**+2.1**
SOHO	**SOHO**	**4.15**	**196**	P	**Pn**	**11 49 25.5**	**-0.8**
SOHO	**SOHO**	**4.15**	**196**	P	**Pn**	**11 49 28.7**	**+2.4**
SOHO				S	**Sn**	**11 50 14.5**	**-0.5**
QIR1	**Qir**	**4.16**	**276**	Pn	**Pn**	**11 49 29.4**	**+2.8**
SRVN	**Saravan**	**4.18**	**99**	Pn	**Pn**	**11 49 29.6**	**+2.6**
GHIR	**Ghir-Karzin**	**4.21**	**273**	*e*Pn	**Pn**	**11 49 30.9**	**+3.6**
IMEH	**Mehriz**	**4.22**	**321**	Pn	**Pn**	**11 49 31.1**	**+3.5**
AJN	**Ajban**	**4.35**	**215**	P	**Pn**	**11 49 31.7**	**+2.5**
	SNR=14						
IKOO	**Kooshah**	**4.39**	**14**	Pn	**Pn**	**11 49 33.0**	**+3.0**
ALNE	**Al Ain**	**4.46**	**204**	P	**Pn**	**11 49 33.6**	**+2.9**
	SNR=7.1						
ALNE				S	**Sn**	**11 50 21.7**	**-0.9**
HOQ	**Hoqain**	**4.57**	**185**	Pn	**Pn**	**11 49 32.9**	**+0.8**
HOQ	**Hoqain**	**4.57**	**185**	P	**Pn**	**11 49 32.9**	**+0.8**
	SNR=7.1						
HOQ				S	**Sn**	**11 50 23.0**	**-2.4**
BIDO	**Bidbid**	**4.62**	**176**	P	**Pn**	**11 49 34.3**	**+1.4**
BIDO				S	**Sn**	**11 50 23.8**	**-2.9**
ITEG	**Tejag**	**4.80**	**10**	Pn	**Pn**	**11 49 39.0**	**+3.4**
IDAH	**Dahanechah**	**4.92**	**21**	Pn	**Pn**	**11 49 40.7**	**+3.5**
ARQ	**Araqi**	**4.92**	**193**	P	**Pn**	**11 49 40.0**	**+2.9**
	SNR=24						
ARQ				S	**Sn**	**11 50 33.9**	**-0.2**
TPRV	**Parvadeh(Tabas**	**4.95**	**350**	Pn	**Pn**	**11 49 41.0**	**+3.6**
WSAR	**Wadi Sarin**	**4.96**	**171**	Pn	**Pn**	**11 49 38.7**	**+1.2**
	comp=N,10nm,0.3s,baz=348,slow=6.1,SNR=62						
WSAR				Sn	**Sn**	**11 50 31.9**	**-3.0**
	comp=N,28nm,0.3s,baz=351,slow=21,SNR=6.8						
WSAR				LR	LR	11 52 10.7	
	comp=N,217nm,21.0s,baz=54,slow=48						
WSAR	**Wadi Sarin**	**4.96**	**171**	P	**Pn**	**11 49 39.2**	**+1.7**
ICHK	**Chekchek**	**5.00**	**325**	Pn	**Pn**	**11 49 41.8**	**+3.5**
SMDO	**Samad**	**5.08**	**177**	P	**Pn**	**11 49 41.2**	**+1.9**
	SNR=6.3						
SMDO				S	**Sn**	**11 50 39.7**	**+1.6**
ISAD	**Sadrabad**	**5.14**	**318**	Pn	**Pn**	**11 49 44.3**	**+4.0**
AFRZ	**Afriz**	**5.37**	**11**	Pn	**Pn**	**11 49 46.0**	**+2.8**
BSY	**Bisya**	**5.41**	**185**	P	**Pn**	**11 49 46.8**	**+3.1**
	SNR=14						
BSY				S	**Sn**	**11 50 46.4**	**+0.3**
JRN	**Qarnain Island**	**5.43**	**235**	P	**Pn**	**11 49 45.1**	**+1.1**
JRN				S	**Sn**	**11 50 44.9**	**-1.7**
TKDS	**Koohdasht(Taba**	**5.47**	**354**	Pn	**Pn**	**11 49 47.9**	**+3.3**
TABS	**Tabas**	**5.50**	**354**	*e*Pn	**Pn**	**11 49 49.4**	**+4.3**
MZWR	**Madinat Zayed**	**5.59**	**219**	P	**Pn**	**11 49 48.0**	**+1.8**
MZWR				S	**Sn**	**11 50 49.0**	**-1.5**
WBK	**Wadi Bani Khal**	**5.63**	**168**	Pn	**Pn**	**11 49 47.9**	**+1.2**
WBK	**Wadi Bani Khal**	**5.63**	**168**	P	**Pn**	**11 49 48.5**	**+1.8**
	SNR=13						
WBK				S	**Sn**	**11 50 50.0**	**-1.5**
DSBU	**Dashti - Bushe**	**5.73**	**274**	Pn	**Pn**	**11 49 50.3**	**+2.2**
JMDO	**Jabal Madar**	**5.77**	**177**	P	**Pn**	**11 49 51.7**	**+3.0**
JMDO				S	**Sn**	**11 50 56.4**	**+1.5**
TNSJ	**Nastanj**	**5.87**	**351**	Pn	**Pn**	**11 49 54.0**	**+3.8**
SHRT	**Shahrakht**	**5.89**	**21**	*e*Pn	**Pn**	**11 49 54.3**	**+3.9**
SHRT	**Shahrakht**	**5.89**	**21**	Pn	**Pn**	**11 49 53.5**	**+3.1**
UMZA	**Um Al Zommool**	**5.90**	**204**	P	**Pn**	**11 49 53.4**	**+3.0**
IRAM	**Ramesheh**	**5.91**	**309**	Pn	**Pn**	**11 49 54.0**	**+3.2**
GHWR	**Ruwais**	**6.05**	**228**	P	**Pn**	**11 49 53.4**	**+0.9**
GHWR				S	**Sn**	**11 50 58.6**	**-3.3**
JLN	**Jalan Bani Buh**	**6.16**	**166**	P	**Pn**	**11 49 56.0**	**+2.0**
	SNR=7.3						
JLN				S	**Sn**	**11 51 02.5**	**-2.1**
NASN	**Na'in**	**6.30**	**319**	*e*Pn	**Pn**	**11 49 59.8**	**+3.6**
SHMA	**Al-Shehemyia**	**6.47**	**251**	P	**Pn**	**11 50 00.3**	**+2.0**
	SNR=9.3						
SHMA				S	**Sn**	**11 51 10.4**	**-1.8**
IGAR	**Gharneh**	**6.51**	**312**	Pn	**Pn**	**11 50 02.5**	**+3.5**
IZEF	**Zefreh**	**6.65**	**317**	Pn	**Pn**	**11 50 04.3**	**+3.3**
IBRJ	**Brojen**	**6.76**	**305**	Pn	**Pn**	**11 50 05.6**	**+3.2**
TRNA	**Turayna**	**6.78**	**241**	P	**Pn**	**11 50 03.7**	**+1.2**
	SNR=12						
TRNA				S	**Sn**	**11 51 16.3**	**-3.5**
SAKB	**Bahrain**	**6.79**	**253**	P	**Pn**	**11 50 04.4**	**+1.8**
SAKB				S	**Sn**	**11 51 18.3**	**-1.7**
SLWR	**Sila**	**6.80**	**235**	P	**Pn**	**11 50 03.6**	**+0.8**
SLWR				S	**Sn**	**11 51 16.2**	**-4.0**
SMRA	**Abu-Samra**	**7.08**	**243**	P	**Pn**	**11 50 07.7**	**+1.2**
	SNR=23						
SMRA				S	**Sn**	**11 51 24.2**	**-2.9**
MHTO	**MHTO**	**7.14**	**178**	P	**Pn**	**11 50 09.7**	**+2.2**
MHTO				S	**Sn**	**11 51 25.8**	**-2.8**
ZNGN	**Zangian**	**7.16**	**305**	Pn	**Pn**	**11 50 10.8**	**+2.8**
HRA	**Herat**	**7.31**	**31**	Pn	**Pn**	**11 50 13.6**	**+3.7**
IPIR	**Pirpir**	**7.45**	**309**	Pn	**Pn**	**11 50 14.6**	**+2.6**
ISFB	**Sefidab**	**7.77**	**324**	Pn	**Pn**	**11 50 19.5**	**+3.3**
QAMS	**Qamsar**	**7.79**	**317**	Pn	**Pn**	**11 50 20.3**	**+3.7**
SHRO	**Shahrood**	**7.95**	**350**	*e*Pn	Pn	11 50 24.6	+5.9
SBZV	**Sabzevar**	**8.21**	**359**	Pn	**Pn**	**11 50 26.3**	**+4.0**
GHVR	**GHOM**	**8.38**	**320**	*e*Pn	**Pn**	**11 50 28.3**	**+3.8**
IMYA	**Miami**	**8.40**	**13**	Pn	**Pn**	**11 50 27.7**	**+2.8**
KHMZ	**Khomeyn**	**8.70**	**312**	*e*Pn	**Pn**	**11 50 32.6**	**+3.5**
IDMV	**Damavand**	**8.85**	**328**	Pn	**Pn**	**11 50 34.8**	**+3.6**
ASAO	**Ashtian**	**9.18**	**316**	*e*Pn	**Pn**	**11 50 39.5**	**+3.8**
BJRD	**Bojnurd**	**9.53**	**358**	*e*Pn	**Pn**	**11 50 44.1**	**+3.8**
CHTH	**Charan**	**9.56**	**326**	*e*Pn	**Pn**	**11 50 45.5**	**+4.7**
MRVT	**Maraveh tapeh**	**9.58**	**352**	*e*Pn	**Pn**	**11 50 44.6**	**+3.6**
DOK	**Doka**	**10.06**	**200**	P	**Pn**	**11 50 48.6**	**+1.1**
WHFO	**Wadi Hawf**	**10.82**	**201**	P	**Pn**	**11 50 60.0**	**+1.9**
	SNR=12						
ABTO	**Aybut**	**11.51**	**202**	P	**Pn**	**11 51 08.0**	**+0.6**
	SNR=10						
RAYN	**Ar Rayn**	**11.96**	**250**	Pn	**Pn**	**11 51 11.9**	**-1.7**
RAYN	**Ar Rayn**	**11.96**	**250**	P	**Pn**	**11 51 11.0**	**-2.5**
SIMJ	**Simiganj**	**14.06**	**39**	Pn	**Pn**	**11 51 44.4**	**+2.0**
GNI	**Garni**	**16.08**	**321**	P	**Pn**	**11 52 11.0**	**+1.8**
GNI	**Garni**	**16.08**	**321**	Pn	**P**	**11 52 12.8**	**+0.2**
	comp=N,1.1nm,0.3s,baz=68,slow=5.4,SNR=4.8						
GNI				LR	LR	11 59 18.5	
	comp=N,41nm,19.2s,baz=114,slow=41						
DRK	**Karamyk**	**16.22**	**42**	P	**P**	**11 52 14.7**	**+0.3**
DRK				IAmb	IAmb	11 52 26.9	
	comp=Z,29nm,0.8s						
GURO	**Guroymak-BITLI**	**16.71**	**312**	P	**P**	**11 52 19.1**	**-0.5**
GURO				IAmb	IAmb	11 52 22.1	
	comp=Z,25nm,0.8s						
KK31	**Karatay Array**	**18.14**	**31**	P	**P**	**11 52 36.9**	**+1.7**
KKAR	**Karatay Array**	**18.14**	**31**	P	**P**	**11 52 37.1**	**+1.8**
KKAR	**Karatay Array**	**18.14**	**31**	P	**P**	**11 52 37.7**	**+2.5**
ASF	**Jabal al Asfar**	**18.47**	**288**	P	**P**	**11 52 37.6**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=215,slow=7.4,SNR=2.0						
	comp=Z,5.3nm,0.4s						
KSH	**Kashi**	**18.87**	**48**	P	**P**	**11 52 40.6**	**-2.9**
KSH				sP	sP	11 52 50.4	+2.5
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GAZ	**Gaziantep**	**19.46**	**303**	P	**Pn**	**11 52 51.3**	**+0.2**
GAZ				IAmb	IAmb	11 53 05.7	
	comp=Z,26nm,0.9s						
ARPR	**Arapgir-MALATY**	**19.47**	**309**	P	**Pn**	**11 52 53.5**	**+2.3**
KBZ	**Khabaz**	**19.60**	**326**	P	**Pn**	**11 52 54.1**	**+1.5**
	comp=Z,2.5nm,0.9s,baz=135,slow=14,SNR=2.7						
ZFRI	**Zfri**	**19.82**	**282**	P	**Pn**	**11 52 55.1**	**-0.2**
AAK	**Ala-Archa**	**19.82**	**39**	P	**Pn**	**11 52 55.7**	**+0.3**
AAK	**Ala-Archa**	**19.82**	**39**	P	**Pn**	**11 52 55.6**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=228,slow=11,SNR=7.6						
AAK				LR	LR	12 01 40.4	
	comp=Z,136nm,19.4s,baz=248,slow=40						
	comp=Z,7.2nm,0.7s						
MMAI	**Mount Meron Ar**	**19.83**	**290**	P	**P**	**11 52 54.0**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=94,slow=12,SNR=7.3						
	comp=Z,5.9nm,0.6s						
KIV	**Kislovodsk**	**19.87**	**326**	P	**P**	**11 52 55.0**	**+0.7**
KIV				IAmb	IAmb	11 53 14.7	
	comp=Z,23nm,0.9s						
KIV	**Kislovodsk**	**19.87**	**326**	P	**Pn**	**11 52 55.8**	**-0.2**
	comp=Z,21nm,0.9s						
HRFI	**Mount Harif**	**19.94**	**281**	P	**P**	**11 52 56.2**	**+1.1**
NRN	**Naryn**	**19.95**	**44**	P	**Pn**	**11 52 57.0**	**-0.1**
PRNI	**Paran**	**19.96**	**282**	P	**Pn**	**11 52 56.9**	**-0.2**
EIL	**Elat**	**20.02**	**280**	P	**P**	**11 52 55.6**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=40,slow=3.3,SNR=14						
EIL				LR	LR	12 02 32.5	
	comp=Z,200nm,19.1s,baz=68,slow=43						
	comp=Z,31nm,0.8s						
EIL	**Elat**	**20.02**	**280**	P	**P**	**11 52 57.2**	**+1.3**
MBRI	**Mt Berech**	**20.05**	**280**	P	Pn	11 52 57.7	-0.4
BOOM	**Boomskoye usch**	**20.55**	**41**	P	Pn	11 53 03.9	-0.2
BOOM				IAmb	IAmb	11 53 05.5	
	comp=Z,15nm,0.7s						
BNN	**Bunyan**	**21.10**	**306**	P	**P**	**11 53 09.3**	**+1.4**
ABKAR	**Abkulak array**	**21.14**	**4**	P	**P**	**11 53 09.1**	**+1.2**
ABKAR				IAmb	IAmb	11 53 21.1	
	comp=Z,13nm,0.9s						
ABKAR	**Abkulak array**	**21.14**	**4**	P	**P**	**11 53 09.1**	**+1.2**
TARG	**Taragay, Kyrgy**	**21.23**	**45**	P	**P**	**11 53 11.1**	**+1.6**
ATD	**Arta Tunnel**	**21.64**	**223**	LR	LR	12 02 55.1	
	comp=Z,5.7nm,18.3s,baz=16,slow=41						
CSS	**Mathiatis**	**21.86**	**294**	P	**P**	**11 53 15.5**	**-0.3**
CSS				IAmb	IAmb	11 53 36.4	
	comp=Z,21nm,0.9s						
AKTO	**Aktyubinsk**	**22.25**	**0**	P	**P**	**11 53 21.7**	**+1.8**
	comp=Z,5.9nm,0.7s,baz=188,slow=6.7,SNR=20						
AKTO				LR	LR	12 03 23.7	
	comp=Z,95nm,19.7s,baz=286,slow=40						
	comp=Z,5.9nm,0.7s						
BR131	**Keskin Array S**	**23.02**	**306**	P	**P**	**11 53 28.5**	**+0.2**
BR131				IAmb	IAmb	11 53 30.7	
	comp=Z,16nm,0.9s						
BRTR	**Keskin Array B**	**23.02**	**306**	P	**P**	**11 53 28.1**	**-0.2**
BRTR	**Keskin Array B**	**23.02**	**306**	P	**P**	**11 53 27.9**	**-0.4**
	comp=Z,13nm,0.9s,baz=127,slow=9.0,SNR=36						
	comp=Z,13nm,0.9s						
ISP	**Isparta**	**24.72**	**300**	P	**P**	**11 53 45.1**	**+0.6**
ISP				IAmb	IAmb	11 53 47.2	
	comp=Z,20nm,0.9s						
ELL	**Elmali**	**24.94**	**297**	P	**P**	**11 53 47.0**	**+0.4**
BELG	**Belogornoye**	**25.37**	**345**	P	**P**	**11 53 51.6**	**+1.6**
	comp=Z,6.4nm,0.7s,baz=210,slow=4.2,SNR=2.8						
	comp=Z,6.4nm,0.7s						
FURI	**Furi**	**26.27**	**227**	LR	LR	12 05 12.1	
	comp=Z,152nm,20.5s,baz=36,slow=39						
BVAR	**Borovoye Array**	**26.55**	**17**	P	**P**	**11 54 01.0**	**+0.1**
	comp=Z,6.1nm,0.7s,baz=190,slow=7.5,SNR=29						
BVAR				PcP	**PcP**	**11 57 23.8**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=267,slow=2.9,SNR=2.6						
BVAR				LR	LR	12 06 04.7	
	comp=Z,120nm,20.3s,baz=205,slow=40						
	comp=Z,6.1nm,0.7s						
MAKZ	**Makanchi**	**26.59**	**39**	P	**P**	**11 54 02.0**	**+0.7**
MK31	**Makanchi Array**	**26.76**	**39**	P	**P**	**11 54 03.4**	**+0.6**
MKAR	**Makanchi Array**	**26.76**	**39**	P	**P**	**11 54 03.7**	**+0.9**
MKAR	**Makanchi Array**	**26.76**	**39**	P	**P**	**11 54 03.0**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=226,slow=7.3,SNR=9.1						
MKAR				PcP	**PcP**	**11 57 23.8**	**-2.0**
	comp=Z,0.2nm,0.5s,baz=231,slow=4.3,SNR=1.9						
MKAR				LR	LR	12 05 53.4	
	comp=Z,65nm,20.5s,baz=218,slow=39						
	comp=Z,1.5nm,0.9s						
KURBB	**Kurchatov Arra**	**27.41**	**29**	P	**P**	**11 54 08.7**	**0.0**
	comp=Z,0.5nm,0.3s,baz=226,slow=8.9,SNR=2.1						
KURBB				PcP	**PcP**	**11 57 27.3**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=159,slow=2.9,SNR=1.8						
	comp=Z,0.5nm,0.3s						
ARU	**Arti**	**28.

NB2	**NORSAR Subarra**	45.12	330	P		**P**	**11 56 37.8 -1.5**
	comp=Z,1.4nm,0.7s,baz=116,slow=7.9						
NOA	**NORSAR Array B**	45.12	330	P		**P**	**11 56 37.9 -1.4**
	comp=Z,0.7nm,0.7s,baz=115,slow=8.0,SNR=3.9						
NOA				LR		LR	12 18 34.4
	comp=Z,22nm,20.3s,baz=125,slow=40						
	comp=Z,0.7nm,0.7s						
ARCES	**ARCESS Array B**	45.41	345	P		**P**	**11 56 40.7 -0.7**
	comp=Z,51nm,0.3s,baz=122,slow=8.6,SNR=3.0						
HHC	**Hu-ho-hao-te**	45.47	59	*eP*		**P**	**11 56 40.6 -1.8**
HHC				pmax		pmax	
	comp=Z,13nm,0.5s						
HHC				pmax		pmax	
	comp=Z,94nm,5.0s						
OPO	**Ambohidratompo**	47.56	194	LR		LR	12 17 22.5
	comp=Z,41nm,18.2s,baz=165,slow=37						
XLT	**XiLinHaoTe**	48.74	55	*eP*		**P**	**11 57 08.6 +0.7**
XLT				sP		sP	11 57 15.3 +2.8
XLT				PcP		**PcP**	**11 58 34.6 +1.7**
XLT				pmax		pmax	
	comp=Z,3.0nm,0.6s						
XLT				AMB		AMB	
	comp=Z,64nm,7.0s						
EKA	**Eskdalemuir Ar**	50.91	320	P		**P**	**11 57 22.6 -1.5**
	comp=Z,0.2nm,0.3s,baz=104,slow=8.9,SNR=4.8						
	comp=Z,0.2nm,0.3s						
ESDC	**Sonseca Array**	51.58	300	P		**P**	**11 57 28.4 -1.1**
	comp=Z,0.8nm,0.7s,baz=65,slow=6.3,SNR=8.0						
	comp=Z,0.8nm,0.7s						
TOA0	**Torodi Ar. Sit**	54.10	266	P		**P**	**11 57 46.8 -1.6**
TORD	**Torodi Ar. Bea**	54.10	266	P		**P**	**11 57 46.9 -1.4**
TORD	**Torodi Ar. Bea**	54.10	266	P		**P**	**11 57 46.6 -1.8**
	comp=Z,9.1nm,0.9s,baz=65,slow=7.9,SNR=25						
TORD				LR		LR	12 24 06.3
	comp=Z,75nm,18.2s,baz=125,slow=40						
	comp=Z,9.1nm,0.9s						
TIXI	**Tiksi**	57.61	21	LR		LR	12 24 29.5
	comp=Z,76nm,19.5s,baz=258,slow=38						
KSRS	**Korea Array**	58.49	61	P		**P**	**11 58 18.2 -1.2**
	comp=Z,1.7nm,0.6s,baz=280,slow=7.0,SNR=11						
KSRS				LR		LR	12 27 15.5
	comp=Z,30nm,18.7s,baz=255,slow=40						
	comp=Z,1.7nm,0.6s						
KLR	**Kul'dur**	59.07	47	LR		LR	12 25 51.0
	comp=Z,62nm,19.6s,baz=263,slow=38						
BORG	**Borgarnes**	60.28	331	LR		LR	12 27 50.2
	comp=Z,39nm,19.1s,baz=90,slow=39						
LBTB	**Lobatse**	61.26	213	P		**P**	**11 58 37.8 -0.8**
DBIC	**Dimbokro**	62.76	263	LR		LR	12 27 43.0
	comp=Z,61nm,18.5s,baz=68,slow=38						
BOSA	**Boshof**	64.46	212	P		**P**	**11 58 59.1 -0.7**
BOSA	**Boshof**	64.46	212	P		**P**	**11 58 58.7 -1.1**
	comp=Z,3.4nm,0.8s,baz=14,slow=8.3,SNR=6.9						
BOSA				LR		LR	12 28 53.9
	comp=Z,35nm,18.3s,baz=24,slow=38						
	comp=Z,3.4nm,0.8s						
SUMG	**Summit**	65.24	341	P		**P**	**11 59 03.8 -0.9**
MJAR	**Matsushiro Arr**	66.66	60	P		**P**	**11 59 12.9 -1.2**
	comp=Z,0.5nm,0.8s,baz=210,slow=7.0,SNR=2.3						
MJAR				LR		LR	12 30 20.1
	comp=Z,22nm,18.9s,baz=199,slow=38						
	comp=Z,0.5nm,0.8s						
ASAJ	**Asahikawa**	67.50	51	LR		LR	12 29 30.1
	comp=Z,22nm,18.9s,baz=341,slow=36						
BBTS	**Babate**	69.54	276	LR		LR	12 35 52.9
	comp=Z,26nm,18.7s,baz=320,slow=41						
SFJD	**Kangerlussuaq**	71.20	337	LR		LR	12 35 43.0
	comp=Z,36nm,18.4s,baz=44,slow=40						
RES	**Resolute Bay**	75.87	353	LR		LR	12 38 34.4
	comp=Z,21nm,19.3s,baz=274,slow=40						
C19K	**Lookout Ridge**	79.27	13	P		**P**	**12 00 27.5 -0.7**
C19K				IAmb		IAmb	12 00 58.6
	comp=Z,8.5nm,1.4s						
C18K	**Utukok River**	79.32	14	P		**P**	**12 00 26.9 -1.6**
C18K				IAmb		IAmb	12 00 45.1
	comp=Z,7.1nm,1.2s						
E18K	**Tukpahlearik C**	80.47	14	P		**P**	**12 00 34.2 -0.4**
E18K				IAmb		IAmb	12 01 07.0
	comp=Z,5.8nm,1.2s						
E19K	**Redstone River**	81.13	13	P		**P**	**12 00 36.5 -1.8**
TOLK	**Toolik Lake Re**	81.41	10	P		**P**	**12 00 39.0 -0.8**
TOLK				IAmb		IAmb	12 00 46.4
	comp=Z,4.3nm,1.1s						
BMAR	**Burnt Mountain**	83.24	8	P		**P**	**12 00 48.5 -0.8**
F31M	**Tsiigehtchic**	84.31	4	P		**P**	**12 00 52.9 -1.8**
F31M				IAmb		IAmb	12 01 12.3
	comp=Z,4.7nm,1.0s						
G31M	**Satah River**	84.78	5	P		**P**	**12 00 55.0 -2.0**
G31M				IAmb		IAmb	12 01 13.7
	comp=Z,5.5nm,1.2s						
ILAR	**Eielson Array**	85.41	10	P		**P**	**12 00 58.4 -1.9**
	comp=Z,0.2nm,0.5s,baz=321,slow=4.0,SNR=5.0						
	comp=Z,0.2nm,0.5s						
K27K	**Chicken**	86.81	9	P		**P**	**12 01 06.0 -1.3**
K27K				IAmb		IAmb	12 01 20.2
	comp=Z,3.5nm,0.9s						
K29M	**Barlow Dome**	87.52	7	P		**P**	**12 01 08.4 -2.5**
K29M				IAmb		IAmb	12 01 27.3
	comp=Z,2.6nm,0.9s						
WB0	**Warramunga Arr**	88.03	114	P		**P**	**12 01 13.8 -0.1**
WRA	**Warramunga Arr**	88.08	114	P		**P**	**12 01 13.3 -0.7**
	comp=Z,1.6nm,0.9s,baz=316,slow=4.1,SNR=15						
	comp=Z,1.6nm,0.9s						
WRAB	**Tennant Creek**	88.08	114	P		**P**	**12 01 13.6 -0.5**
WRAB				IAmb		IAmb	12 01 26.0
	comp=Z,4.0nm,1.0s						
WB2	**Warramunga Arr**	88.09	114	P		**P**	**12 01 14.0 -0.1**
YKA	**Yellowknife Ar**	89.46	356	P		**P**	**12 01 19.0 -0.9**
	comp=Z,0.3nm,0.7s,baz=356,slow=5.1,SNR=3.1						
	comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs**	89.63	117	P		**P**	**12 01 21.6 +0.2**
	comp=Z,0.6nm,1.0s,baz=303,slow=4.7,SNR=4.8						
	comp=Z,0.6nm,1.0s						
KDAK	**Kodiak Island**	90.68	16	LR		LR	12 47 35.8
	comp=Z,35nm,19.2s,baz=286,slow=39						
QSPA	**South Pole Qui**	117.99	180	PKP		**PKPdf**	**12 07 06.5 -2.7**
	comp=Z,1.5nm,1.1s,baz=238,slow=3.4,SNR=2.1						

*NEIC **15** 11:55:08.3±1.3, 19°.413N±0°.010×155°.259W±0°.006, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.7km az=135.0*

HVO 15 11:55:07.7±0.9, 19°.410N±0°.009×155°.264W±0°.004, h0km±3km, ML3.7/36, ML3.1/36(NEIC), Error ellipse: s-maj=1.3km s-min=0.5km az=178.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	0.00	66		Pg	11 55 08.2	+0.2
KKO	**Keanakako`i**	0.01	187		Pg	11 55 08.5	+0.4
HATHI	**Halema'uma'u T**	0.01	14		Pg	11 55 08.1	-0.1
RIM	**Rim**	0.02	212		Pg	11 55 08.6	+0.4
SBLHI	**Steaming Bluff**	0.02	348		Pg	11 55 08.3	+0.1
UWB	**Uwekahuna B**	0.02	318		Pg	11 55 08.4	+0.2
OBL	**Observatory Le**	0.02	291		Pg	11 55 08.4	+0.2
UWE	**Uwekahuna**	0.03	292		Pg	11 55 08.7	+0.4
WRMHI	**West Rim**	0.03	264		Pg	11 55 08.9	+0.5
SDHHI	**Sand Hill**	0.04	234		Pg	11 55 09.0	+0.6
RSD	**Rainshed**	0.05	346		Pg	11 55 09.2	+0.4
RSD				IAML		11 55 10.3	
	comp=N,16μm,0.4s						
PUH	**Pauahi**	0.06	128		Pg	11 55 09.5	+0.6
KNHH	**Kane Nui o Ham**	0.10	109		Pg	11 55 10.1	+0.5
HLP	**Hilina Pali**	0.12	200		Pg	11 55 11.2	+1.2
HLP				IAML		11 55 13.8	
	comp=E,3μm,0.7s						
HLP				IAML		11 55 13.9	
	comp=N,8μm,1.1s						
STCH	**Steam Cracks**	0.13	101		Pg	11 55 10.9	+0.6
STCH				IAML		11 55 14.5	
	comp=N,7μm,0.6s						
MLH	**Mauna Loa**	0.14	306		Pg	11 55 11.7	+1.2
MLH				IAML		11 55 14.6	
	comp=N,5μm,0.7s						
MLH				IAML		11 55 15.4	
	comp=E,6μm,0.3s						
NPOC	**North of Pu'u**	0.15	97		Pg	11 55 11.2	+0.7
JCUZ	**Jacuzzi**	0.16	100		Pg	11 55 11.3	+0.6
HTC	**Hot Caves**	0.21	216		Pg	11 55 12.7	+0.8
JOKA	**Jonika Flow**	0.25	85		Pg	11 55 13.1	+0.7
JOKA				IAML		11 55 20.6	
	comp=N,3μm,1.0s						
JOKA				IAML		11 55 20.6	
	comp=E,3μm,1.0s						
HMH	**Humu'ula Sheep**	0.28	313		Pg	11 55 14.3	+1.2
HMH				IAML		11 55 22.2	
	comp=N,3μm,0.9s						
HMH				IAML		11 55 22.7	
	comp=E,4μm,0.8s						
PAH	**Pahoa**	0.31	74	Pg	Pb	11 55 15.1	-1.0
MLOA	**Mauna Loa Obse**	0.32	293	Pg	Pg	11 55 14.8	+0.9
MLOA				IAML		11 55 20.9	
	comp=E,3μm,1.1s						
MWH	**Moku'aweowe**	0.32	283		Pg	11 55 14.9	+0.9
KHU	**Kahuku**	0.37	244	Pg	Pg	11 55 15.8	+1.0
KHU				IAML		11 55 27.8	
	comp=N,2μm,1.6s						
ALEP	**Alea Permanent**	0.38	290		Pg	11 55 15.6	+0.5
ALEP					Sb	11 55 22.1	-2.0
POHA	**Pohakuloa**	0.43	324		Pb	11 55 17.2	-1.1
POHA	**Pohakuloa**	0.43	324		Sg	11 55 22.5	+1.0
POHA	**Pohakuloa**	0.43	324	IAML		11 55 24.8	
	comp=N,1μm,1.6s						
POHA				IAML		11 55 29.8	
	comp=N,2μm,1.7s						
HUH	**Hualalai**	0.60	297		Pg	11 55 20.3	+1.0
CPH	**Captain Cook**	0.62	277		Pg	11 55 19.9	+0.2
HPAH	**Hawaii Prepara**	0.74	327	Pg	Pg	11 55 21.5	-0.4

*IDC **15** 12:02:05.3±2.0, 1°.06N×126°.11E, h0km, mb3.5/3, mbtmp3.6/3, MS2.2/1, Error ellipse: s-maj=174.2km s-min=25.3km az=65.0*

*DJA **15** 12:02:20.9±0.6, 1°N±3°×12°7E±°, h139km±5km, M4.2/11, mb4.2/3, mB4.7/1, MLv4.1/11, Mw(mB)4.0/1*

ISC 15 12:02:21.1±1.3, 1°.3N±0°.1×127°.26E±0°.09, h150km, n12, σ1°.09/14, mb3.5/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	0.57	169	P		**Pn**	**12 02 43.3 +0.5**
TNTI				S		**Sn**	**12 03 00.3 +0.9**
LBMI	**Labuha**	1.97	173	P		**Pn**	**12 02 57.0 +1.0**
KMSI	**Cibinong**	3.37	257	P		**Pn**	**12 03 13.3 +0.2**
KMSI				S		**Sn**	**12 03 54.6 +1.1**
SANI	**Sanana**	3.59	201	P		**Pn**	**12 03 16.3 +0.2**
SANI				S		**Sn**	**12 03 56.7 -2.1**
GTOI	**Gorontalo**	4.31	261	P		**Pn**	**12 03 26.4 +1.0**
NLAI	**Namlea**	4.55	182	P		**Pn**	**12 03 29.9 +1.3**
LUWI	**Luwuk**	5.07	242	P		**Pn**	**12 03 36.5 +1.0**
	68nm,1.0s,1μm						
DAV	**Davao City (W)**	5.94	344	LR		LR	12 06 12.1
	comp=Z,23nm,20.9s,baz=54,slow=41						
MPSI	**Mapaga**	7.43	262	P		**Pn**	**12 04 07.3 +0.4**
WRA	**Warramunga Arr**	22.25	162	P		**P**	**12 07 05.5 -0.4**
	1.5nm,0.4s,baz=338,slow=11,SNR=33						
	1.5nm,0.4s						
ASAR	**Alice Springs**	25.68	166	P		**P**	**12 07 37.5 +0.1**
	0.3nm,0.4s,baz=346,slow=8.2,SNR=10						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	59.82	326	P		**P**	**12 12 09.6 -1.1**
	0.4nm,0.6s,baz=132,slow=6.4,SNR=5.8						
	0.4nm,0.6s						

*NEIC **15** 12:27:30.1±0.7, 18°.74N±0°.07×67°.50W±0°.04, h81km±7km, ML3.7/32, Md3.7/17(RSPR), Error ellipse: s-maj=10.9km s-min=4.9km az=194.0*

*RSPR **15** 12:27:30.7, 18°.68N×67°.51W, h84km±1km, MD3.7/17*

ISC 15 12:27:28.9±1.1, 18°.78N±0°.07×67°.54W±0°.03, h81km, n68, σ1°.70/79, 11C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	0.51	127	↑*eP*		**Pn**	**12 27 43.9 +1.1**
AGPR	**Aguadilla, PR**	0.51	127	*eS*		**Sn**	**12 27 54.2 +1.1**
AGPR	**Aguadilla, PR**	0.51	127			**Pn**	**12 27 43.9 +1.1**
AGPR				Sn		**Sn**	**12 27 51.8 -1.2**
AGPR				IAML		12 27 55.5	
	comp=E,2μm,0.2s						
PRSN	**Puerto Rico Se**	0.67	146	↑*eP*		**Pn**	**12 27 45.0 +0.7**
PRSN	**Puerto Rico Se**	0.67	146	*eS*		**Sn**	**12 27 55.8 +0.1**
PRSN	**Puerto Rico Se**	0.67	146			**Pn**	**12 27 45.0 +0.7**
PRSN				Sn		**Sn**	**12 27 55.6 -0.1**
PRSN				IAML		12 27 59.4	
	comp=E,3μm,0.2s						
LSP	**Las Mesas**	0.73	144	↑*eP*		**Pn**	**12 27 45.8 +0.7**
LSP	**Las Mesas**	0.73	144	*eS*		**Sn**	**12 27 57.3 +0.3**
LSP	**Las Mesas**	0.73	144			**Pn**	**12 27 45.8 +0.7**
LSP						**Sn**	**12 27 57.3 +0.3**
PCDR	**Punta Cana, DR**	0.84	252	↑*eP*		**Pn**	**12 27 47.5 +1.4**
PCDR	**Punta Cana, DR**	0.84	252	*eS*		**Sn**	**12 28 00.6 +1.6**
PCDR	**Punta Cana, DR**	0.84	252			**Pn**	**12 27 47.5 +1.4**
PCDR						**Sn**	**12 28 00.6 +1.6**
AOPR	**Arecibo Observ**	0.85	120	↑*eP*		**Pn**	**12 27 47.0 +0.6**
AOPR	**Arecibo Observ**	0.85	120	*eS*		**Sn**	**12 28 00.1 +0.7**
AOPR	**Arecibo Observ**	0.85	120			**Pn**	**12 27 47.0 +0.6**
AOPR						**Sn**	**12 28 00.1 +0.7**
AOPR	**Arecibo Observ**	0.85	120	*eP*		**Pn**	**12 27 46.8 +0.4**
AOPR				*eS*		**Sn**	**12 27 59.5 +0.1**
CRPR	**Cabo Rojo, PR**	0.87	152	↑*eP*		**Pn**	**12 27 47.1 +0.7**
CRPR	**Cabo Rojo, PR**	0.87	152	*eS*		**Sn**	**12 27 59.5 0.0**
CRPR	**Cabo Rojo, PR**	0.87	152			**Pn**	**12 27 47.1 +0.7**
CRPR						**Sn**	**12 27 59.5 0.0**
CRPR	**Cabo Rojo, PR**	0.87	152	IAML			12 28 02.2
	comp=N,1μm,0.3s						
CRPR				IAML			12 28 02.3
	comp=E,1μm,0.2s						
MLPR	**Magueyes Islan**	0.93	150	↑*eP*		**Pn**	**12 27 46.7 -0.5**
MLPR	**Magueyes Islan**	0.93	150	*eS*		**Sn**	**12 27 59.2 -1.5**
MLPR	**Magueyes Islan**	0.93	150	Pn		**Pn**	**12 27 46.6 -0.5**
MLPR				IAML			12 28 00.4
	comp=N,2μm,0.4s						
MLPR	**Magueyes Islan**	0.93	150			**Sn**	**12 27 59.2 -1.5**
UUPR	**Utuado, UPR, P**	0.93	124	↑*eP*		**Pn**	**12 27 47.9 +0.6**
UUPR	**Utuado, UPR, P**	0.93	124	*eS*		**Sn**	**12 28 01.1 +0.3**
UUPR	**Utuado, UPR, P**	0.93	124			**Pn**	**12 27 47.8 +0.6**
UUPR	**Utuado, UPR, P**	0.93	124			**Sn**	**12 28 01.1 +0.3**
EMPR	**Esperanza - Ma**	1.00	107	↑*iP*		**Pn**	**12 27 49.1 +1.1**
EMPR	**Esperanza - Ma**	1.00	107	*eS*		**Sn**	**12 28 03.5 +1.3**
EMPR	**Esperanza - Ma**	1.00	107			**Pn**	**12 27 49.1 +1.1**
EMPR						**Sn**	**12 28 03.5 +1.3**
EMPR	**Esperanza - Ma**	1.00	107	IAML			12 28 07.3
	comp=N,1μm,0.3s						
EMPR				IAML			12 28 09.9
	comp=E,1μm,0.4s						
GBPR	**Guanica, Bosqu**	1.01	142	↓*eP*		**Pn**	**12 27 49.0 +0.8**
GBPR	**Guanica, Bosqu**	1.01	142	*eS*		**Sn**	**12 28 02.7 +0.2**
GBPR	**Guanica, Bosqu**	1.01	142			**Pn**	**12 27 49.0 +0.8**
GBPR						**Sn**	**12 28 02.7 +0.2**
CELP	**Cerrillos**	1.14	127	↑*eP*		**Pn**	**12 27 50.3 +0.5**
CELP	**Cerrillos**	1.14	127	*eS*		**Sn**	**12 28 05.6 +0.2**
CELP	**Cerrillos**	1.14	127			**Pn**	**12 27 50.3 +0.5**
CELP						**Sn**	**12 28 05.6 +0.2**
CELP	**Cerrillos**	1.14	127	IAML			12 28 06.4
	comp=E,2μm,0.2s						
OBIP	**Obispado Ponce**	1.14	129	↑*iP*		**Pn**	**12 27 50.2 +0.5**
OBIP	**Obispado Ponce**	1.14	129	*eS*		**Sn**	**12 28 05.3 -0.1**
OBIP	**Obispado Ponce**	1.14	129			**Pn**	**12 27 50.3 +0.5**
OBIP				IAML			12 28 06.0
	comp=E,2μm,0.4s						
OBIP				IAML			12 28 08.0
	comp=N,2μm,0.6s						
OBIP	**Obispado Ponce**	1.14	129			**Sn**	**12 28 05.3 -0.1**
GCPR	**Guaynabo City**	1.45	108	↑*eP*		**Pn**	**12 27 54.1 +0.5**
GCPR	**Guaynabo City**	1.45	108	*eS*		**Sn**	**12 28 12.1 -0.2**
GCPR	**Guaynabo City**	1.45	108			**Pn**	**12 27 54.0 +0.4**
GCPR	**Guaynabo City**	1.45	108			**Sn**	**12 28 12.1 -0.2**
SJG	**San Juan**	1.47	116	↓*eP*		**Pn**	**12 27 54.3 +0.5**
SJG	**San Juan**	1.47	116	*eS*		**Sn**	**12 28 12.3 -0.4**
SJG	**San Juan**	1.47	116			**Pn**	**12 27 53.9 0.0**
SJG				IAML			12 28 12.8
	comp=N,973nm,0.4s						
SJG				IAML			12 28 13.5
	comp=N,1μm,0.3s						
HUMP	**Col San Antoni**	1.72	111	↑*eP*		**Pn**	**12 27 57.5 +0.4**
HUMP	**Col San Antoni**	1.72	111	*eS*		**Sn**	**12 28 18.2 -0.3**
HUMP	**Col San Antoni**	1.72	111	Pn		**Pn**	**12 27 57.5 +0.4**
HUMP				IAML			12 28 19.7
	comp=N,636nm,0.2s						
HUMP				IAML			12 28 25.6
	comp=E,550nm,0.2s						
HUMP	**Col San Antoni**	1.72	111			**Sn**	**12 28 18.2 -0.3**
SDD	**Santo Domingo**	2.28	262			**Pn**	**12 28 05.5 +1.0**
SDD						**Sn**	**12 28 34.6 +2.8**
SDD	**Santo Domingo**	2.28	262	IAML			12 28 42.3
	comp=N,361nm,0.6s						
SDD				IAML			12 28 43.7
	comp=E,373nm,0.6s						
SDDR	**Presa de Saban**	3.56	274	↓*eP*		**Pn**	**12 28 24.4 +2.5**
SDDR	**Presa de Saban**	3.56	274	Pn		**Pn**	**12 28 24.2 +2.3**
SDDR	**Presa de Saban**	3.56	274	*eP*		**Pn**	**12 28 24.4 +2.5**
SDDR				*eS*		**Sn**	**12 29 06.0 +3.1**
GRTK	**Grand Turk**	4.34	309	Pn		**Pn**	**12 28 33.6 +1.1**
GRTK	**Grand Turk**	4.34	309	*eP*		**Pn**	**12 28 33.7 +1.3**
GRTK				*eS*		**Sn**	**12 29 20.2 -1.6**
ANBD	**Bethesda, Anti**	5.76	106	*eP*		**Pn**	**12 28 50.9 -0.9**
ANBD	**Bethesda, Anti**	5.76	106	*eS*		**Sn**	**12 29 52.2 -4.2**
MASC	**Masc**	6.47	284	*eP*		**Pn**	**12 28 59.8 -1.7**
MASC				*eS*		**Sn**	**12 30 08.0 -5.9**
QMBU	**Quimbuelo**	7.01	283	*eP*		**Pn**	**12 29 07.3 -1.6**
QMBU				*eS*		**Sn**	**12 30 20.8 -6.3**
GTBY	**Guantanamo Bay**	7.24	280	*eP*		**Pn**	**12 29 10.9 -1.2**
GTBY				*eS*		**Sn**	**12 30 26.4 -6.5**
GTBY				IAML			12 30 31.0
	comp=E,5.7nm,0.4s						
GTBY				IAML			12 30 31.9
	comp=E,6.2nm,0.1s						
RCC	**Rio Carpintero**	7.80	280	*eP*		Pn	12 29 16.3 -3.3
RCC				*eS*		Sn	12 30 37.8 -8.6
BAUV	**El Baul**	9.79	183	Pn		**Pn**	**12 29 47.1 +0.3**

*IDC **15** 12:29:23.4±1.1, 9°.08S×110°.39E, h0km, mb3.7/9, mbtmp3.7/9, MS3.1/1, Error ellipse: s-maj=43.3km s-min=20.0km az=59.0*

*DJA **15** 12:29:27.2±0.4, 9°S±4°×11°0E±°, h10km, M4.4/14, mb4.8/1, MLv4.2/14*

ISC 15 12:29:28.9±0.9, 9°.31S±0°.09×110°.37E±0°.06, h35km, n26, σ1°.95/24, mb3.8/9, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	1.40	6	P		**Pn**	**12 29 51.9 -0.1**
YOGI	**Yogyakarta**	1.49	357	P		**Pn**	**12 29 53.3 +0.1**
PWJI	**Pagerwojo**	1.91	48	P		**Pn**	**12 29 59.4 +0.4**
SMRI	**Semarang**	2.25	2	P		**Pn**	**12 30 05.8 +2.1**
SMRI				S		**Sn**	**12 30 34.7 +4.4**
KPJI	**Karang Pucung**	2.43	324	P		**Pn**	**12 30 08.7 +2.6**
CMJI	**Cimerak**	2.43	308	P		**Pn**	**12 30 06.4 +0.2**
GRJI	**Gresik**	3.17	41	P		**Pn**	**12 30 16.3 0.0**
LEM	**Lembang**	3.68	312	P		**Pn**	**12 30 25.9 +2.4**
CNJI	**Cibinong**	3.78	302	P		**Pn**	**12 30 26.2 +1.5**
JAGI	**Jajag, Banyuwa**	3.83	78	P		**Pn**	**12 30 26.6 +1.2**
JAGI				S		**Sn**	**12 31 12.2 +3.0**
ABJI	**Asem Bagus**	4.11	69	P		**Pn**	**12 30 31.3 +2.1**
SRBI	**Singaraja**	4.94	76	P		**Pn**	**12 30 42.7 +2.0**
PLAI	**Plampang**	7.33	87	P		**Pn**	**12 31 14.1 +0.6**
WRA	**Warramunga Arr**	25.45	117	P		**P**	**12 34 54.8 +1.0**
	0.7nm,0.9s,baz=292,slow=11,SNR=6.3						
	0.7nm,0.9s						
ASAR	**Alice Springs**	26.64	125	P		**P**	**12 35 05.0 +0.5**
	1.0nm,0.9s,baz=305,slow=10.0,SNR=6.8						
	1.0nm,0.9s						
H08S2	**Diego Garcia H**	37.49	270	T		T	13 16 27.9
	baz=94						
H08S3	**Diego Garcia H**	37.50	270	T		T	13 16 40.2
	baz=94,slow=74						
H08S1	**Diego Carcia H**	37.51	270	T		T	13 16 54.0
	baz=94,slow=74						
JNU	**Nakatsue**	46.50	24	LR		LR	12 57 18.7
	comp=Z,23nm,19.5s,baz=212,slow=36						
MJAR	**Matsushiro Arr**	52.59	28	P		**P**	**12 38 36.9 -2.4**
	0.8nm,0.7s,baz=216,slow=8.0,SNR=5.3						
	0.8nm,0.7s						
USRK	**Ussuriysk Ar.**	56.75	18	P		**P**	**12 39 06.9 -2.4**
	0.8nm,0.7s,baz=196,slow=7.4,SNR=2.0						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	61.22	338	P		**P**	**12 39 39.2 -1.1**
	0.4nm,0.6s,baz=163,slow=7.0,SNR=3.8						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	65.79	338	P		**P**	**12 40 08.3 -2.1**
	0.2nm,0.4s,baz=131,slow=5.5,SNR=2.0						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	66.63	344	P		**P**	**12 40 14.0 -1.7**
	0.5nm,0.5s,baz=76,slow=6.3,SNR=2.2						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	70.81	336	P		**P**	**12 40 41.5 -0.3**
	0.6nm,0.7s,baz=324,slow=35,SNR=2.9						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	80.69	180	P		**P**	**12 41 39.1 +0.8**
	2.1nm,1.0s,baz=263,slow=1.2,SNR=5.1						
	2.1nm,1.0s						

IDC 15 12:40:38.4±11.0, 19°.40S×177°.93W, h556km±126km, mb2.7/5, mbtmp3.6/5, Error ellipse: s-maj=123.0km s-min=34.7km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	44.83	261	P		P	12 48 03.5 -0.2
	0.5nm,0.3s,baz

ZALV	**Zalesovo Beam**	**49.12**	**333**	P	**P**	**12 54 08.4**	**-0.5**
ZALV	**Zalesovo Beam**	**49.12**	**333**	P	**P**	**12 54 08.6**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=121,slow=6.1,SNR=13						
	comp=Z,2.1nm,0.4s						
KURBB	**Kurchatov Arra**	**50.27**	**326**	P	**P**	**12 54 18.2**	**+0.5**
	comp=Z,5.1nm,0.8s,baz=130,slow=7.8,SNR=41						
	comp=Z,5.1nm,0.8s						
KURK	**Kurchatov**	**50.27**	**326**	P	**P**	**12 54 17.9**	**+0.2**
KKAR	**Karatay Array**	**52.10**	**314**	P	**P**	**12 54 31.1**	**-0.4**
BVAR	**Borovoye Array**	**55.86**	**326**	P	**P**	**12 54 59.0**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=114,slow=11,SNR=9.1						
	comp=Z,1.1nm,0.5s						
BRVK	**Borovoye**	**55.93**	**326**	P	**P**	**12 54 59.0**	**-0.1**
ABKAR	**Akbulak array**	**60.84**	**319**	P	**P**	**12 55 33.6**	**+0.4**
ABKAR				IAmb	IAmb	12 55 34.1	
	comp=Z,2.3nm,0.6s						
ABKAR	**Akbulak array**	**60.84**	**319**	P	**P**	**12 55 33.6**	**+0.4**
L16K	**Owhat River**	**73.08**	**29**	P	**P**	**12 56 49.2**	**-1.1**
L16K				IAmb	IAmb	12 57 23.3	
	comp=Z,6.0nm,1.4s						
J17K	**VABM Dome**	**73.34**	**28**	P	**P**	**12 56 51.1**	**-0.7**
J17K				IAmb	IAmb	12 56 55.6	
	comp=Z,3.4nm,0.8s						
D19K	**Kuna River**	**74.00**	**22**	P	**P**	**12 56 54.6**	**-1.0**
D19K				IAmb	IAmb	12 56 58.7	
	comp=Z,3.7nm,0.9s						
H19K	**Roundabout Mou**	**74.55**	**25**	P	**P**	**12 56 58.5**	**-0.2**
H19K				IAmb	IAmb	12 57 02.9	
	comp=Z,7.2nm,1.5s						
F20K	**Avaraart Lake**	**74.86**	**24**	P	**P**	**12 57 01.1**	**+0.6**
IMAR	**Indian Mountai**	**75.66**	**25**	P	**P**	**12 57 04.5**	**-0.6**
ILAR	**Eielson Array**	**78.62**	**26**	P	**P**	**12 57 22.5**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=286,slow=3.7,SNR=2.8						
	comp=Z,0.2nm,0.8s						
ARCES	**ARCESS Array B**	**79.12**	**339**	P	**P**	**12 57 24.5**	**+0.1**
	comp=Z,16nm,0.5s,baz=73,slow=6.9,SNR=1.8						
BMAR	**Burnt Mountain**	**79.15**	**23**	P	**P**	**12 57 23.3**	**-1.2**
FINES	**FINESS Array B**	**80.35**	**331**	P	**P**	**12 57 30.4**	**-0.6**
FINES	**FINESS Array B**	**80.35**	**331**	P	**P**	**12 57 30.7**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=77,slow=10.0,SNR=5.4						
	comp=Z,0.4nm,0.6s						
I28M	**Miner Creek**	**81.38**	**25**	P	**P**	**12 57 35.5**	**-1.1**
I28M				IAmb	IAmb	12 58 09.0	
	comp=Z,5.5nm,1.5s						
H29M	**Whitestone**	**81.81**	**24**	P	**P**	**12 57 38.2**	**-0.5**
HFS	**Hagfors**	**86.54**	**331**	P	**P**	**12 58 03.8**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=68,slow=8.0,SNR=1.8						
	comp=Z,0.8nm,0.7s						

*IDC **15** 12:56:06.9±7.8, 32°.61S×179°.82W, h119km±57km, mb3.3/3, mbtmp3.7/4, Error ellipse: s-maj=62.0km s-min=25.2km az=52.0*

ISC 15 12:56:04.5±1.6, 32°.5S±0°.1×179°.7W±0°.3, h100km, n6, σ1ˢ45/7, mb3.6/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.31**	**204**	P	**Pn**	**12 57 36.3**	**+1.5**
URZ				S	**Sn**	**12 58 44.2**	**-1.2**
	22nm,1.1s,baz=37,slow=14,SNR=1.8						
	8.9nm,0.3s,baz=264,slow=23,SNR=24						
ASAR	**Alice Springs**	**41.60**	**270**	P	**P**	**13 03 42.7**	**-0.1**
	0.5nm,0.8s,baz=111,slow=7.9,SNR=2.7						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**42.79**	**275**	P	**P**	**13 03 52.2**	**-0.2**
	0.3nm,0.3s,baz=116,slow=7.7,SNR=11						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**57.61**	**180**	P	**P**	**13 05 44.1**	**+0.3**
	0.9nm,0.5s,baz=28,slow=0.9,SNR=16						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**146.58**	**338**	PKPbc	**PKPdf**	**13 15 32.4**	**+0.6**
	0.5nm,0.8s,baz=70,slow=4.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**160.69**	**184**	PKPab	**PKPab**	**13 16 33.2**	**-2.1**
	0.3nm,0.4s,baz=162,slow=3.4,SNR=4.3						

IDC 15 12:58:13.4±1.2, 31°.57S×58°.43E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=52.7km s-min=32.0km az=25.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.45**	**198**	T	T	13 17 45.2	
	baz=23,slow=75,SNR=125						
H04N1	**CROZET ISLANDS**	**15.46**	**198**	T	T	13 17 40.2	
	baz=23,slow=75,SNR=159						
H04N3	**CROZET ISLANDS**	**15.47**	**198**	T	T	13 17 43.2	
	baz=23,slow=75,SNR=115						
H08S1	**Diego Carcia H**	**27.17**	**32**	T	T	13 32 15.9	
	baz=206,slow=76,SNR=10						
H08S2	**Diego Garcia H**	**27.18**	**32**	T	T	13 32 13.5	
	baz=206,slow=76,SNR=5.3						
H08S3	**Diego Garcia H**	**27.19**	**32**	T	T	13 32 19.3	
	baz=206,slow=76,SNR=9.8						
H01W2	**Cape Leeuwin H**	**46.21**	**110**	T	T	13 55 51.5	
	baz=258,slow=74,SNR=10.0						
H01W3	**Cape Leeuwin H**	**46.22**	**110**	T	T	13 55 53.5	
	baz=258,slow=74,SNR=8.4						
H01W1	**Cape Leeuwin H**	**46.23**	**110**	T	T	13 55 54.1	
	baz=258,slow=74,SNR=9.8						
QSPA	**South Pole Qui**	**58.60**	**180**	P	P	13 08 11.9	0.0
	0.7nm,0.8s,baz=333,slow=2.3,SNR=1.9						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**66.16**	**104**	P	P	13 09 02.8	-0.3
	0.6nm,0.8s,baz=242,slow=6.0,SNR=10						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**68.16**	**101**	P	P	13 09 16.2	+0.4
	0.8nm,0.8s,baz=247,slow=5.5,SNR=6.1						
	0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**70.22**	**300**	P	P	13 09 28.5	0.0
	0.7nm,0.8s,baz=131,slow=6.2,SNR=2.5						
	0.7nm,0.8s						
YKA	**Yellowknife Ar**	**148.74**	**354**	PKPbc	PKPbc	13 18 01.3	-0.6
	0.5nm,0.8s,baz=15,slow=2.6,SNR=3.6						

*IDC **15** 12:59:09.9±0.8, 13°.74N×51°.75E, h0km, mb3.9/13, mbtmp3.8/15, ML3.1/2, MS3.1/2, Error ellipse: s-maj=24.2km s-min=17.8km az=156.0*
*NEIC **15** 12:59:12.8±2.1, 13°.8N±0°.1×51°.85E±0°.09, h10km±1km, mb4.4/22, Error ellipse: s-maj=21.0km s-min=12.6km az=148.0*
*OMAN **15** 12:59:14.1±0.2, 14°.29N×51°.50E, h10km, mb4.5/5, ml4.1/4, Error ellipse: s-maj=3.0km s-min=2.0km az=348.0*

ISC 15 12:59:11.7±0.6, 14°.01N±0°.07×51°.65E±0°.07, h10km, n68, σ1ˢ95/80, mb4.3/26, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.69**	**25**	P	**Pn**	**13 00 08.8**	**-0.1**
	SNR=9.3						
ABTO				S	**Sn**	**13 00 51.7**	**-0.8**
RBK	**Rabkut**	**4.26**	**35**	P	**Pn**	**13 00 17.6**	**+0.8**
	SNR=12						
WHFO	**Wadi Hawf**	**4.39**	**27**	P	**Pn**	**13 00 18.7**	**+0.1**
	SNR=9.7						
WHFO				S	**Sn**	**13 01 09.5**	**-0.4**
DMTO	**DMTO**	**4.87**	**40**	P	**Pn**	**13 00 25.9**	**+0.9**
	SNR=13						
DMTO				S	**Sn**	**13 01 22.8**	**+1.3**
DOK	**Doka**	**5.17**	**27**	P	**Pn**	**13 00 30.0**	**+0.8**
	SNR=25						
DOK				S	**Sn**	**13 01 29.6**	**+0.7**
ATD	**Arta Tunnel**	**8.93**	**255**	Pn	**Pn**	**13 01 21.2**	**+0.3**
ATD	**Arta Tunnel**	**8.93**	**255**	Pn	**Pn**	**13 01 22.5**	**+1.5**
	0.1nm,0.3s,baz=51,slow=10.0,SNR=6.3						
ATD				LR	LR	13 03 55.2	
	comp=Z,56nm,18.4s,baz=54,slow=32						
	0.5nm,0.6s						
MZR	**Muzera**	**9.11**	**11**	P	**Pn**	**13 01 22.7**	**-0.7**
MZR				S	**Sn**	**13 03 03.9**	**-2.2**
MHTO	**MHTO**	**9.19**	**40**	P	**Pn**	**13 01 25.7**	**+1.2**
MHTO				S	**Sn**	**13 03 06.4**	**-1.7**
UMZA	**Um Al Zommool**	**9.28**	**21**	P	**Pn**	**13 01 26.5**	**+0.9**
UMZA				S	**Sn**	**13 03 07.5**	**-2.7**
SLWR	**Sila**	**10.01**	**0**	P	**Pn**	**13 01 34.7**	**-1.0**
SLWR				S	**Sn**	**13 03 26.0**	**-2.0**
BSY	**Bisya**	**10.16**	**30**	P	**Pn**	**13 01 38.1**	**+0.3**
BSY				S	**Sn**	**13 03 27.8**	**-4.1**
JMDO	**Jabal Madar**	**10.33**	**35**	P	**Pn**	**13 01 40.1**	**-0.1**
JMDO				S	**Sn**	**13 03 30.4**	**-5.7**
SMDO	**Samad**	**10.86**	**33**	P	**Pn**	**13 01 46.6**	**-0.8**
SMDO				S	**Sn**	**13 03 44.4**	**-4.6**
HOQ	**Hoqain**	**10.93**	**29**	P	**Pn**	**13 01 50.5**	**+2.2**
JLN	**Jalan Bani Buh**	**10.96**	**41**	P	**Pn**	**13 01 49.4**	**+0.8**
WBK	**Wadi Bani Khal**	**11.02**	**38**	P	**Pn**	**13 01 50.6**	**+1.0**
RAYN	**Ar Rayn**	**11.11**	**329**	Pn	**Pn**	**13 01 49.0**	**-1.8**
RAYN	**Ar Rayn**	**11.11**	**329**	P	**Pn**	**13 01 49.0**	**-1.8**
RAYN				S	**Sn**	**13 03 48.3**	**-6.9**
ASUD	**Al Ashush, Dub**	**11.12**	**18**	P	**Pn**	**13 01 51.9**	**+1.0**
ASUD				S	**Sn**	**13 03 54.0**	**-1.3**
WSAR	**Wadi Sarin**	**11.32**	**35**	Pn	**Pn**	**13 01 53.5**	**-0.1**
	0.4nm,0.3s,baz=257,slow=8.3,SNR=6.0						
WSAR				Sn	**Sn**	**13 03 55.0**	**-5.2**
	0.3nm,0.3s,baz=242,slow=22,SNR=1.5						
WSAR				LR	LR	13 05 45.4	
	comp=Z,204nm,21.2s,baz=228,slow=34						
	2.8nm,0.7s						
WSAR	**Wadi Sarin**	**11.32**	**35**	P	**Pn**	**13 01 54.0**	**+0.4**
UOSS	**Minazif**	**11.70**	**21**	Pn	Pn	13 01 53.7	-5.1
MASF	**Masafi**	**12.07**	**20**	P	**Pn**	**13 02 04.1**	**+0.1**
SHME	**Shamm**	**12.70**	**19**	P	**Pn**	**13 02 12.6**	**+0.1**
KBD	**Kabd**	**15.53**	**347**	P	**Pn**	**13 02 50.3**	**-0.6**
LODK	**Lodwar**	**19.21**	**238**	P	**Pn**	**13 03 37.0**	**0.0**
KMBO	**Kilima Mbogo**	**20.72**	**225**	P	**P**	**13 03 50.9**	**-2.0**
KMBO	**Kilima Mbogo**	**20.72**	**225**	P	**P**	**13 03 51.8**	**-1.0**
KIBK	**Kibwezi**	**21.11**	**221**	P	**P**	**13 03 53.6**	**-3.3**
KIBK				IAmb	IAmb	13 04 04.7	
	comp=Z,13nm,0.9s						
KBL	**Kabul**	**25.79**	**35**	P	**P**	**13 04 44.5**	**+1.2**
KBL				IAmb	IAmb	13 04 59.1	
	comp=Z,8.4nm,0.8s						
SIMJ	**Simiganj**	**28.96**	**29**	P	**P**	**13 05 13.4**	**+1.8**
SIMJ				IAmb	IAmb	13 05 30.8	
	comp=Z,10nm,1.2s						
BTK	**Batken**	**30.92**	**29**	P	**P**	**13 05 30.0**	**+1.1**
BTK				IAmb	IAmb	13 05 42.1	
	comp=Z,12nm,1.4s						
KKAR	**Karatay Array**	**33.23**	**26**	P	**P**	**13 05 50.9**	**+1.8**
NRN	**Naryn**	**34.57**	**33**	P	**P**	**13 06 00.5**	**-0.5**
NRN				IAmb	IAmb	13 06 20.8	
	comp=Z,3.6nm,1.0s						
AAK	**Ala-Archa**	**34.68**	**30**	P	**P**	**13 06 04.6**	**+2.8**
AAK				IAmb	IAmb	13 06 19.1	
	comp=Z,5.4nm,1.1s						
BOOM	**Boomskoye usch**	**35.29**	**32**	P	**P**	**13 06 08.9**	**+1.8**
BOOM				IAmb	IAmb	13 06 26.5	
	comp=Z,8.2nm,1.2s						
TARG	**Taragay, Kyrgy**	**35.74**	**34**	P	**P**	**13 06 12.8**	**+1.5**
TARG				IAmb	IAmb	13 06 30.5	
	comp=Z,6.9nm,0.9s						
ABKAR	**Akbulak array**	**35.80**	**9**	P	**P**	**13 06 12.9**	**+1.7**
ABKAR				IAmb	IAmb	13 06 23.3	
	comp=Z,5.2nm,1.1s						
SHL	**Shillong**	**39.42**	**67**	P	**P**	**13 06 41.3**	**-1.1**
SHL				IAmb	IAmb	13 06 50.2	
	comp=Z,12nm,1.3s						
MAKZ	**Makanchi**	**41.39**	**32**	P	**P**	**13 06 59.8**	**+1.6**
MK31	**Makanchi Array**	**41.54**	**32**	P	**P**	**13 07 00.4**	**+1.0**
MKAR	**Makanchi Array**	**41.54**	**32**	P	**P**	**13 07 00.6**	**+1.2**
MKAR	**Makanchi Array**	**41.54**	**32**	P	**P**	**13 07 00.8**	**+1.4**
	comp=Z,0.9nm,0.9s,baz=224,slow=10,SNR=4.7						
	comp=Z,0.9nm,0.9s						
BVAR	**Borovoye Array**	**41.68**	**17**	P	**P**	**13 07 01.8**	**+1.4**
	comp=Z,1.8nm,1.0s,baz=212,slow=8.0,SNR=5.2						
	comp=Z,1.8nm,1.0s						
KURBB	**Kurchatov Arra**	**42.53**	**25**	P	**P**	**13 07 08.6**	**+1.2**
	comp=Z,0.4nm,0.2s,baz=219,slow=7.2,SNR=4.3						
	comp=Z,0.4nm,0.2s						
KURK	**Kurchatov**	**42.64**	**25**	P	**P**	**13 07 08.9**	**+0.6**
WMQ	**Urumqi**	**42.78**	**39**	SS	SS	13 16 34.6	-10
WMQ	**Urumqi**	**42.78**	**39**	*e*P	**P**	**13 07 12.4**	**+2.8**
KEST	**Kesra**	**43.62**	**307**	P	**P**	**13 07 18.9**	**+2.3**
	comp=Z,1.4nm,0.7s,baz=108,slow=13,SNR=2.1						
	comp=Z,1.4nm,0.7s						
CM31	**Chiang Mai Arr**	**45.53**	**78**	P	**P**	**13 07 30.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**45.53**	**78**	P	**P**	**13 07 31.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**45.53**	**78**	P	**P**	**13 07 31.9**	**-0.1**
	comp=Z,7.8nm,1.0s,baz=275,slow=8.6,SNR=26						
	comp=Z,7.8nm,1.0s						
ZALV	**Zalesovo Beam**	**47.60**	**26**	P	**P**	**13 07 47.8**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=231,slow=11,SNR=4.0						
	comp=Z,0.8nm,0.5s						
PZH	**PanZhiHua**	**48.34**	**67**	P	**P**	**13 07 55.4**	**+1.4**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,130nm,4.2s						
TOA0	**Torodi Ar. Sit**	**48.49**	**275**	P	**P**	**13 07 55.6**	**+0.4**
TOA0				IAmb	IAmb	13 08 22.6	
	comp=Z,6.4nm,1.3s						
TORD	**Torodi Ar. Bea**	**48.49**	**275**	P	**P**	**13 07 54.6**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=74,slow=8.9,SNR=4.6						
	comp=Z,1.0nm,0.9s						
BOSA	**Boshof**	**49.47**	**211**	P	**P**	**13 08 00.1**	**-2.5**
	comp=Z,7.2nm,1.1s,baz=36,slow=3.0,SNR=3.2						
	comp=Z,7.2nm,1.1s						
FINES	**FINESS Array B**	**50.83**	**344**	P	**P**	**13 08 15.0**	**+2.8**
	comp=Z,1.0nm,0.8s,baz=176,slow=11,SNR=2.8						
	comp=Z,1.0nm,0.8s						
ESDC	**Sonseca Array**	**54.83**	**309**	P	**P**	**13 08 43.3**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=84,slow=6.3,SNR=4.4						
	comp=Z,0.5nm,0.8s						
NC204	**NORSAR Array S**	**55.59**	**337**	P	**P**	**13 08 49.5**	**+2.1**
SONM	**Songino Array**	**56.28**	**41**	P	**P**	**13 08 53.0**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=252,slow=6.4,SNR=4.8						
	comp=Z,1.4nm,1.0s						
HHC	**Hu-ho-hao-te**	**58.28**	**51**	*e*P	**P**	**13 09 08.5**	**+1.6**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,92nm,5.0s						
WRA	**Warramunga Arr**	**88.02**	**111**	P	**P**	**13 12 02.2**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=297,slow=4.2,SNR=1.8						
	comp=Z,0.4nm,0.9s						
WRAB	**Tennant Creek**	**88.02**	**111**	P	**P**	**13 12 00.8**	**-2.0**
WB2	**Warramunga Arr**	**88.03**	**111**	P	**P**	**13 12 01.7**	**-1.2**
ASAR	**Alice Springs**	**88.63**	**115**	P	**P**	**13 12 04.3**	**-1.5**
	comp=Z,0.5nm,0.9s,baz=287,slow=4.7,SNR=5.9						
	comp=Z,0.5nm,0.9s						
NVAR	**Mina Array Bea**	**127.00**	**350**	PKP	**PKiKP**	**13 18 18.0**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=50,slow=1.4,SNR=3.8						

DJA 15 13:04:12.2±3.7, 9°S±9°×11°0E±°, h18km±31km, M3.8/11, mb4.1/1, MLv3.7/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.40**	**8**	P	Pn	13 04 37.0	+0.1
YOGI	**Yogyakarta**	**1.48**	**359**	P	Pn	13 04 37.8	-0.2
YOGI				S	Sn	13 04 54.9	-2.1
PWJI	**Pagerwojo**	**1.94**	**49**	P	Pn	13 04 44.1	-0.2
SMRI	**Semarang**	**2.25**	**3**	P	Pn	13 04 48.0	-0.6
CMJI	**Cimerak**	**2.40**	**309**	P	Pn	13 04 50.8	+0.2
KPJI	**Karang Pucung**	**2.40**	**325**	P	Pn	13 04 50.3	-0.4
GRJI	**Gresik**	**3.19**	**42**	P	Pn	13 05 01.9	+0.4
CNJI	**Cibinong**	**3.74**	**302**	P	Pn	13 05 09.1	0.0
JAGI	**Jajag, Banyuwa**	**3.87**	**78**	P	Pn	13 05 11.3	+0.5
TWSI	**Taliwang, Sumb**	**6.50**	**85**	P	Pn	13 05 46.4	-0.6

*BJI **15** 13:09:08.5±0.0, 13°.33N×51°.19E, h10km, mb5.1/80, mB5.6/75, Ms5.8/92, Ms7 5.7/89*
*MOS **15** 13:09:13.7±0.9, 13°.83N×51°.75E, h10km, mb5.6/81, MS5.6/56, Error ellipse: s-maj=6.0km s-min=3.3km az=95.6*
*IDC **15** 13:09:13.7±0.5, 13°.83N×51°.76E, h0km, mb4.6/26, mbtmp4.7/27, ML4.1/2, MS5.5/72, Error ellipse: s-maj=13.7km s-min=12.6km az=179.0*
*NEIC **15** 13:09:16.9, 13°.91N×51°.73E, h10km*
*NEIC **15** 13:09:16.5±1.5, 13°.9N±0°.1×51°.7E±0°.1, h10km±1km, mb5.4/144, Ms_20 5.7/908, Mwb5.8/64, Mww6.0/38, Error ellipse: s-maj=19.0km s-min=16.7km az=144.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr~1.08; Mθθ6.76; Mφφ~5.68; Mrθ0.16; Mθφ3.54; Mφr1.11; Fault plane solution: Mo7.30000×10¹⁷ NP1: φs210.65000°, δ84.85000°, λ-170.70000°. NP2: φs119.81000°, δ80.74000°, λ-5.22000°. Principal axes: T 7.7146, Plg3.0000°, Azm345.0000°; N -0.9165, Plg79.0000°, Azm239.0000°; P -6.7981, Plg10.0000°, Azm75.0000°;*
*OMAN **15** 13:09:16.8±0.6, 14°.50N×51°.23E, h10km, mb4.8/36, ml5.6/5, ms5.5/5, Mwp6.0/28 Error ellipse: s-maj=13.2km s-min=5.3km az=124.0*
*NEIC **15** 13:09:16.5, 13°.85N×51°.83E, h20km, Moment Tensor Solution. Duration: 4s1.0 Moment tensor: Scale 10¹⁸ Nm; Mrr~0.13; Mθθ0.96; Mφφ~0.82; Mrθ0.31; Mθφ0.61; Mφr~0.18; Fault plane solution: Mo1.14000×10¹⁸ NP1: φs296.87000°, δ86.29000°, λ-18.85000°. NP2: φs28.13000°, δ71.19000°, λ-176.08000°. Principal axes: T 1.1912, Plg10.0000°, Azm344.0000°; N -0.1036, Plg71.0000°, Azm106.0000°; P -1.0875, Plg16.0000°, Azm251.0000°;*
*NEIC **15** 13:09:16.5, 13°.85N×51°.72E, h20km*
*IPGP **15** 13:09:16.0, 13°.82N×51°.65E, h5km, Mw6.0, Fault plane solution: NP1: φs212.00000°, δ87.00000°, λ-175.00000°. NP2: φs121.00000°, δ85.00000°, λ-3.00000°.*
*DSN **15** 13:09:17.6±1.3, 14°.26N×51°.48E, h10km, mb5.9/6, ML5.1/2, Error ellipse: s-maj=20.8km s-min=12.0km az=139.0*
*GCMT **15** 13:09:18.5±0.1, 14°.02N×51°.59E, h20km, MW6.0/162, Moment Tensor Solution. s149,c308; s162,c565; Duration: 2s4 Moment tensor: Scale 10¹⁸Nm; Mrr~0.04±.01; Mθθ0.99±.01; Mφφ~0.94±.01; Mrθ0.17±.02; Mθφ0.63±.01; Mφr0.34±.02; Best double couple: Mo1.21800×10¹⁸ NP1: φs209.00000°, δ88.00000°, λ-162.00000°. NP2: φs118.00000°, δ72.00000°, λ-2.00000°. Principal axes: T 1.2330, Plg12.0000°, Azm342.0000°; N -0.0290, Plg72.0000°, Azm213.0000°; P -1.2040, Plg14.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*BGR **15** 13:09:23.0, 14°.13N×50°.80E, h33km, mb5.4, Ms5.3, Hypocentre not reviewed by the ISC*

ISC 15 13:09:16.5±0.5, 13°.96N±0°.04×51°.68E±0°.03, h10km±2km, n1289, σ2ˢ12/1015, mb5.3/284, MS5.7/589, 46C-44D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.72**	**25**	P	**Pn**	**13 10 12.8**	**-1.3**
	SNR=73						
ABTO				P	**Pn**	**13 10 12.8**	**-1.3**
	SNR=73						
ABTO				S	**Sn**	**13 10 50.7**	**-7.4**
ABTO				S	**Sn**	**13 10 50.7**	**-7.4**
RBK	**Rabkut**	**4.28**	**34**	P	**Pn**	**13 10 21.1**	**-0.7**
	SNR=197						
RBK				S	**Sn**	**13 11 11.0**	**-1.0**
	SNR=8.2						
WHFO	**Wadi Hawf**	**4.42**	**27**	P	**Pn**	**13 10 22.5**	**-1.3**
	SNR=125						
WHFO				P	**Pn**	**13 10 22.5**	**-1.3**
	SNR=125						
WHFO				S	**Sn**	**13 11 11.8**	**-3.7**
WHFO				S	**Sn**	**13 11 11.8**	**-3.7**
DMTO	**DMTO**	**4.89**	**40**	P	**Pn**	**13 10 29.4**	**-0.7**
	SNR=65						
DMTO				P	**Pn**	**13 10 29.4**	**-0.7**
	SNR=65						
DMTO				S	**Sn**	**13 11 27.1**	**+0.4**
	SNR=7.6						
DMTO				S	**Sn**	**13 11 27.1**	**+0.4**
	SNR=7.6						
DOK	**Doka**	**5.20**	**27**	P	**Pn**	**13 10 33.3**	**-1.1**
	SNR=246						
DOK				S	**Sn**	**13 11 31.5**	**-2.9**
SHAO	**Shalim**	**5.54**	**43**	P	**Pn**	**13 10 39.9**	**+0.7**
SHAO	**Shalim**	**5.54**	**43**	P	**Pn**	**13 10 40.1**	**+1.0**
	SNR=12						
SHAO				S	**Sn**	**13 11 43.4**	**+0.4**
DQM	**DQM**	**8.17**	**43**	P	**Pn**	**13 11 15.0**	**-0.2**
	SNR=6.7						
DQM				P	**Pn**	**13 11 15.0**	**-0.2**
	SNR=6.7						
DQM				S	**Sn**	**13 12 45.2**	**-2.4**
DQM				S	**Sn**	**13 12 45.2**	**-2.4**
ATD	**Arta Tunnel**	**8.95**	**255**		**Pn**	**13 11 23.7**	**-2.3**
ATD	**Arta Tunnel**	**8.95**	**255**	Pn	**Pn**	**13 11 25.4**	**-0.5**
	0.3nm,0.3s,baz=78,slow=10,SNR=28						
ATD				Sn	**Sn**	**13 13 13.6**	**+6.7**
	0.1nm,0.3s,baz=278,slow=18,SNR=1.2						
ATD				LR	LR	13 14 03.4	
	comp=Z,4μm,19.4s,baz=70,slow=32						
MZR	**Muzera**	**9.16**	**10**	*i* P	**Pn**	**13 11 26.2**	**-2.6**
	SNR=38						
MZR	**Muzera**	**9.16**	**10**	P	**Pn**	**13 11 26.7**	**-2.1**
	SNR=38						
MZR				P	**Pn**	**13 11 26.7**	**-2.1**
	SNR=38						
MZR				S	**Sn**	**13 13 05.5**	**-6.5**
MZR				S	**Sn**	**13 13 05.5**	**-6.5**
MHTO	**MHTO**	**9.21**	**40**	P	**Pn**	**13 11 28.7**	**-0.9**
	SNR=40						
MHTO				P	**Pn**	**13 11 28.7**	**-0.9**
	SNR=40						
MHTO				S	**Sn**	**13 13 09.4**	**-3.9**
MHTO				S	**Sn**	**13 13 09.4**	**-3.9**
UMZA	**Um Al Zommool**	**9.32**	**20**	P	**Pn**	**13 11 29.2**	**-1.8**
UMZA				S	Sn	13 13 04.9	-11
MZWR	**Madinat Zayed**	**9.97**	**12**	P	**Pn**	**13 11 37.4**	**-2.5**
MZWR				P	**Pn**	**13 11 37.4**	**-2.5**
MZWR				S	Sn	13 13 22.9	-9.0
MZWR				S	Sn	13 13 22.9	-9.0
GHWR	**Ruwais**	**10.02**	**6**	P	**Pn**	**13 11 37.3**	**-3.3**
GHWR				P	**Pn**	**13 11 37.3**	**-3.3**
GHWR				S	Sn	13 13 22.5	-11
GHWR				S	Sn	13 13 22.5	-11
SLWR	**Sila**	**10.06**	**0**	P	**Pn**	**13 11 36.4**	**-4.7**
SLWR				P	**Pn**	**13 11 36.4**	**-4.7**
SLWR				S	Sn	13 13 23.9	-10
SLWR				S	Sn	13 13 23.9	-10
BSY	**Bis

AJN				S	Sn	13 13 45.6	-12
AJN				S	Sn	13 13 45.6	-12
WBK	**Wadi Bani Khal**	**11.04**	**38**	P	**Pn**	**13 11 53.7**	**-1.0**
	SNR=14						
WBK				S	**Sn**	**13 13 52.7**	**-5.6**
SOHO	**SOHO**	**11.11**	**24**	P	**Pn**	**13 11 56.1**	**+0.5**
SOHO				P	**Pn**	**13 11 56.1**	**+0.5**
SOHO				S	**Sn**	**13 13 54.4**	**-5.6**
SOHO				S	**Sn**	**13 13 54.4**	**-5.6**
ASUD	**Al Ashush, Dub**	**11.16**	**17**	*i* P	**Pn**	**13 11 55.3**	**-0.9**
	SNR=25						
ASUD	**Al Ashush, Dub**	**11.16**	**17**	P	**Pn**	**13 11 55.6**	**-0.6**
	SNR=26						
ASUD				P	**Pn**	**13 11 55.6**	**-0.6**
	SNR=26						
ASUD				S	**Sn**	**13 13 53.5**	**-7.5**
ASUD				S	**Sn**	**13 13 53.5**	**-7.5**
RAYN	**Ar Rayn**	**11.17**	**329**	Pn	**Pn**	**13 11 52.9**	**-3.5**
RAYN	**Ar Rayn**	**11.17**	**329**	*i* P	**Pn**	**13 11 52.9**	**-3.5**
	SNR=73						
RAYN	**Ar Rayn**	**11.17**	**329**	P	**Pn**	**13 11 52.9**	**-3.5**
BIDO	**Bidbid**	**11.30**	**32**	P	**Pn**	**13 11 56.6**	**-1.6**
	SNR=14						
BIDO				P	**Pn**	**13 11 56.6**	**-1.6**
	SNR=14						
BIDO				P	**Pn**	**13 11 56.6**	**-1.6**
	SNR=14						
BIDO				S	**Sn**	**13 13 59.2**	**-5.4**
BIDO				S	**Sn**	**13 13 59.2**	**-5.4**
BIDO				S	**Sn**	**13 13 59.2**	**-5.4**
WSAR	**Wadi Sarin**	**11.34**	**34**	Pn	**Pn**	**13 11 57.2**	**-1.5**
	8.8nm,0.3s,baz=250,slow=12,SNR=71						
WSAR				Sn	**Sn**	**13 13 59.1**	**-6.4**
	10nm,0.3s,baz=29,slow=19,SNR=2.3						
WSAR				Lg	Lg	13 15 16.6	
	baz=156,slow=5.6						
WSAR				LR	LR	13 16 23.6	
	comp=Z,49μm,19.5s,baz=231,slow=38						
	37nm,0.4s						
WSAR	**Wadi Sarin**	**11.34**	**34**	P	**Pn**	**13 11 57.6**	**-1.1**
	SNR=29						
WSAR				S	**Sn**	**13 13 58.2**	**-7.4**
FAQ	**Al Faqa, Dubai**	**11.35**	**18**	*i* P	**Pn**	**13 11 59.0**	**+0.2**
	SNR=21						
FAQ	**Al Faqa, Dubai**	**11.35**	**18**	P	**Pn**	**13 11 57.3**	**-1.5**
	SNR=22						
FAQ				P	**Pn**	**13 11 57.3**	**-1.5**
	SNR=22						
FAQ				S	**Sn**	**13 13 57.6**	**-8.2**
FAQ				S	**Sn**	**13 13 57.6**	**-8.2**
ASHO	**Ashiyiah**	**11.44**	**20**	*i* P	**Pn**	**13 11 58.3**	**-1.8**
	SNR=13						
ASHO	**Ashiyiah**	**11.44**	**20**	P	**Pn**	**13 11 59.3**	**-0.9**
	SNR=13						
ASHO				P	**Pn**	**13 11 59.3**	**-0.9**
	SNR=13						
ASHO				S	**Sn**	**13 14 00.7**	**-7.4**
ASHO				S	**Sn**	**13 14 00.7**	**-7.4**
HATD	**Hatta, Dubai**	**11.60**	**21**	*i* P	**Pn**	**13 12 01.3**	**-0.9**
	SNR=10.0						
HATD	**Hatta, Dubai**	**11.60**	**21**	P	**Pn**	**13 12 01.6**	**-0.6**
	SNR=11						
HATD				P	**Pn**	**13 12 01.6**	**-0.6**
	SNR=11						
HATD				S	**Sn**	**13 14 03.3**	**-8.6**
HATD				S	**Sn**	**13 14 03.3**	**-8.6**
NAZ	**Nazwa, Dubai**	**11.60**	**18**	*i* P	**Pn**	**13 12 01.1**	**-1.2**
	SNR=14						
NAZ	**Nazwa, Dubai**	**11.60**	**18**	P	**Pn**	**13 12 02.4**	**+0.1**
	SNR=14						
NAZ				P	**Pn**	**13 12 02.4**	**+0.1**
	SNR=14						
UOSS	**Minazif**	**11.73**	**21**		**Pn**	**13 12 03.6**	**-0.4**
UOSS	**Minazif**	**11.73**	**21**	*i* P	**Pn**	**13 12 02.0**	**-2.1**
	SNR=9.4						
UOSS	**Minazif**	**11.73**	**21**	P	**Pn**	**13 12 03.2**	**-0.9**
UOSS				P	**Pn**	**13 12 03.2**	**-0.9**
UOSS				S	Sn	13 14 05.1	-10
UOSS				S	Sn	13 14 05.1	-10
SHMA	**Al-Shehemyia**	**11.86**	**357**	P	**Pn**	**13 12 03.3**	**-2.5**
	SNR=5.8						
SHMA				S	Sn	13 14 08.5	-10
	SNR=8.0						
MDH	**Madha**	**12.09**	**20**	*i* P	**Pn**	**13 12 07.6**	**-1.3**
	SNR=8.5						
MDH	**Madha**	**12.09**	**20**	P	**Pn**	**13 12 08.0**	**-1.0**
	SNR=5.7						
MDH				P	**Pn**	**13 12 08.0**	**-1.0**
	SNR=5.7						
MDH				S	Sn	13 14 14.9	-9.1
MDH				S	Sn	13 14 14.9	-9.1
MSFE	**Esma-Masafi**	**12.10**	**20**	*i* P	**Pn**	**13 12 07.1**	**-2.0**
	SNR=8.2						
UMQ	**Umm Al-Quwin**	**12.10**	**17**	*i* P	**Pn**	**13 12 07.7**	**-1.4**
	SNR=7.2						
UMQ	**Umm Al-Quwin**	**12.10**	**17**	P	**Pn**	**13 12 08.0**	**-1.1**
	SNR=6.3						
UMQ				P	**Pn**	**13 12 08.0**	**-1.1**
	SNR=6.3						
UMQ				S	**Sn**	**13 14 18.9**	**-5.2**
UMQ				S	**Sn**	**13 14 18.9**	**-5.2**
MASF	**Masafi**	**12.11**	**20**	P	**Pn**	**13 12 07.4**	**-1.9**
	SNR=9.2						
MASF				P	**Pn**	**13 12 07.4**	**-1.9**
	SNR=9.2						
MASF				S	**Sn**	**13 14 16.1**	**-8.4**
MASF				S	**Sn**	**13 14 16.1**	**-8.4**
BANOM	**Banah**	**12.67**	**19**	P	**Pn**	**13 12 13.7**	**-3.2**
SHME	**Shamm**	**12.74**	**19**	*i* P	**Pn**	**13 12 16.2**	**-1.6**
	SNR=17						
SHME	**Shamm**	**12.74**	**19**	P	**Pn**	**13 12 16.4**	**-1.4**
	SNR=31						
SHME				P	**Pn**	**13 12 16.4**	**-1.4**
	SNR=31						
SHME				S	**Sn**	**13 14 31.3**	**-8.5**
SHME				S	**Sn**	**13 14 31.3**	**-8.5**
JASK	**Jask - Hormozg**	**13.20**	**25**	P	**Pn**	**13 12 22.4**	**-1.6**
JASK				S	**Sn**	**13 14 43.2**	**-7.8**
FURI	**Furi**	**13.70**	**250**		**Pn**	**13 12 33.5**	**+2.2**
FURI	**Furi**	**13.70**	**250**	LR	LR	13 16 56.2	
	comp=Z,24μm,20.6s,baz=78,slow=34						
NGCH	**Negor - Chabah**	**14.41**	**37**	P	**Pn**	**13 12 41.2**	**+0.5**
NGCH				S	**Sn**	**13 15 16.8**	**-3.9**
KBD	**Kabd**	**15.59**	**347**	P	**Pn**	**13 12 53.5**	**-2.9**
KBD				S	Sn	13 15 34.6	-15
LODK	**Lodwar**	**19.21**	**238**		**P**	**13 13 40.6**	**-0.3**
LODK				IAmb	IAmb	13 13 44.4	
	comp=Z,379nm,1.6s						
LODK	**Lodwar**	**19.21**	**238**	P	**Pn**	**13 13 42.2**	**+0.4**
KMBO	**Kilima Mbogo**	**20.71**	**225**	P	**P**	**13 13 55.1**	**-2.4**
KMBO	**Kilima Mbogo**	**20.71**	**225**	*i* P	**P**	**13 13 56.7**	**-0.8**
	SNR=37						
KMBO	**Kilima Mbogo**	**20.71**	**225**	P	**P**	**13 13 56.6**	**-0.8**
KMBO				P	**P**	**13 13 56.6**	**-0.8**
KMBO	**Kilima Mbogo**	**20.71**	**225**	P	**P**	**13 13 55.1**	**-2.4**
KMBO				pmax	pmax		
	comp=Z,143nm,1.1s						
KMBO				MLR	MLR		
	comp=Z,10μm,19.0s						
KIBK	**Kibwezi**	**21.09**	**221**	P	**P**	**13 13 58.2**	**-3.2**
KIBK				IAmb	IAmb	13 14 12.2	
	comp=Z,264nm,1.1s						
KIBK	**Kibwezi**	**21.09**	**221**	P	**P**	**13 13 59.7**	**-1.7**
GOA	**Goa**	**21.47**	**83**	*ex*	x	13 13 41.6	
GOA				IAmb	IAmb	13 13 42.1	
	comp=Z,177nm,0.3s						
POO	**Poona**	**21.76**	**75**	*eP*	**P**	**13 14 09.5**	**+0.9**
POO				IAMs_20	IAMs_20	13 21 18.8	
	comp=Z,51μm,19.4s						
EIL	**Elat**	**21.99**	**318**	LR	LR	13 21 49.6	
	comp=Z,22μm,18.7s,baz=139,slow=34						
JASL	**Jaisalmer**	**22.12**	**51**	*eP*	**P**	**13 14 13.8**	**+1.5**
HRA	**Herat**	**22.48**	**23**	P	**P**	**13 14 17.0**	**+0.7**
ASF	**Jabal al Asfar**	**22.62**	**326**	LR	LR	13 23 35.1	
	comp=Z,39μm,18.4s,baz=334,slow=38						
GHAJ	**Ghor Haditha**	**22.74**	**322**	P	**P**	**13 14 20.9**	**+2.1**
BALJ	**Balqa**	**23.26**	**324**	P	**P**	**13 14 23.6**	**-0.6**
BALJ				IAMs_20	IAMs_20	13 23 40.0	
	comp=Z,28μm,18.0s						
MMAI	**Mount Meron Ar**	**24.08**	**325**	P	**P**	**13 14 33.1**	**+0.8**
	comp=Z,9.6nm,0.7s,baz=131,slow=8.4,SNR=13						
MMAI				LR	LR	13 24 29.0	
	comp=Z,28μm,18.9s,baz=87,slow=38						
	comp=Z,9.6nm,0.7s						
BHL	**Bhannes**	**24.61**	**327**	*eP*	**P**	**13 14 38.8**	**+1.6**
HWQ	**Hawqa**	**24.75**	**328**	*eP*	**P**	**13 14 40.8**	**+2.4**
AJM	**Ajmer**	**24.84**	**56**	*eP*	**P**	**13 14 41.3**	**+2.0**
AJM				IAmb	IAmb	13 14 43.1	
	comp=Z,69nm,0.8s						
AKL	**Akola**	**25.08**	**71**	*eP*	**P**	**13 14 42.6**	**+1.1**
AKL				IAMs_20	IAMs_20	13 22 43.7	
	comp=Z,30μm,24.1s						
MBAR	**Mbarara**	**25.29**	**237**	P	**P**	**13 14 42.4**	**-1.1**
MBAR	**Mbarara**	**25.29**	**237**	*eP*	**P**	**13 14 43.3**	**-0.2**
MBAR	**Mbarara**	**25.29**	**237**	P	**P**	**13 14 44.1**	**+0.6**
MBAR				P	**P**	**13 14 44.1**	**+0.6**
MBAR	**Mbarara**	**25.29**	**237**	*i* P	**P**	**13 14 41.6**	**-2.0**
MBAR				pmax	pmax		
	comp=Z,27nm,1.1s						
MBAR				MLR	MLR		
	comp=Z,4μm,12.0s						
KBL	**Kabul**	**25.82**	**34**	P	**P**	**13 14 50.5**	**+2.2**
KBL	**Kabul**	**25.82**	**34**	P	**P**	**13 14 51.1**	**+2.8**
KBL				P	**P**	**13 14 51.1**	**+2.8**
KBL				P	**P**	**13 14 51.1**	**+2.8**
KBL	**Kabul**	**25.82**	**34**	P	**P**	**13 14 50.5**	**+2.2**
KBL				pmax	pmax		
	comp=Z,215nm,1.1s						
GURO	**Guroymak-BITLI**	**25.95**	**343**	P	**P**	**13 14 49.5**	**+0.2**
GURO				IAmb	IAmb	13 15 19.1	
	comp=Z,78nm,1.1s						
SALM	**Salem**	**25.96**	**92**	*eP*	**P**	**13 14 49.8**	**+0.3**
BHPL	**Bhopal**	**26.05**	**65**	*eP*	**P**	**13 14 52.0**	**+1.7**
BHPL				IAmb	IAmb	13 14 53.7	
	comp=Z,99nm,1.3s						
BHPL				IAMs_20	IAMs_20	13 24 05.3	
	comp=Z,11μm,17.6s						
HYB	**Hyderabad**	**26.09**	**79**	*eP*	**P**	**13 14 50.6**	**-0.2**
GAZ	**Gaziantep**	**26.48**	**333**	P	**P**	**13 14 53.6**	**-0.5**
CSS	**Mathiatis**	**26.68**	**325**	P	**P**	**13 14 54.9**	**-0.9**
CSS				IAmb	IAmb	13 15 28.3	
	comp=Z,242nm,2.0s						
CSS				IAMs_20	IAMs_20	13 25 43.3	
	comp=Z,26μm,19.0s						
CSS	**Mathiatis**	**26.68**	**325**	P	**P**	**13 14 56.5**	**+0.7**
	comp=Z,47nm,1.6s,comp=Z,1μm						
GNI	**Garni**	**26.80**	**348**	P	**P**	**13 14 57.5**	**+0.5**
GNI	**Garni**	**26.80**	**348**	IAMs_20	IAMs_20	13 27 13.0	
	comp=Z,28μm,21.0s						
GNI	**Garni**	**26.80**	**348**	LR	LR	13 28 18.2	
	comp=Z,30μm,18.4s,baz=178,slow=42						
GNI	**Garni**	**26.80**	**348**	*i* P	**P**	**13 14 59.2**	**+2.2**
GNI				pmax	pmax		
	comp=Z,178nm,1.1s						
GNI				MLR	MLR		
	comp=Z,20μm,12.0s						
KUDL	**Kundal**	**27.04**	**55**	*eP*	**P**	**13 15 01.5**	**+2.4**
KARS	**Kars**	**27.62**	**346**	P	**P**	**13 15 04.7**	**+0.4**
KARS	**Kars**	**27.62**	**346**	P	**P**	**13 15 04.7**	**+0.4**
KARS				pmax	pmax		
	comp=Z,2μm,1.6s						
JHNI	**Jhansi**	**27.70**	**61**	*eP*	**P**	**13 15 07.2**	**+2.1**
NIL	**Nilore**	**27.71**	**41**	P	**P**	**13 15 05.6**	**+0.4**
NIL				IAmb	IAmb	13 15 21.1	
	comp=Z,117nm,1.2s						
NIL	**Nilore**	**27.71**	**41**	P	**P**	**13 15 05.6**	**+0.4**
NIL				pmax	pmax		
	comp=Z,117nm,1.3s						
NDI	**New Delhi**	**27.86**	**54**	*eP*	**P**	**13 15 07.2**	**+0.7**
JMU	**Jammu**	**28.23**	**45**	*eP*	**P**	**13 15 11.6**	**+1.9**
BNN	**Bunyan**	**28.47**	**333**	P	**P**	**13 15 12.9**	**+0.9**
THN	**Thein Dam**	**28.63**	**46**	*eP*	**P**	**13 15 15.2**	**+1.9**
DHRM	**DHARAMSHALA**	**28.94**	**47**	*eP*	**P**	**13 15 19.5**	**+3.2**
SMLA	**Simla**	**28.98**	**50**	*eP*	**P**	**13 15 15.7**	**-0.7**
SMLA				IAmb	IAmb	13 15 29.8	
	comp=Z,49nm,1.0s						
SIMJ	**Simiganj**	**28.99**	**29**	P	**P**	**13 15 17.3**	**+0.7**
SIMJ				IAmb	IAmb	13 15 29.3	
	comp=Z,109nm,1.1s						
MAK	**Makhachkala**	**29.13**	**354**	*eP*	**P**	**13 15 13.7**	**-3.8**
MAK				*eS*	**S**	**13 20 05.0**	**-4.5**
MAK				pmax	pmax		
	comp=Z,243nm,1.7s						
MAK				MLR	MLR		
	comp=Z,22μm,13.0s						
PALK	**Pallekele**	**29.27**	**100**	LR	LR	13 24 58.5	
	comp=Z,10μm,19.5s,baz=26,slow=32						
ONI	**Oni**	**29.41**	**348**	IAmb	IAmb	13 16 21.2	
	comp=Z,158nm,1.6s						
GROC	**Groznyy**	**29.58**	**351**	*eP*	**P**	**13 15 25.6**	**+4.0**
GROC				*e*		13 16 17.9	
GROC				*eS*	**S**	**13 20 24.9**	**+8.3**
GROC				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ELL	**Elmali**	**29.89**	**323**	P	**P**	**13 15 25.9**	**+1.3**
ELL	**Elmali**	**29.89**	**323**	P	**P**	**13 15 25.9**	**+1.3**
ELL				pmax	pmax		
	comp=Z,794nm,1.4s						
BR131	**Keskin Array S**	**30.18**	**332**	IAmb	IAmb	13 16 34.4	
	comp=Z,110nm,1.9s						
BR131	**Keskin Array S**	**30.18**	**332**	*c i* P	**P**	**13 15 27.6**	**+0.5**
BRTR	**Keskin Array B**	**30.18**	**332**	P	**P**	**13 15 28.0**	**+0.9**
BRTR	**Keskin Array B**	**30.18**	**332**	P	**P**	**13 15 28.4**	**+1.3**
	comp=Z,15nm,1.1s,baz=150,slow=10.0,SNR=25						
BRTR				LR	LR	13 28 35.9	
	comp=Z,10μm,19.5s,baz=148,slow=38						
	comp=Z,15nm,1.1s						
BRTR	**Keskin Array B**	**30.18**	**332**	*ce*P	**P**	**13 15 28.8**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,15nm,1.1s						
ISP	**Isparta**	**30.30**	**325**	IAmb	IAmb	13 15 55.1	
	comp=Z,123nm,1.4s						
ISP				IAMs_20	IAMs_20	13 28 04.1	
	comp=Z,14μm,20.0s						
ISP	**Isparta**	**30.30**	**325**	*ce*P	**P**	**13 15 29.0**	**+0.8**
ISP				pmax	pmax		
	comp=Z,106nm,1.7s						
ALBI	**Allahabad**	**30.47**	**64**	*eP*	**P**	**13 15 31.2**	**+1.5**
ALBI				IAMs_20	IAMs_20	13 27 56.2	
	comp=Z,13μm,16.9s						
LGTI	**Lohaghat**	**30.58**	**55**	*eP*	**P**	**13 15 29.4**	**-1.2**
LGTI				IAmb	IAmb	13 15 32.1	
	comp=Z,26nm,1.1s						
PTH	**Pithoragarh**	**30.60**	**55**	*eP*	**P**	**13 15 31.0**	**0.0**
KBZ	**Khabaz**	**30.61**	**347**	P	**P**	**13 15 31.3**	**+0.6**
	comp=Z,20nm,0.9s,baz=176,slow=4.8,SNR=32						
KBZ				LR	LR	13 30 25.4	
	comp=Z,59μm,19.0s,baz=150,slow=41						
	comp=Z,20nm,0.9s						
KBZ	**Khabaz**	**30.61**	**347**	*ce*P	**P**	**13 15 32.8**	**+2.1**
KBZ				pmax	pmax		
	comp=Z,102nm,1.5s						
KBZ				MLR	MLR		
	comp=Z,55μm,17.0s						
SHA1	**Shidzhatmaz**	**30.67**	**347**	*ce*P	**P**	**13 15 33.2**	**+1.7**
ANTO	**Ankara**	**30.68**	**331**	P	**P**	**13 15 32.0**	**+0.5**
ANTO	**Ankara**	**30.68**	**331**	IAMs_20	IAMs_20	13 28 20.4	
	comp=Z,20μm,22.0s						
ANTO	**Ankara**	**30.68**	**331**	P	**P**	**13 15 32.0**	**+0.5**
ANTO				pmax	pmax		
	comp=Z,274nm,1.9s						
ANTO				MLR	MLR		
	comp=Z,20μm,22.0s						
ANTO	**Ankara**	**30.68**	**331**	P	**P**	**13 15 33.6**	**+2.1**
	comp=Z,34nm,1.0s,comp=Z,717nm						
KARP	**Karpathos**	**30.79**	**319**	P	**P**	**13 15 33.8**	**+1.3**
	comp=Z,88nm,1.0s						
KIV	**Kislovodsk**	**30.87**	**347**	⇓P	**P**	**13 15 35.4**	**+2.3**
KIV	**Kislovodsk**	**30.87**	**347**	P	**P**	**13 15 33.9**	**+0.7**
KIV	**Kislovodsk**	**30.87**	**347**	*i* P	**P**	**13 15 34.0**	**+0.8**
	SNR=18						
KIV	**Kislovodsk**	**30.87**	**347**	*eP*	**P**	**13 15 34.7**	**+1.5**
KIV				*e*		13 16 34.0	
KIV				*e*PPP	PPP	13 16 46.1	
KIV				*eS*	**S**	**13 20 41.8**	**+4.7**
KIV				pmax	pmax		
	comp=Z,65nm,1.1s						
KIV				pmax	pmax		
	comp=Z,33nm,2.8s						
KIV				MLR	MLR		
	comp=Z,21μm,15.0s						
KIV	**Kislovodsk**	**30.87**	**347**	P	**P**	**13 15 34.9**	**+1.7**
	comp=Z,73nm,1.4s,comp=Z,1μm						
BTK	**Batken**	**30.95**	**29**	P	**P**	**13 15 33.7**	**-0.2**
BTK				IAmb	IAmb	13 15 47.1	
	comp=Z,68nm,0.9s						
BTK	**Batken**	**30.95**	**29**	P	**P**	**13 15 33.7**	**-0.2**
BTK				pmax	pmax		
	comp=Z,68nm,0.9s						
DRK	**Karamyk**	**30.99**	**31**	IAmb	IAmb	13 15 44.9	
	comp=Z,74nm,0.9s						
SOC	**Sochi**	**31.26**	**343**	*c i* P	**P**	**13 15 36.5**	**+0.1**
SOC				*e*		13 16 36.5	
SOC				*eS*	**S**	**13 20 46.0**	**+3.0**
JHSG	**JHARSUGUGA**	**31.47**	**71**	IAMs_20	IAMs_20	13 26 14.2	
	comp=Z,18μm,23.0s						
KULA	**Kula-Manisa**	**31.83**	**324**	P	**P**	**13 15 42.8**	**+1.1**
GOF	**Gofitskoye**	**31.86**	**348**	*ce*P	**P**	**13 15 43.3**	**+1.6**
LABN	**Labinsk**	**31.98**	**345**	*eP*	**P**	**13 15 40.9**	**-1.9**
LABN				*e*PPP	PPP	13 16 53.8	
LABN				*eS*	**S**	**13 20 51.4**	**-2.8**
LABN				*eS*S	**SnSn**	**13 22 48.1**	**+5.0**
LABN				*e*SSS	SSS	13 23 06.4	
LABN				pmax	pmax		
	comp=Z,28nm,0.6s						
LABN				MLR	MLR		
	comp=Z,15μm,12.0s						
IDI	**Anoyia**	**32.13**	**316**	LR	LR	13 30 50.4	
	comp=Z,7μm,21.0s,baz=114,slow=40						
CHM	**Chimkent**	**32.24**	**25**	*eP*	**P**	**13 15 45.0**	**-0.2**
	baz=25						
CHM				LR	LR	13 31 08.7	
	comp=Z,4μm,15.4s,baz=25						
CHM	**Chimkent**	**32.24**	**25**	*eP*	**P**	**13 15 44.9**	**-0.2**
CHM				MLR	MLR		
	comp=Z,4μm,15.0s						
IUG	**Iuzhnay**	**32.27**	**26**	*eP*	**P**	**13 15 45.4**	**-0.1**
	comp=Z,67nm,1.2s,baz=26						
IUG	**Iuzhnay**	**32.27**	**26**	*eP*	**P**	**13 15 45.4**	**-0.1**
IUG				pmax	pmax		
	comp=Z,67nm,1.2s						
OPO	**Ambohidratompo**	**32.62**	**188**	LR	LR	13 27 33.4	
	comp=Z,3μm,18.3s,baz=176,slow=34						
YLV	**Yalova**	**32.91**	**328**	P	**P**	**13 15 51.8**	**+0.7**
	comp=Z,33nm,1.7s,comp=Z,1μm						
BRLS	**Borolday**	**32.92**	**25**	*eP*	**P**	**13 15 48.5**	**-2.7**
	comp=Z,33nm,1.3s,baz=25						
BRLS	**Borolday**	**32.92**	**25**	*eP*	**P**	**13 15 48.4**	**-2.7**
BRLS				pmax	pmax		
	comp=Z,33nm,1.3s						
ERBR	**Yeremizino-Bor**	**33.04**	**346**	*eP*	**P**	**13 15 51.4**	**-0.7**
ERBR				*e*		13 16 59.6	
ERBR				*e*PPP	PPP	13 17 13.0	
ERBR				*eS*	**S**	**13 21 12.2**	**+1.5**
ERBR				*eS*S	**SnSn**	**13 23 10.2**	**+1.2**
ERBR				pmax	pmax		
	comp=Z,209nm,1.8s						
ERBR				MLR	MLR		
	comp=Z,33μm,17.0s						
ANN	**Anapa**	**33.05**	**341**	*eP*	**P**	**13 15 53.3**	**+1.2**
ANN				*e*		13 17 02.1	
ANN				*eS*	**S**	**13 21 16.2**	**+5.4**
ANN				*eS*S	**SnSn**	**13 23 12.9**	**+3.9**
ANN				pmax	pmax		
	comp=Z,62nm,1.6s						
ABPO	**Ambohimpanom**	**33.06**	**188**	*eP*	**P**	**13 15 50.9**	**-1.8**
ABPO				IAmb	IAmb	13 16 03.2	
	comp=Z,62nm,1.3s						
KSH	**Kashi**	**33.24**	**35**	P	**P**	**13 15 50.5**	**-3.6**
KSH				sP	pwP	13 16 00.0	-1.3
KSH				S	S	13 21 04.0	-10
KSH				pmax	pmax		
	comp=Z,12nm,0.8s						
KSH				LR	LR		
	comp=Z,6μm,21.6s						
KSH				LR	LR		
	comp=Z,5μm,22.3s						
KSH				LR	LR		
	comp=Z,10μm,22.3s						
KK31	**Karatay Array**	**33.26**	**26**	IAmb	IAmb	13 16 07.6	
	comp=Z,47nm,1.0s						
KK31	**Karatay Array**	**33.26**	**26**	*i* P	**P**	**13 15 54.8**	**+0.7**
KKAR	**Karatay Array**	**33.26**	**26**	P	**P**	**13 15 53.7**	**-0.4**
KKAR				IAmb	IAmb	13 16 07.6	
	comp=Z,47nm,1.0s						
KKAR	**Karatay Array**	**33.26**	**26**	P	**P**	**13 15 53.7**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,47nm,1.0s						
CHOS	**Chios island**	**33.27**	**322**	P	**P**	**13 15 56.5**	**+2.3**
ISK	**Istanbul-Kandi**	**33.44**	**328**	P	**P**	**13 15 56.7**	**+1.1**
ANKY	**Antikythira Is**	**33.53**	**316**	P	**P**	**13 15 58.3**	**+1.8**
PRK	**Paraskevi**	**33.70**	**323**	P	**P**	**13 15 59.7**	**+1.8**
BOK	**Bokaro**	**33.73**	**68**	*eP*	**P**	**13 16 01.0**	**+2.6**
BOK				IAMs_20	IAMs_20	13 27 49.8	
	comp=Z,22μm,21.3s						
SIGR	**SIGRI**	**33.92**	**323**	P	**P**	**13 16 01.8**	**+2.0**
EZN	**Ezine**	**34.05**	**324**	P	**P**	**13 16 02.7**	**+1.8**
EZN	**Ezine**	**34.05**	**324**	P	**P**	**13 16 01.8**	**+0.9**
	comp=Z,47nm,1.1s,comp=Z,1μm						
VLI	**Veliai**	**34.24**	**317**	P	**P**	**13 16 02.7**	**0.0**
SIM	**Simferopol'**	**34.31**	**338**	*eP*	**P**	**13 16 04.8**	**+1.7**
SIM				*eS*	**S**	**13 21 33.0**	**+2.6**
SIM				MLR	MLR		
	comp=Z,6μm,17.0s						
VLY	**Voula,Athens**	**34.34**	**319**	P	**P**	**13 16 04.3**	**+0.8**
EKS2	**Erkin-Say**	**34.38**	**29**	P	**P**	**13 16 06.2**	**+2.3**
	SNR=7.3						
DION	**Dionisos Attik**	**34.38**	**319**	P	**P**	**13 16 05.6**	**+1.7**
UCH	**Uchtor**	**34.41**	**31**	P	**P**	**13 16 07.0**	**+2.4**
	SNR=36						
PTL	**Penteli**	**34.41**	**319**	P	**P**	**13 16 05.2**	**+1.1**
KRND	**KRANIDI**	**34.48**	**318**	P	**P**	**13 16 04.5**	**-0.2**
SKY	**Skiros Island**	**34.49**	**321**	P	**P**	**13 16 06.7**	**+1.9**
NRN	**Naryn**	**34.59**	**33**	P	**P**	**13 16 06.4**	**+0.4**
NRN				IAmb	IAmb	13 16 21.8	
	comp=Z,50nm,1.0s						
NRN	**Naryn**	**34.59**	**33**	P	**P**	**13 16 06.4**	**+0.4**
NRN				pmax	pmax		
	comp=Z,50nm,1.0s						
KYMI	**Kymi, Euboea I**	**34.62**	**320**	P	**P**	**13 16 07.1**	**+1.2**
AAK	**Ala-Archa**	**34.70**	**30**	P	**P**	**13 16 07.2**	**+0.4**
AAK	**Ala-Archa**	**34.70**	**30**	*i* P	**P**	**13 16 08.4**	**+1.7**
	SNR=12						
AAK	**Ala-Archa**	**34.70**	**30**	LR	LR	13 32 38.9	
	comp=Z,6μm,18.4s,baz=232,slow=40						
AAK	**Ala-Archa**	**34.70**	**30**	*ce*P	**

THAS Thassos island 35.49 324 P **P** **13 16 15.0 +1.6**
KLV Kalavryta, Ach 35.51 318 P **P** **13 16 14.1 +0.4**
AXAR Agios Charalam 35.60 319 P **P** **13 16 14.5 +0.1**
PAIG Paliouri 35.67 322 P **P** **13 16 16.3 +1.4**
KALE Kalithea 35.71 318 P **P** **13 16 15.8 +0.4**
OUR Ouranopolis 35.75 323 P **P** **13 16 17.2 +1.6**
TARG Taragay, Kyrgy 35.77 34 P **P** **13 16 16.8 +0.5**
TARG Taragay, Kyrgy 35.77 34 P **P** **13 16 16.8 +0.5**
TARG pmax pmax
comp=Z,177nm,1.3s
JMB Yambol 35.78 327 P **P** **13 16 18.0 +2.2**
PRD Provadia 35.81 329 P **P** **13 16 17.1 +1.0**
KDZ Kurdzhali 35.82 325 P **P** **13 16 17.7 +1.5**
AB31 Akbulak array 35.85 9 P **P** **13 16 16.7 +0.4**
ABKAR Akbulak array 35.85 9 P **P** **13 16 17.3 +1.0**
ABKAR Akbulak array 35.85 9 IAmb IAmb 13 16 19.2
comp=Z,214nm,1.4s
KAVA Kavala 35.86 324 P **P** **13 16 18.2 +1.6**
EFP Efpalio 35.88 318 P **P** **13 16 17.6 +0.8**
AGG Agios Georgios 35.95 319 P **P** **13 16 16.6 -0.9**
AGG IAmb IAmb 13 16 29.5
comp=Z,54nm,1.1s
AGG Agios Georgios 35.95 319 P **P** **13 16 17.5 0.0**
AGG Agios Georgios 35.95 319 P **P** **13 16 16.6 -0.9**
AGG pmax pmax
comp=Z,54nm,1.1s
AGG MLR MLR
comp=Z,8μm,19.0s
VOI Vohitsoka 35.96 188 *e*P **P** **13 16 15.5 -2.2**
RLS Riolos of Patr 35.96 317 P **P** **13 16 18.7 +1.2**
ANX Ano Chora 35.97 319 P **P** **13 16 18.3 +0.7**
KOKK Kokkinochori, 36.04 323 P **P** **13 16 19.6 +1.5**
MAKR Makrakomi, Fth 36.08 319 P **P** **13 16 18.9 +0.4**
PLG Polygyros 36.09 322 P **P** **13 16 19.4 +0.8**
RZN Rozhen 36.20 325 P **P** **13 16 21.3 +1.6**
PVO Paravola 36.24 318 P **P** **13 16 21.2 +1.4**
BTLS Baital 36.34 27 *e*P **P** **13 16 20.4 -0.3**
baz=27
BTLS *e*S **S** **13 22 02.9 +1.2**
baz=27
BTLS Baital 36.34 27 *e*P **P** **13 16 20.3 -0.3**
BTLS *e*S **S** **13 22 02.8 +1.2**
MDOK Medeo 36.37 32 *e*P **P** **13 16 20.7 -0.4**
baz=32
MDOK *e*S **S** **13 22 03.3 +0.8**
baz=32
MDOK LR LR 13 33 38.6
comp=Z,3μm,12.6s,baz=32
MDOK Medeo 36.37 32 *e*P **P** **13 16 20.6 -0.5**
MDOK *e*S **S** **13 22 03.2 +0.8**
MDOK MLR MLR
comp=Z,3μm,13.0s
SOH Sokhos 36.42 323 P **P** **13 16 22.5 +1.0**
ELND Elena 36.43 327 ⇓P **P** **13 16 22.1 +0.7**
HORT Hortiatis 36.44 322 P **P** **13 16 22.1 +0.5**
NVR Nevrokopi 36.47 324 P **P** **13 16 24.1 +2.3**
THL Klokotos Trika 36.47 320 P **P** **13 16 21.6 -0.2**
SRS Serrai 36.47 323 P **P** **13 16 22.8 +1.0**
PLD Plovdiv 36.49 326 P **P** **13 16 23.7 +1.7**
LIT Litokhoron 36.50 321 P **P** **13 16 22.2 +0.1**
TLBR Topalu 36.53 331 ⇑P **P** **13 16 23.4 +1.1**
THE Thessaloniki 36.54 322 P **P** **13 16 22.6 +0.3**
KUU Kurty 36.54 30 *e*P **P** **13 16 22.0 -0.3**
comp=Z,76nm,1.2s,baz=30
KUU LR LR 13 34 09.5
comp=Z,5μm,12.8s,baz=30
KUU Kurty 36.54 30 *e*P **P** **13 16 22.0 -0.3**
KUU pmax pmax
comp=Z,76nm,1.2s
KUU MLR MLR
comp=Z,5μm,13.0s
TPGR Topolog 36.60 332 ⇑P **P** **13 16 23.4 +0.6**
PRZ Przheval'sk 36.61 34 P **P** **13 16 23.2 0.0**
PRZ IAmb IAmb 13 16 36.2
comp=Z,91nm,1.0s
PRZ Przheval'sk 36.61 34 P **P** **13 16 23.2 0.0**
PRZ pmax pmax
comp=Z,91nm,1.0s
SZH Strazhitsa 36.61 328 P **P** **13 16 24.4 +1.4**
MMB Musomishta 36.66 324 P **P** **13 16 24.7 +1.3**
HARR Harsova 36.70 331 ⇑P **P** **13 16 25.2 +1.6**
HARR Harsova 36.70 331 P **P** **13 16 25.2 +1.6**
AKTO Aktyubinsk 36.74 7 LR LR 13 34 48.3
comp=Z,17μm,18.9s,baz=170,slow=42
FSK Fiskardo 36.78 317 P **P** **13 16 24.5 +0.1**
EVGI Lefkada island 36.80 318 P **P** **13 16 25.1 +0.4**
LKD2 Lefkada island 36.90 318 P **P** **13 16 26.1 +0.6**
KTI Kastanea 36.90 321 P **P** **13 16 25.8 +0.2**
KNT Kendrikon 36.91 323 P **P** **13 16 26.3 +0.8**
TSLK Tsoukalades, L 36.92 318 P **P** **13 16 25.8 +0.2**
PVL Pavlikeni 36.93 327 P **P** **13 16 27.0 +1.3**
CFR Carcaliu 36.97 332 ⇓P **P** **13 16 27.2 +1.2**
CFR Carcaliu 36.97 332 P **P** **13 16 27.1 +1.2**
SATY Saty 37.00 33 *e*P **P** **13 16 26.0 -0.5**
comp=Z,55nm,1.1s,baz=33
SATY *e*S **S** **13 22 12.5 +0.4**
baz=33
SATY Saty 37.00 33 *e*P **P** **13 16 26.0 -0.5**
SATY *e*S **S** **13 22 12.5 +0.4**
SATY pmax pmax
comp=Z,55nm,1.1s
GRG Griva 37.07 322 P **P** **13 16 27.2 +0.2**
ZHN Zhinishke 37.09 33 *e*P **P** **13 16 26.6 -0.7**
comp=Z,43nm,1.2s,baz=33
ZHN Zhinishke 37.09 33 *e*P **P** **13 16 26.5 -0.7**
ZHN pmax pmax
comp=Z,43nm,1.2s
KPRO Kipourio 37.11 320 P **P** **13 16 27.5 +0.2**
VAY Valandovo 37.20 323 *i*P **P** **13 16 28.6 +0.6**
KKB Krupnik 37.20 324 P **P** **13 16 29.1 +1.1**
JAN Janina 37.26 319 P **P** **13 16 31.5 +2.9**
UZB Uzynbulak 37.39 34 *e*P **P** **13 16 29.1 -0.8**
comp=Z,44nm,1.2s,baz=33
UZB Uzynbulak 37.39 34 *e*P **P** **13 16 29.0 -0.8**
UZB pmax pmax
comp=Z,44nm,1.2s
KPKS Kokpek 37.43 33 *e*P **P** **13 16 29.4 -0.7**
comp=Z,58nm,1.0s,baz=33
KPKS *e*S **S** **13 22 18.7 +0.2**
baz=33
KPKS Kokpek 37.43 33 *e*P **P** **13 16 29.3 -0.7**
KPKS *e*S **S** **13 22 18.7 +0.2**
KPKS pmax pmax
comp=Z,58nm,1.0s
ARXS Arharly 37.51 31 *i*P **P** **13 16 30.7 0.0**
KRI Karoi 37.56 216 *e*P **P** **13 16 29.8 -1.7**
NEST Nestorio 37.57 320 P **P** **13 16 31.7 +0.4**
FNA Florina 37.59 321 IAmb IAmb 13 16 33.4
comp=Z,75nm,1.3s
FNA Florina 37.59 321 P **P** **13 16 31.5 +0.1**
SHLS Shalkode 37.64 34 *e*P **P** **13 16 33.1 +1.2**
comp=Z,26nm,0.8s,baz=34
SHLS *e*S **S** **13 22 25.7 +3.9**
baz=34
SHLS Shalkode 37.64 34 *e*P **P** **13 16 33.0 +1.2**
SHLS *e*S **S** **13 22 25.6 +3.9**
SHLS pmax pmax
comp=Z,26nm,0.8s
VTS Vitosha 37.65 325 P **P** **13 16 33.2 +1.3**
ISR Istrita 37.67 331 ⇑P **P** **13 16 34.6 +2.5**
ISR Istrita 37.67 331 P **P** **13 16 34.5 +2.5**
ISR Istrita 37.67 331 P **P** **13 16 33.4 +1.4**
comp=Z,100nm,1.3s,comp=Z,2μm
LSK Leskovik 37.70 320 P **P** **13 16 33.2 +0.9**
KBN Korca 37.85 320 P **P** **13 16 34.3 +0.7**
MPEP Malo Peshtene 37.86 326 P **P** **13 16 34.8 +1.3**
SRN Sarande 37.92 319 P **P** **13 16 34.9 +0.8**
GHRR 37.98 332 P **P** **13 16 35.7 +1.2**
VRH Novokhopyorsk 38.01 350 *e*P **P** **13 16 34.8 +0.1**
VRH *e* 13 17 59.1
VRH *e*S **S** **13 22 28.6 +1.8**
VRH pmax pmax
comp=Z,260nm,1.5s
VRH smax smax
comp=N,3μm,13.7s
VRH MLR MLR
comp=Z,26μm,20.0s
MILM Milestii Mici 38.03 334 ⇑P **P** **13 16 36.2 +1.3**
MILM Milestii Mici 38.03 334 ⇑*e*P **P** **13 16 35.0 +0.1**
comp=Z,170nm,1.6s
MILM Milestii Mici 38.03 334 *e*PP PP 13 18 03.0 +1.2
comp=Z,940nm,3.6s
MILM *e*S **S** **13 22 29.0 +1.8**

MILM *e*L L 13 27 23.0
comp=Z,10μm,46.0s
MILM LQM 13 29 35.0
comp=Z,5μm,21.5s
MILM LRM MLR 13 36 01.0
comp=Z,8μm,17.5s
MILM Milestii Mici 38.03 334 *ce*P **P** **13 16 35.0 +0.1**
MILM *e* 13 18 03.0
MILM *e*S **S** **13 22 29.0 +1.8**
MILM pmax pmax
comp=Z,170nm,1.6s
MILM pmax pmax
comp=E,680nm,4.0s
MILM MLR MLR
comp=Z,8μm,17.5s
KIS Kishinev 38.09 334 *e*P **P** **13 16 35.6 +0.2**
comp=Z,160nm,1.9s
KIS Kishinev 38.09 334 *e*PP PP 13 18 04.0 +1.5
comp=Z,390nm,2.2s
KIS *e*S **S** **13 22 30.0 +1.8**
KIS *e*L L 13 29 34.0
KIS LQM 13 34 23.0
comp=Z,2μm,19.0s
KIS LRM MLR 13 36 05.0
comp=Z,2μm,16.5s
KIS Kishinev 38.09 334 *e*P **P** **13 16 36.0 +0.6**
KIS *e* 13 18 04.0
KIS *e*S **S** **13 22 30.0 +1.8**
KIS pmax pmax
comp=Z,160nm,1.9s
KIS pmax pmax
comp=Z,400nm,2.2s
OHR Ohrid 38.13 321 *i*P **P** **13 16 36.6 +0.6**
VRI Vrincioaia 38.14 331 ⇑P **P** **13 16 37.9 +2.0**
VRI Vrincioaia 38.14 331 P **P** **13 16 37.6 +1.7**
VRI Vrincioaia 38.14 331 P **P** **13 16 37.2 +1.3**
comp=Z,51nm,1.5s,comp=Z,1μm
VRI Vrincioaia 38.14 331 ⇓P **P** **13 16 37.6 +1.7**
PLOR5 Plostina Array 38.15 331 P **P** **13 16 37.7 +1.6**
comp=Z,60nm,1.6s,comp=Z,2μm
PLOR Plostina 38.16 331 ⇓P **P** **13 16 38.5 +2.4**
PLOR Plostina 38.16 331 P **P** **13 16 38.5 +2.4**
PLOR3 Plostina Array 38.17 331 P **P** **13 16 37.7 +1.5**
comp=Z,80nm,1.8s,comp=Z,2μm
MLR Muntele Rosu 38.23 330 ⇓P **P** **13 16 38.2 +1.3**
MLR Muntele Rosu 38.23 330 IAMs_20 IAMs_20 13 34 12.1
comp=Z,11μm,19.0s
MLR Muntele Rosu 38.23 330 LR LR 13 34 22.7
comp=Z,10μm,19.0s,baz=152,slow=39
MLR Muntele Rosu 38.23 330 P **P** **13 16 38.1 +1.3**
MLR Muntele Rosu 38.23 330 P **P** **13 16 38.6 +1.8**
comp=Z,38nm,1.2s,comp=Z,1μm
VALD Valchedram 38.24 326 P **P** **13 16 39.2 +2.4**
VORD Divnogorie 38.25 347 *e*P **P** **13 16 36.9 +0.2**
VORD *e*S **S** **13 22 26.7 -3.8**
VORD pmax pmax
comp=Z,90nm,1.2s
VORD smax smax
comp=N,1μm,10.2s
VORD MLR MLR
comp=Z,8μm,15.0s
SKO Skopje 38.27 323 *i*P **P** **13 16 37.5 +0.5**
TDK Taldyqorghan 38.36 31 *e*P **P** **13 16 37.5 -0.4**
comp=Z,97nm,1.0s,baz=31
TDK LR LR 13 35 20.1
comp=Z,4μm,13.8s,baz=31
TDK Taldyqorghan 38.36 31 *e*P **P** **13 16 37.4 -0.4**
TDK pmax pmax
comp=Z,97nm,1.0s
TDK MLR MLR
comp=Z,4μm,14.0s
MTUR Matau 38.47 329 ⇓P **P** **13 16 40.8 +2.0**
MTUR Matau 38.47 329 P **P** **13 16 40.7 +2.0**
BELG Belogornoye 38.48 356 LR LR 13 37 28.2
comp=Z,11μm,18.6s,baz=175,slow=44
BELG Belogornoye 38.48 356 *d i*P **P** **13 16 38.3 -0.3**
BELG pmax pmax
comp=Z,62nm,1.7s
BELG MLR MLR
comp=Z,2μm,16.0s
VSR Storozhevoye 38.52 347 *e*P **P** **13 16 39.2 +0.3**
VSR *e* 13 18 05.5
VSR *e*S **S** **13 22 31.4 -3.1**
VSR pmax pmax
comp=Z,210nm,1.9s
VSR smax smax
comp=N,5μm,19.0s
VSR MLR MLR
comp=Z,20μm,18.0s
TURR Turia 38.61 331 ⇑P **P** **13 16 41.5 +1.6**
VOIR 38.63 330 ⇓P **P** **13 16 41.4 +1.3**
VOIR 38.63 330 P **P** **13 16 41.3 +1.3**
VOIR 38.63 330 P **P** **13 16 40.6 +0.5**
comp=Z,44nm,1.7s,comp=Z,979nm
TESR Tescani 38.66 332 ⇑P **P** **13 16 41.4 +1.1**
TESR Tescani 38.66 332 P **P** **13 16 40.9 +0.6**
comp=Z,58nm,0.8s,comp=Z,2μm
ARR Arges 38.78 329 ⇓P **P** **13 16 42.2 +0.8**
TIR Tirane 38.84 321 P **P** **13 16 42.7 +0.8**
comp=Z,40nm,1.1s,comp=Z,870nm
DOPR Dopca 38.84 330 ⇓P **P** **13 16 42.9 +1.1**
VORR Voronezh 38.94 348 *e*P **P** **13 16 43.3 +0.8**
VORR *e* 13 18 11.9
VORR *e*S **S** **13 22 43.3 +2.5**
VORR pmax pmax
comp=Z,205nm,1.6s
VORR smax smax
comp=E,100nm,3.2s
VORR MLR MLR
comp=Z,16μm,14.0s
BOVS Bovan 39.16 325 ⇑P **P** **13 16 45.1 +0.6**
SORM Soroca 39.18 335 P **P** **13 16 44.3 -0.3**
comp=Z,29nm,1.3s,comp=Z,1μm
PUK Puka 39.23 322 P **P** **13 16 44.6 -0.6**
SHL Shillong 39.41 67 P **P** **13 16 46.1 -1.0**
SHL IAmb IAmb 13 16 56.7
comp=Z,200nm,1.6s
SHL Shillong 39.41 67 *e*P **P** **13 16 44.3 -2.8**
SHL Shillong 39.41 67 P **P** **13 16 46.1 -1.0**
SHL pmax pmax
comp=Z,200nm,1.6s
HERR Herculane 39.59 327 ⇑P **P** **13 16 49.0 +0.9**
LSA Lhasa 39.63 60 P **P** **13 16 48.3 -0.9**
LSA S **S** **13 22 52.3 -0.5**
LSA LR LR
comp=Z,3μm,16.1s
LSA LR LR
comp=Z,4μm,16.2s
LSA LR LR
comp=Z,6μm,15.8s
TIP Timpagrande 39.69 316 P **P** **13 16 49.7 +0.6**
TIP IAmb IAmb 13 17 08.2
comp=Z,124nm,1.7s
TIP Timpagrande 39.69 316 P **P** **13 16 50.1 +1.0**
comp=Z,30nm,1.2s,comp=Z,621nm
GZR Gura Zlata 39.74 328 ⇓P **P** **13 16 50.6 +1.2**
GZR Gura Zlata 39.74 328 P **P** **13 16 50.6 +1.2**
LPSR Galich'ya Gora 39.87 348 *e*P **P** **13 16 50.3 0.0**
LPSR *e*S **S** **13 23 00.0 +5.1**
LPSR pmax pmax
comp=Z,100nm,1.0s
LPSR smax smax
comp=N,4μm,17.4s
LPSR MLR MLR
comp=Z,21μm,16.0s
MDVR Moldovita 39.90 326 ⇑P **P** **13 16 51.4 +0.7**
BURAR Bucovina Array 40.14 332 ⇑P **P** **13 16 54.4 +1.8**
BURAR Bucovina Array 40.14 332 P **P** **13 16 53.4 +0.7**
BURAR Bucovina Array 40.14 332 P **P** **13 16 54.5 +1.8**
KMPD K-Podol'skiy 40.31 334 P **P** **13 16 52.8 -1.1**
SURR Surduc 40.32 328 ⇓P **P** **13 16 54.9 +0.8**
MARR Marisel-Cluj 40.45 330 ⇓P **P** **13 16 56.5 +1.2**
BZS Buzias 40.50 327 ⇑P **P** **13 16 56.3 +0.7**
BZS Buzias 40.50 327 P **P** **13 16 56.2 +0.7**
DRGR 40.73 329 ⇓P **P** **13 16 58.9 +1.3**
DRGR 40.73 329 P **P** **13 16 58.9 +1.3**
AK07 Malin Array Si 40.81 338 P **P** **13 16 58.5 +0.4**
LUBAR Lubar, Ukraine 40.84 336 P **P** **13 16 58.2 -0.2**
AK08 Malin Array Si 40.86 338 P **P** **13 16 58.3 -0.2**
SIRR Siria 40.91 328 ⇓P **P** **13 17 00.6 +1.6**
AKASG Malin Array Be 40.93 338 P **P** **13 16 59.2 +0.2**
comp=Z,11nm,0.7s,baz=149,slow=7.4,SNR=26
AKASG LR LR 13 36 51.7
comp=Z,7μm,20.1s,baz=143,slow=40
comp=Z,11nm,0.7s

AKASG Malin Array Be 40.93 338 *ce*P **P** **13 16 59.4 +0.4**
AKASG pmax pmax
comp=Z,13nm,0.7s
AKBB Malin Array Si 40.93 338 P **P** **13 16 58.7 -0.3**
AKBB IAmb IAmb 13 17 01.1
comp=Z,153nm,1.6s
AKBB Malin Array Si 40.93 338 *ce*P **P** **13 16 59.3 +0.2**
AKBB pmax pmax
comp=Z,45nm,1.1s
AKBB Malin Array Si 40.93 338 P **P** **13 16 59.2 +0.2**
KIEV Kiev 40.93 338 ⇓P **P** **13 16 59.7 +0.6**
KIEV Kiev 40.93 338 P **P** **13 16 59.3 +0.3**
KIEV IAmb IAmb 13 17 01.1
comp=Z,126nm,1.5s
KIEV Kiev 40.93 338 *i*P **P** **13 16 59.6 +0.6**
SNR=26
KIEV Kiev 40.93 338 P **P** **13 16 59.6 +0.6**
MATP Matopo 41.07 214 LR LR 13 33 56.3
comp=Z,2μm,18.4s,baz=46,slow=36
IMP Imphal 41.16 68 *e*P **P** **13 17 00.2 -1.3**
IMP IAmb IAmb 13 17 05.9
comp=Z,58nm,1.5s
IMP IAMs_20 IAMs_20 13 32 08.2
comp=Z,28μm,24.2s
FRGS Fruska Gora 41.17 325 ⇓P **P** **13 17 01.7 +0.5**
FRGS Fruska Gora 41.17 325 P **P** **13 17 01.3 +0.1**
comp=Z,22nm,0.9s,comp=Z,822nm
MI29 MI29, Kamyanyy 41.21 337 P **P** **13 17 01.6 +0.2**
MI30 MI30,Zelenitsa 41.34 337 P **P** **13 17 02.5 0.0**
MAKZ Makanchi 41.41 32 P **P** **13 17 03.5 +0.3**
MAKZ IAmb IAmb 13 17 12.3
comp=Z,102nm,1.3s
MAKZ Makanchi 41.41 32 P **P** **13 17 02.3 -0.9**
KOHI KOHIMA 41.42 67 *e*P **P** **13 17 01.3 -2.4**
CLTB Caltabellotta 41.45 312 IAMs_20 IAMs_20 13 33 03.8
comp=Z,11μm,20.0s
ZIRO ZIRO 41.48 64 *e*P **P** **13 17 02.2 -1.9**
MK31 Makanchi Array 41.56 32 *de*P **P** **13 17 04.4 0.0**
MKAR Makanchi Array 41.56 32 P **P** **13 17 03.2 -1.2**
comp=Z,5.0nm,0.5s,baz=247,slow=9.2,SNR=5.7
MKAR LR LR 13 36 42.2
comp=Z,7μm,18.7s,baz=246,slow=40
comp=Z,5.0nm,0.5s
MI28 Mi28,Pidlybu 41.69 337 P **P** **13 17 05.5 +0.2**
BRVK Borovoye 41.72 17 P **P** **13 17 06.0 +0.5**
BRVK IAmb IAmb 13 17 10.9
comp=Z,176nm,1.9s
BRVK Borovoye 41.72 17 P **P** **13 17 06.0 +0.5**
BRVK pmax pmax
comp=Z,176nm,2.0s
BVA0 Borovoye Array 41.72 17 *i*P **P** **13 17 04.9 -0.6**
BVAR Borovoye Array 41.72 17 P **P** **13 17 05.5 0.0**
comp=Z,12nm,0.7s,baz=193,slow=5.9,SNR=29
BVAR LR LR 13 36 10.7
comp=Z,10μm,19.3s,baz=208,slow=39
comp=Z,12nm,0.7s
RICI Ricice 41.73 322 *i*P **P** **13 17 06.3 +0.5**
MOPA Mopani 42.20 208 *e*P **P** **13 17 09.8 0.0**
MOPA IAmb IAmb 13 17 20.4
comp=Z,266nm,1.2s
MPHEP Siloam, Limpop 42.26 210 *e*P **P** **13 17 09.6 -0.8**
MPHEP IAmb IAmb 13 17 21.5
comp=Z,105nm,1.2s
LVV L'vov 42.30 333 *d i*P **P** **13 17 10.8 +0.5**
LVV *e* 13 18 54.5
LVV *e*PPP PPP 13 19 25.4
LVV *e*S **S** **13 23 30.4 -0.7**
LVV *e*SS **SS** **13 26 37.8 -1.8**
LVV *e*SSS SSS 13 27 28.0
LVV pmax pmax
comp=Z,150nm,1.4s
LVV MLR MLR
comp=N,4μm,19.0s
LVV MLR MLR
comp=E,3μm,19.0s
LVV MLR MLR
comp=Z,5μm,19.0s
KOLS Kolonicke sedl 42.45 331 *e*P **P** **13 17 13.2 +1.6**
KOLS pmax pmax
comp=Z,24nm,1.1s
KOLS Kolonicke sedl 42.45 331 *e*P **P** **13 17 13.2 +1.6**
KIJV Kijevo 42.45 322 *i*P **P** **13 17 12.5 +0.9**
MORH Mrgy, Hungar 42.47 326 ⇓P **P** **13 17 12.7 +0.9**
MORH Mrgy, Hungar 42.47 326 P **P** **13 17 11.6 -0.2**
comp=Z,31nm,1.6s,comp=Z,760nm
KURBB Kurchatov Arra 42.57 25 P **P** **13 17 12.1 -0.3**
comp=Z,7.3nm,0.8s,baz=222,slow=8.2,SNR=61
KURBB LR LR 13 38 02.0
comp=Z,8μm,18.4s,baz=225,slow=40
comp=Z,7.3nm,0.8s
RNPP5 Staryi Chortor 42.61 336 P **P** **13 17 12.5 -0.3**
KURK Kurchatov 42.67 25 P **P** **13 17 13.8 +0.4**
KURK Kurchatov 42.67 25 *ce*P **P** **13 17 13.7 +0.4**
KURK pmax pmax
comp=Z,72nm,2.5s
KURK MLR MLR
comp=Z,9μm,17.0s
ARU Arti 42.72 6 P **P** **13 17 13.9 +0.3**
ARU Arti 42.72 6 LR LR 13 38 06.3
comp=Z,8μm,19.6s,baz=180,slow=40
ARU Arti 42.72 6 *d i*P **P** **13 17 13.9 +0.3**
ARU 13 18 53.7
ARU PPP PPP 13 19 24.6
ARU S **S** **13 23 39.3 +2.3**
ARU SS **SS** **13 26 49.2 +1.7**
ARU pmax pmax
comp=Z,113nm,1.5s
ARU MLR MLR
comp=Z,12μm,18.0s
ARU Arti 42.72 6 P **P** **13 17 13.5 -0.1**
comp=Z,66nm,0.8s,comp=Z,1μm
OBN Obninsk 42.72 347 P **P** **13 17 14.3 +0.7**
OBN Obninsk 42.72 347 LR LR 13 37 59.9
comp=Z,17μm,19.5s,baz=152,slow=40
OBN Obninsk 42.72 347 *c i*P **P** **13 17 14.3 +0.7**
OBN *e* 13 18 57.1
OBN *i*S **S** **13 23 30.4 -6.7**
OBN *i*SS **ScS** **13 27 15.9 +1.0**
OBN pmax pmax
comp=Z,221nm,1.7s
OBN MLR MLR
comp=Z,17μm,18.0s
RNPP9 Sopachiv 42.75 336 P **P** **13 17 14.1 +0.2**
MORI Morici 42.80 321 *i*P **P** **13 17 13.5 -0.9**
WMQ Urumqi 42.80 39 ScS **P** **13 17 16.8 +2.2**
WMQ Urumqi 42.80 39 P **P** **13 17 16.4 +1.8**
WMQ sP pwP 13 17 23.1 +1.2
WMQ S **S** **13 23 42.5 +3.8**
WMQ SS **SS** **13 26 49.8 +0.1**
WMQ pmax pmax
comp=Z,120nm,1.5s
WMQ pmax pmax
comp=Z,810nm,4.3s
WMQ LR LR
comp=Z,6μm,24.0s
WMQ LR LR
comp=Z,6μm,21.5s
WMQ LR LR
comp=Z,4μm,23.9s
WMQ Urumqi 42.80 39 LR LR
comp=Z,550nm,13.9s
WMQ Urumqi 42.80 39 LR LR
comp=N,3μm,13.9s
WMQ Urumqi 42.80 39 LR LR
comp=E,2μm,5.9s
CRVS Cervenica-Dubn 42.81 331 *e*P **P** **13 17 15.8 +1.3**
CRVS pmax pmax
comp=Z,176nm,1.7s
CRVS Cervenica-Dubn 42.81 331 *e*P **P** **13 17 15.8 +1.3**
PSZ Piszkesteto 42.91 329 ⇑P **P** **13 17 16.3 +0.9**
PSZ Piszkesteto 42.91 329 P **P** **13 17 16.3 +0.9**
MOS Moscow 43.09 348 *e*P **P** **13 17 14.1 -2.5**
MOS *e* 13 18 55.5
MOS *e*S **S** **13 23 39.2 -3.3**
MOS *e*SS **SS** **13 26 54.8 -0.1**
MOS pmax pmax
comp=N,61nm,1.1s
MOS pmax pmax
comp=Z,430nm,1.9s
MOS pmax pmax
comp=Z,800nm,1.9s
MOS MLR MLR
comp=Z,18μm,16.0s
MOS MLR MLR
comp=N,16μm,17.0s

HOED	**Hoedspruit, Li**	**43.18 208**	*e*P	**P**	**13 17 15.8**	**-2.1**
HOED			IAmb	IAmb	13 17 28.2	
	comp=Z,119nm,1.2s					
LKP	**Lekhapani**	**43.20 65**	*e*P	**P**	**13 17 16.1**	**-1.8**
DUGI	**Dugi Otok**	**43.26 321**	*i* P	**P**	**13 17 18.1**	**-0.1**
ZSN	**Zaisan**	**43.33 33**	*e*P	**P**	**13 17 18.0**	**-0.7**
	baz=33					
ZSN			*e*S	**S**	**13 23 46.8**	**+0.5**
	baz=33					
ZSN	**Zaisan**	**43.33 33**	*e*P	**P**	**13 17 18.0**	**-0.7**
ZSN			*e*S	**S**	**13 23 46.8**	**+0.5**
SVE	**Sverdlovsk**	**43.33 7**⇓	*e*P	**P**	**13 17 19.6**	**+1.0**
SVE			*e*		13 19 05.8	
SVE			*e*S	**S**	**13 23 45.9**	**-0.1**
SVE			*e*		13 26 57.0	
SVE			pmax	pmax		
	comp=Z,114nm,1.7s					
SVE			MLR	MLR		
	comp=Z,9μm,17.0s					
SRO	**Srobarova**	**43.65 328**	*e*P	**P**	**13 17 22.8**	**+1.5**
SRO			pmax	pmax		
	comp=Z,47nm,1.5s					
SRO	**Srobarova**	**43.65 328**	*e*P	**P**	**13 17 22.8**	**+1.5**
MPLH	**Magyarpolny**	**43.66 326**	P	**P**	**13 17 21.7**	**+0.3**
	comp=Z,107nm,1.7s,comp=Z,2μm					
KEST	**Kesra**	**43.67 307**	P	**P**	**13 17 20.4**	**-1.4**
KEST			IAmb	IAmb	13 18 11.6	
	comp=Z,89nm,1.5s					
KEST	**Kesra**	**43.67 307**	P	**P**	**13 17 22.0**	**+0.2**
	comp=Z,6.1nm,0.9s,baz=62,slow=16,SNR=6.5					
KEST			LR	LR	13 36 00.9	
	comp=Z,7μm,19.2s,baz=356,slow=37					
	comp=Z,6.1nm,0.9s					
NVLJ	**Novalja**	**43.68 322**	*i* P	**P**	**13 17 21.8**	**+0.3**
NIE	**Niedzica**	**43.72 331**	*e*P	**P**	**13 17 22.8**	**+1.0**
NIE	**Niedzica**	**43.72 331**	P	**P**	**13 17 22.5**	**+0.6**
	comp=Z,11nm,1.4s,comp=Z,291nm					
PILG	**Pilgrimsrest,**	**43.73 208**	*e*P	**P**	**13 17 22.9**	**+0.4**
PILG			IAmb	IAmb	13 17 33.4	
	comp=Z,96nm,1.2s					
PTJ	**Puntijarka**	**43.78 324**	P	**P**	**13 17 23.1**	**+0.5**
VYHS	**Vyhne**	**43.82 329**	*e*P	**P**	**13 17 23.0**	**+0.3**
VYHS			pmax	pmax		
	comp=Z,33nm,1.3s					
VYHS	**Vyhne**	**43.82 329**	*e*P	**P**	**13 17 23.0**	**+0.3**
GUMA	**Gualdo di Mace**	**43.85 319**	IAmb	IAmb	13 17 44.4	
	comp=Z,59nm,1.2s					
GUMA			IAMs_20	IAMs_20	13 37 13.2	
	comp=Z,5μm,21.0s					
LANS	**Liptovska Anna**	**43.94 330**	*e*P	**P**	**13 17 24.9**	**+1.2**
LANS			pmax	pmax		
	comp=Z,10.0nm,1.1s					
LANS	**Liptovska Anna**	**43.94 330**	*e*P	**P**	**13 17 24.9**	**+1.2**
WTBG	**Waterberg Wild**	**43.99 211**	*e*P	**P**	**13 17 20.8**	**-3.6**
WTBG			IAmb	IAmb	13 17 46.3	
	comp=Z,190nm,1.9s					
GOLS	**Golise**	**44.04 324**	*e*P	**P**	**13 17 25.1**	**+0.6**
LEPH	**Lephalale, Lim**	**44.24 212**	*e*P	**P**	**13 17 25.1**	**-1.3**
LEPH			IAmb	IAmb	13 17 37.6	
	comp=Z,228nm,1.2s					
DULL	**Dullstroom, Mp**	**44.35 208**	*e*P	**P**	**13 17 25.8**	**-1.6**
DULL			IAmb	IAmb	13 17 37.7	
	comp=Z,101nm,1.2s					
GROS	**Grobnik**	**44.36 324**	*e*P	**P**	**13 17 27.5**	**+0.3**
VISS	**Visnje**	**44.37 323**	*e*P	**P**	**13 17 27.0**	**-0.2**
GOMU	**GeErMu**	**44.44 52**	P	**P**	**13 17 29.4**	**+1.1**
GOMU			S	**S**	**13 23 59.9**	**-3.7**
GOMU			pmax	pmax		
	comp=Z,27nm,0.8s					
GOMU			LR	LR		
	comp=Z,3μm,18.1s					
GOMU			LR	LR		
	comp=Z,6μm,18.1s					
GOMU			LR	LR		
	comp=Z,13μm,19.2s					
OJC	**Ojcow**	**44.50 331**	*e*P	**P**	**13 17 28.1**	**+0.1**
OJC	**Ojcow**	**44.50 331**	P	**P**	**13 17 27.7**	**-0.4**
OJC	**Ojcow**	**44.50 331**	P	**P**	**13 17 27.7**	**-0.4**
OJC			pmax	pmax		
	comp=Z,29nm,1.2s					
ZST	**Bratislava**	**44.52 327**	*e*P	**P**	**13 17 28.9**	**+0.6**
ZST			pmax	pmax		
	comp=Z,242nm,1.8s					
ZST	**Bratislava**	**44.52 327**	*e*P	**P**	**13 17 28.9**	**+0.6**
TAM	**Tamanrasset**	**44.53 288**	IAMs_20	IAMs_20	13 36 45.4	
	comp=Z,8μm,19.0s					
MNK	**Minsk**	**44.54 340**	*i* P	**P**	**13 17 26.1**	**-2.2**
	comp=E,2.0nm,0.7s,baz=146					
MNK			*i* P	**P**	**13 17 26.1**	**-2.2**
	comp=N,7.0nm,0.7s,baz=146					
MNK			*i* P	**P**	**13 17 26.1**	**-2.2**
	comp=Z,38nm,1.0s,baz=146					
MNK			*i* PP	**PcP**	**13 19 10.6**	**-0.8**
	baz=146					
MNK			*i* PPP	PPP	13 19 47.2	
	baz=146					
MNK			*i* S	**S**	**13 24 03.5**	**-0.2**
	baz=146					
MNK			*i* SS	**ScS**	**13 27 25.3**	**-1.1**
	baz=146					
MNK			*i* SSS	SSS	13 28 07.8	
	baz=146					
MNK			*i* LQ	LQ	13 32 53.1	
	baz=146					
MNK			*i* LR	LR	13 35 59.9	
	baz=146					
MNK			*i* LRM	MLR	13 39 35.3	
	comp=E,3μm,18.2s,baz=146					
MNK			*i* LRM	MLR	13 39 51.4	
	comp=Z,9μm,17.9s,baz=146					
MNK			*i* LRM	MLR	13 39 56.5	
	comp=N,5μm,17.3s,baz=146					
MNK	**Minsk**	**44.54 340**	*i* P	**P**	**13 17 26.1**	**-2.2**
MNK			*i*		13 19 10.5	
MNK			*i* PPP	PPP	13 19 47.2	
MNK			*i* S	**S**	**13 24 03.4**	**-0.2**
MNK			*i* SS	**ScS**	**13 27 25.2**	**-1.1**
MNK			*i* SSS	SSS	13 28 07.8	
MNK			pmax	pmax		
	comp=N,7.0nm,0.7s					
MNK			pmax	pmax		
	comp=E,2.0nm,0.6s					
MNK			pmax	pmax		
	comp=Z,38nm,1.0s					
MNK			MLR	MLR		
	comp=E,3μm,18.0s					
MNK			MLR	MLR		
	comp=Z,9μm,18.0s					
MNK			MLR	MLR		
	comp=N,5μm,17.0s					
MODS	**Modra-Piesok**	**44.54 328**	*e*P	**P**	**13 17 29.0**	**+0.5**
MODS			pmax	pmax		
	comp=Z,121nm,1.4s					
MODS	**Modra-Piesok**	**44.54 328**	*e*P	**P**	**13 17 29.0**	**+0.5**
SMOL	**Smolenice**	**44.55 328**	*e*P	**P**	**13 17 28.7**	**+0.2**
SMOL			pmax	pmax		
	comp=Z,18nm,1.4s					
KIRV	**Kirov**	**44.58 358**	LR	LR	13 40 24.7	
	comp=Z,11μm,18.0s,baz=162,slow=42					
KIRV	**Kirov**	**44.58 358**	*de*P	**P**	**13 17 28.7**	**+0.2**
JAVC	**Velka Javorina**	**44.65 328**	*e*P	**P**	**13 17 30.3**	**+0.9**
JAVC			*e*		13 23 58.6	
JAVC			*e*		13 27 42.5	
RONA	**Rosalia, Austr**	**44.65 326**	*e*P	**P**	**13 17 30.1**	**+0.7**
	comp=Z,39nm,1.4s,SNR=32					
SOKA	**Soboth**	**44.75 324**	*e*P	**P**	**13 17 30.8**	**+0.5**
	comp=Z,23nm,1.5s,SNR=23					
ARSA	**Arzberg**	**44.81 325**	*e*P	**P**	**13 17 31.2**	**+0.6**
	comp=Z,42nm,2.0s,SNR=26					
MAUC	**Maruska**	**44.89 329**	*e*P	**P**	**13 17 32.1**	**+0.8**
OBKA	**Obir**	**44.94 324**	*e*P	**P**	**13 17 32.6**	**+0.8**
	comp=Z,35nm,1.5s,SNR=26					
CRLN	**Carolina, Mapu**	**44.96 208**	*e*P	**P**	**13 17 34.5**	**+2.3**
CRLN			IAmb	IAmb	13 17 42.8	
	comp=Z,85nm,1.4s					
CONA	**Conrad Observa**	**45.02 326**	*e*P	**P**	**13 17 32.8**	**+0.4**
	comp=Z,65nm,1.8s,SNR=37					
RUST	**Rust De Winter**	**45.03 210**	*e*P	**P**	**13 17 32.4**	**-0.3**
RUST			IAmb	IAmb	13 17 55.3	
	comp=Z,68nm,1.0s					
OKC	**Ostrava-Krasne**	**45.04 330**	*e*P	**P**	**13 17 32.5**	**+0.1**
OKC			*e*S	**S**	**13 24 11.6**	**+0.5**
OKC	**Ostrava-Krasne**	**45.04 330**	*e*P	**P**	**13 17 32.5**	**+0.1**
OKC			*e*S	**S**	**13 24 11.6**	**+0.5**
BEL	**Belsk**	**45.18 333**	*e*P	**P**	**13 17 34.1**	**+0.6**
SABO	**M.te Sabotino**	**45.20 323**	P	**P**	**13 17 33.3**	**-0.4**
SABO			IAmb	IAmb	13 18 06.1	
	comp=Z,84nm,1.3s					
SABO			IAMs_20	IAMs_20	13 39 23.2	
	comp=Z,3μm,21.0s					
NACGM	**Naroch**	**45.23 340**	*e*P	**P**	**13 17 34.6**	**+0.8**
	comp=E,1μm,1.1s					
MORC	**Moravsky Berou**	**45.30 329**	⇓P	**P**	**13 17 35.2**	**+0.6**
MORC	**Moravsky Berou**	**45.30 329**	IAmb	IAmb	13 17 36.5	
	comp=Z,107nm,1.7s					
MORC	**Moravsky Berou**	**45.30 329**	*e*P	**P**	**13 17 34.5**	**0.0**
MORC			*e*		13 24 12.2	
MORC			*e*		13 27 50.5	
MORC	**Moravsky Berou**	**45.30 329**	P	**P**	**13 17 35.1**	**+0.6**
TNCH	**TengChong**	**45.31 69**	P	**P**	**13 17 35.8**	**+0.7**
TNCH			pP	sP	13 17 38.8	+0.9
TNCH			PP	**PP**	**13 19 22.4**	**+1.3**
TNCH			S	**S**	**13 24 15.4**	**-0.7**
TNCH			SS	**ScS**	**13 27 29.5**	**-3.3**
TNCH			pmax	pmax		
	comp=Z,25nm,0.8s					
TNCH			pmax	pmax		
	comp=Z,460nm,4.4s					
TNCH			LR	LR		
	comp=Z,3μm,16.7s					
TNCH			LR	LR		
	comp=Z,3μm,19.0s					
TNCH			LR	LR		
	comp=Z,7μm,19.7s					
NHAM	**Northam, North**	**45.36 212**	*e*P	**P**	**13 17 34.1**	**-1.3**
NHAM			IAmb	IAmb	13 17 45.3	
	comp=Z,98nm,1.3s					
TSWA	**Tswaing Meteor**	**45.40 211**	*e*P	**P**	**13 17 34.4**	**-1.3**
TSWA			IAmb	IAmb	13 17 46.3	
	comp=Z,70nm,1.1s					
LHMI	**Lhok Sumawe**	**45.40 96**	IAMs_20	IAMs_20	13 33 41.3	
	comp=Z,8μm,19.0s					
KRUC	**Moravsky**	**45.43 328**	*e*P	**P**	**13 17 35.3**	**-0.2**
KRUC			*e*		13 24 14.7	
KRUC			*e*		13 27 53.1	
PRED	**Cave del Predi**	**45.47 323**	IAmb	IAmb	13 17 54.3	
	comp=Z,99nm,1.9s					
VRAC	**Vranov**	**45.48 328**	⇓P	**P**	**13 17 36.4**	**+0.5**
VRAC	**Vranov**	**45.48 328**	*e*P	**P**	**13 17 36.2**	**+0.3**
VRAC			*e*		13 24 19.3	
VRAC			*e*		13 27 59.1	
VRAC	**Vranov**	**45.48 328**	LR	LR	13 39 22.6	
	comp=Z,2μm,19.5s,baz=131,slow=40					
VRAC	**Vranov**	**45.48 328**	P	**P**	**13 17 36.4**	**+0.5**
CHTO	**Chiang Mai**	**45.50 77**	P	**P**	**13 17 35.7**	**-0.8**
CHTO	**Chiang Mai**	**45.50 77**	P	**P**	**13 17 35.7**	**-0.8**
CHTO			pmax	pmax		
	comp=Z,33nm,1.1s					
CHTO			MLR	MLR		
	comp=Z,4μm,20.0s					
CM31	**Chiang Mai Arr**	**45.51 78**	P	**P**	**13 17 35.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**45.51 78**	P	**P**	**13 17 35.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**45.51 78**	P	**P**	**13 17 35.7**	**-0.9**
	comp=Z,57nm,0.8s,baz=275,slow=8.7,SNR=212					
CMAR			LR	LR	13 35 42.1	
	comp=Z,5μm,21.9s,baz=265,slow=35					
CMAR	**Chiang Mai Arr**	**45.51 78**	P	**P**	**13 17 35.6**	**-1.0**
MYKA	**Terra Mystica**	**45.52 323**	*e*P	**P**	**13 17 37.0**	**+0.6**
	comp=Z,39nm,1.2s,SNR=34					
NYAT	**Nyati, Northwe**	**45.61 211**	*e*P	**P**	**13 17 36.1**	**-1.2**
NYAT			IAmb	IAmb	13 17 48.1	
	comp=Z,110nm,1.0s					
IIGN	**Ignalina**	**45.78 340**	*e*P	**P**	**13 17 38.6**	**+0.5**
SUW	**Suwalki**	**45.81 337**	*e*P	**P**	**13 17 39.5**	**+1.1**
SUW	**Suwalki**	**45.81 337**	P	**P**	**13 17 38.1**	**-0.3**
SUW	**Suwalki**	**45.81 337**	*e*P	**P**	**13 17 39.8**	**+1.3**
SUW	**Suwalki**	**45.81 337**	P	**P**	**13 17 38.1**	**-0.3**
SUW			pmax	pmax		
	comp=Z,180nm,1.3s					
SUW			MLR	MLR		
	comp=Z,7μm,20.0s					
MOA	**Molln**	**45.85 325**	*e*P	**P**	**13 17 39.3**	**+0.4**
	comp=Z,33nm,1.1s,SNR=33					
KRLC	**Kraliky**	**45.87 329**	*e*P	**P**	**13 17 39.0**	**0.0**
KRLC			AMS	AMS	13 41 40.0	
	comp=Z,4μm,15.2s					
KRLC	**Kraliky**	**45.87 329**	*e*P	**P**	**13 17 39.0**	**0.0**
KRLC			MLR	MLR		
	comp=Z,4μm,15.2s					
STAL	**STALIGIAL**	**45.87 323**	IAmb	IAmb	13 17 50.6	
	comp=Z,45nm,1.0s					
KBA	**Koelnbreinsper**	**45.94 324**	*e*P	**P**	**13 17 39.7**	**0.0**
	comp=Z,25nm,1.1s,SNR=15					
ZCCA	**Zocca**	**45.97 319**	IAMs_20	IAMs_20	13 39 47.3	
	comp=Z,7μm,18.0s					
HRAO	**HartRAO**	**45.98 211**	*e*P	**P**	**13 17 38.4**	**-1.9**
ISAL	**Salakas**	**45.99 340**	*e*P	**P**	**13 17 42.3**	**+2.5**
TREC	**Trest**	**46.04 328**	*e*P	**P**	**13 17 40.2**	**-0.2**
TREC			*e*S	**S**	**13 24 27.0**	**+1.3**
TREC			AMS	AMS	13 44 10.0	
	comp=Z,5μm,19.3s					
TREC	**Trest**	**46.04 328**	*e*P	**P**	**13 17 40.2**	**-0.2**
TREC			*e*S	**S**	**13 24 27.0**	**+1.3**
TREC			MLR	MLR		
	comp=Z,5μm,19.3s					
BIOA	**Bad Ischl, Aus**	**46.11 325**	*e*P	**P**	**13 17 41.0**	**+0.1**
	comp=Z,29nm,1.3s,SNR=20					
ABTA	**Abfaltersbach**	**46.24 323**	*i* P	**P**	**13 17 42.3**	**+0.2**
	comp=Z,36nm,1.3s,SNR=25					
DPC	**Dobruska-Polom**	**46.27 329**	*e*P	**P**	**13 17 42.1**	**-0.1**
DPC			AMS	AMS	13 39 00.0	
	comp=Z,6μm,21.1s					
DPC	**Dobruska-Polom**	**46.27 329**	*e*P	**P**	**13 17 42.1**	**-0.1**
DPC			MLR	MLR		
	comp=Z,6μm,21.1s					
LBTB	**Lobatse**	**46.34 213**	P	**P**	**13 17 41.6**	**-1.5**
LBTB	**Lobatse**	**46.34 213**	*e*P	**P**	**13 17 42.0**	**-1.1**
LBTB			IAmb	IAmb	13 17 53.9	
	comp=Z,134nm,1.1s					
LBTB	**Lobatse**	**46.34 213**	P	**P**	**13 17 41.6**	**-1.5**
LBTB			pmax	pmax		
	comp=Z,115nm,1.1s					
CKRC	**Cesky Krumlov**	**46.38 326**	*e*P	**P**	**13 17 43.0**	**-0.1**
CKRC			AMS	AMS	13 42 50.0	
	comp=Z,3μm,17.3s					
CKRC	**Cesky Krumlov**	**46.38 326**	*e*P	**P**	**13 17 43.0**	**-0.1**
CKRC			MLR	MLR		
	comp=Z,3μm,17.3s					
CTI	**Castel Tesino**	**46.39 322**	IAmb	IAmb	13 18 03.7	
	comp=Z,38nm,1.3s					
OSTC	**Ostas**	**46.45 329**	*e*P	**P**	**13 17 44.0**	**+0.4**
OSTC			AMS	AMS	13 39 10.0	
	comp=Z,8μm,21.5s					
OSTC	**Ostas**	**46.45 329**	*e*P	**P**	**13 17 44.0**	**+0.4**
OSTC			MLR	MLR		
	comp=Z,8μm,21.5s					
LESA	**Schwarzleotal**	**46.51 324**	*e*P	**P**	**13 17 43.4**	**-0.8**
	comp=Z,23nm,1.2s					
NWCL	**Newcastle**	**46.52 207**	*e*P	**P**	**13 17 42.3**	**-2.1**
NWCL			IAmb	IAmb	13 17 53.0	
	comp=Z,183nm,1.4s					
UPC	**Upice**	**46.52 329**	*e*P	**P**	**13 17 44.3**	**+0.2**
UPC			*e*S	**S**	**13 24 32.3**	**-0.2**
UPC			AMS	AMS	13 39 10.0	
	comp=Z,8μm,21.9s					
UPC	**Upice**	**46.52 329**	*e*P	**P**	**13 17 44.3**	**+0.2**
UPC			*e*S	**S**	**13 24 32.3**	**-0.2**
UPC			MLR	MLR		
	comp=Z,8μm,21.9s					
CHVC	**Chvalec**	**46.55 329**	*e*P	**P**	**13 17 44.6**	**+0.2**
CHVC	**Chvalec**	**46.55 329**	*e*P	**P**	**13 17 44.6**	**+0.2**
KSP	**Ksiaz**	**46.59 330**	*e*P	**P**	**13 17 45.2**	**+0.5**
PABE	**Paberze**	**46.68 339**	*e*P	**P**	**13 17 46.0**	**+0.7**
GEC2	**GERESS Array S**	**46.73 326**	IAmb	IAmb	13 17 47.2	
	comp=Z,80nm,1.8s					
GEC2	**GERESS Array S**	**46.73 326**	*e*P		13 17 45.2	
	comp=Z,79nm,1.8s,baz=124,slow=7.7					
GERES	**GERESS Array B**	**46.73 326**	P	**P**	**13 17 44.8**	**-1.1**
GERES	**GERESS Array B**	**46.73 326**	P	**P**	**13 17 45.1**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=126,slow=6.8,SNR=24					
GERES			LR	LR	13 40 31.1	
	comp=Z,3μm,18.4s,baz=132,slow=40					
	comp=Z,2.1nm,0.7s					
GERES	**GERESS Array B**	**46.73 326**	P	**P**	**13 17 44.8**	**-1.1**
ZVC	**Zvikov**	**46.81 327**	*e*P	**P**	**13 17 46.0**	**-0.4**
SET	**Setif**	**46.87 307**	P	P	13 18 00.0	+13
PRU	**Pruhonice**	**46.95 328**	*e*P	**P**	**13 17 47.3**	**-0.2**
PRU			*e*S	**S**	**13 24 38.3**	**-0.3**
PRU			AMS	AMS	13 42 30.0	
	comp=Z,3μm,16.1s					
PRU	**Pruhonice**	**46.95 328**	*e*P	**P**	**13 17 47.3**	**-0.2**
PRU			*e*S	**S**	**13 24 38.3**	**-0.3**
PRU			MLR	MLR		
	comp=Z,3μm,16.1s					
KHC	**Kasperske Hory**	**46.96 326**	*e*P	**P**	**13 17 46.6**	**-1.0**
KHC			*e*S	**S**	**13 24 36.8**	**-2.1**
KHC			AMS	AMS	13 43 40.0	
	comp=Z,4μm,16.7s					
KHC	**Kasperske Hory**	**46.96 326**	*ce*P	**P**	**13 17 46.8**	**-0.8**
KHC			pmax	pmax		
	comp=Z,70nm,1.7s					
PRYS	**Parys**	**47.01 210**	*e*P	**P**	**13 17 46.1**	**-2.3**
PRYS			IAmb	IAmb	13 18 10.5	
	comp=Z,70nm,1.2s					
WTTA	**Wattenberg**	**47.02 323**	*e*P	**P**	**13 17 48.1**	**-0.3**
	comp=Z,46nm,1.3s,SNR=41					
TSUM	**Tsumeb**	**47.04 226**	IAMs_20	IAMs_20	13 38 34.3	
	comp=Z,9μm,20.0s					
TSUM	**Tsumeb**	**47.04 226**	*e*P	**P**	**13 17 47.3**	**-1.4**
TSUM			IAmb	IAmb	13 18 00.5	
	comp=Z,28nm,1.1s					
TSUM	**Tsumeb**	**47.04 226**	LR	LR	13 38 53.4	
	comp=Z,7μm,18.2s,baz=48,slow=38					
PRA	**Prague**	**47.06 328**	*e*P	**P**	**13 17 48.2**	**-0.1**
PRA			AMS	AMS	13 42 30.0	
	comp=Z,4μm,16.8s					
PRA	**Prague**	**47.06 328**	*e*P	**P**	**13 17 48.2**	**-0.1**
PRA			MLR	MLR		
	comp=Z,4μm,16.8s					
WATA	**Walderalm**	**47.10 323**	*i* P	**P**	**13 17 48.1**	**-0.7**
	comp=Z,43nm,1.3s,SNR=30					
SQTA	**Sankt Quirin**	**47.25 323**	*e*P	**P**	**13 17 49.6**	**-0.4**
	comp=Z,28nm,1.2s,SNR=22					
PVCC	**Panska Ves**	**47.26 328**	*e*P	**P**	**13 17 49.7**	**-0.2**
PVCC			*e*S	**S**	**13 24 43.5**	**+0.4**
PVCC			AMS	AMS	13 41 30.0	
	comp=Z,4μm,16.2s					
PVCC	**Panska Ves**	**47.26 328**	*e*P	**P**	**13 17 49.7**	**-0.2**
PVCC			*e*S	**S**	**13 24 43.5**	**+0.4**
PVCC			MLR	MLR		
	comp=Z,4μm,16.2s					
WET	**Wettzell**	**47.34 326**	*e*P		13 17 49.5	
	comp=Z,78nm,2.1s,baz=124,slow=7.7					
FETA	**Feichten**	**47.43 322**	*e*P	**P**	**13 17 50.9**	**-0.6**
	comp=Z,16nm,1.3s,SNR=11					
FUORN	**Ofenpass-Fuorn**	**47.51 322**	P	**P**	**13 17 51.0**	**-1.3**
FUORN			IAmb	IAmb	13 18 11.7	
	comp=Z,80nm,1.8s					
RICC	**Richard**	**47.51 328**	*e*P	**P**	**13 17 51.2**	**-0.6**
ZAA0	**Zalesovo Array**	**47.64 26**	P	**P**	**13 17 51.0**	**-1.7**
ZAA0			IAmb	IAmb	13 18 04.3	
	comp=Z,31nm,0.8s					
ZALV	**Zalesovo Beam**	**47.64 26**	P	**P**	**13 17 50.6**	**-2.1**
ZALV	**Zalesovo Beam**	**47.64 26**	P	**P**	**13 17 51.0**	**-1.7**
	comp=Z,10nm,0.6s,baz=234,slow=8.2,SNR=48					
ZALV			LR	LR	13 40 54.8	
	comp=Z,5μm,18.6s,baz=228,slow=40					
	comp=Z,10nm,0.6s					
ZALV	**Zalesovo Beam**	**47.64 26**	*i* P	**P**	**13 17 51.9**	**-0.8**
ZALV			pmax	pmax		
	comp=Z,11nm,0.6s					
RETA	**Reutte**	**47.65 323**	*e*P	**P**	**13 17 52.1**	**-0.9**
	comp=Z,31nm,1.3s,SNR=28					
FUR	**Furstenfeldbru**	**47.70 324**	*e*P		13 17 52.8	
	baz=124,slow=7.7					
GKP	**Gorka Klasztor**	**47.74 333**	*e*P	**P**	**13 17 54.4**	**+0.9**
GKP	**Gorka Klasztor**	**47.74 333**	*e*P	**P**	**13 17 54.4**	**+0.9**
BRG	**Berggiesshubel**	**47.79 328**	*i* P	**P**	**13 17 54.0**	**0.0**
BRG			Amp		13 17 55.5	
	comp=Z,32nm,1.3s					
BRG	**Berggiesshubel**	**47.79 328**	P	P	13 18 01.8	+7.9
BRG			Amp		13 18 02.3	
	comp=Z,12nm,1.0s					
BRG	**Berggiesshubel**	**47.79 328**	PP	PP	13 19 52.0	+6.3
BRG	**Berggiesshubel**	**47.79 328**	S	**S**	**13 24 56.0**	**+5.5**
BRG	**Berggiesshubel**	**47.79 328**	*i* P	**P**	**13 17 53.9**	**0.0**
BRG					13 18 01.8	
BRG					13 19 52.0	
BRG			pmax	pmax		
	comp=Z,32nm,1.3s					
BRG			pmax	pmax		
	comp=Z,12nm,1.0s					
BRG			pmax	pmax		
	comp=Z,32nm,1.5s					
BRG			pmax	pmax		
	comp=Z,25nm,1.3s					
BRG			pmax	pmax		
	comp=Z,14nm,1.3s					
BRG	**Berggiesshubel**	**47.79 328**	*e*P		13 17 53.5	
	comp=Z,32nm,1.3s,baz=124,slow=7.7					
HSKC	**Hora Svate Kat**	**47.89 328**	*e*P	**P**	**13 17 54.4**	**-0.4**
HSKC			*e*S	**S**	**13 24 50.6**	**-1.5**
HSKC			AMS	AMS	13 42 50.0	
	comp=Z,5μm,17.0s					
SNKL	**Senekal, Frees**	**47.94 209**	*e*P	**P**	**13 17 54.3**	**-1.3**
SNKL			IAmb	IAmb	13 18 05.1	
	comp=Z,145nm,1.1s					
TUE	**Stuetta**	**47.99 321**	P	**P**	**13 17 55.5**	**-0.4**
ROTZ	**Rotzenmuhle**	**48.06 326**	*e*P		13 17 55.1	
	comp=Z,7.2nm,1.4s,baz=124,slow=7.7					
DAVA	**Damuels**	**48.07 322**	*e*P	**P**	**13 17 55.6**	**-0.8**
	comp=Z,28nm,1.2s,SNR=22					
UBR	**Ueberruh**	**48.13 323**	*e*P		13 17 55.8	
	comp=Z,32nm,1.1s,baz=124,slow=7.7					
VSU	**Vasula**	**48.20 343**	*ce*P	**P**	**13 17 57.2**	**+0.2**
VSU			pmax	pmax		
	comp=Z,68nm,1.7s					
MANZ	**Manzenberg**	**48.23 327**	*e*P		13 17 56.6	
	comp=Z,7.4nm,1.4s,baz=124,slow=7.7					
SWZ	**Schweizer**	**48.23 212**	*e*P	**P**	**13 17 56.0**	**-1.8**
SWZ			IAmb	IAmb	13 18 07.4	
	comp=Z,60nm,1.1s					
TANN	**Tannenbergstha**	**48.29 327**	*e*P		13 17 57.6	
	comp=Z,100nm,1.9s,baz=124,slow=7.7					
PZH	**PanZhiHua**	**48.33 67**	P	**P**	**13 17 57.5**	**-1.2**
PZH			PP	**PP**	**13 19 48.9**	**-2.4**
PZH			S	**S**	**13 24 57.3**	**-1.9**
PZH			SS	**SS**	**13 28 28.0**	**-0.8**
PZH			pmax	pmax		
	comp=Z,40nm,1.0s					
PZH			pmax	pmax		
	comp=Z,430nm,5.2s					
PZH			LR	LR		
	comp=Z,4μm,19.1s					
PZH			LR	LR		
	comp=Z,3μm,19.1s					
PZH			LR	LR		
	comp=Z,5μm,19.6s					
PLN	**Plauen**	**48.49 327**	*e*P		13 17 59.0	
	comp=Z,83nm,1.6s,baz=124,slow=7.7					
CLL	**Collm**	**48.52 328**⇑	*i* P	**P**	**13 17 59.4**	**-0.2**
	comp=Z,128nm,2.0s					
CLL			*i* x	x	13 18 06.2	
CLL			*i* x	x	13 18 11.6	
CLL			*e*PP	**

comp=Z,2μm,21.0s
RUE Ruedersdorf 48.84 330 *e*P **P 13 18 02.0 0.0**
RUE Ruedersdorf 48.84 330 *e*P 13 18 01.5
comp=Z,73nm,1.3s,baz=124,slow=7.7
MOX Moxa 48.86 327 *e*P 13 18 02.0
comp=Z,111nm,1.9s,baz=124,slow=7.7
MOX *e*L 13 43 39.2
comp=Z,4μm,20.0s
SLIT Slitere, Latvi 48.92 339 *e*P **P 13 18 02.8 +0.3**
KULM Kulim 48.96 95 P **P 13 18 01.5 -2.1**
KULM IAmb IAmb 13 18 21.6
comp=Z,56nm,1.3s
NEUB Neuenburg 49.10 328 *e*P 13 18 03.6
comp=Z,92nm,1.3s,baz=124,slow=7.7
KMI Kunming 49.13 69 ⇓P **P 13 18 04.3 -0.7**
KMI S **S 13 25 09.8 -0.9**
KMI pmax pmax
comp=Z,59nm,1.0s
KMI pmax pmax
comp=Z,280nm,4.7s
KMI LR LR
comp=Z,6μm,19.7s
KMI LR LR
comp=Z,9μm,19.6s
KMI LR LR
comp=Z,13μm,19.9s
GTA Gaotai 49.20 50 P **P 13 18 04.5 -0.7**
GTA sP pwP 13 18 13.1 +0.6
GTA PP **PP 13 19 57.3 -1.7**
GTA S **S 13 25 10.8 -0.2**
GTA pmax pmax
comp=Z,7.0nm,1.7s
GTA pmax pmax
comp=Z,380nm,8.4s
GTA LR LR
comp=Z,2μm,19.5s
GTA LR LR
comp=Z,5μm,24.3s
GTA LR LR
comp=Z,8μm,24.5s
ARBE Arbavere 49.23 343 *e*P **P 13 18 05.9 +1.1**
MTSE Matsula 49.28 341 *e*P **P 13 18 05.9 +0.6**
BOSA Boshof 49.44 211 P **P 13 18 06.0 -1.1**
BOSA IAmb IAmb 13 18 17.5
comp=Z,76nm,1.2s
BOSA Boshof 49.44 211 *e*P **P 13 18 05.2 -1.9**
BOSA IAmb IAmb 13 18 17.1
comp=Z,84nm,1.3s
BOSA Boshof 49.44 211 P **P 13 18 04.6 -2.5**
comp=Z,7.0nm,0.8s,baz=38,slow=7.7,SNR=11
BOSA LR LR 13 39 55.4
comp=Z,3μm,18.2s,baz=40,slow=37
comp=Z,7.0nm,0.8s
BOSA Boshof 49.44 211 P **P 13 18 06.0 -1.1**
BOSA pmax pmax
comp=Z,76nm,1.3s
BFO Black Forest 49.49 323 P **P 13 18 06.4 -0.7**
BFO IAmb IAmb 13 18 39.1
comp=Z,65nm,1.3s
BFO Black Forest 49.49 323 P **P 13 18 06.4 -0.7**
BFO pmax pmax
comp=Z,65nm,1.3s
BFO MLR MLR
comp=Z,2μm,19.0s
BFO Black Forest 49.49 323 *e*P 13 18 06.6
comp=Z,86nm,1.5s,baz=124,slow=7.7
VALR Valaam 49.66 347 *i*P **P 13 18 08.4 +0.2**
VALR pmax pmax
comp=Z,88nm,1.0s
VALR MLR MLR
comp=Z,6μm,13.0s
UBBA Unterbreizbach 49.82 326 *e*P 13 18 08.8
comp=Z,40nm,1.8s,baz=124,slow=7.7
FLTG Flechtingen 50.01 329 *e*P 13 18 10.4
comp=Z,110nm,2.1s,baz=124,slow=7.7
SLVN Son La 50.12 74 IAmb IAmb 13 18 27.0
comp=Z,67nm,1.1s
SLVN IAMs_20 IAMs_20 13 42 59.8
comp=Z,7μm,18.0s
CLZ Clausthal 50.18 328 *e*P 13 18 12.1
comp=Z,169nm,2.0s,baz=124,slow=7.7
GTTG Gottingen 50.23 327 *e*P 13 18 12.3
comp=Z,66nm,1.4s,baz=124,slow=7.7
MEF Metsahovi 50.33 343 *e*P **P 13 18 13.8 +0.6**
GORT1 Trebel 50.35 329 *e*P 13 18 13.6
comp=Z,173nm,2.2s,baz=124,slow=7.7
TNS Taunus Mts 50.35 325 *e*P 13 18 12.7
comp=Z,64nm,1.8s,baz=124,slow=7.7
CD2 Chengdu 50.55 61 P **P 13 18 15.3 -0.3**
CD2 S **S 13 25 30.8 +0.7**
CD2 pmax pmax
comp=Z,260nm,4.9s
CD2 LR LR
comp=Z,5μm,17.3s
CD2 LR LR
comp=Z,3μm,16.7s
CD2 LR LR
comp=Z,5μm,19.2s
NRDL Niedersach Rie 50.67 328 *e*P 13 18 16.2
comp=Z,152nm,2.1s,baz=124,slow=7.7
ADZR Andozero 50.78 352 *e*P **P 13 18 15.9 -0.7**
ADZR pmax pmax
comp=Z,100nm,1.5s
KASTN Kahler Asten 50.87 326 *e*P 13 18 16.9
comp=Z,11nm,1.3s,baz=124,slow=7.7
FIA1 FINESS Array S 50.88 344 P **P 13 18 17.4 0.0**
FINES FINESS Array B 50.88 344 P **P 13 18 17.2 -0.2**
FINES FINESS Array B 50.88 344 P **P 13 18 16.7 -0.8**
comp=Z,27nm,0.9s,baz=131,slow=10,SNR=89
FINES LR LR 13 44 06.7
comp=Z,9μm,18.4s,baz=140,slow=41
comp=Z,27nm,0.9s
FINES FINESS Array B 50.88 344 *ce*P **P 13 18 17.7 +0.3**
FINES pmax pmax
comp=Z,27nm,0.9s
HVD Gariep Dam 50.97 209 *e*P **P 13 18 18.9 +0.3**
HVD IAmb IAmb 13 18 28.8
comp=Z,97nm,1.2s
JOF Joensuu 50.98 348 *e*P **P 13 18 18.9 +0.8**
RETH Rethem/Aller, 51.19 328 *e*P 13 18 20.0
comp=Z,90nm,1.9s,baz=124,slow=7.7
AHRW Bad Neuenahr-A 51.27 325 *e*P 13 18 20.4
comp=Z,26nm,1.3s,baz=124,slow=7.7
DEL Delary 51.31 334 *e*P **P 13 18 22.0 +1.2**
BSEG Bad Segeberg 51.38 330 *e*P 13 18 20.7
comp=Z,18nm,1.2s,baz=124,slow=7.7
WLF Walferdange 51.38 324 P **P 13 18 21.1 -0.3**
WLF IAmb IAmb 13 18 32.8
comp=Z,44nm,0.9s
WLF Walferdange 51.38 324 *d*P **P 13 18 21.9 +0.5**
comp=Z,32nm,1.0s
WLF Walferdange 51.38 324 P **P 13 18 21.1 -0.3**
WLF pmax pmax
comp=Z,44nm,0.9s
WLF MLR MLR
comp=Z,3μm,22.0s
WLF Walferdange 51.38 324 *e*P 13 18 21.0
comp=Z,68nm,1.3s,baz=124,slow=7.7
LZH Lanzhou 51.47 55 ⇓P **P 13 18 21.1 -1.4**
LZH sP pwP 13 18 30.5 +0.7
LZH PP **PP 13 20 23.3 +3.5**
LZH S **S 13 25 44.3 +1.4**
LZH SS **SS 13 29 19.4 +0.5**
LZH pmax pmax
comp=Z,600nm,5.0s
LZH LR LR
comp=Z,6μm,16.0s
LZH LR LR
comp=Z,2μm,15.1s
LZH LR LR
comp=Z,9μm,19.9s
VIKU Vikbolandet 51.57 337 *e*P **P 13 18 22.5 -0.1**
BUG Bochum–Univer 51.61 326 *e*P 13 18 22.7
baz=124,slow=7.7
AAL Aland 51.65 340 *e*P **P 13 18 23.1 -0.1**
RAF Rauma 51.75 342 *e*P **P 13 18 24.5 +0.6**
KEIM Keimoes 51.78 215 *e*P **P 13 18 24.9 +0.3**
KEIM IAmb IAmb 13 18 35.2
comp=Z,53nm,1.1s
BHOU Houvegnez 51.79 324 *d*P **P 13 18 25.2 +0.8**
IBBN Ibbenburen 51.79 327 *e*P 13 18 24.5
baz=124,slow=7.7
CEST Esterri de Car 51.81 314 IAmb IAmb 13 18 43.3
comp=Z,51nm,1.5s
CEST IAMs_20 IAMs_20 13 44 31.8
comp=Z,2μm,20.0s
KEF Keuruu 51.81 344 *e*P **P 13 18 24.8 +0.4**
BTNL Ternell 51.83 325 *d*P **P 13 18 25.1 +0.3**
comp=Z,11nm,1.0s
MEM Membach 51.91 325 *d*P **P 13 18 25.6 +0.2**
comp=Z,12nm,0.9s
UBPT Khong Chiam 51.96 81 IAMs_20 IAMs_20 13 38 52.2
comp=Z,6μm,21.0s
RCHB Rochefort 52.14 324 *d*P **P 13 18 27.2 +0.2**
comp=Z,15nm,1.0s
BSTI Sart Tilman 52.14 324 *d*P **P 13 18 28.2 +1.1**
BCLA Clavier 52.22 324 *d*P **P 13 18 28.0 +0.4**
comp=Z,11nm,1.7s
BGES Gesves 52.32 324 *d*P **P 13 18 28.9 +0.4**
BMRD Maredsous 52.47 324 *d*P **P 13 18 30.1 +0.6**
comp=Z,14nm,1.0s
DOU Dourbes 52.48 324 *d*P **P 13 18 29.6 +0.1**
comp=Z,23nm,0.9s
GYA Guiyang 52.73 67 ⇑P **P 13 18 30.9 -1.1**
GYA pP pwP 13 18 38.8 -0.4
GYA S **S 13 25 56.3 -4.1**
GYA SS **SS 13 29 39.1 +0.1**
GYA pmax pmax
comp=Z,36nm,0.9s
GYA pmax pmax
comp=Z,490nm,5.7s
GYA LR LR
comp=Z,5μm,18.7s
GYA LR LR
comp=Z,8μm,20.6s
GYA LR LR
comp=Z,12μm,20.6s
BFON Badsfontein, M 52.82 210 *e*P **P 13 18 30.4 -2.0**
BFON IAmb IAmb 13 18 41.5
comp=Z,136nm,1.6s
GRAF Camdeboo Natio 52.83 209 *e*P **P 13 18 32.3 -0.2**
GRAF IAmb IAmb 13 18 42.9
comp=Z,64nm,1.1s
MYKOM Kota Tinggi 52.95 98 P **P 13 18 32.0 -1.6**
MYKOM IAmb IAmb 13 18 51.5
comp=Z,63nm,1.1s
VAF Ylistaro 53.11 344 *e*P **P 13 18 34.6 +0.7**
BRAK Brakfontein 53.20 211 *e*P **P 13 18 35.2 0.0**
MUD Monsted U'grnd 53.37 332 *i*P **P 13 18 35.0 -1.0**
ROOI Rooidraai Farm 53.46 210 *e*P **P 13 18 35.8 -1.3**
ROOI IAmb IAmb 13 18 47.4
comp=Z,72nm,1.0s
HFS Hagfors 53.81 338 P **P 13 18 38.5 -0.7**
comp=Z,10nm,0.8s,baz=152,slow=6.7,SNR=20
HFS LR LR 13 45 20.4
comp=Z,9μm,18.6s,baz=138,slow=40
comp=Z,10nm,0.8s
GRAN Grantham 53.98 211 *e*P **P 13 18 39.9 -1.0**
GRAN IAmb IAmb 13 18 51.0
comp=Z,20nm,0.9s
MOY Mondy 54.43 35 *e*P **P 13 18 44.8 +0.7**
MOY pmax pmax
comp=Z,94nm,2.3s
HOMB Homborsund 54.72 334 *e*P **P 13 18 46.2 +0.4**
HOMB IVmBBB 13 19 04.7
comp=Z,587nm,2.0s
HOMB *e*S **S 13 26 29.6 +3.6**
HOMB IVMs_BB IVMs_BB 13 46 07.7
comp=Z,2μm,17.1s
SUR Sutherland 54.73 212 LR LR 13 43 39.9
comp=Z,3μm,19.2s,baz=38,slow=38
OSL Oslo 54.81 336 *e*P **P 13 18 47.0 +0.4**
OSL IVmB_BB 13 18 55.3
comp=Z,506nm,4.2s
OSL *e*S **S 13 26 28.6 +1.3**
OSL IVMs_BB IVMs_BB 13 45 46.5
comp=Z,4μm,18.8s
ESBB Sonseca Array 54.88 309 IAmb IAmb 13 18 58.8
comp=Z,42nm,1.1s
ESDC Sonseca Array 54.88 309 P **P 13 18 46.7 -0.7**
ESDC IAmb IAmb 13 18 58.7
comp=Z,38nm,1.2s
ESDC Sonseca Array 54.88 309 P **P 13 18 46.9 -0.5**
comp=Z,6.1nm,0.8s,baz=90,slow=6.4,SNR=43
ESDC LR LR 13 41 25.1
comp=Z,2μm,21.3s,baz=92,slow=35
comp=Z,6.1nm,0.8s
APA Apatity 54.89 352 ⇓*i*P **P 13 18 45.8 -1.2**
APA *i* 13 19 52.0
APA *i*S **S 13 26 23.0 -5.1**
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,10μm,16.0s
NC602 NORSAR Array S 55.01 337 *e*P **P 13 18 47.0 -1.0**
NC602 IVmBBB 13 18 48.0
comp=Z,255nm,1.5s
NC602 *e*S **S 13 26 30.8 +0.9**
NC602 IVMs_BB IVMs_BB 13 45 46.1
comp=Z,2μm,14.1s
LVZ Lovozero 55.03 352 P **P 13 18 47.6 -0.4**
LVZ Lovozero 55.03 352 *ce*P **P 13 18 47.4 -0.6**
LVZ pmax pmax
comp=Z,64nm,1.7s
LVZ MLR MLR
comp=Z,7μm,19.0s
LVZ Lovozero 55.03 352 P **P 13 18 47.2 -0.8**
comp=Z,48nm,1.3s,comp=Z,938nm
KONO Kongsberg 55.08 335 P **P 13 18 48.3 -0.2**
KONO IAmb IAmb 13 18 49.8
comp=Z,94nm,1.8s
KONO Kongsberg 55.08 335 IAMs_20 IAMs_20 13 46 32.7
comp=Z,8μm,18.0s
KONO Kongsberg 55.08 335 *e*P **P 13 18 48.0 -0.4**
KONO IVmB_BB 13 18 48.8
comp=Z,566nm,2.2s
KONO *e*S **S 13 26 32.2 +1.3**
KONO IVMs_BB IVMs_BB 13 46 40.7
comp=Z,3μm,15.9s
KONO Kongsberg 55.08 335 *ce*P **P 13 18 47.4 -1.1**
KONO pmax pmax
comp=Z,44nm,1.7s
KONO MLR MLR
comp=Z,7μm,15.0s
PAB San Pablo 55.15 309 P **P 13 18 49.2 -0.2**
PAB IAmb IAmb 13 19 00.9
comp=Z,49nm,1.2s
PAB San Pablo 55.15 309 P **P 13 18 49.2 -0.2**
PAB pmax pmax
comp=Z,49nm,1.3s
ZAK Zakamensk 55.24 38 *e*P **P 13 18 49.3 -0.6**
ZAK pmax pmax
comp=Z,16nm,2.0s
XAN Xi'an 55.27 58 ⇓P **P 13 18 49.1 -1.2**
XAN PP **PP 13 20 56.5 +2.6**
XAN S **S 13 26 33.1 -1.3**
XAN SS **SS 13 30 25.5 +6.8**
XAN pmax pmax
comp=Z,46nm,1.0s
XAN pmax pmax
comp=Z,570nm,5.5s
XAN LR LR
comp=Z,4μm,17.2s
XAN LR LR
comp=Z,3μm,19.2s
XAN LR LR
comp=Z,5μm,22.7s
SNART Snartemo 55.32 333 *e*P **P 13 18 50.8 +0.6**
NAO01 NORSAR Array S 55.33 337 IAmb IAmb 13 18 51.6
comp=Z,95nm,1.6s
NB2 NORSAR Subarra 55.33 337 P **P 13 18 49.1 -1.2**
comp=Z,86nm,2.0s,baz=124,slow=7.4
NB2 NORSAR Subarra 55.33 337 P **P 13 18 49.1 -1.2**
baz=124,slow=7.4
NOA NORSAR Array B 55.33 337 P **P 13 18 49.1 -1.2**
comp=Z,7.8nm,1.1s,baz=124,slow=8.0,SNR=15
NOA LR LR 13 46 16.3
comp=Z,6μm,18.8s,baz=135,slow=40
comp=Z,7.8nm,1.1s
NBO00 NORSAR Array S 55.49 337 IAmb IAmb 13 19 23.0
comp=Z,75nm,1.6s
NC204 NORSAR Array S 55.65 337 P **P 13 18 52.1 -0.5**
NC204 IAmb IAmb 13 18 54.0
comp=Z,77nm,1.6s
QIZ Qiongzhong 55.80 76 P **P 13 18 58.1 +3.8**
QIZ S **S 13 26 41.4 -0.3**
QIZ ScS **ScS 13 28 42.4 -1.9**
QIZ SS **SS 13 30 28.6 +1.2**
QIZ pmax pmax
comp=Z,97nm,2.8s
QIZ LR LR
comp=Z,2μm,21.1s
QIZ LR LR
comp=Z,2μm,17.6s
QIZ LR LR
comp=Z,5μm,32.0s
KASI Kota Agung 55.87 107 P **P 13 18 56.2 +1.4**
KIC Kosan Boka 55.94 268⇑*e*P P 13 19 03.7 +8.3
comp=Z,36nm,1.2s
DBIC Dimbokro 55.98 269 P **P 13 18 55.9 +0.2**
DBIC Dimbokro 55.98 269 *e*P **P 13 18 54.9 -0.8**
DBIC Dimbokro 55.98 269 P **P 13 18 55.6 -0.1**
comp=Z,4.1nm,0.7s,baz=104,slow=8.3,SNR=1.8
DBIC LR LR 13 41 29.9
comp=Z,1μm,21.2s,baz=54,slow=34
comp=Z,4.1nm,0.7s
SFS San Fernando 56.09 305 IAMs_20 IAMs_20 13 41 58.5
comp=Z,6μm,21.0s
TIC Toumodi 56.15 269⇑*e*P P 13 19 05.3 +8.4
comp=Z,42nm,1.2s
LIC Lamto 56.24 268⇑*e*P P 13 19 06.0 +8.4
comp=Z,47nm,1.0s
BLS5 Blasjo 56.25 334 *e*P **P 13 18 56.9 0.0**
BLS5 IVmB_BB 13 18 57.7
comp=Z,497nm,4.1s
BLS5 *e*S **S 13 26 48.6 +2.1**
BLS5 IVMs_BB IVMs_BB 13 47 07.8
comp=Z,2μm,17.6s
SONM Songino Array 56.29 41 P **P 13 18 57.4 -0.2**
SONM IAmb IAmb 13 19 22.7
comp=Z,40nm,1.1s
SONM Songino Array 56.29 41 P **P 13 18 57.5 -0.1**
comp=Z,5.1nm,0.9s,baz=244,slow=8.0,SNR=28
SONM LR LR 13 46 35.0
comp=Z,3μm,18.9s,baz=272,slow=40
comp=Z,5.1nm,0.9s
SONM Songino Array 56.29 41 P **P 13 18 57.4 -0.2**
SONM pmax pmax
comp=Z,40nm,1.1s
ODD1 Odda 56.45 335 *e*P **P 13 18 58.2 -0.2**
ODD1 IVmBBB 13 18 58.5
comp=Z,394nm,1.7s
ODD1 *e*S **S 13 26 53.9 +4.6**
ODD1 IVMs_BB IVMs_BB 13 49 12.9
comp=Z,2μm,13.9s
IRK Irkutsk 56.52 36 *e*P **P 13 18 57.0 -2.0**
IRK pmax pmax
comp=Z,102nm,2.2s
KMY Karmoy 56.65 334 *e*P **P 13 18 59.6 -0.1**
KMY IVmBBB 13 19 01.4
comp=Z,407nm,2.4s
KMY *e*S **S 13 26 55.7 +3.9**
KMY IVMs_BB IVMs_BB 13 46 40.6
comp=Z,2μm,15.9s
ULN Ulaanbaatar 56.73 42 P **P 13 19 00.7 0.0**
ULN Ulaanbaatar 56.73 42 *ce*P **P 13 19 00.3 -0.4**
ULN pmax pmax
comp=Z,25nm,2.5s
DOMB Dombas 56.76 338 IVmB_BB 13 18 59.6
comp=Z,446nm,3.5s
DOMB *e*P **P 13 19 00.6 0.0**
DOMB *e*S **S 13 26 57.4 +4.0**
DOMB IVMs_BB IVMs_BB 13 47 15.5
comp=Z,4μm,15.3s
PBAR Barrancos 56.99 307 *e*P **P 13 19 02.3 -0.2**
comp=Z,34nm,2.1s
PBAR *e*LQ LQ 13 19 12.5
BTO Baotou 57.09 51 *e*P **P 13 19 03.3 0.0**
BTO pP **sP 13 19 07.8 +1.7**
BTO sP **pwP 13 19 10.3 -0.4**
BTO PP **PP 13 21 11.6 +1.5**
BTO S **S 13 26 58.6 +0.1**
BTO sS sS 13 27 15.3 +13
BTO pmax pmax
comp=Z,23nm,0.8s
BTO pmax pmax
comp=Z,1μm,5.0s
BTO LR LR
comp=Z,10μm,17.7s
BTO LR LR
comp=Z,12μm,17.5s
BTO LR LR
comp=Z,16μm,19.4s
BER Bergen 57.26 335 *e*P **P 13 19 05.6 +1.7**
BER IVmB_BB 13 19 33.7
comp=Z,627nm,4.8s
BER *e*S **S 13 27 00.3 +0.5**
BER IVMs_BB IVMs_BB 13 46 04.7
comp=Z,2μm,21.4s
HYA Hoyanger 57.35 336 *e*P **P 13 19 05.0 +0.4**
HYA IVmBBB 13 19 06.3
comp=Z,380nm,1.8s
HYA *e*S S 13 27 10.5 +10
HYA IVMs_BB IVMs_BB 13 48 32.1
comp=Z,3μm,15.8s
PBRG Braganca 57.37 311 *e*P **P 13 19 04.7 -0.5**
comp=Z,42nm,1.7s
PBRG *e*LQ LQ 13 19 15.7
NSS Namsos 57.38 341 *e*P **P 13 19 05.2 +0.4**
PVAQ Vaqueiros 57.41 306 *e*P **P 13 19 05.3 -0.2**
comp=Z,44nm,1.7s
PVAQ *e*S **S 13 27 03.4 +0.8**
PVAQ *e*LQ LQ 13 32 23.8
PVAQ *e*LR LR 13 36 43.6
comp=Z,2μm,20.0s
PMRV Marv??o 57.45 308 *e*P **P 13 19 05.4 -0.4**
comp=Z,67nm,2.0s
PMRV *e*LQ LQ 13 19 15.7
PMRV *e*S **S 13 27 05.0 +1.9**
PMRV *e*LQ LQ 13 32 45.5
PMRV *e*LR LR 13 37 18.6
comp=Z,2μm,18.0s
PESTR Estremoz 57.52 307 IAmb IAmb 13 19 38.4
comp=Z,70nm,1.9s
PESTR Estremoz 57.52 307 *e*P **P 13 19 06.2 -0.1**
comp=Z,30nm,1.5s
PESTR *e*LQ LQ 13 19 16.5
PCBR Castelo Branco 57.58 308 *e*P **P 13 19 07.2 +0.6**
comp=Z,34nm,1.7s
PCBR *e*LQ LQ 13 19 16.4
PBEJ Beja 57.61 306 *e*P **P 13 19 07.3 +0.4**
comp=Z,38nm,1.7s
PBEJ *e*LQ LQ 13 19 15.6
MOL Molde 57.65 338 *e*P **P 13 19 07.0 +0.4**
MOL IVmBBB 13 19 08.6
comp=Z,258nm,2.2s
MOL *e*S **S 13 27 08.8 +3.9**
MOL IVMs_BB IVMs_BB 13 47 42.6
comp=Z,3μm,18.0s
MTE Manteigas 57.72 309 *e*P **P 13 19 08.9 +1.2**
comp=Z,40nm,1.8s
MTE *e*LQ LQ 13 19 17.8
MTE *e*S **S 13 27 07.8 +1.1**
MTE *e*LQ LQ 13 33 30.2
MTE *e*LR LR 13 37 54.2
comp=Z,1μm,18.0s
EVO Evora 57.80 307 *e*P **P 13 19 08.5 +0.3**
comp=Z,44nm,2.0s
EVO *e*LQ LQ 13 19 18.4
VADS Vadso 57.83 351 *e*P **P 13 19 08.2 +0.3**
VADS IVmBBB 13 19 09.4
comp=Z,456nm,1.8s
VADS *e*S **S 13 27 07.2 +0.2**
SUE Sulen 57.86 335 *e*P **P 13 19 08.5 +0.3**
SUE *e*S **S 13 27 12.7 +5.0**
SUE IVMs_BB IVMs_BB 13 48 13.1
comp=Z,3μm,20.0s
MESJ Messejana 57.87 306 *e*P **P 13 19 08.1 -0.6**
comp=Z,27nm,1.7s
MESJ *e*LQ LQ 13 19 19.2
MESJ Messejana 57.87 306 *e*P **P 13 19 08.4 -0.3**
MESJ *e*S **S 13 27 09.4 +0.8**
MESJ IAMs_20 IAMs_20 13 40 55.3
comp=N,3μm,20.5s
MESJ Messejana 57.87 306 *e*P **P 13 19 08.4 -0.3**
MESJ *e*S **S 13 27 09.4 +0.8**
KEV Kevo 57.88 350 P **P 13 19 07.6 -0.6**
KEV IAmb IAmb 13 19 16.9
comp=Z,38nm,0.9s
KEV Kevo 57.88 350 P **P 13 19 07.6 -0.6**
KEV pmax pmax
comp=Z,38nm,0.9s
KEV MLR MLR
comp=Z,11μm,18.0s
KTK1 Kautokeino 57.92 348 *e*P **P 13 19 08.7 +0.1**
KTK1 IVmB_BB 13 19 16.6
comp=Z,521nm,1.7s

KTK1 eS S 13 27 09.4 +1.1
KTK1 IVMs_BB IVMs_BB 13 47 07.8
comp=Z,4μm,15.8s
ARCES ARCESS Array B 57.94 349 P P 13 19 08.1 -0.6
comp=Z,2μm,1.0s,baz=134,slow=6.4,SNR=9.9
ARCES LR LR 13 47 20.3
comp=Z,13μm,18.6s,baz=136,slow=39
PVRL Vila Real 57.99 310 eP P 13 19 10.3 +0.7
comp=Z,64nm,1.9s
PVRL eLQ LQ 13 19 20.4
PVIS Viseu 58.03 309 eP P 13 19 08.9 -1.0
comp=Z,70nm,1.8s
PVIS eLQ LQ 13 19 20.5
PMTG Montargil 58.03 307 eP P 13 19 09.7 -0.2
comp=Z,33nm,1.9s
POLO Lamas de Olo 58.07 310 eP P 13 19 10.6 +0.4
comp=Z,30nm,1.6s
POLO eLQ LQ 13 19 20.9
MORF Marmelete 58.14 305 eS S 13 27 13.1 +0.8
MORF IAMs_20 IAMs_20 13 41 15.8
comp=N,5μm,23.6s
PNCL Nicolau / Gran 58.14 306 eLQ LQ 13 19 21.1
PTEO Sao Teotonio 58.23 306 eLQ LQ 13 19 22.4
LYN LuoYang 58.24 58 P P 13 19 10.4 -1.0
LYN S S 13 27 14.8 +1.3
LYN SS SS 13 31 06.8 +1.5
LYN pmax pmax
comp=N,15nm,0.5s
LYN pmax pmax
comp=N,570nm,5.0s
LYN LR LR
comp=N,3μm,26.1s
LYN LR LR
comp=N,2μm,26.4s
LYN LR LR
comp=N,5μm,29.5s
PFVI Vila Bisbo 58.26 305 eLQ LQ 13 19 22.1
HHC Hu-ho-hao-te 58.29 50 eP P 13 19 11.9 +0.1
HHC sP pwP 13 19 25.9 +6.8
HHC S S 13 27 14.4 +0.2
HHC SS SS 13 31 07.1 +1.1
HHC pmax pmax
comp=N,25nm,1.2s
HHC pmax pmax
comp=N,520nm,5.2s
HHC LR LR
comp=N,6μm,16.5s
HHC LR LR
comp=N,3μm,16.2s
HHC LR LR
comp=N,5μm,16.5s
PCAB Cabril 58.30 311 eP P 13 19 11.6 -0.1
comp=N,68nm,1.9s
PCAB eLQ LQ 13 19 22.5
STOK Stokkvaagen 58.31 343 eP P 13 19 12.3 +1.0
STOK eS S 13 27 15.1 +1.7
STOK IVMs_BB IVMs_BB 13 48 04.2
comp=Z,6μm,15.0s
CNSH ChangSha 58.34 65 P P 13 19 19.4 +7.2
CNSH S S 13 27 26.0 +11
CNSH LR LR
comp=N,3μm,21.4s
CNSH LR LR
comp=E,3μm,22.2s
CNSH LR LR
comp=Z,5μm,22.9s
PCAS Casmilo, Conde 58.38 309 eP P 13 19 12.2 -0.1
comp=Z,53nm,1.7s
PCAS eLQ LQ 13 19 22.8
KONS Konsvik 58.40 343 eP P 13 19 12.0 +0.1
FAUS Fauske 58.45 344 eP P 13 19 11.8 -0.4
FAUS IVmBBB 13 19 11.9
comp=Z,535nm,1.6s
FAUS eS S 13 27 16.2 +1.1
FAUS IVMs_BB IVMs_BB 13 46 50.1
comp=Z,3μm,21.9s
TIY Taiyuan 58.52 54 eP P 13 19 12.9 -0.5
TIY S S 13 27 17.0 -0.3
TIY SS SS 13 31 17.4 +7.6
TIY pmax pmax
comp=Z,380nm,3.6s
TIY LR LR
comp=Z,3μm,20.6s
TIY LR LR
comp=Z,6μm,20.6s
TIY LR LR
comp=Z,8μm,20.6s
PSBE So Bento 58.53 308 eP P 13 19 13.2 -0.2
comp=Z,52nm,1.7s
LIS Lisbon 58.70 307 eS S 13 27 20.3 +0.9
LIS IAMs_20 IAMs_20 13 40 31.7
comp=N,6μm,24.2s
STEI Steigen 58.87 345 eP P 13 19 14.6 -0.6
STEI eS S 13 27 24.9 +4.4
EKA Eskdalemuir Ar 58.93 327 P P 13 19 14.4 -1.3
comp=N,1.8nm,0.5s,baz=117,slow=6.7,SNR=12
comp=N,1.8nm,0.5s
HAMF Hammerfest 59.22 350 eP P 13 19 16.7 -0.8
HAMF IVmB_BB 13 19 35.0
comp=Z,766nm,2.8s
HAMF eS S 13 27 26.5 +1.5
HAMF IVMs_BB IVMs_BB 13 47 58.3
comp=Z,6μm,16.9s
TRO Tromso 59.31 347 eP P 13 19 17.6 -0.6
TRO IVmBBB 13 19 17.6
comp=Z,504nm,1.6s
TRO eS S 13 27 26.2 -0.1
TRO IVMs_BB IVMs_BB 13 48 01.9
comp=Z,6μm,15.7s
LOF Lofoten 59.45 344 eP P 13 19 19.2 0.0
LOF IVmBBB 13 19 24.0
comp=Z,884nm,1.8s
LOF IVmB_BB 13 19 25.1
comp=Z,867nm,2.3s
LOF eS S 13 27 29.6 +1.5
LOF IVMs_BB IVMs_BB 13 47 32.6
comp=Z,3μm,16.6s
HKPS Hong Kong Po S 59.60 72 IAMs_20 IAMs_20 13 45 56.7
comp=Z,4μm,20.0s
WHN Wuhan 59.62 63 P P 13 19 20.6 -0.4
WHN sP pwP 13 19 28.3 0.0
WHN S S 13 27 30.5 -1.1
WHN pmax pmax
comp=Z,62nm,0.9s
WHN LR LR
comp=Z,7μm,20.8s
WHN LR LR
comp=Z,12μm,16.6s
WHN LR LR
comp=Z,22μm,21.8s
HNS HongShan 60.29 55 ⇓P P 13 19 25.1 -0.4
HNS S S 13 27 41.9 +1.9
HNS SS SS 13 31 39.8 +2.4
HNS pmax pmax
comp=Z,10.0nm,1.1s
HNS pmax pmax
comp=Z,440nm,5.3s
HNS LR LR
comp=Z,4μm,19.0s
HNS LR LR
comp=Z,3μm,19.4s
HNS LR LR
comp=Z,5μm,18.3s
KPJI Karang Pucung 60.62 107 P P 13 19 29.5 +1.4
comp=Z,37nm,1.1s
STKI Sintang 60.75 98 P P 13 19 29.8 +0.8
comp=Z,57nm,0.8s
BJT Baijiatuau 61.67 52 IAMs_20 IAMs_20 13 48 02.7
comp=Z,5μm,18.0s
BJI Beijing 61.67 52 P P 13 19 35.3 +0.4
BJI S S 13 27 59.9 +2.4
BJI sS sS 13 28 06.3 +4.7
BJI SS SS 13 32 01.3 +2.4
BJI pmax pmax
comp=Z,10.0nm,1.3s
BJI pmax pmax
comp=Z,180nm,5.3s
BJI LR LR
comp=Z,2μm,20.1s
BJI LR LR
comp=Z,2μm,17.7s
BJI LR LR
comp=Z,3μm,17.9s
CIT Chita 61.88 38 eP P 13 19 36.0 -0.2
CIT e 13 21 58.5
CIT pmax pmax
comp=Z,86nm,4.0s
XLT XiLinHaoTe 62.04 48 ⇓iP P 13 19 37.3 -0.1
XLT sP pwP 13 19 44.8 0.0
XLT S S 13 27 59.3 -3.0
XLT pmax pmax
comp=Z,15nm,1.1s
XLT pmax pmax
comp=Z,460nm,4.9s
XLT LR LR
comp=Z,380nm,17.9s
XLT LR LR
comp=Z,4μm,18.7s
XLT LR LR
comp=Z,5μm,19.6s
TIA Tai'an 62.14 56 P P 13 19 37.8 -0.4
TIA S S 13 28 04.6 +0.9
TIA pmax pmax
comp=Z,13nm,0.9s
TIA pmax pmax
comp=Z,400nm,4.7s
TIA LR LR
comp=Z,2μm,16.9s
TIA LR LR
comp=Z,3μm,18.4s
TIA LR LR
comp=Z,3μm,21.1s
BJO1 Bjornoya 63.22 351 eP P 13 19 44.1 -0.5
BJO1 eS S 13 28 21.3 +5.4
NJ2 Nanjing 63.49 61 ⇑P P 13 19 46.8 -0.3
NJ2 sP pwP 13 19 55.5 +1.0
NJ2 S S 13 28 18.8 -1.8
NJ2 SS SS 13 32 34.5 +6.8
NJ2 pmax pmax
comp=Z,17nm,0.7s
NJ2 pmax pmax
comp=Z,640nm,5.5s
NJ2 LR LR
comp=Z,3μm,18.0s
NJ2 LR LR
comp=Z,4μm,22.7s
NJ2 LR LR
comp=Z,6μm,19.6s
QZH Quanzhou 63.51 69 eP P 13 19 45.9 -1.5
QZH S S 13 28 22.4 +1.4
QZH SS SS 13 32 26.3 -1.9
QZH LR LR
comp=Z,2μm,16.8s
QZH LR LR
comp=Z,4μm,16.8s
QZH LR LR
comp=Z,5μm,33.0s
BOD Bodaibo 63.66 32 eP P 13 19 46.6 -1.2
BOD pmax pmax
comp=Z,41nm,1.9s
HOPEN Hopen 64.11 353 eP P 13 19 52.1 +1.7
HOPEN eS S 13 28 30.4 +3.4
HOPEN IVMs_BB IVMs_BB 13 52 27.1
comp=Z,3μm,17.4s
PMOZ Porto Moniz, M 64.92 300 eS S 13 28 47.3 +8.7
PMOZ eLQ LQ 13 36 02.6
PMOZ eLR LR 13 39 20.1
comp=Z,2μm,18.0s
SSE Sheshan 65.50 62 P P 13 19 59.3 -1.0
SSE S S 13 28 44.3 -1.2
SSE pmax pmax
comp=Z,18nm,1.0s
SSE pmax pmax
comp=Z,220nm,4.7s
SSE LR LR
comp=Z,1μm,21.7s
SSE LR LR
comp=Z,2μm,20.3s
SSLB Suanglung 65.74 70 IAMs_20 IAMs_20 13 49 42.4
comp=Z,5μm,21.0s
DL2 Dalian 65.82 53 P P 13 19 59.9 -2.4
DL2 S S 13 28 48.4 -0.8
DL2 pmax pmax
comp=Z,69nm,1.4s
DL2 pmax pmax
comp=Z,300nm,5.1s
DL2 LR LR
comp=Z,3μm,17.5s
DL2 LR LR
comp=Z,2μm,23.7s
DL2 LR LR
comp=Z,3μm,22.6s
BBTS Babate 65.86 280 LR LR 13 49 44.3
comp=Z,3μm,18.6s,baz=320,slow=37
TWG Pinlang 65.94 71 IAMs_20 IAMs_20 13 49 38.9
comp=Z,4μm,20.0s
YULB Yu-li 66.09 70 IAMs_20 IAMs_20 13 48 33.7
comp=Z,4μm,20.0s
TATO Taipei 66.12 69 IAMs_20 IAMs_20 13 50 33.8
comp=Z,4μm,18.0s
MYLDM Lahad Datu 66.29 90 IAMs_20 IAMs_20 13 47 30.0
comp=Z,6μm,21.0s
MBO M'Bour 66.30 280 IAMs_20 IAMs_20 13 49 36.2
comp=Z,4μm,20.0s
BKB Balikpapan 66.32 98 IAMs_20 IAMs_20 13 48 05.9
comp=Z,4μm,19.0s
SPB2 Spitsbergen Ar 66.55 353 P P 13 20 06.2 -0.1
SPB2 IAmb IAmb 13 20 38.1
comp=Z,34nm,0.9s
SPITS Spitsbergen Ar 66.56 353 P P 13 20 06.0 -0.3
comp=Z,11nm,0.9s,baz=121,slow=9.8,SNR=7.4
SPITS LR LR 13 52 41.2
comp=Z,4μm,19.5s,baz=113,slow=39
comp=Z,11nm,0.9s
SPITS Spitsbergen Ar 66.56 353 P P 13 20 06.2 -0.1
SPITS pmax pmax
comp=Z,78nm,1.3s
JMIC Jan Mayen 67.38 342 LR LR 13 51 34.6
comp=Z,3μm,20.4s,baz=106,slow=38
SUJ Sinuiju 68.05 52 P P 13 20 15.5 -0.9
SUJ S S 13 29 13.2 -2.8
SUJ AmB
comp=Z,358nm,2.5s
SUJ AMS AMS
comp=Z,694nm,9.3s
CN2 Changchun 68.79 48 P P 13 20 21.0 0.0
CN2 S S 13 29 23.8 -1.0
CN2 SS SS 13 33 50.3 +0.7
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,400nm,5.0s
CN2 LR LR
comp=Z,4μm,16.0s
CN2 LR LR
comp=Z,3μm,16.0s
CN2 LR LR
comp=Z,4μm,17.0s
HJU Haeju 69.04 54 P P 13 20 21.1 -1.5
HJU S S 13 29 24.4 -3.5
HJU AmB
comp=Z,591nm,3.6s
HJU AMS AMS
comp=Z,2μm,20.9s
PYAG Pyongyang 69.04 53 P P 13 20 21.5 -1.1
PYAG S S 13 29 24.9 -3.0
PYAG AmB
comp=Z,334nm,2.6s
PYAG AMS AMS
comp=Z,2μm,14.1s
KAPI Kappang 70.10 101 LR LR 13 48 18.4
comp=Z,2μm,20.8s,baz=280,slow=34
BNX BinXian 70.20 46 ⇑P P 13 20 28.9 -0.8
BNX PP PP 13 23 04.4 -0.5
BNX S S 13 29 41.3 -0.1
BNX pmax pmax
comp=Z,9.0nm,0.8s
BNX pmax pmax
comp=Z,290nm,5.3s
BNX LR LR
comp=Z,6μm,19.3s
BNX LR LR
comp=Z,2μm,18.2s
BNX LR LR
comp=Z,4μm,23.5s
BORG Borgarnes 70.23 334 IAMs_20 IAMs_20 13 55 06.2
comp=Z,4μm,21.0s
BORG Borgarnes 70.23 334 LR LR 13 53 32.4
comp=Z,4μm,21.0s,baz=109,slow=38
HEH HeiHe 70.28 41 eP P 13 20 29.6 -0.5
HEH PP PP 13 23 05.9 +0.4
HEH S S 13 29 42.6 +0.4
HEH SS SS 13 34 14.0 +1.7
HEH pmax pmax
comp=Z,23nm,1.3s
HEH pmax pmax
comp=Z,440nm,4.5s
HEH LR LR
comp=Z,4μm,15.0s
HEH LR LR
comp=Z,2μm,14.9s
HEH LR LR
comp=Z,7μm,13.8s
ZEA Zeya 70.34 38 eP P 13 20 30.1 -0.3
ZEA eS S 13 29 45.6 +3.0
ZEA e 13 30 17.9
ZEA pmax pmax
comp=Z,200nm,5.5s
ZEA pmax pmax
comp=Z,10.0nm,2.1s
ZEA smax smax
comp=N,600nm,11.9s
ZEA MLR MLR
comp=E,2μm,15.0s
ZEA MLR MLR
comp=N,2μm,14.0s
ZEA MLR MLR
comp=Z,2μm,18.0s
KSAR Wonju Array Be 70.77 55 P P 13 20 32.1 -1.2
KSAR Wonju Array Be 70.77 55 P P 13 20 32.1 -1.2
KSRS Korea Array 70.80 55 P P 13 20 31.8 -1.7
comp=Z,3.0nm,0.6s,baz=272,slow=6.7,SNR=23
KSRS LR LR 13 53 17.7
comp=Z,1μm,19.1s,baz=280,slow=37
comp=Z,3.0nm,0.6s
MDJ Mudanjiang 71.76 47 P P 13 20 38.1 -1.1
MDJ pP sP 13 20 41.6 -0.4
MDJ PcP PcP 13 20 57.4 -0.8
MDJ S S 13 29 58.8 -0.8
MDJ ScS ScS 13 30 44.9 -0.1
MDJ SS SS 13 34 39.3 +4.0
MDJ pmax pmax
comp=Z,14nm,2.2s
MDJ pmax pmax
comp=Z,410nm,5.3s
MDJ LR LR
comp=Z,3μm,16.5s
MDJ LR LR
comp=Z,3μm,15.1s
MDJ LR LR
comp=Z,3μm,15.1s
DBG Daneborg 71.78 344 iP P 13 20 38.6 -0.2
JOW Kunigami 72.02 66 IAMs_20 IAMs_20 13 52 28.6
comp=Z,3μm,21.0s
JOW Kunigami 72.02 66 LR LR 13 52 38.8
comp=Z,4μm,21.4s,baz=272,slow=36
DAG Danmarks Havn 72.03 347 iP P 13 20 39.3 -0.9
DAG IAmb IAmb 13 20 40.8
comp=Z,6.4nm,1.0s
YAK Yakutsk 72.15 29 P P 13 20 39.9 -1.2
YAK Yakutsk 72.15 29 IAMs_20 IAMs_20 13 55 15.7
comp=Z,5μm,19.0s
YAK Yakutsk 72.15 29 LR LR 13 55 32.9
comp=Z,5μm,18.9s,baz=261,slow=38
YAK Yakutsk 72.15 29 eP P 13 20 39.1 -2.1
YAK e 13 20 57.2
YAK e 13 23 17.7
YAK ePPP PPP 13 25 04.2
YAK eS S 13 30 02.5 -0.8
YAK e 13 30 43.4
YAK eSS SS 13 34 40.5 +0.2
YAK pmax pmax
comp=E,13nm,1.5s
YAK pmax pmax
comp=Z,46nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=Z,73nm,2.5s
YAK smax smax
comp=N,303nm,5.6s
YAK MLR MLR
comp=Z,4μm,15.0s
YAK MLR MLR
comp=E,3μm,17.0s
YAK MLR MLR
comp=N,1μm,18.0s
DAV Davao City (W) 72.75 87 LR LR 13 53 02.4
comp=N,1μm,19.9s,baz=285,slow=36
TIXI Tiksi 72.81 19 IAMs_20 IAMs_20 13 55 30.1
comp=Z,5μm,20.0s
TIXI Tiksi 72.81 19 LR LR 13 55 41.0
comp=Z,5μm,20.3s,baz=292,slow=38
TIXI Tiksi 72.81 19 ceP P 13 20 44.3 -0.6
TIXI pmax pmax
comp=Z,38nm,1.4s
TIXI MLR MLR
comp=Z,5μm,19.0s
MSHR Mys Shultsa 72.99 49 iP P 13 20 46.5 -0.1
MSHR pmax pmax
comp=Z,21nm,1.1s
MSHR MLR MLR
comp=Z,2μm,21.0s
KLR Kul'dur 73.10 42 LR LR 13 56 50.2
comp=Z,4μm,19.1s,baz=280,slow=39
KLR Kul'dur 73.10 42 ceP P 13 20 45.9 -1.2
KLR pmax pmax
comp=Z,28nm,1.7s
KLR MLR MLR
comp=Z,4μm,16.0s
NOR Nord 73.16 352 iP P 13 20 45.6 -1.3
NOR IAmb IAmb 13 20 47.6
comp=Z,3.4nm,1.1s
USRK Ussuriysk Ar. 73.50 48 P P 13 20 49.1 -0.4
comp=Z,6.4nm,0.8s,baz=257,slow=5.6,SNR=10
USRK LR LR 13 57 21.4
comp=Z,2μm,18.3s,baz=288,slow=39
comp=Z,6.4nm,0.8s
JNU Nakatsue 73.56 59 P P 13 20 49.3 -0.9
JNU IAmb IAmb 13 21 09.2
comp=Z,57nm,1.2s
JNU Nakatsue 73.56 59 LR LR 13 55 27.5
comp=Z,3μm,19.9s,baz=276,slow=38
JMZ Minamidaito 2 74.78 67 IAMs_20 IAMs_20 13 55 56.7
comp=Z,5μm,21.0s
JMN Monobe 75.98 58 IAMs_20 IAMs_20 13 56 47.3
comp=Z,4μm,21.0s
GRNR Gornyy 76.02 41 ⇑iP P 13 21 03.8 -0.2
GRNR pmax pmax
comp=Z,2.0nm,0.9s
GRNR MLR MLR
comp=E,2μm,17.0s
GRNR MLR MLR
comp=N,2μm,18.0s
GRNR MLR MLR
comp=Z,3μm,21.0s
SUMG Summit 76.83 342 P P 13 21 08.4 -0.3
SUMG IAmb IAmb 13 21 18.5
comp=Z,48nm,1.3s
SUMG Summit 76.83 342 P P 13 21 08.4 -0.3
SUMG pmax pmax
comp=Z,49nm,1.3s
SUMG MLR MLR
comp=Z,7μm,22.0s
SUMG Summit 76.83 342 iP P 13 21 08.7 0.0
SUMG IAmb IAmb 13 21 10.1
comp=Z,7.5nm,1.2s
SUMG IAMs_20 IAMs_20 13 56 18.2
comp=Z,7μm,22.0s
SUMG IVMs_BB IVMs_BB 13 56 23.8
comp=Z,2μm,24.0s
ICESG Greenland Ices 77.55 338 iP P 13 21 11.3 -1.4
NWAO Narrogin (SRO) 77.98 128 LR LR 13 47 46.1
comp=Z,2μm,21.3s,baz=278,slow=30
INU Inuyama 78.31 56 P P 13 21 15.9 -1.4
INU IAmb IAmb 13 21 35.1
comp=Z,34nm,1.2s
MAJO Matsushiro 79.08 55 IAMs_20 IAMs_20 14 00 36.7
comp=Z,4μm,20.0s
MJAR Matsushiro Arr 79.08 55 P P 13 21 20.7 -0.7
comp=Z,3.5nm,0.8s,baz=283,slow=4.5,SNR=16
MJAR LR LR 13 58 53.9
comp=Z,3μm,21.3s,baz=276,slow=38
comp=Z,3.5nm,0.8s
NEEM North Greenlan 79.22 347 iP P 13 21 21.5 -0.3
NEEM IAmb IAmb 13 21 25.9
comp=Z,9.0nm,0.9s
UGL Uglegorsk 79.85 42 eP P 13 21 23.0 -2.3
UGL eS S 13 31 26.5 -2.1

UGL smax smax
comp=N,500nm,3.0s
UGL smax smax
comp=E,1µm,3.0s
TYV Tymovskoe 79.93 40 *e*P **P 13 21 25.7 0.0**
TYV *e*S **S 13 31 32.5 +3.1**
TYV pmax pmax
comp=Z,11nm,1.4s
TYV pmax pmax
comp=Z,100nm,3.4s
TYV smax smax
comp=N,200nm,7.8s
TYV smax smax
comp=E,300nm,7.8s
DY2G Dye2 80.47 336 *i* P **P 13 21 28.7 +0.1**
JTM Tenmabayashi 80.57 50 IAmb IAmb 13 21 41.0
comp=Z,61nm,1.0s
YSS Yuzh-Sakhalins 80.67 44 IAMs_20 IAMs_20 14 01 51.5
comp=Z,4µm,18.0s
YSS Yuzh-Sakhalins 80.67 44 *e*P **P 13 21 28.9 -0.9**
YSS *e* 13 21 37.6
YSS *e* 13 24 34.8
YSS *e*PPP PPP 13 26 30.7
YSS *e*S **S 13 31 31.7 -5.7**
YSS *e*SS **SS 13 36 57.0 +7.2**
YSS pmax pmax
comp=Z,20nm,0.9s
JMM Marumori 80.89 53 IAMs_20 IAMs_20 14 02 47.5
comp=Z,4µm,19.0s
JHJ2 Mitsune 80.98 58 IAMs_20 IAMs_20 14 00 29.1
comp=Z,3µm,19.0s
ASAJ Asahikawa 81.08 47 LR LR 13 59 16.5
comp=Z,3µm,21.4s,baz=298,slow=37
JKA Kamikawa-asahi 81.08 47 IAMs_20 IAMs_20 13 58 14.3
comp=Z,3µm,22.0s
NRS Narsarsuaq 81.29 331 IAMs_20 IAMs_20 14 00 56.6
comp=Z,3µm,20.0s
MAW Mawson 81.74 176 P **P 13 21 33.7 -1.2**
comp=Z,5.0nm,0.8s,baz=333,slow=5.6,SNR=11
MAW LR LR 13 51 16.8
comp=Z,2µm,21.4s,baz=343,slow=31
comp=Z,5.0nm,0.8s
ERM Erimo 81.89 49 IAMs_20 IAMs_20 14 04 15.8
comp=Z,3µm,19.0s
SFJD Kangerlussuaq 82.00 337 IAMs_20 IAMs_20 14 00 27.1
comp=Z,3µm,21.0s
SFJD Kangerlussuaq 82.00 337 LR LR 14 00 40.5
comp=Z,3µm,21.3s,baz=64,slow=38
SEY Seymchan 82.49 27 LR LR 14 03 53.8
comp=Z,3µm,18.7s,baz=288,slow=40
SEY Seymchan 82.49 27 *ce*P **P 13 21 39.6 +0.5**
SEY pmax pmax
comp=Z,55nm,2.5s
IVI Ivigtut 82.57 331 IAMs_20 IAMs_20 14 03 19.5
comp=Z,4µm,18.0s
MA2 Magadan 82.63 30 IAMs_20 IAMs_20 14 00 50.9
comp=Z,4µm,21.0s
MA2 Magadan 82.63 30 LR LR 14 01 02.2
comp=Z,3µm,20.6s,baz=288,slow=38
MA2 Magadan 82.63 30 *ce*P **P 13 21 39.7 -0.2**
MA2 pmax pmax
comp=Z,28nm,1.7s
MA2 MLR MLR
comp=Z,3µm,18.0s
NUUK Nuuk 83.29 335 *i* P **P 13 21 47.5 +4.3**
JCJ Chichijima 84.21 64 LR LR 13 58 34.4
comp=Z,2µm,21.6s,baz=278,slow=35
FORT Forrest 85.71 123 IAMs_20 IAMs_20 13 52 25.4
comp=Z,3µm,19.0s
BILL Bilibino 85.98 20 IAMs_20 IAMs_20 14 02 57.6
comp=Z,3µm,19.0s
BILL Bilibino 85.98 20 *d i*P **P 13 21 55.2 -1.6**
BILL *e* 13 25 16.8
BILL *i* S **SKSac 13 32 22.5 0.0**
BILL *i* SS **SS 13 38 15.8 +8.4**
BILL pmax pmax
comp=Z,19nm,2.5s
BILL MLR MLR
comp=Z,4µm,19.0s
ELIB Princess Elisa 87.78 189 *d*P **P 13 22 05.6 +0.1**
comp=Z,9.1nm,1.3s
WRA Warramunga Arr 87.97 111 P **P 13 22 05.0 -2.3**
comp=Z,2.5nm,0.7s,baz=297,slow=4.1,SNR=21
comp=Z,2.5nm,0.7s
WB0 Warramunga Arr 87.97 111 P **P 13 22 05.7 -1.7**
WB0 IAmb IAmb 13 22 22.1
comp=Z,26nm,1.1s
WRAB Tennant Creek 87.98 111 P **P 13 22 05.9 -1.5**
WRAB IAmb IAmb 13 22 22.4
comp=Z,27nm,1.1s
WRAB Tennant Creek 87.98 111 P **P 13 22 05.9 -1.5**
WRAB pmax pmax
comp=Z,27nm,1.2s
WR0 Warramunga Arr 88.16 111 IAmb IAmb 13 22 31.1
comp=Z,34nm,1.5s
ASAR Alice Springs 88.58 115 P **P 13 22 08.9 -1.4**
ASAR Alice Springs 88.58 115 P **P 13 22 08.1 -2.2**
comp=Z,2.3nm,0.7s,baz=288,slow=4.8,SNR=45
ASAR LR LR 13 55 58.0
comp=Z,1µm,21.2s,baz=296,slow=32
comp=Z,2.3nm,0.7s
ASAR Alice Springs 88.58 115 P **P 13 22 08.9 -1.4**
NVL N'lazarevskaya 88.80 192 *e*P **P 13 22 10.3 +0.2**
NVL *e*S **SKSac 13 32 34.8 -4.4**
NVL pmax pmax
comp=Z,31nm,1.0s
PET Petropavlovsk 88.87 35 IAMs_20 IAMs_20 14 07 34.9
comp=Z,4µm,21.0s
PET Petropavlovsk 88.87 35 *e*P P 13 22 01.5 -9.5
PET *e* 13 25 40.5
PET *e* 13 32 32.3
PET *e*S S 13 32 49.2 -9.4
PET *e*PS **PnS 13 34 02.1 -0.2**
PET *e*PPS PPS 13 34 32.7
PET pmax pmax
comp=Z,12nm,1.2s
RCBR Riachuelo 89.05 264 LR LR 13 57 44.4
comp=Z,938nm,21.7s,baz=64,slow=33
RCBR Riachuelo 89.05 264 *e*P **P 13 22 15.1 +2.4**
RES Resolute Bay 89.10 352 LR LR 14 05 47.2
comp=Z,5µm,20.5s,baz=38,slow=38
GUMO Guam 89.80 76 LR LR 13 59 55.8
comp=Z,890nm,21.6s,baz=290,slow=34
FRB Frobisher Bay 90.16 337 LR LR 14 06 02.2
comp=Z,2µm,18.6s,baz=53,slow=38
NBAN Anadia - AL 90.33 260 *e*P **P 13 22 20.5 +1.9**
CASY Casey 90.92 160 IAMs_20 IAMs_20 13 53 23.0
comp=Z,3µm,22.0s
DRLN Deer Lake 91.60 322 IAMs_20 IAMs_20 14 06 24.0
comp=Z,2µm,20.0s
NBLA Lagarto - SE 92.09 259 *e*P **P 13 22 30.8 +4.0**
SNAA Sanae 92.81 195 LR LR 13 56 33.2
comp=Z,1µm,22.0s,baz=60,slow=31
BBOO Buckleboo 92.82 123 IAMs_20 IAMs_20 13 53 57.6
comp=Z,2µm,20.0s
B20K Meade River 93.87 10 IAMs_20 IAMs_20 14 09 03.6
comp=Z,3µm,22.0s
B22K Teshekpuk Lake 94.13 8 IAMs_20 IAMs_20 14 08 59.6
comp=Z,2µm,20.0s
SCHQ Schefferville 94.17 329 LR LR 14 07 39.0
comp=Z,794nm,18.3s,baz=53,slow=37
C18K Utukok River 94.34 11 IAMs_20 IAMs_20 14 06 04.0
comp=Z,3µm,22.0s
B21K Ikpikpuk River 94.61 9 IAMs_20 IAMs_20 14 10 39.3
comp=Z,3µm,21.0s
C23K Itkillik River 94.97 8 IAMs_20 IAMs_20 14 11 26.9
comp=Z,3µm,20.0s
D19K Kuna River 95.04 11 P **P 13 22 39.5 +0.2**
D19K IAmb IAmb 13 23 10.2
comp=Z,21nm,1.2s
D22K Ayikyak River 95.58 9 P **P 13 22 41.9 +0.1**
D22K IAmb IAmb 13 22 52.6
comp=Z,13nm,1.2s
D22K IAMs_20 IAMs_20 14 11 27.8
comp=Z,3µm,20.0s
E21K Killik River 95.78 9 P **P 13 22 42.7 0.0**
E21K IAMs_20 IAMs_20 14 09 23.2
comp=Z,3µm,22.0s
F15K North Star Dit 96.05 14 IAMs_20 IAMs_20 14 11 18.3
comp=Z,3µm,20.0s
F17K Baldwin Pennin 96.20 13 IAMs_20 IAMs_20 14 09 46.3
comp=Z,3µm,20.0s
TOLK Toolik Lake Re 96.23 8 IAmb IAmb 13 22 54.9
TOLK IAMs_20 IAMs_20 14 12 56.0
comp=Z,2µm,20.0s
E22K Anaktuvuk Pass 96.39 9 IAMs_20 IAMs_20 14 14 42.3
comp=Z,3µm,19.0s
D27M Malcolm River 96.53 5 IAMs_20 IAMs_20 14 12 07.1
comp=Z,3µm,22.0s
F19K Shaleruckik Mo 96.57 11 IAMs_20 IAMs_20 14 12 29.0
comp=Z,3µm,21.0s
F20K Avaraart Lake 96.75 10 IAMs_20 IAMs_20 14 14 52.8
comp=Z,3µm,19.0s
ANM Nome 96.80 15 IAMs_20 IAMs_20 14 08 48.3
comp=Z,3µm,18.0s
G16K Koyuk River 96.85 14 IAMs_20 IAMs_20 14 12 46.4
comp=Z,4µm,21.0s
C36M Paulatuk 96.86 358 IAMs_20 IAMs_20 14 11 52.8
comp=Z,2µm,21.0s
E24K Your Creek 96.90 7 IAmb IAmb 13 23 19.2
comp=Z,16nm,1.6s
E24K IAMs_20 IAMs_20 14 09 44.8
comp=Z,2µm,20.0s
STKA Stephens Creek 97.17 121 LR LR 14 02 11.5
comp=Z,2µm,20.2s,baz=281,slow=33
E25K Arctic Village 97.20 6 IAmb IAmb 13 23 26.9
comp=Z,12nm,1.2s
G18K Tagagawik 97.22 12 IAMs_20 IAMs_20 14 11 51.1
comp=Z,3µm,21.0s
SHEM Shemya Is, Ala 97.26 31 LR LR 14 10 30.2
comp=Z,1µm,20.4s,baz=304,slow=38
E28M Babbage River 97.27 4 IAMs_20 IAMs_20 14 12 30.5
comp=Z,3µm,22.0s
PMG Port Moresby 97.49 98 LR LR 14 06 23.0
comp=Z,332nm,21.9s,baz=280,slow=35
E27K Coleen River 97.52 5 IAMs_20 IAMs_20 14 10 27.2
comp=Z,3µm,21.0s
LMN Caledonia Moun 97.54 321 IAMs_20 IAMs_20 14 10 54.1
comp=Z,2µm,20.0s
INK Inuvik 97.87 2 LR LR 14 12 27.9
comp=Z,4µm,21.9s,baz=0.5,slow=39
BMAR Burnt Mountain 97.97 6 P **P 13 22 52.4 -0.3**
G23K Bananza Creek 97.98 9 IAMs_20 IAMs_20 14 14 38.2
comp=Z,3µm,20.0s
H19K Roundabout Mou 97.98 11 IAMs_20 IAMs_20 14 11 36.2
comp=Z,2µm,21.0s
F28M Old Crow 98.22 4 IAMs_20 IAMs_20 14 13 49.7
comp=Z,2µm,21.0s
G24K Hadweenzic Riv 98.33 8 IAMs_20 IAMs_20 14 11 20.6
comp=Z,2µm,20.0s
I17K Unalakleet 98.51 14 IAMs_20 IAMs_20 14 10 21.3
comp=Z,3µm,21.0s
H21K Melozitna Rive 98.52 10 IAmb IAmb 13 23 40.1
comp=Z,11nm,1.4s
F31M Tsiigehtchic 98.73 2 IAMs_20 IAMs_20 14 12 52.2
comp=Z,3µm,21.0s
G27K Doyon Strip 98.86 5 IAMs_20 IAMs_20 14 10 38.6
comp=Z,2µm,22.0s
H23K Yukon River 98.88 9 IAMs_20 IAMs_20 14 13 25.0
comp=Z,2µm,20.0s
I20K Naghedenel 99.01 11 IAMs_20 IAMs_20 14 12 36.4
comp=Z,3µm,22.0s
G29M Pine Creek 99.04 4 IAMs_20 IAMs_20 14 11 40.4
comp=Z,2µm,21.0s
J16K Anvik River 99.04 14 IAMs_20 IAMs_20 14 11 45.5
comp=Z,2µm,21.0s
G30M tAoh Zraii Nji 99.08 3 IAMs_20 IAMs_20 14 15 47.4
comp=Z,2µm,19.0s
H24K Noodor Dome 99.10 8 IAMs_20 IAMs_20 14 12 48.9
comp=Z,3µm,20.0s
GGN Saint George 99.15 321 IAMs_20 IAMs_20 14 14 02.7
comp=Z,2µm,20.0s
G31M Satah River 99.23 2 IAMs_20 IAMs_20 14 12 47.4
comp=Z,3µm,21.0s
J17K VABM Dome 99.30 13 IAMs_20 IAMs_20 14 10 56.2
comp=Z,3µm,20.0s
MLY Manley 99.44 9 IAMs_20 IAMs_20 14 14 49.8
comp=Z,3µm,21.0s
D62A Alapoint, All 99.44 323 IAMs_20 IAMs_20 14 11 59.5
comp=Z,2µm,21.0s
J19K Poorman 99.51 12 IAMs_20 IAMs_20 14 13 20.7
comp=Z,3µm,22.0s
J20K Nowinta River 99.63 11 IAMs_20 IAMs_20 14 13 16.9
comp=Z,2µm,20.0s
EPYK Eagle Plains 99.66 3 IAMs_20 IAMs_20 14 15 16.8
comp=Z,2µm,20.0s
H29M Whitestone 99.71 4 IAMs_20 IAMs_20 14 11 35.9
comp=Z,3µm,22.0s
PRP Porcupine Dome 99.71 7 IAMs_20 IAMs_20 14 11 27.0
comp=Z,3µm,21.0s
EMMW East Machias 99.73 321 IAMs_20 IAMs_20 14 14 49.2
comp=Z,2µm,19.0s
POKR Poker Plat Res 99.84 8 IAMs_20 IAMs_20 14 12 50.6
comp=Z,3µm,21.0s
MDM Murphy Dome 99.88 8 IAMs_20 IAMs_20 14 15 36.6
comp=Z,2µm,20.0s
COLA College 100.02 8 IAMs_20 IAMs_20 14 14 59.1
comp=Z,3µm,20.0s
K17K Iditarod 100.07 14 IAMs_20 IAMs_20 14 11 19.6
comp=Z,2µm,20.0s
L14K Kuka Creek 100.16 16 IAMs_20 IAMs_20 14 11 15.0
comp=Z,3µm,21.0s
I26K Coal Creek Min 100.18 6 IAMs_20 IAMs_20 14 11 25.5
comp=Z,3µm,22.0s
LDAQ Lac Daran 100.21 325 IAMs_20 IAMs_20 14 13 15.3
comp=Z,2µm,19.0s
CCB Clear Creek Bu 100.24 8 IAMs_20 IAMs_20 14 13 57.0
comp=Z,2µm,20.0s
BPAW Bear Paw Mtn. 100.26 10 IAMs_20 IAMs_20 14 14 23.6
comp=Z,3µm,20.0s
K20K Telida 100.39 11 IAMs_20 IAMs_20 14 10 09.1
comp=Z,3µm,22.0s
BWN Browne 100.44 9 IAMs_20 IAMs_20 14 15 22.0
comp=Z,3µm,20.0s
I29M Ogilvie Camp, 100.56 4 IAMs_20 IAMs_20 14 16 23.4
comp=Z,2µm,20.0s
HDA Harding Lake 100.58 8 IAMs_20 IAMs_20 14 15 26.1
comp=Z,3µm,20.0s
L16K Owhat River 100.67 15 IAMs_20 IAMs_20 14 16 53.4
comp=Z,3µm,20.0s
M13K Dall Lake 100.75 17 IAMs_20 IAMs_20 14 13 48.5
comp=Z,3µm,21.0s
KTH Kantishna Hill 100.78 10 IAMs_20 IAMs_20 14 14 40.3
comp=Z,2µm,21.0s
I30M Mount Dempster 100.82 3 IAMs_20 IAMs_20 14 13 09.5
comp=Z,3µm,22.0s
M14K Bethel 100.85 16 IAMs_20 IAMs_20 14 11 46.2
comp=Z,3µm,21.0s
EGAK Eagle 100.90 6 IAMs_20 IAMs_20 14 10 50.4
comp=Z,3µm,22.0s
J26L Joseph Creek 100.92 7 IAMs_20 IAMs_20 14 14 27.0
comp=Z,3µm,20.0s
L19K White Mountain 101.29 12 IAMs_20 IAMs_20 14 14 47.9
comp=Z,3µm,19.0s
M16K Timber Creek 101.39 15 IAMs_20 IAMs_20 14 09 33.4
comp=Z,3µm,22.0s
M17K Holitna River 101.42 14 IAMs_20 IAMs_20 14 10 21.3
comp=Z,2µm,22.0s
J29N Klondike Camp 101.47 4 IAMs_20 IAMs_20 14 16 37.4
comp=Z,2µm,19.0s
J30M Hart River 101.47 4 IAMs_20 IAMs_20 14 13 03.5
comp=Z,3µm,22.0s
DHY Denali Highway 101.79 9 IAMs_20 IAMs_20 14 11 41.0
comp=Z,3µm,22.0s
M20K Styx River 101.91 12 IAMs_20 IAMs_20 14 14 22.3
comp=Z,3µm,21.0s
CUT Chulitna 101.96 10 IAMs_20 IAMs_20 14 16 09.5
comp=Z,2µm,20.0s
K29M Barlow Dome 102.12 4 IAMs_20 IAMs_20 14 16 43.7
comp=Z,2µm,21.0s
SKT Skwentna 102.13 11 IAMs_20 IAMs_20 14 18 12.9
comp=Z,2µm,18.0s
ADK Adak 102.22 28 IAMs_20 IAMs_20 14 11 15.9
comp=Z,2µm,22.0s
N17K Nushagak Hills 102.25 14 IAMs_20 IAMs_20 14 16 51.1
comp=Z,2µm,18.0s
O14K Tigyukauivet M 102.30 17 IAMs_20 IAMs_20 14 15 24.5
comp=Z,2µm,20.0s
L26K Log Cabin Wild 102.38 7 IAMs_20 IAMs_20 14 13 19.4
comp=Z,3µm,22.0s
N18K Kilae Creek 102.41 13 IAMs_20 IAMs_20 14 11 04.5
comp=Z,3µm,22.0s
L27K Beaver Creek, 102.51 6 IAMs_20 IAMs_20 14 14 55.0
comp=Z,3µm,21.0s
I62A Tamworth 102.53 322 IAMs_20 IAMs_20 14 16 01.2
comp=Z,2µm,19.0s
M22K Willow 102.59 10 IAMs_20 IAMs_20 14 13 34.2
comp=Z,3µm,22.0s
N19K Bonanza Creek 102.61 13 IAMs_20 IAMs_20 14 17 36.5
comp=Z,3µm,20.0s
LBNH Lisbon 102.69 322 IAMs_20 IAMs_20 14 11 00.1
comp=Z,2µm,21.0s
GHO Glory Hole Cre 102.78 10 IAMs_20 IAMs_20 14 17 38.2
comp=Z,2µm,21.0s
L29M L29M 102.80 5 IAMs_20 IAMs_20 14 12 46.7
comp=Z,2µm,22.0s
O16K Kokwok River B 102.84 15 IAMs_20 IAMs_20 14 18 02.9
comp=Z,2µm,20.0s
SML Sawmill 102.85 10 IAMs_20 IAMs_20 14 12 29.9
comp=Z,3µm,22.0s
M24K Tolsona, Glenn 102.89 9 IAMs_20 IAMs_20 14 16 08.0
comp=Z,2µm,19.0s
M26K Nabesna, AK 103.02 7 IAMs_20 IAMs_20 14 13 59.5
comp=Z,3µm,21.0s
M27K Edge Creek, AK 103.19 6 IAMs_20 IAMs_20 14 15 04.0
comp=Z,3µm,20.0s
KNK Knik Glacier 103.20 10 IAMs_20 IAMs_20 14 17 51.1
comp=Z,2µm,20.0s
O19K Port Alsworth 103.20 13 IAMs_20 IAMs_20 14 11 40.3
comp=Z,3µm,21.0s
RC01 Rabbit Creek A 103.28 11 IAMs_20 IAMs_20 14 13 56.4
comp=Z,3µm,22.0s
L64A Middleborough 103.29 320 IAMs_20 IAMs_20 14 16 49.3
comp=Z,2µm,18.0s
O18K Koktuh Hills 103.31 14 IAMs_20 IAMs_20 14 16 38.1
comp=Z,3µm,20.0s
WES Weston 103.34 320 IAMs_20 IAMs_20 14 19 00.7
comp=Z,2µm,18.0s
M65A Busby, Falmout 103.37 319 IAMs_20 IAMs_20 14 14 02.4
comp=Z,2µm,21.0s
HRV Adam Dziewonsk 103.42 321 IAMs_20 IAMs_20 14 18 00.8
comp=Z,2µm,18.0s
M30M Minto, Yukon 103.43 4 IAMs_20 IAMs_20 14 14 37.2
comp=Z,3µm,22.0s
M29M Somme Creek 103.43 5 IAMs_20 IAMs_20 14 18 30.4
comp=Z,3µm,19.0s
VLDQ Val d'Or 103.46 328 IAMs_20 IAMs_20 14 11 10.9
comp=Z,2µm,22.0s
KLU Klutina 103.51 9 IAMs_20 IAMs_20 14 15 30.5
comp=Z,3µm,19.0s
N25K Chitina, Valde 103.59 8 IAMs_20 IAMs_20 14 17 19.5
comp=Z,3µm,20.0s
P18K Big Mountain, 103.72 14 IAMs_20 IAMs_20 14 14 39.9
comp=Z,2µm,22.0s
K62A Royalston 103.75 321 IAMs_20 IAMs_20 14 14 36.4
comp=Z,2µm,21.0s
GLB Gilahina Butte 103.85 8 IAMs_20 IAMs_20 14 16 59.4
comp=Z,2µm,19.0s
O22K Cooper Landing 103.85 11 IAMs_20 IAMs_20 14 14 26.5
comp=Z,3µm,21.0s
GLI Glacier Island 103.92 9 IAMs_20 IAMs_20 14 15 48.3
comp=Z,3µm,22.0s
P19K Oil Pt 103.92 13 IAMs_20 IAMs_20 14 12 03.4
comp=Z,3µm,22.0s
M31M Drury Creek, Y 103.94 3 IAMs_20 IAMs_20 14 16 26.8
comp=Z,3µm,21.0s
MCARA McCarthy VSAT 104.01 7 IAMs_20 IAMs_20 14 16 55.5
comp=Z,3µm,21.0s
VRDI Verde Repeater 104.10 7 IAMs_20 IAMs_20 14 19 32.1
comp=Z,3µm,20.0s
L61B Northampton 104.14 321 IAMs_20 IAMs_20 14 18 22.8
comp=Z,2µm,19.0s
NCB Newcomb 104.20 323 IAMs_20 IAMs_20 14 14 51.0
comp=Z,2µm,21.0s
UCCT U. Connecticut 104.23 320 IAMs_20 IAMs_20 14 13 34.2
comp=Z,2µm,20.0s
HOM Homer 104.25 12 IAMs_20 IAMs_20 14 13 43.0
comp=Z,3µm,22.0s
M63A Gales Ferry 104.33 320 IAMs_20 IAMs_20 14 14 51.0
comp=Z,2µm,22.0s
Q19K Cape Douglas, 104.49 13 IAMs_20 IAMs_20 14 14 51.4
comp=Z,2µm,20.0s
N30M Aishikik Lake 104.51 4 IAMs_20 IAMs_20 14 16 41.0
comp=Z,2µm,21.0s
N31M Braeburn, Yuko 104.58 4 IAMs_20 IAMs_20 14 15 21.6
comp=Z,3µm,20.0s
CTGM Chitina Glacie 104.61 7 IAMs_20 IAMs_20 14 18 39.5
comp=Z,3µm,21.0s
TGL Tana Glacier 104.64 7 IAMs_20 IAMs_20 14 17 25.3
comp=Z,3µm,21.0s
LOGN Logan Glacier 104.78 6 IAMs_20 IAMs_20 14 18 44.1
comp=Z,3µm,20.0s
GRNC Granite Creek 104.79 7 IAMs_20 IAMs_20 14 17 12.3
comp=Z,2µm,22.0s
ISLE Juniper Island 104.85 7 IAMs_20 IAMs_20 14 17 22.8
comp=Z,2µm,20.0s
HMT Hamilton 104.86 8 IAMs_20 IAMs_20 14 15 18.1
comp=Z,3µm,21.0s
SYI Shuyak Island 105.06 13 IAMs_20 IAMs_20 14 16 26.3
comp=Z,3µm,21.0s
HYT Haines Junctio 105.11 5 IAMs_20 IAMs_20 14 16 09.7
comp=Z,2µm,20.0s
TABL Table Mountain 105.14 7 IAMs_20 IAMs_20 14 19 04.7
comp=Z,3µm,21.0s
J58A Remsen 105.18 323 IAMs_20 IAMs_20 14 15 30.0
comp=Z,2µm,20.0s
O30N Mendenhall 105.27 4 IAMs_20 IAMs_20 14 16 05.9
comp=Z,3µm,22.0s
ARMA Armidale 105.41 118 IAMs_20 IAMs_20 14 08 12.2
comp=Z,2µm,18.0s
N62A Caumsett State 105.49 320 IAMs_20 IAMs_20 14 15 33.5
comp=Z,2µm,20.0s
BCPM Bancas Point 105.78 6 IAMs_20 IAMs_20 14 19 21.5
comp=Z,3µm,20.0s
DELO Deloro Mine 105.81 325 IAMs_20 IAMs_20 14 12 48.5
comp=Z,2µm,22.0s
P33M Teslin, Yukon 106.00 2 IAMs_20 IAMs_20 14 17 02.3
comp=Z,3µm,20.0s
K57A Scipio Center 106.28 323 IAMs_20 IAMs_20 14 16 20.1
comp=Z,2µm,20.0s
BINY Binghamton 106.28 322 IAMs_20 IAMs_20 14 16 09.4
comp=Z,3µm,21.0s
SADO Sadowa 106.49 326 IAMs_20 IAMs_20 14 15 20.4
comp=Z,2µm,20.0s
SII Sitkinak Islan 106.50 15 IAMs_20 IAMs_20 14 20 54.7
comp=Z,2µm,19.0s
KSPA Keystone Colle 106.54 322 IAMs_20 IAMs_20 14 18 07.1
comp=Z,2µm,20.0s
CNBA Chernabura Isl 106.55 18 IAMs_20 IAMs_20 14 17 18.6
comp=Z,2µm,21.0s
P32M Atlin 106.58 3 IAMs_20 IAMs_20 14 18 17.6
comp=Z,2µm,21.0s
BBGH Gun Hill 106.77 289 IAMs_20 IAMs_20 14 10 11.2
comp=Z,3µm,20.0s
R33M Jennings River 106.88 1 IAMs_20 IAMs_20 14 18 19.5
comp=Z,2µm,22.0s
J54A Appleton 107.17 324 IAMs_20 IAMs_20 14 18 42.4
comp=Z,2µm,19.0s
L56A Greenwood 107.25 323 IAMs_20 IAMs_20 14 16 57.9
comp=Z,2µm,20.0s
MAGL Barre de l'ile 107.39 292 IAMs_20 IAMs_20 14 09 40.5
comp=Z,2µm,22.0s
ABD La Joyeuse, An 107.39 292 IAMs_20 IAMs_20 14 10 43.5
comp=Z,2µm,20.0s
M57A Sunshine Farm, 107.49 322 IAMs_20 IAMs_20 14 16 45.2
comp=Z,2µm,20.0s
N58A Sunbury 107.54 321 IAMs_20 IAMs_20 14 13 34.6
comp=Z,2µm,22.0s
CBE Ff, Capester 107.64 292 IAMs_20 IAMs_20 14 08 01.3
comp=Z,2µm,21.0s
WVNY West Valley, N 107.69 324 IAMs_20 IAMs_20 14 15 12.4
comp=Z,2µm,21.0s
GDHS Morne Mazeau, 107.71 292 IAMs_20 IAMs_20 14 08 02.9
comp=Z,2µm,22.0s
MVL Millersville 107.82 321 IAMs_20 IAMs_20 14 16 11.1
comp=Z,2µm,22.0s
R32K Eaglecrest 107.85 3 IAMs_20 IAMs_20 14 21 23.2
comp=Z,3µm,19.0s
JIS Juneau Island 107.86 3 IAMs_20 IAMs_20 14 21 23.4
comp=Z,2µm,19.0s
S31K Pelican 108.05 4 IAMs_20 IAMs_20 14 19 16.4
comp=Z,2µm,22.0s
E46A Sault Ste Mari 108.09 330 IAMs_20 IAMs_20 14 16 27.5
comp=Z,3µm,21.0s
R61A Willards 108.16 319 IAMs_20 IAMs_20 14 17 12.4
comp=Z,2µm,22.0s
S34M Telegraph Cree 108.36 2 IAMs_20 IAMs_20 14 18 43.6
comp=Z,2µm,21.0s
SEUS St. Eustatius 108.36 294 IAMs_20 IAMs_20 14 12 54.0
comp=Z,2µm,20.0s
SSPA Standing Stone 108.37 322 IAMs_20 IAMs_20 14 17 21.6
comp=Z,2µm,20.0s
M55A Ridgway 108.37 323 IAMs_20 IAMs_20 14 21 12.5
comp=Z,2µm,19.0s
S32K Killisnoo 108.65 4 IAMs_20 IAMs_20 14 21 55.4
comp=Z,2µm,18.0s
SBA Scott Base 108.75 168 IAMs_20 IAMs_20 14 06 47.9
comp=Z,2µm,19.0s
S61A Accomac 108.75 318 IAMs_20 IAMs_20 14 17 08.1
comp=Z,3µm,22.0s
P57A Homestead Farm 109.15 321 IAMs_20 IAMs_20 14 18 14.4
comp=Z,2µm,20.0s

T35M	Bob Quinn	109.31	1	IAMs_20	IAMs_20	14 19 28.8		
	comp=Z,3μm,20.0s							
GLMI	Grayling	109.33	329	IAMs_20	IAMs_20	14 18 29.7		
	comp=Z,2μm,20.0s							
E43A	Lone Tree Farm	109.38	331	IAMs_20	IAMs_20	14 17 11.4		
	comp=Z,2μm,19.0s							
CBN	Corbin Frederi	109.53	320	IAMs_20	IAMs_20	14 18 15.5		
	comp=Z,2μm,21.0s							
K50A	Casco	109.70	326	IAMs_20	IAMs_20	14 17 34.4		
	comp=Z,2μm,22.0s							
G45A	Suttons Bay	109.70	329	IAMs_20	IAMs_20	14 16 43.1		
	comp=Z,3μm,22.0s							
WRAK	Wrangell Islan	109.81	2	IAMs_20	IAMs_20	14 19 59.0		
	comp=Z,2μm,21.0s							
M52A	Chesterland	109.82	324	IAMs_20	IAMs_20	14 19 44.7		
	comp=Z,2μm,19.0s							
R58B	Mineral	109.99	320	IAMs_20	IAMs_20	14 19 50.8		
	comp=Z,2μm,21.0s							
U33K	Whale Pass	110.08	3	IAMs_20	IAMs_20	14 20 42.2		
	comp=Z,2μm,21.0s							
Q56A	Snyder Ridge,	110.14	321	IAMs_20	IAMs_20	14 18 50.5		
	comp=Z,2μm,20.0s							
MCWV	Mont Chateau	110.15	322	IAMs_20	IAMs_20	14 16 39.7		
	comp=Z,2μm,21.0s							
F42A	Maple Grove Fa	110.37	331	IAMs_20	IAMs_20	14 18 34.6		
	comp=Z,2μm,20.0s							
T59A	Double "B" Far	110.38	319	IAMs_20	IAMs_20	14 18 37.1		
	comp=Z,3μm,22.0s							
J47A	Sunmer	110.55	328	IAMs_20	IAMs_20	14 15 19.8		
	comp=Z,2μm,21.0s							
O53A	New Philadelph	110.58	323	IAMs_20	IAMs_20	14 20 10.9		
	comp=Z,2μm,20.0s							
AAM	Ann Arbor	110.58	326	IAMs_20	IAMs_20	14 14 21.7		
	comp=Z,2μm,21.0s							
I45A	Fountain	110.71	329	IAMs_20	IAMs_20	14 18 32.8		
	comp=Z,2μm,21.0s							
S57A	Dark Hollow, R	110.79	320	IAMs_20	IAMs_20	14 19 01.8		
	comp=Z,3μm,20.0s							
N51A	Ashland	110.81	324	IAMs_20	IAMs_20	14 17 58.8		
	comp=Z,2μm,21.0s							
M50A	Fremont	110.86	325	IAMs_20	IAMs_20	14 18 14.0		
	comp=Z,2μm,20.0s							
V35K	Ketchikan	110.93	2	IAMs_20	IAMs_20	14 20 19.6		
	comp=Z,2μm,20.0s							
O52A	Adamsville	111.03	323	IAMs_20	IAMs_20	14 19 11.8		
	comp=Z,2μm,20.0s							
H43A	Windswept, Lux	111.15	330	IAMs_20	IAMs_20	14 22 52.4		
	comp=Z,2μm,19.0s							
Q54A	Coxs Mills	111.17	322	IAMs_20	IAMs_20	14 20 43.7		
	comp=Z,2μm,20.0s							
P53A	Whipple	111.18	323	IAMs_20	IAMs_20	14 22 32.8		
	comp=Z,2μm,21.0s							
R55A	Marlinton	111.19	321	IAMs_20	IAMs_20	14 20 50.2		
	comp=Z,2μm,18.0s							
L48A	N Adams	111.25	326	IAMs_20	IAMs_20	14 14 51.3		
	comp=Z,2μm,21.0s							
E38A	The Farm, Brul	111.26	334	IAMs_20	IAMs_20	14 17 28.9		
	comp=Z,2μm,22.0s							
T57A	Hurt	111.45	319	IAMs_20	IAMs_20	14 19 42.3		
	comp=Z,2μm,20.0s							
P52A	Corning	111.52	323	IAMs_20	IAMs_20	14 20 55.1		
	comp=Z,2μm,20.0s							
ACSO	Alum Creek Sta	111.61	324	IAMs_20	IAMs_20	14 18 23.0		
	comp=Z,2μm,21.0s							
CNNC	Cliffs of the	111.63	317	IAMs_20	IAMs_20	14 19 24.3		
	comp=Z,3μm,22.0s							
G40A	Rib Lake	111.70	332	IAMs_20	IAMs_20	14 16 31.5		
	comp=Z,3μm,21.0s							
N49A	Columbus Grove	111.81	325	IAMs_20	IAMs_20	14 18 49.4		
	comp=Z,2μm,22.0s							
W59A	Clinton	112.03	317	IAMs_20	IAMs_20	14 19 58.0		
	comp=Z,2μm,21.0s							
Q52A	Bidwell	112.04	323	IAMs_20	IAMs_20	14 21 13.5		
	comp=Z,2μm,20.0s							
BLA	Blacksburg	112.04	320	IAMs_20	IAMs_20	14 15 56.0		
	comp=Z,2μm,22.0s							
V58A	Windy Hill, Pi	112.09	318	IAMs_20	IAMs_20	14 19 27.5		
	comp=Z,2μm,20.0s							
S54A	Dingess, Beckl	112.22	321	IAMs_20	IAMs_20	14 22 11.5		
	comp=Z,2μm,19.0s							
O49A	Covington	112.40	325	IAMs_20	IAMs_20	14 19 19.9		
	comp=Z,2μm,20.0s							
U56A	King	112.56	320	IAMs_20	IAMs_20	14 20 15.8		
	comp=Z,2μm,19.0s							
N47A	Urbana	112.67	326	IAMs_20	IAMs_20	14 15 09.9		
	comp=Z,2μm,22.0s							
K43A	Burlington	112.73	329	IAMs_20	IAMs_20	14 20 47.1		
	comp=Z,3μm,20.0s							
O48B	Farmland	112.81	325	IAMs_20	IAMs_20	14 19 50.7		
	comp=Z,2μm,21.0s							
SPMN	Marine on St.	112.89	334	IAMs_20	IAMs_20	14 18 51.9		
	comp=Z,2μm,22.0s							
L44A	Lake County Fo	112.90	328	IAMs_20	IAMs_20	14 19 38.8		
	comp=Z,2μm,20.0s							
X58A	Rowland	112.99	317	IAMs_20	IAMs_20	14 24 00.4		
	comp=Z,2μm,18.0s							
W57A	Gilead	113.05	318	IAMs_20	IAMs_20	14 18 57.9		
	comp=Z,2μm,21.0s							
P49A	Miami Univ. Ec	113.06	325	IAMs_20	IAMs_20	14 19 32.5		
	comp=Z,2μm,20.0s							
HQIL	Hanson Quary C	113.15	328	IAMs_20	IAMs_20	14 18 43.4		
	comp=Z,3μm,20.0s							
U54A	Nelsons Funny	113.35	320	IAMs_20	IAMs_20	14 22 24.5		
	comp=Z,2μm,19.0s							
V55A	Taylorsville	113.40	320	IAMs_20	IAMs_20	14 20 39.9		
	comp=Z,2μm,20.0s							
JFWS	Jewell Farm	113.51	330	IAMs_20	IAMs_20	14 20 02.7		
	comp=Z,3μm,20.0s							
P48A	Milroy	113.51	325	IAMs_20	IAMs_20	14 20 49.3		
	comp=Z,2μm,20.0s							
M44A	Midewin, Midew	113.55	328	IAMs_20	IAMs_20	14 20 10.9		
	comp=Z,2μm,20.0s							
R50A	Paris	113.69	323	IAMs_20	IAMs_20	14 19 40.3		
	comp=Z,3μm,22.0s							
S51A	Beattyville	113.69	322	IAMs_20	IAMs_20	14 22 13.4		
	comp=Z,2μm,20.0s							
GRTK	Grand Turk	113.74	301	IAMs_20	IAMs_20	14 19 30.8		
	comp=Z,2μm,19.0s							
SFIN	Lafayette	113.78	327	IAMs_20	IAMs_20	14 20 19.2		
	comp=Z,2μm,21.0s							
F33A	5 Mile Ranch,	113.83	336	IAMs_20	IAMs_20	14 20 41.6		
	comp=Z,2μm,19.0s							
L42A	Oliver, Polo	113.91	329	IAMs_20	IAMs_20	14 24 38.4		
	comp=Z,2μm,19.0s							
KMSC	Kings Mountain	113.92	319	IAMs_20	IAMs_20	14 21 00.8		
	comp=Z,2μm,20.0s							
VILB	Vilhena	113.96	262	IAMs_20	IAMs_20	14 12 27.3		
	comp=Z,2μm,22.0s							
Y57A	Sumter	114.01	318	IAMs_20	IAMs_20	14 24 38.3		
	comp=Z,2μm,19.0s							
R49A	Shelbyville	114.17	324	IAMs_20	IAMs_20	14 20 21.9		
	comp=Z,2μm,20.0s							
DGMT	Dagmar	114.25	343	IAMs_20	IAMs_20	14 18 17.3		
	comp=Z,3μm,22.0s							
BLO	Bloomington	114.32	325	IAMs_20	IAMs_20	14 20 45.7		
	comp=Z,2μm,20.0s							
P46A	Rosedale	114.38	326	IAMs_20	IAMs_20	14 19 33.2		
	comp=Z,2μm,22.0s							
TZTN	Tazewell	114.39	321	IAMs_20	IAMs_20	14 22 48.0		
	comp=Z,2μm,20.0s							
JSC	Jenkinsville	114.41	318	IAMs_20	IAMs_20	14 21 18.9		
	comp=Z,2μm,20.0s							
NHSC	New Hope	114.42	317	IAMs_20	IAMs_20	14 20 57.4		
	comp=Z,3μm,20.0s							
PAULI	Pauline	114.43	319	IAMs_20	IAMs_20	14 21 16.2		
	comp=Z,3μm,20.0s							
V53A	Saluda	114.51	320	IAMs_20	IAMs_20	14 22 59.3		
	comp=Z,2μm,19.0s							
L40A	Anamosa	114.62	330	IAMs_20	IAMs_20	14 21 57.2		
	comp=Z,2μm,19.0s							
HDIL	Hopedale	114.80	328	IAMs_20	IAMs_20	14 20 47.2		
	comp=Z,3μm,21.0s							
WCI	Wyandotte Cave	114.85	324	IAMs_20	IAMs_20	14 20 45.9		
	comp=Z,2μm,20.0s							
V52A	Sevierville	114.88	321	IAMs_20	IAMs_20	14 22 14.0		
	comp=Z,2μm,20.0s							
SDDR	Presa de Saban	114.99	299	IAMs_20	IAMs_20	14 19 23.3		
	comp=Z,1μm,20.0s							
BG3	Lake Jocassee	115.02	320	IAMs_20	IAMs_20	14 23 19.9		
	comp=Z,2μm,18.0s							
HODGE	Hodges	115.08	319	IAMs_20	IAMs_20	14 22 06.6		
	comp=Z,2μm,20.0s							
N41A	Harden Midland	115.47	329	IAMs_20	IAMs_20	14 25 34.8		
	comp=Z,2μm,19.0s							
OLIL	Olney	115.50	326	IAMs_20	IAMs_20	14 22 18.7		
	comp=Z,2μm,19.0s							
W52A	Murphy	115.58	321	IAMs_20	IAMs_20	14 18 16.5		
	comp=Z,2μm,22.0s							
P43A	Skaggs, Pawnee	115.59	328	IAMs_20	IAMs_20	14 21 25.5		
	comp=Z,2μm,21.0s							
257A	Skidaway Islan	115.68	316	IAMs_20	IAMs_20	14 21 25.7		
	comp=Z,2μm,21.0s							
SCIA	State Center	115.68	332	IAMs_20	IAMs_20	14 21 33.1		
	comp=Z,3μm,21.0s							
CPCT	Cooper Cave	115.70	321	IAMs_20	IAMs_20	14 19 42.8		
	comp=Z,2μm,21.0s							
U49A	Red Boiling Sp	115.74	323	IAMs_20	IAMs_20	14 21 16.6		
	comp=Z,2μm,22.0s							
USIN	University of	115.81	325	IAMs_20	IAMs_20	14 18 45.1		
	comp=Z,2μm,21.0s							
SUSD	Miller	116.03	337	IAMs_20	IAMs_20	14 19 41.7		
	comp=Z,3μm,22.0s							
SAML	Samuel	116.12	267	IAMs_20	IAMs_20	14 16 34.9		
	comp=Z,2μm,22.0s							
T47A	Sharon Grove	116.18	324	IAMs_20	IAMs_20	14 26 01.1		
	comp=Z,2μm,18.0s							
W50A	Signal Mountai	116.35	321	IAMs_20	IAMs_20	14 22 19.9		
	comp=Z,2μm,21.0s							
CLTN	Cedars of Leba	116.35	323	IAMs_20	IAMs_20	14 21 33.8		
	comp=Z,2μm,21.0s							
Y52A	Lilburn	116.47	320	IAMs_20	IAMs_20	14 22 43.1		
	comp=Z,2μm,20.0s							
X51A	Calhoun	116.50	321	IAMs_20	IAMs_20	14 24 23.9		
	comp=Z,2μm,20.0s							
154A	Montrose	116.66	318	IAMs_20	IAMs_20	14 24 37.4		
	comp=Z,2μm,21.0s							
255A	Hazlehurst	116.68	317	IAMs_20	IAMs_20	14 22 25.2		
	comp=Z,2μm,21.0s							
SLM	Saint Louis	116.71	327	IAMs_20	IAMs_20	14 23 07.7		
	comp=Z,2μm,20.0s							
SWET	Sewanee	116.72	322	IAMs_20	IAMs_20	14 22 04.5		
	comp=Z,2μm,21.0s							
S44A	Carbondale	116.88	326	IAMs_20	IAMs_20	14 22 47.3		
	comp=Z,2μm,20.0s							
V48A	Smith Brothers	116.88	323	IAMs_20	IAMs_20	14 21 59.8		
	comp=Z,2μm,21.0s							
P40A	Paris	116.96	329	IAMs_20	IAMs_20	14 22 22.2		
	comp=Z,2μm,20.0s							
FPAL	Fort Paine	116.98	321	IAMs_20	IAMs_20	14 22 38.5		
	comp=Z,2μm,20.0s							
T45A	Paducah	117.03	325	IAMs_20	IAMs_20	14 21 30.4		
	comp=Z,2μm,20.0s							
TRQA	Tornquist	117.04	234	IAMs_20	IAMs_20	14 18 29.1		
	comp=Z,2μm,20.0s							
456A	Hilliard	117.11	316	IAMs_20	IAMs_20	14 23 41.8		
	comp=Z,2μm,21.0s							
WVT	Waverly	117.20	324	IAMs_20	IAMs_20	14 26 57.0		
	comp=Z,2μm,19.0s							
FVM	French Village	117.29	327	IAMs_20	IAMs_20	14 23 39.2		
	comp=Z,2μm,20.0s							
CGM3	Cape Girardeau	117.38	326	IAMs_20	IAMs_20	14 23 10.7		
	comp=Z,2μm,21.0s							
CCM	Cathedral Cave	117.67	327	IAMs_20	IAMs_20	14 21 31.1		
	comp=Z,2μm,22.0s							
HICK	Hickman	117.69	325	IAMs_20	IAMs_20	14 21 49.1		
	comp=Z,2μm,21.0s							
TIGA	Tifton	117.72	317	IAMs_20	IAMs_20	14 22 28.6		
	comp=Z,2μm,21.0s							
DZM	Mont Dzumac	117.83	108	eLR	LR	14 03 43.2		
	comp=Z,2μm,22.8s							
X48A	Hartselle	117.90	322	IAMs_20	IAMs_20	14 22 49.0		
	comp=Z,3μm,22.0s							
GLAT	Glass	117.92	325	IAMs_20	IAMs_20	14 26 12.1		
	comp=Z,2μm,20.0s							
R40A	Maddies Statio	118.02	328	IAMs_20	IAMs_20	14 22 58.2		
	comp=Z,2μm,21.0s							
PLAL	Pickwick Lake	118.14	323	IAMs_20	IAMs_20	14 22 54.2		
	comp=Z,2μm,20.0s							
LNXT	Lenox	118.16	325	IAMs_20	IAMs_20	14 22 54.4		
	comp=Z,2μm,20.0s							
PBMO	Poplar Bluff	118.18	326	IAMs_20	IAMs_20	14 23 03.9		
	comp=Z,2μm,20.0s							
HALT	Halls	118.21	325	IAMs_20	IAMs_20	14 22 56.8		
	comp=Z,2μm,21.0s							
BGNE	Belgrade	118.26	335	IAMs_20	IAMs_20	14 23 39.9		
	comp=Z,2μm,19.0s							
656A	Willston	118.30	315	IAMs_20	IAMs_20	14 28 56.2		
	comp=Z,2μm,18.0s							
PEBM	Pemiscott Bayo	118.36	325	IAMs_20	IAMs_20	14 22 07.6		
	comp=Z,2μm,21.0s							
GNAR	Gosnell	118.55	325	IAMs_20	IAMs_20	14 22 14.7		
	comp=Z,2μm,20.0s							
352A	Blakely	118.57	318	IAMs_20	IAMs_20	14 25 48.0		
	comp=Z,2μm,20.0s							
CHIV	Chivirico	118.81	302	IAMs_20	IAMs_20	14 30 06.3		
	comp=Z,949nm,19.0s							
BOZ	Bozeman (W)	118.83	347	IAMs_20	IAMs_20	14 23 43.3		
	comp=Z,2μm,19.0s							
LRAL	Lakeview Retre	118.84	321	IAMs_20	IAMs_20	14 19 44.9		
	comp=Z,2μm,22.0s							
MGMO	Mountain Grove	118.88	328	IAMs_20	IAMs_20	14 28 58.2		
	comp=Z,2μm,20.0s							
S39A	Bolivar	119.01	329	IAMs_20	IAMs_20	14 23 26.5		
	comp=Z,2μm,21.0s							
250A	Grady	119.10	319	IAMs_20	IAMs_20	14 24 08.9		
	comp=Z,2μm,21.0s							
MET	Memphis--Engin	119.11	324	IAMs_20	IAMs_20	14 22 35.7		
	comp=Z,2μm,20.0s							
HBAR	Harrisburg	119.20	325	IAMs_20	IAMs_20	14 24 52.0		
	comp=Z,2μm,21.0s							
ETMB	Extrema	119.22	266	IAMs_20	IAMs_20	14 21 33.9		
	comp=Z,2μm,20.0s							
OXF	Oxford	119.25	324	IAMs_20	IAMs_20	14 20 54.5		
	comp=Z,2μm,22.0s							
DLMT	Dillon	119.27	347	IAMs_20	IAMs_20	14 21 32.7		
	comp=Z,2μm,22.0s							
Z47A	Carrollton	119.38	322	IAMs_20	IAMs_20	14 23 44.2		
	comp=Z,2μm,20.0s							
451A	Vernon	119.66	318	IAMs_20	IAMs_20	14 30 34.0		
	comp=Z,1μm,20.0s							
FCAR	Ozark Folk Cen	119.76	326	IAMs_20	IAMs_20	14 24 35.5		
	comp=Z,2μm,20.0s							
Y45A	Yeager Farm, C	119.79	323	IAMs_20	IAMs_20	14 27 41.8		
	comp=Z,2μm,21.0s							
OGNE	Ogallala	120.19	337	IAMs_20	IAMs_20	14 23 55.9		
	comp=Z,2μm,20.0s							
WHAR	Wooly Hollow	120.29	326	IAMs_20	IAMs_20	14 23 55.8		
	comp=Z,2μm,20.0s							
146A	Union	120.37	322	IAMs_20	IAMs_20	14 23 41.3		
	comp=Z,2μm,20.0s							
UALR	University of	120.71	326	IAMs_20	IAMs_20	14 23 35.8		
	comp=Z,2μm,21.0s							
PD31	Pinedale Array	120.98	344		PKPdf	13 28 08.9	-1.1	
PDAR	Pinedale Array	120.98	344		PKPdf	13 28 08.5	-1.5	
PDAR	Pinedale Array	120.98	344	PKP	PKPdf	13 28 09.0	-1.0	
	comp=Z,0.7nm,0.8s,baz=78,slow=2.1,SNR=6.8							
CCAR	Cane Creek	121.03	325	IAMs_20	IAMs_20	14 24 50.4		
	comp=Z,2μm,20.0s							
PHWY	Pilot Hill	121.09	340	IAMs_20	IAMs_20	14 24 44.5		
	comp=Z,3μm,22.0s							
CAMR	Camarioca	121.14	308	IAMs_20	IAMs_20	14 25 14.1		
	comp=Z,1μm,20.0s							
T35A	Sooner Cattle	121.19	330	IAMs_20	IAMs_20	14 24 39.0		
	comp=Z,2μm,22.0s							
X40A	Basin Creek Fa	121.19	326	IAMs_20	IAMs_20	14 24 42.5		
	comp=Z,1μm,20.0s							
AHID	Auburn Hatcher	121.38	345	IAMs_20	IAMs_20	14 25 46.9		
	comp=Z,2μm,19.0s							
346A	Big Creek Wild	121.49	321	IAMs_20	IAMs_20	14 25 13.0		
	comp=Z,1μm,20.0s							
VBMS	Vicksburg	121.54	322	IAMs_20	IAMs_20	14 26 04.1		
	comp=Z,2μm,21.0s							
COR	Corvallis	121.56	356	IAMs_20	IAMs_20	14 27 37.0		
	comp=Z,2μm,22.0s							
N23A	Red Feather La	121.62	340	IAMs_20	IAMs_20	14 22 53.4		
	comp=Z,2μm,22.0s							
BLOK	Blackwell	121.65	331	IAMs_20	IAMs_20	14 28 16.1		
	comp=Z,2μm,18.0s							
OK051	E0350 and S346	121.68	330	IAMs_20	IAMs_20	14 28 17.8		
	comp=Z,2μm,18.0s							
143A	Socs Landing,	121.71	323	IAMs_20	IAMs_20	14 27 07.4		
	comp=Z,2μm,19.0s							
WLAR	White Oak Lake	121.94	325	IAMs_20	IAMs_20	14 23 37.5		
	comp=Z,2μm,22.0s							
OK052	Battle Ridge R	122.07	330	IAMs_20	IAMs_20	14 25 17.3		
	comp=Z,2μm,21.0s							
OK031	S. Brethren Rd	122.12	330	IAMs_20	IAMs_20	14 25 19.6		
	comp=Z,2μm,21.0s							
OK029	Liberty Lake	122.54	330	IAMs_20	IAMs_20	14 25 40.8		
	comp=Z,2μm,22.0s							
AF01	San Pedro de A	122.58	252	IAMs_20	IAMs_20	14 14 42.1		
	comp=Z,2μm,22.0s							
RDMU	Red Mountain	123.03	343	IAMs_20	IAMs_20	14 26 53.4		
	comp=Z,2μm,20.0s							
GO01	Chusmiza	123.34	256	IAMs_20	IAMs_20	14 18 56.6		
	comp=Z,1μm,21.0s							
BSUT	Blindstream Ca	123.39	344	IAMs_20	IAMs_20	14 28 48.9		
	comp=Z,2μm,20.0s							
JLU	Jordanelle	123.51	345	IAMs_20	IAMs_20	14 27 56.0		
	comp=Z,2μm,20.0s							
SMCO	Snowmass	123.51	340	IAMs_20	IAMs_20	14 28 22.4		
	comp=Z,2μm,20.0s							
WMOK	Wichita Mounta	124.03	331	IAMs_20	IAMs_20	14 27 53.2		
	comp=Z,2μm,20.0s							
P18A	Preston Nutter	124.09	343	IAMs_20	IAMs_20	14 30 00.6		
	comp=Z,2μm,19.0s							
441A	DeRidder	124.17	323	IAMs_20	IAMs_20	14 27 08.7		
	comp=Z,2μm,20.0s							
ELK	Elko	124.24	348	IAMs_20	IAMs_20	14 27 17.3		
	comp=Z,2μm,21.0s							
NATX	Nacogdoches	124.25	325	IAMs_20	IAMs_20	14 27 28.6		
	comp=Z,2μm,20.0s							
BO02	Sierra Bellavi	124.40	237	IAMs_20	IAMs_20	14 18 47.7		
	comp=Z,2μm,21.0s							
Z35A	Perchaven, San	124.41	328	IAMs_20	IAMs_20	14 27 32.8		
	comp=Z,1μm,18.0s							
PEL	Peldehue	124.50	239	IAMs_20	IAMs_20	14 18 11.4		
	comp=Z,2μm,22.0s							
SRU	San Rafael Swe	124.65	343	IAMs_20	IAMs_20	14 25 49.7		
	comp=Z,2μm,22.0s							
PB10	IPOC Station P	124.78	251	IAMs_20	IAMs_20	14 17 00.1		
	comp=Z,2μm,22.0s							
LCO	Las Campanas	124.82	244	IAMs_20	IAMs_20	14 20 35.6		
	comp=Z,1μm,20.0s							
FW06	Azle	124.85	328	IAMs_20	IAMs_20	14 27 02.4		
	comp=Z,2μm,21.0s							
MT01	Popeta	124.89	238	IAMs_20	IAMs_20	14 18 35.9		
	comp=Z,2μm,22.0s							
Q16A	Castle Valley	125.01	344	IAMs_20	IAMs_20	14 29 42.2		
	comp=Z,2μm,19.0s							
FW03	Perrin-Whitt E	125.05	329	IAMs_20	IAMs_20	14 27 10.7		
	comp=Z,1μm,21.0s							
VA06	Catapilco	125.07	240	IAMs_20	IAMs_20	14 21 08.8		
	comp=Z,1μm,19.0s							
KHMM	Horse Mountain	125.28	356	IAMs_20	IAMs_20	14 28 29.7		
	comp=Z,2μm,20.0s							
GO05	Huala	125.31	237	IAMs_20	IAMs_20	14 17 35.7		
	comp=Z,2μm,22.0s							
CO06	Fray Jorge	125.53	242	IAMs_20	IAMs_20	14 18 05.0		
	comp=Z,2μm,22.0s							
WHTX	Lake Whitney,	125.58	328	IAMs_20	IAMs_20	14 25 14.7		
	comp=Z,2μm,21.0s							
TCRU	Three Creeks R	125.64	345	IAMs_20	IAMs_20	14 28 04.7		
	comp=Z,2μm,21.0s							
MVCO	Mesa Verde	125.79	341	IAMs_20	IAMs_20	14 29 34.4		
	comp=Z,2μm,20.0s							
PAHR	Pah Rah Range	125.97	351	IAMs_20	IAMs_20	14 27 02.9		
	comp=Z,2μm,22.0s							
Q09A	Carvers	126.46	349	IAMs_20	IAMs_20	14 28 58.2		
	comp=Z,2μm,20.0s							
PKCU	Pink Cliffs	126.70	344	IAMs_20	IAMs_20	14 29 13.9		
	comp=Z,2μm,20.0s							
CCUT	Cedar City	126.87	345	IAMs_20	IAMs_20	14 28 11.3		
	comp=Z,2μm,20.0s							
RYN	Ryan	126.89	350	IAMs_20	IAMs_20	14 26 20.6		
	comp=Z,2μm,21.0s							
NVAR	Mina Array Bea	127.05	350	PKPdf	PKPdf	13 28 21.0	-0.7	
NVAR	Mina Array Bea	127.05	350	PKP	PKPdf	13 28 21.2	-0.5	
	comp=Z,1.7nm,0.7s,baz=343,slow=1.2,SNR=16							
LCMT	Little Creek M	127.35	345	IAMs_20	IAMs_20	14 28 08.1		
	comp=Z,2μm,21.0s							
U15A	North Rim	127.65	344	IAMs_20	IAMs_20	14 31 26.1		
	comp=Z,2μm,20.0s							
TULM	Tulcn-Chalpat	127.89	282	IAMs_20	IAMs_20	14 21 27.3		
	comp=Z,2μm,22.0s							
MCCM	Marconi Confer	127.92	355	IAMs_20	IAMs_20	14 25 39.6		
	comp=Z,2μm,21.0s							
TEIG	Tepich	128.00	310	IAMs_20	IAMs_20	14 29 10.9		
	comp=Z,2μm,21.0s							
SHPR	Sheep Range	128.30	346	IAMs_20	IAMs_20	14 28 53.9		
	comp=Z,1μm,20.0s							
ANTS	Antisana-Sarah	128.62	281	IAMs_20	IAMs_20	14 21 58.8		
	comp=Z,2μm,22.0s							
V12A	Nelson	128.97	346	IAMs_20	IAMs_20	14 31 13.8		
	comp=Z,1μm,20.0

σ1ꝑ16′/70, mb4.2/46, 1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**9.02**	**256**	Pn	**Pn**	**13 18 15.1**	**+1.5**
ATD	**Arta Tunnel**	**9.02**	**256**	Pn	**Pn**	**13 18 11.7**	**-1.8**
	0.1nm,0.3s,baz=208,slow=20,SNR=2.6						
	0.4nm,0.3s						
RAYN	**Ar Rayn**	**11.27**	**329**	Pn	**Pn**	**13 18 43.0**	**-1.4**
WSAR	**Wadi Sarin**	**11.35**	**34**	Pn	**Pn**	**13 18 45.0**	**-0.4**
	0.5nm,0.3s,baz=272,slow=16,SNR=1.2						
WSAR				Sn	**Sn**	**13 20 49.1**	**-2.9**
	0.5nm,0.3s,baz=242,slow=13,SNR=1.4						
	19nm,1.0s						
UOSS	**Minazif**	**11.77**	**20**	Pn	**Pn**	**13 18 51.1**	**0.0**
KMBO	**Kilima Mbogo**	**20.72**	**225**	P	**P**	**13 20 42.7**	**-1.4**
HYB	**Hyderabad**	**26.02**	**79**	*e*P	**P**	**13 21 37.6**	**+1.1**
TARG	**Taragay, Kyrgy**	**35.78**	**34**	P	**P**	**13 23 03.5**	**+0.7**
TARG				IAmb	IAmb	13 23 23.5	
	comp=Z,12nm,0.9s						
ABKAR	**Akbulak array**	**35.90**	**9**		**P**	**13 23 03.9**	**+0.7**
AKTO	**Aktyubinsk**	**36.80**	**7**	P	**P**	**13 23 12.5**	**+1.6**
	comp=Z,4.2nm,0.8s,baz=190,slow=8.9,SNR=5.8						
	comp=Z,4.2nm,0.8s						
AKASG	**Malin Array Be**	**41.02**	**338**	P	**P**	**13 23 46.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=146,slow=8.3,SNR=2.0						
	comp=Z,0.5nm,0.3s						
MK31	**Makanchi Array**	**41.58**	**32**	P	**P**	**13 23 51.7**	**+0.8**
MKAR	**Makanchi Array**	**41.58**	**32**	P	**P**	**13 23 51.8**	**+0.9**
MKAR	**Makanchi Array**	**41.58**	**32**	P	**P**	**13 23 52.3**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=220,slow=9.1,SNR=9.3						
	comp=Z,1.7nm,0.8s						
BVAR	**Borovoye Array**	**41.76**	**17**	P	**P**	**13 23 53.1**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=190,slow=7.2,SNR=3.4						
	comp=Z,1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**42.59**	**25**	P	**P**	**13 23 59.9**	**+0.8**
	comp=Z,0.7nm,0.2s,baz=228,slow=7.6,SNR=3.5						
	comp=Z,0.7nm,0.2s						
ARU	**Arti**	**42.77**	**6**	P	**P**	**13 24 01.8**	**+1.3**
	comp=Z,1.4nm,0.4s,baz=270,slow=19,SNR=1.4						
	comp=Z,1.4nm,0.4s						
RONA	**Rosalia, Austr**	**44.76**	**326**	*e*P	**P**	**13 24 18.3**	**+1.6**
	comp=Z,1.2nm,0.7s						
SOKA	**Soboth**	**44.86**	**324**	*e*P	**P**	**13 24 19.6**	**+2.1**
	comp=Z,1.2nm,0.7s						
ARSA	**Arzberg**	**44.91**	**325**	*e*P	**P**	**13 24 19.8**	**+1.9**
	comp=Z,1.0nm,0.7s						
OBKA	**Obir**	**45.04**	**324**	*e*P	**P**	**13 24 20.7**	**+1.7**
	comp=Z,3.0nm,1.0s						
CONA	**Conrad Observa**	**45.13**	**326**	*e*P	**P**	**13 24 21.0**	**+1.4**
	comp=Z,4.0nm,1.1s						
CM31	**Chiang Mai Arr**	**45.44**	**78**	P	**P**	**13 24 22.9**	**+0.5**
CM31				IAmb	IAmb	13 24 42.8	
	comp=Z,32nm,1.4s						
CMAR	**Chiang Mai Arr**	**45.44**	**78**	P	**P**	**13 24 22.5**	**+0.1**
	comp=Z,10nm,0.8s,baz=276,slow=8.9,SNR=40						
	comp=Z,10nm,0.8s						
MOA	**Molln**	**45.96**	**325**	*e*P	**P**	**13 24 27.0**	**+0.9**
	comp=Z,2.6nm,1.2s						
KBA	**Koelnbreinsper**	**46.05**	**324**	*e*P	**P**	**13 24 27.8**	**+0.7**
	comp=Z,1.0nm,0.5s						
LBTB	**Lobatse**	**46.33**	**214**	P	**P**	**13 24 28.9**	**-0.5**
LBTB				IAmb	IAmb	13 24 37.5	
	comp=Z,17nm,0.8s						
ABTA	**Abfaltersbach**	**46.35**	**323**	*e*P	**P**	**13 24 30.0**	**+0.7**
	comp=Z,1.5nm,0.8s						
LESA	**Schwarzleotal**	**46.62**	**324**	*e*P	**P**	**13 24 32.0**	**+0.6**
	comp=Z,0.8nm,0.5s						
WTTA	**Wattenberg**	**47.13**	**323**	*e*P	**P**	**13 24 36.5**	**+1.0**
	comp=Z,8.7nm,1.5s						
WATA	**Walderalm**	**47.20**	**323**	*e*P	**P**	**13 24 37.0**	**+0.9**
	comp=Z,1.4nm,0.6s						
SQTA	**Sankt Quirin**	**47.36**	**323**	*e*P	**P**	**13 24 39.0**	**+1.7**
	comp=Z,1.9nm,0.8s						
ZAA0	**Zalesovo Array**	**47.66**	**26**	P	**P**	**13 24 38.9**	**-0.5**
ZAA0				IAmb	IAmb	13 24 51.3	
	comp=Z,20nm,1.6s						
ZALV	**Zalesovo Beam**	**47.66**	**26**	P	**P**	**13 24 38.9**	**-0.5**
ZALV	**Zalesovo Beam**	**47.66**	**26**	P	**P**	**13 24 39.0**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=230,slow=8.2,SNR=7.9						
	comp=Z,2.6nm,0.5s						
RETA	**Reutte**	**47.76**	**323**	*e*P	**P**	**13 24 41.9**	**+1.6**
	comp=Z,3.2nm,1.2s						
TOA0	**Torodi Ar. Sit**	**48.62**	**275**	P	**P**	**13 24 47.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**48.62**	**275**	P	**P**	**13 24 47.6**	**+0.2**
TORD				IAmb	IAmb	13 25 12.7	
	comp=Z,20nm,1.9s						
TORD	**Torodi Ar. Bea**	**48.62**	**275**	P	**P**	**13 24 46.7**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=76,slow=9.7,SNR=5.2						
	comp=Z,1.6nm,0.7s						
BOSA	**Boshof**	**49.43**	**211**	P	**P**	**13 24 51.6**	**-1.8**
	comp=Z,2.4nm,0.9s,baz=75,slow=7.5,SNR=1.8						
	comp=Z,2.4nm,0.9s						
FINES	**FINESS Array B**	**50.98**	**344**	P	**P**	**13 25 04.9**	**+0.3**
FINES	**FINESS Array B**	**50.98**	**344**	P	**P**	**13 25 05.3**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=126,slow=9.7,SNR=6.1						
	comp=Z,3.4nm,0.8s						
HFS	**Hagfors**	**53.91**	**338**	P	**P**	**13 25 25.7**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=134,slow=6.4,SNR=5.6						
	comp=Z,1.1nm,0.7s						
ESDC	**Sonseca Array**	**54.99**	**309**	P	**P**	**13 25 35.2**	**+0.5**
ESDC	**Sonseca Array**	**54.99**	**309**	P	**P**	**13 25 33.9**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=117,slow=3.8,SNR=7.2						
	comp=Z,1.1nm,0.8s						
NB2	**NORSAR Subarra**	**55.43**	**337**	P	**P**	**13 25 41.6**	**+4.2**
	comp=Z,2.1nm,0.9s,baz=133,slow=7.4						
NOA	**NORSAR Array B**	**55.43**	**337**	P	**P**	**13 25 37.4**	**0.0**
	comp=Z,0.2nm,0.5s,baz=120,slow=8.1,SNR=3.0						
	comp=Z,0.2nm,0.5s						
SONM	**Songino Array**	**56.29**	**41**	P	**P**	**13 25 44.7**	**+0.8**
SONM	**Songino Array**	**56.29**	**41**	P	**P**	**13 25 43.5**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=243,slow=6.3,SNR=6.0						
	comp=Z,1.5nm,0.7s						
KEV	**Kevo**	**57.96**	**350**	P	**P**	**13 25 55.6**	**+0.5**
KEV				IAmb	IAmb	13 26 19.4	
	comp=Z,9.7nm,1.0s						
ARCES	**ARCESS Array B**	**58.02**	**349**	P	**P**	**13 25 55.5**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=149,slow=7.2,SNR=4.4						
	comp=Z,1.1nm,0.3s						
EKA	**Eskdalemuir Ar**	**59.03**	**327**	P	**P**	**13 26 02.5**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=113,slow=7.2,SNR=1.9						
	comp=Z,0.3nm,0.4s						
SPB2	**Spitsbergen Ar**	**66.63**	**353**	P	**P**	**13 26 53.6**	**+0.4**
SPB2				IAmb	IAmb	13 27 06.8	
	comp=Z,24nm,1.2s						
KSRS	**Korea Array**	**70.77**	**55**	P	**P**	**13 27 19.1**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=272,slow=7.0,SNR=5.6						
	comp=Z,0.7nm,0.6s						
USA0B	**Ussuriysk Arra**	**73.48**	**48**	P	**P**	**13 27 34.6**	**-1.2**
USA0B				IAmb	IAmb	13 30 16.9	
	comp=Z,46nm,1.9s						
USRK	**Ussuriysk Ar.**	**73.48**	**48**	P	**P**	**13 27 35.2**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=338,slow=1.6,SNR=2.6						
	comp=Z,1.3nm,0.8s						
MJAR	**Matsushiro Arr**	**79.05**	**55**	P	**P**	**13 28 07.5**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=278,slow=4.0,SNR=4.7						
	comp=Z,0.8nm,0.7s						
MAW	**Mawson**	**81.67**	**176**	P	**P**	**13 28 21.1**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=17,slow=11,SNR=2.6						
	comp=Z,1.5nm,0.9s						
JCJ	**Chichijima**	**84.16**	**64**	P	**P**	**13 28 34.0**	**-0.8**
FORT	**Forrest**	**85.60**	**123**	P	**P**	**13 28 43.0**	**+1.1**
ELIB	**Princess Elisa**	**87.73**	**189**	*d*P	P	13 29 00.2	+8.6
	comp=Z,2.7nm,1.6s						
WRA	**Warramunga Arr**	**87.86**	**111**	P	**P**	**13 28 52.1**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=298,slow=4.2,SNR=7.7						
	comp=Z,1.2nm,0.9s						
WB0	**Warramunga Arr**	**87.86**	**111**	P	**P**	**13 28 52.9**	**-0.4**
WB0				IAmb	IAmb	13 31 13.8	
	comp=Z,20nm,1.7s						
WB2	**Warramunga Arr**	**87.87**	**111**	P	**P**	**13 28 52.8**	**-0.5**
WB2				IAmb	IAmb	13 29 22.7	
	comp=Z,6.0nm,1.0s						
WR0	**Warramunga Arr**	**88.05**	**111**	P	**P**	**13 28 54.1**	**0.0**
ASAR	**Alice Springs**	**88.47**	**115**	P	**P**	**13 28 57.1**	**+1.0**
ASAR	**Alice Springs**	**88.47**	**115**	P	**P**	**13 28 56.4**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=290,slow=4.6,SNR=9.2						
	comp=Z,0.8nm,0.7s						
AS31	**Alice Springs**	**88.47**	**115**	P	**P**	**13 28 56.9**	**+0.8**
YKA	**Yellowknife Ar**	**103.12**	**354**	PP	**PP**	**13 34 14.5**	**-1.4**
	comp=Z,0.1nm,0.6s,baz=33,slow=7.4,SNR=3.7						
NVAR	**Mina Array Bea**	**127.14**	**350**	PKP	**PKiKP**	**13 35 09.7**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=88,slow=2.9,SNR=3.0						

*HVO **15** 13:26:00.2±1.1, 19°.401N±0°.009×155°.273W±0°.007, h0km±2km, ML3.9/44, ML2.9/33(NEIC), Error ellipse: s-maj=1.3km s-min=0.9km az=197.0*

NEIC 15 13:26:01.1±1.4, 19°.376N±0°.009×155°.268W±0°.005, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.6km az=339.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.02**	**343**		Pg	13 26 01.1	-1.1
KKO	**Keanakako`i**	**0.02**	**5**		Pg	13 26 01.2	-1.0
SDHHI	**Sand Hill**	**0.03**	**299**		Pg	13 26 02.0	-0.2
BYL	**Byron's Ledge**	**0.04**	**12**	Pg	Pg	13 26 01.2	-1.2
WRMHI	**West Rim**	**0.04**	**315**		Pg	13 26 02.1	-0.4
OBL	**Observatory Le**	**0.04**	**340**		Pg	13 26 01.8	-0.7
HATHI	**Halema'uma'u T**	**0.05**	**8**	Pg	Pg	13 26 01.5	-1.0
PUH	**Pauahi**	**0.05**	**92**	Pg	Pg	13 26 02.3	-0.1
PUH				IAML		13 26 02.8	
	comp=N,6μm,0.3s						
PUH				IAML		13 26 03.1	
	comp=E,6μm,0.4s						
UWB	**Uwekahuna B**	**0.05**	**349**		Pg	13 26 02.0	-0.5
SBLHI	**Steaming Bluff**	**0.05**	**360**		Pg	13 26 02.1	-0.5
UWE	**Uwekahuna**	**0.05**	**332**	Pg	Pg	13 26 01.7	-0.9
RSD	**Rainshed**	**0.09**	**354**	Pg	Pg	13 26 02.5	-0.6
RSD				IAML		13 26 03.1	
	comp=N,3μm,0.4s						
HLP	**Hilina Pali**	**0.09**	**205**	Pg	Pg	13 26 03.5	+0.4
HLP				IAML		13 26 04.5	
	comp=N,2μm,0.9s						
HLP				IAML		13 26 05.6	
	comp=E,4μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.09**	**88**	Pg	Pg	13 26 03.1	0.0
STCH	**Steam Cracks**	**0.14**	**86**	Pg	Pg	13 26 03.6	-0.3
STCH				IAML		13 26 06.9	
	comp=N,7μm,0.4s						
STCH				IAML		13 26 07.3	
	comp=E,12μm,1.0s						
NPOC	**North of Pu'u**	**0.15**	**83**		Pg	13 26 03.8	-0.3
NPOC					Sg	13 26 08.2	+2.0
JCUZ	**Jacuzzi**	**0.16**	**87**		Pg	13 26 06.2	+1.9
MLH	**Mauna Loa**	**0.16**	**317**	Pg	Pg	13 26 04.5	+0.1
HTC	**Hot Caves**	**0.18**	**222**		Pg	13 26 05.2	+0.4
JOKA	**Jonika Flow**	**0.26**	**77**	Pg	Pg	13 26 07.0	+0.9
JOKA				IAML		13 26 13.1	
	comp=E,5μm,1.0s						
JOKA				IAML		13 26 13.1	
	comp=N,8μm,1.1s						
HMH	**Humu'ula Sheep**	**0.30**	**318**	Pg	Pg	13 26 08.0	+0.9
MLOA	**Mauna Loa Obse**	**0.33**	**299**	Pg	Pg	13 26 08.3	+0.6
KHU	**Kahuku**	**0.35**	**249**	Pg	Pb	13 26 09.1	-0.9
PHO	**Puu Honuaula**	**0.37**	**73**		Sg	13 26 14.4	+1.2
HPO	**Honuapo**	**0.39**	**223**	Pg	Pg	13 26 09.0	+0.3
HUH	**Hualalai**	**0.62**	**300**		Sg	13 26 19.4	-1.7
HUH	**Hualalai**	**0.62**	**300**	Pg	Pg	13 26 13.2	+0.2
HPAH	**Hawaii Prepara**	**0.77**	**328**	Pg	Pg	13 26 13.8	-2.0
MHA	**Mahukona**	**1.00**	**324**	Pg	Pg	13 26 17.3	-3.1
HLK	**Haleakala**	**1.66**	**326**		Pn	13 26 28.1	-2.9
HON	**Honolulu**	**3.21**	**308**	Pn	Pn	13 26 49.4	-2.8
KIP	**Kipapa**	**3.28**	**309**	Pn	Pn	13 26 49.4	-3.8

*BJI **15** 13:26:03.9±0.0, 19°.35N×155°.44W, h5km, mb4.7/16, mB5.7/8, Ms5.6/5, Ms7 5.2/5*

*NEIC **15** 13:26:04.6±0.9, 19°.394N±0°.007×155°.279W±0°.009, h8km±1km, Error ellipse: s-maj=1.3km s-min=0.9km az=125.0*

*NEIC **15** 13:26:05, 19°.41N×155°.29W, h12km*

*NEIC **15** 13:26:05, 19°.51N×155°.29W, h12km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^{16}Nm; M_{rr}-9.77; $M_{\theta\theta}$4.64; $M_{\phi\phi}$5.12; $M_{r\theta}$2.14; $M_{\theta\phi}$3.87; $M_{\phi r}$1.23; Fault plane solution: $M_0$9.58000×10^{16} NP1: ϕ_s227.08000°, δ52.27000°, λ-85.50000°. NP2:ϕ_s39.76000°, δ37.96000°, λ-95.78000°. Principal axes: T 9.0545, Plg7.0000°, Azm314.0000°; N 1.0534, Plg4.0000°, Azm44.0000°; P -10.1079, Plg82.0000°, Azm161.0000°;*

*IDC **15** 13:26:05.2±0.7, 19°.45N×155°.39W, h0km, mb4.0/12, mbtmp4.0/12, MS4.7/20 Error ellipse: s-maj=14.5km s-min=9.8km az=127.0*

*HVO **15** 13:26:05.0±1.2, 19°.41N±0°.01×155°.287W±0°.004, h1km±4km, ML4.6/5, mb4.7/47(NEIC), ML4.3/32(NEIC), Mww5.3/17(NEIC), Error ellipse: s-maj=1.5km s-min=0.5km az=180.0*

*GCMT **15** 13:26:12.0±0.2, 19°.38N±0°.01×155°.26W±0°.02, h12km, MW5.3/134, Moment Tension Solution. s54,c67; s134,c213; Duration: 1ꝑ1 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.10±.02; $M_{\theta\theta}$0.61±.02; $M_{\phi\phi}$0.49±.02; $M_{r\theta}$0.31±.07; $M_{\theta\phi}$0.38±.01; $M_{\phi r}$-0.03±.07; Best double couple: $M_0$1.05900×10^{17} NP1:ϕ_s239.00000°, δ52.00000°, λ-78.00000°. NP2:ϕ_s41.00000°, δ40.00000°, λ-105.00000°. Principal axes: T 0.9590, Plg6.0000°, Azm321.0000°; N 0.2040, Plg9.0000°, Azm52.0000°; P -1.1590, Plg79.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 13:26:05.1±0.7, 19°.41N±0°.03×155°.29W±0°.03, h5km±3km, n509, σ1ꝑ31/491, mb4.6/41, MS4.7/21, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.01**	**272**		**Pg**	**13 26 06.0**	**-0.2**
OBL	**Observatory Le**	**0.01**	**38**		**Pg**	**13 26 05.8**	**-0.4**
UWE	**Uwekahuna**	**0.01**	**1**		**Pg**	**13 26 05.7**	**-0.6**
RIM	**Rim**	**0.02**	**121**		**Pg**	**13 26 05.7**	**-0.5**
UWB	**Uwekahuna B**	**0.02**	**38**		**Pg**	**13 26 06.8**	**+0.5**
BYL	**Byron's Ledge**	**0.03**	**80**		**Pg**	**13 26 05.0**	**-1.4**
BYL				IAML		13 26 05.7	
	comp=N,792μm,0.7s						
HATHI	**Halema'uma'u T**	**0.04**	**61**	IAML		13 26 05.8	
	comp=N,813μm,0.8s						
HATHI					**Pg**	**13 26 06.7**	**+0.3**
RSD	**Rainshed**	**0.06**	**14**	Pg	**Pg**	**13 26 06.4**	**-0.3**
RSD					**Sg**	**13 26 06.6**	**-1.2**
RSD				IAML		13 26 06.8	
	comp=N,293μm,1.2s						
RSD				IAML		13 26 07.5	
	comp=E,225μm,1.5s						
PUH	**Pauahi**	**0.08**	**114**	IAML		13 26 06.8	
	comp=N,149μm,1.2s						
PUH				Pg	**Pg**	**13 26 07.0**	**0.0**
HLP	**Hilina Pali**	**0.11**	**187**		**Pg**	**13 26 07.2**	**-0.2**
HLP				IAML		13 26 09.9	
	comp=E,107μm,1.3s						
HLP				IAML		13 26 10.5	
	comp=N,212μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.12**	**103**		**Pg**	**13 26 07.7**	**0.0**
MLH	**Mauna Loa**	**0.12**	**315**		**Pg**	**13 26 07.8**	**0.0**
MLH				IAML		13 26 11.2	
	comp=N,53μm,0.5s						
MLH				IAML		13 26 11.3	
	comp=E,120μm,1.3s						
HMH	**Humu'ula Sheep**	**0.27**	**318**		**Pg**	**13 26 10.2**	**-0.1**
HMH				IAML		13 26 17.9	
	comp=E,37μm,1.3s						
HMH				IAML		13 26 20.0	
	comp=N,62μm,1.0s						
JOKA	**Jonika Flow**	**0.27**	**84**		**Pg**	**13 26 09.8**	**-0.7**
JOKA				IAML		13 26 17.4	
	comp=E,24μm,2.4s						
JOKA				IAML		13 26 19.1	
	comp=N,62μm,1.1s						
MLOA	**Mauna Loa Obse**	**0.30**	**296**	Pg	**Pg**	**13 26 10.9**	**-0.1**
MLOA				IAML		13 26 20.6	
	comp=E,59μm,1.3s						
MLOA				IAML		13 26 20.9	
	comp=N,67μm,1.4s						
MWH	**Moku'aweowe**	**0.30**	**285**		**Pg**	**13 26 10.5**	**-0.6**
PAH	**Pahoa**	**0.34**	**75**		**Pg**	**13 26 10.9**	**-0.8**
KHU	**Kahuku**	**0.34**	**242**	Pg	**Pg**	**13 26 11.3**	**-0.6**
KHU				IAML		13 26 21.5	
	comp=E,26μm,0.7s						
KHU				IAML		13 26 22.6	
	comp=N,41μm,2.2s						
PHO	**Puu Honuaula**	**0.39**	**79**		**Pg**	**13 26 11.7**	**-1.0**
HPO	**Honuapo**	**0.40**	**218**		**Pg**	**13 26 11.9**	**-0.9**
POHA	**Pohakuloa**	**0.42**	**327**		**Pg**	**13 26 13.6**	**+0.4**
POHA				IAML		13 26 26.2	
	comp=N,31μm,3.8s						
POHA				IAML		13 26 28.0	
	comp=N,34μm,1.1s						
I59US	**HAWAII INFRASO**	**0.60**	**288**	Pg	**Pg**	**13 26 13.7**	**-2.9**
	baz=119,slow=18						
I59US				I	I	13 29 20.0	
	comp=N,0.1nm,0.9s,baz=107,slow=320,SNR=4.9						
KPA	**Kalaupapa**	**2.38**	**318**		**Pn**	**13 26 42.4**	**-2.4**
SNCC	**San Nicolas Is**	**34.71**	**59**	P	**P**	**13 32 55.2**	**-1.0**
	baz=256						
SCZ2	**Santa Cruz Isl**	**34.82**	**58**	P	**P**	**13 32 56.9**	**-0.2**
	baz=254						
SBC	**Santa Barbara**	**34.88**	**57**	P	**P**	**13 32 56.6**	**-0.9**
	baz=254						
PKM	**Mcpherson Peak**	**34.92**	**56**	P	**P**	**13 32 57.1**	**-1.0**
	baz=253						
NIKH	**Nikolski High**	**35.12**	**346**	P	**P**	**13 32 59.6**	**+0.2**
	baz=157						
UNV	**Unalaska Valle**	**35.44**	**349**	P	**P**	**13 33 02.8**	**+0.7**
	baz=162						
SCI2	**San Clemente I**	**35.45**	**60**	P	**P**	**13 33 02.2**	**-0.3**
	baz=257						
AFDM	**Forest Hills D**	**35.45**	**49**	P	**P**	**13 33 00.3**	**-2.1**
YBH	**Yreka Blue Hor**	**35.48**	**44**	LR	LR	13 43 21.7	
	comp=N,480nm,20.9s,baz=232,slow=29						
CHNA	**Chernabura Isl**	**35.52**	**356**	P	**P**	**13 33 03.3**	**+0.6**
	baz=173						
H11N3	**WAKE ISLAND Hy**	**35.57**	**277**	T	T	14 10 17.7	
	baz=84,slow=73,SNR=16						
H11N2	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	14 10 10.6	
	baz=84,slow=73,SNR=23						
H11N1	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	14 10 10.5	
	baz=84,slow=73,SNR=16						
CIS	**Catalina Islan**	**35.65**	**59**	P	**P**	**13 33 02.5**	**-1.8**
	baz=256						
VOG	**Valley Oaks Go**	**35.69**	**54**	P	**P**	**13 33 03.6**	**-0.9**
	baz=252						
OSI	**Osito Audit: C**	**35.71**	**57**	P	**P**	**13 33 04.0**	**-0.8**
	baz=254						
ARVC	**Arvin**	**35.77**	**56**	P	**P**	**13 33 04.4**	**-0.8**
	baz=254						
VES	**Vestal, Richgr**	**35.77**	**55**	P	**P**	**13 33 04.4**	**-0.8**
	baz=252						
FMP	**Fort Macarthur**	**35.83**	**59**	P	**P**	**13 33 04.8**	**-0.9**
	baz=256						
DECC	**Green Verdugo**	**35.93**	**58**	P	**P**	**13 33 05.4**	**-1.2**
	baz=255						
FALS	**False Pass**	**35.93**	**352**	P	**P**	**13 33 05.9**	**-0.4**
	baz=167						
SDPT	**Sand Point**	**36.10**	**355**	P	**P**	**13 33 08.1**	**+0.4**
	baz=172						
ISA	**Isabella, Lake**	**36.20**	**56**	P	**P**	**13 33 08.9**	**0.0**
ISA				IAmb	IAmb	13 33 29.9	
	comp=Z,13nm,1.4s						
ISA	**Isabella, Lake**	**36.20**	**56**	P	**P**	**13 33 08.5**	**-0.5**
	baz=253						
MDPB	**Devils Postpil**	**36.35**	**52**	P	**P**	**13 33 09.3**	**-1.2**
EDW2	**Edwards Air Fo**	**36.36**	**57**	P	**P**	**13 33 10.1**	**-0.3**
	baz=255						
BFSC	**Mount Baldy Ra**	**36.46**	**58**	P	**P**	**13 33 10.7**	**-0.6**
	baz=256						
S12K	**Black Hills**	**36.60**	**354**	P	**P**	**13 33 12.2**	**+0.2**
	baz=169						
109C	**Camp Elliot, M**	**36.61**	**61**	P	**P**	**13 33 11.5**	**-0.9**
	baz=258						
MURC	**Murrieta**	**36.69**	**60**	P	**P**	**13 33 11.6**	**-1.5**
	baz=257						
CWC	**Cottonwood Cre**	**36.73**	**55**	P	**P**	**13 33 13.0**	**-0.6**
	baz=253						
LRMC	**Laurel Mtn Rad**	**36.77**	**56**	P	**P**	**13 33 13.5**	**-0.4**
	baz=254						
TIN	**Tinemaha, Big**	**36.80**	**54**	P	**P**	**13 33 14.3**	**+0.1**
	baz=252						
CHGN	**Chignik**	**36.91**	**357**	P	**P**	**13 33 13.6**	**-1.1**
	baz=175						
S14K	**Fog Glacier**	**36.96**	**356**	P	**P**	**13 33 14.8**	**-0.4**
	baz=173						
BBRC	**Big Bear Solar**	**37.06**	**59**	P	**P**	**13 33 17.0**	**+0.4**
	baz=256						
MPMC	**Manual Prospec**	**37.08**	**55**	P	**P**	**13 33 16.7**	**0.0**
	baz=254						
DSP	**Deep Springs**	**37.10**	**53**	P	**P**	**13 33 15.6**	**-0.9**
SII	**Sitkinak Islan**	**37.10**	**1**	P	**P**	**13 33 14.7**	**-1.6**
	baz=182						
RRX	**Edison Barstow**	**37.15**	**58**	P	**P**	**13 33 17.0**	**0.0**
	baz=256						
PPT	**Papeete**	**37.17**	**171**	LR	LR	13 45 17.2	
	comp=Z,1μm,18.3s,baz=352,slow=31						
MONP2	**Monument Peak**	**37.17**	**61**	P	**P**	**13 33 15.5**	**-2.0**
	baz=258						
PPT2	**Papeete2**	**37.19**	**171**	*e*P	**P**	**13 33 17.3**	**-0.2**
	comp=Z,101nm,25.5s						
PPT2				*e*S	**S**	**13 39 02.5**	**-2.5**
	comp=Z,376nm,24.8s						
PPT2				*e*LQ	LQ	13 41 30.9	
	comp=Z,558nm,22.2s						
PPT2				*e*LR	LR	13 43 19.3	
	comp=Z,4μm,25.2s						
PPT2				*e*LR	LR	13 43 20.3	
	comp=Z,3μm,27.2s						
NVAR	**Mina Array Bea**	**37.20**	**51**	P	**P**	**13 33 18.9**	**+1.2**
	comp=Z,1.5nm,1.0s,baz=248,slow=12,SNR=5.6						
NVAR				LR	LR	13 45 52.8	
	comp=Z,323nm,20.6s,baz

	baz=173							
P18K	Big Mountain,	39.94	0	P	P	13 33 39.0	-1.2	
	baz=180							
214A	Organ Pipe Nat	40.03	63	P	P	13 33 39.8	-1.6	
	baz=262							
O14K	Tigyukauivet M	40.03	355	P	P	13 33 39.1	-1.8	
	baz=171							
V35K	Ketchikan	40.09	21	P	P	13 33 39.1	-2.3	
	baz=216							
O16K	Kokwok River B	40.19	358	P	P	13 33 39.1	-3.1	
	baz=176							
P19K	Oil Pt	40.23	2	P	P	13 33 40.4	-2.2	
	baz=183							
U33K	Whale Pass	40.25	19	P	P	13 33 41.8	-0.9	
	baz=213							
HOM	Homer	40.29	3	P	P	13 33 42.0	-1.0	
	baz=185							
O17K	Koliganek Bris	40.34	359	P	P	13 33 41.3	-2.1	
	baz=177							
O18K	Koktuh Hills	40.40	0	P	P	13 33 42.5	-1.5	
	baz=180							
SIT	Sitka	40.42	17	P	P	13 33 43.0	-1.1	
	baz=210							
BRSE	Bradley Lake S	40.42	4	P	P	13 33 42.3	-1.8	
	baz=187							
Q23K	Middleton Isla	40.49	7	P	P	13 33 42.6	-2.1	
	baz=193							
RAR	Rarotonga	40.61	186	LR	LR	13 46 27.2		
	comp=Z,753nm,19.1s,baz=303,slow=30							
O20K	Slope Mountain	40.67	2	P	P	13 33 43.0	-3.2	
	baz=184							
N14K	Kuskokwak Cree	40.73	355	P	P	13 33 45.2	-1.4	
	baz=171							
WRAK	Wrangell Islan	40.75	19	P	P	13 33 44.9	-1.9	
	baz=214							
O19K	Port Alsworth	40.75	1	P	P	13 33 43.3	-3.5	
	baz=181							
N15K	Kwethluk River	40.86	356	P	P	13 33 47.2	-0.5	
	baz=173							
SEW	Seward	40.87	4	P	P	13 33 47.3	-0.4	
	baz=188							
SHEM	Shemya Is, Ala	40.87	332	LR	LR	13 47 07.0		
	comp=Z,1μm,22.0s,baz=124,slow=31							
T33K	Petersburg	40.89	19	P	P	13 33 47.4	-0.6	
	baz=213							
P23K	Montague Islan	40.94	6	P	P	13 33 47.6	-0.8	
	baz=191							
S31K	Pelican	40.98	15	P	P	13 33 46.5	-2.2	
	baz=208							
S32K	Killisnoo	40.98	17	P	P	13 33 46.5	-2.2	
	baz=210							
N16K	Nishlik Lake	41.10	357	P	P	13 33 49.2	-0.5	
	baz=175							
N17K	Nushagak Hills	41.10	359	P	P	13 33 49.2	-0.4	
	baz=177							
U35K	Hyder	41.10	21	P	P	13 33 48.1	-1.6	
	baz=218							
O22K	Cooper Landing	41.22	4	P	P	13 33 50.2	-0.4	
	baz=188							
N18K	Kilae Creek	41.23	360	P	P	13 33 50.3	-0.5	
	baz=179							
M13K	Dall Lake	41.36	354	P	P	13 33 51.4	-0.4	
	baz=168							
N19K	Bonanza Creek	41.37	1	P	P	13 33 52.5	+0.4	
	baz=181,SNR=8.4							
M15K	Kasigluk River	41.42	356	P	P	13 33 51.6	-0.8	
	baz=172							
M14K	Bethel	41.57	355	P	P	13 33 52.8	-0.8	
	baz=170							
M16K	Timber Creek	41.65	357	P	P	13 33 54.5	+0.2	
	baz=175							
EYAK	Cordova Ski Ar	41.66	7	P	P	13 33 55.2	+0.9	
	baz=194							
M11K	Mekoryuk	41.67	352	P	P	13 33 53.9	-0.4	
	baz=164							
R32K	Eaglecrest	41.69	16	P	P	13 33 55.6	+1.0	
	baz=210							
TUC	Tucson	41.78	63	P	P	13 33 55.9	0.0	
	baz=263							
WUAZ	Wupatki	41.78	58	P	P	13 33 54.9	-1.0	
	baz=259							
HLID	Hailey	41.79	46	P	P	13 33 55.1	-0.8	
	baz=248							
DUG	Dugway, Tooele	41.79	51	P	P	13 33 55.4	-0.5	
	baz=253							
N20K	Mount Spurr	41.81	2	P	P	13 33 54.4	-1.2	
	baz=184							
SPCR	Spurr Chakacha	41.81	2	P	P	13 33 50.1	-5.5	
	baz=184							
PNL	Peninsula	41.81	12	P	P	13 33 55.4	-0.3	
	baz=203							
RC01	Rabbit Creek A	41.83	4	P	P	13 33 53.1	-2.5	
	baz=188							
MESA	MESA	41.83	10	P	P	13 33 53.5	-2.5	
	baz=199							
GLI	Glacier Island	41.84	6	P	P	13 33 54.9	-0.8	
	baz=192							
T35M	Bob Quinn	41.88	20	P	P	13 33 58.1	+1.9	
	baz=217							
LPIG	La Paz	41.91	75	LR	LR	13 46 24.9		
	comp=Z,442nm,20.0s,baz=270,slow=29							
M17K	Holitna River	41.98	358	P	P	13 33 58.3	+1.4	
	baz=177							
M18K	Stony River	42.05	360	P	P	13 33 58.3	+0.9	
	baz=179							
PINM	Pinnacle	42.05	11	P	P	13 33 59.3	+1.7	
	baz=201							
P29M	Windy Craggy	42.12	13	P	P	13 33 58.5	+0.4	
	baz=205							
NEW	Newport	42.14	38	P	P	13 33 59.0	+0.5	
	baz=240							
SUA	Susitna One	42.14	3	P	P	13 33 57.0	-1.3	
	baz=186							
CRQE	Cirque	42.20	9	P	P	13 33 57.5	-1.4	
	baz=197							
BMRM	Bremner River	42.20	8	P	P	13 33 57.6	-1.3	
	baz=195							
L14K	Kuka Creek	42.22	355	P	P	13 33 57.0	-1.8	
	baz=170							
KNK	Knik Glacier	42.24	5	P	P	13 33 57.9	-1.2	
	baz=190							
PLBC	Pleasant Camp	42.27	14	P	P	13 33 57.7	-1.6	
	baz=207							
S34M	Telegraph Cree	42.36	19	P	P	13 33 58.7	-1.3	
	baz=215							
L16K	Owhat River	42.37	357	P	P	13 33 59.2	-0.8	
	baz=174							
PMR	Palmer	42.37	4	P	P	13 33 58.2	-1.8	
	baz=189							
L15K	Ungalak Mounta	42.45	356	P	P	13 33 58.9	-1.8	
	baz=171							
M19K	Big River Lodg	42.46	1	P	P	13 34 00.0	-0.8	
	baz=181							
M22K	Willow	42.46	4	P	P	13 33 59.7	-1.1	
	baz=187							
M20K	Styx River	42.46	2	P	P	13 34 00.7	-0.3	
	baz=183							
SKAG	Skagway	42.52	15	P	P	13 34 00.4	-0.9	
	baz=208							
KLU	Klutina	42.56	7	P	P	13 34 01.1	-0.6	
	baz=193							
O29M	Mount Kennedy	42.56	12	P	P	13 34 01.1	-0.7	
	baz=204							
SKT	Skwentna	42.62	3	P	P	13 34 00.7	-1.4	
SKT	Skwentna	42.62	3	P	P	13 34 00.9	-1.2	
	baz=185							
SML	Sawmill	42.64	5	P	P	13 34 01.5	-0.9	
	baz=190							
CTG	Chitna Glacier	42.68	10	P	P	13 34 01.7	-1.1	
	baz=200							
M23K	Glacier View	42.68	5	P	P	13 34 01.4	-1.2	
	baz=190							
O28M	Mount Upton	42.69	11	P	P	13 34 02.5	-0.6	
	baz=201							
P30M	Million Dollar	42.73	13	P	P	13 34 03.5	+0.4	
	baz=206							
L19K	White Mountain	42.74	0	P	P	13 34 02.0	-1.1	
L19K	White Mountain	42.74	0	P	P	13 34 02.9	-0.2	
	baz=181,SNR=5.7							
L17K	Donlin	42.74	358	P	P	13 34 03.3	+0.2	
	baz=176							
TMUT	Trail Mountain	42.74	53	P	P	13 34 01.6	-2.2	
TMUT				IAmb	IAmb	13 34 22.6		
	comp=Z,28nm,2.0s							
SCM	Sheep Creek Mo	42.75	6	P	P	13 34 03.7	+0.4	
	baz=191							
HMU	Henry Mountain	42.77	55	P	P	13 34 02.3	-1.8	
HMU				IAmb	IAmb	13 34 09.2		
	comp=Z,23nm,1.7s							
L18K	Granite Mounta	42.79	359	P	P	13 34 02.6	-0.8	
	baz=178							
MCARA	McCarthy VSAT	42.82	9	P	P	13 34 03.5	-0.2	
	baz=197							
N25K	Chitina, Valde	42.82	7	P	P	13 34 02.9	-1.0	
	baz=195							
TBI	Tubuai	42.88	172	eP	P	13 34 09.5	+5.0	
	comp=Z,465nm,29.0s							
TBI				eS	S	13 40 34.7	+4.9	
	comp=Z,2μm,26.5s							
TBI				eLQ	LQ	13 44 00.7		
	comp=Z,3μm,26.2s							
TBI				eLR	LR	13 45 49.7		
	comp=Z,2μm,27.0s							
TBI				eLR	LR	13 45 56.8		
	comp=Z,13μm,28.8s							
Q32M	Nakina River	42.89	17	P	P	13 34 03.8	-0.9	
	baz=213							
K13K	Kusilvak Mount	42.99	354	P	P	13 34 06.0	+0.9	
	baz=167							
W18A	Petrified Fore	43.03	59	P	P	13 34 04.4	-1.8	
	baz=261							
P32M	Atlin	43.04	16	P	P	13 34 06.3	+0.7	
	baz=210							
L20K	Farewell, AK	43.05	1	P	P	13 34 04.7	-0.9	
	baz=182							
K15K	Wolf Creek Mou	43.07	356	P	P	13 34 03.9	-1.8	
	baz=171							
TCUT	Toone Canyon	43.08	50	P	P	13 34 05.0	-1.5	
TCUT				IAmb	IAmb	13 34 25.4		
	comp=Z,36nm,1.7s							
CUT	Chulitna	43.10	3	P	P	13 34 05.9	-0.1	
	baz=187							
HWUT	Hardware Ranch	43.11	49	P	P	13 34 04.9	-1.8	
HWUT				IAmb	IAmb	13 34 23.8		
	comp=Z,23nm,1.8s							
DLBC	Dease Lake	43.12	19	P	P	13 34 06.3	-0.1	
	baz=216							
M24K	Tolsona, Glenn	43.13	6	P	P	13 34 07.9	+1.5	
	baz=193							
YUK6	Outpost Mounta	43.19	12	P	P	13 34 05.9	-1.2	
	baz=204							
YUK8	Steele Glacier	43.25	11	P	P	13 34 06.0	-1.6	
	baz=202							
HYT	Haines Junctio	43.26	13	P	P	13 34 07.4	-0.1	
	baz=205							
K17K	Iditarod	43.32	358	P	P	13 34 06.6	-1.2	
	baz=176							
BSUT	Blindstream Ca	43.40	51	P	P	13 34 06.8	-2.4	
BSUT				IAmb	IAmb	13 34 50.8		
	comp=Z,20nm,1.8s							
MSO	Missoula	43.40	41	P	P	13 34 06.1	-2.7	
	baz=245							
WAT6	Susitna Watana	43.45	5	P	P	13 34 07.7	-1.4	
	baz=190							
TTA	Tatalina	43.49	360	P	P	13 34 05.3	-4.0	
	baz=179							
YUK4	Talbot Arm	43.51	12	P	P	13 34 07.9	-1.7	
	baz=203							
O30N	Mendenhall	43.51	14	P	P	13 34 07.7	-1.7	
	baz=207							
HARP	HAARP	43.53	7	P	P	13 34 06.9	-2.6	
	baz=194							
BPMT	Black Pine Rid	43.55	42	P	P	13 34 08.4	-1.7	
YUK3	Moose Creek	43.59	10	P	P	13 34 07.0	-3.2	
	baz=200							
R33M	Jennings River	43.63	18	P	P	13 34 10.3	-0.1	
	baz=214							
WAT1	Susitna Watana	43.64	4	P	P	13 34 09.1	-1.2	
	baz=189							
DLMT	Dillon	43.67	44		P	13 34 10.1	-1.0	
J14K	Nanvaranak Lak	43.68	355	P	P	13 34 09.2	-1.5	
	baz=169							
M26K	Nabesna, AK	43.80	8	P	P	13 34 10.4	-1.3	
	baz=197,SNR=5.3							
P33M	Teslin, Yukon	43.81	16	P	P	13 34 11.5	-0.3	
	baz=211							
M27K	Edge Creek, AK	43.91	9	P	P	13 34 10.3	-2.4	
	baz=198							
N30M	Aishikik Lake	43.92	12	P	P	13 34 12.0	-0.7	
	baz=205							
K20K	Telida	43.92	1	P	P	13 34 11.5	-1.2	
	baz=182							
DHY	Denali Highway	43.97	5	P	P	13 34 12.0	-1.3	
DHY	Denali Highway	43.97	5	P	P	13 34 11.8	-1.4	
	baz=191,SNR=6.5							
J16K	Anvik River	43.99	357	P	P	13 34 12.0	-1.2	
	baz=173							
J17K	VABM Dome	44.03	358	P	P	13 34 13.0	-0.5	
	baz=175							
J18K	Innoko River	44.04	359	P	P	13 34 12.3	-1.2	
	baz=178							
PAX	Paxson	44.05	6	P	P	13 34 11.4	-2.4	
	baz=193,SNR=8.8							
OVMT	Ovando	44.08	41	P	P	13 34 13.2	-1.2	
TPAW	Teton Pass	44.13	47	P	P	13 34 13.6	-1.4	
REDW	Red Top Meadow	44.16	47	P	P	13 34 14.1	-1.0	
N31M	Braeburn, Yuko	44.22	13	P	P	13 34 15.8	+0.7	
	baz=207							
IMW	Indian Meadow	44.27	46	P	P	13 34 13.9	-2.1	
RDMU	Red Mountain	44.28	51	P	P	13 34 14.0	-2.2	
RDMU				IAmb	IAmb	13 34 25.0		
	comp=Z,21nm,1.4s							
121A	Cookes Peak, D	44.33	63	P	P	13 34 16.4	-0.1	
	baz=265							
L26K	Log Cabin Wild	44.35	8	P	P	13 34 14.3	-1.9	
L26K				IAmb	IAmb	13 34 23.9		
	comp=Z,17nm,1.6s							
L26K	Log Cabin Wild	44.35	8	P	P	13 34 14.5	-1.6	
	baz=196							
MVCO	Mesa Verde	44.37	56	P	P	13 34 15.4	-1.6	
MVCO				IAmb	IAmb	13 34 51.4		
	comp=Z,26nm,1.8s							
MVCO	Mesa Verde	44.37	56	P	P	13 34 15.9	-1.1	
	baz=260							
BOZ	Bozeman (W)	44.39	44	P	P	13 34 15.4	-1.5	
BOZ				IAmb	IAmb	13 34 52.3		
	comp=Z,14nm,1.7s							
BOZ	Bozeman (W)	44.39	44	P	P	13 34 15.8	-1.1	
	baz=249							
LYMT	Lyon Mountain	44.49	42	P	P	13 34 16.9	-0.8	
CHUM	Lake Minchumin	44.49	2	P	P	13 34 15.6	-1.5	
	baz=184							
MCK	McKinley	44.51	4	P	P	13 34 16.8	-0.6	
	baz=188							
N32M	Quiet Lake	44.55	15	P	P	13 34 17.4	-0.4	
	baz=210							
J19K	Poorman	44.56	360	P	P	13 34 16.5	-1.2	
	baz=180							
M29M	Somme Creek	44.56	11	P	P	13 34 16.5	-1.4	
	baz=203,SNR=7.8							
L27K	Beaver Creek,	44.59	9	P	P	13 34 18.5	+0.4	
	baz=198							
I17K	Unalakleet	44.60	357	P	P	13 34 17.9	-0.1	
	baz=173							
BCAR	Beaver Creek A	44.60	9	P	P	13 34 17.3	-0.8	
J20K	Nowinta River	44.75	1	P	P	13 34 19.4	+0.2	
	baz=182							
BPAW	Bear Paw Mtn.	44.76	3	P	P	13 34 18.3	-1.0	
BPAW				IAmb	IAmb	13 34 21.2		
	comp=Z,9.1nm,1.2s							
BPAW	Bear Paw Mtn.	44.76	3	P	P	13 34 18.1	-1.2	
	baz=186							
K24K	Donnelly Dome	44.84	6	P	P	13 34 18.7	-1.3	
	baz=193							
WTLY	Watson Lake, Y	44.85	18	P	P	13 34 21.1	+0.9	
	baz=217							
BW06	Boulder Array	44.88	48	P	P	13 34 19.3	-1.6	
	baz=253							
PD31	Pinedale Array	44.88	48	P	P	13 34 19.2	-1.7	
PD31				IAmb	IAmb	13 34 37.6		
	comp=Z,16nm,2.0s							
PDAR	Pinedale Array	44.88	48	P	P	13 34 21.2	+0.3	
	comp=Z,3.0nm,1.1s,baz=225,slow=6.2,SNR=11							
	comp=Z,3.0nm,1.1s							
M30M	Minto, Yukon	44.99	12	P	P	13 34 23.4	+2.2	
	baz=205							
TOAD	Toad River Com	45.02	22	P	P	13 34 23.6	+2.0	
	baz=222							
LIRD	Liard River Hi	45.15	21	P	P	13 34 23.9	+1.4	
	baz=220							
M31M	Drury Creek, Y	45.16	14	P	P	13 34 21.9	-0.7	
	baz=208							
O20A	White River Ci	45.16	52	P	P	13 34 22.8	-0.3	
	baz=257							
SCRK	Sand Creek	45.20	7	P	P	13 34 22.2	-0.7	
	baz=195							
Y22D	IRIS PASSCAL I	45.20	61	P	P	13 34 22.7	-0.8	
	baz=264							
L29M	L29M	45.23	11	P	P	13 34 22.8	-0.3	
	baz=203							
GCSA	Galena City Sc	45.32	359	P	P	13 34 22.6	-1.2	
	baz=178							
HDA	Harding Lake	45.32	5	P	P	13 34 22.5	-1.3	
HDA				IAmb	IAmb	13 34 28.3		
	comp=Z,6.9nm,1.0s							
HDA	Harding Lake	45.32	5	P	P	13 34 22.9	-0.9	
	baz=191							
CRNM	Carthage	45.34	61	P	P	13 34 23.5	-1.1	
NEA2	Nenana	45.35	4	P	P	13 34 23.1	-0.9	
NEA2	Nenana	45.35	4	P	P	13 34 23.1	-0.9	
	baz=188,SNR=6.2							
I20K	Naaghedeneel	45.37	0	P	P	13 34 23.6	-0.5	
	baz=181							
FARO	Faro, Yukon	45.42	14	P	P	13 34 24.0	-0.7	
	baz=210							
H16K	Elim	45.44	356	P	P	13 34 24.2	-0.5	
	baz=171							
K27K	Chicken	45.48	8	P	P	13 34 24.5	-0.6	
	baz=198							
CCB	Clear Creek Bu	45.49	5	P	P	13 34 24.8	-0.3	
CCB				IAmb	IAmb	13 34 29.4		
	comp=Z,7.7nm,1.0s							
H17K	Granite Mounta	45.61	357	P	P	13 34 25.8	-0.2	
	baz=174							
ANM	Nome	45.63	354	P	P	13 34 26.1	-0.2	
	baz=167							
J25K	Salcha River,	45.67	6	P	P	13 34 25.8	-0.8	
J25K				IAmb	IAmb	13 34 33.5		
	comp=Z,14nm,1.1s							
J25K	Salcha River,	45.67	6	P	P	13 34 26.3	-0.3	
	baz=193,SNR=7.5							
ANMO	Albuquerque	45.68	60	P	P	13 34 25.7	-1.5	
ANMO	Albuquerque	45.68	60	P	P	13 34 25.8	-1.5	
	baz=263							
ILAR	Eielson Array	45.69	5	P	P	13 34 26.4	-0.2	
	comp=Z,2.7nm,0.8s,baz=197,slow=7.5,SNR=23							
ILAR				PcP	PcP	13 36 06.6	+2.0	
	comp=Z,0.3nm,0.8s,baz=188,slow=5.4,SNR=1.7							
	comp=Z,2.7nm,0.8s							
MLY	Manley	45.70	3	P	P	13 34 25.7	-1.1	
MLY				IAmb	IAmb	13 34 35.9		
	comp=Z,15nm,1.4s							
MLY	Manley	45.70	3	P	P	13 34 25.9	-1.0	
	baz=186							
COLA	College	45.71	4	P	P	13 34 26.0	-0.9	
	baz=190							
J26L	Joseph Creek	45.75	7	P	P	13 34 28.0	+0.7	
	baz=196,SNR=5.1							
H18K	Honhosa River	45.77	358	P	P	13 34 26.7	-0.6	
	baz=176							
S22A	4UR Ranch, Cre	45.77	56	P	P	13 34 26.3	-1.9	
	baz=260							
RLMT	Red Lodge	45.79	45	P	P	13 34 27.2	-0.9	
	baz=251							
I23K	Minto, Yukon-K	45.89	3	P	P	13 34 28.0	-0.2	
	baz=188							
DAWY	Dawson	45.91	10	P	P	13 34 28.2	-0.3	
	baz=201,SNR=6.8							
G15K	Niukluk	45.93	355	P	P	13 34 29.7	+1.1	
	baz=168							
POKR	Poker Plat Res	45.98	5	P	P	13 34 28.8	-0.2	
	baz=190							
K29M	Barlow Dome	46.02	11	P	P	13 34 28.7	-0.8	
	baz=204							
H20K	Anotleneega Mo	46.06	0	P	P	13 34 28.7	-0.9	
	baz=180							
MAYO	Mayo, Yukon	46.09	12	P	P	13 34 29.3	-0.6	
	baz=206							
H19K	Roundabout Mou	46.10	359	P	P	13 34 29.7	-0.2	
	baz=178							
G16K	Koyuk River	46.20	356	P	P	13 34 30.5	-0.2	
	baz=171							
G17K	Kiwalik Mounta	46.21	357	P	P	13 34 30.5	-0.2	
	baz=173							
H21K	Melozitna Rive	46.26	1	P	P	13 34 30.3	-0.9	
	baz=183							
MNTX	Cornudas Mount	46.30	64	P	P	13 34 31.1	-1.0	
	baz=267							
EGAK	Eagle	46.32	8	P	P	13 34 31.4	-0.2	
	baz=198,SNR=6.8							
KOTAN	Kotaneelee Air	46.38	21	P	P	13 34 34.5	+2.3	
	baz=222							
J29N	Klondike Camp	46.46	10	P	P	13 34 33.3	+0.4	
	baz=202							
EGMT	Eagleton	46.48	41	P	P	13 34 35.3	+2.0	
	baz=248							
G18K	Tagagawik	46.52	358	P	P	13 34 35.0	+1.8	
	baz=176							
H22K	Ishtalitna Cre	46.53	2	P	P	13 34 34.1	+0.8	
	baz=185							
PRP	Porcupine Dome	46.54	6	P	P	13 34 33.8	+0.3	
	baz=193,SNR=7.6							
H23K	Yukon River	46.55	3	P	P	13 34 35.0	+1.5	
	baz=187							
I26K	Coal Creek Min	46.58	7	P	P	13 34 35.2	+1.5	
	baz=196							
F14K	Arctic Creek	46.62	354	P	P	13 34 33.1	-0.9	
	baz=166							
H24K	Noodor Dome	46.66	4	P	P	13 34 35.6	+1.2	
	baz=190							
F15K	North Star Dit	46.69	355	P	P	13 34 36.3	+1.8	
	baz=168							
G19K	Purcell Mounta	46.73	359	P	P	13 34 37.0	+2.1	
	baz=178							
SDCO	Great Sand Dun	46.81	56	P	P	13 34 36.5	+0.1	
	baz=261							
TNA	Tin City	46.88	353	P	P	13 34 35.8	-0.2	
	baz=164							
J30M	Hart River	46.90	11	P	P	13 34 35.6	-0.8	
	baz=205							
K22A	Casper	47.01	49	P	P	13 34 36.0	-1.6	
	baz=256							
N23A	Red Feather La	47.04	52	P	P	13 34 37.6	-0.4	
	baz=258							
I27K	Kandik River	47.05	8	P	P	13 34 37.4	0.0	
	baz=198							
ISCO	Idaho Springs	47.07	53	P	P	13 34 39.8	+1.5	
	baz=259							
G21K	Allakaket	47.10	1	P	P	13 34 37.9	+0.1	
	baz=182							
I28M	Miner Creek	47.13	9	P	P	13 34 37.4	-0.7	
	baz=200							
F17K	Baldwin Pennin	47.17	357	P	P	13 34 36.7	-1.5	
	baz=172							
H25L	Birch Creek	47.25	5	P	P	13 34 39.3	+0.5	
	baz=192,SNR=7.7							
F18K	Selawik	47.26	358	P	P	13 34 39.4	+0.5	
	baz=174							
Q24A	Divide	47.28	55	P	P	13 34 38.8	-1.2	
	baz=260							
I29M	Ogilvie Camp,	47.29	10	P	P	13 34 39.3	0.0	
	baz=202							
G23K	Bananza Creek	47.41	3	P	P	13 34 37.2	-3.0	
	baz=187							
F19K	Shaleruckik Mo	47.44	359	P	P	13 34 38.8	-1.6	
	baz=177							
I30M	Mount Dempster	47.48	11	P	P	13 34 40.5	-0.5	
	baz=204,SNR=6.6							
G24K	Hadweenzic Riv	47.55	4	P	P	13 34 41.3	+0.1	
	baz=190							
G22K	Bettles	47.56	2	P	P	13 34 41.1	-0.2	
	baz=185							
T25A	Trinidad	47.59	57	P	P	13 34 41.2	-1.2	
	baz=263							
F20K	Avaraart Lake	47.62	360	P	P	13 34 42.6	+0.8	
	baz=179							
H27K	Steamboat Moun	47.66	7	P	P	13 34 42.2	0.0	
	baz=198,SNR=8.1							
G25K	Bearman Lake	47.71	5	P	P	13 34 43.3	+0.8	
	baz=192							
TXAR	Lajitas Array	47.73	68	P	P	13 34 44.6	+1.2	
	comp=Z,3.9nm,0.8s,baz=258,slow=8.0,SNR=30							
	comp=Z,3.9nm,0.8s							
F21K	Alatna River	47.81	1	P	P	13 34 46.1	+2.8	
	baz=182,SNR=7.2							
E17K	Hotham Inlet	47.84	357	P	P	13 34 43.8	+0.3	
	baz=172							
COLD	Coldfoot	47.92	3	P	P	13 34 44.6	+0.5	
	baz=186							
E19K	Redstone River	48.05	359	P	P	13 34 46.2	+1.1	
	baz=178							
H29M	Whitestone	48.08	9	P	P	13 34 45.8	+0.4	
	baz=202,SNR=6.9							
G26K

baz=195,SNR=5.5
E18K Tukpahlearik C 48.12 357 P P 13 34 46.4 +0.8
baz=173
F22K John River 48.13 2 P P 13 34 46.5 +0.7
baz=184
G27K Doyon Strip 48.20 7 P P 13 34 47.4 +1.0
baz=197
F24K Squaw Lake 48.33 4 P P 13 34 49.8 +2.4
baz=189
EPYK Eagle Plains 48.48 10 P P 13 34 48.5 0.0
baz=204
D17K Noatak River 48.53 356 P P 13 34 49.6 +0.8
baz=170
F25K Christian Rive 48.56 5 P P 13 34 51.6 +2.4
baz=192
MSTX Muleshoe 48.62 62 P P 13 34 49.5 -0.8
baz=266
E22K Anaktuvuk Pass 48.77 2 P P 13 34 51.7 +1.0
baz=184
E23K Chandalar 48.77 3 P P 13 34 52.9 +2.1
baz=187
G29M Pine Creek 48.78 9 P P 13 34 52.7 +1.9
baz=202
F26K Sheenjek River 48.79 6 P P 13 34 50.6 -0.3
baz=194
E20K Nigu River 48.84 360 P P 13 34 51.6 +0.3
baz=179
E24K Your Creek 48.85 3 P P 13 34 53.7 +2.4
baz=188
RDOG Red Dog Mine 48.87 356 P P 13 34 52.5 +1.0
baz=170
WRGLY Wrigley 48.88 18 P P 13 34 54.2 +2.6
baz=221
E21K Killik River 49.03 1 P P 13 34 55.4 +2.7
baz=182
E25K Arctic Village 49.09 5 P P 13 34 53.2 0.0
baz=192
D19K Kuna River 49.11 359 P P 13 34 54.7 +1.4
baz=176
RSSD Black Hills 49.11 48 P P 13 34 52.2 -1.8
RSSD IAmb IAmb 13 34 56.2
comp=Z,7.7nm,1.1s
RSSD Black Hills 49.11 48 P P 13 34 54.3 +0.4
baz=257
G30M tAoh Zraii Nji 49.12 10 P P 13 34 55.1 +1.6
baz=204
F28M Old Crow 49.19 8 P P 13 34 54.2 +0.3
baz=199,SNR=7.0
KSCO Kaye Shedlock' 49.23 55 P P 13 34 53.2 -1.6
KSCO Kaye Shedlock' 49.23 55 P P 13 34 55.8 +1.0
baz=262
C16K Lisburne Hills 49.27 355 P P 13 34 56.9 +2.5
baz=167
D20K Etivluk River 49.30 359 P P 13 34 57.0 +2.2
baz=178
C17K DeLong Mountai 49.31 356 P P 13 34 56.0 +1.2
baz=170
TOLK Toolik Lake Re 49.35 3 P P 13 34 55.9 +0.7
baz=187
C18K Utukok River 49.37 357 P P 13 34 57.5 +2.2
baz=173
G31M Satah River 49.39 11 P P 13 34 57.0 +1.6
baz=206,SNR=6.9
D22K Ayikyak River 49.49 1 P P 13 34 57.9 +1.7
baz=183
E27K Coleen River 49.53 7 P P 13 34 55.6 -0.9
E27K IAmb IAmb 13 35 33.8
comp=Z,16nm,1.7s
E27K Coleen River 49.53 7 P P 13 34 58.2 +1.7
baz=197
AMTX Amarillo 49.58 60 P P 13 34 57.2 -0.4
baz=266
D23K Nanushuk River 49.63 2 P P 13 34 59.7 +2.5
baz=186
C21K Knifeblade Rid 49.74 0 P P 13 35 00.2 +2.1
baz=181
C19K Lookout Ridge 49.76 358 P P 13 35 00.5 +2.2
baz=175
F30M Barrier River 49.77 10 P P 13 35 00.2 +1.9
baz=204
D24K Happy Valley 49.90 3 P P 13 35 00.0 +0.7
baz=188
OZNA Ozona 49.93 66 P P 13 34 59.0 -1.2
OZNA IAmb IAmb 13 35 02.8
comp=Z,8.9nm,1.0s
F31M Tsiigehtchic 49.95 11 P P 13 34 59.0 -0.6
F31M IAmb IAmb 13 35 02.1
comp=Z,13nm,1.1s
F31M Tsiigehtchic 49.95 11 P P 13 34 59.0 -0.6
baz=207,SNR=5.6
OGNE Ogallala 49.96 52 P P 13 35 01.3 +1.0
baz=261
B18K Kokolik River 50.11 357 P P 13 35 01.4 +0.5
baz=172
DGMT Dagmar 50.13 42 P P 13 35 00.4 -1.0
DGMT Dagmar 50.13 42 P P 13 35 01.1 -0.3
baz=253
DKNS Dickens 50.15 62 P P 13 35 02.0 +0.1
DKNS IAmb IAmb 13 35 04.7
comp=Z,12nm,1.0s
E28M Babbage River 50.17 7 P P 13 35 02.4 +1.0
baz=200
E29M Blow River 50.17 8 P P 13 35 03.4 +2.0
baz=202
B21K Ikpikpuk River 50.21 0 P P 13 35 02.9 +1.3
baz=181
D25K Kavik River 50.21 4 P P 13 35 01.8 +0.1
D25K Kavik River 50.21 4 P P 13 35 03.5 +1.8
baz=191,SNR=9.4
DRIO Del Rio 50.39 68 P P 13 35 02.1 -1.5
C24K Franklin Bluff 50.47 3 P P 13 35 03.0 -0.6
baz=188
C23K Itkillik River 50.51 2 P P 13 35 03.9 +0.1
baz=186,SNR=5.2
D27M Malcolm River 50.61 7 P P 13 35 04.3 -0.4
baz=198
B20K Meade River 50.61 359 P P 13 35 06.6 +2.0
baz=178
C27K Jago River 50.71 5 P P 13 35 05.8 +0.4
baz=194
INK Inuvik 50.76 10 P P 13 35 05.2 -0.6
baz=207,SNR=5.0
C26K Camden Bay 50.90 5 P P 13 35 08.2 +1.4
baz=193,SNR=6.0
A19K Wainwright 50.92 357 P P 13 35 08.7 +1.8
baz=173
B22K Teshekpuk Lake 50.94 1 P P 13 35 08.6 +1.5
baz=182
D28M Stokes Point 50.95 7 P P 13 35 08.7 +1.5
baz=200
JCT Junction City 51.07 66 P P 13 35 08.4 -0.4
baz=271
ABTX Abilene, Hawle 51.20 63 P P 13 35 08.7 -1.1
baz=270
YKA Yellowknife Ar 51.33 23 P P 13 35 10.4 +0.3
comp=Z,1.3nm,0.8s,baz=235,slow=7.7,SNR=10.0
comp=Z,1.3nm,0.8s
CBKS Cedar Bluff 51.45 55 P P 13 35 11.9 +0.4
baz=264
833A Chaparral WMA, 51.51 69 P P 13 35 12.4 +0.3
baz=273
A22K Sinclair Lake 51.60 0 P P 13 35 14.3 +2.2
baz=180
A21K Barrow 51.92 359 P P 13 35 14.0 -0.4
baz=178
WMOK Wichita Mounta 51.96 61 P P 13 35 14.4 -1.0
baz=268
K30B Basset 52.01 51 P P 13 35 15.2 -0.5
PLPT Palo Pinto 52.32 63 P P 13 35 17.9 -0.2
PLPT IAmb IAmb 13 35 26.6
comp=Z,9.7nm,1.3s
SUSD Miller 52.76 48 P P 13 35 20.1 -1.1
baz=261
BGNE Belgrade 52.93 52 P P 13 35 23.0 +0.5
baz=264
MDND Maddock 52.95 44 P P 13 35 21.5 -1.0
baz=258
FW06 Azle 52.95 63 P P 13 35 22.3 -0.5
435B Jarrell 52.98 66 P P 13 35 21.7 -1.3
435B Jarrell 52.98 66 P P 13 35 21.9 -1.1
baz=272
WHTX Lake Whitney, 53.05 64 P P 13 35 22.7 -0.8
baz=271
C36M Paulatuk 53.48 13 P P 13 35 25.6 -0.3
baz=218
T35A Sooner Cattle 53.87 58 P P 13 35 28.2 -1.3
T35A IAmb IAmb 13 35 33.5
comp=Z,9.0nm,1.0s

KSU1 Kansas State U 53.90 55 P P 13 35 28.2 -1.4
baz=266
L34A Svendsen Farm, 54.31 52 P P 13 35 31.0 -1.6
ECSD EROS Data Cent 54.33 50 P P 13 35 32.1 -0.6
ECSD IAmb IAmb 13 35 39.3
comp=Z,17nm,1.6s
ECSD EROS Data Cent 54.33 50 P P 13 35 31.8 -0.9
baz=263
TUL3 Leonard 54.43 59 P P 13 35 33.5 0.0
baz=269
HKT Hockley 54.53 67 P P 13 35 33.4 -0.8
A36M Sachs Harbour 55.38 11 P P 13 35 39.7 -0.1
baz=215
NATX Nacogdoches 55.44 64 P P 13 35 41.3 +0.4
baz=273
AGMN Agassiz Nation 55.50 44 P P 13 35 42.0 +0.9
baz=260
ULM Lac du Bonnet 55.84 42 P P 13 35 44.0 +0.6
comp=Z,4.1nm,0.8s,baz=258,slow=7.5,SNR=3.9
comp=Z,4.1nm,0.8s
MIAR Mount Ida 56.25 61 P P 13 35 47.3 +0.7
baz=271
SCIA State Center 56.65 52 P P 13 35 50.2 +0.8
baz=267
SPMN Marine on St. 57.19 48 P P 13 35 52.1 -1.2
baz=265
CCM Cathedral Cave 58.08 57 P P 13 35 58.9 -0.6
baz=270
EYMN Ely 58.35 45 P P 13 36 02.2 +0.9
baz=264
JFWS Jewell Farm 58.89 51 P P 13 36 04.6 -0.6
baz=268
VBMS Vicksburg 58.92 64 P P 13 36 05.2 -0.3
baz=274
HDIL Hopedale 59.57 54 P P 13 36 10.3 +0.4
baz=270
OXF Oxford 59.69 61 P P 13 36 09.8 -1.0
baz=274
MJAR Matsushiro Arr 60.07 302 P P 13 36 14.9 +1.4
comp=Z,2.7nm,1.1s,baz=86,slow=3.7,SNR=4.2
comp=Z,2.7nm,1.1s
L44A Lake County Fo 60.61 52 P P 13 36 17.3 +0.3
baz=270
WVT Waverly 60.87 59 P P 13 36 18.2 -0.7
baz=274
SFIN Lafayette 61.25 54 P P 13 36 20.8 -0.6
baz=272
E43A Lone Tree Farm 61.32 47 P P 13 36 20.3 -1.4
E43A IAmb IAmb 13 36 29.2
comp=Z,5.3nm,1.1s
LRAL Lakeview Retre 61.81 62 P P 13 36 27.6 +2.3
baz=276
BRAL Brewton 61.97 64 P P 13 36 27.0 +0.6
baz=277
WCI Wyandotte Cave 61.97 56 P P 13 36 27.2 +0.9
baz=273
O48B Farmland 62.74 54 P P 13 36 29.8 -1.7
baz=273
GLMI Grayling 62.98 49 P P 13 36 31.7 -1.3
baz=271
P49A Miami Univ. Ec 63.12 55 P P 13 36 33.2 -0.8
baz=274
AAM Ann Arbor 63.76 52 P P 13 36 37.5 -0.7
baz=273
TZTN Tazewell 64.28 58 P P 13 36 40.3 -1.4
baz=276
ACSO Alum Creek Sta 64.40 54 P P 13 36 41.4 -1.0
baz=274
GOGA Godfrey 64.71 62 P P 13 36 45.6 +1.1
baz=277
TIGA Tifton 64.87 64 P P 13 36 46.2 +0.6
baz=278
P52A Corning 65.10 55 P P 13 36 45.3 -1.7
baz=275
O53A New Philadelph 65.75 54 P P 13 36 50.5 -0.7
baz=275
M53A WI Miller and 66.05 52 P P 13 36 52.1 -1.0
baz=275
KMSC Kings Mountain 66.23 59 P P 13 36 52.3 -2.1
baz=278
ERPA Erie 66.49 52 P P 13 36 55.7 -0.3
baz=275
BLA Blacksburg 66.70 57 P P 13 36 57.0 -0.4
baz=277
MCWV Mont Chateau 66.86 54 P P 13 36 57.3 -1.0
baz=276
DWPF Disney Wildern 67.26 67 P P 13 37 00.6 -0.4
baz=281
NHSC New Hope 67.48 61 P P 13 37 02.0 -0.4
baz=279
KSRS Korea Array 68.18 303 P P 13 37 08.5 +1.9
comp=Z,0.5nm,0.8s,baz=110,slow=6.8,SNR=4.3
KSRS LR LR 14 05 08.4
comp=Z,409nm,19.1s,baz=230,slow=34
comp=Z,0.5nm,0.8s
SSPA Standing Stone 68.23 53 P P 13 37 06.0 -1.0
baz=277
CBN Corbin Frederi 68.96 56 P P 13 37 09.5 -2.0
baz=279
CNNC Cliffs of the 69.01 59 P P 13 37 11.8 -0.1
baz=279
BINY Binghamton 69.44 51 P P 13 37 14.2 -0.3
baz=278
LONY Lake Ozonia 70.12 49 P P 13 37 18.9 +0.2
baz=278
PAL Palisades 71.16 52 P P 13 37 22.0 -3.0
baz=280
L61B Northampton 71.83 51 P P 13 37 28.0 -1.0
baz=280
LBNH Lisbon 72.06 49 P P 13 37 28.1 -2.4
baz=280
HRV Adam Dziewonsk 72.63 50 P P 13 37 32.8 -1.0
baz=281
M65A Busby, Falmout 73.48 51 P P 13 37 38.6 -0.3
baz=281
PKME Peaks-Kenny Pk 73.72 47 P P 13 37 39.6 -0.6
baz=281
XLT XiLinHaoTe 75.84 312 *eP* **P 13 37 53.5 +0.8**
XLT pP sP 13 37 58.9 +3.6
XLT PcP **PcP 13 38 02.6 -2.7**
XLT pmax pmax
comp=Z,4.0nm,1.3s
XLT pmax pmax
comp=Z,750nm,10.0s
NJ2 Nanjing 76.56 299 *eP* **P 13 37 57.3 +0.4**
NJ2 pP **sP 13 38 01.0 +1.5**
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 pmax pmax
comp=Z,360nm,7.0s
WRA Warramunga Arr 79.26 244 P P 13 38 11.8 -0.3
comp=Z,0.7nm,1.1s,baz=67,slow=5.8,SNR=2.8
comp=Z,0.7nm,1.1s
HHC Hu-ho-hao-te 79.87 310 *eP* **P 13 38 17.1 +1.9**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,250nm,6.1s
ASAR Alice Springs 81.21 241 P P 13 38 22.2 -0.3
comp=Z,0.8nm,0.8s,baz=76,slow=4.7,SNR=7.1
comp=Z,0.8nm,0.8s
SONM Songino Array 81.25 318 P P 13 38 23.9 +1.4
comp=Z,2.0nm,1.1s,baz=38,slow=7.3,SNR=5.6
SONM LR LR 14 12 08.2
comp=Z,647nm,20.9s,baz=309,slow=34
comp=Z,2.0nm,1.1s
SJG San Juan 83.37 73 LR LR 14 14 39.8
comp=Z,904nm,19.4s,baz=54,slow=35
XAN Xi'an 83.97 304 *eP* **P 13 38 35.6 -1.3**
XAN pmax pmax
comp=Z,8.0nm,1.8s
PCRV Puerto La Cruz 87.29 80 LR LR 14 14 35.6
comp=Z,1μm,21.3s,slow=33
H03N2 Juan Fernandez 89.72 126 T T 15 18 08.6
baz=299,slow=77,SNR=3.8
H03N3 Juan Fernandez 89.73 126 T T 15 18 09.3
baz=299,slow=77,SNR=5.3
H03N1 Juan Fernandez 89.73 126 T T 15 18 12.8
baz=299,slow=77,SNR=4.9
ZALV Zalesovo Beam 90.67 329 P P 13 39 10.8 +2.0
comp=Z,0.5nm,0.4s,baz=101,slow=2.9,SNR=5.6
ZALV LR LR 14 18 08.2
comp=Z,666nm,20.3s,baz=44,slow=34
comp=Z,0.5nm,0.4s
PZH PanZhiHua 92.47 299 P P 13 39 18.8 +0.9
PZH pmax pmax
comp=Z,20nm,1.0s
WMQ Urumqi 94.73 320 *eP* **P 13 39 29.1 +1.2**

WMQ LR LR
comp=Z,1μm,13.9s
WMQ LR LR
comp=Z,650nm,14.5s
WMQ LR LR
comp=Z,600nm,18.1s
KURBB Kurchatov Arra 95.75 329 LR LR 14 20 40.6
comp=Z,581nm,21.5s,baz=126,slow=34
MKAR Makanchi Array 96.18 324 LR LR 14 20 22.7
comp=Z,391nm,21.0s,baz=16,slow=34
BVAR Borovoye Array 97.77 334 LR LR 14 22 35.7
comp=Z,285nm,21.9s,baz=37,slow=35
CMAR Chiang Mai Arr 98.02 293 LR LR 14 23 34.6
comp=Z,200nm,19.1s,baz=90,slow=35
PLCA Paso Flores 98.57 130 LR LR 14 16 24.9
comp=Z,1μm,20.8s,baz=100,slow=31
ARU Arti 99.25 342 LR LR 14 25 19.1
comp=Z,462nm,21.1s,baz=44,slow=36
KIRV Kirov 99.66 347 LR LR 14 26 47.4
comp=Z,401nm,19.8s,baz=51,slow=37
TORD Torodi Ar. Bea 140.50 37 PKP **PKiKP 13 45 37.5 -1.6**
comp=Z,1.1nm,0.9s,baz=332,slow=2.5,SNR=3.7

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*SOME **15** 13:26:21.1, 42°.32N×82°.72E, h20km*
*NNC **15** 13:26:28.1±3.2, 43°.00N×82°.91E, h0km, mb3.0, mpv2.6,*
Error ellipse: s-maj=26.9km s-min=10.0km az=136.0
ISC 15 13:26:21.7±3.1, 42°.6N±0°.1×82°.83E±0°.09, h10km±13km,
n10, σ1°.41/22, 5C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.02**	**297**	*eP*	**Pb**	**13 26 59.3**	**+0.7**
KTMS	2.1nm,0.3s			*e*S	**Sg**	**13 27 26.6**	**-0.1**
SHLS	**Shalkode**	**2.55**	**285**	*eP*	**Pn**	**13 27 02.4**	**-0.8**
SHLS	9.1nm,0.3s			*e*S	**Sn**	**13 27 31.5**	**-2.8**
PDGK	**Podgornoye**	**2.57**	**289**	⇑Pn	**Pg**	**13 27 11.6**	**+0.6**
PDGK	4.1nm,0.8s			⇑Sn	**Sg**	**13 27 43.2**	**-1.0**
DJR	**Jarkent**	**2.84**	**310**	*eP*	**Pg**	**13 27 15.1**	**-0.9**
DJR	1.8nm,0.1s			*e*S	**Sg**	**13 27 53.5**	**+0.6**
UZB	**Uzynbulak**	**2.86**	**283**	*eP*	**Pb**	**13 27 12.9**	**0.0**
UZB	1.0nm,0.1s			*e*S	**Sb**	**13 27 49.5**	**+1.5**
KPKS	**Kokpek**	**3.17**	**288**	*eP*	**Pb**	**13 27 18.2**	**0.0**
KPKS	2.9nm,0.2s			*e*S	**Sb**	**13 27 58.7**	**+1.7**
ZHN	**Zhinishke**	**3.29**	**282**	*eP*	**Pb**	**13 27 20.6**	**+0.5**
ZHN	8.1nm,0.1s			*e*S	**Sb**	**13 28 02.6**	**+2.4**
ARXS	**Arharly**	**4.00**	**296**	*eP*	**Pb**	**13 27 34.8**	**+2.5**
ARXS	1.1nm,0.3s			*e*S	**Sg**	**13 28 27.8**	**-2.4**
MK31	**Makanchi Array**	**4.26**	**355**	Pn	**Pn**	**13 27 26.6**	**0.0**
MK31	0.1nm,0.2s,baz=179,slow=15,SNR=18			⇑Pg	**Pb**	**13 27 36.9**	**+0.3**
MK31	0.4nm,0.3s,baz=177,slow=16,SNR=6.4			⇑Sn	**Sn**	**13 28 15.8**	**-0.5**
MK31	0.6nm,0.3s,baz=176,slow=23			⇓Lg	Lg	13 28 30.1	
MAKZ	**Makanchi**	**4.30**	**352**	⇓Pn	**Pn**	**13 27 27.4**	**+0.3**
MAKZ	2.5nm,1.1s			⇓Pg	**Pb**	**13 27 37.4**	**+0.1**
MAKZ	2.4nm,0.9s			⇑Sn	**Sn**	**13 28 16.5**	**-0.8**
MAKZ	1.0nm,0.3s			⇓Lg	Lg	13 28 31.3	
	3.0nm,0.7s						

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*TEH **15** 13:40:16.2, 34°.93N×45°.87E, h13km±30km, ML3.6*
*ISN **15** 13:40:17.1±2.4, 34°.88N×45°.84E, h12km±31km, ML3.7*
ISC 15 13:40:17.2±1.7, 34°.92N±0°.03×45°.83E±0°.04, h2km±14km,
n31, σ0°.64/36, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.46**	**205**	Pg	**Pg**	**13 40 27.0**	**+1.0**
KGS1				Sg	**Sb**	**13 40 34.6**	**-0.8**
IDHR	**Dehrash**	**0.51**	**115**	Pg	**Pg**	**13 40 27.2**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.81**	**175**	Pg	**Pg**	**13 40 32.9**	**+0.2**
GLG1				Sg	**Sb**	**13 40 45.3**	**-0.1**
IGHG	**Ghaleghazi**	**0.85**	**134**	Pg	**Pg**	**13 40 33.6**	**+0.1**
ILIN	**Lien**	**0.93**	**90**	Pg	**Pg**	**13 40 34.9**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.19**	**122**	Pg	**Pg**	**13 40 39.6**	**-0.4**
SDS1	**Sardasht. Az.**	**1.25**	**347**	Pg	**Pg**	**13 40 40.4**	**-0.9**
IKRK	**Kirkuk**	**1.31**	**292**	*e*Pg	**Pn**	**13 40 41.0**	**-1.5**
IKRK	baz=113			*e*Sg	**Sn**	**13 41 01.0**	**+0.4**
IKRK				AML	AML	13 41 05.1	
	comp=N,113nm,1.0s						
ILBA	**Ilam Banvizeh**	**1.33**	**166**	Pg	**Pn**	**13 40 42.3**	**-0.7**
ILBA				Sg	**Sn**	**13 41 01.5**	**+0.2**
SNQR	**Sonqor, Kerman**	**1.48**	**92**	Pg	**Pn**	**13 40 44.2**	**-1.0**
IBZA	**Bozab**	**1.74**	**104**	Pg	**Pn**	**13 40 48.9**	**+0.2**
IBDR	**Badra**	**1.81**	**177**	*e*Pn	**Pn**	**13 40 50.0**	**+0.6**
IBDR				*e*Sn	**Sb**	**13 41 14.0**	**-0.2**
MAHB	**Mahabad**	**1.84**	**357**	Pn	**Pn**	**13 40 50.5**	**+0.5**
IKFM	**Kafar-mosalman**	**2.18**	**129**	Pn	**Pn**	**13 40 54.9**	**+0.5**
HSAM	**Samen**	**2.40**	**106**	Pn	**Pn**	**13 40 57.7**	**-0.1**
IHSH	**Hashtrud**	**2.65**	**26**	Pn	**Pn**	**13 41 01.8**	**+0.5**
IAZR	**Azarshahr**	**2.75**	**3**	Pn	**Pn**	**13 41 03.5**	**+0.9**
QABG	**Abgarm-Qazvin**	**3.17**	**75**	Pn	**Pn**	**13 41 08.5**	**+0.1**
ISRB	**Sarab**	**3.26**	**27**	Pn	**Pn**	**13 41 10.5**	**+1.0**
ISHB	**Shabestar**	**3.36**	**357**	Pn	**Pn**	**13 41 11.3**	**+0.3**
IHRS	**Heris**	**3.53**	**16**	Pn	**Pn**	**13 41 13.5**	**+0.2**
JIR1	**Jirandeh**	**3.69**	**60**	Pn	**Pn**	**13 41 15.5**	**+0.1**
IMRD	**Marand**	**3.79**	**359**	Pn	**Pn**	**13 41 17.7**	**+0.9**
GRMI	**Germi**	**4.22**	**23**	Pn	**Pn**	**13 41 23.6**	**+0.9**
KLST	**Kelardasht - M**	**4.55**	**68**	Pn	**Pn**	**13 41 27.9**	**+0.6**
IPIR	**Pirpir**	**4.77**	**116**	Pn	**Pn**	**13 41 29.9**	**-0.6**
JHBN	**Jahan bin**	**4.85**	**122**	Pn	**Pn**	**13 41 31.1**	**-0.4**
MZPU	**Pul - Mazandar**	**4.91**	**70**	Pn	**Pn**	**13 41 32.9**	**+0.6**
IKLH	**Kolahrood**	**5.03**	**107**	Pn	**Pn**	**13 41 34.3**	**+0.3**
ISFB	**Sefidab**	**5.32**	**94**	Pn	**Pn**	**13 41 37.2**	**-0.6**
IBRJ	**Brojen**	**5.45**	**122**	Pn	**Pn**	**13 41 39.3**	**-0.4**

DJA 15 13:46:01.3±0.4, 9°S±5°×11°0E±°, h10km, M4.1/13, mb4.3/3,
MLv4.0/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.44**	**7**	P	Pn	13 46 25.4	-2.1
YOGI	**Yogyakarta**	**1.52**	**358**	P	Pn	13 46 26.9	-1.7
PWJI	**Pagerwojo**	**1.95**	**48**	P	Pn	13 46 33.6	-0.9
SMRI	**Semarang**	**2.29**	**2**	P	Pn	13 46 39.9	+0.7
CMJI	**Cimerak**	**2.44**	**309**	P	Pn	13 46 40.6	-0.6
KPJI	**Karang Pucung**	**2.45**	**325**	P	Pn	13 46 42.3	+1.0
GRJI	**Gresik**	**3.21**	**41**	P	Pn	13 46 51.9	+0.1
CNJI	**Cibinong**	**3.78**	**302**	P	Pn	13 47 00.1	+0.5
JAGI	**Jajag, Banyuwa**	**3.86**	**77**	P	Pn	13 47 01.7	+0.9
SRBI	**Singaraja**	**4.97**	**76**	P	Pn	13 47 15.1	-0.9
TWSI	**Taliwang, Sumb**	**6.48**	**85**	P	Pn	13 47 37.7	+0.9
	23nm,1.1s,0.2nm						
PLAI	**Plampang**	**7.35**	**87**	P	Pn	13 47 49.2	+0.4

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*SOME **15** 14:03:50.7, 40°.68N×83°.27E, h5km*
*NNC **15** 14:04:19.1±8.3, 41°.03N×82°.65E, h0km, mb3.7, mpv3.3,*
Error ellipse: s-maj=65.7km s-min=45.7km az=156.0
ISC 15 14:03:48.6±3.5, 40°.6N±0°.1×83°.29E±0°.10, h10km, n22,
σ1°.79/33, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.59**	**323**	*eP*	**Pb**	**14 04 55.5**	**+3.2**
KTMS	0.6nm,0.1s			*e*S	**Sg**	**14 05 43.2**	**-0.7**
SHLS	**Shalkode**	**3.84**	**313**	*eP*	**Pb**	**14 04 56.3**	**-0.1**
SHLS	8.0nm,0.3s			*e*S	**Sb**	**14 05 44.7**	**+1.7**

78nm,0.6s
SHLS Shalkode 3.84 313 Pg **Pb 14 04 56.3 -0.1**
8.0nm,0.3s
SHLS Lg Lg 14 05 44.7
78nm,0.6s
PDGK Podgornoye 3.94 315 ⇓Pn Pg 14 05 11.8 +7.8
12nm,0.6s
PDGK ⇑Sn **Sg 14 05 51.8 -3.1**
32nm,0.9s
UZB Uzynbulak 4.08 310 *e*P **Pg 14 05 05.1 -1.6**
2.5nm,0.3s
UZB *e*S **Sg 14 05 59.7 +0.1**
11nm,0.6s
UZB Uzynbulak 4.08 310 Pg **Pg 14 05 05.1 -1.6**
2.5nm,0.3s
SATY Saty 4.40 306 *e*P **Pg 14 05 11.3 -1.6**
1.9nm,0.1s
SATY *e*S **Sg 14 06 10.3 +0.4**
16nm,0.3s
ZHN Zhinishke 4.44 307 *e*P **Pg 14 05 12.1 -1.6**
3.5nm,0.1s
ZHN *e*S **Sg 14 06 11.8 +0.6**
14nm,0.2s
KPKS Kokpek 4.47 311 *e*P **Pg 14 05 12.1 -2.1**
1.9nm,0.2s
KPKS *e*S **Sg 14 06 12.2 +0.1**
10nm,0.5s
KPKS Kokpek 4.47 311 Pg **Pg 14 05 12.1 -2.1**
1.9nm,0.2s
KPKS Lg Lg 14 06 12.2
10nm,0.5s
DJR Jarkent 4.54 326 *e*P **Pg 14 05 12.9 -2.7**
0.6nm,0.1s
DJR *e*S **Sg 14 06 13.2 -1.3**
4.9nm,0.2s
DJR Jarkent 4.54 326 Pg **Pg 14 05 14.1 -1.5**
4.2nm,0.5s
KURS Kuram 4.79 309 *e*P **Pg 14 05 18.0 -2.2**
2.8nm,0.8s
KURS *e*S **Sg 14 06 22.1 -0.1**
4.6nm,0.7s
KURS Kuram 4.79 309 Lg Lg 14 06 22.1
4.6nm,0.7s
KOTS Kotyrbulak 5.31 302 *e*P **Pg 14 05 27.2 -3.1**
2.6nm,0.6s
KOTS *e*S **Sg 14 06 38.0 -1.0**
8.2nm,0.3s
MDOK Medeo 5.32 301 *e*P **Pg 14 05 28.3 -2.1**
2.0nm,0.2s
MDOK *e*S **Sg 14 06 39.9 +0.6**
4.0nm,0.6s
MDOK Medeo 5.32 301 Pg **Pg 14 05 29.0 -1.4**
1.9nm,0.3s
MDOK Lg Lg 14 06 40.9
3.9nm,0.8s
TNSS Tian-Shan 5.33 299 *e*P **Pg 14 05 29.7 -1.0**
0.3nm,0.1s
TNSS *e*S **Sg 14 06 42.0 +2.2**
2.7nm,0.6s
TNSS Tian-Shan 5.33 299 Pg **Pg 14 05 30.5 -0.2**
1.8nm,0.5s
TNSS Lg Lg 14 06 43.2
2.7nm,0.6s
MK31 Makanchi Array 6.24 354 ⇑Pn **Pg 14 05 47.1 -0.9**
0.8nm,0.5s,baz=166,slow=16,SNR=4.2
MK31 ⇓Sn **Sb 14 06 54.0 +2.0**
12nm,0.7s,baz=176,slow=24
MAKZ Makanchi 6.29 352 ⇑Pn **Pg 14 05 46.5 -2.4**
3.4nm,1.5s
MAKZ ⇑Sn **Sb 14 06 55.1 +1.9**
6.8nm,0.8s
ZSN Zaisan 6.95 9 Lg Lg 14 07 13.9
8.8nm,0.8s

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*DJA **15** 14:03:57.8±0.3,9°S±4°×12°0E±°,h132km±5km,M4.7/17, mB5.4/3,mb4.9/6,MLv4.6/17,Mw(mB)4.8/3*
*NEIC **15** 14:03:58.4±2.2,8°69S±0°09×119°48E±0°07,h143km±10km, mb4.0/12,Error ellipse: s-maj=13.0km s-min=10.2km az=201.0*
*IDC **15** 14:03:59.6±3.4,8°52S×119°59E,h146km±26km,mb3.6/7, mbtmp4.0/9,Error ellipse: s-maj=54.6km s-min=10.3km az=58.0*
ISC 15 14:03:58.4±0.5,**8°72S**±0°05×**119°51E**±0°05,**h150**km,**n75**, σ1§**69**/75,**mb4.0**/10,**Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.71**	**266**	P	**Pn**	**14 04 29.6**	**-0.7**
PLAI	**Plampang**	**1.71**	**266**	P	**Pn**	**14 04 29.0**	**-1.3**
PLAI				S	**Sn**	**14 04 52.0**	**-2.7**
BASI	**Baing, Sumba**	**1.82**	**145**	P	**Pn**	**14 04 30.2**	**-1.3**
BASI				S	**Sn**	**14 04 53.7**	**-3.3**
EDFI	**Ende, Flores**	**2.16**	**91**	P	**Pn**	**14 04 34.2**	**-1.3**
TWSI	**Taliwang, Sumb**	**2.60**	**269**	P	**Pn**	**14 04 39.9**	**-0.8**
MMRI	**Maumere**	**2.70**	**88**	P	**Pn**	**14 04 41.6**	**-0.4**
MMRI	**Maumere**	**2.70**	**88**	Pn	**Pn**	**14 04 40.6**	**-1.4**
MMRI	**Maumere**	**2.70**	**88**	P	**Pn**	**14 04 41.7**	**-0.3**
BKSI	**Bulukumba**	**3.43**	**10**	P	**Pn**	**14 04 50.8**	**-0.5**
KAPI	**Kappang**	**3.69**	**4**	P	**Pn**	**14 04 55.2**	**+0.5**
KAPI	**Kappang**	**3.69**	**4**	Pn	**Pn**	**14 04 54.3**	**-0.3**
KAPI	**Kappang**	**3.69**	**4**	P	**Pn**	**14 04 54.8**	**+0.1**
	43nm,0.6s,baz=188,slow=9.4,SNR=26						
KAPI				S	**Sn**	**14 05 34.4**	**-3.9**
	30nm,0.6s,baz=206,slow=22,SNR=9.3						
DNP	**Denpasar**	**4.25**	**270**	P	**Pn**	**14 05 01.1**	**-0.8**
SRBI	**Singaraja**	**4.30**	**278**	P	**Pn**	**14 05 01.4**	**-1.1**
SOEI	**Soe**	**4.81**	**103**	P	**Pn**	**14 05 09.5**	**+0.1**
SOEI	**Soe**	**4.81**	**103**	Pn	**Pn**	**14 05 08.8**	**-0.6**
SOEI	**Soe**	**4.81**	**103**	P	**Pn**	**14 05 09.1**	**-0.3**
ABJI	**Asem Bagus**	**5.30**	**280**	P	**Pn**	**14 05 14.7**	**-1.1**
	133nm,0.9s,0.5nm						
JAGI	**Jajag, Banyuwa**	**5.30**	**272**	P	**Pn**	**14 05 13.5**	**-2.4**
JAGI	**Jajag, Banyuwa**	**5.30**	**272**	Pn	**Pn**	**14 05 13.1**	**-2.7**
JAGI	**Jajag, Banyuwa**	**5.30**	**272**	P	**Pn**	**14 05 13.5**	**-2.4**
	100nm,0.4s,6μm0.7nm						
GRJI	**Gresik**	**7.19**	**284**	P	**Pn**	**14 05 41.6**	**+0.6**
	122nm,1.1s						
PWJI	**Pagerwojo**	**7.65**	**275**	P	**Pn**	**14 05 46.9**	**-0.3**
UGM	**Wanagama**	**8.93**	**275**	P	**Pn**	**14 06 04.3**	**0.0**
UGM	**Wanagama**	**8.93**	**275**	Pn	**Pn**	**14 06 03.1**	**-1.1**
UGM	**Wanagama**	**8.93**	**275**	P	**Pn**	**14 06 04.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**11.06**	**148**	P	**Pn**	**14 06 31.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**11.06**	**148**	Pn	**Pn**	**14 06 31.3**	**-1.2**
DRS	**Darwin Rock St**	**11.79**	**109**	P	**Pn**	**14 06 40.6**	**-1.4**
BBJI	**Bungbulang**	**11.81**	**275**	P	**Pn**	**14 06 42.7**	**+0.4**
	19nm,1.4s						
MTN	**Manton Dam**	**12.13**	**111**	P	**Pn**	**14 06 45.0**	**-1.5**
MTN	**Manton Dam**	**12.13**	**111**	Pn	**Pn**	**14 06 44.5**	**-1.9**
MBWA	**Marble Bar**	**12.37**	**179**	P	**Pn**	**14 06 49.7**	**+0.2**
MBWA	**Marble Bar**	**12.37**	**179**	Pn	**Pn**	**14 06 48.4**	**-1.1**
KDU	**Kakadu**	**13.33**	**108**	P	**Pn**	**14 07 00.7**	**-1.2**
FAKI	**Fak Fak**	**13.92**	**66**	P	**Pn**	**14 07 09.7**	**+0.3**
FAKI	**Fak Fak**	**13.92**	**66**	Pn	**Pn**	**14 07 08.5**	**-0.9**
GIRL	**Giralia**	**14.74**	**199**	P	**P**	**14 07 22.4**	**+0.7**
GIRL	**Giralia**	**14.74**	**199**		**P**	**14 07 22.0**	**+0.2**
MNAI	**Manna**	**17.00**	**284**	P	**Pn**	**14 07 49.7**	**+2.3**
MNAI	**Manna**	**17.00**	**284**		**Pn**	**14 07 46.9**	**-0.5**
WB0	**Warramunga Arr**	**18.11**	**129**	P	**P**	**14 07 59.3**	**+0.3**
WB0				IAmb	IAmb	14 08 01.6	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**18.17**	**129**	P	**P**	**14 07 60.0**	**+0.3**
WRA	**Warramunga Arr**	**18.17**	**129**	P	**P**	**14 08 00.9**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=303,slow=12,SNR=49						
WRA				S	**S**	**14 11 14.3**	**-5.8**
	comp=Z,1.8nm,0.7s,baz=300,slow=23,SNR=9.3						
WRAB	**Tennant Creek**	**18.18**	**129**	P	**P**	**14 08 00.8**	**+1.1**
WRAB				IAmb	IAmb	14 08 05.8	
	comp=Z,12nm,1.2s						
WB2	**Warramunga Arr**	**18.18**	**129**	P	**P**	**14 08 00.9**	**+1.1**
WB2				IAmb	IAmb	14 08 05.7	
	comp=Z,10nm,1.2s						
WRKA	**Warakurna**	**18.26**	**154**	P	**Pn**	**14 08 02.0**	**-0.4**
WR0	**Warramunga Arr**	**18.34**	**129**	P	**P**	**14 08 02.5**	**+1.0**
WR0				IAmb	IAmb	14 08 09.4	
	comp=Z,9.6nm,1.1s						
AS31	**Alice Springs**	**20.27**	**139**	P	**P**	**14 08 24.1**	**+1.8**
ASAR	**Alice Springs**	**20.27**	**139**	P	**P**	**14 08 24.0**	**+1.6**
ASAR	**Alice Springs**	**20.27**	**139**	P	Pn	14 08 24.7	-1.3
	comp=Z,2.0nm,0.4s,baz=330,slow=13,SNR=39						
ASAR				S	**S**	**14 12 06.5**	**+4.8**
	comp=Z,2.9nm,0.9s,baz=317,slow=24,SNR=9.3						
	comp=Z,2.0nm,0.4s						
AS01	**Alice Springs**	**20.30**	**139**	P	Pn	14 08 25.0	-1.3
QIS	**Mount Isa**	**22.70**	**123**	P	**P**	**14 08 50.0**	**+2.5**
COEN	**Coen**	**23.77**	**105**	P	**P**	**14 09 00.0**	**+2.6**
COEN	**Coen**	**23.77**	**105**	P	**P**	**14 08 59.2**	**+1.8**
OOD	**Oodnadatta**	**24.36**	**143**	P	**P**	**14 09 05.4**	**+2.8**
MTSU	**Mount Surprise**	**25.85**	**114**	P	**P**	**14 09 19.4**	**+3.2**
STKA	**Stephens Creek**	**30.85**	**141**	P	**P**	**14 10 01.9**	**+1.4**
STKA	**Stephens Creek**	**30.85**	**141**	P	**P**	**14 10 02.9**	**+2.4**
	comp=Z,3.0nm,0.7s,baz=327,slow=12,SNR=3.8						
	comp=Z,3.0nm,0.7s						
H08S2	**Diego Garcia H**	**46.53**	**268**	T	T	15 01 54.5	
	baz=97						
H08S3	**Diego Garcia H**	**46.54**	**268**	T	T	15 01 54.5	
	baz=97						
H08S1	**Diego Carcia H**	**46.54**	**268**	T	T	15 01 55.5	
	baz=97						
HHC	**Hu-ho-hao-te**	**49.87**	**352**	*e*P	**P**	**14 12 36.3**	**-0.2**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**53.87**	**11**	P	**P**	**14 13 05.5**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=209,slow=6.0,SNR=4.5						
	comp=Z,0.3nm,0.3s						
SONM	**Songino Array**	**57.49**	**350**	P	**P**	**14 13 32.2**	**+0.3**
SONM	**Songino Array**	**57.49**	**350**	P	**P**	**14 13 33.5**	**+1.6**
	comp=Z,2.6nm,0.9s,baz=168,slow=7.9,SNR=9.4						
	comp=Z,2.6nm,0.9s						
KSH	**Kashi**	**62.68**	**323**	P	**P**	**14 14 08.3**	**+0.9**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MK31	**Makanchi Array**	**64.44**	**333**	P	**P**	**14 14 18.4**	**-0.3**
MK31				IAmb	IAmb	14 14 20.3	
	comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	**64.44**	**333**	P	**P**	**14 14 19.1**	**+0.4**
MKAR	**Makanchi Array**	**64.44**	**333**	P	**P**	**14 14 19.4**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=146,slow=7.6,SNR=15						
	comp=Z,1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**68.94**	**333**	P	**P**	**14 14 47.4**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=137,slow=5.7,SNR=4.4						
	comp=Z,0.3nm,0.4s						
ZAA0	**Zalesovo Array**	**68.96**	**339**	P	**P**	**14 14 45.6**	**-1.5**
ZAA0				IAmb	IAmb	14 14 46.1	
	comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**68.96**	**339**	P	**P**	**14 14 45.6**	**-1.5**
ZALV	**Zalesovo Beam**	**68.96**	**339**	P	**P**	**14 14 46.5**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=131,slow=4.4,SNR=4.7						
	comp=Z,0.8nm,0.3s						
ABKAR	**Akbulak array**	**77.62**	**325**	P	**P**	**14 15 38.8**	**+0.7**

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*IDC **15** 14:19:32.9±1.5,2°37N×123°82E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=196.8km s-min=21.3km az=63.0*
*DJA **15** 14:19:54.8±0.8,3°N±6°×12°5E±°,h227km±7km,M3.4/7, MLv3.4/7*
ISC 15 14:19:56.8±1.3,**2°6N**±0°1×**125°2E**±0°1,**h250**km,**n8**, σ2§**84**/8,**mb3.2**/4,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.81**	**131**	P	**Pn**	**14 20 44.8**	**-2.5**
GTOI	**Gorontalo**	**2.98**	**228**	P	**Pn**	**14 20 46.4**	**-2.6**
LUWI	**Luwuk**	**4.40**	**214**	P	**Pn**	**14 21 04.4**	**-1.0**
SANI	**Sanana**	**4.70**	**171**	P	**Pn**	**14 21 06.6**	**-2.4**
WRA	**Warramunga Arr**	**24.14**	**159**	P	**P**	**14 24 53.2**	**+2.8**
	0.3nm,0.4s,baz=332,slow=11,SNR=17						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**27.46**	**163**	P	**P**	**14 25 23.7**	**+3.6**
	0.4nm,0.9s,baz=344,slow=7.9,SNR=9.0						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**57.63**	**326**	P	**P**	**14 29 21.0**	**0.0**
	0.4nm,0.4s,baz=123,slow=7.7,SNR=10						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**61.88**	**328**	P	**P**	**14 29 50.0**	**+0.2**
	0.3nm,0.5s,baz=122,slow=6.5,SNR=3.6						
	0.3nm,0.5s						

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*IDC **15** 15:40:24.5±1.2,13°76N×51°68E,h0km,mb3.6/13, mbtmp3.5/14,ML2.6/1,MS3.1/3,Error ellipse: s-maj=29.0km s-min=21.2km az=5.0*
ISC 15 15:40:27.9±1.0,**13°8N**±0°2×**51°7E**±0°1,**h21**km,**n15**, σ0§**71**/14,**mb3.6**/13,**Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.93**	**256**	Pn	**Pn**	**15 42 36.5**	**+0.7**
	0.1nm,0.3s,baz=27,slow=13,SNR=3.8						
ATD				LR	LR	15 45 10.6	
	comp=Z,14nm,19.0s,baz=41,slow=32						
	0.7nm,0.7s						
FURI	**Furi**	**13.66**	**251**	LR	LR	15 47 49.3	
	comp=Z,112nm,21.3s,baz=0.5,slow=33						
BRTR	**Keskin Array B**	**30.33**	**332**	P	**P**	**15 46 39.5**	**+1.2**
	0.6nm,0.8s,baz=144,slow=8.7,SNR=2.9						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**41.69**	**32**	P	**P**	**15 48 15.6**	**+0.4**
	0.2nm,0.5s,baz=220,slow=12,SNR=2.8						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**41.87**	**17**	P	**P**	**15 48 17.0**	**+0.5**
	0.3nm,0.5s,baz=194,slow=5.5,SNR=2.9						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**42.71**	**25**	P	**P**	**15 48 23.9**	**+0.5**
	0.3nm,0.7s,baz=228,slow=8.2,SNR=2.6						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**45.52**	**78**	P	**P**	**15 48 47.0**	**+0.6**
	0.6nm,0.4s,baz=267,slow=9.8,SNR=5.5						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**47.78**	**26**	P	**P**	**15 49 02.9**	**-0.7**
	0.7nm,0.5s,baz=231,slow=9.0,SNR=5.0						
	0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**48.56**	**275**	P	**P**	**15 49 09.7**	**-0.5**
	0.4nm,0.7s,baz=78,slow=10.0,SNR=2.1						
TORD				LR	LR	16 09 19.1	
	comp=Z,82nm,18.4s,baz=188,slow=36						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**51.05**	**345**	P	**P**	**15 49 28.1**	**-0.2**
	1.7nm,0.8s,baz=120,slow=9.8,SNR=8.2						
	1.7nm,0.8s						
HFS	**Hagfors**	**53.97**	**338**	P	**P**	**15 49 49.2**	**-0.9**
	0.4nm,0.4s,baz=117,slow=5.8,SNR=4.4						
	0.4nm,0.4s						
ESDC	**Sonseca Array**	**55.00**	**309**	P	**P**	**15 49 57.5**	**-0.6**
	0.3nm,0.6s,baz=96,slow=6.4,SNR=4.6						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**58.11**	**349**	P	**P**	**15 50 19.1**	**-0.4**
	0.6nm,0.4s,baz=148,slow=8.6,SNR=1.7						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**87.89**	**111**	P	**P**	**15 53 15.9**	**-0.7**
	0.1nm,0.6s,baz=299,slow=3.8,SNR=1.1						
	0.1nm,0.6s						
ASAR	**Alice Springs**	**88.49**	**115**	P	**P**	**15 53 19.6**	**+0.1**
	0.2nm,0.6s,baz=284,slow=5.3,SNR=2.0						
	0.2nm,0.6s						

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*TEH **15** 15:43:59.0,33°79N×45°64E,h8km±147km,ML2.7*
*ISN **15** 15:43:59.4±1.0,33°74N×45°66E,h24km±34km,ML2.7*
ISC 15 15:43:59.1±1.1,**33°77N**±0°04×**45°67E**±0°07,**h10**km,**n7**, σ0§**48**/10,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.40**	**30**	Pg	**Pg**	**15 44 06.8**	**-0.2**
GLG1				Sg	**Sg**	**15 44 12.8**	**+0.4**
ILBA	**Ilam Banvizeh**	**0.47**	**107**	Pg	**Pg**	**15 44 08.8**	**+0.5**
IBDR	**Badra**	**0.69**	**161**	*e*Pg	**Pg**	**15 44 12.0**	**-0.4**
	baz=340						
IBDR				*e*Sg	**Sg**	**15 44 22.0**	**+0.5**
IBDR				AML	AML	15 44 32.1	
	comp=N,97nm,0.5s						
IGHG	**Ghaleghazi**	**0.94**	**53**	Pg	**Pn**	**15 44 18.1**	**-0.5**
IDHR	**Dehrash**	**1.10**	**32**	Pg	**Pb**	**15 44 20.3**	**-0.2**
ILIN	**Lien**	**1.57**	**43**	Pg	**Pg**	**15 44 29.2**	**0.0**
IKRK	**Kirkuk**	**1.96**	**326**	*e*Pn	**Pn**	**15 44 33.0**	**+0.6**
IKRK				*e*Sn	**Sb**	**15 44 59.0**	**-0.4**

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*AZER **15** 15:56:00.1,41°04N×48°69E,h3km,ml2.9*
*DRS **15** 15:56:02.5,41°04N×48°62E,h9km*
*IDC **15** 15:56:36.8±8.6,43°03N×42°68E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=181.9km s-min=34.5km az=13.0*
ISC 15 15:56:02.7±1.0,**41°04N**±0°02×**48°65E**±0°02,**h6**km±9km, **n45**,σ1§**43**/84,**mb3.7**/4,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIZA	**Siyzn**	**0.19**	**79**	P	**Pg**	**15 56 06.5**	**0.0**
SIZA				S	**Sg**	**15 56 10.1**	**+1.0**
PQL	**Pirkuli**	**0.26**	**190**	P	**Pb**	**15 56 08.8**	**-1.0**
PQL				S	**Sb**	**15 56 14.6**	**0.0**
ATGJ	**Altiaghaj**	**0.28**	**130**	P	**Pg**	**15 56 07.2**	**-1.0**
ATGJ				S	**Sg**	**15 56 11.2**	**-0.7**
QUBA	**Quba, Azerbaij**	**0.34**	**339**	P	**Pb**	**15 56 11.6**	**+0.5**
QUBA				S	**Sb**	**15 56 18.3**	**+1.5**
XNQ	**Khinaliq**	**0.41**	**289**	P	**Pb**	**15 56 12.3**	**-0.2**
XNQ				S	**Sb**	**15 56 20.9**	**+1.9**
IML	**Ismayilli**	**0.43**	**235**	P	**Pb**	**15 56 12.8**	**0.0**
IML				S	**Sb**	**15 56 21.2**	**+1.7**
GBS	**Qobustan**	**0.55**	**156**	P	**Pb**	**15 56 14.3**	**-0.5**
GBS				S	**Sb**	**15 56 25.3**	**+2.4**
QSAR	**Qusar**	**0.56**	**328**	P	**Pb**	**15 56 15.5**	**+0.6**
QSAR				S	**Sb**	**15 56 25.0**	**+1.9**
QBL	**Gabala**	**0.62**	**262**	P	**Pb**	**15 56 16.0**	**0.0**
QBL				S	**Sn**	**15 56 28.0**	**-0.5**
KSMR	**Kasumkent**	**0.69**	**325**	*e*Pg	**Pb**	**15 56 17.8**	**+0.6**
	240nm,1.2s						
KSMR				*e*Sg	**Sn**	**15 56 28.5**	**-1.5**
	240nm,3.2s						
KDMR	**Kurdemir**	**0.75**	**208**	P	Pn	**15 56 19.4**	**-0.5**
KDMR				S	**Sn**	**15 56 31.2**	**-0.3**
AKT	**Akhty**	**0.82**	**303**	*e*Pg	**Pb**	**15 56 19.8**	**+0.3**
	160nm,0.8s						
AKT				*e*Sg	**Sb**	**15 56 31.8**	**+0.9**
	280nm,1.9s						
DRN	**Derbent**	**1.02**	**346**	*e*Pg	**Pn**	**15 56 23.3**	**-0.1**
	280nm,0.1s						
DRN				*e*Sg	**Sn**	**15 56 38.1**	**0.0**
	280nm,1.6s						
GOBA	**Gobu**	**1.04**	**128**	P	**Pb**	**15 56 23.4**	**+0.4**
GOBA				S	**Sn**	**15 56 43.9**	**+5.3**
ZRD	**Zardab**	**1.06**	**224**	P	**Pn**	**15 56 24.2**	**+0.2**
ZRD				S	**Sn**	**15 56 42.3**	**+3.3**
SEKA	**Sheki**	**1.11**	**279**	P	**Pn**	**15 56 24.4**	**-0.4**
SEKA				S	**Sn**	**15 56 41.9**	**+1.3**
ALIB	**&Aumlli-Bayram**	**1.11**	**166**	P	**Pn**	**15 56 25.8**	**+1.0**
ALIB				S	Sn	15 56 51.1	+11
MNGR	**Mingechevir, A**	**1.22**	**258**	P	**Pn**	**15 56 27.2**	**+1.0**
MNGR				S	**Sn**	**15 56 47.1**	**+4.1**
URKR	**Urkarakh**	**1.36**	**326**	*e*Pg	**Pb**	**15 56 29.4**	**+0.8**
	160nm,0.1s						
URKR				*e*Sg	**Sn**	**15 56 48.9**	**+2.1**
	320nm,0.4s						
AGDM	**Agdam**	**1.50**	**232**	Pn	**Pb**	**15 56 30.5**	**-0.5**
AGDM				Sn	**Sg**	**15 56 54.1**	**+3.2**
BLQ	**Beylaqan**	**1.56**	**213**	Pn	**Pb**	**15 56 31.6**	**-0.3**
BLQ				Sn	**Sg**	**15 56 54.5**	**+1.6**
KMKR	**Kumukh**	**1.60**	**314**	*e*Pg	**Pg**	**15 56 33.0**	**-0.3**
	80nm,0.0s						
KMKR				*e*Sg	**Sg**	**15 56 55.3**	**+1.3**
	200nm,0.4s						
SGKR	**Sergokala**	**1.60**	**333**	*e*Pg	**Pg**	**15 56 33.2**	**-0.2**
	80nm,0.0s						
SGKR				*e*Sg	**Sg**	**15 56 55.4**	**+1.3**
	440nm,0.5s						
ZKTA	**Zakatala**	**1.64**	**292**	Pn	**Pg**	**15 56 34.6**	**+0.5**
ZKTA				Sn	**Sg**	**15 56 57.8**	**+2.4**
GLBA	**Cliilabad**	**1.81**	**186**	Pn	**Pn**	**15 56 33.8**	**-0.6**
GLBA				Sn	**Sg**	**15 56 60.0**	**-0.8**
GANJ	**Ganja**	**1.81**	**258**	Pn	**Pn**	**15 56 34.7**	**+0.2**
GANJ				Sn	**Sg**	**15 57 01.1**	**+0.2**
GNBR	**Gunib**	**1.85**	**317**	*e*Pg	**Pg**	**15 56 37.6**	**-0.5**
	600nm,0.0s						
GNBR				*e*Sg	**Sg**	**15 57 03.2**	**+1.1**
	350nm,0.1s						
QRD	**Qoradiz**	**1.88**	**213**	Pn	**Pb**	**15 56 36.6**	**-0.8**
QRD				Sn	**Sb**	**15 57 01.4**	**+0.4**
ARKR	**Arakani**	**1.99**	**322**	*e*Pg	**Pb**	**15 56 39.4**	**0.0**
	520nm,0.0s						
ARKR				*e*Sg	**Sg**	**15 57 06.7**	**-0.1**
	440nm,0.1s						
XNZR	**Khunzakh**	**2.09**	**316**	*e*Pg	**Pb**	**15 56 41.0**	**-0.1**
	400nm,0.0s						
XNZR				*e*Sg	**Sg**	**15 57 09.7**	**-0.2**
	400nm,0.1s						
BUJR	**Buynaksk**	**2.12**	**328**	*e*Pg	**Pb**	**15 56 41.5**	**0.0**
	280nm,0.0s						
BUJR				*e*Sg	**Sg**	**15 57 10.3**	**-0.6**
	400nm,0.3s						
YRD	**Yardimli**	**2.15**	**189**	Pn	**Pn**	**15 56 39.7**	**+0.5**
YRD				Sn	**Sb**	**15 57 09.8**	**+0.9**
UNCR	**Uncukul**	**2.17**	**321**	*e*Pg	**Pb**	**15 56 42.2**	**-0.2**
	320nm,0.0s						
UNCR				*e*Sg	**Sg**	**15 57 11.8**	**-0.7**
	320nm,0.1s						
KRNR	**Karanay**	**2.21**	**324**	*e*Pg	**Pb**	**15 56 42.6**	**-0.5**
	320nm,0.0s						
KRNR				*e*Sg	**Sg**	**15 57 12.3**	**-1.3**
	400nm,0.1s						
GDB	**GEDABAY**	**2.22**	**263**	Pn	**Pn**	**15 56 40.2**	**0.0**
GDB				Sn	**Sb**	**15 57 11.8**	**+0.7**
DBC	**Dubki**	**2.40**	**326**	*e*Pn	**Pb**	**15 56 45.0**	**-1.3**
	300nm,0.0s						
DBC				*e*Sn	**Sb**	**15 57 17.1**	**+0.9**
	450nm,0.1s						
LRK	**Lerik**	**2.41**	**186**	Pn	**Pn**	**15 56 44.6**	**+1.9**
LRK				Sn	**Sb**	**15 57 16.4**	**-0.1**
BTLR	**Botlikh**	**2.44**	**313**	*e*Pn	**Pb**	**15 56 45.7**	**-1.2**
	400nm,0.0s						
BTLR				*e*Sn	**Sb**	**15 57 17.9**	**+0.7**
	280nm,0.0s						
QZX	**Qazax, Azerbai**	**2.48**	**271**	Pn	**Pn**	**15 56 44.3**	**+0.7**
QZX				Sn	**Sb**	**15 57 19.0**	**+0.5**
SBZ	**Shahbuz**	**2.89**	**236**	Pn	**Pn**	**15 56 50.9**	**+1.7**
SBZ				Sn	**Sb**	**15 57 28.1**	**-2.1**
ORD	**Ordubad**	**2.94**	**225**	Pn	**Pn**	**15 56 50.5**	**+0.6**
ORD				Sn	**Sb**	**15 57 30.1**	**-1.6**
FINES	**FINESS Array B**	**24.60**	**334**	P	**P**	**16 01 21.4**	**-2.0**
	0.3nm,0.3s,baz=133,slow=10,SNR=10						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**27.31**	**49**	P	P	16 02 43.0	+55
	1.0nm,0.2s,baz=268,slow=8.2,SNR=7.7						
	1.0nm

SHUL				S		Sn	16 00 20.1 +0.3
	baz=255						
NACB	**Ninganchiao**	**0.69 292**		P		**Pb**	**16 00 08.8 -0.3**
	baz=273						
NACB				S		**Sb**	**16 00 18.9 +0.6**
	baz=273						
EWUT	**Wuta**	**0.71 318**		P		**Pb**	**16 00 08.9 -0.5**
	baz=320						
EWUT				*e*S		**Sn**	**16 00 20.6 +0.2**
	baz=320						
ENA	**Nanau**	**0.72 315**		P		**Pb**	**16 00 09.3 -0.3**
	baz=318						
ENA				S		**Sn**	**16 00 20.2 -0.4**
	baz=318						
ETM	**Tongmen**	**0.74 274**		P		**Pb**	**16 00 09.4 -0.6**
	baz=260						
ETM				S		**Sb**	**16 00 20.4 +0.8**
	baz=260						
ESAO	**Su ao**	**0.77 328**	*i*	P		**Pb**	**16 00 09.9 -0.6**
	baz=328						
ESAO			*i*	S		**Sb**	**16 00 20.2 -0.4**
	baz=328						
JYNG	**Yonagunijimaku**	**0.79 48**	*e*	P		**Pb**	**16 00 10.8 -0.1**
JYNG			*e*	S		**Sb**	**16 00 20.7 -0.5**
ESL	**Shilin**	**0.80 263**		P		**Pb**	**16 00 10.4 -0.6**
	baz=250						
ESL				S		**Sb**	**16 00 21.8 +0.4**
	baz=250						
TWC	**Suao**	**0.80 329**		P		**Pb**	**16 00 10.4 -0.6**
	baz=325						
TWC			*i*	S		**Sb**	**16 00 20.7 -0.7**
	baz=325						
LXIB	**Xiulin Townshi**	**0.81 277**		P		**Pb**	**16 00 10.7 -0.7**
	baz=264						
LXIB			*i*	S		**Sn**	**16 00 23.1 -0.2**
	baz=264						
EGFH	**Guangfu**	**0.83 253**		P		**Pb**	**16 00 11.6 0.0**
	baz=250						
EGFH				S		**Sb**	**16 00 23.3 +0.9**
	baz=250						
YOJ	**Yonaguni jima**	**0.85 50**		P		**Pn**	**16 00 11.8 -0.3**
	baz=60						
YOJ				S		**Sb**	**16 00 22.2 -0.5**
	baz=60						
YOJ	**Yonaguni jima**	**0.85 50**	*e*	P		**Pn**	**16 00 11.8 -0.3**
YOJ			*e*	S		**Sb**	**16 00 22.4 -0.4**
WARBT	**Fenglin Townsh**	**0.86 257**		P		**Pb**	**16 00 10.7 -1.3**
	baz=244						
WARBT				S		**Sb**	**16 00 23.9 +0.7**
	baz=244						
NDS	**Dongshan**	**0.89 323**		P		**Pb**	**16 00 12.4 -0.1**
	baz=324						
NDS			*e*	S		**Sn**	**16 00 25.0 +0.2**
	baz=324						
HGSD	**Ruisui**	**0.91 242**		P		**Pb**	**16 00 11.9 -0.9**
	baz=240						
HGSD				S		**Sb**	**16 00 24.4 -0.1**
	baz=240						
LATG	**Datong**	**0.93 311**		P		**Pb**	**16 00 12.7 -0.7**
	baz=306						
LATG				S		**Sb**	**16 00 25.5 +0.2**
	baz=306						
WHF	**Hehuan Shan**	**0.97 284**		P		**Pb**	**16 00 13.7 -0.5**
	baz=267						
WHF			*e*	S		**Sb**	**16 00 25.6 -1.1**
	baz=267						
NNSB	**Datong**	**0.98 301**		P		**Pb**	**16 00 13.5 -0.6**
	baz=285						
NNSB			*i*	S		**Sn**	**16 00 27.0 -0.3**
	baz=285						
ENTT	**Nioudou**	**0.98 317**	*i*	P		**Pb**	**16 00 13.9 -0.2**
	baz=312						
ENTT				S		**Sb**	**16 00 26.6 0.0**
	baz=312						
ECBN	**Changbin**	**0.98 232**	*e*	P		**Pn**	**16 00 14.8 +0.8**
	baz=231						
ECBN				S		**Sb**	**16 00 26.2 -0.4**
	baz=231						
TWE	**Neicheng**	**0.98 324**		P		**Pb**	**16 00 13.9 -0.2**
	baz=328						
TWE				S		**Sn**	**16 00 26.9 -0.3**
	baz=328						
EHY	**Hungye**	**0.98 245**		P		**Pb**	**16 00 13.7 -0.5**
	baz=243						
EHY				S		**Sb**	**16 00 26.3 -0.4**
	baz=243						
NDT	**Datong Townshi**	**0.99 314**	*i*	P		**Pb**	**16 00 13.8 -0.4**
	baz=309						
NDT			*e*	S		**Sb**	**16 00 26.3 -0.5**
	baz=309						
NNS	**Nan Shan**	**0.99 302**		P		**Pb**	**16 00 13.8 -0.5**
	baz=286						
NNS				S		**Sb**	**16 00 26.9 -0.2**
	baz=286						
FUSS	**Fushou**	**1.02 289**		P		**Pb**	**16 00 14.2 -0.7**
	baz=284						
FUSS				S		**Sb**	**16 00 28.0 +0.1**
	baz=284						
OWD	**Renai**	**1.03 272**		P		**Pn**	**16 00 14.4 -0.4**
	baz=269						
OWD			*e*	S		**Sb**	**16 00 27.1 -1.0**
	baz=269						
CHGB	**Renai**	**1.04 278**		P		**Pn**	**16 00 14.4 -0.6**
	baz=262						
CHGB				S		**Sb**	**16 00 28.5 +0.1**
	baz=262						
FUSB	**Fushanzhiwuyua**	**1.06 322**		P		**Pn**	**16 00 14.8 -0.3**
	baz=318						
FUSB				S		**Sn**	**16 00 29.6 +0.5**
	baz=318						
YULB	**Yu-li**	**1.06 240**		P		**Pn**	**16 00 14.6 -0.5**
	baz=228						
YULB				S		**Sb**	**16 00 28.6 -0.2**
	baz=228						
EYUL	**Yuli**	**1.06 238**		P		**Pn**	**16 00 14.9 -0.2**
	baz=236						
EYUL				S		**Sb**	**16 00 29.1 +0.1**
	baz=236						
VWDT	**VWDT**	**1.07 261**		P		**Pn**	**16 00 15.2 0.0**
	baz=258						
VWDT				S		**Sb**	**16 00 29.2 0.0**
	baz=258						
TWT	**Tachien**	**1.08 288**		P		**Pn**	**16 00 15.7 +0.2**
	baz=273						
TWT				S		**Sn**	**16 00 30.2 +0.4**
	baz=273						
TWF1	**Yuli**	**1.08 239**		P		**Pn**	**16 00 15.2 -0.1**
	baz=237						
TWF1				S		**Sb**	**16 00 29.4 0.0**
	baz=237						
WUSB	**Renai**	**1.08 274**		P		**Pn**	**16 00 15.1 -0.4**
	baz=270						
WUSB				S		**Sb**	**16 00 29.7 +0.1**
	baz=270						
TDCB	**Techi**	**1.09 288**		P		**Pn**	**16 00 15.6 -0.1**
	baz=274						
TDCB				S		**Sb**	**16 00 30.2 +0.2**
	baz=274						
CHKH	**Chenggong**	**1.10 229**		P		**Pn**	**16 00 14.4 -1.3**
	baz=216						
CHKH				S		**Sb**	**16 00 28.6 -1.4**
	baz=216						
NWLT	**Wulai**	**1.12 320**		P		**Pn**	**16 00 15.2 -0.7**
	baz=315						
NWLT				S		**Sn**	**16 00 30.6 0.0**
	baz=315						
YHNB	**Yeheng**	**1.12 312**		P		**Pn**	**16 00 16.1 +0.1**
	baz=307						
YHNB				S		**Sb**	**16 00 30.1 -0.8**
	baz=307						
TIPB	**Shuangxi**	**1.13 338**		P		**Pn**	**16 00 15.9 -0.2**
	baz=333						
TIPB				S		**Sb**	**16 00 30.1 -0.9**
	baz=333						
NSK	**Sanguang**	**1.14 311**		P		**Pn**	**16 00 16.2 0.0**
	baz=307						
NSK			*e*	S		**Sb**	**16 00 29.7 -1.6**
	baz=307						
FULB	**Fuli**	**1.17 232**	*e*	P		**Pb**	**16 00 17.8 +0.5**
	baz=219						
FULB			*e*	S		**Sn**	**16 00 30.8 -1.0**
	baz=219						
CHKT	**Chengkung**	**1.18 226**		P		**Pn**	**16 00 17.1 +0.3**
	baz=226						
CHKT			*e*	S		**Sn**	**16 00 30.3 -1.8**
	baz=226						
SSLB	**Suanglung**	**1.24 264**		P		**Pn**	**16 00 17.5 -0.1**
	baz=261						
SSLB			*e*	S		**Sb**	**16 00 34.9 +0.9**
	baz=261						
DPDB	**Guoxing**	**1.26 275**		P		**Pn**	**16 00 18.2 +0.3**
	baz=263						
DPDB				S		**Sn**	**16 00 33.6 -0.5**
	baz=263						
WCS	**Beigang Elemen**	**1.27 276**		P		**Pn**	**16 00 17.9 -0.2**
	baz=274						
TATO	**Taipei**	**1.28 325**	*e*	P		**Pb**	**16 00 20.1 +0.9**
	baz=320						
TATO				S		**Sb**	**16 00 35.4 0.0**
	baz=320						
WHP	**Taichung City**	**1.28 286**	*e*	P		**Pb**	**16 00 20.8 +1.4**
	baz=272						
WHP			*e*	S		**Sb**	**16 00 38.2 +2.8**
	baz=272						
ECS	**Chishang**	**1.29 231**		P		**Pn**	**16 00 18.7 +0.4**
	baz=219						
ECS				S		**Sb**	**16 00 35.9 +0.5**
	baz=219						
NFF	**Wufeng Townshi**	**1.29 304**		P		**Pn**	**16 00 18.8 +0.5**
	baz=290						
NFF				S		**Sb**	**16 00 35.5 -0.1**
	baz=290						
TYC	**Yuchr**	**1.32 270**		P		**Pn**	**16 00 18.6 -0.1**
	baz=267						
WHYT	**Xinyi Township**	**1.34 261**		P		**Pn**	**16 00 19.6 +0.5**
	baz=258						
WHYT			*e*	S		**Sn**	**16 00 36.2 +0.1**
	baz=258						
IRIF	**Iriomote-Funau**	**1.37 72**	*e*	P		**Pb**	**16 00 21.4 +0.6**
IRIF			*e*	S		**Sb**	**16 00 39.0 +1.1**
LIOB	**Emei**	**1.37 302**		P		**Pb**	**16 00 20.6 -0.3**
	baz=285						
LIOB				S		**Sb**	**16 00 38.2 +0.3**
	baz=285						
NSTT	**Nanjuang**	**1.38 301**		P		**Pb**	**16 00 20.8 -0.1**
	baz=285						
NSTT				S		**Sb**	**16 00 38.1 +0.1**
	baz=285						
ELDTW	**Lidau**	**1.38 238**	*e*	P		**Pn**	**16 00 18.6 -1.1**
	baz=237						
ELDTW				S		**Sn**	**16 00 36.1 -1.1**
	baz=237						
YM01	**YM01**	**1.39 332**	*e*	P		**Pb**	**16 00 21.6 +0.5**
	baz=343						
YM01				S		**Sb**	**16 00 37.9 -0.5**
	baz=343						
YM08	**YM08**	**1.42 333**		P		**Pb**	**16 00 21.4 -0.1**
	baz=328						
YM08				S		**Sb**	**16 00 39.1 -0.1**
	baz=328						
LDUT	**Ludao**	**1.46 212**	*e*	P		**Pn**	**16 00 19.3 -1.2**
	baz=213						
LDUT			*e*	S		**Sn**	**16 00 36.2 -2.6**
	baz=213						
WWF	**Wufeng**	**1.47 275**		P		**Pb**	**16 00 23.0 +0.6**
	baz=267						
WWF			*e*	S		**Sb**	**16 00 45.2 +4.6**
	baz=267						
WNT	**Mingjian**	**1.48 269**		P		**Pb**	**16 00 22.1 -0.4**
	baz=266						
WNT				S		**Sb**	**16 00 42.5 +1.6**
	baz=266						
TWGBT	**Beinan**	**1.57 226**		P		**Pn**	**16 00 21.7 -0.4**
	baz=218						
TWGBT			*e*	S		**Sn**	**16 00 40.2 -1.4**
	baz=218						
TWG	**Pinlang**	**1.57 226**		P		**Pn**	**16 00 22.2 +0.1**
	baz=218						
TWG			*e*	S		**Sn**	**16 00 40.2 -1.5**
	baz=218						
STYH	**Taoyuan**	**1.58 242**		P		**Pn**	**16 00 22.7 +0.4**
	baz=231						
STYH			*e*	S		**Sn**	**16 00 41.9 -0.1**
	baz=231						
STYT	**Tauyuan**	**1.60 242**		P		**Pn**	**16 00 23.0 +0.4**
	baz=231						
STYT				S		**Sb**	**16 00 44.3 -0.2**
	baz=231						
WCKO	**Fanlu**	**1.62 253**		P		**Pb**	**16 00 24.4 -0.6**
	baz=251						
WCKO				S		**Sb**	**16 00 46.1 +0.9**
	baz=251						
TPUB	**Ta-pu**	**1.65 248**		P		**Pn**	**16 00 24.6 +1.4**
	baz=247						
TPUB			*e*	S		**Sb**	**16 00 47.0 +1.1**
	baz=247						
CHN4	**Tsaushan**	**1.66 250**	*e*	P		**Pb**	**16 00 25.1 -0.6**
	baz=249						
CHN4			*e*	S		**Sb**	**16 00 48.0 +1.7**
	baz=249						
WTP	**Ta-pu**	**1.68 247**		P		**Pb**	**16 00 25.6 -0.5**
	baz=245						
WTP				S		**Sb**	**16 00 48.1 +1.2**
	baz=245						
JIJ	**Ishigaki jima**	**1.74 75**	*e*	S		**Sb**	**16 00 48.6 +0.1**
SLGT	**Liugui**	**1.77 239**		P		**Pn**	**16 00 26.2 +1.2**
	baz=230						
SLGT				S		**Sb**	**16 00 49.3 -0.2**
	baz=230						
SGST	**Jiashian**	**1.78 242**		S		**Sb**	**16 00 50.6 +1.0**
	baz=232						
TWK	**Hsinying**	**1.78 249**		P		**Pn**	**16 00 26.5 +1.4**
	baz=247						
TWK			*e*	S		**Sb**	**16 00 50.9 +1.1**
	baz=247						
ECL	**Taimali**	**1.81 223**	*e*	S		**Sn**	**16 00 46.8 -0.7**
	baz=224						
JISG	**Ishigakijimahi**	**1.95 70**	*e*	P		**Pn**	**16 00 28.2 +0.9**
JISG			*e*	S		**Sn**	**16 00 52.1 +0.9**
MASBT	**Mashibuluo**	**2.01 230**		P		**Pn**	**16 00 29.4 +1.2**
	baz=224						
MASBT			*e*	S		**Sn**	**16 00 53.5 +0.9**
	baz=224						
SCZT	**Fangliau**	**2.18 225**	*e*	P		**Pn**	**16 00 32.8 +2.3**
	baz=220						
SCZT			*e*	S		**Sb**	**16 01 00.7 -0.5**
	baz=220						

AEIC ***15*** *16:03:25.9±1.4, 56°.25N±0°.09×149°.0W±0°.1, h4km±8km, Error ellipse: s-maj=13.9km s-min=8.9km az=165.0*

NEIC 15 16:03:21.1±1.2, 56°.23N±0°.08×148°.9W±0°.1, h10km±2km, ML3.3/52, ML3.1(AEIC), Error ellipse: s-maj=14.1km s-min=9.6km az=175.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.54**	**309**		Pn	16 04 02.6	+0.3
KDAK	**Kodiak Island**	**2.54**	**309**		Sn	16 04 31.5	-1.8
OHAK	**Old Harbor**	**2.61**	**294**		Pn	16 04 03.4	+0.1
OHAK					Sn	16 04 32.2	-2.7
SII	**Sitkinak Islan**	**2.95**	**279**	Pn	Pn	16 04 07.5	-0.4
SII				IAML		16 04 30.8	
	comp=N,64nm,1.2s						
SII				IAML		16 04 43.6	
	comp=E,62nm,0.9s						
SYI	**Shuyak Island**	**3.04**	**323**		Pn	16 04 09.7	+0.5
SYI					Sn	16 04 44.4	-1.2
R18K	**Karluk**	**3.32**	**296**		Pn	16 04 13.5	+0.5
R18K					Sn	16 04 50.3	-2.2
R18K	**Karluk**	**3.32**	**296**	IAML		16 04 53.6	
	comp=N,54nm,0.5s						
R18K				IAML		16 06 19.7	
	comp=E,50nm,0.5s						
Q23K	**Middleton Isla**	**3.49**	**22**	Pn	Pn	16 04 14.5	-0.8
MID	**Middleton Isla**	**3.50**	**22**	Pn	Pn	16 04 14.5	-0.9
CNPM	**China Poot**	**3.54**	**340**		Pn	16 04 16.1	+0.1
CNPM					Sn	16 04 55.6	-2.2
BRSE	**Bradley Lake S**	**3.66**	**345**		Pn	16 04 17.5	-0.2
BRLK	**Bradley Lake**	**3.70**	**344**		Pn	16 04 18.0	-0.3
BRLK					Sn	16 04 59.8	-2.2
Q19K	**Cape Douglas,**	**3.72**	**319**		Pn	16 04 19.8	+1.3
Q19K	**Cape Douglas,**	**3.72**	**319**	IAML		16 05 22.2	
	comp=E,73nm,1.2s						
Q19K				IAML		16 06 02.3	
	comp=N,50nm,1.4s						
CHIR	**Chirikof Islan**	**3.79**	**267**		Pn	16 04 20.1	+0.7
CHIR	**Chirikof Islan**	**3.79**	**267**	IAML		16 05 28.3	
	comp=N,86nm,1.4s						
CHIR				IAML		16 05 51.6	
	comp=E,94nm,1.4s						
KAHG	**Katmai Hook Gl**	**3.81**	**309**		Pn	16 04 20.7	+1.0
P23K	**Montague Islan**	**3.87**	**11**		Pn	16 04 20.0	-0.5
SEW	**Seward**	**3.90**	**356**		Pn	16 04 20.5	-0.5
AU22	**Augustine Moun**	**3.95**	**325**		Pn	16 04 22.7	+1.1
AUL	**Augustine Lava**	**3.98**	**325**		Pn	16 04 23.5	+1.4
ACHA	**Angle Creek He**	**4.01**	**302**	Pn	Pn	16 04 22.7	+0.1
ANCK	**Angle Creek**	**4.09**	**302**		Pn	16 04 26.1	+2.5
KAHC	**Katmai Hardscr**	**4.09**	**309**		Pn	16 04 25.2	+1.5
P19K	**Oil Pt**	**4.13**	**328**		Pn	16 04 25.1	+0.9
P19K	**Oil Pt**	**4.13**	**328**	IAML		16 07 12.2	
	comp=E,65nm,0.6s						
P19K				IAML		16 07 12.2	
	comp=N,74nm,0.4s						
CNTC	**Contact Creek**	**4.30**	**301**		Pn	16 04 28.0	+1.4
PLK4	**Peulik 4**	**4.32**	**292**		Pn	16 04 28.4	+1.6
O20K	**Slope Mountain**	**4.34**	**335**		Pn	16 04 27.2	+0.2
SLKM	**Skilak Lake**	**4.35**	**351**		Pn	16 04 26.6	-0.6
IVE	**Iliamna Volcan**	**4.38**	**332**		Pn	16 04 27.7	0.0
ILSW	**Iliamna Southw**	**4.38**	**331**		Pn	16 04 27.8	+0.1
KAIM	**Kayak Island**	**4.41**	**31**		Pn	16 04 28.6	+0.5
P18K	**Big Mountain,**	**4.63**	**316**		Pn	16 04 31.4	+0.3
P18K	**Big Mountain,**	**4.63**	**316**	IAML		16 07 27.9	
	comp=N,11nm,0.8s						
EYAK	**Cordova Ski Ar**	**4.64**	**20**		Pn	16 04 31.0	-0.2
RED	**Redoubt Volcan**	**4.67**	**336**		Pn	16 04 31.3	-0.4
RDSO	**Redoubt South**	**4.70**	**336**		Pn	16 04 31.6	-0.4
CAPN	**Captain Cook N**	**4.71**	**346**	Pn	Pn	16 04 32.4	+0.4
RSO	**Redoubt South**	**4.71**	**336**	Pn	Pn	16 04 32.0	-0.3
FID	**Port Fidalgo**	**4.71**	**15**		Pn	16 04 31.3	-0.9
RDT	**Redoubt**	**4.73**	**339**		Pn	16 04 31.8	-0.7
RDWB	**Redoubt West**	**4.75**	**336**		Pn	16 04 32.3	-0.5
GLI	**Glacier Island**	**4.76**	**11**		Pn	16 04 32.5	-0.3
GLI	**Glacier Island**	**4.76**	**11**	IAML		16 06 39.3	
	comp=N,21nm,1.3s						
DFR	**Drift River**	**4.81**	**337**		Pn	16 04 33.3	-0.2
NCT	**North Crescent**	**4.83**	**336**		Pn	16 04 33.8	-0.1
GOAT	**Goat Mountain**	**4.89**	**25**		Pn	16 04 35.0	+0.4
RC01	**Rabbit Creek A**	**4.90**	**355**		Pn	16 04 34.6	-0.1
O18K	**Koktuh Hills**	**4.94**	**320**		Pn	16 04 35.8	+0.5
O18K	**Koktuh Hills**	**4.94**	**320**	IAML		16 07 40.1	
	comp=E,12nm,0.8s						
P17K	**Kvichak River**	**5.01**	**310**		Pn	16 04 37.9	+1.7
SNH	**Sunshine Point**	**5.10**	**36**	Pn	Pn	16 04 37.4	-0.2
KHIT	**Khitrov Hills**	**5.18**	**33**		Pn	16 04 38.0	-0.6
KNK	**Knik Glacier**	**5.21**	**2**		Pn	16 04 39.5	+0.5
KNK	**Knik Glacier**	**5.21**	**2**	IAML		16 07 41.4	
	comp=N,11nm,1.0s						
SPU	**Mount Spurr**	**5.23**	**343**		Pn	16 04 39.2	-0.1
SPU	**Mount Spurr**	**5.23**	**343**	IAML		16 07 39.2	
	comp=N,19nm,0.3s						
SPU				IAML		16 07 39.3	
	comp=E,18nm,0.3s						
BMRM	**Bremner River**	**5.26**	**24**		Pn	16 04 39.6	-0.2
WAX	**Waxell Ridge**	**5.30**	**34**		Pn	16 04 40.3	-0.1
SUA	**Susitna One**	**5.34**	**351**		Pn	16 04 40.3	-0.5
N19K	**Bonanza Creek**	**5.45**	**330**		Pn	16 04 42.4	0.0
STLK	**Strandline Lak**	**5.50**	**345**		Pn	16 04 43.0	0.0
KLU	**Klutina**	**5.51**	**15**		Pn	16 04 43.2	+0.1
SPNN	**North Nagishla**	**5.52**	**341**		Pn	16 04 43.8	+0.4
GHO	**Glory Hole Cre**	**5.56**	**360**		Pn	16 04 44.8	+0.9
SML	**Sawmill**	**5.61**	**3**		Pn	16 04 45.0	+0.5
M23K	**Glacier View**	**5.62**	**6**		Pn	16 04 45.3	+0.7
SCM	**Sheep Creek Mo**	**5.69**	**8**	Pn	Pn	16 04 46.0	+0.5
N18K	**Kilae Creek**	**5.77**	**324**	Pn	Pn	16 04 46.8	0.0
N25K	**Chitina, Valde**	**5.84**	**21**	Pn	Pn	16 04 48.1	+0.4
GLB	**Gilahina Butte**	**5.86**	**25**	Pn	Pn	16 04 47.7	-0.3
GRNC	**Granite Creek**	**5.88**	**37**	Pn	Pn	16 04 48.2	-0.1
SKT	**Skwentna**	**5.93**	**348**	Pn	Pn	16 04 48.8	-0.1
M20K	**Styx River**	**6.08**	**341**	Pn	Pn	16 04 50.7	-0.2
M19K	**Big River Lodg**	**6.36**	**336**	Pn	Pn	16 04 54.4	-0.3
WAT6	**Susitna Watana**	**6.40**	**5**		Pn	16 04 56.9	+1.4
L19K	**White Mountain**	**6.71**	**335**	Pn	Pn	16 04 59.0	-0.5
P29M	**Windy Craggy**	**6.86**	**56**		Pn	16 05 01.3	-0.3
DHY	**Denali Highway**	**6.92**	**6**	Pn	Pn	16 05 02.8	+0.3
L18K	**Granite Mounta**	**7.21**	**330**	Pn	Pn	16 05 06.5	+0.1
K17K	**Iditarod**	**8.07**	**328**	Pn	Pn	16 05 17.3	-0.9
R32K	**Eaglecrest**	**8.07**	**69**	Pn	Pn	16 05 17.6	-0.6
JIS	**Juneau Island**	**8.14**	**69**	Pn	Pn	16 05 18.5	-0.7
M29M	**Somme Creek**	**8.20**	**36**	Pn	Pn	16 05 20.4	+0.3
NEA2	**Nenana**	**8.40**	**360**	Pn	Pn	16 05 22.6	-0.1
WHY	**Whitehorse**	**8.59**	**53**	Pn	Pn	16 05 25.6	+0.1
P32M	**Atlin**	**8.76**	**61**	Pn	Pn	16 05 27.3	-0.4
P33M	**Teslin, Yukon**	**9.38**	**58**	Pn	Pn	16 05 36.0	-0.2
H21K	**Melozitna Rive**	**9.65**	**350**	Pn	Pn	16 05 39.2	-0.6
IMAR	**Indian Mountai**	**10.06**	**349**	Pn	Pn	16 05 45.3	-0.2
R33M	**Jennings River**	**10.08**	**64**	Pn	Pn	16 05 45.6	-0.3
DLBC	**Dease Lake**	**10.45**	**70**	Pn	Pn	16 05 50.6	-0.2

TUN 15 16:46:17.3, 36°.21N×11°.23E, h12km±5km, MD3.4, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKLT	**Bekalta**	**0.62**	**198**	*i* P	Pb	16 46 30.8	+0.7
BKLT	**Bekalta**	**0.62**	**198**	*i* P	Pb	16 46 30.7	+0.7
HANT	**Hania**	**0.80**	**242**	*i* P	Pg	16 46 32.8	+0.1
TROT	**Trozza**	**1.47**	**244**	*i* P	Pn	16 46 42.8	-0.9
TROT	**Trozza**	**1.47**	**244**	*i* P	Pn	16 46 42.8	-1.0
KRIT	**Krib**	**1.75**	**275**	*i* P	Pn	16 46 48.2	+0.7
THTN	**Thala**	**2.16**	**253**	*i* P	Pg	16 46 59.6	+0.8
BERT	**Berda**	**2.67**	**223**	*i* P	Pn	16 47 00.2	0.0
TATN	**Tataouine**	**3.67**	**189**	*i* P	Pn	16 47 12.6	-1.4

BJI ***15*** *17:13:37.7±0.0, 42°.28N×142°.98E, h69km, mb4.9/79, mB5.0/44, Ms4.4/69, Ms7 4.3/73*

SKHL ***15*** *17:13:38.4±0.3, 42°.20N×142°.90E, h74km±6km, mb5.6/9, ms4.6/5*

MOS ***15*** *17:13:38.3±1.0, 42°.28N×142°.93E, h67km, mb5.2/61, MS4.4/18, Error ellipse: s-maj=6.0km s-min=3.8km az=119.4*

JMA ***15*** *17:13:39.6±0.2, 42°.3N±0°.6×143°.0E±0°.6, h55km±1km, MD4.9/40, MW5.1/40, HIDAKA MOUNTAINS REGION*

JMA Felt IV J1 at HIDAKA MOUNTAINS REGION .

NIED ***15*** *17:13:39.6, 42°.32N×143°.00E, h55km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}3.03; $M_{\theta\theta}$-0.60; $M_{\phi\phi}$-2.43; $M_{r\theta}$1.39; $M_{\theta\phi}$-0.94; $M_{\phi r}$1.90; Fault plane solution: $M_0$3.75000×10^{16} NP1:ϕ_s31.00000°, δ64.00000°, λ96.00000°. NP2:ϕ_s196.00000°, δ26.00000°, λ77.00000°.*

NEIC ***15*** *17:13:39.4±1.6, 42°.29N±0°.05×143°.0E±0°.1, h59km±4km, mb4.9/355, Mww4.9/19 Error ellipse: s-maj=12.2km s-min=7.3km az=104.0*

GCMT ***15*** *17:13:40.4±0.2, 42°.25N±0°.01×143°.12E±0°.02, h58km±1km, MW5.1/116, Moment Tensor Solution. s79, c116; s116, c193; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.49±.12; $M_{\theta\theta}$-0.75±.10; $M_{\phi\phi}$-3.74±.10; $M_{r\theta}$0.94±.07; $M_{\theta\phi}$-1.69±.08; $M_{\phi r}$1.73±.08; Best double couple: $M_0$4.90800×10^{16} NP1:ϕ_s26.00000°, δ57.00000°, λ92.00000°. NP2:ϕ_s203.00000°, δ33.00000°, λ87.00000°. Principal axes: T 4.9040, Plg78.0000°, Azm302.0000°; N 0.0040, Plg2.0000°, Azm205.0000°; P -4.9120, Plg12.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***15*** *17:13:40.5±1.4, 42°.32N×142°.92E, h70km±10km, mb4.5/29, mbtmp4.8/36, MS4.0/68 Error ellipse: s-maj=12.6km s-min=8.6km az=111.0*

BGR ***15*** *17:13:41.1, 43°.14N×143°.15E, h33km, mb4.9, Ms4.3, Hypocentre not reviewed by the ISC*

**ISC 15 17:13:38.7±0.3, 42°.29N±0°.03×143°.05E±0°.03, h60km±2km, h60km:pP-P

ERM 17 13 57.2
JCH Churui 0.40 36 *i* P **Pn 17 13 50.2 +0.6**
JCH S **Sn 17 13 58.4 +0.8**
JCH Churui 0.40 36 A A 17 13 50.2
comp=E,137nm,0.6s,comp=N,356nm,0.6s
JSHD Hidakashinhida 0.45 285 ⇓*i* P **Pn 17 13 50.3 +0.2**
JSHD ⇓S **Sn 17 13 59.5 +1.1**
JSHD Hidakashinhida 0.45 285 A A 17 13 50.3
comp=E,508nm,2.3s,comp=N,331nm,1.1s
JBT2 Biratori 2 0.70 314 ⇓*i* P **Pn 17 13 53.0 0.0**
JBT2 ⇓S **Sn 17 14 04.5 +1.1**
JBT2 Biratori 2 0.70 314 A A 17 13 53.0
comp=E,106nm,0.8s,comp=N,108nm,2.5s
JOB Onbets 0.84 43 *i* P **Pn 17 13 56.4 +1.7**
JOB *e*S **Sn 17 14 08.1 +1.6**
JOB Onbets 0.84 43 A A 17 13 56.4
comp=E,112nm,0.6s,comp=N,118nm,1.3s
JIAM Iburiatsuma 0.90 292 ⇓*i* P **Pn 17 13 56.4 +1.0**
JIAM Iburiatsuma 0.90 292 A A 17 13 56.4
comp=E,141nm,3.5s,comp=N,180nm,3.4s
JFR Furan 0.93 339 ⇓*i* P **Pn 17 13 55.5 -0.5**
JFR Furan 0.93 339 A A 17 13 55.5
comp=E,33nm,1.2s,comp=N,33nm,0.8s
JAR Ashorobuto 1.14 28 *i* P **Pn 17 13 59.3 +0.8**
JAR S **Sn 17 14 14.7 +1.4**
JAR Ashorobuto 1.14 28 A A 17 13 59.3
comp=E,72nm,0.7s,comp=N,52nm,0.7s
JEW Eniwo 1.30 295 ⇓*i* P **Pn 17 14 01.1 +0.4**
JEW ⇓S **Sn 17 14 18.8 +1.6**
JEW Eniwo 1.30 295 A A 17 14 01.1
comp=E,90nm,3.4s,comp=N,58nm,2.7s
JAB Ashibetsu 1.35 334 ⇓*i* P **Pn 17 14 02.3 +0.9**
JAB Ashibetsu 1.35 334 A A 17 14 02.3
comp=E,48nm,3.4s,comp=N,59nm,3.8s
JAK Akkeshi 1.41 59 A A 17 14 03.6
comp=E,140nm,1.3s,comp=N,91nm,1.2s
JNB Noboribetsu 1.50 277 A A 17 14 04.1
comp=E,16nm,3.6s,comp=N,14nm,3.8s
JISS Ishikarishitsu 1.55 310 A A 17 14 04.7
comp=E,58nm,3.5s,comp=N,54nm,2.6s
JKB Kayabe 1.55 256 A A 17 14 05.0
comp=E,49nm,2.8s,comp=N,30nm,0.7s
JKK2 Kamakawa 2 1.59 352 A A 17 14 05.6
comp=E,13nm,3.4s,comp=N,15nm,2.5s
JAHD Aomorihigashid 1.64 232 A A 17 14 06.5
comp=E,58nm,1.0s,comp=N,56nm,0.7s
JMP Maruseppu 1.73 7 A A 17 14 07.6
comp=E,50nm,2.6s,comp=N,21nm,0.6s
JHR Hokuryu 1.75 327 A A 17 14 07.6
comp=E,56nm,1.2s,comp=N,58nm,2.8s
JKHN Kushirohamanak 1.75 62 A A 17 14 08.5
comp=E,40nm,1.6s,comp=N,31nm,3.4s
JOT Ohata 1.75 239 A A 17 14 08.0
comp=E,21nm,3.1s,comp=N,26nm,2.6s
JNK Nakash 1.78 43 A A 17 14 08.8
comp=E,27nm,1.4s,comp=N,29nm,0.6s
JTKR Abashiri--Toko 1.79 20 A A 17 14 08.7
comp=E,28nm,2.4s,comp=N,15nm,2.4s
JARK Aomorirokkasho 1.80 225 A A 17 14 08.8
comp=E,16nm,1.5s,comp=N,19nm,1.1s
JKA Kamikawa-asahi 1.85 350 Pn **Pn 17 14 09.7 +1.5**
ASAJ Asahikawa 1.85 350 P **Pn 17 14 09.7 +1.5**
comp=N,1μm,0.4s,baz=200,slow=16,SNR=1650
ASAJ S **Sn 17 14 32.4 +1.9**
comp=N,810nm,0.4s,baz=302,slow=33,SNR=11
ASAJ LR LR 17 14 52.8
comp=N,4μm,21.6s,baz=173,slow=40
ASAJ Asahikawa 1.85 350 A A 17 14 09.2
comp=E,15nm,3.2s,comp=N,13nm,3.4s
JYM2 Yakumo 2 2.00 266 A A 17 14 11.2
comp=E,11nm,3.2s,comp=N,15nm,4.8s
JNSB Nemuroshibetsu 2.06 43 A A 17 14 12.7
comp=E,38nm,1.0s,comp=N,40nm,0.7s
JSR Shiriuchi 2.11 250 A A 17 14 12.9
comp=E,12nm,3.4s,comp=N,10.0nm,5.5s
JTM Tenmabayashi 2.11 225 Pn **Pn 17 14 12.2 +0.4**
JTM Tenmabayashi 2.11 225 A A 17 14 13.3
comp=E,15nm,1.4s,comp=N,21nm,3.5s
JSK Shakotan 2.17 300 A A 17 14 13.5
comp=E,10.0nm,1.7s,comp=N,14nm,3.3s
JANG Nango 2.24 212 A A 17 14 15.2
comp=E,10.0nm,3.4s,comp=N,9.0nm,1.8s
JRA Rausu 2.24 42 A A 17 14 15.2
comp=E,34nm,1.0s,comp=N,26nm,2.0s
JSH Shimam 2.25 280 A A 17 14 14.7
comp=E,9.0nm,5.4s,comp=N,6.0nm,1.8s
NEM2 Nemuro 2 2.25 61 A A 17 14 15.6
comp=E,11nm,4.5s,comp=N,14nm,2.0s
JSS Shosan 2.28 338 A A 17 14 15.2
comp=E,18nm,5.3s,comp=N,13nm,3.8s
JKEN Kujiedanarisaw 2.32 206 A A 17 14 16.4
comp=E,19nm,0.4s,comp=N,27nm,0.5s
JSI2 Shiura 2 2.33 239 A A 17 14 16.2
comp=E,29nm,3.3s,comp=N,22nm,2.1s
JHST Hiyamasetana 2.35 274 A A 17 14 16.2
comp=E,17nm,3.0s,comp=N,17nm,2.4s
JOMM Oshimamatsumae 2.40 252 A A 17 14 17.0
comp=E,6.0nm,1.8s,comp=N,7.0nm,3.0s
JYG Yagishiri 2.44 332 A A 17 14 17.4
comp=E,9.0nm,3.5s,comp=N,12nm,3.4s
JTH Tanohata 2.52 201 A A 17 14 19.2
comp=E,8.0nm,4.4s,comp=N,5.0nm,4.6s
JHHS Hirosakihyakuz 2.60 232 A A 17 14 20.1
comp=E,35nm,2.7s,comp=N,44nm,2.6s
JKZ Kuzumaki 2.65 210 A A 17 14 21.0
comp=E,11nm,1.9s,comp=N,9.0nm,2.3s
JSE Soyaes 2.69 353 A A 17 14 21.1
comp=E,9.0nm,2.8s,comp=N,8.0nm,3.4s
YUK Yuzh-Kuril'sk 2.70 49 *e*P **Pn 17 14 21.7 +2.1**
YUK AMB AMB 17 14 24.8
comp=N,2μm,0.2s
YUK *e*S **Sn 17 14 53.2 +2.1**
YUK A A 17 14 57.3
comp=N,10μm,0.4s
YUK A A 17 14 57.3
comp=N,11μm,0.4s
YUK Yuzh-Kuril'sk 2.70 49 *e*PN **Pn 17 14 21.8 +2.1**
YUK *e*S **Sn 17 14 53.7 +2.6**
YUK pmax pmax
comp=Z,2μm,0.2s
YUK pmax pmax
comp=E,954nm,0.3s
YUK pmax pmax
comp=N,2μm,0.2s
YUK smax smax
comp=N,10μm,0.4s
YUK smax smax
comp=E,11μm,0.4s
JAH Hinai 2.78 222 A A 17 14 22.7
comp=E,10.0nm,2.6s,comp=N,7.0nm,2.8s
JIW Iwasaki 2.85 234 A A 17 14 23.5
comp=E,11nm,6.6s,comp=N,10.0nm,3.9s
JNTW Noshirotokiwa 2.97 228 A A 17 14 25.3
comp=E,42nm,4.4s,comp=N,26nm,6.0s
JSZI Iwateshizukuis 3.00 213 A A 17 14 26.0
comp=E,20nm,2.4s,comp=N,21nm,2.5s
JOM Ohasama 3.12 206 A A 17 14 27.6
comp=E,10.0nm,3.1s,comp=N,7.0nm,0.5s
JWK2 Keihoku 3.14 345 A A 17 14 27.3
comp=E,10.0nm,2.8s,comp=N,10.0nm,2.8s
SHO Shikotan 3.19 59 *e*P **Pn 17 14 27.5 +1.1**
SHO AMB AMB 17 14 28.8
comp=N,480nm,0.2s
SHO *e*S **Sn 17 15 04.3 +1.2**
SHO A A 17 15 07.7
comp=N,5μm,0.5s
SHO A A 17 15 07.7
comp=N,6μm,0.5s
SHO Shikotan 3.19 59 *e*PN **Pn 17 14 27.0 +0.6**
SHO *e*S **Sn 17 15 03.0 -0.1**
SHO pmax pmax
comp=N,248nm,0.2s
SHO pmax pmax
comp=E,455nm,0.2s
SHO pmax pmax
comp=Z,479nm,0.2s
SHO smax smax
comp=N,5μm,0.5s
SHO smax smax
comp=E,6μm,0.5s
JRG Rokugo 3.42 213 A A 17 14 31.9
comp=E,7.0nm,3.5s,comp=N,6.0nm,1.8s
JYW Yuwa 3.49 219 A A 17 14 32.8
comp=E,13nm,2.7s,comp=N,16nm,2.9s
JOG3 Oga3 3.82 233 A A 17 14 31.5
comp=E,10.0nm,2.3s,comp=N,9.0nm,4.5s
JYK Kaneyama 3.94 212 A A 17 14 39.2
comp=E,6.0nm,2.0s,comp=N,5.0nm,4.5s
JOFO Osakifurukawao 4.03 205 A A 17 14 40.5
comp=E,22nm,3.2s,comp=N,24nm,2.3s
JYYZ Yamagatayuza 4.04 217 A A 17 14 40.5
comp=E,11nm,3.4s,comp=N,11nm,3.0s
JOU Okura 4.32 206 A A 17 14 44.6
comp=E,5.0nm,3.3s,comp=N,5.0nm,3.9s
JYA Atsumi 4.49 216 A A 17 14 46.8
comp=E,5.0nm,4.7s,comp=N,6.0nm,2.6s
KUR Kuril'sk 4.56 48 *e*P **Pn 17 14 48.0 +2.8**
KUR AMB AMB 17 14 59.3
comp=N,740nm,0.7s
KUR *e*S **Sn 17 15 39.3 +2.5**
KUR A A 17 15 47.3
comp=N,8μm,2.7s
KUR A A 17 15 47.3
comp=N,7μm,2.7s
KUR A A 17 15 51.9
comp=N,1μm,0.5s
KUR A A 17 15 51.9
comp=N,1μm,0.5s
KUR Kuril'sk 4.56 48 *e*PN **Pn 17 14 48.5 +3.3**
KUR *e*S **Sn 17 15 41.7 +4.9**
KUR pmax pmax
comp=Z,743nm,0.7s
KUR pmax pmax
comp=N,229nm,0.6s
KUR smax smax
comp=N,8μm,2.7s
KUR smax smax
comp=E,7μm,2.7s
KUR smax smax
comp=N,1μm,0.5s
KUR smax smax
comp=E,1μm,0.5s
JYS Shiratake 4.66 210 A A 17 14 49.3
comp=E,8.0nm,2.5s,comp=N,7.0nm,3.8s
YSS Yuzh-Sakhalins 4.67 358 Pn **Pn 17 14 49.4 +2.9**
YSS Yuzh-Sakhalins 4.67 358 *e*P **Pn 17 14 49.0 +2.5**
YSS AMB AMB 17 15 01.0
comp=N,600nm,3.9s
YSS AMS AMS 17 16 52.7
comp=N,1μm,14.0s
YSS AMS AMS 17 16 52.7
comp=N,2μm,14.0s
YSS AMS AMS 17 16 52.7
comp=N,2μm,14.0s
YSS Yuzh-Sakhalins 4.67 358 *i* PN **Pn 17 14 49.1 +2.5**
JMM Marumori 4.75 202 Pn **Pn 17 14 46.7 -1.0**
TEY Ternei 5.42 303 *e*P **Pn 17 14 56.6 -0.3**
TEY AMB AMB 17 14 59.1
comp=N,50nm,0.6s
TEY *e*S **Sn 17 15 56.0 -1.9**
TEY AMS AMS 17 16 50.0
comp=N,2μm,19.0s
TEY AMS AMS 17 16 50.0
comp=N,2μm,19.0s
TEY Ternei 5.42 303 *e*PN **Pn 17 14 56.6 -0.3**
TEY pmax pmax
comp=N,10.0nm,0.6s
TEY pmax pmax
comp=E,30nm,0.6s
TEY pmax pmax
comp=Z,30nm,0.6s
JSD Sado 5.61 222 Pn **Pn 17 15 00.6 +1.0**
JSB Shiboa 5.84 205 A A 17 15 05.8
comp=E,6.0nm,2.2s,comp=N,4.0nm,3.7s
UGL Uglegorsk 6.82 355 *e*P **Pn 17 15 18.8 +2.7**
UGL AMB AMB 17 15 22.3
comp=N,390nm,0.9s
UGL *e*S **Sn 17 16 33.6 +1.4**
UGL A A 17 16 42.8
comp=N,1μm,3.0s
UGL A A 17 16 42.8
comp=N,940nm,3.0s
UGL AMS AMS 17 17 29.0
comp=N,2μm,12.0s
UGL AMS AMS 17 17 29.0
comp=N,2μm,12.0s
UGL AMS AMS 17 17 29.0
comp=N,2μm,12.0s
UGL Uglegorsk 6.82 355 *e*PN **Pn 17 15 18.8 +2.7**
UGL *e*S **Sn 17 16 38.1 +5.9**
UGL pmax pmax
comp=Z,400nm,0.9s
UGL smax smax
comp=E,800nm,2.9s
UGL smax smax
comp=N,1μm,4.3s
MJB9 Matsu-Tunnel 6.85 215 Pn **Pn 17 15 17.0 +0.4**
MAJO Matsushiro 6.86 215 Pn **Pn 17 15 17.0 +0.4**
MAJO Matsushiro 6.86 215 PN **Pn 17 15 17.0 +0.4**
MJAR Matsushiro Arr 6.86 215 P **Pn 17 15 17.2 +0.6**
comp=N,29nm,0.6s,baz=23,slow=14,SNR=110
MJAR LR LR 17 18 25.9
comp=N,958nm,21.3s,baz=30,slow=42
JGF Kuroka 8.02 215 **Pn 17 15 33.0 +0.4**
VLA Vladivostok 8.26 280 *i* PN **Pn 17 15 36.8 +1.0**
VLA pmax pmax
comp=Z,41nm,0.6s
USA0B Ussuriysk Arra 8.30 287 Pn **Pn 17 15 37.4 +1.1**
USA0B Ussuriysk Arra 8.30 287 PN **Pn 17 15 37.4 +1.1**
USRK Ussuriysk Ar. 8.30 287 Pn **Pn 17 15 37.5 +1.2**
USRK Ussuriysk Ar. 8.30 287 P **Pn 17 15 37.1 +0.8**
comp=Z,42nm,0.9s,baz=93,slow=16,SNR=44
USRK Ussuriysk Ar. 8.30 287 PN **Pn 17 15 37.5 +1.2**
INU Inuyama 8.38 216 Pn **Pn 17 15 37.9 +0.4**
JSG Sagara 8.51 208 **Pn 17 15 39.7 +0.5**
TYV Tymovskoe 8.58 358 *e*P **Pn 17 15 42.5 +2.4**
TYV AMB AMB 17 15 46.7
comp=Z,60nm,0.5s
TYV Tymovskoe 8.58 358 *e*PN **Pn 17 15 43.8 +3.7**
TYV *e*S **Sn 17 17 23.8 +8.5**
TYV pmax pmax
comp=Z,56nm,1.1s
TYV pmax pmax
comp=Z,100nm,2.5s
TYV smax smax
comp=N,400nm,4.6s
TYV smax smax
comp=E,400nm,4.6s
TYV smax smax
comp=N,18nm,1.7s
TYV smax smax
comp=E,12nm,1.7s
MSHR Mys Shultsa 8.80 276 *i* PN **Pn 17 15 44.0 +0.8**
MSHR pmax pmax
comp=Z,30nm,0.9s
PSTR Posyet 9.06 276 *i* PN **Pn 17 15 47.6 +0.9**
JHJ Hachijo jima 2 9.51 197 P **Pn 17 15 50.9 -2.1**
comp=Z,62nm,0.3s,baz=312,slow=22,SNR=24
JHJ S Sn 17 17 28.4 -10
comp=Z,140nm,0.4s,baz=316,slow=22,SNR=8.2
JHJ2 Mitsune 9.51 197 **Pn 17 15 50.3 -2.6**
GRNR Gornyy 9.63 334 *e*P **Pn 17 15 57.9 +3.5**
GRNR Gornyy 9.63 334 ⇓*i* PN **Pn 17 15 57.9 +3.5**
GRNR *e*S **Sn 17 17 48.4 +7.4**
GRNR pmax pmax
comp=E,50nm,0.8s
GRNR pmax pmax
comp=N,70nm,0.7s
GRNR pmax pmax
comp=Z,80nm,0.7s
GRNR smax smax
comp=E,4.0nm,0.7s
GRNR MLR MLR
comp=E,490nm,21.0s
GRNR MLR MLR
comp=N,640nm,19.0s
GRNR MLR MLR
comp=Z,740nm,23.0s
MDJ Mudanjiang 10.06 288 P **Pn 17 15 59.8 -0.6**
MDJ sP 17 16 18.3
MDJ S **Sn 17 17 57.5 +5.9**
MDJ ScS **ScS 17 29 01.5 -6.3**
MDJ pmax pmax
comp=Z,13nm,1.2s
MDJ pmax pmax
comp=Z,200nm,5.5s
MDJ LR LR
comp=Z,2μm,18.6s
MDJ LR LR
comp=Z,3μm,21.0s
KLR Kul'dur 10.50 315 P **Pn 17 16 07.9 +1.5**
comp=Z,20nm,1.0s,baz=120,slow=15,SNR=29
KLR LR LR 17 20 25.7
comp=Z,1μm,21.1s,baz=148,slow=39
KLR Kul'dur 10.50 315 *e*P **Pn 17 16 06.7 +0.3**
KLR Kul'dur 10.50 315 *ce*PN **Pn 17 16 07.7 +1.3**
KLR pmax pmax
comp=Z,52nm,1.7s
NKL Nikolayevsk 10.98 352 *e*P **Pn 17 16 14.6 +1.7**
NKL AMB AMB 17 16 20.8
comp=Z,330nm,0.8s
NKL *e*S **Sn 17 18 12.0 -1.9**
NKL A A 17 18 15.5
comp=Z,280nm,3.0s
NKL A A 17 18 15.5
comp=Z,250nm,3.0s
NKL Nikolayevsk 10.98 352 *e*PN **Pn 17 16 11.6 -1.3**
NKL pmax pmax
comp=E,89nm,0.9s
NKL pmax pmax
comp=N,162nm,0.8s
NKL pmax pmax
comp=Z,329nm,1.0s
JMN Monobe 11.19 223 **Pn 17 16 14.9 -1.0**
OKH Okha 11.27 360 *e*P **Pn 17 16 19.0 +2.2**
OKH AMB AMB 17 16 30.0
comp=Z,600nm,8.0s
OKH *e*S **Sn 17 18 19.8 -1.1**
OKH AMS AMS 17 18 48.4
comp=Z,2μm,12.0s
OKH AMS AMS 17 18 48.4
comp=Z,5μm,12.0s
OKH AMS AMS 17 18 48.4
comp=Z,6μm,12.0s
OKH Okha 11.27 360 *de*PN Pn 17 16 25.2 +8.4
OKH *e*S Sn 17 18 31.8 +11
OKH pmax pmax
comp=Z,100nm,11.1s
OKH smax smax
comp=E,300nm,11.0s
OKH MLR MLR
comp=E,500nm,21.0s
OKH MLR MLR
comp=Z,300nm,16.0s
OKH MLR MLR
comp=N,200nm,16.0s
BNX BinXian 11.78 292 ⇓P **Pn 17 16 25.6 +1.8**
BNX sP 17 16 44.5
BNX S **Sn 17 18 40.0 +6.4**
BNX pmax pmax
comp=N,28nm,1.0s
BNX pmax pmax
comp=N,250nm,3.5s
BNX LR LR
comp=N,770nm,12.8s
BNX LR LR
comp=N,1μm,18.5s
BNX LR LR
comp=N,2μm,21.6s
SKR Severo-Kuril's 12.30 42 *e*P **Pn 17 16 31.5 +0.7**
SKR AMB AMB 17 16 38.5
comp=N,230nm,2.0s
SKR AMB AMB 17 17 03.2
comp=N,180nm,0.6s
SKR *e*S **Sn 17 18 43.3 -2.8**
SKR AMS AMS 17 19 25.3
comp=N,650nm,10.0s
SKR AMS AMS 17 19 25.3
comp=N,970nm,10.0s
SKR AMS AMS 17 19 25.3
comp=N,750nm,10.0s
SKR Severo-Kuril's 12.30 42 *e*PN P 17 16 36.4 -4.7
SKR *e*S S 17 18 59.7 -11
SKR pmax pmax
comp=Z,200nm,4.6s
SKR pmax pmax
comp=Z,171nm,1.2s
SKR MLR MLR
comp=Z,700nm,14.0s
KSRS Korea Array 12.58 252 P **Pn 17 16 35.5 +0.7**
comp=Z,16nm,0.8s,baz=66,slow=12,SNR=70
KSRS S **Sn 17 18 59.5 +6.3**
comp=Z,3.7nm,0.7s,baz=52,slow=26,SNR=6.2
KSRS LR LR 17 20 55.7
comp=Z,1μm,21.5s,baz=60,slow=35
KSRS PcP **PcP 17 22 10.2 +1.3**
comp=Z,2.0nm,0.8s,baz=57,slow=1.2,SNR=6.2
KS19 Wonju Array Si 12.60 253 **Pn 17 16 35.7 +0.6**
KSAR Wonju Array Be 12.61 252 **Pn 17 16 35.6 +0.3**
KSAR Wonju Array Be 12.61 252 PN **Pn 17 16 35.6 +0.3**
CN2 Changchun 12.96 283 P **Pn 17 16 39.8 -0.2**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,2μm,14.0s
CN2 LR LR
comp=Z,2μm,16.0s
JNU Nakatsue 13.28 230 **Pn 17 16 43.5 -0.9**
JNU Nakatsue 13.28 230 P **Pn 17 16 43.3 -1.1**
comp=Z,33nm,0.8s,baz=94,slow=2.5,SNR=35
HEH HeiHe 13.41 312 *e*P **Pn 17 16 44.9 -1.1**
HEH sP P 17 17 03.1 +10
HEH S **Sn 17 19 16.3 +3.0**
HEH pmax pmax
comp=Z,12nm,0.8s
HEH pmax pmax
comp=Z,320nm,5.0s
HEH LR LR
comp=Z,1μm,18.5s
HEH LR LR
comp=Z,930nm,18.1s
HEH LR LR
comp=Z,1μm,22.6s
TJN Taejon 13.49 249 **Pn 17 16 48.1 +0.9**
TJN Taejon 13.49 249 *ce*PN **Pn 17 16 48.9 +1.7**
SNY Shenyang 14.47 275 ⇓P **Pn 17 17 00.3 +0.1**
SNY pmax pmax
comp=Z,23nm,0.8s
SNY pmax pmax
comp=Z,390nm,7.1s
SNY LR LR
comp=Z,340nm,12.4s
SNY LR LR
comp=Z,560nm,20.2s
SNY LR LR
comp=Z,710nm,21.0s
PET Petropavlovsk 14.99 39 **Pn 17 17 06.4 -0.4**
PET Petropavlovsk 14.99 39 *e*P **Pn 17 17 05.2 -1.6**
PET Petropavlovsk 14.99 39 *e*P **Pn 17 17 05.2 -1.6**
PET *e*S **Sn 17 19 44.2 -7.4**
PET pmax pmax
comp=Z,24nm,1.2s
PET MLR MLR
comp=Z,500nm,18.0s
PET MLR MLR
comp=Z,500nm,16.0s
JCJ Chichijima 15.18 183 **Pn 17 17 06.6 -2.8**
JCJ Chichijima 15.18 183 P Pn 17 17 01.5 -8.0
comp=Z,34nm,0.3s,baz=264,slow=22,SNR=16
JCJ S Sn 17 19 37.0 -19
comp=Z,30nm,0.3s,baz=230,slow=22,SNR=2.6
ZEA Zeya 15.54 323 *e*P **Pn 17 17 13.0 -0.9**
ZEA Zeya 15.54 323 *e*P **Pn 17 17 15.0 +1.1**
ZEA *e*S **Sn 17 20 00.5 -4.5**
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA pmax pmax
comp=Z,100nm,4.1s
ZEA smax smax
comp=E,100nm,10.8s
ZEA MLR MLR
comp=N,600nm,11.0s
ZEA MLR MLR
comp=Z,500nm,15.0s
DL2 Dalian 16.61 265 P **Pn 17 17 27.8 +0.3**
DL2 pmax pmax
comp=Z,63nm,1.0s
DL2 pmax pmax
comp=Z,420nm,8.4s
DL2 LR LR
comp=Z,420nm,16.3s

DL2 LR LR
comp=Z,610nm,20.6s
DL2 LR LR
comp=Z,940nm,22.6s
HIA Hailar 17.65 301 P **Pn 17 17 39.1 -1.2**
HIA Hailar 17.65 301 P **Pn 17 17 39.1 -1.2**
HIA pmax pmax
comp=Z,24nm,0.9s
MA2 Magadan 17.95 13 P **P 17 17 43.3 -0.5**
MA2 Magadan 17.95 13 P **P 17 17 42.8 -1.0**
comp=Z,22nm,0.6s,baz=199,slow=9.8,SNR=24
MA2 LR LR 17 25 06.0
comp=Z,143nm,19.6s,baz=197,slow=38
MA2 Magadan 17.95 13 *ceP* **P 17 17 43.4 -0.4**
MA2 pmax pmax
comp=Z,28nm,0.8s
MA2 Magadan 17.95 13 P **P 17 17 43.4 -0.4**
comp=Z,34nm,0.7s
JOW Kunigami 19.60 223 P **P 17 18 00.4 -1.6**
JOW Kunigami 19.60 223 P **P 17 18 00.6 -1.4**
comp=Z,16nm,0.4s,baz=73,slow=5.3,SNR=3.9
JOW LR LR 17 25 55.7
comp=Z,527nm,21.6s,baz=350,slow=38
XLT XiLinHaoTe 19.73 284 *e*P **P 17 18 01.3 -2.2**
XLT sP sP 17 18 23.3 -0.7
XLT S **S 17 21 41.9 -0.7**
XLT pmax pmax
comp=Z,23nm,0.8s
XLT pmax pmax
comp=Z,110nm,6.4s
XLT LR LR
comp=Z,58nm,14.9s
XLT LR LR
comp=Z,530nm,22.1s
XLT LR LR
comp=Z,1μm,18.7s
BJI Beijing 20.33 273 P **P 17 18 08.0 -1.8**
BJI pmax pmax
comp=Z,16nm,0.8s
BJI LR LR
comp=Z,380nm,15.5s
BJI LR LR
comp=Z,200nm,15.6s
BJI LR LR
comp=Z,460nm,19.8s
BJT Baijiatuau 20.34 273 P **P 17 18 07.9 -2.1**
BJT Baijiatuau 20.34 273 P **P 17 18 07.9 -2.1**
BJT pmax pmax
comp=Z,28nm,1.0s
SSE Sheshan 20.73 244 P **P 17 18 13.8 -0.4**
SSE S **S 17 22 01.0 -1.3**
SSE pmax pmax
comp=Z,13nm,0.9s
SSE pmax pmax
comp=Z,74nm,4.2s
SSE LR LR
comp=Z,250nm,19.8s
SSE LR LR
comp=Z,280nm,20.1s
TIA Tai'an 20.93 262 P **P 17 18 13.8 -2.6**
TIA S **S 17 22 01.5 -4.8**
TIA pmax pmax
comp=Z,67nm,0.6s
TIA pmax pmax
comp=Z,100nm,3.5s
TIA LR LR
comp=Z,370nm,21.4s
TIA LR LR
comp=Z,390nm,18.4s
TIA LR LR
comp=Z,740nm,24.2s
YAK Yakutsk 21.32 343 P **P 17 18 17.4 -2.9**
YAK Yakutsk 21.32 343 P **P 17 18 17.7 -2.5**
comp=Z,113nm,0.7s,baz=5.4,slow=2.6,SNR=30
YAK LR LR 17 27 03.6
comp=Z,488nm,19.6s,baz=150,slow=38
YAK Yakutsk 21.32 343 *e*P **P 17 18 16.7 -3.6**
YAK *e* 17 18 37.2
YAK *e*S **S 17 22 09.9 -3.6**
YAK *e* 17 22 22.7
YAK *e*SS **SnSn 17 22 35.3 -4.5**
YAK *e* 17 29 35.1
YAK pmax pmax
comp=Z,92nm,0.9s
YAK pmax pmax
comp=N,19nm,0.9s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,97nm,1.7s
YAK pmax pmax
comp=E,39nm,1.8s
YAK smax smax
comp=N,74nm,1.9s
YAK smax smax
comp=E,24nm,1.7s
YAK MLR MLR
comp=Z,335nm,12.0s
YAK MLR MLR
comp=N,211nm,12.0s
YAK MLR MLR
comp=E,176nm,13.0s
SEY Seymchan 21.39 12 P **P 17 18 19.1 -2.0**
comp=E,22nm,0.7s,baz=193,slow=7.8,SNR=62
SEY Seymchan 21.39 12 *i* P **P 17 18 19.5 -1.6**
SEY pmax pmax
comp=Z,24nm,0.8s
NJ2 Nanjing 21.75 250 ⇑P **P 17 18 25.5 +0.3**
NJ2 pmax pmax
comp=Z,14nm,0.5s
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,940nm,19.0s
NJ2 LR LR
comp=Z,770nm,21.3s
CIT Chita 22.15 306 *e*P **P 17 18 30.8 +1.4**
CIT *e* 17 18 46.6
CIT *e* 17 19 02.4
CIT *e* 17 22 24.6
CIT *e* 17 23 20.8
CIT pmax pmax
comp=Z,139nm,2.4s
HNS HongShan 22.25 267 ⇓P **P 17 18 29.1 -1.4**
HNS S **S 17 22 29.3 -2.3**
HNS pmax pmax
comp=Z,15nm,0.9s
HNS LR LR
comp=Z,460nm,15.5s
HNS LR LR
comp=Z,470nm,16.1s
HHC Hu-ho-hao-te 23.53 277 *e*P **P 17 18 43.3 -0.3**
HHC S **S 17 22 54.9 +1.8**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,49nm,3.9s
HHC LR LR
comp=Z,360nm,13.1s
HHC LR LR
comp=Z,590nm,15.3s
HHC LR LR
comp=Z,900nm,17.7s
BTO Baotou 24.73 277 *e*P **P 17 18 54.4 -0.1**
BTO pP **pP 17 19 08.8 -0.4**
BTO sP **sP 17 19 15.8 -0.5**
BTO PP **PnPn 17 19 32.6 +3.5**
BTO sS **sS 17 23 31.9 -5.6**
BTO SS **SnSn 17 24 06.5 +2.8**
BTO pmax pmax
comp=Z,28nm,1.1s
BTO pmax pmax
comp=Z,480nm,8.9s
BTO LR LR
comp=Z,980nm,15.4s
BTO LR LR
comp=Z,1μm,18.1s
BTO LR LR
comp=Z,2μm,24.2s
TATO Taipei 24.80 233 P **P 17 18 52.8 -2.3**
YHNB Yeheng 25.10 232 P **P 17 18 55.9 -2.0**
NACB Ninganchiao 25.35 231 P **P 17 18 57.5 -2.6**
WHN Wuhan 25.77 252 ⇑P **P 17 19 05.5 +1.6**
WHN pP **pP 17 19 19.6 +1.1**
WHN S **S 17 23 28.4 -0.4**
WHN LR LR
comp=Z,2μm,22.0s
ULN Ulaanbaatar 25.86 295 P **P 17 19 04.0 -0.7**
ULN Ulaanbaatar 25.86 295 *eP* **P 17 19 04.2 -0.5**
ULN Ulaanbaatar 25.86 295 *ceP* **P 17 19 04.2 -0.5**
ULN pmax pmax
comp=Z,24nm,0.8s
AMKA Amchitka 26.18 57 P **P 17 19 06.9 -0.5**
SONM Songino Array 26.30 295 P **P 17 19 08.1 -0.6**
SONM IAmb IAmb 17 19 09.8
comp=Z,38nm,1.0s
SONM Songino Array 26.30 295 P **P 17 19 08.9 +0.2**
comp=Z,30nm,0.9s,baz=88,slow=8.7,SNR=107
SONM PcP **PcP 17 22 34.2 +0.8**
comp=Z,2.1nm,0.7s,baz=159,slow=2.8,SNR=3.6
SONM LR LR 17 30 04.9
comp=Z,936nm,20.4s,baz=88,slow=38
comp=Z,30nm,0.9s
SONM Songino Array 26.30 295 P **P 17 19 08.1 -0.6**
SONM pmax pmax
comp=Z,38nm,1.0s
IRK Irkutsk 27.82 304 *eP* **P 17 19 20.6 -1.6**
IRK pmax pmax
comp=Z,45nm,1.3s
XAN Xi'an 27.92 264 P **P 17 19 23.8 +0.5**
XAN pP pP 17 19 39.0 +1.0
XAN S **S 17 24 03.6 +0.8**
XAN pmax pmax
comp=Z,20nm,1.1s
XAN LR LR
comp=Z,330nm,19.9s
XAN LR LR
comp=Z,620nm,18.4s
XAN LR LR
comp=Z,730nm,22.0s
ZAK Zakamensk 28.34 300 *eP* **P 17 19 26.2 -0.7**
ZAK Zakamensk 28.34 300 *eP* **P 17 19 26.2 -0.7**
ZAK pmax pmax
comp=Z,16nm,1.1s
KIWB Kanaga Island 28.42 57 P **P 17 19 26.4 -1.0**
BILL Bilibino 28.64 18 *eP* **P 17 19 30.4 +1.2**
BILL Bilibino 28.64 18 ⇓*eP* **P 17 19 29.4 +0.2**
BILL *e* 17 20 26.0
BILL *e*S **S 17 24 12.1 -1.2**
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL MLR MLR
comp=Z,256nm,18.0s
GUMO Guam 28.64 176 LR LR 17 29 39.9
comp=Z,212nm,21.8s,baz=7.0,slow=34
ADK Adak 28.71 56 P **P 17 19 30.4 +0.4**
ADK IAmb IAmb 17 20 05.5
comp=Z,31nm,1.2s
ADK Adak 28.71 56 P **P 17 19 30.5 +0.4**
ADK pmax pmax
comp=Z,31nm,1.2s
ENH Enshi 29.41 257 IAmb IAmb 17 19 38.0
comp=Z,24nm,0.9s
MOY Mondy 29.81 303 *eP* **P 17 19 40.0 0.0**
MOY pmax pmax
comp=Z,58nm,1.4s
H11N2 WAKE ISLAND Hy 30.20 131 T T 17 51 19.1
baz=324,slow=75,SNR=850
H11N1 WAKE ISLAND Hy 30.21 131 T T 17 51 15.5
baz=324,slow=75,SNR=1018
H11N3 WAKE ISLAND Hy 30.22 131 T T 17 51 16.0
baz=324,slow=75,SNR=939
TIXI Tiksi 30.26 351 LR LR 17 32 58.3
comp=Z,130nm,21.5s,baz=174,slow=38
LZH Lanzhou 30.81 272 P **P 17 19 50.1 +1.1**
LZH sP sP 17 20 13.1 +2.3
LZH S **S 17 24 48.3 0.0**
LZH pmax pmax
comp=Z,37nm,1.0s
LZH LR LR
comp=Z,410nm,14.9s
LZH LR LR
comp=Z,410nm,14.6s
LZH LR LR
comp=Z,620nm,16.7s
H11S1 WAKE ISLAND Hy 31.08 132 T T 17 52 25.1
baz=325,slow=76,SNR=2057
H11S3 WAKE ISLAND Hy 31.08 133 T T 17 52 24.5
baz=325,slow=76,SNR=1439
H11S2 WAKE ISLAND Hy 31.10 132 T T 17 52 26.9
baz=325,slow=76,SNR=3090
GTA Gaotai 32.57 280 P **P 17 20 04.8 +0.4**
GTA pP sP 17 20 25.5 -0.8
GTA sP pP 17 20 34.5 +15
GTA PcP **PcP 17 22 51.1 +1.5**
GTA S **S 17 25 20.6 +4.9**
GTA PcS **PcS 17 26 35.9 +1.1**
GTA pmax pmax
comp=Z,44nm,0.9s
GTA pmax pmax
comp=Z,140nm,9.6s
GTA LR LR
comp=Z,220nm,14.7s
GTA LR LR
comp=Z,480nm,17.5s
GTA LR LR
comp=Z,590nm,22.3s
SPIA Saint Paul Isl 32.92 47 P **P 17 20 07.5 +0.5**
baz=264
P08K Saint George I 33.25 48 P **P 17 20 10.2 +0.3**
baz=265
NIKH Nikolski High 33.53 55 P **P 17 20 12.7 +0.3**
baz=271
GYA Guiyang 33.63 254 P **P 17 20 13.5 -0.2**
GYA pmax pmax
comp=Z,12nm,1.0s
GYA LR LR
comp=Z,570nm,21.6s
UNV Unalaska Valle 34.91 53 P **P 17 20 24.8 +0.4**
baz=272
M11K Mekoryuk 35.41 42 P **P 17 20 28.8 +0.3**
baz=263
TNA Tin City 35.70 33 P **P 17 20 31.0 0.0**
baz=254
F14K Arctic Creek 36.32 33 P **P 17 20 36.6 +0.3**
baz=256
QIZ Qiongzhong 36.43 241 P **P 17 20 37.3 -0.4**
QIZ S **S 17 26 14.6 -0.5**
QIZ LR LR
comp=Z,550nm,16.3s
QIZ LR LR
comp=Z,740nm,16.9s
QIZ LR LR
comp=Z,430nm,14.2s
ANM Nome 36.50 35 P **P 17 20 38.1 +0.3**
baz=258
FALS False Pass 36.68 51 P **P 17 20 39.6 +0.2**
baz=273
M13K Dall Lake 36.82 42 P **P 17 20 41.0 +0.5**
baz=265
J14K Nanvaranak Lak 36.98 38 P **P 17 20 42.2 +0.3**
baz=262
F15K North Star Dit 37.05 33 P **P 17 20 43.4 +0.8**
baz=257
G15K Niukluk 37.15 34 P **P 17 20 44.4 +1.1**
baz=258
PZH PanZhiHua 37.15 258 P **P 17 20 44.1 +0.2**
PZH S **S 17 26 29.8 +3.5**
PZH pmax pmax
comp=Z,40nm,1.0s
PZH pmax pmax
comp=Z,200nm,4.9s
PZH LR LR
comp=Z,550nm,22.6s
PZH LR LR
comp=Z,700nm,22.1s
PZH LR LR
comp=Z,990nm,20.6s
L14K Kuka Creek 37.23 40 IAmb IAmb 17 21 13.2
comp=Z,11nm,0.8s
L14K Kuka Creek 37.23 40 P **P 17 20 45.0 +1.0**
baz=265
KMI Kunming 37.25 256 ⇑P **P 17 20 44.9 0.0**
KMI pP pP 17 21 03.5 +3.6
KMI S **S 17 26 26.8 -1.2**
KMI pmax pmax
comp=Z,31nm,0.8s
KMI LR LR
comp=Z,410nm,16.8s
KMI LR LR
comp=Z,310nm,21.8s
KMI LR LR
comp=Z,380nm,16.9s
S12K Black Hills 37.42 50 P **P 17 20 46.1 +0.4**
baz=273
GOMU GeErMu 37.44 277 P **P 17 20 44.3 -2.3**
GOMU PcP **PcP 17 23 04.0 -0.1**
GOMU S **S 17 26 26.4 -4.6**
GOMU pmax pmax
comp=Z,23nm,0.6s
GOMU LR LR
comp=Z,920nm,18.4s
GOMU LR LR
comp=Z,680nm,18.0s
GOMU LR LR
comp=Z,1μm,18.2s
C16K Lisburne Hills 37.46 29 P **P 17 20 46.4 +0.5**
baz=253
M14K Bethel 37.53 41 IAmb IAmb 17 21 25.4
comp=Z,12nm,0.8s
M14K Bethel 37.53 41 P **P 17 20 46.9 +0.3**
baz=266
N14K Kuskokwak Cree 37.62 43 P **P 17 20 47.8 +0.5**
baz=267
O14K Tigyukauivet M 37.81 44 P **P 17 20 49.3 +0.4**
baz=269
L15K Ungalak Mounta 37.83 40 P **P 17 20 49.8 +0.8**
baz=265
H16K Elim 37.85 35 P **P 17 20 50.0 +0.8**
baz=261
K15K Wolf Creek Mou 37.86 39 P **P 17 20 49.4 +0.1**
baz=264
G16K Koyuk River 37.93 34 P **P 17 20 50.0 +0.1**
baz=260
D17K Noatak River 38.13 30 P **P 17 20 51.6 0.0**
baz=256
M15K Kasigluk River 38.15 41 P **P 17 20 52.4 +0.6**
baz=267
C17K DeLong Mountai 38.29 29 P **P 17 20 53.2 +0.3**
baz=255
DAV Davao City (W) 38.33 209 LR LR 17 35 12.8
comp=Z,222nm,21.8s,baz=46,slow=34
SDPT Sand Point 38.34 50 P **P 17 20 53.7 +0.3**
baz=274
J16K Anvik River 38.38 37 P **P 17 20 54.0 +0.3**
baz=264
I17K Unalakleet 38.41 36 P **P 17 20 54.6 +0.7**
baz=263
N15K Kwethluk River 38.42 42 IAmb IAmb 17 21 02.8
comp=Z,16nm,0.8s
N15K Kwethluk River 38.42 42 P **P 17 20 54.6 +0.4**
baz=268
E17K Hotham Inlet 38.46 31 P **P 17 20 54.6 +0.2**
baz=258
O15K Ungalikthiuk R 38.55 44 P **P 17 20 55.4 +0.2**
baz=270
F17K Baldwin Pennin 38.56 32 P **P 17 20 55.4 +0.3**
baz=260
G17K Kiwalik Mounta 38.65 34 P **P 17 20 56.2 +0.3**
baz=261
L16K Owhat River 38.78 40 P **P 17 20 58.3 +1.2**
L16K Owhat River 38.78 40 P **P 17 20 57.0 -0.1**
baz=267,SNR=6.8
S14K Fog Glacier 38.79 49 P **P 17 20 57.0 -0.4**
baz=274
SLVN Son La 38.83 250 P **P 17 20 58.9 +0.9**
H17K Granite Mounta 38.88 35 P **P 17 20 58.8 +1.0**
baz=263
CHNA Chernabura Isl 38.89 51 P **P 17 20 58.4 +0.3**
baz=276
E18K Tukpahlearik C 38.99 31 IAmb IAmb 17 21 16.7
comp=Z,20nm,1.5s
E18K Tukpahlearik C 38.99 31 P **P 17 20 58.8 0.0**
baz=259
B18K Kokolik River 39.00 28 P **P 17 20 58.4 -0.4**
baz=255
M16K Timber Creek 39.01 41 P **P 17 20 58.6 -0.4**
baz=268
C18K Utukok River 39.04 29 P **P 17 20 59.0 -0.3**
C18K Utukok River 39.04 29 P **P 17 20 59.0 -0.3**
baz=257,SNR=5.9
J17K VABM Dome 39.08 37 P **P 17 21 00.5 +0.9**
J17K IAmb IAmb 17 21 16.0
comp=Z,45nm,1.5s
J17K VABM Dome 39.08 37 P **P 17 20 58.9 -0.7**
baz=265
N16K Nishlik Lake 39.09 42 P **P 17 20 59.0 -0.7**
baz=269,SNR=8.0
F18K Selawik 39.22 32 P **P 17 21 00.2 -0.5**
baz=261
L17K Donlin 39.36 39 P **P 17 21 02.0 +0.1**
baz=268
K17K Iditarod 39.39 38 P **P 17 21 02.0 -0.1**
baz=267
CHGN Chignik 39.42 48 P **P 17 21 01.9 -0.6**
baz=275
O16K Kokwok River B 39.43 43 P **P 17 21 01.9 -0.6**
baz=271
A19K Wainwright 39.46 26 P **P 17 21 02.1 -0.5**
baz=255
ZAA0 Zalesovo Array 39.49 308 P **P 17 21 02.9 -0.2**
ZALV Zalesovo Beam 39.49 308 P **P 17 21 02.9 -0.2**
comp=Z,33nm,0.7s,baz=88,slow=8.2,SNR=115
ZALV PcP **PcP 17 23 10.5 +0.8**
comp=Z,15nm,0.8s,baz=93,slow=3.2,SNR=8.4
ZALV LR LR 17 38 33.4
comp=Z,500nm,18.7s,baz=118,slow=38
comp=Z,33nm,0.7s
P16K Nushagak River 39.50 44 P **P 17 21 02.9 -0.1**
baz=272
G18K Tagagawik 39.52 33 IAmb IAmb 17 21 17.8
comp=Z,12nm,0.6s
G18K Tagagawik 39.52 33 P **P 17 21 03.2 0.0**
baz=263
H18K Honhosa River 39.55 34 IAmb IAmb 17 21 18.4
comp=Z,11nm,0.8s
H18K Honhosa River 39.55 34 P **P 17 21 03.2 -0.3**
baz=264
C19K Lookout Ridge 39.70 28 IAmb IAmb 17 21 05.8
comp=Z,16nm,1.1s
C19K Lookout Ridge 39.70 28 P **P 17 21 04.0 -0.8**
baz=258
M17K Holitna River 39.75 40 IAmb IAmb 17 21 13.4
comp=Z,15nm,0.8s
M17K Holitna River 39.75 40 P **P 17 21 04.6 -0.6**
baz=269,SNR=7.1
WMQ Urumqi 39.83 292 ⇑*i*P **P 17 21 06.3 +0.1**
WMQ pP pP 17 21 17.8 -3.6
WMQ pmax pmax
comp=Z,36nm,0.9s
WMQ LR LR
comp=Z,410nm,14.7s
WMQ LR LR
comp=Z,760nm,15.5s
WMQ LR LR
comp=Z,680nm,19.3s
N17K Nushagak Hills 39.87 42 P **P 17 21 05.8 -0.4**
baz=271
O17K Koliganek Bris 39.93 43 P **P 17 21 06.3 -0.4**
baz=272
F19K Shaleruckik Mo 39.99 32 P **P 17 21 06.5 -0.6**
baz=262,SNR=7.7
D19K Kuna River 40.11 29 IAmb IAmb 17 21 26.3
comp=Z,18nm,1.1s
D19K Kuna River 40.11 29 P **P 17 21 07.4 -0.8**
baz=260
L18K Granite Mounta 40.12 39 P **P 17 21 08.4 +0.2**
baz=269,SNR=6.7
J18K Innoko River 40.14 37 P **P 17 21 08.5 +0.1**
baz=268
G19K Purcell Mounta 40.18 33 P **P 17 21 08.4 -0.3**
baz=264
E19K Redstone River 40.28 31 IAmb IAmb 17 21 24.0
comp=Z,16nm,0.7s
E19K Redstone River 40.28 31 P **P 17 21 09.7 +0.1**
baz=262
P17K Kvichak River 40.29 44 P **P 17 21 10.3 +0.6**
baz=273
TNCH TengChong 40.36 259 ⇑P **P 17 21 11.6 +0.7**
TNCH pP pP 17 21 26.5 +0.4
TNCH S **S 17 27 12.4 -2.4**
TNCH SS **SS 17 30 09.1 -6.3**
TNCH pmax pmax
comp=Z,73nm,0.8s
TNCH pmax pmax
comp=Z,270nm,6.4s
TNCH LR LR
comp=Z,190nm,16.2s
H19K Roundabout Mou 40.39 34 P **P 17 21 10.9 +0.6**
H19K IAmb IAmb 17 21 25.3

comp=Z,15nm,0.7s
H19K Roundabout Mou 40.39 34 P P 17 21 10.6 +0.3
baz=265,SNR=10.0
R17L Mt. Peulik Vol 40.43 46 P P 17 21 10.8 -0.1
baz=275
TTA Tatalina 40.45 38 P P 17 21 10.9 -0.1
baz=269
N18K Kilae Creek 40.51 42 P P 17 21 11.6 +0.1
baz=272
M18K Stony River 40.52 40 P P 17 21 12.2 +0.6
baz=271
Q17K Contact Creek 40.64 45 P P 17 21 12.9 +0.2
baz=274
J19K Poorman 40.65 36 P P 17 21 13.0 +0.4
J19K IAmb IAmb 17 21 31.0
comp=Z,16nm,1.1s
J19K Poorman 40.65 36 P P 17 21 12.7 +0.1
baz=268,SNR=6.1
D20K Etivluk River 40.69 29 P P 17 21 13.0 +0.1
baz=261
B20K Meade River 40.72 27 P P 17 21 13.1 0.0
baz=259,SNR=11
ZSN Zaisan 40.72 298 *e*P **P 17 21 13.4 0.0**
comp=Z,16nm,0.9s,baz=298
ZSN Zaisan 40.72 298 *e*P **P 17 21 13.4 0.0**
ZSN pmax pmax
comp=Z,17nm,0.9s
E20K Nigu River 40.78 30 P P 17 21 13.3 -0.4
baz=262
F20K Avaraart Lake 40.82 32 P P 17 21 13.6 -0.3
baz=264
O18K Koktuh Hills 40.88 43 P P 17 21 14.0 -0.6
baz=273
P18K Big Mountain, 40.90 43 P P 17 21 13.5 -1.3
baz=274
ACHA Angle Creek He 40.94 45 P P 17 21 15.5 +0.4
L19K White Mountain 40.98 39 P P 17 21 15.0 -0.3
baz=271
CHIR Chirikof Islan 41.03 49 P P 17 21 15.9 +0.1
baz=277
H20K Anotleneega Mo 41.04 34 P P 17 21 15.6 -0.2
baz=267,SNR=7.0
Q18K Katmai Hardscr 41.07 45 P P 17 21 15.7 -0.5
baz=275
A21K Barrow 41.15 25 P P 17 21 16.1 -0.5
baz=258
I20K Naaghedeneel 41.18 35 P P 17 21 17.1 +0.2
baz=268
N19K Bonanza Creek 41.19 41 P P 17 21 17.0 -0.2
baz=273
M19K Big River Lodg 41.20 40 P P 17 21 16.6 -0.6
baz=271
J20K Nowinta River 41.30 36 P P 17 21 18.0 +0.1
baz=269,SNR=10
O19K Port Alsworth 41.31 42 P P 17 21 17.3 -0.7
baz=273
K20K Telida 41.33 37 P P 17 21 17.4 -0.8
baz=270
C21K Knifeblade Rid 41.41 29 P P 17 21 18.4 -0.3
baz=263,SNR=11
L20K Farewell, AK 41.43 39 P P 17 21 19.1 +0.1
baz=271
R18K Karluk 41.46 46 P P 17 21 18.6 -0.7
baz=276
IMAR Indian Mountai 41.53 33 P P 17 21 20.4 +0.7
B21K Ikpikpuk River 41.53 28 P P 17 21 19.4 -0.3
baz=262,SNR=9.4
A22K Sinclair Lake 41.62 26 P P 17 21 19.9 -0.5
baz=260
E21K Killik River 41.62 30 P P 17 21 20.2 -0.4
baz=264,SNR=13
G21K Allakaket 41.65 33 P P 17 21 20.5 -0.3
baz=267
F21K Alatna River 41.71 32 P P 17 21 20.8 -0.4
baz=266,SNR=12
SII Sitkinak Islan 41.73 48 P P 17 21 21.0 -0.5
baz=278
Q19K Cape Douglas, 41.75 44 P P 17 21 20.4 -1.3
baz=275
M20K Styx River 41.80 40 IAmb IAmb 17 21 48.0
comp=Z,32nm,1.7s
M20K Styx River 41.80 40 P P 17 21 21.2 -0.9
baz=272
P19K Oil Pt 41.89 43 P P 17 21 20.7 -2.2
baz=275
H21K Melozitna River 41.91 34 P P 17 21 22.2 -0.7
baz=269
B22K Teshekpuk Lake 42.03 27 P P 17 21 23.0 -0.8
baz=263
CHUM Lake Minchumin 42.11 37 P P 17 21 23.6 -1.0
baz=271
OHAK Old Harbor 42.13 47 P P 17 21 23.5 -1.3
baz=278
D22K Ayikyak River 42.13 29 P P 17 21 24.2 -0.5
baz=265,SNR=9.4
O20K Slope Mountain 42.16 42 P P 17 21 24.5 -0.6
baz=275
PPLA Purkeypile 42.19 38 P P 17 21 24.6 -0.9
baz=272
CAST Castle Rocks 42.22 37 IAmb IAmb 17 21 51.7
comp=Z,26nm,1.3s
CAST Castle Rocks 42.22 37 P P 17 21 24.8 -0.7
baz=272
F22K John River 42.23 31 P P 17 21 24.8 -0.6
baz=267,SNR=17
N20K Mount Spurr 42.28 41 P P 17 21 25.0 -1.0
baz=274
Q20K Shuyak Island 42.43 44 P P 17 21 26.1 -1.0
baz=277
KDAK Kodiak Island 42.43 46 P P 17 21 27.6 +0.4
KDAK Kodiak Island 42.43 46 P P 17 21 26.3 -0.9
baz=276
KDAK Kodiak Island 42.43 46 LR LR 17 40 02.3
comp=Z,195nm,21.9s,baz=270,slow=37
KDAK Kodiak Island 42.43 46 P P 17 21 27.6 +0.4
KDAK pmax pmax
comp=Z,208nm,2.0s
KDAK Kodiak Island 42.43 46 P P 17 21 28.0 +0.8
KDAK PcP **PcP 17 23 20.8 +1.6**
H22K Ishtalitna Cre 42.50 34 P P 17 21 26.9 -0.8
baz=270
SKT Skwentna 42.55 39 P P 17 21 28.1 0.0
baz=274
MK31 Makanchi Array 42.59 298 P P 17 21 28.7 0.0
MK31 IAmb IAmb 17 21 30.3
comp=Z,29nm,0.8s
MK31 Makanchi Array 42.59 298 *ce*P **P 17 21 28.5 -0.3**
MKAR Makanchi Array 42.59 298 P P 17 21 28.9 +0.1
MKAR Makanchi Array 42.59 298 P P 17 21 28.5 -0.2
comp=Z,30nm,0.8s,baz=81,slow=8.8,SNR=198
MKAR PcP **PcP 17 23 20.4 +0.4**
comp=Z,6.1nm,0.8s,baz=57,slow=4.5,SNR=4.4
MKAR LR LR 17 39 58.9
comp=Z,283nm,19.4s,baz=96,slow=37
comp=Z,30nm,0.8s
DLV T Lat 42.62 235 P P 17 21 29.7 +0.2
DLV IAmb IAmb 17 21 32.0
comp=Z,28nm,0.9s
BPAW Bear Paw Mtn. 42.69 36 P P 17 21 30.2 +0.9
BPAW Bear Paw Mtn. 42.69 36 P P 17 21 28.9 -0.4
baz=272,SNR=8.5
HOM Homer 42.70 43 P P 17 21 28.1 -1.2
baz=276
KTH Kantishna Hill 42.74 37 IAmb IAmb 17 22 05.0
comp=Z,22nm,0.9s
MLY Manley 42.77 35 P P 17 21 31.5 +1.5
MLY Manley 42.77 35 P P 17 21 29.4 -0.5
baz=271
MAKZ Makanchi 42.80 298 P P 17 21 30.6 +0.2
MAKZ Makanchi 42.80 298 P P 17 21 30.6 +0.2
MAKZ pmax pmax
comp=Z,37nm,0.8s
MAKZ Makanchi 42.80 298 P P 17 21 30.4 0.0
MAKZ PcP **PcP 17 23 21.6 +0.9**
D23K Nanushuk River 42.86 29 P P 17 21 30.9 +0.4
baz=267,SNR=7.0
C23K Itkillik River 42.94 28 IAmb IAmb 17 21 45.4
comp=Z,40nm,1.5s
C23K Itkillik River 42.94 28 P P 17 21 31.4 +0.2
baz=266,SNR=9.7
SUA Susitna One 42.96 40 P P 17 21 32.3 +0.7
SUA IAmb IAmb 17 21 38.6
comp=Z,12nm,0.8s
SUA Susitna One 42.96 40 P P 17 21 31.1 -0.5
baz=275
COLD Coldfoot 42.98 32 P P 17 21 31.5 -0.1
baz=269

G23K Bananza Creek 43.05 32 P P 17 21 32.1 0.0
baz=270,SNR=10
CUT Chulitna 43.11 39 P P 17 21 33.0 +0.4
baz=274
BRSE Bradley Lake S 43.14 43 P P 17 21 33.1 +0.1
baz=277
LSA Lhasa 43.21 270 P P 17 21 35.4 +0.9
LSA pmax pmax
comp=Z,8.0nm,1.1s
E23K Chandalar 43.22 30 P P 17 21 33.6 0.0
baz=269,SNR=14
M22K Willow 43.23 40 P P 17 21 33.4 -0.2
baz=275
TOLK Toolik Lake Re 43.25 30 P P 17 21 34.1 +0.3
TOLK Toolik Lake Re 43.25 30 P P 17 21 33.8 0.0
baz=268,SNR=10
H23K Yukon River 43.25 34 P P 17 21 34.0 +0.2
baz=271,SNR=8.8
I23K Minto, Yukon-K 43.35 35 P P 17 21 34.9 +0.4
baz=272
BWN Browne 43.35 36 P P 17 21 36.0 +1.4
RC01 Rabbit Creek A 43.48 41 P P 17 21 36.2 +0.5
baz=276
NEA2 Nenana 43.50 35 P P 17 21 36.7 +0.8
NEA2 IAmb IAmb 17 21 57.7
comp=Z,19nm,0.8s
NEA2 Nenana 43.50 35 P P 17 21 35.9 +0.1
baz=273,SNR=16
D24K Happy Valley 43.53 29 P P 17 21 36.5 +0.5
baz=268,SNR=15
O22K Cooper Landing 43.56 42 P P 17 21 36.2 0.0
baz=277
C24K Franklin Bluff 43.60 28 P P 17 21 36.3 -0.2
baz=268
MCK McKinley 43.62 37 P P 17 21 36.0 -0.8
baz=274
E24K Your Creek 43.64 30 P P 17 21 37.5 +0.5
baz=270,SNR=10
RND Reindeer 43.68 37 P P 17 21 37.4 +0.1
RND IAmb IAmb 17 22 02.8
comp=Z,56nm,1.8s
RND Reindeer 43.68 37 P P 17 21 37.4 +0.1
RND pmax pmax
comp=Z,56nm,1.8s
PMR Palmer 43.72 40 P P 17 21 38.1 +0.6
baz=276
SEW Seward 43.74 42 P P 17 21 37.8 +0.1
baz=278
GHO Glory Hole Cre 43.80 40 P P 17 21 39.0 +0.7
GHO IAmb IAmb 17 22 03.9
comp=Z,21nm,1.0s
MDM Murphy Dome 43.84 35 P P 17 21 39.5 +0.9
KURK Kurchatov 43.85 304 P P 17 21 38.4 -0.4
KURK Kurchatov 43.85 304 *e*P **P 17 21 38.3 -0.5**
KURK Kurchatov 43.85 304 *ce*P **P 17 21 38.3 -0.5**
KURK pmax pmax
comp=Z,53nm,0.7s
KURK Kurchatov 43.85 304 P P 17 21 38.7 -0.1
KURK pP **pP 17 21 55.6 +1.4**
WAT1 Susitna Watana 43.86 38 P P 17 21 39.2 +0.5
baz=275
F24K Squaw Lake 43.88 31 P P 17 21 39.6 +0.8
baz=271,SNR=15
KURBB Kurchatov Arra 43.93 304 P P 17 21 39.4 0.0
comp=Z,52nm,0.7s,baz=77,slow=8.9,SNR=219
KURBB PcP **PcP 17 23 24.4 0.0**
comp=Z,5.8nm,0.8s,baz=77,slow=4.1,SNR=4.4
KURBB LR LR 17 41 00.8
comp=Z,300nm,18.6s,baz=164,slow=37
comp=Z,52nm,0.7s
H24K Noodor Dome 43.94 34 P P 17 21 39.7 +0.4
baz=273,SNR=8.7
CHTO Chiang Mai 43.98 252 P P 17 21 40.3 +0.1
CHTO IAmb IAmb 17 21 42.3
comp=Z,18nm,0.8s
CHTO Chiang Mai 43.98 252 P P 17 21 40.3 +0.1
CHTO pmax pmax
comp=Z,18nm,0.8s
COLA College 44.01 35 P P 17 21 40.3 +0.6
baz=274
COLA College 44.01 35 *c i*P **P 17 21 40.9 +1.1**
COLA pmax pmax
comp=Z,17nm,0.9s
COLA College 44.01 35 P P 17 21 41.2 +1.4
KNK Knik Glacier 44.06 40 P P 17 21 40.5 +0.1
baz=277
G24K Hadweenzic Riv 44.06 32 P P 17 21 40.7 +0.4
baz=272,SNR=6.3
SML Sawmill 44.07 39 IAmb IAmb 17 21 55.9
comp=Z,23nm,0.8s
SML Sawmill 44.07 39 P P 17 21 40.1 -0.4
baz=277
POKR Poker Plat Res 44.17 35 P P 17 21 41.0 -0.2
baz=274
CM31 Chiang Mai Arr 44.22 251 P P 17 21 41.5 -0.6
CMAR Chiang Mai Arr 44.22 251 P P 17 21 41.8 -0.3
CMAR Chiang Mai Arr 44.22 251 P P 17 21 42.9 +0.8
comp=Z,7.8nm,0.7s,baz=43,slow=7.2,SNR=52
CMAR PcP **PP 17 23 27.0 +0.9**
comp=Z,0.4nm,0.4s,baz=358,slow=3.6,SNR=4.3
CMAR LR LR 17 41 04.3
comp=Z,299nm,19.2s,baz=55,slow=37
comp=Z,7.8nm,0.7s
WAT6 Susitna Watana 44.26 38 P P 17 21 42.0 -0.2
baz=276
M23K Glacier View 44.36 39 P P 17 21 42.9 +0.1
baz=277
DHY Denali Highway 44.37 38 IAmb IAmb 17 21 46.1
comp=Z,10nm,0.7s
DHY Denali Highway 44.37 38 P P 17 21 43.1 +0.1
baz=276,SNR=9.4
D25K Kavik River 44.41 29 IAmb IAmb 17 21 44.9
comp=Z,8.8nm,0.6s
D25K Kavik River 44.41 29 P P 17 21 43.0 -0.1
baz=271,SNR=22
IL31 44.43 35 IAmb IAmb 17 22 04.7
comp=Z,16nm,1.1s
ILAR Eielson Array 44.43 35 P P 17 21 43.3 +0.1
ILAR Eielson Array 44.43 35 P P 17 21 43.9 +0.6
comp=Z,6.5nm,0.8s,baz=265,slow=6.2,SNR=73
ILAR LR LR 17 41 41.7
comp=Z,68nm,19.2s,baz=252,slow=38
comp=Z,6.5nm,0.8s
HDA Harding Lake 44.43 36 IAmb IAmb 17 22 00.9
comp=Z,32nm,1.6s
HDA Harding Lake 44.43 36 P P 17 21 43.3 +0.1
baz=275,SNR=8.2
SCM Sheep Creek Mo 44.54 39 P P 17 21 44.1 -0.2
baz=278
G25K Bearman Lake 44.60 32 P P 17 21 44.6 0.0
baz=274
F25K Christian Rive 44.73 31 P P 17 21 46.3 +0.6
baz=273,SNR=8.3
E25K Arctic Village 44.74 30 IAmb IAmb 17 22 24.5
comp=Z,27nm,1.9s
E25K Arctic Village 44.74 30 P P 17 21 46.0 +0.3
baz=273
H25L Birch Creek 44.75 33 P P 17 21 46.1 +0.3
baz=274
P23K Montague Islan 44.77 42 P P 17 21 45.7 -0.3
baz=279
GLI Glacier Island 44.79 41 P P 17 21 45.9 -0.2
baz=279
C26K Camden Bay 44.91 28 P P 17 21 47.1 +0.1
baz=271,SNR=6.7
PRP Porcupine Dome 44.93 34 IAmb IAmb 17 21 49.5
comp=Z,13nm,0.8s
PRP Porcupine Dome 44.93 34 P P 17 21 47.2 -0.2
baz=275,SNR=20
K24K Donnelly Dome 45.01 36 P P 17 21 47.6 -0.2
baz=277,SNR=5.8
M24K Tolsona, Glenn 45.05 39 P P 17 21 48.3 +0.1
baz=278
J25K Salcha River, 45.09 35 P P 17 21 48.5 0.0
baz=276
BMAR Burnt Mountain 45.15 31 P P 17 21 50.1 +1.1
PAX Paxson 45.25 38 P P 17 21 49.9 0.0
baz=278
KLU Klutina 45.26 40 P P 17 21 51.0 +1.0
KLU IAmb IAmb 17 22 50.4
comp=Z,22nm,1.2s
KLU Klutina 45.26 40 P P 17 21 49.9 0.0
baz=279
F26K Sheenjek River 45.30 31 P P 17 21 50.4 +0.3
baz=274,SNR=12
C27K Jago River 45.34 28 P P 17 21 50.8 +0.4
baz=273,SNR=15

Q23K Middleton Isla 45.40 43 P P 17 21 51.2 +0.3
baz=281
HARP HAARP 45.47 38 P P 17 21 51.3 -0.2
baz=279
EYAK Cordova Ski Ar 45.49 41 P P 17 21 51.6 -0.1
baz=280
G26K Porcupine Rive 45.50 32 P P 17 21 52.1 +0.4
baz=275,SNR=12
PDGK Podgorvoye 45.61 294 P P 17 21 52.0 -1.1
SHLS Shalkode 45.70 294 *e*P **P 17 21 51.0 -2.7**
comp=Z,7.4nm,0.7s,baz=294
SHLS Shalkode 45.70 294 *e*P **P 17 21 51.0 -2.7**
SHLS pmax pmax
comp=Z,7.0nm,0.7s
TDK Taldyqorghan 45.74 296 *e*P **P 17 21 53.9 -0.1**
comp=Z,15nm,0.7s,baz=296
TDK Taldyqorghan 45.74 296 *e*P **P 17 21 53.8 -0.1**
TDK pmax pmax
comp=Z,15nm,0.7s
SCRK Sand Creek 45.77 36 IAmb IAmb 17 21 56.4
comp=Z,13nm,0.6s
SCRK Sand Creek 45.77 36 P P 17 21 53.9 -0.2
baz=278,SNR=23
N25K Chitina, Valde 45.86 39 P P 17 21 54.3 -0.5
baz=280
J26L Joseph Creek 45.88 35 P P 17 21 54.5 -0.3
baz=278,SNR=6.6
I26K Coal Creek Min 45.94 34 IAmb IAmb 17 22 12.2
comp=Z,24nm,1.9s
I26K Coal Creek Min 45.94 34 P P 17 21 54.5 -0.7
baz=278
BMRM Bremner River 45.97 40 P P 17 21 55.0 -0.5
baz=280
UZB Uzynbulak 46.00 294 *e*P **P 17 21 55.7 -0.5**
comp=Z,8.8nm,0.9s,baz=294
UZB Uzynbulak 46.00 294 *e*P **P 17 21 55.6 -0.5**
UZB pmax pmax
comp=Z,9.0nm,0.9s
FAKI Fak Fak 46.05 195 P P 17 21 57.9 +1.3
KPKS Kokpek 46.11 294 *e*P **P 17 21 56.8 -0.2**
comp=Z,13nm,0.9s,baz=294
KPKS Kokpek 46.11 294 *e*P **P 17 21 56.7 -0.2**
KPKS pmax pmax
comp=Z,13nm,0.9s
L26K Log Cabin Wild 46.20 37 IAmb IAmb 17 22 29.0
comp=Z,19nm,1.2s
L26K Log Cabin Wild 46.20 37 P P 17 21 57.1 -0.2
baz=280,SNR=7.7
E27K Coleen River 46.22 30 IAmb IAmb 17 22 12.6
comp=Z,23nm,1.9s
E27K Coleen River 46.22 30 P P 17 21 57.6 +0.2
baz=276
D27M Malcolm River 46.34 29 P P 17 21 58.5 +0.2
baz=276
G27K Doyon Strip 46.35 32 P P 17 21 58.7 +0.2
baz=277,SNR=5.4
ZHN Zhinishke 46.39 294 *e*P **P 17 21 58.9 -0.3**
comp=Z,6.0nm,0.7s,baz=294
ZHN Zhinishke 46.39 294 *e*P **P 17 21 58.8 -0.3**
ZHN pmax pmax
comp=Z,6.0nm,0.7s
ARXS Arharly 46.41 296 *i* P **P 17 21 58.1 -1.2**
M26K Nabesna, AK 46.47 38 IAmb IAmb 17 22 18.9
comp=Z,23nm,1.1s
M26K Nabesna, AK 46.47 38 P P 17 22 00.1 +0.7
baz=280
VRDI Verde Repeater 46.47 40 IAmb IAmb 17 23 06.2
comp=Z,20nm,1.3s
H27K Steamboat Moun 46.48 33 P P 17 21 59.3 -0.2
baz=278,SNR=6.4
I27K Kandik River 46.54 34 P P 17 22 00.1 +0.2
baz=279
K27K Chicken 46.59 36 IAmb IAmb 17 22 26.8
comp=Z,27nm,1.2s
K27K Chicken 46.59 36 P P 17 22 01.2 +0.9
baz=280
WUS Wushi 46.62 291 P P 17 22 01.2 +0.2
MCARA McCarthy VSAT 46.65 40 P P 17 22 01.4 +0.6
baz=281
PRZ Przheval'sk 46.67 293 IAmb IAmb 17 22 03.4
comp=Z,27nm,1.1s
CRQE Cirque 46.74 40 P P 17 22 02.0 +0.4
baz=282
BGLC Bering Glacier 46.78 41 P P 17 22 01.9 +0.1
baz=282
EGAK Eagle 46.86 35 IAmb IAmb 17 22 20.5
comp=Z,14nm,0.9s
EGAK Eagle 46.86 35 P P 17 22 02.5 +0.1
baz=280,SNR=8.1
L27K Beaver Creek, 46.87 37 IAmb IAmb 17 22 05.3
comp=Z,10nm,0.8s
L27K Beaver Creek, 46.87 37 P P 17 22 03.0 +0.4
baz=281,SNR=17
BCAR Beaver Creek A 46.89 37 P P 17 22 04.6 +1.9
E28M Babbage River 46.92 29 P P 17 22 03.0 +0.1
baz=278,SNR=9.5
F28M Old Crow 46.93 31 IAmb IAmb 17 23 08.0
comp=Z,22nm,1.6s
F28M Old Crow 46.93 31 P P 17 22 03.2 +0.2
baz=278
M27K Edge Creek, AK 46.99 38 IAmb IAmb 17 22 26.4
comp=Z,13nm,0.8s
M27K Edge Creek, AK 46.99 38 P P 17 22 03.5 -0.1
baz=281,SNR=9.1
I28M Miner Creek 47.25 34 IAmb IAmb 17 22 27.3
comp=Z,14nm,0.9s
I28M Miner Creek 47.25 34 P P 17 22 05.9 +0.3
baz=280,SNR=18
MDOK Medeo 47.33 295 *e*P **P 17 22 06.1 -0.5**
baz=295
MDOK Medeo 47.33 295 *e*P **P 17 22 06.0 -0.5**
TARG Taragay, Kyrgy 47.38 293 IAmb IAmb 17 22 10.2
comp=Z,19nm,0.9s
GRNC Granite Creek 47.39 40 IAmb IAmb 17 22 38.9
comp=Z,22nm,1.0s
AAA Alma-Ata 47.40 295 *e*P **P 17 22 06.8 -0.2**
comp=Z,11nm,0.9s,baz=295
AAA Alma-Ata 47.40 295 *e*P **P 17 22 06.7 -0.2**
AAA pmax pmax
comp=Z,11nm,0.9s
TNSS Tian-Shan 47.45 294 *e*P **P 17 22 06.8 -1.0**
baz=294
TNSS Tian-Shan 47.45 294 *e*P **P 17 22 06.7 -1.0**
KUU Kurty 47.52 296 *e*P **P 17 22 07.2 -0.7**
comp=Z,8.5nm,0.8s,baz=296
KUU Kurty 47.52 296 *e*P **P 17 22 07.2 -0.7**
KUU pmax pmax
comp=Z,8.0nm,0.8s
CTG Chitna Glacier 47.53 40 P P 17 22 08.2 +0.3
baz=283
CTGM Chitina Glacie 47.53 40 IAmb IAmb 17 22 14.5
comp=Z,17nm,0.9s
E29M Blow River 47.55 30 IAmb IAmb 17 22 43.8
comp=Z,8.4nm,0.8s
E29M Blow River 47.55 30 P P 17 22 08.2 +0.5
baz=279,SNR=12
DAWY Dawson 47.75 35 P P 17 22 10.2 +0.8
baz=282
H29M Whitestone 47.75 32 P P 17 22 10.7 +1.4
baz=281,SNR=5.1
G29M Pine Creek 47.76 32 IAmb IAmb 17 22 58.7
comp=Z,12nm,1.0s
G29M Pine Creek 47.76 32 P P 17 22 09.9 +0.5
baz=280
YUK3 Moose Creek 47.76 39 P P 17 22 10.1 +0.4
baz=283
I29M Ogilvie Camp, 47.94 34 IAmb IAmb 17 22 13.0
comp=Z,12nm,0.8s
I29M Ogilvie Camp, 47.94 34 P P 17 22 11.3 +0.5
baz=282,SNR=15
BVA0 Borovoye Array 48.10 309 P P 17 22 11.9 -0.3
BVAR Borovoye Array 48.10 309 P P 17 22 12.3 +0.1
comp=Z,10.0nm,0.3s,baz=81,slow=9.9,SNR=107
BVAR PcP **PcP 17 23 39.5 +0.6**
comp=Z,11nm,0.7s,baz=60,slow=3.6,SNR=6.5
BVAR LR LR 17 44 00.7
comp=Z,421nm,19.6s,baz=72,slow=38
comp=Z,10.0nm,0.3s
O28M Mount Upton 48.12 40 P P 17 22 13.0 +0.4
baz=284
BRVK Borovoye 48.15 309 P P 17 22 12.8 +0.3
BRVK Borovoye 48.15 309 *e*P **P 17 22 12.8 +0.3**
BRVK Borovoye 48.15 309 P P 17 22 12.8 +0.3
BRVK pmax pmax
comp=Z,23nm,0.9s
BRVK Borovoye 48.15 309 P P 17 22 12.6 +0.1
BRVK pP **pP 17 22 30.1 +1.9**

BRVK PcP **PcP** **17 23 39.9 +0.8**
ULHL Ulahol 48.24 294 P **P** **17 22 13.7 +0.1**
SNR=11
PINM Pinnacle 48.26 41 P **P** **17 22 14.0 +0.6**
baz=285
EPYK Eagle Plains 48.37 32 IAmb IAmb 17 22 33.2
comp=Z,26nm,1.2s
EPYK Eagle Plains 48.37 32 P **P** **17 22 15.1 +0.9**
baz=282,SNR=6.3
TKM2 Tokmak 2 48.40 295 P **P** **17 22 15.2 +0.3**
SNR=50
TKM2 Tokmak 2 48.40 295 *i* P **P** **17 22 14.5 -0.4**
TKM2 pmax pmax
comp=Z,44nm,0.8s
G30M tAoh Zraii Nji 48.44 31 IAmb IAmb 17 23 04.7
comp=Z,16nm,0.9s
G30M tAoh Zraii Nji 48.44 31 P **P** **17 22 15.1 +0.5**
baz=282,SNR=6.3
F30M Barrier River 48.48 30 P **P** **17 22 15.6 +0.8**
baz=282,SNR=7.8
L29M L29M 48.51 37 P **P** **17 22 16.6 +1.3**
baz=284,SNR=16
M29M Somme Creek 48.52 37 P **P** **17 22 17.0 +1.6**
baz=284
BTLS Baital 48.60 298 *e*P **P** **17 22 15.5 -0.6**
baz=298
BTLS Baital 48.60 298 *e*P **P** **17 22 15.5 -0.6**
K29M Barlow Dome 48.60 36 IAmb IAmb 17 22 18.6
comp=Z,11nm,0.8s
K29M Barlow Dome 48.60 36 P **P** **17 22 16.7 +0.7**
baz=284,SNR=12
YUK4 Talbot Arm 48.71 39 P **P** **17 22 18.3 +1.3**
baz=285
NRN Naryn 48.73 293 IAmb IAmb 17 22 33.5
comp=Z,9.5nm,0.9s
I30M Mount Dempster 48.76 34 P **P** **17 22 17.8 +0.6**
baz=283,SNR=50
PNL Peninsula 48.79 41 P **P** **17 22 17.8 +0.4**
baz=286
SGDS Sogindy 48.84 296 *e*P **P** **17 22 17.8 -0.3**
comp=Z,7.7nm,1.0s,baz=296
SGDS Sogindy 48.84 296 *e*P **P** **17 22 17.7 -0.3**
SGDS pmax pmax
comp=Z,8.0nm,1.0s
J30M Hart River 48.93 34 IAmb IAmb 17 22 47.1
comp=Z,10nm,0.9s
J30M Hart River 48.93 34 P **P** **17 22 19.4 +0.8**
baz=284,SNR=7.7
CHMS Chumysh 48.94 295 P **P** **17 22 19.1 +0.3**
SNR=6.9
KBK Karagaybulak 48.95 295 P **P** **17 22 19.4 +0.4**
SNR=31
YUK6 Outpost Mounta 48.95 39 P **P** **17 22 19.0 +0.2**
baz=285
USP Ospenovka 49.00 296 P **P** **17 22 19.7 +0.4**
SNR=11
O29M Mount Kennedy 49.02 40 P **P** **17 22 19.7 +0.4**
baz=286
INK Inuvik 49.16 29 P **P** **17 22 21.2 +1.2**
baz=283
INK Inuvik 49.16 29 LR LR 17 44 44.8
comp=Z,84nm,21.5s,baz=225,slow=38
G31M Satah River 49.20 31 IAmb IAmb 17 22 35.3
comp=Z,10nm,0.9s
G31M Satah River 49.20 31 P **P** **17 22 21.4 +1.1**
baz=284,SNR=6.0
M30M Minto, Yukon 49.23 37 P **P** **17 22 21.9 +1.1**
baz=285,SNR=6.3
AAK Ala-Archa 49.26 295 P **P** **17 22 21.1 -0.4**
AAK IAmb IAmb 17 22 22.5
comp=Z,10.0nm,0.8s
AAK Ala-Archa 49.26 295 P **P** **17 22 21.9 +0.5**
AAK Ala-Archa 49.26 295 LR LR 17 45 13.2
comp=Z,598nm,19.2s,baz=76,slow=38
AAK Ala-Archa 49.26 295 *e*P **P** **17 22 21.0 -0.4**
AAK Ala-Archa 49.26 295*ce*P **P** **17 22 21.0 -0.4**
AAK pmax pmax
comp=Z,10.0nm,0.8s
AAK Ala-Archa 49.26 295 P **P** **17 22 21.7 +0.3**
F31M Tsiigehtchic 49.28 30 P **P** **17 22 21.9 +1.0**
baz=284,SNR=6.2
N30M Aishikik Lake 49.40 39 P **P** **17 22 22.5 +0.4**
baz=286
KSH Kashi 49.57 291 P **P** **17 22 27.9 +4.1**
KSH sP sP 17 22 49.1 +2.7
KSH pmax pmax
comp=Z,15nm,0.8s
KSH LR LR
comp=Z,500nm,17.2s
KSH LR LR
comp=Z,620nm,14.4s
KSH LR LR
comp=Z,810nm,16.5s
P29M Windy Craggy 49.61 41 P **P** **17 22 24.4 +0.7**
baz=287,SNR=7.4
EKS2 Erkin-Say 49.73 295 P **P** **17 22 25.0 0.0**
SNR=14
P30M Million Dollar 49.84 40 P **P** **17 22 26.1 +0.6**
baz=287
N31M Braeburn, Yuko 50.00 38 IAmb IAmb 17 22 58.0
comp=Z,14nm,0.8s
N31M Braeburn, Yuko 50.00 38 P **P** **17 22 27.3 +0.7**
baz=287
O30N Mendenhall 50.06 39 IAmb IAmb 17 22 46.0
comp=Z,9.3nm,1.1s
O30N Mendenhall 50.06 39 P **P** **17 22 27.6 +0.5**
baz=287
PLBC Pleasant Camp 50.33 41 P **P** **17 22 29.9 +0.8**
baz=288
M31M Drury Creek, Y 50.41 37 P **P** **17 22 30.8 +1.1**
baz=287
WHY Whitehorse 50.66 39 IAmb IAmb 17 22 50.3
comp=Z,7.6nm,0.8s
ARSB Arslanbob 50.84 294 IAmb IAmb 17 22 36.3
comp=Z,14nm,0.8s
FARO Faro, Yukon 50.87 37 IAmb IAmb 17 22 54.3
comp=Z,7.4nm,0.7s
FARO Faro, Yukon 50.87 37 P **P** **17 22 34.3 +1.1**
baz=288,SNR=7.6
P32M Atlin 51.56 40 P **P** **17 22 40.0 +1.6**
baz=290
R32K Eaglecrest 51.62 42 P **P** **17 22 39.9 +1.1**
baz=290
KAPI Kappang 51.63 210 LR LR 17 44 50.7
comp=Z,64nm,19.7s,baz=28,slow=36
SIT Sitka 51.64 44 P **P** **17 22 40.3 +1.4**
baz=291
MMPY Sheldon Lake, 51.66 36 P **P** **17 22 40.2 +1.0**
baz=289
KK31 Karatay Array 51.72 297 *i* P **P** **17 22 39.1 -0.7**
KKAR Karatay Array 51.72 297 P **P** **17 22 38.9 -0.8**
KKAR IAmb IAmb 17 22 40.5
comp=Z,13nm,0.8s
KKAR Karatay Array 51.72 297 P **P** **17 22 39.0 -0.8**
KKAR Karatay Array 51.72 297 P **P** **17 22 39.0 -0.8**
KKAR pmax pmax
comp=Z,13nm,0.9s
P33M Teslin, Yukon 51.78 39 P **P** **17 22 40.9 +0.9**
baz=290,SNR=5.7
S32K Killisnoo 51.88 43 P **P** **17 22 41.5 +0.8**
baz=291
SVE Sverdlovsk 52.13 316*de*P **P** **17 22 42.8 +0.2**
SVE pmax pmax
comp=Z,82nm,0.8s
SVE MLR MLR
comp=Z,337nm,22.0s
C36M Paulatuk 52.15 27 P **P** **17 22 43.2 +0.6**
baz=290
BRLS Borolday 52.19 297 *e*P **P** **17 22 44.5 +1.2**
baz=297
BRLS Borolday 52.19 297 *e*P **P** **17 22 44.5 +1.2**
IUG Iuzhnay 52.45 296 *e*P **P** **17 22 45.2 -0.2**
comp=Z,9.0nm,0.9s,baz=296
IUG Iuzhnay 52.45 296 *e*P **P** **17 22 45.1 -0.2**
IUG pmax pmax
comp=Z,9.0nm,0.9s
Q32M Nakina River 52.48 41 P **P** **17 22 45.4 0.0**
baz=291
KULM Kulim 52.62 238 P **P** **17 22 47.5 +0.7**
KULM IAmb IAmb 17 22 49.2
comp=Z,14nm,0.8s
CHM Chimkent 52.66 297 *e*P **P** **17 22 46.4 -0.4**
comp=Z,11nm,0.8s,baz=297
CHM Chimkent 52.66 297 *e*P **P** **17 22 46.4 -0.4**
CHM pmax pmax
comp=Z,11nm,0.8s
BTK Batken 52.87 294 P **P** **17 22 46.6 -1.9**

R33M Jennings River 52.94 40 P **P** **17 22 49.2 +0.4**
baz=292
U33K Whale Pass 53.13 44 P **P** **17 22 50.4 +0.5**
baz=293
ARU Arti 53.34 316 P **P** **17 22 51.4 -0.2**
ARU Arti 53.34 316 LR LR 17 48 08.7
comp=Z,339nm,20.3s,baz=62,slow=39
ARU Arti 53.34 316 *e*P **P** **17 22 51.3 -0.2**
ARU Arti 53.34 316*c i*P **P** **17 22 51.3 -0.2**
ARU *PP **pP** **17 23 07.6 +0.2**
ARU *e* 17 23 55.9
ARU S **S** **17 30 19.6 +1.0**
ARU SS **SS** **17 33 59.7 +1.2**
ARU pmax pmax
comp=Z,72nm,0.9s
ARU Arti 53.34 316 P **P** **17 22 50.4 -1.1**
comp=Z,81nm,0.9s,comp=Z,585nm
ARU Arti 53.34 316 P **P** **17 22 51.3 -0.2**
TGTN Hyland Airport 53.37 37 P **P** **17 22 52.5 +0.8**
baz=292
WRAK Wrangell Islan 53.41 44 P **P** **17 22 52.7 +0.7**
baz=293
S34M Telegraph Cree 53.43 42 P **P** **17 22 53.3 +1.2**
baz=293
HNR Honiara 53.75 159 LR LR 17 46 34.2
comp=Z,410nm,19.4s,baz=349,slow=37
DLBC Dease Lake 53.76 41 P **P** **17 22 54.9 +0.2**
DLBC IAmb IAmb 17 23 14.3
comp=Z,9.0nm,1.0s
DLBC Dease Lake 53.76 41 P **P** **17 22 55.6 +0.9**
baz=293
DLBC Dease Lake 53.76 41 LR LR 17 48 42.3
comp=Z,79nm,18.6s,baz=306,slow=39
V35K Ketchikan 54.22 45 P **P** **17 22 58.8 +0.8**
baz=294
T35M Bob Quinn 54.24 42 IAmb IAmb 17 23 18.3
comp=Z,13nm,1.1s
T35M Bob Quinn 54.24 42 P **P** **17 22 58.3 +0.2**
baz=294
NIL Nilore 54.30 285 P **P** **17 22 59.6 +0.6**
SOEI Soe 54.58 203 P **P** **17 23 01.0 -0.1**
SIMJ Simiganj 54.77 293 P **P** **17 23 02.1 -0.3**
SIMJ Simiganj 54.77 293 P **P** **17 23 01.6 -0.8**
ALE Alert 54.79 4 P **P** **17 23 01.6 -0.1**
ALE PcP **PcP** **17 24 03.5 +0.2**
LIRD Liard River Hi 55.22 39 P **P** **17 23 05.8 +0.7**
baz=296
AB31 Akbulak array 55.61 308 *i* P **P** **17 23 07.9 -0.2**
ABKAR Akbulak array 55.61 308 P **P** **17 23 08.1 0.0**
ABKAR Akbulak array 55.61 308 IAmb IAmb 17 23 09.3
comp=Z,18nm,0.8s
SPA0 Spitsbergen Ar 55.62 348 *e*P **P** **17 23 08.0 +0.2**
SPA0 IAmb IAmb 17 23 13.4
comp=Z,35nm,1.1s
SPITS Spitsbergen Ar 55.62 348 P **P** **17 23 07.8 -0.1**
comp=Z,7.7nm,0.6s,baz=70,slow=7.4,SNR=14
SPITS PcP **PcP** **17 24 06.7 0.0**
comp=Z,6.2nm,0.6s,baz=44,slow=4.4,SNR=2.7
comp=Z,7.7nm,0.6s
KBS Kingsbay 55.70 350 P **P** **17 23 09.2 +0.9**
KBS Kingsbay 55.70 350 *e*P **P** **17 23 08.5 +0.1**
KBS IAmb IAmb 17 23 09.1
comp=Z,32nm,0.9s
KBS Kingsbay 55.70 350*ce*P **P** **17 23 08.1 -0.2**
KBS pmax pmax
comp=Z,26nm,0.8s
KBS Kingsbay 55.70 350 P **P** **17 23 08.4 +0.1**
KBS sP **sP** **17 23 31.3 -0.1**
GRNB Grenville Isla 55.73 46 IAmb IAmb 17 23 12.4
comp=Z,7.6nm,0.7s
TOAD Toad River Com 55.86 39 P **P** **17 23 10.4 +0.6**
baz=296,SNR=7.9
MTN Manton Dam 55.95 194 P **P** **17 23 11.1 +0.3**
COEN Coen 55.97 180 P **P** **17 23 11.1 +0.2**
AKTO Aktyubinsk 56.18 310 LR LR 17 49 07.5
comp=Z,425nm,18.8s,baz=92,slow=38
KBL Kabul 56.83 289 P **P** **17 23 15.8 -1.5**
KBL IAmb IAmb 17 23 17.2
comp=Z,15nm,0.9s
KBL Kabul 56.83 289 P **P** **17 23 15.8 -1.5**
KBL pmax pmax
comp=Z,15nm,0.9s
KIRV Kirov 56.87 321 LR LR 17 50 16.5
comp=Z,293nm,18.1s,baz=65,slow=39
KIRV Kirov 56.87 321*ce*P **P** **17 23 16.5 -0.4**
RES Resolute Bay 57.20 16 LR LR 17 51 24.4
comp=Z,64nm,19.4s,baz=359,slow=40
GSI Gunungsitoli 57.63 238 P **P** **17 23 23.6 +0.7**
LVZ Lovozero 57.86 335 P **P** **17 23 22.4 -1.4**
comp=Z,13nm,1.4s
LVZ Lovozero 57.86 335 P **P** **17 23 24.2 +0.4**
VADS Vadso 58.13 338 *e*P **P** **17 23 25.8 +0.2**
VADS IAmb IAmb 17 23 26.9
comp=Z,13nm,0.7s
APA Apatity 58.44 335 ⇓ *i*P **P** **17 23 24.6 -3.2**
APA pmax pmax
comp=Z,5.0nm,0.7s
APA MLR MLR
comp=Z,300nm,23.0s
YKA Yellowknife Ar 58.66 32 P **P** **17 23 29.9 +0.5**
comp=Z,2.3nm,0.8s,baz=305,slow=6.6,SNR=20
YKA LR LR 17 52 42.4
comp=Z,59nm,18.0s,baz=306,slow=40
comp=Z,2.3nm,0.8s
KEV Kevo 58.99 339 P **P** **17 23 31.4 -0.1**
KEV Kevo 58.99 339 P **P** **17 23 31.5 -0.1**
KEV pmax pmax
comp=Z,13nm,0.7s
KEV Kevo 58.99 339 P **P** **17 23 31.4 -0.2**
KNRA Kununurra 59.16 196 P **P** **17 23 34.1 +0.7**
HAMF Hammerfest 59.29 340 *e*P **P** **17 23 32.9 -0.7**
HAMF IAmb IAmb 17 23 34.4
comp=Z,9.8nm,0.6s
ARCES ARCESS Array B 59.54 339 P **P** **17 23 35.3 -0.1**
comp=Z,2.1nm,0.4s,baz=48,slow=13,SNR=3.8
ARCES LR LR 17 53 26.4
comp=Z,142nm,20.5s,baz=50,slow=40
comp=Z,2.1nm,0.4s
KTK1 Kautokeino 60.49 339 *e*P **P** **17 23 42.2 +0.3**
KTK1 IAmb IAmb 17 23 43.1
comp=Z,12nm,0.8s
DAG Danmarks Havn 60.65 355 *i* P **P** **17 23 42.0 -0.9**
BELG Belogornoye 60.87 316 LR LR 17 53 01.9
comp=Z,489nm,18.8s,baz=59,slow=39
BELG Belogornoye 60.87 316*c i*P **P** **17 23 44.1 -0.6**
BELG pmax pmax
comp=Z,11nm,0.9s
TRO Tromso 61.16 341 *e*P **P** **17 23 46.3 -0.1**
TRO IAmb IAmb 17 23 47.9
comp=Z,30nm,0.8s
HRA Herat 61.64 292 P **P** **17 23 50.4 -0.1**
JOF Joensuu 61.94 331 *e*P **P** **17 23 51.3 -0.5**
FITZ Fitzroy Crossi 62.20 199 P **P** **17 23 54.5 +0.5**
WB0 Warramunga Arr 62.26 189 P **P** **17 23 54.7 +0.3**
WRAB Tennant Creek 62.43 189 P **P** **17 23 55.9 +0.4**
WRAB IAmb IAmb 17 24 13.1
comp=Z,19nm,1.1s
WRAB Tennant Creek 62.43 189 P **P** **17 23 55.9 +0.4**
WRAB pmax pmax
comp=Z,19nm,1.1s
WR0 Warramunga Arr 62.44 189 P **P** **17 23 55.4 -0.2**
WR0 IAmb IAmb 17 24 12.6
comp=Z,18nm,1.1s
WB2 Warramunga Arr 62.44 189 P **P** **17 23 55.5 -0.1**
WB2 IAmb IAmb 17 24 13.1
comp=Z,18nm,1.1s
WRA Warramunga Arr 62.44 189 P **P** **17 23 55.7 +0.1**
WRA Warramunga Arr 62.44 189 P **P** **17 23 55.5 -0.1**
comp=Z,5.9nm,0.8s,baz=4.7,slow=7.0,SNR=42
comp=Z,5.9nm,0.8s
WRA Warramunga Arr 62.44 189 P **P** **17 23 55.7 +0.1**
WRA pmax pmax
comp=Z,1.0nm,1.1s
STEI Steigen 63.33 340 *e*P **P** **17 24 01.5 +0.5**
LOF Lofoten 63.59 341 *e*P **P** **17 24 03.2 +0.5**
FAUS Fauske 63.73 340 *e*P **P** **17 24 03.5 -0.2**
FAUS IAmb IAmb 17 24 04.9
comp=Z,38nm,0.9s
MOS Moscow 63.81 323 *e*P **P** **17 24 03.3 -1.0**
MOS *e* 17 24 32.7
B08A Colville Reser 64.28 47 P **P** **17 24 08.5 +0.9**
B08A IAmb IAmb 17 24 24.0
comp=Z,24nm,1.6s
PUL Pulkovo 64.33 329 *e*P **P** **17 24 09.0 +1.4**
PUL Pulkovo 64.33 329*ce*P **P** **17 24 09.0 +1.4**

PUL pmax pmax
comp=Z,54nm,0.5s
VRH Novokhopyorsk 64.57 317 *e*P **P** **17 24 07.9 -1.4**
VRH pmax pmax
comp=Z,18nm,1.4s
OBN Obninsk 64.67 322 LR LR 17 55 00.7
comp=Z,320nm,18.5s,baz=31,slow=38
OBN Obninsk 64.67 322 *e*P **P** **17 24 09.1 -0.8**
OBN Obninsk 64.67 322*c i*P **P** **17 24 09.1 -0.8**
OBN *e* 17 24 40.0
OBN *e* 17 26 34.0
OBN *e*S S 17 33 18.9 +34
OBN pmax pmax
comp=Z,58nm,1.7s
OBN MLR MLR
comp=Z,295nm,16.0s
KEF Keuruu 64.69 333 *e*P **P** **17 24 09.4 -0.5**
FIA1 FINESS Array S 64.77 332 P **P** **17 24 09.8 -0.7**
FINES FINESS Array B 64.77 332 P **P** **17 24 09.8 -0.6**
comp=Z,21nm,0.7s,baz=47,slow=7.9,SNR=104
FINES LR LR 17 54 55.2
comp=Z,241nm,20.0s,baz=54,slow=38
comp=Z,21nm,0.7s
VAF Ylistaro 64.80 334 *e*P **P** **17 24 11.0 +0.3**
LPSR Galich'ya Gora 65.11 319 *e*P **P** **17 24 11.6 -1.2**
LPSR pmax pmax
comp=Z,30nm,0.9s
JMIC Jan Mayen 65.19 350 LR LR 17 53 19.2
comp=Z,24nm,19.1s,baz=44,slow=36
D08A Wollman Farm, 65.27 48 P **P** **17 24 14.7 +0.7**
SUMG Summit 65.43 0 P **P** **17 24 15.1 0.0**
SUMG Summit 65.43 0 P **P** **17 24 15.1 0.0**
SUMG pmax pmax
comp=Z,36nm,0.8s
E08A Dider Farm, El 65.53 49 IAmb IAmb 17 24 32.2
comp=Z,7.7nm,0.8s
NEW Newport 65.53 46 P **P** **17 24 16.5 +0.7**
baz=307
NEW Newport 65.53 46 LR LR 17 52 53.5
comp=Z,30nm,20.0s,baz=308,slow=36
VORR Voronezh 65.54 318 *e*P **P** **17 24 15.4 -0.2**
VORR pmax pmax
comp=Z,17nm,1.4s
VSR Storozhevoye 65.84 318 *e*P **P** **17 24 15.2 -2.4**
VSR pmax pmax
comp=Z,20nm,0.8s
VORD Divnogorie 65.93 318 *e*P **P** **17 24 16.9 -1.3**
VORD pmax pmax
comp=Z,20nm,0.8s
PINE Pine Mountain 66.04 52 P **P** **17 24 20.8 +1.5**
PINE IAmb IAmb 17 24 47.8
comp=Z,12nm,0.7s
ASAR Alice Springs 66.17 189 P **P** **17 24 20.9 +0.9**
comp=Z,1.9nm,0.8s,baz=3.7,slow=7.1,SNR=23
ASAR LR LR 17 54 00.2
comp=Z,78nm,18.8s,baz=348,slow=37
comp=Z,1.9nm,0.8s
ARBE Arbavere 66.19 330 *e*P **P** **17 24 19.2 -0.4**
YBH Yreka Blue Hor 66.20 55 LR LR 17 51 31.8
comp=Z,26nm,19.5s,baz=302,slow=34
MEF Metsahovi 66.22 331 *e*P **P** **17 24 19.8 0.0**
MAK Makhachkala 66.26 307 *e*P **P** **17 24 20.6 +0.2**
MAK *e**PP **pP** **17 24 37.1 +0.3**
MAK *e**SP **sP** **17 24 44.1 +0.5**
MAK *e*S **S** **17 33 05.6 +0.7**
MAK *e**SS **sS** **17 33 34.5 +2.1**
MAK pmax pmax
comp=Z,138nm,1.1s
RAF Rauma 66.55 333 *e*P **P** **17 24 21.9 0.0**
VSU Vasula 66.58 329*ce*P **P** **17 24 21.9 -0.3**
VSU pmax pmax
comp=Z,45nm,1.0s
MBWA Marble Bar 66.71 204 P **P** **17 24 23.6 +0.2**
NSS Namsos 66.81 339 *e*P **P** **17 24 23.6 +0.1**
MTSE Matsula 67.49 330 *e*P **P** **17 24 28.6 +0.7**
HATC Hat Creek Radi 67.50 55 IAmb IAmb 17 24 31.7
comp=Z,14nm,0.8s
GOF Gofitskoye 67.57 311*ce*P **P** **17 24 29.0 +0.3**
DZM Mont Dzumac 67.59 157 *e*LR LR 17 44 56.6
comp=Z,225nm,21.4s
DZM Mont Dzumac 67.59 157 LR LR 17 50 20.7
comp=Z,158nm,21.2s,baz=318,slow=32
MSO Missoula 68.12 46 P **P** **17 24 33.5 +1.2**
MSO Missoula 68.12 46 P **P** **17 24 32.7 +0.4**
baz=309
ORV Oroville 68.24 56 IAmb IAmb 17 24 35.6
comp=Z,7.0nm,0.7s
KVAR Kislovodsk Arr 68.44 310 LR LR 17 58 30.5
comp=Z,258nm,19.9s,baz=271,slow=39
KIV Kislovodsk 68.45 310 ⇑ P **P** **17 24 36.0 +1.6**
KIV Kislovodsk 68.45 310 P **P** **17 24 35.5 +1.1**
KIV Kislovodsk 68.45 310 *i* P **P** **17 24 35.6 +1.2**
SNR=8.9
KIV Kislovodsk 68.45 310 *e*P **P** **17 24 34.8 +0.4**
KIV pmax pmax
comp=Z,31nm,1.1s
KIV MLR MLR
comp=Z,213nm,17.0s
KIV Kislovodsk 68.45 310 P **P** **17 24 33.6 -0.8**
comp=Z,36nm,0.7s,comp=Z,373nm
KIV Kislovodsk 68.45 310 P **P** **17 24 35.1 +0.8**
KIV pP **pP** **17 24 53.1 +2.2**
KIV PcP **PcP** **17 24 59.9 +0.5**
KBZ Khabaz 68.47 310 P **P** **17 24 35.2 +0.9**
comp=Z,8.8nm,0.7s,baz=46,slow=2.8,SNR=15
KBZ LR LR 17 58 38.4
comp=Z,202nm,20.0s,baz=38,slow=40
comp=Z,8.8nm,0.7s
KBZ Khabaz 68.47 310 *e*P **P** **17 24 34.2 -0.1**
KBZ Khabaz 68.47 310*ce*P **P** **17 24 34.2 -0.1**
KBZ pmax pmax
comp=Z,14nm,0.9s
ERBR Yeremizino-Bor 68.58 313 *e*P **P** **17 24 35.7 +0.7**
ERBR pmax pmax
comp=Z,52nm,0.9s
ERBR MLR MLR
comp=Z,371nm,19.0s
SHA1 Shidzhatmaz 68.60 310*ce*P **P** **17 24 35.9 +0.4**
FFC Flin Flon 68.63 34 P **P** **17 24 36.2 +1.0**
SLIT Slitere, Latvi 68.84 330 *e*P **P** **17 24 36.5 +0.1**
ISAL Salakas 68.84 327 *e*P **P** **17 24 38.9 +2.4**
MNK Minsk 68.86 326 *i* P **P** **17 24 34.7 -1.9**
MNK *i **PP **pP** **17 24 51.1 -2.1**
MNK *i* 17 24 58.6
MNK *i* 17 27 07.2
MNK *i* PPP PPP 17 28 47.6
MNK *i* S **S** **17 33 34.9 -0.9**
MNK *i **SS **sS** **17 34 03.1 -0.6**
MNK *i* 17 34 29.6
MNK *i* SS **SS** **17 38 02.1 +1.2**
MNK pmax pmax
comp=N,15nm,0.6s
MNK pmax pmax
comp=E,5.0nm,0.7s
MNK pmax pmax
comp=Z,42nm,0.9s
MNK MLR MLR
comp=E,76nm,19.0s
MNK MLR MLR
comp=Z,293nm,19.0s
MNK MLR MLR
comp=N,124nm,20.0s
IIGN Ignalina 68.96 327 *e*P **P** **17 24 37.0 -0.2**
LABN Labinsk 69.12 312 *e*P **P** **17 24 34.3 -4.1**
LABN pmax pmax
comp=Z,33nm,0.6s
LABN MLR MLR
comp=Z,399nm,20.0s
EGMT Eagleton 69.53 43 P **P** **17 24 41.4 +0.4**
baz=311
MOL Molde 69.57 340 *e*P **P** **17 24 40.8 0.0**
DOMB Dombas 69.61 339 IAmb IAmb 17 24 41.0
comp=Z,15nm,1.2s
DOMB *e*P **P** **17 24 41.2 +0.1**
GNI Garni 69.61 306 LR LR 17 58 12.1
comp=Z,118nm,20.1s,baz=64,slow=38
GNI Garni 69.61 306 P **P** **17 24 40.2 -1.5**
comp=Z,19nm,1.3s
NC405 NORSAR Array S 69.63 337 IAmb IAmb 17 24 42.1
comp=Z,19nm,0.8s
NC303 NORSAR Array S 69.64 337 IAmb IAmb 17 24 42.5
comp=Z,15nm,0.9s
PNTR Pine Nut 69.69 55 IAmb IAmb 17 25 07.4
comp=Z,35nm,1.7s
PABE Paberze 69.75 328 *e*P **P** **17 24 42.1 +0.1**

NC204 NORSAR Array S 69.77 338 IAmb IAmb 17 24 43.1
comp=Z,20nm,0.8s
DLMT Dillon 69.77 47 IAmb IAmb 17 25 06.4
comp=Z,9.4nm,0.8s
NB201 NORSAR Array S 69.80 337 IAmb IAmb 17 24 43.1
comp=Z,19nm,0.8s
HFS Hagfors 69.82 336 P **P** **17 24 42.2 -0.3**
comp=Z,15nm,0.6s,baz=49,slow=6.7,SNR=89
HFS LR LR 17 58 00.3
comp=Z,177nm,21.9s,baz=35,slow=38
comp=Z,15nm,0.6s
NB2 NORSAR Subarra 69.83 337 P **P** **17 24 41.7 -0.9**
comp=Z,20nm,1.0s,baz=36,slow=6.5
NB2 NORSAR Subarra 69.83 337 P **P** **17 24 41.7 -0.9**
baz=36,slow=6.5
NOA NORSAR Array B 69.83 337 P **P** **17 24 42.0 -0.6**
comp=Z,11nm,0.7s,baz=36,slow=6.1,SNR=62
NOA LR LR 17 58 55.1
comp=Z,151nm,20.6s,baz=35,slow=39
comp=Z,11nm,0.7s
HLID Hailey 69.92 49 P **P** **17 24 43.8 +0.2**
baz=310
NBO00 NORSAR Array S 69.96 337 IAmb IAmb 17 24 44.1
comp=Z,18nm,0.8s
YERR Yerington 69.97 55 IAmb IAmb 17 24 46.8
comp=Z,8.9nm,0.7s
NC602 NORSAR Array S 69.98 337 IAmb IAmb 17 25 15.4
comp=Z,30nm,1.6s
NC602 NORSAR Array S 69.98 337 *e*P **P** **17 24 43.0 -0.4**
NC602 IAmb IAmb 17 24 43.5
comp=Z,6.5nm,0.9s
NAO01 NORSAR Array S 70.08 337 IAmb IAmb 17 24 44.6
comp=Z,12nm,0.9s
BOZ Bozeman (W) 70.14 46 P **P** **17 24 45.4 +0.5**
baz=311,SNR=9.4
SOC Sochi 70.35 311 *e*P **P** **17 24 43.8 -2.2**
SOC *e* 17 27 19.8
SOC *e*PPP PPP 17 29 04.4
SOC *e*S **S** **17 33 52.1 -1.6**
SOC *e*SS **SS** **17 38 26.0 +1.6**
SOC pmax pmax
comp=Z,23nm,0.7s
SOC MLR MLR
comp=Z,254nm,20.0s
SFJD Kangerlussuaq 70.54 6 LR LR 17 55 37.9
comp=Z,67nm,22.0s,baz=350,slow=36
WSAR Wadi Sarin 70.77 284 LR LR 17 59 11.3
comp=Z,222nm,18.5s,baz=65,slow=39
SHME Shamm 70.80 288 *i* P **P** **17 24 49.3 +0.3**
SNR=10
ANN Anapa 70.81 313 *e*P **P** **17 24 48.3 -0.5**
ANN pmax pmax
comp=Z,142nm,2.0s
ANN MLR MLR
comp=Z,340nm,21.0s
OSL Oslo 70.87 337 *e*P **P** **17 24 49.5 +0.6**
LHV Little Huntoon 70.88 56 P **P** **17 24 51.0 +1.8**
LHV IAmb IAmb 17 24 52.8
comp=Z,9.6nm,0.8s
NVAR Mina Array Bea 70.89 55 P **P** **17 24 51.2 +1.6**
NVAR Mina Array Bea 70.89 55 P **P** **17 24 51.8 +2.1**
comp=Z,4.5nm,0.7s,baz=289,slow=5.9,SNR=34
NVAR LR LR 17 57 59.2
comp=Z,20nm,18.1s,baz=270,slow=37
comp=Z,4.5nm,0.7s
AK03 Malin Array Si 70.91 322 P **P** **17 24 48.4 -0.8**
AKASG Malin Array Be 70.92 322 P **P** **17 24 48.9 -0.5**
comp=Z,2.2nm,0.2s,baz=43,slow=6.4,SNR=30
AKASG LR LR 17 58 37.0
comp=Z,260nm,18.7s,baz=41,slow=38
comp=Z,2.2nm,0.2s
AKBB Malin Array Si 70.92 322 IAmb IAmb 17 24 50.0
comp=Z,22nm,0.9s
AKBB Malin Array Si 70.92 322 *ce*P **P** **17 24 48.9 -0.4**
AKBB pmax pmax
comp=Z,21nm,0.9s
AKBB Malin Array Si 70.92 322 P **P** **17 24 48.5 -0.8**
AK04 Malin Array Si 70.94 322 P **P** **17 24 48.6 -0.8**
KIEV Kiev 70.94 322 ⇑P **P** **17 24 49.6 +0.2**
KIEV Kiev 70.94 322 P **P** **17 24 49.0 -0.4**
KIEV IAmb IAmb 17 24 50.0
comp=Z,21nm,1.0s
KIEV Kiev 70.94 322 *i* P **P** **17 24 48.7 -0.7**
SNR=22
KIEV Kiev 70.94 322 P **P** **17 24 49.0 -0.4**
KIEV pmax pmax
comp=Z,21nm,1.0s
KIEV Kiev 70.94 322 P **P** **17 24 48.5 -0.9**
comp=Z,87nm,0.9s,comp=Z,1μm
KIEV Kiev 70.94 322 P **P** **17 24 48.9 -0.4**
KIEV PcP **PcP** **17 25 08.3 -1.3**
NV11 Mina Array Sit 70.98 55 P **P** **17 24 51.3 +1.2**
FOO Floro 71.02 340 *e*P **P** **17 24 49.9 +0.1**
HYA Hoyanger 71.10 339 *e*P **P** **17 24 51.0 +0.9**
HYA IAmb IAmb 17 24 53.5
comp=Z,15nm,0.8s
SUW Suwalki 71.15 327 P **P** **17 24 50.5 -0.1**
SUW Suwalki 71.15 327 *e*P **P** **17 24 51.1 +0.5**
SUW Suwalki 71.15 327 P **P** **17 24 50.5 -0.1**
SUW pmax pmax
comp=Z,23nm,0.3s
MSFE Esma-Masafi 71.22 287 P **P** **17 24 52.2 +0.6**
MI30 MI30,Zelenitsa 71.36 323 P **P** **17 24 51.2 -0.8**
KONO Kongsberg 71.43 337 *e*P **P** **17 24 53.1 +0.9**
KONO IAmb IAmb 17 24 56.5
comp=Z,10nm,1.0s
UOSS Minazif 71.44 287 P **P** **17 24 53.4 +0.4**
UOSS Minazif 71.44 287 *i* P **P** **17 24 53.1 +0.2**
SNR=6.5
UOSS Minazif 71.44 287 P **P** **17 24 53.5 +0.6**
MI28 Mi28,Pidlybu 71.47 323 P **P** **17 24 51.8 -0.8**
HATD Hatta, Dubai 71.57 287 *i* P **P** **17 24 54.5 +0.8**
SNR=8.0
RLMT Red Lodge 71.70 45 P **P** **17 24 55.0 +0.6**
baz=312
ASHO Ashiyiah 71.71 287 P **P** **17 24 55.0 +0.4**
SOHO SOHO 71.71 286 P **P** **17 24 55.0 +0.5**
MI29 MI29, Kamyanyy 71.75 322 P **P** **17 24 53.3 -1.0**
TPH Tonopah 71.77 55 IAmb IAmb 17 25 46.0
comp=Z,23nm,0.9s
MOOW Moose Ponds 71.83 47 P **P** **17 24 56.7 +1.4**
RNPP9 Sopachiv 71.91 324 P **P** **17 24 54.5 -0.7**
ASK Askoy 71.94 340 *e*P **P** **17 24 56.1 +0.9**
DGMT Dagmar 71.98 40 IAmb IAmb 17 25 11.8
comp=Z,15nm,0.8s
DGMT Dagmar 71.98 40 P **P** **17 24 56.3 +0.5**
baz=314
BER Bergen 71.99 339 IAmb IAmb 17 24 56.2
comp=Z,21nm,1.0s
BER *e*P **P** **17 24 56.8 +1.3**
FAQ Al Faqa, Dubai 72.00 287 P **P** **17 24 56.1 -0.2**
RNPP5 Staryi Chortor 72.04 324 P **P** **17 24 55.3 -0.7**
ODD1 Odda 72.04 339 *e*P **P** **17 24 56.7 +0.7**
LUBAR Lubar, Ukraine 72.14 322 P **P** **17 24 55.9 -0.8**
PKM Mcpherson Peak 72.19 59 P **P** **17 24 58.4 +0.9**
baz=310
GURO Guroymak-BITLI 72.25 306 IAmb IAmb 17 25 00.0
comp=Z,14nm,0.9s
CWC Cottonwood Cre 72.29 57 P **P** **17 24 58.5 +0.5**
baz=310
ALNE Al Ain 72.32 287 *i* P **P** **17 24 58.4 +0.2**
SNR=12
GRAC Grapevine Rang 72.38 56 P **P** **17 24 58.7 +0.3**
baz=310,SNR=7.0
SIM Simferopol' 72.48 315 *e*P **P** **17 24 59.4 +0.6**
SIM pmax pmax
comp=Z,21nm,0.9s
SIM MLR MLR
comp=Z,300nm,23.0s
BLS5 Blasjo 72.50 338 *e*P **P** **17 24 59.4 +0.7**
BLS5 IAmb IAmb 17 24 59.8
comp=Z,7.6nm,0.9s
SBC Santa Barbara 72.53 59 P **P** **17 24 59.8 +0.5**
baz=310
ISA Isabella, Lake 72.54 58 P **P** **17 24 59.9 +0.5**
baz=310
R11B Troy Canyon, C 72.59 54 P **P** **17 25 00.2 +0.4**
baz=310
Q12A Willow Creek R 72.59 53 IAmb IAmb 17 25 46.1
comp=Z,22nm,1.4s
ARVC Arvin 72.66 58 P **P** **17 25 00.3 +0.3**
baz=310
DEL Delary 72.69 333 *i* P **P** **17 24 59.0 -0.8**
MPMC Manual Prospec 72.90 57 P **P** **17 25 02.0 +0.3**
baz=310,SNR=12
NE56 Odesa 72.93 318 P **P** **17 25 00.3 -1.1**

KMY Karmoy 73.01 339 *e*P **P** **17 25 02.6 +1.0**
DUG Dugway, Tooele 73.01 51 P **P** **17 25 02.7 +0.5**
baz=311
FURC Furnace Creek, 73.02 56 P **P** **17 25 03.0 +0.9**
baz=310,SNR=19
TPNV Topopah Spring 73.09 55 P **P** **17 25 03.1 +0.4**
baz=310,SNR=14
BW06 Boulder Array 73.13 47 P **P** **17 25 03.2 +0.2**
baz=312,SNR=5.5
PDAR Pinedale Array 73.13 47 P **P** **17 25 04.5 +1.5**
PDAR Pinedale Array 73.13 47 P **P** **17 25 04.0 +1.0**
comp=Z,1.8nm,0.7s,baz=264,slow=1.7,SNR=20
comp=Z,1.8nm,0.7s
SORM Soroca 73.13 321 ⇑P **P** **17 25 02.8 +0.2**
SORM Soroca 73.13 321 P **P** **17 25 02.7 +0.2**
SORM Soroca 73.13 321 P **P** **17 25 01.8 -0.8**
comp=Z,28nm,0.9s
LRMC Laurel Mtn Rad 73.15 57 P **P** **17 25 04.0 +0.9**
baz=310
CCAC Calif City Air 73.15 58 P **P** **17 25 04.3 +1.3**
CCAC IAmb IAmb 17 25 06.2
comp=Z,18nm,0.7s
SNART Snartemo 73.21 337 *e*P **P** **17 25 03.9 +1.1**
EDW2 Edwards Air Fo 73.34 58 P **P** **17 25 04.4 +0.3**
baz=310,SNR=5.2
BSD Bornholm Skovb 73.41 332 *e*P **P** **17 25 04.1 0.0**
SNCC San Nicolas Is 73.41 60 P **P** **17 25 05.7 +1.2**
baz=310
KMPD K-Podol'skiy 73.71 322 P **P** **17 25 05.0 -1.0**
KIS Kishinev 73.72 319 *e*P **P** **17 25 06.0 -0.1**
comp=Z,80nm,2.4s
KIS Kishinev 73.72 319 *e*P **P** **17 25 06.0 -0.1**
KIS pmax pmax
comp=Z,80nm,2.4s
BEL Belsk 73.74 327 *e*P **P** **17 25 06.7 +0.6**
SHOC Shoshone, Teco 73.75 56 P **P** **17 25 07.2 +0.7**
baz=311
MILM Milestii Mici 73.78 319 ⇓P **P** **17 25 07.1 +0.7**
MILM Milestii Mici 73.78 319 *e*P **P** **17 25 06.0 -0.4**
comp=Z,20nm,0.6s
MILM Milestii Mici 73.78 319 *e*PsP 17 31 04.0
MILM *e*L L 17 57 22.0
MILM LRM MLR 18 00 50.0
comp=Z,200nm,14.0s
MILM Milestii Mici 73.78 319 *e*P **P** **17 25 06.0 -0.4**
MILM pmax pmax
comp=Z,20nm,0.6s
MILM MLR MLR
comp=Z,200nm,14.0s
GSC Goldstone, Bar 73.81 57 P **P** **17 25 07.0 0.0**
baz=311
STKA Stephens Creek 73.82 181 P **P** **17 25 07.7 +1.1**
comp=Z,2.9nm,0.9s,baz=330,slow=7.4,SNR=3.0
STKA LR LR 17 58 02.3
comp=Z,47nm,21.3s,baz=26,slow=36
comp=Z,2.9nm,0.9s
LVV L'vov 73.88 324 *e*P **P** **17 25 06.9 -0.1**
BFSC Mount Baldy Ra 73.97 58 P **P** **17 25 09.0 +1.1**
baz=310
DIKM Dikmen 74.10 312 ⇑P **P** **17 25 09.9 +1.5**
TUQ Turquoise Moun 74.27 56 P **P** **17 25 10.6 +0.9**
baz=311
HEC Hector,Ludlow 74.41 57 P **P** **17 25 10.8 +0.4**
baz=311
ULM Lac du Bonnet 74.44 35 P **P** **17 25 10.0 -0.3**
comp=Z,5.3nm,0.7s,baz=333,slow=8.9,SNR=5.0
ULM LR LR 17 59 51.0
comp=Z,64nm,19.5s,baz=299,slow=37
comp=Z,5.3nm,0.7s
ULM Lac du Bonnet 74.44 35 P **P** **17 25 10.0 -0.3**
MVU Marysvale 74.48 52 IAmb IAmb 17 25 53.5
comp=Z,17nm,1.1s
BZK Bozkurt 74.57 313 ⇓P **P** **17 25 12.5 +1.4**
MDND Maddock 74.58 38 P **P** **17 25 11.0 -0.1**
baz=317
MZR Muzera 74.59 287 *i* P **P** **17 25 11.4 -0.2**
SNR=11
MZR P **P** **17 25 12.3 +0.7**
MURC Murrieta 74.67 59 P **P** **17 25 12.0 +0.1**
baz=311
K22A Casper 74.84 46 P **P** **17 25 13.6 +0.7**
baz=314
GMRC Granite Mounta 74.86 57 P **P** **17 25 13.4 +0.3**
baz=311,SNR=9.8
BUR08 Bucovina Ar. S 74.96 322 P **P** **17 25 13.8 +0.4**
BUR08 IAmb IAmb 17 25 14.8
comp=Z,12nm,0.8s
BURAR Bucovina Array 74.97 322 ⇑P **P** **17 25 14.5 +1.1**
BURAR Bucovina Array 74.97 322 P **P** **17 25 14.1 +0.7**
BURAR IAmb IAmb 17 25 15.5
comp=Z,15nm,0.8s
SRU San Rafael Swe 75.05 51 IAmb IAmb 17 25 17.3
comp=Z,10.0nm,0.8s
SCTR Scanteiesti 75.06 319 ⇑P **P** **17 25 14.6 +0.8**
RSSD Black Hills 75.11 43 P **P** **17 25 14.6 +0.1**
baz=315
TESR Tescani 75.11 320 ⇑P **P** **17 25 15.1 +1.0**
TESR Tescani 75.11 320 P **P** **17 25 13.5 -0.7**
comp=Z,24nm,1.0s
PFO Pinyon Flats O 75.13 58 P **P** **17 25 14.2 -0.5**
baz=311
PFO Pinyon Flats O 75.13 58 LR LR 17 51 36.7
comp=Z,72nm,21.7s,baz=289,slow=30
TPFO Pinon Flats 75.14 58 P **P** **17 25 14.4 -0.4**
baz=311
BELC Belle Mtn. Jos 75.16 58 P **P** **17 25 15.1 +0.2**
baz=311,SNR=5.8
109C Camp Elliot, M 75.19 59 P **P** **17 25 15.5 +0.6**
baz=311
KOLS Kolonicke sedl 75.31 324 *e*P **P** **17 25 16.2 +0.9**
KOLS pmax pmax
comp=Z,10.0nm,0.8s
KOLS Kolonicke sedl 75.31 324 *e*P **P** **17 25 16.2 +0.9**
CFR Carcaliu 75.35 318 ⇑P **P** **17 25 16.5 +1.0**
CFR Carcaliu 75.35 318 P **P** **17 25 16.5 +1.0**
OJC Ojcow 75.38 326 *e*P **P** **17 25 15.9 +0.3**
OJC Ojcow 75.38 326 IAmb IAmb 17 25 17.1
comp=Z,22nm,0.9s
OJC Ojcow 75.38 326 P **P** **17 25 15.8 +0.2**
comp=Z,27nm,1.0s,comp=Z,393nm
TPGR Topolog 75.44 318 ⇓P **P** **17 25 16.8 +0.7**
VRI Vrincioaia 75.54 320 ⇑P **P** **17 25 17.9 +1.2**
VRI Vrincioaia 75.54 320 P **P** **17 25 17.9 +1.2**
VRI Vrincioaia 75.54 320 P **P** **17 25 15.8 -0.9**
comp=Z,9.8nm,1.5s
PLOR5 Plostina Array 75.58 320 P **P** **17 25 16.2 -0.7**
comp=Z,9.9nm,0.9s
PLOR Plostina 75.59 320 ⇑P **P** **17 25 18.0 +1.1**
PLOR Plostina 75.59 320 P **P** **17 25 18.0 +1.1**
PLOR3 Plostina Array 75.59 320 P **P** **17 25 16.2 -0.8**
comp=Z,9.8nm,0.8s
IRM Iron Mountain 75.59 57 P **P** **17 25 18.1 +0.9**
baz=312,SNR=7.1
SPBR Spulber 75.61 320 ⇑P **P** **17 25 18.1 +1.0**
MONP2 Monument Peak 75.62 59 P **P** **17 25 17.9 +0.2**
baz=311
O20A White River Ci 75.64 49 P **P** **17 25 17.7 +0.1**
baz=314
CRVS Cervenica-Dubn 75.68 325 *e*P **P** **17 25 17.9 +0.5**
CRVS pmax pmax
comp=Z,13nm,1.2s
CRVS Cervenica-Dubn 75.68 325 *e*P **P** **17 25 17.9 +0.5**
HMU Henry Mountain 75.72 52 IAmb IAmb 17 25 20.9
comp=Z,13nm,0.6s
TIRR Tirgusor 75.73 318 P **P** **17 25 16.1 -1.6**
comp=Z,1.9nm,1.0s
BC3 Big Chuckawall 75.73 57 P **P** **17 25 18.3 +0.2**
baz=312
TURR Turia 75.74 320 ⇓P **P** **17 25 19.4 +1.5**
ARCR ARCALIA 75.76 322 ⇑P **P** **17 25 18.6 +0.7**
NIE Niedzica 75.78 325 *e*P **P** **17 25 19.3 +1.3**
NIE Niedzica 75.78 325 P **P** **17 25 18.3 +0.3**
comp=Z,7.2nm,1.2s
COVR Voineasa-Covas 75.80 320 ⇑P **P** **17 25 19.6 +1.4**
HARR Harsova 75.80 318 ⇓P **P** **17 25 18.5 +0.4**
HARR Harsova 75.80 318 P **P** **17 25 18.5 +0.4**
OZUR 75.82 320 ⇓P **P** **17 25 19.7 +1.4**
U15A North Rim 75.82 54 IAmb IAmb 17 25 49.5
comp=Z,18nm,1.6s
BOSR Bodos 75.89 320 ⇑P **P** **17 25 19.6 +0.9**
AGMN Agassiz Nation 75.92 36 P **P** **17 25 18.3 -0.5**
baz=319
BSEG Bad Segeberg 75.94 333 *e*P 17 25 19.0
comp=Z,14nm,0.7s,baz=34,slow=5.5
IKP In-Ko-Pah, Jac 75.98 59 P **P** **17 25 19.9 +0.4**
baz=312

SWSC Sam W. Stewart 75.98 58 P **P** **17 25 19.8 +0.4**
baz=312
GAZ Gaziantep 76.02 308 IAmb IAmb 17 25 23.4
comp=Z,18nm,1.1s
NEHR Nehoiu 76.07 320 ⇑P **P** **17 25 20.4 +0.7**
DOPR Dopca 76.10 320 ⇑P **P** **17 25 20.5 +0.7**
PDMCI Parker Dam,Lak 76.12 56 P **P** **17 25 21.0 +0.8**
baz=312,SNR=5.0
ISR Istrita 76.17 319 ⇑P **P** **17 25 21.3 +0.9**
ISR Istrita 76.17 319 P **P** **17 25 21.2 +0.9**
MLR Muntele Rosu 76.19 320 LR LR 18 01 15.2
comp=Z,257nm,21.9s,baz=66,slow=38
ICOR Ion Corvin 76.28 318 ⇑P **P** **17 25 22.2 +1.4**
KSP Ksiaz 76.29 328 *e*P **P** **17 25 21.3 +0.5**
KSP Ksiaz 76.29 328 P **P** **17 25 21.0 +0.2**
comp=Z,16nm,0.8s
BR131 Keskin Array S 76.31 312 *i* P **P** **17 25 21.7 +0.4**
BRTR Keskin Array B 76.31 312 P **P** **17 25 21.8 +0.4**
comp=Z,4.8nm,0.7s,baz=72,slow=3.8,SNR=26
BRTR PP **PP** **17 28 13.6 +0.8**
comp=Z,1.2nm,0.8s,baz=80,slow=4.8,SNR=3.8
BRTR LR LR 18 05 55.9
comp=Z,106nm,18.2s,baz=57,slow=41
comp=Z,4.8nm,0.7s
LANS Liptovska Anna 76.34 326 *e*P **P** **17 25 22.5 +1.3**
LANS pmax pmax
comp=Z,4.0nm,0.7s
LANS Liptovska Anna 76.34 326 *e*P **P** **17 25 22.5 +1.3**
OKC Ostrava-Krasne 76.35 327 AMS AMS 18 02 40.0
comp=Z,200nm,19.1s
N23A Red Feather La 76.37 47 P **P** **17 25 22.0 +0.1**
baz=315
CJR Cluj-Napoca 76.38 322 ⇑P **P** **17 25 23.0 +1.4**
CJR Cluj-Napoca 76.38 322 P **P** **17 25 22.9 +1.4**
GORT1 Trebel 76.38 332 *e*P 17 25 21.9
comp=Z,15nm,1.1s,baz=34,slow=5.5
GLA Glamis 76.52 58 P **P** **17 25 23.0 +0.4**
baz=312
OSTC Ostas 76.55 328 *e*P **P** **17 25 23.2 +0.9**
OSTC AMS AMS 18 00 10.0
comp=Z,200nm,23.6s
OSTC Ostas 76.55 328 *e*P **P** **17 25 23.2 +0.9**
OSTC MLR MLR
comp=Z,200nm,23.6s
CHVC Chvalec 76.59 328 *e*P **P** **17 25 23.1 +0.6**
CHVC Chvalec 76.59 328 *e*P **P** **17 25 23.1 +0.6**
MARR Marisel-Cluj 76.63 322 ⇑P **P** **17 25 24.1 +1.2**
MORC Moravsky Berou 76.64 327 ⇑P **P** **17 25 23.4 +0.5**
MORC Moravsky Berou 76.64 327 IAmb IAmb 17 25 24.6
comp=Z,13nm,0.9s
MORC Moravsky Berou 76.64 327 *e*P **P** **17 25 23.4 +0.5**
MORC Moravsky Berou 76.64 327 P **P** **17 25 23.3 +0.5**
VOIR 76.65 320 ⇑P **P** **17 25 24.5 +1.4**
VOIR 76.65 320 P **P** **17 25 24.5 +1.4**
VOIR 76.65 320 P **P** **17 25 22.7 -0.4**
comp=Z,8.0nm,0.9s
UPC Upice 76.67 328 *e*P **P** **17 25 24.2 +1.2**
UPC AMS AMS 17 59 30.0
comp=Z,200nm,17.1s
UPC Upice 76.67 328 *e*P **P** **17 25 24.2 +1.2**
UPC MLR MLR
comp=Z,200nm,17.1s
DPC Dobruska-Polom 76.67 328 *e*P **P** **17 25 23.9 +0.9**
DPC AMS AMS 18 00 00.0
comp=Z,200nm,21.1s
DPC Dobruska-Polom 76.67 328 *e*P **P** **17 25 23.9 +0.9**
DPC MLR MLR
comp=Z,200nm,21.1s
DPC Dobruska-Polom 76.67 328 P **P** **17 25 23.2 +0.2**
comp=Z,13nm,1.1s
ANTO Ankara 76.68 312 ⇑P **P** **17 25 24.8 +1.5**
ANTO Ankara 76.68 312 P **P** **17 25 25.1 +1.8**
ANTO Ankara 76.68 312 P **P** **17 25 25.1 +1.8**
ANTO pmax pmax
comp=Z,20nm,0.8s
ANTO Ankara 76.68 312 P **P** **17 25 23.8 +0.5**
comp=Z,12nm,0.8s
KRLC Kraliky 76.71 328 *e*P **P** **17 25 24.0 +0.7**
KRLC Kraliky 76.71 328 *e*P **P** **17 25 24.0 +0.7**
BR231 Keskin MP Arra 76.71 312 IAmb IAmb 17 25 26.0
comp=Z,17nm,0.8s
DRGR 76.72 322 ⇑P **P** **17 25 24.4 +1.0**
DRGR 76.72 322 P **P** **17 25 24.4 +1.0**
ARR Arges 76.90 320 ⇑P **P** **17 25 25.1 +0.7**
FLTG Flechtingen 76.95 332 *e*P 17 25 24.1
comp=Z,22nm,0.7s,baz=34,slow=5.5
WUAZ Wupatki 76.98 54 P **P** **17 25 25.4 +0.1**
baz=313
PSZ Piszkesteto 77.11 325 ⇑P **P** **17 25 27.0 +1.4**
PSZ Piszkesteto 77.11 325 IAmb IAmb 17 25 50.0
comp=Z,19nm,1.4s
PSZ Piszkesteto 77.11 325 P **P** **17 25 27.0 +1.4**
VYHS Vyhne 77.11 326 *e*P **P** **17 25 25.7 +0.2**
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 77.11 326 *e*P **P** **17 25 25.7 +0.2**
CLL Collm 77.16 330 IAmb IAmb 17 25 27.1
comp=Z,19nm,0.8s
CLL Collm 77.16 330 P **P** **17 25 25.6 -0.1**
comp=Z,24nm,0.8s
CLL Collm 77.16 330 *e*P 17 25 25.4
comp=Z,18nm,0.8s,baz=34,slow=5.5
BRG Berggiesshubel 77.16 330 *e*P **P** **17 25 26.1 +0.4**
BRG Amp 17 25 27.0
comp=Z,4.4nm,0.7s
BRG Berggiesshubel 77.16 330 *e*P **P** **17 25 26.1 +0.4**
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG MLR MLR
comp=E,160nm,17.2s
BRG MLR MLR
comp=Z,243nm,23.1s
BRG MLR MLR
comp=N,124nm,15.0s
BRG MLR MLR
comp=N,167nm,19.0s
BRG MLR MLR
comp=Z,281nm,21.0s
BRG MLR MLR
comp=E,137nm,23.5s
BRG Berggiesshubel 77.16 330 *e*P 17 25 25.7
comp=E,6.9nm,1.1s,baz=34,slow=5.5
NRDL Niedersach Rie 77.20 333 *e*P 17 25 26.0
comp=E,6.1nm,0.8s,baz=34,slow=5.5
PVCC Panska Ves 77.20 329 *e*P **P** **17 25 27.4 +1.4**
PVCC AMS AMS 18 04 20.0
comp=E,100nm,19.7s
PVCC Panska Ves 77.20 329 *e*P **P** **17 25 27.4 +1.4**
PVCC MLR MLR
comp=Z,100nm,19.7s
LOT Lotru 77.25 321 ⇑P **P** **17 25 27.4 +0.9**
RETH Rethem/Aller, 77.25 333 *e*P 17 25 26.4
comp=Z,8.0nm,0.8s,baz=34,slow=5.5
JAVC Velka Javorina 77.31 326 *e*P **P** **17 25 27.9 +1.2**
ISCO Idaho Springs 77.32 47 P **P** **17 25 27.3 +0.1**
baz=315
RICC Richard 77.37 329 *e*P **P** **17 25 28.5 +1.6**
SUSD Miller 77.39 40 P **P** **17 25 27.2 +0.1**
baz=318
VRAC Vranov 77.39 327 ⇑P **P** **17 25 27.4 +0.4**
VRAC Vranov 77.39 327 *e*P **P** **17 25 27.7 +0.6**
VRAC Vranov 77.39 327 LR LR 18 03 17.7
comp=Z,120nm,18.7s,baz=34,slow=38
VRAC Vranov 77.39 327 P **P** **17 25 27.4 +0.4**
MVCO Mesa Verde 77.51 51 IAmb IAmb 17 26 10.4
comp=Z,16nm,1.5s
MVCO Mesa Verde 77.51 51 P **P** **17 25 28.2 -0.1**
baz=314
HSKC Hora Svate Kat 77.57 330 *e*P **P** **17 25 28.5 +0.4**
HSKC AMS AMS 18 01 10.0
comp=Z,300nm,23.1s
SIRR Siria 77.60 323 ⇑P **P** **17 25 29.3 +1.1**
PRA Prague 77.62 329 AMS AMS 18 01 10.0
comp=Z,200nm,21.5s
PRU Pruhonice 77.65 329 *e*P **P** **17 25 29.1 +0.6**
PRU AMS AMS 18 00 10.0
comp=Z,200nm,21.2s
PRU Pruhonice 77.65 329 *e*P **P** **17 25 29.1 +0.6**
PRU MLR MLR
comp=Z,200nm,21.2s
CLZ Clausthal 77.66 332 *e*P 17 25 28.9
comp=Z,17nm,0.8s,baz=34,slow=5.5
KRUC Moravsky 77.66 327 *e*P **P** **17 25 29.0 +0.4**
SMOL Smolenice 77.68 326 *e*P **P** **17 25 29.7 +1.0**
SMOL pmax pmax

comp=Z,5.0nm,0.9s
NEUB Neuenburg 77.69 331 *e*P 17 25 28.6
comp=Z,21nm,0.7s,baz=34,slow=5.5
GZR Gura Zlata 77.75 321 ⇑P **P 17 25 29.2 -0.1**
GZR Gura Zlata 77.75 321 P **P 17 25 29.1 -0.1**
SURR Surduc 77.78 322 ⇓P **P 17 25 29.9 +0.7**
TREC Trest 77.84 328 AMS AMS 18 01 00.0
comp=Z,200nm,16.0s
MODS Modra-Piesok 77.85 326 *e*P **P 17 25 30.8 +1.1**
MODS pmax pmax
comp=Z,16nm,1.1s
MODS Modra-Piesok 77.85 326 *e*P **P 17 25 30.8 +1.1**
SRO Srobarova 77.86 325 *e*P **P 17 25 31.3 +1.6**
SRO pmax pmax
comp=Z,14nm,0.9s
SRO Srobarova 77.86 325 *e*P **P 17 25 31.2 +1.6**
GTTG Gottingen 78.05 332 *e*P 17 25 30.8
comp=Z,13nm,0.8s,baz=34,slow=5.5
EYMN Ely 78.06 34 P **P 17 25 31.5 +0.7**
EYMN IAmb IAmb 17 25 32.0
comp=Z,14nm,0.8s
EYMN Ely 78.06 34 P **P 17 25 31.0 +0.2**
baz=322,SNR=10
TANN Tannenbergstha 78.09 330 *e*P 17 25 31.1
comp=Z,4.8nm,1.1s,baz=34,slow=5.5
S22A 4UR Ranch, Cre 78.09 50 P **P 17 25 31.8 +0.2**
baz=315
ELND Elena 78.11 318 ⇑P **P 17 25 32.1 +0.9**
BZS Buzias 78.11 322 ⇓P **P 17 25 31.6 +0.5**
BZS Buzias 78.11 322 P **P 17 25 31.6 +0.5**
PLN Plauen 78.14 330 *e*P 17 25 31.3
comp=Z,4.7nm,1.0s,baz=34,slow=5.5
IBBN Ibbenburen 78.15 334 *e*P 17 25 31.1
comp=Z,15nm,0.8s,baz=34,slow=5.5
Q24A Divide 78.17 48 P **P 17 25 31.9 0.0**
baz=315
MOX Moxa 78.21 331 *e*P 17 25 31.6
comp=Z,6.2nm,0.8s,baz=34,slow=5.5
MOX *e*L 18 01 52.5
comp=Z,175nm,21.9s
ZVC Zvikov 78.23 329 *e*P **P 17 25 32.6 +0.9**
ZVC AMS AMS 18 00 20.0
comp=Z,200nm,23.2s
HERR Herculane 78.30 321 ⇑P **P 17 25 32.8 +0.6**
MANZ Manzenberg 78.57 330 *e*P 17 25 33.8
comp=Z,1.6nm,0.9s,baz=34,slow=5.5
EKA Eskdalemuir Ar 78.59 341 P **P 17 25 33.7 +0.2**
comp=Z,7.1nm,0.7s,baz=23,slow=5.0,SNR=24
comp=Z,7.1nm,0.7s
ESK Eskdalemuir 78.61 341 P **P 17 25 34.4 +0.7**
ESK IAmb IAmb 17 25 35.2
comp=Z,12nm,0.8s
ESK Eskdalemuir 78.61 341 P **P 17 25 34.4 +0.7**
ESK pmax pmax
comp=Z,12nm,0.8s
UBBA Unterbreizbach 78.64 332 *e*P 17 25 33.5
comp=Z,4.2nm,0.7s,baz=34,slow=5.5
CKRC Cesky Krumlov 78.68 328 *e*P **P 17 25 35.0 +0.8**
CKRC AMS AMS 17 59 10.0
comp=Z,200nm,23.8s
CKRC Cesky Krumlov 78.68 328 *e*P **P 17 25 35.0 +0.8**
CKRC MLR MLR
comp=Z,200nm,23.8s
MDVR Moldovita 78.70 322 ⇑P **P 17 25 35.0 +0.5**
ROTZ Rotzenmuhle 78.71 330 *e*P 17 25 34.8
comp=Z,2.0nm,0.8s,baz=34,slow=5.5
KHC Kasperske Hory 78.71 329 IAmb IAmb 17 25 36.5
comp=Z,11nm,0.7s
KHC Kasperske Hory 78.71 329 *e*P **P 17 25 34.9 +0.5**
KHC AMS AMS 18 01 30.0
comp=Z,300nm,22.0s
KHC Kasperske Hory 78.71 329 *c*e**P P 17 25 34.9 +0.5**
KHC pmax pmax
comp=Z,22nm,0.6s
CONA Conrad Observa 78.78 327 *e*P **P 17 25 35.6 +0.7**
comp=Z,7.1nm,0.9s,SNR=7.7
RONA Rosalia, Austr 78.79 327 *e*P **P 17 25 35.8 +0.9**
comp=Z,9.8nm,0.8s,SNR=8.0
SDCO Great Sand Dun 78.84 49 P **P 17 25 35.9 +0.2**
baz=315
KASTN Kahler Asten 78.86 333 *e*P 17 25 35.2
comp=Z,7.2nm,0.8s,baz=34,slow=5.5
GERES GERESS Array B 78.90 329 P **P 17 25 35.9 +0.3**
comp=Z,3.1nm,0.8s,baz=29,slow=6.1,SNR=20
GERES LR LR 18 02 56.0
comp=Z,167nm,21.6s,baz=15,slow=38
comp=Z,3.1nm,0.8s
GEC2 GERESS Array S 78.90 329 *e*P 17 25 35.4
comp=Z,3.7nm,0.8s,baz=34,slow=5.5
MORH Mrgy, Hungar 78.97 324 ⇓P **P 17 25 35.8 +0.1**
MORH Mrgy, Hungar 78.97 324 P **P 17 25 34.9 -0.9**
comp=Z,4.5nm,1.0s
WET Wettzell 78.97 329 *e*P 17 25 36.3
comp=Z,9.0nm,0.8s,baz=34,slow=5.5
ECSD EROS Data Cent 79.04 40 P **P 17 25 37.1 +0.8**
ECSD EROS Data Cent 79.04 40 P **P 17 25 35.9 -0.4**
baz=319,SNR=11
E38A The Farm, Brul 79.09 35 IAmb IAmb 17 25 37.5
comp=Z,12nm,0.8s
GRA1 Grafenberg Arr 79.14 330 IAmb IAmb 17 25 38.4
comp=Z,20nm,0.8s
GRF Grafenberg Arr 79.14 330 *e*P 17 25 37.3
comp=Z,20nm,0.8s,baz=34,slow=5.5
GRF *e*L 18 03 05.6
comp=Z,144nm,21.0s
GRFO Grafenberg 79.14 330 P **P 17 25 36.8 +0.1**
GRFO IAmb IAmb 17 25 38.4
comp=Z,20nm,0.8s
GRFO Grafenberg 79.14 330 P **P 17 25 36.8 +0.1**
GRFO pmax pmax
comp=Z,20nm,0.8s
FRGS Fruska Gora 79.28 323 ⇑P **P 17 25 36.8 -0.7**
FRGS Fruska Gora 79.28 323 P **P 17 25 37.3 -0.3**
comp=Z,14nm,0.8s
ARSA Arzberg 79.46 327 *e*P **P 17 25 38.7 +0.1**
comp=Z,4.4nm,0.9s
MOA Molln 79.48 328 *e*P **P 17 25 38.9 +0.3**
comp=Z,3.1nm,0.8s
KSCO Kaye Shedlock' 79.50 46 P **P 17 25 39.1 +0.1**
baz=317
TUC Tucson 79.53 56 P **P 17 25 39.7 +0.5**
baz=314
BOVS Bovan 79.58 321 ⇑P **P 17 25 39.1 -0.1**
RDO Rodhopi 79.59 317 IAmb IAmb 17 25 41.1
comp=Z,17nm,0.9s
SPMN Marine on St. 79.63 36 P **P 17 25 40.4 +1.0**
baz=322
RAO Raoul Island 79.76 146 LR LR 17 57 25.5
comp=Z,104nm,18.7s,baz=359,slow=33
CSS Mathiatis 79.81 308 P **P 17 25 40.5 -0.2**
comp=Z,17nm,0.9s
RAYN Ar Rayn 79.83 292 P **P 17 25 41.1 +0.2**
RAYN IAmb IAmb 17 25 42.1
comp=Z,12nm,0.8s
RAYN Ar Rayn 79.83 292 *i* P **P 17 25 40.7 -0.2**
SNR=12
RAYN Ar Rayn 79.83 292 P **P 17 25 41.2 +0.2**
RAYN pmax pmax
comp=Z,12nm,0.8s
BIOA Bad Ischl, Aus 79.86 328 *e*P **P 17 25 40.5 -0.2**
comp=Z,9.2nm,0.8s,SNR=7.0
AHRW Bad Neuenahr-A 79.88 333 *e*P 17 25 40.8
comp=Z,8.4nm,0.9s,baz=34,slow=5.5
T25A Trinidad 79.88 49 P **P 17 25 41.1 -0.1**
baz=316,SNR=6.1
SCHQ Schefferville 79.94 17 P **P 17 25 41.1 +0.2**
comp=Z,4.6nm,0.7s,baz=1.8,slow=6.0,SNR=5.5
SCHQ LR LR 18 06 20.8
comp=Z,36nm,18.2s,baz=293,slow=40
comp=Z,4.6nm,0.7s
MMAI Mount Meron Ar 79.94 306 P **P 17 25 42.8 +1.3**
comp=Z,14nm,0.8s,baz=50,slow=7.8,SNR=19
MMAI LR LR 18 04 54.1
comp=Z,179nm,21.2s,baz=340,slow=38
comp=Z,14nm,0.8s
GROS Grobnik 80.10 326 *i* P **P 17 25 41.9 -0.2**
PERS Pernice 80.12 327 *i* P **P 17 25 42.3 +0.1**
SOKA Soboth 80.12 327 *e*P **P 17 25 42.2 0.0**
comp=Z,14nm,1.0s,SNR=20
BTNL Ternell 80.15 334 *d*P **P 17 25 41.8 -0.4**
comp=Z,6.6nm,0.8s
RJOB Jochberg 80.15 328 *e*P 17 25 42.9
comp=Z,13nm,0.8s,baz=34,slow=5.5
MEM Membach 80.17 334 *d*P **P 17 25 42.0 -0.2**
comp=Z,9.4nm,0.9s
EZN Ezine 80.17 316 P **P 17 25 42.4 0.0**
comp=Z,15nm,1.0s,comp=Z,536nm

ANMO Albuquerque 80.28 51 P **P 17 25 43.4 0.0**
baz=315
ANMO Albuquerque 80.28 51 LR LR 18 00 34.9
comp=Z,21nm,21.5s,baz=60,slow=35
BSTI Sart Tilman 80.33 334 *d*P **P 17 25 43.5 +0.3**
comp=Z,3.5nm,0.7s
BSTI *d*PcP **PcP 17 25 49.9 -0.2**
FUR Furstenfeldbru 80.38 330 *e*P 17 25 43.8
comp=Z,25nm,1.0s,baz=34,slow=5.5
BALJ Balga 80.44 305 IAmb IAmb 17 25 46.0
comp=Z,22nm,0.9s
LESA Schwarzleotal 80.45 328 *i* P **P 17 25 44.2 +0.3**
comp=Z,12nm,0.9s
OBKA Obir 80.45 327 *i* P **P 17 25 43.8 -0.2**
comp=Z,9.2nm,0.8s,SNR=6.0
KBA Koelnbreinsper 80.47 328 *e*P **P 17 25 44.4 +0.2**
comp=Z,8.2nm,1.2s,SNR=7.7
BCLA Clavier 80.56 334 *d*P **P 17 25 44.0 -0.3**
comp=Z,6.6nm,0.8s
BCLA *d*PcP **PcP 17 25 50.6 -0.5**
CRES Cresnjev 80.63 326 *i* P **P 17 25 44.6 -0.3**
STU Stuttgart 80.64 331 IAmb IAmb 17 25 46.0
comp=Z,13nm,0.6s
STU Stuttgart 80.64 331 *e*P 17 25 45.1
comp=Z,30nm,0.7s,baz=34,slow=5.5
BGES Gesves 80.66 334 *d*P **P 17 25 44.7 -0.2**
comp=Z,6.6nm,0.8s
MYKA Terra Mystica 80.72 327 *i* P **P 17 25 44.9 -0.5**
comp=Z,6.1nm,0.8s
RCHB Rochefort 80.81 334 *d*P **P 17 25 45.6 0.0**
comp=Z,5.6nm,1.0s
RCHB *d*pP **pP 17 26 01.3 -1.4**
BMRD Maredsous 80.83 334 *d*P **P 17 25 45.9 +0.1**
comp=Z,12nm,0.8s
WATA Walderalm 80.95 329 *i* P **P 17 25 46.8 +0.1**
comp=Z,11nm,0.9s,SNR=6.0
WTTA Wattenberg 80.99 329 *i* P **P 17 25 47.2 +0.2**
comp=Z,11nm,0.9s,SNR=6.6
DOU Dourbes 81.07 334 *d*P **P 17 25 46.7 -0.4**
comp=Z,4.4nm,0.9s
ABTA Abfaltersbach 81.07 328 *e*P **P 17 25 46.5 -0.8**
comp=Z,4.3nm,1.3s
RETA Reutte 81.14 329 *i* P **P 17 25 47.7 +0.1**
comp=Z,15nm,1.1s,SNR=6.1
SQTA Sankt Quirin 81.19 329 *e*P **P 17 25 48.1 +0.1**
comp=Z,9.5nm,0.8s,SNR=7.0
121A Cookes Peak, D 81.20 54 P **P 17 25 47.9 -0.4**
baz=315
BFO Black Forest 81.32 331 P **P 17 25 48.6 +0.1**
BFO Black Forest 81.32 331 P **P 17 25 48.6 +0.1**
BFO pmax pmax
comp=Z,5.0nm,0.8s
BFO Black Forest 81.32 331 *e*P 17 25 48.4
comp=Z,5.1nm,0.9s,baz=34,slow=5.5
STAL STALIGIAL 81.40 328 IAmb IAmb 17 25 49.2
comp=Z,9.2nm,0.7s
FETA Feichten 81.54 329 *e*P **P 17 25 49.7 -0.1**
comp=Z,10nm,0.8s,SNR=8.0
DAVA Damuels 81.63 330 *e*P **P 17 25 50.2 -0.1**
comp=Z,14nm,0.9s,SNR=8.4
PDG Podgorica 81.65 322 ⇑P **P 17 25 50.9 +0.6**
PUK Puka 81.66 321 IAmb IAmb 17 26 06.9
comp=Z,8.6nm,0.8s
KIJV Kijevo 81.69 324 *i* P **P 17 25 50.5 0.0**
RICI Ricice 81.77 323 *i* P **P 17 25 50.3 -0.7**
LIT Litokhoron 81.91 318 IAmb IAmb 17 25 53.1
comp=Z,11nm,0.8s
FNA Florina 81.93 319 IAmb IAmb 17 25 53.5
comp=Z,10.0nm,0.8s
CTI Castel Tesino 81.99 328 IAmb IAmb 17 25 52.6
comp=Z,11nm,0.7s
MAKA Makarska 81.99 323 *i* P **P 17 25 51.1 -0.9**
STON Ston 82.02 323 *i* P **P 17 25 51.7 -0.5**
VIRC Vir 82.03 325 *i* P **P 17 25 51.2 -1.0**
SCIA State Center 82.04 39 P **P 17 25 52.3 -0.1**
baz=322
FUORN Ofenpass-Fuorn 82.05 329 IAmb IAmb 17 25 54.6
comp=Z,15nm,0.8s
DAVOX Davos/Dischmat 82.06 330 LR LR 18 05 42.3
comp=Z,201nm,19.9s,baz=50,slow=38
MORI Morici 82.10 325 *i* P **P 17 25 51.7 -0.9**
TIR Tirane 82.21 321 P **P 17 25 52.9 -0.4**
comp=Z,36nm,0.8s,comp=Z,658nm
DUGI Dugi Otok 82.28 325 *i* P **P 17 25 53.0 -0.6**
RAR Rarotonga 82.30 128 LR LR 17 58 04.1
comp=Z,203nm,18.9s,baz=279,slow=32
H43A Windswept, Lux 82.39 34 IAmb IAmb 17 25 55.6
comp=Z,12nm,0.8s
TUE Stuetta 82.52 330 IAmb IAmb 17 25 56.2
comp=Z,7.9nm,0.8s
TUE Stuetta 82.52 330 P **P 17 25 54.8 -0.2**
comp=Z,42nm,0.8s
TEOL Teolo 82.55 328 IAmb IAmb 17 25 56.5
comp=Z,15nm,0.8s
EIL Elat 82.55 303 LR LR 18 06 26.6
comp=Z,111nm,20.7s,baz=48,slow=38
KSU1 Kansas State U 82.56 43 P **P 17 25 55.7 +0.5**
baz=320
JFWS Jewell Farm 82.58 36 P **P 17 25 55.7 +0.5**
baz=323
AMTX Amarillo 83.03 48 P **P 17 25 58.8 +1.0**
baz=318
MSTX Muleshoe 83.09 50 P **P 17 25 59.0 +0.9**
baz=317
VLDQ Val d'Or 83.14 26 IAmb IAmb 17 25 58.2
comp=Z,17nm,0.8s
MNTX Cornudas Mount 83.22 53 P **P 17 25 59.3 +0.6**
baz=316
L42A Oliver, Polo 83.57 37 IAmb IAmb 17 26 01.1
comp=Z,7.9nm,0.7s
SMWD Samnorwood 83.66 47 IAmb IAmb 17 26 20.3
comp=Z,13nm,1.0s
P38A Dawn 83.67 40 IAmb IAmb 17 26 02.6
comp=Z,12nm,0.8s
CAMP Campotosto 84.16 325 IAmb IAmb 17 26 05.5
comp=Z,15nm,0.8s
L44A Lake County Fo 84.20 35 P **P 17 26 03.8 +0.4**
baz=325
MATE Matera 84.23 322 ⇓P **P 17 26 04.2 +0.6**
PECS Pecos 84.35 52 IAmb IAmb 17 26 07.0
comp=Z,6.9nm,0.7s
INTR Introdacqua 84.38 324 IAmb IAmb 17 26 05.7
comp=Z,16nm,1.1s
P40A Paris 84.45 40 IAmb IAmb 17 26 23.5
comp=Z,12nm,0.8s
POST Post 84.47 50 IAmb IAmb 17 26 08.4
comp=Z,7.8nm,0.7s
ODSA Odessa 84.57 51 IAmb IAmb 17 26 07.9
comp=Z,12nm,0.7s
WMOK Wichita Mounta 84.73 47 IAmb IAmb 17 26 24.6
comp=Z,12nm,1.4s
WMOK Wichita Mounta 84.73 47 P **P 17 26 06.8 +0.4**
baz=319
ICQ Pointe Anglais 84.77 19 IAmb IAmb 17 26 07.6
comp=Z,8.2nm,0.8s
HDIL Hopedale 84.90 37 P **P 17 26 07.4 +0.4**
baz=324
MNHN Monahans 85.02 52 IAmb IAmb 17 26 10.8
comp=Z,7.4nm,0.7s
LDAQ Lac Daran 85.16 22 IAmb IAmb 17 26 09.3
comp=Z,7.4nm,0.9s
ALPN Alpine 85.21 53 IAmb IAmb 17 26 11.2
comp=Z,4.9nm,0.7s
S39A Bolivar 85.28 42 IAmb IAmb 17 26 10.0
comp=Z,6.2nm,0.8s
R40A Maddies Statio 85.33 40 IAmb IAmb 17 26 10.6
comp=Z,7.4nm,0.8s
TIP Timpagrande 85.38 321 ⇑P **P 17 26 10.5 +0.9**
TIP Timpagrande 85.38 321 IAmb IAmb 17 26 10.9
comp=Z,14nm,1.0s
TIP Timpagrande 85.38 321 P **P 17 26 08.3 -1.3**
comp=Z,13nm,1.3s
TUL3 Leonard 85.42 44 P **P 17 26 09.7 0.0**
baz=321
SADO Sadowa 85.47 29 LR LR 18 08 41.6
comp=Z,43nm,19.3s,baz=353,slow=39
LPIG La Paz 85.52 61 LR LR 17 59 51.6
comp=Z,37nm,18.7s,baz=246,slow=32
LMQ La Malbaie 85.79 22 IAmb IAmb 17 26 12.5
comp=Z,6.6nm,0.8s
ABTX Abilene, Hawle 85.84 49 P **P 17 26 11.8 -0.1**
baz=319
AAM Ann Arbor 85.87 33 P **P 17 26 11.4 -0.4**
baz=327
PPT Papeete 85.92 118 LR LR 17 56 14.8
comp=Z,145nm,21.9s,baz=310,slow=30
PPT2 Papeete2 85.94 118 *e*LR LR 17 53 19.9
comp=Z,721nm,31.8s

PPT2 *e*LR LR 17 53 30.9
comp=Z,357nm,27.8s
TX31 Lajitas Ar. Si 85.95 54 IAmb IAmb 17 26 15.6
comp=Z,5.2nm,0.7s
TXAR Lajitas Array 85.95 54 P **P 17 26 14.2 +1.6**
comp=Z,6.0nm,0.7s,baz=296,slow=3.4,SNR=88
TXAR PKKPbc **PKKPbc 17 44 13.5 +2.7**
comp=Z,0.3nm,0.7s,baz=158,slow=5.5,SNR=4.8
TXAR LR LR 18 01 20.7
comp=Z,26nm,21.0s,baz=320,slow=33
comp=Z,6.0nm,0.7s
URZ Urewera 85.96 154 LR LR 18 05 48.4
comp=Z,79nm,18.2s,baz=32,slow=36
CCM Cathedral Cave 86.00 40 P **P 17 26 12.9 +0.3**
CCM IAmb IAmb 17 26 14.1
comp=Z,11nm,0.8s
CCM Cathedral Cave 86.00 40 P **P 17 26 12.3 -0.3**
baz=323
CCM Cathedral Cave 86.00 40 P **P 17 26 12.9 +0.3**
CCM pmax pmax
comp=Z,11nm,0.8s
SFIN Lafayette 86.02 36 IAmb IAmb 17 26 14.1
comp=Z,8.1nm,0.8s
SFIN Lafayette 86.02 36 P **P 17 26 12.1 -0.5**
baz=325
HHAR Hobbs 86.08 43 IAmb IAmb 17 26 13.8
comp=Z,14nm,1.6s
N47A Urbana 86.21 35 IAmb IAmb 17 26 14.8
comp=Z,11nm,0.9s
MGMO Mountain Grove 86.22 41 IAmb IAmb 17 26 15.0
comp=Z,5.2nm,0.8s
DELO Deloro Mine 86.22 28 IAmb IAmb 17 26 15.0
comp=Z,6.5nm,0.9s
OZNA Ozona 86.27 51 IAmb IAmb 17 26 16.5
comp=Z,5.2nm,0.7s
FVM French Village 86.45 40 IAmb IAmb 17 26 16.0
comp=Z,8.6nm,1.1s
HPIG 86.47 56 IAmb IAmb 17 26 47.0
comp=Z,6.8nm,0.9s
D62A Allapoint, All 86.57 21 IAmb IAmb 17 26 17.2
comp=Z,7.3nm,0.8s
WBO Williamsburg 86.59 26 IAmb IAmb 17 26 16.1
comp=Z,9.6nm,0.9s
MNTQ Montreal, Queb 86.67 25 IAmb IAmb 17 26 16.9
comp=Z,9.1nm,0.8s
E62A Clayton Lake 86.86 22 IAmb IAmb 17 26 18.5
comp=Z,7.3nm,0.8s
T42A Van Buren 86.89 41 IAmb IAmb 17 26 35.5
comp=Z,6.1nm,0.8s
O48B Farmland 86.96 35 IAmb IAmb 17 26 35.0
comp=Z,6.6nm,0.7s
O48B Farmland 86.96 35 P **P 17 26 16.5 -0.7**
baz=326
LONY Lake Ozonia 87.15 26 P **P 17 26 17.5 -0.7**
baz=333
FCAR Ozark Folk Cen 87.29 42 IAmb IAmb 17 26 37.1
comp=Z,6.7nm,0.8s
JCT Junction City 87.36 50 P **P 17 26 19.1 -0.3**
baz=319
F62A Pittston Farm, 87.40 22 IAmb IAmb 17 26 21.3
comp=Z,7.8nm,0.8s
ERPA Erie 87.45 31 P **P 17 26 19.5 0.0**
baz=330
WHTX Lake Whitney, 87.53 48 P **P 17 26 20.1 0.0**
baz=320
MIAR Mount Ida 87.62 44 P **P 17 26 20.6 +0.1**
baz=322
LCAR Lake Charles 87.63 41 IAmb IAmb 17 26 38.5
comp=Z,7.2nm,1.2s
WHAR Wooly Hollow 87.69 42 IAmb IAmb 17 26 22.4
comp=Z,8.8nm,0.8s
P49A Miami Univ. Ec 87.74 35 P **P 17 26 21.3 +0.2**
baz=327
M53A Wt Miller and 87.77 31 P **P 17 26 21.2 +0.1**
baz=329
ACSO Alum Creek Sta 87.88 33 IAmb IAmb 17 26 23.4
comp=Z,10nm,0.8s
ACSO Alum Creek Sta 87.88 33 P **P 17 26 21.7 0.0**
baz=328
J58A Remsen 88.04 27 IAmb IAmb 17 26 24.0
comp=Z,8.5nm,0.8s
WCI Wyandotte Cave 88.14 37 P **P 17 26 22.7 -0.2**
WCI IAmb IAmb 17 26 24.7
comp=Z,8.4nm,0.8s
WCI Wyandotte Cave 88.14 37 P **P 17 26 22.8 -0.2**
baz=326
WCI Wyandotte Cave 88.14 37 P **P 17 26 22.7 -0.2**
WCI pmax pmax
comp=Z,8.0nm,0.9s
PKME Peaks-Kenny Pk 88.17 22 P **P 17 26 22.6 -0.3**
baz=337
LBNH Lisbon 88.33 24 P **P 17 26 23.5 -0.2**
baz=335
O53A New Philadelph 88.58 32 P **P 17 26 24.6 -0.4**
baz=329
H06N1 SOCORRO T-PHAS 88.73 66 T T 19 05 11.8
SNR=43
P52A Corning 88.73 33 IAmb IAmb 17 26 27.1
comp=Z,8.3nm,0.8s
P52A Corning 88.73 33 P **P 17 26 25.6 -0.2**
baz=328
LMN Caledonia Moun 88.80 19 IAmb IAmb 17 26 27.5
comp=Z,9.9nm,0.8s
BINY Binghamton 88.83 28 P **P 17 26 26.0 -0.1**
baz=332
WVT Waverly 89.17 39 P **P 17 26 28.7 +0.9**
WVT IAmb IAmb 17 26 29.5
comp=Z,4.5nm,0.8s
WVT Waverly 89.17 39 P **P 17 26 28.0 +0.2**
baz=325
WVT Waverly 89.17 39 P **P 17 26 28.7 +0.9**
WVT pmax pmax
comp=Z,4.0nm,0.8s
SSPA Standing Stone 89.52 30 P **P 17 26 29.2 -0.2**
baz=331
MCWV Mont Chateau 89.62 32 P **P 17 26 30.1 +0.2**
baz=330
OXF Oxford 89.73 41 P **P 17 26 30.4 -0.1**
baz=324
ATD Arta Tunnel 89.75 285 LR LR 18 12 59.1
comp=Z,6.9nm,18.1s,baz=16,slow=40
U49A Red Boiling Sp 89.79 37 IAmb IAmb 17 26 32.5
comp=Z,8.5nm,0.8s
HRV Adam Dziewonsk 90.01 25 P **P 17 26 31.7 0.0**
baz=335
TBI Tubuai 90.18 122 *e*LR LR 17 55 20.7
comp=Z,1μm,24.0s
PAL Palisades 90.60 27 P **P 17 26 34.1 -0.3**
baz=334
TZTN Tazewell 90.75 36 P **P 17 26 35.0 -0.2**
baz=328
TKL Tuckaleechee C 91.40 36 LR LR 18 11 13.7
comp=Z,61nm,19.4s,baz=302,slow=38
KEST Kesra 91.56 324 P **P 17 26 38.3 -0.8**
comp=Z,4.3nm,0.9s,baz=284,slow=4.8,SNR=5.5
KEST LR LR 18 12 42.1
comp=Z,179nm,20.0s,baz=342,slow=39
comp=Z,4.3nm,0.9s
PBRG Braganca 91.96 338 *e*P **P 17 26 40.3 -0.5**
POLO Lamas de Olo 92.65 338 *e*P **P 17 26 44.3 +0.3**
PVRL Vila Real 92.72 338 *e*P **P 17 26 44.6 +0.3**
ESDC Sonseca Array 93.10 335 P **P 17 26 46.3 +0.2**
ESDC Sonseca Array 93.10 335 P **P 17 26 45.4 -0.7**
comp=Z,2.9nm,0.8s,baz=15,slow=3.8,SNR=25
ESDC LR LR 18 12 45.4
comp=Z,71nm,21.0s,baz=18,slow=38
comp=Z,2.9nm,0.8s
MTE Manteigas 93.48 338 *e*P **P 17 26 48.2 +0.4**
PCBR Castelo Branco 93.99 338 *e*P **P 17 26 50.6 +0.5**
PMRV Marv??o 94.34 337 *e*P **P 17 26 52.3 +0.5**
FURI Furi 94.53 286 LR LR 18 15 25.5
comp=Z,164nm,18.9s,baz=35,slow=39
PSBE So Bento 94.66 339 *e*P **P 17 26 53.4 +0.2**
PESTR Estremoz 94.92 337 *e*P **P 17 26 54.4 0.0**
PBAR Barrancos 95.41 337 *e*P **P 17 26 57.1 +0.5**
TORD Torodi Ar. Bea 114.39 318 PKP **PKiKP 17 32 11.9 -0.2**
comp=Z,0.9nm,0.7s,baz=14,slow=3.8,SNR=4.2
TORD PP **PP 17 33 03.1 -4.9**
comp=Z,4.3nm,1.1s,baz=37,slow=9.2,SNR=9.9
VNDA Vanda 120.11 175 PKP **PKiKP 17 32 22.1 +0.9**
comp=Z,0.9nm,0.6s,baz=285,slow=2.7,SNR=7.2
MAW Mawson 124.80 207 PKP **PKiKP 17 32 31.7 +0.9**
comp=Z,4.0nm,0.8s,baz=303,slow=12,SNR=8.0
QSPA South Pole Qui 132.03 180 **PKiKP 17 32 45.9 +0.5**
QSPA South Pole Qui 132.03 180 PKP **PKiKP 17 32 45.2 -0.2**
comp=Z,3.1nm,0.8s,baz=275,slow=1.1,SNR=18
ITTB Itaituba 138.69 29 *e*P **PKiKP 17 33 00.2 -0.3**
ETMB Extrema 138.72 47 *e*P **PKiKP 17 33 01.4 +0.9**

ELIB	Princess Elisa	138.73	204	dPKPdf		PKiKP	17 32 58.5	-0.5
LPAZ	La Paz	142.80	55	PKhKP		PKPpre	17 33 03.7	
comp=Z,2.3nm,0.8s,baz=16,slow=6.1,SNR=11								
BELA	Belgrano 2	144.29	181	PKPdf		PKPdf	17 33 05.8	-0.7
VILB	Vilhena	144.48	41	eP		PKiKP	17 33 11.0	-1.3
TROLL	Troll, Antarti	144.61	200	⇑PKPbc		PKPdf	17 33 07.1	-0.2
comp=Z,811nm,0.7s								
PDRB	Porto dos Gac	144.90	35	eP		PKiKP	17 33 12.1	-1.1
SMTB	Santa Maria do	145.41	19	eP		PKiKP	17 33 12.4	-1.9
H03N2	Juan Fernandez	145.99	89	T		T	20 16 26.7	
baz=300,slow=76,SNR=62								
H03N3	Juan Fernandez	146.00	89	T		T	20 16 23.2	
baz=300,slow=76,SNR=84								
H03N1	Juan Fernandez	146.00	89	T		T	20 16 28.2	
baz=300,slow=76,SNR=74								
SNAA	Sanae	146.13	199	PKPdf		PKPab	17 33 12.2	+0.5
SNAA	Sanae	146.13	199	⇑PKPbc		PKPbc	17 33 11.2	+0.3
comp=Z,100nm,0.5s								
SNAA	Sanae	146.13	199	PKPbc		PKPbc	17 33 10.6	-0.3
comp=Z,4.2nm,0.6s,baz=183,slow=3.5,SNR=15								
SNAA	Sanae	146.13	199	PKP2		PKPab	17 33 12.2	+0.5
PTLB	Pontes e Lacer	147.14	42	eP		PKPbc	17 33 16.1	+0.8
VNA2	Neumayer--Watz	147.71	198	⇑PKPbc		PKiKP	17 33 17.3	0.0
comp=Z,29nm,0.6s,baz=116,slow=1.3								
BBSD	Serra de San D	147.84	46	eP		PKPbc	17 33 17.4	+0.2
VNA3	Neumayer Olymp	147.96	196	⇑PKPbc		PKiKP	17 33 17.1	-0.7
comp=Z,8.6nm,0.7s								
NBLA	Lagarto - SE	148.81	2	eP		PKPbc	17 33 18.5	-1.3
BDFB	Brasilia	151.79	23	PKPbc		PKiKP	17 33 27.8	+0.4
comp=Z,10nm,0.8s,baz=274,slow=1.3,SNR=21								
CMC01	Camacan, BA	153.07	5	eP		PKPdf	17 33 24.9	+2.5
PLCA	Paso Flores	154.88	98	PKPbc		PKiKP	17 33 34.4	+1.2
comp=Z,0.9nm,0.8s,baz=227,slow=18,SNR=1.6								

*NAO **15** 17:30:50.0, 32°.63N×25°.88E, h33km, mb3.9*
*IDC **15** 17:31:25.2±0.9, 36°.58N×22°.60E, h0km, mb3.6/13, mbtmp3.6/18, ML3.6/2, MS3.6/2, Error ellipse: s-maj=21.4km s-min=15.0km az=21.0*
*ISK **15** 17:31:28.1, 36°.72N×22°.71E, h9km, ML3.4/10*
*ATH **15** 17:31:28.6, 36°.62N×22°.61E, h12km±1km, ML3.4/41, Manual Solution by G.Panopoulou This location: 2020/07/23 15:52:56 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **15** 17:31:28.9, 36°.62N×22°.63E, h1km±5km, ML3.2/5, Error ellipse: s-maj=5.6km s-min=1.2km az=221.0*

ISC 15 17:31:28.1±0.9, 36°.60N±0°.02×22°.60E±0°.02, h17km±6km, n134, σ0°90/160, mb3.6/13, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	Veliai	0.30	66	P	Pg	17 31 34.6	0.0
VLI				S	Sg	17 31 38.5	-0.6
36μm,0.5s							
VLI	Veliai	0.30	66	P	Pg	17 31 34.6	0.0
VLI				S	Sg	17 31 38.4	-0.6
MNVA	Monemvasia	0.36	75	P	Pg	17 31 36.5	+0.8
MNVA				S	Sg	17 31 40.9	0.0
NPS1	Neapolis Lacon	0.38	102	P	Pg	17 31 36.4	+0.4
NPS1				S	Sg	17 31 41.5	+0.1
KLMT	Kalamata	0.64	317	P	Pb	17 31 40.7	-0.1
KLMT				S	Sg	17 31 49.0	-0.2
2μm,0.5s							
KLMT	Kalamata	0.64	317	P	Pb	17 31 40.6	-0.1
KLMT				S	Sb	17 31 49.4	+0.1
PYL	PYLOS	0.75	294	P	Pb	17 31 42.8	+0.1
PYL	PYLOS	0.75	294	P	Pb	17 31 42.8	+0.1
PYL				S	Sb	17 31 52.3	-0.4
MTHA	Methoni	0.75	288	P	Pn	17 31 43.9	0.0
MTHA				S	Sn	17 31 53.8	-1.1
PYL1	Pylos	0.79	294	P	Pb	17 31 43.6	+0.2
PYL1				S	Sb	17 31 54.1	+0.3
ITM	Ithomi	0.80	317	Pg	Pg	17 31 43.5	-0.2
ITM				Sg	Sb	17 31 54.9	+0.9
ITM	Ithomi	0.80	317	P	Pg	17 31 43.4	-0.2
ITM				S	Sg	17 31 53.8	-0.4
2μm,0.5s							
ITM	Ithomi	0.80	317	P	Pg	17 31 43.4	-0.2
ITM				S	Sb	17 31 54.4	+0.4
KRND	KRANIDI	0.90	29	P	Pg	17 31 45.0	-0.7
KRND				S	Sg	17 31 56.8	-0.8
2μm,0.4s							
KRND	KRANIDI	0.90	29	P	Pg	17 31 45.2	-0.5
KRND				S	Sg	17 31 57.6	0.0
ANKY	Antikythira Is	0.92	142	P	Pb	17 31 46.2	+0.6
ANKY				S	Sn	17 31 59.2	+0.2
3μm,0.6s							
ANKY	Antikythira Is	0.92	142	P	Pb	17 31 46.2	+0.6
ANKY				S	Sn	17 31 59.2	+0.2
YDRA	Hydra	1.02	42	P	Pb	17 31 47.4	0.0
YDRA				S	Sb	17 32 00.9	+0.4
ARS1	Argos	1.04	6	P	Pb	17 31 47.9	+0.2
ZARO	Zacharo	1.17	320	P	Pg	17 31 50.3	-0.5
AMT	Artemida-Makis	1.18	323	P	Pn	17 31 50.0	+0.2
GUR	Goura	1.35	351	P	Pn	17 31 52.3	0.0
GUR	Goura	1.35	351	P	Pn	17 31 52.5	+0.1
GUR				S	Sn	17 32 11.0	+1.0
RODP	Rodopos	1.40	137	Pn	Pg	17 31 54.7	-0.3
RODP				Sn	Sg	17 32 14.3	+1.1
RODP	Rodopos	1.40	137	P	Pg	17 31 54.6	-0.4
RODP	Rodopos	1.40	137	P	Pg	17 31 54.7	-0.3
LOUT	Loutraki	1.42	12	P	Pn	17 31 54.2	+1.0
LOUT	Loutraki	1.42	12	P	Pn	17 31 54.2	+1.0
MHLO	Agia Marina, M	1.45	86	P	Pn	17 31 53.4	-0.1
MHLO	Agia Marina, M	1.45	86	P	Pn	17 31 53.5	-0.1
MILOS	Milos	1.48	84	P	Pn	17 31 55.2	+1.3
KLV1	Kalavrita	1.49	345	P	Pb	17 31 56.3	+0.9
KLV	Kalavryta, Ach	1.49	346	P	Pn	17 31 55.2	+1.1
KLV	Kalavryta, Ach	1.49	346	P	Pn	17 31 54.8	+0.6
CH01	Chania	1.58	133	P	Pb	17 31 56.4	-0.3
VLY	Voula,Athens	1.58	37	P	Pn	17 31 55.8	+0.5
VLY				S	Sn	17 32 15.2	0.0
CHAN	Chania	1.59	132	P	Pn	17 31 56.5	+1.1
IMMV	Iera Moni Meta	1.59	135	Pn	Pb	17 31 57.1	0.0
IMMV				Sn	Sg	17 32 18.9	-0.6
IMMV	Iera Moni Meta	1.59	135	P	Pb	17 31 56.9	-0.2
IMMV	Iera Moni Meta	1.59	135	P	Pb	17 31 57.1	0.0
IMMV				S	Sn	17 32 16.8	+1.2
LVRA	Laurium	1.61	46	P	Pn	17 31 56.6	+0.9
KNDR	Palaiochora Ch	1.62	147	Pn	Pb	17 31 58.3	+0.8
KNDR				Sn	Sg	17 32 20.1	-0.3
KNDR	Palaiochora Ch	1.62	147	P	Pb	17 31 57.7	+0.2
ATH	Athens Observa	1.64	33	P	Pn	17 31 57.1	+1.0
ATH				S	Sn	17 32 17.5	+0.8
ACRA	Athens-Acropol	1.64	33	P	Pn	17 31 56.7	+0.6
ACRA				S	Sn	17 32 18.8	+1.9
ACRA	Athens-Acropol	1.64	33	P	Pn	17 31 57.0	+0.8
ACRA	Athens-Acropol	1.64	33	P	Pn	17 31 57.0	+0.8
ATHU	Athens Univers	1.66	34	P	Pn	17 31 57.1	+0.6
ATHU	Athens Univers	1.66	34	P	Pn	17 31 57.1	+0.6
VILL	Villia	1.67	20	P	Pn	17 31 57.5	+0.9
VIL2	Platees	1.70	18	P	Pn	17 31 57.5	+0.6
ALIK	Aliki, Aigiali	1.71	347	P	Pg	17 32 00.8	-0.2
RLS	Riolos of Patr	1.72	329	P	Pg	17 32 00.6	-0.6
RLS	Riolos of Patr	1.72	329	P	Pb	17 31 59.2	0.0
PTL	Penteli	1.77	34	P	Pn	17 31 58.5	+0.5
PTL				S	Sn	17 32 20.0	0.0
KRI1	kERI	1.78	307	P	Pb	17 31 59.5	-0.7
LTHK	Lithakia	1.79	309	P	Pb	17 32 00.8	+0.3
LTHK	Lithakia	1.79	309	P	Pb	17 32 00.0	-0.5
DION	Dionisos Attik	1.82	35	P	Pn	17 32 00.2	+1.5
DION	Dionisos Attik	1.82	35	P	Pn	17 32 00.2	+1.5
KALE	Kalithea	1.83	349	P	Pb	17 32 01.1	-0.1
KALE	Kalithea	1.83	349	P	Pb	17 32 00.9	-0.2
SERG	Sergoula	1.86	347	P	Pb	17 32 01.4	-0.4
DLFA	Delphi	1.88	358	P	Pn	17 32 01.2	+1.7
EFP	Efpalio	1.91	343	P	Pb	17 32 02.8	+0.3
EFP	Efpalio	1.91	343	P	Pn	17 32 01.4	+1.6
PRNS	Prines Rethymn	1.97	128	P	Pn	17 32 00.7	+0.1
ANX	Ano Chora	2.07	345	P	Pb	17 32 04.8	-0.4
ANX	Ano Chora	2.07	345	P	Pb	17 32 04.3	-0.9
GVD	Gavdhos	2.13	145	Pn	Pb	17 32 06.5	+0.3
GVD	Gavdhos	2.13	145	P	Pb	17 32 05.3	-1.0
AXAR	Agios Charalam	2.17	1	P	Pn	17 32 05.5	+2.1
AXAR	Agios Charalam	2.17	1	P	Pn	17 32 04.8	+1.4
PVO	Paravola	2.19	337	P	Pg	17 32 09.2	-1.0
PSDA	Pessada-Kefalo	2.21	314	P	Pn	17 32 05.9	+2.0
SAP3	Santorini-Thir	2.22	93	P	Pn	17 32 04.9	+0.8
THR5	Thira Island,	2.22	94	P	Pn	17 32 04.9	+0.8
THR5	Thira Island,	2.22	94	P	Pn	17 32 05.0	+0.9
THR9	Santorini-Faro	2.23	95	P	Pn	17 32 05.0	+0.6
TNSA	Tinos	2.26	65	P	Pn	17 32 04.9	+0.3
SNT5	Nea Kammeni, S	2.26	94	P	Pn	17 32 05.7	+1.1
THR3	Thira Island,	2.27	94	P	Pn	17 32 05.9	+1.2
THR3	Thira Island,	2.27	94	P	Pn	17 32 06.0	+1.2
THR6	Thira Island,	2.27	95	P	Pn	17 32 04.5	-0.3
THR6	Thira Island,	2.27	95	P	Pn	17 32 05.7	+0.9
IDI	Anoyia	2.27	124	Pn	Pn	17 32 06.8	+1.9
IDI	Anoyia	2.27	124	Pn	Pn	17 32 05.6	+0.7
14nm,0.3s,baz=273,slow=11,SNR=45							
IDI				Sn	Sn	17 32 31.3	-1.2
16nm,0.3s,baz=57,slow=16,SNR=5.8							
IDI	Anoyia	2.27	124	P	Pn	17 32 05.4	+0.6
SANT	Santorini	2.31	95	Pn	Pn	17 32 06.4	+0.9
KYMI	Kymi, Euboea I	2.36	30	P	Pn	17 32 06.5	+0.5
KSTL	Kastelli Herak	2.38	122	P	Pb	17 32 11.3	+0.8
APE	Apeiranthos	2.40	78	Pn	Pn	17 32 07.1	+0.5
APE	Apeiranthos	2.40	78	P	Pn	17 32 06.9	+0.3
APE	Apeiranthos	2.40	78	P	Pn	17 32 06.9	+0.3
EVR	Evrytania	2.40	345	P	Pb	17 32 11.0	+0.1
AGG	Agios Georgios	2.43	355	Pn	Pn	17 32 07.7	+0.6
AGG	Agios Georgios	2.43	355	P	Pn	17 32 09.8	+2.7
AGG	Agios Georgios	2.43	355	P	Pn	17 32 08.5	+1.4
MAKR	Makrakomi, Fth	2.44	351	P	Pb	17 32 10.2	-1.4
MAKR	Makrakomi, Fth	2.44	351	P	Pn	17 32 09.0	+1.8
FSK	Fiskardo	2.47	320	P	Pn	17 32 09.3	+1.8
AOS2	Alonissos-2	2.73	21	P	Pn	17 32 11.8	+0.7
NEO	Neokhori	2.75	10	P	Pn	17 32 12.6	+1.1
SKY	Skiros Island	2.75	34	P	Pn	17 32 11.9	+0.5
THL	Klokotos Trika	3.00	351	P	Pn	17 32 16.8	+2.0
CHOS	Chios island	3.28	56	P	Pn	17 32 19.2	+0.4
ZKR	Zakros	3.29	116	P	Pn	17 32 20.6	+1.8
PAIG	Paliouri	3.43	14	Pn	Pn	17 32 21.6	+0.8
PLG	Polygyros	3.83	10	P	Pn	17 32 27.2	+0.9
OUR	Ouranopolis	3.89	16	Pn	Pn	17 32 27.9	+0.9
HORT	Hortiatis	4.02	5	Pn	Pn	17 32 29.9	+1.0
VAE	Valguarnera	6.61	280	Pn	Pn	17 33 06.0	+1.5
3.3nm,0.4s,baz=130,slow=18,SNR=1.4							
VAE				Sn	Sn	17 34 22.3	+2.9
1.9nm,0.3s,baz=340,slow=19,SNR=1.6							
BRTR	Keskin Array B	9.24	67	Pn	Pn	17 33 45.6	+5.0
0.1nm,0.3s,baz=250,slow=11,SNR=5.7							
MMAI	Mount Meron Ar	11.11	105	Pn	Pn	17 34 04.4	-1.9
0.7nm,0.3s,baz=279,slow=14,SNR=7.7							
EIL	Elat	12.44	120	Pn	Pn	17 34 22.4	-1.9
0.3nm,0.3s,baz=200,slow=16,SNR=1.7							
EIL				Sn	Sn	17 36 31.4	-11
0.1nm,0.3s,baz=357,slow=17,SNR=1.7							
1.2nm,0.4s							
GERES	GERESS Array B	13.87	335	Pn	Pn	17 34 45.8	+2.0
0.1nm,0.3s,baz=144,slow=12,SNR=1.3							
0.1nm,0.4s							
KBZ	Khabaz	17.05	59	P	P	17 35 27.5	+0.2
3.4nm,0.7s,baz=245,slow=6.8,SNR=4.7							
ESDC	Sonseca Array	21.09	286	P	P	17 36 12.0	+0.3
0.8nm,0.8s,baz=79,slow=9.5,SNR=3.5							
0.8nm,0.8s							
HFS	Hagfors	24.24	349	P	P	17 36 43.2	-0.6
0.7nm,0.4s,baz=163,slow=11,SNR=8.5							
0.7nm,0.4s							
FINES	FINESS Array B	24.97	4	P	P	17 36 49.4	-1.0
0.7nm,0.7s,baz=152,slow=12,SNR=4.7							
FINES				PcP	PcP	17 40 25.1	0.0
0.6nm,0.8s,baz=132,slow=2.1,SNR=6.6							
0.7nm,0.7s							
NB2	NORSAR Subarra	25.51	347	P	P	17 36 55.0	-0.4
comp=Z,2.3nm,1.2s,baz=155,slow=9.3							
NOA	NORSAR Array B	25.51	347	P	P	17 36 54.8	-0.6
comp=Z,0.2nm,0.5s,baz=155,slow=8.7,SNR=2.3							
comp=Z,0.2nm,0.5s							
EKA	Eskdalemuir Ar	25.67	325	P	P	17 36 56.3	-0.6
comp=Z,1.7nm,0.8s,baz=119,slow=8.5,SNR=4.9							
comp=Z,1.7nm,0.8s							
TORD	Torodi Ar. Bea	29.95	224	P	P	17 37 34.2	-1.3
comp=Z,0.6nm,1.0s,baz=50,slow=11,SNR=2.0							
comp=Z,0.6nm,1.0s							
BVAR	Borovoye Array	36.90	48	P	P	17 38 36.2	+0.6
comp=Z,0.4nm,0.6s,baz=260,slow=4.2,SNR=2.8							
comp=Z,0.4nm,0.6s							
BORG	Borgarnes	38.30	331	LR	LR	17 57 55.8	
comp=Z,44nm,20.7s,baz=15,slow=42							
KURBB	Kurchatov Arra	41.86	52	P	P	17 39 16.6	-0.5
comp=Z,0.7nm,0.5s,baz=280,slow=8.5,SNR=6.4							
comp=Z,0.7nm,0.5s							
MKAR	Makanchi Array	44.74	57	P	P	17 39 40.6	+0.3
comp=Z,1.4nm,0.7s,baz=277,slow=6.9,SNR=12							
comp=Z,1.4nm,0.7s							
ZALV	Zalesovo Beam	45.53	47	P	P	17 39 46.4	-0.1
comp=Z,1.0nm,0.5s,baz=275,slow=8.5,SNR=4.9							
comp=Z,1.0nm,0.5s							
USRK	Ussurisk Ar.	77.28	44	LR	LR	18 22 05.5	
comp=Z,52nm,18.2s,baz=216,slow=39							
ILAR	Eielson Array	78.63	355	P	P	17 43 29.1	+0.5
comp=Z,0.1nm,0.6s,baz=21,slow=5.2,SNR=1.7							
comp=Z,0.1nm,0.6s							
KSRS	Korea Array	79.04	51	P	P	17 43 31.3	+0.1
comp=Z,0.4nm,0.4s,baz=306,slow=4.3,SNR=4.3							
comp=Z,0.4nm,0.4s							
MJAR	Matsushiro Arr	85.89	47	P	P	17 44 07.1	0.0
comp=Z,0.6nm,0.7s,baz=335,slow=2.3,SNR=4.5							
comp=Z,0.6nm,0.7s							
ASAR	Alice Springs	120.33	98	PKP		PKPdf	17 50 18.4	-0.3
comp=Z,0.2nm,0.3s,baz=309,slow=1.7,SNR=9.3								

IDC 15 17:41:16.5±2.6, 22°.01N×11°.90W, h0km, mbtmp3.6/2, ML3.5/2, Error ellipse: s-maj=112.0km s-min=41.2km az=59.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	15.66	122	Pn	Pn	17 44 58.5	-0.2
0.1nm,0.3s,baz=304,slow=12,SNR=1.6							
TORD				Sn	Sn	17 47 54.7	+1.6
0.1nm,0.3s,baz=159,slow=14,SNR=1.5							
0.6nm,0.9s							
DBIC	Dimbokro	16.70	155	Pn	Pn	17 45 12.7	+0.6
0.2nm,0.3s,baz=204,slow=24,SNR=1.2							
DBIC				Sn	Sn	17 48 18.4	+0.1
0.2nm,0.3s,baz=144,slow=9.0,SNR=1.9							
4.0nm,1.0s							
WRA	Warramunga Arr	148.44	93	PKPbc	PKPbc	18 01 05.0	-0.9
0.4nm,1.0s,baz=299,slow=1.9,SNR=4.6							
ASAR	Alice Springs	148.48	100	PKPbc	PKPbc	18 01 05.5	-0.5
0.3nm,0.6s,baz=280,slow=2.1,SNR=7.0							

*IDC **15** 17:48:02.4±3.9, 5°.55S×127°.88E, h355km±44km, mb2.8/1, mbtmp4.1/3, Error ellipse: s-maj=99.3km s-min=17.5km az=68.0*

ISC 15 17:48:00.8±1.1, 5°.4S±0°.1×128°.3E±0°.1, h337km, n13, σ1°57/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	4.62	58	P	Pn	17 49 16.7	+1.0
SOEI	Soe	5.91	223	P	Pn	17 49 32.2	+1.8
DRS	Darwin Rock St	7.44	160	P	Pn	17 49 50.3	+2.1
MTN	Manton Dam	7.91	160	P	Pn	17 49 55.2	+1.5
KDU	Kakadu	8.32	151	P	P	17 50 00.5	-1.6
WRA	Warramunga Arr	15.60	159	P	Pn	17 51 23.5	-1.6
9.9nm,0.4s,baz=336,slow=12,SNR=67							
WRA				S	S	17 54 09.0	-1.2
0.2nm,0.5s,baz=329,slow=21,SNR=1.7							
COEN	Coen	16.92	121	P	Pn	17 51 39.0	-1.5
QIS	Mount Isa	18.64	145	P	P	17 51 57.3	+2.0
ASAR	Alice Springs	18.95	164	P	P	17 51 59.8	+1.1
3.9nm,0.7s,baz=344,slow=11,SNR=86							
ASAR				S	S	17 55 15.1	-0.8
0.9nm,0.6s,baz=348,slow=20,SNR=5.7							
AS01	Alice Springs	18.96	164	P	P	17 51 59.4	+0.7
7.4nm,0.8s							
WRKA	Warakurna	19.53	180	P	P	17 52 05.7	+0.8
OOD	Oodnadatta	23.36	163	P	P	17 52 41.5	+1.2
MKAR	Makanchi Array	65.98	327	P	P	17 58 10.8	-1.0
0.3nm,0.5s,baz=111,slow=8.2,SNR=2.6							
0.3nm,0.5s							

RSNC 15 17:48:37.4±0.9, 1°.S±7°.×8°.0W±°, h0km, M3.1, mb4.3, mB5.3, ML3.1, Mw(mB)4.7, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSE	Cuicocha Este	1.68	60	P	Pn	17 49 05.2	-3.3
CUSE				S	Sn	17 49 27.7	-3.2
BONI	La Bonita	2.53	67	P	Pn	17 49 19.9	-0.1
BONI				S	Sn	17 49 51.9	+0.3
CRUC	La Cruz	3.58	54	P	Pn	17 49 37.4	+2.9
BBAC	Balboa, Cauca	3.64	46	P	Pn	17 49 34.6	-0.7
BBAC				S	Sn	17 50 20.2	+1.1
GR1C	Gorgona, Isla	3.90	26	P	Pn	17 49 37.2	-1.4
GR1C				S	Sn	17 50 26.9	+1.8
POPC	Popayan, Colom	4.41	46	P	Pn	17 49 46.0	+0.2
POPC				S	Sn	17 50 38.7	+0.6
JAMC	Jamundi, Valle	4.90	41	P	Pn	17 49 52.0	-0.6
MALC	Bahia Malaga	5.17	29	P	Pn	17 49 54.8	-1.3
YOTC	Yotoco, Valle	5.70	38	P	Pn	17 49 57.5	-6.0
18nm,0.6s,348nm							
ORTC	Ortega, Tolima	6.38	46	P	Pn	17 50 14.3	+1.5

*MOS **15** 17:53:46.9±1.1, 54°.56N×110°.92E, h12km, mb3.7/1, Error ellipse: s-maj=17.1km s-min=8.1km az=79.4*
*IDC **15** 17:53:47.0±1.8, 54°.45N×111°.41E, h0km, mb3.7/3, mbtmp3.5/5, ML3.1/2, MS2.8/1, Error ellipse: s-maj=42.1km s-min=21.8km az=133.0*
*BYKL **15** 17:53:48.1±0.1, 54°.63N×110°.85E, h14km±2km*

ISC 15 17:53:47.9±0.6, 54°.60N±0°.02×110°.87E±0°.02, h10km, n55, σ2°43/119, 5C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.33	32	ePg	Pg	17 53 54.1	-0.4
YLYR				eSg	Sg	17 53 58.3	-0.5
YLYR				Pmax			
351nm,0.1s							
YLYR				Smax			
7μm,0.3s							
YLYR	Ulyunkhan	0.33	32	⇑iPG	Pg	17 53 54.0	-0.4
YLYR				e		17 53 58.5	
YLYR				pmax	pmax		
comp=Z,338nm,0.1s							
YLYR				smax	smax		
comp=N,4μm,0.1s							
SYVR	Suvo	1.07	209	ePg	Pn	17 54 08.4	-0.6
SYVR				eSg	Sn	17 54 23.0	-1.0
SYVR				eSb	Sb	17 54 26.2	+3.6
SYVR				Pmax			
comp=N,196nm,0.5s							
SYVR				max			
comp=N,2μm,0.8s							
SYVR	Suvo	1.07	209	ePG	Pg	17 54 07.8	-0.7
SYVR				e		17 54 22.1	
SYVR				pmax	pmax		
comp=Z,187nm,0.5s							
SYVR				smax	smax		
comp=E,2μm,0.5s							
KMO	Kumora	1.30	8	⇑iPg	Pn	17 54 10.8	-1.4
KMO				eSg	Sb	17 54 28.0	-1.4
KMO				eSb	Sg	17 54 31.0	+1.1
KMO				Pmax			
comp=E,390nm,0.3s							
KMO				max			
comp=E,4μm,0.7s							
KMO	Kumora	1.30	8	⇑iPG	Pn	17 54 10.8	-1.4
KMO				e		17 54 28.0	
KMO				pmax	pmax		
comp=Z,372nm,0.4s							
KMO				smax	smax		
comp=N,3μm,0.9s							
NIZB	Nizh Angarsk	1.40	328	⇑iPg	Pn	17 54 12.7	-0.8
NIZB				eSg	Sn	17 54 31.1	-0.9
NIZB				Pmax			
comp=N,613nm,0.4s							
NIZB				Smax			
comp=N,2μm,0.4s							
NIZB	Nizh Angarsk	1.40	328	⇑iPG	Pn	17 54 12.8	-0.8
NIZB				e		17 54 31.1	
NIZB				pmax	pmax		
comp=Z,618nm,0.6s							
NIZB				smax	smax		
comp=E,1μm,0.6s							
YOA	Uoyan	1.61	17	ePg	Pb	17 54 16.6	-1.2
YOA				eSg	Sb	17 54 37.6	-0.6
YOA				Pmax			
comp=E,830nm,0.2s							
YOA				Smax			
comp=E,5μm,0.5s							
YOA	Uoyan	1.61	17	ePN	Pb	17 54 16.7	-1.1
YOA				i		17 54 39.0	
YOA				pmax	pmax		
comp=Z,323nm,0.2s							
YOA				smax	smax		
comp=N,6μm,0.6s							
UKT	Uakit	1.82	60	ePn	Pb	17 54 19.8	-1.6
UKT				ePg	Pb	17 54 20.8	-0.7
UKT				eSg	Sg	17 54 44.8	-1.7
UKT				Pmax			
comp=N,188nm,1.1s							
UKT				Smax			
comp=N,1μm,0.6s							
UKT	Uakit	1.82	60	ePN	Pb	17 54 20.7	-0.7
UKT				e		17 54 44.5	
UKT				pmax	pmax		
comp=Z,99nm,0.3s							
UKT				smax	smax		
comp=E,1μm,0.4s							
MXMB	Maximikha	1.83	224	ePn	Pb	17 54 20.6	-1.0
MXMB				ePg	Pg	17 54 21.3	-1.8
MXMB				e		17 54 26.0	
MXMB				eSg	Sg	17 54 46.3	-0.5
OGRR	Ongureny	2.15	245

CIT			*e*PgPg	**PbPb**	**17 54 44.4**	**-0.9**
CIT			*e*Sn	**Sn**	**17 55 13.3**	**+0.7**
CIT			*e*Sg	**Sg**	**17 55 23.5**	**-2.1**
CIT			max			
	comp=N,89nm,0.7s					
CIT			Smax			
	comp=N,426nm,0.2s					
CIT	**Chita**	**3.04 147**	*e*PN	**Pn**	**17 54 35.0**	**-1.2**
CIT			*e*		17 54 41.8	
CIT			*e*S	**Sn**	**17 55 12.9**	**+0.2**
CIT			*e*		17 55 22.5	
CIT			pmax	pmax		
	comp=Z,104nm,0.6s					
CIT			smax	smax		
	comp=N,462nm,1.5s					
TRG	**Tyrgan**	**3.26 237**	*e*Pn	**Pn**	**17 54 39.8**	**+0.7**
TRG			*e*Pg	**Pb**	**17 54 47.0**	**+1.2**
TRG			*e*Sn	**Sn**	**17 55 17.5**	**-0.4**
TRG			*e*		17 55 27.3	
TRG			*e*Sg	**Sg**	**17 55 28.8**	**-3.7**
TRG			Pmax			
	comp=N,21nm,0.4s					
TRG			Smax			
	comp=N,169nm,0.7s					
NLYR	**Nelyaty**	**3.34 53**	*e*Pn	**Pn**	**17 54 40.5**	**+0.3**
NLYR			*e*		17 54 45.4	
NLYR			*e*		17 54 49.7	
NLYR			*e*Sn	**Sn**	**17 55 18.0**	**-1.9**
NLYR			*e*Sg	**Sg**	**17 55 30.9**	**-4.2**
NLYR			*e*SgSg	**SbSb**	**17 55 38.0**	**+5.0**
NLYR			max			
	comp=N,72nm,0.8s					
NLYR			max			
	comp=N,492nm,1.1s					
UUDB	**Ulan-Yde**	**3.35 216**	*e*Pn	**Pn**	**17 54 40.9**	**+0.6**
UUDB			*e*Pg	**Pb**	**17 54 48.2**	**+0.9**
UUDB			*e*Sn	**Sn**	**17 55 18.8**	**-1.3**
UUDB			*e*Sg	**Sg**	**17 55 32.3**	**-3.0**
UUDB			Pmax			
	comp=N,34nm,0.5s					
UUDB			Smax			
	comp=N,195nm,0.9s					
FFNB	**Fofonovo**	**3.55 226**	*e*Pn	**Pn**	**17 54 42.7**	**-0.4**
FFNB			*e*Pg	**Pb**	**17 54 52.1**	**+1.3**
FFNB			*e*Sn	**Sn**	**17 55 24.5**	**-0.5**
FFNB			*e*Sg	**Sg**	**17 55 37.9**	**-3.9**
KAB	**Kabansk**	**3.59 226**	*e*Sg	**Sg**	**17 55 41.0**	**-2.2**
KAB			Smax			
	comp=N,692nm,1.2s					
STDB	**Stepnoy Dvoret**	**3.63 230**	*e*	Pn	17 54 38.4	-5.8
STDB			*e*Sg	**Sg**	**17 55 40.5**	**-4.0**
BOD	**Bodaibo**	**3.67 27**	*e*Pg	**Pb**	**17 54 53.4**	**+0.5**
BOD			*e*Sn	**Sn**	**17 55 25.7**	**-2.3**
BOD			*e*Sg	**Sb**	**17 55 40.2**	**+2.8**
BOD			Pmax			
	comp=N,42nm,0.5s					
BOD			Smax			
	comp=N,237nm,0.5s					
HRMR	**Khuramsha**	**3.80 220**	*e*Pn	**Pn**	**17 54 47.4**	**+0.9**
HRMR			*e*Pg	**Pg**	**17 54 57.2**	**-3.4**
HRMR			*e*		17 55 01.0	
HRMR			*e*Sn	**Sn**	**17 55 31.2**	**0.0**
HRMR			*e*Sg	**Sg**	**17 55 47.4**	**-2.3**
HRMR			max			
	comp=N,63nm,0.6s					
HRMR			Smax			
	comp=N,686nm,0.8s					
BGT	**Bolshoye Golou**	**4.15 234**	*e*Pn	**Pn**	**17 54 51.6**	**+0.2**
BGT			*e*Pg	**Pb**	**17 55 03.5**	**+2.4**
BGT			*e*		17 55 33.7	
BGT			*e*Sg	**Sg**	**17 55 56.8**	**-4.4**
BGT			Pmax			
	comp=N,23nm,0.6s					
BGT			Smax			
	comp=N,111nm,0.7s					
LSTR	**Listvyanka**	**4.54 235**	*e*Pn	**Pn**	**17 54 56.7**	**0.0**
LSTR			*e*		17 55 16.3	
LSTR			*e*Sn	**Sn**	**17 55 47.4**	**-2.1**
LSTR			*e*Sg	**Sg**	**17 56 07.7**	**-5.9**
LSTR			max			
	comp=N,13nm,1.1s					
LSTR			Smax			
	comp=N,88nm,1.5s					
IRK	**Irkutsk**	**4.60 242**	*e*Sg	**Sg**	**17 56 10.8**	**-4.6**
IRK			Smax			
	comp=N,352nm,0.8s					
IRK	**Irkutsk**	**4.60 242**	*e*PN	**Pb**	**17 55 10.9**	**+2.3**
IRK			*e*		17 56 10.4	
IRK			pmax	pmax		
	comp=Z,27nm,0.2s					
IRK			smax	smax		
	comp=N,260nm,0.4s					
KPC	**Khapcheranga**	**4.99 169**	*e*Pn	**Pn**	**17 55 03.2**	**+0.3**
KPC			*e*Pg	**Pb**	**17 55 17.9**	**+2.5**
KPC			*e*Sn	**Sn**	**17 55 58.9**	**-1.8**
KPC			*e*		17 56 08.3	
KPC			*e*Sg	**Sg**	**17 56 22.2**	**-5.9**
KPC			*e*		17 56 35.2	
KPC			Pmax			
	comp=N,18nm,1.0s					
KPC			Smax			
	comp=N,213nm,1.2s					
KPC	**Khapcheranga**	**4.99 169**	*e*PN	**Pn**	**17 55 03.0**	**+0.1**
KPC			*e*		17 55 17.5	
KPC			*e*		17 56 21.5	
KPC			pmax	pmax		
	comp=Z,18nm,0.6s					
KPC			smax	smax		
	comp=E,214nm,1.3s					
TLY	**Talaya**	**5.24 239**	*e*	**Pg**	**17 55 28.0**	**-0.2**
TLY			*e*Sg	**Sg**	**17 56 29.2**	**-6.8**
TLY			Smax			
	comp=E,74nm,1.2s					
TUP	**Tupik**	**5.30 88**	*e*Pn	**Pn**	**17 55 07.1**	**0.0**
TUP			*e*Pg	**Pb**	**17 55 23.5**	**+2.9**
TUP			*e*Sn	**Sn**	**17 56 04.9**	**-3.3**
TUP			*e*Sg	**Sg**	**17 56 32.4**	**-5.5**
TUP			*e*		17 56 52.0	
TUP			Pmax			
	comp=E,23nm,0.7s					
TUP			Smax			
	comp=E,440nm,1.1s					
TUP	**Tupik**	**5.30 88**	*e*PN	**Pn**	**17 55 07.1**	**0.0**
TUP			*e*		17 55 22.6	
TUP			*e*S	**Sn**	**17 56 07.1**	**-1.1**
TUP			*e*		17 56 32.2	
TUP			pmax	pmax		
	comp=Z,15nm,0.5s					
TUP			smax	smax		
	comp=N,440nm,1.2s					
KHNR	**Khani**	**5.65 62**	*e*Pn	**Pn**	**17 55 12.9**	**+1.0**
KHNR			*e*Pg	**Pb**	**17 55 29.6**	**+3.1**
KHNR			*e*		17 56 19.2	
KHNR			*e*Sg	**Sg**	**17 56 43.9**	**-5.2**
ZAK	**Zakamensk**	**6.27 231**	*e*	**Pb**	**17 55 38.4**	**+1.3**
ZAK			*e*Sg	**Sg**	**17 57 03.0**	**-6.0**
ZAK			Smax			
	comp=N,52nm,1.3s					
ZAK	**Zakamensk**	**6.27 231**	*e*PG	**Pb**	**17 55 40.8**	**+3.7**
ZAK			*e*		17 57 03.1	
ZAK			pmax	pmax		
	comp=Z,9.0nm,1.0s					
ZAK			smax	smax		
	comp=N,50nm,1.2s					
MOY	**Mondy**	**6.63 248**	*e*Pn	**Pn**	**17 55 25.6**	**+0.2**
MOY			*e*		17 55 34.4	
MOY			*e*Pg	Pb	17 55 47.5	+4.2
MOY			*e*Sn	**Sn**	**17 56 39.3**	**-1.7**
MOY			*e*		17 56 41.0	
MOY			*e*Sg	**Sg**	**17 57 13.6**	**-6.9**
MOY			Pmax			
	comp=N,21nm,1.6s					
MOY			Smax			
	comp=N,139nm,1.1s					
ORL	**Orlik**	**6.90 257**	*e*Pn	**Pn**	**17 55 29.6**	**+0.4**
ORL			*e*		17 55 35.1	
ORL			*e*Pg	Pb	17 55 52.4	+4.5
ORL			*e*		17 56 47.3	
ORL			*e*Sg	**Sg**	**17 57 21.1**	**-8.2**
ORL			Pmax			
	comp=N,20nm,1.0s					
ORL			Smax			
	comp=N,112nm,1.3s					
ORL	**Orlik**	**6.90 257**	*e*PN	**Pn**	**17 55 29.4**	**+0.2**
ORL			*e*		17 55 52.2	
ORL			*e*		17 57 21.4	
ORL			pmax	pmax		
	comp=Z,20nm,0.9s					
ORL			smax	smax		
	comp=N,112nm,1.2s					
SONM	**Songino Array**	**7.33 204**	Pn	**Pn**	**17 55 35.6**	**+0.5**
	comp=N,0.1nm,0.3s,baz=23,slow=12,SNR=2.6					
SONM			Lg	Lg	17 57 39.3	
	comp=N,1.6nm,0.3s,baz=17,slow=29,SNR=16					
	comp=N,0.2nm,0.3s					
YAK	**Yakutsk**	**12.34 45**	Lg	Lg	18 00 05.7	
	comp=N,1.2nm,0.3s,baz=232,slow=18,SNR=1.7					
KLR	**Kul'dur**	**13.94 104**	Lg	Lg	18 01 00.1	
	comp=N,0.1nm,0.3s,baz=35,slow=16,SNR=1.6					
MKAR	**Makanchi Array**	**19.61 258**	P	**Pn**	**17 58 19.8**	**+2.2**
	comp=N,0.1nm,0.3s,baz=60,slow=9.0,SNR=5.1					
	comp=N,0.6nm,0.8s					
KURK	**Kurchatov**	**19.84 272**	P	**Pn**	**17 58 22.8**	**+2.6**
KURBB	**Kurchatov Arra**	**19.93 272**	P	**Pn**	**17 58 22.8**	**+1.5**
	comp=N,0.9nm,0.2s,baz=66,slow=12,SNR=2.1					
	comp=N,0.9nm,0.2s					
BVAR	**Borovoye Array**	**23.72 283**	P	**P**	**17 59 04.6**	**+4.8**
	comp=N,1.8nm,0.8s,baz=68,slow=11,SNR=6.9					
	comp=N,1.8nm,0.8s					
JHJ	**Hachijo jima 2**	**29.58 125**	LR	LR	18 11 17.1	
	comp=N,17nm,20.7s,baz=97,slow=36					
ILAR	**Eielson Array**	**47.01 35**	P	**P**	**18 02 18.6**	**-0.2**
	comp=N,0.7nm,0.8s,baz=306,slow=7.5,SNR=9.5					
	comp=N,0.7nm,0.8s					

*GII **15** 17:58:31.5±0.2, 32°.833N±0°.009×35°.586E±0°.007, h0km, Md2.6/5, Mws2.6/7, confirmed*
*JSO **15** 17:58:32, 32°.85N×35°.57E, h5km, ML2.8/23*
*GRAL **15** 17:58:34.3±0.2, 32°.91N×35°.43E, h5km±2km, MD3.1*

ISC 15 17:58:32.2±0.9, 32°.83N±0°.02×35°.59E±0°.03, h17km±7km, n49, σ0°78/55, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	**Mount Meron ar**	**0.24**	**321**	P	**Pg**	**17 58 37.3**	**-0.4**
MMB1				S	**Sg**	**17 58 41.7**	**+0.3**
KSHT	**Keshet**	**0.24**	**51**	S	**Sb**	**17 58 42.2**	**0.0**
KSHT	**Keshet**	**0.24**	**51**	P	**Pg**	**17 58 37.3**	**-0.4**
MMA0B	**Mount Meron ar**	**0.24**	**320**	P	**Pg**	**17 58 37.2**	**-0.6**
MMA0B	**Mount Meron ar**	**0.24**	**320**	S	**Sg**	**17 58 41.5**	**-0.1**
MMC7	**Mount Meron ar**	**0.25**	**319**	P	**Pg**	**17 58 37.5**	**-0.5**
BLGI	**Bet Lehem HaGe**	**0.35**	**254**	P	**Pg**	**17 58 39.6**	**+0.1**
BLGI	**Bet Lehem HaGe**	**0.35**	**254**	P	**Pg**	**17 58 39.4**	**-0.1**
BLGI	**Bet Lehem HaGe**	**0.35**	**254**	S	**Sb**	**17 58 45.6**	**+0.4**
GEM	**Giv'at Ha'Em**	**0.39**	**9**	P	**Pg**	**17 58 40.3**	**+0.2**
GEM	**Giv'at Ha'Em**	**0.39**	**9**	S	**Sb**	**17 58 46.6**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.39**	**9**	P	**Pg**	**17 58 40.4**	**+0.2**
MMLI	**Mount Malkishu**	**0.41**	**200**	S	**Sb**	**17 58 48.4**	**+1.2**
MMLI	**Mount Malkishu**	**0.41**	**200**	P	**Pg**	**17 58 40.8**	**+0.1**
HNTI	**Hanita**	**0.43**	**306**	S	**Sb**	**17 58 48.4**	**+0.8**
HNTI	**Hanita**	**0.43**	**306**	P	**Pg**	**17 58 40.6**	**-0.4**
NATI	**Neve Ativ**	**0.45**	**16**	P	**Pg**	**17 58 41.1**	**-0.2**
NATI				S	**Sb**	**17 58 48.3**	**+0.2**
NATI	**Neve Ativ**	**0.45**	**16**	S	**Sb**	**17 58 48.6**	**+0.5**
NATI	**Neve Ativ**	**0.45**	**16**	P	**Pg**	**17 58 41.1**	**-0.2**
QRNJ	**Al-Qirein**	**0.49**	**181**	P	**Pb**	**17 58 42.6**	**+0.2**
SHBL	**Chebaa**	**0.53**	**14**	*e*P	**Pb**	**17 58 43.5**	**+0.3**
OFRI	**`Ofer**	**0.55**	**248**	P	**Pg**	**17 58 43.2**	**0.0**
OFRI				S	**Sn**	**17 58 53.6**	**-0.5**
OFRI	**`Ofer**	**0.55**	**248**	S	**Sn**	**17 58 52.4**	**-1.7**
OFRI	**`Ofer**	**0.55**	**248**	P	**Pg**	**17 58 43.1**	**0.0**
HMDT	**Nahal Hemdat**	**0.58**	**185**	P	**Pg**	**17 58 43.7**	**0.0**
HMDT				S	**Sn**	**17 58 53.4**	**-1.3**
HMDT	**Nahal Hemdat**	**0.58**	**185**	S	**Sn**	**17 58 53.5**	**-1.3**
HMDT	**Nahal Hemdat**	**0.58**	**185**	P	**Pb**	**17 58 43.9**	**+0.1**
RCY	**Rachaya**	**0.70**	**17**	*e*P	**Pg**	**17 58 46.5**	**+0.5**
RCY				*e*S	**Sb**	**17 58 55.5**	**+0.1**
QRWL	**Qaraoun**	**0.72**	**6**	*e*P	**Pb**	**17 58 46.4**	**0.0**
SLTI	**Sal'it**	**0.75**	**218**	P	**Pg**	**17 58 46.9**	**+0.1**
SLTI				S	**Sn**	**17 58 58.4**	**-0.6**
SLTI	**Sal'it**	**0.75**	**218**	P	**Pb**	**17 58 46.7**	**-0.1**
DQRL	**Deir Qamar**	**0.87**	**359**	*e*P	**Pb**	**17 58 48.8**	**-0.2**
DQRL				*e*S	**Sb**	**17 58 59.4**	**-1.1**
HSUJ	**Al Zarqa**	**0.89**	**145**	P	**Pn**	**17 58 50.1**	**+0.2**
ZAHL	**Zahle**	**1.05**	**14**	*e*P	**Pn**	**17 58 52.7**	**+0.3**
BHL	**Bhannes**	**1.07**	**3**	*e*P	**Pb**	**17 58 52.5**	**+0.1**
DSI	**Dead Sea**	**1.27**	**188**	P	**Pn**	**17 58 55.2**	**0.0**
DSI	**Dead Sea**	**1.27**	**188**	P	**Pb**	**17 58 55.3**	**-0.3**
AMAZ	**Amatzia**	**1.41**	**204**	P	**Pb**	**17 58 58.4**	**+0.3**
AMAZ	**Amatzia**	**1.41**	**204**	S	**Sg**	**17 59 19.8**	**+1.9**
HWQ	**Hawqa**	**1.48**	**12**	*e*P	**Pb**	**17 58 59.4**	**+0.1**
YTIR	**Yattir**	**1.52**	**195**	P	**Pb**	**17 59 00.2**	**+0.3**
YTIR	**Yattir**	**1.52**	**195**	P	**Pb**	**17 59 00.0**	**+0.1**
FKH	**Fakeheh**	**1.57**	**26**	*e*P	**Pb**	**17 59 01.5**	**+0.6**
LISJ	**El Lisan**	**1.59**	**183**	P	**Pg**	**17 59 02.0**	**-0.7**
KARJ	**KARJ**	**1.71**	**178**	P	Pn	17 58 48.6	-13
BEIL	**Beino**	**1.78**	**16**	*e*P	**Pb**	**17 59 03.9**	**-0.5**
PRNI	**Paran**	**2.52**	**192**	P	**Pb**	**17 59 15.6**	**-1.4**
KRMI	**Paran Flat**	**2.80**	**196**	P	**Pb**	**17 59 19.1**	**-2.8**
MBRI	**Mt Berech**	**3.08**	**191**	P	**Pn**	**17 59 22.1**	**+1.9**

*NNC **15** 17:59:24.7±3.0, 38°.10N×71°.58E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=23.5km s-min=17.7km az=12.0*
*IDC **15** 17:59:25.7±4.7, 37°.78N×71°.97E, h70km±41km, mb3.5/9, mbtmp3.9/13, ML3.5/4, Error ellipse: s-maj=32.5km s-min=24.7km az=11.0*

ISC 15 17:59:19.2±1.1, 37°.65N±0°.09×71°.74E±0°.10, h10km, n23, σ1°78/28, mb3.8/8, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.67**	**344**	Pg	**Pn**	**18 00 31.2**	**+1.3**
	68nm,0.7s						
MRKS	**Merke**	**5.21**	**12**	Pg	**Pn**	**18 00 40.0**	**+2.7**
	4.7nm,0.3s						
MRKS				Lg	Lg	18 02 01.6	
	19nm,0.6s						
AAK	**Ala-Archa**	**5.41**	**22**	P	**Pn**	**18 00 40.6**	**+0.6**
	1.6nm,0.3s,baz=190,slow=11,SNR=5.5						
AAK				S	**Sn**	**18 01 41.7**	**-0.7**
	5.3nm,0.6s,baz=181,slow=7.0,SNR=3.6						
	3.6nm,0.4s						
AAK	**Ala-Archa**	**5.41**	**22**	⇑Pn	**Pn**	**18 00 42.3**	**+2.3**
	4.8nm,0.6s						
AAK				⇑Pg	**Pb**	**18 00 56.0**	**+2.1**
	14nm,1.1s						
AAK				⇓Sn	**Sn**	**18 01 42.0**	**-0.4**
	12nm,0.8s						
AAK				⇑Lg	Lg	18 02 04.9	
	18nm,0.8s						
KK31	**Karatay Array**	**5.52**	**351**	Pn	**Pn**	**18 00 42.2**	**+0.7**
	3.4nm,0.3s,baz=174,slow=13,SNR=110						
KK31				⇓Pg	**Pb**	**18 00 55.9**	**+0.2**
	9.1nm,0.6s,baz=166,slow=15,SNR=4.8						
KK31				⇓Sn	**Sn**	**18 01 42.3**	**-2.8**
	5.2nm,0.3s,baz=175,slow=23						
KK31				⇑Lg	Lg	18 02 05.2	
	25nm,0.7s,baz=168,slow=31						
CHMS	**Chumysh**	**5.81**	**22**	⇑P	**Pn**	**18 00 47.2**	**+1.7**
	12nm,0.7s						
TKM2	**Tokmak 2**	**6.03**	**28**	⇑P	**Pn**	**18 00 50.9**	**+2.2**
	4.4nm,0.5s						
MDOK	**Medeo**	**6.83**	**35**	P	**Pn**	**18 01 01.6**	**+2.0**
	9.6nm,1.1s						
MKAR	**Makanchi Array**	**12.02**	**37**	P	**Pn**	**18 02 11.3**	**+0.8**
	0.1nm,0.3s,baz=229,slow=14,SNR=8.8						
MKAR				S	Sn	18 04 12.5	-12
	0.5nm,0.9s,baz=240,slow=20,SNR=2.0						
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**13.84**	**18**	P	**Pn**	**18 02 32.2**	**-3.1**
	0.6nm,0.3s,baz=211,slow=13,SNR=4.9						
BVAR	**Borovoye Array**	**15.40**	**357**	P	**Pn**	**18 02 53.6**	**-2.9**
	2.5nm,0.7s,baz=161,slow=11,SNR=9.6						
AKTO	**Aktyubinsk**	**16.11**	**327**	P	**Pn**	**18 03 06.8**	**+1.3**
	0.8nm,0.3s,baz=130,slow=11,SNR=17						
	5.9nm,0.6s						
ZALV	**Zalesovo Beam**	**18.62**	**25**	P	**P**	**18 03 34.6**	**-2.0**
	0.5nm,0.3s,baz=219,slow=11,SNR=11						
	1.9nm,0.4s						
ARU	**Arti**	**20.75**	**339**	P	**P**	**18 04 00.2**	**+0.3**
	2.0nm,0.5s,baz=145,slow=10.0,SNR=5.5						
	2.0nm,0.5s						
GNI	**Garni**	**21.13**	**285**	P	**P**	**18 04 07.4**	**+3.1**
	7.6nm,0.5s,baz=31,slow=3.5,SNR=4.0						
	7.6nm,0.5s						
FINES	**FINESS Array B**	**36.87**	**325**	P	**P**	**18 06 27.1**	**-0.3**
	1.1nm,0.6s,baz=105,slow=8.8,SNR=11						
	1.1nm,0.6s						
ARCES	**ARCESS Array B**	**40.31**	**337**	P	**P**	**18 06 55.6**	**-0.6**
	1.3nm,0.5s,baz=117,slow=9.2,SNR=4.9						
	1.3nm,0.5s						
HFS	**Hagfors**	**42.53**	**321**	P	**P**	**18 07 13.8**	**-0.8**
	1.2nm,0.4s,baz=98,slow=11,SNR=16						
	1.2nm,0.4s						
NB2	**NORSAR Subarra**	**43.82**	**322**	P	**P**	**18 07 24.1**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**43.82**	**322**	P	**P**	**18 07 24.2**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=93,slow=7.9,SNR=6.5						
	comp=Z,0.7nm,0.7s						
ESDC	**Sonseca Array**	**57.44**	**297**	P	**P**	**18 09 08.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=57,slow=6.8,SNR=6.3						
	comp=Z,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**66.33**	**269**	P	**P**	**18 10 07.8**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=44,slow=7.7,SNR=2.8						
	comp=Z,0.7nm,0.9s						
WRA	**Warramunga Arr**	**82.11**	**123**	P	**P**	**18 11 38.7**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=318,slow=5.1,SNR=1.8						
	comp=Z,0.3nm,0.8s						

GUC 15 18:31:34.3±0.6, 23°.97S×66°.77W, h201km±7km, ML3.8, 1C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**2.12**	**33**	*e*P	Pn	18 32 14.3	-0.4
YJA				*i* S	S	18 32 45.2	-0.2
LVC	**Limon Verde**	**2.38**	**304**	*e*P	Pn	18 32 17.4	+0.1
LVC				⇑*i*P	Pn	18 32 17.4	+0.1
LVC				*i* S	S	18 32 49.9	-0.3
LVC				IAML		18 32 51.8	
	165nm,0.3s						
PB15	**IPOC Station P**	**2.59**	**286**	*e*P	Pn	18 32 19.8	+0.3
PB15				*e*S	S	18 32 53.6	-0.3
GO02	**Mina Guanaco**	**2.83**	**245**	*e*P	Pn	18 32 22.8	+0.5
GO02				*e*S	S	18 32 59.8	+0.7
GO02				IAML		18 33 01.5	
	comp=E,198nm,0.1s						
PB06	**IPOC Station P**	**2.86**	**295**	*e*P	Pn	18 32 22.7	+0.2
PB06				*e*S	S	18 32 57.8	-1.7
PB06				IAML		18 32 59.1	
	comp=N,152nm,0.3s						
PB09	**IPOC Station P**	**3.14**	**313**	*e*P	Pn	18 32 26.6	+0.8
PB09				*e*S	S	18 33 03.9	-1.5
PB05	**IPOC Station P**	**3.34**	**289**	*e*P	Pn	18 32 27.9	-0.3
PB10	**IPOC Station P**	**3.50**	**277**	*e*P	Pn	18 32 29.8	-0.1
PB04	**IPOC Station P**	**3.51**	**297**	*e*P	Pn	18 32 29.8	-0.5
PB01	**IPOC Station P**	**3.84**	**319**	*e*P	Pn	18 32 33.7	-0.6
PB01				*e*S	S	18 33 17.3	-3.4
AC01	**Pan de Azucar**	**4.09**	**237**	*e*P	Pn	18 32 36.5	-0.8
AC01				*e*S	S	18 33 23.8	-2.4

DJA 15 18:39:29.4±0.4, 9°S±11°×11°8E±°, h122km±6km, M3.7/8, mb4.0/2, MLv3.5/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.55**	**265**	P	Pn	18 39 49.2	+1.3
PLAI				S	Sn	18 40 03.9	+2.1
TWSI	**Taliwang, Sumb**	**1.43**	**272**	P	Pn	18 39 56.8	+0.6
TWSI				S	Sn	18 40 18.1	+1.6
BASI	**Baing, Sumba**	**2.64**	**123**	P	Pn	18 40 11.1	0.0
EDFI	**Ende, Flores**	**3.32**	**90**	P	Pn	18 40 20.4	+0.3
MMRI	**Maumere**	**3.87**	**88**	P	Pn	18 40 27.3	+0.1
JAGI	**Jajag, Banyuwa**	**4.14**	**274**	P	Pn	18 40 30.4	-0.5
JAGI				S	Sn	18 41 18.1	-0.5
BATI	**Baumata**	**5.45**	**106**	P	Pn	18 40 48.5	0.0
	27nm,0.9s,0.1nm						
BATI				S	Sn	18 41 49.6	-0.5
	27nm,0.9s,0.1nm						
SOEI	**Soe**	**5.94**	**100**	P	Pn	18 40 55.9	+0.7

*NEIC **15** 18:51:34.0±1.1, 18°.95N±0°.09×145°.7E±0°.2, h192km±11km, mb3.8/13, Error ellipse: s-maj=26.9km s-min=5.9km az=116.0*
*IDC **15** 18:51:36.8±2.8, 18°.97N×145°.47E, h225km±27km, mb3.5/11, mbtmp4.0/13, Error ellipse: s-maj=23.5km s-min=12.9km az=89.0*

ISC 15 18:51:35.3±0.6, 18°.94N±0°.07×145°.5E±0°.2, h214km, n30, σ1°32/31, mb3.8/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.36**	**186**	Pn	**Pn**	**18 52 55.4**	**+0.8**
GUMO	**Guam**	**5.36**	**186**	P	**Pn**	**18 52 55.8**	**+1.2**
	32nm,0.8s,baz=39,slow=9.2,SNR=1.6						
GUMO				S	**S**	**18 53 52.7**	**-4.5**
	16nm,0.3s,baz=143,slow=11,SNR=1.5						
JCJ	**Chichijima**	**8.66**	**340**	P	**Pn**	**18 53 34.0**	**-3.1**
	18nm,0.7s,baz=247,slow=22,SNR=1.6						
JCJ				S	S	18 55 04.2	-10
	31nm,0.8s,baz=258,slow=23,SNR=1.9						
MJAR	**Matsushiro Arr**	**18.66**	**341**	P	**P**	**18 55 38.3**	**+1.0**
	1.3nm,0.6s,baz=168,slow=9.4,SNR=11						
MTN	**Manton Dam**	**34.61**	**205**	P	**P**	**18 58 05.0**	**+0.8**
MTN				IAmb	IAmb	18 58 20.5	
	comp=Z,6.8nm,1.1s						
KNRA	**Kununurra**	**38.13**	**207**	P	**P**	**18 58 35.4**	**+1.4**
KNRA				IAmb	IAmb	18 58 37.0	
	comp=Z,1.9nm,0.8s						
WB0	**Warramunga Arr**	**39.98**	**196**	P	**P**	**18 58 50.3**	**+1.1**
WB0				IAmb	IAmb	18 59 07.3	
	comp=Z,2.3nm,1.1s						
WR0	**Warramunga Arr**	**40.12**	**196**	P	**P**	**18 58 51.3**	**+0.9**
WRAB	**Tennant Creek**	**40.15**	**196**	P	**P**	**18 58 51.6**	**+1.0**
WRAB				IAmb	IAmb	18 59 00.7	
	comp=Z,1.6nm,0.9s						
WB2	**Warramunga Arr**	**40.16**	**196**	P	**P**	**18 58 51.6**	**+0.9**
WB2				IAmb	IAmb	18 58 52.0	
	comp=Z,3.6nm,0.9s						
WRA	**Warramunga Arr**	**40.16**	**196**	P	**P**	**18 58 50.5**	**-0.2**
WRA	**Warramunga Arr**	**40.16**	**196**	P	**P**	**18 58 51.6**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=25,slow=8.8,SNR=30						
	comp=Z,1.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**41.65**	**209**	P	**P**	**18 59 03.9**	**+1.0**
UGM	**Wanagama**	**43.59**	**235**	P	**P**	**18 59 20.1**	**+1.4**
AS31	**Alice Springs**	**43.83**

*NEIC **15** 18:52:57.7±1.7, 37.°74N±0.°01×122.°11W±0.°01, h5km±1km, Error ellipse: s-maj=2.2km s-min=2.1km az=209.0*

NCEDC 15 18:52:57.8±1.0, 37.°71N±0.°01×122.°10W±0.°02, h5km±1km, ML2.9/51, ML2.4/36(NEIC), Error ellipse: s-maj=2.2km s-min=1.5km az=218.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSLM	**San Leandro Hi**	**0.02**	**324**		Pg	18 53 00.2	+1.4
CLCB	**Lake Chabot**	**0.04**	**45**		Pg	18 53 00.5	+1.5
C073	**Carlos Bee Bl**	**0.06**	**142**		Pg	18 53 01.0	+1.7
C056	**Diablo Avenue**	**0.07**	**194**		Pg	18 52 60.0	+0.6
C056					Sg	18 53 02.2	+1.7
CMCM	**Mills College**	**0.09**	**322**		Pg	18 52 60.0	+0.2
BGC	**Bolinger Road**	**0.11**	**17**		Pg	18 53 00.7	+0.5
CNIC	**Niles Canyon**	**0.15**	**132**		Pg	18 53 01.2	+0.5
BKS	**Berkeley--Byer**	**0.20**	**328**		Pg	18 53 02.3	+0.6
CVPM	**Vollmer Peak**	**0.20**	**332**		Pg	18 53 02.5	+0.8
CMSB	**University of**	**0.20**	**325**		Pg	18 53 02.3	+0.5
BL67	**Building 67, L**	**0.21**	**325**		Pg	18 53 02.3	+0.5
VAK	**Adit at Lawren**	**0.21**	**326**		Pg	18 53 02.4	+0.6
BL88	**Building 88, L**	**0.21**	**325**		Pg	18 53 02.4	+0.5
BRK	**Berkeley--Havi**	**0.21**	**323**		Pg	18 53 02.2	+0.4
JCPM	**Coyote Point**	**0.21**	**236**		Pg	18 53 02.5	+0.7
CVLM	**Vallecito**	**0.23**	**111**		Pg	18 53 03.4	+1.2
CYBM	**Yerba Buena Is**	**0.23**	**297**		Pg	18 53 02.7	+0.4
JSBM	**San Bruno Moun**	**0.23**	**263**		Pg	18 53 02.8	+0.4
CRPB	**Russellman Par**	**0.26**	**37**		Pg	18 53 03.6	+0.8
CMOB	**Morgan Territo**	**0.26**	**66**		Pb	18 53 04.2	-0.7
SAC	**San Andreas**	**0.28**	**244**		Pg	18 53 03.8	+0.7
RFSB	**Richmond Field**	**0.28**	**319**		Pg	18 53 03.4	+0.2
JCHM	**Cahill Ridge**	**0.29**	**229**		Pg	18 53 04.0	+0.7
WENL	**Wente Vineyard**	**0.29**	**107**		Pb	18 53 04.5	-0.9
CPIM	**Pinole Ridge**	**0.29**	**343**		Pb	18 53 04.7	-0.8
CSPM	**San Pablo Ridg**	**0.30**	**327**		Pg	18 53 04.4	+0.8
JMGM	**Milagra Ridge**	**0.30**	**257**		Pg	18 53 04.1	+0.4
JPRM	**Presidio of Sa**	**0.31**	**287**		Pg	18 53 04.2	+0.5
CBZL	**Buffer Zone**	**0.31**	**93**		Pb	18 53 05.2	-0.5
JSFB	**Stanford Teles**	**0.31**	**191**		Pg	18 53 04.5	+0.8
CSAM	**Sandia**	**0.32**	**96**		Pb	18 53 05.5	-0.4
JRSC	**Jasper Ridge**	**0.32**	**200**		Pg	18 53 04.5	+0.5
CTAM	**Taylor**	**0.33**	**12**		Pb	18 53 05.8	-0.3
CPMM	**Point Molate**	**0.34**	**315**		Pg	18 53 04.7	+0.3
JFP	**Foothills Park**	**0.35**	**191**		Pg	18 53 05.3	+0.7
JSJM	**St Joseph**	**0.37**	**178**		Pg	18 53 05.8	+0.9
CBSNC	**Byron Hot Spri**	**0.38**	**73**		Pb	18 53 06.7	-0.3
JBMM	**Black Mountain**	**0.39**	**186**		Pg	18 53 06.0	+0.6
BGH	**Bear Gulch**	**0.41**	**207**		Pb	18 53 06.6	-0.9
CMLM	**Mount Lewis**	**0.43**	**122**		Pg	18 53 06.8	+0.8
SCCB	**Santa Clara Co**	**0.46**	**155**		Pg	18 53 07.2	+0.6
CSTL	**Corral Hollow**	**0.48**	**98**		Pb	18 53 08.4	-0.3
JJOM	**Saint Joseph's**	**0.51**	**169**		Pg	18 53 08.0	+0.5
MHC	**Mount Hamilton**	**0.52**	**135**		Pg	18 53 08.1	+0.3
JPSM		**0.54**	**201**		Pg	18 53 08.9	+0.7
CMMM	**Mount Mocho**	**0.55**	**117**		Pg	18 53 08.9	+0.7
SNT	**Sears Point**	**0.55**	**330**		Pb	18 53 09.3	-0.6
CCOB	**Coe Ranch Numb**	**0.56**	**142**		Pb	18 53 09.4	-0.6
ARN	**Arnold Ranch**	**0.58**	**128**		Pg	18 53 09.2	+0.3
JLAB	**Laurel Hill**	**0.62**	**152**		Pg	18 53 10.1	+0.4
NOLM	**Olema**	**0.64**	**302**		Pg	18 53 10.6	+0.5
MTOS	**Mt Oso, Westle**	**0.65**	**108**		Pg	18 53 10.8	+0.6
CADM	**Anderson Res.**	**0.66**	**145**		Pg	18 53 10.9	+0.4
CVS	**Carmenet Viney**	**0.70**	**336**		Pg	18 53 11.3	+0.2
FARB	**Farallon Islan**	**0.71**	**270**		Pg	18 53 11.4	0.0
NAPC	**Atlas Peak**	**0.74**	**351**		Pb	18 53 12.7	-0.5
MCCM	**Marconi Confer**	**0.75**	**306**		Pg	18 53 12.0	-0.2
MCCM				IAML		18 53 26.3	
	comp=E,383nm,0.4s						
NADM	**Allendale**	**0.76**	**8**		Pb	18 53 13.6	+0.1
HLPM	**Lions Peak**	**0.76**	**150**		Pg	18 53 12.5	+0.1
NPRM	**Point Reyes**	**0.78**	**292**		Pg	18 53 12.5	-0.2
GHS	**Gilroy Hot Spr**	**0.80**	**139**		Pg	18 53 13.2	0.0
JELB	**Ellicott, Sant**	**0.81**	**164**		Pg	18 53 13.7	+0.4
HCBM	**Chamberlain**	**0.85**	**155**		Pg	18 53 14.2	+0.2
HCOM	**Corn Cob Canyo**	**0.88**	**159**		Pg	18 53 14.8	+0.2
HFEM	**San Felipe**	**0.91**	**142**		Pg	18 53 15.3	0.0
ANZ	**Anzar Road**	**0.92**	**153**		Pg	18 53 15.3	0.0
SLD	**San Luis Dam**	**0.94**	**132**		Pg	18 53 15.4	-0.5
HTUM	**Tustin Road**	**0.95**	**157**		Pg	18 53 15.2	-0.7
PACP	**Pacheco Peak**	**0.95**	**137**		Pg	18 53 16.2	+0.2
HERM	**Elkhorn Road**	**0.96**	**161**		Pg	18 53 16.1	-0.1
HSFM	**Saint Francis**	**1.01**	**151**		Pg	18 53 17.4	+0.2
NHSM	**Mount Saint He**	**1.03**	**337**		Pg	18 53 17.2	-0.3
FRP	**Fremont Peak**	**1.07**	**153**		Pg	18 53 17.0	-1.3
SAO	**San Andreas Ge**	**1.08**	**151**		Pg	18 53 17.2	-1.2
BSLM	**Silva Ranch**	**1.11**	**147**		Pg	18 53 18.7	-0.3
HMOM	**Monterey**	**1.11**	**172**		Pg	18 53 17.9	-1.2
NMTM	**Middletown**	**1.13**	**346**		Pg	18 53 18.3	-1.1
BSRM	**Salinas Radio**	**1.14**	**156**		Pg	18 53 17.9	-1.6
BPCNC	**Pine Canyon**	**1.19**	**161**		Pg	18 53 19.4	-1.2
MNRC	**McLaughlin Min**	**1.20**	**347**		Pg	18 53 19.5	-1.3
SCZ	**Santa Cruz**	**1.24**	**153**		Pg	18 53 19.3	-2.2
GHCM	**House Creek**	**1.25**	**317**		Pg	18 53 19.8	-1.8
BJOM	**Mount Johnson**	**1.25**	**149**		Pg	18 53 19.9	-1.8
BJCM	**Johnson Can.**	**1.29**	**154**		Pn	18 53 20.2	-2.2
BPRM	**Ponciano Ridge**	**1.33**	**167**		Pn	18 53 20.9	-2.1
BVL	**Bear Valley**	**1.34**	**147**		Pn	18 53 21.8	-1.4
HAST	**Hastings Reser**	**1.39**	**161**		Pn	18 53 21.5	-2.2
CMB	**Columbia Colle**	**1.40**	**76**		Pn	18 53 22.4	-1.5
CMB				IAML		18 53 43.8	
	comp=N,49nm,0.5s						
BSMM	**Soledad Missio**	**1.43**	**158**		Pn	18 53 22.4	-1.9
BSGM	**Shirttail Gulc**	**1.46**	**152**		Pn	18 53 22.7	-2.0
HOPS	**Hopland Field**	**1.49**	**330**		Pn	18 53 23.4	-1.8
HOPS				IAML		18 54 04.6	
	comp=N,39nm,1.5s						
HOPS				IAML		18 54 05.2	
	comp=E,39nm,1.2s						
GHLM	**Highland Sprin**	**1.51**	**332**		Pn	18 53 23.7	-1.9
AFDM	**Forest Hills D**	**1.53**	**35**		Pn	18 53 23.5	-2.2
AFDM				IAML		18 53 48.5	
	comp=E,41nm,0.4s						
LRV	**Little Rabbit**	**1.55**	**146**		Pn	18 53 24.0	-1.9
GGUM	**Gualala**	**1.59**	**317**		Pn	18 53 24.5	-2.0
GFC	**Funks Creek**	**1.62**	**355**		Pn	18 53 25.7	-1.3
PMPB	**Monarch Peak**	**1.82**	**145**		Pn	18 53 28.4	-1.3
ORV	**Oroville**	**1.91**	**14**	Pn	Pn	18 53 28.8	-2.0
PHSB	**Hesperia Broad**	**2.06**	**156**		Pn	18 53 31.7	-1.3
WAKR	**Walker**	**2.25**	**68**		Pn	18 53 35.5	-0.2
WAKR				IAML		18 54 16.8	
	comp=E,28nm,0.7s						
WAKR				IAML		18 54 23.9	
	comp=N,18nm,1.3s						
KCPM	**Cahto Peak**	**2.29**	**330**		Pn	18 53 35.6	-0.7
KCPM				IAML		18 54 03.6	
	comp=E,30nm,4.1s						
KCPM				IAML		18 54 35.7	
	comp=N,23nm,3.7s						
PNTR	**Pine Nut**	**2.40**	**54**		Pn	18 53 39.4	+1.5
PNTR				IAML		18 54 27.9	
	comp=E,37nm,1.2s						
PNTR				IAML		18 54 47.0	
	comp=N,33nm,1.1s						
RYN	**Ryan**	**2.97**	**71**		Pn	18 53 46.3	+0.6
RYN				IAML		18 54 36.0	
	comp=E,10nm,0.6s						
RYN				IAML		18 54 41.3	
	comp=N,9.7nm,1.0s						
NV11	**Mina Array Sit**	**3.20**	**76**	Pg	Pg	18 53 57.7	-1.4
DSP	**Deep Springs**	**3.30**	**95**		Pg	18 53 60.0	-1.1
DSP				IAML		18 55 03.9	
	comp=E,7.8nm,1.5s						
KVN	**Kaiserville**	**3.42**	**66**	IAML		18 54 49.1	
	comp=E,6.9nm,0.7s						
KVN				IAML		18 54 52.1	
	comp=N,9.1nm,1.3s						
KRMB	**Red Mountain**	**4.06**	**340**	Pn	Pn	18 54 01.5	+0.9
KSXB	**Camp Six Broad**	**4.34**	**342**	Pn	Pn	18 54 05.7	+1.3

*NIC **15** 19:01:00.2, 35.°64N×31.°39E, h10km±1km, Ml2.8/9*
*GII **15** 19:01:02.9±0.3, 35.°185N±0.°002×31.°369E±0.°001, h10km, Mws2.8, confirmed*
*AFAD **15** 19:01:03.4±0.0, 35.°59N×31.°55E, h21km±1km, ML2.6*
*ISK **15** 19:01:03.9, 35.°62N×31.°70E, h5km, ML2.7/26*

ISC 15 19:01:00.6±1.4, 35.°48N±0.°03×31.°48E±0.°04, h7km±10km, n73, σ1°59/89, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.84**	**123**	P	Pg	19 01 18.6	+1.9
AKMS				S	Sn	19 01 33.6	+2.3
AKMS				AML	AML	19 01 34.2	
	0.9nm,0.4s						
AKMS				AML	AML	19 01 37.8	
	1.2nm,0.3s						
ALFC	**Alefka**	**0.97**	**109**	P	Pg	19 01 20.5	+1.2
ALFC				S	Sn	19 01 37.1	+2.4
ALFC				AML	AML	19 01 39.6	
	1.0nm,0.2s						
ALFC				AML	AML	19 01 39.6	
	1.0nm,0.2s						
GAZI	**Gazipasa**	**1.01**	**42**	Pg	Pb	19 01 20.6	+0.1
GAZI				Sg	Sg	19 01 31.1	-2.2
GAZI	**Gazipasa**	**1.01**	**42**	P	Pb	19 01 20.6	+0.1
GAZI				S	Sb	19 01 33.2	-0.9
GAZI				*i* AML	AML	19 01 34.0	
	comp=N,209nm,0.6s						
GAZI				*i* AML	AML	19 01 38.0	
	comp=E,289nm,0.3s						
NATA	**Nata**	**1.13**	**128**	P	Pb	19 01 24.3	+1.7
NATA				S	Sn	19 01 42.1	+3.4
NATA				AML	AML	19 01 52.7	
	1.5nm,0.9s						
NATA				AML	AML	19 01 53.2	
	1.4nm,0.6s						
ALAN	**Alanya-ANTALYA**	**1.17**	**22**	Pg	Pg	19 01 22.6	-0.4
ALAN				Sg	Sb	19 01 36.8	-1.6
LEF	**Lefka**	**1.21**	**107**	Pg	Pb	19 01 24.2	+0.4
LEF				Sg	Sb	19 01 39.9	+0.3
LEF	**Lefka**	**1.21**	**107**	P	Pb	19 01 25.6	+1.8
AKDN	**Akdeniz- Kıbrı**	**1.23**	**98**	Pn	Pb	19 01 25.1	+1.0
AKDN				Sn	Sb	19 01 40.6	+0.4
AKUM	**Antalya-Kumluc**	**1.25**	**313**	P	Pn	19 01 26.3	+1.8
AKUM				S	Sn	19 01 44.3	+2.8
AKUM				*i* AML	AML	19 01 49.0	
	comp=E,131nm,0.8s						
AKUM				*i* AML	AML	19 01 52.0	
	comp=N,155nm,0.6s						
TROD	**Troodos**	**1.25**	**115**	P	Pn	19 01 25.4	+0.7
TROD				S	Sn	19 01 44.8	+2.9
TROD				AML	AML	19 01 58.3	
	0.3nm,0.4s						
TROD				AML	AML	19 02 00.5	
	0.3nm,0.5s						
MNVG	**Manavgat-Antal**	**1.31**	**358**	Pn	Pg	19 01 27.6	+1.8
MNVG				Sn	Sn	19 01 44.2	+1.1
BOZY	**Bozyazi-Mersin**	**1.37**	**62**	Pn	Pn	19 01 26.6	+0.5
TEKE	**Tekeli-Mersin**	**1.48**	**63**	Pn	Pn	19 01 27.9	+0.2
ANTB	**Antalya**	**1.57**	**335**	Pn	Pg	19 01 32.9	+2.2
CSS	**Mathiatis**	**1.60**	**108**	Pn	Pn	19 01 31.3	+2.0
CSS	**Mathiatis**	**1.60**	**108**	P	Pn	19 01 30.6	+1.3
CSS	**Mathiatis**	**1.60**	**108**	P	Pn	19 01 30.4	+1.1
CSS				AML	AML	19 02 06.1	
	0.2nm,0.5s						
CSS				AML	AML	19 02 07.2	
	0.2nm,0.4s						
ATHAL	**Athalassa**	**1.60**	**102**	P	Pn	19 01 31.6	+2.2
ATHAL				AML	AML	19 02 05.7	
	0.4nm,0.7s						
ATHAL				AML	AML	19 02 24.9	
	0.5nm,0.9s						
ASGA	**Asgata**	**1.61**	**115**	P	Pn	19 01 30.7	+1.3
ASGA				AML	AML	19 02 03.5	
	0.3nm,0.7s						
ASGA				AML	AML	19 02 09.3	
	0.2nm,0.5s						
BERE	**Bereket-Mersin**	**1.66**	**58**	Pn	Pn	19 01 31.3	+1.1
BERE				Sn	Sn	19 01 50.9	-1.0
HDMB	**Hadim**	**1.69**	**28**	Pn	Pb	19 01 32.1	-0.1
YORU	**Yoruktepe-Mers**	**1.70**	**66**	Pn	Pn	19 01 32.0	+1.3
OREN	**Orenkoy-Mersin**	**1.77**	**65**	Pn	Pn	19 01 33.1	+1.6
AKK1	**Akkuyu-Mersin**	**1.80**	**68**	Pn	Pn	19 01 31.7	-0.3
AKK2	**Akkuyu-Mersin**	**1.81**	**68**	Pn	Pn	19 01 33.4	+1.3
AKKU	**Akkuyu-Mersin**	**1.81**	**67**	Pn	Pn	19 01 33.5	+1.3
GULN	**MERSIN_Gulnar**	**1.82**	**67**	P	Pn	19 01 33.9	+1.6
GULN				S	Sb	19 01 56.4	-0.7
MVOU	**Mavrovouni**	**1.82**	**104**	P	Pn	19 01 32.6	+0.3
MVOU				S	Sn	19 01 56.2	+0.6
MVOU				AML	AML	19 02 08.6	
	0.2nm,0.5s						
MVOU				AML	AML	19 02 11.9	
	0.2nm,0.7s						
TEVE	**Tevekalti-Mers**	**1.86**	**58**	Pn	Pn	19 01 33.9	+1.0
YESI	**Yesilovacik-Me**	**1.90**	**67**	Pn	Pn	19 01 34.8	+1.4
SEYD	**Seydisehir-KON**	**1.94**	**8**	Pn	Pb	19 01 36.1	-0.3
IKL	**Isikli**	**1.95**	**66**	Pn	Pn	19 01 35.4	+1.4
KARG	**Kargicak-Mersi**	**1.95**	**68**	Pn	Pn	19 01 35.5	+1.4
SEDI	**Konya, Seydise**	**1.98**	**6**	P	Pn	19 01 36.0	+1.3
SEDI				S	Sg	19 02 01.7	-2.6
SEDI				*i* AML	AML	19 02 07.0	
	comp=E,72nm,0.7s						
SEDI				*i* AML	AML	19 02 12.0	
	comp=N,85nm,0.9s						
BUCA	**Burdur, Bucak-**	**1.99**	**338**	P	Pg	19 01 39.0	+0.2
KEBE	**Keben-Mersin**	**2.05**	**61**	Pn	Pn	19 01 37.1	+1.5
KKBE	**Karaman, Kazim**	**2.10**	**34**	P	Pb	19 01 38.6	-0.4
KKBE				S	Sg	19 02 05.7	-2.4
KKBE				*i* AML	AML	19 02 10.0	
	comp=N,62nm,0.4s						
KKBE				*i* AML	AML	19 02 13.0	
	comp=E,50nm,0.4s						
PARAL	**Paralimni**	**2.15**	**102**	AML	AML	19 02 18.6	
	0.3nm,0.8s						
PARAL				AML	AML	19 02 28.8	
	0.4nm,0.8s						
SILI	**Silifke-Mersin**	**2.17**	**65**	Pn	Pn	19 01 38.6	+1.4
SLFK	**Silifke-Mersin**	**2.20**	**65**	Pn	Pn	19 01 39.0	+1.5
KRMN	**Karaman**	**2.22**	**40**	Pn	Pn	19 01 39.3	+1.4
KIZK	**Mersin**	**2.38**	**64**	Pn	Pn	19 01 41.5	+1.5
KIZK	**Mersin**	**2.38**	**64**	P	Pn	19 01 42.6	+2.5
KIZK				S	Sb	19 02 10.9	-2.4
KIZK				*i* AML	AML	19 02 19.0	
	comp=N,36nm,0.5s						
KIZK				*i* AML	AML	19 02 20.0	
	comp=E,40nm,0.7s						
KMER	**Konya-Meram**	**2.40**	**17**	P	Pb	19 01 43.6	-0.5
KMER				S	Sb	19 02 12.9	-1.0
KMER				*i* AML	AML	19 02 20.0	
	comp=N,42nm,0.4s						
KERG	**Konya-Eregli**	**2.88**	**47**	P	Pn	19 01 50.0	+3.0
KERG				*i* AML	AML	19 02 34.0	
	comp=N,31nm,0.4s						
MMC7	**Mount Meron ar**	**4.06**	**126**	P	Pn	19 02 04.1	+0.9
MMA0	**Mount Meron ar**	**4.07**	**126**	P	Pn	19 02 04.1	+0.8
MMA0B	**Mount Meron ar**	**4.07**	**126**	S	Sn	19 02 51.6	+0.3
MMA0B	**Mount Meron ar**	**4.07**	**126**	P	Pn	19 02 04.1	+0.7
GEM	**Giv'at Ha'Em**	**4.13**	**122**	S	Sn	19 02 52.5	-0.2
GEM	**Giv'at Ha'Em**	**4.13**	**122**	P	Pn	19 02 05.3	+1.2
NATI	**Neve Ativ**	**4.16**	**121**	S	Sn	19 02 53.4	+0.1
NATI	**Neve Ativ**	**4.16**	**121**	P	Pn	19 02 06.0	+1.5
MMLI	**Mount Malkishu**	**4.46**	**132**	P	Pn	19 02 09.3	+0.6
MMLI	**Mount Malkishu**	**4.46**	**132**	S	Sn	19 03 00.3	-0.6
HMDT	**Nahal Hemdat**	**4.66**	**133**	P	Pn	19 02 11.7	+0.3
HMDT	**Nahal Hemdat**	**4.66**	**133**	S	Sn	19 03 04.4	-1.1
DSI	**Dead Sea**	**5.08**	**139**	P	Pn	19 02 16.8	-0.3
DSI	**Dead Sea**	**5.08**	**139**	S	Sn	19 03 14.1	-1.9
YTIR	**Yattir**	**5.11**	**142**	P	Pn	19 02 17.8	+0.2
YTIR	**Yattir**	**5.11**	**142**	S	Sn	19 03 15.3	-1.6
KZIT	**Kziot**	**5.17**	**151**	P	Pn	19 02 18.1	-0.3
MSBI	**Mazada**	**5.27**	**141**	P	Pn	19 02 19.4	-0.4
MSBI	**Mazada**	**5.27**	**141**	S	Sn	19 03 18.8	-1.9
PRNI	**Paran**	**5.91**	**149**	S	Sn	19 03 33.7	-2.8
PRNI	**Paran**	**5.91**	**149**	P	Pn	19 02 28.2	-0.4
KRMI	**Paran Flat**	**6.00**	**152**	S	Sn	19 03 35.7	-3.2
KRMI	**Paran Flat**	**6.00**	**152**	P	Pn	19 02 29.3	-0.6
MBRI	**Mt Berech**	**6.37**	**152**	P	Pn	19 02 34.2	-0.7
MBRI	**Mt Berech**	**6.37**	**152**	S	Sn	19 03 44.6	-3.3
EIL	**Elat**	**6.49**	**152**	P	Pn	19 02 35.4	-1.2
EIL	**Elat**	**6.49**	**152**	S	Sn	19 03 47.3	-3.5

*CATAC **15** 19:14:49.0±0.7, 13.°30N×91.°33W, h10km, ML3.7*
*GCG **15** 19:15:00.4±0.5, 14.°10N×91.°20W, h47km±15km, MD3.8*

ISC 15 19:14:50.1±2.5, 13.°3N±0.°1×91.°38W±0.°09, h28km, n17, σ0°70/22, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**1.06**	**350**	*e*P	Pb	19 15 10.4	+0.5
FUG	**Fuego 3**	**1.30**	**24**	*e*P	Pn	19 15 12.0	-0.6
RTAL	**Retalhuleu**	**1.30**	**347**	*i* P	Pn	19 15 11.8	-0.7
RTAL				IAML		19 16 04.1	
	comp=Z,870nm,1.0s						
PCG	**Pacaya**	**1.36**	**34**	*e*P	Pn	19 15 13.9	+0.4
STG3	**Santiaguito 3,**	**1.46**	**353**	*e*P	Pn	19 15 14.7	-0.2
SOKI	**Kika Raxquin**	**1.56**	**359**	*i* P	Pn	19 15 16.2	-0.2
SOKI				*i* S	Sn	19 15 35.1	-0.8
SOKI				IAML		19 15 43.5	
	comp=Z,810nm,1.0s						
NBG	**Las Nubes**	**1.67**	**37**	*e*P	Pn	19 15 18.6	+0.8
NUBE	**Las Nubes**	**1.69**	**67**	*i* P	Pn	19 15 17.0	-0.9
NUBE				*i* S	Sn	19 15 39.1	+0.4
NUBE				IAML		19 15 46.9	
	comp=Z,360nm,1.0s						
LOAL	**Lomas de Alarc**	**1.73**	**64**	*i* P	Pn	19 15 17.5	-0.8
LOAL				*i* S	Sb	19 15 41.5	-1.0
LOAL				IAML		19 15 47.5	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	**1.92**	**78**	*i* P	Pn	19 15 19.9	-1.3
JAYA				*i* S	Sn	19 15 45.3	+0.8
JAYA				IAML		19 15 54.9	
	comp=Z,970nm,1.0s						
UNIC	**Universidad Ca**	**1.93**	**68**	*i* S	Sn	19 15 44.5	0.0
QUIS	**Sacapulas**	**2.05**	**8**	*i* P	Pn	19 15 23.8	+1.0
QUIS				IAML		19 15 46.0	
	comp=Z,610nm,1.0s						
PMON	**Piamonte**	**2.06**	**77**	*i* P	Pn	19 15 23.4	+0.4
PMON				IAML		19 16 02.2	
	comp=Z,700nm,1.0s						
LOMA	**Loma Larga**	**2.19**	**79**	*i* P	Pn	19 15 24.5	-0.3
LOMA				IAML		19 15 57.3	
	comp=Z,350nm,1.0s						
COEG	**Centro de Oper**	**2.46**	**81**	*i* P	Pn	19 15 29.3	+0.8
COEG				IAML		19 16 12.3	
	comp=Z,210nm,1.0s						
TECO	**Alcaldia de Te**	**2.55**	**83**	*i* P	Pn	19 15 29.7	+0.1
TECO				IAML		19 15 34.9	
	comp=Z,260nm,1.0s						
TECO				*i* S	Sn	19 16 00.1	+0.3
LIMN	**Finca el Limon**	**4.89**	**92**	*i* P	Pn	19 16 01.8	-0.1
LIMN				IAML		19 16 08.1	
	comp=Z,43nm,1.0s						

*IDC **15** 19:25:30.7±9.4, 31.°82S×178.°15E, h252km±108km, mb3.1/3, mbtmp3.7/4, Error ellipse: s-maj=98.6km s-min=33.3km az=179.0*
*WEL **15** 19:26:50.2, 38.°S±24.°×17.°8E±2.°4, h68km±28km, M2.1/6, MLv2.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=134.0*

ISC 15 19:25:30.8±1.4, 31.°8S±0.°1×178.°1E±0.°2, h250km, n22, σ0°93/22, mb3.3/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**5.97**	**182**	P	Pn	19 26 60.0	+1.6
WMGZ	**Waiomatatini S**	**6.03**	**177**	P	Pn	19 26 59.6	+0.4
PKGZ	**Pakihiroa**	**6.07**	**180**	P	Pn	19 27 01.5	+1.7
RUGZ	**Raukumara Rang**	**6.18**	**183**	P	Pn	19 27 01.9	+0.7
PUZ	**Puketiti**	**6.28**	**179**	P	Pn	19 27 02.7	+0.4
TWGZ	**Tauwhareparae**	**6.38**	**181**	P	Pn	19 27 04.3	+0.6
URZ	**Urewera**	**6.51**	**187**	P	Pn	19 27 05.1	-0.2
	7.0nm,0.3s,baz=339,slow=4.8,SNR=43						
URZ				S	S	19 28 20.2	-0.7
	12nm,0.9s,baz=116,slow=23,SNR=9.5						
URZ	**Urewera**	**6.51**	**187**	P	Pn	19 27 04.3	-1.0
MWZ	**Matawai**	**6.56**	**184**	P	Pn	19 27 06.1	+0.3
CNGZ	**Carnagh Statio**	**6.69**	**179**	P	Pn	19 27 07.3	-0.2
RAGZ	**Rawiri**	**6.72**	**184**	P	Pn	19 27 09.4	+1.4
MUGZ	**Murupara**	**6.77**	**189**	P	Pn	19 27 10.5	+2.1
KUTZ	**Kaahu Road**	**6.94**	**195**	P	Pn	19 27 18.4	+7.8
MTHZ	**Maungataniwha**	**7.13**	**188**	P	Pn	19 27 13.2	+0.2
RAHZ	**Arahi**	**7.17**	**186**	P	Pn	19 27 13.3	-0.2
BKZ	**Black Stump Fm**	**7.48**	**189**	P	Pn	19 27 17.7	+0.2
MCHZ	**McNeill Hill**	**7.73**	**188**	P	Pn	19 27 19.6	-1.0
KWHZ	**Kaweka Forest**	**7.75**	**189**	P	Pn	19 27 20.9	+0.1
KRHZ	**Kereru**	**7.97**	**189**	P	Pn	19 27 23.0	-0.6
ASAR	**Alice Springs**	**39.70**	**270**	P	P	19 32 39.5	+0.3
	0.3nm,0.6s,baz=105,slow=7.2,SNR=8.6						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**40.82**	**276**	P	P	19 32 48.6	+0.2
	0.4nm,0.3s,baz=114,slow=7.8,SNR=20					

JNSB				eS	Sn	19 36 42.1	+0.4
JKHN	**Kushirohamanak**	**2.48**	**251**	eP	Pn	19 36 14.3	+0.8
JKHN				eS	Sn	19 36 41.8	-0.8
JNK	**Nakash**	**2.67**	**264**	eP	Pn	19 36 16.9	+0.9
JAK	**Akkeshi**	**2.83**	**252**	eP	Pn	19 36 18.7	+0.5
JAK				eS	Sn	19 36 50.0	-1.2
JAR	**Ashorobuto**	**3.40**	**261**	eP	Pn	19 36 27.6	+1.6
JOB	**Onbets**	**3.46**	**254**	eP	Pn	19 36 27.9	+1.1
JCH	**Churui**	**3.88**	**252**	eP	Pn	19 36 33.3	+0.7
KSRS	**Korea Array**	**16.78**	**254**	LR	LR	19 45 38.0	
	comp=N,13nm,19.5s,baz=220,slow=35						
YAK	**Yakutsk**	**21.20**	**335**	LR	LR	19 48 16.4	
	comp=N,39nm,20.6s,baz=196,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.66**	**141**	T	T	20 12 24.6	
	baz=332,slow=76,SNR=45						
H11N1	**WAKE ISLAND Hy**	**28.68**	**141**	T	T	20 12 27.3	
	baz=332,slow=76,SNR=39						
H11N3	**WAKE ISLAND Hy**	**28.68**	**141**	T	T	20 12 20.8	
	baz=332,slow=76,SNR=38						
H11S1	**WAKE ISLAND Hy**	**29.65**	**143**	T	T	20 13 39.5	
	baz=333,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**29.66**	**143**	T	T	20 13 38.3	
	baz=333,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy**	**29.67**	**143**	T	T	20 13 38.4	
	baz=333,slow=76,SNR=46						
ILAR	**Eielson Array**	**40.83**	**36**	P	**P**	**19 43 10.7**	**+0.3**
	comp=N,0.2nm,0.6s,baz=282,slow=8.3,SNR=3.0						
	comp=N,0.2nm,0.6s						
MKAR	**Makanchi Array**	**45.29**	**298**	P	**P**	**19 43 46.5**	**-0.2**
	comp=N,0.3nm,0.8s,baz=76,slow=10,SNR=2.5						
	comp=N,0.3nm,0.8s						
KURK	**Kurchatov**	**46.17**	**304**	eP	**P**	**19 43 54.0**	**+0.5**
KURK	**Kurchatov**	**46.17**	**304**	P	**P**	**19 43 54.0**	**+0.5**
KURBB	**Kurchatov Arra**	**46.25**	**304**	P	**P**	**19 43 54.0**	**-0.2**
	comp=N,0.4nm,0.5s,baz=76,slow=8.3,SNR=4.2						
	comp=N,0.4nm,0.5s						
FINES	**FINESS Array B**	**65.12**	**333**	P	**P**	**19 46 08.1**	**-1.0**
	comp=N,0.8nm,0.5s,baz=45,slow=8.4,SNR=11						
	comp=N,0.8nm,0.5s						
NVAR	**Mina Array Bea**	**66.74**	**59**	P	**P**	**19 46 20.3**	**+0.2**
	comp=N,0.3nm,0.5s,baz=290,slow=5.3,SNR=3.2						
	comp=N,0.3nm,0.5s						
PDAR	**Pinedale Array**	**69.12**	**50**	P	**P**	**19 46 35.0**	**0.0**
	comp=N,0.3nm,0.5s,baz=91,slow=0.1,SNR=5.0						
	comp=N,0.3nm,0.5s						
NB2	**NORSAR Subarra**	**69.76**	**339**	P	**P**	**19 46 37.6**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.76**	**339**	P	**P**	**19 46 37.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=31,slow=6.7,SNR=6.8						
	comp=Z,0.4nm,0.6s						
HFS	**Hagfors**	**69.87**	**338**	P	**P**	**19 46 38.0**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=45,slow=4.3,SNR=4.2						
	comp=Z,0.8nm,0.4s						
TXAR	**Lajitas Array**	**81.82**	**57**	P	**P**	**19 47 48.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=310,slow=3.5,SNR=7.3						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**81.82**	**57**	P	**P**	**19 47 48.0**	**+0.2**
H03N2	**Juan Fernandez**	**142.08**	**90**	T	T	22 33 51.1	
	baz=302,slow=76						
H03N3	**Juan Fernandez**	**142.09**	**90**	T	T	22 33 49.7	
	baz=302						
H03N1	**Juan Fernandez**	**142.09**	**90**	T	T	22 33 50.6	
	baz=302,slow=76						

TEH ***15*** *19:38:56.2, 29.°75N×51.°34E, h9km±20km, ML3.1*
DSN ***15*** *19:39:00.7±3.8, 28.°81N×50.°91E, h10km, ML3.3/5, Error ellipse: s-maj=56.7km s-min=19.3km az=5.0*
OMAN ***15*** *19:39:02.8±0.2, 29.°39N×51.°69E, h8km, mb5.0/4, ml3.6/2, Error ellipse: s-maj=3.3km s-min=2.9km az=0.0*

ISC 15 19:38:59.1±1.1, 29.°68N±0.°05×51.°43E±0.°05, h20km, n58, σ1°62/78, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.83**	**189**	Pg	**Pb**	**19 39 13.3**	**-1.4**
SHI	**Shiraz**	**0.94**	**92**	Pg	**Pb**	**19 39 16.7**	**-0.1**
DSBU	**Dashti - Bushe**	**1.32**	**187**	Pg	**Pn**	**19 39 23.3**	**+0.8**
DSBU				Sg	**Sb**	**19 39 44.2**	**+4.3**
KLNJ	**Kolanjah**	**1.33**	**6**	Pg	**Pn**	**19 39 21.9**	**-0.9**
ABEH	**Behbahan**	**1.37**	**312**	Pg	**Pn**	**19 39 21.1**	**-2.0**
QIR1	**Qir**	**1.85**	**130**	Pn	**Pn**	**19 39 32.2**	**+2.5**
JHRM	**Jahrom**	**2.21**	**122**	Pn	**Pn**	**19 39 37.8**	**+3.0**
IBRJ	**Brojen**	**2.22**	**356**	Pn	**Pn**	**19 39 35.3**	**+0.2**
IRAM	**Ramesheh**	**2.27**	**21**	Pn	**Pn**	**19 39 37.2**	**+1.5**
ZNGN	**Zangian**	**2.48**	**349**	Pn	**Pn**	**19 39 39.2**	**+0.7**
JHBN	**Jahan bin**	**2.62**	**346**	Pn	**Pn**	**19 39 41.0**	**+0.4**
ISAD	**Sadrabad**	**2.95**	**41**	Pn	**Pn**	**19 39 47.2**	**+2.2**
IPIR	**Pirpir**	**3.03**	**351**	Pn	**Pn**	**19 39 46.4**	**+0.3**
IMEH	**Mehriz**	**3.23**	**57**	Pn	**Pn**	**19 39 51.0**	**+2.2**
IZEF	**Zefreh**	**3.29**	**13**	Pn	**Pn**	**19 39 51.1**	**+1.4**
IKLH	**Kolahrood**	**3.63**	**2**	Pn	**Pn**	**19 39 55.4**	**+1.1**
SAKB	**Bahrain**	**3.78**	**192**	P	**Pn**	**19 39 57.2**	**+1.1**
SAKB				S	**Sn**	**19 40 41.7**	**+1.7**
SHMA	**Al-Shehemyia**	**3.83**	**186**	P	**Pn**	**19 39 58.0**	**+1.0**
SHMA				S	**Sn**	**19 40 42.5**	**+1.1**
ANAR	**Anarak**	**4.01**	**29**	Pn	**Pn**	**19 40 00.7**	**+1.3**
IBAF	**Bafgh**	**4.04**	**61**	Pn	**Pn**	**19 40 01.6**	**+1.7**
QAMS	**Qamsar**	**4.04**	**360**	Pn	**Pn**	**19 40 00.8**	**+0.8**
KRSH	**Karshahi**	**4.31**	**8**	Pn	**Pn**	**19 40 04.9**	**+1.2**
KHGB	**Koh Gabri**	**4.43**	**80**	Pn	**Pn**	**19 40 07.7**	**+2.4**
ZRDN	**Zarand Kerman**	**4.59**	**73**	Pn	**Pn**	**19 40 09.5**	**+2.0**
NGRK	**Negar Kerman**	**4.61**	**89**	Pn	**Pn**	**19 40 10.1**	**+2.2**
TRNA	**Turayna** SNR=17	**4.93**	**182**	P	**Pn**	**19 40 13.1**	**+1.0**
TRNA				S	**Sn**	**19 41 09.2**	**+0.7**
SMRA	**Abu-Samra** SNR=8.6	**4.95**	**186**	P	**Pn**	**19 40 13.0**	**+0.7**
SMRA				S	**Sn**	**19 41 08.7**	**-0.3**
HSAM	**Samen**	**5.12**	**333**	Pn	**Pn**	**19 40 15.0**	**+0.1**
SHME	**Shamm**	**5.52**	**130**	P	**Pn**	**19 40 20.5**	**+0.4**
SHME	**Shamm**	**5.52**	**130**	P	**Pn**	**19 40 20.9**	**+0.8**
SHME				S	**Sn**	**19 41 23.2**	**+0.2**
SLWR	**Sila**	**5.60**	**178**	P	**Pn**	**19 40 22.1**	**+0.9**
SLWR				S	**Sn**	**19 41 25.0**	**+0.1**
GHWR	**Ruwais**	**5.84**	**167**	P	**Pn**	**19 40 24.5**	**-0.1**
GHWR				S	**Sn**	**19 41 29.7**	**-1.3**
ILBA	**Ilam Banvizeh**	**5.94**	**313**	Pn	**Pn**	**19 40 25.1**	**-0.8**
MASF	**Masafi**	**6.00**	**135**	P	**Pn**	**19 40 27.0**	**+0.2**
MASF				S	**Sn**	**19 41 32.8**	**-2.2**
MSFE	**Esma-Masafi**	**6.01**	**135**	P	**Pn**	**19 40 26.8**	**-0.1**
ASUD	**Al Ashush, Dub**	**6.12**	**145**	P	**Pn**	**19 40 29.2**	**+0.9**
ASUD	**Al Ashush, Dub** SNR=12	**6.12**	**145**	P	**Pn**	**19 40 30.0**	**+1.6**
MDH	**Madha**	**6.14**	**134**	P	**Pn**	**19 40 27.6**	**-1.1**
MDH				S	**Sn**	**19 41 36.2**	**-2.2**
MZWR	**Madinat Zayed**	**6.29**	**159**	P	**Pn**	**19 40 31.5**	**+0.8**
UOSS	**Minazif**	**6.35**	**137**	P	Pn	19 40 28.1	-3.4
UOSS	**Minazif**	**6.35**	**137**	P	**Pn**	**19 40 30.5**	**-1.0**
UOSS				S	**Sn**	**19 41 40.3**	**-3.1**
HATD	**Hatta, Dubai**	**6.39**	**138**	P	**Pn**	**19 40 32.6**	**+0.4**
HATD				S	**Sn**	**19 41 43.3**	**-1.3**
GLG1	**Gilan-e-Gharb**	**6.45**	**315**	Pn	**Pn**	**19 40 32.5**	**-0.4**
ASHO	**Ashiyiah**	**6.46**	**139**	P	**Pn**	**19 40 31.6**	**-1.5**
ASHO				S	**Sn**	**19 41 42.0**	**-4.3**
ASHO	**Ashiyiah**	**6.46**	**139**	P	**Pn**	**19 40 33.6**	**+0.5**
ASHO				S	**Sn**	**19 41 43.6**	**-2.7**
IDHR	**Dehrash**	**6.58**	**321**	Pn	**Pn**	**19 40 34.3**	**-0.6**
ALNE	**Al Ain**	**6.80**	**144**	P	**Pn**	**19 40 37.8**	**0.0**
ALNE	**Al Ain**	**6.80**	**144**	P	**Pn**	**19 40 38.5**	**+0.7**
ALNE				S	**Sn**	**19 41 53.0**	**-1.7**
JASK	**Jask - Hormozg**	**6.85**	**122**	P	**Pn**	**19 40 38.3**	**-0.1**
JASK				S	**Sn**	**19 41 54.1**	**-1.7**
MZR	**Muzera**	**6.90**	**164**	P	**Pn**	**19 40 39.9**	**+0.8**
MZR				S	**Sn**	**19 41 57.2**	**+0.1**
SOHO	**SOHO**	**7.16**	**139**	P	**Pn**	**19 40 41.2**	**-1.4**
SOHO				S	**Sn**	**19 42 01.7**	**-1.7**
UMZA	**Um Al Zommool**	**7.71**	**153**	P	**Pn**	**19 40 48.7**	**-1.4**
ARQ	**Araqi**	**7.79**	**143**	P	**Pn**	**19 40 51.7**	**+0.4**
ARQ				S	**Sn**	**19 42 16.9**	**-2.2**
HOQ	**Hoqain**	**8.03**	**138**	P	**Pn**	**19 40 53.5**	**-1.2**
HOQ				S	**Sn**	**19 42 22.4**	**-2.6**
RAYN	**Ar Rayn**	**8.11**	**222**	P	Pn	19 40 44.3	-12
BSY	**Bisya**	**8.63**	**142**	P	**Pn**	**19 41 02.9**	**0.0**
BSY				S	**Sn**	**19 42 36.3**	**-3.4**
SMDO	**Samad**	**8.87**	**137**	P	**Pn**	**19 41 04.5**	**-1.7**
SMDO				S	**Sn**	**19 42 42.7**	**-2.9**
WSAR	**Wadi Sarin**	**9.10**	**133**	P	**Pn**	**19 41 09.6**	**+0.4**

THE ***15*** *19:43:50.3, 34.°65N×24.°35E, h12km±6km, ML3.0/4, Error ellipse: s-maj=6.4km s-min=2.3km az=294.0*

ATH ***15*** *19:43:51.2, 34.°71N×24.°25E, h11km±2km, ML3.1/5, Error ellipse: s-maj=3.3km s-min=1.4km az=358.0*
AFAD ***15*** *19:43:53.2±0.0, 34.°76N×24.°49E, h84km±2km, MW3.9*

ISC 15 19:43:48.1±2.0, 34.°57N±0.°10×24.°36E±0.°04, h16km±9km, n21, σ1°93/34, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.34**	**320**	P	**Pg**	**19 43 55.7**	**+0.4**
GVD				S	**Sb**	**19 44 01.4**	**+0.2**
	30μm,0.3s						
GVD	**Gavdhos**	**0.34**	**320**	P	**Pg**	**19 43 55.5**	**+0.3**
GVD				S	**Sg**	**19 43 58.1**	**-2.1**
GVD				AML	AML	19 44 03.3	
	comp=N,72794μm,0.4s						
GVD				AML	AML	19 44 03.9	
	comp=E,46881μm,0.3s						
TMBK	**Timbaki Herakl**	**0.60**	**34**	P	**Pb**	**19 44 01.9**	**+1.6**
TMBK	**Timbaki Herakl**	**0.60**	**34**	P	**Pb**	**19 44 02.1**	**+1.8**
PRNS	**Prines Rethymn**	**0.80**	**9**	P	**Pg**	**19 44 03.1**	**-0.6**
PRNS				S	**Sg**	**19 44 13.4**	**-0.8**
	comp=E,340nm,0.6s						
IDI	**Anoyia**	**0.84**	**32**	P	**Pg**	**19 44 05.2**	**+0.8**
IDI				S	**Sb**	**19 44 16.0**	**+0.6**
	comp=E,295nm,0.4s						
IDI	**Anoyia**	**0.84**	**32**	P	**Pb**	**19 44 05.7**	**+1.3**
IDI				S	**Sb**	**19 44 17.1**	**+1.6**
IDI				AML	AML	19 44 23.4	
	comp=E,820μm,0.4s						
IDI				AML	AML	19 44 26.8	
	comp=N,638μm,0.5s						
KNDR	**Palaiochora Ch**	**0.86**	**320**	P	**Pg**	**19 44 04.7**	**-0.2**
KNDR				S	**Sg**	**19 44 15.3**	**-0.8**
KNDR				AML	AML	19 44 23.4	
	comp=E,2226μm,0.6s						
KNDR				AML	AML	19 44 28.5	
	comp=N,2493μm,0.4s						
KSTL	**Kastelli Herak**	**0.94**	**39**	P	**Pn**	**19 44 09.4**	**+2.8**
KSTL	**Kastelli Herak**	**0.94**	**39**	P	**Pn**	**19 44 10.4**	**+3.7**
IMMV	**Iera Moni Meta**	**0.94**	**341**	P	**Pg**	**19 44 05.2**	**-1.1**
IMMV				S	**Sn**	**19 44 20.6**	**+0.8**
	comp=N,3μm,0.6s						
IMMV	**Iera Moni Meta**	**0.94**	**341**	P	**Pg**	**19 44 05.6**	**-0.7**
IMMV				S	**Sg**	**19 44 16.6**	**-2.1**
IMMV				AML	AML	19 44 23.3	
	comp=N,5150μm,0.5s						
IMMV				AML	AML	19 44 23.4	
	comp=E,6682μm,0.6s						
CHAN	**Chania**	**0.98**	**345**	P	**Pg**	**19 44 07.3**	**+0.2**
CHAN				S	**Sg**	**19 44 18.1**	**-1.8**
CHAN				AML	AML	19 44 25.3	
	comp=E,2133μm,1.0s						
CHAN				AML	AML	19 44 27.5	
	comp=N,1796μm,0.6s						
RODP	**Rodopos**	**1.10**	**334**	P	**Pg**	**19 44 08.7**	**-0.7**
ANKY	**Antikythira Is**	**1.55**	**327**	P	**Pn**	**19 44 15.8**	**+0.6**
VLI	**Veliai**	**2.43**	**332**	P	**Pn**	**19 44 28.4**	**+1.2**
SABU	**Mula-Dalaman**	**4.37**	**58**	P	**Pn**	**19 44 54.9**	**+1.0**
SABU				S	**Sn**	**19 45 41.3**	**-3.3**
SABU				*i* AML	AML	19 46 22.0	
	comp=N,22nm,1.8s						
IZZE	**Mula-Seydike**	**4.39**	**64**	P	**Pn**	**19 44 54.8**	**+0.7**
IZZE				S	**Sn**	**19 45 39.8**	**-5.1**
IZZE				*i* AML	AML	19 46 09.0	
	comp=N,21nm,1.5s						
AKAS	**Kas**	**4.60**	**67**	P	**Pn**	**19 44 58.2**	**+1.1**
AKAS				S	**Sn**	**19 45 46.6**	**-3.6**
AKAS				*i* AML	AML	19 45 53.0	
	comp=N,42nm,1.1s						
AKAS				*i* AML	AML	19 46 22.0	
	comp=N,26nm,1.4s						
DNZT	**Denizli-Tavas-**	**4.65**	**53**	P	**Pn**	**19 44 58.3**	**+0.5**
DNZT				S	**Sn**	**19 45 49.0**	**-2.5**
GOLH	**Golhisar**	**4.99**	**56**	P	**Pn**	**19 45 03.5**	**+1.0**
GOLH				*i* AML	AML	19 46 28.0	
	comp=N,20nm,2.3s						
GOLH				*i* AML	AML	19 46 53.0	
	comp=N,18nm,2.0s						

SOME ***15*** *19:54:25.9, 44.°25N×83.°92E, h5km*
NNC ***15*** *19:54:29.4±3.4, 44.°22N×83.°76E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=37.5km s-min=19.9km az=12.0*

ISC 15 19:54:30.0±1.7, 44.°29N±0.°07×83.°74E±0.°08, h10km, n35, σ2°19/50, 5C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.59**	**252**	eP	**Pb**	**19 55 16.4**	**-0.2**
KTMS	22nm,0.4s			eS	**Sg**	**19 55 53.4**	**+0.3**
	110nm,0.5s						
KTMS	**Ketmen**	**2.59**	**252**	Pg	**Pb**	**19 55 16.4**	**-0.2**
	22nm,0.4s						
MK31	**Makanchi Array**	**2.70**	**338**	⇑Pn	**Pn**	**19 55 14.8**	**+1.3**
	4.1nm,0.3s,baz=167,slow=30,SNR=22						
MK31				⇓Pg	**Pb**	**19 55 19.3**	**+0.8**
	6.7nm,0.4s,baz=167,slow=30,SNR=9.9						
MK31				⇓Lg	Lg	19 55 50.9	
	46nm,0.5s,baz=167,slow=30						
MAKZ	**Makanchi**	**2.81**	**334**	⇓Pn	**Pn**	**19 55 17.2**	**+2.2**
	5.9nm,0.5s,baz=167,slow=30						
MAKZ				⇓Pg	**Pb**	**19 55 22.0**	**+1.8**
	7.7nm,0.4s,baz=167,slow=30						
MAKZ				⇑Lg	Lg	19 55 56.3	
	26nm,0.5s,baz=167,slow=30						
DJR	**Jarkent**	**2.83**	**272**	eP	**Pb**	**19 55 20.5**	**-0.2**
	10nm,0.4s						
DJR				eS	**Sg**	**19 56 00.9**	**-0.1**
	35nm,0.4s						
DJR	**Jarkent**	**2.83**	**272**	Pg	**Pb**	**19 55 20.5**	**-0.2**
	10nm,0.4s						
DJR				Lg	Lg	19 56 00.9	
	35nm,0.4s						
PDGK	**Podgornoye**	**3.22**	**254**	Lg	Lg	19 56 11.2	
	40nm,0.5s						
PDGK	**Podgornoye**	**3.22**	**254**	⇑Pn	**Pg**	**19 55 31.9**	**+0.2**
	11nm,0.5s,baz=167,slow=30						
PDGK				⇑Sn	**Sg**	**19 56 11.1**	**-2.3**
	98nm,0.5s,baz=167,slow=30						
ZSN	**Zaisan**	**3.26**	**14**	eP	**Pb**	**19 55 26.1**	**-1.8**
	26nm,0.5s						
ZSN				eS	**Sb**	**19 56 09.6**	**+2.0**
	138nm,0.6s						
KNOS	**Konyrlen**	**3.27**	**273**	Lg	Lg	19 56 14.1	
	33nm,0.3s						
SHLS	**Shalkode**	**3.30**	**251**	eP	**Pn**	**19 55 24.2**	**+2.4**
	28nm,0.4s						
SHLS				eS	**Sb**	**19 56 06.6**	**-2.4**
	246nm,0.6s						
SHLS	**Shalkode**	**3.30**	**251**	Pg	**Pn**	**19 55 24.2**	**+2.4**
	28nm,0.4s						
UZB	**Uzynbulak**	**3.60**	**253**	eP	**Pb**	**19 55 34.9**	**+1.0**
	5.2nm,0.2s						
UZB				eS	**Sg**	**19 56 24.6**	**-1.1**
	26nm,0.3s						
KPKS	**Kokpek**	**3.75**	**259**	eP	**Pb**	**19 55 37.7**	**+1.4**
	4.8nm,0.2s						
KPKS				eS	**Sg**	**19 56 29.6**	**-0.7**
	128nm,0.5s						
BLB	**Baldybastay**	**3.79**	**269**	Lg	Lg	19 56 30.2	
	46nm,0.4s						
TDK	**Taldyqorghan**	**3.87**	**282**	eP	**Pb**	**19 55 39.3**	**+0.9**
	26nm,0.5s						
TDK				eS	**Sg**	**19 56 32.5**	**-1.8**
	67nm,0.6s						
ZHN	**Zhinishke**	**4.00**	**256**	eP	**Pb**	**19 55 42.8**	**+2.1**
	2.2nm,0.1s						
ZHN				eS	**Sg**	**19 56 38.3**	**-0.2**
	68nm,0.2s						
KURS	**Kuram**	**4.10**	**261**	eP	**Pb**	**19 55 44.6**	**+2.3**
	1.8nm,0.3s						
KURS				eS	**Sg**	**19 56 41.9**	**+0.1**
	11nm,0.4s						
ARXS	**Arharly**	**4.25**	**271**	eP	**Pb**	**19 55 45.9**	**+1.0**
	10.0nm,0.6s						
ARXS				eS	**Sg**	**19 56 44.7**	**-1.7**
	38nm,0.5s						
KOTS	**Kotyrbulak**	**4.91**	**260**	eP	**Pb**	**19 55 59.0**	**+2.8**
	2.3nm,0.3s						
KOTS				eS	**Sg**	**19 57 06.3**	**-1.4**
	59nm,0.5s						
KOTS	**Kotyrbulak**	**4.91**	**260**	Pg	**Pg**	**19 56 00.8**	**-3.3**
	6.0nm,0.7s						
KOTS				Lg	Lg	19 57 06.7	
	39nm,0.7s						
MDOK	**Medeo**	**4.98**	**259**	eP	**Pb**	**19 55 60.0**	**+2.7**
	1.1nm,0.3s						
MDOK				eS	**Sg**	**19 57 08.0**	**-1.7**
	23nm,0.6s						
MDOK	**Medeo**	**4.98**	**259**	⇑Pn	**Pb**	**19 55 56.6**	**-0.7**
	4.6nm,0.6s,baz=167,slow=30						
MDOK				Sn	**Sb**	**19 57 01.3**	**+4.1**
	20nm,0.6s,baz=167,slow=30						
TNSS	**Tian-Shan**	**5.08**	**258**	eP	**Pb**	**19 56 02.6**	**+3.4**
	3.1nm,0.5s						
TNSS				eS	**Sg**	**19 57 12.3**	**-0.9**
	7.1nm,0.5s						
KUU	**Kurty**	**5.34**	**268**	eP	**Pb**	**19 56 07.6**	**+4.1**
	2.4nm,0.0s						
KUU				eS	**Sg**	**19 57 21.0**	**-0.6**
	20nm,0.5s						
KUU	**Kurty**	**5.34**	**268**	Pg	**Pg**	**19 56 09.2**	**-3.2**
	3.6nm,0.1s						
MTBS	**Maitube**	**5.42**	**260**	eP	**Pg**	**19 56 09.3**	**-4.6**
	1.5nm,0.1s						
MTBS				eS	**Sg**	**19 57 23.6**	**-0.4**
	19nm,0.5s						
MTBS	**Maitube**	**5.42**	**260**	Pg	**Pg**	**19 56 11.6**	**-2.2**
	2.2nm,0.2s						
KST	**Kastek**	**5.78**	**260**	eP	Pg	19 56 15.5	-5.1
	1.7nm,0.3s						
KST				eS	**Sg**	**19 57 34.4**	**-1.0**
	11nm,0.4s						
KST	**Kastek**	**5.78**	**260**	Pg	**Pg**	**19 56 17.5**	**-3.1**
	3.3nm,0.7s						
DGS	**Degeres**	**5.86**	**262**	eP	**Pb**	**19 56 16.5**	**+4.2**
	2.1nm,0.4s						
DGS				eS	**Sg**	**19 57 36.2**	**-2.0**
	19nm,0.6s						
DGS	**Degeres**	**5.86**	**262**	Lg	Lg	19 57 33.9	
	10.0nm,0.5s						
TKM2	**Tokmak 2**	**6.07**	**260**	⇓Pn	**Pb**	**19 56 11.8**	**-4.1**
	2.7nm,0.6s,baz=167,slow=30						
TKM2				⇓Sn	**Sb**	**19 57 28.2**	**-0.4**
	10nm,0.6s,baz=167,slow=30						
KURBB	**Kurchatov Arra**	**7.25**	**333**	⇓Lg	Lg	19 58 15.2	
	31nm,0.6s						
KURK	**Kurchatov**	**7.30**	**334**	⇓Lg	Lg	19 58 15.2	
	28nm,0.8s						

UCR ***15*** *19:58:24.1±1.0, 10.°38N×84.°18W, h109km±4km, MW3.8*
CATAC ***15*** *19:58:25.0±0.5, 10.°33N×84.°21W, h91km±5km, ML3.4*

ISC 15 19:58:24.3±1.6, 10.°31N±0.°05×84.°20W±0.°05, h110km±8km, n54, σ0°45/67, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITAL	**Pital**	**0.15**	**333**	eP	**Pn**	**19 58 40.3**	**+0.7**
ITAL				eS	**Sn**	**19 58 51.3**	**+0.2**
TCS1	**Tacares**	**0.29**	**200**	*i* P	**Pn**	**19 58 40.0**	**-0.1**
TCS1				IAML		19 59 00.6	
	comp=Z,10μm,1.0s						
TCS1	**Tacares**	**0.29**	**200**	eP	**Pn**	**19 58 40.1**	**0.0**
HDC	**Heredia**	**0.32**	**165**	eP	**Pn**	**19 58 40.2**	**-0.1**
HDC3	**Heredia 3**	**0.32**	**164**	*i* P	**Pn**	**19 58 40.2**	**-0.1**
HDC3				IAML		19 58 40.5	
	comp=Z,2μm,1.0s						
HDC3				*i* S	**Sn**	**19 58 51.9**	**-0.4**
BELE	**Belen**	**0.34**	**178**	eP	**Pn**	**19 58 40.1**	**-0.2**
RAMO	**San Ramon**	**0.35**	**229**	eP	**Pn**	**19 58 41.3**	**+0.9**
SANTA	**Santa Ana**	**0.38**	**178**	eP	**Pn**	**19 58 40.5**	**-0.1**
CVIMO	**Finca Echandi**	**0.38**	**139**	eP	**Pn**	**19 58 40.6**	**-0.2**
SJS	**Escuela Geolog**	**0.40**	**159**	eP	**Pn**	**19 58 40.6**	**-0.2**
SJS3	**Mercedes San J**	**0.40**	**159**	eP	**Pn**	**19 58 40.7**	**0.0**
LUJA	**Lujan**	**0.41**	**162**	eP	**Pn**	**19 58 41.6**	**+0.9**
SOCE	**Pocosol**	**0.42**	**280**	*i* P	**Pn**	**19 58 40.6**	**-0.1**
SOCE				*i* S	**Sn**	**19 58 52.9**	**0.0**
SOCE				IAML		19 58 54.0	
	comp=Z,3μm,1.0s						
SOCE	**Pocosol**	**0.42**	**280**	eP	**Pn**	**19 58 40.6**	**0.0**
SOCE				eS	**Sn**	**19 58 53.0**	**+0.1**
COVE	**Coope Vega, Sa**	**0.45**	**334**	*i* P	**Pn**	**19 58 40.4**	**-0.4**
COVE				IAML		19 58 40.7	
	comp=Z,740nm,1.0s						
COVE				*i* S	**Sn**	**19 58 52.5**	**-0.7**
VACR	**Volcan Arenal**	**0.49**	**289**	eP	**Pn**	**19 58 41.3**	**+0.2**
ACOS	**Acosta**	**0.52**	**176**	eP	**Pn**	**19 58 41.4**	**-0.1**
RAFA	**San Farael, Vo**	**0.52**	**133**	*i* P	**Pn**	**19 58 41.8**	**+0.1**
RAFA				IAML		19 58 43.0	
	comp=Z,2μm,1.0s						
VTLA	**Turrialba Volc**	**0.52**	**126**	eP	**Pn**	**19 58 41.6**	**-0.1**
CVTR	**Volcan Turrial**	**0.52**	**124**	eP	**Pn**	**19 58 41.6**	**-0.2**
CEDE	**Laguna Cedeo**	**0.52**	**289**	eP	**Pn**	**19 58 41.6**	**+0.2**
VTCV	**VTCV, Calle Va**	**0.57**	**125**	eP	**Pn**	**19 58 42.0**	**+0.1**
VTCV				eS	**Sn**	**19 58 55.6**	**+0.5**
REPA	**Paraso**	**0.58**	**146**	eP	**Pn**	**19 58 42.9**	**+1.0**
**LCR

DRS	**Darwin Rock St** 9.3nm,0.7s	**8.47**	**169**	P	**Pn**	**20 12 54.0 +3.6**
MTN	**Manton Dam** 7.8nm,1.2s	**8.92**	**168**	P	**Pn**	**20 12 59.2 +2.7**
KDU	**Kakadu** 7.0nm,1.1s	**9.15**	**160**	P	**Pn**	**20 13 00.6 +1.0**
COEN	**Coen** 7.8nm,2.2s	**16.93**	**126**	P	**Pn**	**20 14 44.3 -0.3**
QIS	**Mount Isa** 6.2nm,0.6s	**19.26**	**149**	P	**P**	**20 15 09.0 -3.4**
AS01	**Alice Springs** 16nm,0.5s	**20.01**	**167**	P	**P**	**20 15 17.4 -3.1**
WRKA	**Warakurna**	**20.86**	**182**	P	**P**	**20 15 26.3 -3.5**
OOD	**Oodnadatta**	**24.39**	**166**	P	**P**	**20 16 01.8 -4.3**

*SDD **15** 20:12:47.8±1.8, 18°.32N×68°.13W, h120km±15km, MD3.1, ML2.4, MW3.6*
*NEIC **15** 20:12:47.6±1.4, 18°.2N±0°.2×68°.16W±0°.09, h100km±9km, ML2.3/16, Md2.8/8(RSPR), Error ellipse: s-maj=29.0km s-min=7.5km az=198.0*
*RSPR **15** 20:12:48.3, 18°.22N×68°.14W, h97km±2km, MD2.8/8*
ISC 15 20:12:47.5±2.1, 18°.3N±0°.1×68°.12W±0°.05, h105km±14km, n41, σ0s72/48, 15C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.33**	**310**	⇑*eP*	**Pn**	**20 13 02.0**	**-0.8**
PCDR	**Punta Cana, DR**	**0.33**	**310**	*eS*	**Sn**	**20 13 14.1**	**-0.1**
PCDR	**Punta Cana, DR**	**0.33**	**310**		**Pn**	**20 13 02.0**	**-0.8**
PCDR	**Punta Cana, DR**	**0.33**	**310**		**Sn**	**20 13 14.1**	**-0.1**
PCDR	**Punta Cana, DR**	**0.33**	**310**	IAML		20 13 12.7	
	comp=N,128nm,1.8s						
PCDR	**Punta Cana, DR**	**0.33**	**310**	IAML		20 13 17.6	
	comp=E,54nm,2.2s						
HIDR	**Higuey Centro**	**0.64**	**297**	⇑*eP*g	**Pn**	**20 13 05.5**	**+0.7**
HIDR				IAML		20 13 18.9	
	comp=E,82nm,0.2s						
HIDR				IAML		20 13 20.8	
	comp=N,56nm,0.9s						
SADR	**Isla Saona**	**0.64**	**260**	⇑*eP*g	**Pn**	**20 13 04.5**	**-0.3**
SADR				IAML		20 13 18.9	
	comp=E,85nm,1.8s						
SADR				⇓*eS*g	**Sn**	**20 13 19.7**	**+1.9**
SADR				IAML		20 13 21.2	
	comp=N,124nm,1.6s						
SADR				IAML		20 13 33.1	
	comp=N,102nm,1.4s						
AGPR	**Aguadilla, PR**	**0.97**	**80**	⇑*eP*	**Pn**	**20 13 07.8**	**-0.1**
AGPR	**Aguadilla, PR**	**0.97**	**80**	*eS*	**Sn**	**20 13 24.0**	**+0.7**
AGPR	**Aguadilla, PR**	**0.97**	**80**		**Pn**	**20 13 07.8**	**-0.1**
AGPR					**Sn**	**20 13 24.0**	**+0.7**
AGPR	**Aguadilla, PR**	**0.97**	**80**	IAML		20 14 01.3	
	comp=E,84nm,2.2s						
AGPR	**Aguadilla, PR**	**0.97**	**80**	⇑*eP*g	**Pn**	**20 13 08.2**	**+0.2**
AGPR				⇑*eS*g	**Sn**	**20 13 23.9**	**+0.5**
AGPR				IAML		20 13 25.9	
	comp=E,65nm,1.4s						
AGPR				IAML		20 13 42.1	
	comp=N,89nm,2.6s						
LSP	**Las Mesas**	**0.99**	**97**	⇓*eP*	**Pn**	**20 13 08.3**	**+0.1**
LSP	**Las Mesas**	**0.99**	**97**	*eS*	**Sn**	**20 13 24.8**	**+1.1**
LSP	**Las Mesas**	**0.99**	**97**		**Pn**	**20 13 08.3**	**+0.1**
LSP					**Sn**	**20 13 24.8**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.00**	**107**	⇑*eP*	**Pn**	**20 13 08.6**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.00**	**107**	*eS*	**Sn**	**20 13 22.9**	**-1.0**
CRPR	**Cabo Rojo, PR**	**1.00**	**107**		**Pn**	**20 13 08.6**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.00**	**107**	IAML		20 13 21.0	
	comp=E,34nm,2.4s						
CRPR	**Cabo Rojo, PR**	**1.00**	**107**		**Sn**	**20 13 22.9**	**-1.0**
CRPR	**Cabo Rojo, PR**	**1.00**	**107**	⇑*eP*g	**Pn**	**20 13 08.9**	**+0.6**
CRPR				IAML		20 13 20.7	
	comp=E,49nm,1.7s						
CRPR				⇑*eS*g	**Sn**	**20 13 23.6**	**-0.3**
CRPR				IAML		20 14 06.2	
	comp=N,40nm,1.8s						
MLPR	**Magueyes Islan**	**1.07**	**108**	⇑*eP*	**Pn**	**20 13 08.9**	**-0.1**
MLPR	**Magueyes Islan**	**1.07**	**108**	*eS*	**Sn**	**20 13 23.6**	**-1.6**
MLPR	**Magueyes Islan**	**1.07**	**108**		**Pn**	**20 13 08.9**	**-0.1**
MLPR					**Sn**	**20 13 23.6**	**-1.6**
MIDR	**Miches**	**1.12**	**308**	*eP*g	**Pn**	**20 13 09.4**	**-0.1**
MIDR				IAML		20 13 25.2	
	comp=N,20nm,2.3s						
MIDR				*eS*g	**Sn**	**20 13 25.6**	**-0.6**
AOPR	**Arecibo Observ**	**1.29**	**88**	⇓*eP*	**Pn**	**20 13 11.7**	**0.0**
AOPR	**Arecibo Observ**	**1.29**	**88**	*eS*	**Sn**	**20 13 29.7**	**-0.1**
AOPR	**Arecibo Observ**	**1.29**	**88**		**Pn**	**20 13 11.7**	**0.0**
AOPR					**Sn**	**20 13 29.7**	**-0.1**
AOPR	**Arecibo Observ**	**1.29**	**88**	IAML		20 13 31.9	
	comp=N,63nm,0.5s						
AOPR	**Arecibo Observ**	**1.29**	**88**	⇑*eP*g	**Pn**	**20 13 11.6**	**0.0**
AOPR				*eS*g	**Sn**	**20 13 29.7**	**-0.1**
AOPR				IAML		20 13 32.5	
	comp=N,56nm,0.2s						
AOPR				IAML		20 13 32.7	
	comp=E,88nm,0.2s						
HATOM	**Hato Mayor del**	**1.29**	**292**	⇑*eP*g	**Pn**	**20 13 11.5**	**-0.1**
HATOM				⇑*eS*g	**Sn**	**20 13 29.9**	**0.0**
HATOM				IAML		20 13 43.9	
	comp=N,29nm,3.5s						
UUPR	**Utuado, UPR, P**	**1.33**	**92**	⇑*eP*	**Pn**	**20 13 12.4**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.33**	**92**	*eS*	**Sn**	**20 13 30.9**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.33**	**92**		**Pn**	**20 13 12.4**	**+0.5**
UUPR					**Sn**	**20 13 30.9**	**+0.4**
CELP	**Cerrillos**	**1.48**	**98**	⇓*eP*	**Pn**	**20 13 14.4**	**+0.6**
CELP	**Cerrillos**	**1.48**	**98**	*eS*	**Sn**	**20 13 33.1**	**-0.5**
CELP	**Cerrillos**	**1.48**	**98**		**Pn**	**20 13 14.4**	**+0.6**
CELP					**Sn**	**20 13 33.1**	**-0.5**
CELP	**Cerrillos**	**1.48**	**98**	IAML		20 13 34.5	
	comp=N,20nm,2.9s						
CELP	**Cerrillos**	**1.48**	**98**	*eP*g	**Pn**	**20 13 15.3**	**+1.5**
CELP				⇑*eS*g	**Sn**	**20 13 34.1**	**+0.4**
CELP				IAML		20 13 34.2	
	comp=N,18nm,2.9s						
HUMP	**Col San Antoni**	**2.16**	**94**	Pn	**Pn**	**20 13 21.2**	**-1.1**
HUMP				IAML		20 14 03.6	
	comp=E,13nm,2.9s						
HUMP				IAML		20 14 18.0	
	comp=N,13nm,2.3s						

*IDC **15** 20:29:34.5±1.5, 2°.57N×127°.67E, h0km, mb3.5/4, mbtmp3.6/4, MS3.9/3, Error ellipse: s-maj=121.0km s-min=21.7km az=70.0*
*DJA **15** 20:29:57.1±1.2, 3°N±9°×12°8E±°, h189km±14km, M3.8/7, mB5.0/1, mb3.7/4, MLv3.8/7, Mw(mB)4.3/1*
ISC 15 20:29:48.2±4.6, 3°.1N±0°.4×128°.8E±0°.2, h150km, n10, σ2s25/6, mb3.5/4, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.71**	**213**	P	**Pn**	**20 30 35.3**	**+3.3**
SANI	**Sanana**	**5.83**	**209**	P	**Pn**	**20 31 11.1**	**-1.6**
	26nm,0.8s,2μm0.3nm						
GTOI	**Gorontalo**	**6.30**	**248**	P	**Pn**	**20 31 19.5**	**+0.5**
	6.8nm,1.6s,0.0nm						
LUWI	**Luwuk**	**7.31**	**236**	P	**Pn**	**20 31 31.5**	**-0.9**
WRA	**Warramunga Arr**	**23.50**	**167**	P	**P**	**20 34 43.9**	**-0.8**
	1.3nm,0.4s,baz=344,slow=10,SNR=32						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**27.03**	**170**	P	**P**	**20 35 16.2**	**-0.4**
	0.2nm,0.5s,baz=352,slow=8.5,SNR=4.3						
	0.2nm,0.5s						
NWAO	**Narrogin (SRO)**	**37.45**	**196**	LR	LR	20 54 39.7	
	comp=Z,101nm,18.1s,baz=187,slow=41						
SONM	**Songino Array**	**48.61**	**340**	P	P	20 38 20.8	+4.0
	0.3nm,0.5s,baz=147,slow=8.2,SNR=2.1						
	0.3nm,0.5s						
MA2	**Magadan**	**58.85**	**13**	LR	LR	21 05 40.5	
	comp=Z,67nm,19.3s,baz=31,slow=36						
MKAR	**Makanchi Array**	**59.30**	**325**	P	P	20 39 36.6	+2.3
	0.5nm,0.5s,baz=117,slow=7.7,SNR=9.1						
MKAR				LR	LR	21 05 52.3	
	comp=Z,175nm,19.9s,baz=323,slow=37						
	0.5nm,0.5s						

*TEH **15** 20:40:48.6, 33°.78N×45°.68E, h8km±64km, ML2.8*
*ISN **15** 20:40:48.4±1.0, 33°.74N×45°.66E, h24km±34km, ML2.6*
ISC 15 20:40:48.2±1.1, 33°.76N±0°.04×45°.63E±0°.08, h10km, n10, σ0s44/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.42**	**33**	Pg	**Pg**	**20 40 56.3**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.50**	**106**	Pg	**Pg**	**20 40 57.9**	**0.0**
IBDR	**Badra**	**0.70**	**159**	*eP*g	**Pg**	**20 41 01.0**	**-0.7**
	baz=340						
IBDR				*eS*g	**Sg**	**20 41 11.0**	**+0.2**
IGHG	**Ghaleghazi**	**0.96**	**54**	Pg	**Pg**	**20 41 06.3**	**-0.4**
IDHR	**Dehrash**	**1.12**	**34**	Pg	**Pg**	**20 41 09.3**	**-0.6**
ILIN	**Lien**	**1.59**	**43**	Pg	**Pg**	**20 41 18.7**	**-0.1**
IKFM	**Kafar-mosalman**	**1.86**	**97**	Pn	**Pb**	**20 41 22.6**	**+0.3**
IKRK	**Kirkuk**	**1.95**	**327**	*e*Pn	**Pn**	**20 41 22.0**	**+0.6**
IKRK				*e*Sn	**Sb**	**20 41 48.0**	**-0.2**
IKRK				AML	AML	20 42 00.5	
	comp=N,54nm,0.3s						
IKRK				AML	AML	20 42 02.8	
	comp=E,73nm,0.5s						
IBZA	**Bozab**	**1.98**	**69**	Pn	**Pb**	**20 41 24.1**	**-0.4**
SNQR	**Sonqor, Kerman**	**1.98**	**56**	Pn	**Pb**	**20 41 24.4**	**-0.1**

*IDC **15** 20:46:33.0±0.7, 6°.76N×72°.93W, h160km±8km, mb3.6/6, mbtmp4.2/10, MS4.2/2, Error ellipse: s-maj=21.6km s-min=7.3km az=133.0*
*RSNC **15** 20:46:35.4±0.0, 7°N±1°×7°3W±°, h141km±4km, M4.0, mb4.5, mB4.8, mBc5.9, ML3.5, ML4.5, MLv4.3, Mw(mB)4.1*
ISC 15 20:46:32.6±0.7, 6°.87N±0°.03×73°.10W±0°.04, h149km±6km, n51, σ1s48/88, mb3.9/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.61**	**40**	P	**Pn**	**20 46 56.4**	**+1.3**
PAMC				S	**Sn**	**20 47 13.4**	**+1.2**
TAMC	**Tame, Arauca**	**1.36**	**108**	P	**Pn**	**20 47 02.0**	**+1.2**
TAMC				S	**Sn**	**20 47 23.5**	**+1.2**
OCAC	**Ocana**	**1.38**	**351**	P	**Pn**	**20 47 01.7**	**+0.6**
OCAC				S	**Sn**	**20 47 23.1**	**+0.2**
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	P	**Pn**	**20 47 00.2**	**-0.8**
PTBC				S	**Sn**	**20 47 21.2**	**-1.5**
SPBC	**San Pablo de B**	**1.55**	**219**	P	**Pn**	**20 47 02.5**	**-0.3**
SPBC				S	**Sn**	**20 47 24.6**	**-1.2**
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	P	**Pn**	**20 47 07.1**	**+1.0**
ZARC				S	**Sn**	**20 47 32.0**	**+0.3**
ZARC				S		20 47 32.1	
NORC	**Norcasia**	**2.19**	**234**	P	**Pn**	**20 47 09.6**	**-0.4**
NORC				S	**Sn**	**20 47 37.6**	**-1.1**
CHIC	**Chingaza**	**2.31**	**196**	P	**Pn**	**20 47 12.1**	**+0.3**
CHIC				S	**Sn**	**20 47 41.6**	**-0.4**
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**20 47 13.6**	**+1.3**
	263nm,0.4s,baz=42,slow=22,SNR=98						
ROSC				S	**Sn**	**20 47 44.6**	**+1.8**
	687nm,0.4s,baz=28,slow=22,SNR=8.8						
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**20 47 13.6**	**+1.3**
ROSC				S	**Sn**	**20 47 42.7**	**-0.1**
CVER	**Cruz Verde, Cu**	**2.52**	**203**	P	**Pn**	**20 47 15.4**	**+0.9**
CVER				S	**Sn**	**20 47 47.1**	**+0.4**
UREC	**San Jos de Ur**	**2.57**	**290**	P	**Pn**	**20 47 14.0**	**-0.6**
UREC				S	**Sn**	**20 47 44.7**	**-2.3**
GUY2C	**Guyana, Caldas**	**2.78**	**234**	P	**Pn**	**20 47 18.3**	**+0.6**
GUY2C				S	**Sn**	**20 47 53.7**	**+1.3**
VILC	**Villavicencio,**	**2.80**	**192**	P	**Pn**	**20 47 17.3**	**-0.3**
VILC				S	**Sn**	**20 47 51.9**	**-0.4**
PTGC	**Puerto Gaitan,**	**2.82**	**160**	P	**Pn**	**20 47 16.9**	**-0.8**
PTGC				S	**Sn**	**20 47 49.8**	**-2.7**
DBBC	**Dabeiba**	**3.10**	**273**	P	**Pn**	**20 47 21.4**	**+0.1**
DBBC				S	**Sn**	**20 47 57.7**	**-1.1**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**20 47 23.2**	**+1.1**
	108nm,0.3s,baz=245,slow=10,SNR=49						
SDV				S	**Sn**	**20 48 00.9**	**+0.3**
	285nm,0.6s,baz=256,slow=22,SNR=41						
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**20 47 23.3**	**+1.1**
SDV				S	**Sn**	**20 48 01.3**	**+0.8**
ARGC	**Ariguani, Magd**	**3.18**	**339**	P	**Pn**	**20 47 24.6**	**+2.3**
ARGC				S	**Sn**	**20 48 02.6**	**+1.7**
ANIL	**Santa Ana**	**3.29**	**224**	P	**Pn**	**20 47 25.3**	**+1.3**
ANIL				S	**Sn**	**20 48 06.1**	**+2.4**
PRAC	**Prado**	**3.60**	**210**	P	**Pn**	**20 47 27.4**	**-0.4**
PRAC				S	**Sn**	**20 48 09.5**	**-1.0**
APAC	**Apartado, Choc**	**3.60**	**287**	P	**Pn**	**20 47 28.0**	**+0.3**
APAC				S	**Sn**	**20 48 10.1**	**-0.4**
ORTC	**Ortega, Tolima**	**3.63**	**216**	P	**Pn**	**20 47 28.2**	**0.0**
ORTC				S	**Sn**	**20 48 11.7**	**+0.4**
SJCC	**San Jacinto, C**	**3.65**	**326**	P	**Pn**	**20 47 27.8**	**-0.6**
SJCC				S	**Sn**	**20 48 09.9**	**-1.8**
PLMC	**San Jos del P**	**3.72**	**239**	P	**Pn**	**20 47 29.6**	**+0.3**
PLMC				S	**Sn**	**20 48 12.7**	**-0.6**
LCBC	**Los crdobas,**	**3.80**	**302**	P	**Pn**	**20 47 33.6**	**+3.4**
LCBC				S	**Sn**	**20 48 13.1**	**-1.9**
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	P	**Pn**	**20 47 34.1**	**-0.6**
CRJC				S	**Sn**	**20 48 21.5**	**-1.5**
GUVC	**San Jose del G**	**4.32**	**174**	P	**Pn**	**20 47 39.5**	**+2.4**
GUVC				S	**Sn**	**20 48 25.6**	**-1.7**
YOTC	**Yotoco, Valle**	**4.32**	**229**	P	**Pn**	**20 47 36.6**	**-0.6**
YOTC				S	**Sn**	**20 48 30.5**	**+3.1**
CAPC	**Capurgana**	**4.57**	**293**	P	**Pn**	**20 47 39.3**	**-1.1**
CAPC				S	**Sn**	**20 48 28.6**	**-4.5**
PIZC	**Pizarro, Choco**	**4.64**	**246**	P	**Pn**	**20 47 43.2**	**+1.9**
PIZC				S	**Sn**	**20 48 36.5**	**+1.7**
PTAC	**Punta Ardita,**	**4.69**	**274**	P	**Pn**	**20 47 41.9**	**0.0**
PTAC				S	**Sn**	**20 48 34.6**	**-1.3**
BETC	**Betania**	**4.77**	**209**	P	**Pn**	**20 47 46.7**	**+3.6**
BETC				S	**Sn**	**20 48 37.3**	**-0.7**
URIC	**Uribia, Colomb**	**4.93**	**13**	P	**Pn**	**20 47 44.3**	**-0.8**
URIC				S	Sn	20 48 34.1	-7.5
MALC	**Bahia Malaga**	**5.08**	**236**	P	**Pn**	**20 47 48.7**	**+1.5**
MALC				S	**Sn**	**20 48 46.7**	**+1.4**
JAMC	**Jamundi, Valle**	**5.08**	**225**	P	**Pn**	**20 47 46.8**	**-0.6**
	37nm,0.6s,1μm0.1nm0.4nm						
JAMC				S	**Sn**	**20 48 45.1**	**-0.6**
	37nm,0.6s,1μm0.1nm0.4nm						
GARC	**Garzon, Huila**	**5.22**	**207**	P	**Pn**	**20 47 48.3**	**-1.0**
GARC				S	**Sn**	**20 48 45.0**	**-4.1**
POPC	**Popayan, Colom**	**5.58**	**220**	P	**Pn**	**20 47 53.7**	**-0.4**
	23nm,0.4s,358nm						
POPC				S	**Sn**	**20 48 54.7**	**-2.9**
	23nm,0.4s,358nm						
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**20 48 38.7**	**-0.7**
	3.2nm,0.4s,baz=198,slow=23,SNR=1.7						
PCRV				S	**Sn**	**20 50 18.0**	**-1.2**
	6.4nm,0.7s,baz=335,slow=13,SNR=1.4						
SJG	**San Juan**	**13.07**	**31**	P	**Pn**	**20 49 31.8**	**-1.0**
	7.2nm,0.4s,baz=236,slow=18,SNR=2.7						
TEIG	**Tepich**	**19.83**	**314**	P	**P**	**20 50 53.4**	**+1.5**
	5.9nm,0.5s,baz=217,slow=5.1,SNR=7.1						
	5.9nm,0.5s						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**20 53 24.2**	**+0.8**
	0.6nm,0.4s,baz=129,slow=9.5,SNR=12						
TXAR				PcP	**PcP**	**20 55 44.5**	**+0.1**
	0.3nm,0.6s,baz=134,slow=6.5,SNR=3.6						
	0.6nm,0.4s						
RCBR	**Riachuelo**	**39.20**	**108**	LR	LR	21 10 50.5	
	comp=Z,191nm,20.3s,baz=334,slow=37						
LPIG	**La Paz**	**39.57**	**300**	LR	LR	21 12 24.9	
	comp=Z,549nm,18.9s,baz=39,slow=39						
ULM	**Lac du Bonnet**	**47.25**	**340**	P	**P**	**20 54 50.6**	**0.0**
	2.4nm,0.5s,baz=108,slow=5.6,SNR=4.6						
	2.4nm,0.5s						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**20 54 57.9**	**+0.6**
	0.4nm,0.4s,baz=127,slow=9.2,SNR=6.5						
	0.4nm,0.4s						
SCHQ	**Schefferville**	**48.09**	**5**	P	**P**	**20 54 57.0**	**-0.1**
	3.8nm,0.8s,baz=195,slow=7.4,SNR=5.6						
	3.8nm,0.8s						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**20 56 44.9**	**+0.1**
	0.9nm,0.6s,baz=137,slow=6.4,SNR=6.0						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**122.27**	**20**	PKP	**PKPdf**	**21 05 08.9**	**-1.2**
	0.1nm,0.4s,baz=336,slow=2.0,SNR=4.2						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**21 06 02.9**	**-1.5**
	1.1nm,0.5s,baz=118,slow=3.6,SNR=30						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**21 06 06.1**	**-1.3**
	1.1nm,0.4s,baz=108,slow=2.7,SNR=49						

*KRNET **15** 20:49:17.0±0.1, 39°.11N×77°.56E, mb3.0*
*SOME **15** 20:49:17.5, 39°.43N×77°.57E, h10km*
*NNC **15** 20:49:20.0±6.4, 38°.85N×77°.86E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=46.6km s-min=40.4km az=159.0*
ISC 15 20:49:17.6±2.7, 39°.1N±0°.1×77°.57E±0°.05, h16km, n49, σ1s91/75, 17C-14D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**2.61**	**333**	⇓*iP*	**Pn**	**20 50 00.5**	**+1.1**
	baz=33						
NRN				⇓*iS*	**Sn**	**20 50 32.2**	**+1.2**
	baz=33						
TARG	**Taragay, Kyrgy**	**2.62**	**4**	⇑*iP*	**Pn**	**20 50 00.7**	**+1.1**
	baz=4.0						
TARG				⇑*iS*	**Sn**	**20 50 32.5**	**+1.1**
	baz=4.0						
KDJ	**Kajisay**	**3.03**	**355**	⇑*eP*	**Pn**	**20 50 05.9**	**+0.9**
	baz=55						
KDJ				⇑*eS*	**Sn**	**20 50 42.2**	**+1.1**
	baz=55						
ULHL	**Ulahol**	**3.29**	**343**	⇓*iP*	**Pn**	**20 50 10.0**	**+1.4**
	baz=43						
ULHL				⇓*iS*	**Sn**	**20 50 48.6**	**+1.1**
	baz=43						
PRZ	**Przheval'sk**	**3.43**	**10**	⇓*eP*	**Pn**	**20 50 11.9**	**+1.4**
	baz=10.0						
PRZ				⇓*eS*	**Sn**	**20 50 51.9**	**+1.0**
	baz=10.0						
BOOM	**Boomskoye usch**	**3.59**	**340**	⇑*iP*	**Pn**	**20 50 14.1**	**+1.3**
	baz=41						
BOOM				⇑*iS*	**Sn**	**20 50 55.6**	**+0.6**
	baz=41						
ARLS	**Aral**	**3.70**	**319**	⇑*iP*	**Pn**	**20 50 15.2**	**+1.0**
	baz=19						
ARLS				⇑*iS*	**Sn**	**20 50 57.8**	**+0.3**
	baz=19						
UCH	**Uchtor**	**3.88**	**324**	⇓*iP*	**Pn**	**20 50 18.3**	**+1.3**
	baz=24						
UCH				⇓*iS*	**Sn**	**20 51 02.9**	**+0.4**
	baz=24						
TNSS	**Tian-Shan**	**3.95**	**353**	*eP*	**Pb**	**20 50 24.3**	**-2.7**
	11nm,0.2s						
TNSS				*eS*	**Sb**	**20 51 12.4**	**-2.4**
	12nm,0.9s						
TNSS	**Tian-Shan**	**3.95**	**353**	Pg	**Pb**	**20 50 24.3**	**-2.7**
	11nm,0.2s						
TNSS				Lg	Lg	20 51 12.4	
	12nm,0.9s						
KBK	**Karagaybulak**	**4.06**	**332**	⇑*iP*	**Pn**	**20 50 20.5**	**+1.3**
	baz=32						
KBK				⇑*iS*	**Sn**	**20 51 07.0**	**+0.5**
	baz=32						
MDOK	**Medeo**	**4.07**	**355**	*eP*	**Pb**	**20 50 26.3**	**-2.6**
	15nm,0.4s						
MDOK				*eS*	**Sb**	**20 51 15.9**	**-1.9**
	17nm,0.5s						
MDOK	**Medeo**	**4.07**	**355**	Pg	**Pb**	**20 50 26.3**	**-2.6**
	15nm,0.4s						
MDOK				Pn	Pn	20 50 26.5	+7.2
	8.0nm,0.4s						
MDOK				Lg	Lg	20 51 15.9	
	17nm,0.5s						
MDOK				⇓Sn	**Sb**	**20 51 18.7**	**+0.8**
	20nm,0.6s						
TKM2	**Tokmak 2**	**4.09**	**339**	⇑Pn	**Pb**	**20 50 27.9**	**-1.4**
	2.7nm,0.5s						
TKM2				⇓Sn	**Sb**	**20 51 21.0**	**+2.5**
	4.5nm,0.5s						
MTBS	**Maitube**	**4.11**	**348**	*eP*	**Pb**	**20 50 27.2**	**-2.3**
	3.5nm,0.1s						
MTBS				*eS*	**Sb**	**20 51 17.6**	**-1.4**
	9.5nm,0.4s						
MTBS	**Maitube**	**4.11**	**348**	Pg	**Pb**	**20 50 27.2**	**-2.3**
	3.5nm,0.1s						
MTBS				Lg	Lg	20 51 17.6	
	9.5nm,0.4s						
KST	**Kastek**	**4.11**	**343**	*eP*	**Pb**	**20 50 27.1**	**-2.5**
	3.7nm,0.4s						
KST				*eS*	**Sb**	**20 51 17.3**	**-1.8**
	7.2nm,0.5s						
KST	**Kastek**	**4.11**	**343**	Pg	**Pb**	**20 50 27.1**	**-2.5**
	3.7nm,0.4s						
KST				Lg	Lg	20 51 17.3	
	7.2nm,0.5s						
AAA	**Alma-Ata**	**4.12**	**353**	*eP*	**Pb**	**20 50 28.0**	**-1.8**
	20nm,0.4s						
AAA				*eS*	**Sb**	**20 51 18.4**	**-1.1**
	37nm,0.5s						
AAA	**Alma-Ata**	**4.12**	**353**	Pg	**Pb**	**20 50 28.0**	**-1.8**
	20nm,0.4s						
AAA				Lg	Lg	20 51 18.4	
	37nm,0.5s						
KNDC	**Almaty**	**4.13**	**354**	⇑Pn	**Pb**	**20 50 29.1**	**-0.8**
	8.2nm,0.2s						
KNDC				⇓Sn	**Sb**	**20 51 21.3**	**+1.8**
	18nm,0.3s						
KOTS	**Kotyrbulak**	**4.13**	**355**	*eP*	**Pb**	**20 50 28.4**	**-1.7**
	14nm,0.2s						
KOTS				*eS*	**Sb**	**20 51 19.3**	**-0.5**
	28nm,0.6s						
KOTS	**Kotyrbulak**	**4.13**	**355**	Pg	**Pb**	**20 50 28.4**	**-1.7**
	14nm,0.2s						
KOTS				Lg	Lg	20 51 19.3	
	28nm,0.6s						
UZB	**Uzynbulak**	**4.18**	**15**	*eP*	**Pb**	**20 50 28.5**	**-2.3**
	1.9nm,0.4s						
UZB				*eS*	**Sb**	**20 51 19.3**	**-1.8**
	6.3nm,0.4s						
UZB	**Uzynbulak**	**4.18**	**15**	Lg	Lg	20 51 21.5	
	9.8nm,0.8s						
AAK	**Ala-Archa**	**4.22**	**328**	⇑Pn	**Pb**	**20 50 31.5**	**-0.1**
	5.3nm,0.9s						
AA

BLB	**Baldybastay** 6.9nm,0.5s	**5.03**	**8**	Pg	**Pb**	**20 50 44.3 -1.0**
BLB	12nm,0.5s			Lg	Lg	20 51 46.3
ARXS	**Arharly** 3.6nm,0.5s	**5.10**	**2**	*e*P	**Pb**	**20 50 44.9 -1.6**
ARXS	6.3nm,0.6s			*e*S	**Sb**	**20 51 47.7 +0.1**
ARXS	**Arharly** 6.3nm,0.6s	**5.10**	**2**	Lg	Lg	20 51 47.7
DJR	**Jarkent** 1.0nm,0.3s	**5.48**	**17**	*e*P	**Pb**	**20 50 52.0 -0.8**
DJR	5.4nm,0.5s			*e*S	**Sb**	**20 52 00.0 +1.7**
DJR	**Jarkent** 5.4nm,0.5s	**5.48**	**17**	Lg	Lg	20 52 00.0
KK31	**Karatay Array** 0.6nm,0.6s,baz=118,slow=16,SNR=3.5	**6.66**	**309**	⇑P	Pn	20 51 03.8 +9.1
KK31	0.8nm,0.6s,baz=145,slow=22			⇓S	**Sb**	**20 52 25.7 -6.5**

*TAP **15** 20:59:37.9,24°.97N×122°.30E,h137km,ML3.4,C*
*JMA **15** 20:59:37.9±0.2,24°.9N±1°.0×122°.3E±0°.5,h137km±1km,*
MV2.3/14,TAIWAN REGION
ISC 15 20:59:37.3±1.6,24°.96N±0°.05×122°.28E±0°.03,h142km±8km,
n109,σ0°.72/193,7D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=273	**0.27**	**281**	⇓*i*P		**Pn**	**20 59 56.9**	**+0.2**
EGS	baz=241	**0.34**	**251**	*i*P		**Pn**	**20 59 57.4**	**+0.4**
TIPB	**Shuangxi** baz=259	**0.41**	**272**	*i*P		**Pn**	**20 59 57.3**	**0.0**
TIPB	baz=259			*i*S		**Sn**	**21 00 11.2**	**-1.3**
NWF	**Wu-fen Shan** baz=274	**0.47**	**284**	P		**Pn**	**20 59 58.0**	**+0.3**
NWF	baz=274			S		**Sn**	**21 00 12.3**	**-0.8**
WFSB	**Wu-fen Shan** baz=274	**0.47**	**284**	P		**Pn**	**20 59 58.0**	**+0.4**
WFSB	baz=274			S		**Sn**	**21 00 12.7**	**-0.3**
TNOU	**National Taiwa** baz=282	**0.50**	**293**	P		**Pn**	**20 59 57.9**	**+0.2**
TNOU	baz=282			*e*S		**Sn**	**21 00 13.3**	**+0.1**
ILA	**Ilan** baz=248	**0.52**	**249**	*e*P		**Pn**	**20 59 58.0**	**+0.2**
TWC	**Suao** baz=234	**0.52**	**229**	⇓P		**Pn**	**20 59 57.7**	**-0.1**
TWC	baz=234			*e*S		**Sn**	**21 00 12.7**	**-0.7**
EOS2	**EOS2** baz=205	**0.54**	**185**	P		**Pn**	**20 59 58.5**	**+0.7**
EOS2	baz=205			*e*S		**Sn**	**21 00 13.6**	**+0.3**
ESAO	**Su ao** baz=228	**0.55**	**226**	*e*P		**Pn**	**20 59 57.8**	**-0.2**
TWE	**Neicheng** baz=251	**0.60**	**247**	P		**Pn**	**20 59 58.4**	**+0.1**
TWE	baz=251			*e*S		**Sn**	**21 00 14.1**	**-0.1**
NDS	**Dongshan** baz=239	**0.61**	**238**	P		**Pn**	**20 59 58.7**	**+0.4**
NDS	baz=239			*e*S		**Sn**	**21 00 14.6**	**+0.3**
TWA	**Mucha** baz=265	**0.63**	**272**	P		**Pn**	**20 59 58.5**	**0.0**
TWA	baz=265			*e*S		**Sn**	**21 00 14.6**	**0.0**
NHY	**Taipei** baz=271	**0.65**	**277**	*e*P		**Pn**	**20 59 58.2**	**-0.3**
FUSB	**Fushanzhiwuyua** baz=257	**0.66**	**253**	⇓*i*P		**Pn**	**20 59 58.8**	**0.0**
FUSB	baz=257			*e*S		**Sn**	**21 00 14.2**	**-0.8**
YM08	**YM08** baz=285	**0.67**	**290**	*e*P		**Pn**	**20 59 59.0**	**+0.2**
YM08	baz=285			*e*S		**Sn**	**21 00 13.5**	**-1.6**
EOS3	**EOS3** baz=191	**0.67**	**177**	*e*P		**Pn**	**20 59 59.5**	**+0.9**
EOS3	baz=191			*e*S		**Sn**	**21 00 15.5**	**+0.8**
YM01	**YM01** baz=281	**0.67**	**286**	P		**Pn**	**20 59 58.9**	**+0.1**
YM01	baz=281			S		**Sn**	**21 00 15.0**	**-0.1**
EWUT	**Wuta** baz=218	**0.68**	**222**	P		**Pn**	**20 59 59.3**	**+0.5**
EWUT	baz=218			S		**Sn**	**21 00 14.7**	**-0.5**
TWY	**Chenhua** baz=292	**0.69**	**297**	*e*P		**Pn**	**20 59 59.2**	**+0.3**
TWY	baz=292			*e*S		**Sn**	**21 00 14.6**	**-0.7**
PCYT	**Pengchaiyu** baz=337	**0.70**	**344**	*e*P		**Pn**	**20 59 59.5**	**+0.6**
ENA	**Nanau** baz=219	**0.72**	**223**	⇓P		**Pn**	**20 59 59.6**	**+0.5**
ENA	baz=219			*i*S		**Sn**	**21 00 15.1**	**-0.5**
ENTT	**Nioudou** baz=245	**0.72**	**244**	P		**Pn**	**20 59 59.4**	**+0.3**
ENTT	baz=245			*e*S		**Sn**	**21 00 15.8**	**+0.1**
NWLT	**Wulai** baz=258	**0.73**	**256**	P		**Pn**	**20 59 59.1**	**-0.1**
NWLT	baz=258			S		**Sn**	**21 00 15.4**	**-0.4**
NDT	**Datong Townshi** baz=244	**0.78**	**243**	P		**Pn**	**21 00 00.2**	**+0.7**
NDT	baz=244			S		**Sn**	**21 00 16.3**	**-0.2**
JYNG	**Yonagunijimaku**	**0.79**	**130**	P		**Pn**	**20 59 59.7**	**+0.2**
JYNG				*e*S		**Sn**	**21 00 16.1**	**-0.4**
EAHA	**Aohua** baz=217	**0.80**	**218**	P		**Pn**	**21 00 00.0**	**+0.4**
EAHA	baz=217			S		**Sn**	**21 00 16.5**	**-0.1**
TWS1	**Kuangyinshan** baz=278	**0.80**	**281**	*e*P		**Pn**	**20 59 60.0**	**+0.3**
TWS1	baz=278			*e*S		**Sn**	**21 00 16.7**	**+0.2**
LATG	**Datong** baz=246	**0.80**	**239**	⇓*i*P		**Pn**	**21 00 00.6**	**+0.8**
LATG	baz=246			*e*S		**Sn**	**21 00 16.8**	**-0.2**
YOJ	**Yonaguni jima** baz=135	**0.83**	**126**	*e*P		**Pn**	**20 59 60.0**	**+0.1**
YOJ	baz=135			*e*S		**Sn**	**21 00 16.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.83**	**126**	S		**Sn**	**21 00 16.7**	**-0.3**
EOS4	**EOS4** baz=179	**0.83**	**178**	*e*P		**Pn**	**20 59 59.7**	**+0.2**
EOS4	baz=179			*e*S		**Sn**	**21 00 16.8**	**+0.4**
YHNB	**Yeheng** baz=243	**0.87**	**251**	*e*P		**Pn**	**21 00 00.6**	**+0.3**
YHNB	baz=243			S		**Sn**	**21 00 16.9**	**-0.9**
NSK	**Sanguang** baz=243	**0.88**	**252**	⇓*i*P		**Pn**	**21 00 00.7**	**+0.3**
NSK	baz=243			*e*S		**Sn**	**21 00 16.8**	**-1.1**
NNSB	**Datong** baz=243	**0.97**	**237**	P		**Pn**	**21 00 01.8**	**+0.6**
NNSB	baz=243			*e*S		**Sn**	**21 00 18.9**	**-0.5**
NNSH	**Datong** baz=244	**0.97**	**237**	*e*P		**Pn**	**21 00 01.9**	**+0.6**
NNSH	baz=244			*e*S		**Sn**	**21 00 18.8**	**-0.6**
NNS	**Nan Shan** baz=244	**0.97**	**238**	*e*P		**Pn**	**21 00 01.8**	**+0.5**
NNS	baz=244			S		**Sn**	**21 00 19.0**	**-0.4**
NCUH	**Zhongli** baz=260	**0.99**	**271**	*e*P		**Pn**	**21 00 01.8**	**+0.6**
NCUH	baz=260			*e*S		**Sn**	**21 00 19.4**	**-0.1**
ETL	**Fush Village** baz=215	**0.99**	**217**	P		**Pn**	**21 00 01.5**	**+0.2**
ETL				S		**Sn**	**21 00 19.5**	**-0.1**
NACB	**Ninganchiao** baz=216	**1.00**	**219**	⇓*i*P		**Pn**	**21 00 01.3**	**0.0**
NACB	baz=216			S		**Sn**	**21 00 18.6**	**-0.9**
TWD	**Chiawan** baz=214	**1.07**	**216**	*e*P		**Pn**	**21 00 02.1**	**+0.2**
TWD	baz=214			*e*S		**Sn**	**21 00 19.7**	**-1.0**
NFF	**Wufeng Townshi** baz=253	**1.10**	**253**	*e*P		**Pn**	**21 00 02.6**	**+0.3**
NFF	baz=253			S		**Sn**	**21 00 20.0**	**-1.4**
NJD	**Zhudong** baz=251	**1.10**	**259**	*e*P		**Pn**	**21 00 03.4**	**+1.2**
NJD	baz=251			*e*S		**Sn**	**21 00 21.2**	**-0.1**
NHW	**Xinwu Township** baz=265	**1.12**	**273**	*e*P		**Pn**	**21 00 03.2**	**+0.8**
NHW	baz=265			*e*S		**Sn**	**21 00 21.7**	**+0.2**
HWA	**Hwalien** baz=206	**1.15**	**212**	P		**Pn**	**21 00 03.6**	**+0.8**
HWA	baz=206			*e*S		**Sn**	**21 00 22.6**	**+0.5**
FUSS	**Fushou** baz=229	**1.18**	**233**	P		**Pn**	**21 00 04.2**	**+0.9**
FUSS	baz=229			*e*S		**Sn**	**21 00 23.0**	**0.0**
LIOB	**Emei** baz=249	**1.19**	**255**	*e*P		**Pn**	**21 00 03.6**	**+0.5**
LIOB	baz=249			*e*S		**Sn**	**21 00 22.0**	**-0.7**
NSTT	**Nanjuang** baz=248	**1.21**	**255**	*e*P		**Pn**	**21 00 03.9**	**+0.6**
NSTT	baz=248			*e*S		**Sn**	**21 00 22.2**	**-0.8**
ETM	**Tongmen** baz=225	**1.22**	**216**	*e*P		**Pn**	**21 00 03.5**	**+0.1**
ETM	baz=225			*e*S		**Sn**	**21 00 22.0**	**-1.2**
LXIB	**Xiulin Townshi** baz=222	**1.22**	**220**	*e*P		**Pn**	**21 00 03.3**	**-0.3**
LXIB	baz=222			*e*S		**Sn**	**21 00 22.9**	**-0.7**
TWT	**Tachien** baz=241	**1.23**	**235**	*e*P		**Pn**	**21 00 04.8**	**+1.2**
TWT	baz=241			*e*S		**Sn**	**21 00 23.9**	**+0.3**
WHF	**Hehuan Shan** baz=230	**1.23**	**229**	*e*P		**Pn**	**21 00 04.4**	**+0.5**
WHF	baz=230			*e*S		**Sn**	**21 00 23.7**	**-0.4**
TDCB	**Techi** baz=239	**1.24**	**236**	P		**Pn**	**21 00 04.8**	**+1.1**
TDCB	baz=239			S		**Sn**	**21 00 23.6**	**-0.2**
TEYL	**Yanliau Villag** baz=207	**1.25**	**210**	*e*P		**Pn**	**21 00 03.9**	**+0.2**
TEYL	baz=207			*e*S		**Sn**	**21 00 23.6**	**-0.2**
SHUL	**Shoufeng** baz=207	**1.34**	**209**	*e*P		**Pn**	**21 00 04.8**	**+0.2**
SHUL	baz=207			*e*S		**Sn**	**21 00 25.5**	**+0.2**
CHGB	**Renai** baz=230	**1.35**	**229**	P		**Pn**	**21 00 05.9**	**+1.0**
CHGB	baz=230			S		**Sn**	**21 00 25.6**	**-0.3**
ESL	**Shilin** baz=222	**1.38**	**214**	*e*P		**Pn**	**21 00 04.6**	**-0.4**
WHP	**Taichung City** baz=248	**1.39**	**241**	*e*P		**Pn**	**21 00 06.0**	**+0.8**
WHP	baz=248			S		**Sn**	**21 00 25.9**	**-0.5**
NMLH	**Miaoli** baz=253	**1.42**	**253**	*e*P		**Pn**	**21 00 05.5**	**+0.1**
OWD	**Renai** baz=223	**1.42**	**225**	*e*P		**Pn**	**21 00 06.7**	**+1.1**
OWD	baz=223			*e*S		**Sn**	**21 00 26.9**	**-0.1**
WUSB	**Renai** baz=229	**1.43**	**228**	P		**Pn**	**21 00 06.8**	**+1.1**
WUSB	baz=229			*e*S		**Sn**	**21 00 27.0**	**-0.3**
IRIF	**Iriomote-Funau**	**1.46**	**115**	P		**Pn**	**21 00 06.2**	**+0.4**
IRIF				S		**Sn**	**21 00 26.7**	**-0.8**
WARBT	**Fenglin Townsh** baz=211	**1.48**	**214**	P		**Pn**	**21 00 05.7**	**-0.4**
WARBT	baz=211			*e*S		**Sn**	**21 00 26.2**	**-1.9**
NSY	**Sanyi** baz=249	**1.48**	**249**	*e*P		**Pn**	**21 00 06.9**	**+0.8**
NSY	baz=249			*e*S		**Sn**	**21 00 28.0**	**0.0**
TWQ1	**Liyutan** baz=246	**1.50**	**246**	*e*P		**Pn**	**21 00 07.2**	**+1.0**
TWQ1	baz=246			S		**Sn**	**21 00 28.1**	**-0.3**
WPL	**Puli Township** baz=240	**1.53**	**232**	*e*P		**Pn**	**21 00 07.6**	**+1.0**
WCS	**Beigang Elemen** baz=242	**1.54**	**235**	*e*P		**Pn**	**21 00 07.8**	**+1.1**
WCS	baz=242			S		**Sn**	**21 00 29.3**	**+0.2**
DPDB	**Guoxing** baz=241	**1.54**	**234**	*e*P		**Pn**	**21 00 07.8**	**+1.0**
VWDT	**VWDT** baz=219	**1.59**	**221**	P		**Pn**	**21 00 08.5**	**+1.3**
VWDT	baz=219			S		**Sn**	**21 00 30.4**	**+0.4**
SMLT	**Sun Moon Lake** baz=231	**1.65**	**230**	*e*P		**Pn**	**21 00 09.2**	**+1.2**
SMLT	baz=231			*e*S		**Sn**	**21 00 32.1**	**+0.5**
HATJ	**Hateruma jima** baz=240	**1.65**	**123**	*e*P		**Pn**	**21 00 08.2**	**+0.3**
HATJ				*e*S		**Sn**	**21 00 31.7**	**+0.4**
HGSD	**Ruisui** baz=219	**1.66**	**208**	P		**Pn**	**21 00 08.4**	**+0.4**
HGSD	baz=219			*e*S		**Sn**	**21 00 31.6**	**+0.1**
TYC	**Yuchr** baz=232	**1.67**	**231**	*e*P		**Pn**	**21 00 09.1**	**+1.0**
TYC	baz=232			*e*S		**Sn**	**21 00 31.7**	**+0.1**
SSLB	**Suanglung** baz=228	**1.68**	**226**	*e*P		**Pn**	**21 00 09.3**	**+1.0**
SSLB	baz=228			*e*S		**Sn**	**21 00 32.1**	**+0.1**
EHY	**Hungye** baz=214	**1.69**	**211**	*e*P		**Pn**	**21 00 09.0**	**+0.6**
EHYH	**Wanrong** baz=216	**1.69**	**211**	*e*P		**Pn**	**21 00 09.0**	**+0.6**
WWF	**Wufeng** baz=245	**1.71**	**238**	*e*P		**Pn**	**21 00 09.1**	**+0.6**
WWF	baz=245			*e*S		**Sn**	**21 00 32.7**	**+0.3**
JKRS	**Kuro-shima**	**1.73**	**114**	*e*P		**Pn**	**21 00 09.4**	**+0.7**
JKRS				*e*S		**Sn**	**21 00 32.9**	**0.0**
JIJ	**Ishigaki jima**	**1.79**	**109**	*e*P		**Pn**	**21 00 10.0**	**+0.4**
JIJ				S		**Sn**	**21 00 33.0**	**-1.2**
YULB	**Yu-li** baz=216	**1.80**	**210**	*e*P		**Pn**	**21 00 09.1**	**-0.5**
YULB	baz=216			*e*S		**Sn**	**21 00 32.8**	**-1.5**
WHYT	**Xinyi Township** baz=235	**1.81**	**226**	*e*P		**Pn**	**21 00 10.8**	**+1.0**
WHYT	baz=235			*e*S		**Sn**	**21 00 35.0**	**+0.4**
WNT	**Mingjian** baz=242	**1.81**	**234**	*e*P		**Pn**	**21 00 10.8**	**+1.1**
WNT	baz=242			*e*S		**Sn**	**21 00 35.0**	**+0.5**
EYUL	**Yuli** baz=216	**1.83**	**209**	*e*P		**Pn**	**21 00 11.1**	**+1.2**
TWF1	**Yuli** baz=217	**1.83**	**210**	*e*P		**Pn**	**21 00 10.1**	**0.0**
JISG	**Ishigakijimahi**	**1.88**	**101**	P		**Pn**	**21 00 11.0**	**+0.5**
JISG				*e*S		**Sn**	**21 00 34.8**	**-1.2**
CHKH	**Chenggong** baz=201	**1.94**	**205**	P		**Pn**	**21 00 12.2**	**+1.0**
FULB	**Fuli** baz=218	**1.97**	**207**	P		**Pn**	**21 00 12.7**	**+1.1**
FULB	baz=218			*e*S		**Sn**	**21 00 37.6**	**-0.4**
CHN5	**Tsauling** baz=229	**1.99**	**228**	*e*P		**Pn**	**21 00 13.1**	**+1.1**
CHN5				*e*S		**Sn**	**21 00 38.6**	**+0.1**
CHKT	**Chengkung** baz=201	**2.03**	**205**	*e*P		**Pn**	**21 00 12.6**	**+0.3**
CHKT	baz=201			*e*S		**Sn**	**21 00 38.0**	**-1.1**
ELDTW	**Lidau** baz=212	**2.10**	**214**	*e*P		**Pn**	**21 00 13.7**	**+0.3**
WTK	**Tuku** baz=241	**2.14**	**234**	*e*P		**Pn**	**21 00 14.3**	**+0.7**
WTK	baz=241			*e*S		**Sn**	**21 00 41.6**	**+0.1**
WCKO	**Fanlu** baz=227	**2.15**	**226**	*e*P		**Pn**	**21 00 14.6**	**+0.8**
WCKO	baz=227			*e*S		**Sn**	**21 00 42.3**	**+0.5**
EDH	**Donghe** baz=213	**2.17**	**205**	*e*P		**Pn**	**21 00 14.8**	**+0.8**
CHN4	**Tsaushan** baz=226	**2.22**	**224**	*e*P		**Pn**	**21 00 15.8**	**+1.2**
CHN4	baz=226			*e*S		**Sn**	**21 00 43.8**	**+0.6**
JTJ	**Tarama**	**2.22**	**98**	*e*S		**Sn**	**21 00 43.4**	**+0.1**
TPUB	**Ta-pu** baz=231	**2.23**	**223**	*e*P		**Pn**	**21 00 15.3**	**+0.5**
TPUB	baz=231			*e*S		**Sn**	**21 00 43.9**	**+0.2**
STYH	**Taoyuan** baz=220	**2.25**	**218**	*e*P		**Pn**	**21 00 16.2**	**+1.2**
STYT	**Tauyuan** baz=220	**2.27**	**218**	*e*P		**Pn**	**21 00 16.1**	**+0.9**
WTP	**Ta-pu** baz=231	**2.29**	**222**	*e*P		**Pn**	**21 00 16.4**	**+0.9**
WTP	baz=231			*e*S		**Sn**	**21 00 44.2**	**-0.5**
TWK	**Hsinying** baz=226	**2.35**	**225**	*e*P		**Pn**	**21 00 17.4**	**+1.2**
TWK	baz=226			*e*S		**Sn**	**21 00 46.0**	**-0.1**
CHN1	**Nanshi** baz=224	**2.38**	**223**	*e*P		**Pn**	**21 00 17.5**	**+0.8**
CHN1	baz=224			*e*S		**Sn**	**21 00 46.6**	**-0.3**
LDUT	**Ludao** baz=205	**2.39**	**198**	*e*P		**Pn**	**21 00 15.9**	**-0.8**
TWG	**Pinlang** baz=206	**2.40**	**208**	*e*P		**Pn**	**21 00 17.0**	**+0.2**
TWG	baz=206			*e*S		**Sn**	**21 00 45.6**	**-1.6**
TWGBT	**Beinan** baz=206	**2.40**	**208**	P		**Pn**	**21 00 17.0**	**+0.2**
TWGBT	baz=206			*e*S		**Sn**	**21 00 45.2**	**-1.9**
SGST	**Jiashian** baz=229	**2.43**	**220**	*e*P		**Pn**	**21 00 18.1**	**+1.0**
JIRB	**Irabujima**	**2.63**	**92**	P		**Pn**	**21 00 20.4**	**+0.8**
PHUB	**P'eng-hu** baz=235	**2.86**	**240**	*e*P		**Pn**	**21 00 22.3**	**-0.3**
PHUB	baz=235			*e*S		**Sn**	**21 00 54.6**	**-2.8**
PTMZ	**Houxiangcun** baz=271	**2.87**	**272**	*e*P		**Pn**	**21 00 23.0**	**+0.3**
VCHM	**Qimei** baz=231	**3.13**	**237**	*e*P		**Pn**	**21 00 26.1**	**+0.1**
VCHM	baz=231			*e*S		**Sn**	**21 01 02.0**	**-1.7**

NNC 15 21:16:43.9±6.2,37°.96N×72°.24E,h0km,mb3.7,mpv3.3,
2C-4D,Error ellipse: s-maj=49.0km s-min=36.4km
az=162.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 2.7nm,0.4s	**4.98**	**20**	⇓P		Pn	21 18 00.0	-0.1
AAK	12nm,0.7s			⇓S		Sn	21 19 00.3	+1.7
KK31	**Karatay Array** 2.4nm,0.5s,baz=159,slow=11,SNR=21	**5.31**	**346**	P		Pn	21 18 04.3	-0.2
KK31	8.7nm,0.3s,baz=154,slow=15			⇓S		Sn	21 19 06.5	+0.2
TKM2	**Tokmak 2** 2.8nm,1.0s	**5.58**	**26**	⇑P		Pn	21 18 08.1	-0.3
TKM2	2.1nm,0.6s			⇓S		Sn	21 19 15.4	+2.0
AB31	**Akbulak array** 0.4nm,0.3s,baz=152,slow=10,SNR=6.0	**14.36**	**326**	⇑P		Pn	21 20 07.9	-0.5

*VIE **15** 21:19:45.7±0.9,49°.41N×21°.30E,h0km,mb2.6/6,ml2.3/4,*
Error ellipse: s-maj=10.0km s-min=3.4km az=65.0,
Suspected Mining induced.
*IDC **15** 21:19:46.8±1.6,49°.01N×21°.16E,h0km,mbtmp3.0/5,*
ML2.8/5,Error ellipse: s-maj=28.5km s-min=10.5km
az=165.0
*IPEC **15** 21:19:49.4±0.2,49°.31N×20°.93E,h6km±1km,ML2.6/5,*
Error ellipse: s-maj=2.0km s-min=1.4km az=39.0
*MCSM **15** 21:19:49.2±0.3,49°N±3°×21E±°,h3km±3km,mb3.2,*
MLv3.2
*PRU **15** 21:19:52.7,49°.33N×20°.72E,h10km,Stara Lubovna*
ISC 15 21:19:48.1±0.7,49°.34N±0°.03×20°.96E±0°.02,h0km,n76,
σ1°.44/98,12C-6D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIE	**Niedzica**	**0.44**	**281**	*i*Pg		**Pg**	**21 19 57.7**	**+1.2**
NIE				*e*Sg		**Sb**	**21 20 04.9**	**-0.9**
NIE	**Niedzica**	**0.44**	**281**	P		**Pg**	**21 19 57.2**	**+0.7**
CRVS	**Cervenica-Dubn**	**0.55**	**143**	*e*PG		**Pg**	**21 19 59.7**	**+1.1**
CRVS				*e*LG		Lg	21 20 12.6	
KECS	**Kecovo**	**0.91**	**200**	*e*PG		**Pg**	**21 20 06.1**	**+0.5**
KECS				*e*SG		**Sb**	**21 20 19.1**	**-0.4**
KECS				*e*LG		Lg	21 20 19.4	
KOLS	**Kolonicke sedl**	**0.96**	**115**	*e*PG		**Pg**	**21 20 08.1**	**+1.7**
KOLS				*e*SG		**Sb**	**21 20 22.3**	**+1.5**
LANS	**Liptovska Anna**	**0.99**	**260**	*e*PG		**Pg**	**21 20 07.4**	**+0.2**
LANS				*e*SG		**Sb**	**21 20 22.9**	**+1.0**
LANS				*e*LG		Lg	21 20 28.0	
UZHM	**Uzhgorod**	**1.13**	**128**	P		**Pg**	**21 20 09.9**	**+0.1**
OJC	**Ojcow**	**1.16**	**320**	*e*Pg		**Pg**	**21 20 10.8**	**+0.5**
OJC				*e*Sg		**Sg**	**21 20 26.7**	**+1.4**
OJC	**Ojcow**	**1.16**	**320**	P		**Pg**	**21 20 10.9**	**+0.6**
PSZ	**Piszkesteto**	**1.59**	**207**	⇑P		**Pg**	**21 20 19.3**	**+0.7**
PSZ				⇓S		**Sn**	**21 20 40.6**	**+1.8**
VYHS	**Vyhne**	**1.63**	**240**	*e*PN		**Pn**	**21 20 18.5**	**+0.3**
OKC	**Ostrava-Krasne**	**1.89**	**286**	*e*PG		**Pb**	**21 20 23.9**	**+0.3**
OKC	comp=Z,30nm,0.4s			*e*SG		**Sg**	**21 20 49.7**	**+0.7**
MAUC	**Maruska**	**2.05**	**272**	*e*PN		**Pb**	**21 20 25.8**	**-0.4**
LTVH	**Ltavrtes, Hu**	**2.06**	**162**	⇑P		**Pb**	**21 20 26.2**	**-0.1**
LTVH				⇑S		**Sg**	**21 20 53.5**	**-0.6**
JAVC	**Velka Javorina** baz=77	**2.21**	**259**	*e*Pn		**Pn**	**21 20 26.8**	**+0.7**
JAVC	24nm,1.0s,baz=77			*e*Sn		**Sn**	**21 20 54.5**	**+0.3**
MORC	**Moravsky Berou**	**2.27**	**282**	⇑P		**Pn**	**21 20 29.0**	**+2.2**
MORC				⇓S		**Sg**	**21 21 00.4**	**-0.5**
MORC	**Moravsky Berou** baz=101	**2.27**	**282**	*e*Pn		**Pn**	**21 20 27.2**	**+0.3**
MORC	52nm,0.6s,baz=101			*e*Sn		**Sn**	**21 20 56.2**	**+0.7**
SRO	**Srobarova**	**2.33**	**230**	*e*PN		**Pn**	**21 20 28.2**	**+0.6**
SRO				*e*LG		Lg	21 21 10.1	
LOSC	**Losov** baz=96	**2.35**	**278**	*e*Pn		**Pn**	**21 20 28.5**	**+0.4**
LOSC	37nm,0.5s,baz=96			*e*Sn		**Sn**	**21 20 58.4**	**+0.8**
BMR	**Baia Mare**	**2.37**	**134**	⇑P		**Pn**	**21 20 27.7**	**-0.6**
MODS	**Modra-Piesok**	**2.61**	**250**	*e*PN		**Pn**	**21 20 32.0**	**+0.4**
MODS				*e*LG		Lg	21 21 08.5	
ZST	**Bratislava**	**2.79**	**247**	*e*PN		**Pn**	**21 20 34.2**	**+0.1**
ZST				*e*LG		Lg	21 21 09.6	
DRGR		**2.81**	**155**	⇓P		**Pn**	**21 20 35.7**	**+1.3**
KRLC	**Kraliky**	**2.81**	**287**	*e*PN		**Pn**	**21 20 35.0**	**+0.7**
KRLC	comp=Z,17nm,0.5s			*e*SG		**Sb**	**21 21 14.9**	**+0.8**
VRAC	**Vranov**	**2.85**	**271**	⇑P		**Pn**	**21 20 36.1**	**+1.1**
VRAC				⇓S		**Sb**	**21 21 15.6**	**+0.2**
VRAC	**Vranov** baz=88	**2.85**	**271**	*e*Pn		**Pn**	**21 20 35.7**	**+0.8**
VRAC	26nm,0.8s,baz=88			*e*Sn		**Sn**	**21 21 10.6**	**+0.6**
VRAC	**Vranov** 0.9nm,0.3s,baz=91,slow=16,SNR=13	**2.85**	**271**	Pn		**Pn**	**21 20 35.8**	**+0.9**

VRAC				Lg		Lg	21 21 18.6
	3.8nm,0.3s,baz=2.0,slow=14,SNR=7.8						
	2.2nm,0.4s						
KRUC	**Moravsky**	**3.00**	**266**	*e*Pn		**Pn**	**21 20 37.3 +0.3**
	baz=84						
KRUC				*e*Sn		**Sn**	**21 21 14.3 +0.6**
	12nm,0.6s,baz=84						
MARR	**Marisel-Cluj**	**3.04**	**151**	⇑P		**Pn**	**21 20 37.9 +0.4**
SIRR	**Siria**	**3.11**	**171**	⇑P		**Pn**	**21 20 39.3 +0.9**
SIRR				⇑S		**Sg**	**21 21 29.4 +1.4**
MPLH	**Magyarpolny**	**3.15**	**228**	P		**Pn**	**21 20 38.8 -0.2**
DPC	**Dobruska-Polom**	**3.17**	**290**	*e*PN		**Pn**	**21 20 40.1 +0.9**
DPC				*e*SG		**Sb**	**21 21 26.7 +2.3**
	comp=Z,15nm,0.6s						
CJR	**Cluj-Napoca**	**3.17**	**145**	⇑P		**Pn**	**21 20 40.8 +1.5**
OSTC	**Ostas**	**3.29**	**293**	*e*PN		**Pn**	**21 20 42.6 +1.6**
BURAR	**Bucovina Array**	**3.32**	**120**	⇑P		**Pn**	**21 20 42.2 +0.8**
KSP	**Ksiaz**	**3.36**	**298**	P		**Pn**	**21 20 43.3 +1.5**
CHVC	**Chvalec**	**3.40**	**293**	*e*PN		**Pn**	**21 20 44.6 +2.1**
MORH	**Mrgy, Hungar**	**3.49**	**207**	P		**Pn**	**21 20 43.4 -0.3**
RONA	**Rosalia, Austr**	**3.50**	**244**	*e*Pn		**Pn**	**21 20 43.6 -0.3**
	1.1nm,0.4s						
CONA	**Conrad Observa**	**3.66**	**249**	*i* Pn		**Pn**	**21 20 45.9 -0.2**
	1.2nm,0.3s						
SURR	**Surduc**	**3.67**	**167**	⇓P		**Pn**	**21 20 47.2 +1.0**
RNPP5	**Staryi Chortor**	**3.68**	**57**	P		**Pn**	**21 20 48.6 +2.3**
KMPD	**K-Podol'skiy**	**3.71**	**100**	P		**Pn**	**21 20 49.3 +2.7**
RNPP9	**Sopachiv**	**3.78**	**55**	P		**Pn**	**21 20 47.8 +0.2**
GZR	**Gura Zlata**	**4.14**	**162**	⇓P		**Pn**	**21 20 53.1 +0.5**
PRU	**Pruhonice**	**4.22**	**281**	*e*SG		**Sg**	**21 22 01.7 -1.8**
	comp=Z,7.7nm,0.5s						
CKRC	**Cesky Krumlov**	**4.40**	**266**	*e*PN		**Pn**	**21 20 57.3 +1.1**
CKRC				*e*SG		**Sg**	**21 22 08.3 -1.1**
	comp=Z,4.7nm,0.4s						
ZVC	**Zvikov**	**4.42**	**274**	*e*PN		**Pn**	**21 20 57.7 +1.3**
MOA	**Molln**	**4.68**	**254**	*e*Pn		**Pn**	**21 21 00.5 +0.5**
	4.8nm,0.4s						
TURR	**Turia**	**4.74**	**132**	⇑P		**Pn**	**21 21 00.9 +0.1**
TESR	**Tescani**	**4.76**	**124**	P		**Pn**	**21 21 00.2 -0.9**
BRG	**Berggiesshubel**	**4.77**	**291**	Pg		**Pg**	**21 21 17.1 -2.4**
BRG				Sg		**Sb**	**21 22 16.1 +5.7**
BRG				Amp			21 22 22.2
	comp=Z,4.6nm,0.6s						
GERES	**GERESS Array B**	**4.79**	**267**	Pn		**Pn**	**21 21 02.5 +0.9**
	comp=Z,0.5nm,0.3s,baz=88,slow=15,SNR=11						
GERES				Lg		Lg	21 22 18.7
	comp=Z,0.4nm,0.3s,baz=72,slow=30,SNR=2.1						
	comp=Z,0.8nm,0.3s						
VOIR		**4.79**	**143**	P		**Pn**	**21 21 01.7 +0.1**
KHC	**Kasperske Hory**	**4.84**	**270**	*e*PN		**Pn**	**21 21 03.5 +1.3**
KHC				*e*SG		**Sg**	**21 22 21.3 -2.2**
	comp=Z,3.5nm,0.5s						
MI30	**MI30,Zelenitsa**	**4.87**	**70**	P		**Pn**	**21 21 03.3 +0.7**
MLR	**Muntele Rosu**	**5.13**	**137**	P		**Pn**	**21 21 06.8 +0.5**
	comp=Z,3.9nm,1.4s,comp=Z,0.0nm						
BIOA	**Bad Ischl, Aus**	**5.13**	**254**	*e*Pn		**Pn**	**21 21 06.3 +0.1**
	comp=Z,1.7nm,0.3s						
VRI	**Vrincioaia**	**5.23**	**130**	P		**Pn**	**21 21 07.8 +0.3**
	comp=Z,5.6nm,1.8s,comp=Z,0.0nm						
AK20	**Malin Array Si**	**5.38**	**72**	P		**Pn**	**21 21 10.5 +1.0**
AK21	**Malin Array Si**	**5.40**	**72**	P		**Pn**	**21 21 12.2 +2.3**
AK18	**Malin Array Si**	**5.41**	**72**	P		**Pn**	**21 21 12.3 +2.3**
AK22	**Malin Array Si**	**5.42**	**72**	P		**Pn**	**21 21 12.4 +2.3**
AK15	**Malin Array Si**	**5.44**	**72**	P		**Pn**	**21 21 12.6 +2.2**
AK12	**Malin Array Si**	**5.45**	**73**	P		**Pn**	**21 21 12.2 +1.7**
AK11	**Malin Array Si**	**5.46**	**73**	P		**Pn**	**21 21 12.4 +1.7**
CLL	**Collm**	**5.46**	**294**	*e*Sg		**Sg**	**21 22 44.0 +0.5**
	comp=Z,9.0nm,0.8s						
AK05	**Malin Array Si**	**5.47**	**73**	P		**Pn**	**21 21 12.6 +1.7**
AK01	**Malin Array Si**	**5.49**	**73**	P		**Pn**	**21 21 12.9 +1.8**
AKASG	**Malin Array Be**	**5.50**	**73**	Pn		**Pn**	**21 21 10.0 -1.3**
	comp=Z,0.4nm,0.3s,baz=254,slow=14,SNR=1.6						
AKASG				Sn		**Sn**	**21 22 10.4 -4.8**
	comp=Z,0.7nm,0.3s,baz=254,slow=22,SNR=2.1						
	comp=Z,0.1nm,0.3s						
AKBB	**Malin Array Si**	**5.50**	**73**	P		**Pn**	**21 21 13.0 +1.7**
KBA	**Koelnbreinsper**	**5.57**	**249**	*e*Pn		**Pn**	**21 21 13.6 +1.2**
	comp=Z,1.3nm,0.4s						
ISR	**Istrita**	**5.68**	**136**	P		**Pn**	**21 21 14.3 +0.5**
	comp=Z,53nm,0.8s,comp=Z,0.2nm						
TIP	**Timpagrande**	**10.59**	**198**	P		**Pn**	**21 22 20.8 -0.4**
	comp=Z,4.7nm,1.6s						
HFS	**Hagfors**	**11.59**	**342**	Pn		**Pn**	**21 22 32.3 -2.3**
	comp=Z,0.1nm,0.3s,baz=154,slow=12,SNR=6.7						
	comp=Z,0.3nm,0.3s						
FINES	**FINESS Array B**	**12.47**	**11**	Pn		**Pn**	**21 22 44.0 -2.7**
	comp=Z,0.1nm,0.3s,baz=190,slow=14,SNR=4.7						
FINES				Sn		Sn	21 24 53.2 -13
	comp=Z,0.1nm,0.3s,baz=180,slow=19,SNR=1.9						
	comp=Z,0.2nm,0.3s						

CATAC ***15*** *21:20:01.3±0.9, 13°.75N×90°.36W, h71km±8km, ML3.6*
SNET ***15*** *21:20:01.7±1.0, 13°.78N×90°.14W, h96km±5km, ML3.4*
GCG ***15*** *21:20:05.1±0.6, 13°.77N×90°.25W, h60km±18km, MD3.6*
ISC 15 21:20:02.3±1.8, 13°.75N±0°.10×90°.16W±0°.06, h93km±12km, n39, σ0s57/53, 5C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.40**	**68**	⇑*i*P		**Pn**	**21 20 16.1 -0.6**
NUBE				*e*S		**Sn**	**21 20 27.5 -0.1**
NUBE	**Las Nubes**	**0.40**	**68**	*i* P		**Pn**	**21 20 16.2 -0.6**
NUBE				*i* S		**Sn**	**21 20 28.0 +0.4**
NUBE				IAML			21 20 30.1
	comp=Z,1μm,1.0s						
LOAL	**Lomas de Alarc**	**0.45**	**56**	*e*P		**Pn**	**21 20 16.6 -0.4**
LOAL	**Lomas de Alarc**	**0.45**	**56**	*i* P		**Pn**	**21 20 16.6 -0.4**
LOAL				IAML			21 20 16.8
	comp=Z,4μm,1.0s						
LOAL				*i* S		**Sn**	**21 20 28.7 +0.8**
SLOZ	**Alcaldia de Sa**	**0.46**	**53**	⇑*i*P		**Pn**	**21 20 16.6 -0.5**
SLOZ				*e*S		**Sn**	**21 20 28.6 +0.6**
SLOZ				IAML			21 20 32.6
	comp=Z,395nm,0.3s						
RTR	**El Retiro**	**0.52**	**73**	*e*P		**Pn**	**21 20 17.2 -0.4**
CEVE	**Cerro Verde**	**0.53**	**81**	⇑*e*P		**Pn**	**21 20 17.4 -0.4**
CEVE				IAML			21 20 37.4
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**0.53**	**81**	*i* P		**Pn**	**21 20 17.4 -0.4**
CEVE				*i* S		**Sn**	**21 20 30.7 +1.4**
CEVE				IAML			21 20 31.7
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	**0.53**	**80**	⇑*e*P		**Pn**	**21 20 17.3 -0.5**
SNJE	**San Jose**	**0.55**	**77**	⇑*e*P		**Pn**	**21 20 17.5 -0.4**
UNIC	**Universidad Ca**	**0.64**	**69**	*e*P		**Pn**	**21 20 18.0 -0.6**
UNIC	**Universidad Ca**	**0.64**	**69**	*i* P		**Pn**	**21 20 17.9 -0.6**
UNIC				IAML			21 20 18.1
	comp=Z,720nm,1.0s						
UNIC				*i* S		**Sn**	**21 20 30.7 0.0**
JAYA	**Jayaque - finc**	**0.70**	**98**	*e*P		**Pn**	**21 20 18.6 -0.6**
JAYA				*e*S		**Sn**	**21 20 31.6 -0.3**
JAYA	**Jayaque - finc**	**0.70**	**98**	*i* P		**Pn**	**21 20 18.5 -0.6**
JAYA				*i* S		**Sn**	**21 20 32.1 +0.3**
JAYA				IAML			21 20 33.1
	comp=Z,9μm,1.0s						
CEDA	**San Andres**	**0.75**	**86**	*i* S		**Sn**	**21 20 32.5 +0.1**
PCG	**Pacaya**	**0.77**	**326**	*e*P		**Pn**	**21 20 20.7 +0.7**
PCG				*e*S		**Sn**	**21 20 32.1 -1.2**
PMON	**Piamonte**	**0.82**	**92**	*e*P		**Pn**	**21 20 20.2 -0.1**
PMON	**Piamonte**	**0.82**	**92**	*i* P		**Pn**	**21 20 20.2 -0.1**
PMON				*i* S		**Sn**	**21 20 34.8 +0.9**
PMON				IAML			21 20 38.5
	comp=Z,3μm,1.0s						
NBG	**Las Nubes**	**0.85**	**348**	*e*P		**Pn**	**21 20 21.7 +0.8**
BOQS	**Boqueron**	**0.86**	**91**	*e*P		**Pn**	**21 20 21.3 +0.4**
LALI	**Alcalda de L**	**0.86**	**107**	⇓*e*P		**Pn**	**21 20 20.4 -0.2**
LALI				IAML			21 20 36.3
	comp=Z,717nm,0.3s						
LALI	**Alcalda de L**	**0.86**	**107**	*i* P		**Pn**	**21 20 20.6 0.0**
LALI				IAML			21 20 36.1
	comp=Z,800nm,1.0s						
UEES	**Universidad Ev**	**0.90**	**92**	*e*P		**Pn**	**21 20 22.0 +0.9**
FUG	**Fuego 3**	**0.96**	**317**	*e*P		**Pn**	**21 20 21.9 0.0**
FUG				*e*S		**Sn**	**21 20 35.6 -1.0**
PANCS	**Alcalda de**	**0.96**	**98**	*e*P		**Pn**	**21 20 21.5 -0.3**
LOMA	**Loma Larga**	**0.97**	**96**	*e*P		**Pn**	**21 20 21.6 -0.4**
LOMA	**Loma Larga**	**0.97**	**96**	*i* P		**Pn**	**21 20 23.2 +1.3**
LOMA				*i* S		**Sn**	**21 20 36.9 +0.2**
LOMA				IAML			21 20 39.5
	comp=Z,2μm,1.0s						
MTO3	**Montecristo**	**1.01**	**50**	⇓*i*P		**Pn**	**21 20 22.1 -0.4**
MTO3	**Montecristo**	**1.01**	**50**	*i* S		**Sn**	**21 20 37.7 0.0**
LFRS	**El Faro**	**1.08**	**97**	*e*P		**Pn**	**21 20 22.9 -0.2**
LFRS				*e*S		**Sn**	**21 20 38.9 +0.1**
ESQI	**Esquipulas**	**1.13**	**44**	*e*P		**Pn**	**21 20 23.6 -0.2**
COEG	**Centro de Oper**	**1.25**	**96**	*e*P		**Pn**	**21 20 24.9 -0.2**
COEG				IAML			21 20 49.1
	comp=Z,656nm,0.5s						
TECO	**Alcaldia de Te**	**1.36**	**99**	*e*P		**Pn**	**21 20 26.0 -0.4**
SCLA	**Alcaldia de Sa**	**1.39**	**92**	⇓*e*P		**Pn**	**21 20 26.6 -0.3**
SULM	**Suchitepeguez,**	**1.47**	**292**	*e*P		**Pn**	**21 20 28.2 +0.4**
COEB	**Comit de Eme**	**1.60**	**99**	*e*P		**Pn**	**21 20 29.4 -0.2**
TECA	**Tecapa**	**1.63**	**99**	*e*P		**Pn**	**21 20 29.7 -0.3**
STG3	**Santiaguito 3,**	**1.67**	**305**	*e*P		**Pn**	**21 20 30.0 -0.5**
STG3				*e*S		**Sn**	**21 20 52.4 +0.5**
LCND	**La Caada**	**2.25**	**101**	*e*P		**Pn**	**21 20 37.6 -0.3**

IDC ***15*** *21:29:28.2±0.9, 28°.05N×103°.53E, h0km, mb3.8/8, mbtmp3.7/9, ML3.4/1, Error ellipse: s-maj=35.7km s-min=17.7km az=53.0*
NEIC ***15*** *21:29:33.5±1.3, 28°.1N±0°.2×103°.6E±0°.1, h32km±7km, mb4.4/14, Error ellipse: s-maj=23.1km s-min=15.5km az=179.0*
ISC 15 21:29:33.5±0.9, 28°.1N±0°.1×103°.56E±0°.08, h35km, n29, σ0s85/30, mb4.1/16, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**5.63**	**66**	Pn		**Pn**	**21 30 54.6 -0.2**
ENH				Sn		**Sn**	**21 31 58.9 +0.6**
SONM	**Songino Array**	**19.86**	**6**	P		**Pn**	**21 34 01.7 -1.7**
	0.1nm,0.3s,baz=195,slow=10,SNR=2.6						
	0.3nm,0.4s						
KSRS	**Korea Array**	**22.48**	**59**	P		**P**	**21 34 28.9 -0.9**
	1.8nm,0.8s,baz=245,slow=10,SNR=9.6						
	1.8nm,0.8s						
TARG	**Taragay, Kyrgy**	**25.02**	**310**	P		**P**	**21 34 54.6 -0.1**
TARG				IAmb	IAmb		21 34 56.6
	comp=Z,4.5nm,0.7s						
MK31	**Makanchi Array**	**25.05**	**324**	P		**P**	**21 34 55.0 +0.5**
MKAR	**Makanchi Array**	**25.05**	**324**	P		**P**	**21 34 54.4 -0.1**
MKAR	**Makanchi Array**	**25.05**	**324**	P		**P**	**21 34 55.5 +1.0**
	comp=Z,1.0nm,0.4s,baz=124,slow=10,SNR=29						
	comp=Z,1.0nm,0.4s						
MAKZ	**Makanchi**	**25.23**	**324**	P		**P**	**21 34 56.7 +0.6**
MAKZ				IAmb	IAmb		21 34 58.0
	comp=Z,3.9nm,0.7s						
BOOM	**Boomskoye usch**	**26.60**	**310**	P		**P**	**21 35 07.9 -0.8**
BOOM				IAmb	IAmb		21 35 10.1
	comp=Z,3.0nm,0.6s						
KKAR	**Karatay Array**	**30.55**	**308**	P		**P**	**21 35 43.5 -0.2**
SIMJ	**Simiganj**	**30.57**	**299**	P		**P**	**21 35 44.3 +0.2**
ABKAR	**Akbulak array**	**39.40**	**315**	P		**P**	**21 36 59.5 -0.3**
ABKAR	**Akbulak array**	**39.40**	**315**	P		**P**	**21 36 59.5 -0.3**
WRA	**Warramunga Arr**	**56.25**	**145**	P		**P**	**21 39 10.3 -0.3**
	comp=Z,0.6nm,0.8s,baz=330,slow=8.1,SNR=12						
	comp=Z,0.6nm,0.8s						
WB2	**Warramunga Arr**	**56.26**	**145**	P		**P**	**21 39 10.7 0.0**
WB2				IAmb	IAmb		21 39 11.2
	comp=Z,8.9nm,1.4s						
WR0	**Warramunga Arr**	**56.37**	**144**	P		**P**	**21 39 10.8 -0.6**
WR0				IAmb	IAmb		21 39 29.1
	comp=Z,8.4nm,1.4s						
AKASG	**Malin Array Be**	**59.14**	**314**	P		**P**	**21 39 29.8 -0.7**
	comp=Z,3.0nm,0.7s,baz=77,slow=6.2,SNR=5.0						
	comp=Z,3.0nm,0.7s						
AKBB	**Malin Array Si**	**59.14**	**314**	P		**P**	**21 39 29.5 -1.0**
KIEV	**Kiev**	**59.15**	**314**	P		**P**	**21 39 29.2 -1.4**
KIEV				IAmb	IAmb		21 39 30.4
	comp=Z,7.4nm,1.4s						
ASAR	**Alice Springs**	**59.17**	**147**	P		**P**	**21 39 31.4 +0.3**
	comp=Z,0.6nm,0.4s,baz=324,slow=6.6,SNR=11						
	comp=Z,0.6nm,0.4s						
FINES	**FINESS Array B**	**59.83**	**327**	P		**P**	**21 39 34.8 -0.3**
	comp=Z,1.1nm,0.9s,baz=89,slow=5.8,SNR=4.4						
	comp=Z,1.1nm,0.9s						
SPB2	**Spitsbergen Ar**	**62.16**	**347**	P		**P**	**21 39 53.1 +2.3**
HFS	**Hagfors**	**66.03**	**327**	P		**P**	**21 40 15.5 -0.8**
	comp=Z,0.8nm,0.8s,baz=70,slow=6.7,SNR=5.7						
	comp=Z,0.8nm,0.8s						
C19K	**Lookout Ridge**	**66.48**	**23**	P		**P**	**21 40 19.3 +0.1**
NC405	**NORSAR Array S**	**66.71**	**328**	P		**P**	**21 40 21.4 +0.7**
NC405				IAmb	IAmb		21 40 25.1
	comp=Z,4.4nm,1.1s						
GERES	**GERESS Array B**	**69.34**	**315**	P		**P**	**21 40 37.8 +0.2**
	comp=Z,0.2nm,0.3s,baz=104,slow=4.1,SNR=3.6						
	comp=Z,0.2nm,0.3s						
IMAR	**Indian Mountai**	**69.66**	**25**	P		**P**	**21 40 40.5 +1.4**
E24K	**Your Creek**	**70.64**	**22**	P		**P**	**21 40 44.6 -0.5**
E24K				IAmb	IAmb		21 41 03.0
	comp=Z,3.4nm,1.5s						
BMAR	**Burnt Mountain**	**72.26**	**22**	P		**P**	**21 40 54.8 -0.1**

TAP ***15*** *21:46:35.5, 24°.70N×122°.27E, h8km±1km, ML2.7, C*
JMA ***15*** *21:46:36.3±0.1, 25°.N±°.×122°.3E±0°.3, h42km±4km, MV2.1/10, TAIWAN REGION*
ISC 15 21:46:35.3±1.1, 24°.71N±0°.02×122°.32E±0°.02, h14km±9km, n61, σ0s52/89, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.30**	**195**	*i* P		**Pb**	**21 46 42.5 +0.1**
	baz=186						
EOS2				*i* S		**Sb**	**21 46 47.7 +0.6**
	baz=186						
EGS		**0.37**	**291**	P		**Pg**	**21 46 42.8 -0.1**
	baz=295						
EGS				*i* S		**Sb**	**21 46 49.4 0.0**
	baz=295						
TWB1	**Santiao Chiao**	**0.42**	**315**	*i* P		**Pg**	**21 46 44.0 +0.3**
	baz=321						
TWB1				*i* S		**Sg**	**21 46 49.1 -0.3**
	baz=321						
EOS3	**EOS3**	**0.42**	**180**	*i* P		**Pb**	**21 46 44.8 +0.3**
	baz=173						
TWC	**Suao**	**0.44**	**257**	*i* P		**Pg**	**21 46 43.4 -0.7**
	baz=255						
TWC				*i* S		**Sb**	**21 46 51.5 +0.3**
	baz=255						
ESAO	**Su ao**	**0.45**	**253**	P		**Pg**	**21 46 44.0 -0.2**
	baz=251						
ESAO				S		**Sb**	**21 46 51.5 -0.1**
	baz=251						
TIPB	**Shuangxi**	**0.52**	**300**	P		**Pb**	**21 46 46.1 0.0**
	baz=303						
TIPB				*e*S		**Sb**	**21 46 54.4 +0.9**
	baz=303						
NDS	**Dongshan**	**0.55**	**262**	*e*P		**Pg**	**21 46 45.8 -0.3**
	baz=262						
NDS				*e*S		**Sb**	**21 46 54.5 +0.1**
	baz=262						
EWUT	**Wuta**	**0.56**	**242**	P		**Pg**	**21 46 45.9 -0.3**
	baz=239						
EWUT				S		**Sg**	**21 46 53.9 +0.2**
	baz=239						
EOS4	**EOS4**	**0.59**	**180**	P		**Pb**	**21 46 47.8 +0.7**
	baz=175						
EOS4				S		**Sb**	**21 46 56.2 +1.0**
	baz=175						
TWE	**Neicheng**	**0.59**	**271**	*i* P		**Pg**	**21 46 46.5 -0.4**
	baz=271						
TWE				*i* S		**Sg**	**21 46 55.0 +0.2**
	baz=271						
ENA	**Nanau**	**0.59**	**242**	*i* P		**Pg**	**21 46 46.5 -0.5**
	baz=239						
ENA				S		**Sg**	**21 46 55.3 +0.4**
	baz=239						
NWF	**Wu-fen Shan**	**0.60**	**306**	P		**Pb**	**21 46 48.5 +0.9**
	baz=309						
NWF				S		**Sb**	**21 46 56.9 +0.9**
	baz=309						
WFSB	**Wu-fen Shan**	**0.60**	**306**	P		**Pn**	**21 46 48.8 -0.6**
	baz=309						
WFSB				S		**Sb**	**21 46 56.1 +0.1**
	baz=309						
JYNG	**Yonagunijimaku**	**0.63**	**114**	*e*P		**Pb**	**21 46 48.8 +0.8**
JYNG				S		**Sn**	**21 46 58.6 -1.0**
EAHA	**Aohua**	**0.65**	**234**	P		**Pg**	**21 46 47.9 -0.1**
	baz=232						
EAHA				S		**Sb**	**21 46 57.3 +0.1**
	baz=232						
TNOU	**National Taiwa**	**0.66**	**312**	P		**Pb**	**21 46 49.2 +0.7**
	baz=314						
TNOU				S		**Sb**	**21 46 58.9 +1.3**
	baz=314						
FUSB	**Fushanzhiwuyua**	**0.66**	**274**	P		**Pb**	**21 46 48.8 +0.1**
	baz=275						
FUSB				S		**Sb**	**21 46 58.4 +0.7**
	baz=275						
YOJ	**Yonaguni jima**	**0.68**	**111**	*i* P		**Pn**	**21 46 50.0 -0.4**
	baz=109						
YOJ				*i* S		**Sn**	**21 47 00.5 -0.3**
	baz=109						
YOJ	**Yonaguni jima**	**0.68**	**111**	*e*P		**Pn**	**21 46 50.0 -0.4**
YOJ				*e*S		**Sn**	**21 47 00.1 -0.7**
ENTT	**Nioudou**	**0.69**	**264**	P		**Pb**	**21 46 48.9 -0.1**
	baz=264						
ENTT				S		**Sg**	**21 46 57.8 0.0**
	baz=264						
TWA	**Mucha**	**0.72**	**292**	*e*S		**Sb**	**21 46 59.2 0.0**
	baz=294						
NDT	**Datong Townshi**	**0.74**	**262**	P		**Pg**	**21 46 49.5 -0.2**
	baz=261						
NDT				S		**Sg**	**21 46 59.0 -0.4**
	baz=261						
LATG	**Datong**	**0.74**	**256**	*i* P		**Pg**	**21 46 49.6 -0.1**
	baz=256						
LATG				S		**Sb**	**21 47 00.6 +0.6**
	baz=256						
NWLT	**Wulai**	**0.74**	**275**	P		**Pb**	**21 46 50.2 +0.2**
	baz=276						
NWLT				*e*S		**Sb**	**21 46 59.9 -0.1**
	baz=276						
NHY	**Taipei**	**0.75**	**296**	*e*P		**Pg**	**21 46 48.9 -1.1**
	baz=297						
YM08	**YM08**	**0.81**	**306**	*e*P		**Pn**	**21 46 52.3 0.0**
	baz=308						
ETL	**Fush Village**	**0.84**	**229**	*e*P		**Pg**	**21 46 51.3 -0.2**
	baz=227						
NACB	**Ninganchiao**	**0.85**	**231**	P		**Pg**	**21 46 51.1 -0.6**
	baz=229						
NACB				S		**Sb**	**21 47 03.3 +0.3**
	baz=229						
YHNB	**Yeheng**	**0.86**	**267**	P		**Pg**	**21 46 51.6 -0.3**
	baz=267						
YHNB				S		**Sg**	**21 47 02.5 -0.6**
	baz=267						
NSK	**Sanguang**	**0.87**	**268**	*e*P		**Pg**	**21 46 51.9 -0.3**
	baz=267						
NNSB	**Datong**	**0.90**	**252**	*e*P		**Pg**	**21 46 52.3 -0.4**
	baz=251						
NNS	**Nan Shan**	**0.90**	**253**	*e*P		**Pn**	**21 46 53.3 -0.3**
	baz=251						
TWD	**Chiawan**	**0.91**	**226**	*e*P		**Pn**	**21 46 54.2 +0.6**
	baz=224						
PCYT	**Pengchaiyu**	**0.94**	**346**	P		**Pg**	**21 46 53.5 0.0**
	baz=349						
ETM	**Tongmen**	**1.06**	**225**	*e*P		**Pb**	**21 46 55.1 -0.2**
	baz=223						
LXIB	**Xiulin Townshi**	**1.07**	**230**	*e*P		**Pb**	**21 46 55.0 -0.7**
	baz=228						
FUSS	**Fushou**	**1.08**	**245**	*i* P		**Pg**	**21 46 56.1 -0.1**
	baz=244						
NFF	**Wufeng Townshi**	**1.09**	**266**	*e*P		**Pg**	**21 46 57.3 +0.9**
	baz=266						
WHF	**Hehuan Shan**	**1.11**	**240**	*e*P		**Pb**	**21 46 56.2 -0.4**
	baz=238						
TWT	**Tachien**	**1.14**	**247**	*e*P		**Pg**	**21 46 57.7 +0.5**
	baz=245						
SHUL	**Shoufeng**	**1.15**	**217**	*e*P		**Pg**	**21 46 58.4 +1.0**
	baz=215						
TDCB	**Techi**	**1.15**	**247**	*i* P		**Pg**	**21 46 57.7 +0.2**
	baz=245						
LIOB	**Emei**	**1.19**	**267**	*e*P		**Pg**	**21 46 58.8 +0.7**
	baz=267						
NSTT	**Nanjuang**	**1.20**	**266**	*e*P		**Pg**	**21 46 59.1 +0.7**
	baz=266						
ESL	**Shilin**	**1.20**	**222**	*e*P		**Pg**	**21 46 58.6 +0.2**
	baz=220						
CHGB	**Renai**	**1.23**	**238**	*e*P		**Pb**	**21 46 58.6 +0.3**
	baz=237						
OWD	**Renai**	**1.28**	**234**	*e*P		**Pb**	**21 46 59.5 +0.2**
	baz=233						
WARBT	**Fenglin Townsh**	**1.30**	**221**	*e*P		**Pn**	**21 46 59.4 +0.4**
	baz=219						
WUSB	**Renai**	**1.31**	**237**	P		**Pb**	**21 47 00.1 +0.4**
	baz=235						
EGFH	**Guangfu**	**1.32**	**218**	*e*P		**Pg**	**21 47 01.1 +0.5**
	baz=216						
WHP	**Taichung City**	**1.32**	**251**	*e*P		**Pg**	**21 47 01.2 +0.5**
	baz=250						
IRIF	**Iriomote-Funau**	**1.34**	**106**	P		**Pn**	**21 46 59.5 0.0**
IRIF				*e*S		**Sb**	**21 47 16.5 -0.7**
VWDT	**VWDT**	**1.44**	**229**	*e*P		**Pb**	**21 47 01.8 0.0**
	baz=227						
WCS	**Beigang Elemen**	**1.44**	**243**	*e*P		**Pg**	**21 47 03.0 0.0**
	baz=242						
HGSD	**Ruisui**	**1.46**	**214**	*e*P		**Pg**	**21 47 03.3 -0.2**
	baz=212						
SSLB	**Suanglung**	**1.55**	**234**	*e*P		**Pb**	**21 47 04.2 +0.5**
	baz=232						
TYC	**Yuchr**	**1.56**	**239**	*e*P		**Pb**	**21 47 04.5 +0.7**
	baz=238						
YULB	**Yu-li**	**1.61**	**216**	*e*P		**Pn**	**21 47 02.7 -0.6**
	baz=214						
JKRS	**Kiro-shima**	**1.61**	**107

SIV	San Ignacio	37.78	67	LR	LR	22 09 37.1	
	comp=Z,341nm,19.9s,baz=289,slow=33						
ROSC	El Rosal	46.34	32	P	P	21 57 09.2	+0.4
	comp=Z,4.3nm,0.4s,baz=129,slow=3.7,SNR=5.1						
ROSC				LR	LR	22 14 11.5	
	comp=Z,178nm,18.3s,baz=236,slow=33						
	comp=Z,4.3nm,0.4s						
TBI	Tubual	46.94	271	eLR	LR	22 10 35.9	
	comp=Z,4μm,36.0s						
BDFB	Brasilia	47.98	77	LR	LR	22 16 25.4	
	comp=Z,372nm,18.5s,baz=169,slow=35						
JTS	Las Juntas de	48.02	16	LR	LR	22 12 51.2	
	comp=Z,150nm,18.1s,baz=199,slow=30						
SOCE	Pocosol	48.19	16	P	P	21 57 22.0	-0.7
SOCE				IAmb	IAmb	21 57 23.3	
	comp=Z,24nm,1.2s						
PPT2	Papeete2	50.00	278	eS	S	22 04 49.5	+1.7
	comp=Z,188nm,24.2s						
PPT2				eLR	LR	22 11 55.9	
	comp=Z,693nm,24.0s						
PPT	Papeete	50.01	278	LR	LR	22 13 00.0	
	comp=Z,295nm,19.5s,baz=124,slow=29						
SDV	Santo Domingo	51.56	34	LR	LR	22 17 39.2	
	comp=Z,156nm,20.8s,baz=243,slow=34						
CMIG	Matias Romero	53.50	2	LR	LR	22 15 11.4	
	comp=Z,87nm,19.7s,baz=188,slow=30						
QSPA	South Pole Qui	53.55	180	P	P	21 58 02.9	+0.2
QSPA	South Pole Qui	53.55	180	P	P	21 58 01.9	-0.9
	comp=Z,0.6nm,0.7s,baz=158,slow=9.8,SNR=1.5						
	comp=Z,0.6nm,0.7s						
PCRV	Puerto La Cruz	55.56	39	LR	LR	22 20 42.6	
	comp=Z,391nm,18.1s,slow=34						
SNAA	Sanae	56.88	158	LR	LR	22 18 43.4	
	comp=Z,54nm,20.4s,baz=319,slow=32						
VNDA	Vanda	56.91	195	P	P	21 58 31.1	+4.5
VNDA	Vanda	56.91	195	P	P	21 58 24.8	-1.8
	comp=Z,0.4nm,0.7s,baz=106,slow=8.6,SNR=2.1						
VNDA				LR	LR	22 19 29.7	
	comp=Z,68nm,18.4s,baz=176,slow=33						
	comp=Z,0.4nm,0.7s						
TEIG	Tepich	57.16	10	LR	LR	22 18 26.8	
	comp=Z,77nm,18.4s,baz=119,slow=31						
MDP	Montagnes des	58.55	54	LR	LR	22 21 24.8	
	comp=Z,248nm,18.9s,baz=246,slow=34						
ZAIG	Zacatecas	59.36	354	P	P	21 58 44.2	-0.5
ZAIG				IAmb	IAmb	21 58 59.1	
	comp=Z,7.8nm,1.3s						
SJG	San Juan	61.71	33	LR	LR	22 23 53.3	
	comp=Z,62nm,20.2s,baz=174,slow=34						
LPIG	La Paz	61.77	346	LR	LR	22 19 54.1	
	comp=Z,56nm,20.1s,baz=313,slow=30						
RCBR	Riachuelo	63.34	77	LR	LR	22 26 25.2	
	comp=Z,174nm,19.3s,baz=314,slow=36						
ELIB	Princess Elisa	63.96	163	dP	P	21 59 13.8	-1.2
URZ	Urewera	65.79	239	LR	LR	22 20 27.3	
	comp=Z,278nm,20.9s,baz=206,slow=29						
DRIO	Del Rio	65.84	356	P	P	21 59 26.8	-0.7
RAO	Raoul Island	66.56	250	LR	LR	22 20 48.2	
	comp=Z,133nm,21.5s,baz=150,slow=29						
SN07	Snyder 07	69.50	356	P	P	21 59 50.7	+0.1
APMT	Aspermont	69.70	357	P	P	21 59 51.1	-0.7
TUC	Tucson	69.85	347	P	P	21 59 53.9	+1.1
TUC				IAmb	IAmb	22 00 05.9	
	comp=Z,10nm,1.4s						
152A	Waverly Hall	69.90	11	P	P	21 59 52.6	-0.5
WHAR	Wooly Hollow	71.72	4	P	P	22 00 04.1	+0.1
ANMO	Albuquerque	71.81	352	P	P	22 00 04.2	-0.7
ANMO	Albuquerque	71.81	352	LR	LR	22 27 02.2	
	comp=Z,40nm,18.7s,baz=270,slow=32						
X18A	Snowflake	71.88	349	P	P	22 00 05.4	+0.2
PFO	Pinyon Flats O	72.28	343	LR	LR	22 24 45.3	
	comp=Z,59nm,18.2s,baz=140,slow=30						
BG3	Lake Jocassee	72.46	12	P	P	22 00 08.5	0.0
PAULI	Pauline	72.48	13	P	P	22 00 08.6	0.0
LCAR	Lake Charles	72.56	5	P	P	22 00 08.5	-0.5
TKL	Tuckaleechee C	72.97	11	LR	LR	22 28 56.6	
	comp=Z,37nm,18.1s,baz=176,slow=33						
V53A	Saluda	73.14	12	P	P	22 00 11.9	-0.7
T42A	Van Buren	73.52	5	P	P	22 00 14.3	-0.4
T42A				IAmb	IAmb	22 00 26.6	
	comp=Z,9.4nm,1.4s						
U49A	Red Boiling Sp	73.53	9	P	P	22 00 15.2	+0.4
U49A				IAmb	IAmb	22 00 21.9	
	comp=Z,10nm,1.2s						
MGMO	Mountain Grove	73.57	4	P	P	22 00 15.0	-0.1
MGMO				IAmb	IAmb	22 00 22.6	
	comp=Z,12nm,1.2s						
S39A	Bolivar	74.06	3	P	P	22 00 16.9	-0.9
S39A				IAmb	IAmb	22 00 18.9	
	comp=Z,12nm,1.5s						
MVCO	Mesa Verde	74.30	350	P	P	22 00 19.2	-0.4
MVCO				IAmb	IAmb	22 00 27.6	
	comp=Z,10nm,1.1s						
CCM	Cathedral Cave	74.53	5	P	P	22 00 20.1	-0.5
S22A	4UR Ranch, Cre	74.62	352	P	P	22 00 21.4	-0.1
S22A				IAmb	IAmb	22 00 30.0	
	comp=Z,9.9nm,1.4s						
SHPR	Sheep Range	74.77	345	P	P	22 00 22.4	+0.1
MAW	Mawson	74.92	172	LR	LR	22 30 47.9	
	comp=Z,99nm,19.0s,baz=141,slow=34						
PKCU	Pink Cliffs	75.12	347	P	P	22 00 24.3	-0.1
PKCU				IAmb	IAmb	22 00 38.9	
	comp=Z,15nm,1.5s						
HMU	Henry Mountain	75.34	349	P	P	22 00 25.7	+0.1
HMU				IAmb	IAmb	22 00 34.2	
	comp=Z,15nm,1.4s						
WCT	Wildcat Mounta	75.36	344	P	P	22 00 25.7	+0.2
CCUT	Cedar City	75.42	346		P	22 00 26.5	+0.4
CCUT				IAmb	IAmb	22 00 34.7	
	comp=Z,7.8nm,1.3s						
Q44A	Meyer Farm, Va	75.54	6	P	P	22 00 25.5	-0.9
PRN	Pahroc Range	75.61	345	P	P	22 00 27.5	+0.5
PRN				IAmb	IAmb	22 00 38.0	
	comp=Z,6.5nm,1.2s						
P40A	Paris	75.95	4	P	P	22 00 28.3	-0.4
P40A				IAmb	IAmb	22 00 35.9	
	comp=Z,6.9nm,0.8s						
GMN	Gold Mountain	75.99	343	P	P	22 00 29.6	+0.2
SMCO	Snowmass	76.05	352	P	P	22 00 29.4	-0.5
SMCO				IAmb	IAmb	22 00 43.2	
	comp=Z,7.5nm,1.3s						
DSP	Deep Springs	76.23	343	P	P	22 00 30.3	-0.1
DSP				IAmb	IAmb	22 00 38.9	
	comp=Z,6.7nm,1.2s						
Q16A	Castle Valley	76.37	349	P	P	22 00 31.8	+0.4
Q16A				IAmb	IAmb	22 00 44.6	
	comp=Z,9.3nm,1.2s						
MZP	Montezuma Peak	76.41	343	P	P	22 00 31.4	-0.3
R11B	Troy Canyon, C	76.63	345	P	P	22 00 33.3	+0.4
P52A	Corning	77.12	12	P	P	22 00 34.8	-0.6
P52A				IAmb	IAmb	22 00 58.5	
	comp=Z,11nm,1.1s						
NV11	Mina Array Sit	77.28	343	P	P	22 00 36.8	+0.3
NV11				IAmb	IAmb	22 00 44.9	
	comp=Z,6.1nm,1.1s						
NVAR	Mina Array Bea	77.31	343	P	P	22 00 36.5	-0.3
NVAR	Mina Array Bea	77.31	343	P	P	22 00 37.5	+0.8
	comp=Z,1.9nm,0.9s,baz=203,slow=8.8,SNR=11						
NVAR				LR	LR	22 26 52.4	
	comp=Z,79nm,21.3s,baz=268,slow=30						
	comp=Z,1.9nm,0.9s						
N23A	Red Feather La	77.64	353	P	P	22 00 38.5	-0.1
N23A				IAmb	IAmb	22 00 41.8	
	comp=Z,8.7nm,1.4s						
KVN	Kaiserville	77.86	343	P	P	22 00 40.8	+1.1
KVN				IAmb	IAmb	22 00 47.3	
	comp=Z,7.7nm,1.4s						
DUG	Dugway, Tooele	77.89	348	P	P	22 00 39.8	-0.1
BSUT	Blindstream Ca	77.89	349	P	P	22 00 40.0	-0.1
BSUT				IAmb	IAmb	22 00 41.1	
	comp=Z,6.8nm,1.3s						
BGU	Big Grassy Mou	78.64	348	P	P	22 00 44.3	+0.3
ELK	Elko	78.87	346	P	P	22 00 45.6	+0.2
K22A	Casper	79.44	353	P	P	22 00 48.8	+0.4
K22A				IAmb	IAmb	22 00 50.3	
	comp=Z,16nm,1.5s						
PD31	Pinedale Array	79.91	351	P	P	22 00 51.1	+0.2
PD31				IAmb	IAmb	22 01 03.4	
	comp=Z,11nm,1.4s						
PDAR	Pinedale Array	79.91	351	P	P	22 00 51.0	0.0
	comp=Z,1.1nm,0.9s,baz=165,slow=6.2,SNR=10						
	comp=Z,1.1nm,0.9s						
ECSD	EROS Data Cent	80.03	0	P	P	22 00 51.3	0.0
ECSD				IAmb	IAmb	22 00 59.1	
	comp=Z,16nm,1.4s						
I37A	Lemond, Waseca	80.36	3	P	P	22 00 53.4	+0.3
TPAW	Teton Pass	80.81	350	P	P	22 00 56.2	+0.3
TPAW				IAmb	IAmb	22 01 03.9	
	comp=Z,15nm,1.2s						
LOHW	Long Hollow	80.88	350	P	P	22 00 56.4	+0.2
FXWY	Fox Creek	80.97	350	P	P	22 00 57.0	+0.4
HLID	Hailey	81.44	347	P	P	22 00 59.9	+0.8
HLID				IAmb	IAmb	22 01 07.6	
	comp=Z,6.4nm,1.1s						
YBH	Yreka Blue Hor	81.54	341	LR	LR	22 28 57.8	
	comp=Z,48nm,21.7s,baz=172,slow=30						
J08A	Circle Bar Ran	82.05	344	P	P	22 01 02.0	-0.2
J08A				IAmb	IAmb	22 01 10.8	
	comp=Z,5.7nm,1.0s						
DZM	Mont Dzumac	82.26	248	eLR	LR	22 26 32.5	
	comp=Z,258nm,21.5s						
DZM	Mont Dzumac	82.26	248	LR	LR	22 31 05.4	
	comp=Z,224nm,18.3s,baz=80,slow=31						
J05D	Fort Rock, OR	82.62	342	P	P	22 01 05.9	+0.6
I07A	Izee	82.97	344	P	P	22 01 07.8	+0.8
I07A				IAmb	IAmb	22 01 09.2	
	comp=Z,10nm,1.3s						
G08A	Pilot Rock	84.00	344	P	P	22 01 12.4	+0.1
F10A	Beach Ranch, E	84.29	346	P	P	22 01 14.1	+0.3
F10A				IAmb	IAmb	22 01 26.7	
	comp=Z,8.1nm,1.1s						
NEW	Newport	86.47	347	LR	LR	22 33 19.6	
	comp=Z,54nm,18.3s,baz=172,slow=31						
SUR	Sutherland	89.92	131	LR	LR	22 39 21.1	
	comp=Z,53nm,18.4s,baz=194,slow=34						
BBTS	Babate	91.05	73	LR	LR	22 39 51.9	
	comp=Z,130nm,19.5s,baz=141,slow=34						
BOSA	Boshof	95.29	132	LR	LR	22 38 28.2	
	comp=Z,71nm,19.2s,baz=204,slow=31						
DBIC	Dimbokro	95.51	86	LR	LR	22 39 52.9	
	comp=Z,154nm,21.2s,baz=200,slow=32						
TSUM	Tsumeb	96.87	120	LR	LR	22 42 27.6	
	comp=Z,64nm,18.0s,baz=160,slow=33						
CTA	Charters Tower	98.00	238	LR	LR	22 38 43.5	
	comp=Z,7.9nm,21.8s,baz=110,slow=31						
H01W1	Cape Leeuwin H	103.18	206	T	T	23 58 26.8	
	baz=153						
H01W2	Cape Leeuwin H	103.19	206	T	T	23 58 33.6	
	baz=153						
H01W3	Cape Leeuwin H	103.20	206	T	T	23 58 30.8	
	baz=153						
KSRS	Korea Array	144.54	285	PKP	PKPab	22 08 15.8	-1.3
	comp=Z,1.2nm,0.9s,baz=134,slow=3.5,SNR=5.1						
KURBB	Kurchatov Arra	165.66	12	PKP	PKPdf	22 08 45.0	-1.4
	comp=Z,0.3nm,0.2s,baz=338,slow=1.0,SNR=4.0						

*IDC **15** 21:53:14.2±0.7, 5°.80S×152°.00E, h0km, mb4.1/13, mbtmp4.2/14, ML2.6/1, MS3.2/3, Error ellipse: s-maj=27.0km s-min=15.9km az=99.0*
*NEIC **15** 21:53:22.9±1.0, 6°.0S±0°.2×152°.0E±0°.1, h56km±9km, mb4.6/57, Error ellipse: s-maj=34.0km s-min=4.5km az=144.0*

ISC 15 21:53:20.1±0.6, 5°.74S±0°.08×151°.9E±0°.1, h35km, n91, σ1°.32/92, mb4.6/41, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.94	232		Pn	21 54 47.3	+1.6
PMG	Port Moresby	5.94	232	Pn	Pn	21 54 44.9	-0.8
	9.0nm,0.3s,baz=42,slow=9.4,SNR=38						
PMG				Sn	Sn	21 55 54.3	+1.8
	4.3nm,0.3s,baz=123,slow=3.6,SNR=1.5						
	143nm,0.8s						
HNR	Honiara	8.78	115	LR	LR	21 58 29.8	
	comp=Z,341nm,20.5s,baz=226,slow=36						
CTA	Charters Tower	15.28	201	Pn	P	21 56 57.1	-0.7
	baz=52,slow=23,SNR=1.7						
QIS	Mount Isa	18.95	218	P	Pn	21 57 39.8	+0.5
KDU	Kakadu	20.36	249	P	P	21 57 53.5	-0.4
GUMO	Guam	20.43	340	S	S	22 01 37.0	-4.6
	60nm,0.2s,baz=163,slow=20,SNR=2.8						
GUMO				LR	LR	22 06 57.9	
	comp=Z,40nm,18.2s,baz=157,slow=40						
MTN	Manton Dam	21.66	250	P	P	21 58 08.0	+0.2
MTN	Manton Dam	21.66	250	P	P	21 58 08.3	+0.4
MTN				IAmb	IAmb	21 58 11.4	
	comp=Z,18nm,0.5s						
WB0	Warramunga Arr	22.00	229	P	P	21 58 10.7	-0.8
WB0				IAmb	IAmb	21 58 14.2	
	comp=Z,19nm,0.8s						
WR0	Warramunga Arr	22.01	228	P	P	21 58 11.9	+0.4
WR0				IAmb	IAmb	21 58 14.2	
	comp=Z,18nm,0.8s						
WRAB	Tennant Creek	22.14	229	P	P	21 58 12.7	-0.2
WRAB				IAmb	IAmb	21 58 15.4	
	comp=Z,25nm,0.8s						
WB2	Warramunga Arr	22.14	229	P	P	21 58 12.0	-1.0
WB2				IAmb	IAmb	21 58 15.5	
	comp=Z,24nm,0.7s						
WRA	Warramunga Arr	22.15	229	P	P	21 58 13.5	+0.5
WRA	Warramunga Arr	22.15	229	P	P	21 58 12.0	-1.1
	comp=Z,23nm,0.8s,baz=55,slow=10.0,SNR=100						
WRA				PcP	PcP	22 02 10.2	+0.6
	comp=Z,0.7nm,0.7s,baz=56,slow=2.1,SNR=4.0						
	comp=Z,23nm,0.8s						
KNRA	Kununurra	24.75	245	P	P	21 58 38.5	-0.1
KNRA				IAmb	IAmb	21 58 44.1	
	comp=Z,19nm,0.8s						
AS01	Alice Springs	24.82	222	P	P	21 58 39.6	+0.3
AS31	Alice Springs	24.85	222	P	P	21 58 37.8	-1.8
AS31				IAmb	IAmb	21 58 41.7	
	comp=Z,8.6nm,0.7s						
ASAR	Alice Springs	24.85	222	P	P	21 58 38.9	-0.7
ASAR	Alice Springs	24.85	222	P	P	21 58 39.2	-0.3
	comp=Z,23nm,0.7s,baz=57,slow=8.9,SNR=165						
	comp=Z,23nm,0.7s						
CMSA	Cobar Meteorol	26.31	192	P	P	21 58 53.4	+0.8
OOD	Oodnadatta	26.80	213	P	P	21 58 57.1	0.0
STKA	Stephens Creek	27.73	199	P	P	21 59 04.5	-0.9
	comp=Z,2.9nm,0.7s,baz=24,slow=14,SNR=5.7						
	comp=Z,2.9nm,0.7s						
LCRK	Leigh Creek	27.74	206	P	P	21 59 05.4	-0.1
FITZ	Fitzroy Crossi	28.42	242	P	P	21 59 11.2	-0.5
FITZ	Fitzroy Crossi	28.42	242	P	P	21 59 11.4	-0.3
MULG	Mulgathing	29.63	212	P	P	21 59 21.7	-0.6
WRKA	Warakurna	29.66	227	P	P	21 59 21.9	-0.8
FORT	Forrest	33.49	219	P	P	21 59 55.5	-0.8
MBWA	Marble Bar	34.73	241	P	P	22 00 06.6	-0.5
MORW	Morawa	41.06	231	P	P	22 00 59.8	-0.7
MJAR	Matsushiro Arr	43.97	344	P	P	22 01 25.1	+1.1
	comp=Z,0.5nm,0.6s,baz=165,slow=12,SNR=4.1						
MJAR				LR	LR	22 20 35.2	
	comp=Z,25nm,18.1s,baz=135,slow=37						
	comp=Z,0.5nm,0.6s						
CMAR	Chiang Mai Arr	57.47	296	P	P	22 03 06.7	+0.6
	comp=Z,0.5nm,0.5s,baz=129,slow=5.1,SNR=5.4						
	comp=Z,0.5nm,0.5s						
SONM	Songino Array	66.64	328	P	P	22 04 07.9	+0.5
	comp=Z,0.8nm,0.7s,baz=144,slow=4.3,SNR=5.5						
	comp=Z,0.8nm,0.7s						
VNDA	Vanda	71.93	178	P	P	22 04 37.1	-2.3
VNDA	Vanda	71.93	178	P	P	22 04 37.6	-1.8
	comp=Z,1.2nm,0.7s,baz=330,slow=9.4,SNR=9.8						
	comp=Z,1.2nm,0.7s						
O14K	Tigyukauivet M	74.67	23	P	P	22 04 57.4	+1.7
M14K	Bethel	75.40	21	P	P	22 05 02.0	+2.0
M14K				IAmb	IAmb	22 05 02.7	
	comp=Z,5.9nm,0.8s						
K15K	Wolf Creek Mou	76.59	20	P	P	22 05 09.0	+2.3
M16K	Timber Creek	76.69	22	P	P	22 05 08.6	+1.2
M16K				IAmb	IAmb	22 05 46.1	
	comp=Z,11nm,1.4s						
Q19K	Cape Douglas,	77.58	26	P	P	22 05 13.6	+1.2
P19K	Oil Pt	78.16	25	P	P	22 05 16.5	+0.8
L19K	White Mountain	78.96	23	P	P	22 05 22.0	+2.0
SUA	Susitna One	80.18	24	P	P	22 05 27.9	+1.1
SUA				IAmb	IAmb	22 05 33.2	
	comp=Z,12nm,1.4s						
J20K	Nowinta River	80.38	21	P	P	22 05 29.5	+1.9
MKAR	Makanchi Array	80.44	319	P	P	22 05 28.9	+0.5
	comp=Z,0.4nm,0.7s,baz=106,slow=5.5,SNR=2.4						
	comp=Z,0.4nm,0.7s						
CAST	Castle Rocks	80.71	22	P	P	22 05 30.4	+1.0
E19K	Redstone River	81.35	18	P	P	22 05 34.1	+1.4
E19K				IAmb	IAmb	22 05 35.2	
	comp=Z,4.7nm,0.8s						
ZALV	Zalesovo Beam	81.43	327	P	P	22 05 32.6	-0.8
	comp=Z,0.5nm,0.4s,baz=104,slow=2.8,SNR=4.2						
	comp=Z,0.5nm,0.4s						
F20K	Avaraart Lake	81.56	18	P	P	22 05 35.0	+1.2
IMAR	Indian Mountai	81.57	20	P	P	22 05 34.9	+1.0
C19K	Lookout Ridge	81.74	16	P	P	22 05 36.4	+1.6
C19K				IAmb	IAmb	22 06 11.5	
	comp=Z,14nm,1.4s						
D19K	Kuna River	81.75	17	P	P	22 05 35.9	+1.0
D19K				IAmb	IAmb	22 06 04.8	
	comp=Z,11nm,1.3s						
MLY	Manley	82.08	21		P	22 05 38.0	+1.3
MLY				IAmb	IAmb	22 05 38.4	
	comp=Z,3.5nm,0.5s						
DHY	Denali Highway	82.36	24	P	P	22 05 39.9	+1.6
N25K	Chitina, Valde	82.83	26	P	P	22 05 43.6	+2.9
N25K				IAmb	IAmb	22 06 10.8	
	comp=Z,6.6nm,1.3s						
E21K	Killik River	82.93	18	P	P	22 05 42.6	+1.6
G23K	Bananza Creek	83.22	20	P	P	22 05 43.8	+1.2
IL31		83.36	22	P	P	22 05 43.5	+0.2
IL31				IAmb	IAmb	22 05 43.6	
	comp=Z,4.4nm,0.8s						
ILAR	Eielson Array	83.36	22	P	P	22 05 43.0	-0.3
	comp=Z,2.7nm,0.7s,baz=248,slow=5.3,SNR=26						
	comp=Z,2.7nm,0.7s						
H24K	Noodor Dome	83.52	21	P	P	22 05 45.2	+1.0
D22K	Ayikyak River	83.57	17	P	P	22 05 46.2	+1.9
D22K				IAmb	IAmb	22 05 46.9	
	comp=Z,5.4nm,1.1s						
J25K	Salcha River,	83.87	23		P	22 05 47.0	+1.0
KURBB	Kurchatov Arra	83.98	322	P	P	22 05 46.4	-0.4
	comp=Z,0.7nm,0.7s,baz=113,slow=4.2,SNR=5.6						
	comp=Z,0.7nm,0.7s						
G24K	Hadweenzic Riv	84.09	20	P	P	22 05 48.5	+1.5
G24K				IAmb	IAmb	22 05 57.7	
	comp=Z,8.3nm,1.5s						
SCRK	Sand Creek	84.12	24	P	P	22 05 48.0	+0.6
QSPA	South Pole Qui	84.22	180	P	P	22 05 47.6	-0.3
QSPA				IAmb	IAmb	22 05 48.7	
	comp=Z,3.4nm,0.7s						
QSPA	South Pole Qui	84.22	180	P	P	22 05 47.8	-0.1
	comp=Z,3.2nm,0.6s,baz=321,slow=1.0,SNR=30						
	comp=Z,3.2nm,0.6s						
M27K	Edge Creek, AK	84.31	25	P	P	22 05 50.1	+1.7
M27K				IAmb	IAmb	22 05 50.8	
	comp=Z,5.5nm,0.8s						
F24K	Squaw Lake	84.36	20	P	P	22 05 50.3	+1.9
F24K				IAmb	IAmb	22 05 50.9	
	comp=Z,3.6nm,0.8s						
TOLK	Toolik Lake Re	84.39	18	P	P	22 05 49.9	+1.3
J26L	Joseph Creek	84.52	23	P	P	22 05 50.7	+1.4
L27K	Beaver Creek,	84.61	25	P	P	22 05 51.2	+1.4
BCAR	Beaver Creek A	84.63	25	P	P	22 05 50.7	+0.8
C23K	Itkillik River	84.71	17	P	P	22 05 51.8	+1.8
C23K				IAmb	IAmb	22 05 55.8	
	comp=Z,6.4nm,1.2s						
K27K	Chicken	84.91	24	P	P	22 05 53.1	+2.0
K27K				IAmb	IAmb	22 05 54.0	
	comp=Z,5.5nm,1.1s						
L29M	L29M	86.19	25	P	P	22 05 59.3	+1.6
I28M	Miner Creek	86.31	23	P	P	22 05 59.5	+1.3
K29M	Barlow Dome	86.70	25	P	P	22 06 01.2	+0.9
E27K	Coleen River	86.79	20	P	P	22 06 02.3	+1.8
E27K				IAmb	IAmb	22 06 02.9	
	comp=Z,3.6nm,0.7s						
I29M	Ogilvie Camp,	86.91	23	P	P	22 06 02.5	+1.4
I29M				IAmb	IAmb	22 06 06.0	
	comp=Z,4.4nm,0.8s						
D27M	Malcolm River	87.42	19	P	P	22 06 05.6	+2.0
D27M				IAmb	IAmb	22 06 06.1	
	comp=Z,3.8nm,0.8s						
J30M	Hart River	87.44	24	P	P	22 06 05.4	+1.6
I30M	Mount Dempster	87.63	24	P	P	22 06 05.9	+1.2
I30M				IAmb	IAmb	22 06 06.7	
	comp=Z,2.9nm,0.8s						
E28M	Babbage River	87.65	20	P	P	22 06 05.4	+0.8
E28M				IAmb	IAmb	22 06 07.0	
	comp=Z,2.2nm,0.8s						
EPYK	Eagle Plains	87.87	22	P	P	22 06 07.3	+1.5
FARO	Faro, Yukon	88.01	27	P	P	22 06 08.0	+1.5
FARO				IAmb	IAmb	22 06 09.1	
	comp=Z,3.1nm,0.8s						
BVAR	Borovoye Array	89.45	323	P	P	22 06 11.8	-1.6
	comp=Z,1.1nm,0.8s,baz=95,slow=6.5,SNR=6.6						
	comp=Z,1.1nm,0.8s						
LPAZ	La Paz	134.75	120	PKP	PKPdf	22 12 37.0	0.0
	comp=Z,0.9nm,0.6s,baz=282,slow=3.3,SNR=5.5						
TORD	Torodi Ar. Bea	149.72	286	PKPbc	PKPbc	22 13 07.3	0.0
	comp=Z,3.1nm,0.6s,baz=90,slow=3.8,SNR=27						
BDFB	Brasilia	151.01	137	PKPbc	PKPbc	22 13 10.2	-0.3
	comp=Z,2.2nm,0.6s,baz=76,slow=2.0,SNR=5.8						

*IDC **15** 22:37:16.0±1.2, 5°.73S×152°.11E, h0km, mb4.1/5, mbtmp4.1/6, ML1.8/1, Error ellipse: s-maj=51.2km s-min=23.7km az=121.0*

ISC 15 22:37:22.6±1.1, 5°.7S±0°.2×151°.9E±0°.2, h45km, n7, σ0°.83/9, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.97	232	Pn	Pn	22 38 47.2	-1.3
	1.5nm,0.3s,baz=50,slow=17,SNR=7.8						
PMG				Sn	Sn	22 39 56.7	+1.0
	1.9nm,0.3s,baz=356,slow=11,SNR=3.1						
	21nm,0.7s						
WRA	Warramunga Arr	22.18	229	P	P	22 42 14.9	-0.2
	4.1nm,0.8s,baz=55,slow=10,SNR=28						
	4.1nm,0.8s						
ASAR	Alice Springs	24.89	222	P	P	22 42 42.0	+0.6
	3.6nm,0.7s,baz=58,slow=9.0,SNR=40						
	3.6nm,0.7s						
STKA	Stephens Creek	27.77	199	P	P	22 43

NIUE Niue 8.24 115 P **P** **22 50 51.4 -1.5**
RAO Raoul Island 13.53 180 P **P** **22 51 49.1 -1.7**
148nm,0.3s,baz=259,slow=15,SNR=3.9
RAO S **S** **22 54 14.4 -1.7**
688nm,0.5s,baz=270,slow=20,SNR=5.1
GLKZ Green Lake 13.54 180 P **P** **22 51 47.8 -3.1**
GLKZ S **S** **22 54 12.1 -4.2**
LIFNC LIFOU 15.10 248 P **P** **22 52 08.4 +0.5**
DZM Mont Dzumac 16.22 244 P **P** **22 52 23.7 +3.7**
DZM Mont Dzumac 16.22 244 *e*P **P** **22 52 20.7 +0.7**
57nm,1.4s
DZM *e*LR LR 22 56 27.6
254nm,22.8s
DZM Mont Dzumac 16.22 244 P **P** **22 52 19.8 -0.1**
DZM Mont Dzumac 16.22 244 P **P** **22 52 19.3 -0.7**
19nm,1.2s,baz=75,slow=14,SNR=3.2
KOUNC Koumac, New Ca 17.71 251 P **P** **22 52 34.5 -1.2**
OUZ Omahuta 20.95 200 P **P** **22 53 08.6 +2.1**
OUZ Omahuta 20.95 200 P **P** **22 53 08.6 +2.1**
GRZ Great Barrier 21.37 195 P **P** **22 53 10.6 +0.3**
WCZ Waipu Caves 21.38 198 P **P** **22 53 12.0 +1.5**
KUZ Kuaotunu 21.78 194 P **P** **22 53 14.4 +0.3**
KUZ Kuaotunu 21.78 194 P **P** **22 53 14.4 +0.3**
WIAZ Waiheke Island 21.97 195 P **P** **22 53 17.7 +1.9**
MBAZ Motutapu North 22.01 196 P **P** **22 53 18.1 +2.0**
HAZ Te Kaha 22.36 189 P **P** **22 53 17.8 -1.5**
RUGZ Raukumara Rang 22.58 189 P **P** **22 53 19.9 -1.6**
RUGZ S S 22 57 19.5 +22
PUZ Puketiti 22.60 188 P **P** **22 53 19.7 -1.8**
PUZ S S 22 57 18.8 +21
TGRZ Tauranga 22.60 192 P **P** **22 53 22.0 +0.5**
TWGZ Tauwhareparae 22.74 189 P **P** **22 53 22.1 -0.7**
TWGZ S S 22 57 23.9 +24
TOZ Tahuroa Road 22.77 194 P **P** **22 53 23.7 +0.6**
TOZ Tahuroa Road 22.77 194 P **P** **22 53 24.6 +1.6**
KMRZ Kaimai 22.78 193 P **P** **22 53 24.4 +1.2**
URZ Urewera 22.96 190 P **P** **22 53 21.6 -3.1**
URZ Urewera 22.96 190 P **P** **22 53 21.7 -3.0**
URZ S S 22 57 21.8 +18
MWZ Matawai 22.96 189 P **P** **22 53 22.8 -2.0**
CNGZ Carnagh Statio 23.01 188 P **P** **22 53 25.0 -0.1**
RTZ Ruatahuna 23.33 190 P **P** **22 53 25.4 -2.7**
RTZ IAmb IAmb 22 53 29.5
comp=Z,165nm,1.3s
MTHZ Maungataniwha 23.58 191 P **P** **22 53 29.9 -0.5**
HIZ Hauiti 23.67 194 P **P** **22 53 32.5 +1.4**
HIZ Hauiti 23.67 194 P **P** **22 53 30.7 -0.4**
HIZ Hauiti 23.67 194 P **P** **22 53 32.9 +1.7**
BKZ Black Stump Fm 23.95 191 P **P** **22 53 31.0 -2.7**
BKZ Black Stump Fm 23.95 191 P **P** **22 53 31.1 -2.5**
WNVZ Wahianoa 24.28 193 P **P** **22 53 36.2 -0.6**
BFZ Birch Farm 25.46 191 P **P** **22 53 46.5 -0.6**
SNZO South Karori 26.37 193 P **P** **22 53 54.3 -0.8**
SNZO South Karori 26.37 193 P **P** **22 53 52.0 -3.1**
SNZO IAmb IAmb 22 54 51.2
comp=Z,216nm,1.4s
QRZ Quartz Range 26.45 197 P **P** **22 53 56.1 +0.3**
QRZ Quartz Range 26.45 197 P **P** **22 53 56.3 +0.5**
QRZ IAmb IAmb 22 53 56.9
comp=Z,130nm,1.2s
PPT2 Papeete2 27.10 98 *e*S **S** **22 58 10.5 +1.4**
comp=Z,142nm,27.0s
DSZ Denniston Nort 27.50 197 P **P** **22 54 05.5 +0.3**
KHZ Kahutara 27.69 194 P **P** **22 54 05.4 -1.3**
KHZ Kahutara 27.69 194 P **P** **22 54 03.9 -2.8**
TBI Tubuai 27.75 110 *e*P **P** **22 54 13.0 +5.5**
comp=Z,435nm,27.8s
TBI *e*S **S** **22 58 21.2 +2.2**
comp=Z,477nm,22.8s
TBI *e*SS **SS** **23 00 37.4 -1.6**
comp=Z,1µm,27.8s
LTZ Lake Taylor 28.34 196 P **P** **22 54 10.5 -2.1**
LTZ Lake Taylor 28.34 196 P **P** **22 54 10.4 -2.1**
INZ Inchbonnie 28.51 197 P **P** **22 54 11.0 -3.0**
INZ IAmb IAmb 22 54 14.0
comp=Z,132nm,1.0s
PMOR Pomariorio Ree 28.83 93 *e*P **P** **22 54 16.6 -0.6**
comp=Z,156nm,1.1s
OXZ Oxford 28.91 195 P **P** **22 54 14.9 -2.6**
OXZ IAmb IAmb 22 54 16.8
comp=Z,107nm,1.0s
VAH Vaihoa 29.07 93 *e*P **P** **22 54 18.8 -0.4**
comp=Z,123nm,1.1s
JCZ Jackson Bay 30.53 199 P **P** **22 54 30.6 -1.2**
EIDS Eidsvold 30.64 247 P **P** **22 54 34.2 +1.4**
WKZ Wanaka 31.14 198 P **P** **22 54 34.8 -2.1**
MLZ Mavora Lakes 31.90 199 P **P** **22 54 43.0 -0.5**
MLZ IAmb IAmb 22 54 44.9
comp=Z,88nm,0.9s
WHZ Wether Hill Ro 32.43 199 P **P** **22 54 47.5 -0.5**
WHZ IAmb IAmb 22 54 49.4
comp=Z,136nm,1.2s
JOHN Johnston Islan 33.20 15 P **P** **22 54 55.2 +0.3**
TV1H Townsville Har 33.93 259 P **P** **22 55 03.9 +2.7**
CTAO Charters Tower 34.45 257 P **P** **22 55 07.6 +2.0**
CTAO Charters Tower 34.45 257 P **P** **22 55 06.6 +1.0**
CTAO Charters Tower 34.45 257 P **P** **22 55 06.6 +1.0**
CTAO pmax pmax
comp=Z,12nm,0.7s
CTAO Charters Tower 34.45 257 P **P** **22 55 07.6 +2.0**
MTSU Mount Surprise 36.30 261 P **P** **22 55 21.9 +0.8**
CMSA Cobar Meteorol 36.80 238 P **P** **22 55 26.2 +1.1**
GLAD Gladstone 38.88 223 P **P** **22 55 42.6 +0.5**
TOO Toolangi 39.06 229 P **P** **22 55 42.5 -1.2**
TOO Toolangi 39.06 229 P **P** **22 55 42.5 -1.2**
TOO pmax pmax
comp=Z,46nm,1.3s
STKA Stephens Creek 40.26 239 P **P** **22 55 52.3 -1.1**
comp=Z,9.8nm,0.9s,baz=76,slow=6.0,SNR=8.3
STKA pP **pP** **22 57 14.1 +0.7**
comp=Z,13nm,1.0s,baz=69,slow=10.0,SNR=3.5
comp=Z,9.8nm,0.9s
STKA Stephens Creek 40.26 239 *i*P **P** **22 55 53.2 -0.2**
HMH Humu'ula Sheep 41.34 33 P **P** **22 56 01.4 -1.2**
POHA Pohakuloa 41.45 33 P **P** **22 56 03.6 +0.2**
HPAH Hawaii Prepara 41.59 32 P **P** **22 56 03.6 -0.7**
DHH Diamond Head 41.61 29 P **P** **22 56 04.8 +0.5**
DHH Diamond Head 41.61 29 P **P** **22 56 04.8 +0.5**
MHA Mahukona 41.62 32 P **P** **22 56 03.5 -0.9**
MHA Mahukona 41.62 32 P **P** **22 56 03.5 -0.9**
LCRK Leigh Creek 42.79 242 P **P** **22 56 13.3 -0.4**
GHSS Government Hou 43.44 236 P **P** **22 56 20.3 +1.6**
OOD Oodnadatta 44.63 246 P **P** **22 56 28.6 +0.5**
BBOO Buckleboo 45.03 239 P **P** **22 56 31.1 -0.1**
BBOO Buckleboo 45.03 239 P **P** **22 56 30.8 -0.4**
WR0 Warramunga Arr 45.47 257 P **P** **22 56 33.8 -1.0**
WB0 Warramunga Arr 45.62 258 P **P** **22 56 34.5 -1.5**
WB2 Warramunga Arr 45.65 257 P **P** **22 56 35.6 -0.6**
WRAB Tennant Creek 45.65 257 *i*P **P** **22 56 35.6 -0.6**
WRAB pmax pmax
comp=Z,18nm,2.5s
WRA Warramunga Arr 45.66 257 P **P** **22 56 34.5 -1.8**
WRA Warramunga Arr 45.66 257 P **P** **22 56 34.8 -1.4**
comp=Z,3.0nm,0.5s,baz=96,slow=6.8,SNR=86
WRA pP **pP** **22 57 57.5 -1.2**
comp=Z,4.6nm,1.0s,baz=90,slow=8.4,SNR=4.2
WRA ScP **ScP** **23 01 19.0 +0.9**
comp=Z,2.2nm,1.1s,baz=84,slow=6.4,SNR=5.1
WRA S **S** **23 02 46.7 -0.4**
comp=Z,0.9nm,1.0s,baz=98,slow=14,SNR=3.6
comp=Z,3.0nm,0.5s
WRA Warramunga Arr 45.66 257 P **P** **22 56 34.5 -1.8**
WRA pmax pmax
comp=Z,1.0nm,1.4s
AS01 Alice Springs 45.96 252 P **P** **22 56 38.1 -0.5**
AS31 Alice Springs 46.00 252 P **P** **22 56 38.1 -0.8**
ASAR Alice Springs 46.00 252 P **P** **22 56 38.5 -0.4**
ASAR Alice Springs 46.00 252 P **P** **22 56 38.1 -0.7**
comp=Z,25nm,0.6s,baz=84,slow=8.0,SNR=186
ASAR pP **pP** **22 58 00.8 -0.8**
comp=Z,16nm,1.0s,baz=83,slow=8.9,SNR=4.3
ASAR ScP **ScP** **23 01 21.1 +1.5**
comp=Z,2.2nm,1.1s,baz=90,slow=3.7,SNR=5.3
ASAR S **S** **23 02 50.2 -1.7**
comp=Z,3.2nm,0.9s,baz=84,slow=15,SNR=12
comp=Z,25nm,0.6s
ASAR Alice Springs 46.00 252 P **P** **22 56 38.5 -0.4**
MULG Mulgathing 46.32 243 P **P** **22 56 40.8 -0.4**
MTN Manton Dam 49.49 266 P **P** **22 57 04.3 -1.0**
WRKA Warakurna 51.12 250 P **P** **22 57 16.8 -0.5**
FORT Forrest 51.52 243 P **P** **22 57 20.1 0.0**
FORT Forrest 51.52 243 P **P** **22 57 18.7 -1.3**
FITZ Fitzroy Crossi 54.01 259 P **P** **22 57 39.3 +1.1**
FITZ Fitzroy Crossi 54.01 259 P **P** **22 57 37.6 -0.5**
SOEI Soe 56.69 269 P **P** **22 57 56.1 -1.1**
DRV Dumont d'Urvil 57.97 198 P **P** **22 58 04.8 -0.1**
DRV pP **pP** **22 59 33.4 +1.0**
SBA Scott Base 62.69 184 P **P** **22 58 36.0 -0.3**
SBA IAmb IAmb 22 58 40.0
comp=Z,52nm,1.1s
SBA Scott Base 62.69 184 P **P** **22 58 36.0 -0.3**
SBA pmax pmax
comp=Z,52nm,1.2s
SBA Scott Base 62.69 184 P **P** **22 58 35.5 -0.8**
SBA pP **pP** **23 00 06.4 +1.7**
VNDA Vanda 62.72 185 P **P** **22 58 37.4 +0.9**
VNDA Vanda 62.72 185 P **P** **22 58 37.5 +0.9**
comp=Z,10nm,1.1s,baz=0.4,slow=6.7,SNR=31
comp=Z,10nm,1.1s
VNDA Vanda 62.72 185 P **P** **22 58 37.4 +0.9**
VNDA pmax pmax
comp=Z,29nm,1.4s
VNDA Vanda 62.72 185 P **P** **22 58 37.5 +1.0**
VNDA pP **pwP** **23 00 08.5 +0.9**
JHJ2 Mitsune 63.17 321 P **P** **22 58 39.9 -0.2**
JGF Kuroka 66.35 321 P **P** **22 59 00.0 -0.4**
MYLDM Lahad Datu 66.36 283 P **P** **22 59 00.0 -0.8**
MYLDM IAmb IAmb 22 59 05.0
comp=Z,81nm,1.4s
INU Inuyama 66.39 321 P **P** **22 59 00.1 -0.5**
MJAR Matsushiro Arr 66.48 322 P **P** **22 59 00.2 -0.9**
comp=Z,18nm,1.0s,baz=156,slow=5.8,SNR=46
MJAR pP **pP** **23 00 31.6 +0.7**
comp=Z,2.7nm,1.2s,baz=155,slow=6.7,SNR=2.1
comp=Z,18nm,1.0s
MAJO Matsushiro 66.48 322 P **P** **22 59 00.6 -0.6**
MAJO Matsushiro 66.48 322 P **P** **22 59 00.6 -0.6**
MAJO pmax pmax
comp=Z,36nm,1.1s
MAJO Matsushiro 66.48 322 P **P** **22 59 00.6 -0.6**
MJB9 Matsu-Tunnel 66.48 322 P **P** **22 59 00.4 -0.8**
AMKA Amchitka 66.80 358 P **P** **22 59 02.2 -0.5**
CCD Concordia, Ant 67.18 194 P **P** **22 59 05.5 +0.1**
CCD pP **pP** **23 00 37.0 +1.1**
KIWB Kanaga Island 67.23 0 P **P** **22 59 05.0 -0.4**
ADK Adak 67.26 1 P **P** **22 59 04.6 -1.0**
ADK Adak 67.26 1 P **P** **22 59 04.6 -1.0**
ADK pmax pmax
comp=Z,174nm,1.6s
ADK Adak 67.26 1 P **P** **22 59 05.0 -0.6**
ADK pP **pwP** **23 00 37.8 -1.7**
JMN Monobe 67.32 318 P **P** **22 59 06.5 0.0**
JMN IAmb IAmb 22 59 08.5
comp=Z,40nm,1.1s
ATKA Atka Island 67.65 2 P **P** **22 59 07.1 -0.9**
CASY Casey 68.42 204 P **P** **22 59 13.2 +0.6**
CASY pP **pP** **23 00 46.0 +2.4**
NIKH Nikolski High 68.78 6 P **P** **22 59 14.2 -0.7**
baz=189
JNU Nakatsue 68.94 315 P **P** **22 59 16.4 0.0**
UNV Unalaska Valle 69.90 7 P **P** **22 59 20.7 -0.9**
baz=192
FALS False Pass 71.29 9 P **P** **22 59 28.5 -1.4**
baz=195
PET Petropavlovsk 71.36 345 *ce*P **P** **22 59 30.4 +0.1**
PET pmax pmax
comp=Z,52nm,2.5s
YSS Yuzh-Sakhalins 71.69 333 *ce*P **P** **22 59 33.4 +1.0**
YSS pmax pmax
comp=Z,81nm,1.7s
CHNA Chernabura Isl 71.90 11 P **P** **22 59 32.9 -0.6**
baz=198
SDPT Sand Point 72.24 10 P **P** **22 59 34.4 -1.0**
baz=198,SNR=5.3
P08K Saint George I 72.31 5 P **P** **22 59 35.4 -0.5**
baz=188
S12K Black Hills 72.32 9 P **P** **22 59 34.9 -1.1**
S12K IAmb IAmb 22 59 36.0
comp=Z,62nm,1.0s
S12K Black Hills 72.32 9 P **P** **22 59 35.1 -0.8**
baz=196,SNR=5.1
SPIA Saint Paul Isl 72.83 4 P **P** **22 59 38.5 -0.3**
baz=188
TJN Taejon 73.18 316 *ce*P **P** **22 59 41.8 +0.4**
S14K Fog Glacier 73.29 11 P **P** **22 59 41.3 -0.3**
baz=198
KSRS Korea Array 73.43 318 P **P** **22 59 43.9 +1.1**
comp=Z,5.8nm,0.9s,baz=133,slow=6.4,SNR=22
KSRS pP **pP** **23 01 16.0 +1.3**
comp=Z,0.5nm,0.5s,baz=94,slow=6.0,SNR=1.6
comp=Z,5.8nm,0.9s
KSAR Wonju Array Be 73.45 318 P **P** **22 59 43.5 +0.6**
KSAR Wonju Array Be 73.45 318 P **P** **22 59 43.5 +0.6**
CHGN Chignik 73.51 11 P **P** **22 59 41.9 -0.9**
CHGN IAmb IAmb 22 59 43.0
comp=Z,43nm,0.8s
CHGN Chignik 73.51 11 P **P** **22 59 41.9 -0.9**
baz=200
CHIR Chirikof Islan 73.62 13 P **P** **22 59 43.4 0.0**
baz=202
SCZ2 Santa Cruz Isl 74.16 47 P **P** **22 59 48.5 +1.4**
baz=238
MCCM Marconi Confer 74.24 42 P **P** **22 59 46.6 -0.7**
MCCM IAmb IAmb 22 59 49.5
comp=Z,55nm,1.0s
SBC Santa Barbara 74.34 47 P **P** **22 59 49.5 +1.5**
baz=238
QSPA South Pole Qui 74.38 180 P **P** **22 59 48.9 +0.9**
QSPA South Pole Qui 74.38 180 P **P** **22 59 49.1 +1.1**
comp=Z,69nm,0.8s,baz=19,slow=1.3,SNR=191
QSPA pP **pwP** **23 01 22.3 -1.1**
comp=Z,9.6nm,1.0s,baz=40,slow=6.7,SNR=2.7
comp=Z,69nm,0.8s
SAO San Andreas Ge 74.41 44 P **P** **22 59 48.8 +0.4**
SAO San Andreas Ge 74.41 44 P **P** **22 59 48.8 +0.4**
SAO pmax pmax
comp=Z,86nm,1.0s
SCI2 San Clemente I 74.41 49 P **P** **22 59 49.8 +1.3**
baz=239
VLA Vladivostok 74.47 324 *i*P **P** **22 59 49.5 +0.9**
VLA pmax pmax
comp=Z,35nm,1.0s
PKM Mcpherson Peak 74.50 46 P **P** **22 59 50.9 +1.6**
baz=238,SNR=15
PMPB Monarch Peak 74.54 45 P **P** **22 59 50.0 +0.7**
MSHR Mys Shultsa 74.55 323 *ce*P **P** **22 59 50.1 +1.1**
MSHR pmax pmax
comp=Z,31nm,1.3s
BBGB Big Mountain B 74.58 44 P **P** **22 59 50.9 +1.3**
HOPS Hopland Field 74.61 41 P **P** **22 59 50.5 +1.0**
SII Sitkinak Islan 74.61 13 P **P** **22 59 49.2 +0.1**
baz=204
KCPM Cahto Peak 74.69 40 P **P** **22 59 49.6 -0.5**
KCPM IAmb IAmb 22 59 52.7
comp=Z,100nm,1.3s
CIS Catalina Islan 74.72 48 P **P** **22 59 51.2 +0.9**
baz=239
TYV Tymovskoe 74.74 335 *e*P **P** **22 59 50.8 +0.9**
TYV pmax pmax
comp=Z,27nm,1.0s
TYV pmax pmax
comp=Z,100nm,2.9s
KMPM Mount Pierce 74.78 40 P **P** **22 59 50.5 0.0**
PSTR Posyet 74.79 323 *i*P **P** **22 59 51.3 +0.9**
BCW Bitter Crk WRg 74.81 46 P **P** **22 59 50.9 -0.1**
BCW IAmb IAmb 22 59 53.6
comp=Z,78nm,1.0s
KMRM Mail Ridge 74.92 40 P **P** **22 59 51.1 -0.2**
FMP Fort Macarthur 74.97 48 P **P** **22 59 52.2 +0.5**
baz=239
JCC Jacoby Creek, 75.08 39 P **P** **22 59 50.9 -1.2**
JCC IAmb IAmb 22 59 54.8
comp=Z,50nm,0.9s
USA0B Ussuriysk Arra 75.11 325 P **P** **22 59 52.1 -0.1**
USA0B Ussuriysk Arra 75.11 325 *i*P **P** **22 59 52.3 +0.1**
USRK Ussuriysk Ar. 75.11 325 P **P** **22 59 52.8 +0.6**
comp=Z,16nm,1.0s,baz=142,slow=3.8,SNR=22
comp=Z,16nm,1.0s
OSI Osito Audit: C 75.13 47 P **P** **22 59 53.6 +1.0**
baz=239
R17L Mt. Peulik Vol 75.15 12 P **P** **22 59 52.3 +0.1**
baz=201,SNR=13
DECC Green Verdugo 75.22 48 P **P** **22 59 54.0 +0.9**
baz=239
PASC Pasadena Art C 75.28 48 P **P** **22 59 53.8 +0.3**
PASC IAmb IAmb 22 59 55.3
comp=Z,49nm,1.0s
KRPM Rodgers 75.28 39 P **P** **22 59 54.9 +1.5**
KHMM Horse Mountain 75.29 39 P **P** **22 59 53.1 -0.4**
ARVC Arvin 75.32 47 P **P** **22 59 54.5 +0.9**
baz=239,SNR=13
109C Camp Elliot, M 75.41 49 P **P** **22 59 53.8 -0.4**
109C IAmb IAmb 22 59 56.4
comp=Z,75nm,1.4s
109C Camp Elliot, M 75.41 49 P **P** **22 59 55.5 +1.4**
baz=240
OHAK Old Harbor 75.42 13 P **P** **22 59 53.7 +0.2**
OHAK IAmb IAmb 22 59 54.4
comp=Z,34nm,0.8s
OHAK Old Harbor 75.42 13 P **P** **22 59 53.8 +0.2**
baz=204,SNR=5.0
CBX Cerro Bola 75.45 50 P **P** **22 59 54.1 -0.5**
CBX IAmb IAmb 22 59 56.9
comp=Z,44nm,1.1s
O02D Mt. Diablo Mer 75.47 40 P **P** **22 59 55.8 +1.3**
R18K Karluk 75.48 13 P **P** **22 59 54.1 +0.2**
baz=203
VES Vestal, Richgr 75.51 46 P **P** **22 59 55.4 +0.7**
baz=238,SNR=33
VOG Valley Oaks Go 75.56 45 P **P** **22 59 55.7 +0.8**
baz=238
KRMB Red Mountain 75.57 39 P **P** **22 59 53.9 -1.1**
VTX Valle De La Tr 75.67 51 P **P** **22 59 56.4 +0.7**
VTX IAmb IAmb 22 59 58.3
comp=Z,52nm,1.2s
BFSC Mount Baldy Ra 75.69 48 P **P** **22 59 56.7 +0.8**
baz=240,SNR=12
MURC Murrita 75.70 49 P **P** **22 59 56.8 +0.9**
baz=240,SNR=9.3
KSXB Camp Six Broad 75.77 39 P **P** **22 59 56.1 0.0**
KSXB IAmb IAmb 22 59 58.9
comp=Z,64nm,1.0s
EDW2 Edwards Air Fo 75.78 47 P **P** **22 59 57.3 +1.1**
baz=239,SNR=32
CMB Columbia Colle 75.81 43 P **P** **22 59 56.2 -0.1**
CMB IAmb IAmb 22 59 58.4
comp=Z,61nm,1.0s
CMB Columbia Colle 75.81 43 P **P** **22 59 56.2 -0.1**
CMB pmax pmax
comp=Z,61nm,1.0s
Q17K Contact Creek 75.83 12 P **P** **22 59 55.9 -0.2**
baz=202,SNR=37
ESJX Sierra Juarez 75.84 51 P **P** **22 59 56.8 0.0**
ISA Isabella, Lake 75.84 46 P **P** **22 59 56.6 -0.1**
ISA IAmb IAmb 22 59 59.0
comp=Z,77nm,1.1s
ISA Isabella, Lake 75.84 46 P **P** **22 59 58.0 +1.3**
baz=239,SNR=19
ISA Isabella, Lake 75.84 46 P **P** **22 59 56.6 -0.1**
ISA pmax pmax
comp=Z,77nm,1.2s
O14K Tigyukauivet M 75.86 9 P **P** **22 59 55.7 -0.3**
baz=196
ACHA Angle Creek He 75.90 12 P **P** **22 59 55.8 -0.6**
CCAC Calif City Air 75.90 47 P **P** **22 59 57.3 +0.3**
CCAC IAmb IAmb 22 59 59.3
comp=Z,105nm,1.6s
MONP2 Monument Peak 75.92 50 P **P** **22 59 58.3 +1.0**
baz=241,SNR=23
ORV Oroville 75.93 42 P **P** **22 59 56.7 -0.2**
ORV IAmb IAmb 22 59 58.9
comp=Z,44nm,1.0s
ORV Oroville 75.93 42 P **P** **22 59 56.7 -0.2**
ORV pmax pmax
comp=Z,44nm,1.0s
AFDM Forest Hills D 75.93 42 P **P** **22 59 56.9 -0.1**
AFDM IAmb IAmb 22 59 59.0
comp=Z,52nm,1.0s
O15K Ungalikthiuk R 76.00 9 P **P** **22 59 56.5 -0.4**
baz=198,SNR=5.3
IKP In-Ko-Pah, Jac 76.03 50 P **P** **22 59 58.9 +1.2**
baz=241,SNR=17
RMX La Rumorosa 76.03 50 P **P** **22 59 58.3 +0.5**
RMX IAmb IAmb 23 00 00.3
comp=Z,54nm,1.0s
Q16K King Salmon 76.07 11 P **P** **22 59 57.4 +0.2**
baz=201
KDAK Kodiak Island 76.09 14 P **P** **22 59 57.0 -0.3**
KDAK Kodiak Island 76.09 14 P **P** **22 59 57.8 +0.5**
baz=205
KDAK Kodiak Island 76.09 14 P **P** **22 59 57.2 -0.1**
comp=Z,76nm,1.1s,baz=206,slow=2.4,SNR=20
comp=Z,76nm,1.1s
KDAK Kodiak Island 76.09 14 *i*P **P** **22 59 58.0 +0.6**
KDAK pmax pmax
comp=Z,115nm,1.0s
L02F Cave Junction 76.13 38 P **P** **22 59 57.7 -0.3**
L02F IAmb IAmb 23 00 00.7
comp=Z,58nm,1.2s
YUH Yuha Desert 76.16 50 P **P** **22 59 57.4 -1.0**
YUH IAmb IAmb 23 00 00.7
comp=Z,47nm,1.1s
P16K Nushagak River 76.17 10 P **P** **22 59 57.4 -0.3**
baz=200,SNR=14
PFO Pinyon Flats O 76.24 49 P **P** **22 59 58.4 -0.6**
PFO Pinyon Flats O 76.24 49 P **P** **23 00 00.2 +1.2**
baz=240,SNR=14
PFO Pinyon Flats O 76.24 49 *i*P **P** **22 59 59.0 0.0**
PFO pmax pmax
comp=Z,27nm,1.0s
TPFO Pinon Flats 76.24 49 P **P** **22 59 59.8 +0.8**
baz=240,SNR=15
LRMC Laurel Mtn Rad 76.30 47 P **P** **23 00 00.5 +1.2**
baz=239
PMD Palm Desert 76.32 49 P **P** **22 59 59.1 -0.2**
M11K Mekoryuk 76.36 6 P **P** **22 59 59.9 +1.2**
baz=192
Q18K Katmai Hardscr 76.37 12 P **P** **22 59 58.6 -0.4**
baz=203,SNR=19
SWSC Sam W. Stewart 76.40 50 P **P** **23 00 00.6 +0.9**
baz=241,SNR=16
K02D Willamette Mer 76.41 38 P **P** **22 59 60.0 +0.3**
K02D IAmb IAmb 23 00 02.2
comp=Z,45nm,1.1s
YBH Yreka Blue Hor 76.42 39 P **P** **23 00 00.4 +0.7**
YBH IAmb IAmb 23 00 02.4
comp=Z,66nm,1.0s
YBH Yreka Blue Hor 76.42 39 P **P** **23 00 00.4 +0.7**
YBH pmax pmax
comp=Z,66nm,1.0s
N14K Kuskokwak Cree 76.44 8 P **P** **22 59 59.5 +0.3**
baz=196,SNR=12
MDPB Devils Postpil 76.46 44 P **P** **23 00 00.4 +0.1**
MDPB IAmb IAmb 23 00 02.5
comp=Z,72nm,1.0s
RRX Edison Barstow 76.48 48 P **P** **23 00 01.1 +0.9**
baz=240
OMMB Old Mammoth Mi 76.51 44 P **P** **23 00 00.5 -0.1**
OMMB IAmb IAmb 23 00 02.9
comp=Z,49nm,1.1s
CWC Cottonwood Cre 76.52 46 P **P** **23 00 01.3 +0.8**
baz=239
P17K Kvichak River 76.60 11 P **P** **22 59 59.7 -0.4**
baz=201,SNR=29
MLAC Mammoth, Mammo 76.63 44 P **P** **23 00 02.2 +1.1**
baz=238
HATC Hat Creek Radi 76.66 40 P **P** **23 00 00.6 -0.5**
O16K Kokwok River B 76.68 10 P **P** **22 59 59.6 -1.0**
O16K IAmb IAmb 23 00 00.8
comp=Z,64nm,1.0s
O16K Kokwok River B 76.68 10 P **P** **22 59 59.6 -1.0**
baz=200,SNR=26
WAKR Walker 76.69 43 P **P** **23 00 01.0 -0.5**
WAKR IAmb IAmb 23 00 04.0
comp=Z,82nm,1.1s
M13K Dall Lake 76.70 7 P **P** **23 00 00.1 -0.5**
M13K IAmb IAmb 23 00 02.8
comp=Z,81nm,1.1s
M13K Dall Lake 76.70 7 P **P** **23 00 01.8 +1.2**
baz=194
MDJ Mudanjiang 76.70 324 P **P** **23 00 01.5 +0.4**
MDJ pmax pmax
comp=Z,32nm,1.2s
MDJ pmax pmax
comp=Z,240nm,5.3s
MDJ Mudanjiang 76.70 324 P **P** **23 00 00.4 -0.7**
MPMC Manual Prospec 76.73 46 P **P** **23 00 02.8 +1.1**
baz=239,SNR=71
TIN Tinemaha, Big 76.73 45 P **P** **23 00 02.9 +1.3**
baz=239,SNR=5.7
BELC Belle Mtn. Jos 76.77 49 P **P** **23 00 03.1 +1.2**
baz=241
HUMO Hull Mountain 76.78 38 P **P** **23 00 01.5 -0.2**
HUMO IAmb IAmb 23 00 04.3

comp=Z,52nm,1.1s
GSC **Goldstone, Bar** **76.83** **47** P **P** **23 00 01.6 -0.5**
GSC IAmb IAmb 23 00 04.3
comp=Z,55nm,1.1s
GSC **Goldstone, Bar** **76.83** **47** P **P** **23 00 03.3 +1.1**
baz=240,SNR=28
GSC **Goldstone, Bar** **76.83** **47** P **P** **23 00 01.6 -0.5**
GSC pmax pmax
comp=Z,55nm,1.1s
Q20K **Shuyak Island** **76.88** **13** P **P** **23 00 02.1 +0.4**
baz=205
PNTR **Pine Nut** **76.90** **43** P **P** **23 00 03.3 +0.7**
Q19K **Cape Douglas,** **76.90** **13** P **P** **23 00 01.8 -0.1**
Q19K **Cape Douglas,** **76.90** **13** P **P** **23 00 01.9 -0.1**
baz=204,SNR=13
N15K **Kwethluk River** **76.91** **9** P **P** **23 00 00.7 -1.2**
N15K IAmb IAmb 23 00 03.5
comp=Z,74nm,1.2s
N15K **Kwethluk River** **76.91** **9** P **P** **23 00 02.2 +0.3**
baz=198,SNR=12
DBO **Dodson Butte** **76.91** **38** P **P** **23 00 02.7 +0.3**
HEC **Hector,Ludlow** **76.93** **48** P **P** **23 00 03.6 +0.9**
baz=240,SNR=11
NJ2 **Nanjing** **76.98** **309** *e*P **P** **23 00 03.9 +1.0**
NJ2 pmax pmax
comp=Z,19nm,0.7s
BC3 **Big Chuckawall** **77.00** **49** P **P** **23 00 04.2 +1.0**
baz=241,SNR=17
P18K **Big Mountain,** **77.01** **12** P **P** **23 00 01.3 -1.2**
P18K **Big Mountain,** **77.01** **12** P **P** **23 00 02.0 -0.5**
baz=202,SNR=50
O17K **Koliganek Bris** **77.02** **11** P **P** **23 00 02.2 -0.3**
baz=200,SNR=22
DSP **Deep Springs** **77.08** **45** P **P** **23 00 04.4 +1.1**
YERR **Yerington** **77.08** **43** P **P** **23 00 03.8 +0.2**
GLA **Glamis** **77.17** **50** P **P** **23 00 05.4 +1.4**
GLA IAmb IAmb 23 00 06.8
comp=Z,84nm,1.1s
GLA **Glamis** **77.17** **50** P **P** **23 00 05.4 +1.4**
baz=242,SNR=12
GLA **Glamis** **77.17** **50** P **P** **23 00 05.4 +1.4**
GLA pmax pmax
comp=Z,84nm,1.1s
LHV **Little Huntoon** **77.18** **44** P **P** **23 00 04.4 +0.6**
I03D **Drain, OR** **77.19** **37** P **P** **23 00 04.8 +1.0**
I03D IAmb IAmb 23 00 06.1
comp=Z,44nm,1.0s
M14K **Bethel** **77.20** **8** P **P** **23 00 03.7 +0.3**
M14K **Bethel** **77.20** **8** P **P** **23 00 04.0 +0.5**
baz=196,SNR=19
GRAC **Grapevine Rang** **77.30** **46** P **P** **23 00 05.1 +0.5**
GRAC **Grapevine Rang** **77.30** **46** P **P** **23 00 05.8 +1.2**
baz=239,SNR=14
M15K **Kasigluk River** **77.32** **9** P **P** **23 00 04.5 +0.4**
baz=197,SNR=41
GRNR **Gornyy** **77.33** **332**⇑ *i*P **P** **23 00 05.3 +0.9**
GRNR pmax pmax
comp=Z,40nm,1.2s
RYN **Ryan** **77.36** **44** P **P** **23 00 05.4 +0.3**
RYN IAmb IAmb 23 00 07.4
comp=Z,74nm,1.2s
GWY **Greenwater Val** **77.37** **47** P **P** **23 00 05.5 +0.3**
GWY IAmb IAmb 23 00 07.1
comp=Z,56nm,1.2s
PAHR **Pah Rah Range** **77.37** **42** P **P** **23 00 05.0 -0.1**
PAHR IAmb IAmb 23 00 07.4
comp=Z,56nm,1.0s
FURC **Furnace Creek,** **77.38** **46** P **P** **23 00 06.2 +1.3**
baz=240,SNR=27
GMRC **Granite Mounta** **77.39** **48** P **P** **23 00 06.4 +1.1**
baz=241,SNR=28
N16K **Nishlik Lake** **77.40** **10** P **P** **23 00 05.1 +0.5**
baz=199,SNR=13
NVAR **Mina Array Bea** **77.40** **44** P **P** **23 00 05.7 +0.3**
NVAR **Mina Array Bea** **77.40** **44** P **P** **23 00 06.6 +1.2**
comp=Z,36nm,0.9s,baz=228,slow=9.0,SNR=122
comp=Z,36nm,0.9s
O18K **Koktuh Hills** **77.44** **11** P **P** **23 00 04.9 +0.1**
O18K **Koktuh Hills** **77.44** **11** P **P** **23 00 04.8 -0.1**
baz=202,SNR=35
IRM **Iron Mountain** **77.46** **49** P **P** **23 00 06.7 +1.1**
baz=241,SNR=43
PIX **Pinacate** **77.50** **52** P **P** **23 00 05.8 0.0**
PIX IAmb IAmb 23 00 08.0
comp=Z,46nm,1.1s
SHOC **Shoshone, Teco** **77.50** **47** P **P** **23 00 06.4 +0.6**
baz=240,SNR=5.7
NV11 **Mina Array Sit** **77.50** **44** P **P** **23 00 06.1 +0.2**
TUQ **Turquoise Moun** **77.52** **48** P **P** **23 00 06.7 +0.7**
baz=240,SNR=38
GMN **Gold Mountain** **77.53** **45** P **P** **23 00 06.2 +0.1**
GMN IAmb IAmb 23 00 08.2
comp=Z,52nm,1.0s
P19K **Oil Pt** **77.65** **12** P **P** **23 00 06.1 +0.1**
P19K **Oil Pt** **77.65** **12** P **P** **23 00 05.9 -0.1**
baz=204,SNR=11
L14K **Kuka Creek** **77.68** **7** P **P** **23 00 06.4 +0.3**
L14K IAmb IAmb 23 00 07.8
comp=Z,44nm,0.9s
L14K **Kuka Creek** **77.68** **7** P **P** **23 00 06.8 +0.8**
baz=195,SNR=12
BUCK **Buck Mountain** **77.70** **37** P **P** **23 00 06.2 -0.5**
BUCK IAmb IAmb 23 00 09.1
comp=Z,78nm,1.1s
WCT **Wildcat Mounta** **77.70** **46** P **P** **23 00 07.5 +0.6**
WCT IAmb IAmb 23 00 09.2
comp=Z,83nm,1.3s
N17K **Nushagak Hills** **77.72** **10** P **P** **23 00 05.7 -0.5**
N17K **Nushagak Hills** **77.72** **10** P **P** **23 00 06.4 +0.1**
baz=200,SNR=12
BLYC **Blythe** **77.72** **50** P **P** **23 00 07.5 +0.5**
BLYC IAmb IAmb 23 00 09.5
comp=Z,53nm,1.1s
I04A **Tendick Farm,** **77.80** **38** P **P** **23 00 07.2 0.0**
I04A IAmb IAmb 23 00 09.0
comp=Z,49nm,1.1s
113A **Mohawk Valley,** **77.82** **51** P **P** **23 00 08.2 +0.7**
113A IAmb IAmb 23 00 10.0
comp=Z,64nm,1.0s
KVN **Kaiserville** **77.87** **43** P **P** **23 00 08.0 +0.1**
KVN IAmb IAmb 23 00 10.0
comp=Z,67nm,1.1s
KVN **Kaiserville** **77.87** **43** P **P** **23 00 08.0 +0.1**
KVN pmax pmax
comp=Z,67nm,1.1s
M16K **Timber Creek** **77.89** **9** P **P** **23 00 07.7 +0.4**
M16K **Timber Creek** **77.89** **9** P **P** **23 00 08.3 +1.1**
baz=199,SNR=50
TPH **Tonopah** **77.95** **45** P **P** **23 00 08.8 +0.5**
TPH **Tonopah** **77.95** **45** P **P** **23 00 08.8 +0.5**
TPH pmax pmax
comp=Z,412nm,1.2s
CNPM **China Poot** **77.97** **13** P **P** **23 00 07.7 0.0**
ILSW **Iliamna Southw** **77.97** **12** P **P** **23 00 07.6 -0.3**
K13K **Kusilvak Mount** **78.03** **6** P **P** **23 00 08.8 +0.8**
K13K IAmb IAmb 23 00 09.8
comp=Z,43nm,1.1s
H04D **Lebanon** **78.04** **37** P **P** **23 00 08.3 -0.1**
H04D IAmb IAmb 23 00 10.7
comp=Z,60nm,1.1s
TPNV **Topopah Spring** **78.04** **46** P **P** **23 00 09.9 +1.1**
baz=240,SNR=73
N18K **Kilae Creek** **78.09** **11** P **P** **23 00 08.4 +0.1**
N18K **Kilae Creek** **78.09** **11** P **P** **23 00 08.3 0.0**
baz=202,SNR=12
G03D **McMinnville, O** **78.15** **36** P **P** **23 00 09.7 +0.7**
L15K **Ungalak Mounta** **78.16** **8** P **P** **23 00 09.0 +0.3**
baz=196,SNR=14
214A **Organ Pipe Nat** **78.17** **52** P **P** **23 00 10.8 +1.4**
214A IAmb IAmb 23 00 12.3
comp=Z,74nm,1.1s
214A **Organ Pipe Nat** **78.17** **52** P **P** **23 00 11.0 +1.5**
baz=243,SNR=23
O20K **Slope Mountain** **78.17** **13** P **P** **23 00 08.7 -0.1**
baz=205,SNR=7.5
J05D **Fort Rock, OR** **78.20** **38** P **P** **23 00 10.3 +0.8**
PDMCI **Parker Dam,Lak** **78.26** **49** P **P** **23 00 10.9 +1.0**
baz=242,SNR=20
BRSE **Bradley Lake S** **78.28** **14** P **P** **23 00 09.7 +0.4**
baz=207,SNR=16
Q09A **Carvers** **78.36** **44** P **P** **23 00 11.2 +0.6**
V12A **Nelson** **78.43** **48** P **P** **23 00 11.4 +0.5**
V12A IAmb IAmb 23 00 13.2
comp=Z,55nm,1.3s
H04A **Detroit Lake** **78.45** **37** P **P** **23 00 11.1 +0.4**
H04A IAmb IAmb 23 00 12.4
comp=Z,112nm,1.5s
L16K **Owhat River** **78.47** **9** P **P** **23 00 10.4 +0.1**
L16K IAmb IAmb 23 00 12.5
comp=Z,65nm,1.4s
L16K **Owhat River** **78.47** **9** P **P** **23 00 11.0 +0.7**
baz=198,SNR=15
N19K **Bonanza Creek** **78.47** **11** P **P** **23 00 10.3 -0.2**
N19K IAmb IAmb 23 00 11.2
comp=Z,64nm,1.1s
N19K **Bonanza Creek** **78.47** **11** P **P** **23 00 09.9 -0.6**
baz=203,SNR=17
KLR **Kul'dur** **78.49** **329** *ce*P **P** **23 00 11.1 +0.4**
KLR pmax pmax
comp=Z,35nm,2.5s
M17K **Holitna River** **78.50** **10** P **P** **23 00 11.0 +0.5**
M17K **Holitna River** **78.50** **10** P **P** **23 00 11.6 +1.1**
baz=200,SNR=29
WTNK **Soaring Height** **78.54** **47** P **P** **23 00 12.3 +0.9**
SHPR **Sheep Range** **78.59** **47** P **P** **23 00 12.5 +0.7**
BNX **BinXian** **78.61** **324**⇓ P **P** **23 00 12.1 +0.6**
BNX pmax pmax
comp=Z,32nm,0.9s
CN2 **Changchun** **78.62** **322** P **P** **23 00 12.8 +1.3**
CN2 pmax pmax
comp=Z,30nm,0.9s
S11A **Rachel** **78.74** **46** IAmb IAmb 23 00 14.8
comp=Z,78nm,1.1s
I05D **Terrebonne, OR** **78.75** **38** IAmb IAmb 23 00 14.5
comp=Z,82nm,1.2s
K15K **Wolf Creek Mou** **78.75** **8** P **P** **23 00 13.1 +1.2**
baz=196,SNR=21
M18K **Stony River** **78.86** **11** P **P** **23 00 13.0 +0.6**
baz=202,SNR=18
SEW **Seward** **78.90** **14** P **P** **23 00 12.4 -0.2**
baz=208,SNR=7.5
J14K **Nanvaranak Lak** **78.95** **7** P **P** **23 00 13.1 +0.3**
baz=194
WISH **Wishkah** **79.02** **34** IAmb IAmb 23 00 16.4
comp=Z,99nm,1.3s
L17K **Donlin** **79.05** **9** P **P** **23 00 14.9 +1.4**
baz=199,SNR=54
Q23K **Middleton Isla** **79.07** **16** P **P** **23 00 15.2 +1.6**
baz=211
NLWA **Neilton Lookou** **79.13** **34** IAmb IAmb 23 00 16.6
comp=Z,45nm,1.1s
HOOD **Mount Hood Mea** **79.13** **37** IAmb IAmb 23 00 16.3
comp=Z,53nm,1.0s
BMN **Battle Mountai** **79.16** **43** IAmb IAmb 23 00 17.0
comp=Z,67nm,1.0s
O22K **Cooper Landing** **79.17** **14** P **P** **23 00 13.6 -0.5**
baz=208
MA2 **Magadan** **79.20** **344** *ce*P **P** **23 00 13.6 -0.7**
MA2 pmax pmax
comp=Z,31nm,1.7s
MA2 **Magadan** **79.20** **344** P **P** **23 00 11.9 -2.4**
comp=Z,39nm,1.4s
R11B **Troy Canyon, C** **79.20** **45** P **P** **23 00 15.9 +0.9**
baz=240,SNR=45
N20K **Mount Spurr** **79.28** **12** P **P** **23 00 14.0 -0.8**
baz=205,SNR=9.2
SPCR **Spurr Chakacha** **79.28** **12** P P 23 00 06.8 -7.9
baz=205,SNR=7.8
G05A **Wamic** **79.28** **37** IAmb IAmb 23 00 17.2
comp=Z,83nm,1.3s
SPU **Mount Spurr** **79.29** **12** IAmb IAmb 23 00 15.1
comp=Z,39nm,1.1s
P23K **Montague Islan** **79.30** **15** P **P** **23 00 14.8 0.0**
baz=210
WVOR **Wild Horse Val** **79.32** **40** IAmb IAmb 23 00 17.8
comp=Z,58nm,1.1s
L18K **Granite Mounta** **79.39** **10** P **P** **23 00 16.2 +0.9**
baz=201,SNR=74
M19K **Big River Lodg** **79.50** **11** P **P** **23 00 15.9 0.0**
baz=203,SNR=16
K17K **Iditarod** **79.60** **9** P **P** **23 00 17.6 +1.2**
baz=199,SNR=27
G06A **Carlson Farm,** **79.67** **37** IAmb IAmb 23 00 19.2
comp=Z,104nm,1.7s
L19K **White Mountain** **79.67** **11** IAmb IAmb 23 00 18.5
comp=Z,120nm,1.8s
L19K **White Mountain** **79.67** **11** P **P** **23 00 17.2 +0.4**
baz=202,SNR=13
I07A **Izee** **79.69** **39** IAmb IAmb 23 00 19.7
comp=Z,64nm,1.2s
RC01 **Rabbit Creek A** **79.71** **13** IAmb IAmb 23 00 18.0
comp=Z,72nm,1.2s
RC01 **Rabbit Creek A** **79.71** **13** P **P** **23 00 17.0 0.0**
baz=207,SNR=12
M20K **Styx River** **79.72** **12** P **P** **23 00 16.8 -0.3**
baz=204,SNR=7.2
B04A **Port Angeles** **79.73** **34** IAmb IAmb 23 00 19.8
comp=Z,58nm,1.2s
WHN **Wuhan** **79.77** **306**⇓ P **P** **23 00 19.1 +1.1**
WHN pmax pmax
comp=Z,58nm,1.0s
GNW **Green Mountain** **79.80** **34** IAmb IAmb 23 00 19.8
comp=Z,53nm,1.1s
SUA **Susitna One** **79.82** **13** P **P** **23 00 17.2 -0.5**
baz=206,SNR=34
J16K **Anvik River** **79.82** **8** P **P** **23 00 18.9 +1.4**
baz=197,SNR=23
CLRS **Cowichan Lake** **79.86** **33** IAmb IAmb 23 00 20.1
comp=Z,64nm,1.2s
TUC **Tucson** **79.87** **52** P **P** **23 00 20.2 +1.6**
TUC IAmb IAmb 23 00 21.7
comp=Z,83nm,1.2s
TUC **Tucson** **79.87** **52** P **P** **23 00 20.6 +2.0**
baz=244
TUC **Tucson** **79.87** **52** P **P** **23 00 20.2 +1.6**
TUC pmax pmax
comp=Z,83nm,1.2s
LON **Longmire** **79.87** **35** IAmb IAmb 23 00 20.1
comp=Z,80nm,1.9s
J08A **Circle Bar Ran** **79.92** **40** IAmb IAmb 23 00 20.9
comp=Z,72nm,1.3s
CBB **Campbell River** **79.99** **31** IAmb IAmb 23 00 20.8
comp=Z,78nm,1.2s
KAIM **Kayak Island** **80.01** **16** P **P** **23 00 19.2 +0.6**
baz=213
Q12A **Willow Creek R** **80.05** **45** IAmb IAmb 23 00 21.8
comp=Z,86nm,1.2s
BBB **Bella Bella** **80.07** **28** P **P** **23 00 19.6 +0.6**
comp=Z,34nm,0.7s,baz=257,slow=4.0,SNR=12
comp=Z,34nm,0.7s
PGC **Sidney** **80.12** **33** IAmb IAmb 23 00 21.3
comp=Z,75nm,1.2s
L20K **Farewell, AK** **80.12** **11** P **P** **23 00 18.9 -0.2**
baz=203,SNR=24
SKT **Skwentna** **80.12** **12** P **P** **23 00 17.9 -1.3**
baz=206,SNR=6.3
J17K **VABM Dome** **80.14** **8** IAmb IAmb 23 00 21.4
comp=Z,44nm,0.9s
J17K **VABM Dome** **80.14** **8** P **P** **23 00 20.1 +0.9**
baz=198,SNR=14
GLI **Glacier Island** **80.14** **15** P **P** **23 00 18.8 -0.5**
baz=210,SNR=8.9
TTA **Tatalina** **80.17** **10** P **P** **23 00 20.1 +0.7**
baz=201
EYAK **Cordova Ski Ar** **80.19** **15** P **P** **23 00 19.3 -0.2**
baz=211
M22K **Willow** **80.22** **13** P **P** **23 00 19.3 -0.3**
baz=207,SNR=16
CRAG **Craig** **80.23** **24** P **P** **23 00 20.4 +0.6**
baz=223
KNK **Knik Glacier** **80.28** **14** IAmb IAmb 23 00 21.0
comp=Z,45nm,1.0s
KNK **Knik Glacier** **80.28** **14** P **P** **23 00 19.8 -0.3**
baz=209,SNR=7.2
PMR **Palmer** **80.29** **13** IAmb IAmb 23 00 21.0
comp=Z,76nm,1.2s
PMR **Palmer** **80.29** **13** P **P** **23 00 19.9 -0.1**
baz=208,SNR=13
CCUT **Cedar City** **80.35** **47** IAmb IAmb 23 00 24.0
comp=Z,47nm,1.2s
SPR3 **Spring Creek 3** **80.37** **45** IAmb IAmb 23 00 23.3
comp=Z,72nm,1.4s
GRNB **Grenville Isla** **80.38** **26** IAmb IAmb 23 00 22.8
comp=Z,53nm,1.2s
I17K **Unalakleet** **80.39** **8** P **P** **23 00 21.5 +1.1**
baz=197
F07A **Phinny Hill Vi** **80.45** **37** IAmb IAmb 23 00 23.1
comp=Z,111nm,1.7s
KNB **Kanab** **80.48** **47** IAmb IAmb 23 00 24.5
comp=Z,54nm,1.2s
ANM **Nome** **80.54** **5** P **P** **23 00 22.1 +0.8**
baz=192
J18K **Innoko River** **80.56** **9** IAmb IAmb 23 00 23.2
comp=Z,66nm,0.9s
J18K **Innoko River** **80.56** **9** P **P** **23 00 22.1 +0.7**
baz=201,SNR=54
SZCU **Shurtz Canyon** **80.56** **47** IAmb IAmb 23 00 25.0
comp=Z,54nm,1.2s
U15A **North Rim** **80.59** **48** IAmb IAmb 23 00 25.4
comp=Z,66nm,1.1s
ELK **Elko** **80.62** **43** IAmb IAmb 23 00 24.7
comp=Z,62nm,1.4s
MXC **Moxie City** **80.63** **36** P **P** **23 00 22.3 +0.1**
SML **Sawmill** **80.66** **14** IAmb IAmb 23 00 23.0
comp=Z,58nm,1.4s
SML **Sawmill** **80.66** **14** P **P** **23 00 22.2 +0.2**
baz=209,SNR=5.5
G08A **Pilot Rock** **80.68** **38** IAmb IAmb 23 00 24.7
comp=Z,91nm,1.3s
U33K **Whale Pass** **80.71** **24** IAmb IAmb 23 00 24.4
comp=Z,42nm,1.1s
U33K **Whale Pass** **80.71** **24** P **P** **23 00 23.4 +1.1**
baz=223,SNR=5.9
V35K **Ketchikan** **80.73** **25** IAmb IAmb 23 00 24.5
comp=Z,68nm,1.4s
V35K **Ketchikan** **80.73** **25** P **P** **23 00 23.4 +1.0**
baz=225,SNR=5.4
CUT **Chulitna** **80.77** **13** P **P** **23 00 22.1 -0.3**
baz=207,SNR=10
M23K **Glacier View** **80.79** **14** P **P** **23 00 22.4 -0.3**
baz=209
LTY **Liberty** **80.80** **35** IAmb IAmb 23 00 24.8
comp=Z,87nm,1.8s
WUAZ **Wupatki** **80.84** **49** IAmb IAmb 23 00 26.5
comp=Z,49nm,1.1s
WUAZ **Wupatki** **80.84** **49** P **P** **23 00 25.1 +1.4**
baz=243,SNR=17
BMRM **Bremner River** **80.84** **16** P **P** **23 00 23.0 -0.1**
baz=212,SNR=10.0
E07A **Sunnyside** **80.87** **36** IAmb IAmb 23 00 25.5
comp=Z,45nm,1.0s
K20K **Telida** **80.90** **11** IAmb IAmb 23 00 24.7
comp=Z,77nm,1.0s
K20K **Telida** **80.90** **11** P **P** **23 00 23.5 +0.3**
baz=203,SNR=50
MESA **MESA** **80.91** **17** P **P** **23 00 24.0 +0.4**
baz=215
SCM **Sheep Creek Mo** **80.92** **14** P **P** **23 00 23.5 +0.1**
baz=210,SNR=18
H16K **Elim** **80.93** **7** P **P** **23 00 23.9 +0.6**
baz=195,SNR=7.1
S31K **Pelican** **80.95** **21** IAmb IAmb 23 00 25.4
comp=Z,62nm,1.1s
S31K **Pelican** **80.95** **21** P **P** **23 00 24.1 +0.6**
baz=220
HAWA **Hanford** **80.96** **37** IAmb IAmb 23 00 26.0
comp=Z,57nm,1.1s
KLU **Klutina** **80.96** **15** IAmb IAmb 23 00 24.7
comp=Z,43nm,1.1s
KLU **Klutina** **80.96** **15** P **P** **23 00 23.6 -0.1**
baz=211,SNR=7.5
CRQE **Cirque** **81.07** **16** P **P** **23 00 24.6 +0.3**
baz=214,SNR=8.3
G15K **Niukluk** **81.09** **6** P **P** **23 00 24.9 +0.8**
baz=193,SNR=9.0
WRAK **Wrangell Islan** **81.22** **24** IAmb IAmb 23 00 27.0
comp=Z,106nm,1.9s
WRAK **Wrangell Islan** **81.22** **24** P **P** **23 00 25.5 +0.5**
baz=224
J19K **Poorman** **81.23** **10** IAmb IAmb 23 00 27.1
comp=Z,89nm,1.6s
J19K **Poorman** **81.23** **10** P **P** **23 00 25.7 +0.8**
baz=202,SNR=15
PNL **Peninsula** **81.25** **19** P **P** **23 00 25.4 +0.3**
baz=217
TNA **Tin City** **81.32** **4** P **P** **23 00 25.7 +0.5**
baz=190,SNR=5.1
CAST **Castle Rocks** **81.32** **11** IAmb IAmb 23 00 25.2
comp=Z,42nm,1.0s
CAST **Castle Rocks** **81.32** **11** P **P** **23 00 24.1 -1.3**
baz=205
HEH **HeiHe** **81.32** **328** *e*P **P** **23 00 25.6 -0.1**
HEH pmax pmax
comp=Z,29nm,1.3s
PINM **Pinnacle** **81.34** **18** P **P** **23 00 25.7 0.0**
baz=216
F14K **Arctic Creek** **81.35** **5** P **P** **23 00 26.3 +0.8**
baz=191,SNR=8.0
VRDI **Verde Repeater** **81.37** **16** IAmb IAmb 23 00 27.1
comp=Z,88nm,1.3s
N25K **Chitina, Valde** **81.39** **15** IAmb IAmb 23 00 27.0
comp=Z,55nm,0.8s
N25K **Chitina, Valde** **81.39** **15** P **P** **23 00 25.9 0.0**
baz=212,SNR=15
MTPU **Mount Pierson** **81.40** **47** IAmb IAmb 23 00 30.1
comp=Z,83nm,1.2s
GRNC **Granite Creek** **81.42** **17** IAmb IAmb 23 00 27.4
comp=Z,63nm,1.0s
M24K **Tolsona, Glenn** **81.43** **14** P **P** **23 00 26.8 +0.7**
baz=211,SNR=12
BMO **Blue Mountains** **81.43** **39** IAmb IAmb 23 00 28.4
comp=Z,117nm,1.9s
X18A **Snowflake** **81.45** **51** IAmb IAmb 23 00 29.7
comp=Z,40nm,1.2s
WAT6 **Susitna Watana** **81.47** **14** P **P** **23 00 26.1 -0.3**
baz=209,SNR=22
TCRU **Three Creeks R** **81.48** **46** IAmb IAmb 23 00 30.0
comp=Z,53nm,1.0s
H17K **Granite Mounta** **81.50** **8** IAmb IAmb 23 00 27.9
comp=Z,49nm,1.1s
H17K **Granite Mounta** **81.50** **8** P **P** **23 00 26.7 +0.4**
baz=197,SNR=13
WAT1 **Susitna Watana** **81.51** **13** P **P** **23 00 26.0 -0.4**
baz=208
MFID **Camas Ranch** **81.59** **41** IAmb IAmb 23 00 29.5
comp=Z,85nm,1.4s
MCARA **McCarthy VSAT** **81.61** **16** IAmb IAmb 23 00 28.3
comp=Z,59nm,1.1s
MCARA **McCarthy VSAT** **81.61** **16** P **P** **23 00 27.2 +0.2**
baz=214
J20K **Nowinta River** **81.64** **10** IAmb IAmb 23 00 28.6
comp=Z,55nm,0.9s
J20K **Nowinta River** **81.64** **10** P **P** **23 00 27.4 +0.4**
baz=203,SNR=29
G16K **Koyuk River** **81.65** **6** IAmb IAmb 23 00 28.9
comp=Z,56nm,1.1s
G16K **Koyuk River** **81.65** **6** P **P** **23 00 27.5 +0.5**
baz=195
D08A **Wollman Farm,** **81.68** **36** IAmb IAmb 23 00 29.7
comp=Z,74nm,1.4s
CHUM **Lake Minchumin** **81.70** **11** P **P** **23 00 26.7 -0.6**
baz=205
LOGN **Logan Glacier** **81.71** **17** IAmb IAmb 23 00 28.9
comp=Z,69nm,1.0s
F15K **North Star Dit** **81.73** **5** P **P** **23 00 28.1 +0.6**
baz=193,SNR=5.4
CTG **Chitna Glacier** **81.73** **17** P **P** **23 00 27.8 +0.1**
baz=215,SNR=9.9
CTGM **Chitina Glacie** **81.73** **17** IAmb IAmb 23 00 29.0
comp=Z,57nm,0.9s
SEY **Seymchan** **81.73** **347** *ce*P **P** **23 00 27.3 -0.2**
SEY pmax pmax
comp=Z,106nm,1.7s
GCSA **Galena City Sc** **81.74** **9** P **P** **23 00 28.1 +0.6**
baz=200
P29M **Windy Craggy** **81.74** **19** IAmb IAmb 23 00 29.6
comp=Z,39nm,0.9s
P29M **Windy Craggy** **81.74** **19** P **P** **23 00 28.6 +0.9**
baz=219,SNR=7.0
R32K **Eaglecrest** **81.79** **21** IAmb IAmb 23 00 29.8
comp=Z,60nm,1.2s
R32K **Eaglecrest** **81.79** **21** P **P** **23 00 28.6 +0.7**
baz=222
E09A **Wood Farm, Sta** **81.83** **37** IAmb IAmb 23 00 30.0
comp=Z,142nm,1.9s
W18A **Petrified Fore** **81.87** **50** IAmb IAmb 23 00 31.7
comp=Z,58nm,1.2s
W18A **Petrified Fore** **81.87** **50** P **P** **23 00 30.5 +1.4**
baz=244,SNR=7.0
O28M **Mount Upton** **81.90** **18** P **P** **23 00 29.2 +0.4**
baz=216,SNR=14
H18K **Honhosa River** **81.91** **8** P **P** **23 00 28.6 +0.2**
baz=199,SNR=7.4
HARP **HAARP** **81.92** **15** P **P** **23 00 28.6 +0.1**
baz=212,SNR=5.9
G17K **Kiwalik Mounta** **81.95** **7** P **P** **23 00 29.0 +0.4**
baz=197,SNR=16
DUG **Dugway, Tooele** **81.97** **45** IAmb IAmb 23 00 31.6
comp=Z,50nm,1.2s
DUG **Dugway, Tooele** **81.97** **45** P **P** **23 00 30.5 +1.0**
baz=242,SNR=32
DHY **Denali Highway** **81.99** **13** P **P** **23 00 28.6 -0.4**

baz=210,SNR=12
O29M Mount Kennedy 82.01 19 P P 23 00 29.2 +0.1
O29M Mount Kennedy 82.01 19 P P 23 00 29.4 +0.2
baz=218,SNR=5.1
PLBC Pleasant Camp 82.05 20 P P 23 00 30.2 +1.0
baz=220,SNR=9.7
F10A Beach Ranch, E 82.07 38 IAmb IAmb 23 00 30.7
comp=Z,36nm,0.8s
BPAW Bear Paw Mtn. 82.15 12 P P 23 00 28.6 -1.1
baz=206,SNR=13
I20K Naaghedeneel 82.16 10 P P 23 00 30.3 +0.7
baz=203,SNR=6.6
B08A Colville Reser 82.17 35 IAmb IAmb 23 00 31.3
comp=Z,51nm,1.3s
MCK McKinley 82.23 13 P P 23 00 29.9 -0.2
baz=208,SNR=31
121A Cookes Peak, D 82.26 53 IAmb IAmb 23 00 34.3
comp=Z,81nm,1.4s
121A Cookes Peak, D 82.26 53 P P 23 00 32.9 +1.8
baz=246,SNR=20
PAX Paxson 82.34 14 P P 23 00 30.3 -0.4
baz=211,SNR=8.4
HMU Henry Mountain 82.37 47 IAmb IAmb 23 00 33.9
comp=Z,108nm,1.6s
P30M Million Dollar 82.37 19 P P 23 00 31.9 +0.9
baz=220
SKAG Skagway 82.40 20 P P 23 00 32.3 +1.3
baz=221
YUK8 Steele Glacier 82.44 17 P P 23 00 31.8 +0.3
baz=217,SNR=5.2
T35M Bob Quinn 82.44 24 P P 23 00 32.3 +1.0
baz=226,SNR=7.2
HNS HongShan 82.45 312 ⇑P **P 23 00 32.8 +1.0**
HNS pmax pmax
comp=Z,28nm,1.2s
M26K Nabesna, AK 82.47 16 P P 23 00 31.6 +0.2
baz=214,SNR=42
H19K Roundabout Mou 82.53 9 IAmb IAmb 23 00 33.4
comp=Z,77nm,1.1s
H19K Roundabout Mou 82.53 9 P P 23 00 32.1 +0.6
baz=201,SNR=31
HLID Hailey 82.56 41 IAmb IAmb 23 00 34.8
comp=Z,42nm,0.8s
HLID Hailey 82.56 41 P P 23 00 33.7 +1.2
baz=240,SNR=115
G18K Tagagawik 82.58 8 IAmb IAmb 23 00 33.0
comp=Z,50nm,1.1s
G18K Tagagawik 82.58 8 P P 23 00 31.8 0.0
baz=199,SNR=23
YUK6 Outpost Mounta 82.58 18 P P 23 00 32.6 +0.4
baz=218
BJT Baijiatuau 82.61 315 IAmb IAmb 23 00 34.5
comp=Z,48nm,1.3s
BJI Beijing 82.61 315 P P 23 00 33.4 +0.9
BJI pmax pmax
comp=Z,13nm,1.3s
YUK3 Moose Creek 82.64 17 P P 23 00 32.6 +0.2
baz=216,SNR=20
MPU Maple Canyon 82.69 45 IAmb IAmb 23 00 35.5
comp=Z,42nm,1.1s
M27K Edge Creek, AK 82.73 16 P P 23 00 33.2 +0.4
baz=215,SNR=35
SPUT South Promonto 82.74 44 IAmb IAmb 23 00 35.7
comp=Z,94nm,1.3s
H20K Anotleneega Mo 82.74 9 P P 23 00 33.2 +0.6
baz=202,SNR=42
S34M Telegraph Cree 82.76 23 IAmb IAmb 23 00 35.0
comp=Z,59nm,1.0s
S34M Telegraph Cree 82.76 23 P P 23 00 33.7 +0.8
baz=225,SNR=13
F17K Baldwin Pennin 82.79 7 P P 23 00 33.4 +0.6
baz=196,SNR=7.4
YUK4 Taibot Arm 82.81 18 P P 23 00 34.1 +0.8
baz=218
LYN LuoYang 82.88 309 P P 23 00 35.1 +1.1
LYN pmax pmax
comp=Z,23nm,1.3s
LYN pmax pmax
comp=Z,170nm,6.2s
L26K Log Cabin Wild 82.90 15 IAmb IAmb 23 00 35.0
comp=Z,59nm,1.1s
L26K Log Cabin Wild 82.90 15 P P 23 00 33.8 +0.2
baz=213,SNR=27
CTU Camp Tracy 82.92 44 IAmb IAmb 23 00 36.4
comp=Z,46nm,1.1s
I21K Tanana 82.94 11 P P 23 00 33.8 +0.2
baz=205
EPT El Paso 82.95 54 IAmb IAmb 23 00 37.3
comp=Z,52nm,1.1s
NEA2 Nenana 82.97 12 IAmb IAmb 23 00 34.1
comp=Z,33nm,0.9s
NEA2 Nenana 82.97 12 P P 23 00 33.0 -0.8
baz=208,SNR=26
K24K Donnelly Dome 82.98 14 P P 23 00 34.0 +0.1
baz=211,SNR=27
G19K Purcell Mounta 83.02 8 IAmb IAmb 23 00 35.6
comp=Z,61nm,0.9s
G19K Purcell Mounta 83.02 8 P P 23 00 34.4 +0.4
baz=200,SNR=36
MLY Manley 83.03 11 IAmb IAmb 23 00 34.7
comp=Z,68nm,1.1s
MLY Manley 83.03 11 P P 23 00 33.5 -0.7
baz=206,SNR=48
SMAI San Martin Ant 83.04 159 P P 23 00 35.1 +0.9
P32M Atlin 83.04 21 P P 23 00 34.8 +0.4
baz=222,SNR=6.3
SRU San Rafael Swe 83.05 46 IAmb IAmb 23 00 37.2
comp=Z,61nm,1.0s
JLU Jordanelle 83.08 45 IAmb IAmb 23 00 37.4
comp=Z,73nm,1.3s
Q32M Nakina River 83.09 22 IAmb IAmb 23 00 36.8
comp=Z,47nm,1.2s
Q32M Nakina River 83.09 22 P P 23 00 35.4 +0.6
baz=224,SNR=7.6
F18K Selawik 83.12 7 P P 23 00 34.3 -0.2
baz=198,SNR=10
O30N Mendenhall 83.15 19 IAmb IAmb 23 00 36.6
comp=Z,86nm,1.2s
O30N Mendenhall 83.15 19 P P 23 00 35.5 +0.6
baz=220,SNR=20
H21K Melozitna Rive 83.23 10 IAmb IAmb 23 00 37.7
comp=Z,61nm,1.1s
H21K Melozitna Rive 83.23 10 P P 23 00 35.5 +0.4
baz=204,SNR=48
HDA Harding Lake 83.25 13 P P 23 00 35.0 -0.3
baz=210,SNR=59
L27K Beaver Creek, 83.32 16 IAmb IAmb 23 00 37.1
comp=Z,36nm,1.1s
L27K Beaver Creek, 83.32 16 P P 23 00 35.8 +0.1
baz=215,SNR=23
E17K Hotham Inlet 83.34 6 P P 23 00 36.1 +0.5
baz=196,SNR=8.8
NEW Newport 83.36 36 P P 23 00 36.1 -0.1
baz=238,SNR=12
N30M Aishikik Lake 83.37 18 P P 23 00 36.3 +0.3
baz=219,SNR=6.3
IMAR Indian Mountai 83.38 10 P P 23 00 36.0 +0.1
I23K Minto, Yukon-K 83.40 12 IAmb IAmb 23 00 36.7
comp=Z,72nm,1.2s
I23K Minto, Yukon-K 83.40 12 P P 23 00 35.5 -0.5
baz=208,SNR=40
WHY Whitehorse 83.45 20 IAmb IAmb 23 00 38.2
comp=Z,86nm,1.5s
COLA College 83.46 12 P P 23 00 36.0 -0.2
COLA College 83.46 12 P P 23 00 35.9 -0.3
baz=209
COLA College 83.46 12 P P 23 00 36.0 -0.2
COLA pmax pmax
comp=Z,132nm,0.8s
HWUT Hardware Ranch 83.47 44 IAmb IAmb 23 00 39.0
comp=Z,83nm,1.6s
P18A Preston Nutter 83.47 46 IAmb IAmb 23 00 39.4
comp=Z,104nm,1.8s
ENH Enshi 83.51 304 IAmb IAmb 23 00 39.6
comp=Z,70nm,1.3s
ZEA Zeya 83.52 331 *e*P **P 23 00 37.6 +0.8**
ZEA pmax pmax
comp=Z,20nm,1.1s
BSUT Blindstream Ca 83.52 45 IAmb IAmb 23 00 39.8
comp=Z,43nm,1.0s
DLBC Dease Lake 83.54 23 IAmb IAmb 23 00 38.9
comp=Z,81nm,1.4s
DLBC Dease Lake 83.54 23 P P 23 00 37.5 +0.6
baz=226,SNR=25
DLBC Dease Lake 83.54 23 P P 23 00 37.4 +0.4
comp=Z,24nm,1.0s,baz=224,slow=7.4,SNR=27
comp=Z,24nm,1.0s
Y22D IRIS PASSCAL I 83.55 52 IAmb IAmb 23 00 43.3
comp=Z,64nm,1.1s
Y22D IRIS PASSCAL I 83.55 52 P P 23 00 39.0 +1.4
baz=246
SCRK Sand Creek 83.55 14 IAmb IAmb 23 00 38.1
comp=Z,58nm,1.0s
SCRK Sand Creek 83.55 14 P P 23 00 36.9 0.0
baz=213,SNR=54
ILAR Eielson Array 83.58 13 P P 23 00 35.9 -0.9
ILAR Eielson Array 83.58 13 P P 23 00 36.1 -0.7
comp=Z,62nm,0.9s,baz=230,slow=5.2,SNR=297
ILAR pP **pP 23 02 11.9 +0.3**
comp=Z,2.2nm,1.0s,baz=213,slow=6.5,SNR=3.6
comp=Z,62nm,0.9s
ILAR Eielson Array 83.58 13 P P 23 00 35.9 -0.9
F19K Shaleruckik Mo 83.58 8 IAmb IAmb 23 00 38.1
comp=Z,43nm,0.8s
F19K Shaleruckik Mo 83.58 8 P P 23 00 37.0 +0.2
baz=199,SNR=31
MVCO Mesa Verde 83.66 49 P P 23 00 38.8 +0.6
baz=245,SNR=8.3
H22K Ishtalitna Cre 83.70 11 P P 23 00 37.7 +0.2
baz=206,SNR=70
M29M Somme Creek 83.74 17 P P 23 00 38.3 +0.4
baz=218,SNR=17
POKR Poker Plat Res 83.76 12 P P 23 00 37.2 -0.6
baz=209,SNR=28
J25K Salcha River, 83.77 13 P P 23 00 37.8 -0.1
baz=211,SNR=120
N31M Braeburn, Yuko 83.79 19 IAmb IAmb 23 00 39.7
comp=Z,71nm,1.1s
N31M Braeburn, Yuko 83.79 19 P P 23 00 38.7 +0.6
baz=220,SNR=16
E18K Tukpahlearik C 83.80 7 IAmb IAmb 23 00 39.5
comp=Z,46nm,0.9s
E18K Tukpahlearik C 83.80 7 P P 23 00 38.5 +0.6
baz=197,SNR=21
MNTX Comudas Mount 83.81 55 P P 23 00 40.0 +1.2
baz=248,SNR=26
P33M Teslin, Yukon 83.81 21 P P 23 00 38.4 +0.2
baz=223,SNR=11
D17K Noatak River 83.82 6 P P 23 00 38.8 +0.8
baz=194,SNR=14
R33M Jennings River 83.87 22 IAmb IAmb 23 00 40.7
comp=Z,58nm,1.2s
R33M Jennings River 83.87 22 P P 23 00 39.4 +0.8
baz=225,SNR=28
G21K Allakaket 83.91 10 IAmb IAmb 23 00 40.0
comp=Z,56nm,0.9s
G21K Allakaket 83.91 10 P P 23 00 38.9 +0.4
baz=204,SNR=55
H23K Yukon River 83.97 11 P P 23 00 38.2 -0.7
baz=207,SNR=24
K27K Chicken 84.06 15 IAmb IAmb 23 00 41.2
comp=Z,66nm,1.1s
K27K Chicken 84.06 15 P P 23 00 40.1 +0.8
baz=214
F20K Avaraart Lake 84.07 9 IAmb IAmb 23 00 40.7
comp=Z,38nm,1.1s
F20K Avaraart Lake 84.07 9 P P 23 00 39.7 +0.5
baz=201,SNR=40
J26L Joseph Creek 84.09 14 P P 23 00 40.2 +0.7
baz=213,SNR=93
RDOG Red Dog Mine 84.18 6 P P 23 00 40.3 +0.5
baz=194
C16K Lisburne Hills 84.19 5 P P 23 00 40.2 +0.4
baz=192
TIY Taiyuan 84.22 312 *e*P **P 23 00 42.4 +1.6**
TIY pP **pP 23 02 16.5 +0.9**
TIY pmax pmax
comp=Z,35nm,0.7s
E19K Redstone River 84.24 8 IAmb IAmb 23 00 41.6
comp=Z,32nm,0.8s
E19K Redstone River 84.24 8 P P 23 00 40.5 +0.4
baz=200,SNR=27
ANMO Albuquerque 84.25 51 P P 23 00 41.2 0.0
ANMO IAmb IAmb 23 00 43.4
comp=Z,33nm,1.0s
ANMO Albuquerque 84.25 51 P P 23 00 42.0 +0.9
baz=246
ANMO Albuquerque 84.25 51 *i* P **P 23 00 41.6 +0.5**
BILL Bilibino 84.27 354 P **P 23 00 40.0 -0.1**
BILL Bilibino 84.27 354 *c i* P **P 23 00 40.1 -0.1**
BILL *e**PP **pP 23 02 11.6 -3.7**
BILL *e* 23 03 59.3
BILL *e*PPP PPP 23 06 02.2
BILL *e*S **S 23 10 34.5 +5.4**
BILL pmax pmax
comp=Z,138nm,1.7s
TXAR Lajitas Array 84.30 58 P P 23 00 42.4 +1.0
TXAR Lajitas Array 84.30 58 P P 23 00 43.1 +1.7
comp=Z,28nm,1.0s,baz=228,slow=4.9,SNR=108
TXAR pP **pP 23 02 17.3 +0.9**
comp=Z,2.7nm,1.2s,baz=253,slow=2.7,SNR=1.6
comp=Z,28nm,1.0s
TXAR Lajitas Array 84.30 58 P P 23 00 42.4 +1.0
H24K Noodor Dome 84.30 12 P P 23 00 39.3 -1.2
baz=209,SNR=13
AHID Auburn Hatcher 84.31 43 IAmb IAmb 23 00 43.5
comp=Z,56nm,1.3s
BELA Belgrano 2 84.31 173 IAmb IAmb 23 00 42.6
comp=Z,95nm,2.0s
M30M Minto, Yukon 84.33 18 IAmb IAmb 23 00 42.0
comp=Z,70nm,1.0s
M30M Minto, Yukon 84.33 18 P P 23 00 40.8 +0.1
baz=220
RDMU Red Mountain 84.35 45 IAmb IAmb 23 00 43.6
comp=Z,91nm,1.7s
L29M L29M 84.36 17 P P 23 00 41.5 +0.6
baz=218,SNR=43
N32M Quiet Lake 84.41 20 P P 23 00 41.6 +0.4
baz=223
XLT XiLinHaoTe 84.46 318 *e*P **P 23 00 42.6 +0.7**
XLT sP sP 23 03 03.3 +2.8
XLT S **S 23 10 36.0 +3.8**
XLT pmax pmax
comp=Z,26nm,1.2s
XLT pmax pmax
comp=Z,120nm,5.4s
MSO Missoula 84.47 38 IAmb IAmb 23 00 43.1
comp=Z,93nm,1.9s
MSO Missoula 84.47 38 P P 23 00 42.0 +0.1
baz=240,SNR=14
PRP Porcupine Dome 84.51 13 IAmb IAmb 23 00 43.3
comp=Z,68nm,1.2s
PRP Porcupine Dome 84.51 13 P P 23 00 41.3 -0.3
baz=211,SNR=57
F21K Alatna River 84.56 9 IAmb IAmb 23 00 43.0
comp=Z,26nm,0.8s
F21K Alatna River 84.56 9 P P 23 00 42.0 +0.2
baz=204,SNR=30
C17K DeLong Mountai 84.56 5 P P 23 00 42.2 +0.5
baz=194
DLMT Dillon 84.57 40 P P 23 00 43.0 +0.5
G22K Bettles 84.61 10 P P 23 00 42.6 +0.8
baz=205
G23K Bananza Creek 84.67 11 IAmb IAmb 23 00 43.9
comp=Z,64nm,1.2s
G23K Bananza Creek 84.67 11 P P 23 00 42.8 +0.5
baz=207,SNR=41
TPAW Teton Pass 84.73 42 IAmb IAmb 23 00 45.9
comp=Z,89nm,1.4s
TLIG Tlapa 84.76 70 IAmb IAmb 23 00 47.7
comp=Z,73nm,1.3s
M31M Drury Creek, Y 84.77 19 P P 23 00 42.8 -0.1
baz=222,SNR=9.0
DAWY Dawson 84.78 16 IAmb IAmb 23 00 44.3
comp=Z,56nm,1.0s
DAWY Dawson 84.78 16 P P 23 00 43.1 +0.2
baz=217,SNR=19
SNOW Snow King Moun 84.85 42 IAmb IAmb 23 00 46.4
comp=Z,65nm,1.1s
I26K Coal Creek Min 84.86 14 P P 23 00 43.8 +0.6
baz=213
HIA Hailar 84.89 324 IAmb IAmb 23 00 45.6
comp=Z,49nm,1.4s
EGAK Eagle 84.90 15 IAmb IAmb 23 00 44.8
comp=Z,60nm,0.9s
EGAK Eagle 84.90 15 P P 23 00 43.5 +0.1
baz=215,SNR=48
C18K Utukok River 84.92 6 P P 23 00 44.2 +0.6
baz=196
IMW Indian Meadow 84.93 42 IAmb IAmb 23 00 46.8
comp=Z,54nm,1.0s
MOOW Moose Ponds 84.99 42 IAmb IAmb 23 00 46.8
comp=Z,80nm,1.8s
LOHW Long Hollow 85.02 42 IAmb IAmb 23 00 47.0
comp=Z,97nm,1.7s
F22K John River 85.03 10 P P 23 00 44.3 +0.3
baz=205
O20A White River Ci 85.08 46 P P 23 00 45.4 +0.3
baz=245,SNR=10
S22A 4UR Ranch, Cre 85.09 49 IAmb IAmb 23 00 47.8
comp=Z,36nm,1.2s
S22A 4UR Ranch, Cre 85.09 49 P P 23 00 46.1 +0.8
baz=246,SNR=29
H25L Birch Creek 85.10 12 P P 23 00 43.3 -1.0
baz=211,SNR=6.2
K29M Barlow Dome 85.11 17 IAmb IAmb 23 00 46.3
comp=Z,53nm,1.1s
K29M Barlow Dome 85.11 17 P P 23 00 44.9 +0.3
baz=219,SNR=30
COLD Coldfoot 85.11 10 P P 23 00 45.0 +0.6
baz=207,SNR=21
D19K Kuna River 85.12 7 P P 23 00 44.2 -0.2
baz=199,SNR=6.9
FARO Faro, Yukon 85.12 19 P P 23 00 44.7 +0.2
baz=223,SNR=7.0
E20K Nigu River 85.14 8 P P 23 00 44.5 0.0
baz=201,SNR=20
G24K Hadweenzic Riv 85.14 12 P P 23 00 44.2 -0.4
baz=209,SNR=6.5
OVMT Ovando 85.14 38 P P 23 00 44.7 -0.5
WTLY Watson Lake, Y 85.16 22 IAmb IAmb 23 00 46.7
comp=Z,47nm,1.2s
WTLY Watson Lake, Y 85.16 22 P P 23 00 45.3 +0.5
baz=227
YFT Old Faithful 85.25 41 IAmb IAmb 23 00 49.4
comp=Z,39nm,1.0s
BOZ Bozeman (W) 85.28 40 IAmb IAmb 23 00 48.2
comp=Z,57nm,1.2s
BOZ Bozeman (W) 85.28 40 P P 23 00 46.5 +0.6
baz=242,SNR=60
BW06 Boulder Array 85.32 43 P P 23 00 46.4 +0.1
baz=244,SNR=27
PD31 Pinedale Array 85.32 43 IAmb IAmb 23 00 48.0
comp=Z,92nm,1.8s
PDAR Pinedale Array 85.32 43 P P 23 00 46.3 0.0
PDAR Pinedale Array 85.32 43 P P 23 00 46.6 +0.3
comp=Z,10nm,0.7s,baz=215,slow=3.1,SNR=107
PDAR pP **pP 23 02 22.4 +0.8**
comp=Z,1.4nm,0.9s,baz=202,slow=3.9,SNR=3.4
comp=Z,10nm,0.7s
MAYO Mayo, Yukon 85.38 17 P P 23 00 46.7 +0.9
baz=220
XAN Xi'an 85.38 307 ⇓P **P 23 00 47.8 +1.3**
XAN pP pP 23 02 21.3 -0.4
XAN pmax pmax
comp=Z,43nm,1.5s
H17A Grant Village 85.39 42 IAmb IAmb 23 00 50.0
comp=Z,56nm,1.1s
H17A Grant Village 85.39 42 P P 23 00 48.6 +2.0
baz=243,SNR=14
J29N Klondike Camp 85.40 16 IAmb IAmb 23 00 47.8
comp=Z,60nm,1.1s
J29N Klondike Camp 85.40 16 P P 23 00 46.9 +0.9
baz=218
G25K Bearman Lake 85.47 12 P P 23 00 45.6 -0.5
baz=211,SNR=6.6
I27K Kandik River 85.47 14 P P 23 00 46.1 -0.1
baz=215,SNR=9.7
D20K Etivluk River 85.51 8 P P 23 00 46.3 -0.1
baz=200,SNR=11
C19K Lookout Ridge 85.53 6 IAmb IAmb 23 00 49.1
comp=Z,92nm,1.9s
C19K Lookout Ridge 85.53 6 P P 23 00 46.5 0.0
baz=198
B18K Kokolik River 85.56 6 P P 23 00 46.7 +0.2
baz=196
SMCO Snowmass 85.57 47 IAmb IAmb 23 00 50.0
comp=Z,66nm,1.9s
E21K Killik River 85.61 9 P P 23 00 46.6 -0.3
baz=203
TOAD Toad River Com 85.68 24 P P 23 00 48.0 +0.6
baz=230,SNR=33
LIRD Liard River Hi 85.71 24 P P 23 00 48.1 +0.6
baz=229
I28M Miner Creek 85.75 15 P P 23 00 47.7 0.0
baz=216,SNR=18
MNHN Monahans 85.75 56 IAmb IAmb 23 00 50.6
comp=Z,55nm,1.8s
F24K Squaw Lake 85.78 11 IAmb IAmb 23 00 49.4
comp=Z,72nm,1.9s
F24K Squaw Lake 85.78 11 P P 23 00 48.0 +0.2
baz=209,SNR=14
E23K Chandalar 85.95 10 P P 23 00 48.8 +0.2
baz=207,SNR=17
J30M Hart River 86.00 17 P P 23 00 49.2 +0.2
baz=220
H27K Steamboat Moun 86.01 14 P P 23 00 49.0 +0.2
baz=215,SNR=26
SDCO Great Sand Dun 86.06 49 P P 23 00 50.8 +0.7
baz=247,SNR=16
MMPY Sheldon Lake, 86.07 20 IAmb IAmb 23 00 51.1
comp=Z,65nm,1.1s
MMPY Sheldon Lake, 86.07 20 P P 23 00 49.8 +0.6
baz=224,SNR=28
I29M Ogilvie Camp, 86.09 15 IAmb IAmb 23 00 50.2
comp=Z,35nm,1.2s
I29M Ogilvie Camp, 86.09 15 P P 23 00 48.9 -0.3
baz=218,SNR=23
G26K Porcupine Rive 86.11 13 P P 23 00 49.5 +0.3
baz=213,SNR=25
HHC Hu-ho-hao-te 86.13 314 *e*P **P 23 00 51.5 +1.4**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,100nm,5.2s
MAW Mawson 86.16 200 P P 23 00 50.7 +1.1
comp=Z,20nm,0.8s,baz=127,slow=6.9,SNR=43
comp=Z,20nm,0.8s
C21K Knifeblade Rid 86.17 8 P P 23 00 49.5 0.0
baz=202,SNR=22
E24K Your Creek 86.17 11 P P 23 00 49.5 -0.1
baz=208,SNR=12
ODSA Odessa 86.20 55 IAmb IAmb 23 00 52.5
comp=Z,39nm,1.4s
D22K Ayikyak River 86.21 9 IAmb IAmb 23 00 51.0
comp=Z,25nm,0.8s
D22K Ayikyak River 86.21 9 P P 23 00 49.9 +0.2
baz=204,SNR=26
F25K Christian Rive 86.28 12 P P 23 00 50.8 +0.6
baz=211,SNR=16
TGTN Hyland Airport 86.31 21 P P 23 00 51.0 +0.5
baz=227,SNR=10
RWWY Rawlins 86.44 45 IAmb IAmb 23 00 52.5
comp=Z,79nm,1.6s
G27K Doyon Strip 86.46 14 P P 23 00 51.1 +0.2
baz=215,SNR=11
TOLK Toolik Lake Re 86.48 10 P P 23 00 51.1 0.0
baz=207,SNR=9.6
I30M Mount Dempster 86.49 16 P P 23 00 51.2 -0.1
baz=220,SNR=31
RLMT Red Lodge 86.55 41 IAmb IAmb 23 00 54.5
comp=Z,42nm,0.9s
RLMT Red Lodge 86.55 41 P P 23 00 53.0 +0.9
baz=244,SNR=27
D23K Nanushuk River 86.59 9 P P 23 00 51.9 +0.4
baz=206
B21K Ikpikpuk River 86.62 8 P P 23 00 51.6 0.0
baz=202,SNR=6.7
T25A Trinidad 86.62 50 P P 23 00 52.8 +0.1
baz=248,SNR=12
F26K Sheenjek River 86.66 12 P P 23 00 52.6 +0.7
baz=212,SNR=27
B20K Meade River 86.66 7 P P 23 00 51.7 -0.1
baz=200
MSTX Muleshoe 86.69 54 IAmb IAmb 23 00 54.6
comp=Z,27nm,0.9s
MSTX Muleshoe 86.69 54 P P 23 00 53.2 +0.3
baz=249,SNR=11
E25K Arctic Village 86.75 12 P P 23 00 52.5 +0.2
baz=211,SNR=9.8
H29M Whitestone 86.76 15 P P 23 00 52.4 +0.1
baz=218,SNR=12
ISCO Idaho Springs 86.78 47 P P 23 00 54.3 +0.8
baz=247
Q24A Divide 86.79 48 P P 23 00 54.1 +0.5
baz=247,SNR=9.1
KOTAN Kotaneelee Air 86.96 24 P P 23 00 53.5 0.0
baz=231,SNR=6.0
N23A Red Feather La 86.99 46 P P 23 00 55.2 +0.8
baz=246,SNR=15
D24K Happy Valley 87.06 10 P P 23 00 54.0 +0.3
baz=206,SNR=11
BTO Baotou 87.11 313 *e*P **P 23 00 56.9 +2.2**
BTO S **S 23 10 53.8 -3.9**

BTO pmax pmax
comp=Z,45nm,1.5s
BTO pmax pmax
comp=Z,390nm,4.6s
BTO LR LR
comp=Z,290nm,11.8s
EPYK Eagle Plains 87.29 15 P P 23 00 54.8 -0.1
baz=219,SNR=6.0
K22A Casper 87.30 44 P P 23 00 55.9 +0.2
baz=246,SNR=7.7
KMI Kunming 87.34 297 ⇑P P 23 00 58.3 +2.0
KMI pP pP 23 02 31.5 -0.5
KMI pmax pmax
comp=Z,23nm,1.1s
C23K Itkillik River 87.39 9 IAmb IAmb 23 00 56.5
comp=Z,30nm,0.8s
C23K Itkillik River 87.39 9 P P 23 00 55.6 +0.3
baz=206,SNR=26
G29M Pine Creek 87.39 15 P P 23 00 55.1 -0.3
baz=218,SNR=11
B22K Teshekpuk Lake 87.44 8 IAmb IAmb 23 00 56.5
comp=Z,27nm,1.0s
B22K Teshekpuk Lake 87.44 8 P P 23 00 55.5 0.0
baz=204,SNR=16
833A Chaparral WMA, 87.47 60 IAmb IAmb 23 00 58.8
comp=Z,28nm,0.8s
833A Chaparral WMA, 87.47 60 P P 23 00 57.6 +1.0
baz=251
F28M Old Crow 87.52 14 P P 23 00 56.0 0.0
baz=216,SNR=18
EGMT Eagleton 87.53 39 IAmb IAmb 23 00 58.5
comp=Z,41nm,1.4s
EGMT Eagleton 87.53 39 P P 23 00 57.0 +0.4
baz=243,SNR=10
C24K Franklin Bluff 87.59 10 P P 23 00 56.3 +0.1
baz=208
E27K Coleen River 87.61 13 P P 23 00 56.8 +0.4
baz=215,SNR=28
D25K Kavik River 87.64 11 P P 23 00 56.0 -0.5
baz=210,SNR=16
YAK Yakutsk 87.72 338 *ce*P **P 23 00 55.5 -1.4**
YAK pmax pmax
comp=Z,28nm,1.0s
JCT Junction City 87.84 58 P P 23 00 58.7 +0.3
baz=251
AMTX Amarillo 87.86 53 P P 23 00 58.4 0.0
baz=249
A22K Sinclair Lake 87.86 7 P P 23 00 57.1 -0.3
baz=202,SNR=9.8
G30M tAoh Zraii Nji 87.89 15 P P 23 00 57.4 -0.3
G30M IAmb IAmb 23 01 00.0
comp=Z,52nm,1.1s
G30M tAoh Zraii Nji 87.89 15 P P 23 00 57.3 -0.4
baz=220,SNR=36
G31M Satah River 88.35 16 IAmb IAmb 23 01 01.9
comp=Z,45nm,1.0s
G31M Satah River 88.35 16 P P 23 00 59.6 -0.1
baz=222,SNR=24
CD2 Chengdu 88.35 303 P P 23 01 00.0 -0.8
CD2 pmax pmax
comp=Z,30nm,0.8s
C27K Jago River 88.39 11 P P 23 00 59.9 0.0
baz=213,SNR=34
E28M Babbage River 88.39 13 P P 23 01 00.2 +0.2
baz=217,SNR=20
C26K Camden Bay 88.41 11 P P 23 01 00.3 +0.3
baz=212,SNR=17
F30M Barrier River 88.48 15 P P 23 01 00.0 -0.4
baz=220,SNR=11
APMT Aspermont 88.54 55 IAmb IAmb 23 01 03.0
comp=Z,105nm,1.9s
E29M Blow River 88.59 14 P P 23 01 00.3 -0.6
baz=218,SNR=6.7
D27M Malcolm River 88.61 12 P P 23 01 01.2 +0.2
baz=215,SNR=26
PZH PanZhiHua 88.63 298 P P 23 01 04.3 +2.1
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,110nm,3.9s
KSCO Kaye Shedlock' 88.63 49 P P 23 01 02.1 +0.2
baz=249
ABTX Abilene, Hawle 88.68 56 IAmb IAmb 23 01 04.0
comp=Z,61nm,1.4s
ABTX Abilene, Hawle 88.68 56 P P 23 01 02.8 +0.6
baz=251
CMAR Chiang Mai Arr 88.69 289 P P 23 01 02.0 -0.5
CMAR Chiang Mai Arr 88.69 289 P P 23 01 03.9 +1.4
comp=Z,4.9nm,0.9s,baz=105,slow=2.8,SNR=22
CMAR pP **pP 23 02 40.1 +1.6**
comp=Z,0.6nm,0.3s,baz=130,slow=3.4,SNR=2.6
comp=Z,4.9nm,0.9s
CMAR Chiang Mai Arr 88.69 289 *i* P **P 23 01 04.5 +2.0**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
BRDY Brady 88.76 57 IAmb IAmb 23 01 04.6
comp=Z,51nm,1.8s
CHTO Chiang Mai 88.79 290 P P 23 01 02.6 -0.4
CHTO Chiang Mai 88.79 290 P P 23 01 02.6 -0.4
CHTO pmax pmax
comp=Z,14nm,1.2s
F31M Tsiigehtchic 88.87 16 IAmb IAmb 23 01 04.5
comp=Z,54nm,1.1s
F31M Tsiigehtchic 88.87 16 P P 23 01 02.0 -0.1
baz=222,SNR=25
WRGLY Wrigley 89.13 22 IAmb IAmb 23 01 05.1
comp=Z,38nm,1.1s
WRGLY Wrigley 89.13 22 P P 23 01 03.8 +0.3
baz=232
RSSD Black Hills 89.54 44 P P 23 01 06.1 -0.1
RSSD IAmb IAmb 23 01 07.7
comp=Z,43nm,0.9s
RSSD Black Hills 89.54 44 P P 23 01 06.4 +0.2
baz=248
RSSD Black Hills 89.54 44 P P 23 01 06.1 -0.1
RSSD pmax pmax
comp=Z,43nm,1.0s
INK Inuvik 89.57 15 P P 23 01 06.5 +1.1
baz=222,SNR=7.6
INK Inuvik 89.57 15 P P 23 01 04.9 -0.5
comp=Z,8.5nm,0.9s,baz=196,slow=4.6,SNR=14
comp=Z,8.5nm,0.9s
CIT Chita 89.67 325 *e*P **P 23 01 06.4 0.0**
435B Jarrell 89.75 58 IAmb IAmb 23 01 09.6
comp=Z,50nm,1.3s
435B Jarrell 89.75 58 P P 23 01 08.4 +1.2
baz=252
OGNE Ogallala 89.75 47 P P 23 01 08.2 +1.1
baz=249
LZH Lanzhou 89.99 308 *e*P **P 23 01 09.8 +1.4**
LZH pP pwP 23 02 46.9 -0.6
LZH sP sP 23 03 23.8 -4.2
LZH pmax pmax
comp=Z,25nm,1.0s
WMOK Wichita Mounta 90.06 54 P P 23 01 09.5 +0.9
baz=251
FW07 Weatherford 90.19 56 IAmb IAmb 23 01 11.4
comp=Z,48nm,1.5s
WHTX Lake Whitney, 90.23 57 P P 23 01 10.4 +1.0
baz=252
FW13 Cleburne 90.36 57 IAmb IAmb 23 01 12.0
comp=Z,31nm,1.1s
CBKS Cedar Bluff 90.67 50 P P 23 01 12.6 +1.3
baz=250
Z35A Perchaven, San 90.81 56 IAmb IAmb 23 01 13.9
comp=Z,39nm,1.1s
HKT Hockley 90.94 59 P P 23 01 13.5 +0.9
HKT Hockley 90.94 59 *i* P **P 23 01 13.2 +0.6**
HKT pmax pmax
comp=Z,55nm,1.5s
DGMT Dagmar 91.10 40 P P 23 01 14.4 +1.3
baz=248,SNR=18
OK032 Salt Plains WL 91.16 52 IAmb IAmb 23 01 15.7
comp=Z,34nm,0.9s
FNO Franklin 91.29 54 IAmb IAmb 23 01 16.2
comp=Z,60nm,1.5s
KAN14 Manchester OK 91.39 52 IAmb IAmb 23 01 16.4
comp=Z,49nm,1.7s
ELIB Princess Elisa 91.45 186 *d*P **P 23 01 15.0 +0.6**
comp=Z,7.9nm,0.9s
ELIB *d*pP **pP 23 02 51.1 +0.4**
TREL Terrell 91.56 57 IAmb IAmb 23 01 18.0
comp=Z,50nm,1.1s
237A Washetta, Mont 91.57 57 IAmb IAmb 23 01 18.1
comp=Z,37nm,0.9s
KAN17 Caldwell West 91.57 52 IAmb IAmb 23 01 18.2
comp=Z,47nm,1.2s

ULN Ulaanbaatar 91.84 319 P P 23 01 15.9 -0.7
ULN Ulaanbaatar 91.84 319 *ce*P **P 23 01 16.8 +0.1**
ULN pmax pmax
comp=Z,15nm,1.2s
YKA Yellowknife Ar 92.05 24 P P 23 01 16.8 -0.2
YKA Yellowknife Ar 92.05 24 P P 23 01 17.2 +0.2
comp=Z,7.5nm,0.8s,baz=246,slow=4.6,SNR=25
comp=Z,7.5nm,0.8s
YKA Yellowknife Ar 92.05 24 P P 23 01 16.8 -0.2
SONM Songino Array 92.24 319 P P 23 01 17.9 -0.6
SONM Songino Array 92.24 319 P P 23 01 18.3 -0.2
comp=Z,3.2nm,1.0s,baz=111,slow=4.1,SNR=14
SONM pP **pP 23 02 55.8 +0.9**
comp=Z,2.3nm,1.1s,baz=111,slow=3.3,SNR=6.0
SONM PP **PP 23 05 01.9 -4.1**
comp=Z,1.4nm,1.1s,baz=109,slow=7.3,SNR=4.6
comp=Z,3.2nm,1.0s
SONM Songino Array 92.24 319 P P 23 01 17.9 -0.6
SONM pmax pmax
comp=Z,9.0nm,1.3s
NATX Nacogdoches 92.43 58 P P 23 01 21.0 +1.5
baz=253
TROLL Troll, Antarti 92.55 180 ⇑P **P 23 01 20.0 +0.5**
comp=Z,212nm,0.4s
BGNE Belgrade 92.67 48 P P 23 01 22.0 +1.6
baz=252
TUL3 Leonard 92.74 54 IAmb IAmb 23 01 22.8
comp=Z,44nm,1.4s
TUL3 Leonard 92.74 54 P P 23 01 21.8 +0.9
baz=253
C36M Paulatuk 92.78 17 P P 23 01 20.5 +0.3
baz=231,SNR=7.3
SNAA Sanae 92.82 178 ⇑P **P 23 01 21.2 +0.6**
comp=Z,98nm,0.9s
SNAA Sanae 92.82 178 P P 23 01 21.1 +0.4
comp=Z,3.9nm,0.8s,baz=80,slow=0.7,SNR=9.1
comp=Z,3.9nm,0.8s
SNAA Sanae 92.82 178 *ce*P **P 23 01 22.1 +1.4**
SNAA pmax pmax
comp=Z,8.0nm,1.0s
VNA3 Neumayer Olymp 92.93 176 ⇑P **P 23 01 22.2 +1.0**
comp=Z,11nm,0.8s
KSU1 Kansas State U 93.07 50 P P 23 01 23.1 +0.8
baz=252
RLO Rose Lookout 93.41 54 IAmb IAmb 23 01 25.8
comp=Z,37nm,1.4s
VNA1 Neumayer--Stat 93.60 177 ⇑P **P 23 01 26.7 +2.6**
comp=Z,8.6nm,0.8s
MDND Maddock 93.75 41 P P 23 01 26.1 +0.8
baz=251
U38A Gravette 93.98 53 IAmb IAmb 23 01 28.4
comp=Z,27nm,1.2s
GTA Gaotai 94.06 310 P P 23 01 27.6 +0.6
GTA pmax pmax
comp=Z,8.0nm,1.0s
MIAR Mount Ida 94.09 55 IAmb IAmb 23 01 29.2
comp=Z,44nm,2.0s
MIAR Mount Ida 94.09 55 P P 23 01 27.8 +0.7
baz=254
TIXI Tiksi 94.14 345 P P 23 01 26.0 -0.5
TIXI Tiksi 94.14 345 *ce*P **P 23 01 26.3 -0.1**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
ECSD EROS Data Cent 94.46 46 IAmb IAmb 23 01 29.6
comp=Z,18nm,1.0s
ECSD EROS Data Cent 94.46 46 P P 23 01 28.8 +0.2
baz=253
UALR University of 95.13 55 IAmb IAmb 23 01 34.1
comp=Z,18nm,1.1s
S39A Bolivar 95.15 52 IAmb IAmb 23 01 33.5
comp=Z,26nm,1.0s
F33A 5 Mile Ranch, 95.30 44 IAmb IAmb 23 01 33.2
comp=Z,19nm,1.1s
P38A Dawn 95.51 51 IAmb IAmb 23 01 34.7
comp=Z,26nm,1.1s
MGMO Mountain Grove 95.81 53 IAmb IAmb 23 01 37.5
comp=Z,26nm,1.1s
AGMN Agassiz Nation 96.28 42 P P 23 01 37.6 +0.9
baz=254
SCIA State Center 96.35 48 P P 23 01 38.3 +1.2
baz=255
P40A Paris 96.59 51 IAmb IAmb 23 01 39.7
comp=Z,21nm,0.9s
T42A Van Buren 96.69 54 P P 23 01 38.6 -0.2
I37A Lemond, Waseca 96.77 46 IAmb IAmb 23 01 40.1
comp=Z,14nm,0.9s
ULM Lac du Bonnet 96.82 40 P P 23 01 38.4 -0.6
comp=Z,7.2nm,0.9s,baz=288,slow=1.9,SNR=3.8
comp=Z,7.2nm,0.9s
CCM Cathedral Cave 96.83 53 P P 23 01 40.1 +0.7
baz=256
OXF Oxford 97.40 56 P Pdif 23 01 42.6 +0.6
baz=256
SPMN Marine on St. 97.49 45 IAmb IAmb 23 01 43.5
comp=Z,15nm,1.0s
SPMN Marine on St. 97.49 45 P Pdif 23 01 43.2 +1.0
baz=256
JFWS Jewell Farm 98.72 48 P P 23 01 48.3 +0.6
baz=257
HDIL Hopedale 98.89 50 P P 23 01 49.1 +0.6
baz=257
EYMN Ely 99.02 43 P Pdif 23 01 49.4 +0.4
baz=257
TZTN Tazewell 102.50 55 P Pdif 23 02 04.7 -0.1
baz=260
ZALV Zalesovo Beam 106.83 322 PKiKP **PKiKP 23 06 29.9 -1.1**
comp=Z,1.0nm,0.8s,baz=93,slow=3.0,SNR=5.0
MKAR Makanchi Array 107.99 315 PKiKP **PKiKP 23 06 32.8 -0.7**
comp=Z,2.2nm,0.9s,baz=66,slow=2.9,SNR=6.0
KURBB Kurchatov Arra 110.60 319 PKiKP **PKiKP 23 06 37.7 -0.5**
comp=Z,2.3nm,0.9s,baz=96,slow=2.0,SNR=13
BVAR Borovoye Array 115.47 322 PKP **PKPdf 23 06 46.6 -0.8**
comp=Z,3.5nm,0.6s,baz=80,slow=1.7,SNR=23
BRVK Borovoye 115.53 322 PKPdf 23 06 47.5 -0.1
BRVK Borovoye 115.53 322 PKIKP **PKPdf 23 06 47.5 -0.1**
KKAR Karatay Array 116.32 311 PKPdf **PKPdf 23 06 48.9 -0.5**
KKAR Karatay Array 116.32 311 PKIKP **PKPdf 23 06 48.9 -0.5**
KBL Kabul 117.66 301 PKPdf **PKPdf 23 06 51.8 -0.7**
KBL Kabul 117.66 301 PKIKP **PKPdf 23 06 51.8 -0.7**
SUMG Summit 118.42 13 PKPdf **PKPdf 23 06 53.1 0.0**
SUMG Summit 118.42 13 PKIKP **PKPdf 23 06 53.1 0.0**
GBN Guysborough 119.40 46 PKiKP 23 06 55.3 0.0
SVE Sverdlovsk 120.09 327 *e*PKIKP **PKPdf 23 06 56.2 0.0**
SVE pmax pmax
comp=Z,12nm,1.1s
ARU Arti 121.30 327 PKPdf **PKPdf 23 06 58.0 -0.5**
ARU Arti 121.30 327 *i* PKIKP **PKPdf 23 06 57.9 -0.6**
ARU 23 08 37.9
ARU 23 13 28.7
ARU SP SP 23 17 42.6 -2.5
ARU SS **SS 23 24 36.2 0.0**
BDFB Brasilia 121.47 120 PKP **PKPdf 23 06 59.1 -1.2**
comp=Z,0.7nm,0.4s,baz=172,slow=7.1,SNR=3.5
ABKAR Akbulak array 122.65 319 PKPdf **PKPdf 23 07 01.1 -0.2**
ARCES ARCESS Array B 124.21 350 PKP **PKPdf 23 07 03.0 -0.8**
comp=Z,6.9nm,0.7s,baz=270,slow=0.1,SNR=5.8
APA Apatity 124.33 346 ⇓*i*PKIKP **PKPdf 23 07 00.1 -3.9**
APA *i* 23 08 36.5
APA *i* 23 08 54.6
APA pmax pmax
comp=Z,6.0nm,0.9s
JOF Joensuu 128.59 343 *e*P **PKPdf 23 07 12.6 +0.3**
BELG Belogornoye 128.78 326 *i* PKIKP **PKPdf 23 07 13.0 +0.1**
VALR Valaam 129.96 342 *i* PKIKP **PKPdf 23 07 15.2 +0.3**
VAF Ylistaro 130.55 348 *e*P **PKiKP 23 07 16.9 0.0**
KEF Keuruu 130.85 346 *e*P **PKPdf 23 07 16.2 -0.4**
FINES FINESS Array B 131.19 345 PKPdf **PKPdf 23 07 17.6 +0.3**
FINES FINESS Array B 131.19 345 PKP **PKPdf 23 07 17.1 -0.2**
comp=Z,5.2nm,0.9s,baz=90,slow=3.8,SNR=15
FINES SKPbc **SKPbc 23 10 01.9 0.0**
comp=Z,4.9nm,1.1s,baz=20,slow=6.1,SNR=7.5
FINES FINESS Array B 131.19 345 PKIKP **PKPdf 23 07 17.6 +0.3**
MOS Moscow 131.70 334 *i* PKIKP **PKPdf 23 07 17.8 -0.6**
VRH Novokhopyorsk 132.53 327 *e*PKIKP **PKPdf 23 07 18.7 -1.4**
VRH pmax pmax
comp=Z,10.0nm,0.9s
RAF Rauma 132.56 347 *e*P **PKPdf 23 07 18.8 -1.1**
OBN Obninsk 132.56 334 *de*PKIKP **PKPdf 23 07 20.5 +0.5**
OBN *e* 23 09 03.7
OBN *e* 23 09 45.0
OBN *e* 23 12 48.7
OBN *e*SSS SSS 23 31 57.9
OBN pmax pmax
comp=Z,16nm,1.1s
MEF Metsahovi 132.67 345 *e*P **PKPdf 23 07 19.7 -0.3**
ARBE Arbavere 132.93 344 *e*P **PKPdf 23 07 21.0 +0.4**

LPSR Galich'ya Gora 133.12 330 *e*PKIKP **PKPdf 23 07 19.6 -1.6**
LPSR pmax pmax
comp=Z,5.0nm,0.9s
VSU Vasula 133.54 342 *i* PKIKP **PKPdf 23 07 21.9 +0.1**
VORR Voronezh 133.55 329 *e*PKIKP **PKPdf 23 07 20.6 -1.4**
VORR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 133.84 328 *e*PKIKP **PKPdf 23 07 20.3 -2.3**
VSR pmax pmax
comp=Z,9.0nm,1.0s
NB2 NORSAR Subarra 134.22 354 PKP **PKPdf 23 07 22.8 -0.3**
comp=Z,20nm,1.7s,baz=12,slow=4.0
NOA NORSAR Array B 134.22 354 PKP **PKPdf 23 07 22.8 -0.3**
comp=Z,2.8nm,0.9s,baz=14,slow=4.1,SNR=11
NOA PP **PP 23 09 56.3 -3.3**
comp=Z,1.1nm,0.9s,baz=8.4,slow=6.3,SNR=3.6
HFS Hagfors 134.81 352 PKP **PKPdf 23 07 23.2 -0.9**
comp=Z,4.6nm,1.0s,baz=35,slow=5.4,SNR=5.9
KIV Kislovodsk 135.62 318 *e*PKIKP **PKPdf 23 07 25.4 -0.9**
KIV pmax pmax
comp=Z,6.0nm,1.0s
SHA1 Shidzhatmaz 135.74 318 *i* PKIKP **PKPdf 23 07 25.7 -1.0**
MNK Minsk 136.41 338 *i* PKIKP **PKPdf 23 07 26.3 -1.0**
MNK *i* 23 09 08.2
MNK *i* 23 10 13.3
MNK *i* PPP PPP 23 13 15.3
MNK *i* SS SS 23 27 42.0 +1.8
MNK *i* SSS SSS 23 32 52.5
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK pmax pmax
comp=N,4.0nm,0.8s
MNK pmax pmax
comp=Z,14nm,1.0s
VSVD Vaisvydziai 136.46 342 *e*P **PKiKP 23 07 28.3 -0.8**
PABE Paberze 136.85 342 *e*P **PKPdf 23 07 28.4 +0.4**
SOC Sochi 137.69 319 *e*PKIKP **PKPdf 23 07 28.8 -1.2**
SOC *e* 23 10 21.0
SOC *e*PPP PPP 23 13 29.1
SOC *e*SS SS 23 27 55.8 -0.7
RAYN Ar Rayn 138.59 288 ⇑PKIKP **PKiKP 23 07 35.1 +0.5**
AKASG Malin Array Be 138.83 334 PKPdf 23 07 32.0 +0.2
AKASG Malin Array Be 138.83 334 PKP **PKPdf 23 07 30.6 -1.2**
comp=Z,6.6nm,0.9s,baz=40,slow=1.6,SNR=8.7
AKASG Malin Array Be 138.83 334 PKIKP **PKPdf 23 07 32.0 +0.2**
KIEV Kiev 138.84 334 PKPdf **PKPdf 23 07 32.3 +0.5**
KIEV Kiev 138.84 334 PKIKP **PKPdf 23 07 32.3 +0.5**
EKA Eskdalemuir Ar 140.19 5 PKhKP PKPpre 23 07 28.7
comp=Z,1.5nm,0.7s,baz=337,slow=1.6,SNR=4.5
EKA PKP **PKPdf 23 07 33.9 -0.3**
comp=Z,2.6nm,0.9s,baz=10,slow=2.0,SNR=4.5
MILM Milestii Mici 141.79 330 ⇑P **PKPdf 23 07 34.4 -2.8**
MILM Milestii Mici 141.79 330 ⇓*i*PKP **PKPdf 23 07 33.0 -4.3**
comp=Z,130nm,4.3s
MILM Milestii Mici 141.79 330 *d i*PKHKP PKPpre 23 07 33.0
MILM pmax pmax
comp=Z,130nm,4.3s
OJC Ojcow 142.70 341 *e*PKP **PKPdf 23 07 36.1 -2.7**
BURAR Bucovina Array 142.89 334 ⇑P **PKPdf 23 07 38.0 -1.4**
KOLS Kolonicke sedl 142.97 338 *e*PKIKP **PKPdf 23 07 37.5 -1.9**
KOLS Kolonicke sedl 142.97 338 *e*PKP **PKPdf 23 07 37.5 -1.9**
SCTR Scanteiesti 143.07 329 ⇑P **PKPdf 23 07 38.6 -1.0**
TESR Tescani 143.10 332 ⇑P **PKPdf 23 07 38.6 -1.0**
KSP Ksiaz 143.11 345 *e*PKP PKPbc 23 07 37.5 +0.4
NIE Niedzica 143.24 340 *e*PKP PKPbc 23 07 38.1 +0.5
CRVS Cervenica-Dubn 143.29 339 *e*PKIKP PKPbc 23 07 38.3 +0.5
CRVS Cervenica-Dubn 143.29 339 *e*PKP PKPbc 23 07 38.3 +0.5
CFR Carcaliu 143.36 329 ⇑P PKPbc 23 07 39.0 +1.0
CFR Carcaliu 143.36 329 ⇑PKIKP PKPbc 23 07 39.0 +1.0
OSTC Ostas 143.40 345 *e*PKP PKPbc 23 07 38.9 +0.8
OSTC Ostas 143.40 345 *e*PKIKP PKPbc 23 07 38.9 +0.8
CLL Collm 143.40 349 *i* PKPdf PKPab 23 07 37.5 -0.3
comp=Z,15nm,1.0s
CLL *e*PKiKP **PKiKP 23 07 44.0 +0.5**
CLL *i* pPKPdf pPKPdf 23 09 15.0 -7.5
CLL *e*SKPdf **SKPbc 23 10 38.0 +0.1**
CLL Collm 143.40 349 *e*PKPbc 23 07 39.8
baz=13,slow=3.2
CHVC Chvalec 143.41 345 *e*PKP PKPbc 23 07 38.4 +0.3
CHVC Chvalec 143.41 345 *e*PKIKP PKPbc 23 07 38.4 +0.3
TPGR Topolog 143.44 328 ⇑P PKPbc 23 07 39.3 +0.9
UPC Upice 143.49 345 *e*PKP PKPbc 23 07 38.5 +0.1
UPC Upice 143.49 345 *e*PKIKP PKPbc 23 07 38.5 +0.1
OKC Ostrava-Krasne 143.53 343 *e*PKP PKPbc 23 07 38.5 0.0
OKC Ostrava-Krasne 143.53 343 *e*PKIKP PKPbc 23 07 38.5 0.0
VRI Vrincioaia 143.54 331 ⇑P **PKPdf 23 07 39.7 -0.8**
VRI Vrincioaia 143.54 331 ⇑PKIKP **PKPdf 23 07 39.7 -0.8**
BMR Baia Mare 143.54 336 ⇑P PKPbc 23 07 38.9 +0.3
BMR Baia Mare 143.54 336 ⇑PKIKP PKPbc 23 07 38.9 +0.3
DPC Dobruska-Polom 143.56 345 *e*PKP PKPbc 23 07 39.2 +0.6
DPC Dobruska-Polom 143.56 345 *e*PKIKP PKPbc 23 07 39.2 +0.6
BR131 Keskin Array S 143.58 317 PKPdf PKPbc 23 07 39.3 +0.1
BR131 Keskin Array S 143.58 317 PKIKP PKPbc 23 07 39.3 +0.1
BRTR Keskin Array B 143.58 317 PKPdf PKPbc 23 07 39.5 +0.3
BRTR Keskin Array B 143.58 317 PKP PKPbc 23 07 39.3 +0.1
comp=Z,59nm,0.9s,baz=89,slow=1.5,SNR=179
BRTR SKKPbc SKKPbc 23 18 52.5 +2.6
comp=Z,0.7nm,1.0s,baz=193,slow=5.6,SNR=3.7
BRTR Keskin Array B 143.58 317 PKIKP PKPbc 23 07 39.5 +0.3
PLOR Plostina 143.59 331 ⇑P PKPbc 23 07 39.4 +0.5
PLOR Plostina 143.59 331 ⇑PKIKP PKPbc 23 07 39.4 +0.5
SPBR Spulber 143.62 331 ⇓P PKPbc 23 07 39.4 +0.5
BRG Berggiesshubel 143.62 347 *e*PKP PKPbc 23 07 38.9 +0.2
BRG Amp 23 07 40.6
comp=Z,10nm,1.1s
BRG Berggiesshubel 143.62 347 *e*PKIKP PKPbc 23 07 38.9 +0.2
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG Berggiesshubel 143.62 347 *e*PKPbc 23 07 38.5
baz=13,slow=3.2
ARCR ARCALIA 143.66 334 ⇑P PKPbc 23 07 39.7 +0.7
GTTG Gottingen 143.67 352 *e*PKPbc 23 07 38.7
baz=13,slow=3.2
KRLC Kraliky 143.69 344 *e*PKP PKPbc 23 07 39.2 +0.1
KRLC Kraliky 143.69 344 *e*PKIKP PKPbc 23 07 39.2 +0.1
NEUB Neuenburg 143.72 350 *e*PKPbc 23 07 38.8
baz=13,slow=3.2
TURR Turia 143.73 332 ⇑P **PKPdf 23 07 40.2 -0.7**
LANS Liptovska Anna 143.74 341 *e*PKIKP **PKPdf 23 07 40.2 -0.6**
LANS Liptovska Anna 143.74 341 *e*PKP **PKPdf 23 07 40.2 -0.6**
MORC Moravsky Berou 143.76 343 ⇑P PKPbc 23 07 39.8 +0.5
MORC Moravsky Berou 143.76 343 *e*PKP PKPbc 23 07 39.5 +0.2
MORC Moravsky Berou 143.76 343 ⇑PKIKP PKPbc 23 07 39.8 +0.5
COVR Voineasa-Covas 143.80 331 ⇑P **PKPdf 23 07 40.3 -0.7**
HARR Harsova 143.81 328 ⇑P PKPbc 23 07 40.1 +0.5
HARR Harsova 143.81 328 ⇑PKIKP PKPbc 23 07 40.1 +0.6
PVCC Panska Ves 143.81 347 *e*PKP PKPbc 23 07 39.7 +0.3
PVCC Panska Ves 143.81 347 *e*PKIKP PKPbc 23 07 39.7 +0.3
BOSR Bodos 143.88 332 ⇑P PKPbc 23 07 40.1 +0.3
HSKC Hora Svate Kat 143.98 348 *e*PKP PKPab 23 07 40.4 +0.4
KECS Kecovo 143.98 339 *e*PKIKP **PKPdf 23 07 40.7 -0.4**
KECS Kecovo 143.98 339 *e*PKP **PKPdf 23 07 40.7 -0.4**
MAUC Maruska 144.05 343 *e*PKP **PKPab 23 07 40.4 +0.1**
ANTO Ankara 144.05 318 ⇑P **PKPdf 23 07 41.2 -0.4**
ANTO Ankara 144.05 318 PKPdf PKPbc 23 07 40.2 -0.4
ANTO Ankara 144.05 318 ⇑PKIKP **PKPdf 23 07 41.2 -0.4**
BUG Bochum--Univer 144.08 355 *e*PKPbc 23 07 39.7
baz=13,slow=3.2
DOPR Dopca 144.08 332 ⇑P **PKPdf 23 07 41.4 0.0**
AMRR Amara 144.16 329 ⇓P **PKPab 23 07 40.8 0.0**
AMRR Amara 144.16 329 ⇓PKIKP **PKPab 23 07 40.8 0.0**
ISR Istrita 144.18 330 ⇑P **PKPab 23 07 41.0 0.0**
ISR Istrita 144.18 330 ⇑PKIKP **PKPab 23 07 41.0 0.0**
MESR Meseseni 144.19 336 ⇑P **PKPdf 23 07 41.2 -0.3**
MLR Muntele Rosu 144.19 331 ⇓P **PKPdf 23 07 41.5 -0.3**
MLR Muntele Rosu 144.19 331 ⇓PKIKP **PKPdf 23 07 41.5 -0.3**
KASTN Kahler Asten 144.19 353 *e*PKPbc 23 07 40.5
baz=13,slow=3.2
CJR Cluj-Napoca 144.28 335 ⇑P **PKPab 23 07 41.4 +0.2**
CJR Cluj-Napoca 144.28 335 ⇑PKIKP **PKPab 23 07 41.4 +0.2**
MOX Moxa 144.28 350 *e*PKPbc 23 07 40.7
baz=13,slow=3.2
PRU Pruhonice 144.32 346 *e*PKP PKPbc 23 07 41.1 0.0
PRU Pruhonice 144.32 346 *e*PKIKP PKPbc 23 07 41.1 0.0
PLN Plauen 144.34 349 *e*PKPbc 23 07 41.1
baz=13,slow=3.2
TANN Tannenbergstha 144.35 349 *e*PKPbc 23 07 41.2
baz=13,slow=3.2
UBBA Unterbreizbach 144.37 352 *e*PKPbc 23 07 40.8
baz=13,slow=3.2
PSN Preselentsi 144.44 327 P PKPbc 23 07 41.0 -0.6
VRAC Vranov 144.44 344 ⇑P **PKPdf 23 07 42.0 +0.1**
VRAC Vranov 144.44 344 *e*PKP PKPbc 23 07 41.4 -0.1

VRAC	Vranov	144.44 344	⇑PKIKP	PKPdf	23 07 42.0	+0.1
MARR	Marisel-Cluj	144.50 335	⇓P	PKPab	23 07 42.1	-0.1
LEHL	Lehliu	144.52 329	⇑P	PKPdf	23 07 42.5	+0.4
VYHS	Vyhne	144.52 341	*e*PKIKP	PKPab	23 07 42.0	0.0
VYHS	Vyhne	144.52 341	*e*PKP	PKPab	23 07 42.0	0.0
JAVC	Velka Javorina	144.55 342	*e*PKP	PKPdf	23 07 43.4	+1.2
DRGR		144.57 335	⇑P	PKPbc	23 07 41.8	-0.3
DRGR		144.57 335	⇑PKIKP	PKPbc	23 07 41.8	-0.3
PLAR	PLOIESTI	144.58 330	⇓P	PKPdf	23 07 42.3	0.0
VOIR		144.64 332	⇓P	PKPab	23 07 43.0	+0.3
VOIR		144.64 332	⇓PKIKP	PKPab	23 07 43.0	+0.3
PSZ	Piszkesteto	144.67 339	⇑P	PKPdf	23 07 42.5	+0.1
PSZ	Piszkesteto	144.67 339		PKPbc	23 07 41.9	-0.4
PSZ	Piszkesteto	144.67 339	⇑PKIKP	PKPdf	23 07 42.5	+0.1
BORR	Bors	144.69 337	⇑P	PKPab	23 07 43.9	+1.3
KRUC	Moravsky	144.72 344	*e*PKP	PKPbc	23 07 42.0	-0.4
TREC	Trest	144.74 345	*e*PKP	PKPdf	23 07 42.4	-0.1
TREC	Trest	144.74 345	*e*PKIKP	PKPdf	23 07 42.4	-0.1
TNR	Turnu Rosu	144.82 333	⇑P	PKPdf	23 07 42.2	-0.5
TNR	Turnu Rosu	144.82 333	⇑PKIKP	PKPdf	23 07 42.2	-0.5
MANZ	Manzenberg baz=13,slow=3.2	144.83 349	*e*PKPbc		23 07 42.9	
BEBN	Eben Emael	144.84 356	*d*PKP	PKPab	23 07 42.9	-0.2
ARR	Arges	144.88 332	⇓P	PKPab	23 07 44.2	+0.7
ZVC	Zvikov	144.92 346	*e*PKP	PKPbc	23 07 43.1	+0.1
SMOL	Smolenice	144.93 342	*e*PKIKP	PKPab	23 07 44.7	+1.2
AHRW	Bad Neuenahr-A baz=13,slow=3.2	144.99 355	*e*PKPbc		23 07 43.2	
MEM	Membach	145.00 356	*d*PKP	PKPdf	23 07 42.6	-0.2
BTNL	Ternell	145.02 356	*d*PKP	PKPbc	23 07 43.4	+0.1
ROTZ	Rotzenmuhle baz=13,slow=3.2	145.02 349	*e*PKPbc		23 07 43.7	
BSTI	Sart Tilman	145.06 356	*d*PKP	PKPbc	23 07 43.2	-0.2
MODS	Modra-Piesok	145.10 342	*e*PKP2	PKPab	23 07 44.6	+0.4
MODS	Modra-Piesok	145.10 342	*e*PKP	PKPab	23 07 44.6	+0.4
NEF	NEVSHA	145.15 327	P	PKPbc	23 07 44.0	+0.1
PRD	Provadia	145.15 327	P	PKPbc	23 07 44.0	+0.1
TNS	Taunus Mts baz=13,slow=3.2	145.16 353	*e*PKPbc		23 07 44.2	
LOT	Lotru	145.21 333	⇑P	PKPdf	23 07 43.8	+0.3
DEV	Deva	145.23 334	⇑P	PKPbc	23 07 43.7	-0.3
DEV	Deva	145.23 334	⇑PKP2	PKPbc	23 07 43.7	-0.3
BCLA	Clavier	145.24 357	*d*PKP	PKPbc	23 07 44.2	+0.3
BHOU	Houvegnez	145.26 356	*d*PKP	PKPbc	23 07 44.0	0.0
GRF	Grafenberg Arr baz=13,slow=3.2	145.27 350	*e*PKPbc		23 07 44.6	
GRFO	Grafenberg	145.27 350	PKPab	PKPbc	23 07 43.7	-0.3
GRFO	Grafenberg	145.27 350	PKP2	PKPbc	23 07 43.7	-0.3
SRO	Srobarova	145.28 341	*e*PKP2	PKPab	23 07 45.1	+0.2
SRO	Srobarova	145.28 341	*e*PKP	PKPab	23 07 45.1	+0.2
BGES	Gesves	145.28 357	*d*PKP	PKPdf	23 07 43.6	+0.3
ZST	Bratislava	145.31 342	*e*PKP2	PKPab	23 07 45.4	+0.4
ZST	Bratislava	145.31 342	*e*PKP	PKPab	23 07 45.4	+0.4
KHC	Kasperske Hory	145.35 347	*e*PKP	PKPbc	23 07 44.6	+0.3
KHC			*ex*	x	23 09 33.3	
KHC	Kasperske Hory	145.35 347	*e*PKP2	PKPbc	23 07 44.6	+0.3
MMAI	Mount Meron Ar comp=Z,37nm,0.8s,baz=55,slow=4.4,SNR=68	145.36 306	PKPbc	PKPab	23 07 45.7	-0.1
MMAI			pPKPbc	pPKPdf	23 09 27.1	+0.8
	comp=Z,8.2nm,0.8s,baz=76,slow=6.1,SNR=6.1					
BMRD	Maredsous	145.38 357	*d*PKP	PKPbc	23 07 44.3	0.0
SIRR	Siria	145.42 336	⇑P	PKPab	23 07 45.1	-0.5
WET	Wettzell baz=13,slow=3.2	145.48 348	*e*PKPbc		23 07 45.1	
RCHB	Rochefort	145.50 357	*d*PKP	PKPdf	23 07 43.9	+0.2
GEC2	GERESS Array S baz=13,slow=3.2	145.59 347	*e*PKPbc		23 07 45.3	
GERES	GERESS Array B	145.59 347		PKPdf	23 07 44.3	+0.3
GERES	GERESS Array B comp=Z,11nm,0.8s,baz=26,slow=3.4,SNR=69	145.59 347	PKPbc	PKPbc	23 07 45.2	+0.1
GERES			pPKPbc	pPKPdf	23 09 26.8	+0.4
	comp=Z,0.2nm,0.3s,baz=39,slow=3.7,SNR=1.4					
GERES	GERESS Array B	145.59 347	PKIKP	PKPdf	23 07 44.3	+0.3
DOU	Dourbes	145.60 357	*d*PKP	PKPbc	23 07 44.5	-0.5
ISK	Istanbul-Kandi	145.63 323	P	PKPdf	23 07 44.7	+0.5
SURR	Surduc	145.65 335	⇑P	PKPbc	23 07 45.4	+0.1
GZR	Gura Zlata	145.68 334	⇑P	PKPdf	23 07 44.6	+0.4
GZR	Gura Zlata	145.68 334	⇑PKIKP	PKPdf	23 07 44.6	+0.4
SZH	Strazhitsa	145.81 328	P	PKPdf	23 07 45.0	+0.6
ZIMR		145.83 329	⇑P	PKPdf	23 07 44.4	0.0
ZIMR		145.83 329	⇑PKIKP	PKPdf	23 07 44.4	0.0
CONA	Conrad Observa comp=Z,84nm,1.4s,SNR=54	145.90 344	*e*PKP	PKPdf	23 07 45.1	+0.5
WLF	Walferdange	145.93 355	*d*PKP	PKPbc	23 07 45.8	-0.2
WLF	Walferdange baz=13,slow=3.2	145.93 355	*e*PKPbc		23 07 46.7	
BZS	Buzias	145.97 335	⇓P	PKPdf	23 07 45.4	+0.8
BZS	Buzias	145.97 335	⇓PKIKP	PKPdf	23 07 45.4	+0.8
RONA	Rosalia, Austr comp=Z,62nm,1.2s,SNR=62	145.99 343	*e*PKP	PKPdf	23 07 45.2	+0.5
TIM	Timisoara	146.03 336	⇑P	PKPdf	23 07 44.0	-0.7
TIM	Timisoara	146.03 336	⇑PKIKP	PKPdf	23 07 44.0	-0.7
SRE	Strehaia	146.07 333	⇑P	PKPdf	23 07 45.5	+0.7
SRE	Strehaia	146.07 333	⇑PKIKP	PKPdf	23 07 45.5	+0.7
ELND	Elena	146.17 328	⇑P	PKPbc	23 07 45.9	-0.8
CSS	Mathiatis	146.13 310		PKPdf	23 07 45.3	0.0
HERR	Herculane	146.24 334	⇑P	PKPdf	23 07 45.8	+0.7
MOA	Molln	146.39 345	*i* PKP	PKPdf	23 07 45.3	0.0
EDRB	Edirne	146.41 326	P	PKPbc	23 07 47.1	-0.5
STU	Stuttgart baz=13,slow=3.2	146.48 352	*e*PKPbc		23 07 47.9	
MORH	Mrgy, Hungar	146.57 339	⇑P	PKPdf	23 07 46.1	+0.5
MDVR	Moldovita	146.61 334	⇑P	PKPdf	23 07 46.4	+0.6
ARSA	Arzberg comp=Z,21nm,1.0s,SNR=17	146.62 343	*e*PKP	PKPdf	23 07 46.0	+0.3
ISP	Isparta	146.66 317		PKPbc	23 07 48.2	-0.4
ISP	Isparta	146.66 317	PKP2	PKPbc	23 07 48.2	-0.4
BIOA	Bad Ischl, Aus comp=Z,29nm,1.0s,SNR=29	146.69 346	*i* PKP	PKPdf	23 07 45.8	0.0
FUR	Furstenfeldbru baz=13,slow=3.2	146.73 349	*e*PKPbc		23 07 49.7	
RJOB	Jochberg baz=13,slow=3.2	146.84 347	*e*PKPbc		23 07 48.9	
BFO	Black Forest	147.03 352	PKPdf	PKPdf	23 07 46.2	-0.2
BFO	Black Forest	147.03 352	PKIKP	PKPdf	23 07 46.2	-0.2
BFO	Black Forest baz=13,slow=3.2	147.03 352	*e*PKPbc		23 07 49.3	
CMLA	Cha da Macela	147.07 43	PKPbc	PKPbc	23 07 49.6	0.0
CMLA	Cha da Macela	147.07 43	PKP2	PKPbc	23 07 49.6	0.0
LESA	Schwarzleotal comp=Z,26nm,1.1s	147.16 347	*i* PKP	PKPdf	23 07 46.7	0.0
SOKA	Soboth comp=Z,28nm,1.0s,SNR=23	147.28 344	*i* PKP	PKPdf	23 07 46.9	0.0
KDZ	Kurdzhali	147.31 327	P	PKPbc	23 07 49.0	-1.1
KBA	Koelnbreinsper comp=Z,31nm,1.0s,SNR=16	147.33 346	*i* PKP	PKPdf	23 07 46.9	-0.2
KALN	Kalnik	147.36 341	*i* P	PKPbc	23 07 49.8	-0.2
UBR	Ueberruh baz=13,slow=3.2	147.41 350	*e*PKPbc		23 07 50.3	
ALN	Alexandroupoli	147.45 325	P	PKPbc	23 07 49.4	-1.0
KULA	Kula-Manisa	147.45 319	P	PKPbc	23 07 50.4	-0.2
LOBO	Lobor	147.46 342	*i* P	PKPbc	23 07 49.9	-0.4
WATA	Walderalm comp=Z,40nm,1.1s,SNR=12	147.47 348	*e*PKP	PKPdf	23 07 47.5	+0.2
RETA	Reutte comp=Z,32nm,1.1s,SNR=21	147.48 349	*e*PKP	PKPdf	23 07 47.7	+0.5
ENEZ	Enez	147.50 325	P	PKPbc	23 07 49.6	-0.9
WTTA	Wattenberg comp=Z,64nm,1.1s,SNR=20	147.53 348	*i* PKP	PKPdf	23 07 47.7	+0.3
RDO	Rodhopi	147.55 326	P	PKPbc	23 07 50.0	-0.7
OBKA	Obir comp=Z,15nm,1.3s,SNR=10	147.56 344	*e*PKP	PKPdf	23 07 47.1	-0.3
SQTA	Sankt Quirin comp=Z,36nm,0.9s,SNR=25	147.65 348	*i* PKP	PKPdf	23 07 47.8	+0.2
MYKA	Terra Mystica comp=Z,24nm,0.9s,SNR=21	147.68 345	*e*PKP	PKPdf	23 07 47.3	-0.2
MOSL	Moslavina	147.73 341	*i* P	PKPbc	23 07 50.9	-0.2
DAVA	Damuels comp=Z,42nm,1.0s,SNR=15	147.83 350	*e*PKP	PKPdf	23 07 47.7	-0.2
ABTA	Abfaltersbach comp=Z,40nm,0.9s,SNR=38	147.83 347	*e*PKP	PKPdf	23 07 47.7	-0.1
FETA	Feichten comp=Z,21nm,1.0s,SNR=20	147.94 349	*e*PKP	PKPdf	23 07 48.4	+0.3
EZN	Ezine	148.02 324	P	PKPbc	23 07 51.4	-0.5
SMTH	Samothraki Isl	148.03 325	P	PKPbc	23 07 51.3	-0.6
OZLJ	Ozalj	148.12 342	*i* P	PKPbc	23 07 52.0	0.0
LIA	Limnos Island	148.61 325	P	PKPbc	23 07 52.5	-0.9
RIY	Rijeka	148.67 343	P	PKPbc	23 07 53.1	-0.3
SIGR	SIGRI	148.70 323	P	PKPbc	23 07 52.7	-0.9
PLIT	Plitvice	148.74 341	*i* P	PKPbc	23 07 53.3	-0.3
SMRN	Sveta Marina	149.03 343	*i* P	PKPbc	23 07 54.0	-0.3
SMG	Samos	149.08 320	P	PKPbc	23 07 54.1	-0.6
RABC	Rab	149.11 342	*i* P	PKPbc	23 07 53.9	-0.6
CHOS	Chios island	149.12 322	P	PKPbc	23 07 54.3	-0.5
BODT	Bodrum	149.18 319	P	PKPbc	23 07 54.0	-0.9
DAT	Datca	149.21 318	P	PKPbc	23 07 53.9	-1.2
NVLJ	Novalja	149.25 342	*i* P	PKPbc	23 07 54.3	-0.5
BRJN	Brijuni	149.26 344	*i* P	PKPbc	23 07 54.7	-0.1
GRG	Griva	149.31 329	P	PKPbc	23 07 53.9	-1.2
VIRC	Vir	149.45 342	*i* P	PKPbc	23 07 54.9	-0.4
STON	Ston	149.80 337	*i* P	PKPbc	23 07 55.5	-0.7
KTI	Kastanea	149.88 329	P	PKPbc	23 07 56.1	-0.6
FNA	Florina	149.94 330	P	PKPbc	23 07 56.1	-0.6
KYMI	Kymi, Euboea I	150.09 324	P	PKPbc	23 07 55.3	-1.8
KBN	Korca	150.34 331	P	PKPbc	23 07 57.1	-0.6
NEST	Nestorio	150.38 330	P	PKPbc	23 07 57.4	-0.4
DION	Dionisos Attik	150.57 324	P	PKPbc	23 07 57.8	-0.4
KPRO	Kipourio	150.58 329	P	PKPbc	23 07 57.2	-1.0
PTL	Penteli	150.63 324	P	PKPbc	23 07 57.1	-1.3
ATHU	Athens Univers	150.74 324	P	PKPbc	23 07 57.2	-1.4
ATH	Athens Observa	150.77 324	P	PKPbc	23 07 57.1	-1.5
LSK	Leskovik	150.80 330	P	PKPbc	23 07 58.7	-0.1
VLY	Voula,Athens	150.81 323	P	PKPbc	23 07 57.3	-1.4
JAN	Janina	151.06 329	P	PKiKP	23 08 01.1	+1.4
IGT	Igoumenitsa	151.41 330	P	PKPbc	23 07 59.3	-0.8
KRND	KRANIDI	151.50 323	P	PKPbc	23 07 58.7	-1.6
IMMV	Iera Moni Meta	152.28 319	P	PKPbc	23 08 01.4	-0.7
PCAB	Cabril	152.58 17	*e*PKPbc	PKPbc	23 08 02.6	0.0
PCAB	Cabril	152.58 17	*e*PKPab	PKPab	23 08 15.6	+0.6
PBRG	Braganca	152.82 15	*e*PKPbc	PKPbc	23 08 03.0	-0.2
PBRG	Braganca	152.82 15	*e*PKPab	PKPab	23 08 16.3	+0.3
POLO	Lamas de Olo	152.95 17	*e*PKPbc	PKPbc	23 08 03.6	0.0
POLO	Lamas de Olo	152.95 17	*e*PKPab	PKPab	23 08 17.2	+0.5
PVRL	Vila Real	153.07 17	*e*PKPbc	PKiKP	23 08 03.9	+0.1
PVRL	Vila Real	153.07 17	*e*PKPab	PKPab	23 08 17.7	+0.6
PVIS	Viseu	153.53 17	*e*PKPbc	PKPbc	23 08 04.7	-0.1
PVIS	Viseu	153.53 17	*e*PKPab	PKPab	23 08 19.4	+0.3
COI	Coimbra	153.85 19	*e*PKPbc	PKiKP	23 08 05.9	+0.5
MTE	Manteigas	153.93 17	PKPdf	PKPdf	23 07 57.4	+0.1
MTE	Manteigas	153.93 17	*e*PKPbc	PKPbc	23 08 05.6	0.0
PCAS	Casmilo, Conde	153.96 19	*e*PKPbc	PKiKP	23 08 05.9	+0.2
PCAS	Casmilo, Conde	153.96 19	*e*PKPab	PKPab	23 08 21.3	+0.4
PSBE	So Bento	154.36 20	*e*PKPbc	PKPbc	23 08 07.2	+0.7
PSBE	So Bento	154.36 20	*e*PKPab	PKPab	23 08 23.2	+0.6
PCBR	Castelo Branco	154.47 17	*e*PKPdf	PKPdf	23 07 58.3	+0.4
PCBR	Castelo Branco	154.47 17	*e*PKPbc	PKPbc	23 08 06.7	0.0
PCBR	Castelo Branco	154.47 17	*e*PKPab	PKPab	23 08 22.9	-0.1
PMRV	Marv??o	154.87 18	*e*PKPdf	PKPbc	23 08 07.6	0.0
PMRV	Marv??o	154.87 18	*e*PKPab	PKPab	23 08 24.9	+0.1
PMTG	Montargil	154.94 19	*e*PKPdf	PKiKP	23 08 07.4	-0.3
PMTG	Montargil	154.94 19	*e*PKPab	PKPab	23 08 24.5	-0.6
PESTR	Estremoz	155.33 19	*e*PKPab	PKPab	23 08 26.4	-0.4
ESDC	Sonseca Array	155.47 12		PKPab	23 08 26.9	-0.5
ESDC	Sonseca Array comp=Z,0.5nm,0.9s,baz=347,slow=3.3,SNR=4.3	155.47 12	PKP	PKPdf	23 08 00.1	+0.7
ESDC			PKPbc	PKPbc	23 08 09.0	
	comp=Z,1.6nm,1.0s,baz=10,slow=2.4,SNR=7.8					
ESDC			PKPab	PKPab	23 08 27.6	+0.2
	comp=Z,3.4nm,1.0s,baz=336,slow=3.8,SNR=10					
ESDC			PP	PP	23 12 03.6	-1.2
	comp=Z,1.0nm,1.0s,baz=337,slow=5.3,SNR=4.3					
EVO	Evora	155.50 20	*e*PKPdf	PKPdf	23 08 00.8	+1.4
EVO	Evora	155.50 20	*e*PKPab	PKPab	23 08 27.8	+0.3
PNCL	Nicolau / Gran	155.71 21	*e*PKPab	PKPab	23 08 28.9	+0.5
PBEJ	Beja	156.01 20	*e*PKPab	PKPab	23 08 30.8	+1.1
MESJ	Messejana	156.06 21	*e*PKPdf	PKPdf	23 08 10.9	+11
MESJ	Messejana	156.06 21	*e*PKPab	PKPab	23 08 29.1	-0.8
PBAR	Barrancos	156.13 18	*e*PKPdf	PKPdf	23 08 01.8	+1.6
PBAR	Barrancos	156.13 18	*e*PKPab	PKPab	23 08 30.9	+0.7
PTEO	Sao Teotonio	156.15 22	*e*PKPdf	PKPdf	23 08 00.5	+0.3
PTEO	Sao Teotonio	156.15 22	*e*PKPab	PKPab	23 08 30.7	+0.4
PCVE	Castro Verde	156.31 21	*e*PKPab	PKPab	23 08 31.8	+0.8
MORF	Marmelete	156.39 22	*e*PKPab	PKPab	23 08 32.0	+0.6
PVAQ	Vaqueiros	156.62 20		PKPab	23 08 32.6	+0.3
PVAQ	Vaqueiros	156.62 20	*e*PKPab	PKPab	23 08 33.0	+0.6
KEST	Kesra comp=Z,11nm,1.0s,baz=323,slow=2.1,SNR=10.0	159.01 344	PKPab	PKPab	23 08 42.9	0.0
TORD	Torodi Ar. Bea	177.46 169		PKPdf	23 08 15.9	-0.6
TORD	Torodi Ar. Bea comp=Z,4.4nm,0.9s,baz=135,slow=0.3,SNR=15	177.46 169	PKP	PKPdf	23 08 15.6	-1.0
TORD			pPKP	pPKPdf	23 09 59.3	-0.3
	comp=Z,1.4nm,1.0s,baz=230,slow=1.1,SNR=3.9					

KRSC 15 23:02:56.1±1.9, 49°01N×156°22E, h63km±29km, MI3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	3.04	22	*e*P	Pn	23 03 44.0	+2.3
KDTR				*e*S	Sn	23 04 20.3	+3.4
ASAK	Asacha	3.54	17	*e*P	Pn	23 03 51.5	+2.9
MTVR	Mutnovka	3.69	19	*e*P	Pn	23 03 53.5	+2.8
MTVR				*e*S	Sn	23 04 36.0	+2.9
GRL	Gorelyy	3.74	18	*e*P	Pn	23 03 54.6	+3.3
UGLR	Uglovaya	4.51	20	*e*P	Pn	23 04 05.9	+4.0
AVH	Avacha	4.55	19	*e*P	Pn	23 04 07.4	+5.1
KOK	Koryaka	4.55	19	*e*P	Pn	23 04 06.2	+3.8
KRER	Koryakskii	4.58	19	*e*P	Pn	23 04 06.3	+3.3
KRX	Arik	4.62	18	*e*P	Pn	23 04 05.0	+1.6

IDC ***15*** *23:26:35.4±0.8, 7°.29N×78°.66W, h0km, mb4.0/13, mbtmp4.0/18, ML2.9/4, MS3.0/6, Error ellipse: s-maj=24.9km s-min=15.4km az=37.0*
RSNC ***15*** *23:26:37.7±0.0, 7°N±4°×7°.9W±°, h-1km±6km, M4.0, mb4.6, mB4.8, ML3.1, Mw(mB)4.1*
NEIC ***15*** *23:26:37.6±2.0, 7°.27N±0°.07×78°.66W±0°.08, h10km±1km, mb4.5/28, Error ellipse: s-maj=15.3km s-min=9.3km az=230.0*
UPA ***15*** *23:26:37.1±1.2, 7°.24N×78°.69W, h14km±8km, MW4.2*
ISC 15 23:26:35.5±1.4, 7°.21N±0°.03×78°.65W±0°.03, h4km±9km, n108, σ1§47/130, mb4.3/27, 2C-1D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	Punta Ardita,	0.84	94	⇑*i* P	Pg	23 26 51.5	-0.2
PTAC				*e*S	Sg	23 27 02.8	+0.4
PTAC	Punta Ardita,	0.84	94	P	Sg	23 26 51.4	-0.2
PTAC				S	Sg	23 27 02.0	-0.5
UPD2	Meteti	1.47	25	⇑*i* P	Pn	23 27 01.7	-1.1
PCRI3	Pocri, Los San	1.52	287	*e*P	Pn	23 27 03.0	-0.5
SOLC	Bahia Solano	1.57	128	P	Pn	23 27 02.6	-1.6
SOLC				S	Sn	23 27 21.7	-3.3
SOLC				S	Sn	23 27 21.8	-3.3
AZU	Azuero	1.71	290	*e*P	Pn	23 27 05.5	-0.6
AZU				*e*S	Sn	23 27 25.7	-2.8
AZU	Azuero	1.71	290	P	Pn	23 27 05.6	-0.6
AZU				S	Sn	23 27 26.0	-2.4
TOTI	Torti	1.74	11	*e*P	Pn	23 27 05.7	-0.8
TOTI				*e*S	Sn	23 27 28.3	-0.9
TOSI3	Tonosi	1.79	276	*e*P	Pn	23 27 05.8	-1.3
TABO3	Taboga, Panama	1.81	330	*e*P	Pn	23 27 06.7	-0.7
CHIT3	Chitre	1.90	293	*e*P	Pn	23 27 08.8	0.0
CHIT3				*e*S	Sn	23 27 30.8	-2.4
FLAM	Flamenco Islan	1.90	333	*e*P	Pn	23 27 08.5	-0.2
FLAM				*e*S	Sn	23 27 31.0	-2.2
CAPC	Capurgana	1.91	42	P	Pn	23 27 07.6	-1.2
CAPC				S	Sn	23 27 30.5	-2.8
UPA	Univ. de Panam	1.96	334	*e*P	Pn	23 27 08.5	-1.1
UPA				*e*S	Sn	23 27 33.0	-1.7
CHPO	Chepo, Panama	2.00	347	*e*P	Pn	23 27 09.4	-0.7
CHPO				*e*S	Sn	23 27 33.0	-2.5
ARRA3	Arraijan, Pana	2.01	330	*e*P	Pn	23 27 09.5	-0.7
CNTA3	Canitas, Panam	2.01	353	*e*P	Pn	23 27 09.8	-0.5
ZANG	Zanguenga, Cho	2.11	325	*e*P	Pn	23 27 11.0	-0.6
ZANG				*e*S	Sn	23 27 37.4	-0.9
APAC	Apartado, Choc	2.16	71	P	Pn	23 27 13.4	+1.1
APAC				S	Sg	23 27 44.8	-0.2
FRIJ	El Hiral	2.26	332	*e*P	Pn	23 27 12.6	-1.1
BCIP	Isla Barro Col	2.27	329	Pn	Pn	23 27 13.0	-0.8
BCIP				Sn	Sn	23 27 43.1	+0.9
BCIP	Isla Barro Col	2.27	329	⇓*i* P	Pn	23 27 12.9	-0.9
BCIP				*e*S	Sn	23 27 39.9	-2.3
BCIP	Isla Barro Col	2.27	329	P	Pn	23 27 12.9	-0.9
BCIP				S	Sb	23 27 45.6	+0.1
DBBC	Dabeiba	2.43	94	P	Pn	23 27 16.1	0.0
DBBC				S	Sn	23 27 42.3	-4.0
CALO3	Calobre, Verag	2.44	297	*e*P	Pn	23 27 15.6	-0.5
GMAL	Guarumal, Vera	2.62	282	*e*P	Pn	23 27 19.1	+0.5
GMAL				*e*S	Sn	23 27 49.5	-1.4
GMAL	Guarumal, Vera	2.62	282	P	Pn	23 27 20.2	+1.6
MESA3	La Mesa, Verag	2.68	290	*e*P	Pn	23 27 18.7	-0.7
LCBC	Los crdobas,	2.79	54	*e*P	Pn	23 27 19.9	-1.0
LCBC	Los crdobas,	2.79	54	P	Pb	23 27 25.1	-0.8
LCBC				S	Sb	23 28 02.2	+1.8
UREC	San Jos de Ur	3.13	80	*e*P	Pn	23 27 26.3	+0.6
UREC	San Jos de Ur	3.13	80	P	Pn	23 27 26.3	+0.6
UREC				S	Sn	23 28 01.1	-2.6
UREC				S	Sn	23 28 01.1	-2.6
ZARC	Zaragoza, Cauc	3.77	86	P	Pn	23 27 35.1	+0.6
ZARC				S	Sn	23 28 17.0	-2.3
GUY2C	Guyana, Caldas	3.82	121	P	Pn	23 27 36.8	+1.3
GUY2C				S	Sg	23 28 36.0	-2.3
CHGR2	Aguacate	3.86	297	*e*P	Pn	23 27 34.7	-1.0
YOTC	Yotoco, Valle	3.94	144	P	Pn	23 27 36.6	-0.4
NORC	Norcasia	4.10	113	P	Pn	23 27 40.6	+1.6
PTBC	PUERTO BERRIO,	4.22	99	P	Pn	23 27 42.5	+1.9
BRU2	Volcan	4.30	292		Pn	23 27 43.2	+1.3
SJCC	San Jacinto, C	4.34	52	P	Pn	23 27 45.2	+2.8
SJCC				S	Sn	23 28 35.6	+2.0
ORTC	Ortega, Tolima	4.72	134	P	Pn	23 27 51.1	+3.6
ROSC	El Rosal	4.91	118		Pn	23 27 51.3	+0.9
ROSC	El Rosal 2.3nm,0.3s,baz=55,slow=11,SNR=5.4	4.91	118	Pn	Pn	23 27 52.9	+2.4
ROSC				Sn	Sn	23 28 48.2	+0.2
	2.9nm,0.3s,baz=174,slow=23,SNR=1.7 6.0nm,0.3s						
PRAC	Prado 17nm,0.8s	5.11	133	P	Pn	23 27 56.5	+3.6
BBAC	Balboa, Cauca 20nm,0.5s,971nm	5.34	165	P	Pn	23 28 00.8	+4.5
BBAC				P	Pn	23 28 02.2	+5.9
	20nm,0.5s,971nm						
BBAC				P	Pn	23 28 03.0	+6.7
	20nm,0.5s,971nm						
OCAC	Ocana 130nm,0.5s,2μm	5.38	79	P	Pn	23 27 58.8	+2.1
LCR2	La Lucha 2	5.86	296	Pn	Pn	23 28 04.7	+1.3
PAMC	Pamplona, Colo	5.90	88	P	Pn	23 28 06.3	+2.1
HDC	Heredia	6.07	298	Pn	Pn	23 28 06.1	-0.1
TULM	Tulcn-Chalpat	6.51	172	Pn	Pn	23 28 13.1	+0.5
SOCE	Pocosol	6.69	299	Pn	Pn	23 28 15.2	+0.5
CRJC	Cerrejon, Guaj 43nm,0.5s,871nm	6.83	56	P	Pn	23 28 16.0	-0.7
JTS	Las Juntas de 0.4nm,0.3s,baz=322,slow=21,SNR=1.3 3.4nm,0.7s	6.94	297	Pn	Pn	23 28 18.0	-0.1
SDV	Santo Domingo	8.11	78		Pn	23 28 35.5	+1.2
SDV	Santo Domingo 1.6nm,0.3s,baz=301,slow=15,SNR=13	8.11	78	Pn	Pn	23 28 35.4	+1.1
SDV				Sn	Sn	23 30 03.8	-2.8
	1.1nm,0.3s,baz=321,slow=19,SNR=2.2						
SDV				LR	LR	23 32 04.5	
	comp=Z,99nm,20.5s,baz=261,slow=41 13nm,0.6s						
SDV	Santo Domingo	8.11	78	P	Pn	23 28 36.0	+1.7
BAUV	El Baul	10.64	80	Pn	Pn	23 29 07.2	-1.7
SDDR	Presa de Saban	13.71	31	P

comp=Z,0.8nm,0.7s,baz=275,slow=5.1,SNR=7.4
comp=Z,0.8nm,0.7s
GERES GERESS Array B 86.17 41 P **P 23 39 18.7 +0.4**
comp=Z,0.2nm,0.3s,baz=258,slow=6.3,SNR=3.5
comp=Z,0.2nm,0.3s
ASAR Alice Springs 144.75 239 PKP PKPbc 23 46 13.8 +0.2
comp=Z,1.4nm,0.8s,baz=122,slow=2.2,SNR=9.9
WRA Warramunga Arr 145.61 245 PKPbc **PKPbc 23 46 16.4 0.0**
comp=Z,0.7nm,0.9s,baz=107,slow=3.1,SNR=6.5

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*IDC **15** 23:42:14.7±18.0, 31°.57N×47°.82E, h0km, mb3.8/5, mbtmp3.8/5, MS3.4/1, Error ellipse: s-maj=385.6km s-min=39.5km az=11.0*
*TEH **15** 23:42:22.9, 32°.70N×48°.15E, h12km±24km, ML3.6*
*ISN **15** 23:42:26.6±2.8, 32°.72N×47°.86E, h16km±16km, ML3.7*
*OMAN **15** 23:42:30.0±0.4, 32°.45N×48°.48E, h34km±21km, mb4.0/14, Error ellipse: s-maj=29.4km s-min=3.9km az=327.0*
ISC 15 23:42:23.7±0.6, 32°.61N±0°.05×48°.15E±0°.04, h15km, n86,
σ2º08/110, mb3.9/5, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.94**	**345**	Pg	**Pb**	**23 42 40.1**	**-1.7**
AHWZ	**Ahwaz**	**1.34**	**162**	Pg	**Pg**	**23 42 51.3**	**+1.7**
HSAM	**Samen**	**1.64**	**13**	Pg	**Pn**	**23 42 52.3**	**0.0**
IBZA	**Bozab**	**1.87**	**353**	Pg	**Pn**	**23 42 56.8**	**+1.3**
KCHF	**Cheshme Sefid,**	**1.90**	**331**	Pn	**Pn**	**23 42 57.2**	**+1.4**
ILBA	**Ilam Banvizeh**	**1.92**	**302**	Pn	**Pn**	**23 42 57.8**	**+1.9**
IBDR	**Badra**	**1.93**	**286**	*e*Pg	**Pn**	**23 42 55.0**	**-1.0**
	baz=103						
IBDR				*e*Sg	**Sn**	**23 43 20.0**	**0.0**
IBDR				AML	AML	23 43 31.4	
	comp=N,231nm,0.3s						
IBDR				AML	AML	23 43 40.4	
	comp=E,254nm,1.0s						
IGHG	**Ghaleghazi**	**2.16**	**323**	Pn	**Pn**	**23 43 01.0**	**+1.5**
JHBN	**Jahan bin**	**2.16**	**99**	Pn	**Pn**	**23 43 02.2**	**+2.6**
SNQR	**Sonqor, Kerman**	**2.28**	**349**	Pn	**Pn**	**23 43 02.8**	**+1.6**
IPIR	**Pirpir**	**2.32**	**87**	Pn	**Pn**	**23 43 04.3**	**+2.7**
ZNGN	**Zangian**	**2.34**	**101**	Pn	**Pn**	**23 43 04.8**	**+2.8**
GLG1	**Gilan-e-Gharb**	**2.40**	**309**	Pn	**Pn**	**23 43 04.3**	**+1.8**
ILIN	**Lien**	**2.50**	**337**	Pn	**Pn**	**23 43 05.7**	**+1.5**
IDHR	**Dehrash**	**2.55**	**325**	Pn	**Pn**	**23 43 06.2**	**+1.5**
IBRJ	**Brojen**	**2.73**	**104**	Pn	**Pn**	**23 43 09.9**	**+2.6**
KGS1	**Ghasr-e-Shirin**	**2.85**	**312**	Pn	**Pn**	**23 43 11.0**	**+2.2**
QAMS	**Qamsar**	**2.95**	**67**	Pn	**Pn**	**23 43 12.5**	**+2.3**
IKLH	**Kolahrood**	**2.97**	**75**	Pn	**Pn**	**23 43 12.8**	**+2.2**
IGAR	**Gharneh**	**3.30**	**93**	Pn	**Pn**	**23 43 17.6**	**+2.5**
IQOM	**Qom**	**3.30**	**47**	Pn	**Pn**	**23 43 16.9**	**+1.8**
QABG	**Abgarm-Qazvin**	**3.31**	**21**	Pn	**Pn**	**23 43 16.8**	**+1.5**
KLNJ	**Kolanjah**	**3.34**	**118**	Pn	**Pn**	**23 43 18.3**	**+2.5**
IZEF	**Zefreh**	**3.54**	**84**	Pn	**Pn**	**23 43 20.6**	**+2.3**
KRSH	**Karshahi**	**3.60**	**67**	Pn	**Pn**	**23 43 21.4**	**+2.2**
IRAM	**Ramesheh**	**3.68**	**101**	Pn	**Pn**	**23 43 22.4**	**+2.1**
IMHD	**Mahdasht**	**3.71**	**84**	Pn	**Pn**	**23 43 22.2**	**+1.5**
IVRN	**Varamin**	**3.81**	**50**	Pn	**Pn**	**23 43 23.9**	**+1.9**
ISFB	**Sefidab**	**3.84**	**62**	Pn	**Pn**	**23 43 24.3**	**+1.9**
IKRK	**Kirkuk**	**4.21**	**312**	*e*Pn	**Pn**	**23 43 30.0**	**+2.6**
IKRK				*e*Sn	**Sn**	**23 44 14.0**	**-2.3**
IKRK				AML	AML	23 44 20.4	
	comp=N,43nm,0.3s						
IKRK				AML	AML	23 44 49.1	
	comp=E,44nm,0.3s						
JIR1	**Jirandeh**	**4.31**	**18**	Pn	**Pn**	**23 43 30.4**	**+1.5**
IDMV	**Damavand**	**4.38**	**46**	Pn	**Pn**	**23 43 31.8**	**+1.9**
KLST	**Kelardasht - M**	**4.58**	**31**	Pn	**Pn**	**23 43 34.4**	**+1.7**
AHBU	**AHRAM**	**4.61**	**143**	Pn	**Pn**	**23 43 35.8**	**+2.8**
ANAR	**Anarak**	**4.73**	**81**	Pn	**Pn**	**23 43 36.4**	**+1.7**
ISAD	**Sadrabad**	**4.74**	**97**	Pn	**Pn**	**23 43 37.0**	**+2.1**
MZPU	**Pul - Mazandar**	**4.75**	**36**	Pn	**Pn**	**23 43 37.0**	**+1.9**
LHJ2	**Lahijan - Gila**	**4.81**	**19**	Pn	**Pn**	**23 43 37.2**	**+1.6**
ILAS	**Lasjerd**	**4.86**	**54**	Pn	**Pn**	**23 43 38.4**	**+1.8**
IFIR	**Firoozkooh**	**4.87**	**50**	Pn	**Pn**	**23 43 38.6**	**+1.9**
DSBU	**Dashti - Bushe**	**5.01**	**147**	Pn	**Pn**	**23 43 41.7**	**+3.2**
ISRB	**Sarab**	**5.22**	**356**	Pn	**Pn**	**23 43 43.1**	**+1.7**
ICHK	**Chekchek**	**5.31**	**92**	Pn	**Pn**	**23 43 44.7**	**+2.0**
IAZR	**Azarshahr**	**5.36**	**341**	Pn	**Pn**	**23 43 44.7**	**+1.3**
IHRS	**Heris**	**5.77**	**351**	Pn	**Pn**	**23 43 50.5**	**+1.5**
GRMI	**Germi**	**6.19**	**358**	Pn	**Pn**	**23 43 56.4**	**+1.7**
IBAF	**Bafgh**	**6.38**	**97**	Pn	**Pn**	**23 43 59.7**	**+2.4**
SAKB	**Bahrain**	**6.93**	**162**	P	**Pn**	**23 44 07.5**	**+2.7**
SAKB				S	**Sn**	**23 45 23.1**	**-0.3**
SHMA	**Al-Shehemyia**	**7.17**	**159**	P	**Pn**	**23 44 09.2**	**+1.2**
SHMA				S	**Sn**	**23 45 28.0**	**-1.2**
TPRV	**Parvadeh(Tabas**	**7.20**	**84**	Pn	**Pn**	**23 44 10.5**	**+2.0**
SMRA	**Abu-Samra**	**8.18**	**163**	P	**Pn**	**23 44 24.6**	**+2.7**
TRNA	**Turayna**	**8.29**	**160**	P	**Pn**	**23 44 25.8**	**+2.3**
	SNR=12						
TRNA				S	**Sn**	**23 45 56.5**	**-0.5**
SLWR	**Sila**	**9.06**	**159**	P	**Pn**	**23 44 36.3**	**+2.3**
SLWR				S	**Sn**	**23 46 14.9**	**-0.9**
RAYN	**Ar Rayn**	**9.35**	**195**	P	**Pn**	**23 44 38.6**	**+0.6**
RAYN				S	**Sn**	**23 46 22.1**	**-0.9**
SHME	**Shamm**	**9.56**	**131**	P	**Pn**	**23 44 40.8**	**0.0**
SHME				S	**Sn**	**23 46 24.7**	**-3.3**
GHWR	**Ruwais**	**9.57**	**153**	P	**Pn**	**23 44 42.4**	**+1.4**
GHWR				S	**Sn**	**23 46 26.9**	**-1.4**
UMQ	**Umm Al-Quwin**	**9.64**	**135**	P	**Pn**	**23 44 44.0**	**+2.0**
AJN	**Ajban**	**10.02**	**141**	P	**Pn**	**23 44 48.2**	**+1.0**
AJN				S	**Sn**	**23 46 35.9**	**-3.5**
NAZ	**Nazwa, Dubai**	**10.05**	**137**	P	**Pn**	**23 44 47.7**	**+0.1**
MASF	**Masafi**	**10.06**	**134**	P	**Pn**	**23 44 47.9**	**+0.2**
MASF				S	**Sn**	**23 46 37.0**	**-3.3**
ASUD	**Al Ashush, Dub**	**10.15**	**140**	P	**Pn**	**23 44 50.4**	**+1.4**
	SNR=15						
ASUD				S	**Sn**	**23 46 40.6**	**-1.9**
MZWR	**Madinat Zayed**	**10.16**	**149**	P	**Pn**	**23 44 50.3**	**+1.2**
MZWR				S	**Sn**	**23 46 41.1**	**-1.7**
MDH	**Madha**	**10.20**	**134**	P	**Pn**	**23 44 49.4**	**-0.2**
MDH				S	**Sn**	**23 46 40.7**	**-3.0**
FAQ	**Al Faqa, Dubai**	**10.20**	**138**	P	**Pn**	**23 44 50.7**	**+1.0**
FAQ				S	**Sn**	**23 46 42.0**	**-1.8**
UOSS	**Minazif**	**10.40**	**135**	P	**Pn**	**23 44 52.7**	**+0.3**
UOSS				S	**Sn**	**23 46 43.7**	**-5.1**
HATD	**Hatta, Dubai**	**10.45**	**136**	P	**Pn**	**23 44 53.5**	**+0.4**
HATD				S	**Sn**	**23 46 46.9**	**-3.1**
ASHO	**Ashiyiah**	**10.52**	**137**	P	**Pn**	**23 44 55.0**	**+1.0**
	SNR=10						
ASHO				S	**Sn**	**23 46 49.2**	**-2.4**
MZR	**Muzera**	**10.67**	**152**	P	**Pn**	**23 44 57.5**	**+1.4**
MZR				S	**Sn**	**23 46 52.2**	**-3.1**
ALNE	**Al Ain**	**10.84**	**140**	P	**Pn**	**23 44 59.6**	**+1.2**
	SNR=13						
ALNE				S	**Sn**	**23 46 56.7**	**-2.7**
SOHO	**SOHO**	**11.21**	**137**	P	**Pn**	**23 45 03.2**	**-0.3**
SOHO				S	**Sn**	**23 47 06.6**	**-2.0**
ARQ	**Araqi**	**11.83**	**139**	P	**Pn**	**23 45 12.6**	**+0.6**
	SNR=16						
ARQ				S	**Sn**	**23 47 20.5**	**-3.3**
HOQ	**Hoqain**	**12.09**	**136**	P	**Pn**	**23 45 15.8**	**+0.3**
HOQ				S	**Sn**	**23 47 24.2**	**-6.0**
BSY	**Bisya**	**12.68**	**139**	P	**Pn**	**23 45 23.3**	**-0.3**
BSY				S	**Sn**	**23 47 40.6**	**-4.0**
SMDO	**Samad**	**12.93**	**135**	P	**Pn**	**23 45 26.9**	**-0.1**
SMDO				S	**Sn**	**23 47 45.6**	**-5.1**
JMDO	**Jabal Madar**	**13.49**	**137**	P	**Pn**	**23 45 35.0**	**+0.3**
	SNR=7.1						
WBK	**Wadi Bani Khal**	**13.82**	**133**	P	**Pn**	**23 45 39.1**	**-0.1**
MHTO	**MHTO**	**14.51**	**140**	P	**Pn**	**23 45 47.7**	**-0.9**
DOK	**Doka**	**14.94**	**157**	P	**Pn**	**23 45 52.8**	**-1.7**
WHFO	**Wadi Hawf**	**15.48**	**160**	P	**Pn**	**23 45 60.0**	**-1.7**
ABTO	**Aybut**	**15.89**	**162**	P	**Pn**	**23 46 05.9**	**-1.1**
MKAR	**Makanchi Array**	**29.58**	**51**	P	**P**	**23 48 28.7**	**+0.6**
	comp=E,0.4nm,0.5s,baz=247,slow=9.1,SNR=6.6						
	comp=E,0.4nm,0.5s						
FINES	**FINESS Array B**	**32.20**	**340**	P	**P**	**23 48 50.7**	**-0.2**
	comp=E,0.8nm,0.4s,baz=139,slow=7.2,SNR=13						
	comp=E,0.8nm,0.4s						
HFS	**Hagfors**	**35.64**	**331**	P	**P**	**23 49 20.7**	**-0.1**
	comp=E,0.9nm,0.5s,baz=137,slow=8.1,SNR=12						
	comp=E,0.9nm,0.5s						
NOA	**NORSAR Array B**	**37.16**	**331**	P	**P**	**23 49 33.3**	**-0.6**
	comp=E,0.2nm,0.5s,baz=122,slow=8.6,SNR=1.8						
	comp=E,0.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**47.72**	**352**	P	**P**	**23 51 02.0**	**+2.6**
	comp=E,1.4nm,0.4s,baz=146,slow=9.1,SNR=7.2						
	comp=E,1.4nm,0.4s						
OPO	**Ambohidratompo**	**50.90**	**181**	LR	LR	00 13 28.8	
	comp=E,34nm,18.0s,baz=334,slow=38						

*IDC **15** 23:48:51.9±0.7, 8°.65S×115°.35E, h116km±6km, mb3.9/19, mbtmp4.3/20, MS3.7/3, Error ellipse: s-maj=14.3km s-min=9.8km az=78.0*
*DJA **15** 23:48:51.2±0.2, 9°.S±3°.×11°.5E±°., h109km±3km, M4.8/19, mB5.1/4, mb4.8/19, MLv4.9/18, Mw(mB)4.4/4*
*NEIC **15** 23:48:52.0±1.5, 9°.0S±0°.1×115°.48E±0°.04, h80km±12km, mb4.7/18, Error ellipse: s-maj=14.8km s-min=5.5km az=176.0*
ISC 15 23:48:50.7±0.4, 8°.86S±0°.05×115°.41E±0°.05, h98km, n114,
σ2º05/116, mb4.4/26, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.26**	**313**	P	**Pn**	**23 49 08.7**	**+3.8**
DNP				S	**Sn**	**23 49 21.2**	**+5.8**
SRBI	**Singaraja**	**0.79**	**346**	P	**Pn**	**23 49 11.5**	**+2.7**
JAGI	**Jajag, Banyuwa**	**1.30**	**287**	P	**Pn**	**23 49 16.3**	**+1.9**
JAGI	**Jajag, Banyuwa**	**1.30**	**287**	Pn	**Pn**	**23 49 16.4**	**+2.1**
JAGI				Sn	**Sn**	**23 49 34.1**	**+1.8**
JAGI	**Jajag, Banyuwa**	**1.30**	**287**	P	**Pn**	**23 49 16.5**	**+2.1**
JAGI				S	**Sn**	**23 49 33.9**	**+1.6**
TWSI	**Taliwang, Sumb**	**1.46**	**85**	P	**Pn**	**23 49 19.5**	**+3.1**
ABJI	**Asem Bagus**	**1.57**	**312**	P	**Pn**	**23 49 20.3**	**+2.6**
PLAI	**Plampang**	**2.34**	**89**	P	**Pn**	**23 49 31.3**	**+3.6**
PLAI	**Plampang**	**2.34**	**89**	P	**Pn**	**23 49 30.9**	**+3.2**
GRJI	**Gresik**	**3.48**	**303**	P	**Pn**	**23 49 45.4**	**+2.5**
PWJI	**Pagerwojo**	**3.66**	**283**	P	**Pn**	**23 49 46.0**	**+0.7**
UGM	**Wanagama**	**4.92**	**281**	P	**Pn**	**23 50 02.2**	**-0.2**
UGM	**Wanagama**	**4.92**	**281**	Pn	**Pn**	**23 50 04.0**	**+1.6**
UGM				Sn	**Sn**	**23 51 00.4**	**+2.2**
UGM	**Wanagama**	**4.92**	**281**	P	**Pn**	**23 50 03.6**	**+1.2**
YOGI	**Yogyakarta**	**5.16**	**281**	P	**Pn**	**23 50 06.8**	**+1.2**
	162nm,1.1s,0.9nm						
BASI	**Baing, Sumba**	**5.28**	**105**	P	**Pn**	**23 50 07.6**	**+0.4**
	222nm,0.9s,1.4nm						
KAPI	**Kappang**	**5.76**	**49**	P	**Pn**	**23 50 16.1**	**+2.4**
KAPI	**Kappang**	**5.76**	**49**	Pn	**Pn**	**23 50 16.1**	**+2.4**
KAPI	**Kappang**	**5.76**	**49**	P	**Pn**	**23 50 15.5**	**+1.8**
	77nm,0.5s,baz=214,slow=6.9,SNR=70						
KAPI				S	**Sn**	**23 51 19.1**	**+0.6**
	86nm,0.8s,baz=58,slow=22,SNR=9.8						
BKSI	**Bulukumba**	**5.85**	**53**	P	**Pn**	**23 50 17.3**	**+2.3**
	162nm,0.9s,2μm0.5nm						
EDFI	**Ende, Flores**	**6.21**	**89**	P	**Pn**	**23 50 19.7**	**-0.3**
	78nm,0.7s,2μm0.4nm						
MMRI	**Maumere**	**6.75**	**89**	Pn	**Pn**	**23 50 27.5**	**+0.2**
CMJI	**Cimerak**	**6.97**	**278**	P	**Pn**	**23 50 30.0**	**-0.2**
	73nm,0.7s,0.6nm						
BBJI	**Bungbulang**	**7.80**	**280**	P	**Pn**	**23 50 42.4**	**+0.8**
BBSI	**Bau Bau**	**7.86**	**65**	P	**Pn**	**23 50 43.9**	**+1.6**
	69nm,0.8s,0.2nm						
CNJI	**Cibinong**	**8.34**	**280**	P	**Pn**	**23 50 49.0**	**+0.2**
	45nm,1.4s						
SOEI	**Soe**	**8.79**	**97**	P	**Pn**	**23 50 56.9**	**+1.8**
SOEI	**Soe**	**8.79**	**97**	Pn	**Pn**	**23 50 54.0**	**-1.1**
SOEI	**Soe**	**8.79**	**97**	P	**Pn**	**23 50 54.0**	**-1.1**
	51nm,0.7s						
XMI	**Christmas Isla**	**9.71**	**260**	P	**Pn**	**23 51 07.3**	**-0.3**
XMIS	**Christmas Isla**	**9.75**	**260**	P	**Pn**	**23 51 07.8**	**-0.3**
TOLI2	**Tolitoli**	**11.26**	**29**	P	**Pn**	**23 51 31.9**	**+3.3**
TOLI2	**Tolitoli**	**11.26**	**29**	Pn	**Pn**	**23 51 33.4**	**+4.8**
MBWA	**Marble Bar**	**12.92**	**162**	P	**Pn**	**23 51 50.4**	**-0.3**
MBWA	**Marble Bar**	**12.92**	**162**	Pn	**Pn**	**23 51 48.8**	**-1.9**
MNAI	**Manna**	**13.15**	**289**	P	**Pn**	**23 51 53.5**	**-0.2**
MNAI	**Manna**	**13.15**	**289**	Pn	**Pn**	**23 51 54.9**	**+1.2**
MNAI	**Manna**	**13.15**	**289**	P	**Pn**	**23 51 52.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**13.54**	**134**	Pn	**Pn**	**23 51 57.9**	**-0.8**
GIRL	**Giralia**	**13.75**	**185**	P	**Pn**	**23 52 02.2**	**+0.7**
GIRL	**Giralia**	**13.75**	**185**	Pn	**Pn**	**23 52 01.2**	**-0.3**
MYLDM	**Lahad Datu**	**14.28**	**13**	P	**P**	**23 52 16.2**	**+3.5**
MTN	**Manton Dam**	**15.94**	**106**		**Pn**	**23 52 26.8**	**-2.6**
MTN				IAmb	IAmb	23 52 33.9	
	comp=Z,18nm,0.6s						
FAKI	**Fak Fak**	**17.75**	**72**	P	**P**	**23 52 49.2**	**-2.0**
	comp=Z,48nm,0.8s						
MEEK	**Meekatharra**	**17.94**	**171**	P	**Pn**	**23 52 54.0**	**+0.1**
MORW	**Morawa**	**20.11**	**178**	P	Pn	23 53 17.6	-1.9
MORW	**Morawa**	**20.11**	**178**		Pn	23 53 21.1	+1.6
MORW				IAmb	IAmb	23 53 22.1	
	comp=Z,24nm,0.9s						
WRKA	**Warakurna**	**20.24**	**144**	P	Pn	23 53 20.0	-1.1
WB0	**Warramunga Arr**	**21.33**	**123**	P	**P**	**23 53 30.4**	**+0.4**
WB0				IAmb	IAmb	23 53 33.1	
	comp=Z,21nm,0.6s						
WRA	**Warramunga Arr**	**21.37**	**123**	P	**P**	**23 53 30.5**	**+0.1**
WRA	**Warramunga Arr**	**21.37**	**123**	P	**P**	**23 53 30.8**	**+0.4**
	comp=Z,26nm,0.5s,baz=296,slow=12,SNR=127						
WRA				S	**S**	**23 57 17.3**	**-5.0**
	comp=Z,4.6nm,0.9s,baz=296,slow=20,SNR=5.0						
WRA				ScP	**ScP**	**00 00 54.8**	**-4.4**
	comp=Z,1.1nm,0.6s,baz=314,slow=2.0,SNR=5.4						
	comp=Z,26nm,0.5s						
WRAB	**Tennant Creek**	**21.37**	**123**	P	**P**	**23 53 30.9**	**+0.5**
WRAB				IAmb	IAmb	23 53 33.6	
	comp=Z,32nm,0.6s						
WB2	**Warramunga Arr**	**21.38**	**123**	P	**P**	**23 53 30.9**	**+0.4**
WR0	**Warramunga Arr**	**21.54**	**123**	P	**P**	**23 53 32.6**	**+0.4**
WR0				IAmb	IAmb	23 53 35.8	
	comp=Z,16nm,0.6s						
BLDU	**Balliduo**	**21.68**	**177**	P	**P**	**23 53 34.4**	**+0.8**
KLBR	**Kellerberrin**	**22.73**	**175**	P	**P**	**23 53 45.3**	**+0.8**
AS31	**Alice Springs**	**23.02**	**132**	P	**P**	**23 53 48.7**	**+1.1**
AS31				IAmb	IAmb	23 53 50.0	
	comp=Z,17nm,0.6s						
ASAR	**Alice Springs**	**23.02**	**132**	P	**P**	**23 53 48.5**	**+0.9**
ASAR	**Alice Springs**	**23.02**	**132**	P	**P**	**23 53 48.3**	**+0.7**
	comp=Z,43nm,0.7s,baz=305,slow=9.1,SNR=282						
ASAR				S	**S**	**23 57 50.0**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=314,slow=17,SNR=5.0						
ASAR				ScP	**ScP**	**00 01 00.1**	**-3.2**
	comp=Z,1.7nm,0.7s,baz=325,slow=2.4,SNR=6.8						
	comp=Z,43nm,0.7s						
AS01	**Alice Springs**	**23.06**	**132**	P	**P**	**23 53 49.0**	**+1.1**
KMBL	**Kambalda**	**23.20**	**166**	P	**P**	**23 53 49.8**	**+0.7**
NWAO	**Narrogin (SRO)**	**24.01**	**176**	P	**P**	**23 53 58.2**	**+1.8**
NWAO	**Narrogin (SRO)**	**24.01**	**176**	P	**P**	**23 53 58.3**	**+1.9**
NWAO				IAmb	IAmb	23 53 59.7	
	comp=Z,30nm,0.9s						
NWAO	**Narrogin (SRO)**	**24.01**	**176**	P	**P**	**23 53 58.6**	**+2.2**
	comp=Z,23nm,0.8s,baz=353,slow=8.6,SNR=7.1						
	comp=Z,23nm,0.8s						
FORT	**Forrest**	**24.80**	**153**	P	**P**	**23 54 05.0**	**+1.3**
FORT	**Forrest**	**24.80**	**153**	P	**P**	**23 54 05.0**	**+1.3**
QIS	**Mount Isa**	**26.09**	**119**	P	**P**	**23 54 16.8**	**+1.3**
OOD	**Onadatta**	**26.85**	**137**	P	**P**	**23 54 23.3**	**+1.1**
MULG	**Mulgathing**	**27.54**	**143**	P	**P**	**23 54 29.6**	**+1.3**
COEN	**Coen**	**27.67**	**103**	P	**P**	**23 54 30.4**	**+0.7**
LCRK	**Leigh Creek**	**30.25**	**138**	P	**P**	**23 54 53.6**	**+1.2**
BBOO	**Buckleboo**	**30.55**	**144**	P	**P**	**23 54 56.0**	**+1.0**
BBOO	**Buckleboo**	**30.55**	**144**	P	**P**	**23 54 56.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**31.63**	**329**	P	**P**	**23 55 03.6**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=169,slow=7.5,SNR=5.6						
CMAR				ScP	**ScP**	**00 01 25.8**	**-3.6**
	comp=Z,0.9nm,0.3s,baz=158,slow=2.6,SNR=4.0						
	comp=Z,0.7nm,0.3s						
CTA	**Charters Tower**	**31.82**	**114**	P	**P**	**23 55 07.4**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=282,slow=9.5,SNR=7.1						
	comp=Z,0.4nm,0.7s						
QLP	**Quilpie**	**32.50**	**127**	P	**P**	**23 55 14.5**	**+2.3**
HTT	**Hallett**	**32.68**	**142**	P	**P**	**23 55 15.7**	**+1.9**
STKA	**Stephens Creek**	**33.40**	**137**	P	**P**	**23 55 21.5**	**+1.5**
STKA	**Stephens Creek**	**33.40**	**137**	P	**P**	**23 55 21.3**	**+1.3**
STKA				IAmb	IAmb	23 55 22.1	
	comp=Z,4.3nm,0.6s						
STKA	**Stephens Creek**	**33.40**	**137**	P	**P**	**23 55 21.2**	**+1.3**
	comp=Z,17nm,0.6s,baz=315,slow=8.9,SNR=38						
	comp=Z,17nm,0.6s						
CMSA	**Cobar Meteorol**	**36.07**	**133**	P	**P**	**23 55 44.3**	**+1.3**
ARPS	**Mount Arapiles**	**36.70**	**143**	P	**P**	**23 55 50.0**	**+1.7**
PZH	**PanZhiHua**	**37.57**	**340**	P	P	23 56 02.1	+6.2
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,120nm,5.1s						
EIDS	**Eidsvold**	**37.68**	**120**	P	**P**	**23 55 59.0**	**+2.2**
TOO	**Toolangi**	**39.44**	**141**	P	**P**	**23 56 13.7**	**+2.3**
YNG	**Young**	**39.46**	**135**	P	**P**	**23 56 14.0**	**+2.4**
ARMA	**Armidale**	**40.03**	**127**	P	**P**	**23 56 19.8**	**+3.4**
ARMA				IAmb	IAmb	23 56 20.2	
	comp=Z,10nm,0.8s						
CAN	**Canberra**	**40.43**	**136**	P	**P**	**23 56 21.6**	**+2.1**
CAN				IAmb	IAmb	23 56 22.4	
	comp=Z,14nm,0.8s						
H08S2	**Diego Garcia H**	**42.47**	**268**	T	T	00 41 58.3	
	baz=95,slow=76,SNR=10						
H08S3	**Diego Garcia H**	**42.48**	**268**	T	T	00 42 01.0	
	baz=95,slow=76,SNR=22						
H08S1	**Diego Garcia H**	**42.49**	**268**	T	T	00 41 58.7	
	baz=95,slow=76,SNR=8.8						
KSRS	**Korea Array**	**47.54**	**14**	P	**P**	**23 57 14.3**	**-1.8**
	comp=Z,2.9nm,0.7s,baz=196,slow=7.5,SNR=12						
KSRS				pP	**pP**	**23 57 42.7**	**+3.1**
	comp=Z,0.8nm,0.5s,baz=190,slow=6.7,SNR=1.6						
KSRS				LR	LR	00 18 35.8	
	comp=Z,11nm,18.1s,baz=220,slow=38						
	comp=Z,2.9nm,0.7s						
MJAR	**Matsushiro Arr**	**49.99**	**24**	P	**P**	**23 57 32.0**	**-3.0**
	comp=Z,1.2nm,0.6s,baz=202,slow=8.9,SNR=4.4						
	comp=Z,1.2nm,0.6s						
USRK	**Ussuriysk Ar.**	**54.90**	**15**	P	**P**	**23 58 09.7**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=191,slow=6.3,SNR=5.3						
	comp=Z,1.1nm,0.5s						
SONM	**Songino Array**	**57.01**	**353**	P	**P**	**23 58 23.7**	**-2.6**
	comp=Z,2.7nm,0.6s,baz=173,slow=8.8,SNR=16						
SONM				pP	**pP**	**23 58 51.0**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=168,slow=7.6,SNR=3.0						
SONM				ScP	**ScP**	**00 03 06.5**	**-4.7**
	comp=Z,1.0nm,0.7s,baz=164,slow=4.7,SNR=7.6						
	comp=Z,2.7nm,0.6s						
MKAR	**Makanchi Array**	**62.77**	**335**	P	**P**	**23 59 02.9**	**-2.8**
	comp=Z,0.6nm,0.5s,baz=153,slow=7.1,SNR=9.6						
	comp=Z,0.6nm,0.5s						
H04N2	**CROZET ISLANDS**	**65.46**	**223**	T	T	01 11 03.8	
	baz=75,slow=75,SNR=14						
H04N1	**CROZET ISLANDS**	**65.48**	**223**	T	T	01 11 04.6	
	baz=75,slow=75,SNR=12						
H04N3	**CROZET ISLANDS**	**65.48**	**223**	T	T	01 10 57.3	
	baz=75,slow=75,SNR=11						
KURBB	**Kurchatov Arra**	**67.32**	**336**	P	**P**	**23 59 32.6**	**-2.3**
	comp=Z,0.7nm,0.2s,baz=145,slow=6.3,SNR=1.7						
	comp=Z,0.7nm,0.2s						
ZALV	**Zalesovo Beam**	**67.70**	**341**	P	**P**	**23 59 34.0**	**-3.3**
	comp=Z,0.8nm,0.5s,baz=141,slow=4.0,SNR=4.9						
	comp=Z,0.8nm,0.5s						
BVAR	**Borovoye Array**	**72.54**	**333**	P	**P**	**00 00 04.2**	**-2.7**
	comp=Z,0.5nm,0.6s,baz=128,slow=9.3,SNR=2.1						
	comp=Z,0.5nm,0.6s						
VNDA	**Vanda**	**72.70**	**170**	P	**P**	**00 00 07.4**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=308,slow=6.0,SNR=9.6						
	comp=Z,2.3nm,1.0s						
QSPA	**South Pole Qui**	**81.14**	**180**	P	**P**	**00 00 56.0**	**+0.8**
QSPA	**South Pole Qui**	**81.14**	**180**	P	**P**	**00 00 56.1**	**+0.8**
	comp=Z,3.6nm,1.1s,baz=272,slow=1.6,SNR=9.5						
	comp=Z,3.6nm,1.1s						
RAR	**Rarotonga**	**82.05**	**110**	LR	LR	00 38 27.1	
	comp=Z,289nm,18.9s,baz=208,slow=36						
BOSA

EBAD	**Badajoz**	**2.98**	**5**	P	**Pn**	**23 51 44.0**	**+1.1**
EBAD				S	**Sn**	**23 52 15.9**	**-1.7**
EBAD				*i* Vmb_Lg		23 52 19.2	
PESTR	**Estremoz**	**3.08**	**356**	*eP*	**Pn**	**23 51 45.1**	**+0.8**
PESTR				*eS*	**Sn**	**23 52 19.0**	**-1.3**
PESTR				A	A	23 52 22.3	
	comp=E,0.7nm,0.4s						
PESTR	**Estremoz**	**3.08**	**356**	P	**Pn**	**23 51 44.2**	**-0.2**
PESTR	**Estremoz**	**3.08**	**356**	S	**Sn**	**23 52 21.6**	**+1.3**
PACT	**Alcochete**	**3.21**	**339**	*eP*	**Pn**	**23 51 48.0**	**+2.0**
EADA	**Adamuz**	**3.25**	**42**	P	**Pn**	**23 51 47.7**	**+1.1**
EADA				S	**Sn**	**23 52 21.0**	**-3.4**
EADA				*i* Vmb_Lg		23 52 24.5	
PMTG	**Montargil**	**3.35**	**348**	*eP*	**Pn**	**23 51 49.1**	**+1.1**
PMTG				*eS*	**Sn**	**23 52 25.7**	**-1.2**
PMTG				A	A	23 52 27.8	
	comp=E,1.3nm,0.4s						
EQUE	**Quentar**	**3.45**	**65**	P	**Pn**	**23 51 51.0**	**+1.6**
EQUE				S	**Sn**	**23 52 30.3**	**+0.9**
EQUE				*i* Vmb_Lg		23 52 38.7	
PMAFR	**Mafra**	**3.52**	**335**	*eP*	**Pn**	**23 51 51.6**	**+1.3**
MD31	**MD31**	**3.61**	**143**	P	Pn	23 51 50.0	-1.6
MD31	**MD31**	**3.61**	**143**	S	**Sn**	**23 52 29.9**	**-3.5**
PMRV	**Marv??o**	**3.64**	**359**	*eP*	**Pn**	**23 51 52.8**	**+0.9**
PMRV				*eS*	**Sn**	**23 52 32.1**	**-1.9**
PMRV				A	A	23 52 34.5	
	comp=E,1.1nm,0.6s						
PSBE	**So Bento**	**3.90**	**343**	*eP*	**Pn**	**23 51 57.0**	**+1.5**
EPLA	**Plasencia**	**4.39**	**13**	P	**Pn**	**23 52 03.7**	**+1.5**
EPLA				S	**Sn**	**23 52 50.2**	**-2.2**
EPLA				*i* Vmb_Lg		23 52 52.8	
OUZM	**OUZ**	**4.89**	**174**	P	**Pn**	**23 52 09.4**	**+0.2**
OUZM	**OUZ**	**4.89**	**174**	S	**Sn**	**23 53 05.3**	**+0.3**

OMAN 16 00:02:56.7±0.8, 23°41'N×63°31'E, h10km, mb4.3/8, ml3.5/6, Error ellipse: s-maj=7.8km s-min=5.7km az=153.0, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**2.77**	**315**	P	Pn	00 03 39.8	-1.4
NGCH				S	Sn	00 04 14.1	-0.6
JLN	**Jalan Bani Buh**	**3.81**	**252**	P	Pn	00 03 55.6	+0.1
JLN				S	Sn	00 04 40.9	+0.5
WBK	**Wadi Bani Khal** SNR=79	**4.08**	**260**	P	Pn	00 03 59.0	-0.2
WBK				S	Sn	00 04 47.7	+0.7
BIDO	**Bidbid**	**4.76**	**272**	P	Pn	00 04 08.3	-0.2
BIDO				S	Sn	00 05 04.8	+0.9
SMDO	**Samad** SNR=9.1	**4.85**	**267**	P	Pn	00 04 10.0	+0.1
SMDO				S	Sn	00 05 06.4	+0.1
JMDO	**Jabal Madar** SNR=71	**4.91**	**259**	P	Pn	00 04 11.3	+0.6
JMDO				S	Sn	00 05 09.1	+1.5
MHTO	**MHTO**	**5.51**	**245**	P	Pn	00 04 19.1	+0.3
MHTO				S	Sn	00 05 23.3	+1.0
HOQ	**Hoqain**	**5.51**	**273**	P	Pn	00 04 18.9	0.0
JASK	**Jask - Hormozg**	**5.53**	**297**	P	Pn	00 04 18.9	-0.2
JASK				S	Sn	00 05 23.3	+0.7
BSY	**Bisya**	**5.67**	**264**	P	Pn	00 04 21.4	+0.4
BSY				S	Sn	00 05 28.0	+1.8
ARQ	**Araqi** SNR=37	**6.24**	**271**	P	Pn	00 04 28.8	-0.1
SOHO	**SOHO**	**6.25**	**278**	P	Pn	00 04 28.6	-0.4
SOHO				S	Sn	00 05 39.7	-0.8
MDH	**Madha**	**6.67**	**288**	P	Pn	00 04 33.3	-1.5
UOSS	**Minazif**	**6.67**	**285**	P	Pn	00 04 33.1	-1.7
HATD	**Hatta, Dubai**	**6.71**	**284**	P	Pn	00 04 36.3	+1.0
HATD				S	Sn	00 05 53.6	+1.7
ASHO	**Ashiyiah** SNR=6.6	**6.75**	**282**	P	Pn	00 04 36.9	+1.0
ASHO				S	Sn	00 05 55.9	+3.0
MASF	**Masafi**	**6.81**	**288**	P	Pn	00 04 38.1	+1.4
MASF				S	Sn	00 05 55.9	+1.6
SHME	**Shamm**	**7.03**	**293**	P	Pn	00 04 40.0	+0.3
SHME				S	Sn	00 05 58.1	-1.6
FAQ	**Al Faqa, Dubai**	**7.18**	**282**	S	Sn	00 06 04.9	+1.5
ASUD	**Al Ashush, Dub**	**7.40**	**281**	P	Pn	00 04 46.5	+1.7
ASUD				S	Sn	00 06 09.9	+1.1
MZR	**Muzera**	**9.05**	**269**	P	Pn	00 05 07.3	-0.2
MZR				S	Sn	00 06 49.6	0.0

*MOS **16** 00:15:46.0±0.9, 49°28'N×156°31'E, h52km, mb4.5/8, Error ellipse: s-maj=16.5km s-min=4.5km az=81.6*
*KRSC **16** 00:15:49.8±2.4, 49°54'N×157°23'E, h50km±25km, Ml4.5*
*IDC **16** 00:15:55.4±4.3, 49°63'N×156°35'E, h108km±39km, mb3.5/21, mbtmp3.8/24, MS2.9/3, Error ellipse: s-maj=17.3km s-min=15.1km az=131.0*

ISC 16 00:15:49.0±0.7, 49°44'N±0°08'×156°56'E±0°07, h57km, n94, σ1§44/96, mb3.9/31, 6C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.28**	**347**	*eP*	**Pn**	**00 16 12.1**	**+1.4**
SKR				*eS*	**Sn**	**00 16 28.3**	**+1.4**
SKR	**Severo-Kuril's**	**1.28**	**347**	*i* PN	**Pn**	**00 16 11.7**	**+1.0**
SKR				*i* S	**Sn**	**00 16 27.7**	**+0.9**
KDTR	**Khodutka, Kamc**	**2.56**	**22**	*eP*	**Pn**	**00 16 28.8**	**+0.7**
KDTR				*eS*	**Sn**	**00 16 57.6**	**-0.4**
KDTR	**Khodutka, Kamc**	**2.56**	**22**	PN	**Pn**	**00 16 28.8**	**+0.7**
KDTR				S	**Sn**	**00 16 57.6**	**-0.4**
ASAK	**Asacha**	**3.07**	**15**	*eP*	**Pn**	**00 16 36.6**	**+1.4**
ASAK	**Asacha**	**3.07**	**15**	PN	**Pn**	**00 16 36.5**	**+1.4**
MTVR	**Mutnovka**	**3.22**	**18**	*eP*	**Pn**	**00 16 38.5**	**+1.2**
MTVR				*eS*	**Sn**	**00 17 14.8**	**+0.4**
MTVR	**Mutnovka**	**3.22**	**18**	PN	**Pn**	**00 16 38.4**	**+1.2**
MTVR				S	**Sn**	**00 17 14.7**	**+0.4**
GRL	**Gorelyy**	**3.26**	**16**	*eP*	**Pn**	**00 16 39.6**	**+1.7**
GRL				*eS*	**Sn**	**00 17 16.5**	**+1.1**
GRL	**Gorelyy**	**3.26**	**16**	PN	**Pn**	**00 16 39.5**	**+1.7**
GRL				S	**Sn**	**00 17 16.5**	**+1.1**
APC	**Apacha**	**3.51**	**6**	*eP*	**Pn**	**00 16 43.6**	**+2.5**
APC	**Apacha**	**3.51**	**6**	PN	**Pn**	**00 16 43.5**	**+2.5**
KRMR	**Karymshinskiy**	**3.54**	**16**	*eP*	**Pn**	**00 16 43.4**	**+1.9**
KRMR				*eS*	**Sn**	**00 17 23.2**	**+1.3**
KRMR	**Karymshinskiy**	**3.54**	**16**	PN	**Pn**	**00 16 43.3**	**+1.9**
KRMR				S	**Sn**	**00 17 23.2**	**+1.3**
PET	**Petropavlovsk**	**3.83**	**19**	*eP*	**Pn**	**00 16 46.7**	**+1.4**
PET				*eS*	**Sn**	**00 17 29.2**	**+0.2**
PET	**Petropavlovsk**	**3.83**	**19**	*e*PN	**Pn**	**00 16 46.6**	**+1.3**
PET				pmax	pmax		
	comp=Z,107nm,0.4s						
DALK	**Dalny**	**3.85**	**20**	*eP*	**Pn**	**00 16 47.0**	**+1.2**
DALK				*eS*	**Sn**	**00 17 29.8**	**+0.1**
DALK	**Dalny**	**3.85**	**20**	PN	**Pn**	**00 16 46.9**	**+1.2**
INSR	**Institute**	**3.85**	**19**	*eP*	**Pn**	**00 16 47.4**	**+1.6**
INSR	**Institute**	**3.85**	**19**	PN	**Pn**	**00 16 47.3**	**+1.6**
UGLR	**Uglovaya**	**4.04**	**20**	*eP*	**Pn**	**00 16 50.2**	**+1.8**
UGLR	**Uglovaya**	**4.04**	**20**	PN	**Pn**	**00 16 50.1**	**+1.8**
AVH	**Avacha**	**4.07**	**19**	*eP*	**Pn**	**00 16 50.8**	**+2.0**
AVH	**Avacha**	**4.07**	**19**	PN	**Pn**	**00 16 50.7**	**+2.0**
KOK	**Koryaka**	**4.07**	**18**	*eP*	**Pn**	**00 16 51.5**	**+2.6**
KOK	**Koryaka**	**4.07**	**18**	PN	**Pn**	**00 16 51.4**	**+2.6**
SMAR	**Somma**	**4.08**	**19**	*eP*	**Pn**	**00 16 51.0**	**+1.9**
SMAR	**Somma**	**4.08**	**19**	PN	**Pn**	**00 16 51.0**	**+1.9**
KRER	**Koryakskii**	**4.11**	**19**	*eP*	**Pn**	**00 16 51.4**	**+2.0**
KRER	**Koryakskii**	**4.11**	**19**	PN	**Pn**	**00 16 51.5**	**+2.0**
NLC	**Nalytchevo**	**4.13**	**24**	*eP*	**Pn**	**00 16 49.3**	**-0.2**
NLC	**Nalytchevo**	**4.13**	**24**	PN	**Pn**	**00 16 49.3**	**-0.2**
KRX	**Arik**	**4.14**	**18**	*eP*	**Pn**	**00 16 52.1**	**+2.3**
KRX	**Arik**	**4.14**	**18**	PN	**Pn**	**00 16 52.1**	**+2.3**
SPN	**Mys Shipunski**	**4.26**	**29**	*eP*	**Pn**	**00 16 52.4**	**+1.1**
SPN				*eS*	**Sn**	**00 17 38.7**	**-1.0**
SPN	**Mys Shipunski**	**4.26**	**29**	PN	**Pn**	**00 16 52.4**	**+1.1**
GNL	**Ganaly**	**4.35**	**11**	*eP*	**Pn**	**00 16 55.0**	**+2.4**
GNL	**Ganaly**	**4.35**	**11**	PN	**Pn**	**00 16 55.0**	**+2.4**
TUMR	**Tumrok**	**6.25**	**19**	*eP*	**Pn**	**00 17 20.8**	**+2.1**
TUMR	**Tumrok**	**6.25**	**19**	PN	**Pn**	**00 17 20.8**	**+2.1**
KBTR	**Krutoberegovo**	**7.77**	**27**	*eP*	**Pn**	**00 17 40.2**	**+0.9**
KBTR	**Krutoberegovo**	**7.77**	**27**	PN	**Pn**	**00 17 40.2**	**+0.9**
BKI	**Bering**	**8.15**	**41**	*eS*	Sn	00 19 07.0	-8.2
YSS	**Yuzh-Sakhalins**	**9.55**	**260**	*ce*PN	Pn	00 18 08.7	+5.0
YSS				pmax	pmax		
	comp=Z,85nm,1.7s						
MA2	**Magadan**	**10.70**	**344**	LR	LR	00 22 35.0	
	comp=Z,48nm,18.8s,baz=105,slow=38						
ASAJ	**Asahikawa**	**10.95**	**246**	P	Pn	00 18 29.1	+6.2
	comp=Z,3.1nm,0.5s,baz=60,slow=14,SNR=1.8						

SHEM	**Shemya Is, Ala**	**11.51**	**67**	P	Pn	00 18 26.9	-3.5
	comp=Z,24nm,0.5s,baz=258,slow=18,SNR=11						
SHEM				S	Sn	00 20 28.5	-8.7
	comp=Z,7.9nm,0.4s,baz=274,slow=17,SNR=1.3						
KLR	**Kul'dur**	**16.16**	**279**	P	**P**	**00 19 34.7**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=70,slow=12,SNR=2.4						
KLR				LR	LR	00 25 36.4	
	comp=Z,34nm,19.8s,baz=120,slow=36						
USRK	**Ussuriysk Ar.**	**17.58**	**262**	P	**P**	**00 19 52.1**	**+1.9**
	comp=Z,1.7nm,0.6s,baz=64,slow=12,SNR=2.4						
BILL	**Bilibino**	**19.28**	**11**	*i* P	**P**	**00 20 07.5**	**-1.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
YAK	**Yakutsk**	**19.51**	**320**	*i* P	**Pn**	**00 20 12.2**	**-0.8**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s						
KSRS	**Korea Array**	**23.84**	**251**	P	**P**	**00 20 58.7**	**+2.0**
	comp=Z,1.6nm,0.6s,baz=46,slow=10,SNR=7.1						
	comp=Z,1.6nm,0.6s						
KSRS	**Korea Array**	**23.84**	**251**	*e*P	**P**	**00 20 59.6**	**+2.8**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TIXI	**Tiksi**	**25.63**	**340**	P	**P**	**00 21 11.1**	**-1.6**
	comp=Z,2.2nm,0.4s,baz=133,slow=5.1,SNR=3.0						
TIXI				LR	LR	00 32 06.7	
	comp=Z,29nm,18.2s,baz=186,slow=38						
	comp=Z,2.2nm,0.4s						
TIXI	**Tiksi**	**25.63**	**340**	*ce*P	**P**	**00 21 11.2**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**30.77**	**161**	T	T	00 55 01.6	
	baz=347,slow=77,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**30.79**	**161**	T	T	00 54 56.1	
	baz=347,slow=77,SNR=13						
H11N3	**WAKE ISLAND Hy**	**30.79**	**161**	T	T	00 55 03.4	
	baz=347,slow=77,SNR=11						
H11S1	**WAKE ISLAND Hy**	**31.92**	**162**	T	T	00 56 31.1	
	baz=347,slow=76						
H11S3	**WAKE ISLAND Hy**	**31.93**	**162**	T	T	00 56 31.8	
	baz=347,slow=76						
H11S2	**WAKE ISLAND Hy**	**31.94**	**162**	T	T	00 56 30.3	
	baz=347,slow=76						
SONM	**Songino Array**	**32.70**	**287**	P	**P**	**00 22 14.8**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=72,slow=4.7,SNR=1.9						
	comp=Z,0.3nm,0.4s						
ILAR	**Eielson Array**	**33.00**	**41**	P	**P**	**00 22 18.9**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=257,slow=7.3,SNR=2.4						
	comp=Z,0.1nm,0.5s						
ZALV	**Zalesovo Beam**	**42.95**	**305**	P	**P**	**00 23 41.1**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=59,slow=7.8,SNR=5.1						
	comp=Z,0.9nm,0.3s						
MKAR	**Makanchi Array**	**47.78**	**297**	P	**P**	**00 24 19.6**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=45,slow=5.1,SNR=6.1						
	comp=Z,1.2nm,0.9s						
KURK	**Kurchatov**	**47.82**	**303**	*ce*P	**P**	**00 24 19.6**	**-0.9**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KURBB	**Kurchatov Arra**	**47.92**	**303**	P	**P**	**00 24 20.4**	**-0.9**
	comp=Z,2.5nm,0.5s,baz=67,slow=8.2,SNR=16						
	comp=Z,2.5nm,0.5s						
SPITS	**Spitsbergen Ar**	**50.37**	**350**	P	**P**	**00 24 38.5**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=33,slow=5.5,SNR=4.2						
	comp=Z,0.6nm,0.4s						
BVAR	**Borovoye Array**	**50.95**	**309**	P	**P**	**00 24 43.6**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=56,slow=7.8,SNR=8.3						
	comp=Z,0.8nm,0.3s						
ARU	**Arti**	**54.59**	**318**	*ce*P	**P**	**00 25 09.7**	**-1.5**
ARU				pmax	pmax		
	comp=Z,6.0nm,2.5s						
PDAR	**Pinedale Array**	**61.31**	**57**	P	**P**	**00 26 00.0**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=298,slow=3.2,SNR=4.9						
	comp=Z,0.3nm,0.5s						
FINES	**FINESS Array B**	**62.57**	**336**	P	**P**	**00 26 04.7**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=46,slow=5.5,SNR=4.8						
	comp=Z,0.3nm,0.5s						
FINES	**FINESS Array B**	**62.57**	**336**	*e*P	**P**	**00 26 05.6**	**-0.9**
ULM	**Lac du Bonnet**	**62.98**	**43**	P	**P**	**00 26 09.9**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=270,slow=3.0,SNR=2.1						
	comp=Z,2.3nm,0.7s						
OBN	**Obninsk**	**64.37**	**327**	*e*P	**P**	**00 26 20.1**	**+1.6**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VSU	**Vasula**	**64.87**	**334**	*i* P	**P**	**00 26 20.1**	**-1.6**
VSU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NOA	**NORSAR Array B**	**66.40**	**342**	P	**P**	**00 26 30.9**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=21,slow=8.1,SNR=1.8						
	comp=Z,0.4nm,0.9s						
HFS	**Hagfors**	**66.71**	**341**	P	**P**	**00 26 32.7**	**-0.9**
	comp=Z,1.2nm,1.0s,baz=64,slow=3.7,SNR=2.4						
	comp=Z,1.2nm,1.0s						
KIV	**Kislovodsk**	**70.54**	**316**	*e*P	**P**	**00 26 57.6**	**-0.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**71.84**	**202**	P	**P**	**00 27 05.9**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=22,slow=6.8,SNR=7.6						
	comp=Z,1.6nm,0.8s						
GNI	**Garni**	**72.51**	**312**	*ce*P	**P**	**00 27 08.9**	**-0.9**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TXAR	**Lajitas Array**	**74.19**	**63**	P	**P**	**00 27 20.9**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=305,slow=4.3,SNR=14						
	comp=Z,1.1nm,0.7s						
EKA	**Eskdalemuir Ar**	**74.23**	**348**	P	**P**	**00 27 18.4**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=17,slow=6.0,SNR=1.4						
	comp=Z,0.6nm,0.6s						
ASAR	**Alice Springs**	**75.52**	**201**	P	**P**	**00 27 28.6**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=16,slow=5.7,SNR=11						
	comp=Z,0.8nm,0.6s						
GERES	**GERESS Array B**	**77.00**	**336**	P	**P**	**00 27 35.8**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=42,slow=8.0,SNR=3.0						
	comp=Z,0.3nm,0.4s						
CONA	**Conrad Observa**	**77.24**	**334**	*e*PcP	**P**	**00 27 37.7**	**+0.9**
	comp=Z,1.6nm,0.7s						
RONA	**Rosalia, Austr**	**77.32**	**334**	*e*P	**P**	**00 27 36.1**	**-1.2**
	comp=Z,1.5nm,0.8s						
BRTR	**Keskin Array B**	**77.96**	**319**	P	**P**	**00 27 40.9**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=39,slow=4.5,SNR=3.6						
	comp=Z,0.6nm,0.8s						
BRTR	**Keskin Array B**	**77.96**	**319**	*ce*P	**P**	**00 27 39.9**	**-1.2**
LESA	**Schwarzleotal**	**78.58**	**336**	*e*PcP	**P**	**00 27 44.9**	**+0.6**
	comp=Z,0.7nm,0.5s						
KBA	**Koelnbreinsper**	**78.72**	**335**	*e*PcP	**P**	**00 27 46.3**	**+1.1**
	comp=Z,2.0nm,0.6s						
OBKA	**Obir**	**78.90**	**334**	*e*PcP	**P**	**00 27 46.5**	**+0.4**
	comp=Z,0.5nm,0.5s						
MMAI	**Mount Meron Ar**	**82.70**	**314**	P	**P**	**00 28 07.5**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=45,slow=7.2,SNR=4.9						
	comp=Z,0.7nm,0.4s						
CPUP	**Villa Florida**	**145.13**	**61**	PKPbc	**PKPbc**	**00 35 18.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=339,slow=3.0,SNR=4.3						

*TIR **16** 00:23:54.2, 40°84'N×21°52'E, h7km±1km, Md2.6, Ml2.6*
*BEO **16** 00:23:54.8±0.9, 40°62'N×21°39'E, h0km, ML2.4/4*
*ATH **16** 00:23:56.6, 40°77'N×21°37'E, h7km±1km, ML2.7/3, Error ellipse: s-maj=5.0km s-min=1.1km az=319.0*
*SKO **16** 00:23:56.3, 40°78'N×21°41'E, h8km, ML2.5*
*THE **16** 00:23:56.7, 40°78'N×21°38'E, h5km, ML2.3/7, Error ellipse: s-maj=1.6km s-min=0.7km az=327.0*

ISC 16 00:23:56.5±0.8, 40°78'N±0°02'×21°40'E±0°02, h6km±3km, n51, σ0§85/83, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina** baz=243	**0.02**	**289**	P	**Pg**	**00 23 57.9**	**+0.1**
FNA				S	**Sg**	**00 23 58.7**	**+0.2**
	baz=243						
FNA				AMP			
	comp=N,59nm,0.1s,baz=243						
FNA	**Florina**	**0.02**	**289**	P	**Pg**	**00 23 57.9**	**+0.1**
FNA				S	**Sg**	**00 23 58.7**	**+0.2**
	comp=N,41μm,0.1s						
FNA	**Florina**	**0.02**	**289**	*e*Pg	**Pg**	**00 23 57.8**	**+0.1**
FNA				*e*Sg	**Sg**	**00 23 58.7**	**+0.2**
FNA	**Florina**	**0.02**	**289**	‖ *i*Pg	**Pg**	**00 23 57.9**	**+0.1**
FNA				*i* Sg	**Sg**	**00 23 58.8**	**+0.2**
FNA	**Florina**	**0.02**	**289**	P	**Pg**	**00 23 57.9**	**+0.1**
FNA				S	**Sg**	**00 23 58.7**	**+0.2**
FNA				AML	AML	00 23 59.0	
	comp=E,93604μm,0.2s						
FNA				AML	AML	00 23 59.0	
	comp=N,69481μm,0.2s						
NEST	**Nestorio**	**0.45**	**217**	P	**Pg**	**00 24 04.9**	**-0.4**
NEST				S	**Sg**	**00 24 11.6**	**+0.5**
	comp=N,1μm,0.3s						

NEST	**Nestorio**	**0.45**	**217**	P	**Pg**	**00 24 04.9**	**-0.4**
NEST				S	**Sg**	**00 24 10.5**	**-0.7**
NEST				AML	AML	00 24 12.7	
	comp=E,3284μm,0.2s						
NEST				AML	AML	00 24 13.8	
	comp=N,1859μm,0.3s						
KBN	**Korca** baz=250	**0.49**	**252**	P	**Pg**	**00 24 05.9**	**-0.1**
KBN				S	**Sg**	**00 24 12.8**	**+0.3**
	baz=250						
KBN				AMP			
	comp=N,1.8nm,0.4s,baz=250						
KBN	**Korca**	**0.49**	**252**	P	**Pg**	**00 24 05.7**	**-0.3**
KBN				S	**Sg**	**00 24 12.7**	**+0.3**
	comp=N,320nm,0.3s						
OHR	**Ohrid**	**0.56**	**306**	*i* Pg	**Pg**	**00 24 07.6**	**+0.2**
OHR				*i* Sg	**Sb**	**00 24 17.0**	**-0.3**
OHR				*e*Lg	Lg	00 24 17.6	
	comp=N,349nm,0.3s						
OHR				*e*Lg	Lg	00 24 17.7	
	comp=E,637nm,0.4s						
PENT	**Pentalofos**	**0.61**	**199**	P	**Pg**	**00 24 08.1**	**-0.3**
PENT				S	**Sb**	**00 24 18.1**	**-0.6**
PENT	**Pentalofos**	**0.61**	**199**	P	**Pg**	**00 24 08.3**	**-0.1**
KTI	**Kastanea**	**0.67**	**125**	P	**Pg**	**00 24 09.7**	**+0.3**
GRG	**Griva**	**0.78**	**76**	P	**Pg**	**00 24 11.5**	**0.0**
GRG	**Griva**	**0.78**	**76** ‖	*i* Pg	**Pg**	**00 24 11.5**	**0.0**
GRG	**Griva**	**0.78**	**76**	P	**Pg**	**00 24 11.5**	**0.0**
GRG				S	**Sb**	**00 24 22.7**	**-0.7**
GRG				AML	AML	00 24 29.8	
	comp=E,226μm,0.3s						
GRG				AML	AML	00 24 30.6	
	comp=N,541μm,0.9s						
KPRO	**Kipourio**	**0.82**	**182**	P	**Pg**	**00 24 11.5**	**-0.8**
KPRO				S	**Sb**	**00 24 24.3**	**-0.3**
	comp=N,250nm,0.4s						
KPRO	**Kipourio**	**0.82**	**182**	P	**Pg**	**00 24 11.6**	**-0.8**
LSK	**Leskovik** baz=226	**0.88**	**225**	P	**Pg**	**00 24 12.3**	**-1.1**
LSK				S	**Sb**	**00 24 25.7**	**-0.5**
	baz=226						
LSK				AMP			
	comp=E,0.8nm,0.4s,baz=226						
LSK	**Leskovik**	**0.88**	**225**	P	**Pg**	**00 24 12.2**	**-1.1**
LSK				S	**Sb**	**00 24 26.2**	**0.0**
	comp=E,242nm,0.5s						
VAY	**Valandovo**	**1.04**	**58**	*i* Pg	**Pg**	**00 24 16.2**	**-0.2**
VAY				*i* Sg	**Sb**	**00 24 30.7**	**-0.1**
VAY				*e*Lg	Lg	00 24 30.9	
	comp=N,27nm,0.4s						
VAY				*e*Lg	Lg	00 24 31.4	
	comp=E,17nm,0.4s						
LIT	**Litokhoron**	**1.07**	**129**	P	**Pg**	**00 24 16.7**	**-0.4**
LIT	**Litokhoron**	**1.07**	**129**	*i* Pg	**Pg**	**00 24 16.9**	**-0.1**
LIT				*i* Sg	**Sn**	**00 24 33.7**	**+0.3**
SKO	**Skopje**	**1.19**	**1**	*i* Pg	**Pg**	**00 24 18.7**	**-0.7**
SKO				*i* Sg	**Sb**	**00 24 35.3**	**0.0**
KNT	**Kendrikon**	**1.20**	**71**	*i* Pg	**Pg**	**00 24 19.2**	**-0.2**
KNT				*i* Sg	**Sg**	**00 24 35.1**	**+0.1**
THE	**Thessaloniki**	**1.20**	**96**	*i* Pg	**Pg**	**00 24 19.5**	**0.0**
THE				*i* Sg	**Sn**	**00 24 38.5**	**+2.1**
TYRN	**Tyrnavos**	**1.24**	**149**	P	Pn	**00 24 19.3**	**-1.1**
TIR	**Tirane** baz=293	**1.29**	**297**	P	**Pg**	**00 24 21.0**	**-0.3**
TIR				S	**Sn**	**00 24 40.4**	**+1.5**
	baz=293						
TIR				AMP			
	comp=E,0.1nm,0.5s,baz=293						
THL	**Klokotos Trika**	**1.30**	**159**	P	Pn	**00 24 20.2**	**-1.1**
THL				S	**Sn**	**00 24 39.7**	**+0.8**
	comp=E,100nm,0.6s						
THL	**Klokotos Trika**	**1.30**	**159**	P	Pn	**00 24 20.1**	**-1.1**
SRN	**Sarande** baz=232	**1.40**	**231**	P	**Pg**	**00 24 23.5**	**+0.2**
SRN				S	**Sg**	**00 24 44.7**	**+3.3**
	baz=232						
SRN				AMP			
	comp=E,0.3nm,0.5s,baz=232						
SOH	**Sokhos**	**1.48**	**88**	P	**Pb**	**00 24 24.3**	**-0.3**
SOH				S	**Sg**	**00 24 44.9**	**+0.7**
	comp=E,80nm,0.4s						
SOH	**Sokhos**	**1.48**	**88**	*i* Pn	Pb	**00 24 24.3**	**-0.3**
IGT	**Igoumenitsa** baz=216	**1.49**	**214**	P	**Pg**	**00 24 25.3**	**+0.2**
IGT				S	**Sg**	**00 24 48.4**	**+4.0**
	baz=216						
IGT				AMP			
	comp=E,0.2

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MLPR                          eSg     Sb    00 31 31.1 -0.6
MLPR                          IAML          00 32 05.4
     comp=N,34nm,3.5s
MLPR Magueyes Islan   0.68 139⇓ePg     Pb    00 31 21.8 -0.8
MLPR                          ⇑eSg    Sb    00 31 31.7 -0.1
MLPR                          IAML          00 32 05.4
     comp=N,34nm,3.5s
AOPR Arecibo Observ   0.73 101⇓eP      Pb    00 31 22.8 -0.7
AOPR Arecibo Observ   0.73 101 eS      Sb    00 31 33.1 -0.1
AOPR Arecibo Observ   0.73 101 ePg     Pb    00 31 22.9 -0.5
AOPR                          eSg     Sb    00 31 33.5 +0.3
AOPR                          IAML          00 32 14.0
     comp=N,28nm,1.8s
AOPR Arecibo Observ   0.73 101⇑ePg     Pb    00 31 23.0 -0.5
AOPR                          IAML          00 31 32.0
     comp=E,29nm,0.9s
AOPR                          ⇑eSg    Sb    00 31 32.4 -0.8
AOPR                          IAML          00 32 14.0
     comp=N,28nm,1.8s
UUPR Utuado, UPR, P   0.79 107⇓eP      Pb    00 31 24.0 -0.4
UUPR Utuado, UPR, P   0.79 107 eS      Sb    00 31 34.7  0.0
PCDR Punta Cana, DR   0.82 272 eS      Sb    00 31 36.6 +0.8
PCDR Punta Cana, DR   0.82 272⇓ePg     Pb    00 31 25.1  0.0
PCDR                          ⇑eSg    Sb    00 31 34.0 -1.7
PCDR                          IAML          00 31 38.4
     comp=N,147nm,1.6s
CELP Cerrillos        0.98 115⇓eP      Pn    00 31 27.4 +0.2
CELP Cerrillos        0.98 115 eS      Sn    00 31 40.8 +0.5
CELP Cerrillos        0.98 115⇑ePg     Pn    00 31 27.1 -0.2
CELP                          eSg     Sb    00 31 40.3 +0.1
CELP                          IAML          00 32 20.6
     comp=N,17nm,3.6s
CELP Cerrillos        0.98 115⇑ePg     Pn    00 31 27.3  0.0
CELP                          ⇑eSg    Sn    00 31 41.9 +1.6
CELP                          IAML          00 32 06.0
     comp=N,19nm,2.0s
HATOM Hato Mayor del  1.80 280 ePg     Pb    00 31 42.3 +0.7
HATOM                         ⇑eSg    Sb    00 32 02.7 -1.0
HATOM                         IAML          00 32 36.2
     comp=N,16nm,1.9s
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NEIC 16 00:44:19.6±1.1,31°.35N±0°.02×103°.48W±0°.01,h4km±3km, mb_Lg1.9/19,ML1.8/26,Error ellipse: s-maj=2.3km s-min=1.8km az=162.0,Western Texas

```
Code  Station Name    Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
PECS  Pecos           0.33 275  Pg    Pg        00 44 26.2 +0.1
PECS                            Sg    Sg        00 44 30.8 +0.3
PECS                            IAML            00 44 36.4
      138nm,0.7s
MNHN  Monahans        0.61  90  Pg    Pg        00 44 31.5  0.0
MNHN                            Sg    Sb        00 44 41.1 -0.9
ALPN  Alpine          0.98 188  Pg    Pg        00 44 38.6 +0.2
ALPN                            Sg    Sg        00 44 50.0 -1.1
ALPN                            IAML            00 45 05.2
      22nm,0.4s
ALPN                            IAML            00 45 05.9
      28nm,0.3s
ODSA  Odessa          1.11  45  Pg    Pg        00 44 40.2 -0.7
ODSA                            Sg    Sg        00 44 54.9 -0.4
HTMS  Hat Mesa        1.13 353  Pg    Pg        00 44 40.6 -0.8
GDL2  Guadalupe Moun  1.14 319  Pg    Pg        00 44 41.1 -0.3
VHRN  Van Horn        1.41 247        Pn        00 44 46.2  0.0
VHRN                            IAML            00 45 11.8
      12nm,0.8s
TX31  Lajitas Ar. Si  2.01 185        Pb        00 44 56.7 -0.1
TXAR  Lajitas Array   2.01 185        Pg        00 44 57.5 -0.6
OZNA  Ozona           2.06 101  Pn    Pb        00 44 56.9 -0.8
SGCY  Sterling City   2.08  74  IAmb_Lg         00 45 28.2
      comp=Z,6.7nm,0.8s
SN05  Snyder 5        2.68  55  IAmb_Lg         00 45 51.0
      comp=Z,3.8nm,0.8s
MSTX  Muleshoe        2.69  13  Pn    Pn        00 45 02.0 -1.8
DRIO  Del Rio         3.13 127  IAmb_Lg         00 46 06.3
      comp=Z,3.5nm,0.7s
DKNS  Dickens         3.17  42  IAmb_Lg         00 46 00.7
      comp=Z,4.5nm,0.8s
JCT   Junction City   3.27 104  IAmb_Lg         00 46 05.1
      comp=Z,3.1nm,0.8s
APMT  Aspermont       3.46  54  Pn    Pn        00 45 14.7 +0.4
BRDY  Brady           3.83  90  Pn    Pn        00 45 20.4 +1.0
ANMO  Albuquerque     4.38 326  IAmb_Lg         00 46 42.2
      comp=Z,2.5nm,1.2s
WMOK  Wichita Mounta  5.20  48  Pn    Pn        00 45 39.1 +0.9
```

MOS ***16*** *00:57:19.7±1.4,56°.00N×114°.10E,h12km,mb4.1/7,Error ellipse: s-maj=9.4km s-min=6.4km az=74.4*
IDC ***16*** *00:57:20.1±1.0,56°.00N×113°.97E,h0km,mb3.6/9, mbtmp3.6/13,ML3.6/4,MS3.0/10,Error ellipse: s-maj=22.0km s-min=16.5km az=143.0*
BYKL ***16*** *00:57:20.9±0.1,56°.08N×113°.91E,h6km±3km*
ISC 16 00:57:19.9±0.5,55°.95N±0°.02×113°.89E±0°.02,h10km,n90, σ3§10/132,mb3.8/15,MS3.0/9,5C-5D,East of Lake Baykal

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Code  Station Name    Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
SVKR  Severomuysk     0.25 313 ⇑iPg           Pg        00 57 25.0  0.0
SVKR                            Pmax            00 57 25.3
      3μm,0.2s
SVKR                            eSg             Sg        00 57 28.4 -0.1
SVKR                            Smax            00 57 29.2
      64μm,0.7s
SVKR  Severomuysk     0.25 313  ePG             Pg        00 57 25.0  0.0
SVKR                            pmax    pmax
      comp=Z,4μm,0.3s
UKT   Uakit           0.48 198 ⇑iPg           Pn        00 57 31.9 -1.0
UKT                             Pmax            00 57 32.1
      comp=Z,324nm,0.6s
UKT                             eSg             Sn        00 57 39.8 +4.1
UKT                             Smax            00 57 41.0
      comp=Z,3μm,0.9s
UKT   Uakit           0.48 198 ⇑iPG           Pn        00 57 31.8 -1.1
UKT                             e               00 57 40.2
UKT                             pmax    pmax
      comp=Z,89nm,0.1s
UKT                             smax    smax
      comp=E,3μm,0.9s
NLYR  Nelyaty         1.15  61 ⇓iPg             Pg        00 57 40.6 -1.3
NLYR                            ePb             Pn        00 57 42.4 +0.4
NLYR                            max             00 57 43.3
      comp=E,1μm,0.6s
NLYR                            eSg             Sg        00 57 55.0 -1.9
NLYR                            eSb             Sn        00 57 59.5 +1.7
NLYR                            max             00 58 07.9
      comp=E,2μm,1.1s
YOA   Uoyan           1.23 280  ePg             Pg        00 57 43.5  0.0
YOA                             Pmax            00 57 51.1
      comp=E,1μm,0.6s
YOA                             eSg             Sn        00 58 00.3 +0.5
YOA                             e               00 58 07.0
YOA                             max             00 58 08.2
      comp=E,14μm,0.6s
YOA   Uoyan           1.23 280  ePG             Pg        00 57 43.7 +0.2
YOA                             e               00 58 00.6
YOA                             pmax    pmax
      comp=Z,362nm,0.3s
YOA                             smax    smax
      comp=N,14μm,0.5s
KMO   Kumora          1.52 269 ⇓iPg             Pg        00 57 48.7 -0.2
KMO                             Pmax            00 57 51.3
      comp=N,900nm,0.5s
KMO                             eSg             Sg        00 58 09.3 +0.7
KMO                             Smax            00 58 13.2
      comp=N,6μm,1.0s
KMO   Kumora          1.52 269 ⇓iPN             Pg        00 57 48.7 -0.2
KMO                             e               00 58 09.3
KMO                             pmax    pmax
      comp=Z,424nm,0.4s
KMO                             smax    smax
      comp=N,6μm,1.0s
BOD   Bodaibo         1.88   2 ⇑iPg             Pb        00 57 52.3 -1.9
BOD                             Pmax            00 57 52.9
      comp=N,734nm,0.5s
BOD                             e               00 57 54.5
BOD                             eSg             Sn        00 58 14.6 -1.1
BOD                             Smax            00 58 17.4
      comp=N,3μm,0.6s
BOD   Bodaibo         1.88   2 ⇑iPN             Pb        00 57 52.3 -1.9
BOD                             e               00 58 14.9
BOD                             pmax    pmax
      comp=Z,733nm,0.4s
BOD                             smax    smax
      comp=E,3μm,0.8s
YLYR  Ulyunkhan       1.89 237  ePn             Pg        00 57 55.9 -0.2
YLYR                            ePg             Pb        00 57 56.1 +1.6
YLYR                            Pmax            00 57 56.9
      comp=E,373nm,1.0s
YLYR                            eSg             Sg        00 58 22.8 +2.2
YLYR                            Smax            00 58 27.1
      comp=E,1μm,0.8s
NIZB  Nizh Angarsk    2.46 268  ePn             Pb        00 58 02.5 -1.6
NIZB                            ePg             Pg        00 58 05.7 -1.2
NIZB                            Pmax            00 58 09.4
      comp=E,192nm,1.3s
NIZB                            e               00 58 34.1
NIZB                            eSg             Sg        00 58 38.4 -0.3
NIZB                            Smax            00 58 48.5
      comp=E,785nm,0.8s
CRS   Chara           2.61  67  ePN             Pb        00 58 03.5 -3.3
CRS                             e               00 58 07.7
CRS                             e               00 58 40.8
CRS                             pmax    pmax
      comp=Z,928nm,0.8s
CRS                             smax    smax
      comp=E,973nm,1.3s
SYVR  Suvo            3.21 226  ePn             Pb        00 58 13.9 -3.1
SYVR                            ePg             Pg        00 58 19.5 -1.9
SYVR                            Pmax            00 58 25.4
      comp=E,124nm,1.5s
SYVR                            eSn             Sn        00 58 51.2 +2.5
SYVR                            eSg             Sg        00 59 03.5 +0.5
SYVR                            eSgSg           SbSb      00 59 12.1 +11
SYVR                            max             00 59 15.6
      comp=E,914nm,1.4s
SYVR  Suvo            3.21 226  ePN             Pb        00 58 13.9 -3.1
SYVR                            e               00 58 19.4
SYVR                            e               00 59 03.8
SYVR                            pmax    pmax
      comp=Z,120nm,0.9s
SYVR                            smax    smax
      comp=N,933nm,1.4s
KHNR  Khani           3.52  71 ⇓iPn             Pn        00 58 16.4 +1.8
KHNR                            ePg             Pb        00 58 23.2 +1.0
KHNR                            eSn             Sn        00 58 56.1 -0.1
KHNR                            eSg             Sg        00 59 08.1 -4.7
VTMR  Vitim           3.58 349  ePn             Pn        00 58 15.4 +0.1
VTMR                            ePg             Pb        00 58 22.8 -0.3
VTMR                            e               00 58 48.4
VTMR                            eSn             Sn        00 58 55.8 -1.8
VTMR                            eSg             Sb        00 59 07.1 +0.6
TUP   Tupik           3.80 111 ⇓iPn             Pn        00 58 20.6 +2.2
TUP                             ePg             Pg        00 58 29.9 -2.6
TUP                             Pmax            00 58 31.3
      comp=N,116nm,0.5s
TUP                             eSn             Sn        00 59 04.5 +1.4
TUP                             eSg             Sg        00 59 19.1 -2.6
TUP                             eSgSg           SbSb      00 59 24.2 +6.2
TUP                             max             00 59 25.4
      comp=N,1μm,0.8s
TUP   Tupik           3.80 111  ePN             Pn        00 58 20.3 +1.9
TUP                             e               00 58 29.2
TUP                             eS              Sn        00 59 04.8 +1.7
TUP                             e               00 59 19.3
TUP                             pmax    pmax
      comp=Z,117nm,0.5s
TUP                             smax    smax
      comp=E,1μm,0.8s
CIT   Chita           3.94 183  ePn             Pn        00 58 24.4 +4.0
CIT                             ePg             Pg        00 58 34.5 -0.8
CIT                             Pmax            00 58 37.8
      comp=E,94nm,0.3s
CIT                             eSg             Sg        00 59 26.7 +0.4
CIT                             Smax            00 59 33.1
      comp=E,446nm,0.4s
CIT   Chita           3.94 183  ePN             Pn        00 58 21.8 +1.4
CIT                             e               00 58 32.1
CIT                             eS              Sn        00 59 08.7 +2.0
CIT                             e               00 59 25.9
CIT                             pmax    pmax
      comp=Z,96nm,0.2s
CIT                             smax    smax
      comp=E,509nm,1.6s
MXMB  Maximikha       4.02 230  ePn             Pn        00 58 24.1 +2.6
MXMB                            ePg             Pg        00 58 35.3 -1.6
MXMB                            e               00 59 08.6
MXMB                            eSg             Sg        00 59 29.1 +0.2
MXMB                            e               00 59 34.2
OGRR  Ongureny        4.31 240  ePn             Pn        00 58 29.1 +3.6
OGRR                            ePg             Pg        00 58 40.0 -2.4
OGRR                            Pmax            00 58 44.9
      comp=E,66nm,1.0s
OGRR                            eSn             Sn        00 59 17.3 +1.5
OGRR                            eSg             Sg        00 59 36.1 -2.1
OGRR                            Smax            00 59 44.1
      comp=E,226nm,1.3s
OGRR  Ongureny        4.31 240  ePN             Pn        00 58 28.6 +3.1
OGRR                            e               00 58 39.8
OGRR                            e               00 59 35.1
OGRR                            pmax    pmax
      comp=Z,72nm,1.5s
OGRR                            smax    smax
      comp=E,227nm,1.4s
YKLR  Yuktali         4.38  78  ePg             Pb        00 58 38.2 +1.4
YKLR                            eSg             Sg        00 59 35.4 -4.9
GORB  Goryachinsk     4.42 230  ePn             Pn        00 58 30.2 +3.3
GORB                            ePg             Pg        00 58 41.7 -2.7
GORB                            eSg             Sg        00 59 41.4 -0.1
UZR   Uzur            4.44 236  ePg             Pg        00 58 41.8 -3.0
UZR                             Pmax            00 58 45.1
      comp=E,63nm,1.0s
UZR                             e               00 58 46.8
UZR                             eSg             Sg        00 59 40.7 -1.5
UZR                             Smax            00 59 55.9
      comp=E,250nm,1.6s
KELR  Kotokel         4.66 229  e               Pg        00 58 52.9 +3.8
KELR                            eSg             Sg        00 59 48.0 -1.5
ZRHB  Zarechye        5.21 232  ePg             Pg        00 58 55.8 -3.8
ZRHB                            Pmax            00 59 12.9
      comp=E,118nm,1.1s
ZRHB                            eSg             Sg        01 00 05.6 -1.4
ZRHB                            Smax            01 00 45.9
      comp=E,885nm,1.2s
ZRHB                            e               01 00 51.4
TRG   Tyrgan          5.45 237  ePn             Pn        00 58 45.0 +4.0
TRG                             ePg             Pg        00 59 00.4 -3.7
TRG                             Pmax            00 59 06.9
      comp=E,42nm,1.7s
TRG                             eSn             Sn        00 59 46.6 +2.9
TRG                             eSg             Sg        01 00 11.8 -2.7
TRG                             Smax            01 00 36.6
      comp=E,128nm,1.4s
TRG   Tyrgan          5.45 237  ePN             Pn        00 58 44.3 +3.3
TRG                             e               00 59 00.8
TRG                             eS              Sn        00 59 47.2 +3.5
TRG                             e               01 00 12.6
TRG                             pmax    pmax
      comp=Z,34nm,1.3s
TRG                             smax    smax
      comp=N,129nm,1.0s
UUDB  Ulan-Yde        5.50 225  ePn             Pn        00 58 45.6 +3.8
UUDB                            ePg             Pg        00 59 02.6 -2.5
UUDB                            Pmax            00 59 06.1
      comp=N,34nm,0.9s
UUDB                            eSg             Sg        01 00 14.9 -1.4
UUDB                            Smax            01 00 20.5
      comp=N,284nm,1.6s
FFNB  Fofonovo        5.74 230  eSg             Sg        01 00 22.3 -1.6
HRMR  Khuramsha       5.97 226  ePn             Pn        00 58 51.1 +2.9
HRMR                            ePg             Pg        00 59 09.3 -4.7
HRMR                            Pmax            00 59 17.2
      comp=N,32nm,0.6s
HRMR                            e               01 00 01.9
HRMR                            eSg             Sg        01 00 29.3 -2.0
HRMR                            Smax            01 00 45.0
      comp=N,592nm,0.7s
CLNS  Chul'man        6.18  77  ePg             Pb        00 59 11.0 +3.6
CLNS                            eSg             Sg        01 00 30.9 -7.0
KPC   Khapcheranga    6.32 189  ePn             Pn        00 58 55.8 +2.7
KPC                             ePg             Pg        00 59 17.6 -3.2
KPC                             Pmax            00 59 35.4
      comp=N,14nm,1.8s
KPC                             eSn             Sn        01 00 07.4 +2.0
KPC                             eSg             Sg        01 00 40.5 -2.1
KPC                             Smax            01 00 51.6
      comp=N,243nm,1.9s
KPC   Khapcheranga    6.32 189  ePN             Pn        00 58 55.8 +2.7
KPC                             e               00 59 15.6
KPC                             eS              Sn        01 00 05.0 -0.4
KPC                             e               01 00 37.4
KPC                             pmax    pmax
      comp=Z,11nm,1.0s
KPC                             smax    smax
      comp=E,243nm,1.4s
BGT   Bolshoye Golou  6.35 236  ePg             Pg        00 59 16.1 -5.2
BGT                             Pmax            00 59 16.7
      comp=E,7.0nm,0.3s
BGT                             eSg             Sg        01 00 39.2 -4.2
BGT                             Smax            01 00 52.5
      comp=E,104nm,1.3s
LSTR  Listvyanka      6.73 236  ePg             Pg        00 59 23.1 -5.6
LSTR                            Pmax            00 59 25.4
      comp=E,10.0nm,1.3s
LSTR                            e               01 00 24.3
LSTR                            eSg             Sg        01 00 50.2 -5.6
LSTR                            Smax            01 00 59.8
      comp=E,147nm,1.5s
IRK   Irkutsk         6.76 241  ePG             Pg        00 59 24.6 -4.7
IRK                             e               01 00 51.0
IRK                             pmax    pmax
      comp=Z,145nm,0.2s
IRK                             smax    smax
      comp=N,353nm,0.5s
TLY   Talaya          7.42 239  e               Pb        00 59 30.6 +2.0
TLY                             max             00 59 47.8
      comp=N,14nm,1.2s
TLY                             eSg             Sg        01 01 11.0 -6.7
TLY                             e               01 01 20.0
TLY                             max             01 01 27.6
      comp=N,79nm,1.2s
HIA   Hailar          7.58 150  i PN            Pn        00 59 11.8 +1.5
HIA                             pmax    pmax
      comp=Z,3.0nm,0.2s
ARS   Arshan          7.88 244  ePn             Pn        00 59 17.9 +3.5
ARS                             ePg             Pg        00 59 44.1 -6.4
ARS                             Pmax            00 59 45.6
      comp=Z,19nm,0.6s
ARS                             eSn             Sn        01 00 44.4 +0.8
ARS                             eSg             Sg        01 01 25.4 -7.0
ARS                             Smax            01 01 35.2
      comp=Z,284nm,0.9s
ARS                             e               01 01 52.2
ZEA   Zeya            8.02 100  i PN            Pn        00 59 18.1 +1.7
ZAK   Zakamensk       8.46 233  eSg             Sg        01 01 47.0 -4.2
ZAK                             Smax            01 02 07.2
      comp=Z,109nm,1.2s
ZAK   Zakamensk       8.46 233  ePN             Pn        00 59 29.8 +7.3
ZAK                             e               00 59 55.7
ZAK                             e               01 01 52.2
ZAK                             pmax    pmax
      comp=Z,7.0nm,0.7s
ZAK                             smax    smax
      comp=N,109nm,1.2s
MOY   Mondy           8.75 246  ePn             Pn        00 59 29.8 +3.3
MOY                             e               00 59 37.0
MOY                             max             01 00 10.6
      comp=N,26nm,1.3s
MOY                             eSn             Sn        01 01 04.5 -0.6
MOY                             eSg             Sg        01 01 52.9 -7.5
MOY                             Smax            01 02 03.6
      comp=N,141nm,1.9s
MOY   Mondy           8.75 246  ePN             Pn        00 59 31.2 +4.7
MOY                             i               01 02 03.0
ORL   Orlik           8.92 253  ePn             Pn        00 59 32.0 +3.2
ORL                             ePg             Pg        01 00 02.6 -7.9
ORL                             Pmax            01 00 39.5
      comp=N,18nm,1.3s
ORL                             eSn             Sn        01 01 06.9 -2.4
ORL                             e               01 01 33.3
ORL                             eSg             Sg        01 01 58.0 -7.9
ORL                             Smax            01 02 05.1
      comp=N,83nm,1.3s
ORL   Orlik           8.92 253  eP              Pn        00 59 34.8 +6.0
ULN   Ulaanbaatar     9.13 210  i P             Pn        00 59 34.8 +3.1
SONM  Songino Array   9.35 213  Pn              Pn        00 59 38.0 +3.3
      comp=N,0.2nm,0.3s,baz=39,slow=16,SNR=1.6
SONM                            Lg              Lg        01 02 18.8
      comp=N,1.3nm,0.3s,baz=14,slow=25,SNR=16
      comp=N,0.2nm,0.3s
SONM  Songino Array   9.35 213  P               Pn        00 59 38.0 +3.3
YAK   Yakutsk        10.16  47  Sn              Sn        01 01 31.5 -7.8
      comp=N,2.5nm,0.3s,baz=345,slow=7.8,SNR=1.2
YAK                             Lg              Lg        01 02 29.3
      comp=N,0.6nm,0.3s,baz=136,slow=23,SNR=14
YAK                             LR              LR        01 03 10.9
      comp=N,50nm,19.1s,baz=230,slow=35
YAK   Yakutsk        10.16  47  i P             Pn        00 59 44.3 -1.2
YAK                             pmax    pmax
      comp=Z,7.0nm,0.4s
KLR   Kul'dur        12.75 114  Pn              Pn        01 00 22.6 +1.6
      comp=Z,0.4nm,0.3s,baz=311,slow=15,SNR=7.4
KLR                             Lg              Lg        01 04 00.7
      comp=Z,0.4nm,0.3s,baz=43,slow=10,SNR=9.2
      comp=Z,1.1nm,0.4s
KLR   Kul'dur        12.75 114  i P             Pn        01 00 20.9 -0.1
KLR                             pmax    pmax
      comp=Z,1.0nm,0.9s
USRK  Ussuriysk Ar.  16.47 128  Lg              Lg        01 05 60.0
      comp=Z,0.2nm,0.3s,baz=340,slow=27,SNR=6.7
ZALV  Zalesovo Beam  16.77 275  Pn              Pn        01 01 15.0 +0.5
      comp=Z,0.1nm,0.3s,baz=341,slow=20,SNR=2.4
ZALV                            Lg              Lg        01 06 04.2
      baz=78,slow=27
      comp=Z,0.4nm,0.4s
TIXI  Tiksi          17.00  16  Pn              Pn        01 01 10.7 -6.6
      comp=Z,0.7nm,0.3s,baz=226,slow=7.1,SNR=5.3
TIXI                            Sn              Sn        01 04 11.1 -15
      comp=Z,0.3nm,0.3s,baz=89,slow=13,SNR=3.8
TIXI                            Lg              Lg        01 06 10.6
      baz=345,slow=18
      comp=Z,2.7nm,0.6s
MA2   Magadan        19.83  64  LR              LR        01 09 43.5
      comp=Z,71nm,18.5s,baz=150,slow=38
SEY   Seymchan       20.51  54  P               Pn        01 01 57.8 -2.1
      comp=Z,2.0nm,0.9s,baz=181,slow=23,SNR=1.7
SEY                             Lg              Lg        01 07 58.5
      baz=24,slow=11,SNR=4.1
      comp=Z,2.0nm,0.9s
KSRS  Korea Array    20.78 147  LR              LR        01 09 58.0
      comp=Z,28nm,18.9s,baz=330,slow=36
KURK  Kurchatov      21.54 271  i P             P         01 02 11.9 +3.0
KURK                            pmax    pmax
      comp=Z,8.0nm,1.4s
MK31  Makanchi Array 21.58 258  i P             P         01 02 12.5 +3.1
MKAR  Makanchi Array 21.58 258  P               P         01 02 13.1 +3.6
      comp=Z,2.6nm,0.9s,baz=56,slow=10.0,SNR=12
MKAR                            LR              LR        01 10 52.8
      comp=Z,58nm,20.3s,baz=46,slow=38
      comp=Z,2.6nm,0.9s
MKAR  Makanchi Array 21.58 258  eP              P         01 02 14.9 +5.5
KURBB Kurchatov Arra 21.63 271  P               P         01 02 12.6 +2.7
      comp=Z,2.5nm,0.8s,baz=68,slow=12,SNR=13
      comp=Z,2.5nm,0.8s
BVAR  Borovoye Array 25.13 282  P               P         01 02 46.9 +2.3
      comp=Z,1.3nm,0.7s,baz=54,slow=11,SNR=6.6
      comp=Z,1.3nm,0.7s
MJAR  Matsushiro Arr 25.45 129  LR              LR        01 14 04.0
      comp=Z,16nm,19.0s,baz=168,slow=40
JNU   Nakatsue       25.70 146  LR              LR        01 13 38.5
      comp=Z,46nm,19.3s,baz=320,slow=38
BILL  Bilibino       26.46  42  i P             P         01 02 55.2 -1.4
BILL                            pmax    pmax
      comp=Z,2.0nm,0.9s
KSH   Kashi          29.86 253  P               P         01 03 37.6 +10
KSH                             pmax    pmax
      comp=Z,2.0nm,1.2s
ARU   Arti           30.09 294  LR              LR        01 17 42.7
      comp=Z,31nm,18.1s,baz=78,slow=41
ARU   Arti           30.09 294  i P             P         01 03 31.7 +2.6
ARU                             pmax    pmax
      comp=Z,1.0nm,0.9s
AKTO  Aktyubinsk     33.13 284  LR              LR        01 19 38.0
      comp=Z,16nm,19.1s,baz=214,slow=40
ARCES ARCESS Array B 38.78 326  LR              LR        01 24 01.2
      comp=Z,32nm,18.1s,baz=84,slow=41
OBN   Obninsk        41.61 302  eP              P         01 05 11.4 +3.8
OBN                             e               01 06 45.3
OBN                             pmax    pmax
      comp=Z,3.0nm,0.9s
FINES FINESS Array B 42.66 315  P               P         01 05 17.3 +1.3
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comp=Z,0.7nm,0.5s,baz=61,slow=9.0,SNR=6.9
comp=Z,0.7nm,0.5s
FINES FINESS Array B 42.66 315 *e*P **P 01 05 19.1 +3.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
VSU Vasula 44.11 311 *i* P **P 01 05 30.8 +3.0**
VSU pmax pmax
comp=Z,3.0nm,1.0s
ILAR Eielson Array 44.90 37 P **P 01 05 35.8 +1.7**
comp=Z,0.5nm,0.8s,baz=287,slow=5.2,SNR=5.7
comp=Z,0.5nm,0.8s
KBZ Khabaz 45.39 286 *i* P **P 01 05 37.4 -0.7**
KBZ pmax pmax
comp=Z,3.0nm,1.5s
HFS Hagfors 48.25 319 P **P 01 06 00.8 +0.5**
comp=Z,0.9nm,0.8s,baz=60,slow=8.8,SNR=4.0
comp=Z,0.9nm,0.8s
NOA NORSAR Array B 48.53 321 P **P 01 06 03.1 +0.5**
comp=Z,0.4nm,0.8s,baz=56,slow=8.1,SNR=1.7
NOA LR LR 01 28 06.3
comp=Z,12nm,19.5s,baz=50,slow=38
comp=Z,0.4nm,0.8s
KHC Kasperske Hory 56.13 309 *e*P P 01 07 04.0 +4.8
KHC Kasperske Hory 56.13 309 *e*P P 01 07 04.0 +4.8
ASF Jabal al Asfar 56.94 280 LR LR 01 33 36.4
comp=Z,395nm,21.9s,baz=339,slow=38
WRA Warramunga Arr 77.55 160 P **P 01 09 17.2 +1.6**
comp=Z,0.4nm,0.9s,baz=340,slow=6.0,SNR=2.0
comp=Z,0.4nm,0.9s

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*IDC **16** 01:00:07.6±1.9, 41°.46N×100°.30W, h0km, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=24.5km s-min=12.4km az=130.0*
*NEIC **16** 01:00:07.0±1.3, 41°.34N±0°.06×100°.11W±0°.02, h5km±2km, mb_Lg2.8/110, Error ellipse: s-maj=10.0km s-min=3.0km az=352.0*
ISC 16 01:00:05.3±1.0, 41°.42N±0°.07×100°.12W±0°.05, h10km, n85, σ1§38/65, Nebraska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K30B	**Basset**	**1.31**	**17**	Pg	**Pn**	**01 00 30.6**	**+0.9**
BGNE	**Belgrade**	**1.48**	**90**		**Pn**	**01 00 32.7**	**+0.6**
BGNE					**Sn**	**01 00 51.6**	**0.0**
OGNE	**Ogallala**	**1.52**	**252**		**Pn**	**01 00 33.1**	**+0.4**
OGNE					**Sn**	**01 00 52.3**	**-0.2**
CBKS	**Cedar Bluff**	**2.62**	**173**	Pn	**Pn**	**01 00 48.1**	**+0.3**
L34A	**Svendsen Farm,**	**2.86**	**78**	Pn	**Pn**	**01 00 52.5**	**+1.5**
KSCO	**Kaye Shedlock'**	**3.08**	**219**	Pn	**Pn**	**01 00 55.1**	**+0.9**
SUSD	**Miller**	**3.14**	**15**	Pn	**Pn**	**01 00 58.2**	**+3.4**
R32A	**Long Quarter,**	**3.19**	**160**	Pn	**Pn**	**01 00 56.9**	**+1.3**
R32A				IAmb_Lg		01 01 47.5	
	comp=Z,23nm,0.8s						
N35A	**Tabor**	**3.43**	**98**	Pn	**Pn**	**01 01 00.3**	**+1.5**
N35A				IAmb_Lg		01 01 55.2	
	comp=Z,27nm,0.7s						
ECSD	**EROS Data Cent**	**3.47**	**47**	Pn	**Pn**	**01 01 02.3**	**+2.9**
KSU1	**Kansas State U**	**3.55**	**130**	IAmb_Lg		01 02 04.4	
	comp=Z,24nm,0.7s						
RSSD	**Black Hills**	**3.95**	**314**	Pn	**Pn**	**01 01 09.1**	**+2.9**
RSSD				IAmb_Lg		01 02 13.0	
	comp=Z,20nm,0.8s						
PHWY	**Pilot Hill**	**4.02**	**270**	Pn	**Pn**	**01 01 08.3**	**+1.0**
PHWY				IAmb_Lg		01 02 15.8	
	comp=Z,23nm,0.8s						
N23A	**Red Feather La**	**4.43**	**265**	Pn	**Pn**	**01 01 14.4**	**+1.6**
KAN12	**Harper NE Stat**	**4.44**	**158**	Pn	**Pn**	**01 01 13.1**	**+0.4**
KAN12				IAmb_Lg		01 02 32.3	
	comp=Z,28nm,0.7s						
ISCO	**Idaho Springs**	**4.48**	**251**	Pn	**Pn**	**01 01 15.1**	**+1.5**
KAN08	**Anthony NE Sta**	**4.51**	**158**	Pn	**Pn**	**01 01 13.2**	**-0.5**
Q24A	**Divide**	**4.57**	**239**	Pn	**Pn**	**01 01 15.6**	**+0.8**
KAN01	**Argonia South**	**4.64**	**156**	Pn	**Pn**	**01 01 16.6**	**+1.1**
KAN09	**Caldwell North**	**4.70**	**155**	Pn	**Pn**	**01 01 16.8**	**+0.5**
KAN17	**Caldwell West**	**4.74**	**157**	Pn	**Pn**	**01 01 18.0**	**+1.1**
KAN14	**Manchester OK**	**4.76**	**159**	Pn	**Pn**	**01 01 18.7**	**+1.5**
KAN14				IAmb_Lg		01 02 41.0	
	comp=Z,22nm,1.0s						
OK032	**Salt Plains WL**	**4.85**	**162**	IAmb_Lg		01 02 50.6	
	comp=Z,16nm,0.8s						
NOKA	**Waynoka**	**4.87**	**169**	IAmb_Lg		01 02 39.6	
	comp=Z,19nm,0.7s						
K22A	**Casper**	**4.92**	**287**	Pn	**Pn**	**01 01 21.6**	**+2.1**
OK038	**West end E0370**	**5.05**	**167**	IAmb_Lg		01 02 56.6	
	comp=Z,24nm,0.7s						
U32A	**Winter Ranch,**	**5.11**	**170**	Pn	**Pn**	**01 01 22.7**	**+0.7**
E28A	**Huff**	**5.17**	**356**	Pn	**Pn**	**01 01 24.6**	**+1.9**
BLOK	**Blackwell**	**5.17**	**153**	Pn	**Pn**	**01 01 23.1**	**+0.3**
CROK	**Carrier**	**5.18**	**161**	Pn	**Pn**	**01 01 24.8**	**+1.8**
SCIA	**State Center**	**5.20**	**82**	IAmb_Lg		01 02 52.7	
	comp=Z,21nm,0.7s						
F33A	**5 Mile Ranch,**	**5.22**	**31**	Pn	**Pn**	**01 01 25.4**	**+2.1**
N38A	**Joes South For**	**5.24**	**95**	IAmb_Lg		01 03 01.8	
	comp=Z,15nm,0.7s						
T35A	**Sooner Cattle**	**5.30**	**147**	Pn	**Pn**	**01 01 25.1**	**+0.5**
RWWY	**Rawlins**	**5.33**	**275**	Pn	**Pn**	**01 01 26.0**	**+0.9**
RWWY				IAmb_Lg		01 02 56.4	
	comp=Z,14nm,0.9s						
P38A	**Dawn**	**5.33**	**108**	Pn	**Pn**	**01 01 26.2**	**+1.2**
T25A	**Trinidad**	**5.42**	**219**	Pn	**Pn**	**01 01 26.1**	**-0.3**
OK051	**E0350 and S346**	**5.54**	**151**	Pn	**Pn**	**01 01 28.6**	**+0.8**
SDCO	**Great Sand Dun**	**5.55**	**230**	Pn	**Pn**	**01 01 28.6**	**+0.4**
OK048	**Pawnee Station**	**5.58**	**153**	IAmb_Lg		01 03 16.0	
	comp=Z,12nm,0.9s						
SMCO	**Snowmass**	**5.70**	**249**	IAmb_Lg		01 03 09.6	
	comp=Z,21nm,1.1s						
SMWD	**Samnorwood**	**6.31**	**181**	Pn	**Pn**	**01 01 38.3**	**-0.2**
SMWD				IAmb_Lg		01 03 33.5	
	comp=Z,14nm,0.7s						
P40A	**Paris**	**6.44**	**104**	IAmb_Lg		01 03 35.3	
	comp=Z,12nm,0.9s						
S39A	**Bolivar**	**6.44**	**123**	Pn	**Pn**	**01 01 41.1**	**+0.9**
TUL3	**Leonard**	**6.46**	**147**	Pn	**Pn**	**01 01 40.9**	**+0.3**
TUL3				IAmb_Lg		01 03 34.9	
	comp=Z,16nm,0.8s						
SPMN	**Marine on St.**	**6.55**	**52**	IAmb_Lg		01 03 32.2	
	comp=Z,14nm,1.0s						
RLO	**Rose Lookout**	**6.59**	**141**	Pn	**Pn**	**01 01 43.0**	**+0.8**
RLO				IAmb_Lg		01 03 36.8	
	comp=Z,10nm,0.8s						
AMTX	**Amarillo**	**6.64**	**191**	Pn	**Pn**	**01 01 43.5**	**+0.4**
L40A	**Anamosa**	**6.69**	**82**	Pn	**Pn**	**01 01 44.9**	**+1.3**
L40A				IAmb_Lg		01 03 43.1	
	comp=Z,10nm,0.8s						
U38A	**Gravette**	**6.69**	**136**	Pn	**Pn**	**01 01 45.1**	**+1.4**
WMOK	**Wichita Mounta**	**6.76**	**171**	Pn	**Pn**	**01 01 43.8**	**-0.8**
WMOK				IAmb_Lg		01 03 51.5	
	comp=Z,9.8nm,0.8s						
W35A	**Tecumseh**	**6.76**	**157**	Pn	**Pn**	**01 01 44.3**	**-0.3**
W35A				IAmb_Lg		01 03 41.2	
	comp=Z,11nm,0.7s						
R40A	**Maddies Statio**	**6.80**	**115**	Pn	**Pn**	**01 01 45.7**	**+0.5**
R40A				IAmb_Lg		01 03 44.5	
	comp=Z,9.8nm,0.8s						
LAO	**LASA Array**	**6.86**	**322**	IAmb_Lg		01 04 04.1	
	comp=Z,9.5nm,0.8s						
N41A	**Harden Midland**	**7.04**	**93**	Pn	**Pn**	**01 01 48.2**	**-0.2**
N41A				IAmb_Lg		01 04 03.3	
	comp=Z,11nm,0.9s						
HHAR	**Hobbs**	**7.04**	**135**	Pn	**Pn**	**01 01 48.0**	**-0.4**
HHAR				IAmb_Lg		01 03 59.3	
	comp=Z,12nm,1.1s						
PD31	**Pinedale Array**	**7.15**	**284**	Pn	**Pn**	**01 01 51.0**	**+0.9**
PDAR	**Pinedale Array**	**7.15**	**284**	Pn	**Pn**	**01 01 53.0**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=106,slow=14,SNR=6.6						
PDAR				Lg	Lg	01 03 46.1	
	comp=Z,0.6nm,0.3s,baz=104,slow=40,SNR=3.2						
	comp=Z,0.4nm,0.5s						
RDMU	**Red Mountain**	**7.20**	**266**	Pn	**Pn**	**01 01 51.5**	**+0.7**
RDMU				IAmb_Lg		01 03 59.0	
	comp=Z,9.8nm,1.0s						
MGMO	**Mountain Grove**	**7.43**	**122**	IAmb_Lg		01 04 07.1	
	comp=Z,12nm,1.2s						
JFWS	**Jewell Farm**	**7.48**	**75**	IAmb_Lg		01 04 21.4	
	comp=Z,13nm,0.8s						
AGMN	**Agassiz Nation**	**7.51**	**22**	Pn	**Pn**	**01 01 56.3**	**+1.5**
DGMT	**Dagmar**	**7.62**	**339**	Pn	**Pn**	**01 01 58.0**	**+1.6**
DGMT				IAmb_Lg		01 04 13.5	
	comp=Z,14nm,0.9s						
CCM	**Cathedral Cave**	**7.62**	**113**	Pn	**Pn**	**01 01 56.5**	**+0.1**
MSTX	**Muleshoe**	**7.73**	**197**	IAmb_Lg		01 04 27.3	
	comp=Z,11nm,0.9s						
MVCO	**Mesa Verde**	**7.74**	**240**	IAmb_Lg		01 04 18.5	
	comp=Z,7.6nm,1.3s						
DKNS	**Dickens**	**7.77**	**185**	IAmb_Lg		01 04 24.9	
	comp=Z,9.7nm,0.8s						
X37A	**Clayton**	**7.78**	**150**	Pn	**Pn**	**01 01 59.2**	**+0.5**
APMT	**Aspermont**	**8.08**	**180**	IAmb_Lg		01 04 38.1	
	comp=Z,10.0nm,1.1s						
BSUT	**Blindstream Ca**	**8.10**	**267**	Pn	**Pn**	**01 02 05.2**	**+1.9**
ANMO	**Albuquerque**	**8.16**	**220**	Pg	Pg	01 02 36.1	-5.5
	comp=Z,0.1nm,0.3s,baz=202,slow=8.7,SNR=2.7						
ANMO				Lg	Lg	01 04 17.9	
	comp=Z,0.1nm,0.3s,baz=9.0,slow=18,SNR=2.2						
T42A	**Van Buren**	**8.26**	**119**	Pn	**Pn**	**01 02 05.8**	**+0.6**
SN07	**Snyder 07**	**8.34**	**184**	IAmb_Lg		01 04 38.1	
	comp=Z,9.7nm,0.8s						
FCAR	**Ozark Folk Cen**	**8.34**	**129**	Pn	**Pn**	**01 02 06.5**	**+0.2**
FCAR				IAmb_Lg		01 04 28.5	
	comp=Z,7.6nm,0.8s						
MIAR	**Mount Ida**	**8.59**	**141**	IAmb_Lg		01 04 45.8	
	comp=Z,9.8nm,1.1s						
WHAR	**Wooly Hollow**	**8.68**	**132**	Pn	**Pn**	**01 02 10.2**	**-0.6**
WHAR				IAmb_Lg		01 04 44.6	
	comp=Z,6.4nm,0.8s						
ABTX	**Abilene, Hawle**	**8.79**	**177**	IAmb_Lg		01 05 01.2	
	comp=Z,6.5nm,0.8s						
PBMO	**Poplar Bluff**	**8.84**	**118**	IAmb_Lg		01 04 56.4	
	comp=Z,8.6nm,0.8s						
Q44A	**Meyer Farm, Va**	**8.87**	**103**	Pn	**Pn**	**01 02 14.0**	**+0.5**
EYMN	**Ely**	**8.96**	**40**	Pn	**Pn**	**01 02 13.8**	**-0.9**
EYMN				IAmb_Lg		01 04 48.1	
	comp=Z,9.7nm,1.0s						
X40A	**Basin Creek Fa**	**9.00**	**138**	Pn	**Pn**	**01 02 14.7**	**-0.7**
X40A				IAmb_Lg		01 05 01.6	
	comp=Z,8.7nm,1.1s						
CGM3	**Cape Girardeau**	**9.09**	**114**	Pn	**Pn**	**01 02 16.1**	**-0.5**
ULM	**Lac du Bonnet**	**9.31**	**17**	Pn	**Pn**	**01 02 19.7**	**+0.2**
ULM	**Lac du Bonnet**	**9.31**	**17**	Pn	**Pn**	**01 02 20.4**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=204,slow=12,SNR=5.2						
ULM				Sn	**Sn**	**01 03 59.5**	**-4.7**
	comp=Z,0.4nm,0.3s,baz=241,slow=5.4,SNR=2.7						
ULM				Lg	Lg	01 04 53.5	
	comp=Z,0.3nm,0.3s,baz=290,slow=21,SNR=2.0						
	comp=Z,3.9nm,0.8s						
TXAR	**Lajitas Array**	**12.40**	**195**	Pg	Pn	01 03 52.3	+50
	comp=Z,0.1nm,0.3s,baz=9.9,slow=11,SNR=7.1						
TXAR				Lg	Lg	01 06 31.2	
	comp=Z,0.1nm,0.3s,baz=16,slow=27,SNR=3.3						

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*IDC **16** 01:05:13.1±2.1, 33°.83N×136°.95E, h345km±38km, mb3.1/2, mbtmp3.7/4, Error ellipse: s-maj=117.1km s-min=19.3km az=78.0*
*JMA **16** 01:05:13.9±0.2, 33°.9N±0°.9×137°.7E±°, h349km±1km, MV2.6/30, SE OFF KII PENINSULA*
ISC 16 01:05:13.5±1.1, 33°.9N±0°.1×137°.1E±0°.1, h352km±7km, n16, σ0§64/22, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.18**	**191**	*e*P	**Pn**	**01 05 58.0**	**+0.8**
TTO1	**TONANKAI O.B.S**	**0.37**	**219**	*e*P	**Pn**	**01 05 58.1**	**+0.7**
JIE	**Ise**	**0.56**	**328**	*e*P	**Pn**	**01 05 58.6**	**+0.6**
JIE				*e*S	**S**	**01 06 33.6**	**-0.2**
JKN2	**Miekihoku**	**0.74**	**296**	P	**Pn**	**01 05 58.8**	**+0.3**
JKN2				*e*S	**S**	**01 06 33.9**	**-0.7**
JMMH	**Miemihama**	**0.87**	**264**	*e*P	**Pn**	**01 05 59.1**	**+0.2**
JMMH				*e*S	**S**	**01 06 34.8**	**-0.6**
JTNC	**Tanabenakahech**	**1.22**	**266**	*e*P	**Pn**	**01 06 00.9**	**+0.5**
JWY	**Kouya**	**1.26**	**284**	*e*P	**Pn**	**01 06 01.2**	**+0.5**
JHE	**Heguri**	**1.36**	**303**	*e*P	**Pn**	**01 06 01.6**	**+0.5**
JHE				*e*S	**S**	**01 06 38.5**	**-0.7**
JWM	**Minabe**	**1.43**	**268**	P	**Pn**	**01 06 01.5**	**+0.1**
JWT	**Wachi**	**1.94**	**315**	*e*P	**Pn**	**01 06 05.0**	**+0.5**
JWT				*e*S	**S**	**01 06 44.4**	**-1.0**
JAI	**Aioi**	**2.18**	**268**	P	**Pn**	**01 06 06.8**	**+0.5**
JMN	**Monobe**	**2.66**	**267**	P	**Pn**	**01 06 10.9**	**+0.8**
MJAR	**Matsushiro Arr**	**2.78**	**19**	P	**Pn**	**01 06 10.5**	**-0.5**
	11nm,0.6s,baz=198,slow=9.9,SNR=28						
MJAR				S	**S**	**01 06 58.2**	**+0.9**
	1.0nm,0.6s,baz=162,slow=20,SNR=0.9						
USRK	**Ussuriysk Ar.**	**11.00**	**341**	P	**P**	**01 07 44.0**	**+0.2**
	1.6nm,0.5s,baz=144,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**53.62**	**183**	P	**P**	**01 13 59.3**	**-0.5**
	0.5nm,0.3s,baz=0.2,slow=7.6,SNR=27						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**69.89**	**331**	P	**P**	**01 15 46.9**	**+0.2**
	0.3nm,0.4s,baz=57,slow=5.8,SNR=11						
	0.3nm,0.4s						

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*RSNC **16** 01:24:11.5±0.0, 4°N±1°×7°7W±°, h105km±3km, M3.5, mb4.1, mB4.8, ML3.1, Mw(mB)4.0*
*IDC **16** 01:24:14.3±6.1, 3°.92N×76°.50W, h165km±63km, mbtmp3.8/2, Error ellipse: s-maj=160.9km s-min=42.5km az=127.0*
ISC 16 01:24:10.0±1.2, 3°.65N±0°.03×76°.91W±0°.03, h98km±9km, n45, σ1§40/74, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMC	**Jamundi, Valle**	**0.49**	**152**	P	**Pn**	**01 24 25.9**	**+0.1**
JAMC				S	**Sn**	**01 24 39.1**	**+1.5**
MALC	**Bahia Malaga**	**0.56**	**310**	P	Pn	01 24 27.8	+1.7
MALC				S	Sn	01 24 42.4	+4.3
YOTC	**Yotoco, Valle**	**0.65**	**59**	P	**Pn**	**01 24 26.5**	**-0.5**
YOTC				S	**Sn**	**01 24 40.5**	**+0.8**
POPC	**Popayan, Colom**	**1.12**	**168**	P	**Pn**	**01 24 31.9**	**-0.1**
POPC				S	**Sn**	**01 24 48.8**	**+0.3**
PIZC	**Pizarro, Choco**	**1.39**	**341**	P	**Pn**	**01 24 35.6**	**+0.8**
PIZC				S	**Sn**	**01 24 55.4**	**+1.9**
PLMC	**San Jos del P**	**1.40**	**26**	P	**Pn**	**01 24 33.9**	**-1.1**
PLMC				S	**Sn**	**01 24 52.3**	**-1.6**
GR1C	**Gorgona, Isla**	**1.41**	**243**	P	**Pn**	**01 24 34.5**	**-0.6**
GR1C				S	**Sn**	**01 24 52.9**	**-1.2**
BBAC	**Balboa, Cauca**	**1.65**	**192**	P	**Pn**	**01 24 38.6**	**+0.3**
BBAC				S	**Sn**	**01 25 01.4**	**+1.7**
ORTC	**Ortega, Tolima**	**1.68**	**81**	P	**Pn**	**01 24 38.4**	**0.0**
ORTC				S	**Sn**	**01 24 59.9**	**-0.2**
ANIL	**Santa Ana**	**1.72**	**61**	P	**Pn**	**01 24 38.5**	**-0.7**
ANIL				S	**Sn**	**01 25 01.3**	**-0.1**
BETC	**Betania**	**1.75**	**123**	P	**Pn**	**01 24 39.7**	**+0.3**
BETC				S	**Sn**	**01 25 02.3**	**+0.6**
PRAC	**Prado**	**2.02**	**88**	P	**Pn**	**01 24 42.7**	**-0.1**
PRAC				S	**Sn**	**01 25 07.8**	**0.0**
GARC	**Garzon, Huila**	**2.02**	**136**	P	**Pn**	**01 24 42.9**	**-0.2**
GARC				S	**Sn**	**01 25 07.6**	**-0.7**
RECRC	**Villamaria, Ca**	**2.03**	**50**	P	**Pn**	**01 24 43.2**	**-0.2**
RECRC				S	**Sn**	**01 25 08.5**	**-0.3**
CRUC	**La Cruz**	**2.07**	**181**	P	**Pn**	**01 24 44.0**	**+0.2**
CRUC				S	**Sn**	**01 25 09.3**	**-0.1**
GUY2C	**Guyana, Caldas**	**2.19**	**44**	P	**Pn**	**01 24 45.2**	**-0.3**
GUY2C				S	**Sn**	**01 25 12.1**	**-0.5**
GCUF	**Volcan Galeras**	**2.44**	**190**	P	**Pn**	**01 24 49.7**	**+0.9**
GCUF				S	**Sn**	**01 25 17.8**	**-0.7**
TUMC	**Tumaco**	**2.57**	**225**	P	**Pn**	**01 24 48.3**	**-1.7**
TUMC				S	**Sn**	**01 25 21.5**	**+0.9**
SOLC	**Bahia Solano**	**2.61**	**349**	P	**Pn**	**01 24 51.0**	**+0.4**
SOLC				S	**Sn**	**01 25 20.9**	**-0.8**
NORC	**Norcasia**	**2.78**	**47**	P	**Pn**	**01 24 52.7**	**-0.2**
ROSC	**El Rosal**	**2.84**	**65**	P	**Pn**	**01 24 55.4**	**+1.4**
	122nm,0.3s,baz=210,slow=8.1,SNR=49						
ROSC				S	**Sn**	**01 25 26.3**	**-1.4**
	77nm,0.5s,baz=75,slow=17,SNR=5.4						
ROSC	**El Rosal**	**2.84**	**65**	P	**Pn**	**01 24 55.2**	**+1.3**
ROSC				S	**Sn**	**01 25 29.9**	**+2.2**
CVER	**Cruz Verde, Cu**	**2.96**	**73**	P	**Pn**	**01 24 56.4**	**+0.8**
CVER				S	**Sn**	**01 25 31.1**	**+0.5**
TULM	**Tulcn-Chalpat**	**3.04**	**197**	P	**Pn**	**01 24 57.5**	**+0.7**
TULM				S	**Sn**	**01 25 33.0**	**+0.3**
VILC	**Villavicencio,**	**3.24**	**82**	P	**Pn**	**01 25 00.3**	**+1.2**
VILC				S	**Sn**	**01 25 38.0**	**+1.1**
CHIC	**Chingaza**	**3.31**	**73**	P	**Pn**	**01 25 00.8**	**+0.5**
CHIC				S	**Sn**	**01 25 38.9**	**-0.2**
DBBC	**Dabeiba**	**3.42**	**12**	P	**Pn**	**01 25 01.8**	**+0.3**
SPBC	**San Pablo de B**	**3.46**	**55**	P	**Pn**	**01 25 02.8**	**+0.9**
SPBC				S	**Sn**	**01 25 42.0**	**-0.1**
PTAC	**Punta Ardita,**	**3.59**	**346**	P	**Pn**	**01 25 03.4**	**-0.3**
CUSE	**Cuicocha Este**	**3.64**	**204**	P	**Pn**	**01 25 05.1**	**+0.4**
CUSE				S	**Sn**	**01 25 45.7**	**-1.3**
PTBC	**PUERTO BERRIO,**	**3.77**	**40**	P	**Pn**	**01 25 05.6**	**-0.5**
PTBC				S	**Sn**	**01 25 46.4**	**-3.1**
PAC1	**Pacto, Paraso**	**3.85**	**209**	P	**Pn**	**01 25 04.7**	**-2.6**
PAC1				S	**Sn**	**01 25 47.4**	**-4.3**
PTLC	**Puerto Leguiza**	**4.05**	**149**	P	**Pn**	**01 25 13.3**	**+3.5**
APAC	**Apartado, Choc**	**4.24**	**4**	P	**Pn**	**01 25 14.7**	**+2.3**
ZARC	**Zaragoza, Cauc**	**4.33**	**28**	P	**Pn**	**01 25 14.8**	**+1.1**
ZARC				S	**Sn**	**01 26 01.8**	**-1.3**
GUVC	**San Jose del G**	**4.41**	**104**	P	Pn	01 25 24.5	+10
PTGC	**Puerto Gaitan,**	**4.79**	**83**	P	**Pn**	**01 25 21.0**	**+1.1**
CAPC	**Capurgana**	**4.97**	**355**	P	**Pn**	**01 25 24.3**	**+1.9**
CAPC				S	**Sn**	**01 26 18.0**	**-0.7**
AZU	**Azuero**	**5.31**	**321**	P	**Pn**	**01 25 26.7**	**-0.2**
	22nm,1.0s						
AZU				S	**Sn**	**01 26 26.4**	**-0.4**
	22nm,1.0s						
OCAC	**Ocana**	**5.79**	**38**	P	**Pn**	**01 25 32.9**	**-0.7**
	22nm,0.6s,563nm						
GMAL	**Guarumal, Vera**	**5.94**	**314**	P	**Pn**	**01 25 36.2**	**+0.7**
GMAL				S	**Sn**	**01 26 43.9**	**+1.8**
BCIP	**Isla Barro Col**	**6.21**	**332**	P	**Pn**	**01 25 39.7**	**+0.5**
	39nm,1.4s						
BCIP				S	**Sn**	**01 26 49.8**	**+1.1**
	39nm,1.4s						
SDV	**Santo Domingo**	**8.12**	**50**	P	Pn	01 26 01.8	-3.6
	1.2nm,0.3s,baz=187,slow=16,SNR=1.9						
SDV				S	**Sn**	**01 27 30.3**	**-5.3**
	5.0nm,0.7s,baz=72,slow=23,SNR=5.2						
ASAR	**Alice Springs**	**144.21**	**233**	PKP	PKPab	01 43 30.9	-2.5
	1.4nm,0.5s,baz=113,slow=3.8,SNR=11						
WRA	**Warramunga Arr**	**145.50**	**239**	PKPbc	PKPdf	01 43 35.3	-2.3
	0.7nm,0.8s,baz=109,slow=3.2,SNR=6.1						

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*IGQ **16** 01:51:23.0±0.0, 0°.8S±0°.2×91°.1W±0°.2, h0km, M4.5/14*
*IDC **16** 01:51:22.8±3.2, 0°.95S×91°.09W, h0km, mb3.8/6, mbtmp3.8/6, MS3.2/6, Error ellipse: s-maj=160.6km s-min=28.9km az=45.0*
*NEIC **16** 01:51:26.2±1.3, 0°.73S±0°.05×90°.90W±0°.05, h10km±2km, mb4.3/17, Error ellipse: s-maj=9.7km s-min=8.0km az=229.0*
ISC 16 01:51:23.9±0.7, 0°.84S±0°.08×91°.06W±0°.05, h10km, n42, σ1§19/35, mb4.2/14, MS3.1/5, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCH1	**Volcn Chico**	**0.07**	**324**	P	**Pg**	**01 51 24.2**	**-2.1**
PVIL	**Puerto Villami**	**0.15**	**137**	P	**Pg**	**01 51 25.4**	**-1.9**
CEAZ	**Cerra Azul, Ca**	**0.35**	**275**	P	**Pg**	**01 51 30.0**	**-1.0**
FER2	**Fernandina2, P**	**0.51**	**316**	P	**Pb**	**01 51 33.6**	**-1.4**
FER1	**Fernandina1, P**	**0.52**	**312**	P	**Pn**	**01 51 36.2**	**-1.3**
I20EC	**Galapagos**	**0.72**	**71**	Pg	**Pb**	**01 51 37.5**	**-1.2**
	baz=264,slow=34						
PAYG	**Puerto Ayora**	**0.79**	**78**		**Pg**	**01 51 38.1**	**-1.1**
ALCE	**Alcedo, Punta**	**0.99**	**293**	P	Pg	01 51 32.0	-11
MTO3	**Montecristo**	**15.23**	**6**	Pn	**Pn**	**01 54 59.5**	**+0.1**
MTO3				IAmb	IAmb	01 55 03.0	
	comp=Z,13nm,1.1s						
NNA	**Nana**	**17.93**	**129**	LR	LR	02 01 15.5	
	comp=Z,54nm,19.0s,baz=308,slow=33						
TBTG	**Tabatinga, AM**	**21.39**	**99**	P	**P**	**01 56 12.4**	**+0.4**
SDV	**Santo Domingo**	**22.52**	**64**	P	**P**	**01 56 23.3**	**-1.1**
SDV				IAmb	IAmb	01 56 35.9	
	comp=Z,15nm,1.4s						
SDV	**Santo Domingo**	**22.52**	**64**	LR	LR	02 04 21.5	
	comp=Z,90nm,21.0s,baz=260,slow=34						
BAUV	**El Baul**	**24.90**	**67**	P	**P**	**01 56 47.7**	**+0.3**
ETMB	**Extrema**	**26.27**	**111**	P	**P**	**01 57 00.5**	**+0.7**
LPAZ	**La Paz**	**27.32**	**125**	LR	LR	02 07 14.3	
	comp=Z,52nm,21.4s,baz=338,slow=35						
LVC	**Limon Verde**	**30.53**	**137**	LR	LR	02 06 59.7	
	comp=Z,30nm,20.3s,baz=296,slow=31						
SJG	**San Juan**	**30.90**	**51**	LR	LR	02 09 12.3	
	comp=Z,19nm,19.9s,baz=144,slow=34						
TXAR	**Lajitas Array**	**32.33**	**339**	P	**P**	**01 57 55.6**	**+2.0**
	comp=Z,0.6nm,0.8s,baz=156,slow=9.3,SNR=5.5						
	comp=Z,0.6nm,0.8s						
ODSA	**Odessa**	**34.54**	**343**	P	**P**	**01 58 13.6**	**+0.8**
DKNS	**Dickens**	**35.55**	**346**	P	**P**	**01 58 23.0**	**+1.4**
DKNS				IAmb	IAmb	01 58 24.3	
	comp=Z,6.1nm,1.1s						
WMOK	**Wichita Mounta**	**36.12**	**349**	P	**P**	**01 58 27.5**	**+1.1**
WMOK				IAmb	IAmb	01 58 28.8	
	comp=Z,4.7nm,1.2s						
W35A	**Tecumseh**	**36.21**	**352**	P	**P**	**01 58 28.3**	**+1

MORC	**Moravsky Berou**	**2.26 283**	⇑P	Pb	01 54 58.8	-0.4
MORC			⇓S	Sg	01 55 29.5	-1.0
MORC	**Moravsky Berou**	**2.26 283**	*e*Pn	Pn	01 54 55.5	-0.4
	baz=100					
MORC			*e*Sn	Sn	01 55 24.8	+0.8
	24nm,0.6s,baz=100					
LOSC	**Losov**	**2.34 279**	*e*Pn	Pn	01 54 57.2	+0.1
	baz=96					
LOSC			*e*Sn	Sn	01 55 26.9	+0.8
	18nm,0.5s,baz=96					
BMR	**Baia Mare**	**2.37 133**	⇑P	Pb	01 55 00.1	-1.0
NSLU	**Nyzhne Selyshc**	**2.59 115**	*e*Pg	Pn	01 54 56.1	-4.3
NSLU			m		01 54 57.5	
MODS	**Modra-Piesok**	**2.60 250**	*e*PN	Pn	01 55 00.9	+0.3
ZST	**Bratislava**	**2.78 247**	*e*PN	Pn	01 55 03.1	+0.1
KRLC	**Kraliky**	**2.80 287**	*e*PG	Pb	01 55 07.5	-0.9
KRLC			*e*SG	Sb	01 55 44.0	+1.0
DRGR		**2.80 154**	⇑P	Pn	01 55 04.7	+1.3
VRAC	**Vranov**	**2.84 271**	⇑P	Pn	01 55 04.3	+0.4
VRAC			⇓S	Sb	01 55 43.1	-1.0
VRAC	**Vranov**	**2.84 271**	*e*Pn	Pn	01 55 03.6	-0.3
	baz=88					
VRAC			*e*Sn	Sn	01 55 39.5	+1.1
	10.0nm,0.8s,baz=88					
VRAC	**Vranov**	**2.84 271**	*e*PN	Pn	01 55 03.7	-0.2
VRAC			*e*SN	Sn	01 55 39.6	+1.2
KRUC	**Moravsky**	**2.99 267**	*e*Pn	Pn	01 55 06.0	+0.1
	baz=83					
KRUC			*e*Sn	Sn	01 55 43.2	+1.1
	8.7nm,1.0s,baz=83					
MARR	**Marisel-Cluj**	**3.03 150**	⇓P	Pn	01 55 07.4	+0.9
SIRR	**Siria**	**3.10 171**	⇓P	Pn	01 55 08.5	+1.1
DPC	**Dobruska-Polom**	**3.16 291**	*e*PG	Pb	01 55 15.6	+1.1
DPC			*e*SG	Sb	01 55 55.4	+2.1
OSTC	**Ostas**	**3.29 294**	*e*PN	Pn	01 55 11.8	+1.7
OSTC			*e*PG	Pb	01 55 18.4	+1.7
OSTC			*e*SG	Sg	01 56 00.5	-3.1
BURAR	**Bucovina Array**	**3.32 119**	⇓P	Pn	01 55 11.4	+0.8
UPC	**Upice**	**3.40 292**	*e*SG	Sb	01 56 02.7	+2.6
CHVC	**Chvalec**	**3.40 294**	*e*PN	Pn	01 55 13.1	+1.6
CHVC			*e*PG	Pg	01 55 21.2	-1.8
CHVC			*e*SG	Sg	01 56 04.8	-2.2
PRU	**Pruhonice**	**4.21 281**	*e*SG	Sg	01 56 30.4	-2.6
	comp=Z,4.5nm,0.7s					
PRA	**Prague**	**4.29 282**	*e*SG	Sg	01 56 32.8	-2.8
	comp=Z,8.3nm,0.8s					
PVCC	**Panska Ves**	**4.29 289**	*e*SG	Sg	01 56 31.5	-4.1
	comp=Z,11nm,1.0s					
ZVC	**Zvikov**	**4.41 274**	*e*SG	Sg	01 56 35.7	-3.8
BRG	**Berggiesshubel**	**4.76 292**	Sg	Sb	01 56 44.7	+5.3
BRG			Amp		01 56 54.0	
	comp=Z,2.1nm,0.5s					
KHC	**Kasperske Hory**	**4.83 270**	*e*PN	Pn	01 55 31.6	+0.4
KHC			*e*SG	Sg	01 56 50.1	-2.8
	comp=Z,3.3nm,0.8s					

*IDC **16** 01:55:11.2±0.7, 48°.32S×31°.52E, h0km, mb4.1/11, mbtmp4.1/12, ML4.2/1, MS3.6/11, Error ellipse: s-maj=33.0km s-min=13.6km az=63.0*
*NEIC **16** 01:55:13.2±1.0, 48°.29S±0°.06×31°.3E±0°.2, h10km±1km, mb4.6/13, Error ellipse: s-maj=27.2km s-min=8.9km az=78.0*

ISC 16 01:55:14.0±0.6,**48°28S**±0°.08×**31°3E**±0°.1,**h18**km,**n39,** σ1**9**01/31,**mb4.2**/12,**MS3.6**/10,**South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**13.98**	**92**	T	T	02 12 46.5	
	baz=258,slow=76,SNR=50						
H04S3	**CROZET ISLANDS**	**13.98**	**92**	T	T	02 12 47.7	
	baz=258,slow=76,SNR=50						
H04S1	**CROZET ISLANDS**	**14.00**	**92**	T	T	02 12 46.4	
	baz=258,slow=76,SNR=40						
GRHM	**Grahamstown, E**	**15.44**	**344**	P	**P**	**01 58 55.6**	**+0.4**
GRHM				IAmb	IAmb	01 59 33.5	
	comp=Z,81nm,1.5s						
SOE	**Somerset East**	**16.14**	**342**	Pn	**Pn**	**01 58 58.1**	**-1.9**
SOE				IAmb	IAmb	01 59 26.1	
	comp=Z,41nm,1.4s						
SUR	**Sutherland**	**17.75**	**330**		**P**	**01 59 21.1**	**0.0**
SUR	**Sutherland**	**17.75**	**330**	P	**P**	**01 59 21.3**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=132,slow=9.2,SNR=13						
SUR				S	Sn	02 02 26.5	-11
	comp=Z,5.6nm,1.1s,baz=129,slow=21,SNR=1.1						
SUR				LR	LR	02 04 45.8	
	comp=Z,178nm,19.0s,baz=129,slow=32						
	comp=Z,8.8nm,0.9s						
BOSA	**Boshof**	**20.19**	**344**	P	**P**	**01 59 47.3**	**-0.3**
BOSA				IAmb	IAmb	01 59 53.3	
	comp=Z,23nm,1.4s						
BOSA	**Boshof**	**20.19**	**344**	P	**P**	**01 59 48.4**	**+0.7**
	comp=Z,6.4nm,1.1s,baz=169,slow=9.5,SNR=5.0						
BOSA				LR	LR	02 06 09.0	
	comp=Z,93nm,21.4s,baz=201,slow=32						
	comp=Z,6.4nm,1.1s						
MAW	**Mawson**	**25.12**	**152**	P	**P**	**02 00 37.4**	**+0.1**
	comp=Z,5.7nm,0.9s,baz=304,slow=11,SNR=11						
MAW				S	**S**	**02 05 02.0**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=144,slow=23,SNR=1.8						
MAW				LR	LR	02 07 39.3	
	comp=Z,82nm,21.7s,baz=292,slow=30						
	comp=Z,5.7nm,0.9s						
FOMA	**Nahampoana Res**	**26.34**	**34**	P	**P**	**02 00 48.6**	**-0.2**
SNAA	**Sanae**	**28.25**	**202**	P	**P**	**02 01 06.0**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=191,slow=5.2,SNR=3.1						
SNAA				LR	LR	02 09 35.5	
	comp=Z,66nm,20.9s,baz=111,slow=31						
	comp=Z,1.3nm,0.7s						
VOI	**Vohitsoka**	**29.10**	**31**	P	**P**	**02 01 13.4**	**-0.2**
TSUM	**Tsumeb**	**31.07**	**334**	LR	LR	02 13 32.3	
	comp=Z,124nm,18.1s,baz=150,slow=35						
H09N1	**TRISTAN DA CUN**	**33.54**	**273**	T	T	02 37 03.0	
	SNR=6.2						
BELA	**Belgrano 2**	**38.28**	**198**	P	**P**	**02 02 33.1**	**+0.4**
QSPA	**South Pole Qui**	**41.94**	**180**	P	**P**	**02 03 02.2**	**-1.1**
QSPA				IAmb	IAmb	02 03 12.5	
	comp=Z,13nm,0.7s						
QSPA	**South Pole Qui**	**41.94**	**180**	P	**P**	**02 03 02.7**	**-0.6**
	comp=Z,7.9nm,0.7s,baz=258,slow=2.9,SNR=29						
	comp=Z,7.9nm,0.7s						
VNDA	**Vanda**	**50.81**	**168**	P	**P**	**02 04 12.9**	**+0.3**
VNDA	**Vanda**	**50.81**	**168**	P	**P**	**02 04 12.6**	**0.0**
	comp=Z,1.9nm,0.6s,baz=244,slow=7.1,SNR=24						
VNDA				LR	LR	02 24 42.3	
	comp=Z,79nm,19.4s,baz=238,slow=35						
	comp=Z,1.9nm,0.6s						
SBA	**Scott Base**	**51.21**	**169**	P	**P**	**02 04 17.5**	**+1.9**
SBA				IAmb	IAmb	02 04 26.9	
	comp=Z,11nm,1.1s						
FURI	**Furi**	**57.30**	**9**	LR	LR	02 28 20.0	
	comp=Z,63nm,18.4s,baz=176,slow=35						
DBIC	**Dimbokro**	**63.26**	**319**	P	**P**	**02 05 42.3**	**+0.9**
DBIC	**Dimbokro**	**63.26**	**319**	P	**P**	**02 05 42.4**	**+0.9**
	comp=Z,3.8nm,0.8s,baz=126,slow=7.5,SNR=4.5						
DBIC				LR	LR	02 32 16.9	
	comp=Z,28nm,18.1s,baz=161,slow=35						
	comp=Z,3.8nm,0.8s						
TRQA	**Tornquist**	**64.74**	**241**	P	**P**	**02 05 48.5**	**-2.5**
TRQA				IAmb	IAmb	02 06 17.9	
	comp=Z,9.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**66.57**	**328**	P	**P**	**02 06 04.3**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=152,slow=8.8,SNR=9.7						
	comp=Z,0.9nm,0.6s						
CPUP	**Villa Florida**	**69.96**	**253**	P	**P**	**02 06 24.3**	**+0.1**
CPUP				IAmb	IAmb	02 06 35.0	
	comp=Z,3.6nm,0.9s						
CPUP	**Villa Florida**	**69.96**	**253**	P	**P**	**02 06 24.6**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=182,slow=10,SNR=3.9						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**80.60**	**115**	P	**P**	**02 07 25.5**	**0.0**
ASAR	**Alice Springs**	**80.60**	**115**	P	**P**	**02 07 24.6**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=214,slow=6.4,SNR=7.5						
	comp=Z,1.3nm,0.9s						
WRA	**Warramunga Arr**	**83.66**	**113**	P	**P**	**02 07 40.1**	**-1.5**
	comp=Z,1.1nm,1.0s,baz=214,slow=4.1,SNR=4.3						
	comp=Z,1.1nm,1.0s						
VAE	**Valguarnera**	**86.70**	**347**	LR	LR	02 48 48.4	
	comp=Z,92nm,18.2s,baz=136,slow=37						
GNI	**Garni**	**88.85**	**10**	LR	LR	02 48 11.8	
	comp=Z,19nm,18.1s,baz=122,slow=36						
ESDC	**Sonseca Array**	**93.00**	**334**	P	**P**	**02 08 27.2**	**+1.4**
	comp=Z,0.4nm,0.9s,baz=131,slow=3.9,SNR=2.0						
	comp=Z,0.4nm,0.9s						
DAVOX	**Davos/Dischmat**	**96.50**	**345**	LR	LR	02 54 13.5	
	comp=Z,27nm,18.5s,baz=88,slow=37						
ECSD	**EROS Data Cent**	**144.11**	**283**	PKPdf	**PKPdf**	**02 14 46.9**	**-0.9**
RTBA	**Rita Blanca**	**144.54**	**268**	PKPdf	**PKPdf**	**02 14 48.8**	**-0.2**
121A	**Cookes Peak, D**	**145.55**	**258**		**PKPab**	**02 14 52.3**	**+0.9**
PDAR	**Pinedale Array**	**152.25**	**273**	PKPbc	**PKPbc**	**02 15 07.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=96,slow=2.7,SNR=5.0						

*IDC **16** 01:56:24.5±2.0, 15°.97S×178°.77W, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=145.5km s-min=23.9km az=153.0*

ISC 16 01:56:27.8±1.9,**16°0S**±0°.8×**178°8W**±0°.4,**h22**km,**n6,** σ0**95**/6,**mb3.7**/6,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.67**	**258**	P	**P**	**02 04 39.7**	**+0.3**
	0.2nm,0.4s,baz=96,slow=7.8,SNR=2.0						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**45.00**	**252**	P	**P**	**02 04 42.0**	**-0.1**
	3.2nm,0.5s,baz=89,slow=8.0,SNR=60						
	3.2nm,0.5s						
NVAR	**Mina Array Bea**	**78.31**	**44**	P	**P**	**02 08 28.1**	**+1.4**
	0.6nm,0.7s,baz=246,slow=7.8,SNR=6.8						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**84.12**	**13**	P	**P**	**02 08 56.3**	**-0.4**
	0.1nm,0.4s,baz=224,slow=6.3,SNR=1.8						
	0.1nm,0.4s						
TXAR	**Lajitas Array**	**85.28**	**58**	P	**P**	**02 09 03.2**	**-0.3**
	0.4nm,0.7s,baz=224,slow=5.2,SNR=5.1						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**86.22**	**44**	P	**P**	**02 09 07.4**	**-0.6**
	0.4nm,0.5s,baz=222,slow=4.2,SNR=5.5						
	0.4nm,0.5s						

*BJI **16** 02:51:54.0±0.0, 35°.46N×141°.31E, h34km, mb4.5/45, mB4.9/19, Ms4.4/34, Ms7 4.2/35*
*JMA **16** 02:51:57.2±0.3, 35°.6N±0°.7×14°1E±°, h38km±1km, MD4.6/35, MW4.8/35, NEAR CHOSHI CITY*
JMA Felt I J1 at NEAR CHOSHI CITY .
*NEIC **16** 02:51:57.3±2.6, 35°.47N±0°.04×141°.18E±0°.08, h27km±5km, mb4.7/60, Error ellipse: s-maj=10.4km s-min=4.2km az=112.0*
*NIED **16** 02:51:57.2, 35°.56N×141°.10E, h38km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 1016Nm; Mrr1.32; Mθθ-0.26; Mφφ-1.06; Mrθ0.36; Mθφ-0.36; Mφr2.13; Fault plane solution: M0 2.49000×10^16 NP1:φs11.00000°, δ75.00000°, λ86.00000°. NP2:φs208.00000°, δ16.00000°, λ106.00000°.*
*IDC **16** 02:52:00.7±1.9, 35°.43N×140°.88E, h56km±17km, mb3.9/25, mbtmp4.1/30, ML3.4/4, MS4.1/66 Error ellipse: s-maj=17.7km s-min=8.4km az=72.0*
*GCMT **16** 02:52:01.3±0.4, 35°.50N±0°.03×141°.17E±0°.03, h40km±1km, MW4.9/76, Moment Tensor Solution. s32,c42; s76,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.47±.14; Mθθ-0.45±.09; Mφφ-2.02±.08; Mrθ0.35±.09; Mθφ-0.43±.06; Mφr1.22±.07; Best double couple: M0 2.62600×10^16 NP1:φs15.00000°, δ59.00000°, λ91.00000°. NP2: φs194.00000°, δ31.00000°, λ89.00000°. Principal axes: T 2.7970, Plg76.0000°, Azm287.0000°; N -0.3400, Plg1.0000°, Azm195.0000°; P -2.4560, Plg14.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 01:58.1±0.4,**35°51N**±0°.04×**141°14E**±0°.04,**h33**km,**n247,** σ1**9**79/171,**mb4.6**/66,**MS4.1**/70,**12D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.58**	**283**	⇓*i*P	**Pb**	**02 52 08.5**	**-1.4**
JSMT				⇓*e*S	**Sb**	**02 52 17.9**	**-0.2**
JSMT	**Sammumatsuo**	**0.58**	**283**	A	A	02 52 08.5	
	comp=E,79nm,5.7s,comp=N,81nm,2.0s						
JIHU	**Itakohorinouch**	**0.68**	**312**	*i* P	**Pn**	**02 52 10.1**	**-1.3**
JIHU	**Itakohorinouch**	**0.68**	**312**	A	A	02 52 10.1	
	comp=E,121nm,2.2s,comp=N,91nm,2.2s						
JCN	**Nagara**	**0.77**	**263**	⇓P	**Pn**	**02 52 12.2**	**-0.4**
JCN	**Nagara**	**0.77**	**263**	A	A	02 52 12.2	
	comp=E,108nm,2.9s,comp=N,98nm,4.7s						
BSO4	**Boso 4**	**0.84**	**232**	⇓*i*P	**Pn**	**02 52 12.9**	**-0.6**
JKUC	**kamogawauchiur**	**0.85**	**246**	A	A	02 52 12.6	
	comp=E,28nm,2.6s,comp=N,38nm,2.1s						
BSO1	**Boso 1**	**0.87**	**189**	⇓*i*P	**Pb**	**02 52 13.5**	**-0.9**
BSO3	**Boso 3**	**0.88**	**216**	⇓*i*P	**Pn**	**02 52 13.3**	**-0.5**
JHYU	**Hitachinakayam**	**0.94**	**332**	A	A	02 52 13.3	
	comp=E,25nm,2.0s,comp=N,17nm,1.8s						
JYT	**Yasato**	**1.05**	**313**	⇓*i*P	**Pn**	**02 52 14.7**	**-1.8**
JYT	**Yasato**	**1.05**	**313**	A	A	02 52 14.7	
	comp=E,15nm,1.3s,comp=N,19nm,1.7s						
TATJ	**Tateyama 2**	**1.13**	**245**	A	A	02 52 16.9	
	comp=E,28nm,1.8s,comp=N,48nm,4.6s						
TOK	**Tokyo**	**1.14**	**279**	A	A	02 52 16.6	
	comp=E,48nm,4.3s,comp=N,43nm,2.2s						
JHO	**Hitachi**	**1.19**	**337**	A	A	02 52 17.1	
	comp=E,11nm,4.3s,comp=N,7.0nm,3.3s						
JYO	**Yokosk**	**1.24**	**257**	A	A	02 52 18.4	
	comp=E,38nm,2.9s,comp=N,52nm,4.0s						
JHU	**Hanno**	**1.55**	**283**	A	A	02 52 22.6	
	comp=E,9.0nm,6.5s,comp=N,9.0nm,4.0s						
JSGW	**Sagamiharawaka**	**1.58**	**274**	A	A	02 52 23.1	
	comp=E,9.0nm,3.5s,comp=N,12nm,3.7s						
JIM2	**Oshima 3**	**1.61**	**241**	*e*P	**Pn**	**02 52 23.1**	**-1.2**
JIM2				S	**Sn**	**02 52 43.6**	**-0.3**
JIM2	**Oshima 3**	**1.61**	**241**	A	A	02 52 23.1	
	comp=E,15nm,1.6s,comp=N,15nm,1.9s						
ONAJ	**Iwakimizuishiy**	**1.61**	**350**	A	A	02 52 23.3	
	comp=E,9.0nm,1.5s,comp=N,4.0nm,2.1s						
JAG	**Ashikaga**	**1.64**	**304**	A	A	02 52 23.8	
	comp=E,6.0nm,3.9s,comp=N,6.0nm,2.7s						
JOD2	**Odawara 2**	**1.69**	**262**	A	A	02 52 24.9	
	comp=E,21nm,3.2s,comp=N,18nm,2.5s						
JSB	**Shiboa**	**1.76**	**326**	A	A	02 52 25.3	
	comp=E,17nm,2.4s,comp=N,19nm,2.5s						
JHTM	**Izuhatsuma**	**1.83**	**253**	A	A	02 52 27.0	
	comp=E,22nm,2.6s,comp=N,16nm,3.9s						
JFK	**Kawauchi**	**1.86**	**353**	A	A	02 52 27.0	
	comp=E,6.0nm,3.3s,comp=N,2.0nm,4.8s						
JRY	**Ryogami san**	**1.89**	**286**	A	A	02 52 27.5	
	comp=E,8.0nm,5.5s,comp=N,8.0nm,2.1s						
JNIO	**Nijimaoohara**	**1.92**	**234**	A	A	02 52 28.6	
	comp=E,12nm,2.1s,comp=N,13nm,2.2s						
JMYK	**Miyake Tsubota**	**1.95**	**223**	A	A	02 52 29.2	
	comp=E,15nm,4.9s,comp=N,11nm,3.2s						
JSKK	**Shikinejimakit**	**1.97**	**234**	A	A	02 52 29.4	
	comp=E,10.0nm,2.3s,comp=N,7.0nm,4.6s						
JIZS	**Izushimoda**	**2.02**	**248**	A	A	02 52 29.8	
	comp=E,4.0nm,3.8s,comp=N,7.0nm,1.8s						
JFNN	**Fujinakano**	**2.03**	**262**	A	A	02 52 29.8	
	comp=E,19nm,5.2s,comp=N,22nm,4.0s						
JKO	**Kozu shima**	**2.11**	**232**	A	A	02 52 31.4	
	comp=E,21nm,3.1s,comp=N,9.0nm,3.6s						
JOTO	**OTAMA OYAMA**	**2.15**	**343**	A	A	02 52 30.9	
	comp=E,13nm,1.5s,comp=N,16nm,1.5s						
JGK	**Kuni**	**2.28**	**298**	A	A	02 52 33.0	
	comp=E,5.0nm,4.0s,comp=N,6.0nm,2.8s						
JMM	**Marumori**	**2.37**	**353**	P	**Pn**	**02 52 34.8**	**+0.2**
JMM	**Marumori**	**2.37**	**353**		**Pn**	**02 52 34.0**	**-0.6**
JMM	**Marumori**	**2.37**	**353**	A	A	02 52 34.2	
	comp=E,5.0nm,2.9s,comp=N,3.0nm,4.2s						
SHZ3	**Shizuoka 3**	**2.44**	**260**	A	A	02 52 35.6	
	comp=E,6.0nm,2.2s,comp=N,6.0nm,2.3s						
JYAR	**Yonezawaarcadi**	**2.53**	**342**	A	A	02 52 36.4	
	comp=E,12nm,2.9s,comp=N,11nm,1.5s						
JSG	**Sagara**	**2.56**	**252**	Pn	**Pn**	**02 52 39.0**	**+1.7**
MJAR	**Matsushiro Arr**	**2.59**	**294**	P	**Pn**	**02 52 38.0**	**+0.2**
	comp=N,4.3nm,0.3s,baz=100,slow=5.5,SNR=73						
MJAR				S	**Sn**	**02 53 08.0**	**0.0**
	comp=N,31nm,0.3s,baz=213,slow=3.5,SNR=2.1						
MJAR				LR	LR	02 53 45.2	
	comp=N,5μm,20.1s,baz=152,slow=43						
	comp=N,20nm,0.4s						
MAJO	**Matsushiro**	**2.59**	**294**	P	**Pn**	**02 52 38.6**	**+0.9**
MAJO	**Matsushiro**	**2.59**	**294**	Pn	**Pn**	**02 52 37.6**	**-0.1**
MJB9	**Matsu-Tunnel**	**2.59**	**294**	Pn	**Pn**	**02 52 37.3**	**-0.5**
JNG	**Nsakai**	**2.62**	**291**	A	A	02 52 37.9	
	comp=E,4.0nm,4.2s,comp=N,4.0nm,3.7s						
JHJ2	**Mitsune**	**2.63**	**205**	P	**Pn**	**02 52 38.0**	**-0.3**
JHJ2	**Mitsune**	**2.63**	**205**	Pn	**Pn**	**02 52 37.0**	**-1.3**
JHJ	**Hachijo jima 2**	**2.64**	**206**	P	**Pn**	**02 52 38.1**	**-0.2**
	comp=N,54nm,0.3s,baz=306,slow=21,SNR=27						
JHJ				S	**Sn**	**02 53 07.9**	**-1.3**
	comp=N,479nm,0.3s,baz=48,slow=22,SNR=7.1						
JHJ				LR	LR	02 53 54.1	
	comp=N,2μm,20.7s,baz=344,slow=46						
	comp=N,163nm,0.3s						
JNY	**Yasuok**	**2.68**	**268**	A	A	02 52 39.0	
	comp=E,4.0nm,3.3s,comp=N,6.0nm,3.7s						
JKKS	**Kakegawashinom**	**2.69**	**255**	A	A	02 52 39.4	
	comp=E,8.0nm,5.5s,comp=N,9.0nm,3.6s						
JIZZ	**Izumozaki**	**2.81**	**317**	A	A	02 52 40.5	
	comp=E,19nm,2.9s,comp=N,20nm,2.5s						
JYS	**Shirataka**	**2.84**	**343**	A	A	02 52 40.9	
	comp=E,8.0nm,2.2s,comp=N,7.0nm,2.0s						
JOU	**Okura**	**2.87**	**353**	A	A	02 52 41.4	
	comp=E,9.0nm,2.3s,comp=N,6.0nm,1.7s						
JGF	**Kuroka**	**3.09**	**273**	P	**Pn**	**02 52 45.9**	**+1.3**
JGF	**Kuroka**	**3.09**	**273**	Pn	**Pn**	**02 52 44.9**	**+0.4**
JOFO	**Osakifurukawao**	**3.09**	**357**	A	A	02 52 44.5	
	comp=E,37nm,3.9s,comp=N,29nm,1.8s						
JYA	**Atsumi**	**3.28**	**340**	A	A	02 52 47.1	
	comp=E,6.0nm,1.9s,comp=N,7.0nm,1.5s						
INU	**Inuyama**	**3.37**	**268**	P	**Pn**	**02 52 49.5**	**+1.1**
INU	**Inuyama**	**3.37**	**268**	Pn	**Pn**	**02 52 48.5**	**+0.1**
JSD	**Sado**	**3.42**	**318**	P	**Pn**	**02 52 49.8**	**+0.7**
JSD	**Sado**	**3.42**	**318**	Pn	**Pn**	**02 52 49.0**	**-0.1**
JRG	**Rokugo**	**3.90**	**354**	A	A	02 52 55.9	
	comp=E,3.0nm,1.8s,comp=N,3.0nm,2.3s						
JYW	**Yuwa**	**4.09**	**350**	A	A	02 52 58.6	
	comp=E,8.0nm,1.7s,comp=N,8.0nm,2.3s						
JOG3	**Oga3**	**4.69**	**340**	A	A	02 53 04.7	
	comp=E,4.0nm,2.9s,comp=N,3.0nm,2.7s						
JTM	**Tenmabayashi**	**5.27**	**359**	P	**Pn**	**02 53 14.8**	**+0.3**
JTM	**Tenmabayashi**	**5.27**	**359**	Pn	**Pn**	**02 53 14.6**	**+0.2**
JMN	**Monobe**	**6.25**	**256**	P	**Pn**	**02 53 29.3**	**+1.3**
JMN	**Monobe**	**6.25**	**256**	Pn	**Pn**	**02 53 29.4**	**+1.3**
ERM	**Erimo**	**6.68**	**13**	Pn	**Pn**	**02 53 33.0**	**-0.9**
JCJ	**Chichijima**	**8.44**	**174**	Pn	**Pn**	**02 53 56.3**	**-1.7**
JCJ	**Chichijima**	**8.44**	**174**	P	Pn	02 53 52.6	-5.4
	comp=N,61nm,0.4s,baz=273,slow=22,SNR=22						
JCJ				S	Sn	02 55 19.4	-13
	comp=N,97nm,0.5s,baz=98,slow=22,SNR=7.2						
ASAJ	**Asahikawa**	**8.67**	**7**	P	**Pn**	**02 53 59.5**	**-1.6**
	comp=N,6.4nm,0.3s,baz=227,slow=12,SNR=9.2						
ASAJ				S	**Sn**	**02 55 33.0**	**-4.7**
	comp=N,10nm,0.7s,baz=23,slow=20,SNR=1.3						
ASAJ				LR	LR	02 58 31.1	
	comp=N,829nm,19.5s,baz=198,slow=44						
JKA	**Kamikawa-asahi**	**8.67**	**7**	Pn	**Pn**	**02 53 59.0**	**-2.2**
JNU	**Nakatsue**	**8.82**	**257**	P	**Pn**	**02 54 00.9**	**-2.4**
	comp=N,4.6nm,1.0s,baz=100,slow=9.6,SNR=0.5						
JNU				LR	LR	02 57 47.7	
	comp=N,3μm,20.9s,baz=90,slow=40						
KSRS	**Korea Array**	**10.82**	**284**	P	**Pn**	**02 54 30.8**	**+0.1**
	comp=N,0.2nm,0.3s,baz=104,slow=13,SNR=8.4						
KSRS				LR	LR	02 58 40.9	
	comp=N,2μm,20.6s,baz=95,slow=38						
	comp=N,1.0nm,0.5s						
KSAR	**Wonju Array Be**	**10.85**	**284**	Pn	**Pn**	**02 54 32.7**	**+1.7**
USA0B	**Ussuriysk Arra**	**11.16**	**324**	Pn	**Pn**	**02 54 33.6**	**-1.7**
USRK	**Ussuriysk Ar.**	**11.16**	**324**	P	**Pn**	**02 54 35.4**	**+0.1**
	comp=N,0.3nm,0.3s,baz=142,slow=12,SNR=7.5						
USRK				LR	LR	02 58 41.9	
	comp=N,1μm,18.7s,baz=142,slow=36						
	comp=N,1.7nm,0.5s						
MDJ	**Mudanjiang**	**12.67**	**319**	P	**Pn**	**02 54 58.8**	**+2.8**
MDJ				S	**Sn**	**02 57 17.8**	**+2.0**
MDJ				sS		02 57 26.6	
MDJ				PcP	**PcP**	**03 00 35.6**	**+3.7**
MDJ				pmax	pmax		
	comp=N,5.0nm,0.6s						
MDJ				pmax	pmax		
	comp=N,210nm,7.2s						
MDJ				LR	LR		
	comp=N,900nm,19.2s						
MDJ				LR	LR		
	comp=N,550nm,18.2s						
MDJ				LR	LR		
	comp=N,1μm,18.9s						
JOW	**Kunigami**	**13.99**	**235**	LR	LR	03 00 19.6	
	comp=N,548nm,22.0s,baz=358,slow=36						
CN2	**Changchun**	**14.63**	**309**	P	**Pn**	**02 55 25.6**	**+2.9**
CN2				pmax	pmax		
	comp=N,10.0nm,0.5s						
CN2				LR	LR		
	comp=N,400nm,14.0s						
CN2				LR	LR		
	comp=N,600nm,14.0s						
CN2				LR	LR		
	comp=N,600nm,16.0s						
KLR	**Kul'dur**	**15.35**

HHC LR LR
comp=Z,300nm,14.9s
HHC LR LR
comp=Z,250nm,14.5s
MA2 Magadan 24.89 12 LR LR 03 07 33.0
comp=Z,186nm,21.8s,baz=188,slow=37
YAK Yakutsk 27.51 348 LR LR 03 08 46.9
comp=Z,412nm,19.6s,baz=158,slow=36
H11N2 WAKE ISLAND Hy 27.59 118 T T 03 26 37.4
baz=313,slow=75
H11N1 WAKE ISLAND Hy 27.60 118 T T 03 26 40.5
baz=313,slow=75
H11N3 WAKE ISLAND Hy 27.61 118 T T 03 26 43.9
baz=313,slow=75
H11S3 WAKE ISLAND Hy 28.25 120 T T 03 27 33.9
baz=312,slow=75,SNR=508
H11S1 WAKE ISLAND Hy 28.25 120 T T 03 27 34.0
baz=312,slow=75,SNR=738
H11S2 WAKE ISLAND Hy 28.27 120 T T 03 27 33.5
baz=312,slow=75,SNR=530
SONM Songino Array 28.48 306 P **P** **02 57 48.4 -1.8**
SONM Songino Array 28.48 306 P **P** **02 57 48.9 -1.3**
comp=Z,1.2nm,0.6s,baz=111,slow=9.2,SNR=7.4
SONM LR LR 03 09 34.3
comp=Z,395nm,18.2s,baz=93,slow=37
comp=Z,1.2nm,0.6s
SHEM Shemya Is, Ala 28.91 43 LR LR 03 07 55.8
comp=Z,271nm,20.8s,baz=286,slow=33
LZH Lanzhou 30.14 282 *e*P **P** **02 58 03.1 -2.0**
LZH pP sP 02 58 18.5 0.0
LZH pmax pmax
comp=Z,27nm,1.0s
LZH LR LR
comp=Z,540nm,12.0s
LZH LR LR
comp=Z,560nm,16.0s
LZH LR LR
comp=Z,870nm,18.5s
GYA Guiyang 30.78 263 P **P** **02 58 12.8 +2.0**
GYA pmax pmax
comp=Z,21nm,0.6s
CD2 Chengdu 31.49 272 P **P** **02 58 15.5 -1.4**
CD2 pP pP 02 58 24.3 -2.1
CD2 sP sP 02 58 27.8 -2.5
CD2 S **S** **03 03 23.1 +0.1**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,100nm,6.2s
CD2 LR LR
comp=Z,720nm,16.5s
CD2 LR LR
comp=Z,2μm,18.6s
CD2 LR LR
comp=Z,2μm,18.2s
QIZ Qiongzhong 32.12 248 P **P** **02 58 23.3 +0.8**
QIZ S **S** **03 03 36.9 +4.0**
QIZ pmax pmax
comp=Z,59nm,2.2s
QIZ LR LR
comp=Z,330nm,16.4s
QIZ LR LR
comp=Z,410nm,18.4s
QIZ LR LR
comp=Z,490nm,19.3s
PZH PanZhiHua 34.75 266 P **P** **02 58 47.5 +1.9**
PZH S **S** **03 04 14.9 +1.0**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,170nm,8.4s
PZH LR LR
comp=Z,430nm,21.1s
PZH LR LR
comp=Z,530nm,19.6s
PZH LR LR
comp=Z,700nm,19.6s
FAKI Fak Fak 39.13 194 P **P** **02 59 21.7 -0.9**
CMAR Chiang Mai Arr 40.92 257 LR LR 03 18 19.1
comp=Z,468nm,18.3s,baz=55,slow=39
WMQ Urumqi 41.35 298 *e*P **P** **02 59 41.9 +1.0**
WMQ pmax pmax
comp=Z,15nm,1.5s
WMQ LR LR
comp=Z,290nm,22.9s
ZAA0 Zalesovo Array 42.79 314 P **P** **02 59 51.2 -1.2**
ZALV Zalesovo Beam 42.79 314 P **P** **02 59 51.4 -1.0**
ZALV Zalesovo Beam 42.79 314 P **P** **02 59 51.8 -0.6**
comp=Z,2.8nm,0.5s,baz=94,slow=6.4,SNR=13
ZALV LR LR 03 18 26.8
comp=Z,139nm,18.1s,baz=91,slow=37
comp=Z,2.8nm,0.5s
MK31 Makanchi Array 44.75 303 P **P** **03 00 07.4 -0.9**
MKAR Makanchi Array 44.75 303 P **P** **03 00 07.3 -1.0**
comp=Z,1.9nm,0.5s,baz=86,slow=9.8,SNR=15
MKAR LR LR 03 19 20.0
comp=Z,300nm,20.4s,baz=73,slow=37
comp=Z,1.9nm,0.5s
MAKZ Makanchi 44.97 303 P **P** **03 00 09.0 -1.0**
MAKZ IAmb IAmb 03 00 10.6
comp=Z,9.8nm,1.2s
C18K Utukok River 45.74 26 P **P** **03 00 17.4 +1.5**
C18K IAmb IAmb 03 00 39.2
comp=Z,11nm,1.2s
C19K Lookout Ridge 46.42 25 P **P** **03 00 22.1 +0.8**
C19K IAmb IAmb 03 00 24.7
comp=Z,14nm,1.1s
KURK Kurchatov 46.71 309 P **P** **03 00 22.5 -1.2**
KURBB Kurchatov Arra 46.77 309 P **P** **03 00 22.9 -1.3**
comp=Z,4.6nm,0.5s,baz=82,slow=7.8,SNR=35
KURBB LR LR 03 20 38.2
comp=Z,253nm,19.9s,baz=149,slow=37
comp=Z,4.6nm,0.5s
D19K Kuna River 46.80 26 P **P** **03 00 25.8 +1.6**
D19K IAmb IAmb 03 00 51.2
comp=Z,10.0nm,1.2s
E19K Redstone River 46.92 28 P **P** **03 00 26.3 +1.3**
E19K IAmb IAmb 03 00 28.6
comp=Z,4.7nm,0.8s
K20K Telida 47.71 33 P **P** **03 00 33.6 +2.3**
K20K IAmb IAmb 03 01 07.3
comp=Z,6.7nm,1.2s
J20K Nowinta River 47.74 32 P **P** **03 00 32.9 +1.4**
J20K IAmb IAmb 03 01 02.4
comp=Z,13nm,1.5s
B21K Ikpikpuk River 48.26 25 P **P** **03 00 37.5 +2.2**
B21K IAmb IAmb 03 00 38.8
comp=Z,8.8nm,0.9s
KDAK Kodiak Island 48.38 41 P **P** **03 00 36.3 -0.2**
D22K Ayikyak River 48.82 26 P **P** **03 00 41.9 +2.1**
D22K IAmb IAmb 03 00 43.2
comp=Z,5.2nm,0.9s
MLY Manley 49.26 31 P **P** **03 00 44.5 +1.3**
H23K Yukon River 49.79 30 P **P** **03 00 48.0 +0.8**
H23K IAmb IAmb 03 01 03.9
comp=Z,9.6nm,1.2s
NEA2 Nenana 49.96 32 P **P** **03 00 50.5 +1.9**
NEA2 IAmb IAmb 03 00 57.0
comp=Z,6.7nm,1.1s
BOOM Boomskoye usch 50.04 299 P **P** **03 00 49.3 -0.4**
MDM Murphy Dome 50.32 31 P **P** **03 00 53.3 +2.0**
MDM IAmb IAmb 03 00 54.6
comp=Z,6.6nm,0.9s
H24K Noodor Dome 50.47 30 P **P** **03 00 53.9 +1.4**
POKR Poker Plat Res 50.66 31 P **P** **03 00 54.4 +0.5**
POKR IAmb IAmb 03 00 57.3
comp=Z,8.3nm,0.9s
SCM Sheep Creek Mo 50.83 35 P **P** **03 00 56.1 +0.9**
KSH Kashi 50.84 295 P **P** **03 00 54.9 -0.8**
KSH pmax pmax
comp=Z,3.0nm,0.5s
KSH LR LR
comp=Z,460nm,20.3s
KSH LR LR
comp=Z,230nm,16.1s
KSH LR LR
comp=Z,340nm,18.6s
IL31 50.90 32 P **P** **03 00 55.1 -0.5**
ILAR Eielson Array 50.90 32 P **P** **03 00 57.1 +1.5**
ILAR Eielson Array 50.90 32 P **P** **03 00 57.0 +1.4**
comp=Z,2.1nm,0.8s,baz=270,slow=6.4,SNR=33
comp=Z,2.1nm,0.8s
AAK Ala-Archa 51.03 299 LR LR 03 23 39.6
comp=Z,472nm,21.7s,baz=84,slow=37
D25K Kavik River 51.11 26 P **P** **03 00 58.6 +1.4**
BVAR Borovoye Array 51.44 313 P **P** **03 00 59.5 -0.4**
comp=Z,2.5nm,0.8s,baz=76,slow=7.8,SNR=13
BVAR LR LR 03 23 15.1
comp=Z,132nm,20.9s,baz=80,slow=36
comp=Z,2.5nm,0.8s
PRP Porcupine Dome 51.45 31 P **P** **03 01 01.4 +1.5**
BMAR Burnt Mountain 51.77 28 P **P** **03 01 04.8 +2.6**
SCRK Sand Creek 52.20 33 P **P** **03 01 06.6 +1.0**
E27K Coleen River 52.87 27 P **P** **03 01 12.4 +2.0**
BCAR Beaver Creek A 53.28 34 P **P** **03 01 15.5 +2.1**
KK31 Karatay Array 53.71 301 P **P** **03 01 15.7 -1.1**
KK31 IAmb IAmb 03 01 17.5
comp=Z,14nm,1.5s
KKAR Karatay Array 53.71 301 P **P** **03 01 16.1 -0.7**
KKAR IAmb IAmb 03 01 17.5
comp=Z,14nm,1.5s
I28M Miner Creek 53.78 31 P **P** **03 01 19.0 +1.9**
WB0 Warramunga Arr 55.35 188 P **P** **03 01 28.2 -0.6**
CTA Charters Tower 55.51 174 LR LR 03 26 43.7
comp=Z,8.2nm,18.1s,baz=322,slow=38
WR0 Warramunga Arr 55.52 188 P **P** **03 01 29.0 -1.1**
WB2 Warramunga Arr 55.52 188 P **P** **03 01 29.5 -0.6**
WRA Warramunga Arr 55.53 188 P **P** **03 01 28.2 -1.9**
WRA Warramunga Arr 55.53 188 P **P** **03 01 29.3 -0.8**
comp=Z,4.7nm,0.8s,baz=4.4,slow=7.6,SNR=36
WRA LR LR 03 22 41.8
comp=Z,80nm,21.8s,baz=344,slow=33
comp=Z,4.7nm,0.8s
INK Inuvik 55.84 27 LR LR 03 28 00.8
comp=Z,74nm,20.7s,baz=184,slow=39
CHGR Chuyangaron 56.13 296 P **P** **03 01 33.3 -1.2**
SIMJ Simiganj 56.24 296 P **P** **03 01 33.8 -1.5**
SIMJ IAmb IAmb 03 01 35.7
comp=Z,12nm,1.2s
ARU Arti 57.36 319 P **P** **03 01 41.7 -1.1**
ARU IAmb IAmb 03 01 43.2
comp=Z,9.4nm,0.9s
ARU Arti 57.36 319 LR LR 03 28 34.1
comp=Z,165nm,18.5s,baz=80,slow=38
ABKAR Akbulak array 58.76 311 P **P** **03 01 51.7 -1.0**
ASAR Alice Springs 59.25 188 P **P** **03 01 56.5 +0.2**
comp=Z,0.7nm,0.6s,baz=15,slow=11,SNR=10
ASAR LR LR 03 26 57.7
comp=Z,101nm,21.4s,baz=12,slow=36
comp=Z,0.7nm,0.6s
AKTO Aktyubinsk 59.53 313 LR LR 03 28 45.1
comp=Z,174nm,18.8s,baz=43,slow=37
KIRV Kirov 61.33 323 LR LR 03 30 40.4
comp=Z,294nm,19.8s,baz=64,slow=38
PALK Pallekele 61.83 258 LR LR 03 30 24.2
comp=Z,150nm,20.8s,baz=163,slow=37
SPITS Spitsbergen Ar 61.97 349 LR LR 03 32 50.7
comp=Z,134nm,18.4s,baz=28,slow=40
DZM Mont Dzumac 62.09 153 *e*LR LR 03 20 48.1
comp=Z,185nm,21.4s
DZM Mont Dzumac 62.09 153 LR LR 03 28 18.0
comp=Z,123nm,19.1s,baz=350,slow=35
BBB Bella Bella 63.31 44 LR LR 03 27 13.3
comp=Z,90nm,20.4s,baz=288,slow=33
RES Resolute Bay 64.13 14 LR LR 03 34 05.9
comp=Z,49nm,18.9s,baz=336,slow=39
BELG Begornoye 64.77 317 LR LR 03 33 03.8
comp=Z,284nm,18.3s,baz=57,slow=38
YKA Yellowknife Ar 65.23 30 P **P** **03 02 37.2 +1.2**
comp=Z,1.1nm,0.8s,baz=295,slow=5.9,SNR=3.8
YKA LR LR 03 31 36.4
comp=Z,52nm,21.1s,baz=305,slow=36
comp=Z,1.1nm,0.8s
ARCES ARCESS Array B 65.34 340 P **P** **03 02 35.9 -0.6**
comp=Z,1.2nm,0.4s,baz=52,slow=7.3,SNR=2.0
ARCES LR LR 03 34 16.7
comp=Z,297nm,20.9s,baz=62,slow=39
comp=Z,1.2nm,0.4s
STKA Stephens Creek 67.04 180 P **P** **03 02 47.8 0.0**
comp=Z,1.8nm,0.6s,baz=340,slow=12,SNR=3.1
STKA LR LR 03 31 12.0
comp=Z,106nm,20.9s,baz=25,slow=35
comp=Z,1.8nm,0.6s
OBN Obninsk 69.18 323 LR LR 03 35 35.4
comp=Z,173nm,18.3s,baz=10,slow=38
FINES FINESS Array B 70.06 332 P **P** **03 03 05.8 -0.6**
FINES FINESS Array B 70.06 332 P **P** **03 03 05.6 -0.8**
comp=Z,2.0nm,0.6s,baz=46,slow=6.1,SNR=17
FINES LR LR 03 35 58.5
comp=Z,202nm,18.6s,baz=42,slow=38
comp=Z,2.0nm,0.6s
WSAR Wadi Sarin 71.05 285 LR LR 03 39 01.0
comp=Z,116nm,19.8s,baz=69,slow=40
NEW Newport 71.38 44 LR LR 03 32 06.3
comp=Z,33nm,21.8s,baz=298,slow=34
YBH Yreka Blue Hor 71.45 52 LR LR 03 27 14.3
comp=Z,29nm,20.9s,baz=297,slow=30
JMIC Jan Mayen 71.60 350 LR LR 03 34 53.1
comp=Z,26nm,18.8s,baz=42,slow=36
KBZ Khabaz 71.73 311 P **P** **03 03 17.1 +0.3**
comp=Z,4.6nm,0.8s,baz=341,slow=4.4,SNR=4.9
KBZ LR LR 03 35 40.2
comp=Z,88nm,18.1s,baz=48,slow=37
comp=Z,4.6nm,0.8s
KIV Kislovodsk 71.74 311 P **P** **03 03 16.6 -0.4**
SUMG Summit 72.20 360 P **P** **03 03 20.0 +0.3**
SUMG IAmb IAmb 03 03 22.3
comp=Z,9.3nm,1.0s
GNI Garni 72.44 307 LR LR 03 37 52.6
comp=Z,166nm,19.2s,baz=62,slow=38
GURO Guroymak-BITLI 75.07 307 P **P** **03 03 37.2 +0.3**
GURO IAmb IAmb 03 03 38.4
comp=Z,9.2nm,1.1s
YERR Yerington 75.16 53 P **P** **03 03 37.2 -0.3**
YERR IAmb IAmb 03 03 38.5
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 75.36 322 P **P** **03 03 36.4 -1.8**
comp=Z,0.7nm,0.4s,baz=49,slow=5.6,SNR=8.1
AKASG LR LR 03 39 31.3
comp=Z,379nm,20.0s,baz=48,slow=38
comp=Z,0.7nm,0.4s
AKBB Malin Array Si 75.36 322 P **P** **03 03 37.3 -0.8**
AKBB IAmb IAmb 03 03 38.6
comp=Z,12nm,1.2s
KIEV Kiev 75.38 322 P **P** **03 03 37.0 -1.2**
KIEV IAmb IAmb 03 03 38.5
comp=Z,11nm,1.2s
HFS Hagfors 75.38 336 P **P** **03 03 38.1 0.0**
comp=Z,1.7nm,0.7s,baz=72,slow=4.8,SNR=12
HFS LR LR 03 39 10.8
comp=Z,367nm,20.5s,baz=34,slow=38
comp=Z,1.7nm,0.7s
NC204 NORSAR Array S 75.46 338 P **P** **03 03 38.5 -0.1**
NC204 IAmb IAmb 03 03 39.7
comp=Z,7.8nm,0.9s
NB2 NORSAR Subarra 75.50 337 P **P** **03 03 38.3 -0.5**
comp=Z,10.0nm,1.1s,baz=41,slow=5.9
NOA NORSAR Array B 75.50 337 P **P** **03 03 38.5 -0.3**
comp=Z,1.8nm,0.7s,baz=39,slow=5.8,SNR=12
NOA LR LR 03 39 58.0
comp=Z,283nm,19.7s,baz=45,slow=38
comp=Z,1.8nm,0.7s
KVN Kaiserville 75.86 52 P **P** **03 03 42.2 +0.7**
NVAR Mina Array Bea 76.08 53 P **P** **03 03 44.6 +1.9**
comp=Z,0.9nm,0.8s,baz=286,slow=8.2,SNR=5.8
NVAR LR LR 03 31 20.1
comp=Z,80nm,21.8s,baz=287,slow=31
comp=Z,0.9nm,0.8s
ARPR Arapgir-MALATY 77.15 309 P **P** **03 03 47.6 -1.0**
SFJD Kangerlussuaq 77.42 5 LR LR 03 40 27.5
comp=Z,86nm,19.2s,baz=349,slow=38
FRB Frobisher Bay 78.30 13 LR LR 03 41 46.6
comp=Z,96nm,19.2s,baz=9.0,slow=38
PDAR Pinedale Array 78.89 45 P **P** **03 03 59.4 +0.9**
comp=Z,0.4nm,0.6s,baz=252,slow=3.0,SNR=6.3
comp=Z,0.4nm,0.6s
BORG Borgarnes 79.12 352 LR LR 03 40 43.1
comp=Z,48nm,18.9s,baz=28,slow=37
BURAR Bucovina Array 79.37 322 P **P** **03 03 59.8 -0.9**
RAR Rarotonga 79.45 125 LR LR 03 37 18.7
comp=Z,186nm,19.2s,baz=276,slow=34
BRTR Keskin Array B 79.69 312 P **P** **03 04 02.0 -0.8**
BRTR Keskin Array B 79.69 312 P **P** **03 04 02.6 -0.1**
comp=Z,2.9nm,1.1s,baz=96,slow=6.6,SNR=7.4
BRTR LR LR 03 43 48.9
comp=Z,74nm,20.3s,baz=72,slow=39
comp=Z,2.9nm,1.1s
PFO Pinyon Flats O 80.07 56 LR LR 03 34 42.9
comp=Z,165nm,19.6s,baz=253,slow=32
OJC Ojcow 80.18 326 P **P** **03 04 03.9 -1.0**
OJC IAmb IAmb 03 04 06.3
comp=Z,9.8nm,1.2s
MLR Muntele Rosu 80.40 320 LR LR 03 42 42.8
comp=Z,279nm,18.4s,baz=69,slow=38
ULM Lac du Bonnet 80.89 33 P **P** **03 04 08.8 +0.1**
comp=Z,3.9nm,0.9s,baz=265,slow=11,SNR=3.2
ULM LR LR 03 39 33.9
comp=Z,61nm,21.9s,baz=292,slow=35
comp=Z,3.9nm,0.9s
RAYN Ar Rayn 81.03 292 P **P** **03 04 09.8 -0.3**
RAYN IAmb IAmb 03 04 10.7
comp=Z,12nm,1.4s
VYHS Vyhne 81.85 325 *e*P **P** **03 04 14.6 +0.7**
PV10 Paradox Valley 81.95 48 P **P** **03 04 16.2 +1.3**
PV10 IAmb IAmb 03 04 37.2
comp=Z,9.4nm,1.0s
VRAC Vranov 82.28 327 P **P** **03 04 15.4 -0.7**
comp=Z,1.5nm,0.3s,baz=66,slow=7.8,SNR=4.5
VRAC LR LR 03 42 53.8
comp=Z,164nm,21.4s,baz=42,slow=37
comp=Z,1.5nm,0.3s
CLL Collm 82.30 330 P **P** **03 04 14.8 -1.4**
CLL IAmb IAmb 03 04 17.0
comp=Z,8.2nm,1.2s
CLL Collm 82.30 330 ||*i*P **P** **03 04 16.1 -0.1**
comp=Z,8.0nm,1.1s
CLL *i* x x 03 04 20.0
CLL *e*sP **pP** **03 04 29.0 +2.4**
CLL *e*S **S** **03 14 34.0 +4.6**
CLL AMS AMS 03 42 00.0
comp=N,100nm,19.1s
CLL AMS AMS 03 42 00.0
comp=E,100nm,20.8s
CLL AMS AMS 03 43 00.0
comp=Z,200nm,18.3s
MMAI Mount Meron Ar 82.66 305 LR LR 03 44 23.0
comp=Z,186nm,20.2s,baz=358,slow=38
KHC Kasperske Hory 83.72 328 P **P** **03 04 23.3 -0.3**
KHC IAmb IAmb 03 04 25.0
comp=Z,8.2nm,1.4s
F33A 5 Mile Ranch, 83.89 36 P **P** **03 04 24.7 +0.2**
F33A IAmb IAmb 03 04 26.3
comp=Z,4.6nm,1.0s
GERES GERESS Array B 83.89 328 P **P** **03 04 23.9 -0.6**
comp=Z,0.6nm,0.7s,baz=35,slow=5.4,SNR=5.0
comp=Z,0.6nm,0.7s
PPT Papeete 84.16 116 LR LR 03 34 30.0
comp=Z,136nm,20.8s,baz=330,slow=30
PPT2 Papeete2 84.17 116 *e*LR LR 03 30 54.4
comp=Z,248nm,26.5s
PPT2 *e*LR LR 03 30 54.7
comp=Z,221nm,22.2s
GRA1 Grafenberg Arr 84.28 330 P **P** **03 04 26.6 +0.2**
GRFO Grafenberg 84.28 330 P **P** **03 04 25.9 -0.5**
BTNL Ternell 85.54 333 *d*P **P** **03 04 33.8 +1.0**
ANMO Albuquerque 85.74 50 LR LR 03 37 00.3
comp=Z,48nm,21.2s,baz=46,slow=31
PDG Podgorica 86.00 321 P **P** **03 04 34.5 -0.6**
BMRD Maredsous 86.27 334 *d*P **P** **03 04 36.8 +0.4**
comp=Z,3.6nm,1.2s
BMRD *d*pP **pP** **03 04 45.2 -1.6**
BFO Black Forest 86.52 331 P **P** **03 04 36.5 -1.1**
SCHQ Schefferville 86.86 16 P **P** **03 04 39.7 +0.5**
comp=Z,1.5nm,0.7s,baz=315,slow=10.0,SNR=2.3
SCHQ LR LR 03 45 34.7
comp=Z,56nm,21.3s,baz=16,slow=37
comp=Z,1.5nm,0.7s
FUORN Ofenpass-Fuorn 87.08 329 P **P** **03 04 40.2 -0.5**
FUORN IAmb IAmb 03 04 41.8
comp=Z,5.4nm,1.2s
DAVOX Davos/Dischmat 87.11 329 P **P** **03 04 40.6 -0.2**
comp=Z,0.8nm,0.4s,baz=343,slow=6.4,SNR=3.1
DAVOX LR LR 03 48 09.8
comp=Z,214nm,18.2s,baz=38,slow=39
comp=Z,0.8nm,0.4s
TBI Tubuai 87.94 121 *e*LR LR 03 32 42.4
comp=Z,1μm,23.2s
LPIG La Paz 90.14 60 LR LR 03 38 40.9
comp=Z,42nm,20.3s,baz=236,slow=31
TXAR Lajitas Array 91.22 52 P **P** **03 05 02.1 +1.7**
comp=Z,0.6nm,0.9s,baz=321,slow=3.2,SNR=4.3
TXAR LR LR 03 43 00.3
comp=Z,75nm,19.2s,baz=288,slow=34
comp=Z,0.6nm,0.9s
VAE Valguarnera 92.16 320 LR LR 03 52 02.5
comp=Z,175nm,18.3s,baz=16,slow=39
FURI Furi 94.88 284 LR LR 03 52 46.2
comp=Z,29nm,18.3s,baz=22,slow=38
KEST Kesra 96.09 322 LR LR 03 53 47.8
comp=Z,110nm,18.4s,baz=308,slow=39
TKL Tuckaleechee C 97.75 35 LR LR 03 50 57.4
comp=Z,23nm,21.3s,baz=332,slow=36
ESDC Sonseca Array 98.55 333 LR LR 03 54 00.7
comp=Z,160nm,20.7s,baz=24,slow=38
TORD Torodi Ar. Bea 118.24 314 PKP **PKPdf** **03 10 41.6 -0.9**
comp=Z,0.5nm,0.8s,baz=49,slow=3.4,SNR=2.0
QSPA South Pole Qui 125.26 180 PKP **PKPdf** **03 10 53.9 -0.5**
comp=Z,1.3nm,1.0s,baz=6.6,slow=1.9,SNR=2.4
H03N2 Juan Fernandez 147.06 98 T T 05 56 11.1
baz=290,slow=76,SNR=70
H03N3 Juan Fernandez 147.07 98 T T 05 56 16.3
baz=290,slow=76,SNR=73
H03N1 Juan Fernandez 147.07 98 T T 05 56 16.1
baz=290,slow=76,SNR=87
LPAZ La Paz 147.63 61 PKPbc **PKPbc** **03 11 41.1 +0.7**
comp=Z,2.2nm,0.8s,baz=333,slow=3.5,SNR=7.8

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*IDC **16** 03:00:47.8±1.8, 25°.63N×66°.37E, h0km, mb3.9/13, mbtmp3.9/15, ML3.8/2, Error ellipse: s-maj=41.7km s-min=19.9km az=161.0*
*NEIC **16** 03:00:51.4±1.5, 26°.0N±0°.1×66°.2E±0°.1, h10km±2km, mb4.0/18, Error ellipse: s-maj=19.4km s-min=13.9km az=138.0*

ISC 16 03:00:49.5±0.8, 25°.9N±0°.1×66°.31E±0°.08, h10km, n43, σ2s28/46, mb3.9/19, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.46**	**251**	Pn	**Pn**	**03 02 38.7**	**+0.3**
	1.2nm,0.3s,baz=90,slow=10,SNR=9.4						
WSAR				Sn	**Sn**	**03 03 54.7**	**-8.4**
	0.5nm,0.3s,baz=66,slow=12,SNR=1.9						
	6.6nm,0.8s						
UOSS	**Minazif**	**9.18**	**267**	Pn	**Pn**	**03 03 00.7**	**-1.3**
NIL	**Nilore**	**9.84**	**36**	Pn	**Pn**	**03 03 10.4**	**-0.6**
THN	**Thein Dam**	**10.52**	**49**	*e*P	**Pn**	**03 03 20.2**	**0.0**
THN				*e*S	**Sn**	**03 05 12.1**	**-6.0**
DHRM	**DHARAMSHALA**	**10.82**	**52**	*e*P	**Pn**	**03 03 22.9**	**-1.7**
DHRM				*e*S	Sn	03 05 16.1	-10
DHRM				IAML		03 05 23.4	
	87nm,0.9s						
DHRM				IAML		03 05 24.0	
	comp=E,72nm,0.4s						
SMLA	**Simla**	**10.90**	**59**	*e*P	**Pn**	**03 03 23.4**	**-2.2**
SMLA				*e*S	Sn	03 05 20.9	-6.7
SMLA				IAML		03 05 24.0	
	comp=E,46nm,0.5s						
SMLA				IAML		03 05 30.0	
	comp=E,25nm,0.4s						
KLP	**Kalpa**	**11.91**	**59**	*e*P	**Pn**	**03 03 38.7**	**-1.0**
KLP				*e*S	**Sn**	**03 05 46.9**	**-6.0**
NRN	**Naryn**	**17.49**	**25**	Pn	**Pn**	**03 04 53.1**	**-0.7**
NRN				IAmb	IAmb	03 05 14.4	
	comp=Z,3.9nm,0.6s						
KK31	**Karatay Array**	**17.55**	**10**	Pn	**Pn**	**03 04 54.3**	**+0.1**
KKAR	**Karatay Array**	**17.55**	**10**	Pn	**Pn**	**03 04 53.9**	**-0.4**
KKAR	**Karatay Array**	**17.55**	**10**	Pn	**Pn**	**03 04 54.6**	**+0.4**
KKAR				IAmb	IAmb	03 05 01.7	
	comp=Z,4.3nm,1.2s						
AAK	**Ala-Archa**	**18.04**	**20**		**Pn**	**03 05 00.6**	**+0.2**
AAK				IAmb	IAmb	03 05 08.2	
	comp=Z,4.0nm,0.7s						
AAK	**Ala-Archa**	**18.04**	**20**	P	**P**	**03 05 04.3**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=170,slow=12,SNR=3.6						
	comp=Z,3.8nm,0.5s						
BOOM	**Boomskoye usch**	**18.39**	**23**	Pn	**Pn**	**03 05 02.7**	**-2.0**
BOOM				IAmb	IAmb	03 05 12.6	
	comp=Z,4.3nm,0.7s						
TARG	**Taragay, Kyrgy**	**18.47**	**28**	P	**P**	**03 05 07.1**	**+1.2**
MNCI	**Minicoy**	**18.62**	**159**	P	**P**	**03 05 09.4**	**+2.2**
ABKAR	**Akbulak array**	**23.88**	**350**	P	**P**	**03 06 04.0**	**+0.9**
MAKZ	**Makanchi**	**24.34**	**27**	P	**P**	**03 06 08.5**	**+1.0**
MAKZ				IAmb	IAmb	03 06 49.2	
	comp=Z,8.6nm,1.4s						
MK31	**Makanchi Array**	**24.46**	**27**	P	**P**	**03 06 09.7**	**+1.2**
MK31				IAmb	IAmb	03 06 13.9	
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**24.46**	**27**	P	**P**	**03 06 09.8**	**+1.3**
MKAR	**Makanchi Array**	**24.46**	**27**	P	**P**	**03 06 10.3**	**+1.8**

comp=Z,1.6nm,0.7s,baz=215,slow=8.6,SNR=10
comp=Z,1.6nm,0.7s
KURBB **Kurchatov Arra** 26.46 18 P P 03 06 28.0 +1.5
comp=Z,2.3nm,0.6s,baz=211,slow=9.0,SNR=11
comp=Z,2.3nm,0.6s
KURK **Kurchatov** 26.57 18 P P 03 06 28.9 +1.4
KURK IAmb IAmb 03 06 34.5
comp=Z,3.5nm,0.8s
BVAR **Borovoye Array** 27.31 5 P P 03 06 36.7 +2.5
comp=Z,1.0nm,0.4s,baz=168,slow=8.8,SNR=3.9
comp=Z,1.0nm,0.4s
ZALV **Zalesovo Beam** 31.25 21 P P 03 07 10.1 +0.9
comp=Z,0.6nm,0.3s,baz=232,slow=9.0,SNR=2.5
comp=Z,0.6nm,0.3s
SONM **Songino Array** 38.28 44 P P 03 08 11.5 +1.4
comp=Z,0.8nm,0.6s,baz=246,slow=9.8,SNR=4.8
comp=Z,0.8nm,0.6s
FIA1 **FINESS Array S** 44.69 334 P P 03 09 03.6 +1.3
FINES **FINESS Array B** 44.69 334 P P 03 09 03.4 +1.1
FINES **FINESS Array B** 44.69 334 P P 03 09 03.8 +1.5
comp=Z,0.9nm,0.6s,baz=134,slow=10,SNR=10
comp=Z,0.9nm,0.6s
HFS **Hagfors** 49.51 328 P P 03 09 41.4 +1.4
comp=Z,1.6nm,0.8s,baz=94,slow=11,SNR=7.5
comp=Z,1.6nm,0.8s
ARCES **ARCESS Array B** 49.77 342 P P 03 09 43.1 +1.3
comp=Z,1.0nm,0.4s,baz=138,slow=7.2,SNR=2.6
comp=Z,1.0nm,0.4s
NB2 **NORSAR Subarra** 50.96 329 P P 03 09 51.5 +0.5
comp=Z,0.6nm,0.6s,baz=107,slow=7.4
NOA **NORSAR Array B** 50.96 329 P P 03 09 52.0 +0.9
comp=Z,0.5nm,0.6s,baz=107,slow=7.4,SNR=4.8
comp=Z,0.5nm,0.6s
NBO00 **NORSAR Array S** 51.16 329 P P 03 09 51.9 -0.6
NBO00 IAmb IAmb 03 10 23.6
comp=Z,8.5nm,1.1s
KSRS **Korea Array** 52.88 61 P P 03 10 04.0 -1.6
comp=Z,0.5nm,0.3s,baz=270,slow=3.6,SNR=1.9
comp=Z,0.5nm,0.3s
KLR **Kul'dur** 55.04 47 P P 03 10 22.9 +1.7
comp=Z,2.0nm,1.0s,baz=327,slow=6.1,SNR=4.3
comp=Z,2.0nm,1.0s
EKA **Eskdalemuir Ar** 57.55 321 P P 03 10 39.8 +0.7
comp=Z,0.3nm,0.4s,baz=99,slow=8.0,SNR=1.9
comp=Z,0.3nm,0.4s
TORD **Torodi Ar. Bea** 61.68 271 P P 03 11 09.0 +0.9
comp=Z,0.5nm,0.7s,baz=62,slow=6.3,SNR=2.4
comp=Z,0.5nm,0.7s
C19K **Lookout Ridge** 79.64 15 P P 03 12 57.1 +0.3
D19K **Kuna River** 80.45 15 P P 03 13 01.9 +0.7
D19K IAmb IAmb 03 13 15.9
comp=Z,7.0nm,1.4s
D25K **Kavik River** 82.18 11 P P 03 13 11.8 +1.4
D25K IAmb IAmb 03 13 13.1
comp=Z,2.4nm,0.8s
E28M **Babbage River** 83.92 9 P P 03 13 20.8 +1.5
BMAR **Burnt Mountain** 84.17 11 P P 03 13 22.5 +1.9

KRSC 16 03:08:04.8±1.4, 48°01N×156°30E, h16km±45km, MI4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	3.98	16	eP	Pn	03 09 08.9	+3.8
KDTR				eS	Sn	03 09 55.6	+4.2
ASAK	**Asacha**	4.50	13	eP	Pn	03 09 15.4	+2.9
MTVR	**Mutnovka**	4.64	14	eP	Pn	03 09 18.8	+4.4
MTVR				eS	Sn	03 10 12.8	+4.8
GRL	**Gorelyy**	4.69	13	eP	Pn	03 09 18.8	+3.7
UGLR	**Uglovaya**	5.45	16	eP	Pn	03 09 30.8	+5.3
AVH	**Avacha**	5.49	15	eP	Pn	03 09 31.5	+5.5
KOK	**Koryaka**	5.50	15	eP	Pn	03 09 30.0	+3.9

*JMA **16** 03:29:35.8±0.3, 39°N±1°×13°4E±°, h469km±2km, MV3.1/37, SEA OF JAPAN*
*IDC **16** 03:29:36.9±0.8, 38°61N×133°76E, h459km±12km, mb2.8/8, mbtmp3.7/14, Error ellipse: s-maj=17.9km s-min=14.6km az=60.0*
ISC 16 03:29:36.8±0.7, 38°64N±0°08×133°68E±0°09, h450km, n30, σ0°89/33, mb3.2/8, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	2.67	106	eP	P	03 30 42.4	+1.0
JJH	**Hakui**	2.99	124	eP	P	03 30 44.5	+0.7
JSZ	**Suzu**	3.14	111	eP	P	03 30 45.5	+0.7
JWT	**Wachi**	3.62	157	eP	P	03 30 49.5	+0.7
JWT				eS	S	03 31 47.3	+0.1
JSD	**Sado**	3.65	98	P	P	03 30 49.3	+0.4
JHS	**Saijyo**	3.66	187	P	P	03 30 49.6	+0.4
JHS				eS	S	03 31 47.8	-0.1
JNG	**Nsakai**	4.16	121	P	P	03 30 53.7	+0.2
MAJO	**Matsushiro**	4.16	119	P	P	03 30 53.3	-0.1
MJAR	**Matsushiro Arr**	4.16	119	P	P	03 30 53.4	0.0
	6.2nm,0.7s,baz=303,slow=8.8,SNR=11						
MJAR				S	S	03 31 57.1	+1.4
	2.1nm,1.0s,baz=312,slow=18,SNR=2.3						
JGF	**Kuroka**	4.22	135	P	P	03 30 55.7	+1.7
KSRS	**Korea Array**	4.70	257	P	P	03 31 00.1	+1.8
	0.9nm,0.4s,baz=78,slow=9.8,SNR=2.7						
JTU	**Tsushima**	5.36	221	P	P	03 31 06.3	+1.6
JMM	**Marumori**	5.65	96	P	P	03 31 07.0	-0.5
USRK	**Ussuriysk Ar.**	5.70	348	P	P	03 31 09.3	+1.5
	21nm,0.5s,baz=170,slow=9.6,SNR=146						
JNU	**Nakatsue**	5.96	203	P	P	03 31 11.6	+0.8
JNU	**Nakatsue**	5.96	203	P	P	03 31 11.2	+0.4
	4.9nm,0.4s,baz=201,slow=0.5,SNR=8.3						
JTM	**Tenmabayashi**	6.08	67	P	P	03 31 13.5	+1.6
ERM	**Erimo**	7.98	62	P	P	03 31 32.7	+0.8
JEM	**Erimo**	7.99	62	P	P	03 31 32.8	+0.9
ASAJ	**Asahikawa**	8.65	48	P	P	03 31 38.4	-0.7
	3.2nm,0.5s,baz=222,slow=19,SNR=5.7						
KLR	**Kul'dur**	10.68	353	P	P	03 32 01.6	+0.5
	3.3nm,0.6s,baz=172,slow=6.8,SNR=14						
SONM	**Songino Array**	21.81	304	P	P	03 33 54.8	+0.2
	0.7nm,0.5s,baz=110,slow=8.6,SNR=3.9						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	38.04	299	P	P	03 36 14.7	-0.3
	0.4nm,0.5s,baz=88,slow=8.9,SNR=4.1						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	40.15	306	P	P	03 36 31.2	-0.8
	0.6nm,0.5s,baz=89,slow=8.5,SNR=5.9						
	0.6nm,0.5s						
ILAR	**Eielson Array**	51.44	33	P	P	03 37 57.7	-0.7
	0.3nm,0.7s,baz=283,slow=7.7,SNR=4.9						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	58.27	179	P	P	03 38 46.3	-0.8
	0.5nm,0.8s,baz=355,slow=7.7,SNR=6.5						
	0.5nm,0.8s						
FINES	**FINESS Array B**	64.44	329	P	P	03 39 26.9	-0.3
	0.8nm,0.6s,baz=57,slow=7.0,SNR=4.7						
	0.8nm,0.6s						
HFS	**Hagfors**	69.97	333	P	P	03 40 01.1	-0.3
	0.8nm,0.5s,baz=76,slow=6.3,SNR=12						
	0.8nm,0.5s						
NB2	**NORSAR Subarra**	70.21	334	P	P	03 40 02.7	-0.1
	comp=Z,0.3nm,0.7s,baz=50,slow=5.9						
NOA	**NORSAR Array B**	70.21	334	P	P	03 40 02.9	0.0
	comp=Z,0.3nm,0.6s,baz=45,slow=5.7,SNR=4.1						
	comp=Z,0.3nm,0.6s						

IGQ 16 03:30:30.2±0.0, 0°8S±0°4×91°1W±0°4, h0km, M4.2/14, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCH1	**Volcn Chico**	0.04	62	P	Pg	03 30 30.8	-0.1
PVIL	**Puerto Villami**	0.23	130	P	Pg	03 30 33.5	-1.0
CEAZ	**Cerra Azul, Ca**	0.28	268	P	Pg	03 30 36.5	+0.9
FER2	**Fernandina2, P**	0.44	319	S	Sb	03 30 49.5	+1.6
FER2				P	Pb	03 30 40.1	-0.7
FER1	**Fernandina1, P**	0.45	314	P	Pn	03 30 42.7	-1.2
ALCE	**Alcedo, Punta**	0.92	293	P	Pg	03 30 38.8	-9.0

*UPA **16** 03:39:31.0±2.0, 7°04N×78°07W, h9km±16km, MW3.7*
*RSNC **16** 03:39:32.5±0.0, 7°N±2°×7°8W±°, h5km±4km, M2.9, mb3.9, ML2.9*
ISC 16 03:39:29.7±1.2, 7°06N±0°03×78°09W±0°03, h7km±9km, n42, σ1°61/68, 1C-1D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	0.29	72	∥iP	Pg	03 39 36.5	+1.1
PTAC				eS	Sg	03 39 40.0	+0.6
PTAC	**Punta Ardita,**	0.29	72	P	Pg	03 39 36.4	+0.9
PTAC				S	Sg	03 39 39.7	+0.3
SOLC	**Bahia Solano**	1.06	141	P	Pg	03 39 49.9	-0.3
SOLC				S	Sg	03 40 04.1	+0.1
UPD2	**Meteti**	1.48	3	∥iP	Pg	03 39 58.1	-0.1
UPD2				eS	Sg	03 40 17.4	-0.1
APAC	**Apartado, Choc**	1.71	61	P	Pn	03 40 00.5	+0.6
APAC				S	Sb	03 40 24.0	+0.7
CAPC	**Capurgana**	1.73	25	P	Pn	03 40 00.7	+0.5
CAPC				S	Sn	03 40 22.7	+0.2
DBBC	**Dabeiba**	1.86	91	P	Pn	03 40 01.6	-0.5
DBBC				S	Sn	03 40 25.4	-0.5
TOTI	**Torti**	1.88	353	eP	Pn	03 40 03.4	+1.3
TOTI				eS	Sb	03 40 27.2	-0.7
PIZC	**Pizarro, Choco**	2.20	161	P	Pn	03 40 06.7	+0.1
AZU	**Azuero**	2.29	289	eP	Pn	03 40 09.5	+1.7
AZU				eS	Sn	03 40 35.7	-0.6
AZU	**Azuero**	2.29	289	P	Pn	03 40 09.3	+1.5
AZU				S	Sn	03 40 35.7	-0.6
CHPO	**Chepo, Panama**	2.33	334	eP	Pn	03 40 09.0	+0.6
CHPO				eS	Sn	03 40 36.6	-0.8
FLAM	**Flamenco Islan**	2.34	322	eP	Pn	03 40 09.1	+0.6
FLAM				eS	Sn	03 40 38.2	+0.7
UPA	**Univ. de Panam**	2.39	323	eP	Pn	03 40 09.7	+0.5
UPA				eS	Sn	03 40 39.9	+1.2
ARRA3	**Arraijan, Pana**	2.45	321	eP	Pn	03 40 10.9	+0.8
LCBC	**Los crdobas,**	2.47	43	P	Pb	03 40 13.2	-1.2
LCBC				S	Sb	03 40 44.8	-0.3
CHIT3	**Chitre**	2.48	291	eP	Pn	03 40 12.3	+1.8
CHIT3				eS	Sn	03 40 41.2	+0.3
ZANG	**Zanguenga, Cho**	2.58	317	eP	Pn	03 40 13.1	+1.2
ZANG				eS	Sn	03 40 46.0	+2.5
UREC	**San Jos de Ur**	2.63	75	eP	Pn	03 40 13.2	+0.7
UREC	**San Jos de Ur**	2.63	75	P	Pn	03 40 13.3	+0.8
FRIJ	**El Hiral**	2.69	323	eP	Pn	03 40 14.0	+0.6
BCIP	**Isla Barro Col**	2.72	321	eP	Pn	03 40 14.5	+0.7
BCIP				eS	Sn	03 40 47.1	+0.1
BCIP	**Isla Barro Col**	2.72	321	P	Pn	03 40 14.3	+0.5
BCIP				S	Sn	03 40 48.4	+1.5
CRIS3	**El Cristo, Coc**	2.77	296	eP	Pn	03 40 16.1	+1.5
PLMC	**San Jos del P**	2.79	140	P	Pn	03 40 12.8	-2.0
CALO3	**Calobre, Verag**	3.00	295	eP	Pn	03 40 19.3	+1.6
MALC	**Bahia Malaga**	3.12	166	P	Pn	03 40 21.2	+2.0
GMAL	**Guarumal, Vera**	3.20	283	P	Pn	03 40 22.8	+2.4
GMAL				S	Sn	03 40 59.3	+0.6
ZARC	**Zaragoza, Cauc**	3.23	82	P	Pn	03 40 21.3	+0.4
ZARC				S	Sn	03 40 57.7	-1.9
GUY2C	**Guyana, Caldas**	3.26	124	P	Pn	03 40 22.2	+0.5
GUY2C				S	Sn	03 41 04.3	+3.3
YOTC	**Yotoco, Valle**	3.51	150	P	Pn	03 40 26.2	+1.4
NORC	**Norcasia**	3.53	115	P	Pn	03 40 28.7	+3.8
NORC				S	Sn	03 41 10.4	+3.5
PTBC	**PUERTO BERRIO,**	3.64	98	P	Pn	03 40 27.2	+0.7
PTBC				S	Sn	03 41 12.4	+2.6
SJCC	**San Jacinto, C**	4.03	45	P	Pn	03 40 33.1	+1.2
SJCC				S	Sn	03 41 18.8	-0.6
ORTC	**Ortega, Tolima**	4.22	138	P	Pb	03 40 41.1	-3.1
SPBC	**San Pablo de B**	4.23	109	P	Pn	03 40 37.2	+2.6
ROSC	**El Rosal**	4.35	120	P	Pn	03 40 41.1	+4.6
PRAC	**Prado**	4.60	136	P	Pb	03 40 48.0	-2.8
PRAC				S	Sb	03 41 44.1	-2.4
POPC	**Popayan, Colom**	4.70	163	P	Pn	03 40 43.1	+1.8
OCAC	**Ocana**	4.87	76	P	Pn	03 40 44.6	+1.1
OCAC				S	Sn	03 41 38.9	-1.4
BBAC	**Balboa, Cauca**	5.07	170	P	Pn	03 40 48.2	+1.9
	4.4nm,1.1s						
SDV	**Santo Domingo**	7.60	76	P	Pn	03 41 22.1	+1.0

IDC 16 03:46:24.5±1.4, 19°35S×178°42W, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=49.7km s-min=31.4km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	44.38	261	P	P	03 54 37.1	-0.1
	0.2nm,0.3s,baz=96,slow=7.6,SNR=8.6						
	0.2nm,0.3s						
ASAR	**Alice Springs**	44.41	256	P	P	03 54 37.2	-0.2
	0.7nm,0.5s,baz=96,slow=7.5,SNR=9.7						
	0.7nm,0.5s						
VNDA	**Vanda**	59.02	185	P	P	03 56 25.6	0.0
	0.4nm,0.6s,baz=31,slow=5.9,SNR=1.7						
	0.4nm,0.6s						
ILAR	**Eielson Array**	87.28	13	P	P	03 59 12.8	+0.2
	0.3nm,0.8s,baz=224,slow=6.1,SNR=2.3						
	0.3nm,0.8s						
PDAR	**Pinedale Array**	88.40	43	P	P	03 59 18.5	-0.2
	0.2nm,0.5s,baz=213,slow=4.3,SNR=1.8						
	0.2nm,0.5s						

TEH 16 04:30:49.9, 33°80N×51°21E, h9km±22km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QAMS	**Qamsar**	0.17	112	Pg	Pg	04 30 54.2	+0.6
QAMS				Sg	Sg	04 30 57.6	+1.4
IKLA	**Kolahroud**	0.57	147	Pg	Pg	04 31 01.4	+0.4
KRSH	**Karshahi**	0.79	77	Pg	Pb	04 31 05.9	0.0
ISFB	**Sefidab**	1.02	57	Pg	Pg	04 31 09.5	+0.1
ISFB				Sg	Sb	04 31 23.3	+0.1
IQOM	**Qom**	1.05	354	Pg	Pg	04 31 09.9	-0.2
IPIR	**Pirpir**	1.14	194	Pg	Pg	04 31 11.6	-0.4
IVRN	**Varamin**	1.27	19	Pg	Pg	04 31 14.3	+0.1
IZEF	**Zefreh**	1.30	134	Pg	Pn	04 31 14.4	-0.1
IGAR	**Gharneh**	1.56	153	Pg	Pb	04 31 19.1	+0.1
JHBN	**Jahan bin**	1.63	197	Pg	Pb	04 31 19.8	-0.5
ZNGN	**Zangian**	1.70	190	Pg	Pb	04 31 21.9	+0.3
IBRJ	**Brojen**	1.89	179	Pn	Pb	04 31 24.5	-0.1
IDMV	**Damavand**	1.90	21	Pn	Pb	04 31 24.7	-0.2
IRAZ	**Razeghan**	1.92	327	Pn	Pb	04 31 24.9	-0.3
IMHD	**Mahdasht**	1.94	347	Pn	Pb	04 31 25.0	-0.4
TEH	**Tehran**	1.94	4	Pn	Pb	04 31 25.0	-0.5
ILAS	**Lasjerd**	2.14	42	Pn	Pb	04 31 27.9	-1.0
ANAR	**Anarak**	2.19	105	Pn	Pb	04 31 28.9	-0.9
HSAM	**Samen**	2.21	281	Pn	Pb	04 31 28.8	-1.3
IRAM	**Ramesheh**	2.21	153	Pn	Pb	04 31 29.4	-0.9
IFIR	**Firoozkooh**	2.23	34	Pn	Pb	04 31 29.7	-0.9
QABG	**Abgarm-Qazvin**	2.33	325	Pn	Pb	04 31 30.8	-1.4
IALA	**Alasht**	2.63	29	Pn	Pn	04 31 35.0	+2.2
KLST	**Kelardasht - M**	2.72	357	Pn	Pb	04 31 37.0	-1.8
IANJ	**Anjilo**	2.78	52	Pn	Pn	04 31 36.9	+2.1
KLNJ	**Kolanjah**	2.80	173	Pn	Pb	04 31 37.9	-2.4
IKFM	**Kafar-mosalman**	2.82	265	Pn	Pn	04 31 37.7	+2.6
IBZA	**Bozab**	2.86	284	Pn	Pn	04 31 38.3	+2.3
ICHK	**Chekchek**	3.10	119	Pn	Pn	04 31 41.4	+2.2
IMEH	**Mehriz**	3.74	129	Pn	Pn	04 31 50.4	+2.4
IDHR	**Dehrash**	4.10	284	Pn	Pn	04 31 55.4	+2.5
TNSJ	**Nastanj**	4.49	86	Pn	Pn	04 32 00.5	+2.2
TPRV	**Parvadeh(Tabas**	4.64	98	Pn	Pn	04 32 02.3	+2.0
TKDS	**Koohdasht(Taba**	4.93	91	Pn	Pn	04 32 07.0	+2.7
ISFR	**Sfrayin**	6.42	58	Pn	Pn	04 32 27.8	+2.9
IAKL	**Akhelmad**	6.78	64	Pn	Pn	04 32 32.3	+2.5

*IDC **16** 04:40:50.7±9.5, 24°20S×179°91W, h461km±112km, mb2.6/4, mbtmp3.7/5, Error ellipse: s-maj=76.2km s-min=31.1km az=13.0*
ISC 16 04:40:53.0±1.3, 24°35±0°1×179°9W±0°2, h500km, n6, σ1°57/7, mb3.1/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	14.11	190	P	P	04 43 53.4	-0.3
	3.3nm,0.3s,baz=36,slow=4.8,SNR=6.5						
URZ				S	S	04 46 23.0	+0.3
	5.2nm,0.8s,baz=292,slow=19,SNR=1.5						
CTA	**Charters Tower**	31.60	271	P	P	04 46 35.2	+0.9
	0.1nm,0.3s,baz=97,slow=7.4,SNR=2.6						
	0.1nm,0.3s						
ASAR	**Alice Springs**	42.08	261	P	P	04 48 00.9	+0.2
	0.2nm,0.4s,baz=89,slow=7.4,SNR=4.6						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	42.50	267	P	P	04 48 03.6	-0.4
	0.6nm,0.3s,baz=97,slow=8.2,SNR=37						
	0.6nm,0.3s						
TXAR	**Lajitas Array**	90.56	58	P	P	04 53 02.9	+1.1
	0.2nm,0.7s,baz=224,slow=6.3,SNR=2.6						
	0.2nm,0.7s						
AKASG	**Malin Array Be**	145.41	327	PKPbc	PKiKP	04 59 34.9	-2.7
	0.6nm,0.4s,baz=48,slow=1.4,SNR=1.5						

GUC 16 04:41:10.7±0.6, 41°08S×72°75W, h102km±3km, ML3.1, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL03	**Petrohue**	0.27	103	eP	Pn	04 41 24.8	-0.5
LL03				eS	Sn	04 41 35.7	-0.5
LL03				IAML		04 41 37.1	
	comp=N,1μm,0.5s						
LL04	**Puerto Octay**	0.31	57	eP	Pn	04 41 24.7	-0.8
LL05	**Los Muermos**	0.64	239	iP	Pn	04 41 27.5	-0.2
LR05	**Currie**	1.02	34	eP	Pn	04 41 30.9	-0.5
LR05				IAML		04 41 47.9	
	comp=N,391nm,0.3s						
LL06	**Loncomilla**	1.31	210	eP	Pn	04 41 34.5	-0.3
LL06				eS	Sn	04 41 52.4	-0.5
LL01	**San Ignacio de**	1.32	169	eP	Pn	04 41 35.0	+0.1
LL01				eS	Sn	04 41 53.0	-0.2
LL01				IAML		04 41 56.1	
	comp=E,156nm,0.2s						
LR02	**Universidad Au**	1.33	343	eP	Pn	04 41 34.8	-0.2
LR02				eS	Sn	04 41 53.1	-0.2
LR03	**Panguipulli**	1.48	12	eP	Pn	04 41 36.5	-0.3
LR03				eS	Sn	04 41 56.1	-0.4
LR03				IAML		04 41 57.1	
	comp=E,682nm,0.6s						
GO06	**Curarrehue**	1.78	34	eP	Pn	04 41 40.4	-0.3
LL07	**Hotel Espejo d**	1.83	197	eP	Pn	04 41 41.0	-0.2
LL07				eS	Sn	04 42 03.6	-0.8
LL07				IAML		04 42 04.0	
	comp=E,704nm,0.2s						
GO07	**Milladeo Hill,**	2.15	198	eP	Pn	04 41 44.8	-0.3

IDC 16 04:53:31.7±2.9, 3°48S×136°41E, h0km, mb3.4/2, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=104.0km s-min=32.9km az=80.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	16.49	187	Pn	P	04 57 26.4	-1.0
	0.3nm,0.3s,baz=8.6,slow=12,SNR=24						
WRA				Sn	Sn	05 00 11.9	-17
	0.1nm,0.3s,baz=2.1,slow=23,SNR=2.4						
	1.9nm,0.5s						
ASAR	**Alice Springs**	20.22	187	P	P	04 58 07.7	-0.8
	0.9nm,0.6s,baz=11,slow=11,SNR=8.4						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	69.01	323	P	P	05 04 39.3	+0.1
	0.3nm,0.5s,baz=116,slow=7.5,SNR=2.4						
	0.3nm,0.5s						

*IDC **16** 04:54:43.1±2.7, 35°17N×140°64E, h0km, mb3.8/4, mbtmp3.7/6, ML2.7/2, Error ellipse: s-maj=75.9km s-min=22.5km az=72.0*
*JMA **16** 04:54:49.3±0.2, 35°2N±0°5×140°3E±0°6, h12km±1km, MV2.9/20, KUJUKURI COAST BOSO PEN*
JMA Felt I J1 at KUJUKURI COAST BOSO PEN .
ISC 16 04:54:47.3±0.8, 35°11N±0°03×140°32E±0°05, h10km, n20, σ2°14/19, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	0.04	355	iP	Pg	04 54 51.7	+2.5
JKUC	**kamogawauchiur**	0.11	297	iP	Pg	04 54 51.3	+1.3
JKUC				S	Sg	04 54 54.1	+2.1
BSO4	**Boso 4**	0.12	173	iP	Pg	04 54 53.4	+3.3
JCN	**Nagara**	0.32	343	P	Pb	04 54 55.8	+0.6
JCN				eS	Sb	04 55 02.3	+1.9
BSO3	**Boso 3**	0.35	153	P	Pg	04 54 57.5	+3.4
TATJ	**Tateyama 2**	0.36	257	P	Pb	04 54 56.4	+0.6
TATJ				S	Sb	04 55 03.9	+2.3
JSMT	**Sammumatsuo**	0.54	11	eP	Pg	04 54 59.6	+1.8
BSO1	**Boso 1**	0.71	130	P	Pg	04 55 02.5	+1.6
BSO1				X		04 55 14.0	
JHJ	**Hachijo jima 2**	2.04	193	Pn	Pn	04 55 20.5	-1.2
	16nm,0.3s,baz=78,slow=21,SNR=2.6						
JHJ				Sn	Sn	04 55 43.9	-3.3
	58nm,0.3s,baz=73,slow=19,SNR=5.5						
	37nm,0.3s						
MJAR	**Matsushiro Arr**	2.23	310	Pn	Pn	04 55 23.6	-0.8
	0.5nm,0.3s,baz=124,slow=15,SNR=19						
MJAR				Sn	Sn	04 55 51.8	-0.2
	0.4nm,0.3s,baz=126,slow=17,SNR=6.6						
	7.1nm,0.5s						
H11N2	**WAKE ISLAND Hy**	28.01	116	T	T	05 30 03.0	
	baz=309,slow=75,SNR=73						
H11N1	**WAKE ISLAND Hy**	28.02	116	T	T	05 29 53.1	
	baz=309,slow=75,SNR=121						
H11N3	**WAKE ISLAND Hy**	28.03	116	T	T	05 29 53.9	
	baz=309,slow=75,SNR=108						
H11S3	**WAKE ISLAND Hy**	28.64	118	T	T	05 30 32.5	
	baz=311,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	28.64	118	T	T	05 30 42.3	
	baz=311,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	28.66	118	T	T	05 30 50.7	
	baz=311,slow=76,SNR=18						
ZALV	**Zalesovo Beam**	42.58	314	P	P	05 02 41.6	-1.6
	0.5nm,0.4s,baz=101,slow=7.5,SNR=2.1						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	44.41	304	P	P	05 02 56.9	-1.3
	0.8nm,0.7s,baz=86,slow=9.9,SNR=4.9						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	46.51	309	P	P	05 03 13.1	-1.5
	1.3nm,0.6s,baz=83,slow=7.4,SNR=12						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	55.04	187	P	P	05 04 17.2	-2.0
	0.5nm,0.7s,baz=2.2,slow=7.9,SNR=5.7						
	0.5nm,0.7s						

TRN 16 04:59:46.2, 14°10N×58°44W, h39km, MD4.2, 4D, Far North-east of Barbados., North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	1.45	229	eP	Pn	05 00 12.3	+2.3
BCHC	**Barbados, Cave**	1.51	231	eP	Pn	05 00 09.9	-0.9

ABD	La Joyeuse, An	3.77 309	*e*P	Pn	05 00 43.6	+1.6
GRFF	Grenada Fort F	3.81 238	*e*P	Pn	05 00 44.2	+1.7
GRFF			*e*S	Sn	05 01 26.5	+0.5
ANBD	Bethesda, Anti	4.34 313	*e*P	Pn	05 00 51.3	+1.5
ANBD			*e*S	Sn	05 01 39.5	+0.3
MBFL	Flemmings, Mon	4.49 306	*e*P	Pn	05 00 53.7	+1.9
MBFL			*e*S	Sn	05 01 43.4	+0.5
TRN	Trinidad (W)	4.49 221	*e*P	Pn	05 00 53.7	+1.9
TRN			*e*S	Sn	05 01 43.2	+0.3

IDC ***16*** *05:06:08.6±0.7, 0.″17S×16.″16W, h0km, mb4.0/12, mbtmp4.0/13, ML3.5/1, MS3.3/12, Error ellipse: s-maj=28.2km s-min=18.6km az=110.0*

ISC 16 05:06:10.2±0.7, 0.″2S±0.″1×16.″1W±0.″1, h10km, n29, σ0°68/13, mb3.9/12, MS3.3/11, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	7.79	168	T	T	05 16 00.5	
	baz=347,slow=74,SNR=162						
H10N3	ASCENSION HYDR	7.80	168	T	T	05 16 01.1	
	baz=347,slow=74,SNR=151						
H10N1	ASCENSION HYDR	7.81	168	T	T	05 15 48.3	
	baz=347,slow=74,SNR=228						
H10S3	ASCENSION HYDR	8.85	171	T	T	05 17 08.0	
	baz=350,slow=74,SNR=149						
H10S2	ASCENSION HYDR	8.86	170	T	T	05 17 11.8	
	baz=230,slow=74,SNR=85						
DBIC	Dimbokro	13.14	59	Pn	Pn	05 09 16.6	-0.5
	0.3nm,0.3s,baz=175,slow=16,SNR=1.3						
DBIC				Sn	Sn	05 11 29.9	-14
	0.5nm,0.3s,baz=149,slow=13,SNR=4.2						
DBIC				LR	LR	05 13 23.5	
	comp=Z,136nm,20.3s,baz=218,slow=33 3.5nm,0.8s						
TORD	Torodi Ar. Bea	22.08	53	P	P	05 11 05.2	-0.4
	16nm,0.8s,baz=236,slow=11,SNR=43						
TORD				LR	LR	05 19 03.9	
	comp=Z,62nm,18.1s,baz=300,slow=35 16nm,0.8s						
MDT	Midelt	34.56	17	LR	LR	05 27 02.2	
	comp=Z,49nm,18.5s,baz=178,slow=36						
BDFB	Brasilia	35.03	242	LR	LR	05 26 47.2	
	comp=Z,30nm,18.1s,baz=166,slow=35						
MDP	Montagnes des	36.83	279	LR	LR	05 25 42.0	
	comp=Z,34nm,18.4s,baz=90,slow=32						
ESDC	Sonseca Array	41.18	14	LR	LR	05 32 01.6	
	comp=Z,30nm,18.4s,baz=138,slow=38						
KEST	Kesra	42.88	31	LR	LR	05 33 15.2	
	comp=Z,82nm,18.5s,baz=240,slow=38						
VAE	Valguarnera	46.89	34	LR	LR	05 36 11.9	
	comp=Z,77nm,18.4s,baz=128,slow=38						
CPUP	Villa Florida	47.42	233	LR	LR	05 32 12.7	
	comp=Z,43nm,21.2s,baz=58,slow=33						
BOSA	Boshof	48.63	129	P	P	05 14 54.5	-0.2
	2.8nm,0.6s,baz=311,slow=7.3,SNR=7.8 2.8nm,0.6s						
LPAZ	La Paz	53.69	250	P	P	05 15 32.4	-1.1
	0.7nm,0.8s,baz=91,slow=15,SNR=3.7 0.7nm,0.8s						
EKA	Eskdalemuir Ar	56.33	9	P	P	05 15 51.3	+0.2
	0.5nm,0.7s,baz=193,slow=5.8,SNR=1.7 0.5nm,0.7s						
BRTR	Keskin Array B	60.25	43	P	P	05 16 19.1	+0.1
	0.4nm,0.5s,baz=230,slow=6.8,SNR=2.1 0.4nm,0.5s						
ATAH	Atahualpa	62.47	262	LR	LR	05 41 38.8	
	comp=Z,49nm,21.7s,baz=4.1,slow=34						
PLCA	Paso Flores	63.64	224	LR	LR	05 42 12.6	
	comp=Z,22nm,18.8s,baz=66,slow=34						
HFS	Hagfors	64.42	16	P	P	05 16 47.0	+0.6
	0.3nm,0.5s,baz=193,slow=5.8,SNR=1.2 0.3nm,0.5s						
NOA	NORSAR Array B	64.55	14	P	P	05 16 48.5	+1.2
	0.2nm,0.4s,baz=214,slow=7.9,SNR=2.3						
NOA				LR	LR	05 44 39.3	
	comp=Z,12nm,20.3s,baz=105,slow=36 0.2nm,0.4s						
FINES	FINESS Array B	69.31	20	P	P	05 17 17.0	-0.5
	0.9nm,0.7s,baz=224,slow=6.4,SNR=4.3 0.9nm,0.7s						
SNAA	Sanae	71.90	176	P	P	05 17 33.1	-0.2
	2.1nm,0.8s,baz=332,slow=8.1,SNR=5.0 2.1nm,0.8s						
MAW	Mawson	85.66	158	P	P	05 18 49.2	+0.4
	3.4nm,0.8s,baz=308,slow=8.6,SNR=5.0 3.4nm,0.8s						
TXAR	Lajitas Array	87.92	299	P	P	05 19 00.9	0.0
	0.3nm,1.0s,baz=121,slow=3.5,SNR=2.1 0.3nm,1.0s						
QSPA	South Pole Qui	89.91	180	P	P	05 19 10.3	+0.9
	5.2nm,0.9s,baz=239,slow=1.1,SNR=23 5.2nm,0.9s						
ASAR	Alice Springs	142.49	131	PKhKP	PKPpre	05 25 39.1	
	0.4nm,0.7s,baz=220,slow=3.1,SNR=4.9						
ASAR				PKP	pPKPdf	05 25 46.0	-0.6
	1.2nm,0.9s,baz=212,slow=1.7,SNR=6.7						
WRA	Warramunga Arr	144.85	126	PKP	PKPbc	05 25 47.2	-0.4
	3.3nm,0.9s,baz=239,slow=2.7,SNR=19						

NEIC ***16*** *05:33:51.0±2.5, 34.″63N±0.″06×46.″49E±0.″06, h10km±1km, mb4.1/31, Error ellipse: s-maj=12.6km s-min=5.7km az=38.0*

IDC ***16*** *05:33:52.9±0.9, 34.″56N×46.″09E, h0km, mb3.9/17, mbtmp3.9/26, ML3.5/9, MS3.2/17, Error ellipse: s-maj=18.3km s-min=12.1km az=163.0*

TEH ***16*** *05:33:53.7, 34.″63N×46.″29E, h8km±18km, ML4.2*

ISN ***16*** *05:33:54.5±0.6, 34.″66N×46.″25E, h22km±15km, ML4.1*

AFAD ***16*** *05:33:55.7±0.0, 34.″71N×46.″17E, h5km±3km, MW4.3*

NAO ***16*** *05:34:13.8, 36.″07N×44.″83E, h33km, mb3.6*

ISC 16 05:33:53.6±0.9, 34.″60N±0.″02×46.″28E±0.″03, h14km±6km, n239, σ2°29/269, mb4.1/26, MS3.0/12, 8C-3D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.13	41	Pg	Pg	05 33 56.5	-0.9
IGHG	Ghaleghazi	0.36	139	Pg	Pg	05 34 02.0	+1.0
GLG1	Gilan-e-Gharb	0.57	212	Pg	Pg	05 34 05.3	+0.3
GLG1				Sg	Sb	05 34 15.1	+1.6
KGS1	Ghasr-e-Shirin	0.58	261	Pg	Pg	05 34 05.2	+0.2
ILIN	Lien	0.65	60	Pg	Pg	05 34 06.0	-0.3
ILIN				Sg	Sg	05 34 16.0	+1.1
KCHF	Cheshme Sefid,	0.71	117	Pg	Pg	05 34 07.7	+0.3
ILBA	Ilam Banvizeh	0.97	184	Pg	Pb	05 34 12.9	+0.6
ILBA				Sg	Sn	05 34 27.6	+1.1
SNQR	Sonqor, Kerman	1.14	77	Pg	Pb	05 34 15.3	+0.1
IBZA	Bozab	1.31	95	Pg	Pn	05 34 18.4	+0.7
IBDR	Badra	1.51	191	*e*Pg	Pg	05 34 23.0	+0.3
IBDR				*e*Sg	Sg	05 34 43.0	+0.6
IBDR				AML	AML	05 34 50.0	
	comp=E,3μm,0.6s						
IBDR				AML	AML	05 35 00.6	
	comp=N,2μm,0.5s						
SDS1	Sardasht. Az.	1.68	337	Pg	Pn	05 34 24.0	+1.4
IKFM	Kafar-mosalman	1.69	129	Pg	Pb	05 34 25.3	+1.0
IKRK	Kirkuk	1.78	297	*e*Pn	Pn	05 34 25.0	+1.0
IKRK				*e*Sn	Sb	05 34 48.0	-0.2
HSAM	Samen	1.96	101	Pn	Pb	05 34 29.6	+0.4
BHD	Baghdad	2.06	231	*e*Pn	Pb	05 34 30.0	-0.8
BHD				*e*Sn	Sb	05 34 56.0	-0.3
BHD				AML	AML	05 35 05.0	
	comp=E,2μm,0.6s						
MAHB	Mahabad	2.21	348	Pn	Pb	05 34 32.6	-0.9
IHSH	Hashtrud	2.81	16	Pn	Pn	05 34 40.9	+2.4
QABG	Abgarm-Qazvin	2.92	67	Pn	Pn	05 34 43.3	+3.5
IAZR	Azarshahr	3.08	356	Pn	Pn	05 34 44.7	+2.6
IRAZ	Razeghan	3.10	74	Pn	Pn	05 34 45.3	+3.0
YOVA	Hakkari_Yksek	3.39	332	P	Pn	05 34 50.0	+3.7
YOVA				S	Sn	05 35 30.0	+3.6
ISRB	Sarab	3.41	19	Pn	Pn	05 34 49.6	+3.1
HAKT	HAKKARI	3.61	326	P	Pn	05 34 50.8	+1.5
HAKT				S	Sn	05 35 32.6	+0.7
ITBZ	Tabriz	3.63	358	Pn	Pn	05 34 52.0	+2.5
ISHB	Shabestar	3.71	352	Pn	Pn	05 34 53.3	+2.6
IMHD	Mahdasht	3.75	72	Pn	Pn	05 34 54.4	+3.3
IHRS	Heris	3.76	9	Pn	Pn	05 34 54.4	+3.0
IQOM	Qom	3.95	85	Pn	Pn	05 34 56.9	+2.9
IMRD	Marand	4.13	354	Pn	Pn	05 34 59.6	+3.2
SIRN	Sırnak	4.26	314	P	Pn	05 34 59.9	+1.7
SIRN				S	Sn	05 35 46.4	-1.3
IPIR	Pirpir	4.29	115	Pn	Pn	05 35 01.4	+2.7
QAMS	Qamsar	4.33	100	Pn	Pn	05 35 02.6	+3.5
KLST	Kelardasht - M	4.34	62	Pn	Pn	05 35 02.6	+3.2
JHBN	Jahan bin	4.36	122	Pn	Pn	05 35 02.4	+2.7
GRMI	Germi	4.39	17	Pn	Pn	05 35 03.4	+3.4
OZAP	Van, Ozalp-Mer	4.45	336	P	Pn	05 35 05.8	+4.9
IVRN	Varamin	4.50	83	Pn	Pn	05 35 04.8	+3.4
PERV	Siirt/Pervari-	4.50	319	P	Pn	05 35 04.1	+2.6
PERV				S	Sn	05 35 56.0	+2.3
GEVA	Gevas	4.52	326	P	Pn	05 35 04.5	+2.7
TVAN	Van	4.55	330	P	Pn	05 35 06.8	+4.6
ZNGN	Zangian	4.56	122	Pn	Pn	05 35 05.3	+2.9
IKLH	Kolahrood	4.58	105	Pn	Pn	05 35 05.7	+3.0
IDMV	Damavand	4.81	77	Pn	Pn	05 35 08.7	+2.8
MIDY	Mardin/Midyat-	4.85	307	P	Pn	05 35 08.3	+2.1
MIDY				S	Sn	05 36 01.1	-1.0
SRTM	Siirt_Merkez	4.88	315	P	Pn	05 35 07.9	+1.2
SRTM				S	Sn	05 36 04.4	+1.4
KRSH	Karshahi	4.89	96	Pn	Pn	05 35 09.7	+2.9
ISFB	Sefidab	4.93	91	Pn	Pn	05 35 09.8	+2.5
IBRJ	Brojen	4.96	121	Pn	Pn	05 35 10.6	+2.7
BLIS	Bitlis-Merkez	5.07	320	P	Pn	05 35 11.3	+2.0
BTMN	Batman	5.21	310	P	Pn	05 35 12.7	+1.5
BTMN				S	Sn	05 36 08.7	-2.4
GURO	Guroymak-BITLI	5.22	320		Pn	05 35 10.1	-1.2
MARD	Mardin	5.22	303	P	Pn	05 35 12.9	+1.6
MARD				S	Sn	05 36 10.6	-0.8
IGAR	Gharneh	5.29	113	Pn	Pn	05 35 15.5	+3.2
IZEF	Zefreh	5.32	107	Pn	Pn	05 35 16.0	+3.2
IFIR	Firoozkooh	5.41	77	Pn	Pn	05 35 17.3	+3.3
SVAN	Silvan-Diyarba	5.42	312	P	Pn	05 35 14.7	+0.7
SVAN				S	Sn	05 36 15.8	-0.4
ILAS	Lasjerd	5.54	80	Pn	Pn	05 35 19.1	+3.3
KBD	Kabd	5.54	167	P	Pn	05 35 18.2	+2.6
KBD				S	Sn	05 36 19.6	+0.6
MUSM	Mu-Merkez	5.62	318	P	Pn	05 35 17.7	+0.8
GNI	Garni	5.67	348	Pn	Pn	05 35 15.4	-2.2
GNI	Garni	5.67	348	Pn	Pn	05 35 22.2	+4.6
	comp=E,1.2nm,0.3s,baz=245,slow=17,SNR=2.7						
GNI				Lg	Lg	05 36 57.1	
	comp=E,0.7nm,0.3s,baz=220,slow=19,SNR=4.4 comp=E,4.7nm,0.4s						
KLNJ	Kolanjah	5.73	127	Pn	Pn	05 35 21.0	+2.5
IRAM	Ramesheh	5.82	117	Pn	Pn	05 35 22.6	+3.0
ANAR	Anarak	6.35	101	Pn	Pn	05 35 29.8	+2.9
KOVA	Elazig, Kovanc	6.62	310	P	Pn	05 35 31.8	+1.2
ISAD	Sadrabad	6.75	111	Pn	Pn	05 35 35.0	+2.4
ARPR	Arapgir-MALATY	7.79	307		Pn	05 35 43.7	-2.9
GAZ	Gaziantep	7.80	292	Pn	Pn	05 35 45.6	-1.1
ASF	Jabal al Asfar	8.21	255	Pn	Pn	05 35 52.0	-0.3
	comp=E,1.0nm,0.3s,baz=100,slow=15,SNR=4.4						
ASF				Lg	Lg	05 38 05.1	
	comp=E,1.8nm,0.3s,baz=27,slow=0.0,SNR=7.3 comp=E,2.4nm,0.3s						
TNSJ	Nastanj	8.57	91	Pn	Pn	05 36 00.8	+3.4
TPRV	Parvadeh(Tabas	8.80	97	Pn	Pn	05 36 04.2	+3.8
TKDS	Koohdasht(Taba	9.04	93	Pn	Pn	05 36 06.5	+2.7
MMAI	Mount Meron Ar	9.19	263	Pn	Pn	05 36 06.1	+0.3
	comp=E,1.3nm,0.3s,baz=86,slow=16,SNR=6.4						
MMAI				Sn	Sn	05 37 48.4	-0.6
	comp=E,1.3nm,0.3s,baz=72,slow=20,SNR=1.2						
MMAI				Lg	Lg	05 38 40.5	
	comp=E,3.0nm,0.3s,baz=72,slow=41,SNR=2.0						
MMAI				LR	LR	05 40 15.3	
	comp=E,114nm,20.0s,baz=22,slow=42 comp=E,1.1nm,0.3s						
BALJ	Balqa	9.25	257	Pn	Pn	05 36 06.5	0.0
SAKB	Bahrain	9.35	156	P	Pn	05 36 09.6	+1.8
SAKB				S	Sn	05 37 49.9	-2.9
BNN	Bunyan	9.39	300	Pn	Pn	05 36 07.9	-0.7
KBZ	Khabaz	9.49	345	Pn	Pn	05 36 13.9	+4.2
	comp=E,0.1nm,0.3s,baz=161,slow=15,SNR=2.2						
KBZ				LR	LR	05 39 57.2	
	comp=E,52nm,19.7s,baz=134,slow=38 comp=E,2.2nm,0.8s						
SHMA	Al-Shehemyia	9.61	154	P	Pn	05 36 13.9	+2.5
SHMA				S	Sn	05 37 57.4	-1.8
SMRA	Abu-Samra	10.58	157	P	Pn	05 36 26.2	+1.4
SMRA				S	Sn	05 38 20.8	-2.3
TRNA	Turayna	10.72	155	P	Pn	05 36 28.0	+1.2
SNR=10							
TRNA				S	Sn	05 38 24.6	-2.0
SNR=7.5							
EIL	Elat	10.79	246	Pn	Pn	05 36 27.7	+0.1
	comp=E,0.9nm,0.3s,baz=11,slow=8.0,SNR=2.7						
EIL				Lg	Lg	05 39 25.6	
	comp=E,0.9nm,0.3s,baz=108,slow=20,SNR=2.6 comp=E,2.1nm,0.3s						
RAYN	Ar Rayn	11.06	184	Pn	Pn	05 36 30.4	-1.0
RAYN	Ar Rayn	11.06	184	*i* Pn	Pn	05 36 30.3	-1.0
SNR=9.1							
JRN	Qarnain Island	11.18	148	P	Pn	05 36 34.9	+1.8
BR131	Keskin Array S	11.31	301	Pn	Pn	05 36 34.4	-0.5
BRTR	Keskin Array B	11.31	301	Pn	Pn	05 36 34.5	-0.3
BRTR	Keskin Array B	11.31	301	Pn	Pn	05 36 36.5	+1.7
	comp=E,0.1nm,0.3s,baz=111,slow=13,SNR=19						
BRTR				Lg	Lg	05 39 53.4	
	baz=32,slow=28,SNR=1.5						
BRTR				LR	LR	05 40 46.7	
	comp=E,48nm,21.8s,baz=128,slow=37 comp=E,4.2nm,0.9s						
SNOP	Sinop	11.42	314	Pn	Pn	05 36 35.1	-1.1
SLWR	Sila	11.50	154	P	Pn	05 36 37.3	-0.1
SLWR				S	Sn	05 38 43.2	-2.4
SHME	Shamm	12.04	132	*i* Pn	Pn	05 36 45.0	+0.2
SNR=5.9							
SHME	Shamm	12.04	132	P	Pn	05 36 45.7	+0.9
SNR=5.8							
SHME				P	Pn	05 36 45.7	+0.9
SNR=5.8							
SHME				S	Sn	05 38 54.7	-4.1
SHME				S	Sn	05 38 54.7	-4.1
GHWR	Ruwais	12.06	150	P	Pn	05 36 47.2	+2.3
GHWR				S	Sn	05 38 56.7	-2.5
BANOM	Banah	12.23	132	P	Pn	05 36 48.5	+1.1
BANOM				S	Sn	05 39 00.0	-3.6
AJN	Ajban	12.54	141	Pn	Pn	05 36 53.1	+1.5
MASF	Masafi	12.56	134	P	Pn	05 36 53.1	+1.2
SNR=9.0							
MASF				S	Sn	05 39 08.5	-3.1
SNR=6.4							
MSFE	Esma-Masafi	12.57	134	*i* Pn	Pn	05 36 52.6	+0.6
SNR=9.0							
NAZ	Nazwa, Dubai	12.57	137	*i* Pn	Pn	05 36 53.4	+1.4
SNR=13							
NAZ	Nazwa, Dubai	12.57	137	P	Pn	05 36 54.0	+2.0
SNR=13							
ASUD	Al Ashush, Dub	12.67	139	*i* Pn	Pn	05 36 54.8	+1.4
SNR=12							
ASUD	Al Ashush, Dub	12.67	139	P	Pn	05 36 55.4	+2.0
SNR=5.5							
ASUD				S	Sn	05 39 10.9	-3.3
MDH	Madha	12.69	134	*i* Pn	Pn	05 36 54.2	+0.5
SNR=10							
MDH	Madha	12.69	134	P	Pn	05 36 54.3	+0.6
SNR=10							
FAQ	Al Faqa, Dubai	12.72	138	Pn	Pn	05 36 55.0	+1.0
FAQ	Al Faqa, Dubai	12.72	138	P	Pn	05 36 55.1	+1.0
SNR=5.7							
UOSS	Minazif	12.91	136	Pn	Pn	05 36 54.0	-2.6
UOSS	Minazif	12.91	136	Pn	Pn	05 36 56.2	-0.5
UOSS	Minazif	12.91	136	P	Pn	05 36 56.7	0.0
UOSS				S	Sn	05 39 15.3	-4.8
HATD	Hatta, Dubai	12.96	136	*i* Pn	Pn	05 36 57.6	+0.2
SNR=12							
HATD	Hatta, Dubai	12.96	136	P	Pn	05 36 57.8	+0.5
SNR=12							
HATD				S	Sn	05 39 16.9	-4.5
SNR=5.3							
ASHO	Ashiyiah	13.03	137	*i* Pn	Pn	05 36 58.6	+0.3
SNR=27							
ASHO				Sn	Sn	05 39 14.4	-8.7
ASHO	Ashiyiah	13.03	137	P	Pn	05 36 58.8	+0.5
SNR=47							
MZR	Muzera	13.16	150	*i* Pn	Pn	05 37 01.2	+1.1
SNR=5.7							
MZR	Muzera	13.16	150	P	Pn	05 37 01.2	+1.1
SNR=5.7							
JASK	Jask - Hormozg	13.26	128	P	Pn	05 37 02.4	+0.9
MDUB	Mudurnu	13.32	301	Pn	Pn	05 37 01.1	-1.2
ALNE	Al Ain	13.36	139	*i* Pn	Pn	05 37 03.5	+0.8
SNR=12							
ALNE	Al Ain	13.36	139	P	Pn	05 37 03.7	+0.9
SNR=12							
SOHO	SOHO	13.72	137	Pn	Pn	05 37 07.3	-0.4
SOHO	SOHO	13.72	137	P	Pn	05 37 07.7	-0.1
SOHO				P	Pn	05 37 07.7	-0.1
SOHO				S	Sn	05 39 34.9	-5.1
SOHO				S	Sn	05 39 34.9	-5.1
SOHO				S	Sn	05 39 35.1	-4.9
SOHO				S	Sn	05 39 35.1	-4.9
ARQ	Araqi	14.35	139	P	Pn	05 37 16.8	+0.4
SNR=8.2							
ARQ				S	Sn	05 39 49.7	-5.7
HOQ	Hoqain	14.60	136	P	Pn	05 37 20.0	+0.2
BIDO	Bidbid	15.12	134	S	Sn	05 40 10.0	-4.1
BSY	Bisya	15.20	138	P	Pn	05 37 27.5	-0.3
SNR=6.7							
BSY				S	Sn	05 40 10.6	-5.4
SMDO	Samad	15.43	135	P	Pn	05 37 30.2	-0.8
WSAR	Wadi Sarin	15.64	133	Pn	Pn	05 37 32.1	-1.4
	comp=E,3.2nm,0.3s,baz=296,slow=4.1,SNR=23						
WSAR				Sn	Sn	05 40 19.6	-7.0
	comp=E,0.7nm,0.3s,baz=185,slow=23,SNR=2.0						
WSAR				LR	LR	05 44 12.8	
	comp=E,142nm,20.4s,baz=344,slow=39						
KARP	Karpathos	15.69	279	Pn	Pn	05 37 33.8	-0.4
JMDO	Jabal Madar	16.00	137	P	Pn	05 37 37.3	-0.9
SNR=5.9							
WBK	Wadi Bani Khal	16.32	134	P	Pn	05 37 41.4	-0.9
JLN	Jalan Bani Buh	16.93	134	P	Pn	05 37 50.2	+0.1
MHTO	MHTO	17.03	140	P	Pn	05 37 50.1	-1.3
ALN	Alexandroupoli	17.18	297	Pn	Pn	05 37 51.9	-1.1
ALN				IAmb	IAmb	05 37 58.4	
	comp=Z,13nm,1.1s						
DOK	Doka	17.38	154	P	Pn	05 37 54.3	-1.5
IDI	Anoyia	17.55	278		Pn	05 37 57.0	-0.9
IDI	Anoyia	17.55	278	P	Pn	05 37 57.7	-0.2
	comp=Z,0.9nm,0.3s,baz=90,slow=9.1,SNR=2.2 comp=Z,8.5nm,0.8s						
RDO	Rodhopi	17.61	298	Pn	Pn	05 37 56.5	-2.0
DQM	DQM	17.69	143	P	Pn	05 37 58.5	-1.1
ABKAR	Akbulak array	17.78	30	Pn	Pn	05 37 55.3	-5.3
ABKAR	Akbulak array	17.78	30	Pn	Pn	05 37 55.0	-5.5
ABKAR				IAmb	IAmb	05 38 35.9	
	comp=Z,2.0nm,0.9s						
BELG	Belogornoye	17.81	3	P	P	05 38 03.6	+2.1
	comp=Z,0.6nm,0.3s,baz=224,slow=18,SNR=1.9 comp=Z,8.9nm,0.8s						
WHFO	Wadi Hawf	17.91	156	P	Pn	05 38 00.7	-1.6
SNR=12							
WHFO				S	Sn	05 41 21.7	-0.1
AKTO	Aktyubinsk	18.00	25	P	P	05 38 05.6	+1.9
	comp=Z,0.4nm,0.3s,baz=207,slow=7.1,SNR=5.1						
AKTO				LR	LR	05 46 15.2	
	comp=Z,46nm,19.7s,baz=184,slow=41 comp=Z,1.3nm,0.4s						
ABTO	Aybut	18.29	158	P	Pn	05 38 05.8	-1.2
RBK	Rabkut	18.44	155	P	P	05 38 07.7	-1.1
RBK				S	S	05 41 41.1	+2.1
SHAO	Shalim	18.49	151	P	P	05 38 08.1	-1.3
DMTO	DMTO	18.51	153	P	P	05 38 08.0	-1.4
SIMJ	Simiganj	18.67	71	P	P	05 38 05.6	-5.7
KBL	Kabul	18.74	84	P	P	05 38 07.9	-4.3
SORM	Soroca	19.01	321	⇓P	Pn	05 38 15.9	+0.4
SORM	Soroca	19.01	321	P	Pn	05 38 15.9	+0.4
	comp=Z,10nm,0.6s						
TESR	Tescani	19.02	315	P	Pn	05 38 16.9	+1.2
	comp=Z,6.6nm,1.5s						
VOIR		19.48	310	⇓P	Pn	05 38 23.0	+1.8
VOIR		19.48	310	P	Pn	05 38 22.6	+1.4
	comp=Z,19nm,0.9s						
DOPR	Dopca	19.51	312	⇑P	Pn	05 38 22.0	+0.5
AGG	Agios Georgios	19.66	290		P	05 38 18.8	-3.2
AGG				IAmb	IAmb	05 38 41.8	
	comp=Z,6.8nm,0.8s						
LIT	Litokhoron	19.67	293	P	P	05 38 19.6	-2.5
LIT				IAmb	IAmb	05 38 24.3	
	comp=Z,14nm,1.0s						
ITM	Ithomi	19.89	284	P	P	05 38 22.5	-2.0
ITM				IAmb	IAmb	05 38 25.5	
	comp=Z,8.1nm,0.6s						
AK07	Malin Array Si	20.23	327	P	P	05 38 28.4	+0.4
AK09	Malin Array Si	20.24	327	P	P	05 38 28.1	0.0
AK10	Malin Array Si	20.24	327	P	P	05 38 28.2	0.0
AK08	Malin Array Si	20.26	327	P	P	05 38 28.5	+0.1
AK05	Malin Array Si	20.27	327	P	P	05 38 29.1	+0.5
KMPD	K-Podol'skiy	20.28	319	P	P	05 38 27.5	-1.1
LOT	Lotru	20.30	309	⇑P	Pn	05 38 31.2	+0.3
AK12	Malin Array Si	20.31	327	P	P	05 38 29.4	+0.4
AK01	Malin Array Si	20.32	327	P	P	05 38 28.9	-0.2
AKASG	Malin Array Be	20.32	328	P	P	05 38 28.4	-0.7
AKASG				IAmb	IAmb	05 38 30.8	
	comp=Z,5.1nm,0.8s						
AKASG	Malin Array Be	20.32	328	P	P	05 38 29.2	+0.1
	comp=Z,2.0nm,0.5s,baz=140,slow=9.1,SNR=6.8						
AKASG				LR	LR	05 47 42.4	
	comp=Z,62nm,18.5s,baz=122,slow=41 comp=Z,2.0nm,0.5s						
AKBB	Malin Array Si	20.32	328		P	05 38 29.0	-0.1
AKBB				IAmb	IAmb	05 38 36.2	
	comp=Z,5.7nm,0.8s						
AKBB	Malin Array Si	20.32	328	P	P	05 38 28.9	-0.2
AK14	Malin Array Si	20.33	327	P	P	05 38 29.7	+0.6
KIEV	Kiev	20.33	327	⇑P	P	05 38 29.2	+0.2
KIEV	Kiev	20.33	327		P	05 38

comp=Z,4.2nm,1.0s
VRAC Vranov 26.31 313 LR LR 05 50 56.9
comp=Z,37nm,18.6s,baz=132,slow=39
GERES GERESS Array B 27.93 311 P **P** **05 39 43.7 +0.4**
comp=Z,0.5nm,0.4s,baz=116,slow=8.9,SNR=2.6
comp=Z,0.5nm,0.4s
KURBB Kurchatov Arra 28.34 46 P **P** **05 39 49.5 +2.6**
comp=Z,1.0nm,0.2s,baz=252,slow=9.2,SNR=3.4
KURBB LR LR 05 53 06.5
comp=Z,26nm,19.2s,baz=193,slow=40
comp=Z,1.0nm,0.2s
MKAR Makanchi Array 29.64 55 P **P** **05 40 00.7 +2.2**
comp=Z,0.5nm,0.6s,baz=256,slow=4.9,SNR=3.5
MKAR LR LR 05 52 09.7
comp=Z,38nm,20.2s,baz=234,slow=37
comp=Z,0.5nm,0.6s
FINES FINESS Array B 29.81 340 P **P** **05 39 58.5 -1.2**
FINES FINESS Array B 29.81 340 P **P** **05 39 59.8 +0.1**
comp=Z,0.7nm,0.5s,baz=145,slow=10,SNR=8.0
comp=Z,0.7nm,0.5s
DAVOX Davos/Dischmat 29.90 305 LR LR 05 55 03.0
comp=Z,34nm,18.4s,baz=78,slow=43
SENIN Lac Senin/Sane 31.59 304 P **P** **05 40 15.0 -0.9**
BNI Bardonecchia 31.87 301 P **P** **05 40 16.0 -2.3**
ECH Echery 31.98 307 P **P** **05 40 18.1 -1.0**
ECH IAmb IAmb 05 40 29.9
comp=Z,2.3nm,0.9s
ZALV Zalesovo Beam 33.14 42 P **P** **05 40 32.0 +2.8**
comp=Z,0.7nm,0.5s,baz=245,slow=9.4,SNR=2.0
comp=Z,0.7nm,0.5s
HFS Hagfors 33.15 330 P **P** **05 40 29.5 +0.3**
comp=Z,2.0nm,0.5s,baz=137,slow=6.4,SNR=13
comp=Z,2.0nm,0.5s
NB2 NORSAR Subarra 34.67 331 P **P** **05 40 43.6 +1.1**
comp=Z,0.8nm,0.8s,baz=124,slow=9.3
NOA NORSAR Array B 34.67 331 P **P** **05 40 42.9 +0.4**
comp=Z,0.4nm,0.6s,baz=125,slow=8.8,SNR=4.7
NOA LR LR 05 55 13.5
comp=Z,16nm,20.2s,baz=120,slow=37
comp=Z,0.4nm,0.6s
ARCES ARCESS Array B 36.83 348 P **P** **05 41 01.7 +0.8**
comp=Z,1.2nm,0.4s,baz=159,slow=12,SNR=2.0
comp=Z,1.2nm,0.4s
EKA Eskdalemuir Ar 39.61 317 P **P** **05 41 24.8 +0.4**
comp=Z,2.5nm,0.5s,baz=106,slow=8.6,SNR=18
comp=Z,2.5nm,0.5s
ESDC Sonseca Array 39.95 292 P **P** **05 41 25.4 -2.1**
ESDC Sonseca Array 39.95 292 P **P** **05 41 27.6 +0.1**
comp=Z,1.0nm,0.7s,baz=78,slow=7.6,SNR=4.8
comp=Z,1.0nm,0.7s
SPITS Spitsbergen Ar 45.53 352 P **P** **05 42 13.1 +0.9**
comp=Z,1.0nm,0.4s,baz=146,slow=12,SNR=5.9
comp=Z,1.0nm,0.4s
TORD Torodi Ar. Bea 45.57 253 P **P** **05 42 13.2 -0.1**
comp=Z,0.8nm,0.9s,baz=59,slow=10,SNR=2.7
TORD PcP **PcP** **05 43 54.7 +2.9**
comp=Z,1.0nm,1.0s,baz=31,slow=5.1,SNR=2.9
comp=Z,0.8nm,0.9s
CMAR Chiang Mai Arr 49.25 95 P **P** **05 42 42.8 +0.9**
comp=Z,0.9nm,0.3s,baz=297,slow=9.1,SNR=1.3
comp=Z,0.9nm,0.3s
HHC Hu-ho-hao-te 50.95 63 *e*P **P** **05 42 53.4 -1.3**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,76nm,5.6s
OPO Ambohidratompo 52.88 179 LR LR 06 05 42.8
comp=Z,65nm,19.1s,baz=207,slow=36
YAK Yakutsk 57.10 34 LR LR 06 10 36.3
comp=Z,46nm,19.9s,baz=270,slow=38
KLR Kul'dur 61.99 48 LR LR 06 14 19.5
comp=Z,38nm,18.2s,baz=250,slow=39
KSRS Korea Array 64.04 61 P **P** **05 44 29.8 +2.9**
comp=Z,0.7nm,0.4s,baz=283,slow=7.0,SNR=2.2
comp=Z,0.7nm,0.4s
ILAR Eielson Array 80.42 6 P **P** **05 46 07.9 +3.6**
comp=Z,0.4nm,0.8s,baz=328,slow=4.4,SNR=4.6
comp=Z,0.4nm,0.8s
KDAK Kodiak Island 86.61 10 LR LR 06 30 42.4
comp=Z,32nm,19.5s,baz=152,slow=39

*VAO **16** 05:35:01.8±0.8,2˚76S×78˚95W,h10km,mb4.7*
*IDC **16** 05:35:13.4±0.5,2˚92S×78˚50W,h84km±4km,mb3.9/19, mbtmp4.2/26,MS3.1/9,Error ellipse: s-maj=17.8km s-min=9.4km az=66.0*
*NEIC **16** 05:35:14.0±1.9,2˚98S±0˚06×78˚5W±0˚1,h89km±3km, mb4.5/175,Error ellipse: s-maj=16.0km s-min=8.4km az=78.0*
*RSNC **16** 05:35:14.2±0.7,3˚S±2˚×7˚9W±˚,h89km±5km,M4.6,mb4.7, mB5.2,ML3.7,Mw(mB)4.5*
*IGQ **16** 05:35:14.5±0.2,3˚S±2˚×7˚9W±˚,h65km,M4.5/37*
ISC 16 05:35:12.4±0.3,3˚07S±0˚03×78˚67W±0˚04,h85km±3km, h85km:pP-P,n611,σ1§11/653,mb4.5/90,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	**San Juan Bosco**	**0.19**	**114**	P	**Pn**	**05 35 26.0**	**+1.1**
BOSC				S	**Sn**	**05 35 35.9**	**+1.7**
ACUE	**Ecuador-Cuenca**	**0.33**	**299**	P	**Pn**	**05 35 26.5**	**+0.7**
ACUE				S	**Sn**	**05 35 36.8**	**+1.2**
AZOG	**Ecuador-Azogue**	**0.36**	**331**	P	**Pn**	**05 35 25.1**	**-0.9**
AZOG				S	**Sn**	**05 35 35.4**	**-0.6**
PCRA	**Pucara 2**	**0.84**	**261**	P	**Pn**	**05 35 30.5**	**+0.1**
PCRA				S	**Sn**	**05 35 43.5**	**-0.3**
ALJ1	**Ecuador-Loja-U**	**1.05**	**210**	S	**Sn**	**05 35 49.1**	**+1.3**
ALJ1				P	**Pn**	**05 35 33.5**	**+0.9**
ACH2	**Ecuador-Machal**	**1.15**	**260**	P	**Pn**	**05 35 33.2**	**-0.4**
MILO	**Milagro-Astudi**	**1.18**	**312**	S	**Sn**	**05 35 51.0**	**+0.8**
MILO				P	**Pn**	**05 35 34.4**	**+0.4**
ACH1	**Ecuador-Univer**	**1.25**	**260**	S	**Sn**	**05 35 50.9**	**-0.8**
ACH1				P	**Pn**	**05 35 33.7**	**-1.1**
TAIS	**Taisha**	**1.36**	**60**	S	**Sn**	**05 35 56.2**	**+2.1**
TAIS				P	**Pn**	**05 35 37.6**	**+1.5**
GONZ	**Gonzanam**	**1.36**	**212**	P	**Pn**	**05 35 38.2**	**+1.6**
ARIO	**Riobamba**	**1.41**	**359**	P	**Pn**	**05 35 40.0**	**+2.8**
ISPG	**Isla Puna-Puer**	**1.50**	**274**	P	**Pn**	**05 35 38.8**	**+0.9**
ABAB	**Ecuador-Univer**	**1.52**	**326**	P	**Pn**	**05 35 36.4**	**-1.7**
TAMH	**Tambohuasha Ch**	**1.52**	**356**	P	**Pn**	**05 35 39.8**	**+1.1**
ARRY	**Arrayan**	**1.57**	**8**	P	**Pn**	**05 35 39.8**	**+0.6**
BMAS	**Trigal station**	**1.57**	**7**	P	**Pn**	**05 35 40.0**	**+0.8**
IGUA	**Igualata**	**1.57**	**1**	P	**Pn**	**05 35 40.4**	**+1.0**
BPAT	**Tungurahua Vol**	**1.58**	**9**	P	**Pn**	**05 35 40.2**	**+0.8**
CHSH	**Refugio Sur-Vo**	**1.58**	**353**	P	**Pn**	**05 35 40.2**	**+0.7**
TUYU	**Q. Yuibug Volc**	**1.59**	**7**	P	**Pn**	**05 35 40.4**	**+0.9**
PORT	**Chimborazo Vol**	**1.60**	**356**	P	**Pn**	**05 35 41.1**	**+1.3**
BBIL	**Ulba Tungurahu**	**1.62**	**7**	P	**Pn**	**05 35 40.9**	**+1.1**
AGUAY	**Guayaquil**	**1.63**	**308**	P	**Pn**	**05 35 38.1**	**-1.5**
LAMO	**ALAMOR**	**1.64**	**235**	P	**Pn**	**05 35 40.0**	**+0.1**
BULB	**Ulba Tungurahu**	**1.64**	**9**	P	**Pn**	**05 35 41.1**	**+0.9**
JUI6	**Juive**	**1.65**	**7**	P	**Pn**	**05 35 41.1**	**+0.9**
PUYO	**Puyo, Santa Ro**	**1.70**	**22**	P	**Pn**	**05 35 41.9**	**+1.3**
MORR	**Playas El Morr**	**1.72**	**284**	P	**Pn**	**05 35 40.8**	**0.0**
AMCR	**Ecuador-Macara**	**1.82**	**225**	P	**Pn**	**05 35 42.4**	**+0.2**
MCRA	**Macar, Loja**	**1.82**	**225**	P	**Pn**	**05 35 42.1**	**0.0**
ZUMB	**Zumba**	**1.84**	**195**	P	**Pn**	**05 35 44.7**	**+2.1**
PIS1	**Pisayambo**	**2.02**	**8**	P	**Pn**	**05 35 46.5**	**+1.3**
PIAT	**Ana Tenorio**	**2.10**	**11**	P	**Pn**	**05 35 47.4**	**+1.2**
APSY	**Ecuador-Napo A**	**2.12**	**11**	P	**Pn**	**05 35 47.6**	**+1.2**
AQUE	**Quevedo**	**2.17**	**338**	P	**Pn**	**05 35 47.3**	**+0.5**
ARDO	**Archidona, Ten**	**2.24**	**23**	P	**Pn**	**05 35 48.3**	**+0.5**
VCES	**Cotopaxi**	**2.27**	**7**	P	**Pn**	**05 35 50.2**	**+1.6**
BRRN	**Barrancas-Volc**	**2.28**	**5**	P	**Pn**	**05 35 50.0**	**+1.3**
SRAM	**San Ramn-Vol**	**2.31**	**3**	P	**Pn**	**05 35 50.5**	**+1.5**
SLOR	**San Lorenzo -**	**2.33**	**4**		**Pn**	**05 35 50.6**	**+1.2**
SLOR	**San Lorenzo -**	**2.33**	**4**	P	**Pn**	**05 35 50.6**	**+1.2**
CAMI	**Rancho Maria**	**2.38**	**4**	P	**Pn**	**05 35 52.0**	**+1.9**
BNAS	**Cotopaxi Volca**	**2.39**	**5**	P	**Pn**	**05 35 52.6**	**+2.4**
BTAM	**Cotopaxi Volca**	**2.40**	**7**	P	**Pn**	**05 35 51.7**	**+1.5**
BREF	**Cotopaxi Volca**	**2.40**	**6**	P	**Pn**	**05 35 52.0**	**+1.7**
BVC2	**Cotopaxi Volca**	**2.41**	**6**	P	**Pn**	**05 35 51.8**	**+1.3**
SUCR	**Mariscal Sucre**	**2.42**	**4**	P	**Pn**	**05 35 52.1**	**+1.6**
VC1	**Cotopaxi 1**	**2.43**	**6**	P	**Pn**	**05 35 52.3**	**+1.7**
SALI	**Salinas**	**2.48**	**291**	P	**Pn**	**05 35 50.2**	**-0.6**
PITA	**Cotopaxi Volc**	**2.51**	**5**	P	**Pn**	**05 35 53.4**	**+1.7**
ANTG	**Antisana-Guama**	**2.58**	**9**	P	**Pn**	**05 35 54.4**	**+1.6**
PPLP	**Puerto Lpez**	**2.59**	**306**	P	**Pn**	**05 35 51.0**	**-1.4**
PPLP				S	**Sn**	**05 36 20.1**	**-3.0**
PPLP	**Puerto Lpez**	**2.59**	**306**	P	**Pn**	**05 35 51.1**	**-1.3**
ANTS	**Antisana-Sarah**	**2.61**	**11**	Pn	**Pn**	**05 35 55.0**	**+1.9**
ANTI	**Antisana**	**2.65**	**11**	P	**Pn**	**05 35 55.4**	**+1.6**
PECV	**Mancha de Ca P**	**2.66**	**329**	P	**Pn**	**05 35 55.1**	**+1.8**
TING	**Casa Alexandra**	**2.78**	**5**	P	**Pn**	**05 35 57.2**	**+2.0**
GGPT	**Toaza - Volcan**	**2.83**	**1**	P	**Pn**	**05 35 57.3**	**+1.4**
JUA2	**San Juan 2**	**2.84**	**1**	P	**Pn**	**05 35 57.5**	**+1.3**
TERV	**Terraza Guagua**	**2.88**	**1**	P	**Pn**	**05 35 58.1**	**+1.4**
PINO	**Pino**	**2.90**	**1**	P	**Pn**	**05 35 58.4**	**+1.4**
YANA	**Yana**	**2.94**	**2**	P	**Pn**	**05 35 58.6**	**+1.1**
FLF1	**Flavio Alfaro-**	**2.94**	**337**	P	**Pn**	**05 35 56.6**	**-0.5**
GBMB	**Ecuador-Guayll**	**3.00**	**6**	P	Pn	05 36 09.4	+11
GBMB				P	Pn	05 36 09.4	+11
PULU	**Pululahua**	**3.08**	**3**		**Pn**	**05 36 00.3**	**+1.1**
PULU	**Pululahua**	**3.08**	**3**	P	**Pn**	**05 36 00.4**	**+1.1**
REVS	**Reventador Sur**	**3.13**	**20**	P	**Pn**	**05 36 00.6**	**+0.8**
LAV4	**Lava4-Reventad**	**3.14**	**19**	P	**Pn**	**05 36 00.8**	**+0.8**
CAYR	**Refugio Cayamb**	**3.14**	**12**	P	**Pn**	**05 36 03.1**	**+2.7**
REVN	**San Rafael**	**3.15**	**19**	P	**Pn**	**05 36 01.1**	**+0.9**
MAG1	**Magdalena**	**3.18**	**340**	P	**Pn**	**05 36 00.1**	**-0.2**
CAYA	**Cayambe**	**3.20**	**12**	P	**Pn**	**05 36 02.7**	**+1.7**
OTAV	**Otavalo**	**3.29**	**4**		**Pn**	**05 36 02.6**	**+0.4**
PAC1	**Pacto, Paraso**	**3.32**	**358**	P	**Pn**	**05 36 03.4**	**+1.1**
IMBA	**Imbabura, San**	**3.36**	**8**		**Pn**	**05 36 05.5**	**+2.4**
IMBA	**Imbabura, San**	**3.36**	**8**	P	**Pn**	**05 36 05.5**	**+2.4**
CUIC	**Cuicocha-Domo**	**3.37**	**5**	P	**Pn**	**05 36 04.4**	**+1.2**
CASC	**Dorado de Casc**	**3.45**	**23**	P	**Pn**	**05 36 04.5**	**+0.3**
AV18	**Acelerografo,**	**3.46**	**347**	P	**Pn**	**05 36 06.0**	**+2.0**
YAHU	**Yahuarcocha**	**3.47**	**10**	P	**Pn**	**05 36 06.3**	**+1.7**
URCU	**Urcuqui**	**3.51**	**7**	P	**Pn**	**05 36 06.8**	**+1.7**
BONI	**La Bonita**	**3.68**	**18**	P	**Pn**	**05 36 08.7**	**+1.3**
LITE1	**Lita**	**3.85**	**5**	P	**Pn**	**05 36 11.2**	**+1.6**
CHL2	**Volc¡n Chiles**	**3.92**	**11**	P	**Pn**	**05 36 12.7**	**+1.9**
ATAH	**Atahualpa**	**4.05**	**176**	P	**Pn**	**05 36 15.2**	**+2.8**
ATAH	332nm,0.6s,baz=7.3,slow=9.9,SNR=286			S	**Sn**	**05 37 00.8**	**+1.9**
	542nm,0.8s,baz=35,slow=19,SNR=9.6						
RVRD	**Rio Verde**	**4.17**	**350**	P	**Pn**	**05 36 13.4**	**-0.4**
TUMC	**Tumaco**	**4.86**	**359**	Pn	**Pn**	**05 36 24.2**	**+1.0**
TUMC	**Tumaco**	**4.86**	**359**	P	**Pn**	**05 36 24.1**	**+1.0**
BBAC	**Balboa, Cauca**	**5.26**	**16**	P	**Pn**	**05 36 29.8**	**+1.0**
CZSB	**Cruzeiro do Su**	**7.53**	**128**	Pn	**Pn**	**05 36 59.8**	**+0.2**
CZSB	**Cruzeiro do Su**	**7.53**	**128**	P	**Pn**	**05 36 59.5**	**-0.1**
CZSB	319nm,0.7s,4μm			S	**Sn**	**05 38 20.7**	**-2.7**
	319nm,0.7s,4μm						
CZSB	**Cruzeiro do Su**	**7.53**	**128**	*e*P	**Pn**	**05 36 59.0**	**-0.6**
TBTG	**Tabatinga, AM**	**8.81**	**97**		**Pn**	**05 37 15.3**	**-1.8**
TBTG	**Tabatinga, AM**	**8.81**	**97**	P	**Pn**	**05 37 15.0**	**-2.1**
	124nm,0.8s,2μm						
TBTG				S	**Sn**	**05 38 48.9**	**-5.9**
	124nm,0.8s,2μm						
TBTG	**Tabatinga, AM**	**8.81**	**97**	*e*P	**Pn**	**05 37 15.1**	**-2.1**
ROSC	**El Rosal**	**8.98**	**29**	P	**Pn**	**05 37 18.4**	**-1.4**
	5.0nm,0.3s,baz=307,slow=4.2,SNR=3.6						
ROSC				LR	LR	05 41 28.0	
	comp=Z,278nm,18.3s,baz=242,slow=43						
NNA	**Nana**	**9.04**	**169**	Pn	**Pn**	**05 37 21.7**	**+1.5**
NNA	**Nana**	**9.04**	**169**	P	**Pn**	**05 37 21.5**	**+1.2**
	72nm,0.4s,baz=356,slow=13,SNR=50						
NNA				S	**Sn**	**05 38 53.3**	**-7.1**
	28nm,0.5s,baz=271,slow=22,SNR=2.9						
VCH1	**Volcn Chico**	**12.62**	**280**	P	**P**	**05 38 17.2**	**+0.1**
TEFE	**Tefe**	**14.02**	**92**	*e*P	**Pn**	**05 38 23.8**	**-3.6**
ETMB	**Extrema**	**14.07**	**119**	Pn	**Pn**	**05 38 25.0**	**-2.9**
ETMB	**Extrema**	**14.07**	**119**	*e*P	**Pn**	**05 38 24.7**	**-3.3**
SDV	**Santo Domingo**	**14.33**	**34**	P	**Pn**	**05 38 28.2**	**-3.3**
	2.9nm,0.3s,baz=225,slow=11,SNR=6.3						
SDV	**Santo Domingo**	**14.33**	**34**	*e*P	Pn	05 38 23.9	-7.6
JTS	**Las Juntas de**	**14.67**	**335**	P	**Pn**	**05 38 34.7**	**-1.1**
	4.9nm,1.0s,baz=309,slow=16,SNR=1.5						
JTS				LR	LR	05 43 35.4	
	comp=Z,66nm,19.2s,baz=161,slow=34						
BAUV	**El Baul**	**15.96**	**42**		**Pn**	**05 38 50.5**	**-1.6**
BAUV				IAmb	IAmb	05 39 32.2	
	comp=Z,29nm,1.0s						
SAML	**Samuel**	**16.47**	**111**		**Pn**	**05 38 55.9**	**-2.6**
SAML				IAmb	IAmb	05 39 04.2	
	comp=Z,16nm,0.7s						
LPAZ	**La Paz**	**16.73**	**142**	Pn	**Pn**	**05 39 00.3**	**-2.0**
LPAZ	**La Paz**	**16.73**	**142**	P	**Pn**	**05 39 01.6**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=260,slow=3.7,SNR=15						
LPAZ				S	**S**	**05 42 11.5**	**-2.7**
	comp=Z,1.8nm,0.7s,baz=348,slow=14,SNR=2.3						
LPAZ				LR	LR	05 46 14.2	
	comp=Z,33nm,20.5s,baz=273,slow=40						
LPAZ	**La Paz**	**16.73**	**142**	*e*P	**P**	**05 39 02.5**	**-0.7**
AUA1	**Aruba**	**17.71**	**29**	P	**P**	**05 39 11.2**	**-2.1**
MACA	**Manacapuru-AM**	**17.96**	**91**	P	**P**	**05 39 14.3**	**-1.8**
MACA				IAmb	IAmb	05 39 30.0	
	comp=Z,33nm,0.6s						
MACA	**Manacapuru-AM**	**17.96**	**91**	*e*P	**Pn**	**05 39 16.5**	**-0.2**
BOAV	**Boa Vista**	**18.94**	**74**	P	**P**	**05 39 24.9**	**-2.0**
TGUH	**Tegucigalpa,Un**	**19.04**	**334**	P	**P**	**05 39 25.3**	**-2.7**
TGUH				IAmb	IAmb	05 39 55.9	
	comp=Z,37nm,1.4s						
HMBC	**Humberstone**	**19.13**	**154**	P	**Pn**	**05 39 29.4**	**-1.4**
PCRV	**Puerto La Cruz**	**19.20**	**47**	P	**P**	**05 39 29.0**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=244,slow=3.2,SNR=1.7						
TA01	**Diego Aracena**	**19.26**	**155**	P	**Pn**	**05 39 30.7**	**-1.5**
PATCX	**Punta Patache**	**19.50**	**155**	P	**Pn**	**05 39 33.3**	**-1.8**
ESQI	**Esquipulas**	**20.46**	**329**	P	**P**	**05 39 44.2**	**+0.7**
ESQI				IAmb	IAmb	05 40 14.7	
	comp=Z,30nm,1.1s						
VILB	**Vilhena**	**20.74**	**119**	P	**P**	**05 39 46.2**	**-0.2**
VILB	**Vilhena**	**20.74**	**119**	*e*P	**P**	**05 39 45.5**	**-1.0**
SIV	**San Ignacio**	**21.56**	**128**	P	**P**	**05 39 56.2**	**+1.0**
	comp=Z,12nm,1.0s,baz=298,slow=9.7,SNR=25						
SIV				S	Sn	05 43 58.7	-4.6
	comp=Z,1.1nm,0.4s,baz=325,slow=13,SNR=1.9						
	comp=Z,12nm,1.0s						
LVC	**Limon Verde**	**21.61**	**155**	P	**P**	**05 39 55.3**	**-0.7**
LVC	**Limon Verde**	**21.61**	**155**	P	**P**	**05 39 57.6**	**+1.6**
	comp=Z,11nm,0.8s,baz=334,slow=6.9,SNR=8.4						
LVC				LR	LR	05 49 11.9	
	comp=Z,63nm,19.5s,baz=342,slow=39						
	comp=Z,11nm,0.8s						
LVC	**Limon Verde**	**21.61**	**155**	*e*P	**P**	**05 39 57.8**	**+1.8**
BBSD	**Serra de San D**	**22.61**	**130**	*e*P	**P**	**05 40 07.0**	**+0.5**
PETF	**Flores**	**22.73**	**331**	P	**P**	**05 40 06.6**	**-1.0**
PTLB	**Pontes e Lacer**	**22.84**	**124**	P	**P**	**05 40 08.8**	**0.0**
PTLB	**Pontes e Lacer**	**22.84**	**124**	*e*P	**P**	**05 40 08.7**	**0.0**
PB14	**IPOC Station P**	**22.86**	**160**	P	**P**	**05 40 07.5**	**-1.8**
PB14				IAmb	IAmb	05 40 40.4	
	comp=Z,21nm,1.2s						
ITTB	**Itaituba**	**22.92**	**94**	*e*P	**P**	**05 40 08.9**	**-0.8**
SDDR	**Presa de Saban**	**23.09**	**18**	P	**P**	**05 40 09.2**	**-2.0**
SDDR				IAmb	IAmb	05 40 14.3	
	comp=Z,14nm,0.9s						
GTBY	**Guantanamo Bay**	**23.12**	**9**	P	**P**	**05 40 09.7**	**-1.7**
PDRB	**Porto dos Gac**	**23.34**	**112**	*e*P	**P**	**05 40 13.1**	**-0.5**
NPGB	**Novo Progresso**	**23.55**	**101**	*e*P	**P**	**05 40 15.3**	**-0.2**
GO02	**Mina Guanaco**	**23.64**	**159**	P	**P**	**05 40 15.3**	**-1.2**
GO02				IAmb	IAmb	05 40 20.5	
	comp=Z,12nm,0.7s						
CLDB	**Colider**	**23.98**	**110**	*e*P	**P**	**05 40 20.1**	**+0.7**
SJG	**San Juan**	**24.40**	**30**	LR	LR	05 52 10.7	
	comp=Z,15nm,21.1s,baz=204,slow=42						
EMPR	**Esperanza - Ma**	**24.53**	**29**	P	**P**	**05 40 21.8**	**-2.4**
GCPR	**Guaynabo City**	**24.60**	**30**	P	**P**	**05 40 22.7**	**-2.2**
GCPR				IAmb	IAmb	05 40 51.1	
	comp=Z,29nm,1.1s						
FDF	**Fort de France**	**24.79**	**44**	P	**P**	**05 40 24.1**	**-2.5**
TEIG	**Tepich**	**25.00**	**338**	P	**P**	**05 40 28.9**	**+0.4**
CBE	**Ff, Capester**	**25.43**	**41**	P	**P**	**05 40 29.9**	**-2.6**
SEUS	**St. Eustatius**	**25.64**	**37**	P	**P**	**05 40 32.2**	**-2.0**
GDSD	**La Dsirade Is**	**25.96**	**42**	P	**P**	**05 40 34.3**	**-3.0**
SALV	**Santo Antonio**	**25.96**	**121**	*e*P	**P**	**05 40 38.5**	**+1.2**
CAMR	**Camarioca**	**26.11**	**354**	P	**P**	**05 40 38.3**	**-0.2**
CAMR				IAmb	IAmb	05 40 41.6	
	comp=Z,41nm,1.2s						
MCPB	**Macapa, AP**	**26.74**	**85**	*e*P	**P**	**05 40 44.5**	**+0.1**
MDP	**Montagnes des**	**27.24**	**73**	LR	LR	05 51 39.7	
	comp=Z,38nm,22.0s,baz=270,slow=36						
GO04	**Tololo Observa**	**27.97**	**165**	P	**P**	**05 40 55.2**	**-0.2**
RVDE	**Rio Verde (Bra**	**28.11**	**126**	*e*P	**P**	**05 40 57.4**	**+0.9**
AQDB	**Aquidauana**	**28.30**	**129**	P	**P**	**05 40 56.6**	**-1.6**
AQDB				IAmb	IAmb	05 41 00.4	
	comp=Z,9.3nm,1.0s						
AQDB	**Aquidauana**	**28.30**	**129**	*e*P	**P**	**05 40 59.2**	**+1.0**
SNDB	**Serra Nova Dou**	**28.52**	**110**	*e*P	**P**	**05 41 01.3**	**+1.0**
ARAG	**Araguaiana, MT**	**29.27**	**117**	*e*P	**P**	**05 41 07.7**	**+0.9**
VA03	**San Esteban**	**30.50**	**166**	P	**P**	**05 41 17.3**	**-0.4**
CPUP	**Villa Florida**	**30.89**	**140**	P	**P**	**05 41 21.9**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=329,slow=13,SNR=1.6						
	comp=Z,0.8nm,0.8s						
GO05	**Huala**	**32.39**	**170**	P	**P**	**05 41 35.1**	**+1.0**
BDFB	**Brasilia**	**32.66**	**114**	P	**P**	**05 41 37.8**	**+0.9**
	comp=Z,6.4nm,0.8s,baz=275,slow=7.5,SNR=12						
	comp=Z,6.4nm,0.8s						
IPMB	**Ipameri, GO**	**33.33**	**119**	*e*P	**P**	**05 41 43.1**	**+0.5**
ITQB	**Itaqui**	**33.72**	**144**	P	**P**	**05 41 47.5**	**+1.7**
ITQB	**Itaqui**	**33.72**	**144**	*e*P	**P**	**05 41 47.5**	**+1.7**
SDBA	**SAO DESIDERIO**	**34.68**	**107**	*e*P	**P**	**05 41 54.8**	**+0.4**
ITAB	**Concordia**	**34.95**	**136**	P	**P**	**05 41 57.0**	**+0.6**
RODS	**Rosario do Sul**	**35.06**	**143**	*e*P	**P**	**05 41 58.5**	**+1.1**
TBOT	**Tacuaremb**	**35.61**	**146**	*e*P	**P**	**05 42 03.7**	**+1.6**
GOGA	**Godfrey**	**36.57**	**353**	P	**P**	**05 42 10.9**	**+0.7**
	baz=172						
LRAL	**Lakeview Retre**	**36.77**	**348**	P	**P**	**05 42 12.0**	**+0.1**
	baz=166						
PLTB	**Pedras Altas**	**37.03**	**143**	P	**P**	**05 42 15.4**	**+1.2**
PLTB				IAmb	IAmb	05 42 15.8	
	comp=Z,8.0nm,0.7s						
TRQA	**Tornquist**	**38.02**	**158**	P	**P**	**05 42 22.4**	**-0.1**
CNNC	**Cliffs of the**	**38.12**	**1**	P	**P**	**05 42 24.5**	**+1.3**
	baz=181						
Y45A	**Yeager Farm, C**	**38.14**	**345**	P	**P**	**05 42 24.5**	**+1.0**
PLCA	**Paso Flores**	**38.20**	**170**	P	**P**	**05 42 25.9**	**+1.9**
PLCA				IAmb	IAmb	05 42 26.1	
	comp=Z,10nm,1.4s						
PLCA	**Paso Flores**	**38.20**	**170**	P	**P**	**05 42 26.0**	**+1.9**
	comp=Z,1.3nm,0.6s,baz=353,slow=11,SNR=8.3						
	comp=Z,1.3nm,0.6s						
DRIO	**Del Rio**	**38.55**	**328**	P	**P**	**05 42 28.8**	**+1.7**
W50A	**Signal Mountai**	**38.58**	**351**	P	**P**	**05 42 26.9**	**-0.3**
W50A				IAmb	IAmb	05 42 47.4	
	comp=Z,8.5nm,1.4s						
V58A	**Windy Hill, Pi**	**38.66**	**359**	P	**P**	**05 42 26.9**	**-0.9**
V58A				IAmb	IAmb	05 42 29.5	
	comp=Z,7.0nm,1.1s						
SWET	**Sewanee**	**38.69**	**350**	P	**P**	**05 42 26.8**	**-1.3**
CPCT	**Cooper Cave**	**38.71**	**352**	P	**P**	**05 42 28.0**	**-0.2**
V53A	**Saluda**	**38.73**	**355**	P	**P**	**05 42 27.7**	**-0.8**
TKL	**Tuckaleechee C**	**38.82**	**353**	LR	LR	05 58 52.5	
	comp=Z,27nm,18.8s,baz=162,slow=37						
WLAR	**White Oak Lake**	**39.02**	**341**	P	**P**	**05 42 31.7**	**+0.9**
WLAR				IAmb	IAmb	05 43 06.9	
	comp=Z,6.6nm,0.8s						
WHTX	**Lake Whitney,**	**39.17**	**334**	P	**P**	**05 42 32.8**	**+0.6**
	baz=149						
BRDY	**Brady**	**39.27**	**332**	P	**P**	**05 42 34.2**	**+1.2**
V48A	**Smith Brothers**	**39.36**	**350**	P	**P**	**05 42 33.2**	**-0.5**
V48A				IAmb	IAmb	05 42 55.5	
	comp=Z,5.8nm,1.0s						
CLTN	**Cedars of Leba**	**39.61**	**350**	P	**P**	**05 42 35.4**	**-0.4**
TZTN	**Tazewell**	**39.67**	**354**	P	**P**	**05 42 36.1**	**-0.1**
TZTN				pP	**pP**	**05 42 58.1**	**+0.7**
TZTN				IAmb	IAmb	05 42 58.9	
	comp=Z,7.9nm,1.1s						
TZTN	**Tazewell**	**39.67**	**354**	P	**P**	**05 42 36.3**	**0.0**
	baz=172						
T57A	**Hurt**	**39.87**	**359**	P	**P**	**05 42 38.0**	**+0.2**
T57A				IAmb	IAmb	05 42 39.9	
	comp=Z,4.2nm,0.8s						
T57A				pP	**pP**	**05 43 00.7**	**+1.7**
FW07	**Weatherford**	**39.92**	**335**	P	**P**	**05 42 40.1**	**+1.6**
FW07

AMTX			IAmb	IAmb	05 43 09.6	
	comp=Z,7.8nm,1.1s					
AMTX	**Amarillo**	**43.50 332**	P	**P**	**05 43 07.9**	**+0.2**
	baz=145					
O48B	**Farmland**	**43.53 353**	P	**P**	**05 43 07.2**	**-0.5**
	baz=170					
KAN13	**South Haven SW**	**43.55 338**	P	**P**	**05 43 09.1**	**+1.1**
KAN01	**Argonia South**	**43.78 338**	P	**P**	**05 43 10.5**	**+0.7**
KAN01			pP	**pP**	**05 43 32.1**	**+0.9**
NOKA	**Waynoka**	**43.79 336**	P	**P**	**05 43 09.6**	**-0.3**
NOKA			pP	**pP**	**05 43 32.9**	**+1.6**
SFIN	**Lafayette**	**43.92 351**	P	**P**	**05 43 11.1**	**+0.2**
	baz=168					
KAN12	**Harper NE Stat**	**44.00 338**	P	**P**	**05 43 13.0**	**+1.5**
KAN12			IAmb	IAmb	05 43 13.4	
	comp=Z,10nm,0.9s					
M53A	**WI Miller and**	**44.34 358**	P	**P**	**05 43 14.0**	**-0.1**
	baz=177					
KSCT	**Kent School, K**	**44.84 6**	P	**P**	**05 43 18.1**	**0.0**
121A	**Cookes Peak, D**	**44.89 324**	P	**P**	**05 43 19.4**	**+0.5**
	baz=136					
BINY	**Binghamton**	**45.12 3**	P	**P**	**05 43 21.9**	**+1.4**
	baz=184					
R32A	**Long Quarter,**	**45.26 338**	P	**P**	**05 43 23.3**	**+1.7**
Y22D	**IRIS PASSCAL I**	**45.53 327**	P	**P**	**05 43 24.8**	**+0.8**
	baz=138					
K57A	**Scipio Center**	**45.63 2**	P	**P**	**05 43 23.9**	**-0.5**
L61B	**Northampton**	**45.63 6**	P	**P**	**05 43 25.3**	**+0.8**
	baz=188					
ANMO	**Albuquerque**	**45.94 328**	P	**P**	**05 43 27.5**	**+0.3**
	baz=140					
CBKS	**Cedar Bluff**	**45.99 337**	P	**P**	**05 43 27.1**	**-0.3**
CBKS			IAmb	IAmb	05 43 29.2	
	comp=Z,6.7nm,0.6s					
CBKS	**Cedar Bluff**	**45.99 337**	P	**P**	**05 43 28.3**	**+0.9**
	baz=150					
J56A	**Wolcott**	**46.16 2**	P	**P**	**05 43 27.6**	**-1.0**
J56A			IAmb	IAmb	05 43 30.6	
	comp=Z,4.7nm,0.8s					
TUC	**Tucson**	**46.54 322**	P	**P**	**05 43 33.0**	**+1.1**
TUC			IAmb	IAmb	05 43 34.3	
	comp=Z,4.5nm,0.9s					
TUC			pP	**pP**	**05 43 54.7**	**+1.4**
TUC	**Tucson**	**46.54 322**	P	**P**	**05 43 32.6**	**+0.8**
	baz=133					
T25A	**Trinidad**	**46.62 331**	P	**P**	**05 43 34.8**	**+2.2**
T25A			IAmb	IAmb	05 43 35.4	
	comp=Z,9.4nm,1.4s					
T25A	**Trinidad**	**46.62 331**	P	**P**	**05 43 33.5**	**+0.9**
	baz=143					
KSCO	**Kaye Shedlock'**	**47.34 335**	P	**P**	**05 43 39.1**	**+1.1**
	baz=146					
LBNH	**Lisbon**	**47.49 7**	P	**P**	**05 43 39.6**	**+0.7**
	baz=189					
214A	**Organ Pipe Nat**	**47.58 320**	P	**P**	**05 43 40.4**	**+0.5**
	baz=130					
LONY	**Lake Ozonia**	**47.62 4**	P	**P**	**05 43 40.1**	**+0.2**
	baz=185					
SDCO	**Great Sand Dun**	**47.63 331**	P	**P**	**05 43 41.9**	**+1.5**
SDCO	**Great Sand Dun**	**47.63 331**	P	**P**	**05 43 40.7**	**+0.3**
	baz=142,SNR=9.5					
S22A	**4UR Ranch, Cre**	**48.28 330**	P	**P**	**05 43 46.4**	**+0.8**
	baz=141					
Q24A	**Divide**	**48.43 332**	P	**P**	**05 43 47.4**	**+0.7**
	baz=143					
OGNE	**Ogallala**	**48.73 336**	P	**P**	**05 43 49.9**	**+1.3**
	baz=148					
MVCO	**Mesa Verde**	**48.73 328**	P	**P**	**05 43 48.8**	**-0.1**
	baz=138					
PKME	**Peaks-Kenny Pk**	**48.84 9**	P	**P**	**05 43 50.2**	**+0.9**
	baz=192					
WUAZ	**Wupatki**	**49.10 324**	P	**P**	**05 43 53.3**	**+1.6**
WUAZ	**Wupatki**	**49.10 324**	P	**P**	**05 43 51.7**	**0.0**
	baz=134,SNR=9.1					
ECSD	**EROS Data Cent**	**49.31 343**	P	**P**	**05 43 52.5**	**-0.4**
ECSD	**EROS Data Cent**	**49.31 343**	P	**P**	**05 43 53.3**	**+0.4**
	baz=156					
K30B	**Basset**	**49.32 340**	P	**P**	**05 43 52.9**	**-0.1**
PV15	**Paradox Valley**	**49.58 329**	P	**P**	**05 43 57.0**	**+1.7**
PV13	**Radium Mtn., P**	**49.61 329**	P	**P**	**05 43 56.6**	**+1.0**
PV05	**Paradox Valley**	**49.70 328**	P	**P**	**05 43 56.6**	**+0.4**
PV05			IAmb	IAmb	05 43 58.2	
	comp=Z,7.3nm,0.9s					
PV14	**Lion Creek, Pa**	**49.88 329**	P	**P**	**05 43 58.1**	**+0.5**
PV14			IAmb	IAmb	05 43 59.7	
	comp=Z,3.6nm,1.0s					
SWSC	**Sam W. Stewart**	**50.16 319**	P	**P**	**05 44 00.6**	**+1.0**
	baz=128					
IKP	**In-Ko-Pah, Jac**	**50.19 318**	P	**P**	**05 44 01.0**	**+1.1**
	baz=128					
LMN	**Caledonia Moun**	**50.24 13**	P	**P**	**05 43 59.2**	**-0.8**
LMN			IAmb	IAmb	05 44 01.0	
	comp=Z,3.7nm,0.6s					
W13A	**Hualapai Mount**	**50.32 322**	P	**P**	**05 44 02.2**	**+1.2**
W13A			IAmb	IAmb	05 44 03.9	
	comp=Z,4.7nm,0.8s					
N23A	**Red Feather La**	**50.35 333**	P	**P**	**05 44 01.2**	**+0.1**
	baz=143					
BC3	**Big Chuckawall**	**50.38 320**	P	**P**	**05 44 02.5**	**+1.2**
	baz=129					
IRM	**Iron Mountain**	**50.50 320**	P	**P**	**05 44 03.1**	**+1.0**
	baz=130					
MONP2	**Monument Peak**	**50.54 318**	P	**P**	**05 44 03.3**	**+0.6**
	baz=128					
SUSD	**Miller**	**50.67 341**	P	**P**	**05 44 03.6**	**+0.4**
	baz=153					
O20A	**White River Ci**	**50.83 331**	P	**P**	**05 44 04.6**	**-0.1**
	baz=140					
BELC	**Belle Mtn. Jos**	**50.95 320**	P	**P**	**05 44 06.3**	**+0.7**
	baz=129					
PKCU	**Pink Cliffs**	**50.99 325**	P	**P**	**05 44 07.5**	**+1.4**
PKCU			IAmb	IAmb	05 44 09.0	
	comp=Z,6.1nm,1.1s					
TPFO	**Pinon Flats**	**51.00 319**	P	**P**	**05 44 07.1**	**+1.0**
	baz=128					
PFO	**Pinyon Flats O**	**51.01 319**	P	**P**	**05 44 07.2**	**+1.2**
	baz=128					
SRU	**San Rafael Swe**	**51.21 328**	P	**P**	**05 44 08.8**	**+1.2**
SRU			IAmb	IAmb	05 44 09.8	
	comp=Z,4.0nm,1.1s					
GMRC	**Granite Mounta**	**51.22 321**	P	**P**	**05 44 08.5**	**+0.8**
	baz=130					
LDAQ	**Lac Daran**	**51.24 6**	P	**P**	**05 44 08.0**	**+0.5**
V12A	**Nelson**	**51.33 322**	P	**P**	**05 44 09.8**	**+1.4**
V12A			IAmb	IAmb	05 44 11.0	
	comp=Z,4.7nm,0.8s					
CCUT	**Cedar City**	**51.66 325**	P	**P**	**05 44 12.2**	**+1.1**
HEC	**Hector,Ludlow**	**51.68 320**	P	**P**	**05 44 12.1**	**+1.0**
	baz=129					
BBRC	**Big Bear Solar**	**51.71 319**	P	**P**	**05 44 12.6**	**+1.2**
	baz=128					
RDMU	**Red Mountain**	**51.81 330**	P	**P**	**05 44 13.3**	**+1.2**
RDMU			IAmb	IAmb	05 44 14.1	
	comp=Z,5.5nm,0.9s					
SCI2	**San Clemente I**	**52.03 317**	P	**P**	**05 44 14.3**	**+0.7**
	baz=126					
BFSC	**Mount Baldy Ra**	**52.18 319**	P	**P**	**05 44 15.2**	**+0.4**
	baz=127					
RSSD	**Black Hills**	**52.20 337**	P	**P**	**05 44 15.0**	**+0.1**
RSSD			IAmb	IAmb	05 44 16.8	
	comp=Z,2.9nm,0.7s					
RSSD	**Black Hills**	**52.20 337**	P	**P**	**05 44 15.3**	**+0.4**
	baz=147					
GSC	**Goldstone, Bar**	**52.28 320**	P	**P**	**05 44 14.8**	**-0.7**
GSC			IAmb	IAmb	05 44 18.4	
	comp=Z,3.8nm,0.9s					
GSC	**Goldstone, Bar**	**52.28 320**	P	**P**	**05 44 16.7**	**+1.2**
	baz=129					
FMP	**Fort Macarthur**	**52.28 318**	P	**P**	**05 44 17.0**	**+1.6**
	baz=126					
SHOC	**Shoshone, Teco**	**52.32 321**	P	**P**	**05 44 16.9**	**+1.2**
	baz=130					
BSUT	**Blindstream Ca**	**52.39 329**	P	**P**	**05 44 17.4**	**+0.9**
BSUT			IAmb	IAmb	05 44 19.5	
	comp=Z,6.4nm,1.1s					
GWY	**Greenwater Val**	**52.75 321**	P	**P**	**05 44 20.4**	**+1.4**
GWY			IAmb	IAmb	05 44 20.9	
	comp=Z,4.0nm,1.0s					
EDW2	**Edwards Air Fo**	**52.79 319**	P	**P**	**05 44 20.3**	**+1.1**
	baz=127					
JLU	**Jordanelle**	**52.79 329**	P	**P**	**05 44 20.9**	**+1.6**
JLU			IAmb	IAmb	05 44 21.7	
	comp=Z,5.6nm,1.1s					
SNCC	**San Nicolas Is**	**52.85 317**	P	**P**	**05 44 20.6**	**+0.9**
	baz=125					
LRMC	**Laurel Mtn Rad**	**52.95 320**	P	**P**	**05 44 21.6**	**+1.2**
	baz=128					
TPNV	**Topopah Spring**	**52.98 322**	P	**P**	**05 44 21.7**	**+1.0**
	baz=130					
FURC	**Furnace Creek,**	**53.05 321**	P	**P**	**05 44 22.4**	**+1.4**
	baz=129					
WCT	**Wildcat Mounta**	**53.11 322**	P	**P**	**05 44 23.1**	**+1.5**
WCT			IAmb	IAmb	05 44 24.6	
	comp=Z,5.7nm,1.4s					
E28A	**Huff**	**53.12 341**	P	**P**	**05 44 21.8**	**+0.4**
E28A				**pP**	**05 44 44.5**	**+1.1**
MPMC	**Manual Prospec**	**53.18 321**	P	**P**	**05 44 23.0**	**+0.7**
	baz=128					
DUG	**Dugway, Tooele**	**53.21 328**	P	**P**	**05 44 23.8**	**+1.4**
	baz=135					
SPR3	**Spring Creek 3**	**53.21 325**	P	**P**	**05 44 23.4**	**+0.9**
SPR3			IAmb	IAmb	05 44 24.7	
	comp=Z,3.2nm,0.9s					
AGMN	**Agassiz Nation**	**53.32 346**	P	**P**	**05 44 21.9**	**-0.8**
AGMN			IAmb	IAmb	05 44 23.2	
	comp=Z,5.2nm,0.9s					
AGMN	**Agassiz Nation**	**53.32 346**	P	**P**	**05 44 23.6**	**+0.9**
	baz=158					
ARVC	**Arvin**	**53.48 319**	P	**P**	**05 44 25.5**	**+1.3**
	baz=127					
PD31	**Pinedale Array**	**53.48 332**	P	**P**	**05 44 24.9**	**+0.4**
PD31			pP	**pP**	**05 44 46.2**	**-0.1**
PDAR	**Pinedale Array**	**53.48 332**	P	**P**	**05 44 24.9**	**+0.4**
PDAR			pP	**pP**	**05 44 45.8**	**-0.5**
PDAR	**Pinedale Array**	**53.48 332**	P	**P**	**05 44 24.8**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=122,slow=8.1,SNR=15					
PDAR			pP	**pP**	**05 44 46.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=122,slow=12,SNR=2.2					
PDAR			LR	LR	06 09 52.2	
	comp=Z,24nm,18.1s,baz=177,slow=39					
	comp=Z,1.2nm,0.7s					
BW06	**Boulder Array**	**53.48 332**	P	**P**	**05 44 25.2**	**+0.8**
	baz=140					
R11B	**Troy Canyon, C**	**53.50 324**	P	**P**	**05 44 26.7**	**+2.1**
R11B	**Troy Canyon, C**	**53.50 324**	P	**P**	**05 44 25.8**	**+1.2**
	baz=132,SNR=5.1					
Q12A	**Willow Creek R**	**53.52 325**	P	**P**	**05 44 26.8**	**+2.1**
Q12A			IAmb	IAmb	05 44 27.3	
	comp=Z,5.4nm,1.1s					
ISA	**Isabella, Lake**	**53.57 320**	P	**P**	**05 44 25.9**	**+0.9**
	baz=127					
HWUT	**Hardware Ranch**	**53.59 330**	P	**P**	**05 44 25.7**	**+0.6**
HWUT			IAmb	IAmb	05 44 26.9	
	comp=Z,6.6nm,0.9s					
GRAC	**Grapevine Rang**	**53.70 322**	P	**P**	**05 44 26.6**	**+0.8**
	baz=129					
CWC	**Cottonwood Cre**	**53.80 321**	P	**P**	**05 44 27.8**	**+1.1**
	baz=128					
SPUT	**South Promonto**	**53.82 329**	P	**P**	**05 44 27.3**	**+0.5**
SPUT			IAmb	IAmb	05 44 29.4	
	comp=Z,6.4nm,1.3s					
PKM	**Mcpherson Peak**	**53.99 318**	P	**P**	**05 44 28.8**	**+0.6**
	baz=126					
VES	**Vestal, Richgr**	**54.08 319**	P	**P**	**05 44 30.3**	**+1.8**
	baz=127					
SMMC	**Simmler**	**54.36 318**	P	**P**	**05 44 31.5**	**+0.8**
	baz=126					
NV11	**Mina Array Sit**	**55.09 322**	P	**P**	**05 44 38.0**	**+1.9**
NV11			IAmb	IAmb	05 44 38.9	
	comp=Z,5.8nm,1.4s					
OMMB	**Old Mammoth Mi**	**55.10 321**	P	**P**	**05 44 38.2**	**+1.9**
OMMB			IAmb	IAmb	05 44 38.9	
	comp=Z,4.4nm,0.9s					
ULM	**Lac du Bonnet**	**55.14 347**	P	**P**	**05 44 35.3**	**-0.7**
	comp=Z,4.2nm,0.6s,baz=143,slow=7.4,SNR=8.3					
	comp=Z,4.2nm,0.6s					
MDPB	**Devils Postpil**	**55.16 321**	P	**P**	**05 44 38.2**	**+1.5**
MDPB			IAmb	IAmb	05 44 39.2	
	comp=Z,5.1nm,1.2s					
NVAR	**Mina Array Bea**	**55.17 322**	P	**P**	**05 44 38.0**	**+1.3**
	comp=Z,2.4nm,1.0s,baz=136,slow=6.6,SNR=11					
NVAR			pP	**pP**	**05 44 58.0**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=134,slow=7.2,SNR=2.7					
	comp=Z,2.4nm,1.0s					
RLMT	**Red Lodge**	**55.18 334**	P	**P**	**05 44 37.7**	**+1.0**
	baz=142					
LHV	**Little Huntoon**	**55.19 322**	P	**P**	**05 44 37.4**	**+0.9**
LHV			IAmb	IAmb	05 44 39.7	
	comp=Z,3.5nm,1.0s					
HLID	**Hailey**	**56.45 329**	P	**P**	**05 44 46.3**	**+0.6**
	baz=135					
BOZ	**Bozeman (W)**	**56.61 333**	P	**P**	**05 44 47.9**	**+1.2**
BOZ			IAmb	IAmb	05 44 48.8	
	comp=Z,7.3nm,1.2s					
BOZ				**pP**	**05 45 10.4**	**+1.5**
BOZ	**Bozeman (W)**	**56.61 333**	P	**P**	**05 44 47.0**	**+0.2**
	baz=139,SNR=9.3					
MFID	**Camas Ranch**	**57.08 328**	P	**P**	**05 44 51.9**	**+1.8**
MFID			IAmb	IAmb	05 44 52.5	
	comp=Z,7.7nm,0.9s					
MFID			pP	**pP**	**05 45 13.0**	**+0.7**
EGMT	**Eagleton**	**57.68 336**	P	**P**	**05 44 55.3**	**+1.1**
EGMT			IAmb	IAmb	05 44 55.9	
	comp=Z,8.3nm,1.1s					
EGMT	**Eagleton**	**57.68 336**	P	**P**	**05 44 54.7**	**+0.5**
	baz=142					
ORV	**Oroville**	**57.83 322**	P	**P**	**05 44 56.2**	**+0.9**
ORV			IAmb	IAmb	05 44 58.2	
	comp=Z,7.0nm,0.9s					
ORV			pP	**pP**	**05 45 17.0**	**-0.5**
WVOR	**Wild Horse Val**	**57.94 326**	P	**P**	**05 44 57.4**	**+1.2**
WVOR			IAmb	IAmb	05 44 58.2	
	comp=Z,7.3nm,1.1s					
SCHQ	**Schefferville**	**58.53 8**	P	**P**	**05 44 59.8**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=212,slow=13,SNR=2.2					
	comp=Z,1.5nm,0.6s					
MSO	**Missoula**	**58.59 332**	P	**P**	**05 45 01.4**	**+0.8**
	baz=137					
KHMM	**Horse Mountain**	**59.99 322**	P	**P**	**05 45 10.7**	**+0.3**
PINE	**Pine Mountain**	**60.10 326**	P	**P**	**05 45 12.2**	**+1.0**
PINE			IAmb	IAmb	05 45 14.0	
	comp=Z,6.0nm,0.9s					
NEW	**Newport**	**61.12 332**	P	**P**	**05 45 18.3**	**+0.4**
NEW			IAmb	IAmb	05 45 20.2	
	comp=Z,9.3nm,1.4s					
NEW	**Newport**	**61.12 332**	P	**P**	**05 45 18.1**	**+0.3**
	baz=135					
SMAI	**San Martin Ant**	**65.42 175**	P	**P**	**05 45 48.3**	**+2.5**
SMAI			IAmb	IAmb	05 45 49.2	
	comp=Z,6.7nm,1.1s					
YKA	**Yellowknife Ar**	**70.84 343**	P	**P**	**05 46 19.7**	**0.0**
	comp=Z,0.6nm,0.5s,baz=126,slow=9.3,SNR=2.3					
	comp=Z,0.6nm,0.5s					
TOAD	**Toad River Com**	**71.85 337**	P	**P**	**05 46 25.9**	**-0.1**
	baz=130					
KOTAN	**Kotaneelee Air**	**72.24 338**	P	**P**	**05 46 29.0**	**+0.7**
	baz=132					
T35M	**Bob Quinn**	**72.83 333**	P	**P**	**05 46 31.9**	**+0.1**
	baz=125					
DLBC	**Dease Lake**	**73.58 335**	P	**P**	**05 46 36.2**	**-0.1**
	baz=125					
S34M	**Telegraph Cree**	**73.75 334**	P	**P**	**05 46 37.7**	**+0.4**
	baz=124					
WTLY	**Watson Lake, Y**	**74.06 336**	P	**P**	**05 46 39.4**	**+0.3**
	baz=127					
WRGLY	**Wrigley**	**74.13 341**	P	**P**	**05 46 39.6**	**+0.3**
	baz=133					
DBIC	**Dimbokro**	**74.31 82**	P	**P**	**05 46 41.5**	**+0.1**
	comp=Z,5.4nm,0.9s,baz=177,slow=12,SNR=2.0					
DBIC			LR	LR	06 17 00.9	
	comp=Z,32nm,18.4s,baz=133,slow=34					
	comp=Z,5.4nm,0.9s					
R33M	**Jennings River**	**74.53 335**	P	**P**	**05 46 41.3**	**-0.7**
	baz=125					
Q32M	**Nakina River**	**74.84 334**	P	**P**	**05 46 42.9**	**-0.9**
	baz=124					
S32K	**Killisnoo**	**75.07 332**	P	**P**	**05 46 44.9**	**+0.1**
	baz=121					
SIT	**Sitka**	**75.21 332**	P	**P**	**05 46 45.9**	**+0.2**
	baz=120					
R32K	**Eaglecrest**	**75.46 333**	P	**P**	**05 46 47.5**	**+0.4**
	baz=121,SNR=8.7					
P33M	**Teslin, Yukon**	**75.76 335**	P	**P**	**05 46 49.3**	**+0.4**
	baz=123					
P32M	**Atlin**	**75.80 335**	P	**P**	**05 46 49.6**	**+0.4**
	baz=122					
S31K	**Pelican**	**76.08 332**	P	**P**	**05 46 51.4**	**+0.7**
	baz=120					
PLBC	**Pleasant Camp**	**76.89 334**	P	**P**	**05 46 55.6**	**+0.4**
	baz=120					
FARO	**Faro, Yukon**	**77.09 337**	P	**P**	**05 46 56.9**	**+0.5**
	baz=123					
O30N	**Mendenhall**	**77.44 335**	P	**P**	**05 46 58.9**	**+0.6**
	baz=120					
P30M	**Million Dollar**	**77.48 334**	P	**P**	**05 46 59.4**	**+0.8**
	baz=119					
M31M	**Drury Creek, Y**	**77.49 337**	P	**P**	**05 46 59.0**	**+0.4**
	baz=122					
P29M	**Windy Craggy**	**77.59 333**	P	**P**	**05 46 59.4**	**+0.3**
	baz=118					
N31M	**Braeburn, Yuko**	**77.67 336**	P	**P**	**05 46 60.0**	**+0.4**
	baz=121					
O29M	**Mount Kennedy**	**78.28 334**	P	**P**	**05 47 03.4**	**+0.3**
	baz=118					
PNL	**Peninsula**	**78.35 333**	P	**P**	**05 47 03.1**	**-0.3**
	baz=117					
YUK6	**Outpost Mounta**	**78.49 335**	P	**P**	**05 47 03.9**	**-0.4**
	baz=118					
C36M	**Paulatuk**	**78.52 345**	P	**P**	**05 47 04.1**	**+0.1**
	baz=133					
YUK4	**Talbot Arm**	**78.80 335**	P	**P**	**05 47 06.0**	**0.0**
	baz=118					
O28M	**Mount Upton**	**79.20 334**	P	**P**	**05 47 07.9**	**-0.4**
	baz=116					
M29M	**Somme Creek**	**79.25 336**	P	**P**	**05 47 08.4**	**0.0**
	baz=118					
YUK8	**Steele Glacier**	**79.25 335**	P	**P**	**05 47 08.2**	**-0.4**
	baz=117					
L29M	**L29M**	**79.44 337**	P	**P**	**05 47 09.5**	**+0.2**
	baz=119					
J30M	**Hart River**	**79.48 338**	P	**P**	**05 47 10.1**	**+0.5**
	baz=121					
K29M	**Barlow Dome**	**79.56 337**	P	**P**	**05 47 10.6**	**+0.6**
	baz=120					
MESA	**MESA**	**79.73 333**	P	**P**	**05 47 11.9**	**+0.8**
	baz=115					
YUK3	**Moose Creek**	**79.77 335**	P	**P**	**05 47 11.2**	**-0.1**
	baz=116					
CTG	**Chitna Glacier**	**79.79 334**	P	**P**	**05 47 12.4**	**+1.0**
	baz=116					
I30M	**Mount Dempster**	**79.83 339**	P	**P**	**05 47 11.9**	**+0.5**
	baz=121					
G31M	**Satah River**	**80.01 341**	P	**P**	**05 47 12.3**	**+0.1**
	baz=123					
F31M	**Tsiigehtchic**	**80.12 341**	P	**P**	**05 47 12.8**	**0.0**
	baz=124					
ESDC	**Sonseca Array**	**80.25 49**	P	**P**	**05 47 14.8**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=268,slow=5.8,SNR=4.0					
ESDC			pP	**pP**	**05 47 34.8**	**-2.4**
	comp=Z,0.7nm,0.8s,baz=268,slow=8.9,SNR=2.9					
	comp=Z,0.5nm,0.6s					
DAWY	**Dawson**	**80.39 337**	P	**P**	**05 47 14.5**	**+0.1**
	baz=118					
CRQE	**Cirque**	**80.48 333**	P	**P**	**05 47 15.3**	**+0.2**
	baz=114					
EPYK	**Eagle Plains**	**80.54 340**	P	**P**	**05 47 15.3**	**+0.1**
	baz=121					
INK	**Inuvik**	**80.54 342**	P	**P**	**05 47 14.8**	**-0.2**
	baz=124,SNR=5.6					
I29M	**Ogilvie Camp,**	**80.60 338**	P	**P**	**05 47 15.5**	**0.0**
	baz=119					
A36M	**Sachs Harbour**	**80.62 347**	P	**P**	**05 47 15.6**	**+0.2**
	baz=132					
M27K	**Edge Creek, AK**	**80.63 335**	P	**P**	**05 47 16.2**	**+0.4**
	baz=115					
MCARA	**McCarthy VSAT**	**80.71 334**	P	**P**	**05 47 16.7**	**+0.6**
	baz=114					
KAIM	**Kayak Island**	**80.76 332**	P	**P**	**05 47 16.7**	**+0.3**
	baz=112					
F30M	**Barrier River**	**80.88 341**	P	**P**	**05 47 17.6**	**+0.7**
	baz=122					
L27K	**Beaver Creek,**	**80.91 336**	P	**P**	**05 47 18.1**	**+0.9**
	baz=115					
H29M	**Whitestone**	**81.05 339**	P	**P**	**05 47 18.2**	**+0.4**
	baz=119					
M26K	**Nabesna, AK**	**81.12 335**	P	**P**	**05 47 18.8**	**+0.5**
	baz=114					
I28M	**Miner Creek**	**81.24 338**	P	**P**	**05 47 19.1**	**+0.1**
	baz=118					
BMRM	**Bremner River**	**81.25 333**	P	**P**	**05 47 19.0**	**-0.1**
	baz=112					
G29M	**Pine Creek**	**81.27 340**	P	**P**	**05 47 19.1**	**+0.1**
	baz=120					
TORD	**Torodi Ar. Bea**	**81.33 76**	P	**P**	**05 47 20.5**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=284,slow=5.5,SNR=5.2					
TORD			pP	**pP**	**05 47 42.4**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=242,slow=6.2,SNR=1.7					
	comp=Z,0.8nm,0.5s					
EGAK	**Eagle**	**81.40 337**	P	**P**	**05 47 20.3**	**+0.6**
	baz=116,SNR=5.3					
K27K	**Chicken**	**81.43 337**	P	**P**	**05 47 20.1**	**+0.2**
	baz=115					
Q23K	**Middleton Isla**	**81.48 331**	P	**P**	**05 47 20.3**	**+0.1**
	baz=111					
N25K	**Chitina, Valde**	**81.49 334**	P	**P**	**05 47 20.2**	**-0.1**
	baz=113					
L26K	**Log Cabin Wild**	**81.52 335**	P	**P**	**05 47 20.5**	**+0.1**
	baz=114					
I27K	**Kandik River**	**81.94 338**	P	**P**	**05 47 22.9**	**+0.3**
	baz=116					
E29M	**Blow River**	**81.96 341**	P	**P**	**05 47 23.3**	**+0.7**
E29M			IAmb	IAmb	05 47 24.2	
	comp=Z,6.2nm,1.1s					
E29M	**Blow River**	**81.96 341**	P	**P**	**05 47 23.4**	**+0.9**
	baz=120,SNR=5.2					
KLU	**Klutina**	**82.04 333**	P	**P**	**05 47 24.1**	**+0.9**
	baz=111					
SCRK	**Sand Creek**	**82.17 336**	P	**P**	**05 47 24.8**	**+0.8**
SCRK	**Sand Creek**	**82.17 336**	P	**P**	**05 47 24.7**	**+0.8**
	baz=114					
H27K	**Steamboat Moun**	**82.18 339**	P	**P**	**05 47 24.5**	**+0.6**
	baz=116					
P23K	**Montague Islan**	**82.18 332**	P	**P**	**05 47 24.3**	**+0.4**
	baz=110					
J26L	**Joseph Creek**	**82.22 337**	P	**P**	**05 47 24.7**	**+0.6**
J26L			IAmb	IAmb	05 47 25.8	
	comp=Z,3.3nm,0.7s					
J26L	**Joseph Creek**	**82.22 337**	P	**P**	**05 47 24.4**	**+0.3**
	baz=114,SNR=5.4					
F28M	**Old Crow**	**82.24 340**	P	**P**	**05 47 24.8**	**+0.8**
	baz=118					
GLI	**Glacier Island**	**82.35 333**	P	**P**	**05 47 25.1**	**+0.4**
	baz=110					
M24K	**Tolsona, Glenn**	**82.37 334**	P	**P**	**05 47 24.9**	**0.0**
	baz=111					
I26K	**Coal Creek Min**	**82.39 338**	P	**P**	**05 47 24.5**	**-0.4**
	baz=114					
PAX	**Paxson**	**82.39 335**	P	**P**	**05 47 24.7**	**-0.4**
	baz=112					
G27K	**Doyon Strip**	**82.49 339**	P	**P**	**05 47 25.5**	**+0.1**
G27K	**Doyon Strip**	**82.49 339**	P	**P**	**05 47 24.7**	**-0.7**
	baz=116					
E28M	**Babbage River**	**82.59 341**	P	**P**	**05 47 26.4**	**+0.5**
E28M	**Babbage River**	**82.59 341**	P	**P**	**05 47 25.8**	**-0.1**
	baz=118					
SNAA	**Sanae**	**82.66 162**	P	**P**	**05 47 27.8**	**+1.5**
SNAA			IAmb	IAmb	05 47 28.6	
	comp=Z,7.5nm,1.2s					
SNAA	**Sanae**	**82.66 162**	P	**P**	**05 47 27.5**	**+1.2**
	comp=Z,3.4nm,0.9s,baz=262,slow=3.1

comp=Z,5.0nm,0.9s
HDA Harding Lake 83.54 336 P **P** **05 47 31.2 +0.4**
baz=111
IL03 Eielson Array 83.63 336 P **P** **05 47 31.9 +0.6**
RC01 Rabbit Creek A 83.63 332 P **P** **05 47 31.5 +0.1**
baz=108
IL31 83.64 336 P **P** **05 47 31.9 +0.6**
ILAR Eielson Array 83.64 336 P **P** **05 47 31.4 0.0**
ILAR Eielson Array 83.64 336 P **P** **05 47 31.6 +0.2**
comp=Z,1.5nm,0.9s,baz=126,slow=3.3,SNR=15
ILAR pP **pP** **05 47 55.0 +0.2**
comp=Z,0.8nm,0.9s,baz=130,slow=3.8,SNR=4.3
comp=Z,1.5nm,0.9s
F26K Sheenjek River 83.74 340 P **P** **05 47 31.7 -0.1**
baz=114
H25L Birch Creek 83.78 338 P **P** **05 47 32.0 0.0**
baz=112
BMAR Burnt Mountain 83.79 339 P **P** **05 47 33.4 +1.3**
CCB Clear Creek Bu 83.97 336 P **P** **05 47 33.5 +0.5**
POKR Poker Plat Res 83.98 337 P **P** **05 47 32.9 -0.2**
baz=110
KDAK Kodiak Island 84.07 329 P **P** **05 47 33.0 -0.7**
baz=105
G25K Bearman Lake 84.08 338 P **P** **05 47 33.0 -0.5**
baz=112
HOM Homer 84.11 331 P **P** **05 47 33.7 -0.1**
baz=106
MCK McKinley 84.12 335 P **P** **05 47 33.2 -0.7**
baz=109
CAPN Captain Cook N 84.19 332 P **P** **05 47 33.3 -0.9**
baz=107
SUA Susitna One 84.21 333 P **P** **05 47 34.1 -0.4**
baz=107
F25K Christian Rive 84.23 339 P **P** **05 47 33.5 -0.8**
baz=112
MDM Murphy Dome 84.25 336 P **P** **05 47 35.0 +0.5**
MDM IAmb IAmb 05 47 35.9
comp=Z,5.2nm,1.1s
OHAK Old Harbor 84.29 328 P **P** **05 47 34.9 +0.1**
baz=104
EKA Eskdalemuir Ar 84.31 34 P **P** **05 47 35.9 +0.9**
comp=Z,0.6nm,0.6s,baz=227,slow=3.3,SNR=3.6
comp=Z,0.6nm,0.6s
C27K Jago River 84.39 341 P **P** **05 47 34.8 -0.3**
baz=114
E25K Arctic Village 84.40 340 P **P** **05 47 35.2 0.0**
baz=112
H24K Noodor Dome 84.41 337 P **P** **05 47 35.7 +0.4**
baz=110
NEA2 Nenana 84.46 336 P **P** **05 47 36.4 +0.8**
NEA2 IAmb IAmb 05 47 37.3
comp=Z,6.4nm,0.8s
NEA2 Nenana 84.46 336 P **P** **05 47 35.8 +0.2**
baz=109
G24K Hadweenzic Riv 84.56 338 P **P** **05 47 35.9 -0.1**
baz=111
SII Sitkinak Islan 84.61 327 P **P** **05 47 36.5 0.0**
baz=104
SKT Skwentna 84.72 333 P **P** **05 47 36.6 -0.3**
baz=106
I23K Minto, Yukon-K 84.76 336 P **P** **05 47 37.9 +0.9**
I23K IAmb IAmb 05 47 38.5
comp=Z,4.8nm,0.9s
I23K Minto, Yukon-K 84.76 336 P **P** **05 47 37.2 +0.3**
baz=109
SPCR Spurr Chakacha 84.81 332 P **P** **05 47 37.9 +0.4**
baz=106
C26K Camden Bay 84.89 341 P **P** **05 47 38.2 +0.6**
baz=113
R18K Karluk 84.99 328 P **P** **05 47 37.6 -0.7**
baz=104
F24K Squaw Lake 85.00 339 P **P** **05 47 38.4 +0.2**
baz=110
H23K Yukon River 85.05 337 P **P** **05 47 37.5 -1.0**
baz=109
BPAW Bear Paw Mtn. 85.10 335 P **P** **05 47 39.2 +0.4**
BPAW IAmb IAmb 05 47 39.9
comp=Z,7.3nm,0.9s
BPAW Bear Paw Mtn. 85.10 335 P **P** **05 47 37.9 -0.8**
baz=107
D25K Kavik River 85.14 341 P **P** **05 47 37.8 -1.1**
baz=112
MLY Manley 85.28 336 P **P** **05 47 40.2 +0.5**
MLY IAmb IAmb 05 47 40.9
comp=Z,4.0nm,0.9s
MLY Manley 85.28 336 P **P** **05 47 39.1 -0.5**
baz=107
CAST Castle Rocks 85.37 334 P **P** **05 47 39.3 -0.9**
baz=106
E24K Your Creek 85.41 339 P **P** **05 47 40.2 -0.1**
baz=110
M20K Styx River 85.42 333 P **P** **05 47 40.4 0.0**
baz=105
G23K Bananza Creek 85.52 338 P **P** **05 47 42.4 +1.6**
G23K Bananza Creek 85.52 338 P **P** **05 47 41.0 +0.2**
baz=108
Q18K Katmai Hardscr 85.53 329 P **P** **05 47 41.4 +0.3**
baz=103
COLD Coldfoot 85.75 338 P **P** **05 47 43.2 +1.3**
COLD IAmb IAmb 05 47 44.5
comp=Z,6.1nm,1.3s
COLD Coldfoot 85.75 338 P **P** **05 47 42.2 +0.3**
baz=108
E23K Chandalar 85.80 339 P **P** **05 47 42.2 0.0**
baz=109
R17L Mt. Peulik Vol 86.00 328 P **P** **05 47 44.2 +0.8**
baz=102
G22K Bettles 86.14 338 P **P** **05 47 44.4 +0.6**
baz=107
K20K Telida 86.22 334 P **P** **05 47 44.6 +0.3**
baz=104
L19K White Mountain 86.28 333 P **P** **05 47 44.7 0.0**
baz=104
P17K Kvichak River 86.37 330 P **P** **05 47 44.6 -0.5**
baz=102
N18K Kilae Creek 86.42 331 P **P** **05 47 45.3 -0.1**
baz=102
J20K Nowinta River 86.45 335 P **P** **05 47 46.3 +0.9**
baz=104
D23K Nanushuk River 86.46 340 P **P** **05 47 45.7 +0.3**
baz=108
F22K John River 86.56 338 P **P** **05 47 46.8 +0.8**
baz=106
M18K Stony River 86.57 332 P **P** **05 47 46.9 +0.8**
baz=103
E22K Anaktuvuk Pass 86.61 339 P **P** **05 47 46.3 +0.1**
baz=107
C23K Itkillik River 86.71 341 P **P** **05 47 48.2 +1.7**
C23K Itkillik River 86.71 341 P **P** **05 47 47.0 +0.4**
baz=108,SNR=6.3
G21K Allakaket 86.79 337 P **P** **05 47 47.5 +0.5**
baz=105
O17K Koliganek Bris 86.82 330 P **P** **05 47 47.8 +0.5**
baz=101
CHGN Chignik 86.85 327 P **P** **05 47 48.0 +0.5**
baz=100
F21K Alatna River 86.97 338 P **P** **05 47 47.9 0.0**
F21K IAmb IAmb 05 47 50.1
comp=Z,3.3nm,0.9s
F21K Alatna River 86.97 338 P **P** **05 47 48.0 +0.1**
baz=105
QSPA South Pole Qui 87.00 180 P **P** **05 47 50.4 +2.1**
comp=Z,9.1nm,1.0s,baz=166,slow=1.4,SNR=19
QSPA pP **pP** **05 48 13.5 +2.0**
comp=Z,4.0nm,1.2s,baz=102,slow=3.9,SNR=1.9
comp=Z,9.1nm,1.0s
N17K Nushagak Hills 87.02 331 P **P** **05 47 48.6 +0.4**
baz=101
J19K Poorman 87.04 335 P **P** **05 47 48.7 +0.4**
baz=103
H20K Anotleneega Mo 87.08 336 P **P** **05 47 49.2 +0.7**
baz=104
D22K Ayikyak River 87.13 340 P **P** **05 47 48.8 +0.1**
baz=106
CHNA Chernabura Isl 87.26 325 P **P** **05 47 50.0 +0.5**
baz=99
O16K Kokwok River B 87.28 330 P **P** **05 47 49.6 +0.1**
baz=100
M17K Holitna River 87.31 332 P **P** **05 47 49.5 -0.1**
baz=101
J18K Innoko River 87.40 334 P **P** **05 47 50.3 +0.2**
baz=102
E21K Killik River 87.47 339 P **P** **05 47 50.5 +0.2**
baz=105
H19K Roundabout Mou 87.73 336 P **P** **05 47 51.9 +0.4**
baz=102
B22K Teshekpuk Lake 87.78 341 P **P** **05 47 53.0 +1.3**
B22K Teshekpuk Lake 87.78 341 P **P** **05 47 51.8 +0.2**
baz=105,SNR=5.5
N16K Nishlik Lake 87.78 331 P **P** **05 47 51.9 -0.1**
baz=100
F20K Avaraart Lake 87.78 338 P **P** **05 47 52.5 +0.7**
baz=103
SDPT Sand Point 87.84 326 P **P** **05 47 53.0 +0.8**
baz=98
L17K Donlin 87.85 332 P **P** **05 47 53.3 +1.1**
baz=100
C21K Knifeblade Rid 87.93 340 P **P** **05 47 53.1 +0.7**
baz=104
K17K Iditarod 87.96 333 P **P** **05 47 53.5 +0.8**
baz=100
M16K Timber Creek 87.96 331 P **P** **05 47 53.2 +0.4**
baz=100
B21K Ikpikpuk River 87.99 340 P **P** **05 47 52.7 0.0**
baz=104
O15K Ungalikthiuk R 88.08 329 P **P** **05 47 53.5 +0.2**
baz=99
G19K Purcell Mounta 88.11 337 P **P** **05 47 53.5 +0.1**
baz=102
E20K Nigu River 88.22 339 P **P** **05 47 54.3 +0.4**
baz=102
L16K Owhat River 88.33 332 P **P** **05 47 54.5 +0.1**
baz=99
N15K Kwethluk River 88.37 330 P **P** **05 47 54.7 -0.1**
baz=99
J17K VABM Dome 88.43 334 P **P** **05 47 54.4 -0.5**
baz=100
E19K Redstone River 88.44 338 P **P** **05 47 54.6 -0.3**
baz=102
H18K Honhosa River 88.44 335 P **P** **05 47 53.9 -1.1**
baz=100
A22K Sinclair Lake 88.44 341 P **P** **05 47 54.2 -0.6**
baz=104
D20K Etivluk River 88.47 339 P **P** **05 47 54.9 -0.2**
baz=102
F19K Shaleruckik Mo 88.52 337 P **P** **05 47 54.9 -0.3**
baz=101
G18K Tagagawik 88.69 336 P **P** **05 47 57.5 +1.4**
G18K Tagagawik 88.69 336 P **P** **05 47 56.3 +0.2**
baz=100
M15K Kasigluk River 88.75 331 P **P** **05 47 56.4 0.0**
baz=98
S12K Black Hills 88.79 326 P **P** **05 47 56.8 0.0**
baz=97
O14K Tigyukauivet M 88.83 329 P **P** **05 47 56.9 +0.1**
baz=98
B20K Meade River 88.94 340 P **P** **05 47 57.8 +0.6**
baz=102
D19K Kuna River 88.97 339 P **P** **05 47 57.6 +0.1**
baz=101
A21K Barrow 89.04 342 P **P** **05 47 57.5 -0.1**
baz=102
H17K Granite Mounta 89.05 335 P **P** **05 47 57.1 -0.7**
baz=99
J16K Anvik River 89.09 333 P **P** **05 47 57.6 -0.4**
baz=98
N14K Kuskokwak Cree 89.13 330 P **P** **05 47 57.9 -0.4**
baz=97
F18K Selawik 89.21 337 P **P** **05 47 57.9 -0.6**
baz=99
I17K Unalakleet 89.22 334 P **P** **05 47 58.3 -0.2**
baz=98
L15K Ungalak Mounta 89.27 332 P **P** **05 47 58.5 -0.4**
baz=98
K15K Wolf Creek Mou 89.37 332 P **P** **05 47 59.0 -0.4**
baz=98
M14K Bethel 89.37 331 P **P** **05 47 59.2 -0.1**
baz=97
G17K Kiwalik Mounta 89.44 336 P **P** **05 47 59.4 -0.3**
baz=98
C19K Lookout Ridge 89.61 339 P **P** **05 48 00.1 -0.3**
baz=99
E18K Tukpahlearik C 89.71 338 P **P** **05 48 01.1 +0.3**
baz=98
L14K Kuka Creek 89.79 331 P **P** **05 48 01.0 -0.3**
baz=96
F17K Baldwin Pennin 89.82 337 P **P** **05 48 01.9 +0.6**
baz=98
H16K Elim 89.99 335 P **P** **05 48 02.0 -0.2**
baz=97
M13K Dall Lake 90.02 330 P **P** **05 48 02.1 -0.3**
baz=96
C18K Utukok River 90.11 339 P **P** **05 48 02.4 -0.4**
baz=98
G16K Koyuk River 90.13 335 P **P** **05 48 02.1 -0.7**
baz=97
E17K Hotham Inlet 90.14 337 P **P** **05 48 02.3 -0.5**
baz=97
A19K Wainwright 90.29 340 P **P** **05 48 03.2 -0.2**
baz=98
J14K Nanvaranak Lak 90.36 333 P **P** **05 48 03.4 -0.5**
baz=96
G15K Niukluk 90.80 335 P **P** **05 48 05.7 -0.2**
baz=95
C17K DeLong Mountai 90.81 338 P **P** **05 48 05.6 -0.3**
baz=96
F15K North Star Dit 91.12 336 P **P** **05 48 06.6 -0.8**
baz=95
UNV Unalaska Valle 91.17 324 P **P** **05 48 07.7 -0.3**
baz=93
ANM Nome 91.33 334 P **P** **05 48 08.5 +0.1**
baz=94
NIKH Nikolski High 92.54 323 P **P** **05 48 14.0 -0.2**
baz=92
VNDA Vanda 93.15 191 P **P** **05 48 18.9 +2.2**
comp=Z,0.8nm,0.7s,baz=109,slow=3.2,SNR=5.0
comp=Z,0.8nm,0.7s
ZALV Zalesovo Beam 127.51 12 PKP **PKiKP** **05 54 08.1 0.0**
comp=Z,1.3nm,0.5s,baz=276,slow=2.8,SNR=7.2
ZALV pPKP **pPKPdf** **05 54 31.2 -1.2**
comp=Z,1.7nm,0.6s,baz=318,slow=1.9,SNR=3.1
KURBB Kurchatov Arra 128.86 18 PKP **PKiKP** **05 54 11.3 +0.3**
comp=Z,0.8nm,0.3s,baz=328,slow=2.2,SNR=6.5
KURBB pPKP **pPKPdf** **05 54 35.2 +0.2**
comp=Z,0.7nm,0.2s,baz=322,slow=2.6,SNR=2.7
MKAR Makanchi Array 133.41 18 PKP **PKPdf** **05 54 19.0 -0.1**
comp=Z,0.3nm,0.6s,baz=29,slow=2.8,SNR=2.2
MKAR pPKP **pPKPdf** **05 54 42.0 -1.9**
comp=Z,0.5nm,0.8s,baz=344,slow=3.7,SNR=2.6
SONM Songino Array 135.19 355 PKP **PKiKP** **05 54 23.1 -0.9**
comp=Z,0.6nm,0.8s,baz=106,slow=3.1,SNR=2.7
SONM pPKP **pPKPdf** **05 54 47.9 +0.7**
comp=Z,0.5nm,0.6s,baz=284,slow=0.6,SNR=2.3
KSRS Korea Array 137.97 328 PKhKP PKPpre 05 54 23.9
comp=Z,0.5nm,0.3s,baz=42,slow=1.2,SNR=2.2
KSRS PKP **PKiKP** **05 54 28.8 -1.1**
comp=Z,0.9nm,0.4s,baz=41,slow=1.2,SNR=5.4
ASAR Alice Springs 138.62 228 PKhKP PKPpre 05 54 23.7
comp=Z,0.7nm,0.8s,baz=129,slow=3.4,SNR=3.1
ASAR PKP **PKPdf** **05 54 28.8 -0.7**
comp=Z,1.7nm,1.0s,baz=115,slow=2.5,SNR=6.8
ASAR pPKP pPKPdf 05 54 53.9 -0.4
comp=Z,1.8nm,1.1s,baz=145,slow=2.3,SNR=3.3
WRA Warramunga Arr 140.33 233 PKhKP PKPpre 05 54 24.9
comp=Z,0.7nm,0.8s,baz=94,slow=2.9,SNR=3.5
WRA PKP **PKPdf** **05 54 32.9 +0.2**
comp=Z,1.9nm,1.1s,baz=141,slow=1.3,SNR=6.2
CMAR Chiang Mai Arr 164.53 9 PKP **PKPdf** **05 55 07.6 +0.2**
comp=Z,0.6nm,0.3s,baz=307,slow=3.3,SNR=1.4

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*IDC **16** 05:50:23.2±3.3, 4°.34N×96°.02E, h0km, mb3.7/4, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=120.7km s-min=24.1km az=65.0*
*DJA **16** 05:50:25.3±0.8, 5°.N±4°.×9°.6E±°, h26km±4km, M4.4/6, mb5.0/2, mB5.9/1, MLv4.1/6, Mw(mB)5.5/1*
ISC 16 05:50:28.2±0.9, 4.71N±0°.05×96.44E±0°.10, h33km, n19, σ1§84/16, mb3.7/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.44**	**184**	P	**Pn**	**05 50 37.9**	**-0.4**
MLSI				S	**Sn**	**05 50 43.9**	**-1.3**
LHMI	**Lhok Sumawe**	**0.72**	**45**	P	**Pn**	**05 50 40.5**	**-1.6**
LHMI				S	**Sn**	**05 50 50.2**	**-1.8**
KCSI	**Kotacane, Aceh**	**1.78**	**132**	P	**Pn**	**05 50 56.4**	**-0.3**
KCSI				S	**Sn**	**05 51 19.0**	**+0.8**
SNSI	**Sinabang, Aceh**	**2.29**	**183**	P	**Pn**	**05 51 01.3**	**-2.4**
GSI	**Gunungsitoli**	**3.57**	**161**	P	**Pn**	**05 51 19.5**	**-1.8**
PBSI	**Pulau Batu**	**5.08**	**159**	P	**Pn**	**05 51 40.5**	**-1.6**
	152nm,1.2s						
BKNI	**Bangkinang**	**6.33**	**133**	P	**Pn**	**05 51 58.2**	**-1.1**
SISI	**Saibi**	**6.56**	**156**	P	**Pn**	**05 52 01.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**13.88**	**10**	Pn	**P**	**05 53 47.8**	**-2.7**
	0.2nm,0.3s,baz=196,slow=12,SNR=1.6						
	1.0nm,0.3s						
H08S2	**Diego Garcia H**	**26.86**	**243**	T	T	06 23 20.9	
	baz=65,slow=74						
H08S3	**Diego Garcia H**	**26.86**	**243**	T	T	06 23 14.9	
	baz=65,slow=74						
H08S1	**Diego Carcia H**	**26.88**	**243**	T	T	06 23 16.0	
	baz=65						
MKAR	**Makanchi Array**	**43.67**	**346**	P	**P**	**05 58 31.6**	**+1.7**
	0.9nm,1.0s,baz=148,slow=8.5,SNR=2.6						
	0.9nm,1.0s						
SONM	**Songino Array**	**43.81**	**10**	P	**P**	**05 58 34.3**	**+3.2**
	0.4nm,0.6s,baz=190,slow=7.3,SNR=2.6						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**44.59**	**125**	P	**P**	**05 58 38.2**	**+0.6**
	1.5nm,0.8s,baz=302,slow=9.2,SNR=11						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**46.15**	**129**	P	**P**	**05 58 50.8**	**+0.8**
	1.4nm,0.8s,baz=304,slow=8.1,SNR=11						
	1.4nm,0.8s						
H04N2	**CROZET ISLANDS**	**64.26**	**213**	T	T	07 09 17.4	
	baz=49						
H04N1	**CROZET ISLANDS**	**64.27**	**213**	T	T	07 09 14.2	
	baz=49						
H04N3	**CROZET ISLANDS**	**64.28**	**213**	T	T	07 09 10.5	
	baz=49						

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*TEH **16** 05:53:18.6, 34°.62N×46°.27E, h8km±15km, ML3.5*
*ISN **16** 05:53:18.4±0.7, 34°.65N×46°.33E, h23km±15km, ML3.6*
ISC 16 05:53:19.1±1.1, 34.62N±0°.03×46.26E±0°.03, h5km±9km, n27, σ0§98/35, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.13**	**54**	Pg	**Pg**	**05 53 21.7**	**-0.3**
IDHR				Sg	**Sg**	**05 53 24.4**	**+0.5**
IGHG	**Ghaleghazi**	**0.39**	**138**	Pg	**Pg**	**05 53 26.6**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.56**	**258**	Pg	**Pg**	**05 53 29.8**	**-0.2**
KGS1				Sg	**Sg**	**05 53 38.6**	**+1.4**
GLG1	**Gilan-e-Gharb**	**0.58**	**209**	Pg	**Pg**	**05 53 29.8**	**-0.5**
GLG1				Sg	**Sg**	**05 53 39.1**	**+1.2**
ILIN	**Lien**	**0.65**	**63**	Pg	**Pg**	**05 53 30.9**	**-0.8**
KCHF	**Cheshme Sefid,**	**0.74**	**118**	Pg	**Pg**	**05 53 32.6**	**-0.7**
KCHF				Sg	**Sb**	**05 53 44.3**	**-0.6**
ILBA	**Ilam Banvizeh**	**0.99**	**182**	Pg	**Pg**	**05 53 37.9**	**-0.3**
SNQR	**Sonqor, Kerman**	**1.16**	**78**	Pg	**Pg**	**05 53 40.2**	**-1.1**
IBZA	**Bozab**	**1.33**	**96**	Pg	**Pg**	**05 53 44.0**	**-0.7**
IBZA				Sg	**Sn**	**05 54 02.7**	**-0.1**
IBDR	**Badra**	**1.53**	**190**	*e*Pg	**Pn**	**05 53 47.0**	**-0.1**
IBDR				*e*Sg	**Sn**	**05 54 07.0**	**-0.3**
IBDR				AML	AML	05 54 13.8	
	comp=E,589nm,0.5s						
IBDR				AML	AML	05 54 19.5	
	comp=N,378nm,0.5s						
SDS1	**Sardasht. Az.**	**1.65**	**338**	Pg	**Pn**	**05 53 49.2**	**+0.3**
IKFM	**Kafar-mosalman**	**1.72**	**129**	Pg	**Pb**	**05 53 50.6**	**-0.5**
IKRK	**Kirkuk**	**1.75**	**297**	*e*Pn	**Pn**	**05 53 50.0**	**-0.1**
IKRK				*e*Sn	**Sn**	**05 54 13.0**	**+0.2**
IKRK				AML	AML	05 54 21.0	
	comp=N,1μm,0.4s						
IKRK				AML	AML	05 54 22.6	
	comp=E,1μm,0.6s						
HSAM	**Samen**	**1.98**	**101**	Pn	**Pb**	**05 53 54.8**	**-1.0**
BHD	**Baghdad**	**2.06**	**230**	*e*Pn	**Pn**	**05 53 54.0**	**-0.3**
BHD				*e*Sn	**Sn**	**05 54 21.0**	**+0.6**
BHD				AML	AML	05 54 37.3	
	comp=E,597nm,0.8s						
MAHB	**Mahabad**	**2.19**	**348**	Pn	**Pb**	**05 53 57.6**	**-1.6**
IHSH	**Hashtrud**	**2.80**	**17**	Pn	**Pn**	**05 54 05.6**	**+0.7**
IAZR	**Azarshahr**	**3.06**	**356**	Pn	**Pn**	**05 54 09.8**	**+1.5**
ISHB	**Shabestar**	**3.69**	**352**	Pn	**Pn**	**05 54 18.6**	**+1.6**
IPIR	**Pirpir**	**4.32**	**115**	Pn	**Pn**	**05 54 26.4**	**+0.6**
GRMI	**Germi**	**4.38**	**17**	Pn	**Pn**	**05 54 28.0**	**+1.6**
JHBN	**Jahan bin**	**4.39**	**122**	Pn	**Pn**	**05 54 27.9**	**+1.2**
IKLH	**Kolahrood**	**4.61**	**105**	Pn	**Pn**	**05 54 30.8**	**+1.1**
ISFB	**Sefidab**	**4.95**	**91**	Pn	**Pn**	**05 54 35.0**	**+0.8**
IZEF	**Zefreh**	**5.34**	**107**	Pn	**Pn**	**05 54 41.3**	**+1.5**
IFIR	**Firoozkooh**	**5.42**	**77**	Pn	**Pn**	**05 54 42.5**	**+1.6**
KLNJ	**Kolanjah**	**5.76**	**127**	Pn	**Pn**	**05 54 46.5**	**+0.9**

IDC 16 06:05:47.9±2.9, 55°.44N×86°.04E, h0km, mbtmp3.3/3, ML2.6/3, Error ellipse: s-maj=26.3km s-min=18.0km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.66**	**206**	I	I	06 17 20.0	
	baz=22,slow=313,SNR=5.7						
ZALV	**Zalesovo Beam**	**1.66**	**206**	Pg	Pn	06 06 16.1	-2.1
	3.5nm,0.3s,baz=20,slow=17,SNR=18						
ZALV				Lg	Lg	06 06 41.6	
	3.3nm,0.3s,baz=26,slow=24,SNR=10.0						
KURBB	**Kurchatov Arra**	**6.62**	**226**	Pn	Pn	06 07 26.6	+0.3
	0.1nm,0.3s,baz=43,slow=14,SNR=1.4						
KURBB				Lg	Lg	06 09 17.8	
	0.1nm,0.3s,baz=36,slow=30,SNR=1.6						
	1.8nm,0.2s						
MKAR	**Makanchi Array**	**8.97**	**197**	Pn	Pn	06 07 58.5	-0.2
	0.1nm,0.3s,baz=21,slow=12,SNR=5.0						
MKAR				Lg	Lg	06 10 33.0	
	baz=19,slow=24,SNR=1.9						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**9.48**	**262**	Pn	Pn	06 08 05.0	-0.6
	baz=66,slow=14,SNR=4.8						
	1.1nm,0.6s						

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*NNC **16** 06:35:06.9±2.9, 53°.68N×88°.10E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=25.1km s-min=11.9km az=54.0, Suspected Mining explosion.*
*IDC **16** 06:35:10.6±2.9, 53°.56N×87°.75E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=26.2km s-min=14.7km az=61.0*
ISC 16 06:35:07.8±3.9, 53.7N±0°.1×88.0E±0°.2, h0km, n9, σ1§08/12, 6C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**278**	I	I	06 46 10.0	
	0.1nm,0.8s,baz=101,slow=311,SNR=9.6						
ZAA0	**Zalesovo Array**	**1.87**	**278**	⇓Pn	**Pn**	**06 35 41.7**	**+0.6**
	0.3nm,0.5s						
ZAA0				⇓Sn	**Sb**	**06 36 07.6**	**+0.8**
	1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**1.87**	**278**	Pg	**Pb**	**06 35 42.2**	**-0.6**
	1.1nm,0.3s,baz=98,slow=17,SNR=11						
ZALV				Lg	Lg	06 36 07.4	
	3.8nm,0.3s,baz=105,slow=23,SNR=8.0						
KURK	**Kurchatov**	**6.48**	**246**	⇓Pn	**Pn**	**06 36 43.0**	**-1.4**
	0.7nm,0.6s						
KURK				⇑Lg	Lg	06 38 33.9	
	2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**6.58**	**246**	Pn	**Pn**	**06 36 46.5**	**+0.8**
	0.1nm,0.3s,baz=63,slow=14,SNR=7.3						
KURBB				Lg	Lg	06 38 31.6	
	baz=64,slow=31,SNR=3.8						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**6.58**	**246**	⇓Pn	**Pn**	**06 36 44.8**	**-0.9**
	0.7nm,0.3s						
KURBB				⇑Lg	Lg	06 38 35.9	
	6.2nm,0.8s						
MK31	**Makanchi Array**	**7.84**	**210**	⇑Pn	**Pn**	**06 37 03.1**	**+0.1**
	0.2nm,0.4s,baz=33,slow=12,SNR=10						
MK31				⇑Sn	**Sn**	**06 38 32.3**	**-0.1**
	0.2nm,0.4s,baz=130,slow=14,SNR=5.5						
MK31				⇑Lg	Lg	06 39 12.1	
	0.6nm,0.6s,baz=30,slow=30						
MKAR	**Makanchi Array**	**7.84**	**210**	Pn	**Pn**	**06 37 04.0**	**+1.0**
	0.2nm,0.3s,baz=30,slow=13,SNR=11						
MKAR				Sn	**Sn**	**06 38 31.1**	**-1.3**
	0.1nm,0.3s,baz=22,slow=22,SNR=2.0						
MKAR				Lg	Lg	06 39 10.7	
	0.1nm,0.3s,baz=30,slow=30,SNR=3.8						
	0.5nm,0.4s						
MAKZ	**Makanchi**	**7.92**	**211**	⇓Pn	**Pn**	**06 37 04.0**	**-0.2**
	1.0nm,0.6s						
MAKZ				⇓Sn	**Sn**	**06 38 36.1**	**+1.7**
	0.5nm,0.5s						
MAKZ				⇑Lg	Lg	06 39 17.6	
	1.3nm,0.8s						

IDC 16 07:09:34.2±3.7, 55°.44N×85°.97E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=28.3km s-min=25.3km

az=36.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**205**	I	I	07 21 10.0	
	baz=21,slow=312,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.64**	**205**	Pg	Pn	07 10 03.5	-0.7
	3.5nm,0.3s,baz=21,slow=16,SNR=18						
ZALV				Lg	Lg	07 10 26.0	
	1.1nm,0.3s,baz=25,slow=28,SNR=4.3						
KURBB	**Kurchatov Arra**	**6.59**	**226**	Pn	Pn	07 11 12.7	+0.5
	baz=46,slow=14,SNR=2.2						
KURBB				Lg	Lg	07 13 05.7	
	baz=39,slow=28,SNR=1.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.96**	**196**	Pn	Pn	07 11 44.4	-0.4
	baz=20,slow=14,SNR=1.6						
MKAR				Lg	Lg	07 14 17.1	
	baz=9.6,slow=27						
	0.1nm,0.4s						

*IDC **16** 07:16:33.0±0.6, 6°.26S×143°.26E, h0km, mb4.2/16, mbtmp4.3/18, ML2.3/2, MS3.5/29, Error ellipse: s-maj=31.5km s-min=13.4km az=74.0*
*NEIC **16** 07:16:34.8±1.9, 6°.39S±0°.09×143°.17E±0°.09, h10km±1km, mb4.7/67, Error ellipse: s-maj=16.4km s-min=13.6km az=57.0*
*DJA **16** 07:16:38.6±1.3, 6°.S±3°×14°.3E±°, h19km±10km, M5.3/22, mB5.1/3, mb4.8/22, ML v5.6/4, Mw(mB)4.5/3*
ISC 16 07:16:38.1±0.4, 6°.44S±0°.04×143°.23E±0°.05, h35km, n152, σ1**^{s}68**/139**, mb4.7**/56**, MS3.6**/27**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**2.31**	**300**	P	**Pn**	**07 17 11.9**	**-1.9**
MMPI	**Merauke**	**3.46**	**234**	P	**Pn**	**07 17 32.8**	**+3.2**
MMPI				S	**Sn**	**07 18 15.4**	**+6.0**
JAY	**Jayapura**	**4.64**	**327**	P	**Pn**	**07 17 45.8**	**0.0**
JAY				S	**Sn**	**07 18 39.4**	**+0.8**
PMG	**Port Moresby**	**4.88**	**127**		**Pn**	**07 17 49.9**	**+0.9**
PMG	**Port Moresby**	**4.88**	**127**	Pn	**Pn**	**07 17 50.5**	**+1.4**
	18nm,0.3s,baz=328,slow=5.0,SNR=20						
PMG				Sn	**Sn**	**07 18 46.3**	**+2.0**
	20nm,0.3s,baz=45,slow=20,SNR=5.7						
	36nm,0.3s						
GENI	**Genyem**	**4.89**	**321**	P	**Pn**	**07 17 49.8**	**+0.6**
GENI	**Genyem**	**4.89**	**321**	P	**Pn**	**07 17 50.3**	**+1.1**
GENI				S	**Sn**	**07 18 45.7**	**+1.0**
COEN	**Coen**	**7.47**	**180**	P	**Pn**	**07 18 25.6**	**+1.0**
COEN	**Coen**	**7.47**	**180**	Pn	**Pn**	**07 18 25.8**	**+1.2**
FAKI	**Fak Fak**	**11.49**	**287**	Pn	**Pn**	**07 19 17.2**	**-2.6**
FAKI	**Fak Fak**	**11.49**	**287**	P	**Pn**	**07 19 19.7**	**-0.1**
SAUI	**Saumlaki**	**11.93**	**262**	Pn	**Pn**	**07 19 24.9**	**-0.9**
SAUI	**Saumlaki**	**11.93**	**262**	P	**Pn**	**07 19 28.7**	**+2.8**
KDU	**Kakadu**	**12.28**	**239**	P	**Pn**	**07 19 28.3**	**-2.3**
MTN	**Manton Dam**	**13.51**	**241**	P	**Pn**	**07 19 44.5**	**-2.9**
MTN	**Manton Dam**	**13.51**	**241**	Pn	**Pn**	**07 19 44.6**	**-2.8**
DRS	**Darwin Rock St**	**13.54**	**243**	P	**Pn**	**07 19 46.5**	**-1.2**
CTA	**Charters Tower**	**13.88**	**168**	Pn	**Pn**	**07 19 54.0**	**+1.6**
	baz=134,slow=14,SNR=1.5						
CTA				Lg	Lg	07 24 01.8	
	baz=112,slow=18,SNR=3.1						
CTA				LR	LR	07 25 55.6	
	comp=Z,20nm,18.7s,baz=357,slow=40						
CTAO	**Charters Tower**	**13.88**	**168**	Pn	**Pn**	**07 19 53.5**	**+1.1**
QIS	**Mount Isa**	**14.46**	**194**	P	**Pn**	**07 20 01.5**	**+1.1**
WB0	**Warramunga Arr**	**15.78**	**212**		**Pn**	**07 20 16.1**	**-1.8**
WB0				IAmb	IAmb	07 20 31.9	
	comp=Z,40nm,0.8s						
WR0	**Warramunga Arr**	**15.87**	**211**		**Pn**	**07 20 16.7**	**-2.2**
WR0				IAmb	IAmb	07 20 32.4	
	comp=Z,41nm,0.8s						
WRAB	**Tennant Creek**	**15.94**	**212**		**Pn**	**07 20 17.6**	**-2.3**
WRAB				IAmb	IAmb	07 20 38.8	
	comp=Z,36nm,0.8s						
WRA	**Warramunga Arr**	**15.96**	**212**	Pn	**Pn**	**07 20 18.8**	**-1.3**
WRA	**Warramunga Arr**	**15.96**	**212**	Pn	**Pn**	**07 20 17.5**	**-2.6**
	comp=Z,1.5nm,0.3s,baz=30,slow=13,SNR=60						
WRA				Sn	**Sn**	**07 23 11.1**	**-4.9**
	comp=Z,1.2nm,0.3s,baz=25,slow=23,SNR=4.6						
WRA				Lg	Lg	07 24 58.2	
	comp=Z,0.8nm,0.3s,baz=36,slow=26,SNR=4.9						
WRA				LR	LR	07 26 17.8	
	comp=Z,329nm,20.3s,baz=16,slow=36						
KNRA	**Kununurra**	**16.89**	**236**	Pn	**Pn**	**07 20 29.0**	**-2.9**
KNRA				IAmb	IAmb	07 20 42.7	
	comp=Z,50nm,0.7s						
SANI	**Sanana**	**17.73**	**283**	P	**P**	**07 20 45.1**	**+2.1**
	comp=Z,26nm,1.0s						
SOEI	**Soe**	**19.06**	**259**		**P**	**07 20 55.9**	**-1.8**
SOEI	**Soe**	**19.06**	**259**	P	**Pn**	**07 20 59.6**	**+0.9**
	comp=Z,119nm,0.8s						
AS31	**Alice Springs**	**19.33**	**207**	P	**P**	**07 20 59.5**	**-1.0**
ASAR	**Alice Springs**	**19.33**	**207**		**P**	**07 20 59.1**	**-1.5**
ASAR	**Alice Springs**	**19.33**	**207**	P	**Pn**	**07 21 02.6**	**+0.8**
	comp=Z,10nm,0.6s,baz=32,slow=10,SNR=136						
ASAR				Sn	**S**	**07 24 31.1**	**-6.5**
	comp=Z,0.5nm,0.3s,baz=19,slow=28,SNR=4.6						
ASAR				Lg	Lg	07 26 47.2	
	baz=21,slow=29,SNR=4.2						
BATI	**Baumata**	**19.71**	**258**	P	**Pn**	**07 21 08.8**	**+2.4**
	comp=Z,56nm,0.8s						
EIDS	**Eidsvold**	**20.26**	**159**	P	**P**	**07 21 09.5**	**-1.2**
FITZ	**Fitzroy Crossi**	**20.70**	**234**	P	**P**	**07 21 14.1**	**-1.4**
LUWI	**Luwuk**	**21.10**	**284**	P	**P**	**07 21 24.0**	**+4.2**
	comp=Z,85nm,1.0s						
GTOI	**Gorontalo**	**21.37**	**288**	P	**P**	**07 21 27.4**	**+4.7**
	comp=Z,31nm,0.8s,comp=Z,340nm						
EDFI	**Ende, Flores**	**21.47**	**263**	P	**P**	**07 21 27.0**	**+3.1**
	comp=Z,32nm,1.0s						
MRSI	**Marisa**	**22.33**	**287**	P	**P**	**07 21 36.0**	**+3.0**
	comp=Z,36nm,0.7s						
OOD	**Oodnadatta**	**22.41**	**198**	P	**P**	**07 21 35.0**	**+1.3**
BKSI	**Bulukumba**	**23.01**	**272**	P	**P**	**07 21 43.5**	**+3.3**
	comp=Z,24nm,0.5s,comp=Z,2μm						
KAPI	**Kappang**	**23.40**	**272**	LR	LR	07 33 32.8	
	comp=Z,179nm,19.3s,baz=96,slow=44						
TOLI2	**Tolitoli**	**23.63**	**288**	P	**P**	**07 21 44.6**	**-1.8**
TOLI2				IAmb	IAmb	07 21 55.8	
	comp=Z,22nm,0.9s						
ARMA	**Armidale**	**25.12**	**163**	P	**P**	**07 21 59.5**	**-0.5**
STKA	**Stephens Creek**	**25.35**	**183**	P	**P**	**07 22 01.2**	**-0.7**
STKA	**Stephens Creek**	**25.35**	**183**	P	**P**	**07 22 03.5**	**+1.7**
	comp=Z,4.5nm,1.0s,baz=7.1,slow=8.1,SNR=2.7						
STKA				LR	LR	07 33 55.1	
	comp=Z,168nm,20.7s,baz=16,slow=41						
	comp=Z,4.5nm,1.0s						
MBWA	**Marble Bar**	**27.04**	**235**	P	**P**	**07 22 16.8**	**-0.6**
MBWA				IAmb	IAmb	07 22 37.9	
	comp=Z,18nm,1.1s						
BBOO	**Buckleboo**	**27.07**	**193**	P	**P**	**07 22 17.2**	**-0.3**
FORT	**Forrest**	**28.09**	**209**	P	**P**	**07 22 26.9**	**+0.3**
JCJ	**Chichijima**	**33.36**	**358**	LR	LR	07 35 01.1	
	comp=Z,32nm,21.1s,baz=164,slow=33						
NWAO	**Narrogin (SRO)**	**35.75**	**219**	LR	LR	07 39 25.8	
	comp=Z,246nm,19.9s,baz=48,slow=38						
JHJ	**Hachijo jima 2**	**39.48**	**355**	LR	LR	07 37 27.4	
	comp=Z,104nm,19.9s,baz=298,slow=32						
JMN	**Monobe**	**40.92**	**348**	P	**P**	**07 24 15.8**	**-1.4**
JNU	**Nakatsue**	**41.06**	**344**	P	**P**	**07 24 17.5**	**-0.9**
JNU	**Nakatsue**	**41.06**	**344**	LR	LR	07 39 09.2	
	comp=Z,44nm,21.9s,baz=163,slow=33						
MJAR	**Matsushiro Arr**	**43.02**	**354**	P	**P**	**07 24 33.1**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=175,slow=9.1,SNR=2.0						
MJAR				LR	LR	07 40 59.0	
	comp=Z,44nm,19.3s,baz=163,slow=34						
	comp=Z,0.8nm,0.5s						
URZ	**Urewera**	**44.09**	**141**	LR	LR	07 42 01.7	
	comp=Z,194nm,18.1s,baz=33,slow=35						
NJ2	**Nanjing**	**44.78**	**330**	*e*P	**P**	**07 24 49.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
KSAR	**Wonju Array Be**	**45.95**	**343**	P	**P**	**07 24 58.0**	**+0.4**
KSRS	**Korea Array**	**45.95**	**343**	P	**P**	**07 24 56.8**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=166,slow=11,SNR=7.6						
KSRS				LR	LR	07 44 11.4	
	comp=Z,14nm,18.3s,baz=215,slow=36						
	comp=Z,1.1nm,0.7s						
JTM	**Tenmabayashi**	**47.04**	**358**	P	**P**	**07 25 05.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**50.20**	**300**	P	**P**	**07 25 29.6**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=121,slow=7.0,SNR=4.1						
	comp=Z,0.9nm,0.4s						
ASAJ	**Asahikawa**	**50.33**	**359**	LR	LR	07 50 42.2	
	comp=Z,18nm,18.9s,baz=130,slow=41						
USRK	**Ussuriysk Ar.**	**51.42**	**350**	P	**P**	**07 25 37.9**	**-1.7**
	comp=Z,1.7nm,0.7s,baz=131,slow=5.9,SNR=4.1						
USRK				LR	LR	07 44 13.1	
	comp=Z,58nm,21.7s,baz=184,slow=32						
	comp=Z,1.7nm,0.7s						
PZH	**PanZhiHua**	**51.86**	**311**	P	**P**	**07 25 45.6**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,140nm,4.7s						
MDJ	**Mudanjiang**	**52.29**	**348**	P	P	07 25 51.5	+5.4
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,99nm,6.5s						
HHC	**Hu-ho-hao-te**	**55.32**	**331**	*e*P	**P**	**07 26 09.8**	**+1.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,98nm,5.2s						
LZH	**Lanzhou**	**56.17**	**322**	*e*P	P	07 26 20.3	+5.6
LZH				sP	sP	07 26 31.6	+1.8
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
KLR	**Kul'dur**	**56.34**	**351**	LR	LR	07 47 11.7	
	comp=Z,44nm,21.2s,baz=179,slow=33						
SONM	**Songino Array**	**63.03**	**333**	P	**P**	**07 27 01.1**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=163,slow=6.0,SNR=2.4						
SONM				LR	LR	07 54 40.5	
	comp=Z,29nm,20.0s,baz=105,slow=36						
	comp=Z,0.5nm,0.6s						
CASY	**Casey**	**63.88**	**194**	P	**P**	**07 27 07.5**	**+0.6**
SHEM	**Shemya Is, Ala**	**64.52**	**20**	LR	LR	07 50 23.3	
	comp=Z,38nm,20.1s,baz=65,slow=32						
KIWB	**Kanaga Island**	**67.21**	**25**	P	**P**	**07 27 28.7**	**+0.1**
YAK	**Yakutsk**	**69.07**	**353**	LR	LR	07 54 53.5	
	comp=Z,33nm,21.0s,baz=188,slow=33						
VNDA	**Vanda**	**71.72**	**176**	P	**P**	**07 27 57.2**	**+1.1**
VNDA				IAmb	IAmb	07 28 05.9	
	comp=Z,8.9nm,1.4s						
VNDA	**Vanda**	**71.72**	**176**	P	**P**	**07 27 57.1**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=317,slow=5.4,SNR=6.4						
VNDA				LR	LR	07 58 42.8	
	comp=Z,39nm,18.3s,baz=343,slow=35						
	comp=Z,1.3nm,0.8s						
MK31	**Makanchi Array**	**75.48**	**322**	P	**P**	**07 28 18.8**	**0.0**
MK31				IAmb	IAmb	07 28 27.8	
	comp=Z,5.5nm,1.0s						
MKAR	**Makanchi Array**	**75.48**	**322**	P	**P**	**07 28 19.1**	**+0.3**
MKAR	**Makanchi Array**	**75.48**	**322**	P	**P**	**07 28 18.9**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=104,slow=7.2,SNR=27						
MKAR				LR	LR	08 00 51.2	
	comp=Z,19nm,21.8s,baz=92,slow=35						
	comp=Z,3.6nm,0.7s						
MAKZ	**Makanchi**	**75.68**	**322**	P	**P**	**07 28 20.4**	**+0.5**
MAKZ				IAmb	IAmb	07 28 28.9	
	comp=Z,7.4nm,0.9s						
KSH	**Kashi**	**76.91**	**313**	P	**P**	**07 28 28.8**	**+1.6**
KSH				pP	pP	07 28 33.1	-5.3
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NIL	**Nilore**	**77.15**	**307**	P	**P**	**07 28 28.4**	**-0.1**
ZAA0	**Zalesovo Array**	**77.42**	**329**	P	**P**	**07 28 27.8**	**-1.8**
ZALV	**Zalesovo Beam**	**77.42**	**329**	P	**P**	**07 28 27.5**	**-2.0**
ZALV	**Zalesovo Beam**	**77.42**	**329**	P	**P**	**07 28 28.9**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=99,slow=9.2,SNR=3.8						
ZALV				LR	LR	08 03 54.4	
	comp=Z,9.4nm,19.9s,baz=189,slow=37						
	comp=Z,0.9nm,0.5s						
NRN	**Naryn**	**77.54**	**315**	P	**P**	**07 28 29.3**	**-1.6**
NRN				IAmb	IAmb	07 28 36.9	
	comp=Z,2.6nm,0.5s						
BOOM	**Boomskoye usch**	**77.95**	**316**	P	**P**	**07 28 31.6**	**-1.4**
TIXI	**Tiksi**	**78.51**	**355**	LR	LR	08 04 26.6	
	comp=Z,22nm,18.9s,baz=190,slow=37						
AAK	**Ala-Archa**	**79.00**	**316**	P	**P**	**07 28 37.6**	**-1.2**
AAK	**Ala-Archa**	**79.00**	**316**	P	**P**	**07 28 37.8**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=180,slow=9.1,SNR=1.5						
	comp=Z,1.9nm,0.4s						
KURK	**Kurchatov**	**79.35**	**324**	P	**P**	**07 28 39.9**	**-0.3**
KURK				IAmb	IAmb	07 28 49.6	
	comp=Z,6.1nm,0.9s						
KURBB	**Kurchatov Arra**	**79.36**	**324**	P	**P**	**07 28 40.0**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=114,slow=4.5,SNR=14						
	comp=Z,1.3nm,0.6s						
M14K	**Bethel**	**79.39**	**24**	P	**P**	**07 28 39.3**	**-0.9**
M14K				IAmb	IAmb	07 28 50.6	
	comp=Z,11nm,1.1s						
ARSB	**Arslanbob**	**79.65**	**314**	P	**P**	**07 28 42.8**	**+0.4**
MAW	**Mawson**	**80.40**	**203**	LR	LR	08 00 04.7	
	comp=Z,47nm,21.5s,baz=94,slow=32						
M16K	**Timber Creek**	**80.77**	**25**	P	**P**	**07 28 49.3**	**+1.6**
M16K				IAmb	IAmb	07 28 58.1	
	comp=Z,8.8nm,1.1s						
N18K	**Kilae Creek**	**81.90**	**26**	P	**P**	**07 28 55.0**	**+1.2**
K17K	**Iditarod**	**81.92**	**23**	P	**P**	**07 28 54.2**	**+0.4**
KK31	**Karatay Array**	**81.93**	**315**	P	**P**	**07 28 53.7**	**-0.6**
KKAR	**Karatay Array**	**81.93**	**315**	P	**P**	**07 28 54.8**	**+0.4**
J17K	**VABM Dome**	**81.98**	**23**	P	**P**	**07 28 52.7**	**-1.4**
KDAK	**Kodiak Island**	**82.09**	**29**	LR	LR	07 59 40.0	
	comp=Z,38nm,21.4s,baz=246,slow=32						
QSPA	**South Pole Qui**	**83.53**	**180**	P	**P**	**07 29 02.7**	**+0.3**
QSPA				IAmb	IAmb	07 29 15.1	
	comp=Z,6.4nm,0.8s						
QSPA	**South Pole Qui**	**83.53**	**180**	P	**P**	**07 29 03.2**	**+0.8**
	comp=Z,4.2nm,0.7s,baz=338,slow=1.1,SNR=20						
QSPA				LR	LR	08 07 20.6	
	comp=Z,68nm,18.3s,baz=20,slow=36						
	comp=Z,4.2nm,0.7s						
J20K	**Nowinta River**	**84.27**	**23**	P	**P**	**07 29 06.5**	**+0.6**
J20K				IAmb	IAmb	07 29 19.4	
	comp=Z,10nm,1.4s						
NRIK	**Noril'sk**	**84.57**	**343**	P	**P**	**07 29 07.2**	**-0.1**
NRIK	**Noril'sk**	**84.57**	**343**	P	**P**	**07 29 07.5**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=144,slow=5.7,SNR=5.7						
	comp=Z,2.6nm,0.4s						
E19K	**Redstone River**	**84.76**	**19**	P	**P**	**07 29 09.2**	**+0.8**
RC01	**Rabbit Creek A**	**84.78**	**27**	P	**P**	**07 29 08.4**	**-0.1**
BVAR	**Borovoye Array**	**84.94**	**325**	P	**P**	**07 29 09.9**	**+0.4**
	comp=Z,6.0nm,0.7s,baz=108,slow=8.0,SNR=27						
	comp=Z,6.0nm,0.7s						
D19K	**Kuna River**	**85.01**	**18**	P	**P**	**07 29 10.2**	**+0.6**
IMAR	**Indian Mountai**	**85.25**	**21**	P	**P**	**07 29 11.2**	**+0.3**
GHO	**Glory Hole Cre**	**85.41**	**26**	P	**P**	**07 29 09.5**	**-2.3**
GHO				IAmb	IAmb	07 29 12.1	
	comp=Z,9.9nm,1.2s						
BPAW	**Bear Paw Mtn.**	**85.48**	**24**	P	**P**	**07 29 10.6**	**-1.5**
BPAW				IAmb	IAmb	07 29 12.2	
	comp=Z,5.1nm,0.9s						
RND	**Reindeer**	**86.07**	**25**	P	**P**	**07 29 14.6**	**-0.4**
RND				IAmb	IAmb	07 29 15.2	
	comp=Z,9.3nm,1.1s						
DHY	**Denali Highway**	**86.56**	**25**	P	**P**	**07 29 18.0**	**+0.4**
DHY				IAmb	IAmb	07 29 25.4	
	comp=Z,5.7nm,0.8s						
G23K	**Bananza Creek**	**86.92**	**21**	P	**P**	**07 29 19.4**	**+0.2**
CCB	**Clear Creek Bu**	**86.97**	**24**	P	**P**	**07 29 19.3**	**0.0**
CCB				IAmb	IAmb	07 29 25.5	
	comp=Z,5.0nm,1.1s						
IL31		**87.38**	**24**	P	**P**	**07 29 20.7**	**-0.5**
IL31				IAmb	IAmb	07 29 41.9	
	comp=Z,2.8nm,0.8s						
ILAR	**Eielson Array**	**87.38**	**24**	P	**P**	**07 29 21.1**	**-0.2**
ILAR	**Eielson Array**	**87.38**	**24**	P	**P**	**07 29 20.1**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=259,slow=5.1,SNR=21						
ILAR				LR	LR	08 06 08.4	
	comp=Z,24nm,19.1s,baz=234,slow=34						
	comp=Z,1.7nm,0.8s						
H24K	**Noodor Dome**	**87.38**	**23**	P	**P**	**07 29 22.1**	**+0.7**
VRDI	**Verde Repeater**	**87.68**	**28**	P	**P**	**07 29 22.6**	**-0.5**
J25K	**Salcha River,**	**87.93**	**24**	P	**P**	**07 29 24.7**	**+0.6**
J25K				IAmb	IAmb	07 29 24.8	
	comp=Z,6.6nm,1.1s						
F24K	**Squaw Lake**	**88.01**	**21**	P	**P**	**07 29 25.8**	**+1.5**
F24K				IAmb	IAmb	07 29 26.0	
	comp=Z,6.0nm,1.1s						
C23K	**Itkillik River**	**88.01**	**19**	P	**P**	**07 29 24.3**	**+0.1**
CTGM	**Chitina Glacie**	**88.59**	**28**	P	**P**	**07 29 28.1**	**+0.7**
J26L	**Joseph Creek**	**88.64**	**24**	P	**P**	**07 29 27.9**	**+0.4**
J26L				IAmb	IAmb	07 29 53.0	
	comp=Z,7.1nm,1.4s						
M27K	**Edge Creek, AK**	**88.73**	**27**	P	**P**	**07 29 27.5**	**-0.5**
M27K				IAmb	IAmb	07 29 53.9	
	comp=Z,7.6nm,1.3s						
L27K	**Beaver Creek,**	**88.95**	**26**	P	**P**	**07 29 29.1**	**+0.2**
L27K				IAmb	IAmb	07 29 47.3	
	comp=Z,10nm,1.4s						
BCAR	**Beaver Creek A**	**88.97**	**26**	P	**P**	**07 29 28.5**	**-0.5**
E25K	**Arctic Village**	**89.05**	**21**	P	**P**	**07 29 30.6**	**+1.4**
E25K				IAmb	IAmb	07 29 42.8	
	comp=Z,6.2nm,1.4s						
BMAR	**Burnt Mountain**	**89.17**	**22**	P	**P**	**07 29 31.2**	**+1.4**
EGAK	**Eagle**	**89.71**	**25**	P	**P**	**07 29 32.8**	**+0.5**
EGAK				IAmb	IAmb	07 29 54.5	
	comp=Z,4.0nm,0.9s						
DAWY	**Dawson**	**90.27**	**25**	P	**P**	**07 29 35.5**	**+0.5**
DAWY				IAmb	IAmb	07 29 38.5	
	comp=Z,4.1nm,1.1s						
M29M	**Somme Creek**	**90.29**	**27**	P	**P**	**07 29 36.1**	**+0.9**
M29M				IAmb	IAmb	07 29 42.6	
	comp=Z,10.0nm,1.5s						
I28M	**Miner Creek**	**90.39**	**24**	P	**P**	**07 29 36.4**	**+0.8**
ABKAR	**Akbulak array**	**90.46**	**319**	P	**P**	**07 29 34.6**	**-1.6**
L29M	**L29M**	**90.59**	**26**	P	**P**	**07 29 37.7**	**+1.2**
L29M				IAmb	IAmb	07 29 55.2	
	comp=Z,8.7nm,1.3s						
K29M	**Barlow Dome**	**91.02**	**26**	P	**P**	**07 29 39.6**	**+0.9**
K29M				IAmb	IAmb	07 29 40.3	
	comp=Z,3.7nm,0.9s						
J30M	**Hart River**	**91.68**	**25**	P	**P**	**07 29 42.9**	**+1.2**
J30M				IAmb	IAmb	07 30 11.7	
	comp=Z,6.6nm,1.2s						
I30M	**Mount Dempster**	**91.79**	**25**	P	**P**	**07 29 41.2**	**-0.9**
I30M				IAmb	IAmb	07 29 58.1	
	comp=Z,5.1nm,1.4s						
AKTO	**Aktyubinsk**	**91.87**	**320**	P	**P**	**07 29 41.8**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=169,slow=5.2,SNR=1.5						
	comp=Z,0.6nm,0.5s						
G31M	**Satah River**	**92.94**	**23**	P	**P**	**07 29 47.8**	**+0.5**
G31M				IAmb	IAmb	07 30 09.7	
	comp=Z,3.0nm,1.0s						
INK	**Inuvik**	**93.44**	**22**	LR	LR	08 06 11.4	
	comp=Z,23nm,21.7s,baz=223,slow=32						
BBB	**Bella Bella**	**94.22**	**38**	LR	LR	08 02 60.0	
	comp=Z,31nm,21.7s,baz=272,slow=30						
YBH	**Yreka Blue Hor**	**97.27**	**49**	LR	LR	08 08 37.0	
	comp=Z,52nm,19.4s,baz=260,slow=32						
KIRV	**Kirov**	**97.44**	**328**	LR	LR	08 16 37.1	
	comp=Z,24nm,19.6s,baz=167,slow=37						
EKA	**Eskdalemuir Ar**	**124.36**	**337**	PKP	**PKiKP**	**07 35 33.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=90,slow=2.5,SNR=1.9						
TORD	**Torodi Ar. Bea**	**141.55**	**283**	PKP	**PKPdf**	**07 36 04.6**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=90,slow=3.5,SNR=2.5						
LPAZ	**La Paz**	**141.62**	**126**	PKP	**PKPdf**	**07 36 08.4**	**+0.8**
	comp=Z,1.0nm,1.0s,baz=180,slow=1.0,SNR=3.0						
DBIC	**Dimbokro**	**148.30**	**272**	PKPbc	**PKiKP**	**07 36 22.8**	**-0.6**
	comp=Z,7.1nm,0.8s,baz=20,slow=8.0,SNR=4.4						

*IDC **16** 07:43:01.5±3.7, 35°.55N×140°.01E, h71km±25km, mb3.5/7, mbtmp3.8/10, Error ellipse: s-maj=57.1km s-min=7.4km az=66.0*
*NIED **16** 07:43:01.6, 35°.68N×140°.04E, h67km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}3.27; $M_{\theta\theta}$0.55; $M_{\phi\phi}$-3.82; $M_{r\theta}$-0.28; $M_{\theta\phi}$0.02; $M_{\phi r}$3.04; Fault plane solution: $M_0$4.68000×10^14^ NP1: ϕ_s356.00000°, δ65.00000°, λ87.00000°. NP2: ϕ_s184.00000°, δ25.00000°, λ97.00000°.*
*JMA **16** 07:43:01.6±0.2, 35°.7N±0°.5×140°.0E±0°.7, h67km±1km, MV3.5/39, CENTRAL CHIBA PREF*
JMA Felt I J1 at CENTRAL CHIBA PREF .
ISC 16 07:43:01.6±0.8, 35°.62N±0°.04×140°.03E±0°.05, h73km±7km, n36, σ0**^{s}69**/43**, mb3.8**/7**, 8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.23**	**287**	P	**Pn**	**07 43 13.0**	**+0.4**
JCN	**Nagara**	**0.24**	**145**	*i* P	**Pn**	**07 43 13.0**	**+0.3**
JSMT	**Sammumatsuo**	**0.34**	**85**	*i* P	**Pn**	**07 43 13.2**	**-0.1**
JOD2	**Odawara 2**	**0.85**	**246**	⇓*i* P	**Pn**	**07 43 18.1**	**-0.4**
JOD2				⇓S	**Sn**	**07 43 30.1**	**-0.8**
BSO3	**Boso 3**	**0.90**	**154**	*i* P	**Pn**	**07 43 18.5**	**-0.3**
BSO3				S	**Sn**	**07 43 32.2**	**+0.7**
JAG	**Ashikaga**	**0.93**	**330**	⇓*i* P	**Pn**	**07 43 18.8**	**-0.7**
JAG				⇓S	**Sn**	**07 43 31.3**	**-1.5**
JRY	**Ryogami san**	**1.00**	**294**	⇓*i* P	**Pn**	**07 43 20.5**	**+0.1**
JRY				⇓S	**Sn**	**07 43 34.3**	**+0.1**
JIM2	**Oshima 3**

MRSI Marisa 7.18 256 P **Pn 08 11 00.9 +1.0**
WRA Warramunga Arr 22.72 167 P **P 08 14 06.5 -0.2**
3.8nm,0.6s,baz=343,slow=10,SNR=41
3.8nm,0.6s
ASAR Alice Springs 26.24 170 P **P 08 14 38.0 -0.7**
0.7nm,0.3s,baz=351,slow=7.4,SNR=16
0.7nm,0.3s
STKA Stephens Creek 36.04 161 P **P 08 16 04.0 -0.4**
3.0nm,0.3s,baz=340,slow=10,SNR=22
3.0nm,0.3s

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*IDC **16** 08:11:14.9±2.5,4°.31N×78°.63W,h0km,mb3.5/1,*
mbtmp3.6/2,ML2.4/1,Error ellipse: s-maj=95.2km
s-min=40.0km az=13.0
*UPA **16** 08:11:16.7±1.4,6°.91N×78°.09W,h23km±16km,MW3.7*
*RSNC **16** 08:11:17.1±0.0,7°N±3°×7°8W±°,h5km±3km,M2.9,mb4.2,*
ML2.9,MLv3.6
ISC 16 08:11:14.9±1.2,6°.80N±0°.03×78°.06W±0°.03,h25km±10km,
n41,σ1§80/72,1C-2D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.43**	**36**	⇑*iP*		**Pb 08 11 24.3**	**+0.3**
PTAC				*eS*		**Sb 08 11 30.2**	**+0.2**
PTAC	**Punta Ardita,**	**0.43**	**36**	P		**Pb 08 11 24.2**	**+0.3**
PTAC				S		**Sb 08 11 30.0**	**-0.1**
SOLC	**Bahia Solano**	**0.86**	**131**	P		**Pb 08 11 30.1**	**-1.2**
SOLC				S		**Sb 08 11 40.0**	**-2.5**
UPD2	**Meteti**	**1.73**	**2**	*eP*		**Pn 08 11 44.3**	**+0.8**
UPD2				*eS*		**Sn 08 12 04.0**	**-0.9**
APAC	**Apartado, Choc**	**1.83**	**53**	P		**Pn 08 11 46.3**	**+1.4**
APAC				S		**Sn 08 12 08.5**	**+1.2**
DBBC	**Dabeiba**	**1.85**	**83**	P		**Pn 08 11 45.1**	**-0.1**
DBBC				S		**Sn 08 12 05.8**	**-2.1**
CAPC	**Capurgana**	**1.95**	**21**	P		**Pn 08 11 46.7**	**+0.2**
CAPC				S		**Sn 08 12 09.6**	**-0.7**
TOTI	**Torti**	**2.13**	**353**	*eP*		**Pn 08 11 49.5**	**+0.5**
TOTI				*eS*		**Sn 08 12 14.4**	**-0.3**
AZU	**Azuero**	**2.40**	**294**	⇓*iP*		**Pn 08 11 54.0**	**+1.3**
AZU				*eS*		**Sn 08 12 20.7**	**-0.7**
CHPO	**Chepo, Panama**	**2.57**	**336**	*eP*		**Pn 08 11 55.0**	**0.0**
CHPO				*eS*		**Sn 08 12 24.2**	**-1.4**
PLMC	**San Jos del P**	**2.58**	**137**	P		**Pn 08 11 54.1**	**-1.2**
PLMC				S		**Sn 08 12 20.5**	**-5.5**
CHIT3	**Chitre**	**2.60**	**296**	*eP*		**Pn 08 11 57.0**	**+1.5**
CHIT3				*eS*		**Sn 08 12 26.3**	**0.0**
UPA	**Univ. de Panam**	**2.61**	**326**	*eP*		**Pn 08 11 55.7**	**+0.1**
UPA				*eS*		**Sn 08 12 25.8**	**-0.7**
LCBC	**Los crdobas,**	**2.64**	**39**	P		**Pn 08 11 59.0**	**+3.0**
LCBC				S		**Sn 08 12 30.1**	**+2.8**
ARRA3	**Arraijan, Pana**	**2.67**	**324**	*eP*		**Pn 08 11 56.7**	**+0.3**
ARRA3				*eS*		**Sn 08 12 26.0**	**-2.0**
UREC	**San Jos de Ur**	**2.68**	**69**	⇓*iP*		**Pn 08 11 57.9**	**+1.3**
UREC	**San Jos de Ur**	**2.68**	**69**	P		**Pn 08 11 57.7**	**+1.1**
UREC				S		**Sn 08 12 26.3**	**-2.0**
ZANG	**Zanguenga, Cho**	**2.79**	**320**	*eP*		**Pn 08 11 57.7**	**-0.3**
ZANG				*eS*		**Sn 08 12 30.2**	**-0.7**
FRIJ	**El Hiral**	**2.92**	**326**	*eP*		**Pn 08 11 59.9**	**+0.1**
BCIP	**Isla Barro Col**	**2.93**	**323**	*eP*		**Pn 08 12 00.1**	**+0.1**
BCIP				*eS*		**Sn 08 12 32.7**	**-1.8**
BCIP	**Isla Barro Col**	**2.93**	**323**	P		**Pn 08 12 00.1**	**+0.1**
BCIP				S		**Sn 08 12 35.0**	**+0.5**
GUY2C	**Guyana, Caldas**	**3.11**	**120**	P		**Pn 08 12 03.8**	**+1.0**
GUY2C				S		**Sn 08 12 38.5**	**-0.9**
ZARC	**Zaragoza, Cauc**	**3.25**	**78**	P		**Pn 08 12 03.2**	**-1.2**
ZARC				S		**Sn 08 12 41.3**	**-1.1**
YOTC	**Yotoco, Valle**	**3.28**	**148**	P		**Pn 08 12 04.7**	**-0.2**
GMAL	**Guarumal, Vera**	**3.29**	**287**	P		**Pn 08 12 07.2**	**+2.3**
GMAL				S		**Sn 08 12 43.8**	**+0.6**
NORC	**Norcasia**	**3.41**	**111**	P		**Pn 08 12 08.3**	**+1.7**
NORC				S		**Sn 08 12 47.6**	**+1.4**
PTBC	**PUERTO BERRIO,**	**3.59**	**94**	P		**Pn 08 12 10.4**	**+1.3**
JAMC	**Jamundi, Valle**	**3.82**	**159**	P		**Pn 08 12 13.2**	**+0.7**
ORTC	**Ortega, Tolima**	**4.01**	**136**	P		**Pn 08 12 18.2**	**+3.2**
ORTC				S		**Sn 08 13 04.4**	**+3.1**
SJCC	**San Jacinto, C**	**4.20**	**43**	P		**Pn 08 12 18.2**	**+1.8**
SJCC				S		**Sn 08 13 03.6**	**-2.1**
ROSC	**El Rosal**	**4.20**	**117**	Pn		**Pn 08 12 22.4**	**+4.6**
3.8nm,0.3s,baz=292,slow=16,SNR=3.1
ROSC Sn **Sn 08 13 05.4 -1.0**
1.4nm,0.3s,baz=243,slow=9.0,SNR=1.6
7.9nm,0.4s
PRAC Prado 4.41 134 P **Pn 08 12 24.4 +4.1**
POPC Popayan, Colom 4.45 162 P **Pn 08 12 22.7 +1.5**
POPC S **Sn 08 13 10.2 -2.2**
BBAC Balboa, Cauca 4.82 170 P **Pn 08 12 28.1 +1.9**
BBAC S **Sn 08 13 22.3 +1.0**
ARGC Ariguani, Magd 4.85 51 P **Pn 08 12 28.3 +1.9**
ARGC S **Sn 08 13 20.0 -1.7**
OCAC Ocana 4.92 73 P **Pn 08 12 29.0 +1.6**
OCAC S **Sn 08 13 23.4 -0.2**
CRJC Cerrejon, Guaj 6.62 50 P **Pn 08 12 50.9 +0.1**
CRJC S **Sn 08 14 01.4 -4.1**
SDV Santo Domingo 7.65 74 P **Pn 08 13 06.1 +1.1**
SDV S **Sn 08 14 27.9 -3.1**
NVAR Mina Array Bea 48.07 317 P P 08 20 07.8 +15
0.5nm,0.7s,baz=141,slow=5.8,SNR=4.7
0.5nm,0.7s
ASAR Alice Springs 145.03 238 PKP **PKPbc 08 30 50.9 +0.4**
0.6nm,0.7s,baz=123,slow=3.4,SNR=6.3
WRA Warramunga Arr 145.96 244 PKP **PKPbc 08 30 53.9 +0.5**
0.6nm,0.8s,baz=108,slow=3.4,SNR=5.6

IDC 16 08:20:08.0±3.3,53°.60N×87°.90E,h0km,mbtmp2.6/2,
ML2.2/2,Error ellipse: s-maj=29.1km s-min=18.7km
az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**282**	I	I	08 31 50.0	
0.1nm,0.8s,baz=97,slow=312,SNR=7.7
ZALV Zalesovo Beam 1.86 282 Pn Pn 08 20 41.0 -0.1
0.9nm,0.3s,baz=101,slow=13,SNR=11
ZALV Lg Lg 08 21 06.6
1.7nm,0.3s,baz=96,slow=29,SNR=9.9
KURBB Kurchatov Arra 6.50 246 Pn Pn 08 21 46.1 +1.4
baz=64,slow=15,SNR=2.4
KURBB Lg Lg 08 23 33.2
0.2nm,0.3s,baz=64,slow=33,SNR=4.3
0.4nm,0.5s
MKAR Makanchi Array 7.71 210 Pn Pn 08 22 02.2 +0.8
0.1nm,0.3s,baz=33,slow=17,SNR=2.3
MKAR Lg Lg 08 24 10.8
baz=29,slow=28,SNR=2.9
0.1nm,0.3s

IDC 16 08:30:43.5±3.5,54°.40N×87°.04E,h0km,mbtmp2.6/2,
ML2.1/2,Error ellipse: s-maj=31.8km s-min=19.7km
az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**252**	I	I	08 38 30.0	
baz=69,slow=314,SNR=3.9
ZALV Zalesovo Beam 1.38 252 Pg Pg 08 31 08.4 -1.6
0.7nm,0.3s,baz=69,slow=18,SNR=4.2
ZALV Lg Lg 08 31 27.7
0.9nm,0.3s,baz=72,slow=27,SNR=4.3
KURBB Kurchatov Arra 6.42 237 Pn Pn 08 32 20.5 +1.2
baz=53,slow=13,SNR=1.7
0.2nm,0.3s
MKAR Makanchi Array 8.19 204 Pn Pn 08 32 44.3 +0.8
0.1nm,0.3s,baz=17,slow=12,SNR=2.2
0.1nm,0.5s

IDC 16 08:44:31.7±3.2,54°.39N×87°.12E,h0km,mbtmp2.9/2,
ML2.5/2,Error ellipse: s-maj=26.6km s-min=18.9km
az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**253**	I	I	08 52 50.0	
baz=73,slow=311,SNR=2.7
ZALV Zalesovo Beam 1.42 253 Pg Pn 08 44 57.0 -1.7
3.4nm,0.3s,baz=70,slow=13,SNR=8.7
ZALV Lg Lg 08 45 16.7
4.0nm,0.3s,baz=71,slow=29,SNR=10
KURBB Kurchatov Arra 6.46 238 Pn Pn 08 46 08.7 +0.8
0.1nm,0.3s,baz=52,slow=14,SNR=3.8
KURBB Lg Lg 08 47 58.8
0.1nm,0.3s,baz=46,slow=40,SNR=6.4
1.0nm,0.5s
MKAR Makanchi Array 8.20 204 Pn Pn 08 46 33.1 +1.3
0.1nm,0.3s,baz=26,slow=14,SNR=1.7
MKAR Lg Lg 08 48 51.5
0.1nm,0.3s,baz=24,slow=28,SNR=2.3
0.1nm,0.4s

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*IDC **16** 08:45:54.0±1.4,40°.27S×89°.64E,h0km,mb4.0/6,*
mbtmp4.0/6,MS3.8/3,Error ellipse: s-maj=42.9km
s-min=28.0km az=108.0
ISC 16 08:45:55.8±1.2,40°.35±0°.2×89°.7E±0°.3,h10km,n21,
σ1§51/8,mb3.9/6,MS3.7/3,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**20.04**	**82**	T	T	09 11 05.8	
baz=247,slow=73,SNR=75
H01W3 Cape Leeuwin H 20.05 82 T T 09 11 03.4
baz=247,slow=73,SNR=86
H01W1 Cape Leeuwin H 20.06 82 T T 09 11 01.5
baz=247,slow=73,SNR=85
H04S1 CROZET ISLANDS 27.98 244 T T 09 21 04.5
baz=89,slow=75,SNR=11
H04S2 CROZET ISLANDS 27.99 244 T T 09 21 04.5
baz=89,slow=75,SNR=23
H04S3 CROZET ISLANDS 28.00 244 T T 09 21 03.8
baz=89,slow=75,SNR=23
H04N2 CROZET ISLANDS 28.07 245 T T 09 21 15.8
baz=90,slow=75,SNR=88
H04N3 CROZET ISLANDS 28.08 245 T T 09 21 13.3
baz=90,slow=75,SNR=69
H04N1 CROZET ISLANDS 28.08 245 T T 09 21 14.3
baz=90,slow=75,SNR=93
MAW Mawson 31.09 200 LR LR 09 02 06.1
comp=Z,49nm,20.4s,baz=90,slow=31
H08S2 Diego Garcia H 35.97 330 T T 09 30 50.1
baz=156,slow=76,SNR=34
H08S1 Diego Carcia H 35.98 330 T T 09 30 52.3
baz=156,slow=76,SNR=41
H08S3 Diego Garcia H 35.99 330 T T 09 30 50.1
baz=156,slow=76,SNR=36
ASAR Alice Springs 40.52 80 P **P 08 53 35.8 +0.7**
1.7nm,0.9s,baz=223,slow=7.3,SNR=14
ASAR PcP **PcP 08 55 37.1 -0.4**
0.7nm,0.8s,baz=221,slow=3.0,SNR=5.3
ASAR LR LR 09 07 57.8
comp=Z,104nm,18.5s,baz=226,slow=33
1.7nm,0.9s
WRA Warramunga Arr 43.05 75 P **P 08 53 56.8 +0.9**
1.1nm,0.9s,baz=234,slow=7.3,SNR=4.3
1.1nm,0.9s
VNDA Vanda 47.18 164 P **P 08 54 28.2 +0.3**
1.0nm,1.0s,baz=285,slow=9.5,SNR=4.1
1.0nm,1.0s
QSPA South Pole Qui 49.87 180 P **P 08 54 48.9 -0.1**
4.2nm,1.1s,baz=288,slow=5.1,SNR=5.7
4.2nm,1.1s
TSUM Tsumeb 64.40 266 LR LR 09 20 11.7
comp=Z,311nm,18.1s,baz=148,slow=32
SONM Songino Array 88.98 11 P **P 08 58 49.1 -1.3**
0.2nm,0.3s,baz=189,slow=3.6,SNR=3.9
0.2nm,0.3s
KURBB Kurchatov Arra 91.06 353 P **P 08 59 01.4 +1.7**
0.6nm,0.3s,baz=171,slow=6.0,SNR=2.1
0.6nm,0.3s
PDAR Pinedale Array 165.33 74 PKPab **PKPab 09 06 56.0 -2.3**
0.7nm,0.9s,baz=238,slow=2.8,SNR=4.7

IDC 16 08:50:16.1±3.5,54°.18N×87°.26E,h0km,mbtmp2.7/2,
ML2.4/1,Error ellipse: s-maj=32.1km s-min=20.4km
az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**262**	I	I	08 59 20.0	
baz=80,slow=316,SNR=2.8
ZALV Zalesovo Beam 1.46 262 Pg Pn 08 50 40.9 -2.7
1.0nm,0.3s,baz=82,slow=16,SNR=5.1
ZALV Lg Lg 08 51 02.6
2.9nm,0.3s,baz=82,slow=26,SNR=5.9
KURBB Kurchatov Arra 6.42 240 Pn Pn 08 51 53.1 +1.3
0.3nm,0.3s,baz=52,slow=14,SNR=1.5
MKAR Makanchi Array 8.04 205 Pn Pn 08 52 15.5 +1.4
0.1nm,0.3s,baz=24,slow=13,SNR=2.4
0.1nm,0.3s

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*IDC **16** 08:58:50.8±1.3,41°.78N×78°.76E,h0km,mb3.3/4,*
mbtmp3.4/9,ML3.2/5,Error ellipse: s-maj=17.1km
s-min=12.2km az=141.0
*KRNET **16** 08:58:51.9±0.1,41°.89N×78°.59E,h14km,mb3.5*
*SOME **16** 08:58:51.3,41°.82N×78°.58E,h15km*
*NNC **16** 08:58:53.8±0.9,41°.97N×78°.63E,h0km,mb4.1,mpv4.0,*
Error ellipse: s-maj=6.4km s-min=3.4km az=161.0,
Suspected Mining explosion.
*KNET **16** 08:58:55.4±0.9,41°.73N×78°.32E,h9km±9km,ml3.4,Error*
ellipse: s-maj=21.4km s-min=8.9km az=14.0
ISC 16 08:58:51.4±0.8,41°.87N±0°.04×78°.59E±0°.03,h0km,n90,
σ1§51/149,mb3.5/3,30C-34D,Kyrgyzstan-Xinjiang
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.60**	**257**	⇑*iP*		**Pg 08 59 03.3**	**+0.4**
baz=55
TARG ⇑*iS* **Sg 08 59 12.0 +1.4**
baz=55
PRZ Przheval'sk 0.63 348 ⇓*iP* **Pg 08 59 04.0 +0.5**
baz=47
PRZ ⇓*iS* **Sg 08 59 12.5 +0.8**
baz=47
KDJ Kajisay 1.08 285 ⇑*eP* **Pg 08 59 12.5 +0.4**
baz=83
KDJ ⇑*eS* **Sg 08 59 26.7 +0.6**
baz=83
SATY Saty 1.20 354 *eP* **Pg 08 59 14.2 -0.2**
46nm,0.1s
SATY *eS* **Sb 08 59 30.7 -0.5**
196nm,0.1s
SATY Saty 1.20 354 P **Pg 08 59 14.2 -0.2**
46nm,0.1s
SATY S **Sb 08 59 30.7 -0.5**
196nm,0.1s
ZHN Zhinishke 1.31 355 *eP* **Pg 08 59 16.1 -0.3**
51nm,0.1s
ZHN *eS* **Sb 08 59 33.8 -0.5**
253nm,0.2s
ZHN Zhinishke 1.31 355 P **Pg 08 59 16.1 -0.3**
54nm,0.1s
ZHN S **Sb 08 59 33.8 -0.5**
13μm,0.2s
UZB Uzynbulak 1.32 14 *eP* **Pg 08 59 16.1 -0.6**
70nm,0.3s
UZB *eS* **Sg 08 59 33.5 -0.3**
86nm,0.3s
UZB Uzynbulak 1.32 14 P **Pg 08 59 16.1 -0.6**
70nm,0.5s
UZB S **Sg 08 59 33.5 -0.3**
88nm,0.4s
SHLS Shalkode 1.44 26 *eP* **Pb 08 59 21.7 +2.5**
48nm,0.2s
SHLS *eS* **Sn 08 59 44.4 +5.8**
190nm,0.4s
SHLS Shalkode 1.44 26 P **Pb 08 59 21.7 +2.5**
59nm,0.1s
SHLS S **Sn 08 59 44.4 +5.8**
191nm,0.5s
KPKS Kokpek 1.60 3 *eP* **Pn 08 59 21.1 +0.1**
132nm,0.3s
KPKS *eS* **Sb 08 59 42.6 -0.2**
243nm,0.3s
KPKS Kokpek 1.60 3 P **Pn 08 59 21.1 +0.1**
132nm,0.4s
KPKS S **Sb 08 59 42.6 -0.2**
243nm,0.3s
PDGK Podgornoye 1.61 24 P **Pn 08 59 21.2 0.0**
22nm,0.2s
PDGK S **Sb 08 59 42.7 -0.3**
76nm,0.5s
PDGK Podgornoye 1.61 24 ⇓Pn **Pn 08 59 21.2 0.0**
27nm,0.5s
PDGK ⇓Sn **Sb 08 59 42.6 -0.3**
193nm,0.6s
KURS Kuram 1.65 349 *eP* **Pb 08 59 22.4 -0.3**
24nm,0.3s
KURS *eS* **Sg 08 59 44.9 +0.5**
37nm,0.3s
KURS Kuram 1.65 349 P **Pb 08 59 22.4 -0.3**
22nm,0.2s
KURS S **Sg 08 59 44.9 +0.5**
37nm,0.3s
TNSS Tian-Shan 1.69 315 *eP* **Pb 08 59 23.4 -0.1**
118nm,0.2s
TNSS *eS* **Sg 08 59 46.0 +0.5**
132nm,0.2s
TNSS Tian-Shan 1.69 315 P **Pb 08 59 23.4 -0.1**
118nm,0.2s
TNSS S **Sg 08 59 46.0 +0.5**
132nm,0.2s
MDOK Medeo 1.72 319 *eP* **Pb 08 59 24.0 -0.1**
113nm,0.5s
MDOK *eS* **Sg 08 59 47.3 +0.5**
75nm,0.3s
MDOK Medeo 1.72 319 ⇑Pn **Pb 08 59 23.9 -0.1**
67nm,0.5s
MDOK Pg **Pb 08 59 24.0 -0.1**
113nm,0.5s
MDOK ⇓Sn **Sg 08 59 47.2 +0.5**
114nm,0.4s
MDOK Lg Lg 08 59 47.3
75nm,0.3s
KOTS Kotyrbulak 1.75 322 *eP* **Pb 08 59 24.5 +0.1**
90nm,0.2s
KOTS *eS* **Sg 08 59 48.3 +0.8**
166nm,0.3s
KOTS Kotyrbulak 1.75 322 P **Pb 08 59 24.5 +0.1**
90nm,0.2s
KOTS S **Sg 08 59 48.3 +0.8**
166nm,0.3s
ULHL Ulahol 1.79 283 ⇓P **Pb 08 59 25.6 +0.5**
62nm,0.2s
ULHL ⇑S **Sg 08 59 50.1 +1.3**
100nm,0.2s
ULHL Ulahol 1.79 283 ⇓*iP* **Pn 08 59 24.7 +1.0**
baz=82
ULHL ⇓*iS* **Sb 08 59 48.8 +0.7**
baz=82
KNDC Almaty 1.80 319 ⇓Pn **Pg 08 59 25.8 -0.1**
19nm,0.3s
KNDC ⇑Sn **Sg 08 59 50.4 +1.1**
226nm,0.5s
AAA Alma-Ata 1.82 318 *eP* **Pb 08 59 25.7 +0.1**
271nm,0.2s
AAA *eS* **Sg 08 59 50.5 +0.5**
244nm,0.2s
NRN Naryn 1.98 258 ⇑*iP* **Pb 08 59 28.5 -0.1**
baz=57
NRN ⇑*eS* **Sg 08 59 55.5 +0.3**
baz=57
MTBS Maitube 2.03 309 *eP* **Pb 08 59 29.7 +0.4**
103nm,0.2s
MTBS *eS* **Sg 08 59 56.9 +0.2**
207nm,0.3s
MTBS Maitube 2.03 309 Pg **Pb 08 59 29.7 +0.4**
103nm,0.2s
MTBS Lg Lg 08 59 56.9
207nm,0.3s
KTMS Ketmen 2.05 39 *eP* **Pb 08 59 29.1 -0.4**
61nm,0.3s
KTMS *eS* **Sg 08 59 56.4 -0.8**
61nm,0.3s
KTMS Ketmen 2.05 39 Pg **Pb 08 59 29.1 -0.4**
59nm,0.2s
KTMS Lg Lg 08 59 56.4
61nm,0.3s
BOOM Boomskoye usch 2.06 288 ⇑*iP* **Pb 08 59 29.1 -0.7**
baz=88
BOOM ⇑*iS* **Sb 08 59 56.2 +0.1**
baz=88
BLB Baldybastay 2.23 358 Pg **Pb 08 59 32.7 0.0**
2μm,0.6s
BLB Lg Lg 09 00 03.3
459nm,0.3s
KST Kastek 2.27 302 *eP* **Pb 08 59 33.4 +0.1**
36nm,0.3s
KST *eS* **Sg 09 00 03.8 -0.5**
320nm,0.6s
KST Kastek 2.27 302 Pg **Pb 08 59 33.4 +0.1**
36nm,0.3s
KST Lg Lg 09 00 03.8
320nm,0.6s
CHKK Chushkaly 2.31 330 *eP* **Pb 08 59 34.1 +0.2**
264nm,0.4s
CHKK *eS* **Sg 09 00 05.2 -0.3**
711nm,0.3s
CHKK Chushkaly 2.31 330 Pg **Pb 08 59 34.1 +0.2**
264nm,0.4s
CHKK Lg Lg 09 00 05.2
675nm,0.5s
KTBS Karatobe 2.32 323 *eP* **Pb 08 59 34.3 +0.3**
104nm,0.3s
KTBS *eS* **Sg 09 00 05.3 -0.5**
276nm,0.3s
KTBS Karatobe 2.32 323 Pg **Pb 08 59 34.3 +0.3**
169nm,0.6s
KTBS Lg Lg 09 00 05.3
276nm,0.3s
ARXS Arharly 2.41 347 *eP* **Pb 08 59 35.1 -0.6**
64nm,0.5s
ARXS *eS* **Sg 09 00 07.2 -1.7**
341nm,0.6s
ARXS Arharly 2.41 347 Pg **Pb 08 59 35.1 -0.6**
ARXS Lg Lg 09 00 07.3
TKM2 Tokmak 2 2.45 296 ⇓P **Pb 08 59 36.6 +0.1**
37nm,0.2s,SNR=60
TKM2 ⇑S **Sg 09 00 08.9 -1.2**
122nm,0.1s
TKM2 Tokmak 2 2.45 296 ⇑Pn **Pb 08 59 36.5 0.0**
19nm,0.4s
TKM2 ⇑Sn **Sg 09 00 09.7 -0.4**
141nm,0.5s
TKM2 Tokmak 2 2.45 296 ⇑*iP* **Pn 08 59 34.5 +1.6**
baz=96
TKM2 ⇑*iS* **Sb 09 00 05.7 -1.6**
baz=96
DGS Degeres 2.49 304 *eP* **Pb 08 59 37.4 +0.3**
55nm,0.5s
DGS *eS* **Sg 09 00 10.5 -0.9**
152nm,0.5s
DGS Degeres 2.49 304 Pg **Pb 08 59 37.4 +0.3**
56nm,0.7s
DGS Lg Lg 09 00 10.5
152nm,0.6s
KNOS Konyrlen 2.53 10 Pg **Pb 08 59 37.1 -0.7**
50nm,0.4s
KNOS Lg Lg 09 00 10.2
82nm,0.3s
KUU Kurty 2.61 322 *eP* **Pb 08 59 39.4 +0.3**
101nm,0.5s
KUU *eS* **Sg 09 00 14.0 -1.3**
245nm,0.4s
KUU Kurty 2.61 322 Pg **Pb 08 59 39.4 +0.3**
101nm,0.5s
KUU Lg Lg 09 00 14.0
245nm,0.4s
KBK Karagaybulak 2.81 288 ⇓P **Pb 08 59 42.1 -0.5**
18nm,0.2s,SNR=12
KBK ⇓S **Sb 09 00 18.0 +0.3**
326nm,0.6s
KBK Karagaybulak 2.81 288 ⇓*iP* **Pn 08 59 39.6 +1.8**
baz=87
KBK ⇓*iS* **Sn 09 00 14.5 +2.0**
baz=87
KRBS Karabastau 2.82 311 *eP* **Pb 08 59 42.9 +0.3**
36nm,0.4s
KRBS *eS* **Sg 09 00 20.0 -1.9**
120nm,0.2s
KRBS Karabastau 2.82 311 Pg **Pb 08 59 42.3 -0.3**
36nm,0.4s
KRBS Lg Lg 09 00 18.8
120nm,0.4s
UCH Uchtor 3.05 278 ⇓*iP* **Pn 08 59 43.1 +1.8**
baz=78
UCH ⇓*iS* **Sn 09 00 20.7 +1.9**
baz=78
CHMS Chumysh 3.06 293 ⇓P **Pb 08 59 44.5 -2.2**
8.4nm,0.2s
CHMS Chumysh 3.06 293 ⇓Pn **Pb 08 59 45.2 -1.4**
5.8nm,0.4s
CHMS ⇑Lg Lg 09 00 30.3
62nm,0.8s
CHMS Chumysh 3.06 293 ⇑*iP* **Pn 08 59 42.7 +1.7**

baz=93
CHMS ⇑iS **Sn** **09 00 20.0 +1.7**
baz=93
AAK Ala-Archa 3.13 286 ⇑P **Pb** **08 59 45.8 -2.3**
10nm,0.2s,SNR=9.3
AAK Ala-Archa 3.13 286 Pn **Pb** **08 59 46.5 -1.5**
6.2nm,0.3s,baz=114,slow=9.2,SNR=11
AAK Sn **Sb** **09 00 27.0 +0.2**
4.4nm,0.3s,baz=66,slow=10.0,SNR=29
12nm,0.4s
AAK Ala-Archa 3.13 286 ⇑Pn **Pb** **08 59 47.4 -0.7**
6.8nm,0.4s
AAK ⇑Lg Lg 09 00 32.5
112nm,0.6s
AAK Ala-Archa 3.13 286 ⇓iP **Pn** **08 59 43.9 +1.7**
baz=85
AAK ⇓iS **Sn** **09 00 22.2 +1.8**
baz=85
ARLS Aral 3.18 271⇑eP **Pn** **08 59 44.9 +2.0**
baz=71
ARLS ⇑eS **Sn** **09 00 23.5 +1.9**
baz=71
SGDS Sogindy 3.32 300 Pg **Pb** **08 59 50.2 -0.9**
9.3nm,0.3s
SGDS Lg Lg 09 00 33.7
138nm,0.8s
USP Ospenovka 3.33 296 ⇓P **Pb** **08 59 49.4 -1.8**
9.5nm,0.2s,SNR=8.5
USP Ospenovka 3.33 296⇓iP **Pn** **08 59 46.6 +1.9**
baz=96
USP ⇓iS **Sn** **09 00 26.4 +1.4**
baz=96
EKS2 Erkin-Say 3.66 284⇓iP **Pn** **08 59 51.2 +1.9**
baz=84
EKS2 ⇓iS **Sn** **09 00 34.6 +1.4**
baz=84
MRKS Merke 4.07 284 eP **Pb** **09 00 05.9 +1.9**
3.4nm,0.2s
MRKS eS **Sg** **09 00 59.4 -2.7**
31nm,0.6s
MRKS Merke 4.07 284 Pg **Pb** **09 00 05.9 +1.9**
3.4nm,0.2s
MRKS Lg Lg 09 00 59.4
31nm,0.6s
MNAS Manas 4.56 280⇓iP **Pn** **09 00 03.9 +2.1**
baz=80
MNAS ⇓iS **Sn** **09 00 56.5 +0.9**
baz=80
BTLS Baital 4.58 315 eP **Pb** **09 00 15.2 +2.6**
7.3nm,0.4s
BTLS eS **Sg** **09 01 15.8 -2.7**
11nm,0.3s
BTLS Baital 4.58 315 Pg **Pb** **09 00 15.2 +2.6**
9.1nm,0.6s
BTLS Lg Lg 09 01 15.8
11nm,0.4s
MAKZ Makanchi 5.51 25 ⇓Pn **Pn** **09 00 17.2 +2.6**
2.1nm,0.3s
MAKZ ⇓Lg Lg 09 01 43.8
7.0nm,0.6s
MK31 Makanchi Array 5.60 27 Pn **Pn** **09 00 18.4 +2.5**
0.9nm,0.3s,baz=207,slow=12,SNR=73
MK31 ⇓Pg **Pg** **09 00 34.3 -4.3**
2.5nm,0.5s,baz=204,slow=14,SNR=8.9
MK31 ⇑Sn **Sn** **09 01 19.7 -1.2**
6.7nm,0.6s
MK31 ⇑Lg Lg 09 01 45.5
12nm,0.8s,baz=209,slow=29,SNR=3.6
MKAR Makanchi Array 5.60 27 Pn **Pn** **09 00 17.9 +2.0**
2.1nm,0.3s,baz=207,slow=13,SNR=72
MKAR Sn **Sn** **09 01 20.9 0.0**
1.8nm,0.3s,baz=210,slow=26,SNR=6.1
MKAR Lg Lg 09 01 45.5
1.1nm,0.3s,baz=208,slow=30,SNR=1.7
3.3nm,0.3s
KK31 Karatay Array 6.10 284 ⇑Pg **Pg** **09 00 44.3 -3.8**
1.1nm,0.4s,baz=84,slow=18,SNR=27
KK31 ⇑Lg Lg 09 02 10.9
15nm,0.8s,baz=86,slow=31,SNR=4.4
KKAR Karatay Array 6.10 284⇓iP **Pn** **09 00 24.8 +2.1**
baz=84
KKAR ⇓iS **Sn** **09 01 32.6 -0.6**
baz=84
IUG Iuzhnay 6.38 275 eP **Pg** **09 00 49.6 -4.0**
7.0nm,0.4s
IUG eS **Sg** **09 02 14.0 -2.2**
37nm,0.8s
IUG Iuzhnay 6.38 275 Pg **Pg** **09 00 50.8 -2.8**
6.2nm,0.4s
IUG Lg Lg 09 02 16.5
37nm,0.8s
BRLS Borolday 6.58 283 eP **Pg** **09 00 55.2 -2.1**
0.8nm,0.3s
BRLS eS **Sg** **09 02 23.7 +1.2**
5.8nm,0.8s
BRLS Borolday 6.58 283 Pg Pb 09 00 52.3 +5.7
1.5nm,0.4s
BRLS Lg Lg 09 02 19.3
4.5nm,0.9s
KURBB Kurchatov Arra 8.76 360 Pn **Pn** **09 01 00.5 +1.3**
0.1nm,0.3s,baz=177,slow=14,SNR=1.5
KURBB Sn **Sn** **09 02 38.1 -0.5**
0.1nm,0.3s,baz=167,slow=21,SNR=1.4
KURBB Lg Lg 09 03 25.8
0.1nm,0.3s,baz=187,slow=29,SNR=5.6
0.4nm,0.3s
KURBB Kurchatov Arra 8.76 360 ⇓Pn Pn 09 01 05.0 +5.8
0.6nm,0.3s
KURBB ⇓Lg Lg 09 03 25.5
15nm,0.8s
KURK Kurchatov 8.85 0 ⇑Pn **Pn** **09 01 03.8 +3.3**
0.6nm,0.4s
KURK ⇑Lg Lg 09 03 29.7
7.1nm,0.8s
BVAR Borovoye Array 12.46 336 Pn **Pn** **09 01 48.4 -1.5**
0.1nm,0.3s,baz=172,slow=13,SNR=1.5
BVAR Lg Lg 09 05 29.0
baz=137,slow=22,SNR=3.6
0.3nm,0.4s
ZALV Zalesovo Beam 12.78 17 Pn **Pn** **09 01 52.5 -1.8**
0.5nm,0.3s,baz=207,slow=13,SNR=1.5
0.5nm,0.3s
SONM Songino Array 20.54 64 P **P** **09 03 31.0 -0.4**
0.2nm,0.5s,baz=277,slow=11,SNR=1.1
0.2nm,0.5s
FINES FINESS Array B 36.72 320 P **P** **09 06 00.9 +1.1**
0.7nm,0.7s,baz=116,slow=6.3,SNR=1.4
0.7nm,0.7s
TORD Torodi Ar. Bea 71.62 271 P **P** **09 10 14.8 -0.2**
0.3nm,0.4s,baz=52,slow=6.8,SNR=5.3
0.3nm,0.4s
WRA Warramunga Arr 80.21 128 P **P** **09 11 01.7 -2.1**
0.2nm,0.8s,baz=327,slow=5.9,SNR=1.7
0.2nm,0.8s

IDC 16 09:04:59.0±3.7, 54°.21N×87°.31E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=33.4km s-min=21.0km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**261**	I	I	09 13 50.0	
baz=76,slow=311,SNR=6.9							
ZALV	**Zalesovo Beam**	**1.49**	**261**	Pg	Pn	09 05 26.1	-0.9
0.6nm,0.3s,baz=78,slow=17,SNR=5.2							
ZALV				Lg	Lg	09 05 45.4	
0.5nm,0.3s,baz=80,slow=26,SNR=4.2							
KURBB	**Kurchatov Arra**	**6.46**	**240**	Pn	Pn	09 06 37.7	+2.5
0.1nm,0.3s,baz=49,slow=10,SNR=1.9							
0.4nm,0.4s							
MKAR	**Makanchi Array**	**8.08**	**205**	Pn	Pn	09 06 57.2	-0.3
0.1nm,0.3s,baz=28,slow=4.1,SNR=2.8							
0.4nm,0.6s							

IDC 16 09:10:36.1±3.5, 53°.90N×87°.99E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=29.9km s-min=18.0km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**273**	I	I	09 23 10.0	
0.3nm,0.9s,baz=92,slow=309,SNR=8.3							
ZALV	**Zalesovo Beam**	**1.88**	**273**	Pg	Pb	09 11 11.0	-0.2
1.7nm,0.3s,baz=89,slow=14,SNR=28							
ZALV				Lg	Lg	09 11 34.5	
1.6nm,0.3s,baz=87,slow=29,SNR=5.2							
KURBB	**Kurchatov Arra**	**6.67**	**244**	Pn	Pn	09 12 16.2	+0.9
0.1nm,0.3s,baz=62,slow=14,SNR=4.1							
KURBB				Lg	Lg	09 14 06.6	
0.1nm,0.3s,baz=64,slow=35,SNR=1.4							
0.9nm,0.5s							
MKAR	**Makanchi Array**	**7.99**	**209**	Pn	Pn	09 12 33.6	+0.2
0.1nm,0.3s,baz=27,slow=14,SNR=4.6							
MKAR				Sn	Sn	09 14 05.7	+1.2
0.1nm,0.3s,baz=25,slow=29,SNR=1.5							
MKAR				Lg	Lg	09 14 45.0	
baz=33,slow=24,SNR=1.9							
0.3nm,0.6s							

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*IDC **16** 09:16:37.0±1.0, 14°.35N×122°.36E, h0km, mb3.7/10, mbtmp3.7/10, MS3.0/6, Error ellipse: s-maj=41.3km s-min=19.0km az=67.0*

ISC 16 09:16:42.1±1.0, 14°.4N±0°.2×122°.4E±0°.2, h35km, n14, σ1§00/11, mb3.8/10, MS2.8/5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**7.90**	**156**	LR	LR	09 22 24.6	
comp=Z,56nm,18.7s,baz=30,slow=44							
JNU	**Nakatsue**	**20.23**	**21**	LR	LR	09 27 47.4	
comp=Z,37nm,21.8s,baz=208,slow=33							
JCJ	**Chichijima**	**22.42**	**52**	LR	LR	09 28 40.1	
comp=Z,36nm,21.3s,baz=88,slow=32							
CMAR	**Chiang Mai Arr**	**22.82**	**283**	P	**P**	**09 21 42.5 +0.2**	
1.2nm,0.3s,baz=93,slow=8.0,SNR=11							
CMAR				LR	LR	09 31 10.3	
comp=Z,28nm,18.9s,baz=250,slow=38							
1.2nm,0.3s							
KSRS	**Korea Array**	**23.53**	**11**	P	**P**	**09 21 50.4 +1.2**	
0.6nm,0.5s,baz=193,slow=10.0,SNR=1.6							
0.6nm,0.5s							
JHJ	**Hachijo jima 2**	**24.50**	**37**	LR	LR	09 30 03.9	
comp=Z,28nm,19.0s,baz=231,slow=33							
SONM	**Songino Array**	**35.92**	**342**	P	**P**	**09 23 38.0 -1.3**	
0.5nm,0.5s,baz=162,slow=10.0,SNR=3.8							
0.5nm,0.5s							
WRA	**Warramunga Arr**	**36.06**	**161**	P	**P**	**09 23 40.4 -0.1**	
0.9nm,0.9s,baz=340,slow=10,SNR=4.6							
0.9nm,0.9s							
ASAR	**Alice Springs**	**39.44**	**163**	P	**P**	**09 24 08.8 -0.2**	
0.3nm,0.7s,baz=341,slow=7.1,SNR=4.8							
0.3nm,0.7s							
MKAR	**Makanchi Array**	**46.48**	**322**	P	**P**	**09 25 07.1 +1.2**	
1.1nm,0.8s,baz=118,slow=9.8,SNR=7.5							
MKAR				PcP	**PcP**	**09 26 40.8 +0.8**	
0.4nm,0.7s,baz=143,slow=3.2,SNR=3.3							
1.1nm,0.8s							
ZALV	**Zalesovo Beam**	**49.23**	**332**	P	**P**	**09 25 25.7 -1.3**	
0.4nm,0.3s,baz=123,slow=11,SNR=1.7							
0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**50.56**	**325**	P	**P**	**09 25 36.6 -0.6**	
1.4nm,0.7s,baz=124,slow=7.8,SNR=2.9							
1.4nm,0.7s							
HFS	**Hagfors**	**86.67**	**332**	P	**P**	**09 29 21.8 -0.3**	
0.6nm,0.7s,baz=104,slow=3.0,SNR=2.9							
0.6nm,0.7s							
NOA	**NORSAR Array B**	**87.42**	**333**	P	**P**	**09 29 26.6 +0.9**	
0.2nm,0.5s,baz=68,slow=4.7,SNR=2.0							
NOA				LR	LR	10 12 52.5	
comp=Z,19nm,18.8s,baz=110,slow=39							
0.2nm,0.5s							

KRSC 16 09:21:28.8±1.2, 49°.34N×155°.92E, h74km±13km, MI4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.35**	**5**	eS	Sn	09 22 11.5	+2.2
KDTR	**Khodutka, Kamc**	**2.83**	**28**	eP	Pn	09 22 13.4	+1.7
KDTR				eS	Sn	09 22 46.4	+1.7
ASAK	**Asacha**	**3.30**	**22**	eP	Pn	09 22 20.9	+2.7
MTVR	**Mutnovka**	**3.46**	**24**	eP	Pn	09 22 23.0	+2.6
MTVR				eS	Sn	09 23 03.4	+3.1
GRL	**Gorelyy**	**3.49**	**22**	eP	Pn	09 22 23.9	+3.0
UGLR	**Uglovaya**	**4.28**	**24**	eP	Pn	09 22 35.2	+3.6
KOK	**Koryaka**	**4.31**	**22**	eP	Pn	09 22 35.5	+3.6
GNL	**Ganaly**	**4.54**	**15**	eP	Pn	09 22 37.6	+2.5

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*IDC **16** 09:32:14.2±2.2, 39°.29N×73°.35E, h0km, mb3.5/5, mbtmp3.3/6, ML2.5/1, Error ellipse: s-maj=53.7km s-min=21.9km az=155.0*
*SOME **16** 09:32:16.4, 39°.67N×72°.75E, h10km*
*KRNET **16** 09:32:17.9±0.1, 39°.51N×73°.11E, h13km, mb3.3*
*NNC **16** 09:32:24.3±2.0, 39°.96N×72°.86E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=16.6km s-min=8.9km az=172.0*

ISC 16 09:32:15.8±1.3, 39°.56N±0°.04×73°.10E±0°.02, h5km±9km, n67, σ1§84/103, mb3.5/5, 33C-13D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.55**	**35**	⇑eP	**Pn**	**09 32 29.1**	**-1.5**
baz=31							
SFK				⇑eS	**Sn**	**09 32 38.1**	**-2.2**
baz=31							
OHH Osh 0.99 346				⇓eP	**Pn**	**09 32 37.8**	**+1.3**
baz=46							
OHH				⇓eS	**Sn**	**09 32 52.4**	**+1.4**
baz=46							
DRK Karamyk 1.00 266				⇓eP	**Pn**	**09 32 37.3**	**+0.4**
baz=69							
DRK				⇓eS	**Sn**	**09 32 51.8**	**+0.2**
baz=69							
ARSB Arslanbob 1.77 357				⇑iP	**Pg**	**09 32 51.9**	**+2.2**
baz=57							
ARSB				⇑eS	**Sg**	**09 33 16.6**	**+4.0**
baz=57							
BTK Batken 1.82 287				⇑eP	**Pg**	**09 32 52.5**	**+1.7**
baz=88							
BTK				⇑eS	**Sg**	**09 33 17.6**	**+3.2**
baz=88							
GAR Garm 2.23 256				⇑iP	**Pg**	**09 32 58.1**	**-0.4**
baz=58							
GAR				⇑eS	**Sg**	**09 33 27.6**	**+0.2**
baz=58							
ARK Arkit 2.40 339				⇑eP	**Pg**	**09 33 01.3**	**-0.5**
baz=40							
ARK				⇑eS	**Sg**	**09 33 33.1**	**+0.2**
baz=40							
TRKS Terek-Say 2.47 324				⇓eP	**Pg**	**09 33 01.4**	**-1.8**
baz=23							
TRKS				⇓iS	**Sg**	**09 33 33.0**	**-2.2**
baz=23							
ARLS Aral 2.48 22				⇑iP	**Pg**	**09 33 02.3**	**-1.1**
baz=21							
ARLS				⇑iS	**Sg**	**09 33 34.4**	**-1.2**
baz=21							
UCH Uchtor 2.88 21				⇓iP	**Pb**	**09 33 08.2**	**+0.3**
baz=21							
UCH				⇓iS	**Sb**	**09 33 44.4**	**+0.9**
baz=21							
NRN Naryn 2.90 49				⇑iP	**Pb**	**09 33 07.5**	**-0.7**
baz=48							
NRN				⇑iS	**Sb**	**09 33 44.2**	**+0.1**
baz=48							
MNAS Manas 2.96 351				⇑eP	**Pb**	**09 33 09.1**	**-0.1**
baz=51							
MNAS				⇑iS	**Sb**	**09 33 46.3**	**+0.6**
baz=51							
EKS2 Erkin-Say 3.14 9				⇑iP	**Pb**	**09 33 11.7**	**-0.6**
baz=9.0							
EKS2				⇑iS	**Sb**	**09 33 50.7**	**-0.2**
baz=9.0							
MRKS Merke 3.19 2				eP	**Pb**	**09 33 14.2**	**+1.3**
5.5nm,0.5s							
MRKS				eS	**Sg**	**09 33 55.8**	**-2.4**
44nm,0.3s							
MRKS Merke 3.19 2				Pg	**Pb**	**09 33 14.2**	**+1.3**
5.5nm,0.5s							
MRKS				Lg	Lg	09 33 55.8	
44nm,0.3s							
CHGR Chuyangaron 3.19 255				⇑iP	**Pb**	**09 33 11.4**	**-1.7**
baz=56							
CHGR				⇑eS	**Sb**	**09 33 50.7**	**-1.6**
baz=56							
AAK Ala-Archa 3.25 19				⇑Pn	**Pb**	**09 33 14.1**	**0.0**
8.0nm,0.5s							
AAK				⇑Lg	Lg	09 33 56.0	
34nm,0.9s							
AAK Ala-Archa 3.25 19				⇑iP	**Pb**	**09 33 13.3**	**-0.9**
baz=18							
AAK				⇑iS	**Sb**	**09 33 53.5**	**-0.6**
baz=18							
KBK Karagaybulak 3.40 24				⇑iP	**Pb**	**09 33 15.0**	**-1.6**
baz=23							
KBK				⇑iS	**Sb**	**09 33 56.8**	**-1.5**
baz=23							
IUG Iuzhnay 3.48 319				eP	**Pb**	**09 33 16.5**	**-1.4**
17nm,0.3s							
IUG				eS	**Sb**	**09 33 59.4**	**-1.2**
92nm,0.6s							
IUG Iuzhnay 3.48 319				Pg	**Pb**	**09 33 16.5**	**-1.4**
17nm,0.3s							
IUG				Lg	Lg	09 33 59.4	
92nm,0.6s							
BOOM Boomskoye usch 3.63 35				⇑eP	**Pb**	**09 33 18.2**	**-2.5**
baz=35							
BOOM				⇑eS	**Sb**	**09 34 02.5**	**-2.6**
baz=35							
CHMS Chumysh 3.66 19				⇓Pn	**Pb**	**09 33 19.8**	**-1.1**
6.8nm,0.3s							
CHMS				⇑Lg	Lg	09 34 11.0	
13nm,0.9s							
TKM2 Tokmak 2 3.85 28				⇑Pn	**Pb**	**09 33 22.1**	**-2.3**
3.4nm,0.4s							
TKM2				⇓Lg	Lg	09 34 19.5	
12nm,0.6s							
KDJ Kajisay 4.02 49				⇑eP	**Pb**	**09 33 23.3**	**-4.0**
baz=49							
KDJ				⇑eS	**Sb**	**09 34 11.6**	**-4.7**
baz=49							
KK31 Karatay Array 4.04 332				⇓Pn	**Pb**	**09 33 25.0**	**-2.5**
1.6nm,0.3s,baz=145,slow=13,SNR=32							
KK31				⇓Lg	Lg	09 34 17.3	
10nm,0.4s,baz=142,slow=24,SNR=6.8							
KST Kastek 4.10 31				eP	**Pg**	**09 33 34.3**	**0.0**
5.4nm,0.6s							
KST				eS	**Sg**	**09 34 30.8**	**+3.4**
25nm,0.8s							
KST Kastek 4.10 31				Pg	**Pg**	**09 33 34.3**	**0.0**
5.4nm,0.6s							
KST				Lg	Lg	09 34 30.8	
25nm,0.8s							
DGS Degeres 4.20 28				eP	**Pg**	**09 33 36.1**	**-0.1**
6.5nm,0.7s							
DGS				eS	**Sg**	**09 34 33.4**	**+2.8**
22nm,0.9s							
DGS Degeres 4.20 28				Pg	**Pg**	**09 33 36.1**	**-0.1**
6.5nm,0.7s							
DGS				Lg	Lg	09 34 33.4	
22nm,0.9s							
BRLS Borolday 4.25 326				eP	**Pb**	**09 33 28.3**	**-2.8**
3.1nm,0.3s							
BRLS				eS	**Sb**	**09 34 19.9**	**-2.7**
11nm,0.4s							
BRLS Borolday 4.25 326				Pg	**Pb**	**09 33 28.3**	**-2.8**
3.1nm,0.3s							
BRLS				Lg	Lg	09 34 19.9	
11nm,0.4s							
MTBS Maitube 4.36 34				eP	**Pg**	**09 33 39.0**	**-0.3**
3.1nm,0.1s							
MTBS				eS	**Sg**	**09 34 38.6**	**+2.7**
11nm,0.4s							
MTBS Maitube 4.36 34				Pg	**Pg**	**09 33 39.0**	**-0.3**
3.1nm,0.1s							
MTBS				Lg	Lg	09 34 38.6	
11nm,0.4s							
TNSS Tian-Shan 4.53 39				eP	**Pg**	**09 33 42.0**	**-0.5**
5.0nm,0.3s							
TNSS				eS	**Sg**	**09 34 43.8**	**+2.5**
5.5nm,0.7s							
TNSS Tian-Shan 4.53 39				Pg	**Pg**	**09 33 42.0**	**-0.5**
5.0nm,0.3s							
TNSS				Lg	Lg	09 34 43.8	
5.5nm,0.7s							
KRBS Karabastau 4.56 24				eP	**Pg**	**09 33 43.1**	**-0.1**
4.6nm,0.7s							
KRBS				eS	**Sg**	**09 34 44.9**	**+2.6**
5.3nm,0.5s							
KRBS Karabastau 4.56 24				Pg	**Pg**	**09 33 43.1**	**-0.1**
4.6nm,0.7s							
KRBS				Lg	Lg	09 34 44.9	
5.3nm,0.5s							
MDOK Medeo 4.67 38				eP	**Pg**	**09 33 44.9**	**-0.4**
5.0nm,0.5s							
MDOK				eS	**Sg**	**09 34 48.0**	**+2.2**
16nm,1.0s							
MDOK Medeo 4.67 38				Pg	**Pg**	**09 33 44.7**	**-0.6**
4.2nm,0.5s							
MDOK				Pg	Pb	09 33 44.9	+6.6
5.0nm,0.5s							
MDOK				Lg	Lg	09 34 44.8	
18nm,0.7s							
MDOK				Lg	Lg	09 34 48.0	
16nm,1.0s							
KOTS Kotyrbulak 4.75 38				eP	**Pg**	**09 33 46.4**	**-0.5**
6.8nm,0.3s							
KOTS				eS	**Sg**	**09 34 51.4**	**+2.9**
36nm,0.9s							
KOTS Kotyrbulak 4.75 38				Pg	**Pg**	**09 33 46.4**	**-0.5**
6.8nm,0.3s							
KOTS				Lg	Lg	09 34 51.4	
36nm,0.9s							
KTBS Karatobe 4.94 32				eP	**Pg**	**09 33 49.9**	**-0.6**
8.0nm,0.5s							
KTBS				eS	**Sg**	**09 34 57.5**	**+2.9**
16nm,0.8s							
KTBS Karatobe 4.94 32				Pg	**Pg**	**09 33 49.9**	**-0.6**
8.0nm,0.5s							
KTBS				Lg	Lg	09 34 57.5	
16nm,0.8s							
KUU Kurty 4.96 28				eP	**Pg**	**09 33 50.1**	**-0.8**
KUU				eS	**Sg**	**09 34 57.6**	**+2.4**
KUU Kurty 4.96 28				Pg	**Pg**	**09 33 50.1**	**-0.8**
KUU				Lg	Lg	09 34 57.6	
CHKK Chushkaly 5.19 33				eP	**Pg**	**09 33 54.7**	**-0.4**
1.3nm,0.1s							
CHKK				eS	**Sg**	**09 35 05.4**	**+3.0**
7.3nm,0.1s							
CHKK Chushkaly 5.19 33				Pg	**Pg**	**09 33 54.7**	**-0.4**
1.3nm,0.1s							
CHKK				Lg	Lg	09 35 05.4	
7.3nm,0.1s							
SATY Saty 5.31 47				eP	**Pg**	**09 33 57.0**	**-0.5**
1.7nm,0.1s							
SATY				eS	**Sg**	**09 35 09.4**	**+3.0**
19nm,1.2s							
SATY Saty 5.31 47				Pg	**Pg**	**09 33 57.0**	**-0.5**
1.7nm,0.1s							
SATY				Lg	Lg	09 35 09.4	
19nm,1.2s							
BTLS Baital 5.52 7				eP	**Pg**	**09 33 57.9**	**-3.7**
1.3nm,0.3s							
BTLS				eS	**Sg**	**09 35 11.2**	**-2.0**
8.3nm,0.6s							
BTLS Baital 5.52 7				Pg	**Pg**	**09 33 57.9**	**-3.7**
1.3nm,0.3s							
BTLS				Lg	Lg	09 35 11.1	
8.3nm,0.6s							
UZB Uzynbulak 5.72 49				eP	**Pg**	**09 34 04.8**	**-0.6**
3.0nm,0.4s							
UZB				eS	**Sg**	**09 35 22.6**	**+3.1**
5.3nm,1.0s							
UZB Uzynbulak 5.72 49				Pg	**Pg**	**09 34 04.8**	**-0.6**
3.0nm,0.4s							
UZB				Lg	Lg	09 35 22.6	
5.3nm,1.0s							
KPKS Kokpek 5.73 45				eP	**Pg**	**09 34 04.4**	**-1.2**
4.4nm,0.4s							
KPKS				eS	**Sg**	**09 35 21.6**	**+1.8**
6.0nm,0.8s							
KPKS Kokpek 5.73 45				Pg	**Pg**	**09 34 04.4**	**-1.2**
4.4nm,0.4s							
KPKS				Lg	Lg	09 35 21.6	
6.0nm,0.8s							
ARXS Arharly 5.84 36				eP	**Pg**	**09 34 06.3**	**-1.3**
3.1nm,0.6s							
ARXS				eS	**Sg**	**09 35 24.6**	**+1.4**
10nm,0.9s							
ARXS Arharly 5.84 36				Pg	**Pg**	**09 34 05.3**	**-2.3**
3.1nm,0.6s							
ARXS				Lg	Lg	09 35 23.2	
10nm,0.9s							
BLB Baldybastay 6.06 40				Pg	**Pg**	**09 34 10.2**	**-1.7**
8.0nm,0.4s							
BLB				Lg	Lg	09 35 31.6	
10nm,0.9s							
PDGK Podgornoye 6.10 50				Pg	**Pg**	**09 34 11.3**	**-1.4**
1.0nm,0.4s							

PDGK Lg Lg 09 35 34.0
4.6nm,0.9s
PDGK Podgornoye 6.10 50 ⇑Pg **Pg 09 34 11.8 -0.9**
1.8nm,0.6s
PDGK ⇓Lg Lg 09 35 32.9
9.9nm,0.9s
MKAR Makanchi Array 9.86 40 Pn **Pn 09 34 39.6 +1.4**
baz=224,slow=10,SNR=1.9
MKAR Lg Lg 09 37 31.2
baz=223,slow=27,SNR=3.2
0.1nm,0.4s
SONM Songino Array 25.30 60 P **P 09 37 42.3 -1.0**
0.2nm,0.4s,baz=246,slow=10,SNR=2.3
0.2nm,0.4s
FINES FINESS Array B 35.95 323 P **P 09 39 18.2 +1.2**
0.3nm,0.4s,baz=96,slow=9.9,SNR=5.0
0.3nm,0.4s
HFS Hagfors 41.75 320 P **P 09 40 08.1 +2.5**
0.5nm,0.5s,baz=108,slow=9.3,SNR=2.2
0.5nm,0.5s
TORD Torodi Ar. Bea 67.45 269 P **P 09 43 13.5 +0.7**
0.3nm,0.5s,baz=55,slow=7.7,SNR=1.8
0.3nm,0.5s
ILAR Eielson Array 71.38 17 P **P 09 43 36.5 0.0**
0.3nm,0.8s,baz=329,slow=6.7,SNR=4.1
0.3nm,0.8s

RSNC 16 09:36:18.8±0.0,7°N±1°×7°3W±°,h147km±4km,M3.0,mb3.5, mB4.9,ML3.0,MLv3.7,Mw(mB)4.2,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.66**	**41**	P	Pn	09 36 40.7	-0.6
PAMC				S	Sn	09 36 58.0	-0.4
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	P	Pn	09 36 44.2	-2.4
PTBC				S	Sn	09 37 05.6	-2.2
TAMC	**Tame, Arauca**	**1.39**	**107**	P	Pn	09 36 46.2	-0.8
TAMC				S	Sn	09 37 07.9	-0.7
OCAC	**Ocana**	**1.40**	**352**	P	Pn	09 36 45.9	-1.4
OCAC				S	Sn	09 37 07.9	-1.2
SPBC	**San Pablo de B**	**1.51**	**218**	P	Pn	09 36 46.6	-1.7
SPBC				S	Sn	09 37 08.5	-2.4
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	P	Pn	09 36 50.3	-1.5
ZARC				S	Sn	09 37 15.8	-1.4
NORC	**Norcasia**	**2.14**	**234**	P	Pn	09 36 53.6	-1.9
NORC				S	Sn	09 37 22.1	-1.6
CHIC	**Chingaza**	**2.28**	**195**	P	Pn	09 36 55.9	-1.6
CHIC				S	Sn	09 37 26.0	-1.2
ROSC	**El Rosal**	**2.31**	**211**	P	Pn	09 36 57.6	-0.3
ROSC				S	Sn	09 37 29.5	+1.6
CVER	**Cruz Verde, Cu**	**2.49**	**202**	P	Pn	09 36 59.2	-0.9
CVER				S	Sn	09 37 31.5	-0.4
UREC	**San Jos de Ur**	**2.55**	**291**	P	Pn	09 36 57.6	-2.8
UREC				S	Sn	09 37 28.8	-3.7
GUY2C	**Guyana, Caldas**	**2.74**	**234**	P	Pn	09 37 02.0	-1.3
GUY2C				S	Sn	09 37 37.1	-0.4
VILC	**Villavicencio,**	**2.77**	**192**	P	Pn	09 37 01.2	-2.1
VILC				S	Sn	09 37 36.3	-1.3
PTGC	**Puerto Gaitan,**	**2.81**	**159**	P	Pn	09 37 01.0	-2.6
PTGC				S	Sn	09 37 34.3	-3.9
DBBC	**Dabeiba**	**3.06**	**273**	P	Pn	09 37 05.3	-1.6
DBBC				S	Sn	09 37 41.0	-3.1
ARGC	**Ariguani, Magd**	**3.19**	**340**	P	Pn	09 37 08.4	-0.2
ARGC				S	Sn	09 37 46.7	-0.4
SDV	**Santo Domingo**	**3.20**	**50**	P	Pn	09 37 07.3	-1.5
SDV				S	Sn	09 37 44.8	-2.7
ANIL	**Santa Ana**	**3.25**	**224**	P	Pn	09 37 09.3	-0.3
ANIL				S	Sn	09 37 49.1	+0.3
PRAC	**Prado**	**3.56**	**209**	P	Pn	09 37 10.9	-2.5
PRAC				S	Sn	09 37 53.5	-2.2
APAC	**Apartado, Choc**	**3.58**	**287**	P	Pn	09 37 11.3	-2.2
APAC				S	Sn	09 37 54.4	-1.5
ORTC	**Ortega, Tolima**	**3.59**	**216**	P	Pn	09 37 12.1	-1.7
ORTC				S	Sn	09 37 55.6	-0.8
SJCC	**San Jacinto, C**	**3.65**	**326**	P	Pn	09 37 11.5	-3.0
SJCC				S	Sn	09 37 53.0	-4.8
PLMC	**San Jos del P**	**3.68**	**239**	P	Pn	09 37 13.4	-1.5
PLMC				S	Sn	09 37 55.9	-2.5
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	P	Pn	09 37 18.2	-3.0
CRJC				S	Sn	09 38 05.8	-3.9
YOTC	**Yotoco, Valle**	**4.28**	**229**	P	Pn	09 37 20.5	-2.3
YOTC				S	Sn	09 38 11.5	-1.0
CAPC	**Capurgana**	**4.55**	**293**	P	Pn	09 37 22.0	-4.2
CAPC				S	Sn	09 38 12.7	-6.0
URIC	**Uribia, Colomb**	**4.96**	**13**	P	Pn	09 37 28.4	-3.3
URIC				S	Sn	09 38 24.5	-4.0
GARC	**Garzon, Huila**	**5.19**	**207**	P	Pn	09 37 32.0	-3.0
GARC				S	Sn	09 38 29.4	-4.9
POPC	**Popayan, Colom**	**5.54**	**220**	P	Pn	09 37 37.9	-1.8
POPC				S	Sn	09 38 41.3	-1.5
BBAC	**Balboa, Cauca**	**6.30**	**221**	P	Pn	09 37 48.9	-0.9
BBAC				S	Sn	09 38 57.5	-3.5

*SCB **16** 09:41:58.1±0.4, 17°.43S×68°.53W, h66km±12km, ML1.0/1, MW2.8, Error ellipse: s-maj=5.4km s-min=5.0km az=1.0*

GUC 16 09:41:24.7±0.6,19°.87S×69°.11W,h97km±2km,ML2.7,1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.22**	**339**	*e*P	Pn	09 41 38.9	-0.4
GO01				*i* S	Sn	09 41 50.3	+0.2
PB11	**IPOC Station P**	**0.53**	**282**	*e*P	Pn	09 41 39.9	-0.7
PB11				*i* S	Sn	09 41 52.1	-0.3
PB11				IAML		09 41 53.1	
	comp=N,432nm,0.2s						
HMBC	**Humberstone**	**0.83**	**241**	⇓*e*P	Pn	09 41 42.6	-0.8
HMBC				*i* S	Sn	09 41 56.8	-0.5
HMBC				IAML		09 41 57.6	
	comp=N,283nm,0.3s						
TA02	**Huaiquique**	**1.04**	**247**	*e*P	Pn	09 41 44.7	-0.6
TA02				*i* S	Sn	09 42 00.3	-0.6
TA02				IAML		09 42 07.0	
	comp=N,274nm,0.1s						
TA01	**Diego Aracena**	**1.22**	**235**	*e*P	Pn	09 41 46.6	-0.8
TA01				*i* S	Sn	09 42 03.6	-1.0
PATCX	**Punta Patache**	**1.36**	**226**	*e*P	Pn	09 41 48.5	-0.7
PATCX				*i* S	Sn	09 42 07.1	-0.6
PATCX				IAML		09 42 14.7	
	comp=E,89nm,0.2s						
PX02	**IPOC Station P**	**1.37**	**311**	*e*P	Pn	09 41 47.6	-1.7
PX02				*i* S	Sn	09 42 06.3	-1.6
PB18	**Visviri**	**2.30**	**351**	*e*P	Pn	09 42 02.8	+1.2
PB04	**IPOC Station P**	**2.63**	**201**	*e*P	Pn	09 42 05.1	-0.6
PB04				IAML		09 42 48.3	
	comp=E,39nm,0.3s						
LVC	**Limon Verde**	**2.73**	**176**	*e*P	Pn	09 42 07.5	+0.3
LVC				*i* S	Sn	09 42 40.1	+0.3
PB06	**IPOC Station P**	**2.85**	**189**	*e*P	Pn	09 42 08.2	-0.4
PB06				*i* S	Sn	09 42 40.1	-2.2
PB06				IAML		09 42 52.4	
	comp=E,35nm,0.2s						
SOEJ	**Jacaque**	**3.01**	**17**	Pg	Pn	09 42 13.0	+2.0
BBOE	**La Paz, Chanca**	**3.23**	**20**	Pg	Pn	09 42 16.4	+2.4
BBOD	**La Paz, Gloria**	**3.25**	**9**	Pg	Pn	09 42 16.2	+1.9
PB15	**IPOC Station P**	**3.34**	**186**	*e*P	Pn	09 42 15.2	+0.1
PB15				*i* S	Sn	09 42 52.9	-1.1
LPAZ	**La Paz**	**3.68**	**15**	*e*P	Pn	09 42 21.8	+1.6
LPAZ				*i* S	Sn	09 42 39.0	-24
LPAZ	**La Paz**	**3.68**	**15**	Pg	Pn	09 42 21.5	+1.3
LPAZ				Sg	Sn	09 42 39.2	-24
LPAZ				IAML		09 42 40.0	
	comp=E,2.8nm,0.5s						

*NORS **16** 09:43:18.9, 42°.74N×44°.50E, h7km, MPVA3.8*

MOS 16 09:43:18.9,42°.75N×44°.51E,h6km,MPVA3.9,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LACR	**Lac**	**0.17**	**295**	*e*Pg	Pg	09 43 23.8	+1.3
LACR				*e*Sg	Sg	09 43 27.6	+2.8
GUDG	**Gudauri**	**0.29**	**185**	*i* Pg	Pb	09 43 27.3	+0.6
GUDG				*e*Sg	Sb	09 43 32.2	+0.3
VLKR	**Vladikavkaz**	**0.32**	**22**	*e*Pg	Pb	09 43 26.3	-0.7
VLKR				*e*Sg	Sb	09 43 31.8	-0.7
KMGR	**Komgaron**	**0.40**	**40**	*i* Pg	Pb	09 43 27.8	-0.6
KMGR				*e*Sg	Sb	09 43 34.4	-0.5
ARNR	**Ardon**	**0.46**	**339**	*e*Pg	Pb	09 43 30.8	+1.3
ARNR				*e*Sg	Sb	09 43 38.9	+2.4
KORR	**Kora**	**0.47**	**316**	*e*Pg	Pb	09 43 30.2	+0.6
KORR				*e*Sg	Sb	09 43 39.0	+2.2
BTKR	**Batakoyurt**	**0.62**	**2**	*e*Pg	Pn	09 43 33.6	-0.7
BTKR				*e*Sg	Sn	09 43 43.3	-1.3
STDR	**Stavd-Durt**	**0.70**	**332**	*e*Pg	Pn	09 43 34.6	-0.8
STDR				*e*Sg	Sb	09 43 44.1	+0.7
LSNR	**Lesken**	**0.73**	**316**	*e*Pg	Pn	09 43 35.0	-0.8
LSNR				*e*Sg	Sn	09 43 46.0	-1.3
TRKR	**Terskaya**	**0.98**	**9**	*e*Pg	Pn	09 43 41.6	+2.3
TRKR				*e*Sg	Sn	09 43 55.1	+1.6
PRTR	**Priterechnaya**	**1.01**	**350**	*e*Pg	Pn	09 43 41.6	+1.9
PRTR				*i* Sg	Sn	09 43 55.8	+1.6
GROC	**Groznyy**	**1.04**	**64**	*e*Pg	Pn	09 43 40.3	+0.2
GROC				*e*Sg	Sn	09 43 56.6	+1.7
DVE	**Vedeno**	**1.20**	**80**	*e*Pg	Pn	09 43 42.8	+0.4
DVE				*e*Sg	Sn	09 44 02.3	+3.3
BTLR	**Botlikh**	**1.26**	**93**	*e*Pg	Pg	09 43 42.9	-0.2
BTLR				*e*Sg	Sn	09 44 05.4	+4.9
KBTC	**Kuba-Taba**	**1.33**	**323**	*i* Pg	Pg	09 43 45.9	+1.4
KBTC				*e*Sg	Sn	09 44 06.0	+3.8
KBZ	**Khabaz**	**1.53**	**310**	*e*Pg	Pg	09 43 48.3	+0.1
KBZ				*e*Sg	Sg	09 44 09.6	+1.5
DLMR	**Dylym**	**1.59**	**78**	*i* Pg	Pg	09 43 50.9	+1.5
DLMR				*e*Sg	Sg	09 44 12.8	+2.9
PYA1	**Pyatigorsk**	**1.67**	**322**	*e*Pg	Pb	09 43 50.2	+0.2
PYA1				*e*Sg	Sg	09 44 15.2	+2.7
SHA1	**Shidzhatmaz**	**1.68**	**307**	*e*Pg	Pg	09 43 50.7	-0.3
SHA1				*e*Sg	Sg	09 44 14.8	+2.1
UNCR	**Uncukul**	**1.68**	**91**	*e*Pg	Pb	09 43 50.6	+0.3
UNCR				*e*Sg	Sg	09 44 15.7	+2.8
DBC	**Dubki**	**1.72**	**80**	*e*Pg	Pg	09 43 51.8	-0.1
DBC				*e*Sg	Sg	09 44 16.4	+2.2
KRNR	**Karanay**	**1.76**	**87**	*e*Pg	Pb	09 43 52.1	+0.3
KRNR				*e*Sg	Sg	09 44 15.7	+0.2
BEYR	**Belyy Ugol+**	**1.76**	**316**	*e*Pg	Pb	09 43 51.6	-0.1
BEYR				*e*Sg	Sg	09 44 15.9	+0.3
KIV	**Kislovodsk**	**1.79**	**313**	*e*Pg	Pb	09 43 52.5	+0.2
KIV				*e*Sg	Sg	09 44 17.2	+0.6
ARKR	**Arakani**	**1.84**	**94**	*e*Pg	Pg	09 43 53.6	-0.5
ARKR				*e*Sg	Sg	09 44 18.7	+0.8
GNBR	**Gunib**	**1.85**	**101**	*e*Pg	Pg	09 43 55.0	+0.7
GNBR				*e*Sg	Sg	09 44 21.3	+3.1
BUJR	**Buynaksk**	**1.91**	**87**	*e*Pg	Pg	09 43 55.9	+0.4
BUJR				*e*Sg	Sg	09 44 23.2	+2.9
KMKR	**Kumukh**	**2.01**	**107**	*i* Pg	Pb	09 43 56.5	+0.5
KMKR				*e*Sg	Sg	09 44 23.5	-0.1
GNI	**Garni**	**2.61**	**176**	*e*Pn	Pb	09 44 05.8	-0.3
GNI				*e*Sn	Sg	09 44 43.0	+0.3
GRYR	**Gornoye**	**2.84**	**300**	*e*Pn	Pg	09 44 11.8	-1.4
GRYR				*e*Sn	Sb	09 44 44.4	-0.6

*VAO **16** 09:44:46.7±1.0, 32°.89S×71°.96W, h10km, mb4.4*
*IDC **16** 09:44:49.3±0.7, 32°.56S×71°.50W, h0km, mb4.2/10, mbtmp4.1/15, ML4.0/5, MS3.5/8, Error ellipse: s-maj=24.6km s-min=16.3km az=93.0*
*SJA **16** 09:44:51.1±0.9, 32°.62S×71°.81W, h22km±3km, ML4.3, MW4.4*
*NEIC **16** 09:44:53.5±1.9, 32°.58S±0°.04×71°.78W±0°.04, h28km±7km, mb4.5/31, Mwr4.3(GUC), Error ellipse: s-maj=6.3km s-min=4.5km az=220.0*
*GUC **16** 09:44:54.7±0.6, 32°.63S×71°.64W, h29km±2km, ML4.3*

ISC 16 09:44:52.4±0.5,32°.54S±0°.02×71°.75W±0°.03,h22km±4km, n169,σ1§46/208,mb4.5/25,MS3.8/6,5C-15D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.39**	**93**		**Pn**	**09 45 01.8**	**-0.9**
VA06	**Catapilco**	**0.39**	**93**	⇓*i*P	**Pn**	**09 45 01.8**	**-0.9**
VA06				*e*S	**Sb**	**09 45 07.4**	**+1.3**
VA01	**Torpederas**	**0.49**	**169**		**Pb**	**09 45 03.0**	**+0.6**
VA01	**Torpederas**	**0.49**	**169**	*e*P	**Pb**	**09 45 02.9**	**+0.6**
VA01	**Torpederas**	**0.49**	**169**	⇑*e*P	**Pb**	**09 45 03.0**	**+0.6**
VA01				*i* S	**Sb**	**09 45 09.5**	**+0.5**
VA01				IAML		09 45 12.2	
	comp=N,21μm,0.1s						
ROC1	**El Roble**	**0.76**	**125**	*e*P	**Pb**	**09 45 06.5**	**-0.6**
ROC1				*e*S	**Pb**	**09 45 06.7**	**-0.4**
ROCH	**El Roble**	**0.76**	**125**	⇓*e*P	**Pb**	**09 45 07.0**	**-0.1**
ROCH				*i* S	**Sb**	**09 45 16.4**	**-0.6**
MT02	**Curacav**	**0.88**	**144**		**Pb**	**09 45 08.9**	**-0.2**
MT02	**Curacav**	**0.88**	**144**	*e*P	**Pb**	**09 45 08.6**	**-0.5**
MT02				*e*S	**Sb**	**09 45 19.6**	**-0.8**
MT02				IAML		09 45 22.4	
	comp=Z,5μm,0.3s						
MT02	**Curacav**	**0.88**	**144**	⇓*i*P	**Pb**	**09 45 08.8**	**-0.3**
MT02				*i* S	**Sb**	**09 45 19.1**	**-1.4**
VA03	**San Esteban**	**1.04**	**103**		**Pn**	**09 45 11.1**	**-0.7**
VA03	**San Esteban**	**1.04**	**103**	*e*P	**Pn**	**09 45 11.0**	**-0.7**
VA03				*e*S	**Pn**	**09 45 11.1**	**-0.7**
VA03				IAML		09 45 28.9	
	comp=Z,6μm,0.5s						
VA03	**San Esteban**	**1.04**	**103**	⇓*i*P	**Pn**	**09 45 11.2**	**-0.7**
VA03				*i* S	**Sb**	**09 45 24.1**	**-0.9**
VA03				IAML		09 45 27.2	
	comp=E,10μm,0.3s						
PEL	**Peldehue**	**1.08**	**124**		**Pn**	**09 45 12.2**	**-0.2**
PEL	**Peldehue**	**1.08**	**124**	*e*P	**Pn**	**09 45 12.1**	**-0.2**
PEL				*e*S	**Sn**	**09 45 26.8**	**+0.1**
PEL				IAML		09 45 28.8	
	comp=Z,6μm,0.3s						
PEL	**Peldehue**	**1.08**	**124**	⇓*i*P	**Pn**	**09 45 12.0**	**-0.3**
PEL				*i* S	**Sb**	**09 45 24.9**	**-1.3**
PEL				IAML		09 45 29.4	
	comp=E,11μm,0.3s						
VA05	**Santo Domingo**	**1.12**	**174**		**Pb**	**09 45 13.0**	**-0.1**
VA05	**Santo Domingo**	**1.12**	**174**	⇑*i*P	**Pb**	**09 45 12.8**	**-0.3**
VA05				*i* S	**Sb**	**09 45 26.6**	**-0.5**
VA05				IAML		09 45 31.4	
	comp=E,22μm,0.3s						
MT05	**Renca**	**1.20**	**135**		**Pb**	**09 45 15.1**	**+0.6**
MT05	**Renca**	**1.20**	**135**	*e*P	**Pb**	**09 45 15.3**	**+0.7**
MT05				*e*S	**Sb**	**09 45 31.6**	**+2.0**
MT05				IAML		09 45 32.6	
	comp=Z,6μm,0.3s						
MT05	**Renca**	**1.20**	**135**	⇓*i*P	**Pb**	**09 45 15.2**	**+0.7**
MT05				*i* S	**Sb**	**09 45 29.9**	**+0.2**
MT10	**Hacienda Santa**	**1.25**	**126**	⇓*i*P	**Pn**	**09 45 14.8**	**0.0**
MT10				*i* S	**Sn**	**09 45 30.6**	**-0.5**
MT10				IAML		09 45 32.8	
	comp=E,25μm,0.3s						
MT14	**Cerro Calı́n**	**1.33**	**130**	⇓*i*P	**Pn**	**09 45 15.9**	**+0.1**
MT14				*i* S	**Sn**	**09 45 32.3**	**-0.6**
MT14				IAML		09 45 38.9	
	comp=N,9μm,0.3s						
MT16	**CCHEN**	**1.36**	**131**		**Pn**	**09 45 16.3**	**+0.2**
MT16	**CCHEN**	**1.36**	**131**	⇓*e*P	**Pn**	**09 45 16.4**	**+0.2**
MT16				*i* S	**Sn**	**09 45 33.5**	**0.0**
MT01	**Popeta**	**1.38**	**162**		**Pb**	**09 45 16.8**	**-0.8**
MT01	**Popeta**	**1.38**	**162**	*e*P	**Pn**	**09 45 16.6**	**+0.1**
MT01				*e*S	**Sb**	**09 45 34.5**	**-0.3**
MT01				IAML		09 45 38.5	
	comp=Z,2μm,0.3s						
MT01	**Popeta**	**1.38**	**162**	⇑*i*P	**Pb**	**09 45 16.9**	**-0.8**
MT01				*i* S	**Sn**	**09 45 33.4**	**-0.7**
MT01				IAML		09 45 39.3	
	comp=E,7μm,0.1s						
MT09	**Talagante**	**1.39**	**153**		**Pb**	**09 45 17.3**	**-0.5**
MT09	**Talagante**	**1.39**	**153**	⇓*i*P	**Pb**	**09 45 17.1**	**-0.7**
MT09				*i* S	**Sn**	**09 45 33.8**	**-0.5**
MT09				IAML		09 45 39.0	
	comp=N,12μm,0.3s						
MT03	**Universidad Ad**	**1.41**	**133**		**Pn**	**09 45 17.2**	**+0.3**
MT03	**Universidad Ad**	**1.41**	**133**	*e*P	**Pb**	**09 45 17.5**	**-0.7**
MT03				*e*S	**Sb**	**09 45 36.4**	**+0.6**
MT03				IAML		09 45 40.9	
	comp=Z,7μm,0.2s						
MT03	**Universidad Ad**	**1.41**	**133**	⇓*i*P	**Pn**	**09 45 17.2**	**+0.3**
MT03				*i* S	**Sn**	**09 45 34.6**	**-0.3**
MT03				IAML		09 45 36.3	
	comp=E,18μm,0.2s						
FCH	**Farellones**	**1.46**	**123**	⇓*i*P	**Pn**	**09 45 17.8**	**+0.1**
FCH				*i* S	**Sn**	**09 45 36.2**	**-0.1**
FCH				IAML		09 45 37.8	
	comp=E,7μm,0.3s						
CO02	**Combarbal**	**1.48**	**26**		**Pb**	**09 45 19.5**	**+0.1**
CO02	**Combarbal**	**1.48**	**26**	*e*P	**Pb**	**09 45 19.4**	**+0.1**
CO02				*e*S	**Sb**	**09 45 39.9**	**+2.1**
CO02				IAML		09 45 43.4	
	comp=Z,4μm,0.7s						
CO02	**Combarbal**	**1.48**	**26**	⇑*e*P	**Pb**	**09 45 19.4**	**+0.1**
CO02				*i* S	**Sb**	**09 45 39.0**	**+1.2**
MT12	**Pirque**	**1.56**	**140**	⇓*e*P	**Pn**	**09 45 19.5**	**+0.6**
MT12				*i* S	**Sn**	**09 45 38.6**	**+0.1**
MT12				IAML		09 45 46.1	
	comp=N,12μm,0.4s						
MT13	**San Alfonso**	**1.72**	**135**		**Pn**	**09 45 21.9**	**+0.8**
MT13	**San Alfonso**	**1.72**	**135**	*e*P	**Pn**	**09 45 21.9**	**+0.8**
MT13				*e*S	**Sb**	**09 45 45.3**	**+0.7**
MT13				IAML		09 45 51.5	
	comp=Z,2μm,0.7s						
MT13	**San Alfonso**	**1.72**	**135**	⇓*e*P	**Pn**	**09 45 21.9**	**+0.8**
MT13				*i* S	**Sn**	**09 45 42.9**	**+0.4**
MT13				IAML		09 45 49.2	
	comp=E,7μm,0.2s						
BO04	**La Punta**	**1.73**	**147**		**Pb**	**09 45 22.5**	**-1.1**
LMEL	**Las Melosas**	**1.84**	**135**		**Pn**	**09 45 23.9**	**+1.0**
LMEL	**Las Melosas**	**1.84**	**135**	*e*P	**Pn**	**09 45 23.8**	**+0.9**
LMEL				*e*S	**Sb**	**09 45 48.4**	**+0.3**
LMEL				IAML		09 45 56.3	
	comp=Z,2μm,0.8s						
LMEL	**Las Melosas**	**1.84**	**135**	⇓*e*P	**Pn**	**09 45 23.8**	**+0.9**
LMEL				*i* S	**Sn**	**09 45 46.7**	**+1.1**
LMEL				IAML		09 45 51.8	
	comp=N,6μm,0.5s						
CO06	**Fray Jorge**	**1.87**	**3**		**Pn**	**09 45 23.8**	**+0.7**
CO06	**Fray Jorge**	**1.87**	**3**	*e*P	**Pn**	**09 45 23.6**	**+0.6**
BO01	**Tunca**	**1.93**	**163**		**Pn**	**09 45 24.6**	**+0.7**
BO01	**Tunca**	**1.93**	**163**	*e*P	**Pn**	**09 45 24.5**	**+0.6**
BO01				*e*S	**Sn**	**09 45 47.8**	**+0.3**
BO01				IAML		09 45 57.8	
	comp=Z,1μm,0.5s						
BO01	**Tunca**	**1.93**	**163**	⇑*e*P	**Pn**	**09 45 24.5**	**+0.6**
BO01				*i* S	**Sn**	**09 45 47.0**	**-0.4**
CO03	**El Pedregal**	**1.93**	**28**		**Pb**	**09 45 25.8**	**-1.2**
CO03	**El Pedregal**	**1.93**	**28**	*e*P	**Pb**	**09 45 25.7**	**-1.2**
CO03				*e*S	**Sb**	**09 45 52.4**	**+1.9**
CO03				IAML		09 45 53.2	
	comp=Z,2μm,0.5s						
CO03	**El Pedregal**	**1.93**	**28**	*i* P	**Pb**	**09 45 25.7**	**-1.2**
CO03				*i* S	**Sb**	**09 45 49.7**	**-0.8**
BO03	**Pichilemu**	**1.96**	**185**	*e*P	**Pn**	**09 45 24.0**	**-0.3**
RTLS	**Leoncito**	**2.21**	**71**	*e*P	**Pb**	**09 45 32.1**	**+0.2**
RTLS				IAML		09 46 08.1	
	comp=Z,4μm,0.9s						
BO02	**Sierra Bellavi**	**2.38**	**160**		**Pn**	**09 45 31.2**	**+1.0**
BO02	**Sierra Bellavi**	**2.38**	**160**	*e*P	**Pn**	**09 45 31.1**	**+0.8**
BO02				*e*S	**Sn**	**09 45 58.3**	**-0.6**
BO02				IAML		09 46 09.4	
	comp=Z,2μm,0.5s						
BO02	**Sierra Bellavi**	**2.38**	**160**	*e*P	**Pn**	**09 45 31.7**	**+1.4**
BO02				*i* S	**Sb**	**09 46 01.7**	**-2.1**
BO02				IAML		09 46 06.5	
	comp=N,5μm,0.2s						
GO05	**Huala**	**2.46**	**183**		**Pn**	**09 45 31.1**	**-0.3**
GO05	**Huala**	**2.46**	**183**	*e*P	**Pn**	**09 45 31.0**	**-0.3**
GO05				*e*S	**Sb**	**09 46 11.2**	**+5.2**
GO05	**Huala**	**2.46**	**183**	*e*P	**Pn**	**09 45 30.7**	**-0.6**
GO05				*i* S	**Sn**	**09 45 58.2**	**-2.6**
GO04	**Tololo Observa**	**2.50**	**19**		**Pn**	**09 45 33.7**	**+1.7**
GO04	**Tololo Observa**	**2.50**	**19**	*e*P	**Pn**	**09 45 34.0**	**+1.9**
GO04				*e*S	**Sb**	**09 46 07.8**	**+0.6**
GO04				IAML		09 46 18.2	
	comp=Z,2μm,0.6s						
GO04	**Tololo Observa**	**2.50**	**19**	*e*P	**Pb**	**09 45 35.8**	**-1.0**
GO04				*i* S	**Sb**	**09 46 08.2**	**+0.9**
CO05	**La Serena**	**2.65**	**10**	*e*P	**Pn**	**09 45 35.2**	**+1.3**
ZON	**Zonda**	**2.79**	**70**		**Pb**	**09 45 39.4**	**-2.3**
ZON	**Zonda**	**2.79**	**70**	*e*S	**Sb**	**09 46 17.8**	**+2.2**
ZON				IAML		09 46 27.7	
	comp=Z,841nm,0.8s						
CO01	**Juntas del Tor**	**2.93**	**29**	*e*P	**Pn**	**09 45 35.3**	**-2.6**
CO01				*e*P	**Pn**	**09 45 40.3**	**+2.4**
CO01				*e*S	**Sb**	**09 46 17.6**	**-2.0**
CO01	**Juntas del Tor**	**2.93**	**29**	*e*P	**Pn**	**09 45 40.2**	**+2.4**
CO01				*i* S	**Sb**	**09 46 17.3**	**-2.2**
CO01				IAML		09 46 23.1	
	comp=N,558nm,0.4s						
ML02	**Panimavida**	**3.22**	**175**	*e*P	**Pn**	**09 45 41.9**	**+0.2**
ML02				*e*S	**Sb**	**09 46 26.3**	**-1.5**
ML02				IAML		09 46 34.3	
	comp=Z,993nm,1.0s						
ML02	**Panimavida**	**3.22**	**175**	*e*P	**Pn**	**09 45 41.9**	**+0.2**
LCO	**Las Campanas**	**3.64**	**15**		**Pn**	**09 45 48.8**	**+1.2**
LCO	**Las Campanas**	**3.64**	**15**	*e*P	**Pn**	**09 45 49.1**	**+1.4**
LCO				*e*S	**Sn**	**09 46 31.1**	**+1.0**
LCO				*e*S	**Sb**	**09 46 35.3**	**-4.7**
LCO				IAML		09 46 49.8	
	comp=Z,727nm,0.7s						
LCO	**Las Campanas**	**3.64**	**15**	*e*P	**Pn**	**09 45 48.7**	**+1.0**
AC05	**El Transito**	**3.91**	**19**	*e*P	**Pn**	**09 45 47.8**	**-3.5**
AC05				*e*P	**Pb**	**09 45 53.3**	**-7.4**
AC05				*e*S	**Sn**	**09 46 40.8**	**+4.2**
AC05				IA

RODS *e*S **Sn** **09 50 54.3 +2.6**
PLTB Pedras Altas 15.40 92 Pn **Pn** **09 48 27.8 -0.5**
CRSM Crissiumal (Br 16.14 76 *e*P **Pn** **09 48 37.7 -0.3**
LPAZ La Paz 16.52 12 P **Pn** **09 48 44.1 +0.8**
LPAZ La Paz 16.52 12 Pn **Pn** **09 48 43.8 +0.4**
comp=Z,0.2nm,0.3s,baz=187,slow=6.7,SNR=14
comp=Z,2.0nm,0.6s
LPAZ La Paz 16.52 12 *e*P **Pn** **09 48 43.9 +0.5**
MURT Porto Murtinho 16.60 53 *e*P **Pn** **09 48 43.9 +0.1**
ITAB Concordia 17.81 78 P **P** **09 49 00.2 +0.6**
ITAB IAmb IAmb 09 49 10.5
comp=Z,54nm,1.4s
BBSD Serra de San D 18.31 36 *e*P **P** **09 49 04.7 -0.4**
AQDB Aquidauana 18.70 54 P **P** **09 49 08.8 -0.6**
AQDB Aquidauana 18.70 54 *e*P **Pn** **09 49 10.1 +0.3**
PTGB Pitanga 18.94 71 *e*P **P** **09 49 11.6 -0.6**
SIV San Ignacio 19.12 33 P **P** **09 49 12.4 -1.6**
baz=203,slow=10,SNR=16
comp=Z,2.7nm,0.7s
LDASE Londrina, Braz 20.35 69 *e*P **P** **09 49 26.1 -1.4**
PTLB Pontes e Lacer 20.52 37 P **P** **09 49 29.2 -0.1**
PTLB Pontes e Lacer 20.52 37 *e*P **P** **09 49 28.9 -0.3**
NNA Nana 20.99 346 LR LR 09 55 51.4
comp=Z,38nm,20.3s,baz=174,slow=31
PCMB Pacaembu 21.21 64 *e*P **P** **09 49 34.9 -1.9**
SALV Santo Antonio 22.07 45 *e*P **P** **09 49 44.6 -1.4**
VILB Vilhena 22.19 31 P **P** **09 49 46.3 -1.0**
VILB IAmb IAmb 09 49 52.5
comp=Z,17nm,0.9s
VILB Vilhena 22.19 31 *e*P **P** **09 49 46.5 -0.7**
ITRB Iturama 23.02 62 *e*P **P** **09 49 55.4 -0.7**
ETMB Extrema 23.19 14 P **P** **09 49 58.2 +0.5**
ETMB IAmb IAmb 09 50 00.7
comp=Z,12nm,0.9s
ETMB Extrema 23.19 14 *e*P **P** **09 49 58.3 +0.5**
SPB Sao Paulo 23.20 74 P **P** **09 49 56.4 -1.4**
SPB IAmb IAmb 09 49 58.3
comp=Z,13nm,1.0s
SPB Sao Paulo 23.20 74 *e*P **P** **09 49 57.4 -0.4**
ARAG Araguaiana, MT 24.67 52 *e*P **P** **09 50 09.8 -2.0**
CZSB Cruzeiro do Su 24.71 358 P **P** **09 50 12.8 +0.6**
CZSB IAmb IAmb 09 50 18.9
comp=Z,11nm,0.9s
CZSB Cruzeiro do Su 24.71 358 *e*P **P** **09 50 11.4 -0.8**
SAML Samuel 24.79 21 P **P** **09 50 12.7 -0.2**
BDFB Brasilia 27.34 58 P **P** **09 50 34.5 -1.6**
comp=Z,4.6nm,0.7s,baz=230,slow=8.8,SNR=6.5
BDFB LR LR 10 02 21.6
comp=Z,244nm,19.1s,baz=162,slow=39
comp=Z,4.6nm,0.7s
SNDB Serra Nova Dou 27.79 47 *e*P **P** **09 50 38.4 -1.6**
TEFE Tefe 29.65 14 *e*P **P** **09 50 56.1 -0.4**
PMSA Palmer Station 32.60 174 LR LR 10 03 59.3
comp=Z,175nm,18.2s,baz=344,slow=35
BOAV Boa Vista 36.34 19 P **P** **09 51 54.7 -0.2**
BOAV IAmb IAmb 09 51 55.3
comp=Z,5.3nm,0.9s
MDP Montagnes des 41.61 29 LR LR 10 11 07.3
comp=Z,71nm,20.4s,baz=150,slow=38
RCBR Riachuelo 42.69 59 LR LR 10 10 11.0
comp=Z,111nm,18.4s,baz=156,slow=36
SNAA Sanae 52.84 158 P **P** **09 54 05.0 -1.0**
comp=Z,2.0nm,0.7s,baz=282,slow=17,SNR=3.8
comp=Z,2.0nm,0.7s
QSPA South Pole Qui 57.69 180 P **P** **09 54 41.0 -0.1**
comp=Z,3.4nm,0.8s,baz=113,slow=2.1,SNR=12
comp=Z,3.4nm,0.8s
X48A Hartselle 68.17 346 P **P** **09 55 50.6 -0.2**
X48A IAmb IAmb 09 55 52.9
comp=Z,4.7nm,0.8s
TXAR Lajitas Array 68.59 330 P **P** **09 55 54.8 +1.1**
comp=Z,0.6nm,0.6s,baz=152,slow=8.1,SNR=11
comp=Z,0.6nm,0.6s
PLAL Pickwick Lake 68.90 346 IAmb IAmb 09 55 56.2
comp=Z,3.1nm,0.7s
CLTN Cedars of Leba 69.63 347 IAmb IAmb 09 56 01.0
comp=Z,3.7nm,0.8s
WVT Waverly 69.96 346 P **P** **09 56 01.3 -0.6**
BBTS Babate 70.63 57 LR LR 10 24 49.7
comp=Z,39nm,18.1s,baz=10,slow=34
LCAR Lake Charles 70.63 343 IAmb IAmb 09 56 07.0
comp=Z,4.2nm,0.6s
T47A Sharon Grove 70.64 347 IAmb IAmb 09 56 06.9
comp=Z,3.5nm,0.7s
CCM Cathedral Cave 72.55 344 P **P** **09 56 17.4 -0.1**
CCM IAmb IAmb 09 56 18.8
comp=Z,6.9nm,0.8s
R40A Maddies Statio 73.02 343 IAmb IAmb 09 56 21.4
comp=Z,6.1nm,0.8s
121A Cookes Peak, D 73.12 329 IAmb IAmb 09 56 24.0
comp=Z,4.6nm,0.9s
P40A Paris 74.14 344 P **P** **09 56 26.3 -0.6**
DBIC Dimbokro 74.49 71 P **P** **09 56 29.0 -0.5**
comp=Z,3.3nm,0.7s,baz=212,slow=8.1,SNR=3.8
comp=Z,3.3nm,0.7s
MAW Mawson 74.50 164 P **P** **09 56 29.2 +0.4**
comp=Z,1.8nm,0.5s,baz=233,slow=4.1,SNR=4.3
comp=Z,1.8nm,0.5s
SMCO Snowmass 78.49 333 IAmb IAmb 09 56 54.8
comp=Z,2.3nm,0.9s
ECSD EROS Data Cent 79.24 342 P **P** **09 56 55.2 -0.4**
ECSD IAmb IAmb 09 56 56.8
comp=Z,5.1nm,0.8s
BOSA Boshof 80.53 118 P **P** **09 57 03.1 -0.3**
comp=Z,2.7nm,0.7s,baz=252,slow=5.8,SNR=4.9
comp=Z,2.7nm,0.7s
PDAR Pinedale Array 82.58 333 P **P** **09 57 16.1 +2.3**
comp=Z,0.3nm,0.7s,baz=107,slow=5.8,SNR=2.6
comp=Z,0.3nm,0.7s
NVAR Mina Array Bea 82.83 325 P **P** **09 57 15.7 +0.5**
comp=Z,0.4nm,0.7s,baz=131,slow=8.1,SNR=4.8
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 83.49 70 P **P** **09 57 18.3 -0.6**
comp=Z,3.9nm,0.7s,baz=279,slow=4.3,SNR=22
comp=Z,3.9nm,0.7s
H11S2 WAKE ISLAND Hy 26.02 270 T T 12 22 49.9
baz=118,slow=75,SNR=223
H11S1 WAKE ISLAND Hy 26.03 270 T T 12 22 50.9
baz=118,slow=75,SNR=310
H11S3 WAKE ISLAND Hy 26.04 270 T T 12 22 53.2
baz=118,slow=75,SNR=245
H11N3 WAKE ISLAND Hy 26.40 271 T T 12 23 19.2
baz=112,slow=78,SNR=33
H11N1 WAKE ISLAND Hy 26.41 271 T T 12 23 20.2
baz=112,slow=78,SNR=13
H11N2 WAKE ISLAND Hy 26.41 272 T T 12 23 19.4
baz=112,slow=78,SNR=57
BVAR Borovoye Array 146.04 42 PKPbc **PKPbc** **10 04 30.2 +0.1**
comp=Z,2.4nm,0.7s,baz=347,slow=4.6,SNR=6.7
KURBB Kurchatov Arra 151.64 42 PKPbc **PKPbc** **10 04 44.5 -0.1**
comp=Z,3.4nm,0.7s,baz=300,slow=2.8,SNR=33
KURBB PKPab **PKPab** **10 04 53.6 +0.3**
comp=Z,0.6nm,0.5s,baz=303,slow=2.7,SNR=5.9
ZALV Zalesovo Beam 152.86 31 PKPbc **PKiKP** **10 04 47.2 -0.2**
comp=Z,3.9nm,0.6s,baz=306,slow=3.6,SNR=10
ZALV PKPab **sPKPbc** **10 04 56.0 -0.9**
comp=Z,1.1nm,0.4s,baz=276,slow=4.3,SNR=3.6
MKAR Makanchi Array 155.61 47 PKP **PKPdf** **10 04 44.8 +0.6**
comp=Z,0.1nm,0.5s,baz=273,slow=2.7,SNR=2.4
MKAR PKPab **PKPab** **10 05 10.0 -0.4**
comp=Z,1.1nm,0.7s,baz=287,slow=4.4,SNR=10.0

IDC 16 09:50:10.0±3.2, 53°.54N×87°.67E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=29.9km s-min=16.6km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**285**	I	I	10 01 00.0	
	baz=102,slow=316,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.74**	**285**	Pg	Pn	09 50 41.2	-0.3
	0.8nm,0.3s,baz=102,slow=17,SNR=4.6						
ZALV				Lg	Lg	09 51 05.4	
	1.7nm,0.3s,baz=100,slow=31,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.34**	**246**	Pn	Pn	09 51 45.8	+1.1
	baz=62,slow=14,SNR=2.8						
KURBB				Lg	Lg	09 53 29.4	
	baz=64,slow=32,SNR=1.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.58**	**209**	Pn	Pn	09 52 02.8	+1.1
	0.2nm,0.3s,baz=31,slow=12,SNR=7.0						
	0.4nm,0.3s						

IDC 16 09:50:18.6±1.8, 13°.22S×70°.35W, h0km, mb3.4/2, mbtmp3.5/4, ML3.5/2, MS3.7/1, Error ellipse:
s-maj=50.5km s-min=19.9km az=44.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.73**	**145**	Pn	Pn	09 51 18.4	+0.3
	2.3nm,0.3s,baz=327,slow=9.4,SNR=42						
LPAZ				Pg	Pb	09 51 25.9	+0.2
	7.4nm,0.3s,baz=318,slow=11,SNR=18						
LPAZ				Sn	Sn	09 52 04.6	+1.6
	1.9nm,0.3s,baz=2.6,slow=20,SNR=4.1						
LPAZ				Lg	Lg	09 52 13.2	
	9.2nm,0.3s,baz=16,slow=24,SNR=8.4						
	6.4nm,0.4s						
SIV	**San Ignacio**	**9.39**	**108**	Pn	Pn	09 52 37.1	+1.8
	0.1nm,0.3s,baz=287,slow=12,SNR=5.2						
SIV				Sn	Sn	09 54 25.0	+3.2
	baz=294,slow=19,SNR=2.7						
SIV				Lg	Lg	09 55 19.9	
	0.1nm,0.3s,baz=354,slow=20,SNR=2.2						
	1.0nm,0.3s						
TXAR	**Lajitas Array**	**53.15**	**323**	P	P	09 59 39.7	+1.1
	0.4nm,0.9s,baz=160,slow=8.4,SNR=3.8						
	0.4nm,0.9s						
ANMO	**Albuquerque**	**58.89**	**326**	LR	LR	10 28 36.3	
	comp=Z,64nm,18.1s,baz=228,slow=39						
TORD	**Torodi Ar. Bea**	**76.05**	**73**	P	P	10 02 06.7	-1.9
	0.3nm,0.6s,baz=251,slow=4.4,SNR=1.5						
	0.3nm,0.6s						

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*IDC **16** 09:53:08.8±3.2, 53°.54N×87°.82E, h0km, mbtmp3.1/2, ML3.0/1, Error ellipse: s-maj=28.6km s-min=14.5km az=66.0*
*NNC **16** 09:53:08.2±2.2, 53°.49N×87°.84E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=17.9km s-min=9.0km az=63.0, Suspected Mining explosion.*
ISC 16 09:53:08.2±3.1, 53°.6N±0°.1×87°.8E±0°.2, h0km, n9, σ1§05/14, 7C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.81**	**283**	⇑Pn	**Pn**	**09 53 40.5**	**0.0**
	0.8nm,0.4s						
ZAA0				⇑Sn	**Sg**	**09 54 06.6**	**+0.4**
	5.3nm,0.8s						
ZALV	**Zalesovo Beam**	**1.81**	**283**	Pg	**Pb**	**09 53 41.1**	**-1.0**
	3.2nm,0.3s,baz=100,slow=14,SNR=28						
ZALV				Lg	Lg	09 54 06.3	
	7.1nm,0.3s,baz=99,slow=24,SNR=19						
I46RU	**ZALESOVO INFRA**	**1.81**	**283**	I	I	10 05 00.0	
	0.1nm,0.8s,baz=98,slow=311,SNR=7.7						
KURK	**Kurchatov**	**6.34**	**247**	⇑Pn	**Pn**	**09 54 43.6**	**+0.9**
	0.8nm,0.4s						
KURK				⇑Sn	**Sn**	**09 55 56.7**	**+1.0**
	0.8nm,0.5s						
KURK				⇓Lg	Lg	09 56 29.5	
	7.7nm,1.0s						
KURBB	**Kurchatov Arra**	**6.43**	**246**	⇑Pn	**Pn**	**09 54 44.7**	**+0.7**
	2.4nm,0.4s						
KURBB				⇑Sn	**Sn**	**09 55 56.7**	**-1.4**
	2.7nm,0.5s						
KURBB				⇑Lg	Lg	09 56 31.4	
	12nm,0.8s						
MK31	**Makanchi Array**	**7.66**	**210**	⇓Pn	**Pn**	**09 55 01.3**	**+0.3**
	0.7nm,0.5s,baz=30,slow=13,SNR=3.9						
MK31				⇓Sn	**Sn**	**09 56 28.5**	**+0.1**
	0.5nm,0.5s						
MK31				⇓Lg	Lg	09 57 09.5	
	3.3nm,0.8s,baz=28,slow=28,SNR=12						
MKAR	**Makanchi Array**	**7.66**	**210**	Pn	**Pn**	**09 55 01.9**	**+1.0**
	0.2nm,0.3s,baz=28,slow=14,SNR=5.5						
MKAR				Sn	**Sn**	**09 56 27.8**	**-0.6**
	baz=29,slow=24,SNR=3.1						
MKAR				Lg	Lg	09 57 08.3	
	0.1nm,0.3s,baz=21,slow=33,SNR=3.6						
	0.4nm,0.4s						
MAKZ	**Makanchi**	**7.74**	**211**	⇓Pn	**Pn**	**09 55 03.2**	**+1.2**
	0.5nm,0.4s						
MAKZ				⇓Sn	**Sn**	**09 56 28.8**	**-1.6**
	0.4nm,0.4s						
MAKZ				⇓Lg	Lg	09 57 13.3	
	3.6nm,1.1s						
BVAR	**Borovoye Array**	**10.44**	**274**	Pn	**Pn**	**09 55 40.2**	**+1.2**
	0.6nm,0.6s,baz=79,slow=10,SNR=1.9						

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*HVO **16** 09:55:14.9±0.7, 19°.416N±0°.009×155°.278W±0°.007, h1km±3km, ML3.7/23, ML3.6/39(NEIC), Error ellipse: s-maj=1.3km s-min=0.9km az=182.0*
*NEIC **16** 09:55:15.7±1.1, 19°.410N±0°.010×155°.264W±0°.007, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.5km az=191.0*
*IDC **16** 09:55:17.1±14.0, 19°.91N×155°.08W, h0km, mb3.7/4, mbtmp3.7/4, MS3.2/1, Error ellipse: s-maj=301.8km s-min=47.7km az=34.0*
ISC 16 09:55:15.1±1.0, 19°.44N±0°.04×155°.28W±0°.03, h5km±5km, n36, σ0§86/33, mb3.9/4, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.02**	**181**		**Pg**	**09 55 16.1**	**-0.2**
SBLHI	**Steaming Bluff**	**0.02**	**149**		**Pg**	**09 55 16.4**	**+0.1**
RSD	**Rainshed**	**0.02**	**359**		**Pg**	**09 55 16.9**	**+0.6**
HATHI	**Halema'uma'u T**	**0.03**	**140**		**Pg**	**09 55 16.3**	**0.0**
OBL	**Observatory Le**	**0.03**	**194**		**Pg**	**09 55 16.1**	**-0.2**
UWE	**Uwekahuna**	**0.03**	**215**		**Pg**	**09 55 16.2**	**-0.1**
BYL	**Byron's Ledge**	**0.03**	**151**		**Pg**	**09 55 16.2**	**-0.1**
WRMHI	**West Rim**	**0.04**	**211**		**Pg**	**09 55 16.9**	**+0.5**
KKO	**Keanakako'i**	**0.04**	**166**		**Pg**	**09 55 16.9**	**+0.4**
RIM	**Rim**	**0.05**	**176**		**Pg**	**09 55 16.7**	**+0.2**
SDHHI	**Sand Hill**	**0.06**	**196**		**Pg**	**09 55 17.3**	**+0.7**
PUH	**Pauahi**	**0.09**	**139**		**Pg**	**09 55 17.6**	**+0.5**
MLH	**Mauna Loa**	**0.11**	**297**		**Pg**	**09 55 18.6**	**+1.1**
KNHH	**Kane Nui o Ham**	**0.12**	**121**		**Pg**	**09 55 18.0**	**+0.4**
HLP	**Hilina Pali**	**0.15**	**191**		**Pg**	**09 55 18.7**	**+0.6**
STCH	**Steam Cracks**	**0.15**	**111**		**Pg**	**09 55 18.7**	**+0.4**
STCH				IAML		09 55 22.4	
	comp=E,27μm,1.1s						
STCH				IAML		09 55 22.5	
	comp=N,21μm,0.7s						
NPOC	**North of Pu'u**	**0.17**	**107**		**Pg**	**09 55 18.8**	**+0.4**
NPOC					**Sg**	**09 55 22.0**	**+1.4**
HMH	**Humu'ula Sheep**	**0.25**	**310**		**Pg**	**09 55 21.2**	**+1.2**
HMH				IAML		09 55 27.8	
	comp=N,11μm,0.5s						
HMH				IAML		09 55 29.6	
	comp=E,10μm,0.5s						
JOKA	**Jonika Flow**	**0.26**	**92**		**Pg**	**09 55 20.6**	**+0.5**
JOKA				IAML		09 55 29.1	
	comp=E,10μm,1.3s						
MLOA	**Mauna Loa Obse**	**0.30**	**288**	Pg	**Pg**	**09 55 21.9**	**+1.0**
MLOA				IAML		09 55 29.6	
	comp=N,11μm,0.7s						
PAH	**Pahoa**	**0.32**	**80**		**Pg**	**09 55 22.2**	**+1.0**
PHO	**Puu Honuaula**	**0.37**	**84**		**Pg**	**09 55 23.0**	**+0.8**
KHU	**Kahuku**	**0.37**	**239**	Pg	**Pg**	**09 55 22.7**	**+0.3**
KHU				IAML		09 55 30.0	
	comp=E,6μm,0.7s						
KHU				IAML		09 55 30.7	
	comp=N,6μm,0.8s						
POHA	**Pohakuloa**	**0.40**	**323**	Pg	**Pg**	**09 55 24.0**	**+1.2**
HUH	**Hualalai**	**0.58**	**295**		**Pg**	**09 55 27.1**	**+0.9**
HPAH	**Hawaii Prepara**	**0.71**	**326**		**Pg**	**09 55 28.2**	**-0.5**
HPAH				IAML		09 55 53.7	
	comp=E,3μm,1.1s						
MHA	**Mahukona**	**0.95**	**322**	Pg	**Pg**	**09 55 31.5**	**-1.8**
HLK	**Haleakala**	**1.60**	**325**		**Pn**	**09 55 45.4**	**+1.2**
H11N3	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	10 39 18.2	
	baz=84,slow=74						
H11N2	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	10 39 18.5	
	baz=84						
H11N1	**WAKE ISLAND Hy**	**35.60**	**277**	T	T	10 39 19.6	
	baz=84,slow=74						
NVAR	**Mina Array Bea**	**37.16**	**51**	P	**P**	**10 02 26.3**	**-1.0**
	comp=E,0.3nm,0.8s,baz=249,slow=10,SNR=2.0						
	comp=E,0.3nm,0.8s						
LPIG	**La Paz**	**41.89**	**75**	LR	LR	10 18 19.1	
	comp=E,28nm,18.0s,baz=153,slow=33						
ILAR	**Eielson Array**	**45.65**	**5**	P	**P**	**10 03 35.8**	**-0.5**
	comp=E,1.0nm,0.9s,baz=194,slow=7.2,SNR=8.4						
	comp=E,1.0nm,0.9s						
TXAR	**Lajitas Array**	**47.70**	**68**	P	**P**	**10 03 53.2**	**+0.1**
	comp=E,1.6nm,0.9s,baz=256,slow=7.3,SNR=16						
	comp=E,1.6nm,0.9s						
INK	**Inuvik**	**50.73**	**10**	P	**P**	**10 04 13.6**	**-1.8**
	comp=E,1.9nm,0.8s,baz=226,slow=7.0,SNR=4.5						
	comp=E,1.9nm,0.8s						

RSNC 16 09:58:57.4±0.0, 9°N±2°×7°8W±°, h37km±10km, M2.5, mb4.3, ML2.5, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**1.13**	**118**	P	Pn	09 59 15.0	-1.7
CAPC				S	Sn	09 59 33.6	+2.7
BCIP	**Isla Barro Col**	**1.46**	**270**	P	Pn	09 59 19.3	-1.9
BCIP				S	Sn	09 59 36.7	-2.4
LCBC	**Los crdobas,**	**1.99**	**99**	P	Pn	09 59 27.8	-0.7
LCBC				S	Sn	09 59 49.3	-2.9
PTAC	**Punta Ardita,**	**2.08**	**165**	P	Pn	09 59 29.5	-0.3
PTAC				S	Sn	09 59 53.7	-0.8
APAC	**Apartado, Choc**	**2.17**	**125**	P	Pn	09 59 32.4	+1.5
APAC				S	Sn	10 00 02.4	+5.9
AZU	**Azuero**	**2.34**	**234**	P	Pn	09 59 30.8	-2.5
AZU				S	Sn	09 59 57.9	-2.8
UREC	**San Jos de Ur**	**3.13**	**117**	P	Pn	09 59 43.0	-1.2
UREC				S	Sn	10 00 17.6	-2.8
SJCC	**San Jacinto, C**	**3.22**	**77**	P	Pn	09 59 43.9	-1.6
SJCC				S	Sn	10 00 18.8	-3.8
ZARC	**Zaragoza, Cauc**	**3.84**	**115**	P	Pn	09 59 52.3	-1.8
PTBC	**PUERTO BERRIO,**	**4.67**	**124**	P	Pn	10 00 04.0	-1.4
GUY2C	**Guyana, Caldas**	**4.92**	**143**	P	Pn	10 00 09.4	+0.2

NNC 16 10:01:56.5±5.9, 37°.53N×71°.66E, h0km, mb3.7, mpv3.3, 5C-3D, Error ellipse: s-maj=47.7km s-min=41.8km az=139.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.55**	**22**	⇑P	Pn	10 03 20.2	-0.3
	2.4nm,0.3s						
AAK				⇓S	Sn	10 04 24.1	-0.9
	5.9nm,0.9s						
KK31	**Karatay Array**	**5.64**	**351**	⇑P	Pn	10 03 23.4	+1.9
	0.6nm,0.2s,baz=150,slow=11,SNR=28						
KK31				⇑S	Sn	10 04 27.8	+0.8
	6.1nm,0.6s,baz=186,slow=28,SNR=17						
CHMS	**Chumysh**	**5.95**	**22**	⇓P	Pn	10 03 25.0	-0.9
	1.7nm,0.4s						
CHMS				⇓S	Sn	10 04 36.4	+1.6
	2.3nm,0.6s						
TKM2	**Tokmak 2**	**6.17**	**28**	⇑P	Pn	10 03 28.1	-1.0
	0.6nm,0.4s						
TKM2				⇑S	Sn	10 04 44.2	+3.7
	1.2nm,0.9s						

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*IDC **16** 10:09:20.3±0.7, 14°.38N×122°.29E, h0km, mb3.9/16, mbtmp3.9/16, MS3.7/27, Error ellipse: s-maj=27.1km s-min=15.5km az=72.0*
*NEIC **16** 10:09:27.2±1.6, 14°.39N±0°.08×122°.1E±0°.2, h40km±9km, mb4.3/15, Error ellipse: s-maj=25.6km s-min=11.4km az=86.0*
ISC 16 10:09:23.9±0.6, 14°.37N±0°.07×122°.2E±0°.1, h22km, n57, σ1§10/42, mb4.0/21, MS3.7/24, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**7.98**	**155**	LR	LR	10 15 16.5	
	comp=Z,616nm,21.3s,baz=8.5,slow=45						
TPUB	**Ta-pu**	**9.01**	**351**	Pn	**Pn**	**10 11 33.1**	**+0.5**
YULB	**Yu-li**	**9.01**	**355**	Pn	**Pn**	**10 11 33.6**	**+0.8**
SSLB	**Suanglung**	**9.44**	**353**	Pn	**Pn**	**10 11 38.9**	**+0.2**
YOJ	**Yonaguni jima**	**10.06**	**4**	Pn	**Pn**	**10 11 48.7**	**+1.6**
TOLI2	**Tolitoli**	**13.25**	**186**	Pn	**Pn**	**10 12 32.0**	**+1.2**
JOW	**Kunigami**	**13.63**	**24**	LR	LR	10 17 17.8	
	comp=Z,220nm,21.7s,baz=161,slow=35						
SBUM	**Sibu**	**15.42**	**221**	P	**P**	**10 13 03.9**	**-0.7**
KAPI	**Kappang**	**19.42**	**187**	LR	LR	10 21 16.2	
	comp=Z,121nm,19.1s,baz=353,slow=37						
GUMO	**Guam**	**22.00**	**89**	LR	LR	10 22 19.6	
	comp=Z,90nm,19.1s,baz=266,slow=36						
JCJ	**Chichijima**	**22.52**	**53**	LR	LR	10 21 13.1	
	comp=Z,129nm,21.2s,baz=300,slow=32						
CMAR	**Chiang Mai Arr**	**22.68**	**283**	P	**P**	**10 14 25.6**	**+1.5**
	3.4nm,0.8s,baz=95,slow=7.9,SNR=17						
CMAR				LR	LR	10 23 23.4	
	comp=Z,158nm,18.4s,baz=100,slow=37						
	3.4nm,0.8s						
KSRS	**Korea Array**	**23.54**	**11**	P	**P**	**10 14 33.5**	**+0.9**
	1.9nm,0.7s,baz=196,slow=11,SNR=9.3						
KSRS				LR	LR	10 24 11.4	
	comp=Z,79nm,18.6s,baz=200,slow=38						
	1.9nm,0.7s						
JHJ	**Hachijo jima 2**	**24.57**	**38**	LR	LR	10 22 57.5	
	comp=Z,175nm,19.4s,baz=282,slow=33						
JHJ2	**Mitsune**	**24.58**	**38**	P	**P**	**10 14 42.9**	**+0.5**
MJAR	**Matsushiro Arr**	**26.30**	**30**	P	**P**	**10 14 58.1**	**+0.1**
	0.6nm,0.4s,baz=186,slow=10,SNR=2.3						
MJAR				LR	LR	10 24 35.5	
	comp=Z,58nm,19.6s,baz=218,slow=35						
	0.6nm,0.4s						
USA0B	**Ussuriysk Arra**	**30.88**	**14**	P	**P**	**10 15 37.5**	**-1.1**
USA0B				IAmb	IAmb	10 15 51.4	
	comp=Z,7.6nm,1.1s						
USRK	**Ussuriysk Ar.**	**30.88**	**14**	P	**P**	**10 15 38.6**	**0.0**
	comp=Z,2.0nm,0.8s,baz=231,slow=12,SNR=4.7						
	comp=Z,2.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**32.44**	**174**	P	**P**	**10 15 52.9**	**+0.3**
ERM	**Erimo**	**32.97**	**29**	P	**P**	**10 15 58.3**	**+1.3**
SONM	**Songino Array**	**35.85**	**342**	P	**P**	**10 16 22.6**	**+0.4**
SONM				IAmb	IAmb	10 16 28.9	
	comp=Z,3.7nm,1.0s						
SONM	**Songino Array**	**35.85**	**342**	P	**P**	**10 16 22.4**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=160,slow=10,SNR=11						
SONM				LR	LR	10 32 10.5	
	comp=Z,156nm,19.4s,baz=156,slow=38						
	comp=Z,1.8nm,0.6s						
WB0	**Warramunga Arr**	**35.98**	**160**	P	**P**	**10 16 22.0**	**-1.3**
WRAB	**Tennant Creek**	**36.12**	**160**	P	**P**	**10 16 24.0**	**-0.6**
WRAB				IAmb	IAmb	10 16 27.8	
	comp=Z,8.4nm,1.1s						
WRA	**Warramunga Arr**	**36.13**	**160**	P	**P**	**10 16 24.0**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=338,slow=9.8,SNR=13						
	comp=Z,2.6nm,0.8s						
WB2	**Warramunga Arr**	**36.13**	**160**	P	**P**	**10 16 24.6**	**0.0**
WB2				IAmb	IAmb	10 16 28.3	
	comp=Z,5.0nm,0.9s						
AS31	**Alice Springs**	**39.50**	**163**	P	**P**	**10 16 54.9**	**+1.8**
ASAR	**Alice Springs**	**39.50**	**163**	P	**P**	**10 16 54.9**	**+1.8**
ASAR	**Alice Springs**	**39.50**	**163**	P	**P**	**10 16 53.8**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=342,slow=7.2,SNR=13						
ASAR				PcP	**PcP**	**10 18 59.1**	**-1.5**
	comp=Z,0.8nm,1.0s,baz=332,slow=3.1,SNR=1.6						
ASAR				LR	LR	10 33 36.9	
	comp=Z,106nm,19.4s,baz=335,slow=37						
	comp=Z,0.8nm,0.8s						
MK31	**Makanchi Array**	**46.38**	**322**	P	**P**	**10 17 49.5**	**+0.8**
MK31				IAmb	IAmb	10 17 54.4	
	comp=Z,2.2nm,1.0s						
MKAR	**Makanchi Array**	**46.38**	**322**	P	**P**	**10 17 48.7**	**+0.1**
	comp=Z,

BVAR	**Borovoye Array**	**56.05**	**325**	P		**P**	**10 19 00.2**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=91,slow=7.5,SNR=1.8							
BVAR				LR		LR	10 44 58.9	
	comp=Z,74nm,19.1s,baz=120,slow=38							
	comp=Z,0.5nm,0.4s							
DZM	**Mont Dzumac**	**56.50**	**129**	LR		LR	10 42 31.3	
	comp=Z,56nm,19.3s,baz=36,slow=35							
TIXI	**Tiksi**	**57.39**	**2**	LR		LR	10 47 10.3	
	comp=Z,184nm,18.4s,baz=216,slow=40							
ABKAR	**Akbulak array**	**61.20**	**319**	P		**P**	**10 19 35.7**	**-1.3**
AKTO	**Aktyubinsk**	**62.65**	**320**	LR		LR	10 48 23.9	
	comp=Z,131nm,18.6s,baz=338,slow=37							
ARU	**Arti**	**63.64**	**326**	LR		LR	10 46 48.9	
	comp=Z,62nm,19.1s,baz=109,slow=35							
KIRV	**Kirov**	**68.88**	**328**	LR		LR	10 51 39.2	
	comp=Z,71nm,19.6s,baz=94,slow=37							
KDAK	**Kodiak Island**	**75.42**	**33**	LR		LR	10 57 41.0	
	comp=Z,26nm,19.0s,baz=235,slow=38							
ILAR	**Eielson Array**	**77.51**	**26**	P		**P**	**10 21 15.7**	**-1.9**
	comp=Z,0.3nm,0.9s,baz=245,slow=3.5,SNR=2.5							
	comp=Z,0.3nm,0.9s							
ARCES	**ARCESS Array B**	**78.98**	**339**	LR		LR	11 02 02.9	
	comp=Z,69nm,18.1s,baz=25,slow=40							
SPITS	**Spitsbergen Ar**	**79.23**	**348**	P		**P**	**10 21 27.2**	**+0.2**
	comp=Z,9.7nm,0.9s,baz=20,slow=4.6,SNR=2.8							
SPITS				LR		LR	11 01 30.2	
	comp=Z,56nm,18.9s,baz=28,slow=40							
	comp=Z,9.7nm,0.9s							
BALJ	**Balqa**	**79.65**	**301**	P		**P**	**10 21 29.6**	**-0.5**
FINES	**FINESS Array B**	**80.41**	**331**	P		**P**	**10 21 35.6**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=39,slow=7.1,SNR=1.4							
	comp=Z,0.4nm,0.7s							
HFS	**Hagfors**	**86.59**	**332**	P		**P**	**10 22 04.2**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=90,slow=5.8,SNR=1.8							
	comp=Z,1.1nm,0.8s							
NOA	**NORSAR Array B**	**87.33**	**333**	P		**P**	**10 22 08.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=49,slow=2.1,SNR=2.9							
NOA				LR		LR	11 05 35.8	
	comp=Z,54nm,18.0s,baz=55,slow=39							
	comp=Z,0.2nm,0.5s							

*IDC **16** 10:29:51.6±0.7, 35°.55S×73°.15W, h0km, mb4.1/11, mbtmp4.0/15, ML3.8/4, MS4.4/24, Error ellipse: s-maj=27.2km s-min=14.3km az=84.0*
*GUC **16** 10:29:52.4±0.6, 35°.53S×73°.53W, h32km±2km, ML4.5*
*NEIC **16** 10:29:54.0±1.3, 35°.53S±0°.05×73°.32W±0°.07, h10km±4km, mb4.8/57, Mwr4.8(GUC), Error ellipse: s-maj=8.6km s-min=7.4km az=103.0*
*VAO **16** 10:29:53.7±0.7, 35°.60S×73°.29W, h10km, mb4.6*
*GCMT **16** 10:29:55.0±0.3, 35°.65S±0°.02×73°.60W±0°.03, h16km±1km, MW5.1/93, Moment Tensor Solution. s33,c37; s93,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.63±.17; $M_{\theta\theta}$-0.03±.09; $M_{\phi\phi}$-2.60±.12; $M_{r\theta}$-0.40±.27; $M_{\theta\phi}$-0.94±.07; $M_{\phi r}$-4.46±.59; Best double couple: $M_0$5.26800×10^{16} NP1:ϕ±187.00000°, δ74.00000°, λ83.00000°. NP2: ϕ±31.00000°, δ17.00000°, λ113.00000°. Principal axes: T 5.1880, Plg60.0000°, Azm87.0000°; N 0.1570, Plg7.0000°, Azm189.0000°; P -5.3480, Plg29.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 10:29:56.0±1.0, 35°.54S±0°.03×73°.52W±0°.03, h31km±7km, n191, σ2$10/187, mb4.7/35, MS4.3/22, 19C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.40**	**68**		**Pn**	**10 30 16.4**	**-3.1**
GO05	**Huala**	**1.40**	**68**	⇑*i*P	**Pn**	**10 30 15.8**	**-3.6**
GO05				*i* S	**Sn**	**10 30 34.0**	**-2.8**
BO03	**Pichilemu**	**1.65**	**51**	*e*P	**Pn**	**10 30 19.6**	**-3.1**
BO03				*i* S	**Sn**	**10 30 40.3**	**-2.5**
BO03				IAML		10 30 52.8	
	comp=E,5μm,0.6s						
ML02	**Panimavida**	**1.72**	**98**		**Pn**	**10 30 21.5**	**-2.3**
ML02	**Panimavida**	**1.72**	**98**	*i* P	**Pn**	**10 30 21.1**	**-2.7**
ML02				*i* S	**Sn**	**10 30 43.3**	**-1.4**
ML02				IAML		10 30 50.3	
	comp=N,13μm,0.4s						
BI02	**San Fabin de**	**2.13**	**122**	⇑*e*P	**Pn**	**10 30 26.8**	**-2.7**
BI02				*i* S	**Sn**	**10 30 53.5**	**-1.5**
BI02				IAML		10 31 03.3	
	comp=E,3μm,0.4s						
BO01	**Tunca**	**2.30**	**61**	Pn	**Pn**	**10 30 29.8**	**-2.0**
BO01	**Tunca**	**2.30**	**61**	⇑*e*P	**Pn**	**10 30 29.2**	**-2.5**
BO01				*i* S	**Sn**	**10 30 56.9**	**-2.1**
BO01				IAML		10 31 12.1	
	comp=N,2μm,0.5s						
BO02	**Sierra Bellavi**	**2.36**	**72**		**Pn**	**10 30 30.9**	**-1.7**
BO02	**Sierra Bellavi**	**2.36**	**72**	⇑*e*P	**Pn**	**10 30 30.1**	**-2.5**
BO02				*i* S	**Sn**	**10 30 59.0**	**-1.6**
BO02				IAML		10 31 11.7	
	comp=N,7μm,0.5s						
VA05	**Santo Domingo**	**2.45**	**40**		**Pn**	**10 30 31.6**	**-2.2**
VA05	**Santo Domingo**	**2.45**	**40**	⇑*e*P	**Pn**	**10 30 31.0**	**-2.8**
VA05				*i* S	**Sn**	**10 30 59.9**	**-2.7**
VA05				IAML		10 31 26.8	
	comp=N,3μm,0.4s						
MT01	**Popeta**	**2.50**	**49**		**Pn**	**10 30 32.1**	**-2.5**
MT01	**Popeta**	**2.50**	**49**	⇑*e*P	**Pn**	**10 30 31.8**	**-2.7**
MT01				*i* S	**Sn**	**10 31 00.8**	**-3.2**
MT01				IAML		10 31 26.4	
	comp=N,2μm,0.1s						
MT09	**Talagante**	**2.73**	**51**		**Pn**	**10 30 35.8**	**-1.9**
MT09	**Talagante**	**2.73**	**51**	⇑*e*P	**Pn**	**10 30 34.9**	**-2.8**
MT09				*i* S	**Sn**	**10 31 07.7**	**-2.0**
MT09				IAML		10 31 32.7	
	comp=N,3μm,0.5s						
BO04	**La Punta**	**2.85**	**58**		**Pn**	**10 30 37.7**	**-1.6**
BI04	**Isla Mocha**	**2.88**	**186**	*e*P	**Pn**	**10 30 37.1**	**-2.6**
BI04				*i* S	**Sn**	**10 31 08.5**	**-4.8**
BI04				IAML		10 31 14.8	
	comp=N,2μm,0.5s						
VA01	**Torpederas**	**2.95**	**32**		**Pn**	**10 30 38.5**	**-2.1**
MT02	**Curacav**	**3.01**	**42**		**Pn**	**10 30 39.4**	**-2.1**
MT02	**Curacav**	**3.01**	**42**	*e*P	**Pn**	**10 30 38.7**	**-2.8**
MT02				*i* S	**Sn**	**10 31 13.5**	**-3.0**
MT12	**Pirque**	**3.04**	**54**	⇑*i*P	**Pn**	**10 30 39.6**	**-2.3**
MT12				*i* S	**Sn**	**10 31 15.9**	**-1.4**
MT05	**Renca**	**3.14**	**48**	Pn	**Pn**	**10 30 42.6**	**-0.7**
MT05	**Renca**	**3.14**	**48**	⇑*e*P	**Pn**	**10 30 42.2**	**-1.1**
MT05				*i* S	**Sn**	**10 31 15.6**	**-4.2**
LMEL	**Las Melosas**	**3.21**	**59**		**Pn**	**10 30 43.4**	**-1.0**
LMEL	**Las Melosas**	**3.21**	**59**	⇑*e*P	**Pn**	**10 30 42.2**	**-2.2**
LMEL				*i* S	**Sn**	**10 31 19.6**	**-2.1**
LMEL				IAML		10 31 42.0	
	comp=N,640nm,0.6s						
MT13	**San Alfonso**	**3.21**	**57**		**Pn**	**10 30 43.0**	**-1.4**
MT13	**San Alfonso**	**3.21**	**57**	⇑*e*P	**Pn**	**10 30 42.3**	**-2.1**
MT13				*i* S	**Sn**	**10 31 19.6**	**-2.0**
MT13				IAML		10 31 39.0	
	comp=E,1μm,0.4s						
MT03	**Universidad Ad**	**3.21**	**51**		**Pn**	**10 30 42.9**	**-1.5**
MT03	**Universidad Ad**	**3.21**	**51**	*e*P	**Pn**	**10 30 42.1**	**-2.3**
MT03				*i* S	**Sn**	**10 31 18.8**	**-2.9**
MT03				IAML		10 31 42.2	
	comp=N,1μm,0.8s						
LC02	**Puerto Saavedr**	**3.25**	**178**	Pn	**Pn**	**10 30 45.2**	**+0.5**
LC02	**Puerto Saavedr**	**3.25**	**178**	*e*P	**Pn**	**10 30 42.3**	**-2.4**
LC02				*i* S	**Sn**	**10 31 19.5**	**-2.8**
MT16	**CCHEN**	**3.25**	**50**		**Pn**	**10 30 43.3**	**-1.5**
MT16	**CCHEN**	**3.25**	**50**	⇑*e*P	**Pn**	**10 30 42.8**	**-2.0**
MT14	**Cerro Calı¡n**	**3.26**	**50**	⇑*e*P	**Pn**	**10 30 42.9**	**-2.2**
MT14				*i* S	**Sn**	**10 31 22.4**	**-0.4**
MT14				IAML		10 31 45.8	
	comp=N,2μm,0.7s						
ROCH	**El Roble**	**3.30**	**40**	⇑*e*P	**Pn**	**10 30 43.4**	**-2.3**
ROCH				*i* S	**Sn**	**10 31 21.6**	**-2.3**
MT10	**Hacienda Santa**	**3.34**	**48**	*e*P	**Pn**	**10 30 44.2**	**-2.1**
MT10				*i* S	**Sn**	**10 31 22.4**	**-2.6**
MT10				IAML		10 32 07.2	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**3.35**	**45**		**Pn**	**10 30 44.8**	**-1.4**
PEL	**Peldehue**	**3.35**	**45**	⇑*e*P	**Pn**	**10 30 44.2**	**-2.0**
PEL				*i* S	**Sn**	**10 31 23.2**	**-1.6**
FCH	**Farellones**	**3.46**	**51**	⇑*e*P	**Pn**	**10 30 46.0**	**-2.0**
FCH				*i* S	**Sn**	**10 31 26.4**	**-1.7**
FCH				IAML		10 31 52.9	
	comp=E,419nm,0.5s						
VA06	**Catapilco**	**3.50**	**32**	*e*P	**Pn**	**10 30 45.5**	**-2.7**
VA06				*i* S	**Sn**	**10 31 24.7**	**-3.8**
VA06				IAML		10 31 59.3	
	comp=E,1μm,0.4s						
VA03	**San Esteban**	**3.70**	**42**	⇑*e*P	**Pn**	**10 30 49.0**	**-2.1**
VA03				*i* S	**Sn**	**10 31 31.4**	**-2.3**
LR03	**Panguipulli**	**4.19**	**168**		**Pn**	**10 30 56.4**	**-1.4**
LR03	**Panguipulli**	**4.19**	**168**	*e*P	**Pn**	**10 30 55.6**	**-2.1**
LR03				*i* S	**Sn**	**10 31 40.4**	**-5.2**
GO06	**Curarrehue**	**4.35**	**159**	Pn	**Pn**	**10 30 59.0**	**-1.0**
GO06	**Curarrehue**	**4.35**	**159**	⇓*e*P	**Pn**	**10 30 58.3**	**-1.8**
GO06				*i* S	**Sn**	**10 31 45.0**	**-4.7**
H03S1	**Juan Fernandez**	**4.75**	**289**	Pn	**Pn**	**10 31 04.5**	**-0.7**
	baz=72,slow=13						
H03S1				Sn	Sn	10 31 53.4	-5.7
H03S1				T	T	10 35 57.1	
	baz=111,slow=73,SNR=1525						
H03S3	**Juan Fernandez**	**4.76**	**290**	Pn	**Pn**	**10 31 05.7**	**+0.4**
	baz=72,slow=13						
H03S3				Sn	Sn	10 31 53.8	-5.5
H03S3				T	T	10 36 00.9	
	baz=111,slow=73,SNR=1637						
H03S2	**Juan Fernandez**	**4.77**	**289**	Pn	**Pn**	**10 31 05.2**	**-0.3**
	baz=72,slow=13						
H03S2				Sn	Sn	10 31 53.4	-6.1
H03S2				T	T	10 36 00.5	
	baz=111,slow=73,SNR=1877						
VA04	**Juan Ferndez**	**4.78**	**292**	Pn	**Pn**	**10 31 05.9**	**+0.1**
VA04	**Juan Ferndez**	**4.78**	**292**	*e*P	**Pn**	**10 31 04.5**	**-1.2**
VA04				*i* S	**Sn**	**10 31 56.0**	**-4.0**
LR05	**Currie**	**4.83**	**166**		**Pn**	**10 31 06.1**	**-0.4**
H03N1	**Juan Fernandez**	**4.92**	**294**	Pn	**Pn**	**10 31 07.9**	**+0.3**
	baz=294,slow=74						
H03N1				Sn	**Sn**	**10 31 59.1**	**-4.2**
H03N1				T	T	10 36 20.6	
	baz=155,slow=76,SNR=160						
H03N3	**Juan Fernandez**	**4.93**	**293**	Pn	**Pn**	**10 31 07.9**	**+0.3**
	baz=94,slow=74						
H03N3				Sn	Sn	10 31 59.1	-4.3
H03N3				T	T	10 36 18.7	
	baz=155,slow=76,SNR=172						
H03N2	**Juan Fernandez**	**4.94**	**294**	Pn	**Pn**	**10 31 08.1**	**+0.3**
H03N2				Sn	**Sn**	**10 31 59.4**	**-4.3**
	baz=313,slow=74						
H03N2				T	T	10 36 19.1	
	baz=155,slow=76,SNR=116						
CO06	**Fray Jorge**	**5.10**	**19**	⇑*e*P	**Pn**	**10 31 07.4**	**-2.9**
CO06				*i* S	**Sn**	**10 32 01.5**	**-6.7**
PLCA	**Paso Flores**	**5.69**	**157**	Pn	**Pn**	**10 31 17.9**	**-0.4**
PLCA	**Paso Flores**	**5.69**	**157**	Pn	**Pn**	**10 31 16.5**	**-1.8**
	comp=E,1.7nm,0.3s,baz=328,slow=10,SNR=28						
PLCA				Lg	Lg	10 32 49.9	
	comp=E,1.7nm,0.3s,baz=250,slow=20,SNR=3.0						
	comp=E,4.1nm,0.3s						
PLCA	**Paso Flores**	**5.69**	**157**	*e*P	**Pn**	**10 31 16.2**	**-2.1**
LCO	**Las Campanas**	**6.93**	**21**	Pn	**Pn**	**10 31 34.2**	**-1.5**
TRQA	**Tornquist**	**9.59**	**109**		**Pn**	**10 32 10.1**	**-1.8**
AY02	**Valle Explorad**	**10.94**	**179**		**Pn**	**10 32 30.2**	**0.0**
AY03	**Cochrane**	**11.72**	**177**		**Pn**	**10 32 40.0**	**-1.0**
LPA	**La Plata**	**12.76**	**92**	*e*P	Pn	10 32 48.5	-6.7
LPA	**La Plata**	**12.76**	**92**	PN	Pn	10 32 50.2	-5.0
LPA				pP	P	10 32 56.0	-10
LPA				sP		10 33 02.9	
LPA				PP	**PnPn**	**10 33 09.4**	**+6.4**
LPA				pPP		10 33 22.2	
LPA				PPP	PPP	10 33 34.9	
LPA				S	**Sn**	**10 35 14.0**	**-2.1**
LPA	**La Plata**	**12.76**	**92**	SN	**Sn**	**10 35 20.2**	**+4.1**
LPA				sS		10 35 27.0	
LPA				SS	SnSn	10 35 46.1	+18
LPA				SSS	SSS	10 36 27.0	
LPA				PCP	**PcP**	**10 38 31.3**	**+1.1**
LPA				SCS	**ScS**	**10 45 33.6**	**-3.8**
LPA				PKIKP	**PKiKP**	**10 46 24.9**	**-2.5**
LPA				SKIKP		10 49 59.2	
LPA				PKIKS		10 50 04.2	
LPA				SKIKS		10 53 42.4	
LVC	**Limon Verde**	**13.50**	**19**	Pn	**Pn**	**10 33 03.5**	**-2.2**
LVC	**Limon Verde**	**13.50**	**19**	Pn	**Pn**	**10 33 03.8**	**-1.8**
	comp=E,0.3nm,0.3s,baz=152,slow=15,SNR=1.2						
LVC				Lg	Lg	10 36 36.5	
	comp=E,0.3nm,0.3s,baz=295,slow=17,SNR=3.3						
LVC				LR	LR	10 38 59.5	
	comp=E,2μm,18.0s,baz=208,slow=41						
	comp=E,1.3nm,0.5s						
PATCX	**Punta Patache**	**14.96**	**12**	P	**P**	**10 33 31.2**	**+0.7**
TA01	**Diego Aracena**	**15.20**	**12**	P	**P**	**10 33 32.2**	**-0.9**
ITQB	**Itaqui**	**15.38**	**72**	P	**Pn**	**10 33 32.7**	**+1.9**
ITQB				IAmb	IAmb	10 33 35.1	
	comp=Z,46nm,1.3s						
GO09	**Cerro Castillo**	**15.75**	**177**	P	**P**	**10 33 37.9**	**-1.1**
PB11	**IPOC Station P**	**16.08**	**13**	P	**P**	**10 33 43.5**	**+0.4**
MG05	**Puerto Natales**	**16.15**	**178**	Pn	**Pn**	**10 33 40.0**	**-0.4**
GO01	**Chusmiza**	**16.27**	**15**	Pn	**Pn**	**10 33 42.4**	**-0.2**
CPUP	**Villa Florida**	**16.63**	**61**	P	**Pn**	**10 33 47.2**	**+0.5**
CPUP	**Villa Florida**	**16.63**	**61**	Pn	**Pn**	**10 33 43.7**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=193,slow=3.2,SNR=2.8						
CPUP				Lg	Lg	10 38 17.4	
	comp=Z,0.1nm,0.3s,baz=159,slow=19,SNR=2.3						
CPUP				LR	LR	10 39 43.8	
	comp=Z,655nm,19.1s,baz=238,slow=36						
	comp=Z,1.6nm,0.8s						
PB18	**Visviri**	**18.24**	**12**	P	**P**	**10 34 08.1**	**+0.8**
CRSM	**Crissiumal (Br**	**18.42**	**70**	*e*P	**P**	**10 34 08.2**	**-0.5**
LPAZ	**La Paz**	**19.77**	**15**	Pn	**P**	**10 34 25.2**	**+1.1**
LPAZ	**La Paz**	**19.77**	**15**	P	**P**	**10 34 24.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=188,slow=11,SNR=5.6						
LPAZ				S	**S**	**10 38 04.9**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=185,slow=13,SNR=1.0						
	comp=Z,2.4nm,0.9s						
LPAZ	**La Paz**	**19.77**	**15**	*e*P	**P**	**10 34 25.2**	**+1.1**
ITAB	**Concordia**	**20.02**	**72**	*e*P	**P**	**10 34 24.7**	**-1.5**
PTGB	**Pitanga**	**21.42**	**66**	*e*P	**P**	**10 34 39.4**	**-2.0**
BBSD	**Serra de San D**	**21.59**	**35**	*e*P	**P**	**10 34 41.4**	**-1.8**
AQDB	**Aquidauana**	**21.69**	**51**	P	**P**	**10 34 42.9**	**-1.4**
AQDB				IAmb	IAmb	10 34 52.2	
	comp=Z,42nm,1.1s						
AQDB	**Aquidauana**	**21.69**	**51**	*e*P	**P**	**10 34 42.9**	**-1.4**
TRCB	**Terra Rica**	**22.16**	**61**	P	**P**	**10 34 48.2**	**-1.2**
TRCB	**Terra Rica**	**22.16**	**61**	*e*P	**P**	**10 34 49.7**	**+0.2**
SIV	**San Ignacio**	**22.42**	**33**	LR	LR	10 45 15.7	
	comp=Z,3μm,18.6s,baz=226,slow=42						
LDASE	**Londrina, Braz**	**22.89**	**64**	*e*P	**P**	**10 34 55.3**	**-1.9**
NNA	**Nana**	**23.64**	**352**	LR	LR	10 41 53.8	
	comp=Z,496nm,21.6s,baz=178,slow=30						
PTLB	**Pontes e Lacer**	**23.79**	**36**	P	**P**	**10 35 04.9**	**-1.1**
PTLB				IAmb	IAmb	10 35 18.7	
	comp=Z,73nm,1.6s						
PTLB	**Pontes e Lacer**	**23.79**	**36**	*e*P	**P**	**10 35 04.8**	**-1.2**
FRTB	**Fartura**	**24.07**	**66**	*e*P	**P**	**10 35 08.6**	**0.0**
SALV	**Santo Antonio**	**25.23**	**44**	*e*P	**P**	**10 35 18.7**	**-0.4**
VILB	**Vilhena**	**25.50**	**31**	P	**P**	**10 35 20.4**	**-1.3**
VILB	**Vilhena**	**25.50**	**31**	*e*P	**P**	**10 35 21.2**	**-0.4**
SPB	**Sao Paulo**	**25.54**	**69**	P	**P**	**10 35 20.0**	**-1.9**
SPB	**Sao Paulo**	**25.54**	**69**	*e*P	**P**	**10 35 21.9**	**-0.1**
ITRB	**Iturama**	**25.79**	**58**	*e*P	**P**	**10 35 24.4**	**+0.2**
BB19B	**Bebedouro**	**26.21**	**63**	*e*P	**P**	**10 35 28.0**	**-0.1**
VAO	**Valinhos**	**26.22**	**69**	P	**P**	**10 35 28.2**	**0.0**
VAO	**Valinhos**	**26.22**	**69**	*e*P	**P**	**10 35 28.0**	**-0.2**
ETMB	**Extrema**	**26.46**	**16**	P	**P**	**10 35 30.3**	**+0.1**
ETMB				IAmb	IAmb	10 35 36.0	
	comp=Z,27nm,1.1s						
ETMB	**Extrema**	**26.46**	**16**	*e*P	**P**	**10 35 31.5**	**+1.3**
SAML	**Samuel**	**28.10**	**22**	P	**P**	**10 35 44.9**	**-0.2**
PDRB	**Porto dos Gac**	**28.27**	**37**	*e*P	**P**	**10 35 46.4**	**-0.1**
ATAH	**Atahualpa**	**28.62**	**350**	LR	LR	10 45 19.3	
	comp=Z,183nm,18.2s,baz=184,slow=32						
PMSA	**Palmer Station**	**29.82**	**172**	LR	LR	10 48 16.8	
	comp=Z,1μm,18.0s,baz=341,slow=37						
BDFB	**Brasilia**	**30.20**	**56**	P	**P**	**10 36 02.1**	**-1.8**
BDFB				IAmb	IAmb	10 36 10.8	
	comp=Z,25nm,1.5s						
BDFB	**Brasilia**	**30.20**	**56**	P	**P**	**10 36 00.3**	**-3.5**
	comp=Z,0.8nm,0.3s,baz=286,slow=9.5,SNR=1.5						
BDFB				LR	LR	10 50 10.9	
	comp=Z,766nm,22.0s,baz=224,slow=41						
	comp=Z,0.8nm,0.3s						
TBTG	**Tabatinga, AM**	**31.38**	**7**	P	**P**	**10 36 15.2**	**+1.1**
NPGB	**Novo Progresso**	**32.89**	**35**	*e*P	**P**	**10 36 26.9**	**-0.5**
TEFE	**Tefe**	**32.92**	**16**	*e*P	**P**	**10 36 29.4**	**+1.9**
JANB	**Januaria**	**33.16**	**60**	*e*P	**P**	**10 36 28.8**	**-1.0**
MACA	**Manacapuru-AM**	**34.34**	**23**	P	**P**	**10 36 39.3**	**-0.7**
MACA				IAmb	IAmb	10 36 48.9	
	comp=Z,14nm,0.8s						
MACA	**Manacapuru-AM**	**34.34**	**23**	*e*P	**P**	**10 36 40.6**	**+0.7**
ITTB	**Itaituba**	**35.10**	**32**	*e*P	**P**	**10 36 46.3**	**-0.3**
ANTS	**Antisana-Sarah**	**35.13**	**352**	P	**P**	**10 36 45.9**	**-1.5**
BAUV	**El Baul**	**44.54**	**8**	P	**P**	**10 38 04.9**	**-0.1**
MDP	**Montagnes des**	**44.93**	**30**	LR	LR	10 58 50.1	
	comp=Z,1μm,19.0s,baz=201,slow=39						
RCBR	**Riachuelo**	**45.48**	**58**	LR	LR	10 58 01.1	
	comp=Z,371nm,18.6s,baz=202,slow=37						
BELA	**Belgrano 2**	**45.59**	**169**	P	**P**	**10 38 13.6**	**+1.0**
PCRV	**Puerto La Cruz**	**46.24**	**12**	LR	LR	10 58 51.7	
	comp=Z,788nm,20.6s,slow=38						
SNAA	**Sanae**	**50.63**	**157**	P	**P**	**10 38 52.3**	**+0.6**
SNAA	**Sanae**	**50.63**	**157**	⇓P	**P**	**10 38 53.0**	**+1.3**
	comp=Z,225nm,1.3s						
SNAA	**Sanae**	**50.63**	**157**	P	**P**	**10 38 50.9**	**-0.8**
	comp=Z,18nm,1.2s,baz=282,slow=6.1,SNR=11						
SNAA				LR	LR	11 00 00.2	
	comp=Z,386nm,19.1s,baz=252,slow=36						
	comp=Z,18nm,1.2s						
TROLL	**Troll, Antarti**	**52.33**	**158**	⇑P	**P**	**10 39 04.9**	**+0.4**
	comp=Z,78nm,0.6s						
QSPA	**South Pole Qui**	**54.70**	**180**	P	**P**	**10 39 23.5**	**+1.5**
QSPA				IAmb	IAmb	10 39 35.9	
	comp=Z,14nm,0.9s						
QSPA	**South Pole Qui**	**54.70**	**180**	P	**P**	**10 39 21.8**	**-0.1**
	comp=Z,4.5nm,1.1s,baz=195,slow=1.3,SNR=13						
QSPA				LR	LR	11 03 01.7	
	comp=Z,267nm,18.2s,baz=158,slow=36						
	comp=Z,4.5nm,1.1s						
CMIG	**Matias Romero**	**56.13**	**335**	LR	LR	10 59 17.9	
	comp=Z,74nm,18.3s,baz=170,slow=31						
VNDA	**Vanda**	**62.35**	**192**	P	**P**	**10 40 15.6**	**+0.7**
	comp=Z,1.4nm,1.1s,baz=306,slow=13,SNR=2.4						
	comp=Z,1.4nm,1.1s						
TBI	**Tubuai**	**65.79**	**258**	*e*S	**S**	**10 49 26.0**	**+3.1**
	comp=Z,696nm,32.0s						
TBI	**Tubuai**	**65.79**	**258**	*e*LR	LR	11 00 27.2	
	comp=Z,2μm,29.2s						
LPIG	**La Paz**	**68.79**	**324**	LR	LR	11 04 54.9	
	comp=Z,108nm,18.7s,baz=189,slow=30						
PPT2	**Papeete2**	**68.83**	**263**	*e*S	**S**	**10 50 02.3**	**+2.6**
	comp=Z,198nm,22.8s						
PPT2	**Papeete2**	**68.83**	**263**	*e*LR	LR	11 01 44.6	
	comp=Z,252nm,30.5s						
PPT2				*e*LR	LR	11 01 51.2	
	comp=Z,406nm,27.5s						
PPT	**Papeete**	**68.84**	**263**	LR	LR	11 03 37.7	
	comp=Z,181nm,19.4s,baz=116,slow=29						
SAND	**Sanderson**	**70.50**	**334**	IAmb	IAmb	10 41 23.5	
	comp=Z,6.6nm,1.1s						
TXAR	**Lajitas Array**	**70.51**	**332**	P	**P**	**10 41 09.2**	**+1.5**
TXAR	**Lajitas Array**	**70.51**	**332**	P	**P**	**10 41 07.7**	**0.0**
	comp=Z,0.8nm,0.9s,baz=159,slow=7.9,SNR=7.6						
TXAR				LR	LR	11 07 57.6	
	comp=Z,127nm,18.2s,baz=146,slow=32						
	comp=Z,0.8nm,0.9s						
X48A	**Hartselle**	**70.77**	**348**	IAmb	IAmb	10 41 19.8	
	comp=Z,7.7nm,1.1s						
OZNA	**Ozona**	**71.03**	**335**	IAmb	IAmb	10 41 21.9	
	comp=Z,9.1nm,1.3s						
SWET	**Sewanee**	**71.34**	**349**	IAmb	IAmb	10 41 21.7	
	comp=Z,11nm,1.1s						
MAW	**Mawson**	**72.05**	**164**	P	**P**	**10 41 15.6**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=260,slow=9.6,SNR=2.2						
MAW				LR	LR	11 13 44.4	
	comp=Z,867nm,18.2s,baz=236,slow=37						
	comp=Z,0.9nm,0.3s						
CLTN	**Cedars of Leba**	**72.26**	**349**	IAmb	IAmb	10 41 28.6	
	comp=Z,16nm,1.3s						
WVT	**Waverly**	**72.54**	**348**	P	**P**	**10 41 20.6**	**+0.9**
WHAR	**Wooly Hollow**	**72.61**	**344**	IAmb	IAmb	10 41 30.8	
	comp=Z,21nm,1.4s						
R58B	**Mineral**	**73.25**	**356**	IAmb	IAmb	10 41 26.7	
	comp=Z,17nm,1.6s						
WMOK	**Wichita Mounta**	**

SONM Songino Array 167.72 0 PKPab **PKPab 10 51 06.7 +1.4**
comp=Z,0.2nm,0.3s,baz=339,slow=3.7,SNR=3.8

IDC 16 10:53:48.0±2.1, 2°29N×125°10E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=188.9km s-min=28.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.88**	**158**	P	P	10 59 02.1	-1.5
	0.3nm,0.6s,baz=336,slow=11,SNR=7.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**27.19**	**162**	P	P	10 59 35.4	+1.9
	0.3nm,0.8s,baz=343,slow=7.2,SNR=5.4						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**57.83**	**327**	P	P	11 03 40.9	-0.6
	0.2nm,0.6s,baz=145,slow=5.3,SNR=1.8						
	0.2nm,0.6s						

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*SJA **16** 11:01:51.2±2.6, 33°06S×72°18W, h8km±9km, ML3.5, MW3.5*
*GUC **16** 11:01:54.6±0.7, 33°02S×72°05W, h28km±8km, ML3.6*
ISC 16 11:01:50.0±1.6, 33°01S±0°03×72°19W±0°06, h1km±11km, n43, σ1°51/78, 4C-10D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.46**	**92**	⇓*i*P		**Pb**	**11 02 01.6**	**+0.8**
VA05	**Santo Domingo**	**0.81**	**143**	⇓*e*P		**Pb**	**11 02 08.0**	**+1.2**
VA05				*i* S		**Sb**	**11 02 17.8**	**-0.4**
VA05				IAML			11 02 19.7	
	comp=E,8μm,0.4s							
VA06	**Catapilco**	**0.88**	**60**	⇓*e*P		**Pb**	**11 02 08.7**	**+0.7**
VA06				*i* S		**Sb**	**11 02 19.4**	**-0.9**
VA06				IAML			11 02 21.2	
	comp=E,4μm,0.4s							
MT02	**Curacav**	**0.92**	**106**	*e*P		**Pb**	**11 02 08.9**	**+0.2**
MT02				*i* S		**Sb**	**11 02 19.8**	**-1.6**
ROC1	**El Roble**	**0.99**	**88**	*i* P		**Pb**	**11 02 10.1**	**0.0**
ROC1				*i* S		**Sn**	**11 02 24.5**	**-1.4**
ROCH	**El Roble**	**0.99**	**88**	⇓*e*P		**Pb**	**11 02 10.3**	**+0.1**
ROCH				*i* S		**Sb**	**11 02 22.7**	**-1.1**
ROCH				IAML			11 02 30.9	
	comp=N,2μm,0.4s							
MT01	**Popeta**	**1.16**	**137**	*e*P		**Pb**	**11 02 13.4**	**+0.5**
MT01				*i* S		**Sb**	**11 02 27.7**	**-0.7**
MT01				IAML			11 02 30.2	
	comp=E,2μm,0.4s							
MT09	**Talagante**	**1.26**	**127**	⇓*e*P		**Pb**	**11 02 15.0**	**+0.3**
MT09				*e*S		**Sb**	**11 02 30.8**	**-0.7**
MT09				IAML			11 02 37.5	
	comp=N,2μm,0.4s							
PEL	**Peldehue**	**1.27**	**96**	⇓*i*P		**Pn**	**11 02 15.2**	**+0.2**
PEL				*i* S		**Sn**	**11 02 31.9**	**-0.8**
PEL				IAML			11 02 36.4	
	comp=E,1μm,0.6s							
MT05	**Renca**	**1.28**	**108**	*i* P		**Pn**	**11 02 15.5**	**+0.5**
MT05				*i* S		**Sn**	**11 02 32.8**	**0.0**
MT05				IAML			11 02 38.5	
	comp=Z,599nm,0.3s							
MT05	**Renca**	**1.28**	**108**	⇓*e*P		**Pn**	**11 02 16.4**	**+1.3**
MT05				*i* S		**Sn**	**11 02 32.8**	**0.0**
VA03	**San Esteban**	**1.40**	**80**	*i* P		**Pg**	**11 02 17.2**	**+0.3**
VA03				*i* S		**Sn**	**11 02 37.4**	**+1.5**
VA03				IAML			11 02 40.5	
	comp=Z,1μm,1.0s							
VA03	**San Esteban**	**1.40**	**80**	*e*P		**Pn**	**11 02 16.8**	**0.0**
VA03				*i* S		**Sb**	**11 02 34.2**	**-1.2**
VA03				IAML			11 02 40.0	
	comp=E,2μm,0.3s							
MT10	**Hacienda Santa**	**1.41**	**101**	⇓*e*P		**Pb**	**11 02 17.4**	**+0.2**
MT10				*i* S		**Sn**	**11 02 36.1**	**-0.2**
MT10				IAML			11 02 43.0	
	comp=N,4μm,0.3s							
MT14	**Cerro Calın**	**1.44**	**106**	*i* P		**Pg**	**11 02 17.8**	**+0.2**
MT14				*i* S		**Sn**	**11 02 36.3**	**-0.5**
MT14				IAML			11 02 41.4	
	comp=E,2μm,0.4s							
MT16	**CCHEN**	**1.46**	**107**	⇓*e*P		**Pg**	**11 02 18.2**	**+0.2**
MT16				*i* S		**Sn**	**11 02 36.4**	**-1.0**
MT03	**Universidad Ad**	**1.49**	**109**	*i* P		**Pg**	**11 02 18.8**	**+0.2**
MT03				*i* S		**Sn**	**11 02 39.7**	**+1.6**
MT03				IAML			11 02 45.3	
	comp=Z,1μm,0.5s							
MT03	**Universidad Ad**	**1.49**	**109**	⇓*e*P		**Pb**	**11 02 18.6**	**+0.1**
MT03				*i* S		**Sn**	**11 02 38.0**	**-0.2**
MT03				IAML			11 02 45.2	
	comp=E,2μm,0.2s							
BO03	**Pichilemu**	**1.49**	**173**	⇑*i*P		**Pn**	**11 02 18.8**	**+0.8**
BO03				*i* S		**Sn**	**11 02 35.8**	**-2.2**
MT12	**Pirque**	**1.55**	**118**	*e*P		**Pb**	**11 02 19.5**	**-0.1**
MT12				*i* S		**Sg**	**11 02 39.5**	**-0.5**
MT12				IAML			11 02 51.3	
	comp=E,3μm,0.4s							
FCH	**Farellones**	**1.63**	**102**	⇑*i*P		**Pb**	**11 02 21.0**	**0.0**
FCH				*i* S		**Sg**	**11 02 42.4**	**+0.1**
FCH				IAML			11 02 48.3	
	comp=N,785nm,0.3s							
BO01	**Tunca**	**1.66**	**146**	*i* P		**Pn**	**11 02 20.9**	**+0.7**
BO01				*i* S		**Sg**	**11 02 43.6**	**+0.3**
BO01				IAML			11 02 44.8	
	comp=Z,234nm,0.8s							
BO01	**Tunca**	**1.66**	**146**	*i* P		**Pn**	**11 02 20.9**	**+0.7**
BO01				*i* S		**Sn**	**11 02 39.6**	**-2.5**
MT13	**San Alfonso**	**1.75**	**115**	*i* P		**Pb**	**11 02 23.1**	**0.0**
MT13				*i* S		**Sn**	**11 02 42.9**	**-1.8**
MT13				IAML			11 02 49.8	
	comp=N,2μm,0.2s							
LMEL	**Las Melosas**	**1.86**	**117**	⇑*i*P		**Pb**	**11 02 24.7**	**-0.2**
LMEL				*i* S		**Sb**	**11 02 46.9**	**-1.8**
LMEL				IAML			11 02 52.9	
	comp=N,1μm,0.3s							
GO05	**Huala**	**2.01**	**174**	*e*P		**Pn**	**11 02 25.7**	**+0.7**
CO02	**Combarbal**	**2.07**	**30**	*i* P		**Pn**	**11 02 26.8**	**+0.9**
CO02				*i* S		**Sg**	**11 02 57.0**	**+0.6**
CO02				IAML			11 03 00.6	
	comp=Z,399nm,1.1s							
CO02	**Combarbal**	**2.07**	**30**	*e*P		**Pn**	**11 02 26.8**	**+0.9**
BO02	**Sierra Bellavi**	**2.13**	**147**	*i* P		**Pn**	**11 02 28.2**	**+1.4**
BO02				*i* S		**Sb**	**11 02 56.4**	**0.0**
BO02				IAML			11 03 00.7	
	comp=Z,342nm,0.7s							
CO06	**Fray Jorge**	**2.38**	**12**	*e*P		**Pn**	**11 02 30.2**	**+0.1**
AUSP	**Uspallata**	**2.49**	**72**	*i* P		**Pb**	**11 02 35.0**	**-0.8**
AUSP				*i* S		**Sg**	**11 03 07.8**	**-2.4**
CO03	**El Pedregal**	**2.51**	**31**	*e*P		**Pn**	**11 02 33.1**	**+1.0**
RTLS	**Leoncito**	**2.73**	**65**	*i* P		**Pb**	**11 02 38.4**	**-1.5**
RTLS				*i* S		**Sb**	**11 03 13.9**	**0.0**
RTLS				IAML			11 03 25.5	
	comp=Z,382nm,0.6s							
ARCO	**CERRO ARCO**	**2.75**	**87**	*i* P		**Pb**	**11 02 38.3**	**-1.7**
ARCO				*i* S		**Sb**	**11 03 12.9**	**-1.4**
ARCO				IAML			11 03 20.8	
	comp=Z,162nm,1.1s							
ML02	**Panimavida**	**2.82**	**167**	*e*P		**Pn**	**11 02 37.5**	**+1.3**
ML02				*i* S		**Sn**	**11 03 09.6**	**-1.1**
AAGR	**Agrelo**	**2.83**	**92**	⇑*i*P		**Pg**	**11 02 44.2**	**0.0**
AAGR				*i* S		**Sb**	**11 03 14.8**	**-1.6**
AAGR				IAML			11 03 29.2	
	comp=Z,152nm,1.1s							
ASAL	**Salagasta**	**2.86**	**82**	*i* P		**Pb**	**11 02 39.8**	**-2.1**
ASAL				*i* S		**Sb**	**11 03 15.5**	**-1.9**
ASAL				IAML			11 03 30.2	
	comp=Z,73nm,0.7s							
GO04	**Tololo Observa**	**3.07**	**23**	*e*P		**Pn**	**11 02 40.6**	**+0.8**
SJA	**San Juan**	**3.41**	**65**	*i* P		**Pb**	**11 02 52.0**	**+0.7**
SJA				IAML			11 04 21.1	
	comp=Z,66nm,0.5s							
EDS3	**Malargue**	**3.59**	**141**	*i* P		**Pn**	**11 02 49.3**	**+2.4**
ACCO	**Cerro Coronel**	**3.59**	**49**	*i* P		**Pn**	**11 02 50.7**	**+3.6**
ACCO				*i* S		**Sb**	**11 03 36.1**	**-2.7**
ACCO				IAML			11 03 48.3	
	comp=Z,173nm,1.0s							
ACDV	**Cuesta del Vie**	**3.86**	**44**	*i* P		**Pn**	**11 02 54.1**	**+3.5**
ACDV				*i* S		**Sb**	**11 03 41.9**	**-4.3**
ACDV				IAML			11 04 04.8	
	comp=Z,77nm,0.9s							
ACHE	**Chepes**	**5.04**	**70**	*i* P		**Pn**	**11 03 10.8**	**+3.9**
ACHE				*i* S		**Sn**	**11 04 10.6**	**+4.8**

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*NEIC **16** 11:02:22.9±1.2, 46°63N±0°02×120°55W±0°02, h15km±3km, Error ellipse: s-maj=2.7km s-min=2.3km az=222.0*
SEA 16 11:02:23.2±1.5, 46°62N±0°02×120°52W±0°02, h15km±2km, ML2.5/4, ML2.7/68(NEIC), Error ellipse: s-maj=2.4km s-min=2.1km az=186.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YA2	**Yakima**	**0.10**	**185**		Pg	11 02 26.6	+0.2
MXC	**Moxie City**	**0.16**	**106**		Pg	11 02 27.6	+0.3
MXC					Sb	11 02 30.7	-0.4
MXC	**Moxie City**	**0.16**	**106**	IAML		11 02 30.9	
	comp=N,2μm,0.6s						
MXC				IAML		11 02 31.0	
	comp=E,3μm,0.4s						
NAC	**Naches**	**0.24**	**298**		Pg	11 02 28.7	+0.3
EBG	**Ellensburg**	**0.29**	**353**		Pb	11 02 30.0	-0.1
TRW	**Toppenish Ridg**	**0.33**	**183**		Pg	11 02 30.2	+0.2
BRVW	**Black Rock Val**	**0.39**	**110**		Pg	11 02 30.4	-0.7
E07A	**Sunnyside**	**0.46**	**98**		Pg	11 02 32.6	+0.1
E07A					Sb	11 02 39.5	-0.3
E07A	**Sunnyside**	**0.46**	**98**	IAML		11 02 39.8	
	comp=N,637nm,0.5s						
E07A				IAML		11 02 39.8	
	comp=E,602nm,0.4s						
MDW	**Midway**	**0.52**	**91**		Pg	11 02 33.6	+0.1
MDW					Sb	11 02 41.2	-0.3
TBM	**Table Mountain**	**0.55**	**354**		Pb	11 02 34.4	-0.3
BENWA	**Benson Ranch**	**0.56**	**100**		Pg	11 02 34.2	-0.1
SNIWA	**Snively Ranch**	**0.61**	**105**		Pg	11 02 35.2	0.0
GBB	**Gable Butte**	**0.62**	**91**		Pg	11 02 35.3	+0.1
GBB					Sb	11 02 44.3	+0.2
LTY	**Liberty**	**0.64**	**351**		Pg	11 02 35.3	-0.6
LTY					Sg	11 02 44.3	-0.1
LTY	**Liberty**	**0.64**	**351**	IAML		11 02 45.2	
	comp=E,386nm,0.4s						
WAH2	**Wahluke Slope**	**0.67**	**78**		Pg	11 02 36.4	+0.1
WAH2					Sb	11 02 46.1	+0.4
RSW	**Rattlesnake Hi**	**0.68**	**109**		Pg	11 02 36.3	-0.2
PRW	**Prosser**	**0.71**	**125**		Pg	11 02 36.7	-0.3
HAWA	**Hanford**	**0.72**	**108**		Pg	11 02 36.6	-0.6
HAWA				IAML		11 02 47.2	
	comp=E,206nm,0.4s						
GBL	**Gable Mountain**	**0.73**	**92**		Pg	11 02 37.3	-0.1
GBL	**Gable Mountain**	**0.73**	**92**		Pg	11 02 37.3	-0.1
BLTW	**Bickleton**	**0.75**	**161**		Pg	11 02 36.9	-0.8
LOCW	**Locke Island**	**0.76**	**82**		Pg	11 02 37.9	0.0
FHE	**Frenchman Hill**	**0.78**	**65**		Pg	11 02 38.2	-0.1
H2OWA	**Water**	**0.79**	**106**		Pg	11 02 38.1	-0.5
MJ2	**May Junction 2**	**0.80**	**94**		Pg	11 02 38.4	-0.4
CRF	**Corfu**	**0.81**	**75**		Pg	11 02 38.4	-0.5
F07A	**Phinny Hill Vi**	**0.84**	**150**		Pg	11 02 38.3	-1.1
F07A				IAML		11 02 52.4	
	comp=E,231nm,0.3s						
FMW	**Mount Fremont**	**0.85**	**292**		Pg	11 02 38.7	-1.1
RCM	**Mount Rainier-**	**0.86**	**285**		Pg	11 02 38.9	-1.0
WIW	**Wooded Island**	**0.87**	**102**		Pb	11 02 39.4	-0.6
ASR	**Mount Adams--S**	**0.88**	**238**		Pb	11 02 40.1	-0.1
OT3	**Othello 3**	**0.89**	**87**		Pb	11 02 39.9	-0.4
LON	**Longmire**	**0.90**	**279**		Pb	11 02 39.4	-1.1
LON	**Longmire**	**0.90**	**279**		Pb	11 02 39.6	-0.9
PAT2	**Paterson 2**	**0.91**	**144**		Pb	11 02 39.9	-0.7
REMR	**Mount Rainier-**	**0.93**	**283**		Pb	11 02 40.1	-1.0
OBSR	**Observation Ro**	**0.93**	**288**		Pb	11 02 40.3	-1.0
F05D	**White Salmon**	**0.98**	**222**		Pb	11 02 40.9	-1.1
E08A	**Dider Farm, El**	**1.02**	**97**	Pg	Pb	11 02 41.3	-1.2
E08A				IAML		11 02 56.8	
	comp=N,251nm,0.2s						
VGB	**Gordon Butte**	**1.12**	**189**		Pb	11 02 43.1	-1.2
SLFW	**Sugar Loaf**	**1.14**	**360**		Pb	11 02 44.2	-0.5
WTV	**Waterville**	**1.14**	**20**		Pb	11 02 44.2	-0.6
D05A	**Enumclaw**	**1.16**	**300**		Pn	11 02 44.1	-0.7
D05A				IAML		11 03 02.7	
	comp=E,112nm,0.4s						
D05A				IAML		11 03 03.0	
	comp=N,143nm,0.4s						
CDFW	**Cedar Flats**	**1.17**	**245**		Pn	11 02 44.6	-0.5
B202	**Windy Ridge, M**	**1.18**	**252**		Pn	11 02 44.0	-1.3
D08A	**Wollman Farm,**	**1.18**	**68**		Pn	11 02 44.3	-0.9
D08A				IAML		11 03 01.3	
	comp=E,120nm,0.2s						
SOSW	**Source of Smit**	**1.18**	**252**		Pn	11 02 44.6	-0.7
RATT	**Rattlesnake La**	**1.19**	**313**		Pn	11 02 44.3	-1.1
TDL	**Tradedollar La**	**1.20**	**258**		Pn	11 02 44.4	-1.2
ESD	**East Dome**	**1.21**	**250**		Pn	11 02 45.2	-0.5
BOLM	**Sugar Bowl**	**1.22**	**251**		Pn	11 02 45.4	-0.4
YPT	**Yellepit**	**1.22**	**117**		Pn	11 02 45.6	-0.2
B941	**Kapowsin**	**1.22**	**288**		Pn	11 02 45.3	-0.4
JRO	**Jston Ridge Ob**	**1.22**	**254**		Pn	11 02 45.4	-0.5
JRO	**Jston Ridge Ob**	**1.22**	**254**	IAML		11 03 03.9	
	comp=E,138nm,0.5s						
CBSW	**Chelan Butte S**	**1.23**	**15**		Pn	11 02 45.5	-0.5
JLK	**June Lake**	**1.23**	**248**		Pn	11 02 45.0	-0.9
SEPW	**September Lobe**	**1.23**	**251**		Pn	11 02 45.5	-0.6
STD	**Studebaker Rid**	**1.24**	**253**		Pn	11 02 45.1	-1.0
B201	**Coldwater, Mou**	**1.25**	**256**		Pn	11 02 45.2	-1.0
SWF2	**Southwest Flan**	**1.26**	**250**		Pn	11 02 45.6	-0.8
WRW	**Wenatchee Ridg**	**1.26**	**349**		Pn	11 02 45.9	-0.5
ERK	**Elk Rock**	**1.30**	**257**		Pn	11 02 46.2	-0.7
MTMW	**Mount Mitchell**	**1.32**	**244**		Pn	11 02 46.5	-0.7
SAW	**Saint Andrews**	**1.32**	**35**		Pn	11 02 46.7	-0.5
B203	**Quarry, Mount**	**1.33**	**251**		Pn	11 02 46.7	-0.6
FL2	**Flat Top 2**	**1.34**	**252**		Pn	11 02 46.8	-0.6
SHRK	**Shell Rock**	**1.35**	**212**		Pn	11 02 44.5	-3.2
G06A	**Carlson Farm,**	**1.39**	**183**		Pn	11 02 47.1	-1.0
G06A				IAML		11 03 07.0	
	comp=E,127nm,0.4s						
VLL	**Laurance Lake**	**1.41**	**215**		Pn	11 02 48.4	-0.1
DHW2	**Dyer Hill 2**	**1.46**	**20**		Pb	11 02 50.5	+0.4
OD2	**Odessa Site #2**	**1.46**	**58**		Pn	11 02 48.1	-0.9
NLW	**Nelson Butte**	**1.46**	**5**		Pn	11 02 48.9	-0.3
F04A	**Amboy**	**1.49**	**243**	Pn	Pn	11 02 48.7	-0.7
HIYU	**Hiyu Mountain**	**1.49**	**218**		Pn	11 02 49.2	-0.4
G05A	**Wamic**	**1.49**	**202**		Pn	11 02 49.3	-0.1
SP2	**Seward Park 2**	**1.51**	**309**		Pb	11 02 50.9	+0.1
HOOD	**Mount Hood Mea**	**1.52**	**212**		Pn	11 02 49.1	-0.9
HOOD				IAML		11 03 10.5	
	comp=N,110nm,0.3s						
HOOD				IAML		11 03 10.6	
	comp=E,87nm,0.5s						
TDH	**Tom, Dick, Har**	**1.60**	**214**		Pn	11 02 51.1	0.0
E09A	**Wood Farm, Sta**	**1.64**	**93**		Pn	11 02 50.8	-0.7
E09A				IAML		11 03 17.3	
	comp=E,111nm,0.1s						
G08A	**Pilot Rock**	**1.72**	**140**		Pn	11 02 51.7	-1.0
G08A				IAML		11 03 15.7	
	comp=E,82nm,0.7s						
G08A				IAML		11 03 16.6	
	comp=N,71nm,0.5s						
LNOR	**Lincton Mounta**	**1.72**	**115**		Pn	11 02 52.6	-0.1
VBEM	**Beaver Butte**	**1.73**	**206**		Pn	11 02 53.5	+0.6
GMW	**Gold Mountain**	**1.80**	**302**		Pb	11 02 55.2	-0.8
F04D	**Rainier, OR**	**1.81**	**254**	Pn	Pn	11 02 52.9	-0.9
F04D				IAML		11 03 31.5	
	comp=N,84nm,2.0s						
F04D				IAML		11 03 36.7	
	comp=E,70nm,0.5s						
GNW	**Green Mountain**	**1.83**	**302**		Pn	11 02 54.1	-0.1
JCW	**Jim Creek**	**1.84**	**329**		Pn	11 02 54.8	+0.5
B023	**Clatskanie**	**1.84**	**255**		Pn	11 02 55.0	+0.7
B08A	**Colville Reser**	**1.91**	**24**	Pn	Pn	11 02 54.4	-0.9
B08A				IAML		11 03 22.8	
	comp=N,70nm,0.5s						
C09A	**Chrisman Ranch**	**1.93**	**52**		Pn	11 02 54.4	-1.1
RPW	**Rockport**	**1.95**	**340**		Pb	11 02 57.8	-0.6
C04A	**Brinnon**	**2.00**	**304**		Pb	11 02 58.5	-0.7
HDW	**Hoodsport**	**2.01**	**302**		Pn	11 02 57.6	+0.9
B013	**Quilcene**	**2.02**	**307**		Pn	11 02 57.6	+0.9
B013	**Quilcene**	**2.02**	**307**		Pn	11 02 57.7	+1.0
E03A	**Lebam**	**2.10**	**269**		Pn	11 02 58.0	+0.2
E03A				IAML		11 03 38.4	
	comp=N,37nm,2.7s						
E03A				IAML		11 04 08.9	
	comp=E,36nm,2.1s						
F03A	**Seaside**	**2.22**	**253**	Pn	Pn	11 03 00.2	+0.8
F03A				IAML		11 03 35.0	
	comp=E,61nm,1.2s						
H04A	**Detroit Lake**	**2.26**	**212**		Pn	11 03 01.3	+1.2
H04A				IAML		11 03 33.0	
	comp=N,51nm,0.5s						
H04A				IAML		11 03 34.1	
	comp=E,60nm,0.3s						
RADR	**Rader Ridge**	**2.27**	**266**	Pn	Pn	11 03 01.0	+0.7
RADR				IAML		11 04 03.1	
	comp=N,55nm,3.7s						
RADR				IAML		11 04 20.6	
	comp=E,47nm,2.2s						
MBW	**Mount Baker**	**2.35**	**337**		Pb	11 03 04.8	-0.6
I05D	**Terrebonne, OR**	**2.36**	**194**		Pn	11 03 02.6	+1.2
F10A	**Beach Ranch, E**	**2.37**	**105**		Pn	11 03 01.8	+0.1
G03D	**McMinnville, O**	**2.38**	**235**	Pn	Pn	11 03 01.6	-0.1
G03D				IAML		11 04 06.6	
	comp=N,37nm,2.3s						
G03D				IAML		11 04 29.4	
	comp=E,40nm,2.8s						
B04A	**Port Angeles**	**2.48**	**306**	Pn	Pn	11 03 02.4	-0.7
H04D	**Lebanon**	**2.61**	**217**		Pn	11 03 04.0	-0.9
H04D				IAML		11 03 45.6	
	comp=N,38nm,0.7s						
H04D				IAML		11 03 48.4	
	comp=E,43nm,0.9s						
I07A	**Izee**	**2.64**	**164**		Pn	11 03 05.4	0.0
HEBO	**Mount Hebo**	**2.66**	**239**	Pn	Pn	11 03 04.4	-1.2
OBC	**Olympics--Boni**	**2.80**	**302**		Pb	11 03 14.6	+1.6
NEW	**Newport**	**2.83**	**53**	Pn	Pn	11 03 07.0	-0.9
NEW				IAML		11 03 59.7	
	comp=E,17nm,0.4s						
BMO	**Blue Mountains**	**2.86**	**127**		Pn	11 03 07.0	-1.5
I04A	**Tendick Farm,**	**3.13**	**206**		Pn	11 03 14.3	+2.3
I04A	**Tendick Farm,**	**3.13**	**206**	IAML		11 04 08.4	
	comp=E,15nm,1.8s						
I04A				IAML		11 05 04.8	
	comp=N,17nm,3.6s						
B926	**Mesachie Lake**	**3.28**	**313**		Pg	11 03 24.1	-2.0

AFAD 16 11:28:34.9±0.0, 40°71N×32°31E, h7km±3km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCAM	**Yenicaga**	**0.21**	**300**	P	Pg	11 28 39.2	+0.1
BCAM				S	Sg	11 28 43.6	+1.5
BCAM				*i* AML	AML	11 28 44.0	
	comp=N,66nm,0.2s						
BCAM				*i* AML	AML	11 28 44.0	
	comp=E,110nm,0.3s						
BCAM	**Yenicaga**	**0.21**	**300**	P	Pg	11 28 39.3	+0.1
BCAM				S	Sg	11 28 43.5	+1.4
BCAM				*i* AML	AML	11 28 44.0	
	comp=E,110nm,0.3s						
DERS	**Karabk-Eskip**	**0.23**	**52**	P	Pg	11 28 39.2	-0.3
DERS				S	Sg	11 28 43.8	+1.1
DERS				*i* AML	AML	11 28 45.0	
	comp=N,140nm,0.3s						
DERS				*i* AML	AML	11 28 48.0	
	comp=E,92nm,0.7s						
DERS	**Karabk-Eskip**	**0.23**	**52**	P	Pg	11 28 39.2	-0.3
DERS				S	Sg	11 28 43.9	+1.2
DERS				*i* AML	AML	11 28 45.0	
	comp=N,140nm,0.3s						
DERS				*i* AML	AML	11 28 48.0	
	comp=E,92nm,0.7s						
CMDR	**Camlidere-ANKA**	**0.25**	**150**	P	Pg	11 28 28.8	-11
CMDR				S	Sg	11 28 39.0	-4.3
BOLU	**Bolu-Merkez-Mu**	**0.48**	**278**	P	Pb	11 28 46.7	+0.9
BOLU				S	Sb	11 28 54.6	+1.4
BOLU				*i* AML	AML	11 28 58.0	
	comp=N,29nm,0.5s						
BOLU				*i* AML	AML	11 28 58.0	
	comp=E,34nm,0.3s						
BOLU	**Bolu-Merkez-Mu**	**0.48**	**278**	P	Pg	11 28 44.6	+0.3
BOLU				S	Sb	11 28 54.5	+1.4
BOLU				*i* AML	AML	11 28 58.0	
	comp=N,29nm,0.5s						
BOLU				*i* AML	AML	11 28 58.0	
	comp=E,34nm,0.3s						
ELDT	**Eldivan**	**0.88**	**104**	P	Pb	11 28 52.5	-0.1
ELDT				S	Sn	11 29 07.6	+0.7
ELDT				*i* AML	AML	11 29 12.0	
	comp=E,13nm,0.3s						
ELDT				*i* AML	AML	11 29 25.0	
	comp=N,26nm,0.9s						
YENC	**ankr-Yen**	**1.17**	**91**	P	Pg	11 28 56.5	-0.8
YENC				S	Sn	11 29 17.6	+3.6
YENC				*i* AML	AML	11 29 35.0	
	comp=N,12nm,1.7s						
DELI	**KIRIKKALE**	**1.42**	**120**	P	Pn	11 28 59.7	-1.6
DELI				S	Sg	11 29 21.3	+0.7

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*IDC **16** 11:32:47.1±2.0, 66°40N×135°99W, h0km, mb3.1/1, mbtmp3.2/3, ML3.4/2, MS2.9/2, Error ellipse: s-maj=50.7km s-min=12.0km az=179.0*
*ANF **16** 11:32:51.0±0.2, 66°38N×135°86W, h28km±1km, ML3.9/59, Error ellipse: s-maj=1.5km s-min=1.0km az=97.0*
*PGC **16** 11:32:51.2±0.1, 66°39N×135°76W, h27km, ML3.8/23, 130km southwest of Fort McPherson, Nt Northern Yukon Territory, Canada*
ISC 16 11:32:51.0±0.9, 66°39N±0°02×135°82W±0°03, h30km±8km, n199, σ0°89/258, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPYK	**Eagle Plains**	**0.36**	**268**	P	**Pb**	**11 32 59.5**	**+0.1**
	baz=86,SNR=1000						
EPYK				S	**Sb**	**11 33 05.5**	**+0.4**
	baz=86						
EPYK	**Eagle Plains**	**0.36**	**268**	P	**Pb**	**11 32 59.5**	**+0.1**
EPYK				S	**Sb**	**11 33 05.5**	**+0.4**
G30M	**tAoh Zraii Nji**	**0.62**	**345**	P	**Pb**	**11 33 02.3**	**-1.0**
	baz=162,SNR=1000						
G30M

	baz=59					
I28M	Miner Creek	1.94 243	Pn	Pn	11 33 21.4	-0.4
I28M			Sn	Sn	11 33 45.2	+0.1
I28M			Sg	Sb	11 33 50.1	+0.9
F28M	Old Crow	2.01 310	P	Pn	11 33 22.9	0.0
	baz=125,SNR=928					
F28M			Sb	Sb	11 33 51.9	+0.4
	baz=125					
F28M	Old Crow	2.01 310	Pn	Pn	11 33 23.3	+0.4
INK	Inuvik	2.12 24	P	Pn	11 33 23.8	-0.5
	baz=205,SNR=1000					
INK			Sb	Sb	11 33 56.4	+1.8
	baz=205					
INK	Inuvik	2.12 24	Pn	Pn	11 33 23.9	-0.4
E29M	Blow River	2.17 339	P	Pn	11 33 25.7	+0.8
	baz=157,SNR=659					
E29M	Blow River	2.17 339	Pn	Pn	11 33 25.9	+1.0
E29M			Sn	Sn	11 33 52.8	+2.1
J29N	Klondike Camp	2.19 208	P	Pn	11 33 25.6	+0.3
	baz=27,SNR=25					
J29N			Sb	Sb	11 33 58.0	+1.5
	baz=27					
J29N	Klondike Camp	2.19 208	Pn	Pn	11 33 26.0	+0.7
H27K	Steamboat Moun	2.31 269	P	Pn	11 33 26.9	-0.1
	baz=83,SNR=490					
H27K			Sb	Sb	11 34 00.6	+0.6
	baz=83					
H27K	Steamboat Moun	2.31 269	Pn	Pn	11 33 27.0	0.0
G27K	Doyon Strip	2.37 283	P	Pn	11 33 28.1	+0.3
	baz=97,SNR=762					
G27K			Sb	Sb	11 34 00.8	-0.9
	baz=97					
G27K	Doyon Strip	2.37 283	Pn	Pn	11 33 28.2	+0.5
I27K	Kandik River	2.50 254	P	Pn	11 33 29.5	0.0
	baz=69,SNR=340					
I27K			Sb	Sb	11 34 06.9	+1.5
	baz=69					
I27K	Kandik River	2.50 254	Pn	Pn	11 33 29.6	0.0
E28M	Babbage River	2.65 329	P	Pn	11 33 31.8	+0.2
	baz=145,SNR=273					
E28M			S	Sn	11 34 02.5	0.0
	baz=145					
E28M	Babbage River	2.65 329	Pn	Pn	11 33 31.8	+0.2
K29M	Barlow Dome	2.65 197	P	Pn	11 33 32.4	+0.6
	baz=15,SNR=518					
K29M			S	Sn	11 34 03.7	+0.8
	baz=15					
K29M	Barlow Dome	2.65 197	Pn	Pn	11 33 32.3	+0.6
EGAK	Eagle	2.75 236	P	Pn	11 33 32.4	-0.5
	baz=52,SNR=147					
EGAK	Eagle	2.75 236	Pn	Pn	11 33 32.4	-0.5
DAWY	Dawson	2.77 214	P	Pn	11 33 33.3	0.0
	baz=32,SNR=763					
DAWY			Sb	Sb	11 34 15.2	+1.9
	baz=32					
DAWY	Dawson	2.77 214	Pn	Pn	11 33 33.3	0.0
DAWY			Sn	Sn	11 34 05.9	+0.1
MAYO	Mayo, Yukon	2.80 181	P	Pn	11 33 34.2	+0.5
	baz=1.1					
MAYO			S	Sn	11 34 06.5	+0.1
	baz=1.1					
MAYO	Mayo, Yukon	2.80 181	Pn	Pn	11 33 34.3	+0.6
E27K	Coleen River	2.88 311	P	Pn	11 33 34.9	+0.1
	baz=126,SNR=72					
E27K			Sb	Sb	11 34 18.2	+1.9
	baz=126					
E27K	Coleen River	2.88 311	Pn	Pn	11 33 34.9	+0.1
D28M	Stokes Point	3.15 341	P	Pn	11 33 39.2	+0.7
	baz=158,SNR=35					
D28M			S	Sn	11 34 15.1	+0.1
	baz=158					
D28M	Stokes Point	3.15 341	Pn	Pn	11 33 39.3	+0.9
I26K	Coal Creek Min	3.21 254	P	Pn	11 33 38.9	-0.3
	baz=67					
I26K			Sb	Sb	11 34 27.1	+1.5
	baz=67					
I26K	Coal Creek Min	3.21 254	Pn	Pn	11 33 38.8	-0.3
G26K	Porcupine Rive	3.22 284	P	Pn	11 33 39.2	-0.2
	baz=96,SNR=80					
G26K			Sb	Sb	11 34 27.8	+1.8
	baz=96					
G26K	Porcupine Rive	3.22 284	Pn	Pn	11 33 39.2	-0.2
L29M	L29M	3.44 198	P	Pn	11 33 42.8	+0.4
	baz=16,SNR=164					
L29M			S	Sn	11 34 21.7	-0.5
	baz=16					
L29M	L29M	3.44 198	Pn	Pn	11 33 42.8	+0.4
D27M	Malcolm River	3.47 328	P	Pn	11 33 43.5	+0.7
	baz=143,SNR=272					
D27M			S	Sn	11 34 22.6	-0.3
	baz=143					
D27M	Malcolm River	3.47 328	Pn	Pn	11 33 43.6	+0.7
D27M			Sn	Sn	11 34 22.7	-0.3
F26K	Sheenjek River	3.52 296	P	Pn	11 33 43.5	0.0
	baz=108,SNR=73					
F26K			S	Sn	11 34 22.7	-1.4
	baz=108					
F26K	Sheenjek River	3.52 296	Pn	Pn	11 33 43.5	0.0
K27K	Chicken	3.54 231	P	Pn	11 33 43.2	-0.7
	baz=45					
K27K			Sb	Sb	11 34 37.3	+1.9
	baz=45					
K27K	Chicken	3.54 231	Pn	Pn	11 33 43.1	-0.7
J26L	Joseph Creek	3.75 243	P	Pn	11 33 46.0	-0.7
	baz=56,SNR=79					
J26L			Sb	Sb	11 34 43.2	+1.9
	baz=56					
M30M	Minto, Yukon	3.85 187	P	Pn	11 33 48.4	+0.4
	baz=6.2,SNR=309					
M30M			S	Sn	11 34 30.5	-1.7
	baz=6.2					
M30M	Minto, Yukon	3.85 187	Pn	Pn	11 33 48.3	+0.2
M30M			Sn	Sn	11 34 29.9	-2.4
H25L	Birch Creek	4.04 273	P	Pn	11 33 50.7	+0.1
	baz=84					
H25L			Sb	Sb	11 34 52.0	+2.6
	baz=84					
F25K	Christian Rive	4.04 292	P	Pn	11 33 50.8	0.0
	baz=103,SNR=60					
F25K	Christian Rive	4.04 292	Pn	Pn	11 33 50.8	0.0
PRP	Porcupine Dome	4.07 262	P	Pn	11 33 50.4	-0.8
	baz=73					
PRP			S	Sn	11 34 36.3	-1.5
	baz=73					
M29M	Somme Creek	4.12 197	P	Pn	11 33 52.2	+0.3
	baz=15,SNR=315					
M29M			S	Sn	11 34 37.4	-1.7
	baz=15					
M29M	Somme Creek	4.12 197	Pn	Pn	11 33 52.3	+0.4
M29M			Sn	Sn	11 34 36.1	-3.0
G25K	Bearman Lake	4.12 280	P	Pn	11 33 51.1	-0.6
	baz=90					
G25K	Bearman Lake	4.12 280	Pn	Pn	11 33 51.3	-0.5
E25K	Arctic Village	4.17 299	P	Pn	11 33 52.5	+0.1
	baz=110,SNR=98					
E25K			S	Sn	11 34 39.4	-0.6
	baz=110					
E25K	Arctic Village	4.17 299	Pn	Pn	11 33 52.5	+0.1
SCRK	Sand Creek	4.21 239	P	Pn	11 33 52.5	-0.5
	baz=51,SNR=9.6					
L27K	Beaver Creek,	4.22 220	P	Pn	11 33 52.9	-0.1
	baz=35,SNR=232					
L27K	Beaver Creek,	4.22 220	Pn	Pn	11 33 53.0	-0.1
M31M	Drury Creek, Y	4.25 171	P	Pn	11 33 53.6	+0.2
	baz=353,SNR=11					
M31M	Drury Creek, Y	4.25 171	Pn	Pn	11 33 53.7	+0.2
FARO	Faro, Yukon	4.31 164	P	Pn	11 33 54.7	+0.3
	baz=347,SNR=20					
FARO	Faro, Yukon	4.31 164	Pn	Pn	11 33 54.4	0.0
J25K	Salcha River,	4.36 250	P	Pn	11 33 54.6	-0.4
	baz=62					
J25K			S	Sn	11 34 43.4	-1.4
	baz=62					
J25K	Salcha River,	4.36 250	Pn	Pn	11 33 54.6	-0.4
J25K			Sn	Sn	11 34 42.4	-2.4
C27K	Jago River	4.40 321	P	Pn	11 33 56.1	+0.5
	baz=134					
C27K			S	Sn	11 34 46.2	+0.4
	baz=134					
C27K	Jago River	4.40 321	Pn	Pn	11 33 57.3	+1.7
C27K			Sn	Sn	11 34 45.9	+0.1
DOT	Dot Lake	4.45 236	Pn	Pn	11 33 55.2	-1.1
L26K	Log Cabin Wild	4.67 227	P	Pn	11 33 59.1	-0.2
	baz=40					
L26K	Log Cabin Wild	4.67 227	Pn	Pn	11 33 58.6	-0.7
G24K	Hadweenzic Riv	4.67 279	P	Pn	11 33 58.8	-0.5
	baz=88					
M27K	Edge Creek, AK	4.82 216	P	Pn	11 34 01.4	-0.2
	baz=30,SNR=142					
M27K	Edge Creek, AK	4.82 216	Pn	Pn	11 34 01.4	-0.2
ILAR	Eielson Array	4.87 256	Pn	Pn	11 34 00.6	-1.5
	1.0nm,0.3s,baz=68,slow=13,SNR=52					
ILAR			Sn	Sn	11 34 53.8	-3.5
	2.4nm,0.3s,baz=68,slow=15,SNR=3.6					
ILAR			Lg	Lg	11 35 17.8	
	5.7nm,0.3s,baz=62,slow=29,SNR=2.5					
ILAR			LR	LR	11 36 01.6	
	comp=Z,89nm,18.6s,baz=98,slow=40					
	0.8nm,0.3s					
F24K	Squaw Lake	4.88 289	P	Pn	11 34 02.3	+0.1
	baz=98					
C26K	Camden Bay	4.91 320	P	Pn	11 34 03.2	+0.7
	baz=132,SNR=36					
C26K	Camden Bay	4.91 320	Pn	Pn	11 34 04.3	+1.8
C26K			Sn	Sn	11 34 59.7	+1.6
N31M	Braeburn, Yuko	4.92 180	P	Pn	11 34 03.5	+0.7
	baz=0.1,SNR=26					
N31M	Braeburn, Yuko	4.92 180	Pn	Pn	11 34 03.2	+0.5
H24K	Noodor Dome	4.94 269	P	Pn	11 34 02.2	-0.8
	baz=78					
K24K	Donnelly Dome	4.94 243	P	Pn	11 34 02.5	-0.6
	baz=54					
POKR	Poker Plat Res	4.96 260	P	Pn	11 34 02.9	-0.4
	baz=70					
D25K	Kavik River	4.96 311	P	Pn	11 34 04.4	+1.1
	baz=121,SNR=65					
D25K	Kavik River	4.96 311	Pn	Pn	11 34 04.5	+1.1
D25K			Sn	Sn	11 34 58.9	-0.7
N30M	Aishikik Lake	4.98 187	P	Pn	11 34 04.2	+0.6
	baz=6.2,SNR=90					
N30M	Aishikik Lake	4.98 187	Pn	Pn	11 34 04.0	+0.4
N30M			Sn	Sn	11 34 56.5	-3.6
HDA	Harding Lake	5.06 252	P	Pn	11 34 04.4	-0.2
	baz=62					
YUK3	Moose Creek	5.06 206	P	Pn	11 34 04.9	+0.1
	baz=22,SNR=25					
YUK3	Moose Creek	5.06 206	Pn	Pn	11 34 04.7	-0.1
M26K	Nabesna, AK	5.07 221	P	Pn	11 34 04.6	-0.2
	baz=35,SNR=11					
M26K	Nabesna, AK	5.07 221	Pn	Pn	11 34 04.9	+0.1
YUK2	White River	5.12 208	Pn	Pn	11 34 05.5	0.0
E24K	Your Creek	5.20 295	P	Pn	11 34 06.8	+0.1
	baz=103					
COLA	College	5.21 259	P	Pn	11 34 06.5	-0.2
	baz=68					
YUK4	Talbot Arm	5.21 195	P	Pn	11 34 06.6	-0.3
	baz=13,SNR=8.8					
YUK4	Talbot Arm	5.21 195	Pn	Pn	11 34 06.4	-0.6
C36M	Paulatuk	5.34 51	P	Pn	11 34 06.7	-1.8
	baz=242,SNR=88					
C36M	Paulatuk	5.34 51	Pn	Pn	11 34 06.5	-1.9
YUK5	Granite Creek	5.35 191	Pn	Pn	11 34 08.8	0.0
PAX	Paxson	5.38 235	P	Pn	11 34 09.2	+0.1
	baz=46					
PAX	Paxson	5.38 235	Pn	Pn	11 34 09.1	+0.1
PAX			Sn	Sn	11 35 07.4	-2.5
N32M	Quiet Lake	5.39 166	P	Pn	11 34 10.0	+0.7
	baz=348					
N32M	Quiet Lake	5.39 166	Pn	Pn	11 34 09.5	+0.2
YUK8	Steele Glacier	5.41 201	P	Pn	11 34 10.5	+0.8
	baz=17,SNR=60					
YUK8	Steele Glacier	5.41 201	Pn	Pn	11 34 10.3	+0.6
YUK6	Outpost Mounta	5.58 193	P	Pn	11 34 12.8	+0.7
	baz=11,SNR=56					
YUK6	Outpost Mounta	5.58 193	Pn	Pn	11 34 12.4	+0.3
H23K	Yukon River	5.61 271	P	Pn	11 34 11.4	-0.8
	baz=78					
E23K	Chndalar	5.62 294	P	Pn	11 34 12.8	+0.4
	baz=101					
O30N	Mendenhall	5.64 181	P	Pn	11 34 13.1	+0.4
	baz=1.4,SNR=27					
O30N	Mendenhall	5.64 181	Pn	Pn	11 34 12.7	+0.1
G23K	Bananza Creek	5.68 280	P	Pn	11 34 13.0	-0.2
	baz=87					
HARP	HAARP	5.69 230	P	Pn	11 34 13.9	+0.5
	baz=41					
I23K	Minto, Yukon-K	5.71 264	P	Pn	11 34 12.9	-0.7
	baz=71					
TOLK	Toolik Lake Re	5.74 299	P	Pn	11 34 15.3	+1.3
	baz=106					
COLD	Coldfoot	5.75 285	P	Pn	11 34 14.3	+0.3
	baz=92					
COLD	Coldfoot	5.75 285	Pn	Pn	11 34 14.5	+0.5
NEA2	Nenana	5.80 258	P	Pn	11 34 14.4	-0.4
	baz=66					
C24K	Franklin Bluff	5.87 311	P	Pn	11 34 16.5	+0.8
	baz=118					
TGTN	Hyland Airport	5.90 142	P	Pn	11 34 17.5	+1.3
	baz=329					
MCARA	McCarthy VSAT	5.94 216	P	Pn	11 34 17.4	+0.7
	baz=29,SNR=9.9					
DHY	Denali Highway	5.96 241	P	Pn	11 34 17.7	+0.5
	baz=51					
O28M	Mount Upton	5.96 201	P	Pn	11 34 18.9	+1.6
	baz=17,SNR=32					
O28M	Mount Upton	5.96 201	Pn	Pn	11 34 18.6	+1.3
CTGM	Chitina Glacie	5.97 207	Pn	Pn	11 34 17.4	+0.2
CTG	Chitna Glacier	5.97 207	P	Pn	11 34 17.7	+0.4
	baz=22,SNR=7.3					
PTPK	Patty Peak	5.99 213	Pn	Pn	11 34 18.0	+0.4
LOGN	Logan Glacier	6.04 205	Pn	Pn	11 34 19.0	+0.7
BALM	Baldy	6.10 211	Pn	Pn	11 34 19.3	+0.2
MCK	McKinley	6.15 250	P	Pn	11 34 19.7	+0.1
	baz=58					
WRGLY	Wrigley	6.15 115	P	Pn	11 34 20.6	+1.0
	baz=307,SNR=13					
KIAG	Kiagna River	6.21 211	Pn	Pn	11 34 20.9	+0.3
D23K	Nanushuk River	6.22 301	P	Pn	11 34 21.8	+1.2
	baz=107					
O29M	Mount Kennedy	6.23 193	P	Pn	11 34 21.6	+0.7
	baz=10,SNR=12					
O29M	Mount Kennedy	6.23 193	Pn	Pn	11 34 21.6	+0.7
G22K	Bettles	6.26 282	P	Pn	11 34 21.1	+0.1
	baz=88					
MLY	Manley	6.30 264	P	Pn	11 34 20.8	-1.0
	baz=71					
P30M	Million Dollar	6.31 185	P	Pn	11 34 22.3	+0.4
	baz=4.4					
P30M	Million Dollar	6.31 185	Pn	Pn	11 34 22.4	+0.5
P30M			Sg	Sb	11 36 06.8	+12
H22K	Ishtalitna Cre	6.33 273	P	Pn	11 34 21.8	-0.3
	baz=78					
P33M	Teslin, Yukon	6.34 166	P	Pn	11 34 21.6	-0.8
	baz=349,SNR=12					
P33M	Teslin, Yukon	6.34 166	Pn	Pn	11 34 21.4	-0.9
WAT6	Susitna Watana	6.41 239	P	Pn	11 34 23.1	-0.2
	baz=48					
TABL	Table Mountain	6.43 204	Pn	Pn	11 34 24.8	+1.1
C23K	Itkillik River	6.52 309	P	Pn	11 34 25.8	+1.2
	baz=115					
CRQE	Cirque	6.52 213	P	Pn	11 34 25.8	+1.0
	baz=27					
F22K	John River	6.52 287	P	Pn	11 34 25.4	+0.7
	baz=92					
WAT1	Susitna Watana	6.53 243	P	Pn	11 34 24.9	0.0
	baz=51					
A36M	Sachs Harbour	6.76 29	P	Pn	11 34 27.4	-0.5
	baz=219,SNR=17					
A36M	Sachs Harbour	6.76 29	Pn	Pn	11 34 26.2	-1.7
P32M	Atlin	6.89 171	P	Pn	11 34 29.9	+0.1
	baz=353,SNR=6.0					
P32M	Atlin	6.89 171	Pn	Pn	11 34 29.6	-0.3
D22K	Ayikyak River	6.90 299	P	Pn	11 34 30.9	+1.0
	baz=103					
SKAG	Skagway	6.96 178	P	Pn	11 34 31.1	+0.4
	baz=359					
H21K	Melozitna Rive	6.96 272	P	Pn	11 34 31.3	+0.6
	baz=76					
PLBC	Pleasant Camp	6.96 182	P	Pn	11 34 32.2	+1.4
	baz=2.0,SNR=5.0					
PLBC	Pleasant Camp	6.96 182	Pn	Pn	11 34 32.0	+1.2
F21K	Alatna River	7.02 285	P	Pn	11 34 32.0	+0.4
	baz=88					
G21K	Allakaket	7.08 279	P	Pn	11 34 32.1	-0.3
	baz=83					
R33M	Jennings River	7.36 160	Pn	Pn	11 34 36.1	-0.2
Q32M	Nakina River	7.63 166	P	Pn	11 34 40.4	+0.3
	baz=349					
C21K	Knifeblade Rid	7.70 300	P	Pn	11 34 41.1	+0.3
	baz=102					
B21K	Ikpikpuk River	7.75 303	P	Pn	11 34 42.5	+1.0
	baz=106					
F20K	Avaraart Lake	7.91 284	P	Pn	11 34 43.3	-0.4
	baz=86					
J20K	Nowinta River	7.99 262	P	Pn	11 34 44.4	-0.4
	baz=66					
E20K	Nigu River	8.08 293	P	Pn	11 34 46.7	+0.6
	baz=94					
DLBC	Dease Lake	8.41 159	P	Pn	11 34 51.4	+0.6
	baz=344					
DLBC	Dease Lake	8.41 159	Pn	Pn	11 34 50.0	-0.7
H19K	Roundabout Mou	8.46 274	P	Pn	11 34 51.0	-0.2
	baz=75					
E19K	Redstone River	8.47 287	P	Pn	11 34 51.1	-0.3
	baz=87					
G19K	Purcell Mounta	8.57 278	P	Pn	11 34 52.7	-0.1
	baz=79					
B20K	Meade River	8.70 304	P	Pn	11 34 55.1	+0.6
	baz=104					
F19K	Shaleruckik Mo	8.73 283	P	Pn	11 34 54.6	-0.3
	baz=83					
FNSB	Fort Nelson	9.68 136	Pn	Pn	11 35 07.1	-0.9
YKA	Yellowknife Ar	9.94 103	Pn	Pn	11 35 09.4	-2.1
	0.4nm,0.3s,baz=301,slow=12,SNR=14					
YKA			Sn	Sn	11 36 51.3	-10
	0.8nm,0.3s,baz=300,slow=36,SNR=4.8					
YKA			Lg	Lg	11 37 56.5	
	0.6nm,0.3s,baz=302,slow=29,SNR=3.5					
	1.1nm,0.7s					
C18K	Utukok River	9.94 295	P	Pn	11 35 11.6	0.0
	baz=91					
NBC6	NorthernBC 6	10.27 133	Pn	Pn	11 35 14.9	-1.3
C17K	DeLong Mountai	10.67 294	P	Pn	11 35 21.6	+0.1
	baz=88					
BBB	Bella Bella	14.76 161	LR	LR	11 42 26.4	
	comp=Z,65nm,19.7s,baz=141,slow=39					
PDAR	Pinedale Array	27.72 136	P	P	11 38 37.4	+0.9
	0.2nm,0.6s,baz=341,slow=7.6,SNR=1.7					
	0.2nm,0.6s					

*AEIC **16** 11:35:11.3±2.4, 55°.9N±0°.1×150°.0W±0°.1, h8km±8km, Error ellipse: s-maj=16.9km s-min=7.3km az=146.0*

NEIC 16 11:35:07.2±2.5, 55°.96N±0°.06×150°.1W±0°.1, h6km±9km, ML2.9/28, ML2.7(AEIC), Error ellipse: s-maj=14.5km s-min=4.5km az=126.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.16 307			Pn	11 35 43.9	+0.1
OHAK					Sn	11 36 09.5	-1.3
OHAK	Old Harbor	2.16 307		P	Pn	11 35 43.8	0.0
	baz=35						
KDAK	Kodiak Island	2.27 325			Pn	11 35 45.7	+0.4
KDAK					Sn	11 36 13.0	-0.6
SII	Sitkinak Islan	2.34 286		Pn	Pn	11 35 45.6	-0.7
SII				IAML		11 36 19.6	
	comp=N,64nm,1.3s						
SII				IAML		11 37 04.6	
	comp=E,85nm,1.5s						
SYI	Shuyak Island	2.93 336			Pn	11 35 54.5	+0.2
SYI					Sn	11 36 29.2	-0.5
SYI	Shuyak Island	2.93 336		IAML		11 36 39.9	
	comp=E,16nm,1.4s						
CHIR	Chirikof Islan	3.10 270		Pn	Pn	11 35 57.6	+0.9
CHIR				IAML		11 36 54.5	
	comp=E,50nm,1.4s						
CHIR				IAML		11 37 06.3	
	comp=N,46nm,1.4s						
KAHG	Katmai Hook Gl	3.50 318			Pn	11 36 03.8	+1.6
Q19K	Cape Douglas,	3.53 329			Pn	11 36 04.1	+1.4
CNPM	China Poot	3.62 351			Pn	11 36 03.1	-0.8
CNPM					Sn	11 36 44.8	-2.2
CNPM	China Poot	3.62 351		IAML		11 36 48.3	
	comp=N,7.5nm,1.4s						
CNPM				IAML		11 36 53.1	
	comp=E,11nm,1.2s						
ACHA	Angle Creek He	3.62 311		Pn	Pn	11 36 05.6	+1.6
ANCK	Angle Creek	3.69 310			Pn	11 36 06.8	+1.9
KAHC	Katmai Hardscr	3.78 317			Pn	11 36 07.8	+1.6
BRSE	Bradley Lake S	3.80 355			Pn	11 36 05.5	-0.9
PLK4	Peulik 4	3.81 299			Pn	11 36 07.9	+1.3
PLK4					Sn	11 36 51.0	-0.8
CNTC	Contact Creek	3.90 309			Pn	11 36 08.8	+1.1
P19K	Oil Pt	4.06 337			Pn	11 36 10.9	+1.0
P19K	Oil Pt	4.06 337		IAML		11 38 20.5	
	comp=E,29nm,1.4s						
P18K	Big Mountain,	4.40 324			Pn	11 36 15.4	+0.8
P18K	Big Mountain,	4.40 324		IAML		11 37 25.6	
	comp=N,6.0nm,1.1s						
P18K				IAML		11 37 30.4	
	comp=E,7.2nm,1.4s						
P17K	Kvichak River	4.70 316			Pn	11 36 19.8	+1.2
O18K	Koktuh Hills	4.75 327		Pn	Pn	11 36 19.3	-0.1
O18K				IAML		11 37 22.3	
	comp=N,6.8nm,1.2s						
O18K				IAML		11 39 20.4	
	comp=E,7.7nm,1.4s						
HIN	Hinchinbrook I	4.84 22			Pn	11 36 19.5	-1.2
KAIM	Kayak Island	5.00 35			Pn	11 36 21.8	-1.0
EYAK	Cordova Ski Ar	5.14 25		Pn	Pn	11 36 22.9	-1.9
FID	Port Fidalgo	5.17 20			Pn	11 36 23.8	-1.3
FID	Port Fidalgo	5.17 20		IAML		11 37 06.8	
	comp=N,13nm,1.2s						
FID				IAML		11 38 02.3	
	comp=E,14nm,1.2s						

*ASRS **16** 11:47:39.0±0.3, 51°.N±2°.×9°.1E±°, h10km, MLh3.8/16, Error ellipse: s-maj=3.7km s-min=2.4km az=140.5, confirmed*
*NNC **16** 11:48:00.2±3.2, 50°.60N×89°.57E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=26.8km s-min=15.8km az=103.0*

ISC 16 11:47:45.7±0.9, 50°.66N±0°.04×90°.51E±0°.04, h10km, n26, σ1°.86/48, 9C-8D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL	Teeli	0.41 332		Pg	Pg	11 47 51.2	-2.5
TEL				Sg	Sg	11 47 59.7	+0.6
CUR	Chagan-Uzun	1.49 249		Pg	Pn	11 48 10.5	-2.2
CUR				Sg	Sg	11 48 33.1	-0.6
ULGR	Ulagan, Altay	1.62 270		Pg	Pg	11 48 16.1	-0.7
ULGR				Sg	Sg	11 48 39.9	+2.1
AKAR	Aktash	1.88 261		Pg	Pb	11 48 18.3	-1.8
AKAR				Sg	Sg	11 48 45.1	-0.8
CHBI	Chibit, Altay	1.95 261		⇑Pg	Pn	11 48 19.2	+0.2
CHBI				Sg	Sg	11 48 48.2	-0.1
YALR	Yailyu, Altay	2.13 302		Pg	Pb	11 48 22.7	-1.7
YALR				Sg	Sg	11 48 55.1	+0.9
DJO	Djoy, Khakassi	2.17 12		Pg	Pn	11 48 21.8	0.0
DJO				Sg	Sb	11 48 50.7	-1.2
DGZ	Jazzator, Alta	2.20 245		Pg	Pn	11 48 21.9	-0.5
DGZ				Sg	Sb	11 48 53.7	+0.7
CERR	Cheremushki	2.27 14		Pg	Pn	11 48 23.3	+0.2
CERR				Sg	Sb	11 48 53.9	-0.9
ARTR	Artybash	2.32 301		Pg	Pb	11 48 26.6	-1.1
ARTR				Sg	Sg	11 49 00.7	+0.3
VEH	Verkhnyaya Baz	2.60 357		Pg	Pn	11 48 28.9	+1.0
VEH				Sg	Sb	11 49 06.0	+1.6
ARDR	Aradan	2.65 42		Pg	Pn	11 48 28.0	-0.5
ARDR				Sg	Sn	11 49 00.4	-0.2
TASR	Tashtagol	2.66 323		Pg	Pb	11 48 33.1	-0.3
TASR				Sg	Sg	11 49 09.6	-1.5
KZLR	Kyzyl	2.69 66		Pg	Pn	11 48 28.6	-0.5
KZLR				Sg	Sn	11 49 01.7	-0.1
ELDR	Elanda	2.85 283		Pg	Pb	11 48 35.8	-0.8
ELDR				Sg	Sg	11 49 16.1	-1.0
GALT	Gorno-Altaysk,	3.14 296		Pg	Pb	11 48 42.8	+1.2
GALT				Sg	Sg	11 49 25.1	-1.4
LUZB	Luzhba, Kemero	3.16 342		Sg	Sg	11 49 26.1	-1.1
ELT	Eltsovka	3.71 316		Pg	Pb	11 48 51.6	+0.4
ELT				Sg	Sg	11 49 42.6	-2.0
VCHU	Verkh-Chumysh,	4.13 324		Pg	Pg	11 49 02.9	-1.9

MK31			⇓Sn		**Sn**	**11 50 46.6**	**+6.8**
	4.3nm,0.6s						
MK31			⇑Lg		Lg	11 51 17.7	
	12nm,0.8s,baz=64,slow=32,SNR=4.9						
MAKZ	**Makanchi**	**6.83 239**	⇑Pn		Pn	11 49 32.8	+6.9
	0.6nm,0.3s						
MAKZ			⇑Pg		**Pg**	**11 49 52.7**	**-3.7**
	2.2nm,0.5s						
MAKZ			⇑Sn		**Sn**	**11 50 49.5**	**+5.7**
	1.6nm,0.5s						
MAKZ			⇑Lg		Lg	11 51 20.4	
	13nm,1.2s						
KURK	**Kurchatov**	**7.55 275**	⇓Pn		Pn	11 49 45.0	+9.2
	0.8nm,0.4s						
KURK			⇓Sn		**Sn**	**11 51 03.1**	**+1.8**
	2.4nm,0.5s						
KURK			⇓Lg		Lg	11 51 44.1	
	14nm,0.8s						
KURBB	**Kurchatov Arra**	**7.62 274**	⇓Pn		Pn	11 49 43.9	+7.3
	1.9nm,0.4s						
KURBB			⇓Sn		**Sn**	**11 51 04.2**	**+1.2**
	5.4nm,0.5s						
KURBB			⇓Lg		Lg	11 51 44.6	
	22nm,0.7s						

*GCG **16** 12:01:36.4±0.4, 13°.53N×90°.58W, h56km±38km, MD3.5*
*SNET **16** 12:01:36.3±1.1, 13°.82N×90°.70W, h71km±13km, ML3.2*
ISC 16 12:01:38.8±1.9,**13°.7N**±0°.1×**90°.58W**±0°.07,**h77**km±19km,
n15,σ1§**32**/25,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.66**	**357**	*e*P		**Pn**		**12 01 53.5**	**-0.5**
PCG				*e*S		**Sn**		**12 02 08.1**	**+2.8**
FUG	**Fuego 3**	**0.76**	**340**	*e*P		**Pn**		**12 01 54.1**	**-0.9**
FUG				*e*S		**Sn**		**12 02 08.2**	**+1.2**
NUBE	**Las Nubes**	**0.79**	**78**	*e*P		**Pn**		**12 01 54.2**	**-1.2**
NUBE				*e*S		**Sn**		**12 02 06.9**	**-0.7**
NUBE				IAML				12 02 12.7	
	comp=Z,116nm,0.2s								
LOAL	**Lomas de Alarc**	**0.82**	**71**	*e*P		**Pn**		**12 01 54.2**	**-1.3**
LOAL				*e*S		**Sn**		**12 02 07.9**	**0.0**
NBG	**Las Nubes**	**0.88**	**15**	*e*P		**Pn**		**12 01 56.3**	**-0.2**
NBG				*e*S		**Sn**		**12 02 10.2**	**+0.6**
CEVE	**Cerro Verde**	**0.93**	**84**	*e*P		**Pn**		**12 01 56.3**	**-0.7**
CEVE				*e*S		**Sn**		**12 02 11.6**	**+1.0**
CEVE				IAML				12 02 12.6	
	comp=Z,1μm,0.3s								
JAYA	**Jayaque - finc**	**1.10**	**94**	*e*P		**Pn**		**12 01 58.0**	**-1.0**
JAYA				*e*S		**Sn**		**12 02 14.2**	**+0.1**
JAYA				IAML				12 02 17.7	
	comp=Z,762nm,0.3s								
BOQS	**Boqueron**	**1.26**	**90**	*e*P		**Pn**		**12 02 00.8**	**-0.3**
MTO3	**Montecristo**	**1.35**	**61**	*e*P		**Pn**		**12 02 00.9**	**-1.4**
STG3	**Santiaguito 3,**	**1.37**	**315**	*e*P		**Pn**		**12 02 02.1**	**-0.3**
STG3				*e*S		**Sn**		**12 02 19.4**	**-0.8**
ESQI	**Esquipulas**	**1.45**	**55**	*e*S		**Sn**		**12 02 21.9**	**-0.2**
LFRS	**El Faro**	**1.48**	**94**	*e*S		**Sn**		**12 02 23.4**	**+0.8**
COEG	**Centro de Oper**	**1.65**	**94**	*e*P		**Pn**		**12 02 04.7**	**-1.3**
COEG				*e*S		**Sn**		**12 02 28.4**	**+1.7**
COEG				IAML				12 02 35.2	
	comp=Z,246nm,0.3s								
COEB	**Comit de Eme**	**2.00**	**96**	*e*P		**Pn**		**12 02 09.9**	**-0.9**
COEB				*e*S		**Sn**		**12 02 37.1**	**+2.1**
COEB				IAML				12 02 41.6	
	comp=Z,98nm,0.3s								
LCND	**La Caada**	**2.65**	**99**	*e*S		**Sn**		**12 02 53.0**	**+2.6**
LCND				IAML				12 02 59.8	
	comp=Z,59nm,0.3s								

*NEIC **16** 12:20:48.7±0.3, 36°.27N±0°.01×97°.51W±0°.01, h6km, Error ellipse: s-maj=1.5km s-min=1.3km az=177.0*
TUL 16 12:20:48.8±0.4,**36°.28N**±0°.01×**97°.50W**±0°.01,**h6**km±2km,
ML2.9,**mb_Lg2.9**/92(NEIC),**ML3.0**/74(NEIC),**Error ellipse: s-maj=1.7km s-min=1.1km az=170.0**,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.45**	**300**			Pg	Pg	12 20 57.7	+0.2
CROK						Sg	Sg	12 21 03.8	+0.4
CROK				IAML				12 21 06.3	
	comp=E,2μm,0.2s								
OK048	**Pawnee Station**	**0.47**	**73**			Pg	Pg	12 20 58.1	+0.2
OK029	**Liberty Lake**	**0.48**	**175**			Pg	Pg	12 20 58.2	+0.1
BLOK	**Blackwell**	**0.53**	**26**				Pg	12 20 59.4	+0.2
OK051	**E0350 and S346**	**0.58**	**67**			Pg	Pg	12 21 00.2	+0.2
OK051				IAML				12 21 10.1	
	comp=E,702nm,0.1s								
OK051				IAML				12 21 14.3	
	comp=E,680nm,0.2s								
OK031	**S. Brethren Rd**	**0.63**	**121**			Pg	Pg	12 21 00.9	+0.1
OK031				IAML				12 21 09.9	
	comp=E,939nm,0.5s								
OK031				IAML				12 21 09.9	
	comp=E,760nm,0.3s								
OK052	**Battle Ridge R**	**0.63**	**116**			Pg	Pg	12 21 01.2	+0.2
OK052				IAML				12 21 10.0	
	comp=E,1μm,0.3s								
ADOK	**Arcadia Dam**	**0.63**	**170**					12 21 00.9	-0.1
GC02	**Grant County #**	**0.64**	**333**			Pg	Pg	12 21 01.1	0.0
QUOK	**Quay**	**0.65**	**99**			Pg	Pg	12 21 01.4	+0.1
KAN13	**South Haven SW**	**0.73**	**2**				Pg	12 21 03.0	0.0
KAN13				IAML				12 21 15.5	
	comp=E,865nm,0.4s								
KAN13				IAML				12 21 19.6	
	comp=N,812nm,0.2s								
KAN14	**Manchester OK**	**0.77**	**331**				Pg	12 21 03.4	-0.2
KAN14				IAML				12 21 15.1	
	comp=N,800nm,0.1s								
OK032	**Salt Plains WL**	**0.78**	**313**				Pg	12 21 03.4	-0.3
OK032				IAML				12 21 15.4	
	comp=N,903nm,0.2s								
KAN17	**Caldwell West**	**0.79**	**345**				Pg	12 21 04.0	0.0
KAN17				IAML				12 21 22.9	
	comp=N,715nm,0.3s								
KAN17				IAML				12 21 24.5	
	comp=E,778nm,0.2s								
KAN09	**Caldwell North**	**0.86**	**354**				Pg	12 21 05.2	-0.2
OKCSW	**OKLAHOMA CITY**	**0.87**	**177**				Pg	12 21 05.3	-0.2
OKCSW				IAML				12 21 22.3	
	comp=E,594nm,0.5s								
OKCSW				IAML				12 21 24.7	
	comp=N,405nm,0.5s								
KAN05	**Bluff City Nor**	**0.88**	**340**				Pg	12 21 05.5	-0.2
KAN05				IAML				12 21 18.8	
	comp=N,901nm,0.2s								
KAN05				IAML				12 21 21.3	
	comp=E,841nm,0.2s								
KAN01	**Argonia South**	**0.90**	**347**			Pg	Pg	12 21 05.6	-0.4
KAN01				IAML				12 21 18.1	
	comp=N,429nm,0.2s								
KAN01				IAML				12 21 21.8	
	comp=E,442nm,0.1s								
DEOK	**Depew**	**0.92**	**118**			Pg	Pg	12 21 06.2	-0.3
DEOK				IAML				12 21 19.1	
	comp=N,551nm,0.6s								
DEOK				IAML				12 21 21.4	
	comp=E,433nm,0.1s								
KAN08	**Anthony NE Sta**	**1.02**	**338**				Pg	12 21 08.0	-0.4
KAN08				IAML				12 21 22.8	
	comp=E,365nm,0.1s								
KAN08				IAML				12 21 23.5	
	comp=N,345nm,0.1s								
T35A	**Sooner Cattle**	**1.02**	**51**			Pg	Pg	12 21 08.0	-0.3
T35A				IAML				12 21 22.7	
	comp=N,309nm,0.3s								
T35A				IAML				12 21 23.2	
	comp=E,285nm,0.2s								
OK038	**West end E0370**	**1.02**	**282**				Pg	12 21 07.8	-0.6
FNO	**Franklin**	**1.02**	**175**				Pg	12 21 07.9	-0.5
FNO				IAML				12 21 24.7	
	comp=E,392nm,0.1s								
KAN12	**Harper NE Stat**	**1.09**	**339**				Pg	12 21 09.3	-0.5
CSTR	**Hydro, Custer**	**1.15**	**237**			Pg	Pg	12 21 10.0	-0.9
NOKA	**Waynoka**	**1.21**	**288**				Pg	12 21 11.1	-0.8
U32A	**Winter Ranch,**	**1.22**	**275**				Pg	12 21 11.1	-1.0
U32A				IAML				12 21 31.0	
	comp=E,297nm,0.3s								
U32A				IAML				12 21 33.3	
	comp=N,333nm,0.3s								
W35A	**Tecumseh**	**1.23**	**155**			Pg	Pg	12 21 11.2	-1.3
W35A				IAML				12 21 32.0	
	comp=N,260nm,0.3s								
TUL3	**Leonard**	**1.43**	**104**				Pn	12 21 14.7	-0.6
ELIS	**Ellis County**	**1.56**	**263**				Pn	12 21 17.4	+0.2
X34A	**Smith Ranch, M**	**1.69**	**189**				Pb	12 21 20.0	-0.4
WMOK	**Wichita Mounta**	**1.86**	**215**			Pn	Pn	12 21 21.7	+0.6
RLO	**Rose Lookout**	**2.01**	**92**				Pn	12 21 24.4	+1.2
LOOK	**Love County**	**2.29**	**173**				Pn	12 21 28.0	+0.9
R32A	**Long Quarter,**	**2.35**	**336**				Pb	12 21 29.9	-1.6
X37A	**Clayton**	**2.42**	**133**				Pn	12 21 29.6	+0.7
X37A				IAmb_Lg				12 22 10.7	
	comp=Z,43nm,0.7s								
SMWD	**Samnorwood**	**2.52**	**243**			Pn	Pn	12 21 30.8	+0.5
S39A	**Bolivar**	**3.63**	**66**			IAmb_Lg		12 22 44.3	
	comp=Z,26nm,0.9s								
AMTX	**Amarillo**	**3.68**	**249**			IAmb_Lg		12 22 52.1	
	comp=Z,23nm,0.8s								
ABTX	**Abilene, Hawle**	**4.05**	**206**			IAmb_Lg		12 23 00.9	
	comp=Z,25nm,0.8s								
X40A	**Basin Creek Fa**	**4.21**	**114**			IAmb_Lg		12 23 06.1	
	comp=Z,23nm,0.7s								
SN07	**Snyder 07**	**4.23**	**222**			IAmb_Lg		12 23 05.1	
	comp=Z,28nm,0.9s								
MGMO	**Mountain Grove**	**4.29**	**77**			IAmb_Lg		12 23 07.9	
	comp=Z,19nm,0.8s								
WHAR	**Wooly Hollow**	**4.35**	**102**			IAmb_Lg		12 23 08.4	
	comp=Z,18nm,0.9s								
FCAR	**Ozark Folk Cen**	**4.37**	**93**			IAmb_Lg		12 23 11.2	
	comp=Z,17nm,0.8s								
SN05	**Snyder 5**	**4.39**	**220**			IAmb_Lg		12 23 12.4	
	comp=Z,28nm,0.8s								
WLAR	**White Oak Lake**	**4.43**	**124**			IAmb_Lg		12 23 12.3	
	comp=Z,27nm,0.8s								
UALR	**University of**	**4.47**	**108**			IAmb_Lg		12 23 20.2	
	comp=Z,17nm,0.8s								
POST	**Post**	**4.60**	**227**			IAmb_Lg		12 23 15.2	
	comp=Z,20nm,1.0s								
BRDY	**Brady**	**5.13**	**194**			IAmb_Lg		12 23 39.0	
	comp=Z,13nm,0.7s								
BGNE	**Belgrade**	**5.15**	**355**			IAmb_Lg		12 23 36.2	
	comp=Z,22nm,0.7s								
CCAR	**Cane Creek**	**5.25**	**115**			IAmb_Lg		12 23 45.7	
	comp=Z,25nm,0.9s								
SGCY	**Sterling City**	**5.29**	**216**			IAmb_Lg		12 23 47.5	
	comp=Z,27nm,0.8s								
CCM	**Cathedral Cave**	**5.30**	**69**			IAmb_Lg		12 23 35.4	
	comp=Z,21nm,0.7s								
435B	**Jarrell**	**5.48**	**181**			IAmb_Lg		12 23 52.3	
	comp=Z,13nm,0.8s								
T25A	**Trinidad**	**5.62**	**281**			IAmb_Lg		12 23 53.8	
	comp=Z,12nm,0.7s								
OGNE	**Ogallala**	**5.86**	**324**			IAmb_Lg		12 24 04.3	
	comp=Z,18nm,0.7s								
FVM	**French Village**	**5.90**	**71**			IAmb_Lg		12 23 59.3	
	comp=Z,14nm,0.9s								
OZNA	**Ozona**	**6.14**	**211**			IAmb_Lg		12 24 11.1	
	comp=Z,17nm,1.0s								
SLM	**Saint Louis**	**6.24**	**66**			IAmb_Lg		12 24 09.8	
	comp=Z,22nm,0.7s								
PARMO	**Parma**	**6.26**	**84**			IAmb_Lg		12 24 05.2	
	comp=Z,20nm,0.7s								
CGM3	**Cape Girardeau**	**6.38**	**78**			IAmb_Lg		12 24 11.5	
	comp=Z,16nm,0.8s								
K30B	**Basset**	**6.59**	**346**			IAmb_Lg		12 24 29.6	
	comp=Z,14nm,0.9s								
Q24A	**Divide**	**6.63**	**296**			IAmb_Lg		12 24 25.9	
	comp=Z,11nm,0.7s								
S44A	**Carbondale**	**6.75**	**75**			IAmb_Lg		12 24 22.2	
	comp=Z,20nm,0.8s								
OXF	**Oxford**	**6.84**	**103**			IAmb_Lg		12 24 39.5	
	comp=Z,14nm,0.9s								
HNDO	**Hondo**	**6.89**	**193**			IAmb_Lg		12 24 47.6	
	comp=Z,11nm,0.7s								
ISCO	**Idaho Springs**	**7.30**	**301**			IAmb_Lg		12 24 48.4	
	comp=Z,8.4nm,0.8s								
DRIO	**Del Rio**	**7.32**	**202**			IAmb_Lg		12 24 56.9	
	comp=Z,9.8nm,0.8s								
SAND	**Sanderson**	**7.40**	**213**			IAmb_Lg		12 24 46.3	
	comp=Z,11nm,0.9s								
L40A	**Anamosa**	**7.56**	**38**			IAmb_Lg		12 24 54.6	
	comp=Z,13nm,0.8s								
OLIL	**Olney**	**7.87**	**69**			IAmb_Lg		12 25 18.5	
	comp=Z,16nm,0.8s								
PHWY	**Pilot Hill**	**7.98**	**311**			IAmb_Lg		12 25 13.0	
	comp=Z,13nm,1.0s								
N23A	**Red Feather La**	**8.06**	**307**			IAmb_Lg		12 25 15.3	
	comp=Z,12nm,0.7s								
L42A	**Oliver, Polo**	**8.35**	**44**			IAmb_Lg		12 25 14.4	
	comp=Z,14nm,0.9s								
JFWS	**Jewell Farm**	**8.67**	**38**			IAmb_Lg		12 25 33.7	
	comp=Z,12nm,0.7s								
M44A	**Midewin, Midew**	**8.97**	**52**			IAmb_Lg		12 25 49.8	
	comp=Z,8.8nm,0.8s								
RWWY	**Rawlins**	**9.29**	**309**			IAmb_Lg		12 25 53.9	
	comp=Z,8.5nm,0.8s								
SPMN	**Marine on St.**	**9.62**	**20**			IAmb_Lg		12 26 03.0	
	comp=Z,9.9nm,1.1s								

*ISN **16** 12:24:56.2±1.2, 34°.68N×46°.27E, h12km±14km, ML2.8*
*TEH **16** 12:24:57.2, 34°.64N×46°.28E, h8km±23km, ML2.8*
ISC 16 12:24:56.9±1.0,**34°.65N**±0°.04×**46°.29E**±0°.04,**h13**km±8km,
n12,σ0§**63**/15,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.10**	**60**			Pg	**Pg**	**12 25 00.2**	**0.0**
IDHR						Sg	**Sg**	**12 25 02.6**	**+0.2**
IGHG	**Ghaleghazi**	**0.40**	**144**			Pg	**Pb**	**12 25 05.7**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.59**	**256**			Pg	**Pg**	**12 25 08.5**	**0.0**
ILIN	**Lien**	**0.62**	**64**			Pg	**Pg**	**12 25 09.2**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.62**	**210**			Pg	**Pg**	**12 25 09.0**	**0.0**
KCHF	**Cheshme Sefid,**	**0.73**	**121**			Pg	**Pg**	**12 25 10.9**	**-0.2**
ILBA	**Ilam Banvizeh**	**1.03**	**184**			Pg	**Pg**	**12 25 16.6**	**-0.2**
IBZA	**Bozab**	**1.31**	**98**			Pg	**Pg**	**12 25 22.2**	**0.0**
IBDR	**Badra**	**1.57**	**191**	*e*Pn			**Pb**	**12 25 26.0**	**+0.3**
	baz=10.0								
IBDR					*e*Sn		**Sg**	**12 25 47.0**	**-0.3**
IBDR					AML		AML	12 25 53.0	
	comp=E,119nm,0.7s								
IBDR					AML		AML	12 26 02.3	
	comp=N,92nm,0.7s								
IKRK	**Kirkuk**	**1.76**	**296**	*e*Pn			**Pn**	**12 25 28.0**	**+0.9**
IKRK					*e*Sn		**Sg**	**12 25 52.0**	**-1.6**
IKRK					AML		AML	12 25 59.6	
	comp=N,218nm,0.4s								
IKRK					AML		AML	12 26 07.0	
	comp=E,168nm,0.3s								
HSAM	**Samen**	**1.96**	**102**			Pn	**Pg**	**12 25 33.9**	**-0.8**
MAHB	**Mahabad**	**2.16**	**348**			Pn	**Pb**	**12 25 35.9**	**-0.1**

AUST 16 12:32:44.6±0.3,**25°.90S**×**141°.01E**,**h10**km,**mb3.5**/6,
Mjma4.6/9,**ML3.4**/9,**MLv4.2**/9,**Error ellipse: s-maj=0.0km s-min=0.0km az=0.0**,**Queensland**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
INKA	**Innaminka**	**1.85**	**187**			P	Pn	12 33 17.0	+0.6
	0.1nm,SNR=1.9								
INKA						S	Sn	12 33 40.6	+0.8
QLP	**Quilpie**	**2.97**	**104**			P	Pn	12 33 33.0	+1.1
	0.1nm,SNR=2.1								
QLP						S	Sn	12 34 07.3	-0.3
OOD	**Oodnadatta**	**5.12**	**247**			P	Pn	12 34 00.6	-0.7
	15nm,2.5s,SNR=1.0								
OOD						S	Sn	12 34 56.3	-4.2
LCRK	**Leigh Creek**	**5.16**	**208**			P	Pn	12 34 02.2	+0.3
	22nm,1.1s,SNR=1.2								
QIS	**Mount Isa**	**5.47**	**346**			P	Pn	12 34 06.0	-0.3
	SNR=1.4								
ASPA	**Alice Springs**	**6.83**	**287**			P	Pn	12 34 25.9	+1.0
	1.4nm,0.4s,SNR=1.4								
ASPA						S	Sn	12 35 39.0	-3.9
CMSA	**Cobar Meteorol**	**6.96**	**145**			P	Pn	12 34 26.2	-0.4
	0.1nm,SNR=1.6								
MULG	**Mulgathing**	**7.53**	**233**			P	Pn	12 34 33.9	-0.6
	0.1nm,SNR=1.8								
MULG						S	Sn	12 35 57.1	-3.0
CTAO	**Charters Tower**	**7.53**	**41**			P	Pn	12 34 35.4	+0.8
	0.1nm,SNR=1.4								
WB2	**Warramunga Arr**	**8.53**	**313**			P	Pn	12 34 47.3	-1.0

*NIED **16** 12:39:14.2, 43°.59N×146°.92E, h29km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.76; $M_{\theta\theta}$-0.67; $M_{\phi\phi}$-0.09; $M_{r\theta}$-0.67; $M_{\theta\phi}$1.77; $M_{\phi r}$-0.58; Fault plane solution: $M_0$2.10000×10^{14} NP1: ϕ_s271.00000°, δ68.00000°, λ28.00000°. NP2: ϕ_s170.00000°, δ64.00000°, λ156.00000°.*
*SKHL **16** 12:39:14.2±0.4, 43°.80N×147°.00E, h18km±2km, mb5.3/3*
*JMA **16** 12:39:14.2±0.3, 44°.N±1°×14°.7E±°, h29km±4km, MV3.9/29, E OFF HOKKAIDO*
JMA Felt I J1 at E OFF HOKKAIDO .
*MOS **16** 12:39:14.1±1.2, 43°.96N×146°.82E, h18km, mb4.2/4, Error ellipse: s-maj=17.5km s-min=11.6km az=97.3*
MOS Felt (III) at Malokuril'skoye.
ISC 16 12:39:13.0±1.4,**43°.68N**±0°.06×**146°.87E**±0°.05,**h17**km±7km,
n29,σ1§**24**/42,**mb3.6**/4,**10C**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.19**	**351**	*i* P			**Pb**	**12 39 18.9**	**+0.8**
SHO						AMB	AMB	12 39 19.2	
	11μm,0.4s								
SHO				*e*S			**Sg**	**12 39 21.6**	**+0.7**
SHO						A	A	12 39 22.1	
	31μm,0.3s								
SHO						A	A	12 39 22.1	
	47μm,0.3s								
SHO	**Shikotan**	**0.19**	**351**	*c i*PN			**Pb**	**12 39 18.9**	**+0.8**
SHO				*e*S			**Sg**	**12 39 21.5**	**+0.7**
SHO						pmax	pmax		
	comp=N,4μm,0.2s								
SHO						pmax	pmax		
	comp=E,3μm,0.2s								
SHO						pmax	pmax		
	comp=Z,11μm,0.2s								
SHO						smax	smax		
	comp=N,27μm,0.3s								
SHO						smax	smax		
	comp=E,35μm,0.3s								
YUK	**Yuzh-Kuril'sk**	**0.81**	**296**	*i* P			**Pn**	**12 39 29.3**	**-0.4**
YUK						AMB	AMB	12 39 30.8	
	comp=E,2μm,0.3s								
YUK				*e*S			**Sg**	**12 39 38.7**	**-0.8**
YUK						A	A	12 39 41.4	
	comp=E,2μm,0.2s								
YUK						A	A	12 39 41.4	
	comp=E,12μm,0.2s								
YUK	**Yuzh-Kuril'sk**	**0.81**	**296**	*c i*PN			**Pn**	**12 39 29.3**	**-0.4**
NEM2	**Nemuro 2**	**0.88**	**249**			P	**Pn**	**12 39 30.5**	**-0.1**
NEM2				*e*S			**Sb**	**12 39 42.0**	**+0.7**
JRA	**Rausu**	**1.29**	**282**			P	**Pg**	**12 39 37.2**	**-0.7**
JRA				*e*S			**Sg**	**12 39 54.3**	**-0.4**
JNSB	**Nemuroshibetsu**	**1.36**	**275**	*e*P			**Pg**	**12 39 38.5**	**-0.6**
JNSB				*e*S			**Sb**	**12 39 55.7**	**+0.7**
JKHN	**Kushirohamanak**	**1.38**	**245**			P	**Pb**	**12 39 38.0**	**-0.3**
JNK	**Nakash**	**1.57**	**267**	*e*P			**Pb**	**12 39 41.3**	**-0.2**
JNK				*e*S			**Sn**	**12 40 00.5**	**+0.5**
KUR	**Kuril'sk**	**1.71**	**24**	*i* P			**Pn**	**12 39 41.5**	**-0.5**
KUR						AMB	AMB	12 39 44.8	
	comp=E,220nm,0.2s								
KUR				*e*S			**Sn**	**12 39 59.3**	**-4.2**
KUR						A	A	12 40 03.7	
	comp=E,430nm,0.2s								
KUR						A	A	12 40 03.7	
	comp=E,730nm,0.2s								
KUR	**Kuril'sk**	**1.71**	**24**	*c i*PN			**Pn**	**12 39 41.6**	**-0.5**
KUR				*i* S			**Sn**	**12 40 01.4**	**-2.1**
KUR						pmax	pmax		
	comp=Z,220nm,0.5s								
KUR						pmax	pmax		
	comp=N,215nm,0.2s								
KUR						pmax	pmax		
	comp=E,123nm,0.2s								
KUR						smax	smax		
	comp=N,651nm,0.2s								
KUR						smax	smax		
	comp=E,415nm,0.2s								
JAK	**Akkeshi**	**1.73**	**247**			P	**Pn**	**12 39 42.8**	**+0.5**
JAK				*e*S			**Sn**	**12 40 04.2**	**+0.2**
JTKR	**Abashiri--Toko**	**2.17**	**279**	*e*P			**Pb**	**12 39 50.6**	**-1.1**
JAR	**Ashorobuto**	**2.29**	**261**			P	**Pb**	**12 39 52.0**	**-1.8**
JAR						S	**Sb**	**12 40 20.1**	**-1.7**
JOB	**Onbets**	**2.35**	**252**	*e*P			**Pn**	**12 39 52.4**	**+1.6**
ERM	**Erimo**	**3.20**	**240**	*ce*PN			**Pb**	**12 40 07.3**	**-2.0**
YSS	**Yuzh-Sakhalins**	**4.38**	**320**	*e*P			**Pn**	**12 40 19.7**	**+1.0**
YSS				*e*S			**Sn**	**12 41 08.5**	**-0.8**
YSS	**Yuzh-Sakhalins**	**4.38**	**320**	*e*PN			**Pn**	**12 40 18.4**	**-0.3**
YSS				*e*S			**Sn**	**12 41 07.3**	**-2.0**
YSS						pmax	pmax		
	comp=Z,20nm,1.1s								
YSS						smax	smax		
	comp=N,20nm,0.5s								
YSS						smax	smax		
	comp=E,20nm,0.6s								
KLR	**Kul'dur**	**11.81**	**303**	*e*P			**Pn**	**12 42 01.1**	**+0.5**
KLR	**Kul'dur**	**11.81**	**303**	*e*PN			**Pn**	**12 42 01.1**	**+0.5**
KLR						pmax	pmax		
	comp=Z,7.0nm,2.0s								
SEY	**Seymchan**	**19.55**	**8**	*e*P			**P**	**12 43 40.1**	**+0.5**
SEY	**Seymchan**	**19.55**	**8**	*e*P			**P**	**12 43 40.1**	**+0.5**
SEY						pmax	pmax		
	comp=Z,7.0nm,1.6s								
NRIK	**Noril'sk**	**39.22**	**331**	*e*P			**P**	**12 46 41.2**	**+1.4**
NRIK						pmax	pmax		
	comp=Z,1.0nm,0.9s								
COLA	**College**	**41.25**	**36**	*e*P			**P**	**12 46 56.8**	**+0.1**
COLA						pmax	pmax		
	comp=Z,1.0nm,0.9s								
MK31	**Makanchi Array**	**44.44**	**298**	*e*P			**P**	**12 47 25.6**	**+2.7**
KURK	**Kurchatov**	**45.40**	**304**	*e*P			**P**	**12 47

LTZ	Lake Taylor	22.85	197	P	P	13 02 34.9	-1.8
ARMA	Armidale	28.18	245	P	P	13 03 24.6	+0.6
CTAO	Charters Tower	32.76	265	P	P	13 04 03.1	-0.3
CTAO				IAmb	IAmb	13 04 05.8	
	comp=Z,15nm,1.5s						
TOO	Toolangi	34.97	234	P	P	13 04 22.1	+0.4
TOO				IAmb	IAmb	13 04 43.2	
	comp=Z,21nm,1.4s						
STKA	Stephens Creek	36.90	245	P	P	13 04 36.7	-1.0
BBOO	Buckleboo	41.66	244	P	P	13 05 16.1	+0.1
WR0	Warramunga Arr	43.66	263	P	P	13 05 32.5	+0.7
WR0				IAmb	IAmb	13 05 41.6	
	comp=Z,10nm,1.5s						
AS31	Alice Springs	43.72	257	P	P	13 05 32.9	+0.6
ASAR	Alice Springs	43.72	257	P	P	13 05 32.0	-0.2
ASAR	Alice Springs	43.72	257	P	P	13 05 32.5	+0.2
	comp=Z,0.9nm,0.5s,baz=95,slow=7.8,SNR=30						
	comp=Z,0.9nm,0.5s						
WB0	Warramunga Arr	43.83	263	P	P	13 05 32.1	-1.0
WB0				IAmb	IAmb	13 05 38.5	
	comp=Z,7.7nm,1.3s						
WB2	Warramunga Arr	43.84	263	P	P	13 05 32.6	-0.6
WB2				IAmb	IAmb	13 06 03.1	
	comp=Z,9.8nm,1.4s						
WRAB	Tennant Creek	43.84	263	P	P	13 05 32.6	-0.6
WRAB				IAmb	IAmb	13 05 53.5	
	comp=Z,12nm,1.4s						
WRA	Warramunga Arr	43.85	263	P	P	13 05 33.2	-0.1
	comp=Z,0.4nm,0.7s,baz=97,slow=7.3,SNR=16						
	comp=Z,0.4nm,0.7s						
FORT	Forrest	48.42	247	P	P	13 06 05.9	-1.9
KNRA	Kununurra	49.95	267	P	P	13 06 17.9	-1.3
KNRA				IAmb	IAmb	13 06 31.3	
	comp=Z,17nm,1.5s						
VNDA	Vanda	57.20	185	P	P	13 07 11.1	+1.6
VNDA	Vanda	57.20	185	P	P	13 07 10.2	+0.6
	comp=Z,0.5nm,0.6s,baz=11,slow=8.6,SNR=6.0						
	comp=Z,0.5nm,0.6s						
CASY	Casey	63.09	205	P	P	13 07 49.2	+0.5
CASY				IAmb	IAmb	13 08 06.8	
	comp=Z,11nm,1.4s						
QSPA	South Pole Qui	68.92	180	P	P	13 08 26.3	+1.2
QSPA	South Pole Qui	68.92	180	P	P	13 08 26.2	+1.2
	comp=Z,1.4nm,0.6s,baz=14,slow=1.6,SNR=9.0						
	comp=Z,1.4nm,0.6s						
BELA	Belgrano 2	79.00	173	P	P	13 09 22.3	+0.5
BELA				IAmb	IAmb	13 09 43.1	
	comp=Z,5.2nm,1.5s						
NVAR	Mina Array Bea	81.96	44	P	P	13 09 40.1	+2.1
	comp=Z,1.0nm,0.6s,baz=228,slow=7.6,SNR=14						
	comp=Z,1.0nm,0.6s						
ELIB	Princess Elisa	85.92	187	dP	P	13 09 57.1	+0.2
	comp=Z,1.8nm,1.3s						
TXAR	Lajitas Array	87.97	58	P	P	13 10 09.9	+2.7
	comp=Z,1.1nm,1.0s,baz=216,slow=4.5,SNR=9.5						
	comp=Z,1.1nm,1.0s						
ILAR	Eielson Array	89.10	13	P	P	13 10 12.6	+1.1
	comp=Z,0.6nm,0.5s,baz=216,slow=5.3,SNR=15						
	comp=Z,0.6nm,0.5s						
PDAR	Pinedale Array	89.90	43	P	P	13 10 17.2	+1.2
	comp=Z,0.9nm,0.6s,baz=220,slow=2.4,SNR=13						
	comp=Z,0.9nm,0.6s						
HFS	Hagfors	140.07	350	PKhKP	PKPpre	13 16 34.6	
	comp=Z,1.5nm,0.9s,baz=11,slow=1.5,SNR=5.8						
AKASG	Malin Array Be	143.25	330	PKP	PKPdf	13 16 45.9	-0.8
	comp=Z,1.1nm,0.4s,baz=46,slow=4.0,SNR=7.7						
EKA	Eskdalemuir Ar	145.71	5	PKPbc	PKPab	13 16 53.5	-0.6
	comp=Z,1.8nm,0.7s,baz=347,slow=2.9,SNR=5.3						
BRTR	Keskin Array B	146.77	311	PKPbc	PKiKP	13 16 57.3	-0.8
	comp=Z,0.7nm,0.5s,baz=54,slow=2.5,SNR=2.8						
GERES	GERESS Array B	150.64	343	PKPbc	PKiKP	13 17 06.0	+0.2
	comp=Z,0.5nm,0.4s,baz=20,slow=3.1,SNR=2.0						

*JMA **16** 13:09:53.5±0.3,44°N±1°×14°E±°, h32km±4km, MV2.9/20, E OFF HOKKAIDO*
*SKHL **16** 13:09:54.8±0.2,43°.80N×146°.90E, h17km±2km, mb3.9/2*
ISC 16 13:09:49.3±2.1,43°.65N±0°.07×147°.03E±0°.07, h7km±12km, n11, σ0°79/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.27	327	*i* P	Pn	13 09 58.4	-1.2
SHO				AMB	AMB	13 09 58.6	
	120nm,0.2s						
SHO				*i* S	Sb	13 10 01.1	0.0
SHO				A	A	13 10 01.3	
	2μm,0.3s						
SHO				A	A	13 10 01.3	
	770nm,0.3s						
YUK	Yuzh-Kuril'sk	0.93	295	*i* P	Pn	13 10 08.9	+0.2
YUK				AMB	AMB	13 10 09.6	
	150nm,0.3s						
YUK				*i* S	Sg	13 10 19.3	+0.1
YUK				A	A	13 10 20.5	
	800nm,0.3s						
YUK				A	A	13 10 20.5	
	900nm,0.3s						
NEM2	Nemuro 2	0.98	254	*e*P	Pn	13 10 10.1	+0.8
NEM2				*e*S	Sb	13 10 22.0	+0.4
JRA	Rausu	1.41	282	*e*P	Pg	13 10 16.9	+0.6
JNSB	Nemuroshibetsu	1.48	276	*e*S	Sn	13 10 35.7	0.0
JKHN	Kushirohamanak	1.48	248	*e*P	Pg	13 10 17.6	+0.1
JKHN				*e*S	Sn	13 10 35.2	-0.5
KUR	Kuril'sk	1.69	20	*e*P	Pb	13 10 21.0	+0.3
KUR				AMB	AMB	13 10 22.5	
	40nm,0.6s						
KUR				*e*S	Sn	13 10 40.8	-0.3
KUR				A	A	13 10 43.3	
	60nm,0.3s						
KUR				A	A	13 10 43.3	
	70nm,0.3s						
JAK	Akkeshi	1.82	250	*e*P	Pb	13 10 22.4	-0.5
JAK				*e*S	Sn	13 10 43.7	-0.6
JTKR	Abashiri--Toko	2.28	279	*e*P	Pb	13 10 29.9	-0.9
JTKR				*e*S	Sn	13 10 57.0	+1.3
JAR	Ashorobuto	2.40	263	*e*P	Pb	13 10 32.0	-0.7
JAR				*e*S	Sn	13 10 59.5	+1.0
JOB	Onbets	2.45	253	*e*P	Pb	13 10 32.2	-1.3
JOB				*e*S	Sn	13 11 00.5	+0.8

*IDC **16** 13:39:17.4±0.6,7°.99S×107°.61E, h0km, mb4.1/15, mbtmp4.1/15, MS3.3/3, Error ellipse: s-maj=30.9km s-min=13.9km az=64.0*
*DJA **16** 13:39:22.2±0.2,8°.S±2°×10°.8E±°, h10km, M4.8/19, mb4.9/8, MLv4.7/19*
*NEIC **16** 13:39:23.4±2.4,8°.24S±0°.08×107°.64E±0°.03, h35km±1km, mb4.5/19, Error ellipse: s-maj=12.9km s-min=5.4km az=4.0*
ISC 16 13:39:25.4±0.5,8°.08S±0°.07×107°.69E±0°.06, h62km, n82, σ1°15/71, mb4.4/28, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	0.80	68	P	Pn	13 39 40.0	-1.0
CMJI				S	Sn	13 39 51.2	-1.3
CNJI	Cibinong	0.95	324	P	Pn	13 39 41.9	-1.0
LEM	Lembang	1.25	357	P	Pn	13 39 48.2	+1.2
LEM				S	Sn	13 40 07.0	+4.0
SKJI	Sukabumi	1.55	313	P	Pn	13 39 50.0	-0.9
DBJI	Dramaga	1.78	328	P	Pn	13 39 54.6	+0.6
SBJI	Serang	2.49	321	P	Pn	13 40 04.5	+0.9
YOGI	Yogyakarta	2.59	84	P	Pn	13 40 06.3	+1.4
UGM	Wanagama	2.81	87	Pn	Pn	13 40 08.1	+0.2
UGM	Wanagama	2.81	87	P	Pn	13 40 08.1	+0.2
SMRI	Semarang	2.91	70		Pn	13 40 09.9	+0.6
SMRI	Semarang	2.91	70	P	Pn	13 40 11.1	+1.8
XMIS	Christmas Isla	3.12	220		Pn	13 40 08.1	-4.2
KASI	Kota Agung	4.07	308	P	Pn	13 40 25.6	+0.5
PWJI	Pagerwojo	4.07	89	P	Pn	13 40 26.4	+1.2
LWLI	Liwa	4.72	310	P	Pn	13 40 34.6	+0.4
GRJI	Gresik	4.88	77	P	Pn	13 40 37.0	+0.7
MNAI	Manna	5.99	308	Pn	Pn	13 40 52.3	+0.8
MNAI	Manna	5.99	308	P	Pn	13 40 52.2	+0.8
	298nm,1.6s						
JAGI	Jajag, Banyuwa	6.40	94		Pn	13 40 57.6	+0.4
JAGI	Jajag, Banyuwa	6.40	94	P	Pn	13 40 58.3	+1.1
	79nm,0.8s,0.4nm						
ABJI	Asem Bagus	6.48	88	P	Pn	13 41 00.0	+1.7
	70nm,0.7s,0.4nm						
TWSI	Taliwang, Sumb	9.11	95	P	Pn	13 41 35.7	+1.4
	36nm,0.9s						
PPSI	Pulau Pagai	9.29	304	P	Pn	13 41 36.4	-0.4
PLAI	Plampang	10.00	95	P	Pn	13 41 47.8	+1.4
	27nm,0.8s						
SBUM	Sibu	11.39	24	Pn	Pn	13 42 03.8	-1.6
GSI	Gunungsitoli	13.74	312	Pn	Pn	13 42 31.7	-5.7
EDFI	Ende, Flores	13.86	94	P	Pn	13 42 35.1	-4.0
SOEI	Soe	16.46	97	Pn	Pn	13 43 11.3	-1.3
SOEI				IAmb	IAmb	13 43 19.4	
	comp=Z,23nm,0.8s						
FITZ	Fitzroy Crossi	20.10	121	Pn	P	13 43 55.8	+1.7
DAV	Davao City (W)	23.34	50	LR	LR	13 53 15.9	
	comp=Z,44nm,21.7s,baz=194,slow=36						
MTN	Manton Dam	23.52	104	P	P	13 44 30.4	+0.2
MTN				IAmb	IAmb	13 44 53.2	
	comp=Z,10nm,0.8s						
FAKI	Fak Fak	24.97	80	P	P	13 44 43.0	-0.4
FAKI				IAmb	IAmb	13 45 22.7	
	comp=Z,39nm,1.4s						
CMAR	Chiang Mai Arr	27.75	342	LR	LR	13 57 39.7	
	comp=Z,50nm,18.4s,baz=155,slow=40						
WRA	Warramunga Arr	28.36	117	P	P	13 45 13.1	-0.8
WRA	Warramunga Arr	28.36	117	P	P	13 45 14.6	+0.6
	comp=Z,1.5nm,1.0s,baz=268,slow=11,SNR=5.4						
WRA				PcP	PcP	13 48 26.1	+0.6
	comp=Z,0.2nm,0.4s,baz=294,slow=4.4,SNR=1.5						
	comp=Z,1.5nm,1.0s						
WRAB	Tennant Creek	28.37	117	P	P	13 45 14.0	0.0
WRAB				IAmb	IAmb	13 45 36.3	
	comp=Z,6.3nm,1.1s						
WR0	Warramunga Arr	28.55	117	P	P	13 45 15.8	+0.3
WR0				IAmb	IAmb	13 45 41.5	
	comp=Z,14nm,1.4s						
ASAR	Alice Springs	29.51	125	P	P	13 45 24.6	+0.6
	comp=Z,0.5nm,0.6s,baz=299,slow=8.2,SNR=7.1						
ASAR				PcP	PcP	13 48 29.2	+0.9
	comp=Z,0.3nm,0.6s,baz=277,slow=1.9,SNR=1.7						
	comp=Z,0.5nm,0.6s						
TNCH	TengChong	34.10	345	*e*P	P	13 46 11.5	+7.0
TNCH				pP	pP	13 46 17.3	-2.5
TNCH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,130nm,3.9s						
PZH	PanZhiHua	34.86	351	P	P	13 46 17.8	+6.8
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,160nm,4.5s						
H08S2	Diego Garcia H	34.87	268	T	T	14 23 11.4	
	baz=92,slow=76,SNR=103						
H08S3	Diego Garcia H	34.88	268	T	T	14 23 14.7	
	baz=92,slow=76,SNR=129						
H08S1	Diego Garcia H	34.88	268	T	T	14 23 10.9	
	baz=92,slow=76,SNR=14						
COEN	Coen	35.28	103	P	P	13 46 14.6	-0.1
STKA	Stephens Creek	39.41	132	P	P	13 46 49.6	+0.2
STKA	Stephens Creek	39.41	132	P	P	13 46 50.5	+1.1
	comp=Z,3.2nm,0.5s,baz=307,slow=20,SNR=16						
	comp=Z,3.2nm,0.5s						
KSRS	Korea Array	49.09	21	P	P	13 48 06.9	+0.3
	comp=Z,0.3nm,0.5s,baz=226,slow=7.6,SNR=1.6						
	comp=Z,0.3nm,0.5s						
CN2	Changchun	54.09	16	P	P	13 48 44.1	+0.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SONM	Songino Array	55.68	359	P	P	13 48 56.0	+0.6
SONM	Songino Array	55.68	359	P	P	13 48 55.5	+0.1
	comp=Z,0.7nm,0.6s,baz=173,slow=7.8,SNR=5.8						
SONM				PcP	PcP	13 49 54.7	+0.5
	comp=Z,0.5nm,0.4s,baz=184,slow=3.9,SNR=3.7						
	comp=Z,0.7nm,0.6s						
KSH	Kashi	55.73	331	P	P	13 48 54.8	-1.2
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
USA0B	Ussuriysk Arra	56.49	21	P	P	13 49 01.4	+0.3
USA0B				IAmb	IAmb	13 49 02.5	
	comp=Z,6.1nm,0.7s						
USRK	Ussuriysk Ar.	56.49	21	P	P	13 49 01.2	+0.2
BOOM	Boomskoye usch	58.08	333	P	P	13 49 12.4	-0.1
BOOM				IAmb	IAmb	13 49 18.8	
	comp=Z,5.4nm,1.3s						
MK31	Makanchi Array	59.13	340	P	P	13 49 18.4	-1.2
MK31				IAmb	IAmb	13 49 21.1	
	comp=Z,1.5nm,0.5s						
MKAR	Makanchi Array	59.13	340	P	P	13 49 18.2	-1.4
MKAR	Makanchi Array	59.13	340	P	P	13 49 18.1	-1.5
	comp=Z,2.4nm,0.5s,baz=150,slow=7.2,SNR=30						
	comp=Z,2.4nm,0.5s						
H04N2	CROZET ISLANDS	60.90	221	T	T	14 56 11.7	
	baz=70,slow=75,SNR=126						
H04N1	CROZET ISLANDS	60.91	221	T	T	14 56 10.5	
	baz=70,slow=75,SNR=119						
H04N3	CROZET ISLANDS	60.92	221	T	T	14 56 12.2	
	baz=70,slow=75,SNR=117						
KKAR	Karatay Array	61.14	330	P	P	13 49 32.1	-1.3
KURBB	Kurchatov Arra	63.70	340	P	P	13 49 49.9	-0.4
	comp=Z,0.7nm,0.4s,baz=148,slow=6.1,SNR=5.3						
	comp=Z,0.7nm,0.4s						
ZALV	Zalesovo Beam	64.75	345	P	P	13 49 57.5	+0.5
	comp=Z,0.6nm,0.3s,baz=145,slow=5.3,SNR=2.8						
	comp=Z,0.6nm,0.3s						
MAW	Mawson	66.54	197	P	P	13 50 10.1	+1.7
	comp=Z,1.6nm,0.5s,baz=54,slow=17,SNR=4.4						
	comp=Z,1.6nm,0.5s						
BVAR	Borovoye Array	68.63	337	P	P	13 50 21.5	-0.3
	comp=Z,3.7nm,0.6s,baz=142,slow=8.8,SNR=18						
	comp=Z,3.7nm,0.6s						
BRVK	Borovoye	68.69	337	P	P	13 50 21.2	-1.0
BRVK				IAmb	IAmb	13 50 24.2	
	comp=Z,2.5nm,0.7s						
ABKAR	Akbulak array	70.69	329	P	P	13 50 34.3	-0.3
RAO	Raoul Island	72.50	118	P	P	13 50 44.7	-1.3
VNDA	Vanda	74.78	169	P	P	13 50 58.9	+0.5
VNDA	Vanda	74.78	169	P	P	13 50 59.9	+1.4
	comp=Z,1.0nm,0.7s,baz=304,slow=5.3,SNR=5.8						
	comp=Z,1.0nm,0.7s						
SBA	Scott Base	75.86	169	P	P	13 51 04.4	-0.2
SBA				IAmb	IAmb	13 51 26.9	
	comp=Z,6.4nm,1.4s						
NRIK	Noril'sk	78.50	353	P	P	13 51 18.6	-0.8
	comp=Z,2.0nm,0.4s,baz=167,slow=18,SNR=3.8						
	comp=Z,2.0nm,0.4s						
MMAI	Mount Meron Ar	79.79	306	P	P	13 51 28.4	+1.1
	comp=Z,0.4nm,0.3s,baz=106,slow=7.7,SNR=1.9						
	comp=Z,0.4nm,0.3s						
QSPA	South Pole Qui	81.91	180	P	P	13 51 38.9	+0.7
QSPA				IAmb	IAmb	13 51 51.2	
	comp=Z,6.6nm,1.3s						
QSPA	South Pole Qui	81.91	180	P	P	13 51 38.6	+0.5
	comp=Z,0.9nm,0.6s,baz=274,slow=2.2,SNR=11						
	comp=Z,0.9nm,0.6s						
BRTR	Keskin Array B	83.06	312	P	P	13 51 44.3	-0.4
	comp=Z,0.5nm,0.5s,baz=131,slow=7.4,SNR=3.0						
	comp=Z,0.5nm,0.5s						
SUR	Sutherland	83.11	238	LR	LR	14 21 49.0	
	comp=Z,33nm,19.0s,baz=111,slow=31						
ALN	Alexandroupoli	88.97	311	P	P	13 52 14.2	+0.7
TXAR	Lajitas Array	143.74	50	PKP	PKPbc	13 58 52.6	+0.6
	comp=Z,0.2nm,0.5s,baz=270,slow=0.9,SNR=4.7						
WMOK	Wichita Mounta	144.02	39		PKPbc	13 58 53.5	+1.0
NCB	Newcomb	144.21	2		PKPbc	13 58 53.4	+0.5
P52A	Corning	147.37	14	PKPdf	PKPdf	13 58 59.0	-1.0

*IDC **16** 13:45:22.6±0.9,55°.63N×160°.50E, h0km, mb3.7/15, mbtmp3.7/15, Error ellipse: s-maj=25.9km s-min=17.8km az=8.0*
*KRSC **16** 13:45:38.2±0.8,55°.61N×161°.04E, h140km±7km, Ml3.8*
ISC 16 13:45:39.3±0.7,55°.62N±0°.04×161°.01E±0°.05, h140km±5km, n57, σ1°00/80, mb3.6/15, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	Bezymyannyi-Gr	0.36	332	*e*P	Pn	13 45 59.0	0.0
BZGR				*e*S	Sn	13 46 14.1	+0.2
BZP	Bezymyannyi-Pe	0.39	318	*e*P	Pn	13 45 58.6	-0.6
BZP				*e*S	Sn	13 46 13.5	-0.8
BZMR	Bezymyannaya	0.43	318	*e*P	Pn	13 45 59.2	-0.1
BZMR				*e*S	Sn	13 46 15.0	+0.5
BZWR	Bezymyannyi-We	0.45	320	*e*P	Pn	13 45 59.5	0.0
BZWR				*e*S	Sn	13 46 14.8	0.0
KMNR	Kamenistaya	0.46	288	*e*P	Pn	13 45 60.0	+0.6
KMNR				*e*S	Sn	13 46 15.7	+1.1
LGNR	Loginova	0.50	339	*e*P	Pn	13 46 00.3	+0.5
LGNR				*e*S	Sn	13 46 16.0	+0.6
KIRR	Kirishev	0.50	312	*e*P	Pn	13 45 59.5	-0.2
KIRR				*e*S	Sn	13 46 14.9	-0.3
CIRR	Tsirk	0.52	344	*e*P	Pn	13 46 00.1	+0.4
CIRR				*e*S	Sn	13 46 16.1	+0.8
TUMD	Tumrok D	0.54	220	*e*P	Pn	13 45 59.8	+0.1
TUMD				*e*S	Sn	13 46 14.8	-0.4
KPT	Kopyto	0.56	308	*e*P	Pn	13 45 59.9	0.0
KPT				*e*S	Sn	13 46 15.3	-0.3
TUMR	Tumrok	0.59	236	*e*P	Pn	13 46 00.9	+0.7
KRSR	Krestovskiy	0.65	338	*e*P	Pn	13 46 00.5	0.0
KRSR				*e*S	Sn	13 46 15.9	-0.7
KLY	Klyuchi	0.72	344	*e*P	Pn	13 46 00.9	+0.1
KLY				*e*S	Sn	13 46 16.8	-0.4
KOZ	Kozyrevsk	0.78	305	*e*P	Pn	13 46 01.5	+0.3
KOZ				*e*S	Sn	13 46 18.4	+0.4
SRDR	Sredinnyy	1.01	314	*e*P	Pn	13 46 03.2	0.0
SRDR				*e*S	Sn	13 46 21.1	-0.4
SRKR	Sorokina	1.04	5	*e*P	Pn	13 46 03.9	+0.4
SRKR				*e*S	Sn	13 46 22.4	+0.4
MKZ	Mys Kozlova	1.15	158	*e*P	Pn	13 46 04.3	-0.1
MKZ				*e*S	Sn	13 46 23.2	-0.3
KBG	Krutoberegovo	1.15	56	*e*P	Pn	13 46 04.7	+0.3
KBG				*e*S	Sn	13 46 23.8	+0.2
KBTR	Krutoberegovo	1.18	59	*e*P	Pn	13 46 04.7	0.0
KBTR				*e*S	Sn	13 46 23.6	-0.5
ESO	Esso	1.34	284	*e*P	Pn	13 46 06.7	+0.3
ESO				*e*S	Sn	13 46 27.2	+0.1
TIGL	Tigil	2.50	330	*e*P	Pn	13 46 19.6	-0.3
SPN	Mys Shipunski	2.59	193	*e*P	Pn	13 46 20.1	-1.0
SPN				*e*S	Sn	13 46 50.6	-2.5
GNL	Ganaly	2.62	224	*e*P	Pn	13 46 22.6	+1.1
NLC	Nalytchevo	2.64	202	*e*P	Pn	13 46 21.6	-0.1
NLC				*e*S	Sn	13 46 53.6	-0.5
KRX	Arik	2.65	212	*e*P	Pn	13 46 23.3	+1.4
KRER	Koryakskii	2.67	210	*e*P	Pn	13 46 23.3	+1.1
SMAR	Somma	2.69	209	*e*P	Pn	13 46 23.5	+1.0
AVH	Avacha	2.71	210	*e*P	Pn	13 46 23.9	+1.3
KOK	Koryaka	2.71	212	*e*P	Pn	13 46 24.3	+1.7
UGLR	Uglovaya	2.73	209	*e*P	Pn	13 46 24.1	+1.2
BKI	Bering	2.86	96	*e*S	Sn	13 46 57.5	-1.8
DALK	Dalny	2.91	208	*e*P	Pn	13 46 25.6	+0.5
DALK				*e*S	Sn	13 47 00.9	+0.5
PET	Petropavlovsk	2.94	209	*e*P	Pn	13 46 26.3	+0.8
PET				*e*S	Sn	13 47 01.9	+0.8
KRMR	Karymshinskiy	3.27	212	*e*P	Pn	13 46 30.2	+0.5
APC	Apacha	3.52	221	*e*P	Pn	13 46 34.3	+1.4
GRL	Gorelyy	3.53	211	*e*P	Pn	13 46 34.1	+1.0
MTVR	Mutnovka	3.56	209	*e*P	Pn	13 46 34.3	+0.8
ASAK	Asacha	3.73	211	*e*P	Pn	13 46 36.4	+0.7
OSSR	Ossora	3.81	16	*e*P	Pn	13 46 37.6	+1.1
KDTR	Khodutka, Kamc	4.20	206	*e*P	Pn	13 46 40.6	-1.1
KDAK	Kodiak Island	25.19	66	P	P	13 50 51.4	+0.1
	1.8nm,0.6s,baz=290,slow=5.1,SNR=11						
	1.8nm,0.6s						
ILAR	Eielson Array	26.70	49	P	P	13 51 05.3	+0.4
	0.3nm,0.6s,baz=275,slow=9.9,SNR=6.4						
	0.3nm,0.6s						
SPITS	Spitsbergen Ar	44.73	350	P	P	13 53 37.2	-0.6
	1.2nm,0.5s,baz=42,slow=12,SNR=4.8						
	1.2nm,0.5s						
KURBB	Kurchatov Arra	46.99	300	P	P	13 53 53.1	-2.7
	0.4nm,0.2s,baz=56,slow=7.9,SNR=4.6						
	0.4nm,0.2s						
MKAR	Makanchi Array	47.57	294	P	P	13 53 58.9	-1.5
	0.2nm,0.5s,baz=47,slow=7.1,SNR=2.5						
	0.2nm,0.5s						
BVAR	Borovoye Array	49.26	307	P	P	13 54 11.0	-2.2
	0.5nm,0.4s,baz=46,slow=6.2,SNR=2.6						
	0.5nm,0.4s						
NVAR	Mina Array Bea	54.42	72	P	P	13 54 54.1	+2.2
	0.5nm,0.6s,baz=316,slow=7.6,SNR=4.3						
	0.5nm,0.6s						
PDAR	Pinedale Array	55.86	63	P	P	13 55 04.1	+1.9
	0.3nm,0.5s,baz=311,slow=3.5,SNR=4.6						
	0.3nm,0.5s						
FINES	FINESS Array B	58.01	336	P	P	13 55 15.3	-1.4
	1.0nm,0.4s,baz=10,slow=8.5,SNR=12						
	1.0nm,0.4s						
NOA	NORSAR Array B	61.26	344	P	P	13 55 37.5	-1.6
	0.2nm,0.3s,baz=18,slow=7.2,SNR=1.7						
	0.2nm,0.3s						
HFS	Hagfors	61.70	342	P	P	13 55 40.8	-1.1
	0.3nm,0.4s,baz=349,slow=4.4,SNR=5.0						
	0.3nm,0.4s						
EKA	Eskdalemuir Ar	68.65	350	P	P	13 56 25.8	-1.0
	0.3nm,0.5s,baz=8.8,slow=5.1,SNR=2.0						
	0.3nm,0.5s						
TXAR	Lajitas Array	69.18	68	P	P	13 56 32.4	+1.8
	0.5nm,0.5s,baz=297,slow=4.0,SNR=11						
	0.5nm,0.5s						
WRA	Warramunga Arr	78.60	206	P	P	13 57 25.5	+0.3
	0.5nm,1.0s,baz=11,slow=6.0,SNR=2.3						
	0.5nm,1.0s						
ESDC	Sonseca Array	84.21	348	P	P	13 57 55.2	+0.5
	0.8nm,0.7s,baz=347,slow=5.3,SNR=4.9						
	0.8nm,0.7s						
LPAZ	La Paz	125.87	64	PKP	PKiKP	14 04 27.6	+2.1
	0.5nm,0.5s,baz=315,slow=2.9,SNR=2.0						
QSPA	South Pole Qui	145.37	180	PKPbc	PKPdf	14 04 59.2	+0.3
	1.1nm,0.8s,baz=80,slow=4.1,SNR=16						

*SOF **16** 14:00:01.4,41°.67N±0°.01×25°.11E, h12km±1km, MD2.6/8

comp=N,241μm,0.2s
PGB Panagyurishte 1.13 322 P **Pb 14 00 22.4 -1.0**
PGB S **Sg 14 00 37.4 -0.5**
KOKK Kokkinochori, 1.17 226 P **Pg 14 00 23.1 -0.9**
KOKK S **Sn 14 00 39.8 -0.4**
comp=N,72nm,0.4s
KOKK Kokkinochori, 1.17 226 P **Pg 14 00 23.4 -0.5**
KOKK S **Sb 14 00 39.1 -0.1**
KOKK AML AML 14 00 43.2
comp=E,338μm,0.5s
KOKK AML AML 14 00 43.3
comp=N,420μm,0.4s
SMTH Samothraki Isl 1.20 165 P **Pb 14 00 24.3 -0.2**
SMTH S **Sn 14 00 41.1 +0.1**
SMTH Samothraki Isl 1.20 165 P **Pb 14 00 24.3 -0.2**
SMTH S **Sb 14 00 40.2 +0.1**
SRS Serrai 1.25 247 P **Pn 14 00 25.2 -0.2**
SRS S **Sn 14 00 42.5 +0.1**
comp=N,195nm,0.3s
SRS Serrai 1.25 247 P **Pn 14 00 25.2 -0.2**
SRS S **Sb 14 00 41.7 0.0**
SRS AML AML 14 00 45.4
comp=E,380μm,0.4s
SRS AML AML 14 00 45.9
comp=N,395μm,0.2s
JMB Yambol 1.36 50 P **Pn 14 00 27.0 +0.1**
KKB Krupnik 1.50 279 P **Pn 14 00 29.6 +0.8**
KKB S **Sb 14 00 49.8 +0.9**
PLNA Plana 1.52 305 P **Pn 14 00 29.7 +0.6**
PLNA S **Sn 14 00 50.4 +1.3**
OUR Ouranopolis 1.55 214 P **Pn 14 00 28.6 -0.8**
OUR AML AML 14 00 54.2
comp=E,232μm,0.3s
OUR AML AML 14 00 54.3
comp=N,171μm,0.3s
SOH Sokhos 1.55 239 P **Pn 14 00 30.4 +0.9**
SOH S **Sg 14 00 51.3 -0.1**
comp=N,78nm,0.4s
SOH Sokhos 1.55 239 P **Pn 14 00 29.8 +0.2**
SOH AML AML 14 00 54.3
comp=E,166μm,0.3s
SOH AML AML 14 00 55.5
comp=N,231μm,0.6s
VTS Vitosha 1.71 306 S **Sn 14 00 54.4 +0.4**
LIA Limnos Island 1.73 178 P **Pn 14 00 31.6 -0.3**
PLG Polygyros 1.78 226 P **Pn 14 00 32.1 -0.5**
PLG AML AML 14 01 00.8
comp=E,73μm,0.4s
PLG AML AML 14 01 01.2
comp=N,68μm,0.3s
HORT Hortiatis 1.83 237 P **Pn 14 00 34.8 +1.3**
HORT AML AML 14 01 03.6
comp=E,62μm,0.2s
HORT AML AML 14 01 04.9
comp=N,34μm,0.2s
VAY Valandovo 1.93 262 *i* Pn **Pg 14 00 39.1 +0.4**
VAY *i* Sn **Sg 14 01 04.8 +1.1**
MPEP Malo Peshtene 2.00 330 P **Pb 14 00 38.6 +0.3**
STIP Stip 2.19 273 *i* Pn **Pn 14 00 36.0 -2.4**
STIP *i* Sn **Sn 14 01 06.2 +0.6**

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*MOS **16** 14:03:09.4±0.9,30°.74S×177°.97W,h19km,mb5.4/23, MS4.6/11, Error ellipse: s-maj=12.0km s-min=8.8km az=103.3*
*BJI **16** 14:03:10.0±0.0,30°.80S×178°.00W,h20km,mb5.1/29, mB5.4/16,Ms4.9/7,Ms7 4.6/8*
*NOU **16** 14:03:10.1,31°.02S×177°.31W,h33km,mb5.4/77, Kermadec Islands Region*
*NEIC **16** 14:03:11.7±1.2,30°.75S±0°.06×177°.9W±0°.1,h24km±3km, mb5.2/157, Error ellipse: s-maj=16.0km s-min=6.3km az=111.0*
*IDC **16** 14:03:14.5±1.4,30°.55S×178°.09W,h47km±12km,mb4.5/18, mbtmp4.8/19,ML3.7/1,MS4.1/46, Error ellipse: s-maj=15.4km s-min=10.4km az=97.0*
*GCMT **16** 14:03:15.7±0.2,30°.74S±0°.01×177°.92W±0°.01,h45km±1km, MW5.1/105, Moment Tensor Solution. s88,c125; s105,c176; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.57±.17; $M_{\theta\theta}$0.13±.12; $M_{\phi\phi}$-4.70±.11; $M_{r\theta}$2.94±.12; $M_{\theta\phi}$-0.60±.10; $M_{\phi r}$3.15±.12; Best double couple: M_o6.33800×10^{16} NP1:ϕ_s29.00000°,δ67.00000°, λ108.00000°. NP2:ϕ_s169.00000°,δ29.00000°,λ54.00000°. Principal axes: T 6.6330, Plg63.0000°, Azm329.0000°; N -0.5890, Plg17.0000°, Azm202.0000°; P -6.0420, Plg20.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 14:03:13.7±0.2,30°.87S±0°.03×177°.93W±0°.05,h46km, n951,σ1§50/854,mb5.2/152,MS4.3/65,33C-40D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.60**	**0**	P	**Pn**	**14 03 36.4**	**-3.1**
GLKZ				S	**Sn**	**14 03 52.4**	**-6.7**
RAO	**Raoul Island**	**1.61**	**0**	P	**Pn**	**14 03 38.8**	**-0.9**
RAO	**Raoul Island**	**1.61**	**0**	Pn	**Pn**	**14 03 36.3**	**-3.4**
RAO	**Raoul Island**	**1.61**	**0**	P	**Pn**	**14 03 36.0**	**-3.7**
	4μm,0.2s,baz=238,slow=18,SNR=47						
RAO				S	**Sn**	**14 03 52.6**	**-6.7**
	28μm,0.3s,baz=55,slow=21,SNR=20						
RAO				LR	LR	14 04 13.0	
	comp=Z,8μm,19.8s,baz=137,slow=45						
RIZ	**Raoul Island**	**1.62**	**0**	P	**Pn**	**14 03 36.4**	**-3.4**
MXZ	**Matakaoa Point**	**7.37**	**204**	Pn	**Pn**	**14 04 57.8**	**-0.8**
MXZ	**Matakaoa Point**	**7.37**	**204**	P	**Pn**	**14 04 56.8**	**-1.8**
MXZ				S	**Sn**	**14 06 20.9**	**+0.1**
WMGZ	**Waiomatatini S**	**7.56**	**203**	P	**Pn**	**14 04 59.5**	**-1.8**
WMGZ				S	**Sn**	**14 06 26.1**	**+0.5**
HAZ	**Te Kaha**	**7.73**	**206**	P	**Pn**	**14 05 03.0**	**-0.5**
HAZ				S	**Sn**	**14 06 35.0**	**+5.3**
PKGZ	**Pakihiroa**	**7.74**	**204**	P	**Pn**	**14 05 02.0**	**-1.8**
PKGZ				S	**Sn**	**14 06 29.9**	**-0.1**
PUZ	**Puketiti**	**7.84**	**203**	P	**Pn**	**14 05 03.1**	**-2.0**
PUZ				S	**Sn**	**14 06 31.7**	**-0.9**
KUZ	**Kuaotunu**	**7.89**	**220**	P	**Pn**	**14 05 07.1**	**+1.4**
KUZ	**Kuaotunu**	**7.89**	**220**	P	**Pn**	**14 05 09.6**	**+3.9**
RUGZ	**Raukumara Rang**	**7.95**	**206**	P	**Pn**	**14 05 04.7**	**-2.0**
RUGZ				S	**Sn**	**14 06 37.6**	**+2.2**
TWGZ	**Tauwhareparae**	**8.03**	**204**	P	**Pn**	**14 05 05.9**	**-1.9**
TWGZ				S	**Sn**	**14 06 38.0**	**+0.8**
CNGZ	**Carnagh Statio**	**8.23**	**202**	P	**Pn**	**14 05 08.7**	**-1.8**
CNGZ				S	**Sn**	**14 06 43.7**	**+1.6**
TKGZ	**Te Karaka**	**8.31**	**204**	P	**Pn**	**14 05 08.9**	**-2.7**
TKGZ				S	**Sn**	**14 06 43.8**	**-0.2**
OPRZ	**Ohinepanea**	**8.31**	**212**	P	**Pn**	**14 05 12.7**	**+1.1**
OPRZ				S	**Sn**	**14 06 49.5**	**+5.4**
OUZ	**Omahuta**	**8.33**	**236**	P	**Pn**	**14 05 14.5**	**+2.7**
OUZ	**Omahuta**	**8.33**	**236**	Pn	Pn	14 05 18.7	+6.9
MWZ	**Matawai**	**8.33**	**205**	P	**Pn**	**14 05 09.2**	**-2.6**
MWZ				S	**Sn**	**14 06 44.9**	**+0.3**
URZ	**Urewera**	**8.43**	**208**	P	**Pn**	**14 05 11.5**	**-1.6**
URZ	**Urewera**	**8.43**	**208**	P	**Pn**	**14 05 11.1**	**-2.0**
	8.1nm,0.3s,baz=11,slow=0.4,SNR=75						
URZ				S	**Sn**	**14 06 48.0**	**+1.2**
	224nm,0.8s,baz=6.3,slow=9.2,SNR=14						
URZ	**Urewera**	**8.43**	**208**	P	**Pn**	**14 05 10.8**	**-2.4**
URZ				S	**Sn**	**14 06 48.1**	**+1.2**
TOZ	**Tahuroa Road**	**8.73**	**217**	Pn	**Pn**	**14 05 21.8**	**+4.5**
TOZ	**Tahuroa Road**	**8.73**	**217**	P	**Pn**	**14 05 21.2**	**+3.9**
RTZ	**Ruatahuna**	**8.79**	**207**	Pn	Pn	14 05 13.9	-4.2
BKZ	**Black Stump Fm**	**9.45**	**207**	Pn	**Pn**	**14 05 23.7**	**-3.5**
HIZ	**Hauiti**	**9.66**	**216**	P	**Pn**	**14 05 29.1**	**-0.9**
HIZ	**Hauiti**	**9.66**	**216**	Pn	**Pn**	**14 05 30.8**	**+0.8**
BFZ	**Birch Farm**	**10.87**	**204**	Pn	Pn	14 05 41.7	-4.9
MRZ	**Mangatainoka R**	**11.10**	**207**	Pn	**Pn**	**14 05 46.0**	**-3.7**
MSWZ	**Moikau Station**	**11.87**	**206**	Pn	**Pn**	**14 05 57.5**	**-2.8**
SNZO	**South Karori**	**11.99**	**208**	Pn	Pn	14 05 55.3	-6.6
BHW	**Baring Head**	**12.01**	**207**	Pn	Pn	14 05 56.9	-5.2
TCW	**Tory Channel**	**12.08**	**209**	Pn	Pn	14 05 57.2	-6.0
TCW	**Tory Channel**	**12.08**	**209**	P	Pn	14 05 54.4	-8.7
TCW				S	**Sn**	**14 08 10.8**	**-5.6**
NFK	**Norfolk Island**	**12.39**	**275**	P	P	14 06 13.5	-4.8
NFK	**Norfolk Island**	**12.39**	**275**	P	**Pn**	**14 06 08.5**	**+1.1**
	593nm,1.4s,SNR=5.7						
TUWZ	**Tuamarina**	**12.41**	**210**	Pn	Pn	14 05 59.5	-8.0
TUWZ	**Tuamarina**	**12.41**	**210**	P	Pn	14 05 59.9	-7.6
TUWZ				S	Sn	14 08 16.7	-7.6
NNZ	**Nelson**	**12.48**	**212**	Pn	Pn	14 06 04.5	-4.1
NNZ	**Nelson**	**12.48**	**212**	P	Pn	14 06 01.8	-6.7
NNZ				S	**Sn**	**14 08 20.1**	**-6.0**
TKNZ	**Takaka Hill**	**12.53**	**213**	Pn	Pn	14 06 03.6	-5.7
TKNZ	**Takaka Hill**	**12.53**	**213**	P	Pn	14 06 03.8	-5.5
TKNZ				S	**Sn**	**14 08 23.3**	**-4.1**
QRZ	**Quartz Range**	**12.58**	**215**	P	**Pn**	**14 06 10.2**	**+0.2**
QRZ	**Quartz Range**	**12.58**	**215**	Pn	**Pn**	**14 06 10.4**	**+0.5**
QRZ	**Quartz Range**	**12.58**	**215**	P	**Pn**	**14 06 12.2**	**+2.2**
CTZ	**Chatham Island**	**12.88**	**176**	Pn	**Pn**	**14 06 13.6**	**-0.4**
CTZ	**Chatham Island**	**12.88**	**176**	P	Pn	14 06 03.5	-11
CTZ				S	Sn	14 08 27.8	-8.1
MRNZ	**Matariki Terra**	**12.91**	**213**	Pn	**Pn**	**14 06 12.0**	**-2.4**
MRNZ	**Matariki Terra**	**12.91**	**213**	P	**Pn**	**14 06 13.8**	**-0.7**
THZ	**Tophouse**	**13.13**	**212**	P	**Pn**	**14 06 13.7**	**-3.9**
THZ				S	**Sn**	**14 08 36.1**	**-6.0**
KHZ	**Kahutara**	**13.39**	**208**	P	**Pn**	**14 06 18.7**	**-2.3**
KHZ	**Kahutara**	**13.39**	**208**	Pn	Pn	14 06 14.5	-6.5
KHZ	**Kahutara**	**13.39**	**208**	P	Pn	14 06 14.0	-7.0
MSVF	**Nonsavu**	**13.58**	**343**	P	**Pn**	**14 06 23.8**	**0.0**
MSVF	**Nonsavu**	**13.58**	**343**		**Pn**	**14 06 22.8**	**-1.0**
MSVF	**Nonsavu**	**13.58**	**343**	*d iP*	**Pn**	**14 06 23.8**	**0.0**
MSVF				pmax	pmax		
	comp=Z,49nm,0.8s						
NIUE	**Niue**	**13.80**	**34**	Pn	Pn	14 06 19.2	-7.5
GVZ	**Greta Valley S**	**14.06**	**208**	P	Pn	14 06 24.0	-6.0
LTZ	**Lake Taylor**	**14.23**	**211**	Pn	Pn	14 06 27.8	-4.5
LTZ	**Lake Taylor**	**14.23**	**211**	P	Pn	14 06 27.9	-4.5
INZ	**Inchbonnie**	**14.56**	**213**	P	**Pn**	**14 06 36.3**	**-0.4**
OXZ	**Oxford**	**14.77**	**210**	P	**Pn**	**14 06 42.4**	**+2.9**
RACZ	**Rakaia**	**15.05**	**209**	P	**Pn**	**14 06 38.2**	**-5.1**
MHCZ	**Mount Hutt**	**15.14**	**210**	P	**Pn**	**14 06 42.0**	**-2.4**
PINNC	**Pines Island,**	**15.42**	**299**	P	**P**	**14 06 52.0**	**0.0**
RPZ	**Rata Peaks**	**15.51**	**211**	P	**Pn**	**14 06 48.7**	**-0.5**
RPZ	**Rata Peaks**	**15.51**	**211**	P	**Pn**	**14 06 47.1**	**-2.1**
	comp=Z,7.3nm,0.7s,baz=53,slow=15,SNR=2.2						
RPZ				S	Sn	14 09 27.2	-13
	comp=Z,13nm,0.3s,baz=66,slow=20,SNR=9.1						
RPZ	**Rata Peaks**	**15.51**	**211**	P	**Pn**	**14 06 46.9**	**-2.3**
TMZ	**Timaru**	**16.06**	**210**	P	**Pn**	**14 06 50.1**	**-6.2**
YATNC	**Mamie plateau,**	**16.16**	**299**	P	**P**	**14 07 01.2**	**+0.9**
ONTNC	**Ouen Toro**	**16.35**	**298**	P	**P**	**14 07 04.0**	**+1.7**
DZM	**Mont Dzumac**	**16.49**	**298**	P	**P**	**14 07 06.2**	**+2.2**
DZM	**Mont Dzumac**	**16.49**	**298**	*eP*	**P**	**14 07 04.0**	**0.0**
	comp=Z,280nm,1.4s						
DZM				*e*LR	LR	14 10 49.5	
	comp=Z,6μm,25.2s						
DZM	**Mont Dzumac**	**16.49**	**298**	P	**P**	**14 07 03.4**	**-0.6**
	comp=Z,47nm,1.1s,baz=126,slow=14,SNR=15						
DZM				LR	LR	14 11 59.3	
	comp=Z,3μm,20.9s,baz=139,slow=32						
NOUC	**Port Laguerre**	**16.58**	**298**	P	**P**	**14 07 08.0**	**+3.1**
LIFNC	**LIFOU**	**16.69**	**304**	P	**P**	**14 07 08.6**	**+2.5**
ODZ	**Otahua Downs**	**16.75**	**209**	P	**Pn**	**14 07 02.2**	**-2.7**
RAR	**Rarotonga**	**18.92**	**64**	P	**P**	**14 07 29.5**	**-1.2**
	comp=Z,2.6nm,0.3s,baz=229,slow=7.1,SNR=7.2						
RAR				S	Sn	14 10 47.7	-15
	comp=Z,12nm,0.4s,baz=214,slow=15,SNR=1.8						
RAR				LR	LR	14 14 01.2	
	comp=Z,462nm,19.3s,baz=254,slow=34						
	comp=Z,68nm,0.9s						
KOUNC	**Koumac, New Ca**	**19.01**	**299**	P	**Pn**	**14 07 36.0**	**+3.3**
AUWSH	**Wavell State H**	**25.56**	**270**	P	**P**	**14 08 41.5**	**+3.2**
ARMA	**Armidale**	**26.16**	**263**	P	**P**	**14 08 47.2**	**+3.3**
ARMA	**Armidale**	**26.16**	**263**	P	**P**	**14 08 46.4**	**+2.6**
	comp=Z,47nm,1.2s,SNR=4.5						
TBI	**Tubuai**	**26.38**	**80**	*e*S	**S**	**14 13 11.6**	**-4.3**
	comp=Z,4μm,25.8s						
TBI				*e*LR	LR	14 15 22.4	
	comp=Z,2μm,25.8s						
TBI				*e*LR	LR	14 15 25.4	
	comp=Z,8μm,27.2s						
WOLH	**Wollongong Har**	**26.45**	**254**	P	**P**	**14 08 49.2**	**+2.9**
SYDH	**Sydney Hard Ro**	**26.58**	**255**	P	**P**	**14 08 50.2**	**+2.7**
AUPHS	**Peel High Scho**	**26.69**	**261**	P	**P**	**14 08 49.4**	**+0.9**
AUUHS	**Ulladulla High**	**26.78**	**252**	P	**P**	**14 08 50.4**	**+1.1**
CNB	**Canberra Magne**	**27.68**	**252**	P	**P**	**14 08 59.9**	**+2.4**
CNB	**Canberra Magne**	**27.68**	**252**	P	**P**	**14 09 00.6**	**+3.1**
	comp=Z,37nm,1.2s,SNR=3.4						
EIDS	**Eidsvold**	**27.82**	**274**	P	**P**	**14 09 02.2**	**+3.5**
EIDS	**Eidsvold**	**27.82**	**274**	P	**P**	**14 08 59.6**	**+0.9**
EIDS				IAmb	IAmb	14 09 03.8	
	comp=Z,32nm,0.8s						
EIDS	**Eidsvold**	**27.82**	**274**	P	**P**	**14 09 00.1**	**+1.4**
	comp=Z,46nm,0.9s,SNR=7.2						
MILA	**Mila**	**27.89**	**248**	P	**P**	**14 09 01.3**	**+1.9**
MILA	**Mila**	**27.89**	**248**	P	**P**	**14 09 02.3**	**+2.9**
	comp=Z,45nm,0.9s,SNR=2.5						
CAN	**Canberra**	**27.98**	**252**	P	**P**	**14 09 02.6**	**+2.5**
CAN	**Canberra**	**27.98**	**252**	P	**P**	**14 09 02.9**	**+2.7**
CAN				IAmb	IAmb	14 09 04.0	
	comp=Z,44nm,1.1s						
CAN	**Canberra**	**27.98**	**252**	P	**P**	**14 09 03.0**	**+2.9**
	comp=Z,41nm,0.9s,SNR=3.2						
CAN	**Canberra**	**27.98**	**252**	P	**P**	**14 09 02.9**	**+2.7**
CAN				pmax	pmax		
	comp=Z,44nm,1.1s						
GD1S	**Gladstone Soft**	**28.26**	**277**	P	**P**	**14 09 05.1**	**+2.5**
AUDCS	**Dubbo College**	**28.46**	**258**	P	**P**	**14 09 06.9**	**+2.5**
YNG	**Young**	**28.50**	**254**	P	**P**	**14 09 07.4**	**+2.7**
YNG	**Young**	**28.50**	**254**	P	**P**	**14 09 07.2**	**+2.4**
	comp=Z,212nm,1.1s,SNR=6.4						
PPT2	**Papeete2**	**28.95**	**69**	*e*S	**S**	**14 13 55.3**	**-1.3**
	comp=Z,232nm,24.8s						
PPT2				*e*LR	LR	14 16 31.4	
	comp=Z,1μm,28.2s						
PPT2				*e*LR	LR	14 16 32.2	
	comp=Z,2μm,26.8s						
PPT	**Papeete**	**28.96**	**69**	LR	LR	14 20 03.9	
	comp=Z,374nm,18.5s,baz=278,slow=35						
RK1H	**Rockhampton Ha**	**29.00**	**277**	P	**P**	**14 09 11.3**	**+2.1**
	comp=Z,83nm,0.8s						
AULRC	**Lightning Ridg**	**29.45**	**264**	P	**P**	**14 09 16.6**	**+3.5**
HNR	**Honiara**	**29.65**	**311**	LR	LR	14 19 09.3	
	comp=Z,7μm,21.9s,baz=166,slow=32						
TOO	**Toolangi**	**30.83**	**247**	P	**P**	**14 09 26.3**	**+0.9**
TOO	**Toolangi**	**30.83**	**247**	P	**P**	**14 09 25.3**	**0.0**
	comp=Z,32nm,1.5s,SNR=1.8						
CMSA	**Cobar Meteorol**	**31.03**	**259**	P	**P**	**14 09 30.2**	**+3.1**
CMSA	**Cobar Meteorol**	**31.03**	**259**	P	**P**	**14 09 29.6**	**+2.4**
	comp=Z,180nm,0.9s,SNR=25						
AUAYR	**Ayr State High**	**33.18**	**282**	P	**P**	**14 09 48.8**	**+2.8**
QLP	**Quilpie**	**33.34**	**268**	P	**P**	**14 09 50.6**	**+3.1**
QLP	**Quilpie**	**33.34**	**268**	P	**P**	**14 09 48.6**	**+1.1**
	comp=Z,86nm,1.4s,SNR=8.6						
ARPS	**Mount Arapiles**	**33.75**	**249**	P	**P**	**14 09 52.8**	**+1.8**
ARPS	**Mount Arapiles**	**33.75**	**249**	P	**P**	**14 09 52.8**	**+1.8**
	comp=Z,40nm,0.8s,SNR=3.4						
TV1H	**Townsville Har**	**33.84**	**282**	P	**P**	**14 09 53.2**	**+1.4**
	comp=Z,92nm,0.9s						
CTA	**Charters Tower**	**33.93**	**280**	LR	LR	14 22 20.2	
	comp=Z,87nm,18.2s,baz=112,slow=34						
CTAO	**Charters Tower**	**33.93**	**280**	P	**P**	**14 09 54.5**	**+1.8**
CTAO	**Charters Tower**	**33.93**	**280**	P	**P**	**14 09 54.3**	**+1.6**
CTAO	**Charters Tower**	**33.93**	**280**	P	**P**	**14 09 54.3**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,120nm,0.8s						
STKA	**Stephens Creek**	**34.43**	**258**	P	**P**	**14 09 59.4**	**+2.5**
STKA	**Stephens Creek**	**34.43**	**258**	P	**P**	**14 09 58.7**	**+1.9**
STKA				IAmb	IAmb	14 10 00.5	
	comp=Z,38nm,0.8s						
STKA	**Stephens Creek**	**34.43**	**258**	P	**P**	**14 09 58.7**	**+1.9**
	comp=Z,47nm,0.9s,SNR=21						
STKA	**Stephens Creek**	**34.43**	**258**	P	**P**	**14 09 57.2**	**+0.3**
	comp=Z,160nm,0.8s,baz=101,slow=14,SNR=165						
STKA				LR	LR	14 23 07.1	
	comp=Z,641nm,18.4s,baz=79,slow=35						
STKA	**Stephens Creek**	**34.43**	**258**	*c iP*	**P**	**14 09 58.3**	**+1.4**
INKA	**Innaminka**	**36.02**	**264**	P	**P**	**14 10 13.5**	**+2.9**
HTT	**Hallett**	**36.43**	**254**	P	**P**	**14 10 16.3**	**+2.2**
HTT	**Hallett**	**36.43**	**254**	P	**P**	**14 10 15.1**	**+1.0**
	comp=Z,62nm,1.0s,SNR=3.9						
MTSU	**Mount Surprise**	**36.44**	**281**	P	**P**	**14 10 16.3**	**+2.0**
MTSU	**Mount Surprise**	**36.44**	**281**	P	**P**	**14 10 15.6**	**+1.3**
	comp=Z,82nm,0.8s,SNR=46						
LCRK	**Leigh Creek**	**37.54**	**259**	P	**P**	**14 10 25.8**	**+2.3**
WHYH	**Whyalla**	**37.60**	**255**	P	**P**	**14 10 25.7**	**+1.7**
	comp=Z,124nm,0.8s						
PMG	**Port Moresby**	**38.86**	**296**	LR	LR	14 24 19.8	
	comp=Z,462nm,18.5s,baz=122,slow=33						
BBOO	**Buckleboo**	**38.90**	**255**	P	**P**	**14 10 36.3**	**+1.4**
	comp=Z,95nm,0.8s						
BBOO	**Buckleboo**	**38.90**	**255**	P	**P**	**14 10 35.4**	**+0.5**
BBOO	**Buckleboo**	**38.90**	**255**	P	**P**	**14 10 35.2**	**+0.3**
	comp=Z,95nm,0.8s,SNR=3.5						
QIS	**Mount Isa**	**39.41**	**275**	P	**P**	**14 10 40.0**	**+0.7**
QIS	**Mount Isa**	**39.41**	**275**	P	**P**	**14 10 39.4**	**+0.1**
	comp=Z,32nm,0.9s,SNR=5.2						
COEN	**Coen**	**39.46**	**286**	P	**P**	**14 10 41.7**	**+2.0**
COEN	**Coen**	**39.46**	**286**	P	**P**	**14 10 39.9**	**+0.2**
COEN				IAmb	IAmb	14 10 41.6	
	comp=Z,44nm,0.8s						
COEN	**Coen**	**39.46**	**286**	P	**P**	**14 10 40.2**	**+0.5**
	comp=Z,60nm,0.8s,SNR=6.8						
OOD	**Oodnadatta**	**40.33**	**262**	P	**P**	**14 10 49.1**	**+2.3**
MULG	**Mulgathing**	**41.08**	**258**	P	**P**	**14 10 53.7**	**+0.7**
	comp=Z,83nm,0.9s						
AS01	**Alice Springs**	**43.10**	**267**	P	**P**	**14 11 10.3**	**+0.7**
	comp=Z,34nm,0.9s						
AS31	**Alice Springs**	**43.14**	**267**	P	**P**	**14 11 10.1**	**+0.1**
ASAR	**Alice Springs**	**43.14**	**267**	P	**P**	**14 11 09.5**	**-0.4**
	comp=Z,23nm,0.8s,baz=107,slow=7.8,SNR=190						
ASAR				PcP	**PcP**	**14 12 59.8**	**+0.7**
	comp=Z,5.2nm,1.1s,baz=124,slow=3.4,SNR=1.9						
ASAR				ScP	**ScP**	**14 16 47.0**	**+0.4**
	comp=Z,2.4nm,1.0s,baz=116,slow=4.3,SNR=4.4						
ASAR				PKiKP	**PKiKP**	**14 20 01.2**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=119,slow=0.8,SNR=5.8						
ASAR				LR	LR	14 28 52.1	
	comp=Z,827nm,18.4s,baz=112,slow=36						
	comp=Z,23nm,0.8s						
ASPA	**Alice Springs**	**43.15**	**267**	P	**P**	**14 11 09.6**	**-0.4**
	comp=Z,9.6nm,0.9s,SNR=7.2						
WR0	**Warramunga Arr**	**43.99**	**273**	P	**P**	**14 11 16.7**	**-0.1**
WR0				IAmb	IAmb	14 11 18.6	
	comp=Z,44nm,0.8s						
WB2	**Warramunga Arr**	**44.16**	**273**	P	**P**	**14 11 18.0**	**-0.2**
WRAB	**Tennant Creek**	**44.17**	**273**	P	**P**	**14 11 18.1**	**-0.1**
WRAB	**Tennant Creek**	**44.17**	**273**	*c iP*	**P**	**14 11 17.8**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,50nm,0.8s						
WRA	**Warramunga Arr**	**44.17**	**273**	P	**P**	**14 11 17.7**	**-0.5**
	comp=Z,47nm,0.7s,baz=112,slow=7.9,SNR=341						
WRA				PcP	**PP**	**14 13 02.0**	**+0.2**
	comp=Z,5.4nm,1.0s,baz=114,slow=3.3,SNR=2.4						
WRA				ScP	**ScP**	**14 16 50.7**	**0.0**
	comp=Z,1.5nm,1.0s,baz=108,slow=3.9,SNR=3.8						
WRA				PKiKP	**PKiKP**	**14 20 02.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=108,slow=0.6,SNR=6.3						
WRA				LR	LR	14 29 12.6	
	comp=Z,710nm,18.4s,baz=52,slow=35						
	comp=Z,47nm,0.7s						
WB0	**Warramunga Arr**	**44.20**	**273**	P	**P**	**14 11 18.3**	**-0.1**
FORT	**Forrest**	**45.98**	**256**	P	**P**	**14 11 34.7**	**+2.2**
FORT	**Forrest**	**45.98**	**256**	P	**P**	**14 11 32.2**	**-0.2**
FORT	**Forrest**	**45.98**	**256**	P	**P**	**14 11 31.8**	**-0.7**
	comp=Z,99nm,0.9s,SNR=3.0						
WRKA	**Warakurna**	**47.48**	**263**	P	**P**	**14 11 46.6**	**+2.3**
WRKA	**Warakurna**	**47.48**	**263**	P	**P**	**14 11 43.1**	**-1.2**
	comp=Z,33nm,0.9s,SNR=1.7						
VNDA	**Vanda**	**47.63**	**186**	P	**P**	**14 11 47.8**	**+3.1**
VNDA	**Vanda**	**47.63**	**186**	P	**P**	**14 11 49.1**	**+4.4**
	comp=Z,2.6nm,0.8s,baz=24,slow=7.7,SNR=11						
VNDA				LR	LR	14 30 02.5	
	comp=Z,98nm,18.8s,baz=28,slow=34						
	comp=Z,2.6nm,0.8s						
VNDA	**Vanda**	**47.63**	**186**	P	**P**	**14 11 47.8**	**+3.1**
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
JAY	**Jayapura**	**48.16**	**298**	P	**P**	**14 11 48.6**	**-1.1**
	comp=Z,43nm,0.9s						
GENI	**Genyem**	**48.52**	**297**	P	**P**	**14 11 54.2**	**+1.8**
KDU	**Kakadu**	**49.05**	**280**	P	**P**	**14 11 56.5**	**0.0**
KDU	**Kakadu**	**49.05**	**280**	P	**P**	**14 11 55.9**	**-0.6**
	comp=Z,30nm,0.2s,SNR=3.8						
MTN	**Manton Dam**	**50.11**	**279**	P	**P**	**14 12 04.6**	**+0.1**
	comp=Z,40nm,0.8s						
MTN	**Manton Dam**	**50.11**	**279**	P	**P**	**14 12 03.9**	**-0.7**
MTN				IAmb	IAmb	14 12 05.0	
	comp=Z,29nm,0.8s						
MTN	**Manton Dam**	**50.11**	**279**	P	**P**	**14 12 04.0**	**-0.5**
	comp=Z,40nm,0.8s,SNR=5.1						
DRS	**Darwin Rock St**	**50.51**	**280**	P	**P**	**14 12 07.8**	**+0.2**
	comp=Z,56nm,0.9s						
KNRA	**Kununurra**	**50.80**	**275**	P	**P**	**14 12 08.9**	**-0.8**
	comp=Z,29nm,0.9s,SNR=3.5						
FITZ	**Fitzroy Crossi**	**52.42**	**270**	P	**P**	**14 12 21.5**	**-0.3**
	comp=Z,95nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.42**	**270**	P	**P**	**14 12 20.9**	**-0.9**
	comp=Z,803nm,0.9s,SNR=7.0						
NWAO	**Narrog

MAJO	Matsushiro	78.66	325	P	P	14 15 09.7	-1.1
MAJO	Matsushiro	78.66	325	P	P	14 15 09.7	-1.1
MAJO				pmax	pmax		
	comp=Z,12nm,0.9s						
SSLB	Suanglung	79.88	305	P	P	14 15 18.6	+0.9
	comp=Z,34nm,2.9s						
SSLB	Suanglung	79.88	305	P	P	14 15 15.5	-2.3
SSLB				IAmb	IAmb	14 15 18.9	
	comp=Z,28nm,1.0s						
JNU	Nakatsue	79.95	318	P	P	14 15 17.6	-0.3
JNU	Nakatsue	79.95	318	LR	LR	14 46 09.5	
	comp=Z,60nm,21.9s,baz=153,slow=32						
H03S2	Juan Fernandez	80.16	123	T	T	15 44 20.2	
	baz=238,slow=74,SNR=308						
H03S1	Juan Fernandez	80.17	123	T	T	15 44 20.8	
	baz=238,slow=74,SNR=415						
H03S3	Juan Fernandez	80.17	123	T	T	15 44 19.1	
	baz=238,slow=74,SNR=296						
H03N3	Juan Fernandez	80.35	123	T	T	15 44 30.4	
	baz=242,slow=73,SNR=155						
H03N2	Juan Fernandez	80.35	123	T	T	15 44 30.8	
	baz=242,slow=73,SNR=126						
H03N1	Juan Fernandez	80.37	123	T	T	15 44 33.2	
	baz=242,slow=73,SNR=152						
JTM	Tenmabayashi	80.76	330	P	P	14 15 21.4	-0.6
JTM				IAmb	IAmb	14 15 25.2	
	comp=Z,34nm,1.0s						
ERM	Erimo	80.90	332⇑	eP	P	14 15 24.0	+1.3
ERM				pmax	pmax		
	comp=Z,18nm,1.1s						
PLCA	Paso Flores	82.14	133	P	P	14 15 31.5	+1.7
	comp=Z,4.8nm,0.8s,baz=243,slow=14,SNR=10						
PLCA				LR	LR	14 43 17.2	
	comp=Z,205nm,21.3s,baz=238,slow=29						
	comp=Z,4.8nm,0.8s						
KIWB	Kanaga Island	82.37	0	P	P	14 15 30.4	+0.1
ADK	Adak	82.41	1	P	P	14 15 30.4	0.0
ADK	Adak	82.41	1	P	P	14 15 30.1	-0.3
ADK	Adak	82.41	1	P	P	14 15 30.1	-0.3
ADK				pmax	pmax		
	comp=Z,66nm,0.8s						
ATKA	Atka Island	82.78	2	P	P	14 15 31.9	-0.5
	comp=Z,97nm,0.8s						
ATKA	Atka Island	82.78	2	P	P	14 15 32.0	-0.3
ASAJ	Asahikawa	82.88	333	P	P	14 15 32.4	-0.8
	comp=Z,12nm,0.8s,baz=186,slow=4.6,SNR=8.0						
ASAJ				LR	LR	14 48 31.2	
	comp=Z,132nm,19.9s,baz=173,slow=33						
	comp=Z,12nm,0.8s						
SHEM	Shemya Is, Ala	83.54	355	LR	LR	14 49 00.1	
	comp=Z,243nm,19.4s,baz=160,slow=33						
NIKH	Nikolski High	83.86	6	P	P	14 15 36.0	-1.9
NIKH	Nikolski High	83.86	6	P	P	14 15 37.9	0.0
	baz=188						
TJN	Taejon	84.29	319	P	P	14 15 41.4	+0.9
TJN	Taejon	84.29	319⇑	eP	P	14 15 41.3	+0.8
SNCC	San Nicolas Is	84.33	46	P	P	14 15 40.7	-0.1
	baz=227						
SKR	Severo-Kuril's	84.38	344⇓	eP	P	14 15 42.0	+1.4
LPIG	La Paz	84.73	58	LR	LR	14 44 07.0	
	comp=Z,162nm,21.8s,baz=206,slow=29						
KSRS	Korea Array	84.74	320	P	P	14 15 42.2	-0.6
	comp=Z,3.5nm,0.8s,baz=139,slow=5.5,SNR=23						
KSRS				LR	LR	14 49 31.4	
	comp=Z,62nm,21.5s,baz=140,slow=33						
	comp=Z,3.5nm,0.8s						
SCI2	San Clemente I	84.75	47	P	P	14 15 42.0	-0.9
	baz=228						
UNV	Unalaska Valle	84.94	7	P	P	14 15 43.5	+0.1
	baz=190						
SBC	Santa Barbara	85.02	45	P	P	14 15 44.3	0.0
	baz=227						
CIS	Catalina Islan	85.12	46	P	P	14 15 45.7	+0.8
	baz=228						
YSS	Yuzh-Sakhalins	85.19	334	P	P	14 15 45.8	+1.0
YSS	Yuzh-Sakhalins	85.19	334	P	P	14 15 45.2	+0.4
YSS	Yuzh-Sakhalins	85.19	334	eP	P	14 15 44.9	+0.1
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
PKM	Mcpherson Peak	85.26	44	P	P	14 15 46.2	+0.5
	baz=227						
BO02	Sierra Bellavi	85.34	128	P	P	14 15 47.3	+1.1
BO02				IAmb	IAmb	14 16 05.7	
	comp=Z,18nm,0.9s						
KULM	Kulim	85.35	279	P	P	14 15 45.5	-1.0
KULM				IAmb	IAmb	14 15 46.6	
	comp=Z,22nm,1.0s						
FMP	Fort Macarthur	85.40	46	P	P	14 15 47.3	+1.1
	baz=228						
SMMC	Simmler	85.44	44	P	P	14 15 48.3	+1.9
	baz=227						
OSI	Osito Audit: C	85.74	45	P	P	14 15 50.0	+2.1
	baz=228						
GSI	Gunungsitoli	85.93	274	P	P	14 15 50.0	+0.7
	comp=Z,93nm,0.9s						
GSI	Gunungsitoli	85.93	274	P	P	14 15 49.3	-0.1
GSI	Gunungsitoli	85.93	274	P	P	14 15 50.0	+0.7
PET	Petropavlovsk	86.00	346	eP	P	14 15 47.9	-0.7
PET				eS	S	14 26 21.4	+2.7
PET				pmax	pmax		
	comp=Z,24nm,1.5s						
PET				pmax	pmax		
	comp=Z,100nm,11.8s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
MURC	Murrieta	86.01	47	P	P	14 15 50.7	+1.4
	baz=229						
ARVC	Arvin	86.02	45	P	P	14 15 50.5	+1.3
	baz=228						
MONP2	Monument Peak	86.04	48	P	P	14 15 51.1	+1.5
	baz=229,SNR=8.9						
IKP	In-Ko-Pah, Jac	86.08	48	P	P	14 15 51.5	+1.8
	baz=229						
BFSC	Mount Baldy Ra	86.14	46	P	P	14 15 52.1	+2.1
	baz=228,SNR=7.3						
FALS	False Pass	86.29	8	P	P	14 15 52.0	+2.0
	baz=192						
VES	Vestal, Richgr	86.34	44	P	P	14 15 52.1	+1.3
	baz=228,SNR=6.2						
EDW2	Edwards Air Fo	86.36	45	P	P	14 15 52.5	+1.5
	baz=228,SNR=9.3						
SWSC	Sam W. Stewart	86.47	48	P	P	14 15 52.7	+1.2
	baz=230						
PFO	Pinyon Flats O	86.48	47	P	P	14 15 53.3	+1.6
	baz=229,SNR=5.5						
PFO	Pinyon Flats O	86.48	47	LR	LR	14 52 44.5	
	comp=Z,58nm,18.2s,baz=238,slow=34						
PFO	Pinyon Flats O	86.48	47	ceP	P	14 15 53.4	+1.7
PFO				pmax	pmax		
	comp=Z,13nm,0.9s						
TPFO	Pinon Flats	86.48	47	P	P	14 15 53.4	+1.7
	baz=229,SNR=5.1						
ISA	Isabella, Lake	86.59	45	IAmb	IAmb	14 15 55.2	
	comp=Z,16nm,0.8s						
ISA	Isabella, Lake	86.59	45	P	P	14 15 53.4	+1.3
	baz=228,SNR=17						
NJ2	Nanjing	86.59	311	eP	P	14 15 53.6	+1.5
NJ2				pP	pP	14 16 00.4	-4.3
NJ2				sP	pwP	14 16 03.4	-5.4
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,230nm,4.0s						
CHNA	Chernabura Isl	86.80	11	P	P	14 15 53.6	+1.1
	baz=196						
LRMC	Laurel Mtn Rad	86.95	45	P	P	14 15 55.6	+1.6
	baz=228,SNR=14						
PSTR	Posyet	87.00	325⇑	eP	P	14 15 56.0	+2.2
BELC	Belle Mtn. Jos	87.03	47	P	P	14 15 55.8	+1.4
	baz=229,SNR=11						
CMB	Columbia Colle	87.07	42	IAmb	IAmb	14 15 56.7	
	comp=Z,12nm,0.8s						
BC3	Big Chuckawall	87.15	48	P	P	14 15 56.9	+1.9
	baz=230,SNR=8.2						
GLA	Glamis	87.16	49	P	P	14 15 57.0	+2.1
	baz=230						
SDPT	Sand Point	87.17	10	P	P	14 15 55.4	+1.1
	baz=195						
S12K	Black Hills	87.29	9	P	P	14 15 55.7	+0.8
	baz=194						
CWC	Cottonwood Cre	87.35	44	P	P	14 15 56.9	+0.9
	baz=228						
HEC	Hector,Ludlow	87.35	46	P	P	14 15 57.8	+1.9
	baz=229,SNR=6.8						
GSC	Goldstone, Bar	87.37	46	P	P	14 15 57.2	+1.2
	baz=229,SNR=12						
MPMC	Manual Prospec	87.45	45	P	P	14 15 57.3	+0.9
	baz=228,SNR=15						
USA0B	Ussuriysk Arra	87.58	326	IAmb	IAmb	14 15 59.9	
	comp=Z,13nm,0.9s						
USA0B	Ussuriysk Arra	87.58	326⇑	eP	P	14 15 56.9	+0.3
USRK	Ussuriysk Ar.	87.58	326	P	P	14 15 56.6	0.0
USRK	Ussuriysk Ar.	87.58	326	P	P	14 15 55.8	-0.8
	comp=Z,8.7nm,0.9s,baz=107,slow=5.0,SNR=11						
USRK				LR	LR	14 49 14.7	
	comp=Z,97nm,22.0s,baz=140,slow=32						
	comp=Z,8.7nm,0.9s						
USRK	Ussuriysk Ar.	87.58	326	P	P	14 15 56.6	0.0
IRM	Iron Mountain	87.67	48	P	P	14 15 59.0	+1.7
	baz=230,SNR=10						
TIN	Tinemaha, Big	87.67	44	P	P	14 15 58.4	+1.0
	baz=228						
GMRC	Granite Mounta	87.75	47	P	P	14 16 00.1	+2.2
	baz=230,SNR=6.3						
214A	Organ Pipe Nat	87.79	51	IAmb	IAmb	14 16 01.3	
	comp=Z,8.2nm,0.8s						
214A	Organ Pipe Nat	87.79	51	P	P	14 15 59.6	+1.7
	baz=231,SNR=5.2						
BLYC	Blythe	87.80	48	IAmb	IAmb	14 16 17.2	
	comp=Z,11nm,0.8s						
EMB	Emerald Bay	87.88	41	IAmb	IAmb	14 16 00.7	
	comp=Z,9.0nm,0.7s						
WAKR	Walker	87.94	42	P	P	14 15 58.9	+0.2
WAKR				IAmb	IAmb	14 16 01.5	
	comp=Z,12nm,1.0s						
TUQ	Turquoise Moun	88.00	46	P	P	14 16 01.1	+2.0
	baz=229,SNR=6.6						
DSP	Deep Springs	88.03	44	IAmb	IAmb	14 16 01.8	
	comp=Z,25nm,1.8s						
GWY	Greenwater Val	88.03	45	IAmb	IAmb	14 16 01.8	
	comp=Z,8.3nm,0.8s						
SHOC	Shoshone, Teco	88.09	46	P	P	14 16 00.6	+1.3
	baz=229						
FURC	Furnace Creek,	88.10	45	P	P	14 16 01.1	+1.9
	baz=229						
GRAC	Grapevine Rang	88.14	44	IAmb	IAmb	14 16 02.6	
	comp=Z,11nm,0.7s						
GRAC	Grapevine Rang	88.14	44	P	P	14 15 59.3	-0.3
	baz=228						
S14K	Fog Glacier	88.21	10	P	P	14 16 00.2	+0.8
	baz=196						
LHV	Little Huntoon	88.31	43	IAmb	IAmb	14 16 03.1	
	comp=Z,12nm,0.8s						
YBH	Yreka Blue Hor	88.37	38	IAmb	IAmb	14 16 07.7	
	comp=Z,9.7nm,0.8s						
YERR	Yerington	88.38	42	IAmb	IAmb	14 16 03.0	
	comp=Z,12nm,0.7s						
NEE2	Needles Airpor	88.39	47	P	P	14 16 01.6	+0.9
	baz=230						
PDMCI	Parker Dam,Lak	88.40	48	P	P	14 16 01.7	+0.9
	baz=230						
CHGN	Chignik	88.40	11	P	P	14 16 01.8	+1.6
	baz=197						
CHIR	Chirikof Islan	88.43	12	P	P	14 16 02.1	+1.8
	baz=199						
TYV	Tymovskoe	88.51	336	eP	P	14 16 01.6	+0.8
TYV				pmax	pmax		
	comp=Z,12nm,1.0s						
TYV				pmax	pmax		
	comp=Z,100nm,3.1s						
NVAR	Mina Array Bea	88.55	43	P	P	14 16 02.6	+1.0
	comp=Z,9.2nm,0.7s,baz=221,slow=8.1,SNR=64						
NVAR				LR	LR	14 47 10.5	
	comp=Z,98nm,21.3s,baz=248,slow=30						
	comp=Z,9.2nm,0.7s						
PAHR	Pah Rah Range	88.78	41	IAmb	IAmb	14 16 20.6	
	comp=Z,9.0nm,1.0s						
TPNV	Topopah Spring	88.79	45	P	P	14 16 03.4	+0.7
	baz=229,SNR=16						
V12A	Nelson	88.86	47	IAmb	IAmb	14 16 06.2	
	comp=Z,12nm,1.3s						
L04D	Klamath Falls	88.92	38	IAmb	IAmb	14 16 05.5	
	comp=Z,12nm,0.8s						
MDJ	Mudanjiang	89.05	325	P	P	14 16 04.9	+1.4
MDJ	Mudanjiang	89.05	325	P	P	14 16 02.3	-1.2
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,130nm,5.8s						
W13A	Hualapai Mount	89.07	48	IAmb	IAmb	14 16 23.4	
	comp=Z,13nm,1.1s						
AC05	El Transito	89.08	123	P	P	14 16 06.0	+1.5
KVN	Kaiserville	89.08	42	IAmb	IAmb	14 16 06.3	
	comp=Z,8.9nm,0.7s						
TUC	Tucson	89.36	51	P	P	14 16 06.6	+1.1
	baz=232						
SII	Sitkinak Islan	89.39	13	P	P	14 16 07.4	+2.6
	baz=200						
319A	Douglas	89.82	53	IAmb	IAmb	14 16 27.7	
	comp=Z,18nm,1.0s						
I04A	Tendick Farm,	89.98	37	IAmb	IAmb	14 16 10.1	
	comp=Z,12nm,0.8s						
R17L	Mt. Peulik Vol	90.02	11	P	P	14 16 09.3	+1.5
	baz=198						
R11B	Troy Canyon, C	90.10	44	P	P	14 16 10.0	+1.1
	baz=230						
OHAK	Old Harbor	90.19	13	P	P	14 16 09.7	+1.1
	baz=201						
X16A	Lo Mia Camp, P	90.21	49	IAmb	IAmb	14 16 13.2	
	comp=Z,18nm,0.8s						
J05D	Fort Rock, OR	90.23	38	IAmb	IAmb	14 16 28.2	
	comp=Z,10nm,1.0s						
R18K	Karluk	90.29	12	P	P	14 16 10.0	+1.0
	baz=200						
TIA	Tai'an	90.33	313	P	P	14 16 10.1	+0.3
TIA				pmax	pmax		
	comp=Z,19nm,0.8s						
BMN	Battle Mountai	90.50	42	IAmb	IAmb	14 16 33.1	
	comp=Z,8.5nm,0.9s						
CN2	Changchun	90.55	323	P	P	14 16 09.9	-0.7
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
Q17K	Contact Creek	90.70	11	P	P	14 16 11.6	+0.5
	baz=199						
GRNR	Gornyy	90.73	333⇓	iP	P	14 16 14.7	+3.4
GRNR				pmax	pmax		
	comp=Z,20nm,1.1s						
O14K	Tigyukauivet M	90.85	8	P	P	14 16 12.8	+1.3
	baz=194						
KDAK	Kodiak Island	90.85	13	P	P	14 16 13.5	+1.9
	baz=202						
KDAK	Kodiak Island	90.85	13⇑	eP	P	14 16 11.1	-0.5
KDAK				pmax	pmax		
	comp=Z,80nm,2.5s						
BNX	BinXian	90.93	325	⇑P	P	14 16 11.3	-1.0
BNX				pmax	pmax		
	comp=Z,17nm,0.9s						
BNX				pmax	pmax		
	comp=Z,110nm,5.9s						
WUAZ	Wupatki	90.93	48	IAmb	IAmb	14 16 16.1	
	comp=Z,11nm,0.8s						
WUAZ	Wupatki	90.93	48	P	P	14 16 14.3	+1.5
	baz=232						
KNB	Kanab	90.94	47	IAmb	IAmb	14 16 16.1	
	comp=Z,10nm,0.8s						
O15K	Ungalikthiuk R	90.97	9	P	P	14 16 13.3	+1.1
	baz=196						
Q12A	Willow Creek R	91.00	44	IAmb	IAmb	14 16 15.6	
	comp=Z,12nm,0.8s						
P16K	Nushagak River	91.09	10	P	P	14 16 14.1	+1.4
	baz=197						
SZCU	Shurtz Canyon	91.14	46	IAmb	IAmb	14 16 32.9	
	comp=Z,10.0nm,1.2s						
Q18K	Katmai Hardscr	91.21	12	P	P	14 16 13.9	+0.5
	baz=200						
X18A	Snowflake	91.26	50	IAmb	IAmb	14 16 17.8	
	comp=Z,9.2nm,0.9s						
PSUT	Pine Spring	91.26	45	IAmb	IAmb	14 16 16.9	
	comp=Z,6.7nm,0.7s						
M11K	Mekoryuk	91.43	6	P	P	14 16 15.7	+1.5
	baz=190						
HOOD	Mount Hood Mea	91.44	36	IAmb	IAmb	14 16 20.3	
	comp=Z,11nm,0.8s						
N14K	Kuskokwak Cree	91.45	8	P	P	14 16 14.8	+0.5
	baz=194						
KLR	Kul'dur	91.47	330	P	P	14 16 14.2	-0.5
	comp=Z,4.5nm,0.8s,baz=156,slow=4.9,SNR=16						
KLR				LR	LR	14 51 37.6	
	comp=Z,110nm,21.8s,baz=142,slow=32						
	comp=Z,4.5nm,0.8s						
KLR	Kul'dur	91.47	330	diP	P	14 16 14.9	+0.2
KLR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
P17K	Kvichak River	91.49	11	P	P	14 16 15.0	+0.5
	baz=198						
121A	Cookes Peak, D	91.53	53	P	P	14 16 16.7	+1.1
	baz=234						
PKCU	Pink Cliffs	91.53	46	IAmb	IAmb	14 16 35.9	
	comp=Z,18nm,1.1s						
O16K	Kokwok River B	91.61	10	P	P	14 16 15.0	-0.1
	baz=197						
Q20K	Shuyak Island	91.66	13	P	P	14 16 15.8	+0.4
	baz=202						
I07A	Izee	91.69	38	IAmb	IAmb	14 16 18.5	
	comp=Z,9.3nm,0.9s						
Q19K	Cape Douglas,	91.72	12	P	P	14 16 16.3	+0.6
	baz=201						
M13K	Dall Lake	91.74	7	P	P	14 16 16.3	+0.6
	baz=192						
J08A	Circle Bar Ran	91.75	39	IAmb	IAmb	14 16 18.7	
	comp=Z,11nm,1.2s						
W18A	Petrified Fore	91.75	50	IAmb	IAmb	14 16 36.4	
	comp=Z,12nm,1.1s						
W18A	Petrified Fore	91.75	50	P	P	14 16 16.0	-0.7
	baz=233						
P18K	Big Mountain,	91.88	11	IAmb	IAmb	14 16 16.9	
	comp=Z,10nm,0.8s						
P18K	Big Mountain,	91.88	11	P	P	14 16 16.7	+0.2
	baz=199						
N15K	Kwethluk River	91.89	9	P	P	14 16 17.2	+0.8
	baz=195						
G06A	Carlson Farm,	91.89	37	IAmb	IAmb	14 16 19.1	
	comp=Z,13nm,0.8s						
ENH	Enshi	91.91	304	P	P	14 16 17.6	+0.3
O17K	Koliganek Bris	91.94	10	P	P	14 16 16.8	+0.2
	baz=198						
MTPU	Mount Pierson	91.97	46	IAmb	IAmb	14 16 38.5	
	comp=Z,9.4nm,1.1s						
M14K	Bethel	92.22	8	P	P	14 16 18.8	+1.0
	baz=194						
O18K	Koktuh Hills	92.32	11	P	P	14 16 19.0	+0.6
	baz=199						
M15K	Kasigluk River	92.32	8	P	P	14 16 19.2	+0.8
	baz=195						
LYN	LuoYang	92.34	309	eP	P	14 16 19.0	-0.1
LYN				pmax	pmax		
	comp=Z,30nm,1.0s						
N16K	Nishlik Lake	92.36	9	P	P	14 16 19.5	+0.8
	baz=196						
P19K	Oil Pt	92.47	12	P	P	14 16 20.3	+1.1
	baz=201						
HNS	HongShan	92.59	313	⇓P	P	14 16 20.6	+0.4
HNS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HNS				LR	LR		
	comp=Z,190nm,19.9s						
HNS				LR	LR		
	comp=Z,240nm,23.1s						
TX31	Lajitas Ar. Si	92.59	57	IAmb	IAmb	14 16 39.4	
	comp=Z,11nm,1.4s						
TXAR	Lajitas Array	92.59	57	P	P	14 16 22.5	+1.9
TXAR	Lajitas Array	92.59	57	P	P	14 16 21.7	+1.1
	comp=Z,1.2nm,0.7s,baz=222,slow=3.6,SNR=18						
TXAR				PKKP	PKKPdf	14 33 31.7	+0.1
	comp=Z,0.3nm,0.8s,baz=120,slow=5.3,SNR=3.7						
TXAR				LR	LR	14 48 54.5	
	comp=Z,42nm,21.0s,baz=236,slow=30						
	comp=Z,1.2nm,0.7s						
TXAR	Lajitas Array	92.59	57	P	P	14 16 22.5	+1.9
N17K	Nushagak Hills	92.64	10	P	P	14 16 20.9	+1.0
	baz=198						
MNTX	Cornudas Mount	92.70	54	P	P	14 16 21.4	+0.5
	baz=235						
L14K	Kuka Creek	92.72	7	P	P	14 16 20.7	+0.6
	baz=193						
HOM	Homer	92.78	13	P	P	14 16 20.8	+0.3
	baz=202						
O19K	Port Alsworth	92.79	12	P	P	14 16 20.6	+0.1
	baz=200						
G08A	Pilot Rock	92.80	37	IAmb	IAmb	14 16 23.4	
	comp=Z,15nm,1.2s						
CMIG	Matias Romero	92.84	72	LR	LR	14 51 22.6	
	comp=Z,36nm,18.1s,baz=200,slow=31						
M16K	Timber Creek	92.86	9	IAmb	IAmb	14 16 23.1	
	comp=Z,15nm,1.1s						
M16K	Timber Creek	92.86	9	P	P	14 16 21.1	+0.2
	baz=196						
DUG	Dugway, Tooele	92.93	44	P	P	14 16 21.7	-0.2
	baz=231						
O20K	Slope Mountain	92.99	12	P	P	14 16 22.4	+0.9
	baz=202						
MXC	Moxie City	92.99	36	IAmb	IAmb	14 16 24.1	
	comp=Z,7.3nm,1.0s						
N18K	Kilae Creek	92.99	11	P	P	14 16 22.1	+0.6
	baz=199						
BRSE	Bradley Lake S	93.03	13	P	P	14 16 22.5	+0.8
	baz=203						
L15K	Ungalak Mounta	93.18	8	P	P	14 16 22.3	0.0
	baz=194						
ALPN	Alpine	93.19	56	IAmb	IAmb	14 16 25.7	
	comp=Z,5.8nm,0.7s						
NNA	Nana	93.24	106	LR	LR	14 49 04.7	
	comp=Z,172nm,22.0s,baz=238,slow=29						
MFID	Camas Ranch	93.24	40	IAmb	IAmb	14 16 25.4	
	comp=Z,7.0nm,0.8s						
HAWA	Hanford	93.25	36	IAmb	IAmb	14 16 25.3	
	comp=Z,7.0nm,0.9s						
N19K	Bonanza Creek	93.35	11	P	P	14 16 23.6	+0.4
	baz=200						
TMUT	Trail Mountain	93.35	46	IAmb	IAmb	14 16 27.0	
	comp=Z,6.3nm,0.7s						
M17K	Holitna River	93.44	10	IAmb	IAmb	14 16 25.6	
	comp=Z,16nm,1.1s						
M17K	Holitna River	93.44	10	P	P	14 16 24.2	+0.6
	baz=198						
L16K	Owhat River	93.46	9	IAmb	IAmb	14 16 28.6	
	comp=Z,10nm,1.0s						
L16K	Owhat River	93.46	9	P	P	14 16 24.5	+0.9
	baz=196						
BBB	Bella Bella	93.48	28	LR	LR	14 50 24.3	
	comp=Z,56nm,21.8s,baz=238,slow=30						
CMAR	Chiang Mai Arr	93.61	289	P	P	14 16 26.1	+0.8
	comp=Z,0.4nm,0.3s,baz=123,slow=2.7,SNR=6.2						
CMAR				PP	PP	14 20 03.4	-7.5
	comp=Z,0.4nm,0.3s,baz=133,slow=6.6,SNR=4.2						
CMAR				LR	LR	15 00 18.7	
	comp=Z,43nm,20.5s,baz=135,slow=37						
	comp=Z,0.4nm,0.3s						
SEW	Seward	93.63	14	P	P	14 16 25.0	+0.6
	baz=204						
SRU	San Rafael Swe	93.66	46	IAmb	IAmb	14 16 44.1	
	comp=Z,8.1nm,1.0s						
LVC	Limon Verde	93.66	119	LR	LR	14 49 53.3	
	comp=Z,198nm,21.8s,baz=244,slow=30						
Q23K	Middleton Isla	93.69	16	P	P	14 16 25.5	+0.8
	baz=207						
MA2	Magadan	93.76	345	LR	LR	14 54 19.0	
	comp=Z,132nm,21.1s,baz=161,slow=33						
M18K	Stony River	93.77	10	P	P	14 16 25.8	+0.7
	baz=199						
K15K	Wolf Creek Mou	93.78	8	IAmb	IAmb	14 16 26.8	
	comp=Z,12nm,0.8s						
K15K	Wolf Creek Mou	93.78	8	P	P	14 16 26.1	+1.1
	baz=194						
MVCO	Mesa Verde	93.80	49	P	P	14 16 26.1	0.0
	baz=234						
ANMO	Albuquerque	93.83	51	P	P	14 16 25.5	-0.8
	baz=235						
ANMO	Albuquerque	93.83	51	LR	LR	14 55 04.8	
	comp=Z,34nm,18.3s,baz=334,slow=33						
HVU	Hansel Valley	93.94	43	IAmb	IAmb	14 16 28.8	
	comp=Z,9.2nm,0.7s						
P23K	Montague Islan	93.97	15	P	P	14 16 26.0	0.0
	baz=206						

HEH				pmax	pmax		
	comp=Z,6.0nm,1.3s						
F10A	Beach Ranch, E	94.16	38	IAmb	IAmb	14 16 49.4	
	comp=Z,8.5nm,0.9s						
L18K	Granite Mounta	94.33	10	IAmb	IAmb	14 16 44.2	
	comp=Z,14nm,1.4s						
L18K	Granite Mounta	94.33	10	P	P	14 16 28.0	+0.4
	baz=198						
M19K	Big River Lodg	94.39	11	P	P	14 16 28.2	+0.3
	baz=200						
RC01	Rabbit Creek A	94.47	13	P	P	14 16 29.2	+0.9
	baz=204						
ATAH	Atahualpa	94.50	101	LR	LR	14 49 55.8	
	comp=Z,86nm,20.2s,baz=231,slow=30						
V35K	Ketchikan	94.57	24	P	P	14 16 29.3	+0.5
	baz=219						
L19K	White Mountain	94.58	11	IAmb	IAmb	14 16 30.8	
	comp=Z,24nm,1.6s						
L19K	White Mountain	94.58	11	P	P	14 16 29.2	+0.4
	baz=200						
M20K	Styx River	94.58	12	P	P	14 16 29.5	+0.6
	baz=201						
K17K	Iditarod	94.58	9	P	P	14 16 29.7	+0.9
	baz=197						
KAIM	Kayak Island	94.59	16	P	P	14 16 29.6	+0.8
	baz=208						
SUA	Susitna One	94.62	13	IAmb	IAmb	14 16 31.3	
	comp=Z,7.4nm,0.7s						
SUA	Susitna One	94.62	13	P	P	14 16 29.6	+0.5
	baz=203						
U33K	Whale Pass	94.66	23	P	P	14 16 30.3	+1.1
	baz=217						
SIT	Sitka	94.69	22	P	P	14 16 29.6	+0.3
	baz=216						
PB11	IPOC Station P	94.72	116	P	P	14 16 33.1	+2.3
GLI	Glacier Island	94.83	15	P	P	14 16 30.6	+0.6
	baz=206						
EYAK	Cordova Ski Ar	94.83	15	P	P	14 16 30.8	+0.9
	baz=207						
J16K	Anvik River	94.84	8	IAmb	IAmb	14 16 34.9	
	comp=Z,9.7nm,0.9s						
J16K	Anvik River	94.84	8	P	P	14 16 31.1	+1.2
	baz=195						
SKT	Skwentna	94.95	12	P	P	14 16 31.0	+0.5
	baz=203						
M22K	Willow	95.01	13	P	P	14 16 30.9	+0.3
	baz=204						
L20K	Farewell, AK	95.01	11	P	P	14 16 31.1	+0.3
	baz=201						
KNK	Knik Glacier	95.03	14	P	P	14 16 30.9	+0.1
	baz=205						
BGLC	Bering Glacier	95.04	17	P	P	14 16 31.1	+0.2
	baz=209						
PMR	Palmer	95.05	13	P	P	14 16 30.9	0.0
	baz=205						
TTA	Tatalina	95.11	10	IAmb	IAmb	14 16 33.1	
	comp=Z,8.5nm,1.2s						
TTA	Tatalina	95.11	10	P	P	14 16 31.6	+0.4
	baz=199						
J17K	VABM Dome	95.14	8	P	P	14 16 31.9	+0.6
	baz=196						
S31K	Pelican	95.15	21	P	P	14 16 32.0	+0.6
	baz=215						
833A	Chaparral WMA,	95.18	60	P	P	14 16 31.6	-0.8
	baz=238						
S22A	4UR Ranch, Cre	95.19	49	P	P	14 16 32.3	-0.3
	baz=235						
GHO	Glory Hole Cre	95.26	13	IAmb	IAmb	14 16 36.3	
	comp=Z,12nm,0.8s						
S32K	Killisnoo	95.27	22	P	P	14 16 32.6	+0.7
	baz=216						
I17K	Unalakleet	95.42	8	P	P	14 16 33.2	+0.7
	baz=195						
MESA	MESA	95.42	17	P	P	14 16 33.6	+0.7
	baz=210						
BMRM	Bremner River	95.47	16	P	P	14 16 33.7	+0.8
	baz=208						
J18K	Innoko River	95.52	9	P	P	14 16 34.1	+1.1
	baz=198						
M23K	Glacier View	95.52	14	P	P	14 16 34.6	+1.5
	baz=206						
PZH	PanZhiHua	95.57	297	P	P	14 16 36.3	+1.9
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,120nm,4.3s						
CUT	Chulitna	95.58	13	P	P	14 16 35.1	+1.8
	baz=204						
CRQE	Cirque	95.64	16	P	P	14 16 34.9	+1.1
	baz=210						
SCM	Sheep Creek Mo	95.64	14	IAmb	IAmb	14 16 34.9	
	comp=Z,9.0nm,0.8s						
SCM	Sheep Creek Mo	95.64	14	P	P	14 16 34.6	+0.9
	baz=206						
PNL	Peninsula	95.66	19	P	P	14 16 33.9	+0.2
	baz=213						
R31K	City Hall, Gus	95.67	21	P	P	14 16 34.1	+0.4
	baz=216						
O20A	White River Ci	95.68	46	P	P	14 16 34.0	-0.6
	baz=234						
PPLA	Purkeypile	95.69	12	P	P	14 16 33.4	-0.6
	baz=202						
NEW	Newport	95.72	36	P	P	14 16 34.4	0.0
	baz=229						
MSTX	Muleshoe	95.79	54	P	P	14 16 34.6	-0.5
	baz=237						
K20K	Telida	95.81	11	P	P	14 16 34.9	+0.5
	baz=200						
JCT	Junction City	96.03	58	P	P	14 16 35.2	-1.1
	baz=238						
N25K	Chitina, Valde	96.03	15	P	P	14 16 36.2	+0.7
	baz=208						
SDCO	Great Sand Dun	96.06	49	P	P	14 16 36.2	-0.3
	baz=236						
P29M	Windy Craggy	96.09	19	P	P	14 16 36.1	+0.4
	baz=214						
M24K	Tolsona, Glenn	96.13	14	P	P	14 16 36.1	+0.2
	baz=207						
G15K	Niukluk	96.16	6	P	P	14 16 37.4	+1.5
	baz=192						
J19K	Poorman	96.18	10	P	P	14 16 36.5	+0.5
	baz=199						
MCARA	McCarthy VSAT	96.20	16	P	P	14 16 36.6	+0.5
	baz=210						
WAT6	Susitna Watana	96.23	14	P	P	14 16 36.5	+0.1
	baz=206						
CTG	Chitna Glacier	96.25	17	P	P	14 16 37.2	+0.6
	baz=211						
T35M	Bob Quinn	96.33	24	P	P	14 16 37.0	+0.1
	baz=220						
PLBC	Pleasant Camp	96.34	20	P	P	14 16 37.6	+0.8
	baz=215						
O28M	Mount Upton	96.38	18	P	P	14 16 38.6	+1.2
	baz=212						
CD2	Chengdu	96.39	302	P	P	14 16 38.3	+0.4
O29M	Mount Kennedy	96.42	19	P	P	14 16 38.3	+0.9
	baz=213						
T25A	Trinidad	96.43	50	P	P	14 16 38.2	+0.1
	baz=236						
BW06	Boulder Array	96.44	44	P	P	14 16 38.3	+0.3
	baz=234						
PDAR	Pinedale Array	96.44	44	P	P	14 16 37.9	-0.1
PDAR	Pinedale Array	96.44	44	P	P	14 16 38.1	+0.1
	comp=Z,1.0nm,0.7s,baz=217,slow=2.3,SNR=14						
PDAR				PKKPbc	PKKPbc	14 33 23.9	+0.2
	comp=Z,1.1nm,0.7s,baz=77,slow=3.9,SNR=13						
PDAR				LR	LR	14 52 26.0	
	comp=Z,41nm,21.8s,baz=230,slow=31						
	comp=Z,1.0nm,0.7s						
SEY	Seymchan	96.45	347⇑	eP	P	14 16 39.4	+2.2
SEY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MSO	Missoula	96.45	38	P	P	14 16 38.9	+1.1
	baz=231						
F14K	Arctic Creek	96.45	5	P	P	14 16 38.2	+1.0
	baz=190						
H17K	Granite Mounta	96.53	8	P	P	14 16 38.2	+0.7
	baz=196						
FLWY	Flagg Ranch	96.56	42	IAmb	IAmb	14 16 41.1	
	comp=Z,4.2nm,0.8s						
J20K	Nowinta River	96.57	10	IAmb	IAmb	14 17 10.7	
	comp=Z,16nm,1.7s						
J20K	Nowinta River	96.57	10	P	P	14 16 38.6	+0.9
	baz=200						
CHUM	Lake Minchumin	96.58	11	P	P	14 16 37.2	-0.6
	baz=202						
HHC	Hu-ho-hao-te	96.60	314	eP	P	14 16 41.3	+2.6
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,63nm,4.7s						
HHC				LR	LR		
	comp=Z,130nm,16.0s						
HHC				LR	LR		
	comp=Z,150nm,16.8s						
HHC				LR	LR		
	comp=Z,190nm,17.1s						
HARP	HAARP	96.61	15	P	P	14 16 39.0	+1.0
	baz=208						
G16K	Koyuk River	96.71	7	P	P	14 16 39.1	+0.7
	baz=193						
P30M	Million Dollar	96.72	19	P	P	14 16 39.5	+0.9
	baz=215						
DHY	Denali Highway	96.75	13	P	P	14 16 39.9	+1.1
	baz=206						
S34M	Telegraph Cree	96.75	23	P	P	14 16 39.5	+0.8
	baz=219						
H18K	Honhosa River	96.92	8	P	P	14 16 40.9	+1.6
	baz=197						
YUK8	Steele Glacier	96.93	17	P	P	14 16 40.1	+0.3
	baz=212						
BOZ	Bozeman (W)	96.95	40	P	P	14 16 41.0	+0.8
	baz=232						
Q24A	Divide	96.97	49	P	P	14 16 40.8	+0.1
	baz=236						
G17K	Kiwalik Mounta	96.99	7	P	P	14 16 40.5	+0.9
	baz=195						
YUK6	Outpost Mounta	97.01	18	P	P	14 16 40.5	+0.3
	baz=214						
BPAW	Bear Paw Mtn.	97.01	12	P	P	14 16 40.6	+0.8
	baz=203						
MCK	McKinley	97.04	13	P	Pdif	14 16 40.6	+0.6
	baz=205						
AMTX	Amarillo	97.05	54	P	P	14 16 41.1	+0.2
	baz=237						
PAX	Paxson	97.05	14	P	P	14 16 40.1	0.0
	baz=208						
M26K	Nabesna, AK	97.10	16	P	Pdif	14 16 41.8	+1.4
	baz=210						
I20K	Naaghedeneel	97.10	10	P	Pdif	14 16 42.2	+1.9
	baz=200						
ISCO	Idaho Springs	97.14	48	P	P	14 16 41.6	+0.1
	baz=236						
YUK3	Moose Creek	97.17	17	P	Pdif	14 16 42.2	+1.3
	baz=212						
Q32M	Nakina River	97.20	22	P	Pdif	14 16 41.5	+0.4
	baz=218						
P32M	Atlin	97.24	21	P	Pdif	14 16 42.3	+1.3
	baz=217						
YUK4	Talbot Arm	97.27	18	P	Pdif	14 16 42.7	+1.3
	baz=213						
M27K	Edge Creek, AK	97.32	16	P	P	14 16 41.3	-0.1
	baz=211						
O30N	Mendenhall	97.50	19	P	Pdif	14 16 43.2	+1.1
	baz=215						
H19K	Roundabout Mou	97.52	9	P	Pdif	14 16 43.4	+1.3
	baz=198						
N23A	Red Feather La	97.55	47	P	P	14 16 43.1	-0.1
	baz=236						
L26K	Log Cabin Wild	97.56	15	P	Pdif	14 16 43.4	+1.0
	baz=210						
G18K	Tagagawik	97.60	8	P	Pdif	14 16 42.9	+0.4
	baz=197						
H20K	Anotleneega Mo	97.70	9	P	Pdif	14 16 43.8	+0.9
	baz=200						
K24K	Donnelly Dome	97.72	14	P	P	14 16 43.2	+0.1
	baz=208						
JTS	Las Juntas de	97.74	83	LR	LR	14 50 52.3	
	comp=Z,81nm,21.4s,baz=238,slow=29						
N30M	Aishikik Lake	97.78	18	P	Pdif	14 16 44.5	+1.0
	baz=215						
NEA2	Nenana	97.80	12	P	Pdif	14 16 44.2	+0.8
	baz=205						
F17K	Baldwin Pennin	97.84	7	P	P	14 16 43.3	-0.1
	baz=194						
LPAZ	La Paz	97.90	114	P	Pdif	14 16 48.0	+2.2
	comp=Z,1.6nm,0.7s,baz=245,slow=12,SNR=7.1						
LPAZ				LR	LR	14 53 01.3	
	comp=Z,53nm,21.6s,baz=218,slow=30						
	comp=Z,1.6nm,0.7s						
MLY	Manley	97.91	11	P	P	14 16 44.2	+0.3
	baz=203						
L27K	Beaver Creek,	97.94	16	P	Pdif	14 16 45.2	+1.1
	baz=211						
R33M	Jennings River	97.96	22	P	P	14 16 44.6	+0.2
	baz=219						
RLMT	Red Lodge	98.00	42	P	P	14 16 44.0	-1.0
	baz=234						
P33M	Teslin, Yukon	98.01	21	P	P	14 16 44.5	0.0
	baz=218						
G19K	Purcell Mounta	98.03	8	P	P	14 16 44.4	+0.1
	baz=198						
HDA	Harding Lake	98.03	13	IAmb	IAmb	14 16 47.0	
	comp=Z,4.0nm,0.8s						
HDA	Harding Lake	98.03	13	P	P	14 16 44.1	-0.3
	baz=207						
H21K	Melozitna Rive	98.16	10	P	Pdif	14 16 45.4	+0.4
	baz=202						
F18K	Selawik	98.16	7	P	Pdif	14 16 45.7	+0.8
	baz=196						
N31M	Braeburn, Yuko	98.17	19	P	Pdif	14 16 45.7	+0.6
	baz=216						
K22A	Casper	98.19	45	P	P	14 16 45.5	-0.4
	baz=235						
M29M	Somme Creek	98.24	17	P	Pdif	14 16 46.3	+0.8
	baz=214						
SCRK	Sand Creek	98.25	14	P	Pdif	14 16 46.1	+0.6
	baz=209						
I23K	Minto, Yukon-K	98.26	12	P	Pdif	14 16 46.3	+0.9
	baz=205						
COLA	College	98.28	12	P	Pdif	14 16 46.5	+1.0
	baz=206						
COLA	College	98.28	12⇓	eP	P	14 16 45.3	-0.1
ILAR	Eielson Array	98.37	13	P	P	14 16 45.0	-0.9
	comp=Z,1.1nm,0.7s,baz=220,slow=5.3,SNR=16						
ILAR				PP	PP	14 20 39.9	-6.9
	comp=Z,1.1nm,0.9s,baz=216,slow=7.8,SNR=5.9						
ILAR				PKiKP	PKiKP	14 21 18.0	+0.1
	comp=Z,0.5nm,0.7s,baz=235,slow=2.9,SNR=6.0						
ILAR				LR	LR	14 54 05.7	
	comp=Z,57nm,21.7s,baz=234,slow=31						
	comp=Z,1.1nm,0.7s						
ILAR	Eielson Array	98.37	13	P	P	14 16 45.0	-0.9
E17K	Hotham Inlet	98.41	6	P	Pdif	14 16 47.0	+1.0
	baz=194						
J25K	Salcha River,	98.53	14	P	P	14 16 46.8	+0.2
J25K	Salcha River,	98.53	14	P	P	14 16 46.9	+0.2
	baz=208						
WHTX	Lake Whitney,	98.53	58	P	P	14 16 47.3	-0.1
	baz=239						
POKR	Poker Plat Res	98.58	13	P	Pdif	14 16 47.6	+0.7
	baz=206						
F19K	Shaleruckik Mo	98.60	8	P	Pdif	14 16 47.9	+1.1
	baz=197						
H22K	Ishtalitna Cre	98.61	11	P	Pdif	14 16 47.9	+0.9
	baz=203						
N32M	Quiet Lake	98.68	20	P	Pdif	14 16 48.4	+1.0
	baz=218						
K27K	Chicken	98.72	15	P	Pdif	14 16 48.5	+1.0
	baz=211						
M30M	Minto, Yukon	98.78	18	P	P	14 16 48.1	+0.3
	baz=215						
J26L	Joseph Creek	98.80	14	IAmb	IAmb	14 16 49.8	
	comp=Z,6.4nm,0.8s						
J26L	Joseph Creek	98.80	14	P	Pdif	14 16 49.5	+1.5
	baz=209						
H23K	Yukon River	98.84	11	P	Pdif	14 16 48.5	+0.5
	baz=204						
E18K	Tukpahlearik C	98.86	7	P	Pdif	14 16 48.7	+0.7
	baz=195						
G21K	Allakaket	98.86	10	P	Pdif	14 16 48.7	+0.6
	baz=201						
L29M	L29M	98.88	17	P	Pdif	14 16 49.5	+1.2
	baz=214						
D17K	Noatak River	98.90	6	P	Pdif	14 16 50.0	+1.8
	baz=193						
WMOK	Wichita Mounta	99.00	55	P	Pdif	14 16 49.6	+0.1
	baz=239						
LZH	Lanzhou	99.05	307	eP	Pdif	14 16 54.3	+4.4
LZH				pP	pP	14 17 01.3	-1.3
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
F20K	Avaraart Lake	99.06	9	P	Pdif	14 16 50.3	+1.4
	baz=199						
M31M	Drury Creek, Y	99.14	19	P	Pdif	14 16 50.7	+1.3
	baz=217						
H24K	Noodor Dome	99.15	12	P	Pdif	14 16 50.8	+1.3
	baz=206						
E19K	Redstone River	99.26	8	P	Pdif	14 16 50.2	+0.4
	baz=198						
RDOG	Red Dog Mine	99.26	6	P	Pdif	14 16 52.2	+2.4
	baz=193						
C16K	Lisburne Hills	99.29	5	P	Pdif	14 16 50.7	+0.8
	baz=191						
PRP	Porcupine Dome	99.30	13	P	Pdif	14 16 51.1	+0.9
	baz=208						
BILL	Bilibino	99.31	354	i P	Pdif	14 16 48.4	-1.6
BILL				i		14 20 51.3	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,93nm,19.0s						
DAWY	Dawson	99.37	16	P	Pdif	14 16 51.1	+0.6
	baz=213						
EGMT	Eagleton	99.43	39	P	Pdif	14 16 51.0	-0.2
	baz=234						
F21K	Alatna River	99.53	9	P	Pdif	14 16 51.5	+0.5
	baz=201						
EGAK	Eagle	99.57	15	P	Pdif	14 16 52.4	+1.2
	baz=212						
G23K	Bananza Creek	99.58	11	P	Pdif	14 16 51.6	+0.3
	baz=204						
I26K	Coal Creek Min	99.59	14	P	Pdif	14 16 52.0	+0.7
	baz=210						
K29M	Barlow Dome	99.64	17	P	Pdif	14 16 52.1	+0.4
	baz=214						
CPUP	Villa Florida	99.65	128	LR	LR	14 54 11.7	
	comp=Z,69nm,21.6s,baz=234,slow=31						
C17K	DeLong Mountai	99.65	5	P	Pdif	14 16 52.1	+0.5
	baz=193						
TEIG	Tepich	99.83	72	LR	LR	14 54 50.0	
	comp=Z,24nm,19.7s,baz=228,slow=31						
H25L	Birch Creek	99.91	13	P	Pdif	14 16 53.3	+0.6
	baz=208						
F22K	John River	99.98	10	P	Pdif	14 16 53.3	+0.3
	baz=202						
C18K	Utukok River	99.99	6	P	Pdif	14 16 54.0	+0.9
	baz=195						
G24K	Hadweenzic Riv	100.00	12	P	Pdif	14 16 53.5	+0.4
	baz=206						
COLD	Coldfoot	100.02	11	P	Pdif	14 16 54.2	+1.0
	baz=204						
E20K	Nigu River	100.15	8	P	Pdif	14 16 54.3	+0.4
	baz=199						
D19K	Kuna River	100.16	7	P	Pdif	14 16 54.3	+0.5
	baz=197						
I27K	Kandik River	100.18	14	P	Pdif	14 16 54.0	0.0
	baz=211						
G25K	Bearman Lake	100.30	12	P	Pdif	14 16 54.9	+0.5
	baz=207						
I28M	Miner Creek	100.41	15	P	Pdif	14 16 55.1	0.0
	baz=213						
TGTN	Hyland Airport	100.45	22	P	Pdif	14 16 55.4	0.0
	baz=222						
RSSD	Black Hills	100.51	45	P	Pdif	14 16 54.5	-1.8
	baz=237						
D20K	Etivluk River	100.53	8	P	Pdif	14 16 54.7	-0.8
	baz=198						
J30M	Hart River	100.54	17	P	Pdif	14 16 55.3	-0.4
	baz=216						
C19K	Lookout Ridge	100.59	7	P	Pdif	14 16 55.2	-0.6
	baz=196						
E21K	Killik River	100.60	9	P	Pdif	14 16 55.8	0.0
	baz=201						
B18K	Kokolik River	100.64	6	P	Pdif	14 16 55.9	0.0
	baz=194						
F24K	Squaw Lake	100.66	11	P	Pdif	14 16 55.9	-0.3
	baz=206						
I29M	Ogilvie Camp,	100.71	16	P	Pdif	14 16 56.3	-0.1
	baz=214						
H27K	Steamboat Moun	100.73	14	P	Pdif	14 16 56.5	0.0
	baz=211						
KOTAN	Kotaneelee Air	100.85	24	P	Pdif	14 16 56.9	-0.2
	baz=225						
E23K	Chandalar	100.87	10	P	Pdif	14 16 56.8	-0.3
	baz=204						
G26K	Porcupine Rive	100.90	13	P	Pdif	14 16 57.0	-0.1
	baz=209						
I30M	Mount Dempster	101.06	17	P	Pdif	14 16 57.6	-0.4
	baz=216						
E24K	Your Creek	101.07	11	P	Pdif	14 16 58.3	+0.4
	baz=206						
F25K	Christian Rive	101.12	12	P	Pdif	14 16 59.0	+0.8
	baz=208						
C21K	Knifeblade Rid	101.17	8	P	Pdif	14 16 59.1	+0.8
	baz=200						
D22K	Ayikyak River	101.19	9	P	Pdif	14 16 59.3	+0.9
	baz=202						
G27K	Doyon Strip	101.20	14	P	Pdif	14 16 58.6	+0.1
	baz=211						
TOLK	Toolik Lake Re	101.41	10	P	Pdif	14 16 59.6	+0.2
	baz=205						
H29M	Whitestone	101.41	15	P	Pdif	14 16 59.4	0.0
	baz=214						
F26K	Sheenjek River	101.48	13	P	Pdif	14 16 59.4	-0.4
	baz=209						
D23K	Nanushuk River	101.55	10	P	Pdif	14 17 00.6	+0.6
	baz=204						
E25K	Arctic Village	101.60	12	P	Pdif	14 17 01.2	+0.9
	baz=208						
B21K	Ikpikpuk River	101.63	8	P	Pdif	14 17 00.6	+0.3
	baz=200						
B20K	Meade River	101.71	7	P	Pdif	14 17 01.5	+0.9
	baz=198						
EPYK	Eagle Plains	101.92	16	P	Pdif	14 17 02.7	+0.9
	baz=215						
D24K	Happy Valley	102.00	10	P	Pdif	14 17 03.2	+1.3
	baz=205						
G29M	Pine Creek	102.07	15	P	Pdif	14 17 03.3	+1.0
	baz=214						
F28M	Old Crow	102.26	14	P	Pdif	14 17 03.9	+0.7
	baz=213						
C23K	Itkillik River	102.36	9	P	Pdif	14 17 04.8	+1.3
	baz=204						
E27K	Coleen River	102.40	13	P	Pdif	14 17 04.9	+1.1
	baz=211						
B22K	Teshekpuk Lake	102.45	8	P	Pdif	14 17 05.0	+1.1
	baz=201						
C24K	Franklin Bluff	102.53	10	P	Pdif	14 17 05.5	+1.2
	baz=206						
G30M	tAoh Zraii Nji	102.53	16	P	Pdif	14 17 05.5	+1.0
	baz=216						
D25K	Kavik River	102.53	11	P	Pdif	14 17 05.4	+1.0
	baz=207						
MIAR	Mount Ida	102.62	57	P	Pdif	14 17 05.6	+0.1
	baz=241						
KSU1	Kansas State U	102.70	52	P	Pdif	14 17 06.5	+0.7
	baz=241						
DGMT	Dagmar	102.76	41	P	Pdif	14 17 06.0	+0.2
	baz=238						
G31M	Satah River	102.94	16	P	Pdif	14 17 06.4	+0.2
	baz=218						
A21K	Barrow	103.02	7	P	Pdif	14 17 07.6	+1.2
	baz=199						
F30M	Barrier River	103.14	15	P	Pdif	14 17 09.0	+1.9
	baz=216						
E28M	Babbage River	103.16	14	P	Pdif	14 17 08.0	+0.9
	baz=213						
C27K	Jago River	103.25	12	P	Pdif	14 17 07.1	-0.5
	baz=210						
C26K	Camden Bay	103.30	11	P	Pdif	14 17 08.3	+0.6
	baz=209						
D27M	Malcolm River	103.42	13	P	Pdif	14 17 09.0	+0.6
	baz=212						
F31M	Tsiigehtchic	103.48	16	P	Pdif	14 17 09.0	+0.4
	baz=218						
SONM	Songino Array	103.53	318	Pdiff	Pdif	14 17 07.8	-1.7
	comp=Z,0.3nm,0.4s,baz=113,slow=3.3,SNR=2.1						
SONM				PKiKP	PKiKP	14 21 27.6	-0.2
	comp=Z,0.3nm,0.5s,baz=120,slow=5.2,SNR=3.7						
D28M	Stokes Point	103.93	13	P	Pdif	14 17 10.6	+0.1
	baz=214						
INK	Inuvik	104.22	16	P	Pdif	14 17 12.5	+0.7
	baz=218						
ECSD	EROS Data Cent	104.93	48	P	PKiKP	14 21 30.6	+0.2
	baz=242						
CCM	Cathedral Cave	105.92	55	P	PKiKP	14 21 31.6	-0.8
	baz=243						
LRAL	Lakeview Retre	106.79	61	P	PKiKP	14 21 34.0	-0.2
	baz=244						
C36M	Paulatuk	107.31	17	P	PKiKP	14 21 35.0	+1.0
	baz=227						
AGMN	Agassiz Nation	107.51	44	P	PKiKP	14 21 35.6	+0.6
	baz=243						

WVT Waverly 107.52 58 P **PKiKP 14 21 35.7 +0.2**
baz=244
GOGA Godfrey 109.62 62 P **PKiKP 14 21 38.9 -0.5**
baz=246
SFIN Lafayette 109.82 54 P **PKiKP 14 21 39.1 -0.5**
baz=246
EYMN Ely 110.00 46 P **PKiKP 14 21 39.7 -0.1**
baz=246
TZTN Tazewell 110.83 59 P **PKiKP 14 21 41.5 -0.1**
baz=247
P52A Corning 113.05 57 P **PKiKP 14 21 45.3 -0.5**
baz=248
WMQ Urumqi 113.56 308 *e*PKP **PKiKP 14 21 47.4 +0.7**
O53A New Philadelph 113.93 56 P **PKiKP 14 21 47.3 -0.1**
baz=249
SSPA Standing Stone 116.45 57 P **PKPdf 14 21 52.3 0.0**
baz=251
ZSN Zaisan 116.62 311 *e*PKP **PKPdf 14 21 52.7 +0.2**
baz=311
ZSN *e*PP **PP 14 22 59.2 -1.8**
baz=311
ZSN Zaisan 116.62 311 *e*PKIKP **PKPdf 14 21 52.6 +0.2**
ZSN *e* 14 22 59.1
BOSA Boshof 116.85 203 PKP **PKiKP 14 21 55.0 +1.2**
comp=Z,2.4nm,0.7s,baz=125,slow=3.8,SNR=5.0
BOSA Boshof 116.85 203 PKIKP **PKiKP 14 21 55.0 +1.2**
MK31 Makanchi Array 118.12 310 *c i*PKIKP **PKPdf 14 21 54.0 -1.3**
MKAR Makanchi Array 118.12 310 PKPdf **PKPdf 14 21 54.2 -1.1**
MKAR Makanchi Array 118.12 310 PKP **PKPdf 14 21 54.0 -1.3**
comp=Z,2.6nm,0.7s,baz=96,slow=0.8,SNR=16
MKAR PKKPbc **PKKPbc 14 32 15.3 +0.2**
comp=Z,0.4nm,0.7s,baz=288,slow=1.7,SNR=2.8
MKAR PKKPab **PKKPab 14 32 17.1 +1.2**
comp=Z,0.2nm,0.6s,baz=287,slow=1.7,SNR=5.7
MKAR Makanchi Array 118.12 310 PKIKP **PKPdf 14 21 54.2 -1.1**
BINY Binghamton 118.29 56 P **PKPdf 14 21 55.8 0.0**
baz=253
ZALV Zalesovo Beam 118.42 318 PKPdf **PKPdf 14 21 54.3 -1.3**
ZALV Zalesovo Beam 118.42 318 PKP **PKPdf 14 21 53.8 -1.8**
comp=Z,1.9nm,0.6s,baz=126,slow=0.9,SNR=9.9
ZALV Zalesovo Beam 118.42 318 PKIKP **PKPdf 14 21 54.3 -1.3**
SHLS Shalkode 119.03 305 *e*PKP **PKPdf 14 21 56.3 -1.0**
baz=305
SHLS Shalkode 119.03 305 *e*PKIKP **PKPdf 14 21 56.3 -1.0**
PDGK Podgornoye 119.06 305 PKIKP **PKPdf 14 21 56.0 -1.4**
UZB Uzynbulak 119.34 305 *e*PKP **PKPdf 14 21 57.5 -0.4**
baz=305
UZB *e*PP **PP 14 23 17.7 -2.3**
baz=305
UZB Uzynbulak 119.34 305 *e*PKIKP **PKPdf 14 21 57.5 -0.4**
UZB *e* 14 23 17.7
PAL Palisades 119.43 57 P **PKPdf 14 21 57.8 -0.1**
baz=253
KPKS Kokpek 119.66 305 *e*PKP **PKPdf 14 21 58.2 -0.3**
baz=305
KPKS *e*PP **PP 14 23 20.1 -2.1**
baz=305
KPKS Kokpek 119.66 305 *e*PKIKP **PKPdf 14 21 58.2 -0.3**
KPKS *e* 14 23 20.1
SATY Saty 119.75 305 *e*PKP **PKPdf 14 21 58.5 -0.3**
baz=305
SATY Saty 119.75 305 *e*PKIKP **PKPdf 14 21 58.4 -0.3**
LONY Lake Ozonia 119.95 53 P **PKPdf 14 21 58.0 -0.9**
baz=255
NRIK Noril'sk 120.09 336 PKP **PKPdf 14 21 57.8 -0.5**
comp=Z,5.0nm,0.8s,baz=128,slow=4.6,SNR=6.1
NRIK Noril'sk 120.09 336 ⇓ *i*PKIKP **PKPdf 14 21 58.1 -0.3**
TDK Taldyqorghan 120.26 307 *e*PKP **PKPdf 14 21 59.3 -0.2**
baz=307
TDK Taldyqorghan 120.26 307 *e*PKIKP **PKPdf 14 21 59.2 -0.2**
KSH Kashi 120.53 300 PKP **PKiKP 14 22 01.0 +0.6**
L61B Northampton 120.72 56 P **PKPdf 14 21 59.9 -0.5**
baz=255
MDOK Medeo 120.73 305 *e*PKP **PKPdf 14 22 00.2 -0.4**
baz=305
MDOK Medeo 120.73 305 *e*PKIKP **PKPdf 14 22 00.1 -0.5**
TNSS Tian-Shan 120.77 305 *e*PKP **PKPdf 14 22 00.6 -0.4**
baz=305
TNSS Tian-Shan 120.77 305 *e*PKIKP **PKPdf 14 22 00.6 -0.4**
AAA Alma-Ata 120.84 305 *e*PKP **PKPdf 14 22 00.6 -0.1**
baz=305
AAA Alma-Ata 120.84 305 *e*PKIKP **PKPdf 14 22 00.6 -0.1**
KURK Kurchatov 121.41 314 PKPdf **PKPdf 14 22 00.5 -0.9**
KURK Kurchatov 121.41 314 *c i*PKIKP **PKPdf 14 22 00.4 -1.1**
KURK pmax pmax
comp=Z,14nm,0.8s
KURBB Kurchatov Arra 121.45 313 PKP **PKPdf 14 22 00.9 -0.6**
comp=Z,8.5nm,0.7s,baz=103,slow=2.0,SNR=72
HRV Adam Dziewonsk 121.53 56 P **PKPdf 14 22 02.1 +0.1**
baz=256
LBNH Lisbon 121.69 54 P **PKPdf 14 22 02.0 -0.2**
baz=256
M65A Busby, Falmout 121.95 58 P **PKiKP 14 22 03.3 +0.4**
baz=255
AAK Ala-Archa 122.42 304 ⇓ *i*PKIKP **PKPdf 14 22 04.1 +0.2**
AAK pmax pmax
comp=Z,11nm,1.3s
SGDS Sogindy 122.52 305 *e*PKP **PKPdf 14 22 03.4 -0.6**
baz=305
SGDS Sogindy 122.52 305 *e*PKIKP **PKPdf 14 22 03.3 -0.6**
BTLS Baital 123.28 306 *e*PKP **PKPdf 14 22 05.1 -0.2**
baz=306
BTLS *e*PP **PP 14 23 45.0 -1.7**
baz=306
BTLS Baital 123.28 306 *e*PKIKP **PKPdf 14 22 05.0 -0.2**
BTLS *e* 14 23 44.9
PKME Peaks-Kenny Pk 123.75 54 P **PKiKP 14 22 06.9 +0.5**
baz=259
KBL Kabul 124.46 293 PKPdf **PKPdf 14 22 08.0 -0.1**
KBL Kabul 124.46 293 PKIKP **PKPdf 14 22 08.0 -0.1**
G65A Princeton 124.94 54 PKPdf **PKPdf 14 22 08.2 -0.2**
KK31 Karatay Array 125.38 303 *i*PKIKP **PKPdf 14 22 08.9 -0.5**
KKAR Karatay Array 125.38 303 PKPdf **PKPdf 14 22 08.8 -0.6**
KKAR Karatay Array 125.38 303 PKIKP **PKPdf 14 22 08.8 -0.6**
IUG luzhnay 125.54 302 *e*PKP **PKPdf 14 22 09.5 -0.4**
baz=302
IUG luzhnay 125.54 302 *e*PKIKP **PKPdf 14 22 09.4 -0.4**
SIMJ Simiganj 125.54 298 PKPdf **PKPdf 14 22 09.9 0.0**
BRLS Borolday 125.85 303 *e*PKP **PKPdf 14 22 10.3 -0.1**
baz=303
BRLS Borolday 125.85 303 *e*PKIKP **PKPdf 14 22 10.2 -0.1**
CHM Chimkent 125.88 302 *e*PKP **PKPdf 14 22 10.1 -0.3**
baz=302
CHM Chimkent 125.88 302 *e*PKIKP **PKPdf 14 22 10.0 -0.3**
SCHQ Schefferville 126.55 42 PKPdf **PKPdf 14 22 10.5 -0.7**
SCHQ Schefferville 126.55 42 PKP **PKPdf 14 22 10.6 -0.6**
comp=Z,4.7nm,0.8s,baz=327,slow=3.7,SNR=5.1
BVA0 Borovoye Array 126.78 316 PKIKP **PKPdf 14 22 11.5 -0.2**
BVAR Borovoye Array 126.78 316 PKP **PKPdf 14 22 11.1 -0.6**
comp=Z,15nm,0.9s,baz=98,slow=3.2,SNR=43
LMN Caledonia Moun 126.96 54 PKPdf **PKPdf 14 22 12.1 -0.1**
NEEM North Greenlan 127.67 13 *i* P **PKPdf 14 22 11.4 -1.7**
NEEM IAmb IAmb 14 22 14.5
comp=Z,11nm,0.8s
KBS Kingsbay 131.66 357 *e*PKPdf **PKiKP 14 22 21.4 +0.1**
SPA0 Spitsbergen Ar 132.18 356 *e*PKPdf **PKiKP 14 22 22.4 0.0**
SPITS Spitsbergen Ar 132.18 356 PKP **PKPdf 14 22 21.0 -0.3**
comp=Z,19nm,0.7s,baz=24,slow=7.9,SNR=11
SPITS Spitsbergen Ar 132.18 356 PKIKP **PKPdf 14 22 21.6 +0.3**
SPB2 Spitsbergen Ar 132.18 356 PKPdf **PKPdf 14 22 21.6 +0.3**
SVE Sverdlovsk 132.30 321 *e*PKIKP **PKPdf 14 22 22.5 +0.4**
SVE pmax pmax
comp=Z,9.0nm,1.0s
SUMG Summit 133.14 16 PKPdf **PKPdf 14 22 23.6 -0.1**
SUMG Summit 133.14 16 PKIKP **PKPdf 14 22 23.6 -0.1**
SUMG Summit 133.14 16 *i* P **PKPdf 14 22 24.0 +0.3**
SUMG IAmb IAmb 14 22 26.5
comp=Z,4.8nm,0.8s
AB31 Akbulak array 133.26 310 *i*PKIKP **PKPdf 14 22 23.2 -0.9**
ABKAR Akbulak array 133.26 310 PKPdf **PKPdf 14 22 23.7 -0.4**
ARU Arti 133.49 320 PKPdf **PKPdf 14 22 24.1 -0.2**
ARU Arti 133.49 320 *i*PKIKP **PKPdf 14 22 23.8 -0.5**
ARU 14 24 49.4
ARU MLR MLR
comp=Z,157nm,22.0s
DY2G Dye2 134.19 25 *i* P **PKPdf 14 22 24.4 -1.3**
DY2G IAmb IAmb 14 22 27.7
comp=Z,7.3nm,1.1s
ICESG Greenland Ices 134.99 20 *i* P **PKPdf 14 22 27.4 +0.2**
ICESG IAmb IAmb 14 22 29.2
comp=Z,11nm,0.7s
DBG Daneborg 135.06 8 *e*P **PKPdf 14 22 25.2 -1.5**
KIRV Kirov 137.74 325 *d i*PKIKP **PKiKP 14 22 33.5 -0.6**
HAMF Hammerfest 138.41 349 *e*PKPdf **PKPdf 14 22 33.1 0.0**
APA Apatity 138.88 342 ⇓ *i*PKHKP PKPpre 14 22 28.0
APA pmax pmax
comp=Z,5.0nm,0.5s
APA pmax pmax
comp=Z,7.0nm,0.7s
ARCES ARCESS Array B 139.06 348 PKhKP PKPpre 14 22 25.7
comp=Z,4.1nm,0.7s,baz=47,slow=4.0,SNR=4.0
ARCES PKP **PKPdf 14 22 34.3 0.0**
comp=Z,8.7nm,0.6s,baz=24,slow=2.5,SNR=7.8
JMI Jan Mayen 139.45 5 *e*PKPdf **PKPdf 14 22 35.6 +0.7**
TRO Tromso 140.03 351 *e*PKPdf **PKPdf 14 22 35.9 -0.1**
BELG Belogornoye 140.57 316 *ce*PKIKP **PKPdf 14 22 37.1 -0.4**
STEI Steigen 142.10 352 *e*PKPdf **PKPdf 14 22 36.3 -3.5**
FAUS Fauske 142.62 352 *e*PKPdf **PKPdf 14 22 36.8 -4.0**
GNI Garni 144.34 297 *de*PKIKP **PKPab 14 22 43.3 +0.3**
GNI pmax pmax
comp=Z,15nm,1.3s
VRH Novokhopyorsk 144.42 316 *e*PKIKP **PKPab 14 22 41.8 -0.9**
VRH pmax pmax
comp=Z,20nm,0.6s
MOS Moscow 144.75 325 *i*PKIKP **PKPab 14 22 42.3 -1.5**
MOS *e* 14 26 00.7
MOS pmax pmax
comp=Z,38nm,0.7s
VAF Ylistaro 145.21 344 *e*P **PKPbc 14 22 44.6 -0.5**
KEF Keuruu 145.37 341 *e*P **PKPbc 14 22 44.7 -0.9**
KBZ Khabaz 145.42 303 PKPbc **PKPbc 14 22 46.1 -0.3**
comp=Z,23nm,1.0s,baz=87,slow=3.2,SNR=12
KBZ Khabaz 145.42 303 *ce*PKIKP **PKPbc 14 22 45.8 -0.6**
PUL Pulkovo 145.45 335 *ce*PKIKP **PKPdf 14 22 45.4 -0.5**
PUL pmax pmax
comp=Z,177nm,0.7s
LPSR Galich'ya Gora 145.51 320 *e*PKP2 **PKPdf 14 22 45.2 -1.0**
LPSR pmax pmax
comp=Z,80nm,0.8s
KIV Kislovodsk 145.54 304 *i*PKIKP **PKPdf 14 22 46.8 +0.1**
KIV pmax pmax
comp=Z,25nm,1.0s
OBN Obninsk 145.59 325 ⇑P **PKPdf 14 22 45.6 -0.6**
OBN Obninsk 145.59 325 PKPdf **PKPdf 14 22 45.3 -0.9**
OBN Obninsk 145.59 325 ⇑ *e*PKIKP **PKPdf 14 22 45.7 -0.6**
OBN *e* 14 26 09.0
OBN *e*SS SS 14 45 32.5 +36
OBN pmax pmax
comp=Z,84nm,0.7s
SHA1 Shidzhatmaz 145.59 303 *ce*PKP2 **PKPdf 14 22 46.3 -0.7**
FINES FINESS Array B 145.60 340 PKPdf **PKPdf 14 22 45.1 -1.0**
FINES FINESS Array B 145.60 340 PKPbc **PKPdf 14 22 45.5 -0.6**
comp=Z,100nm,0.8s,baz=44,slow=3.6,SNR=319
FINES FINESS Array B 145.60 340 PKP2 **PKPdf 14 22 45.1 -1.0**
VORR Voronezh 145.72 318 *e*PKIKP **PKPdf 14 22 46.6 0.0**
VORR pmax pmax
comp=Z,75nm,0.4s
NSS Namsos 145.75 352 *e*PKPdf **PKPdf 14 22 46.2 -0.1**
VSR Storozhevoye 145.92 317 *e*PKIKP **PKPdf 14 22 46.3 -0.7**
VSR pmax pmax
comp=Z,80nm,0.8s
VORD Divnogorie 145.94 317 *e*PKIKP **PKPdf 14 22 46.5 -0.5**
VORD pmax pmax
comp=Z,60nm,0.8s
MEF Metsahovi 147.08 340 *e*P **PKPbc 14 22 50.6 -0.2**
RAF Rauma 147.16 342 *e*P **PKPbc 14 22 50.3 -0.7**
ARBE Arbavere 147.20 338 *e*P **PKPbc 14 22 51.2 +0.1**
VSU Vasula 147.68 336 *c i*PKP2 **PKPbc 14 22 52.0 -0.5**
VSU pmax pmax
comp=Z,113nm,0.8s
SOC Sochi 147.72 304 *e*PKIKP **PKPdf 14 22 50.6 +0.3**
SOC *e* 14 26 23.5
SOC *e*SS SS 14 45 24.9 +2.9
SOC *e*SSS SSS 14 51 02.5
SOC pmax pmax
comp=Z,32nm,1.0s
MOL Molde 148.09 355 *e*PKPbc **PKPbc 14 22 53.3 -0.2**
MTSE Matsula 148.46 338 *e*P **PKPbc 14 22 54.5 -0.1**
DOMB Dombas 148.49 354 *e*PKPbc **PKPbc 14 22 54.3 -0.3**
FOO Floro 149.20 357 *e*PKPbc **PKPbc 14 22 56.5 +0.1**
NB2 NORSAR Subarra 149.22 351 PKP **PKPbc 14 22 55.9 -0.6**
comp=Z,43nm,0.8s,baz=15,slow=2.8
NB2 NORSAR Subarra 149.22 351 PKP **PKPbc 14 22 55.9 -0.6**
baz=15,slow=2.8
NOA NORSAR Array B 149.22 351 PKP **PKPdf 14 22 51.8 -0.4**
comp=Z,25nm,0.7s,baz=15,slow=4.1,SNR=35
NOA PKPbc **PKPbc 14 22 56.0 -0.5**
comp=Z,27nm,0.8s,baz=15,slow=4.2,SNR=78
NC602 NORSAR Array S 149.47 351 *e*PKPbc **PKPbc 14 22 56.4 -0.7**
HYA Hoyanger 149.58 356 *e*PKPbc **PKPbc 14 22 56.0 -1.2**
HFS Hagfors 149.72 348 PKP **PKPdf 14 22 52.9 0.0**
comp=Z,40nm,0.7s,baz=114,slow=1.8,SNR=15
HFS PKPbc **PKPbc 14 22 57.2 -0.5**
comp=Z,40nm,0.7s,baz=27,slow=0.3,SNR=86
SUE Sulen 149.75 357 *e*PKPbc **PKPbc 14 22 57.9 +0.1**
ISAL Salakas 150.01 332 *e*P **PKiKP 14 23 00.4 +0.9**
MNK Minsk 150.02 329 *i*PKP2 **PKPbc 14 22 59.1 +0.5**
MNK *i*SS SS 14 45 46.3 +0.1
MNK pmax pmax
comp=N,13nm,1.0s
MNK pmax pmax
comp=Z,39nm,0.9s
MNK pmax pmax
comp=E,8.0nm,1.0s
IIGN Ignalina 150.13 332 *e*P **PKPbc 14 22 57.6 -1.2**
ASK Askoy 150.31 357 *e*PKPbc **PKPbc 14 22 59.2 +0.1**
OSL Oslo 150.35 351 *e*PKPbc **PKPbc 14 22 59.7 +0.5**
BER Bergen 150.40 357 *e*PKPbc **PKPbc 14 22 59.7 +0.4**
VSVD Vaisvydziai 150.55 335 *e*P **PKPbc 14 23 00.1 +0.3**
LRW Lerwick 150.65 3 *e*P **PKPbc 14 22 59.8 -0.1**
KONO Kongsberg 150.78 352 *e*P **PKPbc 14 23 00.0 -0.2**
KONO Kongsberg 150.78 352 *e*PKPbc **PKPbc 14 23 00.1 -0.1**
KONO Kongsberg 150.78 352 PKIKP **PKPbc 14 23 00.0 -0.2**
ODD1 Odda 150.79 355 *e*PKPbc **PKPbc 14 23 00.6 +0.3**
PABE Paberze 150.90 334 **PKPab 14 23 00.4 -0.3**
PABE Paberze 150.90 334 *e*P **PKPbc 14 23 01.0 +0.4**
STRU Stroemstad 151.16 350 *i*P **PKPbc 14 23 00.8 -0.3**
SIM Simferopol' 151.28 308 *i*PKIKP **PKPbc 14 23 02.3 +0.4**
SIM *e* 14 23 06.0
SIM *e* 14 23 10.4
SIM pmax pmax
comp=Z,31nm,0.8s
SIM pmax pmax
comp=Z,55nm,1.1s
SIM pmax pmax
comp=Z,39nm,0.8s
SIM pmax pmax
comp=Z,181nm,26.4s
BNN Bunyan 151.28 295 **PKPbc 14 23 02.1 -0.2**
BLS5 Blasjo 151.29 355 *e*PKPbc **PKPbc 14 23 01.8 +0.3**
KMY Karmoy 151.58 357 *e*PKPbc **PKiKP 14 23 02.7 +0.2**
MMAI Mount Meron Ar 151.69 283 PKPbc **PKiKP 14 23 04.3 +0.5**
comp=Z,40nm,0.7s,baz=73,slow=4.8,SNR=20
AKASG Malin Array Be 151.71 322 PKP **PKPdf 14 22 56.1 -0.2**
comp=Z,0.8nm,0.6s,baz=69,slow=1.0,SNR=5.5
AKASG PKPbc **PKPbc 14 23 02.2 -0.5**
comp=Z,36nm,0.8s,baz=50,slow=2.5,SNR=34
KIEV Kiev 151.72 322 ⇓P **PKPbc 14 23 02.6 -0.1**
KIEV Kiev 151.72 322 PKPbc **PKPbc 14 23 02.0 -0.7**
KIEV Kiev 151.72 322 ⇓PKIKP **PKPbc 14 23 02.6 -0.1**
LEWI Lewis, Hebride 152.04 10 *e*P **PKPbc 14 23 02.3 -1.0**
TJOU Tjoern 152.06 349 *i*P **PKPbc 14 23 02.6 -0.6**
BIGH Upper Bighouse 152.08 7 *e*P **PKPbc 14 23 02.3 -0.9**
BORU Boraas 152.24 348 *i*P **PKPbc 14 23 03.5 -0.1**
HOMB Homborsund 152.25 353 *e*PKPbc **PKPbc 14 23 04.0 +0.4**
HOMB Homborsund 152.25 353 *i*P **PKPbc 14 23 04.1 +0.4**
LINV Loch Inver, As 152.27 8 *e*P **PKPbc 14 23 03.9 +0.2**
SNART Snartemo 152.31 354 *e*PKPbc **PKiKP 14 23 04.3 +0.2**
SNART Snartemo 152.31 354 *i*P **PKPbc 14 23 03.9 +0.1**
SUW Suwalki 152.32 333 *e*P **PKPbc 14 23 04.3 +0.3**
ONAU Onsala 152.61 348 *i*P **PKPbc 14 23 04.1 -0.4**
BLEU Blekinge 152.80 343 *i*P **PKPbc 14 23 04.7 -0.3**
FABU Falkenberg 152.84 347 *i*P **PKPbc 14 23 04.8 -0.2**
BRTR Keskin Array B 152.87 298 PKPbc **PKPbc 14 23 04.9 -1.0**
comp=Z,12nm,1.0s,baz=106,slow=3.1,SNR=24
OVD Ostervraa, Den 152.96 350 *i*P **PKiKP 14 23 05.7 +0.2**
MCD Coleburn Disti 153.04 6 *e*P **PKPbc 14 23 05.3 -0.2**
DEL Delary 153.10 345 *i*P **PKPbc 14 23 05.7 +0.1**
ANTO Ankara 153.49 298 **PKPbc 14 23 06.8 -0.3**
ANTO Ankara 153.49 298 PKIKP **PKPbc 14 23 06.8 -0.3**
BJUU Bjuv 153.65 346 *i*P **PKiKP 14 23 07.2 +0.3**
MILM Milestii Mici 153.91 315 *e*PKP **PKPbc 14 23 06.0 -1.7**
MILM Milestii Mici 153.91 315 *e*PP PP 14 26 52.0 -3.8
MILM *e*L L 15 38 37.0
MILM LRM MLR 15 39 06.0
comp=Z,400nm,19.5s
MILM Milestii Mici 153.91 315 *e*PKIKP **PKPbc 14 23 06.0 -1.7**
MILM *e* 14 26 52.0
LAWE Loch Awe, Argy 154.08 10 *e*P **PKPbc 14 23 07.7 -0.1**
INVG Invergeldie, C 154.09 8 *e*P **PKPbc 14 23 07.6 -0.2**
BSD Bornholm Skovb 154.10 343 *e*P **PKPbc 14 23 07.9 +0.1**
BSD Bornholm Skovb 154.10 343 *i*P **PKPbc 14 23 07.3 -0.5**
BSD *i*P **PKiKP 14 23 07.7 -0.2**
BSD IAmb IAmb 14 23 08.6
comp=Z,19nm,0.7s
DBIC Dimbokro 155.06 164 PKP **PKPdf 14 23 03.3 +1.0**
comp=Z,6.4nm,0.8s,baz=180,slow=1.0,SNR=5.5
DBIC PKPab sPKPbc 14 23 29.4 +1.0
comp=Z,3.9nm,0.5s,baz=180,slow=1.0,SNR=5.2
EKA Eskdalemuir Ar 155.27 7 PKP **PKPdf 14 23 01.2 -0.1**
comp=Z,0.9nm,0.7s,baz=0.0,slow=1.6,SNR=3.9
EKA PKPab **PKPab 14 23 25.9 -0.6**
comp=Z,10.0nm,0.8s,baz=342,slow=3.4,SNR=18
TESR Tescani 155.40 316 ⇑P **PKPab 14 23 25.4 -2.1**
VRI Vrincioaia 155.68 315 ⇑P **PKPab 14 23 25.6 -3.1**
VRI Vrincioaia 155.68 315 ⇑PKP2 **PKPab 14 23 25.6 -3.1**
PLOR Plostina 155.73 315 ⇑P **PKPab 14 23 29.0 +0.1**
PLOR Plostina 155.73 315 ⇑PKP2 **PKPab 14 23 29.0 +0.1**
TURR Turia 156.01 316 ⇓P **PKPab 14 23 27.0 -3.1**
MLR Muntele Rosu 156.34 315 ⇓P **PKPab 14 23 29.0 -2.7**
MLR Muntele Rosu 156.34 315 ⇓PKP2 **PKPab 14 23 29.0 -2.7**
VOIR 156.91 315 ⇓P **PKPab 14 23 29.4 -4.7**
VOIR 156.91 315 ⇓PKP2 **PKPab 14 23 29.4 -4.7**
MARR Marisel-Cluj 157.34 320 ⇓P **PKPab 14 23 35.0 -0.9**
DRGR 157.49 321 ⇓P **PKPab 14 23 35.3 -1.2**
DRGR 157.49 321 ⇓PKP2 **PKPab 14 23 35.3 -1.2**
OSTC Ostas 157.67 336 AMS AMS 15 42 20.0
comp=Z,100nm,13.5s
CHVC Chvalec 157.70 336 *e*PKPAB **PKPab 14 23 37.5 +0.3**
CHVC AMS AMS 15 42 30.0
comp=Z,200nm,12.8s
CHVC Chvalec 157.70 336 *e*PKP2 **PKPab 14 23 37.5 +0.3**
CHVC MLR MLR
comp=Z,200nm,12.8s
UPC Upice 157.79 336 AMS AMS 15 38 50.0
comp=Z,200nm,23.7s
DPC Dobruska-Polom 157.81 335 *e*PKPAB **PKPab 14 23 35.8 -1.9**
DPC AMS AMS 15 33 10.0
comp=Z,200nm,20.4s
DPC Dobruska-Polom 157.81 335 *e*PKP2 **PKPab 14 23 35.8 -1.9**
DPC MLR MLR
comp=Z,200nm,20.4s
MORC Moravsky Berou 157.81 333 *e*PKP **PKPdf 14 23 04.2 -0.7**
KRLC Kraliky 157.86 334 *e*PKPAB **PKPab 14 23 37.9 0.0**
KRLC AMS AMS 15 33 50.0
comp=Z,100nm,23.5s
KRLC Kraliky 157.86 334 *e*PKP2 **PKPab 14 23 37.9 0.0**
KRLC MLR MLR
comp=Z,100nm,23.5s
BRG Berggiesshubel 158.15 339 ⇓ *e*PKPf 14 23 06.0
BRG Amp 14 23 06.9
comp=Z,3.2nm,0.7s
BRG ⇑PKP PKPdf 14 23 17.1 +12
BRG Amp 14 23 18.7
comp=Z,3.6nm,0.8s
BRG PKPab **PKPab 14 23 38.8 -0.3**
BRG Amp 14 23 42.8
comp=Z,9.8nm,0.9s
BRG Berggiesshubel 158.15 339 *e*PKIKP **PKPdf 14 23 06.0 +0.8**
BRG pmax pmax
comp=Z,3.0nm,0.7s
PVCC Panska Ves 158.25 338 *e*PKPAB **PKPab 14 23 39.3 -0.2**
PVCC AMS AMS 15 28 40.0
comp=Z,100nm,19.2s
PVCC Panska Ves 158.25 338 *e*PKP2 **PKPab 14 23 39.3 -0.2**
PVCC MLR MLR
comp=Z,100nm,19.2s
VYHS Vyhne 158.26 329 *e*PKP2 **PKPab 14 23 39.4 -0.3**
VYHS Vyhne 158.26 329 *e*PKP **PKPab 14 23 39.4 -0.3**
RICC Richard 158.39 339 *e*PKPAB **PKPab 14 23 40.2 +0.1**
RICC AMS AMS 15 34 00.0
comp=Z,500nm,34.3s
JAVC Velka Javorina 158.48 331 *e*PKP **PKPdf 14 23 06.7 +1.0**
HSKC Hora Svate Kat 158.53 340 *e*PKPAB **PKPab 14 23 40.2 -0.6**
HSKC AMS AMS 15 33 00.0
comp=Z,200nm,21.2s
VRAC Vranov 158.56 333 *e*PKP **PKPdf 14 23 05.3 -0.5**
PRA Prague 158.69 338 AMS AMS 15 30 00.0
comp=Z,100nm,16.2s
GOPC GO Pecny, Ondr 158.71 337 AMS AMS 15 29 50.0
comp=Z,200nm,26.9s
PRU Pruhonice 158.73 337 *e*PKPAB **PKPab 14 23 41.3 -0.3**
PRU AMS AMS 15 30 00.0
comp=Z,200nm,22.3s
PRU Pruhonice 158.73 337 *e*PKP2 **PKPab 14 23 41.3 -0.3**
PRU MLR MLR
comp=Z,200nm,22.3s
KRUC Moravsky 158.84 333 *e*PKP **PKPdf 14 23 05.8 -0.3**
TREC Trest 158.99 335 AMS AMS 15 34 20.0
comp=Z,100nm,24.2s
MDVR Moldovita 159.25 317 ⇑P **PKPab 14 23 43.8 -0.4**
KHC Kasperske Hory 159.78 338 *e*PKPAB **PKPab 14 23 45.9 -0.4**
KHC AMS AMS 15 31 20.0
comp=Z,200nm,25.9s
KHC Kasperske Hory 159.78 338 *e*PKP2 **PKPab 14 23 45.9 -0.4**
KHC MLR MLR
comp=Z,200nm,25.9s
CKRC Cesky Krumlov 159.81 336 *e*PKPAB **PKPab 14 23 45.9 -0.5**
CKRC AMS AMS 15 31 40.0
comp=Z,200nm,30.2s
CKRC Cesky Krumlov 159.81 336 *e*PKP2 **PKPab 14 23 45.9 -0.5**
CKRC MLR MLR
comp=Z,200nm,30.2s
RONA Rosalia, Austr 159.96 331 *e*PKP **PKPab 14 23 46.5 -0.6**
comp=Z,7.1nm,1.0s
GERESS GERESS Array B 159.99 337 PKP **PKPdf 14 23 06.8 -0.7**
comp=Z,0.3nm,0.2s,baz=26,slow=4.8,SNR=4.4
GERES PKPab **PKPab 14 23 46.6 -0.7**
comp=Z,2.2nm,0.7s,baz=32,slow=3.8,SNR=6.7
MEM Membach 160.06 353 *d*PKPdf **PKPdf 14 23 07.8 +0.3**
MEM *d*PKP **PKPab 14 23 46.1 -1.3**
BTNL Ternell 160.07 352 *d*PKP **PKPab 14 23 47.0 -0.4**
BSTI Sart Tilman 160.13 353 *d*PKP **PKPab 14 23 47.4 -0.2**
BHOU Houvegnez 160.31 352 *d*PKP **PKPab 14 23 47.9 -0.6**
BCLA Clavier 160.32 354 *d*PKPdf **PKPdf 14 23 07.4 -0.3**
BCLA *d*PKP **PKPab 14 23 47.5 -0.9**
BMRD Maredsous 160.48 355 *d*PKPdf **PKPdf 14 23 08.3 +0.5**
BMRD *d*PKP **PKPab 14 23 48.7 -0.5**
RCHB Rochefort 160.59 354 *d*PKPdf **PKPdf 14 23 08.5 +0.5**
RCHB *d*PKP **PKPab 14 23 48.5 -1.1**
ARSA Arzberg 160.64 331 *e*PKP **PKPdf 14 23 08.1 -0.1**
comp=Z,4.1nm,1.1s
DOU Dourbes 160.70 355 *d*PKPdf **PKPdf 14 23 08.7 +0.6**
DOU *d*PKP **PKPab 14 23 49.5 -0.6**
WLF Walferdange 160.98 352 *d*PKP **PKPab 14 23 50.3 -1.0**
BIOA Bad Ischl, Aus 161.00 335 *e*PKP **PKPab 14 23 51.6 0.0**
comp=Z,4.4nm,0.7s
SOKA Soboth 161.30 331 *e*PKP **PKPdf 14 23 08.8 -0.2**
comp=Z,3.3nm,1.0s
SOKA *e*PKP **PKPab 14 23 52.5 -0.6**
comp=Z,6.1nm,1.0s
LESA Schwarzleotal 161.56 337 *i*PKP **PKPdf 14 23 09.8 +0.5**
comp=Z,6.0nm,1.1s
LESA *i*PKP **PKPab 14 23 53.9 -0.3**
comp=Z,13nm,1.8s
KBA Koelnbreinsper 161.63 335 *e*PKP **PKPdf 14 23 09.9 +0.4**
comp=Z,5.7nm,1.3s
KBA *e*PKP **PKPab 14 23 54.9 +0.3**
comp=Z,3.5nm,0.7s
OBKA Obir 161.63 332 *e*PKP **PKPab 14 23 53.2 -1.3**
comp=Z,1.7nm,0.5s
MYKA Terra Mystica 161.89 334 *e*PKP **PKPdf 14 23 09.5 -0.2**
comp=Z,4.9nm,1.2s
MYKA *e*PKP **PKPab 14 23 54.0 -1.6**
comp=Z,5.2nm,0.9s
BFO Black Forest 161.92 346 PKPab **PKPab 14 23 54.1 -1.5**
BFO Black Forest 161.92 346 PKP2 **PKPab 14 23 54.1 -1.5**
WATA Walderalm 162.00 339 *e*PKP **PKPab 14 23 55.5 -0.6**
comp=Z,5.9nm,0.8s
WTTA Wattenberg 162.05 338 *e*PKP **PKPdf 14 23 10.0 +0.1**
comp=Z,5.4nm,1.2s
WTTA *e*PKP **PKPab 14 23 55.6 -0.8**
comp=Z,6.3nm,0.8s
RETA Reutte 162.11 341 *e*PKP **PKPab 14 23 56.2 -0.3**
comp=Z,11nm,1.0s
ABTA Abfaltersbach 162.21 336 PKP **PKPdf 14 23 09.7 -0.2**
ABTA *e*PKP **PKPab 14 23 55.7 -1.3**
comp=Z,9.1nm,0.9s
SQTA Sankt Quirin 162.22 339 *e*PKP **PKPab 14 23 56.6 -0.4**
comp=Z,8.1nm,0.8s
TOA0 Torodi Ar. Sit 162.36 179 PKPab **PKPab 14 24 00.0 +1.8**
TORD Torodi Ar. Bea 162.36 179 PKP **PKPdf 14 23 11.7 +0.8**
comp=Z,7.0nm,1.0s,baz=155,slow=2.8,SNR=15

TORD PKPab **PKPab 14 24 00.3 +2.1**
comp=Z,9.5nm,0.7s,baz=155,slow=3.8,SNR=15
DAVA Damuels 162.54 342 *e*PKP **PKPdf 14 23 10.2 -0.1**
comp=Z,4.1nm,0.9s
DAVA *i* PKP **PKPab 14 23 58.0 -0.4**
comp=Z,10nm,0.9s
FETA Feichten 162.54 340 *i* PKP **PKPdf 14 23 10.1 -0.3**
comp=Z,6.1nm,1.4s
FETA *e*PKP **PKPab 14 23 58.3 -0.2**
comp=Z,6.4nm,1.0s
POLO Lamas de Olo 166.84 34 *e*PKPdf **PKPdf 14 23 15.9 +1.7**
POLO Lamas de Olo 166.84 34 *e*PKPab **PKPab 14 24 13.2 -4.4**
PBRG Braganca 166.99 31 *e*PKPab **PKPab 14 24 18.6 +0.5**
PCBR Castelo Branco 168.14 38 *e*PKPdf **PKPdf 14 23 16.9 +1.8**
PMRV Marv??o 168.48 40 *e*PKPab **PKPab 14 24 25.2 +0.4**
PNCL Nicolau / Gran 168.67 48 *e*PKPdf **PKPdf 14 23 18.2 +2.7**
MESJ Messejana 169.02 48 *e*PKPdf **PKPdf 14 23 18.3 +2.6**
PBEJ Beja 169.13 46 *e*PKPdf **PKPdf 14 23 17.5 +1.7**
PCVE Castro Verde 169.26 48 *e*PKPdf **PKPdf 14 23 18.0 +2.1**
PBAR Barrancos 169.54 43 *e*PKPdf **PKPdf 14 23 18.0 +2.0**
PBDV Barranco-do-Ve 169.56 50 *e*PKPdf **PKPdf 14 23 19.1 +3.0**
PVAQ Vaqueiros 169.60 49 *e*PKPdf **PKPdf 14 23 18.5 +2.4**
PAB San Pablo 169.88 29 ||PKIKP **PKPdf 14 23 18.2 +1.9**
ESDC Sonseca Array 169.93 28 PKP **PKPdf 14 23 17.4 +1.1**
comp=Z,2.7nm,0.9s,baz=346,slow=3.0,SNR=14
ESDC PKPab **PKPab 14 24 31.4 +0.2**
comp=Z,2.4nm,0.8s,baz=330,slow=3.5,SNR=8.5
KEST Kesra 172.22 310 PKP **PKPdf 14 23 18.9 +1.2**
comp=Z,4.9nm,0.9s,baz=56,slow=7.7,SNR=5.0

*IDC **16** 14:03:29.7±1.1, 27°.85N×127°.72E, h0km, mb3.6/5, mbtmp3.6/9, ML3.4/3, MS3.3/7, Error ellipse: s-maj=32.7km s-min=15.0km az=65.0*
*JMA **16** 14:03:30.1±0.3, 28°.1N±0°.5×128°.0E±0°.7, h17km±3km, MD3.8/24, MV3.8/24, NW OFF OKINAWAJIMA IS*
*NIED **16** 14:03:30.1, 28°.08N×128°.00E, h17km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}=0.41; $M_{\theta\theta}$0.84; $M_{\phi\phi}$-0.43; $M_{r\theta}$-0.93; $M_{\theta\phi}$0.67; $M_{\phi r}$0.18; Fault plane solution: $M_0$1.35000×10^15 NP1: ϕ_s102.00000°, δ79.00000°, λ-51.00000°. NP2: ϕ_s205.00000°, δ40.00000°, λ-163.00000°.*
ISC 16 14:03:30.1±1.4, 27°.97N±0°.04×127°.99E±0°.04, h8km±10km, n39, σ1°46/39, mb3.5/5, MS3.5/5, Ryukyu Islands
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
JOKE Okinoerabujima 0.79 139 *i P* **Pg 14 03 46.4 +1.0**
JOKE S **Sg 14 03 57.7 +1.9**
JOKE Okinoerabujima 0.79 139 A A 14 03 46.4
comp=E,4.0nm,1.1s,comp=N,4.0nm,1.8s
JTK Tokunoshima 0.87 102 P **Pg 14 03 46.6 -0.2**
JTK S **Sg 14 03 58.6 +0.5**
JTK Tokunoshima 0.87 102 A A 14 03 46.6
comp=E,6.0nm,0.5s,comp=N,7.0nm,1.8s
JIH Iheya 0.93 181 *i P* **Pn 14 03 49.3 -0.2**
JIH S **Sn 14 04 03.3 +0.3**
JIH Iheya 0.93 181 A A 14 03 49.3
comp=E,3.0nm,8.2s,comp=N,7.0nm,0.4s
JYRO Yoronjima 1.02 156 *i P* **Pb 14 03 50.6 +0.5**
JYRO S **Sn 14 04 06.0 +0.6**
JYRO Yoronjima 1.02 156 A A 14 03 50.6
comp=E,5.0nm,1.3s,comp=N,5.0nm,1.9s
JAMN Amaminishikomi 1.08 75 *i P* **Pb 14 03 49.4 -1.7**
JAMN S **Sb 14 04 03.7 -1.7**
JAMN Amaminishikomi 1.08 75 A A 14 03 49.4
comp=E,3.0nm,1.2s,comp=N,4.0nm,1.9s
JOW Kunigami 1.16 167 Pn **Pn 14 03 52.8 +0.2**
comp=N,532nm,0.3s,baz=346,slow=14,SNR=522
JOW Sn **Sn 14 04 09.7 +1.0**
comp=N,392nm,0.3s,baz=197,slow=19,SNR=15
JOW Kunigami 1.16 167 P **Pn 14 03 52.9 +0.2**
JOW S **Sn 14 04 08.6 -0.1**
JNTH Nagotoyohara 1.44 179 P **Pb 14 03 57.2 -0.1**
JNTH S **Sg 14 04 17.0 +0.4**
JAM Amami Oshima 1.49 72 P **Pn 14 03 55.8 -1.4**
JAGN Aguni-jima 1.53 206 P **Pg 14 03 58.3 -1.1**
JAGN S **Sg 14 04 17.7 -1.5**
JTAJ Takarajima 1.59 42 P **Pn 14 03 56.4 -2.2**
JZK Kikaishima 1.78 78 P **Pn 14 04 01.8 +0.5**
JZK Kikaishima 1.78 78 A A 14 04 01.8
comp=E,9.0nm,5.8s,comp=N,12nm,2.2s
JJT3 Tamagusuku3 1.83 186 P **Pb 14 04 03.5 -0.3**
JKE Kume jima 2 1.96 214 P **Pg 14 04 05.9 -1.8**
JYAK Yakushimahirau 3.16 44 P **Pn 14 04 19.6 -0.6**
JMTN Minamitane 3.51 46 P **Pn 14 04 24.5 -0.5**
JKDJ Kitadaitoujima 3.57 124 P **Pn 14 04 25.2 -0.6**
JKDJ S **Sn 14 05 06.5 -1.7**
JMZ Minamidaito 2 3.59 126 P **Pn 14 04 25.6 -0.5**
JMZ S **Sn 14 05 06.5 -2.3**
JTN Tanegashima 3 3.74 44 P **Pn 14 04 27.8 -0.3**
JNU Nakatsue 5.71 25 Pn **Pn 14 04 59.9 +4.6**
comp=N,3.7nm,0.3s,baz=198,slow=13,SNR=34
comp=N,52nm,0.8s
KSRS Korea Array 9.46 360 Pn **Pn 14 05 49.9 +3.3**
comp=N,0.1nm,0.3s,baz=173,slow=13,SNR=1.8
KSRS LR LR 14 09 26.1
comp=N,115nm,19.6s,baz=170,slow=37
comp=N,0.4nm,0.5s
JHJ Hachijo jima 2 11.39 60 LR LR 14 10 37.5
comp=N,40nm,18.4s,baz=106,slow=37
MJAR Matsushiro Arr 12.15 43 Pn **Pn 14 06 25.9 +2.3**
baz=237,slow=14,SNR=3.1
MJAR LR LR 14 11 24.2
comp=N,16nm,19.9s,baz=233,slow=38
comp=N,0.8nm,0.7s
USRK Ussuriysk Ar. 16.51 10 Pn **P 14 07 24.7 0.0**
comp=N,1.7nm,0.7s,baz=164,slow=7.3,SNR=5.5
SONM Songino Array 25.99 326 P **P 14 09 03.9 +0.4**
comp=N,0.4nm,0.4s,baz=138,slow=9.6,SNR=2.7
comp=N,0.4nm,0.4s
YAK Yakutsk 34.08 1 LR LR 14 23 58.8
comp=N,52nm,18.1s,baz=176,slow=36
MKAR Makanchi Array 40.23 310 P **P 14 11 07.9 +0.6**
comp=N,0.7nm,0.6s,baz=90,slow=8.6,SNR=4.7
comp=N,0.7nm,0.6s
ZALV Zalesovo Beam 40.75 322 P **P 14 11 11.5 +0.2**
comp=N,0.4nm,0.3s,baz=99,slow=8.9,SNR=1.8
comp=N,0.4nm,0.3s
KURBB Kurchatov Arra 43.46 315 P **P 14 11 33.1 -0.4**
comp=N,0.3nm,0.5s,baz=103,slow=9.2,SNR=2.7
comp=N,0.3nm,0.5s
TIXI Tiksi 43.73 0 LR LR 14 30 25.7
comp=N,51nm,18.0s,baz=210,slow=37
BVAR Borovoye Array 48.85 317 P **P 14 12 15.6 -0.4**
comp=N,0.2nm,0.4s,baz=99,slow=8.9,SNR=1.3
BVAR LR LR 14 34 23.9
comp=N,76nm,18.6s,baz=123,slow=38
comp=N,0.2nm,0.4s
ARU Arti 55.91 321 LR LR 14 41 02.8
comp=N,32nm,19.0s,baz=106,slow=40
KIRV Kirov 60.71 324 LR LR 14 41 39.0
comp=N,42nm,18.2s,baz=138,slow=38

*IDC **16** 14:45:36.1±2.2, 18°.76N×145°.79E, h564km±22km, mb2.8/9, mbtmp3.8/11, Error ellipse: s-maj=57.4km s-min=21.3km az=80.0*
*NEIC **16** 14:45:37.2±0.8, 18°.8N±0°.1×145°.9E±0°.5, h582km±27km, mb3.6/4, Error ellipse: s-maj=63.5km s-min=17.8km az=98.0*
ISC 16 14:45:35.9±1.8, 18°.9N±0°.1×145°.7E±0°.4, h550km, n20, σ0°99/21, mb3.4/10, Mariana Islands
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
GUMO Guam 5.30 188 P **P 14 47 10.9 +2.4**
GUMO Guam 5.30 188 P **P 14 47 10.2 +1.7**
34nm,0.9s,baz=18,slow=20,SNR=1.6
GUMO S **S 14 48 23.5 -0.4**
11nm,0.4s,baz=17,slow=19,SNR=1.0
JNU Nakatsue 19.41 320 P **P 14 49 27.8 +1.1**
5.1nm,1.0s,baz=73,slow=20,SNR=2.0
KSRS Korea Array 24.16 324 P **P 14 50 09.3 +0.2**
0.6nm,0.6s,baz=135,slow=8.3,SNR=5.1
0.6nm,0.6s
SOEI Soe 35.41 218 P **P 14 51 45.6 -0.9**
WRA Warramunga Arr 40.13 197 P **P 14 52 23.4 -1.3**
0.1nm,0.7s,baz=21,slow=8.9,SNR=1.3
0.1nm,0.7s
SONM Songino Array 42.99 321 P **P 14 52 47.4 +0.3**
SONM IAmb IAmb 14 52 48.5
comp=Z,3.0nm,1.4s
SONM Songino Array 42.99 321 P **P 14 52 48.2 +1.1**
comp=Z,0.8nm,0.5s,baz=128,slow=5.0,SNR=4.7
comp=Z,0.8nm,0.5s
CMAR Chiang Mai Arr 44.16 277 P **P 14 52 56.5 +0.1**
comp=Z,0.7nm,0.5s,baz=82,slow=6.5,SNR=5.8
comp=Z,0.7nm,0.5s
ZALV Zalesovo Beam 57.86 322 P **P 14 54 35.2 0.0**
comp=Z,0.3nm,0.3s,baz=75,slow=7.5,SNR=1.9
comp=Z,0.3nm,0.3s
MK31 Makanchi Array 58.32 314 P **P 14 54 38.6 +0.1**
MKAR Makanchi Array 58.32 314 P **P 14 54 38.9 +0.4**
MKAR Makanchi Array 58.32 314 P **P 14 54 38.5 0.0**
comp=Z,0.4nm,0.4s,baz=96,slow=7.7,SNR=5.0
comp=Z,0.4nm,0.4s
KURK Kurchatov 61.12 318 P **P 14 54 57.3 +0.3**
KURK IAmb IAmb 14 54 58.0
comp=Z,3.0nm,1.1s
KURBB Kurchatov Arra 61.17 318 P **P 14 54 57.5 +0.2**
comp=Z,3.0nm,0.8s,baz=97,slow=7.6,SNR=20
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 66.32 320 P **P 14 55 30.4 +0.2**
comp=Z,1.3nm,0.6s,baz=90,slow=8.6,SNR=5.8
comp=Z,1.3nm,0.6s
KKAR Karatay Array 66.63 310 P **P 14 55 32.2 0.0**
ABKAR Abkulak array 73.19 317 P **P 14 56 10.5 -0.6**
FINES FINESS Array B 86.72 335 P **P 14 57 20.2 -1.3**
FINES FINESS Array B 86.72 335 P **P 14 57 20.3 -1.2**
comp=Z,0.3nm,0.4s,baz=64,slow=6.5,SNR=5.0
comp=Z,0.3nm,0.4s

*GII **16** 14:58:30.9±0.4, 27°.662N±0°.003×33°.663E±0°.001, h6km, Md3.0/4, Mws3.0/4, confirmed*
SGS 16 14:58:36.5, 27°.99N×33°.21E, h10km, MI2.9, Egypt
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
RSHS 1.44 77 P Pn 14 59 00.9 -1.9
RSHS 1.44 77 S Sn 14 59 19.1 -2.7
TAYS Tayyib Ism 1.57 69 S Sn 14 59 22.0 -2.9
TAYS Tayyib Ism 1.57 69 P Pn 14 59 02.6 -1.9
KRABS KRABS 1.81 86 S Sn 14 59 28.9 -2.0
KRABS KRABS 1.81 86 P Pn 14 59 04.7 -3.2
AYUS `Aynunah 1.83 83 P Pn 14 59 06.2 -1.9
HAQS Haql 1.84 55 P Pn 14 59 06.1 -2.1
HAQS Haql 1.84 55 S Sn 14 59 27.6 -4.1
JMOS Jabal al Moall 2.04 55 P Pn 14 59 09.6 -1.4
JMOS Jabal al Moall 2.04 55 S Sn 14 59 33.6 -3.0
MWLHS Almuwaylih 2.06 96 S Sn 14 59 32.5 -4.5
MWLHS Almuwaylih 2.06 96 P Pn 14 59 09.0 -2.2
HQLS 2.09 51 P Pn 14 59 09.8 -1.9
HQLS 2.09 51 S Sn 14 59 34.5 -3.3
EIL Elat 2.27 42 P Pn 14 59 13.9 -0.2
EIL Elat 2.27 42 S Sn 14 59 38.3 -3.9
EIL Elat 2.27 42 P Pn 14 59 08.9 -5.2
MBRI Mt Berech 2.34 39 P Pn 14 59 15.7 +0.5
MBRI Mt Berech 2.34 39 P Pn 14 59 09.8 -5.3
MBRI Mt Berech 2.34 39 S Sn 14 59 40.8 -3.3
AQBJ Aqaba 2.37 43 P Pn 14 59 15.1 -0.4
KRMI Paran Flat 2.50 32 S Sn 14 59 45.5 -2.5
KRMI Paran Flat 2.50 32 P Pn 14 59 13.8 -3.5
HRFI Mount Harif 2.59 38 P Pn 14 59 19.3 +0.7
HRFI Mount Harif 2.59 38 S Sn 14 59 47.2 -3.1
HRFI Mount Harif 2.59 38 P Pn 14 59 14.1 -4.5
PRNI Paran 2.83 33 P Pn 14 59 23.4 +1.5
PRNI Paran 2.83 33 S Sn 14 59 54.1 -2.0
PRNI Paran 2.83 33 P Pn 14 59 17.7 -4.2
ZFRI Zfri 3.08 34 P Pn 14 59 21.3 -4.0
ZFRI Zfri 3.08 34 S Sn 15 00 01.1 -1.1
KZIT Kziot 3.08 19 P Pb 14 59 30.6 -0.9
KZIT Kziot 3.08 19 P Pn 14 59 23.3 -2.0
YTIR Yattir 3.75 26 P Pn 14 59 32.3 -2.3
MSBI Mazada 3.80 29 P Pn 14 59 31.9 -3.2

*IDC **16** 15:18:37.7±0.6, 61°.29S×154°.73E, h0km, mb4.4/11, mbtmp4.4/11, MS5.1/33, Error ellipse: s-maj=28.1km s-min=15.7km az=78.0*
*NEIC **16** 15:18:38.4±1.1, 61°.37S±0°.08×155°.0E±0°.3, h10km±1km, mb5.0/26, Ms_20 5.4/535, Mwb5.8/35, Mww5.8/24, Error ellipse: s-maj=24.2km s-min=13.4km az=93.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; M_{rr}0.03; $M_{\theta\theta}$5.51; $M_{\phi\phi}$-5.54; $M_{r\theta}$0.80; $M_{\theta\phi}$-4.09; $M_{\phi r}$0.31; Fault plane solution: $M_0$6.93000×10^17 NP1: ϕ_s63.21000°, δ89.30000°, λ172.90000°. NP2: ϕ_s153.30000°, δ82.91000°, λ0.70000°. Principal axes: T 6.9206, Plg6.0000°, Azm18.0000°; N 0.0100, Plg83.0000°, Azm238.0000°; P -6.9305, Plg5.0000°, Azm108.0000°;*
*BJI **16** 15:18:38.5±0.0, 61°.40S×154°.80E, h10km, mb5.7/7, mB5.9/13, Ms5.4/17, Ms7 5.1/18*
*NEIC **16** 15:18:39.1, 61°.44S×154°.71E, h12km, Moment Tensor Solution. Duration: 4s4 Moment tensor: Scale 10^17Nm; M_{rr}-0.61; $M_{\theta\theta}$4.85; $M_{\phi\phi}$-4.24; $M_{r\theta}$2.84; $M_{\theta\phi}$-3.73; $M_{\phi r}$-1.50; Fault plane solution: $M_0$6.53000×10^17 NP1: ϕ_s156.07000°, δ79.43000°, λ20.03000°. NP2: ϕ_s62.25000°, δ70.32000°, λ168.77000°. Principal axes: T 7.4450, Plg22.0000°, Azm20.0000°; N -1.8204, Plg67.0000°, Azm183.0000°; P -5.6247, Plg6.0000°, Azm288.0000°;*
*NEIC **16** 15:18:39.1, 61°.34S×154°.92E, h10km*
*NEIC **16** 15:18:39.1, 61°.34S×154°.92E, h12km*
*GCMT **16** 15:18:46.4±0.1, 61°.40S×154°.08E, h17km, MW5.8/154, Moment Tensor Solution. s154, c318; s154, c457; Duration: 2s0 Moment tensor: Scale 10^17Nm; M_{rr}-0.55±.04; $M_{\theta\theta}$5.96±.05; $M_{\phi\phi}$-5.41±.04; $M_{r\theta}$0.45±.10; $M_{\theta\phi}$-4.63±.04; $M_{\phi r}$1.09±.12; Best double couple: $M_0$7.43600×10^17 NP1: ϕ_s245.00000°, δ83.00000°, λ-173.00000°. NP2: ϕ_s154.00000°, δ83.00000°, λ-7.00000°. Principal axes: T 7.6070, Plg0.0000°, Azm20.0000°; N -0.3460, Plg80.0000°, Azm287.0000°; P -7.2640, Plg10.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 16 15:18:39.4±0.4, 61°.35S±0°.05×155°.12E±0°.07, h10km, n424, σ2°17/108, mb4.9/25, MS5.4/314, 5D, Balleny Islands region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MCQ Macquarie Isla 7.17 18 Pn **Pn 15 20 23.5 -0.6**
MCQ Macquarie Isla 7.17 18 P **Pn 15 20 24.4 +0.3**
VNDA Vanda 16.40 175 Pn **Pn 15 22 26.2 -3.0**
VNDA Vanda 16.40 175 Pn **Pn 15 22 25.4 -3.8**
5.4nm,0.3s,baz=349,slow=13,SNR=124
VNDA Sn Sn 15 25 19.3 -12
0.4nm,0.3s,baz=307,slow=19,SNR=2.1
VNDA LR LR 15 28 03.1
comp=Z,26μm,19.5s,baz=356,slow=34
PYZ Puysegur Point 16.63 29 Pn **Pn 15 22 31.2 -1.3**
PYZ IAmb IAmb 15 22 35.6
comp=Z,184nm,1.6s
SBA Scott Base 17.00 172 Pn **Pn 15 22 35.5 -1.4**
SBA IAmb IAmb 15 22 44.2
comp=Z,74nm,0.9s
TAU Tasmania Unive 19.05 342 P **P 15 22 59.8 -1.7**
TAU IAmb IAmb 15 23 11.5
comp=Z,137nm,1.6s
MOO Moorlands 19.53 342 P **Pn 15 23 11.0 +2.9**
MOO Moorlands 19.53 342 P **P 15 23 07.2 +0.4**
comp=Z,92nm,1.1s,SNR=1.9
CASY Casey 19.92 236 **P 15 23 08.9 -1.9**
CASY IAmb IAmb 15 23 16.9
comp=Z,151nm,1.4s
RPZ Rata Peaks 20.05 35 IAMs_20 IAMs_20 15 29 02.2
comp=Z,16μm,22.0s
RPZ Rata Peaks 20.05 35 P **P 15 23 12.2 -0.2**
comp=Z,9.6nm,0.9s,baz=198,slow=3.2,SNR=1.8
RPZ LR LR 15 29 56.3
comp=Z,11μm,19.6s,baz=186,slow=34
comp=Z,9.6nm,0.9s
CORO Coronation Par 20.51 343 P Pn 15 23 20.8 +1.2
OXZ Oxford 20.68 37 IAMs_20 IAMs_20 15 30 48.1
comp=Z,12μm,18.0s
INZ Inchbonnie 21.07 35 IAMs_20 IAMs_20 15 30 33.2
comp=Z,12μm,19.0s
KHZ Kahutara 21.96 39 IAMs_20 IAMs_20 15 30 50.0
comp=Z,14μm,18.0s
THZ Tophouse 22.37 37 IAMs_20 IAMs_20 15 31 15.8
comp=Z,15μm,19.0s
NNZ Nelson 23.01 37 IAMs_20 IAMs_20 15 31 15.8
comp=Z,13μm,20.0s
QRZ Quartz Range 23.13 35 IAMs_20 IAMs_20 15 31 10.8
comp=Z,15μm,22.0s
SNZO South Karori 23.32 40 IAMs_20 IAMs_20 15 32 22.2
comp=Z,12μm,19.0s
MRZ Mangataiinoka R 24.19 40 P **P 15 23 55.2 -0.5**
MRZ IAMs_20 IAMs_20 15 32 40.0
comp=Z,11μm,18.0s
BFZ Birch Farm 24.38 42 IAMs_20 IAMs_20 15 33 23.2
comp=Z,14μm,19.0s
TOO Toolangi 24.56 341 P **P 15 24 01.5 +2.3**
TOO Toolangi 24.56 341 P **P 15 23 56.9 -2.3**
TOO Toolangi 24.56 341 P **P 15 24 00.0 +0.8**
comp=Z,34nm,1.0s,SNR=2.1
BKZ Black Stump Fm 25.84 41 IAMs_20 IAMs_20 15 33 49.7
comp=Z,8μm,18.0s
HIZ Hauiti 25.94 37 IAMs_20 IAMs_20 15 33 01.3
comp=Z,11μm,21.0s
CNB Canberra Magne 26.31 349 P **P 15 24 17.6 +2.5**
TOZ Tahuroa Road 26.86 38 IAMs_20 IAMs_20 15 33 29.5
comp=Z,12μm,21.0s
URZ Urewera 26.86 41 LR LR 15 35 15.3
comp=Z,5μm,18.7s,baz=288,slow=37
YNG Young 27.41 348 P **P 15 24 27.2 +2.2**
YNG Young 27.41 348 P **P 15 24 26.4 +1.4**
comp=Z,87nm,1.3s,SNR=2.3
MXZ Matakaoa Point 27.88 42 IAMs_20 IAMs_20 15 35 07.8
comp=Z,7μm,18.0s
QSPA South Pole Qui 28.74 180 P **P 15 24 35.9 -0.8**
QSPA IAmb IAmb 15 25 26.2
comp=Z,41nm,1.0s
QSPA South Pole Qui 28.74 180 IAMs_20 IAMs_20 15 35 46.6
comp=Z,11μm,19.0s
QSPA South Pole Qui 28.74 180 P **P 15 24 37.0 +0.2**
comp=Z,12nm,1.1s,baz=348,slow=3.2,SNR=12
QSPA LR LR 15 36 05.3
comp=Z,10μm,18.6s,baz=16,slow=36
comp=Z,12nm,1.1s
CMSA Cobar Meteorol 30.46 344 P **P 15 24 53.5 +1.5**
STKA Stephens Creek 30.78 337 P **P 15 24 54.0 -0.8**
STKA Stephens Creek 30.78 337 P **P 15 24 53.6 -1.3**
comp=Z,5.0nm,0.8s,baz=164,slow=8.2,SNR=5.6
STKA LR LR 15 34 32.8
comp=Z,4μm,21.9s,baz=159,slow=31
comp=Z,5.0nm,0.8s
INKA Innaminka 34.97 337 P **P 15 25 32.3 +0.9**
QLP Quilpie 35.53 343 P **P 15 25 37.2 +0.9**
EIDS Eidsvold 36.07 354 P **P 15 25 42.5 +1.5**
EIDS Eidsvold 36.07 354 IAMs_20 IAMs_20 15 37 40.0
comp=Z,7μm,19.0s
MAW Mawson 36.67 220 P **P 15 25 44.2 -1.5**
comp=Z,7.6nm,0.9s,baz=128,slow=11,SNR=10
MAW LR LR 15 40 51.5
comp=Z,13μm,18.3s,baz=114,slow=36
comp=Z,7.6nm,0.9s
RAO Raoul Island 36.74 41 IAMs_20 IAMs_20 15 39 04.5
comp=Z,6μm,20.0s
RAO Raoul Island 36.74 41 LR LR 15 39 25.1
comp=Z,6μm,19.7s,baz=198,slow=34
H01W1 Cape Leeuwin H 37.05 297 T T 16 05 00.5
baz=148,slow=75,SNR=882
H01W2 Cape Leeuwin H 37.05 297 T T 16 05 02.1
baz=148,slow=75,SNR=805
H01W3 Cape Leeuwin H 37.07 297 T T 16 04 58.3
baz=148,slow=75,SNR=821
NWAO Narrogin (SRO) 37.45 302 LR LR 15 37 18.4
comp=Z,4μm,18.7s,baz=140,slow=30
RK1H Rockhampton Ha 38.07 353 P **P 15 25 59.4 +1.4**
DZM Mont Dzumac 40.03 16 P **P 15 26 17.3 +2.8**
DZM Mont Dzumac 40.03 16 *e*P **P 15 26 13.8 -0.7**
comp=Z,372nm,26.9s
DZM Mont Dzumac 40.03 16 *e*PP **PP 15 27 39.7 -6.7**
comp=Z,216nm,25.5s
DZM *e*S **S 15 32 21.8 +1.7**
comp=Z,2μm,27.8s
DZM *e*LR LR 15 37 30.1
comp=Z,12μm,26.1s
DZM Mont Dzumac 40.03 16 P **P 15 26 15.0 +0.5**
DZM IAmb IAmb 15 26 18.5
comp=Z,43nm,1.4s
DZM IAMs_20 IAMs_20 15 39 11.0
comp=Z,5μm,20.0s
DZM Mont Dzumac 40.03 16 LR LR 15 39 41.4
comp=Z,4μm,18.9s,baz=194,slow=32
ASAR Alice Springs 40.39 329 P **P 15 26 15.6 -1.9**
ASAR Alice Springs 40.39 329 P **P 15 26 15.8 -1.6**
comp=Z,5.7nm,0.9s,baz=166,slow=8.7,SNR=22
ASAR PcP **PcP 15 28 18.7 -1.7**
comp=Z,2.4nm,0.9s,baz=159,slow=3.1,SNR=2.3
ASAR LR LR 15 40 40.5
comp=Z,2μm,21.9s,baz=159,slow=33
comp=Z,5.7nm,0.9s
AS31 Alice Springs 40.39 329 P **P 15 26 15.7 -1.7**
WRKA Warakurna 40.63 321 P **P 15 26 19.7 +0.3**
BELA Belgrano 2 40.89 177 P **P 15 26 21.4 +0.5**
KOUNC Koumac, New Ca 41.27 13 P **P 15 26 27.3 +2.7**
KOUNC Koumac, New Ca 41.27 13 P **P 15 26 24.6 0.0**
MORW Morawa 41.32 303 P **P 15 26 23.5 -1.5**
CTA Charters Tower 41.69 347 P **P 15 26 29.5 +1.4**
CTA Charters Tower 41.69 347 LR LR 15 41 16.0
comp=Z,286nm,21.7s,baz=178,slow=33
CTAO Charters Tower 41.69 347 P **P 15 26 28.1 0.0**
CTAO IAmb IAmb 15 26 29.7
comp=Z,59nm,1.8s
CTAO Charters Tower 41.69 347 IAMs_20 IAMs_20 15 41 03.6
comp=Z,4μm,20.0s
QIS Mount Isa 42.18 338 P **P 15 26 32.2 +0.1**
ELIB Princess Elisa 42.91 200 *d*P **P 15 26 38.5 +0.8**
comp=Z,7.5nm,1.4s
ELIB *d*PP **PP 15 28 21.0 +4.2**
WR0 Warramunga Arr 43.80 331 P **P 15 26 43.6 -1.7**
WR0 IAmb IAmb 15 26 49.0
comp=Z,66nm,1.9s
WB2 Warramunga Arr 43.86 331 P **P 15 26 44.0 -1.8**
WB2 IAmb IAmb 15 27 06.9
comp=Z,26nm,1.2s
WRA Warramunga Arr 43.87 331 P **P 15 26 44.0 -1.8**
WRA Warramunga Arr 43.87 331 P **P 15 26 43.8 -2.0**
comp=Z,8.5nm,1.1s,baz=164,slow=7.3,SNR=20
WRA PcP **PcP 15 28 29.9 -2.0**
comp=Z,2.6nm,1.0s,baz=164,slow=3.1,SNR=1.4
WRA LR LR 15 42 53.7
comp=Z,2μm,21.0s,baz=148,slow=33
comp=Z,8.5nm,1.1s
WRAB Tennant Creek 43.87 331 P **P 15 26 44.0 -1.8**
WRAB IAmb IAmb 15 27 06.9
comp=Z,27nm,1.4s
WB0 Warramunga Arr 44.02 331 P **P 15 26 45.2 -1.8**
WB0 IAmb IAmb 15 26 50.8
comp=Z,64nm,1.9s
SNAA Sanae 46.38 189 P **P 15 27 04.7 -0.6**
SNAA IAmb IAmb 15 27 10.9
comp=Z,34nm,1.5s
SNAA Sanae 46.38 189 ||P **P 15 27 06.3 +1.0**
comp=Z,93nm,0.6s
SNAA Sanae 46.38 189 P **P 15 27 05.2 -0.1**
comp=Z,1.9nm,0.7s,baz=112,slow=14,SNR=2.9
comp=Z,1.9nm,0.7s
VNA3 Neumayer Olymp 47.26 187 ||P **P 15 27 12.3 +0.2**
comp=Z,12nm,0.9s
VNA1 Neumayer~Stat 47.77 187 ||P **P 15 27 18.5 +2.6**
comp=Z,30nm,1.1s
FITZ Fitzroy Crossi 47.97 321 P **P 15 27 16.8 -1.3**
RAR Rarotonga 50.76 59 LR LR 15 46 20.9
comp=Z,676nm,19.4s,baz=202,slow=33
PMSA Palmer Station 50.84 160 LR LR 15 47 38.6
comp=Z,5μm,18.0s,baz=212,slow=34
MTN Manton Dam 51.47 330 P **P 15 27 42.8 -2.0**
MTN IAmb IAmb 15 27 46.7
comp=Z,27nm,1.0s
PMG Port Moresby 52.18 350 IAMs_20 IAMs_20 15 46 50.8
comp=Z,4μm,19.0s
PMG Port Moresby 52.18 350 LR LR 15 47 12.6
comp=Z,3μm,19.1s,baz=171,slow=33
TBI Tubuai 53.37 71 *e*S **S 15 35 32.8 +2.3**
comp=Z,3μm,29.5s
TBI *e*SS **SS 15 39 10.3 +0.2**
comp=Z,1μm,26.2s
TBI *e*LQ LQ 15 40 45.4
comp=Z,15μm,40.0s
TBI *e*LR LR 15 43 17.2
comp=Z,3μm,27.5s
PPT2 Papeete2 58.34 67 *e*S **S 15 36 35.4 -1.6**
comp=Z,348nm,25.0s
PPT2 *e*SS **SS 15 40 31.9 +3.1**
comp=Z,240nm,24.8s
PPT2 *e*LQ LQ 15 43 12.0
comp=Z,4μm,24.0s

PPT2 *e*LR LR 15 45 37.8
comp=Z,3µm,28.8s
PPT2 *e*LR LR 15 45 44.4
comp=Z,4µm,27.0s
PPT Papeete 58.36 67 LR LR 15 50 36.1
comp=Z,1µm,18.0s,baz=210,slow=33
FAKI Fak Fak 60.80 334 P **P 15 28 51.2 -0.3**
KAPI Kappang 62.12 319 LR LR 15 53 34.2
comp=Z,1µm,20.2s,baz=161,slow=34
TARA Tarawa 64.01 20 IAMs_20 IAMs_20 15 52 42.0
comp=Z,2µm,20.0s
RPN Rapa Nui 69.15 108 LR LR 15 53 38.1
comp=Z,699nm,21.3s,baz=217,slow=30
SBUM Sibu 71.61 314 P **P 15 29 59.2 -1.6**
PLCA Paso Flores 71.72 145 P **P 15 29 59.5 -1.9**
PLCA IAmb IAmb 15 30 06.1
comp=Z,12nm,1.1s
PLCA Paso Flores 71.72 145 P **P 15 30 01.9 +0.5**
comp=Z,3.7nm,0.7s,baz=208,slow=5.4,SNR=9.8
PLCA LR LR 15 55 34.1
comp=Z,2µm,19.4s,baz=209,slow=31
comp=Z,3.7nm,0.7s
DAV Davao City (W) 72.00 329 LR LR 15 59 17.0
comp=Z,291nm,21.3s,baz=72,slow=34
GUMO Guam 75.13 350 LR LR 16 02 20.5
comp=Z,472nm,18.9s,baz=183,slow=35
H03S2 Juan Fernandez 75.52 136 T T 16 54 11.3
baz=202,slow=74,SNR=62
H03S1 Juan Fernandez 75.52 136 T T 16 54 12.5
baz=202,slow=74,SNR=72
H03S3 Juan Fernandez 75.53 136 T T 16 54 12.2
baz=202,slow=74,SNR=60
TRQA Tornquist 76.44 151 IAMs_20 IAMs_20 15 58 25.6
comp=Z,2µm,21.0s
SUR Sutherland 79.51 218 IAMs_20 IAMs_20 16 01 44.8
comp=Z,2µm,20.0s
SUR Sutherland 79.51 218 LR LR 16 01 52.4
comp=Z,2µm,21.9s,baz=160,slow=33
H08S2 Diego Garcia H 79.80 273 T T 16 58 27.8
baz=150,slow=76,SNR=72
H08S1 Diego Garcia H 79.81 273 T T 16 58 26.5
baz=150,slow=76,SNR=32
H08S3 Diego Garcia H 79.82 273 T T 16 58 27.8
baz=150,slow=76,SNR=74
CO06 Fray Jorge 80.78 141 IAMs_20 IAMs_20 16 01 42.4
comp=Z,1µm,18.0s
CO05 La Serena 81.60 141 IAMs_20 IAMs_20 16 02 06.3
comp=Z,2µm,18.0s
BOSA Boshof 81.61 223 LR LR 16 05 30.0
comp=Z,2µm,18.7s,baz=158,slow=34
LCO Las Campanas 82.61 141 IAMs_20 IAMs_20 16 02 37.6
comp=Z,1µm,18.0s
QIZ Qiongzhong 87.89 318 P **P 15 31 27.3 -1.5**
QIZ S **S 15 42 15.0 +3.4**
QIZ SS **SS 15 48 00.0 +0.5**
QIZ LR LR
comp=Z,1µm,20.2s
QIZ LR LR
comp=Z,2µm,25.2s
QIZ LR LR
comp=Z,620nm,20.2s
MATP Matopo 88.03 229 LR LR 16 07 10.5
comp=Z,274nm,19.4s,baz=158,slow=33
JCJ Chichijima 88.75 348 LR LR 16 08 23.0
comp=Z,297nm,20.4s,baz=168,slow=34
CPUP Villa Florida 88.76 151 P **P 15 31 34.3 +1.1**
comp=Z,5.1nm,1.2s,baz=242,slow=4.5,SNR=2.9
CPUP LR LR 16 08 08.9
comp=Z,2µm,18.9s,baz=196,slow=33
comp=Z,5.1nm,1.2s
PALK Pallekele 88.96 287 LR LR 16 04 43.7
comp=Z,577nm,19.6s,baz=253,slow=31
LVC Limon Verde 89.15 140 IAMs_20 IAMs_20 16 03 45.9
comp=Z,1µm,20.0s
LVC Limon Verde 89.15 140 LR LR 16 04 08.3
comp=Z,1µm,20.6s,baz=200,slow=31
CMAR Chiang Mai Arr 91.21 308 P **P 15 31 44.8 +0.3**
comp=Z,0.5nm,0.4s,baz=248,slow=4.3,SNR=2.2
CMAR LR LR 16 09 25.9
comp=Z,522nm,21.3s,baz=165,slow=34
comp=Z,0.5nm,0.4s
TSUM Tsumeb 92.84 220 LR LR 16 10 59.0
comp=Z,3µm,21.4s,baz=154,slow=34
LSZ Lusaka 92.87 231 IAMs_20 IAMs_20 16 13 14.8
comp=Z,1µm,18.0s
SPB Sao Paulo 93.42 159 IAMs_20 IAMs_20 16 11 11.0
comp=Z,2µm,20.0s
LPAZ La Paz 95.33 139 P **P 15 32 05.5 +1.1**
comp=Z,0.8nm,0.6s,baz=169,slow=7.9,SNR=2.8
LPAZ LR LR 16 05 41.8
comp=Z,1µm,21.8s,baz=152,slow=30
comp=Z,0.8nm,0.6s
GYA Guiyang 95.84 318 P **P 15 32 07.6 +1.9**
GYA SKS **SKSac 15 42 45.1 +3.4**
GYA S **ScS 15 43 28.8 +4.7**
GYA SS **SS 15 49 56.8 +2.7**
GYA pmax pmax
comp=Z,5.0nm,1.3s
GYA pmax pmax
comp=Z,200nm,3.6s
GYA LR LR
comp=Z,860nm,20.7s
JNU Nakatsue 96.19 340 LR LR 16 14 56.6
comp=Z,441nm,19.4s,baz=166,slow=35
NNA Nana 96.30 129 LR LR 16 06 42.4
comp=Z,1µm,20.3s,baz=198,slow=30
TNCH TengChong 97.35 310 *e*P Pdif 15 32 14.4 +1.6
TNCH SKS **SKSac 15 42 46.5 -3.3**
TNCH S S 15 43 27.1 -10
TNCH pmax pmax
comp=Z,140nm,4.1s
TNCH LR LR
comp=Z,300nm,16.7s
TNCH LR LR
comp=Z,250nm,21.1s
TNCH LR LR
comp=Z,650nm,22.1s
PZH PanZhiHua 97.54 313 P Pdif 15 32 14.9 +1.4
PZH SKS **SKSac 15 42 54.5 +3.9**
PZH S **S 15 43 36.4 -1.7**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,120nm,5.3s
PZH LR LR
comp=Z,550nm,19.6s
PZH LR LR
comp=Z,580nm,19.6s
PZH LR LR
comp=Z,710nm,21.6s
NJ2 Nanjing 97.63 330 *e*P Pdif 15 32 14.6 +1.0
NJ2 pP pwP 15 32 18.8 -1.2
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,320nm,3.8s
NJ2 LR LR
comp=Z,700nm,18.0s
NJ2 LR LR
comp=Z,400nm,18.9s
NJ2 LR LR
comp=Z,770nm,18.9s
CD2 Chengdu 100.91 317 P **Pdif 15 32 28.3 0.0**
CD2 SKS **SKSac 15 43 07.6 +0.6**
CD2 S **Sdif 15 44 07.9 +1.9**
CD2 SS **SS 15 51 05.5 +0.4**
CD2 pmax pmax
comp=Z,90nm,4.1s
CD2 LR LR
comp=Z,450nm,18.2s
CD2 LR LR
comp=Z,820nm,19.6s
CD2 LR LR
comp=Z,630nm,23.3s
LYN LuoYang 101.66 325 *e*P **Pdif 15 32 36.8 +5.3**
LYN SS SS 15 51 17.6 +2.2
LYN pmax pmax
comp=Z,10.0nm,0.6s
LYN pmax pmax
comp=Z,250nm,4.2s
LYN LR LR
comp=Z,540nm,19.2s
LYN LR LR
comp=Z,550nm,16.3s
LYN LR LR
comp=Z,830nm,23.3s
ERM Erimo 103.47 351 IAMs_20 IAMs_20 16 13 18.7
comp=Z,1µm,22.0s
SAML Samuel 103.78 141 IAMs_20 IAMs_20 16 14 54.5
comp=Z,1µm,20.0s
MBAR Mbarara 105.25 239 IAMs_20 IAMs_20 16 17 07.1
comp=Z,1µm,22.0s
JKA Kamikawa-asahi 105.60 351 IAMs_20 IAMs_20 16 15 27.2
comp=Z,1µm,22.0s
MDJ Mudanjiang 107.62 341 Pdif **Pdif 15 32 53.8 -3.9**
MDJ PP **PP 15 37 25.3 -1.3**
MDJ SS SS 15 52 40.8 +3.9
MDJ AMB AMB
comp=Z,110nm,7.6s
MDJ LR LR
comp=Z,260nm,21.0s
MDJ LR LR
comp=Z,220nm,24.0s
MDJ LR LR
comp=Z,750nm,23.4s
H06S1 SOCORRO T 108.12 84 T T 17 34 23.7
SNR=19
H06E1 SOCORRO T-PHASE 108.17 84 T T 17 34 22.6
SNR=48
RCBR Riachuelo 112.47 168 IAMs_20 IAMs_20 16 20 06.4
comp=Z,860nm,22.0s
PET Petropavlovsk 114.06 2 IAMs_20 IAMs_20 16 19 15.4
comp=Z,771nm,20.0s
BCIP Isla Barro Col 114.32 117 IAMs_20 IAMs_20 16 14 22.7
comp=Z,890nm,19.0s
ADK Adak 115.11 19 IAMs_20 IAMs_20 16 15 28.9
comp=Z,1µm,22.0s
ESJX Sierra Juarez 117.03 72 IAMs_20 IAMs_20 16 19 16.6
comp=Z,920nm,19.0s
CLES Cleveland East 117.18 23 IAMs_20 IAMs_20 16 18 36.9
comp=Z,1µm,22.0s
109C Camp Elliot, M 117.24 71 IAMs_20 IAMs_20 16 18 43.2
comp=Z,968nm,20.0s
YUH Yuha Desert 117.58 72 IAMs_20 IAMs_20 16 21 50.2
comp=Z,1µm,18.0s
SDV Santo Domingo 117.82 127 IAMs_20 IAMs_20 16 18 23.7
comp=Z,1µm,22.0s
WMQ Urumqi 118.08 311 *e*PKP **PKiKP 15 37 25.5 0.0**
WMQ LR LR
comp=Z,400nm,23.9s
WMQ LR LR
comp=Z,330nm,24.3s
WMQ LR LR
comp=Z,780nm,23.8s
PFO Pinyon Flats O 118.14 71 IAMs_20 IAMs_20 16 23 06.1
comp=Z,1µm,18.0s
PMD Palm Desert 118.21 71 IAMs_20 IAMs_20 16 23 00.8
comp=Z,1µm,18.0s
PMPB Monarch Peak 118.37 66 IAMs_20 IAMs_20 16 26 45.1
comp=Z,930nm,18.0s
GLA Glamis 118.42 73 IAMs_20 IAMs_20 16 20 18.5
comp=Z,819nm,20.0s
214A Organ Pipe Nat 118.44 75 IAMs_20 IAMs_20 16 16 53.0
comp=Z,705nm,20.0s
SAO San Andreas Ge 118.55 65 IAMs_20 IAMs_20 16 19 19.7
comp=Z,802nm,21.0s
BBGB Big Mountain B 118.57 66 IAMs_20 IAMs_20 16 21 53.3
comp=Z,946nm,18.0s
113A Mohawk Valley, 118.68 74 IAMs_20 IAMs_20 16 24 10.2
comp=Z,651nm,18.0s
TUC Tucson 119.68 76 IAMs_20 IAMs_20 16 22 51.8
comp=Z,761nm,19.0s
HOPS Hopland Field 119.71 63 IAMs_20 IAMs_20 16 23 34.3
comp=Z,921nm,19.0s
KCPM Cahto Peak 120.07 62 IAMs_20 IAMs_20 16 19 17.9
comp=Z,906nm,19.0s
GWY Greenwater Val 120.19 69 IAMs_20 IAMs_20 16 21 55.2
comp=Z,999nm,20.0s
MDPB Devils Postpil 120.31 67 IAMs_20 IAMs_20 16 27 07.4
comp=Z,971nm,18.0s
OMMB Old Mammoth Mi 120.33 67 IAMs_20 IAMs_20 16 20 09.9
comp=Z,834nm,20.0s
KMPM Mount Pierce 120.45 61 IAMs_20 IAMs_20 16 20 34.9
comp=Z,894nm,21.0s
KMRM Mail Ridge 120.46 61 IAMs_20 IAMs_20 16 19 47.8
comp=Z,982nm,20.0s
W13A Hualapai Mount 120.56 72 IAMs_20 IAMs_20 16 24 09.9
comp=Z,843nm,18.0s
TXAR Lajitas Array 120.59 84 PKP **PKPdf 15 37 30.5 -0.4**
comp=Z,0.1nm,0.5s,baz=238,slow=2.4,SNR=2.1
V12A Nelson 120.63 71 IAMs_20 IAMs_20 16 20 58.0
comp=Z,1µm,19.0s
O02D Mt. Diablo Mer 120.81 62 IAMs_20 IAMs_20 16 19 43.6
comp=Z,945nm,20.0s
JCC Jacoby Creek, 120.82 61 IAMs_20 IAMs_20 16 18 48.8
comp=Z,845nm,19.0s
WAKR Walker 120.88 66 IAMs_20 IAMs_20 16 22 14.3
comp=Z,838nm,21.0s
KHMM Horse Mountain 120.99 61 IAMs_20 IAMs_20 16 21 02.3
comp=Z,796nm,20.0s
SHPR Sheep Range 121.14 70 IAMs_20 IAMs_20 16 21 42.3
comp=Z,767nm,18.0s
CNBA Chernabura Isl 121.22 29 IAMs_20 IAMs_20 16 19 20.3
comp=Z,853nm,22.0s
EPT El Paso 121.26 80 IAMs_20 IAMs_20 16 20 31.8
comp=Z,754nm,20.0s
NVAR Mina Array Bea 121.31 67 PKP **PKPdf 15 37 32.1 0.0**
comp=Z,0.6nm,0.8s,baz=194,slow=4.3,SNR=3.9
YERR Yerington 121.36 66 IAMs_20 IAMs_20 16 18 55.2
comp=Z,759nm,20.0s
RYN Ryan 121.38 66 IAMs_20 IAMs_20 16 22 33.7
comp=Z,780nm,21.0s
KRMB Red Mountain 121.46 60 IAMs_20 IAMs_20 16 25 59.6
comp=Z,775nm,19.0s
S12K Black Hills 121.48 27 IAMs_20 IAMs_20 16 19 14.8
comp=Z,972nm,21.0s
KSXB Camp Six Broad 121.72 60 IAMs_20 IAMs_20 16 25 48.7
comp=Z,884nm,18.0s
PAHR Pah Rah Range 121.89 65 IAMs_20 IAMs_20 16 23 22.3
comp=Z,622nm,19.0s
KVN Kaiserville 121.92 66 IAMs_20 IAMs_20 16 23 02.8
comp=Z,798nm,21.0s
L02F Cave Junction 122.09 60 IAMs_20 IAMs_20 16 19 48.4
comp=Z,802nm,21.0s
Q09A Carvers 122.14 67 IAMs_20 IAMs_20 16 22 42.9
comp=Z,896nm,20.0s
L04D Klamath Falls 122.70 61 IAMs_20 IAMs_20 16 32 57.7
comp=Z,622nm,18.0s
K04D Chiloquin, OR 123.27 61 IAMs_20 IAMs_20 16 27 33.2
comp=Z,716nm,18.0s
MTDJ Mount Denham 123.38 115 IAMs_20 IAMs_20 16 21 28.0
comp=Z,950nm,20.0s
J05D Fort Rock, OR 124.03 61 IAMs_20 IAMs_20 16 27 18.3
comp=Z,738nm,19.0s
GRGR Grenville 124.09 135 IAMs_20 IAMs_20 16 26 15.2
comp=Z,862nm,19.0s
SII Sitkinak Islan 124.10 31 IAMs_20 IAMs_20 16 25 04.5
comp=Z,1µm,21.0s
H04A Detroit Lake 124.77 59 IAMs_20 IAMs_20 16 23 13.8
comp=Z,678nm,20.0s
O14K Tigyukauivet M 124.92 26 IAMs_20 IAMs_20 16 20 33.9
comp=Z,837nm,22.0s
DUG Dugway, Tooele 125.21 70 IAMs_20 IAMs_20 16 24 58.5
comp=Z,762nm,20.0s
I07A Izee 125.41 62 IAMs_20 IAMs_20 16 21 54.8
comp=Z,828nm,20.0s
KDAK Kodiak Island 125.59 31 IAMs_20 IAMs_20 16 23 33.0
comp=Z,882nm,20.0s
F04A Amboy 125.69 58 IAMs_20 IAMs_20 16 22 13.0
comp=Z,667nm,21.0s
O16K Kokwok River B 125.91 27 IAMs_20 IAMs_20 16 20 42.2
comp=Z,798nm,22.0s
N15K Kwethluk River 126.00 26 IAMs_20 IAMs_20 16 25 08.5
comp=Z,778nm,22.0s
AMTX Amarillo 126.11 82 IAMs_20 IAMs_20 16 26 29.0
comp=Z,980nm,19.0s
NLWA Neilton Lookou 126.28 56 IAMs_20 IAMs_20 16 23 03.6
comp=Z,774nm,22.0s
Q19K Cape Douglas, 126.34 30 IAMs_20 IAMs_20 16 26 11.8
comp=Z,814nm,20.0s
SYI Shuyak Island 126.37 31 IAMs_20 IAMs_20 16 26 38.5
comp=Z,748nm,20.0s
P18K Big Mountain, 126.38 29 IAMs_20 IAMs_20 16 22 28.7
comp=Z,780nm,22.0s
MFID Camas Ranch 126.46 65 IAMs_20 IAMs_20 16 27 08.6
comp=Z,553nm,18.0s
MPOM Morne Pois Mar 126.51 135 IAMs_20 IAMs_20 16 27 55.5
comp=Z,997nm,19.0s
SDCO Great Sand Dun 126.61 77 IAMs_20 IAMs_20 16 25 31.4
comp=Z,666nm,19.0s
G08A Pilot Rock 126.61 61 IAMs_20 IAMs_20 16 28 03.6
comp=Z,612nm,19.0s
FDF Fort de France 126.68 134 IAMs_20 IAMs_20 16 26 16.0
comp=Z,791nm,22.0s
GNW Green Mountain 126.84 57 IAMs_20 IAMs_20 16 23 12.4
comp=Z,688nm,22.0s
HWUT Hardware Ranch 126.91 69 IAMs_20 IAMs_20 16 23 39.5
comp=Z,789nm,20.0s
N17K Nushagak Hills 126.95 27 IAMs_20 IAMs_20 16 22 34.7
comp=Z,734nm,22.0s
BMO Blue Mountains 126.97 63 IAMs_20 IAMs_20 16 30 09.1
comp=Z,784nm,20.0s
M16K Timber Creek 127.02 26 IAMs_20 IAMs_20 16 23 13.3
comp=Z,996nm,22.0s
MXC Moxie City 127.08 59 IAMs_20 IAMs_20 16 24 44.9
comp=Z,592nm,19.0s
HOLB Holberg 127.25 51 IAMs_20 IAMs_20 16 21 36.0
comp=Z,833nm,22.0s
E07A Sunnyside 127.25 60 IAMs_20 IAMs_20 16 25 03.4
comp=Z,675nm,20.0s
HAWA Hanford 127.25 60 IAMs_20 IAMs_20 16 23 22.5
comp=Z,677nm,21.0s
ILSW Iliamna Southw 127.40 30 IAMs_20 IAMs_20 16 24 46.7
comp=Z,753nm,22.0s
CNPM China Poot 127.46 31 IAMs_20 IAMs_20 16 30 01.4
comp=Z,873nm,20.0s
E08A Dider Farm, El 127.53 60 IAMs_20 IAMs_20 16 25 24.8
comp=Z,648nm,20.0s
L16K Owhat River 127.53 25 IAMs_20 IAMs_20 16 25 23.9
comp=Z,999nm,22.0s
J14K Nanvaranak Lak 127.68 23 IAMs_20 IAMs_20 16 27 19.6
comp=Z,989nm,20.0s
BRLK Bradley Lake 127.76 31 IAMs_20 IAMs_20 16 29 49.8
comp=Z,794nm,19.0s
CBB Campbell River 127.81 53 IAMs_20 IAMs_20 16 24 02.0
comp=Z,813nm,20.0s
F10A Beach Ranch, E 127.89 62 IAMs_20 IAMs_20 16 23 23.5
comp=Z,708nm,22.0s
AHID Auburn Hatcher 128.04 69 IAMs_20 IAMs_20 16 24 43.4
comp=Z,957nm,20.0s
D08A Wollman Farm, 128.04 60 IAMs_20 IAMs_20 16 23 45.2
comp=Z,760nm,22.0s
TORD Torodi Ar. Bea 128.16 214 PKP **PKPdf 15 37 44.6 -1.1**
comp=Z,1.5nm,1.1s,baz=254,slow=1.7,SNR=4.7
ISCO Idaho Springs 128.20 75 IAMs_20 IAMs_20 16 29 12.6
comp=Z,637nm,19.0s
BBB Bella Bella 128.50 50 IAMs_20 IAMs_20 16 25 21.0
comp=Z,971nm,20.0s
L18K Granite Mounta 128.57 27 IAMs_20 IAMs_20 16 24 21.6
comp=Z,974nm,22.0s
O22K Cooper Landing 128.67 31 IAMs_20 IAMs_20 16 28 25.4
comp=Z,686nm,20.0s
PDAR Pinedale Array 128.73 70 PKP **PKiKP 15 37 46.9 0.0**
comp=Z,0.1nm,0.4s,baz=180,slow=4.5,SNR=1.9
RWWY Rawlins 128.96 73 IAMs_20 IAMs_20 16 27 09.6
comp=Z,726nm,21.0s
IMW Indian Meadow 129.00 68 IAMs_20 IAMs_20 16 25 22.8
comp=Z,982nm,20.0s
ANM Nome 129.03 21 IAMs_20 IAMs_20 16 24 14.2
comp=Z,728nm,21.0s
M20K Styx River 129.07 29 IAMs_20 IAMs_20 16 25 58.0
comp=Z,759nm,21.0s
ANWB Willy Bob 129.18 132 IAMs_20 IAMs_20 16 22 13.2
comp=Z,680nm,22.0s
SUA Susitna One 129.27 30 IAMs_20 IAMs_20 16 26 07.2
comp=Z,706nm,22.0s
OK052 Battle Ridge R 129.34 85 IAMs_20 IAMs_20 16 24 34.5
comp=Z,1µm,20.0s
BILL Bilibino 129.35 5 IAMs_20 IAMs_20 16 28 25.5
comp=Z,638nm,21.0s
DLMT Dillon 129.41 66 IAMs_20 IAMs_20 16 25 37.9
comp=Z,768nm,20.0s
HIN Hinchinbrook I 129.43 33 IAMs_20 IAMs_20 16 24 59.5
comp=Z,731nm,21.0s
SKT Skwentna 129.53 29 IAMs_20 IAMs_20 16 25 05.0
comp=Z,868nm,22.0s
M22K Willow 129.67 30 IAMs_20 IAMs_20 16 26 06.8
comp=Z,654nm,21.0s
J18K Innoko River 129.68 26 IAMs_20 IAMs_20 16 27 11.7
comp=Z,1µm,21.0s
GLI Glacier Island 129.68 33 IAMs_20 IAMs_20 16 22 01.3
comp=Z,682nm,22.0s
FID Port Fidalgo 129.73 33 IAMs_20 IAMs_20 16 24 44.3
comp=Z,836nm,22.0s
NEW Newport 129.74 60 IAMs_20 IAMs_20 16 24 58.2
comp=Z,771nm,22.0s
TUL3 Leonard 129.76 86 IAMs_20 IAMs_20 16 24 28.5
comp=Z,1µm,22.0s
V35K Ketchikan 129.77 45 IAMs_20 IAMs_20 16 24 34.4
comp=Z,745nm,20.0s
PMR Palmer 129.78 31 IAMs_20 IAMs_20 16 29 28.6
comp=Z,630nm,20.0s
KNK Knik Glacier 129.79 31 IAMs_20 IAMs_20 16 27 53.0
comp=Z,648nm,21.0s
RAGM Ragged Mountai 129.91 34 IAMs_20 IAMs_20 16 27 03.3
comp=Z,975nm,21.0s
BOZ Bozeman (W) 130.02 66 IAMs_20 IAMs_20 16 32 59.0
comp=Z,715nm,18.0s
K20K Telida 130.15 27 IAMs_20 IAMs_20 16 23 15.3
comp=Z,707nm,22.0s
CBKS Cedar Bluff 130.19 81 IAMs_20 IAMs_20 16 27 05.1
comp=Z,966nm,20.0s
F15K North Star Dit 130.20 20 IAMs_20 IAMs_20 16 22 47.2
comp=Z,837nm,22.0s
H17K Granite Mounta 130.35 23 IAMs_20 IAMs_20 16 29 22.4
comp=Z,887nm,20.0s
J19K Poorman 130.38 26 IAMs_20 IAMs_20 16 27 21.1
comp=Z,945nm,21.0s
WRAK Wrangell Islan 130.40 44 IAMs_20 IAMs_20 16 27 20.2
comp=Z,944nm,20.0s
WAX Waxell Ridge 130.46 35 IAMs_20 IAMs_20 16 23 04.9
comp=Z,885nm,21.0s
S32K Killisnoo 130.50 42 IAMs_20 IAMs_20 16 28 32.0
comp=Z,794nm,20.0s
CRQM Cirque 130.64 35 IAMs_20 IAMs_20 16 33 44.8
comp=Z,664nm,20.0s
TGL Tana Glacier 130.72 35 IAMs_20 IAMs_20 16 26 46.8
comp=Z,724nm,22.0s
ISLE Juniper Island 130.73 35 IAMs_20 IAMs_20 16 23 30.1
comp=Z,813nm,22.0s
OGNE Ogallala 130.78 77 IAMs_20 IAMs_20 16 30 52.8
comp=Z,704nm,19.0s
U35K Hyder 130.79 46 IAMs_20 IAMs_20 16 25 18.3
comp=Z,979nm,22.0s
M24K Tolsona, Glenn 130.96 32 IAMs_20 IAMs_20 16 20 06.0
comp=Z,631nm,21.0s
GRNC Granite Creek 131.00 36 IAMs_20 IAMs_20 16 25 09.2
comp=Z,622nm,20.0s
GLB Gilahina Butte 131.02 34 IAMs_20 IAMs_20 16 26 57.8
comp=Z,767nm,22.0s
KTH Kantishna Hill 131.03 29 IAMs_20 IAMs_20 16 27 19.9
comp=Z,698nm,21.0s
GHAJ Ghor Haditha 131.03 261 IAMs_20 IAMs_20 16 47 52.4
comp=Z,780nm,19.0s
R32K Eaglecrest 131.17 41 IAMs_20 IAMs_20 16 35 03.1
comp=Z,764nm,19.0s
JIS Juneau Island 131.21 41 IAMs_20 IAMs_20 16 35 14.3
comp=Z,815nm,18.0s
P29M Windy Craggy 131.26 39 IAMs_20 IAMs_20 16 31 57.5
comp=Z,872nm,19.0s
LOGN Logan Glacier 131.29 36 IAMs_20 IAMs_20 16 25 07.8
comp=Z,1µm,22.0s
CTGM Chitina Glacie 131.31 36 IAMs_20 IAMs_20 16 24 11.4
comp=Z,799nm,22.0s
RND Reindeer 131.39 30 IAMs_20 IAMs_20 16 25 38.2
comp=Z,777nm,22.0s
G18K Tagagawik 131.45 23 IAMs_20 IAMs_20 16 30 07.3
comp=Z,863nm,21.0s
DHY Denali Highway 131.47 31 IAMs_20 IAMs_20 16 28 46.5
comp=Z,610nm,20.0s
T35M Bob Quinn 131.55 45 IAMs_20 IAMs_20 16 27 37.4
comp=Z,928nm,21.0s
O29M Mount Kennedy 131.56 38 IAMs_20 IAMs_20 16 28 10.2
comp=Z,951nm,21.0s
SKAG Skagway 131.86 40 IAMs_20 IAMs_20 16 29 34.4
comp=Z,972nm,20.0s
BWN Browne 131.90 29 IAMs_20 IAMs_20 16 33 03.7
comp=Z,643nm,19.0s
M27K Edge Creek, AK 132.30 34 IAMs_20 IAMs_20 16 28 09.6
comp=Z,628nm,21.0s
MLY Manley 132.34 28 IAMs_20 IAMs_20 16 27 27.1
comp=Z,675nm,22.0s
Q32M Nakina River 132.43 42 IAMs_20 IAMs_20 16 34 43.6
comp=Z,667nm,19.0s
C16K Lisburne Hills 132.44 19 IAMs_20 IAMs_20 16 27 38.2
comp=Z,741nm,21.0s
F19K Shaleruckik Mo 132.45 23 IAMs_20 IAMs_20 16 30 56.7
comp=Z,693nm,22.0s
L26K Log Cabin Wild 132.46 33 IAMs_20 IAMs_20 16 32 56.6
comp=Z,591nm,20.0s
P32M Atlin 132.47 41 IAMs_20 IAMs_20 16 25 33.4
comp=Z,925nm,20.0s
RDOG Red Dog Mine 132.63 20 IAMs_20 IAMs_20 16 27 15.3
comp=Z,1µm,22.0s

O30N	Mendenhall	132.67	38	IAMs_20	IAMs_20	16 32 50.7	
	comp=Z,642nm,20.0s						
HDA	Harding Lake	132.70	30	IAMs_20	IAMs_20	16 29 45.8	
	comp=Z,658nm,20.0s						
EGMT	Eagleton	132.71	66	IAMs_20	IAMs_20	16 28 18.1	
	comp=Z,693nm,20.0s						
I23K	Minto, Yukon-K	132.75	28	IAMs_20	IAMs_20	16 36 13.1	
	comp=Z,591nm,20.0s						
MDM	Murphy Dome	132.85	29	IAMs_20	IAMs_20	16 33 22.8	
	comp=Z,572nm,20.0s						
L27K	Beaver Creek,	132.89	34	IAMs_20	IAMs_20	16 27 45.1	
	comp=Z,631nm,21.0s						
ILAR	Eielson Array	133.01	30	PKP	PKPdf	15 37 53.5	+0.2
	comp=Z,1.4nm,1.0s,baz=258,slow=4.5,SNR=4.9						
E19K	Redstone River	133.10	23	IAMs_20	IAMs_20	16 31 36.1	
	comp=Z,675nm,22.0s						
POKR	Poker Plat Res	133.17	29	IAMs_20	IAMs_20	16 27 06.3	
	comp=Z,699nm,21.0s						
R33M	Jennings River	133.19	42	IAMs_20	IAMs_20	16 36 21.7	
	comp=Z,815nm,19.0s						
P33M	Teslin, Yukon	133.24	41	IAMs_20	IAMs_20	16 26 18.8	
	comp=Z,974nm,22.0s						
J25K	Salcha River,	133.25	31	IAMs_20	IAMs_20	16 29 41.4	
	comp=Z,864nm,21.0s						
H23K	Yukon River	133.28	28	IAMs_20	IAMs_20	16 28 16.0	
	comp=Z,948nm,22.0s						
M29M	Somme Creek	133.31	36	IAMs_20	IAMs_20	16 26 00.5	
	comp=Z,955nm,22.0s						
N31M	Braeburn, Yuko	133.33	38	IAMs_20	IAMs_20	16 28 49.1	
	comp=Z,674nm,20.0s						
C18K	Utukok River	133.45	20	IAMs_20	IAMs_20	16 33 50.0	
	comp=Z,588nm,20.0s						
K27K	Chicken	133.61	33	IAMs_20	IAMs_20	16 35 51.0	
	comp=Z,674nm,20.0s						
H24K	Noodor Dome	133.67	29	IAMs_20	IAMs_20	16 36 29.3	
	comp=Z,658nm,22.0s						
L29M	L29M	133.94	35	IAMs_20	IAMs_20	16 26 20.9	
	comp=Z,778nm,21.0s						
C19K	Lookout Ridge	134.13	21	IAMs_20	IAMs_20	16 28 00.0	
	comp=Z,1μm,22.0s						
M31M	Drury Creek, Y	134.31	38	IAMs_20	IAMs_20	16 29 58.8	
	comp=Z,870nm,20.0s						
I26K	Coal Creek Min	134.37	31	IAMs_20	IAMs_20	16 29 14.2	
	comp=Z,710nm,22.0s						
EGAK	Eagle	134.45	33	IAMs_20	IAMs_20	16 26 41.2	
	comp=Z,615nm,22.0s						
WTLY	Watson Lake, Y	134.46	43	IAMs_20	IAMs_20	16 28 32.1	
	comp=Z,810nm,20.0s						
G24K	Hadweenzic Riv	134.48	28	IAMs_20	IAMs_20	16 29 14.6	
	comp=Z,854nm,22.0s						
FARO	Faro, Yukon	134.64	39	IAMs_20	IAMs_20	16 34 59.7	
	comp=Z,599nm,19.0s						
K29M	Barlow Dome	134.69	35	IAMs_20	IAMs_20	16 26 08.7	
	comp=Z,725nm,22.0s						
FYU	Fort Yukon	134.88	29	IAMs_20	IAMs_20	16 28 30.5	
	comp=Z,630nm,22.0s						
J29N	Klondike Camp	134.97	34	IAMs_20	IAMs_20	16 28 38.2	
	comp=Z,812nm,22.0s						
F24K	Squaw Lake	135.06	27	IAMs_20	IAMs_20	16 26 51.0	
	comp=Z,882nm,22.0s						
B21K	Ikpikpuk River	135.46	23	IAMs_20	IAMs_20	16 32 36.3	
	comp=Z,678nm,21.0s						
ECSD	EROS Data Cent	135.49	79	IAMs_20	IAMs_20	16 30 38.3	
	comp=Z,692nm,20.0s						
J30M	Hart River	135.58	35	IAMs_20	IAMs_20	16 27 46.4	
	comp=Z,876nm,22.0s						
I29M	Ogilvie Camp,	135.66	33	IAMs_20	IAMs_20	16 30 26.2	
	comp=Z,670nm,22.0s						
G27K	Doyon Strip	135.94	31	IAMs_20	IAMs_20	16 31 25.4	
	comp=Z,605nm,22.0s						
ARPR	Arapgir-MALATY	136.00	270	IAMs_20	IAMs_20	16 29 08.9	
	comp=Z,641nm,20.0s						
E25K	Arctic Village	136.06	28	IAMs_20	IAMs_20	16 29 06.6	
	comp=Z,1μm,22.0s						
I30M	Mount Dempster	136.07	34	IAMs_20	IAMs_20	16 30 05.2	
	comp=Z,596nm,21.0s						
B22K	Teshekpuk Lake	136.29	23	IAMs_20	IAMs_20	16 35 28.4	
	comp=Z,817nm,21.0s						
H29M	Whitestone	136.31	33	IAMs_20	IAMs_20	16 30 40.3	
	comp=Z,828nm,22.0s						
HDIL	Hopedale	136.56	88	IAMs_20	IAMs_20	16 42 46.7	
	comp=Z,567nm,20.0s						
G29M	Pine Creek	136.93	32	IAMs_20	IAMs_20	16 32 38.7	
	comp=Z,735nm,20.0s						
G30M	tAoh Zraii Nji	137.44	33	IAMs_20	IAMs_20	16 31 24.4	
	comp=Z,622nm,22.0s						
CNNC	Cliffs of the	137.79	103	IAMs_20	IAMs_20	16 33 15.2	
	comp=Z,644nm,18.0s						
P49A	Miami Univ. Ec	137.97	93	IAMs_20	IAMs_20	16 43 04.9	
	comp=Z,508nm,19.0s						
D27M	Malcolm River	138.00	29	IAMs_20	IAMs_20	16 31 57.7	
	comp=Z,828nm,21.0s						
E29M	Blow River	138.08	31	IAMs_20	IAMs_20	16 37 08.0	
	comp=Z,591nm,20.0s						
HQIL	Hanson Quary C	138.21	88	IAMs_20	IAMs_20	16 41 43.1	
	comp=Z,546nm,18.0s						
O48B	Farmland	138.32	92	IAMs_20	IAMs_20	16 34 46.9	
	comp=Z,644nm,20.0s						
L44A	Lake County Fo	138.47	88	IAMs_20	IAMs_20	16 32 10.0	
	comp=Z,744nm,20.0s						
WRGLY	Wrigley	138.47	42	IAMs_20	IAMs_20	16 30 36.3	
	comp=Z,564nm,21.0s						
INK	Inuvik	139.12	33	IAMs_20	IAMs_20	16 36 51.7	
	comp=Z,523nm,20.0s						
AGMN	Agassiz Nation	139.21	75	IAMs_20	IAMs_20	16 34 34.9	
	comp=Z,670nm,19.0s						
ACSO	Alum Creek Sta	139.35	94	IAMs_20	IAMs_20	16 38 46.4	
	comp=Z,522nm,19.0s						
AAM	Ann Arbor	140.61	91	IAMs_20	IAMs_20	16 36 10.6	
	comp=Z,569nm,20.0s						
EYMN	Ely	141.01	79	IAMs_20	IAMs_20	16 35 14.4	
	comp=Z,637nm,19.0s						
GLMI	Grayling	142.04	88	IAMs_20	IAMs_20	16 34 36.4	
	comp=Z,546nm,20.0s						
SSPA	Standing Stone	142.10	98	IAMs_20	IAMs_20	16 49 48.7	
	comp=Z,596nm,22.0s						
TATN	Tataouine	143.24	235	IAMs_20	IAMs_20	16 44 34.5	
	comp=Z,732nm,21.0s						
A36M	Sachs Harbour	143.68	31	IAMs_20	IAMs_20	16 33 49.1	
	comp=Z,770nm,22.0s						
KBN	Korca	145.55	254	IAMs_20	IAMs_20	16 47 15.7	
	comp=Z,672nm,22.0s						
L61B	Northampton	145.98	101	IAMs_20	IAMs_20	16 40 26.1	
	comp=Z,553nm,20.0s						
VLO	Vlora	146.03	253	IAMs_20	IAMs_20	16 47 21.2	
	comp=Z,804nm,21.0s						
TIP	Timpagrande	146.23	248	IAMs_20	IAMs_20	16 45 49.6	
	comp=Z,607nm,22.0s						
M65A	Busby, Falmout	146.24	105	IAMs_20	IAMs_20	16 42 35.0	
	comp=Z,574nm,19.0s						
KEST	Kesra	146.48	236	PKPbc	PKPbc	15 38 20.2	+0.1
	comp=Z,7.6nm,1.0s,baz=49,slow=3.2,SNR=5.2						
HRV	Adam Dziewonsk	146.55	103	IAMs_20	IAMs_20	16 39 03.2	
	comp=Z,599nm,20.0s						
TIR	Tirane	146.55	254	IAMs_20	IAMs_20	16 48 00.1	
	comp=Z,555nm,19.0s						
WES	Weston	146.57	103	IAMs_20	IAMs_20	16 32 22.7	
	comp=Z,648nm,22.0s						
LONY	Lake Ozonia	146.71	97	IAMs_20	IAMs_20	16 39 39.8	
	comp=Z,713nm,20.0s						
HNH	Hanover	147.12	100	IAMs_20	IAMs_20	16 40 50.5	
	comp=Z,608nm,20.0s						
VT1	Waterbury	147.37	99	IAMs_20	IAMs_20	16 54 18.9	
	comp=Z,663nm,21.0s						
PDG	Podgorica	147.68	255	IAMs_20	IAMs_20	16 48 56.0	
	comp=Z,529nm,20.0s						
LBNH	Lisbon	147.69	100	IAMs_20	IAMs_20	16 54 12.7	
	comp=Z,729nm,20.0s						
AKASG	Malin Array Be	148.86	275	PKPbc	PKPbc	15 38 26.1	+0.1
	comp=Z,3.3nm,0.7s,baz=109,slow=2.6,SNR=7.8						
KIEV	Kiev	148.87	275	IAMs_20	IAMs_20	16 59 22.3	
	comp=Z,549nm,21.0s						
WVL	Waterville	149.01	102	IAMs_20	IAMs_20	16 50 20.4	
	comp=Z,786nm,20.0s						
PKME	Peaks-Kenny Pk	149.71	102	IAMs_20	IAMs_20	16 49 38.9	
	comp=Z,597nm,20.0s						
KOLS	Kolonicke sedl	151.02	266	*e*PKP	PKPab	15 38 42.8	+3.8
PSZ	Piszkesteto	151.46	263	IAMs_20	IAMs_20	16 57 14.1	
	comp=Z,720nm,20.0s						
VYHS	Vyhne	152.37	262	*e*PKP	PKPab	15 38 48.9	+4.3
SABO	M.te Sabotino	153.01	253	IAMs_20	IAMs_20	16 55 44.9	
	comp=Z,1μm,20.0s						
MSSA	Maissana	153.57	246	IAMs_20	IAMs_20	16 59 19.9	
	comp=Z,655nm,19.0s						
OKC	Ostrava-Krasne	153.62	264	AMS	AMS	16 49 50.0	
	comp=Z,400nm,24.7s						
PBDV	Barranco-do-Ve	153.63	212	*e*PP	PP	15 42 27.5	+3.2
PBDV	Barranco-do-Ve	153.63	212	*e*SS	SS	16 02 52.9	+53
STAL	STALIGIAL	153.63	252	IAMs_20	IAMs_20	16 52 00.5	
	comp=Z,764nm,21.0s						
PVAQ	Vaqueiros	153.72	212	*e*PP	PP	15 42 27.6	+2.8
PVAQ	Vaqueiros	153.72	212	*e*SS	SS	16 02 49.3	+49
PVAQ	Vaqueiros	153.72	212	*e*LR	LR	16 39 23.6	
	comp=Z,1μm,20.0s						
SUW	Suwalki	153.82	276	IAMs_20	IAMs_20	16 56 17.6	
	comp=Z,749nm,22.0s						
MORF	Marmelete	153.86	210	*e*PP	PP	15 42 30.7	+5.0
MORF	Marmelete	153.86	210	*e*SS	SS	16 02 20.8	+18
PCVE	Castro Verde	154.02	212	*e*SS	SS	16 02 18.3	+14
PBAR	Barrancos	154.27	214	*e*PP	PP	15 42 30.1	+2.2
PBAR	Barrancos	154.27	214	*e*SS	SS	16 02 13.3	+6.5
KRLC	Kraliky	154.43	263	*e*SS	SS	16 02 23.1	+14
KRLC				AMS	AMS	16 50 00.0	
	comp=Z,300nm,22.5s						
TREC	Trest	154.52	260	AMS	AMS	16 47 20.0	
	comp=Z,600nm,26.5s						
PNCL	Nicolau / Gran	154.60	211	*e*SS	SS	16 02 31.5	+21
CKRC	Cesky Krumlov	154.75	258	*e*SS	SS	16 02 18.3	+5.6
CKRC				AMS	AMS	16 45 40.0	
	comp=Z,500nm,22.7s						
ESDC	Sonseca Array	154.77	220	PKPbc	PKiKP	15 38 40.5	+0.5
	comp=Z,0.3nm,0.4s,baz=126,slow=6.5,SNR=2.6						
DPC	Dobruska-Polom	154.84	263	*e*SS	SS	16 02 16.9	+3.1
DPC				AMS	AMS	16 50 20.0	
	comp=Z,300nm,22.5s						
OSTC	Ostas	155.02	263	*e*SS	SS	16 01 57.7	-18
OSTC				AMS	AMS	16 47 50.0	
	comp=Z,500nm,21.8s						
GERES	GERESS Array B	155.05	258	PKPab	PKPab	15 38 53.5	-2.6
	comp=Z,0.7nm,0.7s,baz=129,slow=3.6,SNR=3.5						
PESTR	Estremoz	155.07	213	*e*SS	SS	16 02 23.2	+7.7
UPC	Upice	155.09	263	*e*SS	SS	16 02 20.0	+3.6
UPC				AMS	AMS	16 47 50.0	
	comp=Z,700nm,28.6s						
CHVC	Chvalec	155.12	263	AMS	AMS	16 47 50.0	
	comp=Z,500nm,21.6s						
GOPC	GO Pecny, Ondr	155.28	261	AMS	AMS	16 49 00.0	
	comp=Z,600nm,22.7s						
KHC	Kasperske Hory	155.31	258	*e*SS	SS	16 02 21.7	+2.8
KHC				AMS	AMS	16 49 10.0	
	comp=Z,800nm,23.2s						
PMTG	Montargil	155.43	212	*e*PP	PP	15 43 03.6	+29
PMTG	Montargil	155.43	212	*e*SS	SS	16 03 16.0	+57
PRU	Pruhonice	155.44	260	*e*SS	SS	16 02 26.4	+6.2
PRU				AMS	AMS	16 46 10.0	
	comp=Z,700nm,28.6s						
PMRV	Marv??o	155.54	214	*e*SS	SS	16 02 36.0	+15
PMRV	Marv??o	155.54	214	*e*LR	LR	16 39 54.4	
	comp=Z,1μm,20.0s						
PRA	Prague	155.55	261	AMS	AMS	16 46 20.0	
	comp=Z,800nm,34.0s						
CEST	Esterri de Car	155.56	232	IAMs_20	IAMs_20	16 47 27.7	
	comp=Z,2μm,21.0s						
PVCC	Panska Ves	155.79	261	AMS	AMS	16 47 00.0	
	comp=Z,500nm,26.7s						
RICC	Richard	156.03	261	AMS	AMS	16 50 10.0	
	comp=Z,600nm,25.3s						
FINES	FINESS Array B	156.11	293	PKP	PKPdf	15 38 30.9	-1.4
	comp=Z,0.5nm,0.8s,baz=116,slow=6.3,SNR=0.8						
FINES				PKPab	PKPab	15 38 55.3	-4.9
	comp=Z,1.1nm,0.7s,baz=70,slow=2.2,SNR=5.0						
HSKC	Hora Svate Kat	156.39	260	*e*SS	SS	16 02 36.4	+5.9
HSKC				AMS	AMS	16 50 10.0	
	comp=Z,600nm,21.3s						
PCAS	Casmilo, Conde	156.42	213	*e*SS	SS	16 02 38.7	+8.7
MTE	Manteigas	156.49	215	*e*SS	SS	16 02 40.4	+9.5
MTE	Manteigas	156.49	215	*e*LR	LR	16 41 01.2	
	comp=Z,2μm,20.0s						
COI	Coimbra	156.55	213	*e*SS	SS	16 02 35.2	+3.9
CLL	Collm	157.05	261	IAMs_20	IAMs_20	16 56 34.7	
	comp=Z,636nm,20.0s						
STU	Stuttgart	157.10	252	IAMs_20	IAMs_20	16 55 10.0	
	comp=Z,637nm,20.0s						
POLO	Lamas de Olo	157.47	215	*e*SS	SS	16 02 49.0	+7.5
ECH	Echery	157.61	249	IAMs_20	IAMs_20	16 54 00.8	
	comp=Z,625nm,20.0s						
KEV	Kevo	157.66	314	IAMs_20	IAMs_20	16 49 37.5	
	comp=Z,629nm,21.0s						
HFS	Hagfors	161.29	283	PKPab	PKPab	15 39 21.4	-1.3
	comp=Z,0.4nm,0.5s,baz=132,slow=6.4,SNR=2.0						

TEH ***16*** *15:31:46.3, 36°.45N×45°.32E, h5km, ML2.8*
ISN ***16*** *15:31:48.1±1.6, 36°.38N×45°.36E, h7km, ML2.7*
ISC 16 15:31:46.4±1.1, 36°.44N±0°.04×45°.31E±0°.06, h10km, n13, σ0°87/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDS1	Sardasht. Az.	0.32	154	Pg	Pg	15 31 52.5	-0.4
MAHB	Mahabad	0.45	44	Pg	Pg	15 31 55.3	0.0
MAHB				Sg	Sg	15 32 01.4	+0.2
IKRK	Kirkuk	1.31	217	*e*Pg	Pn	15 32 10.0	-0.7
	baz=40						
IKRK				*e*Sg	Sg	15 32 29.0	+0.6
IKRK				AML	AML	15 32 34.9	
	comp=E,129nm,0.6s						
IKRK				AML	AML	15 32 36.0	
	comp=N,171nm,0.3s						
IAZR	Azarshahr	1.34	23	Pg	Pb	15 32 11.7	-0.1
IHSH	Hashtrud	1.79	61	Pg	Pb	15 32 18.8	-0.5
ISHB	Shabestar	1.85	7	Pn	Pb	15 32 19.7	-0.7
KGS1	Ghasr-e-Shirin	1.94	173	Pn	Pb	15 32 22.3	+0.4
IDHR	Dehrash	1.95	153	Pn	Pb	15 32 22.1	+0.1
ILIN	Lien	2.03	138	Pn	Pb	15 32 22.7	-0.7
IHRS	Heris	2.32	36	Pn	Pb	15 32 28.7	+0.2
ISRB	Sarab	2.33	53	Pn	Pb	15 32 28.2	-0.5
SNQR	Sonqor, Kerman	2.46	129	Pn	Pb	15 32 29.0	-1.9
IKFM	Kafar-mosalman	3.58	144	Pn	Pn	15 32 43.5	+1.7

NNC ***16*** *15:33:19.4±2.7, 35°.93N×68°.12E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=28.0km s-min=20.7km az=152.0*
BJI ***16*** *15:33:44.9±0.0, 38°.10N×69°.24E, h14km, mb4.2/16, mB4.6/4, ML4.1/3, Ms4.1/8, Ms7 3.8/8*
IDC ***16*** *15:33:45.9±0.8, 37°.72N×69°.57E, h0km, mb4.0/19, mbtmp4.1/26, ML3.6/7, MS3.8/6, Error ellipse: s-maj=14.4km s-min=11.5km az=160.0*
NEIC ***16*** *15:33:48.8±2.3, 37°.98N±0°.03×69°.55E±0°.04, h10km±1km, mb4.4/12, Error ellipse: s-maj=5.5km s-min=4.6km az=340.0*
MOS ***16*** *15:33:51.4±1.4, 38°.02N×69°.61E, h45km, mb4.4/12, Error ellipse: s-maj=7.4km s-min=4.3km az=74.1*
ISC 16 15:33:48.3±0.4, 37°.84N±0°.03×69°.51E±0°.04, h12km, n139, σ1°97/145, mb4.1/30, MS4.3/5, 19C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	Chuyangaron	0.86	341		Pg	15 34 03.3	-1.6
CHGR	Chuyangaron	0.86	341	P	Pg	15 34 03.3	-1.6
SIMJ	Simiganj	0.90	334		Pb	15 34 04.4	-1.6
GAR	Garm	1.32	29		Pn	15 34 11.4	-1.2
BTK	Batken	2.44	24		Pb	15 34 30.4	-1.7
BTK	Batken	2.44	24	PN	Pb	15 34 30.4	-1.7
KBL	Kabul	3.32	187	Pn	Pb	15 34 43.8	-3.4
KBL	Kabul	3.32	187	PN	Pb	15 34 43.8	-3.4
IUG	Iuzhnay	4.32	5	*e*PN	Pn	15 34 55.5	+1.6
IUG				pmax	pmax		
	comp=Z,27nm,0.8s						
ARSB	Arslanbob	4.39	37		Pn	15 34 54.8	-0.1
ARSB	Arslanbob	4.39	37	PN	Pn	15 34 54.8	-0.1
NIL	Nilore	5.17	143		Pn	15 35 08.8	+3.3
NIL	Nilore	5.17	143	PN	Pn	15 35 08.9	+3.3
KK31	Karatay Array	5.31	8		Pn	15 35 05.4	-2.0
KK31	Karatay Array	5.31	8	⇑P	Pn	15 35 09.1	+1.7
	comp=Z,1.5nm,0.3s,baz=188,slow=13,SNR=93						
KK31				⇑S	Sg	15 36 36.2	-2.6
	comp=Z,112nm,0.8s,baz=197,slow=24,SNR=3.9						
KK31	Karatay Array	5.31	8	PN	Pn	15 35 05.4	-2.0
KKAR	Karatay Array	5.31	8		Pn	15 35 05.2	-2.2
KKAR	Karatay Array	5.31	8		Pn	15 35 06.8	-0.6
KKAR	Karatay Array	5.31	8	PN	Pn	15 35 05.2	-2.2
KSH	Kashi	5.33	70	Pn	Pn	15 35 05.0	-2.8
KSH				Sn	Sn	15 35 59.4	-10
KSH				smax	smax		
	comp=Z,210nm,1.2s						
KSH				smax	smax		
	comp=Z,220nm,0.8s						
EKS2	Erkin-Say	5.81	33	P	Pn	15 35 19.2	+4.7
	SNR=16						

UCH	Uchtor	5.82	40	P	Pn	15 35 16.1	+1.2
	SNR=42						
AAK	Ala-Archa	6.12	37	P	Pn	15 35 24.3	+5.6
	SNR=13						
AAK	Ala-Archa	6.12	37		Pn	15 35 19.3	+0.5
AAK	Ala-Archa	6.12	37	Pn	Pn	15 35 19.7	+1.0
	comp=Z,4.6nm,0.3s,baz=53,slow=23,SNR=21						
AAK				Sn	Sn	15 36 30.9	+2.2
	comp=Z,3.1nm,0.3s,baz=144,slow=23,SNR=1.5						
AAK				Lg		15 36 59.6	
	comp=Z,2.9nm,0.3s,baz=351,slow=19,SNR=6.0						
	comp=Z,35nm,0.6s						
AAK	Ala-Archa	6.12	37	⇑P	Pn	15 35 21.1	+2.4
	comp=Z,18nm,0.5s						
AAK				⇑S	Sg	15 36 59.5	-5.3
	comp=Z,116nm,0.9s						
AAK	Ala-Archa	6.12	37	*de*PN	Pn	15 35 21.2	+2.5
NRN	Naryn	6.16	52		Pn	15 35 19.7	+0.3
NRN	Naryn	6.16	52	PN	Pn	15 35 19.7	+0.3
FRU1	Bishkek	6.32	37	Pn	Pn	15 35 21.8	+0.5
FRU1	Bishkek	6.32	37	PN	Pn	15 35 21.8	+0.5
KBK	Karagaybulak	6.36	39	P	Pn	15 35 23.8	+1.8
	SNR=39						
CHMS	Chumysh	6.52	36	P	Pn	15 35 26.1	+2.0
	SNR=32						
CHMS	Chumysh	6.52	36	⇑P	Pn	15 35 25.6	+1.5
	comp=Z,7.3nm,0.5s						
CHMS				⇑S	Sb	15 37 04.0	+4.5
	comp=Z,57nm,0.8s						
CHMS	Chumysh	6.52	36	*e*PN	Pn	15 35 25.6	+1.5
USP	Ospenovka	6.62	33	P	Pn	15 35 29.3	+3.9
	SNR=5.1						
BOOM	Boomskoye usch	6.77	45	Pn	Pn	15 35 26.5	-1.1
BOOM	Boomskoye usch	6.77	45	PN	Pn	15 35 26.5	-1.1
HRA	Herat	6.82	242	Pn	Pn	15 35 28.2	-0.1
SGDS	Sogindy	6.82	33	*e*PN	Pn	15 35 29.5	+1.3
SGDS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TKM2	Tokmak 2	6.88	41	P	Pn	15 35 31.1	+1.9
	SNR=22						
TKM2	Tokmak 2	6.88	41	⇓P	Pn	15 35 31.0	+1.9
	comp=Z,9.0nm,0.5s						
TKM2				⇑S	Sb	15 37 15.2	+5.2
	comp=Z,67nm,1.2s						
TKM2	Tokmak 2	6.88	41	PN	Pn	15 35 31.3	+2.2
THN	Thein Dam	7.41	135	*e*P	Pn	15 35 38.7	+2.4
THN				*e*S	Sn	15 37 04.2	+3.9
MDOK	Medeo	7.82	45	⇓P	Pn	15 35 43.5	+1.4
	comp=Z,40nm,0.7s						
MDOK				⇓S	Sb	15 37 35.1	-2.0
	comp=Z,63nm,1.0s						
MDOK	Medeo	7.82	45	P	Pn	15 35 43.5	+1.4
DHRM	DHARAMSHALA	7.88	133	*e*P	Pn	15 35 44.1	+1.2
DHRM				*e*S	Sn	15 37 13.2	+1.0
DHRM				IAML		15 38 03.8	
	comp=N,182nm,1.2s						
PRZ	Przheval'sk	8.23	53	Pn	Pn	15 35 45.6	-2.1
PRZ	Przheval'sk	8.23	53	P	Pn	15 35 45.6	-2.1
BHK	Bhakra	8.57	136	*e*P	Pn	15 35 54.6	+2.4
BHK				*e*S	Sn	15 37 28.0	-0.9
BHK				IAML		15 38 36.3	
	comp=N,87nm,0.0s						
BHK				IAML		15 38 37.2	
	comp=E,148nm,1.1s						
BHK				IAML		15 38 45.0	
	comp=N,134nm,2.2s						
BHK				IAML		15 39 10.0	
	comp=E,138nm,0.7s						
KPKS	Kokpek	8.95	48	*e*P	Pn	15 35 57.2	-0.3
UZB	Uzynbulak	8.97	51	*e*P	Pn	15 35 57.2	-0.7
SMLA	Simla	9.21	134	*e*P	Pn	15 36 02.1	+1.2
SMLA				*e*S	Sn	15 37 46.1	+1.6
SMLA				IAML		15 38 58.6	
	comp=E,102nm,2.0s						
SMLA				IAML		15 38 59.6	
	comp=N,106nm,2.0s						
SHLS	Shalkode	9.25	52	*e*P	Pn	15 36 04.0	+2.4
PDGK	Podgornoye	9.36	51	⇑P	Pn	15 36 05.7	+2.6
	comp=N,1.3nm,0.5s						
PDGK				⇓S	Sn	15 38 18.2	+30
	comp=N,21nm,1.1s						
PDGK	Podgornoye	9.36	51	P	Pn	15 36 05.7	+2.6
KLP	Kalpa	9.56	129	*e*P	Pn	15 36 08.9	+2.8
KLP				*e*S	Sn	15 37 53.9	+0.4
MK31	Makanchi Array	13.00	43	Pn	Pn	15 36 51.4	-1.5
MK31	Makanchi Array	13.00	43	⇓P	Pn	15 36 51.8	-1.0
	comp=N,18nm,0.8s,baz=213,slow=11,SNR=64						
MK31	Makanchi Array	13.00	43	*d*P	Pn	15 36 52.3	-0.5
MKAR	Makanchi Array	13.00	43	Pn	Pn	15 36 51.4	-1.5
MKAR	Makanchi Array	13.00	43	Pn	Pn	15 36 52.2	-0.6
	comp=N,0.3nm,0.3s,baz=229,slow=13,SNR=28						
MKAR				Lg	Lg	15 40 33.9	
	comp=N,0.1nm,0.3s,baz=255,slow=19,SNR=1.4						
MKAR				LR	LR	15 42 35.5	
	comp=N,147nm,21.

LSA IAmb IAmb 15 38 23.3
comp=Z,11nm,0.7s
LSA Lhasa 19.71 108 P **P 15 38 18.0 -0.1**
LSA pmax pmax
comp=Z,11nm,0.7s
SVE Sverdlovsk 19.89 346 *eP* **Pn 15 38 21.6 +0.6**
SVE pmax Pmax
comp=Z,16nm,0.9s
ARU Arti 19.98 342 **P 15 38 15.8 -4.6**
ARU IAmb IAmb 15 38 24.3
comp=Z,26nm,0.9s
ARU Arti 19.98 342 **Pn 15 38 20.6 -1.5**
comp=Z,21nm,0.7s,baz=155,slow=4.9,SNR=8.9
ARU Lg Lg 15 44 20.2
baz=288,slow=23,SNR=1.2
comp=Z,21nm,0.7s
ARU Arti 19.98 342*ceP* **Pn 15 38 20.1 -2.0**
ARU pmax pmax
comp=Z,32nm,1.0s
KBZ Khabaz 20.94 295 P Pn 15 38 32.2 -1.2
comp=Z,6.4nm,0.8s,baz=125,slow=7.2,SNR=9.8
comp=Z,6.4nm,0.8s
KBZ Khabaz 20.94 295 *eP* Pn 15 38 36.0 +2.6
KBZ pmax pmax
comp=Z,5.0nm,0.7s
BELG Belogornoye 21.10 321 P **P 15 38 32.1 -0.3**
comp=Z,43nm,0.8s,baz=147,slow=1.0,SNR=7.4
comp=Z,43nm,0.8s
BELG Belogornoye 21.10 321*d iP* **P 15 38 32.4 -0.1**
BELG pmax pmax
comp=Z,8.0nm,0.9s
SHA1 Shidzhatmaz 21.12 295*d iP* **P 15 38 37.1 +4.1**
KIV Kislovodsk 21.12 295 P **P 15 38 31.6 -1.3**
KIV IAmb IAmb 15 38 42.0
comp=Z,20nm,0.8s
KIV Kislovodsk 21.12 295 *eP* **P 15 38 35.5 +2.5**
KIV *eS* **S 15 42 27.9 +0.1**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,59nm,14.0s
SHL Shillong 22.57 116 P **P 15 38 47.5 -1.2**
SHL IAmb IAmb 15 39 10.4
comp=Z,12nm,0.8s
SHL Shillong 22.57 116 P **P 15 38 47.5 -1.2**
SHL pmax pmax
comp=Z,12nm,0.8s
GTA Gaotai 23.68 77 *eP* **P 15 38 59.0 -0.9**
GTA pP pP 15 39 02.5 -1.2
GTA sS sS 15 43 22.0 +1.0
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA LR LR
comp=Z,160nm,16.7s
GTA LR LR
comp=Z,96nm,16.0s
GTA LR LR
comp=Z,170nm,17.1s
RAYN Ar Rayn 25.00 242 **P 15 39 12.4 +0.2**
RAYN Ar Rayn 25.00 242 P **P 15 39 12.4 +0.2**
RAYN pmax pmax
comp=Z,4.0nm,0.8s
ZAK Zakamensk 27.05 52 *eP* **P 15 39 30.4 -0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
OBN Obninsk 28.14 319 *eP* **P 15 39 41.4 +1.3**
OBN pmax pmax
comp=Z,14nm,1.2s
ULN Ulaanbaatar 29.03 58⇑*iP* **P 15 39 50.0 +1.7**
ULN pmax pmax
comp=Z,1.0nm,0.8s
PZH PanZhiHua 29.40 103 P **P 15 39 53.5 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 31.18 307 P **P 15 40 07.3 +0.3**
comp=Z,0.3nm,0.3s,baz=82,slow=8.2,SNR=2.0
comp=Z,0.3nm,0.3s
XAN Xi'an 31.97 85⇑P **P 15 40 16.8 +2.5**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN LR LR
comp=Z,810nm,22.7s
XAN LR LR
comp=Z,590nm,18.6s
XAN LR LR
comp=Z,440nm,19.2s
CMAR Chiang Mai Arr 32.14 119 P **P 15 40 15.1 -0.7**
comp=Z,1.6nm,0.8s,baz=311,slow=9.1,SNR=9.3
comp=Z,1.6nm,0.8s
CMAR Chiang Mai Arr 32.14 119 *eP* **P 15 40 18.9 +3.1**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
HHC Hu-ho-hao-te 32.44 71 *eP* **P 15 40 17.5 -0.9**
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,69nm,4.2s
NRIK Noril'sk 33.04 12 P **P 15 40 21.1 -2.0**
NRIK IAmb IAmb 15 40 28.7
comp=Z,6.4nm,1.1s
NRIK Noril'sk 33.04 12 P **P 15 40 23.3 +0.1**
comp=Z,2.2nm,0.5s,baz=185,slow=7.5,SNR=3.2
comp=Z,2.2nm,0.5s
NRIK Noril'sk 33.04 12*deP* **P 15 40 23.2 +0.1**
NRIK pmax pmax
comp=Z,6.0nm,1.2s
FINES FINESS Array B 35.70 326 P **P 15 40 47.1 +0.8**
comp=Z,0.9nm,0.7s,baz=112,slow=15,SNR=2.2
comp=Z,0.9nm,0.7s
ARCES ARCESS Array B 39.45 337 P **P 15 41 19.4 +1.4**
comp=Z,0.5nm,0.3s,baz=145,slow=4.4,SNR=1.5
comp=Z,0.5nm,0.3s
BRG Berggiesshubel 40.86 307 *eP* **P 15 41 31.5 +1.6**
BRG Amp 15 41 33.6
comp=Z,2.5nm,0.7s
BRG Berggiesshubel 40.86 307 P P 15 41 37.8 +8.0
BRG Amp 15 41 38.8
comp=Z,4.2nm,1.0s
BRG Berggiesshubel 40.86 307 *eP* **P 15 41 31.5 +1.6**
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG pmax pmax
comp=Z,4.0nm,1.0s
HFS Hagfors 41.27 321 P **P 15 41 33.1 0.0**
comp=Z,3.0nm,1.0s,baz=101,slow=12,SNR=8.6
comp=Z,3.0nm,1.0s
HEH HeiHe 42.40 54 *eP* **P 15 41 41.8 -0.7**
HEH pmax pmax
comp=Z,5.0nm,0.9s
NB2 NORSAR Subarra 42.59 322 P **P 15 41 43.4 -0.5**
comp=Z,0.7nm,0.5s,baz=99,slow=7.9
NOA NORSAR Array B 42.59 322 P **P 15 41 43.5 -0.5**
comp=Z,0.4nm,0.5s,baz=100,slow=7.9,SNR=3.3
comp=Z,0.4nm,0.5s
YAK Yakutsk 43.58 36⇑*eP* **P 15 41 51.7 -0.1**
YAK pmax pmax
comp=Z,6.0nm,0.7s
KSRS Korea Array 45.58 72 P **P 15 42 07.9 -0.3**
comp=Z,0.7nm,0.8s,baz=267,slow=6.7,SNR=5.2
comp=Z,0.7nm,0.8s
SPITS Spitsbergen Ar 45.91 347 P **P 15 42 10.4 +0.1**
comp=Z,12nm,1.0s,baz=231,slow=12,SNR=6.2
comp=Z,12nm,1.0s
JOW Kunigami 50.13 85 LR LR 16 08 23.7
comp=Z,508nm,21.9s,baz=174,slow=42
EKA Eskdalemuir Ar 50.49 315 P **P 15 42 46.0 +0.1**
comp=Z,0.5nm,0.5s,baz=90,slow=8.0,SNR=4.0
comp=Z,0.5nm,0.5s
ESDC Sonseca Array 55.78 297 P **P 15 43 24.1 -1.1**
comp=Z,1.3nm,0.8s,baz=66,slow=7.4,SNR=6.2
comp=Z,1.3nm,0.8s
TORD Torodi Ar. Bea 64.58 267 P **P 15 44 25.4 -0.4**
comp=Z,1.4nm,0.9s,baz=47,slow=7.6,SNR=4.6
comp=Z,1.4nm,0.9s
ILAR Eielson Array 73.81 15 P **P 15 45 21.6 -0.7**
comp=Z,0.3nm,0.8s,baz=323,slow=5.5,SNR=5.2
comp=Z,0.3nm,0.8s
KDAK Kodiak Island 78.39 22 LR LR 16 26 13.0
comp=Z,548nm,19.3s,baz=219,slow=40
SCHQ Schefferville 80.39 336 P **P 15 46 00.8 +1.4**
comp=Z,3.0nm,0.8s,baz=56,slow=3.1,SNR=4.5
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 83.71 121 P **P 15 46 16.0 -1.3**
comp=Z,0.8nm,0.8s,baz=323,slow=4.6,SNR=4.9
comp=Z,0.8nm,0.8s
WRA Warramunga Arr 83.71 121 *eP* **P 15 46 19.3 +2.0**
WRA pmax pmax
comp=Z,1.0nm,0.8s

ASAR Alice Springs 86.00 124 P **P 15 46 28.0 -0.7**
comp=Z,0.2nm,0.7s,baz=314,slow=5.7,SNR=4.6
comp=Z,0.2nm,0.7s

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*IDC **16** 15:35:47.8±0.6,27°.28N×140°.77E,h469km±14km,mb3.0/8, mbtmp3.8/11,Error ellipse: s-maj=54.2km s-min=11.1km az=77.0*
*JMA **16** 15:35:49.9±0.3,27°N±2°×14°1E±°,h489km±4km,MV3.5/48, W OFF OGASAWARA*
*NEIC **16** 15:35:49.7±1.7,27°.21N±0°.09×140°.5E±0°.3,h486km±14km, mb4.2/10,Error ellipse: s-maj=45.2km s-min=2.7km az=73.0*
ISC 16 15:35:48.7±0.7,**27°.23N**±0°.07×**140°.7E**±0°.1,**h486**km,**n52,**
σ1§**50**/60,**mb3.7**/14,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.31**	**96**	P	**P**	**15 36 51.1**	**+1.6**
CBIJ				*eS*	**S**	**15 37 39.0**	**+0.2**
JCJ	**Chichijima**	**1.31**	**96**	P	**P**	**15 36 51.0**	**+1.4**
JCJ	**Chichijima**	**1.31**	**96**	P	**P**	**15 36 46.5**	**-3.0**
	59nm,0.3s,baz=82,slow=24,SNR=65						
JCJ				S	**S**	**15 37 34.6**	**-4.2**
	33nm,0.3s,baz=96,slow=23,SNR=2.3						
JHH2	**Haha-jima-NKT2**	**1.43**	**114**	*eP*	**P**	**15 36 51.8**	**+1.8**
JHH2				*eS*	**S**	**15 37 40.3**	**+0.7**
JHJ2	**Mitsune**	**5.91**	**353**	P	**P**	**15 37 24.2**	**+0.8**
JHJ	**Hachijo jima 2**	**5.92**	**352**	P	**P**	**15 37 22.7**	**-0.8**
	21nm,0.3s,baz=235,slow=23,SNR=21						
JHJ				S	**S**	**15 38 38.9**	**-2.3**
	14nm,0.4s,baz=246,slow=23,SNR=1.1						
BSO1	**Boso 1**	**7.40**	**2**	*eP*	**P**	**15 37 39.5**	**+1.7**
BSO1				*eS*	**S**	**15 39 08.2**	**+0.8**
BSO3	**Boso 3**	**7.55**	**359**	*eP*	**P**	**15 37 41.0**	**+1.4**
BSO3				*eS*	**S**	**15 39 09.2**	**-1.5**
JSG	**Sagara**	**7.73**	**344**	P	**P**	**15 37 40.1**	**-1.6**
BSO4	**Boso 4**	**7.74**	**358**	*eP*	**P**	**15 37 43.1**	**+1.4**
BSO4				*eS*	**S**	**15 39 12.8**	**-1.8**
JIE	**Ise**	**7.93**	**335**	*eP*	**P**	**15 37 46.5**	**+2.7**
JKN2	**Miekihoku**	**7.96**	**332**	*eP*	**P**	**15 37 46.5**	**+2.3**
HMMJ	**Hamamatsu 2**	**8.02**	**342**	*eP*	**P**	**15 37 46.8**	**+1.9**
JOD2	**Odawara 2**	**8.13**	**350**	*eP*	**P**	**15 37 47.6**	**+1.6**
JWY	**Kouya**	**8.24**	**329**	*eP*	**P**	**15 37 48.8**	**+1.5**
JNY	**Yasuok**	**8.46**	**344**	*eP*	**P**	**15 37 51.0**	**+1.5**
JAO	**Obara**	**8.54**	**341**	*eP*	**P**	**15 37 52.4**	**+2.1**
JHU	**Hanno**	**8.68**	**352**	*eP*	**P**	**15 37 51.6**	**-0.1**
INU	**Inuyama**	**8.69**	**340**	P	**P**	**15 37 52.9**	**+1.1**
JMN	**Monobe**	**8.76**	**319**	P	**P**	**15 37 52.0**	**-0.6**
JGF	**Kuroka**	**8.82**	**342**	P	**P**	**15 37 54.4**	**+1.1**
JRY	**Ryogami san**	**8.89**	**350**	*eP*	**P**	**15 37 55.3**	**+1.3**
JAG	**Ashikaga**	**9.23**	**354**	P	**P**	**15 37 57.7**	**+0.2**
JAG				*eS*	**S**	**15 39 39.7**	**-3.8**
JHO	**Hitachi**	**9.35**	**359**	P	**P**	**15 38 00.6**	**+1.8**
MJAR	**Matsushiro Arr**	**9.52**	**348**	P	**P**	**15 37 60.0**	**-0.7**
	1.9nm,0.6s,baz=207,slow=20,SNR=9.5						
MAJO	**Matsushiro**	**9.53**	**348**	P	**P**	**15 38 01.3**	**+0.6**
MJB9	**Matsu-Tunnel**	**9.53**	**348**	P	**P**	**15 38 01.4**	**+0.6**
JHS	**Saijyo**	**10.12**	**322**	P	**P**	**15 38 08.7**	**+1.6**
JMM	**Marumori**	**10.60**	**0**	P	**P**	**15 38 14.6**	**+2.4**
USRK	**Ussuriysk Ar.**	**18.34**	**340**	P	**P**	**15 39 32.5**	**-0.2**
	0.8nm,0.6s,baz=142,slow=8.7,SNR=2.8						
WB0	**Warramunga Arr**	**47.12**	**188**	P	**P**	**15 43 36.9**	**+0.7**
WB0				IAmb	IAmb	15 43 59.7	
	comp=Z,14nm,1.5s						
WRAB	**Tennant Creek**	**47.29**	**188**	P	**P**	**15 43 37.8**	**+0.3**
WRAB				IAmb	IAmb	15 43 40.1	
	comp=Z,5.7nm,1.2s						
WR0	**Warramunga Arr**	**47.29**	**188**	P	**P**	**15 43 38.1**	**+0.6**
WR0				IAmb	IAmb	15 43 58.9	
	comp=Z,15nm,1.5s						
WB2	**Warramunga Arr**	**47.30**	**188**	P	**P**	**15 43 38.4**	**+0.9**
WB2				IAmb	IAmb	15 43 56.0	
	comp=Z,9.2nm,1.4s						
WRA	**Warramunga Arr**	**47.30**	**188**	P	**P**	**15 43 38.3**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=6.0,slow=7.7,SNR=27						
	comp=Z,0.3nm,0.3s						
MK31	**Makanchi Array**	**49.39**	**310**	P	**P**	**15 43 53.3**	**+0.4**
MKAR	**Makanchi Array**	**49.39**	**310**	P	**P**	**15 43 53.1**	**+0.2**
MKAR	**Makanchi Array**	**49.39**	**310**	P	**P**	**15 43 53.0**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=87,slow=10,SNR=7.7						
	comp=Z,0.5nm,0.5s						
AS31	**Alice Springs**	**51.03**	**188**	P	**P**	**15 44 05.9**	**+0.8**
ASAR	**Alice Springs**	**51.03**	**188**	P	**P**	**15 44 06.2**	**+1.1**
ASAR	**Alice Springs**	**51.03**	**188**	P	**P**	**15 44 06.1**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=358,slow=4.4,SNR=13						
	comp=Z,0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**52.02**	**314**	P	**P**	**15 44 12.0**	**0.0**
	comp=Z,0.8nm,0.5s,baz=91,slow=7.8,SNR=6.9						
	comp=Z,0.8nm,0.5s						
BVAR	**Borovoye Array**	**57.06**	**317**	P	**P**	**15 44 48.0**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=98,slow=6.5,SNR=5.7						
	comp=Z,1.6nm,0.5s						
ABKAR	**Akbulak array**	**64.07**	**314**	P	**P**	**15 45 34.1**	**+0.2**
TOO	**Toolangi**	**64.62**	**176**	P	**P**	**15 45 36.0**	**-1.5**
FIA1	**FINESS Array S**	**77.25**	**333**	P	**P**	**15 46 52.5**	**+0.7**
FINES	**FINESS Array B**	**77.25**	**333**	P	**P**	**15 46 52.5**	**+0.7**
FINES	**FINESS Array B**	**77.25**	**333**	P	**P**	**15 46 52.7**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=73,slow=4.8,SNR=20						
	comp=Z,1.2nm,0.4s						
NC405	**NORSAR Array S**	**82.78**	**338**	P	**P**	**15 47 21.4**	**+0.6**
NC405				IAmb	IAmb	15 47 35.7	
	comp=Z,11nm,1.4s						
HFS	**Hagfors**	**82.78**	**336**	P	**P**	**15 47 20.7**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=126,slow=2.6,SNR=5.2						
	comp=Z,0.4nm,0.4s						
NC204	**NORSAR Array S**	**82.98**	**338**	P	**P**	**15 47 22.3**	**+0.4**
NC204				IAmb	IAmb	15 47 51.0	
	comp=Z,8.5nm,1.4s						
NOA	**NORSAR Array B**	**83.00**	**338**	P	**P**	**15 47 22.2**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=56,slow=5.9,SNR=2.5						
	comp=Z,0.4nm,0.5s						

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*IDC **16** 15:51:12.8±0.8,0°.43S×123°.97E,h0km,mb3.8/10, mbtmp3.8/10,MS4.4/6,Error ellipse: s-maj=48.1km s-min=15.6km az=70.0*
*DJA **16** 15:51:19.4±1.0,0°S±3°×12°4E±°,h13km±8km,M4.1/9, mb4.1/1,MLv4.2/9*
*NEIC **16** 15:51:21.0±0.8,0°.3S±0°.1×124°.55E±0°.08,h61km±8km, mb4.2/10,Error ellipse: s-maj=15.6km s-min=10.9km az=157.0*
ISC 16 15:51:21.0±0.7,**0°.32S**±0°.06×**124°.54E**±0°.05,**h60**km,**n34,**
σ1§**00**/37,**mb4.0**/16,**MS4.4**/6,**Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.05**	**328**	P	**Pn**	**15 51 39.4**	**-0.2**
KMSI				S	**Sn**	**15 51 54.4**	**+0.9**
LUWI	**Luwuk**	**1.91**	**248**		**Pn**	**15 51 52.0**	**+0.9**
LUWI	**Luwuk**	**1.91**	**248**	P	**Pn**	**15 51 51.9**	**+0.8**
LUWI				S	**Sn**	**15 52 13.2**	**-0.9**
SANI	**Sanana**	**2.25**	**140**	P	**Pn**	**15 51 54.8**	**-1.0**
MRSI	**Marisa**	**2.71**	**287**	P	**Pn**	**15 51 59.8**	**-2.4**
TNTI	**Ternate**	**3.03**	**69**	Pn	**Pn**	**15 52 06.0**	**-0.5**
NLAI	**Namlea**	**3.87**	**139**	P	**Pn**	**15 52 18.5**	**+0.5**
TOLI2	**Tolitoli**	**4.01**	**291**		**Pn**	**15 52 19.6**	**-0.4**
MPSI	**Mapaga**	**4.69**	**278**	P	**Pn**	**15 52 30.4**	**+1.2**
BKSI	**Bulukumba**	**6.64**	**222**	P	**Pn**	**15 52 56.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**17.70**	**177**	P	**P**	**15 55 23.7**	**+0.1**
MBWA	**Marble Bar**	**21.24**	**192**	P	**P**	**15 56 02.0**	**-0.1**
WB0	**Warramunga Arr**	**21.61**	**154**	P	**P**	**15 56 05.7**	**-0.4**
WB0				IAmb	IAmb	15 56 11.9	
	comp=Z,14nm,0.9s						
WRAB	**Tennant Creek**	**21.73**	**154**	P	**P**	**15 56 07.0**	**-0.5**
WRAB				IAmb	IAmb	15 56 13.4	
	comp=Z,11nm,1.0s						
WRA	**Warramunga Arr**	**21.74**	**154**	P	**P**	**15 56 07.1**	**-0.4**
WRA	**Warramunga Arr**	**21.74**	**154**	P	**P**	**15 56 07.3**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=332,slow=12,SNR=25						
	comp=Z,4.5nm,0.9s						
WB2	**Warramunga Arr**	**21.74**	**154**	P	**P**	**15 56 07.1**	**-0.4**
WB2				IAmb	IAmb	15 56 13.4	
	comp=Z,9.2nm,1.0s						
WR0	**Warramunga Arr**	**21.84**	**154**	P	**P**	**15 56 08.3**	**-0.3**
WR0				IAmb	IAmb	15 56 14.7	
	comp=Z,11nm,1.0s						
AS31	**Alice Springs**	**24.92**	**159**	P	**P**	**15 56 38.6**	**-0.1**
ASAR	**Alice Springs**	**24.93**	**159**	P	**P**	**15 56 37.7**	**-1.0**
ASAR	**Alice Springs**	**24.93**	**159**	P	**P**	**15 56 39.5**	**+0.8**
	comp=Z,3.3nm,0.7s,baz=332,slow=6.7,SNR=40						
ASAR				PcP	**PcP**	**16 00 14.4**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=341,slow=2.0,SNR=1.5						
	comp=Z,3.3nm,0.7s						
STKA	**Stephens Creek**	**35.29**	**154**	P	**P**	**15 58 09.8**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=326,slow=12,SNR=3.0						
	comp=Z,2.2nm,0.8s						
KSRS	**Korea Array**	**37.72**	**4**	P	**P**	**15 58 31.3**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=155,slow=6.7,SNR=1.7						
KSRS				LR	LR	16 14 13.4	
	comp=Z,640nm,21.9s,baz=160,slow=36						
	comp=Z,0.2nm,0.5s						
MJAR	**Matsushiro Arr**	**38.81**	**18**	P	**P**	**15 58 41.7**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=189,slow=8.8,SNR=5.9						
	comp=Z,1.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**44.82**	**8**	P	**P**	**15 59 29.8**	**+0.8**
USRK	**Ussuriysk Ar.**	**44.82**	**8**	P	**P**	**15 59 30.3**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=231,slow=9.1,SNR=3.4						
	comp=Z,1.0nm,0.6s						
MK31	**Makanchi Array**	**59.70**	**328**	P	**P**	**16 01 18.5**	**-0.9**
MK31				IAmb	IAmb	16 01 49.3	
	comp=Z,1.7nm,1.3s						
MKAR	**Makanchi Array**	**59.70**	**328**	P	**P**	**16 01 18.2**	**-1.2**
MKAR	**Makanchi Array**	**59.70**	**328**	P	**P**	**16 01 18.0**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=122,slow=7.9,SNR=12						
MKAR				PcP	**PcP**	**16 02 05.5**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=113,slow=8.0,SNR=1.9						
MKAR				LR	LR	16 28 18.3	
	comp=Z,220nm,21.5s,baz=136,slow=37						
	comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**63.24**	**335**	P	**P**	**16 01 41.7**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=115,slow=4.7,SNR=1.7						
ZALV				LR	LR	16 30 33.4	
	comp=Z,204nm,22.0s,baz=138,slow=37						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.02**	**329**	P	**P**	**16 01 46.5**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=131,slow=5.4,SNR=10						
KURBB				LR	LR	16 29 05.0	
	comp=Z,253nm,21.8s,baz=165,slow=36						
	comp=Z,0.7nm,0.6s						
KURK	**Kurchatov**	**64.03**	**329**	P	**P**	**16 01 46.9**	**-1.4**
KURK				IAmb	IAmb	16 01 49.8	
	comp=Z,2.4nm,0.8s						
BVAR	**Borovoye Array**	**69.55**	**328**	P	**P**	**16 02 22.4**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=180,slow=2.3,SNR=2.1						
BVAR				LR	LR	16 33 30.5	
	comp=Z,321nm,21.2s,baz=117,slow=37						
	comp=Z,0.3nm,0.5s						
NRIK	**Noril'sk**	**73.84**	**347**	LR	LR	16 40 41.3	
	comp=Z,372nm,19.3s,baz=136,slow=40						

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*TEH **16** 16:12:14.1,34°.52N×45°.91E,h8km±38km,ML2.6*
*ISN **16** 16:12:14.9±1.0,34°.54N×45°.93E,h25km±23km,ML2.6*
ISC 16 16:12:14.2±1.0,**34°.52N**±0°.04×**45°.89E**±0°.04,**h10**km,**n11,**
σ0§**44**/14,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.25**	**268**	Pg	**Pg**	**16 12 19.6**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.40**	**178**	Pg	**Pg**	**16 12 21.9**	**-0.2**
GLG1				Sg	**Sb**	**16 12 28.7**	**-0.9**
IDHR	**Dehrash**	**0.45**	**65**	Pg	**Pg**	**16 12 23.0**	**0.0**
IGHG	**Ghaleghazi**	**0.59**	**108**	Pg	**Pg**	**16 12 25.8**	**+0.2**
ILBA	**Ilam Banvizeh**	**0.93**	**164**	Pg	**Pg**	**16 12 31.5**	**-0.5**
ILIN	**Lien**	**0.97**	**65**	Pg	**Pg**	**16 12 32.5**	**-0.3**
IBDR	**Badra**	**1.40**	**179**	*ePg*	**Pn**	**16 12 40.0**	**+0.2**
	baz=360						
IBDR				*eSg*	**Sg**	**16 13 00.0**	**+0.7**
IBDR				AML	AML	16 13 05.9	
	comp=E,94nm,1.1s						
IBDR				AML	AML	16 13 06.3	
	comp=N,97nm,0.7s						
SNQR	**Sonqor, Kerman**	**1.47**	**76**	Pg	**Pg**	**16 12 42.4**	**0.0**
IKRK	**Kirkuk**	**1.55**	**305**	*ePn*	**Pb**	**16 12 43.0**	**0.0**
IKRK				*eSn*	**Sg**	**16 13 04.0**	**-0.1**
IBZA	**Bozab**	**1.62**	**91**	Pg	**Pg**	**16 12 45.1**	**-0.3**
IKFM	**Kafar-mosalman**	**1.90**	**121**	Pn	**Pb**	**16 12 49.3**	**+0.4**

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*IDC **16** 16:14:44.0±2.3,43°.47N×105°.27W,h0km,mbtmp3.6/2, ML3.3/2,Error ellipse: s-maj=52.7km s-min=9.9km az=153.0*
*NEIC **16** 16:14:45.5±0.5,43°.77N±0°.09×105°.4W±0°.1,h0km±1km, ML3.4/38,Error ellipse: s-maj=18.8km s-min=9.5km az=45.0*
ISC 16 16:14:45.7±1.0,**43°.77N**±0°.06×**105°.29W**±0°.06,**h0**km,**n22,**
σ1§**28**/21,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**68**	Pg	**Pb**	**16 15 05.2**	**-0.4**
K22A	**Casper**	**1.43**	**219**	Pg	**Pg**	**16 15 12.0**	**-1.1**
K22A				IAML		16 15 37.1	
	comp=E,526nm,0.3s						
K22A				IAML		16 15 38.6	
	comp=N,740nm,0.3s						
PHWY	**Pilot Hill**	**2.47**	**183**		**Pn**	**16 15 28.4**	**+1.0**
PHWY				IAML		16 16 06.8	
	comp=N,130nm,0.7s						
RWWY	**Rawlins**	**2.51**	**215**		**Pn**	**16 15 28.7**	**+0.7**
RWWY				IAML		16 16 05.6	
	comp=N,203nm,0.9s						
RWWY				IAML		16 16 10.1	
	comp=N,177nm,0.8s						
N23A	**Red Feather La**	**2.91**	**190**		**Pn**	**16 15 34.8**	**+1.4**
N23A				IAML		16 16 22.6	
	comp=N,130nm,0.6s						
N23A				IAML		16 16 27.7	
	comp=E,125nm,0.9s						
RLMT	**Red Lodge**	**3.15**	**297**	Pn	**Pn**	**16 15 37.2**	**+0.4**
RLMT				IAML		16 16 34.5	
	comp=E,76nm,0.7s						
PD31	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**16 15 39.1**	**+0.7**
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**16 15 38.9**	**+0.5**
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**16 15 39.2**	**+0.8**
	comp=E,3.0nm,0.3s,baz=83,slow=17,SNR=53						
PDAR				Lg	Lg	16 16 24.2	
	comp=E,19nm,0.3s,baz=82,slow=32,SNR=11						
	comp=E,2.6nm,0.3s						
YMP	**Mirror Lake Pl**	**3.63**	**287**	Pn	**Pn**	**16 15 45.1**	**+1.7**
YMP				IAML		16 16 55.3	
	comp=E,95nm,0.7s						
OGNE	**Ogallala**	**3.71**	**138**	Pn	**Pn**	**16 15 46.0**	**+1.7**
LOHW	**Long Hollow**	**3.86**	**270**		**Pn**	**16 15 48.7**	**+2.3**
FLWY	**Flagg Ranch**	**3.92**	**277**	Pn	**Pn**	**16 15 48.4**	**+1.1**
FLWY				IAML		16 17 00.7	
	comp=E,61nm,2.2s						
ISCO	**Idaho Springs**	**3.97**	**184**		**Pn**	**16 15 49.5**	**+1.4**
ISCO				IAML		16 16 57.1	
	comp=E,43nm,1.2s						
IMW	**Indian Meadow**	**4.09**	**274**		**Pn**	**16 15 50.9**	**+1.2**
IMW				IAML		16 17 03.4	
	comp=E,38nm,2.2s						
TPAW	**Teton Pass**	**4.12**	**268**		**Pn**	**16 15 52.1**	**+2.0**
TPAW				IAML		16 17 19.9	
	comp=E,53nm,1.2s						
TPAW				IAML		16 17 23.1	
	comp=E,33nm,0.8s						
Q24A	**Divide**	**4.80**	**179**	Pn	**Pn**	**16 16 00.2**	**+0.7**
Q24A				IAML		16 17 27.7	
	comp=N,31nm,0.8s						
HWUT	**Hardware Ranch**	**5.10**	**247**	Pn	**Pn**	**16 16 04.7**	**+1.1**
HWUT				IAML		16 17 48.1	
	comp=N,41nm,1.2s						
BSUT	**Blindstream Ca**	**5.19**	**233**		**Pn**	**16 16 05.2**	**+0.3**
BSUT				IAML		16 17 43.0	
	comp=N,22nm,2.4s						
BSUT				IAML		16 17 50.2	
	comp=E,21nm,1.6s						
P18A	**Preston Nutter**	**5.55**	**224**		**Pn**	**16 16 11.2**	**+1.3**
ULM	**Lac du Bonnet**	**9.13**	**41**	Pn	**Pn**	**

SOCV	**Socops**	**0.98**	**92**	*e*P	**Pn**	**16 15 29.5**	**-0.3**
SOCV				*e*S	**Sn**	**16 15 42.9**	**-0.7**
SDV	**Santo Domingo**	**1.33**	**64**	P	**Pb**	**16 15 34.9**	**-0.1**
SDV				S	**Sn**	**16 15 52.4**	**0.0**
OCAC	**Ocana**	**1.46**	**267**	P	**Pn**	**16 15 36.6**	**+0.1**
OCAC				S	**Sn**	**16 15 55.2**	**-0.5**
BAUV	**El Baul**	**3.81**	**80**	*e*P	**Pn**	**16 16 09.5**	**+0.8**
BAUV				*e*S	**Sn**	**16 16 53.3**	**-0.2**

*LDG **16** 16:24:45.7±0.1,43.°10N×0.°18W,h5^{km},Md2.3/3,Ml3.0/17, Error ellipse: s-maj=2.6km s-min=2.0km az=131.0*
*MRB **16** 16:24:46.0±0.3,43.°03N×0.°22W,h0^{km}±3^{km},ML2.2/24, Error ellipse: s-maj=1.5km s-min=0.9km az=10.0*
*STR **16** 16:24:46.1±0.4,43.°N±3.°×.°±.°,h2^{km},MLv2.4/6,Error ellipse: s-maj=0.0km s-min=0.0km az=179.1,preliminary*
*MDD **16** 16:24:48.1±0.2,42.°99N×0.°19W,h11^{km},mb_Lg2.7/46, Error ellipse: s-maj=1.9km s-min=0.9km az=4.0*

ISC 16 16:24:45.1±0.8,**43.°13N**±0.°02×**0.°17W**±0.°01,**h16**^{km}±5^{km}, **n74**,σ**1s50**/140,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYLO	**Lourdes**	**0.09**	**109**	P	**Pg**	**16 24 48.9**	**+0.4**
PYLO				S	**Sg**	**16 24 50.8**	**+0.1**
PYLO	**Lourdes**	**0.09**	**109**	Pg	**Pg**	**16 24 48.4**	**-0.1**
PYLO				Sg	**Sg**	**16 24 50.4**	**-0.3**
VIEF	**Viey**	**0.28**	**150**	Pg	**Pg**	**16 24 50.5**	**-0.8**
VIEF				Sg	**Sg**	**16 24 54.0**	**-1.5**
ETSF	**Etsaut**	**0.37**	**232**	*e*Pg	**Pg**	**16 24 51.7**	**-1.1**
ETSF				*e*Sg	**Sg**	**16 24 55.5**	**-2.5**
	210nm,0.2s						
EPF	**Esparros**	**0.38**	**105**	*e*Pg	**Pb**	**16 24 52.9**	**-0.7**
EPF				*e*Sg	**Sb**	**16 24 58.2**	**-1.0**
	210nm,0.3s						
ATE	**Arette**	**0.40**	**264**	P	**Pg**	**16 24 53.1**	**-0.1**
ATE				S	**Sg**	**16 24 58.4**	**-0.3**
	136nm,0.3s						
CANF	**Canfranc**	**0.45**	**216**	Pg	**Pg**	**16 24 52.8**	**-1.4**
CANF				Sg	**Sg**	**16 24 58.2**	**-2.1**
ECHI	**Chisagues Biel**	**0.53**	**150**	P	**Pg**	**16 24 55.1**	**-0.8**
ECHI	**Chisagues Biel**	**0.53**	**150**	Pg	**Pg**	**16 24 55.0**	**-0.8**
ECHI				Sg	**Sg**	**16 25 01.2**	**-1.7**
ECHI				*i* Vmb_Lg		16 25 02.9	
ECHI	**Chisagues Biel**	**0.53**	**150**	Pg	**Pg**	**16 24 55.0**	**-0.8**
ECHI				Sg	**Sg**	**16 25 01.4**	**-1.6**
SJPF	**Ste Jean**	**0.78**	**269**	*e*Pg	**Pg**	**16 24 59.4**	**-0.9**
SJPF	**Ste Jean**	**0.78**	**269**	*e*Pn	**Pb**	**16 25 01.5**	**+1.2**
SJPF				*e*Sg	**Sg**	**16 25 09.3**	**-1.3**
	21nm,0.2s						
OSSF	**Osses**	**0.81**	**279**	Pg	**Pg**	**16 25 00.1**	**-0.9**
OSSF				Sg	**Sb**	**16 25 12.5**	**+0.9**
EORO	**Oroz-Betelu**	**0.87**	**255**	Pg	**Pg**	**16 25 00.9**	**-1.2**
EORO				Sg	**Sg**	**16 25 12.9**	**-0.7**
EORO				*i* Vmb_Lg		16 25 16.3	
MLS	**Moulis**	**0.94**	**100**	Pg	**Pn**	**16 25 04.9**	**+1.2**
MLS				Sg	**Sn**	**16 25 17.5**	**+0.7**
CTRE	**Tremp**	**1.06**	**139**	P	**Pb**	**16 25 05.3**	**+0.2**
CTRE				S	**Sb**	**16 25 19.1**	**+0.3**
	20nm,0.3s						
SALF	**Salau**	**1.06**	**110**	Pg	**Pb**	**16 25 05.0**	**-0.2**
SALF				Sg	**Sn**	**16 25 20.3**	**+0.5**
EARA	**Aranguren**	**1.10**	**252**	Pg	**Pn**	**16 25 06.9**	**+1.1**
EARA	**Aranguren**	**1.10**	**252**	Pg	**Pn**	**16 25 06.9**	**+1.1**
EARA				Sg	**Sg**	**16 25 20.7**	**-0.1**
EARA				*i* Vmb_Lg		16 25 25.8	
CEST	**Esterri de Car**	**1.17**	**116**	P	**Pn**	**16 25 07.5**	**+0.6**
CEST				S	**Sn**	**16 25 23.5**	**+0.9**
	31nm,0.2s						
CSOR	**Sort**	**1.22**	**128**	P	**Pb**	**16 25 08.0**	**+0.2**
CSOR				S	**Sb**	**16 25 24.3**	**+1.0**
	21nm,0.1s						
PAND	**Andorre**	**1.40**	**115**	P	**Pb**	**16 25 12.1**	**+1.1**
PAND				S	**Sn**	**16 25 31.2**	**+2.9**
	25nm,0.2s						
CORG	**Organya**	**1.41**	**129**	P	**Pg**	**16 25 11.5**	**-0.9**
CORG				S	**Sn**	**16 25 30.9**	**+2.4**
	13nm,0.3s						
CAVN	**Les Avellanes**	**1.42**	**151**	P	**Pn**	**16 25 10.8**	**+0.5**
CAVN				S	**Sb**	**16 25 29.7**	**+0.7**
	81nm,0.3s						
ESAC	**San Caprasio**	**1.42**	**189**	Pg	**Pn**	**16 25 07.8**	**-2.5**
ESAC				Sg	**Sb**	**16 25 26.0**	**-3.2**
ESAC				*i* Vmb_Lg		16 25 30.5	
ARBS	**La Rabassa**	**1.43**	**118**	P	**Pb**	**16 25 12.4**	**+0.8**
ARBS				S	**Sn**	**16 25 31.7**	**+2.5**
	39nm,0.4s						
MONQ	**Montcuq**	**1.58**	**38**	Pn	**Pg**	**16 25 16.3**	**+0.7**
MONQ				Sn	**Sg**	**16 25 38.9**	**+2.7**
FNEB	**Nbias**	**1.68**	**97**	Pn	**Pg**	**16 25 16.6**	**-0.9**
FNEB				Sn	**Sg**	**16 25 39.5**	**+0.2**
CLLI	**Llivia**	**1.70**	**112**	P	**Pg**	**16 25 17.1**	**-0.8**
CLLI				S	**Sg**	**16 25 40.1**	**+0.1**
	29nm,0.4s						
CARF	**Carcanieres**	**1.72**	**103**	Pn	**Pg**	**16 25 17.0**	**-1.1**
CARF				Sn	**Sg**	**16 25 39.9**	**-0.6**
MTLF	**Montolieu**	**1.75**	**82**	*e*Pn	**Pn**	**16 25 14.8**	**-0.1**
MTLF	**Montolieu**	**1.75**	**82**	*e*Pg	**Pg**	**16 25 17.7**	**-1.1**
MTLF				*e*Sg	**Sg**	**16 25 40.7**	**-0.9**
	14nm,0.2s						
VALC	**Valcebollere**	**1.79**	**114**	Pn	**Pb**	**16 25 17.5**	**-0.1**
VALC				Sn	**Sg**	**16 25 41.3**	**-1.5**
CBRU	**Bruguera**	**1.92**	**115**	P	**Pb**	**16 25 19.7**	**-0.2**
LFF	**La Frestale**	**1.93**	**20**	*e*Pn	**Pn**	**16 25 17.4**	**+0.2**
LFF	**La Frestale**	**1.93**	**20**	*e*Pg	**Pg**	**16 25 22.9**	**+0.8**
LFF				*e*Sg	**Sg**	**16 25 47.7**	**+0.6**
	34nm,0.3s						
EPOB	**Poblet**	**2.00**	**152**	P	**Pn**	**16 25 19.8**	**+1.5**
EPOB				S	**Sn**	**16 25 45.3**	**+2.3**
	13nm,0.4s						
EPOB	**Poblet**	**2.00**	**152**	Pn	**Pn**	**16 25 20.1**	**+1.8**
EPOB				Sn	**Sn**	**16 25 42.0**	**-1.0**
EPOB				Sg	**Sb**	**16 25 46.8**	**+1.0**
EPOB				*i* Vmb_Lg		16 25 48.5	
CORI	**Orista**	**2.00**	**124**	P	**Pb**	**16 25 20.7**	**-0.5**
CORI				S	**Sb**	**16 25 46.2**	**+0.4**
	42nm,0.2s						
FILF	**Fillols**	**2.08**	**105**	P	**Pn**	**16 25 20.8**	**+1.3**
FILF				S	**Sn**	**16 25 46.7**	**+1.7**
	14nm,0.3s						
FILF	**Fillols**	**2.08**	**105**	Pn	**Pn**	**16 25 20.4**	**+0.9**
FILF				Sn	**Sn**	**16 25 46.4**	**+1.3**
ERTA	**Horta de San J**	**2.20**	**170**	P	**Pn**	**16 25 22.4**	**+1.3**
ERTA				S	**Sn**	**16 25 49.5**	**+1.6**
	13nm,0.2s						
ERTA	**Horta de San J**	**2.20**	**170**	Pn	**Pn**	**16 25 21.5**	**+0.5**
ERTA				Pg	**Pb**	**16 25 25.3**	**+0.7**
ERTA				Sn	**Sn**	**16 25 45.8**	**-2.2**
ERTA				Sg	**Sb**	**16 25 52.7**	**+1.2**
ERTA				*i* Vmb_Lg		16 25 59.1	
CBEU	**Beuda**	**2.27**	**112**	P	**Pb**	**16 25 24.8**	**-0.9**
CBEU				S	**Sb**	**16 25 53.2**	**-0.4**
	30nm,0.4s						
SJAF	**Saint Jean de**	**2.33**	**105**	P	**Pb**	**16 25 26.0**	**-0.8**
SJAF				S	**Sb**	**16 25 54.8**	**-0.5**
	10nm,0.5s						
EJON	**La Jonquera**	**2.35**	**106**	Pn	**Pn**	**16 25 25.3**	**+2.2**
EJON				Pg	**Pg**	**16 25 29.4**	**-0.8**
EJON				Sn	**Sn**	**16 25 52.0**	**+0.4**
EJON				Sg	**Sg**	**16 26 01.6**	**+1.0**
EJON				*i* Vmb_Lg		16 26 03.2	
CFON	**Fontmartina**	**2.36**	**124**	P	**Pn**	**16 25 25.3**	**+2.1**
CFON				S	**Sb**	**16 25 55.2**	**-1.0**
	28nm,0.3s						
ELAN	**Lanestosa**	**2.39**	**274**	Pn	**Pn**	**16 25 26.5**	**+2.8**
ELAN				Sn	**Sn**	**16 25 53.7**	**+1.1**
ELAN				*i* Vmb_Lg		16 26 08.1	
CGAR	**Garraf**	**2.40**	**139**	S	**Sn**	**16 25 55.0**	**+2.3**
	6.1nm,0.6s						
CAF	**Calviac**	**2.41**	**41**	*e*Pg	**Pg**	**16 25 31.5**	**+0.1**
CAF				*e*Sg	**Sg**	**16 26 02.0**	**-0.7**
	17nm,0.2s						
CMAS	**Mas de Barbera**	**2.43**	**171**	P	**Pn**	**16 25 25.2**	**+1.1**
CMAS				S	**Sn**	**16 25 54.9**	**+1.4**
	13nm,0.3s						
RJF	**Les Rejaudoux**	**2.49**	**28**	*e*Pn	**Pn**	**16 25 24.8**	**-0.2**
RJF	**Les Rejaudoux**	**2.49**	**28**	*e*Pg	**Pg**	**16 25 32.7**	**-0.2**
RJF				*e*Sg	**Sg**	**16 26 04.6**	**-0.5**
	25nm,0.3s						
CPAL	**Palau Saverder**	**2.58**	**107**	S	**Sb**	**16 26 01.6**	**-1.0**
	4.6nm,0.4s						
CCAS	**Cassa de la Se**	**2.59**	**118**	P	**Pn**	**16 25 29.0**	**+2.7**
CCAS				S	**Sn**	**16 26 00.8**	**+3.4**
	12nm,0.5s						
ALCN	**Alcanar**	**2.62**	**169**	S	**Sn**	**16 25 58.9**	**+0.7**
	14nm,0.3s						
ETOR	**Torete**	**2.70**	**212**	Pn	**Pn**	**16 25 29.0**	**+1.0**
ETOR				Sn	**Sn**	**16 25 57.7**	**-2.7**
ETOR				Sg	**Sb**	**16 26 09.4**	**+3.4**
EMOS	**Mosqueruela**	**2.77**	**185**	P	**Pn**	**16 25 30.6**	**+1.6**
EMOS				S	**Sn**	**16 26 03.6**	**+1.4**
	5.3nm,0.2s						
EMOS	**Mosqueruela**	**2.77**	**185**	Pn	**Pn**	**16 25 29.3**	**+0.3**
EMOS				Sn	**Sn**	**16 25 59.6**	**-2.6**
EMOS				Sg	**Sb**	**16 26 10.2**	**+2.0**
EMOS				*i* Vmb_Lg		16 26 14.8	
ALCX	**Castello**	**2.88**	**173**	S	**Sn**	**16 26 06.1**	**+1.4**
	14nm,0.3s						
LASF	**Ste Croix**	**3.07**	**71**	*e*Pn	**Pn**	**16 25 33.1**	**+0.1**
LASF				*e*Sg	**Sg**	**16 26 23.0**	**-0.8**
	6.8nm,0.3s						
MFF	**Saint Martin d**	**3.47**	**0**	*e*Sg	**Sg**	**16 26 34.6**	**-2.1**
	8.9nm,0.3s						
TCF	**Toulx Ste Croi**	**3.58**	**27**	*e*Pg	**Pg**	**16 25 52.7**	**-1.1**
TCF				*e*Sg	**Sg**	**16 26 38.2**	**-2.0**
	12nm,0.3s						
ECHE	**Chera**	**3.59**	**190**	Pn	**Pn**	**16 25 41.0**	**+0.9**
ECHE				Sn	**Sn**	**16 26 19.4**	**-2.6**
ECHE				Sg	**Sb**	**16 26 34.4**	**+3.0**
ECHE				*i* Vmb_Lg		16 26 55.9	
EARI	**Arriondas**	**3.69**	**274**	Pn	**Pn**	**16 25 44.1**	**+2.5**
EARI				Sn	**Sn**	**16 26 25.7**	**+1.0**
EARI				*i* Vmb_Lg		16 27 01.8	
GUD	**Guadarrama**	**3.88**	**232**	Pn	**Pn**	**16 25 44.6**	**+0.4**
GUD				Sn	**Sn**	**16 26 28.5**	**-0.9**
GUD				*i* Vmb_Lg		16 27 04.7	
VIVF	**Saint-Julien-l**	**3.90**	**62**	*e*Pn	**Pn**	**16 25 43.9**	**-0.4**
VIVF	**Saint-Julien-l**	**3.90**	**62**	*e*Pg	**Pg**	**16 25 57.6**	**-2.1**
VIVF				*e*Sg	**Sg**	**16 26 48.4**	**-1.8**
	2.8nm,0.3s						
BGF	**Bois d'Agland**	**4.04**	**31**	*e*Pg	**Pg**	**16 26 01.2**	**-1.4**
BGF				*e*Sg	**Sg**	**16 26 52.6**	**-2.3**
	26nm,0.3s						
AVF	**Avril sur Loir**	**4.43**	**33**	*e*Pg	**Pg**	**16 26 07.9**	**-2.1**
AVF				*e*Sg	**Sg**	**16 27 05.6**	**-1.8**
	5.2nm,0.3s						
SMF	**Signal de Mont**	**4.52**	**38**	*e*Sg	**Sg**	**16 27 08.7**	**-1.6**
	2.8nm,0.2s						
SSF	**Saint Saulge**	**4.71**	**32**	*e*Sg	**Sg**	**16 27 13.6**	**-2.8**
	5.4nm,0.4s						
LOR	**Lormes**	**5.02**	**33**	*e*Sg	**Sg**	**16 27 23.9**	**-2.4**
	3.8nm,0.3s						
LDF	**La Druitiere**	**5.47**	**0**	*e*Sn	**Sn**	**16 27 05.3**	**-3.0**
LDF				*e*Sg	**Sg**	**16 27 37.8**	**-2.7**
	1.8nm,0.3s						

*IDC **16** 16:38:23.1±1.3,59.°85N×153.°10W,h98^{km}±19^{km},mb3.6/4, mbtmp3.9/8,Error ellipse: s-maj=26.8km s-min=10.9km az=107.0*
*NEIC **16** 16:38:24.5±1.1,59.°71N±0.°04×153.°29W±0.°10, h122^{km}±4^{km},Error ellipse: s-maj=7.6km s-min=4.5km az=115.0*
*AEIC **16** 16:38:25.9±1.1,59.°72N±0.°04×153.°33W±0.°09, h115^{km}±4^{km},ML3.1,ML3.4/152(NEIC),Error ellipse: s-maj=7.1km s-min=5.1km az=116.0*

ISC 16 16:38:24.7±0.8,**59.°74N**±0.°03×**153.°31W**±0.°03, **h121**^{km}±5^{km},**n321**,σ**0s76**/310,**mb4.0/4**,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P19K	**Oil Pt**	**0.10**	**156**	Pn	**Pn**	**16 38 41.2**	**-0.1**
P19K					**Sn**	**16 38 53.1**	**-0.6**
P19K	**Oil Pt**	**0.10**	**156**	P	**Pn**	**16 38 41.1**	**-0.2**
	baz=322						
P19K				S	**Sn**	**16 38 53.4**	**-0.4**
	baz=322						
ILSW	**Iliamna Southw**	**0.26**	**19**		**Pn**	**16 38 41.4**	**-0.3**
ILSW				IAML		16 38 54.6	
	comp=N,696nm,0.4s						
ILSW				IAML		16 38 54.8	
	comp=E,993nm,0.8s						
IVE	**Iliamna Volcan**	**0.31**	**28**		**Pn**	**16 38 41.8**	**-0.1**
IVE					**Sn**	**16 38 54.5**	**-0.4**
AUL	**Augustine Lava**	**0.37**	**190**		**Pn**	**16 38 42.2**	**+0.1**
AUL					**Sn**	**16 38 54.8**	**-0.3**
AU22	**Augustine Moun**	**0.37**	**184**		**Pn**	**16 38 42.1**	**0.0**
AU22					**Sn**	**16 38 54.7**	**-0.3**
AUCH	**Augustine Cone**	**0.39**	**190**		**Pn**	**16 38 42.3**	**+0.1**
AUCH					**Sn**	**16 38 54.7**	**-0.7**
O20K	**Slope Mountain**	**0.48**	**45**		**Pn**	**16 38 42.9**	**+0.1**
O20K					**Sn**	**16 38 56.4**	**0.0**
O20K	**Slope Mountain**	**0.48**	**45**	P	**Pn**	**16 38 42.9**	**+0.1**
	baz=225						
O20K				S	**Sn**	**16 38 56.4**	**0.0**
	baz=225						
O19K	**Port Alsworth**	**0.68**	**312**		**Pn**	**16 38 43.6**	**-0.3**
O19K					**Sn**	**16 38 57.5**	**-1.0**
O19K	**Port Alsworth**	**0.68**	**312**	IAML		16 38 58.2	
	comp=E,2μm,0.5s						
O19K	**Port Alsworth**	**0.68**	**312**	P	**Pn**	**16 38 43.6**	**-0.3**
	baz=134						
O19K				S	**Sn**	**16 38 57.5**	**-1.0**
	baz=134						
RED	**Redoubt Volcan**	**0.73**	**21**		**Pn**	**16 38 44.5**	**0.0**
RDSO	**Redoubt South**	**0.77**	**21**		**Pn**	**16 38 44.9**	**0.0**
RDSO					**Sn**	**16 38 59.7**	**-0.4**
RSO	**Redoubt South**	**0.78**	**21**		**Pn**	**16 38 45.0**	**+0.1**
Q19K	**Cape Douglas,**	**0.83**	**192**		**Pn**	**16 38 45.2**	**-0.1**
Q19K	**Cape Douglas,**	**0.83**	**192**		**Sn**	**16 38 59.9**	**-0.9**
Q19K				IAML		16 39 02.0	
	comp=E,1μm,0.7s						
Q19K				IAML		16 39 05.3	
	comp=N,1μm,0.8s						
Q19K	**Cape Douglas,**	**0.83**	**192**	P	**Pn**	**16 38 45.0**	**-0.3**
	baz=11						
Q19K				S	**Sn**	**16 39 00.4**	**-0.4**
	baz=11						
HOM	**Homer**	**0.85**	**95**		**Pn**	**16 38 45.5**	**+0.2**
HOM	**Homer**	**0.85**	**95**	IAML		16 39 02.2	
	comp=E,1μm,0.4s						
HOM				IAML		16 39 03.4	
	comp=N,1μm,0.4s						
HOM	**Homer**	**0.85**	**95**	P	**Pn**	**16 38 45.5**	**+0.2**
	baz=275						
HOM				S	**Sn**	**16 39 01.6**	**+0.6**
	baz=275						
O18K	**Koktuh Hills**	**0.97**	**278**	Pn	**Pn**	**16 38 46.0**	**-0.5**
O18K				IAML		16 39 02.3	
	comp=N,122nm,0.8s						
O18K	**Koktuh Hills**	**0.97**	**278**		**Sn**	**16 39 01.9**	**-1.1**
O18K	**Koktuh Hills**	**0.97**	**278**	P	**Pn**	**16 38 45.9**	**-0.5**
	baz=97						
O18K				S	**Sn**	**16 39 01.9**	**-1.1**
	baz=97						
P18K	**Big Mountain,**	**1.04**	**251**	Pn	**Pn**	**16 38 46.4**	**-0.9**
P18K	**Big Mountain,**	**1.04**	**251**		**Sn**	**16 39 02.6**	**-1.6**
P18K	**Big Mountain,**	**1.04**	**251**	P	**Pn**	**16 38 46.5**	**-0.7**
	baz=70						
P18K				S	**Sn**	**16 39 02.6**	**-1.6**
	baz=70						
CNPM	**China Poot**	**1.07**	**101**	Pn	**Pn**	**16 38 47.4**	**-0.2**
CNPM	**China Poot**	**1.07**	**101**		**Sn**	**16 39 04.2**	**-0.6**
CNPM	**China Poot**	**1.07**	**101**	IAML		16 39 05.5	
	comp=E,474nm,0.3s						
CNPM				IAML		16 39 08.0	
	comp=N,643nm,0.4s						
N19K	**Bonanza Creek**	**1.22**	**332**	Pn	**Pn**	**16 38 49.2**	**0.0**
N19K	**Bonanza Creek**	**1.22**	**332**		**Sn**	**16 39 06.8**	**-1.0**
N19K	**Bonanza Creek**	**1.22**	**332**	P	**Pn**	**16 38 49.2**	**0.0**
	baz=152						
N19K				S	**Sn**	**16 39 06.4**	**-1.4**
	baz=152						
BRLK	**Bradley Lake**	**1.23**	**88**		**Pn**	**16 38 48.8**	**-0.3**
BRLK				IAML		16 39 08.3	
	comp=N,661nm,0.4s						
BRLK				IAML		16 39 08.4	
	comp=E,966nm,0.2s						
Q20K	**Shuyak Island**	**1.23**	**157**	P	**Pn**	**16 38 49.1**	**0.0**
	baz=337						
Q20K				S	**Sn**	**16 39 06.8**	**-0.8**
	baz=337						
SYI	**Shuyak Island**	**1.23**	**157**	Pn	**Pn**	**16 38 49.1**	**0.0**
SYI				IAML		16 39 08.2	
	comp=E,814nm,0.4s						
SYI				IAML		16 39 08.3	
	comp=N,650nm,0.4s						
SYI	**Shuyak Island**	**1.23**	**157**		**Sn**	**16 39 06.8**	**-0.8**
BRSE	**Bradley Lake S**	**1.30**	**89**		**Pn**	**16 38 49.8**	**-0.2**
BRSE	**Bradley Lake S**	**1.30**	**89**	P	**Pn**	**16 38 49.5**	**-0.4**
	baz=270						
KAHC	**Katmai Hardscr**	**1.40**	**219**		**Pn**	**16 38 50.5**	**-0.7**
KAHC	**Katmai Hardscr**	**1.40**	**219**		**Pn**	**16 38 51.0**	**-0.1**
KAHC	**Katmai Hardscr**	**1.40**	**219**	P	**Pn**	**16 38 50.2**	**-1.0**
	baz=38						
Q18K	**Katmai Hardscr**	**1.40**	**219**	P	**Pn**	**16 38 50.7**	**-0.5**
	baz=38						
KAHG	**Katmai Hook Gl**	**1.41**	**208**		**Pn**	**16 38 51.2**	**0.0**
CAPN	**Captain Cook N**	**1.49**	**45**		**Pn**	**16 38 53.9**	**+1.9**
CAPN	**Captain Cook N**	**1.49**	**45**	P	**Pn**	**16 38 53.6**	**+1.7**
	baz=227						
N20K	**Mount Spurr**	**1.56**	**20**	P	**Pn**	**16 38 52.9**	**0.0**
	baz=201						
SPCR	**Spurr Chakacha**	**1.56**	**20**		**Pn**	**16 38 53.2**	**+0.3**
SPU	**Mount Spurr**	**1.57**	**23**		**Pn**	**16 38 53.2**	**+0.1**
SPU				IAML		16 39 16.3	
	comp=N,125nm,0.2s						
SPU				IAML		16 39 17.3	
	comp=E,145nm,0.4s						
SPBG	**Spurr Blockage**	**1.59**	**17**		**Pn**	**16 38 54.0**	**+0.6**
N18K	**Kilae Creek**	**1.60**	**307**		**Pn**	**16 38 53.1**	**-0.2**
N18K	**Kilae Creek**	**1.60**	**307**	P	**Pn**	**16 38 52.9**	**-0.4**
	baz=126						
SPCG	**Spurr Capps Gl**	**1.68**	**22**		**Pn**	**16 38 54.9**	**+0.5**
P17K	**Kvichak River**	**1.69**	**252**		**Pn**	**16 38 54.4**	**0.0**
P17K	**Kvichak River**	**1.69**	**252**	P	**Pn**	**16 38 54.3**	**0.0**
	baz=70						
SVW2	**Sparrevohn**	**1.77**	**321**	P	**Pn**	**16 38 55.3**	**0.0**
SVW2	**Sparrevohn**	**1.77**	**321**	Pn	**Pn**	**16 38 55.0**	**-0.3**
KCE	**Katmai Mt Cerb**	**1.79**	**214**		**Pn**	**16 38 55.4**	**-0.2**
KABU	**Katmai Buttres**	**1.79**	**216**		**Pn**	**16 38 56.0**	**+0.2**
ACHA	**Angle Creek He**	**1.86**	**215**		**Pn**	**16 38 56.2**	**-0.3**
STLK	**Strandline Lak**	**1.91**	**22**		**Pn**	**16 38 58.1**	**+1.0**
O17K	**Koliganek Bris**	**1.92**	**273**		**Pn**	**16 38 57.2**	**+0.1**
O17K	**Koliganek Bris**	**1.92**	**273**	P	**Pn**	**16 38 56.7**	**-0.3**
	baz=90						
O22K	**Cooper Landing**	**1.94**	**66**		**Pn**	**16 38 57.8**	**+0.4**
O22K	**Cooper Landing**	**1.94**	**66**	P	**Pn**	**16 38 57.6**	**+0.2**
	baz=249						
SEW	**Seward**	**1.98**	**78**		**Pn**	**16 38 57.7**	**0.0**
SEW	**Seward**	**1.98**	**78**	P	**Pn**	**16 38 57.8**	**0.0**
	baz=261						
CNTC	**Contact Creek**	**1.99**	**223**		**Pn**	**16 38 58.1**	**0.0**
Q17K	**Contact Creek**	**1.99**	**223**	P	**Pn**	**16 38 58.1**	**-0.1**
	baz=41						
KDAK	**Kodiak Island**	**2.00**	**169**	Pn	**Pn**	**16 38 57.2**	**-1.0**
KDAK				IAML		16 39 23.2	
	comp=E,401nm,0.3s						
KDAK	**Kodiak Island**	**2.00**	**169**	P	**Pn**	**16 38 57.0**	**-1.1**
	comp=E,61nm,0.4s,baz=5.9,slow=10,SNR=101						
KDAK				S	**Sn**	**16 39 22.7**	**-1.0**
	comp=E,140nm,0.3s,baz=166,slow=20,SNR=18						
Q16K	**King Salmon**	**2.03**	**240**		**Pn**	**16 38 58.5**	**+0.1**
FIS	**Fire Island**	**2.08**	**46**		**Pn**	**16 39 00.8**	**+1.7**
FIS	**Fire Island**	**2.08**	**46**	IAML		16 39 30.9	
	comp=N,381nm,0.6s						
N17K	**Nushagak Hills**	**2.09**	**294**		**Pn**	**16 38 59.1**	**-0.2**
N17K	**Nushagak Hills**	**2.09**	**294**	P	**Pn**	**16 38 59.3**	**0.0**
	baz=111						
SUA	**Susitna One**	**2.14**	**35**		**Pn**	**16 39 00.6**	**+0.6**
SUA				IAML		16 39 29.7	
	comp=N,395nm,0.7s						
SUA	**Susitna One**	**2.14**	**35**	P	**Pn**	**16 39 00.8**	**+0.8**
	baz=217						
M18K	**Stony River**	**2.15**	**326**		**Pn**	**16 38 59.9**	**-0.1**
M18K	**Stony River**	**2.15**	**326**	P	**Pn**	**16 38 59.8**	**-0.2**
	baz=144						
M20K	**Styx River**	**2.15**	**2**	P	**Pn**	**16 39 00.5**	**+0.4**
	baz=183						
RC01	**Rabbit Creek A**	**2.23**	**51**	Pn	**Pn**	**16 39 01.4**	**+0.4**
RC01	**Rabbit Creek A**	**2.23**	**51**	P	**Pn**	**16 39 01.5**	**+0.4**
	baz=234						
M19K	**Big River Lodg**	**2.23**	**347**		**Pn**	**16 39 01.1**	**+0.1**
M19K	**Big River Lodg**	**2.23**	**347**	P	**Pn**	**16 39 01.1**	**+0.1**
	baz=166						
R18K	**Karluk**	**2.26**	**196**		**Pn**	**16 39 00.3**	**-1.1**
R18K				IAML		16 39 29.9	
	comp=N,213nm,0.4s						
R18K				IAML		16 39 32.5	
	comp=E,245nm,0.4s						
R18K	**Karluk**	**2.26**	**196**	P	**Pn**	**16 39 00.4**	**-1.0**
	baz=15						
SKT	**Skwentna**	**2.41**	**20**	P	**Pn**	**16 39 03.8**	**+0.5**
	baz=202						
O16K	**Kokwok River B**	**2.43**	**269**		**Pn**	**16 39 04.0**	**+0.4**
O16K	**Kokwok River B**	**2.43**	**269**	P	**Pn**	**16 39 03.7**	**+0.2**
	baz=85						
P16K	**Nushagak River**	**2.50**	**255**		**Pn**	**16 39 05.1**	**+0.7**
P16K	**Nushagak River**	**2.50**	**255**	P	**Pn**	**16 39 04.8**	**+0.4**
	baz=72

GLI	Glacier Island	3.29	67		Pn	16 39 13.4	-1.4
GLI	Glacier Island	3.29	67	P	Pn	16 39 13.4	-1.4
	baz=252						
O15K	Ungalikthiuk R	3.37	263		Pn	16 39 16.6	+0.8
O15K	Ungalikthiuk R	3.37	263	P	Pn	16 39 16.3	+0.5
	baz=78						
L17K	Donlin	3.42	317		Pn	16 39 16.5	+0.1
L17K	Donlin	3.42	317	P	Pn	16 39 16.5	+0.1
	baz=133						
M23K	Glacier View	3.42	51	P	Pn	16 39 16.2	-0.4
	baz=235						
N15K	Kwethluk River	3.44	280		Pn	16 39 17.8	+1.1
N15K	Kwethluk River	3.44	280	IAML		16 39 58.5	
	comp=N,27nm,0.8s						
N15K				IAML		16 40 15.6	
	comp=E,22nm,0.9s						
N15K	Kwethluk River	3.44	280	P	Pn	16 39 17.7	+0.9
	baz=95						
TTA	Tatalina	3.46	339		Pn	16 39 16.7	-0.3
TTA	Tatalina	3.46	339	P	Pn	16 39 16.7	-0.3
	baz=157						
HIN	Hinchinbrook I	3.47	76		Pn	16 39 16.7	-0.5
HIN				IAML		16 39 58.5	
	comp=E,148nm,0.4s						
Q23K	Middleton Isla	3.55	92		Pn	16 39 17.9	-0.3
Q23K	Middleton Isla	3.55	92	IAML		16 40 56.0	
	comp=E,117nm,1.4s						
Q23K				IAML		16 41 15.5	
	comp=N,98nm,1.5s						
Q23K	Middleton Isla	3.55	92	P	Pn	16 39 17.9	-0.3
	baz=278						
MID	Middleton Isla	3.56	92	P	Pn	16 39 18.3	0.0
MID	Middleton Isla	3.56	92		Pn	16 39 18.0	-0.3
MID	Middleton Isla	3.56	92	IAML		16 40 40.9	
	comp=N,94nm,1.4s						
MID				IAML		16 40 56.0	
	comp=E,114nm,1.4s						
SCM	Sheep Creek Mo	3.60	52	IAML		16 40 01.6	
	comp=E,124nm,0.2s						
SCM				IAML		16 40 04.5	
	comp=N,109nm,0.8s						
SCM	Sheep Creek Mo	3.60	52	P	Pn	16 39 18.6	-0.4
	baz=237						
L16K	Owhat River	3.62	306		Pn	16 39 19.4	+0.4
K20K	Telida	3.65	355		Pn	16 39 19.8	+0.3
K20K	Telida	3.65	355	P	Pn	16 39 19.7	+0.3
	baz=174						
WAT7	Susitna Watana	3.77	33		Pn	16 39 21.3	0.0
M15K	Kasigluk River	3.80	288		Pn	16 39 22.1	+0.6
K17K	Iditarod	3.84	323		Pn	16 39 22.3	+0.3
K17K	Iditarod	3.84	323	P	Pn	16 39 22.0	0.0
	baz=139						
WAT1	Susitna Watana	3.86	34		Pn	16 39 21.8	-0.5
WAT1	Susitna Watana	3.86	34	P	Pn	16 39 21.8	-0.5
	baz=219						
EYAK	Cordova Ski Ar	3.87	75	P	Pn	16 39 22.6	+0.3
EYAK	Cordova Ski Ar	3.87	75	P	Pn	16 39 21.8	-0.6
	baz=261						
WAT6	Susitna Watana	3.92	41	P	Pn	16 39 22.8	-0.5
	baz=226						
DIV	Divide	3.99	66		Pn	16 39 23.8	-0.3
KTH	Kantishna Hill	3.99	16	IAML		16 40 11.3	
	comp=N,21nm,0.9s						
KTH				IAML		16 40 11.7	
	comp=E,16nm,0.6s						
KLU	Klutina	4.04	61		Pn	16 39 24.2	-0.6
KLU	Klutina	4.04	61	P	Pn	16 39 24.2	-0.6
	baz=247						
J18K	Innoko River	4.08	338		Pn	16 39 25.3	+0.1
J18K	Innoko River	4.08	338	P	Pn	16 39 25.0	-0.2
	baz=155						
O14K	Tigyukauivet M	4.08	267		Pn	16 39 26.2	+0.9
O14K	Tigyukauivet M	4.08	267	IAML		16 40 13.4	
	comp=E,15nm,1.5s						
O14K				IAML		16 40 14.1	
	comp=N,18nm,0.9s						
CHIR	Chirikof Islan	4.12	198		Pn	16 39 24.2	-1.6
CHIR	Chirikof Islan	4.12	198	IAML		16 40 50.4	
	comp=N,54nm,1.4s						
CHIR				IAML		16 41 00.4	
	comp=E,75nm,1.4s						
CHUM	Lake Minchumin	4.18	6		Pn	16 39 27.1	+0.6
CHUM	Lake Minchumin	4.18	6	P	Pn	16 39 26.7	+0.1
	baz=187						
M24K	Tolsona, Glenn	4.21	53		Pn	16 39 27.2	+0.1
M24K	Tolsona, Glenn	4.21	53	IAML		16 40 18.3	
	comp=N,81nm,1.1s						
M24K	Tolsona, Glenn	4.21	53	P	Pn	16 39 27.2	+0.1
	baz=239						
RND	Reindeer	4.25	28		Pn	16 39 27.3	-0.2
RND	Reindeer	4.25	28	IAML		16 40 17.0	
	comp=N,22nm,0.4s						
RND				IAML		16 40 19.7	
	comp=E,25nm,0.5s						
GOAT	Goat Mountain	4.37	75		Pn	16 39 28.6	-0.6
DHY	Denali Highway	4.39	38		Pn	16 39 29.2	-0.3
DHY	Denali Highway	4.39	38	IAML		16 40 20.8	
	comp=E,61nm,0.2s						
DHY				IAML		16 40 21.4	
	comp=N,52nm,0.3s						
DHY	Denali Highway	4.39	38	P	Pn	16 39 29.2	-0.3
	baz=223						
J19K	Poorman	4.41	347		Pn	16 39 29.3	-0.3
J19K	Poorman	4.41	347	P	Pn	16 39 29.2	-0.3
	baz=165						
J20K	Nowinta River	4.47	355		Pn	16 39 30.6	+0.2
J20K	Nowinta River	4.47	355	P	Pn	16 39 30.4	0.0
	baz=175						
KAIM	Kayak Island	4.49	84		Pn	16 39 31.2	+0.5
KAIM	Kayak Island	4.49	84	IAML		16 40 25.8	
	comp=N,30nm,0.2s						
KAIM	Kayak Island	4.49	84	P	Pn	16 39 31.1	+0.3
	baz=271						
BMRM	Bremner River	4.50	70		Pn	16 39 30.1	-0.7
BMRM	Bremner River	4.50	70	P	Pn	16 39 30.1	-0.7
	baz=258						
BPAW	Bear Paw Mtn.	4.51	13		Pn	16 39 30.4	-0.6
BPAW	Bear Paw Mtn.	4.51	13	IAML		16 40 23.9	
	comp=N,6.9nm,0.8s						
BPAW				IAML		16 40 56.3	
	comp=E,8.2nm,1.0s						
BPAW	Bear Paw Mtn.	4.51	13	P	Pn	16 39 30.4	-0.6
	baz=195						
MCK	McKinley	4.51	26		Pn	16 39 31.2	+0.2
MCK	McKinley	4.51	26	P	Pn	16 39 31.0	0.0
	baz=209						
J17K	VABM Dome	4.59	326		Pn	16 39 31.8	-0.2
J17K	VABM Dome	4.59	326	IAML		16 41 31.0	
	comp=N,6.4nm,1.4s						
J17K	VABM Dome	4.59	326	P	Pn	16 39 31.5	-0.5
	baz=141						
N25K	Chitina, Valde	4.67	63	IAML		16 40 28.4	
	comp=E,43nm,0.5s						
N25K				IAML		16 40 28.5	
	comp=N,45nm,0.3s						
N25K	Chitina, Valde	4.67	63	P	Pn	16 39 33.0	-0.3
	baz=250						
NICHA	Nichawak Mount	4.72	80		Pn	16 39 33.4	-0.3
K15K	Wolf Creek Mou	4.75	306		Pn	16 39 35.4	+1.2
K15K	Wolf Creek Mou	4.75	306	IAML		16 41 18.0	
	comp=N,5.6nm,1.2s						
K15K				IAML		16 41 58.9	
	comp=E,5.8nm,1.4s						
HARP	HAARP	4.77	53		Pn	16 39 34.6	+0.1
HARP	HAARP	4.77	53	P	Pn	16 39 34.6	+0.1
	baz=240						
HARP				S	Sn	16 40 29.6	+0.8
	baz=240						
BWN	Browne	4.80	21	IAML		16 41 09.4	
	comp=N,22nm,1.0s						
BWN				IAML		16 41 17.5	
	comp=E,20nm,1.2s						
SUCK	Suckling Hills	4.81	82		Pn	16 39 35.3	+0.3
SUCK	Suckling Hills	4.81	82	IAML		16 40 31.6	
	comp=N,56nm,1.4s						
SUCK				IAML		16 40 51.5	
	comp=E,54nm,1.5s						
L14K	Kuka Creek	4.90	293		Pn	16 39 37.3	+1.2
L14K	Kuka Creek	4.90	293	IAML		16 41 18.4	
	comp=N,9.7nm,1.2s						
L14K				IAML		16 41 47.8	
	comp=E,10nm,1.4s						
WACK	Wrangell Chich	4.93	59		Pn	16 39 36.7	-0.2
PAX	Paxson	4.97	46	P	Pn	16 39 37.1	-0.1
	baz=233						
J16K	Anvik River	4.98	319		Pn	16 39 37.3	0.0
J16K	Anvik River	4.98	319	IAML		16 41 02.8	
	comp=N,4.8nm,1.3s						
J16K				IAML		16 41 39.6	
	comp=E,5.2nm,1.5s						
J16K	Anvik River	4.98	319	P	Pn	16 39 36.9	-0.4
	baz=133						
GLB	Gilahina Butte	4.98	66	IAML		16 40 35.1	
	comp=E,47nm,0.7s						
GRIN	Grindle Hills	5.04	80		Pn	16 39 38.4	+0.2
BGLC	Bering Glacier	5.06	81		Pn	16 39 39.3	+1.0
BGLC	Bering Glacier	5.06	81	P	Pn	16 39 38.7	+0.4
	baz=270						
KHIT	Khitrov Hills	5.08	78		Pn	16 39 38.6	-0.2
VRDI	Verde Repeater	5.10	69		Pn	16 39 38.4	-0.7
VRDI	Verde Repeater	5.10	69	IAML		16 40 35.7	
	comp=E,39nm,0.5s						
CRQM	Cirque	5.17	74		Pn	16 39 39.9	-0.1
CRQE	Cirque	5.19	74	P	Pn	16 39 39.9	-0.3
	baz=263						
CRQE				S	Sn	16 40 36.2	-2.8
	baz=263						
NEA2	Nenana	5.26	20	IAML		16 40 42.0	
	comp=N,4.8nm,0.9s						
NEA2				IAML		16 41 26.1	
	comp=E,6.0nm,1.3s						
NEA2	Nenana	5.26	20	P	Pn	16 39 40.6	-0.4
	baz=204						
SNH	Sunshine Point	5.28	81		Pn	16 39 42.3	+0.9
SNH	Sunshine Point	5.28	81	IAML		16 40 45.6	
	comp=E,3nm,0.8s						
WAX	Waxell Ridge	5.28	78		Pn	16 39 41.0	-0.4
TGL	Tana Glacier	5.32	74		Pn	16 39 42.5	+0.6
MCARA	McCarthy VSAT	5.33	68		Pn	16 39 43.0	+0.9
MCARA	McCarthy VSAT	5.33	68	P	Pn	16 39 42.5	+0.5
	baz=256						
WRH	Wood River Hil	5.34	25	IAML		16 40 41.3	
	comp=E,11nm,0.6s						
WRH				IAML		16 40 46.4	
	comp=N,6.6nm,0.9s						
K24K	Donnelly Dome	5.42	38		Pn	16 39 44.3	+1.1
K24K	Donnelly Dome	5.42	38	P	Pn	16 39 43.8	+0.6
	baz=225						
MLY	Manley	5.44	12		Pn	16 39 43.6	+0.1
MLY	Manley	5.44	12	P	Pn	16 39 43.4	-0.1
	baz=194						
BARK	Barkley Ridge	5.46	78		Pn	16 39 44.0	+0.2
ISLE	Juniper Island	5.54	76		Pn	16 39 45.4	+0.4
HDA	Harding Lake	5.55	30		Pn	16 39 44.4	-0.6
HDA	Harding Lake	5.55	30	P	Pn	16 39 44.4	-0.6
	baz=215						
PTPK	Patty Peak	5.56	70		Pn	16 39 45.4	+0.2
BALM	Baldy	5.59	72		Pn	16 39 45.5	-0.1
BAGL	Bagley Icefiel	5.66	78		Pn	16 39 46.8	+0.4
MESA	MESA	5.72	81		Pn	16 39 48.0	+0.5
MESA	MESA	5.72	81	P	Pn	16 39 48.0	+0.5
	baz=270						
I23K	Minto, Yukon-K	5.73	17		Pn	16 39 46.8	-0.5
I23K	Minto, Yukon-K	5.73	17	P	Pn	16 39 46.8	-0.5
	baz=200						
COLA	College	5.74	24	P	Pn	16 39 47.7	+0.2
COLA	College	5.74	24		Pn	16 39 47.3	-0.2
MDM	Murphy Dome	5.74	22		Pn	16 39 47.2	-0.3
H20K	Anotleneega Mo	5.82	354		Pn	16 39 48.6	+0.1
H20K	Anotleneega Mo	5.82	354	P	Pn	16 39 48.3	-0.3
	baz=172						
GRNC	Granite Creek	5.84	75		Pn	16 39 49.7	+0.7
IL31		5.87	28		Pn	16 39 48.6	-0.6
ILAR	Eielson Array	5.87	28	Pn	Pn	16 39 48.5	-0.7
ILAR	Eielson Array	5.87	28	P	Pn	16 39 46.6	-2.6
	comp=N,8.2nm,0.6s,baz=217,slow=14,SNR=107						
ILAR				S	Sn	16 40 49.0	-6.2
	comp=N,1.3nm,0.4s,baz=212,slow=23,SNR=7.6						
H18K	Honhosa River	5.91	339		Pn	16 39 49.7	-0.1
H18K	Honhosa River	5.91	339	P	Pn	16 39 49.3	-0.6
	baz=155						
H21K	Melozitna Rive	5.94	2		Pn	16 39 50.5	+0.3
H21K	Melozitna Rive	5.94	2	P	Pn	16 39 50.1	-0.1
	baz=183						
CHNA	Chernabura Isl	5.98	217	P	Pn	16 39 48.7	-2.1
	baz=32						
CNBA	Chernabura Isl	5.99	217		Pn	16 39 48.7	-2.2
POKR	Poker Plat Res	6.04	24		Pn	16 39 51.1	-0.5
POKR	Poker Plat Res	6.04	24	P	Pn	16 39 51.0	-0.6
	baz=210						
CTG	Chitna Glacier	6.07	73	P	Pn	16 39 52.5	+0.5
	baz=263						
CTGM	Chitina Glacie	6.07	73		Pn	16 39 52.7	+0.6
TABL	Table Mountain	6.13	78		Pn	16 39 53.5	+0.6
J25K	Salcha River,	6.14	34	P	Pn	16 39 52.5	-0.4
	baz=221						
M27K	Edge Creek, AK	6.14	60		Pn	16 39 54.3	+1.3
M27K	Edge Creek, AK	6.14	60	P	Pn	16 39 54.0	+1.0
	baz=250						
LOGN	Logan Glacier	6.22	75		Pn	16 39 54.8	+0.8
H22K	Ishtalitna Cre	6.24	7		Pn	16 39 54.4	+0.2
H22K	Ishtalitna Cre	6.24	7	P	Pn	16 39 54.2	0.0
	baz=189						
IMAR	Indian Mountai	6.27	358		Pn	16 39 55.2	+0.6
H23K	Yukon River	6.34	14		Pn	16 39 55.1	-0.6
H23K	Yukon River	6.34	14	P	Pn	16 39 55.7	+0.1
	baz=198						
YUK2	White River	6.44	66		Pn	16 39 57.4	+0.3
H24K	Noodor Dome	6.60	20		Pn	16 39 58.8	-0.4
H24K	Noodor Dome	6.60	20	P	Pn	16 39 58.9	-0.3
	baz=205						
J26L	Joseph Creek	6.61	40		Pn	16 39 58.8	-0.5
J26L	Joseph Creek	6.61	40	P	Pn	16 39 58.9	-0.3
	baz=228						
O28M	Mount Upton	6.61	75		Pn	16 40 00.4	+0.9
O28M	Mount Upton	6.61	75	P	Pn	16 39 59.7	+0.2
	baz=267						
PRP	Porcupine Dome	6.81	28		Pn	16 40 01.4	-0.6
PRP	Porcupine Dome	6.81	28	P	Pn	16 40 01.7	-0.4
	baz=215						
BCPM	Bancas Point	6.89	82		Pn	16 40 02.9	-0.1
PNL	Peninsula	7.04	85	P	Pn	16 40 05.7	+0.6
PNL	Peninsula	7.04	85		Pn	16 40 05.3	+0.2
PNL	Peninsula	7.04	85	P	Pn	16 40 05.3	+0.2
	baz=276						
G23K	Bananza Creek	7.15	11		Pn	16 40 06.4	-0.2
G23K	Bananza Creek	7.15	11	P	Pn	16 40 06.4	-0.2
	baz=194						
I26K	Coal Creek Min	7.29	36		Pn	16 40 08.3	0.0
I26K	Coal Creek Min	7.29	36	P	Pn	16 40 08.3	0.0
	baz=225						
O29M	Mount Kennedy	7.41	79		Pn	16 40 10.7	+0.6
O29M	Mount Kennedy	7.41	79	P	Pn	16 40 10.7	+0.6
	baz=272						
F21K	Alatna River	7.51	359		Pn	16 40 12.4	+1.1
F21K	Alatna River	7.51	359	P	Pn	16 40 12.1	+0.7
	baz=179						
M29M	Somme Creek	7.69	63		Pn	16 40 14.5	+0.6
M29M	Somme Creek	7.69	63	P	Pn	16 40 13.6	-0.2
	baz=256						
F22K	John River	7.81	3		Pn	16 40 15.8	+0.3
F22K	John River	7.81	3	P	Pn	16 40 15.8	+0.3
	baz=184						
P29M	Windy Craggy	7.88	84		Pn	16 40 16.5	+0.1
P29M	Windy Craggy	7.88	84	P	Pn	16 40 16.5	+0.1
	baz=277						
N30M	Aishikik Lake	8.16	71		Pn	16 40 20.1	-0.1
N30M	Aishikik Lake	8.16	71	P	Pn	16 40 20.3	+0.1
	baz=265						
F24K	Squaw Lake	8.17	15		Pn	16 40 19.7	-0.6
F24K	Squaw Lake	8.17	15	P	Pn	16 40 19.7	-0.6
	baz=200						
H27K	Steamboat Moun	8.42	34		Pn	16 40 23.1	-0.6
H27K	Steamboat Moun	8.42	34	P	Pn	16 40 23.1	-0.6
	baz=225						
F25K	Christian Rive	8.58	20		Pn	16 40 24.3	-1.5
F25K	Christian Rive	8.58	20	P	Pn	16 40 24.5	-1.3
	baz=207						
DLBC	Dease Lake	12.03	86	P	Pn	16 41 10.7	-1.4
	comp=N,0.6nm,0.3s,baz=267,slow=12,SNR=3.7						
YKA	Yellowknife Ar	18.70	65	P	P	16 42 31.7	-1.6
	comp=N,2.2nm,0.7s,baz=274,slow=11,SNR=5.5						
KSRS	Korea Array	53.08	282	P	P	16 47 30.5	+1.3
	comp=N,0.6nm,0.5s,baz=35,slow=7.2,SNR=3.3						
	comp=N,0.6nm,0.5s						
SONM	Songino Array	54.82	306	P	P	16 47 43.4	+1.5
	comp=N,1.1nm,0.6s,baz=40,slow=7.4,SNR=5.1						
	comp=N,1.1nm,0.6s						
ZALV	Zalesovo Beam	57.49	323	P	P	16 48 01.4	+0.8
	comp=N,0.9nm,0.4s,baz=24,slow=7.7,SNR=6.1						
	comp=N,0.9nm,0.4s						
BVAR	Borovoye Array	62.22	332	P	P	16 48 33.1	+0.1
	comp=N,1.0nm,0.6s,baz=15,slow=6.2,SNR=5.0						
	comp=N,1.0nm,0.6s						
QSPA	South Pole Qui	149.54	180	PKPbc	PKPbc	16 57 58.8	+0.6
	comp=N,0.9nm,1.0s,baz=130,slow=7.9,SNR=1.7						

*IDC **16** 17:02:42.5±0.8, 27°.56S×66°.01E, h0km, mb4.2/11, mbtmp4.2/11, Error ellipse: s-maj=35.6km s-min=17.1km az=95.0*

*NEIC **16** 17:02:44.0±1.1, 27°.5S±0°.1×65°.9E±0°.2, h10km±2km, mb4.2/7, Error ellipse: s-maj=33.7km s-min=9.9km az=227.0*

ISC 16 17:02:44.2±0.8, 27°.5S±0°.1×66°.0E±0°.3, h10km, n29, σ0°.73/23, mb4.2/16, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	20.73	19	T	T	17 28 50.2	
	baz=198,slow=76,SNR=4.4						
H08S2	Diego Garcia H	20.73	19	T	T	17 28 50.5	
	baz=198,slow=76,SNR=9.6						
H08S3	Diego Garcia H	20.75	19	T	T	17 28 51.6	
	baz=198,slow=76,SNR=5.2						
H04N2	CROZET ISLANDS	21.71	207	T	T	17 29 50.1	
	baz=37,slow=74,SNR=192						
H04N1	CROZET ISLANDS	21.71	207	T	T	17 29 58.8	
	baz=37,slow=74,SNR=276						
H04N3	CROZET ISLANDS	21.73	207	T	T	17 29 55.3	
	baz=37,slow=74,SNR=244						
MAW	Mawson	40.13	182	P	P	17 10 19.8	0.0
	1.1nm,0.4s,baz=287,slow=12,SNR=1.9						
	1.1nm,0.4s						
CMAR	Chiang Mai Arr	55.79	39	P	P	17 12 22.9	+1.2
	2.0nm,0.9s,baz=223,slow=6.8,SNR=11						
	2.0nm,0.9s						
SNAA	Sanae	57.46	200	P	P	17 12 33.0	+0.1
	2.3nm,0.5s,baz=359,slow=14,SNR=3.9						
	2.3nm,0.5s						
ASAR	Alice Springs	60.70	103	P	P	17 12 55.6	-0.5
ASAR	Alice Springs	60.70	103	P	P	17 12 55.3	-0.9
	1.6nm,0.8s,baz=249,slow=6.3,SNR=13						
	1.6nm,0.8s						
AS31	Alice Springs	60.70	103	P	P	17 12 55.4	-0.8
AS31				IAmb	IAmb	17 13 21.8	
	comp=Z,2.4nm,1.4s						
WRA	Warramunga Arr	62.37	99	P	P	17 13 06.8	-0.6
	comp=Z,1.0nm,0.9s,baz=246,slow=6.1,SNR=3.6						
	comp=Z,1.0nm,0.9s						
QSPA	South Pole Qui	62.60	180	P	P	17 13 08.6	+0.1
QSPA	South Pole Qui	62.60	180	P	P	17 13 08.1	-0.3
	comp=Z,3.4nm,0.9s,baz=259,slow=1.6,SNR=6.8						
	comp=Z,3.4nm,0.9s						
VNDA	Vanda	64.59	166	P	P	17 13 21.1	-0.1
	comp=Z,1.7nm,0.9s,baz=236,slow=5.2,SNR=6.6						
	comp=Z,1.7nm,0.9s						
SBA	Scott Base	65.52	167	P	P	17 13 28.0	+0.7
SBA				IAmb	IAmb	17 13 57.6	
	comp=Z,2.2nm,1.1s						
MK31	Makanchi Array	75.45	12	P	P	17 14 26.3	-1.8
MKAR	Makanchi Array	75.45	12	P	P	17 14 27.1	-1.0
MKAR	Makanchi Array	75.45	12	P	P	17 14 27.5	-0.7
	comp=Z,1.0nm,0.8s,baz=204,slow=6.3,SNR=8.1						
	comp=Z,1.0nm,0.8s						
ABKAR	Akbulak array	76.64	356	P	P	17 14 34.9	+0.1
KURBB	Kurchatov Arra	78.61	8	P	P	17 14 45.8	+0.1
	comp=Z,1.0nm,0.2s,baz=208,slow=6.1,SNR=9.1						
	comp=Z,1.0nm,0.2s						
BVAR	Borovoye Array	80.32	3	P	P	17 14 55.1	+0.1
	comp=Z,2.2nm,0.7s,baz=175,slow=6.8,SNR=11						
	comp=Z,2.2nm,0.7s						
BRVK	Borovoye	80.35	3	P	P	17 14 54.3	-0.9
BRVK				IAmb	IAmb	17 14 56.2	
	comp=Z,1.6nm,0.8s						
ZAA0	Zalesovo Array	82.78	11	P	P	17 15 07.4	-0.6
ZAA0				IAmb	IAmb	17 15 09.3	
	comp=Z,2.8nm,0.7s						
ZALV	Zalesovo Beam	82.78	11	P	P	17 15 07.8	-0.2
ZALV	Zalesovo Beam	82.78	11	P	P	17 15 07.9	-0.1
	comp=Z,3.1nm,0.7s,baz=203,slow=4.1,SNR=11						
	comp=Z,3.1nm,0.7s						
SONM	Songino Array	83.37	26	P	P	17 15 11.6	+0.2
SONM				IAmb	IAmb	17 15 13.3	
	comp=Z,1.4nm,1.1s						
KSAR	Wonju Array Be	86.89	45	P	P	17 15 29.6	+0.5

DJA 16 17:03:58.1±0.6, 9°S±5°×11°0E±°, h10km, M3.7/8, mb4.1/2, MLv3.5/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	Wanagama	1.30	7	P	Pn	17 04 21.7	-0.6
UGM				S	Sb	17 04 38.5	-0.9
YOGI	Yogyakarta	1.39	357	P	Pb	17 04 24.1	0.0
PWJI	Pagerwojo	1.84	50	P	Pn	17 04 29.3	-0.5
SMRI	Semarang	2.15	2	P	Pb	17 04 35.6	-1.5
CMJI	Cimerak	2.37	307	P	Pn	17 04 36.4	-0.7
JAGI	Jajag, Banyuwa	3.81	79	P	Pn	17 04 56.9	0.0
TWSI	Taliwang, Sumb	6.45	86	P	Pn	17 05 33.0	-0.2

*TAP **16** 17:22:26.9, 24°.90N×122°.40E, h17km, ML3.3, D*

*JMA **16** 17:22:27.2±0.1, 24°.8N±0°.9×122°.4E±0°.3, h3km, MV3.1/7, TAIWAN REGION*

ISC 16 17:22:27.1±1.1, 24°.86N±0°.02×122°.39E±0°.02, h11km±9km, n76, σ0°.54/125, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.39	292	*i* P	Pg	17 22 35.3	+0.4
	baz=286						
TWB1				S	Sg	17 22 40.8	+0.7
	baz=286						
EGS		0.41	268	*e*P	Pb	17 22 36.4	-0.1
	baz=252						
EGS				*e*S	Sb	17 22 42.7	-0.1
	baz=252						
EOS2	EOS2	0.47	198	P	Pb	17 22 37.3	+0.1
EOS2				S	Sb	17 22 45.1	+1.0
	baz=197						
TIPB	Shuangxi	0.52	282	P	Pb	17 22 38.1	-0.3
	baz=277						
TIPB				*e*S	Sb	17 22 45.7	-0.2
	baz=277						
TWC	Suao	0.55	243	*e*P	Pg	17 22 37.9	0.0
	baz=239						
TWC				*e*S	Sg	17 22 45.4	+0.2
	baz=239						
ESAO	Su ao	0.57	240	*e*P	Pb	17 22 38.7	-0.4
	baz=237						
ESAO				*e*S	Sg	17 22 46.0	+0.2
	baz=237						
EOS3	EOS3	0.58	186	P	Pb	17 22 39.4	+0.1
	baz=186						
EOS3				*e*S	Sb	17 22 49.0

YOJ			eS		Sg	17 22 49.2	-0.5
ENA	**Nanau**	**0.73 234**	P		**Pb**	**17 22 41.6**	**-0.3**
	baz=231						
ENA			eS		Sb	17 22 51.6	-0.3
	baz=231						
FUSB	**Fushanzhiwuyua**	**0.73 262**	eP		**Pb**	**17 22 41.8**	**-0.3**
	baz=259						
FUSB			S		Sb	17 22 52.2	+0.1
	baz=259						
TWA	**Mucha**	**0.74 279**	eP		**Pb**	**17 22 42.0**	**-0.1**
	baz=275						
TWA			eS		Sb	17 22 52.4	+0.2
	baz=275						
EOS4	**EOS4**	**0.74 185**	eP		**Pb**	**17 22 42.4**	**+0.5**
	baz=185						
NHY	**Taipei**	**0.76 283**	eP		**Pb**	**17 22 42.6**	**+0.2**
	baz=280						
NHY			eS		Sb	17 22 53.1	+0.3
	baz=280						
ENTT	**Nioudou**	**0.78 254**	eP		**Pb**	**17 22 42.7**	**0.0**
	baz=250						
ENTT			eS		Sb	17 22 53.7	+0.4
	baz=250						
NHDH	**Xindian Distri**	**0.79 277**	eP		**Pb**	**17 22 42.8**	**-0.1**
	baz=274						
NHDH			S		Sb	17 22 53.6	0.0
	baz=274						
YM01	**YM01**	**0.79 291**	P		**Pb**	**17 22 42.8**	**-0.2**
	baz=287						
YM01			eS		Sg	17 22 53.2	+0.3
	baz=287						
YM08	**YM08**	**0.79 294**	i P		**Pg**	**17 22 42.5**	**0.0**
	baz=276						
YM08			eS		Sg	17 22 53.1	+0.3
	baz=276						
EAHA	**Aohua**	**0.80 228**	eP		**Pb**	**17 22 42.9**	**0.0**
	baz=226						
EAHA			S		Sg	17 22 53.1	+0.2
	baz=226						
NWLT	**Wulai**	**0.81 264**	P		**Pb**	**17 22 43.2**	**0.0**
	baz=261						
NWLT			eS		Sb	17 22 54.1	-0.1
	baz=261						
PCYT	**Pengchaiyu**	**0.81 339**	eP		**Pg**	**17 22 42.3**	**-0.6**
	baz=322						
TAP	**Taipei**	**0.82 283**	eS		**Sb**	**17 22 54.8**	**+0.4**
	baz=279						
TATO	**Taipei**	**0.82 278**	P		**Pg**	**17 22 43.2**	**+0.1**
TWY	**Chenhua**	**0.82 300**	eP		**Pb**	**17 22 43.9**	**+0.4**
	baz=297						
TWY			S		Sb	17 22 55.6	+1.0
	baz=297						
NDT	**Datong Townshi**	**0.84 252**	i P		**Pb**	**17 22 44.1**	**+0.3**
	baz=233						
NDT			S		Sn	17 22 56.6	-0.6
	baz=233						
LATG	**Datong**	**0.85 248**	P		**Pb**	**17 22 44.0**	**0.0**
	baz=244						
LATG			S		Sb	17 22 55.9	+0.5
	baz=244						
ANP	**Anpu**	**0.85 292**	eS		**Sb**	**17 22 56.0**	**+0.5**
	baz=277						
NTST	**Danshui**	**0.90 290**	eP		**Pg**	**17 22 44.4**	**-0.1**
	baz=286						
NTST			S		Sb	17 22 57.8	+0.9
	baz=286						
TWS1	**Kuangyinshan**	**0.91 285**	eP		**Pg**	**17 22 44.7**	**0.0**
	baz=282						
TWS1			S		Sb	17 22 57.4	+0.3
	baz=282						
YHNB	**Yeheng**	**0.94 258**	P		**Pb**	**17 22 45.6**	**+0.1**
YHNB	**Yeheng**	**0.94 258**	eP		**Pg**	**17 22 45.2**	**-0.1**
	baz=267						
NSK	**Sanguang**	**0.95 259**	P		**Pg**	**17 22 45.6**	**0.0**
	baz=265						
NSK			eS		Sb	17 22 58.5	+0.1
	baz=265						
ETL	**Fush Village**	**0.99 225**	eP		**Pg**	**17 22 46.1**	**-0.1**
	baz=233						
ETL			eS		Sb	17 22 59.2	-0.1
	baz=233						
NACB	**Ninganchiao**	**1.00 227**	P		**Pg**	**17 22 46.0**	**-0.4**
NACB	**Ninganchiao**	**1.00 227**	eP		**Pg**	**17 22 45.9**	**-0.4**
	baz=225						
NACB			eS		Sg	17 22 58.7	-0.7
	baz=225						
NNSB	**Datong**	**1.01 245**	P		**Pg**	**17 22 46.3**	**-0.4**
	baz=231						
NNSB			eS		Sb	17 23 00.5	+0.4
	baz=231						
NNS	**Nan Shan**	**1.01 246**	eP		**Pb**	**17 22 46.8**	**-0.1**
	baz=231						
NNS			eS		Sb	17 23 00.7	+0.5
	baz=231						
TWD	**Chiawan**	**1.06 223**	eP		**Pn**	**17 22 48.0**	**0.0**
	baz=229						
TWD			eS		Sg	17 23 01.3	-0.1
	baz=229						
NFF	**Wufeng Townshi**	**1.18 259**	eP		**Pb**	**17 22 49.0**	**-0.5**
	baz=268						
NFF			eS		Sn	17 23 06.6	+0.9
	baz=268						
ETM	**Tongmen**	**1.21 223**	P		**Pg**	**17 22 50.3**	**-0.1**
	baz=203						
LXIB	**Xiulin Townshi**	**1.22 227**	eP		**Pb**	**17 22 50.2**	**-0.2**
	baz=234						
LXIB			S		Sg	17 23 06.5	-0.1
	baz=234						
TWT	**Tachien**	**1.26 241**	eP		**Pb**	**17 22 51.1**	**+0.1**
	baz=240						
LIOB	**Emei**	**1.27 260**	eP		**Pn**	**17 22 50.4**	**-0.4**
	baz=258						
TDCB	**Techi**	**1.27 242**	eP		**Pn**	**17 22 50.9**	**-0.2**
	baz=230						
TDCB			eS		Sg	17 23 08.0	-0.3
	baz=230						
NSTT	**Nanjuang**	**1.28 260**	eP		**Pn**	**17 22 50.4**	**-0.6**
	baz=257						
IRIF	**Iriomote-Funau**	**1.33 113**	P		**Pg**	**17 22 52.5**	**-0.2**
ESL	**Shilin**	**1.36 220**	eP		**Pn**	**17 22 52.0**	**-0.1**
	baz=201						
CHGB	**Renai**	**1.36 234**	eP		**Pg**	**17 22 53.2**	**-0.2**
	baz=232						
CHGB			eS		Sg	17 23 11.0	-0.1
	baz=232						
OWD	**Renai**	**1.43 231**	eP		**Pb**	**17 22 53.9**	**+0.1**
	baz=229						
WHP	**Taichung City**	**1.44 246**	eP		**Pg**	**17 22 54.8**	**+0.1**
	baz=244						
WHP			eS		Sg	17 23 14.2	+0.8
	baz=244						
WUSB	**Renai**	**1.45 233**	eP		**Pb**	**17 22 54.1**	**-0.1**
	baz=244						
WUSB			eS		Sg	17 23 13.9	+0.2
	baz=244						
WARBT	**Fenglin Townsh**	**1.46 219**	eP		**Pn**	**17 22 52.8**	**-0.7**
	baz=200						
WCS	**Beigang Elemen**	**1.57 239**	eP		**Pb**	**17 22 56.4**	**+0.3**
	baz=237						
WCS			eS		Sg	17 23 17.4	-0.2
	baz=237						
VWDT	**VWDT**	**1.59 226**	eP		**Pn**	**17 22 55.5**	**+0.3**
	baz=208						
HGSD	**Ruisui**	**1.62 213**	eP		**Pn**	**17 22 56.2**	**+0.5**
	baz=197						
EHY	**Hungye**	**1.67 216**	eP		**Pn**	**17 22 55.5**	**-0.8**
	baz=215						
SMLT	**Sun Moon Lake**	**1.67 235**	eP		**Pb**	**17 22 57.8**	**-0.2**
	baz=233						
SSLB	**Suanglung**	**1.69 231**	eP		**Pb**	**17 22 57.6**	**-0.7**
	baz=240						
SSLB			eS		Sb	17 23 20.3	+0.7
	baz=240						
TYC	**Yuchr**	**1.69 236**	eP		**Pb**	**17 22 58.1**	**-0.2**
	baz=234						
TYC			eS		Sb	17 23 20.5	+0.9
	baz=234						
YULB	**Yu-li**	**1.77 214**	P		**Pn**	**17 22 56.9**	**-0.9**
YULB	**Yu-li**	**1.77 214**	P		**Pn**	**17 22 56.7**	**-1.1**
	baz=214						
WHYT	**Xinyi Township**	**1.82 231**	eP		**Pb**	**17 23 00.0**	**-0.5**
	baz=212						
WHYT			eS		Sg	17 23 25.3	-0.4
	baz=212						
CHN5	**Tsauling**	**2.01 231**	eP		**Pb**	**17 23 03.3**	**-0.4**
	baz=213						
CHN5			eS		Sg	17 23 30.4	-1.3
	baz=213						
ELDTW	**Lidau**	**2.09 217**	eP		**Pn**	**17 23 03.0**	**+0.8**
	baz=203						
WCKO	**Fanlu**	**2.16 229**	eP		**Pb**	**17 23 05.0**	**-1.3**
	baz=212						
WCKO			eS		Sb	17 23 33.8	+0.7
	baz=212						
CHN4	**Tsaushan**	**2.23 228**	eP		**Pb**	**17 23 06.2**	**-1.2**
	baz=211						
CHN4			eS		Sb	17 23 35.2	+0.2
	baz=211						
TPUB	**Ta-pu**	**2.24 226**	eP		**Pn**	**17 23 05.7**	**+1.6**
	baz=209						
WTP	**Ta-pu**	**2.29 226**	eP		**Pn**	**17 23 06.4**	**+1.5**
	baz=209						
TWK	**Hsinying**	**2.35 228**	eP		**Pb**	**17 23 08.1**	**-1.6**
	baz=211						

GII ***16*** *17:25:18.8±0.7, 33°.795N±0°.006×35°.913E±0°.002, h0km, Md1.3/2, confirmed*
GRAL ***16*** *17:25:21.0±0.3, 33°.78N×35°.76E, h3km±9km, MD2.8*

ISC 16 17:25:20.2±1.0, 33°.77N±0°.03×35°.77E±0°.05, h0km, n20, σ0s89/22, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAHL	**Zahle**	**0.13**	**49**	eP	**Pg**	**17 25 23.4**	**+0.8**
BHL	**Bhannes**	**0.16**	**324**	eP	**Pg**	**17 25 23.8**	**+0.5**
DQRL	**Deir Qamar**	**0.18**	**248**	eP	**Pg**	**17 25 24.3**	**+0.7**
RCY	**Rachaya**	**0.28**	**169**	eP	**Pg**	**17 25 26.2**	**+0.6**
RCY				eS	**Sg**	**17 25 30.2**	**+1.0**
NATI	**Neve Ativ**	**0.51**	**183**	S	**Sb**	**17 25 38.9**	**-1.1**
NATI	**Neve Ativ**	**0.51**	**183**	P	**Pg**	**17 25 30.1**	**+0.1**
HWQ	**Hawqa**	**0.52**	**16**	eP	**Pg**	**17 25 30.4**	**+0.2**
HWQ				eS	**Sg**	**17 25 37.3**	**+0.2**
GEM	**Giv'at Ha'Em**	**0.57**	**189**	P	**Pg**	**17 25 31.3**	**+0.2**
GEM	**Giv'at Ha'Em**	**0.57**	**189**	S	**Sb**	**17 25 41.6**	**-0.1**
KSHT	**Keshet**	**0.79**	**177**	P	**Pb**	**17 25 35.9**	**-1.0**
KSHT	**Keshet**	**0.79**	**177**	S	**Sb**	**17 25 48.6**	**+0.5**
MMC7	**Mount Meron ar**	**0.81**	**203**	P	**Pg**	**17 25 36.1**	**+0.3**
MMA0B	**Mount Meron ar**	**0.82**	**202**	S	**Sn**	**17 25 51.4**	**-0.5**
MMA0B	**Mount Meron ar**	**0.82**	**202**	P	**Pb**	**17 25 36.5**	**-0.8**
OFRI	**`Ofer**	**1.32**	**210**	P	**Pg**	**17 25 45.0**	**-0.6**
MMLI	**Mount Malkishu**	**1.36**	**192**	P	**Pg**	**17 25 46.1**	**-0.2**
HMDT	**Nahal Hemdat**	**1.53**	**188**	P	**Pn**	**17 25 48.4**	**-0.3**
HMDT	**Nahal Hemdat**	**1.53**	**188**	S	**Sg**	**17 26 11.3**	**+2.0**
SLTI	**Sal'it**	**1.65**	**202**	P	**Pb**	**17 25 51.0**	**-0.4**
SLTI	**Sal'it**	**1.65**	**202**	S	**Sg**	**17 26 15.2**	**+2.1**

RSNC ***16*** *17:39:01.4±0.0, 11°.N±5°.×6°.9W±°., h111km±12km, M3.0, mb4.2, mB4.5, ML3.0, Mw(mB)3.7*
FUNV ***16*** *17:39:03.6, 11°.50N×69°.59W, h30km, MW3.5*

ISC 16 17:39:04.6±1.4, 11°.36N±0°.05×69°.57W±0°.03, h57km±25km, n18, σ1s88/35, 6C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACV	**Jacura**	**0.78**	**110⇓**	i P	**Pn**	**17 39 19.1**	**-0.7**
JACV				eS	**Sn**	**17 39 31.2**	**+0.4**
AUA1	**Aruba**	**1.22**	**339**	P	**Pn**	**17 39 24.7**	**-0.7**
AUA1				S	**Sn**	**17 39 42.1**	**+1.2**
TEPV	**Terepaima**	**1.44**	**165⇑**	i P	**Pn**	**17 39 27.8**	**-0.7**
TEPV				eS	**Sn**	**17 39 47.5**	**+1.1**
MAPV	**Macapo**	**1.88**	**144**	eP	**Pn**	**17 39 35.4**	**+1.0**
MAPV				eS	**Sn**	**17 39 58.1**	**+1.1**
TURV	**Turiamo**	**1.93**	**118⇑**	eP	**Pn**	**17 39 34.3**	**-0.8**
TURV				eS	**Sn**	**17 39 57.9**	**-0.4**
BENV	**Beln**	**2.39**	**125⇑**	eP	**Pn**	**17 39 42.6**	**+1.2**
BENV				eS	**Sn**	**17 40 09.2**	**-0.4**
URIC	**Uribia, Colomb**	**2.40**	**278**	P	**Pn**	**17 39 40.3**	**-1.1**
URIC				S	**Sn**	**17 40 13.7**	**+4.0**
SDV	**Santo Domingo**	**2.67**	**203**	P	**Pn**	**17 39 46.7**	**+1.3**
SDV				S	**Sn**	**17 40 18.6**	**+1.9**
TACV	**Tcata**	**2.78**	**116⇓**	eP	**Pn**	**17 39 46.1**	**-0.7**
TACV				eS	**Sn**	**17 40 17.6**	**-1.7**
BAUV	**El Baul**	**2.84**	**148⇑**	eP	**Pn**	**17 39 47.6**	**+0.1**
BAUV				eS	**Sn**	**17 40 20.2**	**-0.3**
MCQV	**Machiques**	**3.19**	**246**	eP	**Pn**	**17 39 51.2**	**-1.1**
MCQV				eS	**Sn**	**17 40 26.5**	**-2.7**
CRJC	**Cerrejon, Guaj**	**3.26**	**264**	P	**Pn**	**17 39 53.4**	**0.0**
CRJC				S	**Sn**	**17 40 31.8**	**+0.7**
SOCV	**Socops**	**3.31**	**203⇑**	eP	**Pn**	**17 39 54.1**	**+0.1**
SOCV				eS	**Sn**	**17 40 31.3**	**-0.9**
MERV	**Las Mercedes**	**3.85**	**123**	eP	**Pn**	**17 40 00.6**	**-0.8**
MERV				eS	**Sn**	**17 40 42.8**	**-2.5**
CAPV	**Capacho**	**4.40**	**218**	eP	**Pn**	**17 40 08.2**	**-1.0**
CAPV				eS	**Sn**	**17 40 56.3**	**-3.0**
CACV	**CAICARA DEL OR**	**4.81**	**141⇑**	eP	Pn	17 40 19.4	+4.8
CACV				eS	**Sn**	**17 41 15.3**	**+6.2**
OCAC	**Ocana**	**4.82**	**230**	P	**Pn**	**17 40 14.4**	**-0.5**
	29nm,0.6s,661nm						
OCAC				S	**Sn**	**17 41 07.0**	**-2.5**
	29nm,0.6s,661nm						
SJCC	**San Jacinto, C**	**5.70**	**256**	P	**Pn**	**17 40 27.6**	**+0.8**
SJCC				S	**Sn**	**17 41 32.6**	**+1.6**

AFAD ***16*** *18:00:07.7±0.0, 36°.57N×34°.93E, h7km±4km, ML2.8*
ISK ***16*** *18:00:08.1, 36°.62N×34°.86E, h27km, ML3.3/28*
NIC ***16*** *18:00:10.3, 36°.25N×34°.57E, h3km±19km, Ml2.5/8*
GII ***16*** *18:00:12.8±0.7, 36°.474N±0°.007×34°.604E±0°.002, h31km, Md2.4/6, Mws2.6/6, confirmed*

ISC 16 18:00:08.5±1.0, 36°.59N±0°.02×34°.83E±0°.02, h27km±10km, n91, σ1s10/116, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DED	**Mersin**	**0.37**	**356**	P	**Pb**	**18 00 16.4**	**-0.4**
DED				S	**Sb**	**18 00 22.1**	**-0.4**
DED				i AML	AML	18 00 23.0	
	comp=N,1μm,0.3s						
DED				i AML	AML	18 00 23.0	
	comp=E,1μm,0.4s						
KIZK	**Mersin**	**0.56**	**259**	Pg	**Pn**	**18 00 20.9**	**+0.2**
KIZK				Sg	**Sn**	**18 00 30.1**	**+1.0**
KIZK	**Mersin**	**0.56**	**259**	P	**Pn**	**18 00 20.9**	**+0.2**
KIZK				S	**Sn**	**18 00 29.5**	**+0.4**
KIZK				i AML	AML	18 00 30.0	
	comp=N,670nm,0.2s						
KIZK				i AML	AML	18 00 31.0	
	comp=E,467nm,0.4s						
GULE	**Gulek**	**0.69**	**356**	P	**Pb**	**18 00 22.0**	**-0.2**
GULE				S	**Sb**	**18 00 31.6**	**+0.1**
GULE				i AML	AML	18 00 33.0	
	comp=N,1μm,0.6s						
GULE				i AML	AML	18 00 33.0	
	comp=E,2μm,0.5s						
SLFK	**Silifke-Mersin**	**0.74**	**255**	Pg	**Pn**	**18 00 23.5**	**+0.4**
SLFK				Sg	**Sn**	**18 00 34.4**	**+1.0**
SILI	**Silifke-Mersin**	**0.76**	**253**	Pg	**Pn**	**18 00 23.9**	**+0.4**
KEBE	**Keben-Mersin**	**0.91**	**261**	Pg	**Pb**	**18 00 26.3**	**+0.6**
KEBE				Sg	**Sn**	**18 00 39.3**	**+1.5**
KARG	**Kargicak-Mersi**	**0.98**	**247**	Pg	**Pb**	**18 00 28.0**	**+1.1**
IKL	**Isikli**	**0.99**	**250**	Pg	**Pb**	**18 00 27.3**	**+0.4**
KERG	**Konya-Eregli**	**1.00**	**326**	P	**Pn**	**18 00 26.6**	**-0.3**
KERG				S	**Sb**	**18 00 39.8**	**-0.3**
KERG				i AML	AML	18 00 41.0	
	comp=N,667nm,0.2s						
KERG				i AML	AML	18 00 42.0	
	comp=E,545nm,0.3s						
AKO	**Adana**	**1.00**	**29**	P	**Pn**	**18 00 26.1**	**-0.6**
AKO				S	**Sb**	**18 00 39.8**	**-0.2**
AKO				i AML	AML	18 00 40.0	
	comp=N,245nm,0.3s						
AKO				i AML	AML	18 00 40.0	
	comp=E,202nm,0.3s						
TISA	**Tisan-Mersin**	**1.02**	**246**	Pg	**Pb**	**18 00 27.6**	**+0.1**
YESI	**Yesilovacik-Me**	**1.03**	**248**	Pg	**Pn**	**18 00 27.3**	**+0.1**
CMRD	**Camardi-Nigde**	**1.08**	**7**	Pg	**Pn**	**18 00 27.4**	**-0.6**
TEPK	**Tepekoy-MERSIN**	**1.10**	**251**	Pn	**Pn**	**18 00 28.3**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.11**	**101**	Pn	**Pb**	**18 00 29.1**	**0.0**
GULN	**MERSIN_Gulnar**	**1.11**	**249**	P	**Pn**	**18 00 28.7**	**+0.4**
GULN				S	**Sb**	**18 00 43.3**	**+0.1**
GULN				i AML	AML	18 00 44.0	
	comp=N,171nm,0.2s						
GULN				i AML	AML	18 00 45.0	
	comp=E,229nm,0.3s						
AKKU	**Akkuyu-Mersin**	**1.12**	**248**	Pn	**Pn**	**18 00 28.7**	**+0.4**
TEVE	**Tevekalti-Mers**	**1.13**	**263**	Pn	**Pb**	**18 00 29.1**	**-0.3**
AKK1	**Akkuyu-Mersin**	**1.13**	**247**	Pn	**Pn**	**18 00 28.6**	**+0.1**
OREN	**Orenkoy-Mersin**	**1.17**	**251**	Pn	**Pb**	**18 00 29.9**	**-0.1**
EREN	**Erenkoy**	**1.18**	**207**	Pn	**Pn**	**18 00 29.8**	**+0.6**
EREN	**Erenkoy**	**1.18**	**207**	P	**Pb**	**18 00 30.1**	**-0.1**
EREN				S	**Sb**	**18 00 45.8**	**+0.7**
EREN				i AML	AML	18 00 48.0	
	comp=N,269nm,0.5s						
EREN				i AML	AML	18 00 50.0	
	comp=E,184nm,0.6s						
KOZT	**Kozan**	**1.20**	**42**	Pn	**Pn**	**18 00 28.3**	**-1.1**
YORU	**Yoruktepe-Mers**	**1.23**	**250**	Pn	**Pb**	**18 00 30.7**	**-0.4**
HASA	**Hatay-Hassa-Ha**	**1.34**	**83**	P	**Pn**	**18 00 32.0**	**+0.5**
HASA				S	**Sb**	**18 00 49.3**	**-0.4**
HASA				i AML	AML	18 00 50.0	
	comp=E,720nm,0.3s						
HASA				i AML	AML	18 00 51.0	
	comp=N,844nm,0.6s						
NIDE	**Nigde/Merkez-G**	**1.41**	**358**	P	**Pn**	**18 00 33.1**	**+0.6**
NIDE				S	**Sn**	**18 00 50.6**	**+0.3**
NIDE				i AML	AML	18 00 52.0	
	comp=E,843nm,0.3s						
NIDE				i AML	AML	18 00 53.0	
	comp=N,384nm,0.3s						
TEKE	**Tekeli-Mersin**	**1.45**	**253**	Pn	**Pn**	**18 00 33.7**	**+0.7**
RHAN	**Hatay/Reyhanl**	**1.47**	**102**	P	**Pb**	**18 00 34.9**	**-0.2**
RHAN				S	**Sb**	**18 00 53.7**	**+0.4**
RHAN				i AML	AML	18 00 57.0	
	comp=E,196nm,0.4s						
RHAN				i AML	AML	18 00 58.0	
	comp=N,205nm,0.2s						
YESY	**Yesilyurt**	**1.47**	**324**	Pn	**Pn**	**18 00 33.7**	**+0.3**
NIG	**Nigde**	**1.53**	**353**	Pn	**Pn**	**18 00 33.9**	**-0.4**
YAHY	**KAYSERI_Yahyal**	**1.56**	**16**	P	**Pn**	**18 00 35.0**	**+0.4**
YAHY				S	**Sn**	**18 00 55.1**	**+1.1**
YAHY				i AML	AML	18 00 56.0	
	comp=N,73nm,0.7s						
YAHY				i AML	AML	18 00 56.0	
	comp=E,84nm,0.6s						
ANDN	**Andirin**	**1.56**	**50**	P	**Pn**	**18 00 34.7**	**+0.1**
ANDN				S	**Sn**	**18 00 53.7**	**-0.4**
ANDN				i AML	AML	18 00 57.0	
	comp=N,117nm,0.5s						
ANDN				i AML	AML	18 01 00.0	
	comp=E,84nm,0.4s						
KAMA	**Osmaniye**	**1.59**	**67**	P	**Pn**	**18 00 35.0**	**+0.1**
KAMA				S	**Sn**	**18 00 54.1**	**-0.5**
KAMA				i AML	AML	18 00 56.0	
	comp=N,68nm,0.6s						
KAMA				i AML	AML	18 00 56.0	
	comp=E,90nm,0.6s						
KKBE	**Karaman, Kazim**	**1.64**	**293**	P	**Pn**	**18 00 36.6**	**+1.0**
KKBE				S	**Sb**	**18 00 58.3**	**-0.1**
KKBE				i AML	AML	18 01 02.0	
	comp=E,92nm,1.1s						
KKBE				i AML	AML	18 01 04.0	
	comp=N,69nm,0.4s						
PARAL	**Paralimni**	**1.72**	**202**	Pn	**Pn**	**18 00 35.7**	**-0.8**
PARAL				Sn	**Sn**	**18 00 55.7**	**-1.9**
PARAL				AML	AML	18 01 02.8	
	0.6nm,0.6s						
PARAL				AML	AML	18 01 03.2	
	0.8nm,0.6s						
BSIR	**Belisirma, Guz**	**1.73**	**346**	P	**Pn**	**18 00 37.7**	**+0.7**
BSIR				S	**Sb**	**18 01 00.8**	**-0.3**
BSIR				i AML	AML	18 01 04.0	
	comp=N,127nm,0.3s						
BSIR				i AML	AML	18 01 04.0	
	comp=E,141nm,0.3s						
HCB	**Kahramanmara**	**1.83**	**65**	P	**Pn**	**18 00 38.2**	**+0.1**
HCB				S	**Sn**	**18 00 59.7**	**-0.7**
HCB				i AML	AML	18 01 01.0	
	comp=E,54nm,0.4s						
HCB				i AML	AML	18 01 40.0	
	comp=N,325nm,1.9s						
MVOU	**Mavrovouni**	**1.85**	**212**	Pn	**Pn**	**18 00 37.0**	**-1.3**
MVOU				Sn	**Sn**	**18 00 57.8**	**-3.0**
MVOU				AML	AML	18 01 00.8	
	0.2nm,0.3s						
MVOU				AML	AML	18 01 05.9	
	0.1nm,0.3s						
SULT	**Sultanhani-AKS**	**1.92**	**327**	Pn	**Pn**	**18 00 39.4**	**-0.1**
HDMB	**Hadim**	**1.92**	**282**	Pn	**Pn**	**18 00 40.2**	**+0.6**
AKDN	**Akdeniz- Kıbrı**	**1.98**	**230**	Pn	**Pn**	**18 00 41.0**	**+0.7**
CSS	**Mathiatis**	**2.03**	**217**	Pn	**Pn**	**18 00 39.1**	**-1.8**
CSS	**Mathiatis**	**2.03**	**217**	P	**Pn**	**18 00 39.0**	**-1.9**
CSS	**Mathiatis**	**2.03**	**217**	Pn	**Pn**	**18 00 39.2**	**-1.7**
CSS				Sn	**Sn**	**18 01 02.0**	**-3.4**
CSS				AML	AML	18 01 02.1	
	0.1nm,0.3s						
CSS				AML	AML	18 01 02.2	
	0.1nm,0.3s						
GAZI	**Gazipasa**	**2.06**	**261**	Pn	**Pn**	**18 00 42.8**	**+1.5**
LEF	**Lefka**	**2.15**	**228**	Pn	**Pn**	**18 00 41.7**	**-0.9**
ASGA	**Asgata**	**2.21**	**216**	Pn	**Pn**	**18 00 43.8**	**+0.4**
ASGA				AML	AML	18 01 18.4	
	0.1nm,0.4s						
ASGA				AML	AML	18 01 22.9	
	0.1nm,0.4s						
TROD	**Troodos**	**2.29**	**225**	Pn	**Pn**	**18 00 42.9**	**-1.8**
TROD				Sn	**Sn**	**18 01 09.7**	**-2.4**
TROD				AML	AML	18 01 24.8	
	0.2nm,0.4s						
TROD				AML	AML	18 01 27.8	
	0.1nm,0.6s						
ALFC	**Alefka**	**2.31**	**232**	Pn	**Pn**	**18 00 44.2**	**-0.6**
ALFC				Sn	**Sn**	**18 01 10.4**	**-1.9**
ALFC				AML	AML	18 01 13.7	
	0.2nm,0.1s						
ALFC				AML	AML	18 01 15.2	
	0.3nm,0.2s						
BEIL	**Beino**	**2.32**	**151**	eP	**Pn**	**18 00 46.5**	**+1.5**
KONT	**Konya--Tatoy**	**2.39**	**305**	Pn	**Pn**	**18 00 46.6**	**+0.7**
HWQ	**Hawqa**	**2.48**	**158**	eP	**Pn**	**18 00 49.1**	**+1.9**
SEYD	**Seydisehir-KON**	**2.53**	**290**	Pn	**Pn**	**18 00 48.9**	**+1.0**
LADK	**Ladik-KONYA**	**2.54**	**310**	Pn	**Pn**	**18 00 49.1**	**+1.1**
AKMS	**Akamas**	**2.56**	**233**	Pn	**Pn**	**18 00 48.3**	**0.0**
AKMS				Sn	**Sn**	**18 01 17.0**	**-1.5**
AKMS				AML	AML	18 01 28.7	
	0.1nm,0.4s						
AKMS				AML	AML	18 01 29.6	
	0.2nm,0.5s						
NATA	**Nata**	**2.58**	**226**	Pn	**Pn**	**18 00 49.0**	**+0.5**
NATA				AML	AML	18 01 31.0	
	0.4nm,0.3s						
NATA				AML	AML	18 01 33.1	
	0.4nm,1.0s						
FKH	**Fakeheh**	**2.67**	**151**	eP	**Pn**	**18 00 51.9**	**+2.0**
BHL	**Bhannes**	**2.76**	**166**	eP	**Pn**	**18 00 52.7**	**+1.7**
DQRL	**Deir Qamar**	**2.94**	**168**	eP	**Pn**	**18 00 54.5**	**+1.0**
QRWL	**Qaraoun**	**3.11**	**167**	eP	**Pn**	**18 00 57.4**	**+1.5**
RCY	**Rachaya**	**3.19**	**165**	eP	**Pn**	**18 00 58.8**	**+1.8**
SHBL	**Chebaa**	**3.32**	**167**	eP	**Pn**	**

ISC 16 18:18:58.4±0.9, 24°81N±0°.02×122°.04E±0°.02, h9km±7km, n69, σ0°76/97, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.10**	**291**	*i* P	**Pg**	**18 19 00.7**	**-0.2**
	baz=271						
EGS				S	**Sg**	**18 19 03.1**	**+0.4**
	baz=271						
NTC	**Toucheng**	**0.20**	**284**	*e*S	**Sg**	**18 19 06.6**	**+1.5**
	baz=274						
TWB1	**Santiao Chiao**	**0.20**	**347**	P	**Pg**	**18 19 02.0**	**-0.5**
	baz=342						
TWB1				S	**Sg**	**18 19 04.9**	**-0.5**
	baz=342						
TIPB	**Shuangxi**	**0.25**	**310**	*i* P	**Pg**	**18 19 03.4**	**0.0**
	baz=292						
TIPB				S	**Sg**	**18 19 07.3**	**+0.4**
	baz=292						
TWC	**Suao**	**0.26**	**221**	P	**Pg**	**18 19 04.0**	**+0.4**
	baz=225						
TWC				*e*S	**Sg**	**18 19 07.9**	**+0.8**
	baz=225						
ILA	**Ilan**	**0.27**	**261**	*e*P	**Pb**	**18 19 04.3**	**-1.0**
	baz=254						
ILA				*e*S	**Sb**	**18 19 08.8**	**-1.2**
	baz=254						
ESAO	**Su ao**	**0.29**	**217**	*e*P	**Pb**	**18 19 04.8**	**-1.0**
	baz=223						
ESAO				*e*S	**Sb**	**18 19 09.2**	**-1.5**
	baz=223						
NDS	**Dongshan**	**0.34**	**239**	*e*P	**Pb**	**18 19 05.6**	**-1.0**
	baz=237						
NDS				*e*S	**Sb**	**18 19 12.5**	**+0.3**
	baz=237						
TWE	**Neicheng**	**0.35**	**256**	P	**Pb**	**18 19 05.6**	**-1.2**
	baz=250						
TWE				*e*S	**Sb**	**18 19 10.8**	**-1.6**
	baz=250						
NWF	**Wu-fen Shan**	**0.35**	**318**	*e*P	**Pg**	**18 19 05.5**	**+0.1**
	baz=304						
NWF				S	**Sg**	**18 19 10.8**	**+0.8**
	baz=304						
WFSB	**Wu-fen Shan**	**0.35**	**318**	*e*P	**Pg**	**18 19 05.5**	**+0.2**
	baz=304						
WFSB				S	**Sg**	**18 19 10.7**	**+0.7**
	baz=304						
FUSB	**Fushanzhiwuyua**	**0.41**	**263**	*e*P	**Pg**	**18 19 06.7**	**+0.3**
	baz=259						
TNOU	**National Taiwa**	**0.42**	**325**	*e*P	**Pg**	**18 19 06.7**	**+0.1**
	baz=312						
TNOU				*e*S	**Sg**	**18 19 11.9**	**-0.1**
	baz=312						
EOS2	**EOS2**	**0.43**	**155**	*e*P	**Pb**	**18 19 08.1**	**+0.1**
	baz=162						
EOS2				*e*S	**Sb**	**18 19 17.1**	**+2.7**
	baz=162						
EWUT	**Wuta**	**0.43**	**213**	*e*P	**Pb**	**18 19 08.1**	**-0.1**
	baz=218						
EWUT				*e*S	**Sb**	**18 19 15.4**	**+0.7**
	baz=218						
TWA	**Mucha**	**0.45**	**293**	*e*P	**Pg**	**18 19 07.3**	**+0.2**
	baz=278						
TWA				S	**Sg**	**18 19 13.9**	**+0.9**
	baz=278						
ENTT	**Nioudou**	**0.46**	**249**	*e*P	**Pb**	**18 19 08.1**	**-0.6**
	baz=245						
ENA	**Nanau**	**0.47**	**216**	*e*P	**Pb**	**18 19 08.9**	**+0.1**
	baz=219						
ENA				S	**Sb**	**18 19 15.3**	**-0.4**
	baz=219						
NHY	**Taipei**	**0.48**	**299**	*e*S	**Sb**	**18 19 15.5**	**-0.8**
	baz=285						
NWLT	**Wulai**	**0.49**	**266**	*e*P	**Pb**	**18 19 08.3**	**-0.8**
	baz=263						
NHDH	**Xindian Distri**	**0.49**	**288**	*e*S	**Sb**	**18 19 15.9**	**-0.6**
	baz=275						
NDT	**Datong Townshi**	**0.52**	**247**	*e*P	**Pb**	**18 19 09.3**	**-0.4**
	baz=244						
NDT				*e*S	**Sb**	**18 19 16.3**	**-1.0**
	baz=244						
TAP	**Taipei**	**0.54**	**296**	*e*P	**Pg**	**18 19 09.0**	**+0.3**
	baz=283						
TAP				*e*S	**Sb**	**18 19 16.9**	**-0.8**
	baz=283						
LATG	**Datong**	**0.54**	**240**	*e*P	**Pb**	**18 19 10.3**	**+0.2**
	baz=245						
YM01	**YM01**	**0.54**	**309**	*e*P	**Pb**	**18 19 09.7**	**-0.4**
	baz=303						
YM01				*e*S	**Sg**	**18 19 16.6**	**+0.6**
	baz=303						
EAHA	**Aohua**	**0.55**	**210**	*e*S	**Sb**	**18 19 18.9**	**+0.8**
	baz=199						
YM08	**YM08**	**0.56**	**313**	*e*P	**Pg**	**18 19 09.6**	**+0.4**
	baz=300						
EOS3	**EOS3**	**0.58**	**154**	*e*P	**Pb**	**18 19 09.5**	**-1.0**
	baz=162						
TWY	**Chenhua**	**0.61**	**320**	*e*P	**Pg**	**18 19 10.6**	**+0.4**
	baz=315						
YHNB	**Yeheng**	**0.62**	**257**	*e*P	**Pb**	**18 19 10.6**	**-0.8**
	baz=254						
YHNB				*e*S	**Sb**	**18 19 19.8**	**-0.4**
	baz=254						
NSK	**Sanguang**	**0.63**	**258**	*e*P	**Pb**	**18 19 10.7**	**-0.9**
	baz=255						
NSK				S	**Sg**	**18 19 19.1**	**+0.2**
	baz=255						
TWS1	**Kuangyinshan**	**0.63**	**297**	*e*P	**Pb**	**18 19 11.8**	**+0.2**
	baz=294						
NTST	**Danshui**	**0.64**	**304**	*e*P	**Pb**	**18 19 11.8**	**+0.1**
	baz=300						
NNSB	**Datong**	**0.71**	**238**	*e*P	**Pg**	**18 19 11.8**	**-0.2**
	baz=242						
NNSB				*e*S	**Sb**	**18 19 22.2**	**-0.6**
	baz=242						
NNS	**Nan Shan**	**0.71**	**239**	*e*P	**Pg**	**18 19 11.4**	**-0.6**
	baz=243						
NNS				*e*S	**Sb**	**18 19 22.7**	**-0.1**
	baz=243						
EOS4	**EOS4**	**0.73**	**160**	*e*P	**Pb**	**18 19 12.4**	**-0.6**
	baz=144						
EOS4				*e*S	**Sn**	**18 19 25.6**	**0.0**
	baz=144						
ETL	**Fush Village**	**0.75**	**210**	*e*P	**Pb**	**18 19 12.6**	**-1.0**
	baz=202						
NACB	**Ninganchiao**	**0.75**	**213**	*e*P	**Pg**	**18 19 11.2**	**-1.6**
	baz=199						
NACB				*e*S	**Sb**	**18 19 24.6**	**+0.7**
	baz=199						
PCYT	**Pengchaiyu**	**0.82**	**2**	*e*P	**Pg**	**18 19 14.6**	**+0.5**
	baz=355						
TWD	**Chiawan**	**0.83**	**209**	*e*P	**Pb**	**18 19 14.4**	**-0.5**
	baz=200						
NFF	**Wufeng Townshi**	**0.85**	**258**	*e*P	**Pn**	**18 19 16.4**	**-0.3**
	baz=256						
JYNG	**Yonagunijimaku**	**0.90**	**113**	*e*P	**Pb**	**18 19 15.6**	**-0.5**
JYNG				*e*S	**Sb**	**18 19 28.0**	**-0.2**
LIOB	**Emei**	**0.94**	**260**	*e*P	**Pn**	**18 19 18.5**	**+0.6**
	baz=258						
YOJ	**Yonaguni jima**	**0.95**	**111**	*e*P	**Pb**	**18 19 16.4**	**-0.6**
	baz=114						
YOJ				*e*S	**Sb**	**18 19 29.4**	**-0.3**
	baz=114						
YOJ	**Yonaguni jima**	**0.95**	**111**	*e*P	**Pb**	**18 19 16.4**	**-0.6**
YOJ				*e*S	**Sb**	**18 19 29.4**	**-0.3**
NSTT	**Nanjuang**	**0.96**	**260**	*e*P	**Pn**	**18 19 18.4**	**+0.4**
	baz=258						
NSTT				*e*S	**Sn**	**18 19 33.5**	**+1.7**
	baz=258						
TWT	**Tachien**	**0.96**	**235**	*e*P	**Pn**	**18 19 18.0**	**-0.2**
	baz=227						
WHF	**Hehuan Shan**	**0.96**	**227**	*e*P	**Pn**	**18 19 18.8**	**+0.3**
	baz=225						
LXIB	**Xiulin Townshi**	**0.97**	**216**	*e*P	**Pb**	**18 19 16.6**	**-0.8**
	baz=214						
TDCB	**Techi**	**0.97**	**236**	*e*P	**Pb**	**18 19 16.8**	**-0.7**
	baz=227						
ETM	**Tongmen**	**0.97**	**211**	*e*P	**Pb**	**18 19 16.9**	**-0.6**
	baz=203						
CHGB	**Renai**	**1.08**	**227**	*e*P	**Pg**	**18 19 18.4**	**-0.8**
	baz=226						
WHP	**Taichung City**	**1.13**	**242**	*e*P	**Pn**	**18 19 20.7**	**+0.3**
	baz=241						
ESL	**Shilin**	**1.13**	**209**	*e*P	**Pb**	**18 19 19.4**	**-0.8**
	baz=205						
WUSB	**Renai**	**1.17**	**226**	*e*P	**Pn**	**18 19 20.9**	**-0.1**
	baz=214						
WARBT	**Fenglin Townsh**	**1.24**	**209**	*e*P	**Pn**	**18 19 21.9**	**0.0**
	baz=217						
VWDT	**VWDT**	**1.33**	**218**	*e*P	**Pg**	**18 19 24.0**	**+0.1**
	baz=216						
TYC	**Yuchr**	**1.40**	**230**	*e*P	**Pg**	**18 19 26.2**	**+0.9**
	baz=220						
SSLB	**Suanglung**	**1.42**	**224**	*e*P	**Pg**	**18 19 25.7**	**+0.1**
	baz=224						
HGSD	**Ruisui**	**1.43**	**203**	*e*P	**Pg**	**18 19 26.5**	**+0.8**
	baz=181						
YULB	**Yu-li**	**1.56**	**206**	*e*P	**Pg**	**18 19 28.5**	**+0.1**
	baz=199						
TWF1	**Yuli**	**1.60**	**205**	*e*P	**Pg**	**18 19 30.0**	**+0.9**
	baz=219						
IRIF	**Iriomote-Funau**	**1.61**	**107**	*e*P	**Pn**	**18 19 26.0**	**-1.0**
CHN5	**Tsauling**	**1.73**	**226**	*e*P	**Pg**	**18 19 32.2**	**+0.6**
	baz=225						
ELDTW	**Lidau**	**1.86**	**210**	*e*P	**Pg**	**18 19 33.1**	**-1.0**
	baz=190						
JIJ	**Ishigaki jima**	**1.97**	**103**	*e*P	**Pb**	**18 19 33.1**	**-1.2**
TPUB	**Ta-pu**	**1.98**	**221**	*e*P	**Pg**	**18 19 36.1**	**-0.2**
	baz=220						
JISG	**Ishigakijimahi**	**2.08**	**96**	*e*P	**Pn**	**18 19 33.9**	**+0.4**
TWK	**Hsinying**	**2.09**	**223**	*e*P	**Pg**	**18 19 37.2**	**-1.2**
	baz=221						

*SJA **16** 18:34:39.4±0.7, 30°.93S×71°.51W, h43km±9km, ML3.8, MW3.8*
*NEIC **16** 18:34:41.3±1.4, 30°.94S±0°.04×71°.52W±0°.08, h44km±14km, ML4.1(GUC), Error ellipse: s-maj=9.7km s-min=5.4km az=76.0*
*GUC **16** 18:34:41.7±0.6, 30°.92S×71°.28W, h60km±1km, ML4.1*

ISC 16 18:34:42.2±1.2, 30°.93S±0°.02×71°.46W±0°.04, h47km±8km, n76, σ1°58/111, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.30**	**329**		**Pn**	**18 34 52.1**	**+1.1**
CO06	**Fray Jorge**	**0.30**	**329**	⇓*e*P	**Pn**	**18 34 52.3**	**+1.3**
CO06				*e*S	**Sn**	**18 35 00.5**	**+3.2**
CO06				IAML		18 35 01.3	
	comp=E,16μm,0.2s						
CO02	**Combarbal**	**0.48**	**125**		**Pn**	**18 34 52.0**	**-1.1**
CO02				Sn	**Sn**	**18 34 59.9**	**-1.0**
CO02	**Combarbal**	**0.48**	**125**	*e*P	**Pn**	**18 34 51.5**	**-1.6**
CO02				*e*S	**Sn**	**18 35 00.3**	**-0.6**
CO02				IAML		18 35 00.7	
	comp=Z,10μm,0.1s						
CO02	**Combarbal**	**0.48**	**125**	⇑*e*P	**Pn**	**18 34 52.0**	**-1.1**
CO02				*e*S	**Sn**	**18 35 00.0**	**-0.9**
CO02				IAML		18 35 00.9	
	comp=E,44μm,0.1s						
CO03	**El Pedregal**	**0.67**	**82**		**Pn**	**18 34 53.5**	**-2.0**
CO03	**El Pedregal**	**0.67**	**82**	*e*P	**Pn**	**18 34 53.4**	**-2.0**
CO03				*e*S	**Sn**	**18 35 03.6**	**-1.4**
CO03				IAML		18 35 04.7	
	comp=Z,2μm,0.2s						
CO03	**El Pedregal**	**0.67**	**82**	⇑*i*P	**Pn**	**18 34 53.6**	**-1.9**
CO03				*e*S	**Sn**	**18 35 02.8**	**-2.2**
CO03				IAML		18 35 06.4	
	comp=N,21μm,0.1s						
GO04	**Tololo Observa**	**0.95**	**37**		**Pn**	**18 34 58.2**	**-1.1**
GO04				Sn	**Sn**	**18 35 10.9**	**-1.0**
GO04	**Tololo Observa**	**0.95**	**37**	*e*P	**Pn**	**18 34 57.5**	**-1.8**
GO04	**Tololo Observa**	**0.95**	**37**	*e*P	**Pn**	**18 34 58.1**	**-1.2**
GO04				*e*S	**Sn**	**18 35 10.9**	**-1.0**
GO04				IAML		18 35 13.6	
	comp=E,12μm,0.6s						
CO05	**La Serena**	**1.03**	**11**		**Pn**	**18 34 59.5**	**-0.7**
CO05	**La Serena**	**1.03**	**11**	⇑*e*P	**Pn**	**18 34 59.7**	**-0.5**
CO05				*e*S	**Sn**	**18 35 13.6**	**+0.2**
CO05				IAML		18 35 14.4	
	comp=E,4μm,0.4s						
CO01	**Juntas del Tor**	**1.51**	**51**		**Pn**	**18 35 06.1**	**-0.9**
VA06	**Catapilco**	**1.63**	**175**		**Pn**	**18 35 07.5**	**-0.9**
VA06	**Catapilco**	**1.63**	**175**	⇑*e*P	**Pn**	**18 35 07.6**	**-0.9**
VA06				*e*S	**Sn**	**18 35 28.3**	**+0.1**
VA06				IAML		18 35 33.6	
	comp=N,3μm,0.3s						
AROD	**Rodeo**	**1.87**	**67**	*e*P	**Pn**	**18 35 12.6**	**+0.5**
VA03	**San Esteban**	**1.98**	**157**		**Pn**	**18 35 12.6**	**-0.8**
VA03	**San Esteban**	**1.98**	**157**	*e*P	**Pn**	**18 35 11.9**	**-1.4**
VA03				*e*S	**Sn**	**18 35 37.0**	**0.0**
VA03				IAML		18 35 41.0	
	comp=Z,1μm,0.2s						
VA03	**San Esteban**	**1.98**	**157**	*e*P	**Pn**	**18 35 12.1**	**-1.3**
VA03				*e*S	**Sn**	**18 35 36.6**	**-0.5**
VA03				IAML		18 35 39.8	
	comp=E,3μm,0.1s						
LCO	**Las Campanas**	**2.02**	**19**		**Pn**	**18 35 13.4**	**-0.6**
LCO	**Las Campanas**	**2.02**	**19**	*e*P	**Pn**	**18 35 13.8**	**-0.3**
LCO				*e*S	**Sn**	**18 35 39.0**	**+0.7**
LCO				IAML		18 35 40.1	
	comp=Z,2μm,0.2s						
LCO	**Las Campanas**	**2.02**	**19**	⇑*e*P	**Pn**	**18 35 13.4**	**-0.6**
LCO				*e*S	**Sn**	**18 35 37.9**	**-0.4**
DOCA	**Reserva Natura**	**2.04**	**91**	*e*P	**Pn**	**18 35 13.8**	**-0.5**
DOCA				*e*S	**Sn**	**18 35 39.5**	**+0.6**
DOCA				IAML		18 35 44.1	
	comp=Z,1μm,0.3s						
RTLS	**Leoncito**	**2.04**	**116**	*e*P	**Pn**	**18 35 14.3**	**-0.1**
RTLS				*e*S	**Sn**	**18 35 39.8**	**+1.0**
RTLS				IAML		18 35 40.3	
	comp=Z,1μm,0.2s						
ROCH	**El Roble**	**2.07**	**170**	*e*P	**Pn**	**18 35 13.9**	**-0.8**
ROCH				*e*S	**Sn**	**18 35 39.8**	**+0.4**
ROCH				IAML		18 35 44.0	
	comp=N,2μm,0.2s						
ROC1	**El Roble**	**2.07**	**170**	*e*S	**Sn**	**18 35 41.9**	**+2.4**
ACCO	**Cerro Coronel**	**2.09**	**81**	*e*P	**Pn**	**18 35 15.1**	**+0.1**
ACCO				*e*S	**Sn**	**18 35 42.9**	**+2.9**
ACCO				IAML		18 35 46.5	
	comp=Z,306nm,0.4s						
VA01	**Torpederas**	**2.09**	**184**		**Pn**	**18 35 13.0**	**-1.7**
VA01	**Torpederas**	**2.09**	**184**	*e*S	**Sn**	**18 35 43.2**	**+3.7**
VA01				IAML		18 35 45.7	
	comp=Z,483nm,0.3s						
ACDV	**Cuesta del Vie**	**2.15**	**70**	*e*P	**Pn**	**18 35 16.8**	**+1.0**
ACDV				*e*S	**Sn**	**18 35 45.8**	**+4.4**
PEL	**Peldehue**	**2.30**	**164**		**Pn**	**18 35 16.4**	**-1.2**
PEL	**Peldehue**	**2.30**	**164**	*e*P	**Pn**	**18 35 17.0**	**-0.7**
PEL				*e*S	**Sn**	**18 35 46.7**	**+1.9**
AC05	**El Transito**	**2.33**	**27**		**Pn**	**18 35 18.0**	**-0.2**
AC05	**El Transito**	**2.33**	**27**	*e*P	**Pn**	**18 35 17.9**	**-0.2**
AC05				*e*S	**Sn**	**18 35 45.7**	**+0.1**
AC05				IAML		18 35 46.7	
	comp=Z,257nm,0.3s						
AC05	**El Transito**	**2.33**	**27**	*e*P	**Pn**	**18 35 17.9**	**-0.2**
AC05				*e*S	**Sn**	**18 35 45.0**	**-0.6**
AC05				IAML		18 35 51.7	
	comp=N,930nm,0.2s						
MT02	**Curacav**	**2.34**	**173**		**Pn**	**18 35 17.2**	**-0.9**
MT02	**Curacav**	**2.34**	**173**	*e*P	**Pn**	**18 35 16.6**	**-1.5**
MT02				*e*S	**Sn**	**18 35 47.2**	**+1.6**
MT02				IAML		18 35 50.3	
	comp=Z,562nm,0.5s						
MT02	**Curacav**	**2.34**	**173**	*e*P	**Pn**	**18 35 16.6**	**-1.5**
MT02				*e*S	**Sn**	**18 35 44.8**	**-0.8**
MT02				IAML		18 35 49.7	
	comp=N,622nm,0.3s						
ZON	**Zonda**	**2.46**	**105**		**Pn**	**18 35 20.0**	**+0.2**
ZON	**Zonda**	**2.46**	**105**	*e*P	**Pn**	**18 35 19.5**	**-0.3**
ZON				*e*S	**Sn**	**18 35 50.3**	**+1.6**
ZON				IAML		18 35 51.7	
	comp=Z,203nm,0.2s						
MT05	**Renca**	**2.53**	**166**		**Pn**	**18 35 20.9**	**+0.1**
MT05	**Renca**	**2.53**	**166**	*e*P	**Pn**	**18 35 22.4**	**+1.6**
MT05				*e*S	**Sn**	**18 35 47.5**	**-2.9**
MT05				IAML		18 36 00.7	
	comp=Z,515nm,0.2s						
FCH	**Farellones**	**2.59**	**158**	*e*P	**Pn**	**18 35 21.8**	**0.0**
FCH				*e*S	**Sn**	**18 35 53.2**	**+1.0**
FCH				IAML		18 36 02.5	
	comp=E,613nm,0.2s						
MT16	**CCHEN**	**2.61**	**163**		**Pn**	**18 35 21.7**	**-0.2**
RTCV	**Cerro Valdivia**	**2.66**	**111**	*e*P	**Pn**	**18 35 23.6**	**+1.0**
RTCV				*e*S	**Sn**	**18 35 55.8**	**+2.1**
MT03	**Universidad Ad**	**2.68**	**163**		**Pn**	**18 35 22.2**	**-0.7**
MT03	**Universidad Ad**	**2.68**	**163**	*e*P	**Pn**	**18 35 22.8**	**-0.1**
MT03				*e*S	**Sn**	**18 35 56.8**	**+2.6**
MT03				IAML		18 36 01.7	
	comp=Z,724nm,0.2s						
MT03	**Universidad Ad**	**2.68**	**163**	*e*P	**Pn**	**18 35 22.4**	**-0.5**
MT03				*e*S	**Sn**	**18 35 54.0**	**-0.2**
MT03				IAML		18 36 01.9	
	comp=E,1μm,0.3s						
MT03				IAML		18 36 03.7	
	comp=N,1μm,0.3s						
VA05	**Santo Domingo**	**2.72**	**183**		**Pn**	**18 35 21.8**	**-1.6**
AC04	**Llanos de Chal**	**2.74**	**7**		**Pn**	**18 35 22.6**	**-1.1**
AC04	**Llanos de Chal**	**2.74**	**7**	*e*P	**Pn**	**18 35 23.1**	**-0.5**
AC04				*e*S	**Sn**	**18 35 55.1**	**-0.4**
AC04				IAML		18 36 06.8	
	comp=Z,313nm,0.4s						
AC04	**Llanos de Chal**	**2.74**	**7**	*e*P	**Pn**	**18 35 22.7**	**-0.9**
AC04				⇓*e*S	**Sn**	**18 35 55.4**	**0.0**
AC04				IAML		18 36 07.4	
	comp=E,753nm,0.3s						
ASAL	**Salagasta**	**2.78**	**127**	*e*P	**Pn**	**18 35 25.1**	**+0.8**
ASAL				*e*S	**Sn**	**18 35 54.5**	**-2.2**
MT09	**Talagante**	**2.87**	**172**		**Pn**	**18 35 24.6**	**-0.8**
ARCO	**CERRO ARCO**	**2.87**	**132**	*e*P	**Pn**	**18 35 27.2**	**+1.6**
ARCO				*e*S	**Sn**	**18 36 06.1**	**+7.1**
ARCO				IAML		18 36 11.2	
	comp=Z,246nm,0.3s						
MT01	**Popeta**	**2.93**	**177**		**Pn**	**18 35 24.8**	**-1.4**
MT01	**Popeta**	**2.93**	**177**	*e*P	**Pn**	**18 35 25.2**	**-1.1**
MT01				*e*S	**Sn**	**18 35 56.8**	**-3.4**
MT01				IAML		18 36 09.7	
	comp=Z,317nm,0.4s						
MT13	**San Alfonso**	**2.98**	**161**		**Pn**	**18 35 26.8**	**-0.2**
MT13	**San Alfonso**	**2.98**	**161**	*e*P	**Pn**	**18 35 26.7**	**-0.2**
MT13				IAML		18 36 16.4	
	comp=Z,184nm,0.5s						
LMEL	**Las Melosas**	**3.10**	**160**		**Pn**	**18 35 28.1**	**-0.5**
AAGR	**Agrelo**	**3.10**	**135**	*e*P	**Pn**	**18 35 29.8**	**+1.2**
AAGR				IAML		18 36 18.9	
	comp=Z,93nm,0.3s						
BO04	**La Punta**	**3.13**	**167**		**Pn**	**18 35 28.0**	**-1.1**
BO01	**Tunca**	**3.46**	**175**		**Pn**	**18 35 32.4**	**-1.2**
GO03	**Copiap**	**3.49**	**18**		**Pn**	**18 35 33.4**	**-0.7**
GO03	**Copiap**	**3.49**	**18**	*e*P	**Pn**	**18 35 33.9**	**-0.2**
AC06	**Mina Casimiro**	**3.69**	**15**		**Pn**	**18 35 35.5**	**-1.2**
BO02	**Sierra Bellavi**	**3.89**	**172**		**Pn**	**18 35 39.0**	**-0.5**
BO02	**Sierra Bellavi**	**3.89**	**172**	*e*P	**Pn**	**18 35 39.0**	**-0.5**
BO02				*e*S	**Sn**	**18 36 26.1**	**+2.1**
BO02				IAML		18 36 40.4	
	comp=Z,310nm,0.4s						
GO05	**Huala**	**4.09**	**185**		**Pn**	**18 35 39.6**	**-2.5**
RFA	**San Rafael**	**4.58**	**147**	*e*P	**Pn**	**18 35 48.3**	**-0.7**
ML02	**Panimavida**	**4.82**	**180**		**Pn**	**18 35 50.2**	**-2.0**
AC01	**Pan de Azucar**	**4.83**	**9**	Pn	**Pn**	**18 35 49.4**	**-2.9**
GO02	**Mina Guanaco**	**5.98**	**16**	Pn	**Pn**	**18 36 07.2**	**-1.2**
VA04	**Juan Fernndez**	**6.80**	**245**	Pn	**Pn**	**18 36 17.5**	**-1.9**
GO06	**Curarrehue**	**8.63**	**180**	Pn	Pn	18 36 39.6	-5.0

*TAP **16** 18:43:24.8, 24°.72N×122°.41E, h17km, ML2.9, C*
*JMA **16** 18:43:25.6±0.1, 24°.7N±0°.8×122°.4E±0°.3, h11km±3km, MV2.2/10, TAIWAN REGION*

ISC 16 18:43:25.1±1.0, 24°.72N±0°.03×122°.40E±0°.02, h14km±8km, n45, σ0°54/75, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.34**	**208**	*i* P	**Pb**	**18 43 33.1**	**+0.3**
	baz=213						
EOS2				*i* S	**Sb**	**18 43 38.7**	**+0.7**
	baz=213						
EOS3	**EOS3**	**0.44**	**190**	*e*P	**Pb**	**18 43 34.5**	**0.0**
	baz=194						
EOS3				*e*S	**Sn**	**18 43 42.6**	**-1.9**
	baz=194						
TWB1	**Santiao Chiao**	**0.48**	**307**	⇑P	**Pg**	**18 43 34.7**	**+0.1**
	baz=306						
TWB1				S	**Sg**	**18 43 40.3**	**-0.7**
	baz=306						
TWC	**Suao**	**0.52**	**258**	*e*P	**Pg**	**18 43 34.7**	**-0.6**
	baz=257						
JYNG	**Yonagunijimaku**	**0.56**	**118**	P	**Pg**	**18 43 36.2**	**0.0**
JYNG				*e*S	**Sb**	**18 43 44.2**	**-0.4**
TIPB	**Shuangxi**	**0.58**	**296**	*e*P	**Pg**	**18 43 36.7**	**+0.1**
	baz=295						
TIPB				*e*S	**Sb**	**18 43 45.7**	**+0.4**
	baz=295						
EOS4	**EOS4**	**0.60**	**188**	*e*P	**Pb**	**18 43 37.7**	**+0.5**
	baz=183						
EOS4				*e*S	**Sn**	**18 43 47.5**	**-0.7**
	baz=183						
YOJ	**Yonaguni jima**	**0.61**	**115**	*e*P	**Pg**	**18 43 37.0**	**0.0**
	baz=115						
YOJ				S	**Sg**	**18 43 45.2**	**+0.1**
	baz=115						
YOJ	**Yonaguni jima**	**0.61**	**115**	*e*P	**Pb**	**18 43 37.3**	**-0.2**
YOJ				*e*S	**Sg**	**18 43 45.2**	**+0.1**
EWUT	**Wuta**	**0.63**	**245**	*e*P	**Pg**	**18 43 37.5**	**0.0**
	baz=254						
EWUT				*e*S	**Sb**	**18 43 47.0**	**+0.4**
	baz=254						
NDS	**Dongshan**	**0.63**	**263**	*e*P	**Pb**	**18 43 37.9**	**0.0**
	baz=257						
WFSB	**Wu-fen Shan**	**0.67**	**302**	*e*P	**Pb**	**18 43 38.6**	**+0.1**
	baz=315						
WFSB				*e*S	**Sb**	**18 43 48.0**	**+0.3**
	baz=315						
ENA	**Nanau**	**0.67**	**245**	*e*P	**Pg**	**18 43 37.5**	**-0.7**
	baz=251						
ENA				*e*S	**Sb**	**18 43 47.5**	**-0.2**
	baz=251						
TNOU	**National Taiwa**	**0.72**	**307**	*e*P	**Pg**	**18 43 38.0**	**-1.1**
	baz=306						
TNOU				*e*S	**Sg**	**18 43 48.8**	**+0.2**
	baz=306						
FUSB	**Fushanzhiwuyua**	**0.74**	**273**	*e*P	**Pg**	**18 43 39.7**	**+0.1**
	baz=273						
FUSB				*e*S	**Sg**	**18 43 49.5**	**+0.1**
	baz=273						
ENTT	**Nioudou**	**0.77**	**264**	*e*P	**Pb**	**18 43 40.5**	**+0.2**
	baz=263						
ENTT				*e*S	**Sb**	**18 43 51.2**	**+0.7**
	baz=263						
TWA	**Mucha**	**0.79**	**289**	*e*P	**Pb**	**18 43 40.8**	**+0.2**
	baz=289						
TWA				*e*S	**Sb**	**18 43 51.7**	**+0.4**
	baz=289						
LATG	**Datong**	**0.82**	**257**	*e*P	**Pg**	**18 43 40.7**	**-0.3**
	baz=257						
LATG				*e*S	**Sn**	**18 43 53.3**	**-1.

	baz=215							
LXIB				eS	Sn	18 44 03.5	+1.2	
	baz=215							
NFF	Wufeng Townshi	1.17	266	eP	Pb	18 43 47.4	+0.2	
	baz=266							
NFF				eS	Sg	18 44 03.4	+0.4	
	baz=266							
WHF	Hehuan Shan	1.19	241	eP	Pg	18 43 48.0	0.0	
	baz=251							
TWT	Tachien	1.21	248	eP	Pg	18 43 48.9	+0.4	
	baz=247							
TDCB	Techi	1.23	248	eP	Pg	18 43 48.7	-0.1	
	baz=247							
ESL	Shilin	1.26	225	eP	Pg	18 43 48.9	-0.5	
	baz=224							
LIOB	Emei	1.27	267	eP	Pg	18 43 49.4	-0.2	
	baz=285							
IRIF	Iriomote-Funau	1.27	107	eP	Pb	18 43 49.0	+0.3	
IRIF				eS	Sn	18 44 05.4	+0.2	
NSTT	Nanjuang	1.28	266	eP	Pg	18 43 50.0	+0.2	
	baz=283							
CHGB	Renai	1.30	240	eP	Pg	18 43 49.9	-0.3	
	baz=225							
WARBT	Fenglin Townsh	1.36	223	eP	Pb	18 43 50.0	-0.4	
	baz=207							
WUSB	Renai	1.38	239	eP	Pb	18 43 50.8	0.0	
	baz=244							
WUSB				eS	Sg	18 44 11.3	+1.7	
	baz=244							
VWDT	VWDT	1.50	230	eP	Pg	18 43 53.4	-0.6	
	baz=216							
JKRS	Kuro-shima	1.54	108	eP	Pb	18 43 53.3	-0.1	
JKRS				eS	Sn	18 44 10.9	-1.0	
JIJ	Ishigaki jima	1.62	102	eS	Sn	18 44 14.6	+0.6	
JISG	Ishigakijimahi	1.74	94	eS	Sn	18 44 17.6	+0.7	

*IDC **16** 18:51:13.7±0.9, 4°.62S×105°.07W, h0km, mb3.8/7, mbtmp3.8/7, MS3.5/18, Error ellipse: s-maj=57.3km s-min=23.3km az=76.0*
*NEIC **16** 18:51:14.7±2.4, 4°.68S±0°.05×104°.8W±0°.2, h10km±1km, mb4.4/57, Error ellipse: s-maj=31.0km s-min=6.2km az=257.0*

ISC 16 18:51:14.6±0.8, 4°.6S±0°.1×104°.7W±0°.2, h10km, n85, σ1§35/59, mb4.3/28, MS3.6/18, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	23.00	34	P	P	18 56 20.3	+0.6
CMIG	Matias Romero	23.67	24	LR	LR	19 03 39.0	
	comp=Z,67nm,18.6s,baz=187,slow=31						
JTS	Las Juntas de	24.64	53	LR	LR	19 03 49.1	
	comp=Z,115nm,20.0s,baz=206,slow=30						
ATAH	Atahualpa	26.30	97	LR	LR	19 04 52.1	
	comp=Z,237nm,19.0s,baz=286,slow=31						
NNA	Nana	28.52	107	LR	LR	19 05 37.0	
	comp=Z,142nm,21.6s,baz=268,slow=30						
LPIG	La Paz	29.07	349	LR	LR	19 04 39.0	
	comp=Z,30nm,19.6s,baz=61,slow=28						
TEIG	Tepich	29.51	33	LR	LR	19 07 38.6	
	comp=Z,38nm,19.6s,baz=210,slow=33						
TXAR	Lajitas Array	33.78	2	P	P	18 57 54.7	-2.2
TXAR	Lajitas Array	33.78	2	P	P	18 57 58.5	+1.6
	0.4nm,0.8s,baz=193,slow=11,SNR=4.1						
TXAR				PcP	PcP	19 00 37.6	+1.4
	0.3nm,0.7s,baz=186,slow=6.4,SNR=3.8						
	0.4nm,0.8s						
TX31	Lajitas Ar. Si	33.78	2	P	P	18 57 57.7	+0.7
TX31				IAmb	IAmb	18 58 27.3	
	comp=Z,4.9nm,1.4s						
SDV	Santo Domingo	36.54	68	LR	LR	19 10 55.0	
	comp=Z,82nm,20.4s,baz=244,slow=32						
H03N2	Juan Fernandez	37.40	143	T	T	19 38 34.1	
	baz=317,slow=78						
H03N1	Juan Fernandez	37.41	143	T	T	19 38 35.4	
	baz=317,slow=78						
H03N3	Juan Fernandez	37.41	143	T	T	19 38 34.2	
	baz=317,slow=78						
LPAZ	La Paz	37.72	111	LR	LR	19 12 03.1	
	comp=Z,38nm,21.9s,baz=262,slow=33						
346A	Big Creek Wild	38.66	21	P	P	18 58 39.5	+1.1
LVC	Limon Verde	38.96	121	LR	LR	19 11 18.4	
	comp=Z,45nm,18.7s,baz=267,slow=31						
BAUV	El Baul	38.97	70	P	P	18 58 41.3	-0.1
Y14A	Wickenburg	39.15	349	P	P	18 58 41.7	-0.9
X16A	Lo Mia Camp, P	39.35	351	P	P	18 58 43.7	-0.8
ANMO	Albuquerque	39.40	358	P	P	18 58 42.1	-2.8
WMOK	Wichita Mounta	39.55	8		P	18 58 44.8	-1.2
PFO	Pinyon Flats O	39.62	345	LR	LR	19 11 27.0	
	comp=Z,92nm,18.8s,baz=164,slow=31						
SMWD	Samnorwood	39.74	6	P	P	18 58 46.9	-0.7
SMWD				IAmb	IAmb	18 59 04.2	
	comp=Z,5.7nm,0.9s						
X37A	Clayton	39.99	12	P	P	18 58 49.7	+0.1
W35A	Tecumseh	40.25	10	P	P	18 58 51.4	-0.4
W35A				IAmb	IAmb	18 58 54.9	
	comp=Z,8.2nm,0.9s						
MIAR	Mount Ida	40.35	14	P	P	18 58 51.8	-0.8
MIAR				IAmb	IAmb	18 59 09.0	
	comp=Z,8.1nm,1.2s						
WUAZ	Wupatki	40.42	352	P	P	18 58 52.4	-0.9
W13A	Hualapai Mount	40.45	348	P	P	18 58 52.3	-1.4
ELIS	Ellis County	40.78	7	P	P	18 58 56.0	-0.1
ELIS				IAmb	IAmb	18 58 59.9	
	comp=Z,22nm,1.4s						
OK029	Liberty Lake	40.78	9	P	P	18 58 57.2	+1.1
GO04	Tololo Observa	40.85	132	P	P	18 58 54.7	-2.5
OK052	Battle Ridge R	41.08	10	P	P	18 58 59.2	+0.6
OK052				IAmb	IAmb	18 59 13.3	
	comp=Z,5.3nm,0.7s						
OK038	West end E0370	41.27	7	P	P	18 59 00.5	+0.3
OK038				IAmb	IAmb	18 59 29.2	
	comp=Z,9.9nm,0.7s						
GSC	Goldstone, Bar	41.31	345	P	P	18 59 00.9	+0.3
GSC				IAmb	IAmb	18 59 34.8	
	comp=Z,6.8nm,1.4s						
WHAR	Wooly Hollow	41.39	15		P	18 59 02.9	+1.7
NOKA	Waynoka	41.40	7		P	18 59 02.1	+0.9
SAML	Samuel	41.45	98		P	18 59 03.1	+1.2
SAML				IAmb	IAmb	18 59 13.4	
	comp=Z,11nm,0.9s						
OK048	Pawnee Station	41.47	9	P	P	18 59 01.4	-0.4
OK048				IAmb	IAmb	18 59 17.4	
	comp=Z,6.1nm,0.8s						
MVCO	Mesa Verde	41.77	355	P	P	18 59 03.4	-1.1
VA01	Torpederas	41.82	137	P	P	18 59 02.4	-2.3
SHPR	Sheep Range	42.07	347	P	P	18 59 08.2	+1.3
GWY	Greenwater Val	42.12	346	P	P	18 59 08.3	+1.0
WCT	Wildcat Mounta	42.68	346	P	P	18 59 09.5	-2.2
PV05	Paradox Valley	42.68	355	P	P	18 59 12.2	+0.2
PV05				IAmb	IAmb	18 59 34.4	
	comp=Z,7.5nm,1.3s						
HMU	Henry Mountain	42.72	353	P	P	18 59 13.0	+0.7
HMU				IAmb	IAmb	18 59 30.1	
	comp=Z,6.9nm,1.2s						
CCUT	Cedar City	42.73	350	P	P	18 59 09.8	-2.5
PV15	Paradox Valley	42.89	356	P	P	18 59 10.7	-2.9
PV15				IAmb	IAmb	18 59 45.3	
	comp=Z,6.2nm,1.3s						
PV16	Nyswonger Mesa	42.90	355	P	P	18 59 11.7	-2.0
PV16				IAmb	IAmb	18 59 29.9	
	comp=Z,6.8nm,1.4s						
FPAL	Fort Paine	42.92	23	P	P	18 59 15.1	+1.4
FPAL				IAmb	IAmb	18 59 25.9	
	comp=Z,4.4nm,0.9s						
MTPU	Mount Pierson	43.02	351	P	P	18 59 13.4	-1.4
GRAC	Grapevine Rang	43.06	345	P	P	18 59 14.4	-0.4
S11A	Rachel	43.29	347	P	P	18 59 16.2	-0.6
S11A				IAmb	IAmb	18 59 36.1	
	comp=Z,5.9nm,0.6s						
GMN	Gold Mountain	43.32	345	P	P	18 59 16.7	-0.4
KSCO	Kaye Shedlock'	43.46	2	P	P	18 59 19.2	+1.1
KSCO				IAmb	IAmb	18 59 52.0	
	comp=Z,8.4nm,0.8s						
SJG	San Juan	44.24	58	LR	LR	19 14 50.6	
	comp=Z,19nm,21.0s,baz=142,slow=32						
SIV	San Ignacio	44.30	108	LR	LR	19 15 52.0	
	comp=Z,83nm,18.1s,baz=294,slow=33						
NVAR	Mina Array Bea	44.65	345	P	P	18 59 29.4	+1.6
	comp=Z,0.2nm,0.5s,baz=193,slow=3.7,SNR=1.5						
NVAR				LR	LR	19 16 16.4	
	comp=Z,75nm,18.4s,baz=264,slow=34						
	comp=Z,0.2nm,0.5s						
PTLB	Pontes e Lacer	46.05	107	P	P	18 59 37.1	-2.0
PTLB				IAmb	IAmb	18 59 56.7	
	comp=Z,7.4nm,1.2s						
PLCA	Paso Flores	47.25	144	LR	LR	19 15 23.8	
	comp=Z,79nm,18.2s,baz=292,slow=31						
PDAR	Pinedale Array	47.38	355	P	P	18 59 49.6	+0.4
	comp=Z,0.7nm,0.6s,baz=146,slow=6.6,SNR=6.6						
	comp=Z,0.7nm,0.6s						
RSSD	Black Hills	48.53	1	P	P	18 59 57.2	-0.9
RSSD				IAmb	IAmb	19 00 01.2	
	comp=Z,7.9nm,1.1s						
IMW	Indian Meadow	48.63	354	P	P	18 59 58.4	-0.6
IMW				IAmb	IAmb	19 00 13.9	
	comp=Z,5.4nm,1.1s						
YBH	Yreka Blue Hor	48.97	342	LR	LR	19 18 23.6	
	comp=Z,66nm,18.1s,baz=198,slow=33						
O53A	New Philadelph	49.61	24	IAmb	IAmb	19 00 21.8	
	comp=Z,10nm,1.1s						
CPUP	Villa Florida	50.13	121	P	P	19 00 13.3	+2.8
	comp=Z,1.6nm,0.8s,baz=282,slow=8.8,SNR=3.4						
	comp=Z,1.6nm,0.8s						
MDP	Montagnes des	52.90	80	LR	LR	19 21 08.1	
	comp=Z,79nm,18.3s,baz=291,slow=34						
ULM	Lac du Bonnet	55.19	7	P	P	19 00 47.0	-0.5
	comp=Z,4.1nm,0.8s,baz=213,slow=9.6,SNR=3.5						
	comp=Z,4.1nm,0.8s						
BDFB	Brasilia	56.73	106	LR	LR	19 23 54.2	
	comp=Z,68nm,18.6s,baz=283,slow=34						
BATG	Bathurst New B	61.88	29	P	P	19 01 33.6	-0.6
PMSA	Palmer Station	66.65	162	LR	LR	19 23 09.4	
	comp=Z,74nm,20.1s,baz=292,slow=29						
ILAR	Eielson Array	75.86	343	P	P	19 03 00.7	-0.3
	comp=Z,0.9nm,0.7s,baz=158,slow=5.9,SNR=10						
	comp=Z,0.9nm,0.7s						
QSPA	South Pole Qui	85.43	180	P	P	19 03 53.8	+1.5
QSPA				IAmb	IAmb	19 04 10.5	
	comp=Z,4.9nm,1.2s						
QSPA	South Pole Qui	85.43	180	P	P	19 03 54.1	+1.8
	comp=Z,2.1nm,0.9s,baz=131,slow=1.5,SNR=9.7						
	comp=Z,2.1nm,0.9s						
H11N3	WAKE ISLAND Hy	90.01	290	T	T	20 43 35.9	
	baz=96,slow=74,SNR=60						
H11N2	WAKE ISLAND Hy	90.03	290	T	T	20 43 30.8	
	baz=96,slow=74,SNR=60						
H11N1	WAKE ISLAND Hy	90.03	290	T	T	20 43 30.5	
	baz=96,slow=74,SNR=39						
H11S2	WAKE ISLAND Hy	90.10	288	T	T	20 43 36.3	
	baz=94,slow=75,SNR=57						
H11S1	WAKE ISLAND Hy	90.11	288	T	T	20 43 33.7	
	baz=94,slow=75,SNR=43						
H11S3	WAKE ISLAND Hy	90.12	288	T	T	20 43 34.5	
	baz=94,slow=75,SNR=40						
SONM	Songino Array	129.36	333	PKP	PKPdf	19 10 23.8	-0.1
	comp=Z,0.4nm,0.6s,baz=76,slow=1.8,SNR=1.9						
BVAR	Borovoye Array	131.59	4	PKP	PKPdf	19 10 27.0	-0.7
	comp=Z,0.5nm,0.6s,baz=339,slow=3.6,SNR=3.3						
KURBB	Kurchatov Arra	134.08	357	PKP	PKPdf	19 10 32.8	+0.3
	comp=Z,0.3nm,0.7s,baz=6.8,slow=2.3,SNR=4.1						
MKAR	Makanchi Array	137.56	353	PKP	PKPdf	19 10 38.9	-0.3
	comp=Z,0.2nm,0.6s,baz=31,slow=1.6,SNR=2.4						
CMAR	Chiang Mai Arr	153.10	303	PKPbc	PKPbc	19 11 12.3	-1.3
	comp=Z,0.9nm,0.7s,baz=324,slow=0.7,SNR=7.2						

*IDC **16** 19:05:09.2±7.4, 36°.12N×71°.71E, h91km±61km, mb3.2/5, mbtmp3.6/8, ML3.4/3, Error ellipse: s-maj=74.0km s-min=52.2km az=136.0*
*NNC **16** 19:05:14.7±7.5, 36°.67N×71°.21E, h139km±769km, mb3.0, mpv3.7, Error ellipse: s-maj=128.5km s-min=31.8km az=174.0*

ISC 16 19:05:14.9±1.8, 36°.6N±0°.1×71°.4E±0°.1, h114km, n13, σ1§06/17, mb3.5/4, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	6.47	21	P	Pn	19 06 47.6	-0.2
	3.7nm,0.3s,baz=221,slow=9.3,SNR=7.4						
	7.4nm,0.3s						
AAK	Ala-Archa	6.47	21	⇑P	Pn	19 06 47.2	-0.6
	3.1nm,0.3s						
AAK				⇓S	Sn	19 07 59.9	-0.4
	3.7nm,0.7s						
KK31	Karatay Array	6.51	354	P	Pn	19 06 47.6	-0.5
	1.8nm,0.2s,baz=179,slow=12,SNR=123						
KK31				S	Sn	19 07 59.2	-1.7
	2.3nm,0.6s,baz=186,slow=25,SNR=5.8						
CHMS	Chumysh	6.88	21	⇓P	Pn	19 06 53.0	-0.2
	1.7nm,0.4s						
CHMS				⇓S	Sn	19 08 10.8	+0.8
	3.2nm,0.7s						
TKM2	Tokmak 2	7.08	26	⇑P	Pn	19 06 55.7	-0.4
	1.8nm,0.5s						
TKM2				⇓S	Sn	19 08 14.9	-0.2
	1.7nm,0.7s						
BVAR	Borovoye Array	16.42	358	P	P	19 08 59.4	+0.3
	baz=162,slow=7.0,SNR=2.4						
	0.3nm,0.4s						
AKTO	Aktyubinsk	16.82	329	P	P	19 09 05.3	+1.6
	0.2nm,0.3s,baz=121,slow=14,SNR=2.8						
	0.9nm,0.4s						
ZALV	Zalesovo Beam	19.68	24	P	P	19 09 34.4	-0.4
	0.9nm,0.4s,baz=222,slow=9.8,SNR=3.8						
	0.9nm,0.4s						
FINES	FINESS Array B	37.55	326	P	P	19 12 19.4	+1.7
	0.6nm,0.7s,baz=106,slow=13,SNR=3.6						
	0.6nm,0.7s						
HFS	Hagfors	43.16	322	P	P	19 13 05.1	+1.3
	0.9nm,0.5s,baz=116,slow=9.9,SNR=12						
	0.9nm,0.5s						
NB2	NORSAR Subarra	44.46	323	P	P	19 13 15.3	+1.0
	comp=Z,0.3nm,0.5s,baz=92,slow=7.9						
NOA	NORSAR Array B	44.46	323	P	P	19 13 14.8	+0.5
	comp=Z,0.3nm,0.5s,baz=96,slow=7.7,SNR=5.1						
	comp=Z,0.3nm,0.5s						
TORD	Torodi Ar. Bea	66.02	269	P	P	19 15 48.0	-1.6
	comp=Z,0.3nm,0.8s,baz=64,slow=8.1,SNR=1.6						
	comp=Z,0.3nm,0.8s						

*DJA **16** 19:06:50.2±0.5, 8°.5S±5°.×10°.3E±°., h10km, M4.8/12, mb5.0/6, mB5.3/2, MLv4.7/12, Mw(mB)4.7/2*
*NEIC **16** 19:06:51.5±2.0, 7°.53S±0°.08×103°.23E±0°.04, h10km±1km, mb4.6/25, Error ellipse: s-maj=14.9km s-min=4.8km az=201.0*
*IDC **16** 19:06:53.2±1.3, 7°.11S×103°.40E, h0km, mb4.0/13, mbtmp4.0/13, MS3.5/3, Error ellipse: s-maj=49.8km s-min=17.4km az=52.0*

ISC 16 19:06:55.0±0.8, 7°.2S±0°.1×103°.3E±0°.1, h20km, n67, σ1§48/56, mb4.5/24, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	Kota Agung	2.02	36	P	Pn	19 07 28.0	0.0
LWLI	Liwa	2.27	19	P	Pn	19 07 32.2	+0.7
BLSI	Bandar Lampung	2.63	47	P	Pn	19 07 37.3	+0.9
MNAI	Manna	2.82	353	Pn	Pn	19 07 38.8	-0.2
DBJI	Dramaga	3.47	80	P	Pn	19 07 48.3	+0.4
CNJI	Cibinong	3.79	92	P	Pn	19 07 50.7	-1.6
XMIS	Christmas Isla	4.01	145	Pn	Pn	19 07 48.1	-7.2
PMBI	Palembang	4.47	19	Pn	Pn	19 08 01.0	-0.6
CMJI	Cimerak	5.13	97	P	Pn	19 08 09.1	-1.6
PDSI	Padang	6.84	335	P	Pn	19 08 34.2	-0.2
SMRI	Semarang	7.07	89	Pn	Pn	19 08 31.9	-5.6
UGM	Wanagama	7.18	96	Pn	Pn	19 08 38.1	-0.9
UGM	Wanagama	7.18	96	P	Pn	19 08 38.1	-0.9
	116nm,0.9s						
PWJI	Pagerwojo	8.46	96	P	Pn	19 08 55.5	-1.0
GSI	Gunungsitoli	10.19	326	Pn	Pn	19 09 18.8	-1.4
GSI				Sn	Sn	19 11 08.8	-5.2
JAGI	Jajag, Banyuwa	10.81	98	Pn	Pn	19 09 25.8	-3.0
KAPI	Kappang	16.48	83	LR	LR	19 17 29.9	
	comp=Z,102nm,20.1s,baz=244,slow=39						
MYLDM	Lahad Datu	19.50	51	P	P	19 11 20.2	-0.9
MYLDM				IAmb	IAmb	19 11 44.3	
	comp=Z,36nm,0.9s						
LUWI	Luwuk	20.33	73	P	P	19 11 28.0	-2.2
LUWI				IAmb	IAmb	19 11 40.3	
	comp=Z,32nm,1.0s						
SOEI	Soe	20.88	99		P	19 11 33.0	-3.3
CM31	Chiang Mai Arr	25.84	350	P	P	19 12 26.3	+1.0
CM31				IAmb	IAmb	19 12 37.7	
	comp=Z,14nm,0.8s						
CMAR	Chiang Mai Arr	25.84	350	P	P	19 12 26.5	+1.2
CMAR	Chiang Mai Arr	25.84	350	P	P	19 12 27.1	+1.8
	comp=Z,8.0nm,0.9s,baz=183,slow=9.0,SNR=51						
	comp=Z,8.0nm,0.9s						
CHTO	Chiang Mai	26.19	351	P	P	19 12 28.9	+0.4
CHTO				IAmb	IAmb	19 12 31.2	
	comp=Z,20nm,1.4s						
DAV	Davao City (W)	26.34	58	LR	LR	19 23 02.7	
	comp=Z,66nm,20.1s,baz=151,slow=37						
H01W3	Cape Leeuwin H	29.32	162	T	T	19 43 31.6	
	baz=339,slow=76,SNR=6.0						
H01W2	Cape Leeuwin H	29.33	162	T	T	19 43 34.1	
	baz=339,slow=76,SNR=5.8						
H01W1	Cape Leeuwin H	29.33	162	T	T	19 43 38.6	
	baz=339,slow=76,SNR=4.9						
H08S2	Diego Garcia H	30.56	267	T	T	19 45 22.6	
	baz=90,slow=74,SNR=26						
H08S3	Diego Garcia H	30.57	267	T	T	19 45 16.5	
	baz=90,slow=74,SNR=38						
H08S1	Diego Carcia H	30.58	267	T	T	19 45 17.2	
	baz=90,slow=74,SNR=32						
WRA	Warramunga Arr	32.64	116	P	P	19 13 27.0	+1.0
	comp=Z,0.5nm,0.8s,baz=286,slow=12,SNR=4.8						
	comp=Z,0.5nm,0.8s						
WR0	Warramunga Arr	32.83	116	P	P	19 13 22.4	-5.2
ASAR	Alice Springs	33.62	123	P	P	19 13 34.8	+0.4
	comp=Z,1.0nm,1.0s,baz=299,slow=7.6,SNR=4.5						
	comp=Z,1.0nm,1.0s						
SHL	Shillong	34.40	342	P	P	19 13 42.2	+1.0
SHL				IAmb	IAmb	19 14 04.9	
	comp=Z,11nm,1.0s						
ENH	Enshi	37.71	9	P	P	19 14 10.6	+1.2
ENH				IAmb	IAmb	19 14 19.9	
	comp=Z,8.9nm,0.6s						
LSA	Lhasa	38.49	343	P	P	19 14 18.6	+2.2
LSA				IAmb	IAmb	19 14 28.8	
	comp=Z,6.4nm,0.6s						
STKA	Stephens Creek	43.29	130	P	P	19 14 57.3	+1.8
	comp=Z,13nm,1.2s,baz=270,slow=5.1,SNR=3.6						
	comp=Z,13nm,1.2s						
GTA	Gaotai	46.47	356	eP	P	19 15 23.0	+2.1
GTA				pP	pwP	19 15 31.6	+0.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KSAR	Wonju Array Be	49.98	26	P	P	19 15 48.5	+0.7
KSRS	Korea Array	50.00	26	P	P	19 15 47.9	-0.2
	comp=Z,0.8nm,0.6s,baz=227,slow=7.3,SNR=6.5						
	comp=Z,0.8nm,0.6s						
SONM	Songino Array	54.84	3	P	P	19 16 25.4	+1.4
SONM				IAmb	IAmb	19 16 26.7	
	comp=Z,5.1nm,0.9s						
SONM	Songino Array	54.84	3	P	P	19 16 25.7	+1.8
	comp=Z,5.0nm,0.8s,baz=183,slow=8.4,SNR=19						
	comp=Z,5.0nm,0.8s						
BOOM	Boomskoye usch	55.38	336	P	P	19 16 27.4	-0.6
MK31	Makanchi Array	56.90	343	P	P	19 16 38.7	+0.1
MK31				IAmb	IAmb	19 16 52.2	
	comp=Z,4.4nm,1.0s						
MKAR	Makanchi Array	56.90	343	P	P	19 16 38.1	-0.5
MKAR	Makanchi Array	56.90	343	P	P	19 16 39.6	+1.0
	comp=Z,1.4nm,0.6s,baz=144,slow=8.0,SNR=16						
	comp=Z,1.4nm,0.6s						
MAKZ	Makanchi	57.00	343	P	P	19 16 39.0	-0.3
KK31	Karatay Array	58.24	332	P	P	19 16 48.2	+0.1
KKAR	Karatay Array	58.24	332	P	P	19 16 47.8	-0.3
HEH	HeiHe	60.91	17	eP	P	19 17 06.6	+0.3
HEH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KLR	Kul'dur	61.43	21	P	P	19 17 09.7	-0.2
	comp=Z,1.0nm,0.5s,baz=179,slow=8.7,SNR=3.4						
	comp=Z,1.0nm,0.5s						
KURBB	Kurchatov Arra	61.44	342	P	P	19 17 11.0	+1.1
	comp=Z,0.9nm,0.8s,baz=162,slow=6.2,SNR=8.1						
	comp=Z,0.9nm,0.8s						
KURK	Kurchatov	61.49	342	P	P	19 17 10.7	+0.4
KURK				IAmb	IAmb	19 17 33.8	
	comp=Z,4.0nm,0.9s						
ZAA0	Zalesovo Array	62.87	348	P	P	19 17 19.3	-0.1
ZAA0				IAmb	IAmb	19 17 41.5	
	comp=Z,4.7nm,0.8s						
ZALV	Zalesovo Beam	62.87	348	P	P	19 17 19.3	-0.1
ZALV	Zalesovo Beam	62.87	348	P	P	19 17 20.0	+0.6
	comp=Z,5.2nm,1.0s,baz=143,slow=3.6,SNR=14						
	comp=Z,5.2nm,1.0s						
BVAR	Borovoye Array	66.16	339	P	P	19 17 41.0	-0.1
	comp=Z,0.4nm,0.5s,baz=145,slow=8.3,SNR=2.7						
	comp=Z,0.4nm,0.5s						
ABKAR	Akbulak array	67.74	331	P	P	19 17 48.4	-2.7
YAK	Yakutsk	71.96	13	P	P	19 18 16.4	-0.4
ARU	Arti	73.25	336	P	P	19 18 25.0	+0.4
BRTR	Keskin Array B	79.24	313	P	P	19 19 01.4	+2.2
	comp=Z,0.5nm,0.8s,baz=100,slow=6.0,SNR=1.5						
	comp=Z,0.5nm,0.8s						
SHEM	Shemya Is, Ala	84.26	35	LR	LR	19 57 04.3	
	comp=Z,52nm,21.4s,baz=250,slow=36						
BURAR	Bucovina Array	87.30	318	P	P	19 19 39.7	-0.9
BUR08	Bucovina Ar. S	87.32	319	P	P	19 19 39.0	-1.6
BUR08				IAmb	IAmb	19 20 11.3	
	comp=Z,3.4nm,1.1s						
FINES	FINESS Array B	90.20	332	P	P	19 19 54.1	+0.3
	comp=Z,0.9nm,1.0s,baz=164,slow=5.6,SNR=1.8						
	comp=Z,0.9nm,1.0s						
TXAR	Lajitas Array	146.37	46	PKPbc	PKiKP	19 26 36.3	-2.1
	comp=Z,0.7nm,0.7s,baz=316,slow=2.5,SNR=6.8						

*IDC **16** 19:19:48.5±1.0, 40°.70N×138°.95E, h0km, mb3.6/5, mbtmp3.5/8, ML3.0/3, MS2.3/1, Error ellipse: s-maj=32.2km s-min=17.8km az=91.0*
*NIED **16** 19:19:50.0, 40°.75N×139°.14E, h19km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.90; $M_{\theta\theta}$-0.27; $M_{\phi\phi}$-1.63; $M_{r\theta}$-0.02; $M_{\theta\phi}$0.10; $M_{\phi r}$0.91; Fault plane solution: $M_0$1.99000×10^{14} NP1: ϕ_s357.00000°, δ59.00000°, λ91.00000°. NP2: ϕ_s175.00000°, δ31.00000°, λ88.00000°.*
*JMA **16** 19:19:50.0±0.1, 40°.7N±0°.3×139°.1E±0°.6, h19km±1km, MV3.6/37, W OFF AOMORI PREF*

**ISC 16 19:19:48.8±1.7, 40°.79N±0°.

0.5nm,0.9s
FINES FINESS Array B 64.69 331 P **P** **19 30 27.6 -0.2**
0.5nm,0.6s,baz=63,slow=9.5,SNR=2.2
0.5nm,0.6s
NOA NORSAR Array B 70.05 336 P **P** **19 31 02.0 +0.2**
0.4nm,0.8s,baz=32,slow=7.4,SNR=1.7
0.4nm,0.8s

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*NEIC **16** 19:29:43.8±1.9, 43°.66N±0°.09×105°.2W±0°.1, h0km±1km, ML3.4/66, Error ellipse: s-maj=21.5km s-min=10.6km az=51.0*
*IDC **16** 19:29:48.9±1.5, 43°.68N×105°.54W, h0km, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=29.1km s-min=10.1km az=150.0*
ISC 16 19:29:44.8±1.0, 43°.58N±0°.04×105°.26W±0°.05, h0km, n29, σ1⇟92/16, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.04**	**58**	**Pg**	**Pb**	**19 30 03.4**	**-2.4**
K22A	**Casper**	**1.31**	**225**		**Pn**	**19 30 10.9**	**+0.4**
PHWY	**Pilot Hill**	**2.28**	**184**	Pn	**Pb**	**19 30 26.0**	**-1.1**
PHWY				IAML		19 31 12.2	
RWWY	**Rawlins**	**2.38**	**218**	Pn	**Pb**	**19 30 27.2**	**-1.4**
RWWY				IAML		19 31 15.7	
N23A	**Red Feather La**	**2.73**	**191**	Pn	**Pb**	**19 30 33.0**	**-1.7**
N23A				IAML		19 31 19.4	
	comp=E,113nm,0.8s						
N23A				IAML		19 31 19.6	
	comp=N,146nm,0.7s						
LAO	**LASA Array**	**3.18**	**348**		**Pb**	**19 30 40.3**	**-1.9**
LAO				IAML		19 31 46.5	
	comp=N,136nm,0.9s						
LAO				IAML		19 31 47.9	
	comp=N,130nm,1.4s						
PD31	**Pinedale Array**	**3.25**	**257**	Pn	**Pb**	**19 30 40.3**	**-3.2**
PDAR	**Pinedale Array**	**3.25**	**257**	Pn	**Pn**	**19 30 38.4**	**+1.1**
PDAR	**Pinedale Array**	**3.25**	**257**	Pn	**Pb**	**19 30 40.3**	**-3.2**
	comp=N,1.0nm,0.3s,baz=81,slow=16,SNR=1.4						
PDAR				Pg	**Pg**	**19 30 47.5**	**+0.5**
	comp=N,6.1nm,0.3s,baz=76,slow=16,SNR=13						
PDAR				Lg	Lg	19 31 25.8	
	comp=N,7.6nm,0.3s,baz=75,slow=35,SNR=2.9						
	comp=N,1.5nm,0.3s						
RLMT	**Red Lodge**	**3.26**	**300**	Pn	**Pn**	**19 30 37.5**	**+0.1**
RLMT				IAML		19 30 56.8	
	comp=N,59nm,1.1s						
RLMT				IAML		19 31 49.5	
	comp=N,78nm,0.9s						
OGNE	**Ogallala**	**3.56**	**137**		**Pn**	**19 30 40.5**	**-0.9**
YMP	**Mirror Lake Pl**	**3.71**	**290**		**Pn**	**19 30 43.7**	**0.0**
ISCO	**Idaho Springs**	**3.79**	**184**		**Pn**	**19 30 45.0**	**+0.2**
LOHW	**Long Hollow**	**3.88**	**272**		**Pn**	**19 30 47.5**	**+1.6**
LOHW				IAML		19 32 07.6	
	comp=N,32nm,0.8s						
FLWY	**Flagg Ranch**	**3.97**	**279**	IAML		19 31 20.8	
	comp=N,59nm,1.7s						
FLWY				IAML		19 32 22.6	
	comp=N,66nm,1.5s						
YFT	**Old Faithful**	**4.12**	**284**	IAML		19 31 22.6	
	comp=E,50nm,1.7s						
YFT				IAML		19 31 28.8	
	comp=N,33nm,1.5s						
IMW	**Indian Meadow**	**4.13**	**276**	IAML		19 31 16.9	
	comp=N,59nm,0.6s						
IMW				IAML		19 32 18.8	
	comp=N,32nm,1.3s						
TPAW	**Teton Pass**	**4.14**	**271**	IAML		19 32 32.9	
	comp=N,38nm,1.2s						
TPAW				IAML		19 32 39.9	
	comp=N,53nm,1.1s						
AHID	**Auburn Hatcher**	**4.35**	**261**	IAML		19 32 23.5	
	comp=N,42nm,0.9s						
AHID				IAML		19 32 27.3	
	comp=N,41nm,1.1s						
SMCO	**Snowmass**	**4.58**	**197**	IAML		19 32 26.5	
	comp=N,43nm,1.3s						
SMCO				IAML		19 33 19.3	
	comp=N,34nm,3.5s						
BOZ	**Bozeman (W)**	**4.98**	**296**	IAML		19 32 35.8	
	comp=N,21nm,0.9s						
BOZ				IAML		19 32 41.7	
	comp=N,18nm,1.4s						
HWUT	**Hardware Ranch**	**5.05**	**249**	IAML		19 32 55.7	
	comp=N,32nm,1.2s						
ELK	**Elko**	**7.94**	**252**	Lg	Lg	19 33 52.6	
	comp=N,0.1nm,0.3s,baz=198,slow=20,SNR=2.2						
ANMO	**Albuquerque**	**8.67**	**187**	Lg	Lg	19 34 26.2	
	baz=144,slow=9.2,SNR=1.7						
ULM	**Lac du Bonnet**	**9.26**	**41**	Pn	**Pn**	**19 32 02.1**	**+2.7**
	comp=N,0.8nm,0.3s,baz=221,slow=14,SNR=3.2						
ULM				Lg	Lg	19 34 37.3	
	comp=N,0.2nm,0.3s,baz=334,slow=18,SNR=2.2						
	comp=N,3.2nm,0.5s						
NEW	**Newport**	**9.50**	**304**	Lg	Lg	19 34 35.2	
	comp=N,0.2nm,0.3s,baz=331,slow=19,SNR=1.6						
I56US	**NEWPORT INFRAS**	**9.50**	**304**	I	I	20 21 40.0	
	comp=N,0.2nm,1.0s,baz=117,slow=310,SNR=30						
NVAR	**Mina Array Bea**	**11.12**	**247**	Pn	Pn	19 32 31.8	+6.6
	comp=N,0.2nm,0.6s,baz=60,slow=12,SNR=1.1						
TXAR	**Lajitas Array**	**14.28**	**174**	Pg	P	19 34 11.4	+56
	baz=3.9,slow=15,SNR=2.9						
TXAR				Lg	Lg	19 37 14.8	
	baz=358,slow=30,SNR=1.9						

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*BJI **16** 19:34:09.6±0.0, 36°.42N×140°.87E, h66km, mb4.9/73, mB5.0/32, Ms4.1/34, Ms7 3.9/37*
*MOS **16** 19:34:10.2±1.0, 36°.49N×140°.74E, h49km, mb5.2/62, MS4.1/7, Error ellipse: s-maj=6.5km s-min=3.7km az=115.3*
*BGR **16** 19:34:11.8, 36°.80N×141°.34E, h33km, mb5.1, Hypocentre not reviewed by the ISC*
*NEIC **16** 19:34:12.0±2.7, 36°.43N±0°.06×140°.77E±0°.09, h45km±5km, mb4.9/273, Error ellipse: s-maj=10.2km s-min=7.8km az=107.0*
*JMA **16** 19:34:12.2±0.1, 36°.4N±0°.2×140°.7E±0°.6, h52km, MD4.8/38, MW4.7/38, NORTHERN IBARAKI PREF*
JMA Felt IV J1 at NORTHERN IBARAKI PREF .
*IDC **16** 19:34:12.6±0.6, 36°.42N×140°.71E, h56km±4km, mb4.5/29, mbtmp4.8/31, MS3.8/49, Error ellipse: s-maj=8.1km s-min=6.9km az=170.0*
*NIED **16** 19:34:12.2, 36°.43N×140°.69E, h52km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; M_{rr}0.94; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$-0.73; $M_{r\theta}$0.37; $M_{\theta\phi}$-0.03; $M_{\phi r}$1.10; Fault plane solution: $M_0$1.43000×10^16^ NP1:ϕ_s15.00000°, δ72.00000°, λ95.00000°. NP2:ϕ_s180.00000°, δ18.00000°, λ75.00000°.*
*GCMT **16** 19:34:14.0±0.4, 36°.42N±0°.02×140°.80E±0°.03, h49km±1km, MW4.9/74, Moment Tensor Solution. s32, c35; s74, c110; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}2.45±.14; $M_{\theta\theta}$-0.66±.09; $M_{\phi\phi}$-1.79±.08; $M_{r\theta}$0.25±.07; $M_{\theta\phi}$-0.46±.05; $M_{\phi r}$1.11±.06; Best double couple: $M_0$2.47600×10^16^ NP1:ϕ_s17.00000°, δ59.00000°, λ88.00000°. NP2: ϕ_s201.00000°, δ31.00000°, λ94.00000°. Principal axes: T 2.7290, Plg76.0000°, Azm280.0000°; N -0.5010, Plg2.0000°, Azm18.0000°; P -2.2240, Plg14.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 19:34:11.6±0.3, 36°.46N±0°.03×140°.83E±0°.04, h51km±2km, h51km:pP-P, n1071, σ1⇟26/950, mb5.0/272, MS3.9/65, 64C-50D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.23**	**239**	*i* P	**Pn**	**19 34 20.4**	**+0.1**
JHYU				S	**Sn**	**19 34 26.1**	**-0.4**
JHYU	**Hitachinakayam**	**0.23**	**239**	A	A	19 34 20.4	
	comp=E,756nm,0.8s,comp=N,578nm,0.3s						
JHO	**Hitachi**	**0.26**	**307**	P	**Pn**	**19 34 20.8**	**+0.2**
JHO				S	**Sn**	**19 34 26.6**	**-0.3**
JHO	**Hitachi**	**0.26**	**307**	A	A	19 34 20.8	
	comp=E,403nm,0.9s,comp=N,161nm,1.5s						
JIHU	**Itakohorinouch**	**0.55**	**206**	*i* P	**Pn**	**19 34 23.8**	**+0.3**
JIHU				*e*S	**Sn**	**19 34 32.3**	**+0.3**
JIHU	**Itakohorinouch**	**0.55**	**206**	A	A	19 34 23.8	
	comp=E,305nm,0.7s,comp=N,161nm,0.9s						
JYT	**Yasato**	**0.56**	**246**	⇓*i* P	**Pn**	**19 34 23.1**	**-0.6**
JYT				⇓S	**Sn**	**19 34 30.5**	**-1.8**
JYT	**Yasato**	**0.56**	**246**	A	A	19 34 23.1	
	comp=E,649nm,0.4s,comp=N,693nm,0.4s						
ONAJ	**Iwakimizuishiy**	**0.64**	**358**	*i* P	**Pn**	**19 34 25.1**	**+0.3**
ONAJ				S	**Sn**	**19 34 34.8**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.64**	**358**	A	A	19 34 25.1	
	comp=E,133nm,0.7s,comp=N,54nm,0.3s						
JFFD	**Fukushimafurud**	**0.67**	**342**	A	A	19 34 25.7	
	comp=E,114nm,0.8s,comp=N,82nm,0.6s						
JSMT	**Sammumatsuo**	**0.87**	**201**	A	A	19 34 27.6	
	comp=E,104nm,0.5s,comp=N,58nm,0.9s						
JSB	**Shiboa**	**0.89**	**305**	A	A	19 34 27.8	
	comp=E,64nm,0.9s,comp=N,53nm,2.4s						
JFK	**Kawauchi**	**0.91**	**2**	*i* P	**Pn**	**19 34 28.4**	**+0.2**
JFK	**Kawauchi**	**0.91**	**2**	A	A	19 34 28.4	
	comp=E,19nm,0.9s,comp=N,18nm,1.3s						
JAG	**Ashikaga**	**1.11**	**269**	⇓*i* P	**Pn**	**19 34 30.2**	**-0.6**
JAG				⇓S	**Sn**	**19 34 43.1**	**-2.0**
JAG	**Ashikaga**	**1.11**	**269**	A	A	19 34 30.2	
	comp=E,23nm,1.5s,comp=N,43nm,1.8s						
JCN	**Nagara**	**1.15**	**206**	A	A	19 34 31.4	
	comp=E,74nm,2.0s,comp=N,57nm,1.3s						
TOK	**Tokyo**	**1.16**	**229**	A	A	19 34 30.9	
	comp=E,117nm,0.9s,comp=N,76nm,1.2s						
JOTO	**OTAMA OYAMA**	**1.17**	**340**	*i* P	**Pn**	**19 34 32.4**	**+0.6**
JOTO	**OTAMA OYAMA**	**1.17**	**340**	A	A	19 34 32.4	
	comp=E,65nm,1.6s,comp=N,66nm,0.4s						
I30JP	**ISUMI INFRASON**	**1.22**	**200**	P	**Pn**	**19 34 33.8**	**+1.5**
I30JP				S	**Sn**	**19 34 48.5**	**+0.8**
I30JP				I	I	19 38 40.0	
	baz=6.1,slow=326,SNR=2.4						
JMST	**Minamisoumatoc**	**1.27**	**2**	A	A	19 34 34.4	
	comp=E,20nm,0.5s,comp=N,18nm,0.4s						
JFY	**Yanaizu**	**1.30**	**317**	⇓*i* P	**Pn**	**19 34 33.8**	**+0.3**
JFY	**Yanaizu**	**1.30**	**317**	A	A	19 34 33.8	
	comp=E,17nm,2.6s,comp=N,15nm,1.4s						
JKT	**Katashina**	**1.30**	**284**	⇓*i* P	**Pn**	**19 34 33.4**	**-0.2**
JKT				⇓S	**Sn**	**19 34 49.2**	**-0.8**
JKT	**Katashina**	**1.30**	**284**	A	A	19 34 33.4	
	comp=E,35nm,0.4s,comp=N,39nm,0.4s						
JHU	**Hanno**	**1.39**	**245**	A	A	19 34 34.0	
	comp=E,13nm,0.8s,comp=N,12nm,2.3s						
JKUC	**kamogawauchiur**	**1.39**	**202**	A	A	19 34 34.8	
	comp=E,22nm,4.4s,comp=N,22nm,1.4s						
JMM	**Marumori**	**1.41**	**359**	P	**Pn**	**19 34 36.2**	**+1.3**
JMM	**Marumori**	**1.41**	**359**		**Pn**	**19 34 35.4**	**+0.5**
JMM	**Marumori**	**1.41**	**359**	⇓*i* P	**Pn**	**19 34 35.7**	**+0.8**
JMM				⇓S	**Sn**	**19 34 53.4**	**+1.0**
JMM	**Marumori**	**1.41**	**359**	A	A	19 34 35.7	
	comp=E,25nm,1.2s,comp=N,29nm,0.7s						
JYO	**Yokosk**	**1.55**	**218**	A	A	19 34 36.7	
	comp=E,33nm,1.7s,comp=N,26nm,2.4s						
JYAR	**Yonezawaarcadi**	**1.55**	**340**	A	A	19 34 37.9	
	comp=E,52nm,1.0s,comp=N,48nm,0.9s						
JSGW	**Sagamiharawaka**	**1.56**	**237**	A	A	19 34 36.7	
	comp=E,30nm,1.5s,comp=N,28nm,2.4s						
JUON	**Uonuma**	**1.60**	**298**	A	A	19 34 37.5	
	comp=E,8.0nm,1.5s,comp=N,6.0nm,2.5s						
TATJ	**Tateyama 2**	**1.61**	**208**	A	A	19 34 37.8	
	comp=E,42nm,2.1s,comp=N,33nm,2.1s						
JRY	**Ryogami san**	**1.62**	**255**	A	A	19 34 37.4	
	comp=E,15nm,1.0s,comp=N,17nm,1.8s						
JGK	**Kuni**	**1.76**	**274**	A	A	19 34 39.5	
	comp=E,19nm,1.1s,comp=N,16nm,0.8s						
JNS	**Sasagawa**	**1.82**	**319**	A	A	19 34 41.0	
	comp=E,11nm,1.2s,comp=N,11nm,1.1s						
JOD2	**Odawara 2**	**1.85**	**230**	A	A	19 34 40.8	
	comp=E,24nm,1.4s,comp=N,26nm,2.2s						
JYS	**Shiratake**	**1.86**	**341**	A	A	19 34 42.4	
	comp=E,32nm,1.5s,comp=N,23nm,1.2s						
JOU	**Okura**	**1.91**	**356**	A	A	19 34 43.4	
	comp=E,23nm,0.7s,comp=N,20nm,0.6s						
JIZZ	**Izumozaki**	**2.00**	**303**	A	A	19 34 43.4	
	comp=E,20nm,1.8s,comp=N,24nm,3.7s						
JIM2	**Oshima 3**	**2.07**	**214**	A	A	19 34 44.2	
	comp=E,18nm,1.9s,comp=N,17nm,1.7s						
JYN	**Shimob**	**2.08**	**243**	A	A	19 34 44.0	
	comp=E,22nm,2.6s,comp=N,26nm,2.2s						
JHTM	**Izuhatsuma**	**2.10**	**225**	A	A	19 34 44.5	
	comp=E,39nm,1.1s,comp=N,33nm,1.3s						
MJAR	**Matsushiro Arr**	**2.11**	**273**	P	**Pn**	**19 34 44.4**	**-0.1**
	comp=N,1μm,0.6s,baz=97,slow=9.1,SNR=2944						
MJAR				S	**Sn**	**19 35 08.9**	**-0.7**
	comp=N,866nm,0.4s,baz=86,slow=17,SNR=13						
MAJO	**Matsushiro**	**2.11**	**273**	P	**Pn**	**19 34 45.4**	**+0.9**
MAJO	**Matsushiro**	**2.11**	**273**		**Pn**	**19 34 44.2**	**-0.3**
MAJO	**Matsushiro**	**2.11**	**273**	*d* iP	**Pn**	**19 34 44.6**	**+0.1**
MJB9	**Matsu-Tunnel**	**2.11**	**273**		**Pn**	**19 34 44.2**	**-0.3**
JOFO	**Osakifurukawao**	**2.14**	**2**	A	A	19 34 46.9	
	comp=E,40nm,4.8s,comp=N,34nm,2.1s						
JFNN	**Fujinakano**	**2.15**	**235**	A	A	19 34 45.0	
	comp=E,14nm,3.6s,comp=N,20nm,2.2s						
JNG	**Nsakai**	**2.20**	**269**	A	A	19 34 45.7	
	comp=E,7.0nm,4.2s,comp=N,6.0nm,1.9s						
JJN	**Nakama**	**2.23**	**288**	A	A	19 34 46.4	
	comp=E,12nm,1.7s,comp=N,11nm,0.8s						
JNT	**Takato**	**2.25**	**256**	A	A	19 34 46.4	
	comp=E,10.0nm,3.0s,comp=N,16nm,1.5s						
JTHY	**Toshimahigashi**	**2.30**	**213**	A	A	19 34 47.5	
	comp=E,13nm,2.1s,comp=N,11nm,2.7s						
JYA	**Atsumi**	**2.31**	**338**	A	A	19 34 48.6	
	comp=E,21nm,0.7s,comp=N,21nm,0.9s						
JIZS	**Izushimoda**	**2.35**	**223**	A	A	19 34 48.1	
	comp=E,8.0nm,1.2s,comp=N,7.0nm,2.4s						
JAW	**Awa shima**	**2.36**	**328**	A	A	19 34 49.0	
	comp=E,6.0nm,2.1s,comp=N,4.0nm,2.8s						
JKMT	**Kesennumamotoy**	**2.41**	**12**	A	A	19 34 50.8	
	comp=E,6.0nm,1.1s,comp=N,5.0nm,0.6s						
JYK	**Kaneyama**	**2.48**	**352**	A	A	19 34 51.5	
	comp=E,10.0nm,2.8s,comp=N,8.0nm,1.6s						
SHZ3	**Shizuoka 3**	**2.54**	**238**	A	A	19 34 50.6	
	comp=E,21nm,0.7s,comp=N,28nm,1.0s						
JSD	**Sado**	**2.58**	**308**	P	**Pn**	**19 34 51.7**	**+0.7**
JSD	**Sado**	**2.58**	**308**		**Pn**	**19 34 50.9**	**-0.1**
JMYK	**Miyake Tsubota**	**2.61**	**204**	A	A	19 34 52.1	
	comp=E,6.0nm,2.2s,comp=N,6.0nm,2.3s						
JNY	**Yasuok**	**2.64**	**246**	A	A	19 34 52.0	
	comp=E,13nm,1.6s,comp=N,17nm,1.2s						
JYYZ	**Yamagatayuza**	**2.65**	**345**	A	A	19 34 53.6	
	comp=E,15nm,4.1s,comp=N,18nm,2.4s						
JKO	**Kozu shima**	**2.65**	**212**	A	A	19 34 52.5	
	comp=E,13nm,2.9s,comp=N,10.0nm,2.9s						
OFUJ	**Ofunato**	**2.70**	**14**	A	A	19 34 55.1	
	comp=E,5.0nm,3.4s,comp=N,4.0nm,1.1s						
JSG	**Sagara**	**2.79**	**231**	P	**Pn**	**19 34 56.2**	**+2.4**
JSG	**Sagara**	**2.79**	**231**		**Pn**	**19 34 53.4**	**-0.4**
JSG	**Sagara**	**2.79**	**231**	A	A	19 34 54.2	
	comp=E,19nm,2.6s,comp=N,12nm,1.8s						
JTT	**Ttatey**	**2.82**	**274**	A	A	19 34 54.5	
	comp=E,6.0nm,2.3s,comp=N,7.0nm,1.2s						
JKKS	**Kakegawashinom**	**2.87**	**234**	A	A	19 34 55.2	
	comp=E,10.0nm,2.9s,comp=N,11nm,2.1s						
JGF	**Kuroka**	**2.94**	**254**	P	**Pn**	**19 34 57.5**	**+1.6**
JGF	**Kuroka**	**2.94**	**254**		**Pn**	**19 34 56.5**	**+0.6**
JRG	**Rokugo**	**2.94**	**357**	A	A	19 34 58.0	
	comp=E,10.0nm,2.4s,comp=N,10.0nm,1.5s						
HMMJ	**Hamamatsu 2**	**2.99**	**239**	A	A	19 34 56.9	
	comp=E,4.0nm,4.3s,comp=N,4.0nm,2.3s						
JOM	**Ohasama**	**3.03**	**7**	A	A	19 34 59.6	
	comp=E,6.0nm,0.4s,comp=N,4.0nm,1.0s						
JYW	**Yuwa**	**3.12**	**351**	A	A	19 35 00.4	
	comp=E,13nm,2.2s,comp=N,15nm,2.2s						
JAO	**Obara**	**3.13**	**249**	A	A	19 34 58.9	
	comp=E,11nm,1.5s,comp=N,7.0nm,1.9s						
JSZI	**Iwateshizukuis**	**3.28**	**2**	A	A	19 35 02.9	
	comp=E,12nm,1.3s,comp=N,9.0nm,2.4s						
INU	**Inuyama**	**3.28**	**251**	P	**Pn**	**19 35 02.1**	**+1.5**
INU	**Inuyama**	**3.28**	**251**		**Pn**	**19 35 01.2**	**+0.7**
JICN	**Ichinomiyachia**	**3.43**	**252**	A	A	19 35 03.1	
	comp=E,10.0nm,2.1s,comp=N,10.0nm,1.5s						
JHJ	**Hachijo jima 2**	**3.44**	**195**	P	**Pn**	**19 35 02.5**	**-0.2**
	comp=N,292nm,0.3s,baz=336,slow=18,SNR=94						
JHJ				S	**Sn**	**19 35 42.0**	**-0.3**
	comp=N,1μm,0.3s,baz=73,slow=19,SNR=16						
JHJ2	**Mitsune**	**3.44**	**194**	P	**Pn**	**19 35 02.8**	**+0.1**
JHJ2	**Mitsune**	**3.44**	**194**		**Pn**	**19 35 02.1**	**-0.6**
JHJ2	**Mitsune**	**3.44**	**194**	A	A	19 35 04.0	
	comp=E,5.0nm,0.6s,comp=N,4.0nm,2.6s						
JKEN	**Kujiedanarisaw**	**3.81**	**10**	A	A	19 35 10.6	
	comp=E,10.0nm,1.0s,comp=N,14nm,0.7s						
JNTW	**Noshirotokiwa**	**3.84**	**352**	A	A	19 35 10.6	
	comp=E,8.0nm,3.0s,comp=N,9.0nm,2.1s						
JFM	**Mihama**	**4.03**	**258**	A	A	19 35 11.6	
	comp=E,3.0nm,2.3s,comp=N,5.0nm,1.6s						
JTM	**Tenmabayashi**	**4.33**	**2**	P	**Pn**	**19 35 17.3**	**+2.4**
JTM	**Tenmabayashi**	**4.33**	**2**	Pn	**Pn**	**19 35 17.1**	**+2.3**
ERM	**Erimo**	**5.84**	**17**	P	**Pn**	**19 35 36.7**	**+1.1**
ERM	**Erimo**	**5.84**	**17**	Pn	**Pn**	**19 35 35.5**	**-0.1**
ERM	**Erimo**	**5.84**	**17**	*d* iP	**Pn**	**19 35 35.3**	**-0.3**
ERM				pmax	pmax		
	comp=Z,40nm,0.7s						
JEM	**Erimo**	**5.84**	**17**	P	**Pn**	**19 35 36.8**	**+1.2**
JMN	**Monobe**	**6.31**	**246**	P	**Pn**	**19 35 42.9**	**+0.8**
JMN	**Monobe**	**6.31**	**246**		**Pn**	**19 35 42.2**	**+0.1**
ASAJ	**Asahikawa**	**7.77**	**9**	P	**Pn**	**19 36 01.0**	**-1.0**
	comp=Z,27nm,0.5s,baz=202,slow=6.3,SNR=59						
ASAJ				S	**Sn**	**19 37 24.4**	**-4.1**
	comp=Z,46nm,0.6s,baz=198,slow=20,SNR=6.9						
ASAJ				LR	LR	19 40 07.7	
	comp=Z,175nm,20.2s,baz=182,slow=45						
JKA	**Kamikawa-asahi**	**7.77**	**10**		**Pn**	**19 36 00.9**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**8.49**	**25**	*c*eP	**Pn**	**19 36 10.9**	**-1.0**
SHO	**Shikotan**	**8.71**	**30**	*e*P	**Pn**	**19 36 12.9**	**-2.0**
SHO				*e*S	**Sn**	**19 37 44.5**	**-7.2**
SHO				pmax	pmax		
	comp=Z,49nm,0.5s						
SHO				pmax	pmax		
	comp=N,12nm,0.3s						
SHO				pmax	pmax		
	comp=E,30nm,0.4s						
JNU	**Nakatsue**	**8.83**	**251**	P	**Pn**	**19 36 17.7**	**+1.0**
JNU	**Nakatsue**	**8.83**	**251**		**Pn**	**19 36 17.1**	**+0.5**
JNU	**Nakatsue**	**8.83**	**251**	P	**Pn**	**19 36 17.5**	**+0.9**
	comp=E,56nm,0.8s,baz=61,slow=8.3,SNR=74						
JNU				LR	LR	19 39 56.4	
	comp=E,891nm,18.8s,baz=67,slow=39						
TEY	**Ternei**	**9.15**	**341⇑**	*e*P	**Pn**	**19 36 22.5**	**+1.6**
TEY				*e*		19 38 07.6	
TEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
TEY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
JCJ	**Chichijima**	**9.40**	**173**		**Pn**	**19 36 20.5**	**-4.0**
JCJ	**Chichijima**	**9.40**	**173**	P	Pn	19 36 16.3	-8.2
	comp=Z,83nm,0.3s,baz=294,slow=20,SNR=84						
JCJ				S	Sn	19 37 54.0	-15
	comp=Z,385nm,0.5s,baz=315,slow=20,SNR=9.0						
JTU	**Tsushima**	**9.52**	**262**	P	**Pn**	**19 36 28.4**	**+2.4**
VLA	**Vladivostok**	**9.57**	**317**	*i* P	**Pn**	**19 36 28.9**	**+2.3**
MSHR	**Mys Shultsa**	**9.65**	**312**	⇓*e*P	**Pn**	**19 36 30.4**	**+2.7**
PSTR	**Posyet**	**9.90**	**312**	*de*P	**Pn**	**19 36 35.1**	**+3.9**
USA0B	**Ussuriysk Arra**	**10.26**	**322**		**Pn**	**19 36 38.7**	**+2.6**
USA0B	**Ussuriysk Arra**	**10.26**	**322**	*c i* P	**Pn**	**19 36 38.4**	**+2.3**
USRK	**Ussuriysk Ar.**	**10.26**	**322**	Pn	**Pn**	**19 36 37.5**	**+1.5**
USRK	**Ussuriysk Ar.**	**10.26**	**322**	P	**Pn**	**19 36 39.0**	**+2.9**
	comp=Z,13nm,0.5s,baz=134,slow=13,SNR=40						
USRK				LR	LR	19 40 27.1	
	comp=Z,532nm,18.0s,baz=147,slow=37						
USRK	**Ussuriysk Ar.**	**10.26**	**322**	P	**Pn**	**19 36 37.5**	**+1.5**
KUR	**Kuril'sk**	**10.26**	**29**	*e*P	**Pn**	**19 36 38.3**	**+2.3**
KUR				*e*S	**Sn**	**19 38 25.0**	**-4.5**
KUR				smax	smax		
	comp=E,188nm,0.5s						
KUR				smax	smax		
	comp=N,71nm,0.6s						
KSRS	**Korea Array**	**10.37**	**279**	P	**Pn**	**19 36 41.2**	**+3.5**
	comp=N,32nm,0.8s,baz=95,slow=14,SNR=108						
KSRS				LR	LR	19 40 26.0	
	comp=N,594nm,20.7s,baz=90,slow=36						
KSAR	**Wonju Array Be**	**10.40**	**279**		**Pn**	**19 36 40.5**	**+2.4**
KSAR	**Wonju Array Be**	**10.40**	**279**	P	**Pn**	**19 36 40.5**	**+2.4**
KS19	**Wonju Array Si**	**10.42**	**280**		**Pn**	**19 36 40.7**	**+2.4**
YSS	**Yuzh-Sakhalins**	**10.59**	**7**	P	**Pn**	**19 36 41.6**	**+1.1**
YSS	**Yuzh-Sakhalins**	**10.59**	**7**		**Pn**	**19 36 39.2**	**-1.3**
YSS	**Yuzh-Sakhalins**	**10.59**	**7⇑**	*e*P	**Pn**	**19 36 40.0**	**-0.5**
YSS				pmax	pmax		
	comp=Z,23nm,0.7s						
TJN	**Taejon**	**10.85**	**274**		**Pn**	**19 36 44.9**	**+0.7**
TJN	**Taejon**	**10.85**	**274⇑**	*e*P	**Pn**	**19 36 47.2**	**+3.0**
MDJ	**Mudanjiang**	**11.80**	**317**	P	**Pn**	**19 37 00.0**	**+2.9**
MDJ				PP	**PnPn**	**19 37 09.3**	**+4.2**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,260nm,4.1s						
MDJ				LR	LR		
	comp=Z,290nm,21.0s						
MDJ				LR	LR		
	comp=Z,210nm,19.2s						
MDJ				LR	LR		
	comp=Z,600nm,21.6s						
CN2	**Changchun**	**13.85**	**307**	P	**Pn**	**19 37 27.3**	**+2.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				LR	LR		
	comp=Z,300nm,11.0s						
CN2				LR	LR		
	comp=Z,

ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=Z,40nm,0.6s
ZEA MLR MLR
comp=Z,100nm,15.0s
XLT XiLinHaoTe 20.27 299 *e*P **P 19 38 40.5 -2.4**
XLT pmax pmax
comp=Z,31nm,0.8s
XLT pmax pmax
comp=Z,190nm,4.5s
XLT LR LR
comp=Z,410nm,16.3s
XLT LR LR
comp=Z,420nm,16.9s
YHNB Yeheng 20.41 240 P **P 19 38 42.0 -2.5**
YHNB IAmb IAmb 19 39 01.8
comp=Z,51nm,1.2s
NACB Ninganchiao 20.58 239 P **P 19 38 41.7 -4.6**
PET Petropavlovsk 20.75 31 P **P 19 38 46.4 -1.5**
PET Petropavlovsk 20.75 31 *de*P Pn 19 38 50.1 -0.6
PET pmax pmax
comp=Z,46nm,1.7s
PET Petropavlovsk 20.75 31 P Pn 19 38 50.2 -0.5
comp=Z,22nm,1.3s
HNS HongShan 20.88 280 ⇓P **P 19 38 46.8 -2.6**
HNS PP **PnPn 19 39 17.3 +7.8**
HNS pmax pmax
comp=Z,55nm,1.0s
HNS LR LR
comp=Z,240nm,15.9s
HNS LR LR
comp=Z,360nm,16.7s
HNS LR LR
comp=Z,370nm,19.9s
SSLB Suanglung 21.28 239 P **P 19 38 54.8 +1.0**
SSLB Suanglung 21.28 239 P **P 19 38 50.7 -3.1**
SSLB IAmb IAmb 19 38 58.1
comp=Z,113nm,1.8s
YULB Yu-li 21.30 238 P **P 19 38 51.7 -2.3**
YULB IAmb IAmb 19 39 11.6
comp=Z,44nm,1.2s
TPUB Ta-pu 21.82 239 P **P 19 38 58.6 -1.0**
TPUB Ta-pu 21.82 239 P **P 19 38 56.3 -3.3**
TPUB IAmb IAmb 19 39 01.6
comp=Z,26nm,0.7s
WHN Wuhan 22.81 263 P **P 19 39 08.0 -2.2**
WHN sP **sP 19 39 26.6 -1.9**
WHN pmax pmax
comp=Z,44nm,0.6s
WHN LR LR
comp=Z,1μm,23.8s
LYN LuoYang 23.13 274 *e*P **P 19 39 10.0 -3.4**
LYN pmax pmax
comp=Z,20nm,0.9s
LYN pmax pmax
comp=Z,220nm,4.0s
LYN LR LR
comp=Z,340nm,10.8s
LYN LR LR
comp=Z,310nm,10.6s
LYN LR LR
comp=Z,530nm,17.5s
HHC Hu-ho-hao-te 23.21 290 *e*P **P 19 39 15.3 +1.1**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,110nm,4.1s
HHC LR LR
comp=Z,120nm,14.2s
HHC LR LR
comp=Z,190nm,14.4s
HHC LR LR
comp=Z,310nm,15.2s
MA2 Magadan 24.02 12 P **P 19 39 22.5 +1.2**
MA2 Magadan 24.02 12 P **P 19 39 22.1 +0.7**
MA2 IAmb IAmb 19 39 43.9
comp=Z,31nm,1.1s
MA2 Magadan 24.02 12⇑*i*P **P 19 39 21.8 +0.4**
MA2 pmax pmax
comp=Z,13nm,0.6s
MA2 Magadan 24.02 12 P **P 19 39 22.6 +1.2**
comp=Z,27nm,0.7s
BTO Baotou 24.39 289 *e*P **P 19 39 24.9 -0.2**
BTO pP **pP 19 39 39.3 +1.1**
BTO sP **sP 19 39 46.8 +2.5**
BTO PP **PnPn 19 40 01.8 +4.3**
BTO S **S 19 43 40.5 -0.7**
BTO sS **sS 19 44 01.8 -1.3**
BTO SS **SnSn 19 44 33.8 +5.3**
BTO pmax pmax
comp=Z,24nm,0.9s
BTO pmax pmax
comp=Z,340nm,5.0s
BTO LR LR
comp=Z,240nm,16.5s
BTO LR LR
comp=Z,410nm,14.0s
BTO LR LR
comp=Z,590nm,15.6s
CIT Chita 24.77 317 *e*P **P 19 39 25.2 -3.3**
CIT *e* 19 39 43.0
CIT *e* 19 40 03.7
CIT pmax pmax
comp=Z,31nm,1.1s
CNSH ChangSha 24.91 259 P **P 19 39 29.5 -0.3**
CNSH S **S 19 43 50.4 +0.8**
CNSH pmax pmax
comp=Z,78nm,1.1s
CNSH LR LR
comp=Z,270nm,17.2s
XAN Xi'an 26.11 274 ⇑P **P 19 39 39.9 -0.8**
XAN pmax pmax
comp=Z,48nm,0.6s
XAN LR LR
comp=Z,440nm,17.2s
XAN LR LR
comp=Z,410nm,18.5s
YAK Yakutsk 26.53 348 P **P 19 39 43.4 -0.8**
YAK Yakutsk 26.53 348 LR LR 19 50 22.3
comp=Z,205nm,20.6s,baz=156,slow=36
YAK Yakutsk 26.53 348*c i*P **P 19 39 43.6 -0.6**
YAK *e**PP **sP 19 40 02.3 -1.2**
YAK *e*S **S 19 44 13.0 -1.6**
YAK *e**SS **sS 19 44 33.5 -3.3**
YAK pmax pmax
comp=Z,82nm,1.1s
YAK pmax pmax
comp=N,27nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.6s
YAK pmax pmax
comp=E,7.0nm,0.8s
YAK smax smax
comp=N,27nm,1.7s
YAK smax smax
comp=E,39nm,1.8s
YAK MLR MLR
comp=Z,180nm,19.0s
YAK MLR MLR
comp=N,115nm,18.0s
YAK MLR MLR
comp=E,40nm,11.0s
ENH Enshi 26.82 266 P **P 19 39 46.4 -0.7**
ULN Ulaanbaatar 27.29 305 P **P 19 39 50.0 -1.4**
ULN Ulaanbaatar 27.29 305*de*P **P 19 39 50.5 -0.9**
ULN pmax pmax
comp=Z,15nm,0.8s
SEY Seymchan 27.45 11⇑*e*P **P 19 39 54.6 +2.2**
SEY pmax pmax
comp=Z,19nm,0.9s
SONM Songino Array 27.72 305 P **P 19 39 53.6 -1.6**
SONM IAmb IAmb 19 39 55.7
comp=Z,15nm,0.8s
SONM Songino Array 27.72 305 P **P 19 39 54.6 -0.6**
comp=Z,16nm,0.7s,baz=108,slow=9.2,SNR=60
SONM ScP **ScP 19 46 46.5 -0.7**
comp=Z,0.8nm,0.9s,baz=105,slow=3.4,SNR=3.0
SONM LR LR 19 51 25.4
comp=Z,173nm,18.0s,baz=90,slow=37
comp=Z,16nm,0.7s
SONM Songino Array 27.72 305 P **P 19 39 53.6 -1.6**
SONM pmax pmax
comp=Z,15nm,0.8s
BOD Bodaibo 27.77 329 *e*P **P 19 39 55.0 -0.3**
BOD pmax pmax
comp=Z,37nm,0.8s
H11N2 WAKE ISLAND Hy 28.27 119 T T 20 10 01.1
baz=312,slow=75,SNR=165
H11N1 WAKE ISLAND Hy 28.28 119 T T 20 09 60.0
baz=312,slow=75,SNR=230
H11N3 WAKE ISLAND Hy 28.29 119 T T 20 10 00.9
baz=312,slow=75,SNR=225
SHEM Shemya Is, Ala 28.41 45 LR LR 19 48 38.0
comp=Z,79nm,21.8s,baz=286,slow=30
H11S1 WAKE ISLAND Hy 28.95 121 T T 20 10 53.2
baz=314,slow=76,SNR=882
H11S3 WAKE ISLAND Hy 28.95 121 T T 20 10 53.3
baz=314,slow=76,SNR=545
H11S2 WAKE ISLAND Hy 28.97 121 T T 20 10 54.4
baz=314,slow=76,SNR=322
LZH Lanzhou 29.70 280 *e*P **P 19 40 11.5 -1.4**
LZH pmax pmax
comp=Z,16nm,1.1s
LZH LR LR
comp=Z,220nm,14.8s
LZH LR LR
comp=Z,350nm,16.5s
LZH LR LR
comp=Z,440nm,17.4s
ZAK Zakamensk 30.26 309 *e*P **P 19 40 15.6 -2.1**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
GYA Guiyang 30.66 261 ⇓P **P 19 40 20.0 -1.4**
GYA pmax pmax
comp=Z,35nm,1.0s
CD2 Chengdu 31.20 271 P **P 19 40 25.9 -0.2**
CD2 S **S 19 45 29.3 +0.5**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 LR LR
comp=Z,250nm,13.9s
CD2 LR LR
comp=Z,340nm,18.6s
CD2 LR LR
comp=Z,270nm,12.6s
MOY Mondy 31.95 311 *e*P **P 19 40 36.7 +4.1**
GTA Gaotai 32.28 288 *e*P **P 19 40 34.3 -1.3**
GTA pmax pmax
comp=Z,12nm,0.9s
GTA LR LR
comp=Z,120nm,16.7s
GTA LR LR
comp=Z,170nm,17.8s
GTA LR LR
comp=Z,170nm,18.2s
KMI Kunming 34.41 262 ⇑P **P 19 40 52.9 -1.5**
KMI pmax pmax
comp=Z,18nm,0.6s
KMI LR LR
comp=Z,320nm,21.6s
KMI LR LR
comp=Z,240nm,17.1s
KMI LR LR
comp=Z,260nm,24.8s
PZH PanZhiHua 34.58 265 P **P 19 40 55.1 -0.6**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.1s
BILL Bilibino 34.71 16 *i* P **P 19 40 56.5 +0.3**
BILL *i* *PP **pP 19 41 12.2 +2.7**
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,52nm,17.0s
SLVN Son La 35.42 255 P **P 19 41 00.4 -2.5**
SLVN IAmb IAmb 19 42 06.8
comp=Z,12nm,1.1s
TIXI Tiksi 35.81 354 P **P 19 41 04.3 -1.2**
TIXI IAmb IAmb 19 41 06.4
comp=Z,19nm,0.8s
TIXI Tiksi 35.81 354⇑*e*P **P 19 41 05.4 -0.2**
TIXI pmax pmax
comp=Z,28nm,1.7s
TIXI Tiksi 35.81 354 P **P 19 41 05.3 -0.2**
GOMU GeErMu 36.79 284 P **P 19 41 15.1 +0.2**
GOMU pP pP 19 41 25.8 -2.5
GOMU pmax pmax
comp=Z,29nm,0.9s
TNCH TengChong 37.83 265 ⇑P **P 19 41 22.8 -0.8**
TNCH pP pP 19 41 38.3 +1.3
TNCH sP sP 19 41 45.4 +2.4
TNCH S **S 19 47 07.4 -3.9**
TNCH pmax pmax
comp=Z,26nm,0.7s
TNCH pmax pmax
comp=Z,140nm,3.2s
TNCH LR LR
comp=Z,180nm,4.3s
TNCH LR LR
comp=Z,270nm,4.9s
TNCH LR LR
comp=Z,160nm,9.2s
SWI Sorong 38.18 196 P **P 19 41 26.5 +0.2**
comp=Z,37nm,0.9s
NIKH Nikolski High 38.51 48 P **P 19 41 28.2 -0.5**
baz=265
KAVG Kavieng 39.94 164 P **P 19 41 41.2 +0.2**
FAKI Fak Fak 39.98 193 P **P 19 41 41.6 +0.2**
WMQ Urumqi 40.68 297 *e*P **P 19 41 47.5 +0.5**
WMQ pmax pmax
comp=Z,37nm,0.9s
WMQ pmax pmax
comp=Z,110nm,3.7s
WMQ LR LR
comp=Z,140nm,24.2s
CHTO Chiang Mai 40.69 256 P **P 19 41 46.3 -1.0**
CHTO Chiang Mai 40.69 256 P **P 19 41 46.3 -1.0**
CHTO pmax pmax
comp=Z,14nm,1.3s
SANI Sanana 40.73 203 P **P 19 41 47.8 +0.3**
CM31 Chiang Mai Arr 40.89 255 P **P 19 41 47.9 -1.0**
CMAR Chiang Mai Arr 40.89 255 P **P 19 41 47.2 -1.7**
CMAR Chiang Mai Arr 40.89 255 P **P 19 41 48.5 -0.5**
comp=Z,2.1nm,0.5s,baz=45,slow=8.4,SNR=28
CMAR PcP **PcP 19 43 49.7 +0.9**
comp=Z,1.6nm,0.8s,baz=60,slow=2.4,SNR=4.1
CMAR LR LR 20 00 57.2
comp=Z,88nm,18.4s,baz=85,slow=39
comp=Z,2.1nm,0.5s
TNA Tin City 41.59 29 P **P 19 41 53.9 -0.1**
baz=251
LSA Lhasa 41.79 276 P **P 19 41 57.3 +0.5**
LSA Lhasa 41.79 276 IAmb IAmb 19 42 16.6
comp=Z,40nm,1.5s
LSA Lhasa 41.79 276 P **P 19 41 57.3 +0.5**
LSA Lhasa 41.79 276 P **P 19 41 57.2 +0.5**
LSA sP **sP 19 42 15.2 -1.1**
ZAA0 Zalesovo Array 41.96 313 P **P 19 41 56.8 -0.4**
ZAA0 IAmb IAmb 19 41 57.9
comp=Z,26nm,0.9s
ZALV Zalesovo Beam 41.96 313 P **P 19 41 56.2 -1.0**
ZALV Zalesovo Beam 41.96 313 P **P 19 41 57.4 +0.2**
comp=Z,17nm,0.5s,baz=93,slow=7.5,SNR=88
ZALV PcP **PcP 19 43 51.9 +0.2**
comp=Z,2.2nm,0.4s,baz=91,slow=3.5,SNR=3.7
ZALV LR LR 20 00 06.1
comp=Z,51nm,21.7s,baz=108,slow=37
comp=Z,17nm,0.5s
ZSN Zaisan 42.20 303 *e*P **P 19 41 59.5 +0.2**
comp=Z,34nm,0.7s,baz=303
ZSN Zaisan 42.20 303 *e*P **P 19 41 59.5 +0.2**
ZSN pmax pmax
comp=Z,34nm,0.7s
ANM Nome 42.33 31 P **P 19 41 59.0 -1.1**
baz=255
M13K Dall Lake 42.41 38 P **P 19 41 59.6 -1.1**
baz=262
J14K Nanvaranak Lak 42.71 34 P **P 19 42 02.3 -0.9**
baz=259
L14K Kuka Creek 42.87 36 P **P 19 42 04.7 +0.2**
baz=261
F15K North Star Dit 42.93 30 P **P 19 42 06.2 +1.3**
baz=255
G15K Niukluk 42.99 31 P **P 19 42 06.1 +0.6**
baz=256
M14K Bethel 43.13 37 P **P 19 42 09.4 +2.8**
M14K IAmb IAmb 19 42 10.6
comp=Z,16nm,0.7s
M14K Bethel 43.13 37 P **P 19 42 07.2 +0.6**
baz=262
N14K Kuskokwak Cree 43.17 38 P **P 19 42 07.5 +0.5**
baz=264
C16K Lisburne Hills 43.43 26 P **P 19 42 10.7 +1.8**
C16K IAmb IAmb 19 42 11.7
comp=Z,12nm,0.8s
C16K Lisburne Hills 43.43 26 P **P 19 42 09.8 +0.9**
baz=251
L15K Ungalak Mounta 43.49 36 P **P 19 42 10.5 +1.0**
baz=262
K15K Wolf Creek Mou 43.56 35 P **P 19 42 12.3 +2.2**
K15K Wolf Creek Mou 43.56 35 P **P 19 42 10.9 +0.9**
baz=261
NRIK Noril'sk 43.59 336 P **P 19 42 10.0 -0.3**
NRIK IAmb IAmb 19 42 12.4
comp=Z,12nm,0.8s
NRIK Noril'sk 43.59 336 P **P 19 42 09.8 -0.5**
comp=Z,9.6nm,0.6s,baz=108,slow=13,SNR=11
comp=Z,9.6nm,0.6s
NRIK Noril'sk 43.59 336*ce*P **P 19 42 09.9 -0.3**
NRIK pmax pmax
comp=Z,13nm,0.9s
M15K Kasigluk River 43.75 37 P **P 19 42 11.7 0.0**
baz=264
G16K Koyuk River 43.78 30 P **P 19 42 12.6 +0.8**
baz=257
N15K Kwethluk River 43.99 38 P **P 19 42 16.1 +2.6**
N15K IAmb IAmb 19 42 17.4
comp=Z,16nm,0.8s
N15K Kwethluk River 43.99 38 P **P 19 42 14.5 +0.9**
baz=265
MK31 Makanchi Array 44.03 303 P **P 19 42 13.9 -0.2**
MK31 IAmb IAmb 19 42 15.6
comp=Z,18nm,0.8s
MK31 Makanchi Array 44.03 303 P **P 19 42 13.9 -0.2**
MK31 pmax pmax
comp=Z,18nm,0.8s
MKAR Makanchi Array 44.03 303 P **P 19 42 13.5 -0.6**
MKAR Makanchi Array 44.03 303 P **P 19 42 14.3 +0.2**
comp=Z,19nm,0.7s,baz=87,slow=9.2,SNR=134
MKAR LR LR 20 01 21.7
comp=Z,137nm,18.4s,baz=76,slow=37
comp=Z,19nm,0.7s
MKAR Makanchi Array 44.03 303 *i* P **P 19 42 13.8 -0.3**
MKAR pmax pmax
comp=Z,20nm,0.7s
O15K Ungalikthiuk R 44.04 40 P **P 19 42 14.7 +0.7**
baz=266
D17K Noatak River 44.07 27 P **P 19 42 15.3 +1.2**
baz=254,SNR=7.8
J16K Anvik River 44.13 34 P **P 19 42 15.4 +0.7**
baz=261
I17K Unalakleet 44.19 33 P **P 19 42 15.4 +0.3**
baz=260
MAKZ Makanchi 44.24 303 P **P 19 42 15.7 -0.1**
MAKZ pP **pP 19 42 27.7 -1.8**
C17K DeLong Mountai 44.25 26 P **P 19 42 15.8 +0.2**
baz=253
E17K Hotham Inlet 44.38 28 P **P 19 42 17.1 +0.5**
baz=256
L16K Owhat River 44.44 36 P **P 19 42 19.8 +2.7**
L16K Owhat River 44.44 36 P **P 19 42 17.9 +0.7**
baz=264,SNR=5.6
F17K Baldwin Pennin 44.45 29 P **P 19 42 18.3 +1.2**
baz=257
G17K Kiwalik Mounta 44.50 30 P **P 19 42 17.8 +0.2**
baz=259
M16K Timber Creek 44.62 37 P **P 19 42 21.1 +2.5**
M16K IAmb IAmb 19 42 21.9
comp=Z,11nm,0.8s
M16K Timber Creek 44.62 37 P **P 19 42 19.5 +0.9**
baz=265
N16K Nishlik Lake 44.67 38 P **P 19 42 19.5 +0.4**
baz=266,SNR=8.4
H17K Granite Mounta 44.70 31 P **P 19 42 21.5 +2.3**
H17K Granite Mounta 44.70 31 P **P 19 42 19.9 +0.7**
baz=260
J17K VABM Dome 44.83 34 P **P 19 42 20.4 +0.2**
baz=262,SNR=5.2
E18K Tukpahlearik C 44.92 28 P **P 19 42 23.8 +2.9**
E18K IAmb IAmb 19 42 24.7
comp=Z,12nm,0.8s
E18K Tukpahlearik C 44.92 28 P **P 19 42 21.4 +0.4**
baz=257,SNR=5.7
O16K Kokwok River B 44.95 39 P **P 19 42 23.7 +2.5**
O16K Kokwok River B 44.95 39 P **P 19 42 21.1 -0.1**
baz=267
P16K Nushagak River 44.98 40 P **P 19 42 21.6 +0.1**
baz=268
B18K Kokolik River 44.98 25 P **P 19 42 21.6 +0.2**
baz=254
C18K Utukok River 45.00 26 P **P 19 42 23.5 +1.9**
C18K IAmb IAmb 19 42 24.6
comp=Z,25nm,0.7s
C18K Utukok River 45.00 26 P **P 19 42 21.7 0.0**
baz=255,SNR=9.7
L17K Donlin 45.04 35 P **P 19 42 21.5 -0.4**
baz=264,SNR=11
K17K Iditarod 45.10 35 P **P 19 42 25.3 +2.9**
K17K IAmb IAmb 19 42 26.5
comp=Z,22nm,0.8s
K17K Iditarod 45.10 35 P **P 19 42 22.1 -0.3**
baz=264,SNR=11
F18K Selawik 45.11 29 P **P 19 42 22.2 -0.2**
baz=259
G18K Tagagawik 45.38 30 P **P 19 42 26.4 +1.8**
G18K IAmb IAmb 19 42 27.9
comp=Z,14nm,0.8s
G18K Tagagawik 45.38 30 P **P 19 42 23.6 -1.0**
baz=260,SNR=8.3
H18K Honhosa River 45.38 31 P **P 19 42 26.6 +1.9**
H18K IAmb IAmb 19 42 27.9
comp=Z,12nm,0.8s
H18K Honhosa River 45.38 31 P **P 19 42 24.2 -0.4**
baz=261
M17K Holitna River 45.39 37 P **P 19 42 26.9 +2.3**
M17K IAmb IAmb 19 42 28.8
comp=Z,18nm,0.8s
M17K Holitna River 45.39 37 P **P 19 42 23.0 -1.7**
baz=266,SNR=6.7
N17K Nushagak Hills 45.45 38 P **P 19 42 23.7 -1.5**
baz=267
O17K Koliganek Bris 45.47 39 P **P 19 42 26.1 +0.8**
baz=268
C19K Lookout Ridge 45.68 26 IAmb IAmb 19 42 30.5
comp=Z,23nm,0.8s
C19K Lookout Ridge 45.68 26 P **P 19 42 26.8 -0.2**
baz=256
KAPI Kappang 45.73 210 P **P 19 42 27.6 -0.2**
KAPI Kappang 45.73 210 P **P 19 42 26.8 -1.0**
KAPI Kappang 45.73 210⇓*e*P **P 19 42 26.8 -1.0**
KAPI pmax pmax
comp=Z,26nm,1.1s
P17K Kvichak River 45.79 40 P **P 19 42 28.3 +0.4**
baz=269
L18K Granite Mounta 45.80 35 P **P 19 42 30.4 +2.4**
L18K IAmb IAmb 19 42 32.1
comp=Z,13nm,1.1s
L18K Granite Mounta 45.80 35 P **P 19 42 28.5 +0.6**
baz=266,SNR=6.5
R17L Mt. Peulik Vol 45.82 42 P **P 19 42 27.9 -0.3**
baz=271
F19K Shaleruckik Mo 45.89 29 IAmb IAmb 19 42 31.4
comp=Z,25nm,1.8s
F19K Shaleruckik Mo 45.89 29 P **P 19 42 28.3 -0.3**
baz=260
J18K Innoko River 45.89 34 P **P 19 42 28.9 +0.2**
J18K Innoko River 45.89 34 P **P 19 42 28.9 +0.2**
baz=265
KURK Kurchatov 45.92 308 P **P 19 42 28.3 -0.7**
KURK Kurchatov 45.92 308*c i*P **P 19 42 28.4 -0.6**
KURK pmax pmax
comp=Z,30nm,0.9s
KURK Kurchatov 45.92 308 P **P 19 42 28.6 -0.5**
KURK pP **pP 19 42 41.5 -1.3**
KURBB Kurchatov Arra 45.98 308 P **P 19 42 29.1 -0.4**
comp=Z,23nm,0.7s,baz=85,slow=8.3,SNR=85
KURBB LR LR 20 02 25.9
comp=Z,69nm,18.2s,baz=168,slow=37
comp=Z,23nm,0.7s
KURBB Kurchatov Arra 45.98 308 P **P 19 42 28.8 -0.7**
G19K Purcell Mounta 46.05 30 P **P 19 42 32.0 +2.1**

G19K IAmb IAmb 19 42 32.8
comp=Z,8.8nm,0.8s
G19K Purcell Mounta 46.05 30 P **P 19 42 29.8 -0.1**
baz=262,SNR=5.4
D19K Kuna River 46.07 27 P **P 19 42 31.9 +1.9**
D19K IAmb IAmb 19 42 33.3
comp=Z,16nm,0.8s
D19K Kuna River 46.07 27 P **P 19 42 29.6 -0.4**
baz=258,SNR=11
Q17K Contact Creek 46.07 41 P **P 19 42 29.5 -0.8**
baz=270
N18K Kilae Creek 46.10 38 P **P 19 42 33.0 +2.7**
N18K IAmb IAmb 19 42 34.5
comp=Z,11nm,0.9s
N18K Kilae Creek 46.10 38 P **P 19 42 30.2 -0.2**
baz=268
TTA Tatalina 46.16 34 P **P 19 42 30.9 0.0**
baz=266
M18K Stony River 46.16 36 P **P 19 42 31.0 +0.2**
baz=267
E19K Redstone River 46.20 28 P **P 19 42 30.8 -0.3**
baz=260,SNR=16
H19K Roundabout Mou 46.23 31 P **P 19 42 33.8 +2.6**
H19K IAmb IAmb 19 42 34.8
comp=Z,20nm,0.8s
H19K Roundabout Mou 46.23 31 P **P 19 42 31.4 +0.2**
baz=263,SNR=13
CHIR Chirikof Islan 46.29 44 P **P 19 42 31.4 -0.4**
baz=273
P18K Big Mountain, 46.41 39 P **P 19 42 32.2 -0.6**
baz=270
O18K Koktuh Hills 46.42 39 P **P 19 42 32.6 -0.3**
baz=270
J19K Poorman 46.42 33 P **P 19 42 34.8 +2.0**
J19K IAmb IAmb 19 42 36.1
comp=Z,12nm,0.8s
J19K Poorman 46.42 33 P **P 19 42 33.3 +0.5**
baz=265,SNR=12
Q18K Katmai Hardscr 46.53 40 P **P 19 42 34.2 +0.3**
baz=271
PDGK Podgornoye 46.63 298 P **P 19 42 34.4 -0.5**
D20K Etivluk River 46.65 26 P **P 19 42 35.4 +0.8**
baz=260,SNR=12
L19K White Mountain 46.66 36 P **P 19 42 35.2 +0.5**
baz=268,SNR=5.6
SHLS Shalkode 46.69 298 *e*P **P 19 42 32.5 -2.9**
comp=Z,11nm,0.9s,baz=298
SHLS Shalkode 46.69 298 *e*P **P 19 42 32.4 -2.9**
SHLS pmax pmax
comp=Z,11nm,0.9s
B20K Meade River 46.71 25 P **P 19 42 36.9 +1.9**
B20K Meade River 46.71 25 P **P 19 42 35.5 +0.6**
baz=258,SNR=8.7
F20K Avaraart Lake 46.72 29 P **P 19 42 35.2 +0.2**
baz=262
E20K Nigu River 46.73 27 P **P 19 42 35.9 +0.7**
baz=261,SNR=10
N19K Bonanza Creek 46.79 37 P **P 19 42 36.5 +0.6**
baz=269
R18K Karluk 46.85 42 P **P 19 42 36.3 +0.1**
baz=272
H20K Anotleneega Mo 46.88 31 P **P 19 42 37.0 +0.7**
baz=264,SNR=7.8
UZB Uzynbulak 47.00 298 *e*P **P 19 42 37.4 -0.4**
comp=Z,8.4nm,0.7s,baz=298
UZB Uzynbulak 47.00 298 *e*P **P 19 42 37.4 -0.4**
UZB pmax pmax
comp=Z,8.0nm,0.7s
TDK Taldyqorghan 47.02 301 *e*P **P 19 42 37.7 -0.1**
comp=Z,9.9nm,0.7s,baz=301
TDK Taldyqorghan 47.02 301 *e*P **P 19 42 37.7 -0.1**
TDK pmax pmax
comp=Z,10.0nm,0.7s
K20K Telida 47.07 34 P **P 19 42 40.9 +3.0**
K20K IAmb IAmb 19 42 41.7
comp=Z,15nm,0.8s
K20K Telida 47.07 34 P **P 19 42 38.2 +0.3**
baz=267,SNR=14
J20K Nowinta River 47.08 33 P **P 19 42 40.2 +2.3**
J20K IAmb IAmb 19 42 41.6
comp=Z,11nm,0.8s
J20K Nowinta River 47.08 33 P **P 19 42 38.5 +0.6**
baz=266,SNR=14
L20K Farewell, AK 47.12 35 P **P 19 42 38.4 0.0**
baz=268,SNR=5.5
KPKS Kokpek 47.17 299 *e*P **P 19 42 38.8 -0.3**
baz=299
KPKS Kokpek 47.17 299 *e*P **P 19 42 38.7 -0.3**
A21K Barrow 47.17 23 P **P 19 42 39.4 +0.9**
baz=257
WUS Wushi 47.35 296 P **P 19 42 41.1 +0.5**
C21K Knifeblade Rid 47.38 26 P **P 19 42 39.9 -0.3**
baz=261
IMAR Indian Mountai 47.39 30 P **P 19 42 42.3 +2.0**
ZHN Zhinishke 47.41 298 *e*P **P 19 42 40.8 -0.2**
baz=298
ZHN Zhinishke 47.41 298 *e*P **P 19 42 40.8 -0.2**
M20K Styx River 47.46 36 P **P 19 42 41.1 +0.1**
baz=269
SATY Saty 47.46 298 *e*P **P 19 42 41.4 0.0**
baz=298
SATY Saty 47.46 298 *e*P **P 19 42 41.3 -0.1**
OHAK Old Harbor 47.50 42 P **P 19 42 41.6 +0.4**
baz=274
B21K Ikpikpuk River 47.51 25 P **P 19 42 43.3 +2.1**
B21K Ikpikpuk River 47.51 25 P **P 19 42 41.6 +0.4**
baz=261,SNR=15
G21K Allakaket 47.53 30 P **P 19 42 43.3 +1.9**
G21K IAmb IAmb 19 42 44.9
comp=Z,7.2nm,0.8s
G21K Allakaket 47.53 30 P **P 19 42 41.7 +0.2**
baz=265,SNR=8.9
E21K Killik River 47.57 27 P **P 19 42 42.8 +1.1**
E21K IAmb IAmb 19 42 44.7
comp=Z,16nm,0.8s
E21K Killik River 47.57 27 P **P 19 42 41.5 -0.2**
baz=263,SNR=16
F21K Alatna River 47.61 29 P **P 19 42 43.2 +1.2**
F21K Alatna River 47.61 29 P **P 19 42 41.8 -0.3**
baz=264,SNR=6.8
A22K Sinclair Lake 47.63 24 P **P 19 42 43.8 +1.7**
baz=259
H21K Melozitna Rive 47.75 31 P **P 19 42 45.2 +2.0**
H21K IAmb IAmb 19 42 46.6
comp=Z,8.1nm,0.8s
H21K Melozitna Rive 47.75 31 P **P 19 42 44.1 +1.0**
baz=266,SNR=8.7
KDAK Kodiak Island 47.84 42 P **P 19 42 45.5 +1.6**
KDAK Kodiak Island 47.84 42 P **P 19 42 44.2 +0.3**
baz=274
KDAK Kodiak Island 47.84 42 LR LR 20 02 59.8
comp=Z,65nm,21.6s,baz=257,slow=36
KDAK Kodiak Island 47.84 42 *de*P **P 19 42 45.8 +1.8**
KDAK pmax pmax
comp=Z,33nm,0.8s
KDAK Kodiak Island 47.84 42 P **P 19 42 45.7 +1.8**
CHUM Lake Minchumin 47.87 33 P **P 19 42 44.2 +0.1**
baz=268
Q20K Shuyak Island 47.90 40 P **P 19 42 44.4 0.0**
baz=273
N20K Mount Spurr 47.90 37 P **P 19 42 45.3 +0.8**
baz=271
PPLA Purkeypile 47.91 35 P **P 19 42 45.8 +1.2**
baz=269
B22K Teshekpuk Lake 48.03 25 P **P 19 42 46.3 +1.1**
baz=261
D22K Ayikyak River 48.09 27 P **P 19 42 46.6 +0.9**
baz=263,SNR=22
MMRI Maumere 48.14 205 P **P 19 42 45.9 -0.7**
MMRI Maumere 48.14 205 P **P 19 42 45.6 -1.0**
comp=Z,58nm,1.0s
F22K John River 48.14 28 P **P 19 42 47.4 +1.2**
baz=265,SNR=14
SKT Skwentna 48.22 36 P **P 19 42 47.7 +0.9**
baz=271
CHKK Chushkaly 48.27 300 *e*P **P 19 42 47.1 -0.5**
baz=300
CHKK Chushkaly 48.27 300 *e*P **P 19 42 47.0 -0.5**
H22K Ishtalitna Cre 48.35 31 P **P 19 42 48.7 +0.9**
baz=267,SNR=14
G22K Bettles 48.36 29 P **P 19 42 48.8 +1.0**
baz=266
MDOK Medeo 48.40 299 *e*P **P 19 42 48.5 -0.2**
baz=299
MDOK Medeo 48.40 299 *e*P **P 19 42 48.5 -0.2**
EDFI Ende, Flores 48.43 206 P **P 19 42 47.7 -1.3**
comp=Z,23nm,0.7s

BPAW Bear Paw Mtn. 48.46 33 P **P 19 42 49.9 +1.2**
BPAW Bear Paw Mtn. 48.46 33 P **P 19 42 48.9 +0.2**
baz=269
AAA Alma-Ata 48.48 299 *e*P **P 19 42 49.1 -0.2**
comp=Z,10.0nm,0.6s,baz=299
AAA Alma-Ata 48.48 299 *e*P **P 19 42 49.0 -0.2**
AAA pmax pmax
comp=Z,10.0nm,0.6s
KTH Kantishna Hill 48.49 34 P **P 19 42 51.6 +2.7**
KTH IAmb IAmb 19 42 52.6
comp=Z,13nm,0.9s
TNSS Tian-Shan 48.50 298 *e*P **P 19 42 49.3 -0.5**
baz=298
TNSS Tian-Shan 48.50 298 *e*P **P 19 42 49.3 -0.5**
SOEI Soe 48.54 202 P **P 19 42 50.1 +0.3**
SOEI Soe 48.54 202 P **P 19 42 48.2 -1.6**
MLY Manley 48.59 32 P **P 19 42 52.5 +2.9**
MLY IAmb IAmb 19 42 53.3
comp=Z,11nm,0.8s
MLY Manley 48.59 32 P **P 19 42 50.8 +1.1**
baz=269,SNR=13
KUU Kurty 48.71 300 *e*P **P 19 42 50.4 -0.5**
comp=Z,13nm,0.8s,baz=300
KUU Kurty 48.71 300 *e*P **P 19 42 50.4 -0.5**
KUU pmax pmax
comp=Z,13nm,0.8s
D23K Nanushuk River 48.82 27 P **P 19 42 52.5 +1.1**
baz=265,SNR=6.9
C23K Itkillik River 48.92 25 P **P 19 42 53.5 +1.4**
baz=265,SNR=10.0
G23K Bananza Creek 48.93 30 P **P 19 42 53.9 +1.6**
baz=268,SNR=8.7
HNR Honiara 49.06 155 LR LR 20 02 03.9
comp=Z,789nm,21.7s,baz=326,slow=34
H23K Yukon River 49.10 31 P **P 19 42 54.7 +1.2**
baz=269,SNR=9.7
RC01 Rabbit Creek A 49.10 37 P **P 19 42 55.0 +1.4**
baz=273
O22K Cooper Landing 49.15 38 P **P 19 42 55.5 +1.6**
baz=274
BATI Baumata 49.15 203 P **P 19 42 54.9 +0.5**
comp=Z,96nm,0.9s
E23K Chandalar 49.15 28 P **P 19 42 55.5 +1.6**
baz=267,SNR=27
I23K Minto, Yukon-K 49.17 32 P **P 19 42 55.4 +1.3**
baz=270
TOLK Toolik Lake Re 49.20 27 P **P 19 42 56.4 +2.2**
TOLK IAmb IAmb 19 42 57.6
comp=Z,7.6nm,0.9s
TOLK Toolik Lake Re 49.20 27 P **P 19 42 55.6 +1.3**
baz=267,SNR=5.9
SEW Seward 49.31 38 P **P 19 42 56.3 +1.2**
baz=274
BOOM Boomskoye usch 49.36 298 P **P 19 42 56.4 +0.3**
BOOM IAmb IAmb 19 42 57.6
comp=Z,11nm,0.9s
BOOM Boomskoye usch 49.36 298 P **P 19 42 56.4 +0.3**
BOOM pmax pmax
comp=Z,11nm,0.9s
MCK McKinley 49.37 33 P **P 19 42 57.2 +1.6**
baz=272
RND Reindeer 49.42 34 P **P 19 42 57.5 +1.4**
RND IAmb IAmb 19 42 58.7
comp=Z,15nm,1.0s
RND Reindeer 49.42 34 P **P 19 42 57.5 +1.4**
RND pmax pmax
comp=Z,15nm,1.0s
GHO Glory Hole Cre 49.46 36 IAmb IAmb 19 42 59.2
comp=Z,15nm,1.0s
TKM2 Tokmak 2 49.49 299 *i*P **P 19 42 56.8 -0.3**
TKM2 pmax pmax
comp=Z,21nm,1.1s
D24K Happy Valley 49.50 26 P **P 19 42 58.5 +2.0**
D24K IAmb IAmb 19 42 59.8
comp=Z,15nm,0.7s
D24K Happy Valley 49.50 26 P **P 19 42 58.1 +1.6**
baz=267,SNR=11
KDU Kakadu 49.51 191 P **P 19 42 57.8 +0.7**
C24K Franklin Bluff 49.57 26 P **P 19 42 58.1 +1.1**
baz=267
E24K Your Creek 49.57 28 P **P 19 42 59.6 +2.4**
E24K IAmb IAmb 19 43 00.8
comp=Z,10nm,1.1s
E24K Your Creek 49.57 28 P **P 19 42 58.4 +1.3**
baz=268,SNR=13
WAT1 Susitna Watana 49.58 35 P **P 19 42 58.9 +1.7**
baz=273
NRN Naryn 49.62 297 IAmb IAmb 19 43 03.5
comp=Z,10.0nm,0.8s
MDM Murphy Dome 49.65 32 P **P 19 43 00.0 +2.2**
KNK Knik Glacier 49.70 37 P **P 19 42 59.3 +1.1**
baz=274
WRH Wood River Hil 49.73 32 IAmb IAmb 19 43 01.4
comp=Z,8.4nm,0.7s
SML Sawmill 49.74 36 P **P 19 43 00.2 +1.7**
SML IAmb IAmb 19 43 18.9
comp=Z,10nm,0.8s
SML Sawmill 49.74 36 P **P 19 42 59.9 +1.4**
baz=274
F24K Squaw Lake 49.79 28 P **P 19 43 00.2 +1.4**
baz=269
H24K Noodor Dome 49.79 31 P **P 19 43 01.4 +2.6**
H24K IAmb IAmb 19 43 02.6
comp=Z,10nm,0.8s
H24K Noodor Dome 49.79 31 P **P 19 43 00.2 +1.3**
baz=271,SNR=12
COLA College 49.82 32 P **P 19 42 60.0 +1.0**
COLA College 49.82 32 *c i*P **P 19 43 01.0 +2.1**
COLA pmax pmax
comp=Z,12nm,0.8s
COLA College 49.82 32 P **P 19 43 01.2 +2.3**
MTN Manton Dam 49.88 192 P **P 19 43 00.4 +0.5**
MTN Manton Dam 49.88 192 P **P 19 42 60.0 0.0**
MTN IAmb IAmb 19 43 01.3
comp=Z,14nm,0.8s
G24K Hadweenzic Riv 49.95 30 P **P 19 43 01.2 +1.3**
baz=270
WAT6 Susitna Watana 49.97 35 P **P 19 43 02.2 +1.9**
baz=274
PLAI Plampang 49.99 210 P **P 19 42 59.8 -1.0**
POKR Poker Plat Res 49.99 32 P **P 19 43 01.7 +1.4**
baz=272,SNR=25
BTLS Baital 50.01 302 *e*P **P 19 43 00.4 -0.4**
baz=302
BTLS Baital 50.01 302 *e*P **P 19 43 00.4 -0.4**
M23K Glacier View 50.02 36 P **P 19 43 01.6 +1.0**
baz=274
SGDS Sogindy 50.03 300 *e*P **P 19 43 00.6 -0.5**
baz=300
SGDS Sogindy 50.03 300 *e*P **P 19 43 00.5 -0.5**
DHY Denali Highway 50.10 34 P **P 19 43 02.2 +0.8**
baz=273
COEN Coen 50.19 177 P **P 19 43 02.3 0.0**
KSH Kashi 50.21 294 P **P 19 43 06.4 +3.9**
KSH sP sP 19 43 28.5 +6.2
KSH pmax pmax
comp=Z,25nm,0.9s
SCM Sheep Creek Mo 50.21 36 P **P 19 43 03.5 +1.4**
SCM Sheep Creek Mo 50.21 36 P **P 19 43 02.1 0.0**
baz=274
SCM Sheep Creek Mo 50.21 36 P **P 19 43 03.5 +1.4**
SCM pmax pmax
comp=Z,54nm,1.9s
HDA Harding Lake 50.22 33 P **P 19 43 03.4 +1.3**
HDA IAmb IAmb 19 43 04.4
comp=Z,16nm,0.8s
HDA Harding Lake 50.22 33 P **P 19 43 02.7 +0.6**
baz=273,SNR=11
ILAR Eielson Array 50.23 32 P **P 19 43 03.7 +1.6**
ILAR Eielson Array 50.23 32 P **P 19 43 03.9 +1.8**
comp=Z,14nm,0.7s,baz=271,slow=6.4,SNR=167
ILAR PcP **PcP 19 44 20.5 0.0**
comp=Z,1.0nm,0.7s,baz=279,slow=6.0,SNR=1.0
comp=Z,14nm,0.7s
TWSI Taliwang, Sumb 50.27 211 P **P 19 43 01.9 -1.1**
comp=Z,76nm,0.9s
P23K Montague Islan 50.34 38 P **P 19 43 03.4 +0.4**
baz=276
AAK Ala-Archa 50.35 299 LR LR 20 05 39.7
comp=Z,227nm,19.2s,baz=74,slow=38
AAK Ala-Archa 50.35 299 *de*P **P 19 43 04.0 +0.5**
AAK pmax pmax
comp=Z,7.0nm,0.8s
D25K Kavik River 50.38 26 P **P 19 43 05.5 +2.2**
D25K IAmb IAmb 19 43 06.3
comp=Z,13nm,0.6s

D25K Kavik River 50.38 26 P **P 19 43 03.6 +0.4**
baz=269,SNR=17
GLI Glacier Island 50.40 37 P **P 19 43 04.6 +1.1**
baz=276
G25K Bearman Lake 50.49 29 P **P 19 43 04.6 +0.5**
baz=272
BVA0 Borovoye Array 50.61 313 *i*P **P 19 43 04.5 -0.7**
BVAR Borovoye Array 50.61 313 P **P 19 43 04.9 -0.3**
comp=Z,3.4nm,0.4s,baz=82,slow=7.9,SNR=30
BVAR PcP **PcP 19 44 22.3 +0.2**
comp=Z,4.2nm,0.7s,baz=104,slow=3.1,SNR=4.8
BVAR LR LR 20 05 41.8
comp=Z,70nm,18.0s,baz=77,slow=37
comp=Z,3.4nm,0.4s
F25K Christian Rive 50.65 28 P **P 19 43 06.7 +1.3**
baz=271,SNR=19
BRVK Borovoye 50.67 313 P **P 19 43 05.2 -0.4**
BRVK IAmb IAmb 19 43 11.3
comp=Z,15nm,1.1s
BRVK Borovoye 50.67 313 *ce*P **P 19 43 05.2 -0.4**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 50.67 313 P **P 19 43 05.5 -0.1**
E25K Arctic Village 50.67 28 P **P 19 43 08.1 +2.7**
E25K Arctic Village 50.67 28 P **P 19 43 06.0 +0.6**
baz=271,SNR=5.2
FID Port Fidalgo 50.72 37 P **P 19 43 06.9 +1.1**
FID IAmb IAmb 19 44 59.8
comp=Z,37nm,1.6s
M24K Tolsona, Glenn 50.73 36 P **P 19 43 06.7 +0.7**
baz=275
HIN Hinchinbrook I 50.74 38 P **P 19 43 08.0 +1.9**
K24K Donnelly Dome 50.77 33 P **P 19 43 06.8 +0.5**
baz=274,SNR=5.5
PRP Porcupine Dome 50.77 31 P **P 19 43 07.2 +0.9**
baz=273
J25K Salcha River, 50.89 32 P **P 19 43 07.2 0.0**
J25K Salcha River, 50.89 32 P **P 19 43 07.9 +0.7**
baz=274,SNR=5.5
C26K Camden Bay 50.89 25 P **P 19 43 08.3 +1.2**
baz=270
KLU Klutina 50.91 36 P **P 19 43 08.3 +0.9**
KLU IAmb IAmb 19 43 10.2
comp=Z,23nm,1.4s
KLU Klutina 50.91 36 P **P 19 43 08.2 +0.8**
baz=276
PAX Paxson 50.98 34 P **P 19 43 09.4 +1.5**
baz=275
BMAR Burnt Mountain 51.06 29 P **P 19 43 11.0 +2.6**
EYAK Cordova Ski Ar 51.10 37 P **P 19 43 10.4 +1.7**
baz=277
HARP HAARP 51.18 35 P **P 19 43 11.2 +1.9**
baz=276
F26K Sheenjek River 51.22 28 P **P 19 43 10.7 +1.1**
baz=272,SNR=29
C27K Jago River 51.31 26 P **P 19 43 12.0 +1.8**
baz=271,SNR=11
G26K Porcupine Rive 51.40 29 P **P 19 43 12.0 +1.2**
baz=273
N25K Chitina, Valde 51.53 36 P **P 19 43 13.0 +1.0**
baz=277
SCRK Sand Creek 51.55 33 P **P 19 43 13.9 +1.7**
SCRK IAmb IAmb 19 43 14.8
comp=Z,14nm,0.7s
SCRK Sand Creek 51.55 33 P **P 19 43 13.4 +1.2**
baz=276,SNR=17
BMRM Bremner River 51.60 37 P **P 19 43 14.0 +1.5**
baz=278
J26L Joseph Creek 51.68 32 P **P 19 43 13.4 +0.2**
J26L Joseph Creek 51.68 32 P **P 19 43 14.6 +1.5**
baz=276,SNR=5.3
ARSB Arslanbob 51.81 297 P **P 19 43 14.7 +0.1**
ARSB Arslanbob 51.81 297 P **P 19 43 14.7 +0.1**
ARSB pmax pmax
comp=Z,6.0nm,0.8s
L26K Log Cabin Wild 51.94 34 P **P 19 43 16.6 +1.6**
baz=277
PWJI Pagerwojo 51.97 218 P **P 19 43 15.1 -0.6**
comp=Z,124nm,0.7s
E27K Coleen River 52.15 28 IAmb IAmb 19 43 19.8
comp=Z,6.9nm,0.7s
E27K Coleen River 52.15 28 P **P 19 43 18.1 +1.6**
baz=274,SNR=9.5
G27K Doyon Strip 52.25 29 P **P 19 43 19.0 +1.8**
baz=275
D27M Malcolm River 52.30 26 P **P 19 43 19.3 +1.7**
baz=274
MCARA McCarthy VSAT 52.30 36 IAmb IAmb 19 43 22.0
comp=Z,19nm,1.2s
MCARA McCarthy VSAT 52.30 36 P **P 19 43 19.5 +1.8**
baz=278
H27K Steamboat Moun 52.36 30 P **P 19 43 20.0 +2.0**
baz=276,SNR=13
CRQE Cirque 52.37 37 P **P 19 43 20.0 +1.7**
baz=279
BGLC Bering Glacier 52.37 38 P **P 19 43 20.3 +2.2**
baz=279
K27K Chicken 52.38 33 P **P 19 43 19.9 +1.7**
baz=277
I27K Kandik River 52.39 31 P **P 19 43 20.1 +1.7**
baz=276,SNR=9.3
UGM Wanagama 52.51 219 P **P 19 43 19.0 -0.7**
L27K Beaver Creek, 52.62 34 IAmb IAmb 19 43 23.8
comp=Z,15nm,1.1s
L27K Beaver Creek, 52.62 34 P **P 19 43 21.6 +1.6**
baz=278,SNR=9.3
BCAR Beaver Creek A 52.64 34 P **P 19 43 22.3 +2.1**
EGAK Eagle 52.68 32 IAmb IAmb 19 43 23.5
comp=Z,7.9nm,0.9s
EGAK Eagle 52.68 32 P **P 19 43 22.4 +2.0**
baz=277,SNR=9.2
M27K Edge Creek, AK 52.70 35 IAmb IAmb 19 43 24.4
comp=Z,8.7nm,0.9s
M27K Edge Creek, AK 52.70 35 P **P 19 43 22.4 +1.6**
baz=279,SNR=7.9
F28M Old Crow 52.85 28 IAmb IAmb 19 43 25.5
comp=Z,8.2nm,0.8s
F28M Old Crow 52.85 28 P **P 19 43 23.3 +1.6**
baz=276,SNR=10
E28M Babbage River 52.87 27 P **P 19 43 23.0 +1.1**
baz=276,SNR=12
KK31 Karatay Array 53.01 300 IAmb IAmb 19 43 24.2
comp=Z,14nm,1.0s
KK31 Karatay Array 53.01 300 *i*P **P 19 43 22.7 -0.5**
KKAR Karatay Array 53.01 300 P **P 19 43 22.6 -0.6**
KKAR Karatay Array 53.01 300 IAmb IAmb 19 43 24.2
comp=Z,14nm,1.0s
KKAR Karatay Array 53.01 300 P **P 19 43 22.6 -0.6**
MESA MESA 53.02 38 P **P 19 43 23.1 -0.1**
baz=280
GSI Gunungsitoli 53.10 239 P **P 19 43 24.6 +0.5**
GSI Gunungsitoli 53.10 239 P **P 19 43 23.9 -0.2**
GSI Gunungsitoli 53.10 239 P **P 19 43 23.5 -0.6**
comp=Z,101nm,0.8s
I28M Miner Creek 53.10 31 IAmb IAmb 19 43 27.2
comp=Z,13nm,0.7s
I28M Miner Creek 53.10 31 P **P 19 43 24.2 +0.5**
baz=278,SNR=20
CTG Chitna Glacier 53.18 37 P **P 19 43 24.9 +0.5**
baz=280
YUK3 Moose Creek 53.45 35 P **P 19 43 26.2 -0.2**
baz=280
BRLS Borolday 53.50 300 *e*P **P 19 43 28.0 +1.1**
baz=300
BRLS Borolday 53.50 300 *e*P **P 19 43 27.9 +1.1**
E29M Blow River 53.50 27 IAmb IAmb 19 43 30.2
comp=Z,13nm,0.8s
E29M Blow River 53.50 27 P **P 19 43 26.7 +0.3**
baz=278,SNR=19
H29M Whitestone 53.63 30 IAmb IAmb 19 43 31.1
comp=Z,8.2nm,0.8s
H29M Whitestone 53.63 30 P **P 19 43 28.5 +1.1**
baz=279,SNR=5.8
IUG Iuzhnay 53.65 299 *e*P **P 19 43 27.8 -0.2**
comp=Z,13nm,0.8s,baz=299
IUG Iuzhnay 53.65 299 *e*P **P 19 43 27.8 -0.2**
IUG pmax pmax
comp=Z,13nm,0.8s
G29M Pine Creek 53.66 29 P **P 19 43 28.4 +0.7**
baz=279,SNR=26
BTK Batken 53.78 297 IAmb IAmb 19 43 38.3
comp=Z,8.3nm,0.8s
I29M Ogilvie Camp, 53.79 31 IAmb IAmb 19 43 32.0
comp=Z,19nm,0.8s
I29M Ogilvie Camp, 53.79 31 P **P 19 43 29.2 +0.6**
baz=279,SNR=19
M29M Somme Creek 54.25 34 P **P 19 43 33.0 +0.9**

baz=281,SNR=8.7
EPYK Eagle Plains 54.26 29 P P 19 43 33.2 +1.2
baz=280,SNR=33
L29M L29M 54.27 34 P P 19 43 32.9 +0.8
baz=281,SNR=13
NIL Nilore 54.35 288 P P 19 43 33.1 -0.1
NIL IAmb IAmb 19 45 22.6
comp=Z,16nm,0.8s
NIL Nilore 54.35 288 P P 19 43 33.1 -0.1
NIL pmax pmax
comp=Z,16nm,0.8s
G30M tAoh Zraii Nji 54.35 29 IAmb IAmb 19 43 36.0
comp=Z,24nm,1.1s
G30M tAoh Zraii Nji 54.35 29 P P 19 43 34.1 +1.4
baz=280,SNR=19
PNL Peninsula 54.38 38 P P 19 43 33.6 +0.6
baz=283
YUK4 Talbot Arm 54.39 36 P P 19 43 34.8 +1.6
baz=282
K29M Barlow Dome 54.39 33 P P 19 43 34.6 +1.5
baz=281
F30M Barrier River 54.40 28 P P 19 43 34.3 +1.3
baz=280,SNR=14
YUK6 Outpost Mounta 54.61 36 P P 19 43 36.2 +1.3
baz=283
I30M Mount Dempster 54.61 31 P P 19 43 36.2 +1.5
baz=281,SNR=52
O29M Mount Kennedy 54.65 37 IAmb IAmb 19 43 39.4
comp=Z,17nm,0.9s
O29M Mount Kennedy 54.65 37 P P 19 43 35.9 +0.9
baz=283
J30M Hart River 54.76 32 IAmb IAmb 19 45 39.0
comp=Z,6.5nm,0.8s
J30M Hart River 54.76 32 P P 19 43 37.5 +1.7
baz=282,SNR=6.5
M30M Minto, Yukon 54.98 34 IAmb IAmb 19 45 36.6
comp=Z,7.3nm,0.9s
M30M Minto, Yukon 54.98 34 P P 19 43 38.5 +1.2
baz=283
G31M Satah River 55.11 29 IAmb IAmb 19 43 41.0
comp=Z,14nm,0.8s
G31M Satah River 55.11 29 P P 19 43 38.5 +0.5
baz=282,SNR=16
INK Inuvik 55.11 27 IAmb IAmb 19 43 40.8
comp=Z,14nm,0.8s
INK Inuvik 55.11 27 P P 19 43 39.6 +1.5
baz=282,SNR=7.3
F31M Tsiigehtchic 55.21 28 P P 19 43 40.1 +1.4
baz=282
P29M Windy Craggy 55.21 38 P P 19 43 39.4 +0.4
baz=284
SVE Sverdlovsk 55.27 319 *e*P **P 19 43 39.7 +0.3**
SVE pmax pmax
comp=Z,34nm,1.0s
P30M Million Dollar 55.47 37 P P 19 43 41.5 +0.6
baz=284
SIMJ Simiganj 55.59 296 P P 19 43 41.9 -0.3
SIMJ Simiganj 55.59 296 P P 19 43 42.1 -0.1
N31M Braeburn, Yuko 55.70 35 P P 19 43 43.7 +1.2
baz=284
O30N Mendenhall 55.73 36 P P 19 43 42.9 +0.2
baz=284
PLBC Pleasant Camp 55.93 38 P P 19 43 44.6 +0.5
baz=285
FITZ Fitzroy Crossi 56.13 197 P P 19 43 46.2 +0.3
M31M Drury Creek, Y 56.16 34 P P 19 43 46.4 +0.6
baz=285
WRAB Tennant Creek 56.42 187⇑ *i*P **P 19 43 47.2 -0.8**
WRAB pmax pmax
comp=Z,17nm,0.9s
WRA Warramunga Arr 56.43 187 P P 19 43 47.6 -0.4
comp=Z,14nm,0.8s,baz=2.9,slow=7.4,SNR=30
WRA PcP **PcP 19 44 45.2 +0.6**
comp=Z,3.2nm,0.6s,baz=359,slow=4.2,SNR=2.1
comp=Z,14nm,0.8s
ARU Arti 56.48 319 P P 19 43 47.4 -0.7
ARU Arti 56.48 319 LR LR 20 10 14.7
comp=Z,39nm,21.2s,baz=80,slow=38
ARU Arti 56.48 319*c i*P **P 19 43 47.8 -0.3**
ARU *PP **pP 19 44 02.1 -0.1**
ARU 19 44 41.5
ARU 19 45 52.4
ARU S **S 19 51 35.6 +0.3**
ARU SS **SS 19 55 22.0 -0.5**
ARU pmax pmax
comp=Z,45nm,1.0s
ARU Arti 56.48 319 P P 19 43 47.8 -0.3
comp=Z,52nm,0.8s,comp=Z,484nm
ARU Arti 56.48 319 P P 19 43 48.0 -0.1
FARO Faro, Yukon 56.62 34 P P 19 43 49.9 +0.9
baz=286
QIS Mount Isa 56.72 181 P P 19 43 50.4 +0.3
A36M Sachs Harbour 56.97 22 P P 19 43 50.9 -0.3
baz=286
KBL Kabul 57.18 291 P P 19 43 52.6 -1.1
KBL IAmb IAmb 19 43 53.9
comp=Z,12nm,0.9s
KBL Kabul 57.18 291 P P 19 43 52.6 -1.1
KBL pmax pmax
comp=Z,12nm,0.9s
R32K Eaglecrest 57.18 39 P P 19 43 54.0 +1.0
baz=287
P32M Atlin 57.19 37 P P 19 43 53.5 +0.4
baz=287
S32K Killisnoo 57.40 40 P P 19 43 54.7 +0.2
baz=288
MMPY Sheldon Lake, 57.44 33 P P 19 43 55.1 +0.3
baz=287
P33M Teslin, Yukon 57.44 36 IAmb IAmb 19 43 58.9
comp=Z,16nm,1.3s
P33M Teslin, Yukon 57.44 36 P P 19 43 55.4 +0.4
baz=287
AB31 Akbulak array 57.95 310 *i*P **P 19 43 58.2 -0.4**
ABKAR Akbulak array 57.95 310 P P 19 43 57.7 -0.9
Q32M Nakina River 58.09 38 P P 19 43 59.4 -0.3
baz=289
C36M Paulatuk 58.15 25 P P 19 44 00.1 +0.5
baz=289,SNR=5.5
R33M Jennings River 58.59 37 IAmb IAmb 19 45 53.2
comp=Z,9.4nm,0.9s
R33M Jennings River 58.59 37 P P 19 44 03.2 +0.2
baz=289
U33K Whale Pass 58.59 41 P P 19 44 02.7 -0.1
baz=290
AKTO Aktyubinsk 58.71 312 LR LR 20 10 21.6
comp=Z,71nm,20.4s,baz=160,slow=37
CRAG Craig 58.80 42 P P 19 44 03.7 -0.7
baz=290
S34M Telegraph Cree 59.00 38 P P 19 44 07.6 +1.9
baz=290
TGTN Hyland Airport 59.12 34 P P 19 44 07.7 +1.1
baz=290
DLBC Dease Lake 59.37 38 IAmb IAmb 19 44 12.6
comp=Z,11nm,1.0s
DLBC Dease Lake 59.37 38 P P 19 44 09.0 +0.6
baz=290
DLBC Dease Lake 59.37 38 P P 19 44 11.3 +2.9
comp=Z,6.5nm,0.8s,baz=287,slow=9.6,SNR=9.7
comp=Z,6.5nm,0.8s
T35M Bob Quinn 59.78 39 IAmb IAmb 19 44 15.6
comp=Z,14nm,0.8s
T35M Bob Quinn 59.78 39 P P 19 44 12.6 +1.5
baz=291
AS01 Alice Springs 60.15 187 P P 19 44 14.3 +0.3
ASAR Alice Springs 60.16 187 P P 19 44 13.6 -0.5
ASAR Alice Springs 60.16 187 P P 19 44 14.0 0.0
comp=Z,7.5nm,0.8s,baz=12,slow=6.5,SNR=17
ASAR LR LR 20 09 25.0
comp=Z,127nm,19.6s,baz=292,slow=35
comp=Z,7.5nm,0.8s
KIRV Kirov 60.42 323 LR LR 20 12 35.8
comp=Z,74nm,18.1s,baz=65,slow=38
KIRV Kirov 60.42 323*c i*P **P 19 44 15.5 +0.1**
MBWA Marble Bar 60.67 203 P P 19 44 17.9 +0.3
MBWA Marble Bar 60.67 203 P P 19 44 17.2 -0.4
MBWA Marble Bar 60.67 203 P P 19 44 17.6 +0.1
ALE Alert 60.71 3 P P 19 44 18.4 +1.2
ALE sP **sP 19 44 38.5 +1.3**
LIRD Liard River Hi 60.90 36 P P 19 44 19.9 +1.2
baz=293
SPA0 Spitsbergen Ar 61.00 349 *e*P **P 19 44 20.1 +1.0**
SPA0 IAmb IAmb 19 44 21.5
comp=Z,19nm,1.0s
SPITS Spitsbergen Ar 61.00 349 P P 19 44 19.7 +0.6
comp=Z,7.0nm,0.7s,baz=81,slow=10,SNR=9.8
SPITS LR LR 20 11 21.4
comp=Z,50nm,19.9s,baz=18,slow=36
comp=Z,7.0nm,0.7s
KBS Kingsbay 61.14 350 P P 19 44 21.2 +1.1
KBS Kingsbay 61.14 350 *e*P **P 19 44 21.4 +1.3**
KBS IAmb IAmb 19 44 22.0
comp=Z,22nm,0.8s
KBS Kingsbay 61.14 350*c i*P **P 19 44 21.1 +1.0**
KBS pmax pmax
comp=Z,37nm,2.5s
KBS Kingsbay 61.14 350 P P 19 44 21.4 +1.3
TOAD Toad River Com 61.54 36 P P 19 44 24.2 +1.1
baz=294
KOTAN Kotaneelee Air 61.56 35 P P 19 44 24.9 +1.6
baz=294
WRKA Warakurna 62.30 193 P P 19 44 28.8 +0.3
LVZ Lovozero 62.44 336*d i*P **P 19 44 29.2 +0.2**
LVZ pmax pmax
comp=Z,13nm,0.7s
LVZ Lovozero 62.44 336 P P 19 44 29.5 +0.5
comp=Z,19nm,0.9s
LVZ Lovozero 62.44 336 P P 19 44 29.4 +0.4
BBB Bella Bella 62.81 44 LR LR 20 11 39.4
comp=Z,25nm,18.8s,baz=284,slow=36
BJO1 Bjornoya 62.90 345 *e*P **P 19 44 32.2 +0.3**
VADS Vadso 62.93 339 *e*P **P 19 44 32.7 +0.5**
VADS IAmb IAmb 19 44 33.2
comp=Z,22nm,0.7s
APA Apatity 63.02 336⇓ *i*P **P 19 44 29.6 -3.2**
APA *i* 19 45 11.0
APA *i* S S 19 52 50.0 -9.0
APA *i* SS **SS 19 57 05.0 +0.5**
APA pmax pmax
comp=Z,18nm,0.8s
APA MLR MLR
comp=Z,200nm,18.0s
ADZR Andozero 63.04 331 *e*P **P 19 44 32.4 -0.6**
ADZR pmax pmax
comp=Z,36nm,0.8s
DZM Mont Dzumac 63.05 153 *e*LR LR 20 03 17.8
comp=Z,202nm,30.8s
DZM Mont Dzumac 63.05 153 LR LR 20 10 29.7
comp=Z,49nm,20.1s,baz=314,slow=34
RES Resolute Bay 63.27 14 LR LR 20 13 31.3
comp=Z,43nm,21.5s,baz=9.5,slow=37
KEV Kevo 63.81 339 P P 19 44 38.5 +0.5
INKA Innaminka 63.86 180 P P 19 44 39.2 +0.5
BELG Belogornoye 63.90 317*c i*P **P 19 44 38.5 -0.3**
BELG pmax pmax
comp=Z,11nm,1.0s
OOD Oodnadatta 64.09 185 P P 19 44 40.7 +0.4
HAMF Hammerfest 64.20 341 *e*P **P 19 44 40.4 -0.2**
HAMF IAmb IAmb 19 44 41.2
comp=Z,20nm,0.4s
ARCES ARCESS Array B 64.37 339 P P 19 44 42.0 +0.3
ARCES IAmb IAmb 19 44 43.1
comp=Z,14nm,1.0s
ARCES ARCESS Array B 64.37 339 P P 19 44 41.9 +0.2
comp=Z,6.7nm,0.5s,baz=62,slow=8.4,SNR=6.6
ARCES LR LR 20 15 17.3
comp=Z,80nm,21.1s,baz=64,slow=38
comp=Z,6.7nm,0.5s
YKA Yellowknife Ar 64.54 30 P P 19 44 43.6 +0.7
comp=Z,2.6nm,0.7s,baz=306,slow=6.5,SNR=5.1
comp=Z,2.6nm,0.7s
KTK1 Kautokeino 65.33 339 *e*P **P 19 44 48.3 +0.4**
KTK1 IAmb IAmb 19 44 48.7
comp=Z,14nm,0.8s
TRO Tromso 66.11 341 *e*P **P 19 44 53.0 +0.1**
TRO IAmb IAmb 19 44 53.7
comp=Z,12nm,0.9s
MEEK Meekatharra 66.16 202 P P 19 44 53.6 -0.2
JOF Joensuu 66.25 332 *e*P **P 19 44 54.2 +0.3**
LCRK Leigh Creek 66.60 182 P P 19 44 57.9 +1.5
VALR Valaam 67.30 331*c i*P **P 19 45 00.7 +0.1**
VALR pmax pmax
comp=Z,54nm,1.0s
MOS Moscow 67.43 323 *e*P **P 19 45 00.7 -0.8**
MOS *e* 19 45 28.2
MOS *e* 19 47 31.8
MOS pmax pmax
comp=Z,37nm,1.0s
VRH Novokhopyorsk 67.69 318 *e*P **P 19 45 01.6 -1.7**
VRH pmax pmax
comp=Z,30nm,0.6s
CMSA Cobar Meteorol 67.79 176 P P 19 45 04.9 +0.9
FORT Forrest 67.95 192 P P 19 45 06.6 +1.6
STKA Stephens Creek 67.98 179 P P 19 45 05.6 +0.4
STKA Stephens Creek 67.98 179 P P 19 45 05.3 +0.2
comp=Z,3.1nm,0.5s,baz=354,slow=9.2,SNR=6.9
comp=Z,3.1nm,0.5s
STEI Steigen 68.25 341 *e*P **P 19 45 06.6 +0.1**
STEI IAmb IAmb 19 45 07.3
comp=Z,22nm,0.7s
OBN Obninsk 68.27 323 LR LR 20 15 55.3
comp=Z,68nm,21.7s,baz=64,slow=37
OBN Obninsk 68.27 323*de*P **P 19 45 06.7 -0.1**
OBN *i* 19 45 30.6
OBN *e* 19 47 36.9
OBN *e*SS SS 19 58 23.7 -2.7
OBN pmax pmax
comp=Z,23nm,0.6s
OBN MLR MLR
comp=Z,80nm,21.0s
OBN Obninsk 68.27 323 P P 19 45 07.1 +0.3
comp=Z,42nm,1.2s
OBN Obninsk 68.27 323 P P 19 45 06.7 -0.1
LPSR Galich'ya Gora 68.44 320 *e*P **P 19 45 07.5 -0.4**
LPSR pmax pmax
comp=Z,40nm,0.7s
LOF Lofoten 68.56 341 *e*P **P 19 45 08.2 -0.1**
LOF IAmb IAmb 19 45 09.6
comp=Z,8.2nm,0.9s
FAUS Fauske 68.63 340 *e*P **P 19 45 09.1 +0.2**
FAUS IAmb IAmb 19 45 09.8
comp=Z,25nm,0.7s
VSR Storozhevoye 69.05 319 *e*P **P 19 45 10.3 -1.5**
VSR pmax pmax
comp=Z,50nm,0.9s
KEF Keuruu 69.09 333 *e*P **P 19 45 11.8 -0.1**
FINES FINESS Array B 69.10 332 P P 19 45 11.7 -0.2
FINES FINESS Array B 69.10 332 P P 19 45 11.9 0.0
comp=Z,30nm,0.8s,baz=59,slow=7.4,SNR=121
FINES LR LR 20 16 42.7
comp=Z,75nm,20.0s,baz=50,slow=37
comp=Z,30nm,0.8s
FINES FINESS Array B 69.10 332 P P 19 45 11.7 -0.2
VORD Divnogorie 69.12 318 *e*P **P 19 45 10.6 -1.6**
VORD pmax pmax
comp=Z,20nm,0.8s
MORW Morawa 69.22 203 P P 19 45 13.3 +0.3
VAF Yilstaro 69.31 335 *e*P **P 19 45 13.5 +0.4**
STOK Stokkvaagen 70.01 340 IAmb IAmb 19 45 17.6
comp=Z,13nm,1.0s
STOK *e*P **P 19 45 17.6 +0.2**
ARBE Arbavere 70.40 331 *e*P **P 19 45 20.7 +0.8**
BLDU Ballidu 70.45 202 P P 19 45 20.6 +0.1
MEF Metsahovi 70.52 332 *e*P **P 19 45 20.7 +0.1**
WSAR Wadi Sarin 70.56 285 LR LR 20 19 00.5
comp=Z,120nm,19.0s,baz=82,slow=38
JMIC Jan Mayen 70.63 350 LR LR 20 16 11.3
comp=Z,22nm,19.2s,baz=243,slow=36
VSU Vasula 70.71 329*c i*P **P 19 45 21.8 0.0**
VSU pmax pmax
comp=Z,49nm,0.8s
YNG Young 70.75 173 P P 19 45 23.2 +1.0
NEW Newport 70.87 44 P P 19 45 24.1 +1.0
baz=304
KBZ Khabaz 70.92 311 P P 19 45 23.6 +0.2
comp=Z,17nm,0.9s,baz=67,slow=3.9,SNR=24
KBZ LR LR 20 17 33.7
comp=Z,49nm,19.1s,baz=60,slow=37
comp=Z,17nm,0.9s
KBZ Khabaz 70.92 311*c i*P **P 19 45 23.5 +0.2**
KBZ pmax pmax
comp=Z,19nm,0.9s
KVAR Kislovodsk Arr 70.92 311 LR LR 20 19 22.9
comp=Z,42nm,18.5s,baz=296,slow=38
KIV Kislovodsk 70.93 311⇑ P **P 19 45 24.0 +0.4**
KIV Kislovodsk 70.93 311 P P 19 45 23.6 0.0
KIV Kislovodsk 70.93 311 P P 19 45 23.7 +0.2
KIV Kislovodsk 70.93 311 *e*P **P 19 45 23.7 +0.2**
KIV pmax pmax
comp=Z,46nm,1.1s
KIV MLR MLR
comp=Z,36nm,18.0s
KIV Kislovodsk 70.93 311 P P 19 45 24.1 +0.5
comp=Z,44nm,0.9s,comp=Z,376nm
KIV Kislovodsk 70.93 311 P P 19 45 23.8 +0.2
RAF Rauma 70.97 333 *e*P **P 19 45 23.6 +0.2**
SHME Shamm 71.00 289 P P 19 45 24.6 +0.4
SHA1 Shidzhatmaz 71.06 311*de*P **P 19 45 25.0 +0.5**
PINE Pine Mountain 71.07 49 IAmb IAmb 19 46 37.9
comp=Z,12nm,0.8s
SUMG Summit 71.26 360 IAmb IAmb 19 45 27.9
comp=Z,14nm,0.8s
SUMG Summit 71.26 360 *i*P **P 19 45 25.0 -0.4**
MSFE Esma-Masafi 71.35 288 P P 19 45 26.3 0.0
UOSS Minazif 71.53 288 P P 19 45 27.3 -0.1
UOSS Minazif 71.53 288 P P 19 45 27.3 -0.1
UOSS pP **pP 19 45 40.7 -1.2**
HATD Hatta, Dubai 71.65 288 P P 19 45 28.7 +0.5
NSS Namsos 71.65 339 *e*P **P 19 45 27.6 +0.2**
NSS IAmb IAmb 19 45 28.1
comp=Z,16nm,1.1s
GNI Garni 71.67 307 P P 19 45 28.8 +0.6
GNI IAmb IAmb 19 45 36.6
comp=Z,21nm,0.9s
GNI Garni 71.67 307 P P 19 45 28.6 +0.4
GNI Garni 71.67 307 LR LR 20 20 08.2
comp=Z,48nm,18.3s,baz=63,slow=38
GNI Garni 71.67 307*ce*P **P 19 45 28.9 +0.7**
GNI pmax pmax
comp=Z,20nm,1.0s
GNI Garni 71.67 307 P P 19 45 29.2 +1.0
comp=Z,23nm,0.9s
GNI Garni 71.67 307 P P 19 45 29.3 +1.0
SOHO SOHO 71.71 287 P P 19 45 28.7 +0.2
MTSE Matsula 71.72 331 *e*P **P 19 45 28.6 +0.6**
ASHO Ashiyiah 71.78 288 P P 19 45 29.0 +0.1
FAQ Al Faqa, Dubai 72.11 288 P P 19 45 30.5 -0.3
ASUD Al Ashush, Dub 72.38 288 P P 19 45 32.6 +0.1
MNK Minsk 72.70 326 *i*P **P 19 45 35.0 +1.1**
MNK *i* *PP **pP 19 45 49.2 +0.8**
MNK *i* 19 45 51.8
MNK *i* *SP **sP 19 45 55.1 +0.9**
MNK *i* 19 48 17.0
MNK *i* PPP PPP 19 50 01.4
MNK *i* S **S 19 54 57.2 +2.1**
MNK *i* *SS **sS 19 55 21.7 +1.9**
MNK pmax pmax
comp=N,17nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=Z,43nm,0.9s
ISAL Salakas 72.81 327 *e*P **P 19 45 36.5 +2.1**
IIGN Ignalina 72.91 327 *e*P **P 19 45 34.2 -0.9**
SOC Sochi 72.93 312 *e*P **P 19 45 33.2 -2.2**
SOC *e* 19 48 16.4
SOC *e*PPP PPP 19 50 00.8
SOC *e*S **S 19 54 55.8 -2.3**
SOC *e*SSS SSS 20 02 55.3
MSO Missoula 73.46 44 P P 19 45 39.5 +0.8
baz=306
PABE Paberze 73.78 328 *e*P **P 19 45 40.8 +0.6**
PBUR Paburge 74.28 329 *e*P **P 19 45 43.8 +0.6**
GURO Guroymak-BITLI 74.30 306 IAmb IAmb 19 45 45.5
comp=Z,18nm,0.7s
NC303 NORSAR Array S 74.34 337 IAmb IAmb 19 45 44.8
comp=Z,22nm,1.0s
DOMB Dombas 74.41 339 *e*P **P 19 45 44.2 +0.4**
DOMB IAmb IAmb 19 45 44.7
comp=Z,21nm,0.7s
HFS Hagfors 74.42 336 P P 19 45 43.9 +0.1
comp=Z,18nm,0.8s,baz=54,slow=7.3,SNR=50
HFS LR LR 20 20 44.8
comp=Z,116nm,19.9s,baz=46,slow=38
comp=Z,18nm,0.8s
MOL Molde 74.43 340 *e*P **P 19 45 44.9 +1.0**
MOL IAmb IAmb 19 45 45.3
comp=Z,15nm,0.8s
FFC Flin Flon 74.44 32 P P 19 45 44.8 +0.7
FFC IAmb IAmb 19 45 46.3
comp=Z,13nm,0.9s
FFC Flin Flon 74.44 32 P P 19 45 44.8 +0.7
FFC pmax pmax
comp=Z,13nm,0.9s
AK03 Malin Array Si 74.45 322 P P 19 45 43.9 -0.3
AKASG Malin Array Be 74.46 322 P P 19 45 43.7 -0.6
AKASG IAmb IAmb 19 45 45.2
comp=Z,11nm,0.8s
AKASG Malin Array Be 74.46 322 P P 19 45 44.0 -0.3
comp=Z,18nm,0.7s,baz=48,slow=5.8,SNR=61
AKASG LR LR 20 21 17.9
comp=Z,114nm,18.2s,baz=46,slow=38
comp=Z,18nm,0.7s
AKASG Malin Array Be 74.46 322 P P 19 45 43.7 -0.6
AKASG pmax pmax
comp=Z,11nm,0.9s
AKBB Malin Array Si 74.46 322*c i*P **P 19 45 43.9 -0.4**
AKBB Malin Array Si 74.46 322 P P 19 45 44.1 -0.2
KIEV Kiev 74.47 322 P P 19 45 44.2 -0.1
AK22 Malin Array Si 74.50 322 P P 19 45 44.0 -0.5
NB2 NORSAR Subarra 74.53 337 P P 19 45 44.6 0.0
comp=Z,23nm,0.7s,baz=40,slow=6.2
NB2 NORSAR Subarra 74.53 337 P P 19 45 44.6 0.0
baz=40,slow=6.2
NOA NORSAR Array B 74.53 337 P P 19 45 45.8 +1.2
comp=Z,18nm,0.7s,baz=39,slow=5.8,SNR=177
NOA LR LR 20 21 22.5
comp=Z,67nm,19.6s,baz=40,slow=38
comp=Z,18nm,0.7s
CMB Columbia Colle 74.59 54 IAmb IAmb 19 46 45.9
comp=Z,30nm,2.0s
NC602 NORSAR Array S 74.66 337 IAmb IAmb 19 45 46.2
comp=Z,23nm,1.3s
NC602 NORSAR Array S 74.66 337 *e*P **P 19 45 45.1 -0.2**
NC602 IAmb IAmb 19 45 45.9
comp=Z,30nm,1.4s
MZR Muzera 74.67 287 P P 19 45 45.7 -0.3
NAO01 NORSAR Array S 74.79 337 IAmb IAmb 19 45 47.1
comp=Z,20nm,0.8s
MI30 MI30,Zelenitsa 74.94 323 P P 19 45 46.8 -0.3
EGMT Eagleton 75.02 41 IAmb IAmb 19 45 50.3
comp=Z,10nm,0.8s
EGMT Eagleton 75.02 41 P P 19 45 48.4 +0.7
baz=308
MI28 MI28,Pidlybu 75.08 323 P P 19 45 47.7 -0.1
DLMT Dillon 75.08 44 IAmb IAmb 19 45 51.1
comp=Z,14nm,0.6s
HLID Hailey 75.11 47 pP pP 19 45 57.2 -5.8
HLID Hailey 75.11 47 P P 19 45 49.2 +0.8
baz=306
SUW Suwalki 75.12 327 *e*P **P 19 45 48.0 0.0**
MI29 MI29, Kamyanyy 75.32 322 P P 19 45 49.1 -0.1
BOZ Bozeman (W) 75.48 44 IAmb IAmb 19 45 53.3
comp=Z,9.4nm,0.9s
BOZ Bozeman (W) 75.48 44 P P 19 45 51.2 +0.7
baz=308
KVN Kaiserville 75.48 52 IAmb IAmb 19 45 53.7
comp=Z,6.8nm,0.7s
OSL Oslo 75.54 337 *e*P **P 19 45 51.2 +0.9**
RNPP9 Sopachiv 75.62 324 P P 19 45 51.0 +0.1
LUBAR Lubar, Ukraine 75.69 322 P P 19 45 51.2 -0.1
NVAR Mina Array Bea 75.71 53 P P 19 45 53.4 +1.4
NVAR Mina Array Bea 75.71 53 P P 19 45 54.4 +2.4
comp=Z,3.5nm,0.7s,baz=291,slow=5.1,SNR=33
NVAR pP **pP 19 46 08.3 +1.8**
comp=Z,3.3nm,0.8s,baz=312,slow=4.3,SNR=8.9
comp=Z,3.5nm,0.7s
RNPP5 Staryi Chortor 75.74 324 P P 19 45 51.6 0.0
FOO Floro 75.91 340 *e*P **P 19 45 52.9 +0.6**
HYA Hoyanger 75.94 339 *e*P **P 19 45 53.3 +0.7**
HYA IAmb IAmb 19 45 54.0
comp=Z,22nm,1.0s
KONO Kongsberg 76.12 337 P P 19 45 53.8 +0.2
KONO IAmb IAmb 19 45 55.0
comp=Z,14nm,0.9s
KONO Kongsberg 76.12 337 *e*P **P 19 45 54.2 +0.6**
KONO Kongsberg 76.12 337*de*P **P 19 45 54.4 +0.8**
KONO pmax pmax
comp=Z,4.0nm,0.6s
SUE Sulen 76.44 340 *e*P **P 19 45 56.1 +0.8**
SORM Soroca 76.53 320⇑ P **P 19 45 55.9 -0.4**
SORM Soroca 76.53 320 P P 19 45 55.8 -0.4
SORM Soroca 76.53 320 P P 19 45 55.8 -0.4
comp=Z,32nm,1.0s
ASK Askoy 76.78 339 *e*P **P 19 45 58.3 +1.0**
H17A Grant Village 76.81 44 P P 19 45 59.7 +1.5
baz=308
BER Bergen 76.83 339 *e*P **P 19 45 58.1 +0.5**

ODD1 **Odda** 76.83 338 *e*P P 19 45 58.8 +1.1
ODD1 IAmb IAmb 19 45 59.1
comp=Z,16nm,0.9s
CWC **Cottonwood Cre** 77.01 54 P P 19 46 00.5 +1.1
baz=306
GMN **Gold Mountain** 77.04 53 IAmb IAmb 19 46 59.2
comp=Z,3.1nm,0.9s
RLMT **Red Lodge** 77.09 43 P P 19 46 00.7 +1.0
baz=309
HVU **Hansel Valley** 77.15 47 IAmb IAmb 19 46 03.1
comp=Z,6.1nm,0.8s
KMPD **K-Podol'skiy** 77.22 322 P P 19 45 59.5 -0.5
BLS5 **Blasjo** 77.28 338 *e*P P 19 46 01.2 +1.0
BLS5 IAmb IAmb 19 46 01.8
comp=Z,16nm,0.9s
R11B **Troy Canyon, C** 77.49 52 P P 19 46 01.4 -0.6
baz=307
Q12A **Willow Creek R** 77.55 51 IAmb IAmb 19 46 22.0
comp=Z,6.2nm,0.7s
HOMB **Homborsund** 77.56 336 *e*P P 19 46 02.4 +0.7
LVV **L'vov** 77.56 324 *e*P P 19 46 02.2 +0.2
MPMC **Manual Prospec** 77.62 54 P P 19 46 02.3 -0.5
baz=306
BSD **Bornholm Skovb** 77.73 332 *e*P P 19 46 02.9 +0.2
FURC **Furnace Creek,** 77.79 54 P P 19 46 03.7 +0.2
baz=306
TPNV **Topopah Spring** 77.90 53 P P 19 46 04.6 +0.3
baz=307
SNART **Snartemo** 77.92 337 *e*P P 19 46 04.5 +0.8
HWUT **Hardware Ranch** 77.97 47 PcP 19 46 14.3 +0.1
HWUT IAmb IAmb 19 47 13.6
comp=Z,7.0nm,0.8s
DUG **Dugway, Tooele** 78.09 49 IAmb IAmb 19 47 11.5
comp=Z,6.8nm,0.8s
DUG **Dugway, Tooele** 78.09 49 P P 19 46 06.3 +1.0
baz=308
BIR **Birlad** 78.12 319 ⇑P P 19 46 05.0 -0.1
BIR **Birlad** 78.12 319 P P 19 46 05.0 -0.1
TCUT **Toone Canyon** 78.36 47 IAmb IAmb 19 46 09.9
comp=Z,8.9nm,0.7s
GHRR 78.37 319 P P 19 46 07.4 +0.9
BW06 **Boulder Array** 78.41 45 P P 19 46 07.5 +0.4
baz=309
PDAR **Pinedale Array** 78.41 45 P P 19 46 07.7 +0.6
PDAR **Pinedale Array** 78.41 45 P P 19 46 08.7 +1.6
comp=Z,2.8nm,0.6s,baz=259,slow=1.8,SNR=37
PDAR pP pP 19 46 23.3 +1.6
comp=Z,1.5nm,0.7s,baz=305,slow=3.2,SNR=5.3
comp=Z,2.8nm,0.6s
BUR08 **Bucovina Ar. S** 78.46 322 IAmb IAmb 19 46 08.5
comp=Z,12nm,0.8s
BURAR **Bucovina Array** 78.47 321 ⇓P P 19 46 07.6 +0.5
BURAR **Bucovina Array** 78.47 321 P P 19 46 07.3 +0.2
BURAR IAmb IAmb 19 46 08.4
comp=Z,13nm,0.7s
TESR **Tescani** 78.47 320 ⇑P P 19 46 07.5 +0.4
TESR **Tescani** 78.47 320 P P 19 46 07.2 +0.1
comp=Z,33nm,0.9s
GSC **Goldstone, Bar** 78.52 55 P P 19 46 07.7 +0.1
baz=307
CFR **Carcaliu** 78.56 318 ⇑P P 19 46 07.4 -0.1
CFR **Carcaliu** 78.56 318 P P 19 46 07.4 -0.1
TPGR **Topolog** 78.62 318 ⇑P P 19 46 08.4 +0.4
RGN **Rugen** 78.76 332 *e*P P 19 46 09.6 +1.1
VRI **Vrincioaia** 78.86 319 ⇑P P 19 46 09.8 +0.5
VRI **Vrincioaia** 78.86 319 P P 19 46 09.7 +0.5
VRI **Vrincioaia** 78.86 319 P P 19 46 10.1 +0.9
comp=Z,17nm,1.2s
BR131 **Keskin Array S** 78.88 311 IAmb IAmb 19 46 10.9
comp=Z,9.3nm,0.9s
BR131 **Keskin Array S** 78.88 311 *d i*P P 19 46 09.7 +0.1
BRTR **Keskin Array B** 78.88 311 P P 19 46 09.4 -0.2
BRTR **Keskin Array B** 78.88 311 P P 19 46 09.6 0.0
comp=Z,7.3nm,0.9s,baz=90,slow=4.2,SNR=26
BRTR LR LR 20 25 42.8
comp=Z,38nm,18.8s,baz=76,slow=39
comp=Z,7.3nm,0.9s
BRTR **Keskin Array B** 78.88 311 *i* P P 19 46 09.8 +0.1
BRTR pmax pmax
comp=Z,8.0nm,0.9s
PLOR **Plostina** 78.91 319 ⇑P P 19 46 10.0 +0.5
PLOR **Plostina** 78.91 319 P P 19 46 10.0 +0.5
HARR **Harsova** 78.99 318 ⇓P P 19 46 10.5 +0.5
HARR **Harsova** 78.99 318 P P 19 46 10.4 +0.5
KOLS **Kolonicke sedl** 79.01 324 *e*P P 19 46 10.4 +0.4
KOLS pmax pmax
comp=Z,9.0nm,0.8s
KOLS **Kolonicke sedl** 79.01 324 *e*P P 19 46 10.4 +0.4
TURR **Turia** 79.10 320 ⇑P P 19 46 11.6 +1.0
HEC **Hector,Ludlow** 79.11 55 P P 19 46 11.8 +0.9
baz=307
COVR **Voineasa-Covas** 79.14 320 ⇑P P 19 46 11.3 +0.5
OZUR 79.19 320 ⇑P P 19 46 11.8 +0.7
OJC **Ojcow** 79.25 326 P P 19 46 11.6 +0.3
comp=Z,33nm,1.0s,comp=Z,312nm
ARCR **ARCALIA** 79.26 321 ⇓P P 19 46 13.0 +1.7
BOSR **Bodos** 79.27 320 ⇓P P 19 46 12.5 +1.0
ANTO **Ankara** 79.30 312 P P 19 46 12.7 +0.9
comp=Z,10nm,0.9s
CRVS **Cervenica-Dubn** 79.41 324 *e*P P 19 46 12.9 +0.7
CRVS pmax pmax
comp=Z,15nm,0.9s
CRVS **Cervenica-Dubn** 79.41 324 *e*P P 19 46 12.9 +0.7
ICOR **Ion Corvin** 79.44 318 ⇓P P 19 46 13.5 +1.1
ISR **Istrita** 79.45 319 ⇓P P 19 46 13.8 +1.2
ISR **Istrita** 79.45 319 P P 19 46 13.7 +1.2
DOPR **Dopca** 79.49 320 ⇓P P 19 46 13.8 +1.1
MVU **Marysvale** 79.50 50 IAmb IAmb 19 46 33.5
comp=Z,19nm,1.0s
MLR **Muntele Rosu** 79.52 320 ⇓P P 19 46 12.5 -0.5
MLR **Muntele Rosu** 79.52 320 IAmb IAmb 19 46 15.1
comp=Z,11nm,1.1s
MLR **Muntele Rosu** 79.52 320 LR LR 20 23 59.4
comp=Z,101nm,19.2s,baz=105,slow=38
MLR **Muntele Rosu** 79.52 320 P P 19 46 12.4 -0.5
MLR **Muntele Rosu** 79.52 320 P P 19 46 13.6 +0.6
comp=Z,11nm,1.4s
GMRC **Granite Mounta** 79.58 54 P P 19 46 13.8 +0.2
baz=307
NIE **Niedzica** 79.59 325 P P 19 46 14.0 +0.8
comp=Z,10.0nm,1.0s
PFO **Pinyon Flats O** 79.75 56 P P 19 46 14.6 +0.2
baz=307
PFO **Pinyon Flats O** 79.75 56 LR LR 20 18 04.7
comp=Z,62nm,18.2s,baz=250,slow=33
TPFO **Pinon Flats** 79.76 56 P P 19 46 15.0 +0.5
baz=307
BELC **Belle Mtn. Jos** 79.83 55 P P 19 46 15.1 +0.2
baz=307
P18A **Preston Nutter** 79.99 48 IAmb IAmb 19 46 19.9
comp=Z,7.1nm,0.7s
SRU **San Rafael Swe** 80.15 48 IAmb IAmb 19 46 19.3
comp=Z,13nm,0.7s
RUE **Ruedersdorf** 80.15 330 *e*P P 19 46 16.9 +0.9
MARR **Marisel-Cluj** 80.16 322 ⇓P P 19 46 16.3 0.0
LANS **Liptovska Anna** 80.17 325 *e*P P 19 46 17.6 +1.3
LANS pmax pmax
comp=Z,6.0nm,0.8s
LANS **Liptovska Anna** 80.17 325 *e*P P 19 46 17.6 +1.3
K22A **Casper** 80.19 44 P P 19 46 16.6 -0.1
baz=311
RAR **Rarotonga** 80.21 125 LR LR 20 13 13.3
comp=Z,76nm,21.7s,baz=35,slow=29
MONP2 **Monument Peak** 80.21 56 P P 19 46 17.8 +0.7
baz=307
ULM **Lac du Bonnet** 80.24 33 P P 19 46 17.0 +0.4
comp=Z,4.3nm,0.7s,baz=325,slow=8.4,SNR=5.2
comp=Z,4.3nm,0.7s
ULM **Lac du Bonnet** 80.24 33 P P 19 46 17.0 +0.4
OKC **Ostrava-Krasne** 80.27 326 AMS AMS 20 39 00.0
comp=Z,200nm,5.9s
ARR **Arges** 80.28 320 ⇓P P 19 46 18.2 +1.1
IRM **Iron Mountain** 80.30 55 P P 19 46 18.4 +1.2
baz=308
KSP **Ksiaz** 80.34 328 P P 19 46 17.7 +0.6
comp=Z,27nm,0.9s
BSEG **Bad Segeberg** 80.36 333 *e*P 19 46 17.7
comp=Z,23nm,1.0s,baz=38,slow=5.2
BC3 **Big Chuckawall** 80.39 55 P P 19 46 18.8 +0.8
baz=308
RAYN **Ar Rayn** 80.44 292 P P 19 46 17.8 -0.4
RAYN IAmb IAmb 19 46 19.2
comp=Z,14nm,0.9s
RAYN **Ar Rayn** 80.44 292 P P 19 46 17.7 -0.4
RAYN **Ar Rayn** 80.44 292 P P 19 46 17.8 -0.4
RAYN pmax pmax
comp=Z,14nm,0.9s
IKP **In-Ko-Pah, Jac** 80.57 56 P P 19 46 18.7 -0.1
baz=307
RSSD **Black Hills** 80.57 41 P P 19 46 19.8 +0.9
baz=312
MORC **Moravsky Berou** 80.58 327 ⇑P P 19 46 19.2 +0.7
MORC **Moravsky Berou** 80.58 327 IAmb IAmb 19 46 20.2
comp=Z,20nm,1.2s
MORC **Moravsky Berou** 80.58 327 *e*P P 19 46 19.0 +0.5
MORC **Moravsky Berou** 80.58 327 P P 19 46 19.2 +0.7
OSTC **Ostas** 80.59 328 AMS AMS 20 29 50.0
comp=Z,200nm,7.1s
SWSC **Sam W. Stewart** 80.59 56 P P 19 46 20.0 +1.1
baz=308
CHVC **Chvalec** 80.63 328 *e*P P 19 46 19.5 +0.7
CHVC AMS AMS 20 25 40.0
comp=Z,100nm,18.0s
CHVC **Chvalec** 80.63 328 *e*P P 19 46 19.5 +0.7
CHVC MLR MLR
comp=Z,100nm,18.0s
LOT **Lotru** 80.67 321 ⇓P P 19 46 19.6 +0.4
DPC **Dobruska-Polom** 80.69 328 *e*P P 19 46 20.3 +1.2
DPC AMS AMS 20 29 30.0
comp=Z,100nm,9.6s
DPC **Dobruska-Polom** 80.69 328 *e*P P 19 46 20.3 +1.2
DPC MLR MLR
comp=Z,100nm,9.6s
DPC **Dobruska-Polom** 80.69 328 P P 19 46 20.0 +0.9
comp=Z,16nm,0.9s
KRLC **Kraliky** 80.70 327 *e*P P 19 46 19.9 +0.8
KRLC **Kraliky** 80.70 327 *e*P P 19 46 19.9 +0.8
UPC **Upice** 80.71 328 *e*P P 19 46 20.3 +1.2
UPC AMS AMS 20 25 40.0
comp=Z,100nm,16.7s
UPC **Upice** 80.71 328 *e*P P 19 46 20.3 +1.2
UPC MLR MLR
comp=Z,100nm,16.7s
GORT1 **Trebel** 80.73 332 *e*P 19 46 19.8
comp=Z,21nm,1.1s,baz=38,slow=5.2
HMU **Henry Mountain** 80.75 49 IAmb IAmb 19 46 22.7
comp=Z,11nm,0.7s
O20A **White River Ci** 80.85 46 P P 19 46 21.0 +0.7
baz=310
PSZ **Piszkesteto** 80.85 324 ⇑P P 19 46 20.9 +0.8
PSZ **Piszkesteto** 80.85 324 IAmb IAmb 19 46 21.9
comp=Z,23nm,1.1s
PSZ **Piszkesteto** 80.85 324 P P 19 46 20.8 +0.8
PDMCI **Parker Dam,Lak** 80.86 54 P P 19 46 21.0 +0.8
baz=308
VYHS **Vyhne** 80.93 325 *e*P P 19 46 21.1 +0.7
VYHS pmax pmax
comp=Z,10.0nm,0.9s
VYHS **Vyhne** 80.93 325 *e*P P 19 46 21.1 +0.7
VYHS *e*PP PP 19 49 26.0 +1.3
SIRR **Siria** 81.17 322 ⇑P P 19 46 21.4 -0.2
GLA **Glamis** 81.18 55 P P 19 46 22.8 +0.8
baz=308
JAVC **Velka Javorina** 81.19 326 *e*P P 19 46 23.2 +1.4
GZR **Gura Zlata** 81.22 321 ⇑P P 19 46 22.1 +0.1
GZR **Gura Zlata** 81.22 321 P P 19 46 22.1 +0.1
FLTG **Flechtingen** 81.27 331 *e*P 19 46 22.0
comp=Z,22nm,0.8s,baz=38,slow=5.2
ELND **Elena** 81.27 318 ⇓P P 19 46 22.9 +0.6
SURR **Surduc** 81.29 322 ⇑P P 19 46 22.9 +0.6
BRG **Berggiesshubel** 81.31 329 *e*P P 19 46 22.5 +0.2
BRG Amp 19 46 23.4
comp=Z,13nm,1.0s
BRG **Berggiesshubel** 81.31 329 *e*P P 19 46 22.5 +0.2
BRG 19 46 34.4
BRG pmax pmax
comp=Z,13nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,0.9s
PVCC **Panska Ves** 81.31 329 *e*P P 19 46 23.4 +1.1
PVCC AMS AMS 20 28 50.0
comp=Z,100nm,17.0s
PVCC **Panska Ves** 81.31 329 *e*P P 19 46 23.4 +1.1
PVCC MLR MLR
comp=Z,100nm,17.0s
BRG **Berggiesshubel** 81.31 329 *e*P 19 46 22.7
comp=Z,13nm,1.0s,baz=38,slow=5.2
VRAC **Vranov** 81.34 327 ⇑P P 19 46 23.0 +0.4
VRAC **Vranov** 81.34 327 *e*P P 19 46 23.5 +0.9
VRAC **Vranov** 81.34 327 LR LR 20 24 00.2
comp=Z,56nm,19.5s,baz=43,slow=37
VRAC **Vranov** 81.34 327 P P 19 46 22.9 +0.4
CLL **Collm** 81.36 330 ⇑*i*P P 19 46 22.7 +0.2
comp=Z,28nm,0.9s
CLL *es*P sP 19 46 41.0 -2.1
CLL *e*PP PP 19 49 28.0 -0.1
CLL AMS AMS 20 28 00.0
comp=Z,100nm,20.9s
CLL **Collm** 81.36 330 P P 19 46 22.6 +0.1
comp=Z,31nm,0.9s
CLL **Collm** 81.36 330 *e*P 19 46 22.7
comp=Z,23nm,0.8s,baz=38,slow=5.2
RICC **Richard** 81.49 329 *e*P P 19 46 25.0 +1.7
SMOL **Smolenice** 81.56 326 *e*P P 19 46 25.0 +1.3
SMOL pmax pmax
comp=Z,11nm,0.8s
KRUC **Moravsky** 81.61 327 *e*P P 19 46 24.7 +0.7
BZS **Buzias** 81.64 322 ⇓P P 19 46 24.2 0.0
BZS **Buzias** 81.64 322 P P 19 46 24.1 0.0
RETH **Rethem/Aller,** 81.66 333 *e*P 19 46 24.5
comp=Z,17nm,1.0s,baz=38,slow=5.2
SRO **Srobarova** 81.66 325 *e*P P 19 46 25.3 +1.1
SRO pmax pmax
comp=Z,14nm,0.7s
SRO **Srobarova** 81.66 325 *e*P P 19 46 25.3 +1.1
N23A **Red Feather La** 81.68 45 IAmb IAmb 19 46 23.8
comp=Z,11nm,0.5s
PRA **Prague** 81.71 328 *e*P P 19 46 25.5 +1.1
PRA **Prague** 81.71 328 *e*P P 19 46 25.5 +1.1
HSKC **Hora Svate Kat** 81.72 329 *e*P P 19 46 25.4 +0.9
HSKC AMS AMS 20 30 30.0
comp=Z,100nm,13.0s
PRU **Pruhonice** 81.72 328 *e*P P 19 46 25.4 +0.9
PRU AMS AMS 20 26 30.0
comp=Z,200nm,7.0s
PRU **Pruhonice** 81.72 328 *e*P P 19 46 25.4 +0.9
PRU MLR MLR
comp=Z,200nm,7.0s
MODS **Modra-Piesok** 81.73 326 *e*P P 19 46 25.7 +1.1
MODS pmax pmax
comp=Z,23nm,1.1s
MODS **Modra-Piesok** 81.73 326 *e*P P 19 46 25.7 +1.1
HERR **Herculane** 81.76 321 ⇓P P 19 46 25.0 +0.2
TREC **Trest** 81.84 327 *e*P P 19 46 26.0 +0.8
TREC AMS AMS 20 26 40.0
comp=Z,200nm,7.2s
TREC **Trest** 81.84 327 *e*P P 19 46 26.0 +0.8
TREC MLR MLR
comp=Z,200nm,7.2s
WUAZ **Wupatki** 81.89 52 P P 19 46 26.2 +0.3
baz=309
MMAI **Mount Meron Ar** 81.91 305 P P 19 46 26.0 0.0
comp=Z,7.6nm,0.8s,baz=58,slow=7.9,SNR=15
MMAI LR LR 20 24 38.9
comp=Z,69nm,20.0s,baz=14,slow=37
comp=Z,7.6nm,0.8s
CLZ **Clausthal** 81.98 332 *e*P 19 46 26.5
comp=Z,24nm,1.1s,baz=38,slow=5.2
CSS **Mathiatis** 82.04 308 IAmb IAmb 19 46 27.4
comp=Z,8.9nm,0.6s
CSS **Mathiatis** 82.04 308 P P 19 46 26.7 +0.2
comp=Z,15nm,0.9s
BALJ **Balqa** 82.33 304 IAmb IAmb 19 46 29.6
comp=Z,13nm,0.7s
PLN **Plauen** 82.33 330 *e*P 19 46 28.1
comp=Z,4.6nm,0.7s,baz=38,slow=5.2
MOX **Moxa** 82.43 330 *e*P 19 46 28.3
comp=Z,7.1nm,0.8s,baz=38,slow=5.2
MPLH **Magyarpolny** 82.49 325 P P 19 46 29.3 +0.7
comp=Z,28nm,1.4s
MVCO **Mesa Verde** 82.59 49 P P 19 46 30.3 +0.7
baz=311
IBBN **Ibbenburen** 82.59 333 *e*P 19 46 29.3
comp=Z,27nm,0.9s,baz=38,slow=5.2
ISCO **Idaho Springs** 82.59 45 IAmb IAmb 19 46 58.7
comp=Z,6.1nm,0.6s
ISCO **Idaho Springs** 82.59 45 P P 19 46 29.9 +0.3
baz=312
RDO **Rodhopi** 82.66 316 IAmb IAmb 19 46 31.2
comp=Z,9.7nm,1.1s
MORH **Mrgy, Hungar** 82.67 324 ⇑P P 19 46 29.6 0.0
MORH **Mrgy, Hungar** 82.67 324 P P 19 46 29.3 -0.2
comp=Z,6.7nm,1.3s
RONA **Rosalia, Austr** 82.67 326 *i* P P 19 46 30.7 +1.1
comp=Z,5.4nm,0.7s,SNR=8.0
CKRC **Cesky Krumlov** 82.71 328 *e*P P 19 46 30.4 +0.7
CKRC AMS AMS 20 33 10.0
comp=Z,200nm,5.7s
CKRC **Cesky Krumlov** 82.71 328 *e*P P 19 46 30.4 +0.7
CKRC MLR MLR
comp=Z,200nm,5.7s
MANZ **Manzenberg** 82.74 329 *e*P 19 46 30.3
comp=Z,2.4nm,0.9s,baz=38,slow=5.2
KHC **Kasperske Hory** 82.78 328 IAmb IAmb 19 46 31.7
comp=Z,18nm,1.1s
KHC **Kasperske Hory** 82.78 328 *e*P P 19 46 30.8 +0.7
KHC AMS AMS 20 26 30.0
comp=Z,100nm,15.1s
KHC **Kasperske Hory** 82.78 328 *c i*P P 19 46 30.4 +0.3
KHC pmax pmax
comp=Z,42nm,1.3s
KHC **Kasperske Hory** 82.78 328 P P 19 46 30.5 +0.3
comp=Z,18nm,1.2s
FRGS **Fruska Gora** 82.87 322 ⇓P P 19 46 31.3 +0.7
FRGS **Fruska Gora** 82.87 322 ⇑*i*P P 19 46 30.8 +0.2
FRGS **Fruska Gora** 82.87 322 P P 19 46 31.2 +0.6
comp=Z,19nm,0.8s
ROTZ **Rotzenmuhle** 82.87 329 *e*P 19 46 31.2
comp=Z,1.9nm,0.8s,baz=38,slow=5.2
GERES **GERESS Array B** 82.95 328 P P 19 46 30.7 -0.4
GERES **GERESS Array B** 82.95 328 P P 19 46 31.2 +0.1
comp=Z,4.2nm,0.6s,baz=28,slow=6.0,SNR=28
GERES pP pP 19 46 46.8 +0.9
comp=Z,0.9nm,0.4s,baz=55,slow=8.5,SNR=4.1
comp=Z,4.2nm,0.6s
GEC2 **GERESS Array S** 82.95 328 *e*P 19 46 31.1
comp=Z,6.1nm,0.6s,baz=38,slow=5.2
WET **Wettzell** 83.07 329 *e*P 19 46 32.1
comp=Z,12nm,1.2s,baz=38,slow=5.2
W18A **Petrified Fore** 83.17 51 P P 19 46 33.5 +0.9
baz=310
214A **Organ Pipe Nat** 83.19 55 P P 19 46 33.0 +0.5
baz=309
S22A **4UR Ranch, Cre** 83.24 48 P P 19 46 33.4 +0.3
baz=312
F33A **5 Mile Ranch,** 83.28 36 IAmb IAmb 19 46 34.5
comp=Z,6.2nm,0.8s
GRF **Grafenberg Arr** 83.33 330 *e*P 19 46 33.7
comp=Z,29nm,0.9s,baz=38,slow=5.2
GRFO **Grafenberg** 83.33 330 P P 19 46 33.0 +0.1
GRFO **Grafenberg** 83.33 330 P P 19 46 33.0 +0.1
GRFO pmax pmax
comp=Z,28nm,0.9s
ARSA **Arzberg** 83.36 326 *i* P P 19 46 33.6 +0.5
comp=Z,3.7nm,0.7s
Q24A **Divide** 83.42 46 P P 19 46 33.9 -0.1
baz=312
MOA **Molln** 83.46 327 *i* P P 19 46 35.0 +1.3
comp=Z,8.6nm,1.1s
EKA **Eskdalemuir Ar** 83.52 340 P P 19 46 34.1 +0.3
comp=Z,3.3nm,0.6s,baz=32,slow=4.2,SNR=20
comp=Z,3.3nm,0.6s
PEHC **Pehcevo** 83.67 318 *i* P P 19 46 35.8 +0.9
OGNE **Ogallala** 83.82 43 P P 19 46 36.0 +0.3
baz=314
BIOA **Bad Ischl, Aus** 83.86 327 *i* P P 19 46 36.5 +0.8
comp=Z,14nm,1.4s,SNR=7.8
PERS **Pernice** 84.00 326 *i* P P 19 46 36.5 0.0
SOKA **Soboth** 84.01 326 *i* P P 19 46 36.8 +0.3
comp=Z,15nm,1.0s,SNR=13
SDCO **Great Sand Dun** 84.03 47 P P 19 46 37.0 -0.1
baz=312
STIP **Stip** 84.11 319 *i* P P 19 46 36.4 -0.7
SJES **Sjenica** 84.15 321 ⇑*i*P P 19 46 37.7 +0.4
VAY **Valandovo** 84.16 318 *i* P P 19 46 37.4 +0.1
RJOB **Jochberg** 84.19 328 *e*P 19 46 37.8
comp=Z,11nm,1.1s,baz=38,slow=5.2
RUDO **Rudo** 84.19 321 ⇑*i*P P 19 46 37.1 -0.3
GOLS **Golise** 84.24 325 *i* P P 19 46 37.6 0.0
SKO **Skopje** 84.31 319 *i* P P 19 46 39.1 +1.1
OBKA **Obir** 84.35 326 *e*P P 19 46 38.5 +0.2
comp=Z,2.9nm,0.7s
OBKA **Obir** 84.35 326 ⇑*i*P P 19 46 37.9 -0.4
LEGS **Legarje** 84.43 325 *e*P P 19 46 38.4 -0.2
BLY **Banja Luka** 84.44 323 ⇑*i*P P 19 46 38.6 -0.1
CRES **Cresnjev** 84.45 325 *i* P P 19 46 38.5 -0.2
CRES **Cresnjev** 84.45 325 ⇑*i*P P 19 46 38.5 -0.2
KBA **Koelnbreinsper** 84.45 327 *i* P P 19 46 39.6 +0.7
comp=Z,7.3nm,0.9s
LESA **Schwarzleotal** 84.48 328 *i* P P 19 46 39.3 +0.4
comp=Z,5.1nm,0.7s
FUR **Furstenfeldbru** 84.50 329 *e*P 19 46 39.6
comp=Z,25nm,0.8s,baz=38,slow=5.2
BTNL **Ternell** 84.58 333 *d*P P 19 46 39.0 -0.3
comp=Z,7.4nm,0.9s
MEM **Membach** 84.61 333 *d*P P 19 46 39.3 0.0
comp=Z,8.4nm,0.9s
ECSD **EROS Data Cent** 84.66 38 IAmb IAmb 19 46 41.8
comp=Z,5.1nm,0.7s
ECSD **EROS Data Cent** 84.66 38 P P 19 46 40.7 +0.9
baz=317
MYKA **Terra Mystica** 84.67 327 *i* P P 19 46 39.3 -0.5
comp=Z,5.4nm,0.6s
UPM **Unac-Piva** 84.73 321 ⇑*i*P P 19 46 41.5 +1.1
MGRS **Mrkonjic Grad** 84.73 323 ⇑*i*P P 19 46 41.0 +0.8
BOJS **Bojanci** 84.79 325 ⇑*i*P P 19 46 40.2 -0.2
PPT **Papeete** 84.80 116 LR LR 20 15 29.1
comp=Z,70nm,21.6s,baz=340,slow=29
PPT2 **Papeete2** 84.82 116 *e*LR LR 20 13 21.5
comp=Z,176nm,27.2s
PPT2 *e*LR LR 20 13 24.3
comp=Z,152nm,29.0s
STU **Stuttgart** 84.88 330 *e*P 19 46 41.0
comp=Z,70nm,1.0s,baz=38,slow=5.2
A050A **Klekovaca** 84.95 324 ⇑*i*P P 19 46 41.1 -0.2
CEY **Cerknica** 84.99 326 ⇑*i*P P 19 46 41.0 -0.5
BCLA **Clavier** 85.02 333 *d*P P 19 46 41.6 +0.1
comp=Z,5.2nm,0.8s
WATA **Walderalm** 85.02 328 *i* P P 19 46 41.7 0.0
comp=Z,6.7nm,1.1s
WTTA **Wattenberg** 85.05 328 *e*P P 19 46 42.0 +0.1
comp=Z,2.3nm,0.6s
PUK **Puka** 85.06 320 IAmb IAmb 19 46 47.7
comp=Z,12nm,0.8s
ABTA **Abfaltersbach** 85.08 327 *i* P P 19 46 41.4 -0.5
comp=Z,9.6nm,1.2s
T25A **Trinidad** 85.08 47 IAmb IAmb 19 46 45.0
comp=Z,9.8nm,0.7s
T25A pP pP 19 46 52.8 -4.2
T25A **Trinidad** 85.08 47 P P 19 46 43.0 +0.7
baz=313
PDG **Podgorica** 85.11 321 ⇑P P 19 46 42.0 0.0
PDG **Podgorica** 85.11 321 ⇑*i*P P 19 46 42.1 0.0
BGES **Gesves** 85.13 333 *d*P P 19 46 41.9 -0.1
comp=Z,6.0nm,1.0s
BRY **Bratogost** 85.13 321 ⇑*i*P P 19 46 41.7 -0.7
FNA **Florina** 85.18 318 IAmb IAmb 19 46 43.2
comp=Z,7.6nm,0.9s
RETA **Reutte** 85.25 329 *e*P P 19 46 43.0 +0.3
comp=Z,12nm,0.9s,SNR=5.9
OHR **Ohrid** 85.26 319 *i* P P 19 46 44.8 +1.9
RCHB **Rochefort** 85.27 333 *d*P P 19 46 42.6 0.0
comp=Z,8.2nm,1.0s
SQTA **Sankt Quirin** 85.27 328 *e*P P 19 46 42.9 0.0
comp=Z,3.6nm,0.7s
BMRD **Maredsous** 85.31 333 *d*P P 19 46 42.8 -0.1
comp=Z,10nm,1.1s
ANMO **Albuquerque** 85.32 49 P P 19 46 44.2 +0.7
ANMO **Albuquerque** 85.32 49 P P 19 46 43.8 +0.3
baz=312
ANMO **Albuquerque** 85.32 49 P P 19 46 44.2 +0.7
ANMO pmax pmax
comp=Z,3.0nm,0.9s
DRME **Dracevica, Mon** 85.32 321 ⇑*i*P P 19 46 43.2 +0.1
WLF **Walferdange** 85.33 332 *d*pP pP 19 46 56.3 -1.6
TREB **Trebinje** 85.36 321 ⇑*i*P P 19 46 42.8 -0.5
STAL **STALIGIAL** 85.36 327 IAmb IAmb 19 46 42.9
comp=Z,9.6nm,0.6s
BGNE **Belgrade** 85.57 40 P P 19 46 44.8 +0.3
baz=316
BFO **Black Forest** 85.57 330 P P 19 46 44.0 -0.3
BFO **Black Forest** 85.57 330 P P 19 46 44.0 -0.3
BFO pmax pmax
comp=Z,19nm,0.9s
STON **Ston** 85.57 322 ⇑*i*P P 19 46 43.3 -1.0
BFO **Black Forest** 85.57 330 *e*P 19 46 44.4
comp=Z,19nm,0.9s,baz=38,slow=5.2
FETA **Feichten** 85.63 328 *e*P P 19 46 44.9 +0.1

comp=Z,6.6nm,1.0s
DAVA Damuels 85.77 329 *e*P **P 19 46 44.8 -0.7**
comp=Z,11nm,0.8s
CTI Castel Tesino 85.99 327 IAmb IAmb 19 46 45.9
comp=Z,6.4nm,1.0s
121A Cookes Peak, D 86.08 52 P **P 19 46 48.1 +0.8**
baz=311
ECH Echery 86.13 331 IAmb IAmb 19 46 47.9
comp=Z,10nm,0.8s
INTR Introdacqua 88.08 323 IAmb IAmb 19 46 56.8
comp=Z,8.5nm,0.9s
LPIG La Paz 89.89 60 LR LR 20 27 58.6
comp=Z,28nm,18.1s,baz=196,slow=36
S39A Bolivar 90.82 40 IAmb IAmb 19 47 44.0
comp=Z,4.5nm,0.5s
TX31 Lajitas Ar. Si 90.85 52 IAmb IAmb 19 49 24.6
comp=Z,9.7nm,1.4s
TXAR Lajitas Array 90.85 52 P **P 19 47 10.8 +0.8**
TXAR Lajitas Array 90.85 52 P **P 19 47 11.6 +1.7**
comp=Z,2.4nm,0.7s,baz=305,slow=3.2,SNR=21
TXAR pP **pP 19 47 26.5 +1.7**
comp=Z,1.8nm,0.8s,baz=289,slow=2.8,SNR=6.4
comp=Z,2.4nm,0.7s
VAE Valguarnera 91.28 320 LR LR 20 32 00.8
comp=Z,100nm,19.0s,baz=16,slow=38
SADO Sadowa 91.42 27 LR LR 20 33 09.1
comp=Z,40nm,18.3s,baz=318,slow=39
FVM French Village 92.07 38 pP pP 19 47 26.0 -4.2
LBNH Lisbon 94.36 23 P **P 19 47 26.2 +0.5**
baz=334
FURI Furi 94.40 284 LR LR 20 36 36.5
comp=Z,40nm,20.5s,baz=34,slow=40
WVT Waverly 94.81 38 P **P 19 47 27.4 -0.6**
baz=323
TKL Tuckaleechee C 97.13 35 LR LR 20 34 29.6
comp=Z,22nm,19.5s,baz=348,slow=37
ESDC Sonseca Array 97.59 333 P **P 19 47 40.0 -0.6**
comp=Z,0.8nm,0.8s,baz=20,slow=4.5,SNR=6.3
ESDC LR LR 20 34 48.8
comp=Z,70nm,18.6s,baz=18,slow=37
comp=Z,0.8nm,0.8s
TORD Torodi Ar. Bea 117.40 314 PKP **PKPdf 19 52 51.4 -0.6**
comp=Z,1.5nm,0.6s,baz=53,slow=1.7,SNR=13
BOSA Boshof 126.00 259 PKP **PKiKP 19 53 08.6 -0.1**
comp=Z,3.0nm,0.8s,baz=14,slow=8.8,SNR=3.6
QSPA South Pole Qui 126.20 180 PKP **PKPdf 19 53 07.6 +0.2**
comp=Z,4.0nm,1.0s,baz=5.4,slow=2.3,SNR=7.8
DBIC Dimbokro 126.38 316 PKP **PKPdf 19 53 08.4 -0.9**
comp=Z,18nm,1.3s,baz=46,slow=1.8,SNR=4.1
LPAZ La Paz 147.39 60 PKPbc **PKPbc 19 53 50.8 -0.1**
comp=Z,5.8nm,0.7s,baz=330,slow=4.3,SNR=20
H03N2 Juan Fernandez 147.43 97 T T 22 39 02.7
baz=291,slow=76,SNR=78
H03N3 Juan Fernandez 147.44 97 T T 22 39 04.7
baz=291,slow=76,SNR=72
H03N1 Juan Fernandez 147.45 97 T T 22 39 03.9
baz=291,slow=76,SNR=70
LVC Limon Verde 150.81 70 **PKPbc 19 53 56.7 -2.4**
LVC Limon Verde 150.81 70 PKIKP **PKPbc 19 53 56.7 -2.4**
MG05 Puerto Natales 151.93 133 **PKiKP 19 54 02.0 +1.4**

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*IDC **16** 19:34:15.1±0.7, 14°.49N×147°.00E, h0km, mb4.6/19, mbtmp4.6/20, ML4.4/1, MS3.5/4, Error ellipse: s-maj=19.6km s-min=14.2km az=101.0*
*BJI **16** 19:34:17.3±0.0, 14°.50N×147°.33E, h36km, mb4.9/48, mB5.0/16, Ms4.4/9, Ms7 4.2/9*
*NEIC **16** 19:34:21.1±1.4, 14°.44N±0°.08×146°.92E±0°.09, h34km±5km, mb4.9/136, Error ellipse: s-maj=13.5km s-min=10.6km az=110.0*
ISC 16 19:34:20.5±0.5, 14°.41N±0°.05×146°.88E±0°.06, h34km±1km, h34km:pP-P, n380, σ0:97/368, mb4.9/98, MS3.5/6, 3C-2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.12**	**248**		**Pn**	**19 34 52.5**	**-1.1**
GUMO	**Guam**	**2.12**	**248**	Pn	**Pn**	**19 34 53.0**	**-0.6**
	93nm,0.3s,baz=74,slow=3.1,SNR=66						
GUMO				Sn	**Sb**	**19 35 21.7**	**-2.6**
	223nm,0.3s,baz=86,slow=18,SNR=9.9						
	264nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**19.42**	**75**	T	T	19 58 52.2	
	baz=261						
H11S1	**WAKE ISLAND Hy**	**19.43**	**75**	T	T	19 58 43.2	
	baz=261						
H11S2	**WAKE ISLAND Hy**	**19.44**	**75**	T	T	19 58 50.0	
	baz=261						
H11N1	**WAKE ISLAND Hy**	**19.84**	**72**	T	T	19 58 56.4	
	baz=257						
H11N2	**WAKE ISLAND Hy**	**19.84**	**72**	T	T	19 59 07.3	
	baz=257						
H11N3	**WAKE ISLAND Hy**	**19.85**	**72**	T	T	19 59 07.5	
	baz=257						
JOW	**Kunigami**	**21.32**	**308**	P	**P**	**19 39 05.8**	**+1.2**
JOW				IAmb	IAmb	19 39 06.8	
	comp=Z,28nm,0.7s						
JOW	**Kunigami**	**21.32**	**308**	P	**P**	**19 39 05.6**	**+1.0**
	comp=Z,21nm,0.4s,baz=122,slow=13,SNR=5.9						
	comp=Z,21nm,0.4s						
FAKI	**Fak Fak**	**22.51**	**221**	P	**P**	**19 39 19.5**	**+2.0**
FAKI				IAmb	IAmb	19 39 21.7	
	comp=Z,53nm,0.9s						
JGF	**Kuroka**	**22.77**	**340**	P	**P**	**19 39 18.3**	**-1.7**
MJAR	**Matsushiro Arr**	**23.36**	**342**	P	**P**	**19 39 22.3**	**-3.7**
	comp=Z,6.4nm,0.6s,baz=165,slow=10.0,SNR=4.9						
MAJO	**Matsushiro**	**23.37**	**342**	P	**P**	**19 39 22.1**	**-4.0**
MJB9	**Matsu-Tunnel**	**23.37**	**342**	P	**P**	**19 39 22.2**	**-3.9**
JNU	**Nakatsue**	**23.64**	**325**	P	**P**	**19 39 27.4**	**-1.4**
PMG	**Port Moresby**	**23.66**	**179**	LR	LR	19 47 30.7	
	comp=Z,147nm,18.8s,baz=70,slow=34						
YHNB	**Yeheng**	**26.07**	**297**	P	**P**	**19 39 51.2**	**0.0**
SSLB	**Suanglung**	**26.18**	**295**	P	**P**	**19 39 53.1**	**+1.0**
JTM	**Tenmabayashi**	**26.76**	**350**	P	**P**	**19 39 57.1**	**0.0**
JTM				IAmb	IAmb	19 40 23.2	
	comp=Z,31nm,1.0s						
LUWI	**Luwuk**	**28.38**	**239**	P	**P**	**19 40 11.6**	**-0.3**
KSRS	**Korea Array**	**28.48**	**327**	P	**P**	**19 40 11.7**	**-0.8**
	comp=Z,6.2nm,0.7s,baz=145,slow=8.8,SNR=16						
	comp=Z,6.2nm,0.7s						
KSAR	**Wonju Array Be**	**28.49**	**327**		**P**	**19 40 10.8**	**-1.7**
KS19	**Wonju Array Si**	**28.54**	**327**	P	**P**	**19 40 11.4**	**-1.7**
JKA	**Kamikawa-asahi**	**29.83**	**354**	P	**P**	**19 40 24.3**	**-0.1**
ASAJ	**Asahikawa**	**29.83**	**354**	LR	LR	19 54 24.1	
	comp=Z,44nm,18.6s,baz=181,slow=41						
NJ2	**Nanjing**	**31.03**	**309**	*e*P	**P**	**19 40 35.3**	**+0.1**
NJ2				pP	**pP**	**19 40 42.5**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,110nm,4.0s						
MTN	**Manton Dam**	**31.25**	**211**	P	**P**	**19 40 37.7**	**+0.5**
MTN				IAmb	IAmb	19 40 44.9	
	comp=Z,24nm,1.2s						
USA0B	**Ussuriysk Arra**	**32.30**	**340**	P	**P**	**19 40 44.9**	**-1.2**
USRK	**Ussuriysk Ar.**	**32.30**	**340**	P	**P**	**19 40 45.2**	**-1.0**
	comp=Z,3.2nm,0.8s,baz=162,slow=9.8,SNR=4.5						
USRK				LR	LR	19 52 29.5	
	comp=Z,78nm,21.8s,baz=176,slow=34						
	comp=Z,3.2nm,0.8s						
SOEI	**Soe**	**32.86**	**224**		**P**	**19 40 51.6**	**+0.1**
KAPI	**Kappang**	**33.11**	**236**	P	**P**	**19 40 54.2**	**+0.6**
MDJ	**Mudanjiang**	**33.51**	**337**	P	**P**	**19 40 55.4**	**-1.3**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BKB	**Balikpapan**	**33.53**	**245**	P	**P**	**19 40 56.9**	**-0.4**
CTAO	**Charters Tower**	**34.29**	**181**	P	**P**	**19 41 04.3**	**+0.6**
WB0	**Warramunga Arr**	**36.12**	**200**	P	**P**	**19 41 20.1**	**+0.5**
WB0				IAmb	IAmb	19 41 41.0	
	comp=Z,36nm,1.6s						
WB0					**PcP**	**19 43 45.8**	**+0.7**
SBUM	**Sibu**	**36.22**	**254**	P	**P**	**19 41 20.4**	**-0.2**
WR0	**Warramunga Arr**	**36.25**	**200**	P	**P**	**19 41 20.9**	**+0.2**
WR0				IAmb	IAmb	19 42 27.8	
	comp=Z,32nm,1.5s						
WRAB	**Tennant Creek**	**36.29**	**200**	P	**P**	**19 41 20.0**	**-1.0**
WB2	**Warramunga Arr**	**36.30**	**200**	P	**P**	**19 41 21.0**	**0.0**
WRA	**Warramunga Arr**	**36.30**	**200**	P	**P**	**19 41 20.9**	**-0.1**
WRA	**Warramunga Arr**	**36.30**	**200**	P	**P**	**19 41 21.3**	**+0.2**
	comp=Z,5.1nm,0.8s,baz=22,slow=9.5,SNR=29						
	comp=Z,5.1nm,0.8s						
HNS	**HongShan**	**36.61**	**315**	⇑P	**P**	**19 41 24.5**	**+0.9**
HNS				pmax	pmax		
	comp=Z,21nm,0.7s						
KLR	**Kul'dur**	**36.88**	**343**	P	**P**	**19 41 24.1**	**-1.6**
	comp=Z,5.4nm,0.6s,baz=160,slow=5.7,SNR=10						
KLR				LR	LR	19 54 48.4	
	comp=Z,90nm,22.0s,baz=194,slow=34						
	comp=Z,5.4nm,0.6s						
LYN	**LuoYang**	**36.93**	**309**	*e*P	**P**	**19 41 27.5**	**+1.2**
LYN				pmax	pmax		
	comp=Z,30nm,0.7s						
BJT	**Baijiatuau**	**37.05**	**319**	P	**P**	**19 41 27.7**	**+0.4**
BJT				pP	**sP**	**19 41 38.6**	**+0.2**
BJI	**Beijing**	**37.06**	**319**	P	**P**	**19 41 27.6**	**+0.3**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ENH	**Enshi**	**37.82**	**301**	P	**P**	**19 41 35.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**38.50**	**214**	P	**P**	**19 41 40.0**	**+0.3**
GYA	**Guiyang**	**39.39**	**294**	P	**P**	**19 41 49.8**	**+2.4**
GYA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
XAN	**Xi'an**	**39.45**	**306**	⇓P	**P**	**19 41 50.3**	**+2.6**
XAN				pmax	pmax		
	comp=Z,15nm,1.3s						
JAGI	**Jajag, Banyuwa**	**39.63**	**237**	P	**P**	**19 41 48.8**	**-0.5**
JAGI				IAmb	IAmb	19 42 25.1	
	comp=Z,51nm,1.3s						
EIDS	**Eidsvold**	**39.75**	**174**	P	**P**	**19 41 50.1**	**0.0**
EIDS				IAmb	IAmb	19 41 50.9	
	comp=Z,41nm,1.8s						
AS31	**Alice Springs**	**39.91**	**199**	P	**P**	**19 41 51.7**	**+0.2**
ASAR	**Alice Springs**	**39.91**	**199**	P	**P**	**19 41 51.4**	**-0.2**
ASAR	**Alice Springs**	**39.91**	**199**	P	**P**	**19 41 51.9**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=22,slow=8.2,SNR=24						
	comp=Z,2.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**40.46**	**317**	*e*P	**P**	**19 41 57.3**	**+1.3**
HHC				pP	pP	19 42 03.9	-0.5
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.8s						
DZM	**Mont Dzumac**	**41.02**	**152**	P	**P**	**19 41 59.5**	**-1.2**
BTO	**Baotou**	**41.36**	**316**	*e*P	**P**	**19 42 05.8**	**+2.3**
BTO				pP	**pP**	**19 42 11.8**	**0.0**
BTO				sP	**sP**	**19 42 14.8**	**+0.5**
BTO				PP	**PnPn**	**19 43 45.4**	**+1.3**
BTO				pmax	pmax		
	comp=Z,49nm,0.8s						
BTO				pmax	pmax		
	comp=Z,230nm,8.4s						
PZH	**PanZhiHua**	**43.76**	**293**	P	**P**	**19 42 25.3**	**+2.1**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,120nm,5.5s						
LZH	**Lanzhou**	**44.06**	**307**	*e*P	**P**	**19 42 27.0**	**+1.5**
LZH				pP	sP	19 42 35.8	-0.6
LZH				pmax	pmax		
	comp=Z,50nm,1.3s						
LZH				LR	LR		
	comp=Z,220nm,14.8s						
LZH				LR	LR		
	comp=Z,350nm,16.5s						
LZH				LR	LR		
	comp=Z,440nm,17.4s						
MBWA	**Marble Bar**	**44.28**	**218**	P	**P**	**19 42 27.7**	**+0.6**
MBWA				IAmb	IAmb	19 43 13.2	
	comp=Z,52nm,1.6s						
MBWA	**Marble Bar**	**44.28**	**218**	P	**P**	**19 42 28.0**	**+0.9**
MBWA				pP	**sP**	**19 42 39.2**	**+0.8**
MBWA				sP	**pwP**	**19 42 43.4**	**-0.5**
ARMA	**Armidale**	**44.80**	**174**	P	**P**	**19 42 31.3**	**0.0**
ARMA				IAmb	IAmb	19 43 25.3	
	comp=Z,18nm,1.1s						
MA2	**Magadan**	**45.18**	**3**	P	**P**	**19 42 33.9**	**0.0**
CMAR	**Chiang Mai Arr**	**46.06**	**282**	P	**P**	**19 42 41.5**	**0.0**
CMAR	**Chiang Mai Arr**	**46.06**	**282**	P	**P**	**19 42 42.6**	**+1.2**
	comp=Z,3.2nm,0.7s,baz=81,slow=5.5,SNR=9.5						
	comp=Z,3.2nm,0.7s						
STKA	**Stephens Creek**	**46.30**	**186**	P	**P**	**19 42 42.7**	**-0.3**
STKA	**Stephens Creek**	**46.30**	**186**	P	**P**	**19 42 42.5**	**-0.5**
	comp=Z,6.5nm,1.1s,baz=15,slow=15,SNR=3.8						
	comp=Z,6.5nm,1.1s						
KULM	**Kulim**	**46.36**	**264**	P	**P**	**19 42 44.9**	**+1.0**
TNCH	**TengChong**	**46.52**	**291**	P	**P**	**19 42 46.3**	**+1.1**
TNCH				pP	pP	19 42 51.8	-1.7
TNCH				PP	**PP**	**19 44 33.0**	**-1.9**
TNCH				S	**S**	**19 49 33.0**	**+1.2**
TNCH				pmax	pmax		
	comp=Z,17nm,0.9s						
TNCH				pmax	pmax		
	comp=Z,74nm,3.3s						
TNCH				LR	LR		
	comp=Z,330nm,8.6s						
TNCH				LR	LR		
	comp=Z,240nm,5.5s						
TNCH				LR	LR		
	comp=Z,120nm,9.2s						
ULN	**Ulaanbaatar**	**46.85**	**324**	P	**P**	**19 42 47.4**	**0.0**
ULN				IAmb	IAmb	19 42 50.0	
	comp=Z,10nm,0.7s						
ULN	**Ulaanbaatar**	**46.85**	**324**	P	**P**	**19 42 47.6**	**+0.2**
ULN				pP	**sP**	**19 42 58.1**	**-0.6**
SONM	**Songino Array**	**47.22**	**323**	P	**P**	**19 42 49.9**	**-0.3**
SONM	**Songino Array**	**47.22**	**323**	P	**P**	**19 42 50.4**	**+0.2**
	comp=Z,4.1nm,0.6s,baz=138,slow=9.2,SNR=9.5						
	comp=Z,4.1nm,0.6s						
BBOO	**Buckleboo**	**48.08**	**192**	P	**P**	**19 42 56.4**	**-0.5**
GTA	**Gaotai**	**48.11**	**310**	*e*P	**P**	**19 42 58.3**	**+1.0**
GTA				PcP	**PcP**	**19 44 26.3**	**+1.6**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GTA				LR	LR		
	comp=Z,83nm,15.6s						
GTA				LR	LR		
	comp=Z,130nm,16.4s						
GTA				LR	LR		
	comp=Z,130nm,16.4s						
YAK	**Yakutsk**	**49.12**	**349**	P	**P**	**19 43 02.7**	**-1.8**
YAK				IAmb	IAmb	19 43 04.0	
	comp=Z,16nm,0.8s						
YAK	**Yakutsk**	**49.12**	**349**	P	**P**	**19 43 03.1**	**-1.4**
YAK				pP	**pP**	**19 43 13.7**	**+1.0**
YAK	**Yakutsk**	**49.12**	**349**	*e*	**P**	**19 43 03.0**	**-1.5**
CAN	**Canberra**	**49.50**	**178**	P	**P**	**19 43 08.6**	**+0.9**
CAN				sP	**pwP**	**19 43 23.5**	**-1.5**
GSI	**Gunungsitoli**	**50.42**	**260**	P	**P**	**19 43 14.6**	**-0.6**
TOO	**Toolangi**	**51.72**	**181**	P	**P**	**19 43 24.3**	**-0.2**
TOO				IAmb	IAmb	19 43 27.1	
	comp=Z,26nm,1.3s						
MORW	**Morawa**	**52.50**	**214**	P	**P**	**19 43 29.8**	**-0.7**
LSA	**Lhasa**	**53.38**	**296**	P	**P**	**19 43 39.0**	**+1.4**
LSA	**Lhasa**	**53.38**	**296**	P	**P**	**19 43 39.4**	**+1.8**
LSA				pP	**sP**	**19 43 50.6**	**+1.9**
WMQ	**Urumqi**	**58.00**	**313**	*e*P	**P**	**19 44 09.4**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
S14K	**Fog Glacier**	**58.25**	**32**	P	**P**	**19 44 11.5**	**-0.1**
	baz=246						
O14K	**Tigyukauivet M**	**58.69**	**28**	P	**P**	**19 44 14.9**	**+0.4**
	baz=243						
N14K	**Kuskokwak Cree**	**58.81**	**27**	P	**P**	**19 44 15.4**	**+0.2**
	baz=242						
L14K	**Kuka Creek**	**59.06**	**26**	P	**P**	**19 44 17.7**	**+0.8**
	baz=240						
M14K	**Bethel**	**59.08**	**26**	P	**P**	**19 44 18.2**	**+1.1**
	baz=242						
O15K	**Ungalikthiuk R**	**59.32**	**29**	P	**P**	**19 44 18.4**	**-0.5**
	baz=244						
M15K	**Kasigluk River**	**59.60**	**27**	P	**P**	**19 44 21.1**	**+0.4**
	baz=243						
N15K	**Kwethluk River**	**59.63**	**28**	P	**P**	**19 44 21.3**	**+0.3**
	baz=244						
ANM	**Nome**	**59.71**	**22**	P	**P**	**19 44 21.3**	**-0.1**
	baz=236						
L15K	**Ungalak Mounta**	**59.72**	**26**	P	**P**	**19 44 22.0**	**+0.5**
	baz=242						
BKZ	**Black Stump Fm**	**60.05**	**154**	P	**P**	**19 44 23.6**	**-0.5**
M16K	**Timber Creek**	**60.51**	**27**	P	**P**	**19 44 27.1**	**+0.1**
	baz=244						
L16K	**Owhat River**	**60.59**	**26**	P	**P**	**19 44 28.3**	**+0.8**
	baz=244						
F15K	**North Star Dit**	**60.60**	**21**	P	**P**	**19 44 27.9**	**+0.3**
O17K	**Koliganek Bris**	**60.84**	**29**	P	**P**	**19 44 30.6**	**+1.4**
	baz=247						
H16K	**Elim**	**60.89**	**22**	P	**P**	**19 44 30.4**	**+0.9**
	baz=239						
N17K	**Nushagak Hills**	**61.09**	**28**	P	**P**	**19 44 31.3**	**+0.3**
N17K	**Nushagak Hills**	**61.09**	**28**	P	**P**	**19 44 31.5**	**+0.5**
	baz=246						
G16K	**Koyuk River**	**61.24**	**22**	P	**P**	**19 44 32.8**	**+0.9**
	baz=239						
M17K	**Holitna River**	**61.34**	**27**	IAmb	IAmb	19 44 37.5	
	comp=Z,8.2nm,0.8s						
M17K	**Holitna River**	**61.34**	**27**	P	**P**	**19 44 33.5**	**+0.9**
	baz=246						
J17K	**VABM Dome**	**61.51**	**24**	P	**P**	**19 44 33.7**	**-0.1**
J17K				IAmb	IAmb	19 45 11.7	
	comp=Z,11nm,1.2s						
J17K	**VABM Dome**	**61.51**	**24**	P	**P**	**19 44 34.5**	**+0.7**
	baz=243						
K17K	**Iditarod**	**61.52**	**25**	P	**P**	**19 44 34.0**	**+0.1**
	baz=244						
PLWZ	**Palliser**	**61.56**	**156**	P	**P**	**19 44 33.8**	**-0.6**
P18K	**Big Mountain,**	**61.57**	**30**	P	**P**	**19 44 34.9**	**+0.6**
	baz=249						
N18K	**Kilae Creek**	**61.74**	**28**	P	**P**	**19 44 36.1**	**+0.7**
	baz=248						
O18K	**Koktuh Hills**	**61.75**	**29**	P	**P**	**19 44 34.8**	**-0.6**
O18K	**Koktuh Hills**	**61.75**	**29**	P	**P**	**19 44 36.5**	**+1.0**
	baz=249						
C16K	**Lisburne Hills**	**61.84**	**18**	P	**P**	**19 44 35.2**	**-0.6**
H17K	**Granite Mounta**	**61.90**	**23**	P	**P**	**19 44 36.5**	**+0.1**
H17K				IAmb	IAmb	19 44 38.1	
	comp=Z,7.9nm,0.7s						
H17K	**Granite Mounta**	**61.90**	**23**	P	**P**	**19 44 37.2**	**+0.8**
	baz=242						
G17K	**Kiwalik Mounta**	**61.91**	**22**	P	**P**	**19 44 37.2**	**+0.9**
	baz=240						
L18K	**Granite Mounta**	**62.00**	**26**	P	**P**	**19 44 37.8**	**+0.8**
	baz=246						
M18K	**Stony River**	**62.08**	**27**	P	**P**	**19 44 38.1**	**+0.4**
	baz=247						
ZAA0	**Zalesovo Array**	**62.11**	**324**	P	**P**	**19 44 37.0**	**-1.0**
ZAA0				IAmb	IAmb	19 44 39.6	
	comp=Z,6.0nm,0.7s						
ZALV	**Zalesovo Beam**	**62.11**	**324**	P	**P**	**19 44 37.2**	**-0.7**
ZALV	**Zalesovo Beam**	**62.11**	**324**	P	**P**	**19 44 37.4**	**-0.5**
	comp=Z,7.7nm,0.7s,baz=116,slow=7.1,SNR=6.5						
	comp=Z,7.7nm,0.7s						
F17K	**Baldwin Pennin**	**62.16**	**21**	P	**P**	**19 44 38.7**	**+0.6**
F17K	**Baldwin Pennin**	**62.16**	**21**	P	**P**	**19 44 38.6**	**+0.5**
	baz=240						
Q19K	**Cape Douglas,**	**62.18**	**30**	P	**P**	**19 44 38.8**	**+0.4**
	baz=251						
D17K	**Noatak River**	**62.22**	**19**	P	**P**	**19 44 38.8**	**+0.4**
	baz=237						
MK31	**Makanchi Array**	**62.27**	**315**	P	**P**	**19 44 40.0**	**+0.8**
MKAR	**Makanchi Array**	**62.27**	**315**	P	**P**	**19 44 39.9**	**+0.7**
	comp=Z,16nm,0.5s,baz=91,slow=8.2,SNR=46						
	comp=Z,16nm,0.5s						
E17K	**Hotham Inlet**	**62.30**	**20**	P	**P**	**19 44 39.9**	**+1.0**
	baz=239						
N19K	**Bonanza Creek**	**62.43**	**28**	P	**P**	**19 44 39.1**	**-1.1**
N19K				IAmb	IAmb	19 44 42.0	
	comp=Z,7.9nm,1.0s						
N19K	**Bonanza Creek**	**62.43**	**28**	P	**P**	**19 44 40.2**	**+0.1**
	baz=249						
MAKZ	**Makanchi**	**62.48**	**315**	P	**P**	**19 44 41.4**	**+0.8**
MAKZ				pP	**sP**	**19 44 52.7**	**+0.5**
MAKZ				sP	**pwP**	**19 44 56.6**	**-0.9**
J18K	**Innoko River**	**62.50**	**25**	P	**P**	**19 44 40.6**	**+0.2**
	baz=245						
TTA	**Tatalina**	**62.57**	**26**	P	**P**	**19 44 42.0**	**+1.0**
	baz=246						
H18K	**Honhosa River**	**62.59**	**23**	P	**P**	**19 44 40.7**	**-0.3**
H18K				IAmb	IAmb	19 44 42.1	
	comp=Z,10nm,0.8s						
H18K	**Honhosa River**	**62.59**	**23**	P	**P**	**19 44 42.1**	**+1.1**
	baz=243						
L19K	**White Mountain**	**62.77**	**27**	P	**P**	**19 44 43.3**	**+1.0**
	baz=248						
G18K	**Tagagawik**	**62.82**	**22**	P	**P**	**19 44 43.0**	**+0.5**
	baz=242						
E18K	**Tukpahlearik C**	**62.88**	**20**	P	**P**	**19 44 43.5**	**+0.6**
E18K				IAmb	IAmb	19 44 44.9	
	comp=Z,9.1nm,0.8s						
E18K	**Tukpahlearik C**	**62.88**	**20**	P	**P**	**19 44 43.9**	**+1.1**
	baz=240						
J19K	**Poorman**	**63.16**	**25**	P	**P**	**19 44 45.5**	**+0.8**
J19K	**Poorman**	**63.16**	**25**	P	**P**	**19 44 45.2**	**+0.5**
	baz=246						
L20K	**Farewell, AK**	**63.31**	**27**	P	**P**	**19 44 46.2**	**+0.4**
	baz=249						
C18K	**Utukok River**	**63.32**	**19**	P	**P**	**19 44 46.0**	**+0.1**
C18K				IAmb	IAmb	19 44 47.6	
	comp=Z,6.7nm,0.8s						
C18K	**Utukok River**	**63.32**	**19**	P	**P**	**19 44 46.0**	**+0.1**
	baz=239						
M20K	**Styx River**	**63.42**	**27**	P	**P**	**19 44 47.3**	**+0.6**
	baz=250						
H19K	**Roundabout Mou**	**63.47**	**23**	P	**P**	**19 44 46.6**	**-0.2**
H19K				IAmb	IAmb	19 44 48.5	
	comp=Z,11nm,0.9s						
H19K	**Roundabout Mou**	**63.47**	**23**	P	**P**	**19 44 47.7**	**+0.9**
	baz=245						
G19K	**Purcell Mounta**	**63.50**	**22**	P	**P**	**19 44 47.6**	**+0.5**
G19K				IAmb	IAmb	19 44 48.5	
	comp=Z,11nm,0.8s						
G19K	**Purcell Mounta**	**63.50**	**22**	P	**P**	**19 44 47.5**	**+0.5**
	baz=244						
B18K	**Kokolik River**	**63.52**	**18**	P	**P**	**19 44 47.3**	**+0.3**
	baz=238						
CNPM	**China Poot**	**63.54**	**30**	P	**P**	**19 44 46.0**	**-1.5**
K20K	**Telida**	**63.55**	**26**	P	**P**	**19 44 48.5**	**+1.1**
K20K	**Telida**	**63.55**	**26**	P	**P**	**19 44 48.8**	**+1.4**
	baz=248						
J20K	**Nowinta River**	**63.83**	**25**	P	**P**	**19 44 49.7**	**+0.5**
J20K				IAmb	IAmb	19 44 51.3	
	comp=Z,19nm,1.4s						
J20K	**Nowinta River**	**63.83**	**25**	P	**P**	**19 44 50.0**	**+0.8**
	baz=248						
BRSE	**Bradley Lake S**	**63.85**	**30**	P	**P**	**19 44 49.4**	**0.0**
	baz=253						
E19K	**Redstone River**	**64.04**	**21**	P	**P**	**19 44 51.1**	**+0.5**
E19K				IAmb	IAmb	19 44 52.1	
	comp=Z,6.9nm,0.8s						
E19K	**Redstone River**	**64.04**	**21**	P	**P**	**19 44 52.1**	**+1.5**
	baz=243						
H20K	**Anotleneega Mo**	**64.05**	**23**	P	**P**	**19 44 51.4**	**+0.7**
	baz=246						
C19K	**Lookout Ridge**	**64.06**	**19**	P	**P**	**19 44 51.2**	**+0.5**
	baz=240						
SKT	**Skwentna**	**64.17**	**27**	P	**P**	**19 44 51.9**	**+0.4**
	baz=251						
PPLA	**Purkeypile**	**64.18**	**26**	P	**P**	**19 44 52.0**	**+0.2**
	baz=250						
D19K	**Kuna River**	**64.23**	**20**	P	**P**	**19 44 52.3**	**+0.5**
D19K				IAmb	IAmb	19 44 56.7	
	comp=Z,7.6nm,0.8s						

KURK				pP	sP	19 45 09.8	-0.3
KURK				sP	pwP	19 45 13.8	-0.8
B20K	Meade River	65.24	18	P	P	19 44 58.9	+0.6
B20K				IAmb	IAmb	19 44 59.8	
	comp=Z,12nm,0.7s						
B20K	Meade River	65.24	18	P	P	19 44 59.1	+0.8
	baz=242						
F21K	Alatna River	65.26	22	P	P	19 44 59.7	+1.1
	baz=247						
KURBB	Kurchatov Arra	65.27	319	P	P	19 44 59.0	+0.2
	comp=Z,70nm,0.7s,baz=99,slow=6.8,SNR=65						
KNK	Knik Glacier	65.40	29	P	P	19 45 00.3	+0.8
	baz=254						
MLY	Manley	65.50	24	P	P	19 45 00.5	+0.3
MLY				IAmb	IAmb	19 45 01.6	
	comp=Z,8.0nm,0.9s						
MLY	Manley	65.50	24	P	P	19 45 00.7	+0.5
	baz=251,SNR=5.9						
P23K	Montague Islan	65.54	30	P	P	19 45 01.3	+0.9
	baz=256						
H22K	Ishtalitna Cre	65.55	23	P	P	19 45 01.5	+1.0
	baz=250						
SML	Sawmill	65.56	28	P	P	19 45 00.9	+0.3
	baz=254						
C21K	Knifeblade Rid	65.61	20	P	P	19 45 01.3	+0.5
	baz=245						
WAT1	Susitna Watana	65.75	27	P	P	19 45 01.8	0.0
	baz=254						
F22K	John River	65.83	22	P	P	19 45 03.2	+1.0
	baz=248,SNR=8.2						
M23K	Glacier View	65.84	28	P	P	19 45 02.4	0.0
	baz=255						
B21K	Ikpikpuk River	65.86	19	P	P	19 45 03.2	+0.9
	baz=245						
G22K	Bettles	65.86	22	P	P	19 45 03.2	+0.8
	baz=249						
GLI	Glacier Island	65.90	29	P	P	19 45 03.1	+0.3
	baz=256						
NRIK	Noril'sk	66.01	340	IAmb	IAmb	19 45 03.4	
	comp=Z,9.2nm,0.8s						
NRIK	Noril'sk	66.01	340	P	P	19 45 01.4	-1.8
	comp=Z,8.1nm,0.6s,baz=109,slow=8.4,SNR=5.3						
	comp=Z,8.1nm,0.6s						
A21K	Barrow	66.02	17	P	P	19 45 03.9	+0.7
	baz=242						
SCM	Sheep Creek Mo	66.03	28	P	P	19 45 03.5	-0.2
SCM	Sheep Creek Mo	66.03	28	P	P	19 45 03.9	+0.2
	baz=255						
WAT6	Susitna Watana	66.04	27	P	P	19 45 04.1	+0.3
	baz=254						
NEA2	Nenana	66.04	25	P	P	19 45 04.4	+0.8
	baz=252						
HIN	Hinchinbrook I	66.07	30	P	P	19 45 04.0	+0.1
I23K	Minto, Yukon-K	66.10	24	P	P	19 45 04.8	+0.9
	baz=252,SNR=5.4						
FID	Port Fidalgo	66.16	30	P	P	19 45 04.5	+0.1
FID				IAmb	IAmb	19 45 05.4	
	comp=Z,11nm,0.7s						
D22K	Ayikyak River	66.19	20	IAmb	IAmb	19 45 06.3	
	comp=Z,6.9nm,0.8s						
D22K	Ayikyak River	66.19	20	P	P	19 45 06.0	+1.5
	baz=247						
H23K	Yukon River	66.24	24	P	P	19 45 06.3	+1.4
	baz=251						
KSH	Kashi	66.31	307	P	P	19 45 09.5	+3.6
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
DHY	Denali Highway	66.33	27	IAmb	IAmb	19 45 06.8	
	comp=Z,21nm,1.6s						
DHY	Denali Highway	66.33	27	P	P	19 45 05.9	+0.2
	baz=255						
G23K	Bananza Creek	66.34	23	IAmb	IAmb	19 45 07.3	
	comp=Z,6.2nm,0.8s						
G23K	Bananza Creek	66.34	23	P	P	19 45 06.5	+1.0
	baz=251,SNR=5.5						
A22K	Sinclair Lake	66.35	18	P	P	19 45 06.7	+1.3
	baz=244						
COLD	Coldfoot	66.45	22	P	P	19 45 07.4	+1.3
	baz=250,SNR=6.3						
EYAK	Cordova Ski Ar	66.47	30	P	P	19 45 07.4	+1.0
	baz=257						
MDM	Murphy Dome	66.50	25	P	P	19 45 06.3	-0.3
KLU	Klutina	66.60	29	P	P	19 45 07.3	-0.1
KLU				IAmb	IAmb	19 45 24.1	
	comp=Z,17nm,1.3s						
KLU	Klutina	66.60	29	P	P	19 45 07.9	+0.6
	baz=257						
COLA	College	66.63	25	P	P	19 45 07.6	+0.3
M24K	Tolsona, Glenn	66.63	28	P	P	19 45 08.4	+0.9
	baz=256						
POKR	Poker Plat Res	66.87	25	P	P	19 45 09.6	+0.7
	baz=254						
HDA	Harding Lake	66.87	26	P	P	19 45 08.3	-0.6
	baz=254						
D23K	Nanushuk River	66.89	20	P	P	19 45 10.6	+1.7
	baz=249,SNR=9.3						
H24K	Noodor Dome	66.89	24	IAmb	IAmb	19 45 10.6	
	comp=Z,9.1nm,1.0s						
H24K	Noodor Dome	66.89	24	P	P	19 45 09.8	+0.7
	baz=253,SNR=6.5						
E23K	Chandalar	66.94	21	P	P	19 45 11.0	+1.6
	baz=250,SNR=7.0						
KAIM	Kayak Island	66.99	31	P	P	19 45 10.9	+1.2
	baz=259						
IL31		66.99	25	P	P	19 45 08.4	-1.2
IL31				IAmb	IAmb	19 45 09.0	
	comp=Z,6.0nm,0.7s						
ILAR	Eielson Array	66.99	25	P	P	19 45 08.4	-1.2
	comp=Z,5.3nm,0.8s,baz=254,slow=5.7,SNR=13						
	comp=Z,5.3nm,0.8s						
BMRM	Bremner River	67.11	30	P	P	19 45 11.4	+0.9
	baz=258						
PAX	Paxson	67.15	27	P	P	19 45 11.0	+0.2
	baz=256,SNR=7.4						
TOLK	Toolik Lake Re	67.15	21	P	P	19 45 10.4	-0.3
TOLK				IAmb	IAmb	19 45 28.0	
	comp=Z,7.1nm,0.8s						
TOLK	Toolik Lake Re	67.15	21	P	P	19 45 10.8	+0.1
	baz=250						
HARP	HAARP	67.16	28	P	P	19 45 11.5	+0.8
	baz=257						
K24K	Donnelly Dome	67.21	26	P	P	19 45 11.5	+0.4
	baz=256						
C23K	Itkillik River	67.23	19	P	P	19 45 10.3	-0.8
C23K				IAmb	IAmb	19 45 12.9	
	comp=Z,21nm,1.2s						
C23K	Itkillik River	67.23	19	P	P	19 45 11.6	+0.6
	baz=249						
N25K	Chitina, Valde	67.24	29	P	P	19 45 12.0	+0.5
	baz=258						
G24K	Hadweenzic Riv	67.30	23	P	P	19 45 12.1	+0.4
	baz=253						
E24K	Your Creek	67.35	22	IAmb	IAmb	19 45 13.7	
	comp=Z,6.0nm,0.7s						
E24K	Your Creek	67.35	22	P	P	19 45 12.8	+0.9
	baz=252,SNR=7.7						
F24K	Squaw Lake	67.39	22	P	P	19 45 13.9	+1.7
	baz=252						
D24K	Happy Valley	67.58	20	P	P	19 45 14.5	+1.2
	baz=251,SNR=11						
J25K	Salcha River,	67.58	26	P	P	19 45 12.5	-1.0
	baz=256						
CRQE	Cirque	67.79	30	P	P	19 45 15.7	+0.8
	baz=260						
C24K	Franklin Bluff	67.81	20	P	P	19 45 15.6	+0.9
	baz=251						
MCARA	McCarthy VSAT	67.94	29	P	P	19 45 16.6	+0.9
	baz=259						
SCRK	Sand Creek	68.03	26	P	P	19 45 16.3	-0.1
SCRK	Sand Creek	68.03	26	P	P	19 45 16.7	+0.3
	baz=258,SNR=5.1						
F25K	Christian Rive	68.24	22	P	P	19 45 18.9	+1.3
	baz=254,SNR=7.3						
J26L	Joseph Creek	68.32	26	IAmb	IAmb	19 45 19.9	
	comp=Z,12nm,0.7s						
J26L	Joseph Creek	68.32	26	P	P	19 45 18.2	0.0
	baz=258,SNR=15						
E25K	Arctic Village	68.41	22	P	P	19 45 20.0	+1.4
	baz=254						
GRNC	Granite Creek	68.44	30	P	P	19 45 19.4	+0.3
D25K	Kavik River	68.46	21	IAmb	IAmb	19 45 20.6	
	comp=Z,14nm,0.9s						
D25K	Kavik River	68.46	21	P	P	19 45 19.7	+0.8
	baz=253,SNR=10						
NIL	Nilore	68.64	301	P	P	19 45 21.4	+0.7
M27K	Edge Creek, AK	68.65	28	P	P	19 45 20.6	+0.2
M27K				IAmb	IAmb	19 45 25.8	
	comp=Z,35nm,1.9s						
M27K	Edge Creek, AK	68.65	28	P	P	19 45 20.7	+0.4
	baz=260						
I26K	Coal Creek Min	68.66	25	P	P	19 45 19.5	-0.6
	baz=258						
CTG	Chitna Glacier	68.67	30	P	P	19 45 21.6	+1.1
	baz=261						
CTGM	Chitina Glacie	68.68	30	IAmb	IAmb	19 45 26.3	
	comp=Z,15nm,0.9s						
G26K	Porcupine Rive	68.78	23	P	P	19 45 22.3	+1.5
	baz=256						
L27K	Beaver Creek,	68.79	28	P	P	19 45 21.7	+0.6
	baz=260,SNR=5.8						
BCAR	Beaver Creek A	68.81	28	P	P	19 45 21.7	+0.5
F26K	Sheenjek River	68.82	22	P	P	19 45 22.4	+1.3
	baz=256,SNR=8.4						
K27K	Chicken	68.86	27	P	P	19 45 22.2	+0.8
	baz=259						
O28M	Mount Upton	69.20	30	P	P	19 45 24.6	+0.6
	baz=262,SNR=5.2						
YUK3	Moose Creek	69.21	29	P	P	19 45 24.9	+0.9
	baz=262,SNR=5.3						
I27K	Kandik River	69.35	25	P	P	19 45 24.8	+0.3
	baz=259						
EGAK	Eagle	69.39	26	IAmb	IAmb	19 45 26.5	
	comp=Z,8.3nm,0.8s						
EGAK	Eagle	69.39	26	P	P	19 45 26.0	+1.4
	baz=260,SNR=5.6						
C27K	Jago River	69.45	20	P	P	19 45 26.1	+1.1
	baz=256						
YUK8	Steele Glacier	69.47	30	P	P	19 45 26.5	+0.9
	baz=262						
H27K	Steamboat Moun	69.51	24	P	P	19 45 26.3	+0.9
	baz=259,SNR=8.7						
G27K	Doyon Strip	69.57	24	P	P	19 45 26.8	+1.0
	baz=259						
E27K	Coleen River	69.87	22	P	P	19 45 28.7	+1.1
	baz=258						
O29M	Mount Kennedy	69.94	31	P	P	19 45 29.2	+0.9
	baz=264						
I28M	Miner Creek	70.01	25	P	P	19 45 29.1	+0.5
I28M	Miner Creek	70.01	25	P	P	19 45 29.4	+0.7
	baz=261,SNR=5.3						
YUK4	Talbot Arm	70.02	30	P	P	19 45 30.2	+1.4
	baz=263						
DAWY	Dawson	70.03	27	IAmb	IAmb	19 45 30.4	
	comp=Z,9.0nm,0.9s						
DAWY	Dawson	70.03	27	P	P	19 45 29.7	+1.0
	baz=262,SNR=5.1						
YUK6	Outpost Mounta	70.11	30	P	P	19 45 30.2	+0.7
	baz=264						
M29M	Somme Creek	70.23	28	IAmb	IAmb	19 45 32.0	
	comp=Z,13nm,0.8s						
M29M	Somme Creek	70.23	28	P	P	19 45 31.5	+1.5
	baz=263,SNR=10						
P29M	Windy Craggy	70.29	31	P	P	19 45 31.6	+1.2
	baz=265						
D27M	Malcolm River	70.31	21	P	P	19 45 31.1	+0.7
	baz=258						
KKAR	Karatay Array	70.39	311	P	P	19 45 31.8	+0.5
F28M	Old Crow	70.40	23	P	P	19 45 31.6	+0.7
	baz=260						
L29M	L29M	70.47	28	IAmb	IAmb	19 45 33.5	
	comp=Z,18nm,0.8s						
L29M	L29M	70.47	28	P	P	19 45 32.8	+1.4
	baz=263,SNR=12						
BVAR	Borovoye Array	70.50	321	P	P	19 45 32.0	+0.3
	comp=Z,40nm,0.8s,baz=99,slow=7.5,SNR=32						
	comp=Z,40nm,0.8s						
BRVK	Borovoye	70.57	321	P	P	19 45 32.9	+0.8
BRVK	Borovoye	70.57	321	P	P	19 45 32.2	+0.1
I29M	Ogilvie Camp,	70.67	25	P	P	19 45 32.7	+0.1
I29M				IAmb	IAmb	19 45 33.9	
	comp=Z,7.6nm,0.8s						
I29M	Ogilvie Camp,	70.67	25	P	P	19 45 33.4	+0.8
	baz=262						
E28M	Babbage River	70.70	22	P	P	19 45 34.5	+1.9
	baz=260,SNR=7.2						
H29M	Whitestone	70.77	24	IAmb	IAmb	19 45 34.5	
	comp=Z,6.5nm,0.7s						
H29M	Whitestone	70.77	24	P	P	19 45 33.9	+0.7
	baz=262,SNR=5.1						
N30M	Aishikik Lake	70.78	30	P	P	19 45 33.7	+0.3
N30M	Aishikik Lake	70.78	30	P	P	19 45 34.8	+1.5
	baz=265						
K29M	Barlow Dome	70.82	27	IAmb	IAmb	19 45 35.5	
	comp=Z,13nm,0.8s						
K29M	Barlow Dome	70.82	27	P	P	19 45 34.6	+1.0
	baz=264,SNR=15						
PLBC	Pleasant Camp	70.97	32	P	P	19 45 36.0	+1.6
	baz=266						
G29M	Pine Creek	71.00	24	P	P	19 45 35.9	+1.4
	baz=262						
M30M	Minto, Yukon	71.02	28	P	P	19 45 35.0	+0.2
	baz=265						
O30N	Mendenhall	71.20	30	P	P	19 45 37.1	+1.2
	baz=266						
E29M	Blow River	71.26	22	P	P	19 45 37.5	+1.4
	baz=262						
J30M	Hart River	71.42	26	P	P	19 45 38.2	+0.9
	baz=264,SNR=7.8						
EPYK	Eagle Plains	71.45	24	P	P	19 45 37.9	+0.6
	baz=263,SNR=5.6						
I30M	Mount Dempster	71.46	26	P	P	19 45 38.0	+0.5
	baz=264						
G30M	tAoh Zraii Nji	71.71	24	P	P	19 45 38.9	0.0
	baz=264						
SIMJ	Simiganj	71.75	306	P	P	19 45 39.7	-0.1
SIMJ				IAmb	IAmb	19 45 42.5	
	comp=Z,9.1nm,0.8s						
SIMJ	Simiganj	71.75	306	P	P	19 45 40.2	+0.5
R32K	Eaglecrest	71.87	33	P	P	19 45 40.1	+0.2
	baz=268						
F30M	Barrier River	71.95	23	P	P	19 45 40.6	+0.4
	baz=264						
M31M	Drury Creek, Y	72.11	29	P	P	19 45 41.9	+0.6
	baz=267						
P32M	Atlin	72.33	32	P	P	19 45 44.5	+1.8
	baz=268						
G31M	Satah River	72.47	24	IAmb	IAmb	19 45 44.5	
	comp=Z,12nm,0.7s						
G31M	Satah River	72.47	24	P	P	19 45 44.7	+1.4
	baz=266						
U33K	Whale Pass	72.59	35	P	P	19 45 44.8	+0.6
	baz=270						
N32M	Quiet Lake	72.69	30	P	P	19 45 45.9	+1.1
	baz=268						
P33M	Teslin, Yukon	72.80	31	P	P	19 45 46.9	+1.4
	baz=269						
INK	Inuvik	72.86	22	P	P	19 45 45.4	-0.2
	baz=266						
MMPY	Sheldon Lake,	73.58	28	P	P	19 45 51.2	+1.2
	baz=270						
R33M	Jennings River	73.73	32	P	P	19 45 52.5	+1.4
	baz=271						
T35M	Bob Quinn	74.17	34	P	P	19 45 55.0	+1.4
	baz=272						
DLBC	Dease Lake	74.24	33	P	P	19 45 55.1	+1.1
	baz=272						
TGTN	Hyland Airport	75.00	30	P	P	19 45 59.2	+0.8
	baz=272						
A36M	Sachs Harbour	75.75	19	P	P	19 46 02.8	+0.5
	baz=272						
C36M	Paulatuk	76.29	21	P	P	19 46 05.9	+0.4
	baz=274						
TOAD	Toad River Com	76.71	32	P	P	19 46 08.7	+0.6
	baz=276						
WRGLY	Wrigley	77.11	28	P	P	19 46 10.8	+0.5
	baz=276						
ARU	Arti	77.21	325	P	P	19 46 10.5	-0.4
ARU				IAmb	IAmb	19 46 11.7	
	comp=Z,7.9nm,0.7s						
ABKAR	Abkulak array	77.25	318	P	P	19 46 10.9	-0.4
ABKAR	Abkulak array	77.25	318	P	P	19 46 10.7	-0.6
YKA	Yellowknife Ar	81.23	28	P	P	19 46 32.2	-0.6
	comp=Z,4.7nm,0.7s,baz=287,slow=5.2,SNR=6.9						
	comp=Z,4.7nm,0.7s						
B08A	Colville Reser	81.86	42	P	P	19 46 36.3	-0.1
B08A				IAmb	IAmb	19 46 37.6	
	comp=Z,7.2nm,0.8s						
NEW	Newport	83.32	42	P	P	19 46 43.9	-0.2
NEW				IAmb	IAmb	19 46 45.3	
	comp=Z,5.7nm,0.8s						
NEW	Newport	83.32	42	P	P	19 46 45.2	+1.1
	baz=284						
PKM	Mcpherson Peak	84.55	56	P	P	19 46 51.8	+1.0
	baz=284						
NVAR	Mina Array Bea	84.88	52	P	P	19 46 53.2	+0.7
	comp=Z,3.2nm,0.7s,baz=282,slow=4.5,SNR=7.1						
	comp=Z,3.2nm,0.7s						
MFID	Camas Ranch	85.42	46	IAmb	IAmb	19 46 56.4	
	comp=Z,6.7nm,0.8s						
CWC	Cottonwood Cre	85.55	54	P	P	19 46 55.9	+0.2
	baz=285						
LRMC	Laurel Mtn Rad	86.10	55	P	P	19 46 58.7	+0.2
	baz=285						
MPMC	Manual Prospec	86.11	54	P	P	19 46 58.9	+0.3
	baz=285						
HLID	Hailey	86.37	46	P	P	19 46 59.6	-0.1
	baz=286						
TPNV	Topopah Spring	86.83	53	P	P	19 47 02.6	+0.5
	baz=286						
R11B	Troy Canyon, C	86.97	51	P	P	19 47 02.6	-0.2
	baz=286						
MONP2	Monument Peak	87.79	57	P	P	19 47 06.6	-0.3
	baz=286						
BELC	Belle Mtn. Jos	87.83	56	P	P	19 47 06.4	-0.6
	baz=286						
GMRC	Granite Mounta	87.88	55	P	P	19 47 07.0	-0.2
	baz=286						
IKP	In-Ko-Pah, Jac	88.11	57	P	P	19 47 07.8	-0.4
	baz=286						
EGMT	Eagleton	88.11	41	P	P	19 47 07.3	-0.6
	baz=289						
DUG	Dugway, Tooele	88.50	49	P	P	19 47 10.2	+0.3
	baz=286						
IMW	Indian Meadow	88.67	45	IAmb	IAmb	19 47 14.0	
	comp=Z,4.9nm,0.7s						
FLWY	Flagg Ranch	88.78	45	IAmb	IAmb	19 47 13.6	
	comp=Z,8.1nm,0.7s						
JLU	Jordanelle	89.36	48	IAmb	IAmb	19 47 15.6	
	comp=Z,6.1nm,0.8s						
RLMT	Red Lodge	89.40	43	IAmb	IAmb	19 49 21.1	
	comp=Z,7.6nm,0.8s						
PDAR	Pinedale Array	90.00	46	P	P	19 47 17.0	-0.1
	comp=Z,0.6nm,0.5s,baz=242,slow=1.9,SNR=1.7						
	comp=Z,0.6nm,0.5s						
U15A	North Rim	90.03	52	P	P	19 47 18.6	+1.2
U15A				IAmb	IAmb	19 47 19.5	
	comp=Z,5.5nm,0.8s						
Y14A	Wickenburg	90.23	55	IAmb	IAmb	19 47 19.8	
	comp=Z,5.7nm,0.9s						
FINES	FINESS Array B	91.23	336	P	P	19 47 20.6	-1.5
FINES	FINESS Array B	91.23	336	P	P	19 47 20.4	-1.7
	comp=Z,3.0nm,0.7s,baz=63,slow=5.3,SNR=4.7						
	comp=Z,3.0nm,0.7s						
N23A	Red Feather La	93.19	47	P	P	19 47 32.1	+0.1
	baz=292						
NOA	NORSAR Array B	96.97	340	P	P	19 47 47.1	-1.4
	comp=Z,0.7nm,0.7s,baz=45,slow=4.7,SNR=2.6						
	comp=Z,0.7nm,0.7s						
DBIC	Dimbokro	145.01	305	PKPbc	PKPdf	19 53 55.3	0.0
	comp=Z,39nm,0.7s,baz=44,slow=4.4,SNR=35						
KIC	Kosan Boka	145.10	304	⇑iPKP1	PKPdf	19 53 55.8	+0.3
	comp=Z,74nm,0.7s						
TIC	Toumodi	145.15	305	⇓ePKP1	PKPdf	19 53 55.6	0.0
	comp=Z,55nm,0.8s						
LIC	Lamto	145.41	304	⇑iPKP1	PKPab	19 53 56.7	+0.6
	comp=Z,156nm,0.7s						
BOAV	Boa Vista	148.12	61		PKPdf	19 54 01.6	+1.0

GUC 16 19:40:58.4±0.7, 43°.07S×74°.27W, h13km±3km, ML3.5, 2C-3D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GO07	Milladeo Hill,	0.45	96	⇓iP		Pg	19 41 06.9	-0.4
GO07				eS		Sg	19 41 13.3	0.0
GO07				IAML			19 41 17.9	
	comp=N,8μm,0.5s							
LL07	Hotel Espejo d	0.63	68	⇓iP		Pg	19 41 09.9	-0.8
LL07				eS		Sg	19 41 18.6	-0.4
LL07				IAML			19 41 19.3	
	comp=N,3μm,0.2s							
LL06	Loncomilla	0.98	29	⇑iP		Pb	19 41 15.2	-2.0
LL06				eS		Sb	19 41 28.4	-1.6
LL06				IAML			19 41 31.6	
	comp=N,3μm,0.4s							
LOPS	Lodge Patagoni	1.34	142	⇓iP		Pn	19 41 20.8	-2.0
LOPS				eS		Sb	19 41 38.3	-2.1
VNTQ	Ventisquero	1.35	83	⇑iP		Pn	19 41 20.8	-2.1
VNTQ				eS		Sb	19 41 37.4	-3.2
LL01	San Ignacio de	1.54	64	eP		Pn	19 41 23.9	-1.6
LL01				eS		Sn	19 41 43.1	-2.1
LJUN	La Junta	1.61	126	eP		Pn	19 41 24.7	-1.8
LJUN				eS		Sn	19 41 45.8	-1.3
PHPI	Puyuhuapi	1.76	136	eP		Pn	19 41 28.5	0.0
PHPI				eS		Sn	19 41 50.0	-0.7
PHPI				IAML			19 41 58.2	
	comp=E,2μm,0.8s							
LL05	Los Muermos	1.77	20	eP		Pn	19 41 26.6	-2.0
LL05				eS		Sn	19 41 49.4	-1.5
LL05				IAML			19 41 58.7	
	comp=E,532nm,0.6s							
MGDN	Magdalena	1.84	149	eP		Pn	19 41 28.2	-1.5
MGDN				eS		Sn	19 41 51.7	-1.1
LL04	Puerto Octay	2.57	33	eP		Pn	19 41 37.4	-2.2
LL04				eS		Sn	19 42 09.2	-1.5
AYSN	Puerto Aysn	2.57	154	eP		Pn	19 41 40.1	+0.4
AYSN				eS		Sn	19 42 12.4	+1.6
HUEM	Huemules	2.92	164	eP		Pn	19 41 45.5	+0.9
HUEM				eS		Sb	19 42 23.4	-2.5

*BJI **16** 19:42:50.9±0.0, 36°.46N×140°.81E, h65km, mb4.4/27, mB4.7/8, Ms3.7/2, Ms7 3.4/2*
*NIED **16** 19:42:52.4, 36°.43N×140°.68E, h52km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.48; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$-1.18; $M_{r\theta}$0.49; $M_{\phi\theta}$0.13; $M_{\phi r}$1.01; Fault plane solution: $M_0$1.73000×10^{15} NP1:ϕ_s11.00000°, δ65.00000°, λ103.00000°. NP2:ϕ_s163.00000°, δ28.00000°, λ65.00000°.*
*NEIC **16** 19:42:52.4±2.2, 36°.48N±0°.06×140°.78E±0°.10, h53km±9km, mb4.5/27 Error ellipse: s-maj=12.1km s-min=8.1km az=115.0*
*JMA **16** 19:42:52.4±0.1, 36°.4N±0°.2×140°.7E±0°.6, h52km, MD4.1/39, MW4.1/39, NORTHERN IBARAKI PREF*
JMA Felt III J1 at NORTHERN IBARAKI PREF .
*IDC **16** 19:42:54.0±2.0, 36°.37N×140°.68E, h72km±17km, mb3.9/18, mbtmp4.2/20, Error ellipse: s-maj=20.2km s-min=9.3km az=65.0*

ISC 16 19:42:52.2±0.6, 36°.46N±0°.04×140°.77E±0°.06, h52km±5km, n149, σ1$18/125, mb4.4/39, 1C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.19	232	iP		Pn	19 43 00.6	-0.1
JHYU					S	Sn	19 43 06.2	-0.5
JHYU	Hitachinakayam	0.19	232		A	A	19 43 00.6	
	comp=E,134nm,0.7s,comp=N,157nm,0.3s							
JHO	Hitachi	0.22	313	iP		Pn	19 43 01.0	0.0
JHO					S	Sn	19 43 06.5	-0.7
JHO	Hitachi	0.22	313		A	A	19 43 01.0	
	comp=E,66nm,0.3s,comp=N,27nm,0.3s							
JYT	Yasato	0.52	244	⇓iP		Pn	19 43 03.2	-0.6
JYT				⇓S		Sn	19 43 10.6	-1.6
JYT	Yasato	0.52	244		A	A	19 43 03.2	
	comp=E,114nm,0.4s,comp=N,125nm,0.3s							
JIHU	Itakohorinouch	0.53	202		P	Pn	19 43 04.0	+0.1
JIHU					S	Sn	19 43 12.5	+0.1
JIHU	Itakohorinouch	0.53	202		A	A	19 43 04.0	
	comp=E,62nm,1.8s,comp=N,21nm,0.7s							
ONAJ	Iwakimizuishiy	0.64	2	⇓iP		Pn	19 43 05.3	-0.1
ONAJ				⇓S		Sn	19 43 14.7	-0.2
ONAJ	Iwakimizuishiy	0.64

comp=E,11nm,1.2s,comp=N,8.0nm,3.7s
JOTO OTAMA OYAMA 1.16 342 *i* P **Pn 19 43 12.5 +0.4**
JOTO S **Sn 19 43 27.5 +0.6**
JOTO OTAMA OYAMA 1.16 342 A A 19 43 12.5
comp=E,10.0nm,1.5s,comp=N,10.0nm,0.6s
JKT Katashina 1.27 285 ⇓*i* P **Pn 19 43 13.5 -0.1**
JKT ⇓S **Sn 19 43 29.1 -0.5**
JKT Katashina 1.27 285 A A 19 43 13.5
comp=E,7.0nm,5.1s,comp=N,8.0nm,0.4s
JMST Minamisoumatoc 1.27 4 A A 19 43 14.6
comp=E,4.0nm,0.3s,comp=N,4.0nm,0.3s
JFY Yanaizu 1.28 318 ⇓*i* P **Pn 19 43 13.9 +0.2**
JMM Marumori 1.41 1 P **Pn 19 43 16.0 +0.6**
JMM Marumori 1.41 1 Pn **Pn 19 43 15.7 +0.2**
JMM Marumori 1.41 1 ⇓*i* P **Pn 19 43 15.9 +0.4**
JMM ⇓S **Sn 19 43 33.3 +0.4**
JMM Marumori 1.41 1 A A 19 43 15.9
comp=E,4.0nm,0.6s,comp=N,6.0nm,0.5s
JSGW Sagamiharawaka 1.53 237 A A 19 43 16.8
comp=E,4.0nm,1.6s,comp=N,3.0nm,1.9s
JYAR Yonezawaarcadi 1.54 341 A A 19 43 18.0
comp=E,7.0nm,0.9s,comp=N,7.0nm,0.7s
TATJ Tateyama 2 1.59 207 A A 19 43 18.0
comp=E,6.0nm,3.4s,comp=N,6.0nm,3.7s
JOD2 Odawara 2 1.81 229 A A 19 43 20.9
comp=E,3.0nm,1.3s,comp=N,4.0nm,2.4s
JYS Shiratake 1.85 342 A A 19 43 22.5
comp=E,4.0nm,1.2s,comp=N,4.0nm,3.7s
JOU Okura 1.91 357 A A 19 43 23.6
comp=E,4.0nm,0.7s,comp=N,3.0nm,1.7s
MJAR Matsushiro Arr 2.07 273 P **Pn 19 43 23.4 -1.1**
comp=N,130nm,0.3s,baz=95,slow=9.1,SNR=634
MJAR S **Sn 19 43 51.1 +2.0**
comp=N,70nm,0.4s,baz=334,slow=5.7,SNR=2.5
MAJO Matsushiro 2.07 273 P **Pn 19 43 25.2 +0.7**
MAJO Matsushiro 2.07 273 **Pn 19 43 24.9 +0.4**
MJB9 Matsu-Tunnel 2.07 273 Pn **Pn 19 43 24.8 +0.3**
JYA Atsumi 2.29 339 A A 19 43 28.7
comp=E,4.0nm,0.6s,comp=N,3.0nm,1.0s
SHZ3 Shizuoka 3 2.50 237 A A 19 43 30.7
comp=E,3.0nm,0.8s,comp=N,4.0nm,0.7s
JSD Sado 2.55 309 P **Pn 19 43 32.4 +1.3**
JSD Sado 2.55 309 **Pn 19 43 31.1 +0.1**
JNY Yasuok 2.60 246 A A 19 43 32.1
comp=E,2.0nm,1.5s,comp=N,2.0nm,1.6s
JSG Sagara 2.76 231 P **Pn 19 43 36.0 +2.1**
JSG Sagara 2.76 231 **Pn 19 43 35.2 +1.3**
JGF Kuroka 2.90 254 P **Pn 19 43 37.2 +1.3**
JGF Kuroka 2.90 254 Pn **Pn 19 43 37.0 +1.1**
INU Inuyama 3.24 251 P **Pn 19 43 42.2 +1.6**
INU Inuyama 3.24 251 Pn **Pn 19 43 41.3 +0.7**
JHJ Hachijo jima 2 3.43 194 P **Pn 19 43 43.8 +0.6**
comp=N,51nm,0.3s,baz=48,slow=19,SNR=37
JHJ S **Sn 19 44 21.6 -0.8**
comp=N,164nm,0.3s,baz=344,slow=18,SNR=12
JHJ2 Mitsune 3.43 194 P **Pn 19 43 43.6 +0.5**
JHJ2 Mitsune 3.43 194 Pn **Pn 19 43 43.4 +0.3**
JTM Tenmabayashi 4.33 3 P **Pn 19 43 57.0 +1.6**
JTM Tenmabayashi 4.33 3 Pn **Pn 19 43 56.6 +1.2**
ERM Erimo 5.85 18 P **Pn 19 44 16.0 -0.3**
ERM Erimo 5.85 18 Pn **Pn 19 44 15.6 -0.7**
JEM Erimo 5.85 18 P **Pn 19 44 16.1 -0.2**
JMN Monobe 6.27 246 P **Pn 19 44 23.0 +0.8**
JMN Monobe 6.27 246 Pn **Pn 19 44 21.3 -0.9**
ASAJ Asahikawa 7.78 10 P **Pn 19 44 41.8 -0.9**
comp=N,7.0nm,0.3s,baz=181,slow=10,SNR=28
ASAJ S **Sn 19 46 06.3 -3.0**
comp=N,8.0nm,0.4s,baz=217,slow=20,SNR=3.8
JKA Kamikawa-asahi 7.78 10 Pn **Pn 19 44 40.9 -1.7**
JNU Nakatsue 8.79 251 Pn **Pn 19 44 57.8 +1.1**
JNU Nakatsue 8.79 251 P **Pn 19 44 59.5 +2.8**
comp=N,4.9nm,0.8s,baz=69,slow=11,SNR=7.1
JCJ Chichijima 9.41 172 P **Pn 19 45 04.2 -0.9**
JCJ Chichijima 9.41 172 Pn **Pn 19 45 04.1 -1.0**
JCJ Chichijima 9.41 172 P Pn 19 44 57.6 -7.5
comp=N,23nm,0.3s,baz=330,slow=20,SNR=8.8
JCJ S Sn 19 46 34.5 -15
comp=N,25nm,0.4s,baz=307,slow=20,SNR=2.4
USRK Ussuriysk Ar. 10.23 322 Pn **Pn 19 45 14.6 -1.6**
USRK Ussuriysk Ar. 10.23 322 P **Pn 19 45 19.2 +3.0**
comp=N,2.5nm,0.5s,baz=138,slow=13,SNR=8.0
KSRS Korea Array 10.33 279 P **Pn 19 45 21.4 +3.8**
comp=N,4.0nm,0.7s,baz=95,slow=14,SNR=16
KS19 Wonju Array Si 10.38 280 Pn **Pn 19 45 18.6 +0.3**
MDJ Mudanjiang 11.77 317 P **Pn 19 45 40.8 +3.5**
MDJ pmax pmax
comp=N,8.0nm,1.2s
MDJ pmax pmax
comp=N,140nm,8.2s
KLR Kul'dur 14.36 336 P **Pn 19 46 10.9 -1.6**
comp=N,0.8nm,0.5s,baz=209,slow=3.7,SNR=2.9
NJ2 Nanjing 18.64 263 *e*P **Pn 19 47 06.4 +0.1**
NJ2 pP **pP 19 47 15.6 -1.7**
NJ2 pmax pmax
comp=N,10.0nm,0.6s
NJ2 pmax pmax
comp=N,140nm,4.3s
HNS HongShan 20.84 280 ⇑P **P 19 47 29.3 -0.2**
HNS pmax pmax
comp=N,9.0nm,0.8s
HHC Hu-ho-hao-te 23.18 290 *e*P **P 19 47 55.5 +1.2**
HHC pmax pmax
comp=N,7.0nm,0.7s
HHC pmax pmax
comp=N,100nm,4.9s
YAK Yakutsk 26.52 348 P **P 19 48 23.4 -1.1**
YAK IAmb IAmb 19 48 24.5
comp=Z,11nm,0.8s
ULN Ulaanbaatar 27.26 305 P **P 19 48 31.0 -0.5**
SONM Songino Array 27.69 305 P **P 19 48 34.6 -0.7**
SONM Songino Array 27.69 305 P **P 19 48 33.9 -1.5**
comp=Z,2.6nm,0.7s,baz=108,slow=9.7,SNR=12
comp=Z,2.6nm,0.7s
H11N2 WAKE ISLAND Hy 28.31 119 T T 20 18 43.0
baz=312,slow=75
H11N1 WAKE ISLAND Hy 28.32 119 T T 20 18 43.6
baz=312,slow=75
H11N3 WAKE ISLAND Hy 28.32 119 T T 20 18 44.8
baz=312,slow=75
H11S1 WAKE ISLAND Hy 28.99 121 T T 20 19 33.5
baz=314,slow=76
H11S3 WAKE ISLAND Hy 28.99 121 T T 20 19 32.7
baz=314,slow=76
H11S2 WAKE ISLAND Hy 29.01 121 T T 20 19 31.5
baz=314,slow=76
GYA Guiyang 30.62 261 P **P 19 49 02.5 +1.0**
GYA pmax pmax
comp=Z,4.0nm,0.7s
PZH PanZhiHua 34.53 265 P **P 19 49 37.6 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,120nm,4.9s
WMQ Urumqi 40.64 297 *e*P **P 19 50 27.9 +0.8**
WMQ pmax pmax
comp=Z,16nm,0.9s
ZALV Zalesovo Beam 41.92 313 P **P 19 50 36.4 -1.0**
ZALV Zalesovo Beam 41.92 313 P **P 19 50 37.2 -0.2**
comp=Z,2.8nm,0.5s,baz=92,slow=7.5,SNR=13
ZALV PcP **PcP 19 52 30.2 -1.8**
comp=Z,0.9nm,0.8s,baz=46,slow=6.2,SNR=2.4
comp=Z,2.8nm,0.5s
MKAR Makanchi Array 43.99 303 P **P 19 50 53.7 -0.6**
MKAR Makanchi Array 43.99 303 P **P 19 50 54.9 +0.6**
comp=Z,3.2nm,0.7s,baz=90,slow=9.8,SNR=20
MKAR PcP **PP 19 52 36.7 -0.7**
comp=Z,0.3nm,0.7s,baz=95,slow=4.6,SNR=1.9
comp=Z,3.2nm,0.7s
KURK Kurchatov 45.88 308 P **P 19 51 08.5 -0.7**
KURK IAmb IAmb 19 51 11.3
comp=Z,4.0nm,0.7s
KURBB Kurchatov Arra 45.95 308 P **P 19 51 09.2 -0.6**
comp=Z,2.8nm,0.4s,baz=83,slow=8.0,SNR=24
comp=Z,2.8nm,0.4s
D22K Ayikyak River 48.11 27 P **P 19 51 27.4 +1.1**
D22K IAmb IAmb 19 51 28.9
comp=Z,4.1nm,0.6s
MDM Murphy Dome 49.68 32 P **P 19 51 39.9 +1.5**
MDM IAmb IAmb 19 51 41.2
comp=Z,5.1nm,0.8s
KSH Kashi 50.17 294 P **P 19 51 45.9 +3.2**
KSH sP sP 19 52 08.5 +5.7
KSH pmax pmax
comp=Z,3.0nm,0.8s
IL31 50.26 32 IAmb IAmb 19 51 44.5
comp=Z,3.4nm,0.8s

ILAR Eielson Array 50.26 32 P **P 19 51 44.0 +1.2**
comp=Z,2.3nm,0.7s,baz=270,slow=6.6,SNR=31
comp=Z,2.3nm,0.7s
D25K Kavik River 50.40 26 P **P 19 51 45.0 +1.2**
BVAR Borovoye Array 50.58 313 P **P 19 51 44.6 -0.8**
comp=Z,0.6nm,0.4s,baz=86,slow=7.9,SNR=6.8
BVAR PcP **PcP 19 53 01.9 -0.5**
comp=Z,0.5nm,0.5s,baz=102,slow=5.0,SNR=1.8
comp=Z,0.6nm,0.4s
BCAR Beaver Creek A 52.66 34 P **P 19 52 02.4 +1.6**
KKAR Karatay Array 52.97 300 P **P 19 52 03.8 +0.4**
I28M Miner Creek 53.12 31 P **P 19 52 05.5 +1.2**
G29M Pine Creek 53.68 29 IAmb IAmb 19 52 11.6
comp=Z,4.0nm,0.8s
I29M Ogilvie Camp, 53.81 31 IAmb IAmb 19 52 11.9
comp=Z,3.7nm,0.9s
EPYK Eagle Plains 54.28 29 IAmb IAmb 19 52 16.0
comp=Z,5.7nm,0.8s
I30M Mount Dempster 54.63 31 P **P 19 52 17.1 +1.8**
SIMJ Simiganj 55.56 296 P **P 19 52 22.0 -0.4**
SIMJ IAmb IAmb 19 52 23.1
comp=Z,7.2nm,1.1s
WRA Warramunga Arr 56.42 187 P **P 19 52 27.9 -0.5**
comp=Z,2.0nm,0.8s,baz=1.8,slow=7.4,SNR=17
WRA pP **pP 19 52 44.6 +1.9**
comp=Z,0.7nm,0.5s,baz=3.4,slow=7.5,SNR=4.1
WRA PcP **PcP 19 53 25.2 +0.3**
comp=Z,0.6nm,0.6s,baz=1.6,slow=4.3,SNR=2.0
comp=Z,2.0nm,0.8s
ARU Arti 56.45 319 P **P 19 52 26.9 -1.4**
ABKAR Abkulak array 57.92 310 P **P 19 52 37.9 -0.9**
ABKAR Abkulak array 57.92 310 IAmb IAmb 19 52 39.0
comp=Z,3.3nm,0.7s
ASAR Alice Springs 60.15 187 P **P 19 52 54.4 0.0**
comp=Z,1.0nm,0.8s,baz=12,slow=8.1,SNR=6.9
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 64.35 339 P **P 19 53 22.1 +0.1**
comp=Z,1.0nm,0.4s,baz=57,slow=9.8,SNR=2.5
comp=Z,1.0nm,0.4s
JOF Joensuu 66.23 332 *e*P **P 19 53 33.6 -0.6**
KEF Keuruu 69.08 333 *e*P **P 19 53 51.8 -0.4**
FINES FINESS Array B 69.08 332 P **P 19 53 51.0 -1.3**
FINES FINESS Array B 69.08 332 P **P 19 53 51.9 -0.3**
comp=Z,4.8nm,0.8s,baz=47,slow=8.4,SNR=18
comp=Z,4.8nm,0.8s
VAF Ylistaro 69.30 335 *e*P **P 19 53 53.4 -0.1**
MEF Metsahovi 70.50 332 *e*P **P 19 54 00.6 -0.4**
KBZ Khabaz 70.89 311 P **P 19 54 02.9 -0.7**
comp=Z,3.0nm,0.8s,baz=12,slow=5.6,SNR=4.6
comp=Z,3.0nm,0.8s
RAF Rauma 70.95 333 *e*P **P 19 54 03.5 -0.2**
MTSE Matsula 71.70 331 *e*P **P 19 54 08.2 0.0**
SLIT Slitere, Latvi 73.03 330 *e*P **P 19 54 15.6 -0.6**
PABE Paberze 73.76 328 *e*P **P 19 54 20.4 -0.1**
NC405 NORSAR Array S 74.30 337 IAmb IAmb 19 54 24.3
comp=Z,5.7nm,0.7s
HFS Hagfors 74.40 336 P **P 19 54 24.0 -0.2**
comp=Z,2.7nm,0.8s,baz=56,slow=5.7,SNR=8.0
comp=Z,2.7nm,0.8s
AKASG Malin Array Be 74.44 322 P **P 19 54 23.7 -0.9**
comp=Z,2.1nm,0.6s,baz=47,slow=6.0,SNR=7.8
comp=Z,2.1nm,0.6s
AKBB Malin Array Si 74.44 322 P **P 19 54 23.9 -0.7**
AKBB IAmb IAmb 19 54 24.9
comp=Z,5.2nm,0.8s
NC204 NORSAR Array S 74.48 337 P **P 19 54 24.6 -0.1**
NB201 NORSAR Array S 74.48 337 IAmb IAmb 19 54 25.7
comp=Z,7.3nm,0.9s
NB2 NORSAR Subarra 74.52 337 P **P 19 54 24.6 -0.3**
comp=Z,3.2nm,0.7s,baz=40,slow=5.9
NOA NORSAR Array B 74.52 337 P **P 19 54 24.9 0.0**
comp=Z,3.2nm,0.7s,baz=39,slow=5.8,SNR=32
comp=Z,3.2nm,0.7s
NBO00 NORSAR Array S 74.66 337 IAmb IAmb 19 54 26.6
comp=Z,5.0nm,0.8s
PDAR Pinedale Array 78.44 45 P **P 19 54 48.5 +0.8**
comp=Z,0.5nm,0.6s,baz=260,slow=2.7,SNR=6.2
comp=Z,0.5nm,0.6s
BRTR Keskin Array B 78.85 311 P **P 19 54 50.0 +0.1**
comp=Z,1.3nm,0.9s,baz=56,slow=3.6,SNR=5.1
comp=Z,1.3nm,0.9s
KOLS Kolonicke sedl 78.98 324 *e*P **P 19 54 51.6 +1.3**
OJC Ojcow 79.23 326 P **P 19 54 50.9 -0.7**
OJC IAmb IAmb 19 54 52.8
comp=Z,5.6nm,1.0s
CRVS Cervenica-Dubn 79.39 324 *e*P **P 19 54 55.0 +2.5**
VYHS Vyhne 80.90 325 *e*P **P 19 55 01.7 +1.0**
CLL Colm 81.34 330 *i* P **P 19 55 02.7 -0.2**
comp=Z,6.0nm,1.0s
GERES GERESS Array B 82.93 328 P **P 19 55 11.1 -0.3**
comp=Z,0.5nm,0.5s,baz=43,slow=7.3,SNR=4.3
comp=Z,0.5nm,0.5s
EKA Eskdalemuir Ar 83.50 340 P **P 19 55 14.1 0.0**
comp=Z,0.4nm,0.6s,baz=28,slow=5.1,SNR=3.9
comp=Z,0.4nm,0.6s
TORD Torodi Ar. Bea 117.37 314 PKP **PKiKP 20 01 31.2 -1.2**
comp=Z,0.6nm,0.9s,baz=70,slow=3.0,SNR=2.7
LPAZ La Paz 147.43 60 PKPbc **PKPbc 20 02 30.0 -1.4**
comp=Z,1.1nm,0.6s,baz=315,slow=2.9,SNR=2.7
H03N2 Juan Fernandez 147.47 97 T T 22 47 42.1
baz=291,slow=76,SNR=34
H03N3 Juan Fernandez 147.48 97 T T 22 47 44.0
baz=291,slow=76,SNR=31
H03N1 Juan Fernandez 147.49 97 T T 22 47 44.7
baz=291,slow=76,SNR=46

IDC 16 20:20:09.6±2.8, 6°27'S×147°68'E, h0km, mb3.9/2, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=70.9km s-min=33.9km az=94.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.16**	**189**	Pn	Pn	20 21 02.5	+1.8
	17nm,0.4s,baz=57,slow=4.0,SNR=19						
PMG				Sn	Sn	20 21 40.3	+1.2
	5.0nm,0.3s,baz=189,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**18.78**	**222**	P	P	20 24 30.3	-0.4
	0.2nm,0.3s,baz=48,slow=11,SNR=17						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**21.79**	**216**	P	P	20 25 03.6	+0.2
	1.1nm,0.5s,baz=51,slow=8.8,SNR=38						
	1.1nm,0.5s						
STKA	**Stephens Creek**	**26.11**	**192**	P	P	20 25 44.3	-1.0
	5.3nm,1.0s,baz=0.0,slow=10,SNR=2.4						
	5.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**145.81**	**284**	PKPbc	PKPdf	20 39 51.1	-0.4
	0.3nm,0.4s,baz=80,slow=4.2,SNR=4.4						

*SVSA **16** 20:32:11.7±1.6, 42°96N×25°26W, h10km, ML5.0(INMG), Error ellipse: s-maj=12.6km s-min=6.4km az=109.0*
*MDD **16** 20:33:11.4±5.4, 42°66N×18°93W, h10km, Mb4.6/10, M_mb4.0/10, Latitude uncertainty: 10.5 km; Longitude uncertainty: 44.1 km*

ISC 16 20:32:09.6±1.6, 42°6N±0°1×25°28W±0°08, h10km, n88, σ1§85/87, 14C-7D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGU	**Agualva, Azore**	**4.05**	**202**⇑	*e*P	**Pn**	**20 33 13.1**	**+1.4**
PAGU				*e*S	**Sn**	**20 33 59.6**	**+0.4**
PAGU				A	A	20 34 03.8	
	945nm,0.2s						
PGRA	**Graciosa**	**4.08**	**211**⇓	*e*P	**Pb**	**20 33 22.6**	**+1.1**
PGRA				*e*S	**Sb**	**20 34 08.4**	**-2.4**
PGRA				A	A	20 34 13.8	
	210nm,0.5s						
PSBA	**Serra de Santa**	**4.09**	**203**⇑	*e*P	**Pn**	**20 33 13.5**	**+1.2**
PSBA				*e*S	**Sn**	**20 34 00.0**	**-0.2**
PSBA				A	A	20 34 05.2	
	485nm,0.5s						
SRBC	**Serra Branca**	**4.09**	**212**	*e*P	**Pn**	**20 33 12.3**	**0.0**
SRBC				A	A	20 34 08.9	
	366nm,0.3s						
PSCM	**Serra do Cume**	**4.10**	**201**⇑	*e*P	**Pn**	**20 33 13.7**	**+1.3**
PSCM				*e*S	**Sn**	**20 33 59.9**	**-0.5**
PSCM				A	A	20 34 04.0	
	790nm,0.2s						
ADH	**Angra Heroismo**	**4.17**	**202**⇑	*e*P	Pn	20 33 04.4	-8.9
ADH				*e*S	Sn	20 33 50.8	-11
ADH				A	A	20 33 55.5	
	209nm,0.2s						
ROSA	**Rosais**	**4.45**	**211**	*e*P	**Pn**	**20 33 17.6**	**+0.5**
ROSA				*e*S	**Sn**	**20 34 06.8**	**-2.1**
ROSA				A	A	20 34 12.7	
	95nm,0.3s						

PMAN Manadas 4.46 210 *e*P **Pn 20 33 18.2 +0.8**
PMAN *e*S **Sn 20 34 08.1 -1.3**
PMAN A A 20 34 10.8
263nm,0.3s
PID Ribeirinha 4.64 209 *e*P **Pn 20 33 20.7 +0.8**
PID A A 20 34 17.4
146nm,0.4s
PPNO Prainha do Nor 4.67 210 *e*P **Pn 20 33 21.1 +0.8**
PPNO *e*S **Sn 20 34 12.5 -2.1**
PPNO A A 20 34 17.1
128nm,0.2s
PICO Pico 4.71 212 *e*P **Pn 20 33 21.4 +0.6**
PICO *e*S **Sn 20 34 12.4 -3.1**
PICO A A 20 34 18.8
88nm,0.3s
PCED Cedros 4.71 215 *e*P **Pn 20 33 21.4 +0.7**
PCED *e*S **Sn 20 34 12.5 -2.9**
PCED A A 20 34 17.7
96nm,0.6s
PSET Sete Cidades 4.74 184 *e*P **Pn 20 33 22.7 +1.5**
PSET *e*S **Sn 20 34 15.1 -1.1**
PSET A A 20 34 19.3
127nm,0.4s
CALA Caldeira 4.75 214 *e*P **Pn 20 33 22.4 +1.0**
CALA A A 20 34 21.1
129nm,0.3s
PCALD Caldeiras da R 4.76 182⇓ *e*P **Pn 20 33 22.9 +1.5**
PCALD *e*S **Sn 20 34 15.5 -1.1**
PCALD A A 20 34 18.6
162nm,0.4s
PCAN Candelaria 4.76 212 *e*P **Pn 20 33 22.3 +0.8**
PCAN *e*S **Sn 20 34 15.7 -1.1**
PCAN A A 20 34 19.3
50nm,0.2s
BART Pico Bartolome 4.78 179⇓ *e*P **Pn 20 33 23.1 +1.4**
BART *e*S **Sn 20 34 15.3 -1.9**
BART A A 20 34 18.0
382nm,0.3s
PGRON Lagoa das Cont 4.78 181⇓ *e*P **Pn 20 33 23.2 +1.4**
PGRON *e*S **Sn 20 34 16.3 -1.0**
PGRON A A 20 34 21.2
222nm,0.5s
CMLA Cha da Macela 4.79 182⇓ *e*P **Pn 20 33 23.3 +1.4**
CMLA *e*S **Sn 20 34 16.0 -1.5**
CMLA A A 20 34 19.2
198nm,0.5s
CMLA Cha da Macela 4.79 182 P **Pn 20 33 22.8 +0.9**
CMLA Cha da Macela 4.79 182 S **Sn 20 34 15.0 -2.5**
PFCBR Castelo Branco 4.81 214 *e*P **Pn 20 33 20.7 -1.3**
PDA Ponta Delgada 4.81 184⇓ *e*P Pb 20 33 28.4 -5.7
PDA *e*S **Sn 20 34 23.3 +5.3**
PDA A A 20 34 29.5
70nm,0.5s
PSMN Pico do Norte, 5.55 178 *e*P **Pn 20 33 33.7 +1.4**
PSMN *e*S **Sn 20 34 33.4 -2.8**
PSMN A A 20 34 37.9
141nm,0.4s
PSMA Santa Maria 5.56 179⇓ *e*P **Pn 20 33 33.9 +1.5**
PSMA *e*S **Sn 20 34 33.5 -2.8**
PSMA A A 20 34 37.7
188nm,0.3s
PMOZ Porto Moniz, M 11.63 144 *e*P **Pn 20 34 59.8 +4.0**
PMOZ A A 20 35 00.7
105nm,1.4s
PMOZ Porto Moniz, M 11.63 144 Pn **Pn 20 34 58.9 +3.1**
PMOZ Sn **Sn 20 37 00.5 -5.3**
PMPST Porto Santo, M 11.81 140 *e*P **Pn 20 35 00.8 +2.7**
PMPS Porto Santo 11.83 140 *e*P **Pn 20 34 59.5 +1.2**
PMPS A A 20 35 10.8
231nm,1.6s
PMAR Madeira 11.84 143 *e*P **Pn 20 35 01.9 +3.2**
PMAR A A 20 35 13.9
118nm,1.4s
PMAR Madeira 11.84 143 P **Pn 20 34 58.3 -0.4**
EMAZ Mazaricos 12.00 83 P Pn 20 34 57.2 -3.4
EMAZ ⇑*i*Vmb_V 20 35 01.4
243nm,SNR=1.7
EZAM Zamans 12.28 86 P Pn 20 34 58.2 -6.3
EZAM ⇑*i*Vmb_V 20 35 03.1
204nm,SNR=1.7
PMAFR Mafra 12.65 101 Pn **Pn 20 35 09.0 -0.7**
PMAFR Sn Sn 20 37 16.6 -14
EAGO Agolada(Pontev 12.66 83 P Pn 20 35 05.9 -3.8
ELOB Lobios 12.79 87 P Pn 20 35 08.2 -3.4
ELOB ⇑*i*Vmb_V 20 35 11.6
135nm,SNR=1.7
PCAB Cabril 12.84 88 *e*P Pn 20 35 08.5 -3.7
PCAB *e*S Sn 20 37 21.0 -14
PCAS Casmilo, Conde 12.87 96 *e*P **Pn 20 35 10.6 -1.9**
PCAS *e*S Sn 20 37 20.8 -15
POLO Lamas de Olo 13.07 89 *e*P Pn 20 35 12.0 -3.4
POLO *e*S Sn 20 37 25.4 -15
PVIS Viseu 13.14 92 *e*P Pn 20 35 13.7 -2.6
PVIS A A 20 35 15.3
25nm,1.5s
PVIS *e*S Sn 20 37 24.5 -18
EPON Pontenova 13.31 81 P Pn 20 35 15.1 -3.5
PMTG Montargil 13.38 99 *e*P **Pn 20 35 17.9 -1.6**
PMTG A A 20 35 39.3
19nm,1.7s
PMTG *e*S Sn 20 37 34.0 -14
MTE Manteigas 13.48 93 *e*P Pn 20 35 18.0 -2.9
MTE A A 20 35 41.8
17nm,1.8s
MTE *e*S Sn 20 37 35.2 -16
PNCL Nicolau / Gran 13.53 104 *e*P **Pn 20 35 20.9 -0.6**
PNCL A A 20 35 35.6
27nm,1.6s
PNCL *e*S Sn 20 37 41.8 -10
PNCL Nicolau / Gran 13.53 104 Pn **Pn 20 35 20.5 -1.0**
PNCL Sn Sn 20 37 38.0 -14
PTEO Sao Teotonio 13.63 106 *e*P **Pn 20 35 22.9 -0.1**
PTEO *e*S Sn 20 37 42.8 -12
PCBR Castelo Branco 13.68 95 *e*P Pn 20 35 21.3 -2.3
PCBR *e*S Sn 20 37 40.6 -15
EVO Evora 13.73 101 *e*P **Pn 20 35 22.8 -1.5**
EVO *e*S Sn 20 37 43.2 -14
EVO Evora 13.73 101 Pn **Pn 20 35 23.4 -1.0**
PFVI Vila Bisbo 13.75 108 *e*P **Pn 20 35 24.7 +0.1**
PFVI Vila Bisbo 13.75 108 P **Pn 20 35 22.7 -1.9**
ECAL Calabor 13.76 86 Pn Pn 20 35 21.4 -3.3
ECAL Sn Sn 20 37 39.5 -18
ECAL Calabor 13.76 86 P Pn 20 35 21.6 -3.1
ECAL ⇑*i*Vmb_V 20 35 30.9
135nm,SNR=1.7
PBRG Braganca 13.77 87 *e*P Pn 20 35 22.6 -2.3
MORF Marmelete 13.79 107 *e*P **Pn 20 35 24.9 -0.3**
VAL Valentia 13.84 42 Pn Pn 20 35 19.3 -6.5
MESJ Messejana 13.86 104 *e*P **Pn 20 35 25.4 -0.7**
MESJ *e*S Sn 20 37 48.2 -12
PMRV Marv??o 13.87 97 *e*P **Pn 20 35 24.2 -2.0**
PMRV A A 20 35 25.9
12nm,1.4s
PMRV *e*S Sn 20 37 44.7 -16
PESTR Estremoz 13.91 99 *e*P **Pn 20 35 25.6 -1.3**
PESTR *e*S Sn 20 37 48.0 -13
PESTR Estremoz 13.91 99 Pn **Pn 20 35 24.6 -2.3**
PESTR Sn Sn 20 37 45.0 -16
PESTR Estremoz 13.91 99 P **Pn 20 35 24.9 -2.0**
PBEJ Beja 14.04 103 *e*P **Pn 20 35 28.1 -0.4**
PBEJ *e*S Sn 20 37 53.7 -11
PCVE Castro Verde 14.08 105 *e*P **Pn 20 35 28.9 -0.2**
PCVE A A 20 35 35.6
28nm,2.2s
PCVE *e*S Sn 20 37 55.2 -10
PCVE Castro Verde 14.08 105 Pn **Pn 20 35 29.2 +0.1**
PCVE Sn Sn 20 37 52.5 -13
PBDV Barranco-do-Ve 14.33 106 *e*P **Pn 20 35 32.7 +0.1**
PBDV *e*S Sn 20 37 59.5 -12
PBDV Barranco-do-Ve 14.33 106 Pn **Pn 20 35 33.2 +0.6**
PBDV Sn Sn 20 37 58.5 -13
EBAD Badajoz 14.38 99 Pn Pn 20 35 30.8 -2.4
EBAD Sn Sn 20 37 55.6 -17
EBAD Badajoz 14.38 99 P Pn 20 35 30.7 -2.5
EBAD ⇑*i*Vmb_V 20 35 32.5
134nm,SNR=2.6
PVAQ Vaqueiros 14.41 105 *e*P **Pn 20 35 34.1 +0.5**
PVAQ A A 20 35 49.5
39nm,2.0s
PVAQ *e*S Sn 20 38 01.0 -12
PVAQ Vaqueiros 14.41 105 Pn **Pn 20 35 33.3 -0.3**
PVAQ Vaqueiros 14.41 105 P **Pn 20 35 33.0 -0.7**

EGRO	**El Granado**	**14.52 104**	Pn		**Pn**	**20 35 34.7**	**-0.4**
EGRO	**El Granado**	**14.52 104**	P		**Pn**	**20 35 34.8**	**-0.4**
EGRO			⇑iVmb_V			20 35 36.1	
	195nm,SNR=2.6						
PBAR	**Barrancos**	**14.58 101**	*eP*		**Pn**	**20 35 34.6**	**-1.3**
PBAR			*e*S		Sn	20 38 04.4	-13
EPLA	**Plasencia**	**14.64 93**	P		Pn	20 35 34.2	-2.7
EPLA			⇑iVmb_V			20 35 35.7	
	285nm,SNR=4.7						
EARI	**Arriondas**	**14.72 80**	P		Pn	20 35 34.5	-3.4
ECAB	**El Cabril**	**15.79 100**	P		**Pn**	**20 35 50.8**	**-1.2**
GUD	**Guadarrama**	**15.92 90**	P		**Pn**	**20 35 51.5**	**-2.3**
ESPR	**Espera**	**15.98 104**	P		**P**	**20 35 58.7**	**+0.7**
ESPR			⇑iVmb_V			20 36 01.5	
	191nm,SNR=3.6						
ELAN	**Lanestosa**	**16.02 80**	P		**Pn**	**20 35 52.2**	**-2.9**
PAB	**San Pablo**	**16.07 94**	P		**Pn**	**20 35 53.6**	**-2.1**
PAB			⇑iVmb_V			20 35 54.9	
	140nm,SNR=2.4						
ESDC	**Sonseca Array**	**16.32 93**	P		**Pn**	**20 35 57.2**	**-1.7**
EADA	**Adamuz**	**16.37 99**	P		**Pn**	**20 35 57.9**	**-1.6**
EADA			⇑iVmb_V			20 36 00.4	
	110nm,SNR=2.6						
CPS	**Cap Spartel**	**16.46 108**	P		**Pn**	**20 36 01.1**	**+0.5**
PSIM	**Granatula de C**	**16.74 96**	P		**Pn**	**20 36 04.3**	**+0.1**
TIO	**Tiouine**	**18.49 123**	P		**P**	**20 36 27.6**	**+1.7**
MD31	**MD31**	**18.86 114**	P		**Pn**	**20 36 33.5**	**+3.0**
JBK	**JBK**	**19.55 107**	P		**Pn**	**20 36 43.5**	**+4.6**

*IDC **16** 20:55:09.6±1.0, 3°.09S×131°.23E, h0km, mb4.1/9, mbtmp4.2/11, ML4.3/2, MS3.7/20, Error ellipse: s-maj=49.8km s-min=17.6km az=70.0*
*DJA **16** 20:55:15.5±3.5, 3°.S±4°×13°.1E±°, h10km±31km, M4.3/6, mb4.5/5, mB5.0/1, MLv4.2/6, Mw(mB)4.3/1*
*NEIC **16** 20:55:17.4±2.5, 3°.32S±0°.09×130°.61E±0°.09, h43km±8km, mb4.4/26, Error ellipse: s-maj=15.7km s-min=11.1km az=134.0*

ISC 16 20:55:15.1±0.4, **3°.35S**±0°.05×**130°.78E**±0°.05, **h30**km, **n84**, σ1§**92**/67, **mb4.5**/20, **MS3.6**/19, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.46**	**217**	P	**Pb**	**20 55 42.4**	**+0.8**
BNDI	**Bandanaira**	**1.46**	**217**	P	**Pb**	**20 55 43.3**	**+1.7**
FAKI	**Fak Fak**	**1.53**	**74**	P	**Pb**	**20 55 44.2**	**+1.5**
FAKI	**Fak Fak**	**1.53**	**74**	Pn	**Pb**	**20 55 43.4**	**+0.6**
FAKI	**Fak Fak**	**1.53**	**74**	P	**Pb**	**20 55 44.1**	**+1.4**
SWI	**Sorong**	**2.52**	**11**	P	**Pn**	**20 55 53.9**	**0.0**
KMPI	**Kaimana, Papua**	**2.93**	**96**	P	**Pb**	**20 56 04.8**	**-1.9**
SANI	**Sanana**	**4.96**	**285**	P	**Pn**	**20 56 25.8**	**-1.8**
GTOI	**Gorontalo**	**8.72**	**297**	P	**Pn**	**20 57 19.2**	**0.0**
DRS	**Darwin Rock St**	**9.02**	**179**	P	**Pn**	**20 57 27.9**	**+4.5**
SOEI	**Soe**	**9.07**	**225**	Pn	**Pn**	**20 57 23.3**	**-0.9**
MTN	**Manton Dam**	**9.44**	**178**	P	**Pn**	**20 57 33.1**	**+4.0**
MTN	**Manton Dam**	**9.44**	**178**			**20 57 30.2**	**+1.1**
MRSI	**Marisa**	**9.62**	**293**	P	**Pn**	**20 57 31.4**	**-0.2**
	26nm,1.2s						
EDFI	**Ende, Flores**	**10.51**	**239**	P	**Pn**	**20 57 46.8**	**+2.9**
KAPI	**Kappang**	**11.12**	**261**	Pn	Pn	20 57 58.0	+5.8
	1.8nm,0.3s,baz=97,slow=4.1,SNR=4.4						
KAPI				LR	LR	21 03 15.8	
	comp=Z,592nm,20.3s,baz=80,slow=42						
	10nm,0.5s						
PLAI	**Plampang**	**14.03**	**247**	P	**Pn**	**20 58 32.8**	**+0.9**
MYLDM	**Lahad Datu**	**14.91**	**305**	P	**Pn**	**20 58 43.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**15.50**	**199**	Pn	**Pn**	**20 58 48.4**	**-3.2**
COEN	**Coen**	**16.15**	**131**	P	**P**	**20 59 03.5**	**+0.5**
COEN	**Coen**	**16.15**	**131**	Pn	**Pn**	**20 58 59.8**	**-0.3**
COEN				IAmb	IAmb	20 59 07.6	
	comp=Z,37nm,1.5s						
WB0	**Warramunga Arr**	**16.69**	**168**		**Pn**	**20 59 06.2**	**-0.8**
WB0				IAmb	IAmb	20 59 20.5	
	comp=Z,23nm,1.2s						
WRAB	**Tennant Creek**	**16.85**	**168**	P	**Pn**	**20 59 03.8**	**-5.1**
WRA	**Warramunga Arr**	**16.85**	**168**	Pn	**Pn**	**20 59 06.1**	**-2.8**
WRA	**Warramunga Arr**	**16.85**	**168**	P	**Pn**	**20 59 09.1**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=349,slow=12,SNR=22						
WRA				S	**Sn**	**21 02 09.7**	**-5.7**
	comp=Z,3.1nm,0.9s,baz=4.4,slow=22,SNR=5.7						
	comp=Z,3.4nm,0.6s						
WB2	**Warramunga Arr**	**16.86**	**168**		**Pn**	**20 59 07.3**	**-1.7**
WR0	**Warramunga Arr**	**16.91**	**168**		**Pn**	**20 59 08.1**	**-1.6**
AS31	**Alice Springs**	**20.42**	**172**		Pn	20 59 52.0	-0.2
AS31				IAmb	IAmb	20 59 58.0	
	comp=Z,8.3nm,0.7s						
ASAR	**Alice Springs**	**20.42**	**172**		Pn	20 59 51.9	-0.4
ASAR	**Alice Springs**	**20.42**	**172**	P	**P**	**20 59 50.3**	**+0.3**
	comp=Z,18nm,0.9s,baz=350,slow=10,SNR=70						
ASAR				S	**S**	**21 03 37.0**	**-0.4**
	comp=Z,3.1nm,1.0s,baz=351,slow=18,SNR=7.9						
	comp=Z,18nm,0.9s						
AS01	**Alice Springs**	**20.43**	**172**	P	Pn	20 59 52.4	+0.1
WRKA	**Warakurna**	**21.70**	**186**	P	**P**	**21 00 04.8**	**+1.1**
GUMO	**Guam**	**21.88**	**39**	LR	LR	21 08 21.5	
	comp=Z,135nm,18.5s,baz=220,slow=37						
CTAO	**Charters Tower**	**22.46**	**139**	P	**P**	**21 00 16.4**	**+4.4**
CTAO				IAmb	IAmb	21 00 25.1	
	comp=Z,16nm,1.2s						
BBJI	**Bungbulang**	**23.38**	**259**	P	**P**	**21 00 20.0**	**-1.6**
OOD	**Oodnadatta**	**24.76**	**170**	P	**P**	**21 00 36.5**	**+2.3**
MULG	**Mulgathing**	**26.97**	**174**	P	**P**	**21 00 55.8**	**+1.6**
JOW	**Kunigami**	**30.10**	**356**	LR	LR	21 11 54.7	
	comp=Z,277nm,21.3s,baz=181,slow=34						
STKA	**Stephens Creek**	**30.14**	**161**	P	**P**	**21 01 22.5**	**0.0**
	comp=Z,3.6nm,1.0s,baz=343,slow=11,SNR=1.7						
STKA				LR	LR	21 13 22.4	
	comp=Z,152nm,19.5s,baz=343,slow=36						
	comp=Z,3.6nm,1.0s						
JCJ	**Chichijima**	**32.21**	**19**	LR	LR	21 12 25.7	
	comp=Z,141nm,20.3s,baz=184,slow=33						
JNU	**Nakatsue**	**36.27**	**0**	LR	LR	21 15 03.7	
	comp=Z,105nm,21.7s,baz=177,slow=33						
WHN	**Wuhan**	**37.18**	**336**	P	**P**	**21 02 23.8**	**+0.2**
WHN				pmax	pmax		
	comp=Z,66nm,1.3s						
JHJ	**Hachijo jima 2**	**37.26**	**13**	LR	LR	21 15 01.3	
	comp=Z,149nm,22.0s,baz=168,slow=32						
CMAR	**Chiang Mai Arr**	**38.12**	**306**	P	**P**	**21 02 30.2**	**-1.6**
CMAR	**Chiang Mai Arr**	**38.12**	**306**	P	**P**	**21 02 32.2**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=134,slow=6.7,SNR=6.7						
CMAR				LR	LR	21 20 49.2	
	comp=Z,37nm,18.5s,baz=135,slow=40						
	comp=Z,1.3nm,0.9s						
KSAR	**Wonju Array Be**	**40.67**	**356**	P	**P**	**21 02 53.0**	**+0.3**
KSRS	**Korea Array**	**40.68**	**357**	LR	LR	21 19 03.3	
	comp=Z,85nm,21.3s,baz=190,slow=35						
BJT	**Baijiatuau**	**45.20**	**344**	P	**P**	**21 03 28.4**	**-1.0**
BJT				IAmb	IAmb	21 03 29.8	
	comp=Z,7.7nm,1.2s						
USRK	**Ussuriysk Ar.**	**47.35**	**1**	P	**P**	**21 03 45.5**	**-0.7**
USRK	**Ussuriysk Ar.**	**47.35**	**1**	LR	LR	21 23 22.8	
	comp=Z,43nm,20.5s,baz=183,slow=36						
ASAJ	**Asahikawa**	**48.43**	**11**	LR	LR	21 24 17.8	
	comp=Z,50nm,19.7s,baz=190,slow=36						
PALK	**Pallekele**	**51.08**	**282**	LR	LR	21 27 28.3	
	comp=Z,79nm,18.2s,baz=216,slow=38						
YSS	**Yuzh-Sakhalins**	**51.19**	**11**	P	**P**	**21 04 17.1**	**+1.5**
KLR	**Kul'dur**	**52.37**	**1**	LR	LR	21 26 07.0	
	comp=Z,40nm,20.3s,baz=202,slow=36						
HEH	**HeiHe**	**53.47**	**357**	*eP*	**P**	**21 04 32.8**	**+0.4**
HEH				pmax	pmax		
	comp=Z,8.0nm,1.4s						
ULN	**Ulaanbaatar**	**55.08**	**341**		**P**	**21 04 43.9**	**-0.5**
ULN				IAmb	IAmb	21 04 46.0	
	comp=Z,5.7nm,1.1s						
SONM	**Songino Array**	**55.27**	**340**	P	**P**	**21 04 46.0**	**+0.3**
SONM				IAmb	IAmb	21 04 47.2	
	comp=Z,2.6nm,1.1s						
SONM	**Songino Array**	**55.27**	**340**	P	**P**	**21 04 45.7**	**0.0**
	comp=Z,1.9nm,1.0s,baz=158,slow=8.4,SNR=10						
SONM				LR	LR	21 32 00.4	
	comp=Z,34nm,18.8s,baz=178,slow=40						
	comp=Z,1.9nm,1.0s						
CASY	**Casey**	**64.41**	**189**	P	**P**	**21 05 48.1**	**+0.1**
CASY				IAmb	IAmb	21 05 60.0	
	comp=Z,7.5nm,1.1s						
YAK	**Yakutsk**	**65.20**	**359**	P	**P**	**21 05 53.4**	**+0.1**
YAK	**Yakutsk**	**65.20**	**359**	LR	LR	21 34 20.6	
	comp=Z,58nm,20.0s,baz=182,slow=36						
MKAR	**Makanchi Array**	**65.64**	**326**	P	**P**	**21 05 55.8**	**-0.7**
MKAR	**Makanchi Array**	**65.64**	**326**	P	**P**	**21 05 56.8**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=120,slow=8.5,SNR=3.9						
MKAR				LR	LR	21 36 19.6	
	comp=Z,56nm,18.5s,baz=97,slow=38						
	comp=Z,2.0nm,0.7s						
PRZ	**Przheval'sk**	**65.69**	**320**	P	**P**	**21 05 57.8**	**+0.7**
PRZ				IAmb	IAmb	21 05 59.2	
	comp=Z,11nm,1.4s						
AAK	**Ala-Archa**	**68.30**	**319**	LR	LR	21 39 04.7	
	comp=Z,58nm,20.2s,baz=109,slow=38						
ZALV	**Zalesovo Beam**	**68.69**	**333**	P	**P**	**21 06 15.0**	**-0.6**
ZALV	**Zalesovo Beam**	**68.69**	**333**	P	**P**	**21 06 14.6**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=142,slow=5.6,SNR=4.8						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**69.85**	**328**	P	**P**	**21 06 20.6**	**-2.3**
	comp=Z,2.4nm,0.8s,baz=126,slow=5.7,SNR=11						
	comp=Z,2.4nm,0.8s						
KURK	**Kurchatov**	**69.85**	**328**	P	P	21 06 16.9	-6.0
KURK				IAmb	IAmb	21 06 42.8	
	comp=Z,4.5nm,0.8s						
KK31	**Karatay Array**	**71.15**	**318**	P	**P**	**21 06 29.2**	**-1.9**
KKAR	**Karatay Array**	**71.15**	**318**	P	**P**	**21 06 29.9**	**-1.1**
KKAR	**Karatay Array**	**71.15**	**318**	P	**P**	**21 06 28.0**	**-3.0**
KKAR				IAmb	IAmb	21 06 32.1	
	comp=Z,2.6nm,1.1s						
BVAR	**Borovoye Array**	**75.42**	**327**	P	**P**	**21 06 55.5**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=114,slow=7.0,SNR=14						
BVAR				LR	LR	21 42 24.7	
	comp=Z,54nm,18.6s,baz=128,slow=38						
	comp=Z,2.9nm,0.9s						
BRVK	**Borovoye**	**75.50**	**327**	P	**P**	**21 06 54.6**	**-1.8**
BRVK				IAmb	IAmb	21 06 57.8	
	comp=Z,5.0nm,1.1s						
NRIK	**Noril'sk**	**78.23**	**346**	P	**P**	**21 07 11.5**	**0.0**
NRIK				IAmb	IAmb	21 07 35.8	
	comp=Z,6.2nm,1.3s						
MAW	**Mawson**	**78.61**	**201**	LR	LR	21 41 18.0	
	comp=Z,37nm,18.1s,baz=96,slow=35						
ABKAR	**Akbulak array**	**80.16**	**321**	P	**P**	**21 07 22.1**	**-0.4**
M14K	**Bethel**	**82.01**	**27**	P	**P**	**21 07 33.8**	**+1.8**
K17K	**Iditarod**	**84.32**	**26**	P	**P**	**21 07 46.0**	**+2.0**
L18K	**Granite Mounta**	**84.89**	**27**		**P**	**21 07 49.6**	**+2.8**
L18K				IAmb	IAmb	21 07 51.0	
	comp=Z,5.8nm,1.1s						
TTA	**Tatalina**	**85.39**	**26**	P	**P**	**21 07 51.7**	**+2.3**
TTA				IAmb	IAmb	21 07 52.5	
	comp=Z,5.3nm,1.2s						
L19K	**White Mountain**	**85.70**	**27**	P	**P**	**21 07 52.9**	**+2.0**
QSPA	**South Pole Qui**	**86.60**	**180**	P	**P**	**21 07 56.5**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=297,slow=3.9,SNR=2.1						
	comp=Z,0.8nm,0.7s						
FURI	**Furi**	**92.59**	**279**	LR	LR	21 50 47.8	
	comp=Z,40nm,18.3s,baz=156,slow=36						

*SJA **16** 21:36:07.4±0.6, 21°.04S×67°.74W, h216km±6km, ML3.6, MW3.5*
*IDC **16** 21:36:08.1±1.4, 21°.08S×67°.25W, h175km±21km, mb3.4/1, mbtmp3.9/5, MS2.6/1, Error ellipse: s-maj=48.0km s-min=18.7km az=115.0*
*SCB **16** 21:36:08.5±1.5, 21°.13S×67°.52W, h186km±19km, ML3.3/2, MW3.7, Error ellipse: s-maj=9.3km s-min=7.5km az=0.0*

ISC 16 21:36:07.6±0.9, **21°.06S**±0°.04×**67°.56W**±0°.04, **h188**km±8km, **n36**, σ1§**71**/56, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.73**	**245**	*eP*	**Pn**	**21 36 44.0**	**+1.3**
PB09				*e*S	**Sn**	**21 37 10.8**	**+0.9**
PB09				IAML		21 37 11.9	
	comp=Z,225nm,0.7s						
PB09	**IPOC Station P**	**1.73**	**245**	Pg	**Pn**	**21 36 44.3**	**+1.6**
PB09				Sg	**Sn**	**21 37 10.8**	**+0.9**
PB09				IAML		21 37 11.9	
	comp=Z,220nm,0.3s						
MOCB	**Mochara**	**1.80**	**96**	Pg	**Pn**	**21 36 45.1**	**+1.4**
MOCB				Sg	**Sn**	**21 37 11.7**	**0.0**
MOCB				IAML		21 37 12.9	
	comp=Z,118nm,0.4s						
LVC	**Limon Verde**	**1.99**	**219**	*eP*	**Pn**	**21 36 46.4**	**+0.8**
LVC				*e*S	**Sn**	**21 37 15.1**	**0.0**
LVC	**Limon Verde**	**1.99**	**219**	P	**Pn**	**21 36 46.3**	**+0.8**
	comp=Z,65nm,0.3s,baz=26,slow=7.7,SNR=56						
LVC				S	**Sn**	**21 37 14.9**	**-0.1**
	comp=Z,40nm,0.3s,baz=222,slow=16,SNR=22						
GO01	**Chusmiza**	**2.07**	**312**	*eP*	**Pn**	**21 36 48.1**	**+1.6**
GO01				*e*S	**Sn**	**21 37 18.3**	**+1.6**
GO01	**Chusmiza**	**2.07**	**312**	Pg	**Pn**	**21 36 47.7**	**+1.1**
YJA	**Yavi**	**2.20**	**121**	*eP*	**Pn**	**21 36 49.3**	**+1.4**
YJA				*e*S	**Sn**	**21 37 19.1**	**-0.2**
HMBC	**Humberstone**	**2.32**	**289**	*eP*	**Pn**	**21 36 49.0**	**+0.1**
HMBC				*e*S	**Sn**	**21 37 19.9**	**-1.0**
HMBC				IAML		21 37 22.2	
	comp=Z,355nm,0.2s						
PB11	**IPOC Station P**	**2.35**	**303**	*eP*	**Pn**	**21 36 50.0**	**+0.7**
PB11				*e*S	**Sn**	**21 37 21.4**	**-0.4**
PB11				IAML		21 37 23.3	
	comp=Z,372nm,0.3s						
PATCX	**Punta Patache**	**2.44**	**275**	*eP*	**Pn**	**21 36 50.7**	**+0.5**
PATCX				*e*S	**Sn**	**21 37 22.3**	**-1.0**
PATCX				IAML		21 37 24.1	
	comp=Z,140nm,0.2s						
PB06	**IPOC Station P**	**2.48**	**228**	*eP*	**Pn**	**21 36 51.5**	**+0.7**
PB06				*e*S	**Sn**	**21 37 24.3**	**-0.2**
PB06				IAML		21 37 29.0	
	comp=Z,147nm,0.3s						
TA01	**Diego Aracena**	**2.50**	**281**	*eP*	**Pn**	**21 36 50.9**	**+0.1**
TA01				*e*S	**Sn**	**21 37 22.7**	**-1.7**
TA01				IAML		21 37 27.5	
	comp=Z,99nm,0.3s						
TA02	**Huaiquique**	**2.53**	**288**	*e*S	**Sn**	**21 37 23.6**	**-1.5**
TA02				IAML		21 37 24.4	
	comp=Z,261nm,0.1s						
PB04	**IPOC Station P**	**2.72**	**242**	*eP*	**Pn**	**21 36 54.0**	**+0.4**
PB04				*e*S	**Sn**	**21 37 28.5**	**-0.8**
PB04				IAML		21 37 30.1	
	comp=Z,190nm,0.1s						
PB15	**IPOC Station P**	**2.77**	**219**	*eP*	**Pn**	**21 36 55.3**	**+1.1**
PB15				*e*S	**Sn**	**21 37 30.7**	**+0.1**
PB15	**IPOC Station P**	**2.77**	**219**	Pg	**Pn**	**21 36 55.1**	**+0.9**
PB05	**IPOC Station P**	**3.03**	**234**	*eP*	**Pn**	**21 36 57.5**	**+0.3**
PB05				*e*S	**Sn**	**21 37 34.8**	**-1.1**
PB05				IAML		21 37 36.3	
	comp=Z,99nm,0.2s						
SOET	**ToroToro**	**3.36**	**30**	Pg	**Pn**	**21 37 02.6**	**+1.1**
AOEA	**Aiquile**	**3.61**	**38**	Pg	**Pn**	**21 37 05.4**	**+0.9**
PB10	**IPOC Station P**	**3.69**	**228**	*eP*	**Pn**	**21 37 05.3**	**+0.2**
PB10				*e*S	**Sn**	**21 37 47.2**	**-3.1**
PB10				IAML		21 37 50.2	
	comp=Z,44nm,0.3s						
AZAP	**Zapla**	**3.90**	**144**	*eP*	**Pn**	**21 37 08.4**	**+0.4**
AZAP				IAML		21 37 56.6	
	comp=Z,58nm,0.4s						
AZAP				*e*S	**Sn**	**21 37 56.8**	**+1.5**
SLA	**San Lorenzo**	**4.11**	**153**	*eP*	**Pn**	**21 37 12.2**	**+1.8**
SOEJ	**Jacaque**	**4.11**	**352**	Pg	**Pn**	**21 37 13.9**	**+2.9**
BBOE	**La Paz, Chanca**	**4.25**	**355**	Pg	**Pn**	**21 37 15.6**	**+2.9**
PB14	**IPOC Station P**	**4.41**	**216**	*eP*	**Pn**	**21 37 14.9**	**+0.4**
PB14				*e*S	**Sn**	**21 38 05.0**	**-2.0**
PB14				IAML		21 38 07.2	
	comp=Z,30nm,0.5s						
GO02	**Mina Guanaco**	**4.49**	**204**	*eP*	**Pn**	**21 37 15.6**	**+0.1**
GO02				*e*S	**Sn**	**21 38 07.3**	**-1.5**
BBOD	**La Paz, Gloria**	**4.51**	**347**	Pg	**Pn**	**21 37 18.7**	**+2.6**
LPAZ	**La Paz**	**4.78**	**353**	*eP*	**Pn**	**21 37 21.6**	**+1.9**
LPAZ	**La Paz**	**4.78**	**353**	P	**Pn**	**21 37 21.3**	**+1.7**
	comp=Z,15nm,0.4s,baz=162,slow=6.3,SNR=109						
LPAZ				S	**Sn**	**21 38 16.1**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=299,slow=19,SNR=1.0						
LPAZ	**La Paz**	**4.78**	**353**	Pg	**Pn**	**21 37 21.5**	**+1.9**
SIV	**San Ignacio**	**7.96**	**52**	P	**Pn**	**21 37 58.5**	**-2.0**
	comp=Z,8.5nm,0.4s,baz=250,slow=12,SNR=29						
SIV				S	**Sn**	**21 39 22.4**	**-7.6**
	comp=Z,2.5nm,0.8s,baz=311,slow=19,SNR=5.7						
NNA	**Nana**	**12.67**	**314**	LR	LR	21 45 19.7	
	comp=Z,27nm,18.5s,baz=218,slow=43						
PLCA	**Paso Flores**	**19.77**	**187**	P	**Pn**	**21 40 26.2**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=14,slow=11,SNR=4.4						
TORD	**Torodi Ar. Bea**	**76.02**	**70**	P	**P**	**21 47 34.7**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=244,slow=4.7,SNR=5.7						
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**144.54**	**36**	PKP	**PKPdf**	**21 55 23.1**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=305,slow=2.6,SNR=5.2						

*NEIC **16** 21:37:55.9±1.0, 19°.417N±0°.005×155°.276W±0°.008, h5km±1km, Error ellipse: s-maj=1.8km s-min=1.3km az=185.0*
*HVO **16** 21:37:55.5±1.1, 19°.416N±0°.007×155°.276W±0°.008, h1km±1km, ML3.7/43, ML3.7/30(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=46.0*
*IDC **16** 21:37:56.7±20.0, 19°.74N×155°.34W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=414.1km s-min=57.4km az=36.0*

ISC 16 21:37:55.2±0.9, **19°.45N**±0°.03×**155°.27W**±0°.03, **h3**km±5km, **n41**, σ1§**05**/39, **mb3.8**/3, **Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSD	**Rainshed**	**0.01**	**343**	Pg	**Pg**	**21 37 56.4**	**+0.4**
RSD				Sg	**Sg**	**21 37 58.0**	**+1.5**
SBLHI	**Steaming Bluff**	**0.02**	**166**		**Pg**	**21 37 56.8**	**+0.8**
UWB	**Uwekahuna B**	**0.03**	**189**		**Pg**	**21 37 56.5**	**+0.5**
HATHI	**Halema'uma'u T**	**0.03**	**156**	Pg	**Pg**	**21 37 56.1**	**0.0**
OBL	**Observatory Le**	**0.03**	**196**		**Pg**	**21 37 56.1**	**0.0**
UWE	**Uwekahuna**	**0.03**	**212**	Pg	**Pg**	**21 37 56.2**	**0.0**
UWE					**Sg**	**21 37 56.9**	**+0.1**
BYL	**Byron's Ledge**	**0.04**	**161**	Pg	**Pg**	**21 37 56.0**	**-0.2**
BYL					**Sg**	**21 37 56.2**	**-0.7**
WRMHI	**West Rim**	**0.05**	**210**		**Pg**	**21 37 57.5**	**+1.1**
KKO	**Keanakako'i**	**0.05**	**172**		**Pg**	**21 37 53.3**	**+0.9**
RIM	**Rim**	**0.05**	**180**		**Pg**	**21 37 57.1**	**+0.7**
SDHHI	**Sand Hill**	**0.06**	**198**		**Pg**	**21 37 57.7**	**+1.1**
PUH	**Pauahi**	**0.09**	**144**	IAML		21 37 57.4	
	comp=N,44μm,1.1s						
PUH				Pg	**Pg**	**21 37 57.7**	**+0.6**
PUH				Sg	**Sg**	**21 37 59.4**	**+1.0**
MLH	**Mauna Loa**	**0.11**	**293**	Pg	**Pg**	**21 37 58.8**	**+1.3**
MLH				IAML		21 38 02.4	
	comp=N,35μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.12**	**125**	Pg	**Pg**	**21 37 58.1**	**+0.5**
STCH	**Steam Cracks**	**0.15**	**115**	Pg	**Pg**	**21 37 58.9**	**+0.6**
STCH				IAML		21 38 01.9	
	comp=E,21μm,1.1s						
STCH				IAML		21 38 02.4	
	comp=N,24μm,1.2s						
HLP	**Hilina Pali**	**0.16**	**192**	Pg	**Pg**	**21 37 58.7**	**+0.4**
HLP				IAML		21 37 59.5	
	comp=E,33μm,1.0s						
HLP				IAML		21 38 01.2	
	comp=N,34μm,0.9s						
HTC	**Hot Caves**	**0.24**	**209**		**Pg**	**21 38 00.3**	**+0.4**
HMH	**Humu'ula Sheep**	**0.25**	**308**	Pg	**Pg**	**21 38 01.2**	**+1.1**
HMH				IAML		21 38 04.9	
	comp=N,16μm,1.2s						
HMH				IAML		21 38 05.2	
	comp=E,11μm,1.0s						
JOKA	**Jonika Flow**	**0.26**	**94**	Pg	**Pg**	**21 38 01.4**	**+1.2**
JOKA				IAML		21 38 06.6	
	comp=E,10μm,1.3s						
MLOA	**Mauna Loa Obse**	**0.30**	**287**	Pg	**Pg**	**21 38 02.0**	**+0.9**
MLOA				IAML		21 38 06.7	
	comp=E,10μm,0.8s						
MWH	**Moku'aweowe**	**0.31**	**277**	Pg	**Pg**	**21 38 02.5**	**+1.3**
PAH	**Pahoa**	**0.31**	**82**	Pg	**Pg**	**21 38 02.1**	**+0.9**
PHO	**Puu Honuaula**	**0.36**	**85**	Pg	**Pg**	**21 38 02.3**	**+0.1**
KHU	**Kahuku**	**0.38**	**238**	Pg	**Pg**	**21 38 03.3**	**+0.7**
KHU				IAML		21 38 11.1	
	comp=E,7μm,0.8s						
KHU				IAML		21 38 11.4	
	comp=N,6μm,0.7s						
POHA	**Pohakuloa**	**0.39**	**321**	Pg	**Pg**	**21 38 04.2**	**+1.4**
HPO	**Honuapo**	**0.45**	**216**	Pg	**Pg**	**21 38 04.0**	**+0.3**
HUH	**Hualalai**	**0.58**	**294**	Pg	**Pg**	**21 38 07.6**	**+1.2**
I59US	**HAWAII INFRASO**	**0.60**	**284**	Pg	**Pg**	**21 38 07.2**	**+0.5**
	baz=116,slow=46						
HPAH	**Hawaii Prepara**	**0.70**	**325**	Pg	**Pg**	**21 38 08.1**	**-0.6**
MHA	**Mahukona**	**0.94**	**321**	Pg	**Pg**	**21 38 11.9**	**-1.4**
KHLH	**Kahului Airpor**	**1.80**	**323**	Pn	**Pn**	**21 38 24.6**	**-2.6**
KPA	**Kalaupapa**	**2.36**	**317**	Pn	**Pn**	**21 38 32.8**	**-2.1**
H11N3	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	22 21 58.4	
	baz=84,slow=74,SNR=16						
H11N2	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	22 21 58.9	
	baz=84,slow=74,SNR=13						
H11N1	**W

STCH					IAML				21 42 43.1
	comp=E,30µm,0.6s								
HTC	Hot Caves	0.19	216				Pg		21 42 40.4 -0.3
JOKA	Jonika Flow	0.26	81		Pg		Pg		21 42 41.0 -1.0
JOKA					IAML				21 42 49.0
	comp=N,28µm,1.2s								
JOKA					IAML				21 42 49.5
	comp=E,29µm,1.5s								
HMH	Humu'ula Sheep	0.28	317		Pg		Pg		21 42 41.7 -0.8
HMH					IAML				21 42 47.8
	comp=N,21µm,1.3s								
HMH					IAML				21 42 49.6
	comp=E,21µm,1.8s								
MWH	Moku'aweowe	0.31	287		Pg		Pg		21 42 42.3 -0.8
MLOA	Mauna Loa Obse	0.32	297		Pg		Pg		21 42 42.4 -0.7
MLOA					IAML				21 42 50.8
	comp=E,19µm,0.9s								
KHU	Kahuku	0.35	245		Pg		Pg		21 42 42.8 -0.9
KHU					IAML				21 42 52.3
	comp=N,7µm,1.3s								
KHU					IAML				21 42 53.6
	comp=E,17µm,0.7s								
PHO	Puu Honuaula	0.38	76		Pg		Pg		21 42 43.2 -1.0
HPO	Honuapo	0.40	221		Pg		Pg		21 42 43.4 -1.2
POHA	Pohakuloa	0.43	327		Pg		Pg		21 42 45.0 -0.4
POHA	Pohakuloa	0.43	327		IAML				21 42 58.2
	comp=E,17µm,2.8s								
HUH	Hualalai	0.60	299		Pg		Pg		21 42 48.0 -0.5
I59US	HAWAII INFRASO	0.61	289		Pg		Pg		21 42 50.0 +1.3
	baz=117,slow=30								
I59US					I		I		21 46 00.0
	comp=E,0.2nm,1.1s,baz=107,slow=329,SNR=5.3								
HPAH	Hawaii Prepara	0.75	328		Pg		Pg		21 42 49.6 -1.6
MHA	Mahukona	0.99	324		Pg		Pg		21 42 53.4 -2.4
HLK	Haleakala	1.64	326		Pn		Pn		21 43 04.1 -2.6
KHLH	Kahului Airpor	1.84	324		Pn		Pn		21 43 06.4 -2.9
KPA	Kalaupapa	2.40	318		Pn		Pn		21 43 13.9 -3.1
DHH	Diamond Head	3.01	309		Pn		Pn		21 43 22.1 -3.2
HON	Honolulu	3.20	307		Pn		Pn		21 43 25.9 -2.0
KIP	Kipapa	3.27	309		Pn		Pn		21 43 26.6 -2.2
KEKH	Kekaha	4.88	303		Pn		Pn		21 43 49.5 -1.6
O02D	Mt. Diablo Mer	34.70	46		P		P		21 49 28.2 +0.3
O02D					IAmb		IAmb		21 49 44.2
	comp=Z,13nm,1.2s								
SNCC	San Nicolas Is	34.71	59		P		P		21 49 24.8 -3.2
	baz=256								
SCZ2	Santa Cruz Isl	34.81	58		P		P		21 49 26.9 -2.0
	baz=254								
SBC	Santa Barbara	34.87	57		P		P		21 49 30.4 +1.0
	baz=254								
SMMC	Simmler	34.90	56		P		P		21 49 29.8 0.0
	baz=252								
PKM	Mcpherson Peak	34.92	56		P		P		21 49 29.9 -0.2
	baz=253								
NIKH	Nikolski High	35.14	346		P		P		21 49 32.0 +0.6
	baz=157								
SCI2	San Clemente I	35.44	60		P		P		21 49 33.0 -1.3
	baz=257								
AFDM	Forest Hills D	35.45	49		P		P		21 49 35.1 +0.8
AFDM					IAmb		IAmb		21 49 43.2
	comp=Z,27nm,2.0s								
UNV	Unalaska Valle	35.46	349		P		P		21 49 34.2 0.0
	baz=162								
YBH	Yreka Blue Hor	35.48	44		LR		LR		21 59 55.1
	comp=Z,356nm,21.5s,baz=258,slow=29								
CHNA	Chernabura Isl	35.53	356		P		P		21 49 34.2 -0.6
	baz=173								
H11N3	WAKE ISLAND Hy	35.58	277		T		T		22 26 43.3
	baz=84,slow=74,SNR=38								
H11N2	WAKE ISLAND Hy	35.59	277		T		T		22 26 44.1
	baz=84,slow=74,SNR=24								
H11N1	WAKE ISLAND Hy	35.60	277		T		T		22 26 46.0
	baz=84,slow=74,SNR=27								
CIS	Catalina Islan	35.65	59		P		P		21 49 32.7 -3.5
	baz=256								
VOG	Valley Oaks Go	35.69	54		P		P		21 49 36.2 -0.2
	baz=252								
OSI	Osito Audit: C	35.70	57		P		P		21 49 36.3 -0.4
	baz=254								
ARVC	Arvin	35.76	56		P		P		21 49 37.8 +0.7
	baz=254								
VES	Vestal, Richgr	35.77	55		P		P		21 49 37.9 +0.7
	baz=252								
FMP	Fort Macarthur	35.82	59		P		P		21 49 38.6 +1.0
	baz=256								
DECC	Green Verdugo	35.92	58		P		P		21 49 39.8 +1.3
	baz=255								
H11S2	WAKE ISLAND Hy	35.92	275		T		T		22 27 08.5
	baz=82,slow=74,SNR=14								
H11S1	WAKE ISLAND Hy	35.92	275		T		T		22 27 08.6
	baz=82,slow=74,SNR=9.4								
H11S3	WAKE ISLAND Hy	35.94	275		T		T		22 27 09.8
	baz=82,slow=74,SNR=10.0								
FALS	False Pass	35.94	352		P		P		21 49 39.9 +1.7
	baz=167								
SDPT	Sand Point	36.11	355		P		P		21 49 41.0 +1.3
	baz=172								
ISA	Isabella, Lake	36.19	56		P		P		21 49 41.6 +0.8
ISA					IAmb		IAmb		21 50 06.1
	comp=Z,32nm,1.9s								
ISA	Isabella, Lake	36.19	56		P		P		21 49 41.5 +0.6
	baz=253								
EDW2	Edwards Air Fo	36.35	57		P		P		21 49 42.8 +0.6
	baz=255								
WAKR	Walker	36.39	51		P		P		21 49 43.6 +1.0
WAKR					IAmb		IAmb		21 50 29.3
	comp=Z,23nm,1.8s								
BFSC	Mount Baldy Ra	36.46	58		P		P		21 49 43.7 +0.5
	baz=256								
MLAC	Mammoth, Mammo	36.53	52		P		P		21 49 44.4 +0.5
	baz=250								
109C	Camp Elliot, M	36.61	61		P		P		21 49 45.3 +0.9
	baz=258								
S12K	Black Hills	36.61	354		P		P		21 49 45.0 +0.9
	baz=169								
MURC	Murrieta	36.69	60		P		P		21 49 45.9 +0.9
	baz=257								
CWC	Cottonwood Cre	36.73	55		P		P		21 49 45.4 -0.1
	baz=253								
LRMC	Laurel Mtn Rad	36.76	56		P		P		21 49 45.6 -0.1
	baz=254								
TIN	Tinemaha, Big	36.80	54		P		P		21 49 46.0 -0.1
	baz=252								
PAHR	Pah Rah Range	36.88	49		P		P		21 49 47.0 +0.2
CHGN	Chignik	36.93	357		P		P		21 49 47.7 +1.0
	baz=175								
S14K	Fog Glacier	36.97	356		P		P		21 49 48.1 +0.9
	baz=173								
BBRC	Big Bear Solar	37.06	59		P		P		21 49 48.1 -0.3
	baz=256								
MPMC	Manual Prospec	37.07	55		P		P		21 49 48.0 -0.5
	baz=254								
DSP	Deep Springs	37.09	53		P		P		21 49 48.6 +0.2
DSP					IAmb		IAmb		21 49 57.6
	comp=Z,16nm,1.6s								
RRX	Edison Barstow	37.15	58		P		P		21 49 48.6 -0.4
	baz=256								
PPT	Papeete	37.16	171		LR		LR		22 00 47.4
	comp=Z,2µm,21.9s,baz=330,slow=29								
MONP2	Monument Peak	37.17	61		P		P		21 49 49.4 0.0
	baz=258								
PPT2	Papeete2	37.18	171		*e*P		P		21 49 50.7 +1.4
	comp=Z,114nm,22.5s								
PPT2					*e*S		S		21 55 37.0 +0.3
	comp=Z,387nm,25.0s								
PPT2					*e*LQ		LQ		21 58 04.2
	comp=Z,529nm,21.0s								
PPT2					*e*LR		LR		21 59 45.2
	comp=Z,3µm,27.0s								
PPT2					*e*LR		LR		21 59 45.9
	comp=Z,3µm,25.0s								
NVAR	Mina Array Bea	37.19	51		P		P		21 49 49.8 +0.2
NVAR	Mina Array Bea	37.19	51		P		P		21 49 50.8 +1.3
	comp=Z,1.2nm,0.8s,baz=238,slow=11,SNR=7.6								
NVAR					LR		LR		22 02 26.0
	comp=Z,268nm,20.2s,baz=259,slow=32								
	comp=Z,1.2nm,0.8s								
PFO	Pinyon Flats O	37.29	60		P		P		21 49 51.7 +1.4
	baz=258								
PFO	Pinyon Flats O	37.29	60		LR		LR		22 02 15.2
	comp=Z,167nm,20.6s,baz=256,slow=32								
TPFO	Pinon Flats	37.29	60		P		P		21 49 49.4 -0.9
	baz=258								
NV11	Mina Array Sit	37.30	51		P		P		21 49 50.7 +0.3
IKP	In-Ko-Pah, Jac	37.38	61		P		P		21 49 50.5 -0.5
	baz=259								
GSC	Goldstone, Bar	37.41	57		P		P		21 49 51.1 -0.1
	baz=255								
GRAC	Grapevine Rang	37.44	54		P		P		21 49 52.1 +0.6
	baz=252								
KVN	Kaiserville	37.56	51		P		P		21 49 53.2 +0.7
GMN	Gold Mountain	37.61	54		P		P		21 49 52.8 -0.3
HEC	Hector,Ludlow	37.66	58		P		P		21 49 54.6 +1.2
	baz=256								
FURC	Furnace Creek,	37.67	55		P		P		21 49 54.0 +0.7
	baz=254								
SWSC	Sam W. Stewart	37.69	61		P		P		21 49 52.8 -0.7
	baz=259								
GWY	Greenwater Val	37.74	56		P		P		21 49 53.6 -0.5
BELC	Belle Mtn. Jos	37.75	59		P		P		21 49 54.3 +0.1
	baz=257								
OHAK	Old Harbor	37.80	2		P		P		21 49 55.8 +1.7
	baz=183								
WCT	Wildcat Mounta	37.95	55		P		P		21 49 56.6 +0.8
SHOC	Shoshone, Teco	37.98	56		P		P		21 49 56.6 +0.6
	baz=255								
BC3	Big Chuckawall	38.12	60		P		P		21 49 57.7 +0.4
	baz=258								
R18K	Karluk	38.12	1		P		P		21 49 58.0 +1.2
	baz=181								
TUQ	Turquoise Moun	38.14	57		P		P		21 49 57.6 +0.1
	baz=256								
GMRC	Granite Mounta	38.19	58		P		P		21 49 58.0 +0.1
	baz=257								
R17L	Mt. Peulik Vol	38.19	359		P		P		21 49 58.2 +0.7
	baz=178								
TPNV	Topopah Spring	38.28	55		P		P		21 49 56.9 -1.8
	baz=254								
KDAK	Kodiak Island	38.39	2		P		P		21 50 00.0 +1.0
	baz=184								
KDAK	Kodiak Island	38.39	2		LR		LR		22 02 05.0
	comp=Z,906nm,21.5s,baz=207,slow=30								
IRM	Iron Mountain	38.47	59		P		P		21 50 00.7 +0.5
	baz=258								
GLA	Glamis	38.52	61		P		P		21 50 01.7 +1.1
	baz=260								
P08K	Saint George I	38.65	347		P		P		21 50 01.5 +0.3
	baz=158								
I07A	Izee	38.67	42		P		P		21 50 02.4 +0.5
Q17K	Contact Creek	38.82	359		P		P		21 50 03.9 +1.0
	baz=179								
BLYC	Blythe	38.90	60		P		P		21 50 03.7 +0.1
BBB	Bella Bella	39.00	27		LR		LR		22 02 11.5
	comp=Z,196nm,20.4s,baz=193,slow=30								
SHPR	Sheep Range	39.00	56		P		P		21 50 05.3 +0.6
NEE2	Needles Airpor	39.02	58		P		P		21 50 05.7 +0.9
	baz=258								
WTNK	Soaring Height	39.04	56		P		P		21 50 05.5 +0.6
R11B	Troy Canyon, C	39.19	53		P		P		21 50 07.3 +1.0
R11B	Troy Canyon, C	39.19	53		P		P		21 50 06.5 +0.1
	baz=252								
Q18K	Katmai Hardscr	39.21	0		P		P		21 50 07.8 +1.8
	baz=180								
Q20K	Shuyak Island	39.22	2		P		P		21 50 07.3 +1.3
	baz=184								
Q16K	King Salmon	39.25	359		P		P		21 50 07.0 +0.8
	baz=178								
PDMCI	Parker Dam,Lak	39.31	59		P		P		21 50 06.8 -0.4
	baz=258								
PRN	Pahroc Range	39.33	54		P		P		21 50 07.9 +0.5
SPIA	Saint Paul Isl	39.33	347		P		P		21 50 08.1 +1.1
	baz=157								
Q19K	Cape Douglas,	39.50	1		P		P		21 50 08.2 -0.3
	baz=182								
G08A	Pilot Rock	39.59	41		P		P		21 50 09.9 +0.4
P16K	Nushagak River	39.64	358		P		P		21 50 11.6 +2.1
	baz=176								
W13A	Hualapai Mount	39.68	58		P		P		21 50 10.8 +0.3
CRAG	Craig	39.72	20		P		P		21 50 11.3 +1.1
	baz=214								
P17K	Kvichak River	39.76	359		P		P		21 50 11.1 +0.6
	baz=178								
O15K	Ungalikthiuk R	39.87	356		P		P		21 50 12.0 +0.6
	baz=173								
P18K	Big Mountain,	39.95	0		P		P		21 50 11.1 -1.1
	baz=180								
Q12A	Willow Creek R	39.96	52		P		P		21 50 13.6 +0.9
214A	Organ Pipe Nat	40.03	63		P		P		21 50 12.0 -1.2
	baz=262								
O14K	Tigyukauivet M	40.05	355		P		P		21 50 11.9 -1.0
	baz=171								
V35K	Ketchikan	40.10	21		P		P		21 50 11.8 -1.5
	baz=216								
E08A	Dider Farm, El	40.11	39		P		P		21 50 14.9 +1.3
E08A					IAmb		IAmb		21 50 23.6
	comp=Z,23nm,1.6s								
O16K	Kokwok River B	40.20	358		P		P		21 50 12.8 -1.4
	baz=176								
ELK	Elko	40.21	49		P		P		21 50 15.1 +0.2
ELK	Elko	40.21	49		LR		LR		22 06 04.2
	comp=Z,234nm,18.1s,baz=254,slow=35								
P19K	Oil Pt	40.24	2		P		P		21 50 15.7 +1.2
	baz=183								
U33K	Whale Pass	40.26	19		P		P		21 50 15.8 +1.1
	baz=213								
HOM	Homer	40.30	3		P		P		21 50 14.9 -0.1
	baz=185								
O17K	Koliganek Bris	40.35	359		P		P		21 50 15.4 0.0
	baz=177								
O18K	Koktuh Hills	40.41	0		P		P		21 50 15.9 -0.1
	baz=180								
SIT	Sitka	40.43	17		P		P		21 50 14.9 -1.1
	baz=210								
BRSE	Bradley Lake S	40.43	4		P		P		21 50 16.0 -0.1
	baz=187								
Q23K	Middleton Isla	40.51	7		P		P		21 50 17.0 +0.3
	baz=193								
RAR	Rarotonga	40.59	186		LR		LR		22 03 11.0
	comp=Z,740nm,19.0s,baz=28,slow=30								
O20K	Slope Mountain	40.69	2		P		P		21 50 19.4 +1.1
	baz=184								
N14K	Kuskokwak Cree	40.75	355		P		P		21 50 19.6 +0.9
	baz=171								
N15K	Kwethluk River	40.88	356		P		P		21 50 20.6 +0.9
	baz=173								
SEW	Seward	40.88	4		P		P		21 50 21.0 +1.2
	baz=188								
SZCU	Shurtz Canyon	40.88	55		P		P		21 50 21.3 +0.8
SHEM	Shemya Is, Ala	40.88	332		LR		LR		22 03 40.6
	comp=Z,1µm,22.0s,baz=166,slow=31								
T33K	Petersburg	40.90	19		P		P		21 50 22.7 +2.7
	baz=213								
P23K	Montague Islan	40.95	6		P		P		21 50 22.6 +2.2
	baz=191								
F10A	Beach Ranch, E	40.98	41		P		P		21 50 21.7 +0.7
S32K	Killisnoo	40.99	17		P		P		21 50 20.4 -0.3
	baz=210								
U35K	Hyder	41.11	21		P		P		21 50 24.4 +2.7
	baz=218								
N16K	Nishlik Lake	41.11	357		P		P		21 50 22.9 +1.2
	baz=175								
N17K	Nushagak Hills	41.11	359		P		P		21 50 24.2 +2.5
	baz=177								
KAIM	Kayak Island	41.23	8		P		P		21 50 24.9 +2.2
	baz=196								
U15A	North Rim	41.23	57		P		P		21 50 24.5 +1.1
O22K	Cooper Landing	41.23	4		P		P		21 50 24.6 +1.9
	baz=188								
N18K	Kilae Creek	41.25	360		P		P		21 50 24.7 +1.8
	baz=179								
M13K	Dall Lake	41.38	354		P		P		21 50 24.8 +0.9
	baz=168								
N19K	Bonanza Creek	41.38	1		P		P		21 50 25.6 +1.6
N19K	Bonanza Creek	41.38	1		P		P		21 50 25.4 +1.4
	baz=181								
CAPN	Captain Cook N	41.44	3		P		P		21 50 24.9 +0.6
	baz=186								
M15K	Kasigluk River	41.44	356		P		P		21 50 25.6 +1.2
	baz=172								
R31K	City Hall, Gus	41.51	15		P		P		21 50 26.4 +1.5
	baz=208								
X16A	Lo Mia Camp, P	41.53	60		P		P		21 50 27.1 +1.3
BGLC	Bering Glacier	41.58	9		P		P		21 50 26.4 +0.9
	baz=197								
M14K	Bethel	41.59	355		P		P		21 50 25.1 -0.5
M14K					IAmb		IAmb		21 50 34.2
	comp=Z,29nm,1.4s								
M14K	Bethel	41.59	355		P		P		21 50 26.5 +0.9
	baz=170								
EYAK	Cordova Ski Ar	41.67	7		P		P		21 50 28.1 +1.9
	baz=194								
M16K	Timber Creek	41.67	357		P		P		21 50 28.1 +1.8
	baz=175								
M11K	Mekoryuk	41.68	352		P		P		21 50 29.2 +2.9
	baz=164								
MTPU	Mount Pierson	41.69	54		P		P		21 50 27.2 0.0
R32K	Eaglecrest	41.70	16		P		P		21 50 28.3 +1.7
	baz=210								
TUC	Tucson	41.78	63		P		P		21 50 30.0 +2.3
	baz=263								
WUAZ	Wupatki	41.78	58		P		P		21 50 28.8 +1.0
	baz=259								
MVU	Marysvale	41.78	54		P		P		21 50 27.8 0.0
HLID	Hailey	41.79	46		P		P		21 50 28.1 +0.4
HLID					IAmb		IAmb		21 50 36.6
	comp=Z,22nm,1.9s								
HLID	Hailey	41.79	46		P		P		21 50 29.3 +1.5
	baz=248								
DUG	Dugway, Tooele	41.79	51		P		P		21 50 29.6 +1.8
	baz=253								
N20K	Mount Spurr	41.82	2		P		P		21 50 30.5 +2.9
	baz=184								
SPCR	Spurr Chakacha	41.82	2		P		P		21 50 25.1 -2.5
	baz=184								
PNL	Peninsula	41.83	12		P		P		21 50 30.0 +2.4
	baz=203								
RC01	Rabbit Creek A	41.84	4		P		P		21 50 26.9 -0.8
	baz=188								
MESA	MESA	41.84	10		P		P		21 50 27.9 -0.1
	baz=199								
GLI	Glacier Island	41.85	6		P		P		21 50 26.0 -1.8
	baz=192								
BGU	Big Grassy Mou	41.85	50		P		P		21 50 28.8 +0.5
T35M	Bob Quinn	41.89	20		P		P		21 50 26.2 -2.0
	baz=217								
LPIG	La Paz	41.90	75		LR		LR		22 02 58.6
	comp=Z,373nm,21.8s,baz=254,slow=29								
M17K	Holitna River	41.99	358		P		P		21 50 28.8 -0.1
	baz=177								
M18K	Stony River	42.06	360		P		P		21 50 29.3 -0.1
	baz=179								
P29M	Windy Craggy	42.13	13		P		P		21 50 30.9 +0.7
	baz=205								
NEW	Newport	42.14	38		P		P		21 50 30.9 +0.6
	baz=240								
NEW	Newport	42.14	38		LR		LR		22 03 52.0
	comp=Z,119nm,21.2s,baz=222,slow=30								
SUA	Susitna One	42.15	3		P		P		21 50 32.0 +1.7
	baz=186								
CRQE	Cirque	42.21	9		P		P		21 50 31.9 +1.0
	baz=197								
BMRM	Bremner River	42.22	8		P		P		21 50 32.6 +1.7
	baz=195								
L14K	Kuka Creek	42.23	355		P		P		21 50 31.7 +0.9
	baz=170								
KNK	Knik Glacier	42.25	5		P		P		21 50 30.3 -0.8
	baz=190								
PLBC	Pleasant Camp	42.28	14		P		P		21 50 31.4 +0.1
	baz=207								
HVU	Hansel Valley	42.30	49		P		P		21 50 32.1 +0.1
HVU					IAmb		IAmb		21 50 39.9
	comp=Z,9.9nm,0.8s								
S34M	Telegraph Cree	42.36	19		P		P		21 50 32.4 +0.4
	baz=215								
L16K	Owhat River	42.38	357		P		P		21 50 32.0 -0.1
	baz=174								
PMR	Palmer	42.38	4		P		P		21 50 31.6 -0.4
	baz=189								
SPUT	South Promonto	42.39	49		P		P		21 50 33.2 +0.5
L15K	Ungalak Mounta	42.47	356		P		P		21 50 33.0 +0.2
	baz=171								
M22K	Willow	42.48	4		P		P		21 50 33.4 +0.6
	baz=187								
M19K	Big River Lodg	42.48	1		P		P		21 50 32.1 -0.8
	baz=181								
M20K	Styx River	42.48	2		P		P		21 50 34.3 +1.4
M20K	Styx River	42.48	2		P		P		21 50 32.6 -0.4
	baz=183								
SKAG	Skagway	42.53	15		P		P		21 50 32.5 -0.8
	baz=208								
KLU	Klutina	42.57	7		P		P		21 50 33.8 +0.1
	baz=193								
O29M	Mount Kennedy	42.57	12		P		P		21 50 34.8 +0.9
	baz=204								
SKT	Skwentna	42.63	3		P		P		21 50 34.9 +0.8
SKT					IAmb		IAmb		21 50 37.0
	comp=Z,23nm,1.5s								
SKT	Skwentna	42.63	3		P		P		21 50 34.6 +0.5
	baz=185								
SML	Sawmill	42.65	5		P		P		21 50 33.5 -0.9
	baz=190								
CTG	Chitna Glacier	42.69	10		P		P		21 50 35.7 +1.0
	baz=200								
M23K	Glacier View	42.69	5		P		P		21 50 35.8 +1.1
	baz=190								
O28M	Mount Upton	42.70	11		P		P		21 50 35.5 +0.4
	baz=201								
P30M	Million Dollar	42.75	13		P		P		21 50 36.5 +1.4
	baz=206								
L19K	White Mountain	42.75	0		P		P		21 50 36.7 +1.6
L19K					IAmb		IAmb		21 50 44.1
	comp=Z,13nm,1.1s								
L19K	White Mountain	42.75	0		P		P		21 50 35.0 -0.2
	baz=181								
L17K	Donlin	42.76	358		P		P		21 50 35.0 -0.1
	baz=176								
SCM	Sheep Creek Mo	42.77	6		P		P		21 50 36.3 +1.0
SCM					IAmb		IAmb		21 50 40.1
	comp=Z,11nm,1.0s								
SCM	Sheep Creek Mo	42.77	6		P		P		21 50 35.7 +0.4
	baz=191								
X18A	Snowflake	42.77	60		P		P		21 50 36.4 +0.5
HMU	Henry Mountain	42.77	55		P		P		21 50 35.5 -0.5
L18K	Granite Mounta	42.80	359		P		P		21 50 35.8 +0.4
L18K	Granite Mounta	42.80	359		P		P		21 50 35.7 +0.2
	baz=178								
MCARA	McCarthy VSAT	42.83	9		P		P		21 50 37.2 +1.5
	baz=197								
N25K	Chitina, Valde	42.84	7		P		P		21 50 36.6 +0.7
	baz=195								
TBI	Tubuai	42.86	172		*e*P		P		21 50 33.1 -3.2
	comp=Z,515nm,24.2s								
TBI					*e*S		S		21 57 00.6 -0.9
	comp=Z,821nm,23.2s								
TBI					*e*LQ		LQ		22 00 34.7
	comp=Z,4µm,42.0s								
TBI					*e*LR		LR		22 02 21.2
	comp=Z,12µm,28.5s								
TBI					*e*LR		LR		22 02 23.7
	comp=Z,2µm,27.0s								
Q32M	Nakina River	42.90	17		P		P		21 50 36.4 -0.2
	baz=213								
W18A	Petrified Fore	43.03	59		P		P		21 50 37.6 -0.4
	baz=261								
P32M	Atlin	43.05	16		P		P		21 50 37.1 -0.5
	baz=210								
L20K	Farewell, AK	43.06	1		P		P		21 50 38.4 +0.8
	baz=182								
K15K	Wolf Creek Mou	43.08	356		P		P		21

baz=194
BPMT Black Pine Rid 43.55 42 P P 21 50 42.4 +0.3
YUK3 Moose Creek 43.60 10 P P 21 50 44.3 +2.1
baz=200
R33M Jennings River 43.64 18 P P 21 50 44.6 +2.1
baz=214
WAT1 Susitna Watana 43.65 4 P P 21 50 44.5 +2.1
baz=189
DLMT Dillon 43.67 44 P P 21 50 43.2 +0.3
DLMT IAmb IAmb 21 50 58.2
comp=Z,13nm,1.3s
J14K Nanvaranak Lak 43.70 354 P P 21 50 43.2 +0.5
baz=169
M26K Nabesna, AK 43.81 8 P P 21 50 44.1 +0.4
M26K IAmb IAmb 21 50 53.3
comp=Z,15nm,1.0s
M26K Nabesna, AK 43.81 8 P P 21 50 42.8 -0.9
baz=197,SNR=7.4
P33M Teslin, Yukon 43.82 16 P P 21 50 42.4 -1.4
baz=211
M27K Edge Creek, AK 43.93 9 P P 21 50 45.9 +1.1
M27K IAmb IAmb 21 50 54.8
comp=Z,13nm,1.0s
M27K Edge Creek, AK 43.93 9 P P 21 50 45.7 +0.9
baz=198
N30M Aishikik Lake 43.93 12 P P 21 50 44.7 0.0
baz=205
K20K Telida 43.94 1 P P 21 50 43.0 -1.7
baz=182
DHY Denali Highway 43.98 5 P P 21 50 45.2 0.0
DHY IAmb IAmb 21 50 54.2
comp=Z,11nm,1.0s
DHY Denali Highway 43.98 5 P P 21 50 44.7 -0.5
baz=191
J16K Anvik River 44.01 357 P P 21 50 46.7 +1.5
baz=173
J17K VABM Dome 44.05 358 P P 21 50 46.0 +0.5
baz=175
J18K Innoko River 44.05 359 P P 21 50 46.1 +0.5
J18K IAmb IAmb 21 50 53.4
comp=Z,13nm,1.3s
J18K Innoko River 44.05 359 P P 21 50 46.0 +0.5
baz=178
PAX Paxson 44.06 6 P P 21 50 44.4 -1.4
baz=193,SNR=14
OVMT Ovando 44.08 41 P P 21 50 46.5 +0.3
FXWY Fox Creek 44.12 47 P P 21 50 46.9 +0.2
TPAW Teton Pass 44.13 47 P P 21 50 48.8 +2.0
TPAW IAmb IAmb 21 50 57.7
comp=Z,17nm,1.2s
REDW Red Top Meadow 44.15 47 P P 21 50 47.2 +0.2
RND Reindeer 44.20 4 P P 21 50 47.2 +0.3
RND IAmb IAmb 21 50 55.0
comp=Z,31nm,1.6s
KTH Kantishna Hill 44.23 3 P P 21 50 46.7 -0.4
N31M Braeburn, Yuko 44.23 13 P P 21 50 48.1 +1.0
baz=207
RDMU Red Mountain 44.28 51 P P 21 50 48.6 +0.5
RDMU IAmb IAmb 21 50 57.4
comp=Z,14nm,1.2s
121A Cookes Peak, D 44.32 63 P P 21 50 49.3 +0.8
baz=265
L26K Log Cabin Wild 44.37 8 P P 21 50 48.9 +0.7
baz=196
MVCO Mesa Verde 44.37 56 P P 21 50 49.1 +0.2
baz=260
BOZ Bozeman (W) 44.39 44 P P 21 50 50.0 +1.2
BOZ IAmb IAmb 21 50 54.4
comp=Z,11nm,1.6s
BOZ Bozeman (W) 44.39 44 P P 21 50 49.4 +0.6
baz=249
LYMT Lyon Mountain 44.49 42 P P 21 50 49.2 -0.4
CHUM Lake Minchumin 44.50 2 P P 21 50 48.0 -1.1
baz=184
MCK McKinley 44.52 4 P P 21 50 50.1 +0.8
baz=188
N32M Quiet Lake 44.56 15 P P 21 50 50.6 +0.9
baz=210
M29M Somme Creek 44.57 11 P P 21 50 49.3 -0.5
baz=203,SNR=9.9
J19K Poorman 44.57 360 P P 21 50 50.2 +0.5
baz=180
L27K Beaver Creek, 44.60 9 P P 21 50 51.7 +1.6
L27K Beaver Creek, 44.60 9 P P 21 50 51.1 +1.0
baz=198
BCAR Beaver Creek A 44.61 9 P P 21 50 51.6 +1.4
I17K Unalakleet 44.61 357 P P 21 50 51.8 +1.8
baz=173
H17A Grant Village 44.68 46 P P 21 50 50.9 -0.2
baz=251
J20K Nowinta River 44.76 1 P P 21 50 51.8 +0.6
baz=182
BPAW Bear Paw Mtn. 44.77 3 P P 21 50 53.7 +2.4
baz=186
K24K Donnelly Dome 44.85 6 P P 21 50 53.7 +1.7
baz=193
WTLY Watson Lake, Y 44.86 18 P P 21 50 53.7 +1.6
baz=217
BW06 Boulder Array 44.88 48 P P 21 50 53.8 +1.0
baz=253
PD31 Pinedale Array 44.88 48 P P 21 50 53.3 +0.5
PD31 IAmb IAmb 21 51 01.8
comp=Z,8.8nm,1.4s
PDAR Pinedale Array 44.88 48 P P 21 50 53.3 +0.5
PDAR Pinedale Array 44.88 48 P P 21 50 54.4 +1.5
comp=Z,1.8nm,1.0s,baz=226,slow=6.0,SNR=9.8
PDAR LR LR 22 09 18.5
comp=Z,54nm,18.1s,baz=266,slow=36
comp=Z,1.8nm,1.0s
BWN Browne 44.92 4 P P 21 50 52.5 0.0
M30M Minto, Yukon 45.00 12 P P 21 50 53.8 +0.5
M30M IAmb IAmb 21 51 03.2
comp=Z,11nm,1.4s
M30M Minto, Yukon 45.00 12 P P 21 50 54.6 +1.3
baz=205
TOAD Toad River Com 45.03 22 P P 21 50 55.4 +1.9
baz=222
LIRD Liard River Hi 45.16 21 P P 21 50 56.1 +1.6
baz=220
O20A White River Ci 45.16 52 P P 21 50 57.0 +2.0
baz=257
M31M Drury Creek, Y 45.17 14 P P 21 50 55.9 +1.3
baz=208
Y22D IRIS PASSCAL I 45.19 61 P P 21 50 56.9 +1.5
baz=264
SCRK Sand Creek 45.21 7 P P 21 50 56.7 +1.8
SCRK IAmb IAmb 21 51 02.9
comp=Z,29nm,1.8s
SCRK Sand Creek 45.21 7 P P 21 50 56.9 +1.9
baz=195
L29M L29M 45.24 11 P P 21 50 53.2 -1.9
baz=203
HDA Harding Lake 45.34 5 P P 21 50 55.7 -0.1
HDA IAmb IAmb 21 51 04.8
comp=Z,16nm,1.3s
HDA Harding Lake 45.34 5 P P 21 50 57.9 +2.1
baz=191
GCSA Galena City Sc 45.34 359 P P 21 50 57.9 +2.1
baz=178
NEA2 Nenana 45.36 4 P P 21 50 56.7 +0.7
NEA2 Nenana 45.36 4 P P 21 50 56.8 +0.7
baz=188
I20K Naaghedeneel 45.38 0 P P 21 50 57.3 +1.2
baz=181
FARO Faro, Yukon 45.43 14 P P 21 50 58.6 +2.0
baz=210
H16K Elim 45.46 356 P P 21 50 58.9 +2.1
baz=171
K27K Chicken 45.49 8 P P 21 50 59.9 +2.8
baz=198
H17K Granite Mounta 45.62 357 P P 21 50 59.5 +1.4
baz=174
ANM Nome 45.65 354 P P 21 51 00.0 +1.8
baz=167
ANMO Albuquerque 45.67 60 P P 21 51 00.0 +0.8
baz=263
ANMO Albuquerque 45.67 60 LR LR 22 07 08.6
comp=Z,162nm,20.0s,baz=354,slow=32
J25K Salcha River, 45.68 6 P P 21 50 58.3 -0.3
J25K IAmb IAmb 21 51 07.6
comp=Z,13nm,1.1s
J25K Salcha River, 45.68 6 P P 21 51 01.5 +2.9
baz=193,SNR=12
IL31 45.70 5 P P 21 50 59.1 +0.5
IL31 IAmb IAmb 21 51 16.5
comp=Z,10.0nm,1.2s
ILAR Eielson Array 45.70 5 P P 21 50 58.1 -0.5
ILAR Eielson Array 45.70 5 P P 21 50 59.0 +0.3
comp=Z,2.6nm,0.8s,baz=196,slow=7.1,SNR=26
ILAR LR LR 22 05 47.0
comp=Z,465nm,21.9s,baz=186,slow=30
comp=Z,2.6nm,0.8s
MLY Manley 45.71 3 P P 21 50 59.3 +0.5
MLY IAmb IAmb 21 51 05.7
comp=Z,16nm,1.4s
MLY Manley 45.71 3 P P 21 51 00.2 +1.4
baz=186
COLA College 45.73 4 P P 21 50 60.0 +1.1
baz=190
J26L Joseph Creek 45.76 7 P P 21 51 02.3 +3.0
baz=196,SNR=6.4
S22A 4UR Ranch, Cre 45.77 56 P P 21 51 01.6 +1.6
baz=260
H18K Honhosa River 45.78 358 P P 21 51 00.1 +0.8
baz=176
RLMT Red Lodge 45.79 45 P P 21 51 00.1 +0.1
baz=251
I23K Minto, Yukon-K 45.90 3 P P 21 51 00.7 +0.5
I23K IAmb IAmb 21 51 03.9
comp=Z,9.4nm,1.1s
I23K Minto, Yukon-K 45.90 3 P P 21 51 00.4 +0.2
baz=188
DAWY Dawson 45.92 10 P P 21 51 01.2 +0.7
baz=201
G15K Niukluk 45.95 355 P P 21 51 02.1 +1.5
baz=168
POKR Poker Plat Res 46.00 5 P P 21 51 00.5 -0.5
baz=190
K29M Barlow Dome 46.03 11 P P 21 51 01.4 -0.1
baz=204
H20K Anotleneega Mo 46.08 0 P P 21 51 01.8 +0.1
baz=180
MAYO Mayo, Yukon 46.10 12 P P 21 51 02.6 +0.7
baz=206
H19K Roundabout Mou 46.12 359 P P 21 51 02.7 +0.8
baz=178
TGTN Hyland Airport 46.15 18 P P 21 51 01.3 -1.1
baz=216
G16K Koyuk River 46.22 356 P P 21 51 03.8 +1.1
baz=171
G17K Kiwalik Mounta 46.22 357 P P 21 51 03.2 +0.5
baz=173
MMPY Sheldon Lake, 46.27 15 P P 21 51 02.5 -0.7
baz=212
H21K Melozitna Rive 46.27 1 P P 21 51 03.0 -0.2
baz=183
MNTX Cornudas Mount 46.30 64 P P 21 51 02.0 -1.9
baz=267
EGAK Eagle 46.33 8 P P 21 51 03.8 +0.2
EGAK IAmb IAmb 21 51 12.2
comp=Z,8.7nm,0.9s
EGAK Eagle 46.33 8 P P 21 51 04.2 +0.5
baz=198,SNR=7.7
KOTAN Kotaneelee Air 46.39 21 P P 21 51 04.1 -0.1
baz=222
J29N Klondike Camp 46.47 10 P P 21 51 05.8 +1.0
baz=202
EGMT Eagleton 46.48 41 P P 21 51 04.9 -0.3
baz=248
G18K Tagagawik 46.53 358 P P 21 51 06.0 +0.8
baz=176
H22K Ishtalitna Cre 46.55 2 P P 21 51 05.8 +0.4
baz=185
PRP Porcupine Dome 46.55 6 P P 21 51 05.2 -0.4
baz=193
H23K Yukon River 46.56 3 P P 21 51 06.5 +1.0
H23K IAmb IAmb 21 51 24.9
comp=Z,12nm,1.3s
H23K Yukon River 46.56 3 P P 21 51 06.2 +0.7
baz=187
I26K Coal Creek Min 46.59 7 P P 21 51 05.8 +0.1
baz=196
F14K Arctic Creek 46.63 354 P P 21 51 06.5 +0.4
baz=166
H24K Noodor Dome 46.68 4 P P 21 51 06.9 +0.5
H24K Noodor Dome 46.68 4 P P 21 51 05.8 -0.6
baz=190
F15K North Star Dit 46.70 355 P P 21 51 06.0 -0.5
baz=168
G19K Purcell Mounta 46.74 359 P P 21 51 08.0 +1.1
baz=178
SDCO Great Sand Dun 46.81 56 P P 21 51 06.7 -1.5
baz=261
TNA Tin City 46.90 353 P P 21 51 08.8 +0.8
baz=164
J30M Hart River 46.91 11 P P 21 51 08.7 +0.3
J30M IAmb IAmb 21 51 15.8
comp=Z,4.8nm,0.9s
J30M Hart River 46.91 11 P P 21 51 09.9 +1.5
baz=205
K22A Casper 47.00 49 P P 21 51 09.6 +0.1
baz=256
N23A Red Feather La 47.03 52 P P 21 51 09.8 -0.1
N23A Red Feather La 47.03 52 P P 21 51 09.8 -0.1
baz=258
I27K Kandik River 47.06 8 P P 21 51 10.4 +1.0
baz=198
ISCO Idaho Springs 47.07 53 P P 21 51 10.4 +0.1
baz=259
G21K Allakaket 47.12 1 P P 21 51 10.2 +0.4
baz=182
I28M Miner Creek 47.14 9 P P 21 51 10.8 +0.7
I28M IAmb IAmb 21 51 20.6
comp=Z,12nm,1.2s
I28M Miner Creek 47.14 9 P P 21 51 10.1 -0.1
baz=200
F17K Baldwin Pennin 47.19 357 P P 21 51 10.8 +0.5
baz=172
H25L Birch Creek 47.26 5 P P 21 51 11.7 +0.8
baz=192
F18K Selawik 47.27 358 P P 21 51 11.1 +0.2
baz=174
Q24A Divide 47.28 55 P P 21 51 11.0 -0.9
baz=260
I29M Ogilvie Camp, 47.30 10 P P 21 51 12.4 +1.1
I29M IAmb IAmb 21 51 19.9
comp=Z,4.0nm,0.8s
I29M Ogilvie Camp, 47.30 10 P P 21 51 10.3 -0.9
baz=202
G23K Bananza Creek 47.42 3 P P 21 51 12.9 +0.7
G23K IAmb IAmb 21 51 19.4
comp=Z,19nm,1.7s
G23K Bananza Creek 47.42 3 P P 21 51 11.6 -0.6
baz=187
F19K Shaleruckik Mo 47.45 359 P P 21 51 13.7 +1.3
F19K Shaleruckik Mo 47.45 359 P P 21 51 12.9 +0.6
baz=177
PHWY Pilot Hill 47.48 51 P P 21 51 13.4 0.0
PHWY IAmb IAmb 21 51 21.4
comp=Z,7.8nm,1.1s
I30M Mount Dempster 47.49 11 P P 21 51 14.9 +2.0
I30M IAmb IAmb 21 51 22.1
comp=Z,9.1nm,1.1s
I30M Mount Dempster 47.49 11 P P 21 51 12.8 -0.1
baz=204,SNR=12
G24K Hadweenzic Riv 47.56 4 P P 21 51 11.7 -1.6
baz=190
G22K Bettles 47.57 2 P P 21 51 13.9 +0.6
baz=185
T25A Trinidad 47.59 57 P P 21 51 12.4 -1.8
baz=263
F20K Avaraart Lake 47.64 360 P P 21 51 13.6 -0.2
baz=179
H27K Steamboat Moun 47.67 7 P P 21 51 13.9 -0.3
baz=198
TX31 Lajitas Ar. Si 47.72 68 P P 21 51 16.3 +1.1
TX31 IAmb IAmb 21 51 26.9
comp=Z,13nm,1.2s
TXAR Lajitas Array 47.72 68 P P 21 51 15.6 +0.4
TXAR Lajitas Array 47.72 68 P P 21 51 16.1 +0.8
comp=Z,3.9nm,0.8s,baz=257,slow=8.1,SNR=31
TXAR LR LR 22 07 16.4
comp=Z,81nm,21.7s,baz=242,slow=31
comp=Z,3.9nm,0.8s
G25K Bearman Lake 47.73 5 P P 21 51 14.9 +0.4
baz=192
F21K Alatna River 47.83 1 P P 21 51 16.4 +1.1
F21K Alatna River 47.83 1 P P 21 51 15.4 0.0
baz=182,SNR=5.6
E17K Hotham Inlet 47.86 357 P P 21 51 16.0 +0.4
baz=172
COLD Coldfoot 47.93 3 P P 21 51 16.5 +0.4
baz=186
E19K Redstone River 48.06 359 P P 21 51 18.7 +1.6
E19K Redstone River 48.06 359 P P 21 51 17.2 +0.1
baz=178
H29M Whitestone 48.09 9 P P 21 51 18.8 +1.4
H29M Whitestone 48.09 9 P P 21 51 17.4 0.0
baz=202,SNR=10
G26K Porcupine Rive 48.12 6 P P 21 51 19.0 +1.5
baz=195
E18K Tukpahlearik C 48.13 357 P P 21 51 17.8 +0.1
baz=173
F22K John River 48.14 2 P P 21 51 17.8 0.0
baz=184,SNR=13
G27K Doyon Strip 48.21 7 P P 21 51 18.3 0.0
baz=197
F24K Squaw Lake 48.34 4 P P 21 51 19.7 +0.3
baz=189
EPYK Eagle Plains 48.49 10 P P 21 51 22.6 +2.1
EPYK Eagle Plains 48.49 10 P P 21 51 21.4 +1.0
baz=204
BMAR Burnt Mountain 48.51 5 P P 21 51 21.9 +1.2
D17K Noatak River 48.55 356 P P 21 51 21.3 +0.4
baz=170
F25K Christian Rive 48.58 5 P P 21 51 21.1 0.0
baz=192
MSTX Muleshoe 48.62 61 P P 21 51 22.3 +0.2
baz=266
E23K Chandalar 48.78 3 P P 21 51 24.1 +1.3
baz=187
G29M Pine Creek 48.79 9 P P 21 51 23.6 +0.9
G29M Pine Creek 48.79 9 P P 21 51 23.8 +1.0
baz=202
F26K Sheenjek River 48.80 6 P P 21 51 25.9 +3.0
baz=194,SNR=7.1
E20K Nigu River 48.86 360 P P 21 51 24.9 +1.6
baz=179
E24K Your Creek 48.86 3 P P 21 51 23.1 -0.3
E24K Your Creek 48.86 3 P P 21 51 25.3 +1.9
baz=188
RDOG Red Dog Mine 48.89 356 P P 21 51 25.2 +1.7
baz=170
WRGLY Wrigley 48.89 18 P P 21 51 24.8 +1.3
baz=221
E21K Killik River 49.04 1 P P 21 51 26.6 +1.8
baz=182
SAND Sanderson 49.06 67 P P 21 51 25.9 +0.3
SAND IAmb IAmb 21 51 32.2
comp=Z,8.5nm,0.9s
E25K Arctic Village 49.10 5 P P 21 51 26.8 +1.6
baz=192
RSSD Black Hills 49.11 48 P P 21 51 26.5 +0.7
RSSD IAmb IAmb 21 51 33.9
comp=Z,14nm,1.2s
RSSD Black Hills 49.11 48 P P 21 51 26.2 +0.3
baz=257
D19K Kuna River 49.12 359 P P 21 51 26.3 +1.0
baz=176
G30M tAoh Zraii Nji 49.13 10 P P 21 51 25.9 +0.4
G30M IAmb IAmb 21 51 32.9
comp=Z,16nm,1.4s
G30M tAoh Zraii Nji 49.13 10 P P 21 51 26.0 +0.6
baz=204
F28M Old Crow 49.20 8 P P 21 51 26.5 +0.6
F28M IAmb IAmb 21 51 35.2
comp=Z,7.6nm,1.0s
F28M Old Crow 49.20 8 P P 21 51 27.2 +1.3
baz=199
KSCO Kaye Shedlock' 49.23 55 P P 21 51 29.1 +2.4
KSCO Kaye Shedlock' 49.23 55 P P 21 51 27.3 +0.6
baz=262
C16K Lisburne Hills 49.28 355 P P 21 51 27.5 +1.1
baz=167
D20K Etivluk River 49.32 359 P P 21 51 28.1 +1.3
baz=178
C17K DeLong Mountai 49.32 356 P P 21 51 28.5 +1.7
baz=170
TOLK Toolik Lake Re 49.37 3 P P 21 51 29.2 +2.0
baz=187
C18K Utukok River 49.38 357 P P 21 51 28.6 +1.3
baz=173
G31M Satah River 49.41 11 P P 21 51 27.8 +0.4
G31M IAmb IAmb 21 51 33.9
comp=Z,9.3nm,0.9s
G31M Satah River 49.41 11 P P 21 51 29.6 +2.2
baz=206,SNR=8.0
D22K Ayikyak River 49.51 1 P P 21 51 28.9 +0.7
baz=183
E27K Coleen River 49.54 7 P P 21 51 29.4 +0.9
E27K IAmb IAmb 21 51 37.9
comp=Z,12nm,1.4s
E27K Coleen River 49.54 7 P P 21 51 29.2 +0.6
baz=197
AMTX Amarillo 49.58 60 P P 21 51 28.4 -1.0
baz=266
D23K Nanushuk River 49.65 2 P P 21 51 29.3 0.0
baz=186,SNR=8.4
C21K Knifeblade Rid 49.76 0 P P 21 51 30.2 +0.1
baz=181
C19K Lookout Ridge 49.78 358 P P 21 51 30.0 -0.3
baz=175
F30M Barrier River 49.78 10 P P 21 51 30.6 +0.3
baz=204
D24K Happy Valley 49.91 3 P P 21 51 30.4 -0.9
baz=188
OZNA Ozona 49.92 66 P P 21 51 32.2 +0.1
OZNA IAmb IAmb 21 51 38.3
comp=Z,8.8nm,0.8s
SGCY Sterling City 49.93 64 P P 21 51 33.3 +1.3
OGNE Ogallala 49.96 52 P P 21 51 31.3 -0.9
baz=261
F31M Tsiigehtchic 49.96 11 P P 21 51 33.2 +1.5
F31M Tsiigehtchic 49.96 11 P P 21 51 32.0 +0.4
baz=207
B18K Kokolik River 50.13 357 P P 21 51 32.6 -0.3
baz=172
DGMT Dagmar 50.13 42 P P 21 51 32.1 -1.3
baz=253
DKNS Dickens 50.14 62 P P 21 51 33.9 +0.2
DKNS IAmb IAmb 21 51 43.0
comp=Z,13nm,1.0s
E28M Babbage River 50.18 7 P P 21 51 33.3 0.0
E28M Babbage River 50.18 7 P P 21 51 33.3 0.0
baz=200
E29M Blow River 50.19 8 P P 21 51 33.6 +0.3
E29M IAmb IAmb 21 51 41.8
comp=Z,6.5nm,1.1s
E29M Blow River 50.19 8 P P 21 51 33.1 -0.3
baz=202
D25K Kavik River 50.22 4 P P 21 51 34.4 +0.7
D25K IAmb IAmb 21 51 43.0
comp=Z,15nm,1.4s
D25K Kavik River 50.22 4 P P 21 51 32.7 -1.0
baz=191
B21K Ikpikpuk River 50.23 0 P P 21 51 35.1 +1.4
baz=181
DRIO Del Rio 50.38 67 P P 21 51 35.6 +0.1
DRIO IAmb IAmb 21 51 41.1
comp=Z,6.1nm,0.8s
C24K Franklin Bluff 50.48 3 P P 21 51 37.0 +1.4
baz=188
C23K Itkillik River 50.52 2 P P 21 51 36.8 +0.9
C23K IAmb IAmb 21 51 39.3
comp=Z,22nm,1.4s
C23K Itkillik River 50.52 2 P P 21 51 34.6 -1.2
baz=186
D27M Malcolm River 50.62 7 P P 21 51 37.1 +0.4
baz=198
B20K Meade River 50.62 359 P P 21 51 37.2 +0.5
baz=178
C27K Jago River 50.73 5 P P 21 51 35.9 -1.6
baz=194
INK Inuvik 50.78 10 P P 21 51 37.0 -0.8
INK IAmb IAmb 21 51 46.2
comp=Z,10nm,1.0s
INK Inuvik 50.78 10 P P 21 51 37.5 -0.3
baz=207
INK Inuvik 50.78 10 LR LR 22 09 15.9
comp=Z,481nm,21.4s,baz=182,slow=32
APMT Aspermont 50.80 62 P P 21 51 37.5 -1.1
APMT IAmb IAmb 21 51 47.5
comp=Z,31nm,1.8s
C26K Camden Bay 50.91 5 P P 21 51 38.9 +0.1
baz=193
A19K Wainwright 50.93 357 P P 21 51 39.5 +0.5
baz=173
B22K Teshekpuk Lake 50.96 1 P P 21 51 39.2 +0.1
baz=182
D28M Stokes Point 50.96 7 P P 21 51 39.6 +0.4
baz=200
JCT Junction City 51.07 66 P P 21 51 40.0 -0.7

baz=271
ABTX Abilene, Hawle 51.19 63 P **P 21 51 42.8 +1.2**
ABTX IAmb IAmb 21 51 50.5
comp=Z,16nm,1.1s
ABTX Abilene, Hawle 51.19 63 P **P 21 51 40.6 -1.0**
baz=270
YKA Yellowknife Ar 51.34 23 P **P 21 51 43.4 +1.2**
comp=Z,2.1nm,0.8s,baz=230,slow=7.2,SNR=3.6
YKA LR LR 22 10 17.0
comp=Z,145nm,20.9s,baz=242,slow=32
comp=Z,2.1nm,0.8s
CBKS Cedar Bluff 51.44 55 P **P 21 51 42.5 -0.9**
baz=264
833A Chaparral WMA, 51.50 69 P **P 21 51 43.2 -0.7**
baz=273
HNDO Hondo 51.55 67 P **P 21 51 45.3 +1.1**
HNDO IAmb IAmb 21 51 53.8
comp=Z,6.2nm,0.9s
A22K Sinclair Lake 51.61 0 P **P 21 51 45.5 +1.4**
baz=180
U32A Winter Ranch, 51.84 59 P **P 21 51 46.6 +0.2**
U32A IAmb IAmb 21 51 51.4
comp=Z,12nm,0.7s
A21K Barrow 51.94 359 P **P 21 51 46.9 +0.4**
baz=178
WMOK Wichita Mounta 51.95 61 P **P 21 51 47.6 +0.3**
baz=268
K30B Basset 52.01 51 P **P 21 51 46.6 -1.0**
HNR Honiara 52.60 241 LR LR 22 12 14.0
comp=Z,2μm,19.4s,baz=43,slow=34
KAN14 Manchester OK 52.71 58 P **P 21 51 52.0 -0.8**
KAN14 IAmb IAmb 21 52 02.8
comp=Z,12nm,1.3s
SUSD Miller 52.75 48 P **P 21 51 52.9 -0.1**
baz=261
KAN01 Argonia South 52.88 58 P **P 21 51 55.3 +1.2**
KAN01 IAmb IAmb 21 52 02.7
comp=Z,24nm,1.3s
BGNE Belgrade 52.92 52 P **P 21 51 54.5 +0.1**
baz=264
MDND Maddock 52.95 44 P **P 21 51 54.1 -0.4**
baz=258
435B Jarrell 52.97 66 P **P 21 51 56.0 +1.2**
435B Jarrell 52.97 66 P **P 21 51 53.2 -1.7**
baz=272
WHTX Lake Whitney, 53.05 64 P **P 21 51 54.7 -0.7**
baz=271
RAO Raoul Island 53.07 205 LR LR 22 10 44.8
comp=Z,122nm,21.3s,baz=83,slow=32
OK029 Liberty Lake 53.07 59 P **P 21 51 55.5 0.0**
OK029 IAmb IAmb 21 52 04.3
comp=Z,17nm,1.0s
LOOK Love County 53.26 62 P **P 21 51 56.2 -0.7**
C36M Paulatuk 53.49 13 P **P 21 51 58.6 +0.6**
baz=218
OK031 S. Brethren Rd 53.57 59 P **P 21 52 00.7 +1.5**
OK031 IAmb IAmb 21 52 08.5
comp=Z,13nm,1.2s
OK052 Battle Ridge R 53.60 59 P **P 21 51 59.4 0.0**
OK052 IAmb IAmb 21 52 04.8
comp=Z,13nm,0.9s
KSU1 Kansas State U 53.90 55 P **P 21 51 59.6 -1.9**
baz=266
ECSD EROS Data Cent 54.32 50 P **P 21 52 04.6 0.0**
ECSD IAmb IAmb 21 52 08.8
comp=Z,5.7nm,0.8s
ECSD EROS Data Cent 54.32 50 P **P 21 52 03.1 -1.5**
baz=263
TUL3 Leonard 54.42 59 P **P 21 52 06.2 +0.8**
TUL3 IAmb IAmb 21 52 14.1
comp=Z,9.2nm,0.8s
TUL3 Leonard 54.42 59 P **P 21 52 04.1 -1.3**
baz=269
HKT Hockley 54.52 67 P **P 21 52 06.3 +0.2**
A36M Sachs Harbour 55.39 11 P **P 21 52 11.4 -0.4**
baz=215
NATX Nacogdoches 55.43 64 P **P 21 52 11.7 -1.0**
baz=273
MA2 Magadan 55.47 330 LR LR 22 11 38.7
comp=Z,862nm,21.8s,baz=119,slow=31
AGMN Agassiz Nation 55.50 44 P **P 21 52 12.9 -0.1**
baz=260
U38A Gravette 55.56 59 P **P 21 52 13.5 -0.2**
U38A IAmb IAmb 21 52 21.6
comp=Z,9.4nm,1.2s
DZM Mont Dzumac 55.66 224 *e*P **P 21 52 12.3 -2.2**
comp=Z,90nm,24.9s
DZM *e*S **S 22 00 00.3 -1.4**
comp=Z,238nm,26.4s
DZM *e*SS **SS 22 03 50.0 +2.8**
comp=Z,150nm,28.4s
DZM *e*LR LR 22 08 33.7
comp=Z,472nm,31.4s
DZM Mont Dzumac 55.66 224 LR LR 22 10 15.2
comp=Z,172nm,21.8s,baz=53,slow=30
ULM Lac du Bonnet 55.84 42 P **P 21 52 14.9 -0.5**
ULM IAmb IAmb 21 52 23.1
comp=Z,8.5nm,1.1s
ULM Lac du Bonnet 55.84 42 P **P 21 52 15.4 0.0**
comp=Z,2.0nm,0.6s,baz=245,slow=9.1,SNR=4.1
ULM LR LR 22 14 32.1
comp=Z,138nm,18.0s,baz=230,slow=34
comp=Z,2.0nm,0.6s
SEY Seymchan 56.13 334 LR LR 22 15 59.4
comp=Z,169nm,18.6s,baz=152,slow=36
MIAR Mount Ida 56.24 61 P **P 21 52 17.6 -1.0**
baz=271
P38A Dawn 56.30 55 P **P 21 52 18.6 -0.3**
P38A IAmb IAmb 21 52 27.3
comp=Z,14nm,1.2s
S39A Bolivar 56.43 57 P **P 21 52 20.9 +1.1**
S39A IAmb IAmb 21 52 24.8
comp=Z,17nm,1.6s
SCIA State Center 56.65 52 P **P 21 52 19.5 -1.8**
baz=267
I37A Lemond, Waseca 56.66 50 P **P 21 52 21.0 -0.4**
ASAJ Asahikawa 56.85 310 LR LR 22 11 28.4
comp=Z,1μm,21.8s,baz=117,slow=30
CMIG Matias Romero 57.15 82 LR LR 22 11 03.6
comp=Z,250nm,21.6s,baz=235,slow=30
SPMN Marine on St. 57.19 48 P **P 21 52 22.4 -2.8**
baz=265
R40A Maddies Statio 57.26 56 P **P 21 52 25.4 -0.3**
R40A IAmb IAmb 21 52 30.7
comp=Z,8.7nm,0.9s
P40A Paris 57.45 55 P **P 21 52 27.9 +0.9**
P40A IAmb IAmb 21 52 31.9
comp=Z,26nm,1.9s
GUMO Guam 57.45 274 LR LR 22 11 52.4
comp=Z,330nm,21.8s,baz=68,slow=30
JCJ Chichijima 57.48 290 LR LR 22 12 15.7
comp=Z,242nm,20.5s,baz=96,slow=31
CCM Cathedral Cave 58.07 57 P **P 21 52 31.1 -0.3**
baz=270
T42A Van Buren 58.21 58 P **P 21 52 33.5 +1.1**
T42A IAmb IAmb 21 52 40.5
comp=Z,10nm,1.1s
EYMN Ely 58.35 45 P **P 21 52 33.1 -0.1**
baz=264
N41A Harden Midland 58.38 54 P **P 21 52 33.1 -0.4**
JFWS Jewell Farm 58.89 51 P **P 21 52 35.7 -1.4**
baz=268
VBMS Vicksburg 58.92 64 P **P 21 52 36.8 -0.6**
baz=274
JHJ Hachijo jima 2 59.00 298 LR LR 22 14 34.6
comp=Z,341nm,20.1s,baz=104,slow=32
G40A Rib Lake 59.03 48 P **P 21 52 38.7 +0.7**
CGM3 Cape Girardeau 59.34 58 P **P 21 52 40.0 -0.3**
HDIL Hopedale 59.57 54 P **P 21 52 41.3 -0.5**
baz=270
OXF Oxford 59.68 61 P **P 21 52 42.7 0.0**
baz=274
MJAR Matsushiro Arr 60.09 302 P **P 21 52 44.9 -0.6**
comp=Z,0.4nm,0.4s,baz=98,slow=4.4,SNR=5.1
MJAR LR LR 22 14 26.5
comp=Z,255nm,21.4s,baz=76,slow=32
comp=Z,0.4nm,0.4s
OLIL Olney 60.53 56 P **P 21 52 48.0 -0.4**
L44A Lake County Fo 60.61 52 P **P 21 52 49.3 +0.4**
baz=270
WVT Waverly 60.87 59 P **P 21 52 50.1 -0.7**
baz=274
SFIN Lafayette 61.25 54 P **P 21 52 54.0 +0.7**
baz=272
T47A Sharon Grove 61.40 58 P **P 21 52 53.9 -0.5**
T47A IAmb IAmb 21 52 57.0
comp=Z,4.2nm,0.7s

V48A Smith Brothers 61.71 59 P **P 21 52 56.1 -0.4**
LRAL Lakeview Retre 61.80 62 P **P 21 52 58.8 +1.6**
baz=276
BRAL Brewton 61.96 64 P **P 21 52 59.5 +1.3**
baz=277
WCI Wyandotte Cave 61.97 56 P **P 21 52 56.9 -1.3**
baz=273
CLTN Cedars of Leba 62.08 59 P **P 21 52 59.8 +0.8**
N47A Urbana 62.30 53 P **P 21 52 59.9 -0.5**
TEIG Tepich 62.63 77 LR LR 22 16 23.7
comp=Z,119nm,20.1s,baz=243,slow=32
O48B Farmland 62.74 54 P **P 21 53 03.2 -0.1**
O48B Farmland 62.74 54 P **P 21 53 03.4 0.0**
baz=273
FPAL Fort Paine 62.80 60 P **P 21 53 03.6 -0.3**
FPAL IAmb IAmb 21 53 08.8
comp=Z,5.6nm,0.8s
URZ Urewera 62.94 204 LR LR 22 15 50.3
comp=Z,265nm,20.1s,baz=107,slow=32
P49A Miami Univ. Ec 63.12 55 P **P 21 53 04.9 -1.0**
baz=274
E46A Sault Ste Mari 63.18 47 P **P 21 53 05.7 -0.4**
PMG Port Moresby 63.51 249 LR LR 22 21 02.4
comp=Z,175nm,18.7s,baz=46,slow=36
CPCT Cooper Cave 63.60 59 P **P 21 53 07.8 -1.4**
RES Resolute Bay 63.76 15 LR LR 22 16 53.5
comp=Z,381nm,21.6s,baz=228,slow=32
AAM Ann Arbor 63.76 52 P **P 21 53 09.2 -0.9**
baz=273
TKL Tucaleechee C 64.19 59 LR LR 22 19 31.0
comp=Z,65nm,19.2s,baz=292,slow=34
RPN Rapa Nui 64.19 135 LR LR 22 14 00.5
comp=Z,482nm,21.1s,baz=299,slow=29
TZTN Tazewell 64.28 58 P **P 21 53 12.1 -1.5**
baz=276
ACSO Alum Creek Sta 64.40 54 P **P 21 53 16.0 +1.6**
baz=274
KLR Kul'dur 64.50 316 LR LR 22 16 34.1
comp=Z,380nm,20.9s,baz=119,slow=32
GOGA Godfrey 64.70 62 P **P 21 53 17.7 +1.3**
baz=277
TIGA Tifton 64.86 64 P **P 21 53 17.1 -0.4**
baz=278
P52A Corning 65.10 55 P **P 21 53 17.9 -1.0**
baz=275
O52A Adamsville 65.28 54 P **P 21 53 19.3 -0.8**
O53A New Philadelph 65.75 54 P **P 21 53 23.7 +0.7**
baz=275
M53A Wt Miller and 66.04 52 P **P 21 53 24.0 -1.0**
baz=275
YAK Yakutsk 66.05 330 P **P 21 53 23.6 -1.0**
YAK Yakutsk 66.05 330 LR LR 22 18 16.4
comp=Z,855nm,21.8s,baz=96,slow=32
MDJ Mudanjiang 66.17 311 P P 21 53 20.8 -4.9
MDJ sP sP 21 53 39.9 +12
KMSC Kings Mountain 66.23 59 P **P 21 53 25.6 -0.7**
baz=278
JNU Nakatsue 66.43 298 LR LR 22 22 21.4
comp=Z,301nm,18.0s,baz=90,slow=36
ERPA Erie 66.49 52 P **P 21 53 28.2 +0.4**
baz=275
BLA Blacksburg 66.70 57 P **P 21 53 30.5 +1.2**
baz=277
MCWV Mont Chateau 66.85 54 P **P 21 53 30.5 +0.3**
baz=276
SADO Sadowa 66.87 49 LR LR 22 22 15.1
comp=Z,86nm,19.1s,baz=248,slow=36
DWPF Disney Wildern 67.25 67 P **P 21 53 32.8 -0.1**
baz=281
TIXI Tiksi 67.29 341 LR LR 22 22 26.0
comp=Z,306nm,19.6s,baz=137,slow=36
NHSC New Hope 67.47 61 P **P 21 53 34.2 0.0**
baz=279
KSRS Korea Array 68.20 303 P **P 21 53 40.5 +1.9**
comp=Z,1.2nm,0.6s,baz=104,slow=5.9,SNR=3.2
KSRS LR LR 22 22 01.0
comp=Z,262nm,18.8s,baz=75,slow=35
comp=Z,1.2nm,0.6s
JTS Las Juntas de 68.20 86 LR LR 22 16 03.0
comp=Z,312nm,21.2s,baz=290,slow=29
SSPA Standing Stone 68.23 53 P **P 21 53 40.2 +1.3**
baz=277
L56A Greenwood 68.29 51 P **P 21 53 40.0 +0.8**
L56A IAmb IAmb 21 53 42.2
comp=Z,8.1nm,0.9s
CBN Corbin Frederi 68.95 56 P **P 21 53 42.8 -0.7**
baz=279
CNNC Cliffs of the 69.00 59 P **P 21 53 42.8 -1.0**
baz=279
CN2 Changchun 69.22 310 P **P 21 53 47.3 +2.3**
CN2 PP **PP 21 56 22.8 +5.2**
CN2 pmax pmax
comp=Z,400nm,6.0s
CN2 LR LR
comp=N,400nm,20.0s
CN2 LR LR
comp=E,800nm,20.0s
CN2 LR LR
comp=Z,900nm,21.0s
CTA Charters Tower 69.43 239 LR LR 22 16 54.8
comp=Z,23nm,21.7s,baz=64,slow=30
BINY Binghamton 69.44 51 P **P 21 53 46.0 -0.5**
BINY Binghamton 69.44 51 P **P 21 53 46.7 +0.3**
baz=278
JOW Kunigami 69.77 292 LR LR 22 19 47.6
comp=Z,165nm,20.5s,baz=152,slow=32
RPZ Rata Peaks 69.98 205 LR LR 22 18 57.5
comp=Z,244nm,21.4s,baz=96,slow=31
LONY Lake Ozonia 70.12 49 P **P 21 53 51.6 +1.0**
baz=278
PAL Palisades 71.16 52 P **P 21 53 57.6 +0.7**
baz=280
FRB Frobisher Bay 71.36 28 LR LR 22 21 39.0
comp=Z,106nm,21.4s,baz=233,slow=33
L61B Northampton 71.82 51 P **P 21 54 00.6 -0.3**
baz=280
LBNH Lisbon 72.06 49 P **P 21 54 01.7 -0.7**
baz=280
HRV Adam Dziewonsk 72.63 50 P **P 21 54 05.7 0.0**
baz=281
M65A Busby, Falmout 73.48 51 P **P 21 54 10.1 -0.6**
baz=281
PKME Peaks-Kenny Pk 73.72 47 P **P 21 54 11.5 -0.6**
baz=281
NJ2 Nanjing 76.58 299 *e*P **P 21 54 27.5 -1.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,280nm,3.6s
DAV Davao City (W) 77.48 273 LR LR 22 22 21.6
comp=Z,278nm,21.3s,baz=68,slow=31
SFJD Kangerlussuaq 77.90 23 LR LR 22 24 55.6
comp=Z,240nm,21.9s,baz=310,slow=33
HNS HongShan 78.50 306 ||P **P 21 54 41.8 +2.3**
HNS *e*S **S 22 04 38.0 +1.4**
HNS HongShan 78.50 306 SS SS 22 09 48.8 +9.4
HNS pmax pmax
comp=Z,500nm,8.7s
HNS LR LR
comp=E,430nm,21.5s
HNS LR LR
comp=Z,490nm,24.0s
QZH Quanzhou 78.68 293 P P 21 54 47.3 +6.6
STKA Stephens Creek 79.07 231 LR LR 22 23 45.3
comp=Z,185nm,19.7s,baz=41,slow=31
SUMG Summit 79.26 16 P **P 21 54 44.3 +0.8**
WRA Warramunga Arr 79.27 244 LR LR 22 24 30.8
comp=Z,304nm,21.9s,baz=47,slow=32
HHC Hu-ho-hao-te 79.89 310 *e*P **P 21 54 45.6 -1.6**
HHC Hu-ho-hao-te 79.89 310 S **S 22 04 50.6 -1.0**
HHC Hu-ho-hao-te 79.89 310 ScS S 22 05 09.3 +18
HHC Hu-ho-hao-te 79.89 310 SS SS 22 10 00.0 -0.4
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,270nm,6.4s
HHC LR LR
comp=N,200nm,17.6s
HHC LR LR
comp=E,420nm,18.3s
HHC LR LR
comp=Z,610nm,18.3s
ROSC El Rosal 79.89 88 LR LR 22 21 38.4
comp=Z,214nm,21.9s,baz=258,slow=29
ATAH Atahualpa 80.11 101 LR LR 22 23 40.9
comp=Z,274nm,18.9s,baz=291,slow=31
LYN LuoYang 81.04 303 *e*P **P 21 54 56.6 +3.2**

LYN LuoYang 81.04 303 S **S 22 05 03.8 +0.1**
NRIK Noril'sk 81.05 341 P **P 21 54 55.5 +2.8**
comp=Z,0.8nm,0.3s,baz=56,slow=7.2,SNR=1.1
NRIK LR LR 22 31 06.5
comp=Z,259nm,20.0s,baz=47,slow=36
comp=Z,0.8nm,0.3s
ASAR Alice Springs 81.22 241 P **P 21 54 56.7 +2.3**
comp=Z,1.0nm,1.0s,baz=61,slow=7.6,SNR=4.2
ASAR LR LR 22 30 21.6
comp=Z,153nm,18.3s,baz=72,slow=35
comp=Z,1.0nm,1.0s
SONM Songino Array 81.27 318 P **P 21 54 56.5 +1.9**
comp=Z,0.6nm,0.7s,baz=71,slow=3.0,SNR=5.6
SONM LR LR 22 28 52.3
comp=Z,434nm,20.8s,baz=65,slow=34
comp=Z,0.6nm,0.7s
SDV Santo Domingo 82.09 83 LR LR 22 24 37.2
comp=Z,116nm,21.6s,baz=260,slow=31
SPITS Spitsbergen Ar 82.51 2 LR LR 22 28 06.2
comp=Z,180nm,21.6s,baz=322,slow=33
NNA Nana 83.28 105 LR LR 22 23 01.0
comp=Z,306nm,21.5s,baz=280,slow=29
SJG San Juan 83.36 73 LR LR 22 29 10.7
comp=Z,39nm,20.8s,baz=277,slow=34
KAPI Kappang 86.92 264 LR LR 22 29 02.1
comp=Z,89nm,20.4s,baz=77,slow=32
JMIC Jan Mayen 86.96 10 LR LR 22 31 04.2
comp=Z,108nm,21.6s,baz=340,slow=34
LZH Lanzhou 87.18 307 *e*P **P 21 55 28.3 +3.5**
LZH sP sP 21 55 33.0 +5.8
LZH Lanzhou 87.18 307 S **SKSac 22 05 58.6 +5.1**
LZH Lanzhou 87.18 307 SS SS 22 11 56.6 +8.0
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,370nm,4.8s
LZH LR LR
comp=N,150nm,17.9s
LZH LR LR
comp=E,440nm,17.3s
LZH LR LR
comp=Z,590nm,19.6s
PCRV Puerto La Cruz 87.28 80 LR LR 22 29 21.5
comp=Z,131nm,22.0s,slow=32
QIZ Qiongzhong 88.22 289 P **P 21 55 27.6 -2.3**
QIZ Qiongzhong 88.22 289 S **S 22 06 12.4 -3.4**
QIZ Qiongzhong 88.22 289 SS SS 22 12 04.8 +0.4
QIZ LR LR
comp=N,520nm,18.5s
QIZ LR LR
comp=E,710nm,19.3s
QIZ LR LR
comp=Z,570nm,15.1s
GTA Gaotai 88.82 312 *e*P **P 21 55 31.8 -0.8**
GTA pP sP 21 55 36.4 +1.5
GTA sP pP 21 55 39.4 +5.1
GTA Gaotai 88.82 312 S **S 22 06 19.9 -1.2**
GTA Gaotai 88.82 312 sS sS 22 06 26.4 +2.5
BORG Borgarnes 89.02 18 LR LR 22 32 05.7
comp=Z,106nm,21.5s,baz=319,slow=33
CD2 Chengdu 89.17 302 P **P 21 55 31.8 -2.5**
CD2 Chengdu 89.17 302 S **S 22 06 17.8 -6.7**
CD2 Chengdu 89.17 302 SS SS 22 12 12.8 -4.9
CD2 pmax pmax
comp=Z,300nm,6.9s
CD2 LR LR
comp=N,270nm,14.9s
CD2 LR LR
comp=E,290nm,13.1s
CD2 LR LR
comp=Z,430nm,16.5s
H03N2 Juan Fernandez 89.70 126 T T 23 34 37.7
baz=298,slow=76
H03N3 Juan Fernandez 89.71 126 T T 23 34 37.1
baz=298,slow=76
H03N1 Juan Fernandez 89.71 126 T T 23 34 38.9
baz=298,slow=76
ZALV Zalesovo Beam 90.68 329 P **P 21 55 41.5 +0.7**
comp=Z,0.3nm,0.5s,baz=57,slow=5.3,SNR=2.0
ZALV LR LR 22 34 21.6
comp=Z,473nm,20.5s,baz=87,slow=34
comp=Z,0.3nm,0.5s
ARCES ARCESS Array B 91.32 360 LR LR 22 38 08.8
comp=Z,125nm,18.2s,baz=3.0,slow=36
PZH PanZhiHua 92.49 299 P **P 21 55 49.6 -0.3**
PZH PanZhiHua 92.49 299 SS **S 22 06 47.5 -7.7**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,320nm,6.3s
PZH LR LR
comp=N,590nm,24.0s
PZH LR LR
comp=E,800nm,25.0s
PZH LR LR
comp=Z,590nm,25.0s
LPAZ La Paz 92.69 106 LR LR 22 29 54.5
comp=Z,143nm,20.2s,baz=279,slow=31
LVC Limon Verde 94.07 112 LR LR 22 29 10.7
comp=Z,370nm,19.9s,baz=276,slow=30
WMQ Urumqi 94.75 320 *e*P **P 21 55 59.3 -0.6**
WMQ LR LR
comp=N,530nm,16.9s
WMQ LR LR
comp=E,340nm,24.2s
WMQ LR LR
comp=Z,350nm,24.1s
KURBB Kurchatov Arra 95.77 329 P **P 21 56 05.0 +0.7**
comp=Z,0.3nm,0.8s,baz=45,slow=3.8,SNR=1.8
KURBB LR LR 22 37 02.5
comp=Z,465nm,21.9s,baz=106,slow=34
comp=Z,0.3nm,0.8s
MKAR Makanchi Array 96.20 324 LR LR 22 36 47.3
comp=Z,339nm,21.8s,baz=60,slow=34
BVAR Borovoye Array 97.78 334 LR LR 22 41 01.0
comp=Z,173nm,19.9s,baz=49,slow=36
CMAR Chiang Mai Arr 98.03 293 LR LR 22 39 59.5
comp=Z,148nm,19.3s,baz=70,slow=35
PLCA Paso Flores 98.55 130 LR LR 22 30 28.2
comp=Z,400nm,21.1s,baz=272,slow=29
SIV San Ignacio 99.03 104 LR LR 22 34 14.8
comp=Z,366nm,20.0s,baz=295,slow=31
NOA NORSAR Array B 99.11 7 LR LR 22 38 37.5
comp=Z,101nm,20.9s,baz=345,slow=34
ARU Arti 99.27 342 LR LR 22 41 42.5
comp=Z,426nm,21.4s,baz=43,slow=36
KIRV Kirov 99.67 347 LR LR 22 44 11.5
comp=Z,307nm,19.8s,baz=25,slow=37
VNDA Vanda 99.88 189 LR LR 22 34 16.9
comp=Z,170nm,19.3s,baz=22,slow=31
TORD Torodi Ar. Bea 140.50 37 PKP **PKPdf 22 02 09.8 +1.3**
comp=Z,0.6nm,0.8s,baz=337,slow=1.9,SNR=2.6

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*LVSN **16** 22:42:18.1±9.6, 57°.82N×23°.90E, h0km±570km, ML1.5*
HEL 16 22:42:12.1±0.3, 60°.84N×29°.01E, h0km, ML1.4,
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUF	**Ruokolahti**	**0.59**	**357**	PG	Pg	22 42 23.2	-0.2
RUF				SG	Sg	22 42 30.7	-0.3
VJF	**Virojoki**	**0.77**	**248**	PG	Pg	22 42 26.2	-0.7
VJF				MSG		22 42 36.2	
comp=Z,2.7nm,0.2s							
VJF				SG	Sg	22 42 36.4	-0.5
FIA0	**FINESS Array S**	**1.54**	**294**	PG	Pn	22 42 39.9	-0.9
baz=115							
FIA0				MSG		22 42 58.5	
comp=Z,2.3nm,0.2s							
PVF	**Pernaja**	**1.57**	**261**	MSG		22 42 59.3	
comp=Z,3.5nm,0.2s							
PVF				SG	Sn	22 43 00.8	-1.5
KAF	**Kangasniemi**	**1.82**	**316**	PG	Pn	22 42 45.2	+0.5
KAF				MSG		22 43 06.3	
comp=Z,3.8nm,0.2s							
KAF				SG	Sb	22 43 09.5	-0.1
ARBE	**Arbavere**	**2.06**	**228**	*e*P	Pg	22 42 52.4	+0.8
ARBE				*e*S	Sb	22 43 15.7	-0.8
ARBE				AML	AML	22 43 19.5	
comp=N,29nm,0.3s							
ARBE				AML	AML	22 43 20.7	
comp=E,33nm,0.1s							
ARBE				AML	AML	22 43 31.5	
comp=Z,12nm,0.4s							
ARBE	**Arbavere**	**2.06**	**228**	SG	Sb	22 43 17.0	+0.5
NUR	**Nurmijrvi**	**2.17**	**263**	MSG		22 43 16.4	

comp=Z,1.2nm,0.2s
NUR SG Sn 22 43 18.1 +1.2
SUF Sumiainen 2.33 326 PG Pb 22 42 53.9 -1.0
SUF MSG 22 43 21.0
comp=Z,0.7nm,0.2s
SUF SG Sb 22 43 23.5 -0.6
JOF Joensuu 2.36 27 PG Pb 22 42 53.9 -1.5
JOF SG Sb 22 43 23.8 -1.2
MEF Metsahovi 2.36 257 *eP* Pb 22 42 53.9 -1.5
MEF *eS* Sn 22 43 23.0 +1.3
MEF AML AML 22 43 23.1
comp=Z,2.8nm,0.2s
MEF AML AML 22 43 23.2
comp=N,4.1nm,0.2s
MEF AML AML 22 43 28.9
comp=E,2.2nm,0.4s
MEF Metsahovi 2.36 257 MSG 22 43 21.8
comp=Z,2.2nm,0.2s
MEF SB Sn 22 43 22.6 +0.9
KEF Keuruu 2.39 306 PB Pn 22 42 53.4 +0.9
baz=121
KEF MSG 22 43 22.8
comp=Z,0.9nm,0.2s
KEF SG Sb 22 43 25.3 -0.6
NIF Nilsia 2.62 348 SG Sb 22 43 31.7 -1.0
RAF Rauma 3.54 276 *eS* Sn 22 43 51.5 +0.8
RAF AML AML 22 44 07.4
comp=Z,1.9nm,0.4s
RAF AML AML 22 44 09.6
comp=E,1.8nm,0.5s
RAF AML AML 22 44 09.7
comp=N,2.0nm,0.5s
RAF Rauma 3.54 276 SN Sn 22 43 52.2 +1.5

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*TAP **16** 23:07:13.1,23°.11N×120°.69E,h8km,ML3.9,C*
*ASIES **16** 23:07:13.1,23°.11N×120°.69E,h8km,ML3.9,Mw3.7,*
Moment Tensor Solution. Moment tensor: Scale 1021Nm;
Mrr0.25; Mθθ3.28; Mφφ-1.99; Mrθ-0.73; Mθφ-2.42; Mφr-1.30;
Fault plane solution: M0 3.93247×1021 NP1:φs68.22000°,
δ77.34000°,λ-162.17000°. NP2:φs334.18000°,
δ72.62000°,λ-13.28000°. Principal axes: T Plg3.2220°,
Azm200.6060°; N Plg68.2520°, Azm102.4940°; P
Plg21.4830°, Azm291.8760°;
ISC 16 23:07:13.6±0.8,23°.10N±0°.02×120°.71E±0°.01,h10km±5km,
n104,σ0s82/163,9C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan** baz=51	**0.08**	**35**	⇑*i*P	**Pg**	**23 07 15.8**	**-0.1**
STYT	baz=51			*i* S	**Sg**	**23 07 17.8**	**+0.2**
STYH	**Taoyuan** baz=51	**0.09**	**41**	⇑*i*P	**Pg**	**23 07 16.3**	**+0.2**
STYH	baz=51			S	**Sg**	**23 07 18.3**	**+0.5**
SGST	**Jiashian** baz=255	**0.12**	**262**	⇑*i*P	**Pg**	**23 07 15.1**	**-1.4**
SGST	baz=255			S	**Sg**	**23 07 17.1**	**-1.3**
SLGT	**Liugui** baz=198	**0.12**	**209**	⇑*i*P	**Pg**	**23 07 16.6**	**+0.1**
SLGT	baz=198			*e*S	**Sg**	**23 07 19.1**	**+0.7**
WTP	**Ta-pu** baz=336	**0.17**	**329**	⇑*i*P	**Pg**	**23 07 17.1**	**-0.2**
WTP	baz=336			*i* S	**Sg**	**23 07 19.9**	**0.0**
CHN1	**Nanshi** baz=299	**0.19**	**297**	⇓*i*P	**Pg**	**23 07 17.5**	**0.0**
CHN1	baz=299			*i* S	**Sg**	**23 07 20.7**	**+0.4**
TPUB	**Ta-pu** baz=345	**0.21**	**340**	⇑*i*P	**Pg**	**23 07 18.1**	**0.0**
TPUB	baz=345			S	**Sg**	**23 07 22.1**	**+1.0**
SNST	**Tainan City** baz=304	**0.23**	**302**	P	**Pg**	**23 07 18.6**	**+0.2**
SNST	baz=304			S	**Sg**	**23 07 22.9**	**+1.5**
TWK	**Hsinying** baz=314	**0.26**	**309**	⇓*i*P	**Pg**	**23 07 19.2**	**+0.2**
TWK	baz=314			*i* S	**Sg**	**23 07 23.8**	**+1.2**
SCST	**Cishan** baz=209	**0.29**	**223**	P	**Pb**	**23 07 20.3**	**-0.6**
ELDTW	**Lidau** baz=76	**0.30**	**72**	⇓*i*P	**Pb**	**23 07 20.4**	**-0.8**
ELDTW	baz=76			*i* S	**Sb**	**23 07 24.9**	**-1.3**
CHN3	**Shinhua** baz=264	**0.32**	**266**	P	**Pb**	**23 07 21.4**	**0.0**
CHN3	baz=264			S	**Sb**	**23 07 28.2**	**+1.6**
SHHT	**Tainan City** baz=255	**0.34**	**257**	P	**Pb**	**23 07 22.5**	**+0.7**
SHHT	baz=255			S	**Sb**	**23 07 29.3**	**+2.0**
WCKO	**Fanlu** baz=348	**0.35**	**344**	P	**Pb**	**23 07 21.0**	**-1.0**
WCKO	baz=348			S	**Sb**	**23 07 27.4**	**-0.2**
TWM1	**Shoushan** baz=211	**0.38**	**224**	⇑*i*P	**Pb**	**23 07 22.8**	**+0.2**
SSHA	**Shanhua** baz=289	**0.39**	**275**	*e*P	**Pb**	**23 07 23.2**	**+0.5**
SSHA	baz=289			*e*S	**Sb**	**23 07 31.7**	**+3.0**
TSMG	**Majia** baz=177	**0.40**	**189**	*e*P	**Pb**	**23 07 21.7**	**-1.1**
SGLT	**Jiouru** baz=193	**0.42**	**208**	P	**Pb**	**23 07 23.9**	**+0.6**
TWG	**Pinlang** baz=128	**0.43**	**130**	⇓*i*P	**Pb**	**23 07 23.3**	**-0.1**
TWG	baz=128			S	**Sb**	**23 07 29.6**	**-0.4**
TWGBT	**Beinan** baz=128	**0.44**	**129**	⇓P	**Pb**	**23 07 23.3**	**-0.3**
TWGBT	baz=128			S	**Sb**	**23 07 29.6**	**-0.7**
TAI1	**Yung-k'ang** baz=276	**0.45**	**262**	*e*P	**Pn**	**23 07 24.7**	**-1.4**
EHD	**Haiduan** baz=79	**0.46**	**84**	*i* P	**Pb**	**23 07 23.5**	**-0.4**
ECS	**Chishang** baz=89	**0.47**	**90**	*e*P	**Pb**	**23 07 23.9**	**-0.1**
ECS	baz=89			*e*S	**Sb**	**23 07 31.4**	**+0.3**
ICHU	**Yijhu** baz=304	**0.47**	**303**	*e*P	**Pb**	**23 07 23.9**	**-0.2**
CHY	**Chiayi** baz=331	**0.47**	**327**	*e*P	**Pb**	**23 07 23.8**	**-0.3**
CHY	baz=331			*e*S	**Sb**	**23 07 32.2**	**+1.0**
CHN2	**Minshiung** baz=337	**0.48**	**334**	*e*P	**Pb**	**23 07 24.0**	**-0.3**
CHN2	baz=337			*e*S	**Sb**	**23 07 32.4**	**+1.0**
SNJT	**Kaohsiung City** baz=220	**0.49**	**225**	*e*P	**Pn**	**23 07 25.8**	**-0.9**
MASBT	**Mashibuluo** baz=181	**0.49**	**188**	P	**Pb**	**23 07 23.5**	**-0.9**
MASBT	baz=181			*e*S	**Sb**	**23 07 32.1**	**+0.5**
CHN5	**Tsauling** baz=10.0	**0.50**	**357**	P	**Pb**	**23 07 23.6**	**-0.9**
CHN5	baz=10.0			*e*S	**Sb**	**23 07 32.8**	**+0.9**
CHN8	**Yiju** baz=300	**0.52**	**298**	P	**Pb**	**23 07 24.9**	**+0.1**
CHN8	baz=300			S	**Sn**	**23 07 34.6**	**-1.5**
FULB	**Fuli** baz=81	**0.55**	**79**	*e*P	**Pb**	**23 07 25.4**	**0.0**
FULB	baz=81			*e*S	**Sb**	**23 07 33.9**	**+0.6**
ECL	**Taimali** baz=152	**0.55**	**156**	P	**Pb**	**23 07 24.8**	**-0.5**
ECL	baz=152			S	**Sb**	**23 07 32.8**	**-0.5**
EDH	**Donghe** baz=109	**0.56**	**103**	P	**Pb**	**23 07 26.1**	**+0.5**
EDH	baz=109			*e*S	**Sb**	**23 07 35.4**	**+1.7**
TSCK	**Chigu Township** baz=289	**0.57**	**275**	*e*P	**Pn**	**23 07 27.1**	**-0.8**
TWF1	**Yuli** baz=67	**0.60**	**65**	P	**Pb**	**23 07 25.7**	**-0.5**
TWF1	baz=67			S	**Sb**	**23 07 33.9**	**-0.8**
WGK	**Gukeng** baz=351	**0.60**	**347**	P	**Pb**	**23 07 26.2**	**-0.1**
WGK	baz=351			S	**Sb**	**23 07 35.8**	**+1.0**
CHKT	**Chengkung** baz=91	**0.60**	**90**	*e*P	**Pb**	**23 07 26.7**	**+0.4**
CHKT	baz=91			*e*S	**Sn**	**23 07 37.4**	**-0.8**
WDLH	**Douliu** baz=348	**0.61**	**345**	*e*P	**Pb**	**23 07 26.3**	**-0.1**
WDLH	baz=348			*e*S	**Sn**	**23 07 37.2**	**-1.1**
WHYT	**Xinyi Township** baz=25	**0.61**	**13**	P	**Pg**	**23 07 25.4**	**-0.1**
WSL	**Shuilin Townsh** baz=315	**0.61**	**314**	*e*P	**Pb**	**23 07 26.5**	**+0.1**
EYUL	**Yuli** baz=69	**0.61**	**66**	*e*P	**Pb**	**23 07 26.2**	**-0.3**
WSSB	**Gushan** baz=237	**0.61**	**222**	*e*P	**Pn**	**23 07 28.2**	**-0.3**
WSSB	baz=237			*e*S	**Sn**	**23 07 39.9**	**+1.4**
CHKH	**Chenggong** baz=83	**0.64**	**82**	*e*P	**Pb**	**23 07 27.3**	**+0.4**
WTK	**Tuku** baz=336	**0.66**	**333**	*e*P	**Pb**	**23 07 26.8**	**-0.4**
WTK	baz=336			*e*S	**Sb**	**23 07 36.6**	**+0.2**
EHY	**Hungye** baz=66	**0.69**	**54**	P	**Pb**	**23 07 27.5**	**-0.4**
EHY	baz=66			S	**Sb**	**23 07 36.9**	**-0.6**
WSF	**Szhu** baz=323	**0.70**	**320**	*e*P	**Pb**	**23 07 27.9**	**-0.1**
WSF	baz=323			S	**Sn**	**23 07 38.6**	**-1.9**
EHYH	**Wanrong** baz=67	**0.70**	**56**	P	**Pb**	**23 07 27.9**	**-0.2**
ECBN	**Changbin** baz=66	**0.72**	**72**	*e*P	**Pn**	**23 07 29.3**	**-0.5**
ECBN	baz=66			*e*S	**Sn**	**23 07 41.0**	**0.0**
WJS	**Zhushan** baz=6.0	**0.72**	**1**	*e*P	**Pb**	**23 07 28.2**	**-0.1**
WJS	baz=6.0			*e*S	**Sb**	**23 07 39.2**	**+1.0**
SSLB	**Suanglung** baz=28	**0.72**	**18**	P	**Pg**	**23 07 27.2**	**-0.3**
SSLB	baz=28			*e*S	**Sn**	**23 07 39.8**	**-1.4**
EAST	**Anshuo** baz=173	**0.72**	**170**	*e*P	**Pb**	**23 07 28.0**	**-0.4**
SCZT	**Fangliau** baz=174	**0.73**	**186**	⇑P	**Pb**	**23 07 27.9**	**-0.5**
TAW	**Tawu** baz=170	**0.76**	**167**	*e*P	**Pb**	**23 07 28.5**	**-0.4**
VWDT	**VWDT** baz=43	**0.76**	**31**	*e*P	**Pb**	**23 07 28.3**	**-0.7**
HGSD	**Ruisui** baz=62	**0.77**	**59**	P	**Pb**	**23 07 29.5**	**+0.4**
HGSD	baz=62			S	**Sn**	**23 07 41.7**	**-0.4**
TAWH	**Dawu Township** baz=171	**0.77**	**168**	*e*P	**Pb**	**23 07 28.9**	**-0.3**
WNT	**Mingjian** baz=3.0	**0.78**	**358**	P	**Pb**	**23 07 29.3**	**0.0**
WNT	baz=3.0			S	**Sn**	**23 07 41.0**	**-1.4**
SMLT	**Sun Moon Lake** baz=25	**0.80**	**13**	⇑*i*P	**Pb**	**23 07 29.4**	**-0.4**
SMLT	baz=25			S	**Sn**	**23 07 42.6**	**-0.6**
TYC	**Yuchr** baz=15	**0.81**	**10**	P	**Pb**	**23 07 29.8**	**-0.1**
TYC	baz=15			S	**Sn**	**23 07 42.6**	**-0.8**
LDUT	**Ludao** baz=108	**0.82**	**121**	*e*P	**Pn**	**23 07 30.6**	**-0.7**
WRL	**Guolierlin Hig** baz=329	**0.85**	**339**	*e*P	**Pb**	**23 07 30.1**	**-0.5**
WRL	baz=329			*e*S	**Sn**	**23 07 43.2**	**-1.1**
WTCT	**Ta-ch'eng** baz=336	**0.86**	**333**	*e*P	**Pg**	**23 07 29.5**	**-0.6**
WTCT	baz=336			*e*S	**Sn**	**23 07 42.9**	**-1.5**
WARBT	**Fenglin Townsh** baz=49	**0.88**	**45**	*e*P	**Pb**	**23 07 30.7**	**-0.3**
WARBT	baz=49			*e*S	**Sn**	**23 07 44.8**	**-0.2**
OWD	**Renai** baz=41	**0.95**	**27**	*e*P	**Pn**	**23 07 32.6**	**-0.6**
WUSB	**Renai** baz=35	**0.96**	**23**	*e*P	**Pg**	**23 07 31.5**	**-0.7**
WUSB	baz=35			*e*S	**Sb**	**23 07 45.9**	**+0.4**
WCS	**Beigang Elemen** baz=16	**0.97**	**11**	*e*P	**Pn**	**23 07 32.6**	**-0.7**
WCS	baz=16			*e*S	**Sn**	**23 07 46.6**	**-0.7**
ESL	**Shilin** baz=47	**0.97**	**43**	P	**Pb**	**23 07 32.5**	**-0.2**
ESL	baz=47			*e*S	**Sn**	**23 07 47.9**	**+0.5**
WDGT	**Dungji** baz=278	**0.98**	**280**	P	**Pb**	**23 07 32.1**	**-0.6**
WDGT	baz=278			S	**Sb**	**23 07 45.3**	**-0.4**
SHUL	**Shoufeng** baz=53	**1.04**	**49**	*e*P	**Pn**	**23 07 34.5**	**+0.2**
CHGB	**Renai** baz=35	**1.05**	**24**	P	**Pg**	**23 07 33.1**	**-0.7**
CHGB	baz=35			S	**Sn**	**23 07 49.1**	**-0.4**
HEN	**Hengchun** baz=168	**1.09**	**179**	*e*P	**Pn**	**23 07 36.4**	**+1.4**
LXIB	**Xiulin Townshi** baz=53	**1.12**	**35**	*e*P	**Pg**	**23 07 34.7**	**-0.5**
LXIB	baz=53			*e*S	**Sn**	**23 07 51.6**	**+0.4**
ETM	**Tongmen** baz=53	**1.12**	**40**	*e*P	**Pn**	**23 07 35.3**	**-0.1**
ETM	baz=53			*e*S	**Sn**	**23 07 51.9**	**+0.9**
PHUB	**P'eng-hu** baz=292	**1.12**	**292**	*e*P	**Pg**	**23 07 34.3**	**-0.9**
TWK1	**Hengchun** baz=165	**1.15**	**176**	*e*P	**Pn**	**23 07 37.0**	**+1.1**
TWKBT	**Hengchun** baz=165	**1.16**	**175**	*e*P	**Pn**	**23 07 36.7**	**+0.7**
PNG	**Penghu** baz=294	**1.16**	**294**	*e*P	**Pg**	**23 07 34.9**	**-1.0**
WHF	**Hehuan Shan** baz=19	**1.16**	**26**	*e*P	**Pn**	**23 07 36.0**	**-0.3**
VCHM	**Qimei** baz=291	**1.18**	**276**	*e*P	**Pg**	**23 07 35.0**	**-1.3**
WHP	**Taichung City** baz=26	**1.19**	**10**	*e*P	**Pn**	**23 07 36.6**	**0.0**
WHP	baz=26			*e*S	**Sn**	**23 07 55.2**	**+2.3**
TDCB	**Techi** baz=31	**1.22**	**20**	P	**Pg**	**23 07 36.4**	**-0.7**
TWT	**Tachien** baz=25	**1.23**	**20**	P	**Pg**	**23 07 36.7**	**-0.5**
TWT	baz=25			*e*S	**Sn**	**23 07 55.1**	**+1.3**
TWQ1	**Liyutan** baz=8.0	**1.24**	**3**	*e*P	**Pg**	**23 07 37.6**	**0.0**
TWQ1	baz=8.0			*e*S	**Sn**	**23 07 55.4**	**+1.4**
TWD	**Chiawan** baz=45	**1.27**	**40**	*e*P	**Pg**	**23 07 38.4**	**+0.4**
TWD	baz=45			*e*S	**Sn**	**23 07 56.4**	**+1.7**
NSY	**Sanyi** baz=353	**1.31**	**2**	*e*P	**Pg**	**23 07 39.0**	**+0.2**
NACB	**Ninganchiao** baz=58	**1.34**	**37**	*e*P	**Pg**	**23 07 38.9**	**-0.5**
NACB	baz=58			*e*S	**Sg**	**23 07 58.0**	**+1.1**
NNSB	**Datong** baz=17	**1.46**	**25**	*e*P	**Pb**	**23 07 40.7**	**-0.3**
NNS	**Nan Shan** baz=17	**1.47**	**24**	P	**Pb**	**23 07 40.9**	**-0.3**
EAHA	**Aohua** baz=43	**1.55**	**37**	*e*P	**Pb**	**23 07 42.2**	**-0.2**
NSTT	**Nanjuang** baz=357	**1.55**	**10**	*e*P	**Pb**	**23 07 41.8**	**-0.6**
LIOB	**Emei** baz=357	**1.56**	**10**	*e*P	**Pb**	**23 07 42.4**	**-0.3**
NFF	**Wufeng Townshi** baz=1.0	**1.57**	**14**	*e*P	**Pg**	**23 07 43.0**	**-0.8**
LATG	**Datong** baz=44	**1.61**	**27**	*e*P	**Pb**	**23 07 43.6**	**0.0**
ENA	**Nanau** baz=55	**1.63**	**35**	*e*P	**Pg**	**23 07 44.3**	**-0.6**
EWUT	**Wuta** baz=54	**1.66**	**36**	*e*P	**Pb**	**23 07 44.1**	**-0.2**
NDT	**Datong Townshi** baz=18	**1.67**	**26**	*e*P	**Pg**	**23 07 44.8**	**-0.8**
NSK	**Sanguang** baz=15	**1.68**	**21**	P	**Pb**	**23 07 44.8**	**+0.1**
YHNB	**Yeheng** baz=27	**1.68**	**21**	*e*P	**Pb**	**23 07 44.6**	**-0.1**
YHNB	baz=27			*e*S	**Sg**	**23 08 08.9**	**+1.3**
ENTT	**Nioudou** baz=23	**1.72**	**27**	*e*P	**Pg**	**23 07 45.8**	**-0.9**
ENTT	baz=23			*e*S	**Sg**	**23 08 10.7**	**+1.6**
ESAO	**Su ao** baz=53	**1.80**	**35**	*e*P	**Pg**	**23 07 47.6**	**-0.6**
NWLT	**Wulai** baz=18	**1.82**	**23**	*e*P	**Pb**	**23 07 47.3**	**+0.2**
TWC	**Suao** baz=53	**1.83**	**35**	*e*P	**Pg**	**23 07 47.9**	**-0.9**
TWC	baz=53			*e*S	**Sg**	**23 08 13.1**	**+0.6**
TWE	**Neicheng** baz=21	**1.84**	**28**	*e*P	**Pg**	**23 07 48.4**	**-0.5**
TWE	baz=21			*e*S	**Sg**	**23 08 13.7**	**+0.9**
FUSB	**Fushanzhiwuyua** baz=20	**1.84**	**26**	*e*P	**Pg**	**23 07 48.2**	**-0.7**

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*IDC **16** 23:49:08.2±3.3,8°.19N×93°.89E,h45km±30km,mb3.7/15,*
mbtmp4.0/17,ML3.9/2,MS3.0/1,Error ellipse:
s-maj=29.0km s-min=15.3km az=51.0
ISC 16 23:49:02.9±0.7,8°.0N±0°.1×93°.6E±0°.1,h10km,n26,
σ0s88/24,mb4.0/15,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=215,slow=15,SNR=7.7	**11.60**	**26**	P	**Pn**	**23 51 49.4**	**+0.7**
CMAR	comp=Z,76nm,19.8s,baz=210,slow=35 1.7nm,0.8s			LR	LR	23 55 47.8	
PALK	**Pallekele** 0.2nm,0.3s,baz=333,slow=17,SNR=1.8	**12.83**	**268**	P	Pn	23 52 12.9	+7.3
PALK	2.8nm,0.6s,baz=287,slow=19,SNR=1.1 8.3nm,0.9s			S	**Sn**	**23 54 27.6**	**-1.0**
H08S3	**Diego Garcia H** baz=54,slow=76	**26.18**	**234**	T	T	00 21 34.2	
H08S2	**Diego Garcia H** baz=54,slow=76	**26.19**	**234**	T	T	00 21 34.0	
H08S1	**Diego Carcia H** baz=54,slow=76	**26.20**	**234**	T	T	00 21 28.5	
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=172,slow=7.5,SNR=5.5 0.5nm,0.6s	**39.85**	**348**	P	**P**	**23 56 35.5**	**-1.1**
SONM	**Songino Array** 1.2nm,0.9s,baz=197,slow=7.7,SNR=3.9	**41.15**	**13**	P	**P**	**23 56 46.5**	**-1.0**
SONM	0.6nm,0.7s,baz=184,slow=2.2,SNR=2.8 1.2nm,0.9s			PcP	**PcP**	**23 58 47.5**	**+0.7**
KURBB	**Kurchatov Arra** 1.3nm,0.2s,baz=155,slow=7.0,SNR=1.9 1.3nm,0.2s	**44.30**	**346**	P	**P**	**23 57 10.8**	**-2.0**
ZALV	**Zalesovo Beam** 3.6nm,0.5s,baz=180,slow=8.4,SNR=19 3.6nm,0.5s	**46.36**	**353**	P	**P**	**23 57 28.6**	**-0.6**
BVAR	**Borovoye Array** 0.5nm,0.6s,baz=116,slow=6.8,SNR=4.6	**48.70**	**342**	P	**P**	**23 57 46.8**	**-0.6**
BVAR	0.5nm,0.7s,baz=132,slow=6.4,SNR=3.7 0.5nm,0.6s			PcP	**PcP**	**23 59 12.6**	**+0.1**
WRA	**Warramunga Arr** 0.8nm,0.5s,baz=304,slow=8.7,SNR=26	**48.75**	**125**	P	**P**	**23 57 47.3**	**-1.0**
WRA	0.4nm,0.5s,baz=316,slow=2.9,SNR=5.5 0.8nm,0.5s			PcP	**PcP**	**23 59 13.3**	**0.0**
ASAR	**Alice Springs** 1.4nm,0.9s,baz=302,slow=7.5,SNR=8.0	**50.39**	**130**	P	**P**	**23 57 59.8**	**-1.0**
ASAR	0.6nm,0.6s,baz=309,slow=3.7,SNR=5.3 1.4nm,0.9s			PcP	**PcP**	**23 59 19.2**	**-0.1**
BRTR	**Keskin Array B** 0.8nm,0.7s,baz=118,slow=7.5,SNR=5.1 0.8nm,0.7s	**61.96**	**311**	P	**P**	**23 59 23.1**	**-0.3**
H04N2	**CROZET ISLANDS** baz=47,slow=75	**65.58**	**211**	T	T	01 10 59.0	
H04N1	**CROZET ISLANDS** baz=47,slow=75	**65.59**	**211**	T	T	01 10 54.5	
H04N3	**CROZET ISLANDS** baz=47,slow=75	**65.60**	**211**	T	T	01 10 58.7	
FINES	**FINESS Array B** 1.3nm,0.7s,baz=93,slow=5.8,SNR=6.7 1.3nm,0.7s	**72.36**	**332**	P	**P**	**00 00 28.6**	**-0.3**
GERES	**GERESS Array B** 0.4nm,0.7s,baz=101,slow=5.1,SNR=2.6 0.4nm,0.7s	**77.39**	**318**	P	**P**	**00 00 58.9**	**+0.5**
HFS	**Hagfors** 1.3nm,0.5s,baz=102,slow=6.2,SNR=17 1.3nm,0.5s	**78.09**	**330**	P	**P**	**00 01 02.1**	**+0.3**
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.6s,baz=92,slow=5.6	**79.37**	**331**	P	**P**	**00 01 08.6**	**-0.4**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.7s,baz=95,slow=5.1,SNR=6.8 comp=Z,0.6nm,0.7s	**79.37**	**331**	P	**P**	**00 01 09.0**	**0.0**
EKA	**Eskdalemuir Ar** comp=Z,2.2nm,0.9s,baz=95,slow=5.1,SNR=6.0 comp=Z,2.2nm,0.9s	**87.33**	**325**	P	**P**	**00 01 50.6**	**+0.6**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,1.0s,baz=86,slow=9.8,SNR=2.3 comp=Z,0.7nm,1.0s	**90.08**	**283**	P	**P**	**00 02 05.4**	**+1.5**
ESDC	**Sonseca Array** comp=Z,1.1nm,0.9s,baz=65,slow=3.8,SNR=7.3 comp=Z,1.1nm,0.9s	**90.75**	**310**	P	**P**	**00 02 07.7**	**+1.1**
PDAR	**Pinedale Array** comp=Z,0.5nm,0.8s,baz=77,slow=2.0,SNR=3.5	**125.23**	**21**	PKP	**PKPdf**	**00 08 04.4**	**-0.2**
PLCA	**Paso Flores** comp=Z,2.5nm,1.0s,baz=207,slow=4.7,SNR=5.0	**144.49**	**201**	PKP	**PKPdf**	**00 08 40.9**	**+0.7**

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*IDC **16** 23:55:56.6±0.9,36°.85N×33°.07W,h0km,mb3.8/7,*
mbtmp3.8/7,MS3.5/18,Error ellipse: s-maj=27.3km
s-min=19.9km az=146.0
ISC 16 23:55:58.3±0.9,37°.0N±0°.1×33°.0W±0°.2,h10km,n28,
σ1s79/12,mb3.9/7,MS3.5/18,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**2.76**	**30**	Pn	**Pn**	**23 56 42.5**	**-0.2**
H07S1				Sn	**Sn**	**23 57 12.9**	**-3.3**
H07N1	**FLORES T-PHASE**	**3.07**	**28**	Pn	**Pn**	**23 56 47.4**	**+0.5**
H07N1				Sn	**Sn**	**23 57 22.7**	**-0.9**
ESDC	**Sonseca Array** comp=Z,40nm,18.4s,baz=278,slow=30	**22.89**	**74**	LR	LR	00 07 16.5	
MDT	**Midelt** comp=Z,89nm,18.4s,baz=116,slow=30	**23.62**	**92**	LR	LR	00 07 54.9	
BBTS	**Babate** comp=Z,72nm,19.6s,baz=253,slow=31	**26.65**	**142**	LR	LR	00 09 28.8	
BORG	**Borgarnes** comp=Z,78nm,20.3s,baz=154,slow=29	**28.64**	**10**	LR	LR	00 09 54.1	
SCHQ	**Schefferville** comp=Z,146nm,20.6s,baz=86,slow=34	**29.13**	**319**	LR	LR	00 12 24.2	
SFJD	**Kangerlussuaq** comp=Z,93nm,18.6s,baz=115,slow=31	**31.69**	**347**	LR	LR	00 12 27.3	
MDP	**Montagnes des** comp=Z,26nm,19.4s,baz=6.5,slow=29	**36.49**	**214**	LR	LR	00 13 16.1	
NB2	**NORSAR Subarra** comp=Z,2.3nm,1.2s,baz=250,slow=9.3	**36.61**	**35**	P	**P**	**00 03 06.8**	**+2.4**
NOA	**NORSAR Array B** comp=Z,0.9nm,0.9s,baz=251,slow=8.8,SNR=5.4 comp=Z,0.9nm,0.9s	**36.61**	**35**	P	**P**	**00 03 07.0**	**+2.5**
TORD	**Torodi Ar. Bea** comp=Z,1.2nm,0.7s,baz=328,slow=4.8,SNR=9.8 comp=Z,1.2nm,0.7s	**39.05**	**118**	P	**P**	**00 03 24.9**	**-0.6**
DBIC	**Dimbokro** comp=Z,46nm,20.8s,baz=336,slow=33	**39.62**	**133**	LR	LR	00 17 53.0	

TKL	**Tuckaleechee C**	**40.53**	**284**	LR	LR	00 17 18.5
	comp=Z,40nm,20.8s,baz=66,slow=32					
FINES	**FINESS Array B**	**43.68**	**37**	P	**P**	**00 04 04.0 +1.1**
	comp=Z,1.3nm,0.9s,baz=252,slow=12,SNR=3.7					
	comp=Z,1.3nm,0.9s					
ULM	**Lac du Bonnet**	**46.07**	**307**	LR	LR	00 23 01.6
	comp=Z,67nm,18.4s,baz=5.0,slow=35					
PDAR	**Pinedale Array**	**57.15**	**302**	LR	LR	00 29 42.2
	comp=Z,20nm,18.4s,baz=35,slow=35					
ANMO	**Albuquerque**	**58.06**	**292**	LR	LR	00 29 06.0
	comp=Z,37nm,18.5s,baz=238,slow=34					
TXAR	**Lajitas Array**	**58.43**	**285**	P	**P**	**00 05 54.6 +0.1**
	comp=Z,1.0nm,0.8s,baz=79,slow=6.7,SNR=16					
	comp=Z,1.0nm,0.8s					
INK	**Inuvik**	**59.87**	**335**	LR	LR	00 29 04.2
	comp=Z,56nm,18.4s,baz=198,slow=33					
NEW	**Newport**	**59.96**	**310**	LR	LR	00 31 41.9
	comp=Z,42nm,18.3s,baz=58,slow=36					
ELK	**Elko**	**61.85**	**301**	LR	LR	00 32 30.3
	comp=Z,63nm,18.2s,baz=154,slow=35					
LPAZ	**La Paz**	**62.50**	**219**	P	**P**	**00 06 21.3 -1.6**
	comp=Z,1.3nm,1.0s,baz=38,slow=9.8,SNR=4.0					
	comp=Z,1.3nm,1.0s					
BBB	**Bella Bella**	**64.64**	**317**	LR	LR	00 33 23.5
	comp=Z,55nm,18.3s,baz=1.5,slow=35					
NVAR	**Mina Array Bea**	**65.01**	**300**	P	**P**	**00 06 38.6 -0.3**
	comp=Z,0.5nm,0.6s,baz=55,slow=7.8,SNR=4.1					
	comp=Z,0.5nm,0.6s					
YBH	**Yreka Blue Hor**	**66.39**	**305**	LR	LR	00 35 04.5
	comp=Z,59nm,18.8s,baz=101,slow=35					
KDAK	**Kodiak Island**	**72.88**	**331**	LR	LR	00 37 42.9
	comp=Z,56nm,18.3s,baz=28,slow=34					
MKAR	**Makanchi Array**	**78.44**	**39**	P	**P**	**00 08 00.4 +1.1**
	comp=Z,1.0nm,1.0s,baz=338,slow=3.4,SNR=3.2					
	comp=Z,1.0nm,1.0s					

*TIR **16** 23:57:47.6, 39°.01N×20°.68E, h23km±2km, Md3.1, Ml2.5*
*ATH **16** 23:57:48.2, 38°.99N×20°.74E, h18km±1km, ML2.5/9, Error ellipse: s-maj=1.9km s-min=0.8km az=264.0*
*THE **16** 23:57:48.1, 38°.99N×20°.68E, h26km, ML2.5/11, Error ellipse: s-maj=1.5km s-min=0.6km az=268.0*

ISC 16 23:57:48.1±0.9, 38°.97N±0°.02×20.73E±0°.02, h24km±5km, n48, σ0§89/87, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.16**	**202**	P	**Pb**	**23 57 52.7**	**-0.5**
TSLK				S	**Sb**	**23 57 57.6**	**+1.0**
	3μm,0.3s						
TSLK	**Tsoukalades, L**	**0.16**	**202**	P	**Pb**	**23 57 52.7**	**-0.5**
TSLK				S	**Sb**	**23 57 56.4**	**-0.1**
TSLK				AML	AML	23 57 59.2	
	comp=N,5479μm,0.4s						
TSLK				AML	AML	23 57 59.4	
	comp=E,5580μm,0.3s						
LKD2	**Lefkada island**	**0.19**	**197**	P	**Pb**	**23 57 53.2**	**-0.5**
	baz=185						
LKD2				S	**Sb**	**23 57 57.1**	**-0.2**
	baz=185						
LKD2				AMP			
	comp=N,5.7nm,0.1s,baz=185						
LKD2	**Lefkada island**	**0.19**	**197**	P	**Pb**	**23 57 53.1**	**-0.5**
LKD2				S	**Sb**	**23 57 58.2**	**+0.9**
	comp=N,2μm,0.3s						
LKD2	**Lefkada island**	**0.19**	**197**	P	**Pb**	**23 57 53.1**	**-0.5**
LKD2				S	**Sb**	**23 57 58.0**	**+0.7**
LKD2				AML	AML	23 57 58.5	
	comp=E,3314μm,0.3s						
LKD2				AML	AML	23 58 02.9	
	comp=N,4264μm,0.4s						
NYDR	**Nydri-Lefkada**	**0.26**	**186**	P	**Pb**	**23 57 54.0**	**-0.4**
NYDR				S	**Sb**	**23 58 00.0**	**+1.3**
	comp=N,990nm,0.4s						
NYDR	**Nydri-Lefkada**	**0.26**	**186**	P	**Pb**	**23 57 54.0**	**-0.4**
NYDR				S	**Sb**	**23 57 58.9**	**+0.2**
EVGI	**Lefkada island**	**0.35**	**189**	P	**Pb**	**23 57 55.6**	**-0.3**
EVGI				S	**Sb**	**23 58 02.7**	**+1.5**
EVGI	**Lefkada island**	**0.35**	**189**	P	**Pb**	**23 57 55.7**	**-0.3**
EVGI				S	**Sb**	**23 58 01.2**	**0.0**
FSK	**Fiskardo**	**0.53**	**194**	P	**Pb**	**23 57 58.3**	**-0.4**
FSK				S	**Sn**	**23 58 07.4**	**-0.9**
	comp=N,392nm,0.4s						
FSK	**Fiskardo**	**0.53**	**194**	P	**Pb**	**23 57 58.3**	**-0.4**
FSK				S	**Sn**	**23 58 07.6**	**-0.7**
FSK				AML	AML	23 58 10.3	
	comp=N,441μm,0.1s						
FSK				AML	AML	23 58 10.3	
	comp=E,924μm,0.2s						
IGT	**Igoumenitsa**	**0.64**	**331**	P	**Pb**	**23 57 59.2**	**-1.5**
	baz=333						
IGT				S	**Sb**	**23 58 08.6**	**-0.7**
	baz=333						
IGT				AMP			
	comp=N,0.9nm,0.2s,baz=333						
IGT	**Igoumenitsa**	**0.64**	**331**	P	**Pb**	**23 57 59.1**	**-1.5**
IGT				S	**Sn**	**23 58 09.8**	**-1.3**
	comp=N,245nm,0.6s						
IGT	**Igoumenitsa**	**0.64**	**331**	P	**Pb**	**23 57 59.1**	**-1.5**
IGT				S	**Sb**	**23 58 07.6**	**-1.6**
IGT				AML	AML	23 58 10.8	
	comp=E,429μm,0.3s						
IGT				AML	AML	23 58 19.9	
	comp=N,453μm,0.3s						
JAN	**Janina**	**0.69**	**8**	P	**Pb**	**23 58 01.6**	**0.0**
JAN				S	**Sn**	**23 58 11.4**	**-1.0**
JAN	**Janina**	**0.69**	**8**	P	**Pb**	**23 58 01.5**	**-0.1**
JAN				S	**Sb**	**23 58 11.0**	**+0.3**
JAN				AML	AML	23 58 14.8	
	comp=N,1697μm,0.4s						
JAN				AML	AML	23 58 14.8	
	comp=E,1796μm,0.3s						
PVO	**Paravola**	**0.71**	**119**	P	**Pb**	**23 58 01.0**	**-0.9**
PVO				S	**Sb**	**23 58 13.3**	**+2.0**
	comp=E,2μm,0.5s						
PVO	**Paravola**	**0.71**	**119**	P	**Pb**	**23 58 01.1**	**-0.9**
PVO				S	**Sb**	**23 58 11.9**	**+0.6**
SMHA	**Samh**	**0.72**	**185**	P	**Pb**	**23 58 01.3**	**-0.7**
SMHA				S	**Sn**	**23 58 12.7**	**-0.4**
DMLN	**Damoulianata-K**	**0.78**	**201**	P	**Pb**	**23 58 02.9**	**-0.2**
DMLN				S	**Sn**	**23 58 14.1**	**-0.5**
	comp=E,565nm,0.4s						
DMLN	**Damoulianata-K**	**0.78**	**201**	P	**Pb**	**23 58 02.8**	**-0.2**
DMLN				S	**Sb**	**23 58 13.3**	**0.0**
VLS	**Valsamata**	**0.80**	**188**	P	**Pb**	**23 58 02.8**	**-0.6**
VLS	**Valsamata**	**0.80**	**188**	P	**Pb**	**23 58 02.8**	**-0.6**
VLS				S	**Sn**	**23 58 15.0**	**0.0**
VLS				AML	AML	23 58 19.8	
	comp=E,728μm,0.3s						
VLS				AML	AML	23 58 23.5	
	comp=N,956μm,0.5s						
EVR	**Evrytania**	**0.84**	**93**	P	**Pb**	**23 58 04.1**	**0.0**
EVR				S	**Sn**	**23 58 17.1**	**+0.9**
EVR	**Evrytania**	**0.84**	**93**	P	**Pb**	**23 58 04.2**	**0.0**
EVR				S	**Sb**	**23 58 15.1**	**0.0**
EVR				AML	AML	23 58 18.7	
	comp=E,478μm,0.4s						
EVR				AML	AML	23 58 18.8	
	comp=N,275μm,0.6s						
ANX	**Ano Chora**	**1.00**	**112**	P	**Pn**	**23 58 05.9**	**-0.9**
ANX				S	**Sb**	**23 58 20.3**	**+0.5**
EFP	**Efpalio**	**1.07**	**120**	P	**Pn**	**23 58 07.0**	**-0.6**
SRN	**Sarande**	**1.07**	**328**	P	**Pn**	**23 58 06.7**	**-0.9**
	baz=330						
SRN				S	**Sn**	**23 58 22.1**	**+0.4**
	baz=330						
SRN				AMP			
	comp=N,0.3nm,0.5s,baz=330						
RLS	**Riolos of Patr**	**1.08**	**147**	P	**Pn**	**23 58 07.6**	**-0.1**
RLS				S	**Sb**	**23 58 22.8**	**+1.0**
	comp=N,105nm,0.5s						
RLS	**Riolos of Patr**	**1.08**	**147**	P	**Pn**	**23 58 07.4**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.09**	**87**	P	**Pn**	**23 58 07.8**	**-0.2**
MAKR				S	**Sb**	**23 58 22.8**	**+0.6**
	comp=N,420nm,0.5s						
MAKR	**Makrakomi, Fth**	**1.09**	**87**	P	**Pn**	**23 58 07.8**	**-0.2**
MAKR				S	**Sb**	**23 58 22.2**	**-0.1**
MAKR				AML	AML	23 58 30.9	
	comp=N,814μm,0.7s						
MAKR				AML	AML	23 58 32.7	
	comp=E,872μm,0.4s						
KPRO	**Kipourio**	**1.10**	**26**	P	**Pn**	**23 58 06.7**	**-1.4**
KPRO				S	**Sb**	**23 58 21.9**	**-0.5**
	comp=E,212nm,0.5s						
KPRO	**Kipourio**	**1.10**	**26**	P	**Pn**	**23 58 07.1**	**-0.9**
KPRO				S	**Sb**	**23 58 22.4**	**0.0**
THL	**Klokotos Trika**	**1.16**	**59**	P	**Pn**	**23 58 08.3**	**-0.5**
THL				S	**Sn**	**23 58 23.9**	**0.0**
	comp=E,180nm,0.6s						
THL	**Klokotos Trika**	**1.16**	**59**	P	**Pn**	**23 58 08.1**	**-0.7**
THL				S	**Sn**	**23 58 22.8**	**-1.1**
THL				AML	AML	23 58 31.9	
	comp=E,419μm,0.6s						
THL				AML	AML	23 58 32.2	
	comp=N,303μm,0.7s						
LSK	**Leskovik**	**1.18**	**355**	P	**Pb**	**23 58 09.6**	**-0.3**
	baz=357						
LSK				S	**Sb**	**23 58 26.4**	**+1.5**
	baz=357						
LSK				AMP			
	comp=N,1.2nm,0.6s,baz=357						
KALE	**Kalithea**	**1.25**	**117**	P	**Pn**	**23 58 10.6**	**+0.5**
AGG	**Agios Georgios**	**1.25**	**87**	P	**Pn**	**23 58 10.4**	**+0.3**
AGG				S	**Sn**	**23 58 25.7**	**-0.5**
PENT	**Pentalofos**	**1.26**	**14**	P	**Pn**	**23 58 10.7**	**+0.3**
TYRN	**Tyrnavos**	**1.38**	**57**	P	**Pn**	**23 58 12.0**	**+0.1**
TYRN				S	**Sn**	**23 58 28.3**	**-1.0**
NEST	**Nestorio**	**1.46**	**10**	P	**Pb**	**23 58 14.1**	**-0.6**
AXAR	**Agios Charalam**	**1.52**	**97**	P	**Pn**	**23 58 13.3**	**-0.5**
KBN	**Korca**	**1.65**	**2**	P	**Pb**	**23 58 18.3**	**+0.4**
	baz=2.0						
KBN				S	**Sb**	**23 58 39.7**	**+1.3**
	baz=2.0						
KBN				AMP			
	comp=E,0.3nm,0.8s,baz=2.0						
VLO	**Vlora**	**1.77**	**328**	P	**Pb**	**23 58 20.5**	**+0.6**
	baz=329						
VLO				S	**Sb**	**23 58 43.8**	**+2.0**
	baz=329						
FNA	**Florina**	**1.88**	**15**	P	**Pb**	**23 58 21.6**	**-0.2**
	baz=16						
FNA				S	**Sb**	**23 58 46.7**	**+1.9**
	baz=16						
FNA				AMP			
	comp=N,0.1nm,0.5s,baz=16						
SCTE	**Santa Cesarea**	**2.07**	**303**	P	**Pn**	**23 58 22.1**	**+0.8**
	baz=303						
BCI	**Bajram Curri**	**3.43**	**352**	P	**Pn**	**23 58 43.2**	**+3.1**
	baz=353						

*IDC **16** 23:58:36.8±7.1, 29°.40N×142°.03E, h0km, mb3.6/3, mbtmp3.7/5, ML3.4/2, MS3.7/1, Error ellipse: s-maj=163.8km s-min=108.2km az=70.0*
*JMA **16** 23:59:48.4±0.4, 33°.N±2°.×13°.8E±°, h341km±3km, MV3.1/41, FAR S OFF TOKAI DISTRICT*

ISC 16 23:59:49.7±1.5, 33°.1N±0°.2×138°.09E±0°.09, h341km, n20, σ1§26/24, mb3.0/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**1.77**	**320**	P	**Pn**	**00 00 38.7**	**+0.2**
HMMJ	**Hamamatsu 2**	**1.83**	**350**	*e*P	**Pn**	**00 00 39.3**	**+0.4**
JKN2	**Miekihoku**	**1.93**	**309**	P	**Pn**	**00 00 39.4**	**-0.1**
JTNC	**Tanabenakahech**	**2.21**	**291**	P	**Pn**	**00 00 41.2**	**-0.5**
JNY	**Yasuok**	**2.31**	**355**	*e*P	**Pn**	**00 00 42.9**	**+0.4**
JNY				*e*S	**S**	**00 01 24.7**	**-0.2**
JAO	**Obara**	**2.32**	**343**	P	**Pn**	**00 00 43.0**	**+0.5**
BSO3	**Boso 3**	**2.67**	**48**	*e*P	**Pn**	**00 00 44.9**	**-0.1**
BSO3				*e*S	**S**	**00 01 28.7**	**-0.8**
BSO4	**Boso 4**	**2.69**	**43**	*e*P	**Pn**	**00 00 45.7**	**+0.3**
BSO4				*e*S	**S**	**00 01 29.9**	**-0.3**
JYTA	**Yamagatataniai**	**2.78**	**337**	P	**Pn**	**00 00 46.4**	**+0.1**
BSO1	**Boso 1**	**2.89**	**56**	P	**Pn**	**00 00 46.7**	**+0.1**
BSO1				*e*S	**S**	**00 01 31.0**	**-1.5**
JAI	**Aioi**	**3.13**	**285**	P	**Pn**	**00 00 48.8**	**-0.8**
JWT	**Wachi**	**3.15**	**316**	P	**Pn**	**00 00 49.3**	**-0.4**
JAG	**Ashikaga**	**3.55**	**18**	P	**Pn**	**00 00 53.8**	**+0.3**
JAG				S	**S**	**00 01 41.0**	**-3.9**
JTO	**Tosashimizu**	**4.45**	**269**	P	**Pn**	**00 01 02.1**	**-0.8**
KSRS	**Korea Array**	**9.40**	**301**	Pn	**Pn**	**00 02 00.0**	**-0.4**
	0.1nm,0.3s,baz=125,slow=12,SNR=5.6						
	1.1nm,0.6s						
USRK	**Ussuriysk Ar.**	**12.11**	**339**	Pn	**P**	**00 02 32.8**	**+0.1**
	0.2nm,0.3s,baz=149,slow=12,SNR=5.4						
	1.8nm,0.7s						
SONM	**Songino Array**	**28.05**	**311**	P	**P**	**00 05 14.1**	**+3.4**
	0.4nm,0.5s,baz=106,slow=8.5,SNR=2.8						
	0.4nm,0.5s						
PMG	**Port Moresby**	**43.09**	**167**	LR	LR	00 21 14.4	
	comp=Z,105nm,18.6s,baz=195,slow=35						
MKAR	**Makanchi Array**	**44.05**	**305**	P	**P**	**00 07 24.3**	**-0.5**
	0.3nm,0.3s,baz=90,slow=9.9,SNR=9.5						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**51.31**	**314**	P	**P**	**00 08 18.8**	**-1.1**
	0.5nm,0.5s,baz=79,slow=7.6,SNR=3.3						
	0.5nm,0.5s						

*IDC **17** 00:00:25.9±0.9, 15°.19N×108°.08E, h0km, mb3.8/7, mbtmp3.8/8, ML4.0/1, MS3.3/2, Error ellipse: s-maj=55.6km s-min=17.0km az=50.0*
*PLV **17** 00:00:25.4±2.2, 15°.18N×108°.04E, h16km±999km, ML4.0*

ISC 17 00:00:27.1±0.9, 15°.15N±0°.09×108°.0E±0°.2, h10km, n12, σ1§33/11, mb3.8/7, Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLV	**T Lat**	**3.22**	**172**	*e*Pg	**Pg**	**00 01 27.1**	**-1.7**
DLV				*e*Sg	**Sg**	**00 02 10.7**	**0.0**
DLV				IAML		00 02 15.9	
	comp=E,4μm,0.3s						
DLV				IAML		00 02 17.3	
	comp=N,5μm,0.3s						
CCVB	**Con Cuong**	**4.90**	**323**	*e*Sg	**Sg**	**00 03 02.0**	**-2.4**
CCVB				IAML		00 03 10.6	
	comp=E,441nm,0.7s						
CCVB				IAML		00 03 10.6	
	comp=N,587nm,0.7s						
CMAR	**Chiang Mai Arr**	**9.28**	**292**	Pn	**Pn**	**00 02 42.9**	**+1.8**
	comp=N,0.4nm,0.3s,baz=115,slow=13,SNR=5.4						
CMAR				Lg	Lg	00 05 21.2	
	baz=123,slow=30						
	comp=N,1.3nm,0.5s						
KSRS	**Korea Array**	**28.38**	**35**	LR	LR	00 18 45.6	
	comp=N,36nm,18.3s,baz=240,slow=39						
ZALV	**Zalesovo Beam**	**42.76**	**340**	P	**P**	**00 08 25.4**	**+0.9**
	comp=N,1.1nm,0.7s,baz=128,slow=9.6,SNR=5.4						
	comp=N,1.1nm,0.7s						
WRA	**Warramunga Arr**	**43.44**	**143**	P	**P**	**00 08 30.4**	**0.0**
	comp=N,1.2nm,0.6s,baz=328,slow=9.0,SNR=14						
	comp=N,1.2nm,0.6s						
ASAR	**Alice Springs**	**46.15**	**146**	P	**P**	**00 08 52.7**	**+0.6**
	comp=N,1.1nm,0.8s,baz=318,slow=6.3,SNR=5.8						
	comp=N,1.1nm,0.8s						
BVAR	**Borovoye Array**	**48.01**	**330**	P	**P**	**00 09 05.5**	**-0.8**
	comp=N,0.4nm,0.5s,baz=126,slow=9.7,SNR=1.7						
	comp=N,0.4nm,0.5s						
STKA	**Stephens Creek**	**56.78**	**146**	P	**P**	**00 10 11.3**	**-0.2**
	comp=N,4.1nm,0.8s,baz=324,slow=15,SNR=1.2						
	comp=N,4.1nm,0.8s						
KVAR	**Kislovodsk Arr**	**61.90**	**312**	LR	LR	00 39 48.6	
	comp=N,31nm,21.3s,baz=14,slow=38						
HFS	**Hagfors**	**79.13**	**329**	P	**P**	**00 12 32.3**	**+0.5**
	comp=N,0.6nm,0.7s,baz=100,slow=6.0,SNR=2.0						
	comp=N,0.6nm,0.7s						
NOA	**NORSAR Array B**	**80.14**	**331**	P	**P**	**00 12 37.7**	**+0.4**
	comp=N,0.3nm,0.6s,baz=73,slow=5.6,SNR=2.5						
	comp=N,0.3nm,0.6s						

*IDC **17** 00:02:33.8±5.8, 0°.04S×101°.20E, h0km, mb3.5/3, mbtmp3.5/3, MS3.4/3, Error ellipse: s-maj=318.4km s-min=27.9km az=54.0*
*DJA **17** 00:02:33.6±0.3, 0°.S±2°.×10°.0E±°, h10km, M4.0/10, mb4.0/1, MLv4.1/10*

ISC 17 00:02:34.8±0.9, 0°.34S±0°.05×100°.46E±0°.06, h25km, n12, σ1§20/13, mb3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.56**	**179**	P	**Pb**	**00 02 45.0**	**-1.2**
PDSI				S	**Sb**	**00 02 53.3**	**-0.6**
BKNI	**Bangkinang**	**0.88**	**41**	P	**Pn**	**00 02 50.7**	**-1.0**
BKNI				S	**Sb**	**00 03 03.6**	**+0.7**
SISI	**Saibi**	**1.68**	**234**	P	**Pn**	**00 03 02.2**	**-0.4**
SISI				S	**Sn**	**00 03 23.7**	**+0.4**
PBSI	**Pulau Batu**	**2.19**	**277**	P	**Pn**	**00 03 08.9**	**-0.8**
PPSI	**Pulau Pagai**	**2.44**	**191**	P	**Pn**	**00 03 15.0**	**+1.9**
GSI	**Gunungsitoli**	**3.31**	**300**	P	**Pn**	**00 03 25.1**	**0.0**
TPRI	**Tanjung Pinang**	**4.26**	**73**	P	**Pn**	**00 03 38.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**18.74**	**356**	LR	LR	00 14 42.7	
	comp=Z,76nm,19.0s,baz=190,slow=39						
WRA	**Warramunga Arr**	**38.46**	**123**	P	**P**	**00 09 54.1**	**-1.0**
	0.6nm,0.7s,baz=302,slow=9.1,SNR=5.3						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**39.88**	**128**	P	**P**	**00 10 05.8**	**-1.1**
	0.5nm,0.7s,baz=303,slow=7.7,SNR=4.2						
ASAR				LR	LR	00 26 30.7	
	comp=Z,151nm,19.8s,baz=241,slow=36						
	0.5nm,0.7s						
JCJ	**Chichijima**	**48.50**	**52**	LR	LR	00 29 22.4	
	comp=Z,18nm,21.2s,baz=110,slow=34						
MKAR	**Makanchi Array**	**49.57**	**344**	P	**P**	**00 11 26.0**	**+2.2**
	0.2nm,0.4s,baz=142,slow=7.3,SNR=3.8						
	0.2nm,0.4s						

ATH 17 00:23:04.5, 37°.99N×21°.02E, h19km±7km, ML1.2/2, Error ellipse: s-maj=7.0km s-min=1.0km az=179.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.31**	**207**	P	Pg	00 23 11.2	-0.1
LTHK				S	Sb	00 23 16.6	+0.3
LTHK				AML	AML	00 23 21.2	
	comp=E,145μm,0.3s						
LTHK				AML	AML	00 23 22.7	
	comp=N,126μm,0.2s						
RLS	**Riolos of Patr**	**0.36**	**79**	P	Pg	00 23 11.6	-0.5
RLS				S	Sb	00 23 17.6	-0.2
RLS				AML	AML	00 23 19.2	
	comp=E,74μm,0.3s						
RLS				AML	AML	00 23 19.3	
	comp=N,73μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.36**	**290**	P	Pg	00 23 11.6	-0.6
PSDA				S	Sg	00 23 17.4	+0.1
VLS	**Valsamata**	**0.39**	**299**	P	Pg	00 23 12.0	-0.6
VLS				S	Sb	00 23 18.6	+0.1
DMLN	**Damoulianata-K**	**0.56**	**296**	P	Pb	00 23 15.4	-0.4
DMLN				S	Sg	00 23 23.9	+0.4
FSK	**Fiskardo**	**0.59**	**323**	P	Pb	00 23 16.0	-0.2
EVGI	**Lefkada island**	**0.69**	**336**	P	Pb	00 23 17.3	-0.6
EVGI				S	Sg	00 23 27.5	+0.2
NYDR	**Nydri-Lefkada**	**0.76**	**341**	P	Pb	00 23 18.5	-0.7
LKD2	**Lefkada island**	**0.85**	**341**	P	Pb	00 23 20.0	-0.6
LKD2				S	Sb	00 23 31.5	-0.1

*IDC **17** 00:29:09.9±12.0, 15°.28S×165°.18E, h0km, mb4.0/3, mbtmp4.1/4, ML4.6/1, Error ellipse: s-maj=215.6km s-min=34.9km az=52.0*
*NOU **17** 00:29:18.5, 15°.61S×167°.62E, h45km, MLv4.0/8, Vanuatu Islands*

ISC 17 00:29:10.5±3.1, 15°.1S±0°.2×167°.7E±0°.3, h200km, n10, σ1§17/11, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**5.67**	**185**	P	**Pn**	**00 30 32.5**	**-1.0**
KOUNC	**Koumac, New Ca**	**6.34**	**211**	P	**Pn**	**00 30 42.3**	**+0.1**
MARNC	**Mare, Loyalty**	**6.35**	**178**	P	**Pn**	**00 30 42.4**	**+0.1**
YATNC	**Mamie plateau,**	**6.97**	**187**	P	**Pn**	**00 30 50.4**	**0.0**
DZM	**Mont Dzumac**	**7.04**	**190**	Pn	**Pn**	**00 30 52.2**	**+0.8**
	10nm,0.3s,baz=324,slow=23,SNR=51						
DZM				Sn	**Sn**	**00 32 10.6**	**-1.0**
	1.7nm,0.3s,baz=150,slow=20,SNR=1.6						
	25nm,0.3s						
NOUC	**Port Laguerre**	**7.10**	**191**	P	**Pn**	**00 30 53.4**	**+1.4**
ONTNC	**Ouen Toro**	**7.27**	**189**	P	**Pn**	**00 30 55.6**	**+1.3**
STKA	**Stephens Creek**	**29.11**	**230**	P	**P**	**00 34 54.1**	**+1.4**
	1.3nm,0.4s,baz=53,slow=8.9,SNR=5.2						
	1.3nm,0.4s						
WRA	**Warramunga Arr**	**32.18**	**257**	P	**P**	**00 35 18.4**	**-1.5**
	0.5nm,0.6s,baz=85,slow=9.2,SNR=7.6						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**32.97**	**250**	P	**P**	**00 35 26.1**	**-0.6**
	0.7nm,0.3s,baz=75,slow=9.1,SNR=13						
	0.7nm,0.3s						

IDC 17 00:47:06.0±2.1, 3°.13N×127°.70E, h0km, mb3.6/3, mbtmp3.7/3, MS3.2/3, Error ellipse: s-maj=154.1km s-min=24.9km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.89**	**58**	LR	LR	00 57 04.9	
	comp=Z,30nm,20.7s,baz=206,slow=30						
WRA	**Warramunga Arr**	**23.84**	**164**	P	P	00 52 20.9	-0.3
	2.2nm,1.0s,baz=344,slow=10,SNR=15						
	2.2nm,1.0s						
ASAR	**Alice Springs**	**27.31**	**168**	P	P	00 52 52.6	-0.1
	0.2nm,0.4s,baz=347,slow=7.6,SNR=2.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.60**	**325**	P	P	00 57 05.0	+0.2
	0.7nm,0.5s,baz=113,slow=7.9,SNR=9.2						
MKAR				LR	LR	01 23 47.7	
	comp=Z,35nm,19.2s,baz=206,slow=38						
	0.7nm,0.5s						
NOA	**NORSAR Array B**	**99.75**	**334**	LR	LR	01 48 46.6	
	comp=Z,9.9nm,18.2s,baz=315,slow=37						

*SOME **17** 01:01:00.3, 38°.78N×71°.85E, h35km*

NNC 17 01:00:55.8±12.0, 38°.71N×72°.47E, h0km, mb3.8, mpv3.4, 1D, Error ellipse: s-maj=85.3km s-min=64.5km az=170.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.90**	**332**	*e*P	Pb	01 02 06.1	+0.5
	3.7nm,0.1s						
IUG				*e*S	Sg	01 02 58.4	-2.8
	27nm,0.4s						
IUG	**Iuzhnay**	**3.90**	**332**	Pg	Pb	01 02 08.0	+2.4
	12nm,0.3s						
IUG				Lg	Lg	01 03 02.0	
	27nm,0.4s						
MRKS	**Merke**	**4.07**	**8**	*e*P	Pg	01 02 12.9	-1.0
	3.8nm,0.4s						
MRKS				*e*S	Sg	01 03 10.7	+4.1
	17nm,0.2s						
MRKS	**Merke**	**4.07**	**8**	Pg	Pg	01 02 12.9	-1.0
	3.8nm,0.4s						
MRKS				Lg	Lg	01 03 10.7	
	17nm,0.5s						
KK31	**Karatay Array**	**4.63**	**342**	⇓Pg	Pb	01 02 18.2	+0.3
	0.7nm,0.5s,baz=160,slow=12,SNR=14						
KK31				Lg	Lg

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.50**	**352**	*i* P	**Pn**	**01 48 37.7**	**-0.4**
KDTR				*i* S	**Sn**	**01 48 45.3**	**-1.9**
KDTR	**Khodutka, Kamc**	**0.50**	**352**	PN	**Pn**	**01 48 37.7**	**-0.4**
KDTR				S	**Sn**	**01 48 45.2**	**-1.9**
ASAK	**Asacha**	**1.08**	**351**	*i* P	**Pn**	**01 48 45.5**	**+0.2**
ASAK	**Asacha**	**1.08**	**351**	PN	**Pn**	**01 48 45.4**	**+0.2**
MTVR	**Mutnovka**	**1.17**	**360**	*i* P	**Pn**	**01 48 46.5**	**+0.1**
MTVR	**Mutnovka**	**1.17**	**360**	PN	**Pn**	**01 48 46.4**	**+0.1**
GRL	**Gorelyy**	**1.24**	**357**	*i* P	**Pn**	**01 48 47.7**	**+0.4**
GRL	**Gorelyy**	**1.24**	**357**	PN	**Pn**	**01 48 47.7**	**+0.4**
SKR	**Severo-Kuril's**	**1.45**	**245**	*i* P	**Pn**	**01 48 50.2**	**+0.3**
SKR				*i* S	**Sn**	**01 49 08.1**	**+0.1**
SKR	**Severo-Kuril's**	**1.45**	**245**	⇓*i* PN	**Pn**	**01 48 50.3**	**+0.3**
SKR				*i* S	**Sn**	**01 49 08.2**	**+0.1**
SKR	comp=Z,2μm,0.3s			pmax	pmax		
SKR	comp=E,54μm,0.4s			smax	smax		
SKR	comp=N,28μm,0.3s			smax	smax		
KRMR	**Karymshinskiy**	**1.52**	**359**	*i* P	**Pn**	**01 48 51.4**	**+0.6**
KRMR				*i* S	**Sn**	**01 49 09.1**	**-0.6**
KRMR	**Karymshinskiy**	**1.52**	**359**	PN	**Pn**	**01 48 51.4**	**+0.6**
KRMR				S	**Sn**	**01 49 09.0**	**-0.6**
APC	**Apacha**	**1.73**	**339**	*i* P	**Pn**	**01 48 54.5**	**+0.7**
APC				*i* S	**Sn**	**01 49 16.1**	**+1.2**
APC	**Apacha**	**1.73**	**339**	PN	**Pn**	**01 48 54.4**	**+0.7**
APC				S	**Sn**	**01 49 16.0**	**+1.2**
PET	**Petropavlovsk**	**1.74**	**9**	P	**Pn**	**01 48 54.1**	**+0.4**
PET	**Petropavlovsk**	**1.74**	**9**	Pn	**Pn**	**01 48 53.9**	**+0.2**
PET				Sn	**Sn**	**01 49 14.3**	**-0.5**
PET	**Petropavlovsk**	**1.74**	**9**	*i* P	**Pn**	**01 48 54.0**	**+0.2**
PET	**Petropavlovsk**	**1.74**	**9**	PN	**Pn**	**01 48 53.9**	**+0.2**
DALK	**Dalny**	**1.75**	**11**	*i* P	**Pn**	**01 48 54.4**	**+0.4**
DALK				*i* S	**Sn**	**01 49 15.6**	**+0.3**
DALK	**Dalny**	**1.75**	**11**	PN	**Pn**	**01 48 54.3**	**+0.4**
DALK				S	**Sn**	**01 49 15.6**	**+0.3**
INSR	**Institute**	**1.77**	**8**	*i* P	**Pn**	**01 48 54.8**	**+0.5**
INSR				*i* S	**Sn**	**01 49 16.7**	**+0.9**
INSR	**Institute**	**1.77**	**8**	PN	**Pn**	**01 48 54.7**	**+0.5**
INSR				S	**Sn**	**01 49 16.7**	**+0.9**
UGLR	**Uglovaya**	**1.94**	**11**	*i* P	**Pn**	**01 48 57.4**	**+0.9**
UGLR	**Uglovaya**	**1.94**	**11**	PN	**Pn**	**01 48 57.4**	**+0.9**
AVH	**Avacha**	**1.98**	**10**	*eP*	**Pn**	**01 48 58.3**	**+1.2**
AVH	**Avacha**	**1.98**	**10**	PN	**Pn**	**01 48 58.3**	**+1.2**
SMAR	**Somma**	**1.99**	**11**	*eP*	**Pn**	**01 48 57.9**	**+0.6**
SMAR	**Somma**	**1.99**	**11**	PN	**Pn**	**01 48 57.9**	**+0.6**
NLC	**Nalytchevo**	**1.99**	**20**	*i* P	**Pn**	**01 48 56.2**	**-1.0**
NLC				*eS*	**Sn**	**01 49 18.8**	**-2.2**
NLC	**Nalytchevo**	**1.99**	**20**	PN	**Pn**	**01 48 56.2**	**-1.0**
NLC				S	**Sn**	**01 49 18.8**	**-2.2**
KOK	**Koryaka**	**2.00**	**8**	*eP*	**Pn**	**01 48 58.8**	**+1.4**
KOK	**Koryaka**	**2.00**	**8**	PN	**Pn**	**01 48 58.8**	**+1.4**
KRER	**Koryakskii**	**2.02**	**10**	*eP*	**Pn**	**01 48 58.8**	**+1.0**
KRER	**Koryakskii**	**2.02**	**10**	PN	**Pn**	**01 48 58.8**	**+1.0**
KRX	**Arik**	**2.07**	**8**	*eP*	**Pn**	**01 48 59.4**	**+1.0**
KRX	**Arik**	**2.07**	**8**	PN	**Pn**	**01 48 59.4**	**+1.0**
SPN	**Mys Shipunski**	**2.11**	**32**	*eP*	**Pn**	**01 48 59.0**	**+0.2**
SPN	**Mys Shipunski**	**2.11**	**32**	PN	**Pn**	**01 48 59.0**	**+0.2**
GNL	**Ganaly**	**2.39**	**356**	*i* P	**Pn**	**01 49 03.7**	**+1.0**
GNL	**Ganaly**	**2.39**	**356**	PN	**Pn**	**01 49 03.7**	**+1.0**
KII	**Karymskiy**	**2.83**	**15**	*i* P	**Pn**	**01 49 10.3**	**+1.6**
KII	**Karymskiy**	**2.83**	**15**	PN	**Pn**	**01 49 10.3**	**+1.6**
MKZ	**Mys Kozlova**	**3.89**	**32**	*i* P	**Pn**	**01 49 23.0**	**0.0**
MKZ	**Mys Kozlova**	**3.89**	**32**	PN	**Pn**	**01 49 23.0**	**0.0**
TUMD	**Tumrok D**	**4.12**	**18**	*i* P	**Pn**	**01 49 27.5**	**+1.3**
TUMD	**Tumrok D**	**4.12**	**18**	PN	**Pn**	**01 49 27.4**	**+1.3**
TUMR	**Tumrok**	**4.15**	**16**	*eP*	**Pn**	**01 49 28.8**	**+2.1**
TUMR	**Tumrok**	**4.15**	**16**	PN	**Pn**	**01 49 28.8**	**+2.1**
KMNR	**Kamenistaya**	**4.62**	**15**	*eP*	**Pn**	**01 49 35.6**	**+2.6**
KMNR	**Kamenistaya**	**4.62**	**15**	PN	**Pn**	**01 49 35.6**	**+2.6**
ESO	**Esso**	**4.63**	**4**	*eP*	**Pn**	**01 49 35.3**	**+2.1**
ESO	**Esso**	**4.63**	**4**	PN	**Pn**	**01 49 35.3**	**+2.1**
BZP	**Bezymyannyi-Pe**	**4.81**	**16**	*eP*	**Pn**	**01 49 37.8**	**+2.0**
BZP	**Bezymyannyi-Pe**	**4.81**	**16**	PN	**Pn**	**01 49 37.8**	**+2.0**
KPT	**Kopyto**	**4.81**	**14**	*eP*	**Pn**	**01 49 37.6**	**+1.9**
KPT	**Kopyto**	**4.81**	**14**	PN	**Pn**	**01 49 37.6**	**+1.9**
KIRR	**Kirishev**	**4.82**	**15**	*eP*	**Pn**	**01 49 37.7**	**+1.8**
KIRR	**Kirishev**	**4.82**	**15**	PN	**Pn**	**01 49 37.7**	**+1.8**
BZMR	**Bezymyannaya**	**4.83**	**16**	*eP*	**Pn**	**01 49 38.1**	**+2.1**
BZMR	**Bezymyannaya**	**4.83**	**16**	PN	**Pn**	**01 49 38.1**	**+2.1**
BZWR	**Bezymyannyi-We**	**4.86**	**16**	*eP*	**Pn**	**01 49 38.9**	**+2.5**
BZWR	**Bezymyannyi-We**	**4.86**	**16**	PN	**Pn**	**01 49 38.9**	**+2.5**
BZGR	**Bezymyannyi-Gr**	**4.87**	**17**	*eP*	**Pn**	**01 49 38.7**	**+2.2**
BZGR	**Bezymyannyi-Gr**	**4.87**	**17**	PN	**Pn**	**01 49 38.7**	**+2.2**
LGNR	**Loginova**	**5.00**	**16**	*eP*	**Pn**	**01 49 41.3**	**+2.8**
LGNR	**Loginova**	**5.00**	**16**	PN	**Pn**	**01 49 41.3**	**+2.8**
CIRR	**Tsirk**	**5.04**	**17**	*eP*	**Pn**	**01 49 41.8**	**+2.8**
CIRR	**Tsirk**	**5.04**	**17**	PN	**Pn**	**01 49 41.8**	**+2.8**
SRDR	**Sredinnyy**	**5.09**	**10**	*eP*	**Pn**	**01 49 41.2**	**+1.7**
SRDR	**Sredinnyy**	**5.09**	**10**	PN	**Pn**	**01 49 41.2**	**+1.7**
KRSR	**Krestovskiy**	**5.11**	**15**	*eP*	**Pn**	**01 49 41.4**	**+1.6**
KRSR	**Krestovskiy**	**5.11**	**15**	PN	**Pn**	**01 49 41.4**	**+1.6**
KBTR	**Krutoberegovo**	**5.62**	**27**	*i* P	**Pn**	**01 49 47.4**	**+0.7**
KBTR	**Krutoberegovo**	**5.62**	**27**	PN	**Pn**	**01 49 47.4**	**+0.7**
KBG	**Krutoberegovo**	**5.63**	**27**	*i* P	**Pn**	**01 49 47.9**	**+1.1**
KBG	**Krutoberegovo**	**5.63**	**27**	PN	**Pn**	**01 49 47.9**	**+1.1**
BKI	**Bering**	**6.08**	**47**	*eP*	**Pn**	**01 49 52.5**	**-0.4**
BKI				*eS*	**Sn**	**01 50 53.8**	**-7.2**
BKI	**Bering**	**6.08**	**47**	PN	**Pn**	**01 49 52.5**	**-0.4**
OSSR	**Ossora**	**8.42**	**17**	*eP*	**Pn**	**01 50 26.4**	**+1.5**
OSSR	**Ossora**	**8.42**	**17**	PN	**Pn**	**01 50 26.4**	**+1.5**
KUR	**Kuril'sk**	**9.18**	**233**	*e*PN	**Pn**	**01 50 36.6**	**+1.2**
KUR				S	**Sn**	**01 52 21.4**	**+4.3**
KUR	comp=Z,121nm,0.6s			pmax	pmax		
MA2	**Magadan**	**9.29**	**336**	LR	LR	01 54 17.0	
TYV	**Tymovskoe**	**9.79**	**273**	*e*PN	**Pn**	**01 50 46.3**	**+2.6**
TYV	comp=Z,6.0nm,0.9s			pmax	pmax		
TYV	comp=Z,100nm,3.4s			pmax	pmax		
TYV	comp=E,300nm,12.0s			MLR	MLR		
TYV	comp=Z,200nm,10.0s			MLR	MLR		
SHEM	**Shemya Is, Ala**	**9.91**	**76**	P	**Pn**	**01 50 46.3**	**+1.0**
SHEM	comp=Z,155nm,0.5s,baz=331,slow=1.7,SNR=38			S	**Sn**	**01 52 27.3**	**-7.5**
SHEM	comp=Z,236nm,0.3s,baz=297,slow=18,SNR=21			LR	LR	01 54 26.7	
SHO	**Shikotan**	**10.68**	**230**	*e*PN	**Pn**	**01 50 51.6**	**-4.3**
SHO	comp=Z,49nm,0.4s			pmax	pmax		
SHO	comp=E,13nm,0.5s			pmax	pmax		
SHO	comp=N,14nm,0.2s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**11.01**	**253**	Pn	**Pn**	**01 50 58.9**	**-1.4**
YSS	**Yuzh-Sakhalins**	**11.01**	**253**	*i* PN	**Pn**	**01 51 02.6**	**+2.3**
YUK	**Yuzh-Kuril'sk**	**11.04**	**234**	*e*PN	**Pn**	**01 50 59.7**	**-1.1**
YUK	comp=Z,223nm,0.5s			pmax	pmax		
YUK	comp=N,45nm,0.3s			pmax	pmax		
YUK	comp=E,76nm,0.4s			pmax	pmax		
SEY	**Seymchan**	**12.06**	**347**	P	**Pn**	**01 51 16.1**	**+1.6**
SEY	**Seymchan**	**12.06**	**347**	⇑*e*PN	**Pn**	**01 51 13.8**	**-0.8**
SEY	comp=Z,2.0nm,1.2s			pmax	pmax		
JKA	**Kamikawa-asahi**	**12.71**	**242**	Pn	**Pn**	**01 51 23.4**	**-0.2**
ASAJ	**Asahikawa**	**12.72**	**242**	P	**Pn**	**01 51 24.0**	**+0.4**
ASAJ	comp=Z,50nm,0.7s,baz=63,slow=10,SNR=14			LR	LR	01 55 39.1	
ASAJ	**Asahikawa**	**12.72**	**242**	PN	**Pn**	**01 51 23.4**	**-0.2**
ERM	**Erimo**	**13.87**	**234**	P	**Pn**	**01 51 36.5**	**-2.6**
ERM	**Erimo**	**13.87**	**234**	Pn	**Pn**	**01 51 35.6**	**-3.5**
ERM	**Erimo**	**13.87**	**234**	*d* iP	**Pn**	**01 51 36.6**	**-2.6**
ERM	comp=Z,11nm,0.7s			pmax	pmax		
JEM	**Erimo**	**13.87**	**234**	P	**Pn**	**01 51 36.5**	**-2.6**
ADK	**Adak**	**15.61**	**78**	P	**P**	**01 52 07.3**	**+2.8**
KLR	**Kul'dur**	**17.00**	**273**	P	**P**	**01 52 21.2**	**+1.2**
KLR	comp=Z,5.4nm,0.7s,baz=71,slow=11,SNR=16			LR	LR	01 59 36.0	
KLR	comp=Z,219nm,18.1s,baz=62,slow=40						
KLR	**Kul'dur**	**17.00**	**273**	⇑*e*P	**Pn**	**01 52 19.1**	**0.0**
KLR	comp=Z,22nm,1.0s			pmax	pmax		
ATKA	**Atka Island**	**17.08**	**76**	P	**P**	**01 52 25.2**	**+4.3**
BILL	**Bilibino**	**17.24**	**10**	⇑*e*P	**P**	**01 52 23.0**	**+0.5**
BILL	comp=Z,3.0nm,0.9s			pmax	pmax		
BILL	comp=Z,198nm,20.0s			MLR	MLR		
JMM	**Marumori**	**18.22**	**229**	P	**P**	**01 52 33.5**	**0.0**
JMM	**Marumori**	**18.22**	**229**	P	**P**	**01 52 31.3**	**-2.2**
YAK	**Yakutsk**	**18.81**	**316**	P	**P**	**01 52 35.4**	**-4.4**
YAK	**Yakutsk**	**18.81**	**316**	LR	LR	01 59 54.4	
YAK	**Yakutsk**	**18.81**	**316**	*e*P	Pn	01 52 53.4	+12
YAK	comp=Z,44nm,0.8s			pmax	pmax		
YAK	comp=N,5.0nm,0.9s			pmax	pmax		
YAK	comp=E,17nm,0.9s			pmax	pmax		
YAK	comp=Z,41nm,1.4s			pmax	pmax		
YAK	comp=N,12nm,1.3s			pmax	pmax		
YAK	comp=E,22nm,1.4s			MLR	MLR		
YAK	comp=Z,116nm,21.0s			MLR	MLR		
YAK	comp=E,56nm,19.0s						
USA0B	**Ussuriysk Arra**	**18.93**	**258**	P	**P**	**01 52 38.5**	**-2.8**
USA0B	**Ussuriysk Arra**	**18.93**	**258**	*ce*P	**P**	**01 52 39.6**	**-1.7**
USRK	**Ussuriysk Ar.**	**18.93**	**258**	P	**P**	**01 52 38.6**	**-2.7**
USRK	**Ussuriysk Ar.**	**18.93**	**258**	P	**P**	**01 52 39.7**	**-1.6**
USRK	comp=E,8.2nm,0.8s,baz=64,slow=10,SNR=19			LR	LR	01 59 40.6	
USRK	comp=E,191nm,20.6s,baz=66,slow=36						
SPIA	**Saint Paul Isl**	**19.23**	**60**	P	**Pn**	**01 52 50.6**	**+4.6**
HEH	**HeiHe**	**19.42**	**279**	*e*P	**Pn**	**01 52 48.4**	**+0.1**
HEH	comp=E,33nm,0.9s			pmax	pmax		
HEH	comp=E,170nm,5.8s			pmax	pmax		
HEH	comp=E,180nm,14.0s			LR	LR		
HEH	comp=E,170nm,12.2s			LR	LR		
HEH	comp=E,310nm,13.5s			LR	LR		
P08K	**Saint George I**	**19.59**	**62**	P	**Pn**	**01 52 49.9**	**-0.3**
NIKH	**Nikolski High**	**20.20**	**72**	P	Pn	01 52 56.8	-0.6
MDJ	**Mudanjiang**	**20.20**	**262**	P	**P**	**01 52 54.4**	**-0.7**
MDJ				S	**S**	**01 56 38.5**	**+0.4**
MDJ				SS	**SnSn**	**01 57 06.3**	**+6.8**
MDJ	comp=E,8.0nm,0.8s			pmax	pmax		
MDJ	**Mudanjiang**	**20.20**	**262**	P	**P**	**01 52 52.2**	**-2.9**
MJB9	**Matsu-Tunnel**	**20.52**	**232**		**P**	**01 52 59.3**	**+0.7**
MAJO	**Matsushiro**	**20.52**	**232**	P	**P**	**01 52 59.3**	**+0.7**
MAJO	**Matsushiro**	**20.52**	**232**	P	**P**	**01 52 59.4**	**+0.7**
MAJO	**Matsushiro**	**20.52**	**232**	*d* iP	**P**	**01 52 59.0**	**+0.3**
MAJO	comp=Z,32nm,0.9s			pmax	pmax		
MJAR	**Matsushiro Arr**	**20.52**	**232**	P	**P**	**01 52 59.5**	**+0.9**
MJAR	comp=Z,27nm,0.9s,baz=26,slow=11,SNR=60			LR	LR	02 02 30.0	
	comp=Z,48nm,19.9s,baz=38,slow=41						
	comp=Z,27nm,0.9s						
JGF	**Kuroka**	**21.69**	**232**	P	**P**	**01 53 11.3**	**+0.1**
JGF	**Kuroka**	**21.69**	**232**	P	**P**	**01 53 11.6**	**+0.4**
M11K	**Mekoryuk**	**21.70**	**51**	P	**P**	**01 53 11.7**	**+0.8**
INU	**Inuyama**	**22.05**	**232**	P	**P**	**01 53 15.4**	**+0.4**
INU	**Inuyama**	**22.05**	**232**	P	**P**	**01 53 15.1**	**0.0**
TNA	**Tin City**	**22.38**	**38**	P	**P**	**01 53 17.5**	**-0.7**
K13K	**Kusilvak Mount**	**22.70**	**48**	P	**P**	**01 53 22.2**	**+0.4**
K13K	comp=Z,50nm,1.8s			IAmb	IAmb	01 53 23.6	
K13K	**Kusilvak Mount**	**22.70**	**48**	P	**P**	**01 53 21.6**	**-0.1**
F14K	**Arctic Creek**	**22.96**	**38**	P	**P**	**01 53 24.3**	**-0.1**
ANM	**Nome**	**23.04**	**41**	P	**P**	**01 53 24.7**	**-0.5**
M13K	**Dall Lake**	**23.11**	**52**	P	**P**	**01 53 27.3**	**+1.4**
M13K	**Dall Lake**	**23.11**	**52**	P	**P**	**01 53 27.7**	**+1.9**
J14K	**Nanvaranak Lak**	**23.36**	**46**	P	**P**	**01 53 29.0**	**+0.7**
J14K	comp=Z,20nm,0.7s			IAmb	IAmb	01 53 30.5	
J14K	**Nanvaranak Lak**	**23.36**	**46**	P	**P**	**01 53 29.2**	**+1.0**
L14K	**Kuka Creek**	**23.54**	**50**	P	**P**	**01 53 30.3**	**+0.4**
L14K	comp=Z,15nm,0.6s			IAmb	IAmb	01 53 32.1	
L14K	**Kuka Creek**	**23.54**	**50**	P	**P**	**01 53 31.3**	**+1.4**
F15K	**North Star Dit**	**23.70**	**38**	P	**P**	**01 53 31.0**	**-0.3**
G15K	**Niukluk**	**23.71**	**40**	P	**P**	**01 53 30.9**	**-0.6**
S12K	**Black Hills**	**23.80**	**64**	P	**P**	**01 53 32.7**	**+0.3**
S12K	**Black Hills**	**23.80**	**64**	P	**P**	**01 53 33.5**	**+1.1**
M14K	**Bethel**	**23.82**	**51**	P	**P**	**01 53 34.1**	**+1.6**
M14K	**Bethel**	**23.82**	**51**	P	**P**	**01 53 33.0**	**+0.6**
N14K	**Kuskokwak Cree**	**23.90**	**53**	P	**P**	**01 53 34.6**	**+1.4**
O14K	**Tigyukauivet M**	**24.09**	**55**	P	**P**	**01 53 36.3**	**+1.5**
O14K	**Tigyukauivet M**	**24.09**	**55**	P	**P**	**01 53 35.9**	**+1.0**
L15K	**Ungalak Mounta**	**24.15**	**49**	P	**P**	**01 53 36.8**	**+1.4**
K15K	**Wolf Creek Mou**	**24.21**	**47**	P	**P**	**01 53 37.2**	**+1.2**
K15K	**Wolf Creek Mou**	**24.21**	**47**	P	**P**	**01 53 37.0**	**+1.0**
TIXI	**Tiksi**	**24.25**	**338**	LR	LR	02 04 26.5	
TIXI	comp=Z,120nm,18.8s,baz=152,slow=40						
TIXI	**Tiksi**	**24.25**	**338**	⇑*e*P	**P**	**01 53 34.6**	**-1.6**
TIXI	comp=Z,13nm,1.1s			pmax	pmax		
H16K	**Elim**	**24.36**	**42**	P	**P**	**01 53 37.7**	**+0.4**
C16K	**Lisburne Hills**	**24.43**	**32**	P	**P**	**01 53 37.5**	**-0.4**
M15K	**Kasigluk River**	**24.44**	**51**	P	**P**	**01 53 39.4**	**+1.3**
HIA	**Hailar**	**24.46**	**280**	*ce*P	**P**	**01 53 37.8**	**-0.7**
HIA	comp=Z,6.0nm,0.5s			pmax	pmax		
G16K	**Koyuk River**	**24.51**	**40**	P	**P**	**01 53 38.8**	**+0.2**
N15K	**Kwethluk River**	**24.71**	**53**	P	**P**	**01 53 42.1**	**+1.6**
N15K	**Kwethluk River**	**24.71**	**53**	P	**P**	**01 53 42.2**	**+1.6**
SDPT	**Sand Point**	**24.74**	**64**	P	**P**	**01 53 41.3**	**+0.5**
J16K	**Anvik River**	**24.79**	**45**	P	**P**	**01 53 42.3**	**+1.1**
J16K	**Anvik River**	**24.79**	**45**	P	**P**	**01 53 42.0**	**+0.8**
O15K	**Ungalikthiuk R**	**24.82**	**55**	P	**P**	**01 53 42.5**	**+0.8**
I17K	**Unalakleet**	**24.85**	**44**	P	**P**	**01 53 42.0**	**+0.2**
JMN	**Monobe**	**24.91**	**235**	P	**P**	**01 53 43.3**	**+0.6**
JMN	comp=Z,22nm,0.9s			IAmb	IAmb	01 53 50.5	
D17K	**Noatak River**	**24.98**	**34**	P	**P**	**01 53 42.7**	**-0.2**
L16K	**Owhat River**	**25.11**	**49**	P	**P**	**01 53 43.9**	**-0.2**
L16K	**Owhat River**	**25.11**	**49**	P	**P**	**01 53 44.5**	**+0.4**
S14K	**Fog Glacier**	**25.14**	**62**	P	**P**	**01 53 45.6**	**+1.0**
RDOG	**Red Dog Mine**	**25.17**	**34**	P	**P**	**01 53 43.8**	**-0.9**
E17K	**Hotham Inlet**	**25.22**	**36**	P	**P**	**01 53 44.9**	**-0.3**
G17K	**Kiwalik Mounta**	**25.22**	**40**	P	**P**	**01 53 45.4**	**+0.3**
F17K	**Baldwin Pennin**	**25.24**	**38**	P	**P**	**01 53 45.2**	**0.0**
C17K	**DeLong Mountai**	**25.24**	**33**	P	**P**	**01 53 44.4**	**-0.9**
M16K	**Timber Creek**	**25.30**	**51**	P	**P**	**01 53 47.0**	**+1.0**
M16K	comp=Z,26nm,0.8s			IAmb	IAmb	01 53 49.5	
M16K	**Timber Creek**	**25.30**	**51**	P	**P**	**01 53 46.7**	**+0.7**
CHNA	**Chernabura Isl**	**25.32**	**65**	P	**P**	**01 53 47.1**	**+0.9**
CNBA	**Chernabura Isl**	**25.33**	**65**	P	**P**	**01 53 47.6**	**+1.4**
CNBA	comp=Z,19nm,0.6s			IAmb	IAmb	01 53 49.6	
N16K	**Nishlik Lake**	**25.38**	**52**	P	**P**	**01 53 47.6**	**+1.0**
H17K	**Granite Mounta**	**25.40**	**42**	P	**P**	**01 53 46.6**	**-0.1**
H17K	comp=Z,16nm,0.7s			IAmb	IAmb	01 53 50.1	
H17K	**Granite Mounta**	**25.40**	**42**	P	**P**	**01 53 47.9**	**+1.2**
KSRS	**Korea Array**	**25.47**	**249**	P	**P**	**01 53 48.5**	**+0.8**
KSRS	comp=Z,4.2nm,0.8s,baz=46,slow=9.2,SNR=18			LR	LR	02 02 52.9	
	comp=Z,83nm,20.7s,baz=45,slow=34						
	comp=Z,4.2nm,0.8s						
J17K	**VABM Dome**	**25.48**	**45**	P	**P**	**01 53 48.8**	**+1.3**
J17K	comp=Z,28nm,0.7s			IAmb	IAmb	01 53 51.7	
J17K	**VABM Dome**	**25.48**	**45**	P	**P**	**01 53 48.0**	**+0.4**
L17K	**Donlin**	**25.70**	**48**	P	**P**	**01 53 50.2**	**+0.7**
O16K	**Kokwok River B**	**25.71**	**54**	P	**P**	**01 53 50.6**	**+1.0**
O16K	**Kokwok River B**	**25.71**	**54**	P	**P**	**01 53 50.5**	**+0.9**
K17K	**Iditarod**	**25.75**	**47**	P	**P**	**01 53 51.1**	**+1.1**
K17K	comp=Z,16nm,0.8s			IAmb	IAmb	01 53 52.4	
K17K	**Iditarod**	**25.75**	**47**	P	**P**	**01 53 50.3**	**+0.4**
P16K	**Nushagak River**	**25.77**	**55**	P	**P**	**01 53 50.9**	**+0.7**
E18K	**Tukpahlearik C**	**25.78**	**36**	P	**P**	**01 53 49.9**	**-0.3**
F18K	**Selawik**	**25.90**	**38**	P	**P**	**01 53 51.2**	**-0.1**
C18K	**Utukok River**	**25.98**	**33**	P	**P**	**01 53 52.3**	**+0.2**
C18K	**Utukok River**	**25.98**	**33**	P	**P**	**01 53 51.9**	**-0.2**
B18K	**Kokolik River**	**26.05**	**31**	P	**P**	**01 53 52.4**	**-0.2**
M17K	**Holitna River**	**26.06**	**50**	P	**P**	**01 53 54.4**	**+1.6**
M17K	**Holitna River**	**26.06**	**50**	P	**P**	**01 53 53.3**	**+0.5**
H18K	**Honhosa River**	**26.09**	**41**	P	**P**	**01 53 53.6**	**+0.6**
H18K	**Honhosa River**	**26.09**	**41**	P	**P**	**01 53 53.3**	**+0.3**
G18K	**Tagagawik**	**26.12**	**40**	P	**P**	**01 53 54.1**	**+0.8**
G18K	**Tagagawik**	**26.12**	**40**	P	**P**	**01 53 53.1**	**-0.2**
N17K	**Nushagak Hills**	**26.16**	**52**	P	**P**	**01 53 54.7**	**+1.0**
N17K	**Nushagak Hills**	**26.16**	**52**	P	**P**	**01 53 54.6**	**+1.0**
O17K	**Koliganek Bris**	**26.21**	**54**	P	**P**	**01 53 55.5**	**+1.4**
L18K	**Granite Mounta**	**26.46**	**48**	P	**P**	**01 53 57.3**	**+1.0**
L18K	comp=Z,50nm,1.9s			IAmb	IAmb	01 53 58.4	
L18K	**Granite Mounta**	**26.46**	**48**	P	**P**	**01 53 57.1**	**+0.7**
TJN	**Taejon**	**26.53**	**248**	⇑*e*P	**P**	**01 53 54.8**	**-2.5**
J18K	**Innoko River**	**26.55**	**45**	P	**P**	**01 53 57.9**	**+0.7**
J18K	**Innoko River**	**26.55**	**45**	P	**P**	**01 53 57.9**	**+0.7**
P17K	**Kvichak River**	**26.57**	**55**	P	**P**	**01 53 58.7**	**+1.4**
A19K	**Wainwright**	**26.62**	**30**	P	**P**	**01 53 57.1**	**-0.6**
F19K	**Shaleruckik Mo**	**26.68**	**38**	P	**P**	**01 53 58.5**	**+0.2**
F19K	**Shaleruckik Mo**	**26.68**	**38**	P	**P**	**01 53 57.9**	**-0.5**
C19K	**Lookout Ridge**	**26.69**	**32**	P	**P**	**01 53 58.8**	**+0.4**
C19K	comp=Z,17nm,0.7s			IAmb	IAmb	01 54 26.1	
C19K	**Lookout Ridge**	**26.69**	**32**	P	**P**	**01 53 58.4**	**0.0**
JTU	**Tsushima**	**26.70**	**242**	P	**P**	**01 54 00.3**	**+1.5**
R17L	**Mt. Peulik Vol**	**26.73**	**58**	P	**P**	**01 53 59.7**	**+0.8**
G19K	**Purcell Mounta**	**26.80**	**39**	P	**P**	**01 53 59.2**	**-0.1**
G19K	**Purcell Mounta**	**26.80**	**39**	P	**P**	**01 53 59.3**	**-0.1**
N18K	**Kilae Creek**	**26.80**	**52**	P	**P**	**01 54 01.0**	**+1.6**
N18K	comp=Z,17nm,0.7s			IAmb	IAmb	01 54 04.1	
N18K	**Kilae Creek**	**26.80**	**52**	P	**P**	**01 54 00.4**	**+0.9**
TTA	**Tatalina**	**26.82**	**47**	P	**P**	**01 53 59.8**	**+0.1**
M18K	**Stony River**	**26.84**	**50**	P	**P**	**01 54 00.4**	**+0.6**
Q17K	**Contact Creek**	**26.92**	**57**	P	**P**	**01 54 00.9**	**+0.3**
H19K	**Roundabout Mou**	**26.94**	**41**	P	**P**	**01 54 01.0**	**+0.3**
H19K	comp=Z,18nm,0.8s			IAmb	IAmb	01 54 01.9	
H19K	**Roundabout Mou**	**26.94**	**41**	P	**P**	**01 54 01.3**	**+0.6**
JNU	**Nakatsue**	**26.95**	**238**	P	**P**	**01 54 01.8**	**+0.7**
JNU	**Nakatsue**	**26.95**	**238**	P	**P**	**01 54 01.5**	**+0.4**
JNU	comp=Z,14nm,0.7s			IAmb	IAmb	01 54 05.9	
JNU	**Nakatsue**	**26.95**	**238**	LR	LR	02 05 35.7	
	comp=Z,49nm,19.6s,baz=9.5,slow=38						
D19K	**Kuna River**	**27.00**	**34**	P	**P**	**01 54 01.6**	**+0.4**
D19K	**Kuna River**	**27.00**	**34**	P	**P**	**01 54 00.9**	**-0.4**
	comp=Z,46nm,20.8s,baz=112,slow=32						
	comp=Z,254nm,0.8s						
E19K	**Redstone River**	**27.04**	**37**	P	**P**	**01 54 02.4**	**+0.8**
E19K	**Redstone River**	**27.04**	**37**	P	**P**	**01 54 01.4**	**-0.1**
	comp=Z,256,SNR=8.4						
JCJ	**Chichijima**	**27.06**	**213**	LR	LR	02 02 58.4	
J19K	**Poorman**	**27.09**	**44**	P	**P**	**01 54 02.3**	**+0.3**
J19K	comp=Z,13nm,0.7s			IAmb	IAmb	01 54 02.9	
J19K	**Poorman**	**27.09**	**44**	P	**P**	**01 54 02.3**	**+0.3**
	baz=265,SNR=20						
Q18K	**Koktuh Hills**	**27.16**	**53**	P	**P**	**01 54 03.9**	**+1.2**
Q18K	**Koktuh Hills**	**27.16**	**53**	P	**P**	**01 54 03.6**	**+0.8**
	baz=273						
P18K	**Big Mountain,**	**27.18**	**54**	P	**P**	**01 54 03.8**	**+0.9**
P18K	comp=Z,15nm,0.8s			IAmb	IAmb	01 54 04.

L20K	Farewell, AK	27.78	48	P	P	01 54 09.0	+0.8
	baz=270,SNR=6.4						
B20K	Meade River	27.80	31	P	P	01 54 08.5	+0.3
B20K				IAmb	IAmb	01 54 36.5	
	comp=Z,18nm,0.8s						
B20K	Meade River	27.80	31	P	P	01 54 08.2	0.0
	baz=252						
Q19K	Cape Douglas,	28.03	55	P	P	01 54 10.7	+0.2
	baz=276						
IMAR	Indian Mountai	28.11	40	P	P	01 54 11.3	+0.2
M20K	Styx River	28.12	49	P	P	01 54 12.4	+1.0
M20K	Styx River	28.12	49	P	P	01 54 12.1	+0.7
	baz=271						
G21K	Allakaket	28.29	39	P	P	01 54 13.3	+0.7
G21K	Allakaket	28.29	39	P	P	01 54 13.4	+0.7
	baz=262,SNR=10						
C21K	Knifeblade Rid	28.35	33	P	P	01 54 13.9	+0.7
	baz=256,SNR=9.8						
F21K	Alatna River	28.41	38	P	P	01 54 14.0	+0.2
F21K				PcP	PcP	01 57 25.1	+0.8
F21K	Alatna River	28.41	38	P	P	01 54 14.3	+0.5
	baz=261						
A21K	Barrow	28.42	29	P	P	01 54 13.7	0.0
	baz=250						
OHAK	Old Harbor	28.43	59	P	P	01 54 14.1	+0.1
OHAK				IAmb	IAmb	01 54 14.7	
	comp=Z,26nm,1.1s						
OHAK	Old Harbor	28.43	59	P	P	01 54 14.1	+0.1
	baz=280						
O20K	Slope Mountain	28.45	53	P	P	01 54 15.5	+1.3
	baz=275						
H21K	Melozitna Rive	28.46	41	P	P	01 54 14.8	+0.5
H21K	Melozitna Rive	28.46	41	P	P	01 54 14.7	+0.5
	baz=264,SNR=9.9						
E21K	Killik River	28.47	35	P	P	01 54 14.7	+0.4
E21K	Killik River	28.47	35	P	P	01 54 14.0	-0.3
	baz=258						
B21K	Ikpikpuk River	28.53	33	P	P	01 54 15.4	+0.6
B21K	Ikpikpuk River	28.53	33	P	P	01 54 15.3	+0.6
	baz=255,SNR=8.7						
CHUM	Lake Minchumin	28.53	45	P	P	01 54 15.9	+1.1
	baz=268						
PPLA	Purkeypile	28.56	47	P	P	01 54 16.7	+1.3
	baz=270						
Q20K	Shuyak Island	28.71	56	P	P	01 54 16.5	+0.1
	baz=278						
KDAK	Kodiak Island	28.72	58	P	P	01 54 16.5	-0.1
KDAK				IAmb	IAmb	01 54 17.4	
	comp=Z,18nm,0.8s						
KDAK	Kodiak Island	28.72	58	P	P	01 54 16.6	0.0
	baz=279						
KDAK	Kodiak Island	28.72	58	LR	LR	02 04 50.9	
	comp=Z,83nm,21.3s,baz=266,slow=34						
KDAK	Kodiak Island	28.72	58⇑	eP	P	01 54 15.9	-0.7
KDAK				pmax	pmax		
	comp=Z,19nm,0.8s						
I21K	Tanana	28.76	42	P	P	01 54 17.4	+0.6
I21K	Tanana	28.76	42	P	P	01 54 17.0	+0.1
	baz=266						
A22K	Sinclair Lake	28.81	30	P	P	01 54 17.0	-0.2
	baz=252						
SKT	Skwentna	28.88	49	P	P	01 54 18.8	+0.8
SKT	Skwentna	28.88	49	P	P	01 54 18.5	+0.5
	baz=272						
F22K	John River	28.95	37	P	P	01 54 18.7	+0.1
	baz=262						
D22K	Ayikyak River	29.02	34	P	P	01 54 19.8	+0.6
D22K	Ayikyak River	29.02	34	P	P	01 54 19.1	-0.1
	baz=259,SNR=8.7						
H22K	Ishtalitna Cre	29.07	41	P	P	01 54 20.0	+0.3
	baz=266,SNR=11						
BPAW	Bear Paw Mtn.	29.13	44	IAmb	IAmb	01 54 21.6	
	comp=Z,11nm,0.7s						
BPAW	Bear Paw Mtn.	29.13	44	P	P	01 54 20.7	+0.5
	baz=269,SNR=7.4						
G22K	Bettles	29.13	39	P	P	01 54 20.3	+0.2
	baz=264						
MLY	Manley	29.27	42	P	P	01 54 22.5	+1.0
MLY	Manley	29.27	42	P	P	01 54 22.1	+0.6
	baz=268,SNR=5.4						
SUA	Susitna One	29.27	50	P	P	01 54 21.8	+0.1
SUA				IAmb	IAmb	01 54 22.4	
	comp=Z,11nm,0.6s						
SUA	Susitna One	29.27	50	P	P	01 54 21.4	-0.2
	baz=274						
BRSE	Bradley Lake S	29.42	53	P	P	01 54 22.8	0.0
	baz=277						
CUT	Chulitna	29.46	48	P	P	01 54 23.5	+0.4
	baz=273						
COLD	Coldfoot	29.68	38	P	P	01 54 25.0	0.0
	baz=264,SNR=7.8						
G23K	Bananza Creek	29.69	39	P	P	01 54 25.4	+0.2
G23K	Bananza Creek	29.69	39	P	P	01 54 24.8	-0.4
	baz=265,SNR=9.9						
D23K	Nanushuk River	29.75	35	P	P	01 54 25.2	-0.4
	baz=261						
BWN	Browne	29.80	44	P	P	01 54 27.4	+1.4
H23K	Yukon River	29.82	41	P	P	01 54 26.4	+0.1
	baz=267						
I23K	Minto, Yukon-K	29.86	42	P	P	01 54 27.4	+0.8
I23K	Minto, Yukon-K	29.86	42	P	P	01 54 26.7	+0.1
	baz=269,SNR=7.9						
C23K	Itkillik River	29.93	33	P	P	01 54 27.9	+0.7
C23K				IAmb	IAmb	01 54 28.3	
	comp=Z,12nm,0.7s						
C23K	Itkillik River	29.93	33	P	P	01 54 27.1	-0.1
	baz=259,SNR=8.6						
NEA2	Nenana	29.97	43	P	P	01 54 28.2	+0.5
NEA2				IAmb	IAmb	01 54 30.1	
	comp=Z,16nm,0.6s						
NEA2	Nenana	29.97	43	P	P	01 54 27.5	-0.1
	baz=270,SNR=14						
E23K	Chandalar	30.00	36	P	P	01 54 27.8	-0.1
	baz=263,SNR=20						
SEW	Seward	30.02	52	P	P	01 54 28.3	+0.2
	baz=277						
MCK	McKinley	30.03	45	P	P	01 54 28.1	-0.1
	baz=272,SNR=8.3						
PMR	Palmer	30.04	49	P	P	01 54 29.1	+0.9
PMR	Palmer	30.04	49	P	P	01 54 29.0	+0.8
	baz=275						
PMR	Palmer	30.04	49	P	P	01 54 29.1	+0.9
PMR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
RND	Reindeer	30.07	46	P	P	01 54 28.9	+0.3
RND				IAmb	IAmb	01 54 29.7	
	comp=Z,18nm,0.8s						
RND	Reindeer	30.07	46	P	P	01 54 28.9	+0.3
RND				pmax	pmax		
	comp=Z,18nm,0.8s						
TOLK	Toolik Lake Re	30.09	35	P	P	01 54 29.2	+0.4
TOLK				IAmb	IAmb	01 54 29.8	
	comp=Z,13nm,0.6s						
TOLK	Toolik Lake Re	30.09	35	P	P	01 54 28.4	-0.3
	baz=262,SNR=13						
GHO	Glory Hole Cre	30.12	49	P	P	01 54 29.7	+0.6
GHO				IAmb	IAmb	01 54 31.9	
	comp=Z,10nm,0.8s						
WAT1	Susitna Watana	30.23	47	P	P	01 54 29.8	-0.2
	baz=273						
MDM	Murphy Dome	30.34	43	P	P	01 54 31.1	+0.2
KNK	Knik Glacier	30.37	50	P	P	01 54 31.6	+0.4
KNK	Knik Glacier	30.37	50	P	P	01 54 31.6	+0.4
	baz=276,SNR=13						
SML	Sawmill	30.40	49	P	P	01 54 32.0	+0.5
SML	Sawmill	30.40	49	P	P	01 54 32.0	+0.5
	baz=275,SNR=34						
E24K	Your Creek	30.42	37	P	P	01 54 32.5	+0.9
E24K				IAmb	IAmb	01 54 33.1	
	comp=Z,16nm,0.7s						
E24K	Your Creek	30.42	37	P	P	01 54 31.7	0.0
	baz=264						
D24K	Happy Valley	30.44	34	P	P	01 54 32.2	+0.6
D24K				IAmb	IAmb	01 54 32.7	
	comp=Z,9.7nm,0.7s						
D24K	Happy Valley	30.44	34	P	P	01 54 32.1	+0.5
	baz=262,SNR=7.2						
COLA	College	30.50	43	P	P	01 54 32.6	+0.4
COLA	College	30.50	43	P	P	01 54 32.6	+0.4
	baz=270						
COLA	College	30.50	43	ceP	P	01 54 32.6	+0.4
COLA				pmax	pmax		
	comp=Z,16nm,0.8s						
COLA	College	30.50	43	P	P	01 54 32.8	+0.6
H24K	Noodor Dome	30.50	41	P	P	01 54 33.3	+0.9
H24K				PcP	PcP	01 57 30.4	+0.7
H24K	Noodor Dome	30.50	41	P	P	01 54 32.6	+0.3
	baz=269,SNR=7.6						
CCB	Clear Creek Bu	30.52	43	P	P	01 54 33.0	+0.6
CCB				IAmb	IAmb	01 54 33.6	
	comp=Z,12nm,0.8s						
F24K	Squaw Lake	30.59	38	P	P	01 54 33.6	+0.4
F24K				IAmb	IAmb	01 54 34.1	
	comp=Z,12nm,0.5s						
F24K				PcP	PcP	01 57 31.2	+1.3
F24K	Squaw Lake	30.59	38	P	P	01 54 33.1	0.0
	baz=266,SNR=27						
WAT6	Susitna Watana	30.62	47	P	P	01 54 33.0	-0.6
	baz=275,SNR=5.7						
POKR	Poker Plat Res	30.68	42	P	P	01 54 34.5	+0.7
POKR				IAmb	IAmb	01 54 36.1	
	comp=Z,8.2nm,0.7s						
POKR	Poker Plat Res	30.68	42	P	P	01 54 34.3	+0.5
	baz=270,SNR=7.0						
M23K	Glacier View	30.69	49	P	P	01 54 34.2	+0.2
	baz=276,SNR=9.3						
G24K	Hadweenzic Riv	30.70	39	P	P	01 54 34.8	+0.8
	baz=268,SNR=7.1						
DHY	Denali Highway	30.76	46	P	P	01 54 35.0	+0.3
DHY	Denali Highway	30.76	46	P	P	01 54 34.5	-0.3
	baz=274,SNR=7.4						
SCM	Sheep Creek Mo	30.87	49	P	P	01 54 36.6	+0.9
SCM				IAmb	IAmb	01 54 37.3	
	comp=Z,20nm,0.8s						
SCM	Sheep Creek Mo	30.87	49	P	P	01 54 35.8	+0.2
	baz=276,SNR=7.4						
SCM	Sheep Creek Mo	30.87	49	P	P	01 54 36.6	+0.9
SCM				pmax	pmax		
	comp=Z,20nm,0.8s						
HDA	Harding Lake	30.89	44	P	P	01 54 35.6	-0.1
	baz=272,SNR=20						
IL31		30.91	43	P	P	01 54 36.4	+0.6
IL31				IAmb	IAmb	01 54 37.1	
	comp=Z,14nm,0.8s						
ILAR	Eielson Array	30.91	43	P	P	01 54 36.0	+0.1
ILAR	Eielson Array	30.91	43	P	P	01 54 36.0	+0.1
	comp=Z,10.0nm,0.7s,baz=259,slow=7.6,SNR=127						
ILAR				PcP	PcP	01 57 29.8	-1.0
	comp=Z,0.9nm,0.5s,baz=281,slow=3.6,SNR=8.2						
ILAR				LR	LR	02 06 43.7	
	comp=Z,54nm,21.8s,baz=272,slow=36						
	comp=Z,10.0nm,0.7s						
P23K	Montague Islan	31.06	52	P	P	01 54 37.4	+0.2
	baz=279						
GLI	Glacier Island	31.09	51	P	P	01 54 38.5	+1.0
GLI	Glacier Island	31.09	51	P	P	01 54 38.1	+0.6
	baz=278						
G25K	Bearman Lake	31.25	39	P	P	01 54 38.8	0.0
	baz=269						
D25K	Kavik River	31.32	34	P	P	01 54 39.9	+0.4
D25K	Kavik River	31.32	34	P	P	01 54 39.4	-0.1
	baz=264,SNR=65						
H25L	Birch Creek	31.35	40	P	P	01 54 40.8	+1.1
	baz=270						
M24K	Tolsona, Glenn	31.39	48	P	P	01 54 40.9	+0.7
	baz=277						
K24K	Donnelly Dome	31.43	45	P	P	01 54 40.2	-0.4
	baz=274,SNR=12						
F25K	Christian Rive	31.46	38	P	P	01 54 40.9	+0.1
	baz=268,SNR=9.9						
PRP	Porcupine Dome	31.47	42	P	P	01 54 41.8	+0.8
PRP	Porcupine Dome	31.47	42	P	P	01 54 41.0	0.0
	baz=272,SNR=8.9						
E25K	Arctic Village	31.52	37	P	P	01 54 41.9	+0.7
E25K				IAmb	IAmb	01 54 43.0	
	comp=Z,9.1nm,0.8s						
E25K				PcP	PcP	01 57 32.1	-0.3
E25K	Arctic Village	31.52	37	P	P	01 54 41.6	+0.3
	baz=267,SNR=13						
J25K	Salcha River,	31.57	43	P	P	01 54 41.0	-0.7
J25K				IAmb	IAmb	01 54 41.9	
	comp=Z,11nm,0.6s						
J25K	Salcha River,	31.57	43	P	P	01 54 40.8	-0.9
	baz=273,SNR=24						
KLU	Klutina	31.58	49	P	P	01 54 42.2	+0.3
KLU				IAmb	IAmb	01 54 45.1	
	comp=Z,8.0nm,0.7s						
KLU	Klutina	31.58	49	P	P	01 54 42.6	+0.7
	baz=278						
PAX	Paxson	31.63	46	P	P	01 54 42.9	+0.5
	baz=276						
EYAK	Cordova Ski Ar	31.79	51	P	P	01 54 43.9	+0.2
	baz=279						
HARP	HAARP	31.83	48	P	P	01 54 44.7	+0.7
	baz=277						
BMAR	Burnt Mountain	31.86	38	P	P	01 54 45.3	+1.0
F26K	Sheenjek River	32.04	37	P	P	01 54 46.4	+0.6
	baz=269						
G26K	Porcupine Rive	32.17	39	P	P	01 54 47.5	+0.6
	baz=271,SNR=8.7						
N25K	Chitina, Valde	32.19	49	P	P	01 54 48.3	+1.0
N25K				IAmb	IAmb	01 54 48.8	
	comp=Z,9.1nm,0.7s						
N25K	Chitina, Valde	32.19	49	P	P	01 54 47.9	+0.6
	baz=279,SNR=7.2						
SCRK	Sand Creek	32.21	44	P	P	01 54 47.8	+0.4
SCRK				IAmb	IAmb	01 54 48.3	
	comp=Z,12nm,0.8s						
SCRK	Sand Creek	32.21	44	P	P	01 54 46.3	-1.1
	baz=275,SNR=18						
H11N2	WAKE ISLAND Hy	32.26	165	T	T	02 28 47.8	
	baz=349,slow=76,SNR=358						
H11N3	WAKE ISLAND Hy	32.27	164	T	T	02 28 47.0	
	baz=349,slow=76,SNR=1618						
H11N1	WAKE ISLAND Hy	32.27	165	T	T	02 28 51.5	
	baz=349,slow=76,SNR=273						
BMRM	Bremner River	32.28	50	P	P	01 54 48.2	+0.2
	baz=280						
C27K	Jago River	32.29	34	P	P	01 54 48.3	+0.3
	baz=267,SNR=9.9						
J26L	Joseph Creek	32.35	43	P	P	01 54 48.3	-0.4
J26L				PcP	PcP	01 57 34.9	+0.1
J26L	Joseph Creek	32.35	43	P	P	01 54 48.4	-0.2
	baz=275						
KAIM	Kayak Island	32.55	52	P	P	01 54 51.8	+1.5
	baz=281						
L26K	Log Cabin Wild	32.59	46	P	P	01 54 51.2	+0.5
	baz=277						
ULN	Ulaanbaatar	32.78	284⇑	eP	P	01 54 50.2	-2.5
ULN				pmax	pmax		
	comp=Z,11nm,3.6s						
VRDI	Verde Repeater	32.79	50	P	P	01 54 53.6	+0.9
M26K	Nabesna, AK	32.83	47	P	P	01 54 53.6	+0.8
	baz=279,SNR=7.8						
E27K	Coleen River	33.00	37	P	P	01 54 55.1	+0.8
E27K	Coleen River	33.00	37	P	P	01 54 54.6	+0.4
	baz=271						
G27K	Doyon Strip	33.01	39	P	P	01 54 55.3	+1.0
G27K	Doyon Strip	33.01	39	P	P	01 54 55.1	+0.7
	baz=273,SNR=7.6						
CRQM	Cirque	33.02	50	P	P	01 54 56.0	+1.3
K27K	Chicken	33.04	44	P	P	01 54 54.8	+0.3
K27K				IAmb	IAmb	01 54 56.0	
	comp=Z,18nm,0.9s						
K27K	Chicken	33.04	44	P	P	01 54 55.2	+0.6
	baz=277						
CRQE	Cirque	33.05	50	P	P	01 54 55.7	+0.8
	baz=281						
H27K	Steamboat Moun	33.09	40	P	P	01 54 55.8	+0.8
	baz=274,SNR=6.9						
I27K	Kandik River	33.09	41	P	P	01 54 55.0	-0.1
	baz=275						
SONM	Songino Array	33.19	285	P	P	01 54 58.3	+2.0
	comp=Z,0.3nm,0.4s,baz=88,slow=9.2,SNR=2.5						
SONM				PcP	PcP	01 57 37.5	0.0
	comp=Z,0.8nm,0.7s,baz=63,slow=2.0,SNR=4.4						
SONM				pPcP		01 57 53.9	
	comp=Z,1.2nm,0.6s,baz=77,slow=1.5,SNR=6.4						
SONM				LR	LR	02 08 37.1	
	comp=Z,130nm,21.4s,baz=76,slow=37						
WAX	Waxell Ridge	33.22	51	P	P	01 54 57.8	+1.5
D27M	Malcolm River	33.24	35	P	P	01 54 56.6	+0.2
	baz=270						
L27K	Beaver Creek,	33.27	46	P	P	01 54 57.9	+1.3
L27K	Beaver Creek,	33.27	46	P	P	01 54 57.6	+0.9
	baz=279,SNR=42						
BCAR	Beaver Creek A	33.29	46	P	P	01 54 58.2	+1.4
M27K	Edge Creek, AK	33.35	47	P	P	01 54 58.6	+1.1
M27K				IAmb	IAmb	01 54 59.8	
	comp=Z,12nm,0.9s						
M27K	Edge Creek, AK	33.35	47	P	P	01 54 58.7	+1.2
	baz=280,SNR=11						
EGAK	Eagle	33.36	43	P	P	01 54 57.3	-0.1
EGAK	Eagle	33.36	43	P	P	01 54 57.0	-0.4
	baz=276,SNR=25						
H11S1	WAKE ISLAND Hy	33.42	165	T	T	02 30 12.1	
	baz=350,slow=76,SNR=2498						
H11S3	WAKE ISLAND Hy	33.43	165	T	T	02 30 21.4	
	baz=350,slow=76,SNR=2772						
H11S2	WAKE ISLAND Hy	33.44	165	T	T	02 30 12.9	
	baz=350,slow=76,SNR=1473						
HHC	Hu-ho-hao-te	33.46	270	eP	P	01 54 59.1	+0.5
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,96nm,5.6s						
HNS	HongShan	33.54	263	eP	P	01 54 58.3	-0.9
HNS				LR	LR		
	comp=Z,200nm,15.1s						
HNS				LR	LR		
	comp=Z,130nm,18.3s						
HNS				LR	LR		
	comp=Z,160nm,19.9s						
F28M	Old Crow	33.67	38	P	P	01 55 00.9	+0.9
F28M				IAmb	IAmb	01 55 02.0	
	comp=Z,13nm,0.7s						
F28M	Old Crow	33.67	38	P	P	01 55 00.8	+0.7
	baz=273,SNR=15						
GRNC	Granite Creek	33.70	50	P	P	01 55 01.8	+1.2
GRNC				IAmb	IAmb	01 55 04.1	
	comp=Z,14nm,0.9s						
MESA	MESA	33.71	51	P	P	01 55 01.5	+0.8
	baz=283						
E28M	Babbage River	33.76	36	P	P	01 55 01.0	+0.2
	baz=272						
I28M	Miner Creek	33.81	41	P	P	01 55 01.8	+0.4
I28M				IAmb	IAmb	01 55 02.8	
	comp=Z,9.7nm,1.0s						
I28M	Miner Creek	33.81	41	P	P	01 55 01.4	0.0
	baz=276,SNR=15						
CTG	Chitna Glacier	33.85	50	P	P	01 55 02.6	+0.8
	baz=282,SNR=6.6						
CTGM	Chitina Glacie	33.85	50	P	P	01 55 03.0	+1.2
LOGN	Logan Glacier	34.04	50	P	P	01 55 04.7	+1.2
LOGN				IAmb	IAmb	01 55 07.6	
	comp=Z,14nm,0.8s						
TABL	Table Mountain	34.05	51	P	P	01 55 04.7	+1.0
TABL				IAmb	IAmb	01 55 05.4	
	comp=Z,13nm,0.8s						
YUK3	Moose Creek	34.11	48	P	P	01 55 04.5	+0.3
	baz=282,SNR=8.2						
DAWY	Dawson	34.21	44	P	P	01 55 05.5	+0.7
	baz=279,SNR=6.4						
H29M	Whitestone	34.37	40	P	P	01 55 07.2	+1.1
H29M				IAmb	IAmb	01 55 08.0	
	comp=Z,10.0nm,0.7s						
H29M	Whitestone	34.37	40	P	P	01 55 06.9	+0.8
	baz=277,SNR=12						
E29M	Blow River	34.37	36	P	P	01 55 07.0	+0.9
E29M				IAmb	IAmb	01 55 08.0	
	comp=Z,13nm,1.1s						
E29M	Blow River	34.37	36	P	P	01 55 06.9	+0.8
	baz=274,SNR=9.4						
G29M	Pine Creek	34.44	39	P	P	01 55 07.5	+0.9
G29M	Pine Creek	34.44	39	P	P	01 55 07.6	+0.9
	baz=276,SNR=12						
O28M	Mount Upton	34.44	50	P	P	01 55 07.5	+0.4
	baz=283,SNR=6.4						
I29M	Ogilvie Camp,	34.49	41	P	P	01 55 07.9	+0.8
I29M	Ogilvie Camp,	34.49	41	P	P	01 55 08.0	+0.8
	baz=278,SNR=7.6						
YUK8	Steele Glacier	34.53	49	P	P	01 55 08.5	+0.6
	baz=283						
PINM	Pinnacle	34.56	51	P	P	01 55 09.0	+1.1
	baz=284						
NJ2	Nanjing	34.58	252	eP	P	01 55 08.5	+0.3
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
M29M	Somme Creek	34.90	47	IAmb	IAmb	01 55 13.0	
	comp=Z,10nm,0.6s						
M29M	Somme Creek	34.90	47	P	P	01 55 11.5	+0.7
	baz=282,SNR=14						
L29M	L29M	34.92	45	P	P	01 55 12.6	+1.6
	baz=281,SNR=20						
EPYK	Eagle Plains	35.01	40	IAmb	IAmb	01 55 13.0	
	comp=Z,7.4nm,0.8s						
EPYK	Eagle Plains	35.01	40	P	P	01 55 12.3	+0.7
	baz=278,SNR=5.6						
YUK4	Talbot Arm	35.05	49	P	P	01 55 12.9	+0.7
	baz=283						
K29M	Barlow Dome	35.06	44	IAmb	IAmb	01 55 25.7	
	comp=Z,17nm,1.9s						
K29M	Barlow Dome	35.06	44	P	P	01 55 12.6	+0.4
	baz=281						
PNL	Peninsula	35.08	52	P	P	01 55 12.8	+0.5
	baz=285						
G30M	tAoh Zraii Nji	35.13	38	IAmb	IAmb	01 55 14.1	
	comp=Z,8.6nm,0.8s						
G30M	tAoh Zraii Nji	35.13	38	P	P	01 55 13.3	+0.6
	baz=277,SNR=9.9						
F30M	Barrier River	35.23	37	P	P	01 55 14.4	+0.9
	baz=277,SNR=5.6						
YUK6	Outpost Mounta	35.27	49	P	P	01 55 14.9	+0.7
	baz=284						
I30M	Mount Dempster	35.32	42	IAmb	IAmb	01 55 15.7	
	comp=Z,11nm,0.7s						
I30M	Mount Dempster	35.32	42	P	P	01 55 14.4	+0.1
	baz=280,SNR=20						
O29M	Mount Kennedy	35.33	50	P	P	01 55 15.5	+1.0
	baz=285						
J30M	Hart River	35.44	43	IAmb	IAmb	01 55 56.6	
	comp=Z,14nm,1.9s						
J30M	Hart River	35.44	43	P	P	01 55 16.3	+0.8
	baz=281						
M30M	Minto, Yukon	35.63	46	P	P	01 55 17.4	+0.4
	baz=283						
N30M	Aishikik Lake	35.75	48	P	P	01 55 19.0	+0.9
	baz=284						
MAYO	Mayo, Yukon	35.82	44	P	P	01 55 19.7	+1.1
	baz=282						
G31M	Satah River	35.90	38	IAmb	IAmb	01 55 21.1	
	comp=Z,7.8nm,0.8s						
G31M	Satah River	35.90	38	P	P	01 55 19.7	+0.5
	baz=279,SNR=5.4						
P29M	Windy Craggy	35.91	51	P	P	01 55 20.6	+1.2
	baz=286						
INK	Inuvik	36.00	36	IAmb	IAmb	01 55 21.6	
	comp=Z,9.1nm,0.8s						
INK	Inuvik	36.00	36	P	P	01 55 20.5	+0.5
	baz=278,SNR=6.2						
INK	Inuvik	36.00	36	LR	LR	02 10 44.9	
	comp=Z,75nm,18.8s,baz=50,slow=37						
F31M	Tsiigehtchic	36.03	37	IAmb	IAmb	01 55 21.7	
	comp=Z,12nm,0.7s						
F31M	Tsiigehtchic	36.03	37	P	P	01 55 21.5	+1.2
	baz=279,SNR=5.9						
P30M	Million Dollar	36.15	50	P	P	01 55 23.2	+1.7
	baz=286						
N31M	Braeburn, Yuko	36.35	48	P	P	01 55 24.6	+1.5
	baz=285						
O30N	Mendenhall	36.39	49	IAmb	IAmb	01 55 25.9	
	comp=Z,9.5nm,0.6s						
O30N	Mendenhall	36.39	49	P	P	01 55 25.2	+1.7
	baz=286,SNR=7.6						
PLBC	Pleasant Camp	36.63	51	P	P	01 55 27.3	+1.8
	baz=288						
NRIK	Noril'sk	36.71	326	LR	LR	02 11 50.7	
	comp=Z,53nm,18.6s,baz=131,slow=39						
M31M	Drury Creek, Y	36.81	46	IAmb	IAmb	01 55 29.6	
	comp=Z,13nm,0.9s						
M31M	Drury Creek, Y	36.81	46	P	P	01 55 28.9	+1.9
	baz=285,SNR=8.3						
WHY	Whitehorse	36.99	49	IAmb	IAmb	01 55 29.9	
	comp=Z,9.8nm,0.8s						
SKAG	Skagway	37.13	51	P	P	01 55 31.6	+

baz=291
A36M Sachs Harbour 38.26 29 P P 01 55 40.0 +0.9
baz=280
Q32M Nakina River 38.78 51 IAmb IAmb 01 55 47.8
comp=Z,6.7nm,0.6s
Q32M Nakina River 38.78 51 P P 01 55 46.5 +2.6
baz=291,SNR=5.6
GUMO Guam 39.14 201 LR LR 02 09 06.6
comp=Z,14nm,20.3s,baz=48,slow=32
C36M Paulatuk 39.18 33 IAmb IAmb 01 55 48.1
comp=Z,11nm,1.1s
C36M Paulatuk 39.18 33 P P 01 55 47.5 +0.7
baz=284
R33M Jennings River 39.26 50 P P 01 55 49.9 +2.1
baz=291,SNR=14
U33K Whale Pass 39.40 55 P P 01 55 51.3 +2.5
baz=294
CRAG Craig 39.66 56 P P 01 55 53.6 +2.7
baz=294
S34M Telegraph Cree 39.72 52 P P 01 55 53.3 +1.8
baz=293
TGTN Hyland Airport 39.78 46 P P 01 55 53.9 +1.9
baz=290
WTLY Watson Lake, Y 40.03 48 P P 01 55 55.7 +1.6
baz=292
DLBC Dease Lake 40.06 51 P P 01 55 56.3 +1.9
DLBC IAmb IAmb 01 55 57.4
comp=Z,8.5nm,0.6s
DLBC Dease Lake 40.06 51 P P 01 55 56.7 +2.2
baz=293,SNR=6.6
DLBC Dease Lake 40.06 51 LR LR 02 13 40.3
comp=Z,61nm,19.1s,baz=276,slow=38
T35M Bob Quinn 40.52 53 IAmb IAmb 01 56 02.2
comp=Z,14nm,0.8s
T35M Bob Quinn 40.52 53 P P 01 56 00.9 +2.7
baz=294,SNR=8.1
LZH Lanzhou 41.16 270 *eP* **P 01 56 01.6 -2.2**
LZH sP sP 01 56 30.4 +3.0
LZH pmax pmax
comp=Z,20nm,1.1s
WRGLY Wrigley 41.28 42 IAmb IAmb 01 56 07.3
comp=Z,12nm,0.9s
WRGLY Wrigley 41.28 42 P P 01 56 06.0 +1.8
baz=292
LIRD Liard River Hi 41.56 48 P P 01 56 08.8 +2.1
baz=294
TOAD Toad River Com 42.20 49 P P 01 56 14.2 +2.3
baz=295,SNR=15
KOTAN Kotaneelee Air 42.22 47 P P 01 56 13.8 +1.8
baz=295
ZALV Zalesovo Beam 42.77 303 LR LR 02 13 55.2
comp=Z,34nm,21.1s,baz=119,slow=36
BBB Bella Bella 43.78 59 LR LR 02 12 44.6
comp=Z,51nm,21.9s,baz=305,slow=33
ALE Alert 44.83 7 P P 01 56 32.4 -0.3
ALE pP **pP 01 56 48.6 -0.3**
YKA Yellowknife Ar 45.27 41 P P 01 56 36.9 +0.5
comp=Z,5.1nm,0.7s,baz=298,slow=7.6,SNR=10.0
comp=Z,5.1nm,0.7s
WMQ Urumqi 46.46 290 *eP* **P 01 56 44.1 -2.0**
WMQ pmax pmax
comp=Z,16nm,0.7s
KURK Kurchatov 47.69 302 P P 01 56 53.7 -1.8
KURK IAmb IAmb 01 57 09.0
comp=Z,4.3nm,0.6s
KURK Kurchatov 47.69 302 *ceP* **P 01 56 53.8 -1.7**
KURK pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 47.69 302 P P 01 56 53.4 -2.0
KURBB Kurchatov Arra 47.78 302 P P 01 56 54.6 -1.6
comp=Z,1.3nm,0.6s,baz=63,slow=7.7,SNR=11
comp=Z,1.3nm,0.6s
MK31 Makanchi Array 47.88 296 *ceP* **P 01 56 55.1 -2.0**
MKAR Makanchi Array 47.88 296 P P 01 56 56.3 -0.7
MKAR Makanchi Array 47.88 296 P P 01 56 56.0 -1.1
comp=Z,0.7nm,0.4s,baz=55,slow=7.0,SNR=7.1
MKAR LR LR 02 17 57.9
comp=Z,66nm,18.6s,baz=56,slow=37
comp=Z,0.7nm,0.4s
MKAR Makanchi Array 47.88 296 P P 01 56 56.0 -1.1
SPITS Spitsbergen Ar 48.69 350 P P 01 57 02.1 -0.8
comp=Z,2.1nm,0.3s,baz=61,slow=8.7,SNR=38
comp=Z,2.1nm,0.3s
PZH PanZhiHua 48.97 262 P P 01 57 07.0 +1.2
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,3.5s
NEEM North Greenlan 50.22 8 *eP* **P 01 57 13.2 -1.6**
NEEM IAmb IAmb 01 57 17.4
comp=Z,4.7nm,0.6s
BVAR Borovoye Array 50.58 309 P P 01 57 15.3 -2.3
comp=Z,2.1nm,0.5s,baz=50,slow=7.5,SNR=13
BVAR LR LR 02 20 23.2
comp=Z,68nm,20.0s,baz=62,slow=38
comp=Z,2.1nm,0.5s
BRVK Borovoye 50.61 309 P P 01 57 17.8 +0.1
BRVK Borovoye 50.61 309⇓ *eP* **P 01 57 15.5 -2.3**
BRVK pmax pmax
comp=Z,1.0nm,0.4s
BRVK Borovoye 50.61 309 P P 01 57 17.9 +0.1
H04A Detroit Lake 51.23 64 IAmb IAmb 01 57 24.9
comp=Z,15nm,1.2s
C09A Chrisman Ranch 51.49 59 IAmb IAmb 01 57 26.3
comp=Z,8.7nm,0.8s
HAWA Hanford 51.66 61 IAmb IAmb 01 57 27.9
comp=Z,9.2nm,1.1s
NEW Newport 51.83 58 IAmb IAmb 01 57 28.8
comp=Z,8.3nm,1.2s
NEW Newport 51.83 58 P P 01 57 28.1 +1.1
baz=308
NEW Newport 51.83 58 LR LR 02 19 22.8
comp=Z,28nm,18.7s,baz=280,slow=36
I05D Terrebonne, OR 51.92 64 IAmb IAmb 01 57 30.1
comp=Z,6.4nm,0.7s
DAG Danmarks Havn 52.17 359 *i* P **P 01 57 27.7 -1.4**
PINE Pine Mountain 52.48 64 IAmb IAmb 01 57 35.1
comp=Z,8.5nm,0.8s
YBH Yreka Blue Hor 52.76 67 IAmb IAmb 01 57 37.0
comp=Z,5.7nm,0.7s
YBH Yreka Blue Hor 52.76 67 LR LR 02 16 21.5
comp=Z,44nm,21.9s,baz=298,slow=32
BMO Blue Mountains 53.84 61 IAmb IAmb 01 57 44.3
comp=Z,6.3nm,0.7s
ARU Arti 53.91 317 LR LR 02 21 41.0
comp=Z,88nm,19.9s,baz=58,slow=37
ARU Arti 53.91 317⇑ *eP* **P 01 57 41.0 -1.2**
ARU pmax pmax
comp=Z,5.0nm,1.4s
J08A Circle Bar Ran 54.15 63 IAmb IAmb 01 57 47.2
comp=Z,9.3nm,1.5s
MSO Missoula 54.41 58 IAmb IAmb 01 57 48.1
comp=Z,11nm,1.1s
MSO Missoula 54.41 58 P P 01 57 46.6 +0.5
baz=310
ARCES ARCESS Array B 54.61 342 LR LR 02 25 42.4
comp=Z,38nm,18.6s,baz=28,slow=41
AAK Ala-Archa 54.81 296 LR LR 02 21 26.5
comp=Z,56nm,18.4s,baz=122,slow=36
ORV Oroville 54.87 69 IAmb IAmb 01 57 51.5
comp=Z,9.1nm,0.8s
FFC Flin Flon 55.11 44 P P 01 57 51.9 +1.0
FFC IAmb IAmb 01 57 52.6
comp=Z,9.4nm,0.7s
FFC Flin Flon 55.11 44 P P 01 57 51.9 +1.0
FFC pmax pmax
comp=Z,9.0nm,0.7s
FFC Flin Flon 55.11 44 P P 01 57 51.9 +1.0
FFC pP **pP 01 58 08.2 +0.7**
AFDM Forest Hills D 55.58 69 IAmb IAmb 01 57 57.1
comp=Z,7.1nm,1.1s
MFID Camas Ranch 55.58 62 IAmb IAmb 01 57 57.1
comp=Z,5.4nm,0.7s
FCC Fort Churchill 55.61 37 P P 01 57 54.8 +0.5
FCC Fort Churchill 55.61 37 P P 01 57 54.8 +0.5
FCC pmax pmax
comp=Z,13nm,0.5s
EGMT Eagleton 55.81 54 P P 01 57 56.4 +0.2
baz=311,SNR=5.6
PHRA Phrae 55.84 256 P P 01 57 56.2 -0.4
SUMG Summit 55.86 6 *i* P **P 01 57 56.2 -0.3**
PAHR Pah Rah Range 56.00 67 IAmb IAmb 01 58 00.3
comp=Z,6.7nm,0.8s
KIRV Kirov 56.12 323 LR LR 02 23 12.1
comp=Z,92nm,20.4s,baz=38,slow=37
HLID Hailey 56.27 61 P P 01 58 00.7 +1.2
baz=312,SNR=11
CHTO Chiang Mai 56.39 258 P P 01 58 00.3 -0.2
CHTO Chiang Mai 56.39 258 P P 01 58 00.3 -0.2
CHTO pmax pmax
comp=Z,11nm,0.7s
BOZ Bozeman (W) 56.43 57 P P 01 58 02.0 +1.3
baz=312,SNR=16
CMB Columbia Colle 56.52 69 IAmb IAmb 01 58 04.1
comp=Z,7.1nm,1.1s
CMAR Chiang Mai Arr 56.66 258 P P 01 58 03.7 +1.3
comp=Z,5.7nm,0.7s,baz=29,slow=6.6,SNR=19
CMAR pP **pP 01 58 17.4 -1.8**
comp=Z,3.1nm,0.5s,baz=29,slow=8.0,SNR=2.7
CMAR LR LR 02 23 11.2
comp=Z,37nm,19.4s,baz=80,slow=37
comp=Z,5.7nm,0.7s
BMN Battle Mountai 56.76 65 IAmb IAmb 01 58 05.6
comp=Z,7.2nm,0.6s
RYN Ryan 57.22 68 IAmb IAmb 01 58 09.1
comp=Z,8.5nm,0.8s
NVAR Mina Array Bea 57.48 68 P P 01 58 10.1 +1.8
NVAR Mina Array Bea 57.48 68 P P 01 58 10.2 +2.0
comp=Z,6.4nm,0.6s,baz=301,slow=7.4,SNR=58
NVAR LR LR 02 22 37.0
comp=Z,55nm,18.1s,baz=270,slow=36
comp=Z,6.4nm,0.6s
MDPB Devils Postpil 57.56 69 IAmb IAmb 01 58 11.8
comp=Z,7.6nm,1.1s
NV11 Mina Array Sit 57.56 68 IAmb IAmb 01 58 11.1
comp=Z,5.3nm,0.7s
JMIC Jan Mayen 57.63 355 LR LR 02 21 03.5
comp=Z,15nm,18.2s,baz=354,slow=34
ELK Elko 57.68 64 IAmb IAmb 01 58 12.4
comp=Z,4.7nm,0.7s
ELK Elko 57.68 64 LR LR 02 21 51.1
comp=Z,46nm,18.3s,baz=280,slow=35
H17A Grant Village 57.78 58 P P 01 58 13.3 +2.9
baz=313
IMW Indian Meadow 57.93 59 IAmb IAmb 01 58 14.6
comp=Z,7.0nm,0.8s
RLMT Red Lodge 57.99 57 P P 01 58 13.2 +1.4
baz=313,SNR=11
FXWY Fox Creek 58.05 59 IAmb IAmb 01 58 15.3
comp=Z,6.9nm,0.8s
MOOW Moose Ponds 58.13 59 IAmb IAmb 01 58 15.8
comp=Z,6.7nm,1.1s
AKTO Aktyubinsk 58.15 312 LR LR 02 24 43.7
comp=Z,40nm,21.4s,baz=58,slow=38
LOHW Long Hollow 58.30 59 IAmb IAmb 01 58 17.1
comp=Z,14nm,1.2s
DSP Deep Springs 58.39 68 IAmb IAmb 01 58 17.6
comp=Z,11nm,1.0s
VES Vestal, Richgr 58.77 70 P P 01 58 18.2 +1.1
baz=314
GMN Gold Mountain 58.85 68 IAmb IAmb 01 58 20.6
comp=Z,6.2nm,0.8s
CWC Cottonwood Cre 58.96 69 P P 01 58 20.1 +1.5
baz=314
GRAC Grapevine Rang 58.99 68 P P 01 58 20.5 +1.9
baz=314,SNR=5.4
PKM Mcpherson Peak 58.99 72 P P 01 58 20.4 +1.5
baz=314
Q12A Willow Creek R 59.06 65 IAmb IAmb 01 58 22.0
comp=Z,7.6nm,0.8s
R11B Troy Canyon, C 59.10 66 IAmb IAmb 01 58 21.9
comp=Z,6.1nm,0.8s
R11B Troy Canyon, C 59.10 66 P P 01 58 21.1 +1.6
baz=314,SNR=19
HWUT Hardware Ranch 59.14 61 IAmb IAmb 01 58 22.5
comp=Z,8.1nm,0.8s
ICESG Greenland Ices 59.19 7 *eP* **P 01 58 19.2 -0.7**
ISA Isabella, Lake 59.26 70 P P 01 58 21.2 +0.7
baz=314
DUG Dugway, Tooele 59.41 63 IAmb IAmb 01 58 24.4
comp=Z,10nm,1.0s
DUG Dugway, Tooele 59.41 63 P P 01 58 23.0 +1.4
baz=314,SNR=9.6
BW06 Boulder Array 59.43 59 P P 01 58 23.1 +1.3
baz=314,SNR=15
PDAR Pinedale Array 59.43 59 P P 01 58 23.1 +1.2
PDAR Pinedale Array 59.43 59 P P 01 58 23.3 +1.5
comp=Z,7.5nm,0.7s,baz=315,slow=3.2,SNR=67
comp=Z,7.5nm,0.7s
WCT Wildcat Mounta 59.56 68 IAmb IAmb 01 58 25.0
comp=Z,4.8nm,0.7s
MPMC Manual Prospec 59.57 69 P P 01 58 24.2 +1.4
baz=314,SNR=9.7
FURC Furnace Creek, 59.65 69 P P 01 58 25.1 +2.1
baz=314,SNR=26
TPNV Topopah Spring 59.68 68 P P 01 58 25.0 +1.6
baz=314,SNR=17
PSUT Pine Spring 59.96 65 IAmb IAmb 01 58 27.5
comp=Z,3.6nm,0.7s
NLU North Lily Min 59.99 63 IAmb IAmb 01 58 28.3
comp=Z,8.6nm,0.9s
SFJD Kangerlussuaq 60.02 13 LR LR 02 27 39.1
comp=Z,49nm,18.1s,baz=349,slow=39
EDW2 Edwards Air Fo 60.08 71 P P 01 58 27.3 +1.2
baz=314,SNR=5.8
MPU Maple Canyon 60.19 62 IAmb IAmb 01 58 29.7
comp=Z,6.7nm,0.8s
BSUT Blindstream Ca 60.31 61 IAmb IAmb 01 58 30.9
comp=Z,5.9nm,0.8s
SHOC Shoshone, Teco 60.39 69 P P 01 58 29.6 +1.4
baz=314
GSC Goldstone, Bar 60.49 69 IAmb IAmb 01 58 31.2
comp=Z,7.7nm,0.8s
GSC Goldstone, Bar 60.49 69 P P 01 58 30.5 +1.5
baz=315,SNR=10
BFSC Mount Baldy Ra 60.73 71 P P 01 58 31.9 +1.2
baz=315
CIS Catalina Islan 60.86 72 P P 01 58 32.3 +0.8
baz=315
ULM Lac du Bonnet 60.90 45 P P 01 58 31.9 +0.4
comp=Z,8.3nm,0.5s,baz=316,slow=7.1,SNR=21
ULM LR LR 02 26 06.6
comp=Z,51nm,19.7s,baz=264,slow=37
comp=Z,8.3nm,0.5s
ULM Lac du Bonnet 60.90 45 *ceP* **P 01 58 31.7 +0.3**
TUQ Turquoise Moun 60.91 69 P P 01 58 33.2 +1.3
baz=315,SNR=15
MDND Maddock 60.92 49 P P 01 58 32.3 +0.7
baz=316
CCUT Cedar City 60.92 65 IAmb IAmb 01 58 34.8
comp=Z,6.0nm,0.8s
SZCU Shurtz Canyon 61.05 65 IAmb IAmb 01 58 35.4
comp=Z,4.7nm,0.9s
HEC Hector,Ludlow 61.09 70 P P 01 58 34.4 +1.3
baz=315,SNR=6.0
Q16A Castle Valley 61.21 63 IAmb IAmb 01 58 36.7
comp=Z,5.7nm,0.8s
MTPU Mount Pierson 61.25 64 IAmb IAmb 01 58 37.5
comp=Z,5.5nm,0.8s
ELS Elsinore Mount 61.27 71 IAmb IAmb 01 58 36.3
comp=Z,7.7nm,0.8s
FINES FINESS Array B 61.28 336 P P 01 58 32.1 -1.6
comp=Z,0.7nm,0.6s,baz=32,slow=6.6,SNR=11
FINES LR LR 02 27 43.5
comp=Z,53nm,18.2s,baz=20,slow=39
comp=Z,0.7nm,0.6s
V12A Nelson 61.34 68 IAmb IAmb 01 58 37.4
comp=Z,6.8nm,1.0s
LCMT Little Creek M 61.37 66 IAmb IAmb 01 58 37.8
comp=Z,9.2nm,0.9s
RSSD Black Hills 61.38 54 P P 01 58 35.9 +0.8
RSSD Black Hills 61.38 54 P P 01 58 36.0 +1.0
baz=315
RSSD Black Hills 61.38 54 P P 01 58 35.9 +0.8
RSSD pmax pmax
comp=Z,18nm,0.7s
RSSD Black Hills 61.38 54 P P 01 58 36.2 +1.2
RSSD pP **pP 01 58 52.9 +1.1**
RWWY Rawlins 61.44 58 IAmb IAmb 01 58 36.0
comp=Z,4.6nm,0.8s
MURC Murrieta 61.45 71 P P 01 58 36.3 +0.9
baz=315,SNR=5.2
GMRC Granite Mounta 61.52 69 P P 01 58 37.4 +1.3
baz=315,SNR=12
PKCU Pink Cliffs 61.60 65 IAmb IAmb 01 58 39.9
comp=Z,6.8nm,0.8s
KNB Kanab 61.60 65 IAmb IAmb 01 58 39.7
comp=Z,9.6nm,1.0s
BELC Belle Mtn. Jos 61.87 70 P P 01 58 39.6 +1.1
baz=315
PFO Pinyon Flats O 61.88 71 P P 01 58 39.3 +0.9
baz=315
PFO Pinyon Flats O 61.88 71 LR LR 02 25 35.6
comp=Z,42nm,18.1s,baz=248,slow=36
PFO Pinyon Flats O 61.88 71⇑ *eP* **P 01 58 35.6 -2.8**
PFO pmax pmax
comp=Z,8.0nm,0.8s
PFO Pinyon Flats O 61.88 71 P P 01 58 39.4 +1.0
PFO pP **pwP 01 58 57.9 +0.4**
TPFO Pinon Flats 61.88 71 P P 01 58 39.3 +0.9
baz=315
PMD Palm Desert 61.90 71 IAmb IAmb 01 58 40.1
comp=Z,5.4nm,0.7s
O20A White River Ci 61.97 60 IAmb IAmb 01 58 41.3
comp=Z,7.3nm,1.0s
O20A White River Ci 61.97 60 P P 01 58 40.3 +1.2
baz=315,SNR=5.7
109C Camp Elliot, M 62.00 72 P P 01 58 40.3 +1.2
baz=315
NEE2 Needles Airpor 62.14 68 P P 01 58 41.6 +1.6
baz=315
IRM Iron Mountain 62.27 69 P P 01 58 42.3 +1.4
baz=315,SNR=14
AGMN Agassiz Nation 62.33 46 IAmb IAmb 01 58 42.3
comp=Z,7.5nm,0.8s
AGMN Agassiz Nation 62.33 46 P P 01 58 41.1 0.0
baz=318
W13A Hualapai Mount 62.34 68 IAmb IAmb 01 58 43.9
comp=Z,6.2nm,0.9s
MONP2 Monument Peak 62.40 71 P P 01 58 42.7 +0.7
baz=316
BC3 Big Chuckawall 62.44 70 P P 01 58 43.1 +1.0
baz=316,SNR=6.9
N23A Red Feather La 62.67 58 IAmb IAmb 01 58 46.2
comp=Z,6.3nm,0.7s
N23A Red Feather La 62.67 58 P P 01 58 44.9 +1.1
baz=316,SNR=6.4
SWSC Sam W. Stewart 62.73 71 P P 01 58 45.0 +1.0
baz=316
PDMCI Parker Dam,Lak 62.75 68 P P 01 58 45.7 +1.6
baz=316,SNR=7.9
IKP In-Ko-Pah, Jac 62.76 71 P P 01 58 45.1 +0.8
baz=316
YUH Yuha Desert 62.87 71 IAmb IAmb 01 58 46.5
comp=Z,5.0nm,0.7s
GLA Glamis 63.23 70 P P 01 58 48.8 +1.4
baz=316
ESJX Sierra Juarez 63.31 72 IAmb IAmb 01 58 50.3
comp=Z,13nm,1.5s
SMCO Snowmass 63.34 60 IAmb IAmb 01 58 50.7
comp=Z,6.4nm,0.8s
OBN Obninsk 63.37 327 LR LR 02 29 29.9
comp=Z,47nm,20.1s,baz=210,slow=39
WUAZ Wupatki 63.49 66 P P 01 58 50.7 +1.6
baz=316
ISCO Idaho Springs 63.63 59 P P 01 58 51.4 +1.2
baz=316,SNR=6.1
Y14A Wickenburg 63.67 68 IAmb IAmb 01 58 52.7
comp=Z,7.8nm,0.9s
MVCO Mesa Verde 63.91 63 IAmb IAmb 01 58 54.3
comp=Z,7.9nm,0.8s
MVCO Mesa Verde 63.91 63 P P 01 58 53.2 +1.2
baz=316,SNR=6.6
X16A Lo Mia Camp, P 64.23 67 IAmb IAmb 01 58 57.0
comp=Z,7.6nm,0.7s
S22A 4UR Ranch, Cre 64.44 61 IAmb IAmb 01 58 58.5
comp=Z,9.8nm,1.2s
S22A 4UR Ranch, Cre 64.44 61 P P 01 58 56.7 +1.1
baz=317
EYMN Ely 64.54 44 P P 01 58 55.7 0.0
baz=320,SNR=7.5
OGNE Ogallala 64.69 56 P P 01 58 58.1 +1.2
baz=317
NC204 NORSAR Array S 64.78 343 P P 01 58 56.0 -1.0
NB2 NORSAR Subarra 64.91 343 P P 01 58 56.4 -1.5
comp=Z,0.5nm,0.5s,baz=22,slow=6.9
NOA NORSAR Array B 64.91 343 P P 01 58 56.8 -1.1
comp=Z,0.8nm,0.6s,baz=21,slow=6.7,SNR=12
NOA LR LR 02 33 59.1
comp=Z,15nm,18.2s,baz=0.0,slow=42
comp=Z,0.8nm,0.6s
X18A Snowflake 65.01 66 IAmb IAmb 01 59 02.0
comp=Z,10nm,0.9s
SDCO Great Sand Dun 65.17 60 P P 01 59 00.8 +0.5
baz=317,SNR=6.2
214A Organ Pipe Nat 65.20 69 P P 01 59 01.8 +1.5
baz=317,SNR=5.5
HFS Hagfors 65.27 341 P P 01 58 58.6 -1.6
comp=Z,0.9nm,0.3s,baz=40,slow=4.9,SNR=21
HFS pcP **pcP 01 59 29.9 -2.1**
comp=Z,1.3nm,0.6s,baz=46,slow=4.3,SNR=4.3
HFS LR LR 02 31 49.8
comp=Z,46nm,18.9s,baz=49,slow=40
comp=Z,0.9nm,0.3s
ECSD EROS Data Cent 65.35 50 IAmb IAmb 01 59 02.1
comp=Z,12nm,0.9s
ECSD EROS Data Cent 65.35 50 P P 01 59 01.0 0.0
baz=319,SNR=15
SPMN Marine on St. 66.02 47 IAmb IAmb 01 59 06.4
comp=Z,12nm,0.8s
SPMN Marine on St. 66.02 47 P P 01 59 05.2 -0.1
baz=320
TUC Tucson 66.13 68 P P 01 59 07.8 +1.4
TUC Tucson 66.13 68 P P 01 59 07.8 +1.4
baz=317
TUC Tucson 66.13 68 P P 01 59 07.8 +1.4
TUC pmax pmax
comp=Z,4.0nm,1.0s
TUC Tucson 66.13 68 P P 01 59 07.7 +1.4
TUC pP **pP 01 59 25.4 +2.2**
T25A Trinidad 66.21 60 IAmb IAmb 01 59 09.2
comp=Z,18nm,1.6s
T25A Trinidad 66.21 60 P P 01 59 07.7 +0.8
baz=318,SNR=5.3
ANMO Albuquerque 66.68 63 P P 01 59 10.9 +1.0
ANMO Albuquerque 66.68 63 P P 01 59 11.1 +1.1
baz=318
ANMO Albuquerque 66.68 63 P P 01 59 10.9 +1.0
ANMO pmax pmax
comp=Z,8.0nm,1.4s
ANMO Albuquerque 66.68 63 P P 01 59 11.4 +1.5
ANMO pP **pP 01 59 29.2 +2.2**
CBKS Cedar Bluff 67.45 56 P P 01 59 14.6 0.0
baz=319
121A Cookes Peak, D 67.70 66 P P 01 59 17.7 +1.3
baz=318
SCHQ Schefferville 67.77 26 P P 01 59 15.9 -0.3
comp=Z,5.2nm,0.8s,baz=343,slow=5.3,SNR=10.0
comp=Z,5.2nm,0.8s
SCIA State Center 68.37 50 P P 01 59 20.3 +0.1
baz=321
JFWS Jewell Farm 68.98 47 P P 01 59 23.0 -0.9
baz=322
L40A Anamosa 69.19 48 IAmb IAmb 01 59 25.6
comp=Z,10nm,0.8s
AMTX Amarillo 69.36 60 IAmb IAmb 01 59 28.5
comp=Z,12nm,1.1s
AMTX Amarillo 69.36 60 P P 01 59 27.3 +0.8
baz=319
MSTX Muleshoe 69.45 61 P P 01 59 28.0 +0.8
baz=319
AKASG Malin Array Be 69.52 328 P P 01 59 25.0 -2.1
comp=Z,0.5nm,0.4s,baz=29,slow=6.1,SNR=2.2
AKASG LR LR 02 32 04.3
comp=Z,27nm,18.6s,baz=34,slow=38
comp=Z,0.5nm,0.4s
MNTX Cornudas Mount 69.68 65 P P 01 59 29.5 +1.0
baz=319,SNR=8.0
KVAR Kislovodsk Arr 69.92 316 LR LR 02 33 14.4
comp=Z,30nm,18.6s,baz=296,slow=39
KIV Kislovodsk 69.92 316 *eP* **P 01 59 29.2 -0.7**
KIV pmax pmax
comp=Z,3.0nm,1.0s
L42A Oliver, Polo 69.96 47 IAmb IAmb 01 59 30.1
comp=Z,10nm,0.7s
P38A Dawn 69.97 51 IAmb IAmb 01 59 30.9
comp=Z,8.6nm,0.9s
KBZ Khabaz 70.01 316 LR LR 02 33 05.2
comp=Z,37nm,20.3s,baz=5.0,slow=38
VLDQ Val d'Or 70.09 36 IAmb IAmb 01 59 29.9
comp=Z,14nm,0.8s
P40A Paris 70.77 50 IAmb IAmb 01 59 36.0
comp=Z,10nm,0.9s
WMOK Wichita Mounta 71.03 58 P P 01 59 36.9 +0.2
baz=320,SNR=10
OK052 Battle Ridge R 71.11 56 IAmb IAmb 01 59 38.2
comp=Z,7.1nm,0.6s
OK031 S. Brethren Rd 71.12 56 IAmb IAmb 01 59 38.3
comp=Z,17nm,1.3s
HDIL Hopedale 71.27 48 P P 01 59 37.5 -0.5
baz=323
APMT Aspermont 71.38 60 IAmb IAmb 01 59 40.1
comp=Z,24nm,1.6s

TUL3	Leonard	71.70	55	P	P	01 59 40.8	+0.1
	baz=321						
GNI	Garni	72.03	312	LR	LR	02 34 33.7	
	comp=Z,34nm,19.5s,baz=82,slow=39						
ABTX	Abilene, Hawle	72.18	60	IAmb	IAmb	01 59 45.3	
	comp=Z,8.1nm,1.0s						
ABTX	Abilene, Hawle	72.18	60	P	P	01 59 43.9	+0.3
	baz=320						
CCM	Cathedral Cave	72.31	51	P	P	01 59 43.8	-0.5
	baz=322						
SFIN	Lafayette	72.42	47	P	P	01 59 44.3	-0.7
	baz=324						
TX31	Lajitas Ar. Si	72.43	65	IAmb	IAmb	01 59 47.5	
	comp=Z,12nm,0.8s						
TXAR	Lajitas Array	72.43	65	P	P	01 59 46.1	+0.8
TXAR	Lajitas Array	72.43	65	P	P	01 59 46.5	+1.3
	comp=Z,8.4nm,0.6s,baz=298,slow=4.5,SNR=148						
TXAR				pP	pP	02 00 03.9	+1.6
	comp=Z,4.8nm,0.7s,baz=304,slow=4.5,SNR=8.9						
	comp=Z,8.4nm,0.6s						
LPIG	La Paz	72.48	73	LR	LR	02 28 22.9	
	comp=Z,45nm,18.1s,baz=200,slow=33						
EKA	Eskdalemuir Ar	72.59	349	P	P	01 59 45.0	-0.6
	comp=Z,1.3nm,0.4s,baz=18,slow=5.2,SNR=30						
EKA				pP	PcP	02 00 01.2	-1.7
	comp=Z,1.2nm,0.4s,baz=18,slow=5.3,SNR=5.6						
	comp=Z,1.3nm,0.4s						
OZNA	Ozona	72.66	62	IAmb	IAmb	01 59 48.0	
	comp=Z,13nm,1.4s						
Q44A	Meyer Farm, Va	72.71	49	IAmb	IAmb	01 59 47.5	
	comp=Z,11nm,1.1s						
TRQ	Mont Tremblant	72.75	35	IAmb	IAmb	01 59 47.1	
	comp=Z,7.8nm,0.8s						
FVM	French Village	72.76	50	IAmb	IAmb	01 59 48.0	
	comp=Z,13nm,1.2s						
KOLS	Kolonicke sedl	73.26	331	*e*P	P	01 59 49.7	-0.1
KOLS	Kolonicke sedl	73.26	331	*e*P	P	01 59 49.7	-0.1
O48B	Farmland	73.40	46	P	P	01 59 49.6	-1.1
O48B				IAmb	IAmb	01 59 51.0	
	comp=Z,12nm,0.8s						
O48B				PcP	PcP	02 00 06.7	+0.1
O48B	Farmland	73.40	46	P	P	01 59 50.1	-0.6
	baz=325,SNR=7.8						
BUR08	Bucovina Ar. S	73.49	329	P	P	01 59 50.5	-0.8
S44A	Carbondale	73.56	50	IAmb	IAmb	01 59 52.6	
	comp=Z,9.6nm,0.8s						
FCAR	Ozark Folk Cen	73.58	53	IAmb	IAmb	01 59 52.1	
	comp=Z,10nm,0.8s						
CLL	Collm	73.58	338	*e*P	P	01 59 51.0	-0.6
CLL				*e*PcP	PcP	02 00 06.0	-1.2
CLL				*e*(sP)	sP	02 00 18.0	+1.8
JCT	Junction City	73.73	62	IAmb	IAmb	01 59 54.3	
	comp=Z,9.9nm,0.6s						
JCT	Junction City	73.73	62	P	P	01 59 52.8	-0.1
	baz=321						
LANS	Liptovska Anna	73.89	333	*e*P	P	01 59 53.6	+0.1
LANS	Liptovska Anna	73.89	333	*e*P	P	01 59 53.6	+0.1
MIAR	Mount Ida	73.90	55	P	P	01 59 53.4	-0.3
	baz=322,SNR=7.8						
D62A	Allapoint, All	73.91	31	P	P	01 59 53.8	+0.3
P48A	Milroy	73.92	46	IAmb	IAmb	01 59 54.1	
	comp=Z,9.2nm,0.8s						
WHAR	Wooly Hollow	73.97	53	IAmb	IAmb	01 59 54.9	
	comp=Z,24nm,1.7s						
WRA	Warramunga Arr	73.98	203	P	P	01 59 55.1	+1.0
WRA	Warramunga Arr	73.98	203	P	P	01 59 55.1	+1.0
	comp=Z,4.0nm,0.7s,baz=18,slow=6.0,SNR=27						
WRA				pP	PcP	02 00 10.8	+1.7
	comp=Z,1.9nm,0.5s,baz=18,slow=6.1,SNR=5.9						
WRA				LR	LR	02 30 50.6	
	comp=Z,117nm,20.9s,baz=268,slow=34						
	comp=Z,4.0nm,0.7s						
WRA	Warramunga Arr	73.98	203	P	P	01 59 55.1	+1.0
WRA				pmax	pmax		
	comp=Z,1.0nm,1.2s						
DRIO	Del Rio	74.08	63	IAmb	IAmb	01 59 57.3	
	comp=Z,9.9nm,0.8s						
ERPA	Erie	74.10	41	P	P	01 59 54.3	-0.5
	baz=327						
LONY	Lake Ozonia	74.11	36	P	P	01 59 54.2	-0.6
	baz=329						
E62A	Clayton Lake	74.16	32	IAmb	IAmb	01 59 55.8	
	comp=Z,6.4nm,0.8s						
P49A	Miami Univ. Ec	74.19	46	IAmb	IAmb	01 59 55.8	
	comp=Z,13nm,1.0s						
P49A	Miami Univ. Ec	74.19	46	P	P	01 59 54.8	-0.5
	baz=325						
M53A	Wi Miller and	74.38	42	P	P	01 59 56.2	-0.2
	baz=327,SNR=8.7						
ACSO	Alum Creek Sta	74.38	44	P	P	01 59 56.3	-0.1
	baz=326						
WVNY	West Valley, N	74.42	40	IAmb	IAmb	01 59 57.3	
	comp=Z,14nm,0.9s						
WCI	Wyandotte Cave	74.52	48	P	P	01 59 57.7	+0.4
WCI				IAmb	IAmb	01 59 58.3	
	comp=Z,12nm,0.9s						
WCI	Wyandotte Cave	74.52	48	P	P	01 59 57.2	-0.1
	baz=324						
WCI	Wyandotte Cave	74.52	48	P	P	01 59 57.7	+0.4
WCI				pmax	pmax		
	comp=Z,12nm,0.9s						
VRAC	Vranov	74.53	335	LR	LR	02 36 35.4	
	comp=Z,41nm,18.2s,baz=18,slow=39						
VYHS	Vyhne	74.66	333	*e*P	P	02 00 01.7	+3.8
VYHS	Vyhne	74.66	333	*e*P	P	02 00 01.7	+3.8
J58A	Remsen	74.92	37	P	P	01 59 59.0	-0.5
J58A				IAmb	IAmb	02 00 00.2	
	comp=Z,11nm,1.1s						
O52A	Adamsville	74.98	43	IAmb	IAmb	02 00 00.5	
	comp=Z,12nm,0.9s						
G62A	West of Eustis	75.04	33	IAmb	IAmb	02 00 01.6	
	comp=Z,6.0nm,0.7s						
L56A	Greenwood	75.07	40	P	P	02 00 00.1	-0.4
MLR	Muntele Rosu	75.13	327	LR	LR	02 37 23.4	
	comp=Z,50nm,19.2s,baz=344,slow=39						
O53A	New Philadelph	75.14	43	IAmb	IAmb	02 00 01.4	
	comp=Z,19nm,1.1s						
O53A	New Philadelph	75.14	43	P	P	02 00 00.6	-0.3
	baz=326,SNR=5.8						
T47A	Sharon Grove	75.15	49	IAmb	IAmb	02 00 02.2	
	comp=Z,22nm,1.3s						
P52A	Corning	75.25	44	P	P	02 00 00.4	-1.0
	baz=326						
LBNH	Lisbon	75.40	35	P	P	02 00 01.7	-0.6
	baz=331						
PKME	Peaks-Kenny Pk	75.42	33	P	P	02 00 02.0	-0.4
	baz=332						
WVT	Waverly	75.49	50	P	P	02 00 03.2	+0.3
WVT				IAmb	IAmb	02 00 03.5	
	comp=Z,4.0nm,0.5s						
WVT	Waverly	75.49	50	P	P	02 00 02.5	-0.4
	baz=324						
WVT	Waverly	75.49	50	P	P	02 00 03.2	+0.3
WVT				pmax	pmax		
	comp=Z,4.0nm,0.5s						
O54A	Avella	75.55	42	IAmb	IAmb	02 00 03.6	
	comp=Z,7.8nm,0.7s						
833A	Chaparral WMA,	75.61	63	P	P	02 00 04.7	+1.0
	baz=321						
BINY	Binghamton	75.64	38	P	P	02 00 02.2	-1.4
	baz=329						
GERES	GERESS Array B	75.70	337	P	P	02 00 03.0	-1.0
	comp=Z,0.6nm,0.6s,baz=1.8,slow=4.3,SNR=4.1						
	comp=Z,0.6nm,0.6s						
M57A	Sunshine Farm,	75.92	40	IAmb	IAmb	02 00 05.8	
	comp=Z,17nm,0.9s						
L59A	Walton	76.01	38	IAmb	IAmb	02 00 06.2	
	comp=Z,13nm,1.0s						
U49A	Red Boiling Sp	76.15	48	IAmb	IAmb	02 00 07.7	
	comp=Z,7.6nm,0.8s						
T50A	Nancy	76.18	47	IAmb	IAmb	02 00 07.8	
	comp=Z,8.8nm,0.7s						
SSPA	Standing Stone	76.20	41	P	P	02 00 07.0	+0.1
SSPA				IAmb	IAmb	02 00 07.5	
	comp=Z,12nm,1.1s						
SSPA	Standing Stone	76.20	41	P	P	02 00 06.7	-0.2
	baz=328						
MCWV	Mont Chateau	76.21	42	P	P	02 00 07.1	+0.2
	baz=327						
CLTN	Cedars of Leba	76.24	49	IAmb	IAmb	02 00 08.3	
	comp=Z,8.7nm,0.7s						
PLAL	Pickwick Lake	76.30	51	IAmb	IAmb	02 00 07.8	
	comp=Z,5.7nm,0.6s						
N58A	Sunbury	76.50	40	IAmb	IAmb	02 00 26.1	
	comp=Z,16nm,1.3s						
PALK	Pallekele	76.54	265	LR	LR	02 36 07.3	
	comp=Z,67nm,20.9s,baz=205,slow=38						
ARSA	Arzberg	76.70	335	*e*P	P	02 00 06.5	-3.2
	comp=Z,2.8nm,0.9s						
HBVL	Hebbronville	76.99	63	IAmb	IAmb	02 00 14.8	
	comp=Z,13nm,0.7s						
HRV	Adam Dziewonsk	77.04	35	P	P	02 00 11.4	-0.1
	baz=331						
SWET	Sewanee	77.14	49	IAmb	IAmb	02 00 12.8	
	comp=Z,19nm,1.3s						
TZTN	Tazewell	77.16	47	IAmb	IAmb	02 00 13.4	
	comp=Z,9.8nm,0.8s						
TZTN	Tazewell	77.16	47	P	P	02 00 12.4	0.0
	baz=326						
BRTR	Keskin Array B	77.23	319	P	P	02 00 11.4	-1.5
	comp=Z,32nm,0.3s,baz=10,slow=8.8,SNR=5.4						
R55A	Marlinton	77.24	43	IAmb	IAmb	02 00 13.9	
	comp=Z,8.4nm,0.8s						
LESA	Schwarzleotal	77.28	337	*e*P	P	02 00 13.4	+0.5
	comp=Z,1.6nm,0.8s						
SOKA	Soboth	77.36	335	*e*P	P	02 00 13.2	-0.2
	comp=Z,4.7nm,1.1s						
KBA	Koelnbreinsper	77.43	336	*i*P	P	02 00 14.1	+0.1
	comp=Z,4.6nm,0.6s						
PAL	Palisades	77.46	38	P	P	02 00 13.8	-0.1
	baz=330						
OBKA	Obir	77.65	335	*e*pP	pP	02 00 31.5	-1.1
	comp=Z,4.5nm,1.3s						
ASAR	Alice Springs	77.66	203	P	P	02 00 16.8	+1.7
	comp=Z,2.2nm,0.6s,baz=14,slow=5.5,SNR=25						
ASAR				pP	pP	02 00 32.8	+0.2
	comp=Z,1.4nm,0.6s,baz=14,slow=5.5,SNR=5.2						
	comp=Z,2.2nm,0.6s						
RETA	Reutte	77.68	338	*i*P	P	02 00 15.2	0.0
	comp=Z,3.1nm,1.0s						
WTTA	Wattenberg	77.68	337	*i*P	P	02 00 14.2	-1.1
	comp=Z,6.0nm,1.3s						
V52A	Sevierville	77.72	47	IAmb	IAmb	02 00 16.5	
	comp=Z,8.0nm,0.7s						
SQTA	Sankt Quirin	77.82	338	*e*P	P	02 00 14.7	-1.3
	comp=Z,3.5nm,1.1s						
FPAL	Fort Paine	77.84	49	IAmb	IAmb	02 00 16.9	
	comp=Z,8.9nm,0.8s						
ABTA	Abfaltersbach	77.95	337	*i*P	P	02 00 17.6	+1.0
	comp=Z,5.6nm,1.2s						
BLA	Blacksburg	78.00	44	P	P	02 00 17.2	+0.1
	baz=327						
FETA	Feichten	78.12	338	*i*P	P	02 00 16.8	-1.0
	comp=Z,4.4nm,1.2s						
LRAL	Lakeview Retre	78.39	51	IAmb	IAmb	02 00 19.5	
	comp=Z,5.3nm,0.7s						
LRAL	Lakeview Retre	78.39	51	P	P	02 00 18.9	-0.3
	baz=325						
DAVOX	Davos/Dischmat	78.55	338	LR	LR	02 40 43.4	
	comp=Z,30nm,18.0s,baz=54,slow=40						
T57A	Hurt	78.69	43	IAmb	IAmb	02 00 21.4	
	comp=Z,7.5nm,0.6s						
BG3	Lake Jocassee	78.72	47	IAmb	IAmb	02 00 22.2	
	comp=Z,9.6nm,0.8s						
KMSC	Kings Mountain	79.33	46	P	P	02 00 24.2	-0.1
	baz=327						
V58A	Windy Hill, Pi	79.76	44	IAmb	IAmb	02 00 27.7	
	comp=Z,11nm,0.9s						
GOGA	Godfrey	79.78	48	P	P	02 00 27.1	+0.3
	baz=326						
W57A	Gilead	79.92	45	IAmb	IAmb	02 00 28.2	
	comp=Z,7.7nm,0.8s						
352A	Blakely	80.67	51	IAmb	IAmb	02 00 32.8	
	comp=Z,13nm,0.8s						
CNNC	Cliffs of the	80.76	43	P	P	02 00 32.3	+0.3
	baz=329						
TIGA	Tifton	81.35	50	P	P	02 00 35.6	+0.3
	baz=326						
NHSC	New Hope	81.55	46	P	P	02 00 36.7	+0.4
	baz=328						
MMAI	Mount Meron Ar	82.15	315	P	P	02 00 39.4	-0.2
	comp=Z,1.1nm,0.4s,baz=37,slow=7.3,SNR=6.2						
	comp=Z,1.1nm,0.4s						
RAYN	Ar Rayn	85.02	302	P	P	02 00 53.4	-0.9
RAYN				IAmb	IAmb	02 01 25.2	
	comp=Z,12nm,1.6s						
RAYN	Ar Rayn	85.02	302	P	P	02 00 53.4	-0.9
RAYN				pmax	pmax		
	comp=Z,12nm,1.6s						
EIL	Elat	85.18	313	LR	LR	02 42 15.5	
	comp=Z,33nm,19.6s,baz=67,slow=38						
VAE	Valguarnera	86.05	332	LR	LR	02 43 20.5	
	comp=Z,73nm,19.8s,baz=352,slow=38						
CMIG	Matias Romero	86.98	66	LR	LR	02 38 46.8	
	comp=Z,12nm,21.9s,baz=360,slow=35						
ESDC	Sonseca Array	88.05	346	P	P	02 01 07.9	-1.1
	comp=Z,1.1nm,0.8s,baz=4.8,slow=6.1,SNR=8.2						
ESDC				pP	pP	02 01 23.5	-3.3
	comp=Z,1.6nm,0.9s,baz=358,slow=4.9,SNR=5.9						
	comp=Z,1.1nm,0.8s						
KEST	Kesra	89.10	335	LR	LR	02 44 34.6	
	comp=Z,33nm,19.6s,baz=330,slow=38						
DBIC	Dimbokro	120.43	340	PKP	PKPdf	02 07 09.8	-0.2
	comp=Z,7.3nm,1.0s,baz=43,slow=2.6,SNR=5.4						
DBIC				pPKP	pPKPdf	02 07 27.3	-1.3
	comp=Z,3.7nm,0.9s,baz=90,slow=1.5,SNR=1.3						
VNDA	Vanda	128.58	179	PKP	PKiKP	02 07 24.6	+0.4
	comp=Z,1.1nm,0.6s,baz=306,slow=2.5,SNR=3.6						
H03N2	Juan Fernandez	135.39	89	T	T	04 38 05.3	
	baz=314,slow=77,SNR=1699						
H03N1	Juan Fernandez	135.40	89	T	T	04 38 06.7	
	baz=314,slow=77,SNR=1770						
H03N3	Juan Fernandez	135.41	89	T	T	04 38 06.0	
	baz=314,slow=77,SNR=1229						
QSPA	South Pole Qui	141.06	180	PKhKP	PKPpre	02 07 40.8	
	comp=Z,3.3nm,0.6s,baz=255,slow=0.7,SNR=25						
PLCA	Paso Flores	145.14	92	PKPbc	PKPdf	02 07 55.7	+0.4
	comp=Z,14nm,0.7s,baz=288,slow=3.5,SNR=40						
PLCA				pPKPbc	pPKPab	02 08 13.5	+0.3
	comp=Z,9.6nm,0.9s,baz=286,slow=4.2,SNR=7.6						
ELIB	Princess Elisa	151.37	207	*d*PKPdf	PKPdf	02 08 05.7	+1.1
ELIB				*d*pPKP	pPKPbc	02 08 27.9	-1.3

JMA 17 01:49:28.2±0.1, 36°.6N±0°.2×137°.9E±0°.3, h6km±1km, MV1.1/29, HIDA MOUNTAINS REGION, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	Nsakai	0.28	134	*i*P	Pg	01 49 33.6	-0.2
MAT	Matsushiro	0.29	102	*i*P	Pg	01 49 33.6	-0.4
MAT				*e*S	Sg	01 49 37.8	-0.1
JGN	Niukaw	0.57	229	*e*S	Sg	01 49 47.0	+0.2

ROM 17 03:22:48.2±0.2, 39°.408N±0°.005×16°.636E±0°.007, h30km±1km, ML1.4/16, Error ellipse: s-maj=0.6km s-min=0.2km az=210.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIPA	Pietrapaola	0.16	61	P	Pb	03 22 54.2	+0.1
PIPA				S	Sn	03 22 59.0	+0.4
PIPA				AML	AML		
	comp=E,236μm,0.2s						
PIPA				AML	AML		
	comp=N,158μm,0.5s						
PIPA				AML	AML		
	comp=E,237μm,0.2s						
PIPA				AML	AML		
	comp=N,139μm,0.2s						
TIP	Timpagrande	0.25	157	P	Pb	03 22 55.5	+0.4
TIP				S	Sb	03 23 00.0	+0.2
TIP				AML	AML		
	comp=E,21μm,1.2s						
TIP				AML	AML		
	comp=N,22μm,1.1s						
TIP				AML	AML		
	comp=N,22μm,0.9s						
TIP				AML	AML		
	comp=E,21μm,0.8s						
SPS2	Spezzano della	0.26	244	P	Pb	03 22 55.1	-0.1
SPS2				S	Sn	03 23 00.6	-0.4
SPS2				AML	AML		
	comp=N,43μm,0.4s						
SPS2				AML	AML		
	comp=E,35μm,0.4s						
TDS	Terranova Siba	0.34	317	P	Pb	03 22 56.1	-0.2
TDS				S	Sb	03 23 02.1	+0.4
TDS				AML	AML		
	comp=N,38μm,1.3s						
TDS				AML	AML		
	comp=E,77μm,0.5s						
TDS				AML	AML		
	comp=N,38μm,0.7s						
CAR1	CAROLEI	0.36	245	P	Pb	03 22 56.8	+0.1
CAR1				S	Sn	03 23 03.0	-0.6
CAR1				AML	AML		
	comp=E,92μm,0.4s						
CAR1				AML	AML		
	comp=N,89μm,0.4s						
SERS	Sersale	0.37	174	P	Pb	03 22 56.9	+0.1
SERS				S	Sb	03 23 03.2	+0.5
SERS				AML	AML		
	comp=N,40μm,0.6s						
SERS				AML	AML		
	comp=E,49μm,0.8s						
CET2	Cetraro	0.54	283	P	Pb	03 22 59.5	+0.1
CET2				S	Sn	03 23 08.0	0.0
CET2				AML	AML		
	comp=E,61μm,0.5s						
CET2				AML	AML		
	comp=N,87μm,1.0s						

ROM 17 03:23:36.6±0.1, 39°.434N±0°.004×16°.637E±0°.006, h26km, ML2.2/48, 3C, Error ellipse: s-maj=0.4km s-min=0.3km az=80.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIPA	Pietrapaola	0.15	70	⇑P	Pb	03 23 42.2	+0.3
PIPA				S	Sb	03 23 46.2	+0.7
PIPA				AML	AML		
	comp=E,2130μm,0.2s						
PIPA				AML	AML		
	comp=N,1350μm,0.5s						
PIPA				AML	AML		
	comp=N,1375μm,0.5s						
PIPA				AML	AML		
	comp=E,2135μm,0.2s						
PIPA				AML	AML		
	comp=N,1350μm,0.5s						
PIPA				AML	AML		
	comp=E,2205μm,0.2s						
PIPA				AML	AML		
	comp=N,1281μm,0.2s						
PIPA				AML	AML		
	comp=N,1318μm,0.2s						
PIPA				AML	AML		
	comp=E,2132μm,0.2s						
PIPA				AML	AML		
	comp=N,1318μm,1.8s						
PIPA				AML	AML		
	comp=N,1281μm,1.8s						
PIPA				AML	AML		
	comp=E,2205μm,0.2s						
SPS2	Spezzano della	0.27	239	P	Pb	03 23 43.1	-0.3
SPS2				S	Sb	03 23 48.6	+0.6
SPS2				AML	AML		
	comp=E,309μm,0.4s						
SPS2				AML	AML		
	comp=N,376μm,0.4s						
SPS2				AML	AML		
	comp=N,376μm,0.4s						
SPS2				AML	AML		
	comp=E,309μm,0.4s						
TIP	Timpagrande	0.27	160	⇑P	Pb	03 23 43.4	0.0
TIP				S	Sb	03 23 48.8	+0.8
TIP				AML	AML		
	comp=E,166μm,1.6s						
TIP				AML	AML		
	comp=N,161μm,0.9s						
TIP				AML	AML		
	comp=E,174μm,0.8s						
TIP				AML	AML		
	comp=N,194μm,0.9s						
TIP				AML	AML		
	comp=N,152μm,0.3s						
TIP				AML	AML		
	comp=N,135μm,0.5s						
TIP				AML	AML		
	comp=E,174μm,0.7s						
TIP				AML	AML		
	comp=E,137μm,0.7s						
LADO	San Nicola del	0.30	119	P	Pb	03 23 43.9	0.0
TDS	Terranova Siba	0.32	314	P	Pb	03 23 44.0	-0.2
TDS				S	Sb	03 23 50.2	+1.0
TDS				AML	AML		
	comp=E,714μm,0.5s						
TDS				AML	AML		
	comp=N,342μm,0.5s						
TDS				AML	AML		
	comp=N,339μm,0.3s						
TDS				AML	AML		
	comp=E,713μm,0.5s						
CAR1	CAROLEI	0.38	242	P	Pb	03 23 44.6	-0.3
CAR1				S	Sb	03 23 51.0	+0.4
CAR1				AML	AML		
	comp=E,657μm,0.4s						
CAR1				AML	AML		
	comp=N,692μm,0.3s						
CAR1				AML	AML		
	comp=E,756μm,0.4s						
CAR1				AML	AML		
	comp=E,657μm,0.4s						
CAR1				AML	AML		
	comp=N,692μm,0.4s						
CAR1				AML	AML		
	comp=N,759μm,0.4s						
CAR1				AML	AML		
	comp=N,759μm,0.4s						
CAR1				AML	AML		
	comp=N,692μm,0.3s						
CAR1				AML	AML		
	comp=N,759μm,1.6s						
CAR1				AML	AML		
	comp=N,692μm,1.6s						
CAR1				AML	AML		
	comp=E,657μm,0.4s						
CAR1				AML	AML		
	comp=E,756μm,0.4s						
SERS	Sersale	0.40	174	⇑P	Pb	03 23 45.3	0.0
SERS				S	Sb	03 23 51.8	+0.5
SERS				AML	AML		
	comp=E,362μm,1.2s						
SERS				AML	AML		
	comp=N,432μm,0.8s						
SERS				AML	AML		
	comp=N,374μm,0.7s						
SERS				AML	AML		
	comp=N,432μm,0.8s						
SERS				AML	AML		
	comp=E,482μm,0.8s						
SERS				AML	AML		
	comp=E,468μm,0.3s						
SERS				AML	AML		
	comp=N,324μm,0.5s						
SERS				AML	AML		
	comp=N,417μm,0.3s						
SERS				AML	AML		
	comp=E,355μm,0.3s						
SERS				AML	AML		
	comp=N,324μm,1.5s						
SALB	San Lorenzo Be	0.50	333	P	Pb	03 23 46.6	-0.4
SALB				AML	AML		
	comp=N,152μm,0.3s						
SALB				AML	AML		
	comp=E,216μm,0.7s						
SALB				AML	AML		
	comp=N,152μm,0.3s						
SALB				AML	AML		
	comp=E,198μm,0.5s						
CET2	Cetraro	0.54	280	P	Pb	03 23 47.4	-0.2
CET2				S	Sb	03 23 55.8	+0.8
CET2				AML	AML		
	comp=E,462μm,0.5s						
CET2				AML	AML		
	comp=N,711μm,0.5s						
CET2				AML	AML		
	comp=E,463μm,0.5s						
CET2				AML	AML		
	comp=N,711μm,0.5s						
CET2				AML	AML		
	comp=N,711μm,1.5s						
CET2				AML	AML		
	comp=E,463μm,1.5s						
GRI	Girifalco	0.63	196	P	Pb	03 23 49.5	+0.3
ORI	Oriolo Calabro	0.65	347	P	Pb	03 23 49.3	0.0
MMN	Mormanno	0.68	313	P	Pb	03 23 49.9	+0.1
GRIS	Grisolia	0.68	297	P	Pb	03 23 49.8	-0.1
GRIS				S	Sb	03 23 59.6	+0.6

CUC	**Castrocucco**	**0.84 312**	P	Pn	03 23 53.1	+0.1
CUC			AML	AML		
	comp=E,192μm,0.7s					
CUC			AML	AML		
	comp=N,134μm,0.5s					
CUC			AML	AML		
	comp=E,198μm,0.8s					
CUC			AML	AML		
	comp=N,150μm,0.5s					
CUC			AML	AML		
	comp=N,134μm,0.5s					
CUC			AML	AML		
	comp=E,198μm,0.8s					
CUC			AML	AML		
	comp=E,191μm,0.7s					
CUC			AML	AML		
	comp=N,150μm,0.5s					
CUC			AML	AML		
	comp=E,191μm,1.3s					
CUC			AML	AML		
	comp=E,198μm,1.2s					
CUC			AML	AML		
	comp=N,150μm,1.5s					
PLAC	**Placanica**	**0.99 189**	P	Pb	03 23 55.3	+0.1
PLAC			AML	AML		
	comp=E,126μm,0.7s					
PLAC			AML	AML		
	comp=N,117μm,0.6s					
PLAC			AML	AML		
	comp=E,124μm,0.6s					
PLAC			AML	AML		
	comp=N,125μm,0.7s					
PLAC			AML	AML		
	comp=N,117μm,0.6s					
PLAC			AML	AML		
	comp=N,125μm,0.7s					
PLAC			AML	AML		
	comp=E,127μm,0.7s					
PLAC			AML	AML		
	comp=E,124μm,0.6s					
PLAC			AML	AML		
	comp=N,117μm,1.4s					
PLAC			AML	AML		
	comp=E,127μm,1.3s					
PLAC			AML	AML		
	comp=N,125μm,1.3s					
JOPP	**Joppolo**	**1.01 216**	P	Pb	03 23 56.0	+0.4
JOPP			S	Sn	03 24 09.5	+0.9
JOPP			AML	AML		
	comp=E,85μm,0.6s					
JOPP			AML	AML		
	comp=N,88μm,0.8s					
JOPP			AML	AML		
	comp=N,86μm,0.5s					
JOPP			AML	AML		
	comp=E,85μm,0.6s					
JOPP			AML	AML		
	comp=N,86μm,1.5s					
MTSN	**Montesano sull**	**1.07 321**	P	Pb	03 23 56.9	+0.2
MTSN			AML	AML		
	comp=E,88μm,1.4s					
MTSN			AML	AML		
	comp=N,105μm,0.3s					
MTSN			AML	AML		
	comp=E,87μm,0.6s					
MGR	**Morigerati**	**1.09 310**	P	Pb	03 23 57.1	+0.2
MGR			AML	AML		
	comp=E,84μm,0.5s					
MGR			AML	AML		
	comp=N,61μm,1.5s					
MGR			AML	AML		
	comp=E,84μm,0.5s					
MGR			AML	AML		
	comp=N,59μm,0.7s					
MGR			AML	AML		
	comp=N,196μm,0.9s					
MGR			AML	AML		
	comp=N,196μm,1.1s					
MGR			AML	AML		
	comp=E,84μm,1.5s					
MGR			AML	AML		
	comp=E,178μm,0.8s					
MGR			AML	AML		
	comp=N,59μm,1.3s					
BULG	**Bulgheria - Ca**	**1.17 304**	P	Pb	03 23 58.3	+0.2
BULG			AML	AML		
	comp=E,106μm,0.3s					
BULG			AML	AML		
	comp=N,200μm,1.2s					
BULG			AML	AML		
	comp=E,108μm,0.3s					
BULG			AML	AML		
	comp=N,244μm,1.2s					
LTRZ	**Laterza**	**1.18 7**	P	Pb	03 23 58.2	-0.1
LTRZ			AML	AML		
	comp=E,132μm,0.5s					
LTRZ			AML	AML		
	comp=E,132μm,1.5s					
MIGL	**Miglionico**	**1.18 353**	P	Pb	03 23 58.6	+0.2
MIGL			AML	AML		
	comp=E,278μm,0.8s					
MIGL			AML	AML		
	comp=N,339μm,1.0s					
MIGL			AML	AML		
	comp=N,339μm,1.0s					
MIGL			AML	AML		
	comp=E,279μm,0.8s					
TAR1	**Taranto**	**1.20 24**	P	Pn	03 23 58.0	+0.3
TAR1			S	Sb	03 24 14.6	+0.8
TAR1			AML	AML		
	comp=E,91μm,0.4s					
TAR1			AML	AML		
	comp=N,112μm,0.4s					
TAR1			AML	AML		
	comp=E,91μm,0.4s					
TAR1			AML	AML		
	comp=N,112μm,0.4s					
TAR1			AML	AML		
	comp=E,91μm,1.6s					
MATE	**Matera**	**1.22 2**	P	Pb	03 23 58.5	-0.4
ACER	**Acerenza**	**1.45 339**	P	Pn	03 24 02.0	+0.8
ACER			AML	AML		
	comp=E,99μm,1.0s					
ACER			AML	AML		
	comp=N,92μm,1.1s					
ACER			AML	AML		
	comp=E,84μm,0.4s					
STON	**Ston**	**3.53 13**	*e*Pn	Pn	03 24 28.0	-1.7
STON			Sn	Sn	03 25 09.5	-1.0
HVAR	**Hvar**	**3.74 358**	*e*Pn	Pn	03 24 32.5	-0.2
RICI	**Ricice**	**4.07 5**	*e*Pn	Pn	03 24 36.9	-0.3
MORI	**Morici**	**4.48 351**	*e*Pn	Pn	03 24 42.8	-0.1
DUGI	**Dugi Otok**	**4.71 346**	*e*Pn	Pn	03 24 45.4	-0.5

JMA ***17*** *03:27:42.3±0.2, 43°.3N±0°.9×14°.7E±°, h36km, MV4.5/35, E OFF HOKKAIDO*
NIED ***17*** *03:27:42.3, 43°.29N×147°.36E, h36km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}1.19; $M_{\theta\theta}$-0.22; $M_{\phi\phi}$-0.97; $M_{r\theta}$1.43; $M_{\theta\phi}$-0.68; $M_{\phi r}$0.40; Fault plane solution: $M_0$1.95000×10¹⁵ NP1:ϕ_s60.00000°, δ71.00000°, λ113.00000°. NP2:ϕ_s188.00000°, δ29.00000°, λ42.00000°.*
NEIC ***17*** *03:27:43.8±1.6, 43°.6N±0°.1×147°.35E±0°.07, h35km±2km, mb4.5/70 Error ellipse: s-maj=19.1km s-min=3.0km az=155.0*
SKHL ***17*** *03:27:43.0±0.2, 43°.40N×147°.50E, h63km±4km, mb5.4/3*
MOS ***17*** *03:27:44.0±0.8, 43°.57N×147°.30E, h60km, mb4.6/18, Error ellipse: s-maj=12.1km s-min=7.5km az=118.2*
IDC ***17*** *03:27:46.7±3.7, 43°.76N×147°.37E, h63km±33km, mb3.9/22, mbtmp4.2/23, ML3.7/1, MS3.0/9, Error ellipse: s-maj=21.2km s-min=15.8km az=177.0*
ISC 17 03:27:43.0±1.5, 43°.36N±0°.06×147°.45E±0°.07, h43km±12km, n202, σ1$06/204, mb4.4/67, MS3.0/6, 6C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.68**	**319**	*i* P	**Pn**	**03 27 56.2**	**0.0**
SHO				AMB	AMB	03 27 56.6	
	6μm,0.4s						
SHO				*e*S	**Sn**	**03 28 06.2**	**+0.5**
SHO				A	A	03 28 06.5	
	14μm,0.3s						
SHO				A	A	03 28 06.5	
	9μm,0.3s						
SHO	**Shikotan**	**0.68**	**319**	*i*PN	**Pn**	**03 27 56.1**	**-0.1**
SHO				*e*S	**Sn**	**03 28 06.0**	**+0.3**
SHO				pmax	pmax		
	comp=E,2μm,0.4s						
SHO				pmax	pmax		
	comp=E,6μm,0.4s						
SHO				pmax	pmax		
	comp=N,2μm,0.5s						
SHO				smax	smax		
	comp=N,14μm,0.3s						
SHO				smax	smax		
	comp=E,9μm,0.3s						
NEM2	**Nemuro 2**	**1.24**	**271**	P	**Pn**	**03 28 03.1**	**-0.8**
NEM2				*e*S	**Sn**	**03 28 18.4**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**1.33**	**301**	*i* P	**Pn**	**03 28 04.7**	**-0.4**
YUK				AMB	AMB	03 28 05.8	
	comp=E,4μm,0.2s						
YUK				*e*S	**Sn**	**03 28 21.0**	**-0.6**
YUK				A	A	03 28 21.5	
	comp=E,4μm,0.5s						
YUK				A	A	03 28 21.5	
	comp=E,7μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.33**	**301**	*d i*PN	**Pn**	**03 28 04.7**	**-0.4**
JKHN	**Kushirohamanak**	**1.69**	**261**	P	**Pn**	**03 28 09.8**	**-0.2**
JKHN				*e*S	**Sn**	**03 28 30.1**	**-0.4**
JRA	**Rausu**	**1.78**	**290**	P	**Pn**	**03 28 11.2**	**0.0**
JRA				*e*S	**Sn**	**03 28 32.4**	**-0.3**
JNSB	**Nemuroshibetsu**	**1.82**	**284**	P	**Pn**	**03 28 11.8**	**0.0**
JNSB				*e*S	**Sn**	**03 28 33.1**	**-0.5**
KUR	**Kuril'sk**	**1.90**	**9**	*e*P	**Pn**	**03 28 12.5**	**-0.3**
KUR				AMB	AMB	03 28 22.7	
	comp=E,200nm,0.4s						
KUR				*e*S	**Sn**	**03 28 34.4**	**-1.1**
KUR				A	A	03 28 37.0	
	comp=E,700nm,0.4s						
KUR				A	A	03 28 37.0	
	comp=E,1μm,0.4s						
KUR	**Kuril'sk**	**1.90**	**9**	*e*PN	**Pn**	**03 28 13.4**	**+0.6**
KUR				*e*S	**Sn**	**03 28 35.2**	**-0.3**
KUR				pmax	pmax		
	comp=N,91nm,0.4s						
KUR				pmax	pmax		
	comp=Z,197nm,0.4s						
KUR				smax	smax		
	comp=E,1μm,0.4s						
KUR				smax	smax		
	comp=N,696nm,0.3s						
JNK	**Nakash**	**2.00**	**277**	P	**Pn**	**03 28 13.7**	**-0.5**
JNK				*e*S	**Sn**	**03 28 37.0**	**-1.0**
JAK	**Akkeshi**	**2.04**	**261**	P	**Pn**	**03 28 14.2**	**-0.7**
JAK				*e*S	**Sn**	**03 28 37.3**	**-1.8**
JTKR	**Abashiri--Toko**	**2.64**	**285**	P	**Pn**	**03 28 23.9**	**+0.9**
JTKR				*e*S	**Sn**	**03 28 54.1**	**+0.4**
JOB	**Onbets**	**2.68**	**261**	*e*P	**Pn**	**03 28 23.5**	**-0.1**
JOB				*e*S	**Sn**	**03 28 53.2**	**-1.6**
JAR	**Ashorobuto**	**2.68**	**270**	P	**Pn**	**03 28 23.6**	**0.0**
JAR				*e*S	**Sn**	**03 28 54.6**	**-0.3**
JMP	**Maruseppu**	**3.04**	**284**	P	**Pn**	**03 28 29.5**	**+1.0**
JCH	**Churui**	**3.09**	**257**	P	**Pn**	**03 28 28.7**	**-0.5**
JCH				*e*S	**Sn**	**03 29 01.9**	**-3.0**
ERM	**Erimo**	**3.44**	**248**	Pn	**Pn**	**03 28 35.5**	**+1.6**
ERM	**Erimo**	**3.44**	**248**	*de*PN	**Pn**	**03 28 35.3**	**+1.4**
JKK2	**Kamakawa 2**	**3.45**	**280**	*e*P	**Pn**	**03 28 35.3**	**+1.1**
JFR	**Furan**	**3.55**	**269**	*e*P	**Pn**	**03 28 36.4**	**+0.8**
JFR				*e*S	**Sn**	**03 29 15.6**	**-0.6**
JKA	**Kamikawa-asahi**	**3.59**	**284**	Pn	**Pn**	**03 28 37.0**	**+0.9**
JKA	**Kamikawa-asahi**	**3.59**	**284**	*e*P	**Pn**	**03 28 37.0**	**+0.9**
ASAJ	**Asahikawa**	**3.59**	**284**	P	**Pn**	**03 28 38.1**	**+1.9**
	comp=N,5.2nm,0.3s,baz=91,slow=9.9,SNR=52						
ASAJ				S	**Sn**	**03 29 24.8**	**+7.5**
	comp=N,34nm,0.6s,baz=210,slow=20,SNR=1.6						
ASAJ				LR	LR	03 30 13.5	
	comp=N,232nm,21.9s,baz=159,slow=42						
	comp=N,41nm,0.5s						
ASAJ	**Asahikawa**	**3.59**	**284**	PN	**Pn**	**03 28 37.0**	**+0.9**
JNBK	**Urakawa-nobuka**	**3.62**	**254**	P	**Pn**	**03 28 35.8**	**-0.7**
JBT2	**Biratori 2**	**3.77**	**263**	*e*P	**Pn**	**03 28 38.8**	**+0.2**
YSS	**Yuzh-Sakhalins**	**4.89**	**319**	*e*P	**Pn**	**03 28 54.9**	**+1.0**
YSS				*e*S	**Sn**	**03 29 48.6**	**-0.6**
YSS	**Yuzh-Sakhalins**	**4.89**	**319**	*e*PN	**Pn**	**03 28 55.3**	**+1.4**
YSS				*e*S	**Sn**	**03 29 51.0**	**+1.8**
YSS				pmax	pmax		
	comp=Z,100nm,3.2s						
YSS				pmax	pmax		
	comp=Z,40nm,0.4s						
YSS				smax	smax		
	comp=N,40nm,0.9s						
YSS				MLR	MLR		
	comp=Z,200nm,18.0s						
JTM	**Tenmabayashi**	**5.40**	**244**	Pn	**Pn**	**03 29 00.7**	**-0.2**
JMM	**Marumori**	**7.46**	**225**	Pn	**Pn**	**03 29 30.7**	**+1.5**
KLR	**Kul'dur**	**12.33**	**304**	LR	LR	03 35 47.5	
	comp=Z,72nm,18.3s,baz=132,slow=40						
KLR	**Kul'dur**	**12.33**	**304**	*e*P	**Pn**	**03 30 35.6**	**-0.2**
KLR	**Kul'dur**	**12.33**	**304⇑**	*e*PN	**Pn**	**03 30 36.4**	**+0.6**
KLR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BNX	**BinXian**	**14.49**	**286**	⇑P	**Pn**	**03 31 04.1**	**-1.0**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KSRS	**Korea Array**	**15.98**	**255**	LR	LR	03 37 18.8	
	comp=Z,30nm,19.6s,baz=75,slow=36						
MA2	**Magadan**	**16.37**	**6**	LR	LR	03 37 23.9	
	comp=Z,50nm,18.7s,baz=171,slow=36						
JNU	**Nakatsue**	**16.52**	**237**	LR	LR	03 37 54.4	
	comp=Z,37nm,18.9s,baz=148,slow=36						
SEY	**Seymchan**	**19.82**	**7**	*e*P	**Pn**	**03 32 11.7**	**+0.2**
SEY	**Seymchan**	**19.82**	**7⇓**	*e*P	**Pn**	**03 32 11.7**	**+0.2**
SEY				pmax	pmax		
	comp=Z,9.0nm,1.7s						
SHEM	**Shemya Is, Ala**	**20.03**	**53**	LR	LR	03 41 43.3	
	comp=Z,26nm,18.9s,baz=155,slow=42						
YAK	**Yakutsk**	**21.44**	**337**	LR	LR	03 41 01.3	
	comp=Z,31nm,18.7s,baz=166,slow=38						
YAK	**Yakutsk**	**21.44**	**337**	*ce*P	**P**	**03 32 29.4**	**+2.3**
YAK				pmax	pmax		
	comp=Z,13nm,0.6s						
ULN	**Ulaanbaatar**	**28.38**	**293**	P	**P**	**03 33 33.7**	**+0.5**
ULN	**Ulaanbaatar**	**28.38**	**293**	*e*P	**P**	**03 33 33.1**	**0.0**
ULN	**Ulaanbaatar**	**28.38**	**293⇑**	*e*P	**P**	**03 33 33.1**	**0.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.66**	**139**	T	T	04 04 18.9	
	baz=330,slow=76,SNR=103						
H11N1	**WAKE ISLAND Hy**	**28.68**	**139**	T	T	04 04 21.5	
	baz=330,slow=76,SNR=103						
H11N3	**WAKE ISLAND Hy**	**28.68**	**139**	T	T	04 04 22.8	
	baz=330,slow=76,SNR=112						
SONM	**Songino Array**	**28.82**	**293**	P	**P**	**03 33 37.3**	**+0.3**
SONM	**Songino Array**	**28.82**	**293**	P	**P**	**03 33 37.1**	**+0.1**
	comp=Z,4.2nm,0.6s,baz=87,slow=8.4,SNR=20						
SONM				LR	LR	03 46 31.7	
	comp=Z,58nm,19.2s,baz=113,slow=39						
	comp=Z,4.2nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**29.63**	**141**	T	T	04 05 32.9	
	baz=331,slow=76,SNR=260						
H11S3	**WAKE ISLAND Hy**	**29.63**	**141**	T	T	04 05 34.0	
	baz=331,slow=76,SNR=249						
H11S2	**WAKE ISLAND Hy**	**29.64**	**141**	T	T	04 05 30.6	
	baz=331,slow=76,SNR=162						
TIXI	**Tiksi**	**29.79**	**348**	LR	LR	03 45 14.3	
	comp=Z,23nm,19.9s,baz=172,slow=36						
C18K	**Utukok River**	**36.55**	**29**	P	**P**	**03 34 43.8**	**-0.3**
C18K				IAmb	IAmb	03 34 45.5	
	comp=Z,7.0nm,0.8s						
H18K	**Honhosa River**	**36.84**	**35**	P	**P**	**03 34 47.4**	**+0.8**
H18K				IAmb	IAmb	03 34 47.8	
	comp=Z,6.8nm,0.6s						
G18K	**Tagagawik**	**36.85**	**34**	P	**P**	**03 34 47.6**	**+1.0**
F19K	**Shaleruckik Mo**	**37.37**	**32**	P	**P**	**03 34 51.0**	**0.0**
F19K				IAmb	IAmb	03 34 52.1	
	comp=Z,7.5nm,0.8s						
G19K	**Purcell Mounta**	**37.52**	**33**	P	**P**	**03 34 53.2**	**+0.9**
G19K				IAmb	IAmb	03 34 53.9	
	comp=Z,4.6nm,0.8s						
D19K	**Kuna River**	**37.60**	**29**	P	**P**	**03 34 53.3**	**+0.3**
D19K				IAmb	IAmb	03 34 54.1	
	comp=Z,9.8nm,0.9s						
H19K	**Roundabout Mou**	**37.69**	**34**	P	**P**	**03 34 54.9**	**+1.2**
E19K	**Redstone River**	**37.70**	**31**	P	**P**	**03 34 54.4**	**+0.6**
J20K	**Nowinta River**	**38.52**	**37**	P	**P**	**03 35 01.4**	**+0.6**
J20K				IAmb	IAmb	03 35 03.5	
	comp=Z,5.0nm,1.1s						
IMAR	**Indian Mountai**	**38.85**	**34**	P	**P**	**03 35 04.2**	**+0.7**
G21K	**Allakaket**	**39.00**	**33**	P	**P**	**03 35 05.6**	**+0.8**
G21K				IAmb	IAmb	03 35 06.6	
	comp=Z,13nm,1.1s						
E21K	**Killik River**	**39.09**	**30**	P	**P**	**03 35 05.5**	**0.0**
E21K				IAmb	IAmb	03 35 06.6	
	comp=Z,4.9nm,0.8s						
F21K	**Alatna River**	**39.10**	**32**	P	**P**	**03 35 06.3**	**+0.7**
F21K				IAmb	IAmb	03 35 07.5	
	comp=Z,4.6nm,0.8s						
H21K	**Melozitna Rive**	**39.21**	**35**	P	**P**	**03 35 07.3**	**+0.8**
D22K	**Ayikyak River**	**39.62**	**29**	P	**P**	**03 35 10.7**	**+0.8**
D22K				IAmb	IAmb	03 35 10.8	
	comp=Z,6.4nm,0.6s						
E22K	**Anaktuvuk Pass**	**39.84**	**31**	P	**P**	**03 35 12.4**	**+0.6**
E22K				IAmb	IAmb	03 35 13.2	
	comp=Z,10nm,0.7s						
MLY	**Manley**	**40.03**	**36**	P	**P**	**03 35 14.5**	**+1.0**
G23K	**Bananza Creek**	**40.41**	**33**	P	**P**	**03 35 17.0**	**+0.5**
C23K	**Itkillik River**	**40.48**	**28**	P	**P**	**03 35 17.5**	**+0.5**
C23K				IAmb	IAmb	03 35 18.2	
	comp=Z,7.0nm,0.8s						
H23K	**Yukon River**	**40.56**	**34**	P	**P**	**03 35 19.1**	**+1.3**
H23K				IAmb	IAmb	03 35 19.7	
	comp=Z,3.8nm,0.7s						
TOLK	**Toolik Lake Re**	**40.72**	**30**	P	**P**	**03 35 19.6**	**+0.6**
TOLK				IAmb	IAmb	03 35 19.8	
	comp=Z,6.1nm,0.8s						
NEA2	**Nenana**	**40.74**	**36**	P	**P**	**03 35 20.1**	**+0.9**
NEA2				IAmb	IAmb	03 35 20.5	
	comp=Z,4.2nm,0.6s						
D24K	**Happy Valley**	**41.03**	**29**	P	**P**	**03 35 22.2**	**+0.6**
D24K				IAmb	IAmb	03 35 22.4	
	comp=Z,7.6nm,0.6s						
E24K	**Your Creek**	**41.08**	**31**	P	**P**	**03 35 23.0**	**+0.9**
E24K				IAmb	IAmb	03 35 23.7	
	comp=Z,10nm,0.8s						
MDM	**Murphy Dome**	**41.10**	**36**	P	**P**	**03 35 22.9**	**+0.7**
F24K	**Squaw Lake**	**41.28**	**32**	P	**P**	**03 35 24.6**	**+0.9**
ZALV	**Zalesovo Beam**	**41.41**	**307**	P	**P**	**03 35 23.5**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=112,slow=12,SNR=3.6						
	comp=Z,0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**41.41**	**307**	*e*P	**P**	**03 35 25.0**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
IL31		**41.68**	**36**	P	**P**	**03 35 27.2**	**+0.4**
ILAR	**Eielson Array**	**41.68**	**36**	P	**P**	**03 35 26.6**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=266,slow=6.5,SNR=22						
	comp=Z,1.3nm,0.6s						
ILAR	**Eielson Array**	**41.68**	**36**	*e*P	**P**	**03 35 26.8**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
D25K	**Kavik River**	**41.91**	**29**	P	**P**	**03 35 29.2**	**+0.3**
D25K				IAmb	IAmb	03 35 29.9	
	comp=Z,7.3nm,0.7s						
PRP	**Porcupine Dome**	**42.23**	**35**	P	**P**	**03 35 32.6**	**+1.0**
J25K	**Salcha River,**	**42.34**	**36**	P	**P**	**03 35 33.0**	**+0.7**
BMAR	**Burnt Mountain**	**42.55**	**32**	P	**P**	**03 35 35.2**	**+1.2**
SCRK	**Sand Creek**	**42.99**	**37**	P	**P**	**03 35 37.7**	**0.0**
M26K	**Nabesna, AK**	**43.61**	**39**	P	**P**	**03 35 43.9**	**+1.2**
M26K				IAmb	IAmb	03 35 44.7	
	comp=Z,6.8nm,1.1s						
K27K	**Chicken**	**43.82**	**37**	P	**P**	**03 35 44.8**	**+0.6**
L27K	**Beaver Creek,**	**44.05**	**38**	P	**P**	**03 35 47.2**	**+0.9**
I28M	**Miner Creek**	**44.55**	**35**	P	**P**	**03 35 51.1**	**+0.9**
I28M				IAmb	IAmb	03 35 52.1	
	comp=Z,4.8nm,0.8s						
MK31	**Makanchi Array**	**44.96**	**298**	P	**P**	**03 35 53.5**	**-0.2**
MK31				IAmb	IAmb	03 35 54.2	
	comp=Z,5.2nm,1.1s						
MK31	**Makanchi Array**	**44.96**	**298**	P	**P**	**03 35 53.5**	**-0.2**
MK31				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MKAR	**Makanchi Array**	**44.96**	**298**	P	**P**	**03 35 53.6**	**0.0**
	comp=Z,2.5nm,0.5s,baz=81,slow=8.5,SNR=26						
	comp=Z,2.5nm,0.5s						
MKAR	**Makanchi Array**	**44.96**	**298**	*e*P	**P**	**03 35 53.3**	**-0.3**
MKAR	**Makanchi Array**	**44.96**	**298**	*e*P	**P**	**03 35 53.3**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
E29M	**Blow River**	**45.01**	**30**	P	**P**	**03 35 54.5**	**+0.8**
E29M				IAmb	IAmb	03 35 56.0	
	comp=Z,9.9nm,0.8s						
H29M	**Whitestone**	**45.09**	**33**	P	**P**	**03 35 55.2**	**+0.8**
H29M				IAmb	IAmb	03 35 56.3	
	comp=Z,4.4nm,1.0s						
MAKZ	**Makanchi**	**45.16**	**298**	P	**P**	**03 35 55.0**	**-0.2**
MAKZ				IAmb	IAmb	03 35 55.9	
	comp=Z,6.1nm,1.1s						
MAKZ	**Makanchi**	**45.16**	**298**	P	**P**	**03 35 55.0**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
I29M	**Ogilvie Camp,**	**45.24**	**35**	P	**P**	**03 35 56.1**	**+0.5**
I29M				IAmb	IAmb	03 35 57.0	
	comp=Z,5.1nm,0.8s						
EPYK	**Eagle Plains**	**45.73**	**33**	P	**P**	**03 35 59.9**	**+0.4**
EPYK				IAmb	IAmb	03 36 01.9	
	comp=Z,6.4nm,0.8s						
G30M	**tAoh Zrail Nji**	**45.83**	**32**	P	**P**	**03 36 01.1**	**+0.8**
KURK	**Kurchatov**	**45.93**	**304**	P	**P**	**03 36 01.0**	**-0.2**
KURK	**Kurchatov**	**45.93**	**304**	*e*P	**P**	**03 36 00.6**	**-0.6**
KURK	**Kurchatov**	**45.93**	**304⇓**	*e*P	**P**	**03 36 00.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**46.01**	**304**	P	**P**	**03 36 01.2**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=77,slow=8.7,SNR=20						
	comp=Z,1.8nm,0.5s						
I30M	**Mount Dempster**	**46.07**	**35**	P	**P**	**03 36 02.5**	**+0.3**
I30M				IAmb	IAmb	03 36 03.7	
	comp=Z,6.7nm,0.8s						
G31M	**Satah River**	**46.60**	**32**	P	**P**	**03 36 06.7**	**+0.5**
G31M				IAmb	IAmb	03 36 28.3	
	comp=Z,5.0nm,1.1s						
C36M	**Paulatuk**	**49.73**	**28**	P	**P**	**03 36 30.4**	**+0.1**
BVAR	**Borovoye Array**	**49.92**	**310**	P	**P**	**03 36 31.7**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=88,slow=8.9,SNR=5.2						
	comp=Z,0.8nm,0.4s						
BRVK	**Borovoye**	**49.97**	**310**	*e*P	**P**	**03 36 32.0**	**-0.4**
BRVK	**Borovoye**	**49.97**	**310⇑**	*e*P	**P**	**03 36 32.0**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARSB	**Arslanbob**	**53.33**	**295**	P	**P**	**03 36 57.4**	**-0.5**
ARSB	**Arslanbob**	**53.33**	**295**	P	**P**	**03 36 57.4**	**-0.5**
ARSB				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KK31	**Karatay Array**	**54.09**	**298**	P	**P**	**03 37 02.7**	**-0.6**
KK31				IAmb	IAmb	03 37 03.5	
	comp=Z,3.0nm,0.8s						
KK31	**Karatay Array**	**54.09**	**298**	P	**P**	**03 37 02.7**	**-0.6**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**54.09**	**298**	P	**P**	**03 37 02.7**	**-0.6**
KKAR				IAmb	IAmb	03 37 03.5	
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**54.09**	**298**	P	**P**	**03 37 02.4**	**-0.8**
KKAR	**Karatay Array**	**54.09**	**298**	P	**P**	**03 37 02.7**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SPA0	**Spitsbergen Ar**	**55.21**	**349**	*e*P	**P**	**03 37 10.7**	**-0.2**
SPITS	**Spitsbergen Ar**	**55.21**	**349**	P	**P**	**03 37 09.0**	**-1.8**
	comp=Z,1.1nm,0.4s,baz=73,slow=15,SNR=6.2						
	comp=Z,1.1nm,0.4s						
SPITS	**Spitsbergen Ar**	**55.21**	**349**	P	**P**	**03 37 09.2**	**-1.6**
SPITS				pmax	pmax		
	comp=Z,45nm,1.4s						
RES	**Resolute Bay**	**55.28**	**17**	P	**P**	**03 37 11.2**	**-0.2**
RES	**Resolute Bay**	**55.28**	**17**	P	**P**	**03 37 11.2**	**-0.2**
RES				pmax	pmax		
	comp=Z,7.0nm,0.7s						
YKA	**Yellowknife Ar**	**56.01**	**34**	P	**P**	**03 37 16.6**	**-0.2**
	comp=Z,1.6nm,0

WRA	**Warramunga Arr**	**64.13**	**194**	P		**P**	**03 38 17.0**	**+4.2**
	comp=Z,0.6nm,1.0s,baz=13,slow=6.9,SNR=1.7							
	comp=Z,0.6nm,1.0s							
SUMG	**Summit**	**64.29**	**2**	P		**P**	**03 38 13.5**	**-0.3**
SUMG	**Summit**	**64.29**	**2**	P		**P**	**03 38 13.5**	**-0.3**
SUMG				pmax	pmax			
	comp=Z,7.0nm,0.6s							
SUMG	**Summit**	**64.29**	**2**	*i* P		**P**	**03 38 13.0**	**-0.8**
KEF	**Keuruu**	**65.18**	**334**	*e*P		**P**	**03 38 18.2**	**-1.0**
VAF	**Ylistaro**	**65.21**	**336**	*e*P		**P**	**03 38 18.7**	**-0.7**
FIA1	**FINESS Array S**	**65.32**	**333**	P		**P**	**03 38 19.3**	**-0.8**
FINES	**FINESS Array B**	**65.32**	**333**	P		**P**	**03 38 19.3**	**-0.8**
	comp=Z,6.9nm,0.6s,baz=39,slow=7.9,SNR=52							
	comp=Z,6.9nm,0.6s							
FFC	**Flin Flon**	**65.89**	**37**	P		**P**	**03 38 24.2**	**+0.3**
FFC				IAmb	IAmb		03 38 24.7	
	comp=Z,3.4nm,0.8s							
FFC	**Flin Flon**	**65.89**	**37**	P		**P**	**03 38 24.2**	**+0.3**
FFC				pmax	pmax			
	comp=Z,3.0nm,0.8s							
NSS	**Namsos**	**66.92**	**341**	*e*P		**P**	**03 38 29.3**	**-1.0**
RAF	**Rauma**	**67.02**	**335**	*e*P		**P**	**03 38 30.1**	**-1.0**
KVN	**Kaiserville**	**67.35**	**57**	P		**P**	**03 38 34.2**	**+0.5**
KVN	**Kaiserville**	**67.35**	**57**	P		**P**	**03 38 34.2**	**+0.5**
KVN				pmax	pmax			
	comp=Z,2.0nm,0.9s							
NVAR	**Mina Array Bea**	**67.60**	**58**	P		**P**	**03 38 36.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=292,slow=6.8,SNR=8.9							
	comp=Z,0.8nm,0.6s							
ASAR	**Alice Springs**	**67.85**	**193**	P		**P**	**03 38 40.6**	**+4.0**
	comp=Z,0.2nm,0.5s,baz=2.3,slow=6.9,SNR=1.8							
	comp=Z,0.2nm,0.5s							
MTSE	**Matsula**	**68.11**	**332**	*e*P		**P**	**03 38 37.5**	**-0.4**
AAL	**Aland**	**68.23**	**335**	*e*P		**P**	**03 38 36.9**	**-1.7**
DOMB	**Dombas**	**69.73**	**341**	*e*P		**P**	**03 38 47.2**	**-0.9**
NC303	**NORSAR Array S**	**69.85**	**339**	P		**P**	**03 38 48.0**	**-0.7**
NC405	**NORSAR Array S**	**69.85**	**339**	P		**P**	**03 38 48.3**	**-0.4**
NC204	**NORSAR Array S**	**69.96**	**339**	P		**P**	**03 38 49.0**	**-0.4**
PDAR	**Pinedale Array**	**70.00**	**50**	P		**P**	**03 38 49.7**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=286,slow=1.5,SNR=4.2							
	comp=Z,0.3nm,0.5s							
NB201	**NORSAR Array S**	**70.02**	**339**	P		**P**	**03 38 49.2**	**-0.5**
NB2	**NORSAR Subarra**	**70.05**	**339**	P		**P**	**03 38 48.7**	**-1.3**
	comp=Z,4.7nm,0.6s,baz=31,slow=6.5							
NB2	**NORSAR Subarra**	**70.05**	**339**	P		**P**	**03 38 48.7**	**-1.3**
	baz=31,slow=6.5							
NOA	**NORSAR Array B**	**70.05**	**339**	P		**P**	**03 38 49.0**	**-0.9**
	comp=Z,6.4nm,0.7s,baz=32,slow=6.2,SNR=49							
	comp=Z,6.4nm,0.7s							
NOA	**NORSAR Array B**	**70.05**	**339**	*e*P		**P**	**03 38 49.0**	**-0.9**
NOA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
HFS	**Hagfors**	**70.14**	**337**	P		**P**	**03 38 49.5**	**-1.0**
	comp=Z,6.1nm,0.4s,baz=46,slow=6.4,SNR=91							
	comp=Z,6.1nm,0.4s							
NBO00	**NORSAR Array S**	**70.17**	**339**	P		**P**	**03 38 49.2**	**-1.5**
KIV	**Kislovodsk**	**70.19**	**312**	P		**P**	**03 38 50.9**	**-0.3**
KIV	**Kislovodsk**	**70.19**	**312**	*e*P		**P**	**03 38 51.8**	**+0.6**
KIV	**Kislovodsk**	**70.19**	**312**	*e*P		**P**	**03 38 51.7**	**+0.6**
KIV				pmax	pmax			
	comp=Z,11nm,1.0s							
NC602	**NORSAR Array S**	**70.22**	**339**	*e*P		**P**	**03 38 49.9**	**-1.1**
KBZ	**Khabaz**	**70.22**	**312**	P		**P**	**03 38 51.1**	**-0.2**
	comp=Z,4.3nm,0.7s,baz=40,slow=4.4,SNR=8.3							
KBZ				LR		LR	04 11 26.4	
	comp=Z,527nm,21.4s,baz=134,slow=38							
	comp=Z,4.3nm,0.7s							
KBZ	**Khabaz**	**70.22**	**312**	*e*P		**P**	**03 38 51.3**	**+0.1**
KBZ	**Khabaz**	**70.22**	**312**	*e*P		**P**	**03 38 51.3**	**+0.1**
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.7s							
NAO01	**NORSAR Array S**	**70.30**	**339**	P		**P**	**03 38 50.5**	**-1.0**
VIKU	**Vikbolandet**	**70.59**	**335**	*e*P		**P**	**03 38 52.1**	**-1.1**
HYA	**Hoyanger**	**71.18**	**341**	*e*P		**P**	**03 38 56.6**	**-0.2**
SUE	**Sulen**	**71.61**	**342**	*e*P		**P**	**03 38 58.9**	**-0.4**
ASK	**Askoy**	**72.02**	**341**	*e*P		**P**	**03 39 01.8**	**0.0**
AKASG	**Malin Array Be**	**72.02**	**324**	P		**P**	**03 39 01.2**	**-0.9**
	comp=Z,3.3nm,0.5s,baz=40,slow=6.1,SNR=8.9							
	comp=Z,3.3nm,0.5s							
AKBB	**Malin Array Si**	**72.02**	**324**	P		**P**	**03 39 00.7**	**-1.4**
AKBB	**Malin Array Si**	**72.02**	**324**	*ce*P		**P**	**03 39 01.1**	**-0.9**
KIEV	**Kiev**	**72.03**	**324**	P		**P**	**03 39 00.6**	**-1.5**
KIEV				IAmb	IAmb		03 39 02.0	
	comp=Z,6.1nm,0.7s							
KIEV	**Kiev**	**72.03**	**324**	P		**P**	**03 39 00.6**	**-1.5**
KIEV				pmax	pmax			
	comp=Z,6.0nm,0.7s							
BER	**Bergen**	**72.07**	**341**	*e*P		**P**	**03 39 02.1**	**-0.1**
BUR08	**Bucovina Ar. S**	**76.06**	**324**	P		**P**	**03 39 24.7**	**-1.2**
BUR08				IAmb	IAmb		03 39 26.4	
	comp=Z,3.8nm,0.9s							
CLL	**Collm**	**77.76**	**333**	*i* P		**P**	**03 39 34.4**	**-0.8**
	comp=Z,4.0nm,0.9s							
CLL				*ex*		x	03 39 52.0	
SCHQ	**Schefferville**	**77.92**	**19**	P		**P**	**03 39 35.8**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=256,slow=8.3,SNR=1.9							
	comp=Z,1.6nm,0.6s							
BRTR	**Keskin Array B**	**77.97**	**314**	P		**P**	**03 39 36.1**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=82,slow=5.8,SNR=3.0							
	comp=Z,0.7nm,0.7s							
VYHS	**Vyhne**	**77.99**	**328**	*e*P		**P**	**03 39 36.4**	**-0.2**
VYHS	**Vyhne**	**77.99**	**328**	*e*P		**P**	**03 39 36.4**	**-0.2**
EKA	**Eskdalemuir Ar**	**78.56**	**343**	P		**P**	**03 39 39.1**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=26,slow=5.2,SNR=12							
	comp=Z,1.9nm,0.7s							
KHC	**Kasperske Hory**	**79.41**	**331**	⇓*e*P		**P**	**03 39 44.1**	**-0.3**
KHC				pmax	pmax			
	comp=Z,11nm,1.7s							
MMAI	**Mount Meron Ar**	**81.89**	**308**	P		**P**	**03 39 58.7**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=35,slow=7.9,SNR=2.7							
	comp=Z,2.1nm,0.6s							
TXAR	**Lajitas Array**	**82.69**	**56**	P		**P**	**03 40 02.2**	**0.0**
	comp=Z,1.1nm,0.7s,baz=299,slow=3.9,SNR=17							
	comp=Z,1.1nm,0.7s							
KEST	**Kesra**	**92.52**	**327**	LR		LR	04 26 50.7	
	comp=Z,161nm,19.9s,baz=270,slow=38							
H03N2	**Juan Fernandez**	**142.75**	**91**	T		T	06 26 33.2	
	baz=304							
H03N3	**Juan Fernandez**	**142.76**	**91**	T		T	06 26 35.1	
	baz=304,slow=74,SNR=3.9							
H03N1	**Juan Fernandez**	**142.76**	**91**	T		T	06 26 33.2	
	baz=304,slow=74,SNR=3.1							

*IDC **17** 03:36:59.7±6.4, 17°.81S×178°.67W, h600km±81km, mb3.3/8, mbtmp4.2/9, Error ellipse: s-maj=42.1km s-min=27.3km az=139.0*

ISC 17 03:36:57.8±0.9, **17°.8S**±0°.3×**178°.6W**±0°.2, **h579**km, **n10**, σ**0**s**74**/**10**, **mb3.5**/**8**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.70**	**251**	P	**P**	**03 40 04.7**	**+0.8**
	6.1nm,0.7s,baz=88,slow=17,SNR=8.0						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**03 43 31.9**	**0.0**
	5.6nm,0.5s,baz=93,slow=9.8,SNR=11						
	5.6nm,0.5s						
WRA	**Warramunga Arr**	**44.48**	**259**	P	**P**	**03 44 18.2**	**-0.7**
	4.5nm,0.7s,baz=96,slow=7.0,SNR=99						
	4.5nm,0.7s						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**03 44 20.4**	**+0.1**
	26nm,0.6s,baz=88,slow=8.5,SNR=308						
	26nm,0.6s						
QSPA	**South Pole Qui**	**72.26**	**180**	P	**P**	**03 47 24.5**	**-0.6**
	1.2nm,0.9s,baz=206,slow=1.2,SNR=2.6						
	1.2nm,0.9s						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**03 48 05.8**	**+0.5**
	0.7nm,0.7s,baz=229,slow=8.5,SNR=6.7						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**85.81**	**13**	P	**P**	**03 48 35.3**	**-1.0**
	0.3nm,0.8s,baz=214,slow=6.2,SNR=3.4						
	0.3nm,0.8s						
TXAR	**Lajitas Array**	**86.08**	**58**	P	**P**	**03 48 39.5**	**+1.0**
	1.2nm,0.8s,baz=224,slow=7.1,SNR=13						
	1.2nm,0.8s						
PDAR	**Pinedale Array**	**87.39**	**44**	P	**P**	**03 48 44.2**	**-0.2**
	0.5nm,0.6s,baz=208,slow=4.0,SNR=6.7						
	0.5nm,0.6s						
BRTR	**Keskin Array B**	**144.58**	**315**	PKP	**PKPdf**	**03 55 29.5**	**0.0**
	0.9nm,0.8s,baz=120,slow=5.4,SNR=3.7						

*TEH **17** 03:58:29.5, 37°.24N×57°.02E, h7km±24km, ML4.9*
*THR **17** 03:58:30.5±1.2, 37°.20N×56°.99E, h6km±8km, ML4.9*
*IDC **17** 03:58:31.0±0.6, 37°.18N×56°.85E, h0km, mb4.4/29, mbtmp4.5/38, ML4.0/9, MS4.4/61, Error ellipse: s-maj=13.9km s-min=9.6km az=175.0*
*BJI **17** 03:58:32.2±0.0, 37°.53N×57°.03E, h6km, mb4.5/40, mB5.0/19, Ms5.0/37, Ms7 4.7/36*
*GCMT **17** 03:58:33.3±0.2, 37°.26N±0°.01×56°.96E±0°.01, h14km±1km, MW4.9/120, Moment Tensor Solution. s45,c52; s120,c203; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.43±.08; Mθθ0.95±.08; Mφφ-0.52±.07; Mrθ-0.33±.17; Mrφ3.08±.08; Mθφ0.04±.15; Best double couple: M₀3.18500×10¹⁶ NP1:φ₀97.00000°, δ89.00000°, λ-6.00000°. NP2:φ₀187.00000°, δ84.00000°, λ-179.00000°. Principal axes: T 3.3990, Plg3.0000°, Azm142.0000°; N -0.4270, Plg84.0000°, Azm265.0000°; P -2.9720, Plg5.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **17** 03:58:33.3±1.1, 37°.34N±0°.07×57°.05E±0°.08, h10km±1km, mb4.9/126 Error ellipse: s-maj=12.4km s-min=10.5km az=182.0*
*MOS **17** 03:58:37.7±1.9, 37°.41N×57°.19E, h65km, mb5.1/35, MS4.3/20, Error ellipse: s-maj=4.3km s-min=4.0km az=177.5*
*NNC **17** 03:58:40.2±4.2, 38°.10N×57°.41E, h0km, mb5.0, Error ellipse: s-maj=49.1km s-min=25.1km az=53.0*

ISC 17 03:58:32.8±0.3, **37°28N**±0°.04×**56°.96E**±0°.02, **h10**km, **n827**, σ**1**s**85**/**792**, **mb4.8**/**153**, **MS4.4**/**90**, **45C-46D**, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJRD	**Bojnurd**	**0.55**	**41**	*e*Pg	**Pg**	**03 58 42.3**	**-1.2**
MRVT	**Maraveh tapeh**	**0.79**	**299**	*e*Pg	**Pg**	**03 58 47.2**	**-0.7**
MRVT				*e*Sg	**Sg**	**03 58 58.4**	**+0.2**
MRVT	**Maraveh tapeh**	**0.79**	**299**	Pg	**Pg**	**03 58 46.9**	**-1.0**
MRVT				Sg	**Sb**	**03 58 59.4**	**+0.1**
ISFR	**Sfrayin**	**0.86**	**105**	Pg	**Pg**	**03 58 46.7**	**-2.7**
SBZV	**Sabzevar**	**1.04**	**149**	Pg	**Pg**	**03 58 49.2**	**-3.5**
IMND	**Minoodasht**	**1.24**	**269**	Pg	**Pn**	**03 58 55.1**	**-1.0**
IEMG	**Emamgholi**	**1.36**	**84**	Pg	**Pn**	**03 58 55.6**	**-2.4**
SHRO	**Shahrood**	**1.50**	**211**	*e*Pg	**Pn**	**03 58 57.2**	**-2.6**
IAKL	**Akhelmad**	**1.59**	**115**	Pg	**Pn**	**03 58 59.3**	**-1.9**
IPAY	**Payeh**	**1.83**	**116**	Pg	**Pn**	**03 59 03.8**	**-0.7**
IKRD	**Kardeh**	**2.11**	**103**	Pn	**Pn**	**03 59 07.7**	**-0.6**
IMOG	**Moghan**	**2.25**	**121**	Pn	**Pn**	**03 59 09.9**	**-0.4**
TBHD	**Torbat heydari**	**2.62**	**135**	Pn	**Pn**	**03 59 14.7**	**-0.6**
IGLO	**Ghaloghah**	**2.62**	**254**	Pn	**Pn**	**03 59 15.9**	**+0.5**
IMYA	**Miami**	**2.69**	**109**	Pn	**Pn**	**03 59 16.0**	**-0.3**
IANJ	**Anjilo**	**3.05**	**234**	Pn	**Pn**	**03 59 21.5**	**+0.2**
JRKH	**Jarkhoshk**	**3.06**	**116**	Pn	**Pn**	**03 59 20.4**	**-0.9**
TNSJ	**Nastanj**	**3.33**	**185**	Pn	**Pn**	**03 59 24.0**	**-0.9**
TBJM	**Torbat-e-JAM**	**3.39**	**125**	Pn	**Pn**	**03 59 25.3**	**-0.5**
IALA	**Alasht**	**3.54**	**251**	Pn	**Pn**	**03 59 29.0**	**+0.9**
TABS	**Tabas**	**3.63**	**178**	*e*Pn	**Pn**	**03 59 27.6**	**-1.5**
TABS				IAML		04 00 37.2	
	comp=N,1μm,0.9s						
TKDS	**Koohdasht(Taba**	**3.67**	**178**	Pn	**Pn**	**03 59 28.5**	**-1.1**
ILAS	**Lasjerd**	**3.75**	**241**	Pn	**Pn**	**03 59 31.1**	**+0.3**
IFIR	**Firoozkooh**	**3.76**	**245**	Pn	**Pn**	**03 59 31.8**	**+0.6**
IPRN	**Peran**	**3.85**	**256**	Pn	**Pn**	**03 59 32.7**	**+0.5**
AFRZ	**Afriz**	**4.20**	**156**	Pn	**Pn**	**03 59 36.6**	**-0.4**
TPRV	**Parvadeh(Tabas**	**4.25**	**183**	Pn	**Pn**	**03 59 36.9**	**-0.8**
IDMV	**Damavand**	**4.32**	**248**	Pn	**Pn**	**03 59 39.6**	**+0.8**
DAMV	**Damavand**	**4.34**	**249**	*e*Pn	**Pn**	**03 59 40.0**	**+0.9**
DAMV				IAML		04 01 03.6	
	comp=E,736nm,0.6s						
DAMV				IAML		04 01 10.1	
	comp=N,617nm,0.5s						
MZPU	**Pul - Mazandar**	**4.40**	**261**	Pn	**Pn**	**03 59 40.7**	**+0.8**
SHRT	**Shahrakht**	**4.54**	**142**	*e*Pn	**Pn**	**03 59 40.9**	**-0.7**
SHRT	**Shahrakht**	**4.54**	**142**	Pn	**Pn**	**03 59 40.6**	**-0.9**
ITEG	**Tejag**	**4.62**	**161**	Pn	**Pn**	**03 59 42.2**	**-0.5**
KLST	**Kelardasht - M**	**4.79**	**263**	Pn	**Pn**	**03 59 45.7**	**+0.4**
IVRN	**Varamin**	**4.81**	**243**	Pn	**Pn**	**03 59 45.2**	**-0.1**
ISFB	**Sefidab**	**4.82**	**234**	Pn	**Pn**	**03 59 45.1**	**-0.4**
ANAR	**Anarak**	**4.86**	**214**	Pn	**Pn**	**03 59 45.6**	**-0.5**
CHTH	**Charan**	**4.89**	**255**	*e*Pn	**Pn**	**03 59 48.4**	**+1.9**
THKV	**Tehran--Karaj**	**5.08**	**256**	*e*Pn	**Pn**	**03 59 50.7**	**+1.6**
IDAH	**Dahanechah**	**5.12**	**151**	Pn	**Pn**	**03 59 48.6**	**-1.2**
IKOO	**Kooshah**	**5.13**	**160**	Pn	**Pn**	**03 59 49.5**	**-0.5**
KRSH	**Karshahi**	**5.13**	**231**	Pn	**Pn**	**03 59 49.5**	**-0.4**
HRA	**Herat**	**5.18**	**122**	Pn	**Pn**	**03 59 50.2**	**-0.3**
GHVR	**GHOM**	**5.38**	**240**	*e*Pn	**Pn**	**03 59 53.7**	**+0.5**
GHVR				IAML		04 01 42.4	
	comp=N,569nm,0.8s						
GHVR				IAML		04 01 46.4	
	comp=E,464nm,0.8s						
ICHK	**Chekchek**	**5.45**	**203**	Pn	**Pn**	**03 59 54.1**	**-0.1**
LHJ2	**Lahijan - Gila**	**5.50**	**271**	Pn	**Pn**	**03 59 54.8**	**+0.1**
BSRN	**Basiran**	**5.60**	**161**	*e*Pn	**Pn**	**03 59 55.5**	**-0.8**
BSRN	**Basiran**	**5.60**	**161**	Pn	**Pn**	**03 59 55.4**	**-0.8**
NASN	**Na'in**	**5.62**	**218**	*e*Pn	**Pn**	**03 59 55.6**	**-1.1**
GIDE	**GILAN DEYLAMAN**	**5.64**	**268**	*e*Pn	**Pn**	**03 59 56.6**	**-0.3**
QAMS	**Qamsar**	**5.75**	**234**	Pn	**Pn**	**03 59 58.8**	**+0.4**
JIR1	**Jirandeh**	**5.76**	**266**	Pn	**Pn**	**03 59 58.7**	**+0.3**
IZEF	**Zefreh**	**5.79**	**222**	Pn	**Pn**	**03 59 58.9**	**-0.1**
IBAF	**Bafgh**	**5.79**	**192**	Pn	**Pn**	**03 59 58.7**	**-0.2**
IKLH	**Kolahrood**	**5.91**	**230**	Pn	**Pn**	**04 00 00.7**	**0.0**
IRAZ	**Razeghan**	**5.97**	**254**	Pn	**Pn**	**04 00 02.1**	**+0.7**
ISAD	**Sadrabad**	**6.00**	**208**	Pn	**Pn**	**04 00 01.3**	**-0.6**
QABG	**Abgarm-Qazvin**	**6.14**	**257**	Pn	**Pn**	**04 00 03.9**	**0.0**
IMEH	**Mehriz**	**6.19**	**199**	Pn	**Pn**	**04 00 04.0**	**-0.4**
ASAO	**Ashtian**	**6.25**	**246**	*e*Pn	**Pn**	**04 00 05.6**	**+0.3**
ZRDN	**Zarand Kerman**	**6.31**	**183**	Pn	**Pn**	**04 00 05.8**	**-0.3**
IGAR	**Gharneh**	**6.33**	**221**	Pn	**Pn**	**04 00 06.5**	**+0.2**
LKRN	**Lenkeran, Azer**	**6.61**	**285**	P	**Pn**	**04 00 09.5**	**-0.5**
IRAM	**Ramesheh**	**6.64**	**216**	Pn	**Pn**	**04 00 10.4**	**-0.2**
ZNJK	**Zanjan**	**6.65**	**267**	*e*Pn	**Pn**	**04 00 11.4**	**+0.7**
KHMZ	**Khomeyn**	**6.71**	**240**	*e*Pn	**Pn**	**04 00 11.8**	**+0.2**
KRM1	**Kerman Provinc**	**6.77**	**178**	Pn	**Pn**	**04 00 11.8**	**-0.6**
IPIR	**Pirpir**	**6.77**	**229**	Pn	**Pn**	**04 00 13.3**	**+0.8**
KHGB	**Koh Gabri**	**6.90**	**183**	Pn	**Pn**	**04 00 13.8**	**-0.4**
IBRJ	**Brojen**	**7.13**	**223**	Pn	**Pn**	**04 00 18.3**	**+1.0**
ZNGN	**Zangian**	**7.20**	**226**	Pn	**Pn**	**04 00 18.8**	**+0.5**
JHBN	**Jahan bin**	**7.22**	**228**	Pn	**Pn**	**04 00 19.7**	**+1.0**
TVBK	**TV Kerman**	**7.28**	**181**	Pn	**Pn**	**04 00 19.8**	**+0.3**
KRBR	**Kerman**	**7.28**	**181**	*e*Pn	**Pn**	**04 00 19.4**	**-0.1**
GRMI	**Germi**	**7.31**	**285**	*e*Pn	**Pn**	**04 00 18.7**	**-1.0**
ISRB	**Sarab**	**7.40**	**277**	Pn	**Pn**	**04 00 21.3**	**+0.2**
CHMN	**Cheshme madani**	**7.42**	**176**	Pn	**Pn**	**04 00 21.4**	**0.0**
HSAM	**Samen**	**7.45**	**248**	Pn	**Pn**	**04 00 22.3**	**+0.5**
NGRK	**Negar Kerman**	**7.62**	**181**	Pn	**Pn**	**04 00 24.9**	**+0.7**
KLNJ	**Kolanjah**	**7.68**	**217**	Pn	**Pn**	**04 00 25.4**	**+0.5**
IHSH	**Hashtrud**	**7.73**	**273**	Pn	**Pn**	**04 00 25.9**	**+0.3**
IHRS	**Heris**	**7.92**	**281**	Pn	**Pn**	**04 00 28.7**	**+0.5**
SNQR	**Sonqor, Kerman**	**7.93**	**255**	Pn	**Pn**	**04 00 28.5**	**+0.1**
SNGE	**Sanandaj**	**8.07**	**257**	*e*Pn	Pn	04 00 16.8	-13
KBAM	**BAM**	**8.22**	**171**	Pn	**Pn**	**04 00 32.0**	**-0.2**
ZHSF	**Zahedan**	**8.29**	**156**	*e*Pn	**Pn**	**04 00 32.8**	**-0.4**
MNGR	**Mingechevir, A**	**8.44**	**297**	P	**Pn**	**04 00 35.7**	**+0.7**
ZHDN	**Zahedan**	**8.50**	**157**	Pn	**Pn**	**04 00 35.4**	**-0.6**
SEKA	**Sheki**	**8.53**	**300**	P	**Pn**	**04 00 35.6**	**-0.7**
IAZR	**Azarshahr**	**8.74**	**276**	Pn	**Pn**	**04 00 40.2**	**+0.8**
GANJ	**Ganja**	**8.94**	**295**	P	**Pn**	**04 00 40.6**	**-1.3**
IGHG	**Ghaleghazi**	**8.94**	**254**	Pn	**Pn**	**04 00 42.8**	**+0.6**
IDHR	**Dehrash**	**8.95**	**256**	Pn	**Pn**	**04 00 43.4**	**+1.2**
IMRD	**Marand**	**9.00**	**283**	Pn	**Pn**	**04 00 43.8**	**+0.9**
ISHB	**Shabestar**	**9.04**	**280**	Pn	**Pn**	**04 00 43.4**	**-0.1**
MAK	**Makhachkala**	**9.19**	**311**	*e*P	**Pn**	**04 00 41.0**	**-4.4**
MAK				pmax	pmax		
	comp=Z,193nm,1.1s						
MAK				MLR	MLR		
	comp=Z,2μm,16.0s						
NAX	**Nakhchivan**	**9.22**	**285**	P	**Pn**	**04 00 46.8**	**+1.0**
ILBA	**Ilam Banvizeh**	**9.50**	**251**	*e*Pn	**Pn**	**04 00 50.3**	**+0.6**
ILBA	**Ilam Banvizeh**	**9.50**	**251**	Pn	**Pn**	**04 00 50.7**	**+1.0**
GHIR	**Ghir-Karzin**	**9.57**	**202**	*e*Pn	**Pn**	**04 00 50.7**	**0.0**
SIMJ	**Simiganj**	**9.62**	**78**		**Pn**	**04 00 50.4**	**-0.9**
CHGR	**Chuyangaron**	**9.73**	**78**	Pn	**Pn**	**04 00 51.8**	**-1.1**
CHGR	**Chuyangaron**	**9.73**	**78**	P	**Pn**	**04 00 51.8**	**-1.1**
MAKU	**Maku**	**9.87**	**286**	*e*Pn	**Pn**	**04 00 55.6**	**+0.8**
MAKU	**Maku**	**9.87**	**286**	Pn	**Pn**	**04 00 54.9**	**+0.1**
BNDS	**Bandar-Abbas**	**9.88**	**184**	*e*Pn	**Pn**	**04 00 54.1**	**-0.9**
GNI	**Garni**	**9.97**	**290**	Pn	**Pn**	**04 00 56.6**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=151,slow=6.3,SNR=17						
GNI				Sn	**Sn**	**04 02 53.1**	**+5.0**
	comp=Z,3.4nm,0.3s,baz=240,slow=20,SNR=2.0						
GNI				LR	LR	04 06 15.9	
	comp=Z,1μm,20.3s,baz=108,slow=47						
	comp=Z,89nm,1.1s						
GNI	**Garni**	**9.97**	**290**	*ce*P	**Pn**	**04 00 56.3**	**+0.1**
GNI				pmax	pmax		
	comp=Z,95nm,1.0s						
GNI	**Garni**	**9.97**	**290**	P	**Pn**	**04 00 56.9**	**+0.7**
	comp=Z,136nm,0.8s,comp=Z,1μm						
KBL	**Kabul**	**10.18**	**102**	Pn	**Pn**	**04 00 59.5**	**+0.4**
KBL	**Kabul**	**10.18**	**102**	P	**Pn**	**04 00 59.5**	**+0.4**
GROC	**Groznyy**	**10.38**	**308**	*e*P	**Pn**	**04 01 03.3**	**+1.7**
GROC				*e*S	**Sn**	**04 02 58.6**	**+0.7**
GROC				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GAR	**Garm**	**10.66**	**77**	Pn	**Pn**	**04 01 05.0**	**-0.6**
TRLG	**Trialeti**	**10.81**	**297**	P	**Pn**	**04 01 07.3**	**-0.5**
SRVN	**Saravan**	**10.87**	**153**	Pn	**Pn**	**04 01 08.0**	**-0.5**
CHM	**Chimkent**	**10.95**	**59**	*e*P	**Pn**	**04 01 08.6**	**-0.8**
	baz=60						
CHM				LR	LR	04 06 03.9	
	baz=60						
CHM	**Chimkent**	**10.95**	**59**	*e*P	**Pn**	**04 01 08.6**	**-0.8**
IUG	**Iuzhnay**	**11.18**	**60**	*e*P	**Pn**	**04 01 11.2**	**-1.4**
	baz=62						
IUG				*e*S	**Sn**	**04 03 16.2**	**-1.5**
	baz=62						
IUG	**Iuzhnay**	**11.18**	**60**	*e*P	**Pn**	**04 01 11.2**	**-1.4**
IUG				*e*S	**Sn**	**04 03 16.2**	**-1.5**
BTK	**Batken**	**11.19**	**71**		**Pn**	**04 01 12.4**	**-0.3**
BTK	**Batken**	**11.19**	**71**	P	**Pn**	**04 01 12.4**	**-0.3**
KARS	**Kars**	**11.31**	**291**		**Pn**	**04 01 15.7**	**+1.2**
KARS	**Kars**	**11.31**	**291**	P	**Pn**	**04 01 15.7**	**+1.2**
BRLS	**Borolday**	**11.40**	**56**	*e*P	**Pn**	**04 01 11.8**	**-3.9**
	comp=Z,8.1nm,1.0s,baz=58						
BRLS	**Borolday**	**11.40**	**56**	*e*P	**Pn**	**04 01 11.7**	**-3.9**
BRLS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TRKS	**Terek-Say**	**11.76**	**64**	P	**Pn**	**04 01 20.5**	**-0.2**
GURO	**Guroymak-BITLI**	**11.86**	**281**	Pn	**Pn**	**04 01 22.3**	**+0.3**
KK31	**Karatay Array**	**11.88**	**57**	Pn	**Pn**	**04 01 20.3**	**-1.9**
KK31	**Karatay Array**	**11.88**	**57**	⇓Pn	**Pn**	**04 01 20.2**	**-2.0**
	comp=Z,10nm,0.6s,baz=230,slow=16,SNR=61						
KK31	**Karatay Array**	**11.88**	**57**	P	**Pn**	**04 01 20.3**	**-1.9**
KKAR	**Karatay Array**	**11.88**	**57**		**Pn**	**04 01 20.4**	**-1.8**
KKAR	**Karatay Array**	**11.88**	**57**		**Pn**	**04 01 20.1**	**-2.0**
KKAR	**Karatay Array**	**11.88**	**57**	P	**Pn**	**04 01 20.4**	**-1.8**
**N

MDOK Medeo 16.41 63 *e*P **Pn 04 02 22.6 -0.8**
baz=64
MDOK LR LR 04 09 48.9
comp=Z,1μm,8.3s,baz=64
MDOK Medeo 16.41 63 ⇑P **P 04 02 27.8 +1.7**
comp=Z,254nm,1.3s
MDOK Medeo 16.41 63 P **P 04 02 27.8 +1.7**
BELG Belogornoye 16.47 339 Pn **Pn 04 02 21.0 -2.8**
comp=Z,4.4nm,0.3s,baz=282,slow=1.1,SNR=9.4
BELG Belogornoye 16.47 339*de*P **Pn 04 02 19.9 -3.9**
ANN Anapa 16.51 303 *e*P **Pn 04 02 25.6 +1.3**
ANN *e*S **Sn 04 05 29.8 +2.3**
ANN pmax pmax
comp=Z,74nm,0.8s
ANN MLR MLR
comp=Z,715nm,12.0s
CHKK Chushkaly 16.56 60 *e*P **Pn 04 02 24.1 -0.9**
baz=61
CHKK Chushkaly 16.56 60 *e*P **Pn 04 02 24.0 -0.9**
TARG Taragay, Kyrgy 16.68 68 Pn **Pn 04 02 26.0 -1.0**
TARG Taragay, Kyrgy 16.68 68 P **Pn 04 02 26.0 -1.0**
TARG pmax pmax
comp=Z,66nm,2.0s
BNN Bunyan 16.70 282 Pn **Pn 04 02 28.3 +1.3**
RAYN Ar Rayn 16.88 219 Pn **Pn 04 02 26.5 -2.7**
RAYN IAmb IAmb 04 02 36.3
comp=Z,182nm,1.6s
RAYN Ar Rayn 16.88 219 P **Pn 04 02 26.5 -2.7**
RAYN pmax pmax
comp=Z,182nm,1.6s
ARXS Arharly 17.24 60 *e*P **Pn 04 02 32.2 -1.4**
PRZ Przheval'sk 17.24 66 Pn **Pn 04 02 33.1 -0.7**
PRZ Przheval'sk 17.24 66 P **Pn 04 02 33.1 -0.7**
PRZ pmax pmax
comp=Z,102nm,1.6s
ASF Jabal al Asfar 17.25 259 P **Pn 04 02 34.8 +0.9**
comp=Z,19nm,1.1s,baz=36,slow=0.2,SNR=15
SATY Saty 17.36 64 *e*P **Pn 04 02 34.7 -0.5**
baz=65
SATY Saty 17.36 64 *e*P **Pn 04 02 34.7 -0.5**
ZHN Zhinishke 17.40 64 P **Pn 04 02 35.7 0.0**
VRH Novokhopyorsk 17.63 327 *e*P **Pn 04 02 34.7 -3.7**
VRH *e*S **Sn 04 05 50.5 -4.2**
VRH pmax pmax
comp=Z,30nm,0.6s
VRH smax smax
comp=E,350nm,6.8s
VRH MLR MLR
comp=Z,1μm,11.0s
KPKS Kokpek 17.65 63 *e*P **Pn 04 02 38.1 -0.7**
baz=64
KPKS *e*S **Sn 04 05 54.1 -1.2**
baz=64
KPKS Kokpek 17.65 63 *e*P **Pn 04 02 38.0 -0.7**
KPKS *e*S **Sn 04 05 54.1 -1.2**
UZB Uzynbulak 17.82 64 *e*P **Pn 04 02 40.5 -0.5**
baz=65
UZB Uzynbulak 17.82 64 *e*P **Pn 04 02 40.4 -0.5**
TDK Taldygorghan 17.87 58 *e*P **Pn 04 02 40.4 -1.0**
comp=Z,55nm,0.5s,baz=59
TDK LR LR 04 10 35.3
comp=Z,1μm,9.1s,baz=59
TDK Taldyqorghan 17.87 58 *e*P **Pn 04 02 40.3 -1.0**
TDK pmax pmax
comp=Z,55nm,0.5s
TDK MLR MLR
comp=Z,1μm,9.0s
MMAI Mount Meron Ar 18.13 263 P **Pn 04 02 44.3 -0.4**
comp=Z,1.6nm,0.3s,baz=98,slow=20,SNR=2.9
MMAI LR LR 04 10 38.9
comp=Z,476nm,20.4s,baz=20,slow=40
comp=Z,1.8nm,0.5s
SHLS Shalkode 18.14 64 *e*P **P 04 02 47.9 +2.7**
baz=65
SHLS Shalkode 18.14 64 *e*P **P 04 02 47.8 +2.7**
PDGK Podgornoye 18.19 64 ⇓P **Pn 04 02 44.6 -0.9**
comp=Z,28nm,0.9s
PDGK Podgornoye 18.19 64 P **Pn 04 02 44.6 -0.9**
BRVK Borovoye 18.31 26 Pn **Pn 04 02 44.3 -2.4**
BRVK Borovoye 18.31 26 ⇑P **Pn 04 02 43.4 -3.2**
comp=Z,46nm,0.9s
BRVK Borovoye 18.31 26*de*P **Pn 04 02 44.5 -2.2**
BRVK pmax pmax
comp=Z,68nm,1.7s
BVA0 Borovoye Array 18.32 27 ⇓P **Pn 04 02 42.9 -3.9**
comp=Z,55nm,0.7s,baz=214,slow=13,SNR=99
BVA0 Borovoye Array 18.32 27 P **Pn 04 02 42.9 -3.9**
BVAR Borovoye Array 18.32 27 P **Pn 04 02 46.0 -0.8**
comp=Z,0.7nm,0.3s,baz=211,slow=9.2,SNR=42
BVAR S Sn 04 05 58.8 -13
comp=Z,4.6nm,0.7s,baz=226,slow=18,SNR=2.3
BVAR LR LR 04 09 57.8
comp=Z,648nm,19.6s,baz=215,slow=37
comp=Z,41nm,0.7s
BR131 Keskin Array S 18.41 285 **P 04 02 48.9 +0.8**
BR131 IAmb IAmb 04 02 59.6
comp=Z,138nm,1.9s
BR131 Keskin Array S 18.41 285⇑*e*P **P 04 02 49.7 +1.6**
BRTR Keskin Array B 18.41 285 P **P 04 02 48.8 +0.6**
BRTR Keskin Array B 18.41 285 P **P 04 02 48.5 +0.4**
comp=Z,0.1nm,0.3s,baz=96,slow=9.6,SNR=6.4
comp=Z,1.2nm,0.6s
BRTR Keskin Array B 18.41 285 *i* P **P 04 02 52.7 +4.6**
BRTR pmax pmax
comp=Z,4.0nm,0.6s
VORD Divnogorie 18.59 323 *e*P **P 04 02 47.4 -2.4**
VORD *e*S **Sn 04 06 18.1 +0.4**
VORD pmax pmax
comp=Z,100nm,1.4s
VORD smax smax
comp=E,10.0nm,2.5s
SIM Simferopol' 18.80 301 *e*P **P 04 02 52.0 -0.2**
SIM pmax pmax
comp=Z,248nm,1.1s
SIM MLR MLR
comp=Z,322nm,15.9s
VSR Storozhevoye 18.81 323 *e*P **P 04 02 49.8 -2.5**
VSR *e*S **Sn 04 06 19.0 -4.1**
VSR pmax pmax
comp=Z,120nm,1.5s
VSR smax smax
comp=N,230nm,7.3s
VSR MLR MLR
comp=Z,950nm,20.0s
ANTO Ankara 19.06 285 P **Pn 04 02 56.1 +0.1**
ANTO IAmb IAmb 04 03 06.6
comp=Z,128nm,1.6s
ANTO Ankara 19.06 285 P **Pn 04 02 56.1 +0.1**
ANTO pmax pmax
comp=Z,128nm,1.7s
ANTO Ankara 19.06 285 P **Pn 04 02 57.0 +1.0**
comp=Z,23nm,1.5s,comp=Z,326nm
VORR Voronezh 19.09 325 *e*P P 04 02 47.6 -7.8
VORR pmax pmax
comp=Z,132nm,0.8s
ARU Arti 19.18 3 P **P 04 02 54.0 -2.4**
ARU IAmb IAmb 04 03 01.7
comp=Z,86nm,1.2s
ARU Arti 19.18 3 P **P 04 02 56.3 0.0**
baz=182,slow=9.3,SNR=29
ARU LR LR 04 11 12.9
comp=Z,973nm,18.4s,baz=189,slow=40
comp=Z,14nm,0.5s
ARU Arti 19.18 3⇓*e*P **P 04 02 54.4 -2.0**
ARU pmax pmax
comp=Z,57nm,1.3s
ARU Arti 19.18 3 P **P 04 02 54.4 -2.0**
comp=Z,75nm,1.2s,comp=Z,1μm
CSS Mathiatis 19.22 270 P **P 04 02 57.0 0.0**
CSS IAmb IAmb 04 03 05.8
comp=Z,111nm,1.7s
CSS Mathiatis 19.22 270 P **P 04 02 57.4 +0.4**
comp=Z,32nm,1.3s,comp=Z,822nm
SVE Sverdlovsk 19.71 6 *e*P **P 04 03 02.4 +0.3**
SVE pmax pmax
comp=Z,43nm,1.2s
SVE MLR MLR
comp=Z,851nm,10.0s
EIL Elat 19.84 254 P **P 04 03 02.9 -0.8**
comp=Z,0.3nm,0.3s,baz=252,slow=19,SNR=5.0
EIL LR LR 04 12 16.4
comp=Z,2μm,18.9s,baz=66,slow=42
comp=Z,4.9nm,0.6s
LPSR Galich'ya Gora 19.85 326 *e*P **P 04 03 02.7 -1.0**
LPSR *e*S **S 04 06 40.0 -7.0**
LPSR pmax pmax
comp=Z,250nm,1.0s
LPSR smax smax
comp=E,350nm,6.7s
LPSR MLR MLR
comp=Z,640nm,17.0s
MDUB Mudurnu 20.28 287 **P 04 03 09.3 +0.6**
KURBB Kurchatov Arra 20.37 42 P **P 04 03 10.7 +1.3**
comp=Z,6.0nm,0.9s,baz=240,slow=12,SNR=22
KURBB LR LR 04 12 21.7
comp=Z,781nm,21.8s,baz=246,slow=40
comp=Z,6.0nm,0.9s
KURBB Kurchatov Arra 20.37 42 ⇑P Pn 04 03 11.1 -0.4
comp=Z,19nm,0.9s
KURK Kurchatov 20.47 42 **P 04 03 10.0 -0.5**
KURK Kurchatov 20.47 42*de*P **P 04 03 11.4 +1.0**
KURK pmax pmax
comp=Z,59nm,1.7s
MAKZ Makanchi 20.80 55 P **P 04 03 14.3 +0.2**
MAKZ Makanchi 20.80 55 P **P 04 03 14.6 +0.5**
comp=Z,38nm,1.1s
MAKZ Makanchi 20.80 55 ⇑P **P 04 03 14.9 +0.8**
MK31 Makanchi Array 21.00 55 P **P 04 03 16.5 +0.2**
MK31 Makanchi Array 21.00 55 P **P 04 03 16.9 +0.6**
comp=Z,28nm,0.7s,baz=244,slow=8.5,SNR=172
MK31 Makanchi Array 21.00 55*d i*P **P 04 03 16.9 +0.6**
MKAR Makanchi Array 21.00 55 P **P 04 03 16.6 +0.3**
MKAR Makanchi Array 21.00 55 P **P 04 03 16.9 +0.6**
comp=Z,26nm,0.7s,baz=245,slow=8.8,SNR=65
comp=Z,26nm,0.7s
ELL Elmali 21.58 277 P **P 04 03 24.5 +1.8**
ELL Elmali 21.58 277 P **P 04 03 24.5 +1.8**
ELL pmax pmax
comp=Z,104nm,0.7s
KIRV Kirov 21.88 349 P **P 04 03 25.9 +0.5**
comp=Z,14nm,0.5s,baz=156,slow=15,SNR=19
KIRV LR LR 04 13 33.7
comp=Z,953nm,19.2s,baz=168,slow=41
comp=Z,14nm,0.5s
KIRV Kirov 21.88 349*c i*P **P 04 03 25.7 +0.2**
ISK Istanbul-Kandi 21.91 289 P **P 04 03 30.5 +4.4**
PURM Purcari 22.08 303 ⇑P **P 04 03 29.8 +2.0**
PURM Purcari 22.08 303 P **P 04 03 27.9 +0.1**
comp=Z,147nm,1.4s,comp=Z,2μm
TLCR 22.51 299 ⇑P **P 04 03 35.4 +3.0**
TLCR 22.51 299 ⇑P **P 04 03 35.4 +3.0**
OBN Obninsk 22.60 329 ⇑P **P 04 03 33.8 +0.5**
OBN Obninsk 22.60 329 P **P 04 03 33.3 +0.1**
OBN Obninsk 22.60 329 P **P 04 03 33.6 +0.4**
comp=Z,23nm,0.7s,baz=112,slow=4.4,SNR=24
OBN LR LR 04 13 35.9
comp=Z,503nm,19.0s,baz=150,slow=40
comp=Z,23nm,0.7s
OBN Obninsk 22.60 329*c i*P **P 04 03 33.0 -0.2**
OBN *i* 04 03 48.1
OBN PPP PPP 04 04 03.0
OBN *e*SSS SSS 04 08 18.1
OBN pmax pmax
comp=Z,150nm,1.7s
OBN MLR MLR
comp=Z,668nm,15.0s
OBN Obninsk 22.60 329 P **P 04 03 32.8 -0.4**
comp=Z,94nm,1.4s,comp=Z,1μm
MOS Moscow 22.62 331 *e*P **P 04 03 33.0 -0.4**
MOS *e* 04 03 47.6
MOS *e* 04 03 59.1
MOS pmax pmax
comp=Z,73nm,1.2s
MFTR Murfatlar 22.62 297 ⇓P **P 04 03 35.8 +2.2**
TPGR Topolog 22.73 298 ⇓P **P 04 03 35.7 +0.9**
ZSN Zaisan 22.87 55 *e*P **P 04 03 35.8 -0.5**
baz=55
ZSN Zaisan 22.87 55 *e*P **P 04 03 35.8 -0.5**
MILM Milestii Mici 22.89 304 ⇓P **P 04 03 36.6 +0.2**
MILM Milestii Mici 22.89 304⇓*i*P **P 04 03 38.0 +1.6**
comp=Z,240nm,1.9s
MILM Milestii Mici 22.89 304*d i*P **P 04 03 38.0 +1.6**
MILM *i* 04 03 51.0
MILM *e*S **S 04 07 38.0 -8.1**
MILM *e*SS SnSn 04 08 39.0 +22
MILM pmax pmax
comp=Z,240nm,1.9s
MILM MLR MLR
comp=Z,1μm,18.0s
MILM MLR MLR
comp=E,700nm,16.0s
KIS Kishinev 22.91 304 *e*P **P 04 03 37.0 +0.4**
comp=E,90nm,1.6s
KIS Kishinev 22.91 304 *e*P **P 04 03 37.0 +0.4**
KIS *e* 04 03 51.0
KIS *e*S **S 04 07 38.0 -8.4**
KIS pmax pmax
comp=Z,90nm,1.6s
KIS MLR MLR
comp=Z,400nm,14.5s
CFR Carcaliu 22.98 299 ⇑P **P 04 03 39.9 +2.6**
CFR Carcaliu 22.98 299 ⇑P **P 04 03 39.9 +2.6**
HARR Harsova 23.04 298 ⇑P **P 04 03 41.4 +3.4**
HARR Harsova 23.04 298 ⇑P **P 04 03 41.4 +3.4**
ICOR Ion Corvin 23.06 296 ⇓P **P 04 03 41.8 +3.6**
SCTR Scanteiesti 23.16 300 ⇓P **P 04 03 41.8 +2.5**
PRD Provadia 23.24 294 P **P 04 03 42.2 +2.1**
SORM Soroca 23.52 307 ⇑P **P 04 03 43.6 +0.8**
SORM Soroca 23.52 307 ⇑P **P 04 03 43.6 +0.8**
SORM Soroca 23.52 307 P **P 04 03 41.4 -1.4**
comp=Z,50nm,0.8s
AK09 Malin Array Si 23.80 313 P **P 04 03 44.8 -0.8**
AK10 Malin Array Si 23.82 313 P **P 04 03 45.4 -0.3**
AK07 Malin Array Si 23.82 313 P **P 04 03 45.5 -0.3**
AK08 Malin Array Si 23.83 313 P **P 04 03 45.2 -0.6**
AK05 Malin Array Si 23.85 313 P **P 04 03 45.5 -0.5**
AKASG Malin Array Be 23.87 313 P **P 04 03 45.5 -0.7**
AKASG Malin Array Be 23.87 313 P **P 04 03 45.5 -0.7**
comp=Z,21nm,0.9s,baz=119,slow=8.4,SNR=35
AKASG LR LR 04 15 18.5
comp=Z,1μm,18.0s,baz=120,slow=42
comp=Z,21nm,0.9s
AKASG Malin Array Be 23.87 313 *i* P **P 04 03 46.2 0.0**
AKASG pmax pmax
comp=Z,46nm,1.0s
AKBB Malin Array Si 23.87 313 P **P 04 03 45.9 -0.3**
AKBB Malin Array Si 23.87 313*ce*P **P 04 03 45.7 -0.5**
AKBB Malin Array Si 23.87 313 P **P 04 03 45.5 -0.7**
AK01 Malin Array Si 23.87 313 P **P 04 03 45.6 -0.6**
KIEV Kiev 23.88 313 P **P 04 03 45.6 -0.7**
KIEV Kiev 23.88 313 P **P 04 03 45.6 -0.7**
KIEV pmax pmax
comp=Z,84nm,1.1s
KIEV Kiev 23.88 313 P **P 04 03 46.0 -0.3**
comp=Z,323nm,1.2s,comp=Z,3μm
AK20 Malin Array Si 24.01 313 P **P 04 03 46.9 -0.7**
BISRR Bisoca 24.03 300 ⇑P **P 04 03 50.5 +2.6**
EZN Ezine 24.03 286 P **P 04 03 50.0 +2.2**
VRI Vrincioaia 24.07 300 ⇑P **P 04 03 50.4 +2.2**
VRI Vrincioaia 24.07 300 ⇑P **P 04 03 50.4 +2.2**
ISR Istrita 24.08 299 ⇑P **P 04 03 51.5 +3.2**
ISR Istrita 24.08 299 ⇑P **P 04 03 51.5 +3.2**
PLOR5 Plostina Array 24.11 300 P **P 04 03 50.5 +1.9**
comp=Z,47nm,1.0s,comp=Z,1μm
PLOR Plostina 24.12 300 ⇓P **P 04 03 50.6 +1.9**
PLOR Plostina 24.12 300 ⇓P **P 04 03 50.6 +1.9**
WMQ Urumqi 24.16 65 *e*P **P 04 03 51.1 +2.0**
WMQ SS **SnSn 04 08 54.0 +5.6**
WMQ LR LR
comp=Z,980nm,8.9s
WMQ LR LR
comp=Z,2μm,7.5s
WMQ LR LR
comp=Z,550nm,21.1s
ALN Alexandroupoli 24.20 288 P **P 04 03 50.4 +1.0**
ALN IAmb IAmb 04 04 11.5
comp=Z,46nm,1.2s
ALN Alexandroupoli 24.20 288 P **P 04 03 50.4 +1.0**
ALN pmax pmax
comp=Z,46nm,1.2s
TESR Tescani 24.25 302 ⇑P **P 04 03 51.5 +1.7**
SZH Strazhitsa 24.29 294 P **P 04 03 50.8 +0.5**
NEHR Nehoiu 24.30 299 ⇓P **P 04 03 54.3 +3.9**
ELND Elena 24.35 293 ⇓P **P 04 03 54.3 +3.6**
ONER Baraj Valea Uz 24.39 301 ⇓P **P 04 03 53.1 +2.0**
COVR Voineasa-Covas 24.43 300 ⇑P **P 04 03 55.2 +3.7**
LUBAR Lubar, Ukraine 24.46 310 P **P 04 03 51.3 -0.4**
MI30 MI30,Zelenitsa 24.50 312 P **P 04 03 51.5 -0.5**
MLR Muntele Rosu 24.55 299 ⇑P **P 04 03 55.6 +2.8**
MLR Muntele Rosu 24.55 299 P **P 04 03 53.3 +0.6**
MLR Muntele Rosu 24.55 299 P **P 04 03 54.3 +1.5**
comp=Z,12nm,0.6s,baz=160,slow=5.5,SNR=18
MLR LR LR 04 16 17.2
comp=Z,606nm,18.1s,baz=78,slow=44
comp=Z,12nm,0.6s
MLR Muntele Rosu 24.55 299 ⇑P **P 04 03 55.6 +2.8**
MLR Muntele Rosu 24.55 299 P **P 04 03 54.4 +1.6**
comp=Z,179nm,0.9s,comp=Z,2μm
MI29 MI29, Kamyanyy 24.57 312 P **P 04 03 53.2 +0.5**
RDO Rodhopi 24.58 289 P **P 04 03 53.8 +1.0**
RDO IAmb IAmb 04 04 18.3
comp=Z,30nm,1.2s
TURR Turia 24.59 301 ⇑P **P 04 03 54.8 +1.7**
BIZ Bicaz 24.70 303 ⇓P **P 04 03 55.6 +1.7**
KMPD K-Podol'skiy 24.85 307 P **P 04 03 54.4 -0.8**
DOPR Dopca 25.01 300 ⇓P **P 04 03 58.3 +1.6**
RZN Rozhen 25.17 290 P **P 04 04 00.0 +1.6**
VOIR 25.17 299 P **P 04 03 59.9 +1.6**
comp=Z,31nm,0.7s,comp=Z,671nm
ZAA0 Zalesovo Array 25.40 40 P **P 04 03 59.7 -0.4**
ZALV Zalesovo Beam 25.40 40 P **P 04 03 59.8 -0.4**
ZALV Zalesovo Beam 25.40 40 P **P 04 04 00.8 +0.7**
comp=Z,6.2nm,0.6s,baz=250,slow=10,SNR=14
ZALV LR LR 04 15 19.0
comp=Z,1μm,19.4s,baz=222,slow=40
comp=Z,6.2nm,0.6s
ZALV Zalesovo Beam 25.40 40 *i* P **P 04 04 00.5 +0.4**
ZALV pmax pmax
comp=Z,6.0nm,0.6s
BURAR Bucovina Array 25.43 304 ⇑P **P 04 04 02.6 +1.9**
BURAR Bucovina Array 25.43 304 P **P 04 04 01.0 +0.4**
BURAR IAmb IAmb 04 04 14.4
comp=Z,18nm,0.8s
BUR08 Bucovina Ar. S 25.45 304 P **P 04 04 01.4 +0.6**
BUR08 IAmb IAmb 04 04 14.8
comp=Z,36nm,1.2s
OUR Ouranopolis 25.79 287 P **P 04 04 01.2 -2.6**
IDI Anoyia 25.86 275 P **P 04 04 05.3 +0.7**
IDI IAmb IAmb 04 04 28.0
comp=Z,31nm,0.9s
MMB Musomishta 25.91 290 P **P 04 04 06.3 +1.3**
MPEP Malo Peshtene 25.93 294 P **P 04 04 11.0 +5.9**
RNPP5 Staryi Chortor 26.03 312 P **P 04 04 05.9 0.0**
PAIG Paliouri 26.06 286 P **P 04 04 08.0 +1.8**
LOT Lotru 26.07 299 ⇑P **P 04 04 07.8 +1.4**
RNPP8 Varash 26.08 313 P **P 04 04 06.3 -0.1**
RNPP9 Sopachiv 26.09 313 P **P 04 04 06.7 +0.3**
VALD Valchedram 26.16 295 P **P 04 04 08.8 +1.6**
VTS Vitosha 26.28 292 P **P 04 04 11.9 +3.4**
MNK Minsk 26.29 320 *i* P **P 04 04 10.2 +2.0**
comp=E,20nm,1.0s
MNK *i* P **P 04 04 10.2 +2.0**
comp=N,44nm,1.1s
MNK *i* P **P 04 04 10.2 +2.0**
comp=Z,55nm,0.9s,baz=118
MNK *i* PP **PnPn 04 04 48.1 +0.9**
MNK *i* S **S 04 08 47.5 +6.8**
MNK *i* SS **SnSn 04 09 41.0 +0.8**
MNK *i* LQ LQ 04 12 24.1
MNK *i* LR LR 04 14 23.0
MNK *i* LRM MLR 04 16 05.1
comp=Z,714nm,17.6s
MNK *i* LRM MLR 04 16 16.6
comp=E,221nm,18.3s
MNK *i* LRM MLR 04 18 01.4
comp=N,734nm,15.3s
MNK Minsk 26.29 320 *i* P **P 04 04 10.2 +2.0**
MNK *i* 04 04 48.1
MNK *i* SS **SnSn 04 09 40.9 +0.8**
MNK pmax pmax
comp=Z,55nm,0.9s
MNK pmax pmax
comp=E,20nm,1.0s
MNK pmax pmax
comp=N,44nm,1.1s
MNK MLR MLR
comp=Z,714nm,18.0s
MNK MLR MLR
comp=E,221nm,18.0s
MNK MLR MLR
comp=N,734nm,15.0s
KKB Krupnik 26.37 291 P **P 04 04 15.8 +6.7**
BMR Baia Mare 26.58 304 P **P 04 04 15.0 +4.1**
MARR Marisel-Cluj 26.67 301 ⇑P **P 04 04 13.3 +1.4**
DEV Deva 26.72 300 ⇑P **P 04 04 14.5 +2.3**
DEV Deva 26.72 300 ⇑P **P 04 04 14.5 +2.3**
LVV L'vov 26.72 308 *e*P **P 04 04 12.4 +0.2**
LVV *e* 04 04 54.8
LVV *e*S **S 04 08 47.3 -0.3**
LVV *e*SS **SnSn 04 09 56.8 +6.0**
LVV *e*SSS SSS 04 10 25.3
LVV MLR MLR
comp=E,700nm,15.0s
LVV MLR MLR
comp=N,400nm,13.0s
LVV MLR MLR
comp=Z,2μm,16.0s
HERR Herculane 26.97 297 ⇓P **P 04 04 17.6 +3.2**
DRGR 26.97 301 ⇓P **P 04 04 15.2 +0.7**
DRGR 26.97 301 ⇓P **P 04 04 15.2 +0.7**
NACGM Naroch 27.05 320 *e*P **P 04 04 15.9 +0.9**
comp=Z,29nm,0.9s,baz=117
STIP Stip 27.08 290 *i* Pn **P 04 04 15.0 -0.5**
MDVR Moldovita 27.46 297 ⇓P **P 04 04 20.0 +1.1**
BZS Buzias 27.59 299 ⇓P **P 04 04 21.1 +1.1**
BZS Buzias 27.59 299 ⇓P **P 04 04 21.1 +1.1**
SIRR Siria 27.62 300 ⇑P **P 04 04 22.5 +2.2**
KOLS Kolonicke sedl 27.63 306 *e*P **P 04 04 24.4 +4.0**
KOLS Kolonicke sedl 27.63 306 *e*P **P 04 04 24.4 +4.0**
CRVS Cervenica-Dubn 28.15 306 *e*P **P 04 04 28.4 +3.4**
CRVS Cervenica-Dubn 28.15 306 *e*P **P 04 04 28.4 +3.4**
ATD Arta Tunnel 28.61 210 LR LR 04 17 14.0
comp=Z,45nm,21.6s,baz=34,slow=39
PABE Paberze 28.76 320 P **P 04 04 30.1 -0.1**
PABE Paberze 28.76 320 *e*P **P 04 04 31.7 +1.4**
FRGS Fruska Gora 28.83 298 P **P 04 04 33.2 +2.1**
comp=Z,16nm,1.5s
VSU Vasula 28.91 327⇓*e*P **P 04 04 31.8 +0.2**
VSU pmax pmax
comp=Z,26nm,1.3s
ADZR Andozero 28.96 343 *e*P **P 04 04 30.8 -1.1**
ADZR pmax pmax
comp=Z,12nm,1.1s
NIE Niedzica 29.00 306 P **P 04 04 33.5 +0.9**
comp=Z,6.7nm,1.6s
VALR Valaam 29.11 334*de*P **P 04 04 33.7 +0.4**
VALR pmax pmax
comp=Z,15nm,0.9s
OJC Ojcow 29.47 308 P **P 04 04 37.1 +0.4**
OJC Ojcow 29.47 308 P **P 04 04 37.1 +0.4**
OJC pmax pmax
comp=Z,40nm,1.4s
OJC Ojcow 29.47 308 P **P 04 04 37.1 +0.4**
comp=Z,18nm,1.6s
MORH Mrgy, Hungar 29.70 300 ⇑P **P 04 04 40.8 +2.0**
MORH Mrgy, Hungar 29.70 300 P **P 04 04 39.5 +0.7**
comp=Z,6.3nm,1.6s
ARBE Arbavere 29.78 328 *e*P **P 04 04 39.7 +0.4**
VYHS Vyhne 29.80 304 *e*P **P 04 04 41.4 +1.7**
VYHS Vyhne 29.80 304 *e*P **P 04 04 41.4 +1.7**
JOF Joensuu 30.07 337 *e*P **P 04 04 42.2 +0.4**
MTSE Matsula 30.34 326 *e*P **P 04 04 45.9 +1.7**
OKC Ostrava-Krasne 30.45 307 AMS AMS 04 19 40.0
comp=Z,500nm,18.9s
MPLH Magyarpolny 30.53 301 P **P 04 04 47.0 +0.9**
comp=Z,33nm,1.2s
JAVC Velka Javorina 30.61 305 *e*P **P 04 04 47.4 +0.5**
MODS Modra-Piesok 30.82 304 *e*P **P 04 04 50.4 +1.8**
MODS Modra-Piesok 30.82 304 *e*P **P 04 04 50.4 +1.8**
MORC Moravsky Berou 30.82 307 ⇓P **P 04 04 49.9 +1.1**
MORC Moravsky Berou 30.82 307 P **P 04 04 49.3 +0.6**
MORC IAmb IAmb 04 04 55.7
comp=Z,35nm,1.8s
MORC Moravsky Berou 30.82 307 *e*P **P 04 04 49.1 +0.3**
MORC Moravsky Berou 30.82 307 ⇓P **P 04 04 49.9 +1.1**
MEF Metsahovi 30.88 328 *e*P **P 04 04 49.6 +0.6**
FIA1 FINESS Array S 30.92 331 P **P 04 04 49.0 -0.3**
FINES FINESS Array B 30.92 331 P **P 04 04 49.3 0.0**
FINES FINESS Array B 30.92 331 P **P 04 04 49.8 +0.5**
comp=Z,3.0nm,0.5s,baz=119,slow=11,SNR=15
FINES LR LR 04 18 31.0
comp=Z,278nm,19.2s,baz=136,slow=39
comp=Z,3.0nm,0.5s
FINES FINESS Array B 30.92 331 *i* P **P 04 04 49.7 +0.4**

FINES pmax pmax
comp=Z,3.0nm,0.5s
KRLC Kraliky 31.36 307 *e*P **P 04 04 54.7 +1.3**
KRLC Kraliky 31.36 307 *e*P **P 04 04 54.7 +1.3**
VRAC Vranov 31.37 305 *e*P **P 04 04 53.9 +0.4**
VRAC Vranov 31.37 305 LR LR 04 20 14.5
comp=Z,644nm,18.8s,baz=82,slow=42
RONA Rosalia, Austr 31.41 302 *i*P **P 04 04 55.2 +1.2**
comp=Z,5.9nm,0.9s
KRUC Moravsky 31.47 305 *e*P **P 04 04 54.4 0.0**
DPC Dobruska-Polom 31.69 307 *e*P **P 04 04 59.8 +3.4**
DPC AMS AMS 04 19 30.0
comp=Z,500nm,14.6s
DPC Dobruska-Polom 31.69 307 *e*P **P 04 04 59.8 +3.4**
DPC MLR MLR
comp=Z,500nm,14.6s
KSP Ksiaz 31.78 308 P **P 04 04 57.3 +0.2**
comp=Z,7.5nm,1.3s
OSTC Ostas 31.79 308 AMS AMS 04 19 40.0
comp=Z,600nm,14.8s
KEF Keuruu 31.81 332 *e*P **P 04 04 57.7 +0.5**
SHL Shillong 31.84 101 P **P 04 04 56.9 -1.2**
SHL Shillong 31.84 101 P **P 04 04 56.9 -1.2**
SHL pmax pmax
comp=Z,66nm,1.7s
CHVC Chvalec 31.89 308 *e*P **P 04 05 00.5 +2.4**
CHVC AMS AMS 04 19 40.0
comp=Z,600nm,16.6s
CHVC Chvalec 31.89 308 *e*P **P 04 05 00.5 +2.4**
CHVC MLR MLR
comp=Z,600nm,16.6s
ARSA Arzberg 31.90 301 *i*P **P 04 04 59.5 +1.2**
comp=Z,12nm,1.4s
UPC Upice 31.91 308 AMS AMS 04 19 40.0
comp=Z,600nm,17.0s
TREC Trest 32.09 305 AMS AMS 04 19 50.0
comp=Z,700nm,21.9s
SOKA Soboth 32.22 300 *e*P **P 04 05 01.8 +0.7**
comp=Z,13nm,1.5s
OBKA Obir 32.55 300 *e*pP pP 04 05 07.1 -0.4
comp=Z,10nm,1.5s
GOPC GO Pecny, Ondr 32.61 306 AMS AMS 04 21 00.0
comp=Z,600nm,15.3s
FURI Furi 32.75 215 LR LR 04 19 18.3
comp=Z,687nm,19.1s,baz=24,slow=38
AAL Aland 32.76 326 *e*P **P 04 05 07.2 +1.7**
PRU Pruhonice 32.78 306 AMS AMS 04 21 00.0
comp=Z,500nm,14.1s
CKRC Cesky Krumlov 32.82 304 AMS AMS 04 20 40.0
comp=Z,600nm,18.6s
PVCC Panska Ves 32.82 307 AMS AMS 04 20 30.0
comp=Z,500nm,15.4s
PRA Prague 32.86 307 AMS AMS 04 21 00.0
comp=Z,500nm,14.5s
APA Apatity 33.11 344⇓*i*P **P 04 05 05.0 -3.6**
APA pmax pmax
comp=Z,14nm,0.6s
APA MLR MLR
comp=Z,2μm,14.0s
LVZ Lovozero 33.12 345*ce*P **P 04 05 05.3 -3.3**
LVZ pmax pmax
comp=Z,62nm,0.8s
VAF Ylistaro 33.15 332 *e*P **P 04 05 09.3 +0.4**
MYKA Terra Mystica 33.17 300 *i*P **P 04 05 09.5 0.0**
comp=Z,6.5nm,1.6s
BIOA Bad Ischl, Aus 33.20 302 *i*pP pP 04 05 12.4 -0.8
comp=Z,16nm,1.7s
GEC2 GERESS Array S 33.22 304 P **P 04 05 10.3 +0.4**
GEC2 IAmb IAmb 04 05 16.4
comp=Z,15nm,1.3s
GERES GERESS Array B 33.22 304 P **P 04 05 10.2 +0.4**
GERES GERESS Array B 33.22 304 P **P 04 05 10.8 +0.9**
comp=Z,2.0nm,0.7s,baz=96,slow=11,SNR=6.2
comp=Z,2.0nm,0.7s
PRED Cave del Predi 33.23 300 P **P 04 05 10.3 +0.3**
PRED IAmb IAmb 04 05 15.8
comp=Z,24nm,1.4s
BRG Berggiesshubel 33.26 308 *i*P **P 04 05 11.6 +1.5**
BRG Amp 04 05 18.2
comp=Z,34nm,1.3s
BRG Berggiesshubel 33.26 308 Amp 04 06 26.3
comp=Z,9.7nm,1.1s
BRG Berggiesshubel 33.26 308 *i*P **P 04 05 11.5 +1.5**
BRG 04 05 29.3
BRG 04 06 24.8
BRG S **S 04 10 36.0 +5.9**
BRG pmax pmax
comp=Z,34nm,1.3s
BRG pmax pmax
comp=Z,15nm,1.2s
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG smax smax
comp=N,271nm,16.6s
BRG MLR MLR
comp=Z,563nm,15.9s
BRG MLR MLR
comp=E,408nm,16.7s
BRG Berggiesshubel 33.26 308 P **PP 04 06 24.9 -0.3**
KHC Kasperske Hory 33.32 305 P **P 04 05 10.0 -0.7**
KHC Kasperske Hory 33.32 305 *e*P **P 04 05 11.1 +0.4**
KHC *ex* x 04 06 18.0
KHC AMS AMS 04 20 40.0
comp=E,600nm,18.7s
KHC Kasperske Hory 33.32 305*de*P **P 04 05 11.2 +0.5**
KHC pmax pmax
comp=Z,26nm,1.1s
KHC Kasperske Hory 33.32 305 P **P 04 05 10.8 +0.1**
comp=Z,9.6nm,1.4s,comp=Z,195nm
KBA Koelnbreinsper 33.38 301 *e*P **P 04 05 12.8 +1.4**
comp=Z,8.2nm,1.0s
GTA Gaotai 33.45 73 *e*P **P 04 05 15.8 +3.8**
GTA S **S 04 10 41.5 +8.0**
GTA pmax pmax
comp=Z,4.0nm,1.6s
GTA LR LR
comp=Z,870nm,18.2s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,1μm,18.2s
HSKC Hora Svate Kat 33.55 307 *e*P **P 04 05 14.2 +1.5**
HSKC AMS AMS 04 20 50.0
comp=Z,500nm,14.2s
VIKU Vikbolandet 33.60 322 *e*P **P 04 05 12.8 -0.1**
LESA Schwarzleotal 33.84 302 *i*P **P 04 05 15.7 +0.4**
comp=Z,29nm,1.0s
CLL Collm 33.91 309 P **P 04 05 15.2 -0.4**
CLL IAmb IAmb 04 05 23.0
comp=Z,22nm,1.5s
CLL Collm 33.91 309 *i*P **P 04 05 16.8 +1.1**
comp=Z,8.0nm,1.2s
CLL *i*pP **pP 04 05 19.4 +0.3**
CLL *i*sP **sP 04 05 20.7 +0.1**
comp=Z,20nm,1.5s
CLL *i*x x 04 05 30.3
CLL *e*PP **PP 04 06 33.0 +0.7**
CLL *i*PPP PPP 04 06 40.9
CLL *i*PPPP 04 06 48.2
CLL *e*S **S 04 10 41.0 +1.0**
CLL *e*(SS) 04 12 42.0
CLL AMS AMS 04 21 00.0
comp=N,400nm,18.4s
CLL AMS AMS 04 21 00.0
comp=E,500nm,18.2s
CLL Collm 33.91 309 P **P 04 05 15.2 -0.4**
CLL pmax pmax
comp=Z,22nm,1.5s
ABTA Abfaltersbach 33.95 300 *i*P **P 04 05 17.0 +0.8**
comp=Z,5.6nm,1.0s
MOY Mondy 34.00 51 *e*P **P 04 05 18.9 +2.3**
MOY pmax pmax
comp=Z,20nm,1.5s
WTTA Wattenberg 34.55 301 *e*P **P 04 05 21.6 +0.1**
comp=Z,20nm,1.6s
CTI Castel Tesino 34.56 299 P **P 04 05 21.3 -0.2**
CTI IAmb IAmb 04 05 44.0
comp=Z,17nm,1.2s
CTI Castel Tesino 34.56 299 P **P 04 05 21.3 -0.2**
CTI pmax pmax
comp=Z,17nm,1.2s
TEOL Teolo 34.57 298 P **P 04 05 21.8 +0.2**
WATA Walderalm 34.59 301 *i*P **P 04 05 21.6 -0.2**
comp=Z,11nm,0.9s

SQTA Sankt Quirin 34.84 301 *i*P **P 04 05 24.5 +0.5**
comp=Z,29nm,1.4s
RETA Reutte 35.15 302 *e*pP **P 04 05 28.6 +2.0**
comp=Z,10nm,1.2s
FETA Feichten 35.17 301 *e*P **P 04 05 26.2 -0.7**
comp=Z,11nm,1.4s
ZAK Zakamensk 35.31 53 *e*P **P 04 05 28.7 +0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
FUORN Ofenpass-Fuorn 35.50 300 P **P 04 05 29.8 -0.1**
HFS Hagfors 35.62 324 P **P 04 05 30.7 +0.4**
comp=Z,7.5nm,0.7s,baz=123,slow=5.5,SNR=23
HFS LR LR 04 21 41.0
comp=Z,719nm,20.4s,baz=110,slow=39
comp=Z,7.5nm,0.7s
DAVA Damuels 35.75 301 *i*P **P 04 05 31.6 -0.2**
comp=Z,16nm,1.6s
DAVOX Davos/Dischmat 35.76 301 LR LR 04 23 13.5
comp=Z,456nm,18.1s,baz=80,slow=42
VADS Vadso 36.04 344 *e*P **P 04 05 34.1 +0.3**
NRIK Noril'sk 36.14 18 P **P 04 05 34.0 -0.7**
NRIK Noril'sk 36.14 18 P **P 04 05 35.9 +1.2**
comp=Z,2.7nm,0.5s,baz=212,slow=8.2,SNR=10
NRIK LR LR 04 23 06.3
comp=Z,821nm,20.6s,baz=220,slow=41
comp=Z,2.7nm,0.5s
NRIK Noril'sk 36.14 18*de*P **P 04 05 36.3 +1.6**
NRIK pmax pmax
comp=Z,8.0nm,1.3s
KEV Kevo 36.29 343 P **P 04 05 35.2 -0.8**
KEV Kevo 36.29 343 P **P 04 05 35.2 -0.8**
KEV pmax pmax
comp=Z,17nm,1.0s
ARCES ARCESS Array B 36.49 342 P **P 04 05 37.2 -0.5**
ARCES IAmb IAmb 04 05 39.9
comp=Z,18nm,1.2s
ARCES ARCESS Array B 36.49 342 P **P 04 05 37.2 -0.5**
comp=Z,1.2nm,0.4s,baz=142,slow=9.2,SNR=4.4
ARCES LR LR 04 23 03.9
comp=Z,879nm,18.6s,baz=128,slow=40
comp=Z,1.2nm,0.4s
ARCES ARCESS Array B 36.49 342 P **P 04 05 37.3 -0.5**
ARCES pmax pmax
comp=Z,17nm,1.2s
KTK1 Kautokeino 36.71 340 *e*P **P 04 05 39.8 +0.3**
NC602 NORSAR Array S 36.83 324 P **P 04 05 41.0 +0.3**
NC602 NORSAR Array S 36.83 324 *e*P **P 04 05 40.5 -0.2**
PALK Pallekele 36.86 138 LR LR 04 23 09.0
comp=Z,491nm,18.9s,baz=50,slow=40
NC405 NORSAR Array S 36.87 325 P **P 04 05 41.2 +0.1**
NC405 IAmb IAmb 04 07 00.5
comp=Z,25nm,1.3s
NB201 NORSAR Array S 37.04 325 P **P 04 05 42.4 -0.1**
NC303 NORSAR Array S 37.06 325 P **P 04 05 42.9 +0.2**
NC303 IAmb IAmb 04 07 03.4
comp=Z,35nm,1.2s
NB2 NORSAR Subarra 37.08 325 P **P 04 05 42.1 -0.8**
comp=Z,21nm,1.7s,baz=110,slow=8.6
NOA NORSAR Array B 37.08 325 P **P 04 05 42.1 -0.8**
comp=Z,2.7nm,0.7s,baz=116,slow=8.0,SNR=30
NOA PP PP 04 06 55.6 -12
comp=Z,0.7nm,0.7s,baz=118,slow=9.4,SNR=5.2
NOA LR LR 04 22 45.3
comp=Z,596nm,19.1s,baz=115,slow=39
comp=Z,2.7nm,0.7s
NBO00 NORSAR Array S 37.27 325 P **P 04 05 44.4 -0.2**
NBO00 IAmb IAmb 04 07 04.5
comp=Z,28nm,1.6s
TNCH TengChong 37.33 97 P **P 04 05 47.3 +1.7**
TNCH pP sP 04 05 50.8 0.0
TNCH sP pP 04 05 52.9 +3.6
TNCH S **S 04 11 31.3 -2.1**
TNCH sS sS 04 11 39.6 +0.1
TNCH pmax pmax
comp=Z,31nm,0.5s
TNCH pmax pmax
comp=Z,160nm,3.4s
TNCH LR LR
comp=Z,730nm,12.4s
TNCH LR LR
comp=Z,770nm,15.6s
TNCH LR LR
comp=Z,640nm,18.8s
SONM Songino Array 37.33 58 P **P 04 05 46.7 +1.4**
comp=Z,2.2nm,0.8s,baz=283,slow=9.7,SNR=11
SONM LR LR 04 23 09.8
comp=Z,328nm,18.1s,baz=264,slow=40
comp=Z,2.2nm,0.8s
NC204 NORSAR Array S 37.36 325 P **P 04 05 45.9 +0.6**
KONO Kongsberg 37.44 322 *e*P **P 04 05 46.1 +0.2**
KONO Kongsberg 37.44 322⇓*e*P **P 04 05 46.1 +0.2**
KONO pmax pmax
comp=Z,12nm,1.6s
ECH Echery 37.56 303 IAmb IAmb 04 05 53.5
comp=Z,27nm,1.2s
SENIN Lac Senin/Sane 37.56 300 P **P 04 05 47.7 +0.3**
HAMF Hammerfest 37.72 343 *e*P **P 04 05 49.0 +0.9**
ULN Ulaanbaatar 37.77 57 *i*P **P 04 05 50.5 +1.5**
ULN pmax pmax
comp=Z,11nm,0.8s
KEST Kesra 37.98 282 P **P 04 05 50.2 -0.7**
comp=Z,2.7nm,0.9s,baz=80,slow=11,SNR=2.2
comp=Z,2.7nm,0.9s
NSS Namsos 38.02 330 *e*P **P 04 05 50.7 0.0**
FAUS Fauske 38.12 335 *e*P **P 04 05 51.6 +0.1**
TRO Tromso 38.28 340 *e*P **P 04 05 53.0 +0.1**
DOMB Dombas 38.37 326 *e*P **P 04 05 54.0 +0.3**
STOK Stokkvaagen 38.40 333 *e*P **P 04 05 53.8 0.0**
STEI Steigen 38.42 336 *e*P **P 04 05 54.5 +0.5**
CD2 Chengdu 38.96 85 P **P 04 05 58.8 -0.3**
CD2 S **S 04 11 55.1 -2.7**
CD2 pmax pmax
comp=Z,180nm,6.6s
CD2 LR LR
comp=Z,1μm,14.1s
CD2 LR LR
comp=Z,750nm,11.3s
CD2 LR LR
comp=Z,680nm,11.9s
PZH PanZhiHua 39.19 93 P **P 04 06 02.6 +1.4**
PZH S **S 04 12 01.4 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,80nm,3.5s
PZH LR LR
comp=Z,660nm,19.4s
PZH LR LR
comp=Z,580nm,19.6s
PZH LR LR
comp=Z,500nm,14.7s
HYA Hoyanger 39.46 324 *e*P **P 04 06 02.9 +0.1**
SSB Saint Sauveur 39.59 299 P **P 04 06 04.3 +0.2**
SSB IAmb IAmb 04 06 10.1
comp=Z,22nm,1.0s
SSB Saint Sauveur 39.59 299 P **P 04 06 04.4 +0.2**
SSB pmax pmax
comp=Z,22nm,1.0s
SUE Sulen 40.11 323 *e*P **P 04 06 08.8 +0.6**
KMI Kunming 40.63 94⇑P **P 04 06 15.9 +2.6**
KMI S **S 04 12 26.6 +3.3**
KMI pmax pmax
comp=Z,23nm,1.2s
KMI LR LR
comp=Z,400nm,16.4s
KMI LR LR
comp=Z,610nm,19.1s
KMI LR LR
comp=Z,650nm,23.0s
SET Setif 40.91 285 P **P 04 06 19.0 +3.7**
CHTO Chiang Mai 40.98 105 P **P 04 06 15.5 -0.5**
CHTO IAmb IAmb 04 06 19.7
comp=Z,56nm,1.9s
CHTO Chiang Mai 40.98 105 P **P 04 06 15.5 -0.5**
CHTO pmax pmax
comp=Z,56nm,1.9s
CMAR Chiang Mai Arr 41.19 105 P **P 04 06 17.0 -0.6**
CMAR Chiang Mai Arr 41.19 105 P **P 04 06 17.6 -0.1**
comp=Z,5.0nm,0.7s,baz=298,slow=8.4,SNR=9.9
CMAR LR LR 04 26 24.7
comp=Z,306nm,18.4s,baz=295,slow=41
comp=Z,5.0nm,0.7s
HOPEN Hopen 41.82 349 *e*P **P 04 06 22.8 +0.6**
XAN Xi'an 41.91 78⇑P **P 04 06 25.3 +1.8**
XAN pmax pmax
comp=Z,10.0nm,2.1s

XAN LR LR
comp=Z,2μm,19.8s
XAN LR LR
comp=Z,870nm,17.9s
XAN LR LR
comp=Z,720nm,21.3s
HHC Hu-ho-hao-te 41.97 68 *e*P **P 04 06 21.8 -2.2**
HHC sP sP 04 06 29.0 -0.3
HHC S **S 04 12 38.5 -4.2**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,72nm,4.4s
HHC LR LR
comp=Z,670nm,16.8s
HHC LR LR
comp=Z,490nm,16.8s
HHC LR LR
comp=Z,900nm,16.2s
EKA Eskdalemuir Ar 43.77 314 P **P 04 06 37.4 -0.8**
comp=Z,1.5nm,0.6s,baz=113,slow=7.9,SNR=17
comp=Z,1.5nm,0.6s
SPA0 Spitsbergen Ar 44.35 349 *e*P **P 04 06 44.7 +2.0**
SPITS Spitsbergen Ar 44.35 349 P **P 04 06 43.8 +1.2**
comp=Z,20nm,1.0s,baz=115,slow=9.3,SNR=7.8
SPITS LR LR 04 26 56.8
comp=Z,339nm,21.1s,baz=103,slow=38
comp=Z,20nm,1.0s
SPITS Spitsbergen Ar 44.35 349 P **P 04 06 43.2 +0.6**
SPITS pmax pmax
comp=Z,69nm,1.4s
LYN LuoYang 44.49 76 P **P 04 06 42.3 -2.0**
LYN pmax pmax
comp=Z,21nm,0.4s
LYN LR LR
comp=Z,1μm,14.8s
LYN LR LR
comp=Z,980nm,18.9s
LYN LR LR
comp=Z,1μm,15.5s
XLT XiLinHaoTe 44.55 62 *e*P **P 04 06 49.0 +4.2**
XLT S **S 04 13 27.6 +7.3**
XLT pmax pmax
comp=Z,6.0nm,0.9s
XLT pmax pmax
comp=Z,61nm,3.8s
XLT LR LR
comp=Z,1μm,12.5s
XLT LR LR
comp=Z,1μm,13.5s
HNS HongShan 45.27 71⇓P P 04 06 55.3 +4.8
HNS PP **PP 04 08 42.6 +6.4**
HNS *e*S **S 04 13 34.8 +4.1**
HNS pmax pmax
comp=Z,8.0nm,0.8s
HNS LR LR
comp=Z,1μm,19.1s
HNS LR LR
comp=Z,570nm,15.1s
HNS LR LR
comp=Z,700nm,15.1s
KBS Kingsbay 45.51 349 *e*P **P 04 06 51.1 -0.7**
TAM Tamanrasset 46.27 267 P **P 04 06 59.1 +0.3**
TAM IAmb IAmb 04 07 04.0
comp=Z,26nm,1.9s
TAM Tamanrasset 46.27 267 P **P 04 06 59.1 +0.3**
TAM pmax pmax
comp=Z,26nm,1.9s
ESDC Sonseca Array 46.94 293 P **P 04 07 03.8 +0.1**
comp=Z,2.6nm,0.8s,baz=65,slow=7.7,SNR=12
ESDC LR LR 04 30 22.0
comp=Z,92nm,19.9s,baz=56,slow=41
comp=Z,2.6nm,0.8s
JMIC Jan Mayen 47.28 336 LR LR 04 28 19.6
comp=Z,468nm,18.9s,baz=100,slow=38
POLO Lamas de Olo 49.22 296 *e*P **P 04 07 22.6 +1.3**
MTE Manteigas 49.34 295 *e*P **P 04 07 26.8 +4.6**
comp=Z,26nm,1.4s
MTE Manteigas 49.34 295 *e*LR LR 04 24 02.5
comp=Z,119nm,20.0s
MTE *e*LQ LQ 04 24 07.6
QIZ Qiongzhong 49.40 96 P **P 04 07 24.5 +1.7**
QIZ S **S 04 14 32.1 +2.2**
QIZ LR LR
comp=Z,620nm,20.6s
QIZ LR LR
comp=Z,630nm,16.7s
QIZ LR LR
comp=Z,520nm,19.3s
TIXI Tiksi 49.41 23 LR LR 04 29 49.3
comp=Z,480nm,20.9s,baz=292,slow=38
TIXI Tiksi 49.41 23⇓*e*P **P 04 07 24.5 +2.3**
TIXI pmax pmax
comp=Z,33nm,1.2s
PMRV Marv??o 49.54 293 *e*P **P 04 07 27.4 +3.7**
comp=Z,20nm,1.8s
PMRV Marv??o 49.54 293 *e*LR LR 04 26 11.2
comp=Z,117nm,20.0s
ZEA Zeya 49.84 47 *e*P P 04 07 31.9 +6.2
ZEA MLR MLR
comp=N,300nm,10.0s
ZEA MLR MLR
comp=E,400nm,13.0s
ZEA MLR MLR
comp=Z,500nm,13.0s
PESTR Estremoz 49.87 293 P **P 04 07 26.4 +0.2**
PESTR IAmb IAmb 04 07 32.4
comp=Z,12nm,1.0s
PESTR Estremoz 49.87 293 *e*P **P 04 07 28.8 +2.6**
comp=Z,20nm,1.4s
YAK Yakutsk 49.94 36 LR LR 04 32 22.4
comp=Z,170nm,19.1s,baz=272,slow=41
YAK Yakutsk 49.94 36⇓*e*P **P 04 07 28.2 +1.8**
YAK pmax pmax
comp=Z,21nm,0.6s
NJ2 Nanjing 50.39 76 *e*P **P 04 07 30.4 +0.2**
NJ2 pmax pmax
comp=Z,11nm,1.2s
PVAQ Vaqueiros 50.47 291 *e*P **P 04 07 33.9 +3.1**
PVAQ Vaqueiros 50.47 291 *e*LR LR 04 24 35.4
comp=Z,125nm,20.0s
HEH HeiHe 50.67 51 *e*P **P 04 07 31.6 -0.5**
HEH pP **pP 04 07 35.3 -0.5**
HEH S **S 04 14 47.0 +0.1**
HEH SS **SS 04 18 21.6 +0.8**
HEH pmax pmax
comp=Z,23nm,0.8s
HEH pmax pmax
comp=Z,91nm,4.3s
HEH LR LR
comp=Z,2μm,11.0s
HEH LR LR
comp=Z,490nm,10.6s
HEH LR LR
comp=Z,1μm,12.2s
MESJ Messejana 50.69 292 *e*P **P 04 07 34.3 +1.9**
comp=Z,26nm,1.8s
DAG Danmarks Havn 50.76 343 *i*P **P 04 07 32.0 -0.4**
DAG IAmb IAmb 04 07 39.9
comp=Z,29nm,1.4s
DBG Daneborg 51.05 340 *e*P **P 04 07 35.9 +1.2**
DBG IAmb IAmb 04 07 38.7
comp=Z,22nm,1.7s
CN2 Changchun 51.11 60 *e*P **P 04 07 33.6 -1.9**
CN2 *e*S **S 04 14 51.3 -2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,1μm,14.0s
CN2 LR LR
comp=Z,900nm,15.0s
PSI Prapat 51.56 121 P **P 04 07 37.9 -1.5**
PSI pmax pmax
comp=Z,83nm,1.7s
RPSI Rantau Prapat 51.64 122 P **P 04 07 37.9 -1.9**
BORG Borgarnes 52.10 328 LR LR 04 33 02.3
comp=Z,280nm,18.8s,baz=90,slow=40
KLR Kul'dur 53.65 52 LR LR 04 33 51.2
comp=Z,380nm,18.9s,baz=314,slow=39
KLR Kul'dur 53.65 52⇑*e*P **P 04 07 55.3 +1.0**
KLR pmax pmax
comp=Z,4.0nm,0.9s
TORD Torodi Ar. Bea 54.62 259 P **P 04 08 00.3 -1.5**

comp=Z,11nm,1.1s,baz=65,slow=8.7,SNR=25
TORD LR LR 04 34 36.6
comp=Z,161nm,18.7s,baz=53,slow=40
comp=Z,11nm,1.1s
KSAR Wonju Array Be 55.07 67 P **P 04 08 03.8 -1.0**
KSAR Wonju Array Be 55.07 67 P **P 04 08 03.8 -1.0**
KSRS Korea Array 55.09 67 P **P 04 08 04.8 -0.1**
comp=Z,3.6nm,0.7s,baz=282,slow=6.2,SNR=21
KSRS LR LR 04 35 33.3
comp=Z,574nm,19.1s,baz=290,slow=40
comp=Z,3.6nm,0.7s
USRK Ussuriysk Ar. 55.44 58 LR LR 04 34 21.0
comp=Z,437nm,20.9s,baz=288,slow=39
SUMG Summit 56.46 339 P **P 04 08 14.0 -0.7**
SUMG Summit 56.46 339 P **P 04 08 14.0 -0.7**
SUMG pmax pmax
comp=Z,31nm,1.4s
SUMG Summit 56.46 339 *e*P **P 04 08 16.3 +1.5**
SUMG IAmb IAmb 04 08 22.9
comp=Z,31nm,1.4s
NEEM North Greenlan 57.68 346 *e*P **P 04 08 23.4 +0.2**
NEEM IAmb IAmb 04 08 24.5
comp=Z,50nm,1.6s
ICESG Greenland Ices 57.99 335 *e*P **P 04 08 24.8 -0.7**
ICESG IAmb IAmb 04 08 31.5
comp=Z,134nm,2.4s
JNU Nakatsue 59.11 70 LR LR 04 37 10.4
comp=Z,422nm,18.3s,baz=296,slow=39
SEY Seymchan 59.88 32‖ *e*P **P 04 08 39.6 +1.3**
SEY pmax pmax
comp=Z,11nm,1.3s
JOW Kunigami 60.06 78 LR LR 04 38 17.4
comp=Z,314nm,19.5s,baz=132,slow=40
MA2 Magadan 60.51 36 LR LR 04 38 14.0
comp=Z,403nm,20.1s,baz=290,slow=39
ASAJ Asahikawa 62.48 54 LR LR 04 38 33.3
comp=Z,667nm,19.4s,baz=296,slow=38
SFJD Kangerlussuaq 62.62 335 LR LR 04 36 55.8
comp=Z,372nm,19.6s,baz=56,slow=37
BILL Bilibino 62.63 24*de*P **P 04 08 58.6 +1.7**
BILL 04 09 40.0
BILL 04 11 12.0
BILL *e*SSS SSS 04 24 10.5
BILL pmax pmax
comp=Z,15nm,1.3s
BILL MLR MLR
comp=Z,310nm,15.0s
MJAR Matsushiro Arr 62.92 63 P **P 04 09 02.0 +2.7**
comp=Z,1.4nm,0.7s,baz=300,slow=7.8,SNR=4.4
MJAR LR LR 04 38 08.9
comp=Z,271nm,18.4s,baz=308,slow=38
comp=Z,1.4nm,0.7s
DBIC Dimbokro 63.65 258 P **P 04 09 03.2 -1.2**
comp=Z,9.4nm,0.9s,baz=65,slow=6.4,SNR=5.7
DBIC LR LR 04 40 06.9
comp=Z,556nm,18.7s,baz=36,slow=39
comp=Z,9.4nm,0.9s
JHJ Hachijo jima 2 65.69 66 LR LR 04 41 07.6
comp=Z,324nm,18.7s,baz=4.5,slow=39
RES Resolute Bay 66.76 352 LR LR 04 42 46.9
comp=Z,263nm,19.0s,baz=20,slow=40
TSUM Tsumeb 67.33 221 LR LR 04 41 05.9
comp=Z,305nm,19.4s,baz=42,slow=38
LBTB Lobatse 68.64 210 P **P 04 09 35.0 -1.2**
LBTB IAmb IAmb 04 09 35.6
comp=Z,9.4nm,0.9s
LBTB Lobatse 68.64 210 P **P 04 09 35.1 -1.2**
LBTB pmax pmax
comp=Z,9.0nm,1.0s
A21K Barrow 69.09 11 P **P 04 09 37.1 -1.2**
baz=332
A22K Sinclair Lake 69.62 11 P **P 04 09 41.0 -0.6**
baz=333
B18K Kokolik River 69.91 14 P **P 04 09 42.4 -1.1**
baz=328
C16K Lisburne Hills 70.11 15 P **P 04 09 44.0 -0.7**
baz=325
B20K Meade River 70.17 12 P **P 04 09 44.2 -0.8**
baz=332
C17K DeLong Mountai 70.39 15 P **P 04 09 46.2 -0.3**
baz=327
B22K Teshekpuk Lake 70.45 10 P **P 04 09 46.0 -0.7**
baz=335
FRB Frobisher Bay 70.47 337 LR LR 04 42 15.2
comp=Z,292nm,19.1s,baz=27,slow=37
C19K Lookout Ridge 70.54 13 P **P 04 09 47.2 -0.3**
baz=330
JCJ Chichijima 70.58 70 LR LR 04 43 48.5
comp=Z,148nm,18.7s,baz=300,slow=38
C18K Utukok River 70.64 14 P **P 04 09 47.8 -0.3**
C18K Utukok River 70.64 14 P **P 04 09 47.4 -0.6**
baz=329
RDOG Red Dog Mine 70.80 15 P **P 04 09 49.1 +0.1**
baz=327
B21K Ikpikpuk River 70.92 11 P **P 04 09 51.8 +2.2**
B21K Ikpikpuk River 70.92 11 P **P 04 09 49.9 +0.3**
baz=334
A36M Sachs Harbour 71.02 1 P **P 04 09 50.5 +0.3**
A36M Sachs Harbour 71.02 1 P **P 04 09 50.0 -0.2**
baz=358
D17K Noatak River 71.07 15 P **P 04 09 50.2 -0.4**
baz=327
C23K Itkillik River 71.30 10 P **P 04 09 53.5 +1.5**
C23K IAmb IAmb 04 10 02.0
comp=Z,12nm,1.1s
C23K Itkillik River 71.30 10 P **P 04 09 51.6 -0.4**
baz=337
C21K Knifeblade Rid 71.31 11 P **P 04 09 51.2 -0.9**
baz=334
D19K Kuna River 71.34 13 P **P 04 09 53.6 +1.3**
D19K Kuna River 71.34 13 P **P 04 09 51.3 -0.9**
baz=331,SNR=5.8
D20K Etivluk River 71.41 12 P **P 04 09 51.3 -1.4**
baz=332
TNA Tin City 71.74 18 P **P 04 09 53.2 -1.4**
baz=324
E18K Tukpahlearik C 71.81 14 P **P 04 09 54.0 -1.1**
baz=329
E17K Hotham Inlet 71.85 15 P **P 04 09 54.1 -1.2**
baz=328
E20K Nigu River 71.88 12 P **P 04 09 54.2 -1.4**
baz=333
D22K Ayikyak River 71.89 11 P **P 04 09 56.3 +0.7**
D22K IAmb IAmb 04 10 17.9
comp=Z,10nm,1.1s
D22K Ayikyak River 71.89 11 P **P 04 09 54.6 -0.9**
baz=336
BOSA Boshof 71.98 209 P **P 04 09 55.0 -1.7**
comp=Z,5.7nm,1.0s,baz=320,slow=3.4,SNR=4.1
BOSA LR LR 04 43 27.8
comp=Z,276nm,20.2s,baz=39,slow=38
comp=Z,5.7nm,1.0s
E21K Killik River 72.08 12 P **P 04 09 57.2 +0.4**
E21K Killik River 72.08 12 P **P 04 09 55.7 -1.0**
baz=334
D23K Nanushuk River 72.10 10 P **P 04 09 55.8 -1.0**
baz=337
D24K Happy Valley 72.17 9 P **P 04 09 55.6 -1.7**
baz=339
F14K Arctic Creek 72.19 17 P **P 04 09 56.4 -1.1**
baz=325
D25K Kavik River 72.32 8 P **P 04 09 58.0 -0.2**
D25K Kavik River 72.32 8 P **P 04 09 56.1 -2.1**
baz=341
C27K Jago River 72.32 7 P **P 04 09 55.2 -2.9**
baz=343
F15K North Star Dit 72.40 17 P **P 04 09 57.2 -1.4**
baz=326
E19K Redstone River 72.41 13 P **P 04 09 58.7 0.0**
E19K Redstone River 72.41 13 P **P 04 09 56.4 -2.3**
baz=332
F17K Baldwin Pennin 72.52 15 P **P 04 09 58.3 -1.0**
baz=329
TOLK Toolik Lake Re 72.55 10 P **P 04 10 00.5 +0.9**
TOLK IAmb IAmb 04 10 09.2
comp=Z,11nm,0.8s
TOLK Toolik Lake Re 72.55 10 P **P 04 09 57.5 -2.1**
baz=338
E22K Anaktuvuk Pass 72.70 11 P **P 04 10 01.2 +0.8**
E22K IAmb IAmb 04 10 08.7
comp=Z,6.7nm,0.8s
E22K Anaktuvuk Pass 72.70 11 P **P 04 09 58.4 -2.1**
baz=336
F18K Selawik 72.71 14 P **P 04 09 58.1 -2.3**
baz=330
F19K Shaleruckik Mo 72.86 14 P **P 04 09 59.7 -1.6**
baz=332

D27M Malcolm River 72.96 7 P **P 04 09 59.3 -2.7**
baz=345
D28M Stokes Point 73.07 6 P **P 04 10 00.6 -1.9**
baz=347
E23K Chandalar 73.09 10 P **P 04 10 00.1 -2.7**
baz=338,SNR=7.0
G15K Niukluk 73.14 17 P **P 04 10 01.8 -1.2**
baz=327
G16K Koyuk River 73.18 16 P **P 04 10 01.6 -1.7**
baz=328
F22K John River 73.22 11 P **P 04 10 02.4 -1.1**
baz=336
E24K Your Creek 73.23 10 P **P 04 10 02.2 -1.5**
baz=339
F21K Alatna River 73.27 12 P **P 04 10 01.8 -2.0**
baz=335
G17K Kiwalik Mounta 73.45 15 P **P 04 10 02.6 -2.3**
baz=330
G18K Tagagawik 73.52 14 P **P 04 10 03.6 -1.7**
baz=331
E25K Arctic Village 73.56 9 P **P 04 10 03.5 -2.0**
baz=341
G19K Purcell Mounta 73.61 14 IAmb IAmb 04 10 15.2
comp=Z,8.4nm,1.0s
G19K Purcell Mounta 73.61 14 P **P 04 10 04.1 -1.7**
baz=332
C36M Paulatuk 73.68 0 IAmb IAmb 04 10 13.5
comp=Z,9.2nm,0.8s
C36M Paulatuk 73.68 0 P **P 04 10 04.5 -1.6**
baz=359
E28M Babbage River 73.71 6 P **P 04 10 04.1 -2.3**
baz=346
COLD Coldfoot 73.78 11 P **P 04 10 05.4 -1.4**
baz=338,SNR=7.5
F24K Squaw Lake 73.83 10 P **P 04 10 06.0 -1.1**
baz=340
H16K Elim 73.85 16 P **P 04 10 05.9 -1.3**
baz=328
G22K Bettles 73.86 11 P **P 04 10 05.9 -1.4**
baz=337
G21K Allakaket 73.91 12 P **P 04 10 05.9 -1.7**
baz=335
E27K Coleen River 73.93 7 IAmb IAmb 04 10 17.2
comp=Z,7.4nm,0.9s
E27K Coleen River 73.93 7 P **P 04 10 05.7 -2.0**
baz=345
F25K Christian Rive 74.05 9 P **P 04 10 07.3 -1.1**
baz=341,SNR=7.8
E29M Blow River 74.06 6 P **P 04 10 07.7 -0.7**
baz=348
H17K Granite Mounta 74.10 15 P **P 04 10 08.3 -0.4**
baz=330
F26K Sheenjek River 74.13 8 P **P 04 10 07.8 -1.1**
baz=343
H18K Hothosa River 74.23 15 P **P 04 10 08.7 -0.8**
baz=331
H19K Roundabout Mou 74.28 14 P **P 04 10 07.7 -1.9**
baz=333
G23K Bananza Creek 74.29 11 IAmb IAmb 04 10 14.1
comp=Z,26nm,2.0s
G23K Bananza Creek 74.29 11 P **P 04 10 08.4 -1.4**
baz=338
BMAR Burnt Mountain 74.33 8 P **P 04 10 11.6 +1.5**
IMAR Indian Mountai 74.36 13 P **P 04 10 10.3 +0.2**
INK Inuvik 74.43 4 P **P 04 10 09.9 -0.7**
baz=351
INK Inuvik 74.43 4 LR LR 04 48 47.3
comp=Z,99nm,18.1s,baz=3.0,slow=40
H20K Anotleneega Mo 74.60 13 P **P 04 10 10.2 -1.4**
baz=334
F28M Old Crow 74.65 7 P **P 04 10 09.6 -2.3**
baz=346
G24K Hadweenzic Riv 74.66 10 P **P 04 10 10.9 -1.1**
baz=340,SNR=5.3
H21K Melozitna Rive 74.81 12 P **P 04 10 13.4 +0.5**
baz=336,SNR=5.5
H22K Ishtalitna Cre 74.83 12 P **P 04 10 11.6 -1.4**
baz=337,SNR=5.8
I17K Unalakleet 74.84 16 P **P 04 10 11.4 -1.6**
baz=330
G26K Porcupine Rive 74.89 8 P **P 04 10 12.2 -1.0**
baz=343
F30M Barrier River 74.98 5 P **P 04 10 13.5 -0.3**
baz=350
SHEM Shemya Is, Ala 75.08 34 LR LR 04 46 05.3
comp=Z,221nm,19.6s,baz=345,slow=38
J14K Nanvaranak Lak 75.15 18 P **P 04 10 14.0 -0.8**
baz=328
H23K Yukon River 75.18 11 P **P 04 10 14.2 -0.8**
baz=338,SNR=7.9
G27K Doyon Strip 75.26 8 P **P 04 10 14.6 -0.8**
baz=345
F31M Tsiigehtchic 75.28 4 P **P 04 10 14.5 -1.0**
baz=351
H25L Birch Creek 75.29 9 P **P 04 10 15.0 -0.6**
baz=341
I20K Naaghedeneel 75.30 13 P **P 04 10 14.9 -0.7**
baz=335
J16K Anvik River 75.39 17 P **P 04 10 15.8 -0.4**
baz=330
I21K Tanana 75.39 12 P **P 04 10 15.4 -0.7**
baz=336
H24K Noodor Dome 75.42 10 P **P 04 10 15.0 -1.4**
baz=340
G29M Pine Creek 75.50 6 P **P 04 10 15.7 -1.1**
baz=348
K13K Kusilvak Mount 75.56 19 P **P 04 10 16.2 -0.9**
baz=327
G30M tAoh Zraii Nji 75.57 5 IAmb IAmb 04 10 25.9
comp=Z,10.0nm,0.9s
G30M tAoh Zraii Nji 75.57 5 P **P 04 10 15.5 -1.7**
baz=349
J17K VABM Dome 75.63 16 P **P 04 10 16.2 -1.3**
baz=331
MLY Manley 75.74 12 IAmb IAmb 04 10 32.0
comp=Z,20nm,1.8s
MLY Manley 75.74 12 P **P 04 10 16.8 -1.4**
baz=338
G31M Satah River 75.76 5 P **P 04 10 17.6 -0.7**
baz=351
J19K Poorman 75.81 14 IAmb IAmb 04 10 28.5
comp=Z,17nm,1.6s
J19K Poorman 75.81 14 P **P 04 10 17.6 -1.0**
baz=334
H27K Steamboat Moun 75.83 8 P **P 04 10 17.0 -1.7**
baz=345
I23K Minto, Yukon-K 75.84 11 IAmb IAmb 04 10 20.4
comp=Z,24nm,1.9s
I23K Minto, Yukon-K 75.84 11 P **P 04 10 17.7 -1.0**
baz=339
J20K Nowinta River 75.93 13 P **P 04 10 17.9 -1.3**
baz=335
K15K Wolf Creek Mou 76.03 17 P **P 04 10 19.1 -0.7**
baz=329
J18K Innoko River 76.07 15 IAmb IAmb 04 10 29.2
comp=Z,9.7nm,1.3s
J18K Innoko River 76.07 15 P **P 04 10 18.7 -1.4**
baz=333
EPYK Eagle Plains 76.14 6 P **P 04 10 18.5 -2.0**
baz=349
H29M Whitestone 76.15 6 IAmb IAmb 04 10 29.5
comp=Z,10nm,0.9s
H29M Whitestone 76.15 6 P **P 04 10 19.8 -0.7**
baz=347
POKR Poker Plat Res 76.16 10 P **P 04 10 19.8 -0.7**
baz=340
MDM Murphy Dome 76.19 11 IAmb IAmb 04 10 23.5
comp=Z,9.3nm,1.2s
SCHQ Schefferville 76.39 330 P **P 04 10 22.8 +0.7**
comp=Z,1.5nm,0.8s,baz=82,slow=4.4,SNR=2.3
SCHQ LR LR 04 45 08.3
comp=Z,164nm,18.0s,baz=50,slow=37
comp=Z,1.5nm,0.8s
K17K Iditarod 76.40 16 IAmb IAmb 04 10 31.9
comp=Z,13nm,1.1s
K17K Iditarod 76.40 16 P **P 04 10 19.7 -2.3**
baz=332
NEA2 Nenana 76.41 11 P **P 04 10 20.0 -2.0**
baz=339
I27K Kandik River 76.43 8 P **P 04 10 21.6 -0.6**
baz=345
CHUM Lake Minchumin 76.53 13 P **P 04 10 20.8 -1.8**
baz=336
I26K Coal Creek Min 76.54 9 IAmb IAmb 04 10 31.9
comp=Z,6.1nm,0.8s
I26K Coal Creek Min 76.54 9 P **P 04 10 21.4 -1.3**
baz=344
CCB Clear Creek Bu 76.55 11 IAmb IAmb 04 10 31.4

comp=Z,12nm,1.6s
BPAW Bear Paw Mtn. 76.56 12 P **P 04 10 21.3 -1.6**
baz=337
L14K Kuka Creek 76.56 18 P **P 04 10 20.9 -1.9**
baz=328
ILAR Eielson Array 76.57 10 P **P 04 10 23.4 +0.5**
comp=Z,1.9nm,1.0s,baz=331,slow=4.6,SNR=11
ILAR LR LR 04 47 30.1
comp=Z,133nm,19.3s,baz=350,slow=38
comp=Z,1.9nm,1.0s
L15K Ungalak Mounta 76.57 18 P **P 04 10 20.6 -2.3**
baz=329
K20K Telida 76.69 14 IAmb IAmb 04 10 42.4
comp=Z,11nm,1.4s
K20K Telida 76.69 14 P **P 04 10 22.1 -1.5**
baz=335
TTA Tatalina 76.69 15 P **P 04 10 22.0 -1.8**
baz=334
I28M Miner Creek 76.75 7 IAmb IAmb 04 10 32.8
comp=Z,10nm,0.8s
I28M Miner Creek 76.75 7 P **P 04 10 22.3 -1.8**
baz=346,SNR=18
HDA Harding Lake 76.90 10 P **P 04 10 22.7 -2.1**
baz=341
L17K Donlin 76.91 16 P **P 04 10 23.4 -1.5**
baz=332
J25K Salcha River, 76.93 10 P **P 04 10 23.3 -1.7**
baz=342,SNR=5.9
I29M Ogilvie Camp, 76.99 7 P **P 04 10 24.0 -1.4**
baz=348
L16K Owhat River 77.02 17 IAmb IAmb 04 10 35.7
comp=Z,12nm,1.1s
L16K Owhat River 77.02 17 P **P 04 10 24.1 -1.3**
baz=331
SUR Sutherland 77.08 211 LR LR 04 46 38.2
comp=Z,558nm,18.1s,baz=30,slow=38
L18K Granite Mounta 77.19 15 P **P 04 10 25.1 -1.3**
baz=333
MCK McKinley 77.24 11 P **P 04 10 25.0 -1.7**
baz=339
M14K Bethel 77.25 18 P **P 04 10 25.5 -1.3**
baz=329
J26L Joseph Creek 77.27 9 IAmb IAmb 04 10 32.5
comp=Z,8.4nm,1.1s
J26L Joseph Creek 77.27 9 P **P 04 10 25.5 -1.5**
baz=343,SNR=6.7
EGAK Eagle 77.28 8 IAmb IAmb 04 10 33.0
comp=Z,8.1nm,1.0s
EGAK Eagle 77.28 8 P **P 04 10 25.6 -1.3**
baz=345,SNR=7.0
I30M Mount Dempster 77.29 6 IAmb IAmb 04 10 42.4
comp=Z,6.7nm,0.8s
I30M Mount Dempster 77.29 6 P **P 04 10 25.3 -1.8**
baz=349,SNR=14
L20K Farewell, AK 77.52 14 P **P 04 10 27.3 -1.1**
baz=335
RND Reindeer 77.56 12 IAmb IAmb 04 10 33.9
comp=Z,7.4nm,1.0s
L19K White Mountain 77.60 15 P **P 04 10 27.1 -1.7**
baz=335
M15K Kasigluk River 77.62 18 P **P 04 10 27.5 -1.3**
baz=330
K24K Donnelly Dome 77.64 10 P **P 04 10 27.9 -1.1**
baz=342
SCRK Sand Creek 77.72 9 IAmb IAmb 04 10 36.2
comp=Z,10nm,1.1s
SCRK Sand Creek 77.72 9 P **P 04 10 28.6 -0.9**
baz=343,SNR=10
M16K Timber Creek 77.74 17 P **P 04 10 28.8 -0.7**
baz=332
M17K Holitna River 77.75 16 IAmb IAmb 04 10 39.5
comp=Z,11nm,0.9s
M17K Holitna River 77.75 16 P **P 04 10 28.0 -1.6**
baz=333
K27K Chicken 77.90 8 IAmb IAmb 04 10 37.0
comp=Z,10nm,1.1s
K27K Chicken 77.90 8 P **P 04 10 29.7 -0.7**
baz=345
J30M Hart River 77.94 6 IAmb IAmb 04 10 41.2
comp=Z,24nm,1.8s
J30M Hart River 77.94 6 P **P 04 10 28.9 -1.8**
baz=349
M19K Big River Lodg 77.95 15 P **P 04 10 29.6 -1.0**
baz=335
M18K Stony River 78.02 15 P **P 04 10 30.1 -1.0**
baz=334
N14K Kuskokwak Cree 78.03 19 P **P 04 10 30.5 -0.6**
baz=330
DHY Denali Highway 78.10 11 P **P 04 10 30.2 -1.5**
baz=340
WAT1 Susitna Watana 78.15 12 P **P 04 10 30.1 -1.7**
baz=340
DAWY Dawson 78.16 7 P **P 04 10 30.5 -1.4**
baz=347,SNR=8.8
M20K Styx River 78.21 14 P **P 04 10 30.5 -1.8**
baz=336
N15K Kwethluk River 78.22 18 P **P 04 10 30.9 -1.3**
baz=331
N16K Nishlik Lake 78.27 17 P **P 04 10 31.2 -1.4**
baz=332
SKT Skwentna 78.43 13 IAmb IAmb 04 10 45.1
comp=Z,12nm,1.1s
SKT Skwentna 78.43 13 P **P 04 10 32.0 -1.4**
baz=337
PAX Paxson 78.48 10 P **P 04 10 32.0 -1.8**
baz=342
WAT6 Susitna Watana 78.51 11 P **P 04 10 32.4 -1.5**
baz=340
K29M Barlow Dome 78.56 6 P **P 04 10 32.7 -1.5**
baz=348
N17K Nushagak Hills 78.59 16 P **P 04 10 32.9 -1.3**
baz=333
L26K Log Cabin Wild 78.72 9 P **P 04 10 33.7 -1.2**
baz=344
O14K Tigyukauivet M 78.72 19 P **P 04 10 34.1 -0.9**
baz=330
N18K Kilae Creek 78.74 16 P **P 04 10 33.9 -1.2**
baz=334
L27K Beaver Creek, 78.87 9 P **P 04 10 35.0 -0.8**
baz=345,SNR=7.6
BCAR Beaver Creek A 78.87 9 P **P 04 10 36.6 +0.8**
N19K Bonanza Creek 78.92 15 IAmb IAmb 04 10 41.1
comp=Z,9.8nm,0.8s
N19K Bonanza Creek 78.92 15 P **P 04 10 34.9 -1.3**
baz=335
HARP HAARP 79.07 10 P **P 04 10 36.5 -0.4**
baz=342
SML Sawmill 79.14 12 IAmb IAmb 04 10 43.2
comp=Z,14nm,0.9s
SML Sawmill 79.14 12 P **P 04 10 36.6 -0.8**
baz=340
O15K Ungalikthiuk R 79.16 18 P **P 04 10 36.4 -1.0**
baz=331
M24K Tolsona, Glenn 79.20 11 P **P 04 10 36.9 -0.8**
baz=341
O16K Kokwok River B 79.21 17 P **P 04 10 36.7 -1.0**
baz=332
PMR Palmer 79.21 12 IAmb IAmb 04 10 46.3
comp=Z,9.7nm,0.8s
PMR Palmer 79.21 12 P **P 04 10 37.6 0.0**
baz=339
L29M L29M 79.22 7 P **P 04 10 37.0 -0.8**
baz=348
M23K Glacier View 79.26 12 P **P 04 10 36.6 -1.4**
baz=340
SCM Sheep Creek Mo 79.28 11 IAmb IAmb 04 10 55.3
comp=Z,10nm,0.8s
SCM Sheep Creek Mo 79.28 11 P **P 04 10 36.4 -1.7**
baz=340
O17K Koliganek Bris 79.28 17 P **P 04 10 36.4 -1.6**
baz=333
M26K Nabesna, AK 79.36 9 P **P 04 10 39.0 +0.5**
baz=344
KNK Knik Glacier 79.49 12 P **P 04 10 38.1 -1.1**
baz=340
M27K Edge Creek, AK 79.54 9 P **P 04 10 38.4 -1.2**
baz=345
KLU Klutina 79.82 11 IAmb IAmb 04 10 47.8
comp=Z,15nm,1.2s
KLU Klutina 79.82 11 P **P 04 10 40.0 -1.1**
baz=342
M29M Somme Creek 79.84 7 P **P 04 10 39.7 -1.5**
baz=348
M30M Minto, Yukon 79.87 6 P **P 04 10 40.3 -1.0**
baz=349
N25K Chitina, Valde 79.91 10 P **P 04 10 40.4 -1.1**
baz=343
GUMO Guam 80.27 80 LR LR 04 49 22.2
comp=Z,65nm,20.6s,baz=304,slow=38

YUK3	**Moose Creek**	**80.28**	**8**	P		**P**	**04 10 43.0**	**-0.7**
	baz=346							
YKA	**Yellowknife Ar**	**80.33**	**356**	P		**P**	**04 10 45.0**	**+1.3**
	comp=Z,3.0nm,1.0s,baz=353,slow=5.6,SNR=3.6							
YKA				LR		LR	04 49 11.8	
	comp=Z,128nm,21.8s,baz=348,slow=38							
	comp=Z,3.0nm,1.0s							
M31M	**Drury Creek, Y**	**80.43**	**5**	P		**P**	**04 10 43.9**	**-0.4**
	baz=351							
FARO	**Faro, Yukon**	**80.48**	**5**	P		**P**	**04 10 45.1**	**+0.5**
	baz=352							
SEW	**Seward**	**80.55**	**13**	P		**P**	**04 10 43.3**	**-1.6**
	baz=339							
BRSE	**Bradley Lake S**	**80.65**	**14**	P		**P**	**04 10 44.8**	**-0.7**
	baz=338							
Q18K	**Katmai Hardscr**	**80.77**	**16**	P		**P**	**04 10 44.5**	**-1.8**
	baz=335							
Q19K	**Cape Douglas,**	**80.81**	**16**	P		**P**	**04 10 45.7**	**-0.7**
	baz=336							
YUK4	**Talbot Arm**	**80.90**	**8**	P		**P**	**04 10 45.3**	**-1.7**
	baz=348							
N30M	**Aishikik Lake**	**80.94**	**7**	P		**P**	**04 10 46.9**	**-0.2**
	baz=349							
CTG	**Chitna Glacier**	**80.96**	**9**	P		**P**	**04 10 46.7**	**-0.6**
	baz=345							
YUK6	**Outpost Mounta**	**81.32**	**7**	P		**P**	**04 10 47.7**	**-1.6**
	baz=348							
O30N	**Mendenhall**	**81.71**	**6**	P		**P**	**04 10 50.7**	**-0.4**
	baz=350							
KDAK	**Kodiak Island**	**82.09**	**15**	P		**P**	**04 10 52.5**	**-0.6**
	baz=337							
KDAK	**Kodiak Island**	**82.09**	**15**	LR		LR	04 53 03.2	
	comp=Z,274nm,18.3s,baz=0.9,slow=40							
P33M	**Teslin, Yukon**	**82.52**	**5**	P		**P**	**04 10 54.6**	**-0.8**
	baz=352							
Q32M	**Nakina River**	**83.80**	**5**	P		**P**	**04 11 01.9**	**-0.4**
	baz=353							
TOAD	**Toad River Com**	**84.20**	**1**	P		**P**	**04 11 04.0**	**-0.1**
	baz=358							
R32K	**Eaglecrest**	**84.31**	**6**	P		**P**	**04 11 03.9**	**-0.7**
	baz=351							
ULM	**Lac du Bonnet**	**89.60**	**343**	P		**P**	**04 11 31.6**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=12,slow=6.5,SNR=3.8							
ULM				LR		LR	04 53 17.0	
	comp=Z,151nm,21.1s,baz=0.5,slow=37							
	comp=Z,2.3nm,0.7s							
BBB	**Bella Bella**	**90.79**	**3**	LR		LR	04 56 21.0	
	comp=Z,81nm,19.1s,baz=87,slow=38							
WRA	**Warramunga Arr**	**92.33**	**113**	P		**P**	**04 11 42.5**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=316,slow=4.4,SNR=4.8							
	comp=Z,0.5nm,0.7s							
WRA	**Warramunga Arr**	**92.33**	**113**	*i* P		**P**	**04 11 45.2**	**+1.7**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
NEW	**Newport**	**94.67**	**356**	LR		LR	05 01 10.0	
	comp=Z,140nm,18.6s,baz=9.0,slow=40							
RCBR	**Riachuelo**	**95.76**	**267**	LR		LR	04 56 33.7	
	comp=Z,77nm,20.2s,baz=151,slow=36							
Y58A	**Scranton**	**98.47**	**325**	P		**P**	**04 12 11.1**	**-0.4**
PDAR	**Pinedale Array**	**99.39**	**350**	LR		LR	05 02 22.0	
	comp=Z,118nm,18.2s,baz=360,slow=38							
DZM	**Mont Dzumac**	**118.17**	**97**	*e*LR		LR	04 53 29.5	
	comp=Z,140nm,21.6s							
QSPA	**South Pole Qui**	**127.10**	**180**	PKP		**PKPdf**	**04 17 34.8**	**-1.4**
	comp=Z,4.4nm,1.1s,baz=246,slow=2.4,SNR=6.3							
PPT2	**Papeete2**	**149.52**	**57**	*e*LR		LR	05 07 39.2	
	comp=Z,167nm,25.8s							
PPT2				*e*LR		LR	05 07 41.9	
	comp=Z,210nm,25.2s							

*THE **17** 04:01:16.2, 34°.83N×24°.87E, h8km±2km, ML2.4/5, Error ellipse: s-maj=2.2km s-min=0.8km az=118.0*

ATH 17 04:01:15.5, 34°.79N×24°.82E, h12km±2km, ML2.6/6, Error ellipse: s-maj=2.7km s-min=1.2km az=167.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**0.50**	**7**	P	Pg	04 01 25.3	0.0
IDI				S	Sg	04 01 32.2	+0.2
	885nm,0.3s						
IDI	**Anoyia**	**0.50**	**7**	P	Pg	04 01 25.3	-0.1
IDI				S	Sg	04 01 31.6	-0.4
IDI				AML	AML	04 01 32.6	
	comp=E,2570μm,0.3s						
IDI				AML	AML	04 01 34.0	
	comp=N,1661μm,0.3s						
KSTL	**Kastelli Herak**	**0.55**	**22**	P	Pg	04 01 26.4	+0.1
KSTL				S	Sb	04 01 35.0	-0.1
	comp=N,212nm,0.2s						
KSTL	**Kastelli Herak**	**0.55**	**22**	P	Pb	04 01 26.9	-0.3
KSTL				S	Sb	04 01 34.9	-0.2
KSTL				AML	AML	04 01 37.7	
	comp=E,947μm,0.3s						
KSTL				AML	AML	04 01 38.3	
	comp=N,1543μm,0.2s						
GVD	**Gavdhos**	**0.60**	**275**	P	Pb	04 01 28.2	+0.1
GVD				S	Sn	04 01 38.8	-0.9
	comp=N,1μm,0.4s						
GVD	**Gavdhos**	**0.60**	**275**	P	Pg	04 01 26.8	-0.4
GVD				S	Sg	04 01 35.1	-0.1
GVD				AML	AML	04 01 42.0	
	comp=E,3485μm,0.4s						
GVD				AML	AML	04 01 44.8	
	comp=N,2274μm,0.3s						
PRNS	**Prines Rethymn**	**0.63**	**336**	P	Pb	04 01 28.4	-0.1
PRNS				S	Sb	04 01 37.9	+0.6
IMMV	**Iera Moni Meta**	**0.96**	**314**	P	Pg	04 01 33.9	-0.1
IMMV				S	Sb	04 01 47.3	+0.5
	comp=N,362nm,0.3s						
IMMV	**Iera Moni Meta**	**0.96**	**314**	P	Pg	04 01 33.6	-0.4
IMMV				S	Sg	04 01 46.4	-0.2
IMMV				AML	AML	04 01 54.8	
	comp=E,679μm,0.3s						
IMMV				AML	AML	04 01 55.4	
	comp=N,766μm,0.3s						
CHAN	**Chania**	**0.97**	**319**	P	Pg	04 01 34.1	0.0
CHAN				S	Sg	04 01 46.4	-0.4
CHAN				AML	AML	04 01 55.4	
	comp=N,507μm,0.4s						
CHAN				AML	AML	04 01 56.3	
	comp=E,484μm,0.4s						
RODP	**Rodopos**	**1.16**	**312**	P	Pn	04 01 37.7	0.0
RODP				S	Sn	04 01 54.1	+0.6
	comp=E,52nm,0.3s						
ZKR	**Zakros**	**1.19**	**74**	P	Pn	04 01 37.5	-0.6
ZKR				S	Sb	04 01 52.2	-1.3
ZKR				AML	AML	04 01 58.6	
	comp=N,243μm,0.4s						
ZKR				AML	AML	04 02 00.5	
	comp=E,289μm,0.3s						

TRN 17 04:01:48.7, 10°.69N×62°.54W, h94km, MD3.7, Paria peninsula., Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.77**	**90**	*e*P	Pn	04 02 07.4	+1.0
TCE				*e*S	Sn	04 02 19.2	-0.4
TRN	**Trinidad (W)**	**1.12**	**92**	*e*P	Pn	04 02 10.0	-0.1
TRN				*e*S	Sn	04 02 24.7	-1.5
TPP	**Pointe-a-Pierr**	**1.13**	**109**	*e*P	Pn	04 02 11.2	+0.9
TBH	**Brigand Hill**	**1.46**	**98**	*e*P	Pn	04 02 15.1	+0.8
TBH				*e*S	Sn	04 02 33.6	0.0
GRFF	**Grenada Fort F**	**1.56**	**30**	*e*P	Pn	04 02 15.2	-0.3
GRFF				*e*S	Sn	04 02 35.0	-0.8
GRGR	**Grenville**	**1.68**	**31**	*e*P	Pn	04 02 16.8	-0.1
GRGR				*e*S	Sn	04 02 38.2	-0.1
GRW	**Mount Saint Ca**	**1.69**	**31**	*e*P	Pn	04 02 17.2	-0.1
GRW				*e*S	Sn	04 02 38.4	-0.6
GRHS	**Sauteurs**	**1.76**	**30**	*e*P	Pn	04 02 17.9	-0.1
GRHS				*e*S	Sn	04 02 39.9	-0.3
GRSS	**Sisters**	**1.84**	**30**	*e*P	Pn	04 02 19.4	+0.4
GRSS				*e*S	Sn	04 02 41.2	-0.8
GRIC	**Isle de Caille**	**1.84**	**30**	*e*P	Pn	04 02 19.4	+0.3
GCMP	**Grenada, Carri**	**2.09**	**31**	*e*P	Pn	04 02 22.3	0.0
GCMP				*e*S	Sn	04 02 47.6	-0.3
PCRV	**Puerto La Cruz**	**2.12**	**256**	*e*P	Pn	04 02 22.9	+0.2
PCRV				*e*S	Sn	04 02 48.5	-0.3
SVOC	**Richmond Hill,**	**2.77**	**28**	*e*P	Pn	04 02 31.3	+0.1
SVOC				*e*S	Sn	04 03 03.7	-0.2
SVT	**Saint Vincent**	**2.77**	**27**	*e*P	Pn	04 02 31.5	+0.2
SVT				*e*S	Sn	04 03 03.2	-0.8
SVB	**Belmont**	**2.86**	**26**	*e*P	Pn	04 02 32.9	+0.4
SVB				*e*S	Sn	04 03 03.7	-2.4
SLBI	**Saint Lucia, B**	**3.65**	**25**	*e*P	Pn	04 02 42.8	-0.3
SLBI				*e*S	Sn	04 03 23.5	-1.7
BIM	**Bigot**	**4.06**	**21**	*e*P	Pn	04 02 48.7	-0.1
BIM				*e*S	Sn	04 03 33.9	-1.4
ILAM	**Ilet Lapin Mar**	**4.37**	**22**	*e*P	Pn	04 02 53.5	+0.6
BAUV	**El Baul**	**5.69**	**253**	*e*P	Pn	04 03 09.8	-1.1
BAUV				*e*S	Sn	04 04 11.8	-3.1

BUC 17 04:03:59.5±0.2, 45°.10N×25°.74E, h24km±2km, ml2.4/25, 28C-20D, Error ellipse: s-maj=1.6km s-min=1.1km az=75.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAR	**PLOIESTI**	**0.28**	**132**	⇑P	Pb	04 04 05.5	-0.6
PLAR				⇓S	Sb	04 04 11.8	+1.4
MLR	**Muntele Rosu**	**0.42**	**20**	⇑P	Pb	04 04 07.7	-0.7
MLR				⇓S	Sb	04 04 14.7	+0.2
NEHR	**Nehoiu**	**0.51**	**50**	⇓P	Pb	04 04 09.9	-0.1
NEHR				⇑S	Sb	04 04 17.7	+0.7
SULR		**0.56**	**139**	⇓P	Pb	04 04 09.9	-0.7
SULR				⇓S	Sn	04 04 19.6	-0.9
ISR	**Istrita**	**0.57**	**88**	⇓S	Sn	04 04 20.0	-0.9
VOIR		**0.59**	**305**	⇑P	Pb	04 04 11.4	+0.1
VOIR				⇑S	Sb	04 04 19.7	+0.3
CIOR	**Ciorogarla**	**0.66**	**171**	⇓S	Sn	04 04 22.1	-0.8
INCR	**INCERC-Sediu C**	**0.72**	**155**	⇑S	Sb	04 04 23.6	+0.7
BUC1	**Bucharest**	**0.78**	**164**	⇓P	Pb	04 04 13.6	-0.8
BUC1				⇑S	Sn	04 04 25.2	-0.7
COVR	**Voineasa-Covas**	**0.82**	**24**	⇑P	Pb	04 04 14.4	-0.6
COVR				⇑S	Sn	04 04 27.3	+0.3
BISRR	**Bisoca**	**0.82**	**56**	⇓P	Pb	04 04 14.8	-0.3
BISRR				⇑S	Sn	04 04 27.4	+0.3
SGRR	**Singureni**	**0.89**	**169**	⇓P	Pb	04 04 15.3	-1.0
SGRR				⇑S	Sn	04 04 28.3	-0.3
DOPR	**Dopca**	**0.90**	**344**	⇑P	Pb	04 04 15.7	-0.9
DOPR				⇑S	Sn	04 04 29.5	+0.4
TURR	**Turia**	**0.98**	**11**	⇓P	Pb	04 04 17.4	-0.4
TURR				⇑S	Sn	04 04 32.1	+1.1
BOSR	**Bodos**	**0.98**	**357**	⇓P	Pb	04 04 17.4	-0.4
BOSR				⇓S	Sn	04 04 31.1	+0.1
PLOR	**Plostina**	**0.99**	**40**	⇑P	Pn	04 04 17.3	-0.7
PLOR				⇑S	Sn	04 04 31.7	+0.5
LEHL	**Lehliu**	**0.99**	**129**	⇑P	Pb	04 04 18.1	+0.1
LEHL				⇑S	Sn	04 04 31.5	+0.4
COPA	**Copaceanca**	**1.03**	**201**	⇑S	Sn	04 04 33.1	+0.9
VRI	**Vrincioaia**	**1.04**	**42**	⇑P	Pn	04 04 18.1	-0.5
VRI				⇓S	Sn	04 04 33.3	+1.0
AMRR	**Amara**	**1.24**	**113**	⇑P	Pn	04 04 21.4	+0.1
AMRR				⇑S	Sb	04 04 37.6	0.0
MDB	**Medias**	**1.41**	**318**	⇓P	Pn	04 04 24.3	+0.6
MDB				⇓S	Sb	04 04 43.4	+0.7
LOT	**Lotru**	**1.43**	**285**	⇑P	Pb	04 04 25.0	-0.6
LOT				⇓S	Sb	04 04 43.6	+0.1
TESR	**Tescani**	**1.55**	**24**	⇓P	Pn	04 04 24.8	-0.9
TESR				⇑S	Sn	04 04 45.3	+0.2
NEGRR	**Negrea**	**1.57**	**73**	⇓S	Sn	04 04 45.2	-0.3
HARR	**Harsova**	**1.61**	**104**	⇑P	Pn	04 04 26.0	-0.4
CFR	**Carcaliu**	**1.70**	**86**	⇑P	Pn	04 04 27.6	0.0
CFR				⇑S	Sn	04 04 49.3	+0.7
TPGR	**Topolog**	**1.92**	**96**	⇑P	Pn	04 04 30.8	+0.1
TPGR				⇓S	Sn	04 04 55.6	+1.5

HEL 17 04:04:49.9±0.2, 67°.59N×33°.82E, h0km, ML1.1, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.44**	**46**	SG	Sg	04 05 03.6	-0.4
VRF	**Varrio**	**1.62**	**277**	PG	Pn	04 05 19.1	-0.6
VRF				MSG		04 05 38.4	
	comp=Z,1.7nm,0.2s						
VRF				SG	Sn	04 05 38.8	-2.4
OLKF	**Oulanka, Finla**	**2.16**	**236**	PG	Pb	04 05 28.8	-1.0
OLKF				MSG		04 05 53.9	
	comp=Z,0.6nm,0.2s						
KU6	**Riekki**	**2.21**	**226**	PG	Pb	04 05 29.5	-1.3
	baz=49						
KU6				MSG		04 05 55.5	
	comp=Z,0.7nm,0.2s						
RAJF	**Raja-Jooseppi**	**2.25**	**296**	PN	Pn	04 05 28.4	0.0
RAJF				SN	Sn	04 05 55.7	-1.2
RNF	**Rovaniemi**	**3.21**	**256**	PN	Pn	04 05 41.2	-0.2
KEV	**Kevo**	**3.30**	**314**	PN	Pn	04 05 42.4	-0.4
	baz=114						
KEV				SN	Sn	04 06 20.8	-1.9
ARA0	**ARCESS Array S**	**3.62**	**306**	PN	Pn	04 05 48.5	+1.3
	baz=127						
ARA0				SN	Sn	04 06 28.3	-2.3

GUC 17 04:07:15.6±0.8, 43°.15S×74°.31W, h36km±2km, ML2.9, 3C-4D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.47**	**86**	⇓*i*P	Pn	04 07 25.0	-0.8
GO07				*i* S	Sn	04 07 31.8	-1.1
GO07				IAML		04 07 36.7	
	comp=E,2μm,0.5s						
LL07	**Hotel Espejo d**	**0.69**	**63**	⇓*i*P	Pn	04 07 28.4	-0.4
LL07				*i* S	Sn	04 07 38.1	-0.1
LL07				IAML		04 07 38.9	
	comp=N,2μm,0.4s						
LL06	**Loncomilla**	**1.06**	**29**	⇑*i*P	Pn	04 07 34.0	+0.1
LL06				*i* S	Sn	04 07 48.0	+0.7
LL06				IAML		04 07 50.5	
	comp=N,550nm,0.3s						
LOPS	**Lodge Patagoni**	**1.30**	**139**	⇑*i*P	Pn	04 07 37.1	0.0
LOPS				*i* S	Sn	04 07 54.1	+0.9
GLCR	**Glaciar**	**1.37**	**75**	⇓*e*P	Pn	04 07 38.8	+0.6
GLCR				*i* S	Sn	04 07 56.5	+1.4
GLCR				IAML		04 07 58.2	
	comp=N,344nm,0.3s						
VNTQ	**Ventisquero**	**1.39**	**80**	⇑*e*P	Pn	04 07 38.6	+0.2
VNTQ				*i* S	Sn	04 07 55.3	-0.2
LJUN	**La Junta**	**1.59**	**123**	*e*P	Pn	04 07 42.0	+0.9
LJUN				*i* S	Sn	04 08 02.3	+1.9
LJUN				IAML		04 08 06.8	
	comp=N,160nm,0.3s						
LL01	**San Ignacio de**	**1.59**	**62**	*e*P	Pn	04 07 42.0	+0.8
LL01				*i* S	Sn	04 08 01.0	+0.4
PHPI	**Puyuhuapi**	**1.72**	**133**	*e*P	Pn	04 07 44.8	+1.8
PHPI				*i* S	Sn	04 08 07.7	+3.9
LL05	**Los Muermos**	**1.85**	**20**	*e*P	Pn	04 07 45.8	+1.1
LL05				*i* S	Sn	04 08 08.0	+1.2
LL05				IAML		04 08 17.2	
	comp=E,104nm,0.1s						
AYSN	**Puerto Aysn**	**2.52**	**153**	⇓*e*P	Pn	04 07 58.4	+4.5
AYSN				*i* S	Sn	04 08 28.7	+5.4
LL04	**Puerto Octay**	**2.65**	**33**	*e*P	Pn	04 07 56.5	+0.8
LL04				*i* S	Sn	04 08 26.7	+0.2
LL04				IAML		04 08 30.4	
	comp=E,67nm,0.2s						
HUEM	**Huemules**	**2.85**	**163**	*e*P	Pn	04 08 03.5	+5.0

*IDC **17** 04:11:11.2±3.2, 55°.64N×161°.88E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=98.5km s-min=25.9km az=1.0*

*KRSC **17** 04:11:21.0±0.8, 55°.55N×162°.38E, h82km±14km, Ml4.0*

ISC 17 04:11:21.9±0.9, 55°.59N±0°.04×162°.38E±0°.04, h88km±8km, n43, σ1°14/59, mb3.6/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.67**	**22**	*e*P	**Pn**	**04 11 37.6**	**-0.2**
KBTR				*e*S	**Sn**	**04 11 49.8**	**+0.1**
KBG	**Krutoberegovo**	**0.69**	**15**	*e*P	**Pn**	**04 11 37.7**	**-0.3**
KBG				*e*S	**Sn**	**04 11 50.0**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**1.01**	**291**	*e*P	**Pn**	**04 11 42.0**	**+0.4**
BZGR				*e*S	**Sn**	**04 11 57.3**	**+0.9**
CIRR	**Tsirk**	**1.06**	**300**	*e*P	**Pn**	**04 11 42.4**	**+0.2**
LGNR	**Loginova**	**1.07**	**298**	*e*P	**Pn**	**04 11 42.7**	**+0.2**
LGNR				*e*S	**Sn**	**04 11 58.6**	**+0.7**
BZP	**Bezymyannyi-Pe**	**1.09**	**288**	*e*P	**Pn**	**04 11 42.5**	**-0.1**
MKZ	**Mys Kozlova**	**1.10**	**200**	*e*P	**Pn**	**04 11 42.3**	**-0.2**
MKZ				*e*S	**Sn**	**04 11 57.8**	**-0.3**
BZMR	**Bezymyannaya**	**1.12**	**289**	*e*P	**Pn**	**04 11 43.1**	**+0.2**
BZWR	**Bezymyannyi-We**	**1.13**	**290**	*e*P	**Pn**	**04 11 43.4**	**+0.3**
BZWR				*e*S	**Sn**	**04 11 59.8**	**+0.8**
TUMD	**Tumrok D**	**1.19**	**252**	*e*P	**Pn**	**04 11 43.7**	**0.0**
TUMD				*e*S	**Sn**	**04 12 01.0**	**+0.9**
KRSR	**Krestovskiy**	**1.20**	**302**	*e*P	**Pn**	**04 11 43.5**	**-0.3**
KRSR				*e*S	**Sn**	**04 11 59.9**	**-0.4**
KIRR	**Kirishev**	**1.21**	**288**	*e*P	**Pn**	**04 11 44.1**	**+0.2**
KIRR				*e*S	**Sn**	**04 12 01.1**	**+0.6**
KLY	**Klyuchi**	**1.21**	**307**	*e*P	**Pn**	**04 11 42.7**	**-1.1**
KMNR	**Kamenistaya**	**1.22**	**279**	*e*P	**Pn**	**04 11 44.5**	**+0.4**
SRKR	**Sorokina**	**1.26**	**328**	*e*P	**Pn**	**04 11 45.1**	**+0.6**
SRKR				*e*S	**Sn**	**04 12 02.6**	**+0.9**
KPT	**Kopyto**	**1.27**	**288**	*e*P	**Pn**	**04 11 45.0**	**+0.3**
KPT				*e*S	**Sn**	**04 12 02.3**	**+0.3**
TUMR	**Tumrok**	**1.31**	**257**	*e*P	**Pn**	**04 11 46.0**	**+0.8**
KOZ	**Kozyrevsk**	**1.49**	**289**	*e*P	**Pn**	**04 11 47.8**	**+0.5**
KOZ				*e*S	**Sn**	**04 12 07.4**	**+0.8**
SRDR	**Sredinnyy**	**1.66**	**297**	*e*P	**Pn**	**04 11 49.4**	**-0.2**
BKI	**Bering**	**2.09**	**99**	*e*P	**Pn**	**04 11 56.2**	**+1.1**
BKI				*e*S	**Sn**	**04 12 20.4**	**0.0**
SPN	**Mys Shipunski**	**2.85**	**210**	*e*P	**Pn**	**04 12 04.8**	**-0.5**
SPN				*e*S	**Sn**	**04 12 35.5**	**-3.2**
NLC	**Nalytchevo**	**3.00**	**217**	*e*P	**Pn**	**04 12 07.9**	**+0.6**
NLC				*e*S	**Sn**	**04 12 41.0**	**-1.4**
KRX	**Arik**	**3.12**	**226**	*e*P	**Pn**	**04 12 10.5**	**+1.5**
KRER	**Koryakskii**	**3.12**	**224**	*e*P	**Pn**	**04 12 10.5**	**+1.4**
SMAR	**Somma**	**3.13**	**223**	*e*P	**Pn**	**04 12 10.3**	**+1.0**
AVH	**Avacha**	**3.15**	**224**	*e*P	**Pn**	**04 12 11.0**	**+1.5**
UGLR	**Uglovaya**	**3.16**	**222**	*e*P	**Pn**	**04 12 10.9**	**+1.3**
KOK	**Koryaka**	**3.17**	**225**	*e*P	**Pn**	**04 12 11.3**	**+1.5**
GNL	**Ganaly**	**3.20**	**235**	*e*P	**Pn**	**04 12 11.3**	**+1.2**
DALK	**Dalny**	**3.33**	**221**	*e*P	**Pn**	**04 12 12.7**	**+1.0**
DALK				*e*S	**Sn**	**04 12 49.8**	**-0.4**
PET	**Petropavlovsk**	**3.37**	**222**	*e*P	**Pn**	**04 12 13.5**	**+1.2**
PET				*e*S	**Sn**	**04 12 51.4**	**+0.1**
KRMR	**Karymshinskiy**	**3.72**	**224**	*e*P	**Pn**	**04 12 19.1**	**+2.0**
GRL	**Gorelyy**	**3.96**	**222**	*e*P	**Pn**	**04 12 22.7**	**+2.3**
MTVR	**Mutnovka**	**3.98**	**220**	*e*P	**Pn**	**04 12 22.0**	**+1.4**
APC	**Apacha**	**4.06**	**231**	*e*P	**Pn**	**04 12 23.7**	**+2.1**
ASAK	**Asacha**	**4.16**	**221**	*e*P	**Pn**	**04 12 24.8**	**+1.7**
KDTR	**Khodutka, Kamc**	**4.57**	**216**	*e*P	**Pn**	**04 12 28.6**	**+0.1**
ILAR	**Eielson Array**	**26.13**	**49**	P	**P**	**04 16 48.0**	**+0.8**
	0.2nm,0.8s,baz=264,slow=9.0,SNR=2.7						
	0.2nm,0.8s						
KURBB	**Kurchatov Arra**	**47.67**	**301**	P	**P**	**04 19 47.0**	**-1.9**
	1.0nm,0.8s,baz=54,slow=7.8,SNR=5.3						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**48.29**	**295**	P	**P**	**04 19 51.5**	**-2.3**
	0.5nm,0.7s,baz=63,slow=8.7,SNR=4.0						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**49.89**	**308**	P	P	04 20 03.4	-2.5
	1.1nm,0.6s,baz=38,slow=7.5,SNR=5.3						
	1.1nm,0.6s						
NVAR	**Mina Array Bea**	**53.69**	**73**	P	**P**	**04 20 36.6**	**+2.0**
	0.4nm,0.7s,baz=317,slow=6.1,SNR=3.5						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**58.35**	**337**	P	**P**	**04 21 06.4**	**-0.8**
	1.1nm,0.6s,baz=29,slow=9.8,SNR=7.5						
	1.1nm,0.6s						

IDC 17 04:12:34.7±2.4, 6°.00S×129°.64E, h0km, mb3.9/1, mbtmp3.7/3, ML3.5/2, Error ellipse: s-maj=163.6km s-min=31.3km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.59**	**162**	Pn	Pn	04 16 01.0	-1.7
	0.1nm,0.3s,baz=344,slow=13,SNR=2.1						
WRA				Sn	Sn	04 18 32.1	-13
	0.6nm,0.3s,baz=352,slow=18,SNR=7.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**18.04**	**167**	P	P	04 16 47.7	+0.1
	0.5nm,0.3s,baz=349,slow=11,SNR=17						
ASAR				S	Sn	04 19 57.4	-12
	0.4nm,0.5s,baz=352,slow=26,SNR=2.4						
	1.2nm,0.3s						
MKAR	**Makanchi Array**	**67.20**	**327**	P	P	04 23 30.8	0.0
	0.6nm,0.4s,baz=117,slow=7.8,SNR=5.8						
	0.6nm,0.4s						

KRSC 17 04:30:23.6±0.7, 55°.88N×162°.86E, h20km±8km, Ml3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.33**	**356**	*e*P	Pb	04 30 31.1	+0.2
KBTR				*e*S	Sb	04 30 36.6	+0.9
KBG	**Krutoberegovo**	**0.38**	**347**	*e*P	Pb	04 30 31.9	+0.1
KBG				*e*S	Sb	04 30 38.4	+0.9
BDR	**Baidarnaya**	**1.15**	**307**	*e*S	Sg	04 31 00.6	-0.4
CIRR	**Tsirk**	**1.21**	**282**	*e*P	Pb	04 30 46.2	+0.3
CIRR				*e*S	Sn	04 31 01.9	+0.5
BZGR	**Bezymyannyi-Gr**	**1.22**	**274**	*e*P	Pn	04 30 45.6	0.0
SRKR	**Sorokina**	**1.22**	**310**	*e*P	Pb	04 30 46.0	0.0
SRKR				*e*S	Sg	04 31 02.5	-0.7
LGNR	**Loginova**	**1.23**	**280**	*e*P	Pb	04 30 46.4	0.0
BZP	**Bezymyannyi-Pe**

TA01	Diego Aracena	1.09 237	*e*P		Pn	04 34 13.6	-1.3
TA01			*e*S		Sn	04 34 31.9	+1.6
TA01			IAML			04 34 36.0	
	comp=Z,221nm,0.2s						
TA01	Diego Aracena	1.09 237⇑	*i*P		Pn	04 34 13.7	-1.3
TA01			*i*S		Sn	04 34 30.6	+0.3
TA01			IAML			04 34 35.7	
	comp=E,432nm,0.1s						
PATCX	Punta Patache	1.23 226	*e*P		Pn	04 34 16.4	-0.3
PATCX			*e*S		Sn	04 34 35.5	+2.1
PATCX			IAML			04 34 40.2	
	comp=Z,244nm,0.2s						
PATCX	Punta Patache	1.23 226⇑	*e*P		Pn	04 34 15.5	-1.2
PATCX			*i*S		Sn	04 34 34.0	+0.6
PATCX			IAML			04 34 38.5	
	comp=E,536nm,0.1s						
PX02	IPOC Station P	1.37 317	*e*P		Pn	04 34 16.5	-2.0
PX02			*i*S		Sn	04 34 35.3	-1.3
PB09	IPOC Station P	1.82 181	*e*P		Pn	04 34 23.0	-1.4
PB09			*e*S		Sn	04 34 49.3	+2.2
PB09			IAML			04 34 52.9	
	comp=Z,155nm,0.6s						
PB09	IPOC Station P	1.82 181⇑	*e*P		Pn	04 34 23.0	-1.4
PB09			*i*S		Sn	04 34 47.0	0.0
PB09			IAML			04 34 51.6	
	comp=E,208nm,0.6s						
AP01	Chacalluta	1.92 326	*e*P		Pn	04 34 25.3	-0.1
AP01			*e*S		Sn	04 34 53.6	+4.6
AP01			IAML			04 35 01.1	
	comp=Z,230nm,0.1s						
AP01	Chacalluta	1.92 326	*e*P		Pn	04 34 21.3	-4.1
PB18	Visviri	2.38 354	*e*P		Pn	04 34 32.8	+0.7
PB04	IPOC Station P	2.51 200	*e*P		Pn	04 34 32.0	-1.5
PB04			*e*S		Sn	04 35 05.9	+2.4
PB04			IAML			04 35 15.3	
	comp=Z,142nm,0.3s						
PB04	IPOC Station P	2.51 200	*e*P		Pn	04 34 32.0	-1.5
PB04			*i*S		Sn	04 35 04.5	+1.0
PB04			IAML			04 35 16.7	
	comp=E,155nm,0.7s						
LVC	Limon Verde	2.65 174	*e*P		Pn	04 34 34.5	-1.0
LVC			*e*S		Sn	04 35 08.8	+1.9
LVC	Limon Verde	2.65 174	*e*P		Pn	04 34 34.1	-1.4
LVC			*i*S		Sn	04 35 05.9	-1.0
PB06	IPOC Station P	2.75 187	*e*P		Pn	04 34 35.5	-1.2
PB06			*e*S		Sn	04 35 11.4	+2.4
PB06			IAML			04 35 14.9	
	comp=Z,113nm,0.2s						
PB06	IPOC Station P	2.75 187	*e*P		Pn	04 34 35.1	-1.5
PB06			*i*S		Sn	04 35 08.4	-0.6
PB15	IPOC Station P	3.23 184	*e*P		Pn	04 34 44.8	+1.5
PB15			*e*S		Sn	04 35 25.2	+4.3
PB15			IAML			04 35 35.2	
	comp=Z,255nm,0.3s						
PB15	IPOC Station P	3.23 184	*e*P		Pn	04 34 42.8	-0.5
PB15			*i*S		Sn	04 35 20.6	-0.3
PB10	IPOC Station P	3.75 199	*e*P		Pn	04 34 46.5	-3.5
LPAZ	La Paz	3.80 16	*e*P		Pn	04 34 50.5	-0.8
LPAZ	La Paz	3.80 16	*e*P		Pn	04 34 50.0	-1.3

IDC 17 04:52:35.4±2.2, 6°28S×129°46E, h0km, mb3.6/1, mbtmp3.7/3, ML4.1/2, MS3.5/2, Error ellipse: s-maj=125.9km s-min=32.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	13.81	344	LR	LR	05 00 49.7	
	comp=Z,80nm,19.4s,baz=220,slow=36						
WRA	Warramunga Arr	14.39	161	Pn	Pn	04 55 59.2	-1.3
	0.9nm,0.3s,baz=340,slow=12,SNR=21						
WRA				Sn	Sn	04 58 25.7	-15
	0.3nm,0.3s,baz=330,slow=23,SNR=3.4						
	1.0nm,0.3s						
ASAR	Alice Springs	17.81	167	P	P	04 56 45.5	-0.2
	0.4nm,0.3s,baz=350,slow=10,SNR=12						
ASAR				S	Sn	04 59 53.8	-10
	0.3nm,0.4s,baz=347,slow=20,SNR=2.6						
	0.9nm,0.5s						
MKAR	Makanchi Array	67.33	327	P	P	05 03 32.3	+0.1
	0.4nm,0.5s,baz=135,slow=7.9,SNR=3.9						
	0.4nm,0.5s						
SNAA	Sanae	96.23	194	LR	LR	05 46 45.8	
	comp=Z,48nm,21.9s,baz=78,slow=34						

MDD 17 04:58:43.1±1.1, 36°64N×7°08W, h9km±7km, mb_Lg2.5/5, Error ellipse: s-maj=7.2km s-min=4.1km az=2.0
CNRM 17 04:58:43.2, 36°53N×7°22W, h24km, ML1.6
SFS 17 04:58:45.1, 36°77N×7°02W, h11km, ML2.0/9, ML2.3/7, MLv1.8/9
IGIL 17 04:58:45.0, 36°64N×7°08W, h20km, ML1.8
INMG 17 04:58:46.0±1.6, 36°79N×7°03W, h16km±4km, ML1.8, Error ellipse: s-maj=4.7km s-min=3.9km az=175.0

ISC 17 04:58:42.6±1.1, 36°67N±0°03×7°05W±0°03, h17km±8km, n42, σ1§05/72, 1C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNO	Arenosillo	0.50	31	Pg	Pg	04 58 50.7	-2.0
PVAQ	Vaqueiros	0.91	324⇓	*e*P	Pn	04 59 01.1	+0.5
PVAQ				*e*S	Sg	04 59 12.2	-0.1
PVAQ				A	A	04 59 13.8	
	32nm,0.1s						
PVAQ	Vaqueiros	0.91	324	Pg	Pn	04 59 01.1	+0.5
PVAQ				Sg	Sg	04 59 12.2	-0.1
PVAQ	Vaqueiros	0.91	324	P	Pn	04 59 00.8	+0.2
PVAQ	Vaqueiros	0.91	324	S	Sn	04 59 13.3	0.0
PBDV	Barranco-do-Ve	0.91	310⇑	*e*P	Pn	04 59 01.3	+0.7
PBDV				*e*S	Sg	04 59 12.4	+0.1
PBDV				A	A	04 59 13.8	
	13nm,0.3s						
PBDV	Barranco-do-Ve	0.91	310	Pg	Pn	04 59 01.3	+0.7
PBDV				Sg	Sg	04 59 12.3	0.0
EGRO	El Granado	0.93	338	Pg	Pg	04 59 01.5	+0.7
EGRO				Sg	Sb	04 59 12.7	+0.3
EGRO	El Granado	0.93	338	P	Pg	04 59 01.0	+0.2
EGRO				S	Sb	04 59 12.7	+0.3
EGRO				*i* Vmb_Lg		04 59 15.1	
ESPR	Espera	0.98	78	Sg	Sg	04 59 15.1	+0.5
ESPR				Pg	Pg	04 59 02.9	+1.3
ESPR	Espera	0.98	78	P	Pb	04 59 00.5	-0.6
ESPR				S	Sb	04 59 14.5	+0.7
ESPR				*i* Vmb_Lg		04 59 16.0	
EMIN	Mina Concepcio	1.14	15	Pn	Pg	04 59 04.7	0.0
EMIN				Sn	Sb	04 59 17.3	-1.1
EMIN	Mina Concepcio	1.14	15	P	Pb	04 59 04.5	+0.6
EMIN				S	Sb	04 59 18.1	-0.3
EMIN				*i* Vmb_Lg		04 59 20.1	
PCVE	Castro Verde	1.25	321	*e*P	Pb	04 59 05.8	+0.1
PCVE				*e*S	Sb	04 59 21.3	-0.1
PCVE				A	A	04 59 23.5	
	5.9nm,0.1s						
PCVE	Castro Verde	1.25	321	Pn	Pb	04 59 05.8	+0.1
PCVE				Sn	Sb	04 59 21.1	-0.3
MORF	Marmelete	1.43	297	*e*Pn	Pb	04 59 08.6	-0.2
MORF				*e*Sn	Sn	04 59 25.4	-0.9
MORF				A	A	04 59 26.3	
	12nm,0.1s						
MORF	Marmelete	1.43	297	*e*P	Pb	04 59 08.3	-0.5
MORF				*e*S	Sn	04 59 25.3	-0.9
MORF				IAML		04 59 26.8	
	comp=N,14nm,0.2s						
MESJ	Messejana	1.50	322	*e*Pn	Pb	04 59 09.3	-0.6
MESJ				*e*Sn	Sn	04 59 27.2	-0.6
MESJ				A	A	04 59 31.8	
	comp=N,7.6nm,0.2s						
MESJ	Messejana	1.50	322	*e*P	Pb	04 59 09.3	-0.6
MESJ				*e*S	Sn	04 59 27.1	-0.7
MESJ				IAML		04 59 30.9	
	comp=N,6.6nm,0.2s						
PFVI	Vila Bisbo	1.50	289	P	Pn	04 59 08.2	-0.4
PFVI	Vila Bisbo	1.50	289	S	Sn	04 59 26.4	-1.4
PBEJ	Beja	1.50	335	*e*Sg	Sb	04 59 29.4	+0.5
PBAR	Barrancos	1.51	0	*e*Pn	Pn	04 59 09.3	+0.5
PBAR				*e*Sn	Sn	04 59 26.1	-1.9
PBAR				*e*Sg	Sb	04 59 29.2	+0.3
PBAR				A	A	04 59 32.2	
	comp=N,20nm,0.4s						
PBAR	Barrancos	1.51	0	Pn	Pn	04 59 09.3	+0.5
PBAR				Sn	Sn	04 59 28.6	+0.6
PTEO	Sao Teotonio	1.60	304	*e*Pn	Pb	04 59 11.6	-0.1
PTEO				*e*Sn	Sn	04 59 29.7	-0.6
PTEO				A	A	04 59 34.2	
	comp=N,8.0nm,0.8s						
PNCL	Nicolau / Gran	1.86	321	*e*Pn	Pn	04 59 14.5	+0.8
PNCL				*e*Sn	Sn	04 59 36.2	-0.6
PNCL				A	A	04 59 43.3	
	comp=N,4.1nm,0.8s						
PNCL	Nicolau / Gran	1.86	321	Pn	Pn	04 59 14.4	+0.8
ECAB	El Cabril	1.92	42	P	Pn	04 59 14.9	+0.4
ECAB				S	Sb	04 59 40.1	-0.7
ECAB				*i* Vmb_Lg		04 59 44.1	
EVO	Evora	2.01	338	*e*Pn	Pn	04 59 16.4	+0.6
EVO				*e*Sg	Sb	04 59 44.8	+1.3
EVO				A	A	04 59 49.5	
	comp=N,7.5nm,0.1s						
EBAD	Badajoz	2.09	1	Pn	Pn	04 59 17.2	+0.4
EBAD	Badajoz	2.09	1	P	Pn	04 59 17.0	+0.2
EBAD				S	Sn	04 59 44.1	+1.7
EBAD				*i* Vmb_Lg		04 59 47.9	
PESTR	Estremoz	2.24	349	*e*Pn	Pn	04 59 19.6	+0.7
PESTR				*e*Sn	Sn	04 59 42.9	-3.2
PESTR				*e*Sg	Sb	04 59 49.9	-0.1
PESTR				A	A	04 59 57.5	
	comp=N,3.4nm,0.2s						
PESTR	Estremoz	2.24	349	P	Pb	04 59 22.7	+0.2
PESTR	Estremoz	2.24	349	S	Sb	04 59 48.4	-1.6
PMTG	Montargil	2.57	339	*e*Pn	Pn	04 59 24.0	+0.5
PMTG				*e*Sn	Sn	04 59 53.9	-0.4
PMTG				*e*Sg	Sb	05 00 02.0	+2.4
PMTG				A	A	05 00 07.8	
	comp=N,3.2nm,0.4s						
PMRV	Marv??o	2.77	355	*e*Pn	Pn	04 59 26.8	+0.6
PMRV				*e*Sn	Sn	04 59 57.9	-1.4
PMRV				*e*Sg	Sb	05 00 06.7	+1.4
PMRV				A	A	05 00 12.9	
	comp=N,2.3nm,0.9s						
ZHG	ZHG	3.23	174	P	Pn	04 59 33.7	+1.1
ZHG	ZHG	3.23	174	S	Sn	05 00 09.8	-0.9
MD31	MD31	4.23	153	P	Pn	04 59 46.2	-0.2
MD31	MD31	4.23	153	S	Sn	05 00 34.1	-1.4
OUZM	OUZ	5.75	177	P	Pn	05 00 10.1	+2.8
OUZM	OUZ	5.75	177	S	Sn	05 01 09.7	-3.2

CATAC 17 05:00:11.4±0.9, 9°73N×82°58W, h14km±7km, ML3.2
UPA 17 05:00:12.3±0.7, 9°76N×82°63W, h19km±14km, ML3.3

ISC 17 05:00:12.0±1.8, 9°74N±0°06×82°61W±0°04, h17km±12km, n14, σ0§63/26, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI2	El Empalme, Bo	0.34	156⇓	*i*P	Pb	05 00 20.4	+0.8
CNI2				AMP		05 00 20.6	
	comp=Z,3μm,0.1s						
CNI2				*e*S	Sb	05 00 26.3	+1.6
DRK0	Durika	0.78	233	*i* P	Pb	05 00 26.9	-0.3
DRK0				*e*S	Sg	05 00 38.0	+0.3
DRK0	Durika	0.78	233	*i* P	Pb	05 00 27.0	-0.3
DRK0				*i* S	Sg	05 00 38.0	+0.3
DRK0				IAML		05 00 38.6	
	comp=Z,3μm,1.0s						
CHGR2	Aguacate	0.92	150	*e*P	Pb	05 00 29.2	-0.3
CHGR2				AMP		05 00 29.9	
	comp=Z,759nm,0.1s						
CHGR2				*e*S	Sg	05 00 41.8	-0.2
BRU2	Volcan	0.94	185	*e*P	Pb	05 00 29.7	-0.3
BRU2				*e*S	Sg	05 00 42.6	-0.1
BRU2	Volcan	0.94	185	*i* P	Pb	05 00 29.8	-0.1
BRU2				*i* S	Sg	05 00 42.6	-0.1
BRU2				IAML		05 00 44.6	
	comp=Z,220nm,1.0s						
BCO2	Palmira	1.01	175	*e*P	Pb	05 00 30.7	-0.5
BCO2				AMP		05 00 32.3	
	comp=Z,670nm,0.1s						
BCO2				*e*S	Sg	05 00 45.1	+0.1
OCHAL	Ojochal	1.20	238	*i* P	Pg	05 00 35.2	0.0
OCHAL				*i* S	Sg	05 00 51.2	+0.3
OCHAL				IAML		05 00 54.2	
	comp=Z,170nm,1.0s						
RAFA	San Farael, Vo	1.20	281	*i* P	Pn	05 00 34.3	0.0
RAFA				*i* S	Sb	05 00 50.1	+0.2
RAFA				IAML		05 00 50.6	
	comp=Z,880nm,1.0s						
DVD	David	1.30	173	*e*P	Pn	05 00 34.9	-0.5
DVD				*e*S	Sb	05 00 52.8	+0.3
LCR2	La Lucha 2	1.37	270	*i* P	Pn	05 00 36.4	-0.2
LCR2				*i* S	Sn	05 00 54.0	-0.5
LCR2				IAML		05 00 55.5	
	comp=Z,87nm,1.0s						
COVE	Coope Vega, Sa	2.02	299	*i* S	Sb	05 01 12.4	-0.6
BCIP	Isla Barro Col	2.79	101	*i* P	Pn	05 00 55.5	-0.4
BCIP				*i* S	Sn	05 01 28.4	-0.9
BCIP				IAML		05 02 23.4	
	comp=Z,150nm,1.0s						
ESPN	Las Esperanzas	2.95	326	*i* S	Sn	05 01 34.8	+1.6

TRN 17 05:06:49.9, 13°97N×60°39W, h21km, MD3.5, East of Saint Lucia., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBI	Saint Lucia, B	0.57	275	*e*P	Pn	05 07 03.1	+0.3
SLBI				*e*S	Sn	05 07 11.3	-0.2
SLB	Belfond	0.65	257	*e*P	Pn	05 07 05.2	+1.3
SLB				*e*S	Sn	05 07 15.3	+1.8
MPOM	Morne Pois Mar	0.65	316	*e*P	Pn	05 07 04.5	+0.6
BIM	Bigot	0.85	309	*e*P	Pn	05 07 07.6	+0.9
BIM				*e*S	Sn	05 07 20.3	+1.7
ILAM	Ilet Lapin Mar	0.93	330	*e*P	Pn	05 07 08.7	+1.0
ILAM				*e*S	Sn	05 07 21.8	+1.5
ILAM	Ilet Lapin Mar	0.93	330	*e*S	Sn	05 07 21.8	+1.5
ILAM				*e*	Sg	05 07 20.6	
FDF	Fort de France	1.06	316	*e*P	Pn	05 07 10.8	+1.3
SVB	Belmont	1.09	230	*e*P	Pb	05 07 10.6	+0.6
SVB				*e*S	Sn	05 07 27.5	+3.1
SVB	Belmont	1.09	230	*e*S	Sn	05 07 27.5	+3.1
SVB				*e*	Sb	05 07 25.0	+1.1
GBMF	Grand Be	1.11	318	*e*P	Pb	05 07 11.8	+1.3
BAMF	Morne Balai	1.11	319	*e*P	Pb	05 07 11.9	+1.3
SVN	Savane Anatole	1.15	319	*e*P	Pb	05 07 12.3	+1.2
SVN				*e*S	Sn	05 07 27.2	+1.4
SVOC	Richmond Hill,	1.15	225	*e*P	Pb	05 07 10.9	-0.1
SVOC				*e*S	Sn	05 07 27.8	+2.0
SVOC	Richmond Hill,	1.15	225	*e*S	Sn	05 07 27.8	+2.0
SVOC				*e*	Sb	05 07 25.2	-0.3
SVT	Saint Vincent	1.15	226	*e*P	Pb	05 07 10.9	-0.1
SVT				*e*S	Sn	05 07 27.7	+1.8
SVT	Saint Vincent	1.15	226	*e*S	Sn	05 07 27.7	+1.8
SVT				*e*	Sb	05 07 25.2	-0.4
BBGH	Gun Hill	1.15	135	*e*P	Pb	05 07 12.3	+1.2
PCM	Pelee Case Pet	1.16	317	*e*P	Pb	05 07 11.6	+0.4
PCM	Pelee Case Pet	1.16	317	*e*P	Pb	05 07 12.6	+1.4
GCMP	Grenada, Carri	1.79	214	*e*P	Pn	05 07 20.8	+1.2
GCMP				*e*S	Sb	05 07 43.5	-0.5
GRSS	Sisters	2.05	216	*e*	Sb	05 07 51.6	+0.3
GRHS	Sauteurs	2.12	215	*e*P	Pn	05 07 25.6	+1.5
GRHS				*e*S	Sb	05 07 52.3	-1.3
GRW	Mount Saint Ca	2.19	215	*e*S	Sb	05 07 53.6	-1.9
GRGR	Grenville	2.21	214	*e*P	Pn	05 07 26.9	+1.6
GRGR				*e*S	Sb	05 07 54.9	-1.0
TBG	Guadaloupe-3	2.23	327	*e*P	Pb	05 07 27.6	-1.8
TBG				*e*S	Sb	05 07 55.1	-1.5
ABD	La Joyeuse, An	2.70	337	*e*P	Pn	05 07 34.2	+2.1
MBFL	Flemmings, Mon	3.27	328	*e*P	Pn	05 07 41.1	+1.2
MBFL				*e*S	Sn	05 08 18.6	+0.3
ANBD	Bethesda, Anti	3.33	337	*e*P	Pn	05 07 42.4	+1.6
ANBD				*e*S	Sn	05 08 21.8	+2.1
ANBD	Bethesda, Anti	3.33	337	*e*S	Sb	05 08 21.8	-6.6
ANBD				*e*	Sn	05 08 19.2	-0.5
TRN	Trinidad (W)	3.45	197	*e*P	Pn	05 07 43.3	+0.9
TRN				*e*S	Sn	05 08 22.2	-0.4
TRN	Trinidad (W)	3.45	197	*e*S	Sb	05 08 22.2	-10
TRN				*e*	Sn	05 08 19.9	-2.8

NNC 17 05:12:15.5±2.6, 39°86N×75°33E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=19.1km s-min=13.2km az=147.0
SOME 17 05:12:16.1, 39°93N×75°23E, h0km
KRNET 17 05:12:17.2±0.1, 39°88N×75°38E, mb2.3

ISC 17 05:12:18.4±2.0, 39°8N±0°1×75°29E±0°05, h3km±21km, n31, σ1§64/49, 15C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.39	278⇑	*i*P	Pg	05 12 44.8	-0.2
	baz=76						
SFK				⇑*i*S	Sg	05 13 04.7	+1.7
	baz=76						
NRN	Naryn	1.69	18⇑	*i*P	Pn	05 12 47.3	-1.8
	baz=16						
NRN				⇑*i*S	Sn	05 13 09.5	-1.9
	baz=16						
ARLS	Aral	2.15	340⇑	*i*P	Pb	05 12 56.0	-2.2
	baz=38						
ARLS				⇑*i*S	Sb	05 13 24.7	-0.6
	baz=38						
UCH	Uchtor	2.46	346⇑	*i*P	Pn	05 13 00.6	+0.7
	baz=45						
UCH				⇑*i*S	Sb	05 13 32.5	-2.0
	baz=45						
ULHL	Ulahol	2.51	16⇑	*i*P	Pn	05 13 00.6	+0.2
	baz=15						
ULHL				⇑*i*S	Sb	05 13 32.5	-3.3
	baz=15						
BOOM	Boomskoye usch	2.70	10⇑	*i*P	Pn	05 13 03.2	+0.3
	baz=9.0						
BOOM				⇑*i*S	Sn	05 13 37.2	+1.0
	baz=9.0						
KDJ	Kajisay	2.70	31⇑	*e*P	Pn	05 13 02.9	-0.1
	baz=31						
KDJ				⇑*e*S	Sn	05 13 36.7	+0.4
	baz=31						
AAK	Ala-Archa	2.86	348	⇓Pg	Pn	05 13 05.9	+0.7
	6.7nm,0.7s						
AAK				⇓Lg	Lg	05 13 47.3	
	7.7nm,0.6s						
TKM2	Tokmak 2	3.09	4	⇑Pg	Pn	05 13 08.9	+0.5
	1.1nm,0.3s						
TKM2				⇓Lg	Lg	05 13 54.8	
	12nm,0.6s						
KST	Kastek	3.25	9	*e*P	Pb	05 13 15.2	-1.6
	2.0nm,0.6s						
KST				*e*S	Sb	05 13 57.7	+1.0
	15nm,0.5s						
KST	Kastek	3.25	9	Pg	Pb	05 13 15.2	-1.6
	2.0nm,0.6s						
KST				Lg	Lg	05 13 57.7	
	15nm,0.5s						
MRKS	Merke	3.30	333	*e*P	Pb	05 13 15.5	-2.1
	1.8nm,0.4s						
MRKS				*e*S	Sb	05 13 58.2	0.0
	6.9nm,0.3s						
MRKS	Merke	3.30	333	Pg	Pb	05 13 15.5	-2.1
	1.8nm,0.4s						
MRKS				Lg	Lg	05 13 58.3	
	6.9nm,0.3s						
MTBS	Maitube	3.40	14	*e*P	Pb	05 13 17.1	-2.3
	2.8nm,0.2s						
MTBS				*e*S	Sb	05 14 01.0	-0.2
	6.3nm,0.2s						
MTBS	Maitube	3.40	14	Pg	Pb	05 13 17.1	-2.3
	2.8nm,0.2s						
MTBS				Lg	Lg	05 14 01.0	
	6.3nm,0.2s						
DGS	Degeres	3.42	6	*e*P	Pb	05 13 19.1	-0.6
	3.3nm,0.5s						
DGS				*e*S	Sb	05 14 04.6	+2.8
	8.0nm,0.0s						
DGS	Degeres	3.42	6	Pg	Pb	05 13 19.1	-0.6
	3.3nm,0.5s						
DGS				Lg	Lg	05 14 04.6	
	8.0nm,0.0s						
TNSS	Tian-Shan	3.43	21	*e*P	Pb	05 13 18.7	-1.5
	1.5nm,0.3s						
TNSS				*e*S	Sb	05 14 03.6	+1.2
	4.0nm,0.0s						
TNSS	Tian-Shan	3.43	21	Pg	Pb	05 13 18.7	-1.5
	1.5nm,0.3s						
TNSS				Lg	Lg	05 14 03.7	
	4.0nm,0.0s						
MDOK	Medeo	3.58	21	*e*P	Pb	05 13 21.0	-1.5
	1.7nm,0.1s						
MDOK				*e*S	Sb	05 14 07.6	+1.3
	9.6nm,0.4s						
MDOK	Medeo	3.58	21	Pg	Pn	05 13 15.5	+0.5
	2.6nm,0.6s						
MDOK				Pg	Pb	05 13 21.0	-1.5
	1.7nm,0.3s						
MDOK				Lg	Lg	05 14 07.4	
	13nm,0.9s						
MDOK				Lg	Lg	05 14 07.6	
	9.6nm,0.4s						
SGDS	Sogindy	3.65	352	Pg	Pb	05 13 23.1	-0.5
	0.9nm,0.2s						
SGDS				Lg	Lg	05 14 11.2	
	7.3nm,0.3s						
KOTS	Kotyrbulak	3.66	21	*e*P	Pb	05 13 22.5	-1.3
	5.5nm,0.1s						
KOTS				*e*S	Sb	05 14 10.4	+1.7
	46nm,0.5s						
KOTS	Kotyrbulak	3.66	21	Pg	Pb	05 13 22.5	-1.3
	5.6nm,0.4s						
KOTS				Lg	Lg	05 14 10.4	
	46nm,0.5s						
KRBS	Karabastau	3.87	4	*e*P	Pb	05 13 27.1	-0.3
	1.6nm,0.6s						
KRBS				*e*S	Sb	05 14 18.4	+3.8
	2.7nm,0.7s						
KRBS	Karabastau	3.87	4	Pg	Pb	05 13 27.1	-0.3
	1.6nm,0.6s						
KRBS				Lg	Lg	05 14 18.4	
	2.7nm,0.7s						
KTBS	Karatobe	4.01	15	*e*P	Pb	05 13 29.3	-0.4
	1.9nm,0.3s						
KTBS				*e*S	Sb	05 14 22.2	+3.6
	6.4nm,0.5s						
KTBS	Karatobe	4.01	15	Pg	Pb	05 13 29.3	-0.4
	1.9nm,0.3s						
KTBS				Lg	Lg	05 14 22.3	
	6.4nm,0.5s						
KUU	Kurty	4.13	11	Pg	Pb	05 13 30.9	-0.9
	2.0nm,0.1s						
KUU				Lg	Lg	05 14 24.8	
	7.0nm,0.1s						
KPKS	Kokpek	4.43	34	*e*P	Pb	05 13 35.9	-1.0
	1.9nm,0.2s						
KPKS				*e*S	Sb	05 14 33.2	+2.5
	4.0nm,0.2s						
IUG	Iuzhnay	4.60	302	Pg	Pb	05 13 39.7	-0.1
	5.9nm,0.3s						
IUG				Lg	Lg	05 14 39.9	
	7.4nm,0.1s						

IPEC 17 05:39:42.2±0.3, 51°55N×16°26E, h1km, ML2.8/5, Error ellipse: s-maj=2.9km s-min=1.5km az=64.0
DNK 17 05:39:43.6±3.1, 51°61N×15°73E, h0km±271km, ML2.1
UPP 17 05:39:45.7±3.1, 51°68N×15°77E, h0km, ML2.1
PRU 17 05:39:45.5, 51°42N×16°10E, h0km
VIE 17 05:39:54.6±0.7, 50°65N×16°14E, h0km, mb2.4/7, ml2.5/8, Error ellipse: s-maj=7.3km s-min=4.6km az=125.0, Suspected Mining induced.

ISC 17 05:39:41.7±0.8, 51°59N±0°03×16°14E±0°03, h0km, n45, σ1§44/88, Poland

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res ISC |
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comp=Z,107nm,0.3s
KRLC Kraliky 1.57 165 *e*PG **Pn 05 40 10.9 +0.1**
KRLC *e*SG **Sn 05 40 30.2 -1.7**
comp=Z,111nm,0.7s
PRA Prague 1.87 216 *e*PG **Pn 05 40 14.9 0.0**
PRU Pruhonice 1.90 213 *e*SG **Sn 05 40 40.6 +0.7**
HSKC Hora Svate Kar 1.97 241 *e*PG **Pb 05 40 18.6 +0.2**
HSKC *e*SG **Sb 05 40 43.6 +0.1**
comp=Z,68nm,0.3s
CLL Collm 1.98 263 *e*Pg **Pb 05 40 19.0 +0.4**
CLL *e*Sg **Sg 05 40 45.0 -0.4**
comp=Z,52nm,0.5s
MORC Moravsky Berou 2.02 153 *e*Pn **Pn 05 40 16.3 -0.7**
baz=336
MORC *e*Sg **Sn 05 40 43.8 +0.8**
comp=Z,50nm,0.4s,baz=336
OKC Ostrava-Krasne 2.17 143 *e*SG **Sb 05 40 49.2 0.0**
comp=Z,60nm,0.5s
VRAC Vranov 2.30 173 *e*Pn **Pn 05 40 20.7 -0.1**
baz=355
VRAC *e*Sg **Sb 05 40 53.1 +0.1**
comp=Z,46nm,0.5s,baz=355
VRAC Vranov 2.30 173 *e*PN **Pn 05 40 20.8 -0.1**
VRAC *e*SG **Sb 05 40 53.2 +0.2**
TREC Trest 2.34 191 *e*SG **Sb 05 40 53.6 -0.4**
comp=Z,35nm,0.3s
KRUC Moravsky 2.54 176 *e*Pn **Pn 05 40 23.9 -0.1**
baz=358
KRUC *e*Sg **Sb 05 41 00.2 +0.5**
comp=Z,45nm,0.6s,baz=358
KRUC Moravsky 2.54 176 *e*PN **Pn 05 40 24.0 -0.1**
KRUC *e*SG **Sb 05 41 00.3 +0.5**
OJC Ojcow 2.69 119 *e*Pn **Pn 05 40 27.4 +1.2**
OJC *e*Pg **Pg 05 40 33.6 +0.4**
OJC *e*Sg **Sg 05 41 08.0 0.0**
JAVC Velka Javorina 2.91 160 *e*Pn **Pn 05 40 28.5 -0.7**
baz=342
JAVC *e*Sg **Sb 05 41 11.5 +1.1**
comp=Z,36nm,0.9s,baz=342
KHC Kasperske Hory 2.96 215 *e*PN **Pn 05 40 30.3 +0.4**
KHC *e*PG **Pb 05 40 36.1 +0.8**
KHC *e*SN **Sn 05 41 04.4 -1.7**
KHC *e*SG **Sb 05 41 13.9 +1.9**
comp=Z,25nm,0.4s
CKRC Cesky Krumlov 3.01 204 *e*PN **Pn 05 40 31.0 +0.4**
CKRC *e*PG **Pb 05 40 36.8 +0.6**
CKRC *e*SG **Sb 05 41 14.2 +0.7**
comp=Z,29nm,0.5s
LANS Liptovska Anna 3.24 138 *e*PG **Pg 05 40 45.8 +2.1**
LANS *e*SG **Sg 05 41 25.5 -0.2**
MODS Modra-Piesok 3.30 167 *e*SG **Sg 05 41 26.1 -1.6**
NIE Niedzica 3.43 128 *e*Pg **Pg 05 40 46.6 -0.7**
NIE *e*Sg **Sg 05 41 30.2 -1.6**
VYHS Vyhne 3.55 150 *e*PN **Pn 05 40 37.6 -0.4**
VYHS *e*SG **Sg 05 41 34.0 -1.7**
BSD Bornholm Skovb 3.61 349 *e* **Pn 05 40 36.0 -2.7**
baz=189,slow=14
BSD *i* P Pb 05 40 39.9 -6.4
BSD *i* S **Sn 05 41 20.1 -1.8**
BSD IAML 05 41 26.1
comp=Z,2.1nm,0.3s
RONA Rosalia, Austr 3.90 178 *i* Pn **Pn 05 40 42.5 -0.3**
comp=Z,0.8nm,0.3s
RONA *e*Sg **Sn 05 41 31.9 +2.7**
comp=Z,4.7nm,0.5s
MOA Molln 3.94 199 *i* Pn **Pn 05 40 43.7 +0.4**
comp=Z,1.0nm,0.2s
MOA *e*Sg **Sb 05 41 36.1 -4.0**
comp=Z,10.0nm,0.5s
BIOA Bad Ischl, Aus 4.23 204 *i* Pn **Pn 05 40 47.2 -0.1**
comp=Z,1.4nm,0.2s
BIOA *e*Sg **Sb 05 41 45.9 -2.5**
comp=Z,12nm,0.4s
LUNU Lund 4.36 339 P **Pn 05 40 50.1 +1.1**
LUNU S **Sn 05 41 40.1 -0.3**
LUNU Lund 4.36 339 *e*P **Pn 05 40 50.0 +0.9**
LUNU P **Pn 05 40 50.1 +1.1**
LUNU S **Sn 05 41 40.1 -0.3**
ARSA Arzberg 4.36 186 *i* Pn **Pn 05 40 48.3 -0.9**
comp=Z,0.7nm,0.3s
ARSA *e*Sg **Sb 05 41 48.3 -4.0**
comp=Z,16nm,0.6s
BLEU Blekinge 4.73 358 P **Pn 05 40 55.9 +1.8**
BLEU S **Sn 05 41 49.0 -0.6**
BLEU Blekinge 4.73 358 *i* P **Pn 05 40 55.7 +1.5**
BLEU P **Pn 05 40 55.9 +1.8**
BLEU *i* S **Sn 05 41 48.4 -1.2**
BLEU S **Sn 05 41 49.0 -0.6**
BLEU IAML 05 41 53.2
comp=Z,0.4nm,0.3s
LESA Schwarzleotal 4.74 210 *e*Pn **Pn 05 40 56.0 +1.6**
comp=Z,1.0nm,0.2s
LESA *e*Sg **Sb 05 42 04.1 +0.8**
comp=Z,2.0nm,0.3s
KOLS Kolonicke sedl 4.75 122 *e*SG **Sg 05 42 12.8 -1.3**
KBA Koelnbreinsper 4.87 203 *i* Pn **Pn 05 40 58.0 +1.7**
comp=Z,1.9nm,0.3s
KBA *e*Sg **Sb 05 42 09.3 +2.2**
comp=Z,10nm,0.5s
DEL Delary 5.07 346 P **Pn 05 40 59.8 +1.0**
DEL Delary 5.07 346 P **Pn 05 40 59.8 +1.0**
DEL *i* P **Pn 05 40 59.9 +1.0**
DEL IAML 05 42 01.1
comp=Z,1.7nm,0.4s
OBKA Obir 5.19 192 *e*Pn **Pn 05 41 03.0 +2.4**
comp=Z,2.8nm,0.5s
OBKA Sg **Sb 05 42 16.3 0.0**
comp=Z,8.5nm,0.5s
WTTA Wattenberg 5.23 216 *i* Pn **Pn 05 41 04.2 +3.0**
comp=Z,0.6nm,0.2s
WTTA *e*Sg **Sg 05 42 25.0 -4.7**
comp=Z,5.6nm,0.4s
FKPU Falk 6.73 349 P **Pn 05 41 23.8 +2.2**
FKPU Falk 6.73 349 P **Pn 05 41 23.8 +2.2**

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*BJI **17** 05:58:31.7±0.0, 45°.71N×143°.33E, h320km, mb4.2/16, mB4.3/3*
*JMA **17** 05:58:33.7±0.3, 46°N±2°×14°3E±°, h337km±2km, MV3.3/34, NE OFF HOKKAIDO*
*MOS **17** 05:58:33.9±0.9, 45°.87N×143°.26E, h331km, mb3.8/7, Error ellipse: s-maj=10.3km s-min=7.8km az=97.0*
*IDC **17** 05:58:34.8±0.5, 45°.94N×143°.23E, h324km±6km, mb3.4/18, mbtmp4.2/26, Error ellipse: s-maj=10.8km s-min=10.7km az=82.0*
*SKHL **17** 05:58:35.2±0.3, 45°.90N×143°.70E, h327km±1km, mb4.5/2, msh5.0/6*
ISC 17 05:58:34.5±0.5, **45°.85N**±0°.04×**143°.34E**±0°.05, **h324**km±5km, **n93**, σ0s**96**/114, **mb3.8**/23, **4C-11D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**1.04 211**		*e*P	**Pn**		**05 59 17.8**	**+0.1**
JSE				*e*S	**S**		**05 59 51.7**	**-0.5**
JWK2	**Keihoku**	**1.15 243**		P	**Pn**		**05 59 18.8**	**+0.7**
JWK2				*e*S	**S**		**05 59 53.2**	**+0.2**
YSS	**Yuzh-Sakhalins**	**1.18 340**		*e*P	**Pn**		**05 59 18.6**	**+0.5**
YSS				AMB	AMB		05 59 20.1	
	100nm,0.4s							
YSS				*e*S	**S**		**05 59 52.7**	**-0.4**
YSS				A	A		05 59 53.0	
	140nm,0.8s							
YSS				A	A		05 59 53.0	
	140nm,0.8s							
YSS				A	A		05 59 53.8	
	490nm,2.0s							
YSS				A	A		05 59 53.8	
	300nm,2.0s							
YSS	**Yuzh-Sakhalins**	**1.18 340**		*e*PN	**Pn**		**05 59 18.7**	**+0.6**
YSS				*e*S	**S**		**05 59 52.7**	**-0.4**
YSS				pmax	pmax			
	comp=Z,90nm,0.4s							
YSS				smax	smax			
	comp=N,110nm,0.9s							
YSS				smax	smax			
	comp=E,230nm,0.9s							
JRR	**Rishiri**	**1.60 244**		*e*P	**Pn**		**05 59 20.6**	**-0.1**
JRR				*e*S	**S**		**05 59 57.7**	**+0.2**
JRBN	**Rebuntou**	**1.66 256**		P	**Pn**		**05 59 20.7**	**-0.2**
JRBN				*e*S	**S**		**05 59 56.4**	**-1.7**
JSS	**Shosan**	**1.79 217**		*e*P	**Pn**		**05 59 22.4**	**+0.4**
ASAJ	**Asahikawa**	**1.81 197**		P	**Pn**		**05 59 22.9**	**+0.7**
	comp=E,91nm,0.6s,baz=358,slow=6.1,SNR=83							
ASAJ				S	**S**		**06 00 01.7**	**+1.4**
	comp=E,49nm,0.9s,baz=77,slow=32,SNR=20							
ASAJ	**Asahikawa**	**1.81 197**		*e*P	**Pn**		**05 59 22.8**	**+0.7**
ASAJ				*e*S	**S**		**06 00 01.0**	**+0.8**
JMP	**Maruseppu**	**1.84 180**		P	**Pn**		**05 59 22.7**	**+0.3**
JMP				*e*S	**S**		**06 00 01.1**	**+0.4**
JTKR	**Abashiri--Toko**	**1.92 168**		*e*P	**Pn**		**05 59 23.4**	**+0.5**
JTKR				*e*S	**S**		**06 00 01.9**	**+0.3**
JKK2	**Kamakawa 2**	**2.02 192**		P	**Pn**		**05 59 24.4**	**+0.8**
JKK2				*e*S	**S**		**06 00 04.1**	**+1.1**
JRA	**Rausu**	**2.29 146**		P	**Pn**		**05 59 26.4**	**+0.6**
JRA				*e*S	**S**		**06 00 07.6**	**+0.9**
JHR	**Hokuryu**	**2.40 209**		*e*P	**Pn**		**05 59 27.1**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**2.55 135**		*e*PN	Pn		05 59 42.5	+15
JAR	**Ashorobuto**	**2.57 173**		P	**Pn**		**05 59 28.6**	**+0.5**
JAR				*e*S	**S**		**06 00 11.0**	**-0.1**
JAK	**Akkeshi**	**3.01 161**		*e*P	**Pn**		**05 59 31.1**	**-1.0**
JAK				*e*S	**S**		**06 00 16.1**	**-2.2**
NEM2	**Nemuro 2**	**3.02 145**		*e*P	**Pn**		**05 59 30.1**	**-2.0**
SHO	**Shikotan**	**3.17 127**		*e*S	**S**		**06 00 19.0**	**-2.0**
SHO				*e*P	**Pn**		**05 59 33.0**	**-0.6**
SHO				AMB	AMB		05 59 33.7	
	comp=E,60nm,0.3s							
SHO				AMB	AMB		05 59 37.5	
	comp=E,280nm,3.0s							
SHO				A	A		06 00 20.7	
	comp=E,150nm,0.4s							
SHO				A	A		06 00 20.7	
	comp=E,140nm,0.4s							
SHO				A	A		06 00 22.8	
	comp=E,260nm,2.0s							
SHO				A	A		06 00 22.8	
	comp=E,400nm,2.0s							
SHO	**Shikotan**	**3.17 127**		*e*PN	**Pn**		**05 59 32.8**	**-0.8**
SHO				*e*S	**S**		**06 00 17.1**	**-3.9**
SHO				pmax	pmax			
	comp=Z,61nm,0.3s							
SHO				pmax	pmax			
	comp=N,5.0nm,0.2s							
SHO				pmax	pmax			
	comp=E,20nm,0.2s							
SHO				smax	smax			
	comp=N,89nm,0.3s							
SHO				smax	smax			
	comp=E,151nm,0.4s							
KUR	**Kuril'sk**	**3.24 99**		*e*PN	**Pn**		**05 59 36.0**	**+1.9**
KUR				*e*S	**S**		**06 00 22.5**	**+0.5**
JEW	**Eniwo**	**3.30 205**		P	**Pn**		**05 59 35.1**	**+0.2**
JEW				*e*S	**S**		**06 00 22.1**	**-1.3**
UGL	**Uglegorsk**	**3.34 345**		*e*S	**S**		**06 00 23.1**	**-0.7**
UGL				*e*P	**Pn**		**05 59 35.9**	**+0.8**
UGL				AMB	AMB		05 59 36.2	
	comp=E,160nm,0.7s							
UGL				A	A		06 00 24.6	
	comp=E,230nm,0.8s							
UGL				A	A		06 00 24.6	
	comp=E,180nm,0.8s							
JNBK	**Urakawa-nobuka**	**3.59 187**		*e*P	**Pn**		**05 59 36.8**	**-1.0**
JEM	**Erimo**	**3.83 182**		P	**Pn**		**05 59 40.5**	**+0.2**
ERM	**Erimo**	**3.84 182**		P	**Pn**		**05 59 40.3**	**0.0**
ERM	**Erimo**	**3.84 182**		*c i*PN	**Pn**		**05 59 40.0**	**-0.3**
JOSM	**Okushiri--Mats**	**4.69 218**		P	**Pn**		**05 59 49.2**	**-0.3**
JOT	**Ohata**	**4.77 201**		P	**Pn**		**05 59 49.0**	**-1.3**
JOMM	**Oshimamatsumae**	**4.95 210**		P	**Pn**		**05 59 51.7**	**-0.7**
TYV	**Tymovskoe**	**5.04 355**		*e*S	**S**		**06 00 55.7**	**-1.0**
TYV				*e*P	**Pn**		**05 59 53.1**	**-0.1**
TYV				AMB	AMB		05 59 53.6	
	comp=E,60nm,0.8s							
TYV				AMB	AMB		05 59 54.2	
	comp=E,100nm,2.0s							
TYV				A	A		06 00 56.7	
	comp=E,50nm,0.7s							
TYV				A	A		06 00 56.7	
	comp=E,40nm,0.7s							
TYV				A	A		06 00 57.8	
	comp=E,100nm,4.0s							
TYV				A	A		06 00 57.8	
	comp=E,200nm,4.0s							
TYV	**Tymovskoe**	**5.04 355**		*e*PN	**Pn**		**05 59 53.1**	**-0.1**
TYV				*e*S	**S**		**06 00 56.6**	**-0.1**
TYV				pmax	pmax			
	comp=Z,41nm,0.8s							
TYV				pmax	pmax			
	comp=Z,100nm,2.0s							
TYV				smax	smax			
	comp=N,37nm,2.1s							
TYV				smax	smax			
	comp=E,21nm,2.1s							
TYV				smax	smax			
	comp=N,100nm,4.0s							
TYV				smax	smax			
	comp=E,200nm,4.0s							
JTM	**Tenmabayashi**	**5.33 199**		P	**Pn**		**05 59 54.8**	**-1.9**
GRNR	**Gornyy**	**6.75 319**		*i* P	**Pn**		**06 00 13.0**	**-0.1**
GRNR				AMB	AMB		06 00 13.4	
	comp=E,60nm,0.6s							
GRNR	**Gornyy**	**6.75 319**	‖	*i*PN	**Pn**		**06 00 12.9**	**-0.1**
GRNR				pmax	pmax			
	comp=E,30nm,1.0s							
GRNR				pmax	pmax			
	comp=N,30nm,0.8s							
GRNR				pmax	pmax			
	comp=Z,30nm,1.2s							
JMM	**Marumori**	**8.20 194**		P	**Pn**		**06 00 29.8**	**-0.9**
USA0B	**Ussuriysk Arra**	**8.21 262**		*de*PN	**Pn**		**06 00 31.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**8.21 262**		P	**Pn**		**06 00 31.6**	**+0.9**
	comp=Z,7.9nm,0.6s,baz=69,slow=13,SNR=25							
USRK				S	**S**		**06 02 05.2**	**-0.2**
	comp=Z,4.3nm,0.9s,baz=76,slow=24,SNR=4.3							
KLR	**Kul'dur**	**8.54 297**		P	**Pn**		**06 00 35.2**	**+0.5**
	comp=Z,9.7nm,0.7s,baz=108,slow=13,SNR=21							
KLR	**Kul'dur**	**8.54 297**		*e*P	**Pn**		**06 00 34.7**	**+0.1**
KLR	**Kul'dur**	**8.54 297**		*de*PN	**Pn**		**06 00 34.7**	**+0.1**
KLR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
VLA	**Vladivostok**	**8.63 256**		PN	**Pn**		**06 00 34.0**	**-1.9**
VLA				pmax	pmax			
	comp=Z,28nm,0.9s							
PSTR	**Posyet**	**9.55 255**	⇑	*e*PN	**Pn**		**06 00 46.8**	**-0.1**
SKR	**Severo-Kuril's**	**9.79 56**		*e*P	**P**		**06 00 51.8**	**-0.7**
SKR	**Severo-Kuril's**	**9.79 56**	⇑	*e*PN	**P**		**06 00 51.7**	**-0.7**
EKMR	**Ekimchan**	**9.89 321**		*e*P	**Pn**		**06 00 50.9**	**-0.1**
EKMR				AMB	AMB		06 00 51.5	
	comp=Z,20nm,0.6s							
MAJO	**Matsushiro**	**10.07 204**		P	**Pn**		**06 00 52.7**	**-0.7**
MAJO	**Matsushiro**	**10.07 204**		*d i*PN	**Pn**		**06 00 53.0**	**-0.3**
MJAR	**Matsushiro Arr**	**10.07 204**		P	**Pn**		**06 00 53.6**	**+0.3**
	comp=Z,18nm,0.6s,baz=26,slow=9.6,SNR=46							
BNX	**BinXian**	**11.13 275**	⇑	P	**Pn**		**06 01 05.5**	**-0.5**
BNX				pmax	pmax			
	comp=Z,16nm,0.7s							
JGF	**Kuroka**	**11.20 206**		P	**Pn**		**06 01 06.6**	**-0.4**
HEH	**HeiHe**	**11.53 298**	‖	P	**Pn**		**06 01 09.9**	**-0.9**
HEH				pmax	pmax			
	comp=Z,22nm,0.8s							
HEH				pmax	pmax			
	comp=Z,89nm,4.8s							
INU	**Inuyama**	**11.53 207**		P	**Pn**		**06 01 10.9**	**-0.1**
JHJ	**Hachijo jima 2**	**13.01 193**		P	**Pn**		**06 01 28.8**	**+0.2**
	comp=Z,49nm,0.3s,baz=218,slow=17,SNR=8.4							
JHJ2	**Mitsune**	**13.01 193**		P	**Pn**		**06 01 30.1**	**+1.5**
ZEA	**Zeya**	**13.03 313**		*e*P	**Pn**		**06 01 29.2**	**+0.6**
ZEA				AMB	AMB		06 01 29.6	
	comp=Z,280nm,0.7s							
ZEA	**Zeya**	**13.03 313**		*e*PN	**Pn**		**06 01 27.9**	**-0.7**
ZEA				pmax	pmax			
	comp=N,30nm,0.5s							
ZEA				pmax	pmax			
	comp=E,20nm,0.5s							
ZEA				pmax	pmax			
	comp=Z,50nm,0.6s							
KSRS	**Korea Array**	**14.24 239**		P	**Pn**		**06 01 43.7**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=56,slow=10,SNR=21							
MA2	**Magadan**	**14.45 15**		P	**Pn**		**06 01 45.6**	**+0.2**
	comp=Z,15nm,0.6s,baz=187,slow=9.7,SNR=5.9							
JNU	**Nakatsue**	**15.92 221**		P	**P**		**06 02 00.8**	**+0.5**
	comp=Z,17nm,0.7s,baz=51,slow=9.1,SNR=16							
SEY	**Seymchan**	**17.88 14**		P	**P**		**06 02 21.2**	**+0.2**
	comp=Z,9.9nm,0.6s,baz=195,slow=7.2,SNR=24							
SEY	**Seymchan**	**17.88 14**		*de*P	**P**		**06 02 21.4**	**+0.4**
SEY				pmax	pmax			
	comp=Z,10.0nm,0.9s							
XLT	**XiLinHaoTe**	**19.39 274**		*e*P	**P**		**06 02 35.8**	**-1.7**
XLT				pmax	pmax			
	comp=Z,4.0nm,0.6s							
XLT				pmax	pmax			
	comp=Z,160nm,5.4s							
ULN	**Ulaanbaatar**	**24.76 288**		*de*P	**P**		**06 03 27.1**	**-0.4**
ULN				pmax	pmax			
	comp=Z,7.0nm,1.0s							
SONM	**Songino Array**	**25.20 288**		P	**P**		**06 03 31.3**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=76,slow=9.2,SNR=14							
	comp=Z,3.1nm,0.5s							
ZALV	**Zalesovo Beam**	**37.57 304**		P	**P**		**06 05 16.9**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=83,slow=7.9,SNR=6.7							
	comp=Z,1.8nm,0.5s							
ZALV	**Zalesovo Beam**	**37.57 304**		*i* P	**P**		**06 05 20.0**	**+1.7**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.4s							
MK31	**Makanchi Array**	**41.23 294**		*de*P	**P**		**06 05 47.8**	**-0.6**
MKAR	**Makanchi Array**	**41.23 294**		P	**P**		**06 05 48.1**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=80,slow=8.7,SNR=21							
	comp=Z,2.0nm,0.6s							
ILAR	**Eielson Array**	**41.43 37**		P	**P**		**06 05 49.2**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=258,slow=6.3,SNR=20							
	comp=Z,0.5nm,0.5s							
KURK	**Kurchatov**	**42.12 301**		*e*P	**P**		**06 05 54.1**	**-1.3**
KURK	**Kurchatov**	**42.12 301**	‖	*e*P	**P**		**06 05 54.1**	**-1.3**
KURK				pmax	pmax			
	comp=Z,6.0nm,1.7s							
KURBB	**Kurchatov Arra**	**42.20 301**		P	**P**		**06 05 55.2**	**-0.9**
	comp=Z,3.5nm,0.5s,baz=75,slow=9.1,SNR=22							
	comp=Z,3.5nm,0.5s							
BVAR	**Borovoye Array**	**46.08 307**		P	**P**		**06 06 25.9**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=67,slow=11,SNR=7.3							
	comp=Z,1.8nm,0.5s							
BRVK	**Borovoye**	**46.12 307**		*e*P	**P**		**06 06 26.9**	**0.0**
BRVK	**Borovoye**	**46.12 307**	‖	*e*P	**P**		**06 06 26.9**	**0.0**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KSH	**Kashi**	**48.60 288**		P	P		06 06 50.6	+4.4
KSH				pmax	pmax			
	comp=Z,3.0nm,0.5s							
FINES	**FINESS Array B**	**61.75 331**		P	**P**		**06 08 17.8**	**-1.0**
	comp=Z,3.8nm,0.5s,baz=44,slow=8.0,SNR=35							
	comp=Z,3.8nm,0.5s							
FINES	**FINESS Array B**	**61.75 331**		*i* P	**P**		**06 08 17.6**	**-1.1**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.5s							
WRA	**Warramunga Arr**	**65.99 189**		P	**P**		**06 08 46.6**	**0.0**
	comp=Z,0.5nm,0.6s,baz=7.8,slow=6.9,SNR=11							
	comp=Z,0.5nm,0.6s							
KBZ	**Khabaz**	**66.38 309**		P	**P**		**06 08 49.5**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=59,slow=4.4,SNR=5.4							
	comp=Z,2.8nm,0.7s							
KBZ	**Khabaz**	**66.38 309**		*e*P	**P**		**06 08 49.9**	**+1.0**
KBZ	**Khabaz**	**66.38 309**	‖	*e*P	**P**		**06 08 49.9**	**+1.0**
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
NOA	**NORSAR Array B**	**66.64 337**		P	**P**		**06 08 48.5**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=34,slow=6.4,SNR=4.9							
	comp=Z,0.3nm,0.4s							
HFS	**Hagfors**	**66.68 335**		P	**P**		**06 08 49.5**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=46,slow=6.4,SNR=14							
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**68.27 321**		P	**P**		**06 08 59.7**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=44,slow=6.9,SNR=1.0							
	comp=Z,0.4nm,0.3s							
NVAR	**Mina Array Bea**	**68.72 57**		P	**P**		**06 09 05.8**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=292,slow=4.6,SNR=5.6							
	comp=Z,0.5nm,0.6s							
ASAR	**Alice Springs**	**69.71 189**		P	**P**		**06 09 11.2**	**+1.6**
	comp=Z,1.8nm,0.6s,baz=2.0,slow=5.3,SNR=29							
	comp=Z,1.8nm,0.6s							
PDAR	**Pinedale Array**	**70.58 48**		P	**P**		**06 09 15.8**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=349,slow=0.7,SNR=6.8							
	comp=Z,0.6nm,0.6s							
ULM	**Lac du Bonnet**	**71.42 36**		P	**P**		**06 09 18.9**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=339,slow=6.1,SNR=2.8							
	comp=Z,1.3nm,0.5s							
BRTR	**Keskin Array B**	**74.13 311**		P	**P**		**06 09 36.2**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=95,slow=4.0,SNR=5.3							
	comp=Z,1.6nm,0.7s							
CLL	**Collm**	**74.17 330**		*i* P	**P**		**06 09 35.3**	**-0.4**
	comp=Z,6.0nm,0.6s							
CLL				*e*pP	**pP**		**06 10 50.0**	**+0.7**
TXAR	**Lajitas Array**	**83.67 54**		P	**P**		**06 10 28.8**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=287,slow=3.8,SNR=6.3							
	comp=Z,0.1nm,0.4s							

IDC 17 06:10:40.2±3.7, **54°.50N**×**87°.20E, h0**km, **mbtmp2.7**/2, **Error ellipse: s-maj=33.1km s-min=21.7km az=45.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50 249**		I	I		06 18 50.0	
	baz=69,slow=309,SNR=2.1							
ZALV	**Zalesovo Beam**	**1.50 249**		Pg	Pn		06 11 05.8	-2.5
	baz=66,slow=16							
ZALV				Lg	Lg		06 11 28.5	
	baz=67,slow=27							
KURBB	**Kurchatov Arra**	**6.56 237**		Pn	Pn		06 12 18.7	+0.9
	0.4nm,0.5s,baz=53,slow=14,SNR=4.3							
MKAR	**Makanchi Array**	**8.32 204**		Pn	Pn		06 12 43.2	+1.2
	0.2nm,0.6s,baz=22,slow=12,SNR=1.7							

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*IDC **17** 06:25:06.0±1.6, 21°.86S×174°.02W, h0km, mb3.8/3, mbtmp4.1/4, ML3.6/1, MS3.4/1, Error ellipse: s-maj=102.0km s-min=25.3km az=161.0*
ISC 17 06:25:09.8±1.2, **21°.8S**±0°.4×**174°.0W**±0°.1, **h35**km, **n7**, σ**2**s**04**/6, **mb3.9**/4, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.21 90**		Pn	**Pn**		**06 28 14.2**	**-0.6**
	2.9nm,0.3s,baz=275,slow=15,SNR=9.7							
	15nm,0.5s							
PPT	**Papeete**	**23.32 84**		LR	LR		06 38 53.4	
	comp=Z,86nm,18.0s,baz=293,slow=35							
ASAR	**Alice Springs**	**47.92 257**		P	**P**		**06 33 45.8**	**+0.7**
	2.0nm,0.7s,baz=93,slow=9.2,SNR=25							
	2.0nm,0.7s							
WRA	**Warramunga Arr**	**48.17 262**		P	**P**		**06 33 47.4**	**+0.3**
	0.7nm,0.7s,baz=96,slow=8.0,SNR=11							
	0.7nm,0.7s							
MJAR	**Matsushiro Arr**	**73.51 321**		P	**P**		**06 36 37.5**	**-1.5**
	0.7nm,0.4s,baz=162,slow=5.1,SNR=4.3							
NVAR	**Mina Array Bea**	**79.41 41**		P	**P**		**06 37 15.2**	**+2.5**
	0.4nm,0.6s,baz=228,slow=8.4,SNR=6.1							
	0.4nm,0.6s							
EKA	**Eskdalemuir Ar**	**145.78 9**		PKPbc	**PKiKP**		**06 44 46.7**	**-1.7**
	1.0nm,0.6s,baz=322,slow=2.8,SNR=4.7							

IDC 17 06:25:52.8±1.4, **5°.13S**×**153°.65E, h0**km, **mb3.7**/4, **mbtmp3.8**/4, **Error ellipse: s-maj=52.2km s-min=31.0km az=60.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.90 145**		P	P		06 30 37.7	+0.6
	1.8nm,0.4s,baz=200,slow=9.2,SNR=5.9							
	1.8nm,0.4s							
WRA	**Warramunga Arr**	**23.88 230

az=164.0

ISC 17 06:40:48.9±0.7,24°01S±0°04×67°03W±0°04,h203km±7km, n63,σ1§23/83,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.49**	**315**		**Pn**	**06 41 24.2**	**+1.0**
AF01	**San Pedro de A**	**1.49**	**315**	*eP*	**Pn**	**06 41 23.7**	**+0.5**
AF01				IAML		06 42 00.8	
	comp=Z,238nm,0.2s						
SLA	**San Lorenzo**	**1.56**	**117**	*eP*	**Pn**	**06 41 24.3**	**+0.7**
SLA				*eS*	**S**	**06 41 52.8**	**+2.6**
AZAP	**Zapla**	**1.81**	**97**	*eP*	**Pn**	**06 41 26.0**	**0.0**
AZAP				*eS*	**S**	**06 41 50.8**	**-3.5**
LVC	**Limon Verde**	**2.22**	**308**		**Pn**	**06 41 31.0**	**+0.6**
LVC	**Limon Verde**	**2.22**	**308**	*eP*	**Pn**	**06 41 31.0**	**+0.6**
LVC				*eS*	**S**	**06 42 02.7**	**+0.7**
LVC				IAML		06 42 03.3	
	comp=Z,144nm,0.5s						
LVC	**Limon Verde**	**2.22**	**308**	P	**Pn**	**06 41 31.0**	**+0.6**
	comp=Z,76nm,0.3s,baz=139,slow=8.7,SNR=311						
LVC				S	**S**	**06 42 02.0**	**0.0**
	comp=Z,164nm,0.3s,baz=330,slow=19,SNR=59						
YJA	**Yavi**	**2.30**	**38**	*eP*	**Pn**	**06 41 31.8**	**+0.6**
YJA				*eS*	**S**	**06 42 04.5**	**+0.8**
FSA	**Cafayete**	**2.30**	**156**	*eP*	**Pn**	**06 41 30.9**	**0.0**
PB15	**IPOC Station P**	**2.38**	**289**		**Pn**	**06 41 32.6**	**+0.7**
PB15	**IPOC Station P**	**2.38**	**289**	*eP*	**Pn**	**06 41 32.5**	**+0.7**
PB15				*eS*	**S**	**06 42 04.8**	**0.0**
GO02	**Mina Guanaco**	**2.60**	**243**		**Pn**	**06 41 34.9**	**+0.5**
GO02	**Mina Guanaco**	**2.60**	**243**	*eP*	**Pn**	**06 41 34.9**	**+0.5**
GO02				*eS*	**S**	**06 42 09.7**	**+0.4**
PB06	**IPOC Station P**	**2.67**	**299**		**Pn**	**06 41 35.2**	**+0.1**
PB06	**IPOC Station P**	**2.67**	**299**	*eP*	**Pn**	**06 41 35.6**	**+0.5**
PB06				*eS*	**S**	**06 42 10.2**	**-0.3**
PB06				IAML		06 42 13.8	
	comp=Z,425nm,0.4s						
ALOL	**LOMAS DE OLMED**	**2.79**	**87**	*eP*	**Pn**	**06 41 36.4**	**+0.1**
PB09	**IPOC Station P**	**3.00**	**317**		**Pn**	**06 41 39.5**	**+0.5**
PB09	**IPOC Station P**	**3.00**	**317**	*eP*	**Pn**	**06 41 39.8**	**+0.8**
PB09				*eS*	**S**	**06 42 17.7**	**+0.3**
PB09				IAML		06 42 24.8	
	comp=Z,198nm,0.3s						
PB05	**IPOC Station P**	**3.13**	**291**		**Pn**	**06 41 40.5**	**+0.1**
PB14	**IPOC Station P**	**3.14**	**258**		**Pn**	**06 41 40.6**	**0.0**
PB14	**IPOC Station P**	**3.14**	**258**	*eP*	**Pn**	**06 41 40.8**	**+0.1**
PB14				*eS*	**S**	**06 42 20.4**	**0.0**
PB14				IAML		06 42 21.0	
	comp=Z,190nm,0.5s						
AHML	**Horco Molle**	**3.16**	**151**	*eP*	**Pn**	**06 41 42.0**	**+1.4**
AHML				*eS*	**S**	**06 42 20.6**	**0.0**
PB10	**IPOC Station P**	**3.27**	**278**		**Pn**	**06 41 41.8**	**0.0**
PB10	**IPOC Station P**	**3.27**	**278**	*eP*	**Pn**	**06 41 42.2**	**+0.3**
PB10				*eS*	**S**	**06 42 22.5**	**-0.2**
PB10				IAML		06 42 25.3	
	comp=Z,174nm,0.5s						
PB04	**IPOC Station P**	**3.32**	**300**		**Pn**	**06 41 42.4**	**-0.3**
PB04	**IPOC Station P**	**3.32**	**300**	*eP*	**Pn**	**06 41 42.7**	**0.0**
PB04				*eS*	**S**	**06 42 23.0**	**-1.1**
PB04				IAML		06 42 26.9	
	comp=Z,309nm,0.2s						
AC01	**Pan de Azucar**	**3.87**	**236**		**Pn**	**06 41 48.4**	**-0.8**
AC01	**Pan de Azucar**	**3.87**	**236**	*eP*	**Pn**	**06 41 48.4**	**-0.8**
AC01				*eS*	**S**	**06 42 34.3**	**-1.8**
AC01				IAML		06 42 35.1	
	comp=Z,118nm,0.3s						
PATCX	**Punta Patache**	**4.29**	**317**		**Pn**	**06 41 53.7**	**-0.9**
PATCX	**Punta Patache**	**4.29**	**317**	*eP*	**Pn**	**06 41 54.4**	**-0.2**
PATCX				*eS*	**S**	**06 42 47.5**	**+1.8**
PATCX				IAML		06 42 52.4	
	comp=Z,104nm,0.5s						
AC06	**Mina Casimiro**	**4.49**	**221**		**Pn**	**06 41 55.9**	**-1.0**
TA01	**Diego Aracena**	**4.50**	**319**		**Pn**	**06 41 56.5**	**-0.6**
TA01	**Diego Aracena**	**4.50**	**319**	*eP*	**Pn**	**06 41 56.5**	**-0.6**
TA01				*eS*	S	06 42 34.8	-16
TA01				IAML		06 42 40.4	
	comp=Z,64nm,0.2s						
CYA	**Choya**	**4.55**	**166**	*eP*	**Pn**	**06 41 58.3**	**+0.7**
CYA				*eS*	**S**	**06 42 53.2**	**+1.8**
HMBC	**Humberstone**	**4.56**	**324**		**Pn**	**06 41 56.6**	**-1.4**
HMBC	**Humberstone**	**4.56**	**324**	*eP*	**Pn**	**06 41 56.6**	**-1.4**
HMBC				*eS*	**S**	**06 42 49.9**	**-2.0**
HMBC				IAML		06 42 54.9	
	comp=Z,182nm,0.3s						
GO03	**Copiap**	**4.59**	**218**		**Pn**	**06 41 57.2**	**-1.1**
GO03	**Copiap**	**4.59**	**218**	*eP*	**Pn**	**06 41 57.4**	**-0.8**
GO03				*eS*	**S**	**06 42 51.0**	**-1.4**
GO01	**Chusmiza**	**4.77**	**335**		**Pn**	**06 42 01.0**	**+0.1**
GO01	**Chusmiza**	**4.77**	**335**	*eP*	**Pn**	**06 42 01.1**	**+0.2**
GO01				*eS*	**S**	**06 42 56.5**	**-0.6**
VCA	**Vinchina**	**4.82**	**192**	*eP*	Pn	06 41 47.5	-14
VCA				*eS*	**S**	**06 43 00.1**	**+2.2**
PB11	**IPOC Station P**	**4.88**	**330**		**Pn**	**06 42 01.0**	**-1.1**
PB11	**IPOC Station P**	**4.88**	**330**	*eP*	**Pn**	**06 42 01.2**	**-0.8**
PB11				*eS*	**S**	**06 42 56.7**	**-2.6**
PB11				IAML		06 42 59.7	
	comp=Z,62nm,0.2s						
AC04	**Llanos de Chal**	**5.54**	**220**	Pn	**Pn**	**06 42 08.6**	**-1.6**
AC05	**El Transito**	**5.62**	**210**	Pn	**Pn**	**06 42 11.2**	**-0.2**
LCO	**Las Campanas**	**5.97**	**213**	Pn	**Pn**	**06 42 14.8**	**-1.2**
CO01	**Juntas del Tor**	**6.54**	**204**	Pn	**Pn**	**06 42 25.3**	**+1.9**
PB18	**Visviri**	**6.79**	**340**	Pn	**Pn**	**06 42 28.4**	**+1.4**
CO03	**El Pedregal**	**7.54**	**205**	Pn	**Pn**	**06 42 34.4**	**-1.8**
LPAZ	**La Paz**	**7.75**	**352**		**Pn**	**06 42 39.9**	**+0.3**
LPAZ	**La Paz**	**7.75**	**352**	P	**Pn**	**06 42 40.0**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=157,slow=9.2,SNR=18						
CO02	**Combarbal**	**7.98**	**205**	Pn	**Pn**	**06 42 39.2**	**-2.8**
CPUP	**Villa Florida**	**9.09**	**107**	Pn	**Pn**	**06 42 55.5**	**-0.7**
CPUP	**Villa Florida**	**9.09**	**107**	P	**Pn**	**06 42 55.2**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=46,slow=17,SNR=4.1						
SIV	**San Ignacio**	**9.74**	**36**	P	**Pn**	**06 43 03.0**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=206,slow=14,SNR=6.8						
TRQA	**Tornquist**	**14.65**	**164**		**Pn**	**06 44 05.0**	**-1.6**
VAO	**Valinhos**	**18.43**	**91**	P	**P**	**06 44 47.0**	**-2.3**
VAO				IAmb	IAmb	06 44 50.6	
	comp=Z,14nm,0.9s						
BDFB	**Brasilia**	**19.71**	**69**	P	**P**	**06 45 01.8**	**-1.4**
BDFB				IAmb	IAmb	06 45 05.0	
	comp=Z,6.9nm,0.7s						
BDFB	**Brasilia**	**19.71**	**69**	P	**P**	**06 45 03.9**	**+0.7**
	comp=Z,6.3nm,0.6s,baz=241,slow=10,SNR=15						
QSPA	**South Pole Qui**	**66.19**	**180**	P	**P**	**06 51 17.7**	**+3.1**
	comp=Z,1.0nm,0.5s,baz=264,slow=0.5,SNR=9.3						
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.60**	**69**	P	**P**	**06 52 18.4**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=265,slow=5.7,SNR=4.3						
	comp=Z,0.6nm,0.8s						
WRA	**Warramunga Arr**	**131.60**	**207**	PKP	**PKiKP**	**06 59 41.0**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=154,slow=2.0,SNR=8.3						
MKAR	**Makanchi Array**	**146.55**	**39**	PKPbc	**PKiKP**	**07 00 08.7**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=304,slow=2.8,SNR=4.4						

IDC 17 06:42:20.1±3.5,53°51N×90°53E,h0km,mbtmp3.3/3,Error ellipse: s-maj=36.0km s-min=22.9km az=32.0

NNC 17 06:42:19.4±1.6,53°77N×90°37E,h4km±8km,mb3.6, mpv3.4,7C-7D,Error ellipse: s-maj=13.7km s-min=10.4km az=26.0,Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.29**	**275**	I	I	07 04 00.0	
	baz=92,slow=308,SNR=8.4						
ZAA0	**Zalesovo Array**	**3.29**	**275**	⇑Pg	Pb	06 43 18.8	+0.5
	0.7nm,0.4s						
ZAA0				⇓Lg	Lg	06 44 05.3	
	17nm,1.0s						
ZALV	**Zalesovo Beam**	**3.29**	**275**	Pn	Pb	06 43 16.6	-1.6
	2.7nm,0.4s,baz=95,slow=15,SNR=10						
ZALV				Lg	Lg	06 44 10.5	
	baz=91,slow=26						
KURK	**Kurchatov**	**7.83**	**252**	⇑Pn	Pn	06 44 13.9	-0.1
	4.0nm,1.2s						
KURK				⇑Sn	Sn	06 45 43.6	+0.7
	12nm,0.9s						
KURK				⇓Lg	Lg	06 46 29.1	
	27nm,1.0s						
KURBB	**Kurchatov Arra**	**7.92**	**251**	Pn	Pn	06 44 16.1	+0.8
	1.8nm,0.5s,baz=66,slow=15,SNR=17						
KURBB				Sn	Sn	06 45 44.0	-1.3
	baz=65,slow=26						
KURBB				Lg	Lg	06 46 34.3	
	baz=68,slow=28						
KURBB	**Kurchatov Arra**	**7.92**	**251**	⇑Pn	Pn	06 44 16.2	+1.0
	3.6nm,0.5s						
KURBB				⇓Sn	Sn	06 45 46.4	+1.1
	40nm,0.9s						
KURBB				⇓Lg	Lg	06 46 32.6	
	38nm,1.0s						
MK31	**Makanchi Array**	**8.68**	**220**	⇓Pn	Pn	06 44 25.2	-0.6
	0.6nm,0.6s,baz=38,slow=14,SNR=15						
MK31				⇑Sn	Sn	06 46 05.8	+1.8
	4.3nm,1.1s						
MK31				⇑Lg	Lg	06 46 54.8	
	9.5nm,0.9s,baz=38,slow=22,SNR=4.1						
MKAR	**Makanchi Array**	**8.68**	**220**	Pn	Pn	06 44 26.1	+0.4
	0.9nm,0.5s,baz=40,slow=13,SNR=16						
MKAR				Sn	Sn	06 46 03.5	-0.5
	baz=36,slow=25						
MKAR				Lg	Lg	06 46 53.6	
	baz=40,slow=25						
MAKZ	**Makanchi**	**8.79**	**221**	⇓Pn	Pn	06 44 28.1	+0.9
	1.0nm,0.5s						
MAKZ				⇑Sn	Sn	06 46 06.9	+0.3
	5.8nm,1.4s						
MAKZ				⇓Lg	Lg	06 46 58.6	
	8.7nm,1.1s						

IDC 17 06:43:43.3±6.8,5°61S×151°41E,h53km±56km,mb3.1/3, mbtmp3.6/4,ML2.2/1,Error ellipse: s-maj=115.4km s-min=36.2km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.66**	**228**	P	Pn	06 45 05.4	+0.6
	5.0nm,0.3s,baz=64,slow=4.7,SNR=6.0						
PMG				S	Sn	06 46 08.4	0.0
	20nm,0.3s,baz=324,slow=20,SNR=6.6						
	18nm,0.4s						
WRA	**Warramunga Arr**	**21.88**	**228**	P	P	06 48 33.5	+1.6
	1.3nm,0.5s,baz=54,slow=10,SNR=15						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**24.63**	**221**	P	P	06 48 58.0	-1.0
	0.3nm,0.5s,baz=55,slow=9.6,SNR=6.1						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**83.43**	**22**	P	P	06 56 04.1	-0.6
	0.2nm,0.6s,baz=242,slow=5.1,SNR=4.1						
	0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.22**	**286**	PKPbc	PKPbc	07 03 27.1	0.0
	0.4nm,0.4s,baz=100,slow=2.9,SNR=4.3						

BJI 17 07:02:52.7±0.0,10°99S×166°59E,h42km,mb5.7/96, mB5.8/83,Ms5.7/98,Ms7 5.5/95

MOS 17 07:02:52.3±1.0,11°58S×166°32E,h52km,mb5.8/49, MS5.4/14,Error ellipse: s-maj=7.4km s-min=5.9km az=125.9

NEIC 17 07:02:53,11°60S×166°42E,h46km

NEIC 17 07:02:53.0±1.8,11°59S±0°08×166°43E±0°08,h38km±4km, mb5.7/140,Ms_20 5.7/1051,Mww6.0/34,Error ellipse: s-maj=12.0km s-min=10.5km az=53.0

NEIC 17 07:02:53,11°60S×166°12E,h46km,Moment Tensor Solution. Duration: 4§7 Moment tensor: Scale 10^{18}Nm; M_{rr}1.10; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-0.97; $M_{r\theta}$0.09; $M_{r\phi}$0.17; $M_{\theta\phi}$0.13; Fault plane solution: $M_0$1.06000×10^{18} NP1: ϕ_s354.74000°,δ48.24000°,λ97.27000°. NP2: ϕ_s163.89000°,δ42.27000°,λ81.93000°. Principal axes: T 1.1145, Plg84.0000°, Azm321.0000°; N -0.1060, Plg5.0000°, Azm170.0000°; P -1.0085, Plg3.0000°, Azm80.0000°;

IPGP 17 07:02:55.0,11°69S×166°33E,h46km,Mw6.0,Fault plane solution: NP1:ϕ_s351.00000°,δ50.00000°,λ82.00000°. NP2:ϕ_s183.00000°,δ40.00000°,λ99.00000°.

NOU 17 07:02:56.8,11°66S×166°34E,h71km,ML5.9/135,Santa Cruz Islands

GCMT 17 07:02:56.0±0.1,11°72S×166°07E,h48km,MW6.0/162, Moment Tensor Solution. s162,c355; s157,c504; Duration: 2§3 Moment tensor: Scale 10^{18}Nm; M_{rr}1.09±.01; $M_{\theta\theta}$-0.04±.01; $M_{\phi\phi}$-1.05±.01; $M_{r\theta}$-0.03±.01; $M_{\theta\phi}$0.19±.00; $M_{r\phi}$0.20±.01; Best double couple: $M_0$1.10500×10^{18} NP1:ϕ_s350.00000°,δ50.00000°, λ90.00000°. NP2:ϕ_s170.00000°,δ40.00000°,λ90.00000°. Principal axes: T 1.1080, Plg85.0000°, Azm261.0000°; N -0.0030, Plg0.0000°, Azm170.0000°; P -1.1030, Plg5.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

IDC 17 07:02:56.3±1.3,11°69S×166°40E,h77km±10km,mb5.1/20, mbtmp5.3/22,MS5.3/58 Error ellipse: s-maj=12.3km s-min=8.7km az=147.0

ISC 17 07:02:53.5±0.3,11°68S±0°03×166°42E±0°03,h54km±2km, h55km:pP-P,n1686,σ1§29/1292,mb5.7/218,MS5.7/602, 79C-15D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.74**	**289**	P	**Pn**	**07 04 31.7**	**+1.8**
HNR	**Honiara**	**6.74**	**289**	Pn	**Pn**	**07 04 30.4**	**+0.5**
HNR	**Honiara**	**6.74**	**289**	⇓P	**Pn**	**07 04 30.6**	**+0.7**
HNR	**Honiara**	**6.74**	**289**	LR	LR	07 07 26.4	
	comp=Z,707μm,21.1s,baz=120,slow=40						
HNR	**Honiara**	**6.74**	**289**	P	**Pn**	**07 04 30.4**	**+0.5**
KOUNC	**Koumac, New Ca**	**9.05**	**193**	P	**Pn**	**07 05 04.3**	**+2.7**
KOUNC	**Koumac, New Ca**	**9.05**	**193**	Pn	**Pn**	**07 05 02.9**	**+1.3**
KOUNC	**Koumac, New Ca**	**9.05**	**193**	⇑P	**Pn**	**07 05 02.7**	**+1.1**
LIFNC	**LIFOU**	**9.08**	**175**	P	**Pn**	**07 05 03.8**	**+1.9**
LIFNC	**LIFOU**	**9.08**	**175**	Pn	**Pn**	**07 05 03.8**	**+1.9**
MARNC	**Mare, Loyalty**	**9.87**	**171**	P	**Pn**	**07 05 16.6**	**+3.9**
YATNC	**Mamie plateau,**	**10.33**	**178**	P	**Pn**	**07 05 21.3**	**+2.2**
DZM	**Mont Dzumac**	**10.33**	**180**	*e*Pn	**Pn**	**07 05 20.5**	**+1.3**
	608nm,1.3s						
DZM				*e*Sn	**Sn**	**07 07 10.5**	**-3.1**
	614nm,0.8s						
DZM				*e*LR	LR	07 07 39.7	
	74μm,25.4s						
DZM	**Mont Dzumac**	**10.33**	**180**	Pn	**Pn**	**07 05 21.1**	**+1.9**
DZM	**Mont Dzumac**	**10.33**	**180**	⇑P	**Pn**	**07 05 20.9**	**+1.7**
DZM	**Mont Dzumac**	**10.33**	**180**	P	**Pn**	**07 05 21.0**	**+1.8**
	44nm,0.5s,baz=37,slow=19,SNR=61						
DZM				S	**Sn**	**07 07 10.9**	**-2.7**
	176nm,0.7s,baz=164,slow=23,SNR=4.6						
ONTNC	**Ouen Toro**	**10.57**	**180**	P	**Pn**	**07 05 25.0**	**+2.8**
ONTNC	**Ouen Toro**	**10.57**	**180**	Pn	**Pn**	**07 05 25.0**	**+2.8**
ONTNC	**Ouen Toro**	**10.57**	**180**	⇑P	**Pn**	**07 05 25.1**	**+2.8**
PINNC	**Pines Island,**	**10.92**	**175**	Pn	**Pn**	**07 05 30.4**	**+3.3**
MSVF	**Nonsavu**	**12.76**	**120**	P	**Pn**	**07 05 57.0**	**+4.7**
MSVF	**Nonsavu**	**12.76**	**120**	Pn	**Pn**	**07 05 57.0**	**+4.7**
MSVF	**Nonsavu**	**12.76**	**120**	⇓P	**P**	**07 05 58.1**	**-3.7**
MSVF	**Nonsavu**	**12.76**	**120**	P	**Pn**	**07 05 57.0**	**+4.7**
TARA	**Tarawa**	**14.47**	**27**	P	**P**	**07 06 19.0**	**-1.8**
TARA	**Tarawa**	**14.47**	**27**	P	**P**	**07 06 18.7**	**-2.1**
TARA	**Tarawa**	**14.47**	**27**	⇓P	**Pn**	**07 06 16.4**	**+0.9**
FUTU	**Fugatoga**	**15.29**	**102**	P	**P**	**07 06 30.5**	**+0.6**
KRVT	**Keravat (AS076**	**16.02**	**296**	LR	LR	07 13 11.4	
	comp=Z,2μm,20.3s,baz=137,slow=38						
KAVG	**Kavieng**	**17.92**	**299**	P	**Pn**	**07 06 59.7**	**+0.7**
GD1S	**Gladstone Soft**	**18.88**	**228**	P	**Pn**	**07 07 12.3**	**+1.8**
PMG	**Port Moresby**	**19.07**	**275**	P	**Pn**	**07 07 13.4**	**+0.5**
PMG	**Port Moresby**	**19.07**	**275**	P	**Pn**	**07 07 14.4**	**+1.5**
	121nm,1.1s,baz=93,slow=6.8,SNR=13						
PMG				S	**Sn**	**07 10 46.8**	**+0.9**
	19nm,0.8s,baz=313,slow=19,SNR=1.8						
PMG				LR	LR	07 14 03.4	
	comp=Z,24μm,21.0s,baz=118,slow=35						
EIDS	**Eidsvold**	**19.89**	**225**	P	**Pn**	**07 07 22.9**	**+0.3**
EIDS	**Eidsvold**	**19.89**	**225**	P	**P**	**07 07 21.5**	**+0.9**
EIDS	**Eidsvold**	**19.89**	**225**	P	**Pn**	**07 07 22.7**	**+0.1**
	198nm,0.8s,SNR=34						
EIDS	**Eidsvold**	**19.89**	**225**	⇑P	**Pn**	**07 07 22.8**	**+0.1**
AUAYR	**Ayr State High**	**19.90**	**244**	P	**Pn**	**07 07 23.5**	**+0.7**
AUWSH	**Wavell State H**	**20.06**	**217**	P	Pn	07 07 24.8	+0.3
TV1H	**Townsville Har**	**20.34**	**246**	P	Pn	07 07 27.8	-0.2
GC1S	**Gold Coast 1 S**	**20.37**	**215**	P	Pn	07 07 28.8	+0.7
CTA	**Charters Tower**	**21.10**	**244**	P	**P**	**07 07 35.6**	**+1.9**
	12nm,0.9s,baz=73,slow=12,SNR=57						
CTA				S	**S**	**07 11 26.5**	**+0.8**
	baz=270,slow=3.2						
CTA				LR	LR	07 14 34.8	
	comp=Z,1μm,21.1s,baz=81,slow=33						
CTAO	**Charters Tower**	**21.10**	**244**	P	**P**	**07 07 35.0**	**+1.3**
CTAO	**Charters Tower**	**21.10**	**244**	P	**P**	**07 07 33.4**	**-0.3**
CTAO				IAmb	IAmb	07 07 39.7	
	comp=Z,237nm,1.1s						
CTAO	**Charters Tower**	**21.10**	**244**	⇑P	**P**	**07 07 35.0**	**+1.3**
CTAO	**Charters Tower**	**21.10**	**244**	P	**P**	**07 07 33.4**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,237nm,1.1s						
CTAO				MLR	MLR		
	comp=Z,20μm,21.0s						
AFI	**Afiamalu**	**21.38**	**98**	P	**P**	**07 07 37.5**	**+0.8**
AFI				IAmb	IAmb	07 07 55.6	
	comp=Z,341nm,1.2s						
AFI	**Afiamalu**	**21.38**	**98**	P	**P**	**07 07 37.6**	**+0.8**
AFI				pmax	pmax		
	comp=Z,341nm,1.3s						
RMQ	**Roma**	**22.21**	**226**	P	**P**	**07 07 47.4**	**+1.8**
RMQ	**Roma**	**22.21**	**226**	P	**P**	**07 07 47.3**	**+1.7**
	comp=Z,66nm,1.2s,SNR=4.4						
MTSU	**Mount Surprise**	**22.29**	**251**	P	**P**	**07 07 47.5**	**+1.1**
MTSU	**Mount Surprise**	**22.29**	**251**	P	**P**	**07 07 47.6**	**+1.1**
	comp=Z,195nm,0.9s,SNR=90						
COEN	**Coen**	**22.77**	**262**	P	**P**	**07 07 52.5**	**+0.8**
COEN	**Coen**	**22.77**	**262**	P	**P**	**07 07 51.9**	**+0.3**
COEN				IAmb	IAmb	07 07 55.0	
	comp=Z,240nm,1.1s						
COEN	**Coen**	**22.77**	**262**	P	**P**	**07 07 53.8**	**+2.1**
	comp=Z,235nm,1.2s,SNR=20						
COEN	**Coen**	**22.77**	**262**	⇑P	**P**	**07 07 52.6**	**+1.0**
RAO	**Raoul Island**	**22.78**	**142**	LR	LR	07 15 37.6	
	comp=Z,7μm,21.5s,baz=317,slow=33						
ARMA	**Armidale**	**23.15**	**214**	P	**P**	**07 07 56.5**	**+1.1**
ARMA	**Armidale**	**23.15**	**214**	P	**P**	**07 07 56.5**	**+1.1**
ARMA				IAmb	IAmb	07 07 59.4	
	comp=Z,379nm,0.9s						
ARMA	**Armidale**	**23.15**	**214**	P	**P**	**07 07 56.5**	**+1.1**
	comp=Z,580nm,1.6s,SNR=53						
ARMA	**Armidale**	**23.15**	**214**	⇑P	**P**	**07 07 56.5**	**+1.1**
NIUE	**Niue**	**23.95**	**111**	P	**P**	**07 08 04.4**	**+1.6**
OUZ	**Omahuta**	**24.32**	**166**	IAMs_20	IAMs_20	07 16 13.7	
	comp=Z,18μm,20.0s						
OUZ	**Omahuta**	**24.32**	**166**	⇑P	**P**	**07 08 08.4**	**+2.3**
AULRC	**Lightning Ridg**	**24.63**	**221**	P	**P**	**07 08 09.3**	**+0.3**
NTLH	**Newcastle Hard**	**25.07**	**210**	P	**P**	**07 08 15.0**	**+2.1**
QLP	**Quilpie**	**25.60**	**231**	P	**P**	**07 08 18.7**	**+0.8**
QLP	**Quilpie**	**25.60**	**231**	P	**P**	**07 08 18.6**	**+0.7**
	comp=Z,254nm,1.1s,SNR=23						
QLP	**Quilpie**	**25.60**	**231**	⇑P	**P**	**07 08 18.6**	**+0.7**
TABU	**Tabubil**	**25.71**	**282**	P	**P**	**07 08 20.2**	**+1.2**
RIV	**Riverview**	**26.09**	**210**	P	**P**	**07 08 23.5**	**+1.4**
RIV	**Riverview**	**26.09**	**210**	P	**P**	**07 08 24.2**	**+2.1**
	comp=Z,392nm,1.7s,SNR=10						
RIV	**Riverview**	**26.09**	**210**	⇑P	**P**	**07 08 23.7**	**+1.5**
AUDCS	**Dubbo College**	**26.20**	**216**	P	**P**	**07 08 24.9**	**+1.7**
SYDH	**Sydney Hard Ro**	**26.24**	**211**	P	**P**	**07 08 24.8**	**+1.3**
WOLH	**Wollongong Har**	**26.69**	**210**	P	**P**	**07 08 29.9**	**+2.3**
JAY	**Jayapura**	**27.06**	**288**	P	**P**	**07 08 33.4**	**+2.2**
QIS	**Mount Isa**	**27.19**	**248**	P	**P**	**07 08 32.9**	**+0.6**
QIS	**Mount Isa**	**27.19**	**248**	P	**P**	**07 08 32.3**	**-0.1**
	comp=Z,84nm,1.0s,SNR=16						
CMSA	**Cobar Meteorol**	**27.50**	**221**	P	**P**	**07 08 35.8**	**+0.8**
CMSA	**Cobar Meteorol**	**27.50**	**221**	P	**P**	**07 08 35.3**	**+0.4**
	comp=Z,128nm,1.3s,SNR=17						
GENI	**Genyem**	**27.54**	**287**	P	**P**	**07 08 36.4**	**+1.0**
GENI	**Genyem**	**27.54**	**287**	P	**P**	**07 08 37.4**	**+2.0**
	comp=Z,137nm,1.3s,comp=Z,5μmcomp=Z,12μm						
MARZ	**Manawahe**	**27.76**	**162**	P	**P**	**07 08 41.0**	**+3.8**
HIZ	**Hauiti**	**27.76**	**166**	IAMs_20	IAMs_20	07 18 08.7	
	comp=Z,16μm,21.0s						
OMRZ	**Omania**	**27.78**	**163**	P	**P**	**07 08 39.8**	**+2.4**
YNG	**Young**	**27.87**	**213**	P	**P**	**07 08 39.7**	**+1.5**
YNG	**Young**	**27.87**	**213**	P	**P**	**07 08 39.0**	**+0.8**
	comp=Z,536nm,2.4s,SNR=9.2						
HAZ	**Te Kaha**	**27.89**	**160**	P	**P**	**07 08 38.9**	**+0.6**
RUGZ	**Raukumara Rang**	**28.05**	**161**	P	**P**	**07 08 40.9**	**+1.0**
PKGZ	**Pakihiroa**	**28.09**	**160**	P	**P**	**07 08 41.3**	**+1.2**
URZ	**Urewera**	**28.14**	**162**	⇑P	**P**	**07 08 40.8**	**+0.3**
URZ	**Urewera**	**28.14**	**162**	LR	LR	07 18 14.2	
	comp=Z,13μm,21.9s,baz=53,slow=33						
URZ	**Urewera**	**28.14**	**162**	P	**P**	**07 08 40.7**	**+0.2**
CNB	**Canberra Magne**	**28.16**	**211**	P	**P**	**07 08 42.1**	**+1.2**
CNB	**Canberra Magne**	**28.16**	**211**	P	**P**	**07 08 41.

TOO			pmax	pmax		
	comp=Z,292nm,1.6s					
TOO			MLR	MLR		
	comp=Z,10μm,20.0s					
WRA	**Warramunga Arr**	**31.89 251**	P	**P**	**07 09 13.0**	**-1.0**
WRA	**Warramunga Arr**	**31.89 251**	P	**P**	**07 09 13.6**	**-0.4**
	comp=Z,80nm,0.8s,baz=83,slow=8.9,SNR=352					
WRA			PcP	**PcP**	**07 12 04.7**	**+0.9**
	comp=Z,24nm,0.9s,baz=80,slow=2.9,SNR=9.3					
WRA			S	**S**	**07 14 19.7**	**-1.7**
	comp=Z,1.6nm,0.9s,baz=85,slow=16,SNR=6.9					
WRA			ScP	**ScP**	**07 15 45.8**	**+3.0**
	comp=Z,12nm,1.0s,baz=76,slow=3.4,SNR=9.3					
WRA			PKiKP	**PKiKP**	**07 19 30.6**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=324,slow=0.5,SNR=7.5					
WRA			LR	LR	07 20 47.4	
	comp=Z,8μm,21.5s,baz=78,slow=34					
	comp=Z,80nm,0.8s					
LCRK	**Leigh Creek**	**32.12 230**	P	**P**	**07 09 16.5**	**+0.7**
RPZ	**Rata Peaks**	**32.17 174**	LR	LR	07 22 35.0	
	comp=Z,6μm,18.1s,baz=342,slow=37					
JCZ	**Jackson Bay**	**32.34 177**	P	**P**	**07 09 19.6**	**+1.9**
OOD	**Oodnadatta**	**32.94 236**	P	**P**	**07 09 24.1**	**+1.1**
GUMO	**Guam**	**32.97 319**	LR	LR	07 22 05.6	
	comp=Z,3μm,20.8s,baz=134,slow=35					
GEXS	**Deakin Univers**	**32.98 213**	P	**P**	**07 09 25.9**	**+2.6**
AS01	**Alice Springs**	**33.06 244**	P	**P**	**07 09 23.9**	**-0.4**
AS31	**Alice Springs**	**33.10 244**	P	**P**	**07 09 23.8**	**-0.8**
ASAR	**Alice Springs**	**33.10 244**	P	**P**	**07 09 23.7**	**-0.9**
ASAR	**Alice Springs**	**33.10 244**	P	**P**	**07 09 23.9**	**-0.8**
	comp=Z,87nm,0.8s,baz=74,slow=9.5,SNR=380					
ASAR			PcP	**PcP**	**07 12 06.8**	**-0.2**
	comp=Z,26nm,0.8s,baz=76,slow=2.3,SNR=13					
ASAR			S	**S**	**07 14 36.5**	**-3.7**
	comp=Z,1.2nm,0.9s,baz=78,slow=19,SNR=1.6					
ASAR			ScP	**ScP**	**07 15 50.9**	**+4.0**
	comp=Z,20nm,1.0s,baz=80,slow=3.5,SNR=16					
ASAR			LR	LR	07 21 30.9	
	comp=Z,11μm,21.7s,baz=72,slow=34					
	comp=Z,87nm,0.8s					
WKZ	**Wanaka**	**33.10 177**	IAMs_20	IAMs_20	07 21 21.1	
	comp=Z,14μm,20.0s					
ASPA	**Alice Springs**	**33.11 244**	P	**P**	**07 09 24.2**	**-0.4**
	comp=Z,38nm,0.8s,SNR=34					
HTT	**Hallett**	**33.18 225**	P	**P**	**07 09 26.2**	**+1.0**
HTT	**Hallett**	**33.18 225**	P	**P**	**07 09 25.9**	**+0.7**
	comp=Z,248nm,0.9s,SNR=13					
HTT	**Hallett**	**33.18 225**	⇑P	**P**	**07 09 26.1**	**+0.9**
KDU	**Kakadu**	**33.18 265**	P	**P**	**07 09 25.3**	**+0.1**
KDU	**Kakadu**	**33.18 265**	P	**P**	**07 09 25.4**	**+0.1**
	comp=Z,226nm,1.1s,SNR=22					
KDU	**Kakadu**	**33.18 265**	⇑P	**P**	**07 09 25.1**	**-0.2**
ARPS	**Mount Arapiles**	**33.37 217**	P	**P**	**07 09 28.3**	**+1.6**
ARPS	**Mount Arapiles**	**33.37 217**	P	**P**	**07 09 27.9**	**+1.2**
	comp=Z,139nm,1.0s,SNR=8.0					
ODZ	**Otahua Downs**	**33.44 175**	P	**P**	**07 09 29.8**	**+2.6**
ODZ	**Otahua Downs**	**33.44 175**	⇓P	**P**	**07 09 26.9**	**-0.3**
MLZ	**Mavora Lakes**	**33.60 178**	IAMs_20	IAMs_20	07 21 56.2	
	comp=Z,13μm,21.0s					
RAR	**Rarotonga**	**33.72 111**	LR	LR	07 20 31.0	
	comp=Z,8μm,22.0s,baz=266,slow=31					
WHYH	**Whyalla**	**33.91 227**	P	**P**	**07 09 31.2**	**-0.2**
WHZ	**Wether Hill Ro**	**34.12 178**	IAMs_20	IAMs_20	07 22 40.0	
	comp=Z,10μm,20.0s					
GHSS	**Government Hou**	**34.25 223**	P	**P**	**07 09 36.3**	**+1.9**
MTN	**Manton Dam**	**34.48 264**	P	**P**	**07 09 36.8**	**+0.2**
MTN	**Manton Dam**	**34.48 264**	P	**P**	**07 09 36.7**	**+0.2**
MTN			IAmb	IAmb	07 09 38.7	
	comp=Z,167nm,1.0s					
MTN			IAMs_20	IAMs_20	07 21 52.4	
	comp=Z,12μm,20.0s					
MTN	**Manton Dam**	**34.48 264**	P	**P**	**07 09 37.1**	**+0.5**
	comp=Z,206nm,1.1s,SNR=22					
DRS	**Darwin Rock St**	**34.73 265**	P	**P**	**07 09 39.1**	**+0.4**
BBOO	**Buckleboo**	**34.89 228**	P	**P**	**07 09 40.8**	**+0.9**
BBOO	**Buckleboo**	**34.89 228**	P	**P**	**07 09 40.5**	**+0.6**
BBOO			IAmb	IAmb	07 09 42.4	
	comp=Z,219nm,1.1s					
BBOO			IAMs_20	IAMs_20	07 23 10.9	
	comp=Z,9μm,18.0s					
BBOO	**Buckleboo**	**34.89 228**	P	**P**	**07 09 39.6**	**-0.3**
	comp=Z,193nm,1.5s,SNR=4.8					
MOO	**Moorlands**	**34.92 205**	P	**P**	**07 09 42.1**	**+2.0**
	comp=Z,113nm,2.4s,SNR=1.3					
FAKI	**Fak Fak**	**34.95 282**	P	**P**	**07 09 41.1**	**+0.4**
FAKI			IAmb	IAmb	07 09 43.4	
	comp=Z,198nm,1.6s					
FAKI	**Fak Fak**	**34.95 282**	P	**P**	**07 09 42.5**	**+1.8**
MULG	**Mulgathing**	**35.24 233**	P	**P**	**07 09 42.9**	**-0.1**
TAU	**Tasmania Unive**	**35.26 205**	P	**P**	**07 09 43.8**	**+0.8**
TAU			IAmb	IAmb	07 10 13.2	
	comp=Z,108nm,1.1s					
TAU	**Tasmania Unive**	**35.26 205**	P	**P**	**07 09 43.8**	**+0.8**
TAU			pmax	pmax		
	comp=Z,108nm,1.2s					
SWI	**Sorong**	**36.51 285**	P	**P**	**07 09 55.5**	**+1.5**
	comp=Z,218nm,1.3s,comp=Z,3μmcomp=Z,8μm					
KNRA	**Kununurra**	**36.77 259**	P	**P**	**07 09 56.6**	**+0.4**
	comp=Z,192nm,1.3s,SNR=19					
BNDI	**Bandanaira**	**36.81 278**	P	**P**	**07 09 57.6**	**+1.0**
BNDI	**Bandanaira**	**36.81 278**	P	**P**	**07 09 57.7**	**+1.1**
JOHN	**Johnston Islan**	**36.91 41**	IAMs_20	IAMs_20	07 21 26.2	
	comp=Z,10μm,21.0s					
WRKA	**Warakurna**	**38.40 244**	P	**P**	**07 10 10.2**	**+0.2**
WRKA	**Warakurna**	**38.40 244**	P	**P**	**07 10 10.0**	**0.0**
	comp=Z,133nm,1.2s,SNR=8.4					
NLAI	**Namlea**	**39.83 279**	P	**P**	**07 10 24.9**	**+2.9**
	comp=Z,420nm,1.6s,comp=Z,8μm					
LBMI	**Labuha**	**40.15 283**	P	**P**	**07 10 28.5**	**+3.8**
	comp=Z,510nm,1.2s,comp=Z,8μm					
FORT	**Forrest**	**40.22 236**	P	**P**	**07 10 25.7**	**+0.6**
FORT	**Forrest**	**40.22 236**	P	**P**	**07 10 24.9**	**-0.1**
FORT	**Forrest**	**40.22 236**	P	**P**	**07 10 25.5**	**+0.4**
	comp=Z,431nm,0.9s,SNR=12					
FORT	**Forrest**	**40.22 236**	⇑P	**P**	**07 10 25.3**	**+0.2**
TNTI	**Ternate**	**40.71 285**	P	**P**	**07 10 30.8**	**+1.5**
TNTI	**Ternate**	**40.71 285**	P	**P**	**07 10 30.1**	**+0.8**
TNTI			IAmb	IAmb	07 10 32.2	
	comp=Z,249nm,1.5s					
TNTI	**Ternate**	**40.71 285**	P	**P**	**07 10 31.9**	**+2.6**
	comp=Z,86nm,0.8s,comp=Z,3μm					
SANI	**Sanana**	**41.21 280**	P	**P**	**07 10 34.3**	**+0.9**
SANI	**Sanana**	**41.21 280**	⇑P	**P**	**07 10 33.8**	**+0.4**
SANI	**Sanana**	**41.21 280**	P	**P**	**07 10 34.5**	**+1.1**
	comp=Z,235nm,1.3s,comp=Z,6μmcomp=Z,9μm					
SOEI	**Soe**	**41.43 268**	P	**P**	**07 10 36.3**	**+0.9**
SOEI	**Soe**	**41.43 268**	P	**P**	**07 10 35.3**	**-0.1**
SOEI			IAmb	IAmb	07 11 06.2	
	comp=Z,118nm,1.0s					
SOEI	**Soe**	**41.43 268**	⇑P	**P**	**07 10 36.2**	**+0.9**
SOEI	**Soe**	**41.43 268**	P	**P**	**07 10 37.4**	**+2.0**
	comp=Z,138nm,1.1s,comp=Z,4μmcomp=Z,12μm					
BATI	**Baumata**	**41.97 268**	P	**P**	**07 10 41.8**	**+2.1**
	comp=Z,398nm,0.9s,comp=Z,5μmcomp=Z,8μm					
PAE	**Paea**	**42.91 103**	*e*S	S	07 17 28.1	+20
	comp=Z,370nm,24.0s					
PAE			*e*SS	**SnSn**	**07 20 31.8**	**-8.2**
	comp=Z,765nm,27.0s					
PAE			*e*LR	LR	07 23 09.1	
	comp=Z,3μm,26.4s					
PPT	**Papeete**	**42.91 103**	LR	LR	07 25 28.8	
	comp=Z,3μm,19.4s,baz=266,slow=32					
PPT2	**Papeete2**	**42.91 103**	*e*PKP1	**P**	**07 10 50.0**	**+2.7**
	comp=Z,1μm,25.0s					
PPT2	**Papeete2**	**42.91 103**	*e*PP	**PP**	**07 12 27.0**	**-0.7**
	comp=Z,985nm,26.5s					
PPT2			*e*S	**S**	**07 17 09.3**	**+0.6**
	comp=Z,4μm,28.0s					
PPT2			*e*S	**S**	**07 17 10.8**	**+2.1**
	comp=Z,665nm,23.8s					
PPT2			*e*SS	**SS**	**07 20 25.5**	**+3.6**
	comp=Z,1μm,26.6s					
PPT2			*e*LQ	LQ	07 20 58.7	
	comp=Z,14μm,32.0s					
PPT2			*e*LR	LR	07 22 47.3	
	comp=Z,17μm,32.0s					
PPT2			*e*LR	LR	07 22 47.4	
	comp=Z,27μm,29.5s					
PPT2			*e*LR	LR	07 22 50.1	
	comp=Z,5μm,26.7s					
SGSI	**Sangihe**	**43.43 288**	P	**P**	**07 10 54.0**	**+2.5**
TBI	**Tubuai**	**43.49 112**	*e*P	**P**	**07 10 52.1**	**+0.3**
	comp=Z,5μm,27.5s					
TBI	**Tubuai**	**43.49 112**	*e*PP	**PP**	**07 12 33.9**	**+0.1**
	comp=Z,4μm,27.2s					
TBI			*e*S	**S**	**07 17 16.1**	**-0.8**
	comp=Z,11μm,28.5s					
TBI			*e*S	**S**	**07 17 21.8**	**+4.9**
	comp=Z,3μm,24.2s					
TBI			*e*SS	**SS**	**07 20 35.8**	**+2.9**
	comp=Z,6μm,32.1s					
TBI			*e*LQ	LQ	07 21 16.9	
	comp=Z,55μm,30.8s					
TBI			*e*LR	LR	07 23 07.3	
	comp=Z,19μm,25.7s					
TBI			*e*LR	LR	07 23 08.8	
	comp=Z,111μm,28.8s					
TBI			*e*LR	LR	07 23 08.9	
	comp=Z,24μm,29.8s					
MMRI	**Maumere**	**43.56 270**	P	**P**	**07 10 52.8**	**+0.3**
MMRI	**Maumere**	**43.56 270**	P	**P**	**07 10 52.0**	**-0.5**
MMRI			IAmb	IAmb	07 10 54.2	
	comp=Z,346nm,1.2s					
MMRI	**Maumere**	**43.56 270**	P	**P**	**07 10 53.1**	**+0.6**
	comp=Z,266nm,1.4s,comp=Z,8μmcomp=Z,10μm					
BBSI	**Bau Bau**	**43.75 274**	P	**P**	**07 10 55.3**	**+1.3**
	comp=Z,285nm,1.4s,comp=Z,8μmcomp=Z,9μm					
KMSI	**Cibinong**	**43.87 283**	P	**P**	**07 10 56.5**	**+1.5**
EDFI	**Ende, Flores**	**44.08 269**	P	**P**	**07 10 56.2**	**-0.6**
	comp=Z,115nm,1.2s,comp=Z,3μm					
PMOR	**Pomariorio Ree**	**44.52 100**	*e*P	**P**	**07 11 01.6**	**+1.4**
	comp=Z,146nm,1.2s					
PMOR			*e*SS	SS	07 20 53.6	+0.1
	comp=Z,4μm,26.0s					
PMOR			*e*LR	LR	07 23 52.2	
	comp=Z,17μm,22.4s					
LUWI	**Luwuk**	**44.57 280**	P	**P**	**07 11 02.4**	**+1.8**
LUWI	**Luwuk**	**44.57 280**	P	**P**	**07 11 01.2**	**+0.6**
LUWI	**Luwuk**	**44.57 280**	P	**P**	**07 11 02.6**	**+2.0**
	comp=Z,166nm,1.0s,comp=Z,7μmcomp=Z,10μm					
DAV	**Davao City (W)**	**44.69 293**	LR	LR	07 30 26.9	
	comp=Z,2μm,19.0s,baz=100,slow=37					
DAV	**Davao City (W)**	**44.69 293**	⇑*i*P	**P**	**07 11 03.0**	**+1.5**
VAH	**Vaihoa**	**44.77 100**	*e*LR	LR	07 23 53.8	
	comp=Z,16μm,22.1s					
JCJ	**Chichijima**	**45.16 329**	P	**P**	**07 11 05.0**	**0.0**
JCJ			IAmb	IAmb	07 11 05.9	
	comp=Z,379nm,1.7s					
JCJ	**Chichijima**	**45.16 329**	LR	LR	07 27 16.7	
	comp=Z,3μm,21.7s,baz=152,slow=32					
KMBL	**Kambalda**	**45.45 237**	P	**P**	**07 11 07.9**	**+0.5**
KMBL	**Kambalda**	**45.45 237**	P	**P**	**07 11 08.0**	**+0.6**
	comp=Z,272nm,1.2s,SNR=8.6					
MBWA	**Marble Bar**	**45.62 252**	P	**P**	**07 11 10.2**	**+1.3**
MBWA	**Marble Bar**	**45.62 252**	P	**P**	**07 11 09.5**	**+0.7**
MBWA	**Marble Bar**	**45.62 252**	P	**P**	**07 11 09.9**	**+1.0**
	comp=Z,430nm,1.0s,SNR=29					
MBWA	**Marble Bar**	**45.62 252**	⇑P	**P**	**07 11 09.6**	**+0.7**
MBWA	**Marble Bar**	**45.62 252**	P	**P**	**07 11 09.6**	**+0.8**
MBWA			pP	**pP**	**07 11 22.0**	**+0.2**
MBWA			PcP	**PcP**	**07 12 46.7**	**+0.1**
BKSI	**Bulukumba**	**46.17 274**	P	**P**	**07 11 14.6**	**+1.3**
KAPI	**Kappang**	**46.59 274**	P	**P**	**07 11 17.8**	**+1.2**
KAPI	**Kappang**	**46.59 274**	P	**P**	**07 11 17.2**	**+0.6**
KAPI			IAmb	IAmb	07 11 19.3	
	comp=Z,162nm,1.3s					
KAPI	**Kappang**	**46.59 274**	⇑P	**P**	**07 11 17.4**	**+0.8**
KAPI	**Kappang**	**46.59 274**	LR	LR	07 30 05.2	
	comp=Z,2μm,21.4s,baz=100,slow=35					
KAPI	**Kappang**	**46.59 274**	*c i*P	**P**	**07 11 17.2**	**+0.6**
TOLI2	**Tolitoli**	**47.08 283**	P	**P**	**07 11 20.2**	**-0.2**
TOLI2	**Tolitoli**	**47.08 283**	P	**P**	**07 11 19.9**	**-0.5**
TOLI2			IAmb	IAmb	07 11 21.9	
	comp=Z,88nm,0.8s					
MEEK	**Meekatharra**	**47.26 245**	P	**P**	**07 11 22.7**	**+0.9**
MEEK	**Meekatharra**	**47.26 245**	P	**P**	**07 11 22.7**	**+0.9**
	comp=Z,434nm,1.0s,SNR=15					
PLAI	**Plampang**	**47.90 269**	P	**P**	**07 11 26.7**	**-0.1**
PLAI	**Plampang**	**47.90 269**	P	**P**	**07 11 26.9**	**+0.1**
	comp=Z,311nm,1.0s,comp=Z,5μm					
KIP	**Kipapa**	**47.98 47**	P	**P**	**07 11 29.9**	**+2.7**
KIP	**Kipapa**	**47.98 47**	*ce*P	**P**	**07 11 29.8**	**+2.6**
KIP			pmax	pmax		
	comp=Z,34nm,0.9s					
KHU	**Kahuku**	**48.42 51**	IAMs_20	IAMs_20	07 26 42.9	
	comp=Z,7μm,22.0s					
HUH	**Hualalai**	**48.51 50**	IAMs_20	IAMs_20	07 26 45.3	
	comp=Z,7μm,22.0s					
MWH	**Moku'aweowe**	**48.57 51**	IAMs_20	IAMs_20	07 26 58.0	
	comp=Z,7μm,22.0s					
MLOA	**Mauna Loa Obse**	**48.62 51**	IAMs_20	IAMs_20	07 26 48.2	
	comp=Z,8μm,22.0s					
HLP	**Hilina Pali**	**48.68 51**	IAMs_20	IAMs_20	07 26 48.9	
	comp=Z,7μm,22.0s					
HMH	**Humu'ula Sheep**	**48.73 51**	IAMs_20	IAMs_20	07 26 51.1	
	comp=Z,8μm,22.0s					
MLH	**Mauna Loa**	**48.74 51**	IAMs_20	IAMs_20	07 27 02.3	
	comp=Z,6μm,22.0s					
POHA	**Pohakuloa**	**48.78 51**	IAMs_20	IAMs_20	07 27 14.5	
	comp=Z,7μm,22.0s					
TWSI	**Taliwang, Sumb**	**48.79 269**	P	**P**	**07 11 34.1**	**+0.4**
	comp=Z,173nm,1.0s,comp=Z,5μmcomp=Z,8μm					
HATHI	**Halema'uma'u T**	**48.79 51**	IAMs_20	IAMs_20	07 27 12.8	
	comp=Z,7μm,22.0s					
PUH	**Pauahi**	**48.80 51**	IAMs_20	IAMs_20	07 26 51.9	
	comp=Z,7μm,22.0s					
HPAH	**Hawaii Prepara**	**48.82 50**	IAMs_20	IAMs_20	07 26 53.5	
	comp=Z,7μm,22.0s					
KLBR	**Kellerberrin**	**48.93 238**	P	**P**	**07 11 34.8**	**+0.3**
KLBR	**Kellerberrin**	**48.93 238**	P	**P**	**07 11 35.0**	**+0.5**
	comp=Z,303nm,0.9s,SNR=11					
JOKA	**Jonika Flow**	**48.99 51**	IAMs_20	IAMs_20	07 27 21.1	
	comp=Z,6μm,21.0s					
BLDU	**Ballidu**	**49.60 240**	P	**P**	**07 11 41.2**	**+1.5**
BLDU	**Ballidu**	**49.60 240**	P	**P**	**07 11 40.1**	**+0.5**
	comp=Z,118nm,1.6s,SNR=3.8					
NWAO	**Narrogin (SRO)**	**49.66 237**	P	**P**	**07 11 41.1**	**+1.1**
NWAO	**Narrogin (SRO)**	**49.66 237**	P	**P**	**07 11 40.3**	**+0.2**
NWAO	**Narrogin (SRO)**	**49.66 237**	LR	LR	07 32 40.4	
	comp=Z,14μm,19.6s,slow=36					
NWAO	**Narrogin (SRO)**	**49.66 237**	P	**P**	**07 11 40.3**	**+0.2**
NWAO			pmax	pmax		
	comp=Z,579nm,1.5s					
NWAO			MLR	MLR		
	comp=Z,15μm,18.0s					
NWAO	**Narrogin (SRO)**	**49.66 237**	P	**P**	**07 11 40.6**	**+0.6**
NWAO			pP	**pP**	**07 11 53.1**	**-0.5**
MORW	**Morawa**	**49.90 242**	P	**P**	**07 11 42.8**	**+0.9**
MORW	**Morawa**	**49.90 242**	P	**P**	**07 11 42.5**	**+0.5**
MORW	**Morawa**	**49.90 242**	P	**P**	**07 11 42.3**	**+0.4**
	comp=Z,225nm,1.2s,SNR=10					
MORW	**Morawa**	**49.90 242**	⇑P	**P**	**07 11 42.5**	**+0.5**
RKGY	**Rocky Gully**	**50.27 235**	P	**P**	**07 11 46.1**	**+1.4**
MUN	**Mundaring**	**50.30 238**	P	**P**	**07 11 46.0**	**+1.1**
MUN	**Mundaring**	**50.30 238**	P	**P**	**07 11 46.0**	**+1.1**
	comp=Z,361nm,1.2s,SNR=10					
IGBI	**Denpasar**	**50.48 268**	P	**P**	**07 11 47.4**	**+0.9**
	comp=Z,278nm,1.1s,comp=Z,5μm					
MYLDM	**Lahad Datu**	**50.52 287**	P	**P**	**07 11 48.9**	**+2.1**
MYLDM	**Lahad Datu**	**50.52 287**	⇑P	**P**	**07 11 48.8**	**+2.1**
JHJ2	**Mitsune**	**51.26 331**	P	**P**	**07 11 52.2**	**+0.2**
JHJ2	**Mitsune**	**51.26 331**	P	**P**	**07 11 51.8**	**-0.3**
JHJ2			IAmb	IAmb	07 11 53.8	
	comp=Z,142nm,0.8s					
JHJ	**Hachijo jima 2**	**51.28 331**	LR	LR	07 32 56.4	
	comp=Z,1μm,19.3s,baz=156,slow=35					
JAGI	**Jajag, Banyuwa**	**51.50 268**	P	**P**	**07 11 53.5**	**-0.7**
JAGI	**Jajag, Banyuwa**	**51.50 268**	P	**P**	**07 11 53.3**	**-0.9**
JAGI	**Jajag, Banyuwa**	**51.50 268**	⇑P	**P**	**07 11 53.2**	**-1.0**
JAGI	**Jajag, Banyuwa**	**51.50 268**	P	**P**	**07 11 53.5**	**-0.7**
	comp=Z,299nm,0.9s,comp=Z,4μmcomp=Z,9μm					
ABJI	**Asem Bagus**	**51.52 269**	P	**P**	**07 11 56.0**	**+1.7**
	comp=Z,212nm,1.2s,comp=Z,5μm					
MTKI	**Muara Teweh, K**	**52.21 279**	P	**P**	**07 12 02.0**	**+2.5**
KKM	**Kota Kinabalu**	**52.95 287**	P	**P**	**07 12 05.9**	**+0.9**
JOW	**Kunigami**	**53.27 316**	P	**P**	**07 12 08.4**	**+1.4**
JOW	**Kunigami**	**53.27 316**	P	**P**	**07 12 07.7**	**+0.6**
JOW	**Kunigami**	**53.27 316**	⇑P	**P**	**07 12 07.9**	**+0.9**
JOW	**Kunigami**	**53.27 316**	LR	LR	07 34 19.8	
	comp=Z,3μm,19.4s,baz=150,slow=35					
JSG	**Sagara**	**53.32 331**	P	**P**	**07 12 07.9**	**+0.7**
JSG			IAmb	IAmb	07 12 10.3	
	comp=Z,96nm,0.9s					
PWJI	**Pagerwojo**	**53.87 269**	P	**P**	**07 12 12.2**	**+0.5**
	comp=Z,220nm,0.9s,comp=Z,4μm					
INU	**Inuyama**	**54.42 330**	P	**P**	**07 12 16.2**	**+0.9**
INU	**Inuyama**	**54.42 330**	P	**P**	**07 12 15.6**	**+0.3**
INU			IAmb	IAmb	07 12 17.2	
	comp=Z,154nm,1.7s					
INU	**Inuyama**	**54.42 330**	P	**P**	**07 12 15.2**	**0.0**
JGF	**Kuroka**	**54.46 331**	P	**P**	**07 12 15.6**	**-0.1**
JGF	**Kuroka**	**54.46 331**	P	**P**	**07 12 15.1**	**-0.6**
JGF	**Kuroka**	**54.46 331**	⇑P	**P**	**07 12 15.2**	**-0.5**
JMN	**Monobe**	**54.76 327**	P	**P**	**07 12 18.7**	**+0.9**
JMN	**Monobe**	**54.76 327**	P	**P**	**07 12 18.0**	**+0.2**
JMN	**Monobe**	**54.76 327**	⇑P	**P**	**07 12 18.3**	**+0.5**
JMM	**Marumori**	**54.83 335**	P	**P**	**07 12 18.9**	**+0.8**
JMM	**Marumori**	**54.83 335**	P	**P**	**07 12 18.4**	**+0.3**
MJAR	**Matsushiro Arr**	**54.84 332**	P	**P**	**07 12 17.1**	**-1.2**
	comp=Z,23nm,0.8s,baz=165,slow=8.6,SNR=37					
MJAR			LR	LR	07 33 41.1	
	comp=Z,2μm,21.5s,baz=152,slow=34					
MAJO	**Matsushiro**	**54.84 332**	P	**P**	**07 12 18.0**	**-0.3**
MAJO	**Matsushiro**	**54.84 332**	P	**P**	**07 12 17.8**	**-0.5**
MAJO			IAmb	IAmb	07 12 19.3	
	comp=Z,42nm,0.9s					
MAJO	**Matsushiro**	**54.84 332**	⇑P	**P**	**07 12 17.5**	**-0.8**
MAJO	**Matsushiro**	**54.84 332**	P	**P**	**07 12 17.8**	**-0.5**
MAJO			pmax	pmax		
	comp=Z,42nm,0.9s					
MAJO	**Matsushiro**	**54.84 332**	P	**P**	**07 12 17.5**	**-0.8**
MJB9	**Matsu-Tunnel**	**54.84 332**	P	**P**	**07 12 17.9**	**-0.4**
UGM	**Wanagama**	**55.14 268**	P	**P**	**07 12 22.4**	**+1.5**
UGM	**Wanagama**	**55.14 268**	P	**P**	**07 12 20.5**	**-0.5**
SMRI	**Semarang**	**55.35 269**	P	**P**	**07 12 23.4**	**+0.9**
SMRI	**Semarang**	**55.35 269**	P	**P**	**07 12 24.4**	**+1.9**
	comp=Z,245nm,1.0s,comp=Z,9μm					
YOJ	**Yonaguni jima**	**55.55 311**	IAMs_20	IAMs_20	07 36 46.0	
	comp=Z,5μm,20.0s					
SBUM	**Sibu**	**55.67 281**	P	**P**	**07 12 25.6**	**+0.9**
SBUM	**Sibu**	**55.67 281**	⇑P	**P**	**07 12 25.6**	**+0.9**
STKI	**Sintang**	**55.77 278**	P	**P**	**07 12 27.3**	**+1.8**
	comp=Z,203nm,0.8s,comp=Z,8μm					
JNU	**Nakatsue**	**55.98 324**	P	**P**	**07 12 26.7**	**+0.1**
JNU	**Nakatsue**	**55.98 324**	⇑P	**P**	**07 12 26.4**	**-0.2**
JNU	**Nakatsue**	**55.98 324**	LR	LR	07 33 12.5	
	comp=Z,1μm,21.0s,baz=141,slow=32					
YULB	**Yu-li**	**56.24 308**	P	**P**	**07 12 29.9**	**+1.2**
YULB	**Yu-li**	**56.24 308**	P	**P**	**07 12 28.8**	**+0.2**
YULB			IAmb	IAmb	07 12 46.2	
	comp=Z,100nm,1.2s					
NACB	**Ninganchiao**	**56.45 309**	P	**P**	**07 12 31.2**	**+1.1**
NACB	**Ninganchiao**	**56.45 309**	P	**P**	**07 12 30.2**	**+0.1**
NACB			IAmb	IAmb	07 12 34.8	
	comp=Z,73nm,0.9s					
TPUB	**Ta-pu**	**56.71 308**	P	**P**	**07 12 32.8**	**+0.8**
TPUB	**Ta-pu**	**56.71 308**	P	**P**	**07 12 32.1**	**+0.1**
TPUB			IAMs_20	IAMs_20	07 32 11.7	
	comp=Z,6μm,22.0s					
SSLB	**Suanglung**	**56.72 309**	P	**P**	**07 12 32.5**	**+0.4**
KPJI	**Karang Pucung**	**56.78 269**	P	**P**	**07 12 34.1**	**+1.4**
	comp=Z,187nm,0.8s					
YHNB	**Yeheng**	**56.89 310**	P	**P**	**07 12 33.9**	**+0.6**
TATO	**Taipei**	**56.98 310**	IAMs_20	IAMs_20	07 32 34.6	
	comp=Z,5μm,22.0s					
JTM	**Tenmabayashi**	**57.23 337**	P	**P**	**07 12 35.9**	**+0.6**
JTM	**Tenmabayashi**	**57.23 337**	P	**P**	**07 12 35.3**	**0.0**
JTM			IAmb	IAmb	07 12 36.9	
	comp=Z,54nm,1.1s					
JTM	**Tenmabayashi**	**57.23 337**	⇑P	**P**	**07 12 35.0**	**-0.3**
ERM	**Erimo**	**57.55 340**	P	**P**	**07 12 38.8**	**+1.3**
ERM	**Erimo**	**57.55 340**	P	**P**	**07 12 38.6**	**+1.0**
ERM	**Erimo**	**57.55 340**	IAMs_20	IAMs_20	07 32 41.0	
	comp=Z,5μm,21.0s					
ERM	**Erimo**	**57.55 340**	⇑P	**P**	**07 12 37.7**	**+0.2**
ERM	**Erimo**	**57.55 340**	*ce*P	**P**	**07 12 38.2**	**+0.7**
ERM			pmax	pmax		
	comp=Z,23nm,0.7s					
JEM	**Erimo**	**57.55 340**	P	**P**	**07 12 38.6**	**+1.1**
JEM	**Erimo**	**57.55 340**	IAMs_20	IAMs_20	07 32 32.5	
	comp=Z,5μm,22.0s					
DRV	**Dumont d'Urvil**	**57.72 192**	P	**P**	**07 12 38.1**	**-0.3**
DRV			pP	**pP**	**07 12 51.0**	**-1.6**
BBJI	**Bungbulang**	**58.02 268**	P	**P**	**07 12 41.4**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**58.52 343**	*e*P	**P**	**07 12 42

YSS			pmax	pmax		
	comp=Z,60nm,1.0s					
YSS			pmax	pmax		
	comp=Z,900nm,5.7s					
YSS			smax	smax		
	comp=N,400nm,6.3s					
YSS			smax	smax		
	comp=E,200nm,3.8s					
DLV	**T Lat**	**62.12 290**	P	**P**	**07 13 10.6**	**+1.0**
DLV	**T Lat**	**62.12 290**	P	**P**	**07 13 10.7**	**+1.0**
TEY	**Ternei**	**62.56 337**	*e*P	P	07 13 05.1	-6.7
SKR	**Severo-Kuril's**	**62.75 353**	*e*P	P	07 13 01.8	-11
SKR			*e*PPP	PPP	07 17 02.7	
SKR			*e*S	**S**	**07 21 37.4**	**-0.2**
SKR			*e*SS	**SS**	**07 25 38.1**	**-5.5**
SKR			MLR	MLR		
	comp=Z,1μm,19.0s					
MSHR	**Mys Shultsa**	**62.92 331**	*ce*P	**P**	**07 13 14.2**	**0.0**
MSHR			pmax	pmax		
	comp=Z,27nm,1.0s					
NJ2	**Nanjing**	**62.93 315**	⇑P	**P**	**07 13 15.3**	**+0.8**
NJ2			pP	**pP**	**07 13 27.3**	**-1.7**
NJ2			S	**S**	**07 21 40.6**	**-0.1**
NJ2			pmax	pmax		
	comp=Z,180nm,0.9s					
NJ2			pmax	pmax		
	comp=Z,2μm,4.0s					
NJ2			LR	LR		
	comp=Z,2μm,21.8s					
NJ2			LR	LR		
	comp=Z,3μm,22.7s					
NJ2			LR	LR		
	comp=Z,5μm,24.1s					
VLA	**Vladivostok**	**63.01 332**	*i* P	**P**	**07 13 15.0**	**+0.2**
VLA			pmax	pmax		
	comp=Z,130nm,1.7s					
PSTR	**Posyet**	**63.15 331**	*i* P	**P**	**07 13 15.8**	**+0.1**
QIZ	**Qiongzhong**	**63.56 298**	P	**P**	**07 13 20.9**	**+2.0**
QIZ	**Qiongzhong**	**63.56 298**	P	**P**	**07 13 20.8**	**+1.9**
QIZ			pP	**pP**	**07 13 34.3**	**+1.0**
QIZ			S	**S**	**07 21 51.4**	**+2.4**
QIZ			SS	**SS**	**07 25 56.8**	**-0.6**
QIZ			pmax	pmax		
	comp=Z,170nm,1.0s					
QIZ			pmax	pmax		
	comp=Z,2μm,3.8s					
QIZ			LR	LR		
	comp=Z,1μm,18.5s					
QIZ			LR	LR		
	comp=Z,3μm,23.3s					
QIZ			LR	LR		
	comp=Z,5μm,20.2s					
QIZ	**Qiongzhong**	**63.56 298**	P	**P**	**07 13 20.3**	**+1.4**
QIZ	**Qiongzhong**	**63.56 298**	P	**P**	**07 13 20.4**	**+1.5**
QIZ			pP	**pP**	**07 13 33.9**	**+0.5**
MYKOM	**Kota Tinggi**	**63.59 278**	P	**P**	**07 13 20.1**	**+0.8**
MYKOM			IAmb	IAmb	07 13 21.4	
	comp=Z,194nm,1.7s					
USA0B	**Ussuriysk Arra**	**63.81 333**	P	**P**	**07 13 20.5**	**+0.4**
USA0B			IAmb	IAmb	07 13 22.8	
	comp=Z,168nm,1.4s					
USA0B	**Ussuriysk Arra**	**63.81 333**	P	**P**	**07 13 20.5**	**+0.4**
USA0B			pmax	pmax		
	comp=Z,168nm,1.4s					
USRK	**Ussuriysk Ar.**	**63.81 333**	P	**P**	**07 13 20.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**63.81 333**	P	**P**	**07 13 20.6**	**+0.6**
	comp=Z,43nm,1.1s,baz=128,slow=7.0,SNR=50					
USRK			LR	LR	07 37 37.1	
	comp=Z,1μm,21.8s,baz=142,slow=33					
	comp=Z,43nm,1.1s					
SHEM	**Shemya Is, Ala**	**64.49 5**	LR	LR	07 35 16.5	
	comp=Z,3μm,21.9s,baz=182,slow=30					
PET	**Petropavlovsk**	**64.79 355**	*e*P	**P**	**07 13 25.8**	**-0.5**
PET			*e*S	**S**	**07 22 04.6**	**+1.7**
PET			pmax	pmax		
	comp=Z,35nm,0.9s					
PET			pmax	pmax		
	comp=Z,700nm,7.8s					
PET			pmax	pmax		
	comp=Z,600nm,14.2s					
PET			MLR	MLR		
	comp=Z,600nm,18.0s					
PET			MLR	MLR		
	comp=Z,700nm,19.0s					
ADK	**Adak**	**64.97 11**	IAMs_20	IAMs_20	07 35 17.9	
	comp=Z,4μm,21.0s					
CNSH	**ChangSha**	**65.16 309**	P	**P**	**07 13 31.3**	**+2.0**
CNSH			pmax	pmax		
	comp=Z,110nm,1.0s					
CNSH			LR	LR		
	comp=Z,2μm,28.2s					
CNSH			LR	LR		
	comp=Z,1μm,23.7s					
CNSH			LR	LR		
	comp=Z,3μm,27.5s					
MDJ	**Mudanjiang**	**65.22 332**	P	**P**	**07 13 30.0**	**+0.7**
MDJ	**Mudanjiang**	**65.22 332**	P	**P**	**07 13 29.6**	**+0.3**
MDJ			pmax	pmax		
	comp=Z,70nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,2μm,9.1s					
MDJ			LR	LR		
	comp=Z,1μm,22.1s					
MDJ			LR	LR		
	comp=Z,1μm,24.3s					
MDJ			LR	LR		
	comp=Z,3μm,24.3s					
MDJ	**Mudanjiang**	**65.22 332**	P	**P**	**07 13 29.0**	**-0.3**
MDJ			IAmb	IAmb	07 13 31.8	
	comp=Z,77nm,1.1s					
MDJ	**Mudanjiang**	**65.22 332**	P	**P**	**07 13 29.9**	**+0.7**
WHN	**Wuhan**	**65.30 312**	P	**P**	**07 13 30.5**	**+0.4**
WHN			pP	**pP**	**07 13 40.0**	**-4.7**
WHN			sP	**pwP**	**07 13 43.6**	**-1.1**
WHN			S	**S**	**07 22 11.8**	**+1.7**
WHN			pmax	pmax		
	comp=Z,180nm,1.0s					
WHN			pmax	pmax		
	comp=Z,3μm,4.4s					
WHN			LR	LR		
	comp=Z,5μm,17.1s					
WHN			LR	LR		
	comp=Z,5μm,19.1s					
WHN			LR	LR		
	comp=Z,17μm,27.2s					
DL2	**Dalian**	**65.38 323**	P	**P**	**07 13 30.5**	**+0.1**
DL2			pP	**pP**	**07 13 43.6**	**-1.4**
DL2			S	**S**	**07 22 11.8**	**+1.1**
DL2			SS	**SS**	**07 26 25.6**	**+0.5**
DL2			pmax	pmax		
	comp=Z,180nm,0.9s					
DL2			pmax	pmax		
	comp=Z,1μm,5.6s					
DL2			LR	LR		
	comp=Z,2μm,20.9s					
DL2			LR	LR		
	comp=Z,2μm,23.0s					
DL2			LR	LR		
	comp=Z,3μm,23.5s					
TYV	**Tymovskoe**	**65.64 344**	*e*P	**P**	**07 13 32.4**	**+0.6**
TYV			*e*S	**S**	**07 22 15.1**	**+1.7**
TYV			pmax	pmax		
	comp=Z,11nm,1.2s					
TYV			pmax	pmax		
	comp=Z,600nm,7.5s					
TYV			smax	smax		
	comp=N,300nm,10.8s					
TYV			smax	smax		
	comp=E,200nm,10.8s					
ATKA	**Atka Island**	**65.79 13**	IAMs_20	IAMs_20	07 36 25.6	
	comp=Z,4μm,21.0s					
GULI	**GuiLin**	**65.81 305**	⇑P	**P**	**07 13 35.1**	**+1.6**
GULI			S	**S**	**07 22 19.8**	**+3.3**
GULI			pmax	pmax		
	comp=Z,220nm,1.1s					
GULI			LR	LR		
	comp=Z,2μm,23.3s					
GULI			LR	LR		
	comp=Z,1μm,20.6s					
GULI			LR	LR		
	comp=Z,3μm,28.2s					
VNDA	**Vanda**	**65.87 181**	P	**P**	**07 13 32.8**	**-0.3**
VNDA			IAmb	IAmb	07 13 47.3	
	comp=Z,134nm,1.5s					
VNDA	**Vanda**	**65.87 181**	P	**P**	**07 13 33.5**	**+0.4**
	comp=Z,15nm,0.8s,baz=352,slow=7.2,SNR=27					
VNDA			LR	LR	07 38 36.8	
	comp=Z,2μm,20.9s,baz=2.5,slow=32					
	comp=Z,15nm,0.8s					
VNDA	**Vanda**	**65.87 181**	P	**P**	**07 13 32.8**	**-0.3**
VNDA			pmax	pmax		
	comp=Z,134nm,1.5s					
VNDA	**Vanda**	**65.87 181**	P	**P**	**07 13 33.3**	**+0.2**
VNDA			pP	**pP**	**07 13 46.2**	**-1.3**
VNDA			PcP	**PcP**	**07 14 03.6**	**0.0**
BKNI	**Bangkinang**	**65.98 276**	P	**P**	**07 13 36.0**	**+1.1**
BKNI	**Bangkinang**	**65.98 276**	P	**P**	**07 13 35.1**	**+0.2**
BKNI	**Bangkinang**	**65.98 276**	P	**P**	**07 13 36.6**	**+1.7**
	comp=Z,160nm,1.3s,comp=Z,7μm					
UBPT	**Khong Chiam**	**66.02 293**	P	**P**	**07 13 36.3**	**+1.3**
UBPT	**Khong Chiam**	**66.02 293**	P	**P**	**07 13 36.0**	**+1.0**
CASY	**Casey**	**66.03 202**	P	**P**	**07 13 34.2**	**0.0**
CASY	**Casey**	**66.03 202**	IAMs_20	IAMs_20	07 36 02.3	
	comp=Z,4μm,22.0s					
CASY	**Casey**	**66.03 202**	⇑P	**P**	**07 13 34.1**	**-0.2**
CASY	**Casey**	**66.03 202**	P	**P**	**07 13 34.0**	**-0.2**
CASY			pP	**pP**	**07 13 47.0**	**-1.8**
SBA	**Scott Base**	**66.17 180**	P	**P**	**07 13 35.8**	**+0.9**
SBA			IAmb	IAmb	07 13 50.1	
	comp=Z,121nm,1.0s					
SBA	**Scott Base**	**66.17 180**	P	**P**	**07 13 35.8**	**+0.9**
SBA			pmax	pmax		
	comp=Z,121nm,1.0s					
SBA	**Scott Base**	**66.17 180**	P	**P**	**07 13 35.9**	**+0.9**
SBA			pP	**pP**	**07 13 48.8**	**-0.6**
SBA			PcP	**PcP**	**07 14 06.8**	**+2.0**
SNY	**Shenyang**	**66.22 326**	⇓P	**P**	**07 13 36.8**	**+1.0**
SNY			pmax	pmax		
	comp=Z,36nm,1.1s					
SNY			pmax	pmax		
	comp=Z,880nm,6.4s					
SNY			LR	LR		
	comp=Z,950nm,19.4s					
SNY			LR	LR		
	comp=Z,1μm,24.2s					
SNY			LR	LR		
	comp=Z,2μm,26.5s					
PDSI	**Padang**	**66.28 274**	P	**P**	**07 13 37.5**	**+0.7**
	comp=Z,76nm,0.9s,comp=Z,4μmcomp=Z,7μm					
TIA	**Tai'an**	**66.53 318**	P	**P**	**07 13 37.5**	**-0.4**
TIA			S	**S**	**07 22 24.8**	**0.0**
TIA			pmax	pmax		
	comp=Z,89nm,1.0s					
TIA			pmax	pmax		
	comp=Z,1μm,6.4s					
TIA			LR	LR		
	comp=Z,2μm,29.9s					
TIA			LR	LR		
	comp=Z,3μm,22.1s					
TIA			LR	LR		
	comp=Z,6μm,24.5s					
CN2	**Changchun**	**66.62 329**	*e*P	**P**	**07 13 38.4**	**+0.1**
CN2			SS	SS	07 26 35.3	-9.0
CN2			pmax	pmax		
	comp=Z,30nm,0.6s					
CN2			pmax	pmax		
	comp=Z,100nm,5.0s					
CN2			LR	LR		
	comp=Z,2μm,25.0s					
CN2			LR	LR		
	comp=Z,2μm,25.0s					
CN2			LR	LR		
	comp=Z,2μm,22.0s					
BNX	**BinXian**	**67.08 331**	⇑P	**P**	**07 13 40.8**	**-0.4**
BNX			pP	**pP**	**07 13 55.0**	**-0.8**
BNX			sP	**sP**	**07 14 03.4**	**+1.7**
BNX			S	**S**	**07 22 30.8**	**-0.3**
BNX			SS	**SS**	**07 26 45.8**	**-5.5**
BNX			pmax	pmax		
	comp=Z,65nm,1.3s					
BNX			pmax	pmax		
	comp=Z,1μm,5.4s					
BNX			LR	LR		
	comp=Z,1μm,22.2s					
BNX			LR	LR		
	comp=Z,1μm,21.1s					
BNX			LR	LR		
	comp=Z,3μm,27.9s					
GRNR	**Gornyy**	**67.46 340**	⇑*i*P	**P**	**07 13 44.3**	**+0.8**
GRNR			pmax	pmax		
	comp=Z,30nm,1.2s					
KULM	**Kulim**	**67.55 281**	P	**P**	**07 13 44.8**	**0.0**
KULM	**Kulim**	**67.55 281**	⇑P	**P**	**07 13 45.2**	**+0.4**
CCD	**Concordia, Ant**	**67.71 191**	⇑P	**P**	**07 13 45.3**	**0.0**
NIKH	**Nikolski High**	**67.80 16**	P	**P**	**07 13 48.6**	**+3.1**
NIKH	**Nikolski High**	**67.80 16**	P	**P**	**07 13 44.4**	**-1.1**
	baz=206					
KLR	**Kul'dur**	**67.90 336**	LR	LR	07 39 39.1	
	comp=Z,2μm,21.9s,baz=145,slow=32					
KLR	**Kul'dur**	**67.90 336**	*ce*P	**P**	**07 13 46.7**	**+0.4**
KLR			pmax	pmax		
	comp=Z,81nm,1.7s					
NKL	**Nikolayevsk**	**68.23 344**	*e*P	**P**	**07 13 45.5**	**-2.7**
NKL			*e*S	**S**	**07 22 44.1**	**-0.4**
NKL			pmax	pmax		
	comp=E,79nm,0.9s					
NKL			pmax	pmax		
	comp=N,49nm,0.6s					
NKL			pmax	pmax		
	comp=Z,194nm,1.1s					
NKL			smax	smax		
	comp=E,333nm,7.5s					
NKL			smax	smax		
	comp=N,598nm,7.8s					
RPSI	**Rantau Prapat**	**68.58 278**	P	**P**	**07 13 50.2**	**-1.1**
RPSI			IAmb	IAmb	07 13 54.1	
	comp=Z,97nm,1.0s					
PBSI	**Pulau Batu**	**68.59 275**	P	**P**	**07 13 54.2**	**+2.8**
	comp=Z,289nm,1.7s,comp=Z,7μm					
PSI	**Prapat**	**68.61 278**	P	**P**	**07 13 50.2**	**-1.4**
PSI			pmax	pmax		
	comp=Z,97nm,1.0s					
LYN	**LuoYang**	**68.76 314**	⇓P	**P**	**07 13 53.0**	**+1.0**
LYN			S	**S**	**07 22 52.1**	**+0.5**
LYN			SS	**SS**	**07 27 15.3**	**-2.4**
LYN			pmax	pmax		
	comp=Z,370nm,0.8s					
LYN			pmax	pmax		
	comp=Z,2μm,8.2s					
LYN			LR	LR		
	comp=Z,2μm,23.0s					
LYN			LR	LR		
	comp=Z,4μm,24.7s					
LYN			LR	LR		
	comp=Z,8μm,23.4s					
HNS	**HongShan**	**68.79 318**	⇑P	**P**	**07 13 52.8**	**+0.7**
HNS			pP	**pP**	**07 14 06.1**	**-0.7**
HNS			PcS		07 18 20.4	
HNS			S	**S**	**07 22 49.4**	**-2.5**
HNS			sS	**pS**	**07 23 11.3**	**+2.1**
HNS			pmax	pmax		
	comp=Z,140nm,1.3s					
HNS			pmax	pmax		
	comp=Z,2μm,7.8s					
HNS			LR	LR		
	comp=Z,2μm,24.7s					
HNS			LR	LR		
	comp=Z,2μm,22.3s					
HNS			LR	LR		
	comp=Z,4μm,24.7s					
ENH	**Enshi**	**68.81 309**	P	**P**	**07 13 52.6**	**+0.2**
ENH	**Enshi**	**68.81 309**	P	**P**	**07 13 52.4**	**0.0**
ENH	**Enshi**	**68.81 309**	P	**P**	**07 13 52.7**	**+0.3**
UNV	**Unalaska Valle**	**69.22 17**	P	**P**	**07 13 53.1**	**-1.3**
	baz=208					
GYA	**Guiyang**	**69.32 304**	⇑P	**P**	**07 13 56.8**	**+1.0**
GYA			pP	pwP	07 14 13.1	+0.5
GYA			S	**S**	**07 22 57.8**	**-1.0**
GYA			SKS	**SKSac**	**07 23 48.5**	**-3.4**
GYA			SS	**SS**	**07 27 25.8**	**-1.0**
GYA			pmax	pmax		
	comp=Z,160nm,1.1s					
GYA			pmax	pmax		
	comp=Z,2μm,8.4s					
GYA			LR	LR		
	comp=Z,2μm,20.8s					
GYA			LR	LR		
	comp=Z,1μm,20.7s					
GYA			LR	LR		
	comp=Z,2μm,25.4s					
BJT	**Baijiatuau**	**69.38 321**	P	**P**	**07 13 56.5**	**+0.8**
BJT	**Baijiatuau**	**69.38 321**	P	**P**	**07 13 55.6**	**-0.1**
BJT			IAmb	IAmb	07 13 58.1	
	comp=Z,134nm,1.3s					
BJT	**Baijiatuau**	**69.38 321**	P	**P**	**07 13 55.6**	**-0.1**
BJT			pmax	pmax		
	comp=Z,135nm,1.3s					
BJT	**Baijiatuau**	**69.38 321**	P	**P**	**07 13 56.3**	**+0.6**
BJI	**Beijing**	**69.39 321**	P	**P**	**07 13 56.3**	**+0.6**
BJI			S	**S**	**07 23 00.1**	**+1.3**
BJI			pmax	pmax		
	comp=Z,41nm,1.1s					
BJI			pmax	pmax		
	comp=Z,690nm,4.5s					
BJI			LR	LR		
	comp=Z,920nm,24.6s					
BJI			LR	LR		
	comp=Z,730nm,27.6s					
BJI			LR	LR		
	comp=Z,2μm,28.8s					
NAYO	**Nakonayok**	**69.49 290**	P	**P**	**07 13 58.8**	**+1.9**
GSI	**Gunungsitoli**	**69.58 276**	P	**P**	**07 13 58.8**	**+1.3**
GSI	**Gunungsitoli**	**69.58 276**	P	**P**	**07 13 57.7**	**+0.2**
GSI	**Gunungsitoli**	**69.58 276**	P	**P**	**07 13 58.5**	**+1.0**
SLVN	**Son La**	**69.59 298**	P	**P**	**07 13 57.9**	**+0.4**
KCSI	**Kotacane, Aceh**	**69.89 278**	P	**P**	**07 13 59.7**	**+0.2**
	comp=Z,106nm,0.8s					
HEH	**HeiHe**	**70.46 335**	*e*P	**P**	**07 14 02.0**	**-0.1**
HEH			pP	**pP**	**07 14 15.3**	**-1.5**
HEH			S	**S**	**07 23 10.9**	**-0.1**
HEH			pmax	pmax		
	comp=Z,82nm,1.0s					
HEH			pmax	pmax		
	comp=Z,1μm,5.2s					
HEH			LR	LR		
	comp=Z,1μm,19.8s					
HEH			LR	LR		
	comp=Z,2μm,20.0s					
HEH			LR	LR		
	comp=Z,3μm,21.6s					
TIY	**Taiyuan**	**70.47 317**	*e*P	**P**	**07 14 03.8**	**+1.2**
TIY			pP	**pP**	**07 14 15.1**	**-2.2**
TIY			sP	**PcP**	**07 14 25.4**	**+1.8**
TIY			PP	**PP**	**07 16 37.8**	**-1.6**
TIY			S	**S**	**07 23 13.3**	**+1.5**
TIY			SS	**SS**	**07 27 41.3**	**-2.8**
TIY			pmax	pmax		
	comp=Z,93nm,0.8s					
TIY			pmax	pmax		
	comp=Z,2μm,5.3s					
TIY			LR	LR		
	comp=Z,2μm,22.0s					
TIY			LR	LR		
	comp=Z,2μm,25.9s					
TIY			LR	LR		
	comp=Z,4μm,24.5s					
P08K	**Saint George I**	**70.90 14**	P	**P**	**07 14 04.2**	**-0.5**
	baz=205					
FALS	**False Pass**	**71.00 18**	P	**P**	**07 14 04.4**	**-0.8**
	baz=211					
XAN	**Xi'an**	**71.03 312**	⇑P	**P**	**07 14 06.9**	**+0.9**
XAN			pP	pP	07 14 19.1	-1.7
XAN			S	**S**	**07 23 18.4**	**0.0**
XAN			pmax	pmax		
	comp=Z,320nm,1.1s					
XAN			pmax	pmax		
	comp=Z,3μm,10.4s					
XAN			LR	LR		
	comp=Z,3μm,24.1s					
XAN			LR	LR		
	comp=Z,4μm,22.2s					
XAN			LR	LR		
	comp=Z,9μm,23.3s					
SPIA	**Saint Paul Isl**	**71.27 13**	P	**P**	**07 14 05.8**	**-1.0**
	baz=204					
MLSI	**Meulaboh, Aceh**	**71.39 279**	P	**P**	**07 14 09.4**	**+0.8**
	comp=Z,168nm,1.0s					
XLT	**XiLinHaoTe**	**71.76 324**	*e*P	**P**	**07 14 11.3**	**+1.0**
XLT			pP	pP	07 14 25.8	+0.8
XLT			sP	PcP	07 14 30.1	+1.1
XLT			S	**S**	**07 23 22.3**	**-4.2**
XLT			pmax	pmax		
	comp=Z,170nm,1.0s					
XLT			pmax	pmax		
	comp=Z,1μm,8.5s					
XLT			LR	LR		
	comp=Z,920nm,21.5s					
XLT			LR	LR		
	comp=Z,1μm,22.2s					
PHRA	**Phrae**	**71.83 294**	P	**P**	**07 14 12.3**	**+1.2**
KMI	**Kunming**	**72.01 301**	⇑P	**P**	**07 14 14.1**	**+1.8**
KMI			pP	pP	07 14 25.9	-1.1
KMI			SS	SS	07 28 12.1	+3.6
KMI			pmax	pmax		
	comp=Z,200nm,1.3s					
KMI			pmax	pmax		
	comp=Z,2μm,6.6s					
KMI			LR	LR		
	comp=Z,880nm,23.5s					
KMI			LR	LR		
	comp=Z,3μm,25.1s					
KMI			LR	LR		
	comp=Z,4μm,24.8s					
MA2	**Magadan**	**72.13 352**	IAMs_20	IAMs_20	07 39 31.2	
	comp=Z,4μm,22.0s					
MA2	**Magadan**	**72.13 352**	LR	LR	07 40 49.4	
	comp=Z,3μm,21.8s,baz=174,slow=32					
S12K	**Black Hills**	**72.13 18**	P	**P**	**07 14 11.1**	**-1.0**
	baz=212					
CNBA	**Chernabura Isl**	**72.18 20**	IAMs_20	IAMs_20	07 38 22.1	
	comp=Z,4μm,22.0s					
CHNA	**Chernabura Isl**	**72.19 20**	P	**P**	**07 14 11.4**	**-1.0**
	baz=215					
SDPT	**Sand Point**	**72.33 19**	P	**P**	**07 14 12.5**	**-0.8**
	baz=214					
HHC	**Hu-ho-hao-te**	**72.74 319**	*e*P	**P**	**07 14 17.3**	**+1.1**
HHC			pP	pP	07 14 29.4	-1.6
HHC			PP	**PP**	**07 16 56.4**	**-2.4**
HHC			pmax	pmax		
	comp=Z,90nm,1.1s					
HHC			pmax	pmax		
	comp=Z,1μm,6.4s					
HHC			LR	LR		
	comp=Z,2μm,21.6s					
HHC			LR	LR		
	comp=Z,3μm,21.4s					
HHC			LR	LR		
	comp=Z,7μm,22.8s					
CM31	**Chiang Mai Arr**	**72.97 294**	P	**P**	**07 14 19.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**72.97 294**	P	**P**	**07 14 19.3**	**+1.4**
CMAR	**Chiang Mai Arr**	**72.97 294**	P	**P**	**07 14 19.5**	**+1.6**
	comp=Z,165nm,0.8s,baz=123,slow=4.4,SNR=313					
CMAR			LR	LR	07 44 36.5	
	comp=Z,1μm,21.3s,baz=105,slow=34					
	comp=Z,165nm,0.8s					
CHTO	**Chiang Mai**	**73.08 294**	P	**P**	**07 14 19.8**	**+1.2**
CHTO	**Chiang Mai**	**73.08 294**	P	**P**	**07 14 19.8**	**+1.2**
CHTO			pmax	pmax		
	comp=Z,314nm,1.2s					
ZEA	**Zeya**	**73.18 337**	*e*P	**P**	**07 14 19.4**	**+1.0**
ZEA			*e*S	**SKiKP**	**07 23 45.0**	**-0.7**
ZEA			pmax	pmax		
	comp=E,300nm,7.4s					
ZEA			pmax	pmax		
	comp=N,400nm,6.6s					
ZEA			pmax	pmax		
	comp=Z,800nm,6.9s					
ZEA			pmax	pmax		
	comp=E,10.0nm,0.9s					
ZEA			pmax	pmax		
	comp=N,30nm,1.1s					
ZEA			pmax	pmax		
	comp=Z,50nm,1.2s					
ZEA			smax	smax		
	comp=E,500nm,18.6s					
HIA	**Hailar**	**73.25 330**	P	**P**	**07 14 20.4**	**+1.5**
HIA	**Hailar**	**73.25 330**	P	**P**	**07 14 19.9**	**+1.0**
HIA			IAmb	IAmb	07 14 21.2	
	comp=Z,82nm,1.1s					
HIA	**Hailar**	**73.25 330**	P	**P**	**07 14 19.9**	**+1.0**
HIA			pmax	pmax		
	comp=Z,82nm,1.1s					
HIA			MLR	MLR		
	comp=Z,2μm,21.0s					
PZH	**PanZhiHua**	**73.37 302**	P	**P**	**07 14 21.0**	**+0.7**
PZH			S	**S**	**07 23 45.1**	**-0.5**
PZH			sS	**sS**	**07 24 08.9**	**-0.3**

PZH					pmax	pmax		
	comp=Z,140nm,0.8s							
PZH					pmax	pmax		
	comp=Z,2μm,5.1s							
PZH					LR	LR		
	comp=Z,1μm,23.5s							
PZH					LR	LR		
	comp=Z,2μm,24.0s							
PZH					LR	LR		
	comp=Z,3μm,24.0s							
S14K	**Fog Glacier**	**73.40**	**19**		P	**P**	**07 14 18.1**	**-1.6**
	baz=215							
CD2	**Chengdu**	**73.51**	**307**		P	**P**	**07 14 21.8**	**+0.9**
CD2					pP	pP	07 14 33.0	-2.7
CD2					sP	PcP	07 14 38.8	+2.1
CD2					PP	**PP**	**07 17 04.0**	**-1.5**
CD2					S	**SKiKP**	**07 23 47.6**	**+0.6**
CD2					sS	sS	07 24 09.8	-1.3
CD2					pmax	pmax		
	comp=Z,250nm,1.1s							
CD2					pmax	pmax		
	comp=Z,2μm,5.0s							
CD2					LR	LR		
	comp=Z,2μm,25.1s							
CD2					LR	LR		
	comp=Z,4μm,22.9s							
CD2					LR	LR		
	comp=Z,4μm,23.9s							
BTO	**Baotou**	**73.60**	**319**	*e*P		**P**	**07 14 23.3**	**+2.0**
BTO					PP	**PP**	**07 17 10.4**	**+4.2**
BTO					S	**S**	**07 23 49.0**	**+1.3**
BTO					pmax	pmax		
	comp=Z,240nm,1.4s							
BTO					pmax	pmax		
	comp=Z,4μm,8.7s							
BTO					LR	LR		
	comp=Z,5μm,23.7s							
BTO					LR	LR		
	comp=Z,4μm,27.3s							
BTO					LR	LR		
	comp=Z,10μm,28.6s							
CHGN	**Chignik**	**73.78**	**20**		P	**P**	**07 14 21.3**	**-0.5**
CHGN					IAMs_20	IAMs_20	07 40 07.1	
	comp=Z,3μm,21.0s							
CHGN	**Chignik**	**73.78**	**20**		P	**P**	**07 14 20.8**	**-1.0**
	baz=216							
CHIR	**Chirikof Islan**	**74.35**	**21**		IAMs_20	IAMs_20	07 39 43.1	
	comp=Z,5μm,22.0s							
CHIR	**Chirikof Islan**	**74.35**	**21**		P	**P**	**07 14 24.8**	**-0.3**
	baz=219							
M11K	**Mekoryuk**	**75.08**	**14**		P	**P**	**07 14 29.8**	**+0.5**
	baz=208							
SEY	**Seymchan**	**75.18**	**353**		LR	LR	07 42 29.0	
	comp=Z,4μm,21.8s,baz=156,slow=32							
SEY	**Seymchan**	**75.18**	**353**	*ce*P		**P**	**07 14 29.5**	**-0.3**
SEY					pmax	pmax		
	comp=Z,21nm,1.1s							
O14K	**Tigyukauivet M**	**75.36**	**16**		P	**P**	**07 14 30.7**	**-0.2**
	baz=213							
SII	**Sitkinak Islan**	**75.43**	**21**		P	**P**	**07 14 31.5**	**+0.1**
	baz=220							
R17L	**Mt. Peulik Vol**	**75.52**	**20**		P	**P**	**07 14 32.1**	**+0.2**
	baz=218							
TNCH	**TengChong**	**75.54**	**300**	⇑*i*P		**P**	**07 14 34.3**	**+1.3**
TNCH					pP	PcP	07 14 43.3	-2.5
TNCH					sP	pwP	07 14 49.6	+1.8
TNCH					S	**S**	**07 24 11.4**	**+1.3**
TNCH					sS	pS	07 24 28.9	+1.7
TNCH					SKS	**SKSac**	**07 24 35.1**	**-3.8**
TNCH					SS	**SS**	**07 29 06.3**	**+4.1**
TNCH					pmax	pmax		
	comp=Z,210nm,1.4s							
TNCH					pmax	pmax		
	comp=Z,2μm,3.9s							
TNCH					LR	LR		
	comp=Z,560nm,22.0s							
TNCH					LR	LR		
	comp=Z,540nm,17.2s							
TNCH					LR	LR		
	comp=Z,1μm,21.9s							
LZH	**Lanzhou**	**75.67**	**312**	⇑P		**P**	**07 14 35.4**	**+1.9**
LZH					S	**S**	**07 24 12.9**	**+1.8**
LZH					sS	sS	07 24 35.9	+0.8
LZH					pmax	pmax		
	comp=Z,380nm,1.0s							
LZH					pmax	pmax		
	comp=Z,2μm,5.0s							
LZH					LR	LR		
	comp=Z,1μm,17.3s							
LZH					LR	LR		
	comp=Z,3μm,18.4s							
LZH					LR	LR		
	comp=Z,5μm,21.8s							
O15K	**Ungalikthiuk R**	**75.70**	**17**		P	**P**	**07 14 32.6**	**-0.3**
	baz=214							
M13K	**Dall Lake**	**75.80**	**15**		IAMs_20	IAMs_20	07 41 30.3	
	comp=Z,3μm,22.0s							
M13K	**Dall Lake**	**75.80**	**15**		P	**P**	**07 14 33.6**	**+0.2**
	baz=211							
N14K	**Kuskokwak Cree**	**75.81**	**16**		P	**P**	**07 14 33.7**	**+0.2**
	baz=212							
R18K	**Karluk**	**76.11**	**21**		P	**P**	**07 14 33.5**	**-1.7**
	baz=220							
P16K	**Nushagak River**	**76.13**	**18**		P	**P**	**07 14 33.8**	**-1.5**
	baz=216							
Q17K	**Contact Creek**	**76.18**	**19**		P	**P**	**07 14 35.3**	**-0.5**
	baz=218,SNR=14							
OHAK	**Old Harbor**	**76.25**	**21**		P	**P**	**07 14 36.9**	**+0.8**
OHAK	**Old Harbor**	**76.25**	**21**		IAMs_20	IAMs_20	07 41 02.6	
	comp=Z,5μm,22.0s							
OHAK	**Old Harbor**	**76.25**	**21**		P	**P**	**07 14 35.7**	**-0.4**
	baz=221							
Q16K	**King Salmon**	**76.26**	**19**		P	**P**	**07 14 35.0**	**-1.0**
	baz=217							
ACHA	**Angle Creek He**	**76.32**	**20**		P	**P**	**07 14 36.2**	**-0.4**
M14K	**Bethel**	**76.44**	**15**		P	**P**	**07 14 37.5**	**+0.5**
M14K					IAmb	IAmb	07 15 20.5	
	comp=Z,70nm,1.2s							
M14K					IAMs_20	IAMs_20	07 43 06.4	
	comp=Z,3μm,20.0s							
M14K	**Bethel**	**76.44**	**15**		P	**P**	**07 14 37.2**	**+0.1**
	baz=212,SNR=14							
N15K	**Kwethluk River**	**76.45**	**16**		P	**P**	**07 14 37.8**	**+0.6**
N15K					IAmb	IAmb	07 15 12.8	
	comp=Z,248nm,1.9s							
N15K					IAMs_20	IAMs_20	07 43 12.7	
	comp=Z,3μm,20.0s							
N15K	**Kwethluk River**	**76.45**	**16**		P	**P**	**07 14 36.5**	**-0.7**
	baz=214,SNR=14							
Q16K	**Kokwok River B**	**76.56**	**18**		P	**P**	**07 14 37.5**	**-0.2**
O16K	**Kokwok River B**	**76.56**	**18**		P	**P**	**07 14 36.4**	**-1.3**
	baz=216							
M15K	**Kasigluk River**	**76.73**	**16**		P	**P**	**07 14 39.1**	**+0.4**
	baz=213,SNR=16							
P17K	**Kvichak River**	**76.74**	**19**		P	**P**	**07 14 37.9**	**-0.9**
	baz=217							
L14K	**Kuka Creek**	**76.77**	**15**		P	**P**	**07 14 39.2**	**+0.4**
L14K					IAmb	IAmb	07 15 22.5	
	comp=Z,69nm,1.4s							
L14K					IAMs_20	IAMs_20	07 41 47.9	
	comp=Z,3μm,22.0s							
L14K	**Kuka Creek**	**76.77**	**15**		P	**P**	**07 14 38.6**	**-0.3**
	baz=211,SNR=12							
Q18K	**Katmai Hardscr**	**76.77**	**20**		P	**P**	**07 14 38.8**	**-0.3**
	baz=219,SNR=21							
KDAK	**Kodiak Island**	**76.93**	**21**		IAMs_20	IAMs_20	07 42 16.4	
	comp=Z,5μm,21.0s							
KDAK	**Kodiak Island**	**76.93**	**21**		P	**P**	**07 14 40.2**	**+0.3**
	baz=221							
KDAK	**Kodiak Island**	**76.93**	**21**	⇑P		**P**	**07 14 40.2**	**+0.3**
KDAK	**Kodiak Island**	**76.93**	**21**	LR		LR	07 42 17.8	
	comp=Z,5μm,21.6s,baz=237,slow=31							
KDAK	**Kodiak Island**	**76.93**	**21**	*i* P		**P**	**07 14 39.1**	**-0.8**
KDAK					pmax	pmax		
	comp=Z,20nm,0.9s							
O17K	**Koliganek Bris**	**77.00**	**18**		P	**P**	**07 14 38.9**	**-1.4**
	baz=217							
N16K	**Nishlik Lake**	**77.08**	**17**		P	**P**	**07 14 41.5**	**+0.8**
	baz=215							
P18K	**Big Mountain,**	**77.28**	**19**		P	**P**	**07 14 41.3**	**-0.5**
P18K					IAmb	IAmb	07 15 13.0	
	comp=Z,75nm,0.9s							
P18K					IAMs_20	IAMs_20	07 42 18.6	
	comp=Z,3μm,22.0s							
P18K	**Big Mountain,**	**77.28**	**19**		P	**P**	**07 14 41.1**	**-0.7**
	baz=218,SNR=20							
L15K	**Ungalak Mounta**	**77.35**	**15**		P	**P**	**07 14 42.5**	**+0.3**
	baz=212,SNR=13							
Q19K	**Cape Douglas,**	**77.44**	**20**		IAMs_20	IAMs_20	07 41 38.8	
	comp=Z,5μm,22.0s							
Q19K	**Cape Douglas,**	**77.44**	**20**		P	**P**	**07 14 41.6**	**-1.1**
	baz=220							
M16K	**Timber Creek**	**77.48**	**16**		IAMs_20	IAMs_20	07 43 54.8	
	comp=Z,3μm,20.0s							
M16K	**Timber Creek**	**77.48**	**16**		P	**P**	**07 14 43.2**	**+0.3**
	baz=215,SNR=37							
N17K	**Nushagak Hills**	**77.58**	**17**		P	**P**	**07 14 43.7**	**+0.2**
	baz=216,SNR=6.9							
Q20K	**Shuyak Island**	**77.62**	**21**		P	**P**	**07 14 44.1**	**+0.4**
	baz=221							
SYI	**Shuyak Island**	**77.62**	**21**		IAMs_20	IAMs_20	07 43 05.6	
	comp=Z,6μm,21.0s							
O18K	**Koktuh Hills**	**77.65**	**19**		P	**P**	**07 14 43.2**	**-0.7**
O18K					IAMs_20	IAMs_20	07 42 30.3	
	comp=Z,4μm,22.0s							
O18K	**Koktuh Hills**	**77.65**	**19**		P	**P**	**07 14 44.1**	**+0.2**
	baz=218							
J14K	**Nanvaranak Lak**	**77.77**	**14**		IAMs_20	IAMs_20	07 43 53.5	
	comp=Z,3μm,21.0s							
J14K	**Nanvaranak Lak**	**77.77**	**14**		P	**P**	**07 14 45.1**	**+0.6**
	baz=210,SNR=9.3							
K15K	**Wolf Creek Mou**	**77.87**	**15**		IAMs_20	IAMs_20	07 42 09.0	
	comp=Z,3μm,22.0s							
K15K	**Wolf Creek Mou**	**77.87**	**15**		P	**P**	**07 14 45.6**	**+0.5**
	baz=212,SNR=34							
L16K	**Owhat River**	**77.91**	**16**		P	**P**	**07 14 45.5**	**+0.3**
	baz=214,SNR=16							
CIT	**Chita**	**78.04**	**330**	*e*P		**P**	**07 14 47.1**	**+0.8**
CIT				*e*			07 14 54.7	
CIT				*e*			07 15 00.2	
CIT					pmax	pmax		
	comp=Z,401nm,1.3s							
N18K	**Kilae Creek**	**78.09**	**18**		IAMs_20	IAMs_20	07 42 45.9	
	comp=Z,3μm,21.0s							
N18K	**Kilae Creek**	**78.09**	**18**		P	**P**	**07 14 46.7**	**+0.4**
	baz=218							
P19K	**Oil Pt**	**78.13**	**20**		IAMs_20	IAMs_20	07 42 12.0	
	comp=Z,3μm,22.0s							
P19K	**Oil Pt**	**78.13**	**20**		P	**P**	**07 14 46.4**	**-0.2**
	baz=220							
O19K	**Port Alsworth**	**78.19**	**19**		IAMs_20	IAMs_20	07 42 46.7	
	comp=Z,3μm,22.0s							
O19K	**Port Alsworth**	**78.19**	**19**		P	**P**	**07 14 46.7**	**-0.1**
	baz=219							
M17K	**Holitna River**	**78.21**	**17**		P	**P**	**07 14 47.9**	**+0.9**
	baz=216,SNR=20							
QSPA	**South Pole Qui**	**78.33**	**180**		P	**P**	**07 14 47.9**	**0.0**
QSPA					IAmb	IAmb	07 14 49.9	
	comp=Z,156nm,1.1s							
QSPA	**South Pole Qui**	**78.33**	**180**		IAMs_20	IAMs_20	07 46 42.2	
	comp=Z,3μm,19.0s							
QSPA	**South Pole Qui**	**78.33**	**180**		P	**P**	**07 14 47.9**	**0.0**
	comp=Z,100nm,1.0s,baz=334,slow=0.7,SNR=108							
QSPA					LR	LR	07 47 11.8	
	comp=Z,2μm,19.1s,baz=27,slow=34							
	comp=Z,100nm,1.0s							
ILSW	**Iliamna Southw**	**78.41**	**19**		IAMs_20	IAMs_20	07 42 22.4	
	comp=Z,3μm,22.0s							
L17K	**Donlin**	**78.57**	**16**		P	**P**	**07 14 50.3**	**+1.3**
	baz=215,SNR=18							
N19K	**Bonanza Creek**	**78.62**	**18**		IAMs_20	IAMs_20	07 43 11.0	
	comp=Z,4μm,22.0s							
N19K	**Bonanza Creek**	**78.62**	**18**		P	**P**	**07 14 49.4**	**0.0**
	baz=219							
O20K	**Slope Mountain**	**78.65**	**20**		P	**P**	**07 14 48.9**	**-0.6**
	baz=221							
HOM	**Homer**	**78.66**	**20**		P	**P**	**07 14 49.7**	**+0.3**
	baz=222							
M18K	**Stony River**	**78.75**	**17**		P	**P**	**07 14 51.2**	**+1.3**
	baz=218,SNR=23							
YAK	**Yakutsk**	**78.89**	**343**	LR		LR	07 45 26.6	
	comp=Z,2μm,21.8s,baz=151,slow=32							
YAK	**Yakutsk**	**78.89**	**343**	*c i*P		**P**	**07 14 50.6**	**0.0**
YAK				*e*			07 14 58.9	
YAK				*e**PP		**sP**	**07 15 09.3**	**-2.3**
YAK				*e*			07 17 47.7	
YAK				*e*S		**S**	**07 24 44.4**	**-0.1**
YAK				*e*			07 25 01.6	
YAK				*e*SS		**SS**	**07 29 50.9**	**0.0**
YAK					pmax	pmax		
	comp=Z,41nm,0.9s							
YAK					pmax	pmax		
	comp=N,10.0nm,1.1s							
YAK					pmax	pmax		
	comp=E,5.0nm,1.0s							
YAK					pmax	pmax		
	comp=Z,88nm,2.3s							
YAK					pmax	pmax		
	comp=N,21nm,2.0s							
YAK					pmax	pmax		
	comp=E,24nm,1.8s							
YAK					smax	smax		
	comp=N,50nm,2.3s							
YAK					smax	smax		
	comp=E,46nm,2.4s							
J16K	**Anvik River**	**78.93**	**15**		P	**P**	**07 14 51.7**	**+0.8**
J16K					IAmb	IAmb	07 15 35.1	
	comp=Z,65nm,1.1s							
J16K	**Anvik River**	**78.93**	**15**		P	**P**	**07 14 51.8**	**+0.8**
	baz=213,SNR=30							
ANM	**Nome**	**78.97**	**12**		IAMs_20	IAMs_20	07 45 09.0	
	comp=Z,3μm,20.0s							
ANM	**Nome**	**78.97**	**12**		P	**P**	**07 14 51.8**	**+0.7**
	baz=208							
BRLK	**Bradley Lake**	**79.00**	**20**		P	**P**	**07 14 51.4**	**0.0**
BRSE	**Bradley Lake S**	**79.03**	**21**		P	**P**	**07 14 52.0**	**+0.4**
	baz=223							
K17K	**Iditarod**	**79.05**	**16**		IAMs_20	IAMs_20	07 43 20.2	
	comp=Z,3μm,22.0s							
K17K	**Iditarod**	**79.05**	**16**		P	**P**	**07 14 52.4**	**+0.8**
	baz=215,SNR=22							
L18K	**Granite Mounta**	**79.09**	**17**		P	**P**	**07 14 52.6**	**+0.9**
L18K					IAmb	IAmb	07 15 24.8	
	comp=Z,67nm,1.1s							
L18K	**Granite Mounta**	**79.09**	**17**		P	**P**	**07 14 52.7**	**+0.9**
	baz=217,SNR=38							
ULN	**Ulaanbaatar**	**79.20**	**324**		P	**P**	**07 14 53.1**	**+0.2**
ULN					IAmb	IAmb	07 14 55.6	
	comp=Z,168nm,1.1s							
ULN	**Ulaanbaatar**	**79.20**	**324**	⇑P		**P**	**07 14 53.6**	**+0.7**
ULN	**Ulaanbaatar**	**79.20**	**324**	*ce*P		**P**	**07 14 53.5**	**+0.6**
ULN					pmax	pmax		
	comp=Z,141nm,1.0s							
MOKO	**MOKOCHONG**	**79.37**	**300**	*e*P		**P**	**07 14 55.1**	**+0.8**
TNA	**Tin City**	**79.37**	**11**	P		**P**	**07 14 53.4**	**+0.1**
	baz=206							
IMP	**Imphal**	**79.39**	**298**	*e*P		**P**	**07 14 54.6**	**+0.2**
J17K	**VABM Dome**	**79.41**	**15**		IAMs_20	IAMs_20	07 44 03.7	
	comp=Z,4μm,22.0s							
J17K	**VABM Dome**	**79.41**	**15**		P	**P**	**07 14 54.7**	**+1.2**
	baz=214,SNR=20							
I17K	**Unalakleet**	**79.42**	**14**		P	**P**	**07 14 54.4**	**+0.9**
	baz=213							
M19K	**Big River Lodg**	**79.50**	**18**		IAMs_20	IAMs_20	07 44 02.3	
	comp=Z,3μm,21.0s							
M19K	**Big River Lodg**	**79.50**	**18**		P	**P**	**07 14 54.6**	**+0.6**
	baz=219							
BILL	**Biiibino**	**79.51**	**360**	P		**P**	**07 14 53.6**	**-0.4**
BILL	**Biiibino**	**79.51**	**360**	*c i*P		**P**	**07 14 53.9**	**-0.1**
BILL				*i*			07 15 02.5	
BILL				*e**PP		**pP**	**07 15 06.2**	**-2.7**
BILL				*i* *SP		**sP**	**07 15 18.4**	**+3.6**
BILL				*e*			07 17 53.8	
BILL				S		**S**	**07 24 57.0**	**+6.0**
BILL				PS		**PnS**	**07 25 48.0**	**+6.9**
BILL				SS		**SS**	**07 30 08.0**	**+8.0**
BILL					pmax	pmax		
	comp=Z,50nm,0.9s							
BILL					MLR	MLR		
	comp=Z,665nm,19.0s							
SAIH	**SAIHA**	**79.52**	**296**	*e*P		**P**	**07 14 56.0**	**+0.8**
KOHI	**KOHIMA**	**79.53**	**299**	*e*P		**P**	**07 14 55.5**	**+0.3**
SONM	**Songino Array**	**79.56**	**324**	P		**P**	**07 14 55.3**	**+0.4**
SONM					IAmb	IAmb	07 14 57.5	
	comp=Z,144nm,1.4s							
SONM	**Songino Array**	**79.56**	**324**	P		**P**	**07 14 55.4**	**+0.4**
	comp=Z,49nm,1.0s,baz=143,slow=5.3,SNR=117							
SONM					LR	LR	07 50 09.0	
	comp=Z,871nm,19.7s,baz=116,slow=36							
	comp=Z,49nm,1.0s							
SONM	**Songino Array**	**79.56**	**324**	P		**P**	**07 14 55.3**	**+0.4**
SONM					pmax	pmax		
	comp=Z,144nm,1.4s							
L19K	**White Mountain**	**79.58**	**17**	P		**P**	**07 14 55.0**	**+0.5**
L19K					IAMs_20	IAMs_20	07 43 34.4	
	comp=Z,3μm,22.0s							
L19K	**White Mountain**	**79.58**	**17**	P		**P**	**07 14 55.5**	**+1.0**
	baz=218,SNR=37							
F14K	**Arctic Creek**	**79.59**	**11**	P		**P**	**07 14 55.2**	**+0.8**
	baz=207							
G15K	**Niukluk**	**79.62**	**12**	P		**P**	**07 14 54.9**	**+0.3**
	baz=209							
N20K	**Mount Spurr**	**79.63**	**19**	P		**P**	**07 14 54.2**	**-0.7**
	baz=221							
CAPN	**Captain Cook N**	**79.65**	**20**		IAMs_20	IAMs_20	07 43 24.3	
	comp=Z,5μm,22.0s							
H16K	**Elim**	**79.70**	**13**	P		**P**	**07 14 55.6**	**+0.6**
	baz=211							
RPN	**Rapa Nui**	**79.71**	**116**	LR		LR	07 43 42.9	
	comp=Z,2μm,19.4s,baz=274,slow=31							
SEW	**Seward**	**79.74**	**21**	P		**P**	**07 14 55.7**	**+0.4**
	baz=224							
TTA	**Tatalina**	**79.84**	**16**	P		**P**	**07 14 56.3**	**+0.3**
	baz=217,SNR=15							
M20K	**Styx River**	**79.86**	**18**		IAMs_20	IAMs_20	07 43 49.9	
	comp=Z,4μm,22.0s							
M20K	**Styx River**	**79.86**	**18**	P		**P**	**07 14 56.1**	**0.0**
	baz=220							
O22K	**Cooper Landing**	**79.92**	**20**	P		**P**	**07 14 56.4**	**+0.1**
	baz=224							
GTA	**Gaotai**	**79.97**	**314**	⇑P		**P**	**07 14 58.8**	**+1.5**
GTA					pP	pP	07 15 13.3	+1.1
GTA					sS	sS	07 25 22.0	-0.2
GTA					pmax	pmax		
	comp=Z,170nm,0.9s							
GTA					pmax	pmax		
	comp=Z,2μm,4.7s							
GTA					LR	LR		
	comp=Z,2μm,22.2s							
GTA					LR	LR		
	comp=Z,3μm,21.4s							
GTA					LR	LR		
	comp=Z,3μm,21.8s							
J18K	**Innoko River**	**80.08**	**16**	P		**P**	**07 14 57.2**	**+0.1**
	baz=217,SNR=28							
L20K	**Farewell, AK**	**80.10**	**18**	P		**P**	**07 14 57.8**	**+0.5**
	baz=219,SNR=18							
F15K	**North Star Dit**	**80.12**	**12**	P		**P**	**07 14 57.9**	**+0.5**
	baz=209							
SUA	**Susitna One**	**80.30**	**19**		IAMs_20	IAMs_20	07 43 58.4	
	comp=Z,3μm,22.0s							
SUA	**Susitna One**	**80.30**	**19**	P		**P**	**07 14 58.2**	**-0.3**
	baz=222							
G16K	**Koyuk River**	**80.33**	**13**		IAMs_20	IAMs_20	07 45 00.9	
	comp=Z,4μm,21.0s							
G16K	**Koyuk River**	**80.33**	**13**	P		**P**	**07 14 58.8**	**+0.4**
	baz=211,SNR=12							
RC01	**Rabbit Creek A**	**80.36**	**20**	P		**P**	**07 14 58.8**	**+0.1**
	baz=224							
Q23K	**Middleton Isla**	**80.38**	**22**	P		**P**	**07 14 57.6**	**-1.2**
	baz=227							
P23K	**Montague Islan**	**80.39**	**22**	P		**P**	**07 14 59.0**	**+0.2**
	baz=226							
SKT	**Skwentna**	**80.44**	**19**		IAMs_20	IAMs_20	07 43 57.0	
	comp=Z,3μm,21.0s							
SKT	**Skwentna**	**80.44**	**19**	P		**P**	**07 14 58.1**	**-1.0**
	baz=222							
H17K	**Granite Mounta**	**80.49**	**14**		IAMs_20	IAMs_20	07 44 02.2	
	comp=Z,3μm,22.0s							
H17K	**Granite Mounta**	**80.49**	**14**	P		**P**	**07 15 00.1**	**+0.8**
	baz=213,SNR=14							
M22K	**Willow**	**80.72**	**19**	P		**P**	**07 14 60.0**	**-0.6**
	baz=223							
K20K	**Telida**	**80.73**	**17**	P		**P**	**07 15 00.9**	**+0.3**
	baz=219							
G17K	**Kiwalik Mounta**	**80.79**	**13**	P		**P**	**07 15 01.1**	**+0.2**
	baz=213,SNR=13							
J19K	**Poorman**	**80.80**	**16**		IAMs_20	IAMs_20	07 46 08.5	
	comp=Z,3μm,20.0s							
J19K	**Poorman**	**80.80**	**16**	P		**P**	**07 15 01.9**	**+0.9**
	baz=218,SNR=15							
PMR	**Palmer**	**80.92**	**20**	P		**P**	**07 15 02.1**	**+0.4**
PMR	**Palmer**	**80.92**	**20**	P		**P**	**07 15 01.1**	**-0.6**
PMR	**Palmer**	**80.92**	**20**	P		**P**	**07 15 01.5**	**-0.2**
	baz=224,SNR=13							
PMR	**Palmer**	**80.92**	**20**	P		**P**	**07 15 01.1**	**-0.6**
PMR					pmax	pmax		
	comp=Z,71nm,1.5s							
TEZP	**TEZPUR**	**80.93**	**300**	*e*P		**P**	**07 15 03.4**	**+0.9**
HIN	**Hinchinbrook I**	**80.99**	**22**	P		**P**	**07 15 02.4**	**+0.3**
KNK	**Knik Glacier**	**81.02**	**20**	P		**P**	**07 15 02.4**	**+0.1**
KNK					IAMs_20	IAMs_20	07 45 14.5	
	comp=Z,5μm,22.0s							
KNK	**Knik Glacier**	**81.02**	**20**	P		**P**	**07 15 02.3**	**+0.1**
	baz=225							
H18K	**Honhosa River**	**81.04**	**14**		IAMs_20	IAMs_20	07 44 31.7	
	comp=Z,4μm,22.0s							
H18K	**Honhosa River**	**81.04**	**14**	P		**P**	**07 15 02.0**	**-0.2**
	baz=215							
GCSA	**Galena City Sc**	**81.07**	**15**	P		**P**	**07 15 02.9**	**+0.5**
	baz=216							
GLI	**Glacier Island**	**81.11**	**21**	P		**P**	**07 15 02.9**	**+0.1**
GLI					IAMs_20	IAMs_20	07 44 22.0	
	comp=Z,5μm,21.0s							
GLI	**Glacier Island**	**81.11**	**21**	P		**P**	**07 15 02.3**	**-0.4**
	baz=226							
CUT	**Chulitna**	**81.15**	**19**	P		**P**	**07 15 02.1**	**-0.8**
	baz=223,SNR=5.5							
J20K	**Nowinta River**	**81.34**	**16**		IAMs_20	IAMs_20	07 44 52.9	
	comp=Z,3μm,22.0s							
J20K	**Nowinta River**	**81.34**	**16**	P		**P**	**07 15 04.5**	**+0.6**
	baz=219,SNR=41							
SML	**Sawmill**	**81.35**	**20**		IAMs_20	IAMs_20	07 46 27.1	
	comp=Z,5μm,20.0s							
SML	**Sawmill**	**81.35**	**20**	P		**P**	**07 15 04.1**	**+0.1**
	baz=225,SNR=7.3							
CAST	**Castle Rocks**	**81.35**	**18**		IAMs_20	IAMs_20	07 45 52.2	
	comp=Z,3μm,21.0s							
CAST	**Castle Rocks**	**81.35**	**18**	P		**P**	**07 15 03.3**	**-0.6**
	baz=221							
EYAK	**Cordova Ski Ar**	**81.37**	**22**	P		**P**	**07 15 05.3**	**+1.3**
EYAK	**Cordova Ski Ar**	**81.37**	**22**	P		**P**	**07 15 04.0**	**-0.1**
	baz=227,SNR=6.3							
BOD	**Bodaibo**	**81.38**	**335**	*e*P		**P**	**07 15 04.7**	**+0.5**
BOD					pmax	pmax		
	comp=Z,58nm,1.6s							
SHL	**Shillong**	**81.40**	**298**	*e*P		**P**	**07 15 05.9**	**+0.7**
SHL					IAmb	IAmb	07 15 06.8	
	comp=Z,50nm,0.7s							
SHL				*i* x		x	07 15 21.2	
KAIM	**Kayak Island**	**81.44**	**23**		IAMs_20	IAMs_20	07 45 35.8	
	comp=Z,5μm,20.0s							
KAIM	**Kayak Island**	**81.44**	**23**	P		**P**	**07 15 04.6**

WAT6	**Susitna Watana**	82.09	20	P	P	07 15 08.0	0.0
	baz=225,SNR=20						
G19K	**Purcell Mounta**	82.15	14	IAMs_20	IAMs_20	07 45 27.3	
	comp=Z,3μm,22.0s						
G19K	**Purcell Mounta**	82.15	14	P	P	07 15 08.5	+0.4
	baz=216,SNR=16						
D17K	**Noatak River**	82.17	11	P	P	07 15 08.9	+0.7
	baz=210,SNR=5.2						
H20K	**Anotleneega Mo**	82.18	15	P	P	07 15 08.8	+0.5
	baz=218,SNR=18						
BPAW	**Bear Paw Mtn.**	82.19	17	P	P	07 15 07.6	-0.8
	baz=222						
C16K	**Lisburne Hills**	82.27	10	IAMs_20	IAMs_20	07 46 00.1	
	comp=Z,3μm,21.0s						
C16K	**Lisburne Hills**	82.27	10	P	P	07 15 08.3	-0.3
	baz=208						
M24K	**Tolsona, Glenn**	82.29	20	P	P	07 15 09.2	+0.2
	baz=227,SNR=14						
RND	**Reindeer**	82.32	19	P	P	07 15 08.5	-0.7
RND				IAmb	IAmb	07 15 43.9	
	comp=Z,125nm,2.0s						
RND	**Reindeer**	82.32	19	P	P	07 15 08.5	-0.7
RND				pmax	pmax		
	comp=Z,125nm,2.0s						
WAX	**Waxell Ridge**	82.38	23	P	P	07 15 10.2	+0.7
WAX				IAmb	IAmb	07 15 13.6	
	comp=Z,74nm,0.6s						
KMPM	**Mount Pierce**	82.39	46	P	P	07 15 11.2	+1.2
KMPM				IAmb	IAmb	07 15 43.1	
	comp=Z,81nm,1.4s						
GOMU	**GeErMu**	82.43	309	P	P	07 15 12.3	+1.6
GOMU				sP	pP	07 15 23.9	-1.8
GOMU				PP	**PP**	07 18 19.3	-1.2
GOMU				S	**S**	07 25 25.4	+2.0
GOMU				pmax	pmax		
	comp=Z,160nm,0.9s						
GOMU				LR	LR		
	comp=Z,2μm,20.7s						
GOMU				LR	LR		
	comp=Z,3μm,22.2s						
GOMU				LR	LR		
	comp=Z,6μm,22.2s						
E18K	**Tukpahlearik C**	82.43	12	IAMs_20	IAMs_20	07 46 27.5	
	comp=Z,3μm,21.0s						
E18K	**Tukpahlearik C**	82.43	12	P	P	07 15 10.0	+0.5
	baz=212,SNR=20						
MCCM	**Marconi Confer**	82.44	49	IAMs_20	IAMs_20	07 43 24.8	
	comp=Z,4μm,21.0s						
CRQM	**Cirque**	82.47	22	IAMs_20	IAMs_20	07 46 20.3	
	comp=Z,4μm,20.0s						
CRQE	**Cirque**	82.48	22	P	P	07 15 10.2	+0.1
	baz=230,SNR=5.6						
N25K	**Chitina, Valde**	82.50	21	P	P	07 15 10.6	+0.5
	baz=228,SNR=50						
RDOG	**Red Dog Mine**	82.51	11	P	P	07 15 10.6	+0.7
	baz=210						
MCK	**McKinley**	82.53	18	P	P	07 15 09.5	-0.7
	baz=224,SNR=7.4						
MESA	**MESA**	82.55	23	P	P	07 15 09.7	-0.9
	baz=231						
F19K	**Shaleruckik Mo**	82.56	14	IAMs_20	IAMs_20	07 48 10.9	
	comp=Z,2μm,20.0s						
F19K	**Shaleruckik Mo**	82.56	14	P	P	07 15 10.6	+0.4
	baz=215,SNR=16						
DHY	**Denali Highway**	82.56	19	P	P	07 15 10.7	+0.2
	baz=226,SNR=18						
TGL	**Tana Glacier**	82.58	23	IAMs_20	IAMs_20	07 46 12.9	
	comp=Z,4μm,20.0s						
ZAK	**Zakamensk**	82.60	325	*e*P	P	07 15 10.5	-0.4
ZAK				pmax	pmax		
	comp=Z,68nm,1.1s						
HOPS	**Hopland Field**	82.61	48	IAMs_20	IAMs_20	07 44 11.1	
	comp=Z,3μm,20.0s						
I21K	**Tanana**	82.71	16	IAMs_20	IAMs_20	07 45 57.2	
	comp=Z,3μm,21.0s						
I21K	**Tanana**	82.71	16	P	P	07 15 11.1	+0.1
	baz=221						
C17K	**DeLong Mountai**	82.83	11	P	P	07 15 11.5	-0.1
	baz=210,SNR=8.1						
HARP	**HAARP**	82.83	21	P	P	07 15 12.2	+0.4
	baz=228						
H21K	**Melozitna Rive**	82.85	16	P	P	07 15 12.7	+0.9
	baz=220,SNR=14						
IMAR	**Indian Mountai**	82.86	15	P	P	07 15 12.4	+0.6
DIB	**Dawson Inlet,**	82.88	32	IAMs_20	IAMs_20	07 47 12.1	
	comp=Z,3μm,20.0s						
MCARA	**McCarthy VSAT**	82.92	22	IAMs_20	IAMs_20	07 44 28.8	
	comp=Z,3μm,22.0s						
MCARA	**McCarthy VSAT**	82.92	22	P	P	07 15 12.7	+0.5
	baz=230						
IRK	**Irkutsk**	82.95	327	*e*P	P	07 15 11.8	-0.8
IRK				pmax	pmax		
	comp=Z,150nm,3.9s						
MLY	**Manley**	82.95	17	P	P	07 15 12.9	+0.5
	baz=222,SNR=11						
GRNC	**Granite Creek**	82.98	23	IAMs_20	IAMs_20	07 45 52.3	
	comp=Z,5μm,20.0s						
SAO	**San Andreas Ge**	83.03	50	P	P	07 15 13.9	+0.6
SAO	**San Andreas Ge**	83.03	50	⇑P	P	07 15 13.4	+0.1
SAO	**San Andreas Ge**	83.03	50	P	P	07 15 13.9	+0.6
SAO				pmax	pmax		
	comp=Z,47nm,1.4s						
TABL	**Table Mountain**	83.03	23	P	P	07 15 13.1	+0.1
TABL				IAmb	IAmb	07 15 45.3	
	comp=Z,65nm,1.0s						
NEA2	**Nenana**	83.12	18	IAMs_20	IAMs_20	07 46 36.8	
	comp=Z,4μm,21.0s						
NEA2	**Nenana**	83.12	18	P	P	07 15 13.1	0.0
	baz=224,SNR=11						
PAX	**Paxson**	83.12	20	P	P	07 15 13.3	0.0
	baz=227						
PINM	**Pinnacle**	83.16	24	P	P	07 15 13.3	-0.3
	baz=232						
E19K	**Redstone River**	83.19	13	IAMs_20	IAMs_20	07 49 01.6	
	comp=Z,3μm,20.0s						
E19K	**Redstone River**	83.19	13	P	P	07 15 14.1	+0.6
	baz=216,SNR=37						
F20K	**Avaraart Lake**	83.21	14	IAMs_20	IAMs_20	07 46 01.2	
	comp=Z,3μm,22.0s						
F20K	**Avaraart Lake**	83.21	14	P	P	07 15 14.2	+0.7
	baz=217						
LSA	**Lhasa**	83.25	302	P	P	07 15 16.9	+1.7
LSA				pmax	pmax		
	comp=Z,94nm,1.2s						
LSA				LR	LR		
	comp=Z,600nm,22.3s						
LSA				LR	LR		
	comp=Z,1μm,23.7s						
LSA				LR	LR		
	comp=Z,2μm,23.7s						
O02D	**Mt. Diablo Mer**	83.25	47	P	P	07 15 15.4	+0.9
O02D				IAmb	IAmb	07 15 38.8	
	comp=Z,181nm,2.0s						
PNL	**Peninsula**	83.25	24	P	P	07 15 14.3	+0.3
	baz=233						
CTG	**Chitna Glacier**	83.28	23	P	P	07 15 14.6	+0.3
	baz=231,SNR=13						
CTGM	**Chitina Glacie**	83.28	23	P	P	07 15 14.2	-0.1
CTGM				IAMs_20	IAMs_20	07 46 13.4	
	comp=Z,4μm,20.0s						
LOGN	**Logan Glacier**	83.32	23	IAMs_20	IAMs_20	07 45 52.4	
	comp=Z,4μm,20.0s						
WRH	**Wood River Hil**	83.32	18	IAMs_20	IAMs_20	07 49 46.3	
	comp=Z,2μm,20.0s						
G21K	**Allakaket**	83.33	15	IAMs_20	IAMs_20	07 45 30.5	
	comp=Z,4μm,22.0s						
G21K	**Allakaket**	83.33	15	P	P	07 15 14.6	+0.4
	baz=219,SNR=16						
C18K	**Utukok River**	83.35	11	IAMs_20	IAMs_20	07 48 18.9	
	comp=Z,3μm,20.0s						
C18K	**Utukok River**	83.35	11	P	P	07 15 14.8	+0.5
	baz=212,SNR=11						
SNCC	**San Nicolas Is**	83.36	54	IAMs_20	IAMs_20	07 44 10.3	
	comp=Z,3μm,20.0s						
SNCC	**San Nicolas Is**	83.36	54	P	P	07 15 14.3	-0.8
	baz=252						
L02F	**Cave Junction**	83.42	45	IAMs_20	IAMs_20	07 45 45.2	
	comp=Z,2μm,20.0s						
H22K	**Ishtalitna Cre**	83.42	16	P	P	07 15 15.5	+0.8
	baz=222,SNR=16						
I23K	**Minto, Yukon-K**	83.43	17	IAMs_20	IAMs_20	07 46 08.2	
	comp=Z,3μm,22.0s						
I23K	**Minto, Yukon-K**	83.43	17	P	P	07 15 14.9	+0.2
	baz=223,SNR=10						
SIT	**Sitka**	83.51	28	P	P	07 15 14.7	-0.6
	baz=237						
SCZ2	**Santa Cruz Isl**	83.51	53	P	P	07 15 15.7	-0.2
	baz=251						
J01E	**Myrtle Point**	83.56	44	IAMs_20	IAMs_20	07 43 36.0	
	comp=Z,3μm,22.0s						
K02D	**Willamette Mer**	83.57	44	IAMs_20	IAMs_20	07 51 14.2	
	comp=Z,2μm,18.0s						
K24K	**Donnelly Dome**	83.58	19	P	P	07 15 15.7	+0.1
	baz=227,SNR=22						
SBC	**Santa Barbara**	83.59	53	P	P	07 15 16.0	-0.2
	baz=251						
M26K	**Nabesna, AK**	83.59	21	P	P	07 15 15.9	+0.2
	baz=230,SNR=24						
S31K	**Pelican**	83.60	27	IAMs_20	IAMs_20	07 44 10.0	
	comp=Z,4μm,22.0s						
S31K	**Pelican**	83.60	27	P	P	07 15 15.7	0.0
	baz=236						
O28M	**Mount Upton**	83.60	23	P	P	07 15 17.0	+0.9
	baz=232,SNR=12						
MDM	**Murphy Dome**	83.63	18	IAMs_20	IAMs_20	07 47 01.4	
	comp=Z,4μm,21.0s						
HDA	**Harding Lake**	83.63	19	IAMs_20	IAMs_20	07 46 03.5	
	comp=Z,4μm,22.0s						
HDA	**Harding Lake**	83.63	19	P	P	07 15 15.3	-0.5
	baz=226,SNR=89						
SMMC	**Simmler**	83.65	52	P	P	07 15 16.7	+0.1
	baz=251						
PKM	**Mcpherson Peak**	83.66	53	P	P	07 15 17.5	+0.7
	baz=251						
COLA	**College**	83.68	18	P	P	07 15 15.8	-0.2
COLA	**College**	83.68	18	IAMs_20	IAMs_20	07 46 39.7	
	comp=Z,3μm,21.0s						
COLA	**College**	83.68	18	P	P	07 15 15.0	-1.0
	baz=225						
COLA	**College**	83.68	18	⇑P	P	07 15 14.9	-1.0
COLA	**College**	83.68	18	*c i*P	P	07 15 14.0	-2.0
COLA				pmax	pmax		
	comp=Z,23nm,0.7s						
CRAG	**Craig**	83.70	30	IAMs_20	IAMs_20	07 43 57.9	
	comp=Z,3μm,22.0s						
CRAG	**Craig**	83.70	30	P	P	07 15 15.4	-0.9
	baz=239						
D19K	**Kuna River**	83.85	12	IAMs_20	IAMs_20	07 47 12.0	
	comp=Z,4μm,21.0s						
D19K	**Kuna River**	83.85	12	P	P	07 15 17.2	+0.3
	baz=215,SNR=22						
B18K	**Kokolik River**	83.85	11	P	P	07 15 17.8	+1.0
	baz=211						
YBH	**Yreka Blue Hor**	83.87	45	LR	LR	07 45 50.2	
	comp=Z,2μm,21.1s,baz=253,slow=31						
L26K	**Log Cabin Wild**	83.88	21	P	P	07 15 17.5	+0.3
	baz=229,SNR=19						
H23K	**Yukon River**	83.88	17	P	P	07 15 16.9	-0.2
	baz=223,SNR=17						
F21K	**Alatna River**	83.89	15	IAMs_20	IAMs_20	07 45 48.1	
	comp=Z,5μm,22.0s						
F21K	**Alatna River**	83.89	15	P	P	07 15 17.6	+0.5
	baz=219,SNR=23						
IL31		83.91	18	P	P	07 15 16.3	-0.8
ILAR	**Eielson Array**	83.91	18	P	P	07 15 16.0	-1.2
ILAR	**Eielson Array**	83.91	18	P	P	07 15 16.0	-1.2
	comp=Z,15nm,0.6s,baz=232,slow=5.6,SNR=89						
ILAR				PKiKP	**PKiKP**	07 20 33.9	+1.2
	comp=Z,0.4nm,0.6s,baz=284,slow=3.8,SNR=4.7						
ILAR				LR	LR	07 46 13.8	
	comp=Z,1μm,21.9s,baz=216,slow=31						
	comp=Z,15nm,0.6s						
P29M	**Windy Craggy**	83.91	25	P	P	07 15 17.6	+0.3
	baz=235						
ORV	**Oroville**	83.95	48	IAMs_20	IAMs_20	07 45 14.6	
	comp=Z,2μm,20.0s						
O29M	**Mount Kennedy**	83.96	24	P	P	07 15 17.3	-0.4
	baz=234						
M27K	**Edge Creek, AK**	83.96	22	IAMs_20	IAMs_20	07 45 37.3	
	comp=Z,5μm,22.0s						
M27K	**Edge Creek, AK**	83.96	22	P	P	07 15 17.9	+0.2
	baz=231,SNR=16						
POKR	**Poker Plat Res**	83.98	18	IAMs_20	IAMs_20	07 49 09.7	
	comp=Z,3μm,20.0s						
POKR	**Poker Plat Res**	83.98	18	P	P	07 15 17.0	-0.6
	baz=225,SNR=13						
BCW	**Bitter Crk WRg**	83.98	53	P	P	07 15 19.9	+1.5
BCW				IAMs_20	IAMs_20	07 44 09.8	
	comp=Z,4μm,21.0s						
HUMO	**Hull Mountain**	84.02	44	P	P	07 15 18.7	+0.4
HUMO				IAmb	IAmb	07 15 45.4	
	comp=Z,95nm,1.7s						
HOLB	**Holberg**	84.03	36	IAMs_20	IAMs_20	07 45 59.8	
	comp=Z,3μm,20.0s						
U33K	**Whale Pass**	84.04	29	IAMs_20	IAMs_20	07 44 49.8	
	comp=Z,3μm,21.0s						
U33K	**Whale Pass**	84.04	29	P	P	07 15 18.6	+0.6
	baz=239						
SCI2	**San Clemente I**	84.05	55	P	P	07 15 18.2	-0.5
	baz=252						
C19K	**Lookout Ridge**	84.05	12	IAMs_20	IAMs_20	07 46 39.4	
	comp=Z,3μm,22.0s						
C19K	**Lookout Ridge**	84.05	12	P	P	07 15 18.6	+0.7
	baz=213,SNR=10.0						
R31K	**City Hall, Gus**	84.07	27	P	P	07 15 17.8	-0.2
	baz=236						
E20K	**Nigu River**	84.07	13	P	P	07 15 18.9	+0.8
	baz=217						
S32K	**Killisnoo**	84.07	28	P	P	07 15 18.1	0.0
	baz=238						
YUK8	**Steele Glacier**	84.08	23	P	P	07 15 19.2	+0.7
	baz=233,SNR=17						
YUK3	**Moose Creek**	84.12	22	P	P	07 15 19.0	+0.3
	baz=232,SNR=12						
AFDM	**Forest Hills D**	84.13	48	IAMs_20	IAMs_20	07 43 55.3	
	comp=Z,4μm,22.0s						
G22K	**Bettles**	84.16	15	P	P	07 15 19.3	+0.9
	baz=221						
I03D	**Drain, OR**	84.16	43	IAMs_20	IAMs_20	07 43 42.8	
	comp=Z,3μm,22.0s						
J25K	**Salcha River,**	84.27	19	P	P	07 15 18.9	-0.3
	baz=227,SNR=110						
CIS	**Catalina Islan**	84.29	54	P	P	07 15 19.5	-0.4
	baz=252						
SCRK	**Sand Creek**	84.29	20	IAMs_20	IAMs_20	07 45 31.8	
	comp=Z,3μm,22.0s						
SCRK	**Sand Creek**	84.29	20	P	P	07 15 19.4	+0.1
	baz=228,SNR=48						
D20K	**Etivluk River**	84.35	13	P	P	07 15 20.5	+1.1
	baz=216,SNR=28						
H24K	**Noodor Dome**	84.36	17	P	P	07 15 19.2	-0.4
H24K				IAMs_20	IAMs_20	07 45 59.7	
	comp=Z,4μm,22.0s						
H24K	**Noodor Dome**	84.36	17	P	P	07 15 19.0	-0.6
	baz=225						
V35K	**Ketchikan**	84.38	30	P	P	07 15 20.6	+0.8
V35K				IAMs_20	IAMs_20	07 45 20.7	
	comp=Z,2μm,20.0s						
V35K	**Ketchikan**	84.38	30	P	P	07 15 18.9	-0.8
	baz=240						
PLBC	**Pleasant Camp**	84.38	26	P	P	07 15 20.4	+0.7
	baz=236,SNR=11						
MAW	**Mawson**	84.38	202	P	P	07 15 19.7	+0.1
MAW	**Mawson**	84.38	202	P	P	07 15 19.8	+0.1
	comp=Z,24nm,1.0s,baz=114,slow=7.3,SNR=21						
MAW				LR	LR	07 47 32.8	
	comp=Z,2μm,21.5s,baz=93,slow=32						
	comp=Z,24nm,1.0s						
G23K	**Bananza Creek**	84.39	16	P	P	07 15 20.0	+0.3
G23K				IAMs_20	IAMs_20	07 47 41.5	
	comp=Z,4μm,21.0s						
G23K	**Bananza Creek**	84.39	16	P	P	07 15 20.5	+0.8
	baz=223,SNR=30						
OSI	**Osito Audit: C**	84.42	53	P	P	07 15 21.2	+0.6
	baz=252						
YUK6	**Outpost Mounta**	84.42	24	P	P	07 15 20.8	+0.6
	baz=234						
L27K	**Beaver Creek,**	84.43	21	P	P	07 15 20.1	+0.1
	baz=231,SNR=21						
F22K	**John River**	84.43	15	P	P	07 15 20.5	+0.6
	baz=221						
BCAR	**Beaver Creek A**	84.45	21	P	P	07 15 20.4	+0.3
VOG	**Valley Oaks Go**	84.45	51	P	P	07 15 20.9	+0.3
	baz=251						
HEBO	**Mount Hebo**	84.47	42	IAMs_20	IAMs_20	07 44 10.8	
	comp=Z,3μm,22.0s						
MOY	**Mondy**	84.47	325	*e*P	P	07 15 20.4	-0.1
MOY				pmax	pmax		
	comp=Z,153nm,2.9s						
FMP	**Fort Macarthur**	84.48	54	P	P	07 15 21.3	+0.5
	baz=252						
T33K	**Petersburg**	84.48	29	P	P	07 15 20.4	+0.2
	baz=239						
ARVC	**Arvin**	84.50	53	P	P	07 15 21.9	+1.0
	baz=252						
P30M	**Million Dollar**	84.51	25	P	P	07 15 20.9	+0.4
	baz=235						
VES	**Vestal, Richgr**	84.52	52	P	P	07 15 21.2	+0.3
	baz=252						
R32K	**Eaglecrest**	84.53	27	IAMs_20	IAMs_20	07 44 37.6	
	comp=Z,4μm,22.0s						
YUK4	**Talbot Arm**	84.55	23	P	P	07 15 21.6	+0.8
	baz=234,SNR=15						
JIS	**Juneau Island**	84.59	27	IAMs_20	IAMs_20	07 44 51.2	
	comp=Z,3μm,21.0s						
DECC	**Green Verdugo**	84.61	54	P	P	07 15 21.2	-0.3
	baz=252						
A19K	**Wainwright**	84.70	11	P	P	07 15 21.3	+0.2
	baz=212						
PASC	**Pasadena Art C**	84.71	54	IAMs_20	IAMs_20	07 45 29.0	
	comp=Z,3μm,21.0s						
E21K	**Killik River**	84.72	14	P	P	07 15 21.9	+0.6
	baz=219						
BBB	**Bella Bella**	84.73	34	IAMs_20	IAMs_20	07 44 04.3	
	comp=Z,4μm,22.0s						
BBB	**Bella Bella**	84.73	34	LR	LR	07 45 20.4	
	comp=Z,3μm,21.2s,baz=268,slow=30						
COLD	**Coldfoot**	84.73	16	P	P	07 15 22.2	+0.9
	baz=222						
EMB	**Emerald Bay**	84.77	49	IAMs_20	IAMs_20	07 45 18.4	
	comp=Z,4μm,20.0s						
J26L	**Joseph Creek**	84.77	19	IAMs_20	IAMs_20	07 46 11.7	
	comp=Z,3μm,21.0s						
J26L	**Joseph Creek**	84.77	19	P	P	07 15 23.0	+1.3
	baz=229,SNR=22						
G03D	**McMinnville, O**	84.78	42	IAMs_20	IAMs_20	07 44 09.2	
	comp=Z,3μm,22.0s						
SKAG	**Skagway**	84.82	26	P	P	07 15 23.7	+1.8
SKAG	**Skagway**	84.82	26	IAMs_20	IAMs_20	07 45 30.3	
	comp=Z,3μm,21.0s						
SKAG	**Skagway**	84.82	26	P	P	07 15 22.2	+0.3
	baz=237						
I04A	**Tendick Farm,**	84.83	43	IAMs_20	IAMs_20	07 44 25.4	
	comp=Z,3μm,22.0s						
PRP	**Porcupine Dome**	84.84	18	P	P	07 15 21.5	-0.6
	baz=227						
F03A	**Seaside**	84.87	41	IAMs_20	IAMs_20	07 45 05.3	
	comp=Z,3μm,21.0s						
RADR	**Rader Ridge**	84.90	41	IAMs_20	IAMs_20	07 46 20.2	
	comp=Z,3μm,20.0s						
MPK	**Martis Peak**	84.93	48	IAMs_20	IAMs_20	07 44 31.5	
	comp=Z,4μm,21.0s						
ISA	**Isabella, Lake**	84.94	52	IAMs_20	IAMs_20	07 44 52.0	
	comp=Z,4μm,21.0s						
ISA	**Isabella, Lake**	84.94	52	P	P	07 15 23.9	+0.7
	baz=252,SNR=9.8						
K27K	**Chicken**	84.96	20	IAMs_20	IAMs_20	07 46 58.1	
	comp=Z,3μm,21.0s						
K27K	**Chicken**	84.96	20	P	P	07 15 23.3	+0.8
	baz=230						
E22K	**Anaktuvuk Pass**	85.00	15	P	P	07 15 23.8	+1.0
	baz=221						
C03A	**Quillayute Air**	85.02	39	IAMs_20	IAMs_20	07 43 48.1	
	comp=Z,3μm,22.0s						
EDW2	**Edwards Air Fo**	85.07	53	P	P	07 15 24.3	+0.4
	baz=252,SNR=9.1						
G24K	**Hadweenzic Riv**	85.09	17	IAMs_20	IAMs_20	07 47 09.3	
	comp=Z,4μm,22.0s						
G24K	**Hadweenzic Riv**	85.09	17	P	P	07 15 23.7	+0.5
	baz=225,SNR=22						
E03A	**Lebam**	85.10	41	P	P	07 15 24.2	+0.6
E03A				IAmb	IAmb	07 15 51.3	
	comp=Z,43nm,1.0s						
E03A				IAMs_20	IAMs_20	07 45 34.5	
	comp=Z,3μm,20.0s						
MDPB	**Devils Postpil**	85.10	50	P	P	07 15 24.2	0.0
MDPB				IAmb	IAmb	07 15 46.8	
	comp=Z,47nm,1.2s						
C21K	**Knifeblade Rid**	85.10	13	P	P	07 15 24.4	+1.3
	baz=218,SNR=10						
WAKR	**Walker**	85.11	49	P	P	07 15 24.7	+0.6
WAKR				IAmb	IAmb	07 15 48.0	
	comp=Z,122nm,1.7s						
TJX	**Tijuana**	85.11	56	IAMs_20	IAMs_20	07 44 07.9	
	comp=Z,3μm,21.0s						
CCAC	**Calif City Air**	85.14	53	IAMs_20	IAMs_20	07 44 23.3	
	comp=Z,4μm,22.0s						
BFSC	**Mount Baldy Ra**	85.14	54	P	P	07 15 24.8	+0.4
	baz=252,SNR=12						
ELS	**Elsinore Mount**	85.15	54	IAMs_20	IAMs_20	07 44 10.8	
	comp=Z,3μm,22.0s						
PNTR	**Pine Nut**	85.18	49	IAMs_20	IAMs_20	07 44 17.2	
	comp=Z,4μm,22.0s						
109C	**Camp Elliot, M**	85.18	55	IAMs_20	IAMs_20	07 44 10.7	
	comp=Z,4μm,22.0s						
109C	**Camp Elliot, M**	85.18	55	P	P	07 15 24.7	+0.4
	baz=253						
WISH	**Wishkah**	85.19	40	IAMs_20	IAMs_20	07 44 58.7	
	comp=Z,3μm,21.0s						
N30M	**Aishikik Lake**	85.22	24	P	P	07 15 24.0	0.0
	baz=235						
NLWA	**Neilton Lookou**	85.23	40	IAMs_20	IAMs_20	07 47 30.9	
	comp=Z,3μm,20.0s						
O30N	**Mendenhall**	85.23	25	P	P	07 15 24.5	+0.4
	baz=236,SNR=9.9						
PAF	**Port-aux-Franc**	85.24	221	⇓P	P	07 15 25.7	+1.3
CCX	**Cicese**	85.24	56	IAMs_20	IAMs_20	07 45 43.4	
	comp=Z,3μm,20.0s						
H25L	**Birch Creek**	85.27	18	P	P	07 15 23.3	-0.7
	baz=227						
M29M	**Somme Creek**	85.27	23	IAMs_20	IAMs_20	07 47 19.0	
	comp=Z,4μm,20.0s						
M29M	**Somme Creek**	85.27	23	P	P	07 15 24.3	0.0
	baz=234						
F04D	**Rainier, OR**	85.28	41	IAMs_20	IAMs_20	07 45 18.2	
	comp=Z,3μm,21.0s						
MLAC	**Mammoth, Mammo**	85.28	50	P	P	07 15 25.3	+0.3
	baz=252						
B20K	**Meade River**	85.29	12	IAMs_20	IAMs_20	07 48 44.0	
	comp=Z,3μm,20.0s						
B20K	**Meade River**	85.29	12	P	P	07 15 24.5	+0.5
	baz=216						
MURC	**Murrieta**	85.32	54	P	P	07 15 25.1	0.0
	baz=253						
D22K	**Ayikyak River**	85.36	14	IAMs_20	IAMs_20	07 48 35.0	
	comp=Z,3μm,21.0s						
D22K	**Ayikyak River**	85.36	14	P	P	07 15 25.3	+0.8
	baz=220,SNR=12						
CBX	**Cerro Bola**	85.37	56	IAMs_20	IAMs_20	07 51 51.7	
	comp=Z,3μm,19.0s						
CBB	**Campbell River**	85.37	37	IAMs_20	IAMs_20	07 44 48.5	
	comp=Z,5μm,22.0s						
YERR	**Yerington**	85.41	49	IAMs_20	IAMs_20	07 44 25.3	
	comp=Z,4μm,22.0s						
I26K	**Coal Creek Min**	85.44	19	P	P	07 15 24.9	+0.1

baz=253,SNR=12
EGAK **Eagle** 85.75 20 P P 07 15 26.9 +0.4
baz=231,SNR=87
N31M **Braeburn, Yuko** 85.76 24 P P 07 15 27.2 +0.5
baz=236
L29M **L29M** 85.79 22 IAms_20 IAms_20 07 48 26.7
comp=Z,4µm,20.0s
L29M **L29M** 85.79 22 P P 07 15 26.9 +0.1
baz=234,SNR=10
E24K **Your Creek** 85.80 15 IAms_20 IAms_20 07 48 47.7
comp=Z,3µm,20.0s
E24K **Your Creek** 85.80 15 P P 07 15 27.4 +0.6
baz=224
PINE **Pine Mountain** 85.82 44 IAms_20 IAms_20 07 44 47.8
comp=Z,4µm,22.0s
MPMC **Manual Prospec** 85.82 52 P P 07 15 28.9 +1.1
baz=252,SNR=18
VTX **Valle De La Tr** 85.83 57 IAms_20 IAms_20 07 45 51.9
comp=Z,4µm,20.0s
T35M **Bob Quinn** 85.85 29 P P 07 15 27.0 -0.1
baz=241
RRX **Edison Barstow** 85.85 53 P P 07 15 28.5 +0.8
baz=253
S34M **Telegraph Cree** 85.89 28 P P 07 15 28.3 +1.0
baz=240,SNR=9.1
Q32M **Nakina River** 85.89 27 IAms_20 IAms_20 07 45 41.7
comp=Z,3µm,21.0s
Q32M **Nakina River** 85.89 27 P P 07 15 28.3 +0.7
baz=240
D23K **Nanushuk River** 85.90 14 P P 07 15 28.4 +1.3
baz=222
DAWY **Dawson** 85.91 21 P P 07 15 27.9 +0.6
baz=233,SNR=18
PFO **Pinyon Flats O** 85.91 55 IAms_20 IAms_20 07 45 35.0
comp=Z,4µm,21.0s
PFO **Pinyon Flats O** 85.91 55 P P 07 15 29.0 +0.8
baz=253,SNR=7.9
PFO **Pinyon Flats O** 85.91 55 LR LR 07 45 38.0
comp=Z,4µm,21.1s,baz=273,slow=30
PFO **Pinyon Flats O** 85.91 55*c i*P P 07 15 28.4 +0.3
PFO pmax pmax
comp=Z,63nm,3.0s
TPFO **Pinon Flats** 85.91 55 P P 07 15 28.9 +0.7
baz=253,SNR=6.4
IKP **In-Ko-Pah, Jac** 85.92 56 P P 07 15 29.1 +1.0
baz=254
NVAR **Mina Array Bea** 85.93 50 P P 07 15 28.4 +0.1
NVAR **Mina Array Bea** 85.93 50 P P 07 15 28.5 +0.2
comp=Z,8.0nm,0.7s,baz=233,slow=8.1,SNR=33
NVAR PKKPbc **PKKPbc** 07 33 28.1 -2.0
comp=Z,0.6nm,0.7s,baz=91,slow=4.7,SNR=4.3
NVAR PKPPKP **P'P'df** 07 41 30.0 -5.0
comp=Z,0.7nm,0.8s,baz=82,slow=3.6,SNR=4.7
NVAR LR LR 07 45 41.9
comp=Z,7µm,21.8s,baz=278,slow=30
comp=Z,8.0nm,0.7s
TOLK **Toolik Lake Re** 85.93 15 P P 07 15 27.7 +0.3
TOLK IAmb IAmb 07 16 14.4
comp=Z,112nm,2.0s
TOLK IAms_20 IAms_20 07 47 16.2
comp=Z,4µm,22.0s
TOLK **Toolik Lake Re** 85.93 15 P P 07 15 28.4 +1.0
baz=223,SNR=6.9
GNW **Green Mountain** 85.95 40 IAms_20 IAms_20 07 48 03.0
comp=Z,3µm,20.0s
PGC **Sidney** 85.97 39 P P 07 15 28.9 +1.0
PGC IAms_20 IAms_20 07 45 56.5
comp=Z,3µm,20.0s
M30M **Minto, Yukon** 85.98 23 IAms_20 IAms_20 07 47 49.7
comp=Z,4µm,20.0s
M30M **Minto, Yukon** 85.98 23 P P 07 15 27.6 -0.1
baz=235,SNR=12
PMD **Palm Desert** 85.99 55 P P 07 15 28.6 +0.3
PMD IAms_20 IAms_20 07 44 23.9
comp=Z,4µm,22.0s
YUH **Yuha Desert** 86.07 56 IAms_20 IAms_20 07 44 36.2
comp=Z,5µm,22.0s
I27K **Kandik River** 86.12 19 P P 07 15 28.6 +0.2
baz=231,SNR=23
GSC **Goldstone, Bar** 86.13 53 IAms_20 IAms_20 07 44 53.6
comp=Z,3µm,22.0s
GSC **Goldstone, Bar** 86.13 53 P P 07 15 30.1 +0.9
baz=253
BOK **Bokaro** 86.16 295 *e*P P 07 15 31.1 +1.6
BOK IAmb IAmb 07 15 33.0
comp=Z,55nm,1.0s
GRAC **Grapevine Rang** 86.20 51 P P 07 15 30.0 +0.6
baz=252,SNR=26
F25K **Christian Rive** 86.23 17 P P 07 15 29.4 +0.6
baz=227,SNR=15
SWSC **Sam W. Stewart** 86.25 55 P P 07 15 30.3 +0.7
baz=254
KVN **Kaiserville** 86.28 49 IAms_20 IAms_20 07 45 03.2
comp=Z,5µm,22.0s
LON **Longmire** 86.30 41 P P 07 15 29.2 -0.4
LON IAms_20 IAms_20 07 47 04.2
comp=Z,3µm,20.0s
LON **Longmire** 86.30 41 P P 07 15 29.2 -0.4
LON pmax pmax
comp=Z,14nm,1.2s
P33M **Teslin, Yukon** 86.30 26 IAms_20 IAms_20 07 45 23.3
comp=Z,3µm,22.0s
P33M **Teslin, Yukon** 86.30 26 P P 07 15 28.5 -0.8
baz=239
B22K **Teshekpuk Lake** 86.33 13 P P 07 15 30.1 +1.0
B22K IAmb IAmb 07 16 07.0
comp=Z,35nm,1.1s
B22K IAms_20 IAms_20 07 50 06.5
comp=Z,3µm,20.0s
B22K **Teshekpuk Lake** 86.33 13 P P 07 15 29.9 +0.8
baz=219
G26K **Porcupine Rive** 86.33 18 P P 07 15 30.5 +1.3
baz=229,SNR=41
HEC **Hector,Ludlow** 86.36 54 P P 07 15 30.5 +0.2
baz=253
GMN **Gold Mountain** 86.37 51 IAms_20 IAms_20 07 45 09.8
comp=Z,3µm,21.0s
BELC **Belle Mtn. Jos** 86.39 54 P P 07 15 30.9 +0.4
baz=253,SNR=24
MZP **Montezuma Peak** 86.40 51 IAms_20 IAms_20 07 45 12.5
comp=Z,3µm,22.0s
BMAR **Burnt Mountain** 86.42 17 P P 07 15 30.7 +0.9
FURC **Furnace Creek,** 86.43 52 P P 07 15 30.7 +0.3
baz=253,SNR=15
K29M **Barlow Dome** 86.44 22 IAms_20 IAms_20 07 50 05.9
comp=Z,3µm,20.0s
K29M **Barlow Dome** 86.44 22 P P 07 15 30.5 +0.4
baz=234,SNR=6.0
A21K **Barrow** 86.46 11 P P 07 15 29.8 0.0
baz=216
D24K **Happy Valley** 86.49 15 IAms_20 IAms_20 07 47 34.0
comp=Z,4µm,22.0s
D24K **Happy Valley** 86.49 15 P P 07 15 30.9 +0.8
baz=224
GWY **Greenwater Val** 86.49 52 IAms_20 IAms_20 07 46 25.2
comp=Z,4µm,20.0s
A22K **Sinclair Lake** 86.53 12 P P 07 15 30.9 +0.8
baz=218
H27K **Steamboat Moun** 86.55 19 P P 07 15 31.5 +1.1
baz=231,SNR=10
J29N **Klondike Camp** 86.55 21 P P 07 15 30.8 +0.3
baz=234
C23K **Itkillik River** 86.57 14 IAms_20 IAms_20 07 47 36.9
comp=Z,4µm,22.0s
C23K **Itkillik River** 86.57 14 P P 07 15 31.6 +1.3
baz=222,SNR=20
I28M **Miner Creek** 86.57 20 P P 07 15 30.9 +0.3
baz=232,SNR=23
E25K **Arctic Village** 86.61 16 IAms_20 IAms_20 07 48 20.1
comp=Z,4µm,22.0s
E25K **Arctic Village** 86.61 16 P P 07 15 31.7 +1.0
baz=227,SNR=12
DLBC **Dease Lake** 86.66 28 P P 07 15 32.5 +1.3
DLBC **Dease Lake** 86.66 28 P P 07 15 30.7 -0.4
baz=241
DLBC **Dease Lake** 86.66 28 LR LR 07 46 18.7
comp=Z,1µm,21.9s,baz=250,slow=30
N32M **Quiet Lake** 86.67 25 IAms_20 IAms_20 07 45 59.2
comp=Z,4µm,21.0s
N32M **Quiet Lake** 86.67 25 P P 07 15 31.2 0.0
baz=239
R33M **Jennings River** 86.69 27 IAms_20 IAms_20 07 46 06.8
comp=Z,3µm,22.0s
R33M **Jennings River** 86.69 27 P P 07 15 30.4 -1.0
baz=241
M31M **Drury Creek, Y** 86.70 24 P P 07 15 31.5 +0.3
baz=237
SHOC **Shoshone, Teco** 86.72 53 P P 07 15 31.9 0.0
baz=253
F26K **Sheenjek River** 86.72 17 P P 07 15 32.4 +1.1
baz=228,SNR=9.7
BC3 **Big Chuckawall** 86.73 55 P P 07 15 32.8 +0.7
baz=254,SNR=10.0
TIXI **Tiksi** 86.84 349 IAms_20 IAms_20 07 48 59.7
comp=Z,2µm,22.0s
TIXI **Tiksi** 86.84 349 LR LR 07 50 07.0
comp=Z,2µm,21.8s,baz=144,slow=33
TIXI **Tiksi** 86.84 349*ce*P P 07 15 30.8 -0.8
TIXI pmax pmax
comp=Z,46nm,1.5s
TUQ **Turquoise Moun** 86.86 53 P P 07 15 33.3 +0.5
baz=253
G27K **Doyon Strip** 86.88 18 IAms_20 IAms_20 07 47 32.2
comp=Z,4µm,22.0s
G27K **Doyon Strip** 86.88 18 P P 07 15 32.7 +0.7
baz=230,SNR=19
GMRC **Granite Mounta** 86.88 54 P P 07 15 34.0 +1.1
baz=254,SNR=13
I07A **Izee** 86.89 44 IAms_20 IAms_20 07 45 11.2
comp=Z,3µm,22.0s
MAYO **Mayo, Yukon** 86.90 22 P P 07 15 32.5 +0.3
baz=236
C24K **Franklin Bluff** 86.94 14 P P 07 15 33.1 +0.9
baz=224
TPNV **Topopah Spring** 87.04 52 P P 07 15 34.5 +0.8
baz=253,SNR=15
I29M **Ogilvie Camp,** 87.06 20 IAms_20 IAms_20 07 47 39.3
comp=Z,5µm,22.0s
I29M **Ogilvie Camp,** 87.06 20 P P 07 15 32.8 -0.1
baz=234,SNR=24
GLA **Glamis** 87.06 56 P P 07 15 34.4 +0.7
GLA IAmb IAmb 07 15 57.8
comp=Z,77nm,1.4s
GLA IAms_20 IAms_20 07 45 07.6
comp=Z,4µm,22.0s
GLA **Glamis** 87.06 56 P P 07 15 34.5 +0.7
baz=254,SNR=6.2
GLA **Glamis** 87.06 56 P P 07 15 34.4 +0.7
GLA pmax pmax
comp=Z,77nm,1.5s
IRM **Iron Mountain** 87.11 54 P P 07 15 34.5 +0.6
baz=254,SNR=13
FARO **Faro, Yukon** 87.13 24 P P 07 15 32.9 -0.4
baz=238
LTY **Liberty** 87.20 41 P P 07 15 33.9 -0.2
LTY IAmb IAmb 07 15 37.9
comp=Z,69nm,1.8s
LTY IAms_20 IAms_20 07 47 44.2
comp=Z,2µm,20.0s
MXC **Moxie City** 87.21 41 P P 07 15 34.8 +0.8
MXC IAmb IAmb 07 15 58.1
comp=Z,56nm,1.9s
F07A **Phinny Hill Vi** 87.22 42 P P 07 15 34.8 +0.7
D25K **Kavik River** 87.23 15 IAms_20 IAms_20 07 49 02.5
comp=Z,4µm,22.0s
D25K **Kavik River** 87.23 15 P P 07 15 34.3 +0.6
baz=226
PALK **Pallekele** 87.29 278 P P 07 15 36.1 +0.9
PALK **Pallekele** 87.29 278 LR LR 07 58 05.8
comp=Z,1µm,19.6s,baz=222,slow=38
PALK **Pallekele** 87.29 278 *i* P P 07 15 35.8 +0.6
PALK pmax pmax
comp=Z,258nm,1.6s
J30M **Hart River** 87.29 21 IAms_20 IAms_20 07 47 21.3
comp=Z,4µm,22.0s
J30M **Hart River** 87.29 21 P P 07 15 34.4 +0.2
baz=236
BMN **Battle Mountai** 87.34 48 P P 07 15 35.4 +0.4
BMN IAmb IAmb 07 15 58.9
comp=Z,117nm,2.0s
BMN IAms_20 IAms_20 07 45 25.4
comp=Z,3µm,22.0s
BMN **Battle Mountai** 87.34 48 P P 07 15 35.4 +0.4
BMN pmax pmax
comp=Z,117nm,2.0s
BLYC **Blythe** 87.50 55 IAms_20 IAms_20 07 44 49.0
comp=Z,4µm,22.0s
H29M **Whitestone** 87.55 19 P P 07 15 35.6 +0.3
baz=234
S11A **Rachel** 87.62 51 IAms_20 IAms_20 07 45 36.0
comp=Z,5µm,22.0s
I30M **Mount Dempster** 87.64 21 P P 07 15 35.8 -0.1
baz=236,SNR=11
NEE2 **Needles Airpor** 87.70 54 P P 07 15 37.0 +0.3
baz=254
SRIG **Santa Rosalia** 87.75 62 IAms_20 IAms_20 07 46 50.0
comp=Z,4µm,21.0s
E27K **Coleen River** 87.77 17 IAms_20 IAms_20 07 52 12.8
comp=Z,2µm,20.0s
E27K **Coleen River** 87.77 17 P P 07 15 37.4 +1.1
baz=231,SNR=7.4
V12A **Nelson** 87.78 53 IAms_20 IAms_20 07 48 36.2
comp=Z,3µm,20.0s
PIX **Pinacate** 87.78 57 IAms_20 IAms_20 07 46 39.8
comp=Z,4µm,20.0s
113A **Mohawk Valley,** 87.85 56 IAms_20 IAms_20 07 47 42.3
comp=Z,4µm,20.0s
F28M **Old Crow** 87.92 18 IAms_20 IAms_20 07 47 51.9
comp=Z,4µm,22.0s
F28M **Old Crow** 87.92 18 P P 07 15 37.1 +0.1
baz=232
R11B **Troy Canyon, C** 87.94 50 P P 07 15 38.4 +0.4
baz=254,SNR=21
PDMCI **Parker Dam,Lak** 87.95 55 P P 07 15 39.7 +1.8
baz=254,SNR=9.8
WTLY **Watson Lake, Y** 88.00 27 IAms_20 IAms_20 07 47 08.4
comp=Z,3µm,21.0s
WTLY **Watson Lake, Y** 88.00 27 P P 07 15 37.5 -0.1
baz=242
C26K **Camden Bay** 88.01 15 P P 07 15 39.1 +1.8
baz=227
G29M **Pine Creek** 88.07 19 IAms_20 IAms_20 07 48 57.9
comp=Z,4µm,22.0s
G29M **Pine Creek** 88.07 19 P P 07 15 38.6 +0.9
baz=234,SNR=8.0
C27K **Jago River** 88.13 16 P P 07 15 38.9 +1.0
baz=228,SNR=11
EPYK **Eagle Plains** 88.18 20 P P 07 15 38.9 +0.7
EPYK IAmb IAmb 07 16 21.8
comp=Z,100nm,1.9s
EPYK IAms_20 IAms_20 07 49 17.8
comp=Z,3µm,21.0s
EPYK **Eagle Plains** 88.18 20 P P 07 15 39.0 +0.7
baz=235,SNR=7.9
D08A **Wollman Farm,** 88.26 41 P P 07 15 39.5 +0.5
D08A IAmb IAmb 07 16 05.9
comp=Z,47nm,1.4s
D08A IAms_20 IAms_20 07 47 24.2
comp=Z,2µm,20.0s
W13A **Hualapai Mount** 88.37 54 IAms_20 IAms_20 07 46 13.9
comp=Z,3µm,22.0s
214A **Organ Pipe Nat** 88.42 57 P P 07 15 41.0 +0.8
baz=255,SNR=7.4
D27M **Malcolm River** 88.62 16 IAms_20 IAms_20 07 49 29.2
comp=Z,4µm,21.0s
D27M **Malcolm River** 88.62 16 P P 07 15 41.1 +0.7
baz=231
E28M **Babbage River** 88.63 17 IAms_20 IAms_20 07 50 20.5
comp=Z,2µm,20.0s
E28M **Babbage River** 88.63 17 P P 07 15 41.1 +0.8
baz=232
BMO **Blue Mountains** 88.63 44 P P 07 15 40.9 -0.1
BMO IAmb IAmb 07 15 57.9
comp=Z,45nm,1.6s
BMO IAms_20 IAms_20 07 46 38.2
comp=Z,3µm,22.0s
BMO **Blue Mountains** 88.63 44 P P 07 15 40.9 -0.1
BMO pmax pmax
comp=Z,45nm,1.6s
LPIG **La Paz** 88.67 65 LR LR 07 46 45.0
comp=Z,828nm,21.2s,baz=257,slow=30
G30M **tAoh Zraii Nji** 88.69 19 P P 07 15 40.4 -0.3
baz=236
Q12A **Willow Creek R** 88.71 50 P P 07 15 42.6 +1.0
Q12A IAmb IAmb 07 16 05.5
comp=Z,155nm,2.0s
Y14A **Wickenburg** 88.77 55 IAms_20 IAms_20 07 46 10.6
comp=Z,3µm,22.0s
ELK **Elko** 88.88 48 P P 07 15 42.8 +0.4
ELK IAms_20 IAms_20 07 48 12.0
comp=Z,3µm,21.0s
ELK **Elko** 88.88 48 LR LR 07 48 12.8
comp=Z,3µm,21.2s,baz=252,slow=31
ELK **Elko** 88.88 48 P P 07 15 42.8 +0.4
ELK pmax pmax
comp=Z,24nm,1.4s
TGTN **Hyland Airport** 88.88 26 P P 07 15 40.9 -0.8
baz=243
SLBS **Sierra La Lagu** 88.90 66 IAms_20 IAms_20 07 52 22.0
comp=Z,2µm,19.0s
LIRD **Liard River Hi** 88.91 28 P P 07 15 41.7 -0.1
baz=245
C09A **Chrisman Ranch** 88.92 41 IAms_20 IAms_20 07 48 55.5
comp=Z,2µm,20.0s
E29M **Blow River** 88.98 18 IAms_20 IAms_20 07 50 56.9
comp=Z,3µm,20.0s
E29M **Blow River** 88.98 18 P P 07 15 42.3 +0.3
baz=234
F30M **Barrier River** 89.19 19 P P 07 15 42.1 -0.8
baz=236
MFID **Camas Ranch** 89.22 45 P P 07 15 44.2 +0.4
MFID IAmb IAmb 07 15 48.1
comp=Z,72nm,1.9s
G31M **Satah River** 89.30 20 IAms_20 IAms_20 07 49 51.4
comp=Z,4µm,22.0s
G31M **Satah River** 89.30 20 P P 07 15 43.1 -0.3
baz=237
LCMT **Little Creek M** 89.37 52 IAms_20 IAms_20 07 48 13.3
comp=Z,2µm,20.0s
SZCU **Shurtz Canyon** 89.64 52 IAms_20 IAms_20 07 48 56.5
comp=Z,4µm,20.0s
KNB **Kanab** 89.70 52 IAms_20 IAms_20 07 48 03.0
comp=Z,2µm,20.0s
F31M **Tsiigehtchic** 89.75 19 IAms_20 IAms_20 07 50 57.3
comp=Z,3µm,20.0s
F31M **Tsiigehtchic** 89.75 19 P P 07 15 45.3 -0.2
baz=238
NEW **Newport** 89.80 41 P P 07 15 45.7 -0.6
NEW **Newport** 89.80 41 IAms_20 IAms_20 07 47 59.7
comp=Z,2µm,21.0s
NEW **Newport** 89.80 41 P P 07 15 46.9 +0.6
baz=252,SNR=7.3
NEW **Newport** 89.80 41 LR LR 07 48 33.6
comp=Z,2µm,21.5s,baz=260,slow=30
NEW **Newport** 89.80 41 P P 07 15 45.7 -0.6
NEW pmax pmax
comp=Z,11nm,0.7s
BELA **Belgrano 2** 89.81 176 P P 07 15 44.9 -1.0
BELA IAmb IAmb 07 15 46.6
comp=Z,142nm,1.8s
U15A **North Rim** 89.96 53 P P 07 15 48.9 +1.2
U15A IAmb IAmb 07 16 15.6
comp=Z,55nm,1.3s
U15A IAms_20 IAms_20 07 54 43.1
comp=Z,2µm,18.0s
WMQ **Urumqi** 90.01 315 ⇑ *i*P P 07 15 48.0 +0.6
WMQ S S 07 26 33.8 -2.6
WMQ pmax pmax
comp=Z,59nm,1.1s
WMQ pmax pmax
comp=Z,1µm,4.9s
WMQ LR LR
comp=Z,1µm,24.0s
WMQ LR LR
comp=Z,2µm,21.3s
WMQ LR LR
comp=Z,3µm,23.9s
ALBI **Allahabad** 90.13 296 *e*P P 07 15 48.1 -0.2
ALBI IAmb IAmb 07 15 50.4
comp=Z,76nm,0.8s
X16A **Lo Mia Camp, P** 90.14 55 IAms_20 IAms_20 07 47 46.0
comp=Z,3µm,21.0s
KOTAN **Kotaneelee Air** 90.15 28 P P 07 15 48.2 +0.6
baz=247
TUC **Tucson** 90.17 57 P P 07 15 50.1 +1.6
baz=256
PKCU **Pink Cliffs** 90.20 52 IAms_20 IAms_20 07 48 32.3
comp=Z,3µm,21.0s
HLID **Hailey** 90.25 46 P P 07 15 50.0 +1.3
baz=254,SNR=27
INK **Inuvik** 90.28 19 P P 07 15 47.5 -0.5
baz=238
INK **Inuvik** 90.28 19 LR LR 07 53 50.3
comp=Z,2µm,19.1s,baz=207,slow=34
WUAZ **Wupatki** 90.46 54 IAms_20 IAms_20 07 47 19.3
comp=Z,3µm,22.0s
WUAZ **Wupatki** 90.46 54 P P 07 15 50.4 +0.5
baz=256,SNR=12
DUG **Dugway, Tooele** 90.51 49 IAms_20 IAms_20 07 47 52.4
comp=Z,4µm,22.0s
DUG **Dugway, Tooele** 90.51 49 P P 07 15 50.8 +0.8
baz=255,SNR=6.1
SALM **Salem** 90.60 282 *e*P P 07 15 51.8 +1.1
HVU **Hansel Valley** 90.95 48 IAms_20 IAms_20 07 49 36.7
comp=Z,2µm,21.0s
KOD **Kodaikanal** 91.02 280 *e*P P 07 15 54.0 +0.9
X18A **Snowflake** 91.37 55 IAms_20 IAms_20 07 47 41.4
comp=Z,2µm,22.0s
BRLDA **Berland Lookou** 91.42 35 IAms_20 IAms_20 07 54 07.2
comp=Z,3µm,19.0s
CTU **Camp Tracy** 91.42 49 IAms_20 IAms_20 07 48 19.4
comp=Z,3µm,22.0s
HYB **Hyderabad** 91.43 287 *e*P P 07 15 54.3 -0.2
HYB IVmB_BB 07 15 55.6
comp=Z,2µm,1.2s
MSO **Missoula** 91.45 43 P P 07 15 53.7 -0.4
baz=255,SNR=5.3
HMU **Henry Mountain** 91.53 52 IAms_20 IAms_20 07 49 55.4
comp=Z,3µm,20.0s
JLU **Jordanelle** 91.62 49 IAms_20 IAms_20 07 48 38.8
comp=Z,4µm,21.0s
WRGLY **Wrigley** 91.64 25 IAms_20 IAms_20 07 49 07.3
comp=Z,3µm,22.0s
WRGLY **Wrigley** 91.64 25 P P 07 15 53.7 -0.7
baz=247
W18A **Petrified Fore** 91.67 55 IAms_20 IAms_20 07 48 45.4
comp=Z,3µm,21.0s
W18A **Petrified Fore** 91.67 55 P P 07 15 55.7 +0.2
baz=257
DLMT **Dillon** 91.98 44 IAms_20 IAms_20 07 48 46.7
comp=Z,3µm,22.0s
LGTI **Lohaghat** 92.37 299 *e*P P 07 15 58.9 +0.4
AHID **Auburn Hatcher** 92.39 47 IAms_20 IAms_20 07 49 32.9
comp=Z,2µm,22.0s
BOZ **Bozeman (W)** 92.69 44 IAms_20 IAms_20 07 49 08.7
comp=Z,3µm,22.0s
BOZ **Bozeman (W)** 92.69 44 P P 07 16 01.0 +1.1
baz=256,SNR=11
121A **Cookes Peak, D** 92.70 57 P P 07 16 00.2 -0.1
baz=258,SNR=9.9
YFT **Old Faithful** 92.97 45 IAms_20 IAms_20 07 59 10.1
comp=Z,2µm,18.0s
ELIB **Princess Elisa** 93.04 191 *d*P P 07 15 60.0 -1.1
ELIB *dp*P **pP** 07 16 14.1 -2.2
MVCO **Mesa Verde** 93.10 53 P P 07 16 02.0 -0.1
baz=258
H17A **Grant Village** 93.14 45 P P 07 16 02.5 +0.3
baz=257
HPIG 93.38 63 IAms_20 IAms_20 07 48 06.3
comp=Z,2µm,22.0s
BW06 **Boulder Array** 93.50 47 P P 07 16 04.0 +0.1
baz=257
PDAR **Pinedale Array** 93.50 47 P P 07 16 04.8 +1.0
comp=Z,3.1nm,0.6s,baz=262,slow=2.4,SNR=18
PDAR PKKP **PKKPdf** 07 33 08.8 -1.3
comp=Z,1.3nm,0.7s,baz=97,slow=5.0,SNR=13
PDAR LR LR 07 53 01.8
comp=Z,843nm,19.4s,baz=246,slow=32
comp=Z,3.1nm,0.6s
AKL **Akola** 93.50 290 *e*P P 07 16 03.8 -0.2
AKL IAmb IAmb 07 16 05.1
comp=Z,92nm,0.9s
BHPL **Bhopal** 93.62 293 *e*P P 07 16 05.2 +0.7
BHPL IAmb IAmb 07 16 06.9
comp=Z,13nm,0.9s
Y22D **IRIS PASSCAL I** 93.72 56 P P 07 16 04.6 -0.3
baz=258
C36M **Paulatuk** 93.81 19 IAms_20 IAms_20 07 53 16.5
comp=Z,3µm,20.0s
C36M **Paulatuk** 93.81 19 P P 07 16 03.1 -1.2
baz=247
O20A **White River Ci** 93.91 50 P P 07 16 05.7 0.0
baz=258,SNR=13
RLMT **Red Lodge** 94.21 45 P P 07 16 07.9 +0.9
baz=258
ANMO **Albuquerque** 94.27 55 IAms_20 IAms_20 07 49 57.2
comp=Z,3µm,21.0s
ANMO **Albuquerque** 94.27 55 P P 07 16 07.7 +0.2
baz=259
ANMO **Albuquerque** 94.27 55 LR LR 07 50 30.2
comp=Z,3µm,21.5s,baz=358,slow=30
MK31 **Makanchi Array** 94.43 317*ce*P P 07 16 07.7 -0.1
MKAR **Makanchi Array** 94.43 317 P P 07 16 07.8 +0.1
comp=Z,67nm,0.7s,baz=95,slow=6.3,SNR=385

MKAR PKKP **PKKPdf** **07 33 04.7 -3.6**
comp=Z,0.8nm,0.6s,baz=271,slow=3.1,SNR=5.9
MKAR LR LR 07 59 13.5
comp=Z,441nm,20.1s,baz=139,slow=36
comp=Z,67nm,0.7s
ZALV Zalesovo Beam 94.45 324 P **P** **07 16 06.3 -1.3**
comp=Z,20nm,0.7s,baz=113,slow=4.5,SNR=58
ZALV LR LR 07 56 15.6
comp=Z,984nm,21.5s,baz=92,slow=34
comp=Z,20nm,0.7s
EGMT Eagleton 94.50 42 P **P** **07 16 08.2 +0.1**
baz=258
S22A 4UR Ranch, Cre 94.51 53 IAms_20 IAms_20 07 50 27.5
comp=Z,2μm,21.0s
S22A 4UR Ranch, Cre 94.51 53 P **P** **07 16 09.4 +0.7**
baz=259,SNR=6.4
A36M Sachs Harbour 94.51 17 IAms_20 IAms_20 07 53 10.0
comp=Z,2μm,22.0s
A36M Sachs Harbour 94.51 17 P **P** **07 16 07.4 0.0**
baz=246
MNTX Cornudas Mount 94.53 59 P **P** **07 16 08.6 +0.1**
baz=259
SMCO Snowmass 94.68 51 IAms_20 IAms_20 07 50 31.8
comp=Z,4μm,21.0s
PMSA Palmer Station 94.90 161 LR LR 07 53 25.8
comp=Z,1μm,20.7s,baz=218,slow=32
RWWY Rawlins 94.98 49 IAms_20 IAms_20 07 50 37.6
comp=Z,2μm,22.0s
YKA Yellowknife Ar 95.23 27 P **P** **07 16 10.3 -0.7**
comp=Z,2.4nm,0.6s,baz=261,slow=4.7,SNR=11
YKA LR LR 07 52 19.1
comp=Z,1μm,21.4s,baz=267,slow=31
comp=Z,2.4nm,0.6s
SMLA Simla 95.31 301 *e*P **P** **07 16 12.9 +0.8**
SMLA IAmb IAmb 07 16 14.4
comp=Z,61nm,0.9s
SDCO Great Sand Dun 95.55 53 IAms_20 IAms_20 07 50 59.9
comp=Z,3μm,22.0s
SDCO Great Sand Dun 95.55 53 P **P** **07 16 13.3 -0.2**
baz=260
TXAR Lajitas Array 95.56 61 P **P** **07 16 14.4 +1.0**
comp=Z,1.1nm,0.6s,baz=220,slow=4.6,SNR=9.3
TXAR PP **PP** **07 20 02.9 -2.3**
comp=Z,1.0nm,0.9s,baz=216,slow=7.3,SNR=1.8
TXAR PKKP **PKKPbc** **07 33 03.0 -2.1**
comp=Z,1.1nm,0.8s,baz=108,slow=3.6,SNR=11
TXAR LR LR 07 51 39.6
comp=Z,2μm,20.4s,baz=256,slow=31
comp=Z,1.1nm,0.6s
K22A Casper 95.67 48 IAms_20 IAms_20 07 53 49.6
comp=Z,2μm,20.0s
K22A Casper 95.67 48 P **P** **07 16 13.2 -0.5**
baz=260
SHLS Shalkode 95.68 313 *e*P **P** **07 16 12.3 -1.4**
N23A Red Feather La 95.77 50 P **P** **07 16 14.3 -0.1**
baz=260
ISCO Idaho Springs 95.83 51 P **P** **07 16 15.7 +1.0**
baz=260
NVL N'lazarevskaya 95.94 188 *e*P **P** **07 16 10.7 -3.5**
NVL *e*PPP PPP 07 22 22.5
NVL *e*S **SKSac** **07 26 40.4 -5.3**
NVL pmax pmax
comp=Z,9.0nm,0.6s
NVL MLR MLR
comp=Z,687nm,17.0s
UZB Uzynbulak 96.00 313 *e*P **P** **07 16 14.3 -0.9**
UZB pmax pmax
comp=Z,70nm,2.7s
Q24A Divide 96.03 52 IAms_20 IAms_20 07 51 15.7
comp=Z,2μm,22.0s
Q24A Divide 96.03 52 P **P** **07 16 15.8 +0.2**
baz=260
MOIG Morelia 96.08 71 IAms_20 IAms_20 07 50 11.3
comp=Z,2μm,21.0s
PHWY Pilot Hill 96.21 49 IAms_20 IAms_20 07 59 32.1
comp=Z,3μm,18.0s
DHRM DHARAMSHALA 96.23 302 *e*P **P** **07 16 16.1 -0.5**
DHRM IAmb IAmb 07 16 17.5
comp=Z,44nm,1.0s
T25A Trinidad 96.29 54 IAms_20 IAms_20 07 52 41.8
comp=Z,3μm,20.0s
T25A Trinidad 96.29 54 P **P** **07 16 16.4 -0.4**
baz=260
KPKS Kokpek 96.30 313 *e*P **P** **07 16 16.2 -0.2**
KPKS pmax pmax
comp=Z,84nm,2.4s
ZHN Zhinishke 96.42 313 *e*P **P** **07 16 16.5 -0.6**
ZHN pmax pmax
comp=Z,12nm,4.8s
SNAA Sanae 96.53 183 ⇑P **P** **07 16 16.1 -0.9**
comp=Z,76nm,0.9s
SNAA Sanae 96.53 183 P **P** **07 16 16.7 -0.3**
comp=Z,4.2nm,0.8s,baz=184,slow=6.6,SNR=10
SNAA LR LR 07 58 54.7
comp=Z,2μm,19.7s,baz=118,slow=35
comp=Z,4.2nm,0.8s
SNAA Sanae 96.53 183*ce*P **P** **07 16 13.1 -3.9**
SNAA pmax pmax
comp=Z,27nm,1.5s
LAO LASA Array 96.59 44 IAms_20 IAms_20 07 51 41.6
comp=Z,2μm,22.0s
AJM Ajmer 96.68 296 *e*P **P** **07 16 18.6 +0.1**
THN Thein Dam 96.75 302 *e*P **P** **07 16 18.1 -0.4**
THN IAmb IAmb 07 16 20.7
comp=Z,24nm,0.8s
NRIK Noril'sk 96.94 339 P **P** **07 16 17.8 -0.8**
comp=Z,2.8nm,0.6s,baz=112,slow=5.2,SNR=7.9
NRIK LR LR 07 57 09.8
comp=Z,2μm,21.8s,baz=108,slow=34
comp=Z,2.8nm,0.6s
NRIK Noril'sk 96.94 339*ce*P **P** **07 16 17.6 -1.0**
NRIK pmax pmax
comp=Z,14nm,1.5s
ARXS Arharly 97.03 314 *e*P **P** **07 16 18.9 -0.8**
MSTX Muleshoe 97.09 57 P **P** **07 16 20.1 -0.2**
baz=261
VNA3 Neumayer Olymp 97.23 181 ⇑P **P** **07 16 19.0 -1.0**
comp=Z,5.7nm,0.7s
VNA2 Neumayer--Watz 97.48 182 ⇑P **P** **07 16 21.1 -0.1**
comp=Z,9.0nm,0.6s,baz=191,slow=3.9
KURK Kurchatov 97.55 320 IAms_20 IAms_20 07 58 29.9
comp=Z,2μm,22.0s
KURK Kurchatov 97.55 320*ce*P **P** **07 16 20.4 -1.4**
KURK pmax pmax
comp=Z,37nm,2.0s
KURBB Kurchatov Arra 97.59 320 P **P** **07 16 20.7 -1.2**
comp=Z,4.8nm,0.7s,baz=99,slow=3.7,SNR=53
KURBB PP PP 07 20 06.7 -13
comp=Z,1.5nm,0.8s,baz=95,slow=7.7,SNR=3.5
KURBB LR LR 07 59 29.7
comp=Z,2μm,21.9s,baz=117,slow=35
comp=Z,4.8nm,0.7s
KSH Kashi 97.66 309 P Pdif 07 16 25.4 +2.6
KSH PP **PP** **07 20 22.0 +0.7**
KSH SKS **SKSac** **07 26 55.6 -0.4**
KSH pmax pmax
comp=Z,10.0nm,1.0s
KSH pmax pmax
comp=Z,680nm,6.0s
KSH LR LR
comp=Z,2μm,21.6s
KSH LR LR
comp=Z,1μm,22.7s
KSH LR LR
comp=Z,3μm,24.7s
RSSD Black Hills 97.70 47 P **P** **07 16 22.6 -0.4**
baz=261
KSCO Kaye Shedlock' 97.98 52 IAms_20 IAms_20 07 52 26.3
comp=Z,2μm,22.0s
KSCO Kaye Shedlock' 97.98 52 P Pdif 07 16 24.3 0.0
baz=262
AMTX Amarillo 98.12 56 IAms_20 IAms_20 07 53 30.3
comp=Z,3μm,20.0s
AMTX Amarillo 98.12 56 Pdiff **P** **07 16 24.3 -0.6**
baz=262
TLIG Tlapa 98.17 74 IAms_20 IAms_20 07 54 26.9
comp=Z,2μm,19.0s
DGMT Dagmar 98.23 42 Pdiff **P** **07 16 24.8 -0.2**
baz=262
OGNE Ogallala 98.71 50 Pdiff **P** **07 16 26.8 -0.6**
baz=262
JCT Junction City 99.05 61 Pdiff **Pdif** **07 16 28.2 -0.9**
baz=262
833A Chaparral WMA, 99.09 63 Pdiff **Pdif** **07 16 28.2 -1.0**
baz=262
AAK Ala-Archa 99.21 312 LR LR 08 01 54.5
comp=Z,1μm,22.0s,baz=85,slow=36
AAK Ala-Archa 99.21 312*ce*P **Pdif** **07 16 29.1 -0.6**
AAK pmax pmax
comp=Z,6.0nm,0.8s
SGDS Sogindy 99.21 312 *e*P **Pdif** **07 16 28.4 -1.1**
ABTX Abilene, Hawle 99.48 59 IAms_20 IAms_20 07 52 55.6
comp=Z,4μm,21.0s
ABTX Abilene, Hawle 99.48 59 Pdiff **Pdif** **07 16 29.9 -1.1**
baz=262
BTLS Baital 99.82 314 *e*P **Pdif** **07 16 31.4 -0.7**
BTLS pmax pmax
comp=Z,27nm,2.3s
CBKS Cedar Bluff 100.19 52 IAms_20 IAms_20 07 54 28.8
comp=Z,2μm,20.0s
CBKS Cedar Bluff 100.19 52 Pdiff **Pdif** **07 16 33.8 -0.2**
baz=263
E28A Huff 100.35 44 IAms_20 IAms_20 07 57 51.4
comp=Z,2μm,20.0s
WMOK Wichita Mounta 100.47 57 Pdiff **Pdif** **07 16 33.9 -1.4**
baz=263
U32A Winter Ranch, 100.48 55 IAms_20 IAms_20 07 53 26.8
comp=Z,3μm,22.0s
OK038 West end E0370 100.70 55 IAms_20 IAms_20 07 53 31.6
comp=Z,3μm,22.0s
FW03 Perrin-Whitt E 100.85 58 IAms_20 IAms_20 07 54 16.0
comp=Z,3μm,21.0s
R32A Long Quarter, 100.94 53 IAms_20 IAms_20 07 56 49.8
comp=Z,2μm,20.0s
435B Jarrell 100.98 61 Pdiff **Pdif** **07 16 36.4 -1.2**
baz=263
FW07 Weatherford 101.05 59 IAms_20 IAms_20 07 54 05.2
comp=Z,3μm,21.0s
OK032 Salt Plains WL 101.16 55 IAms_20 IAms_20 07 55 43.8
comp=Z,3μm,20.0s
MDND Maddock 101.22 43 Pdiff **Pdif** **07 16 37.2 -1.1**
baz=265
WHTX Lake Whitney, 101.24 59 IAms_20 IAms_20 07 53 27.4
comp=Z,2μm,22.0s
WHTX Lake Whitney, 101.24 59 Pdiff **Pdif** **07 16 37.3 -1.4**
baz=263
CROK Carrier 101.31 55 IAms_20 IAms_20 07 54 13.7
comp=Z,2μm,21.0s
SUSD Miller 101.36 47 IAms_20 IAms_20 07 59 04.4
comp=Z,2μm,20.0s
SUSD Miller 101.36 47 Pdiff **Pdif** **07 16 37.9 -1.1**
baz=265
FNO Franklin 101.65 56 IAms_20 IAms_20 07 55 01.9
comp=Z,2μm,20.0s
BGNE Belgrade 101.67 50 IAms_20 IAms_20 07 56 07.9
comp=Z,3μm,20.0s
BGNE Belgrade 101.67 50 Pdiff **Pdif** **07 16 40.7 +0.2**
baz=265
BLOK Blackwell 101.95 55 IAms_20 IAms_20 08 01 44.8
comp=Z,3μm,20.0s
OK048 Pawnee Station 102.14 55 IAms_20 IAms_20 07 54 49.7
comp=Z,3μm,22.0s
OK051 E0350 and S346 102.23 55 IAms_20 IAms_20 07 55 14.2
comp=Z,2μm,21.0s
HKT Hockley 102.39 62 IAms_20 IAms_20 07 54 51.0
comp=Z,2μm,22.0s
IUG Iuzhnay 102.44 311 *e*P **Pdif** **07 16 43.4 -0.6**
237A Washetta, Mont 102.63 60 IAms_20 IAms_20 07 57 13.2
comp=Z,2μm,20.0s
GO07 Milladeo Hill, 102.76 139 IAms_20 IAms_20 07 53 09.3
comp=Z,3μm,22.0s
BVAR Borovoye Array 102.85 322 P **Pdif** **07 16 44.1 -1.3**
comp=Z,8.7nm,0.8s,baz=103,slow=5.3,SNR=23
BVAR PKiKP **PKiKP** **07 21 05.0 -0.6**
comp=Z,1.3nm,0.6s,baz=81,slow=4.5,SNR=3.8
ECSD EROS Data Cent 102.99 48 Pdiff **Pdif** **07 16 45.4 -0.8**
baz=266
TUL3 Leonard 103.02 56 Pdiff **Pdif** **07 16 45.5 -1.0**
baz=265
L34A Svendsen Farm, 103.04 49 IAms_20 IAms_20 07 55 47.1
comp=Z,3μm,22.0s
F33A 5 Mile Ranch, 103.34 45 IAms_20 IAms_20 07 56 10.7
comp=Z,3μm,21.0s
Z38A Mt. Pleasant 103.45 58 IAms_20 IAms_20 07 55 51.7
comp=Z,3μm,21.0s
RES Resolute Bay 103.49 16 IAms_20 IAms_20 08 00 31.2
comp=Z,2μm,20.0s
NATX Nacogdoches 103.58 60 IAms_20 IAms_20 07 54 49.4
comp=Z,3μm,22.0s
NATX Nacogdoches 103.58 60 Pdiff **Pdif** **07 16 48.8 -0.3**
baz=265
LL05 Los Muermos 103.72 138 IAms_20 IAms_20 07 53 11.8
comp=Z,2μm,21.0s
AGMN Agassiz Nation 103.75 43 Pdiff **Pdif** **07 16 48.8 -0.7**
baz=268
ULM Lac du Bonnet 103.80 41 Pdiff **Pdif** **07 16 49.6 0.0**
comp=Z,1.5nm,0.6s,baz=254,slow=7.4,SNR=2.1
LR04 Corral 104.49 137 IAms_20 IAms_20 07 53 50.4
comp=Z,2μm,22.0s
LL04 Puerto Octay 104.66 138 IAms_20 IAms_20 07 54 17.8
comp=Z,2μm,22.0s
MIAR Mount Ida 104.72 57 Pdiff **Pdif** **07 16 53.1 -1.1**
baz=266
441A DeRidder 104.74 61 IAms_20 IAms_20 07 58 10.3
comp=Z,2μm,20.0s
WLAR White Oak Lake 105.04 58 IAms_20 IAms_20 07 57 24.9
comp=Z,3μm,21.0s
P38A Dawn 105.06 52 IAms_20 IAms_20 08 05 00.8
comp=Z,3μm,18.0s
S39A Bolivar 105.12 54 IAms_20 IAms_20 07 58 27.7
comp=Z,3μm,20.0s
LR05 Currie 105.27 137 IAms_20 IAms_20 07 54 00.9
comp=Z,2μm,22.0s
Z41A Richland Creek 105.27 59 IAms_20 IAms_20 07 59 36.9
comp=Z,3μm,20.0s
I37A Lemond, Waseca 105.32 47 IAms_20 IAms_20 07 59 24.3
comp=Z,2μm,20.0s
X40A Basin Creek Fa 105.33 57 IAms_20 IAms_20 07 58 23.3
comp=Z,2μm,20.0s
LR03 Panguipulli 105.34 137 IAms_20 IAms_20 07 54 26.8
comp=Z,3μm,22.0s
SPMN Marine on St. 105.77 46 IAms_20 IAms_20 08 00 24.0
comp=Z,2μm,20.0s
GO06 Curarrehue 105.95 137 IAms_20 IAms_20 07 54 22.9
comp=Z,2μm,22.0s
PLCA Paso Flores 105.96 138 PKKPab PKKPab 07 32 51.4 -1.3
comp=Z,1.3nm,0.7s,baz=63,slow=6.1,SNR=4.1
R40A Maddies Statio 105.98 53 IAms_20 IAms_20 07 56 51.4
comp=Z,3μm,22.0s
FCAR Ozark Folk Cen 105.99 56 IAms_20 IAms_20 08 04 31.8
comp=Z,2μm,18.0s
CCAR Cane Creek 106.17 58 IAms_20 IAms_20 07 58 29.7
comp=Z,3μm,21.0s
MTO3 Montecristo 106.44 78 IAms_20 IAms_20 07 53 58.4
comp=Z,3μm,22.0s
SNET Serv Nac Est T 106.46 79 IAms_20 IAms_20 07 53 44.0
comp=Z,3μm,22.0s
E38A The Farm, Brul 106.65 45 IAms_20 IAms_20 08 01 56.0
comp=Z,2μm,19.0s
LCAR Lake Charles 106.78 56 IAms_20 IAms_20 08 03 54.8
comp=Z,2μm,19.0s
VBMS Vicksburg 107.12 60 IAms_20 IAms_20 07 57 21.2
comp=Z,3μm,22.0s
FVM French Village 107.43 54 IAms_20 IAms_20 07 57 58.6
comp=Z,3μm,22.0s
JFWS Jewell Farm 107.61 49 IAms_20 IAms_20 08 05 15.8
comp=Z,2μm,18.0s
GNAR Gosnell 107.70 56 IAms_20 IAms_20 07 59 32.0
comp=Z,3μm,20.0s
PEBM Pemiscott Bayo 107.83 56 IAms_20 IAms_20 07 58 24.5
comp=Z,2μm,21.0s
PARMO Parma 107.93 55 IAms_20 IAms_20 08 01 43.2
comp=Z,3μm,19.0s
PVMO Portageville 107.97 55 IAms_20 IAms_20 08 02 11.1
comp=Z,2μm,20.0s
Y45A Yeager Farm, C 108.02 58 IAms_20 IAms_20 08 05 27.7
comp=Z,2μm,19.0s
OXF Oxford 108.15 57 IAms_20 IAms_20 07 59 54.2
comp=Z,3μm,21.0s
HALT Halls 108.25 56 IAms_20 IAms_20 08 00 17.6
comp=Z,3μm,20.0s
GLAT Glass 108.30 56 IAms_20 IAms_20 07 58 37.9
comp=Z,3μm,20.0s
COWI Conover 108.33 45 IAms_20 IAms_20 08 00 03.7
comp=Z,3μm,21.0s
HICK Hickman 108.35 55 IAms_20 IAms_20 08 05 48.2
comp=Z,2μm,18.0s
146A Union 108.38 59 IAms_20 IAms_20 07 58 33.4
comp=Z,3μm,22.0s
TGUH Tegucigalpa,Un 108.39 79 IAms_20 IAms_20 07 56 30.3
comp=Z,2μm,21.0s
I42A Draeger Farm, 108.56 48 IAms_20 IAms_20 07 59 07.0
comp=Z,2μm,22.0s
D41A Chassel 108.68 44 IAms_20 IAms_20 07 59 44.9
comp=Z,2μm,21.0s
VA05 Santo Domingo 108.76 132 IAms_20 IAms_20 07 57 00.8
comp=Z,2μm,21.0s
K43A Burlington 109.02 49 IAms_20 IAms_20 08 00 30.2
comp=Z,3μm,21.0s
VA01 Torpederas 109.04 131 IAms_20 IAms_20 07 56 25.4
comp=Z,2μm,20.0s
F42A Maple Grove Fa 109.05 46 IAms_20 IAms_20 08 07 09.6
comp=Z,2μm,19.0s
MT02 Curacav 109.30 131 IAms_20 IAms_20 07 56 25.2
comp=Z,2μm,22.0s
H43A Windswept, Lux 109.36 47 IAms_20 IAms_20 08 02 37.1
comp=Z,2μm,20.0s
VA06 Catapilco 109.52 131 IAms_20 IAms_20 07 56 49.9
comp=Z,2μm,22.0s
E43A Lone Tree Farm 109.80 45 IAms_20 IAms_20 08 00 25.5
comp=Z,3μm,22.0s
T47A Sharon Grove 110.06 55 IAms_20 IAms_20 08 05 57.4
comp=Z,2μm,19.0s
JTS Las Juntas de 110.10 83 IAms_20 IAms_20 07 56 59.8
comp=Z,2μm,20.0s
X48A Hartselle 110.10 58 IAms_20 IAms_20 08 01 03.9
comp=Z,2μm,20.0s
I45A Fountain 110.49 47 IAms_20 IAms_20 08 00 56.0
comp=Z,2μm,21.0s
Y49A Blount Mountai 110.62 58 IAms_20 IAms_20 08 01 10.7
comp=Z,3μm,21.0s
CLTN Cedars of Leba 110.69 56 IAms_20 IAms_20 08 00 42.2
comp=Z,3μm,21.0s
451A Vernon 111.14 62 IAms_20 IAms_20 08 03 16.7
comp=Z,2μm,20.0s
FPAL Fort Paine 111.29 57 IAms_20 IAms_20 07 59 56.2
comp=Z,3μm,22.0s
P48A Milroy 111.33 52 IAms_20 IAms_20 08 03 03.6
comp=Z,3μm,20.0s
O48B Farmland 111.50 51 IAms_20 IAms_20 08 08 15.1
comp=Z,2μm,18.0s
J47A Sumner 111.57 48 IAms_20 IAms_20 08 09 38.6
comp=Z,2μm,18.0s
GLMI Grayling 111.59 46 IAms_20 IAms_20 08 02 54.9
comp=Z,2μm,20.0s
CO01 Juntas del Tor 111.65 129 IAms_20 IAms_20 07 58 44.6
comp=Z,1μm,20.0s
E46A Sault Ste Mari 111.66 45 IAms_20 IAms_20 08 03 24.6
comp=Z,3μm,20.0s
352A Blakely 111.86 61 IAms_20 IAms_20 08 02 34.6
comp=Z,2μm,21.0s
P49A Miami Univ. Ec 111.87 52 IAms_20 IAms_20 08 03 39.1
comp=Z,3μm,20.0s
T50A Nancy 111.87 55 IAms_20 IAms_20 08 01 54.4
comp=Z,3μm,21.0s
X51A Calhoun 111.91 57 IAms_20 IAms_20 08 00 26.7
comp=Z,3μm,22.0s
ZON Zonda 111.95 131 IAms_20 IAms_20 07 58 41.3
comp=Z,2μm,21.0s
O49A Covington 112.13 51 IAms_20 IAms_20 08 02 57.8
comp=Z,3μm,20.0s
CPCT Cooper Cave 112.17 56 IAms_20 IAms_20 08 03 16.5
comp=Z,3μm,20.0s
R50A Paris 112.23 53 IAms_20 IAms_20 08 01 38.8
comp=Z,3μm,21.0s
553A Crawfordville 112.27 62 IAms_20 IAms_20 08 05 30.6
comp=Z,2μm,20.0s
W52A Murphy 112.66 57 IAms_20 IAms_20 08 03 11.6
comp=Z,2μm,20.0s
ABPO Ambohimpanom 112.76 244 IAms_20 IAms_20 08 02 24.9
comp=Z,3μm,22.0s
V52A Sevierville 112.91 56 IAms_20 IAms_20 08 00 57.1
comp=Z,3μm,22.0s
NNA Nana 112.94 108 IAms_20 IAms_20 07 58 24.0
comp=Z,2μm,21.0s
I49A Point Hope 112.95 47 IAms_20 IAms_20 08 02 38.1
comp=Z,2μm,21.0s
GOGA Godfrey 113.08 59 IAms_20 IAms_20 08 01 20.9
comp=Z,2μm,22.0s
K50A Casco 113.21 48 IAms_20 IAms_20 08 07 56.2
comp=Z,2μm,19.0s
BG3 Lake Jocassee 113.48 57 IAms_20 IAms_20 08 02 09.3
comp=Z,3μm,21.0s
V53A Saluda 113.56 56 IAms_20 IAms_20 08 03 02.1
comp=Z,3μm,20.0s
P52A Corning 113.86 52 IAms_20 IAms_20 08 03 44.6
comp=Z,2μm,20.0s
255A Hazlehurst 113.94 60 IAms_20 IAms_20 08 04 32.8
comp=Z,2μm,21.0s
PAULI Pauline 114.41 57 IAms_20 IAms_20 08 02 36.8
comp=Z,3μm,21.0s
N53A Lisbon 114.74 50 IAms_20 IAms_20 08 02 39.8
comp=Z,2μm,21.0s
CAMR Camarioca 114.80 70 IAms_20 IAms_20 08 06 28.4
comp=Z,1μm,18.0s
257A Skidaway Islan 115.17 60 IAms_20 IAms_20 08 06 43.4
comp=Z,2μm,20.0s
ERPA Erie 115.22 49 IAms_20 IAms_20 08 02 55.4
comp=Z,2μm,22.0s
PB06 IPOC Station P 115.39 122 IAms_20 IAms_20 08 00 47.1
comp=Z,2μm,21.0s
SADO Sadowa 115.46 46 IAms_20 IAms_20 08 06 00.4
comp=Z,1μm,20.0s
LVZ Lovozero 115.67 342 IAms_20 IAms_20 08 11 05.2
comp=Z,3μm,22.0s
PATCX Punta Patache 115.71 120 IAms_20 IAms_20 08 00 20.7
comp=Z,2μm,20.0s
TA01 Diego Aracena 115.79 120 IAms_20 IAms_20 08 00 50.9
comp=Z,2μm,20.0s
060A Indiantown 115.81 66 IAms_20 IAms_20 08 05 30.9
comp=Z,2μm,21.0s
NHSC New Hope 115.85 59 IAms_20 IAms_20 08 04 21.1
comp=Z,2μm,21.0s
LVC Limon Verde 115.98 122 IAms_20 IAms_20 08 01 26.7
comp=Z,2μm,21.0s
VLDQ Val d'Or 116.00 42 IAms_20 IAms_20 08 07 28.6
comp=Z,2μm,20.0s
J54A Appleton 116.05 47 IAms_20 IAms_20 08 06 30.1
comp=Z,2μm,20.0s
PB09 IPOC Station P 116.06 121 IAms_20 IAms_20 08 00 09.9
comp=Z,2μm,22.0s
CBCY The Bluff, Cay 116.12 74 IAms_20 IAms_20 08 03 58.7
comp=Z,2μm,19.0s
HMBC Humberstone 116.16 120 IAms_20 IAms_20 08 01 00.7
comp=Z,2μm,20.0s
APA Apatity 116.24 342 *i*PKIKP **PKPdf** **07 21 28.0 -2.3**
APA *i* 07 22 35.0
APA *i* 07 28 19.0
APA *i* PS **PS** **07 32 17.0 -1.9**
APA pmax pmax
comp=Z,5.0nm,1.1s
APA MLR MLR
comp=Z,2μm,20.0s
AP01 Chacalluta 116.55 117 IAms_20 IAms_20 07 59 40.1
comp=Z,2μm,21.0s
PB11 IPOC Station P 116.57 119 IAms_20 IAms_20 08 01 50.7
comp=Z,1μm,20.0s
DELO Deloro Mine 116.58 46 IAms_20 IAms_20 08 08 58.9
comp=Z,1μm,20.0s
KEV Kevo 116.58 345 **PKPdf** **07 21 30.4 -0.5**
KEV IAms_20 IAms_20 08 10 26.2
comp=Z,3μm,22.0s
KEV Kevo 116.58 345 PKIKP **PKPdf** **07 21 30.4 -0.5**
KEV MLR MLR
comp=Z,3μm,22.0s
BELG Belogornoye 116.62 323 *i* PKIKP **PKPdf** **07 21 31.2 -0.2**
J55A Hilton 116.64 47 IAms_20 IAms_20 08 05 28.9
comp=Z,2μm,20.0s
HAMF Hammerfest 116.72 347 *e*PKPdf **PKPdf** **07 21 30.2 -1.0**
ARCES ARCESS Array B 117.11 346 **PKPdf** **07 21 31.5 -0.5**
ARCES ARCESS Array B 117.11 346 PKP **PKPdf** **07 21 30.9 -1.0**
comp=Z,8.5nm,0.6s,baz=90,slow=1.2,SNR=7.4
ARCES ARCESS Array B 117.11 346 PKIKP **PKPdf** **07 21 31.5 -0.5**
J56A Wolcott 117.33 47 IAms_20 IAms_20 08 06 31.1
comp=Z,2μm,20.0s
PB18 Visviri 117.61 117 **PKPdf** **07 21 34.7 -0.4**
PB18 IAms_20 IAms_20 08 00 25.3
comp=Z,2μm,22.0s
K57A Scipio Center 117.67 48 IAms_20 IAms_20 08 14 17.2
comp=Z,2μm,18.0s
KTK1 Kautokeino 118.05 346 *e*PKPdf **PKPdf** **07 21 32.4 -1.4**
WBO Williamsburg 118.12 45 IAms_20 IAms_20 08 13 36.7
comp=Z,2μm,21.0s
CZSB Cruzeiro do Su 118.12 105 **PKPdf** **07 21 34.4 -1.1**
BINY Binghamton 118.15 48 IAms_20 IAms_20 08 06 51.9
comp=Z,3μm,20.0s
MVL Millersville 118.24 51 IAms_20 IAms_20 08 04 23.5
comp=Z,2μm,22.0s
TRQ Mont Tremblant 118.34 44 IAms_20 IAms_20 08 07 44.5
comp=Z,2μm,21.0s
J58A Remsen 118.44 47 IAms_20 IAms_20 08 07 23.5
comp=Z,2μm,20.0s
TRO Tromso 118.53 348 *e*PKPdf **PKPdf** **07 21 33.4 -1.3**
V61A Roper 118.60 56 IAms_20 IAms_20 08 04 46.7

comp=Z,2μm,21.0s
WUPA West Chester U 118.81 51 IAMs_20 IAMs_20 08 04 52.7
comp=Z,1μm,22.0s
MAK Makhachkala 118.96 313 *e*P **Pdif** **07 17 55.8 -1.4**
MAK *i* 07 21 35.7
MAK *e* 07 21 52.9
MAK *e* 07 22 54.8
MAK *e* 07 28 30.0
MAK *e*PS **PS** **07 32 44.5 0.0**
MAK *e*SS SS 07 39 15.2 +2.9
MAK pmax pmax
comp=Z,42nm,0.4s
NCB Newcomb 119.08 46 IAMs_20 IAMs_20 08 06 12.0
comp=Z,2μm,22.0s
MNTQ Montreal, Queb 119.15 44 IAMs_20 IAMs_20 08 06 03.7
comp=Z,2μm,22.0s
CHIV Chivirico 119.28 74 IAMs_20 IAMs_20 08 12 24.3
comp=Z,776nm,22.0s
LPAZ La Paz 119.31 116 PKPdf **PKPdf** **07 21 37.8 -0.7**
LPAZ La Paz 119.31 116 PKP **PKPdf** **07 21 37.9 -0.6**
comp=Z,2.3nm,0.7s,baz=252,slow=3.5,SNR=14
LPAZ PKKPbc **PKKPbc** **07 31 50.3 -0.6**
comp=Z,2.5nm,0.7s,baz=34,slow=0.2,SNR=11
LPAZ La Paz 119.31 116 PKIKP **PKPdf** **07 21 37.8 -0.7**
P61A Hammonton 119.47 51 IAMs_20 IAMs_20 08 09 21.2
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 119.49 16 IAMs_20 IAMs_20 08 10 48.0
comp=Z,2μm,19.0s
JOF Joensuu 119.77 338 *e*P **PKPdf** **07 21 36.7 -0.5**
VT1 Waterbury 120.02 45 IAMs_20 IAMs_20 08 06 49.2
comp=Z,2μm,22.0s
SCHQ Schefferville 120.21 32 PKP **PKiKP** **07 21 38.7 +0.2**
comp=Z,1.5nm,0.6s,baz=296,slow=6.8,SNR=5.0
VRH Novokhopyorsk 120.47 323 *e*PKIKP **PKPdf** **07 21 38.9 0.0**
VRH pmax pmax
comp=Z,22nm,0.6s
VRH pmax pmax
comp=Z,93nm,2.0s
VRH pmax pmax
comp=Z,38nm,2.1s
HNH Hanover 120.50 46 IAMs_20 IAMs_20 08 08 57.7
comp=Z,2μm,20.0s
LBNH Lisbon 120.62 45 IAMs_20 IAMs_20 08 07 04.9
comp=Z,2μm,21.0s
STEI Steigen 120.70 348 *e*PKPdf **PKPdf** **07 21 37.8 -1.0**
LMQ La Malbaie 120.79 41 IAMs_20 IAMs_20 08 09 17.8
comp=Z,2μm,20.0s
LOF Lofoten 120.87 349 *e*PKPdf **PKPdf** **07 21 38.0 -1.2**
SCO Scoresbysund 121.01 3 IAMs_20 IAMs_20 08 12 33.7
comp=Z,2μm,20.0s
H62A Milan 121.07 45 IAMs_20 IAMs_20 08 09 08.7
comp=Z,2μm,22.0s
I62A Tamworth 121.13 46 IAMs_20 IAMs_20 08 09 30.3
comp=Z,2μm,21.0s
FAUS Fauske 121.15 347 *e*PKPdf **PKPdf** **07 21 38.9 -0.9**
G62A West of Eustis 121.33 44 IAMs_20 IAMs_20 08 17 21.3
comp=Z,1μm,20.0s
F62A Pittston Farm, 121.52 43 IAMs_20 IAMs_20 08 07 11.2
comp=Z,1μm,22.0s
LPSR Galich'ya Gora 121.53 325 *e*PKIKP **PKPdf** **07 21 38.3 -2.6**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
GNI Garni 121.56 310 *i* PKIKP **PKPdf** **07 21 41.5 -0.1**
I63A Otisfield 121.61 45 IAMs_20 IAMs_20 08 09 45.0
comp=Z,2μm,20.0s
OBN Obninsk 121.69 329 IAMs_20 IAMs_20 08 14 20.5
comp=Z,1μm,21.0s
OBN Obninsk 121.69 329 ||*i* PKIKP **PKPdf** **07 21 40.8 -0.3**
OBN *e* 07 21 52.8
OBN *i* 07 23 18.9
OBN *i* PS PKKPdf 07 33 01.8 +44
OBN *e*PPS PPS 07 34 35.3
OBN pmax pmax
comp=Z,11nm,0.5s
OBN MLR MLR
comp=Z,1μm,22.0s
VORR Voronezh 121.75 324 *e*PKIKP **PKiKP** **07 21 42.4 +0.9**
VORR pmax pmax
comp=Z,80nm,0.5s
VORR pmax pmax
comp=Z,247nm,1.8s
VORR pmax pmax
comp=Z,99nm,2.1s
D62A Allapoint, All 121.76 41 PKPdf **PKPdf** **07 21 40.7 -0.8**
D62A IAMs_20 IAMs_20 08 10 53.5
comp=Z,2μm,20.0s
TBTG Tabatinga, AM 121.81 102 IAMs_20 IAMs_20 08 04 09.3
comp=Z,2μm,20.0s
VSR Storozhevoye 121.96 324 *e*PKIKP **PKPdf** **07 21 39.4 -2.4**
VSR pmax pmax
comp=Z,9.0nm,0.9s
VORD Divnogorie 121.98 324 *e*PKIKP **PKPdf** **07 21 39.8 -2.0**
VORD pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 122.05 315 PKP **PKiKP** **07 21 42.7 +0.4**
comp=Z,2.6nm,0.8s,baz=183,slow=2.0,SNR=5.1
KBZ PP **PP** **07 23 17.8 +0.6**
comp=Z,3.9nm,1.0s,baz=138,slow=4.9,SNR=3.7
WVL Waterville 122.11 44 IAMs_20 IAMs_20 08 09 58.9
comp=Z,2μm,20.0s
KIV Kislovodsk 122.14 315 *i* PKIKP **PKPdf** **07 21 41.0 -1.5**
KIV *e* 07 23 15.3
KIV *e*PS PKKPdf 07 33 10.1 +54
KIV *e*SS SS 07 39 49.7 -3.4
KIV pmax pmax
comp=Z,6.0nm,1.0s
PKME Peaks-Kenny Pk 122.15 44 IAMs_20 IAMs_20 08 18 12.2
comp=Z,1μm,18.0s
SHA1 Shidzhatmaz 122.22 315 *i* PKIKP **PKPdf** **07 21 42.9 0.0**
STOK Stokkvaagen 122.52 348 *e*PKPdf **PKPdf** **07 21 42.2 -0.2**
KEF Keuruu 122.53 340 *e*P **PKPdf** **07 21 41.9 -0.6**
PQI Presque Isle 122.56 42 IAMs_20 IAMs_20 08 07 31.7
comp=Z,2μm,22.0s
FIA1 FINESS Array S 122.60 339 PKPdf **PKPdf** **07 21 42.3 -0.4**
FINES FINESS Array B 122.60 339 PKPdf **PKPdf** **07 21 42.5 -0.2**
FINES FINESS Array B 122.60 339 PKP **PKPdf** **07 21 41.8 -0.9**
comp=Z,5.1nm,0.8s,baz=95,slow=4.4,SNR=19
FINES FINESS Array B 122.60 339 PKIKP **PKPdf** **07 21 42.5 -0.2**
F64A Sherman 122.60 43 IAMs_20 IAMs_20 08 10 40.9
comp=Z,2μm,20.0s
VAF Ylistaro 122.62 341 *e*P **PKPdf** **07 21 42.1 -0.5**
RAYN Ar Rayn 122.80 290 **PKiKP** **07 21 44.6 +0.1**
RAYN Ar Rayn 122.80 290 PKIKP **PKiKP** **07 21 44.6 +0.1**
CPUP Villa Florida 123.11 132 PKP **PKPdf** **07 21 43.5 -1.3**
comp=Z,1.4nm,0.9s,baz=295,slow=3.6,SNR=5.9
CPUP PKKPbc **PKKPbc** **07 31 35.2 -0.9**
comp=Z,2.7nm,0.9s,baz=72,slow=4.7,SNR=5.6
G65A Princeton 123.33 43 IAMs_20 IAMs_20 08 11 17.3
comp=Z,2μm,20.0s
ETMB Extrema 123.50 110 PKPdf **PKPdf** **07 21 44.2 -1.6**
ETMB IAMs_20 IAMs_20 08 03 50.7
comp=Z,2μm,22.0s
EMMW East Machias 123.56 44 IAMs_20 IAMs_20 08 09 02.5
comp=Z,2μm,22.0s
BATG Bathurst New B 123.61 40 IAMs_20 IAMs_20 08 15 32.4
comp=Z,2μm,21.0s
ANGG Ammassalik, Gr 123.67 12 IAMs_20 IAMs_20 08 09 21.2
comp=Z,2μm,22.0s
SDV Santo Domingo 123.87 87 **PKPdf** **07 21 46.5 -0.3**
SDV Santo Domingo 123.87 87 *e*P **PKPdf** **07 21 45.3 -1.5**
MEF Metsahovi 124.04 338 *e*P **PKPdf** **07 21 45.0 -0.5**
SDDR Presa de Saban 124.08 75 IAMs_20 IAMs_20 08 05 57.6
comp=Z,2μm,21.0s
NSS Namsos 124.30 347 *e*PKPdf **PKPdf** **07 21 45.1 -0.8**
SOC Sochi 124.30 315 *e*PKIKP **PKPdf** **07 21 46.5 0.0**
SOC *e* 07 23 37.2
SOC *e*PPP PPP 07 26 09.3
SOC *e*PS **PS** **07 33 28.4 -3.6**
SOC *e*SS SS 07 40 17.2 -3.1
SOC *e*SSS SSS 07 44 50.9
SOC MLR MLR
comp=Z,871nm,21.0s
VSU Vasula 124.31 336 *i* PKIKP **PKPdf** **07 21 45.5 -0.6**
RAF Rauma 124.39 340 *e*P **PKPdf** **07 21 45.5 -0.6**
IVI Ivigtut 124.50 19 IAMs_20 IAMs_20 08 09 02.7
comp=Z,3μm,22.0s
ATD Arta Tunnel 124.81 276 IAMs_20 IAMs_20 08 15 47.6
comp=Z,1μm,19.0s
LMN Caledonia Moun 124.94 42 IAMs_20 IAMs_20 08 10 48.4
comp=Z,3μm,22.0s
BOSA Boshof 125.10 222 PKPdf **PKiKP** **07 21 49.0 -0.1**
BOSA Boshof 125.10 222 PKP **PKPdf** **07 21 48.5 -0.3**
comp=Z,15nm,0.9s,baz=124,slow=1.8,SNR=18
SUR Sutherland 125.22 216 IAMs_20 IAMs_20 08 15 42.5
comp=Z,2μm,20.0s
MTSE Matsula 125.29 337 *e*P **PKiKP** **07 21 48.1 -0.1**
AAL Aland 125.60 340 *e*P **PKPdf** **07 21 47.9 -0.6**
ITAB Concordia 126.20 137 IAMs_20 IAMs_20 08 06 31.0
comp=Z,2μm,21.0s
MNK Minsk 126.27 331 *i* PKIKP **PKiKP** **07 21 50.3 -0.1**
MNK *i* 07 22 07.9
MNK *i* 07 23 45.2
MNK *i* 07 28 54.0
MNK pmax pmax
comp=E,8.0nm,1.0s
MNK pmax pmax
comp=Z,16nm,0.6s
MNK pmax pmax
comp=N,21nm,0.6s
MNK MLR MLR
comp=E,659nm,23.0s
MNK MLR MLR
comp=Z,2μm,23.0s
MNK MLR MLR
comp=N,1μm,23.0s
BAUV El Baul 126.42 87 **PKPdf** **07 21 50.5 -1.0**
SAML Samuel 126.60 110 IAMs_20 IAMs_20 08 05 55.6
comp=Z,1μm,22.0s
ARPR Arapgir-MALATY 126.62 310 PKPdf **PKiKP** **07 21 52.1 +0.3**
BORG Borgarnes 126.73 4 IAMs_20 IAMs_20 08 13 55.9
comp=Z,1μm,22.0s
KIBK Kibwezi 126.83 258 IAMs_20 IAMs_20 08 14 31.3
comp=Z,2μm,20.0s
DOMB Dombas 127.12 347 *e*PKPdf **PKPdf** **07 21 51.5 +0.1**
LBTB Lobatse 127.18 226 PKPdf **PKPdf** **07 21 53.0 +0.2**
LBTB Lobatse 127.18 226 PKIKP **PKPdf** **07 21 53.0 +0.2**
NC303 NORSAR Array S 127.28 345 **PKiKP** **07 21 52.0 -0.2**
PABE Paberze 127.39 334 **PKPdf** **07 21 52.2 +0.2**
PABE IAMs_20 IAMs_20 08 16 20.7
comp=Z,2μm,22.0s
PABE Paberze 127.39 334 *e*P **PKiKP** **07 21 52.9 +0.3**
PTLB Pontes e Lacer 127.46 120 PKPdf **PKPdf** **07 21 52.4 -1.0**
NB2 NORSAR Subarra 127.48 345 PKPdf **PKPdf** **07 21 51.6 -0.6**
comp=Z,9.0nm,0.9s,baz=31,slow=1.9
NB2 NORSAR Subarra 127.48 345 PKPdf **PKPdf** **07 21 51.6 -0.6**
baz=31,slow=1.9
NOA NORSAR Array B 127.48 345 PKP **PKPdf** **07 21 51.8 -0.4**
comp=Z,4.0nm,0.8s,baz=32,slow=2.0,SNR=26
HFS Hagfors 127.58 343 PKP **PKPdf** **07 21 51.7 -0.6**
comp=Z,4.8nm,0.7s,baz=132,slow=2.2,SNR=16
NC602 NORSAR Array S 127.66 345 *e*PKPdf **PKPdf** **07 21 52.1 -0.3**
NC602 *e*PP **PP** **07 23 57.0 +3.3**
VILB Vilhena 127.67 116 **PKPdf** **07 21 52.8 -1.1**
AK03 Malin Array Si 127.74 327 PKP **PKPdf** **07 21 52.5 -0.4**
AKASG Malin Array Be 127.75 327 PKP **PKPdf** **07 21 52.8 -0.1**
comp=Z,1.8nm,0.6s,baz=62,slow=1.6,SNR=8.3
AKASG SKP 07 25 21.2
comp=Z,0.2nm,0.3s,baz=52,slow=4.1,SNR=4.0
AKBB Malin Array Si 127.75 327 PKPdf **PKPdf** **07 21 52.7 -0.2**
AKBB Malin Array Si 127.75 327 *i* PKIKP **PKPdf** **07 21 52.4 -0.5**
AKBB Malin Array Si 127.75 327 PKP **PKPdf** **07 21 52.9 0.0**
AK01 Malin Array Si 127.76 327 PKP **PKPdf** **07 21 52.4 -0.5**
KIEV Kiev 127.76 327 **PKPdf** **07 21 52.9 0.0**
KIEV Kiev 127.76 327 IAMs_20 IAMs_20 08 21 00.0
comp=Z,2μm,21.0s
KIEV Kiev 127.76 327 PKIKP **PKPdf** **07 21 52.9 0.0**
KIEV Kiev 127.76 327 PKP **PKPdf** **07 21 52.9 0.0**
AK09 Malin Array Si 127.77 327 PKP **PKPdf** **07 21 52.9 0.0**
AK04 Malin Array Si 127.77 327 PKP **PKPdf** **07 21 51.5 -1.4**
AK08 Malin Array Si 127.77 327 PKP **PKPdf** **07 21 52.5 -0.4**
AK10 Malin Array Si 127.79 327 PKP **PKPdf** **07 21 52.0 -1.0**
AK11 Malin Array Si 127.79 327 PKP **PKPdf** **07 21 52.0 -1.0**
AK22 Malin Array Si 127.80 327 PKP **PKPdf** **07 21 51.8 -1.2**
AK05 Malin Array Si 127.81 327 PKP **PKPdf** **07 21 52.0 -1.0**
AK21 Malin Array Si 127.81 327 PKP **PKPdf** **07 21 52.0 -1.0**
AK12 Malin Array Si 127.82 327 PKP **PKPdf** **07 21 52.5 -0.5**
AK18 Malin Array Si 127.82 327 PKP **PKPdf** **07 21 52.5 -0.5**
AK07 Malin Array Si 127.84 327 PKP **PKPdf** **07 21 52.5 -0.6**
AK20 Malin Array Si 127.84 327 PKP **PKPdf** **07 21 52.5 -0.6**
AK14 Malin Array Si 127.85 327 PKP **PKPdf** **07 21 52.5 -0.6**
AK19 Malin Array Si 127.85 327 PKP **PKPdf** **07 21 52.5 -0.6**
AK13 Malin Array Si 127.89 327 PKP **PKPdf** **07 21 52.9 -0.3**
KMBO Kilima Mbogo 127.92 259 PKPdf **PKiKP** **07 21 55.8 +0.6**
KMBO Kilima Mbogo 127.92 259 IAMs_20 IAMs_20 08 12 11.4
comp=Z,1μm,21.0s
KMBO Kilima Mbogo 127.92 259 PKIKP **PKiKP** **07 21 55.8 +0.6**
MLPR Magueyes Islan 128.08 76 IAMs_20 IAMs_20 08 09 27.7
comp=Z,1μm,22.0s
MI28 MI28,Pidlybu 128.45 328 PKP **PKPdf** **07 21 54.5 +0.3**
HYA Hoyanger 128.52 348 *e*PKPdf **PKiKP** **07 21 54.4 -0.2**
HYA *e*PP **PP** **07 24 00.5 +1.3**
OSL Oslo 128.56 345 *e*PKPdf **PKiKP** **07 21 55.2 +0.4**
FURI Furi 128.56 272 IAMs_20 IAMs_20 08 16 47.2
comp=Z,2μm,20.0s
MI29 MI29, Kamyanyy 128.64 327 PKP **PKPdf** **07 21 54.6 0.0**
SUW Suwalki 128.72 333 IAMs_20 IAMs_20 08 17 40.9
comp=Z,2μm,22.0s
BBSR BB Station 128.87 58 IAMs_20 IAMs_20 08 12 03.7
comp=Z,2μm,22.0s
SUE Sulen 128.91 349 *e*PKPdf **PKiKP** **07 21 55.5 +0.1**
LUBAR Lubar, Ukraine 128.97 327 PKP **PKPdf** **07 21 55.2 -0.1**
RNPP9 Sopachiv 129.08 329 PKP **PKPdf** **07 21 55.4 0.0**
KONO Kongsberg 129.09 345 IAMs_20 IAMs_20 08 19 22.7
comp=Z,1μm,21.0s
RNPP8 Varash 129.14 329 PKP **PKPdf** **07 21 55.5 0.0**
RNPP5 Staryi Chortor 129.19 329 PKP **PKPdf** **07 21 55.6 0.0**
STRU Stroemstad 129.21 344 *e*P **PKPdf** **07 21 54.6 -0.8**
STRU *i* 07 23 58.6
ODD1 Odda 129.56 347 *e*PKPdf **PKPdf** **07 21 55.6 -0.6**
SORM Soroca 129.60 324 PKP **PKPdf** **07 21 56.5 0.0**
BRTR Keskin Array B 129.88 312 PKPdf **PKPdf** **07 21 57.7 +0.2**
BRTR Keskin Array B 129.88 312 PKP **PKiKP** **07 21 58.0 -0.3**
comp=Z,3.2nm,1.0s,baz=145,slow=4.5,SNR=7.3
BRTR PP **PP** **07 24 06.0 -3.5**
comp=Z,5.3nm,0.9s,baz=108,slow=4.7,SNR=3.9
BRTR SKP 07 25 21.9
comp=Z,2.4nm,0.8s,baz=116,slow=3.4,SNR=3.6
BORU Boraas 129.92 342 *e*P **PKPdf** **07 21 56.4 -0.4**
BORU *i* 07 24 04.0
KIS Kishinev 129.92 323 *e*PKP **PKPdf** **07 21 56.0 -1.2**
comp=Z,110nm,4.0s
KIS Kishinev 129.92 323 *e*PP PP 07 24 08.0 -1.1
comp=Z,150nm,7.8s
KIS Kishinev 129.92 323 *e*PKIKP **PKPdf** **07 21 56.0 -1.2**
KIS *e* 07 24 08.0
KIS *e*PPP PPP 07 26 58.0
KIS pmax pmax
comp=Z,110nm,4.0s
KIS pmax pmax
comp=Z,150nm,7.8s
KIS MLR MLR
comp=Z,400nm,21.0s
MILM Milestii Mici 129.97 323 *e*P **Pdif** **07 18 50.0 +3.9**
MILM Milestii Mici 129.97 323 *e*PKP **PKPdf** **07 21 54.0 -3.2**
comp=Z,290nm,7.0s
MILM Milestii Mici 129.97 323 *i* PP PP 07 24 07.0 -2.4
MILM Milestii Mici 129.97 323 *e*PKS 07 25 20.0
MILM Milestii Mici 129.97 323 *e*PS PS 07 34 16.0 -5.2
MILM *e*L L 08 05 31.0
MILM LQM 08 16 52.0
comp=Z,800nm,22.0s
MILM LRM MLR 08 20 54.0
comp=Z,850nm,22.0s
BLEU Blekinge 129.99 339 *e*P **PKPdf** **07 21 57.0 0.0**
BLEU *i* 07 24 02.8
KMPD K-Podol'skiy 130.43 326 PKP **PKPdf** **07 21 57.1 -1.0**
FABU Falkenberg 130.46 341 *e*P **PKPdf** **07 21 57.0 -0.8**
FABU *i* 07 24 07.0
MMAI Mount Meron Ar 130.48 304 PKP **PKPdf** **07 21 59.1 +0.3**
comp=Z,3.9nm,0.6s,baz=99,slow=8.9,SNR=5.8
MMAI SKP 07 25 25.6
comp=Z,26nm,1.0s,baz=47,slow=5.1,SNR=20
DEL Delary 130.52 340 *e*P **PKPdf** **07 21 57.9 -0.1**
DEL Delary 130.52 340 *i* P **PKPdf** **07 21 57.0 -1.0**
DEL *i* 07 24 08.8
HOMB Homborsund 130.57 345 *e*PKPdf **PKPdf** **07 21 58.2 +0.2**
HOMB Homborsund 130.57 345 *e*P **PKPdf** **07 21 57.2 -0.8**
HOMB *i* 07 24 09.4
LSZ Lusaka 130.72 238 PKPdf **PKiKP** **07 22 00.8 +0.1**
LSZ Lusaka 130.72 238 PKIKP **PKiKP** **07 22 00.8 +0.1**
SNART Snartemo 130.84 346 *e*PKPdf **PKiKP** **07 21 59.4 0.0**
LODK Lodwar 130.85 264 IAMs_20 IAMs_20 08 15 15.2
comp=Z,2μm,21.0s
MACA Manacapuru-AM 130.90 105 **PKPdf** **07 21 59.4 -0.6**
BJUU Bjuv 131.12 341 *e*P **PKPdf** **07 21 58.8 -0.4**
BJUU *i* 07 24 11.2
BJUU *e* 07 25 26.2
BSD Bornholm Skovb 131.24 339 *e*P **PKPdf** **07 21 57.0 -2.4**
BSD *i* 07 24 11.8
BSD *e* 07 25 26.2
TESR Tescani 131.45 323 PKP **PKPdf** **07 21 59.4 -0.7**
BUR08 Bucovina Ar. S 131.65 325 PKPdf **PKiKP** **07 22 02.1 +0.5**
BURAR Bucovina Array 131.65 325 PKPdf **PKiKP** **07 22 01.7 +0.1**
SPB Sao Paulo 131.78 137 IAMs_20 IAMs_20 08 12 11.9
comp=Z,1μm,21.0s
SEUS St. Eustatius 131.95 77 IAMs_20 IAMs_20 08 11 53.3
comp=Z,1μm,22.0s
RGN Rugen 132.25 339 IAMs_20 IAMs_20 08 22 25.8
comp=Z,2μm,21.0s
MLR Muntele Rosu 132.41 323 IAMs_20 IAMs_20 08 24 04.8
comp=Z,1μm,21.0s
VAO Valinhos 132.50 137 IAMs_20 IAMs_20 08 13 04.8
comp=Z,2μm,21.0s
SSRD Sdr. Stenderup 132.68 342 *e*P **PKPdf** **07 22 00.2 -1.9**
SSRD *i* 07 24 21.3
SSRD *e* 07 25 32.5
OJC Ojcow 132.81 331 **PKPdf** **07 22 02.0 -0.6**
OJC Ojcow 132.81 331 PKIKP **PKPdf** **07 22 02.0 -0.6**
SVN Savane Anatole 133.64 81 IAMs_20 IAMs_20 08 10 16.5
comp=Z,1μm,21.0s
FDF Fort de France 133.66 81 IAMs_20 IAMs_20 08 11 08.8
comp=Z,1μm,21.0s
BIM Bigot 133.72 81 IAMs_20 IAMs_20 08 11 48.7
comp=Z,1μm,21.0s
OKC Ostrava-Krasne 133.85 332 AMS AMS 08 19 10.0
comp=Z,2μm,23.5s
MPOM Morne Pois Mar 133.93 81 IAMs_20 IAMs_20 08 09 52.9
comp=Z,1μm,22.0s
MORC Moravsky Berou 134.17 332 PKPdf **PKPdf** **07 22 05.5 +0.3**
MORC IAMs_20 IAMs_20 08 22 57.2
comp=Z,2μm,21.0s
MORC Moravsky Berou 134.17 332 *e*PKP **PKPdf** **07 22 05.2 0.0**
MORC Moravsky Berou 134.17 332 PKIKP **PKPdf** **07 22 05.5 +0.3**
MORC MLR MLR
comp=Z,2μm,21.0s
OSTC Ostas 134.20 334 AMS AMS 08 19 30.0
comp=Z,3μm,24.0s
CHVC Chvalec 134.24 334 AMS AMS 08 19 50.0
comp=Z,3μm,23.6s
KRLC Kralicky 134.30 333 AMS AMS 08 21 10.0
comp=Z,2μm,22.2s
DPC Dobruska-Polom 134.30 333 AMS AMS 08 20 40.0
comp=Z,3μm,22.7s
PSZ Piszkesteto 134.30 329 IAMs_20 IAMs_20 08 20 59.1
comp=Z,1μm,22.0s
MBAR Mbarara 134.32 258 IAMs_20 IAMs_20 08 18 47.9
comp=Z,1μm,19.0s
MBAR Mbarara 134.32 258 *i* PKIKP **PKPdf** **07 22 05.0 -1.7**
UPC Upice 134.32 334 *e*PKP **PKPdf** **07 22 03.3 -2.1**
UPC AMS AMS 08 19 40.0
comp=Z,3μm,23.4s
UPC Upice 134.32 334 *e*PKIKP **PKPdf** **07 22 03.3 -2.1**
UPC MLR MLR
comp=Z,3μm,23.4s
JAVC Velka Javorina 134.75 331 *e*PKP **PKiKP** **07 22 08.0 +0.2**
BRG Berggiesshubel 134.91 336 *e*PKP **PKiKP** **07 22 08.5 +0.6**
BRG Amp 07 22 12.6
comp=Z,5.9nm,1.0s
BRG Berggiesshubel 134.91 336 PP PP 07 24 45.0 +4.4
BRG SKP 07 25 40.8
BRG Amp 07 25 41.7
comp=Z,8.8nm,1.0s
BRG Berggiesshubel 134.91 336 *e*PKIKP **PKiKP** **07 22 08.5 +0.6**
BRG 07 24 45.0
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,9.0nm,1.0s
PVCC Panska Ves 134.92 335 AMS AMS 08 20 10.0
comp=Z,2μm,22.2s
VRAC Vranov 134.94 332 *e*PKP **PKPdf** **07 22 06.9 +0.3**
CLL Collm 134.95 337 PKPdf **PKiKP** **07 22 07.3 -0.7**
CLL IAMs_20 IAMs_20 08 25 50.3
comp=Z,2μm,20.0s
CLL Collm 134.95 337 PKIKP **PKiKP** **07 22 07.3 -0.7**
KRUC Moravsky 135.20 332 *e*PKP **PKPdf** **07 22 07.4 +0.3**
GOPC GO Pecny, Ondr 135.29 334 AMS AMS 08 20 30.0
comp=Z,2μm,24.5s
PRA Prague 135.32 335 AMS AMS 08 20 20.0
comp=Z,2μm,23.9s
HSKC Hora Svate Kat 135.32 336 *e*PKP **PKPdf** **07 22 04.3 -3.0**
HSKC *e*PP **PP** **07 24 41.3 -2.0**
HSKC AMS AMS 08 26 00.0
comp=Z,2μm,20.8s
PRU Pruhonice 135.34 334 AMS AMS 08 20 20.0
comp=Z,2μm,24.1s
TREC Trest 135.44 333 AMS AMS 08 21 20.0
comp=Z,3μm,23.3s
EKA Eskdalemuir Ar 135.69 351 PKhKP PKPpre 07 21 58.4
comp=Z,0.2nm,0.3s,baz=4.0,slow=3.1,SNR=1.7
EKA PKP **PKPdf** **07 22 05.5 -2.3**
comp=Z,1.1nm,0.6s,baz=26,slow=1.8,SNR=3.1
EKA SKPab **SKiKP** **07 25 40.8 -0.2**
comp=Z,3.7nm,0.8s,baz=348,slow=2.6,SNR=7.6
ESK Eskdalemuir 135.71 352 IAMs_20 IAMs_20 08 24 59.4
comp=Z,1μm,22.0s
RONA Rosalia, Austr 136.22 331 *i* PKP **PKPdf** **07 22 09.5 +0.4**
comp=Z,7.1nm,0.8s
RONA *e*SKP 07 25 41.1
comp=Z,18nm,1.4s
CONA Conrad Observa 136.27 331 *i* PKP **PKPdf** **07 22 09.2 0.0**
comp=Z,2.4nm,0.6s
CONA *e*SKP 07 25 41.8
comp=Z,18nm,1.4s
CKRC Cesky Krumlov 136.32 333 *e*PP **PP** **07 24 42.5 -7.1**
CKRC AMS AMS 08 16 00.0
comp=Z,2μm,26.0s
KHC Kasperske Hory 136.40 334 PKPdf **PKPdf** **07 22 10.0 +0.6**
KHC IAMs_20 IAMs_20 08 26 55.9
comp=Z,2μm,21.0s
KHC Kasperske Hory 136.40 334 *e*PKP **PKPdf** **07 22 08.8 -0.6**
KHC *e*PP **PP** **07 24 48.4 -1.7**
KHC AMS AMS 08 21 20.0
comp=Z,3μm,24.3s
KHC Kasperske Hory 136.40 334 *i* PKIKP **PKPdf** **07 22 08.7 -0.6**
BDFB Brasilia 136.43 128 PKP **PKPdf** **07 22 10.5 0.0**
comp=Z,2.8nm,0.8s,baz=226,slow=4.2,SNR=4.3
BDFB SKP 07 25 39.9
comp=Z,17nm,1.1s,baz=324,slow=1.8,SNR=10
GERES GERESS Array B 136.56 334 **PKPdf** **07 22 10.3 +0.6**
GERES GERESS Array B 136.56 334 PKhKP PKPpre 07 21 59.4
comp=Z,0.4nm,0.2s,baz=18,slow=3.5,SNR=4.3
GERES PKP **PKPdf** **07 22 09.6 -0.1**
comp=Z,3.4nm,0.8s,baz=50,slow=2.1,SNR=12
ARSA Arzberg 136.91 331 *e*SKP 07 25 46.3
comp=Z,3.2nm,0.7s
GRA1 Grafenberg Arr 136.92 336 IAMs_20 IAMs_20 08 27 08.5
comp=Z,1μm,20.0s
GRFO Grafenberg 136.92 336 IAMs_20 IAMs_20 08 27 09.6
comp=Z,1μm,21.0s
MOA Molln 137.06 332 *e*PKP **PKPdf** **07 22 08.7 -1.9**
comp=Z,3.6nm,0.7s
MOA *i* SKP 07 25 40.5
comp=Z,13nm,1.4s
BIOA Bad Ischl, Aus 137.46 333 *i* PKP **PKPdf** **07 22 11.3 -0.1**
comp=Z,2.0nm,0.4s
BIOA *e*SKP 07 25 47.7
comp=Z,5.7nm,0.8s
SOKA Soboth 137.56 331 *i* PKP **PKPdf** **07 22 11.9 +0.3**
comp=Z,4.1nm,0.9s
SOKA *e*SKP 07 25 48.2
comp=Z,11nm,1.3s
FNA Florina 137.77 320 PKPdf **PKPdf** **07 22 12.0 -0.2**
FNA Florina 137.77 320 PKIKP **PKPdf** **07 22 12.0 -0.2**
OBKA Obir 137.91 331 *e*PKiKP **PKiKP** **07 22 16.4 +2.1**
comp=Z,7.8nm,1.3s
OBKA *i* SKP 07 25 48.3
comp=Z,3.3nm,0.6s
BTNL Ternell 137.97 341 *d*PKPdf **PKPdf** **07 22 12.7 +0.5**
PUK Puka 137.97 322 IAMs_20 IAMs_20 08 25 20.1
comp=Z,1μm,22.0s
MEM Membach 137.99 341 *d*PKPdf **PKPdf** **07 22 12.7 +0.5**
AGG Agios Georgios 138.08 317 IAMs_20 IAMs_20 08 30 09.7
comp=Z,1μm,22.0s
LESA Schwarzleotal 138.09 333 *e*PKP **PKPdf** **07 22 13.2 +0.6**
comp=Z,10nm,0.9s
LESA *e*SKP 07 25 46.7
comp=Z,16nm,1.4s
PDG Podgorica 138.12 323 IAMs_20 IAMs_20 08 27 07.8
comp=Z,1μm,22.0s
MYKA Terra Mystica 138.25 332 *i* PKiKP **PKiKP** **07 22 15.4 +0.5**
comp=Z,4.8nm,0.9s

MYKA *e*SKP 07 25 49.0
comp=Z,11nm,1.5s
PRED Cave del Predi 138.42 332 IAMs_20 IAMs_20 08 24 55.7
comp=Z,1μm,21.0s
WATA Walderalm 138.63 334 *i* PKP **PKPdf 07 22 14.3 +0.6**
comp=Z,2.5nm,0.5s
WATA *e*SKP 07 25 51.1
BMRD Maredsous 138.64 342 *d*PKPdf **PKPdf 07 22 13.8 +0.4**
WTTA Wattenberg 138.66 334 *e*PKP **PKPdf 07 22 13.6 -0.1**
comp=Z,9.1nm,0.9s
WTTA *e*SKP 07 25 51.3
comp=Z,21nm,1.3s
ABTA Abfaltersbach 138.68 333 *i* PKP **PKPdf 07 22 12.0 -1.6**
comp=Z,7.2nm,0.7s
ABTA *i* SKP 07 25 51.4
comp=Z,6.4nm,0.7s
SABO M.te Sabotino 138.75 331 IAMs_20 IAMs_20 08 24 44.8
comp=Z,2μm,22.0s
WLF Walferdange 138.76 341 IAMs_20 IAMs_20 08 25 02.9
comp=Z,1μm,22.0s
RETA Reutte 138.86 335 *i* SKP 07 25 50.9
comp=Z,12nm,1.4s
SQTA Sankt Quirin 138.88 334 *i* PKP **PKPdf 07 22 14.5 +0.4**
comp=Z,7.4nm,0.9s
SQTA *e*SKP 07 25 51.3
comp=Z,14nm,1.4s
STAL STALIGIAL 138.95 332 PKPdf 07 22 13.6 -0.6
STAL IAMs_20 IAMs_20 08 28 51.7
comp=Z,1μm,20.0s
VLO Vlora 139.13 320 IAMs_20 IAMs_20 08 31 31.0
comp=Z,1μm,20.0s
FETA Feichten 139.24 334 *i* PKP **PKPdf 07 22 14.9 +0.1**
comp=Z,7.7nm,1.1s
FETA *e*SKP 07 25 52.5
comp=Z,9.7nm,1.1s
ITM Ithomi 139.28 315 IAMs_20 IAMs_20 08 31 21.8
comp=Z,1μm,22.0s
DAVA Damuels 139.38 335 *i* PKiKP **PKiKP 07 22 17.4 0.0**
comp=Z,9.6nm,0.9s
DAVA *i* SKP 07 25 53.3
comp=Z,17nm,1.2s
ECH Echery 139.66 339 IAMs_20 IAMs_20 08 26 42.8
comp=Z,1μm,20.0s
FUORN Ofenpass-Fuorn 139.75 334 IAMs_20 IAMs_20 08 30 35.7
comp=Z,1μm,21.0s
TUE Stuetta 140.25 335 IAMs_20 IAMs_20 08 30 54.8
comp=Z,2μm,20.0s
SGRT San Giovanni R 140.57 325 IAMs_20 IAMs_20 08 28 37.6
comp=Z,2μm,22.0s
PRMA PARMA 141.18 333 IAMs_20 IAMs_20 08 26 04.7
comp=Z,2μm,22.0s
ZCCA Zocca 141.20 332 IAMs_20 IAMs_20 08 26 31.2
comp=Z,2μm,21.0s
CAMP Campotosto 141.32 328 IAMs_20 IAMs_20 08 32 08.9
comp=Z,1μm,20.0s
CLF Chambon-Foret 141.41 343 IAMs_20 IAMs_20 08 26 11.8
comp=Z,2μm,21.0s
CUC Castrocucco 141.66 323 IAMs_20 IAMs_20 08 28 37.7
comp=Z,1μm,21.0s
OSSC Osservatorio P 141.69 330 IAMs_20 IAMs_20 08 30 38.4
comp=Z,1μm,21.0s
CESX Cesi 141.70 328 IAMs_20 IAMs_20 08 29 18.7
comp=Z,1μm,21.0s
PAOL Paolisi 141.72 325 IAMs_20 IAMs_20 08 26 48.8
comp=Z,1μm,22.0s
MSSA Maissana 141.89 333 IAMs_20 IAMs_20 08 28 02.4
comp=Z,1μm,20.0s
BNI Bardonecchia 142.49 336 IAMs_20 IAMs_20 08 31 04.9
comp=Z,2μm,22.0s
SSB Saint Sauveur 143.10 339 IAMs_20 IAMs_20 08 32 55.3
comp=Z,1μm,21.0s
RAFF Raffo Rosso 144.28 320 PKPdf **PKPdf 07 22 23.4 -0.5**
NBPN Ponto Novo - B 145.36 129 *e*P **PKPbc 07 22 24.2 -2.2**
VSL Villasalto 145.62 328 IAMs_20 IAMs_20 08 34 58.7
comp=Z,917nm,20.0s
CEST Esterri de Car 146.60 340 PKPdf **PKPdf 07 22 26.4 -1.5**
NBLA Lagarto - SE 147.05 132 *e*P **PKPdf 07 22 27.2 -2.1**
NBPS Pedro II - PI 148.01 118 *e*P **PKPdf 07 22 30.4 -0.6**
NBTA Tacaratu-PE 148.07 129 *e*P **PKPdf 07 22 31.7 +0.7**
KEST Kesra 148.32 323 PKPbc **PKPbc 07 22 34.4 +0.1**
comp=Z,32nm,0.8s,baz=309,slow=0.9,SNR=25
NBMA Muriti-CE 148.61 126 *e*P **PKPdf 07 22 32.5 +0.6**
NBAN Anadia - AL 149.04 132 *e*P **PKPdf 07 22 32.1 -0.5**
PBRG Braganca 149.40 350 *e*PKPbc **PKPbc 07 22 36.8 -0.1**
TATN Tataouine 149.62 317 IAMs_20 IAMs_20 08 39 24.0
comp=Z,1μm,21.0s
PCAB Cabril 149.69 352 *e*PKPbc **PKPbc 07 22 37.8 +0.2**
POLO Lamas de Olo 149.99 351 *e*PKPbc **PKPbc 07 22 38.2 -0.2**
PVRL Vila Real 150.07 351 *e*PKPbc **PKPbc 07 22 38.7 +0.2**
SET Setif 150.17 328 P **PKPdf 07 22 31.0 -2.9**
PVIS Viseu 150.65 351 *e*PKPbc **PKPbc 07 22 40.0 +0.1**
PVIS Viseu 150.65 351 *e*PP **PP 07 26 18.2 +2.9**
ESDC Sonseca Array 150.84 345 PKP **PKPdf 07 22 35.2 +0.5**
comp=Z,8.2nm,0.8s,baz=349,slow=4.5,SNR=6.5
ESDC PKPbc **PKPbc 07 22 40.4 -0.1**
comp=Z,8.5nm,0.8s,baz=10,slow=1.9,SNR=30
MTE Manteigas 150.90 350 *e*PKPbc **PKPbc 07 22 40.5 0.0**
MTE Manteigas 150.90 350 *e*PP **PP 07 26 15.7 -1.1**
MTE Manteigas 150.90 350 *e*LQ LQ 08 15 44.4
MTE *e*LR LR 08 15 58.1
comp=Z,2μm,20.0s
PAB San Pablo 151.06 345 IAMs_20 IAMs_20 08 32 26.9
comp=Z,1μm,22.0s
PCAS Casmilo, Conde 151.38 352 *e*PKPbc **PKPbc 07 22 41.6 0.0**
PCBR Castelo Branco 151.44 350 *e*PKPbc **PKPbc 07 22 41.9 +0.2**
RCBR Riachuelo 151.80 127 IAMs_20 IAMs_20 08 31 27.1
comp=Z,1μm,19.0s
PMRV Marv??o 151.82 350 *e*PKPbc **PKPbc 07 22 42.6 0.0**
PMRV Marv??o 151.82 350 *e*PP **PP 07 26 26.3 +4.3**
CART Cartagena 151.84 338 IAMs_20 IAMs_20 08 32 00.1
comp=Z,1μm,22.0s
PSBE So Bento 151.96 352 *e*PKPbc **PKiKP 07 22 43.2 -0.1**
PSBE So Bento 151.96 352 *e*PP **PP 07 26 22.1 -0.7**
PMTG Montargil 152.31 351 *e*PKPbc **PKPbc 07 22 43.8 +0.1**
PESTR Estremoz 152.40 350 *e*PKPbc **PKPbc 07 22 44.0 0.0**
LIS Lisbon 152.79 352 *e*PKPdf **PKPdf 07 22 37.6 0.0**
LIS IAMs_20 IAMs_20 08 31 46.0
comp=Z,2μm,23.2s
LIS Lisbon 152.79 352 *e*PKIKP **PKPdf 07 22 37.6 0.0**
EVO Evora 152.80 350 *e*PKPbc **PKPbc 07 22 44.5 -0.3**
PBAR Barrancos 152.97 349 *e*PKPbc **PKiKP 07 22 45.4 0.0**
PBEJ Beja 153.27 350 *e*PKPbc **PKiKP 07 22 46.7 +0.7**
PNCL Nicolau / Gran 153.29 351 *e*PKPbc **PKiKP 07 22 46.3 +0.3**
PNCL Nicolau / Gran 153.29 351 *e*PP **PP 07 26 33.8 +3.5**
MESJ Messejana 153.51 350 *e*PKPbc **PKiKP 07 22 46.9 +0.4**
MESJ Messejana 153.51 350 *e*PP **PP 07 26 29.9 -1.7**
MESJ Messejana 153.51 350 *e*PKPdf **PKPdf 07 22 38.6 -0.1**
MESJ *e*PP **PP 07 26 33.6 +2.1**
MESJ IAMs_20 IAMs_20 08 31 42.2
comp=Z,2μm,18.0s
MESJ Messejana 153.51 350 *e*PKIKP **PKPdf 07 22 38.6 -0.1**
MESJ *e* 07 26 33.6
PVAQ Vaqueiros 153.85 349 *e*PP **PP 07 26 33.8 +0.3**
PVAQ Vaqueiros 153.85 349 *e*LR LR 08 17 27.8
comp=Z,3μm,20.0s
PVAQ *e*LQ LQ 08 18 37.5
PTEO Sao Teotonio 153.88 351 *e*PKPbc **PKPbc 07 22 47.2 0.0**
PBDV Barranco-do-Ve 154.04 350 *e*PKPdf **PKPdf 07 22 40.3 +0.8**
PBDV Barranco-do-Ve 154.04 350 *e*PP **PP 07 26 37.7 +3.1**
MORF Marmelete 154.10 351 IAMs_20 IAMs_20 08 34 21.0
comp=Z,1μm,20.0s
MORF Marmelete 154.10 351 *e*PKPdf **PKPdf 07 22 40.7 +1.1**
MORF Marmelete 154.10 351 *e*PP **PP 07 26 38.5 +3.6**
MORF Marmelete 154.10 351 *e*PKPdf **PKPdf 07 22 39.4 -0.2**
MORF *e*PP **PP 07 26 37.0 +2.1**
MORF IAMs_20 IAMs_20 08 34 26.7
comp=Z,1μm,20.6s
MORF Marmelete 154.10 351 *e*PKIKP **PKPdf 07 22 39.4 -0.2**
MORF *e* 07 26 37.0
PFVI Vila Bisbo 154.30 351 IAMs_20 IAMs_20 08 45 54.2
comp=Z,1μm,20.0s
PFVI Vila Bisbo 154.30 351 *e*PKPdf **PKPdf 07 22 40.3 +0.5**
PFVI Vila Bisbo 154.30 351 *e*PP **PP 07 26 38.8 +2.8**
PMPST Porto Santo, M 158.55 6 *e*PKPdf **PKPdf 07 22 44.6 -0.9**
PMPST Porto Santo, M 158.55 6 *e*PP **PP 07 26 57.9 -1.6**
TAM Tamanrasset 158.69 304 IAMs_20 IAMs_20 08 42 03.4
comp=Z,1μm,21.0s
PMOZ Porto Moniz, M 158.70 8 *e*PKPdf **PKPdf 07 22 46.6 +0.8**
PMOZ Porto Moniz, M 158.70 8 *e*PP **PP 07 26 59.7 -0.7**
PMOZ Porto Moniz, M 158.70 8 *e*LR LR 08 18 11.3
comp=Z,1μm,20.0s
PMOZ *e*LQ LQ 08 18 52.3
PMAR Madeira 158.83 8 *e*PKPdf **PKPdf 07 22 46.6 +0.5**
PMAR Madeira 158.83 8 *e*PP **PP 07 27 00.4 -0.9**
TOA0 Torodi Ar. Sit 165.00 277 PKPdf 07 22 52.4 -0.3
TOA0 **PKPab 07 23 50.1 +0.6**
TORD Torodi Ar. Bea 165.00 277 PKP **PKPdf 07 22 52.0 -0.7**
comp=Z,5.6nm,0.9s,baz=37,slow=3.4,SNR=19
TORD PKPab **PKPab 07 23 49.7 +0.2**
comp=Z,32nm,0.9s,baz=66,slow=6.7,SNR=25
TORD PP **PP 07 27 36.4 -0.1**
comp=Z,7.6nm,1.1s,baz=70,slow=6.3,SNR=6.5
KIC Kosan Boka 169.79 240⇑ *e*PKP1 **PKPab 07 24 11.4 +0.8**
comp=Z,120nm,0.9s
LIC Lanto 169.96 238⇑ *e*PKP1 **PKPab 07 24 12.2 +0.9**
comp=Z,180nm,0.9s
DBIC Dimbokro 170.05 241 PKPdf **PKPdf 07 22 54.7 -1.6**
DBIC **PKPab 07 24 12.3 +0.6**
DBIC Dimbokro 170.05 241 PKPab **PKPab 07 24 12.0 +0.3**
comp=Z,38nm,0.9s,baz=94,slow=4.3,SNR=17
TIC Toumodi 170.18 240⇑ *e*PKP1 **PKPab 07 24 12.4 +0.1**
comp=Z,78nm,0.8s

*IDC **17** 07:06:40.4±1.1, 22°.99S×112°.70W, h0km, mb3.8/4, mbtmp3.8/4, MS3.4/1, Error ellipse: s-maj=49.3km s-min=29.5km az=26.0*
ISC 17 07:06:41.3±1.3, 23°.1S±0°.3×112°.8W±0°.3, h10km, n22, σ0°97/12, mb3.9/4, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**5.07**	**143**	LR	LR	07 09 31.8	
	comp=Z,358nm,18.7s,baz=330,slow=33						
H03N2	**Juan Fernandez**	**31.42**	**117**	T	T	07 45 58.5	
	baz=285,slow=75,SNR=19						
H03N3	**Juan Fernandez**	**31.43**	**117**	T	T	07 45 59.6	
	baz=285,slow=75,SNR=22						
H03N1	**Juan Fernandez**	**31.43**	**117**	T	T	07 45 59.6	
	baz=285,slow=75,SNR=25						
LPAZ	**La Paz**	**42.47**	**89**	P	**P**	**07 14 38.5**	**+0.9**
	2.0nm,0.8s,baz=277,slow=5.6,SNR=7.4						
	2.0nm,0.8s						
CPUP	**Villa Florida**	**50.16**	**106**	P	**P**	**07 15 36.6**	**-0.6**
	1.5nm,0.8s,baz=249,slow=6.5,SNR=4.1						
	1.5nm,0.8s						
TXAR	**Lajitas Array**	**52.89**	**10**	P	**P**	**07 15 56.6**	**-1.0**
	0.3nm,0.9s,baz=192,slow=8.3,SNR=2.7						
	0.3nm,0.9s						
NVAR	**Mina Array Bea**	**61.45**	**355**	P	**P**	**07 16 59.4**	**+1.2**
	2.0nm,0.8s,baz=192,slow=8.3,SNR=1.4						
	2.0nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**88.79**	**291**	T	T	08 57 57.8	
	baz=115,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**88.80**	**291**	T	T	08 57 58.9	
	baz=115,slow=75,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**88.81**	**291**	T	T	08 57 59.2	
	baz=115,slow=75,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**89.13**	**292**	T	T	08 58 20.5	
	baz=117						
H11N1	**WAKE ISLAND Hy**	**89.14**	**292**	T	T	08 58 21.6	
	baz=117						
H11N2	**WAKE ISLAND Hy**	**89.14**	**292**	T	T	08 58 19.7	
	baz=117,SNR=6.0						
AKASG	**Malin Array Be**	**139.71**	**37**	PKP	**PKPdf**	**07 26 09.3**	**+0.1**
	1.5nm,0.7s,baz=279,slow=3.2,SNR=2.5						
SONM	**Songino Array**	**140.29**	**318**	PKhKP	PKPpre	07 26 06.3	
	0.3nm,0.5s,baz=145,slow=5.3,SNR=1.8						
SONM				PKP	**PKPdf**	**07 26 09.8**	**-0.8**
	0.9nm,0.7s,baz=68,slow=1.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**146.47**	**341**	PKPbc	**PKPbc**	**07 26 22.3**	**-0.1**
	7.3nm,0.6s,baz=22,slow=2.7,SNR=16						
CMAR	**Chiang Mai Arr**	**150.00**	**267**	PKPbc	**PKiKP**	**07 26 34.8**	**+1.0**
	7.8nm,0.9s,baz=78,slow=0.4,SNR=25						
BVAR	**Borovoye Array**	**150.05**	**356**	PKPbc	**PKPbc**	**07 26 30.2**	**-1.7**
	1.6nm,0.5s,baz=352,slow=2.1,SNR=8.2						
KURBB	**Kurchatov Arra**	**151.16**	**345**	PKPbc	**PKPbc**	**07 26 34.5**	**-0.1**
	5.2nm,0.8s,baz=27,slow=1.8,SNR=32						
KBZ	**Khabaz**	**151.31**	**38**	PKPbc	**PKiKP**	**07 26 36.1**	**+0.4**
	4.6nm,0.8s,baz=168,slow=1.3,SNR=6.0						
MKAR	**Makanchi Array**	**153.44**	**336**	PKPbc	**PKPbc**	**07 26 39.9**	**0.0**
	2.6nm,0.7s,baz=22,slow=1.8,SNR=15						

IDC 17 07:22:45.2±18.0, 57°.07N×32°.70W, h0km, mb3.5/2, mbtmp3.6/3, ML2.5/1, MS4.0/2, Error ellipse: s-maj=361.2km s-min=71.7km az=140.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**18.71**	**306**	LR	LR	07 32 32.7	
	comp=Z,552nm,20.7s,baz=30,slow=31						
SCHQ	**Schefferville**	**19.13**	**278**	P	P	07 27 09.7	+0.2
	0.1nm,0.3s,baz=64,slow=9.1,SNR=4.0						
	2.9nm,0.9s						
DAVOX	**Davos/Dischmat**	**27.76**	**93**	LR	LR	07 39 30.7	
	comp=Z,320nm,21.6s,baz=64,slow=36						
ILAR	**Eielson Array**	**48.63**	**329**	P	P	07 31 30.1	-0.1
	0.9nm,1.1s,baz=44,slow=7.9,SNR=4.2						
	0.9nm,1.1s						
PDAR	**Pinedale Array**	**48.84**	**288**	P	P	07 31 32.1	-0.2
	0.3nm,0.5s,baz=54,slow=7.9,SNR=2.9						
	0.3nm,0.5s						

*IDC **17** 07:31:55.3±1.0, 57°.35N×33°.22W, h0km, mb3.5/8, mbtmp3.5/9, ML2.2/1, Error ellipse: s-maj=32.8km s-min=21.1km az=178.0*
ISC 17 07:31:57.4±0.9, 57°.3N±0°.2×33°.2W±0°.1, h15km, n11, σ0°77/11, mb3.7/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.81**	**277**	P	**Pn**	**07 36 17.4**	**+0.8**
	0.1nm,0.3s,baz=69,slow=14,SNR=3.5						
	3.0nm,0.9s						
NOA	**NORSAR Array B**	**22.73**	**62**	P	**P**	**07 37 00.0**	**+1.6**
	0.1nm,0.5s,baz=284,slow=9.3,SNR=4.2						
	0.1nm,0.5s						
HFS	**Hagfors**	**24.12**	**63**	P	**P**	**07 37 12.3**	**+0.1**
	1.6nm,0.8s,baz=248,slow=7.8,SNR=5.0						
	1.6nm,0.8s						
ILAR	**Eielson Array**	**48.26**	**328**	P	**P**	**07 40 37.3**	**+0.1**
	1.0nm,0.9s,baz=40,slow=5.4,SNR=9.1						
	1.0nm,0.9s						
PDAR	**Pinedale Array**	**48.49**	**287**	P	**P**	**07 40 39.1**	**-0.4**
	0.9nm,1.0s,baz=46,slow=4.3,SNR=3.7						
	0.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**51.45**	**135**	P	**P**	**07 41 02.0**	**0.0**
	0.4nm,0.6s,baz=356,slow=6.3,SNR=2.2						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**53.68**	**47**	P	**P**	**07 41 18.2**	**+0.1**
	0.3nm,0.3s,baz=343,slow=4.5,SNR=1.8						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**58.70**	**44**	P	**P**	**07 41 52.9**	**-1.0**
	0.3nm,0.5s,baz=326,slow=6.6,SNR=1.6						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**63.27**	**44**	P	**P**	**07 42 24.6**	**-0.4**
	0.3nm,0.7s,baz=336,slow=5.4,SNR=2.7						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**145.11**	**21**	PKPbc	**PKPbc**	**07 51 32.9**	**-0.6**
	1.3nm,0.8s,baz=344,slow=3.4,SNR=9.5						
QSPA	**South Pole Qui**	**147.22**	**180**	PKPbc	**PKPbc**	**07 51 38.5**	**0.0**
	2.9nm,1.0s,baz=237,slow=4.0,SNR=5.8						

*CATAC **17** 07:43:56.3±1.2, 8°.18N×82°.62W, h20km±4km, ML2.7*
*UPA **17** 07:43:57.5±0.9, 8°.19N×82°.62W, h40km±3km, ML3.7*
ISC 17 07:43:57.7±1.7, 8°.23N±0°.08×82°.62W±0°.04, h27km±12km, n15, σ0°52/30, 2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEDE3	**Pedregal, Chir**	**0.25**	**51**	*e*P	**Pn**	**07 44 05.6**	**0.0**
PEDE3				*e*S	**Sn**	**07 44 11.1**	**+0.5**
PTPM	**Petroterminale**	**0.26**	**265**	*e*P	**Pn**	**07 44 05.3**	**-0.4**
PTPM				*e*S	**Sn**	**07 44 10.9**	**+0.1**
DVD	**David**	**0.27**	**39**	*e*P	**Pn**	**07 44 05.5**	**-0.4**
DVD				AMP		07 44 05.8	
	comp=Z,6μm,0.1s						
DVD				*e*S	**Sn**	**07 44 11.6**	**+0.6**
LOCO3	**Loma Colorada,**	**0.27**	**48**	*e*P	**Pn**	**07 44 05.8**	**-0.1**
LOCO3				*e*S	**Sn**	**07 44 11.8**	**+0.7**
CDITO	**Canoas**	**0.43**	**324**	*i* P	**Pb**	**07 44 06.9**	**+0.1**
CDITO				*i* S	**Sn**	**07 44 14.5**	**-0.5**
CDITO				IAML		07 44 17.6	
	comp=Z,180nm,1.0s						
BCO2	**Palmira**	**0.50**	**10**	⇓*i*P	**Pn**	**07 44 08.5**	**-0.7**
BCO2				*e*S	**Sn**	**07 44 16.9**	**-0.1**
BRU2	**Volcan**	**0.57**	**353**	*e*P	**Pb**	**07 44 09.3**	**+0.1**
BRU2				*e*S	**Sn**	**07 44 19.4**	**+0.7**
BRU2	**Volcan**	**0.57**	**353**	*i* P	**Pb**	**07 44 09.3**	**+0.1**
BRU2				*i* S	**Sn**	**07 44 18.9**	**+0.2**
BRU2				IAML		07 44 21.0	
	comp=Z,230nm,1.0s						
LNBQ3	**Los Naranjos,**	**0.59**	**18**	*e*P	**Pb**	**07 44 09.3**	**-0.3**
CHGR2	**Aguacate**	**0.85**	**34**	*e*P	**Pn**	**07 44 12.6**	**-1.2**
CHGR2				*e*S	**Sb**	**07 44 25.3**	**+0.3**
CNI2	**El Empalme, Bo**	**1.20**	**7**	*e*P	**Pn**	**07 44 18.5**	**-0.2**
CNI2				*e*S	**Sn**	**07 44 34.1**	**0.0**
DRK0	**Durika**	**1.20**	**329**	*e*P	**Pn**	**07 44 18.4**	**-0.5**
DRK0				⇓*i*P	**Pn**	**07 44 18.4**	**-0.5**
DRK0				*e*S	**Sn**	**07 44 34.8**	**+0.4**
DRK0	**Durika**	**1.20**	**329**	*i* P	**Pn**	**07 44 18.3**	**-0.5**
DRK0				IAML		07 44 20.5	
	comp=Z,420nm,1.0s						
DRK0				*i* S	**Sn**	**07 44 34.7**	**+0.4**
OCHAL	**Ojochal**	**1.33**	**311**	*i* P	**Pn**	**07 44 20.1**	**-0.4**
OCHAL				IAML		07 44 20.7	
	comp=Z,85nm,1.0s						
OCHAL				*i* S	**Sb**	**07 44 38.9**	**+0.1**
LCR2	**La Lucha 2**	**2.03**	**318**	*i* P	**Pn**	**07 44 30.4**	**0.0**
LCR2				*i* S	**Sn**	**07 44 56.2**	**+1.2**

*NOU **17** 07:50:38.3, 36°.97S×177°.27E, h308km, MLv3.5/7, Off E. Coast of N. Island, N.Z.*
*WEL **17** 07:50:44.8±0.7, 37°S±5°×17°7E±°, h241km±6km, M3.0/25, ML2.8/6, MLv3.0/25, Error ellipse: s-maj=0.0km s-min=0.0km az=64.9, confirmed*
ISC 17 07:50:40.3±2.3, 37°.02S±0°.08×176°.99E±0°.08, h276km±13km, n77, σ1°48/95, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.97**	**139**	P	**Pn**	**07 51 18.6**	**+0.7**
HAZ				S	**S**	**07 51 44.3**	**-3.4**
MARZ	**Manawahe**	**0.99**	**194**	P	**Pn**	**07 51 20.3**	**+2.2**
KUZ	**Kuaotunu**	**1.05**	**285**	P	**Pn**	**07 51 19.0**	**+0.6**
RUGZ	**Raukumara Rang**	**1.09**	**150**	P	**Pn**	**07 51 19.2**	**+0.4**
RUGZ				S	**S**	**07 51 45.5**	**-3.7**
KARZ	**Kaharoa**	**1.16**	**211**	P	**Pn**	**07 51 20.6**	**+1.7**
MXZ	**Matakaoa Point**	**1.18**	**118**	P	**Pn**	**07 51 20.1**	**+1.0**
MXZ	**Matakaoa Point**	**1.18**	**118**	P	**Pn**	**07 51 20.1**	**+1.0**
MXZ				S	**S**	**07 51 48.1**	**-1.7**
OMRZ	**Omania**	**1.19**	**204**	P	**Pn**	**07 51 18.9**	**-0.2**
PKGZ	**Pakihiroa**	**1.22**	**135**	P	**Pn**	**07 51 20.7**	**+1.3**
PKGZ				S	**S**	**07 51 50.0**	**-0.3**
URZ	**Urewera**	**1.24**	**176**	P	**Pn**	**07 51 20.5**	**+1.1**
URZ	**Urewera**	**1.24**	**176**	P	**Pn**	**07 51 20.2**	**+0.8**
URZ				S	**S**	**07 51 49.0**	**-1.3**
RRRZ	**Republican Roa**	**1.37**	**196**	P	**Pn**	**07 51 21.6**	**+1.3**
MWZ	**Matawai**	**1.38**	**162**	P	**Pn**	**07 51 21.6**	**+1.2**
MWZ				S	**S**	**07 51 51.0**	**-1.1**
TOZ	**Tahuroa Road**	**1.38**	**239**	P	**Pn**	**07 51 21.4**	**+1.1**
WMGZ	**Waiomatatini S**	**1.39**	**125**	P	**Pn**	**07 51 21.9**	**+1.5**
WMGZ				S	**S**	**07 51 51.2**	**-0.9**
TWGZ	**Tauwhareparae**	**1.40**	**146**	P	**Pn**	**07 51 22.3**	**+1.9**
TWGZ				S	**S**	**07 51 52.8**	**+0.5**
PUZ	**Puketiti**	**1.45**	**136**	P	**Pn**	**07 51 22.1**	**+1.3**
PUZ				S	**S**	**07 51 51.4**	**-1.5**
MUGZ	**Murupara**	**1.46**	**187**	P	**Pn**	**07 51 21.9**	**+1.1**
MUGZ				S	**S**	**07 51 51.9**	**-1.1**
MKAZ	**Moumakai**	**1.46**	**266**	P	**Pn**	**07 51 22.6**	**+1.7**
WIAZ	**Waiheke Island**	**1.50**	**278**	P	**Pn**	**07 51 22.5**	**+1.3**
RAGZ	**Rawiri**	**1.51**	**167**	P	**Pn**	**07 51 22.6**	**+1.4**
TKGZ	**Te Karaka**	**1.57**	**155**	P	**Pn**	**07 51 23.2**	**+1.6**
RTZ	**Ruatahuna**	**1.59**	**180**	P	**Pn**	**07 51 23.0**	**+1.2**
ALRZ	**Allen Road**	**1.62**	**198**	P	**Pn**	**07 51 23.4**	**+1.4**
MBAZ	**Motutapu North**	**1.69**	**278**	P	**Pn**	**07 51 23.0**	**+0.5**
CNGZ	**Carnagh Statio**	**1.75**	**147**	P	**Pn**	**07 51 24.8**	**+1.9**
SNGZ	**Shannon Statio**	**1.78**	**171**	P	**Pn**	**07 51 24.8**	**+1.7**
SNGZ				S	**S**	**07 51 56.3**	**-0.9**
RIGZ	**Rimuhau**	**1.79**	**160**	P	**Pn**	**07 51 24.9**	**+1.7**
RIGZ				S	**S**	**07 51 57.4**	**0.0**
MTHZ	**Maungataniwha**	**1.83**	**184**	P	**Pn**	**07 51 24.8**	**+1.2**
MTHZ				S	**S**	**07 51 56.2**	**-1.8**
MRHZ	**Matea Rd**	**1.86**	**194**	P	**Pn**	**07 51 25.2**	**+1.3**
RAHZ	**Arahi**	**1.89**	**178**	P	**Pn**	**07 51 25.9**	**+1.8**
RAHZ				S	**S**	**07 51 57.8**	**-1.1**
WHHZ	**Waihua**	**2.06**	**175**	P	**Pn**	**07 51 27.0**	**+1.5**
WHHZ				S	**S**	**07 52 01.1**	**-0.2**
KNZ	**Kokohu**	**2.07**	**165**	P	**Pn**	**07 51 27.0**	**+1.5**
KNZ				S	**S**	**07 52 00.2**	**-1.2**
NMHZ	**Naumai**	**2.08**	**184**	P	**Pn**	**07 51 27.8**	**+2.1**
BKZ	**Black Stump Fm**	**2.17**	**190**	P	**Pn**	**07 51 27.7**	**+1.2**
BKZ	**Black Stump Fm**	**2.17**	**190**	P	**Pn**	**07 51 27.5**	**+1.0**
BKZ				S	**S**	**07 52 01.6**	**-1.7**
ARHZ	**Aropaoanui**	**2.24**	**180**	P	**Pn**	**07 51 28.9**	**+2.0**
MHGZ	**Mahia Peninsul**	**2.25**	**161**	P	**Pn**	**07 51 29.0**	**+2.0**
MHGZ				S	**S**	**07 52 03.8**	**-0.4**
HIZ	**Hauiti**	**2.25**	**228**	P	**Pn**	**07 51 30.4**	**+3.3**
HIZ	**Hauiti**	**2.25**	**228**	P	**Pn**	**07 51 29.6**	**+2.5**
TMVZ	**Te Maari**	**2.32**	**205**	P	**Pn**	**07 51 29.5**	**+1.6**
ETVZ	**East Tongariro**	**2.34**	**205**	P	**Pn**	**07 51 29.3**	**+1.3**
WCZ	**Waipu Caves**	**2.39**	**296**	P	**Pn**	**07 51 29.6**	**+1.1**
NGZ	**Ngauruhoe**	**2.41**	**207**	P	**Pn**	**07 51 30.7**	**+1.9**
MCHZ	**McNeill Hill**	**2.43**	**185**	P	**Pn**	**07 51 30.7**	**+1.9**
KWHZ	**Kaweka Forest**	**2.44**	**190**	P	**Pn**	**07 51 30.5**	**+1.6**
TUVZ	**Tukino**	**2.48**	**205**	P	**Pn**	**07 51 31.0**	**+1.6**
FWVZ	**Far West T-bar**	**2.50**	**206**	P	**Pn**	**07 51 31.4**	**+1.7**
WHVZ	**Whangaehu Hut**	**2.51**	**206**	P	**Pn**	**07 51 31.4**	**+1.6**
TRVZ	**Turoa**	**2.54**	**206**	P	**Pn**	**07 51 31.7**	**+1.6**
WNVZ	**Wahianoa**	**2.55**	**205**	P	**Pn**	**07 51 31.6**	**+1.5**
MOVZ	**Moawhango**	**2.57**	**202**	P	**Pn**	**07 51 31.4**	**+1.2**
PKVZ	**Pokaka**	**2.61**	**209**	P	**Pn**	**07 51 32.3**	**+1.8**
KRHZ	**Kereru**	**2.66**	**190

comp=N,173nm,1.8s
PCDR IAML 08 17 23.3
comp=N,172nm,1.8s
PCDR Punta Cana, DR 1.49 0 *i* P **Pn 08 17 04.6 +1.4**
PCDR IAML 08 17 27.9
comp=Z,80nm,1.2s
CRPR Cabo Rojo, PR 1.57 51⇓ *e*P **Pn 08 17 05.2 +0.9**
CRPR Cabo Rojo, PR 1.57 51 *e*S **Sn 08 17 24.2 -0.5**
CRPR Cabo Rojo, PR 1.57 51 Pn 08 17 05.2 +0.9
CRPR **Sn 08 17 24.2 -0.5**
CRPR Cabo Rojo, PR 1.57 51⇑ *e*Pg Pn 08 17 03.5 -0.8
CRPR ⇑*e*Sg **Sn 08 17 25.3 +0.6**
CRPR IAML 08 17 25.9
comp=N,28nm,0.6s
CRPR IAML 08 17 27.6
comp=E,20nm,0.5s
CRPR IAML 08 17 29.5
comp=N,20nm,0.9s
CRPR Cabo Rojo, PR 1.57 51 *i* P **Pn 08 17 05.1 +0.9**
CRPR *e*S **Sn 08 17 22.8 -1.9**
CRPR IAML 08 17 28.2
comp=Z,52nm,2.1s
MLPR Magueyes Islan 1.59 53⇑ *e*P Pn 08 17 04.5 -0.2
MLPR Magueyes Islan 1.59 53 *e*S **Sn 08 17 23.6 -1.7**
MLPR Magueyes Islan 1.59 53 Pn 08 17 04.5 -0.2
MLPR **Sn 08 17 23.6 -1.7**
MLPR Magueyes Islan 1.59 53⇑ *e*Pg Pn 08 17 04.5 -0.2
MLPR *e*Sg **Sn 08 17 24.1 -1.3**
MLPR IAML 08 17 28.9
comp=N,19nm,1.1s
MLPR IAML 08 17 29.6
comp=E,15nm,0.9s
MLPR IAML 08 17 55.0
comp=N,29nm,4.0s
HIDR Higuey Centro 1.60 349⇓ *e*Pg **Pn 08 17 05.7 +1.0**
HIDR ⇑*e*Sg **Sn 08 17 25.5 0.0**
HIDR IAML 08 17 27.2
comp=E,146nm,0.3s
HIDR IAML 08 17 35.1
comp=N,85nm,0.2s
PRSN Puerto Rico Se 1.68 45 Pn **Pn 08 17 07.4 +1.6**
PRSN IAML 08 18 04.6
comp=N,62nm,0.3s
PRSN IAML 08 18 09.4
comp=E,72nm,0.3s
LSP Las Mesas 1.69 47⇑ *e*P **Pn 08 17 07.3 +1.2**
LSP Las Mesas 1.69 47 *e*S **Sn 08 17 26.5 -1.5**
LSP Las Mesas 1.69 47 Pn 08 17 07.3 +1.2
LSP **Sn 08 17 26.5 -1.5**
AGPR Aguadilla, PR 1.89 40 Pn **Pn 08 17 10.4 +1.7**
AGPR IAML 08 18 07.5
comp=E,78nm,2.9s
AGPR IAML 08 18 16.6
comp=N,90nm,2.7s
AGPR Aguadilla, PR 1.89 40⇓ *e*Pg Pn 08 17 08.1 -0.6
AGPR ⇑*e*Pg Pg 08 17 09.1 -3.5
AGPR ⇑*e*Sg **Sn 08 17 32.0 -0.7**
AGPR IAML 08 17 32.2
comp=N,85nm,2.5s
AGPR IAML 08 18 16.0
comp=N,89nm,2.6s
AGPR Aguadilla, PR 1.89 40 *i* P **Pn 08 17 09.8 +1.0**
AGPR IAML 08 17 36.7
comp=Z,59nm,1.3s
OBIP Obispado Ponce 1.98 59⇑ *e*P **Pn 08 17 11.3 +1.3**
OBIP Obispado Ponce 1.98 59 *e*S **Sn 08 17 34.4 -0.6**
OBIP Obispado Ponce 1.98 59 Pn 08 17 11.3 +1.3
OBIP **Sn 08 17 34.4 -0.6**
OBIP Obispado Ponce 1.98 59 IAML 08 17 50.5
comp=N,23nm,2.2s
HATOM Hato Mayor del 2.00 332⇓ *e*Pg **Pn 08 17 11.5 +1.2**
HATOM ⇑*e*Sg **Sn 08 17 34.8 -0.7**
HATOM IAML 08 17 42.5
comp=N,17nm,0.5s
HATOM IAML 08 17 59.6
comp=N,19nm,2.9s
UUPR Utuado, UPR, P 2.01 52 Pn 08 17 11.7 +1.3
CELP Cerrillos 2.02 58⇑ *e*P **Pn 08 17 11.8 +1.3**
CELP Cerrillos 2.02 58 *e*S **Sn 08 17 34.9 -1.1**
CELP Cerrillos 2.02 58 Pn 08 17 11.8 +1.3
CELP Cerrillos 2.02 58 IAML 08 18 19.2
comp=N,20nm,2.5s
CELP Cerrillos 2.02 58 Sn 08 17 34.9 -1.1
CELP Cerrillos 2.02 58⇑ *e*Pg Pn 08 17 10.5 -0.1
CELP IAML 08 17 36.8
comp=N,16nm,1.1s
AOPR Arecibo Observ 2.04 49⇑ *e*P **Pn 08 17 12.2 +1.4**
AOPR Arecibo Observ 2.04 49 *e*S **Sn 08 17 35.3 -1.3**
AOPR Arecibo Observ 2.04 49 Pn 08 17 12.2 +1.4
AOPR **Sn 08 17 35.3 -1.3**
AOPR Arecibo Observ 2.04 49 IAML 08 17 41.1
comp=N,41nm,0.2s
AOPR Arecibo Observ 2.04 49⇓ *e*Pg Pn 08 17 10.8 -0.1
AOPR ⇑*e*Sg **Sn 08 17 36.4 -0.1**
AOPR IAML 08 17 41.0
comp=N,41nm,0.2s
AOPR IAML 08 17 42.3
comp=E,66nm,0.3s
AOPR IAML 08 17 45.2
comp=N,31nm,0.3s
MIDR Miches 2.06 342⇓ *e*Pg **Pn 08 17 12.8 +1.8**
MIDR ⇑*e*Sg **Sn 08 17 36.1 -0.7**
MIDR IAML 08 17 40.0
comp=N,28nm,0.7s
EMPR Esperanza - Ma 2.29 50 Pn **Pn 08 17 15.4 +1.2**
HUMP Col San Antoni 2.67 65 Pn **Pn 08 17 20.3 +0.8**
HUMP IAML 08 17 52.7
comp=E,17nm,0.6s
HUMP IAML 08 18 21.5
comp=N,15nm,2.1s
LOBA2 Hotel Casa Bon 2.79 293⇑ *e*Pg **Pn 08 17 21.9 +0.8**
LOBA2 ⇑*e*Sg **Sn 08 17 52.2 -2.7**
LOBA2 IAML 08 17 56.5
comp=N,15nm,2.4s
LOBA2 IAML 08 17 59.4
comp=E,666nm,1.1s
SDDR Presa de Saban 3.38 306 Pn **Pn 08 17 31.4 +2.1**
SDDR IAML 08 19 16.2
comp=E,20nm,2.7s
SDDR IAML 08 19 27.6
comp=E,22nm,2.7s

SVSA 17 08:23:42.9±1.7, 36°.80N×24°.21W, h10km, ML3.6(INMG), 2C, Error ellipse: s-maj=9.5km s-min=6.2km az=56.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.71**	**287⇑**	*e*P	Pg	08 23 53.8	-2.9
PSMN				*e*S	Sg	08 24 02.7	-3.3
PSMN				A	A	08 24 05.2	
	550nm,0.5s						
PSMA	**Santa Maria**	**0.76**	**285⇑**	*e*P	Pg	08 23 54.3	-3.3
PSMA				*e*S	Sg	08 24 04.3	-3.2
PSMA				A	A	08 24 05.8	
	340nm,0.2s						
BART	**Pico Bartolome**	**1.24**	**322**	*e*P	Pn	08 24 01.1	-5.3
BART				*e*S	Sb	08 24 15.4	-7.1
BART				A	A	08 24 19.7	
	211nm,0.2s						
PGRON	**Lagoa das Cont**	**1.34**	**317**	*e*P	Pn	08 24 02.9	-4.8
PGRON				*e*S	Sb	08 24 18.1	-7.3
PGRON				A	A	08 24 19.6	
	181nm,0.1s						
CMLA	**Cha da Macela**	**1.42**	**313**	*e*P	Pn	08 24 04.1	-4.7
CMLA				*e*S	Sn	08 24 19.7	-7.9
CMLA				A	A	08 24 23.2	
	700nm,0.3s						
PCALD	**Caldeiras da R**	**1.42**	**315**	*e*S	Sn	08 24 19.6	-8.0
PDA	**Ponta Delgada**	**1.49**	**310**	*e*S	Sn	08 24 26.5	-2.8
PDA				A	A	08 24 29.8	
	120nm,0.4s						
PSET	**Sete Cidades**	**1.58**	**311**	*e*P	Pn	08 24 08.6	-2.4
PSET				*e*S	Sn	08 24 25.8	-5.7
PSET				A	A	08 24 36.2	
	239nm,0.6s						
PSCM	**Serra do Cume**	**2.98**	**310**	*e*P	Pn	08 24 26.9	-3.4
PSCM				*e*S	Sn	08 24 59.8	-6.3
PSCM				A	A	08 25 02.2	
	114nm,0.2s						
ADH	**Angra Heroismo**	**3.03**	**309**	*e*P	Pn	08 24 17.2	-14
ADH				*e*S	Sn	08 24 50.3	-17
ADH				A	A	08 24 54.7	
	69nm,0.2s						
PAGU	**Agualva, Azore**	**3.07**	**311**	*e*P	Pn	08 24 27.6	-3.8
PAGU				*e*S	Sn	08 25 00.6	-7.5
PAGU				A	A	08 25 04.2	
	134nm,0.3s						
PSBA	**Serra de Santa**	**3.15**	**309**	*e*P	Pn	08 24 29.7	-2.9
PSBA				*e*S	Sn	08 25 03.9	-6.4
PSBA				A	A	08 25 05.6	
	68nm,0.3s						
PID	**Ribeirinha**	**3.51**	**299**	*e*P	Pn	08 24 32.5	-5.0
PID				*e*S	Sn	08 25 11.4	-7.7
PID				A	A	08 25 15.0	
	30nm,0.2s						
PMAN	**Manadas**	**3.58**	**302**	*e*P	Pn	08 24 34.6	-3.8
PMAN				*e*S	Sn	08 25 11.8	-8.9
PMAN				A	A	08 25 16.8	
	33nm,0.2s						
PPNO	**Prainha do Nor**	**3.62**	**299**	*e*P	Pn	08 24 35.3	-3.8
PGRA	**Graciosa**	**3.72**	**308**	*e*P	Pb	08 24 48.5	-0.2
ROSA	**Rosais**	**3.72**	**302**	*e*P	Pn	08 24 36.6	-3.9
ROSA				*e*S	Sn	08 25 15.8	-8.6
ROSA				A	A	08 25 19.6	
	23nm,0.3s						
PICO	**Pico**	**3.75**	**298**	*e*P	Pn	08 24 37.1	-3.8
PICO				*e*S	Sn	08 25 16.2	-8.9
PICO				A	A	08 25 20.7	
	54nm,0.1s						
PCAN	**Candelaria**	**3.78**	**297**	*e*P	Pn	08 24 37.4	-3.8
PCAN				*e*S	Sn	08 25 17.9	-7.8
HOR	**Horta**	**3.91**	**297**	*e*S	Sn	08 25 19.8	-9.0
CALA	**Caldeira**	**3.98**	**298**	*e*P	Pn	08 24 40.5	-3.6
CALA				*e*S	Sn	08 25 22.3	-8.5
CALA				A	A	08 25 25.3	
	102nm,0.3s						
PCED	**Cedros**	**4.00**	**298**	*e*P	Pn	08 24 40.3	-4.0
PCED				*e*S	Sn	08 25 22.7	-8.5
PCED				A	A	08 25 28.3	
	38nm,0.5s						

IDC 17 08:26:20.2±0.7, 45°.7N×151°.27E, h0km, mb3.9/16, mbtmp4.0/19, Error ellipse: s-maj=21.0km s-min=15.8km az=135.0
NEIC 17 08:26:23.5±2.4, 45°.7N±0°.1×151°.8E±0°.1, h35km±2km, mb4.6/8, Error ellipse: s-maj=22.8km s-min=9.7km az=150.0
JMA 17 08:26:26.1±0.9, 46°.N±4°.×15°.1E±°., h30km, MV5.0/17, KURILE ISLANDS REGION
MOS 17 08:26:26.6±1.3, 45°.70N×151°.34E, h71km, mb4.6/1, Error ellipse: s-maj=15.3km s-min=9.4km az=46.8
SKHL 17 08:26:27.3±0.0, 45°.60N×151°.50E, h75km±4km, mb5.4/5
ISC 17 08:26:24.0±0.5, 45°.56N±0°.07×151°.62E±0°.06, h32km, n82, σ2°.06/90, mb4.2/19, 2C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.67**	**264**	*i* P	**Pn**	**08 27 07.2**	**+2.5**
KUR				AMB	AMB	08 27 08.3	
	960nm,0.5s						
KUR				*i* S	**Sn**	**08 27 37.1**	**+1.3**
KUR				A	A	08 27 39.5	
	1μm,0.3s						
KUR				A	A	08 27 39.5	
	460nm,0.3s						
KUR	**Kuril'sk**	**2.67**	**264**	*d i* PN	**Pn**	**08 27 07.2**	**+2.5**
KUR				*i* S	**Sn**	**08 27 37.1**	**+1.3**
KUR				pmax	pmax		
	comp=Z,955nm,0.5s						
KUR				pmax	pmax		
	comp=E,75nm,0.2s						
KUR				pmax	pmax		
	comp=N,206nm,0.4s						
KUR				smax	smax		
	comp=N,1μm,0.3s						
KUR				smax	smax		
	comp=E,455nm,0.3s						
SHO	**Shikotan**	**3.81**	**245**	*i* P	**Pn**	**08 27 21.8**	**+1.4**
SHO				AMB	AMB	08 27 24.4	
	comp=E,260nm,0.4s						
SHO				*e*S	**Sn**	**08 28 02.8**	**-1.3**
SHO				A	A	08 28 04.5	
	comp=E,620nm,3.0s						
SHO				A	A	08 28 04.5	
	comp=E,410nm,3.0s						
SHO				A	A	08 28 11.4	
	comp=E,260nm,0.4s						
SHO				A	A	08 28 11.4	
	comp=E,270nm,0.4s						
SHO	**Shikotan**	**3.81**	**245**	⇓ *i* PN	**Pn**	**08 27 21.8**	**+1.4**
SHO				*e*S	**Sn**	**08 28 02.8**	**-1.3**
SHO				pmax	pmax		
	comp=Z,260nm,0.4s						
SHO				pmax	pmax		
	comp=N,111nm,0.2s						
SHO				pmax	pmax		
	comp=E,184nm,0.3s						
SHO				smax	smax		
	comp=N,262nm,0.4s						
SHO				smax	smax		
	comp=E,271nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.37**	**252**	*i* P	**Pn**	**08 27 31.3**	**+3.2**
YUK				AMB	AMB	08 27 34.2	
	comp=E,350nm,0.3s						
YUK				*e*S	**Sn**	**08 28 19.3**	**+1.3**
YUK				A	A	08 28 23.4	
	comp=E,300nm,0.5s						
YUK				A	A	08 28 23.4	
	comp=E,500nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.37**	**252**	*c i* PN	**Pn**	**08 27 31.3**	**+3.2**
YUK				*e*S	**Sn**	**08 28 18.9**	**+0.9**
YUK				pmax	pmax		
	comp=E,277nm,0.3s						
YUK				pmax	pmax		
	comp=Z,701nm,0.3s						
YUK				pmax	pmax		
	comp=N,129nm,0.1s						
YUK				smax	smax		
	comp=N,304nm,0.3s						
YUK				smax	smax		
	comp=E,495nm,0.7s						
NEM2	**Nemuro 2**	**4.74**	**245**	P	**Pn**	**08 27 34.6**	**+1.4**
NEM2				*e*S	**Sn**	**08 28 24.6**	**-2.5**
JRA	**Rausu**	**4.91**	**253**	P	**Pn**	**08 27 39.3**	**+3.9**
JNK	**Nakash**	**5.31**	**251**	P	**Pn**	**08 27 43.7**	**+2.6**
JNK				*e*S	**Sn**	**08 28 43.1**	**+2.0**
JAK	**Akkeshi**	**5.59**	**245**	P	**Pn**	**08 27 46.3**	**+1.4**
JAK				S	**Sn**	**08 28 46.3**	**-1.7**
JTKR	**Abashiri--Toko**	**5.72**	**257**	P	**Pn**	**08 27 49.8**	**+3.2**
SKR	**Severo-Kuril's**	**5.95**	**29**	*e*P	**Pn**	**08 27 52.3**	**+2.6**
SKR				AMB	AMB	08 27 53.5	
	comp=E,110nm,0.3s						
SKR				*e*S	**Sn**	**08 28 57.5**	**+0.9**
SKR				A	A	08 29 00.4	
	comp=E,130nm,0.2s						
SKR				A	A	08 29 00.4	
	comp=E,150nm,0.2s						
SKR				A	A	08 29 00.8	
	comp=E,360nm,3.0s						
SKR				A	A	08 29 00.8	
	comp=E,250nm,3.0s						
SKR	**Severo-Kuril's**	**5.95**	**29**	*e*PN	**Pn**	**08 27 52.0**	**+2.3**
SKR				pmax	pmax		
	comp=Z,108nm,0.4s						
SKR				MLR	MLR		
	comp=Z,300nm,17.0s						
JAR	**Ashorobuto**	**6.06**	**251**	P	**Pn**	**08 27 54.4**	**+3.0**
JAR				*e*S	**Sn**	**08 29 01.0**	**+1.4**
JOB	**Onbets**	**6.19**	**247**	P	**Pn**	**08 27 55.3**	**+2.2**
JOB				*e*S	**Sn**	**08 29 01.4**	**-1.4**
YSS	**Yuzh-Sakhalins**	**6.30**	**286**	Pn	**Pn**	**08 27 52.9**	**-1.7**
YSS	**Yuzh-Sakhalins**	**6.30**	**286**	*e*P	**Pn**	**08 27 57.8**	**+3.1**
YSS				*e*S	**Sn**	**08 29 05.2**	**-0.3**
YSS	**Yuzh-Sakhalins**	**6.30**	**286**	⇑ *e*PN	**Pn**	**08 27 57.8**	**+3.1**
YSS				*e*S	**Sn**	**08 29 08.8**	**+3.3**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS				smax	smax		
	comp=N,30nm,0.8s						
YSS				smax	smax		
	comp=E,10.0nm,0.6s						
JKK2	**Kamakawa 2**	**6.54**	**258**	*e*P	**Pn**	**08 28 01.1**	**+3.1**
JKA	**Kamikawa-asahi**	**6.58**	**261**	Pn	**Pn**	**08 28 01.3**	**+2.9**
JKA	**Kamikawa-asahi**	**6.58**	**261**	*e*P	**Pn**	**08 28 01.3**	**+2.9**
ASAJ	**Asahikawa**	**6.58**	**261**	Pn	**Pn**	**08 28 02.5**	**+4.0**
	baz=86,slow=18						
ASAJ	**Asahikawa**	**6.58**	**261**	PN	**Pn**	**08 28 01.3**	**+2.9**
JCH	**Churui**	**6.63**	**247**	P	**Pn**	**08 28 00.6**	**+1.4**
JCH				*e*S	**Sn**	**08 29 10.8**	**-2.9**
ERM	**Erimo**	**7.07**	**243**	P	**Pn**	**08 28 08.6**	**+3.4**
ERM	**Erimo**	**7.07**	**243**	Pn	**Pn**	**08 28 07.8**	**+2.6**
ERM	**Erimo**	**7.07**	**243**	PN	**Pn**	**08 28 07.9**	**+2.6**
JEM	**Erimo**	**7.07**	**243**	P	**Pn**	**08 28 08.8**	**+3.6**
JNBK	**Urakawa-nobuka**	**7.19**	**246**	P	**Pn**	**08 28 07.8**	**+1.0**
JNBK				*e*S	**Sn**	**08 29 24.0**	**-3.4**
JRBN	**Rebuntou**	**7.42**	**273**	*e*P	Pn	08 28 15.1	+5.1
TYV	**Tymovskoe**	**8.00**	**315**	*e*P	**Pn**	**08 28 21.0**	**+3.1**
JANG	**Nango**	**9.04**	**239**	P	**Pn**	**08 28 31.8**	**-0.4**
JANG				*e*S	Sn	08 30 06.1	-6.7
JTM	**Tenmabayashi**	**9.06**	**242**	Pn	**Pn**	**08 28 33.3**	**+0.8**
JTH	**Tanohata**	**9.11**	**235**	*e*P	**Pn**	**08 28 32.5**	**-0.6**
JMM	**Marumori**	**11.15**	**230**	Pn	**Pn**	**08 29 00.6**	**-0.6**
MJAR	**Matsushiro Arr**	**13.53**	**233**	Pn	**Pn**	**08 29 33.4**	**-0.4**
	comp=E,2.6nm,0.8s,baz=28,slow=14,SNR=6.3						
MJB9	**Matsu-Tunnel**	**13.53**	**233**	Pn	**Pn**	**08 29 33.6**	**-0.1**
MAJO	**Matsushiro**	**13.53**	**233**	Pn	**Pn**	**08 29 33.8**	**+0.1**
MAJO	**Matsushiro**	**13.53**	**233**	PN	**Pn**	**08 29 33.8**	**+0.1**
JGF	**Kuroka**	**14.69**	**232**	Pn	**Pn**	**08 29 50.9**	**+1.4**
SHEM	**Shemya Is, Ala**	**16.32**	**56**	Pn	**Pn**	**08 30 11.6**	**+1.0**
	comp=E,24nm,0.5s,baz=101,slow=5.9,SNR=10						
KSRS	**Korea Array**	**19.46**	**254**	P	**P**	**08 30 48.6**	**+0.7**
	comp=E,2.8nm,0.7s,baz=59,slow=11,SNR=14						
JNU	**Nakatsue**	**20.22**	**239**		**P**	**08 30 58.0**	**+1.7**
JNU	**Nakatsue**	**20.22**	**239**	P	**P**	**08 30 58.1**	**+1.9**
	comp=E,5.3nm,0.8s,baz=78,slow=5.7,SNR=5.0						
	comp=E,5.3nm,0.8s						
NIKH	**Nikolski High**	**26.56**	**59**	P	**P**	**08 31 56.2**	**-2.6**
H11N2	**WAKE ISLAND Hy**	**28.69**	**149**	T	T	09 02 54.3	
	baz=337,slow=75,SNR=652						
H11N1	**WAKE ISLAND Hy**	**28.70**	**149**	T	T	09 02 53.2	
	baz=337,slow=75,SNR=490						
H11N3	**WAKE ISLAND Hy**	**28.70**	**149**	T	T	09 02 53.8	
	baz=337						
H11S1	**WAKE ISLAND Hy**	**29.74**	**150**	T	T	09 04 12.6	
	baz=339,slow=76,SNR=877						
H11S3	**WAKE ISLAND Hy**	**29.75**	**150**	T	T	09 04 19.8	
	baz=339,slow=76,SNR=666						
H11S2	**WAKE ISLAND Hy**	**29.76**	**150**	T	T	09 04 20.6	
	baz=339,slow=76,SNR=712						
C18K	**Utukok River**	**33.17**	**29**	P	**P**	**08 32 54.8**	**-2.4**
C18K				IAmb	IAmb	08 33 33.8	
	comp=Z,9.5nm,1.3s						
ILAR	**Eielson Array**	**38.13**	**38**	P	**P**	**08 33 39.9**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=262,slow=6.0,SNR=5.8						
	comp=Z,0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**42.48**	**306**	PcP	**PcP**	**08 36 08.3**	**+0.3**
	baz=76,slow=6.3,SNR=6.0						
MKAR	**Makanchi Array**	**46.57**	**298**	P	**P**	**08 34 45.6**	**-3.0**
	comp=Z,0.2nm,0.4s,baz=73,slow=8.2,SNR=2.8						
MKAR				PcP	**PcP**	**08 36 22.1**	**-0.2**
	baz=62,slow=6.5,SNR=5.1						
	comp=Z,0.2nm,0.4s						
BVAR	**Borovoye Array**	**50.82**	**310**	PcP	**PcP**	**08 36 37.3**	**-0.2**
	baz=31,slow=3.4,SNR=2.8						
ABKAR	**Akbulak array**	**58.39**	**310**	P	**P**	**08 36 13.9**	**-2.1**
SUMG	**Summit**	**61.96**	**3**	P	**P**	**08 36 39.8**	**-0.8**
SUMG	**Summit**	**61.96**	**3**	P	**P**	**08 36 39.8**	**-0.8**
NVAR	**Mina Array Bea**	**63.91**	**61**	P	**P**	**08 36 56.0**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=281,slow=6.3,SNR=2.7						
	comp=Z,0.2nm,0.6s						
FINES	**FINESS Array B**	**64.67**	**334**	P	**P**	**08 36 55.9**	**-2.3**
	comp=Z,1.3nm,0.5s,baz=26,slow=9.1,SNR=13						
	comp=Z,1.3nm,0.5s						
PDAR	**Pinedale Array**	**66.29**	**53**	P	**P**	**08 37 10.8**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=332,slow=5.6,SNR=2.3						
	comp=Z,0.2nm,0.6s						
WRA	**Warramunga Arr**	**67.06**	**198**	P	**P**	**08 37 15.9**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=18,slow=6.7,SNR=5.6						
	comp=Z,0.8nm,0.7s						
ULM	**Lac du Bonnet**	**68.10**	**40**	P	**P**	**08 37 20.7**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=282,slow=9.3,SNR=3.9						
	comp=Z,1.4nm,0.7s						
NC405	**NORSAR Array S**	**68.83**	**340**	P	**P**	**08 37 23.3**	**-1.4**
NC405				IAmb	IAmb	08 37 24.7	
	comp=Z,6.3nm,0.8s						
NB201	**NORSAR Array S**	**68.99**	**341**	P	**P**	**08 37 24.1**	**-1.6**
NB201				IAmb	IAmb	08 37 25.2	
	comp=Z,5.2nm,0.8s						
NB2	**NORSAR Subarra**	**69.01**	**341**	P	**P**	**08 37 24.2**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**69.01**	**341**	P	**P**	**08 37 25.0**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=29,slow=6.7,SNR=16						
	comp=Z,1.7nm,0.6s						
HFS	**Hagfors**	**69.20**	**339**	P	**P**	**08 37 25.5**	**-1.6**
	comp=Z,4.3nm,0.5s,baz=45,slow=4.4,SNR=32						
	comp=Z,4.3nm,0.5s						
ASAR	**Alice Springs**	**70.76**	**197**	P	**P**	**08 37 39.5**	**+2.5**
	comp=Z,0.4nm,0.5s,baz=14,slow=5.7,SNR=7.6						
	comp=Z,0.4nm,0.5s						
AKASG	**Malin Array Be**	**71.95**	**326**	P	**P**	**08 37 42.5**	**-1.5**
	comp=Z,1.4nm,0.4s,baz=38,slow=6.3,SNR=6.7						
	comp=Z,1.4nm,0.4s						
BUR08	**Bucovina Ar. S**	**75.98**	**326**	P	**P**	**08 38 06.6**	**-1.2**
BUR08				IAmb	IAmb	08 38 07.6	
	comp=Z,4.4nm,0.5s						
BURAR	**Bucovina Array**	**76.00**	**326**	P	**P**	**08 38 06.2**	**-1.6**
EKA	**Eskdalemuir Ar**	**77.24**	**346**	P	**P**	**08 38 13.8**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=21,slow=4.7,SNR=9.8						
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**78.54**	**316**	P	**P**	**08 38 21.5**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=48,slow=10.0,SNR=3.3						
	comp=Z,0.8nm,0.5s						
TXAR	**Lajitas Array**	**78.99**	**59**	P	**P**	**08 38 26.1**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=298,slow=4.2,SNR=11						
	comp=Z,0.5nm,0.6s						
GERES	**GERESS Array B**	**79.06**	**333**	P	**P**	**08 38 24.5**	**-0.4**
	comp=Z,0.8nm,0.2s,baz=36,slow=8.5,SNR=3.4						
	comp=Z,0.8nm,0.2s						
H03N2	**Juan Fernandez**	**139.78**	**91**	T	T	11 21 34.1	
	baz=307,slow=77,SNR=14						
H03N3	**Juan Fernandez**	**139.79**	**91**	T	T	11 21 37.4	
	baz=307,slow=77,SNR=9.9						
H03N1	**Juan Fernandez**	**139.79**	**91**	T	T	11 21 35.4	
	baz=307,slow=77,SNR=15						
ELIB	**Princess Elisa**	**144.27**	**205**	*d*PKPdf	**PKPab**	**08 45 54.7**	**+1.3**
ELIB				*d*pPKP	**pPKPdf**	**08 46 06.7**	**+1.9**
PLCA	**Paso Flores**	**149.12**	**96**	PKPbc	**PKPbc**	**08 46 10.1**	**+1.5**
	baz=252,slow=3.2,SNR=4.1						

SVSA 17 08:28:26.5±1.6, 36°.82N×24°.26W, h10km, ML3.7(INMG), Error ellipse: s-maj=7.5km s-min=5.7km az=60.0
ISC 17 08:28:22.2±1.7, 36°.98N±0°.07×24°.16W±0°.07, h16km±9km, n28, σ1°.90/44, 3C, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.72**	**272⇑**	*e*P	**Pg**	**08 28 36.8**	**+0.4**
PSMN				*e*S	**Sg**	**08 28 45.2**	**-0.8**
PSMN				A	A	08 28 47.9	
	445nm,0.2s						
PSMA	**Santa Maria**	**0.77**	**272⇑**	*e*P	**Pg**	**08 28 37.4**	**+0.1**
PSMA				*e*S	**Sg**	**08 28 46.8**	**-0.8**
PSMA				A	A	08 28 49.1	
	631nm,0.4s						
BART	**Pico Bartolome**	**1.13**	**315⇑**	*e*P	**Pg**	**08 28 44.1**	**0.0**
BART				*e*S	**Sg**	**08 28 58.3**	**-0.7**
BART				A	A	08 29 03.1	
	366nm,0.2s						
PNOR2	**Nordeste**	**1.16**	**318**	*e*S	**Sg**	**08 28 58.6**	**-1.3**
PNOR2				A	A	08 28 59.1	
	497nm,0.1s						
PGRON	**Lagoa das Cont**	**1.25**	**310**	*e*P	**Pg**	**08 28 45.8**	**-0.6**
PGRON				*e*S	**Sg**	**08 29 00.9**	**-1.8**
PGRON				A	A	08 29 08.6	
	270nm,0.4s						
PCALD	**Caldeiras da R**	**1.34**	**308**	*e*P	**Pn**	**08 28 46.9**	**+0.7**
PCALD				*e*S	**Sg**	**08 29 02.7**	**-2.7**
PCALD				A	A	08 29 04.6	
	151nm,0.2s						
CMLA	**Cha da Macela**	**1.34**	**306**	*e*P	**Pn**	**08 28 46.9**	**+0.6**
CMLA				*e*S	**Sg**	**08 29 02

PSET				A	A	08 29 14.1	
	250nm,0.3s						
PSCM	**Serra do Cume**	**2.90**	**307**	*e*P	**Pn**	**08 29 09.0**	**+1.2**
PSCM				*e*S	**Sn**	**08 29 41.0**	**-1.3**
PSCM				A	A	08 29 45.4	
	205nm,0.2s						
ADH	**Angra Heroismo**	**2.95**	**305**	*e*S	Sn	08 29 33.5	-10
ADH				A	A	08 29 37.6	
	64nm,0.3s						
PAGU	**Águalva, Azore**	**2.98**	**308**	*e*P	**Pn**	**08 29 10.6**	**+1.7**
PAGU				*e*S	**Sn**	**08 29 43.9**	**-0.4**
PAGU				A	A	08 29 45.9	
	219nm,0.2s						
PSBA	**Serra de Santa**	**3.08**	**307**	*e*P	**Pn**	**08 29 12.2**	**+2.1**
PSBA				*e*S	**Sn**	**08 29 46.4**	**-0.2**
PSBA				A	A	08 29 50.8	
	53nm,0.3s						
PID	**Ribeirinha**	**3.46**	**296**	*e*P	**Pn**	**08 29 16.6**	**+1.2**
PID				*e*S	**Sn**	**08 29 53.7**	**-2.4**
PID				A	A	08 29 58.4	
	57nm,0.4s						
PMAN	**Manadas**	**3.52**	**299**	*e*P	**Pn**	**08 29 17.4**	**+1.2**
PMAN				*e*S	**Sn**	**08 29 54.9**	**-2.6**
PMAN				A	A	08 30 01.0	
	46nm,0.2s						
PPNO	**Prainha do Nor**	**3.58**	**296**	*e*P	**Pn**	**08 29 18.3**	**+1.2**
PPNO				*e*S	**Sn**	**08 29 56.6**	**-2.4**
PPNO				A	A	08 30 01.0	
	52nm,0.5s						
ROSA	**Rosais**	**3.67**	**300**	*e*P	**Pn**	**08 29 19.5**	**+1.2**
ROSA				*e*S	**Sn**	**08 29 58.6**	**-2.5**
ROSA				A	A	08 30 02.6	
	30nm,0.5s						
PICO	**Pico**	**3.71**	**296**	*e*P	**Pn**	**08 29 20.0**	**+1.2**
PICO				*e*S	Sn	08 29 59.0	-3.2
PICO				A	A	08 30 01.9	
	83nm,0.3s						
PCAN	**Candelaria**	**3.73**	**295**	*e*P	**Pn**	**08 29 20.1**	**+0.9**
PCAN				*e*S	**Sn**	**08 29 59.7**	**-3.1**
PCAN				A	A	08 30 04.7	
	77nm,0.2s						
HOR	**Horta**	**3.86**	**295**	*e*P	**Pn**	**08 29 22.6**	**+1.7**
HOR				*e*S	**Sn**	**08 30 03.8**	**-2.1**
HOR				A	A	08 30 05.6	
	136nm,0.3s						
PFCBR	**Castelo Branco**	**3.92**	**295**	*e*S	**Sn**	**08 30 04.6**	**-2.8**
CALA	**Caldeira**	**3.94**	**295**	*e*P	**Pn**	**08 29 23.0**	**+1.0**
CALA				*e*S	**Sn**	**08 30 05.1**	**-2.8**
CALA				A	A	08 30 08.2	
	138nm,0.2s						
PCED	**Cedros**	**3.96**	**296**	*e*P	**Pn**	**08 29 23.3**	**+1.1**
PCED				*e*S	Sn	08 30 05.1	-3.1
PCED				A	A	08 30 11.2	
	47nm,0.3s						
PMOZ	**Porto Moniz, M**	**7.06**	**124**	*e*S	Sn	08 31 15.1	-10
PMOZ				A	A	08 31 26.8	
	145nm,0.4s						
PMAR	**Madeira**	**7.31**	**123**	*e*P	**Pn**	**08 30 07.3**	**-1.2**
PMAR				A	A	08 31 30.6	
	18nm,0.2s						
FUL	**Funchal**	**7.38**	**124**	*e*P	**Pn**	**08 30 06.4**	**-2.8**
FUL				*e*S	Sn	08 31 20.0	-12
PMPST	**Porto Santo, M**	**7.51**	**119**	*e*P	**Pn**	**08 30 09.1**	**-1.9**
PMPST				*e*S	Sn	08 31 24.9	-11
PMPS	**Porto Santo**	**7.52**	**119**	*e*P	**Pn**	**08 30 11.0**	**-0.2**

*BEO **17** 08:45:19.7±0.2, 44°.80N×22°.30E, h6km±1km, ML2.3/16*
*BUC **17** 08:45:20.2±0.2, 44°.87N×22°.31E, h4km±1km, ml2.5/15, Error ellipse: s-maj=1.5km s-min=1.1km az=28.0*

ISC 17 08:45:19.7±0.9, 44°.81N±0°.02×22°.29E±0°.02, h10km±6km, n32, σ0§82/61, 16C-12D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HERR	**Herculane**	**0.12**	**53**	⇑P	**Pg**	**08 45 22.4**	**-0.2**
HERR				⇓S	**Sg**	**08 45 24.2**	**-0.4**
DJES	**Djerdap**	**0.22**	**131**	*e*Pg	**Pg**	**08 45 24.6**	**+0.3**
DJES				*e*Sg	**Sg**	**08 45 27.3**	**-0.1**
RMGR	**Halanga-Turnu**	**0.33**	**117**	⇑S	**Sg**	**08 45 31.1**	**+0.6**
MDVR	**Moldovita**	**0.41**	**266**	⇑P	**Pg**	**08 45 28.6**	**+0.8**
MDVR				⇓S	**Sg**	**08 45 34.8**	**+1.6**
MDVR	**Moldovita**	**0.41**	**266**	*e*Pg	**Pg**	**08 45 28.6**	**+0.8**
MDVR				*e*Sg	**Sg**	**08 45 34.5**	**+1.3**
KUBS	**Kucevo**	**0.59**	**228**	*e*Pg	**Pg**	**08 45 29.7**	**-1.5**
KUBS				*e*Sg	**Sg**	**08 45 38.4**	**-0.5**
SRE	**Strehaia**	**0.67**	**102**	⇓P	**Pg**	**08 45 33.1**	**+0.4**
SRE				⇓S	**Sg**	**08 45 42.0**	**+0.5**
GZR	**Gura Zlata**	**0.68**	**31**	⇑P	**Pg**	**08 45 31.7**	**-1.2**
GZR				⇓S	**Sg**	**08 45 40.6**	**-1.2**
GZR	**Gura Zlata**	**0.68**	**31**	*e*Pg	**Pg**	**08 45 31.4**	**-1.5**
GZR				*e*Sg	**Sg**	**08 45 41.7**	**-0.1**
BZS	**Buzias**	**0.94**	**330**	⇓P	**Pg**	**08 45 37.4**	**-0.3**
BZS				⇑S	**Sg**	**08 45 49.6**	**-0.3**
BZS	**Buzias**	**0.94**	**330**	*e*Pg	**Pg**	**08 45 37.7**	**0.0**
BZS				*e*Sg	**Sg**	**08 45 49.6**	**-0.3**
SURR	**Surduc**	**0.95**	**353**	⇑P	**Pg**	**08 45 37.2**	**-0.8**
SURR				⇓S	**Sg**	**08 45 49.9**	**-0.5**
ZAGS	**Zajecar**	**1.00**	**182**	*e*Pg	**Pg**	**08 45 37.6**	**-1.3**
ZAGS				*e*Sg	**Sg**	**08 45 51.1**	**-0.8**
DEV	**Deva**	**1.16**	**22**	⇑P	**Pg**	**08 45 40.9**	**-1.1**
DEV				⇓S	**Sg**	**08 45 56.4**	**-0.6**
LOT	**Lotru**	**1.23**	**58**	⇓P	**Pg**	**08 45 42.4**	**-1.0**
BOVS	**Bovan**	**1.25**	**200**	*e*Pg	**Pg**	**08 45 42.4**	**-1.2**
BOVS				*e*Sg	**Sg**	**08 45 59.0**	**-0.8**
AVAS	**Avala Beograd**	**1.27**	**265**	*e*Pg	**Pn**	**08 45 43.8**	**+0.3**
AVAS				*e*Sg	**Sg**	**08 45 59.9**	**-0.6**
GRUS	**Gruza**	**1.46**	**231**	*e*Pg	**Pn**	**08 45 46.3**	**+0.2**
GRUS				*e*Sg	**Sn**	**08 46 05.9**	**+0.7**
TRUS	**Trudelj**	**1.47**	**247**	*e*Pg	**Pn**	**08 45 46.8**	**+0.5**
TRUS				*e*Sg	**Sn**	**08 46 05.5**	**0.0**
SIRR	**Siria**	**1.52**	**343**	⇑P	**Pb**	**08 45 48.1**	**0.0**
SIRR				⇓S	**Sb**	**08 46 07.7**	**+0.3**
ZAPS	**Zavoj**	**1.56**	**171**	*e*Pg	**Pn**	**08 45 47.5**	**0.0**
ZAPS				*e*Sg	**Sn**	**08 46 07.3**	**-0.5**
TNR	**Turnu Rosu**	**1.64**	**58**	⇑P	**Pn**	**08 45 49.3**	**+0.7**
TNR				⇑S	**Sb**	**08 46 11.2**	**+0.4**
DIVS	**Divibare**	**1.79**	**247**	*e*Pn	**Pn**	**08 45 50.6**	**-0.2**
DIVS				*e*Sn	**Sn**	**08 46 13.1**	**-0.5**
SELS	**Selova**	**1.80**	**208**	*e*Pn	**Pn**	**08 45 50.4**	**-0.5**
SELS				*e*Sn	**Sn**	**08 46 14.5**	**+0.7**
MARR	**Marisel-Cluj**	**1.96**	**17**	⇑P	**Pn**	**08 45 53.2**	**+0.1**
MARR				⇑S	**Sb**	**08 46 19.3**	**-0.7**
IVAS	**Ivanjica**	**1.97**	**232**	*e*Pn	**Pn**	**08 45 52.0**	**-1.2**
DRGR		**2.00**	**8**	⇑P	**Pn**	**08 45 53.6**	**-0.1**
DRGR				⇓S	**Sn**	**08 46 20.0**	**+1.1**
VOIR		**2.05**	**71**	⇑P	**Pn**	**08 45 55.5**	**+1.1**
VOIR				⇓S	**Sn**	**08 46 21.7**	**+1.5**
CJR	**Cluj-Napoca**	**2.11**	**25**	⇑P	**Pn**	**08 45 55.0**	**-0.2**
CJR				⇑S	**Sn**	**08 46 22.4**	**+0.9**
SJES	**Sjenica**	**2.28**	**228**	*e*Pn	**Pn**	**08 45 57.1**	**-0.4**
SJES				*e*Sn	**Sn**	**08 46 27.2**	**+1.6**
PRVS	**Prvonek**	**2.31**	**184**	*e*Pn	**Pn**	**08 45 58.6**	**+0.8**
PRVS				*e*Sn	**Sn**	**08 46 26.9**	**+0.6**
BOSS	**Bosilegrad**	**2.32**	**176**	*e*Pn	**Pn**	**08 45 58.0**	**0.0**
BOSS				*e*Sn	**Sn**	**08 46 27.8**	**+1.3**

*MEX **17** 08:54:37.0±0.8, 18°.14N×103°.52W, h5km, MD5.1*
*MOS **17** 08:54:39.8±1.2, 18°.45N×103°.26W, h40km, mb5.4/38, MS4.8/4, Error ellipse: s-maj=9.5km s-min=5.5km az=89.5*
*IDC **17** 08:54:40.1±4.6, 18°.36N×103°.22W, h33km±32km, mb4.5/19, mbtmp4.7/24, ML4.0/5, MS4.5/40, Error ellipse: s-maj=26.4km s-min=15.5km az=55.0*
*NEIC **17** 08:54:40.9, 18°.18N×103°.49W, h30km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^16^Nm; Mrr4.84; Mθθ-4.78; Mφφ-0.07; Mrθ0.87; Mrφ1.01; Mθφ-1.90; Fault plane solution: M0 5.33000×10^16^ NP1: φs118.72000°, δ54.64000°, λ110.84000°. NP2: φs265.39000°, δ40.34000°, λ63.38000°. Principal axes: T 5.5199, Plg71.0000°, Azm81.0000°; N -0.3707, Plg17.0000°, Azm286.0000°; P -5.1492, Plg7.0000°, Azm194.0000°;*
*NEIC **17** 08:54:40.9, 18°.38N×103°.38W, h30km*
*NEIC **17** 08:54:41.1±2.8, 18°.41N±0°.09×103°.37W±0°.09, h35km±1km, mb5.0/202, Mww5.1/24, Error ellipse: s-maj=17.6km s-min=12.3km az=226.0*
*GCMT **17** 08:54:41.9±0.4, 18°.30N±0°.02×103°.44W±0°.02, h28km, MW5.1/98, Moment Tensor Solution. s43,c56; s98,c152; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.40±.23; Mθθ-3.72±.14; Mφφ-0.67±.15; Mrθ3.26±.21; Mθφ2.10±.10; Mφr-1.59±.23; Best double couple: M0 5.85400×10^16^ NP1: φs116.00000°, δ64.00000°, λ89.00000°. NP2: φs298.00000°, δ26.00000°, λ91.00000°. Principal axes: T 5.6590, Plg71.0000°, Azm25.0000°; N 0.3970, Plg1.0000°, Azm117.0000°; P -6.0500, Plg19.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 08:54:39.3±0.5, 18°.33N±0°.03×103°.26W±0°.03, h30km±2km, h30km: pP-P, n960, σ1§64/998, mb5.1/165, MS4.6/41, 30C-11D, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.09**	**244**	⇑*e*P	**Pn**	**08 54 41.3**	**-3.3**
MMIG				*i* S	**Sn**	**08 54 43.9**	**-4.3**
CDAR	**Ciudad de Arme**	**0.94**	**311**	*e*P	Pn	08 54 52.9	-3.6
CDAR				*e*S	**Sn**	**08 55 04.5**	**-4.3**
COIG	**Colima**	**0.94**	**334**	⇓*e*P	**Pn**	**08 54 54.5**	**-2.1**
COIG				*e*S	**Sn**	**08 55 07.7**	**-1.3**
COMA	**Comala**	**1.10**	**334**	*e*P	**Pn**	**08 54 58.6**	**-0.2**
COMA				*e*S	**Sn**	**08 55 14.1**	**+1.1**
MNGA	**Volcan de Coli**	**1.18**	**343**	⇑*e*P	**Pn**	**08 54 59.7**	**-0.3**
MNGA				*e*S	**Sn**	**08 55 14.2**	**-1.1**
CEGR	**Campo Tres**	**1.20**	**332**	⇑*e*P	**Pn**	**08 54 58.6**	**-1.6**
CEGR				*e*S	**Sn**	**08 55 14.8**	**-0.8**
JUBC	**Volcan de Coli**	**1.22**	**346**	⇑*e*P	**Pn**	**08 55 00.3**	**-0.3**
JUBC				*e*S	**Sn**	**08 55 17.9**	**+1.7**
INCO	**Volcan de Coli**	**1.23**	**345**	⇑*e*P	**Pn**	**08 55 00.7**	**-0.3**
INCO				*e*S	**Sn**	**08 55 18.5**	**+1.7**
SOMAC	**Volcano de Col**	**1.24**	**344**	⇑*e*P	**Pn**	**08 55 00.6**	**-0.4**
SOMAC				*e*S	**Sn**	**08 55 16.4**	**-0.5**
UON	**La Union**	**1.42**	**104**	*e*P	**Pb**	**08 55 03.9**	**-1.3**
UON				*e*S	**Sb**	**08 55 22.3**	**-0.6**
URUA	**Uruapan**	**1.56**	**46**	*e*P	**Pb**	**08 55 06.3**	**-1.5**
URUA				*e*S	**Sb**	**08 55 29.8**	**+2.5**
CIHU	**Emiliano Zapat**	**1.68**	**304**	*e*P	Pn	08 55 02.8	-3.9
CIHU				*e*S	**Sn**	**08 55 27.0**	**-0.2**
ZIIG	**Zihuatanejo**	**1.85**	**113**	*e*P	**Pn**	**08 55 08.9**	**-0.2**
ZIIG				*e*S	**Sb**	**08 55 39.4**	**+4.1**
CJM	**Chamela**	**2.05**	**305**	⇓*e*P	Pn	08 55 07.5	-4.4
CJM				*e*S	**Sn**	**08 55 35.4**	**-1.0**
PET2	**Petatlan**	**2.06**	**112**	*e*P	**Pn**	**08 55 13.1**	**+1.2**
PET2				*e*S	**Sb**	**08 55 38.3**	**-3.0**
TON2	**Tonala**	**2.28**	**1**	*e*P	**Pb**	**08 55 18.4**	**-1.6**
TON2				*e*S	**Sb**	**08 55 48.3**	**+0.4**
GDLP	**Chapalita**	**2.35**	**356**	*e*P	**Pb**	**08 55 21.1**	**-0.1**
GDLP				*e*S	**Sb**	**08 55 49.8**	**0.0**
MOIG	**Morelia**	**2.37**	**55**		**Pb**	**08 55 18.7**	**-2.8**
MOIG	**Morelia**	**2.37**	**55**	⇑*e*P	**Pb**	**08 55 19.1**	**-2.5**
MOIG				*e*S	**Sb**	**08 55 53.7**	**+3.2**
ATYC	**Atoyac**	**2.91**	**112**	*e*P	**Pb**	**08 55 26.5**	**-4.1**
ATYC				*e*S	**Sn**	**08 55 56.2**	**-1.5**
PUVA	**Puert Vallarta**	**2.94**	**321**	*e*P	**Pn**	**08 55 23.7**	**-0.3**
PUVA				*e*S	**Sn**	**08 56 02.8**	**+4.4**
ACAM	**Acambaro**	**2.95**	**54**	*e*P	**Pb**	**08 55 27.6**	**-3.8**
ACAM				*e*S	**Sb**	**08 56 03.3**	**-3.7**
ANIG	**Ahuacatlan**	**2.96**	**337**	⇑*e*P	**Pn**	**08 55 24.0**	**-0.4**
ANIG				*e*S	**Sn**	**08 56 01.9**	**+2.9**
CAIG	**El Cayaco**	**3.12**	**114**	*e*P	**Pn**	**08 55 27.9**	**+1.3**
CAIG				*e*S	**Sn**	**08 56 02.8**	**-0.1**
MEIG	**Mezcala**	**3.48**	**96**	*e*P	**Pn**	**08 55 33.7**	**+2.1**
MEIG				*e*S	**Sb**	**08 56 22.2**	**-0.2**
TOVM	**TOLUCA**	**3.52**	**74**	*e*P	**Pn**	**08 55 35.6**	**+3.2**
TOVM				*e*S	**Sb**	**08 56 16.7**	**-7.0**
ACP2	**Acapulco**	**3.53**	**114**	*e*P	**Pb**	**08 55 38.2**	**-2.8**
ACP2				*e*S	**Sb**	**08 56 20.7**	**-2.8**
JRQG	**Juriquilla Cam**	**3.55**	**48**		**Pn**	**08 55 36.0**	**+3.3**
JRQG	**Juriquilla Cam**	**3.55**	**48**	*e*P	**Pn**	**08 55 36.2**	**+3.6**
JRQG				*e*S	**Sb**	**08 56 23.0**	**-1.4**
PLIG	**Platanillo**	**3.57**	**88**	*e*P	Pb	08 55 36.5	-5.3
PLIG				*e*S	**Sb**	**08 56 24.5**	**-0.3**
ACIG	**Acambay**	**3.59**	**62**	⇑*e*P	**Pn**	**08 55 36.6**	**+3.4**
ACIG				*e*S	**Sb**	**08 56 24.1**	**-5.5**
MAVM	**Malinalco, Edo**	**3.62**	**79**	*e*P	**Pn**	**08 55 36.9**	**+3.2**
MAVM				*e*S	**Sb**	**08 56 20.7**	**-5.8**
DAIG	**Los Arroyos**	**3.68**	**110**	*e*P	**Pn**	**08 55 36.9**	**+2.7**
DAIG				*e*S	**Sb**	**08 56 21.4**	**-6.5**
AAIG	**Aguscalientes**	**3.71**	**13**	⇑*e*P	**Pn**	**08 55 36.9**	**+2.0**
AAIG				*e*S	**Sb**	**08 56 28.1**	**-1.0**
AOVM	**Tlapan**	**3.84**	**75**	⇑*e*P	**Pn**	**08 55 40.2**	**+3.3**
AOVM				*e*S	**Sb**	**08 56 30.2**	**-2.9**
CJVM	**Cuajimalpa**	**3.90**	**74**	*e*P	**Pn**	**08 55 41.2**	**+3.7**
CJVM				*e*S	**Sb**	**08 56 27.9**	**-6.6**
MHVM	**Bosque de Chap**	**3.98**	**74**	*e*S	**Sb**	**08 56 33.3**	**-3.6**
TLVM	**San Miguel Top**	**3.99**	**77**	*e*P	Pn	08 55 42.7	+3.9
TLVM				*e*S	**Sb**	**08 56 34.7**	**-2.4**
CUP5	**Mexico City**	**3.99**	**75**	*e*P	**Pb**	**08 55 46.0**	**-3.1**
CUP5				*e*S	**Sb**	**08 56 34.0**	**-3.0**
UNM	**Universidad Na**	**3.99**	**75**		**Pn**	**08 55 41.9**	**+3.2**
UNM	**Universidad Na**	**3.99**	**75**	*e*P	Pn	08 55 43.0	+4.2
UNM				*e*S	**Sb**	**08 56 30.7**	**-6.4**
UNM	**Universidad Na**	**3.99**	**75**	P	**Pn**	**08 55 41.9**	**+3.2**
APVM	**Azcapotzalco**	**4.00**	**73**	*e*P	Pb	08 55 43.6	-5.7
APVM				*e*S	**Sb**	**08 56 34.9**	**-2.6**
BJVM	**Benito Juarez**	**4.01**	**74**	*e*P	**Pn**	**08 55 42.5**	**+3.5**
BJVM				*e*S	**Sn**	**08 56 29.4**	**+4.3**
YAIG	**Yautepec**	**4.01**	**82**	*e*P	**Pn**	**08 55 41.7**	**+2.8**
YAIG				*e*S	**Sb**	**08 56 36.3**	**-1.2**
COVM	**Coyoacan**	**4.02**	**75**	*e*P	**Pn**	**08 55 42.8**	**+3.7**
COVM				*e*S	**Sn**	**08 56 24.7**	**-0.6**
XCVM	**Xochimilco**	**4.03**	**76**	*e*P	Pn	08 55 43.6	+4.4
XCVM				*e*S	**Sb**	**08 56 34.4**	**-3.8**
CTVM	**Cuauhtemoc**	**4.03**	**73**	*e*S	**Sn**	**08 56 25.1**	**-0.6**
SCT2	**Benito Juarez**	**4.04**	**74**	*e*P	**Pn**	**08 55 42.2**	**+2.8**
SCT2				*e*S	**Sb**	**08 56 34.8**	**-3.6**
VRVM	**Mexico City**	**4.07**	**74**	*e*P	**Pn**	**08 55 40.1**	**+0.2**
VRVM				*e*S	**Sn**	**08 56 29.9**	**+3.3**
PBVM	**Pinon**	**4.10**	**74**	*e*P	**Pn**	**08 55 43.0**	**+3.0**
PBVM				*e*S	**Sn**	**08 56 28.2**	**+1.2**
CRIG	**Cruz Grande**	**4.25**	**111**	*e*P	**Pn**	**08 55 43.5**	**+1.5**
CRIG				*e*S	**Sn**	**08 56 29.4**	**-1.2**
TXVM	**Universitario**	**4.25**	**74**	*e*P	**Pb**	**08 55 50.1**	**-3.6**
TXVM				*e*S	**Sb**	**08 56 40.1**	**-4.6**
DEIG	**Demacu**	**4.45**	**63**	⇑*e*P	**Pn**	**08 55 48.4**	**+3.4**
DEIG				*e*S	**Sn**	**08 56 35.0**	**-0.8**
PPM	**Popocatepetl**	**4.45**	**80**	*e*P	**Pn**	**08 55 48.4**	**+3.1**
PPM				*e*S	**Sb**	**08 56 43.1**	**-7.5**
ZAIG	**Zacatecas**	**4.46**	**8**	Pn	**Pn**	**08 55 45.6**	**+0.3**
ZAIG	**Zacatecas**	**4.46**	**8**	*e*P	**Pn**	**08 55 47.4**	**+2.1**
ZAIG				*e*S	**Sb**	**08 56 43.9**	**-6.8**
VTVM	**Tizayuca**	**4.48**	**71**	*e*P	**Pn**	**08 55 48.2**	**+2.7**
VTVM				*e*S	**Sb**	**08 56 44.6**	**-6.5**
HMTT	**Tlapaneco**	**4.50**	**96**	*e*S	**Sn**	**08 56 38.6**	**+1.6**
TLIG	**Tlapa**	**4.53**	**99**	Pn	**Pn**	**08 55 48.6**	**+2.5**
TLIG	**Tlapa**	**4.53**	**99**	*e*P	**Pn**	**08 55 48.7**	**+2.7**
TLIG				*e*S	Sb	08 56 43.8	-8.7
RPIG	**Rio Verde**	**4.69**	**40**	*e*P	**Pn**	**08 55 51.9**	**+3.7**
RPIG				*e*S	**Sb**	**08 56 51.0**	**-6.0**
PHPU	**Puebla**	**4.88**	**81**	*e*P	**Pn**	**08 55 47.7**	**-3.2**
PHPU				*e*S	**Sn**	**08 56 47.4**	**+0.9**
FTIG	**Fresnillo de T**	**4.89**	**94**	*e*P	**Pn**	**08 55 53.7**	**+2.7**
FTIG				*e*S	**Sb**	**08 56 57.5**	**-5.4**
HLIG	**Huajuapan de L**	**5.21**	**95**	*e*P	**Pn**	**08 55 58.2**	**+2.7**
HLIG				*e*S	**Sn**	**08 56 56.2**	**+1.4**
PNIG	**Pinotepa**	**5.27**	**111**	*e*P	**Pn**	**08 55 57.9**	**+1.8**
PNIG				*e*S	**Sn**	**08 56 57.4**	**+1.6**
TXIG	**Tlaxiaco**	**5.34**	**101**	*e*P	**Pn**	**08 56 00.0**	**+2.7**
TXIG				*e*S	**Sn**	**08 57 02.3**	**+4.3**
CTUV	**Llano Grande**	**5.57**	**55**	⇑*e*P	**Pn**	**08 56 04.2**	**+4.0**
CTUV				*e*S	**Sb**	**08 57 15.9**	**-6.4**
TPIG	**Tehuac#an**	**5.60**	**88**	*e*P	**Pn**	**08 56 03.6**	**+2.8**
TPIG				*e*S	**Sn**	**08 57 05.1**	**+0.8**
YOIG	**Yosondua**	**5.64**	**104**	*e*P	**Pn**	**08 56 04.4**	**+2.9**
YOIG				*e*S	**Sn**	**08 57 10.5**	**+5.0**
MAIG	**Mazatlaan**	**5.67**	**329**	*e*P	**Pn**	**08 55 59.4**	**-2.2**
MAIG				*e*S	**Sn**	**08 57 09.0**	**+3.4**
OZST	**Orizaba**	**5.87**	**84**	*e*P	Pb	08 56 12.2	-8.9
OZST				*e*S	**Sn**	**08 57 09.9**	**-0.9**
TOIG	**Toxpalan**	**5.89**	**91**	*e*P	**Pn**	**08 56 07.2**	**+2.5**
TOIG				*e*S	**Sn**	**08 57 11.5**	**+0.1**
GTIG	**Gomez Farias**	**6.07**	**38**	⇑*e*P	**Pn**	**08 56 10.2**	**+3.1**
GTIG				*e*S	**Sn**	**08 57 22.5**	**+6.9**
JAUV	**Jalcomulco**	**6.20**	**79**	*e*P	**Pn**	**08 56 10.7**	**+1.8**
JAUV				*e*S	Sb	08 57 28.4	-12
PEIG	**Puerto Escondi**	**6.29**	**111**	*e*P	**Pn**	**08 56 12.8**	**+2.8**
PEIG				*e*S	**Sn**	**08 57 19.0**	**-1.9**
VHO	**Vista Hermosa**	**6.34**	**100**	*e*P	**Pn**	**08 56 14.6**	**+3.5**
VHO				*e*S	**Sn**	**08 57 23.5**	**+0.9**
OXLC	**Oaxaca**	**6.37**	**100**	*e*		08 57 42.8	
OXLC				*e*		08 57 44.5	
LVIG	**Laguna Verde**	**6.62**	**77**	*e*P	**Pn**	**08 56 18.2**	**+3.6**
LVIG				*e*S	Sn	08 57 36.8	+7.7
PDIG	**Papasquiaro**	**6.97**	**344**	*e*P	**Pn**	**08 56 22.5**	**+2.9**
PDIG				*e*S	**Sn**	**08 57 37.1**	**-0.9**
NEUV	**Arroyo Zacate**	**7.12**	**94**	*e*P	**Pn**	**08 56 24.1**	**+2.6**
NEUV				*e*S	**Sn**	**08 57 42.5**	**+1.1**
H06E1	**SOCORRO T-PHAS**	**7.29**	**275**	T	T	09 03 31.0	
	SNR=1315						
HUIG	**Huatulco**	**7.30**	**109**	*e*P	**Pn**	**08 56 26.8**	**+2.8**
HUIG				*e*S	**Sn**	**08 57 46.9**	**+1.0**
H06S1	**SOCORRO T**	**7.32**	**274**	T	T	09 03 32.8	
	SNR=344						
H06N1	**SOCORRO T-PHAS**	**7.35**	**275**	T	T	09 03 39.2	
	SNR=42						
SSIG	**Sanalona**	**7.40**	**331**	*e*P	Pn	08 56 20.6	-4.8
SSIG				*e*S	**Sn**	**08 57 43.6**	**-4.7**
LNIG	**Linares**	**7.43**	**28**	*e*P	**Pn**	**08 56 29.1**	**+3.3**
LNIG				*e*S	Sb	08 58 02.2	-13
PMUV	**Sontecomapan**	**7.73**	**87**	*e*P	**Pn**	**08 56 30.7**	**+0.8**
PMUV				*e*S	Sn	08 58 05.1	+8.6
MNIG	**Monterrey**	**7.75**	**20**	⇑*i*P	**Pn**	**08 56 34.3**	**+4.1**
MNIG				*e*S	**Sn**	**08 57 59.6**	**+2.6**
CMIG	**Matias Romero**	**8.08**	**97**	Pn	**Pn**	**08 56 37.3**	**+2.6**
	1.2nm,0.3s,baz=270,slow=14,SNR=20						
CMIG				Sn	Sb	08 58 20.4	-14
	2.5nm,0.3s,baz=272,slow=14,SNR=3.6						
CMIG				Lg	Lg	08 58 55.3	
	2.8nm,0.3s,baz=184,slow=21,SNR=9.8						
CMIG	**Matias Romero**	**8.08**	**97**	*e*P	**Pn**	**08 56 37.4**	**+2.7**
CMIG				*e*S	Sn	08 58 15.7	+11
SLBS	**Sierra La Lagu**	**8.21**	**312**	*e*P	**Pn**	**08 56 36.9**	**+0.4**
NILT	**Santiago Nilte**	**8.43**	**101**	*e*		08 58 45.9	
LPIG	**La Paz**	**8.73**	**312**	Pn	**Pn**	**08 56 44.9**	**+1.3**
	0.4nm,0.3s,baz=251,slow=2.9,SNR=5.0						
LPIG				LR	LR	08 59 40.1	
	comp=Z,3μm,18.0s,baz=127,slow=34 53nm,1.0s						
LPIG	**La Paz**	**8.73**	**312**	*e*P	**Pn**	**08 56 41.8**	**-1.7**
UXUV	**UXUV**	**8.74**	**95**	*e*P	**Pn**	**08 56 46.0**	**+2.2**
UXUV				*e*S	Sn	08 58 29.7	+8.4
HPIG		**8.85**	**346**	Pn	**Pn**	**08 56 45.4**	**-0.1**
HPIG		**8.85**	**346**	⇑*e*P	**Pn**	**08 56 48.5**	**+3.0**
HPIG				*e*S	Sn	08 58 33.5	+9.2
TSIG	**Topolobambo**	**9.01**	**324**	*e*	**Pn**	**08 56 50.7**	**+3.4**
BCIG	**La Boquilla**	**9.38**	**348**	*e*P	**Pn**	**08 56 56.2**	**+3.5**
BCIG				*e*S	**Sn**	**08 58 39.5**	**+2.2**
MCIG	**Muzquiz**	**9.64**	**9**	*e*P	**Pn**	**08 57 00.1**	**+4.0**
MCIG				*e*S	**Sn**	**08 58 46.2**	**+2.7**
HBVL	**Hebbronville**	**9.67**	**25**	Pn	**Pn**	**08 56 58.6**	**+2.1**
CSIG	**Choix**	**9.69**	**332**	*e*P	**Pn**	**08 56 58.7**	**+2.0**
CSIG				*e*S	**Sn**	**08 58 48.5**	**+4.0**
TGIG		**9.79**	**98**	*e*P	Pn	08 57 02.3	+4.1
TGIG				*e*S	Sn	08 58 55.3	+8.1
PCIG		**9.95**	**104**	*e*P	Pn	08 57 05

TGUH	Tegucigalpa,Un	15.93	103	eP	Pn	08 58 19.1	-2.4
WTFS	Witchita Falls	15.96	15		Pn	08 58 22.5	+0.7
WTFS				IAmb	IAmb	08 58 27.0	
	comp=Z,87nm,1.0s						
Y22D	IRIS PASSCAL I	16.02	349	P	Pn	08 58 23.8	+1.1
Y22D	IRIS PASSCAL I	16.02	349	P	Pn	08 58 24.6	+1.9
	baz=167						
214A	Organ Pipe Nat	16.08	329		P	08 58 26.0	-0.3
214A	Organ Pipe Nat	16.08	329	P	Pn	08 58 24.4	+1.1
	baz=145,SNR=13						
214A	Organ Pipe Nat	16.08	329	eP	Pn	08 58 23.9	+0.6
AMTX	Amarillo	16.55	5	P	Pn	08 58 29.1	-0.2
	baz=185						
ANMO	Albuquerque	16.79	351	P	Pn	08 58 33.8	+1.2
ANMO	Albuquerque	16.79	351	P	P	08 58 34.6	+0.1
	baz=169						
ANMO	Albuquerque	16.79	351	Pn	P	08 58 34.4	-0.1
	comp=Z,0.1nm,0.3s,baz=256,slow=12,SNR=17						
ANMO				Lg	Lg	09 03 34.2	
	comp=Z,0.1nm,0.3s,baz=135,slow=20,SNR=2.3						
ANMO				LR	LR	09 04 30.5	
	comp=Z,1µm,18.7s,baz=261,slow=35						
	comp=Z,6.3nm,1.0s						
SPIG	San Pedro Mart	16.81	321	eP	Pn	08 58 33.9	+1.0
WMOK	Wichita Mounta	16.82	13		Pn	08 58 32.0	-0.7
WMOK	Wichita Mounta	16.82	13	P	Pn	08 58 32.0	-0.7
	baz=195,SNR=55						
WMOK	Wichita Mounta	16.82	13	P	Pn	08 58 32.0	-0.7
WMOK				pmax	pmax		
	comp=Z,28nm,1.1s						
X34A	Smith Ranch, M	16.91	16		Pn	08 58 34.5	+0.7
X34A				IAmb	IAmb	08 58 38.5	
	comp=Z,111nm,1.1s						
113A	Mohawk Valley,	17.20	329	P	Pn	08 58 38.5	+1.0
VTX	Valle De La Tr	17.25	321	P	P	08 58 40.4	+0.9
Z41A	Richland Creek	17.58	30	P	Pn	08 58 41.6	-0.5
Z41A				IAmb	IAmb	08 58 53.4	
	comp=Z,142nm,1.2s						
X16A	Lo Mia Camp, P	17.61	337	P	Pn	08 58 43.4	+0.7
X37A	Clayton	17.65	22		Pn	08 58 42.6	-0.4
W18A	Petrified Fore	17.68	342	P	P	08 58 44.8	+0.4
W18A	Petrified Fore	17.68	342	P	Pn	08 58 44.5	+0.9
	baz=159						
WLAR	White Oak Lake	17.79	29	P	P	08 58 45.4	+0.2
Y14A	Wickenburg	17.82	333	P	P	08 58 46.3	+0.6
143A	Socs Landing,	17.85	34	P	P	08 58 45.5	-0.4
GLA	Glamis	17.97	327	P	P	08 58 48.7	+1.4
	baz=142						
VBMS	Vicksburg	17.98	37	P	Pn	08 58 46.5	-0.5
	baz=223						
RTBA	Rita Blanca	18.05	1	P	Pn	08 58 48.0	+0.1
YUH	Yuha Desert	18.25	324	P	P	08 58 51.1	+0.7
MIAR	Mount Ida	18.31	26	P	P	08 58 50.1	-0.9
MIAR	Mount Ida	18.31	26	P	P	08 58 50.0	-1.1
	baz=211,SNR=26						
MIAR	Mount Ida	18.31	26	P	P	08 58 50.1	-0.9
MIAR				pmax	pmax		
	comp=Z,21nm,0.8s						
IKP	In-Ko-Pah, Jac	18.36	323	P	P	08 58 52.4	+0.7
	baz=138,SNR=13						
BLYC	Blythe	18.37	329	P	P	08 58 52.5	+0.8
SWSC	Sam W. Stewart	18.40	325	P	P	08 58 52.4	+0.3
	baz=139,SNR=7.4						
TJIG	Tijuana	18.52	322	eP	P	08 58 51.2	-2.2
WUAZ	Wupatki	18.57	339	P	Pn	08 58 55.5	+1.0
WUAZ	Wupatki	18.57	339	P	P	08 58 54.8	+0.7
	baz=155,SNR=24						
TKX	Tecate	18.58	322	P	Pn	08 58 55.7	+1.2
X40A	Basin Creek Fa	18.58	28	P	P	08 58 52.5	-1.6
CCAR	Cane Creek	18.61	31	P	Pn	08 58 55.0	+0.2
PDMCI	Parker Dam,Lak	18.64	331	P	P	08 58 54.8	+0.2
	baz=146,SNR=13						
BAR	Barrett	18.70	322	P	P	08 58 56.1	+0.8
MONP2	Monument Peak	18.71	323	P	P	08 58 56.6	+0.9
	baz=137,SNR=13						
TUL3	Leonard	18.72	19	P	P	08 58 55.5	0.0
	baz=203,SNR=37						
BC3	Big Chuckawall	18.76	327	P	P	08 58 55.2	-1.0
	baz=141,SNR=10						
T25A	Trinidad	18.77	357	P	Pn	08 58 57.2	+0.4
	baz=176,SNR=26						
IRM	Iron Mountain	19.00	328	P	P	08 58 58.9	+0.2
	baz=143,SNR=37						
109C	Camp Elliot, M	19.10	322	P	Pn	08 59 01.4	+0.7
	baz=136						
W13A	Hualapai Mount	19.19	333	P	P	08 59 01.8	+0.8
NEE2	Needles Airpor	19.24	331	P	P	08 59 00.9	-0.4
	baz=145						
PMD	Palm Desert	19.25	325	P	P	08 59 02.8	+1.4
TPFO	Pinon Flats	19.26	325	P	P	08 59 02.0	+0.4
	baz=139,SNR=21						
PFO	Pinyon Flats O	19.27	325	P	P	08 59 01.8	0.0
PFO	Pinyon Flats O	19.27	325	P	P	08 59 02.1	+0.4
	baz=139,SNR=16						
PFO	Pinyon Flats O	19.27	325	P	Pn	08 59 03.3	+0.5
	comp=Z,0.4nm,0.3s,baz=132,slow=7.8,SNR=20						
PFO				LR	LR	09 06 02.8	
	comp=Z,931nm,19.2s,baz=146,slow=35						
	comp=Z,18nm,0.9s						
PFO	Pinyon Flats O	19.27	325	i P	P	08 59 01.7	0.0
PFO				pmax	pmax		
	comp=Z,56nm,1.1s						
BELC	Belle Mtn. Jos	19.32	326	P	P	08 59 02.1	-0.2
	baz=140,SNR=9.4						
MVCO	Mesa Verde	19.36	347	P	P	08 59 03.5	+0.7
	baz=165,SNR=20						
SDCO	Great Sand Dun	19.44	355	P	Pn	08 59 05.0	-0.1
	baz=173,SNR=74						
BRAL	Brewton	19.46	46	P	P	08 59 03.9	+0.2
BRAL				IAmb	IAmb	08 59 13.9	
	comp=Z,87nm,1.1s						
BRAL	Brewton	19.46	46	P	P	08 59 03.6	-0.1
	baz=233,SNR=6.6						
WHAR	Wooly Hollow	19.50	28	P	P	08 59 04.5	+0.4
WHAR				IAmb	IAmb	08 59 07.3	
	comp=Z,83nm,0.8s						
S22A	4UR Ranch, Cre	19.60	352	P	P	08 59 05.0	-0.4
	baz=170,SNR=63						
MURC	Murrieta	19.67	323	P	P	08 59 06.5	+0.5
	baz=137,SNR=15						
HHAR	Hobbs	19.69	23	P	P	08 59 04.5	-1.6
HHAR				IAmb	IAmb	08 59 20.7	
	comp=Z,116nm,1.4s						
U15A	North Rim	19.71	338	P	P	08 59 07.7	+1.0
GMRC	Granite Mounta	19.76	328	P	P	08 59 07.7	+0.6
	baz=143,SNR=20						
BBRC	Big Bear Solar	20.01	325	P	P	08 59 11.3	+1.4
	baz=139,SNR=10						
SCI2	San Clemente I	20.03	320	P	P	08 59 10.8	+0.9
	baz=133,SNR=5.2						
FCAR	Ozark Folk Cen	20.08	27	P	P	08 59 10.3	-0.1
FCAR				IAmb	IAmb	08 59 19.2	
	comp=Z,63nm,0.8s						
Z47A	Carrollton	20.12	40	P	P	08 59 10.9	0.0
Z47A				IAmb	IAmb	08 59 20.4	
	comp=Z,62nm,0.9s						
HEC	Hector,Ludlow	20.14	327	P	P	08 59 11.5	+0.4
	baz=141,SNR=26						
CIS	Catalina Islan	20.24	321	P	P	08 59 11.8	-0.5
	baz=134,SNR=7.3						
OXF	Oxford	20.30	35	P	P	08 59 11.4	-1.4
	baz=221,SNR=6.7						
FMP	Fort Macarthur	20.39	322	P	P	08 59 13.8	0.0
	baz=135						
BFSC	Mount Baldy Ra	20.40	324	P	P	08 59 14.2	+0.1
	baz=137,SNR=21						
TUQ	Turquoise Moun	20.41	329	P	P	08 59 14.7	+0.6
	baz=143,SNR=23						
RRX	Edison Barstow	20.52	326	P	P	08 59 16.2	+1.1
	baz=140						
KSCO	Kaye Shedlock'	20.61	1	P	P	08 59 16.3	-0.1
	baz=182,SNR=16						
Q24A	Divide	20.63	356	P	P	08 59 17.1	+0.4
	baz=175,SNR=10						
CBKS	Cedar Bluff	20.64	8	P	P	08 59 16.2	-0.3
	baz=189,SNR=24						
LCAR	Lake Charles	20.66	29	P	P	08 59 16.2	-0.5
LCAR				IAmb	IAmb	08 59 21.5	
	comp=Z,47nm,1.1s						
LRAL	Lakeview Retre	20.68	42	P	P	08 59 16.3	-0.6
LRAL				IAmb	IAmb	08 59 18.1	
	comp=Z,76nm,1.1s						
LRAL	Lakeview Retre	20.68	42	P	P	08 59 16.8	-0.1
	baz=229						
GSC	Goldstone, Bar	20.74	327	P	P	08 59 19.2	+1.5
	baz=141,SNR=51						
DECC	Green Verdugo	20.80	323	P	P	08 59 19.9	+1.7
	baz=136,SNR=8.9						
SNCC	San Nicolas Is	20.82	319	P	P	08 59 19.5	+1.1
	baz=131						
SHOC	Shoshone, Teco	20.95	329	P	P	08 59 20.7	+0.8
	baz=143,SNR=32						
EDW2	Edwards Air Fo	21.06	324	P	P	08 59 21.6	+0.5
	baz=137,SNR=16						
352A	Blakely	21.12	48	P	P	08 59 21.2	-0.5
352A				IAmb	IAmb	08 59 28.0	
	comp=Z,67nm,0.9s						
OSI	Osito Audit: C	21.28	323	P	P	08 59 23.6	+0.2
	baz=135						
LRMC	Laurel Mtn Rad	21.34	326	P	P	08 59 24.3	+0.1
	baz=139,SNR=19						
SCZ2	Santa Cruz Isl	21.39	320	P	P	08 59 24.9	+0.3
	baz=132						
ISCO	Idaho Springs	21.49	355	P	P	08 59 25.5	-0.5
	baz=174,SNR=10						
MPMC	Manual Prospec	21.68	327	P	P	08 59 27.6	-0.3
	baz=140,SNR=66						
FURC	Furnace Creek,	21.69	329	P	P	08 59 26.9	-0.8
	baz=142,SNR=6.3						
ARVC	Arvin	21.71	323	P	P	08 59 28.5	+0.6
	baz=136,SNR=17						
SBC	Santa Barbara	21.74	321	P	P	08 59 28.6	+0.3
	baz=133						
TPNV	Topopah Spring	21.79	331	P	P	08 59 30.3	+1.4
	baz=145,SNR=70						
ISA	Isabella, Lake	21.90	325	P	P	08 59 30.3	+0.2
	baz=138,SNR=42						
TIGA	Tifton	22.06	50	P	P	08 59 30.6	-1.2
	baz=238						
PKM	Mcpherson Peak	22.11	322	P	P	08 59 32.3	-0.2
	baz=134,SNR=6.1						
O20A	White River Ci	22.15	350	P	P	08 59 33.6	+0.7
	baz=167,SNR=12						
DWPF	Disney Wildern	22.26	60	P	P	08 59 34.1	+0.1
	baz=249						
CWC	Cottonwood Cre	22.28	327	P	P	08 59 33.7	-0.6
	baz=140						
CCM	Cathedral Cave	22.28	26	P	P	08 59 33.3	-0.8
CCM				IAmb	IAmb	08 59 42.1	
	comp=Z,45nm,0.9s						
CCM	Cathedral Cave	22.28	26	P	P	08 59 32.8	-1.4
	baz=211						
CCM	Cathedral Cave	22.28	26	P	P	08 59 33.3	-0.8
CCM				pmax	pmax		
	comp=Z,45nm,0.9s						
GRAC	Grapevine Rang	22.35	329	P	P	08 59 35.6	+0.6
	baz=142,SNR=13						
WVT	Waverly	22.36	34	P	P	08 59 33.3	-1.8
	baz=222						
VES	Vestal, Richgr	22.37	324	P	P	08 59 35.3	+0.2
	baz=137,SNR=38						
SMMC	Simmler	22.51	322	P	P	08 59 36.8	+0.2
	baz=134,SNR=12						
FPAL	Fort Paine	22.53	41	P	P	08 59 36.0	-0.9
FPAL				IAmb	IAmb	08 59 38.4	
	comp=Z,105nm,1.0s						
OGNE	Ogallala	22.56	2	P	P	08 59 35.8	-1.4
	baz=183						
N23A	Red Feather La	22.61	355	P	P	08 59 37.4	-0.4
	baz=173,SNR=15						
V48A	Smith Brothers	22.64	37	P	P	08 59 37.3	-0.6
R11B	Troy Canyon, C	22.66	334	P	P	08 59 38.8	+0.4
	baz=148,SNR=41						
SWET	Sewanee	22.79	39	P	P	08 59 38.4	-1.2
TIN	Tinemaha, Big	22.83	328	P	P	08 59 40.9	+0.8
	baz=140,SNR=11						
VOG	Valley Oaks Go	22.88	325	P	P	08 59 41.2	+0.7
	baz=137						
X51A	Calhoun	23.02	42	P	P	08 59 41.0	-1.0
X51A				IAmb	IAmb	08 59 42.9	
	comp=Z,63nm,0.9s						
Y52A	Lilburn	23.10	44	P	P	08 59 41.7	-1.1
Y52A				IAmb	IAmb	09 00 11.2	
	comp=Z,64nm,1.1s						
TPH	Tonopah	23.15	331	P	P	08 59 43.9	+0.4
TPH				IAmb	IAmb	08 59 45.6	
	comp=Z,104nm,0.9s						
TPH	Tonopah	23.15	331	P	P	08 59 43.9	+0.4
TPH				pmax	pmax		
	comp=Z,104nm,0.9s						
W50A	Signal Mountai	23.16	40	P	P	08 59 42.3	-1.1
GOGA	Godfrey	23.23	46	P	P	08 59 42.8	-1.3
GOGA				IAmb	IAmb	08 59 44.5	
	comp=Z,28nm,0.7s						
GOGA	Godfrey	23.23	46	P	P	08 59 41.9	-2.2
	baz=235,SNR=20						
GOGA	Godfrey	23.23	46	P	P	08 59 42.8	-1.3
GOGA				pmax	pmax		
	comp=Z,28nm,0.7s						
DUG	Dugway, Tooele	23.30	341	P	P	08 59 44.4	-0.5
	baz=156,SNR=8.4						
T47A	Sharon Grove	23.39	34	P	P	08 59 44.7	-0.9
BGNE	Belgrade	23.41	10	P	P	08 59 44.6	-1.3
	baz=192						
MLAC	Mammoth, Mammo	23.58	328	P	P	08 59 48.4	+0.7
	baz=140						
CPCT	Cooper Cave	23.80	41	P	P	08 59 48.3	-1.4
CPCT				IAmb	IAmb	08 59 50.0	
	comp=Z,31nm,0.7s						
NVAR	Mina Array Bea	23.94	330	P	P	08 59 51.6	+0.5
NVAR	Mina Array Bea	23.94	330	P	P	08 59 51.8	+0.6
	comp=Z,42nm,1.1s,baz=151,slow=10,SNR=167						
NVAR				PcP	PcP	09 03 34.5	+1.4
	comp=Z,1.1nm,0.8s,baz=145,slow=3.8,SNR=3.8						
NVAR				LR	LR	09 09 23.0	
	comp=Z,726nm,18.8s,baz=142,slow=37						
	comp=Z,42nm,1.1s						
OLIL	Olney	24.24	30	P	P	08 59 53.3	-0.3
OLIL				IAmb	IAmb	08 59 55.8	
	comp=Z,94nm,1.1s						
SAO	San Andreas Ge	24.36	323	P	P	08 59 54.5	-0.2
SAO	San Andreas Ge	24.36	323	P	P	08 59 54.6	-0.2
SAO				pmax	pmax		
	comp=Z,11nm,1.0s						
K22A	Casper	24.40	354	P	P	08 59 55.2	-0.1
K22A				IAmb	IAmb	09 00 25.7	
	comp=Z,36nm,1.3s						
K22A	Casper	24.40	354	P	P	08 59 54.6	-0.7
	baz=172,SNR=8.1						
TKL	Tuckaleechee C	24.40	41	P	P	08 59 54.6	-0.6
TKL	Tuckaleechee C	24.40	41	P	P	08 59 54.6	-0.6
TKL				pmax	pmax		
	comp=Z,82nm,0.9s						
CMB	Columbia Colle	24.69	326	P	P	08 59 57.6	-0.1
CMB	Columbia Colle	24.69	326	P	P	08 59 57.7	-0.1
CMB				pmax	pmax		
	comp=Z,18nm,1.0s						
WCI	Wyandotte Cave	24.75	33	P	P	08 59 57.7	-0.6
WCI				IAmb	IAmb	08 59 59.3	
	comp=Z,64nm,0.9s						
WCI	Wyandotte Cave	24.75	33	P	P	08 59 56.8	-1.5
	baz=222						
WCI	Wyandotte Cave	24.75	33	P	P	08 59 57.7	-0.6
WCI				pmax	pmax		
	comp=Z,64nm,0.9s						
BW06	Boulder Array	24.94	349	P	P	08 59 59.0	-1.2
	baz=166,SNR=18						
PD31	Pinedale Array	24.94	349	P	P	08 59 59.9	-0.4
PDAR	Pinedale Array	24.94	349	P	P	08 59 59.4	-0.8
PDAR	Pinedale Array	24.94	349	P	P	08 59 59.9	-0.4
	comp=Z,8.0nm,0.9s,baz=156,slow=8.1,SNR=52						
PDAR				PcP	PcP	09 03 35.0	-0.3
	comp=Z,1.5nm,0.8s,baz=138,slow=5.0,SNR=4.8						
	comp=Z,8.0nm,0.9s						
SCIA	State Center	25.02	18	P	P	09 00 01.0	+0.4
SCIA				IAmb	IAmb	09 00 33.7	
	comp=Z,103nm,1.6s						
SCIA	State Center	25.02	18	P	P	08 59 59.4	-1.2
	baz=203,SNR=6.8						
BMN	Battle Mountai	25.10	334	P	P	09 00 01.8	+0.2
BMN	Battle Mountai	25.10	334	P	P	09 00 01.8	+0.2
BMN				pmax	pmax		
	comp=Z,22nm,0.9s						
TZTN	Tazewell	25.11	40	P	P	09 00 00.7	-0.9
TZTN				IAmb	IAmb	09 00 03.4	
	comp=Z,90nm,1.1s						
TZTN	Tazewell	25.11	40	P	P	09 00 00.8	-0.8
	baz=229,SNR=28						
HDIL	Hopedale	25.20	26	P	P	09 00 01.2	-1.1
HDIL				IAmb	IAmb	09 00 19.8	
	comp=Z,47nm,0.8s						
HDIL	Hopedale	25.20	26	P	P	09 00 00.6	-1.7
	baz=213						
NHSC	New Hope	25.39	50	P	P	09 00 03.6	-0.5
	baz=240						
AFDM	Forest Hills D	25.67	327	P	P	09 00 06.8	+0.1
KMSC	Kings Mountain	25.67	45	P	P	09 00 05.4	-1.3
	baz=235,SNR=6.8						
RSSD	Black Hills	25.72	359	P	P	09 00 07.6	+0.3
	baz=178						
ECSD	EROS Data Cent	25.94	11	P	P	09 00 08.4	-0.6
	baz=194,SNR=8.9						
SFIN	Lafayette	26.02	29	P	P	09 00 07.8	-1.9
	baz=217						
SUSD	Miller	26.29	7	P	P	09 00 10.0	-2.2
	baz=189						
ORV	Oroville	26.40	327	P	P	09 00 14.0	+0.8
ORV				IAmb	IAmb	09 00 15.7	
	comp=Z,30nm,1.2s						
ORV	Oroville	26.40	327	P	P	09 00 14.0	+0.8
ORV				pmax	pmax		
	comp=Z,30nm,1.2s						
P49A	Miami Univ. Ec	26.54	33	P	P	09 00 12.2	-2.3
	baz=223,SNR=21						
H17A	Grant Village	26.70	348	P	P	09 00 15.8	-0.4
	baz=164						
O48B	Farmland	26.85	32	P	P	09 00 16.1	-1.3
O48B				IAmb	IAmb	09 00 17.5	
	comp=Z,60nm,0.9s						
O48B	Farmland	26.85	32	P	P	09 00 16.5	-0.8
	baz=221,SNR=29						
HLID	Hailey	26.86	342	P	P	09 00 18.1	+0.6
	baz=156,SNR=11						
JFWS	Jewell Farm	26.88	21	P	P	09 00 18.0	+0.6
	baz=208						
Q51A	Peebles	26.91	36	P	P	09 00 16.3	-1.6
Q51A				IAmb	IAmb	09 00 18.1	
	comp=Z,50nm,1.1s						
U56A	King	27.00	44	P	P	09 00 17.3	-1.4
U56A				IAmb	IAmb	09 01 02.3	
	comp=Z,59nm,1.6s						
N47A	Urbana	27.07	30	P	P	09 00 18.0	-1.2
N47A				IAmb	IAmb	09 00 19.5	
	comp=Z,34nm,1.1s						
L44A	Lake County Fo	27.13	26	P	P	09 00 19.2	-0.6
	baz=213						
RLMT	Red Lodge	27.18	351	P	P	09 00 19.2	-1.2
	baz=167						
P51A	Williamsport	27.39	36	P	P	09 00 20.7	-1.4
P51A				IAmb	IAmb	09 00 22.6	
	comp=Z,24nm,1.0s						
BLA	Blacksburg	27.48	42	P	P	09 00 21.6	-1.5
BLA				IAmb	IAmb	09 00 23.6	
	comp=Z,42nm,0.9s						
BLA	Blacksburg	27.48	42	P	P	09 00 22.4	-0.7
	baz=233,SNR=12						
BLA	Blacksburg	27.48	42	P	P	09 00 21.6	-1.5
BLA				pmax	pmax		
	comp=Z,42nm,0.9s						
N49A	Columbus Grove	27.84	32	P	P	09 00 24.7	-1.5
N49A				IAmb	IAmb	09 00 26.1	
	comp=Z,24nm,0.8s						
ACSO	Alum Creek Sta	27.96	34	P	P	09 00 24.7	-2.5
	baz=225						
P52A	Corning	28.01	36	P	P	09 00 25.2	-2.6
	baz=227,SNR=7.6						
DLMT	Dillon	28.06	346	P	P	09 00 29.4	+1.1
BOZ	Bozeman (W)	28.07	347	P	P	09 00 28.5	+0.2
BOZ	Bozeman (W)	28.07	347	P	P	09 00 25.6	-2.7
	baz=163,SNR=14						
BOZ	Bozeman (W)	28.07	347	P	P	09 00 28.5	+0.2
BOZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SPMN	Marine on St.	28.20	16	P	P	09 00 27.0	-2.3
	baz=201						
O52A	Adamsville	28.51	36	P	P	09 00 30.5	-1.7
O52A				IAmb	IAmb	09 00 31.3	
	comp=Z,23nm,1.0s						
YBH	Yreka Blue Hor	28.64	329	LR	LR	09 12 19.6	
	comp=Z,268nm,19.4s,baz=154,slow=37						
BMO	Blue Mountains	28.94	339	P	P	09 00 34.3	-1.7
BMO	Blue Mountains	28.94	339	P	P	09 00 34.3	-1.7
BMO				pmax	pmax		
	comp=Z,10.0nm,1.2s						
O53A	New Philadelph	28.95	36	P	P	09 00 32.9	-3.2
	baz=228						
AAM	Ann Arbor	29.14	31	P	P	09 00 36.8	-0.9
	baz=221						
J05D	Fort Rock, OR	29.15	332	P	P	09 00 38.1	+0.1
BPMT	Black Pine Rid	29.27	346	P	P	09 00 39.1	0.0
MCWV	Mont Chateau	29.35	39	P	P	09 00 37.8	-1.8
	baz=230						
MSO	Missoula	29.75	345	P	P	09 00 42.7	-0.5
	baz=159						
OVMT	Ovando	29.76	347	P	P	09 00 43.4	+0.1
G08A	Pilot Rock	29.90	337	P	P	09 00 44.4	-0.2
G08A				IAmb	IAmb	09 00 45.7	
	comp=Z,19nm,1.2s						
I05D	Terrebonne, OR	30.04	334	P	P	09 00 45.9	+0.2
I05D				IAmb	IAmb	09 00 47.4	
	comp=Z,29nm,1.2s						
M53A	WI Miller and	30.06	35	P	P	09 00 44.1	-1.8
	baz=227						
DGMT	Dagmar	30.07	359	P	P	09 00 45.9	-0.1
DGMT				IAmb	IAmb	09 00 47.2	
	comp=Z,19nm,0.8s						
DGMT	Dagmar	30.07	359	P	P	09 00 45.5	-0.5
	baz=178,SNR=6.9						
EGMT	Eagleton	30.09	351	P	P	09 00 45.4	-0.8
EGMT				IAmb	IAmb	09 00 47.9	
	comp=Z,22nm,0.9s						
EGMT	Eagleton	30.09	351	P	P	09 00 44.9	-1.3
	baz=168,SNR=15						
AGMN	Agassiz Nation	30.49	10	P	P	09 00 48.5	-1.1
AGMN	Agassiz Nation	30.49	10	P	P	09 00 47.4	-2.2
	baz=194,SNR=16						
ERPA	Erie	30.90	35	P	P	09 00 51.5	-1.8
	baz=227						
EYMN	Ely	31.06	15	P	P	09 00 52.5	-2.1
	baz=202,SNR=8.5						
SSPA	Standing Stone	31.14	39	P	P	09 00 54.1	-1.4
SSPA				IAmb	IAmb	09 00 55.1	
	comp=Z,16nm,1.1s						
SSPA	Standing Stone	31.14	39	P	P	09 00 54.3	-1.0
	baz=232						
SSPA	Standing Stone	31.14	39	P	P	09 00 54.0	-1.4
SSPA				pP	pP	09 01 04.4	-0.2
MVL	Millersville	31.70	41	P	P	09 00 58.9	-1.4
MVL				IAmb	IAmb	09 01 00.3	
	comp=Z,18nm,1.2s						
NEW	Newport	31.92	342	P	P	09 01 00.8	-1.5
	baz=154						
N58A	Sunbury	31.97	40	P	P	09 01 00.9	-1.7
N58A				IAmb	IAmb	09 01 02.1	
	comp=Z,18nm,0.8s						
ULM	Lac du Bonnet	32.39	9	P	P	09 01 04.7	-1.6
ULM	Lac du Bonnet	32.39	9	P	P	09 01 04.9	-1.4
	comp=Z,6.4nm,0.7s,baz=198,slow=10.0,SNR=12						
ULM				PcP	PcP	09 03 52.9	-0.5
	comp=Z,5.6nm,0.9s,baz=150,slow=1.6,SNR=3.7						
ULM				LR	LR	09 15 02.5	
	comp=Z,2µm,19.2s,baz=127,slow=38						
	comp=Z,6.4nm,0.7s						
MMNY	Mt. Morris Dam	32.45	36	P	P	09 01 05.2	-1.8
E03A	Lebam	32.75

NCB IAmb IAmb 09 01 32.3
comp=Z,13nm,0.8s
L61B Northampton 35.37 41 P **P 09 01 30.5 -1.7**
baz=237
WBO Williamsburg 35.37 35 P **P 09 01 30.8 -1.5**
WBO IAmb IAmb 09 01 31.6
comp=Z,17nm,0.8s
BAUV El Baul 35.41 101 P **P 09 01 33.4 +0.4**
LONY Lake Ozonia 35.52 36 P **P 09 01 31.6 -1.9**
LONY IAmb IAmb 09 01 32.8
comp=Z,12nm,0.9s
LONY Lake Ozonia 35.52 36 P **P 09 01 30.5 -3.0**
baz=232,SNR=6.4
J61A Chester 35.94 39 P **P 09 01 36.5 -0.6**
J61A IAmb IAmb 09 01 37.6
comp=Z,19nm,0.9s
HRV Adam Dziewonsk 36.09 41 P **P 09 01 36.3 -2.2**
baz=238
HRV Adam Dziewonsk 36.09 41 P **P 09 01 37.5 -1.0**
CBB Campbell River 36.25 336 P **P 09 01 39.4 -0.4**
CBB IAmb IAmb 09 01 41.0
comp=Z,19nm,1.1s
FFC Flin Flon 36.34 1 P **P 09 01 39.6 -0.8**
FFC IAmb IAmb 09 01 41.3
comp=Z,18nm,0.9s
FFC Flin Flon 36.34 1 P **P 09 01 39.6 -0.8**
FFC pmax pmax
comp=Z,18nm,0.9s
FFC Flin Flon 36.34 1 P **P 09 01 39.4 -1.0**
TRQ Mont Tremblant 36.54 34 P **P 09 01 41.5 -0.8**
TRQ IAmb IAmb 09 01 42.2
comp=Z,34nm,1.1s
MNTQ Montreal, Queb 36.59 36 P **P 09 01 41.2 -1.5**
MNTQ IAmb IAmb 09 01 42.4
comp=Z,19nm,0.9s
LBNH Lisbon 36.82 39 P **P 09 01 43.8 -0.9**
baz=236,SNR=5.2
I62A Tamworth 36.97 39 P **P 09 01 44.7 -1.3**
I62A IAmb IAmb 09 01 46.9
comp=Z,33nm,1.1s
BRLDA Berland Lookou 37.33 346 P **P 09 01 48.3 -0.6**
BRLDA IAmb IAmb 09 01 49.6
comp=Z,52nm,1.5s
G62A West of Eustis 38.19 38 P **P 09 01 55.0 -1.3**
G62A IAmb IAmb 09 01 56.6
comp=Z,25nm,0.9s
F62A Pittston Farm, 38.90 38 P **P 09 02 01.0 -1.3**
PKME Peaks-Kenny Pk 38.95 39 P **P 09 02 01.7 -0.9**
baz=238,SNR=5.8
E62A Clayton Lake 39.56 37 P **P 09 02 06.7 -1.1**
E62A IAmb IAmb 09 02 08.0
comp=Z,16nm,0.9s
LMQ La Malbaie 39.64 35 P **P 09 02 07.5 -0.9**
LMQ IAmb IAmb 09 02 08.2
comp=Z,23nm,0.9s
EMMW East Machias 39.78 41 P **P 09 02 08.6 -1.0**
EMMW IAmb IAmb 09 02 09.8
comp=Z,33nm,1.0s
D62A Allapoint, All 40.09 37 P **P 09 02 11.1 -1.0**
D62A IAmb IAmb 09 02 12.3
comp=Z,23nm,0.9s
FCC Fort Churchill 40.93 7 P **P 09 02 17.8 -1.1**
FCC Fort Churchill 40.93 7 P **P 09 02 17.8 -1.1**
FCC pmax pmax
comp=Z,18nm,1.2s
BATG Bathurst New B 41.92 38 P **P 09 02 26.1 -1.0**
BATG IAmb IAmb 09 02 27.1
comp=Z,24nm,1.0s
V35K Ketchikan 42.76 336 P **P 09 02 34.3 +0.4**
baz=138
CRAG Craig 43.45 336 P **P 09 02 41.1 +1.7**
CRAG Craig 43.45 336 P **P 09 02 40.6 +1.3**
CRAG Craig 43.45 336 P **P 09 02 40.1 +0.7**
baz=136,SNR=7.2
T35M Bob Quinn 43.53 339 P **P 09 02 41.1 +0.9**
T35M IAmb IAmb 09 02 42.5
comp=Z,33nm,0.9s
T35M Bob Quinn 43.53 339 P **P 09 02 41.0 +0.8**
baz=141,SNR=18
TOAD Toad River Com 43.54 344 P **P 09 02 39.9 -0.2**
baz=149,SNR=18
WRAK Wrangell Islan 43.85 337 P **P 09 02 42.6 -0.1**
baz=138
U33K Whale Pass 43.92 336 P **P 09 02 43.1 0.0**
U33K IAmb IAmb 09 02 45.6
comp=Z,43nm,1.2s
U33K Whale Pass 43.92 336 P **P 09 02 44.0 +0.8**
baz=137
LIRD Liard River Hi 44.25 343 P **P 09 02 45.8 -0.1**
baz=148
KOTAN Kotaneelee Air 44.35 345 P **P 09 02 47.0 +0.4**
baz=151
T33K Petersburg 44.37 337 P **P 09 02 48.1 +1.3**
baz=138
S34M Telegraph Cree 44.56 339 P **P 09 02 49.9 +1.6**
baz=141
DLBC Dease Lake 44.61 340 P **P 09 02 50.2 +1.4**
DLBC Dease Lake 44.61 340 P **P 09 02 50.3 +1.4**
baz=142,SNR=53
YKA Yellowknife Ar 44.83 353 P **P 09 02 49.3 -1.0**
comp=Z,3.5nm,0.9s,baz=163,slow=8.1,SNR=6.2
YKA LR LR 09 23 06.9
comp=Z,2μm,18.1s,baz=148,slow=38
comp=Z,3.5nm,0.9s
SIT Sitka 45.44 336 P **P 09 02 55.4 +0.1**
baz=135
S32K Killisnoo 45.45 337 P **P 09 02 55.9 +0.5**
S32K IAmb IAmb 09 02 58.2
comp=Z,19nm,1.1s
S32K Killisnoo 45.45 337 P **P 09 02 56.8 +1.4**
baz=136
RPN Rapa Nui 45.57 188 LR LR 09 17 43.9
comp=Z,374nm,18.1s,baz=46,slow=30
WTLY Watson Lake, Y 45.59 342 P **P 09 02 57.1 +0.6**
WTLY Watson Lake, Y 45.59 342 P **P 09 02 57.3 +0.7**
baz=145,SNR=26
R33M Jennings River 45.66 341 P **P 09 02 58.3 +1.1**
R33M IAmb IAmb 09 02 59.7
comp=Z,31nm,1.0s
R33M Jennings River 45.66 341 P **P 09 02 58.5 +1.2**
baz=142,SNR=19
Q32M Nakina River 45.75 339 P **P 09 02 58.8 +0.8**
Q32M IAmb IAmb 09 03 00.0
comp=Z,16nm,1.1s
Q32M Nakina River 45.75 339 P **P 09 02 59.5 +1.5**
baz=140,SNR=7.9
SCHQ Schefferville 45.80 29 P **P 09 02 56.8 -1.4**
comp=Z,7.8nm,0.9s,baz=244,slow=4.0,SNR=9.6
comp=Z,7.8nm,0.9s
JIS Juneau Island 45.97 338 P **P 09 03 01.0 +1.5**
R32K Eaglecrest 46.02 338 P **P 09 03 01.1 +1.3**
baz=137
S31K Pelican 46.43 336 P **P 09 03 04.4 +1.3**
baz=134
TGTN Hyland Airport 46.62 344 P **P 09 03 05.9 +1.3**
baz=146,SNR=15
P32M Atlin 46.71 339 P **P 09 03 06.3 +0.9**
P32M IAmb IAmb 09 03 07.4
comp=Z,24nm,1.0s
P32M Atlin 46.71 339 P **P 09 03 06.5 +1.1**
baz=138,SNR=12
P33M Teslin, Yukon 46.89 340 P **P 09 03 07.5 +0.7**
P33M IAmb IAmb 09 03 08.8
comp=Z,27nm,1.1s
P33M Teslin, Yukon 46.89 340 P **P 09 03 07.6 +0.7**
baz=140,SNR=23
WRGLY Wrigley 46.97 348 P **P 09 03 07.1 -0.1**
WRGLY IAmb IAmb 09 03 08.4
comp=Z,23nm,1.0s
WRGLY Wrigley 46.97 348 P **P 09 03 07.2 -0.1**
baz=153,SNR=5.0
SKAG Skagway 47.17 338 P **P 09 03 09.9 +1.0**
SKAG Skagway 47.17 338 P **P 09 03 09.7 +0.8**
baz=136,SNR=5.3
PLBC Pleasant Camp 47.54 338 P **P 09 03 12.9 +1.2**
baz=135,SNR=6.2
N32M Quiet Lake 47.70 341 P **P 09 03 13.9 +0.9**
baz=140
P29M Windy Craggy 48.16 337 P **P 09 03 16.8 +0.2**
P29M IAmb IAmb 09 03 19.0
comp=Z,32nm,1.1s
P29M Windy Craggy 48.16 337 P **P 09 03 17.8 +1.1**
baz=134,SNR=10.0
P30M Million Dollar 48.22 338 P **P 09 03 18.4 +1.3**
baz=135
O30N Mendenhall 48.39 339 P **P 09 03 19.6 +1.2**
baz=136,SNR=22
FARO Faro, Yukon 48.61 342 P **P 09 03 20.3 +0.2**
FARO IAmb IAmb 09 03 22.1
comp=Z,21nm,1.0s
FARO Faro, Yukon 48.61 342 P **P 09 03 21.0 +0.9**
baz=140,SNR=22
LPAZ La Paz 48.78 133 P **P 09 03 22.4 -0.2**
comp=Z,3.0nm,1.1s,baz=342,slow=8.0,SNR=5.2
LPAZ LR LR 09 23 32.2
comp=Z,291nm,19.8s,baz=35,slow=36
comp=Z,3.0nm,1.1s
LPAZ La Paz 48.78 133 P **P 09 03 23.6 +0.9**
LPAZ pP **pP 09 03 34.2 +2.6**
PNL Peninsula 48.80 337 P **P 09 03 22.8 +1.2**
PNL Peninsula 48.80 337 P **P 09 03 22.5 +0.9**
baz=132
N31M Braeburn, Yuko 48.81 340 P **P 09 03 22.5 +0.9**
N31M Braeburn, Yuko 48.81 340 P **P 09 03 22.3 +0.7**
baz=137,SNR=35
M31M Drury Creek, Y 48.91 341 P **P 09 03 22.9 +0.6**
M31M Drury Creek, Y 48.91 341 P **P 09 03 23.2 +0.9**
baz=139,SNR=35
O29M Mount Kennedy 48.93 338 P **P 09 03 23.0 +0.3**
O29M IAmb IAmb 09 03 24.9
comp=Z,30nm,1.1s
O29M Mount Kennedy 48.93 338 P **P 09 03 23.5 +0.9**
baz=133,SNR=9.6
BCPM Bancas Point 49.08 337 P **P 09 03 24.5 +0.8**
BCPM IAmb IAmb 09 03 26.1
comp=Z,32nm,1.1s
N30M Aishikik Lake 49.22 339 P **P 09 03 26.0 +1.2**
N30M IAmb IAmb 09 03 27.5
comp=Z,32nm,1.0s
N30M Aishikik Lake 49.22 339 P **P 09 03 25.6 +0.8**
baz=136,SNR=26
YUK6 Outpost Mounta 49.29 338 P **P 09 03 26.9 +1.3**
baz=134,SNR=9.7
PINM Pinnacle 49.41 337 P **P 09 03 27.3 +1.1**
baz=131
YUK4 Talbot Arm 49.67 339 P **P 09 03 30.3 +1.9**
baz=134,SNR=24
O28M Mount Upton 49.83 337 P **P 09 03 31.4 +1.7**
baz=132,SNR=16
M30M Minto, Yukon 49.94 340 P **P 09 03 30.4 +0.2**
M30M IAmb IAmb 09 03 32.3
comp=Z,22nm,1.1s
M30M Minto, Yukon 49.94 340 P **P 09 03 31.2 +1.0**
baz=137,SNR=18
YUK8 Steele Glacier 50.02 338 P **P 09 03 32.9 +1.7**
baz=132,SNR=64
MESA MESA 50.11 336 P **P 09 03 33.2 +1.5**
baz=129
LOGN Logan Glacier 50.17 337 P **P 09 03 33.5 +1.3**
LOGN IAmb IAmb 09 03 38.5
comp=Z,27nm,1.0s
M29M Somme Creek 50.38 340 P **P 09 03 34.2 +0.6**
M29M Somme Creek 50.38 340 P **P 09 03 35.1 +1.5**
baz=135,SNR=44
CTGM Chitina Glacie 50.38 337 P **P 09 03 35.4 +1.7**
CTG Chitna Glacier 50.38 337 P **P 09 03 34.8 +1.0**
baz=130,SNR=7.2
MAYO Mayo, Yukon 50.41 342 P **P 09 03 34.7 +0.9**
MAYO Mayo, Yukon 50.41 342 P **P 09 03 35.1 +1.3**
baz=138,SNR=21
YUK3 Moose Creek 50.60 338 P **P 09 03 36.7 +1.2**
baz=132,SNR=20
L29M L29M 50.74 340 P **P 09 03 37.8 +1.4**
baz=135,SNR=100
CRQE Cirque 50.91 336 P **P 09 03 39.2 +1.5**
baz=126,SNR=22
KAIM Kayak Island 50.93 335 P **P 09 03 39.2 +1.4**
baz=126
K29M Barlow Dome 51.09 341 P **P 09 03 40.0 +1.1**
K29M Barlow Dome 51.09 341 P **P 09 03 39.8 +0.9**
baz=136,SNR=98
MDP Montagnes des 51.10 98 LR LR 09 27 04.6
comp=Z,230nm,20.6s,baz=297,slow=38
HMT Hamilton 51.12 335 P **P 09 03 38.8 -0.3**
FRB Frobisher Bay 51.15 19 LR LR 09 26 28.2
comp=Z,530nm,19.0s,baz=178,slow=37
J30M Hart River 51.28 342 P **P 09 03 40.8 +0.4**
J30M IAmb IAmb 09 03 43.0
comp=Z,16nm,0.9s
J30M Hart River 51.28 342 P **P 09 03 40.9 +0.6**
baz=138,SNR=19
MCARA McCarthy VSAT 51.28 337 P **P 09 03 41.3 +0.9**
MCARA McCarthy VSAT 51.28 337 P **P 09 03 41.7 +1.4**
baz=129,SNR=13
RAGM Ragged Mountai 51.31 335 P **P 09 03 41.5 +0.9**
RAGM IAmb IAmb 09 03 43.4
comp=Z,37nm,1.2s
M27K Edge Creek, AK 51.49 338 P **P 09 03 43.0 +0.9**
baz=131,SNR=38
BMRM Bremner River 51.63 336 P **P 09 03 43.9 +0.9**
baz=127,SNR=12
J29N Klondike Camp 51.74 342 P **P 09 03 44.0 +0.2**
baz=136
I30M Mount Dempster 51.78 343 P **P 09 03 44.7 +0.6**
baz=139,SNR=39
DAWY Dawson 51.82 341 P **P 09 03 44.7 +0.3**
baz=134,SNR=43
EYAK Cordova Ski Ar 51.84 335 P **P 09 03 46.0 +1.5**
EYAK Cordova Ski Ar 51.84 335 P **P 09 03 46.0 +1.5**
baz=125,SNR=14
M26K Nabesna, AK 51.92 338 P **P 09 03 46.1 +0.9**
baz=129,SNR=35
L27K Beaver Creek, 51.94 339 P **P 09 03 46.3 +1.1**
baz=131,SNR=32
N25K Chitina, Valde 52.01 336 P **P 09 03 47.5 +1.7**
baz=127,SNR=24
P23K Montague Islan 52.21 334 P **P 09 03 48.1 +0.9**
baz=123,SNR=12
FID Port Fidalgo 52.25 335 P **P 09 03 48.5 +1.0**
I29M Ogilvie Camp, 52.42 342 P **P 09 03 48.9 +0.1**
I29M IAmb IAmb 09 03 50.1
comp=Z,29nm,1.0s
I29M Ogilvie Camp, 52.42 342 P **P 09 03 48.9 +0.1**
baz=136,SNR=34
L26K Log Cabin Wild 52.44 338 P **P 09 03 49.7 +0.7**
L26K IAmb IAmb 09 03 51.2
comp=Z,36nm,1.1s
L26K Log Cabin Wild 52.44 338 P **P 09 03 50.1 +1.1**
baz=129,SNR=32
KLU Klutina 52.46 336 P **P 09 03 50.0 +0.9**
KLU Klutina 52.46 336 P **P 09 03 50.6 +1.4**
baz=126,SNR=25
G31M Satah River 52.54 345 P **P 09 03 50.2 +0.6**
baz=142,SNR=45
GLI Glacier Island 52.57 335 P **P 09 03 50.7 +0.8**
baz=124,SNR=6.6
C36M Paulatuk 52.61 351 P **P 09 03 49.5 -0.6**
baz=155
K27K Chicken 52.66 340 P **P 09 03 51.9 +1.3**
baz=131
HARP HAARP 52.70 337 P **P 09 03 52.4 +1.4**
baz=127,SNR=11
EPYK Eagle Plains 52.73 344 P **P 09 03 51.8 +0.6**
baz=139,SNR=35
F31M Tsiigehtchic 52.83 346 P **P 09 03 51.6 -0.1**
baz=143,SNR=6.3
EGAK Eagle 52.87 341 P **P 09 03 52.5 +0.4**
baz=133,SNR=70
M24K Tolsona, Glenn 52.91 336 P **P 09 03 54.1 +1.6**
baz=126,SNR=19
I28M Miner Creek 52.97 342 P **P 09 03 53.0 +0.1**
baz=135,SNR=30
H29M Whitestone 53.07 343 P **P 09 03 53.6 +0.1**
baz=137,SNR=33
G30M tAoh Zraii Nji 53.07 344 P **P 09 03 53.4 -0.2**
baz=140,SNR=6.8
SEW Seward 53.14 333 P **P 09 03 54.5 +0.4**
baz=121,SNR=7.2
PAX Paxson 53.17 337 P **P 09 03 55.1 +0.7**
baz=127,SNR=48
SCM Sheep Creek Mo 53.20 336 P **P 09 03 55.2 +0.5**
baz=124
SCRK Sand Creek 53.27 339 P **P 09 03 55.2 0.0**
SCRK Sand Creek 53.27 339 P **P 09 03 56.2 +1.1**
baz=129,SNR=34
M23K Glacier View 53.34 335 P **P 09 03 55.8 +0.2**
baz=124
KNK Knik Glacier 53.42 335 P **P 09 03 56.5 +0.3**
KNK Knik Glacier 53.42 335 P **P 09 03 56.7 +0.5**
baz=123,SNR=12
KDAK Kodiak Island 53.44 330 P **P 09 03 56.5 +0.1**
KDAK Kodiak Island 53.44 330 P **P 09 03 57.0 +0.6**
baz=116
KDAK Kodiak Island 53.44 330 *i* P **P 09 03 56.3 -0.1**
KDAK pmax pmax
comp=Z,64nm,1.3s
KDAK Kodiak Island 53.44 330 P **P 09 03 57.1 +0.6**
O22K Cooper Landing 53.45 333 P **P 09 03 56.7 +0.3**
baz=121
F30M Barrier River 53.45 345 P **P 09 03 56.4 +0.1**
baz=140,SNR=34
J26L Joseph Creek 53.46 340 P **P 09 03 58.0 +1.4**
baz=130,SNR=103
INK Inuvik 53.47 347 P **P 09 03 56.6 +0.2**
baz=143,SNR=32
G29M Pine Creek 53.49 344 P **P 09 03 57.3 +0.7**
baz=138,SNR=36
BRSE Bradley Lake S 53.51 332 P **P 09 03 57.7 +0.8**
baz=119,SNR=7.9
OHAK Old Harbor 53.54 329 P **P 09 03 58.1 +1.0**
OHAK Old Harbor 53.54 329 P **P 09 03 57.7 +0.6**
baz=115,SNR=9.4
I27K Kandik River 53.58 341 P **P 09 03 57.8 +0.4**
baz=133,SNR=28
SML Sawmill 53.58 335 P **P 09 03 57.4 -0.1**
baz=123,SNR=24
Q20K Shuyak Island 53.73 331 P **P 09 03 58.7 +0.3**
baz=117
RC01 Rabbit Creek A 53.77 334 P **P 09 03 58.9 +0.2**
baz=121,SNR=5.2
K24K Donnelly Dome 53.78 338 P **P 09 03 59.6 +0.7**
baz=127,SNR=31
WAT6 Susitna Watana 53.78 336 P **P 09 03 59.8 +0.8**
baz=124,SNR=59
PMR Palmer 53.79 335 P **P 09 03 59.6 +0.8**
PMR Palmer 53.79 335 P **P 09 03 59.5 +0.7**
baz=122,SNR=22
I26K Coal Creek Min 53.86 341 P **P 09 04 00.2 +0.9**
baz=131
HOM Homer 53.87 332 P **P 09 04 00.7 +1.2**
baz=118
DHY Denali Highway 53.93 337 P **P 09 04 00.5 +0.4**
baz=125,SNR=24
H27K Steamboat Moun 53.98 342 P **P 09 04 00.9 +0.6**
baz=133,SNR=68
J25K Salcha River, 54.14 339 P **P 09 04 02.1 +0.6**
J25K Salcha River, 54.14 339 P **P 09 04 02.2 +0.8**
baz=128,SNR=33
CHIR Chirikof Islan 54.17 327 P **P 09 04 02.4 +0.7**
baz=112
CAPN Captain Cook N 54.20 333 P **P 09 04 03.5 +1.6**
baz=120
WAT1 Susitna Watana 54.23 336 P **P 09 04 02.7 +0.5**
baz=124
R18K Karluk 54.26 329 P **P 09 04 02.7 +0.3**
baz=114
M22K Willow 54.27 335 P **P 09 04 02.5 +0.1**
M22K Willow 54.27 335 P **P 09 04 03.0 +0.7**
baz=121,SNR=13
SUA Susitna One 54.38 334 P **P 09 04 04.0 +0.6**
SUA Susitna One 54.38 334 P **P 09 04 03.9 +0.6**
baz=120,SNR=20
G27K Doyon Strip 54.42 342 P **P 09 04 03.9 +0.5**
baz=133,SNR=106
Q19K Cape Douglas, 54.45 331 P **P 09 04 03.7 -0.1**
baz=116
F28M Old Crow 54.49 344 P **P 09 04 04.7 +0.8**
baz=136,SNR=153
O20K Slope Mountain 54.51 332 P **P 09 04 04.5 +0.3**
baz=118
HDA Harding Lake 54.56 338 P **P 09 04 04.5 +0.1**
baz=126,SNR=40
E29M Blow River 54.56 345 P **P 09 04 04.8 +0.4**
baz=138,SNR=16
P19K Oil Pt 54.59 332 P **P 09 04 05.2 +0.4**
baz=117
CUT Chulitna 54.67 335 P **P 09 04 05.9 +0.6**
baz=122,SNR=14
ILAR Eielson Array 54.75 339 P **P 09 04 06.3 +0.5**
comp=Z,20nm,0.5s,baz=146,slow=6.2,SNR=6.6
comp=Z,20nm,0.5s
PRP Porcupine Dome 54.75 340 P **P 09 04 06.9 +0.9**
baz=128,SNR=22
N20K Mount Spurr 54.86 333 P **P 09 04 06.8 +0.1**
baz=119,SNR=7.4
MCK McKinley 54.88 337 P **P 09 04 07.5 +0.7**
baz=124,SNR=26
SKT Skwentna 54.96 335 P **P 09 04 08.1 +0.6**
baz=120,SNR=33
Q18K Katmai Hardscr 54.98 330 P **P 09 04 07.7 0.0**
baz=114,SNR=7.3
E28M Babbage River 55.13 345 P **P 09 04 08.3 -0.2**
E28M Babbage River 55.13 345 P **P 09 04 08.7 +0.2**
baz=137,SNR=15
G26K Porcupine Rive 55.13 342 P **P 09 04 09.3 +0.8**
baz=131,SNR=37
COLA College 55.15 339 P **P 09 04 09.0 +0.3**
COLA College 55.15 339 P **P 09 04 08.8 +0.2**
COLA College 55.15 339 P **P 09 04 08.4 -0.3**
baz=126
COLA College 55.15 339 *i* P **P 09 04 07.8 -0.9**
COLA pmax pmax
comp=Z,36nm,0.9s
COLA College 55.15 339 P **P 09 04 08.7 0.0**
COLA pP **pP 09 04 19.8 +1.6**
POKR Poker Plat Res 55.15 339 P **P 09 04 09.1 +0.3**
POKR Poker Plat Res 55.15 339 P **P 09 04 08.8 0.0**
baz=126,SNR=11
A36M Sachs Harbour 55.17 352 P **P 09 04 08.0 -0.7**
baz=154,SNR=9.1
R17L Mt. Peulik Vol 55.23 328 P **P 09 04 10.0 +0.5**
baz=112
Q17K Contact Creek 55.24 329 P **P 09 04 09.8 +0.2**
baz=113,SNR=10
H25L Birch Creek 55.32 341 P **P 09 04 11.1 +1.2**
baz=128
O19K Port Alsworth 55.32 332 P **P 09 04 09.7 -0.3**
baz=116
E27K Coleen River 55.36 344 P **P 09 04 11.1 +0.8**
baz=134,SNR=33
P18K Big Mountain, 55.39 331 P **P 09 04 10.2 -0.4**
baz=114,SNR=5.5
NEA2 Nenana 55.41 338 P **P 09 04 11.0 +0.4**
baz=124,SNR=29
O18K Koktuh Hills 55.57 331 P **P 09 04 11.9 0.0**
baz=115,SNR=10
M20K Styx River 55.58 334 P **P 09 04 12.4 +0.4**
baz=118
N19K Bonanza Creek 55.66 332 P **P 09 04 12.8 +0.2**
baz=116,SNR=41
PPLA Purkeypile 55.69 335 P **P 09 04 13.2 +0.4**
baz=120
G25K Bearman Lake 55.72 341 P **P 09 04 14.0 +1.3**
baz=128,SNR=57
H24K Noodor Dome 55.72 340 P **P 09 04 13.6 +0.7**
baz=126,SNR=112
F26K Sheenjek River 55.73 342 P **P 09 04 13.8 +0.9**
baz=131,SNR=75
Q16K King Salmon 55.78 330 P **P 09 04 13.4 +0.1**
baz=113
I23K Minto, Yukon-K 55.83 338 P **P 09 04 14.3 +0.7**
baz=124,SNR=77
BPAW Bear Paw Mtn. 55.84 337 P **P 09 04 13.6 -0.2**
baz=122,SNR=12
P17K Kvichak River 55.88 330 P **P 09 04 14.1 +0.1**
baz=113,SNR=5.5
CAST Castle Rocks 55.91 336 P **P 09 04 13.9 -0.3**
baz=120
D27M Malcolm River 55.95 345 P **P 09 04 14.7 +0.2**
baz=135,SNR=18
CHNA Chernabura Isl 55.97 324 P **P 09 04 14.5 -0.2**
baz=107,SNR=7.5
F25K Christian Rive 56.10 342 P **P 09 04 16.7 +1.1**
baz=129,SNR=66
G24K Hadweenzic Riv 56.11 340 P **P 09 04 16.6 +1.0**
baz=127,SNR=105
M19K Big River Lodg 56.12 334 P **P 09 04 16.3 +0.6**
baz=117
L20K Farewell, AK 56.17 334 P **P 09 04 16.1 -0.1**
baz=118,SNR=39
N18K Kilae Creek 56.23 332 P **P 09 04 16.8 +0.2**
N18K Kilae Creek 56.23 332 P **P 09 04 16.9 +0.3**
baz=115,SNR=37
CHUM Lake Minchumin 56.23 336 P **P 09 04 16.1 -0.4**
baz=120
MLY Manley 56.25 338 P **P 09 04 17.0 +0.3**
MLY Manley 56.25 338 P **P 09 04 17.0 +0.3**
baz=122,SNR=54
SVW2 Sparrevohn 56.27 332 P **P 09 04 17.8 +1.0**
H23K Yukon River 56.28 339 P **P 09 04 17.4 +0.5**
baz=124,SNR=53

O17K	Koliganek Bris	56.41 331	P	P	09 04 18.1 +0.3
	baz=113,SNR=30				
E25K	Arctic Village	56.42 342	P	P	09 04 18.5 +0.7
	baz=130,SNR=48				
L19K	White Mountain	56.44 334	P	P	09 04 18.3 +0.3
	baz=117,SNR=45				
H03N2	Juan Fernandez	56.48 156	T	T	10 05 21.1
	baz=333,slow=77,SNR=710				
H03N1	Juan Fernandez	56.48 156	T	T	10 05 21.9
	baz=333,slow=77,SNR=706				
H03N3	Juan Fernandez	56.49 156	T	T	10 05 16.1
	baz=333,slow=77,SNR=592				
M18K	Stony River	56.55 333	P	P	09 04 18.6 -0.2
	baz=115,SNR=39				
P16K	Nushagak River	56.55 330	P	P	09 04 18.8 0.0
	baz=112				
RES	Resolute Bay	56.56 3	LR	LR	09 29 32.5
	comp=Z,1μm,18.2s,baz=147,slow=37				
K20K	Telida	56.66 335	P	P	09 04 19.6 0.0
	baz=118				
F24K	Squaw Lake	56.73 341	P	P	09 04 20.4 +0.4
	baz=127,SNR=31				
N17K	Nushagak Hills	56.75 331	P	P	09 04 20.3 0.0
	baz=113,SNR=18				
I21K	Tanana	56.78 338	P	P	09 04 20.6 +0.3
	baz=121				
O16K	Kokwok River B	56.81 330	P	P	09 04 20.5 -0.1
	baz=112,SNR=16				
C27K	Jago River	56.91 344	P	P	09 04 21.1 -0.2
	baz=132,SNR=16				
G23K	Bananza Creek	56.94 340	P	P	09 04 21.5 0.0
	baz=124,SNR=101				
H22K	Ishtalitna Cre	56.94 339	P	P	09 04 21.5 -0.1
	baz=122,SNR=64				
J20K	Nowinta River	57.08 336	P	P	09 04 22.2 -0.3
J20K	Nowinta River	57.08 336	P	P	09 04 22.4 -0.1
	baz=118,SNR=68				
M17K	Holitna River	57.21 332	P	P	09 04 23.1 -0.4
M17K	Holitna River	57.21 332	P	P	09 04 23.1 -0.4
	baz=114,SNR=22				
L18K	Granite Mounta	57.23 333	P	P	09 04 23.4 -0.2
	baz=115,SNR=31				
TTA	Tatalina	57.25 334	P	P	09 04 23.7 -0.1
TTA	Tatalina	57.25 334	P	P	09 04 23.6 -0.3
	baz=116,SNR=31				
E24K	Your Creek	57.25 342	P	P	09 04 24.3 +0.5
	baz=127				
COLD	Coldfoot	57.29 340	P	P	09 04 25.0 +1.0
	baz=124,SNR=55				
H21K	Melozitna River	57.32 338	P	P	09 04 24.2 0.0
	baz=121,SNR=111				
C26K	Camden Bay	57.42 344	P	P	09 04 24.9 +0.1
	baz=131				
D25K	Kavik River	57.42 343	P	P	09 04 25.4 +0.5
	baz=130,SNR=57				
N16K	Nishlik Lake	57.45 331	P	P	09 04 25.2 0.0
	baz=112,SNR=36				
O15K	Ungalikthiuk R	57.49 329	P	P	09 04 24.6 -0.9
	baz=110,SNR=8.3				
I20K	Naaghedeneel	57.51 337	P	P	09 04 25.2 -0.2
	baz=118,SNR=15				
G22K	Bettles	57.55 340	P	P	09 04 26.2 +0.4
	baz=123,SNR=45				
J19K	Poorman	57.57 336	P	P	09 04 25.8 -0.2
	baz=117,SNR=59				
E23K	Chandalar	57.59 341	P	P	09 04 27.3 +1.1
	baz=125,SNR=98				
M16K	Timber Creek	57.75 332	P	P	09 04 27.6 +0.4
	baz=112,SNR=14				
J18K	Innoko River	57.77 335	P	P	09 04 27.1 -0.3
	baz=115,SNR=56				
PPT	Papeete	57.85 235	LR	LR	09 23 39.3
	comp=Z,255nm,18.8s,baz=98,slow=30				
PPT2	Papeete2	57.87 235	*e*S	S	09 12 30.4 +3.5
	comp=Z,208nm,24.8s				
PPT2			*e*SS	SS	09 16 20.7 +2.4
	comp=Z,166nm,26.0s				
PPT2			*e*LR	LR	09 21 30.8
	comp=Z,387nm,22.5s				
PPT2			*e*LR	LR	09 21 31.5
	comp=Z,214nm,22.5s				
L17K	Donlin	57.88 333	P	P	09 04 28.1 -0.1
	baz=113,SNR=24				
TOLK	Toolik Lake Re	57.91 342	P	P	09 04 28.9 +0.6
	baz=126,SNR=49				
N15K	Kwethluk River	57.96 330	P	P	09 04 28.3 -0.5
	baz=110				
H20K	Anotleneega Mo	57.99 337	P	P	09 04 28.7 -0.2
	baz=118,SNR=66				
D24K	Happy Valley	58.00 342	P	P	09 04 28.8 -0.1
	baz=127,SNR=11				
G21K	Allakaket	58.01 339	P	P	09 04 29.0 0.0
	baz=120,SNR=26				
F22K	John River	58.08 340	P	P	09 04 30.4 +0.9
	baz=122				
FALS	False Pass	58.11 324	P	P	09 04 30.1 +0.2
FALS	False Pass	58.11 324	P	P	09 04 29.0 -0.8
	baz=104				
K17K	Iditarod	58.11 334	P	P	09 04 29.4 -0.4
K17K	Iditarod	58.11 334	P	P	09 04 29.5 -0.4
	baz=113,SNR=22				
O14K	Tigyukauivet M	58.21 329	P	P	09 04 29.6 -1.0
O14K			IAmb	IAmb	09 04 30.8
	comp=Z,19nm,0.9s				
O14K	Tigyukauivet M	58.21 329	P	P	09 04 29.4 -1.1
	baz=108				
L16K	Owhat River	58.23 332	P	P	09 04 30.2 -0.5
L16K	Owhat River	58.23 332	P	P	09 04 30.6 -0.1
	baz=112,SNR=18				
C24K	Franklin Bluff	58.31 343	P	P	09 04 31.2 +0.1
	baz=127				
E22K	Anaktuvuk Pass	58.31 341	P	P	09 04 31.3 +0.1
	baz=123				
F21K	Alatna River	58.36 339	P	P	09 04 32.2 +0.7
F21K	Alatna River	58.36 339	P	P	09 04 32.2 +0.7
	baz=121,SNR=89				
M15K	Kasigluk River	58.42 331	P	P	09 04 30.7 -1.3
	baz=110,SNR=8.4				
D23K	Nanushuk River	58.43 342	P	P	09 04 32.9 +1.0
	baz=125,SNR=89				
H19K	Roundabout Mou	58.58 337	P	P	09 04 32.5 -0.5
	baz=117,SNR=32				
N14K	Kuskokwak Cree	58.63 330	P	P	09 04 31.9 -1.5
	baz=108				
J17K	VABM Dome	58.71 334	P	P	09 04 32.8 -1.2
	baz=113,SNR=13				
C23K	Itkillik River	58.91 343	P	P	09 04 35.3 0.0
	baz=125				
D22K	Ayikyak River	58.98 341	P	P	09 04 36.7 +0.9
	baz=123,SNR=63				
M14K	Bethel	59.03 331	P	P	09 04 35.7 -0.4
	baz=109,SNR=13				
F20K	Avaraart Lake	59.04 339	P	P	09 04 36.2 0.0
	baz=118				
SFJD	Kangerlussuaq	59.07 21	LR	LR	09 31 04.3
	comp=Z,549nm,19.6s,baz=230,slow=37				
G19K	Purcell Mounta	59.10 338	P	P	09 04 36.5 -0.1
G19K	Purcell Mounta	59.10 338	P	P	09 04 36.6 -0.1
	baz=116,SNR=66				
L15K	Ungalak Mounta	59.12 332	P	P	09 04 37.0 +0.1
	baz=110,SNR=15				
H18K	Honhosa River	59.14 336	P	P	09 04 37.0 0.0
H18K			IAmb	IAmb	09 04 38.2
	comp=Z,25nm,1.1s				
H18K	Honhosa River	59.14 336	P	P	09 04 37.1 +0.2
	baz=115,SNR=18				
E21K	Killik River	59.15 341	P	P	09 04 37.4 +0.4
	baz=121				
J16K	Anvik River	59.30 334	P	P	09 04 38.1 0.0
	baz=111,SNR=13				
K15K	Wolf Creek Mou	59.35 332	P	P	09 04 38.8 +0.4
	baz=110,SNR=24				
L14K	Kuka Creek	59.55 331	P	P	09 04 39.8 0.0
	baz=108,SNR=15				
G18K	Tagagawik	59.56 337	P	P	09 04 39.8 0.0
	baz=115,SNR=10				
I17K	Unalakleet	59.56 334	P	P	09 04 40.7 +0.8
	baz=112,SNR=8.4				
M13K	Dall Lake	59.57 330	P	P	09 04 39.6 -0.4
	baz=107				
F19K	Shaleruckik Mo	59.65 338	P	P	09 04 40.6 +0.2
	baz=116,SNR=56				
H17K	Granite Mounta	59.65 336	P	P	09 04 40.9 +0.4
	baz=113,SNR=53				
UNV	Unalaska Valle	59.66 322	P	P	09 04 40.9 +0.3
UNV	Unalaska Valle	59.66 322	P	P	09 04 40.4 -0.3
	baz=100,SNR=6.1				
E19K	Redstone River	59.75 339	P	P	09 04 41.5 +0.5
	baz=117,SNR=39				
E20K	Nigu River	59.77 340	P	P	09 04 41.9 +0.6
	baz=119,SNR=51				
C21K	Knifeblade Rid	59.77 341	P	P	09 04 42.2 +1.0
	baz=120,SNR=72				
B21K	Ikpikpuk River	59.96 342	P	P	09 04 42.8 +0.3
	baz=121,SNR=42				
B22K	Teshnkpuk Lake	59.99 343	P	P	09 04 42.5 -0.2
	baz=122				
D20K	Etivluk River	60.13 340	P	P	09 04 44.2 +0.5
	baz=118,SNR=47				
G17K	Kiwalik Mounta	60.16 336	P	P	09 04 44.3 +0.4
	baz=113,SNR=21				
F18K	Selawik	60.23 337	P	P	09 04 44.6 +0.2
	baz=114,SNR=11				
J14K	Nanvaranak Lak	60.38 333	P	P	09 04 45.9 +0.4
J14K	Nanvaranak Lak	60.38 333	P	P	09 04 46.0 +0.5
	baz=108,SNR=15				
DY2G	Dye2	60.40 23	*i* P	P	09 04 45.7 -0.2
DY2G			IAmb	IAmb	09 04 47.7
	comp=Z,24nm,1.0s				
H16K	Elim	60.47 335	P	P	09 04 46.8 +0.8
	baz=110,SNR=9.7				
AQDB	Aquidauana	60.51 127	P	P	09 04 47.1 +0.2
AQDB			IAmb	IAmb	09 04 48.2
	comp=Z,10nm,1.1s				
D19K	Kuna River	60.52 340	P	P	09 04 46.5 +0.1
D19K	Kuna River	60.52 340	P	P	09 04 46.6 +0.2
	baz=117,SNR=48				
F17K	Baldwin Pennin	60.75 337	P	P	09 04 48.2 +0.3
	baz=112				
G16K	Koyuk River	60.78 336	P	P	09 04 48.8 +0.6
	baz=111,SNR=12				
A22K	Sinclair Lake	60.79 343	P	P	09 04 47.9 -0.2
	baz=121				
E18K	Tukpahlearik C	60.91 338	P	P	09 04 49.4 +0.4
	baz=114,SNR=39				
B20K	Meade River	60.92 341	P	P	09 04 49.6 +0.6
	baz=118				
M11K	Mekoryuk	60.93 330	P	P	09 04 49.4 +0.2
	baz=104				
E17K	Hotham Inlet	61.21 338	P	P	09 04 51.4 +0.4
	baz=112,SNR=13				
TBI	Tubuai	61.25 229	*e*S	S	09 13 12.6 +2.4
	comp=Z,2μm,31.0s				
TBI			*e*LR	LR	09 23 08.0
	comp=Z,2μm,25.8s				
C19K	Lookout Ridge	61.27 340	P	P	09 04 51.9 +0.4
C19K	Lookout Ridge	61.27 340	P	P	09 04 51.9 +0.4
	baz=116,SNR=31				
G15K	Niukluk	61.31 335	P	P	09 04 52.4 +0.7
	baz=109,SNR=8.0				
A21K	Barrow	61.41 343	P	P	09 04 52.2 -0.1
	baz=120				
KULLO	Kullorsuaq	61.47 13	*i* P	P	09 04 53.2 +0.5
KULLO			IAmb	IAmb	09 04 53.4
	comp=Z,23nm,0.9s				
C18K	Utukok River	61.60 339	P	P	09 04 54.1 +0.3
C18K	Utukok River	61.60 339	P	P	09 04 53.6 -0.2
	baz=114,SNR=26				
ANM	Nome	61.72 334	P	P	09 04 55.0 +0.5
	baz=107				
F15K	North Star Dit	61.79 336	P	P	09 04 55.4 +0.4
	baz=109,SNR=17				
D17K	Noatak River	61.89 338	P	P	09 04 56.0 +0.4
	baz=111,SNR=32				
RDOG	Red Dog Mine	61.96 338	P	P	09 04 56.5 +0.4
	baz=112,SNR=18				
B18K	Kokolik River	62.09 340	P	P	09 04 57.3 +0.4
	baz=113,SNR=10				
C17K	DeLong Mountai	62.21 339	P	P	09 04 57.6 -0.2
	baz=112,SNR=25				
F14K	Arctic Creek	62.38 335	P	P	09 04 59.5 +0.6
	baz=107,SNR=5.3				
C16K	Lisburne Hills	62.89 338	P	P	09 05 02.6 +0.3
C16K	Lisburne Hills	62.89 338	P	P	09 05 02.2 -0.1
	baz=109,SNR=9.0				
CPUP	Villa Florida	62.93 134	P	P	09 05 03.2 0.0
	comp=Z,3.1nm,0.6s,baz=302,slow=8.4,SNR=8.5				
	comp=Z,3.1nm,0.6s				
TNA	Tin City	63.04 335	P	P	09 05 03.7 +0.4
	baz=106				
ICESG	Greenland Ices	63.68 21	*i* P	P	09 05 07.8 -0.1
ICESG			IAmb	IAmb	09 05 09.6
	comp=Z,22nm,1.1s				
BDFB	Brasilia	64.03 118	P	P	09 05 11.4 +0.7
	comp=Z,2.9nm,0.8s,baz=304,slow=7.3,SNR=3.9				
	comp=Z,2.9nm,0.8s				
NEEM	North Greenlan	64.38 11	*i* P	P	09 05 12.5 +0.1
NEEM			IAmb	IAmb	09 05 14.1
	comp=Z,67nm,0.9s				
SUMG	Summit	65.17 17	P	P	09 05 16.8 -0.9
SUMG			IAmb	IAmb	09 05 18.8
	comp=Z,11nm,0.9s				
SUMG	Summit	65.17 17	P	P	09 05 16.8 -0.9
SUMG			pmax	pmax	
	comp=Z,11nm,0.9s				
SUMG	Summit	65.17 17	*i* P	P	09 05 18.0 +0.3
SUMG			IAmb	IAmb	09 05 18.6
	comp=Z,9.2nm,0.8s				
ADK	Adak	65.59 319	P	P	09 05 20.2 -0.1
ADK	Adak	65.59 319	P	P	09 05 19.8 -0.5
ADK	Adak	65.59 319	P	P	09 05 19.8 -0.5
ADK			pmax	pmax	
	comp=Z,65nm,1.1s				
ADK	Adak	65.59 319	P	P	09 05 19.6 -0.7
ALE	Alert	66.16 5	P	P	09 05 22.4 -1.1
ALE			pP	pP	09 05 33.2 -0.1
RAR	Rarotonga	67.88 237	LR	LR	09 26 38.9
	comp=Z,284nm,19.9s,baz=92,slow=28				
BORG	Borgarnes	70.15 27	LR	LR	09 37 07.2
	comp=Z,311nm,18.9s,baz=285,slow=36				
DAG	Danmarks Havn	71.05 14	*i* P	P	09 05 53.2 -0.8
DAG			IAmb	IAmb	09 05 54.0
	comp=Z,13nm,0.9s				
NOR	Nord	71.49 9	*i* P	P	09 05 57.3 +0.7
NOR			IAmb	IAmb	09 05 58.0
	comp=Z,31nm,1.1s				
BILL	Bilibino	73.34 337	*c i* P	P	09 06 08.4 +0.5
BILL			*e**PP	pP	09 06 18.7 +1.2
BILL					09 06 28.0
BILL			pmax	pmax	
	comp=Z,22nm,1.3s				
BILL			MLR	MLR	
	comp=Z,311nm,18.0s				
JMIC	Jan Mayen	74.36 20	LR	LR	09 40 11.0
	comp=Z,268nm,18.1s,baz=258,slow=37				
PMPST	Porto Santo, M	77.73 59	*e*P	P	09 06 30.2 -3.5
	comp=Z,151nm,1.4s				
SPITS	Spitsbergen Ar	77.93 11	P	P	09 06 35.2 +1.2
	comp=Z,6.2nm,0.6s,baz=223,slow=2.1,SNR=12				
SPITS			LR	LR	09 42 40.4
	comp=Z,908nm,18.1s,baz=276,slow=37				
	comp=Z,6.2nm,0.6s				
SPITS	Spitsbergen Ar	77.93 11	P	P	09 06 34.3 +0.2
SPITS			pmax	pmax	
	comp=Z,49nm,1.3s				
SEY	Seymchan	80.20 333	*c e*P	P	09 06 47.9 +1.2
SEY			pmax	pmax	
	comp=Z,50nm,1.7s				
PET	Petropavlovsk	80.31 323	*c e*P	P	09 06 47.5 +0.1
PET			pmax	pmax	
	comp=Z,16nm,1.3s				
EKA	Eskdalemuir Ar	80.72 35	P	P	09 06 50.5 +1.0
	comp=Z,5.2nm,0.9s,baz=290,slow=4.9,SNR=11				
	comp=Z,5.2nm,0.9s				
PCAB	Cabril	81.82 49	*e*P	P	09 06 57.5 +1.7
	comp=Z,44nm,1.0s				
PCAS	Casmilo, Conde	81.96 51	*e*P	P	09 06 58.3 +1.8
	comp=Z,79nm,1.6s				
POLO	Lamas de Olo	82.08 49	*e*P	P	09 06 57.9 +0.6
	comp=Z,33nm,1.2s				
PVRL	Vila Real	82.17 49	*e*P	P	09 06 59.1 +1.4
	comp=Z,42nm,1.6s				
MA2	Magadan	82.18 330	*c e*P	P	09 06 55.5 -1.8
MA2			pmax	pmax	
	comp=Z,39nm,1.7s				
PVIS	Viseu	82.21 50	*e*P	P	09 06 59.1 +1.2
	comp=Z,41nm,1.1s				
PMTG	Montargil	82.45 51	*e*P	P	09 07 00.2 +1.1
	comp=Z,40nm,1.3s				
BBTS	Babate	82.47 77	LR	LR	09 39 11.7
	comp=Z,302nm,20.1s,baz=164,slow=32				
PNCL	Nicolau / Gran	82.51 52	*e*P	P	09 07 00.7 +1.3
	comp=Z,21nm,1.2s				
PTEO	Sao Teotonio	82.53 53	*e*P	P	09 07 00.8 +1.3
	comp=Z,53nm,1.1s				
MTE	Manteigas	82.56 50	P	P	09 07 00.2 +0.5
MTE	Manteigas	82.56 50	*e*P	P	09 07 00.6 +0.9
	comp=Z,46nm,1.1s				
MORF	Marmelete	82.66 53	*e*P	P	09 07 02.3 +2.0
MORF	Marmelete	82.66 53	*e*P	P	09 07 00.8 +0.5
MORF			IAmb	IAmb	09 07 02.7
	comp=Z,52nm,1.6s				
MORF	Marmelete	82.66 53	*e*P	P	09 07 00.8 +0.5
PBRG	Braganca	82.70 48	*e*P	P	09 07 01.8 +1.3
	comp=Z,23nm,1.4s				
EVO	Evora	82.77 52	*e*P	P	09 07 02.4 +1.6
	comp=Z,40nm,1.2s				
PCBR	Castelo Branco	82.77 51	*e*P	P	09 07 02.2 +1.4
	comp=Z,52nm,1.1s				
MESJ	Messejana	82.83 53	P	P	09 07 01.4 +0.3
MESJ			IAmb	IAmb	09 07 03.7
	comp=Z,26nm,1.0s				
MESJ	Messejana	82.83 53	*e*P	P	09 07 02.7 +1.6
	comp=Z,45nm,1.1s				
MESJ	Messejana	82.83 53	*e*P	P	09 07 01.8 +0.7
MESJ			IAmb	IAmb	09 07 03.9
	comp=Z,30nm,1.1s				
MESJ	Messejana	82.83 53	*e*P	P	09 07 01.8 +0.7
PMRV	Marv??o	82.96 51	*e*P	P	09 07 03.2 +1.4
	comp=Z,77nm,1.1s				
PESTR	Estremoz	82.99 52	P	P	09 07 02.4 +0.5
PESTR			IAmb	IAmb	09 07 04.2
	comp=Z,23nm,1.0s				
PESTR	Estremoz	82.99 52	*e*P	P	09 07 03.0 +1.1
	comp=Z,38nm,1.3s				
PCVE	Castro Verde	83.03 53	*e*P	P	09 07 04.3 +2.2
	comp=Z,42nm,1.2s				
PBEJ	Beja	83.03 52	*e*P	P	09 07 03.9 +1.7
	comp=Z,29nm,1.2s				
PBDV	Barranco-do-Ve	83.22 53	*e*P	P	09 07 05.4 +2.2
	comp=Z,38nm,1.6s				
PVAQ	Vaqueiros	83.34 53	P	P	09 07 04.0 +0.3
PVAQ			IAmb	IAmb	09 07 06.6
	comp=Z,28nm,1.1s				
PVAQ	Vaqueiros	83.34 53	*e*P	P	09 07 05.6 +1.9
	comp=Z,42nm,1.1s				
PVAQ	Vaqueiros	83.34 53	*e*LR	LR	09 42 50.2
	comp=Z,163nm,16.0s				
TIXI	Tiksi	83.58 345	P	P	09 07 03.7 -0.6
TIXI	Tiksi	83.58 345	LR	LR	09 48 16.9
	comp=Z,143nm,20.2s,baz=22,slow=38				
TIXI	Tiksi	83.58 345	*c e*P	P	09 07 03.9 -0.4
TIXI			pmax	pmax	
	comp=Z,25nm,0.8s				
PBAR	Barrancos	83.61 52	*e*P	P	09 07 06.7 +1.6
	comp=Z,32nm,1.3s				
NC204	NORSAR Array S	85.02 26	P	P	09 07 11.9 +0.1
NC204			IAmb	IAmb	09 07 14.0
	comp=Z,7.7nm,0.9s				
NBO00	NORSAR Array S	85.14 27	P	P	09 07 13.1 +0.6
NBO00			IAmb	IAmb	09 07 14.8
	comp=Z,13nm,0.9s				
PAB	San Pablo	85.16 50	P	P	09 07 13.9 +0.8
PAB	San Pablo	85.16 50	P	P	09 07 13.9 +0.8
PAB			pmax	pmax	
	comp=Z,58nm,1.1s				
ARCES	ARCESS Array B	85.21 16	P	P	09 07 13.2 +0.6
ARCES			IAmb	IAmb	09 07 14.7
	comp=Z,15nm,0.9s				
ARCES	ARCESS Array B	85.21 16	P	P	09 07 13.4 +0.8
	comp=Z,6.6nm,0.6s,baz=297,slow=5.3,SNR=6.9				
ARCES			LR	LR	09 45 48.2
	comp=Z,311nm,20.0s,baz=278,slow=36				
	comp=Z,6.6nm,0.6s				
ARCES	ARCESS Array B	85.21 16	P	P	09 07 13.2 +0.6
ARCES			pmax	pmax	
	comp=Z,15nm,0.9s				
MSVF	Nonsavu	85.25 250	*i* P	P	09 07 14.2 +0.4
MSVF			pmax	pmax	
	comp=Z,81nm,4.2s				
NAO01	NORSAR Array S	85.28 27	P	P	09 07 13.8 +0.7
NAO01			IAmb	IAmb	09 07 24.0
	comp=Z,10nm,1.1s				
NC303	NORSAR Array S	85.30 26	P	P	09 07 13.4 +0.2
NC303			IAmb	IAmb	09 07 15.4
	comp=Z,12nm,0.9s				
KONO	Kongsberg	85.30 28	P	P	09 07 14.7 +1.5
KONO	Kongsberg	85.30 28	*c e*P	P	09 07 13.7 +0.5
KONO			pmax	pmax	
	comp=Z,29nm,0.8s				
NB2	NORSAR Subarra	85.32 26	P	P	09 07 14.1 +0.7
	comp=Z,14nm,1.0s,baz=300,slow=5.1				
NB2	NORSAR Subarra	85.32 26	P	P	09 07 14.1 +0.7
	baz=300,slow=5.1				
NOA	NORSAR Array B	85.32 26	P	P	09 07 14.1 +0.7
	comp=Z,8.9nm,0.9s,baz=301,slow=4.9,SNR=36				
NOA			LR	LR	09 45 38.9
	comp=Z,155nm,19.4s,baz=310,slow=36				
	comp=Z,8.9nm,0.9s				
NB201	NORSAR Array S	85.35 26	P	P	09 07 13.7 +0.2
NB201			IAmb	IAmb	09 07 15.9
	comp=Z,20nm,0.9s				
ESDC	Sonseca Array	85.39 50	P	P	09 07 15.1 +0.9
ESDC	Sonseca Array	85.39 50	P	P	09 07 15.3 +1.1
	comp=Z,12nm,0.9s,baz=304,slow=5.3,SNR=60				
ESDC			LR	LR	09 46 17.2
	comp=Z,208nm,18.7s,baz=348,slow=36				
	comp=Z,12nm,0.9s				
CLF	Chambon-Foret	86.50 40	P	P	09 07 20.1 +0.7
HFS	Hagfors	86.84 27	P	P	09 07 19.8 -1.0
	comp=Z,6.5nm,0.9s,baz=321,slow=2.1,SNR=11				
HFS			LR	LR	09 46 34.6
	comp=Z,186nm,19.1s,baz=306,slow=36				
	comp=Z,6.5nm,0.9s				
DOU	Dourbes	87.04 38	*d*P	P	09 07 22.2 +0.2
	comp=Z,5.2nm,1.0s				
BMRD	Maredsous	87.06 38	*d*PcP	PcP	09 07 23.9 -0.3
BGES	Gesves	87.21 37	*d*P	P	09 07 22.5 -0.3
BGES			*d*PcP	PcP	09 07 24.4 -0.6
MDT	Midelt	87.23 56	LR	LR	09 44 58.2
	comp=Z,125nm,19.1s,baz=298,slow=35				
BCLA	Clavier	87.32 37	*d*P	P	09 07 22.2 -1.1
	comp=Z,4.9nm,0.9s				
RCHB	Rochefort	87.39 38	*d*PcP	P	09 07 24.6 +1.0
MEM	Membach	87.64 37	*d*P	P	09 07 25.9 +1.0
MEM			*d*PcP	PcP	09 07 27.9 +1.1
PMSA	Palmer Station	88.11 164	LR	LR	09 39 23.4
	comp=Z,212nm,18.5s,baz=28,slow=30				
VAF	Ylistaro	88.61 22	*e*P	P	09 07 29.3 +0.1
APA	Apatity	88.65 15	↓*i* P	P	09 07 24.8 -4.5
APA			pmax	pmax	
	comp=Z,5.0nm,0.9s				
APA			MLR	MLR	
	comp=Z,500nm,19.0s				
BJUU	Bjuv	88.68 30	*i* P	P	09 07 30.1 +0.4
DEL	Delary	88.87 30	*e*P	P	09 07 31.0 +0.4
DEL	Delary	88.87 30	*i* P	P	09 07 31.1 +0.4
VIKU	Vikbolandet	89.03 27	*e*P	P	09 07 31.5 +0.2
LUNU	Lund	89.12 30	*i* P	P	09 07 32.6 +0.9
RAF	Rauma	89.57 24	*e*P	P	09 07 33.6 -0.2
YAK	Yakutsk	89.67 338	LR	LR	09 53 13.0
	comp=Z,313nm,19.1s,baz=24,slow=39				
YAK	Yakutsk	89.67 338	*c e*P	P	09 07 34.5 +0.3
YAK			pmax	pmax	
	comp=Z,25nm,0.8s				
TYV	Tymovskoe	90.22 325	*e*P	P	09 07 37.3 +0.3
TYV			pmax	pmax	
	comp=Z,7.0nm,0.9s				
TYV			pmax	pmax	
	comp=Z,100nm,3.0s				
FINES	FINESS Array B	90.87 22	P	P	09 07 38.3 -1.5
FINES	FINESS Array B	90.87 22	P	P	09 07 39.9 0.0
	comp=Z,9.2nm,1.1s,baz=173,slow=1.5,SNR=15				
FINES			LR	LR	09 48 31.2
	comp=Z,254nm,20.5s,baz=271,slow=36				
	comp=Z,9.2nm,1.1s				
FINES	FINESS Array B	90.87 22	*i* P	P	09 07 39.5 -0.3
FINES			pmax	pmax	
	comp=Z,10.0nm,1.1s				
CLL	Collm	91.17 34	*i* P	P	09 07 41.7 +0.2
	comp=Z,9.0nm,1.4s				
CLL			AMS	AMS	09 50 00.0
	comp=Z,300nm,18.5s				
JOF	Joensuu	91.56 19	*e*P	P	09 07 42.5 -0.5
DAVOX	Davos/Dischmat	91.69 39	LR	LR	09 49 58.5
	comp=Z,300nm,18.4s,baz=252,slow=36				
BRG	Berggiesshubel	91.91 34	*e*P	P	09 07 45.9 +1.0
BRG			Amp		09 07 47.7
	comp=Z,4.9nm,0.9s				
BRG	Berggiesshubel	91.91 34	*e*P	P	09 07 45.9 +1.0
BRG			pmax	pmax	

comp=Z,5.0nm,0.9s
HOPE Hope Point 91.92 147 *i* P P 09 07 44.2 -0.4
YSS Yuzh-Sakhalins 92.11 321 *ce*P P 09 07 45.5 -0.4
YSS pmax pmax
comp=Z,23nm,1.0s
NRIK Noril'sk 92.23 356 P P 09 07 46.3 +0.3
comp=Z,8.8nm,0.8s,baz=48,slow=1.2,SNR=10
NRIK LR LR 09 51 36.6
comp=Z,278nm,19.4s,baz=350,slow=37
comp=Z,8.8nm,0.8s
NRIK Noril'sk 92.23 356 *ce*P P 09 07 45.8 -0.2
NRIK pmax pmax
comp=Z,16nm,1.0s
VALR Valaam 92.57 20 *i* P P 09 07 45.9 -1.8
VALR pmax pmax
comp=Z,20nm,1.3s
KHC Kasperske Hory 92.64 36 *ce*P P 09 07 48.2 -0.1
KHC pmax pmax
comp=Z,23nm,1.6s
KHC Kasperske Hory 92.64 36 P P 09 07 48.6 +0.3
comp=Z,6.0nm,1.6s
ADZR Andozero 92.77 16 *e*P P 09 07 47.4 -1.1
ADZR pmax pmax
comp=Z,54nm,0.4s
GERES GERESS Array B 92.86 36 P P 09 07 49.4 -0.1
comp=Z,0.9nm,0.6s,baz=343,slow=4.2,SNR=6.7
comp=Z,0.9nm,0.6s
URZ Urewera 93.33 231 LR LR 09 39 57.5
comp=Z,203nm,21.0s,baz=214,slow=29
DPC Dobruska-Polom 93.46 34 P P 09 07 52.3 +0.2
comp=Z,7.4nm,1.4s
VRAC Vranov 94.19 35 *e*P P 09 07 56.4 +0.9
VRAC Vranov 94.19 35 LR LR 09 52 37.2
comp=Z,245nm,18.0s,baz=302,slow=37
KRUC Moravsky 94.22 35 *e*P P 09 07 56.4 +0.8
ERM Erimo 94.29 317 *ce*P P 09 07 56.1 +0.1
ERM pmax pmax
comp=Z,56nm,1.1s
MORC Moravsky Berou 94.44 34 *e*P P 09 07 57.6 +1.0
MODS Modra-Piesok 95.10 35 *e*P P 09 08 01.3 +1.7
MODS pmax pmax
comp=Z,77nm,1.5s
MODS Modra-Piesok 95.10 35 *e*P P 09 08 01.3 +1.7
SMOL Smolenice 95.10 35 *e*P P 09 08 01.0 +1.4
SMOL pmax pmax
comp=Z,17nm,1.5s
ZST Bratislava 95.10 35 *e*P P 09 08 01.5 +1.9
ZST pmax pmax
comp=Z,68nm,1.2s
ZST Bratislava 95.10 35 *e*P P 09 08 01.5 +1.9
LANS Liptovska Anna 95.82 34 *e*P P 09 08 05.1 +2.1
LANS pmax pmax
comp=Z,8.0nm,1.5s
LANS Liptovska Anna 95.82 34 *e*P P 09 08 05.1 +2.1
DBIC Dimbokro 95.84 81 LR LR 09 45 51.6
comp=Z,136nm,21.4s,baz=322,slow=32
VYHS Vyhne 95.87 35 P P 09 08 04.1 +0.9
VYHS Vyhne 95.87 35 *e*P P 09 08 04.1 +0.9
SRO Srobarova 95.99 35 *e*P P 09 08 05.6 +1.9
SRO pmax pmax
comp=Z,51nm,1.2s
SRO Srobarova 95.99 35 *e*P P 09 08 05.6 +1.9
ZEA Zeya 96.17 333 *e*P P 09 08 05.0 +0.6
MNK Minsk 96.35 26 *i* P P 09 08 01.9 -3.3
MNK *i* *PP pP 09 08 16.6 +1.5
MNK *i* S SKSac 09 18 34.0 -5.7
MNK pmax pmax
comp=E,6.0nm,0.7s
MNK pmax pmax
comp=N,13nm,0.8s
MNK pmax pmax
comp=Z,18nm,0.9s
MNK MLR MLR
comp=Z,309nm,16.0s
KEST Kesra 96.62 49 LR LR 09 53 55.3
comp=Z,122nm,18.1s,baz=355,slow=37
KLR Kul'dur 96.95 327 *i* P P 09 08 08.0 0.0
KLR pmax pmax
comp=Z,2.0nm,0.9s
DZM Mont Dzumac 96.97 249 *e*LR LR 09 39 28.8
comp=Z,504nm,23.4s
CRVS Cervenica-Dubn 97.02 33 *e*P P 09 08 09.9 +1.6
CRVS pmax pmax
comp=Z,14nm,1.1s
CRVS Cervenica-Dubn 97.02 33 *e*P P 09 08 09.9 +1.6
MORH Mrgy, Hungar 97.10 36 P Pdif 09 08 09.1 +0.3
comp=Z,5.5nm,1.7s
RNPP9 Sopachiv 97.58 29 P P 09 08 10.6 -0.2
RNPP8 Varash 97.61 29 P P 09 08 10.3 -0.6
RNPP5 Staryi Chortor 97.70 29 P P 09 08 11.3 0.0
FRGS Fruska Gora 98.39 37 P Pdif 09 08 15.3 +0.7
comp=Z,7.2nm,1.0s
OBN Obninsk 99.27 22 LR LR 09 53 31.8
comp=Z,326nm,20.9s,baz=356,slow=36
OBN Obninsk 99.27 22 *c* *i*P Pdif 09 08 17.6 -0.7
OBN *e**PP pP 09 08 29.8 +1.6
OBN *e*SP sP 09 08 38.1 +6.3
OBN 09 12 16.0
OBN pmax pmax
comp=Z,14nm,0.7s
OBN MLR MLR
comp=Z,286nm,16.0s
VAE Valguarnera 99.30 46 LR LR 09 53 12.0
comp=Z,233nm,19.2s,baz=332,slow=35
AK21 Malin Array Si 99.46 28 P Pdif 09 08 18.2 -1.0
AK20 Malin Array Si 99.47 28 P Pdif 09 08 18.2 -1.1
AK19 Malin Array Si 99.49 28 P Pdif 09 08 18.3 -1.0
AK22 Malin Array Si 99.49 28 P Pdif 09 08 18.3 -1.0
AK23 Malin Array Si 99.51 28 P Pdif 09 08 18.4 -1.0
AK18 Malin Array Si 99.51 28 P Pdif 09 08 18.4 -1.1
AK04 Malin Array Si 99.56 28 P Pdif 09 08 18.6 -1.1
AK03 Malin Array Si 99.58 28 P Pdif 09 08 18.7 -1.1
AK11 Malin Array Si 99.59 28 P Pdif 09 08 18.7 -1.1
AK14 Malin Array Si 99.59 29 P Pdif 09 08 18.8 -1.0
KIEV Kiev 99.59 28 P Pdif 09 08 18.8 -1.0
AKASG Malin Array Be 99.60 28 P Pdif 09 08 17.9 -2.0
comp=Z,0.8nm,0.5s,baz=292,slow=3.7,SNR=7.6
AKASG LR LR 09 54 35.3
comp=Z,134nm,18.2s,baz=356,slow=36
comp=Z,0.8nm,0.5s
AKASG Malin Array Be 99.60 28 *i* P Pdif 09 08 19.3 -0.5
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 99.60 28 *ce*P Pdif 09 08 18.1 -1.7
AKBB pmax pmax
comp=Z,15nm,2.0s
AKBB Malin Array Si 99.60 28 P Pdif 09 08 18.8 -1.0
AK01 Malin Array Si 99.60 28 P Pdif 09 08 18.8 -1.0
AK02 Malin Array Si 99.62 28 P Pdif 09 08 18.9 -1.0
AK08 Malin Array Si 99.66 28 P Pdif 09 08 19.1 -1.0
KIRV Kirov 100.12 14 *ce*P Pdif 09 08 21.1 -0.9
MAJO Matsushiro 100.38 314 *i* P Pdif 09 08 22.9 -0.8
MAJO pmax pmax
comp=Z,16nm,3.0s
MDJ Mudanjiang 101.00 325 P Pdif 09 08 24.1 -2.2
MDJ pmax pmax
comp=Z,10.0nm,2.0s
KIV Kislovodsk 110.62 26 *i* PKIKP PKiKP 09 13 07.3 -2.1
KIV pmax pmax
comp=Z,5.0nm,1.0s
HHC Hu-ho-hao-te 112.82 332 *e*PKP PKiKP 09 13 15.3 +1.6
MAK Makhachkala 113.34 23 *e*P Pdif 09 09 19.9 -1.3
MAK *i* 09 13 13.3
MAK *e* 09 13 26.7
MAK *e* 09 14 02.3
MAK *e*PPP PPP 09 16 27.8
MAK *e* 09 19 50.1
MAK *e*PS PS 09 23 40.7 +0.1
MAK *e*SS SS 09 29 53.5 +6.2
MAK *e*SSS SSS 09 33 58.7
MAK pmax pmax
comp=Z,24nm,0.3s
MKAR Makanchi Array 114.99 356 PKP PKiKP 09 13 16.4 -1.1
comp=Z,0.8nm,0.8s,baz=343,slow=1.3,SNR=5.5
NJ2 Nanjing 115.68 321 *e*PKP PKPdf 09 13 20.5 +1.3
WMQ Urumqi 117.34 351 *e*PKP PKiKP 09 13 23.6 +1.3
WMQ LR LR
comp=Z,160nm,21.7s
CD2 Chengdu 124.58 332 PKP PKPdf 09 13 35.6 -0.9
WRA Warramunga Arr 125.79 258 PKP PKPdf 09 13 38.4 -0.5
comp=Z,1.8nm,0.9s,baz=71,slow=1.6,SNR=10
ASAR Alice Springs 126.66 254 PKP PKPdf 09 13 39.4 -1.2
comp=Z,0.9nm,0.8s,baz=38,slow=2.3,SNR=7.1
PZH PanZhiHua 129.25 331 PKP PKPdf 09 13 45.3 -0.3
BOSA Boshof 131.99 112 PKP PKiKP 09 13 52.5 +0.9

comp=Z,2.7nm,0.8s,baz=146,slow=2.4,SNR=5.1
CMAR Chiang Mai Arr 137.43 328 PKP PKPdf 09 14 00.5 -0.5
comp=Z,1.0nm,0.3s,baz=348,slow=3.1,SNR=1.9
HYB Hyderabad 144.43 357 *e*PKPdf PKPab 09 14 11.7 0.0

IDC 17 09:01:11.7±3.2, 54°.31N×86°.52E, h0km, mbtmp2.7/2,
Error ellipse: s-maj=24.9km s-min=17.0km az=42.0,
Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.06	251	I	I	09 07 40.0	
	baz=73,slow=311,SNR=2.0						
ZALV	Zalesovo Beam	1.06	251	Pg	Pg	09 01 30.5	-1.6
	baz=69,slow=17						
ZALV				Lg	Lg	09 01 47.4	
	baz=77,slow=32						
KURBB	Kurchatov Arra	6.12	236	Pn	Pn	09 02 43.2	-0.1
	0.3nm,0.3s,baz=54,slow=14,SNR=2.7						
KURBB				Lg	Lg	09 04 26.9	
	baz=51,slow=30						
MKAR	Makanchi Array	7.99	201	Pn	Pn	09 03 10.6	+1.7
	0.2nm,0.4s,baz=24,slow=14,SNR=4.7						
MKAR				Lg	Lg	09 05 28.9	
	baz=30,slow=30						

IDC 17 09:20:05.1±3.2, 53°.55N×87°.79E, h0km, mbtmp2.6/2,
Error ellipse: s-maj=28.0km s-min=18.0km az=58.0,
Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.81	284	I	I	09 31 40.0	
	baz=100,slow=319,SNR=6.6						
ZALV	Zalesovo Beam	1.81	284	Pn	Pn	09 20 37.2	-0.3
	baz=104,slow=12						
ZALV				Lg	Lg	09 21 02.5	
	baz=102,slow=25						
KURBB	Kurchatov Arra	6.41	247	Pn	Pn	09 21 41.4	+0.7
	0.4nm,0.4s,baz=63,slow=14,SNR=3.2						
KURBB				Lg	Lg	09 23 27.6	
	baz=64,slow=33						
MKAR	Makanchi Array	7.62	210	Pn	Pn	09 21 58.7	+1.3
	0.1nm,0.3s,baz=32,slow=14,SNR=1.5						
MKAR				Lg	Lg	09 24 06.5	
	baz=24,slow=22						

IDC 17 09:24:19.7±3.4, 53°.60N×87°.99E, h0km, mbtmp2.8/2,
Error ellipse: s-maj=32.2km s-min=18.4km az=55.0,
Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.92	282	I	I	09 36 40.0	
	baz=95,slow=316,SNR=5.6						
ZALV	Zalesovo Beam	1.92	282	Pn	Pn	09 24 53.7	+0.1
	baz=102,slow=12						
ZALV				Lg	Lg	09 25 20.4	
	baz=104,slow=25						
KURBB	Kurchatov Arra	6.55	247	Pn	Pn	09 25 57.8	+0.6
	0.8nm,0.7s,baz=60,slow=13,SNR=4.5						
MKAR	Makanchi Array	7.73	210	Pn	Pn	09 26 14.7	+1.2
	0.4nm,0.6s,baz=29,slow=15,SNR=4.6						
MKAR				Lg	Lg	09 28 23.6	
	baz=28,slow=28						

*DNK **17** 10:13:40.0±1.7, 59°.76N×24°.39E, h0km, ML2.8, Explosion*
*BER **17** 10:13:41.6±2.3, 59°.37N×24°.21E, h0km, ML2.0,*
ML2.3(HEL), Suspected explosion
*UPP **17** 10:13:42.6±2.6, 59°.80N×24°.06E, h0km, ML2.6*
*HEL **17** 10:13:43.5±0.0, 59°.71N×23°.97E, h0km, ML1.5, Explosion*
*IDC **17** 10:13:45.0±1.0, 59°.87N×23°.99E, h0km, mbtmp3.3/4,*
ML3.0/4, Error ellipse: s-maj=11.4km s-min=6.2km
az=149.0
ISC 17 10:13:41.6±0.7, 59°.73N±0°.02×24°.03E±0°.03, h0km, n66,
σ1§53/89, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.53	20	*e*P	Pb	10 13 53.4	-0.3
MEF				*e*S	Sg	10 14 00.1	+1.6
MEF				MSG		10 14 00.8	
	comp=Z,4.9nm,0.0s						
HEL5	Espoo, Suvisaa	0.53	42	*e*P	Pb	10 13 53.6	-0.2
HEL5				MSG		10 14 01.3	
	comp=Z,10nm,0.1s						
EE01	Perakula, Nova	0.56	202	*e*P	Pg	10 13 52.9	+0.5
EE01				*e*S	Sg	10 13 59.8	+0.3
EE01				MSG		10 14 00.2	
	comp=Z,12nm,0.1s						
HEL3	Helsinki	0.60	41	*e*P	Pb	10 13 54.9	-0.1
HEL2	Helsinki	0.61	41	*e*P	Pb	10 13 55.1	-0.1
HEL1	Helsinki	0.62	43	*e*P	Pb	10 13 55.3	-0.1
EE02	Kiisa, Saku	0.64	147	*e*P	Pb	10 13 55.3	-0.3
EE02				*e*S	Sg	10 14 01.3	-0.7
EE02				MSG		10 14 02.3	
	comp=Z,8.5nm,0.1s						
NUR	Nurmijrvi	0.84	21	*e*P	Pb	10 13 59.0	-0.1
NUR				MSG		10 14 06.0	
	comp=Z,5.7nm,0.1s						
MTSE	Matsula	1.02	186	*e*P	Pg	10 14 01.6	+0.5
MTSE				*e*S	Sg	10 14 14.5	+0.1
ARBE	Arbavere	1.04	105	*e*P	Pb	10 14 02.3	-0.1
PVF	Pernaja	1.23	47	*e*P	Pn	10 14 06.2	+0.2
RAF	Rauma	1.72	320	*e*P	Pn	10 14 15.2	+0.7
FINES	FINESS Array B	2.00	30	Pn	Pb	10 14 19.3	+0.5
	comp=Z,4.8nm,0.3s,baz=214,slow=15,SNR=211						
FINES				Lg	Lg	10 14 44.7	
	comp=Z,13nm,0.3s,baz=214,slow=25,SNR=25						
FIA1	FINESS Array S	2.00	30	*e*PG	Pg	10 14 19.6	-0.3
FIA1				*e*SG	Sg	10 14 46.9	+1.1
AAL	Aland	2.08	284	*e*P	Pn	10 14 19.5	+1.8
AAL	Aland	2.08	284	P	Pn	10 14 19.0	+1.3
AAL				S	Sn	10 14 46.2	+1.9
AAL	Aland	2.08	284	P	Pn	10 14 19.0	+1.3
AAL				S	Sn	10 14 46.2	+1.9
AAL	Aland	2.08	284	*e*PB	Pn	10 14 19.6	+1.8
AAL				*e*SB	Sn	10 14 46.1	+1.8
SLIT	Slitere, Latvi	2.29	204	*e*P	Pb	10 14 23.1	-0.6
KPF	Kankaanpaa	2.32	336	*e*PG	Pb	10 14 24.7	+0.4
KPF				*e*SG	Sb	10 14 55.2	+1.7
KEF	Keuruu	2.48	9	*e*P	Pb	10 14 27.4	+0.3
KEF	Keuruu	2.48	9	*e*PB	Pb	10 14 27.3	+0.3
KEF				*e*SG	Sg	10 15 00.0	-1.3
NRTU	Norrtaelje	2.74	271	P	Pn	10 14 27.4	+0.7
NRTU	Norrtaelje	2.74	271	P	Pn	10 14 27.4	+0.7
GRAU	Graesoe	2.82	285	P	Pn	10 14 28.5	+0.6
GRAU	Graesoe	2.82	285	P	Pn	10 14 28.5	+0.6
FLYU	Flymyra	3.12	280	P	Pn	10 14 33.0	+1.0
FLYU	Flymyra	3.12	280	P	Pn	10 14 33.0	+1.0
NYNU	Nynaeshamn	3.17	259	P	Pn	10 14 34.0	+1.4
NYNU	Nynaeshamn	3.17	259	P	Pn	10 14 34.0	+1.4
FIBU	Brunna	3.38	276	P	Pn	10 14 36.6	+1.1
FIBU	Brunna	3.38	276	P	Pn	10 14 36.6	+1.1
VAF	Ylistaro	3.39	349	*e*P	Pb	10 14 41.1	-1.4
BACU	Backbrunna	3.50	275	P	Pn	10 14 38.7	+1.5
BACU	Backbrunna	3.50	275	P	Pn	10 14 38.7	+1.5
OSTU	Oestervaala	3.50	281	P	Pn	10 14 38.3	+1.1
OSTU	Oestervaala	3.50	281	P	Pn	10 14 38.3	+1.1
GOTU	Gotland	3.51	237	P	Pn	10 14 38.9	+1.6
GOTU	Gotland	3.51	237	P	Pn	10 14 38.9	+1.6
VIKU	Vikbolandet	3.97	255	*e*P	Pn	10 14 45.9	+2.2
JOF	Joensuu	4.75	44	*e*P	Pn	10 14 55.9	+1.5
HFS	Hagfors	5.21	279	Pn	Pn	10 15 01.8	+1.0
	comp=Z,0.4nm,0.3s,baz=114,slow=15,SNR=13						
HFS				Sn	Sn	10 16 02.9	+1.4
	comp=Z,0.7nm,0.3s,baz=106,slow=28,SNR=5.8						
HFS				Lg	Lg	10 16 26.7	
	comp=Z,1.3nm,0.3s,baz=109,slow=27,SNR=5.1						
	comp=Z,1.3nm,0.2s						
BLEU	Blekinge	5.55	235	*i* P	Pn	10 15 06.6	+1.3
BLEU				*e*S	Sn	10 16 07.8	-2.0
NOD	Norderasen	5.75	314	*e*P	Pn	10 15 09.4	+1.3
BORU	Boraas	6.24	255	*i* P	Pn	10 15 15.0	+0.3
DEL	Delary	6.30	243	*e*P	Pn	10 15 16.8	+1.2
DEL	Delary	6.30	243	*i* P	Pn	10 15 17.0	+1.4
NC602	NORSAR Array S	6.30	285	*e*P	Pn	10 15 16.0	+0.3
NC602				*e*S	Sn	10 16 25.9	-2.4
NC602				IAML		10 17 17.7	
	comp=Z,2.4nm,0.4s						
NC303	NORSAR Array S	6.44	289	*e*P	Pn	10 15 17.6	+0.1
NC303				*e*S	Sn	10 16 29.6	-2.1
NC303				IAML		10 16 55.5	
	comp=Z,1.8nm,0.2s						
NB201	NORSAR Array S	6.45	287	*e*P	Pn	10 15 17.4	-0.4
NB201				*e*S	Sn	10 16 29.2	-2.9
NB201				IAML		10 16 44.1	
	comp=Z,1.8nm,0.2s						
NOA	NORSAR Array B	6.49	287	Pn	Pn	10 15 18.1	-0.2
	comp=Z,0.1nm,0.3s,baz=91,slow=14,SNR=30						
NOA				Sn	Sn	10 16 32.7	-0.2
	comp=Z,0.1nm,0.3s,baz=358,slow=18,SNR=4.0						
NOA				Lg	Lg	10 17 02.8	
	comp=Z,0.1nm,0.3s,baz=290,slow=14,SNR=4.3						
	comp=Z,0.3nm,0.2s						
STRU	Stroemstad	6.60	270	*e*P	Pn	10 15 19.5	-0.2
STRU				*e*S	Sn	10 16 31.2	-4.4
STRU	Stroemstad	6.60	270	*i* P	Pn	10 15 19.2	-0.6
NAO01	NORSAR Array S	6.63	285	*e*P	Pn	10 15 20.2	0.0
NAO01				*e*S	Sn	10 16 32.9	-3.6
NAO01				IAML		10 17 16.0	
	comp=Z,2.3nm,0.6s						
BSD	Bornholm Skovb	6.75	231	*e*P	Pn	10 15 20.7	-1.1
BSD				IAML		10 17 19.4	
	comp=Z,3.5nm,0.6s						
ONAU	Onsala	6.75	255	*i* P	Pn	10 15 22.8	+0.9
ONAU				*e*S	Sn	10 16 39.0	-0.4
BJUU	Bjuv	6.91	243	*e*P	Pn	10 15 24.5	+0.5
BJUU				*e*S	Sn	10 16 40.4	-2.9
KONO	Kongsberg	7.31	276	*e*S	Sn	10 16 44.6	-8.3
KONO				IAML		10 17 11.6	
	comp=Z,1.5nm,0.5s						
DOMB	Dombas	7.66	294	*e*P	Pn	10 15 33.4	-1.0
DOMB				*e*S	Sn	10 16 57.5	-4.2
DOMB				IAML		10 17 05.8	
	comp=Z,2.5nm,0.2s						
STOK	Stokkvaagen	8.29	328	*e*P	Pn	10 15 41.1	-1.8
KONS	Konsvik	8.39	329	*e*P	Pn	10 15 45.4	+1.1
KONS				*e*S	Sn	10 17 16.5	-3.0
KONS				IAML		10 17 29.1	
	comp=Z,1.8nm,0.8s						
FAUS	Fauske	8.61	337	*e*P	Pn	10 15 48.5	+1.3
FAUS				*e*S	Sn	10 17 21.2	-3.6
FAUS				IAML		10 17 53.8	
	comp=Z,1.7nm,0.7s						
HEF	Hetta	8.72	359	*e*P	Pn	10 15 50.3	+1.5
STEI	Steigen	9.09	339	*e*P	Pn	10 15 55.5	+1.7
STEI				*e*S	Sn	10 17 33.5	-3.3
STEI				IAML		10 17 42.8	
	comp=Z,0.8nm,0.7s						
AKASG	Malin Array Be	9.52	160	Pn	Pn	10 16 00.0	+0.3
	comp=Z,0.9nm,0.3s,baz=337,slow=12,SNR=4.8						
	comp=Z,0.3nm,0.3s						
ARCES	ARCESS Array B	9.87	3	Pn	Pn	10 16 03.8	-0.8
	comp=Z,0.5nm,0.3s,baz=180,slow=14,SNR=2.7						
	comp=Z,0.9nm,0.3s						

*IDC **17** 10:31:58.1±1.1, 35°.62N×143°.79E, h0km, mb3.6/5,*
mbtmp3.6/8, ML3.1/3, Error ellipse: s-maj=27.6km
s-min=21.4km az=78.0
*JMA **17** 10:32:02.9±0.4, 36°.N±1°.×14°.4E±°, h104km, MV3.2/30,*
FAR E OFF CENTRAL HONSHU
ISC 17 10:32:03.4±1.1, 35°.81N±0°.06×143°.66E±0°.09, h35km, n24,
σ1§84/29, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	2.55	283	*e*P	Pn	10 32 42.1	-0.1
JHYU				*e*S	Sn	10 33 12.5	+0.6
JHO	Hitachi	2.63	289	P	Pn	10 32 43.5	+0.2
JHO				*e*S	Sn	10 33 14.1	+0.2
JFK	Kawauchi	2.73	306	*e*S	Sn	10 33 16.1	-0.4
JYT	Yasato	2.84	279	P	Pn	10 32 46.3	0.0
JYT				*e*S	Sn	10 33 19.3	+0.1
JOTO	OTAMA OYAMA	3.20	304	P	Pn	10 32 52.4	+1.2
JOTO				S	Sn	10 33 28.5	+0.5
JAG	Ashikaga	3.46	281	P	Pn	10 32 55.1	+0.3
JAG				*e*S	Sn	10 33 34.7	+0.1
JMK	Ichinoseki	3.69	329	P	Pn	10 32 58.9	+1.0
JMK				S	Sn	10 33 39.0	-1.2
JYK	Kaneyama	4.07	321	*e*P	Pn	10 33 03.9	+0.8
JHJ2	Mitsune	4.16	231	P	Pn	10 33 02.9	-1.5
JHJ2				S	Sn	10 33 49.9	-1.9
JHJ	Hachijo jima 2	4.18	231	Pn	Pn	10 33 02.6	-2.1
	6.4nm,0.3s,baz=98,slow=23,SNR=16						
JHJ				Sn	Sn	10 33 48.9	-3.4
	5.5nm,0.3s,baz=79,slow=21,SNR=7.0						
	16nm,0.3s						
MJAR	Matsushiro Arr	4.47	281	Pn	Pn	10 33 09.9	+1.2
	0.2nm,0.3s,baz=98,slow=11,SNR=6.5						
MJAR				Sn	Sn	10 34 02.3	+2.8
	baz=100,slow=26						
	1.9nm,0.6s						
JCH	Churui	6.80	358	P	Pn	10 33 38.9	-1.7
JCH				*e*S	Sn	10 34 50.5	-6.2
ASAJ	Asahikawa	8.34	355	Pn	Pn	10 34 02.4	+0.7
	0.5nm,0.3s,baz=149,slow=12,SNR=2.5						
ASAJ				Sn	Sn	10 35 32.9	-1.6
	0.4nm,0.3s,baz=271,slow=33,SNR=2.0						
	2.2nm,0.5s						
H11N2	WAKE ISLAND Hy	25.96	122	T	T	11 04 04.9	
	baz=314,slow=75,SNR=7.2						
H11N1	WAKE ISLAND Hy	25.97	122	T	T	11 04 08.3	
	baz=314,slow=75,SNR=6.0						
H11N3	WAKE ISLAND Hy	25.98	122	T	T	11 04 05.9	
	baz=314,slow=75,SNR=6.2						
H11S1	WAKE ISLAND Hy	26.67	124	T	T	11 04 58.7	
	baz=316,slow=75,SNR=5.1						
H11S3	WAKE ISLAND Hy	26.67	124	T	T	11 04 58.7	
	baz=316,slow=75,SNR=2.3						
H11S2	WAKE ISLAND Hy	26.69	124	T	T	11 04 58.3	
	baz=316,slow=75,SNR=4.1						
ZALV	Zalesovo Beam	44.08	313	P	P	10 40 09.1	+1.3
	0.7nm,0.6s,baz=84,slow=13,SNR=1.9						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	48.18	309	P	P	10 40 41.3	+1.2
	0.4nm,0.5s,baz=85,slow=8.3,SNR=4.6						
	0.4nm,0.5s						
WRA	Warramunga Arr	56.15	191	P	P	10 41 38.4	-1.1
	1.1nm,0.6s,baz=13,slow=7.6,SNR=15						
	1.1nm,0.6s						
ASAR	Alice Springs	59.87	190	P	P	10 42 04.3	-1.3
	0.7nm,0.7s,baz=20,slow=8.2,SNR=6.8						
	0.7nm,0.7s						
NVAR	Mina Array Bea	74.26	54	P	P	10 43 37.9	+0.7
	0.1nm,0.3s,baz=314,slow=5.9,SNR=1.9						
	0.1nm,0.3s						

*NNC **17** 10:52:29.5±8.3, 38°.90N×71°.16E, h0km, mb3.7, mpv3.3,*
Error ellipse: s-maj=58.6km s-min=38.0km az=175.0
*SOME **17** 10:52:36.2, 39°.32N×70°.83E, h15km*
*KRNET **17** 10:52:37.8±0.1, 39°.02N×70°.67E, h9km, mb2.7*
ISC 17 10:52:37.3±1.4, 39°.02N±0°.06×70°.65E±0°.04, h5km±12km,
n13, σ1§76/20, 5C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	0.26	266⇑	*e*P	Pg	10 52 43.2	+0.7
	baz=67						
GAR			⇑	*i*S	Sg	10 52 47.4	+1.4
	baz=67						
DRK	Karamyk	1.00	62⇓	*i*P	Pg	10 52 56.9	+0.3
	baz=62						
DRK			⇓	*i*S	Sb	10 53 10.9	-0.1
	baz=62						
BTK	Batken	1.04	7⇑	*i*P	Pg	10 52 57.9	+0.5
	baz=6.0						
BTK			⇑	*i*S	Sb	10 53 12.3	+0.2
	baz=6.0						
CHGR	Chuyangaron	1.22	253⇓	*i*P	Pn	10 53 01.1	-0.1
	baz=54						
CHGR			⇓	*i*S	Sn	10 53 18.4	+0.2
	baz=54						
SFK	Sufi-Kurgan	2.42	65⇓	*e*P	Pb	10 53 20.3	-1.2
	baz=65						
SFK			⇓	*e*S	Sb	10 53 51.7	0.0
	baz=65						
TRKS	Terek-Say	2.54	8⇓	*e*P	Pn	10 53 21.5	+2.2
	baz=9.0						
TRKS			⇓	*e*S	Sb	10 53 53.1	-1.9
	baz=9.0						
IUG	Iuzhnay	3.16	352	*e*P	Pb	10 53 31.4	-2.7
	12nm,0.4s						

IUG				*e*S	**Sb**	**10 54 14.7**	**+1.7**
	43nm,0.6s						
IUG	**Iuzhnay**	**3.16 352**		Pg	**Pb**	**10 53 32.2**	**-1.9**
	12nm,0.4s						
IUG				Lg	Lg	10 54 16.2	
	43nm,0.6s						
BRLS	**Borolday**	**4.05 351**		*e*P	**Pn**	**10 53 40.2**	**+0.1**
	1.0nm,0.2s						
BRLS				*e*S	**Sn**	**10 54 30.6**	**+2.7**
	6.1nm,0.0s						
BRLS	**Borolday**	**4.05 351**		Pg	**Pn**	**10 53 40.2**	**+0.1**
	1.0nm,0.2s						
BRLS				Lg	Lg	10 54 30.6	
	6.1nm,0.0s						
KK31	**Karatay Array**	**4.08 359**		⇑Pg	**Pb**	**10 53 45.7**	**-4.0**
	0.9nm,0.3s,baz=175,slow=12,SNR=21						
KK31				⇓Lg	Lg	10 54 43.5	
	1.3nm,0.3s,baz=170,slow=29,SNR=6.2						
MRKS	**Merke**	**4.20**	**27**	*e*P	Pn	10 53 47.0	+4.8
	2.6nm,0.4s						
MRKS				*e*S	**Sb**	**10 54 43.0**	**+0.1**
	4.6nm,0.5s						
MRKS	**Merke**	**4.20**	**27**	Pg	Pn	10 53 47.0	+4.8
	2.6nm,0.4s						
MRKS				Lg	Lg	10 54 43.0	
	4.6nm,0.5s						

*IDC **17** 10:52:42.3±0.5, 29.°07S×178.°66W, h209km±5km, mb3.4/6, mbtmp3.9/6, Error ellipse: s-maj=20.6km s-min=19.9km az=57.0*

ISC 17 10:52:42.5±0.7, 29.°5S±0.°1×178.°7W±0.°1, h204km, n17, σ1°74/23, mb3.6/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.71**	**72**	P	**Pn**	**10 53 12.5**	**+1.5**
	2μm,0.3s,baz=201,slow=5.5,SNR=14						
RAO				S	**S**	**10 53 33.8**	**+0.9**
	1μm,0.3s,baz=79,slow=22,SNR=6.5						
URZ	**Urewera**	**9.44**	**201**	P	**Pn**	**10 54 53.0**	**-1.4**
	1.7nm,0.4s,baz=63,slow=14,SNR=1.1						
URZ				S	**S**	**10 56 38.4**	**-1.7**
	9.0nm,0.4s,baz=110,slow=23,SNR=13						
ASAR	**Alice Springs**	**42.57**	**266**	P	**P**	**11 00 18.2**	**-0.4**
	0.5nm,0.4s,baz=98,slow=6.7,SNR=15						
ASAR				pP	**pP**	**11 01 03.4**	**+1.9**
	0.2nm,0.3s,baz=103,slow=7.1,SNR=1.5						
ASAR				PcP	**PP**	**11 02 04.8**	**+3.2**
	0.3nm,0.5s,baz=112,slow=4.7,SNR=2.2						
ASAR				ScP	**ScP**	**11 05 37.7**	**-0.8**
	0.3nm,0.6s,baz=123,slow=3.4,SNR=1.9						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**43.47**	**272**	P	**P**	**11 00 24.8**	**-1.1**
	0.7nm,0.5s,baz=109,slow=7.5,SNR=13						
WRA				pP	**pP**	**11 01 11.2**	**+2.3**
	0.5nm,0.4s,baz=110,slow=7.2,SNR=3.3						
	0.7nm,0.5s						
QSPA	**South Pole Qui**	**60.64**	**180**	P	**P**	**11 02 33.8**	**+2.0**
	1.5nm,0.7s,baz=354,slow=1.2,SNR=14						
	1.5nm,0.7s						
MJAR	**Matsushiro Arr**	**77.14**	**326**	P	**P**	**11 04 11.2**	**-2.3**
	0.9nm,0.4s,baz=172,slow=6.3,SNR=5.4						
	0.9nm,0.4s						
KSRS	**Korea Array**	**83.25**	**320**	P	**P**	**11 04 44.8**	**-1.2**
	0.8nm,0.6s,baz=144,slow=6.5,SNR=5.6						
	0.8nm,0.6s						
NVAR	**Mina Array Bea**	**87.97**	**43**	P	**P**	**11 05 07.6**	**-1.9**
	0.7nm,0.8s,baz=214,slow=7.7,SNR=5.6						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**125.32**	**316**	PKP	**PKPdf**	**11 11 16.7**	**-1.8**
	0.9nm,0.5s,baz=42,slow=2.6,SNR=5.0						
FINES	**FINESS Array B**	**144.07**	**340**	PKP	**PKPab**	**11 11 48.9**	**-2.2**
	3.6nm,0.5s,baz=59,slow=3.5,SNR=45						
KBZ	**Khabaz**	**144.09**	**305**	PKP	**PKPab**	**11 11 50.9**	**-0.9**
	0.5nm,0.3s,baz=116,slow=3.0,SNR=3.5						
NB2	**NORSAR Subarra**	**147.74**	**351**	PKP	**PKPdf**	**11 11 59.9**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=13,slow=2.9						
NOA	**NORSAR Array B**	**147.74**	**351**	PKPbc	**PKPdf**	**11 12 00.1**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=15,slow=4.5,SNR=11						
HFS	**Hagfors**	**148.21**	**348**	PKPbc	**PKPdf**	**11 12 00.8**	**+0.7**
	comp=Z,1.9nm,0.4s,baz=85,slow=1.6,SNR=21						
AKASG	**Malin Array Be**	**150.20**	**323**	PKPbc	**PKPdf**	**11 12 06.1**	**+2.5**
	comp=Z,1.6nm,0.4s,baz=45,slow=3.1,SNR=2.5						
MMAI	**Mount Meron Ar**	**150.71**	**286**	PKPbc	**PKPbc**	**11 12 10.8**	**+0.1**
	comp=Z,3.9nm,0.5s,baz=42,slow=2.3,SNR=6.6						
TORD	**Torodi Ar. Bea**	**163.76**	**181**	PKPab	**PKPab**	**11 13 15.8**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=166,slow=2.8,SNR=6.8						

*IDC **17** 10:56:48.9±1.8, 16.°73N×145.°70E, h189km±17km, mb3.2/7, mbtmp3.7/8, Error ellipse: s-maj=31.5km s-min=16.1km az=89.0*

*NEIC **17** 10:56:50.2±1.6, 16.°70N±0.°08×145.°72E±0.°09, h201km±8km, mb4.3/16, Error ellipse: s-maj=15.5km s-min=8.3km az=133.0*

ISC 17 10:56:50.0±0.7, 16.°65N±0.°07×145.°7E±0.°2, h200km, n29, σ0°96/30, mb4.1/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.13 194**			**Pn**	**10 57 40.8**	**-0.5**
GUMO	**Guam**	**3.13 194**		P	**Pn**	**10 57 41.0**	**-0.3**
	41nm,0.3s,baz=8.7,slow=13,SNR=26						
GUMO				S	**Sn**	**10 58 21.3**	**-0.1**
	64nm,0.4s,baz=359,slow=21,SNR=6.8						
JCJ	**Chichijima**	**10.88 343**		Pn	**Pn**	**10 59 21.6**	**+1.1**
JHJ2	**Mitsune**	**17.22 343**		P	**P**	**11 00 36.0**	**-1.2**
JOW	**Kunigami**	**19.03 305**		P	**P**	**11 00 57.3**	**+0.3**
KSRS	**Korea Array**	**25.96 326**		P	**P**	**11 02 04.8**	**+0.7**
	0.9nm,0.7s,baz=136,slow=9.4,SNR=6.0						
	0.9nm,0.7s						
KNRA	**Kununurra**	**36.19 208**		P	**P**	**11 03 32.4**	**-1.2**
KNRA				IAmb	IAmb	11 03 56.2	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**37.84 197**		P	**P**	**11 03 47.5**	**-0.1**
WB0				IAmb	IAmb	11 04 19.7	
	comp=Z,9.2nm,1.4s						
WRA	**Warramunga Arr**	**38.02 197**		P	**P**	**11 03 49.6**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=27,slow=8.7,SNR=14						
	comp=Z,0.5nm,0.4s						
AS31	**Alice Springs**	**41.68 196**		P	**P**	**11 04 20.6**	**+1.4**
ASAR	**Alice Springs**	**41.68 196**		P	**P**	**11 04 19.9**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=12,slow=13,SNR=6.7						
	comp=Z,0.3nm,0.6s						
L16K	**Owhat River**	**59.13**	**27**	P	**P**	**11 06 28.4**	**-0.8**
L16K				IAmb	IAmb	11 06 39.4	
	comp=Z,4.9nm,1.2s						
J16K	**Anvik River**	**59.32**	**25**	P	**P**	**11 06 30.5**	**-0.1**
J16K				IAmb	IAmb	11 06 56.2	
	comp=Z,8.5nm,1.4s						
K17K	**Iditarod**	**60.04**	**26**	P	**P**	**11 06 35.6**	**+0.2**
K17K				IAmb	IAmb	11 06 51.3	
	comp=Z,7.6nm,1.4s						
H18K	**Honhosa River**	**61.01**	**24**	P	**P**	**11 06 41.1**	**-0.9**
H18K				IAmb	IAmb	11 06 42.8	
	comp=Z,10nm,1.5s						
N19K	**Bonanza Creek**	**61.05**	**29**	P	**P**	**11 06 42.1**	**-0.3**
RSO	**Redoubt South**	**61.75**	**30**	P	**P**	**11 06 44.5**	**-2.8**
G19K	**Purcell Mounta**	**61.90**	**23**	P	**P**	**11 06 47.4**	**-0.5**
BKZ	**Black Stump Fm**	**62.57**	**153**	P	**P**	**11 06 53.7**	**+1.0**
KURBB	**Kurchatov Arra**	**62.81**	**319**	P	**P**	**11 06 53.9**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=96,slow=7.4,SNR=11						
	comp=Z,1.0nm,0.6s						
CAST	**Castle Rocks**	**62.94**	**27**	P	**P**	**11 06 53.9**	**-1.0**
IMAR	**Indian Mountai**	**63.10**	**24**	P	**P**	**11 06 55.9**	**0.0**
H21K	**Melozitna Rive**	**63.36**	**24**	P	**P**	**11 06 57.9**	**+0.3**
LTZ	**Lake Taylor**	**64.01**	**158**	P	**P**	**11 07 02.4**	**+0.3**
LTZ				IAmb	IAmb	11 07 44.6	
	comp=Z,6.5nm,1.1s						
SCM	**Sheep Creek Mo**	**64.65**	**29**	P	**P**	**11 07 04.8**	**-1.3**
SCM				IAmb	IAmb	11 07 22.3	
	comp=Z,7.7nm,1.2s						
ILAR	**Eielson Array**	**65.50**	**26**	P	**P**	**11 07 10.0**	**-1.5**
	comp=Z,0.4nm,0.9s,baz=248,slow=6.0,SNR=5.8						
	comp=Z,0.4nm,0.9s						
BVAR	**Borovoye Array**	**68.02**	**321**	P	**P**	**11 07 27.2**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=117,slow=5.4,SNR=2.9						
	comp=Z,0.6nm,0.4s						
ABKAR	**Akbulak array**	**74.80**	**317**	P	**P**	**11 08 07.6**	**-0.6**
NVAR	**Mina Array Bea**	**84.44**	**52**	P	**P**	**11 09 01.4**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=280,slow=5.4,SNR=3.0						
	comp=Z,0.2nm,0.6s						

*MEX **17** 10:58:14.1±0.6, 13.°23N×92.°42W, h16km±759km, MD4.0*

*IDC **17** 10:58:20.4±5.4, 14.°06N×92.°56W, h0km, mb3.5/2, mbtmp3.5/5, ML3.4/3, Error ellipse: s-maj=80.6km s-min=45.6km az=0.0*

ISC 17 10:58:17.1±2.4, 13.°6N±0.°2×92.°39W±0.°09, h10km, n12, σ1°74/19, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHUJ	**Union Juarez**	**1.52**	**10**	*e*P	**Pn**	**10 58 42.4**	**-2.1**
CHUJ				*i* S	**Sn**	**10 59 03.7**	**-0.9**
PAVE	**Pavencul**	**1.61**	**7**	*e*P	**Pn**	**10 58 43.9**	**-1.8**
PAVE				*i* S	**Sn**	**10 59 07.3**	**+0.6**
PCIG		**2.25**	**339**	*e*P	**Pn**	**10 58 52.1**	**-2.2**
PCIG				*e*S	**Sn**	**10 59 22.1**	**0.0**
CCIG	**Comitan**	**2.69**	**5**	*e*P	**Pn**	**10 59 00.2**	**-0.4**
CCIG				*e*S	**Sn**	**10 59 36.9**	**+3.6**
TGIG		**3.25**	**348**	*e*P	**Pn**	**10 59 07.8**	**-0.3**
TGIG				*e*S	**Sn**	**10 59 43.6**	**-3.3**
UXUV	**UXUV**	**4.07**	**336**	*e*P	**Pn**	**10 59 20.0**	**+0.5**
UXUV				*e*S	**Sn**	**11 00 09.2**	**+1.9**
CMIG	**Matias Romero**	**4.23**	**326**	Pn	**Pn**	**10 59 20.1**	**-1.5**
	0.7nm,0.3s,baz=141,slow=11,SNR=2.3						
CMIG				Sn	Sn	11 00 03.8	-7.3
	0.9nm,0.3s,baz=141,slow=12,SNR=2.0						
	1.6nm,0.3s						
CMIG	**Matias Romero**	**4.23**	**326**	*e*P	**Pn**	**10 59 21.1**	**-0.6**
CMIG				*i* S	**Sn**	**11 00 12.9**	**+1.8**
TEIG	**Tepich**	**7.68**	**30**	Pn	**Pn**	**11 00 09.2**	**+0.2**
	2.5nm,0.3s,baz=50,slow=2.7,SNR=15						
	4.8nm,0.3s						
TXAR	**Lajitas Array**	**18.83**	**328**	P	**Pn**	**11 02 38.0**	**+0.2**
	baz=154,slow=12,SNR=5.0						
	0.5nm,0.9s						
PDAR	**Pinedale Array**	**32.64**	**336**	P	**P**	**11 04 50.1**	**+0.7**
	0.6nm,0.9s,baz=153,slow=8.1,SNR=4.0						
	0.6nm,0.9s						
NVAR	**Mina Array Bea**	**33.75**	**322**	P	**P**	**11 04 59.4**	**+0.1**
	0.7nm,0.9s,baz=138,slow=8.3,SNR=4.6						
	0.7nm,0.9s						

*JMA **17** 11:07:52.6±0.2, 25.°N±2.°×122.°9E±0.°7, h137km±2km, MV2.7/17, NW OFF ISHIGAKIJIMA IS*

*TAP **17** 11:07:52.1, 24.°86N×122.°92E, h139km, ML3.5, C*

ISC 17 11:07:53.0±1.5, 24.°81N±0.°06×122.°90E±0.°03, h134km±8km, n87, σ0°79/153, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.36**	**173**	P	**Pn**	**11 08 12.0**	**+0.2**
JYNG				*e*S	**Sn**	**11 08 26.2**	**+0.1**
YOJ	**Yonaguni jima**	**0.36**	**164**	P	**Pn**	**11 08 12.1**	**+0.2**
YOJ	**Yonaguni jima**	**0.36**	**164**	P	**Pn**	**11 08 12.0**	**+0.2**
	baz=159						
YOJ				S	**Sn**	**11 08 26.6**	**+0.4**
	baz=159						
YOJ	**Yonaguni jima**	**0.36**	**164**	P	**Pn**	**11 08 12.0**	**+0.2**
YOJ				*e*S	**Sn**	**11 08 26.5**	**+0.4**
EOS2	**EOS2**	**0.72**	**237**	P	**Pn**	**11 08 14.1**	**+0.3**
	baz=244						
EOS2				S	**Sn**	**11 08 30.7**	**+1.2**
	baz=244						
EOS3	**EOS3**	**0.74**	**226**	P	**Pn**	**11 08 14.3**	**+0.4**
	baz=233						
EOS3				*e*S	**Sn**	**11 08 31.3**	**+1.5**
	baz=233						
EOS4	**EOS4**	**0.87**	**218**	P	**Pn**	**11 08 14.9**	**+0.2**
	baz=217						
EOS4				*e*S	**Sn**	**11 08 32.2**	**+1.0**
	baz=217						
IRIF	**Iriomote-Funau**	**0.89**	**122**	P	**Pn**	**11 08 15.3**	**0.0**
IRIF				*e*S	**Sn**	**11 08 32.1**	**-0.1**
TWC	**Suao**	**0.98**	**258**	P	**Pn**	**11 08 15.6**	**-0.4**
	baz=250						
TWC				S	**Sn**	**11 08 32.4**	**-1.1**
	baz=250						
TIPB	**Shuangxi**	**0.99**	**279**	P	**Pn**	**11 08 16.3**	**+0.1**
	baz=272						
TIPB				*e*S	**Sn**	**11 08 33.0**	**-0.8**
	baz=272						
EWUT	**Wuta**	**1.08**	**251**	P	**Pn**	**11 08 17.0**	**0.0**
	baz=250						
EWUT				*e*S	**Sn**	**11 08 35.3**	**0.0**
	baz=250						
NDS	**Dongshan**	**1.09**	**261**	*e*P	**Pn**	**11 08 17.3**	**+0.2**
	baz=256						
NDS				*e*S	**Sn**	**11 08 34.8**	**-0.7**
	baz=256						
HATJ	**Hateruma jima**	**1.12**	**132**	*e*P	**Pn**	**11 08 18.0**	**+0.7**
HATJ				*e*S	**Sn**	**11 08 36.1**	**+0.3**
ENA	**Nanau**	**1.12**	**250**	P	**Pn**	**11 08 17.6**	**+0.2**
	baz=249						
ENA				*e*S	**Sn**	**11 08 35.7**	**-0.3**
	baz=249						
TWE	**Neicheng**	**1.12**	**266**	P	**Pn**	**11 08 17.4**	**0.0**
	baz=258						
TWE				*e*S	**Sn**	**11 08 35.5**	**-0.4**
	baz=258						
EAHA	**Aohua**	**1.16**	**246**	*e*P	**Pn**	**11 08 17.6**	**-0.1**
	baz=242						
EAHA				*e*S	**Sn**	**11 08 36.2**	**-0.4**
	baz=242						
JKRS	**Kuro-shima**	**1.16**	**119**	P	**Pn**	**11 08 18.3**	**+0.6**
JKRS				S	**Sn**	**11 08 36.6**	**0.0**
FUSB	**Fushanzhiwuyua**	**1.19**	**268**	P	**Pn**	**11 08 18.1**	**0.0**
	baz=260						
FUSB				*e*S	**Sn**	**11 08 36.2**	**-1.1**
	baz=260						
TWA	**Mucha**	**1.21**	**278**	*e*S	**Sn**	**11 08 37.2**	**-0.3**
	baz=268						
JIJ	**Ishigaki jima**	**1.22**	**111**	*i* P	**Pn**	**11 08 18.2**	**-0.1**
JIJ				S	**Sn**	**11 08 36.5**	**-1.1**
ENTT	**Nioudou**	**1.23**	**262**	P	**Pn**	**11 08 18.6**	**+0.1**
	baz=257						
ENTT				S	**Sn**	**11 08 38.4**	**+0.5**
	baz=257						
YM01	**YM01**	**1.25**	**286**	P	**Pn**	**11 08 19.0**	**+0.2**
	baz=284						
YM01				S	**Sn**	**11 08 38.5**	**+0.1**
	baz=284						
NWLT	**Wulai**	**1.27**	**269**	*e*P	**Pn**	**11 08 18.7**	**-0.2**
	baz=262						
NWLT				*e*S	**Sn**	**11 08 37.7**	**-1.0**
	baz=262						
NDT	**Datong Townshi**	**1.28**	**261**	P	**Pn**	**11 08 19.6**	**+0.6**
	baz=257						
NDT				S	**Sn**	**11 08 39.2**	**+0.4**
	baz=257						
LATG	**Datong**	**1.28**	**258**	P	**Pn**	**11 08 19.3**	**+0.2**
	baz=252						
LATG				S	**Sn**	**11 08 39.4**	**+0.4**
	baz=252						
JISG	**Ishigakijimahi**	**1.30**	**100**	*e*P	**Pn**	**11 08 19.1**	**-0.1**
JISG				S	**Sn**	**11 08 38.3**	**-0.9**
ETL	**Fush Village**	**1.33**	**241**	*e*P	**Pn**	**11 08 18.9**	**-0.7**
	baz=246						
ETL				*e*S	**Sn**	**11 08 39.2**	**-0.6**
	baz=246						
NACB	**Ninganchiao**	**1.35**	**242**	P	**Pn**	**11 08 19.3**	**-0.4**
NACB	**Ninganchiao**	**1.35**	**242**	P	**Pn**	**11 08 19.1**	**-0.6**
	baz=242						
NACB				*e*S	**Sn**	**11 08 39.1**	**-0.9**
	baz=242						
YHNB	**Yeheng**	**1.39**	**264**	P	**Pn**	**11 08 20.7**	**+0.4**
YHNB	**Yeheng**	**1.39**	**264**	P	**Pn**	**11 08 20.5**	**+0.2**
	baz=264						
YHNB				S	**Sn**	**11 08 40.8**	**-0.2**
	baz=264						
TWD	**Chiawan**	**1.39**	**239**	P	**Pn**	**11 08 19.8**	**-0.4**
	baz=234						
TWD				*e*S	**Sn**	**11 08 39.9**	**-1.0**
	baz=234						
NSK	**Sanguang**	**1.41**	**265**	P	**Pn**	**11 08 20.5**	**+0.1**
	baz=264						
NSK				*e*S	**Sn**	**11 08 40.7**	**-0.6**
	baz=264						
NNSB	**Datong**	**1.43**	**255**	P	**Pn**	**11 08 20.8**	**+0.1**
	baz=254						
NNSB				*e*S	**Sn**	**11 08 41.5**	**-0.3**
	baz=254						
NNS	**Nan Shan**	**1.44**	**255**	P	**Pn**	**11 08 20.8**	**0.0**
	baz=255						
NNS				S	**Sn**	**11 08 41.7**	**-0.3**
	baz=255						
ETM	**Tongmen**	**1.54**	**237**	P	**Pn**	**11 08 21.3**	**-0.5**
	baz=233						
ETM				S	**Sn**	**11 08 42.9**	**-0.8**
	baz=233						
LXIB	**Xiulin Townshi**	**1.57**	**240**	P	**Pn**	**11 08 21.6**	**-0.6**
	baz=240						
LXIB				*e*S	**Sn**	**11 08 42.8**	**-1.8**
	baz=240						
SHUL	**Shoufeng**	**1.59**	**230**	*e*P	**Pn**	**11 08 22.3**	**-0.1**
	baz=231						
SHUL				*e*S	**Sn**	**11 08 44.9**	**+0.1**
	baz=231						
NFF	**Wufeng Townshi**	**1.63**	**264**	*e*P	**Pn**	**11 08 22.8**	**-0.1**
	baz=263						
NFF				*e*S	**Sn**	**11 08 44.5**	**-1.3**
	baz=263						
WHF	**Hehuan Shan**	**1.63**	**246**	P	**Pn**	**11 08 23.3**	**0.0**
	baz=246						
JTJ	**Tarama**	**1.65**	**96**	*e*P	**Pn**	**11 08 23.1**	**+0.1**
JTJ				*e*S	**Sn**	**11 08 45.2**	**-0.7**
TWT	**Tachien**	**1.67**	**251**	P	**Pn**	**11 08 24.1**	**+0.7**
	baz=245						
TWT				*e*S	**Sn**	**11 08 46.8**	**+0.2**
	baz=245						
ESL	**Shilin**	**1.67**	**234**	P	**Pn**	**11 08 22.6**	**-0.6**
	baz=234						
ESL				*e*S	**Sn**	**11 08 44.9**	**-1.5**
	baz=234						
TDCB	**Techi**	**1.68**	**251**	P	**Pn**	**11 08 24.1**	**+0.6**
	baz=245						
TDCB				S	**Sn**	**11 08 46.5**	**-0.4**
	baz=245						
LIOB	**Emei**	**1.72**	**265**	*e*P	**Pn**	**11 08 23.7**	**-0.2**
	baz=264						
LIOB				*e*S	**Sn**	**11 08 46.7**	**-0.8**
	baz=264						
NSTT	**Nanjuang**	**1.74**	**264**	*e*P	**Pn**	**11 08 24.6**	**+0.6**
	baz=264						
NSTT				*e*S	**Sn**	**11 08 46.7**	**-1.1**
	baz=264						
CHGB	**Renai**	**1.74**	**245**	P	**Pn**	**11 08 24.5**	**+0.2**
	baz=241						
CHGB				S	**Sn**	**11 08 48.0**	**-0.3**
	baz=241						
WARBT	**Fenglin Townsh**	**1.76**	**232**	P	**Pn**	**11 08 23.5**	**-0.8**
	baz=232						
WARBT				*e*S	**Sn**	**11 08 46.5**	**-1.8**
	baz=232						
EGFH	**Guangfu**	**1.76**	**230**	*e*P	**Pn**	**11 08 23.9**	**-0.4**
	baz=230						
EGFH				*e*S	**Sn**	**11 08 46.9**	**-1.4**
	baz=230						
OWD	**Renai**	**1.79**	**242**	P	**Pn**	**11 08 24.9**	**+0.1**
	baz=239						
OWD				*e*S	**Sn**	**11 08 48.4**	**-0.7**
	baz=239						
WUSB	**Renai**	**1.82**	**244**	*i* P	**Pn**	**11 08 25.4**	**+0.3**
	baz=241						
WUSB				*e*S	**Sn**	**11 08 49.4**	**-0.3**
	baz=241						
WHP	**Taichung City**	**1.86**	**254**	P	**Pn**	**11 08 27.1**	**+1.5**
	baz=254						
WHP				*e*S	**Sn**	**11 08 51.4**	**+1.0**
	baz=254						
HGSD	**Ruisui**	**1.88**	**226**	*e*P	**Pn**	**11 08 25.3**	**-0.4**
	baz=231						
HGSD				*e*S	**Sn**	**11 08 50.1**	**-0.7**
	baz=231						
VWDT	**VWDT**	**1.92**	**237**	P	**Pn**	**11 08 26.5**	**+0.3**
	baz=237						
EHY	**Hungye**	**1.94**	**228**	*e*P	**Pn**	**11 08 25.5**	**-0.9**
	baz=236						
WCS	**Beigang Elemen**	**1.96**	**248**	*e*P	**Pn**	**11 08 27.8**	**+1.1**
	baz=248						
WCS				*e*S	**Sn**	**11 08 53.0**	**+0.5**
	baz=248						
TWQ1	**Liyutan**	**1.99**	**257**	*e*S	**Sn**	**11 08 52.9**	**-0.3**
	baz=257						
YULB	**Yu-li**	**2.04**	**226**	P	**Pn**	**11 08 27.2**	**-0.4**
YULB	**Yu-li**	**2.04**	**226**	*e*P	**Pn**	**11 08 26.9**	**-0.7**
	baz=236						
SMLT	**Sun Moon Lake**	**2.05**	**244**	P	**Pn**	**11 08 28.8**	**+1.0**
	baz=239						
SMLT				S	**Sn**	**11 08 56.3**	**+1.8**
	baz=239						
SSLB	**Suanglung**	**2.05**	**241**	P	**Pn**	**11 08 28.6**	**+0.8**
SSLB	**Suanglung**	**2.05**	**241**	*e*P	**Pn**	**11 08 28.8**	**+1.0**
	baz=239						
SSLB				*e*S	**Sn**	**11 08 55.3**	**+0.9**
	baz=239						
EYUL	**Yuli**	**2.05**	**225**	*e*P	**Pn**	**11 08 27.5**	**-0.3**
	baz=236						
EYUL				*e*S	**Sn**	**11 08 53.5**	**-1.0**
	baz=236						
JIRB	**Irabujima**	**2.06**	**89**	P	**Pn**	**11 08 27.9**	**0.0**
TYC	**Yuchr**	**2.07**	**245**	P	**Pn**	**11 08 29.1**	**+1.1**
	baz=248						
TYC				*e*S	**Sn**	**11 08 56.2**	**+1.3**
	baz=248						
WHYT	**Xinyi Township**	**2.17**	**240**	*e*P	**Pn**	**11 08 30.3**	**+1.0**
	baz=237						
WHYT				*e*S	**Sn**	**11 08 58.9**	**+1.6**
	baz=237						
JMJ	**Miyako jima 2**	**2.17**	**89**	*e*P	**Pn**	**11 08 30.0**	**+0.7**
	baz=91						
JMJ				*e*S	**Sn**	**11 08 56.9**	**-0.2**
	baz=91						
FULB	**Fuli**	**2.18**	**223**	*e*P	**Pn**	**11 08 29.1**	**-0.2**
	baz=219						
FULB				*e*S	**Sn**	**11 08 57.2**	**-0.1**
	baz=219						
JMJ2	**Miyako jima3**	**2.21**	**91**	P	**Pn**	**11 08 30.0**	**+0.3**
JOGS	**Gusukube**	**2.28**	**91**	P	**Pn**	**11 08 31.0**	**+0.5**
ELDTW	**Lidau**	**2.36**	**227**	*e*P	**Pn**	**11 08 31.4**	**-0.3**
	baz=228						
ELDTW				*e*S	**Sn**	**11 09 00.8**	**-0.6**
	baz=228						
LDUT	**Ludao**	**2.50**	**212**	*e*P	**Pn**	**11 08 32.8**	**-0.6**
	baz=215						
LDUT				*e*S	**Sn**	**11 09 03.0**	**-1.4**
	baz=215						
WCKO	**Fanlu**	**2.50**	**237**	*e*P	**Pn**	**11 08 34.2**	**+0.8**
	baz=238						
WCKO				*e*S	**Sn**	**11 09 06.0**	**+1.4**
	baz=238						
STYH	**Taoyuan**	**2.54**	**230**	*e*P	**Pn**	**11 08 34.9**	**+1.1**
	baz=238						
STYH				*e*S	**Sn**	**11 09 06.5**	**+1.2**
	baz=238						
STYT	**Tauyuan**	**2.56**	**230**	*e*P	**Pn**	**11 08 35.4**	**+1.3**
	baz=238						
CHN4	**Tsaushan**	**2.56**	**236**	P	**Pn**	**11 08 34.6**	**+0.5**
	baz=237						
CHN4				*e*S	**Sn**	**11 09

ISC 17 11:11:07.2±1.7, 23°73S±0'.04×67°30W±0'.04, h205km±13km, n25, σ1§17/45, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.12**	**314**	*eP*	**Pn**	**11 11 39.1**	**+0.3**
AF01				*i* S	**S**	**11 12 02.2**	**-0.8**
LVC	**Limon Verde**	**1.86**	**307**	*eP*	**Pn**	**11 11 45.6**	**+0.5**
LVC				*eS*	**S**	**11 12 14.9**	**+0.7**
SLA	**San Lorenzo**	**1.91**	**121**	*eP*	**Pn**	**11 11 46.0**	**+0.7**
SLA				*eS*	**S**	**11 12 14.3**	**-0.3**
PB15	**IPOC Station P**	**2.06**	**284**	*eP*	**Pn**	**11 11 47.8**	**+0.7**
PB15				*eS*	**S**	**11 12 18.4**	**+0.9**
PB15				IAML		11 12 22.9	
	comp=Z,348nm,0.2s						
PB15	**IPOC Station P**	**2.06**	**284**	*eP*	**Pn**	**11 11 47.8**	**+0.7**
PB15				*i* S	**S**	**11 12 16.3**	**-1.2**
AZAP	**Zapla**	**2.10**	**104**	*eP*	**Pn**	**11 11 46.8**	**-0.6**
AZAP				*eS*	**S**	**11 12 17.7**	**-0.5**
YJA	**Yavi**	**2.26**	**47**	*eP*	**Pn**	**11 11 49.2**	**-0.1**
YJA				*eS*	**S**	**11 12 20.7**	**-0.9**
PB06	**IPOC Station P**	**2.33**	**296**	*eP*	**Pn**	**11 11 50.5**	**+0.7**
PB06				*eS*	**S**	**11 12 22.2**	**-0.2**
PB06				IAML		11 12 23.6	
	comp=Z,83nm,0.1s						
PB06	**IPOC Station P**	**2.33**	**296⇑**	*iP*	**Pn**	**11 11 50.7**	**+0.9**
PB06				*i* S	**S**	**11 12 21.2**	**-1.2**
PB06				IAML		11 12 23.4	
	comp=N,145nm,0.1s						
GO02	**Mina Guanaco**	**2.53**	**235**	*eP*	**Pn**	**11 11 53.2**	**+1.1**
GO02				*eS*	**S**	**11 12 26.6**	**+0.1**
GO02	**Mina Guanaco**	**2.53**	**235⇑**	*iP*	**Pn**	**11 11 53.1**	**+1.1**
GO02				*i* S	**S**	**11 12 26.7**	**+0.1**
GO02				IAML		11 12 28.5	
	comp=N,122nm,0.3s						
FSA	**Cafayete**	**2.65**	**153**	*eP*	**Pn**	**11 11 55.2**	**+1.9**
PB04	**IPOC Station P**	**2.98**	**297**	*eP*	**Pn**	**11 11 58.0**	**+0.9**
PB04				*eS*	**S**	**11 12 35.2**	**-0.2**
PB04				IAML		11 12 40.0	
	comp=Z,52nm,0.4s						
PB04	**IPOC Station P**	**2.98**	**297**	*eP*	**Pn**	**11 11 57.9**	**+0.8**
PB04				*i* S	**S**	**11 12 34.0**	**-1.4**
PB04				IAML		11 12 35.9	
	comp=N,68nm,0.1s						
PB10	**IPOC Station P**	**3.00**	**274⇑**	*eP*	**Pn**	**11 11 58.2**	**+1.0**
PB10				*i* S	**S**	**11 12 34.3**	**-1.2**
ALOL	**LOMAS DE OLMED**	**3.04**	**92**	*eP*	Pn	11 11 53.0	-4.6
AC01	**Pan de Azucar**	**3.84**	**231**	*eP*	**Pn**	**11 12 06.8**	**-0.4**
AC01				*eS*	**S**	**11 12 52.5**	**-1.5**
AC01				IAML		11 12 59.8	
	comp=Z,25nm,3.5s						
AC01	**Pan de Azucar**	**3.84**	**231**	*eP*	**Pn**	**11 12 07.5**	**+0.2**
AC01				*i* S	**S**	**11 12 51.9**	**-2.1**
PATCX	**Punta Patache**	**3.92**	**317**	*eP*	**Pn**	**11 12 08.8**	**+0.4**
PATCX				IAML		11 12 58.8	
	comp=Z,16nm,0.7s						
PATCX	**Punta Patache**	**3.92**	**317⇑**	*eP*	**Pn**	**11 12 09.7**	**+1.3**
PATCX				*i* S	**S**	**11 12 54.1**	**-1.8**
TA01	**Diego Aracena**	**4.13**	**319**	*i* S	**S**	**11 12 58.1**	**-2.3**
GO01	**Chusmiza**	**4.41**	**336**	*eP*	**Pn**	**11 12 16.2**	**+1.4**
GO01				*eS*	**S**	**11 13 09.3**	**+1.7**
GO01	**Chusmiza**	**4.41**	**336**	*eP*	**Pn**	**11 12 17.5**	**+2.6**
GO01				*i* S	**S**	**11 13 08.2**	**+0.6**
PB11	**IPOC Station P**	**4.52**	**331**	*eP*	**Pn**	**11 12 15.8**	**-0.1**
PB11				*eS*	**S**	**11 13 08.6**	**-1.0**
PB11				IAML		11 13 11.4	
	comp=Z,18nm,0.1s						
PB11	**IPOC Station P**	**4.52**	**331**	*eP*	**Pn**	**11 12 15.9**	**-0.1**
PB11				*i* S	**S**	**11 13 07.3**	**-2.2**

*CATAC **17** 11:11:27.9±0.4, 13°.23N×90°.26W, h8km±2km, ML3.8*
*SNET **17** 11:11:29.2±0.8, 13°.28N×90°.25W, h23km±4km, ML3.4*
*GCG **17** 11:11:30.2±0.3, 13°.37N×90°.49W, h19km±224km, MD3.7*

ISC 17 11:11:28.6±2.0, 13°27N±0°.06×90°28W±0°.05, h19km±4km, n63, σ0§58/93, 5C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.80**	**38⇑**	*iP*	**Pb**	**11 11 43.7**	**-0.4**
NUBE				*eS*	**Sg**	**11 11 54.8**	**-0.1**
NUBE				IAML		11 11 57.1	
	comp=Z,712nm,0.5s						
NUBE	**Las Nubes**	**0.80**	**38**	*i* P	**Pb**	**11 11 43.6**	**-0.4**
NUBE				*i* S	**Sg**	**11 11 55.2**	**+0.3**
NUBE				IAML		11 11 56.6	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**0.85**	**49**	*eP*	**Pb**	**11 11 45.0**	**0.0**
CEVE				*eS*	**Sn**	**11 11 57.5**	**-0.5**
CEVE	**Cerro Verde**	**0.85**	**49**	*iP*	**Pb**	**11 11 44.6**	**-0.3**
CEVE				*i* S	**Sn**	**11 11 57.4**	**-0.5**
CEVE				IAML		11 11 58.6	
	comp=Z,6μm,1.0s						
SBLS	**San Blas**	**0.85**	**48⇑**	*eP*	**Pb**	**11 11 45.0**	**0.0**
SBLS				*eS*	**Sg**	**11 11 57.0**	**+0.2**
LOAL	**Lomas de Alarc**	**0.87**	**34**	*eP*	**Pb**	**11 11 45.1**	**-0.2**
LOAL	**Lomas de Alarc**	**0.87**	**34**	*iP*	**Pb**	**11 11 45.4**	**+0.1**
LOAL				*i* S	**Sg**	**11 11 57.6**	**+0.3**
LOAL				IAML		11 11 59.7	
	comp=Z,5μm,1.0s						
RTR	**El Retiro**	**0.88**	**45⇑**	*eP*	**Pb**	**11 11 45.5**	**0.0**
SNJE	**San Jose**	**0.89**	**48⇑**	*eP*	**Pb**	**11 11 45.4**	**-0.2**
SNJE				IAML		11 11 58.8	
	comp=Z,828nm,0.2s						
SLOZ	**Alcaldia de Sa**	**0.89**	**33⇑**	*eP*	**Pb**	**11 11 45.3**	**-0.4**
SLOZ				*eS*	**Sg**	**11 11 58.1**	**+0.1**
SLOZ				IAML		11 12 02.4	
	comp=Z,854nm,0.5s						
JAYA	**Jayaque - finc**	**0.90**	**65**	*eP*	**Pb**	**11 11 45.2**	**-0.5**
JAYA				IAML		11 11 58.8	
	comp=Z,4μm,0.2s						
JAYA	**Jayaque - finc**	**0.90**	**65**	*iP*	**Pb**	**11 11 45.2**	**-0.5**
JAYA				*i* S	**Sb**	**11 11 57.3**	**-0.1**
JAYA				IAML		11 11 58.4	
	comp=Z,9μm,1.0s						
LALI	**Alcalda de L**	**0.96**	**77**	*eP*	**Pb**	**11 11 46.0**	**-0.7**
LALI	**Alcalda de L**	**0.96**	**77**	*iP*	**Pb**	**11 11 45.2**	**-1.5**
LALI				*i* S	**Sg**	**11 11 59.7**	**-0.3**
LALI				IAML		11 12 03.3	
	comp=Z,530nm,1.0s						
UNIC	**Universidad Ca**	**1.00**	**45**	*eP*	**Pb**	**11 11 46.9**	**-0.6**
UNIC				IAML		11 12 01.7	
	comp=Z,1μm,0.2s						
UNIC	**Universidad Ca**	**1.00**	**45**	*iP*	**Pb**	**11 11 47.0**	**-0.6**
UNIC				*i* S	**Sb**	**11 12 00.8**	**+0.4**
UNIC				IAML		11 12 03.7	
	comp=Z,1μm,1.0s						
CEDA	**San Andres**	**1.01**	**58**	*eP*	**Pb**	**11 11 47.0**	**-0.6**
CEDA	**San Andres**	**1.01**	**58**	*iP*	**Pb**	**11 11 47.4**	**-0.2**
CEDA				*i* S	**Sn**	**11 12 01.8**	**+0.1**
CEDA				IAML		11 12 08.4	
	comp=Z,6μm,1.0s						
PMON	**Piamonte**	**1.04**	**65**	*eP*	**Pb**	**11 11 47.5**	**-0.6**
PMON	**Piamonte**	**1.04**	**65**	*iP*	**Pb**	**11 11 47.9**	**-0.2**
PMON				IAML		11 12 09.2	
	comp=Z,4μm,1.0s						
ITCA	**Escuela Especi**	**1.05**	**68**	*iP*	**Pb**	**11 11 47.3**	**-1.1**
ITCA				*i* S	**Sb**	**11 12 02.0**	**+0.1**
ITCA				IAML		11 12 07.9	
	comp=Z,4μm,1.0s						
BOQS	**Boqueron**	**1.08**	**64**	*eP*	**Pb**	**11 11 48.2**	**-0.7**
SNET	**Serv Nac Est T**	**1.10**	**68**	*iP*	**Pb**	**11 11 49.1**	**-0.1**
SNET				*i* S	**Sn**	**11 12 03.8**	**-0.2**
SNET				IAML		11 12 09.1	
	comp=Z,4μm,1.0s						
UEES	**Universidad Ev**	**1.11**	**66**	*eP*	**Pb**	**11 11 48.6**	**-0.7**
UEES				IAML		11 12 10.8	
	comp=Z,1μm,0.4s						
UEES	**Universidad Ev**	**1.11**	**66**	*iP*	**Pb**	**11 11 48.8**	**-0.5**
UEES				*i* S	**Sn**	**11 12 03.8**	**-0.3**
UEES				IAML		11 12 10.4	
	comp=Z,1μm,1.0s						
PANCS	**Alcalda de**	**1.12**	**72**	*iP*	**Pn**	**11 11 49.0**	**-0.5**
PANCS				*i* S	**Sb**	**11 12 03.7**	**-0.2**
PANCS				IAML		11 12 07.1	
	comp=Z,5μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.13**	**60**	*iP*	**Pn**	**11 11 49.1**	**-0.5**
QUEZ				*i* S	**Sg**	**11 12 05.1**	**-0.3**
QUEZ				IAML		11 12 09.3	
	comp=Z,6μm,1.0s						
LOMA	**Loma Larga**	**1.14**	**71**	*eP*	**Pn**	**11 11 49.5**	**-0.4**
LOMA	**Loma Larga**	**1.14**	**71**	*iP*	**Pn**	**11 11 49.0**	**-0.8**
LOMA				*i* S	**Sn**	**11 12 05.3**	**+0.2**
LOMA				IAML		11 12 11.3	
	comp=Z,2μm,1.0s						
LFRS	**El Faro**	**1.24**	**73**	*eP*	**Pb**	**11 11 51.5**	**0.0**
FUG	**Fuego 3**	**1.29**	**335**	*eP*	**Pn**	**11 11 50.7**	**-1.2**
NBG	**Las Nubes**	**1.31**	**357**	*eP*	**Pn**	**11 11 52.7**	**+0.4**
GCG4	**OSOP**	**1.33**	**349**	*iP*	**Pn**	**11 11 52.4**	**-0.1**
GCG4				IAML		11 12 34.7	
	comp=Z,840nm,1.0s						
COEG	**Centro de Oper**	**1.41**	**76**	*eP*	**Pn**	**11 11 53.2**	**-0.2**
COEG	**Centro de Oper**	**1.41**	**76**	*iP*	**Pn**	**11 11 53.3**	**-0.1**
COEG				*i* S	**Sb**	**11 12 12.7**	**+0.7**
COEG				IAML		11 12 16.6	
	comp=Z,1μm,1.0s						
MTO3	**Montecristo**	**1.44**	**38**	*eP*	**Pn**	**11 11 53.6**	**-0.4**
MTO3	**Montecristo**	**1.44**	**38**	*iP*	**Pn**	**11 11 53.8**	**-0.1**
MTO3				IAML		11 12 04.0	
	comp=Z,500nm,1.0s						
MTO3				*i* S	**Sb**	**11 12 13.9**	**+0.9**
TECO	**Alcaldia de Te**	**1.48**	**80**	*iP*	**Pn**	**11 11 54.2**	**-0.2**
TECO				*i* S	**Sb**	**11 12 14.4**	**+0.2**
TECO				IAML		11 12 20.3	
	comp=Z,550nm,1.0s						
UESV	**Universidad de**	**1.50**	**76**	*iP*	**Pn**	**11 11 54.7**	**+0.1**
UESV				*i* S	**Sb**	**11 12 14.9**	**+0.3**
UESV				IAML		11 12 18.5	
	comp=Z,700nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.57**	**74**	*eP*	**Pn**	**11 11 55.6**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.57**	**74**	*iP*	**Pn**	**11 11 56.0**	**+0.4**
SCLA				*i* S	**Sb**	**11 12 17.0**	**+0.3**
SCLA				IAML		11 12 26.8	
	comp=Z,390nm,1.0s						
LLGN	**La Laguna**	**1.57**	**55**	*iP*	**Pn**	**11 11 56.2**	**+0.5**
LLGN				*i* S	**Sb**	**11 12 17.0**	**+0.2**
LLGN				IAML		11 12 17.5	
	comp=Z,790nm,1.0s						
ESQI	**Esquipulas**	**1.57**	**35**	*eP*	**Pn**	**11 11 55.6**	**-0.1**
ESQI	**Esquipulas**	**1.57**	**35**	*iP*	**Pn**	**11 11 55.9**	**+0.2**
ESQI				*i* S	**Sb**	**11 12 17.7**	**+0.8**
ESQI				IAML		11 12 22.1	
	comp=Z,1μm,1.0s						
CHTG	**Tecpan**	**1.63**	**335**	*iP*	**Pn**	**11 11 57.8**	**+1.1**
CHTG				IAML		11 12 28.2	
	comp=Z,1μm,1.0s						
PQSS	**Presa 15 de Se**	**1.71**	**78**	*eP*	**Pn**	**11 11 57.2**	**-0.3**
PQSS	**Presa 15 de Se**	**1.71**	**78**	*iP*	**Pn**	**11 11 57.6**	**+0.1**
PQSS				*i* S	**Sb**	**11 12 20.0**	**-0.7**
PQSS				IAML		11 12 22.2	
	comp=Z,360nm,1.0s						
TECA	**Tecapa**	**1.75**	**82**	*eP*	**Pn**	**11 11 58.4**	**+0.3**
SOKI	**Kika Raxquin**	**1.89**	**325**	*iP*	**Pn**	**11 12 01.2**	**+0.9**
SOKI				IAML		11 12 25.6	
	comp=Z,360nm,1.0s						
MRL	**Marmol**	**1.89**	**18**	*eP*	**Pb**	**11 12 01.9**	**-0.9**
STG3	**Santiaguito 3,**	**1.90**	**319**	*eP*	**Pn**	**11 11 59.3**	**-1.1**
PACA	**Pacayal**	**1.92**	**84**	*iP*	**Pn**	**11 12 00.4**	**-0.1**
PACA				*i* S	**Sn**	**11 12 25.1**	**+0.9**
PACA				IAML		11 12 31.5	
	comp=Z,4μm,1.0s						
JUCU	**Jucuarɲ**	**1.98**	**90**	*iP*	**Pn**	**11 12 01.3**	**0.0**
JUCU				*i* S	**Sn**	**11 12 26.2**	**+0.6**
JUCU				IAML		11 12 31.9	
	comp=Z,410nm,1.0s						
QUIS	**Sacapulas**	**2.16**	**339**	*iP*	**Pn**	**11 12 05.0**	**+1.2**
QUIS				IAML		11 12 05.0	
	comp=Z,390nm,1.0s						
QUIS				*i* S	**Sb**	**11 12 32.5**	**-1.2**
MARCA	**Marcala la Paz**	**2.35**	**68**	*iP*	**Pn**	**11 12 06.6**	**+0.1**
INTHN	**La Esperanza I**	**2.36**	**64**	*iP*	**Pn**	**11 12 06.7**	**+0.1**
CNCH	**Conchagua**	**2.38**	**90**	*iP*	**Pn**	**11 12 07.8**	**+0.9**
CNCH				*i* S	**Sn**	**11 12 37.6**	**+1.9**
CNCH				IAML		11 12 46.4	
	comp=Z,890nm,1.0s						
TGUH	**Tegucigalpa,Un**	**3.03**	**75**	*iP*	**Pn**	**11 12 15.3**	**-0.5**
TGUH				IAML		11 13 24.3	
	comp=Z,99nm,1.0s						
CRIN	**San Cristobal**	**3.20**	**100**	*iP*	**Pn**	**11 12 18.3**	**+0.2**
CRIN				*i* S	**Sn**	**11 12 56.7**	**+0.9**
CRIN				IAML		11 13 03.3	
	comp=Z,410nm,1.0s						
YUSH	**Yuscaran**	**3.41**	**78**	*iP*	**Pn**	**11 12 20.5**	**-0.5**
CCIG	**Comitan**	**3.49**	**329**	*iP*	**Pn**	**11 12 23.2**	**+1.0**
CCIG				IAML		11 13 28.4	
	comp=Z,51nm,1.0s						
MACN	**El Madrono**	**3.61**	**102**	*iP*	**Pn**	**11 12 23.8**	**+0.2**
MACN				IAML		11 13 13.2	
	comp=Z,77nm,1.0s						
LIMN	**Finca el Limon**	**3.82**	**93**	*iP*	**Pn**	**11 12 26.8**	**+0.2**
LIMN				IAML		11 13 17.8	
	comp=Z,59nm,1.0s						

*IGQ **17** 11:26:59.6±2.6, 6°S±20°×7°7W±1°1, h10km, M5.1/11*
*RSNC **17** 11:27:10.0±0.4, 5°S±4°×7°8W±°, h0km, M4.4, mb4.8, mB5.2, ML3.7, Mw(mB)4.6*
*NEIC **17** 11:27:13.5±1.5, 5°06S±0°06×77°34W±0°09, h43km±6km, mb4.6/147, Error ellipse: s-maj=12.8km s-min=8.6km az=70.0*
*IDC **17** 11:27:14.3±1.7, 5°10S×77°49W, h53km±16km, mb4.0/12, mbtmp4.2/18, ML4.0/5, MS3.7/17, Error ellipse: s-maj=16.2km s-min=10.6km az=89.0*
*VAO **17** 11:27:30.9±2.0, 5°36S×76°12W, h96km±7km, mb4.4*

ISC 17 11:27:12.6±0.9, 5°10S±0°04×77°38W±0°06, h42km±9km, n256, σ1§29/240, mb4.5/80, MS3.7/10, 1D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJ1	**Ecuador-Loja-U**	**2.12**	**301**	P	**Pn**	**11 27 45.7**	**0.0**
BOSC	**San Juan Bosco**	**2.23**	**330**	P	**Pn**	**11 27 45.1**	**-2.1**
ATAH	**Atahualpa**	**2.26**	**206**	P	Pn	11 27 51.0	+3.2
	37nm,0.3s,baz=19,slow=12,SNR=176						
ATAH				S	**Sn**	**11 28 15.9**	**+1.2**
	1μm,0.8s,baz=341,slow=16,SNR=5.9						
ATAH				LR	LR	11 28 56.1	
	comp=Z,2μm,20.1s,baz=36,slow=46						
	232nm,0.4s						
AMCR	**Ecuador-Macara**	**2.66**	**286**	P	**Pn**	**11 27 52.9**	**-0.2**
MCRA	**Macar, Loja**	**2.66**	**286**	P	**Pn**	**11 27 50.6**	**-2.5**
MCRA	**Macar, Loja**	**2.66**	**286**	P	**Pn**	**11 27 50.9**	**-2.2**
TAIS	**Taisha**	**2.70**	**358**	P	**Pn**	**11 27 55.0**	**+1.4**
ISPG	**Isla Puna-Puer**	**3.49**	**307**	P	**Pn**	**11 28 04.2**	**-0.3**
BPAT	**Tungurahua Vol**	**3.72**	**344**	P	**Pn**	**11 28 09.6**	**+1.6**
ARRY	**Arrayan**	**3.72**	**343**	P	**Pn**	**11 28 09.0**	**+1.1**
BMAS	**Trigal station**	**3.73**	**343**	P	**Pn**	**11 28 09.4**	**+1.3**
TUYU	**Q. Yuibug Volc**	**3.75**	**343**	P	**Pn**	**11 28 09.9**	**+1.6**
BULB	**Ulba Tungurahu**	**3.78**	**344**	P	**Pn**	**11 28 10.0**	**+1.4**
BBIL	**Ulba Tungurahu**	**3.79**	**343**	P	Pn	11 28 11.2	+2.5
ARDO	**Archidona, Ten**	**4.09**	**354**	P	**Pn**	**11 28 12.3**	**-0.4**
PIAT	**Ana Tenorio**	**4.17**	**348**	P	**Pn**	**11 28 14.3**	**+0.3**
SLOR	**San Lorenzo -**	**4.48**	**346**	Pn	**Pn**	**11 28 20.5**	**+2.1**
SALI	**Salinas**	**4.62**	**309**	P	**Pn**	**11 28 20.1**	**+0.2**
ANTS	**Antisana-Sarah**	**4.63**	**350**	Pn	**Pn**	**11 28 20.8**	**+0.2**
ANTG	**Antisana-Guama**	**4.64**	**349**	P	**Pn**	**11 28 21.3**	**+0.6**
TING	**Casa Alexandra**	**4.90**	**347**	P	Pn	11 28 34.3	+10
REVS	**Reventador Sur**	**4.96**	**357**	P	**Pn**	**11 28 27.0**	**+2.1**
TERV	**Terraza Guagua**	**5.04**	**346**	P	Pn	11 28 32.8	+6.6
APS1	**Acelerografo,**	**5.18**	**5**	P	**Pn**	**11 28 24.7**	**-3.0**
CASC	**Dorado de Casc**	**5.20**	**0**	P	**Pn**	**11 28 28.2**	**+0.3**
PULU	**Pululahua**	**5.21**	**348**	Pn	**Pn**	**11 28 28.5**	**+0.2**
PULU	**Pululahua**	**5.21**	**348**	P	Pn	11 28 40.6	+12
CZSB	**Cruzeiro do Su**	**5.33**	**120**	Pn	**Pn**	**11 28 30.9**	**+1.2**
CZSB	**Cruzeiro do Su**	**5.33**	**120**	P	**Pn**	**11 28 32.8**	**+3.1**
	129nm,0.8s,2μm						
CZSB	**Cruzeiro do Su**	**5.33**	**120**	*eP*	**Pn**	**11 28 32.4**	**+2.7**
PAC1	**Pacto, Paraso**	**5.51**	**345**	P	Pn	11 28 35.4	+3.1
PAC1	**Pacto, Paraso**	**5.51**	**345**	P	Pn	11 28 36.3	+4.0
TULM	**Tulcn-Chalpat**	**5.79**	**356**	Pn	**Pn**	**11 28 35.4**	**-1.0**
PTLC	**Puerto Leguiza**	**5.83**	**26**	P	**Pn**	**11 28 33.7**	**-2.9**
	287nm,1.1s,4μm						
PTLC	**Puerto Leguiza**	**5.83**	**26**	P	**Pn**	**11 28 34.4**	**-2.2**
GCUF	**Volcan Galeras**	**6.28**	**0**	P	Pn	11 28 47.0	+3.8
	20nm,0.8s,860nm						
NNA	**Nana**	**6.87**	**176**	Pn	**Pn**	**11 28 51.9**	**+1.0**
NNA	**Nana**	**6.87**	**176**	P	**Pn**	**11 28 52.0**	**+1.2**
	10.0nm,0.3s,baz=342,slow=13,SNR=16						
NNA				S	**Sn**	**11 30 07.2**	**-0.6**
	36nm,0.4s,baz=268,slow=20,SNR=1.8						
NNA				LR	LR	11 31 43.4	
	comp=Z,486nm,20.1s,baz=330,slow=39						
	23nm,0.3s						
NNA	**Nana**	**6.87**	**176**	P	**Pn**	**11 28 52.1**	**+1.2**
	54nm,0.8s,1μm						
GARC	**Garzon, Huila**	**7.48**	**15**	P	**Pn**	**11 29 00.1**	**+0.7**
TBTG	**Tabatinga, AM**	**7.50**	**83**	Pn	**Pn**	**11 28 59.5**	**0.0**
TBTG	**Tabatinga, AM**	**7.50**	**83**	P	**Pn**	**11 29 02.8**	**+3.3**
	230nm,0.4s,5μm						
TBTG	**Tabatinga, AM**	**7.50**	**83**	*eP*	**Pn**	**11 29 02.1**	**+2.6**
POPC	**Popayan, Colom**	**7.62**	**5**	P	Pn	11 29 04.9	+3.6
	44nm,1.0s,452nm						
PRAC	**Prado**	**9.10**	**16**	P	**Pn**	**11 29 23.5**	**+2.0**
	17nm,0.7s						
ORTC	**Ortega, Tolima**	**9.20**	**13**	P	**Pn**	**11 29 24.1**	**+1.3**
ROSC	**El Rosal**	**10.33**	**17**	Pn	**Pn**	**11 29 37.4**	**-1.2**
ROSC	**El Rosal**	**10.33**	**17**	P	Pn	11 29 42.7	+4.0
	8.9nm,0.7s,baz=168,slow=20,SNR=1.5						
ROSC				S	**Sn**	**11 31 37.6**	**+4.2**
	27nm,0.7s,baz=185,slow=21,SNR=1.7						
ROSC				LR	LR	11 34 55.8	
	comp=Z,847nm,18.4s,baz=226,slow=44						
ETMB	**Extrema**	**12.02**	**114**	Pn	**Pn**	**11 30 01.3**	**-0.2**
TEFE	**Tefe**	**12.81**	**83**	*eP*	**Pn**	**11 30 11.5**	**-0.7**
LPAZ	**La Paz**	**14.36**	**141**	Pn	**Pn**	**11 30 33.5**	**-0.3**
LPAZ	**La Paz**	**14.36**	**141**	P	**P**	**11 30 35.5**	**-4.6**
	0.1nm,0.3s,baz=313,slow=10,SNR=2.5						
	0.5nm,0.4s						
LPAZ	**La Paz**	**14.36**	**141**	*eP*	**P**	**11 30 35.5**	**-4.6**
SAML	**Samuel**	**14.60**	**106**	Pn	**Pn**	**11 30 33.8**	**-2.7**
SDV	**Santo Domingo**	**15.43**	**26**	LR	LR	11 38 18.6	
	comp=Z,536nm,18.8s,baz=228,slow=43						
LCR2	**La Lucha 2**	**16.15**	**336**		**P**	**11 30 56.4**	**-3.3**
PB11	**IPOC Station P**	**16.40**	**153**	Pn	**P**	**11 31 00.1**	**-2.3**
MACA	**Manacapuru-AM**	**16.77**	**84**		**Pn**	**11 31 02.8**	**-1.7**
MACA				IAmb	IAmb	11 31 22.8	
	comp=Z,29nm,0.6s						
MACA	**Manacapuru-AM**	**16.77**	**84**	*eP*	**P**	**11 31 05.4**	**-0.9**
BAUV	**El Baul**	**16.77**	**34**	Pn	**Pn**	**11 31 03.1**	**-1.4**
BAUV				IAmb	IAmb	11 31 40.0	
	comp=Z,46nm,1.3s						
TA01	**Diego Aracena**	**16.90**	**156**		**P**	**11 31 06.1**	**-1.5**
JTS	**Las Juntas de**	**17.04**	**334**	P	**P**	**11 31 07.2**	**-2.2**
PATCX	**Punta Patache**	**17.14**	**156**	P	**P**	**11 31 09.0**	**-1.4**
PB09	**IPOC Station P**	**18.38**	**155**	P	**Pn**	**11 31 23.5**	**-1.0**
BOAV	**Boa Vista**	**18.41**	**67**	P	**Pn**	**11 31 23.2**	**-1.6**
BOAV	**Boa Vista**	**18.41**	**67**	*eP*	**Pn**	**11 31 27.7**	**+2.8**
ESPN	**Las Esperanzas**	**18.50**	**338**	P	**Pn**	**11 31 23.7**	**-2.2**
ESPN				IAmb	IAmb	11 31 28.9	
	comp=Z,32nm,1.0s						
VILB	**Vilhena**	**18.67**	**116**	*eP*	**Pn**	**11 31 29.4**	**+1.4**
PB06	**IPOC Station P**	**19.07**	**157**	P	**Pn**	**11 31 31.0**	**-1.8**
HATO	**Hato, Curacao**	**19.10**	**26**	P	**Pn**	**11 31 30.6**	**-2.4**
LVC	**Limon Verde**	**19.24**	**156**	LR	LR	11 39 55.9	
	comp=Z,147nm,20.5s,baz=340,slow=40						
LVC	**Limon Verde**	**19.24**	**156**	*eP*	Pn	11 31 41.5	+6.3
SIV	**San Ignacio**	**19.33**	**125**	P	**Pn**	**11 31 36.6**	**+0.7**
	baz=302,slow=13,SNR=7.3						
SIV				LR	LR	11 39 45.6	
	comp=Z,90nm,20.5s,baz=320,slow=39						
	comp=Z,1.5nm,0.7s						
PB15	**IPOC Station P**	**19.56**	**158**	P	**Pn**	**11 31 37.4**	**-1.3**
CNGN	**Cerro Negro**	**19.78**	**332**	P	**Pn**	**11 31 40.4**	**-0.9**
CNGN				IAmb	IAmb	11 32 21.6	
	comp=Z,59nm,1.4s						
CNGN					**PcP**	**11 35 55.9**	**-0.9**
PCRV	**Puerto La Cruz**	**19.78**	**40**	P	**Pn**	**11 31 40.5**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=233,slow=5.1,SNR=5.3						
PCRV				LR	LR	11 40 54.2	
	comp=Z,407nm,18.1s,slow=41						
	comp=Z,6.9nm,0.6s						
PTLB	**Pontes e Lacer**	**20.67**	**121**	P	Pn	11 31 49.1	-2.6
PTLB	**Pontes e Lacer**	**20.67**	**121**	*eP*	Pn	11 31 49.8	-1.9
GO02	**Mina Guanaco**	**21.31**	**160**	P	**P**	**11 31 57.3**	**+1.0**
PDRB	**Porto dos Gac**	**21.42**	**109**	*eP*	**P**	**11 31 58.3**	**+1.0**
ITTB	**Itaituba**	**21.59**	**89**	*eP*	**P**	**11 31 59.6**	**+0.6**
NPGB	**Novo Progresso**	**21.98**	**96**	*eP*	**P**	**11 32 02.9**	**-0.4**
CLDB	**

TXAR Lajitas Array 42.54 325 P P 11 35 04.8 +0.4
comp=Z,0.8nm,0.5s,baz=151,slow=8.7,SNR=16
TXAR PcP **PcP 11 36 57.1 +0.5**
comp=Z,0.5nm,0.7s,baz=153,slow=7.7,SNR=4.6
comp=Z,0.8nm,0.5s
TX31 Lajitas Ar. Si 42.54 325 P P 11 35 04.6 +0.1
Z35A Perchaven, San 42.60 335 P P 11 35 05.3 +0.5
APMT Aspermont 43.87 332 P P 11 35 15.4 +0.3
APMT IAmb IAmb 11 35 16.6
comp=Z,15nm,1.2s
X34A Smith Ranch, M 43.94 335 P P 11 35 16.2 +0.6
DEOK Depew 44.50 338 P 11 35 19.9 -0.2
DKNS Dickens 44.53 332 P P 11 35 21.1 +0.8
SMWD Samnorwood 45.41 333 P P 11 35 27.9 +0.6
SSPA Standing Stone 45.51 359 P P 11 35 29.2 +1.2
SSPA IAmb IAmb 11 35 30.0
comp=Z,8.7nm,1.0s
BINY Binghamton 47.09 1 P P 11 35 41.4 +1.1
R32A Long Quarter, 47.61 337 P P 11 35 44.4 -0.1
ANMO Albuquerque 48.33 328 P P 11 35 50.8 +0.4
ANMO IAmb IAmb 11 35 51.8
comp=Z,4.8nm,0.8s
ANMO Albuquerque 48.33 328 LR LR 11 56 30.1
comp=Z,90nm,18.7s,baz=261,slow=36
J47A Sunmer 48.58 353 P P 11 35 51.1 -0.8
L40A Anamosa 48.60 346 P P 11 35 51.1 -0.9
WBO Williamsburg 49.91 2 P P 11 36 01.8 -0.2
L34A Svendsen Farm, 49.94 342 P P 11 36 01.7 -0.6
214A Organ Pipe Nat 49.95 320 P P 11 36 03.5 +0.9
SDCO Great Sand Dun 50.01 331 P P 11 36 03.4 +0.1
SDCO IAmb IAmb 11 36 04.9
comp=Z,9.4nm,1.1s
H43A Windswept, Lux 50.22 350 P P 11 36 03.5 -0.9
MG01 Puerto William 50.31 173 P P 11 36 04.4 -0.5
OGNE Ogallala 51.08 336 P P 11 36 11.6 +0.5
BATG Bathurst New B 53.10 10 P P 11 36 27.1 +1.3
BATG IAmb IAmb 11 36 28.2
comp=Z,8.6nm,1.0s
O20A White River Ci 53.21 331 P P 11 36 28.1 +1.1
O20A IAmb IAmb 11 36 28.6
comp=Z,8.2nm,1.1s
CCUT Cedar City 54.05 325 P P 11 36 34.2 +0.9
CCUT IAmb IAmb 11 36 35.4
comp=Z,3.8nm,1.0s
CCUT PcP **PcP 11 37 38.5 +0.6**
MSU Marysvale 54.05 326 P P 11 36 34.3 +1.0
MSU PcP **PcP 11 37 38.4 +0.5**
MVU Marysvale 54.07 326 P P 11 36 33.6 +0.2
RDMU Red Mountain 54.20 330 P P 11 36 34.2 -0.1
RDMU IAmb IAmb 11 36 35.3
comp=Z,5.6nm,0.8s
EYMN Ely 54.26 348 P P 11 36 33.1 -1.2
EYMN IAmb IAmb 11 36 33.6
comp=Z,3.5nm,0.7s
K22A Casper 54.39 334 P P 11 36 35.7 +0.1
K22A IAmb IAmb 11 36 36.8
comp=Z,8.8nm,1.2s
RSSD Black Hills 54.55 337 P P 11 36 37.0 +0.2
RSSD IAmb IAmb 11 36 38.5
comp=Z,9.0nm,1.2s
GSC Goldstone, Bar 54.65 320 P P 11 36 38.6 +1.1
GSC IAmb IAmb 11 36 38.8
comp=Z,7.0nm,1.1s
BSUT Blindstream Ca 54.77 329 P P 11 36 39.6 +0.9
BSUT IAmb IAmb 11 36 40.0
comp=Z,5.1nm,1.1s
PSUT Pine Spring 55.01 325 P P 11 36 40.7 +0.5
PSUT IAmb IAmb 11 36 41.8
comp=Z,4.8nm,1.0s
PSUT PcP **PcP 11 37 40.5 -1.1**
JLU Jordanelle 55.17 329 P P 11 36 42.0 +0.5
JLU IAmb IAmb 11 36 42.8
comp=Z,5.4nm,1.2s
E28A Huff 55.45 341 P P 11 36 43.6 +0.7
WCT Wildcat Mounta 55.48 322 P P 11 36 43.8 +0.3
TCUT Toone Canyon 55.53 329 P P 11 36 44.2 +0.2
TCUT IAmb IAmb 11 36 55.9
comp=Z,4.0nm,0.5s
AGMN Agassiz Nation 55.59 345 P P 11 36 43.6 -0.3
SPR3 Spring Creek 3 55.60 325 P P 11 36 44.2 -0.4
SPR3 IAmb IAmb 11 36 45.6
comp=Z,3.7nm,0.9s
PD31 Pinedale Array 55.86 332 P P 11 36 46.2 -0.1
PDAR Pinedale Array 55.86 332 P P 11 36 45.8 -0.6
comp=Z,1.3nm,0.9s,baz=126,slow=7.5,SNR=9.3
PDAR PcP **PcP 11 37 44.4 -0.4**
comp=Z,0.4nm,0.5s,baz=140,slow=5.8,SNR=2.6
comp=Z,1.3nm,0.9s
R11B Troy Canyon, C 55.88 324 P P 11 36 46.9 +0.4
Q12A Willow Creek R 55.91 325 P P 11 36 47.1 +0.5
Q12A IAmb IAmb 11 36 48.1
comp=Z,4.8nm,1.0s
DSP Deep Springs 56.68 322 P P 11 36 52.5 +0.6
DRLN Deer Lake 56.83 15 P P 11 36 53.7 +0.9
DRLN IAmb IAmb 11 37 23.4
comp=Z,9.1nm,1.2s
ULM Lac du Bonnet 57.40 346 P P 11 36 55.7 -1.0
ULM Lac du Bonnet 57.40 346 P P 11 36 55.9 -0.9
comp=Z,8.7nm,0.6s,baz=156,slow=8.3,SNR=18
comp=Z,8.7nm,0.6s
NVAR Mina Array Bea 57.55 322 P P 11 36 58.5 +0.1
NVAR Mina Array Bea 57.55 322 P P 11 36 58.8 +0.4
comp=Z,1.4nm,0.7s,baz=130,slow=7.2,SNR=13
comp=Z,1.4nm,0.7s
LHV Little Huntoon 57.56 322 P P 11 36 58.9 +0.8
LHV IAmb IAmb 11 37 04.8
comp=Z,8.6nm,1.4s
BMN Battle Mountai 58.21 325 P P 11 37 02.9 +0.1
BMN IAmb IAmb 11 37 03.5
comp=Z,3.5nm,0.7s
GCMT Greycliff 58.25 334 P P 11 37 03.7 +0.7
WAKR Walker 58.29 322 P P 11 37 04.2 +0.7
MFID Camas Ranch 59.47 328 P P 11 37 11.9 +0.5
AFDM Forest Hills D 59.51 321 P P 11 37 11.4 -0.3
EGMT Eagleton 60.04 335 P P 11 37 15.4 +0.1
MSO Missoula 60.97 332 P P 11 37 21.6 -0.1
I07A Izee 61.88 327 P P 11 37 29.1 +1.2
I07A IAmb IAmb 11 37 39.8
comp=Z,4.9nm,1.2s
F10A Beach Ranch, E 61.96 330 P P 11 37 28.6 +0.3
YBH Yreka Blue Hor 62.25 323 LR LR 12 02 49.3
comp=Z,52nm,18.2s,baz=237,slow=34
G08A Pilot Rock 62.39 328 P P 11 37 31.5 +0.2
G08A IAmb IAmb 11 37 32.6
comp=Z,5.6nm,1.2s
E09A Wood Farm, Sta 62.79 330 P P 11 37 34.2 +0.4
E09A IAmb IAmb 11 37 34.7
comp=Z,6.1nm,1.0s
FFC Flin Flon 63.03 344 P P 11 37 35.3 +0.1
BBTS Babate 63.42 71 LR LR 12 03 23.0
comp=Z,92nm,19.9s,baz=96,slow=34
NEW Newport 63.50 331 P P 11 37 39.0 +0.4
NEW IAmb IAmb 11 37 39.5
comp=Z,4.1nm,0.8s
E07A Sunnyside 63.70 329 P P 11 37 40.6 +0.8
E07A IAmb IAmb 11 37 41.4
comp=Z,4.8nm,0.9s
B08A Colville Reser 64.64 330 P P 11 37 46.1 +0.1
B08A IAmb IAmb 11 38 05.2
comp=Z,3.0nm,0.6s
FCC Fort Churchill 65.05 350 P P 11 37 47.9 -0.5
FCC IAmb IAmb 11 37 48.3
comp=Z,4.4nm,0.8s
BRLDA Berland Lookou 67.79 336 P P 11 38 06.2 0.0
BRLDA IAmb IAmb 11 38 06.7
comp=Z,6.4nm,0.9s
DBIC Dimbokro 73.33 82 P P 11 38 42.2 +1.6
comp=Z,6.2nm,1.0s,baz=251,slow=7.6,SNR=4.6
DBIC LR LR 12 09 50.7
comp=Z,57nm,18.8s,baz=128,slow=35
comp=Z,6.2nm,1.0s
DLBC Dease Lake 75.94 334 P P 11 38 55.9 +0.9
DLBC IAmb IAmb 11 38 56.9
comp=Z,5.0nm,1.1s
BELA Belgrano 2 76.06 171 P P 11 38 55.9 +0.6
WRGLY Wrigley 76.45 340 P P 11 38 59.3 +1.7
FARO Faro, Yukon 79.44 337 P P 11 39 14.5 +0.2
SNAA Sanae 80.35 162 ⇓P P 11 39 19.7 +0.6
comp=Z,49nm,0.6s
SNAA Sanae 80.35 162 P P 11 39 19.9 +0.7
comp=Z,1.7nm,0.6s,baz=259,slow=5.4,SNR=5.8
comp=Z,1.7nm,0.6s
TOA0 Torodi Ar. Sit 80.56 76 P P 11 39 20.1 -1.2
TOA0 IAmb IAmb 11 39 22.7
comp=Z,7.7nm,1.2s

TORD Torodi Ar. Bea 80.56 76 P P 11 39 22.5 +1.1
comp=Z,1.5nm,0.5s,baz=280,slow=5.9,SNR=18
comp=Z,1.5nm,0.5s
SUMG Summit 81.41 11 P P 11 39 25.3 +0.1
SUMG IAmb IAmb 11 39 37.9
comp=Z,4.5nm,0.8s
M29M Somme Creek 81.61 336 P P 11 39 27.2 +1.2
M29M IAmb IAmb 11 39 59.6
comp=Z,7.1nm,1.4s
L29M L29M 81.79 336 P P 11 39 27.5 +0.6
L29M IAmb IAmb 11 39 28.5
comp=Z,4.3nm,0.8s
J30M Hart River 81.82 338 P P 11 39 28.2 +1.0
J30M IAmb IAmb 11 39 29.1
comp=Z,6.3nm,1.4s
K29M Barlow Dome 81.91 337 P P 11 39 28.1 +0.5
I30M Mount Dempster 82.17 339 P P 11 39 29.6 +0.6
I30M IAmb IAmb 11 39 41.5
comp=Z,4.1nm,0.9s
DAWY Dawson 82.74 337 P P 11 39 32.1 +0.2
INK Inuvik 82.85 342 P P 11 39 32.8 +0.6
INK IAmb IAmb 11 39 33.7
comp=Z,5.0nm,0.9s
A36M Sachs Harbour 82.87 347 P P 11 39 32.2 -0.1
BCAR Beaver Creek A 83.26 336 P P 11 39 34.8 +0.2
L27K Beaver Creek, 83.27 336 P P 11 39 35.4 +0.8
L27K IAmb IAmb 11 39 36.4
comp=Z,5.0nm,1.0s
H29M Whitestone 83.38 339 P P 11 39 35.1 0.0
H29M IAmb IAmb 11 39 36.0
comp=Z,5.6nm,1.1s
GLB Gilahina Butte 83.45 334 P P 11 39 36.0 +0.4
GLB IAmb IAmb 11 39 49.0
comp=Z,4.5nm,1.2s
M26K Nabesna, AK 83.48 335 P P 11 39 36.4 +0.6
M26K IAmb IAmb 11 39 56.3
comp=Z,3.0nm,0.9s
I28M Miner Creek 83.59 338 P P 11 39 36.6 +0.3
G29M Pine Creek 83.60 340 P P 11 39 36.5 +0.3
G29M IAmb IAmb 11 39 48.2
comp=Z,3.9nm,0.8s
EGAK Eagle 83.75 337 P P 11 39 37.1 +0.2
EGAK IAmb IAmb 11 39 38.2
comp=Z,6.1nm,0.9s
L26K Log Cabin Wild 83.89 335 P P 11 39 38.1 +0.4
SCRK Sand Creek 84.53 336 P P 11 39 41.3 +0.2
SCRK IAmb IAmb 11 39 42.3
comp=Z,4.1nm,1.1s
F28M Old Crow 84.56 340 P P 11 39 40.8 -0.3
F28M IAmb IAmb 11 39 43.0
comp=Z,3.2nm,1.0s
J26L Joseph Creek 84.57 337 P P 11 39 41.4 +0.1
J26L IAmb IAmb 11 39 42.1
comp=Z,2.3nm,0.7s
QSPA South Pole Qui 84.99 180 P P 11 39 44.3 +0.8
comp=Z,6.7nm,1.0s,baz=156,slow=1.8,SNR=24
comp=Z,6.7nm,1.0s
EKA Eskdalemuir Ar 85.28 33 P P 11 39 45.4 +0.5
comp=Z,0.7nm,0.7s,baz=260,slow=3.5,SNR=3.7
comp=Z,0.7nm,0.7s
J25K Salcha River, 85.33 336 P P 11 39 45.1 0.0
J25K IAmb IAmb 11 39 46.2
comp=Z,2.7nm,0.7s
IL31 86.00 336 P P 11 39 47.7 -0.5
IL31 IAmb IAmb 11 39 48.5
comp=Z,3.0nm,1.1s
ILAR Eielson Array 86.00 336 P P 11 39 48.4 +0.1
ILAR Eielson Array 86.00 336 P P 11 39 47.9 -0.5
comp=Z,1.0nm,0.9s,baz=125,slow=3.4,SNR=13
ILAR LR LR 12 23 26.1
comp=Z,22nm,18.4s,baz=246,slow=39
comp=Z,1.0nm,0.9s
RC01 Rabbit Creek A 86.01 332 P P 11 39 48.3 -0.1
BMAR Burnt Mountain 86.12 339 P P 11 39 49.7 +0.8
MLY Manley 87.64 336 P P 11 39 56.6 +0.3
MLY IAmb IAmb 11 39 57.2
comp=Z,3.5nm,0.8s
G23K Bananza Creek 87.87 338 P P 11 39 58.2 +0.8
G23K IAmb IAmb 11 39 58.8
comp=Z,2.7nm,0.9s
COLD Coldfoot 88.09 338 P P 11 39 59.6 +1.2
COLD IAmb IAmb 11 40 00.5
comp=Z,5.2nm,1.2s
K20K Telida 88.59 334 P P 11 40 00.6 -0.3
K20K IAmb IAmb 11 40 13.0
comp=Z,5.0nm,1.2s
J20K Nowinta River 88.82 335 P P 11 40 01.9 +0.1
J20K IAmb IAmb 11 40 04.9
comp=Z,3.7nm,1.4s
IMAR Indian Mountai 89.11 337 P P 11 40 03.1 -0.1
BVAR Borovoye Array 125.40 23 PKP PKiKP 11 46 09.8 +0.3
comp=Z,0.7nm,0.5s,baz=169,slow=0.7,SNR=4.2
ZALV Zalesovo Beam 129.18 13 PKP PKiKP 11 46 16.6 -0.3
comp=Z,1.5nm,0.5s,baz=236,slow=1.6,SNR=6.8
KURBB Kurchatov Arra 130.34 20 PKP PKiKP 11 46 19.5 +0.2
comp=Z,0.5nm,0.3s,baz=331,slow=2.3,SNR=9.6
MKAR Makanchi Array 134.90 20 PKP PKiKP 11 46 27.0 -1.8
comp=Z,0.5nm,0.5s,baz=328,slow=2.2,SNR=5.0
SONM Songino Array 137.29 356 PKP PKiKP 11 46 30.9 -2.9
comp=Z,0.5nm,0.6s,baz=214,slow=1.0,SNR=2.6
ASAR Alice Springs 138.18 226 PKP PKiKP 11 46 33.9 -2.3
comp=Z,0.7nm,0.5s,baz=108,slow=2.1,SNR=13
WRA Warramunga Arr 140.10 230 PKhKP PKPpre 11 46 32.2
comp=Z,0.7nm,0.8s,baz=113,slow=2.4,SNR=5.7
WRA PKP **PKiKP 11 46 39.5 -0.6**
comp=Z,1.3nm,0.6s,baz=117,slow=2.3,SNR=20
KSRS Korea Array 140.36 328 PKP PKiKP 11 46 36.0 -4.2
comp=Z,0.5nm,0.5s,baz=40,slow=2.1,SNR=4.4

*KOLA **17** 11:30:47.8, 67°.64N×34°.34E, h0km, ML2.0, Error ellipse: s-maj=9.1km s-min=3.8km az=120.0, Murmansk region, Kirovsk district*
HEL 17 11:30:46.4±0.3, 67°.60N×34°.31E, h0km, ML1.8, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.33**	**23**	P	Pg	11 30 52.5	-0.2
LVZ				S	Sg	11 30 56.4	-0.5
LVZ	**Lovozero**	**0.33**	**23**	PG	Pg	11 30 52.6	0.0
LVZ				SG	Sg	11 30 56.3	-0.6
APA	**Apatity**	**0.35**	**266**	P	Pg	11 30 53.2	+0.2
APA				S	Sg	11 30 58.1	+0.6
TERR	**Teriberka**	**1.64**	**10**	P	Pn	11 31 15.8	-0.6
TERR				S	Sn	11 31 36.0	-2.2
VRF	**Varrio**	**1.80**	**277**	PG	Pn	11 31 19.0	+0.3
VRF				MSG		11 31 40.0	
VRF	comp=Z,12nm,0.2s			SN	Sn	11 31 41.6	-0.7
PRVG	**Vayda Guba**	**2.29**	**341**	P	Pb	11 31 27.3	-1.3
PRVG				S	Sb	11 31 56.2	-1.2
OLKF	**Oulanka, Finla**	**2.32**	**239**	PG	Pb	11 31 27.7	-1.3
OLKF				MSG		11 31 55.1	
KU6	comp=Z,3.5nm,0.2s **Riekki** baz=45	**2.36**	**230**	PG	Pb	11 31 28.5	-1.2
KU6				MSG		11 31 56.1	
RAJF	comp=Z,3.4nm,0.2s **Raja-Jooseppi**	**2.42**	**294**	PG	Pn	11 31 27.7	+0.5
RAJF				SG	Sn	11 31 58.4	+0.9
MSF	**Maaselka**	**2.69**	**233**	PG	Pb	11 31 34.4	-0.9
MSF				SG	Sb	11 32 09.9	+1.1
SGF	**Sodankyl**	**3.00**	**271**	PG	Pb	11 31 39.9	-0.6
SGF				SG	Sb	11 32 17.0	-0.6
RANF	**Ranua**	**3.37**	**245**	PG	Pb	11 31 46.1	-0.9
RANF				SG	Sb	11 32 29.3	+0.8
RNF	**Rovaniemi** baz=69	**3.39**	**257**	PN	Pn	11 31 41.5	+1.0
KEV	**Kevo**	**3.44**	**312**	PN	Pn	11 31 41.3	+0.2
KEV				SN	Sn	11 32 21.4	-1.1
ARA0	**ARCESS Array S** baz=119	**3.77**	**305**	PN	Pn	11 31 45.2	-0.5
ARA0				SG	Sb	11 32 42.1	+2.1
KLF	**Kolari**	**4.01**	**270**	PN	Pn	11 31 48.9	-0.1
KLF				SG	Sb	11 32 48.1	+1.4
HEF	**Hetta**	**4.09**	**286**	PN	Pn	11 31 50.2	+0.1
HEF				SN	Sn	11 32 37.5	-1.1
KTK1	**Kautokeino**	**4.35**	**294**	PN	Pn	11 31 54.3	+0.7
KTK1				SG	Sb	11 32 57.7	+1.2
LANU	**Lannavaara**	**4.69**	**281**	PN	Pn	11 31 57.9	-0.4
LANU				SG	Sb	11 33 10.9	+4.6
FAUS	**Fauske**	**7.30**	**277**	S	Sn	11 33 52.5	-5.0

IDC 17 11:34:03.0±1.9, 15°.28S×173°.62W, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=132.9km s-min=23.8km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy 38.75 329** baz=146,slow=76,SNR=15			T	T	12 22 28.0	
H11S3	**WAKE ISLAND Hy 38.76 329** baz=146,slow=76,SNR=8.7			T	T	12 22 24.6	
H11S1	**WAKE ISLAND Hy 38.77 329** baz=146,slow=76,SNR=11			T	T	12 22 37.2	
H11N3	**WAKE ISLAND Hy 39.70 331** baz=148,slow=75			T	T	12 23 58.4	
H11N1	**WAKE ISLAND Hy 39.71 331** baz=148			T	T	12 23 37.8	
H11N2	**WAKE ISLAND Hy 39.72 331** baz=148,slow=75			T	T	12 24 18.5	
WRA	**Warramunga Arr 49.66 257** 0.5nm,0.9s,baz=91,slow=9.0,SNR=2.1 0.5nm,0.9s			P	P	11 42 57.0	+0.1
ASAR	**Alice Springs 49.94 252** 0.9nm,0.7s,baz=88,slow=8.1,SNR=14 0.9nm,0.7s			P	P	11 42 58.9	-0.2
NVAR	**Mina Array Bea 74.38 42** 1.2nm,0.8s,baz=223,slow=9.8,SNR=9.3 1.2nm,0.8s			P	P	11 45 43.7	+0.6
TXAR	**Lajitas Array 80.72 56** 0.4nm,0.8s,baz=219,slow=4.8,SNR=5.2 0.4nm,0.8s			P	P	11 46 18.5	-0.2
PDAR	**Pinedale Array 82.32 42** 0.4nm,0.9s,baz=219,slow=1.9,SNR=3.7 0.4nm,0.9s			P	P	11 46 26.4	-0.5
ILAR	**Eielson Array 82.37 11** 0.3nm,0.8s,baz=205,slow=4.7,SNR=4.1 0.3nm,0.8s			P	P	11 46 26.2	-0.2
H03N2	**Juan Fernandez 85.55 123** baz=254			T	T	13 21 48.1	
H03N3	**Juan Fernandez 85.55 123** baz=254			T	T	13 21 41.3	
H03N1	**Juan Fernandez 85.56 123** baz=254			T	T	13 21 43.7	

*HEL **17** 11:41:35.2±0.6, 56°.57N×26°.14E, h0km, ML2.8, Suspected explosion*
*LVSN **17** 11:41:36.0±3.8, 56°.72N×25°.79E, h0km±14km, ML2.7*
*EST **17** 11:41:37.1±0.3, 56°.69N×25°.88E, h0km, ML2.2(HEL), Explosion*
ISC 17 11:41:33.7±1.2, 56°.45N±0°.05×26°.18E±0°.06, h0km, n27, σ19.59/37, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IIGN	**Ignalina**	**1.11**	**179**	*e*P	**Pb**	**11 41 55.5**	**-0.1**
EE07	**Piusa Caves, O**	**1.56**	**26**	*e*S	**Sn**	**11 42 21.7**	**-1.8**
VSU	**Vasula**	**2.04**	**8**	*e*S	**Sn**	**11 42 33.7**	**-1.6**
VSU				AML	AML	11 42 37.6	
VSU	comp=E,63nm,0.3s			AML	AML	11 42 38.7	
VSU	comp=N,69nm,0.4s			AML	AML	11 42 44.1	
VSU	comp=Z,25nm,0.3s **Vasula**	**2.04**	**8**	*e*P	**Pn**	**11 42 09.2**	**0.0**
VSU				*e*S	**Sn**	**11 42 33.5**	**-1.7**
EE08	**Sarghaua, Vand**	**2.27**	**347**	*e*P	**Pn**	**11 42 12.3**	**-0.1**
EE08				*e*SG	**Sn**	**11 42 38.6**	**-2.3**
PBUR	**Paburge**	**2.41**	**261**	*e*S	**Sb**	**11 42 48.0**	**-0.1**
PBUR				AML	AML	11 42 50.1	
PBUR	comp=E,91nm,0.3s			AML	AML	11 42 53.8	
PBUR	comp=N,113nm,0.4s			AML	AML	11 42 54.5	
EE03	comp=Z,51nm,0.4s **Tooma soojaam,**	**2.43**	**1**	*e*PB	**Pn**	**11 42 15.3**	**+0.8**
EE03				*e*SG	**Sn**	**11 42 44.4**	**-0.5**
SLIT	**Slitere, Latvi**	**2.43**	**301**	*e*P	**Pn**	**11 42 13.8**	**-0.7**
SLIT	**Slitere, Latvi**	**2.43**	**301**	*e*P	**Pn**	**11 42 14.0**	**-0.6**
SLIT				*e*S	**Sn**	**11 42 42.2**	**-2.8**
SLIT	comp=Z,109nm,0.4s			AML	AML	11 42 47.3	
SLIT	comp=E,190nm,0.3s			AML	AML	11 42 49.4	
SLIT	comp=N,134nm,0.4s			AML	AML	11 42 50.9	
SLIT	**Slitere, Latvi**	**2.43**	**301**	*e*P	**Pn**	**11 42 14.0**	**-0.6**
SLIT				*e*S	**Sn**	**11 42 42.9**	**-2.1**
MTSE	**Matsula**	**2.60**	**332**	*e*P	**Pg**	**11 42 25.9**	**+2.4**
MTSE	**Matsula**	**2.60**	**332**	*e*S	**Sn**	**11 42 48.4**	**-0.8**
MTSE	**Matsula**	**2.60**	**332**	*e*PB	**Pn**	**11 42 17.6**	**+0.7**
MTSE				*e*SG	**Sn**	**11 42 47.8**	**-1.4**
EE02	**Kiisa, Saku**	**2.86**	**344**	*e*PB	**Pn**	**11 42 21.2**	**+0.8**
EE02				*e*SB	**Sn**	**11 42 55.5**	**0.0**
ARBE	**Arbavere**	**2.99**	**358**	AML	AML	11 42 49.6	
ARBE	comp=Z,89nm,0.6s			*e*S	**Sn**	**11 43 00.2**	**+1.4**
ARBE				AML	AML	11 43 03.1	
ARBE	comp=N,190nm,0.4s			AML	AML	11 43 04.9	
ARBE	comp=E,119nm,0.3s **Arbavere**	**2.99**	**358**	*e*SB	**Sn**	**11 42 59.8**	**+1.0**
EE01	**Perakula, Nova**	**3.08**	**335**	*e*PB	**Pn**	**11 42 24.9**	**+1.4**
EE01				*e*SB	**Sn**	**11 43 01.2**	**+0.3**
MEF	**Metsahovi**	**3.89**	**347**	*e*SG	**Sb**	**11 43 28.7**	**-1.9**
PVF	**Pernaja**	**4.11**	**358**	*e*PG	**Pb**	**11 42 47.0**	**+0.3**
PVF				*e*SG	**Sb**	**11 43 35.2**	**-1.7**
PVF				MSG		11 43 42.6	
NUR	comp=Z,8.4nm,0.3s **Nurmijrvi**	**4.15**	**349**	*e*SG	**Sb**	**11 43 35.6**	**-2.4**
NUR				MSG		11 43 39.9	
VJF	comp=Z,1.5nm,0.1s **Virojoki**	**4.16**	**9**	*e*S	**Sn**	**11 43 24.9**	**-2.6**
VJF				MSG		11 43 44.4	
AAL	comp=Z,5.2nm,0.3s **Aland**	**4.96**	**321**	*e*P	**Pn**	**11 42 51.7**	**+2.4**
AAL	**Aland**	**4.96**	**321**	*e*SG	**Sb**	**11 44 01.1**	**-0.2**
FIA0	**FINESS Array S**	**5.01**	**359**	*e*P	**Pn**	**11 42 50.6**	**+0.6**
FIA0				*e*S	**Sn**	**11 43 44.5**	**-3.9**
FIA0				*e*SG	**Sb**	**11 44 02.7**	**0.0**
FIA0				MSG		11 44 06.7	
FIA1	comp=Z,3.1nm,0.3s **FINESS Array S**	**5.01**	**359**	*e*SG	**Sb**	**11 44 03.1**	**+0.3**
FIA1				MSG		11 44 06.7	
RAF	comp=Z,1.9nm,0.2s **Rauma**	**5.13**	**335**	*e*P	Pb	11 42 59.1	-5.0
RAF	**Rauma**	**5.13**	**335**	*e*SG	**Sb**	**11 44 04.7**	**-1.5**

*IDC **17** 11:43:38.5±5.0, 16°.10N×98°.06W, h0km, mb3.2/3, mbtmp3.4/6, ML3.5/3, MS3.0/1, Error ellipse: s-maj=86.7km s-min=18.4km az=2.0*
*MEX **17** 11:43:44.0±0.7, 16°.24N×98°.13W, h13km±2km, MD4.3*
ISC 17 11:43:41.0±1.3, 16°.22N±0°.04×98°.13W±0°.03, h13km±10km, n63, σ2.901/109, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**360**	*e*P	**Pb**	**11 43 46.4**	**+0.2**
PNIG				*i* S	**Sb**	**11 43 49.0**	**-0.5**
YOIG	**Yosondua**	**0.84**	**41**	*i* P	**Pb**	**11 43 57.0**	**-0.7**
YOIG				*i* S	**Sg**	**11 44 07.3**	**-1.2**
PEIG	**Puerto Escondi**	**0.96**	**103**	*e*P	**Pb**	**11 43 59.7**	**+0.1**
PEIG				*i* S	**Sb**	**11 44 12.2**	**-0.1**
TXIG	**Tlaxiaco**	**1.09**	**18**	*i* P	**Pb**	**11 44 00.5**	**-1.3**
TXIG				*i* S	**Sb**	**11 44 13.4**	**-2.6**
CRIG	**Cruz Grande**	**1.09**	**298**	*e*P	**Pb**	**11 44 00.0**	**-1.7**
CRIG				*e*S	**Sb**	**11 44 14.7**	**-1.2**
MGIG	**Malinaltepec**	**1.12**	**334**	*e*P	**Pb**	**11 44 00.7**	**-1.7**
MGIG				*e*S	**Sb**	**11 44 14.3**	**-2.6**
TLIG	**Tlapa**	**1.40**	**343**	*e*P	**Pn**	**11 44 05.2**	**-1.2**
TLIG				*e*S	**Sn**	**11 44 22.4**	**-2.4**
VHO	**Vista Hermosa**	**1.58**	**57**	*e*P	**Pn**	**11 44 08.4**	**-0.5**
VHO				*e*S	**Sn**	**11 44 28.8**	**-0.6**
OXBJ	**Oaxaca**	**1.59**	**58**	*i* P	**Pb**	**11 44 10.7**	**+0.4**
OXBJ				*i* S	**Sg**	**11 44 30.7**	**-1.5**
OXLC	**Oaxaca**	**1.60**	**58**	*e*P	**Pn**	**11 44 09.1**	**-0.1**
OXLC				*i* S	**Sb**	**11 44 30.0**	**-0.8**
HLIG	**Huajuapan de L**	**1.63**	**11**	*e*P	**Pn**	**11 44 08.6**	**-1.0**
HLIG				*e*S	**Sn**	**11 44 27.6**	**-3.1**
DAIG	**Los Arroyos**	**1.67**	**299**	*e*P	**Pn**	**11 44 08.6**	**-1.3**
DAIG				*e*S	**Sn**	**11 44 28.1**	**-3.1**
PANG	**Puerto Angel**	**1.68**	**109**	*i* P	**Pg**	**11 44 13.9**	**+0.6**
PANG				*i* S	**Sg**	**11 44 35.3**	**+0.2**

FTIG	**Fresnillo de T**	**1.68**	**360**	*eP*	**Pn**	**11 44 09.5**	**-0.7**
FTIG				*eS*	**Sn**	**11 44 28.2**	**-3.5**
HUIG	**Huatulco**	**1.99**	**103**	*eP*	**Pn**	**11 44 14.2**	**-0.1**
HUIG				*i S*	**Sn**	**11 44 36.4**	**-2.7**
TOIG	**Toxpalan**	**2.13**	**28**	*eP*	**Pn**	**11 44 15.9**	**-0.5**
TOIG				*i S*	**Sn**	**11 44 39.7**	**-2.9**
CAIG	**El Cayaco**	**2.21**	**292**	*eP*	**Pn**	**11 44 16.2**	**-1.2**
CAIG				*eS*	**Sb**	**11 44 47.5**	**-0.7**
MEIG	**Mezcala**	**2.22**	**320**	*eP*	**Pn**	**11 44 17.4**	**-0.2**
MEIG				*eS*	**Sn**	**11 44 45.7**	**+0.8**
TPIG	**Tehuac#an**	**2.31**	**18**	*eP*	**Pb**	**11 44 20.8**	**-1.8**
TPIG				*eS*	**Sn**	**11 44 46.4**	**-0.8**
PLIG	**Platanillo**	**2.53**	**329**	*eP*	**Pn**	**11 44 21.9**	**0.0**
PLIG				*eS*	**Sn**	**11 44 51.4**	**-1.3**
NEUV	**Arroyo Zacate**	**2.67**	**56**	*eP*	**Pn**	**11 44 23.4**	**-0.3**
NEUV				*eS*	**Sn**	**11 44 52.8**	**-3.3**
YAIG	**Yautepec**	**2.78**	**341**	*eP*	**Pn**	**11 44 27.4**	**+2.0**
YAIG				*eS*	**Sn**	**11 45 00.8**	**+1.9**
PPM	**Popocatepetl**	**2.87**	**351**	*eP*	**Pn**	**11 44 27.3**	**+0.3**
PPM				*i S*	**Sb**	**11 45 08.2**	**+0.5**
ARIG	**Puente Sto Nin**	**2.95**	**314**	*eP*	**Pn**	**11 44 29.0**	**+1.4**
ARIG				*eS*	**Sn**	**11 45 01.5**	**-1.4**
MAVM	**Malinalco, Edo**	**3.02**	**335**	*eP*	**Pn**	**11 44 27.2**	**-1.6**
MAVM				*eS*	**Sn**	**11 45 02.2**	**-2.7**
TLVM	**San Miguel Top**	**3.13**	**342**	*eP*	Pn	11 44 24.5	-5.9
TLVM				*eS*	**Sn**	**11 45 05.3**	**-2.5**
XCVM	**Xochimilco**	**3.16**	**343**	*eP*	**Pn**	**11 44 30.6**	**-0.1**
XCVM				*eS*	**Sn**	**11 45 08.7**	**+0.2**
CMIG	**Matias Romero**	**3.23**	**74**	Pn	**Pn**	**11 44 30.9**	**-0.4**
	2.6nm,0.3s,baz=255,slow=13,SNR=32						
CMIG				Sn	**Sn**	**11 45 08.6**	**-1.1**
	18nm,0.3s,baz=264,slow=13,SNR=4.7						
CMIG				Lg	Lg	11 45 20.2	
	62nm,0.3s,baz=339,slow=6.7,SNR=16						
	11nm,0.4s						
CMIG	**Matias Romero**	**3.23**	**74**	*eP*	**Pn**	**11 44 30.2**	**-1.1**
CMIG				*eS*	**Sn**	**11 45 08.3**	**-1.4**
AOVM	**Tlapan**	**3.24**	**340**	*eP*	**Pn**	**11 44 34.1**	**+2.1**
AOVM				*eS*	**Sn**	**11 45 09.3**	**-1.4**
UNM	**Universidad Na**	**3.25**	**342**	*eP*	**Pn**	**11 44 31.6**	**-0.4**
UNM				*i S*	**Sn**	**11 45 10.8**	**0.0**
COVM	**Coyoacan**	**3.27**	**343**	*eP*	**Pn**	**11 44 34.7**	**+2.5**
COVM				*eS*	**Sn**	**11 45 14.1**	**+3.1**
INVM	**La Marquesa**	**3.28**	**339**	*eP*	**Pn**	**11 44 29.4**	**-3.0**
INVM				*eS*	**Sn**	**11 45 10.2**	**-1.4**
BJVM	**Benito Juarez**	**3.29**	**343**	*eP*	**Pb**	**11 44 38.5**	**-1.0**
BJVM				*i S*	**Sn**	**11 45 12.2**	**+0.5**
CJVM	**Cuajimalpa**	**3.32**	**341**	*eP*	**Pn**	**11 44 35.6**	**+2.7**
CJVM				*eS*	**Sn**	**11 45 12.8**	**+0.5**
PBVM	**Pinon**	**3.33**	**344**	*eP*	**Pn**	**11 44 30.8**	**-2.0**
PBVM				*eS*	**Sn**	**11 45 07.9**	**-4.4**
JAUV	**Jalcomulco**	**3.38**	**22**	*eP*	**Pn**	**11 44 33.6**	**+0.1**
JAUV				*i S*	**Sn**	**11 45 13.2**	**-0.3**
TOVM	**TOLUCA**	**3.39**	**334**	*eP*	**Pn**	**11 44 37.7**	**+3.8**
TOVM				*eS*	**Sn**	**11 45 11.0**	**-3.1**
APVM	**Azcapotzalco**	**3.41**	**343**	*eP*	**Pn**	**11 44 34.3**	**+0.2**
APVM				*eS*	**Sn**	**11 45 13.8**	**-0.9**
ZIIG	**Zihuatanejo**	**3.48**	**294**	*eP*	**Pn**	**11 44 36.0**	**+1.1**
ZIIG				*eS*	**Sn**	**11 45 14.6**	**-1.4**
VTVM	**Tizayuca**	**3.59**	**350**	*eP*	**Pn**	**11 44 39.7**	**+3.1**
VTVM				*i S*	**Sn**	**11 45 17.5**	**-1.5**
PMUV	**Sontecomapan**	**3.69**	**51**	*eP*	**Pn**	**11 44 36.2**	**-1.5**
PMUV				*i S*	**Sn**	**11 45 22.5**	**+1.4**
LVIG	**Laguna Verde**	**3.85**	**25**	*eP*	**Pn**	**11 44 43.8**	**+3.9**
LVIG				*i S*	**Sn**	**11 45 25.8**	**+0.9**
UXUV	**UXUV**	**3.97**	**73**	*eP*	**Pn**	**11 44 40.8**	**-0.7**
UXUV				*eS*	**Sn**	**11 45 28.1**	**+0.2**
ACIG	**Acambay**	**4.10**	**336**	*eP*	**Pn**	**11 44 46.0**	**+2.5**
ACIG				*i S*	**Sn**	**11 45 35.2**	**+3.8**
DEIG	**Demacu**	**4.15**	**348**	*eP*	**Pn**	**11 44 48.5**	**+4.2**
DEIG				*eS*	**Sn**	**11 45 28.9**	**-3.9**
MOIG	**Morelia**	**4.51**	**320**	*eP*	**Pn**	**11 44 49.6**	**+0.4**
MOIG				*eS*	**Sn**	**11 45 42.3**	**+0.6**
PCIG		**4.75**	**95**	*eP*	**Pn**	**11 44 53.0**	**+0.8**
PCIG				*eS*	**Sn**	**11 45 43.7**	**-3.5**
TGIG		**4.83**	**83**	*eP*	**Pn**	**11 44 57.8**	**+4.3**
TGIG				*eS*	**Sn**	**11 45 49.8**	**+0.4**
CTUV	**Llano Grande**	**5.23**	**358**	*eP*	**Pn**	**11 45 03.3**	**+4.4**
CTUV				*eS*	**Sn**	**11 46 00.0**	**+0.9**
COIG	**Colima**	**6.07**	**300**	*eP*	**Pn**	**11 45 13.2**	**+2.7**
MNGA	**Volcan de Coli**	**6.15**	**303**	*eP*	**Pn**	**11 45 15.0**	**+3.2**
INCO	**Volcan de Coli**	**6.17**	**303**	*eP*	**Pn**	**11 45 09.8**	**-2.4**
SOMAC	**Volcano de Col**	**6.19**	**303**	*eP*	**Pn**	**11 45 16.2**	**+3.8**
CEGR	**Campo Tres**	**6.31**	**301**	*eP*	**Pn**	**11 45 16.3**	**+2.4**
TEIG	**Tepich**	**10.17**	**65**	Pn	**Pn**	**11 46 06.4**	**-0.3**
	0.9nm,0.3s,baz=242,slow=2.2,SNR=2.0						
TEIG				Sn	**Sn**	**11 47 59.3**	**-1.4**
	2.0nm,0.3s,baz=159,slow=22,SNR=3.0						
	3.0nm,0.3s						
TXAR	**Lajitas Array**	**14.02**	**340**	Pn	**Pn**	**11 47 02.2**	**+2.8**
	baz=164,slow=13,SNR=1.8						
	0.2nm,0.9s						
ANMO	**Albuquerque**	**20.09**	**340**	P	Pn	11 48 16.5	+0.1
	0.5nm,0.5s,baz=152,slow=7.0,SNR=1.6						
	0.5nm,0.5s						
PDAR	**Pinedale Array**	**28.21**	**342**	P	**P**	**11 49 34.0**	**+0.3**
	0.3nm,0.7s,baz=156,slow=6.9,SNR=2.1						
PDAR				LR	LR	12 01 54.9	
	comp=Z,30nm,19.1s,baz=147,slow=39						
	0.3nm,0.7s						
H03N2	**Juan Fernandez**	**52.67**	**160**	T	T	12 49 29.8	
	baz=337,slow=77,SNR=41						
H03N1	**Juan Fernandez**	**52.68**	**160**	T	T	12 49 32.2	
	baz=337,slow=77,SNR=53						
H03N3	**Juan Fernandez**	**52.69**	**160**	T	T	12 49 29.9	
	baz=337,slow=77,SNR=53						
ILAR	**Eielson Array**	**58.52**	**338**	P	**P**	**11 53 36.8**	**0.0**
	0.3nm,0.9s,baz=134,slow=6.4,SNR=3.3						
	0.3nm,0.9s						

*JMA **17** 12:10:10.9±0.6,34°N±1°×14°2E±°,h38km±4km,MV3.2/33, FAR SE OFF BOSO PEN*
*IDC **17** 12:10:14.7±1.5,33°.14N×138°.25E,h0km,mb3.5/2, mbtmp3.5/3,ML3.0/1,Error ellipse: s-maj=27.1km s-min=21.8km az=132.0*

ISC 17 12:10:10.4±1.5,33°.98N±0°.07×141°.81E±0°.10,h35km,n24, σ1°23/27,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.96**	**315**	*eP*	**Pn**	**12 10 26.1**	**-0.9**
BSO3	**Boso 3**	**1.35**	**308**	*eP*	**Pn**	**12 10 31.9**	**-0.6**
BSO4	**Boso 4**	**1.58**	**310**	*eP*	**Pn**	**12 10 35.9**	**0.0**
JKUC	**kamogawauchiur**	**1.78**	**312**	P	**Pn**	**12 10 38.0**	**-0.6**
JMKN	**Mikurajimanish**	**1.85**	**268**	*eP*	**Pn**	**12 10 38.5**	**-1.0**
JHJ2	**Mitsune**	**1.87**	**243**	P	**Pn**	**12 10 40.0**	**+0.1**
JHJ2	**Mitsune**	**1.87**	**243**	P	**Pn**	**12 10 40.1**	**+0.1**
JMYK	**Miyake Tsubota**	**1.88**	**273**	S	**Sn**	**12 11 01.9**	**-0.6**
JHJ	**Hachijo jima 2**	**1.90**	**244**	Pn	**Pn**	**12 10 40.1**	**-0.2**
	36nm,0.3s,baz=336,slow=22,SNR=54						
JHJ				Sn	**Sn**	**12 10 59.8**	**-3.1**
	33nm,0.3s,baz=233,slow=23,SNR=5.2						
JHCJ	**Hachijojimakas**	**1.91**	**242**	*eP*	**Pn**	**12 10 40.3**	**-0.1**
JIM2	**Oshima 3**	**2.10**	**291**	*eP*	**Pn**	**12 10 42.3**	**-0.8**
JIZS	**Izushimoda**	**2.54**	**288**	*eP*	**Pn**	**12 10 48.4**	**-0.6**
JIZS				*eS*	**Sn**	**12 11 17.5**	**-1.2**
JOD2	**Odawara 2**	**2.58**	**301**	*eP*	**Pn**	**12 10 48.5**	**-1.3**
JAG	**Ashikaga**	**3.11**	**322**	*eP*	**Pn**	**12 10 56.8**	**-0.2**
JRY	**Ryogami san**	**3.14**	**311**	*eP*	**Pn**	**12 10 57.0**	**-0.3**
MJAR	**Matsushiro Arr**	**3.90**	**312**	Pn	**Pn**	**12 11 08.0**	**+0.2**
	1.4nm,0.3s,baz=161,slow=14,SNR=60						
MJAR				Sn	**Sn**	**12 11 52.5**	**0.0**
	0.2nm,0.3s,baz=257,slow=24,SNR=5.8						
	7.1nm,0.3s						
MAJO	**Matsushiro**	**3.90**	**312**	P	**Pn**	**12 11 09.2**	**+1.3**
JMM	**Marumori**	**3.97**	**348**	P	**Pn**	**12 11 08.0**	**-0.7**
JGF	**Kuroka**	**4.00**	**295**	P	**Pn**	**12 11 11.5**	**+2.2**
INU	**Inuyama**	**4.18**	**290**	P	**Pn**	**12 11 13.4**	**+1.7**
JMN	**Monobe**	**6.60**	**270**	P	**Pn**	**12 11 47.1**	**+2.1**
ERM	**Erimo**	**8.10**	**7**	P	**Pn**	**12 12 04.0**	**-1.4**
WRA	**Warramunga Arr**	**54.09**	**189**	P	**P**	**12 19 32.3**	**+0.6**
	0.3nm,0.4s,baz=2.7,slow=7.7,SNR=12						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**57.81**	**189**	P	**P**	**12 20 00.0**	**+1.6**
	0.3nm,0.5s,baz=1.2,slow=5.7,SNR=7.3						
	0.3nm,0.5s						

*SJA **17** 12:16:33.5±0.7,31°.94S×70°.06W,h119km±4km,ML3.3, MW3.5*
*GUC **17** 12:16:34.7±0.8,31°.97S×70°.28W,h132km±5km,ML3.6*

ISC 17 12:16:33.9±1.5,31°.96S±0°.03×70°.14W±0°.03, h124km±10km,n50,σ0°96/85,4C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.73**	**78**	*eP*	**Pn**	**12 16 53.7**	**-0.6**
RTLS				*eS*	**Sn**	**12 17 08.0**	**-1.6**
VA03	**San Esteban**	**0.88**	**203**	*eP*	**Pn**	**12 16 55.2**	**-0.1**
VA03				*eS*	**Sn**	**12 17 11.7**	**+0.2**
VA03				IAML		12 17 13.7	
	comp=Z,1μm,0.2s						
VA03	**San Esteban**	**0.88**	**203**	↓*iP*	**Pn**	**12 16 55.3**	**0.0**
VA03				*i S*	**Sn**	**12 17 11.2**	**-0.3**
VA03				IAML		12 17 12.2	
	comp=E,2μm,0.2s						
CO02	**Combarbal**	**1.05**	**315**	*eP*	**Pn**	**12 16 56.6**	**-0.3**
CO02				*eS*	**Sn**	**12 17 14.9**	**+0.6**
CO02	**Combarbal**	**1.05**	**315**	↑*iP*	**Pn**	**12 16 57.3**	**+0.4**
CO02				*i S*	**Sn**	**12 17 14.6**	**+0.2**
VA06	**Catapilco**	**1.15**	**238**	↑*iP*	**Pn**	**12 16 57.3**	**-0.5**
VA06				*i S*	**Sn**	**12 17 14.8**	**-1.1**
VA06				IAML		12 17 15.5	
	comp=N,1μm,0.3s						
CO03	**El Pedregal**	**1.21**	**337**	*eP*	Pn	12 16 53.7	-4.8
CO03				*eP*		12 16 59.0	
CO03				*eS*	**Sn**	**12 17 18.6**	**+1.4**
CO03				IAML		12 17 20.0	
	comp=Z,979nm,0.1s						
CO03	**El Pedregal**	**1.21**	**337**	↑*iP*	**Pn**	**12 16 59.1**	**+0.6**
CO03				*i S*	**Sn**	**12 17 17.9**	**+0.7**
CO03				IAML		12 17 18.7	
	comp=N,2μm,0.4s						
ROCH	**El Roble**	**1.25**	**216**	*eP*	**Pn**	**12 16 59.1**	**0.0**
ROCH				*i S*	**Sn**	**12 17 17.9**	**-0.4**
ROCH				IAML		12 17 20.1	
	comp=N,1μm,0.4s						
ROC1	**El Roble**	**1.26**	**216**	*eP*	**Pn**	**12 16 59.1**	**-0.1**
ROC1				*eS*	**Sn**	**12 17 18.0**	**-0.4**
ASAL	**Salagasta**	**1.27**	**120**	*eP*	**Pn**	**12 16 59.4**	**+0.3**
ASAL				*eS*	**Sn**	**12 17 19.0**	**+0.7**
ASAL				IAML		12 17 20.5	
	comp=Z,812nm,0.4s						
PEL	**Peldehue**	**1.27**	**201**	*eP*	**Pn**	**12 16 59.1**	**0.0**
PEL				*eS*	**Sn**	**12 17 18.6**	**+0.3**
PEL	**Peldehue**	**1.27**	**201**	↓*iP*	**Pn**	**12 16 59.0**	**-0.1**
PEL				*i S*	**Sn**	**12 17 17.8**	**-0.5**
PEL				IAML		12 17 19.4	
	comp=E,576nm,0.5s						
ZON	**Zonda**	**1.31**	**72**	*eP*	Pn	12 16 53.5	-6.0
ZON				*eS*	**Sn**	**12 17 17.4**	**-1.5**
ZON				IAML		12 17 20.7	
	comp=Z,387nm,0.4s						
ARCO	**CERRO ARCO**	**1.35**	**131**	*eP*	**Pn**	**12 17 00.7**	**+0.6**
ARCO				*eS*	**Sn**	**12 17 20.8**	**+0.8**
ARCO				IAML		12 17 21.8	
	comp=Z,922nm,0.4s						
MT10	**Hacienda Santa**	**1.36**	**194**	↓*iP*	**Pn**	**12 17 00.6**	**+0.5**
MT10				*i S*	**Sn**	**12 17 20.8**	**+0.7**
MT10				IAML		12 17 22.1	
	comp=N,2μm,0.4s						
RTCV	**Cerro Valdivia**	**1.36**	**87**	*eP*	**Pn**	**12 16 59.6**	**-0.4**
RTCV				*eS*	**Sn**	**12 17 18.7**	**-1.3**
RTCV				IAML		12 17 22.4	
	comp=Z,266nm,2.4s						
FCH	**Farellones**	**1.38**	**185**	*eP*	**Pn**	**12 17 01.2**	**+0.7**
FCH				*i S*	**Sn**	**12 17 21.8**	**+1.0**
FCH				IAML		12 17 23.2	
	comp=N,452nm,0.3s						
MT14	**Cerro Calı¡n**	**1.48**	**193**	*eP*	**Pn**	**12 17 02.3**	**+0.9**
MT14				*i S*	**Sn**	**12 17 22.8**	**+0.4**
MT14				IAML		12 17 27.1	
	comp=N,712nm,0.6s						
MT16	**CCHEN**	**1.50**	**192**	*eP*	**Pn**	**12 17 02.3**	**+0.6**
MT16				*i S*	**Sn**	**12 17 23.0**	**0.0**
MT05	**Renca**	**1.52**	**199**	*eP*	**Pn**	**12 16 59.8**	**-2.1**
MT05				*eS*	**Sn**	**12 17 25.3**	**+2.1**
MT05				IAML		12 17 25.5	
	comp=Z,402nm,0.3s						
MT05	**Renca**	**1.52**	**199**	*i P*	**Pn**	**12 17 03.5**	**+1.7**
MT05				*i S*	**Sn**	**12 17 24.8**	**+1.6**
MT05				IAML		12 17 29.0	
	comp=E,658nm,0.3s						
MT02	**Curacav**	**1.55**	**213**	*eP*	**Pn**	**12 17 01.9**	**-0.3**
MT02				*eS*	**Sn**	**12 17 23.3**	**-0.5**
MT02				IAML		12 17 24.6	
	comp=Z,183nm,0.2s						
MT02	**Curacav**	**1.55**	**213**	*eP*	**Pn**	**12 17 01.9**	**-0.3**
MT02				*eS*	**Sn**	**12 17 22.9**	**-0.8**
MT03	**Universidad Ad**	**1.57**	**191**	*eP*	**Pn**	**12 17 03.2**	**+0.7**
MT03				*eS*	**Sn**	**12 17 25.0**	**+0.7**
MT03				IAML		12 17 27.0	
	comp=Z,421nm,0.2s						
MT03	**Universidad Ad**	**1.57**	**191**	*eP*	**Pn**	**12 17 03.0**	**+0.5**
MT03				*i S*	**Sn**	**12 17 24.5**	**+0.3**
MT03				IAML		12 17 28.8	
	comp=E,891nm,0.2s						
AAGR	**Agrelo**	**1.58**	**136**	*eP*	**Pn**	**12 17 03.2**	**+0.6**
AAGR				*eS*	**Sn**	**12 17 26.0**	**+1.5**
AAGR				IAML		12 17 27.7	
	comp=Z,443nm,0.8s						
ACCO	**Cerro Coronel**	**1.64**	**34**	*eP*	**Pn**	**12 17 04.0**	**+0.3**
ACCO				*eS*	**Sn**	**12 17 26.1**	**0.0**
ACCO				IAML		12 17 28.0	
	comp=Z,247nm,0.3s						
VA01	**Torpederas**	**1.66**	**230**	*eP*	**Pn**	**12 17 03.2**	**-0.3**
VA01				IAML		12 17 32.2	
	comp=Z,157nm,0.1s						
VA01	**Torpederas**	**1.66**	**230**	*eP*	**Pn**	**12 17 03.0**	**-0.4**
VA01				*i S*	**Sn**	**12 17 24.5**	**-1.5**
VA01				IAML		12 17 32.0	
	comp=E,449nm,0.1s						
MT13	**San Alfonso**	**1.79**	**184**	*eP*	**Pn**	**12 17 06.1**	**+1.0**
MT13				IAML		12 17 33.5	
	comp=Z,124nm,0.2s						
MT13	**San Alfonso**	**1.79**	**184**	*eP*	**Pn**	**12 17 06.1**	**+1.0**
MT13				*i S*	**Sn**	**12 17 29.2**	**+0.2**
MT13				IAML		12 17 30.9	
	comp=N,440nm,0.2s						
MT12	**Pirque**	**1.81**	**191**	*i P*	**Pn**	**12 17 05.8**	**+0.5**
MT12				*i S*	**Sn**	**12 17 29.5**	**+0.2**
MT12				IAML		12 17 36.7	
	comp=E,391nm,0.3s						
GO04	**Tololo Observa**	**1.86**	**342**	*eP*	**Pn**	**12 17 06.7**	**+0.5**
GO04	**Tololo Observa**	**1.86**	**342**	↑*iP*	**Pn**	**12 17 06.5**	**+0.4**
GO04				*i S*	**Sn**	**12 17 30.9**	**+0.1**
GO04				IAML		12 17 33.2	
	comp=E,1μm,0.6s						
AROD	**Rodeo**	**1.87**	**18**	*eP*	**Pn**	**12 17 08.0**	**+1.6**
AROD				*eS*	**Sn**	**12 17 27.1**	**-4.0**
LMEL	**Las Melosas**	**1.89**	**182**	*eP*	**Pn**	**12 17 06.7**	**+0.4**
MT09	**Talagante**	**1.95**	**201**	*eP*	**Pn**	**12 17 06.7**	**-0.4**
MT09				*i S*	**Sn**	**12 17 31.6**	**-0.9**
MT09				IAML		12 17 35.5	
	comp=N,298nm,0.1s						
ACDV	**Cuesta del Vie**	**1.98**	**26**	*eP*	**Pn**	**12 17 08.3**	**+0.8**
ACDV				*eS*	**Sn**	**12 17 33.8**	**+0.7**
ACDV				IAML		12 17 35.5	
	comp=Z,79nm,0.3s						
AVIZ	**Vizcacheras**	**2.04**	**138**	*eP*	**Pn**	**12 17 08.6**	**+0.4**
MT01	**Popeta**	**2.12**	**206**	*eP*	**Pn**	**12 17 08.1**	**-1.0**
MT01				*eS*	**Sn**	**12 17 34.6**	**-1.5**
MT01				IAML		12 17 38.3	
	comp=Z,104nm,0.3s						
BO01	**Tunca**	**2.56**	**198**	*eP*	**Pn**	**12 17 14.1**	**-0.5**
BO01				*eS*	**Sn**	**12 17 45.1**	**-0.8**
BO01				IAML		12 17 47.3	
	comp=Z,39nm,0.2s						
AVFE	**Valle Fertil**	**2.63**	**61**	*eP*	**Pn**	**12 17 15.2**	**-0.5**
AVFE				*eS*	**Sn**	**12 17 45.4**	**-2.3**
AVFE				IAML		12 17 47.6	
	comp=Z,119nm,0.3s						
AGUA	**GUANDACOL**	**2.84**	**30**	*eP*	**Pn**	**12 17 19.3**	**+0.9**
AGUA				*eS*	**Sn**	**12 17 53.7**	**+1.2**
AGUA				IAML		12 17 56.2	
	comp=Z,98nm,0.3s						
BO02	**Sierra Bellavi**	**2.88**	**191**	*eP*	**Pn**	**12 17 19.1**	**+0.3**
BO02				IAML		12 17 56.3	
	comp=Z,98nm,0.2s						
LCO	**Las Campanas**	**2.97**	**350**	*eP*	**Pn**	**12 17 20.6**	**+0.4**
AC05	**El Transito**	**3.11**	**358**	IAML		12 18 01.6	
	comp=Z,59nm,0.4s						
RFA	**San Rafael**	**3.14**	**154**	*eP*	**Pn**	**12 17 21.7**	**-0.4**
GO03	**Copiap**	**4.35**	**359**	*eP*	**Pn**	**12 17 38.7**	**+0.4**
CYA	**Choya**	**5.13**	**48**	IAML		12 19 27.3	
	comp=Z,14nm,0.5s						

IDC 17 12:56:44.4±3.9,61°.66S×155°.90E,h0km,mb3.9/2, mbtmp3.9/3,ML3.9/1,MS3.4/3,Error ellipse: s-maj=271.8km s-min=40.1km az=74.0,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.06**	**175**	Pn	Pn	13 00 30.7	-0.4
	0.4nm,0.3s,baz=345,slow=11,SNR=3.4						
VNDA				LR	LR	13 06 30.7	
	comp=Z,55nm,21.0s,baz=356,slow=36						
	1.5nm,0.5s						
RPZ	**Rata Peaks**	**20.09**	**33**	LR	LR	13 06 50.3	
	comp=Z,109nm,21.2s,baz=144,slow=30						
H01W1	**Cape Leeuwin H**	**37.52**	**296**	T	T	13 43 10.5	
	baz=147,slow=74,SNR=29						
H01W2	**Cape Leeuwin H**	**37.53**	**296**	T	T	13 43 10.7	
	baz=147,slow=74,SNR=23						
H01W3	**Cape Leeuwin H**	**37.54**	**296**	T	T	13 43 11.7	
	baz=147,slow=74,SNR=24						
ASAR	**Alice Springs**	**40.85**	**328**	P	P	13 04 27.6	-0.1
	1.4nm,0.8s,baz=164,slow=8.0,SNR=6.3						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**44.32**	**330**	P	P	13 04 55.6	-0.3
	1.3nm,0.7s,baz=164,slow=7.3,SNR=14						
WRA				PcP	PcP	13 06 40.2	+0.1
	0.6nm,0.8s,baz=175,slow=2.6,SNR=3.2						
	1.3nm,0.7s						
H08S2	**Diego Garcia H**	**80.19**	**272**	T	T	14 36 38.9	
	baz=148,slow=76						
H08S1	**Diego Carcia H**	**80.19**	**272**	T	T	14 36 41.9	
	baz=148						
H08S3	**Diego Garcia H**	**80.21**	**272**	T	T	14 36 39.9	
	baz=148,slow=76						
CMAR	**Chiang Mai Arr**	**91.69**	**307**	LR	LR	13 51 05.2	
	comp=Z,33nm,18.4s,baz=155,slow=36						

*NOU **17** 13:03:25.5,22°.13S×177°.14W,h413km,mb4.7/25,South of Fiji Islands*
*IDC **17** 13:03:53.5±2.1,24°.06S×179°.95W,h484km±22km,mb3.5/9, mbtmp4.4/10,Error ellipse: s-maj=18.2km s-min=16.9km az=145.0*
*NEIC **17** 13:03:56.1±0.7,23°.9S±0°.2×179°.7W±0°.2,h543km±19km, mb4.7/23,Error ellipse: s-maj=36.4km s-min=24.6km az=145.0*

ISC 17 13:03:55.6±0.5,23°.98S±0°.07×179°.89W±0°.10,h518km, n103,σ1°90/103,mb4.3/19,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.50**	**342**	P	**P**	**13 05 38.2**	**+0.5**
NIUE	**Niue**	**10.48**	**64**	P	**P**	**13 06 17.2**	**-0.9**
OUZ	**Omahuta**	**12.55**	**205**	P	**P**	**13 06 41.3**	**+1.6**
AFI	**Afiamalu**	**12.61**	**39**	P	**P**	**13 06 36.9**	**-3.8**
KUZ	**Kuaotunu**	**13.27**	**196**	P	**P**	**13 06 47.6**	**+0.4**
MXZ	**Matakaoa Point**	**13.63**	**186**	P	**P**	**13 06 46.9**	**-4.1**
MXZ	**Matakaoa Point**	**13.63**	**186**	P	**P**	**13 06 51.0**	**0.0**
WMGZ	**Waiomatatini S**	**13.87**	**186**	P	**P**	**13 06 54.6**	**+1.1**
HAZ	**Te Kaha**	**13.88**	**188**	P	**P**	**13 06 51.7**	**-1.8**
HAZ	**Te Kaha**	**13.88**	**188**	P	**S**	**13 09 17.9**	**-2.4**
PKGZ	**Pakihiroa**	**13.95**	**187**	P	**P**	**13 06 55.0**	**+0.6**
PKGZ	**Pakihiroa**	**13.95**	**187**	P	**S**	**13 09 23.2**	**+1.4**
RUGZ	**Raukumara Rang**	**14.10**	**188**	P	**P**	**13 06 56.9**	**+0.9**
TGRZ	**Tauranga**	**14.10**	**193**	P	**P**	**13 06 59.1**	**+3.3**
PUZ	**Puketiti**	**14.14**	**186**	P	**P**	**13 06 56.5**	**+0.1**
PUZ	**Puketiti**	**14.14**	**186**	P	**S**	**13 09 24.4**	**-1.0**
TWGZ	**Tauwhareparae**	**14.27**	**187**	P	**P**	**13 06 55.4**	**-2.4**
TWGZ	**Tauwhareparae**	**14.27**	**187**	P	**S**	**13 09 27.8**	**-0.2**
KARZ	**Kaharoa**	**14.38**	**192**	P	**P**	**13 06 59.2**	**+0.3**
OMRZ	**Omania**	**14.44**	**192**	P	**P**	**13 07 01.2**	**+1.7**
URZ	**Urewera**	**14.46**	**189**	P	**P**	**13 06 56.4**	**-3.3**
URZ	**Urewera**	**14.46**	**189**	P	**P**	**13 06 55.5**	**-4.2**
	37nm,0.5s,baz=47,slow=1.1,SNR=44						
URZ				S	**S**	**13 09 28.7**	**-2.9**
	10nm,0.5s,baz=166,slow=22,SNR=15						
URZ	**Urewera**	**14.46**	**189**	P	**P**	**13 06 56.0**	**-3.7**
URZ	**Urewera**	**14.46**	**189**	P	**S**	**13 09 29.4**	**-2.2

comp=Z,3.1nm,0.8s
WR0 Warramunga Arr 42.31 266 P **P** **13 11 03.3 -0.6**
WR0 IAmb IAmb 13 11 20.9
comp=Z,14nm,1.5s
WB2 Warramunga Arr 42.49 266 P **P** **13 11 04.7 -0.6**
WB2 IAmb IAmb 13 11 05.3
comp=Z,7.1nm,0.8s
WRAB Tennant Creek 42.49 266 P **P** **13 11 04.7 -0.6**
WB0 Warramunga Arr 42.49 266 P **P** **13 11 04.7 -0.6**
WRA Warramunga Arr 42.50 266 P **P** **13 11 04.9 -0.5**
comp=Z,3.6nm,0.6s,baz=97,slow=8.3,SNR=50
WRA ScP **ScP** **13 15 51.4 +3.7**
comp=Z,1.9nm,0.9s,baz=99,slow=3.7,SNR=7.4
comp=Z,3.6nm,0.6s
FORT Forrest 46.38 250 P **P** **13 11 34.5 -0.6**
FORT IAmb IAmb 13 11 35.1
comp=Z,21nm,0.7s
KDU Kakadu 46.40 275 P **P** **13 11 31.8 -3.6**
MORW Morawa 56.94 250 P **P** **13 12 50.9 -0.6**
MORW IAmb IAmb 13 13 25.6
comp=Z,48nm,1.5s
QSPA South Pole Qui 66.11 180 P **P** **13 13 51.9 +0.9**
comp=Z,2.7nm,0.7s,baz=23,slow=0.8,SNR=21
comp=Z,2.7nm,0.7s
NJ2 Nanjing 80.79 311 *e*P **P** **13 15 14.3 -0.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
TROLL Troll, Antarti 84.25 181 P **P** **13 15 32.6 +0.4**
comp=Z,359nm,0.8s
SNAA Sanae 84.59 179 P **P** **13 15 33.5 -0.2**
comp=Z,0.7nm,0.5s,baz=201,slow=9.3,SNR=6.7
comp=Z,0.7nm,0.5s
NVAR Mina Array Bea 84.74 44 P **P** **13 15 36.8 +1.7**
comp=Z,0.8nm,0.7s,baz=222,slow=8.0,SNR=6.7
comp=Z,0.8nm,0.7s
TXAR Lajitas Array 90.39 58 P **P** **13 16 04.2 +2.4**
comp=Z,1.6nm,0.7s,baz=214,slow=6.5,SNR=24
comp=Z,1.6nm,0.7s
PDAR Pinedale Array 92.68 44 P **P** **13 16 13.4 +1.3**
comp=Z,0.6nm,0.7s,baz=238,slow=3.6,SNR=6.4
comp=Z,0.6nm,0.7s
BVAR Borovoye Array 120.56 319 PKP **PKPdf** **13 21 47.9 0.0**
comp=Z,1.0nm,0.5s,baz=48,slow=2.2,SNR=6.2
NB2 NORSAR Subarra142.17 351 PKP PKPpre 13 22 24.9
comp=Z,0.6nm,0.8s,baz=14,slow=3.5
NOA NORSAR Array B 142.17 351 PKhKP PKPpre 13 22 24.8
comp=Z,0.6nm,0.7s,baz=13,slow=2.3,SNR=4.7
HFS Hagfors 142.64 349 PKhKP PKPpre 13 22 26.3
comp=Z,3.3nm,0.4s,baz=72,slow=4.8,SNR=28
AKASG Malin Array Be 145.09 327 PKPbc **PKPbc** **13 22 34.3 0.0**
comp=Z,1.1nm,0.4s,baz=43,slow=3.7,SNR=6.3
MMAI Mount Meron Ar 147.82 294 PKPbc **PKiKP** **13 22 43.9 0.0**
comp=Z,3.3nm,0.5s,baz=79,slow=4.3,SNR=6.2
EKA Eskdalemuir Ar 148.59 4 PKPbc **PKPbc** **13 22 43.8 +0.2**
comp=Z,0.7nm,0.4s,baz=360,slow=3.4,SNR=7.4
TORD Torodi Ar. Bea 169.12 188 PKPab **PKPab** **13 24 19.4 +0.4**
comp=Z,0.9nm,0.8s,baz=145,slow=5.3,SNR=3.7

NAO ***17*** *13:04:39.6, 39.°25N×25.°35E, h33km, mb3.8*
IDC ***17*** *13:05:04.9±0.5, 41.°07N×19.°62E, h0km, mb4.3/17, mbtmp4.2/30, ML4.2/10, MS3.4/25, Error ellipse: s-maj=9.9km s-min=9.4km az=25.0*
MOS ***17*** *13:05:04.9±1.2, 41.°07N×19.°54E, h11km, mb4.5/12, Error ellipse: s-maj=5.6km s-min=3.8km az=70.9*
SKO ***17*** *13:05:06.0, 41.°01N×19.°55E, h2km, ML4.2*
NEIC ***17*** *13:05:06.8±1.6, 41.°04N±0.°05×19.°57E±0.°06, h10km±1km, mb4.6/63, ML4.1/1(BUC), Error ellipse: s-maj=9.3km s-min=7.8km az=185.0*
PRU ***17*** *13:05:06.7, 40.°90N×19.°76E, h10km, M4.6*
PDG ***17*** *13:05:06.9±0.2, 41.°02N×19.°64E, h18km, MD4.4/11, ML4.3/11, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
TIR ***17*** *13:05:07.6, 41.°11N×19.°79E, h36km±1km, Ml4.7*
RHSSO ***17*** *13:05:07.4±0.6, 41.°02N×19.°59E, h8km±3km, ML4.3/14*
LDG ***17*** *13:05:08.3±0.3, 41.°11N×19.°62E, h10km, Ml4.2/15, Error ellipse: s-maj=7.9km s-min=5.1km az=22.0*
MED_RC ***17*** *13:05:08.0±0.8, 41.°09N×19.°69E, h16km±3km, MW4.4/6, Moment Tensor Solution.Mantle waves: s6,c6; Duration: 1s0 Moment tensor: Scale 10^15Nm; Mrr3.27±1.25; Mθθ-3.00±.84; Mφφ-0.27±.72; Mrθ0.30±1.20; Mrφ2.21±.39; Mθφ-2.98±1.64; Best double couple: M0 4.86000×10^15 NP1:φs148.00000°, δ65.00000°, λ122.00000°. NP2: φs273.00000°, δ40.00000°, λ42.00000°. Principal axes: T 5.0600, Plg58.0000°, Azm102.0000°; N -0.4000, Plg28.0000°, Azm313.0000°; P -4.6600, Plg14.0000°, Azm215.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
BEO ***17*** *13:05:09.9±0.6, 41.°11N×19.°80E, h15km±2km, ML4.2/16*
MCSM ***17*** *13:05:09.2±0.3, 41.°1N±3.°×2.°0E±.°, h10km, mb4.6, mB4.6, MLv4.4, Mw(mB)3.8*
THE ***17*** *13:05:10.0, 41.°07N×19.°86E, h6km±1km, ML4.0/11, Error ellipse: s-maj=1.6km s-min=0.9km az=2.0*

ISC 17 13:05:07.6±0.9, 41.°07N±0.°02×19.°65E±0.°02, h17km±5km, n601, σ1°44/678, mb4.5/60, MS3.7/18, 49C-20D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.32**	**31**	P	**Pb**	**13 05 15.1**	**+0.2**
TIR	baz=13			S	**Sb**	**13 05 20.6**	**+0.8**
TIR	baz=13			AMP			
	comp=E,149nm,0.5s,baz=13						
TIR	**Tirane**	**0.32**	**31**	Pg	**Pg**	**13 05 14.3**	**-0.1**
TIR	**Tirane**	**0.32**	**31**	P	**Pb**	**13 05 15.1**	**+0.2**
TIR				S	**Sb**	**13 05 19.8**	**0.0**
	comp=E,39μm,0.6s						
TIR	**Tirane**	**0.32**	**31**	*e*Pg	**Pb**	**13 05 15.1**	**+0.2**
TIR				*e*Sg	**Sb**	**13 05 20.2**	**+0.4**
TIR	**Tirane**	**0.32**	**31**	P	**Pg**	**13 05 14.3**	**-0.1**
VLO	**Vlora**	**0.61**	**191**	P	**Pn**	**13 05 21.6**	**+0.1**
VLO	baz=200			S	**Sn**	**13 05 32.5**	**+1.6**
VLO	baz=200			AMP			
	comp=E,113nm,0.4s,baz=200						
VLO	**Vlora**	**0.61**	**191**		**Pb**	**13 05 20.9**	**+1.0**
VLO	**Vlora**	**0.61**	**191**	P	**Pn**	**13 05 21.4**	**-0.1**
VLO				S	**Sn**	**13 05 33.2**	**+2.3**
	comp=E,37μm,0.4s						
VLO	**Vlora**	**0.61**	**191**	P	**Pb**	**13 05 20.9**	**+1.0**
OHR	**Ohrid**	**0.87**	**87**	⇓*i*Pn	**Pg**	**13 05 24.3**	**-0.3**
OHR				*i* Sn	**Sn**	**13 05 38.1**	**+0.7**
OHR				*e*Lg	Lg	13 05 39.8	
	comp=N,6μm,0.7s						
OHR				*e*Lg	Lg	13 05 41.0	
	comp=E,10μm,0.9s						
KBN	**Korca**	**0.97**	**117**	P	**Pg**	**13 05 25.5**	**-1.0**
KBN	baz=122			S	**Sg**	**13 05 38.0**	**-1.3**
KBN	baz=122			AMP			
	comp=E,39nm,0.6s,baz=122						
KBN	**Korca**	**0.97**	**117**		**Pg**	**13 05 25.5**	**-1.0**
KBN	**Korca**	**0.97**	**117**	P	**Pg**	**13 05 25.7**	**-0.8**
KBN				S	**Sg**	**13 05 38.0**	**-1.3**
	comp=E,10μm,0.5s						
KBN	**Korca**	**0.97**	**117**	P	**Pg**	**13 05 25.5**	**-1.0**
PUK	**Puka**	**0.99**	**11**	P	**Pg**	**13 05 25.7**	**-1.1**
PUK	baz=4.0			S	**Sb**	**13 05 40.5**	**+1.4**
PUK	baz=4.0			AMP			
	comp=E,94nm,0.5s,baz=4.0						
PUK	**Puka**	**0.99**	**11**	Pg	**Pg**	**13 05 26.1**	**-0.7**
DRME	**Dracevica, Mon**	**1.17**	**343**	*e*Pg	**Pn**	**13 05 31.2**	**+2.0**
DRME				*e*Sg	**Sn**	**13 05 48.6**	**+3.9**
DRME	**Dracevica, Mon**	**1.17**	**343**	*e*Pg	**Pb**	**13 05 29.6**	**+0.3**
DRME				*e*Sg	**Sn**	**13 05 45.6**	**+0.9**
DRME	**Dracevica, Mon**	**1.17**	**343**	⇑*i*Pg	**Pb**	**13 05 29.6**	**+0.3**
DRME				*i* Sg	**Sn**	**13 05 48.4**	**+3.7**
LSK	**Leskovik**	**1.17**	**141**	P	**Pb**	**13 05 29.5**	**+0.1**
LSK	baz=146			S	**Sb**	**13 05 45.0**	**+0.6**
LSK	baz=146			AMP			
	comp=E,68nm,0.5s,baz=146						
LSK	**Leskovik**	**1.17**	**141**	P	**Pb**	**13 05 29.6**	**+0.1**
LSK				S	**Sn**	**13 05 46.0**	**+1.1**
	comp=E,19μm,0.6s						
SRN	**Sarande**	**1.22**	**167**	P	**Pg**	**13 05 31.8**	**+0.7**
	baz=172						
SRN				S	**Sn**	**13 05 49.6**	**+3.6**
	baz=172						
SRN				AMP			
	comp=E,24nm,0.3s,baz=172						
SRN	**Sarande**	**1.22**	**167**	P	**Pg**	**13 05 31.5**	**+0.4**
SRN				S	**Sn**	**13 05 49.5**	**+3.6**
	comp=E,7μm,0.6s						
NEST	**Nestorio**	**1.25**	**121**	P	**Pn**	**13 05 30.2**	**-0.2**
NEST				S	**Sb**	**13 05 47.0**	**+0.3**
	comp=E,5μm,0.9s						
BCI	**Bajram Curri**	**1.33**	**14**	P	**Pn**	**13 05 31.7**	**+0.3**
	baz=9.0						
BCI				S	**Sb**	**13 05 48.8**	**-0.1**
	baz=9.0						
BCI				AMP			
	comp=E,78nm,0.7s,baz=9.0						
FNA	**Florina**	**1.34**	**102**	P	**Pn**	**13 05 31.9**	**+0.3**
	baz=104						
FNA				S	**Sb**	**13 05 50.6**	**+1.4**
	baz=104						
FNA				AMP			
	comp=E,8.8nm,0.5s,baz=104						
FNA	**Florina**	**1.34**	**102**		**Pn**	**13 05 32.1**	**+0.5**
FNA	**Florina**	**1.34**	**102**	P	**Pn**	**13 05 31.8**	**+0.2**
FNA				S	**Sb**	**13 05 49.3**	**+0.1**
	comp=E,8μm,0.6s						
FNA	**Florina**	**1.34**	**102**	*i* Pn	**Pn**	**13 05 31.9**	**+0.3**
FNA				*i* Sn	**Sg**	**13 05 53.0**	**+2.0**
FNA	**Florina**	**1.34**	**102**	P	**Pn**	**13 05 32.1**	**+0.5**
BUM	**Brajici-Budva**	**1.35**	**336**	⇑*i*Pg	**Pg**	**13 05 33.2**	**-0.5**
BUM				*i* Sg	**Sg**	**13 05 53.6**	**+2.3**
PDG	**Podgorica**	**1.39**	**348**	*e*Pg	**Pg**	**13 05 34.1**	**-0.3**
PDG				*e*Sg	**Sg**	**13 05 53.8**	**+1.3**
PDG	**Podgorica**	**1.39**	**348**	⇓*i*Pg	**Pg**	**13 05 33.8**	**-0.6**
PDG				*i* Sg	**Sg**	**13 05 54.7**	**+2.2**
PENT	**Pentalofos**	**1.43**	**127**	P	**Pb**	**13 05 34.6**	**+0.7**
PENT				S	**Sn**	**13 05 51.7**	**+0.3**
PVY	**Plav**	**1.54**	**9**	⇓*i*Pn	**Pb**	**13 05 35.7**	**0.0**
PVY				*i* Sn	**Sg**	**13 05 58.4**	**+1.1**
CEME	**Cevo**	**1.57**	**340**	⇑*i*Pn	**Pb**	**13 05 36.1**	**-0.1**
CEME				*i* Sn	**Sg**	**13 05 59.0**	**+0.7**
SKO	**Skopje**	**1.62**	**56**	⇑*i*Pn	**Pb**	**13 05 37.0**	**0.0**
SKO				*i* Sn	**Sg**	**13 05 59.6**	**-0.2**
IGT	**Igoumenitsa**	**1.62**	**161**	P	**Pb**	**13 05 37.5**	**+0.4**
IGT	baz=165			S	**Sb**	**13 05 57.9**	**+0.6**
IGT	baz=165			AMP			
	comp=E,51nm,0.8s,baz=165						
IGT	**Igoumenitsa**	**1.62**	**161**	P	**Pb**	**13 05 37.5**	**+0.4**
IGT				S	**Sg**	**13 05 59.2**	**-0.8**
	comp=E,14μm,0.6s						
KPRO	**Kipourio**	**1.72**	**130**	P	**Pb**	**13 05 39.4**	**+0.6**
KPRO				S	**Sn**	**13 06 00.2**	**+1.8**
	comp=E,4μm,0.6s						
NKME	**Niksic**	**1.77**	**343**	⇓*i*Pn	**Pb**	**13 05 39.3**	**-0.3**
NKME				*i* Sn	**Sg**	**13 06 03.8**	**-0.9**
KOME	**Kolasin**	**1.78**	**357**	*e*Pg	**Pg**	**13 05 40.9**	**-0.9**
KOME				*e*Sg	**Sg**	**13 06 06.0**	**+1.0**
KOME	**Kolasin**	**1.78**	**357**	⇑*i*Pn	**Pb**	**13 05 40.4**	**+0.6**
KOME				*i* Sn	**Sg**	**13 06 04.1**	**-0.9**
IVA	**Berane**	**1.81**	**6**	⇑*i*Pn	**Pb**	**13 05 40.4**	**+0.1**
IVA				*i* Sn	**Sg**	**13 06 04.9**	**-1.0**
TREB	**Trebinje**	**1.91**	**330**	⇑*i*Pn	**Pn**	**13 05 40.1**	**+0.8**
TREB				*e*Sn	**Sb**	**13 06 04.9**	**-0.6**
DBRK	**Dubrovnik**	**1.95**	**325**	*e*Pn	**Pn**	**13 05 40.5**	**+0.6**
DBRK				Sn	**Sn**	**13 06 05.9**	**+1.9**
NOCI	**Noci**	**1.98**	**263**	P	**Pn**	**13 05 41.0**	**+0.7**
NOCI	baz=263			S	**Sg**	**13 06 10.5**	**-0.7**
NOCI	baz=263			AMP			
	comp=N,15μm,3.1s						
KTI	**Kastanea**	**2.00**	**109**	P	**Pn**	**13 05 42.6**	**+1.9**
BRY	**Bratogost**	**2.01**	**336**	⇑*i*Pn	**Pn**	**13 05 41.6**	**+0.8**
BRY				*e*Sn	**Sb**	**13 06 08.3**	**-0.2**
BRY	**Bratogost**	**2.01**	**336**	⇓*i*Pn	**Pn**	**13 05 41.9**	**+1.1**
BRY				*i* Sn	**Sb**	**13 06 09.3**	**+0.8**
UPM	**Unac-Piva**	**2.20**	**346**	*e*Pn	**Pn**	**13 05 45.4**	**+1.9**
UPM				*e*Sn	**Sn**	**13 06 12.7**	**+2.2**
UPM	**Unac-Piva**	**2.20**	**346**	⇓*i*Pn	**Pn**	**13 05 45.4**	**+1.9**
UPM				*i* Sn	**Sb**	**13 06 14.1**	**0.0**
SJES	**Sjenica**	**2.20**	**6**	*e*Pn	**Pb**	**13 05 46.5**	**-0.5**
SJES				*e*Sn	**Sn**	**13 06 12.5**	**+2.1**
SJES	**Sjenica**	**2.20**	**6**	⇑*i*Pn	**Pn**	**13 05 45.8**	**+2.3**
SJES				*e*Sn	**Sb**	**13 06 13.4**	**-0.6**
VAY	**Valandovo**	**2.22**	**83**	⇑*i*Pn	**Pn**	**13 05 44.9**	**+1.3**
VAY				*i* Sn	**Sn**	**13 06 13.5**	**+2.8**
	comp=N,15μm,3.1s						
VAY				*e*Lg	Lg	13 06 21.2	
KLINJ	**Klinje**	**2.24**	**340**	*e*Pn	**Pn**	**13 05 45.2**	**+1.2**
KLINJ				*e*Sn	**Sn**	**13 06 13.5**	**+2.2**
PLE	**Pljevlja**	**2.27**	**355**	⇑*i*Pn	**Pb**	**13 05 47.0**	**-1.1**
PLE				*i* Sn	**Sb**	**13 06 16.1**	**+0.2**
STON	**Ston**	**2.31**	**322**	*e*Pn	**Pn**	**13 05 45.3**	**+0.5**
STON				Sn	**Sn**	**13 06 12.7**	**-0.1**
STON	**Ston**	**2.31**	**322**	⇑*i*Pn	**Pn**	**13 05 45.4**	**+0.5**
STON				*e*Sn	**Sn**	**13 06 14.4**	**+1.5**
PRVS	**Prvonek**	**2.31**	**51**	*e*Pn	**Pn**	**13 05 47.0**	**+2.0**
PRVS				*e*Sn	**Sn**	**13 06 12.0**	**-1.1**
LIT	**Litokhoron**	**2.37**	**113**		**Pn**	**13 05 47.3**	**+1.5**
LIT	**Litokhoron**	**2.37**	**113**	P	**Pn**	**13 05 47.6**	**+1.9**
LIT				S	**Sn**	**13 06 16.2**	**+1.8**
	comp=N,1μm,0.9s						
LIT	**Litokhoron**	**2.37**	**113**	⇑*i*Pn	**Pn**	**13 05 47.5**	**+1.7**
LIT	**Litokhoron**	**2.37**	**113**	P	**Pn**	**13 05 47.3**	**+1.5**
LKD2	**Lefkada island**	**2.41**	**161**	P	**Pn**	**13 05 47.9**	**+1.7**
LKD2	baz=163			S	**Sn**	**13 06 17.0**	**+1.7**
LKD2	baz=163			AMP			
	comp=E,13nm,0.5s,baz=163						
SELS	**Selova**	**2.41**	**27**	*e*Pn	**Pn**	**13 05 48.3**	**+2.0**
SELS				*e*Sn	**Sn**	**13 06 16.4**	**+1.0**
KNT	**Kendrikon**	**2.46**	**87**	P	**Pn**	**13 05 48.2**	**+1.3**
KNT				S	**Sn**	**13 06 16.2**	**-0.3**
	comp=E,938nm,0.9s						
KNT	**Kendrikon**	**2.46**	**87**	*i* Pn	**Pn**	**13 05 48.2**	**+1.3**
IVAS	**Ivanjica**	**2.53**	**8**	*e*Pn	**Pn**	**13 05 49.4**	**+1.4**
BOSS	**Bosilegrad**	**2.55**	**55**	*e*Pn	**Pn**	**13 05 50.3**	**+2.1**
BOSS				*e*Sn	**Sn**	**13 06 19.1**	**+0.2**
RUDO	**Rudo**	**2.55**	**355**	*e*Pn	**Pn**	**13 05 49.6**	**+1.4**
RUDO				*e*Sn	**Sn**	**13 06 22.1**	**+3.2**
THE	**Thessaloniki**	**2.56**	**99**	*i* Pn	**Pn**	**13 05 49.6**	**+1.4**
BBLS	**Lazi&#263i**	**2.80**	**356**	*e*Pn	**Pn**	**13 05 53.9**	**+2.3**
BBLS	**Lazi&#263i**	**2.80**	**356**	⇑*i*Pn	**Pn**	**13 05 53.5**	**+1.9**
BBLS				*e*Sn	**Sn**	**13 06 27.5**	**+2.5**
SOH	**Sokhos**	**2.82**	**94**	P	**Pn**	**13 05 53.4**	**+1.5**
SOH				S	**Sn**	**13 06 27.5**	**+2.0**
AGG	**Agios Georgios**	**2.90**	**134**		**Pn**	**13 05 55.2**	**+2.1**
AGG	**Agios Georgios**	**2.90**	**134**	P	**Pn**	**13 05 55.2**	**+2.1**
TIP	**Timpagrande**	**2.91**	**230**	P	**Pn**	**13 05 54.3**	**+1.1**
GRUS	**Gruza**	**2.92**	**15**	*e*Pn	**Pn**	**13 05 55.3**	**+2.0**
MAKA	**Makarska**	**2.95**	**319**	*e*Pn	**Pn**	**13 05 54.9**	**+1.3**
BOVS	**Bovan**	**2.98**	**30**	⇑P	**Pn**	**13 05 55.8**	**+1.7**
BOVS	**Bovan**	**2.98**	**30**		**Pn**	**13 05 55.8**	**+1.7**
BOVS	**Bovan**	**2.98**	**30**	*e*Pn	**Pn**	**13 05 55.4**	**+1.3**
SGRT	**San Giovanni R**	**3.01**	**284**	P	**Pn**	**13 05 55.4**	**+0.8**
SGRT	baz=284			S	**Sb**	**13 06 39.0**	**+1.7**
SGRT	baz=284						
SGRT	**San Giovanni R**	**3.01**	**284**		**Pn**	**13 05 54.8**	**+0.2**
DIVS	**Divibare**	**3.04**	**5**	*e*Pn	**Pn**	**13 05 56.3**	**+1.4**
RICI	**Ricice**	**3.06**	**323**	*e*Pn	**Pn**	**13 05 55.9**	**+0.8**
HAPS	**Han Pijesak,Bl**	**3.06**	**351**	*e*Pn	**Pn**	**13 05 57.3**	**+2.1**
HAPS				*e*Sn	**Sn**	**13 06 33.7**	**+2.2**
ZAPS	**Zavoj**	**3.13**	**44**	*e*Pn	**Pn**	**13 05 58.5**	**+2.4**
HVAR	**Hvar**	**3.18**	**313**	*e*Pn	**Pn**	**13 05 57.1**	**+0.4**
TRUS	**Trudelj**	**3.20**	**10**	*e*Pn	**Pn**	**13 05 58.8**	**+1.7**
TRUS				*e*Sn	**Sn**	**13 06 35.5**	**+0.7**
ZAGS	**Zajecar**	**3.34**	**34**	*e*Pn	**Pn**	**13 06 00.7**	**+1.7**
SVIS	**Svilajnac**	**3.40**	**19**	*e*Pn	**Pn**	**13 06 02.6**	**+2.9**
BLKB	**Belogradchik**	**3.40**	**40**	⇑S	**Sn**	**13 06 42.6**	**+2.8**
BLKB	**Belogradchik**	**3.40**	**40**		**Sn**	**13 06 42.6**	**+2.8**
TEKS	**Tekeris**	**3.48**	**359**	*e*Pn	**Pn**	**13 06 01.8**	**+0.8**
TEKS	**Tekeris**	**3.48**	**359**	*e*Pn	**Pn**	**13 06 01.7**	**+0.8**
KUBS	**Kucevo**	**3.66**	**23**	*e*Pn	**Pn**	**13 06 03.8**	**+0.4**
AVAS	**Avala Beograd**	**3.68**	**10**	*e*Pn	**Pn**	**13 06 04.8**	**+1.1**
AVAS				*e*Sn	**Sn**	**13 06 46.1**	**-0.5**
KIJV	**Kijevo**	**3.79**	**322**	*e*Pn	**Pn**	**13 06 06.3**	**+1.1**
DOB	**Doboj**	**3.83**	**343**	*e*Pn	**Pn**	**13 06 06.9**	**+1.1**
DOB				*e*Sn	**Sn**	**13 06 51.6**	**+1.2**
MGRS	**Mrkonjic Grad**	**3.84**	**331**	*e*Pn	**Pn**	**13 06 07.3**	**+1.4**
MGRS				*e*Sn	**Sn**	**13 06 52.0**	**+1.4**
PAOL	**Paolisi**	**3.84**	**271**		**Pn**	**13 06 06.4**	**+0.4**
ZIRJ	**Zirje**	**3.93**	**312**	*e*Pn	**Pn**	**13 06 07.8**	**+0.6**
MDVR	**Moldovita**	**4.01**	**22**	⇑P	**Pn**	**13 06 09.8**	**+1.6**
CEL	**Celeste**	**4.03**	**227**		**Pn**	**13 06 08.8**	**+0.2**
CEL	**Celeste**	**4.03**	**227**	P	**Pn**	**13 06 09.4**	**+0.8**
MORI	**Morici**	**4.04**	**315**	*e*Pn	**Pn**	**13 06 09.6**	**+1.0**
MORI				Sn	**Sn**	**13 06 56.2**	**+0.8**
FRGS	**Fruska Gora**	**4.09**	**2**	⇓P	**Pn**	**13 06 10.2**	**+0.9**
FRGS	**Fruska Gora**	**4.09**	**2**	*e*Pn	**Pn**	**13 06 10.2**	**+0.9**
FRGS				*e*Sn	**Sn**	**13 06 57.2**	**+0.5**
FRGS	**Fruska Gora**	**4.09**	**2**	⇑*i*Pn	**Pn**	**13 06 10.1**	**+0.9**
FRGS				*e*Sn	**Sn**	**13 06 58.0**	**+1.3**
FRGS	**Fruska Gora**	**4.09**	**2**	P	**Pn**	**13 06 09.9**	**+0.6**
BLY	**Banja Luka**	**4.10**	**335**	⇑*i*Pn	**Pn**	**13 06 10.6**	**+1.2**
BLY				*e*Sn	**Sn**	**13 06 58.4**	**+1.5**
A050A	**Klekovaca**	**4.11**	**327**	⇑*i*Pn	**Pn**	**13 06 11.5**	**+1.9**
A050A				*e*Sn	**Sn**	**13 06 58.0**	**+0.7**
DJES	**Djerdap**	**4.17**	**29**	⇓P	**Pn**	**13 06 13.2**	**+2.8**
DJES				⇓S	**Sn**	**13 07 01.1**	**+2.4**
DJES	**Djerdap**	**4.17**	**29**	*e*Pn	**Pn**	**13 06 12.1**	**+1.7**
ITM	**Ithomi**	**4.27**	**155**		**Pn**	**13 06 13.3**	**+1.5**
HERR	**Herculane**	**4.32**	**27**	⇑P	**Pn**	**13 06 14.2**	**+1.8**
INTR	**Introdacqua**	**4.41**	**284**		**Pn**	**13 06 14.4**	**+0.6**
SRE	**Strehaia**	**4.44**	**35**	⇓P	**Pn**	**13 06 17.0**	**+2.9**
SRE	**Strehaia**	**4.44**	**35**	P	**Pn**	**13 06 17.0**	**+2.9**
RDO	**Rodhopi**	**4.45**	**87**	Pn	**Pn**	**13 06 15.0**	**+0.7**
DUGI	**Dugi Otok**	**4.47**	**312**	*e*Pn	**Pn**	**13 06 15.8**	**+1.2**
UDBI	**Udbina**	**4.48**	**322**	*e*Pn	**Pn**	**13 06 17.0**	**+2.3**
VIRC	**Vir**	**4.67**	**315**	*e*Pn	**Pn**	**13 06 18.2**	**+0.9**
BZS	**Buzias**	**4.76**	**17**	⇑P	**Pn**	**13 06 20.1**	**+1.6**
BZS	**Buzias**	**4.76**	**17**	P	**Pn**	**13 06 19.6**	**+1.0**
PLIT	**Plitvice**	**4.81**	**324**	*e*Pn	**Pn**	**13 06 19.0**	**-0.3**
ALN	**Alexandroupoli**	**4.85**	**90**	Pn	**Pn**	**13 06 20.8**	**+1.1**
ALN	**Alexandroupoli**	**4.85**	**90**	P	**Pn**	**13 06 20.8**	**+1.1**
CAMP	**Campotosto**	**4.89**	**289**		**Pn**	**13 06 21.7**	**+1.4**
GZR	**Gura Zlata**	**4.89**	**27**	⇓P	**Pn**	**13 06 22.7**	**+2.4**
GZR	**Gura Zlata**	**4.89**	**27**	P	**Pn**	**13 06 22.3**	**+2.0**
NVLJ	**Novalja**	**4.95**	**316**	*e*Pn	**Pn**	**13 06 21.9**	**+0.8**
ELND	**Elena**	**5.00**	**66**	⇑P	**Pn**	**13 06 23.9**	**+2.1**
ELND	**Elena**	**5.00**	**66**		**Pn**	**13 06 23.9**	**+2.1**
MOSL	**Moslavina**	**5.01**	**336**	*e*Pn	**Pn**	**13 06 21.9**	**0.0**
SURR	**Surduc**	**5.02**	**20**	⇑P	**Pn**	**13 06 23.1**	**+1.1**
SURR	**Surduc**	**5.02**	**20**		**Pn**	**13 06 23.1**	**+1.1**
GUMA	**Gualdo di Mace**	**5.10**	**295**		**Pn**	**13 06 24.0**	**+0.8**
RABC	**Rab**	**5.13**	**317**	*e*Pn	**Pn**	**13 06 24.9**	**+1.4**
NRCA	**Norcia**	**5.18**	**292**		**Pn**	**13 06 25.3**	**+0.9**
MORH	**Mrgy, Hungar**	**5.19**	**352**	⇑P	**Pn**	**13 06 25.4**	**+1.0**
MORH	**Mrgy, Hungar**	**5.19**	**352**	*e*Pn	**Pn**	**13 06 24.9**	**+0.5**
MORH				*e*Sn	**Sn**	**13 07 24.4**	**+0.5**
MORH	**Mrgy, Hungar**	**5.19**	**352**	P	**Pn**	**13 06 25.7**	**+1.3**
	comp=E,40nm,0.7s,comp=E,447nmcomp=E,0.2nm						
LOT	**Lotru**	**5.31**	**33**	⇑P	**Pn**	**13 06 28.1**	**+2.0**
SIRR	**Siria**	**5.39**	**15**	⇓P	**Pn**	**13 06 29.3**	**+2.0**
VAE	**Valguarnera**	**5.42**	**230**	**Pn**	**Pn**	**13 06 29.0**	**+1.3**
	comp=E,31nm,0.3s,baz=73,slow=10,SNR=1.6						
VAE				Sn	**Sn**	**13 07 34.1**	**+4.5**
	comp=E,3.1nm,0.3s,baz=358,slow=21,SNR=1.3						
BOJS	**Bojanci**	**5.47**	**326**	*i* Pn	**Pn**	**13 06 29.1**	**+0.9**
BOJS				*i* Sn	**Sn**	**13 07 30.7**	**0.0**
BOJS				IAML		13 07 33.6	
	comp=Z,46nm,0.3s						
BOJS	**Bojanci**	**5.47**	**326**	⇑*i*Pn	**Pn**	**13 06 29.1**	**+0.9**
BOJS				*e*Sn	**Sn**	**13 07 30.4**	**-0.3**
CESX	**Cesi**	**5.50**	**289**		**Pn**	**13 06 29.0**	**+0.4**
PTJ	**Puntijarka**	**5.52**	**332**	*e*Pn	**Pn**	**13 06 29.0**	**-0.1**
RAFF	**Raffo Rosso**	**5.62**	**229**	Pn	**Pn**	**13 06 30.2**	**-0.3**
CRES	**Cresnjev**	**5.65**	**329**	⇑*i*Pn	**Pn**	**13 06 31.2**	**+0.5**
CRES				*e*Sn	**Sn**	**13 07 34.6**	**-0.5**
SMRN	**Sveta Marina**	**5.65**	**316**	*e*Pn	**Pn**	**13 06 30.9**	**+0.2**
RIY	**Rijeka**	**5.68**	**320**	*e*Pn	**Pn**	**13 06 32.0**	**+0.8**
TNR	**Turnu Rosu**	**5.69**	**35**	⇑P	**Pn**	**13 06 34.2**	**+3.0**
TNR	**

ABTA	Abfaltersbach	7.66	320	ePn		Pn	13 06 58.6 +0.2
	comp=Z,3.0nm,0.2s,SNR=8.0						
BURAR	Bucovina Array	7.66	30	⇑P		Pn	13 07 00.6 +2.1
BURAR	Bucovina Array	7.66	30	P		Pn	13 07 00.5 +2.1
BUR08	Bucovina Ar. S	7.68	29	Pn		Pn	13 06 58.7 0.0
MOA	Molln	7.79	332	i Pn		Pn	13 07 01.5 +1.3
	comp=Z,5.6nm,0.2s,SNR=6.5						
BIOA	Bad Ischl, Aus	7.89	329	ePn		Pn	13 07 01.1 -0.4
	comp=Z,3.1nm,0.2s						
JAVC	Velka Javorina	7.91	350	ePN		Pn	13 07 04.0 +2.2
CRVS	Cervenica-Dubn	7.94	9	eP		Pn	13 07 04.4 +2.3
CRVS	Cervenica-Dubn	7.94	9	ePN		Pn	13 07 04.4 +2.3
KOLS	Kolonicke sedl	8.08	12	eP		Pn	13 07 08.2 +4.1
KOLS	Kolonicke sedl	8.08	12	ePN		Pn	13 07 08.2 +4.1
KARP	Karpathos	8.08	131	Pn		Pn	13 07 04.5 +0.4
KARP	Karpathos	8.08	131	P		Pn	13 07 08.3 +4.2
	comp=Z,81nm,1.0s						
LANS	Liptovska Anna	8.08	359	eP		Pn	13 07 08.9 +4.8
LANS	Liptovska Anna	8.08	359	ePN		Pn	13 07 08.9 +4.8
LESA	Schwarzleotal	8.08	324	ePn		Pn	13 07 04.6 +0.5
	comp=Z,4.2nm,0.3s						
PGF	Pioggiola	8.09	284	ePn		Pn	13 07 06.5 +2.2
MSSA	Maissana	8.13	297	Pn		Pn	13 07 04.5 -0.4
ARG	Arkhangelos	8.21	123			Pn	13 07 06.4 +0.4
ARG	Arkhangelos	8.21	123	P		Pn	13 07 06.4 +0.4
KRUC	Moravsky	8.31	345	ePN		Pn	13 07 08.0 +0.7
WTTA	Wattenberg	8.45	320	ePn		Pn	13 07 09.5 +0.1
	comp=Z,38nm,0.4s,SNR=17						
VRAC	Vranov	8.51	346	Pn		Pn	13 07 11.6 +1.6
	comp=Z,0.6nm,0.3s,baz=145,slow=5.0,SNR=1.7						
VRAC				LR		LR	13 11 04.0
	comp=Z,198nm,21.0s,baz=164,slow=42						
	comp=Z,1.9nm,0.4s						
WATA	Walderalm	8.53	320	i Pn		Pn	13 07 11.7 +1.3
	comp=Z,45nm,0.5s,SNR=19						
CKRC	Cesky Krumlov	8.62	336	ePN		Pn	13 07 12.2 +0.7
CKRC				eSN		Sn	13 08 48.2 -0.1
CKRC				AMS		AMS	13 11 00.0
	comp=Z,300nm,16.8s						
CKRC	Cesky Krumlov	8.62	336	eP		Pn	13 07 12.2 +0.7
CKRC				e			13 08 48.2
CKRC				MLR		MLR	
	comp=Z,300nm,16.8s						
SQTA	Sankt Quirin	8.63	318	ePn		Pn	13 07 12.0 +0.2
	comp=Z,9.0nm,0.3s,SNR=9.8						
FETA	Feichten	8.75	316	ePn		Pn	13 07 13.8 +0.4
	comp=Z,2.7nm,0.4s						
FUORN	Ofenpass-Fuorn	8.76	312	Pn		Pn	13 07 12.9 -0.7
MILM	Milestii Mici	8.82	45	eP		Pn	13 07 14.0 -0.2
MILM				eL		L	13 10 12.0
MILM				LQM			13 11 19.0
	comp=Z,300nm,15.5s						
MILM				LRM		MLR	13 11 34.0
	comp=Z,400nm,12.0s						
MILM	Milestii Mici	8.82	45	eP		Pn	13 07 14.0 -0.2
MILM				MLR		MLR	
	comp=Z,400nm,12.0s						
GEC2	GERESS Array S	8.84	334	Pn		Pn	13 07 14.3 -0.3
GERES	GERESS Array B	8.84	334	Pn		Pn	13 07 14.7 +0.1
	comp=Z,0.8nm,0.3s,baz=154,slow=14,SNR=5.3						
GERES				Sn		Sn	13 08 52.6 -1.1
	comp=Z,1.7nm,0.3s,baz=147,slow=22,SNR=5.4						
	comp=Z,1.2nm,0.3s						
KMPD	K-Podol'skiy	8.91	31	P		Pn	13 07 18.3 +2.8
DAVOX	Davos/Dischmat	9.06	312	Pn		Pn	13 07 18.6 +0.8
	comp=Z,2.0nm,0.3s,baz=126,slow=18,SNR=10.0						
DAVOX				Sn		Sn	13 08 59.8 +0.3
	comp=Z,1.5nm,0.3s,baz=280,slow=24,SNR=2.0						
DAVOX				LR		LR	13 11 57.5
	comp=Z,126nm,18.9s,baz=89,slow=46						
	comp=Z,5.8nm,0.4s						
KHC	Kasperske Hory	9.13	334	Pn		Pn	13 07 18.8 +0.3
KHC	Kasperske Hory	9.13	334	ePN		Pn	13 07 18.8 +0.3
KHC				eSN		Sn	13 08 59.9 -0.9
KHC	Kasperske Hory	9.13	334	eP		Pn	13 07 18.8 +0.3
KHC				e			13 08 59.9
KHC	Kasperske Hory	9.13	334	P		Pn	13 07 18.7 +0.2
	comp=Z,9.1nm,0.6s						
TUE	Stuetta	9.20	309			Pn	13 07 20.2 +0.6
TUE	Stuetta	9.20	309	P		Pn	13 07 21.0 +1.4
	comp=Z,87nm,0.6s						
DAVA	Damuels	9.37	315	ePn		Pn	13 07 22.6 +0.7
	comp=Z,4.2nm,0.3s						
SBF	Sospel	9.45	291	ePn		Pn	13 07 24.3 +1.4
SBF				eSn		Sn	13 09 02.4 -6.3
	comp=Z,9.8nm,0.5s						
LMR	La Mourre	10.01	287	ePn		Pn	13 07 32.2 +1.7
MBDF	Montbardon	10.13	295	ePn		Pn	13 07 30.3 -2.0
MBDF				eSn		Sn	13 09 17.8 -7.7
	comp=Z,8.3nm,0.4s						
SENIN	Lac Senin/Sane	10.38	305	Pn		Pn	13 07 35.9 +0.1
LPG	La Plagne	10.39	299	ePn		Pn	13 07 34.9 -1.1
LPG				eSn		Sn	13 09 23.3 -8.8
	comp=Z,21nm,0.5s						
LPL	La Plagne	10.41	300	ePn		Pn	13 07 35.0 -1.2
LPL				eSn		Sn	13 09 23.9 -8.6
	comp=Z,12nm,0.3s						
BR131	Keskin Array S	10.76	93	Pn		Pn	13 07 41.7 +0.8
BR131	Keskin Array S	10.76	93	i P		Pn	13 07 42.2 +1.3
BRTR	Keskin Array B	10.76	93	Pn		Pn	13 07 42.3 +1.3
BRTR	Keskin Array B	10.76	93	Pn		Pn	13 07 43.0 +2.0
	comp=Z,1.4nm,0.3s,baz=271,slow=12,SNR=20						
BRTR				LR		LR	13 12 52.3
	comp=Z,136nm,18.1s,baz=287,slow=43						
	comp=Z,7.0nm,0.5s						
BRTR	Keskin Array B	10.76	93	i P		Pn	13 07 43.4 +2.4
BRTR				pmax		pmax	
	comp=Z,7.0nm,0.5s						
ORIF	Oris-en-Rattie	10.79	295	ePn		Pn	13 07 40.1 -1.2
ORIF				eSn		Sn	13 09 34.0 -7.7
	comp=Z,7.3nm,0.4s						
CLL	Collm	11.22	338	ePn		Pn	13 07 43.0 -4.1
CLL				ePg			13 08 40.0
CLL				eSn		Sn	13 09 31.0 -21
CLL				ex		x	13 09 50.0
CLL				eSb			13 10 28.0
CLL				eSg			13 11 07.0
CLL				AMS		AMS	13 12 00.0
	comp=Z,200nm,18.1s						
CABF	La Chapelle	11.24	304	ePn		Pn	13 07 46.6 -0.9
CABF				eSn		Sn	13 09 41.8 -11
	comp=Z,5.7nm,0.5s						
HINF	Hinteralfeld	11.35	311	ePn		Pn	13 07 47.9 -1.1
HINF				eSn		Sn	13 09 45.8 -10
	comp=Z,6.0nm,0.3s						
ECH	Echery	11.40	313	Pn		Pn	13 07 49.3 -0.3
ECH	Echery	11.40	313	P		Pn	13 07 49.3 -0.3
CDF	Champ du Feu	11.45	314	ePn		Pn	13 07 48.8 -1.5
CDF				eSn		Sn	13 09 47.3 -10
	comp=Z,4.7nm,0.5s						
AKASG	Malin Array Be	11.71	31	Pn		Pn	13 07 54.1 +0.4
	baz=222,slow=12						
AKASG				LR		LR	13 13 18.9
	comp=Z,74nm,20.2s,baz=220,slow=42						
AKBB	Malin Array Si	11.71	31	i P		Pn	13 07 55.3 +1.6
HAU	Haudompre	11.74	311	ePn		Pn	13 07 53.7 -0.6
HAU	Haudompre	11.74	311	eP		Pn	13 07 57.6 +3.3
HAU				eSn		Sn	13 09 53.3 -12
	comp=Z,9.2nm,0.4s						
SMF	Signal de Mont	12.69	301	ePn		Pn	13 08 05.2 -2.0
SMF				eSn		Sn	13 10 17.7 -10
	comp=Z,5.5nm,0.3s						
LOR	Lormes	12.91	304	ePn		Pn	13 08 08.3 -1.9
LOR				eSn		Sn	13 10 23.1 -10
	comp=Z,8.3nm,0.4s						
SSF	Saint Saulge	13.05	303	eSn		Sn	13 10 26.6 -10
	comp=Z,3.2nm,0.3s						
AVF	Avril sur Loir	13.05	301	ePn		Pn	13 08 10.6 -1.5
AVF	Avril sur Loir	13.05	301	eP		Pn	13 08 15.1 +3.0
AVF				eSn		Sn	13 10 27.1 -10
	comp=Z,5.7nm,0.5s						
BGF	Bois d'Agland	13.31	300	ePn		Pn	13 08 14.9 -0.7
BGF	Bois d'Agland	13.31	300	eP		Pn	13 08 19.9 +4.3
TCF	Toulx Ste Croi	13.65	298	ePn		Pn	13 08 18.2 -2.1
TCF	Toulx Ste Croi	13.65	298	eP		Pn	13 08 23.7 +3.4
BAIF	Baives	14.04	315	ePn		Pn	13 08 23.4 -2.1
MNK	Minsk	14.52	19	i P		Pn	13 08 29.0 -3.1
	comp=E,4.0nm,0.7s						
MNK				i P		Pn	13 08 29.0 -3.1
	comp=N,15nm,0.7s						
MNK				i P		Pn	13 08 29.0 -3.1
	comp=Z,7.0nm,0.8s,baz=206						
MNK				i S		Sn	13 11 12.2 -0.3
MNK				i LQ		LQ	13 12 46.7
MNK				i LR		LR	13 13 53.5
MNK				i LRM		MLR	13 14 37.7
	comp=Z,230nm,17.1s						
MNK				i LRM		MLR	13 15 42.6
	comp=E,351nm,18.1s						
MNK				i LRM		MLR	13 15 49.0
	comp=N,1μm,23.6s						
MNK	Minsk	14.52	19	i P		Pn	13 08 28.9 -3.1
MNK				i S		Sn	13 11 12.2 -0.3
MNK				pmax		pmax	
	comp=E,4.0nm,0.7s						
MNK				pmax		pmax	
	comp=N,15nm,0.6s						
MNK				pmax		pmax	
	comp=Z,7.0nm,0.8s						
MNK				MLR		MLR	
	comp=Z,230nm,17.0s						
MNK				MLR		MLR	
	comp=E,351nm,18.0s						
MNK				MLR		MLR	
	comp=N,1μm,24.0s						
NACGM	Naroch	14.63	17	eP		P	13 08 40.0 +0.1
	baz=202						
MMAI	Mount Meron Ar	14.92	118	Pn		Pn	13 08 36.1 -1.6
	comp=N,2.4nm,0.3s,baz=307,slow=11,SNR=4.5						
MMAI				LR		LR	13 15 30.2
	comp=N,103nm,20.3s,baz=255,slow=42						
	comp=N,1.1nm,0.3s						
SOC	Sochi	15.05	74	eP		Pn	13 08 38.6 -0.8
SOC				e			13 11 29.2
SOC				MLR		MLR	
	comp=Z,120nm,19.0s						
HMDT	Nahal Hemdat	15.47	120	P		P	13 08 52.1 +2.8
KZIT	Kziot	15.64	126	P		Pn	13 08 47.6 +0.4
FLN	La Foliniere	16.17	305	ePn		Pn	13 08 52.9 -1.0
GRR	Gorron	16.27	304	ePn		Pn	13 08 53.2 -2.0
ZFRI	Zfri	16.37	125	P		P	13 09 00.8 +1.5
PRNI	Paran	16.41	126	P		P	13 08 59.8 0.0
AQBJ	Aqaba	16.88	127	P		P	13 09 05.7 +0.7
VORR	Voronezh	17.11	45	eP		P	13 09 07.8 +0.4
VORR				pmax		pmax	
	comp=Z,37nm,0.3s						
SHA1	Shidzhatmaz	17.19	73	ceP		Pn	13 09 08.4 +1.3
KIV	Kislovodsk	17.22	73	eP		Pn	13 09 08.0 +0.7
KIV				pmax		pmax	
	comp=Z,7.0nm,1.0s						
KIV				MLR		MLR	
	comp=Z,36nm,14.0s						
KBZ	Khabaz	17.37	73	P		Pn	13 09 10.6 +1.6
	comp=Z,0.3nm,0.3s,baz=288,slow=7.7,SNR=8.0						
KBZ				LR		LR	13 17 39.7
	comp=Z,30nm,20.5s,baz=212,slow=43						
	comp=Z,3.5nm,0.6s						
KBZ	Khabaz	17.37	73	ceP		P	13 09 12.4 +2.1
KBZ				pmax		pmax	
	comp=Z,5.0nm,0.8s						
OBN	Obninsk	17.96	33	P		Pn	13 09 15.8 -0.4
	comp=Z,7.6nm,0.3s,baz=242,slow=12,SNR=4.1						
	comp=Z,20nm,0.3s						
OBN	Obninsk	17.96	33	⇑eP		Pn	13 09 14.5 -1.7
OBN				pmax		pmax	
	comp=Z,10.0nm,0.5s						
OBN				MLR		MLR	
	comp=Z,91nm,16.0s						
VSU	Vasula	17.98	12	ceP		P	13 09 18.1 +1.2
VSU				pmax		pmax	
	comp=Z,23nm,1.3s						
ESDC	Sonseca Array	18.04	273	P		Pn	13 09 17.5 +0.1
	comp=Z,0.2nm,0.3s,baz=70,slow=11,SNR=1.2						
ESDC				LR		LR	13 16 45.9
	comp=Z,95nm,18.5s,baz=124,slow=39						
VRH	Novokhopyorsk	18.28	49	eP		P	13 09 21.8 +1.5
VRH				pmax		pmax	
	comp=Z,15nm,0.9s						
MOS	Moscow	18.83	33	eP		P	13 09 25.7 -0.6
MOS				pmax		pmax	
	comp=Z,56nm,0.9s						
GNI	Garni	19.06	85	P		P	13 09 28.5 -0.7
	comp=Z,1.6nm,0.3s,baz=270,slow=6.1,SNR=5.9						
	comp=Z,11nm,0.5s						
GNI	Garni	19.06	85	ceP		Pn	13 09 31.1 +1.1
GNI				pmax		pmax	
	comp=Z,31nm,1.7s						
AAL	Aland	19.13	1	eP		P	13 09 24.5 -5.0
HFS	Hagfors	19.44	351	P		P	13 09 31.2 -1.8
	comp=Z,0.5nm,0.3s,baz=172,slow=12,SNR=9.5						
HFS				LR		LR	13 18 25.5
	comp=Z,86nm,18.8s,baz=168,slow=41						
	comp=Z,2.6nm,0.5s						
GROC	Groznyy	19.49	75	eP		P	13 09 34.4 +0.8
NC602	NORSAR Array S	20.31	348			Pn	13 09 45.0 +0.5
NB2	NORSAR Subarra	20.65	348	P		P	13 09 45.5 -0.7
	comp=Z,2.4nm,0.6s,baz=152,slow=10						
NOA	NORSAR Array B	20.65	348	P		P	13 09 45.0 -1.2
	comp=Z,1.1nm,0.6s,baz=166,slow=11,SNR=9.1						
NOA				LR		LR	13 19 09.2
	comp=Z,118nm,18.3s,baz=175,slow=41						
NOA	NORSAR Array B	20.65	348	P		P	13 09 45.0 -1.2
EKA	Eskdalemuir Ar	20.71	321	P		P	13 09 46.6 -0.2
	comp=Z,2.8nm,0.6s,baz=116,slow=10,SNR=16						
	comp=Z,2.8nm,0.6s						
ESK	Eskdalemuir	20.73	321	P		P	13 09 47.0 +0.1
ESK	Eskdalemuir	20.73	321	P		P	13 09 47.1 +0.1
ESK				pmax		pmax	
	comp=Z,10.0nm,0.9s						
EKB	Eskdalemuir	20.73	321	P		P	13 09 47.1 +0.1
EKB				IAmb		IAmb	13 09 50.3
	comp=Z,16nm,1.1s						
FINES	FINESS Array B	20.77	9	P		P	13 09 47.8 +0.4
FINES	FINESS Array B	20.77	9	P		P	13 09 46.6 -0.9
	comp=Z,2.2nm,0.4s,baz=180,slow=9.7,SNR=10						
FINES				LR		LR	13 19 01.3
	comp=Z,137nm,19.1s,baz=232,slow=40						
	comp=Z,2.2nm,0.4s						
FINES	FINESS Array B	20.77	9	P		P	13 09 47.8 +0.4
NC303	NORSAR Array S	20.80	349	P		P	13 09 46.3 -1.5
NC204	NORSAR Array S	20.95	348	P		P	13 09 48.4 -1.0
MDT	Midelt	21.02	255	LR		LR	13 17 38.0
	comp=Z,60nm,21.4s,baz=122,slow=36						
BELG	Belogornoye	22.12	50	LR		LR	13 20 46.5
	comp=Z,28nm,18.9s,baz=216,slow=42						
BELG	Belogornoye	22.12	50	i P		P	13 10 02.5 +0.5
BELG				pmax		pmax	
	comp=Z,4.0nm,0.9s						
KIRV	Kirov	25.67	37	LR		LR	13 21 53.6
	comp=Z,192nm,18.1s,baz=240,slow=39						
KIRV	Kirov	25.67	37	ceP		P	13 10 35.6 -0.7
APA	Apatity	27.60	11	⇓iP		P	13 10 46.0 -7.6
APA				pmax		pmax	
	comp=Z,3.0nm,1.2s						
APA				MLR		MLR	
	comp=Z,200nm,11.0s						
AKTO	Aktyubinsk	28.09	57	LR		LR	13 26 12.7
	comp=Z,72nm,18.6s,baz=67,slow=45						
ABKAR	Akbulak array	29.28	60	P		P	13 11 08.2 -0.5
ABKAR	Akbulak array	29.28	60	P		P	13 11 08.3 -0.5
ABKAR				IAmb		IAmb	13 11 08.9
	comp=Z,8.5nm,0.6s						
ARU	Arti	29.42	45	P		P	13 11 09.6 -0.3
ARU				IAmb		IAmb	13 11 10.7
	comp=Z,7.6nm,1.0s						
ARU	Arti	29.42	45	d iP		P	13 11 09.7 -0.3
ARU							13 12 00.6
ARU				S		S	13 16 07.2 +4.2
ARU				SS		SnSn	13 17 33.9 +4.0
ARU				pmax		pmax	
	comp=Z,5.0nm,0.7s						
ARU				MLR		MLR	
	comp=Z,125nm,15.0s						
SVE	Sverdlovsk	30.63	45	eP		P	13 11 20.4 -0.2
SVE				pmax		pmax	
	comp=Z,15nm,0.9s						
TORD	Torodi Ar. Bea	31.94	215	P		P	13 11 32.6 +0.1
	comp=Z,1.2nm,0.7s,baz=20,slow=9.9,SNR=7.8						
	comp=Z,1.2nm,0.7s						
BORG	Borgarnes	33.27	329	LR		LR	13 27 46.8
	comp=Z,48nm,18.2s,baz=142,slow=41						
BRVK	Borovoye	35.78	53	P		P	13 12 06.1 +0.6
BRVK	Borovoye	35.78	53	ceP		P	13 12 06.2 +0.6
BRVK				pmax		pmax	
	comp=Z,20nm,1.0s						
BVAR	Borovoye Array	35.84	53	P		P	13 12 06.5 +0.4
	comp=Z,3.5nm,0.5s,baz=260,slow=4.2,SNR=26						
	comp=Z,3.5nm,0.5s						
KK31	Karatay Array	37.33	70	P		P	13 12 18.2 -0.8
KK31	Karatay Array	37.33	70	P		P	13 12 18.2 -0.8
KK31				pmax		pmax	
	comp=Z,2.0nm,0.8s						
KKAR	Karatay Array	37.33	70	P		P	13 12 17.9 -1.1
KKAR	Karatay Array	37.33	70	P		P	13 12 17.9 -1.1
SIMJ	Simiganj	37.56	77	P		P	13 12 19.9 -1.1
CHGR	Chuyangaron	37.67	77	P		P	13 12 20.9 -1.1
CHGR	Chuyangaron	37.67	77	P		P	13 12 20.9 -1.1
CHGR				pmax		pmax	
	comp=Z,14nm,0.8s						
AAK	Ala-Archa	40.28	69	LR		LR	13 32 42.2
	comp=Z,40nm,18.3s,baz=262,slow=41						
DBIC	Dimbokro	40.63	219	P		P	13 12 47.8 +1.0
	comp=Z,1.5nm,0.4s,baz=32,slow=11,SNR=1.2						
	comp=Z,1.5nm,0.4s						
KURBB	Kurchatov Arra	41.11	56	P		P	13 12 50.1 -0.3
	comp=Z,4.0nm,0.5s,baz=291,slow=9.3,SNR=12						
	comp=Z,4.0nm,0.5s						
KURK	Kurchatov	41.15	56	P		P	13 12 50.2 -0.5
KURK				IAmb		IAmb	13 12 51.3
	comp=Z,13nm,1.2s						
KURK	Kurchatov	41.15	56	ceP		P	13 12 50.5 -0.2
KURK				pmax		pmax	
	comp=Z,4.0nm,0.6s						
MAKZ	Makanchi	44.21	61	P		P	13 13 14.8 -0.8
MAKZ				IAmb		IAmb	13 13 17.3
	comp=Z,5.9nm,1.2s						
MAKZ	Makanchi	44.21	61	P		P	13 13 14.8 -0.8
MAKZ				pmax		pmax	
	comp=Z,6.0nm,1.2s						
ZAA0	Zalesovo Array	44.31	50	P		P	13 13 15.5 -0.8
ZALV	Zalesovo Beam	44.31	50	P		P	13 13 15.8 -0.4
ZALV	Zalesovo Beam	44.31	50	P		P	13 13 16.1 -0.2
	comp=Z,14nm,0.5s,baz=276,slow=8.6,SNR=56						
ZALV				LR		LR	13 34 27.3
	comp=Z,101nm,18.3s,baz=247,slow=40						
	comp=Z,14nm,0.5s						
MK31	Makanchi Array	44.42	61	P		P	13 13 16.6 -0.7
MK31	Makanchi Array	44.42	61	P		P	13 13 16.6 -0.7
MK31				pmax		pmax	
	comp=Z,3.0nm,0.9s						
MKAR	Makanchi Array	44.42	61	P		P	13 13 16.8 -0.5
	comp=Z,4.1nm,0.4s,baz=283,slow=7.8,SNR=94						
MKAR				LR		LR	13 34 52.0
	comp=Z,50nm,20.7s,baz=348,slow=40						
	comp=Z,4.1nm,0.4s						
TIXI	Tiksi	57.18	21	LR		LR	13 42 52.7
	comp=Z,108nm,18.0s,baz=329,slow=40						
SONM	Songino Array	59.17	52	P		P	13 15 07.2 -0.3
SONM				IAmb		IAmb	13 15 08.6
	comp=Z,6.0nm,0.8s						
SONM	Songino Array	59.17	52	P		P	13 15 07.7 +0.2
	comp=Z,7.6nm,0.8s,baz=292,slow=9.2,SNR=46						
	comp=Z,7.6nm,0.8s						
SONM	Songino Array	59.17	52	P		P	13 15 07.2 -0.3
SONM				pmax		pmax	
	comp=Z,6.0nm,0.8s						
ULN	Ulaanbaatar	59.54	51	P		P	13 15 10.2 +0.2
ULN	Ulaanbaatar	59.54	51	ceP		P	13 15 10.6 +0.5
ULN				pmax		pmax	
	comp=Z,8.0nm,1.0s						
HRV	Adam Dziewonsk	64.61	305	P		P	13 15 43.4 -0.6
	baz=57						
HHC	Hu-ho-hao-te	65.97	56	eP		P	13 15 52.1 -0.9
HHC	Hu-ho-hao-te	65.97	56	eP		P	13 15 58.8 +5.8
HHC				pmax		pmax	
	comp=Z,13nm,0.6s						
HHC				pmax		pmax	
	comp=Z,98nm,5.4s						
HHC				pmax		pmax	
	comp=Z,10.0nm,0.6s						
HHC				pmax		pmax	
	comp=Z,55nm,4.5s						
XLT	XiLinHaoTe	66.98	51	eP		P	13 15 59.8 +0.4
XLT				pmax		pmax	
	comp=Z,7.0nm,0.8s						
XLT				pmax		pmax	
	comp=Z,87nm,5.3s						
PZH	PanZhiHua	67.44	74	P		P	13 16 00.9 -1.7
PZH	PanZhiHua	67.44	74	P		P	13 16 03.6 +1.0
PZH				pmax		pmax	
	comp=Z,20nm,0.7s						
PZH				pmax		pmax	
	comp=Z,110nm,3.5s						
PZH				pmax		pmax	
	comp=Z,10.0nm,0.5s						
PZH				pmax		pmax	
	comp=Z,100nm,4.5s						
BINY	Binghamton	67.49	307	P		P	13 16 02.2 -0.4
	baz=54						
XAN	Xi'an	68.12	63	⇓P		P	13 16 06.8 +0.1
XAN				pmax		pmax	
	comp=Z,12nm,1.2s						
C27K	Jago River	68.94	354	P		P	13 16 11.2 0.0
	baz=14						
D27M	Malcolm River	69.07	353	P		P	13 16 12.6 +0.6
	baz=16						
C23K	Itkillik River	69.18	356	P		P	13 16 13.7 +1.1
C23K	Itkillik River	69.18	356	P		P	13 16 12.6 +0.1
	baz=7.9						
B20K	Meade River	69.21	359	P		P	13 16 13.3 +0.5
B20K	Meade River	69.21	359	P		P	13 16 13.1 +0.3
	Pn=2.6						
HEH	HeiHe	69.28	41	eP		P	13 16 13.8 +0.2
HEH				pmax		pmax	
	comp=Z,7.0nm,0.9s						
D25K	Kavik River	69.44	355	P		P	13 16 14.7 +0.4
D25K				IAmb		IAmb	13 16 15.7
	comp=Z,3.6nm,1.1s						
D25K	Kavik River	69.44	355	P		P	13 16 14.7 +0.4
	baz=11						
BOSA	Boshof	69.53	175	P		P	13 16 15.8 +0.5
	comp=Z,2.0nm,0.6s,baz=13,slow=8.8,SNR=6.5						
	comp=Z,2.0nm,0.6s						
E28M	Babbage River	69.54	352	P		P	13 16 15.6 +0.7
	baz=17						
B21K	Ikpikpuk River	69.54	358	P		P	13 16 15.6 +0.8
	baz=4.7						
E29M	Blow River	69.57	351	P		P	13 16 15.4 +0.3
E29M	Blow River	69.57	351	P		P	13 16 15.1 +0.1
	baz=18						
D24K	Happy Valley	69.76	356	P		P	13 16 16.7 +0.5
	baz=9.3						
B18K	Kokolik River	69.88	1	P		P	13 16 17.7 +0.8
	baz=359						
F31M	Tsiigehtchic	69.94	349	P		P	13 16 16.9 -0.4
F31M	Tsiigehtchic	69.94	349	P		P	13 16 17.5 +0.2
	baz=21						
CHTO	Chiang Mai	69.95	82	P		P	13 16 17.2 -1.0
CHTO				IAmb		IAmb	13 16 17.3
	comp=Z,3.4nm,0.7s						
CHTO	Chiang Mai	69.95	82	P		P	13

baz=16
E25K Arctic Village 70.56 354 P **P 13 16 21.1 -0.1**
baz=12
C18K Utukok River 70.60 0 P **P 13 16 21.9 +0.4**
C18K IAmb IAmb 13 16 27.2
comp=Z,6.6nm,1.1s
C18K Utukok River 70.60 0 P **P 13 16 21.5 +0.1**
baz=359
E21K Killik River 70.70 358 P **P 13 16 22.1 +0.1**
baz=5.2
G30M tAoh Zraii Nji 70.71 350 P **P 13 16 22.3 +0.2**
G30M IAmb IAmb 13 16 41.5
comp=Z,6.0nm,1.4s
G30M tAoh Zraii Nji 70.71 350 P **P 13 16 22.1 0.0**
baz=19
D19K Kuna River 70.74 359 P **P 13 16 22.6 +0.3**
baz=1.9
C17K DeLong Mountai 70.75 1 P **P 13 16 22.8 +0.5**
baz=358
E24K Your Creek 70.81 355 P **P 13 16 23.0 +0.3**
baz=9.5
F26K Sheenjek River 70.87 354 P **P 13 16 23.3 +0.3**
baz=13
E23K Chandalar 70.89 356 P **P 13 16 23.6 +0.3**
baz=8.6
C16K Lisburne Hills 70.91 2 P **P 13 16 22.9 -0.3**
E22K Anaktuvuk Pass 70.93 357 P **P 13 16 23.9 +0.5**
baz=6.9
E20K Nigu River 70.95 358 P **P 13 16 24.1 +0.5**
baz=3.4
G29M Pine Creek 71.00 351 P **P 13 16 23.4 -0.4**
G29M Pine Creek 71.00 351 P **P 13 16 24.4 +0.6**
baz=18
F25K Christian Rive 71.09 354 P **P 13 16 25.4 +0.9**
baz=12
PHRA Phrae 71.11 82 P **P 13 16 24.2 -1.0**
F24K Squaw Lake 71.32 355 P **P 13 16 26.9 +1.1**
F24K IAmb IAmb 13 16 28.0
comp=Z,2.2nm,0.7s
F24K Squaw Lake 71.32 355 P **P 13 16 26.6 +0.7**
baz=10.0
EPYK Eagle Plains 71.35 350 P **P 13 16 26.5 +0.5**
baz=19
G27K Doyon Strip 71.50 352 P **P 13 16 27.4 +0.6**
G27K Doyon Strip 71.50 352 P **P 13 16 27.7 +0.8**
baz=15
D17K Noatak River 71.54 1 P **P 13 16 27.5 +0.5**
baz=358
G26K Porcupine Rive 71.56 353 P **P 13 16 28.1 +0.9**
baz=13
F22K John River 71.57 357 P **P 13 16 28.3 +1.0**
baz=6.6
H29M Whitestone 71.70 351 P **P 13 16 28.3 +0.2**
H29M Whitestone 71.70 351 P **P 13 16 28.6 +0.5**
baz=17,SNR=6.1
COLD Coldfoot 71.75 356 P **P 13 16 28.7 +0.3**
baz=8.1,SNR=6.9
E19K Redstone River 71.77 359 P **P 13 16 29.3 +0.8**
baz=2.5
O53A New Philadelph 71.81 308 P **P 13 16 29.3 +0.1**
baz=51
E18K Tukpahlearik C 71.83 0 P **P 13 16 29.4 +0.6**
baz=360
F21K Alatna River 71.91 357 P **P 13 16 30.0 +0.6**
baz=5.5,SNR=5.3
MA2 Magadan 71.92 24 LR LR 13 51 57.6
comp=Z,58nm,19.2s,baz=252,slow=39
G25K Bearman Lake 71.94 354 P **P 13 16 30.0 +0.6**
baz=11
WRGLY Wrigley 71.96 343 P **P 13 16 30.1 +0.5**
baz=29
H27K Steamboat Moun 72.05 352 P **P 13 16 30.2 0.0**
baz=15,SNR=6.0
KLR Kul'dur 72.08 40 LR LR 13 52 20.6
comp=Z,37nm,18.2s,baz=274,slow=39
KLR Kul'dur 72.08 40 *eP* **P 13 16 31.1 +0.5**
KLR pmax pmax
comp=Z,3.0nm,1.7s
G24K Hadweenzic Riv 72.10 355 P **P 13 16 31.4 +0.9**
baz=10
G22K Bettles 72.12 356 P **P 13 16 31.4 +0.8**
baz=7.1
F20K Avaraart Lake 72.15 358 P **P 13 16 30.8 +0.1**
F20K Avaraart Lake 72.15 358 P **P 13 16 31.0 +0.3**
baz=3.7
E17K Hotham Inlet 72.17 1 P **P 13 16 30.9 0.0**
baz=359
G23K Bananza Creek 72.26 356 P **P 13 16 32.1 +0.7**
G23K Bananza Creek 72.26 356 P **P 13 16 31.7 +0.3**
baz=8.2
I30M Mount Dempster 72.40 350 P **P 13 16 32.6 +0.2**
I30M IAmb IAmb 13 16 33.5
comp=Z,4.2nm,0.7s
I30M Mount Dempster 72.40 350 P **P 13 16 32.0 -0.5**
baz=19,SNR=7.1
F19K Shaleruckik Mo 72.41 359 P **P 13 16 32.2 -0.1**
baz=2.1
H25L Birch Creek 72.41 354 P **P 13 16 32.4 +0.1**
baz=12
EYMN Ely 72.47 319 P **P 13 16 32.7 -0.3**
baz=48
I29M Ogilvie Camp, 72.52 351 P **P 13 16 33.4 +0.4**
I29M IAmb IAmb 13 16 34.0
comp=Z,5.4nm,0.7s
I29M Ogilvie Camp, 72.52 351 P **P 13 16 33.7 +0.7**
baz=17
G21K Allakaket 72.61 357 P **P 13 16 33.7 +0.2**
baz=5.5
I28M Miner Creek 72.63 351 P **P 13 16 33.8 0.0**
baz=16
F18K Selawik 72.66 360 P **P 13 16 33.9 +0.2**
baz=0.6
I27K Kandik River 72.66 352 P **P 13 16 34.0 +0.1**
baz=15
H24K Noodor Dome 72.99 355 P **P 13 16 35.4 -0.5**
baz=9.9
J30M Hart River 73.01 349 P **P 13 16 36.5 +0.4**
J30M IAmb IAmb 13 16 37.7
comp=Z,4.9nm,0.7s
J30M Hart River 73.01 349 P **P 13 16 36.3 +0.2**
baz=19,SNR=12
G19K Purcell Mounta 73.09 359 P **P 13 16 36.5 +0.1**
baz=2.6
H23K Yukon River 73.11 355 P **P 13 16 36.7 +0.2**
baz=8.6
I26K Coal Creek Min 73.11 353 P **P 13 16 37.2 +0.7**
I26K IAmb IAmb 13 16 38.1
comp=Z,1.8nm,0.6s
I26K Coal Creek Min 73.11 353 P **P 13 16 37.2 +0.7**
baz=14
H22K Ishtalitna Cre 73.14 356 P **P 13 16 37.7 +1.0**
baz=7.1
IMAR Indian Mountai 73.16 357 P **P 13 16 37.8 +1.0**
G18K Tagagawik 73.36 359 P **P 13 16 38.4 +0.4**
baz=1.4
H21K Melozitna Rive 73.44 357 P **P 13 16 39.8 +1.4**
H21K IAmb IAmb 13 16 40.9
comp=Z,6.0nm,0.9s
H21K Melozitna Rive 73.44 357 P **P 13 16 39.3 +0.9**
baz=6.0,SNR=9.4
F15K North Star Dit 73.50 2 P **P 13 16 39.5 +0.7**
F15K IAmb IAmb 13 16 55.4
comp=Z,8.7nm,1.1s
H20K Anotleneega Mo 73.69 358 P **P 13 16 40.4 +0.5**
baz=4.4
F14K Arctic Creek 73.69 3 P **P 13 16 40.6 +0.7**
baz=355
H19K Roundabout Mou 73.69 358 P **P 13 16 40.7 +0.8**
baz=3.1
I23K Minto, Yukon-K 73.77 355 P **P 13 16 40.8 +0.5**
baz=8.7
K29M Barlow Dome 73.87 350 P **P 13 16 41.5 +0.3**
baz=18
MDM Murphy Dome 73.88 355 P **P 13 16 41.5 +0.5**
MDM IAmb IAmb 13 16 42.5
comp=Z,5.7nm,1.1s
DAWY Dawson 73.90 351 P **P 13 16 41.8 +0.5**
DAWY IAmb IAmb 13 16 42.8
comp=Z,4.4nm,0.7s
DAWY Dawson 73.90 351 P **P 13 16 41.5 +0.3**
baz=16,SNR=6.7
J26L Joseph Creek 73.94 353 P **P 13 16 42.0 +0.5**
J26L IAmb IAmb 13 16 42.9
comp=Z,3.7nm,0.7s
J26L Joseph Creek 73.94 353 P **P 13 16 41.5 0.0**
baz=13,SNR=7.3
ILAR Eielson Array 73.97 354 P **P 13 16 42.0 +0.5**
ILAR Eielson Array 73.97 354 P **P 13 16 41.9 +0.3**
comp=Z,1.0nm,0.6s,baz=1.3,slow=4.0,SNR=21
comp=Z,1.0nm,0.6s
ILAR Eielson Array 73.97 354 P **P 13 16 42.0 +0.5**
MLY Manley 73.97 356 P **P 13 16 41.7 +0.1**
baz=7.6
J25K Salcha River, 74.00 353 P **P 13 16 41.6 -0.2**
baz=12
G15K Niukluk 74.23 2 P **P 13 16 42.7 -0.3**
baz=357
K27K Chicken 74.24 352 P **P 13 16 43.7 +0.5**
baz=14
NEA2 Nenana 74.30 355 P **P 13 16 43.3 -0.2**
baz=8.9
HDA Harding Lake 74.33 354 P **P 13 16 43.5 -0.1**
HDA IAmb IAmb 13 16 44.6
comp=Z,5.0nm,0.8s
HDA Harding Lake 74.33 354 P **P 13 16 43.4 -0.3**
baz=10,SNR=5.8
SCRK Sand Creek 74.49 353 P **P 13 16 44.5 -0.2**
baz=13
H16K Elim 74.62 1 P **P 13 16 45.4 +0.1**
baz=359
ANM Nome 74.63 2 P **P 13 16 46.2 +0.8**
baz=356
L29M L29M 74.65 350 P **P 13 16 45.7 +0.1**
baz=17
FARO Faro, Yukon 74.77 347 P **P 13 16 47.0 +0.7**
baz=21
M31M Drury Creek, Y 74.96 348 P **P 13 16 47.4 0.0**
baz=20
J20K Nowinta River 74.98 357 P **P 13 16 48.4 +1.0**
J20K IAmb IAmb 13 16 58.7
comp=Z,6.7nm,1.5s
J20K Nowinta River 74.98 357 P **P 13 16 47.6 +0.2**
baz=4.9
MCK McKinley 75.14 355 P **P 13 16 48.6 +0.1**
baz=9.0
BCAR Beaver Creek A 75.15 351 P **P 13 16 49.6 +1.1**
L27K Beaver Creek, 75.16 351 P **P 13 16 49.6 +1.1**
L27K IAmb IAmb 13 16 50.6
comp=Z,2.8nm,0.7s
L27K Beaver Creek, 75.16 351 P **P 13 16 49.1 +0.5**
baz=14,SNR=6.0
J19K Poorman 75.21 358 P **P 13 16 49.1 +0.4**
J19K Poorman 75.21 358 P **P 13 16 49.2 +0.4**
baz=3.8
M29M Somme Creek 75.34 350 P **P 13 16 50.1 +0.4**
baz=17,SNR=6.7
L26K Log Cabin Wild 75.36 352 P **P 13 16 49.5 -0.1**
baz=13
RND Reindeer 75.46 355 P **P 13 16 49.5 -0.8**
RND IAmb IAmb 13 17 05.5
comp=Z,4.1nm,1.2s
RND Reindeer 75.46 355 P **P 13 16 49.5 -0.8**
RND pmax pmax
comp=Z,4.0nm,1.2s
PAX Paxson 75.62 353 P **P 13 16 51.1 -0.2**
baz=12
USRK Ussuriysk Ar. 75.64 43 LR LR 13 53 46.9
comp=Z,106nm,18.2s,baz=229,slow=39
CAST Castle Rocks 75.65 356 P **P 13 16 51.7 +0.4**
CAST Castle Rocks 75.65 356 P **P 13 16 51.1 -0.2**
baz=6.5
DHY Denali Highway 75.68 354 P **P 13 16 52.1 +0.4**
DHY IAmb IAmb 13 16 52.9
comp=Z,4.4nm,0.7s
DHY Denali Highway 75.68 354 P **P 13 16 51.5 -0.2**
baz=10,SNR=6.0
J18K Innoko River 75.77 358 P **P 13 16 52.3 +0.3**
baz=2.9
M27K Edge Creek, AK 75.85 351 P **P 13 16 52.1 -0.5**
baz=14
N31M Braeburn, Yuko 75.86 348 P **P 13 16 52.6 +0.1**
baz=19
J17K VABM Dome 75.87 359 P **P 13 16 52.5 0.0**
baz=1.1
WTLY Watson Lake, Y 75.89 344 P **P 13 16 52.6 -0.2**
baz=24
M26K Nabesna, AK 75.93 352 P **P 13 16 52.4 -0.6**
baz=14
NJ2 Nanjing 75.94 60 *eP* **P 13 16 53.5 0.0**
NJ2 pmax pmax
comp=Z,13nm,0.8s
N30M Aishikik Lake 76.08 349 P **P 13 16 53.6 -0.3**
baz=18
HARP HAARP 76.15 353 P **P 13 16 53.5 -0.7**
baz=12
PPLA Purkeypile 76.17 356 P **P 13 16 54.2 -0.2**
baz=6.4
WAT6 Susitna Watana 76.20 354 P **P 13 16 54.2 -0.4**
baz=9.8
YUK3 Moose Creek 76.24 350 P **P 13 16 54.8 -0.2**
baz=15
TOAD Toad River Com 76.25 342 P **P 13 16 54.6 -0.2**
baz=27
TTA Tatalina 76.29 358 P **P 13 16 54.9 -0.1**
baz=3.4
YUK4 Talbot Arm 76.42 349 P **P 13 16 54.9 -1.1**
baz=17
J14K Nanvaranak Lak 76.50 2 P **P 13 16 56.1 0.0**
baz=358
YUK8 Steele Glacier 76.63 350 P **P 13 16 56.1 -1.1**
baz=16
YUK6 Outpost Mounta 76.76 349 P **P 13 16 57.3 -0.6**
baz=17
N25K Chitina, Valde 76.88 352 P **P 13 16 57.9 -0.6**
baz=12
SCM Sheep Creek Mo 76.90 354 P **P 13 16 58.5 -0.1**
baz=10
M23K Glacier View 76.98 354 P **P 13 16 58.4 -0.5**
baz=9.8
R33M Jennings River 76.98 345 P **P 13 16 58.8 -0.3**
baz=22
L19K White Mountain 77.00 357 P **P 13 16 58.8 -0.2**
baz=4.3
L18K Granite Mounta 77.02 358 P **P 13 16 59.9 +0.9**
L18K IAmb IAmb 13 17 00.7
comp=Z,3.2nm,0.7s
L18K Granite Mounta 77.02 358 P **P 13 16 59.2 +0.2**
baz=2.9
SKT Skwentna 77.05 356 P **P 13 16 59.3 0.0**
baz=6.9
L17K Donlin 77.13 359 P **P 13 17 00.0 +0.3**
baz=1.6
CTG Chitna Glacier 77.14 351 P **P 13 17 00.0 0.0**
baz=15
O28M Mount Upton 77.18 350 P **P 13 16 59.8 -0.6**
baz=16
M22K Willow 77.19 355 P **P 13 16 59.9 -0.1**
baz=8.0
M20K Styx River 77.23 356 P **P 13 17 00.4 0.0**
M20K IAmb IAmb 13 17 00.7
comp=Z,2.9nm,0.8s
M20K Styx River 77.23 356 P **P 13 17 00.5 +0.2**
baz=5.6
P30M Million Dollar 77.34 348 P **P 13 17 01.3 +0.2**
baz=18
BMRM Bremner River 77.50 352 P **P 13 17 02.2 +0.3**
baz=12
SUA Susitna One 77.52 355 P **P 13 17 01.2 -0.8**
baz=7.5
CRQE Cirque 77.55 351 P **P 13 17 02.2 0.0**
baz=13
L16K Owhat River 77.57 360 P **P 13 17 01.9 -0.3**
baz=0.7
M18K Stony River 77.72 358 P **P 13 17 03.3 +0.3**
baz=3.6
M17K Holitna River 77.85 359 P **P 13 17 04.9 +1.2**
M17K IAmb IAmb 13 17 33.2
comp=Z,8.0nm,1.2s
P29M Windy Craggy 77.93 348 P **P 13 17 04.3 0.0**
baz=17
ECSD EROS Data Cent 77.97 318 P **P 13 17 04.8 0.0**
baz=44
KSRS Korea Array 78.02 51 P **P 13 17 05.1 0.0**
comp=Z,2.2nm,0.6s,baz=314,slow=5.2,SNR=13
comp=Z,2.2nm,0.6s
EYAK Cordova Ski Ar 78.03 353 P **P 13 17 04.9 +0.2**
baz=11
PNL Peninsula 78.14 349 P **P 13 17 05.7 +0.3**
baz=16
BGLC Bering Glacier 78.19 351 P **P 13 17 05.8 +0.2**
baz=13
CAPN Captain Cook N 78.24 355 P **P 13 17 06.3 +0.4**
baz=7.1
M16K Timber Creek 78.25 359 P **P 13 17 06.8 +0.8**
baz=1.1
M15K Kasigluk River 78.59 0 P **P 13 17 08.3 +0.5**
baz=360
SEW Seward 78.78 354 P **P 13 17 09.4 +0.5**
baz=8.4
CCM Cathedral Cave 79.11 311 P **P 13 17 11.7 +0.5**
baz=46
BRSE Bradley Lake S 79.23 355 P **P 13 17 12.1 +0.7**
baz=7.4
O18K Koktuh Hills 79.34 357 P **P 13 17 12.8 +0.7**
N14K Kuskokwak Cree 79.36 1 P **P 13 17 12.8 +0.8**
baz=359
O17K Koliganek Bris 79.48 358 P **P 13 17 13.7 +1.0**
baz=2.6
KULM Kulim 79.77 92 P **P 13 17 13.5 -1.5**
EGMT Eagleton 80.62 328 P **P 13 17 20.3 +1.1**
baz=36
MIAR Mount Ida 82.91 310 P **P 13 17 32.4 +1.0**
baz=44
CBKS Cedar Bluff 83.18 317 P **P 13 17 32.8 0.0**
baz=42
K22A Casper 83.53 323 P **P 13 17 35.0 +0.3**
baz=38
MJAR Matsushiro Arr 84.44 45 P **P 13 17 39.1 -0.2**
comp=Z,2.0nm,0.9s,baz=318,slow=3.4,SNR=2.1
MJAR LR LR 13 59 23.3
comp=Z,42nm,18.4s,baz=192,slow=39
comp=Z,2.0nm,0.9s
PDAR Pinedale Array 84.79 325 P **P 13 17 40.9 -0.3**
PDAR Pinedale Array 84.79 325 P **P 13 17 41.6 +0.4**
comp=Z,0.4nm,0.6s,baz=55,slow=6.7,SNR=6.0
PDAR LR LR 13 57 18.9
comp=Z,27nm,18.0s,baz=339,slow=37
comp=Z,0.4nm,0.6s
BW06 Boulder Array 84.79 325 P **P 13 17 41.6 +0.4**
baz=36
BMO Blue Mountains 86.16 331 P **P 13 17 48.3 +0.5**
BMO Blue Mountains 86.16 331 P **P 13 17 48.3 +0.5**
BMO pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 92.50 313 P **P 13 18 19.4 +1.4**
comp=Z,1.0nm,0.8s,baz=70,slow=4.5,SNR=10
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 121.27 90 PKP **PKPdf 13 23 58.6 -1.3**
comp=Z,0.5nm,0.8s,baz=319,slow=1.8,SNR=4.6
ASAR Alice Springs 123.10 94 PKP **PKPdf 13 24 02.2 -1.1**
comp=Z,1.4nm,0.8s,baz=310,slow=1.5,SNR=9.0

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*SOME **17** 13:36:22.2, 39°.85N×69°.18E, h0km*
*NNC **17** 13:36:23.6±2.0, 39°.89N×69°.07E, h0km, mb3.7, mpv3.3,*
Error ellipse: s-maj=14.8km s-min=11.0km az=6.0
ISC 17 13:36:27.1±2.1, 40°.0N±0°.1×69°.07E±0°.07, h18km, n21,
σ3915/28, 5C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**2.22**	**19**	*eP*	**Pb**	**13 37 07.1**	**+0.3**
IUG	44nm,1.4s			*eS*	**Sg**	**13 37 39.7**	**+1.0**
	119nm,0.3s						
IUG	**luzhnay**	**2.22**	**19**	Pg	**Pb**	**13 37 07.1**	**+0.3**
IUG	44nm,1.4s			Lg	Lg	13 37 39.7	
	82nm,1.1s						
CHM	**Chimkent**	**2.31**	**10**	*eP*	**Pb**	**13 37 08.7**	**+0.4**
CHM	66nm,0.1s			*eS*	**Sg**	**13 37 42.5**	**+1.1**
	157nm,0.2s						
BRLS	**Borolday**	**3.04**	**11**	*eP*	**Pn**	**13 37 17.0**	**+2.7**
BRLS	5.1nm,0.5s			*eS*	**Sb**	**13 37 56.8**	**-0.6**
	34nm,0.5s						
BRLS	**Borolday**	**3.04**	**11**	Pg	**Pn**	**13 37 17.0**	**+2.7**
BRLS	5.1nm,0.5s			Lg	Lg	13 37 56.8	
	34nm,0.5s						
KK31	**Karatay Array**	**3.24**	**19**	⇓Pn	**Pn**	**13 37 18.9**	**+1.8**
KK31	0.5nm,0.2s,baz=334,slow=40,SNR=41			⇑Pg	**Pb**	**13 37 25.7**	**+1.5**
	11nm,0.7s,baz=206,slow=18,SNR=24						
KK31				⇓Lg	Lg	13 38 10.2	
	8.8nm,0.3s,baz=200,slow=27,SNR=9.4						
MRKS	**Merke**	**4.13**	**48**	*eP*	**Pb**	**13 37 40.5**	**+1.1**
MRKS	3.0nm,0.8s			*eS*	**Sg**	**13 38 37.3**	**-2.5**
	11nm,0.6s						
MRKS	**Merke**	**4.13**	**48**	Pg	**Pb**	**13 37 40.5**	**+1.1**
MRKS	3.0nm,0.8s			Lg	Lg	13 38 37.3	
	11nm,0.6s						
CHMS	**Chumysh**	**5.19**	**53**	Lg	Lg	13 37 42.5	
CHMS	137nm,0.0s			⇑Sn	**Sn**	**13 38 47.9**	**+4.6**
	12nm,1.0s						
CHMS				⇑Lg	Lg	13 39 09.4	
	3.9nm,0.5s						
TKM2	**Tokmak 2**	**5.69**	**58**	⇓Pn	**Pn**	**13 37 51.6**	**+0.7**
TKM2	0.8nm,0.4s			⇓Sn	**Sn**	**13 38 56.8**	**+1.1**
	1.9nm,0.6s						
TKM2				⇑Lg	Lg	13 39 25.5	
	4.6nm,0.7s						
DGS	**Degeres**	**5.95**	**55**	*eP*	**Pb**	**13 38 12.9**	**+2.5**
DGS	1.8nm,0.2s			*eS*	**Sg**	**13 39 32.4**	**-5.8**
	7.3nm,1.0s						
DGS	**Degeres**	**5.95**	**55**	Pg	**Pb**	**13 38 12.9**	**+2.5**
DGS	2.7nm,1.1s			Lg	Lg	13 39 32.4	
	7.3nm,1.0s						
KRBS	**Karabastau**	**6.14**	**51**	*eP*	**Pb**	**13 38 17.5**	**+4.0**
KRBS	0.5nm,0.1s			*eS*	**Sg**	**13 39 40.7**	**-3.3**
	3.1nm,0.3s						
KRBS	**Karabastau**	**6.14**	**51**	Pg	**Pb**	**13 38 17.5**	**+4.0**
KRBS	1.2nm,0.6s			Lg	Lg	13 39 40.7	
	3.1nm,0.0s						
BTLS	**Baital**	**6.20**	**35**	*eP*	Pb	13 38 19.7	+5.2
BTLS	1.4nm,0.2s			*eS*	**Sg**	**13 39 44.1**	**-1.9**
	3.9nm,0.8s						
BTLS	**Baital**	**6.20**	**35**	Pg	Pb	13 38 19.7	+5.2
BTLS	2.1nm,0.8s			Lg	Lg	13 39 44.1	
	3.9nm,0.8s						
KTBS	**Karatobe**	**6.76**	**55**	*eP*	Pb	13 38 28.7	+4.5
KTBS	0.7nm,0.5s			*eS*	**Sg**	**13 39 59.9**	**-4.1**
	3.8nm,0.5s						
KTBS	**Karatobe**	**6.76**	**55**	Pg	Pb	13 38 28.7	+4.5
KTBS	0.7nm,0.5s			Lg	Lg	13 39 59.9	
	3.8nm,0.5s						
KOTS	**Kotyrbulak**	**6.82**	**60**	*eP*	**Pb**	**13 38 28.8**	**+3.6**
KOTS	1.7nm,0.5s			*eS*	**Sg**	**13 39 59.9**	**-5.9**
	5.6nm,0.1s						
KOTS	**Kotyrbulak**	**6.82**	**60**	Pg	**Pb**	**13 38 28.8**	**+3.6**
KOTS	1.7nm,0.5s			Lg	Lg	13 39 59.9	
	6.5nm,0.3s						
AB31	**Akbulak array**	**11.26**	**328**	⇑P	**Pn**	**13 39 02.4**	**-4.7**
	0.3nm,0.4s,baz=153,slow=12,SNR=22						

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*INMG **17** 13:39:30.2±1.5, 38°.35N×1°.29W, h15km±3km, ML2.5, Error ellipse: s-maj=3.0km s-min=1.7km az=107.0*
*SFS **17** 13:39:30.0, 38°.38N×1°.24W, h17km, ML3.4/13, ML3.1/11, MLv2.8/13*
*MDD **17** 13:39:30.4±0.2, 38°.36N×1°.30W, h12km, mb_Lg2.9/33, Error ellipse: s-maj=2.4km s-min=1.5km az=114.0*
ISC 17 13:39:28.5±1.0, 38°.40N±0°.02×1°.33W±0°.02, h12km±9km,
n44, σ0°94/92, 4C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**0.56**	**173**	Pg	**Pg**	**13 39 39.2**	**-0.2**
EMUR				Sg	**Sg**	**13 39 46.9**	**+0.1**
EMUR	**La Murta**	**0.56**	**173**	⇓Pg	**Pg**	**13 39 39.2**	**-0.2**
EMUR				Sg	**Sg**	**13 39 47.0**	**+0.1**
EMUR				*i* Vmb_Lg		13 39 48.7	
EZAR	**Zarzadilla de**	**0.60**	**209**	Pg	**Pg**	**13 39 40.5**	**+0.5**
EZAR				Sg	**Sg**	**13 39 49.0**	**+1.0**
EZAR				*i* Vmb_Lg		13 39 51.7	
AFON	**Font Roja**	**0.68**	**67**	Pg	**Pn**	**13 39 43.3**	**-0.6**
AFON				Sg	**Sb**	**13 39 51.0**	**-0.6**

AFON			*i* Vmb_Lg		13 39 58.1		
CART	**Cartagena**	**0.85 162**	Pg	**Pg**	**13 39 44.9**	**0.0**	
CART			Sg	**Sg**	**13 39 55.6**	**-0.5**	
EVIV	**Cofrentes, Val**	**0.88 11**	Pg	**Pn**	**13 39 46.7**	**0.0**	
EVIV			Sg	**Sn**	**13 39 59.0**	**-0.5**	
EVIV			*i* Vmb_Lg		13 40 01.5		
EBEN2	**Beniarda presa**	**0.94 72**	Pg	**Pn**	**13 39 47.1**	**-0.3**	
EBEN2			Sg	**Sn**	**13 40 01.0**	**+0.2**	
EBEN2			*i* Vmb_Lg		13 40 03.7		
ECHE	**Chera**	**1.22 13**	Sg	**Sg**	**13 40 07.9**	**0.0**	
ECHE			Pg	**Pg**	**13 39 51.9**	**-0.1**	
ECHE	**Chera**	**1.22 13**	Pg	**Pg**	**13 39 52.5**	**+0.5**	
ECHE			Sg	**Sg**	**13 40 09.4**	**+1.4**	
ECHE			*i* Vmb_Lg		13 40 12.2		
ENIJ	**Nijar**	**1.58 206**	Pn	**Pn**	**13 39 56.5**	**+0.1**	
ENIJ			Sn	**Sn**	**13 40 16.2**	**-0.5**	
ENIJ	**Nijar**	**1.58 206**	Pn	**Pn**	**13 39 56.6**	**+0.2**	
ENIJ			Sn	**Sn**	**13 40 16.0**	**-0.8**	
ENIJ			Sg	**Sb**	**13 40 16.4**	**-1.3**	
ENIJ			*i* Vmb_Lg		13 40 26.4		
EBER	**Berja**	**1.94 220**	Pn	**Pn**	**13 40 02.8**	**+1.4**	
EBER	**Berja**	**1.94 220**	Pn	**Pn**	**13 40 01.8**	**+0.4**	
EBER			Sg	**Sg**	**13 40 32.0**	**+1.0**	
EBER			*i* Vmb_Lg		13 40 38.4		
PSIM	**Granatula de C**	**1.94 283**	⇑Pn	**Pn**	**13 40 02.5**	**+1.2**	
PSIM			Sg	**Sg**	**13 40 32.1**	**+1.1**	
EQUE	**Quentar**	**2.05 235**	Pg	**Pb**	**13 40 07.3**	**+1.6**	
EQUE			Sg	**Sb**	**13 40 33.4**	**+2.2**	
EQUE			*i* Vmb_Lg		13 40 36.3		
EQTA	**Presa de Quent**	**2.05 235**	Pn	**Pn**	**13 40 04.3**	**+1.5**	
EQTA			Pg	**Pg**	**13 40 08.2**	**+0.4**	
EQTA			Sg	**Sg**	**13 40 34.2**	**-0.3**	
EMOS	**Mosqueruela**	**2.07 18**	Pn	**Pn**	**13 40 04.1**	**+0.9**	
EMOS			Pg	**Pg**	**13 40 07.4**	**-0.9**	
EMOS			Sn	**Sn**	**13 40 29.7**	**+0.7**	
EMOS			Sg	**Sg**	**13 40 34.9**	**-0.3**	
EMOS			*i* Vmb_Lg		13 40 47.0		
EIBI	**Ibiza**	**2.19 72**	Pn	**Pn**	**13 40 05.2**	**+0.6**	
EIBI	**Ibiza**	**2.19 72**	Pn	**Pn**	**13 40 04.9**	**+0.3**	
EIBI			Sn	**Sn**	**13 40 31.8**	**+0.2**	
EIBI			*i* Vmb_Lg		13 40 35.0		
ELGU	**Los Guajares,**	**2.38 231**	Pg	**Pb**	**13 40 10.9**	**-0.4**	
ELGU			Sg	**Sg**	**13 40 44.1**	**-0.8**	
ELGU			*i* Vmb_Lg		13 40 49.5		
ESDC	**Sonseca Array**	**2.41 303**	Pn	**Pn**	**13 40 08.9**	**+1.2**	
ESDC			Pg	**Pg**	**13 40 14.1**	**-0.6**	
ESDC			Sg	**Sg**	**13 40 45.6**	**-0.4**	
ESDC			*i* Vmb_Lg		13 40 51.6		
ETOR	**Torete**	**2.48 347**	Pg	**Pg**	**13 40 15.9**	**-0.1**	
ETOR			Sn	**Sn**	**13 40 40.5**	**+1.5**	
ETOR			Sg	**Sg**	**13 40 48.4**	**+0.2**	
ETOR			*i* Vmb_Lg		13 40 50.6		
EGOR	**Sierra Gorda,**	**2.55 241**	Pb	**Pb**	**13 40 12.8**	**-1.4**	
EGOR			Pg	**Pg**	**13 40 15.3**	**-2.1**	
EGOR			Sg	**Sg**	**13 40 50.8**	**+0.4**	
EGOR			*i* Vmb_Lg		13 41 03.6		
EADA	**Adamuz**	**2.56 266**	Pn	**Pn**	**13 40 10.5**	**+0.6**	
EADA	**Adamuz**	**2.56 266**	⇑Pn	**Pn**	**13 40 10.4**	**+0.6**	
EADA			Pg	**Pg**	**13 40 17.4**	**-0.2**	
EADA			Sn	**Sn**	**13 40 41.8**	**+0.8**	
EADA			Sg	**Sg**	**13 40 50.3**	**-0.5**	
EADA			*i* Vmb_Lg		13 40 57.9		
PAB	**San Pablo**	**2.62 297**	⇑Pn	**Pn**	**13 40 11.7**	**+1.2**	
PAB			Sg	**Sg**	**13 40 52.5**	**0.0**	
PAB			*i* Vmb_Lg		13 40 56.8		
ERTA	**Horta de San J**	**2.86 26**	Pn	**Pn**	**13 40 15.0**	**+1.1**	
ERTA			Sn	**Sn**	**13 40 47.9**	**-0.4**	
ERTA			*i* Vmb_Lg		13 40 55.7		
GUD	**Guadarrama**	**3.13 317**	Pg	**Pg**	**13 40 26.9**	**-1.5**	
GUD			Sn	**Sn**	**13 40 56.7**	**+1.7**	
GUD			Sg	**Sg**	**13 41 06.9**	**-2.0**	
GUD			*i* Vmb_Lg		13 41 17.4		
ECAB	**El Cabril**	**3.23 266**	Pn	**Pn**	**13 40 19.5**	**+0.4**	
ECAB			Sg	**Sg**	**13 41 12.2**	**-0.2**	
ECAB	**El Cabril**	**3.23 266**	⇑Pn	**Pn**	**13 40 19.6**	**+0.5**	
ECAB			Sn	**Sn**	**13 40 58.1**	**+0.7**	
ECAB			Sg	**Sg**	**13 41 11.7**	**-0.6**	
ECAB			*i* Vmb_Lg		13 41 16.5		
EPLA	**Plasencia**	**4.04 296**	Pn	**Pn**	**13 40 30.9**	**+0.7**	
EPLA			Sn	**Sn**	**13 41 17.1**	**-0.3**	
EPLA			Sg	**Sg**	**13 41 35.8**	**-2.5**	
EPLA			*i* Vmb_Lg		13 41 44.0		
EBAD	**Badajoz**	**4.47 276**	Pn	**Pn**	**13 40 36.2**	**+0.2**	
EBAD			Sg	**Sg**	**13 41 51.0**	**-0.9**	
PBAR	**Barrancos**	**4.50 269**	*e*Pn	**Pn**	**13 40 36.9**	**+0.6**	
PBAR			*e*Sn	**Sn**	**13 41 28.2**	**-0.3**	
PBAR			*e*Sg	**Sg**	**13 41 51.6**	**-1.2**	
PBAR			A	A	13 42 03.2		
	5.5nm,0.4s						
PBAR	**Barrancos**	**4.50 269**	Pn	**Pn**	**13 40 36.7**	**+0.3**	
PMRV	**Marv??o**	**4.84 284**	*e*Pn	**Pn**	**13 40 43.3**	**+2.2**	
PMRV			*e*Sg	**Sg**	**13 42 03.8**	**+0.1**	
PMRV			A	A	13 42 08.4		
	6.2nm,0.5s						
PESTR	**Estremoz**	**4.92 277**	*e*Pn	**Pn**	**13 40 42.8**	**+0.6**	
PESTR			*e*Sg	**Sg**	**13 42 05.4**	**-1.1**	
PESTR			A	A	13 42 09.7		
	5.3nm,0.4s						
EGRO	**El Granado**	**4.94 262**	Pn	**Pn**	**13 40 42.6**	**+0.2**	
EGRO	**El Granado**	**4.94 262**	Pn	**Pn**	**13 40 42.5**	**+0.2**	
EGRO			Sn	**Sn**	**13 41 38.1**	**-1.3**	
EGRO			Sg	**Sg**	**13 42 05.4**	**-1.5**	
EGRO			*i* Vmb_Lg		13 42 17.8		
PVAQ	**Vaqueiros**	**5.15 261**	*e*Pn	**Pn**	**13 40 45.8**	**+0.5**	
PVAQ			*e*Sn	**Sn**	**13 41 43.6**	**-1.0**	
PVAQ	**Vaqueiros**	**5.15 261**	Pn	**Pn**	**13 40 45.3**	**0.0**	
PCVE	**Castro Verde**	**5.35 264**	*e*Pn	**Pn**	**13 40 49.0**	**+0.9**	
PMTG	**Montargil**	**5.43 279**	*e*Pn	**Pn**	**13 40 51.0**	**+1.8**	
MESJ	**Messejana**	**5.46 266**	*e*Pn	**Pn**	**13 40 50.4**	**+0.8**	
MORF	**Marmelete**	**5.89 262**	*e*Pn	**Pn**	**13 40 56.3**	**+0.7**	

ATH 17 13:41:30.1, 38.14N×20.57E, h25km±1km, ML1.9/2, Error ellipse: s-maj=3.7km s-min=1.1km az=257.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSDA	**Pessada-Kefalo**	**0.03**	**159**	P	Pb	13 41 34.5	0.0
PSDA				S	Sb	13 41 37.5	+0.2
PSDA	**Pessada-Kefalo**	**0.03**	**159**	P	Pb	13 41 34.5	0.0
PSDA				S	Sb	13 41 37.4	+0.1
VLS	**Valsamata**	**0.04**	**19**	P	Pb	13 41 34.3	-0.3
VLS				S	Sb	13 41 37.1	-0.4
VLS				AML	AML	13 41 37.4	
	comp=E,2079μm,0.1s						
VLS				AML	AML	13 41 38.5	
	comp=N,1358μm,0.1s						
LXRA	**Lixouri, Kepha**	**0.12**	**300**	P	Pb	13 41 35.0	0.0
LXRA				S	Sb	13 41 38.8	+0.5
SMHA	**Samh**	**0.13**	**28**	P	Pb	13 41 34.4	-0.7
SMHA				S	Sb	13 41 36.7	-1.6
DMLN	**Damoulianata-K**	**0.19**	**303**	P	Pb	13 41 36.6	+0.8
DMLN				S	Sb	13 41 40.3	+0.8
DMLN	**Damoulianata-K**	**0.19**	**303**	P	Pb	13 41 35.8	+0.1
DMLN				S	Sb	13 41 39.9	+0.4
FSK	**Fiskardo**	**0.32**	**359**	P	Pb	13 41 37.0	-0.5
FSK				S	Sb	13 41 41.0	-1.6
FSK				AML	AML	13 41 42.4	
	comp=E,266μm,0.1s						
FSK				AML	AML	13 41 43.8	
	comp=N,124μm,0.1s						
FSK	**Fiskardo**	**0.32**	**359**	P	Pb	13 41 37.0	-0.5
FSK				S	Sb	13 41 42.3	-0.2
LTHK	**Lithakia**	**0.48**	**154**	P	Pn	13 41 41.4	+0.1
LTHK				S	Sb	13 41 47.6	+1.0
LTHK				AML	AML	13 41 51.6	
	comp=N,165μm,0.3s						
LTHK				AML	AML	13 41 51.8	
	comp=E,169μm,0.3s						
LTHK	**Lithakia**	**0.48**	**154**	P	Pb	13 41 39.6	-0.3
LTHK				S	Sb	13 41 47.0	+0.4
LTHK				AML	AML	13 41 51.6	
	comp=N,165μm,0.3s						
LTHK				AML	AML	13 41 51.8	
	comp=E,169μm,0.3s						
EVGI	**Lefkada island**	**0.49**	**8**	P	Pb	13 41 39.4	-0.8
EVGI				S	Sb	13 41 46.1	-0.8
EVGI	**Lefkada island**	**0.49**	**8**	P	Pb	13 41 39.5	-0.7
EVGI				S	Sb	13 41 46.7	-0.3
NYDR	**Nydri-Lefkada**	**0.58**	**10**	P	Pb	13 41 40.8	-0.9
NYDR				S	Sb	13 41 48.2	-1.5
NYDR	**Nydri-Lefkada**	**0.58**	**10**	P	Pb	13 41 41.0	-0.8
NYDR				S	Sb	13 41 50.5	+0.8
LKD2	**Lefkada island**	**0.65**	**6**	P	Pb	13 41 42.3	-0.6
LKD2				S	Sb	13 41 51.1	-0.6
LKD2	**Lefkada island**	**0.65**	**6**	P	Pb	13 41 42.2	-0.8
LKD2				S	Sb	13 41 52.3	+0.6
TSLK	**Tsoukalades, L**	**0.69**	**5**	P	Pb	13 41 43.1	-0.5
TSLK				S	Sb	13 41 51.7	-1.0
TSLK	**Tsoukalades, L**	**0.69**	**5**	P	Pb	13 41 42.7	-0.8
TSLK				S	Sb	13 41 53.2	+0.5
PVO	**Paravola**	**0.89**	**57**	P	Pb	13 41 46.2	-0.8
PVO				S	Sb	13 41 57.8	-0.6
PVO	**Paravola**	**0.89**	**57**	P	Pb	13 41 46.0	-0.9
PVO				S	Sb	13 41 58.5	+0.1
ANX	**Ano Chora**	**1.15**	**66**	P	Pn	13 41 50.3	-0.5
ANX				S	Sn	13 42 05.2	-0.6

NEIC 17 13:46:39.4±0.4, 36.361N×0.010×98.20W±0.01, h5km±1km, mb_Lg2.4/47, ML2.9/48, Error ellipse: s-maj=3.0km s-min=2.0km az=77.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.22**	**50**	Pg	Pg	13 46 44.5	+0.7
CROK				Sg	Sg	13 46 47.6	+0.8
CROK				IAML		13 46 48.2	
	comp=N,2μm,0.3s						
CROK				IAML		13 46 48.4	
	comp=E,1μm,0.3s						
OK032	**Salt Plains WL**	**0.44**	**358**		Pg	13 46 48.2	+0.3
OK032				IAML		13 46 59.6	
	comp=E,601nm,0.1s						
OK032				IAML		13 47 01.7	
	comp=E,668nm,0.2s						
OK038	**West end E0370**	**0.46**	**285**	Pg	Pg	13 46 48.7	+0.6
OK038				Sg	Sg	13 46 55.0	+0.9
OK038				IAML		13 47 02.3	
	comp=E,870nm,0.3s						
GC02	**Grant County #**	**0.56**	**29**	Pg	Pg	13 46 50.4	+0.2
KAN14	**Manchester OK**	**0.62**	**17**		Pg	13 46 51.6	+0.2
KAN14				IAML		13 47 00.7	
	comp=E,594nm,0.1s						
U32A	**Winter Ranch,**	**0.65**	**272**	Pg	Pg	13 46 52.1	+0.2
NOKA	**Waynoka**	**0.65**	**295**	Pg	Pg	13 46 52.1	+0.2
NOKA				IAML		13 47 01.8	
	comp=N,634nm,0.4s						
NOKA				IAML		13 47 06.6	
	comp=E,463nm,0.3s						
KAN17	**Caldwell West**	**0.77**	**27**	Pg	Pg	13 46 53.5	-0.5
CSTR	**Hydro, Custer**	**0.82**	**209**	Pg	Pg	13 46 55.5	+0.5
OK029	**Liberty Lake**	**0.82**	**133**	Pg	Pg	13 46 55.1	0.0
OK029				IAML		13 47 09.4	
	comp=E,519nm,0.4s						
KAN01	**Argonia South**	**0.87**	**24**	Pg	Pg	13 46 55.7	-0.3
KAN13	**South Haven SW**	**0.87**	**41**		Pg	13 46 55.8	-0.2
KAN13				IAML		13 47 08.6	
	comp=E,486nm,0.2s						
KAN08	**Anthony NE Sta**	**0.88**	**12**	Pg	Pg	13 46 56.3	0.0
BLOK	**Blackwell**	**0.89**	**63**		Pg	13 46 56.2	-0.2
KAN09	**Caldwell North**	**0.90**	**31**	Pg	Pg	13 46 56.6	0.0
KAN12	**Harper NE Stat**	**0.95**	**10**	Pg	Pg	13 46 57.5	0.0
ADOK	**Arcadia Dam**	**0.97**	**136**	Pg	Pg	13 46 58.2	+0.2
OK048	**Pawnee Station**	**1.01**	**86**	Pg	Pg	13 46 58.5	-0.2
OK048				IAML		13 47 17.4	
	comp=E,336nm,0.3s						
OK048				IAML		13 47 17.5	
	comp=E,231nm,0.2s						
OK051	**E0350 and S346**	**1.11**	**82**	Pg	Pg	13 47 00.2	-0.3
OK031	**S. Brethren Rd**	**1.17**	**110**	Pg	Pg	13 47 01.3	-0.5
OK031				IAML		13 47 20.7	
	comp=E,264nm,0.3s						
OK052	**Battle Ridge R**	**1.19**	**108**	Pg	Pg	13 47 01.5	-0.6
OK052				IAML		13 47 19.7	
	comp=E,268nm,0.2s						
QUOK	**Quay**	**1.22**	**98**	Pg	Pg	13 47 02.3	-0.4
FNO	**Franklin**	**1.28**	**149**		Pg	13 47 02.9	-0.9
FNO				IAML		13 47 24.9	
	comp=N,249nm,0.3s						
FNO				IAML		13 47 25.1	
	comp=E,185nm,0.1s						
DEOK	**Depew**	**1.47**	**110**		Pn	13 47 06.0	-0.5
W35A	**Tecumseh**	**1.61**	**138**		Pn	13 47 08.1	-0.4
WMOK	**Wichita Mounta**	**1.69**	**197**		Pn	13 47 09.6	0.0
X34A	**Smith Ranch, M**	**1.78**	**170**		Pn	13 47 10.6	-0.2
TUL3	**Leonard**	**2.00**	**102**	IAmb_Lg		13 47 43.0	
	comp=Z,20nm,0.8s						
SMWD	**Samnorwood**	**2.08**	**234**	Pn	Pn	13 47 15.1	+0.1
LOOK	**Love County**	**2.50**	**160**	Pn	Pn	13 47 20.4	-0.4
RLO	**Rose Lookout**	**2.57**	**93**		Pn	13 47 21.0	-0.7
CBKS	**Cedar Bluff**	**2.74**	**334**	IAmb_Lg		13 48 04.8	
	comp=Z,9.6nm,1.0s						
X37A	**Clayton**	**2.91**	**127**	IAmb_Lg		13 48 17.8	
	comp=Z,9.3nm,0.8s						
S39A	**Bolivar**	**4.12**	**70**	IAmb_Lg		13 48 52.0	
	comp=Z,9.9nm,0.8s						
MIAR	**Mount Ida**	**4.18**	**114**	IAmb_Lg		13 49 01.7	
	comp=Z,11nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.40**	**308**	IAmb_Lg		13 49 03.1	
	comp=Z,8.5nm,0.8s						
X40A	**Basin Creek Fa**	**4.76**	**112**	IAmb_Lg		13 49 10.8	
	comp=Z,10nm,0.8s						
MGMO	**Mountain Grove**	**4.83**	**79**	IAmb_Lg		13 49 18.1	
	comp=Z,6.0nm,0.8s						
WHAR	**Wooly Hollow**	**4.92**	**101**	IAmb_Lg		13 49 21.2	
	comp=Z,6.3nm,0.8s						
P38A	**Dawn**	**4.92**	**47**	IAmb_Lg		13 49 25.6	
	comp=Z,8.0nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.94**	**94**	IAmb_Lg		13 49 20.9	
	comp=Z,5.9nm,0.8s						
UALR	**University of**	**5.03**	**107**	IAmb_Lg		13 49 25.2	
	comp=Z,8.0nm,0.8s						
T25A	**Trinidad**	**5.05**	**281**	IAmb_Lg		13 49 24.1	
	comp=Z,9.9nm,0.8s						
BRDY	**Brady**	**5.11**	**188**	IAmb_Lg		13 49 24.8	
	comp=Z,7.4nm,0.9s						
OGNE	**Ogallala**	**5.47**	**328**	IAmb_Lg		13 49 44.1	
	comp=Z,9.3nm,0.8s						
LCAR	**Lake Charles**	**5.70**	**91**	IAmb_Lg		13 49 43.1	
	comp=Z,5.7nm,0.9s						
T42A	**Van Buren**	**5.75**	**81**	IAmb_Lg		13 49 55.9	
	comp=Z,4.5nm,0.9s						
P40A	**Paris**	**5.80**	**55**	IAmb_Lg		13 49 47.5	
	comp=Z,7.0nm,0.8s						
CCM	**Cathedral Cave**	**5.80**	**71**	IAmb_Lg		13 49 47.2	
	comp=Z,7.8nm,0.7s						
ISCO	**Idaho Springs**	**6.78**	**303**	IAmb_Lg		13 50 33.6	
	comp=Z,3.6nm,0.8s						
S44A	**Carbondale**	**7.28**	**77**	IAmb_Lg		13 50 38.8	
	comp=Z,6.4nm,0.7s						
PHWY	**Pilot Hill**	**7.51**	**313**	IAmb_Lg		13 50 49.5	
	comp=Z,2.8nm,0.7s						
N23A	**Red Feather La**	**7.57**	**309**	IAmb_Lg		13 50 47.2	
	comp=Z,4.3nm,0.7s						

TEH 17 13:47:38.7, 33.90N×45.89E, h10km±73km, ML2.8
ISN 17 13:47:39.2±0.8, 33.88N×45.88E, h18km±35km, ML2.8
ISC 17 13:47:38.7±1.0, 33.91N±0.03×45.89E±0.04, h10km, n11, σ0.46/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.21**	**6**	Pg	**Pg**	**13 47 43.2**	**+0.1**
ILBA	**Ilam Banvizeh**	**0.39**	**136**	Pg	**Pg**	**13 47 46.1**	**-0.3**
ILBA				Sg	**Sg**	**13 47 52.4**	**+0.8**
KGS1	**Ghasr-e-Shirin**	**0.65**	**338**	Pg	**Pb**	**13 47 51.9**	**-0.2**
IGHG	**Ghaleghazi**	**0.71**	**53**	Pg	**Pg**	**13 47 51.9**	**-0.5**
IBDR	**Badra**	**0.80**	**177**	*e*Pg	**Pg**	**13 47 54.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**13 48 04.0**	**-0.5**
IDHR	**Dehrash**	**0.89**	**28**	Pg	**Pg**	**13 47 56.1**	**+0.1**
BHD	**Baghdad**	**1.41**	**244**	*e*Pn	**Pb**	**13 48 05.0**	**-0.1**
BHD				*e*Sn	**Sg**	**13 48 25.0**	**+0.9**
IKFM	**Kafar-mosalman**	**1.68**	**103**	Pg	**Pg**	**13 48 11.1**	**+0.2**
SNQR	**Sonqor, Kerman**	**1.73**	**56**	Pg	**Pg**	**13 48 11.8**	**-0.1**
IBZA	**Bozab**	**1.73**	**71**	Pg	**Pb**	**13 48 10.8**	**+0.1**
IKRK	**Kirkuk**	**1.96**	**320**	*e*Pn	**Pb**	**13 48 14.0**	**-0.5**
IKRK				*e*Sn	**Sb**	**13 48 39.0**	**0.0**
IKRK				AML	AML	13 48 45.2	
	comp=N,121nm,0.3s						
IKRK				AML	AML	13 48 54.1	
	comp=E,103nm,0.6s						

NEIC 17 13:59:05.5±1.4, 24.3S±0.1×179.7W±0.2, h513km±13km, mb4.4/13, Error ellipse: s-maj=26.7km s-min=19.9km az=100.0
IDC 17 13:59:06.5±3.1, 24.46S×179.91E, h488km±32km, mb3.5/6, mbtmp4.4/7, Error ellipse: s-maj=29.7km s-min=21.1km az=25.0
ISC 17 13:59:06.1±0.7, 24.24S±0.07×179.9W±0.1, h500km, n41, σ2.14/48, mb4.2/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.32**	**161**	P	**P**	**14 00 39.0**	**+3.2**
GLKZ				S	**S**	**14 01 51.3**	**+2.1**
MSVF	**Nonsavu**	**6.74**	**343**	P	**P**	**14 00 53.0**	**+3.1**
OUZ	**Omahuta**	**12.30**	**206**	P	**P**	**14 01 49.2**	**+1.5**
WCZ	**Waipu Caves**	**12.67**	**202**	P	**P**	**14 01 54.2**	**+2.6**
AFI	**Afiamalu**	**12.84**	**38**	P	**P**	**14 01 52.4**	**-1.3**
KUZ	**Kuaotunu**	**13.02**	**196**	P	**P**	**14 01 55.5**	**+0.3**
MBAZ	**Motutapu North**	**13.26**	**198**	P	**P**	**14 01 60.0**	**+2.2**
MXZ	**Matakaoa Point**	**13.37**	**186**	P	**P**	**14 02 01.4**	**+2.5**
MKAZ	**Moumakai**	**13.50**	**197**	P	**P**	**14 02 01.3**	**+1.0**
AWAZ	**Awhitu Peninsu**	**13.61**	**199**	P	**P**	**14 02 00.8**	**-0.7**
WMGZ	**Waiomatatini S**	**13.61**	**186**	P	**P**	**14 02 00.8**	**-0.7**
WMGZ				S	**S**	**14 04 27.8**	**+1.6**
HAZ	**Te Kaha**	**13.62**	**188**	P	**P**	**14 01 58.9**	**-2.6**
HAZ				S	**S**	**14 04 24.6**	**-1.7**
PKGZ	**Pakihiroa**	**13.69**	**187**	P	**P**	**14 02 01.9**	**-0.4**
PKGZ				S	**S**	**14 04 29.7**	**+1.9**
RUGZ	**Raukumara Rang**	**13.84**	**188**	P	**P**	**14 02 02.9**	**-1.1**
RUGZ				S	**S**	**14 04 32.5**	**+1.8**
TWGZ	**Tauwhareparae**	**14.01**	**187**	P	**P**	**14 02 03.5**	**-2.3**
TWGZ				S	**S**	**14 04 34.1**	**+0.1**
URZ	**Urewera**	**14.20**	**190**	P	**P**	**14 02 05.0**	**-2.8**
	5.5nm,0.4s,baz=31,slow=3.2,SNR=10						
URZ	**Urewera**	**14.20**	**190**	P	**P**	**14 02 05.0**	**-2.8**
URZ				S	**S**	**14 04 34.3**	**-3.3**
MUGZ	**Murupara**	**14.47**	**190**	P	**P**	**14 02 07.3**	**-3.3**
RTZ	**Ruatahuna**	**14.57**	**190**	P	**P**	**14 02 09.0**	**-2.7**
RTZ	**Ruatahuna**	**14.57**	**190**	P	**P**	**14 02 09.5**	**-2.2**
BKZ	**Black Stump Fm**	**15.19**	**191**	P	**P**	**14 02 15.5**	**-2.6**
BKZ				IAmb	IAmb	14 02 57.8	
	comp=Z,16nm,1.4s						
BFZ	**Birch Farm**	**16.71**	**190**	P	**P**	**14 02 30.4**	**-3.5**
BHW	**Baring Head**	**17.66**	**193**	P	**P**	**14 02 38.2**	**-4.9**
BHW				IAmb	IAmb	14 03 09.4	
	comp=Z,36nm,1.3s						
MRNZ	**Matariki Terra**	**18.17**	**198**	P	**P**	**14 02 44.4**	**-3.4**
RPZ	**Rata Peaks**	**20.79**	**199**	P	**P**	**14 03 10.1**	**-1.6**
	comp=Z,5.3nm,0.5s,baz=343,slow=1.7,SNR=9.5						
	comp=Z,5.3nm,0.5s						
STKA	**Stephens Creek**	**34.66**	**249**	P	**P**	**14 05 13.1**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=116,slow=15,SNR=5.4						
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**42.05**	**261**	P	**P**	**14 06 13.1**	**-0.4**
	comp=Z,11nm,0.3s,baz=96,slow=7.2,SNR=10						
	comp=Z,11nm,0.3s						
WR0	**Warramunga Arr**	**42.27**	**267**	P	**P**	**14 06 14.1**	**-1.1**
WR0				IAmb	IAmb	14 06 57.2	
	comp=Z,8.8nm,1.4s						
WB2	**Warramunga Arr**	**42.44**	**266**	P	**P**	**14 06 16.0**	**-0.6**
WB2				IAmb	IAmb	14 06 51.3	
	comp=Z,9.3nm,1.3s						
WRAB	**Tennant Creek**	**42.45**	**266**	P	**P**	**14 06 15.9**	**-0.8**
WB0	**Warramunga Arr**	**42.45**	**267**	P	**P**	**14 06 16.0**	**-0.7**
WB0				IAmb	IAmb	14 06 17.3	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**42.45**	**266**	P	**P**	**14 06 16.0**	**-0.7**
WRA	**Warramunga Arr**	**42.45**	**266**	P	**P**	**14 06 16.3**	**-0.4**
	comp=Z,4.0nm,0.5s,baz=98,slow=8.3,SNR=149						
WRA				ScP	**ScP**	**14 11 02.2**	**+0.9**
	comp=Z,1.6nm,1.0s,baz=106,slow=4.0,SNR=5.3						
	comp=Z,4.0nm,0.5s						
FORT	**Forrest**	**46.26**	**250**	P	**P**	**14 06 44.9**	**-1.1**
FORT				IAmb	IAmb	14 06 51.0	
	comp=Z,30nm,1.0s						
QSPA	**South Pole Qui**	**65.85**	**180**	P	**P**	**14 09 00.8**	**-0.6**
QSPA				IAmb	IAmb	14 09 41.7	
	comp=Z,6.8nm,1.4s						
QSPA	**South Pole Qui**	**65.85**	**180**	P	**P**	**14 09 01.3**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=14,slow=0.7,SNR=7.4						
	comp=Z,1.1nm,0.7s						
BELA	**Belgrano 2**	**76.09**	**173**	P	**P**	**14 09 59.4**	**-2.0**
ENH	**Enshi**	**86.69**	**305**	P	**P**	**14 10 56.0**	**-0.6**
TXAR	**Lajitas Array**	**90.55**	**58**	P	**P**	**14 11 17.6**	**+2.9**
	comp=Z,0.9nm,0.8s,baz=206,slow=5.7,SNR=10						
	comp=Z,0.9nm,0.8s						
FYU	**Fort Yukon**	**94.24**	**13**	P	**P**	**14 11 27.9**	**-2.7**
HFS	**Hagfors**	**142.89**	**349**	PKhKP	PKPpre	14 17 39.5	
	comp=Z,1.6nm,0.4s,baz=72,

comp=Z,16nm,0.7s
RPZ Rata Peaks 21.39 198 P P 14 04 58.0 -0.5
comp=Z,3.1nm,0.4s,baz=35,slow=2.4,SNR=9.3
comp=Z,3.1nm,0.4s
EIDS Eidsvold 26.34 260 P P 14 05 44.0 +1.2
EIDS IAmb IAmb 14 05 44.4
comp=Z,4.1nm,0.6s
CAN Canberra 29.29 239 P P 14 06 09.8 +1.4
CAN IAmb IAmb 14 06 17.9
comp=Z,38nm,1.5s
CTAO Charters Tower 31.45 270 P P 14 06 28.4 +1.1
TOO Toolangi 32.61 237 P P 14 06 38.0 +1.1
TOO IAmb IAmb 14 07 14.1
comp=Z,30nm,1.4s
PMG Port Moresby 34.37 289 P P 14 06 51.1 -0.8
STKA Stephens Creek 34.82 248 P P 14 06 56.2 +0.6
STKA Stephens Creek 34.82 248 P P 14 06 56.7 +1.1
comp=Z,1.4nm,0.4s,baz=59,slow=6.7,SNR=5.3
comp=Z,1.4nm,0.4s
BBOO Buckleboo 39.55 247 P P 14 07 34.5 +0.2
AS31 Alice Springs 42.06 260 P P 14 07 54.4 -0.1
ASAR Alice Springs 42.07 260 P P 14 07 54.9 +0.4
comp=Z,17nm,0.6s,baz=94,slow=8.1,SNR=19
ASAR ScP **ScP 14 12 39.6 +3.0**
comp=Z,2.4nm,0.9s,baz=109,slow=4.1,SNR=12
comp=Z,17nm,0.6s
WR0 Warramunga Arr 42.22 266 P P 14 07 55.3 -0.4
WB2 Warramunga Arr 42.40 266 P P 14 07 56.8 -0.3
WB2 IAmb IAmb 14 07 57.5
comp=Z,9.4nm,0.7s
WRAB Tennant Creek 42.40 266 P P 14 07 56.7 -0.5
WRAB IAmb IAmb 14 07 57.5
comp=Z,7.3nm,0.8s
WRA Warramunga Arr 42.41 266 P P 14 07 56.8 -0.4
WRA Warramunga Arr 42.41 266 P P 14 07 57.0 -0.3
comp=Z,8.0nm,0.6s,baz=92,slow=8.4,SNR=42
WRA ScP **ScP 14 12 40.4 +2.4**
comp=Z,1.9nm,1.0s,baz=98,slow=3.8,SNR=5.2
comp=Z,8.0nm,0.6s
FORT Forrest 46.40 249 P P 14 08 27.5 -0.3
FORT IAmb IAmb 14 08 49.5
comp=Z,23nm,0.8s
MTN Manton Dam 47.41 274 P P 14 08 34.6 -1.0
GUMO Guam 50.43 313 P P 14 08 56.1 -1.8
FAKI Fak Fak 50.47 287 P P 14 08 58.1 -0.3
FAKI IAmb IAmb 14 09 33.6
comp=Z,20nm,1.2s
SBA Scott Base 54.70 183 P P 14 09 29.9 +2.4
SBA IAmb IAmb 14 09 31.4
comp=Z,15nm,1.0s
VNDA Vanda 54.70 185 P P 14 09 28.8 +1.2
comp=Z,2.1nm,0.7s,baz=352,slow=7.8,SNR=5.0
comp=Z,2.1nm,0.7s
MORW Morawa 56.97 250 P P 14 09 44.1 0.0
MORW IAmb IAmb 14 10 13.1
comp=Z,29nm,1.4s
CASY Casey 60.39 206 P P 14 10 06.3 -0.1
JCJ Chichijima 62.21 322 P P 14 10 18.9 -0.1
QSPA South Pole Qui 66.50 180 P P 14 10 46.8 +1.0
QSPA IAmb IAmb 14 10 47.8
comp=Z,17nm,0.8s
QSPA South Pole Qui 66.50 180 P P 14 10 46.9 +1.1
comp=Z,15nm,0.6s,baz=24,slow=0.6,SNR=128
comp=Z,15nm,0.6s
MJAR Matsushiro Arr 71.62 326 P P 14 11 15.6 -1.2
comp=Z,2.0nm,0.9s,baz=167,slow=6.2,SNR=5.7
comp=Z,2.0nm,0.9s
BELA Belgrano 2 76.76 173 P P 14 11 44.9 -0.3
BELA IAmb IAmb 14 11 45.9
comp=Z,9.5nm,0.7s
COCO West Island 79.01 261 P P 14 11 58.1 -0.3
PMSA Palmer Station 79.21 157 P P 14 11 58.5 0.0
PMSA IAmb IAmb 14 12 31.9
comp=Z,42nm,1.3s
ELIB Princess Elisa 83.38 187 *d*P **P 14 12 19.8 -0.3**
GRAC Grapevine Rang 84.31 46 P P 14 12 25.9 +0.8
GRAC IAmb IAmb 14 12 27.1
comp=Z,10nm,1.4s
NVAR Mina Array Bea 84.54 44 P P 14 12 25.1 -1.3
comp=Z,1.9nm,1.1s,baz=225,slow=7.5,SNR=5.0
comp=Z,1.9nm,1.1s
TROLL Troll, Antarti 84.65 181 ⇑P **P 14 12 25.9 -0.4**
comp=Z,463nm,0.3s
SNAA Sanae 84.99 179 P P 14 12 27.3 -0.6
SNAA Sanae 84.99 179 ⇑P **P 14 12 26.9 -1.0**
comp=Z,55nm,0.4s
SNAA Sanae 84.99 179 P P 14 12 27.0 -0.9
comp=Z,2.3nm,0.5s,baz=204,slow=11,SNR=18
comp=Z,2.3nm,0.5s
KVN Kaiserville 85.03 44 P P 14 12 28.2 -0.5
VNA3 Neumayer Olymp 85.20 177 ⇑P **P 14 12 28.0 -0.9**
comp=Z,3.0nm,0.4s
O18K Koktuh Hills 85.58 12 P P 14 12 29.7 -0.9
O18K IAmb IAmb 14 13 12.1
comp=Z,24nm,1.5s
VNA2 Neumayer--Watz 85.62 178 ⇑P **P 14 12 29.8 -1.0**
comp=Z,5.3nm,0.6s,baz=188,slow=4.0
J05D Fort Rock, OR 85.67 39 P P 14 12 31.4 -0.3
I07A Izee 87.15 39 P P 14 12 38.6 0.0
L19K White Mountain 87.80 12 P P 14 12 41.1 0.0
SUA Susitna One 87.97 14 P P 14 12 41.5 -0.4
SUA IAmb IAmb 14 12 55.1
comp=Z,16nm,1.5s
BBB Bella Bella 87.99 29 P P 14 12 42.7 +0.6
G08A Pilot Rock 88.19 38 P P 14 12 43.4 0.0
PLCA Paso Flores 88.50 134 P P 14 12 45.0 -0.2
comp=Z,0.7nm,0.5s,baz=269,slow=4.4,SNR=5.0
comp=Z,0.7nm,0.5s
MSU Marysvale 88.58 47 P P 14 12 45.6 +0.1
EFI East Falkland 89.50 148 P P 14 12 49.5 +0.2
MCARA McCarthy VSAT 89.76 17 P P 14 12 51.2 +1.1
MCARA IAmb IAmb 14 13 28.3
comp=Z,8.3nm,1.2s
F15K North Star Dit 89.78 6 P P 14 12 51.2 +1.1
F15K IAmb IAmb 14 12 55.5
comp=Z,11nm,1.2s
HVU Hansel Valley 89.92 44 P P 14 12 51.7 +0.1
HVU IAmb IAmb 14 12 52.4
comp=Z,3.1nm,0.7s
SRU San Rafael Swe 89.99 47 P P 14 12 51.8 -0.2
SRU IAmb IAmb 14 12 52.8
comp=Z,3.6nm,0.7s
TX31 Lajitas Ar. Si 90.28 58 P P 14 12 53.3 -0.2
TXAR Lajitas Array 90.28 58 P P 14 12 54.1 +0.6
comp=Z,1.5nm,0.7s,baz=215,slow=6.4,SNR=20
comp=Z,1.5nm,0.7s
BSUT Blindstream Ca 90.57 45 P P 14 12 54.6 -0.3
BSUT IAmb IAmb 14 12 55.8
comp=Z,5.0nm,0.8s
PDAR Pinedale Array 92.47 44 P P 14 13 02.8 -0.7
comp=Z,0.5nm,0.6s,baz=217,slow=5.2,SNR=6.4
comp=Z,0.5nm,0.6s
KURBB Kurchatov Arra 115.00 316 PKP PKPdf 14 18 27.9 -1.3
comp=Z,0.2nm,0.3s,baz=87,slow=1.8,SNR=6.3
BVAR Borovoye Array 120.18 319 PKP **PKPdf 14 18 38.1 -1.1**
comp=Z,0.8nm,0.4s,baz=147,slow=0.6,SNR=6.6
FINES FINESS Array B 138.13 342 PKP **PKPdf 14 19 13.2 +0.3**
comp=Z,0.5nm,0.6s,baz=3.8,slow=4.2,SNR=4.0
NB2 NORSAR Subarra141.76 351 PKP PKPpre 14 19 14.5
comp=Z,0.7nm,0.8s,baz=16,slow=3.2
NOA NORSAR Array B141.76 351 PKhKP PKPpre 14 19 14.3
comp=Z,0.6nm,0.6s,baz=16,slow=4.7,SNR=5.6
HFS Hagfors 142.22 349 PKhKP PKPpre 14 19 15.2
comp=Z,2.2nm,0.3s,baz=61,slow=3.0,SNR=33
AKASG Malin Array Be 144.69 327 PKP **PKPdf 14 19 23.9 -1.0**
comp=Z,0.8nm,0.4s,baz=46,slow=3.8,SNR=2.5
MMAI Mount Meron Ar 147.55 295 PKPbc **PKPbc 14 19 33.8 -0.1**
comp=Z,4.4nm,0.5s,baz=77,slow=5.3,SNR=8.1
EKA Eskdalemuir Ar 148.20 3 PKPbc **PKPbc 14 19 33.9 -0.8**
comp=Z,0.6nm,0.4s,baz=350,slow=2.7,SNR=6.7
TORD Torodi Ar. Bea 169.50 189 PKPab **PKPab 14 21 12.5 -0.4**
comp=Z,1.7nm,0.9s,baz=121,slow=2.4,SNR=5.2

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*IDC **17** 14:35:05.5±1.2,40.°12N×72.°35E,h0km,mb3.7/3,*
mbtmp3.4/7,ML2.9/4,MS2.7/1,Error ellipse: s-maj=24.3km
s-min=18.0km az=120.0
*KRNET **17** 14:35:13.2±0.1,40.°14N×73.°33E,h28km,mb3.8*
*ISU **17** 14:35:13.0,39.°83N×73.°29E,h28km*
*SOME **17** 14:35:14.8,40.°30N×73.°42E,h10km*
*MOS **17** 14:35:14.0±0.9,40.°16N×73.°31E,h20km,mb5.1/3,Error*
ellipse: s-maj=9.0km s-min=5.0km az=80.0
*NNC **17** 14:35:16.7±0.6,40.°38N×73.°36E,h4km±3km,mb4.2,*
mpv3.8,Error ellipse: s-maj=4.9km s-min=2.4km az=176.0

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*BJI **17** 14:35:17.0±0.0,40.°15N×73.°30E,h56km,mb4.7/10,*
mB4.9/5,ML3.9/3,Ms3.9/2,Ms7 3.7/2
*NEIC **17** 14:35:17.3±2.3,40.°29N±0.°05×73.°37E±0.°07,h35km±2km,*
mb4.7/4,Error ellipse: s-maj=10.2km s-min=7.7km
az=121.0
ISC 17 14:35:13.0±0.9,**40.°24N**±0.°02×**73.°45E**±0.°02,**h13**km±6km,
n165,σ1°**80**/238,**mb4.7**/11,**43C-26D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.23**	**169**	⇓*e*P		**Pg**	**14 35 18.3**	**+0.2**
	baz=33							
SFK				⇓*e*S		**Sg**	**14 35 21.9**	**+0.3**
	baz=33							
SFK	**Sufi-Kurgan**	**0.23**	**169**		PG	**Pg**	**14 35 18.3**	**+0.2**
OHH	**Osh**	**0.58**	**300**	⇓*e*P		**Pb**	**14 35 24.3**	**-0.7**
	baz=13							
OHH				⇓*e*S		**Sg**	**14 35 32.4**	**+0.4**
	baz=13							
OHH	**Osh**	**0.58**	**300**		PG	**Pb**	**14 35 24.3**	**-0.7**
OHH					S	**Sg**	**14 35 32.4**	**+0.4**
ARSB	**Arslanbob**	**1.14**	**342**			**Pn**	**14 35 35.0**	**+0.3**
ARSB	**Arslanbob**	**1.14**	**342**	⇓*e*P		**Pn**	**14 35 35.8**	**+1.1**
	baz=48							
ARSB				⇓*e*S		**Sn**	**14 35 51.9**	**+1.6**
	baz=48							
ARSB	**Arslanbob**	**1.14**	**342**		PG	**Pn**	**14 35 35.1**	**+0.3**
FRG	**Fergana**	**1.28**	**277**		P	**Pg**	**14 35 37.1**	**-0.5**
FRG					S	**Sg**	**14 35 55.6**	**+1.4**
CHMI	**Chimion**	**1.47**	**272**		P	**Pb**	**14 35 39.7**	**-0.5**
CHMI					S	**Sg**	**14 36 00.1**	**-0.3**
DRK	**Karamyk**	**1.48**	**240**			**Pg**	**14 35 40.2**	**-1.2**
DRK	**Karamyk**	**1.48**	**240**	⇓*e*P		**Pn**	**14 35 38.0**	**-1.5**
	baz=41							
DRK				⇓*e*S		**Sn**	**14 35 56.0**	**-2.8**
	baz=41							
DRK	**Karamyk**	**1.48**	**240**		PG	**Pn**	**14 35 38.0**	**-1.5**
DRK					S	**Sn**	**14 35 56.0**	**-2.8**
ARLS	**Aral**	**1.75**	**22**	⇑*e*P		**Pg**	**14 35 46.2**	**-0.4**
	baz=24							
ARLS				⇑*e*S		**Sg**	**14 36 10.2**	**+0.9**
	baz=24							
ARLS	**Aral**	**1.75**	**22**	*e*PN		**Pg**	**14 35 46.2**	**-0.4**
ARLS					S	**Sg**	**14 36 10.2**	**+0.9**
AML	**Almayashu**	**1.90**	**6**	P		**Pg**	**14 35 48.9**	**-0.6**
	SNR=33							
AML	**Almayashu**	**1.90**	**6**	⇑*e*P		**Pg**	**14 35 48.4**	**-1.0**
	baz=8.0							
AML				⇑*e*S		**Sg**	**14 36 13.8**	**-0.3**
	baz=8.0							
AML	**Almayashu**	**1.90**	**6**	PN		**Pg**	**14 35 48.4**	**-1.0**
AML					S	**Sg**	**14 36 13.8**	**-0.3**
ARK	**Arkit**	**1.92**	**325**	⇑*e*P		**Pb**	**14 35 47.3**	**-0.6**
	baz=29							
ARK				⇑*e*S		**Sb**	**14 36 12.2**	**+0.4**
	baz=29							
ARK	**Arkit**	**1.92**	**325**	PN		**Pb**	**14 35 47.3**	**-0.6**
ARK					S	**Sb**	**14 36 12.2**	**+0.4**
BTK	**Batken**	**2.02**	**266**			**Pn**	**14 35 47.5**	**+0.7**
BTK	**Batken**	**2.02**	**266**	⇑*e*P		**Pn**	**14 35 47.0**	**+0.2**
	baz=68							
BTK				⇑*e*S		**Sn**	**14 36 11.5**	**-0.5**
	baz=68							
BTK	**Batken**	**2.02**	**266**	PN		**Pn**	**14 35 47.0**	**+0.2**
BTK					S	**Sn**	**14 36 11.5**	**-0.5**
KSH	**Kashi**	**2.08**	**110**	P		**Pb**	**14 35 49.8**	**-0.7**
KSH					S	**Sb**	**14 36 15.4**	**-0.9**
KSH				smax	smax			
	comp=N,1μm,0.7s							
KSH				smax	smax			
	comp=E,650nm,0.5s							
UCH	**Uchtor**	**2.14**	**22**	P		**Pg**	**14 35 52.6**	**-1.5**
	SNR=10							
UCH	**Uchtor**	**2.14**	**22**	⇓*e*P		**Pb**	**14 35 51.9**	**0.0**
	baz=23							
UCH				⇓*e*S		**Sg**	**14 36 20.1**	**-1.8**
	baz=23							
UCH	**Uchtor**	**2.14**	**22**	PN		**Pb**	**14 35 51.9**	**0.0**
UCH					S	**Sg**	**14 36 20.1**	**-1.8**
TRKS	**Terek-Say**	**2.17**	**307**	⇓*e*P		**Pn**	**14 35 49.4**	**+0.5**
	baz=10.0							
TRKS				⇓*e*S		**Sn**	**14 36 15.8**	**0.0**
	baz=10.0							
TRKS	**Terek-Say**	**2.17**	**307**	PN		**Pn**	**14 35 49.4**	**+0.5**
TRKS					S	**Sn**	**14 36 15.8**	**0.0**
NRN	**Naryn**	**2.27**	**58**			**Pb**	**14 35 52.9**	**-1.2**
NRN	**Naryn**	**2.27**	**58**	⇑*e*P		**Pb**	**14 35 53.3**	**-0.8**
	baz=57							
NRN				⇑*e*S		**Sb**	**14 36 22.5**	**+0.3**
	baz=57							
NRN	**Naryn**	**2.27**	**58**	PN		**Pb**	**14 35 53.3**	**-0.8**
NRN					S	**Sb**	**14 36 22.5**	**+0.3**
MNAS	**Manas**	**2.35**	**343**	⇑*e*P		**Pb**	**14 35 54.0**	**-1.3**
	baz=45							
MNAS				⇑*e*S		**Sb**	**14 36 23.6**	**-0.7**
	baz=45							
MNAS	**Manas**	**2.35**	**343**	PN		**Pb**	**14 35 54.0**	**-1.3**
MNAS					S	**Sb**	**14 36 23.6**	**-0.7**
EKS2	**Erkin-Say**	**2.43**	**6**	P		**Pg**	**14 36 00.2**	**+0.6**
	SNR=10							
EKS2	**Erkin-Say**	**2.43**	**6**	⇑*e*P		**Pb**	**14 35 55.5**	**-1.1**
	baz=7.0							
EKS2				⇑*e*S		**Sb**	**14 36 26.3**	**-0.2**
	baz=7.0							
EKS2	**Erkin-Say**	**2.43**	**6**	PN		**Pb**	**14 35 55.5**	**-1.1**
EKS2					S	**Sb**	**14 36 26.3**	**-0.2**
MRKS	**Merke**	**2.51**	**356**	*e*P		**Pg**	**14 36 00.7**	**-0.4**
	52nm,0.5s							
MRKS				*e*S		**Sg**	**14 36 32.7**	**-0.9**
	206nm,0.3s							
MRKS	**Merke**	**2.51**	**356**	Pg		**Pg**	**14 36 00.7**	**-0.4**
	52nm,0.5s							
MRKS				Lg		Lg	14 36 32.7	
	206nm,0.3s							
AAK	**Ala-Archa**	**2.52**	**18**	P		**Pb**	**14 35 58.0**	**-0.1**
	SNR=6.4							
AAK	**Ala-Archa**	**2.52**	**18**			**Pb**	**14 35 55.3**	**-2.9**
AAK	**Ala-Archa**	**2.52**	**18**	Pn		**Pb**	**14 35 57.8**	**-0.4**
	5.1nm,0.3s,baz=197,slow=7.9,SNR=9.7							
AAK					Sn	**Sg**	**14 36 31.4**	**-2.6**
	9.6nm,0.3s,baz=357,slow=15,SNR=7.0							
	12nm,0.3s							
AAK	**Ala-Archa**	**2.52**	**18**	Pn		**Pb**	**14 35 57.7**	**-0.5**
	8.0nm,0.5s							
AAK				Pg		**Pg**	**14 36 00.6**	**-0.7**
	52nm,0.6s							
AAK				⇓Lg		Lg	14 36 34.1	
	72nm,0.6s							
AAK	**Ala-Archa**	**2.52**	**18**	⇑*e*P		**Pb**	**14 35 56.9**	**-1.3**
	baz=19							
AAK				⇑*e*S		**Sb**	**14 36 28.8**	**-0.4**
	baz=19							
AAK	**Ala-Archa**	**2.52**	**18**	PN		**Pb**	**14 35 55.3**	**-2.9**
KBK	**Karagaybulak**	**2.67**	**25**	P		**Pg**	**14 36 06.3**	**+2.2**
	SNR=15							
KBK	**Karagaybulak**	**2.67**	**25**	⇑*e*P		**Pb**	**14 35 59.0**	**-1.6**
	baz=25							
KBK				⇑*e*S		**Sb**	**14 36 32.4**	**-0.9**
	baz=25							
KBK	**Karagaybulak**	**2.67**	**25**	PN		**Pb**	**14 35 59.0**	**-1.6**
KBK					S	**Sb**	**14 36 32.4**	**-0.9**
GAR	**Garm**	**2.72**	**244**	Pn		**Pb**	**14 35 59.2**	**-2.2**
GAR	**Garm**	**2.72**	**244**	⇑*e*P		**Pn**	**14 35 56.1**	**-0.3**
	baz=45							
GAR				⇑*e*S		**Sn**	**14 36 27.4**	**-1.8**
	baz=45							
GAR	**Garm**	**2.72**	**244**	PN		**Pn**	**14 35 56.1**	**-0.3**
GAR					S	**Sn**	**14 36 27.4**	**-1.8**
FRU1	**Bishkek**	**2.72**	**19**	⇑*e*P		**Pb**	**14 35 59.9**	**-1.6**
	baz=20							
FRU1				⇑*e*S		**Sb**	**14 36 33.7**	**-1.0**
	baz=20							
FRU1	**Bishkek**	**2.72**	**19**	PN		**Pb**	**14 35 59.9**	**-1.6**
FRU1					S	**Sb**	**14 36 33.7**	**-1.0**
ULHL	**Ulahol**	**2.91**	**46**	P		**Pg**	**14 36 08.2**	**-0.5**
	SNR=11							
ULHL	**Ulahol**	**2.91**	**46**	⇓*e*P		**Pb**	**14 36 02.5**	**-2.3**
	baz=45							
ULHL				⇓*e*S		**Sb**	**14 36 38.3**	**-2.0**
	baz=45							
ULHL	**Ulahol**	**2.91**	**46**	PN		**Pb**	**14 36 02.5**	**-2.3**
ULHL					S	**Sb**	**14 36 38.3**	**-2.0**
CHMG	**Chimgan**	**2.91**	**298**	P		**Pb**	**14 36 03.2**	**-1.7**
CHMG					S	**Sb**	**14 36 43.3**	**+2.9**
CHMS	**Chumysh**	**2.92**	**19**	P		**Pg**	**14 36 09.1**	**0.0**
	SNR=5.4							
CHMS	**Chumysh**	**2.92**	**19**	⇑Pn		**Pb**	**14 36 02.7**	**-2.3**
	5.8nm,0.8s							
CHMS				⇑Pg		**Pg**	**14 36 08.7**	**-0.3**
	17nm,0.6s							
CHMS				⇑Lg		Lg	14 36 47.3	
	40nm,0.5s							
CHMS	**Chumysh**	**2.92**	**19**	⇑*e*P		**Pb**	**14 36 02.5**	**-2.5**
	baz=20							
CHMS				⇑*e*S		**Sb**	**14 36 38.3**	**-2.3**
	baz=20							
CHMS	**Chumysh**	**2.92**	**19**	*e*PN		**Pb**	**14 36 02.5**	**-2.5**
CHMS					S	**Sb**	**14 36 38.3**	**-2.3**
BOOM	**Boomskoye usch**	**2.93**	**39**	⇑*e*P		**Pb**	**14 36 02.4**	**-2.7**
	baz=39							
BOOM				⇑*e*S		**Sb**	**14 36 39.1**	**-1.8**
	baz=39							
USP	**Ospenovka**	**3.12**	**14**	P		**Pg**	**14 36 11.6**	**-1.3**
	SNR=6.7							
USP	**Ospenovka**	**3.12**	**14**	⇓*e*P		**Pb**	**14 36 05.1**	**-3.3**
	baz=15							
USP				⇓*e*S		**Sb**	**14 36 43.0**	**-3.4**
	baz=15							
USP	**Ospenovka**	**3.12**	**14**	*e*PN		**Pb**	**14 36 05.1**	**-3.3**
USP					S	**Sb**	**14 36 43.0**	**-3.4**
TKM2	**Tokmak 2**	**3.13**	**30**	P		**Pb**	**14 36 06.0**	**-2.5**
	SNR=7.5							
TKM2	**Tokmak 2**	**3.13**	**30**	⇓Pn		**Pb**	**14 36 05.7**	**-2.8**
	1.9nm,0.4s							
TKM2				⇑Pg		**Pg**	**14 36 11.7**	**-1.2**
	21nm,0.8s							
TKM2				⇑Lg		Lg	14 36 53.6	
	66nm,0.9s							
TKM2	**Tokmak 2**	**3.13**	**30**	⇑*e*P		**Pb**	**14 36 05.5**	**-3.0**
	baz=31							
TKM2				⇑*e*S		**Sb**	**14 36 43.6**	**-3.0**
	baz=31							
TKM2	**Tokmak 2**	**3.13**	**30**	*e*PN		**Pb**	**14 36 05.5**	**-3.0**
TKM2					S	**Sb**	**14 36 43.6**	**-3.0**
IUG	**Iuzhnay**	**3.20**	**308**	*e*P		**Pg**	**14 36 12.6**	**-1.8**
	181nm,0.2s							
IUG				*e*S		**Sg**	**14 36 53.5**	**-2.4**
	740nm,0.3s							
IUG	**Iuzhnay**	**3.20**	**308**	Pg		**Pg**	**14 36 12.6**	**-1.8**
	507nm,0.7s							
IUG				Lg		Lg	14 36 53.5	
	740nm,0.6s							
TGS	**TashGRES**	**3.20**	**293**	P		**Pb**	**14 36 08.2**	**-1.5**
TGS					S	**Sg**	**14 36 52.6**	**-3.3**
KUMR	**Kumaryk**	**3.33**	**289**	P		**Pb**	**14 36 08.1**	**-3.8**
KUMR					S	**Sb**	**14 36 52.5**	**+0.2**
TAS	**Tashkent**	**3.33**	**290**	P		**Pb**	**14 36 08.4**	**-3.5**
TAS					S	**Sb**	**14 36 53.0**	**+0.7**
KST	**Kastek**	**3.38**	**33**	*e*P		**Pg**	**14 36 16.7**	**-0.9**
	9.3nm,0.2s							
KST				*e*S		**Sg**	**14 37 00.5**	**-0.9**
	72nm,0.6s							
KST	**Kastek**	**3.38**	**33**	Pg		**Pg**	**14 36 16.7**	**-0.9**
	10nm,0.6s							
KST				Lg		Lg	14 37 00.5	
	72nm,0.6s							
KDJ	**Kajisay**	**3.39**	**55**	⇑*e*P		**Pb**	**14 36 09.5**	**-3.5**
	baz=55							
KDJ				⇑*e*S		**Sb**	**14 36 49.9**	**-4.3**
	baz=55							
DGS	**Degeres**	**3.47**	**29**	*e*P		**Pg**	**14 36 19.0**	**-0.4**
	19nm,0.3s							
DGS				*e*S		**Sg**	**14 37 04.5**	**+0.2**
	78nm,0.6s							
DGS	**Degeres**	**3.47**	**29**	Pg		**Pg**	**14 36 19.0**	**-0.4**
	26nm,0.5s							
DGS				Lg		Lg	14 37 04.7	
	78nm,0.6s							
CHM	**Chimkent**	**3.56**	**307**	*e*P		**Pg**	**14 36 19.4**	**-1.8**
	80nm,0.1s							
CHM				*e*S		**Sg**	**14 37 05.1**	**-2.3**
	381nm,0.4s							
KK31	**Karatay Array**	**3.61**	**323**	Pn		**Pn**	**14 36 10.2**	**+1.7**
KK31	**Karatay Array**	**3.61**	**323**	Pn		**Pn**	**14 36 10.7**	**+2.2**
	0.7nm,0.3s,baz=128,slow=12,SNR=104							
KK31				⇑Pg		**Pb**	**14 36 18.6**	**+2.0**
	15nm,0.5s,baz=134,slow=13,SNR=52							
KK31				⇓Lg		Lg	14 37 07.0	
	47nm,0.5s,baz=132,slow=29,SNR=7.7							
KK31	**Karatay Array**	**3.61**	**323**	PN		**Pn**	**14 36 10.3**	**+1.7**
KKAR	**Karatay Array**	**3.61**	**323**	Pn		**Pn**	**14 36 09.9**	**+1.4**
KKAR	**Karatay Array**	**3.61**	**323**	Pn		**Pn**	**14 36 10.0**	**+1.4**
KKAR	**Karatay Array**	**3.61**	**323**	⇑*e*P		**Pn**	**14 36 10.6**	**+2.1**
	baz=25							
KKAR				⇑*e*S		**Sn**	**14 36 52.4**	**+1.4**
	baz=25							
KKAR	**Karatay Array**	**3.61**	**323**	PN		**Pn**	**14 36 10.6**	**+2.1**
KKAR					S	**Sn**	**14 36 52.4**	**+1.4**
MTBS	**Maitube**	**3.65**	**37**	*e*P		**Pg**	**14 36 21.8**	**-1.1**
	20nm,0.2s							
MTBS				*e*S		**Sg**	**14 37 09.2**	**-1.0**
	39nm,0.5s							
MTBS	**Maitube**	**3.65**	**37**	Pg		**Pg**	**14 36 21.8**	**-1.1**
	22nm,0.5s							
MTBS				Lg		Lg	14 37 09.2	
	39nm,0.5s							
CHGR	**Chuyangaron**	**3.68**	**246**	Pn		**Pn**	**14 36 12.3**	**+2.7**
CHGR	**Chuyangaron**	**3.68**	**246**	⇓*e*P		**Pn**	**14 36 09.6**	**0.0**
	baz=47							
CHGR				⇓*e*S		**Sn**	**14 36 50.6**	**-2.2**
	baz=47							
CHGR	**Chuyangaron**	**3.68**	**246**	*e*PN		**Pn**	**14 36 09.6**	**0.0**
CHGR					S	**Sn**	**14 36 50.6**	**-2.2**
KRBS	**Karabastau**	**3.83**	**25**	*e*P		**Pg**	**14 36 25.2**	**-1.1**
	12nm,0.5s							
KRBS				*e*S		**Sg**	**14 37 15.2**	**-0.8**
	15nm,0.3s							
KRBS	**Karabastau**	**3.83**	**25**	Pg		**Pg**	**14 36 25.2**	**-1.1**
	12nm,0.5s							
KRBS				Lg		Lg	14 37 15.2	
	20nm,0.8s							
TNSS	**Tian-Shan**	**3.83**	**42**	*e*P		**Pg**	**14 36 25.5**	**-0.9**
	19nm,0.3s							
TNSS				*e*S		**Sg**	**14 37 15.6**	**-0.5**
	48nm,0.6s							
TNSS	**Tian-Shan**	**3.83**	**42**	Pg		**Pg**	**14 36 25.5**	**-0.9**
	21nm,0.3s							
TNSS				Lg		Lg	14 37 15.6	
	48nm,0.6s							
BRLS	**Borolday**	**3.88**	**317**	*e*P		**Pb**	**14 36 23.8**	**+2.5**
	35nm,0.2s							
BRLS				*e*S		**Sb**	**14 37 12.8**	**+4.6**
	131nm,0.2s							
BRLS	**Borolday**	**3.88**	**317**	Pg		**Pb**	**14 36 23.8**	**+2.5**
	35nm,0.4s							
BRLS				Lg		Lg	14 37 12.8	
	135nm,0.4s							
KNDC	**Almaty**	**3.97**	**40**	⇑Pg		**Pg**	**14 36 27.5**	**-1.6**
	71nm,0.8s							
KNDC				⇑Lg		Lg	14 37 20.8	
	82nm,0.6s							
KNDC	**Almaty**	**3.97**	**40**	PN		**Pg**	**14 36 27.5**	**-1.6**
MDOK	**Medeo**	**3.98**	**42**	*e*P		**Pg**	**14 36 28.2**	**-0.9**
	15nm,0.3s							
MDOK				*e*S		**Sg**	**14 37 20.1**	**-0.5**
	58nm,0.7s

3.1nm,0.1s
KUU eS **Sg** **14 37 28.1 -0.9**
37nm,0.2s
KUU Kurty 4.24 30 Pg **Pg** **14 36 32.8 -1.4**
12nm,0.3s
KUU Lg Lg 14 37 28.1
38nm,0.7s
PRZ Przheval'sk 4.35 57⇓eP **Pn** **14 36 22.5 +3.6**
baz=57
PRZ ⇓eS **Sn** **14 37 13.0 +3.5**
baz=57
PRZ Przheval'sk 4.35 57 ePN **Pn** **14 36 22.5 +3.6**
PRZ S **Sn** **14 37 13.0 +3.5**
CHKK Chushkaly 4.47 35 eP **Pg** **14 36 37.0 -1.6**
1.6nm,0.1s
CHKK eS **Sg** **14 37 35.5 -1.0**
21nm,0.3s
CHKK Chushkaly 4.47 35 Pg **Pg** **14 36 37.0 -1.6**
5.6nm,0.5s
CHKK Lg Lg 14 37 35.5
21nm,0.5s
SATY Saty 4.66 51 eP **Pg** **14 36 41.4 -0.8**
10nm,0.2s
SATY eS **Sg** **14 37 42.7 +0.1**
32nm,0.5s
SATY Saty 4.66 51 Pg **Pg** **14 36 41.4 -0.8**
18nm,0.8s
SATY Lg Lg 14 37 42.7
40nm,1.0s
KURS Kuram 4.79 46 eP **Pg** **14 36 43.4 -1.3**
9.0nm,0.3s
KURS eS **Sg** **14 37 46.2 -0.6**
23nm,0.4s
KURS Kuram 4.79 46 Pg **Pg** **14 36 43.4 -1.3**
12nm,0.7s
KURS Lg Lg 14 37 46.2
24nm,1.1s
BTLS Baital 4.82 5 eP **Pg** **14 36 43.2 -2.0**
2.1nm,0.1s
BTLS eS **Sg** **14 37 46.0 -1.6**
26nm,0.4s
BTLS Baital 4.82 5 Pg **Pg** **14 36 43.2 -2.0**
2.1nm,0.3s
BTLS Lg Lg 14 37 46.0
26nm,0.4s
KPKS Kokpek 5.07 49 eP **Pg** **14 36 48.5 -1.5**
9.5nm,0.2s
KPKS eS **Sg** **14 37 55.3 -0.3**
79nm,0.5s
KPKS Kokpek 5.07 49 Pg **Pg** **14 36 48.6 -1.5**
10nm,0.3s
KPKS Lg Lg 14 37 55.3
79nm,0.5s
UZB Uzynbulak 5.08 53 eP **Pg** **14 36 49.0 -1.3**
6.7nm,0.3s
UZB eS **Sg** **14 37 55.6 -0.6**
24nm,0.7s
UZB Uzynbulak 5.08 53 Pg **Pg** **14 36 49.0 -1.3**
6.8nm,0.5s
UZB Lg Lg 14 37 55.8
24nm,0.7s
ARXS Arharly 5.13 38 eP **Pg** **14 36 49.2 -2.0**
4.9nm,0.3s
ARXS eS **Sg** **14 37 56.1 -1.5**
24nm,0.3s
BLB Baldybastay 5.37 42 Pg **Pg** **14 36 53.1 -2.6**
26nm,0.6s
BLB Lg Lg 14 38 03.1
37nm,0.6s
PDGK Podgornoye 5.47 54 Pg **Pg** **14 36 56.6 -1.1**
5.1nm,0.7s
PDGK Lg Lg 14 38 09.1
14nm,0.9s
PDGK Podgornoye 5.47 54⇓Pg **Pg** **14 36 54.5 -3.2**
7.3nm,0.6s
PDGK ⇑Lg Lg 14 38 10.5
43nm,0.9s
PDGK Podgornoye 5.47 54 PN **Pg** **14 36 54.5 -3.2**
KNOS Konyrlen 5.92 44 Pg **Pg** **14 37 04.9 -1.3**
1.5nm,0.3s
KNOS Lg Lg 14 38 23.2
16nm,0.9s
KTMS Ketmen 6.07 56 eP **Pg** **14 37 08.4 -0.8**
0.7nm,0.1s
KTMS eS **Sg** **14 38 29.3 +1.5**
5.8nm,0.2s
KTMS Ketmen 6.07 56 Pg **Pg** **14 37 08.4 -0.8**
2.4nm,0.6s
KTMS Lg Lg 14 38 29.3
6.2nm,0.5s
DJR Jarkent 6.23 47 eP **Pg** **14 37 10.2 -2.0**
1.6nm,0.1s
DJR eS **Sg** **14 38 32.3 -0.6**
12nm,0.3s
DJR Jarkent 6.23 47 Pg **Pg** **14 37 10.2 -2.0**
2.6nm,0.4s
DJR Lg Lg 14 38 32.4
12nm,0.5s
NIL Nilore 6.58 181 **Pn** **14 36 52.8 +3.4**
NIL Nilore 6.58 181 PN **Pn** **14 36 52.8 +3.4**
KBL Kabul 6.68 213 **Pn** **14 36 53.7 +2.7**
KBL Kabul 6.68 213 PN **Pn** **14 36 53.7 +2.7**
DZN Dzhankel'dy 7.72 278 P Pn 14 37 09.5 +4.5
DZN S Sb 14 38 49.5 -9.0
OTUK Ortayu 8.04 355 Pg **Pg** **14 37 43.1 -3.7**
0.9nm,0.3s
OTUK Lg Lg 14 39 28.4
3.8nm,0.5s
OTUK Ortayu 8.04 355⇓Lg Lg 14 39 28.6
43nm,1.2s
MKAR Makanchi Array 9.17 42 Pn **Pn** **14 37 28.6 +3.7**
0.1nm,0.3s,baz=232,slow=16,SNR=1.1
MKAR Lg Lg 14 40 07.5
0.1nm,0.3s,baz=226,slow=25,SNR=1.5
0.2nm,0.5s
KURBB Kurchatov Arra 10.98 17 Pn **Pn** **14 37 49.0 -0.6**
baz=210,slow=11,SNR=1.9
KURBB Lg Lg 14 41 01.0
baz=190,slow=28,SNR=6.5
0.1nm,0.3s
KURK Kurchatov 11.08 17 ⇑Lg Lg 14 41 06.9
13nm,1.1s
KURK Kurchatov 11.08 17 P **Pn** **14 37 49.0 -2.0**
WMQ Urumqi 11.19 67 eP Pn 14 37 57.8 +5.3
BVA0 Borovoye Array 12.96 352⇓Lg Lg 14 42 04.2
7.8nm,0.9s
BVAR Borovoye Array 12.96 352 Lg Lg 14 41 57.6
baz=163,slow=20,SNR=2.4
AKTO Aktyubinsk 14.86 318 Pn Pn 14 38 28.8 -14
0.1nm,0.3s,baz=120,slow=12,SNR=2.4
0.3nm,0.4s
KBZ Khabaz 22.91 289 LR LR 14 51 52.6
comp=Z,19nm,18.7s,baz=174,slow=46
PZH PanZhiHua 27.18 112 P **P** **14 41 00.6 +4.3**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,4.1s
HHC Hu-ho-hao-te 28.82 76 eP **P** **14 41 13.9 +3.0**
HHC S **S** **14 45 57.9 -2.6**
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,100nm,5.1s
HHC LR LR
comp=N,81nm,13.8s
HHC LR LR
comp=E,98nm,13.0s
HHC LR LR
comp=Z,120nm,13.8s
GYA Guiyang 30.77 106 P **P** **14 41 31.9 +3.6**
GYA pmax pmax
comp=Z,18nm,0.6s
NJ2 Nanjing 37.23 88 eP **P** **14 42 26.5 +2.4**
NJ2 pmax pmax
comp=Z,15nm,0.7s
GRA1 Grafenberg Arr 43.87 304 P **P** **14 43 18.0 -0.8**
GRF Grafenberg Arr 43.87 304 P **P** **14 43 18.0 -0.8**
GRF pmax pmax
comp=Z,12nm,0.6s
GRFO Grafenberg 43.87 304 P **P** **14 43 17.9 -0.9**
GRFO IAmb IAmb 14 43 18.1
comp=Z,11nm,0.6s
GRFO Grafenberg 43.87 304 P **P** **14 43 17.9 -0.9**
GRFO pmax pmax
comp=Z,11nm,0.6s
TORD Torodi Ar. Bea 67.73 269 P P 14 45 59.3 -11
comp=Z,0.6nm,0.9s,baz=62,slow=7.9,SNR=3.1
comp=Z,0.6nm,0.9s
IMAR Indian Mountai 68.02 19 P **P** **14 46 10.7 -0.8**
WRA Warramunga Arr 82.41 124 P **P** **14 47 33.1 -1.8**
comp=Z,0.5nm,0.8s,baz=328,slow=4.8,SNR=5.5
comp=Z,0.5nm,0.8s
WRAB Tennant Creek 82.41 124 P **P** **14 47 33.2 -1.7**
WRAB Tennant Creek 82.41 124 P **P** **14 47 33.2 -1.7**
WRAB pmax pmax
comp=Z,9.0nm,1.5s
WB2 Warramunga Arr 82.42 124 P **P** **14 47 33.5 -1.5**
WB2 IAmb IAmb 14 47 35.2
comp=Z,9.1nm,1.4s
ASAR Alice Springs 84.88 127 P **P** **14 47 46.3 -1.2**
ASAR Alice Springs 84.88 127 P **P** **14 47 45.6 -1.9**
comp=Z,0.4nm,0.7s,baz=322,slow=6.1,SNR=7.1
comp=Z,0.4nm,0.7s
ASAR Alice Springs 84.88 127 P **P** **14 47 46.3 -1.2**

*IDC **17** 14:42:19.3±0.8, 10°.87N×91°.71E, h0km, mb4.2/16, mbtmp4.1/17, ML4.1/1, MS3.3/8, Error ellipse: s-maj=30.2km s-min=15.0km az=57.0*
*BJI **17** 14:42:19.7±0.0, 10°.67N×91°.83E, h22km, mb4.6/49, mB4.9/12, Ms4.3/4, Ms7 4.0/4*
*NEIC **17** 14:42:22.1±1.1, 10°.92N±0°.08×91°.81E±0°.07, h10km±1km, mb4.6/39, Error ellipse: s-maj=13.5km s-min=11.4km az=194.0*
*NDI **17** 14:42:25.6±3.3, 11°.03N×91°.76E, h52km±90km, ML4.4, MW4.6, mb4.6(NEIC)*
ISC 17 14:42:22.7±0.6, **10°.83N**±0°.08×**91°.73E**±0°.06, **h20**km, **n102**, σ**1**§**28**/104, **mb4.5**/49, **MS3.3**/7, **4C-2D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.29**	**50**		**Pn**	**14 42 44.4**	**-1.2**
PBA	**Port Blair**	**1.29**	**50**	eP	**Pn**	**14 42 44.7**	**-0.9**
PBA				eS	**Sn**	**14 43 00.0**	**-2.3**
PBA				eS	**Sb**	**14 43 03.6**	**+1.2**
PBA				IAML		14 43 15.7	
	comp=E,5μm,0.6s						
PBA				IAML		14 43 22.7	
	comp=E,5μm,0.4s						
CMAR	**Chiang Mai Arr**	**10.30**	**42**	Pn	**Pn**	**14 44 49.5**	**0.0**
CMAR	**Chiang Mai Arr**	**10.30**	**42**	Pn	**Pn**	**14 44 49.2**	**-0.3**
	comp=E,0.4nm,0.3s,baz=233,slow=15,SNR=6.7						
CMAR				LR	LR	14 49 09.9	
	comp=E,99nm,18.8s,baz=175,slow=40						
	comp=E,0.6nm,0.3s						
CHTO	**Chiang Mai**	**10.56**	**40**	Pn	**Pn**	**14 44 52.9**	**-0.2**
VIS	**Vishakhapatnam**	**10.64**	**311**	eP	**Pn**	**14 44 52.6**	**-1.5**
VIS				*i* x	x	14 45 00.0	
VIS				*ex*	x	14 45 03.5	
VIS				eS	Sn	14 46 41.4	-11
BWNR	**Bhubaneshwar**	**11.01**	**330**	*ex*	Pn	14 44 50.0	-9.1
BWNR				eS	Sn	14 46 45.9	-16
BWNR				IAML		14 46 51.8	
	comp=N,184nm,0.2s						
BWNR				IAML		14 46 53.1	
	comp=E,135nm,0.5s						
PALK	**Pallekele**	**11.45**	**253**	Pn	**Pn**	**14 45 07.0**	**+1.8**
PALK	**Pallekele**	**11.45**	**253**	LR	LR	14 49 15.8	
	comp=E,145nm,19.6s,baz=182,slow=36						
SAIH	**SAIHA**	**11.66**	**6**	eP	**Pn**	**14 45 06.0**	**-2.2**
SALM	**Salem**	**13.30**	**275**	eP	**Pn**	**14 45 32.1**	**+1.6**
SALM				eS	Sn	14 47 44.4	-13
KOD	**Kodaikanal**	**14.04**	**269**	eP	**Pn**	**14 45 42.9**	**+2.0**
KOD				*ex*	x	14 48 02.0	
HYB	**Hyderabad**	**14.36**	**299**	ePn	**Pn**	**14 45 44.6**	**-0.3**
BLSP	**Bilaspur**	**14.52**	**322**	eP	**Pn**	**14 45 45.8**	**-1.3**
BLSP				*i* x	x	14 45 56.3	
TNCH	**TengChong**	**15.53**	**24**	⇓P	**Pn**	**14 46 00.9**	**+0.2**
TNCH				pP	P	14 46 04.1	-0.9
TNCH				sP	pP	14 46 07.5	-2.7
TNCH				PP	**sP**	**14 46 13.8**	**+1.2**
TNCH				S	**Sn**	**14 48 53.8**	**+1.4**
TNCH				sS	S	14 49 00.3	-7.5
TNCH				SS	**SnSn**	**14 49 11.1**	**+5.5**
TNCH				pmax	pmax		
	comp=E,10.0nm,0.9s						
TNCH				pmax	pmax		
	comp=E,160nm,3.7s						
TNCH				LR	LR		
	comp=E,160nm,4.5s						
TNCH				LR	LR		
	comp=E,170nm,3.8s						
TNCH				LR	LR		
	comp=E,150nm,8.6s						
SLVN	**Son La**	**15.67**	**47**	P	**P**	**14 46 05.4**	**-1.1**
PZH	**PanZhiHua**	**18.23**	**30**	P	**P**	**14 46 36.3**	**+1.4**
PZH				pmax	pmax		
	comp=E,30nm,1.1s						
PZH				pmax	pmax		
	comp=E,120nm,3.9s						
LSA	**Lhasa**	**18.79**	**358**	P	**P**	**14 46 40.2**	**-1.1**
LSA				IAmb	IAmb	14 46 44.2	
	comp=Z,38nm,1.5s						
GYA	**Guiyang**	**20.99**	**40**	⇑P	**P**	**14 47 04.3**	**-0.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GOMU	**GeErMu**	**25.41**	**6**	P	**P**	**14 47 49.3**	**-0.1**
GOMU				pP	pP	14 47 54.3	-0.5
GOMU				sP	sP	14 47 57.6	+0.6
GOMU				pmax	pmax		
	comp=Z,21nm,1.1s						
ENH	**Enshi**	**25.44**	**38**	P	**P**	**14 47 47.5**	**-1.8**
H08S3	**Diego Garcia H**	**26.52**	**227**	T	T	15 15 50.4	
	baz=46,slow=76,SNR=401						
H08S2	**Diego Garcia H**	**26.52**	**227**	T	T	15 15 56.0	
	baz=46,slow=76,SNR=480						
H08S1	**Diego Carcia H**	**26.53**	**227**	T	T	15 15 57.2	
	baz=46,slow=76,SNR=319						
LZH	**Lanzhou**	**27.44**	**22**	eP	**P**	**14 48 06.3**	**-1.2**
LZH				pP	sP	14 48 16.8	+1.4
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
XAN	**Xi'an**	**27.95**	**32**	⇑P	**P**	**14 48 09.8**	**-2.2**
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
GTA	**Gaotai**	**29.36**	**13**	⇑P	**P**	**14 48 24.8**	**+0.3**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YULB	**Yu-li**	**30.82**	**62**	P	**P**	**14 48 37.9**	**+0.4**
KSH	**Kashi**	**31.82**	**337**	P	**P**	**14 48 45.4**	**-0.9**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NJ2	**Nanjing**	**32.75**	**46**	eP	**P**	**14 48 54.0**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,13nm,0.8s						
WMQ	**Urumqi**	**33.06**	**355**	eP	**P**	**14 48 59.3**	**+2.3**
HNS	**HongShan**	**33.57**	**34**	⇓P	**P**	**14 49 00.6**	**-0.8**
HNS				pmax	pmax		
	comp=Z,17nm,0.9s						
BTO	**Baotou**	**33.78**	**25**	eP	**P**	**14 49 04.4**	**+1.0**
BTO				pP	**sP**	**14 49 14.1**	**+2.8**
BTO				sP	**pwP**	**14 49 18.0**	**+6.8**
BTO				pmax	pmax		
	comp=Z,14nm,1.0s						
BTO				pmax	pmax		
	comp=Z,250nm,7.6s						
ARSB	**Arslanbob**	**34.57**	**335**	P	**P**	**14 49 11.2**	**+1.0**
HHC	**Hu-ho-hao-te**	**34.65**	**27**	eP	**P**	**14 49 12.4**	**+1.5**
HHC				sP	sP	14 49 20.1	+1.3
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.3s						
HHC				LR	LR		
	comp=Z,180nm,10.7s						
HHC				LR	LR		
	comp=Z,170nm,10.3s						
HHC				LR	LR		
	comp=Z,230nm,11.1s						
AAK	**Ala-Archa**	**35.08**	**338**	LR	LR	15 06 08.1	
	comp=Z,86nm,18.9s,baz=158,slow=41						
BJT	**Baijiatuau**	**36.25**	**32**	P	**P**	**14 49 24.7**	**+0.1**
BJT				IAmb	IAmb	14 49 25.2	
	comp=Z,7.2nm,0.6s						
BJI	**Beijing**	**36.27**	**32**	P	**P**	**14 49 24.5**	**-0.2**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MK31	**Makanchi Array**	**36.73**	**349**	P	**P**	**14 49 28.4**	**-0.2**
MK31				IAmb	IAmb	14 49 29.3	
	comp=Z,6.1nm,0.8s						
MKAR	**Makanchi Array**	**36.73**	**349**	P	**P**	**14 49 28.1**	**-0.5**
MKAR	**Makanchi Array**	**36.73**	**349**	P	**P**	**14 49 28.3**	**-0.3**
	comp=Z,6.1nm,0.6s,baz=168,slow=8.2,SNR=51						
MKAR				PcP	**PcP**	**14 51 51.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=191,slow=1.5,SNR=3.4						
MKAR				LR	LR	15 06 35.0	
	comp=Z,42nm,21.5s,baz=212,slow=40						
	comp=Z,6.1nm,0.6s						
MAKZ	**Makanchi**	**36.80**	**349**	P	**P**	**14 49 29.1**	**-0.1**
MAKZ				IAmb	IAmb	14 49 29.8	
	comp=Z,5.8nm,0.7s						
KK31	**Karatay Array**	**37.08**	**334**	P	**P**	**14 49 32.1**	**+0.5**
KKAR	**Karatay Array**	**37.08**	**334**	P	**P**	**14 49 32.1**	**+0.5**
KKAR	**Karatay Array**	**37.08**	**334**	P	**P**	**14 49 32.0**	**+0.5**
KKAR				IAmb	IAmb	14 49 33.6	
	comp=Z,5.5nm,0.9s						
SONM	**Songino Array**	**38.90**	**16**	P	**P**	**14 49 46.4**	**-0.7**
SONM	**Songino Array**	**38.90**	**16**	P	**P**	**14 49 46.3**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=202,slow=8.6,SNR=19						
SONM				PcP	**PcP**	**14 51 58.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=172,slow=2.9,SNR=3.4						
	comp=Z,2.8nm,0.8s						
ULN	**Ulaanbaatar**	**39.11**	**16**	P	**P**	**14 49 48.2**	**-0.6**
XLT	**XiLinHaoTe**	**39.11**	**28**	eP	**P**	**14 49 48.3**	**-0.5**
XLT				pmax	pmax		
	comp=Z,6.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,120nm,6.0s						
TJN	**Taejon**	**41.01**	**46**	P	**P**	**14 50 03.4**	**-1.2**
KURBB	**Kurchatov Arra**	**41.14**	**347**	P	**P**	**14 50 04.6**	**-0.8**
	comp=Z,5.3nm,0.9s,baz=163,slow=7.6,SNR=32						
KURBB				PcP	**PcP**	**14 52 04.4**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=148,slow=3.4,SNR=4.5						
	comp=Z,5.3nm,0.9s						
KURK	**Kurchatov**	**41.21**	**347**	P	**P**	**14 50 05.6**	**-0.3**
KURK				IAmb	IAmb	14 50 06.9	
	comp=Z,9.2nm,1.1s						
KSRS	**Korea Array**	**41.93**	**45**	P	**P**	**14 50 10.8**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=246,slow=8.8,SNR=7.7						
	comp=Z,0.9nm,0.6s						
JNU	**Nakatsue**	**42.20**	**52**	LR	LR	15 09 40.1	
	comp=Z,43nm,21.3s,baz=202,slow=39						
ZAA0	**Zalesovo Array**	**43.36**	**354**	P	**P**	**14 50 22.7**	**-0.8**
ZAA0				IAmb	IAmb	14 50 23.9	
	comp=Z,5.8nm,0.8s						
ZALV	**Zalesovo Beam**	**43.36**	**354**	P	**P**	**14 50 22.8**	**-0.7**
	comp=Z,4.9nm,0.5s,baz=176,slow=10,SNR=22						
ZALV				LR	LR	15 11 02.5	
	comp=Z,37nm,19.6s,baz=214,slow=40						
	comp=Z,4.9nm,0.5s						
CN2	**Changchun**	**43.91**	**35**	eP	**P**	**14 50 27.3**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BVAR	**Borovoye Array**	**45.45**	**342**	P	**P**	**14 50 39.8**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=142,slow=7.5,SNR=11						
	comp=Z,1.2nm,0.5s						
BRVK	**Borovoye**	**45.52**	**342**	P	**P**	**14 50 40.4**	**-0.3**
BNX	**BinXian**	**46.20**	**34**	⇑P	**P**	**14 50 45.0**	**-1.3**
BNX				pmax	pmax		
	comp=Z,12nm,0.9s						
ABKAR	**Akbulak array**	**46.52**	**332**	P	**P**	**14 50 49.1**	**+0.4**
ABKAR				IAmb	IAmb	14 50 50.2	
	comp=Z,4.3nm,0.9s						
HEH	**HeiHe**	**49.05**	**30**	eP	**P**	**14 51 06.9**	**-1.4**
HEH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WB0	**Warramunga Arr**	**51.86**	**126**	P	**P**	**14 51 29.8**	**-0.2**
WB0				IAmb	IAmb	14 51 44.0	
	comp=Z,5.2nm,0.9s						
WRA	**Warramunga Arr**	**51.91**	**126**	P	**P**	**14 51 30.3**	**-0.1**
WRA	**Warramunga Arr**	**51.91**	**126**	P	**P**	**14 51 30.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=301,slow=9.9,SNR=31						
WRA				PcP	**PcP**	**14 52 42.3**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=314,slow=3.1,SNR=6.3						
	comp=Z,0.3nm,0.3s						
WRAB	**Tennant Creek**	**51.91**	**126**	P	**P**	**14 51 30.4**	**0.0**
WRAB				IAmb	IAmb	14 51 44.7	
	comp=Z,4.4nm,0.8s						
WB2	**Warramunga Arr**	**51.91**	**126**	P	**P**	**14 51 30.3**	**-0.1**
WB2				IAmb	IAmb	14 51 44.6	
	comp=Z,4.9nm,0.8s						
WR0	**Warramunga Arr**	**52.08**	**126**	P	**P**	**14 51 31.6**	**0.0**
WR0				IAmb	IAmb	14 51 45.7	
	comp=Z,8.2nm,0.8s						
ARU	**Arti**	**52.26**	**337**	P	**P**	**14 51 32.0**	**-0.5**
	comp=Z,2.9nm,0.2s,baz=139,slow=7.3,SNR=5.1						
ARU				LR	LR	15 15 01.4	
	comp=Z,57nm,18.7s,baz=134,slow=38						
	comp=Z,2.9nm,0.2s						
ASAR	**Alice Springs**	**53.62**	**130**	P	**P**	**14 51 43.2**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=305,slow=7.4,SNR=20						
ASAR				PcP	**PcP**	**14 52 49.9**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=315,slow=4.4,SNR=6.6						
	comp=Z,1.1nm,0.7s						
NRIK	**Noril'sk**	**58.52**	**358**	P	**P**	**14 52 16.9**	**-0.4**
NRIK				IAmb	IAmb	14 52 17.2	
	comp=Z,2.8nm,0.6s						
NRIK	**Noril'sk**	**58.52**	**358**	P	**P**	**14 52 16.6**	**-0.7**
	comp=Z,2.2nm,0.5s,baz=154,slow=4.6,SNR=2.8						
	comp=Z,2.2nm,0.5s						
TIXI	**Tiksi**	**64.84**	**12**	P	**P**	**14 52 58.5**	**-1.4**
BURAR	**Bucovina Array**	**66.28**	**317**	P	**P**	**14 53 09.8**	**+0.1**
H04N2	**CROZET ISLANDS**	**67.08**	**209**	T	T	16 06 28.6	
	baz=44,slow=75,SNR=31						
H04N1	**CROZET ISLANDS**	**67.09**	**209**	T	T	16 06 29.1	
	baz=44,slow=75,SNR=32						
H04N3	**CROZET ISLANDS**	**67.10**	**209**	T	T	16 06 27.9	
	baz=44,slow=75,SNR=28						
LVZ	**Lovozero**	**67.99**	**340**	P	**P**	**14 53 20.0**	**-0.1**
FIA1	**FINESS Array S**	**69.00**	**332**	P	**P**	**14 53 26.6**	**+0.1**
FINES	**FINESS Array B**	**69.00**	**332**	P	**P**	**14 53 26.3**	**-0.3**
FINES	**FINESS Array B**	**69.00**	**332**	P	**P**	**14 53 26.5**	**0.0**
	comp=Z,2.7nm,0.7s,baz=94,slow=7.6,SNR=12						
	comp=Z,2.7nm,0.7s						
KEV	**Kevo**	**71.28**	**341**	P	**P**	**14 53 40.4**	**0.0**
HFS	**Hagfors**	**74.72**	**329**	P	**P**	**14 54 00.1**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=103,slow=6.5,SNR=7.3						
	comp=Z,1.8nm,0.7s						
NB2	**NORSAR Subarra**	**76.01**	**330**	P	**P**	**14 54 07.7**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=97,slow=5.3						
NOA	**NORSAR Array B**	**76.01**	**330**	P	**P**	**14 54 07.4**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=94,slow=5.6,SNR=6.3						
	comp=Z,0.9nm,0.7s						
EKA	**Eskdalemuir Ar**	**83.95**	**325**	P	**P**	**14 54 51.0**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=81,slow=5.2,SNR=4.6						
	comp=Z,0.7nm,0.6s						
G16K	**Koyuk River**	**86.75**	**24**	P	**P**	**14 55 05.4**	**+0.3**
G16K				IAmb	IAmb	14 55 09.1	
	comp=Z,7.1nm,1.2s						
ESDC	**Sonseca Array**	**87.51**	**310**	P	**P**	**14 55 08.9**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=78,slow=6.7,SNR=4.1						
ESDC				LR	LR	15 36 38.2	
	comp=Z,14nm,20.9s,baz=143,slow=37						
	comp=Z,0.8nm,0.9s						
K15K	**Wolf Creek Mou**	**88.12**	**27**	P	**P**	**14 55 11.9**	**+0.1**
K15K				IAmb	IAmb	14 55 24.7	
	comp=Z,8.8nm,1.4s						
J16K	**Anvik River**	**88.18**	**26**	P	**P**	**14 55 12.6**	**+0.5**
J16K				IAmb	IAmb	14 55 13.4	
	comp=Z,5.8nm,0.8s						
G19K	**Purcell Mounta**	**88.50**	**22**	P	**P**	**14 55 13.7**	**+0.1**
G19K				IAmb	IAmb	14 55 14.1	
	comp=Z,3.3nm,0.8s						
E21K	**Killik River**	**88.62**	**20**	P	**P**	**14 55 13.9**	**-0.2**
E21K				IAmb	IAmb	14 55 14.5	
	comp=Z,3.4nm,0.9s						
M16K	**Timber Creek**	**89.72**	**27**	P	**P**	**14 55 19.7**	**+0.3**
M16K				IAmb	IAmb	14 55 20.1	
	comp=Z,4.2nm,0.9s						
IMAR	**Indian Mountai**	**89.81**	**22**	P	**P**	**14 55 19.7**	**0.0**
J19K	**Poorman**	**89.96**	**24**	P	**P**	**14 55 21.0**	**+0.6**
J19K				IAmb	IAmb	14 55 22.0	
	comp=Z,5.8nm,1.1s						
J20K	**Nowinta River**	**90.46**	**24**	P	**P**	**14 55 23.5**	**+0.7**
J20K				IAmb	IAmb	14 55 24.3	
	comp=Z,3.3nm,0.9s						
CAST	**Castle Rocks**	**91.62**	**24**	P	**P**	**14 55 28.5**	**+0.2**
CAST				IAmb	IAmb	14 55 29.3	
	comp=Z,3.4nm,0.9s						
N19K	**Bonanza Creek**	**91.81**	**27**	P	**P**	**14 55 29.7**	**+0.5**
ILAR	**Eielson Array**	**92.90**	**21**	P	**P**	**14 55 32.7**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=298,slow=4.1,SNR=9.0						
	comp=Z,0.6nm,0.7s						
PDAR	**Pinedale Array**	**123.22**	**19**	PKP	**PKPdf**	**15 01 18.0**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=329,slow=1.6,SNR=2.7						
NVAR	**Mina Array Bea**	**123.54**	**28**	PKP	**PKiKP**	**15 01 19.8**	**+0.1**

comp=Z,0.8nm,0.7s,baz=356,slow=1.4,SNR=5.8
TXAR Lajitas Array 137.40 20 PKP **PKiKP 15 01 47.2 -0.5**
comp=Z,0.3nm,0.6s,baz=180,slow=2.3,SNR=3.9

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*IDC **17** 14:44:06.2±10.0, 18.°99N×108.°87W, h0km, mb3.3/3, mbtmp3.3/4, ML3.1/1, MS3.1/9, Error ellipse: s-maj=166.2km s-min=71.8km az=151.0*
*MEX **17** 14:44:23.1±0.3, 19.°92N×107.°97W, h5km, MD4.1*
ISC 17 14:44:13.5±2.6, 19.°3N±0.°3×108.°5W±0.°1, h22km, n24, σ3°27/17, MS3.0/4, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**3.23**	**86**	*eP*	**Pn**	**14 45 05.6**	**+2.8**
CJM				*eS*	**Sn**	**14 45 38.4**	**-2.2**
CIHU	**Emiliano Zapat**	**3.51**	**90**	*eP*	**Pn**	**14 45 10.0**	**+3.2**
CIHU				*eS*	**Sn**	**14 45 47.7**	**0.0**
CDAR	**Ciudad de Arme**	**4.21**	**94**	*eP*	**Pn**	**14 45 20.1**	**+3.7**
CEGR	**Campo Tres**	**4.34**	**88**	*eP*	**Pn**	**14 45 21.8**	**+3.5**
CEGR				*eS*	**Sn**	**14 46 09.2**	**+0.9**
COIG	**Colima**	**4.50**	**91**	*eP*	**Pn**	**14 45 24.1**	**+3.6**
SOMAC	**Volcano de Col**	**4.56**	**86**	*eP*	**Pn**	**14 45 25.5**	**+4.0**
SOMAC				*eS*	**Sn**	**14 46 13.4**	**-0.6**
MNGA	**Volcan de Coli**	**4.56**	**87**	*eP*	**Pn**	**14 45 25.5**	**+4.0**
INCO	**Volcan de Coli**	**4.58**	**86**	*i P*	Pn	14 45 28.2	+6.4
INCO				*i S*	**Sn**	**14 46 19.3**	**+4.7**
JUBC	**Volcan de Coli**	**4.62**	**86**	*eP*	Pn	14 45 28.3	+6.1
JUBC				*eS*	**Sn**	**14 46 14.1**	**-1.2**
LPIG	**La Paz**	**5.09**	**341**	LR	LR	14 47 05.5	
	comp=Z,197nm,20.9s,baz=198,slow=34						
TXAR	**Lajitas Array**	**10.91**	**23**	Pn	**Pn**	**14 46 52.0**	**+3.5**
	baz=186,slow=15,SNR=3.9						
	0.3nm,0.7s						
CMIG	**Matias Romero**	**13.08**	**97**	LR	LR	14 52 06.2	
	comp=Z,48nm,19.6s,baz=228,slow=36						
ANMO	**Albuquerque**	**15.70**	**6**	LR	LR	14 53 34.8	
	comp=Z,87nm,18.5s,baz=286,slow=36						
PFO	**Pinyon Flats O**	**15.96**	**335**	LR	LR	14 53 10.3	
	comp=Z,98nm,20.9s,baz=166,slow=34						
TEIG	**Tepich**	**19.02**	**84**	LR	LR	14 57 00.5	
	comp=Z,43nm,18.0s,baz=186,slow=40						
NVAR	**Mina Array Bea**	**20.91**	**338**	P	**P**	**14 48 52.2**	**-2.5**
	1.8nm,0.9s,baz=156,slow=12,SNR=11						
NVAR				LR	LR	14 55 55.5	
	comp=Z,62nm,19.9s,baz=168,slow=34						
	1.8nm,0.9s						
ELK	**Elko**	**22.16**	**346**	LR	LR	14 57 29.8	
	comp=Z,50nm,18.3s,baz=216,slow=36						
PDAR	**Pinedale Array**	**23.43**	**358**	P	**P**	**14 49 18.9**	**-2.5**
	0.5nm,0.7s,baz=155,slow=9.0,SNR=5.9						
	0.5nm,0.7s						
YBH	**Yreka Blue Hor**	**25.45**	**335**	LR	LR	14 58 07.5	
	comp=Z,34nm,18.0s,baz=194,slow=33						
SJG	**San Juan**	**40.02**	**85**	LR	LR	15 09 32.2	
	comp=Z,29nm,19.4s,baz=176,slow=38						
ILAR	**Eielson Array**	**52.14**	**340**	P	**P**	**14 53 19.4**	**-2.5**
	0.4nm,0.7s,baz=148,slow=5.3,SNR=7.5						
	0.4nm,0.7s						
H03N2	**Juan Fernandez**	**59.52**	**151**	T	T	15 59 30.7	
	baz=329,slow=77,SNR=7.0						
H03N1	**Juan Fernandez**	**59.53**	**151**	T	T	15 59 25.8	
	baz=329,slow=77,SNR=7.1						
H03N3	**Juan Fernandez**	**59.54**	**151**	T	T	15 59 43.5	
	baz=329,slow=77,SNR=8.1						

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*ISK **17** 14:45:47.8, 34.°87N×28.°48E, h7km, ML2.5/13*
*AFAD **17** 14:45:50.7±0.0, 35.°16N×28.°33E, h16km±1km, ML2.3*
*GII **17** 14:45:51.2±0.1, 34.°341N±0.°005×29.°072E±0.°008, h6km, Mws2.8, confirmed*
ISC 17 14:45:44.3±1.7, 34.°59N±0.°05×28.°57E±0.°06, h16km±14km, n52, σ1°82/67, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.50**	**310**	Pn	**Pg**	**14 46 12.7**	**-0.5**
KARP				Sn	**Sn**	**14 46 30.8**	**+1.0**
ARG	**Arkhangelos**	**1.66**	**347**	Pn	**Pn**	**14 46 14.0**	**+1.2**
AKAS	**Kas**	**1.84**	**27**	Pn	**Pb**	**14 46 17.7**	**0.0**
AKAS				Sn	**Sn**	**14 46 39.8**	**+1.4**
AKAS	**Kas**	**1.84**	**27**	P	**Pb**	**14 46 17.7**	**0.0**
AKAS				S	**Sn**	**14 46 39.5**	**+1.1**
AKAS				*i* AML	AML	14 46 42.0	
	comp=N,74nm,0.9s						
IZZE	**Mula-Seydike**	**1.92**	**16**	P	**Pb**	**14 46 18.0**	**-0.9**
IZZE				S	**Sn**	**14 46 38.8**	**-1.3**
IZZE				*i* AML	AML	14 46 44.0	
	comp=N,37nm,0.4s						
FETY	**Fethiye**	**2.08**	**11**	Pn	**Pn**	**14 46 20.1**	**+1.5**
FETY	**Fethiye**	**2.08**	**11**	P	**Pb**	**14 46 21.5**	**-0.2**
FETY				S	**Sn**	**14 46 44.8**	**+0.6**
TURN	**Turunc**	**2.19**	**353**	Pn	**Pn**	**14 46 21.6**	**+1.5**
TURN				Sn	**Sn**	**14 46 46.3**	**-0.6**
TURN	**Turunc**	**2.19**	**353**	P	**Pn**	**14 46 21.2**	**+1.1**
TURN				S	**Sn**	**14 46 44.6**	**-2.3**
DALY	**Dalyan (Mula)**	**2.22**	**2**	Pn	**Pn**	**14 46 21.9**	**+1.4**
SABU	**Mula-Dalaman**	**2.25**	**8**	P	**Pn**	**14 46 22.1**	**+1.2**
SABU				S	**Sn**	**14 46 47.4**	**-1.0**
SABU				*i* AML	AML	14 47 19.0	
	comp=N,24nm,1.0s						
AKUM	**Antalya-Kumluc**	**2.25**	**39**	P	**Pb**	**14 46 23.2**	**-1.4**
AKUM				S	**Sn**	**14 46 46.1**	**-2.2**
AKUM				*i* AML	AML	14 46 50.0	
	comp=E,28nm,0.5s						
AKUM				*i* AML	AML	14 47 11.0	
	comp=N,24nm,1.3s						
AKUM				*i* AML	AML	14 47 23.0	
	comp=Z,18nm,0.9s						
DAT	**Datca**	**2.28**	**340**	Pn	**Pn**	**14 46 22.8**	**+1.4**
DAT	**Datca**	**2.28**	**340**	P	**Pn**	**14 46 22.2**	**+0.8**
DAT				S	**Sn**	**14 46 44.6**	**-4.6**
KNIK	**Mula-Seydike**	**2.39**	**20**	P	**Pn**	**14 46 24.3**	**+1.3**
KNIK				S	**Sn**	**14 46 53.4**	**+1.4**
ELL	**Elmali**	**2.41**	**26**	Pn	**Pb**	**14 46 25.9**	**-1.5**
CAME	**Cameli-Denizli**	**2.42**	**14**	Pn	**Pn**	**14 46 25.6**	**+2.2**
YER	**Yerkesik**	**2.55**	**355**	Pn	**Pn**	**14 46 26.9**	**+1.9**
BODT	**Bodrum**	**2.67**	**338**	Pn	**Pn**	**14 46 28.1**	**+1.4**
DNZT	**Denizli-Tavas-**	**2.71**	**8**	P	**Pn**	**14 46 29.7**	**+2.5**
DNZT				S	**Sn**	**14 46 57.3**	**-2.4**
GOLH	**Golhisar**	**2.76**	**17**	P	**Pb**	**14 46 31.5**	**-1.8**
GOLH				S	**Sn**	**14 47 01.5**	**+0.5**
GOLH				*i* AML	AML	14 47 06.0	
	comp=N,16nm,0.7s						
GOLH				*i* AML	AML	14 47 08.0	
	comp=E,14nm,0.6s						
TAVA	**DENIZLI_Tavas**	**2.88**	**5**	P	**Pn**	**14 46 31.8**	**+2.1**
TAVA				S	**Sn**	**14 47 01.9**	**-2.1**
TAVA				*i* AML	AML	14 47 08.0	
	comp=E,14nm,0.4s						
TAVA				*i* AML	AML	14 47 09.0	
	comp=N,13nm,0.5s						
APMY	**Acipayam-Deniz**	**2.93**	**11**	Pn	**Pn**	**14 46 32.9**	**+2.5**
DNIZ	**Denizli-Tavas-**	**3.05**	**7**	P	**Pn**	**14 46 33.9**	**+1.9**
DNIZ				S	**Sn**	**14 47 05.3**	**-2.9**
DNIZ				*i* AML	AML	14 47 09.0	
	comp=Z,17nm,0.2s						
DNIZ				*i* AML	AML	14 47 10.0	
	comp=N,53nm,0.2s						
DNIZ				*i* AML	AML	14 47 13.0	
	comp=E,44nm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**3.39**	**351**	Pn	**Pn**	**14 46 38.6**	**+1.9**
MMC7	**Mount Meron ar**	**5.89**	**104**	P	**Pn**	**14 47 13.1**	**+2.1**
MMA0B	**Mount Meron ar**	**5.90**	**104**	S	**Sn**	**14 48 17.5**	**-1.0**
MMA0B	**Mount Meron ar**	**5.90**	**104**	P	**Pn**	**14 47 13.4**	**+2.2**
GEM	**Giv'at Ha'Em**	**6.06**	**101**	S	**Sn**	**14 48 21.2**	**-1.0**
GEM	**Giv'at Ha'Em**	**6.06**	**101**	P	**Pn**	**14 47 15.4**	**+2.2**
NATI	**Neve Ativ**	**6.10**	**101**	S	**Sn**	**14 48 22.7**	**-0.6**
NATI	**Neve Ativ**	**6.10**	**101**	P	**Pn**	**14 47 16.1**	**+2.3**
MMLI	**Mount Malkishu**	**6.11**	**109**	S	**Sn**	**14 48 22.0**	**-1.7**
MMLI	**Mount Malkishu**	**6.11**	**109**	P	**Pn**	**14 47 16.0**	**+2.0**
HMDT	**Nahal Hemdat**	**6.26**	**110**	P	**Pn**	**14 47 18.1**	**+2.0**
HMDT	**Nahal Hemdat**	**6.26**	**110**	S	**Sn**	**14 48 26.0**	**-1.3**
YTIR	**Yattir**	**6.37**	**119**	P	**Pn**	**14 47 19.8**	**+2.2**
YTIR	**Yattir**	**6.37**	**119**	S	**Sn**	**14 48 29.0**	**-1.2**
DSI	**Dead Sea**	**6.46**	**116**	P	**Pn**	**14 47 20.7**	**+2.0**
DSI	**Dead Sea**	**6.46**	**116**	S	**Sn**	**14 48 30.5**	**-1.7**
MSBI	**Mazada**	**6.58**	**118**	P	**Pn**	**14 47 22.4**	**+2.0**
MSBI	**Mazada**	**6.58**	**118**	S	**Sn**	**14 48 33.3**	**-1.6**
KRMI	**Paran Flat**	**6.86**	**129**	P	**Pn**	**14 47 26.6**	**+2.4**
KRMI	**Paran Flat**	**6.86**	**129**	S	**Sn**	**14 48 40.5**	**-1.5**
PRNI	**Paran**	**6.89**	**126**	S	**Sn**	**14 48 41.3**	**-1.4**
PRNI	**Paran**	**6.89**	**126**	P	**Pn**	**14 47 27.0**	**+2.3**
HRFI	**Mount Harif**	**7.11**	**128**	S	**Sn**	**14 48 47.1**	**-1.1**
HRFI	**Mount Harif**	**7.11**	**128**	P	**Pn**	**14 47 29.9**	**+2.1**
MBRI	**Mt Berech**	**7.20**	**130**	P	**Pn**	**14 47 31.4**	**+2.5**
MBRI	**Mt Berech**	**7.20**	**130**	S	**Sn**	**14 48 49.3**	**-1.1**
EIL	**Elat**	**7.30**	**130**	P	**Pn**	**14 47 32.8**	**+2.5**
EIL	**Elat**	**7.30**	**130**	S	**Sn**	**14 48 51.7**	**-1.3**

IDC 17 15:05:37.9±2.2, 16.°43S×175.°64E, h0km, mb3.7/4, mbtmp3.7/4, MS3.6/28, Error ellipse: s-maj=139.2km s-min=30.1km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.34**	**236**	LR	LR	15 10 49.7	
	comp=Z,231nm,18.6s,baz=214,slow=30						
RAO	**Raoul Island**	**14.07**	**156**	LR	LR	15 12 28.1	
	comp=Z,188nm,21.1s,baz=24,slow=29						
RAR	**Rarotonga**	**23.74**	**105**	LR	LR	15 20 11.5	
	comp=Z,115nm,18.6s,baz=268,slow=37						
PMG	**Port Moresby**	**28.60**	**281**	LR	LR	15 21 26.7	
	comp=Z,334nm,18.0s,baz=189,slow=33						
PPT	**Papeete**	**33.26**	**97**	LR	LR	15 22 08.8	
	comp=Z,121nm,20.1s,baz=301,slow=30						
WRA	**Warramunga Arr**	**39.33**	**258**	P	P	15 13 09.2	+0.1
	1.5nm,1.1s,baz=92,slow=9.0,SNR=3.1						
	1.5nm,1.1s						
ASAR	**Alice Springs**	**39.75**	**253**	P	P	15 13 12.6	-0.1
	2.0nm,0.9s,baz=91,slow=9.4,SNR=8.3						
ASAR				LR	LR	15 28 17.0	
	comp=Z,302nm,20.3s,baz=173,slow=34						
	2.0nm,0.9s						
JCJ	**Chichijima**	**54.10**	**323**	LR	LR	15 33 22.6	
	comp=Z,46nm,21.1s,baz=159,slow=31						
DAV	**Davao City (W)**	**54.76**	**291**	LR	LR	15 38 38.7	
	comp=Z,38nm,18.5s,baz=146,slow=36						
JHJ	**Hachijo jima 2**	**60.01**	**325**	LR	LR	15 36 30.2	
	comp=Z,28nm,19.8s,baz=98,slow=31						
VNDA	**Vanda**	**61.50**	**183**	LR	LR	15 38 18.7	
	comp=Z,62nm,19.9s,baz=342,slow=32						
MJAR	**Matsushiro Arr**	**63.45**	**327**	LR	LR	15 38 38.9	
	comp=Z,31nm,21.1s,baz=165,slow=31						
JNU	**Nakatsue**	**65.23**	**319**	LR	LR	15 40 48.0	
	comp=Z,31nm,20.7s,baz=206,slow=32						
ASAJ	**Asahikawa**	**67.40**	**335**	LR	LR	15 40 29.8	
	comp=Z,34nm,19.5s,baz=178,slow=31						
KSRS	**Korea Array**	**69.91**	**321**	LR	LR	15 42 14.8	
	comp=Z,16nm,21.2s,baz=150,slow=31						
KLR	**Kul'dur**	**76.05**	**332**	LR	LR	15 45 37.3	
	comp=Z,25nm,20.9s,baz=195,slow=32						
MA2	**Magadan**	**78.40**	**347**	LR	LR	15 47 19.7	
	comp=Z,20nm,19.8s,baz=152,slow=32						
YBH	**Yreka Blue Hor**	**81.10**	**42**	LR	LR	15 45 57.9	
	comp=Z,32nm,21.6s,baz=264,slow=30						
PFO	**Pinyon Flats O**	**81.58**	**51**	LR	LR	15 45 56.5	
	comp=Z,46nm,20.3s,baz=250,slow=30						
NVAR	**Mina Array Bea**	**82.42**	**46**	LR	LR	15 46 48.9	
	comp=Z,70nm,19.9s,baz=266,slow=30						
LPIG	**La Paz**	**82.72**	**62**	LR	LR	15 46 51.0	
	comp=Z,31nm,19.0s,baz=232,slow=30						
CMAR	**Chiang Mai Arr**	**83.04**	**291**	LR	LR	15 57 23.5	
	comp=Z,24nm,18.0s,baz=160,slow=37						
ELK	**Elko**	**85.58**	**45**	LR	LR	15 50 26.2	
	comp=Z,42nm,18.7s,baz=271,slow=31						
ILAR	**Eielson Array**	**85.85**	**15**	P	P	15 18 18.3	-0.7
	0.2nm,0.8s,baz=229,slow=5.6,SNR=1.5						
	0.2nm,0.8s						
YAK	**Yakutsk**	**86.18**	**340**	LR	LR	15 51 08.5	
	comp=Z,26nm,20.8s,baz=264,slow=32						
NEW	**Newport**	**87.77**	**38**	LR	LR	15 50 56.8	
	comp=Z,27nm,19.3s,baz=244,slow=31						
SONM	**Songino Array**	**88.78**	**321**	LR	LR	15 54 58.5	
	comp=Z,26nm,19.0s,baz=133,slow=33						
ANMO	**Albuquerque**	**89.72**	**53**	LR	LR	15 52 00.6	
	comp=Z,40nm,19.6s,baz=356,slow=31						
TXAR	**Lajitas Array**	**90.09**	**60**	P	P	15 18 40.6	+0.4
	0.6nm,0.8s,baz=235,slow=4.4,SNR=5.3						
	0.6nm,0.8s						
TIXI	**Tiksi**	**93.35**	**347**	LR	LR	15 54 47.8	
	comp=Z,23nm,20.0s,baz=180,slow=32						
CMIG	**Matias Romero**	**94.23**	**74**	LR	LR	15 51 01.8	
	comp=Z,35nm,21.5s,baz=188,slow=29						

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*IDC **17** 15:06:20.9±0.9, 31.°67N×128.°81E, h0km, mb3.7/12, mbtmp3.6/15, ML3.4/3, MS3.3/9, Error ellipse: s-maj=22.7km s-min=19.1km az=81.0*
*NIED **17** 15:06:22.0, 31.°80N×128.°88E, h24km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}=8.04; $M_{\theta\theta}$=6.62; $M_{\phi\phi}$=1.42; $M_{r\theta}$=-0.42; $M_{\theta\phi}$=5.75; $M_{\phi r}$=-2.56; Fault plane solution: M_0=9.63000×10¹⁴ NP1:ϕ_s=42.00000°, δ=53.00000°, λ=-111.00000°. NP2:ϕ_s=254.00000°, δ=42.00000°, λ=-65.00000°.*
*JMA **17** 15:06:22.0±0.2, 31.°8N±0.°6×128.°9E±0.°7, h24km±1km, MV3.7/30, SW OFF KYUSHU*
ISC 17 15:06:22.3±0.7, 31.°80N±0.°06×129.°03E±0.°06, h11km, n26, σ1°53/25, mb3.7/12, MS3.5/8, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.60**	**102**	P	**Pn**	**15 06 35.2**	**-1.5**
JSJ				S	**Sn**	**15 06 45.0**	**-1.5**
JFU	**Fukue jima 2**	**0.88**	**345**	P	**Pg**	**15 06 37.9**	**-1.4**
JFU				S	**Sg**	**15 06 49.5**	**-1.4**
NGSJ	**Nagasakinomoza**	**1.06**	**38**	P	**Pn**	**15 06 42.2**	**-0.9**
JHD	**Hondo**	**1.15**	**55**	P	**Pn**	**15 06 44.2**	**-0.2**
JTZ	**Takazaki**	**1.76**	**86**	P	**Pb**	**15 06 53.2**	**-1.3**
JYAK	**Yakushimahirau**	**2.01**	**140**	*eP*	**Pn**	**15 06 56.2**	**0.0**
JNU	**Nakatsue**	**2.04**	**49**	Pn	**Pb**	**15 06 58.5**	**-1.0**
	14nm,0.3s,baz=305,slow=5.6,SNR=97						
JNU				Sn	**Sg**	**15 07 29.9**	**+1.9**
	34nm,0.3s,baz=55,slow=19,SNR=6.9						
	31nm,0.4s						
KSRS	**Korea Array**	**5.71**	**351**	Pn	**Pn**	**15 07 46.5**	**-0.5**
	2.9nm,0.3s,baz=171,slow=14,SNR=23						
KSRS				Lg	Lg	15 09 15.6	
	2.1nm,0.3s,baz=164,slow=32,SNR=6.1						
	4.6nm,0.5s						
JCJ	**Chichijima**	**12.39**	**109**	LR	LR	15 13 50.2	
	comp=Z,33nm,19.6s,baz=263,slow=36						
KLR	**Kul'dur**	**17.53**	**6**	P	**P**	**15 10 28.7**	**+1.0**
	0.1nm,0.3s,baz=222,slow=13,SNR=1.4						
	0.7nm,0.6s						
SONM	**Songino Array**	**23.51**	**319**	P	**P**	**15 11 31.7**	**-0.6**
	2.9nm,1.0s,baz=140,slow=7.6,SNR=3.4						
SONM				LR	LR	15 21 45.8	
	comp=Z,87nm,18.6s,baz=114,slow=39						
	2.9nm,1.0s						
MA2	**Magadan**	**31.36**	**21**	LR	LR	15 24 21.5	
	comp=Z,20nm,21.0s,baz=192,slow=34						
ZALV	**Zalesovo Beam**	**38.39**	**318**	P	**P**	**15 13 45.0**	**+1.6**
	0.4nm,0.3s,baz=116,slow=6.6,SNR=2.2						
ZALV				LR	LR	15 30 40.3	
	comp=Z,38nm,20.5s,baz=120,slow=38						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**38.56**	**307**	P	**P**	**15 13 45.6**	**+0.6**
	0.3nm,0.7s,baz=92,slow=12,SNR=2.7						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**41.47**	**312**	P	**P**	**15 14 10.1**	**+1.0**
	0.2nm,0.3s,baz=98,slow=9.9,SNR=1.9						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**46.72**	**315**	P	**P**	**15 14 51.4**	**+0.3**
	0.7nm,0.6s,baz=99,slow=8.9,SNR=3.1						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**51.70**	**174**	P	**P**	**15 15 28.8**	**-0.8**
	0.5nm,0.8s,baz=354,slow=7.9,SNR=2.3						
	0.5nm,0.8s						
ARU	**Arti**	**53.54**	**319**	LR	LR	15 41 13.2	
	comp=Z,52nm,19.2s,baz=102,slow=39						
AKTO	**Aktyubinsk**	**54.52**	**312**	LR	LR	15 40 52.1	
	comp=Z,76nm,18.8s,baz=56,slow=38						
ASAR	**Alice Springs**	**55.35**	**175**	P	**P**	**15 15 55.9**	**-0.5**
	0.8nm,0.9s,baz=8.0,slow=9.4,SNR=5.7						
	0.8nm,0.9s						
ILAR	**Eielson Array**	**59.24**	**30**	P	**P**	**15 16 27.1**	**+3.7**
	0.1nm,0.5s,baz=283,slow=8.0,SNR=4.9						
	0.1nm,0.5s						
FINES	**FINESS Array B**	**68.39**	**330**	P	**P**	**15 17 23.0**	**-0.7**
	1.5nm,0.6s,baz=60,slow=8.2,SNR=2.0						
FINES				LR	LR	15 47 55.6	
	comp=Z,24nm,19.1s,baz=90,slow=36						
	1.5nm,0.6s						
AKASG	**Malin Array Be**	**71.79**	**319**	P	**P**	**15 17 43.8**	**-0.9**
	0.4nm,0.4s,baz=74,slow=6.9,SNR=1.5						
AKASG				LR	LR	15 52 04.1	
	comp=Z,37nm,20.0s,baz=52,slow=38						
	0.4nm,0.4s						
BRTR	**Keskin Array B**	**74.21**	**307**	P	**P**	**15 17 59.0**	**-0.5**
	0.5nm,0.5s,baz=75,slow=6.1,SNR=2.0						
BRTR				LR	LR	15 54 54.6	
	comp=Z,25nm,18.1s,baz=115,slow=39						
	0.5nm,0.5s						
NB2	**NORSAR Subarra**	**74.65**	**333**	P	**P**	**15 18 05.2**	**+3.7**
	comp=Z,0.3nm,0.7s,baz=51,slow=5.9						
NOA	**NORSAR Array B**	**74.65**	**333**	P	**P**	**15 18 01.2**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=50,slow=5.8,SNR=1.4						
	comp=Z,0.7nm,0.8s						

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*IDC **17** 15:20:21.3±1.0, 14.°39N×144.°40E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=39.8km s-min=12.5km az=66.0*
*NEIC **17** 15:20:23.9±0.2, 14.°4N±0.°1×144.°5E±0.°2, h10km±1km, mb4.5/8, Error ellipse: s-maj=37.7km s-min=9.9km az=66.0*
ISC 17 15:20:25.6±0.7, 14.°4N±0.°1×144.°4E±0.°2, h27km, n26, σ0°83/21, mb4.0/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.91**	**146**		**Pn**	**15 20 40.8**	**-1.8**
GUMO	**Guam**	**0.91**	**146**	Pn	**Pn**	**15 20 41.2**	**-1.4**
	27nm,0.3s,baz=317,slow=17,SNR=36						
GUMO				Sn	**Sn**	**15 20 56.5**	**+1.7**
	51nm,0.3s,baz=252,slow=20,SNR=7.1						
H11S3	**WAKE ISLAND Hy 21.82**	**76**		T	T	15 48 14.4	
	baz=262,slow=75,SNR=74						
H11S1	**WAKE ISLAND Hy 21.83**	**76**		T	T	15 48 18.1	
	baz=262,slow=75,SNR=49						
H11S2	**WAKE ISLAND Hy 21.83**	**76**		T	T	15 48 16.7	
	baz=262,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy 22.20**	**73**		T	T	15 48 45.6	
	baz=259,slow=75,SNR=7.0						
H11N2	**WAKE ISLAND Hy 22.20**	**73**		T	T	15 48 46.2	
	baz=259,slow=75,SNR=5.7						
H11N3	**WAKE ISLAND Hy 22.21**	**73**		T	T	15 48 47.0	
	baz=259,slow=75,SNR=6.9						
JNU	**Nakatsue**	**22.35**	**329**	P	**P**	**15 25 21.7**	**+0.2**
JNU				IAmb	IAmb	15 25 24.8	
	comp=Z,19nm,1.2s						
MJAR	**Matsushiro Arr**	**22.77**	**347**	P	**P**	**15 25 24.7**	**-1.3**
	comp=Z,4.6nm,1.0s,baz=168,slow=8.9,SNR=9.3						
	comp=Z,4.6nm,1.0s						
MAJO	**Matsushiro**	**22.78**	**347**	P	**P**	**15 25 26.1**	**+0.1**
MJB9	**Matsu-Tunnel**	**22.78**	**347**	P	**P**	**15 25 26.1**	**+0.1**
KSRS	**Korea Array**	**27.26**	**331**	P	**P**	**15 26 06.8**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=138,slow=10,SNR=4.5						
	comp=Z,0.9nm,0.8s						
WB0	**Warramunga Arr**	**35.29**	**196**	P	**P**	**15 27 18.8**	**+0.4**
WB0				IAmb	IAmb	15 27 19.9	
	comp=Z,6.7nm,0.9s						
WR0	**Warramunga Arr**	**35.43**	**196**	P	**P**	**15 27 19.9**	**+0.3**
WR0				IAmb	IAmb	15 27 21.6	
	comp=Z,8.0nm,1.1s						
WRAB	**Tennant Creek**	**35.46**	**196**	P	**P**	**15 27 20.1**	**+0.2**
WB2	**Warramunga Arr**	**35.47**	**196**	P	**P**	**15 27 20.1**	**+0.2**
WRA	**Warramunga Arr**	**35.47**	**196**	P	**P**	**15 27 20.1**	**+0.1**
	comp=Z,6.1nm,0.9s,baz=14,slow=9.8,SNR=24						
	comp=Z,6.1nm,0.9s						
HEH	**HeiHe**	**38.37**	**342**	*eP*	**P**	**15 27 45.0**	**+0.7**
HEH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ASAR	**Alice Springs**	**39.14**	**195**	P	**P**	**15 27 51.6**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=14,slow=12,SNR=6.1						
	comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**43.66**	**282**	P	**P**	**15 28 27.9**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=87,slow=6.1,SNR=8.4						
	comp=Z,1.5nm,0.9s						
SONM	**Songino Array**	**45.82**	**325**	P	**P**	**15 28 45.6**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=126,slow=7.5,SNR=4.4						
	comp=Z,0.9nm,0.8s						
MSVF	**Nonsavu**	**46.06**	**133**	P	**P**	**15 28 47.8**	**+0.3**
MSVF				IAmb	IAmb	15 29 29.4	
	comp=Z,3.7nm,0.9s						
MKAR	**Makanchi Array**	**60.60**	**316**	P	**P**	**15 30 33.9**	**0.0**
	comp=Z,0.5nm,0.8s,baz=98,slow=10,SNR=3.5						
	comp=Z,0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**63.72**	**320**	P	**P**	**15 30 54.8**	**0.0**
	comp=Z,1.5nm,0.9s,baz=96,slow=7.1,SNR=8.8						
	comp=Z,1.5nm,0.9s						
BVAR	**Borovoye Array**	**69.02**	**322**	P	**P**	**15 31 29.2**	**+0.5**
	comp=Z,0.

FNO	Franklin	0.35	99	Pg	Pg	15 52 48.5	+0.6
FNO				Sg	Sg	15 52 51.9	-0.7
ADOK	Arcadia Dam	0.50	48	Pg	Pg	15 52 51.2	+0.4
OK029	Liberty Lake	0.57	32	Pg	Pg	15 52 52.5	+0.4
OK029				IAML		15 53 01.1	
	comp=E,213nm,0.3s						
OK029				IAML		15 53 04.0	
	comp=E,159nm,0.5s						
X34A	Smith Ranch, M	0.71	180	Pg	Pg	15 52 55.2	+0.6
X34A				IAML		15 53 09.1	
	comp=E,145nm,0.2s						
X34A				IAML		15 53 09.4	
	comp=N,221nm,0.4s						
CSTR	Hydro, Custer	0.78	296	Pg	Pb	15 52 57.7	+0.7
W35A	Tecumseh	0.80	101	Pg	Pg	15 52 56.5	+0.2
WMOK	Wichita Mounta	0.97	234	Pg	Pg	15 52 58.7	-0.9
OK031	S. Brethren Rd	1.03	51	Pg	Pg	15 53 00.9	+0.1
OK031				IAML		15 53 20.8	
	comp=N,118nm,0.4s						
OK031				IAML		15 53 20.9	
	comp=N,125nm,0.4s						
OK052	Battle Ridge R	1.08	51	Pg	Pg	15 53 01.2	-0.5
OK052				IAML		15 53 25.1	
	comp=N,174nm,0.4s						
CROK	Carrier	1.20	354	Pg	Pg	15 53 03.9	-0.1
DEOK	Depew	1.21	64		Pg	15 53 03.5	-0.6
QUOK	Quay	1.25	46	Pg	Pg	15 53 04.2	-0.8
OK048	Pawnee Station	1.31	33		Pn	15 53 05.6	-0.4
OK048				IAML		15 53 24.0	
	comp=N,138nm,0.2s						
OK038	West end E0370	1.38	328		Pn	15 53 06.9	-0.1
LOOK	Love County	1.42	158		Pn	15 53 07.3	-0.2
U32A	Winter Ranch,	1.43	319		Pn	15 53 07.5	-0.2
OK051	E0350 and S346	1.44	34		Pn	15 53 07.4	-0.3
OK032	Salt Plains WL	1.52	348		Pn	15 53 08.9	0.0
OK032				IAmb_Lg		15 53 30.1	
	comp=Z,20nm,0.9s						
GC02	Grant County #	1.54	359		Pn	15 53 09.0	-0.1
NOKA	Waynoka	1.59	326		Pn	15 53 10.2	+0.2
WTFS	Witchita Falls	1.63	199		Pn	15 53 10.5	+0.1
KAN13	South Haven SW	1.72	9		Pn	15 53 11.3	-0.4
KAN17	Caldwell West	1.73	2		Pn	15 53 11.6	-0.2
TUL3	Leonard	1.76	70	IAmb_Lg		15 53 38.3	
	comp=Z,23nm,0.8s						
KAN01	Argonia South	1.84	2	Pn	Pn	15 53 12.7	-0.5
Z35A	Perchaven, San	2.03	166	Pn	Pn	15 53 16.4	+0.5
X37A	Clayton	2.14	109	Pn	Pn	15 53 18.4	+1.0
FW06	Azle	2.34	174	Pn	Pn	15 53 20.8	+0.6
FW06				IAmb_Lg		15 54 01.5	
	comp=Z,20nm,0.7s						
RLO	Rose Lookout	2.44	69	Pn	Pn	15 53 21.2	-0.2
PLPT	Palo Pinto	2.52	189	Pn	Pn	15 53 23.8	+1.0
PLPT				IAmb_Lg		15 54 05.3	
	comp=Z,17nm,0.7s						
FW07	Weatherford	2.60	179	IAmb_Lg		15 54 01.7	
	comp=Z,12nm,0.7s						
HHAR	Hobbs	3.31	72	IAmb_Lg		15 54 31.0	
	comp=Z,9.2nm,0.7s						
WHTX	Lake Whitney,	3.33	175	IAmb_Lg		15 54 29.9	
	comp=Z,6.8nm,0.8s						
SN05	Snyder 5	3.51	227	IAmb_Lg		15 54 38.1	
	comp=Z,10nm,0.8s						
MIAR	Mount Ida	3.58	101	Pn	Pn	15 53 38.8	+1.7
MIAR				IAmb_Lg		15 54 43.5	
	comp=Z,8.0nm,0.8s						
CBKS	Cedar Bluff	3.81	337	IAmb_Lg		15 54 51.7	
	comp=Z,14nm,0.7s						
BRDY	Brady	4.13	194	IAmb_Lg		15 55 01.3	
	comp=Z,6.7nm,0.7s						
RTBA	Rita Blanca	4.14	287	IAmb_Lg		15 55 00.4	
	comp=Z,5.7nm,0.8s						
SGCY	Sterling City	4.37	220	IAmb_Lg		15 54 59.8	
	comp=Z,7.4nm,0.7s						
WHAR	Wooly Hollow	4.53	89	IAmb_Lg		15 55 10.0	
	comp=Z,5.9nm,1.1s						
MGMO	Mountain Grove	4.86	66	Pn	Pn	15 53 53.0	-1.7
MGMO				IAmb_Lg		15 55 20.3	
	comp=Z,6.0nm,0.7s						
OZNA	Ozona	5.18	213	IAmb_Lg		15 55 38.1	
	comp=Z,7.8nm,0.9s						
KSCO	Kaye Shedlock'	5.32	315	IAmb_Lg		15 55 39.6	
	comp=Z,7.7nm,0.7s						
R40A	Maddies Statio	5.36	55	IAmb_Lg		15 55 39.2	
	comp=Z,5.2nm,0.7s						
T25A	Trinidad	5.62	291	IAmb_Lg		15 55 43.3	
	comp=Z,8.2nm,1.1s						
T42A	Van Buren	5.71	71	IAmb_Lg		15 55 46.7	
	comp=Z,4.1nm,0.8s						
HNDO	Hondo	5.90	192	IAmb_Lg		15 55 44.2	
	comp=Z,4.7nm,0.7s						
CCM	Cathedral Cave	5.96	61	IAmb_Lg		15 55 49.3	
	comp=Z,6.6nm,0.8s						
SAND	Sanderson	6.45	215	IAmb_Lg		15 56 23.5	
	comp=Z,5.6nm,1.0s						
FVM	French Village	6.52	64	IAmb_Lg		15 56 13.8	
	comp=Z,5.6nm,0.8s						
CGM3	Cape Girardeau	6.89	71	IAmb_Lg		15 56 26.5	
	comp=Z,4.1nm,0.7s						
ALPN	Alpine	6.94	226	IAmb_Lg		15 56 25.8	
	comp=Z,3.1nm,0.7s						

*IDC **17** 16:05:56.8±6.2, 61°.80S×154°.95E, h0km, mb3.7/3, mbtmp3.8/4, ML3.8/1, MS3.9/20, 2C, Error ellipse: s-maj=409.6km s-min=25.1km az=76.0, Balleny Islands region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	15.95	175	Pn	Pn	16 09 42.2	0.0
	0.4nm,0.3s,baz=334,slow=12,SNR=3.6						
VNDA				LR	LR	16 15 07.2	
	comp=Z,553nm,21.7s,baz=359,slow=34						
	1.8nm,0.6s						
RPZ	Rata Peaks	20.46	35	LR	LR	16 17 57.2	
	comp=Z,619nm,19.1s,baz=180,slow=35						
URZ	Urewera	27.26	40	LR	LR	16 22 26.0	
	comp=Z,296nm,18.1s,baz=221,slow=36						
QSPA	South Pole Qui	28.29	180	P	P	16 11 51.7	0.0
	1.3nm,1.0s,baz=5.2,slow=11,SNR=2.6						
QSPA				LR	LR	16 23 21.0	
	comp=Z,218nm,20.4s,baz=16,slow=37						
	1.3nm,1.0s						
MAW	Mawson	36.27	220	LR	LR	16 27 59.2	
	comp=Z,336nm,20.0s,baz=106,slow=36						
RAO	Raoul Island	37.13	41	LR	LR	16 26 43.8	
	comp=Z,263nm,19.7s,baz=218,slow=34						
H01W1	Cape Leeuwin H	37.18	297	T	T	16 52 25.8	
	baz=148,slow=75,SNR=112						
H01W2	Cape Leeuwin H	37.19	297	T	T	16 52 26.3	
	baz=148,slow=75,SNR=112						
H01W3	Cape Leeuwin H	37.20	297	T	T	16 52 27.4	
	baz=148,slow=75,SNR=101						
ASAR	Alice Springs	40.74	330	P	P	16 13 39.0	-0.2
	0.7nm,0.7s,baz=173,slow=7.6,SNR=9.1						
	0.7nm,0.7s						
WRA	Warramunga Arr	44.22	332	P	P	16 14 07.6	0.0
	0.7nm,0.6s,baz=165,slow=7.3,SNR=12						
	0.7nm,0.6s						
SNAA	Sanae	45.92	190	⇑P	P	16 14 24.9	+4.3
	comp=Z,31nm,0.9s						
SNAA	Sanae	45.92	190	LR	LR	16 34 17.0	
	comp=Z,522nm,18.5s,baz=197,slow=37						
VNA3	Neumayer Olymp	46.80	187	⇑P	P	16 14 32.3	+4.8
	comp=Z,3.1nm,0.9s						
PMSA	Palmer Station	50.44	160	LR	LR	16 35 16.0	
	comp=Z,97nm,19.0s,baz=212,slow=35						
PMG	Port Moresby	52.61	350	LR	LR	16 34 50.7	
	comp=Z,187nm,18.4s,baz=196,slow=33						
KAPI	Kappang	62.41	320	LR	LR	16 41 07.8	
	comp=Z,100nm,19.6s,baz=114,slow=34						
PLCA	Paso Flores	71.40	145	LR	LR	16 44 11.9	
	comp=Z,52nm,18.0s,baz=206,slow=32						
H03S2	Juan Fernandez	75.25	136	T	T	17 41 11.6	
	baz=201,slow=74,SNR=29						
H03S1	Juan Fernandez	75.25	136	T	T	17 41 12.9	
	baz=201,slow=74,SNR=33						
H03S3	Juan Fernandez	75.26	136	T	T	17 41 12.4	
	baz=201,slow=74,SNR=23						
SUR	Sutherland	79.10	218	LR	LR	16 49 52.6	
	comp=Z,104nm,21.1s,baz=134,slow=33						
H08S2	Diego Garcia H	79.74	273	T	T	17 45 48.0	
	baz=151,slow=76,SNR=10						
H08S1	Diego Garcia H	79.75	273	T	T	17 45 50.7	
	baz=151,slow=76,SNR=5.9						
H08S3	Diego Garcia H	79.76	273	T	T	17 45 50.1	
	baz=151,slow=76,SNR=11						

BOSA	Boshof	81.23	223	LR	LR	16 51 51.7	
	comp=Z,53nm,18.4s,baz=163,slow=34						
PALK	Pallekele	89.01	287	LR	LR	16 54 02.5	
	comp=Z,84nm,18.1s,baz=233,slow=32						
CMAR	Chiang Mai Arr	91.42	308	LR	LR	16 59 40.0	
	comp=Z,36nm,19.0s,baz=180,slow=35						
TSUM	Tsumeb	92.44	220	LR	LR	16 58 13.9	
	comp=Z,64nm,20.8s,baz=150,slow=34						
JHJ	Hachijo jima 2	95.38	347	LR	LR	16 55 21.8	
	comp=Z,27nm,21.8s,baz=122,slow=31						
NNA	Nana	96.08	129	LR	LR	16 53 45.0	
	comp=Z,48nm,19.4s,baz=232,slow=30						
JNU	Nakatsue	96.58	340	LR	LR	17 01 10.3	
	comp=Z,30nm,20.0s,baz=192,slow=34						
MJAR	Matsushiro Arr	98.94	346	LR	LR	17 03 25.8	
	comp=Z,34nm,19.0s,baz=175,slow=35						

*VIE **17** 16:14:37.5±0.6, 49°.94N×18°.63E, h0km, mb2.2/5, ml2.6/4, Error ellipse: s-maj=4.7km s-min=2.6km az=42.0, Suspected Mining induced.*
*IPEC **17** 16:14:39.6±0.2, 49°.82N×18°.53E, h1km, ML2.5/4, Error ellipse: s-maj=1.6km s-min=1.0km az=35.0*
*PRU **17** 16:14:42.1, 49°.81N×18°.39E, h0km, Mining Induced Event Csm, E=5.3e+05*

ISC 17 16:14:39.3±0.8, 49°.82N±0°.03×18°.54E±0°.02, h0km, n31, σ0s86/56, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.26	275	*e*Pg	Pg	16 14 45.2	+1.1
OKC				*e*SG	Sg	16 14 48.8	+1.4
	comp=Z,412nm,0.6s						
MORC	Moravsky Berou	0.65	267	*e*Pg	Pg	16 14 52.0	+0.4
	baz=86						
MORC				*e*Sg	Sg	16 14 59.6	-0.4
	130nm,0.5s,baz=86						
MORC	Moravsky Berou	0.65	267	*e*PG	Pg	16 14 52.1	+0.4
MORC				*e*SG	Sg	16 14 59.7	-0.3
ANAC	Anensky vrch	0.79	289	*e*Pg	Pg	16 14 54.6	+0.2
	baz=109						
ANAC				*e*Sg	Sg	16 15 04.3	-0.4
	baz=109						
LANS	Liptovska Anna	0.90	137	*e*PG	Pg	16 14 56.8	+0.3
LANS				*e*SG	Sb	16 15 09.5	-0.8
LANS				*e*LG	Lg	16 15 13.4	
OJC	Ojcow	0.91	63	*e*Pg	Pg	16 14 56.2	-0.4
OJC				*e*Sg	Sg	16 15 09.2	+0.8
JAVC	Velka Javorina	1.11	211	*e*Pg	Pb	16 15 01.4	0.0
	baz=30						
KRLC	Kraliky	1.16	284	*e*PG	Pg	16 15 00.5	-1.1
KRLC				*e*SG	Sg	16 15 16.7	+0.1
	comp=Z,66nm,0.3s						
NIE	Niedzica	1.21	109	*e*Pg	Pb	16 15 02.8	-0.3
NIE				*e*Sg	Sn	16 15 21.1	+0.5
VYHS	Vyhne	1.34	172	*e*PG	Pg	16 15 04.5	-0.4
VYHS				*e*SG	Sb	16 15 23.2	+0.3
VRAC	Vranov	1.36	249	*e*Pg	Pg	16 15 04.9	-0.5
	baz=67						
VRAC				*e*Sg	Sg	16 15 22.1	-1.0
	68nm,0.4s,baz=67						
DPC	Dobruska-Polom	1.52	291	*e*PG	Pn	16 15 07.6	-0.2
DPC				*e*SG	Sg	16 15 27.8	-0.4
	comp=Z,41nm,0.3s						
KRUC	Moravsky	1.59	242	*e*Pg	Pn	16 15 08.4	-0.3
	baz=61						
KRUC				*e*Sg	Sn	16 15 29.1	-0.8
	31nm,0.3s,baz=61						
MODS	Modra-Piesok	1.67	210	*e*PG	Pn	16 15 09.7	0.0
MODS				*e*SG	Sn	16 15 31.5	-0.3
MODS				*e*LG	Lg	16 15 32.9	
OSTC	Ostas	1.67	297	*e*PG	Pb	16 15 10.1	-0.7
OSTC				*e*SG	Sg	16 15 32.3	-0.5
	comp=Z,46nm,0.6s						
UPC	Upice	1.77	294	*e*PG	Pb	16 15 12.1	-0.4
UPC				*e*SG	Sb	16 15 34.7	-0.5
	comp=Z,33nm,0.6s						
KSP	Ksiaz	1.77	306	*e*Pg	Pn	16 15 10.6	-0.6
KSP				*e*Sg	Sn	16 15 33.9	-0.5
CHVC	Chvalec	1.77	297	*e*PG	Pn	16 15 11.3	+0.1
CHVC				*e*SG	Sg	16 15 35.7	-0.5
KECS	Kecovo	1.85	135	*e*SN	Sn	16 15 35.8	-0.4
KECS				*e*LG	Lg	16 15 41.5	
CRVS	Cervenica-Dubn	2.12	114	*e*PG	Pg	16 15 19.9	+0.1
CRVS				*e*SG	Sg	16 15 48.5	+1.2
RONA	Rosalia, Austr	2.59	216	Pn	Pn	16 15 21.8	-0.6
	3.0nm,0.3s						
RONA				Sn	Sn	16 15 55.4	+0.9
	3.4nm,0.2s						
CONA	Conrad Observa	2.59	224	Pn	Pn	16 15 21.9	-0.6
	1.7nm,0.4s						
CONA				Sn	Sn	16 15 53.6	-1.0
	7.1nm,0.3s						
PRU	Pruhonice	2.59	275	*e*SG	Sb	16 15 59.4	+0.5
	comp=Z,16nm,0.4s						
KOLS	Kolonicke sedl	2.60	108	*e*PG	Pg	16 15 28.9	-0.1
KOLS				*e*LG	Lg	16 16 11.6	
PRA	Prague	2.67	277	*e*SG	Sg	16 16 03.4	-1.4
	comp=Z,30nm,0.7s						
CKRC	Cesky Krumlov	2.94	252	*e*PG	Pb	16 15 33.8	+1.3
CKRC				*e*SG	Sg	16 16 11.5	-2.2
	comp=Z,16nm,0.5s						
BRG	Berggiesshubel	3.13	292	Pg	Pb	16 15 36.7	+1.0
BRG				Sg	Sg	16 16 17.6	-2.1
BRG				Amp		16 16 23.5	
	comp=Z,10nm,0.5s						
ARSA	Arzberg	3.26	219	*e*Pn	Pn	16 15 32.3	+0.7
	comp=Z,1.3nm,0.3s						
ARSA				*e*Sn	Sn	16 16 10.7	-0.4
	comp=Z,2.0nm,0.4s						
KHC	Kasperske Hory	3.31	260	*e*PG	Pb	16 15 39.8	+1.0
KHC				*e*SG	Sb	16 16 22.0	+2.4
	comp=Z,20nm,0.4s						
MOA	Molln	3.44	237	*e*Pn	Pn	16 15 34.2	+0.1
	comp=Z,1.2nm,0.6s						
CLL	Collm	3.83	295	*e*Pg	Pg	16 15 54.0	+1.3
CLL				*e*Sg	Sg	16 16 42.0	-0.3
	comp=Z,14nm,0.7s						

*IDC **17** 16:29:14.5±2.2, 0°.54S×19°.67W, h0km, mb3.9/5, mbtmp4.1/6, ML4.6/1, Error ellipse: s-maj=55.0km s-min=36.5km az=74.0*
*NEIC **17** 16:29:15.9±1.8, 0°.5S±0°.1×19°.81W±0°.10, h10km±2km, mb4.3/4, Error ellipse: s-maj=22.6km s-min=14.3km az=209.0*

ISC 17 16:29:16.0±1.0, 0°.5S±0°.1×19°.8W±0°.1, h10km, n18, σ0s94/15, mb4.1/6, 3C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	8.95	144	T	T	16 41 11.4	
	baz=324,slow=74						
H10N3	ASCENSION HYDR	8.95	144	T	T	16 41 12.8	
	baz=324,slow=74						
H10N1	ASCENSION HYDR	8.97	144	T	T	16 41 04.0	
	baz=324						
ASCN	Ascension	9.11	144	Pn	Pn	16 31 28.7	+1.1
LIC	Lamto	16.15	65⇑	*e*P	Pn	16 33 05.0	+1.7
	6.6nm,0.4s						
TIC	Toumodi	16.33	64⇑	*e*P	Pn	16 33 05.6	0.0
	9.7nm,0.4s						
KIC	Kosan Boka	16.47	65⇑	*e*P	Pn	16 33 08.5	+1.2
	5.6nm,0.5s						
DBIC	Dimbokro	16.49	64	Pn	Pn	16 33 06.8	-0.8
DBIC				IAmb	IAmb	16 33 49.1	
	comp=Z,19nm,1.1s						
DBIC	Dimbokro	16.49	64	Pn	Pn	16 33 06.7	-0.8
	comp=Z,2.4nm,0.3s,baz=244,slow=13,SNR=40						
	comp=Z,5.7nm,0.3s						
RCBR	Riachuelo	16.96	252	P	Pn	16 33 13.8	+0.1
RCBR				IAmb	IAmb	16 33 53.0	
	comp=Z,27nm,1.2s						
SHEL	Horse Pasture	20.64	139	P	P	16 33 54.2	-1.7
TOA0	Torodi Ar. Sit	25.23	57	P	P	16 34 42.2	-0.1
TOA0				IAmb	IAmb	16 35 03.0	
	comp=Z,6.4nm,0.7s						
TORD	Torodi Ar. Bea	25.23	57	P	P	16 34 41.7	-0.6
	comp=Z,4.1nm,0.7s,baz=229,slow=8.7,SNR=18						
	comp=Z,4.1nm,0.7s						
BOSA	Boshof	51.24	127	P	P	16 38 20.1	-0.2
	comp=Z,1.7nm,0.7s,baz=289,slow=6.1,SNR=4.1						
	comp=Z,1.7nm,0.7s						
HFS	Hagfors	65.81	18	P	P	16 40 01.5	+0.2
	comp=Z,1.0nm,0.7s,baz=172,slow=12,SNR=2.5						
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	65.84	16	P	P	16 40 01.8	+0.4
	comp=Z,0.5nm,0.8s,baz=208,slow=7.0,SNR=1.9						
	comp=Z,0.5nm,0.8s						
FINES	FINESS Array B	70.92	21	P	P	16 40 33.2	0.0
	comp=Z,0.9nm,0.8s,baz=163,slow=14,SNR=3.9						
	comp=Z,0.9nm,0.8s						
ASAR	Alice Springs	144.88	135	PKP	PKPab	16 48 53.3	-0.1
	comp=Z,0.6nm,0.6s,baz=227,slow=2.7,SNR=3.0						

*IDC **17** 16:36:34.5±0.8, 57°.27N×33°.21W, h0km, mb3.6/10, mbtmp3.6/12, ML3.2/2, MS3.4/22, Error ellipse: s-maj=27.6km s-min=17.3km az=7.0*

ISC 17 16:36:36.7±0.8, 57°.3N±0°.2×33°.2W±0°.1, h15km, n31, σ0s45/14, mb3.7/10, MS3.5/17, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	9.46	33	LR	LR	16 41 36.3	
	comp=Z,207nm,19.1s,baz=186,slow=32						
SFJD	Kangerlussuaq	12.65	328	LR	LR	16 43 38.2	
	comp=Z,162nm,18.4s,baz=106,slow=34						
EKA	Eskdalemuir Ar	16.74	84	Pn	Pn	16 40 30.8	+0.5
	baz=285,slow=11						
	0.4nm,0.5s						
JMIC	Jan Mayen	17.28	27	LR	LR	16 45 29.2	
	comp=Z,31nm,18.1s,baz=218,slow=31						
FRB	Frobisher Bay	18.37	305	LR	LR	16 46 34.2	
	comp=Z,105nm,20.9s,baz=335,slow=33						
SCHQ	Schefferville	18.82	277	P	P	16 40 55.6	+0.1
	0.1nm,0.3s,baz=95,slow=8.7,SNR=5.0						
SCHQ				LR	LR	16 47 02.7	
	comp=Z,113nm,18.8s,baz=77,slow=33						
	3.5nm,0.8s						
NOA	NORSAR Array B	22.76	62	P	P	16 41 38.4	+0.3
	0.3nm,0.9s,baz=280,slow=9.6,SNR=4.2						
NOA				LR	LR	16 48 41.3	
	comp=Z,36nm,21.5s,baz=295,slow=32						
	0.3nm,0.9s						
HFS	Hagfors	24.15	63	P	P	16 41 51.4	-0.3
	1.6nm,0.9s,baz=284,slow=12,SNR=3.6						
HFS				LR	LR	16 49 45.5	
	comp=Z,46nm,18.5s,baz=185,slow=33						
	1.6nm,0.9s						
ESDC	Sonseca Array	25.88	120	P	P	16 42 07.5	-0.2
	1.0nm,0.8s,baz=316,slow=9.9,SNR=5.6						
ESDC				LR	LR	16 50 30.0	
	comp=Z,60nm,20.0s,baz=309,slow=32						
	1.0nm,0.8s						
DAVOX	Davos/Dischmat	28.06	93	LR	LR	16 53 10.7	
	comp=Z,105nm,18.3s,baz=262,slow=36						
VRAC	Vranov	30.21	84	LR	LR	16 54 55.7	
	comp=Z,57nm,18.6s,baz=300,slow=36						
SADO	Sadowa	30.85	266	LR	LR	16 53 58.5	
	comp=Z,110nm,18.9s,baz=7.5,slow=34						
MDT	Midelt	31.30	129	LR	LR	16 53 15.3	
	comp=Z,38nm,18.3s,baz=306,slow=32						
ULM	Lac du Bonnet	36.49	287	LR	LR	16 57 23.8	
	comp=Z,73nm,19.3s,baz=16,slow=34						
YKA	Yellowknife Ar	38.62	313	LR	LR	16 59 12.3	
	comp=Z,140nm,18.0s,baz=354,slow=35						
INK	Inuvik	42.00	327	LR	LR	17 01 06.5	
	comp=Z,62nm,19.6s,baz=86,slow=35						
ILAR	Eielson Array	48.32	328	P	P	16 45 17.1	+0.3
	1.4nm,0.9s,baz=37,slow=6.6,SNR=11						
	1.4nm,0.9s						
NEW	Newport	48.46	297	LR	LR	17 04 51.9	
	comp=Z,55nm,18.4s,baz=358,slow=35						
PDAR	Pinedale Array	48.51	287	P	P	16 45 18.6	-0.3
	0.7nm,0.8s,baz=72,slow=8.6,SNR=6.8						
PDAR				LR	LR	17 04 41.9	
	comp=Z,34nm,19.0s,baz=350,slow=35						
	0.7nm,0.8s						
AKTO	Aktyubinsk	50.37	56	LR	LR	17 04 46.0	
	comp=Z,28nm,21.0s,baz=122,slow=34						
TORD	Torodi Ar. Bea	51.41	134	P	P	16 45 40.8	0.0
	0.5nm,0.8s,baz=339,slow=8.5,SNR=2.6						
	0.5nm,0.8s						
ANMO	Albuquerque	52.59	278	LR	LR	17 07 18.2	
	comp=Z,79nm,19.2s,baz=62,slow=35						
BVAR	Borovoye Array	53.72	47	P	P	16 45 58.0	+0.3
	0.7nm,0.8s,baz=324,slow=7.1,SNR=3.5						
	0.7nm,0.8s						
TXAR	Lajitas Array	55.39	271	P	P	16 46 10.7	+0.6
	0.5nm,0.8s,baz=68,slow=9.8,SNR=4.0						
	0.5nm,0.8s						
KDAK	Kodiak Island	55.52	326	LR	LR	17 11 03.7	
	comp=Z,71nm,18.0s,baz=238,slow=37						
YBH	Yreka Blue Hor	55.92	295	LR	LR	17 09 13.0	
	comp=Z,45nm,19.3s,baz=26,slow=35						
PFO	Pinyon Flats O	58.94	285	LR	LR	17 11 14.1	
	comp=Z,50nm,19.1s,baz=198,slow=35						
SONM	Songino Array	70.04	28	P	P	16 47 47.7	+0.1
	0.8nm,0.8s,baz=336,slow=3.2,SNR=4.7						
	0.8nm,0.8s						
KSRS	Korea Array	84.32	15	P	P	16 49 06.8	-0.8
	0.5nm,0.4s,baz=353,slow=3.8,SNR=4.0						
	0.5nm,0.4s						
ASAR	Alice Springs	145.17	21	PKPbc	PKPbc	16 56 12.2	-0.7
	1.6nm,0.9s,baz=355,slow=3.2,SNR=11						
QSPA	South Pole Qui	147.15	180	PKPbc	PKPbc	16 56 17.4	-0.1
	1.9nm,1.0s,baz=242,slow=3.9,SNR=3.8						

*NEIC **17** 16:45:35.5±0.7, 19°.410N±0°.004×155°.260W±0°.008, h1km±3km, Error ellipse: s-maj=1.0km s-min=0.5km az=74.0*

HVO 17 16:45:34.5±0.7, 19°.413N±0°.010×155°.264W±0°.006, h0km±3km, ML3.5/42, ML3.4/30(NEIC), Error ellipse: s-maj=1.4km s-min=0.8km az=189.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	Byron's Ledge	0.00	101	Pg	Pg	16 45 35.0	+0.2
HATHI	Halema'uma'u T	0.01	14	Pg	Pg	16 45 35.2	+0.3
KKO	Keanakako'i	0.01	188		Pg	16 45 35.8	+0.9
SBLHI	Steaming Bluff	0.01	344		Pg	16 45 35.6	+0.7
UWB	Uwekahuna B	0.02	311		Pg	16 45 35.9	+0.9
OBL	Observatory Le	0.02	284		Pg	16 45 35.9	+0.9
RIM	Rim	0.02	209		Pg	16 45 36.0	+1.0
UWE	Uwekahuna	0.03	287		Pg	16 45 35.8	+0.7
WRM

HPO	**Honuapo**	**0.42 220**		Pg	16 45 43.5 +0.8
POHA	**Pohakuloa**	**0.43 324**		Pg	16 45 43.7 +1.0
POHA			IAML		16 45 51.0
	comp=N,4μm,0.8s				
POHA			IAML		16 45 52.8
	comp=N,3μm,0.7s				
HUH	**Hualalai**	**0.60 297**		Sg	16 45 47.5 -6.5
HUH	**Hualalai**	**0.60 297**	Pg	Pb	16 45 47.3 -0.8
CPH	**Captain Cook**	**0.62 277**		Pb	16 45 47.4 -0.8
HPAH	**Hawaii Prepara**	**0.74 326**	Pg	Pg	16 45 47.8 -0.9
MHA	**Mahukona**	**0.98 322**	Pg	Pg	16 45 51.3 -2.0

*IDC **17** 16:51:15.8±5.4, 31°.38N×141°.62E, h0km, mb3.4/2, mbtmp3.2/3, ML2.2/1, Error ellipse: s-maj=247.5km s-min=34.9km az=75.0*

JMA 17 16:52:15.5±0.2, 35°.4N±0°.8×139°.5E±0°.8, h103km±1km, MV1.6/31, KANAGAWA PREF, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYO	**Yokosk**	**0.18**	**137**	*e*S	Sn	16 52 43.3	+2.4
JSGW	**Sagamiharawaka**	**0.35**	**315**	*i* P	Pn	16 52 30.8	0.0
JSGW				*e*S	Sn	16 52 42.3	+0.1
JOD2	**Odawara 2**	**0.36**	**255**	P	Pn	16 52 30.7	-0.1
JOD2				*e*S	Sn	16 52 42.4	+0.1
JYN	**Shimob**	**0.80**	**280**	*e*P	Pn	16 52 34.7	+0.4
JYN				S	Sn	16 52 49.4	+1.0
JIZS	**Izushimoda**	**0.82**	**220**	*e*P	Pn	16 52 34.2	-0.2
JIZS				*e*S	Sn	16 52 48.7	+0.1
JRY	**Ryogami san**	**0.83**	**323**	P	Pn	16 52 35.2	+0.7
JAG	**Ashikaga**	**1.07**	**357**	*i* P	Pn	16 52 37.4	+0.5
JAG				*e*S	Sn	16 52 53.6	+0.5
MJAR	**Matsushiro Arr**	**1.59**	**319**	Pn	Pn	16 52 43.3	+0.2
	0.1nm,0.3s,baz=158,slow=11,SNR=4.4						
	0.6nm,0.6s						

NEIC 17 17:02:12.9±1.3, 37°.01N±0°.03×104°.92W±0°.04, h5km±6km, mb_Lg2.5/40, ML2.6/62, Error ellipse: s-maj=5.0km s-min=3.9km az=50.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.42**	**73**	Pg	Pg	17 02 21.4	+0.2
T25A				Sg	Sg	17 02 27.5	+0.8
SDCO	**Great Sand Dun**	**0.86**	**328**	Pg	Pg	17 02 27.9	-1.6
S22A	**4UR Ranch, Cre**	**1.69**	**296**	Pg	Pn	17 02 43.3	-0.1
S22A					Sn	17 03 04.3	-1.3
S22A				IAML		17 03 06.9	
	comp=E,61nm,0.1s						
S22A				IAML		17 03 08.3	
	comp=N,101nm,0.1s						
RTBA	**Rita Blanca**	**1.84**	**108**		Pn	17 02 46.1	+0.8
Q24A	**Divide**	**1.96**	**355**		Pn	17 02 48.1	+1.0
Q24A					Sn	17 03 12.9	+0.7
Q24A				IAML		17 03 13.6	
	comp=E,71nm,0.3s						
Q24A				IAML		17 03 14.1	
	comp=N,45nm,0.1s						
ANMO	**Albuquerque**	**2.41**	**212**		Pn	17 02 54.3	+1.0
KSCO	**Kaye Shedlock'**	**2.69**	**42**	Pn	Pn	17 02 58.9	+1.9
KSCO				IAmb_Lg		17 03 44.8	
	comp=Z,16nm,0.8s						
SMCO	**Snowmass**	**2.70**	**324**		Pn	17 02 59.1	+1.7
ISCO	**Idaho Springs**	**2.83**	**349**		Pn	17 02 59.3	+0.1
MVCO	**Mesa Verde**	**2.87**	**275**		Pn	17 02 59.7	+0.2
PV01	**Paradox Valley**	**3.11**	**292**	Pn	Pn	17 03 04.5	+1.6
PV15	**Paradox Valley**	**3.12**	**296**	Pn	Pn	17 03 04.5	+1.4
PV15				IAML		17 03 56.6	
	comp=E,15nm,0.7s						
BNM	**Barren Site**	**3.18**	**206**	Pn	Pb	17 03 07.0	-3.1
PV02	**Paradox Valley**	**3.26**	**293**	Pn	Pn	17 03 06.5	+1.6
PV02				IAML		17 04 10.8	
	comp=E,18nm,1.0s						
PV07	**Paradox Valley**	**3.28**	**297**	Pn	Pn	17 03 06.3	+1.1
PV13	**Radium Mtn., P**	**3.30**	**291**	Pn	Pn	17 03 07.2	+1.6
PV13				IAML		17 04 03.1	
	comp=N,13nm,1.0s						
PV13				IAML		17 04 14.2	
	comp=E,17nm,2.7s						
PV12	**Saucer Basin,**	**3.34**	**294**	Pn	Pn	17 03 07.7	+1.6
PV03	**Paradox Valley**	**3.36**	**293**	Pn	Pn	17 03 08.1	+1.9
PV03				IAML		17 04 09.4	
	comp=N,13nm,1.1s						
AMTX	**Amarillo**	**3.38**	**128**		Pn	17 03 07.9	+1.5
AMTX				IAmb_Lg		17 04 08.5	
	comp=Z,12nm,0.8s						
PV11	**David Mesa, Pa**	**3.39**	**293**	Pn	Pn	17 03 08.1	+1.4
CRNM	**Carthage**	**3.40**	**206**	Pn	Pn	17 03 07.2	+0.4
PV18	**Skein Mesa, Pa**	**3.40**	**292**	Pn	Pn	17 03 08.7	+1.8
PV18				IAML		17 04 07.2	
	comp=E,13nm,1.3s						
PV22	**Blue Mesa, Par**	**3.42**	**298**	Pn	Pn	17 03 09.0	+1.9
PV16	**Nyswonger Mesa**	**3.43**	**293**	Pn	Pn	17 03 08.2	+1.0
PV16				IAML		17 04 11.2	
	comp=E,13nm,2.4s						
PV16				IAML		17 04 14.3	
	comp=N,20nm,1.3s						
PV17	**East Wray Mesa**	**3.45**	**293**	Pn	Pn	17 03 08.1	+0.6
PV04	**Paradox Valley**	**3.45**	**295**	Pn	Pn	17 03 07.5	0.0
PV04				IAML		17 04 05.2	
	comp=E,14nm,0.8s						
PV04				IAML		17 04 09.2	
	comp=N,15nm,0.7s						
PV20	**West Nyswonger**	**3.47**	**294**	Pn	Pn	17 03 09.6	+1.8
PV19	**Morning Glory**	**3.48**	**293**	Pn	Pn	17 03 09.6	+1.7
PV19				IAML		17 04 13.3	
	comp=N,11nm,2.9s						
PV05	**Paradox Valley**	**3.49**	**289**	Pn	Pn	17 03 08.7	+0.7
PV05				IAML		17 04 10.0	
	comp=E,12nm,1.2s						
PV05				IAML		17 04 14.6	
	comp=N,11nm,0.8s						
MSTX	**Muleshoe**	**3.51**	**149**		Pn	17 03 10.8	+2.6
PV14	**Lion Creek, Pa**	**3.53**	**294**	Pn	Pn	17 03 10.8	+2.2
PV14				IAML		17 04 09.4	
	comp=E,12nm,1.5s						
PV14				IAML		17 04 15.9	
	comp=N,15nm,1.1s						
PV10	**Paradox Valley**	**3.54**	**294**	Pn	Pn	17 03 09.7	+0.9
PV10				IAML		17 04 04.3	
	comp=E,12nm,0.6s						
PV10				IAML		17 04 17.0	
	comp=N,16nm,1.2s						
PV23	**Carpenter Ridg**	**3.55**	**295**	Pn	Pn	17 03 11.0	+2.1
PV21	**Cone Mtn., Par**	**3.56**	**297**	Pn	Pn	17 03 10.6	+1.5
PV21				IAML		17 04 10.8	
	comp=N,13nm,0.8s						
PV21				IAML		17 04 13.1	
	comp=E,11nm,1.0s						
BRIGG	**Briggsdale**	**3.59**	**7**		Pn	17 03 10.2	+0.7
N23A	**Red Feather La**	**3.96**	**349**	Pn	Pn	17 03 15.8	+1.2
CPRX	**Cap Rock**	**4.07**	**167**	Pn	Pn	17 03 16.0	+0.1
SMWD	**Samnorwood**	**4.24**	**115**		Pn	17 03 20.2	+1.9
PHWY	**Pilot Hill**	**4.30**	**355**		Pn	17 03 20.7	+1.4
CBKS	**Cedar Bluff**	**4.47**	**65**	IAmb_Lg		17 04 36.2	
	comp=Z,12nm,0.8s						
ELIS	**Ellis County**	**4.53**	**100**	IAmb_Lg		17 04 40.7	
	comp=Z,13nm,0.8s						
DKNS	**Dickens**	**4.67**	**134**		Pn	17 03 25.6	+1.4
DKNS				IAmb_Lg		17 04 49.7	
	comp=Z,8.4nm,0.8s						
CLN7	**Carlsbad 7**	**4.68**	**168**	Pn	Pn	17 03 25.2	+0.9
HMU	**Henry Mountain**	**4.72**	**283**		Pn	17 03 25.5	+0.4
POST	**Post**	**4.83**	**144**		Pn	17 03 28.0	+1.5
POST				IAmb_Lg		17 04 53.3	
	comp=Z,9.4nm,1.0s						
SRU	**San Rafael Swe**	**4.89**	**297**		Pn	17 03 29.9	+2.5
P18A	**Preston Nutter**	**4.94**	**304**		Pn	17 03 29.7	+1.7
121A	**Cookes Peak, D**	**5.05**	**209**	Pn	Pn	17 03 32.0	+2.4
121A				IAML		17 05 06.3	
	comp=E,4.7nm,2.0s						
121A				IAML		17 06 22.9	
	comp=N,4.5nm,3.5s						
R32A	**Long Quarter,**	**5.12**	**72**	Pn	Pn	17 03 34.1	+3.8
SN07	**Snyder 07**	**5.12**	**139**	Pn	Pn	17 03 32.4	+2.0
SN07				IAmb_Lg		17 04 55.9	
	comp=Z,6.7nm,0.8s						
APMT	**Aspermont**	**5.38**	**132**		Pn	17 03 35.1	+1.2
WUAZ	**Wupatki**	**5.42**	**256**	Pn	Pn	17 03 36.2	+1.6
TMUT	**Trail Mountain**	**5.46**	**297**	Pn	Pn	17 03 35.1	0.0
WMOK	**Wichita Mounta**	**5.48**	**113**		Pn	17 03 35.7	+0.5
BSUT	**Blindstream Ca**	**5.76**	**309**	Pn	Pn	17 03 39.5	0.0
MTPU	**Mount Pierson**	**5.87**	**282**		Pn	17 03 40.1	-0.7
U15A	**North Rim**	**5.95**	**267**		Pn	17 03 41.4	-0.5
MVU	**Marysvale**	**5.97**	**287**	Pn	Pn	17 03 41.9	-0.2
OK029	**Liberty Lake**	**6.14**	**99**	IAmb_Lg		17 05 29.1	
	comp=Z,5.1nm,0.7s						
KNB	**Kanab**	**6.32**	**272**		Pn	17 03 45.8	-1.2
JCT	**Junction City**	**7.79**	**145**	IAmb_Lg		17 06 36.3	
	comp=Z,6.2nm,1.0s						
DRIO	**Del Rio**	**8.38**	**153**	IAmb_Lg		17 06 47.6	
	comp=Z,4.3nm,0.8s						
HNDO	**Hondo**	**8.83**	**146**	IAmb_Lg		17 07 01.1	
	comp=Z,4.7nm,0.8s						

IDC 17 17:07:38.6±3.6, 27°.45N×84°.05E, h0km, mb3.6/3, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=122.7km s-min=28.7km az=79.0, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.36**	**356**	P	P	17 12 05.4	-0.3
	0.2nm,0.3s,baz=182,slow=10,SNR=7.6						
	0.4nm,0.4s						
SONM	**Songino Array**	**26.80**	**35**	P	P	17 13 21.0	+0.5
	0.5nm,0.8s,baz=224,slow=8.1,SNR=3.2						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**67.75**	**129**	P	P	17 18 38.1	-0.3
	0.3nm,0.5s,baz=321,slow=6.5,SNR=8.2						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**69.98**	**132**	P	P	17 18 52.4	+0.2
	0.5nm,0.6s,baz=319,slow=6.1,SNR=9.2						
	0.5nm,0.6s						

*TEH **17** 17:14:03.8, 38°.66N×48°.63E, h27km±24km, ML2.8*
*AZER **17** 17:14:03.9, 38°.72N×48°.60E, h13km, ml2.8*

ISC 17 17:14:04.7±1.1, 38°.65N±0°.03×48°.60E±0°.02, h13km±9km, n30, σ0s81/52, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKRN	**Lenkeran, Azer**	**0.15**	**68**	P	**Pb**	**17 14 09.1**	**-0.2**
LKRN				S	**Sb**	**17 14 12.8**	**+0.3**
ASTR	**Astara**	**0.18**	**121**	P	**Pb**	**17 14 09.7**	**-0.1**
ASTR				S	**Sb**	**17 14 14.1**	**+0.9**
LRK	**Lerik**	**0.20**	**267**	P	**Pb**	**17 14 10.7**	**+0.4**
LRK				S	**Sb**	**17 14 15.6**	**+1.6**
GAS1	**Astara - Iran**	**0.33**	**144**	Pg	**Pg**	**17 14 11.7**	**+0.3**
YRD	**Yardimli**	**0.38**	**314**	P	**Pg**	**17 14 12.8**	**+0.3**
YRD				S	**Sb**	**17 14 19.1**	**-0.2**
GRMI	**Germi**	**0.57**	**286**	Pg	**Pg**	**17 14 15.7**	**-0.2**
GRMI				Sg	**Sg**	**17 14 24.2**	**+0.8**
GLBA	**Clilabad**	**0.61**	**345**	P	**Pg**	**17 14 16.1**	**-0.4**
GLBA				S	**Sb**	**17 14 25.5**	**-0.1**
ISRB	**Sarab**	**1.10**	**222**	Pg	**Pb**	**17 14 25.1**	**-0.6**
ISRB				Sg	**Sg**	**17 14 40.5**	**+0.2**
IHRS	**Heris**	**1.26**	**255**	Pg	**Pn**	**17 14 27.4**	**-0.7**
QRD	**Qoradiz**	**1.28**	**310**	P	**Pn**	**17 14 26.8**	**-1.4**
QRD				S	**Sb**	**17 14 44.2**	**-0.7**
BLQ	**Beylaqan**	**1.34**	**323**	P	**Pn**	**17 14 27.9**	**-1.1**
BLQ				S	**Sn**	**17 14 46.4**	**-0.2**
IHSH	**Hashtrud**	**1.71**	**218**	Pg	**Pn**	**17 14 33.7**	**-0.6**
KDMR	**Kurdemir**	**1.75**	**350**	Pn	**Pn**	**17 14 34.3**	**-0.3**
KDMR				Sn	**Sn**	**17 14 57.4**	**+0.6**
ZRD	**Zardab**	**1.77**	**337**	Pn	**Pn**	**17 14 34.8**	**-0.2**
ZRD				Sn	**Sb**	**17 14 58.9**	**-0.1**
AGDM	**Agdam**	**1.85**	**322**	Pn	**Pn**	**17 14 35.5**	**-0.7**
AGDM				Sn	**Sn**	**17 15 00.1**	**+0.7**
LHJ2	**Lahijan - Gila**	**1.88**	**142**	Pn	**Pn**	**17 14 34.8**	**-1.7**
BRDA	**Brd**	**1.95**	**326**	Pn	**Pn**	**17 14 37.7**	**+0.3**
BRDA				Sn	**Sb**	**17 15 04.0**	**-0.1**
ORD	**Ordubad**	**2.05**	**279**	Pn	**Pn**	**17 14 39.7**	**+0.8**
ORD				Sn	**Sb**	**17 15 06.9**	**-0.3**
PQL	**Pirkuli**	**2.13**	**360**	Sn	**Sn**	**17 15 07.2**	**+0.7**
IML	**Ismayilli**	**2.16**	**352**	Sn	**Sn**	**17 15 07.6**	**+0.6**
IMRD	**Marand**	**2.27**	**272**	Pn	**Pn**	**17 14 42.4**	**+0.5**
QBL	**Gabala**	**2.36**	**346**	Pn	**Pn**	**17 14 43.1**	**-0.1**
QBL				Sn	**Sn**	**17 15 11.8**	**-0.1**
ISHB	**Shabestar**	**2.37**	**262**	Pn	**Pn**	**17 14 42.8**	**-0.6**
SIZA	**Siyzn**	**2.43**	**5**	Pn	**Pn**	**17 14 44.3**	**+0.2**
SIZA				Sg	**Sb**	**17 15 18.7**	**+0.5**
NAX	**Nakhchivan**	**2.47**	**283**	Pg	**Pb**	**17 14 47.8**	**-1.2**
NAX				Sg	**Sb**	**17 15 20.2**	**+0.8**
SBZ	**Shahbuz**	**2.48**	**288**	Pn	**Pb**	**17 14 47.2**	**-2.0**
SBZ				Sg	**Sb**	**17 15 20.3**	**+0.6**
XNQ	**Khinaliq**	**2.54**	**352**	Pn	**Pn**	**17 14 46.7**	**+1.0**
XNQ				Sn	**Sn**	**17 15 16.3**	**-0.3**
GANJ	**Ganja**	**2.65**	**319**	Pn	**Pn**	**17 14 47.6**	**+0.5**
GANJ				Sn	**Sn**	**17 15 20.5**	**+1.4**
SEKA	**Sheki**	**2.77**	**338**	Pn	**Pn**	**17 14 49.1**	**+0.3**
SEKA				Sn	**Sn**	**17 15 21.4**	**-0.6**
GDB	**GEDABAY**	**3.01**	**314**	Pn	**Pn**	**17 14 52.0**	**-0.1**
GDB				Sn	**Sn**	**17 15 30.4**	**+2.2**

*NNC **17** 17:14:26.2±0.3, 44°.72N×78°.87E, h0km±2km, mb4.1, mpv4.1, Error ellipse: s-maj=2.7km s-min=2.1km az=30.0*
*SOME **17** 17:14:27.1, 44°.68N×78°.77E, h10km*
*BJI **17** 17:14:29.3±0.0, 44°.93N×79°.14E, h19km, mb3.8/2, ML3.3/9*

ISC 17 17:14:26.6±1.1, 44°.73N±0°.02×78°.86E±0°.02, h4km±8km, n77, σ1s32/126, 20C-13D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDK	**Taldyqorghan**	**0.43**	**310**	*e*P	**Pg**	**17 14 35.4**	**+0.6**
	1μm,0.1s						
TDK				*e*S	**Sg**	**17 14 41.0**	**+0.6**
	11μm,0.4s						
TDK	**Taldyqorghan**	**0.43**	**310**	P	**Pg**	**17 14 35.4**	**+0.6**
	1μm,0.1s						
TDK				S	**Sg**	**17 14 41.0**	**+0.6**
	11μm,0.4s						
KNOS	**Konyrlen**	**0.43**	**148**	P	**Pg**	**17 14 35.8**	**+0.9**
KNOS				S	**Sg**	**17 14 41.6**	**+1.1**
BLB	**Baldybastay**	**0.69**	**204**	P	**Pg**	**17 14 40.4**	**+0.7**
	3μm,0.2s						
BLB				S	**Sg**	**17 14 49.8**	**+1.2**
	2μm,0.4s						
DJR	**Jarkent**	**0.77**	**120**	*e*P	**Pg**	**17 14 41.5**	**+0.2**
	302nm,0.2s						
DJR				*e*S	**Sg**	**17 14 51.5**	**+0.1**
	3μm,0.4s						
DJR	**Jarkent**	**0.77**	**120**	P	**Pg**	**17 14 41.5**	**+0.2**
	302nm,0.2s						
DJR				S	**Sg**	**17 14 51.5**	**+0.1**
	3μm,0.4s						
ARXS	**Arharly**	**0.90**	**236**	*e*P	**Pg**	**17 14 44.1**	**+0.2**
	183nm,0.1s						
ARXS				*e*S	**Sg**	**17 14 55.8**	**+0.3**
	777nm,0.2s						
ARXS	**Arharly**	**0.90**	**236**	P	**Pg**	**17 14 44.1**	**+0.2**
	183nm,0.1s						
ARXS				S	**Sg**	**17 14 55.8**	**+0.3**
	777nm,0.2s						
KPKS	**Kokpek**	**1.27**	**186**	*e*P	**Pn**	**17 14 50.5**	**-0.6**
	288nm,0.1s						
KPKS				*e*S	**Sb**	**17 15 06.7**	**-1.0**
	1μm,0.2s						
KPKS	**Kokpek**	**1.27**	**186**	P	**Pn**	**17 14 50.5**	**-0.6**
	288nm,0.1s						
KPKS				S	**Sb**	**17 15 06.7**	**-1.0**
	1μm,0.2s						
KURS	**Kuram**	**1.33**	**202**	*e*P	**Pn**	**17 14 51.8**	**-0.3**
	142nm,0.3s						
KURS				*e*S	**Sb**	**17 15 09.2**	**-0.5**
	612nm,0.2s						
KURS	**Kuram**	**1.33**	**202**	P	**Pn**	**17 14 51.8**	**-0.3**
	142nm,0.3s						
KURS				S	**Sb**	**17 15 09.2**	**-0.5**
	612nm,0.2s						
PDGK	**Podgornoye**	**1.47**	**162**	P	**Pb**	**17 14 54.2**	**-0.3**
	57nm,0.2s						
PDGK				S	**Sn**	**17 15 13.1**	**-0.6**
	511nm,0.3s						
PDGK	**Podgornoye**	**1.47**	**162**	⇓P	**Pn**	**17 14 53.7**	**-0.2**
	24nm,0.2s						
PDGK				⇑S	**Sn**	**17 15 12.7**	**-0.9**
	252nm,0.4s						
UZB	**Uzynbulak**	**1.58**	**176**	*e*P	**Pn**	**17 14 55.8**	**+0.3**
	76nm,0.2s						
UZB				*e*S	**Sb**	**17 15 16.2**	**-0.6**
	608nm,0.2s						
UZB	**Uzynbulak**	**1.58**	**176**	P	**Pn**	**17 14 55.8**	**+0.3**
	76nm,0.2s						
UZB				S	**Sb**	**17 15 16.2**	**-0.6**
	608nm,0.2s						
CHKK	**Chushkaly**	**1.60**	**238**	*e*P	**Pn**	**17 14 55.4**	**-0.3**
	115nm,0.2s						
CHKK				*e*S	**Sn**	**17 15 15.1**	**-1.8**
	836nm,0.3s						
CHKK	**Chushkaly**	**1.60**	**238**	P	**Pn**	**17 14 55.4**	**-0.3**
	115nm,0.2s						
CHKK				S	**Sn**	**17 15 15.1**	**-1.8**
	836nm,0.3s						
SHLS	**Shalkode**	**1.63**	**164**	*e*P	**Pg**	**17 14 58.0**	**+0.3**
	134nm,0.2s						
SHLS				*e*S	**Sg**	**17 15 19.9**	**+1.1**
	1μm,0.2s						
SHLS	**Shalkode**	**1.63**	**164**	P	**Pg**	**17 14 58.0**	**+0.3**
	134nm,0.2s						
SHLS				S	**Sg**	**17 15 19.9**	**+1.1**
	989nm,0.3s						
KTMS	**Ketmen**	**1.67**	**140**	*e*P	**Pb**	**17 14 57.3**	**-0.7**
KTMS				*e*S	**Sb**	**17 15 19.0**	**-0.4**
SATY	**Saty**	**1.70**	**191**	*e*P	**Pb**	**17 14 58.0**	**-0.4**
	91nm,0.1s						
SATY				*e*S	**Sb**	**17 15 19.9**	**-0.4**
	855nm,0.2s						
SATY	**Saty**	**1.70**	**191**	P	**Pb**	**17 14 58.0**	**-0.4**
	91nm,0.1s						
SATY				S	**Sb**	**17 15 19.8**	**-0.4**
	855nm,0.2s						
KTBS	**Karatobe**	**1.87**	**238**	*e*P	**Pb**	**17 15 00.8**	**-0.5**
	58nm,0.2s						
KTBS				*e*S	**Sb**	**17 15 24.3**	**-0.7**
	887nm,0.1s						
KTBS	**Karatobe**	**1.87**	**238**	P	**Pb**	**17 15 00.8**	**-0.5**
	58nm,0.2s						
KTBS				S	**Sb**	**17 15 24.3**	**-0.7**
	787nm,0.3s						
KOTS	**Kotyrbulak**	**1.96**	**221**	*e*P	**Pb**	**17 15 01.9**	**-0.9**
	64nm,0.4s						
KOTS				*e*S	**Sb**	**17 15 26.6**	**-1.0**
	874nm,0.2s						
KOTS	**Kotyrbulak**	**1.96**	**221**	P	**Pb**	**17 15 01.9**	**-0.9**
	64nm,0.4s						
KOTS				S	**Sb**	**17 15 26.6**	**-1.0**
	874nm,0.2s						
KUU	**Kurty**	**1.99**	**246**	*e*P	**Pb**	**17 15 02.9**	**-0.5**
	49nm,0.2s						
KUU				*e*S	**Sb**	**17 15 27.9**	**-0.7**
	331nm,0.2s						
KUU	**Kurty**	**1.99**	**246**	P	**Pb**	**17 15 02.9**	**-0.5**
	49nm,0.2s						
KUU				S	**Sb**	**17 15 27.9**	**-0.7**
	331nm,0.2s						
KNDC	**Almaty**	**2.04**	**223**	⇑Pn	**Pn**	**17 15 02.9**	**+1.1**
	52nm,0.3s						
KNDC				⇑Sn	**Sb**	**17 15 29.7**	**-0.2**
	191nm,0.6s						
MDOK	**Medeo**	**2.04**	**221**	*e*P	**Pb**	**17 15 04.3**	**+0.1**
	74nm,0.3s						
MDOK				*e*S	**Sb**	**17 15 30.2**	**+0.1**
	388nm,0.3s						
MDOK	**Medeo**	**2.04**	**221**	⇑Pn	**Pn**	**17 15 02.8**	**+1.0**
	41nm,0.3s						
MDOK				Pg	**Pb**	**17 15 04.3**	**+0.1**
	74nm,0.3s						
MDOK				Lg	Lg	17 15 30.2	
	388nm,0.3s						
MDOK				⇓Sn	**Sb**	**17 15 30.4**	**+0.3**
	292nm,1.0s						
AAA	**Alma-Ata**	**2.07**	**224**	*e*P	**Pb**	**17 15 04.1**	**-0.6**
	117nm,0.3s						
AAA				*e*S	**Sb**	**17 15 30.2**	**-0.6**
	44nm,0.2s						
AAA	**Alma-Ata**	**2.07**	**224**	Pg	**Pb**	**17 15 04.1**	**-0.6**
	117nm,0.3s						
AAA				Lg	Lg	17 15 30.2	
	44nm,0.2s						
TNSS	**Tian-Shan**	**2.18**	**220**	*e*P	**Pb**	**17 15 06.3**	**-0.5**
	49nm,0.2s						
TNSS				*e*S	**Sb**	**17 15 33.6**	**-0.9**
	139nm,0.3s						
TNSS	**Tian-Shan**	**2.18**	**220**	Pg	**Pb**	**17 15 06.3**	**-0.5**
	49nm,0.2s						
TNSS				Lg	Lg	17 15 33.6	
	139nm,0.3s						
KASK	**Kaskelen**	**2.20**	**228**	⇑Lg	Lg	17 15 36.9	
MTBS	**Maitube**	**2.37**	**229**	*e*P	**Pb**	**17 15 10.1**	**+0.1**
	52nm,0.2s						
MTBS				*e*S	**Sb**	**17 15 40.2**	**+0.6**
	691nm,0.3s						
MTBS	**Maitube**	**2.37**	**229**	Pg	**Pb**	**17 15 10.0**	**+0.1**
	52nm,0.2s						
MTBS				Lg	Lg	17 15 40.2	
	691nm,0.3s						
KRBS	**Karabastau**	**2.51**	**247**	*e*P	**Pb**	**17 15 12.1**	**-0.2**
	19nm,0.2s						
KRBS				*e*S	**Sb**	**17 15 43.9**	**+0.3**
	77nm,0.1s						
KRBS	**Karabastau**	**2.51**	**247**	Pg	**Pb**	**17 15 12.1**	**-0.2**
	19nm,0.2s						
KRBS				Lg	Lg	17 15 43.9	
	77nm,0.1s						
DGS	**Degeres**	**2.68**	**237**	*e*P	**Pb**	**17 15 15.2**	**0.0**
	50nm,0.3s						
DGS				*e*S	**Sb**	**17 15 49.1**	**+0.7**
	156nm,0.4s						
DGS	**Degeres**	**2.68**	**237**	Pg	**Pb**	**17 15 15.2**	**0.0**
	50nm,0.3s						
DGS				Lg	Lg	17 15 49.2	
	156nm,0.4s						
KST	**Kastek**	**2.69**	**232**	*e*P	**Pb**	**17 15 15.7**	**+0.4**
	56nm,0.3s						
KST				*e*S	**Sb**	**17 15 50.1**	**+1.4**
	113nm,0.6s						
KST	**Kastek**	**2.69**	**232**	Pg	**Pb**	**17 15 15.7**	**+0.4**
	56nm,0.3s						
KST				Lg	Lg	17 15 50.1	
	113nm,0.6s						
TKM2	**Tokmak 2**	**2.97**	**234**	P	**Pn**	**17 15 15.2**	**+0.5**
	SNR=9.8						
TKM2	**Tokmak 2**	**2.97**	**234**	⇓Pn	**Pn**	**17 15 15.1**	**+0.3**
	2.5nm,0.4s						
TKM2				⇑Pg	**Pb**	**17 15 21.6**	**+1.3**
	8.9nm,0.3s						
TKM2				⇑Lg	Lg	17 16 01.7	
	29nm,0.5s						
MAKZ	**Makanchi**	**

66nm,0.7s
UCH Uchtor 4.03 233 P Pb 17 15 40.4 +2.0
SNR=6.6
MRKS Merke 4.54 246 *e*P **Pb 17 15 49.2 +2.3**
9.0nm,0.4s
MRKS *e*S **Sg 17 16 47.4 -4.9**
40nm,0.6s
MRKS Merke 4.54 246 Pg **Pb 17 15 49.2 +2.3**
9.0nm,0.4s
MRKS Lg Lg 17 16 47.4
40nm,0.6s
ZSN Zaisan 4.99 55 *e*P **Pb 17 15 52.8 -1.5**
3.6nm,0.5s
ZSN *e*S **Sb 17 16 52.3 -2.3**
24nm,0.9s
ZSN Zaisan 4.99 55 Pg **Pb 17 15 52.8 -1.5**
3.6nm,0.5s
ZSN Lg Lg 17 16 52.3
24nm,0.9s
KSH Kashi 5.63 203 Pn **Pb 17 16 06.4 +0.9**
KSH Sn **Sb 17 17 16.6 +3.2**
KSH smax smax
comp=N,10.0nm,1.1s
KSH smax smax
comp=E,14nm,0.9s
OTUK Ortayu 5.72 310 Pg **Pg 17 16 13.4 -2.6**
1.9nm,0.4s
OTUK Lg Lg 17 17 28.0
18nm,0.7s
OTUK Ortayu 5.72 310 ⇓Pg **Pb 17 16 11.0 +4.2**
1.7nm,0.5s
OTUK ⇑Lg Lg 17 17 26.7
34nm,0.8s
KURBB Kurchatov Arra 5.90 358 ⇑Pg **Pb 17 16 12.7 +2.7**
1.4nm,0.3s
KURBB ⇑Lg Lg 17 17 32.2
113nm,0.7s
KK31 Karatay Array 6.25 258 ⇓Pn **Pn 17 15 58.6 -0.9**
0.5nm,0.3s,baz=72,slow=13,SNR=27
WMQ Urumqi 6.41 95 *e*Pn **Pn 17 16 05.5 +3.8**
WMQ smax smax
comp=N,33nm,0.9s
WMQ smax smax
comp=E,18nm,0.5s
BRLS Borolday 6.74 259 *e*P **Pg 17 16 34.7 -1.0**
1.9nm,0.3s
BRLS *e*S **Sg 17 18 04.8 +1.9**
14nm,0.6s
IUG Iuzhnay 6.93 251 Pg **Pg 17 16 35.9 -3.3**
12nm,0.4s
IUG Lg Lg 17 18 07.3
45nm,0.6s
BVA0 Borovoye Array 10.00 329 ⇓Pn **Pn 17 16 50.0 -1.0**
1.0nm,0.6s,baz=157,slow=14,SNR=11
BVA0 ⇑Sn **Sn 17 18 46.3 +2.8**
3.5nm,1.1s,baz=140,slow=20,SNR=4.0
BVA0 ⇓Lg Lg 17 19 43.2
14nm,0.8s,baz=138,slow=28,SNR=8.6
ZAA0 Zalesovo Array 10.01 21 ⇓Pn **Pn 17 16 50.3 -0.8**
0.5nm,0.6s
ZAA0 ⇑Sn **Sn 17 18 43.8 +0.1**
0.5nm,0.4s
ZAA0 ⇓Lg Lg 17 19 40.6
1.6nm,0.7s
AB31 Akbulak array 13.68 296 ⇑Pn **Pn 17 17 38.6 -2.6**
1.0nm,0.7s,baz=98,slow=14,SNR=15
GTA Gaotai 16.42 102 P **P 17 18 20.3 -0.5**
GTA pmax pmax
comp=Z,3.0nm,1.0s
NB2 NORSAR Subarra 41.88 318 P **P 17 22 21.4 +3.9**
comp=Z,0.3nm,0.4s,baz=82,slow=8.6

NEIC ***17*** *17:19:25.1±2.2, 47°.55N±0°.06×92°.59W±0°.07, h0km±2km, mb_Lg2.7/23, Error ellipse: s-maj=11.1km s-min=7.0km az=211.0*
IDC ***17*** *17:19:27.0±4.7, 47°.55N×92°.93W, h0km, mbtmp2.3/1, ML0.8/1, Error ellipse: s-maj=74.5km s-min=28.2km az=55.0*
ISC 17 17:19:21.0±1.1, 47°.68N±0°.06×92°.49W±0°.05, h0km, n23, σ2§07/19, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.72**	**68**		**Pn**	**17 19 40.4**	**+1.9**
E38A	**The Farm, Brul**	**1.25**	**149**		**Pn**	**17 19 46.4**	**+0.7**
AGMN	**Agassiz Nation**	**2.35**	**287**	Pn	**Pb**	**17 20 02.6**	**-1.5**
AGMN				IAmb_Lg		17 20 45.5	
comp=Z,21nm,0.8s							
SPMN	**Marine on St.**	**2.46**	**185**		**Pn**	**17 20 02.9**	**+0.5**
SPMN				IAmb_Lg		17 20 37.0	
comp=Z,21nm,0.9s							
COWI	**Conover**	**2.79**	**123**		**Pn**	**17 20 08.0**	**+1.0**
COWI				IAmb_Lg		17 20 50.9	
comp=Z,25nm,1.1s							
G40A	**Rib Lake**	**2.88**	**146**		**Pb**	**17 20 11.2**	**-2.2**
G40A				IAmb_Lg		17 21 00.5	
comp=Z,21nm,1.0s							
F33A	**5 Mile Ranch,**	**3.19**	**236**		**Pn**	**17 20 13.4**	**+0.9**
ULM	**Lac du Bonnet**	**3.40**	**320**	Pn	**Pb**	**17 20 20.2**	**-2.0**
ULM	**Lac du Bonnet**	**3.40**	**320**	Pn	**Pb**	**17 20 19.5**	**-2.7**
comp=Z,0.2nm,0.3s,baz=150,slow=16,SNR=1.4							
ULM				Sn	**Sn**	**17 20 56.9**	**+0.5**
comp=Z,0.3nm,0.3s,baz=280,slow=16,SNR=3.3							
ULM				Lg	Lg	17 21 10.6	
comp=Z,4.5nm,0.3s,baz=222,slow=22,SNR=34							
comp=Z,0.7nm,0.4s							
I10CA	**LAC DU BONNET**	**3.44**	**319**	I	I	17 40 05.0	
baz=141,slow=315,SNR=0.1							
F42A	**Maple Grove Fa**	**3.56**	**121**		**Pb**	**17 20 23.0**	**-1.8**
I37A	**Lemond, Waseca**	**3.72**	**190**	Pn	**Pn**	**17 20 20.9**	**+1.2**
I37A				IAmb_Lg		17 21 21.7	
comp=Z,14nm,1.1s							
I40A	**Norwalk**	**4.01**	**160**	Pn	**Pn**	**17 20 25.0**	**+1.4**
I40A				IAmb_Lg		17 21 35.9	
comp=Z,14nm,0.9s							
I42A	**Draeger Farm,**	**4.54**	**145**		**Pn**	**17 20 33.3**	**+2.3**
H43A	**Windswept, Lux**	**4.59**	**133**	Pn	**Pn**	**17 20 33.3**	**+1.6**
H43A				IAmb_Lg		17 21 55.4	
comp=Z,20nm,0.8s							
ECSD	**EROS Data Cent**	**4.89**	**218**		**Pn**	**17 20 36.7**	**+1.0**
JFWS	**Jewell Farm**	**5.02**	**161**	Pn	**Pn**	**17 20 38.0**	**+0.5**
JFWS				IAmb_Lg		17 21 59.4	
comp=Z,21nm,0.8s							
L40A	**Anamosa**	**5.69**	**170**	Pn	**Pn**	**17 20 49.7**	**+3.0**
L40A				IAmb_Lg		17 22 25.3	
comp=Z,12nm,1.0s							
E28A	**Huff**	**5.70**	**262**	Pn	**Pn**	**17 20 51.4**	**+4.4**
E28A				IAmb_Lg		17 22 21.6	
comp=Z,23nm,1.0s							
L34A	**Svendsen Farm,**	**6.34**	**207**	IAmb_Lg		17 22 56.5	
comp=Z,13nm,0.8s							
N41A	**Harden Midland**	**7.07**	**170**	IAmb_Lg		17 23 08.6	
comp=Z,12nm,0.9s							
BGNE	**Belgrade**	**7.46**	**215**	IAmb_Lg		17 23 38.1	
comp=Z,14nm,0.8s							
I56US	**NEWPORT INFRAS**	**16.49**	**281**	I	I	18 56 00.0	
baz=84,slow=315,SNR=2.0							

NOU ***17*** *17:38:13.4, 40°.83S×177°.28E, h28km, MLv3.5/7, Off E. Coast of N. Island, N.Z.*
WEL ***17*** *17:38:20.0±0.3, 40°.S±2°.×17°.6E±°., h28km±2km, M2.9/19, ML3.3/19, MLv2.9/19, Error ellipse: s-maj=0.0km s-min=0.0km az=116.6, confirmed*
ISC 17 17:38:20.8±0.9, 40°.37S±0°.02×176°.27E±0°.03, h32km±7km, n88, σ1§01/112, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVHZ	**Dannevirke**	**0.10**	**312**	P	**Pn**	**17 38 26.4**	**+0.1**
DVHZ				S	**Sb**	**17 38 30.6**	**+0.1**
ANWZ	**Angora Road**	**0.18**	**120**	P	**Pn**	**17 38 27.4**	**+0.1**
ANWZ				S	**Sb**	**17 38 32.8**	**+1.3**
PRWZ	**Pori Road**	**0.29**	**231**	P	**Pn**	**17 38 28.9**	**+0.1**
PRWZ				S	**Sn**	**17 38 35.7**	**+1.5**
PRHZ	**Porangahau**	**0.30**	**70**	P	**Pn**	**17 38 28.6**	**-0.3**
PRHZ				S	**Sn**	**17 38 35.0**	**+0.7**
BFZ	**Birch Farm**	**0.31**	**183**	P	**Pn**	**17 38 28.9**	**-0.3**
BFZ	**Birch Farm**	**0.31**	**183**	P	**Pn**	**17 38 28.8**	**-0.4**
BFZ				S	**Sn**	**17 38 35.3**	**+0.6**
WPHZ	**Waipukurau**	**0.33**	**24**	P	**Pn**	**17 38 28.8**	**-0.6**
WPHZ				S	**Sn**	**17 38 35.3**	**+0.2**
POWZ	**Post Office Ro**	**0.38**	**266**	P	**Pn**	**17 38 29.9**	**-0.2**
POWZ				S	**Sn**	**17 38 37.0**	**+0.7**
TSZ	**Takapari Road**	**0.39**	**323**	P	**Pn**	**17 38 29.5**	**-0.7**
TSZ				S	**Sn**	**17 38 36.1**	**-0.4**
PNHZ	**Pukenui**	**0.46**	**353**	P	**Pn**	**17 38 30.4**	**-0.8**
PNHZ				S	**Sn**	**17 38 38.0**	**-0.3**
TIWZ	**Tintock**	**0.50**	**215**	P	**Pn**	**17 38 31.6**	**-0.2**
TIWZ				S	**Sn**	**17 38 40.1**	**+0.8**
CPWZ	**Castlepoint**	**0.54**	**185**	P	**Pn**	**17 38 32.5**	**+0.2**
CPWZ				S	**Sn**	**17 38 42.8**	**+2.5**
PXZ	**Pawanui**	**0.57**	**54**	P	**Pn**	**17 38 31.9**	**-0.7**
PXZ				S	**Sn**	**17 38 41.5**	**+0.7**
MRZ	**Mangatainoka R**	**0.60**	**241**	P	**Pn**	**17 38 32.8**	**-0.3**
MRZ				S	**Sn**	**17 38 42.2**	**+0.5**
KRHZ	**Kereru**	**0.73**	**6**	P	**Pn**	**17 38 34.4**	**-0.5**
KRHZ				S	**Sn**	**17 38 44.8**	**-0.1**
KAHZ	**Kahuranaki**	**0.74**	**39**	P	**Pn**	**17 38 34.5**	**-0.5**
KAHZ				S	**Sn**	**17 38 46.6**	**+1.4**
OHWZ	**Ohakea**	**0.75**	**282**	P	**Pn**	**17 38 35.5**	**+0.4**
OHWZ				S	**Sn**	**17 38 47.1**	**+1.8**
HOWZ	**Holdsworth Sta**	**0.78**	**227**	P	**Pn**	**17 38 35.2**	**-0.4**
HOWZ				S	**Sn**	**17 38 46.4**	**+0.2**
TMWZ	**Te Maipa**	**0.79**	**201**	P	**Pb**	**17 38 35.1**	**-1.1**
TMWZ				S	**Sn**	**17 38 46.5**	**0.0**
OGWZ	**Otaki Gorge**	**0.95**	**241**	P	**Pb**	**17 38 37.8**	**-1.0**
OGWZ				S	**Sn**	**17 38 50.7**	**+0.4**
KWHZ	**Kaweka Forest**	**0.95**	**7**	P	**Pn**	**17 38 37.6**	**-0.3**
KWHZ				S	**Sn**	**17 38 50.5**	**+0.1**
MTW	**Mount Morrison**	**0.98**	**216**	P	**Pn**	**17 38 37.4**	**-0.9**
MTW				S	**Sn**	**17 38 50.3**	**-0.8**
MCHZ	**McNeill Hill**	**0.98**	**20**	P	**Pn**	**17 38 38.0**	**-0.4**
MOVZ	**Moawhango**	**1.04**	**337**	P	**Pb**	**17 38 39.4**	**-0.9**
MOVZ				S	**Sb**	**17 38 53.4**	**-0.3**
TRWZ	**Traveller**	**1.12**	**203**	P	**Pn**	**17 38 39.3**	**-1.0**
TRWZ				S	**Sn**	**17 38 53.1**	**-1.4**
KIW	**Kapiti Island**	**1.15**	**244**	P	**Pn**	**17 38 40.7**	**+0.1**
MTVZ	**Mangateitei**	**1.16**	**328**	P	**Pb**	**17 38 42.1**	**-0.3**
WAZ	**Wanganui**	**1.16**	**302**	P	**Pb**	**17 38 42.6**	**+0.3**
WNVZ	**Wahianoa**	**1.16**	**333**	P	**Pb**	**17 38 41.6**	**-0.9**
CAW	**Cannon Point**	**1.17**	**231**	P	**Pn**	**17 38 40.3**	**-0.7**
PAWZ	**Paruwai Farm**	**1.20**	**212**	P	**Pn**	**17 38 40.2**	**-1.1**
TUVZ	**Tukino**	**1.20**	**337**	P	**Pb**	**17 38 42.2**	**-0.8**
TRVZ	**Turoa**	**1.20**	**332**	P	**Pb**	**17 38 43.1**	**-0.1**
WHVZ	**Whangaehu Hut**	**1.20**	**334**	P	**Pb**	**17 38 42.7**	**-0.5**
BKZ	**Black Stump Fm**	**1.21**	**8**	P	**Pn**	**17 38 41.2**	**-0.4**
BKZ	**Black Stump Fm**	**1.21**	**8**	P	**Pn**	**17 38 41.1**	**-0.4**
MAVZ	**Matarangi**	**1.23**	**333**	P	**Pb**	**17 38 43.3**	**-0.3**
ARHZ	**Aropaoanui**	**1.24**	**27**	P	**Pn**	**17 38 41.5**	**-0.4**
FWVZ	**Far West T-bar**	**1.24**	**333**	P	**Pb**	**17 38 42.9**	**-0.9**
SNVZ	**South Ngauruho**	**1.28**	**338**	P	**Pb**	**17 38 43.7**	**-0.8**
OTVZ	**Oturere**	**1.29**	**339**	P	**Pb**	**17 38 43.8**	**-0.9**
PKVZ	**Pokaka**	**1.29**	**326**	P	**Pb**	**17 38 43.9**	**-0.7**
COVZ	**Chateau Observ**	**1.29**	**334**	P	**Pb**	**17 38 44.1**	**-0.5**
NGZ	**Ngauruhoe**	**1.30**	**336**	P	**Pb**	**17 38 44.0**	**-0.8**
MSWZ	**Moikau Station**	**1.30**	**216**	P	**Pn**	**17 38 41.3**	**-1.4**
MSWZ				P	**Pn**	**17 38 41.3**	**-1.4**
ETVZ	**East Tongariro**	**1.30**	**341**	P	**Pb**	**17 38 43.8**	**-1.1**
TMVZ	**Te Maari**	**1.32**	**341**	P	**Pb**	**17 38 44.1**	**-1.1**
NNVZ	**North Ngauruho**	**1.33**	**338**	P	**Pb**	**17 38 44.4**	**-1.0**
NMHZ	**Naumai**	**1.34**	**18**	P	**Pn**	**17 38 43.2**	**-0.1**
NTVZ	**North Tongarir**	**1.35**	**340**	P	**Pb**	**17 38 44.4**	**-1.2**
WTVZ	**West Tongariro**	**1.36**	**337**	P	**Pb**	**17 38 44.8**	**-0.9**
KRVZ	**Karewarewa**	**1.36**	**339**	P	**Pb**	**17 38 45.3**	**-0.5**
PLWZ	**Palliser**	**1.42**	**212**	P	**Pn**	**17 38 42.9**	**-1.5**
RITZ	**Rihia Road**	**1.43**	**347**	P	**Pb**	**17 38 45.8**	**-1.0**
TWVZ	**Taurewa**	**1.45**	**333**	P	**Pb**	**17 38 46.3**	**-0.9**
KATZ	**Kakaramea**	**1.46**	**342**	P	**Pb**	**17 38 48.0**	**+0.6**
BHW	**Baring Head**	**1.48**	**225**	P	**Pn**	**17 38 43.9**	**-1.3**
SNZO	**South Karori**	**1.51**	**231**	P	**Pn**	**17 38 45.5**	**-0.1**
MRHZ	**Matea Rd**	**1.54**	**4**	P	**Pn**	**17 38 46.1**	**+0.1**
RATZ	**Rangitukua**	**1.55**	**346**	P	**Pb**	**17 38 48.0**	**-0.9**
MTHZ	**Maungataniwha**	**1.58**	**16**	P	**Pn**	**17 38 46.0**	**-0.6**
RAHZ	**Arahi**	**1.58**	**24**	P	**Pb**	**17 38 52.4**	**+2.9**
LREZ	**Lake Rotokare**	**1.70**	**302**	P	**Pb**	**17 38 51.8**	**+0.4**
VRZ	**Vera Road**	**1.70**	**316**	P	**Pb**	**17 38 49.6**	**-1.9**
TCW	**Tory Channel**	**1.73**	**240**	P	**Pn**	**17 38 48.0**	**-0.7**
SNGZ	**Shannon Statio**	**1.79**	**28**	P	**Pn**	**17 38 48.4**	**-1.1**
RTZ	**Ruatahuna**	**1.84**	**18**	P	**Pn**	**17 38 49.4**	**-0.8**
DUWZ	**D'Urville Isla**	**1.84**	**256**	P	**Pn**	**17 38 50.5**	**+0.4**
PRRZ	**Plateau Road**	**1.87**	**3**	P	**Pb**	**17 38 57.0**	**+2.7**
MHEZ	**Mangahewa**	**1.98**	**310**	P	**Pb**	**17 38 57.5**	**+1.4**
NEZ	**North Egmont**	**2.00**	**303**	P	**Pb**	**17 38 56.9**	**+0.3**
KHEZ	**Kahui Hut**	**2.04**	**301**	P	**Pb**	**17 38 58.7**	**+1.4**
KHEZ	**Kahui Hut**	**2.04**	**301**	P	**Pb**	**17 38 58.5**	**+1.2**
TUWZ	**Tuamarina**	**2.06**	**238**	P	**Pn**	**17 38 52.3**	**-0.8**
RAGZ	**Rawiri**	**2.07**	**26**	P	**Pn**	**17 38 51.9**	**-1.5**
PKE	**Pukeiti**	**2.11**	**303**	P	**Pb**	**17 38 59.3**	**+0.8**
TLZ	**Tolley Road**	**2.11**	**344**	P	**Pb**	**17 38 57.9**	**-0.6**
NBEZ	**Newall Road No**	**2.15**	**300**	P	**Pb**	**17 38 59.7**	**+0.6**
HIZ	**Hauiti**	**2.15**	**329**	P	**Pb**	**17 38 59.1**	**0.0**
HIZ	**Hauiti**	**2.15**	**329**	P	**Pb**	**17 38 57.8**	**-1.3**
URZ	**Urewera**	**2.21**	**18**	P	**Pn**	**17 38 53.7**	**-1.5**
URZ	**Urewera**	**2.21**	**18**	P	**Pn**	**17 38 53.6**	**-1.6**
MWZ	**Matawai**	**2.25**	**26**	P	**Pn**	**17 38 54.0**	**-1.9**
RUGZ	**Raukumara Rang**	**2.64**	**25**	P	**Pn**	**17 38 59.7**	**-1.6**
MRNZ	**Matariki Terra**	**2.85**	**248**	P	**Pn**	**17 39 03.9**	**-0.2**
PKGZ	**Pakihiroa**	**2.87**	**30**	P	**Pn**	**17 39 02.4**	**-1.9**
QRZ	**Quartz Range**	**2.88**	**260**	P	**Pn**	**17 39 07.0**	**+2.5**
THZ	**Tophouse**	**2.90**	**240**	P	**Pn**	**17 39 03.3**	**-1.5**

ROM ***17*** *18:13:44.8±0.1, 44°.507N±0°.006×7°.11E±0°.01, h10km, ML3.4/81, Mw3.2, Error ellipse: s-maj=1.1km s-min=0.2km az=243.0, Moment Tensor Solution. Moment tensor: Scale 10^13^Nm; M_{rr}4.51; $M_{\theta\theta}$-5.20; $M_{\phi\phi}$0.69; $M_{r\theta}$4.65; $M_{\theta\phi}$1.23; $M_{\phi r}$-1.63; Fault plane solution: $M_0$7.00734×10^13^ NP1:ϕ_s273.00000°, δ23.00000°, λ76.00000°. NP2: ϕ_s108.00000°, δ67.00000°, λ96.00000°.*
GEN ***17*** *18:13:44.9, 44°.50N×7°.10E, h7km±1km, Ml3.5*
STR ***17*** *18:13:45.6±0.2, 45°N±1°.×°.±°., h4km±2km, MLv3.7/12, Error ellipse: s-maj=0.0km s-min=0.0km az=61.5, preliminary*
LDG ***17*** *18:13:45.0±0.1, 44°.52N×7°.09E, h8km, Md3.6/2, Ml3.8/46, Error ellipse: s-maj=1.1km s-min=0.7km az=62.0*
IDC ***17*** *18:13:45.8±1.7, 44°.64N×7°.12E, h0km, mb3.0/2, mbtmp3.6/7, ML3.9/5, MS2.4/1, Error ellipse: s-maj=32.1km s-min=15.7km az=129.0*
BGR ***17*** *18:13:46.6±0.5, 44°.43N×7°.05E, h10km, ML3.6/19, Error ellipse: s-maj=11.1km s-min=7.8km az=80.0*
PRU ***17*** *18:13:50.8, 44°.76N×7°.34E, h10km*
ISC 17 18:13:44.9±0.7, 44°.52N±0°.01×7°.09E±0°.01, h12km±4km, n240, σ2§03/391, 3C-31D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.02**	**130**	⇑P	**Pg**	**18 13 46.8**	**-0.4**
PZZ				S	**Sg**	**18 13 47.6**	**-1.2**
PZZ	**Stroppo**	**0.02**	**130**	Pg	**Pg**	**18 13 46.8**	**-0.4**
PZZ				Sg	**Sg**	**18 13 47.7**	**-1.2**
PZZ	**Stroppo**	**0.02**	**130**	P	**Pg**	**18 13 46.8**	**-0.4**
PZZ				S	**Sg**	**18 13 47.6**	**-1.2**
SURF	**Saint Ours**	**0.20**	**259**	Pg	**Pg**	**18 13 49.9**	**+0.4**
SURF				Sg	**Sg**	**18 13 52.9**	**+0.3**
SURF	**Saint Ours**	**0.20**	**259**	P	**Pg**	**18 13 49.8**	**+0.4**
SURF				S	**Sg**	**18 13 53.1**	**+0.5**
JAUF	**Jausiers**	**0.26**	**250**	Pg	**Pg**	**18 13 50.8**	**+0.4**
JAUF				Sg	**Sg**	**18 13 54.3**	**+0.2**
MBDF	**Montbardon**	**0.31**	**312**	*e*Pg	**Pg**	**18 13 51.7**	**+0.5**
MBDF				*e*Sg	**Sg**	**18 13 56.4**	**+0.9**
4μm,0.3s							
STV	**Sant Anna di V**	**0.32**	**149**	⇓P	**Pg**	**18 13 51.2**	**-0.2**
STV				S	**Sg**	**18 13 55.3**	**-0.5**
STV				AML	AML		
comp=E,5845μm,0.2s							
STV				AML	AML		
comp=N,6697μm,0.4s							
STV				AML	AML		
comp=N,6700μm,0.4s							
STV				AML	AML		
comp=E,5845μm,0.1s							
STV	**Sant Anna di V**	**0.32**	**149**	Pg	**Pg**	**18 13 51.3**	**-0.2**
STV	**Sant Anna di V**	**0.32**	**149**	Sg	**Sg**	**18 13 55.4**	**-0.5**
STV	**Sant Anna di V**	**0.32**	**149**	P	**Pg**	**18 13 51.2**	**-0.2**
STV				S	**Sg**	**18 13 55.3**	**-0.5**
CREF	**Crivoux**	**0.34**	**275**	Pg	**Pg**	**18 13 52.4**	**+0.6**
CREF				Sg	**Sg**	**18 13 57.7**	**+1.3**
ISO	**Isola**	**0.34**	**185**	Pg	**Pg**	**18 13 51.8**	**0.0**
ISO				Sg	**Sg**	**18 13 56.0**	**-0.3**
ISO	**Isola**	**0.34**	**185**	P	**Pg**	**18 13 52.3**	**+0.5**
ISO				S	**Sg**	**18 13 56.7**	**+0.4**
BHB	**Bricherasio**	**0.34**	**21**	⇓P	**Pg**	**18 13 52.2**	**+0.4**
BHB				S	**Sg**	**18 13 57.5**	**+1.0**
BHB				AML	AML		
comp=N,29250μm,0.4s							
BHB				AML	AML		
comp=E,25700μm,0.5s							
BHB				AML	AML		
comp=N,29250μm,1.6s							
BHB				AML	AML		
comp=E,25700μm,1.5s							
BHB				AML	AML		
comp=E,18596μm,0.2s							
BHB				AML	AML		
comp=N,29231μm,0.4s							
BHB	**Bricherasio**	**0.34**	**21**	Pg	**Pg**	**18 13 52.3**	**+0.4**
BHB	**Bricherasio**	**0.34**	**21**	Sg	**Sg**	**18 13 57.1**	**+0.6**
BHB	**Bricherasio**	**0.34**	**21**	P	**Pg**	**18 13 52.2**	**+0.4**
BHB				S	**Sg**	**18 13 57.2**	**+0.7**
OGAG	**Argentiere**	**0.40**	**261**	Pg	**Pb**	**18 13 55.0**	**+1.1**
OGAG				Sg	**Sb**	**18 14 02.4**	**+2.3**
OGAG	**Argentiere**	**0.40**	**261**	P	**Pb**	**18 13 54.8**	**+0.8**
OGAG				S	**Sb**	**18 14 02.3**	**+2.2**
RRL	**Rocca Remolon**	**0.46**	**332**	⇓P	**Pg**	**18 13 54.3**	**+0.4**
RRL				S	**Sb**	**18 14 01.6**	**-0.2**
RRL				AML	AML		
comp=E,10130μm,0.2s							
RRL				AML	AML		
comp=N,7440μm,0.2s							
RRL				AML	AML		
comp=N,7440μm,0.2s							
RRL				AML	AML		
comp=E,10154μm,0.2s							
RRL	**Rocca Remolon**	**0.46**	**332**	Pg	**Pg**	**18 13 54.5**	**+0.6**
RRL	**Rocca Remolon**	**0.46**	**332**	Sg	**Sg**	**18 14 01.5**	**+1.4**
RRL	**Rocca Remolon**	**0.46**	**332**	P	**Pg**	**18 13 54.3**	**+0.4**
RRL				S	**Sg**	**18 14 01.2**	**+1.2**
ENAUX	**Enaux**	**0.47**	**209**	Pg	**Pg**	**18 13 54.6**	**+0.5**
ENAUX				Sg	**Sg**	**18 14 00.9**	**+0.5**
SPIF	**crte de Spivo**	**0.48**	**167**	Pg	**Pg**	**18 13 54.3**	**+0.1**
SPIF				Sg	**Sg**	**18 14 00.0**	**-0.6**
TURF	**col de Turini**	**0.59**	**158**	Pg	**Pg**	**18 13 56.4**	**0.0**
TURF				Sg	**Sg**	**18 14 04.0**	**-0.1**
TURF	**col de Turini**	**0.59**	**158**	P	**Pg**	**18 13 56.8**	**+0.5**
TURF				S	**Sg**	**18 14 04.4**	**+0.3**
GBOS	**Grotte di Boss**	**0.60**	**117**	P	**Pg**	**18 13 56.5**	**-0.1**
GBOS				S	**Sg**	**18 14 04.1**	**-0.5**
GBOS				AML	AML		
comp=N,3720μm,0.8s							
GBOS				AML	AML		
comp=E,7095μm,0.3s							
GBOS				AML	AML		
comp=E,7093μm,0.3s							
GBOS				AML	AML		
comp=N,3466μm,0.4s							
GBOS	**Grotte di Boss**	**0.60**	**117**	Pg	**Pg**	**18 13 56.7**	**0.0**
GBOS	**Grotte di Boss**	**0.60**	**117**	Sg	**Sg**	**18 14 04.3**	**-0.4**
GBOS	**Grotte di Boss**	**0.60**	**117**	P	**Pg**	**18 13 56.4**	**-0.3**
GBOS				S	**Sg**	**18 14 04.2**	**-0.4**
BNI	**Bardonecchia**	**0.61**	**331**	⇓P	**Pg**	**18 13 57.0**	**+0.3**
BNI				S	**Sg**	**18 14 05.5**	**+0.7**
BNI				AML	AML		
comp=E,2745μm,1.2s							
BNI				AML	AML		
comp=N,2155μm,0.3s							
BNI				AML	AML		
comp=N,2160μm,0.3s							
BNI				AML	AML		
comp=E,3355μm,1.2s							
BNI				AML	AML		
comp=E,2745μm,0.8s							
BNI				AML	AML		
comp=E,3355μm,0.8s							
BNI				AML	AML		
comp=E,2495μm,0.4s							
BNI				AML	AML		
comp=E,3059μm,0.4s							
BNI				AML	AML		
comp=N,2670μm,0.3s							
BNI				AML	AML		
comp=N,2157μm,0.3s							
BNI				AML	AML		
comp=N,2669μm,0.3s							
BNI	**Bardonecchia**	**0.61**	**331**	P	**Pg**	**18 13 57.0**	**+0.3**
BNI				S	**Sg**	**18 14 05.6**	**+0.7**
MVIF	**Mont Vial**	**0.63**	**176**	Pg	**Pg**	**18 13 57.1**	**+0.1**
MVIF				Sg	**Sg**	**18 14 05.6**	**+0.3**
SAOF	**Saorge**	**0.63**	**148**	⇓P	**Pg**	**18 13 57.0**	**-0.1**
SAOF				S	**Sg**	**18 14 05.1**	**-0.3**
SAOF				AML	AML		
comp=E,6190μm,0.3s							
SAOF				AML	AML		
comp=N,4185μm,0.5s							
SAOF				AML	AML		
comp=E,6189μm,0.3s							
SAOF				AML	AML		
comp=N,3650μm,0.2s							
SAOF	**Saorge**	**0.63**	**148**	Pg	**Pg**	**18 13 57.1**	**-0.1**
SAOF				Sg	**Sg**	**18 14 05.1**	**-0.3**
SAOF	**Saorge**	**0.63**	**148**	P	**Pg**	**18 13 57.0**	**-0.1**
SAOF				S	**Sg**	**18 14 04.9**	**-0.5**
RSP	**Reno Superiore**	**0.64**	**11**	⇓P	**Pg**	**18 13 57.5**	**+0.2**
RSP				S	**Sg**	**18 14 06.5**	**+0.7**
RSP				AML	AML		
comp=N,5595μm,1.4s							
RSP				AML	AML		
comp=E,5310μm,0.5s							
RSP				AML	AML		
comp=N,6000μm,1.4s							
RSP				AML	AML		
comp=N,6000μm,0.6s							
RSP				AML	AML		
comp=E,5750μm,0.5s							
RSP				AML	AML		
comp=N,5837μm,0.3s							
RSP				AML	AML		
comp=N,5440μm,0.3s							
RSP				AML	AML		
comp=N,5595μm,0.6s							
RSP				AML	AML		
comp=E,4589μm,0.2s							
RSP				AML	AML		
comp=E,4283μm,0.2s							
RSP	**Reno Superiore**	**0.64**	**11**	Pg	**Pg**	**18 13 58.1**	**+0.7**
RSP	**Reno Superiore**	**0.64**	**11**	Sg	**Sg**	**18 14 06.7**	**+0.9**
RSP	**Reno Superiore**	**0.64**	**11**	P	**Pg**	**18 13 57.5**	**+0.2**
RSP				S	**Sg**	**18 14 06.6**	**+0.7**
**O

BURY	**Giardini Botan**	**0.81 155**	Pg	**Pg**	**18 14 00.5 0.0**
BURY	**Giardini Botan**	**0.81 155**	Sg	**Sg**	**18 14 11.3 +0.2**
BURY	**Giardini Botan**	**0.81 155**	P	**Pg**	**18 14 00.5 0.0**
BURY			S	**Sg**	**18 14 10.8 -0.3**
MON	**Monaco**	**0.82 163**	Pg	**Pg**	**18 14 00.9 +0.1**
MON			Sg	**Sb**	**18 14 12.1 0.0**
MON	**Monaco**	**0.82 163**	P	**Pb**	**18 14 01.4 +0.3**
MON			S	**Sb**	**18 14 12.4 +0.2**
IMI	**Imperia**	**0.84 136**	⇓P	**Pg**	**18 14 00.7 -0.4**
IMI			S	**Sg**	**18 14 11.3 -0.7**
IMI			AML	AML	
	comp=N,4355µm,0.3s				
IMI			AML	AML	
	comp=E,2655µm,1.2s				
IMI			AML	AML	
	comp=E,2144µm,0.4s				
IMI			AML	AML	
	comp=N,4352µm,0.3s				
IMI	**Imperia**	**0.84 136**	P	**Pg**	**18 14 00.7 -0.4**
IMI			S	**Sg**	**18 14 11.6 -0.5**
CANO	**Canova, Maglio**	**0.88 110**	⇑P	**Pg**	**18 14 01.4 -0.4**
CANO			S	**Sg**	**18 14 12.2 -1.1**
CANO			AML	AML	
	comp=E,3880µm,0.3s				
CANO			AML	AML	
	comp=N,5380µm,0.3s				
CANO			AML	AML	
	comp=E,3880µm,1.7s				
CANO			AML	AML	
	comp=N,5380µm,1.7s				
CANO			AML	AML	
	comp=E,3876µm,0.3s				
CANO			AML	AML	
	comp=N,5380µm,0.3s				
CANO	**Canova, Maglio**	**0.88 110**	Pg	**Pg**	**18 14 01.6 -0.2**
CANO	**Canova, Maglio**	**0.88 110**	Sg	**Sg**	**18 14 13.1 -0.2**
CANO	**Canova, Maglio**	**0.88 110**	P	**Pg**	**18 14 01.4 -0.4**
CANO			S	**Sg**	**18 14 12.2 -1.1**
TRIGF	**Trigance**	**0.92 213**	Pg	**Pg**	**18 14 02.8 +0.3**
TRIGF			Sg	**Sb**	**18 14 16.1 +1.2**
QLNO	**Quiliano**	**0.92 102**	P	**Pg**	**18 14 02.3 -0.3**
QLNO			S	**Sg**	**18 14 13.9 -0.7**
QLNO			AML	AML	
	comp=E,2180µm,0.4s				
QLNO			AML	AML	
	comp=N,1855µm,1.1s				
QLNO			AML	AML	
	comp=E,2180µm,1.6s				
QLNO			AML	AML	
	comp=N,1855µm,0.9s				
QLNO			AML	AML	
	comp=E,2180µm,0.4s				
QLNO			AML	AML	
	comp=N,1792µm,0.3s				
LSD	**Lago del Serru**	**0.94 2**	P	**Pg**	**18 14 03.0 0.0**
LSD			S	**Sg**	**18 14 15.2 -0.1**
LSD			AML	AML	
	comp=N,7620µm,0.3s				
LSD			AML	AML	
	comp=E,7785µm,0.7s				
LSD			AML	AML	
	comp=E,7680µm,0.2s				
LSD			AML	AML	
	comp=N,7620µm,0.3s				
LSD	**Lago del Serru**	**0.94 2**	Pg	**Pg**	**18 14 03.3 +0.3**
LSD	**Lago del Serru**	**0.94 2**	Sg	**Sb**	**18 14 16.8 +1.0**
BLAF	**les Blancs**	**0.94 233**	Pg	**Pn**	**18 14 04.5 +0.5**
BLAF			Sg	**Sb**	**18 14 16.5 +0.9**
ORIF	**Oris-en-Rattie**	**0.95 295**	*e*Pg	**Pg**	**18 14 03.5 +0.3**
ORIF			*e*Sg	**Sg**	**18 14 15.2 -0.5**
	comp=N,675nm,0.3s				
ORIF	**Oris-en-Rattie**	**0.95 295**	AML	AML	
	comp=E,1250µm,0.3s				
ORIF			AML	AML	
	comp=N,1076µm,1.5s				
ORIF			AML	AML	
	comp=N,972µm,0.3s				
ORIF			AML	AML	
	comp=E,1250µm,0.3s				
ORIF	**Oris-en-Rattie**	**0.95 295**	Sg	**Sb**	**18 14 16.8 +0.8**
ORIF	**Oris-en-Rattie**	**0.95 295**	Pg	**Pg**	**18 14 03.7 +0.5**
ROTM	**Rocchetta Tana**	**0.96 69**	P	**Pb**	**18 14 03.8 +0.4**
ROTM			AML	AML	
	comp=N,11000µm,0.4s				
ROTM			AML	AML	
	comp=E,10045µm,0.3s				
ROTM			AML	AML	
	comp=E,10070µm,0.3s				
ROTM			AML	AML	
	comp=N,10992µm,0.4s				
ROTM	**Rocchetta Tana**	**0.96 69**	Pg	**Pb**	**18 14 03.9 +0.6**
ROTM	**Rocchetta Tana**	**0.96 69**	Sg	**Sg**	**18 14 15.5 -0.3**
EILF	**Villa Eilenroc**	**0.97 178**	Pg	**Pg**	**18 14 03.6 0.0**
EILF			Sg	**Sb**	**18 14 17.0 +0.6**
LPG	**La Plagne**	**1.01 346**	*e*Pg	**Pg**	**18 14 04.1 -0.2**
LPG			*e*Sg	**Sg**	**18 14 17.0 -0.5**
	comp=N,1µm,0.3s				
LPL	**La Plagne**	**1.03 346**	*e*Pg	**Pg**	**18 14 04.4 -0.3**
LPL			*e*Sg	**Sg**	**18 14 18.0 -0.2**
	comp=N,1µm,0.4s				
PCP	**Piancastagn**	**1.04 88**	⇑P	**Pg**	**18 14 04.5 -0.4**
PCP			S	**Sg**	**18 14 18.0 -0.5**
PCP			AML	AML	
	comp=E,1700µm,0.6s				
PCP			AML	AML	
	comp=N,1430µm,0.5s				
PCP			AML	AML	
	comp=E,1699µm,0.6s				
PCP			AML	AML	
	comp=N,1430µm,0.5s				
PCP	**Piancastagn**	**1.04 88**	Pg	**Pg**	**18 14 04.6 -0.3**
PCP	**Piancastagn**	**1.04 88**	Sg	**Sg**	**18 14 18.4 0.0**
MLYF	**Mely**	**1.09 241**	Pg	**Pn**	**18 14 07.4 +1.4**
MLYF			Sg	**Sn**	**18 14 21.7 +0.6**
TRAV	**Traversella**	**1.09 25**	P	**Pb**	**18 14 04.2 -1.6**
TRAV			AML	AML	
	comp=N,1310µm,0.3s				
TRAV			AML	AML	
	comp=E,1345µm,0.3s				
TRAV			AML	AML	
	comp=N,1309µm,0.3s				
TRAV			AML	AML	
	comp=E,1345µm,0.3s				
TRAV	**Traversella**	**1.09 25**	P	**Pb**	**18 14 04.0 -1.8**
TRAV	**Traversella**	**1.09 25**	Pg	**Pg**	**18 14 06.4 +0.4**
GRN	**Grenoble**	**1.20 307**	Pg	**Pg**	**18 14 08.9 +0.9**
GRN			Sg	**Sn**	**18 14 25.6 +1.8**
SMRF	**Simiane la Rot**	**1.22 244**	*e*Pg	**Pg**	**18 14 09.1 +0.8**
SMRF			*e*Sg	**Sb**	**18 14 22.5 -1.1**
BSTF	**la Bastide-des**	**1.22 239**	Pn	**Pg**	**18 14 10.1 +1.7**
BSTF			Sn	**Sn**	**18 14 27.9 +3.6**
MRGE	**Morge**	**1.25 359**	⇓P	**Pn**	**18 14 08.8 +0.5**
MRGE			AML	AML	
	comp=E,2115µm,0.9s				
MRGE			AML	AML	
	comp=N,3655µm,0.5s				
MRGE			AML	AML	
	comp=N,3655µm,0.5s				
MRGE			AML	AML	
	comp=E,1739µm,0.3s				
LMR	**La Mourre**	**1.26 200**	*e*Pg	**Pn**	**18 14 08.6 +0.4**
LMR			*e*Sg	**Sb**	**18 14 23.4 -1.2**
	comp=E,812nm,0.2s				
RUSF	**Rustrel**	**1.29 244**	Pn	**Pg**	**18 14 10.8 +1.1**
RUSF			Sn	**Sg**	**18 14 29.0 +2.5**
ARTF	**Artigues**	**1.32 225**	Pn	**Pg**	**18 14 10.6 +0.4**
ARTF			Sn	**Sg**	**18 14 29.2 +1.9**
RNCA	**Ronca, Sant'Ol**	**1.33 91**	P	**Pb**	**18 14 09.8 +0.1**
RNCA			AML	AML	
	comp=N,356µm,0.4s				
RNCA			AML	AML	
	comp=E,392µm,0.3s				
RNCA			AML	AML	
	comp=E,392µm,1.7s				
RNCA			AML	AML	
	comp=E,392µm,0.3s				
RNCA			AML	AML	
	comp=N,356µm,0.4s				
RNCA	**Ronca, Sant'Ol**	**1.33 91**	Pg	**Pb**	**18 14 09.9 +0.1**
RNCA	**Ronca, Sant'Ol**	**1.33 91**	Sg	**Sn**	**18 14 27.4 +0.5**
SARZ	**Sarezzano**	**1.34 74**	P	**Pn**	**18 14 09.5 +0.1**
SARZ			AML	AML	
	comp=N,2480µm,0.4s				
SARZ			AML	AML	
	comp=E,2000µm,1.0s				
SARZ			AML	AML	
	comp=N,2380µm,0.4s				
SARZ			AML	AML	
	comp=E,2035µm,1.0s				
SARZ			AML	AML	
	comp=E,2035µm,1.0s				
SARZ			AML	AML	
	comp=E,2000µm,1.0s				
SARZ			AML	AML	
	comp=N,2479µm,0.4s				
SARZ			AML	AML	
	comp=N,2379µm,0.4s				
SARZ			AML	AML	
	comp=E,1736µm,0.4s				
SARZ			AML	AML	
	comp=E,1683µm,0.5s				
OGSM	**Saint Maurice**	**1.47 318**	Pn	**Pg**	**18 14 13.9 +0.8**
OGSM			Sn	**Sg**	**18 14 32.7 +0.5**
SAUF	**chteau de Sau**	**1.54 248**	Pn	**Pb**	**18 14 14.1 +0.8**
SAUF			Sn	**Sg**	**18 14 35.0 +0.5**
OGSI	**Sixt**	**1.56 351**	Pn	**Pb**	**18 14 14.8 +1.0**
OGSI			Sn	**Sg**	**18 14 35.4 +0.2**
DIX	**Grande Dixence**	**1.57 8**	P	**Pn**	**18 14 13.0 +0.1**
DIX			AML	AML	
	comp=N,3555µm,0.7s				
DIX			AML	AML	
	comp=E,2650µm,0.3s				
DIX			AML	AML	
	comp=E,2650µm,1.7s				
DIX			AML	AML	
	comp=N,3555µm,0.7s				
DIX			AML	AML	
	comp=E,2649µm,0.3s				
DIX			AML	AML	
	comp=N,3555µm,0.7s				
DIX	**Grande Dixence**	**1.57 8**	Pn	**Pb**	**18 14 14.7 +0.6**
DIX	**Grande Dixence**	**1.57 8**	Sn	**Sb**	**18 14 34.9 +0.8**
GORR	**Gorreto**	**1.57 86**	P	**Pb**	**18 14 13.8 -0.1**
GORR			AML	AML	
	comp=E,795µm,0.5s				
GORR			AML	AML	
	comp=N,894µm,0.5s				
GORR			AML	AML	
	comp=N,894µm,0.5s				
GORR			AML	AML	
	comp=E,795µm,0.5s				
GORR	**Gorreto**	**1.57 86**	Pn	**Pb**	**18 14 14.1 +0.2**
GORR	**Gorreto**	**1.57 86**	Sn	**Sg**	**18 14 35.1 -0.5**
MMK	**Mattmark**	**1.65 22**	P	**Pn**	**18 14 13.1 -0.8**
MMK			AML	AML	
	comp=E,533µm,0.6s				
MMK			AML	AML	
	comp=N,538µm,0.5s				
MMK			AML	AML	
	comp=N,538µm,1.5s				
MMK			AML	AML	
	comp=E,533µm,1.4s				
MMK			AML	AML	
	comp=N,538µm,0.5s				
MMK			AML	AML	
	comp=E,533µm,0.6s				
MSSA	**Maissana**	**1.75 96**	P	**Pb**	**18 14 16.4 -0.5**
VIVF	**Saint-Julien-l**	**1.76 282**	*e*Sg	**Sb**	**18 14 39.9 +0.8**
	comp=E,156nm,0.3s				
VARE	**Varese**	**1.79 41**	P	**Pn**	**18 14 16.0 +0.3**
VARE			AML	AML	
	comp=E,431µm,0.7s				
VARE			AML	AML	
	comp=N,428µm,0.4s				
VARE			AML	AML	
	comp=E,431µm,1.3s				
VARE			AML	AML	
	comp=E,391µm,0.3s				
VARE			AML	AML	
	comp=N,428µm,0.4s				
AIGLE	**Aigle**	**1.82 357**	Pn	**Pb**	**18 14 18.4 +0.2**
OG35	**Corcelles**	**1.86 325**	Pn	**Pb**	**18 14 19.6 +0.7**
MUGIO	**Muggio**	**1.96 44**	P	**Pn**	**18 14 18.2 +0.1**
MUGIO			AML	AML	
	comp=E,227µm,0.9s				
MUGIO			AML	AML	
	comp=N,242µm,0.7s				
MUGIO			AML	AML	
	comp=N,242µm,1.3s				
MUGIO			AML	AML	
	comp=N,221µm,0.4s				
MUGIO			AML	AML	
	comp=E,186µm,0.7s				
SSB	**Saint Sauveur**	**1.96 294**	Pn	**Pb**	**18 14 20.0 -0.6**
SSB			Sn	**Sb**	**18 14 45.1 +0.1**
PLMA	**Palmaria, Port**	**2.04 102**	P	**Pn**	**18 14 18.5 -0.4**
GIMEL	**St. Georges /**	**2.10 344**	Pn	**Pb**	**18 14 22.0 -0.9**
GRAM	**Graiana**	**2.13 90**	P	**Pn**	**18 14 20.7 +0.4**
CABF	**La Chapelle**	**2.21 342**	*e*Pg	**Pb**	**18 14 24.4 -0.3**
CABF			*e*Sg	**Sb**	**18 14 54.1 +2.0**
	comp=E,181nm,0.3s				
EQUI	**Equi**	**2.22 98**	P	**Pn**	**18 14 21.1 -0.5**
EQUI			AML	AML	
	comp=E,122µm,0.5s				
EQUI			AML	AML	
	comp=N,169µm,0.4s				
EQUI			AML	AML	
	comp=N,169µm,1.6s				
EQUI			AML	AML	
	comp=N,169µm,0.4s				
EQUI			AML	AML	
	comp=E,122µm,0.5s				
FUSIO	**Fusio**	**2.23 29**	P	**Pn**	**18 14 22.2 +0.5**
FUSIO			AML	AML	
	comp=E,210µm,0.6s				
FUSIO			AML	AML	
	comp=N,152µm,0.4s				
FUSIO			AML	AML	
	comp=N,152µm,0.4s				
FUSIO			AML	AML	
	comp=E,210µm,0.6s				
MDI	**Monti di Nese**	**2.24 55**	P	**Pn**	**18 14 22.2 +0.4**
TORNY	**Torny/Romont**	**2.25 358**	Pn	**Pb**	**18 14 24.8 -0.8**
TORNY	**Torny/Romont**	**2.25 358**	Sn	**Sn**	**18 14 50.8 +1.0**
LASF	**Ste Croix**	**2.37 260**	*e*P	**Pn**	**18 14 24.6 +1.1**
LASF			*e*Sn	**Sn**	**18 14 49.4 -3.0**
	comp=E,31nm,0.2s				
RIVEL	**MONT RIVEL**	**2.38 340**	Pn	**Pn**	**18 14 26.2 +2.4**
PGF	**Pioggiola**	**2.41 144**	*e*Sn	**Sn**	**18 14 50.0 -3.7**
	comp=E,63nm,0.2s				
PGF	**Pioggiola**	**2.41 144**	AML	AML	
	comp=N,182µm,1.5s				
PGF			AML	AML	
	comp=E,166µm,0.3s				
PGF			AML	AML	
	comp=N,182µm,0.5s				
PGF			AML	AML	
	comp=E,166µm,1.7s				
PGF			AML	AML	
	comp=N,160µm,0.3s				
PGF			AML	AML	
	comp=E,167µm,0.3s				
BRANT	**Les Verrieres**	**2.46 350**	Pn	**Pn**	**18 14 27.2 +2.4**
A317A	**Capraia (LI)**	**2.48 125**	P	**Pn**	**18 14 25.5 +0.6**
ZONE	**Zone**	**2.48 59**	P	**Pn**	**18 14 25.3 +0.3**
TUE	**Stuetta**	**2.51 38**	P	**Pn**	**18 14 26.0 +0.3**
TUE			AML	AML	
	comp=E,171µm,0.3s				
TUE			AML	AML	
	comp=N,173µm,0.3s				
TUE			AML	AML	
	comp=N,147µm,0.3s				
TUE			AML	AML	
	comp=E,143µm,0.3s				
TUE			AML	AML	
	comp=N,173µm,0.3s				
TUE			AML	AML	
	comp=N,147µm,0.3s				
TUE			AML	AML	
	comp=E,171µm,0.3s				
TUE			AML	AML	
	comp=E,143µm,0.3s				
MAIM	**Mastiano**	**2.52 103**	P	**Pn**	**18 14 25.5 -0.1**
MAIM			AML	AML	
	comp=E,176µm,0.5s				
MAIM			AML	AML	
	comp=N,114µm,1.3s				
MAIM			AML	AML	
	comp=N,109µm,0.5s				
MAIM			AML	AML	
	comp=E,176µm,0.5s				
COLF	**Collangettes**	**2.61 294**	Pn	**Pn**	**18 14 28.7 +1.8**
COLF			Sn	**Sn**	**18 14 59.9 +1.4**
CHMF	**Charmoille**	**2.75 354**	Pn	**Pn**	**18 14 30.9 +2.1**
BOUC	**Bouclans**	**2.79 348**	Pn	**Pn**	**18 14 31.4 +2.1**
MAGA	**Magasa**	**2.80 62**	P	**Pn**	**18 14 29.4 -0.2**
MAGA			AML	AML	
	comp=E,533µm,0.7s				
MAGA			AML	AML	
	comp=N,356µm,0.6s				
MAGA			AML	AML	
	comp=N,356µm,0.6s				
MAGA			AML	AML	
	comp=E,533µm,0.7s				
BALST	**Balsthal**	**2.85 8**	*e*Pn	**Pn**	**18 14 32.5 +2.4**
BALST			*e*Pg	**Pg**	**18 14 39.5 +0.1**
BALST			*e*Sn	**Sn**	**18 15 07.6 +3.2**
AJAC	**Base Areonaval**	**2.86 154**	P	**Pn**	**18 14 31.4 +1.1**
AJAC			AML	AML	
	comp=E,579µm,1.2s				
AJAC			AML	AML	
	comp=N,952µm,0.6s				
AJAC			AML	AML	
	comp=N,869µm,0.3s				
AJAC			AML	AML	
	comp=E,547µm,0.2s				
RONC	**Roncone**	**2.89 58**	P	**Pn**	**18 14 30.8 -0.1**
RONC			AML	AML	
	comp=E,316µm,0.4s				
RONC			AML	AML	
	comp=N,490µm,0.5s				
RONC			AML	AML	
	comp=E,475µm,0.8s				
RONC			AML	AML	
	comp=E,316µm,0.5s				
RONC			AML	AML	
	comp=N,490µm,0.5s				
RONC			AML	AML	
	comp=N,318µm,0.8s				
DAVOX	**Davos/Dischmat**	**2.99 40**	P	**Pn**	**18 14 33.2 +1.0**
DAVOX			AML	AML	
	comp=N,113µm,0.3s				
DAVOX			AML	AML	
	comp=E,80µm,0.9s				
DAVOX			AML	AML	
	comp=N,114µm,0.3s				
DAVOX	**Davos/Dischmat**	**2.99 40**	Pn	**Pn**	**18 14 32.9 +0.7**
	comp=N,3.2nm,0.3s,baz=224,slow=7.5,SNR=21				
DAVOX			Sn	**Sn**	**18 15 07.9 -0.2**
	comp=N,6.0nm,0.3s,baz=190,slow=13,SNR=3.0				
DAVOX			Lg	Lg	18 15 17.1
	comp=N,7.4nm,0.3s,baz=162,slow=20,SNR=6.3				
	comp=N,6.0nm,0.3s				
PLONS	**Plons/SG**	**2.99 32**	P	**Pn**	**18 14 33.1 +1.0**
PLONS	**Plons/SG**	**2.99 32**	*e*Pn	**Pn**	**18 14 34.5 +2.3**
LUSI	**Trento, Gardas**	**3.08 61**	P	**Pn**	**18 14 33.0 -0.4**
LUSI			AML	AML	
	comp=E,156µm,0.9s				
LUSI			AML	AML	
	comp=N,238µm,0.3s				
LUSI			AML	AML	
	comp=E,156µm,1.1s				
LUSI			AML	AML	
	comp=N,239µm,0.3s				
LUSI			AML	AML	
	comp=E,118µm,0.3s				
SULZ	**Cheisacher**	**3.09 13**	*e*Pn	**Pn**	**18 14 35.1 +1.7**
SULZ			*e*Sg	**Sg**	**18 15 25.2 +1.1**
SMF	**Signal de Mont**	**3.12 314**	*e*P	**Pn**	**18 14 36.1 +2.3**
SMF			*e*Sn	**Sn**	**18 15 07.6 -3.4**
SMF			*e*Sg	**Sb**	**18 15 22.1 +3.9**
	comp=E,80nm,0.3s				
WILA	**Wila**	**3.16 23**	*e*Pn	**Pn**	**18 14 37.5 +3.1**
CLAF	**Gruissan**	**3.21 246**	P	**Pn**	**18 14 36.1 +1.1**
CLAF			Pn	Pb	18 14 36.8 -4.9
CLAF			Sn	**Sn**	**18 15 13.1 -0.2**
METMA	**Mettma DE**	**3.29 14**	*e*Pn	**Pn**	**18 14 36.7 +0.4**
METMA			*e*Pg	**Pg**	**18 14 46.8 -1.1**
METMA			*e*Sn	**Sn**	**18 15 16.5 +1.2**
HINF	**Hinteralfeld**	**3.30 357**	*e*P	**Pn**	**18 14 37.8 +1.4**
HINF	**Hinteralfeld**	**3.30 357**	*e*Pg	**Pg**	**18 14 46.9 -1.2**
HINF			*e*Sn	**Sn**	**18 15 11.9 -3.7**
HINF			*e*Sg	**Sg**	**18 15 28.3 -2.6**
	comp=E,74nm,0.4s				
PANI	**Panarotta**	**3.36 61**	AML	AML	
	comp=E,67µm,0.5s				
PANI			AML	AML	
	comp=E,82µm,1.6s				
PANI			AML	AML	
	comp=N,110µm,0.4s				
PANI			AML	AML	
	comp=N,110µm,1.6s				
PANI			AML	AML	
	comp=N,110µm,0.4s				
DAVA	**Damuels**	**3.38 34**	*e*Pn	**Pn**	**18 14 40.1 +2.5**
	comp=N,0.9nm,0.2s				
DAVA	**Damuels**	**3.38 34**	*e*Pn	**Pn**	**18 14 40.1 +2.5**
DAVA			*e*Sn	**Sn**	**18 15 19.2 +1.5**
SLE	**Schleitheim**	**3.39 16**	*e*Pn	**Pn**	**18 14 38.8 +1.2**
SLE			*e*Sn	**Sn**	**18 15 18.5 +0.8**
SLE			*e*Sg	**Sg**	**18 15 35.3 +1.7**
BERGE	**Lenzkirch (DE)**	**3.44 12**	*e*Pn	**Pn**	**18 14 39.1 +0.9**
BERGE			*e*Pg	**Pg**	**18 14 49.9 -0.8**
BERGE			*e*Sn	**Sn**	**18 15 21.0 +2.1**
BERGE			*e*Sg	**Sg**	**18 15 35.9 +0.7**
AVF	**Avril sur Loir**	**3.47 312**	*e*P	**Pn**	**18 14 41.0 +2.4**
AVF			*e*Sn	**Sn**	**18 15 15.9 -3.7**
AVF			*e*Sg	**Sg**	**18 15 33.4 -2.8**
	comp=N,84nm,0.6s				
HAU	**Haudompre**	**3.52 352**	*e*P	**Pn**	**18 14 41.5 +2.1**
HAU			*e*Sn	**Sn**	**18 15 17.6 -3.4**
	comp=N,136nm,0.4s				
HAU			*e*Sg	**Sg**	**18 15 35.4 -2.6**
WALHA	**Wallhausen, DE**	**3.53 23**	*e*Pn	**Pn**	**18 14 40.6 +1.2**
WALHA			*e*Pg	**Pg**	**18 14 52.1 -0.3**
WALHA			*e*Sn	**Sn**	**18 15 24.0 +2.9**
LOR	**Lormes**	**3.56 322**	*e*P	**Pn**	**18 14 42.1 +2.2**
	baz=140				
LOR			*e*Sn	**Sn**	**18 15 18.1 -3.7**
	comp=N,57nm,0.3s				
LOR			*e*Sg	**Sg**	**18 15 36.6 -2.4**
CTI	**Castel Tesino**	**3.56 63**	P	**Pn**	**18 14 40.2 +0.2**
CTI			AML	AML	
	comp=E,128µm,1.1s				
CTI			AML	AML	
	comp=N,171µm,0.3s				
CTI			AML	AML	
	comp=E,128µm,0.9s				
CTI			AML	AML	
	comp=N,171µm,0.3s				
CTI			AML	AML	
	comp=E,123µm,0.3s				
FETA	**Feichten**	**3.57 44**	*e*Pn	**Pn**	**18 14 42.6 +2.4**
	comp=E,2.5nm,0.4s				
SSF	**Saint Saulge**	**3.57 317**	*e*P	**Pn**	**18 14 42.0 +2.0**
SSF			*e*Sg	**Sg**	**18 15 36.8 -2.7**
	comp=E,75nm,0.5s				
EMING	**Emmingen-Lipti**	**3.58 19**	*e*Pn	**Pn**	**18 14 42.2 +1.9**
EMING			*e*Sn	**Sn**	**18 15 24.2 +1.7**
CAF	**Calviac**	**3.61 278**	*e*P	**Pn**	**18 14 42.3 +1.7**
CAF			*e*Sn	**Sn**	**18 15 19.1 -4.0**
	comp=E,28nm,0.4s				
BGF	**Bois d'Agland**	**3.61 306**	*e*P	**Pn**	**18 14 42.9 +2.3**
BGF			*e*Sg	**Sg**	**18 15 37.7 -3.1**
	comp=E,150nm,0.4s				
OBER	**Oberstdorf**	**3.65 37**	*e*Pn	**Pn**	**18 14 44.8 +3.6**
ECH	**Echery**	**3.70 1**	*e*Pn	**Pn**	**18 14 43.5 +1.7**
ECH			*e*Pg	**Pg**	**18 14 56.8 +1.2**
ECH			*e*Sn	**Sn**	**18 15 25.5 +0.2**
MTLF	**Montolieu**	**3.71 253**	*e*P	**Pn**	**18 14 43.2 +1.2**
MTLF			*e*Sn	**Sn**	**18 15 21.3 -4.4**
	comp=E,55nm,0.3s				
AGLI	**Aglientu**	**3.72 155**	P	**Pn**	**18 14 42.9 +0.8**
UBR	**Ueberruh**	**3.79 32**	*e*Pn	**Pn**	**18 14 47.2 +4.0**
UBR			*e*Sn	**Sn**	**18 15 31.6 +3.9**
TCF	**Toulx Ste Croi**	**3.87 299**	*e*P	**Pn**	**18 14 46.2 +2.1**
TCF			*e*Sn	**Sn**	**18 15 25.3 -4.2**
TCF			*e*Sg	**Sg**	**18 15 45.8 -3.2**
	comp=E,39nm,0.6s				
CDF	**Champ du Feu**	**3.90 2**	*e*P	**Pn**	**18 14 46.1 +1.5**
CDF	**Champ du Feu**	**3.90 2**	*e*Pg	**Pb**	**18 14 56.8 +3.3**
CDF			*e*Sn	**Sn**	**18 15 26.1 -4.2**
	comp=E,45nm,0.4s				
CDF			*e*Sg	**Sg**	**18 15 46.7 -3.2**
	comp=E,68nm,0.6s				

BFO	**Black Forest**	**3.91**	**12**	*e*Pn	**Pn**	**18 14 46.1 +1.4**
BFO				*e*Sn	**Sn**	**18 15 31.3 +0.9**
RETA	**Reutte**	**3.92**	**39**	*e*Pn	**Pn**	**18 14 44.8 -0.1**
	comp=E,1.3nm,0.3s					
SQTA	**Sankt Quirin**	**3.94**	**45**	*e*Pn	**Pn**	**18 14 47.2 +1.9**
	comp=E,1.6nm,0.1s					
SFTF	**Sexfontaines**	**3.95**	**340**	*e*P	**Pn**	**18 14 47.7 +2.4**
	baz=158					
SFTF				*e*Sn	**Sn**	**18 15 27.4 -4.1**
SFTF				*e*Sg	**Sg**	**18 15 48.5 -3.2**
	comp=E,86nm,0.4s					
RJF	**Les Rejaudoux**	**4.04**	**283**	*e*P	**Pn**	**18 14 48.1 +1.6**
RJF				*e*Sn	**Sn**	**18 15 29.2 -4.5**
RJF				*e*Sg	**Sg**	**18 15 50.9 -3.6**
	comp=E,21nm,0.4s					
PAGF	**Fort de Pagny**	**4.14**	**347**	*e*P	**Pn**	**18 14 50.5 +2.6**
	baz=166					
PAGF				*e*Sn	**Sn**	**18 15 32.0 -4.3**
PAGF				*e*Sg	**Sg**	**18 15 54.7 -3.2**
	comp=E,125nm,0.6s					
HYF	**Humbligny**	**4.15**	**313**	*e*P	**Pn**	**18 14 50.1 +2.1**
HYF				*e*Sn	**Sn**	**18 15 32.4 -4.0**
	comp=E,112nm,0.3s					
WTTA	**Wattenberg**	**4.19**	**48**	*e*Pn	**Pn**	**18 14 50.0 +1.3**
	comp=E,1.6nm,0.2s					
WATA	**Walderalm**	**4.21**	**46**	*e*Pn	**Pn**	**18 14 50.2 +1.2**
	comp=E,0.9nm,0.2s					
MEZF	**Maizieres J'vi**	**4.22**	**341**	*e*P	**Pn**	**18 14 51.2 +2.2**
	baz=160					
MEZF				*e*Sn	**Sn**	**18 15 33.7 -4.5**
MEZF				*e*Sg	**Sg**	**18 15 57.2 -3.2**
	comp=E,88nm,0.4s					
ABTA	**Abfaltersbach**	**4.41**	**58**	*e*Pn	**Pn**	**18 14 52.2 +0.6**
	comp=E,1.8nm,0.3s					
LFF	**La Frestale**	**4.55**	**278**	*e*P	**Pn**	**18 14 55.8 +2.4**
LFF				*e*Sn	**Sn**	**18 15 41.2 -5.0**
LFF				*e*Sg	**Sg**	**18 16 06.6 -4.2**
	comp=E,33nm,0.5s					
KTD	**Kalmit**	**4.85**	**8**	*e*Pn	**Pn**	**18 14 59.1 +1.5**
KTD				*e*Sn	**Sn**	**18 15 55.0 +1.3**
LESA	**Schwarzleotal**	**4.86**	**51**	*e*Pn	**Pn**	**18 14 58.9 +1.1**
	comp=E,1.6nm,0.2s					
MYKA	**Terra Mystica**	**5.06**	**63**	*e*Pn	**Pn**	**18 14 59.5 -1.0**
	comp=E,1.2nm,0.4s					
RJOB	**Jochberg**	**5.11**	**49**	*e*Pn	**Pn**	**18 15 03.0 +1.8**
EPF	**Esparros**	**5.11**	**255**	*e*P	**Pn**	**18 15 02.4 +1.1**
EPF				*e*Sn	**Sn**	**18 15 55.3 -4.9**
EPF				*e*Sg	**Sg**	**18 16 24.2 -4.7**
	comp=E,5.3nm,0.2s					
WLF	**Walferdange**	**5.19**	**353**	*d*P	**Pn**	**18 15 05.0 +2.7**
RIVT	**Riveris**	**5.19**	**358**	*e*Pn	**Pn**	**18 15 05.0 +2.7**
RIVT				*e*Sn	**Sn**	**18 16 03.5 +1.4**
ABH	**Alteburg**	**5.37**	**3**	*e*Pn	**Pn**	**18 15 06.7 +1.9**
MFF	**Saint Martin d**	**5.49**	**295**	*e*P	**Pn**	**18 15 09.0 +2.6**
MFF				*e*Sn	**Sn**	**18 16 04.1 -5.4**
MFF				*e*Sg	**Sg**	**18 16 36.6 -4.5**
	comp=E,23nm,0.5s					
BIOA	**Bad Ischl, Aus**	**5.55**	**53**	*e*Pn	**Pn**	**18 15 08.7 +1.5**
	comp=E,1.5nm,0.3s					
OBKA	**Obir**	**5.60**	**67**	*e*Pn	**Pn**	**18 15 07.1 -0.9**
	comp=E,1.9nm,0.4s					
OBKA	**Obir**	**5.60**	**67**	*e*Sn	**Sn**	**18 16 11.0 -1.4**
ETSF	**Etsaut**	**5.78**	**256**	*e*P	**Pn**	**18 15 12.5 +2.1**
ETSF				*e*Sn	**Sn**	**18 16 10.7 -6.0**
	comp=E,17nm,0.4s					
RCHB	**Rochefort**	**5.78**	**348**	*d*P	**Pn**	**18 15 13.0 +2.7**
RCHB				*d*S	**Sn**	**18 16 15.8 -0.7**
TNS	**Taunus Mts**	**5.78**	**9**	*e*Pn	**Pn**	**18 15 13.0 +2.6**
GIVF	**Givet**	**5.79**	**345**	*e*P	**Pn**	**18 15 13.1 +2.5**
GIVF				*e*Sn	**Sn**	**18 16 11.5 -5.4**
	comp=E,12nm,0.3s					
GIVF				*e*Sg	**Sg**	**18 16 46.0 -4.7**
	comp=E,48nm,0.8s					
DOU	**Dourbes**	**5.83**	**344**	*d*P	**Pn**	**18 15 11.8 +0.7**
DOU				*dp*P	**Pn**	**18 15 14.1 +3.0**
DOU				*d*S	**Sn**	**18 16 17.2 -0.6**
BAIF	**Baives**	**5.88**	**342**	*e*P	**Pn**	**18 15 14.2 +2.5**
BAIF				*e*Sn	**Sn**	**18 16 13.7 -5.2**
	comp=E,9.5nm,0.3s					
BHOU	**Houvegnez**	**5.88**	**353**	*d*P	**Pn**	**18 15 12.7 +0.9**
MOA	**Molln**	**5.99**	**54**	*e*Pn	**Pn**	**18 15 12.8 -0.5**
	comp=E,0.8nm,0.2s					
BMRD	**Maredsous**	**6.00**	**346**	*d*P	**Pn**	**18 15 13.5 +0.2**
BMRD				*dp*P	**Pn**	**18 15 16.1 +2.8**
BMRD				*d*S	**Sn**	**18 16 22.5 +0.6**
BGES	**Gesves**	**6.02**	**348**	*dp*P	**Pn**	**18 15 16.5 +2.8**
BGES				*d*S	**Sn**	**18 16 24.1 +1.6**
AHRW	**Bad Neuenahr-A**	**6.02**	**360**	*e*Sg	**Sg**	**18 16 58.7 +0.6**
BCLA	**Clavier**	**6.03**	**349**	*d*P	**Pn**	**18 15 14.4 +0.6**
BCLA				*dp*P	**Pn**	**18 15 16.7 +3.0**
BCLA				*d*S	**Sn**	**18 16 21.4 -1.2**
BTNL	**Ternell**	**6.10**	**354**	*d*P	**Pn**	**18 15 16.9 +2.0**
BTNL				*d*S	**Sn**	**18 16 26.9 +2.3**
MEM	**Membach**	**6.14**	**354**	*d*P	**Pn**	**18 15 16.1 +0.8**
MEM				*dp*P	**Pn**	**18 15 18.0 +2.7**
MEM				*d*S	**Sn**	**18 16 26.0 +0.7**
BSTI	**Sart Tilman**	**6.15**	**351**	*dp*P	**Pn**	**18 15 17.7 +2.2**
SJPF	**Ste Jean**	**6.18**	**260**	*e*P	**Pn**	**18 15 17.0 +1.1**
SJPF				*e*Sn	**Sn**	**18 16 20.2 -6.3**
	comp=E,3.0nm,0.3s					
GEC2	**GERESS Array S**	**6.27**	**44**	*e*Pn	**Pn**	**18 15 17.7 +0.4**
GEC2				*e*Sn	**Sn**	**18 16 24.0 -4.8**
GERES	**GERESS Array B**	**6.27**	**44**	Pn	**Pn**	**18 15 17.2 0.0**
	comp=E,2.6nm,0.3s,baz=229,slow=13,SNR=39					
GERES				Sn	**Sn**	**18 16 27.7 -1.2**
	comp=E,3.8nm,0.3s,baz=239,slow=25,SNR=11					
	comp=E,5.0nm,0.3s					
KHC	**Kasperske Hory**	**6.41**	**42**	*e*PN	**Pn**	**18 15 19.1 +0.1**
KHC				*e*SN	**Sn**	**18 16 27.8 -4.3**
LDF	**La Druitiere**	**6.43**	**312**	*e*P	**Pn**	**18 15 21.9 +2.6**
LDF				*e*Sn	**Sn**	**18 16 26.6 -5.9**
	comp=E,15nm,0.5s					
LDF				*e*Sg	**Sg**	**18 17 05.7 -5.4**
	comp=E,27nm,0.7s					
ARSA	**Arzberg**	**6.49**	**62**	*e*Pn	**Pn**	**18 15 19.3 -0.8**
	comp=E,1.7nm,0.4s					
CKRC	**Cesky Krumlov**	**6.57**	**47**	*e*PN	**Pn**	**18 15 23.2 +2.0**
CKRC				*e*SN	**Sn**	**18 16 32.1 -3.9**
GRR	**Gorron**	**6.72**	**308**	*e*P	**Pn**	**18 15 25.8 +2.6**
GRR				*e*Sn	**Sn**	**18 16 33.5 -6.1**
	comp=E,8.1nm,0.3s					
FLN	**La Foliniere**	**6.72**	**312**	*e*P	**Pn**	**18 15 26.0 +2.7**
	baz=127					
FLN				*e*Sn	**Sn**	**18 16 33.3 -6.4**
	comp=E,13nm,0.4s					
CONA	**Conrad Observa**	**6.97**	**58**	*e*Pn	**Pn**	**18 15 26.3 -0.5**
	comp=E,0.3nm,0.3s					
RONA	**Rosalia, Austr**	**7.14**	**60**	*e*Pn	**Pn**	**18 15 29.8 +0.7**
	comp=E,0.5nm,0.2s					
SGMF	**Saint Gilles**	**7.64**	**303**	*e*P	**Pn**	**18 15 38.8 +2.8**
SGMF				*e*Sn	**Sn**	**18 16 55.7 -6.7**
	comp=E,5.5nm,0.6s					
BRG	**Berggiesshubel**	**7.86**	**34**	*e*P	Pg	18 16 20.5 +5.4
BRG				Amp		18 16 23.2
	comp=Z,1.6nm,0.5s					
BRG				r		18 18 00.1
BRG				Amp		18 18 14.1
	comp=Z,3.0nm,0.6s					
CLL	**Collm**	**7.86**	**28**	*e*Pg	**Pg**	**18 16 14.0 -1.3**
CLL				*ex*	x	18 16 17.0
CLL				*e*Sb	Sb	18 17 26.0 -8.5
CLL				*e*Sg	**Sg**	**18 17 59.0 +2.0**
	comp=Z,9.0nm,1.1s					
QUIF	**Quistinic**	**7.88**	**299**	*e*P	**Pn**	**18 15 42.1 +2.9**
QUIF				*e*Sg	**Sg**	**18 17 50.9 -6.8**
	comp=Z,1.0nm,0.2s					
ROSF	**Rostrenen**	**8.11**	**302**	*e*P	**Pn**	**18 15 45.2 +2.8**
ROSF				*e*Sn	**Sn**	**18 17 06.8 -7.2**
	comp=Z,5.3nm,0.5s					
KEST	**Kesra**	**8.95**	**168**	Pn	**Pn**	**18 15 56.9 +2.9**
	comp=Z,0.7nm,0.3s,baz=355,slow=6.1,SNR=7.7					
	comp=Z,3.2nm,0.4s					
ESDC	**Sonseca Array**	**9.54**	**243**	Pn	**Pn**	**18 16 04.3 +2.3**
	comp=Z,0.2nm,0.3s,baz=61,slow=14,SNR=4.6					
	comp=Z,0.5nm,0.4s					
EKA	**Eskdalemuir Ar**	**12.66**	**332**	Pn	**Pn**	**18 16 45.9 +1.3**
	baz=137,slow=14					
	comp=Z,1.2nm,0.4s					
NOA	**NORSAR Array B**	**16.73**	**7**	LR	LR	18 24 57.3
	comp=Z,12nm,20.8s,baz=190,slow=40					
BRTR	**Keskin Array B**	**20.23**	**94**	P	Pn	18 18 23.9 +2.2
	comp=Z,0.7nm,0.6s,baz=284,slow=13,SNR=4.5					
	comp=Z,0.7nm,0.6s					
FINES	**FINESS Array B**	**20.31**	**27**	P	Pn	18 18 23.3 +0.9
	comp=Z,0.6nm,0.8s,baz=215,slow=12,SNR=3.8					
	comp=Z,0.6nm,0.8s					

*NOU **17** 18:24:02.4,38°.63S×176°.82E,h71km,MLv3.9/11,North Island, New Zealand*
*WEL **17** 18:24:04.1±0.3,38°.S±2°.×17°.7E±°,h55km±3km,M3.5/63, ML3.8/63,MLv3.5/63,Error ellipse: s-maj=0.0km s-min=0.0km az=150.6,confirmed*
ISC 17 18:24:03.3±1.3,38°.51S±0.03°.×176°.71E±0.03°,h74km±6km, n143,σ1°.24/165,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUGZ	**Murupara**	**0.06**	**54**	P	**Pn**	**18 24 13.6**	**-0.5**
MUGZ				S	**Sn**	**18 24 21.0**	**-0.9**
RRRZ	**Republican Roa**	**0.23**	**318**	P	**Pn**	**18 24 14.3**	**-0.3**
RTZ	**Ruatahuna**	**0.24**	**116**	P	**Pn**	**18 24 14.4**	**-0.3**
RTZ				S	**Sn**	**18 24 23.1**	**+0.1**
PRRZ	**Plateau Road**	**0.25**	**273**	P	**Pn**	**18 24 14.5**	**-0.2**
PRRZ				S	**Sn**	**18 24 22.6**	**-0.4**
ALRZ	**Allen Road**	**0.29**	**260**	P	**Pn**	**18 24 14.9**	**-0.1**
TARZ	**Mount Tarawera**	**0.32**	**330**	P	**Pn**	**18 24 15.1**	**-0.1**
TARZ				S	**Sn**	**18 24 23.5**	**-0.4**
MTHZ	**Maungataniwha**	**0.35**	**163**	P	**Pn**	**18 24 15.5**	**+0.1**
MTHZ				S	**Sn**	**18 24 24.7**	**+0.5**
HRRZ	**Handcock Road**	**0.36**	**290**	P	**Pn**	**18 24 15.2**	**-0.2**
HLRZ	**Highlands Stat**	**0.38**	**313**	P	**Pn**	**18 24 15.2**	**-0.4**
MRHZ	**Matea Rd**	**0.39**	**215**	P	**Pn**	**18 24 15.6**	**-0.1**
MRHZ				S	**Sn**	**18 24 24.6**	**-0.2**
URZ	**Urewera**	**0.40**	**51**	P	**Pn**	**18 24 14.9**	**-0.8**
URZ	**Urewera**	**0.40**	**51**	P	**Pn**	**18 24 14.9**	**-0.8**
URZ				S	**Sn**	**18 24 23.6**	**-1.1**
EDRZ	**Edgecumbe**	**0.41**	**3**	P	**Pn**	**18 24 15.2**	**-0.6**
EDRZ				S	**Sn**	**18 24 24.5**	**-0.4**
HSRZ	**Hossack Road**	**0.42**	**299**	P	**Pn**	**18 24 15.6**	**-0.3**
MKRZ	**Makatiti**	**0.42**	**333**	P	**Pn**	**18 24 16.6**	**+0.7**
WPRZ	**Whakapapatarin**	**0.43**	**269**	P	**Pn**	**18 24 16.1**	**+0.1**
OMRZ	**Omania**	**0.48**	**327**	P	**Pn**	**18 24 16.1**	**-0.3**
RAHZ	**Arahi**	**0.50**	**144**	P	**Pn**	**18 24 17.2**	**+0.6**
RAHZ				S	**Sn**	**18 24 28.0**	**+1.7**
MARZ	**Manawahe**	**0.53**	**357**	P	**Pn**	**18 24 16.3**	**-0.5**
RAGZ	**Rawiri**	**0.55**	**89**	P	**Pn**	**18 24 17.1**	**-0.1**
RAGZ				S	**Sn**	**18 24 28.0**	**+0.7**
SNGZ	**Shannon Statio**	**0.56**	**119**	P	**Pn**	**18 24 17.8**	**+0.6**
SNGZ				S	**Sn**	**18 24 29.0**	**+1.7**
LIRZ	**Lichensteins R**	**0.57**	**333**	P	**Pn**	**18 24 17.0**	**-0.3**
NMHZ	**Naumai**	**0.59**	**173**	P	**Pn**	**18 24 18.4**	**+0.9**
NMHZ				S	**Sn**	**18 24 30.5**	**+2.6**
WHTZ	**Whakaora**	**0.61**	**255**	P	**Pn**	**18 24 18.2**	**+0.6**
KARZ	**Kaharoa**	**0.61**	**323**	P	**Pn**	**18 24 17.4**	**-0.3**
HATZ	**Hinemaiaia**	**0.61**	**232**	P	**Pn**	**18 24 17.9**	**+0.2**
HATZ				S	**Sn**	**18 24 29.4**	**+1.2**
MWZ	**Matawai**	**0.67**	**75**	P	**Pn**	**18 24 18.0**	**-0.2**
MWZ				S	**Sn**	**18 24 29.6**	**+0.3**
BKZ	**Black Stump Fm**	**0.67**	**194**	P	**Pn**	**18 24 18.4**	**+0.1**
BKZ	**Black Stump Fm**	**0.67**	**194**	P	**Pn**	**18 24 18.6**	**+0.3**
BKZ				S	**Sn**	**18 24 30.2**	**+0.8**
OPRZ	**Ohinepanea**	**0.68**	**350**	P	**Pn**	**18 24 17.6**	**-0.7**
WHRZ	**Whale Island**	**0.69**	**18**	P	**Pn**	**18 24 18.1**	**-0.3**
WHRZ				S	**Sn**	**18 24 30.9**	**+1.3**
KUTZ	**Kaahu Road**	**0.70**	**272**	P	**Pn**	**18 24 18.7**	**+0.2**
WHHZ	**Waihua**	**0.70**	**144**	P	**Pn**	**18 24 19.2**	**+0.7**
ARHZ	**Aropaoanui**	**0.78**	**163**	P	**Pn**	**18 24 20.5**	**+1.0**
WATZ	**Wairara**	**0.79**	**255**	P	**Pn**	**18 24 19.8**	**+0.2**
RITZ	**Rihia Road**	**0.81**	**235**	P	**Pn**	**18 24 20.5**	**+0.7**
RATZ	**Rangitukua**	**0.81**	**244**	P	**Pn**	**18 24 20.5**	**+0.3**
RIGZ	**Rimuhau**	**0.85**	**104**	P	**Pn**	**18 24 20.7**	**+0.5**
RIGZ				S	**Sn**	**18 24 38.0**	**+5.2**
TGRZ	**Tauranga**	**0.86**	**336**	P	**Pn**	**18 24 20.0**	**-0.3**
TKGZ	**Te Karaka**	**0.90**	**86**	P	**Pn**	**18 24 21.2**	**+0.4**
TKGZ				S	**Sn**	**18 24 35.6**	**+1.8**
KMRZ	**Kaimai**	**0.90**	**317**	P	**Pn**	**18 24 20.7**	**-0.2**
KNZ	**Kokohu**	**0.91**	**124**	P	**Pn**	**18 24 20.9**	**-0.1**
KATZ	**Kakaramea**	**0.92**	**239**	P	**Pn**	**18 24 21.5**	**+0.3**
MCHZ	**McNeill Hill**	**0.93**	**181**	P	**Pn**	**18 24 22.3**	**+1.1**
KWHZ	**Kaweka Forest**	**0.94**	**194**	P	**Pn**	**18 24 22.2**	**+0.9**
KWHZ				S	**Sn**	**18 24 36.3**	**+1.5**
RUGZ	**Raukumara Rang**	**0.94**	**55**	P	**Pn**	**18 24 20.6**	**-0.8**
RUGZ				S	**Sn**	**18 24 32.9**	**-1.9**
TLZ	**Tolley Road**	**0.94**	**281**	P	**Pn**	**18 24 21.5**	**+0.1**
TLZ				S	**Sn**	**18 24 35.0**	**+0.3**
TMVZ	**Te Maari**	**0.99**	**232**	P	**Pn**	**18 24 22.6**	**+0.6**
TMVZ				S	**Sn**	**18 24 36.4**	**+0.4**
ETVZ	**East Tongariro**	**1.00**	**231**	P	**Pn**	**18 24 22.7**	**+0.6**
NTVZ	**North Tongarir**	**1.00**	**234**	P	**Pn**	**18 24 22.8**	**+0.7**
PRGZ	**Paritu Road**	**1.01**	**114**	P	**Pn**	**18 24 22.4**	**+0.3**
KRVZ	**Karewarewa**	**1.02**	**235**	P	**Pn**	**18 24 23.2**	**+0.8**
OTVZ	**Oturere**	**1.04**	**231**	P	**Pn**	**18 24 23.4**	**+0.6**
TWGZ	**Tauwhareparae**	**1.05**	**72**	P	**Pn**	**18 24 23.1**	**+0.3**
WIZ	**White Island**	**1.05**	**21**	P	**Pn**	**18 24 21.8**	**-0.9**
NNVZ	**North Ngauruho**	**1.05**	**234**	P	**Pn**	**18 24 23.7**	**+0.8**
WTVZ	**West Tongariro**	**1.06**	**235**	P	**Pn**	**18 24 23.6**	**+0.6**
SNVZ	**South Ngauruho**	**1.07**	**231**	P	**Pn**	**18 24 23.8**	**+0.6**
NGZ	**Ngauruhoe**	**1.09**	**232**	P	**Pn**	**18 24 24.0**	**+0.6**
TUVZ	**Tukino**	**1.12**	**227**	P	**Pn**	**18 24 24.2**	**+0.6**
MHGZ	**Mahia Peninsul**	**1.13**	**125**	P	**Pn**	**18 24 23.9**	**+0.2**
HAZ	**Te Kaha**	**1.13**	**49**	P	**Pn**	**18 24 22.9**	**-0.8**
TWVZ	**Taurewa**	**1.14**	**240**	P	**Pn**	**18 24 24.2**	**+0.3**
COVZ	**Chateau Observ**	**1.14**	**233**	P	**Pn**	**18 24 24.6**	**+0.6**
KRHZ	**Kereru**	**1.16**	**193**	P	**Pn**	**18 24 24.4**	**+0.3**
MOVZ	**Moawhango**	**1.16**	**220**	P	**Pn**	**18 24 24.5**	**+0.3**
WHVZ	**Whangaehu Hut**	**1.17**	**228**	P	**Pn**	**18 24 24.8**	**+0.5**
FWVZ	**Far West T-bar**	**1.17**	**230**	P	**Pn**	**18 24 24.9**	**+0.5**
MAVZ	**Matarangi**	**1.17**	**230**	P	**Pn**	**18 24 25.0**	**+0.5**
CNGZ	**Carnagh Statio**	**1.18**	**89**	P	**Pn**	**18 24 24.8**	**+0.6**
CKHZ	**Cape Kidnapper**	**1.18**	**166**	P	**Pn**	**18 24 24.6**	**+0.3**
WNVZ	**Wahianoa**	**1.19**	**226**	P	**Pn**	**18 24 25.1**	**+0.5**
TRVZ	**Turoa**	**1.20**	**229**	P	**Pn**	**18 24 25.4**	**+0.6**
TOZ	**Tahuroa Road**	**1.23**	**309**	P	**Pn**	**18 24 25.1**	**+0.1**
PKGZ	**Pakihiroa**	**1.24**	**60**	P	**Pn**	**18 24 25.4**	**+0.2**
KAHZ	**Kahuranaki**	**1.29**	**174**	P	**Pn**	**18 24 25.8**	**+0.1**
PUZ	**Puketiti**	**1.29**	**71**	P	**Pn**	**18 24 25.5**	**-0.2**
MTVZ	**Mangateitei**	**1.30**	**228**	P	**Pn**	**18 24 26.6**	**+0.7**
PKVZ	**Pokaka**	**1.32**	**233**	P	**Pn**	**18 24 26.7**	**+0.6**
HIZ	**Hauiti**	**1.45**	**269**	P	**Pn**	**18 24 28.4**	**+0.6**
HIZ	**Hauiti**	**1.45**	**269**	P	**Pn**	**18 24 28.5**	**+0.7**
PNHZ	**Pukenui**	**1.45**	**196**	P	**Pn**	**18 24 27.7**	**-0.2**
WMGZ	**Waiomatatini S**	**1.51**	**63**	P	**Pn**	**18 24 28.4**	**-0.1**
PXZ	**Pawanui**	**1.52**	**176**	P	**Pn**	**18 24 28.1**	**-0.6**
WPHZ	**Waipukurau**	**1.56**	**188**	P	**Pn**	**18 24 28.7**	**-0.6**
MXZ	**Matakaoa Point**	**1.58**	**54**	P	**Pn**	**18 24 30.0**	**+0.6**
MXZ	**Matakaoa Point**	**1.58**	**54**	P	**Pn**	**18 24 30.1**	**+0.6**
VRZ	**Vera Road**	**1.64**	**248**	P	**Pn**	**18 24 31.1**	**+0.9**
TSZ	**Takapari Road**	**1.65**	**200**	P	**Pn**	**18 24 29.9**	**-0.5**
PRHZ	**Porangahau**	**1.75**	**182**	P	**Pn**	**18 24 30.9**	**-0.9**
WAZ	**Wanganui**	**1.83**	**227**	P	**Pn**	**18 24 34.1**	**+1.4**
DVHZ	**Dannevirke**	**1.83**	**193**	P	**Pn**	**18 24 31.7**	**-1.1**
MKAZ	**Moumakai**	**1.86**	**318**	P	**Pn**	**18 24 33.5**	**+0.2**
KUZ	**Kuaotunu**	**1.93**	**336**	P	**Pn**	**18 24 33.9**	**-0.2**
KUZ	**Kuaotunu**	**1.93**	**336**	P	**Pn**	**18 24 33.9**	**-0.2**
MHEZ	**Mangahewa**	**1.95**	**252**	P	**Pn**	**18 24 36.3**	**+2.0**
ANWZ	**Angora Road**	**1.95**	**185**	P	**Pn**	**18 24 33.4**	**-1.1**
OHWZ	**Ohakea**	**2.01**	**212**	P	**Pn**	**18 24 35.6**	**+0.4**
POWZ	**Post Office Ro**	**2.01**	**201**	P	**Pn**	**18 24 34.6**	**-0.7**
LREZ	**Lake Rotokare**	**2.03**	**242**	P	**Pn**	**18 24 37.0**	**+1.5**
DREZ	**Durham Road**	**2.07**	**250**	P	**Pn**	**18 24 37.9**	**+1.8**
ETAZ	**East Tamaki Re**	**2.10**	**317**	P	**Pn**	**18 24 37.1**	**-0.7**
PRWZ	**Pori Road**	**2.12**	**195**	P	**Pn**	**18 24 36.1**	**-0.6**
WIAZ	**Waiheke Island**	**2.12**	**323**	P	**Pn**	**18 24 37.1**	**+0.4**
PREZ	**Palmer Road**	**2.15**	**247**	P	**Pn**	**18 24 39.0**	**+1.8**
NEZ	**North Egmont**	**2.18**	**249**	P	**Pn**	**18 24 39.3**	**+1.8**
AWAZ	**Awhitu Peninsu**	**2.18**	**311**	P	**Pn**	**18 24 38.0**	**+0.5**
BFZ	**Birch Farm**	**2.20**	**189**	P	**Pn**	**18 24 35.7**	**-2.0**
BFZ	**Birch Farm**	**2.20**	**189**	P	**Pn**	**18 24 36.0**	**-1.7**
PKE	**Pukeiti**	**2.23**	**251**	P	**Pn**	**18 24 39.6**	**+1.4**
KHEZ	**Kahui Hut**	**2.24**	**249**	P	**Pn**	**18 24 40.0**	**+1.6**
KHEZ	**Kahui Hut**	**2.24**	**249**	P	**Pn**	**18 24 40.0**	**+1.6**
MBAZ	**Motutapu North**	**2.26**	**320**	P	**Pn**	**18 24 39.2**	**+0.7**
MRZ	**Mangatainoka R**	**2.32**	**202**	P	**Pn**	**18 24 37.7**	**-1.7**
NBEZ	**Newall Road No**	**2.34**	**250**	P	**Pn**	**18 24 41.0**	**+1.4**
TIWZ	**Tintock**	**2.35**	**195**	P	**Pn**	**18 24 38.2**	**-1.6**
NMEZ	**Namu Road**	**2.38**	**247**	P	**Pn**	**18 24 41.7**	**+1.5**
ABAZ	**Army Bay**	**2.42**	**321**	P	**Pn**	**18 24 41.5**	**+0.8**
CPWZ	**Castlepoint**	**2.43**	**189**	P	**Pn**	**18 24 39.5**	**-1.3**
GRZ	**Great Barrier**	**2.47**	**336**	P	**Pn**	**18 24 41.6**	**+0.2**
HOWZ	**Holdsworth Sta**	**2.55**	**201**	P	**Pn**	**18 24 40.4**	**-2.2**
OGWZ	**Otaki Gorge**	**2.59**	**207**	P	**Pn**	**18 24 41.4**	**-1.7**
TMWZ	**Te Maipa**	**2.67**	**193**	P	**Pn**	**18 24 41.9**	**-2.2**
KIW	**Kapiti Island**	**2.73**	**210**	P	**Pn**	**18 24 43.1**	**-1.7**
MTW	**Mount Morrison**	**2.80**	**199**	P	**Pn**	**18 24 43.5**	**-2.4**
CAW	**Cannon Point**	**2.88**	**206**	P	**Pn**	**18 24 44.7**	**-2.3**
TRWZ	**Traveller**	**2.99**	**195**	P	**Pn**	**18 24 45.8**	**-2.6**
PAWZ	**Paruwai Farm**	**3.03**	**199**	P	**Pn**	**18 24 46.2**	**-2.8**
MSWZ	**Moikau Station**	**3.11**	**201**	P	**Pn**	**18 24 47.8**	**-2.3**
DUWZ	**D'Urville Isla**	**3.14**	**222**	P	**Pn**	**18 24 48.7**	**-1.8**
WEL	**Wellington**	**3.15**	**208**	P	**Pn**	**18 24 47.9**	**-2.6**
SNZO	**South Karori**	**3.19**	**208**	P	**Pn**	**18 24 48.6**	**-2.5**
TCW	**Tory Channel**	**3.28**	**214**	P	**Pn**	**18 24 49.9**	**-2.5**
TUWZ	**Tuamarina**	**3.61**	**215**	P	**Pn**	**18 24 54.6**	**-2.2**
NNZ	**Nelson**	**3.72**	**222**	P	**Pn**	**18 24 55.9**	**-2.5**
TKNZ	**Takaka Hill**	**3.83**	**228**	P	**Pn**	**18 24 57.6**	**-2.3**
QRZ	**Quartz Range**	**3.97**	**233**	P	**Pn**	**18 25 00.0**	**-1.7**
QRZ	**Quartz Range**	**3.97**	**233**	P	**Pn**	**18 24 59.7**	**-2.1**
OUZ	**Omahuta**	**4.13**	**322**	P	**Pn**	**18 25 05.1**	**+1.2**
OUZ	**Omahuta**	**4.13**	**322**	P	**Pn**	**18 25 05.2**	**+1.3**
MRNZ	**Matariki Terra**	**4.19**	**225**	P	**Pn**	**18 25 02.3**	**-2.4**
THZ	**Tophouse**	**4.36**	**221**	P	**Pn**	**18 25 04.7**	**-2.5**
KHZ	**Kahutara**	**4.59**	**211**	P	**Pn**	**18 25 07.1**	**-3.1**

*ISN **17** 18:26:57.6±2.1,34°.64N×46°.39E,h25km±36km,ML2.7*
*TEH **17** 18:26:57.7,34°.64N×46°.25E,h10km±27km,ML2.7*
ISC 17 18:26:57.4±1.1,34°.63N±0.04°.×46°.27E±0.03°,h15km±9km, n11,σ6°.77/15,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.12**	**53**	Pg	**Pg**	**18 27 01.1**	**-0.1**
IGHG	**Ghaleghazi**	**0.39**	**140**	Pg	**Pb**	**18 27 06.4**	**+0.4**
KGS1	**Ghasr-e-Shirin**	**0.57**	**258**	Pg	**Pg**	**18 27 09.0**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.59**	**210**	Pg	**Pg**	**18 27 09.5**	**+0.4**
ILIN	**Lien**	**0.64**	**63**	Pg	**Pb**	**18 27 10.4**	**0.0**
KCHF	**Cheshme Sefid,**	**0.73**	**119**	Pg	**Pn**	**18 27 12.5**	**-0.8**
KCHF				Sg	**Sn**	**18 27 23.4**	**-0.8**
ILBA	**Ilam Banvizeh**	**1.00**	**183**	Pg	**Pb**	**18 27 16.8**	**+0.4**
IBZA	**Bozab**	**1.32**	**96**	Pg	**

σ2°31/327, mb4.6/72, MS4.0/38, 15C-6D, Northwest of Ryukyu Islands

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**1.34**	**74**	P	**Pn**	**18 43 03.3**	**-2.3**
JSJ				S	**Sg**	**18 43 22.8**	**-1.2**
JSJ	**Shimokoshiki**	**1.34**	**74**	A	A	18 43 03.3	
	comp=E,13nm,0.3s,comp=N,20nm,1.5s						
JFU	**Fukue jima 2**	**1.41**	**19**	⇓*i*P	**Pn**	**18 43 03.8**	**-2.8**
JFU				⇓S	**Sn**	**18 43 22.9**	**-2.3**
JFU	**Fukue jima 2**	**1.41**	**19**	A	A	18 43 03.8	
	comp=E,31nm,2.9s,comp=N,16nm,2.4s						
NGSJ	**Nagasakinomoza**	**1.89**	**46**	*i* P	**Pn**	**18 43 10.9**	**-2.2**
NGSJ	**Nagasakinomoza**	**1.89**	**46**	A	A	18 43 10.9	
	comp=E,5.0nm,5.1s,comp=N,6.0nm,2.8s						
JKC	**Kuchinoerabu**	**1.92**	**116**	P	**Pn**	**18 43 11.9**	**-1.6**
JKC	**Kuchinoerabu**	**1.92**	**116**	A	A	18 43 11.9	
	comp=E,9.0nm,3.6s,comp=N,10.0nm,2.8s						
JHD	**Hondo**	**2.00**	**55**	A	A	18 43 13.3	
	comp=E,8.0nm,3.5s,comp=N,6.0nm,3.6s						
JNN	**Nakanoshima**	**2.06**	**135**	P	**Pn**	**18 43 14.0**	**-1.6**
JNN	**Nakanoshima**	**2.06**	**135**	A	A	18 43 14.0	
	comp=E,14nm,1.6s,comp=N,12nm,0.8s						
JZO	**Okuchi**	**2.20**	**68**	A	A	18 43 16.3	
	comp=E,8.0nm,2.3s,comp=N,10.0nm,2.1s						
JYAK	**Yakushimahirau**	**2.26**	**118**	P	**Pn**	**18 43 16.6**	**-1.7**
JUR	**Ureshino**	**2.31**	**40**	A	A	18 43 17.4	
	comp=E,7.0nm,2.0s,comp=N,8.0nm,2.6s						
JTAJ	**Takarajima**	**2.33**	**158**	P	**Pn**	**18 43 18.5**	**-0.7**
JTN	**Tanegashima 3**	**2.48**	**105**	*i* P	**Pn**	**18 43 20.1**	**-1.1**
JMTN	**Minamitane**	**2.50**	**111**	*i* P	**Pn**	**18 43 20.4**	**-1.2**
JTZ	**Takazaki**	**2.53**	**76**	*i* P	**Pn**	**18 43 21.0**	**-0.9**
JIU3	**Izumi3**	**2.54**	**60**	P	**Pn**	**18 43 21.4**	**-0.7**
JNAR	**Kushima--Naru**	**2.63**	**85**	A	A	18 43 22.6	
	comp=E,7.0nm,1.3s,comp=N,11nm,4.9s						
JNKG	**Nichinankitago**	**2.73**	**82**	A	A	18 43 24.0	
	comp=E,6.0nm,2.1s,comp=N,8.0nm,2.5s						
JII	**Iki**	**2.79**	**27**	A	A	18 43 24.1	
	comp=E,11nm,1.9s,comp=N,14nm,1.2s						
JFI	**Itaya**	**2.80**	**41**	A	A	18 43 24.5	
	comp=E,5.0nm,2.2s,comp=N,7.0nm,2.1s						
JNU	**Nakatsue**	**2.89**	**51**	Pn	**Pn**	**18 43 25.6**	**-1.4**
JNU	**Nakatsue**	**2.89**	**51**	Pn	**Pn**	**18 43 27.4**	**+0.4**
	comp=N,2.1nm,0.3s,baz=212,slow=15,SNR=21						
JNU				Sn	**Sg**	**18 44 10.0**	**-3.8**
	comp=N,41nm,0.3s,baz=240,slow=8.3,SNR=6.3						
JAMN	**Amaminishikomi**	**3.18**	**164**	P	**Pn**	**18 43 30.3**	**-0.6**
JTU	**Tsushima**	**3.35**	**17**	P	**Pn**	**18 43 32.0**	**-1.2**
JOW	**Kunigami**	**4.47**	**179**	Pn	**Pn**	**18 43 50.2**	**+1.4**
JOW	**Kunigami**	**4.47**	**179**	Pn	**Pn**	**18 43 46.1**	**-2.6**
	comp=N,1.0nm,0.3s,baz=121,slow=11,SNR=1.7						
JOW				LR	LR	18 45 36.7	
	comp=N,691nm,21.3s,baz=96,slow=40						
	comp=N,7.6nm,0.4s						
TJN	**Taejon**	**5.09**	**352**	Pn	**Pn**	**18 43 55.5**	**-1.7**
TJN	**Taejon**	**5.09**	**352**	*ce*P	**Pn**	**18 43 56.1**	**-1.1**
JMN	**Monobe**	**5.36**	**62**	P	**Pn**	**18 44 02.0**	**+1.0**
SSE	**Sheshan**	**6.01**	**270**	Pn	Pn	18 44 13.6	+3.7
SSE				Sn	**Sn**	**18 45 24.3**	**+5.5**
SSE				smax	smax		
	comp=N,550nm,0.7s						
SSE				smax	smax		
	comp=N,470nm,1.0s						
SSE				LR	LR		
	comp=N,710nm,8.4s						
SSE				LR	LR		
	comp=N,540nm,8.9s						
JMZ	**Minamidao 2**	**6.09**	**153**	Pn	**Pn**	**18 44 10.2**	**-0.8**
KSRS	**Korea Array**	**6.12**	**358**	Pn	**Pn**	**18 44 10.4**	**-0.9**
	comp=N,2.6nm,0.3s,baz=182,slow=14,SNR=83						
KSRS				Lg	Lg	18 45 42.6	
	comp=N,13nm,0.3s,baz=257,slow=38,SNR=5.7						
KSRS				LR	LR	18 46 53.2	
	comp=N,487nm,21.1s,baz=185,slow=41						
	comp=N,16nm,0.5s						
INCN	**Inchon**	**6.28**	**349**		**Pn**	**18 44 11.6**	**-2.0**
INCN	**Inchon**	**6.28**	**349**	P	**Pn**	**18 44 11.6**	**-2.0**
NJ2	**Nanjing**	**8.00**	**278**	*e*P	**Pn**	**18 44 37.8**	**+0.7**
NJ2				smax	smax		
	comp=N,620nm,0.7s						
NJ2				smax	smax		
	comp=N,630nm,0.7s						
YOJ	**Yonaguni jima**	**8.23**	**215**	Pn	**Pn**	**18 44 37.6**	**-2.7**
YOJ	**Yonaguni jima**	**8.23**	**215**	P	**Pn**	**18 44 37.6**	**-2.7**
INU	**Inuyama**	**8.40**	**59**	Pn	**Pn**	**18 44 43.5**	**+0.9**
TATO	**Taipei**	**8.66**	**225**	Pn	**Pn**	**18 44 45.9**	**-0.3**
JGF	**Kuroka**	**8.76**	**58**	Pn	**Pn**	**18 44 47.8**	**+0.2**
YHNB	**Yeheng**	**8.96**	**224**		**Pn**	**18 44 51.0**	**+0.6**
JSG	**Sagara**	**9.03**	**66**	Pn	**Pn**	**18 44 51.6**	**+0.4**
NACB	**Ninganchiao**	**9.21**	**221**	Pn	**Pn**	**18 44 53.7**	**-0.2**
DL2	**Dalian**	**9.28**	**326**	P	**Pn**	**18 44 57.3**	**+2.6**
DL2				*e*S	Sn	18 46 47.0	+7.8
DL2				pmax	pmax		
	comp=N,54nm,0.8s						
DL2				LR	LR		
	comp=N,3μm,14.6s						
DL2				LR	LR		
	comp=N,3μm,12.4s						
DL2				LR	LR		
	comp=N,3μm,11.1s						
MAJO	**Matsushiro**	**9.81**	**55**		**Pn**	**18 45 02.7**	**+0.7**
MAJO	**Matsushiro**	**9.81**	**55**	*i* P	Pn	18 45 10.7	+8.8
MJAR	**Matsushiro Arr**	**9.81**	**55**	Pn	**Pn**	**18 45 05.2**	**+3.3**
	comp=N,0.1nm,0.3s,baz=235,slow=14,SNR=9.6						
MJAR				Lg	Lg	18 47 49.4	
	baz=263,slow=20,SNR=2.2						
MJAR				LR	LR	18 48 56.2	
	comp=N,479nm,19.3s,baz=228,slow=37						
	comp=N,3.4nm,0.6s						
SSLB	**Suanglung**	**9.88**	**222**		**Pn**	**18 45 02.5**	**-0.5**
JHJ	**Hachijo jima 2**	**9.97**	**77**	LR	LR	18 48 51.7	
	comp=N,226nm,18.1s,baz=284,slow=36						
YULB	**Yu-li**	**10.00**	**220**	Pn	**Pn**	**18 45 06.1**	**+1.5**
TIA	**Tai'an**	**10.43**	**301**	P	**Pn**	**18 45 09.1**	**-1.3**
TIA				pmax	pmax		
	comp=N,61nm,0.6s						
TIA				LR	LR		
	comp=N,1μm,10.6s						
TIA				LR	LR		
	comp=N,2μm,11.6s						
TIA				LR	LR		
	comp=N,2μm,10.0s						
TPUB	**Ta-pu**	**10.44**	**222**		**Pn**	**18 45 11.6**	**+0.9**
TWG	**Pinlang**	**10.58**	**219**		**Pn**	**18 45 12.9**	**+0.4**
QZH	**Quanzhou**	**10.59**	**236**	⇓*i*P	**Pn**	**18 45 13.6**	**+0.9**
QZH				S	**Sn**	**18 47 14.3**	**+2.8**
QZH				LR	LR		
	comp=N,1μm,11.3s						
KNMB	**Chin-men Tao**	**11.04**	**234**	Pn	**Pn**	**18 45 19.3**	**+0.5**
PSTR	**Posyet**	**11.50**	**10**	*i* P	**Pn**	**18 45 26.2**	**+1.2**
JMM	**Marumori**	**12.25**	**54**		**Pn**	**18 45 35.5**	**+0.1**
CN2	**Changchun**	**12.65**	**351**	*e*P	**Pn**	**18 45 42.0**	**+1.2**
CN2				*e*S	**Sn**	**18 47 58.5**	**-3.1**
CN2				pmax	pmax		
	comp=N,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=N,100nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,13.0s						
CN2				LR	LR		
	comp=N,4μm,13.0s						
CN2				LR	LR		
	comp=N,1μm,10.0s						
HNS	**HongShan**	**12.69**	**302**	⇓P	**Pn**	**18 45 42.4**	**+1.1**
HNS				pmax	pmax		
	comp=N,31nm,1.1s						
HNS				LR	LR		
	comp=N,480nm,11.1s						
HNS				LR	LR		
	comp=N,810nm,10.8s						
HNS				LR	LR		
	comp=N,900nm,11.9s						
JCJ	**Chichijima**	**12.92**	**106**	LR	LR	18 51 05.6	
	comp=N,101nm,18.7s,baz=298,slow=38						
BJT	**Baijiatuau**	**13.07**	**315**	Pn	**Pn**	**18 45 45.8**	**-0.7**
BJT	**Baijiatuau**	**13.07**	**315**	P	**Pn**	**18 45 45.8**	**-0.7**
BJI	**Beijing**	**13.08**	**315**	P	**Pn**	**18 45 48.3**	**+1.7**
BJI				pmax	pmax		
	comp=N,27nm,1.0s						
BJI				LR	LR		
	comp=N,390nm,12.6s						
BJI				LR	LR		
	comp=N,290nm,11.9s						
BJI				LR	LR		
	comp=N,390nm,13.0s						
USA0B	**Ussuriysk Arra**	**13.20**	**12**	*i* P	**Pn**	**18 45 50.2**	**+1.9**
USRK	**Ussuriysk Ar.**	**13.20**	**12**	Lg	Lg	18 49 42.2	
	comp=N,0.1nm,0.3s,baz=176,slow=34,SNR=2.6						
LYN	**LuoYang**	**13.60**	**288**	⇑P	**P**	**18 45 58.6**	**-4.3**
LYN				pmax	pmax		
	comp=N,43nm,1.0s						
LYN				pmax	pmax		
	comp=N,460nm,4.0s						
LYN				LR	LR		
	comp=N,4μm,17.2s						
LYN				LR	LR		
	comp=N,1μm,15.8s						
LYN				LR	LR		
	comp=N,1μm,14.8s						
JTM	**Tenmabayashi**	**14.04**	**44**	Pn	**Pn**	**18 45 59.1**	**-0.7**
BNX	**BinXian**	**14.41**	**358**	⇓P	**Pn**	**18 46 06.0**	**+1.2**
BNX				S	**Sn**	**18 48 49.3**	**+4.7**
BNX				pmax	pmax		
	comp=N,11nm,1.2s						
BNX				LR	LR		
	comp=N,810nm,12.0s						
BNX				LR	LR		
	comp=N,6μm,11.6s						
BNX				LR	LR		
	comp=N,950nm,13.5s						
TEY	**Ternei**	**15.19**	**23**	*e*P	**P**	**18 46 19.3**	**-1.1**
XLT	**XiLinHaoTe**	**15.79**	**326**	*e*P	**Pn**	**18 46 23.0**	**-0.3**
XLT				pP	pP	18 46 28.4	-1.5
XLT				sS	S	18 49 27.9	-5.2
XLT				pmax	pmax		
	comp=N,3.0nm,1.1s						
XLT				pmax	pmax		
	comp=N,99nm,4.4s						
XLT				LR	LR		
	comp=N,59nm,10.3s						
XLT				LR	LR		
	comp=N,520nm,11.5s						
XLT				LR	LR		
	comp=N,900nm,12.2s						
ERM	**Erimo**	**16.03**	**44**	Pn	**Pn**	**18 46 25.8**	**-0.6**
ERM	**Erimo**	**16.03**	**44**	P	**Pn**	**18 46 25.8**	**-0.6**
ERM				pmax	pmax		
	comp=Z,24nm,1.1s						
ENH	**Enshi**	**16.12**	**271**		**Pn**	**18 46 26.3**	**-1.3**
ENH				IAmb	IAmb	18 46 44.5	
	comp=Z,20nm,0.5s						
XAN	**Xi'an**	**16.46**	**285**	⇑P	**P**	**18 46 32.3**	**-2.4**
XAN				sP	sP	18 46 39.6	+0.9
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
XAN				LR	LR		
	comp=Z,4μm,15.5s						
XAN				LR	LR		
	comp=Z,710nm,14.1s						
XAN				LR	LR		
	comp=Z,750nm,13.7s						
ASAJ	**Asahikawa**	**17.08**	**38**	P	**P**	**18 46 39.5**	**-1.9**
	comp=Z,30nm,1.0s,baz=208,slow=10,SNR=10.0						
ASAJ				LR	LR	18 52 34.7	
	comp=Z,398nm,18.5s,baz=218,slow=34						
ASAJ	**Asahikawa**	**17.08**	**38**	P	**Pn**	**18 46 38.8**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,32nm,0.9s						
JKA	**Kamikawa-asahi**	**17.08**	**38**	Pn	**Pn**	**18 46 38.8**	**-0.9**
BTO	**Baotou**	**17.36**	**307**	*e*P	**P**	**18 46 44.8**	**+0.1**
BTO				pP	**sP**	**18 46 52.8**	**+4.0**
BTO				sP	pP	18 46 57.3	+10
BTO				PP	**PnPn**	**18 46 59.8**	**+6.4**
BTO				S	**Sn**	**18 49 56.5**	**-0.2**
BTO				sS	**sS**	**18 50 08.1**	**-1.6**
BTO				SS	**SnSn**	**18 50 16.3**	**+6.3**
BTO				pmax	pmax		
	comp=Z,16nm,0.5s						
BTO				pmax	pmax		
	comp=Z,350nm,5.1s						
BTO				LR	LR		
	comp=Z,1μm,14.6s						
BTO				LR	LR		
	comp=Z,940nm,14.8s						
BTO				LR	LR		
	comp=Z,1μm,12.3s						
KLR	**Kul'dur**	**18.09**	**8**	P	**Pn**	**18 46 50.9**	**-1.3**
	comp=Z,3.5nm,0.9s,baz=186,slow=12,SNR=10						
KLR				Lg	Lg	18 52 16.8	
	comp=Z,0.1nm,0.3s,baz=302,slow=21,SNR=2.3						
KLR				LR	LR	18 53 22.2	
	comp=Z,236nm,18.6s,baz=182,slow=35						
KLR	**Kul'dur**	**18.09**	**8**	*ce*P	**P**	**18 46 52.1**	**-0.4**
KLR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
HEH	**HeiHe**	**18.92**	**358**	*e*P	**Pn**	**18 47 01.0**	**-1.3**
HEH				pP	**sP**	**18 47 05.6**	**-0.1**
HEH				pmax	pmax		
	comp=Z,11nm,1.1s						
HEH				LR	LR		
	comp=Z,850nm,13.8s						
HEH				LR	LR		
	comp=Z,5μm,12.4s						
HEH				LR	LR		
	comp=Z,810nm,10.7s						
YSS	**Yuzh-Sakhalins**	**19.21**	**32**	P	**P**	**18 47 03.9**	**-1.0**
YSS	**Yuzh-Sakhalins**	**19.21**	**32**	*e*P	**Pn**	**18 47 06.1**	**+0.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
YSS				pmax	pmax		
	comp=Z,200nm,4.3s						
YSS				MLR	MLR		
	comp=N,400nm,14.0s						
YSS				MLR	MLR		
	comp=Z,600nm,14.0s						
YSS				MLR	MLR		
	comp=E,500nm,15.0s						
GYA	**Guiyang**	**19.46**	**261**	⇑P	**Pn**	**18 47 08.5**	**-0.6**
GYA				pmax	pmax		
	comp=E,38nm,1.1s						
GYA				LR	LR		
	comp=E,710nm,12.0s						
GRNR	**Gornyy**	**20.37**	**15**	⇓*i*P	Pn	18 47 19.6	0.0
GRNR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,390nm,13.0s						
GRNR				MLR	MLR		
	comp=N,300nm,12.0s						
GRNR				MLR	MLR		
	comp=Z,290nm,11.0s						
QIZ	**Qiongzhong**	**20.60**	**238**	P	Pn	18 47 21.0	-1.5
QIZ				S	Sn	18 51 12.4	-2.5
QIZ				LR	LR		
	comp=Z,810nm,13.5s						
QIZ				LR	LR		
	comp=Z,880nm,15.1s						
QIZ				LR	LR		
	comp=Z,630nm,8.3s						
LZH	**Lanzhou**	**20.80**	**290**	P	Pn	18 47 30.1	+5.3
LZH				sP	sP	18 47 39.5	+13
LZH				S	**S**	**18 51 13.8**	**-0.8**
LZH				pmax	pmax		
	comp=Z,59nm,1.3s						
LZH				pmax	pmax		
	comp=Z,400nm,4.1s						
LZH				LR	LR		
	comp=N,2μm,13.7s						
LZH				LR	LR		
	comp=E,430nm,13.2s						
LZH				LR	LR		
	comp=Z,780nm,14.9s						
CD2	**Chengdu**	**20.93**	**275**	P	**P**	**18 47 21.6**	**-2.1**
CD2				S	**S**	**18 51 13.9**	**-3.2**
CD2				sS	Sn	18 51 20.9	-1.8
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
CD2				pmax	pmax		
	comp=Z,150nm,8.2s						
CD2				LR	LR		
	comp=Z,950nm,10.5s						
CD2				LR	LR		
	comp=Z,930nm,9.2s						
CD2				LR	LR		
	comp=Z,1μm,8.9s						
TYV	**Tymovskoe**	**22.28**	**25**	*e*P	**P**	**18 47 42.1**	**+4.1**
TYV				pmax	pmax		
	comp=Z,100nm,2.8s						
TYV				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ZEA	**Zeya**	**22.41**	**359**	*e*P	**P**	**18 47 39.1**	**-0.4**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZEA				MLR	MLR		
	comp=N,500nm,12.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,15.0s						
ULN	**Ulaanbaatar**	**23.09**	**322**	P	**P**	**18 47 43.9**	**-2.9**
ULN				IAmb	IAmb	18 47 52.5	
	comp=Z,18nm,0.9s						
ULN	**Ulaanbaatar**	**23.09**	**322**	*ce*P	**P**	**18 47 44.1**	**-2.7**
ULN				pmax	pmax		
	comp=Z,23nm,1.0s						
KMI	**Kunming**	**23.24**	**261**	⇑P	**P**	**18 47 46.3**	**-2.3**
KMI				pmax	pmax		
	comp=Z,12nm,0.9s						
KMI				LR	LR		
	comp=Z,1μm,20.2s						
KMI				LR	LR		
	comp=Z,490nm,18.9s						
KMI				LR	LR		
	comp=Z,420nm,15.8s						
GUMO	**Guam**	**23.37**	**135**	LR	LR	18 55 01.1	
	comp=Z,161nm,21.2s,baz=316,slow=31						
SONM	**Songino Array**	**23.42**	**321**	P	**P**	**18 47 47.5**	**-2.7**
	comp=Z,5.9nm,1.0s,baz=140,slow=9.0,SNR=27						
SONM				LR	LR	18 57 35.4	
	comp=Z,149nm,21.2s,baz=129,slow=39						
	comp=Z,5.9nm,1.0s						
PZH	**PanZhiHua**	**23.63**	**265**	P	**P**	**18 47 51.4**	**-1.0**
PZH				S	**S**	**18 52 06.6**	**-0.5**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,160nm,4.5s						
PZH				LR	LR		
	comp=Z,1μm,16.9s						
PZH				LR	LR		
	comp=Z,480nm,16.7s						
PZH				LR	LR		
	comp=Z,230nm,13.1s						
GTA	**Gaotai**	**24.44**	**297**	*e*P	**P**	**18 48 03.0**	**+3.0**
GTA				sP	sP	18 48 11.3	+7.1
GTA				PP	PnPn	18 48 40.8	+10
GTA				sS	sS	18 52 24.8	-0.1
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				LR	LR		
	comp=Z,560nm,14.9s						
GTA				LR	LR		
	comp=Z,580nm,13.5s						
GTA				LR	LR		
	comp=Z,830nm,13.4s						
ZAK	**Zakamensk**	**26.59**	**323**	*e*P	**P**	**18 48 17.1**	**-2.1**
ZAK				pmax	pmax		
	comp=Z,14nm,1.1s						
TNCH	**TengChong**	**26.86**	**264**	P	**P**	**18 48 20.3**	**-1.7**
TNCH				sP	sP	18 48 27.6	+1.4
TNCH				S	**S**	**18 52 54.8**	**-3.9**
TNCH				sS	sS	18 53 03.9	+0.3
TNCH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TNCH				pmax	pmax		
	comp=Z,81nm,4.4s						
TNCH				LR	LR		
	comp=Z,810nm,11.9s						
TNCH				LR	LR		
	comp=Z,310nm,6.5s						
TNCH				LR	LR		
	comp=Z,200nm,12.4s						
IRK	**Irkutsk**	**27.26**	**327**	*e*P	**P**	**18 48 24.7**	**-0.4**
IRK				pmax	pmax		
	comp=Z,28nm,2.0s						
GOMU	**GeErMu**	**28.10**	**289**	P	P	18 48 37.5	+4.3
GOMU				sP	sP	18 48 44.6	+7.1
GOMU				sS	sS	18 53 32.0	+8.6
GOMU				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GOMU				LR	LR		
	comp=Z,870nm,15.6s						
GOMU				LR	LR		
	comp=Z,420nm,13.4s						
GOMU				LR	LR		
	comp=Z,540nm,13.9s						
MOY	**Mondy**	**28.51**	**323**	*e*P	**P**	**18 48 35.4**	**-1.0**
MOY				pmax	pmax		
	comp=Z,14nm,1.6s						
CMAR	**Chiang Mai Arr**	**29.37**	**251**	P	**P**	**18 48 42.5**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=50,slow=6.3,SNR=9.8						
CMAR				LR	LR	19 00 25.2	
	comp=Z,116nm,19.4s,baz=50,slow=37						
	comp=Z,1.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.37**	**251**	*i* P	**P**	**18 48 43.7**	**-0.6**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YAK	**Yakutsk**	**30.74**	**1**	LR	LR	19 01 38.7	
	comp=Z,183nm,18.3s,baz=176,slow=37						
MA2	**Magadan**	**32.06**	**22**	LR	LR	19 01 47.9	
	comp=Z,66nm,18.4s,baz=242,slow=36						
SBUM	**Sibu**	**32.44**	**211**	P	**P**	**18 49 10.3**	**-1.0**
WMQ	**Urumqi**	**34.12**	**303**	*e*P	**P**	**18 49 27.8**	**+2.0**
WMQ				LR	LR		
	comp=Z,480nm,13.3s						
WMQ				LR	LR		
	comp=Z,400nm,14.1s						
WMQ				LR	LR		
	comp=Z,170nm,15.5s						
SEY	**Seymchan**	**35.20**	**19**	*ce*P	**P**	**18 49 38.2**	**+3.4**
SEY				pmax	pmax		
	comp=Z,11nm,1.0s						
KAPI	**Kappang**	**37.02**	**194**	LR	LR	19 04 33.0	
	comp=Z,81nm,19.2s,baz=54,slow=36						
MK31	**Makanchi Array**	**38.28**	**307**	*ce*P	**P**	**18 49 59.6**	**-1.8**
MKAR	**Makanchi Array**	**38.28**	**307**	P	**P**	**18 49 59.8**	**-1.6**
	comp=Z,2.1nm,0.7s,baz=97,slow=11,SNR=18						
MKAR				LR	LR	19 05 00.2	
	comp=Z,105nm,19.4s,baz=106,slow=35						
	comp=Z,2.1nm,0.7s						
MKAR	**Makanchi Array**	**38.28**	**307**	*i* P	**P**	**18 49 59.7**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**38.29**	**319**	P	**P**	**18 49 59.1**	**-2.2**
	comp=Z,1.5nm,0.8s,baz=110,slow=8.1,SNR=5.4						
ZALV				LR	LR	19 06 07.6	
	comp=Z,101nm,18.5s,baz=86,slow=37						
	comp=Z,1.5nm,0.8s						
MAKZ	**Makanchi**	**38.50**	**307**	P	**P**	**18 50 00.4**	**-2.8**
MAKZ	**Makanchi**	**38.50**	**307**	P	**P**	**18 50 00.4**	**-2.8**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SHEM	**Shemya Is, Ala**	**39.39**	**43**	LR	LR	19 05 39.1	
	comp=Z,68nm,21.3s,baz=257,slow=35						
TIXI	**Tiksi**	**40.38**	**0**	LR	LR	19 07 57.9	
	comp=Z,247nm,18.2s,baz=202,slow=38						
KURK	**Kurchatov**	**41.23**	**313**	P	**P**	**18 50 23.6**	**-2.2**
KURK				IAmb	IAmb	18 50 29.5	
	comp=Z,8.8nm,0.8s						
KURK	**Kurchatov**	**41.23**	**313**	*ce*P	**P**	**18 50 24.5**	**-1.3**
KURK				pmax	pmax		
	comp=Z,21nm,1.7s						
KURBB	**Kurchatov Arra**	**41.27**	**313**	P	**P**	**18 50 24.0**	**-2.1**
	comp=Z,1.2nm,0.6s,baz=99,slow=9.0,SNR=13						
KURBB				LR	LR	19 08 38.1	
	comp=Z,252nm,18.2s,baz=158,slow=38						
	comp=Z,1.2nm,0.6s						
NRN	**Naryn**	**42.66**	**299**	P	**P**	**18 50 35.2**	**-2.8**
NRN	**Naryn**	**42.66**	**299**	P	**P**	**18 50 35.2**	**-2.8**
NRN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KSH	**Kashi**	**42.84**	**296**	P	P	18 50 46.9	+7.7
KSH				sP	sP	18 50 53.8	+10
KSH				PcP	**PcP**	**18 52 35.9**	**+5.6**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KSH				LR	LR		
	comp=Z,310nm,10.7s						
KSH				LR	LR		
	comp=Z,230nm,13.4s						
KSH				LR	LR		
	comp=Z,320nm,13.1s						
BILL	**Bilibino**	**42.88**	**20**	⇑*e*P	P	18 50 43.4	+4.3
BILL				*i*		18 50 47.8	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,94nm,14.0s						
AAK	**Ala-Archa**	**43.70**	**301**	LR	LR	19 11 02.3	
	comp=Z,191nm,18.3s,baz=99,slow=39						

AAK Ala-Archa 43.70 301 *i* P **P 18 50 44.6 -1.7**
AAK pmax pmax
comp=Z,4.0nm,0.9s
MTN Manton Dam 44.00 176 P **P 18 50 47.8 -0.8**
MTN IAmb IAmb 18 50 48.6
comp=Z,17nm,0.9s
NRIK Noril'sk 44.43 341 P **P 18 50 49.9 -1.6**
comp=Z,0.9nm,0.3s,baz=178,slow=12,SNR=1.9
comp=Z,0.9nm,0.3s
BVAR Borovoye Array 46.56 315 P **P 18 51 07.0 -1.6**
comp=Z,1.6nm,0.7s,baz=99,slow=9.1,SNR=22
BVAR LR LR 19 12 19.9
comp=Z,154nm,20.2s,baz=103,slow=38
comp=Z,1.6nm,0.7s
BVAR Borovoye Array 46.56 315 P **P 18 51 07.0 -1.6**
KKAR Karatay Array 46.59 302 P **P 18 51 07.0 -2.0**
KKAR Karatay Array 46.59 302 P **P 18 51 07.0 -2.0**
KKAR pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 46.62 315 P **P 18 51 07.4 -1.7**
BRVK Borovoye 46.62 315 *ce* P **P 18 51 07.4 -1.7**
BRVK pmax pmax
comp=Z,11nm,0.8s
CHGR Chuyangaron 48.20 296 P **P 18 51 19.6 -2.1**
CHGR Chuyangaron 48.20 296 P **P 18 51 19.7 -2.1**
CHGR pmax pmax
comp=Z,48nm,1.2s
SIMJ Simiganj 48.32 296 P **P 18 51 21.3 -1.4**
NIKH Nikolski High 49.65 45 P **P 18 51 33.8 +1.3**
baz=270
UNV Unalaska Valle 51.05 44 P **P 18 51 45.5 +2.4**
baz=272
TNA Tin City 51.16 29 P **P 18 51 45.9 +2.3**
baz=261
WRA Warramunga Arr 51.31 173 P **P 18 51 44.8 -0.5**
comp=Z,1.9nm,0.8s,baz=353,slow=8.0,SNR=12
comp=Z,1.9nm,0.8s
G15K Niukluk 52.70 30 P P 18 51 59.8 +4.6
baz=265
L14K Kuka Creek 53.11 34 P P 18 52 03.1 +4.8
baz=269
ABKAR Akbulak array 53.24 311 P **P 18 51 57.7 -1.8**
D17K Noatak River 53.37 26 P **P 18 52 02.8 +2.8**
baz=264
ARU Arti 53.45 320 P **P 18 51 59.0 -1.9**
ARU IAmb IAmb 18 52 05.5
comp=Z,13nm,1.2s
ARU Arti 53.45 320 *c i* P **P 18 51 59.2 -1.7**
ARU 18 53 06.9
ARU S **S 18 59 28.6 -4.5**
ARU SS SS 19 03 00.4 -12
ARU pmax pmax
comp=Z,7.0nm,1.0s
ARU MLR MLR
comp=Z,231nm,14.0s
F17K Baldwin Pennin 53.97 28 P **P 18 52 07.6 +3.1**
baz=266
M15K Kasigluk River 54.08 35 P **P 18 52 08.0 +2.6**
baz=271
G17K Kiwalik Mounta 54.16 29 P **P 18 52 08.3 +2.3**
baz=268
C18K Utukok River 54.17 25 P **P 18 52 09.0 +3.0**
baz=265
E18K Tukpahlearik C 54.29 27 P **P 18 52 09.2 +2.4**
baz=266
AKTO Aktyubinsk 54.32 312 LR LR 19 15 44.1
comp=Z,209nm,19.7s,baz=68,slow=37
N15K Kwethluk River 54.39 36 P **P 18 52 09.7 +2.1**
baz=272
H17K Granite Mounta 54.45 30 P **P 18 52 11.2 +3.1**
baz=269
F18K Selawik 54.62 28 P **P 18 52 11.8 +2.6**
baz=268
L16K Owhat River 54.65 34 P **P 18 52 12.3 +2.8**
baz=271
C19K Lookout Ridge 54.78 25 P **P 18 52 13.2 +2.7**
baz=266
J17K VABM Dome 54.81 32 P **P 18 52 13.3 +2.6**
baz=270
ASAR Alice Springs 54.95 174 P **P 18 52 11.8 -0.3**
comp=Z,2.8nm,0.9s,baz=357,slow=6.5,SNR=17
comp=Z,2.8nm,0.9s
G18K Tagagawik 55.00 29 P **P 18 52 11.4 -0.6**
G18K IAmb IAmb 18 52 18.9
comp=Z,5.2nm,1.0s
G18K Tagagawik 55.00 29 P **P 18 52 15.0 +2.9**
baz=269
H18K Honhosa River 55.11 30 P **P 18 52 15.5 +2.6**
baz=270
K17K Iditarod 55.17 33 P **P 18 52 16.0 +2.7**
baz=272
L17K Donlin 55.19 33 P **P 18 52 16.3 +2.8**
baz=272
D19K Kuna River 55.28 26 P P 18 52 18.3 +4.3
baz=268
F19K Shaleruckik Mo 55.37 28 P P 18 52 18.5 +3.9
baz=269
E19K Redstone River 55.59 27 P **P 18 52 19.5 +3.2**
baz=269
M17K Holitna River 55.63 34 P **P 18 52 19.4 +2.8**
baz=273
G19K Purcell Mounta 55.64 28 P **P 18 52 20.0 +3.3**
baz=270
B20K Meade River 55.69 24 P **P 18 52 20.2 +3.3**
baz=268
N17K Nushagak Hills 55.81 35 P **P 18 52 21.4 +3.4**
baz=274
D20K Etivluk River 55.84 25 P P 18 52 22.2 +4.2
baz=269
J18K Innoko River 55.87 32 P P 18 52 22.0 +3.7
baz=273
H19K Roundabout Mou 55.91 29 P **P 18 52 18.3 -0.3**
H19K IAmb IAmb 18 52 26.3
comp=Z,6.2nm,0.8s
H19K Roundabout Mou 55.91 29 P **P 18 52 21.7 +3.1**
baz=271
A21K Barrow 55.93 22 P P 18 52 22.4 +3.8
baz=267
L18K Granite Mounta 55.94 33 P **P 18 52 22.5 +3.6**
baz=273
E20K Nigu River 55.99 26 P P 18 52 23.1 +3.9
baz=270
F20K Avaraart Lake 56.18 27 P **P 18 52 23.6 +3.1**
baz=271
TTA Tatalina 56.21 32 P **P 18 52 23.8 +2.9**
baz=274
P17K Kvichak River 56.30 37 P **P 18 52 23.8 +2.4**
baz=276
J19K Poorman 56.33 31 P **P 18 52 21.7 +0.2**
J19K Poorman 56.33 31 P **P 18 52 24.8 +3.2**
baz=273
M18K Stony River 56.40 34 P **P 18 52 25.1 +3.0**
baz=275
N18K Kilae Creek 56.44 35 P **P 18 52 25.1 +2.6**
baz=275
A22K Sinclair Lake 56.45 22 P **P 18 52 25.8 +3.5**
baz=269
C21K Knifeblade Rid 56.51 25 P **P 18 52 26.4 +3.6**
baz=270
R17L Mt. Peulik Vol 56.51 39 P **P 18 52 26.2 +3.2**
baz=277
B21K Ikpikpuk River 56.56 24 P **P 18 52 26.6 +3.4**
baz=270
H20K Anotleneega Mo 56.57 29 P **P 18 52 26.3 +3.0**
baz=273
Q17K Contact Creek 56.69 38 P **P 18 52 25.9 +1.5**
baz=277
L19K White Mountain 56.80 33 P **P 18 52 27.5 +2.5**
baz=275
E21K Killik River 56.81 26 P **P 18 52 25.0 0.0**
E21K IAmb IAmb 18 52 30.2
comp=Z,12nm,1.4s
E21K Killik River 56.81 26 P **P 18 52 28.5 +3.5**
baz=272
O18K Koktuh Hills 56.86 36 P **P 18 52 27.7 +2.3**
baz=276
J20K Nowinta River 56.96 31 P **P 18 52 26.4 +0.3**
J20K Nowinta River 56.96 31 P **P 18 52 29.0 +2.9**
baz=274
F21K Alatna River 57.05 27 P **P 18 52 29.7 +3.0**
baz=273
K20K Telida 57.06 32 P P 18 52 30.9 +4.1
baz=275
G21K Allakaket 57.08 28 P **P 18 52 29.5 +2.6**
baz=273
Q18K Katmai Hardscr 57.10 37 P **P 18 52 30.0 +2.7**
baz=277

N19K Bonanza Creek 57.11 35 P **P 18 52 29.9 +2.6**
baz=276
L20K Farewell, AK 57.23 33 P **P 18 52 31.0 +2.9**
baz=276
D22K Ayikyak River 57.27 25 P **P 18 52 27.6 -0.6**
D22K IAmb IAmb 18 52 33.4
comp=Z,9.3nm,1.1s
D22K Ayikyak River 57.27 25 P **P 18 52 31.7 +3.5**
baz=273
H21K Melozitna Rive 57.42 29 P **P 18 52 32.8 +3.5**
baz=275
F22K John River 57.53 27 P **P 18 52 32.7 +2.6**
baz=274,SNR=6.1
G22K Bettles 57.84 27 P P 18 52 36.3 +4.1
baz=275
CAST Castle Rocks 57.95 31 P **P 18 52 32.7 -0.4**
CAST Castle Rocks 57.95 31 P **P 18 52 35.8 +2.7**
baz=277
C23K Itkillik River 57.95 24 P **P 18 52 35.8 +2.8**
baz=274
PPLA Purkeypile 57.96 32 P **P 18 52 35.7 +2.4**
baz=277
H22K Ishtalitna Cre 57.98 29 P **P 18 52 35.6 +2.3**
baz=276
D23K Nanushuk River 57.99 25 P P 18 52 37.1 +3.8
baz=274
KIRV Kirov 58.14 323 *ce* P **P 18 52 33.1 -1.3**
OHAK Old Harbor 58.21 39 P **P 18 52 36.5 +1.5**
baz=280
COLD Coldfoot 58.32 27 P **P 18 52 38.1 +2.5**
baz=276
MLY Manley 58.34 30 P **P 18 52 35.8 -0.1**
MLY Manley 58.34 30 P **P 18 52 38.6 +2.8**
baz=277
BPAW Bear Paw Mtn. 58.35 31 P **P 18 52 38.4 +2.5**
baz=277
SKT Skwentna 58.38 33 P **P 18 52 38.4 +2.2**
baz=278
TOLK Toolik Lake Re 58.42 25 P **P 18 52 39.3 +3.0**
baz=276
G23K Bananza Creek 58.45 28 P **P 18 52 39.5 +3.0**
baz=276
Q20K Shuyak Island 58.46 37 P **P 18 52 38.9 +2.3**
baz=279
E23K Chandalar 58.46 26 P **P 18 52 39.6 +3.0**
baz=276,SNR=5.8
KDAK Kodiak Island 58.49 38 P **P 18 52 39.7 +2.8**
baz=280
KDAK Kodiak Island 58.49 38 LR LR 19 17 58.1
comp=Z,88nm,21.1s,baz=252,slow=36
D24K Happy Valley 58.64 25 P P 18 52 41.7 +3.9
baz=276
H23K Yukon River 58.74 29 P **P 18 52 41.0 +2.4**
baz=277
SUA Susitna One 58.82 34 P **P 18 52 41.5 +2.2**
baz=279
E24K Your Creek 58.88 26 P **P 18 52 38.9 -0.7**
E24K IAmb IAmb 18 52 44.9
comp=Z,9.6nm,1.4s
E24K Your Creek 58.88 26 P **P 18 52 42.8 +3.2**
baz=277,SNR=6.0
BRSE Bradley Lake S 59.11 36 P **P 18 52 44.0 +2.7**
baz=280
NEA2 Nenana 59.11 30 P **P 18 52 44.2 +3.0**
baz=278
F24K Squaw Lake 59.17 26 P **P 18 52 45.0 +3.3**
baz=278
MDM Murphy Dome 59.41 29 P **P 18 52 42.7 -0.5**
H24K Noodor Dome 59.42 28 P **P 18 52 43.3 -0.1**
H24K Noodor Dome 59.42 28 P **P 18 52 45.9 +2.5**
baz=279
G24K Hadweenzic Riv 59.45 27 P **P 18 52 46.7 +3.2**
baz=279
D25K Kavik River 59.48 24 P **P 18 52 43.4 -0.3**
D25K IAmb IAmb 18 52 48.6
comp=Z,6.1nm,1.1s
D25K Kavik River 59.48 24 P **P 18 52 47.0 +3.3**
baz=278
SEW Seward 59.68 35 P **P 18 52 47.9 +2.8**
baz=281
KNK Knik Glacier 59.92 34 P **P 18 52 49.9 +3.1**
baz=281
E25K Arctic Village 59.96 26 P **P 18 52 50.3 +3.4**
baz=280
G25K Bearman Lake 59.98 27 P **P 18 52 50.5 +3.4**
baz=280
ILAR Eielson Array 60.01 30 P **P 18 52 48.7 +1.4**
comp=Z,0.8nm,0.9s,baz=297,slow=10,SNR=8.8
ILAR LR LR 19 20 04.1
comp=Z,42nm,18.8s,baz=288,slow=37
comp=Z,0.8nm,0.9s
F25K Christian Rive 60.02 26 P **P 18 52 50.8 +3.4**
baz=280
WAT6 Susitna Watana 60.03 32 P **P 18 52 50.0 +2.3**
baz=281
HDA Harding Lake 60.05 30 P **P 18 52 46.6 -1.0**
HDA IAmb IAmb 18 53 25.9
comp=Z,5.0nm,1.0s
HDA Harding Lake 60.05 30 P **P 18 52 50.6 +3.0**
baz=280
DHY Denali Highway 60.10 32 P **P 18 52 50.7 +2.5**
baz=281
H25L Birch Creek 60.18 28 P **P 18 52 51.4 +2.9**
baz=280
BELG Belogornoye 60.35 316 LR LR 19 21 31.6
comp=Z,139nm,18.1s,baz=81,slow=39
C27K Jago River 60.36 24 P **P 18 52 53.1 +3.4**
baz=280
PRP Porcupine Dome 60.44 29 P **P 18 52 53.4 +3.0**
baz=281
F26K Sheenjek River 60.56 26 P **P 18 52 54.0 +2.9**
baz=281,SNR=6.9
J25K Salcha River, 60.68 30 P **P 18 52 54.5 +2.5**
baz=282
P23K Montague Islan 60.71 35 P **P 18 52 54.6 +2.4**
baz=283
M24K Tolsona, Glenn 60.84 32 P **P 18 52 55.4 +2.2**
baz=282
G26K Porcupine Rive 60.84 27 P **P 18 52 55.8 +2.8**
baz=282
PAX Paxson 60.98 31 P **P 18 52 56.1 +2.0**
baz=282
D27M Malcolm River 61.39 24 P P 18 53 00.5 +3.7
baz=283
E27K Coleen River 61.40 25 P **P 18 52 55.9 -0.9**
E27K IAmb IAmb 18 53 02.4
comp=Z,7.6nm,1.2s
E27K Coleen River 61.40 25 P **P 18 52 59.6 +2.8**
baz=283
SCRK Sand Creek 61.40 30 P **P 18 52 55.7 -1.3**
SCRK IAmb IAmb 18 53 03.3
comp=Z,7.6nm,1.2s
SCRK Sand Creek 61.40 30 P **P 18 52 58.7 +1.7**
baz=283
I26K Coal Creek Min 61.45 29 P **P 18 52 59.9 +2.8**
baz=283
J26L Joseph Creek 61.46 30 P **P 18 53 00.1 +2.7**
baz=283
N25K Chitina, Valde 61.68 33 P **P 18 53 01.7 +2.8**
baz=284
G27K Doyon Strip 61.70 27 P **P 18 52 58.2 -0.7**
G27K Doyon Strip 61.70 27 P **P 18 53 01.6 +2.8**
baz=284,SNR=5.8
BMRM Bremner River 61.84 34 P **P 18 53 02.5 +2.6**
baz=284
H27K Steamboat Moun 61.88 27 P **P 18 53 03.8 +3.6**
baz=284,SNR=7.3
I27K Kandik River 62.00 28 P **P 18 53 04.0 +3.0**
baz=284,SNR=6.0
E28M Babbage River 62.04 25 P **P 18 53 04.7 +3.6**
baz=285
F28M Old Crow 62.17 26 P **P 18 53 05.6 +3.6**
baz=285
K27K Chicken 62.21 30 P P 18 53 06.2 +3.9
baz=285
M26K Nabesna, AK 62.22 32 P **P 18 53 02.0 -0.4**
M26K Nabesna, AK 62.22 32 P **P 18 53 05.4 +2.9**
baz=285
EGAK Eagle 62.40 29 P **P 18 53 07.0 +3.5**
baz=285
MCARA McCarthy VSAT 62.47 33 P **P 18 53 06.9 +2.8**
baz=285
L27K Beaver Creek, 62.57 31 P **P 18 53 04.3 -0.4**
L27K IAmb IAmb 18 53 12.2
comp=Z,5.0nm,1.1s
L27K Beaver Creek, 62.57 31 P **P 18 53 07.6 +2.9**
baz=286
CRQE Cirque 62.61 34 P P 18 53 08.8 +3.7
baz=286

E29M Blow River 62.68 25 P **P 18 53 08.5 +3.2**
baz=286
BGLC Bering Glacier 62.69 34 P **P 18 53 08.3 +2.9**
baz=286
LVZ Lovozero 62.69 335 *i* P **P 18 53 06.0 +0.5**
I28M Miner Creek 62.72 28 P **P 18 53 04.8 -1.0**
I28M IAmb IAmb 18 53 11.6
comp=Z,8.3nm,1.1s
I28M Miner Creek 62.72 28 P **P 18 53 08.8 +3.0**
baz=286,SNR=6.4
M27K Edge Creek, AK 62.73 32 P **P 18 53 09.0 +3.0**
baz=286
G29M Pine Creek 63.05 26 P **P 18 53 07.5 -0.4**
G29M Pine Creek 63.05 26 P P 18 53 11.6 +3.7
baz=287,SNR=5.4
H29M Whitestone 63.12 27 P P 18 53 12.1 +3.7
baz=287
MESA MESA 63.31 34 P **P 18 53 12.6 +2.6**
baz=287
CTG Chitna Glacier 63.37 33 P **P 18 53 13.3 +3.0**
baz=287
YUK3 Moose Creek 63.54 32 P **P 18 53 14.8 +3.3**
baz=287
F30M Barrier River 63.67 25 P P 18 53 16.4 +4.4
baz=288,SNR=5.6
G30M tAoh Zraii Nji 63.71 26 P **P 18 53 11.3 -0.9**
G30M tAoh Zraii Nji 63.71 26 P **P 18 53 15.8 +3.5**
baz=288,SNR=10
EPYK Eagle Plains 63.71 27 P P 18 53 16.2 +3.9
baz=288,SNR=5.9
SPITS Spitsbergen Ar 63.86 348 P **P 18 53 12.3 -0.8**
comp=Z,1.3nm,0.5s,baz=117,slow=5.0,SNR=1.2
comp=Z,1.3nm,0.5s
O28M Mount Upton 63.97 33 P **P 18 53 17.5 +3.1**
baz=288
PINM Pinnacle 64.14 34 P **P 18 53 18.8 +3.5**
baz=288
L29M L29M 64.16 30 P **P 18 53 14.5 -0.8**
L29M IAmb IAmb 18 53 21.7
comp=Z,5.2nm,1.0s
L29M L29M 64.16 30 P **P 18 53 18.8 +3.5**
baz=288
K29M Barlow Dome 64.19 29 P **P 18 53 14.7 -0.9**
K29M Barlow Dome 64.19 29 P **P 18 53 18.6 +3.1**
baz=289
I30M Mount Dempster 64.21 28 P **P 18 53 15.3 -0.4**
I30M Mount Dempster 64.21 28 P **P 18 53 18.8 +3.1**
baz=289,SNR=8.6
M29M Somme Creek 64.23 31 P **P 18 53 18.6 +2.8**
baz=289
INK Inuvik 64.25 24 P **P 18 53 15.8 +0.1**
INK Inuvik 64.25 24 P **P 18 53 19.3 +3.6**
baz=290
INK Inuvik 64.25 24 P **P 18 53 15.8 +0.1**
INK pmax pmax
comp=Z,6.0nm,0.7s
J30M Hart River 64.44 28 P **P 18 53 16.9 -0.3**
J30M Hart River 64.44 28 P P 18 53 21.0 +3.8
baz=289
G31M Satah River 64.46 26 P **P 18 53 20.6 +3.5**
baz=290
F31M Tsiigehtchic 64.47 25 P P 18 53 20.8 +3.7
baz=290
YUK4 Talbot Arm 64.50 32 P **P 18 53 20.5 +2.8**
baz=289
YUK6 Outpost Mounta 64.76 33 P P 18 53 23.2 +3.8
baz=289
M30M Minto, Yukon 64.92 31 P P 18 53 24.2 +3.9
baz=290
P29M Windy Craggy 65.50 34 P P 18 53 28.4 +4.3
baz=290
P30M Million Dollar 65.69 33 P P 18 53 31.4 +6.0
baz=291
N31M Braeburn, Yuko 65.75 32 P **P 18 53 28.0 +2.4**
baz=291
OBN Obninsk 65.83 321 LR LR 19 24 50.8
comp=Z,131nm,19.9s,baz=332,slow=39
KBZ Khabaz 65.98 308 LR LR 19 23 35.7
comp=Z,100nm,18.1s,baz=71,slow=37
KBZ Khabaz 65.98 308 *i* P **P 18 53 27.6 +0.3**
KBZ pmax pmax
comp=Z,14nm,1.0s
GNI Garni 65.99 304 LR LR 19 26 09.5
comp=Z,62nm,18.8s,baz=90,slow=40
KIV Kislovodsk 66.04 308 *e* P **P 18 53 26.9 -1.0**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,62nm,17.0s
SHA1 Shidzhatmaz 66.14 308 *i* P **P 18 53 28.1 -0.6**
PLBC Pleasant Camp 66.21 34 P P 18 53 32.7 +4.1
baz=292
FARO Faro, Yukon 66.54 30 P **P 18 53 29.2 -1.5**
C36M Paulatuk 66.97 22 P **P 18 53 32.4 -0.9**
C36M Paulatuk 66.97 22 P P 18 53 37.0 +3.8
baz=298
MMPY Sheldon Lake, 67.27 30 P **P 18 53 34.5 -0.9**
MMPY IAmb IAmb 18 53 41.2
comp=Z,4.2nm,0.8s
MMPY Sheldon Lake, 67.27 30 P **P 18 53 38.5 +3.1**
baz=294,SNR=6.1
P32M Atlin 67.41 33 P P 18 53 40.2 +3.9
baz=294
P33M Teslin, Yukon 67.57 32 P **P 18 53 37.8 +0.4**
P33M IAmb IAmb 18 53 43.8
comp=Z,6.8nm,0.9s
P33M Teslin, Yukon 67.57 32 P P 18 53 41.3 +3.9
baz=294,SNR=6.0
SIT Sitka 67.63 36 P P 18 53 41.7 +4.1
baz=293
FINES FINESS Array B 68.45 330 P **P 18 53 42.5 -0.2**
comp=Z,0.9nm,0.5s,baz=70,slow=8.3,SNR=10
comp=Z,0.9nm,0.5s
R33M Jennings River 68.77 33 P **P 18 53 48.5 +3.5**
baz=296
TGTN Hyland Airport 69.02 30 P P 18 53 50.3 +3.9
baz=297
VSU Vasula 69.47 327 *ce* P **P 18 53 51.3 +2.2**
VSU pmax pmax
comp=Z,11nm,1.0s
DLBC Dease Lake 69.63 33 P **P 18 53 50.1 -0.1**
DLBC IAmb IAmb 18 53 56.5
comp=Z,5.7nm,1.1s
RUBB Prince Rupert 71.40 37 P **P 18 54 00.2 -0.8**
RUBB IAmb IAmb 18 54 08.1
comp=Z,11nm,1.4s
TOAD Toad River Com 71.64 32 P P 18 54 06.9 +4.5
baz=300
AKASG Malin Array Be 71.68 319 P **P 18 54 01.4 -1.4**
comp=Z,1.8nm,0.7s,baz=58,slow=6.3,SNR=1.8
AKASG LR LR 19 26 57.5
comp=Z,124nm,19.6s,baz=63,slow=37
comp=Z,1.8nm,0.7s
GRNB Grenville Isla 71.78 38 P **P 18 54 04.6 +1.3**
GRNB IAmb IAmb 18 54 37.1
comp=Z,5.4nm,1.1s
SNOP Sinop 71.84 308 P **P 18 54 03.6 -0.3**
SNOP IAmb IAmb 18 54 07.4
comp=Z,8.1nm,1.1s
RAYN Ar Rayn 72.23 287 P **P 18 54 05.6 -1.0**
RAYN IAmb IAmb 18 54 06.6
comp=Z,8.6nm,1.3s
RAYN Ar Rayn 72.23 287 P **P 18 54 05.6 -1.0**
RAYN pmax pmax
comp=Z,9.0nm,1.3s
BRTR Keskin Array B 73.93 307 P **P 18 54 15.7 -0.9**
comp=Z,1.9nm,0.8s,baz=92,slow=4.3,SNR=10.0
comp=Z,1.9nm,0.8s
YKA Yellowknife Ar 73.94 25 P **P 18 54 17.5 +1.5**
comp=Z,6.1nm,0.9s,baz=308,slow=5.6,SNR=12
comp=Z,6.1nm,0.9s
HFS Hagfors 74.33 332 P **P 18 54 18.0 -0.2**
comp=Z,1.4nm,0.7s,baz=54,slow=7.5,SNR=4.7
comp=Z,1.4nm,0.7s
NB2 NORSAR Subarra 74.76 333 P **P 18 54 19.4 -1.4**
comp=Z,3.3nm,0.9s,baz=52,slow=6.2
NOA NORSAR Array B 74.76 333 P **P 18 54 19.3 -1.5**
comp=Z,2.8nm,0.9s,baz=60,slow=10.0,SNR=5.4
comp=Z,2.8nm,0.9s
MMAI Mount Meron Ar 75.79 300 LR LR 19 30 02.9
comp=Z,62nm,21.4s,baz=46,slow=38
BALJ Balqa 76.06 299 P **P 18 54 27.6 -1.2**
BALJ IAmb IAmb 18 54 28.6
comp=Z,7.5nm,1.0s
EIL Elat 77.73 297 LR LR 19 32 28.6
comp=Z,67nm,18.1s,baz=71,slow=39

BRLDA	**Berland Lookou**	77.89	33	P		**P**	**18 54 37.6 -1.2**
VYHS	**Vyhne**	78.61	320	*e*P		P	18 54 48.8 +6.0
VYHS	**Vyhne**	78.61	320	*e*P		P	18 54 48.8 +6.0
MODS	**Modra-Piesok**	79.53	321	*e*P		P	18 54 53.1 +5.3
MODS	**Modra-Piesok**	79.53	321	*e*P		P	18 54 53.1 +5.3
CLL	**Collm**	79.98	325	*e*P		**P**	**18 54 50.0 -0.2**
CLL				*ex*		x	18 54 55.0
CLL				*e*PcP		**PcP**	**18 54 58.0 +0.3**
I04A	**Tendick Farm,**	81.31	44	P		**P**	**18 54 59.1 +1.6**
I04A				IAmb		IAmb	18 55 02.9
	comp=Z,8.4nm,1.0s						
D08A	**Wollman Farm,**	81.37	40	P		**P**	**18 54 58.7 +0.9**
D08A				IAmb		IAmb	18 55 05.2
	comp=Z,8.5nm,1.3s						
HAWA	**Hanford**	81.44	40	P		**P**	**18 54 58.2 +0.1**
HAWA				IAmb		IAmb	18 55 03.8
	comp=Z,11nm,1.5s						
FNA	**Florina**	81.46	313	P		**P**	**18 54 58.2 -0.2**
FNA				IAmb		IAmb	18 55 17.6
	comp=Z,13nm,1.3s						
FNA	**Florina**	81.46	313	P		**P**	**18 54 58.2 -0.2**
FNA				pmax		pmax	
	comp=Z,13nm,1.3s						
NEW	**Newport**	81.60	38	P		**P**	**18 54 59.7 +0.7**
NEW				IAmb		IAmb	18 55 04.4
	comp=Z,6.8nm,1.4s						
NEW	**Newport**	81.60	38	P		P	18 55 03.8 +4.8
	baz=308						
NEW	**Newport**	81.60	38	P		**P**	**18 54 59.7 +0.7**
NEW				pmax		pmax	
	comp=Z,7.0nm,1.4s						
EKA	**Eskdalemuir Ar**	84.18	334	P		**P**	**18 55 13.5 +1.4**
	comp=Z,0.9nm,0.7s,baz=56,slow=5.3,SNR=2.7						
	comp=Z,0.9nm,0.7s						
EGMT	**Eagleton**	85.49	35	P		P	18 55 23.8 +4.7
	baz=314						
HLID	**Hailey**	86.04	40	P		P	18 55 27.4 +5.4
	baz=311						
BOZ	**Bozeman (W)**	86.19	37	P		P	18 55 27.7 +5.1
	baz=312						
NVAR	**Mina Array Bea**	87.01	46	P		**P**	**18 55 30.2 +3.4**
	comp=Z,1.1nm,0.7s,baz=294,slow=5.4,SNR=8.2						
	comp=Z,1.1nm,0.7s						
DGMT	**Dagmar**	87.79	32	P		P	18 55 35.5 +5.3
	baz=318						
PDAR	**Pinedale Array**	89.21	39	P		**P**	**18 55 39.9 +2.6**
	comp=Z,0.5nm,0.7s,baz=318,slow=2.0,SNR=5.6						
	comp=Z,0.5nm,0.7s						
ULM	**Lac du Bonnet**	89.89	27	P		**P**	**18 55 42.2 +2.2**
	comp=Z,4.3nm,0.8s,baz=294,slow=3.9,SNR=6.3						
	comp=Z,4.3nm,0.8s						

IDC 17 19:07:16.1±2.3, 4°46S×135°97E, h0km, mb3.9/3, mbtmp3.9/5, ML4.0/2, Error ellipse: s-maj=102.2km s-min=27.8km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	15.48	186	Pn	Pn	19 10 54.9	-1.0
	0.5nm,0.3s,baz=7.3,slow=13,SNR=25						
WRA				Sn	Sn	19 13 34.8	-13
	0.3nm,0.3s,baz=360,slow=23,SNR=5.9						
	1.3nm,0.3s						
ASAR	**Alice Springs**	19.20	186	P	Pn	19 11 42.2	-0.4
	0.6nm,0.3s,baz=16,slow=12,SNR=30						
ASAR				S	Sn	19 15 03.6	-15
	1.3nm,0.9s,baz=2.2,slow=26,SNR=4.5						
	1.7nm,0.6s						
MKAR	**Makanchi Array**	69.53	324	P	P	19 18 27.1	+0.3
	1.2nm,0.5s,baz=111,slow=8.2,SNR=21						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	73.60	326	P	P	19 18 49.9	-1.3
	0.2nm,0.4s,baz=127,slow=5.5,SNR=2.7						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	79.20	326	P	P	19 19 23.8	+0.8
	0.5nm,0.5s,baz=132,slow=7.2,SNR=5.0						
	0.5nm,0.5s						

*BJI **17** 19:33:43.0±0.0, 86°.90N×55°.00E, h10km, mb4.6/53, mB5.1/13, Ms4.6/23, Ms7 4.3/23*
*MOS **17** 19:33:44.1±1.3, 86°.89N×54°.55E, h10km, mb4.9/50, MS3.9/11, Error ellipse: s-maj=99.9km s-min=4.4km az=89.4*
*NEIC **17** 19:33:44.6±1.8, 86°.89N±0°.09×5°.5E±°, h10km±1km, mb4.8/277, Error ellipse: s-maj=16.3km s-min=13.0km az=129.0*
*IDC **17** 19:33:44.7±0.4, 86°.86N×54°.57E, h0km, mb4.3/29, mbtmp4.3/33, ML4.1/4, MS4.0/67, Error ellipse: s-maj=11.2km s-min=8.6km az=68.0*
*GCMT **17** 19:33:45.6±0.2, 86°.90N±0°.01×52°.8E±0°.3, h12km, MW4.9/126, Moment Tensor Solution. s41,c46; s126,c200; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-3.04±.05; $M_{\theta\theta}$2.81±.05; $M_{\phi\phi}$0.23±.05; $M_{r\theta}$-0.09±.18; $M_{\theta\phi}$0.77±.04; $M_{\phi r}$-0.05±.22; Best double couple: $M_0$3.03400×10^16^ NP1:ϕ_s74.00000°, δ46.00000°, λ-91.00000°. NP2:ϕ_s255.00000°, δ44.00000°, λ-89.00000°. Principal axes: T 3.0270, Plg1.0000°, Azm164.0000°; N 0.0240, Plg0.0000°, Azm74.0000°; P -3.0420, Plg89.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*FCIAR **17** 19:33:49.0, 86°.69N×55°.04E, h10km, station ZFI2 has station magnitude of 4.30*

ISC 17 19:33:46.4±0.6, 86°.89N±0°.03×53°.23E±0°.04, h17km±3km, n832, σ1§66/732, mb4.8/245, MS4.0/81, 30C-28D, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	6.14	188	*e*P	Pn	19 35 14.8	-1.4
ZFI2				*e*S	Sn	19 36 18.1	-7.8
	121nm,0.6s						
OMEGA	**Omega**	6.17	188	*e*P	Pn	19 35 15.0	-1.5
OMEGA				*e*S	Sn	19 36 17.9	-8.6
NOR	**Nord**	7.94	271	*i* P	Pn	19 35 43.0	+2.2
NOR	**Nord**	7.94	271	*i* P	Pn	19 35 42.7	+1.9
NOR				*i* P	Pn	19 35 43.0	+2.2
NOR				IVMs_BB	IVMs_BB	19 39 09.9	
	comp=Z,1μm,5.2s						
SVZ	**Severnaya Zeml**	9.02	117	*e*P	Pn	19 35 54.9	-0.7
SVZ				*e*S	Sn	19 37 27.4	-9.2
KBS	**Kingsbay**	9.03	234		Pn	19 35 54.5	-1.2
KBS	**Kingsbay**	9.03	234	*e*P	Pn	19 35 54.6	-1.1
KBS				*e*S	Sn	19 37 31.4	-5.4
KBS				IAML		19 37 40.9	
	comp=Z,9.6nm,0.5s						
KBS	**Kingsbay**	9.03	234	*e*P	Pn	19 35 54.3	-1.5
KBS				*e*S	Sn	19 37 29.9	-6.9
KBS	**Kingsbay**	9.03	234	*ce*P	Pn	19 35 54.5	-1.2
KBS				pmax	pmax		
	comp=Z,72nm,0.7s						
KBS	**Kingsbay**	9.03	234	*i* P	Pn	19 35 54.9	-0.9
SPA0	**Spitsbergen Ar**	9.58	228	*e*P	Pn	19 36 01.6	-1.7
SPA0				*e*S	Sn	19 37 44.9	-5.4
SPA0				IAML		19 37 50.1	
	comp=Z,7.8nm,0.7s						
SPA0	**Spitsbergen Ar**	9.58	228	*e*P	Pn	19 36 01.6	-1.7
SPA0				*e*S	Sn	19 37 42.7	-7.5
SPITS	**Spitsbergen Ar**	9.58	228	Pn	Pn	19 36 02.0	-1.3
	baz=33,slow=14						
SPITS				Sn	Sn	19 37 45.0	-5.3
	baz=29,slow=18						
	comp=Z,3.2nm,0.3s						
SPITS	**Spitsbergen Ar**	9.58	228	P	Pn	19 36 02.0	-1.3
BRBB	**Barentsburg B**	9.75	231	*e*P	Pn	19 36 06.5	+0.9
BRBA	**Barentsburg A**	9.79	230	*e*P	Pn	19 36 05.5	-0.6
HOPEN	**Hopen**	10.92	216	*e*P	Pn	19 36 19.4	-2.1
HOPEN				*e*S	Sn	19 38 12.3	-11
HOPEN				IAML		19 38 22.3	
	comp=Z,12nm,0.5s						
HOPEN	**Hopen**	10.92	216	*e*P	Pn	19 36 18.7	-2.8
HOPEN				*e*S	Sn	19 38 10.3	-13
DAG	**Danmarks Havn**	12.69	265	*i* P	Pn	19 36 46.9	+1.2
DAG	**Danmarks Havn**	12.69	265	*i* P	Pn	19 36 46.9	+1.2
BJO1	**Bjornoya**	13.13	222	*e*P	Pn	19 36 49.2	-2.5
BJO1				*e*S	Sn	19 39 05.2	-12
BJO1				IAML		19 39 27.3	
	comp=Z,5.0nm,0.5s						
BJO1	**Bjornoya**	13.13	222	*e*P	Pn	19 36 49.0	-2.7
BJO1				*e*S	Sn	19 39 04.4	-13
NEEM	**North Greenlan**	13.74	297	*i* P	Pn	19 36 58.4	-2.0
NEEM				*e*		19 39 19.2	
NEEM	**North Greenlan**	13.74	297	*i* P	Pn	19 36 58.4	-2.0
NEEM				*e*		19 39 19.2	
DBG	**Daneborg**	15.19	265	*e*P	Pn	19 37 22.0	+2.2
DBG	**Daneborg**	15.19	265	*e*P	Pn	19 37 22.0	+2.2
TULEG	**Thule**	15.44	312	*e*P	Pn	19 37 20.8	-2.1
TULEG	**Thule**	15.44	312	*e*P	Pn	19 37 20.8	-2.1
KULLO	**Kullorsuaq**	16.86	300	*i* P	Pn	19 37 40.2	-0.9
KULLO	**Kullorsuaq**	16.86	300	*i* P	Pn	19 37 40.2	-0.9
KEV	**Kevo**	17.61	211	Pn	Pn	19 37 47.9	-2.6
KEV	**Kevo**	17.61	211	P	Pn	19 37 47.9	-2.6
KEV				pmax	pmax		
	comp=Z,18nm,1.2s						
ARCES	**ARCESS Array B**	17.88	212	P	Pn	19 37 52.6	-1.2
	comp=Z,0.2nm,0.3s,baz=17,slow=8.9,SNR=5.5						
ARCES				S	Sn	19 40 58.5	-14
	comp=Z,0.5nm,0.3s,baz=16,slow=22,SNR=1.9						
ARCES				LR	LR	19 44 14.1	
	comp=Z,445nm,21.5s,baz=352,slow=35						
	comp=Z,5.6nm,0.8s						
SUMG	**Summit**	17.89	281		Pn	19 37 51.1	-3.3
SUMG	**Summit**	17.89	281	*i* P	Pn	19 37 54.0	-0.4
SUMG	**Summit**	17.89	281	P	Pn	19 37 51.1	-3.3
SUMG				pmax	pmax		
	comp=Z,15nm,0.9s						
SUMG	**Summit**	17.89	281	*i* P	Pn	19 37 54.0	-0.4
TIXI	**Tiksi**	17.94	95	LR	LR	19 43 56.0	
	comp=Z,289nm,22.0s,baz=4.0,slow=34						
TIXI	**Tiksi**	17.94	95	*i* P	Pn	19 37 55.0	+0.5
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
RES	**Resolute Bay**	18.14	333	Pn	Pn	19 37 51.3	-5.7
RES	**Resolute Bay**	18.14	333	P	Pn	19 37 57.0	0.0
	comp=Z,1.3nm,0.3s,baz=14,slow=12,SNR=7.6						
RES				LR	LR	19 44 55.3	
	comp=Z,433nm,18.4s,baz=11,slow=37						
	comp=Z,5.9nm,0.6s						
RES	**Resolute Bay**	18.14	333	P	Pn	19 37 57.0	0.0
NRIK	**Noril'sk**	18.29	140	P	Pn	19 37 56.5	-2.3
	comp=Z,0.4nm,0.3s,baz=21,slow=8.4,SNR=12						
NRIK				S	Sn	19 41 24.5	+2.3
	comp=Z,2.6nm,0.5s,baz=60,slow=18,SNR=1.9						
NRIK				LR	LR	19 45 34.0	
	comp=Z,815nm,19.2s,baz=350,slow=39						
	comp=Z,22nm,1.0s						
UPNV	**Upernavik**	18.59	298	*i* P	P	19 38 02.4	+0.2
UPNV	**Upernavik**	18.59	298	*i* P	P	19 38 02.4	+0.2
LVZ	**Lovozero**	19.30	201		P	19 38 06.8	-3.2
LVZ				IAmb	IAmb	19 38 13.7	
	comp=Z,56nm,1.1s						
LVZ	**Lovozero**	19.30	201	*ce*P	P	19 38 08.5	-1.5
LVZ				pmax	pmax		
	comp=Z,96nm,1.7s						
LVZ	**Lovozero**	19.30	201	P	P	19 38 10.5	+0.5
	comp=Z,52nm,1.0s,comp=Z,741nm						
APA	**Apatity**	19.65	203	‖*i* P	P	19 38 05.3	-8.5
APA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
A36M	**Sachs Harbour**	21.25	359	P	P	19 38 31.1	0.0
A36M	**Sachs Harbour**	21.25	359	P	P	19 38 29.6	-1.6
	baz=360						
ICESG	**Greenland Ices**	21.41	281	*e*P	P	19 38 37.7	+4.4
A21K	**Barrow**	21.56	26	P	P	19 38 32.7	-1.7
	baz=356						
A22K	**Sinclair Lake**	21.92	24	P	P	19 38 36.1	-2.1
	baz=356						
B22K	**Teshekpuk Lake**	22.62	23		P	19 38 45.3	-0.5
B22K				IAmb	IAmb	19 38 57.8	
	comp=Z,50nm,1.2s						
B22K	**Teshekpuk Lake**	22.62	23	P	P	19 38 43.8	-2.0
	baz=356						
B20K	**Meade River**	22.87	27		P	19 38 46.6	-1.8
B20K				IAmb	IAmb	19 38 54.7	
	comp=Z,35nm,1.1s						
B20K	**Meade River**	22.87	27	P	P	19 38 46.4	-2.0
	baz=356,SNR=7.6						
C23K	**Itkillik River**	23.18	21	P	P	19 38 52.2	+0.6
C23K	**Itkillik River**	23.18	21	P	P	19 38 50.6	-1.0
	baz=356,SNR=14						
C26K	**Camden Bay**	23.20	16	P	P	19 38 50.6	-1.2
	baz=357						
ADZR	**Andozero**	23.21	197	*e*P	P	19 38 51.7	-0.2
ADZR	**Andozero**	23.21	197	*e*P	P	19 38 51.7	-0.2
ADZR				pmax	pmax		
	comp=Z,55nm,1.3s						
B21K	**Ikpikpuk River**	23.32	24	P	P	19 38 53.6	+0.6
B21K				IAmb	IAmb	19 39 05.6	
	comp=Z,41nm,1.3s						
B21K	**Ikpikpuk River**	23.32	24	P	P	19 38 52.0	-1.0
	baz=356,SNR=8.9						
C24K	**Franklin Bluff**	23.34	19	P	P	19 38 53.5	+0.3
	baz=357						
B18K	**Kokolik River**	23.39	31	P	P	19 38 52.7	-1.0
	baz=355						
BILL	**Bilibino**	23.49	60	*c i* P	P	19 38 56.3	+1.6
BILL				*e*		19 39 04.9	
BILL				*i*		19 39 20.2	
BILL				PPP	PPP	19 39 37.0	
BILL				*e*SS	SnSn	19 43 48.9	+6.0
BILL				pmax	pmax		
	comp=Z,19nm,1.3s						
BILL				MLR	MLR		
	comp=Z,158nm,15.0s						
C27K	**Jago River**	23.51	15	P	P	19 38 54.5	-0.4
	baz=357,SNR=10						
C19K	**Lookout Ridge**	23.71	29		P	19 38 57.7	+0.7
C19K	**Lookout Ridge**	23.71	29	P	P	19 38 55.6	-1.3
	baz=356,SNR=5.6						
D25K	**Kavik River**	23.77	17	P	P	19 38 57.8	+0.3
D25K				IAmb	IAmb	19 39 15.8	
	comp=Z,45nm,1.3s						
D25K	**Kavik River**	23.77	17	P	P	19 38 56.4	-1.2
	baz=357,SNR=35						
C21K	**Knifeblade Rid**	23.78	25	P	P	19 38 57.0	-0.5
	baz=356						
D28M	**Stokes Point**	23.87	10	P	P	19 38 57.7	-0.6
	baz=358						
D24K	**Happy Valley**	23.90	19	P	P	19 38 57.3	-1.3
D24K				IAmb	IAmb	19 39 13.7	
	comp=Z,35nm,1.2s						
D24K	**Happy Valley**	23.90	19	P	P	19 38 57.4	-1.3
	baz=357						
C36M	**Paulatuk**	23.91	358	P	P	19 38 55.8	-2.9
C36M				IAmb	IAmb	19 39 09.7	
	comp=Z,39nm,1.1s						
C36M	**Paulatuk**	23.91	358	P	P	19 38 57.3	-1.4
	baz=0.1						
D27M	**Malcolm River**	23.93	12	P	P	19 38 57.7	-1.4
D27M				IAmb	IAmb	19 39 15.8	
	comp=Z,62nm,1.8s						
D27M	**Malcolm River**	23.93	12	P	P	19 38 57.8	-1.2
	baz=358						
D23K	**Nanushuk River**	24.06	21	P	P	19 38 59.2	-0.9
	baz=357,SNR=13						
SFJD	**Kangerlussuaq**	24.07	291	LR	LR	19 48 08.3	
	comp=Z,429nm,18.7s,baz=3.5,slow=36						
D22K	**Ayikyak River**	24.10	23		P	19 39 00.8	+0.3
D22K				IAmb	IAmb	19 39 17.6	
	comp=Z,71nm,1.6s						
D22K	**Ayikyak River**	24.10	23	P	P	19 38 59.4	-1.2
	baz=356,SNR=9.5						
C18K	**Utukok River**	24.13	30	P	P	19 38 59.6	-1.2
C18K				IAmb	IAmb	19 39 15.8	
	comp=Z,38nm,1.4s						
C18K	**Utukok River**	24.13	30	P	P	19 38 59.4	-1.5
	baz=355						
D20K	**Etivluk River**	24.18	26	P	P	19 39 00.1	-1.2
	baz=356,SNR=8.0						
C17K	**DeLong Mountai**	24.24	32	P	P	19 39 00.4	-1.5
	baz=355						
D19K	**Kuna River**	24.36	28	P	P	19 39 02.4	-0.6
	baz=356,SNR=14						
JOF	**Joensuu**	24.36	204	*e*P	P	19 39 03.8	+0.9
C16K	**Lisburne Hills**	24.38	34	P	P	19 39 02.0	-1.1
	baz=355						
TOLK	**Toolik Lake Re**	24.40	20		P	19 39 02.7	-0.7
TOLK	**Toolik Lake Re**	24.40	20	P	P	19 39 02.4	-1.0
	baz=357,SNR=8.3						
VAF	**Ylistaro**	24.47	214	*e*P	P	19 39 05.1	+1.2
E21K	**Killik River**	24.51	24		P	19 39 01.7	-2.7
E21K				IAmb	IAmb	19 39 15.5	
	comp=Z,43nm,1.6s						
E21K	**Killik River**	24.51	24	P	P	19 39 03.3	-1.1
	baz=356						
E28M	**Babbage River**	24.59	11	P	P	19 39 04.1	-1.0
E28M				IAmb	IAmb	19 39 21.1	
	comp=Z,52nm,1.8s						
E28M	**Babbage River**	24.59	11	P	P	19 39 04.3	-0.7
	baz=358,SNR=6.9						
E20K	**Nigu River**	24.65	26	P	P	19 39 04.3	-1.3
	baz=356,SNR=11						
RDOG	**Red Dog Mine**	24.67	32	P	P	19 39 03.5	-2.3
RDOG				IAmb	IAmb	19 39 10.0	
	comp=Z,36nm,1.0s						
RDOG	**Red Dog Mine**	24.67	32	P	P	19 39 04.4	-1.3
	baz=355						
BORG	**Borgarnes**	24.74	261	LR	LR	19 47 16.3	
	comp=Z,60nm,19.9s,baz=354,slow=33						
BORG	**Borgarnes**	24.74	261	*i* P	P	19 39 07.2	+0.8
E29M	**Blow River**	24.82	10	P	P	19 39 05.7	-1.4
	baz=358,SNR=9.2						
INK	**Inuvik**	24.94	6	P	P	19 39 07.3	-0.8
INK	**Inuvik**	24.94	6	P	P	19 39 06.8	-1.2
	baz=359						
INK	**Inuvik**	24.94	6	LR	LR	19 50 22.6	
	comp=Z,263nm,20.3s,baz=354,slow=40						
INK	**Inuvik**	24.94	6	P	P	19 39 07.3	-0.8
INK				pmax	pmax		
	comp=Z,19nm,1.3s						
E27K	**Coleen River**	24.98	13	P	P	19 39 07.3	-1.3
E27K	**Coleen River**	24.98	13	P	P	19 39 07.1	-1.5
	baz=358						
E23K	**Chandalar**	24.99	20	P	P	19 39 07.6	-1.1
	baz=357,SNR=15						
E24K	**Your Creek**	24.99	19	P	P	19 39 07.5	-1.2
	baz=357,SNR=16						
E25K	**Arctic Village**	24.99	17	P	P	19 39 03.9	-4.8
E25K				IAmb	IAmb	19 39 20.9	
	comp=Z,16nm,0.9s						
E25K	**Arctic Village**	24.99	17	P	P	19 39 07.1	-1.6
	baz=357,SNR=5.1						
D17K	**Noatak River**	25.02	32	P	P	19 39 07.7	-1.2
	baz=355,SNR=23						
KEF	**Keuruu**	25.28	211	*e*P	P	19 39 12.7	+1.5
E18K	**Tukpahlearik C**	25.37	30		P	19 39 11.1	-0.9
E18K	**Tukpahlearik C**	25.37	30	P	P	19 39 10.9	-1.2
	baz=356,SNR=18						
E19K	**Redstone River**	25.42	27	P	P	19 39 12.1	-0.5
E19K	**Redstone River**	25.42	27	P	P	19 39 11.8	-0.8
	baz=356,SNR=19						
PRGR	**Permogore**	25.43	188	P	P	19 39 12.8	+0.3
F26K	**Sheenjek River**	25.44	15	P	P	19 39 12.0	-0.7
	baz=358,SNR=9.4						
F22K	**John River**	25.49	23	P	P	19 39 12.4	-0.8
	baz=357,SNR=21						
F25K	**Christian Rive**	25.52	17	P	P	19 39 12.7	-0.9
	baz=357,SNR=9.5						
F24K	**Squaw Lake**	25.56	19		P	19 39 13.4	-0.4
F24K				IAmb	IAmb	19 39 32.6	
	comp=Z,18nm,1.1s						
F24K	**Squaw Lake**	25.56	19	P	P	19 39 13.2	-0.6
	baz=357,SNR=18						
F28M	**Old Crow**	25.58	12	P	P	19 39 13.3	-0.7
F28M	**Old Crow**	25.58	12	P	P	19 39 13.9	-0.1
	baz=358,SNR=23						
F30M	**Barrier River**	25.62	8	P	P	19 39 13.7	-0.7
	baz=359,SNR=5.8						
E17K	**Hotham Inlet**	25.68	31	P	P	19 39 14.3	-0.6
	baz=356						
F21K	**Alatna River**	25.75	24	P	P	19 39 14.4	-1.1
F21K				IAmb	IAmb	19 39 32.3	
	comp=Z,25nm,1.2s						
F21K	**Alatna River**	25.75	24	P	P	19 39 14.9	-0.6
	baz=356,SNR=11						
F31M	**Tsiigehtchic**	25.80	6	P	P	19 39 15.8	-0.2
F31M				IAmb	IAmb	19 39 26.5	
	comp=Z,26nm,0.9s						
F31M	**Tsiigehtchic**	25.80	6	P	P	19 39 15.0	-0.9
	baz=359						
COLD	**Coldfoot**	25.81	21	P	P	19 39 15.1	-1.0
	baz=357,SNR=14						
F20K	**Avaraart Lake**	25.87	26		P	19 39 16.0	-0.6
F20K				IAmb	IAmb	19 39 29.1	
	comp=Z,25nm,1.1s						
F20K	**Avaraart Lake**	25.87	26	P	P	19 39 15.9	-0.7
	baz=356,SNR=30						
VALR	**Valaam**	25.93	205	*i* P	P	19 39 15.8	-1.4
VALR				pmax	pmax		
	comp=Z,81nm,1.5s						
FINES	**FINESS Array B**	25.97	210	P	P	19 39 18.0	+0.5
	comp=Z,7.2nm,0.8s,baz=23,slow=10,SNR=18						
FINES				LR	LR	19 49 17.4	
	comp=Z,436nm,20.7s,baz=4.0,slow=36						
	comp=Z,7.2nm,0.8s						
FINES	**FINESS Array B**	25.97	210	*i* P	P	19 39 18.8	+1.3
FINES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
F19K	**Shaleruckik Mo**	26.04	28	P	P	19 39 17.0	-1.1
F19K	**Shaleruckik Mo**	26.04	28	P	P	19 39 17.1	-0.9
	baz=356						
G26K	**Porcupine Rive**	26.20	15	P	P	19 39 18.4	-1.1
	baz=358,SNR=17						
F18K	**Selawik**	26.22	29	P	P	19 39 18.5	-1.2
	baz=356,SNR=17						
G30M	**tAoh Zraii Nji**	26.25	8	IAmb	IAmb	19 39 36.5	
	comp=Z,32nm,1.3s						
G30M	**tAoh Zraii Nji**	26.25	8	P	P	19 39 19.3	-0.8
	baz=359,SNR=10.0						
G29M	**Pine Creek**	26.30	10	IAmb	IAmb	19 39 42.7	
	comp=Z,33nm,1.1s						
G29M	**Pine Creek**	26.30	10	P	P	19 39 19.6	-1.0
	baz=358,SNR=24						
G31M	**Satah River**	26.32	7	P	P	19 39 19.5	-1.2
G31M	**Satah River**	26.32	7	P	P	19 39 19.4	-1.3
	baz=359,SNR=9.3						
G23K	**Bananza Creek**	26.33	21	IAmb	IAmb	19 39 37.8	
	comp=Z,31nm,1.3s						
G23K	**Bananza Creek**	26.33	21	P	P	19 39 20.0	-0.8
	baz=357,SNR=14						
F17K	**Baldwin Pennin**	26.34	31	P	P	19 39 19.6	-1.2
	baz=356						
G25K	**Bearman Lake**	26.35	17	P	P	19 39 20.0	-0.9
	baz=357,SNR=18						
G27K	**Doyon Strip**	26.37	13	IAmb	IAmb	19 39 26.5	
	comp=Z,21nm,1.2s						
G27K	**Doyon Strip**	26.37	13	P	P	19 39 20.8	-0.3
	baz=358,SNR=21						
G24K	**Hadweenzic Riv**	26.39	18	P	P	19 39 20.8	-0.6
	baz=357,SNR=11						
G21K	**Allakaket**	26.45	24	IAmb	IAmb	19 39 25.7	
	comp=Z,26nm,1.2s						
G21K	**Allakaket**	26.45	24	P	P	19 39 21.3	-0.6
	baz=357,SNR=20						
RAF	**Rauma**	26.52	215	*e*P	P	19 39 23.5	+1.0
G19K	**Purcell Mounta**	26.74	27	P	P	19 39 23.3	-1.2

MEF	**Metsahovi**	27.25	212	*e*P		**P**	**19 39 30.5 +1.5**
H24K	**Noodor Dome**	27.25	19	IAmb		IAmb	19 39 53.8
	comp=Z,23nm,1.2s						
H24K	**Noodor Dome**	27.25	19	P		**P**	**19 39 28.9 -0.2**
	baz=357,SNR=13						
G17K	**Kiwalik Mounta**	27.30	30	P		**P**	**19 39 29.3 -0.2**
	baz=356,SNR=9.4						
H21K	**Melozitna Rive**	27.33	23	P		**P**	**19 39 29.2 -0.6**
	baz=357,SNR=16						
G16K	**Koyuk River**	27.35	32	P		**P**	**19 39 29.1 -0.9**
	baz=356						
H19K	**Roundabout Mou**	27.38	27	IAmb		IAmb	19 39 39.5
	comp=Z,20nm,1.0s						
H19K	**Roundabout Mou**	27.38	27	P		**P**	**19 39 29.6 -0.6**
	baz=356,SNR=15						
H20K	**Anotleneega Mo**	27.45	25	P		**P**	**19 39 29.7 -1.1**
	baz=357,SNR=12						
PUL	**Pulkovo**	27.54	205	*i* P		**P**	**19 39 31.7 +0.1**
YAK	**Yakutsk**	27.55	98	P		**P**	**19 39 28.8 -3.0**
YAK				IAmb		IAmb	19 39 32.8
	comp=Z,14nm,0.8s						
YAK	**Yakutsk**	27.55	98	LR		LR	19 50 25.3
	comp=Z,364nm,21.6s,baz=356,slow=36						
YAK	**Yakutsk**	27.55	98	*e*P		**P**	**19 39 30.4 -1.3**
YAK				*e*			19 40 17.0
YAK				*e*S		**S**	**19 44 12.4 +0.7**
YAK				pmax		pmax	
	comp=Z,17nm,1.0s						
YAK				pmax		pmax	
	comp=N,7.0nm,1.1s						
YAK				pmax		pmax	
	comp=E,2.0nm,0.9s						
YAK				pmax		pmax	
	comp=Z,17nm,1.5s						
YAK				pmax		pmax	
	comp=N,20nm,1.5s						
YAK				pmax		pmax	
	comp=E,11nm,1.7s						
YAK				smax		smax	
	comp=N,20nm,2.3s						
YAK				smax		smax	
	comp=E,23nm,2.5s						
YAK				MLR		MLR	
	comp=Z,448nm,22.0s						
YAK				MLR		MLR	
	comp=N,254nm,19.0s						
I27K	**Kandik River**	27.58	13	P		**P**	**19 39 31.4 -0.6**
	baz=358,SNR=14						
PRP	**Porcupine Dome**	27.61	17	P		**P**	**19 39 31.5 -0.9**
	baz=358,SNR=9.0						
HFS	**Hagfors**	27.68	223	P		**P**	**19 39 33.8 +0.8**
	comp=N,9.2nm,0.9s,baz=32,slow=5.9,SNR=20						
HFS				LR		LR	19 51 38.9
	comp=N,84nm,19.5s,baz=5.5,slow=39						
	comp=N,9.2nm,0.9s						
G15K	**Niukluk**	27.70	34	P		**P**	**19 39 31.5 -1.6**
	baz=356						
H18K	**Honhosa River**	27.70	28	P		**P**	**19 39 32.2 -0.9**
	baz=356						
I28M	**Miner Creek**	27.75	12	P		**P**	**19 39 33.2 -0.5**
	baz=358,SNR=10						
I21K	**Tanana**	27.83	23	IAmb		IAmb	19 39 47.2
	comp=Z,26nm,1.3s						
I21K	**Tanana**	27.83	23	P		**P**	**19 39 33.7 -0.5**
	baz=357						
I26K	**Coal Creek Min**	27.86	15	P		**P**	**19 39 34.0 -0.5**
	baz=358						
I29M	**Ogilvie Camp,**	27.86	10	P		**P**	**19 39 32.6 -1.9**
I29M				IAmb		IAmb	19 39 44.4
	comp=Z,39nm,1.8s						
I29M	**Ogilvie Camp,**	27.86	10	P		**P**	**19 39 34.1 -0.4**
	baz=358						
H17K	**Granite Mounta**	27.88	30	P		**P**	**19 39 33.0 -1.7**
H17K	**Granite Mounta**	27.88	30	P		**P**	**19 39 34.1 -0.6**
	baz=356,SNR=5.9						
SEY	**Seymchan**	27.88	75	*ce*P		**P**	**19 39 36.2 +1.5**
SEY				pmax		pmax	
	comp=Z,24nm,2.5s						
I23K	**Minto, Yukon-K**	27.91	20	P		**P**	**19 39 34.0 -1.0**
	baz=357						
POKR	**Poker Plat Res**	27.98	19	P		**P**	**19 39 35.2 -0.4**
	baz=357						
MLY	**Manley**	28.00	22	P		**P**	**19 39 35.4 -0.4**
	baz=357						
I30M	**Mount Dempster**	28.01	9	IAmb		IAmb	19 39 58.7
	comp=Z,18nm,1.1s						
I30M	**Mount Dempster**	28.01	9	P		**P**	**19 39 34.9 -1.1**
	baz=359,SNR=14						
ANM	**Nome**	28.09	35	P		**P**	**19 39 35.5 -1.1**
	baz=356						
H16K	**Elim**	28.11	32	P		**P**	**19 39 35.3 -1.5**
	baz=356						
GCSA	**Galena City Sc**	28.15	27	P		**P**	**19 39 36.0 -1.0**
	baz=356						
I20K	**Naaghedeneel**	28.16	25	P		**P**	**19 39 35.8 -1.3**
	baz=357						
FRB	**Frobisher Bay**	28.17	307	LR		LR	19 50 08.0
	comp=Z,275nm,20.5s,baz=14,slow=35						
KONO	**Kongsberg**	28.33	228	P		**P**	**19 39 36.8 -1.9**
KONO	**Kongsberg**	28.33	228	*ce*P		**P**	**19 39 39.0 +0.3**
KONO				pmax		pmax	
	comp=Z,17nm,1.7s						
ILAR	**Eielson Array**	28.34	18	P		**P**	**19 39 39.8 +1.0**
	comp=Z,3.8nm,1.0s,baz=355,slow=8.1,SNR=33						
	comp=Z,3.8nm,1.0s						
EGAK	**Eagle**	28.41	13	IAmb		IAmb	19 40 07.2
	comp=Z,27nm,1.6s						
EGAK	**Eagle**	28.41	13	P		**P**	**19 39 38.6 -0.8**
	baz=358						
KIRV	**Kirov**	28.46	184	LR		LR	19 53 32.6
	comp=Z,159nm,20.4s,baz=2.9,slow=42						
KIRV	**Kirov**	28.46	184	*ce*P		**P**	**19 39 38.6 -1.3**
NEA2	**Nenana**	28.48	20	P		**P**	**19 39 38.7 -1.3**
	baz=357						
J25K	**Salcha River,**	28.52	17	IAmb		IAmb	19 39 45.6
	comp=Z,37nm,1.9s						
J25K	**Salcha River,**	28.52	17	P		**P**	**19 39 38.9 -1.5**
	baz=358,SNR=10.0						
WRH	**Wood River Hil**	28.61	19	IAmb		IAmb	19 39 58.3
	comp=Z,26nm,1.5s						
J26L	**Joseph Creek**	28.66	15	P		**P**	**19 39 40.4 -1.3**
	baz=358,SNR=7.8						
J30M	**Hart River**	28.66	9	IAmb		IAmb	19 39 48.6
	comp=Z,26nm,1.4s						
J30M	**Hart River**	28.66	9	P		**P**	**19 39 40.8 -1.0**
	baz=359,SNR=18						
HDA	**Harding Lake**	28.70	18	P		**P**	**19 39 41.2 -0.8**
	baz=358						
J20K	**Nowinta River**	28.79	25	P		**P**	**19 39 41.0 -1.8**
J20K				IAmb		IAmb	19 39 54.5
	comp=Z,38nm,1.6s						
J20K	**Nowinta River**	28.79	25	P		**P**	**19 39 41.2 -1.6**
	baz=357,SNR=8.7						
I17K	**Unalakleet**	28.91	31	P		**P**	**19 39 42.4 -1.5**
	baz=356						
BPAW	**Bear Paw Mtn.**	28.93	22	P		**P**	**19 39 42.0 -2.1**
	baz=357,SNR=7.6						
J19K	**Poorman**	28.93	26	P		**P**	**19 39 42.6 -1.5**
	baz=357,SNR=5.4						
VSU	**Vasula**	28.94	209	*i* P		**P**	**19 39 44.7 +0.6**
VSU				pmax		pmax	
	comp=Z,7.0nm,1.0s						
DAWY	**Dawson**	29.15	11	P		**P**	**19 39 44.9 -1.1**
	baz=358						
K27K	**Chicken**	29.15	14	P		**P**	**19 39 45.0 -1.0**
	baz=358						
SCRK	**Sand Creek**	29.18	16	P		**P**	**19 39 45.0 -1.4**
	baz=358,SNR=11						
K24K	**Donnelly Dome**	29.32	17	P		**P**	**19 39 45.9 -1.7**
	baz=358						
MCK	**McKinley**	29.34	20	P		**P**	**19 39 46.6 -1.2**
	baz=357						
K29M	**Barlow Dome**	29.39	10	P		**P**	**19 39 46.8 -1.5**
	baz=359,SNR=11						
J18K	**Innoko River**	29.44	27	P		**P**	**19 39 47.4 -1.2**
J18K				IAmb		IAmb	19 39 55.7
	comp=Z,17nm,1.2s						
J18K	**Innoko River**	29.44	27	P		**P**	**19 39 47.5 -1.1**
	baz=357,SNR=13						
J17K	**VABM Dome**	29.45	29	IAmb		IAmb	19 39 55.5
	comp=Z,16nm,1.0s						
J17K	**VABM Dome**	29.45	29	P		**P**	**19 39 47.5 -1.1**
	baz=356,SNR=13						
J16K	**Anvik River**	29.52	31	IAmb		IAmb	19 39 55.0
	comp=Z,20nm,1.4s						
J16K	**Anvik River**	29.52	31	P		**P**	**19 39 48.2 -1.1**
	baz=356						
CAST	**Castle Rocks**	29.59	23	P		**P**	**19 39 48.6 -1.3**
	baz=357						
K20K	**Telida**	29.61	25	IAmb		IAmb	19 40 01.5
	comp=Z,21nm,1.4s						
K20K	**Telida**	29.61	25	P		**P**	**19 39 48.9 -1.2**
	baz=357,SNR=11						
HOMB	**Homborsund**	29.75	229	*e*P		**P**	**19 39 53.3 +2.0**
J14K	**Nanvaranak Lak**	29.97	33	P		**P**	**19 39 52.1 -1.1**
	baz=356						
TTA	**Tatalina**	29.99	27	P		**P**	**19 39 51.9 -1.6**
	baz=357,SNR=9.1						
DHY	**Denali Highway**	30.03	19	P		**P**	**19 39 52.3 -1.7**
	baz=358						
PPLA	**Purkeypile**	30.11	23	P		**P**	**19 39 52.8 -1.9**
	baz=357,SNR=10						
L29M	**L29M**	30.12	10	IAmb		IAmb	19 40 00.5
	comp=Z,15nm,1.2s						
L29M	**L29M**	30.12	10	P		**P**	**19 39 52.9 -1.7**
	baz=359,SNR=13						
L27K	**Beaver Creek,**	30.13	14	P		**P**	**19 39 53.2 -1.5**
	baz=358,SNR=9.3						
L26K	**Log Cabin Wild**	30.14	15	P		**P**	**19 39 54.4 -0.4**
K17K	**Iditarod**	30.15	29	IAmb		IAmb	19 40 00.5
	comp=Z,30nm,1.4s						
K17K	**Iditarod**	30.15	29	P		**P**	**19 39 53.3 -1.5**
	baz=356,SNR=9.4						
PAX	**Paxson**	30.17	17	P		**P**	**19 39 53.5 -1.6**
	baz=358						
BORU	**Boraas**	30.22	224	*e*P		**P**	**19 39 57.2 +1.7**
SVE	**Sverdlovsk**	30.25	172	*e*P		**P**	**19 39 57.8 +2.1**
SVE				*e*S		**S**	**19 44 57.4 +3.2**
SVE				pmax		pmax	
	comp=Z,28nm,1.3s						
WAT1	**Susitna Watana**	30.25	20	P		**P**	**19 39 54.4 -1.4**
	baz=358						
K15K	**Wolf Creek Mou**	30.48	32	IAmb		IAmb	19 40 10.0
	comp=Z,44nm,1.9s						
K15K	**Wolf Creek Mou**	30.48	32	P		**P**	**19 39 55.8 -2.0**
	baz=356						
ONAU	**Onsala**	30.49	225	*e*P		**P**	**19 39 59.1 +1.3**
L20K	**Farewell, AK**	30.50	25	P		**P**	**19 39 56.4 -1.6**
	baz=357						
WAT6	**Susitna Watana**	30.52	19	P		**P**	**19 39 56.9 -1.4**
	baz=358						
ARU	**Arti**	30.63	174	P		**P**	**19 39 59.2 +0.1**
ARU				IAmb		IAmb	19 40 08.8
	comp=Z,28nm,1.3s						
ARU	**Arti**	30.63	174	LR		LR	19 54 32.3
	comp=Z,234nm,18.3s,baz=9.0,slow=41						
ARU	**Arti**	30.63	174	*ce*P		**P**	**19 39 58.1 -1.0**
ARU				pmax		pmax	
	comp=Z,10.0nm,1.3s						
ARU	**Arti**	30.63	174	P		**P**	**19 39 59.5 +0.4**
	comp=Z,19nm,1.5s						
MMPY	**Sheldon Lake,**	30.66	4	P		**P**	**19 39 57.9 -1.5**
	baz=359						
M30M	**Minto, Yukon**	30.67	9	P		**P**	**19 39 57.7 -1.7**
	baz=359,SNR=14						
L18K	**Granite Mounta**	30.69	27	P		**P**	**19 39 57.9 -1.6**
	baz=357,SNR=15						
YKA	**Yellowknife Ar**	30.73	349	P		**P**	**19 40 01.5 +1.5**
	comp=Z,1.4nm,0.7s,baz=11,slow=7.8,SNR=4.7						
YKA				LR		LR	19 51 55.6
	comp=Z,615nm,21.7s,baz=350,slow=35						
	comp=Z,1.4nm,0.7s						
L17K	**Donlin**	30.73	29	P		**P**	**19 39 58.4 -1.5**
	baz=357,SNR=11						
HARP	**HAARP**	30.74	17	P		**P**	**19 39 58.9 -1.2**
	baz=358						
L19K	**White Mountain**	30.77	26	IAmb		IAmb	19 40 07.3
	comp=Z,17nm,1.3s						
L19K	**White Mountain**	30.77	26	P		**P**	**19 39 59.0 -1.4**
	baz=357,SNR=9.1						
M26K	**Nabesna, AK**	30.77	15	P		**P**	**19 39 59.2 -1.2**
M26K				IAmb		IAmb	19 40 17.9
	comp=Z,19nm,1.6s						
M26K	**Nabesna, AK**	30.77	15	P		**P**	**19 39 59.3 -1.1**
	baz=358						
M29M	**Somme Creek**	30.79	11	P		**P**	**19 39 58.3 -2.3**
	baz=358,SNR=8.6						
M27K	**Edge Creek, AK**	30.83	14	P		**P**	**19 39 58.9 -2.1**
	baz=358						
FABU	**Falkenberg**	30.86	224	*e*P		**P**	**19 40 02.1 +1.0**
M24K	**Tolsona, Glenn**	31.02	18	P		**P**	**19 40 00.8 -1.8**
	baz=358						
SKT	**Skwentna**	31.05	23	IAmb		IAmb	19 40 06.7
	comp=Z,26nm,1.4s						
SKT	**Skwentna**	31.05	23	P		**P**	**19 40 01.2 -1.6**
	baz=357,SNR=9.7						
M19K	**Big River Lodg**	31.06	25	IAmb		IAmb	19 40 14.6
	comp=Z,20nm,1.4s						
M19K	**Big River Lodg**	31.06	25	P		**P**	**19 40 01.7 -1.2**
	baz=357						
M31M	**Drury Creek, Y**	31.06	7	P		**P**	**19 40 01.3 -1.6**
M31M				IAmb		IAmb	19 40 14.7
	comp=Z,19nm,1.3s						
M31M	**Drury Creek, Y**	31.06	7	P		**P**	**19 40 00.7 -2.2**
	baz=359						
L15K	**Ungalak Mounta**	31.10	32	P		**P**	**19 40 01.2 -2.0**
	baz=356						
M20K	**Styx River**	31.11	24	P		**P**	**19 40 01.7 -1.7**
	baz=357						
L16K	**Owhat River**	31.13	30	IAmb		IAmb	19 40 14.7
	comp=Z,14nm,1.0s						
L16K	**Owhat River**	31.13	30	P		**P**	**19 40 01.9 -1.6**
	baz=356,SNR=8.4						
MA2	**Magadan**	31.14	77	LR		LR	19 52 46.0
	comp=Z,96nm,20.6s,baz=328,slow=37						
SCM	**Sheep Creek Mo**	31.27	19	P		**P**	**19 40 03.0 -1.8**
	baz=358,SNR=5.9						
SML	**Sawmill**	31.28	20	IAmb		IAmb	19 40 27.0
	comp=Z,20nm,1.2s						
SML	**Sawmill**	31.28	20	P		**P**	**19 40 03.4 -1.5**
	baz=358						
M22K	**Willow**	31.30	21	P		**P**	**19 40 04.2 -0.8**
	baz=357						
GHO	**Glory Hole Cre**	31.31	20	IAmb		IAmb	19 40 31.4
	comp=Z,11nm,1.0s						
M23K	**Glacier View**	31.31	19	P		**P**	**19 40 03.9 -1.2**
	baz=358						
DEL	**Delary**	31.34	223	*e*P		**P**	**19 40 06.7 +1.3**
L14K	**Kuka Creek**	31.40	33	IAmb		IAmb	19 40 11.4
	comp=Z,25nm,1.6s						
L14K	**Kuka Creek**	31.40	33	P		**P**	**19 40 04.7 -1.2**
	baz=356						
YUK3	**Moose Creek**	31.43	12	P		**P**	**19 40 05.1 -1.3**
	baz=358,SNR=6.9						
MOS	**Moscow**	31.44	197	*e*P		P	19 40 13.3 +7.1
MOS				*e*			19 41 22.3
M18K	**Stony River**	31.44	27	P		**P**	**19 40 04.9 -1.3**
	baz=357,SNR=5.5						
M17K	**Holitna River**	31.49	28	P		**P**	**19 40 05.6 -1.1**
M17K				IAmb		IAmb	19 40 10.5
	comp=Z,21nm,1.0s						
M17K	**Holitna River**	31.49	28	P		**P**	**19 40 05.5 -1.1**
	baz=357,SNR=10.0						
MUD	**Monsted U'grnd**	31.54	228	*e*P		**P**	**19 40 08.6 +1.5**
MUD				IAmb		IAmb	19 40 09.9
	comp=Z,13nm,1.1s						
N25K	**Chitina, Valde**	31.55	16	P		**P**	**19 40 06.0 -1.3**
	baz=358						
SUA	**Susitna One**	31.58	22	IAmb		IAmb	19 40 10.9
	comp=Z,14nm,1.1s						
SUA	**Susitna One**	31.58	22	P		**P**	**19 40 05.0 -2.6**
	baz=357,SNR=8.5						
KLU	**Klutina**	31.64	17	P		**P**	**19 40 06.9 -1.2**
	baz=358						
KNK	**Knik Glacier**	31.68	20	IAmb		IAmb	19 40 13.9
	comp=Z,14nm,0.9s						
KNK	**Knik Glacier**	31.68	20	P		**P**	**19 40 06.3 -2.0**
	baz=358						
N31M	**Braeburn, Yuko**	31.77	8	P		**P**	**19 40 07.5 -1.7**
	baz=359,SNR=7.5						
BJUU	**Bjuv**	31.77	223	*e*P		**P**	**19 40 10.9 +1.7**
N30M	**Aishikik Lake**	31.79	9	P		**P**	**19 40 07.8 -1.6**
	baz=359						
MCARA	**McCarthy VSAT**	31.79	15	P		**P**	**19 40 06.8 -2.6**
	baz=358						
M16K	**Timber Creek**	31.83	29	P		**P**	**19 40 07.5 -2.2**
	baz=357						
YUK4	**Talbot Arm**	31.89	11	P		**P**	**19 40 07.3 -3.1**
	baz=359						
YUK8	**Steele Glacier**	31.93	12	P		**P**	**19 40 09.7 -1.1**
	baz=358						
RC01	**Rabbit Creek A**	31.98	21	P		**P**	**19 40 09.9 -1.0**
	baz=358						
PABE	**Paberze**	31.98	212	*e*P		**P**	**19 40 12.0 +1.1**
M14K	**Bethel**	32.02	32	IAmb		IAmb	19 40 16.6
	comp=Z,14nm,1.2s						
M14K	**Bethel**	32.02	32	P		**P**	**19 40 10.6 -0.6**
	baz=356						
OBN	**Obninsk**	32.08	198	LR		LR	19 56 20.1
	comp=Z,228nm,19.8s,baz=352,slow=42						
OBN	**Obninsk**	32.08	198‖	*e*P		**P**	**19 40 11.2 -0.6**
OBN				*PP		**pP**	**19 40 14.0 -1.7**
OBN				*SP		**sP**	**19 40 16.0 -1.1**
OBN				PPP		PPP	19 41 23.0
OBN				*e*			19 43 01.5
OBN				S		S	19 45 32.0 +9.3
OBN				pmax		pmax	
	comp=Z,46nm,1.6s						
OBN				MLR		MLR	
	comp=Z,202nm,16.0s						
M15K	**Kasigluk River**	32.11	31	P		**P**	**19 40 10.5 -1.6**
	baz=356						
N32M	**Quiet Lake**	32.12	6	P		**P**	**19 40 11.4 -0.9**
	baz=359						
N19K	**Bonanza Creek**	32.15	25	P		**P**	**19 40 10.9 -1.7**
N19K	**Bonanza Creek**	32.15	25	P		**P**	**19 40 11.5 -1.1**
	baz=357						
BMRM	**Bremner River**	32.19	16	P		**P**	**19 40 11.7 -1.2**
	baz=358						
LUNU	**Lund**	32.20	223	*e*P		**P**	**19 40 14.2 +1.3**
CTG	**Chitna Glacier**	32.24	13	P		**P**	**19 40 12.5 -0.8**
	baz=358						
N18K	**Kilae Creek**	32.25	27	P		**P**	**19 40 11.5 -1.8**
	baz=357						
M11K	**Mekoryuk**	32.25	36	P		**P**	**19 40 11.8 -1.5**
	baz=356						
YUK6	**Outpost Mounta**	32.29	11	P		**P**	**19 40 12.2 -1.8**
	baz=359,SNR=7.8						
M13K	**Dall Lake**	32.31	34	P		**P**	**19 40 12.0 -1.8**
	baz=356						
N17K	**Nushagak Hills**	32.37	28	IAmb		IAmb	19 40 26.1
	comp=Z,16nm,0.9s						
N17K	**Nushagak Hills**	32.37	28	P		**P**	**19 40 12.7 -1.7**
	baz=357,SNR=11						
N16K	**Nishlik Lake**	32.38	29	P		**P**	**19 40 13.1 -1.4**
	baz=357,SNR=8.6						
O28M	**Mount Upton**	32.44	12	P		**P**	**19 40 14.9 -0.5**
	baz=358						
O30N	**Mendenhall**	32.48	9	IAmb		IAmb	19 40 19.5
	comp=Z,16nm,1.1s						
O30N	**Mendenhall**	32.48	9	P		**P**	**19 40 14.1 -1.4**
	baz=359,SNR=9.7						
NACGM	**Naroch**	32.50	209	*e*P		**P**	**19 40 16.0 +0.4**
	comp=Z,27nm,1.1s,baz=2.2						
EYAK	**Cordova Ski Ar**	32.59	17	P		**P**	**19 40 14.9 -1.4**
	baz=358						
N15K	**Kwethluk River**	32.65	31	P		**P**	**19 40 14.8 -2.1**
	baz=357						
N14K	**Kuskokwak Cree**	32.85	32	P		**P**	**19 40 16.8 -1.8**
	baz=356						
MNK	**Minsk**	32.88	207	*i* P		**P**	**19 40 20.9 +2.1**
MNK				*i* P		**P**	**19 40 20.9 +2.1**
	comp=N,20nm,0.9s						
MNK				*i* P		**P**	**19 40 20.9 +2.1**
	comp=Z,19nm,1.0s,baz=2.6						
MNK				*i* PP		**PnPn**	**19 41 29.6 +2.2**
MNK				*i* S		**S**	**19 45 38.3 +3.1**
MNK				*i* SS		**SnSn**	**19 47 37.5 +5.6**
MNK				*i* SSS		SSS	19 47 53.0
MNK				*i* LQ		LQ	19 50 43.5
MNK				*i* LR		LR	19 52 04.4
MNK				*i* LRM		MLR	19 53 31.4
	comp=Z,364nm,18.9s						
MNK				*i* LRM		MLR	19 53 35.2
	comp=N,442nm,19.5s						
MNK				*i* LRM		MLR	19 54 03.0
	comp=E,163nm,20.6s						
MNK	**Minsk**	32.88	207	*i* P		**P**	**19 40 20.9 +2.1**
MNK				*i*			19 41 29.6
MNK				*i* S		**S**	**19 45 38.2 +3.1**
MNK				*i* SS		**SnSn**	**19 47 37.4 +5.6**
MNK							19 50 43.4
MNK				pmax		pmax	
	comp=N,20nm,0.9s						
MNK				pmax		pmax	
	comp=Z,19nm,1.0s						
MNK				MLR		MLR	
	comp=Z,364nm,19.0s						
MNK				MLR		MLR	
	comp=N,442nm,20.0s						
MNK				MLR		MLR	
	comp=E,163nm,21.0s						
O20K	**Slope Mountain**	32.93	24	P		**P**	**19 40 17.7 -1.6**
	baz=357						
O29M	**Mount Kennedy**	32.93	11	IAmb		IAmb	19 40 23.4
	comp=Z,14nm,1.4s						
O29M	**Mount Kennedy**	32.93	11	P		**P**	**19 40 17.3 -2.2**
	baz=359						
SEW	**Seward**	32.97	21	P		**P**	**19 40 17.9 -1.7**
	baz=358						
MESA	**MESA**	33.02	14	P		**P**	**19 40 18.5 -1.8**
	baz=358						
BGLC	**Bering Glacier**	33.06	15	P		**P**	**19 40 18.7 -1.6**
	baz=358						
P33M	**Teslin, Yukon**	33.07	6	IAmb		IAmb	19 40 26.6
	comp=Z,22nm,1.4s						
P33M	**Teslin, Yukon**	33.07	6	P		**P**	**19 40 18.7 -1.9**
	baz=359,SNR=8.4						
O18K	**Koktuh Hills**	33.09	26	P		**P**	**19 40 19.2 -1.6**
O18K	**Koktuh Hills**	33.09	26	P		**P**	**19 40 18.9 -1.9**
	baz=357,SNR=6.8						
P23K	**Montague Islan**	33.11	19	P		**P**	**19 40 19.0 -1.9**
	baz=358						
PINM	**Pinnacle**	33.12	12	P		**P**	**19 40 19.2 -1.9**
	baz=358						
O17K	**Koliganek Bris**	33.13	28	P		**P**	**19 40 19.3 -1.7**
	baz=357,SNR=5.9						
KOTAN	**Kotaneelee Air**	33.16	358	P		**P**	**19 40 19.8 -1.5**
	baz=0.1						
EKA	**Eskdalemuir Ar**	33.20	240	P		**P**	**19 40 23.1 +1.3**
	comp=Z,2.7nm,0.7s,baz=7.3,slow=9.2,SNR=11						
	comp=Z,2.7nm,0.7s						
KAIM	**Kayak Island**	33.23	16	P		**P**	**19 40 20.9 -1.0**
	baz=358						
O16K	**Kokwok River B**	33.28	29	IAmb		IAmb	19 40 33.2
	comp=Z,9.6nm,0.9s						
O16K	**Kokwok River B**	33.28	29	P		**P**	**19 40 21.2 -1.2**
	baz=357						
BRSE	**Bradley Lake S**	33.31	22	P		**P**	**19 40 21.2 -1.4**
	baz=358						
P19K	**Oil Pt**	33.34	24	P		**P**	**19 40 20.8 -2.1**
	baz=357						
O14K	**Tigyukauivet M**	33.54	32	P		**P**	**19 40 22.7 -1.9**
	baz=357						
P18K	**Big Mountain,**	33.56	26	P		**P**	**19 40 23.8 -1.0**
	baz=357,SNR=5.7						
PNL	**Peninsula**	33.56	12	P		**P**	**19 40 23.7 -1.1**
	baz=359						
ZALV	**Zalesovo Beam**	33.60	146	P		**P**	**19 40 25.6 +0.4**
	comp=Z,2.1nm,0.6s,baz=347,slow=11,SNR=13						
ZALV				PcP		**PcP**	**19 43 05.3 +0.4**
	comp=Z,4.3nm,1.1s,baz=339,slow=3.7,SNR=5.0						
ZALV				LR		LR	19 55 38.8
	comp=Z,221nm,19.1s,baz=342,slow=39						
	comp=Z,2.1nm,0.6s						
ZALV	**Zalesovo Beam**	33.60	146	*i* P		**P**	**19 40 26.2 +1.0**
ZALV				pmax		pmax	
	comp=Z,2.0nm,0.6s						
P29M	**Windy Craggy**	33.62	10	P		**P**	**19 40 23.7 -1.

Q32M Nakina River 34.33 5 P **P** **19 40 30.8 -0.9**
baz=359
TOAD Total River Com 34.45 359 P **P** **19 40 32.2 -0.3**
baz=360
LPSR Galich'ya Gora 34.56 195 *e*P **P** **19 40 34.6 +1.1**
LPSR pmax pmax
comp=Z,20nm,1.0s
Q17K Contact Creek 34.67 27 P **P** **19 40 33.4 -1.1**
baz=357
BELG Belogornoye 34.68 186 LR LR 19 56 23.7
comp=Z,243nm,21.3s,baz=345,slow=39
BELG Belogornoye 34.68 186 *d* *i* P **P** **19 40 35.7 +1.2**
BELG pmax pmax
comp=Z,10.0nm,0.9s
DLBC Dease Lake 34.86 3 P **P** **19 40 34.8 -1.4**
DLBC IAmb IAmb 19 40 43.0
comp=Z,19nm,1.2s
DLBC Dease Lake 34.86 3 P **P** **19 40 35.6 -0.5**
baz=360
DLBC Dease Lake 34.86 3 P **P** **19 40 38.4 +2.2**
comp=Z,7.2nm,0.8s,baz=353,slow=9.0,SNR=8.7
comp=Z,7.2nm,0.8s
R32K Eaglecrest 35.00 7 P **P** **19 40 36.5 -0.8**
baz=359
KDAK Kodiak Island 35.23 24 P **P** **19 40 37.9 -1.3**
baz=358
R17L Mt. Peulik Vol 35.29 27 P **P** **19 40 38.4 -1.4**
baz=357
S31K Pelican 35.30 9 P **P** **19 40 38.7 -1.1**
baz=359
SPIA Saint Paul Isl 35.33 40 P **P** **19 40 39.0 -1.0**
baz=356
S34M Telegraph Cree 35.38 4 IAmb IAmb 19 40 47.8
comp=Z,18nm,1.2s
S34M Telegraph Cree 35.38 4 P **P** **19 40 40.3 -0.2**
baz=359,SNR=6.4
VORR Voronezh 35.49 195 *e*P P 19 40 50.1 +8.6
VORR pmax pmax
comp=Z,18nm,0.5s
ZEA Zeya 35.69 102 *e*P **P** **19 40 44.7 +1.4**
ZEA *e* 19 48 44.0
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=N,100nm,11.0s
ZEA MLR MLR
comp=Z,100nm,17.0s
OHAK Old Harbor 35.78 25 P **P** **19 40 43.5 -0.4**
OHAK Old Harbor 35.78 25 P **P** **19 40 43.1 -0.8**
baz=357
S32K Killisnoo 35.81 7 P **P** **19 40 43.1 -1.0**
baz=359
VRH Novokhopyorsk 35.92 192 *e*P **P** **19 40 45.3 +0.1**
VRH pmax pmax
comp=Z,10.0nm,1.2s
P08K Saint George I 35.93 40 P **P** **19 40 44.5 -0.7**
baz=356
VSR Storozhevoye 35.94 195 *e*P **P** **19 40 46.9 +1.5**
VSR pmax pmax
comp=Z,10.0nm,1.2s
RNPP9 Sopachiv 36.02 209 P **P** **19 40 47.1 +1.0**
RNPP8 Varash 36.10 209 P **P** **19 40 48.0 +1.3**
RNPP5 Staryi Chortor 36.20 209 P **P** **19 40 48.7 +1.1**
SIT Sitka 36.22 8 P **P** **19 40 46.4 -1.3**
baz=359
T35M Bob Quinn 36.32 3 P **P** **19 40 48.3 -0.3**
baz=360
SII Sitkinak Islan 36.42 25 P **P** **19 40 48.0 -1.5**
baz=357
MOY Mondy 36.48 129 *e*P **P** **19 40 51.7 +1.5**
MOY pmax pmax
comp=Z,24nm,1.4s
CLL Collm 36.54 223 IAmb IAmb 19 41 01.4
comp=Z,23nm,1.1s
CLL Collm 36.54 223 ⇓ *i*P **P** **19 40 51.8 +1.3**
comp=Z,19nm,1.1s
CLL *i* pP **pwP** **19 40 57.4 -3.0**
CLL *i* sP **sP** **19 40 59.9 +4.1**
comp=Z,28nm,1.1s
CLL *e*PP **PP** **19 42 16.0 +2.6**
CLL *e*PcP **PcP** **19 43 15.0 +1.5**
CLL *e*S **S** **19 46 30.0 -1.6**
CLL *e*SS **SS** **19 49 15.0 +4.1**
CLL AMS AMS 19 54 00.0
comp=Z,200nm,21.8s
CLL Collm 36.54 223 P **P** **19 40 51.7 +1.3**
comp=Z,20nm,1.3s
S14K Fog Glacier 36.56 30 P **P** **19 40 49.6 -1.2**
baz=357
AK21 Malin Array Si 36.58 206 P **P** **19 40 52.5 +1.7**
AK20 Malin Array Si 36.61 206 P **P** **19 40 52.6 +1.5**
AK03 Malin Array Si 36.62 206 P **P** **19 40 52.7 +1.5**
MI30 MI30,Zelenitsa 36.63 207 P **P** **19 40 52.1 +0.8**
AK19 Malin Array Si 36.63 206 P **P** **19 40 52.1 +0.8**
AKTO Aktyubinsk 36.64 175 LR LR 19 57 34.9
comp=Z,280nm,21.8s,baz=28,slow=39
AKASG Malin Array Be 36.65 206 P **P** **19 40 52.3 +0.9**
comp=Z,1.6nm,0.6s,baz=2.4,slow=9.0,SNR=11
AKASG PcP **PcP** **19 43 13.5 -0.3**
comp=Z,1.1nm,0.6s,baz=359,slow=3.1,SNR=5.4
AKASG LR LR 19 56 12.5
comp=Z,382nm,18.6s,baz=1.5,slow=37
comp=Z,1.6nm,0.6s
AKASG Malin Array Be 36.65 206 *i* P **P** **19 40 52.5 +1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 36.65 206 *i* P **P** **19 40 52.4 +1.0**
AKBB pmax pmax
comp=Z,28nm,1.3s
AKBB Malin Array Si 36.65 206 P **P** **19 40 52.2 +0.8**
KIEV Kiev 36.66 206 P **P** **19 40 52.5 +1.0**
KIEV IAmb IAmb 19 41 01.4
comp=Z,25nm,1.2s
KIEV Kiev 36.66 206 P **P** **19 40 52.5 +1.0**
KIEV pmax pmax
comp=Z,25nm,1.3s
KIEV Kiev 36.66 206 P **P** **19 40 52.2 +0.7**
comp=Z,71nm,1.4s
AK01 Malin Array Si 36.66 206 P **P** **19 40 53.0 +1.5**
KURK Kurchatov 36.67 153 P P 19 40 47.0 -4.6
KURK Kurchatov 36.67 153 *i* P **P** **19 40 51.5 -0.1**
KURK pmax pmax
comp=Z,7.0nm,1.1s
AK11 Malin Array Si 36.67 206 P **P** **19 40 53.1 +1.5**
AK02 Malin Array Si 36.69 206 P **P** **19 40 53.3 +1.5**
AK12 Malin Array Si 36.71 206 P **P** **19 40 53.4 +1.5**
AK08 Malin Array Si 36.71 206 P **P** **19 40 53.4 +1.4**
AK14 Malin Array Si 36.72 206 P **P** **19 40 53.5 +1.5**
AK05 Malin Array Si 36.73 206 P **P** **19 40 53.6 +1.5**
AK09 Malin Array Si 36.73 206 P **P** **19 40 53.6 +1.5**
AK13 Malin Array Si 36.74 206 P **P** **19 40 53.7 +1.5**
KURBB Kurchatov Arra 36.76 153 P **P** **19 40 53.1 +0.7**
comp=Z,2.3nm,0.8s,baz=354,slow=8.7,SNR=12
KURBB PcP **PcP** **19 43 15.2 +1.1**
comp=Z,3.6nm,0.8s,baz=350,slow=2.5,SNR=14
KURBB LR LR 19 58 43.5
comp=Z,657nm,19.8s,baz=340,slow=41
comp=Z,2.3nm,0.8s
AK07 Malin Array Si 36.80 206 P **P** **19 40 54.2 +1.5**
BRG Berggiesshubel 36.94 222 *i* P **P** **19 40 56.0 +2.1**
BRG Amp 19 40 57.5
comp=Z,15nm,1.1s
BRG Berggiesshubel 36.94 222 *i* P **P** **19 40 56.0 +2.1**
BRG 19 41 04.0
BRG pmax pmax
comp=Z,15nm,1.1s
BRG MLR MLR
comp=E,97nm,15.8s
BRG MLR MLR
comp=Z,219nm,19.6s
BRG MLR MLR
comp=N,127nm,15.4s
SCHQ Schefferville 37.00 304 P **P** **19 40 56.5 +2.0**
comp=N,2.2nm,0.7s,baz=10,slow=9.7,SNR=4.3
SCHQ LR LR 19 55 10.3
comp=N,190nm,21.9s,baz=14,slow=35
comp=N,2.2nm,0.7s
S12K Black Hills 37.07 33 P **P** **19 40 53.4 -1.6**
baz=357
CHIR Chirikof Islan 37.12 27 P **P** **19 40 54.8 -0.6**
baz=357
CHVC Chvalec 37.15 220 *e*P **P** **19 40 58.3 +2.6**
CHVC Chvalec 37.15 220 *e*P **P** **19 40 58.3 +2.6**
U33K Whale Pass 37.17 6 P **P** **19 40 54.6 -1.2**
baz=359
HSKC Hora Svate Kat 37.22 222 *e*P **P** **19 40 58.4 +2.0**
HSKC *ex* x 19 41 06.5
DPC Dobruska-Polom 37.38 219 *e*P **P** **19 40 59.9 +2.2**
DPC AMS AMS 19 53 50.0
comp=N,200nm,11.9s
DPC Dobruska-Polom 37.38 219 *e*P **P** **19 40 59.9 +2.2**
DPC MLR MLR
comp=Z,200nm,11.9s
DPC Dobruska-Polom 37.38 219 P **P** **19 40 59.2 +1.5**
comp=Z,6.5nm,0.9s
LUBAR Lubar, Ukraine 37.46 207 P **P** **19 40 59.6 +1.2**
BTNL Ternell 37.53 230 *d*P **P** **19 41 00.4 +1.4**
BCLA Clavier 37.73 231 *d*P **P** **19 41 03.0 +2.3**
BCLA *dx* x 19 41 10.5
BHOU Houvegnez 37.77 230 *d*P **P** **19 41 03.6 +2.6**
BHOU *dx* x 19 41 11.8
BGES Gesves 37.78 231 *d*P **P** **19 41 02.4 +1.4**
BGES *dx* x 19 41 11.1
PRU Pruhonice 37.80 221 *e*P **P** **19 41 03.5 +2.3**
PRU Pruhonice 37.80 221 *e*P **P** **19 41 03.5 +2.3**
CRAG Craig 37.82 6 P **P** **19 41 00.5 -0.8**
baz=359
ABKAR Akbulak array 37.83 173 P **P** **19 41 00.4 -1.1**
ABKAR IAmb IAmb 19 41 12.0
comp=Z,32nm,1.6s
ZAK Zakamensk 37.86 127 *e*P **P** **19 41 03.6 +1.7**
ZAK pmax pmax
comp=Z,3.0nm,1.5s
BMRD Maredsous 37.87 231 *d*P **P** **19 41 04.0 +2.2**
BMRD *dx* x 19 41 11.9
MORC Moravsky Berou 37.91 218 ⇓ P **P** **19 41 04.4 +2.2**
MORC Moravsky Berou 37.91 218 P **P** **19 41 02.4 +0.2**
MORC IAmb IAmb 19 41 13.4
comp=Z,28nm,1.2s
MORC Moravsky Berou 37.91 218 *e*P **P** **19 41 04.0 +1.8**
MORC Moravsky Berou 37.91 218 P **P** **19 41 02.4 +0.2**
MORC pmax pmax
comp=Z,28nm,1.2s
V35K Ketchikan 37.97 4 P **P** **19 41 02.3 -0.3**
baz=359
RCHB Rochefort 38.00 231 *d*P **P** **19 41 04.8 +1.9**
RCHB *dx* x 19 41 13.0
CHNA Chernabura Isl 38.01 31 P **P** **19 41 01.9 -1.1**
baz=357
DOU Dourbes 38.09 232 *d*P **P** **19 41 05.7 +2.0**
GRFO Grafenberg 38.22 225 P **P** **19 41 05.7 +0.9**
GRFO Grafenberg 38.22 225 P **P** **19 41 05.7 +0.9**
GRFO pmax pmax
comp=Z,45nm,1.3s
VRAC Vranov 38.41 219 LR LR 19 55 52.6
comp=Z,147nm,21.7s,baz=358,slow=35
WLF Walferdange 38.45 230 *d*P **P** **19 41 09.7 +3.0**
WLF *dx* x 19 41 17.6
LANS Liptovska Anna 38.47 216 *e*P **P** **19 41 09.7 +2.8**
KOLS Kolonicke sedl 38.60 213 *e*P **P** **19 41 10.3 +2.3**
KOLS *e* 19 41 17.8
KOLS pmax pmax
comp=Z,7.0nm,1.3s
KOLS Kolonicke sedl 38.60 213 *e*P **P** **19 41 10.3 +2.3**
KOLS *e* 19 41 17.8
CRVS Cervenica-Dubn 38.66 214 *e*P **P** **19 41 10.9 +2.4**
CRVS *e* 19 41 18.3
CRVS pmax pmax
comp=Z,15nm,1.3s
CRVS Cervenica-Dubn 38.66 214 *e*P **P** **19 41 10.9 +2.4**
CRVS *e* 19 41 18.2
KRUC Moravsky 38.66 219 *e*P **P** **19 41 10.5 +2.0**
KHC Kasperske Hory 38.69 222 *e*P **P** **19 41 11.0 +2.2**
KHC *ex* x 19 41 19.4
KHC AMS AMS 19 55 20.0
comp=Z,100nm,15.1s
KHC Kasperske Hory 38.69 222 *ce*P **P** **19 41 09.7 +0.9**
KHC pmax pmax
comp=Z,38nm,1.7s
KHC Kasperske Hory 38.69 222 P **P** **19 41 10.1 +1.3**
comp=Z,11nm,1.0s
UNV Unalaska Valle 38.79 37 P **P** **19 41 08.3 -1.1**
baz=357
JAVC Velka Javorina 38.82 218 *e*P **P** **19 41 12.4 +2.5**
GERES GERESS Array B 38.97 222 P **P** **19 41 12.5 +1.3**
comp=Z,6.0nm,0.8s,baz=9.8,slow=8.7,SNR=28
comp=Z,6.0nm,0.8s
CKRC Cesky Krumlov 38.98 221 *e*P **P** **19 41 13.3 +2.1**
CKRC Cesky Krumlov 38.98 221 *e*P **P** **19 41 13.3 +2.1**
SHEM Shemya Is, Ala 39.14 56 LR LR 19 57 45.8
comp=Z,97nm,20.7s,baz=266,slow=37
VYHS Vyhne 39.15 217 *e*P **P** **19 41 15.0 +2.4**
VYHS *e* 19 41 22.3
VYHS pmax pmax
comp=Z,10.0nm,1.0s
VYHS Vyhne 39.15 217 *e*P **P** **19 41 15.0 +2.4**
VYHS *e* 19 41 22.3
GRNR Gornyy 39.15 93 ⇑ *i*P **P** **19 41 14.0 +1.4**
GRNR pmax pmax
comp=Z,4.0nm,0.7s
SMOL Smolenice 39.17 218 *e*P **P** **19 41 15.9 +3.1**
SMOL *e* 19 41 23.7
HEH HeiHe 39.18 102 *e*P **P** **19 41 13.0 +0.2**
HEH pmax pmax
comp=Z,6.0nm,0.9s
HEH LR LR
comp=Z,230nm,16.7s
HEH LR LR
comp=Z,190nm,17.1s
HEH LR LR
comp=Z,320nm,16.7s
SORM Soroca 39.24 206 ⇑ P **P** **19 41 14.5 +1.2**
SORM Soroca 39.24 206 P **P** **19 41 14.5 +1.2**
SORM Soroca 39.24 206 P **P** **19 41 13.9 +0.6**
comp=Z,17nm,1.5s
NIKH Nikolski High 39.58 40 P **P** **19 41 14.3 -1.8**
baz=357
PSZ Piszkesteto 39.69 215 IAmb IAmb 19 41 28.9
comp=Z,52nm,1.5s
CONA Conrad Observa 39.81 220 *ep*P pP 19 41 20.5 -1.4
comp=Z,12nm,0.9s,SNR=12
BURAR Bucovina Array 39.84 210 ⇑ P **P** **19 41 20.6 +2.1**
ECH Echery 39.86 229 IAmb IAmb 19 41 22.0
comp=Z,19nm,0.9s
MOA Molln 39.95 221 *ep*P pP 19 41 21.4 -1.7
comp=Z,9.7nm,0.8s,SNR=6.5
RONA Rosalia, Austr 40.03 219 *ep*P pP 19 41 22.6 -1.1
comp=Z,8.0nm,0.9s,SNR=5.7
BIOA Bad Ischl, Aus 40.13 222 *ep*P **P** **19 41 22.5 +1.8**
comp=Z,6.4nm,1.0s
CLF Chambon-Foret 40.26 234 IAmb IAmb 19 41 25.2
comp=Z,37nm,1.2s
LESA Schwarzleotal 40.43 223 *ep*P pP 19 41 25.7 -1.4
comp=Z,239nm,20.6s,baz=8.5,slow=36
KLR Kul'dur 40.43 98 LR LR 19 58 12.3
comp=Z,239nm,20.6s,baz=8.5,slow=36
KLR Kul'dur 40.43 98 *ce*P **P** **19 41 24.0 +0.8**
KLR pmax pmax
comp=Z,7.0nm,1.7s
RETA Reutte 40.44 225 *ep*P pP 19 41 25.7 -1.5
comp=Z,7.7nm,1.0s,SNR=5.7
ARSA Arzberg 40.50 220 *ep*P pP 19 41 25.8 -1.9
comp=Z,3.9nm,1.1s
MPLH Magyarpolny 40.51 218 P **P** **19 41 26.4 +2.5**
comp=Z,84nm,1.3s,comp=Z,1μm
ULN Ulaanbaatar 40.54 123 *ce*P **P** **19 41 23.7 -0.7**
ULN pmax pmax
comp=Z,14nm,1.3s
SONM Songino Array 40.54 124 P **P** **19 41 24.9 +0.6**
comp=Z,3.6nm,0.8s,baz=344,slow=7.6,SNR=25
SONM LR LR 20 00 16.0
comp=Z,198nm,18.1s,baz=358,slow=39
comp=Z,3.6nm,0.8s
WATA Walderalm 40.56 224 *ep*P **P** **19 41 25.7 +1.2**
comp=Z,5.9nm,0.9s
WTTA Wattenberg 40.63 224 *ep*P pP 19 41 28.3 -0.6
comp=Z,9.7nm,1.4s
MAKZ Makanchi 40.66 150 P **P** **19 41 24.6 -0.6**
MAKZ Makanchi 40.66 150 P **P** **19 41 24.6 -0.6**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
DAVA Damuels 40.68 226 *ep*P pP 19 41 27.8 -1.4
comp=Z,8.0nm,1.0s
MK31 Makanchi Array 40.69 149 *ce*P **P** **19 41 24.7 -0.7**
MKAR Makanchi Array 40.69 149 P **P** **19 41 25.3 -0.1**
comp=Z,4.5nm,0.9s,baz=14,slow=5.6,SNR=25
MKAR PcP **PcP** **19 43 26.9 +0.3**
comp=Z,3.0nm,0.9s,baz=1.4,slow=5.8,SNR=4.4
MKAR LR LR 20 00 02.1
comp=Z,411nm,21.1s,baz=358,slow=39
comp=Z,4.5nm,0.9s
SQTA Sankt Quirin 40.69 224 *ep*P pP 19 41 28.0 -1.3
comp=Z,7.2nm,0.9s
DRGR 40.73 212 ⇑ P **P** **19 41 27.6 +1.8**
DRGR 40.73 212 P **P** **19 41 27.6 +1.8**
KBA Koelnbreinsper 40.75 222 *ep*P pP 19 41 29.0 -0.8
comp=Z,12nm,0.8s
PURM Purcari 40.80 205 P **P** **19 41 28.2 +1.9**
comp=Z,19nm,0.8s
MARR Marisel-Cluj 40.83 212 ⇑ P **P** **19 41 29.0 +2.3**
TESR Tescani 40.90 208 ⇑ P **P** **19 41 28.6 +1.5**
TESR Tescani 40.90 208 P **P** **19 41 28.5 +1.4**
comp=Z,15nm,1.4s
FETA Feichten 40.91 225 *ep*P **P** **19 41 29.3 +1.9**
comp=Z,12nm,1.6s
SOKA Soboth 41.09 220 *ep*P pP 19 41 31.1 -1.5
comp=Z,9.7nm,0.9s,SNR=8.6
ABTA Abfaltersbach 41.11 223 *ep*P pP 19 41 31.5 -1.3
comp=Z,5.9nm,0.9s
PERS Pernice 41.13 220 *i* P **P** **19 41 31.4 +2.3**
DAVOX Davos/Dischmat 41.18 226 LR LR 19 58 41.5
comp=Z,56nm,19.5s,baz=66,slow=36
MYKA Terra Mystica 41.19 222 *ep*P pP 19 41 32.3 -1.1
comp=Z,8.1nm,0.7s,SNR=7.2
OBKA Obir 41.28 221 *ep*P pP 19 41 33.0 -1.1
comp=Z,20nm,0.9s,SNR=9.6
SIRR Siria 41.28 213 ⇑ P **P** **19 41 33.4 +3.1**
FUORN Ofenpass-Fuorn 41.33 225 P **P** **19 41 30.8 -0.1**
FUORN IAmb IAmb 19 41 43.3
comp=Z,29nm,1.1s
MORH Mrgy, Hungar 41.43 217 ⇓ P **P** **19 41 33.6 +2.1**
MORH Mrgy, Hungar 41.43 217 P **P** **19 41 33.0 +1.6**
comp=Z,8.5nm,1.2s
TUE Stuetta 41.51 226 IAmb IAmb 19 41 44.5
comp=Z,24nm,1.3s
TUE Stuetta 41.51 226 P **P** **19 41 34.9 +2.5**
comp=Z,73nm,1.5s,comp=Z,1μm
VRI Vrincioaia 41.55 208 P **P** **19 41 33.8 +1.4**
VRI Vrincioaia 41.55 208 P **P** **19 41 33.8 +1.4**
PLOR Plostina 41.56 208 ⇑ P **P** **19 41 36.2 +3.6**
PLOR Plostina 41.56 208 P **P** **19 41 36.2 +3.6**
SENIN Lac Senin/Sane 41.70 228 P **P** **19 41 33.9 0.0**
CRNS Crni Vrh 41.72 221 *e*P **P** **19 41 35.8 +2.0**
LJU Ljubljana 41.74 221 *e*P **P** **19 41 36.3 +2.2**
LEGS Legarje 41.81 220 *i* P **P** **19 41 36.4 +1.8**
SABO M.te Sabotino 41.84 222 IAmb IAmb 19 41 46.0
comp=Z,50nm,1.2s
CTI Castel Tesino 41.84 224 IAmb IAmb 19 41 46.5
comp=Z,32nm,1.3s
BZS Buzias 41.94 213 ⇓ P **P** **19 41 37.6 +2.0**
BZS Buzias 41.94 213 P **P** **19 41 37.6 +2.0**
MLR Muntele Rosu 41.94 209 ⇑ P **P** **19 41 37.2 +1.4**
MLR Muntele Rosu 41.94 209 LR LR 19 59 32.3
comp=Z,468nm,19.0s,baz=3.0,slow=37
MLR Muntele Rosu 41.94 209 P **P** **19 41 37.2 +1.4**
VOIR 42.02 210 P **P** **19 41 38.2 +1.8**
VOIR 42.02 210 P **P** **19 41 38.2 +1.8**
VOIR 42.02 210 P **P** **19 41 37.6 +1.2**
comp=Z,4.3nm,1.0s
LOT Lotru 42.04 211 ⇓ P **P** **19 41 39.5 +2.9**
GZR Gura Zlata 42.12 212 ⇓ P **P** **19 41 39.7 +2.5**
GZR Gura Zlata 42.12 212 P **P** **19 41 39.7 +2.5**
CFR Carcaliu 42.20 207 ⇓ P **P** **19 41 40.3 +2.5**
CFR Carcaliu 42.20 207 P **P** **19 41 40.2 +2.5**
FRGS Fruska Gora 42.45 215 ⇑ P **P** **19 41 42.7 +2.9**
FRGS Fruska Gora 42.45 215 P **P** **19 41 41.9 +2.1**
comp=Z,49nm,1.2s
HERR Herculane 42.65 213 ⇓ P **P** **19 41 44.3 +2.9**
ULM Lac du Bonnet 42.65 331 P **P** **19 41 42.4 +1.0**
comp=Z,3.2nm,0.6s,baz=344,slow=9.2,SNR=7.4
ULM LR LR 19 59 28.0
comp=Z,317nm,18.9s,baz=8.5,slow=36
comp=Z,3.2nm,0.6s
HARR Harsova 42.69 207 ⇑ P **P** **19 41 43.1 +1.3**
HARR Harsova 42.69 207 P **P** **19 41 43.0 +1.3**
MDVR Moldovita 42.77 213 ⇓ P **P** **19 41 44.4 +2.0**
KIV Kislovodsk 43.16 191 *e*P **P** **19 41 42.7 -3.0**
KIV *e*S **S** **19 48 08.3 -2.8**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,141nm,16.0s
KVAR Kislovodsk Arr 43.16 191 LR LR 20 01 57.4
comp=Z,178nm,21.9s,baz=271,slow=39
YSS Yuzh-Sakhalins 43.30 87 *e*P **P** **19 41 47.2 +0.5**
YSS *e*S **S** **19 48 09.8 -3.0**
YSS pmax pmax
comp=Z,10.0nm,1.1s
SHA1 Shidzhatmaz 43.38 191 *i* P **P** **19 41 45.1 -2.5**
KBZ Khabaz 43.39 191 P **P** **19 41 47.9 +0.5**
comp=Z,3.0nm,0.8s,baz=257,slow=9.1,SNR=5.8
KBZ LR LR 20 02 10.9
comp=Z,220nm,21.7s,baz=354,slow=39
comp=Z,3.0nm,0.8s
KBZ Khabaz 43.39 191 *ce*P **P** **19 41 46.3 -1.1**
KBZ pmax pmax
comp=Z,18nm,1.1s
SOC Sochi 43.57 194 *e*P **P** **19 41 47.0 -1.9**
SOC *e* 19 43 27.6
SOC *e*S **S** **19 48 15.9 -0.9**
SOC *e*SS **SS** **19 51 32.4 +1.2**
SOC MLR MLR
comp=Z,237nm,16.0s
NCK Nalchik 43.61 190 *i* P **P** **19 41 47.4 -1.9**
NCK pmax pmax
comp=Z,50nm,1.2s
BNX BinXian 43.68 103 ⇑ P **P** **19 41 50.4 +0.7**
BNX pmax pmax
comp=Z,9.0nm,1.1s
WMQ Urumqi 43.82 144 *e*P **P** **19 41 52.1 +1.1**
WMQ pP pwP 19 41 58.3 -2.5
WMQ LR LR
comp=Z,570nm,17.7s
WMQ LR LR
comp=Z,250nm,15.3s
WMQ LR LR
comp=Z,330nm,21.7s
GROC Groznyy 43.89 188 *e*P **P** **19 41 53.7 +2.3**
GROC *e* 19 43 40.0
GROC pmax pmax
comp=Z,1.0nm,0.6s
BOVS Bovan 43.91 213 ⇑ P **P** **19 41 53.2 +1.5**
LDAQ Lac Daran 44.06 307 P **P** **19 41 51.9 -1.0**
LDAQ IAmb IAmb 19 42 03.3
comp=Z,14nm,0.9s
KKAR Karatay Array 44.11 162 P **P** **19 41 53.2 0.0**
KKAR Karatay Array 44.11 162 P **P** **19 41 53.2 0.0**
KKAR pmax pmax
comp=Z,8.0nm,1.1s
MAK Makhachkala 44.12 186 *e*P P 19 41 47.4 -5.8
MAK *e* 19 43 34.1
MAK *e*S **S** **19 48 17.3 -7.5**
MAK *e*SS **SS** **19 51 32.3 -10**
MAK pmax pmax
comp=Z,90nm,1.1s
MAK MLR MLR
comp=Z,183nm,14.0s
LMQ La Malbaie 44.44 306 P **P** **19 41 56.1 +0.4**
LMQ IAmb IAmb 19 42 06.2
comp=Z,16nm,1.0s
ELND Elena 44.50 209 ⇑ P **P** **19 41 57.8 +1.4**
AGMN Agassiz Nation 44.60 331 IAmb IAmb 19 42 02.6
comp=Z,12nm,0.8s
AGMN Agassiz Nation 44.60 331 P **P** **19 41 56.0 -1.1**
baz=2.1
DGMT Dagmar 44.62 339 P **P** **19 41 56.6 -0.8**
baz=1.6
AAK Ala-Archa 44.65 158 LR LR 20 03 43.4
comp=Z,605nm,19.7s,baz=354,slow=40
AAK Ala-Archa 44.65 158 *ce*P **P** **19 41 57.6 -0.1**
AAK pmax pmax
comp=Z,8.0nm,1.3s
EYMN Ely 44.83 327 P **P** **19 41 59.0 +0.1**
EYMN Ely 44.83 327 P **P** **19 41 57.4 -1.6**
baz=2.4
MDJ Mudanjiang 44.92 101 P **P** **19 42 00.4 +0.8**
MDJ pmax pmax
comp=Z,18nm,1.1s
MDJ Mudanjiang 44.92 101 P **P** **19 41 59.4 -0.3**
MDJ IAmb IAmb 19 42 01.2
comp=Z,21nm,1.2s
XLT XiLinHaoTe 44.93 114 *e*P **P** **19 42 02.0 +2.1**
XLT sP pwP 19 42 09.8 +0.5
XLT pmax pmax
comp=Z,20nm,0.9s
NEW Newport 45.02 351 P **P** **19 41 59.2 -1.3**

NEW	Newport	45.02 351	P	P	19 42 00.0	-0.4
	baz=0.6					
NEW	Newport	45.02 351	LR	LR	20 01 22.1	
	comp=Z,507nm,19.6s,baz=359,slow=37					
NEW	Newport	45.02 351	P	P	19 41 59.2	-1.3
NEW			pmax	pmax		
	comp=Z,43nm,1.9s					
EGMT	Eagleton	45.17 344	P	P	19 42 01.0	-0.7
	baz=1.1					
CESX	Cesi	45.24 223	P	P	19 42 03.4	+1.1
E62A	Clayton Lake	45.33 305	P	P	19 42 02.6	-0.3
E62A			IAmb	IAmb	19 42 13.0	
	comp=Z,14nm,1.0s					
USRK	Ussuriysk Ar.	45.46 98	P	P	19 42 03.7	-0.3
	comp=Z,3.3nm,1.0s,baz=314,slow=5.1,SNR=5.5					
USRK			LR	LR	20 01 49.9	
	comp=Z,145nm,18.5s,baz=337,slow=37					
	comp=Z,3.3nm,1.0s					
CN2	Changchun	45.51 105	eP	P	19 42 04.8	+0.4
CN2			eS	S	19 48 45.4	+0.4
CN2			pmax	pmax		
	comp=Z,10.0nm,0.7s					
CN2			pmax	pmax		
	comp=Z,100nm,3.0s					
CN2			LR	LR		
	comp=Z,100nm,14.0s					
CN2			LR	LR		
	comp=Z,200nm,14.0s					
CN2			LR	LR		
	comp=Z,100nm,12.0s					
CEST	Esterri de Car	45.72 234	IAmb	IAmb	19 42 10.7	
	comp=Z,15nm,1.1s					
INTR	Introdacqua	45.79 221	P	P	19 42 03.2	-3.5
ARSB	Arslanbob	45.93 159	P	P	19 42 06.4	-1.5
ARSB	Arslanbob	45.93 159	P	P	19 42 06.4	-1.5
ARSB			pmax	pmax		
	comp=Z,4.0nm,1.4s					
TRQ	Mont Tremblant	45.94 310	P	P	19 42 07.8	0.0
TRQ			IAmb	IAmb	19 42 17.4	
	comp=Z,13nm,0.9s					
LTY	Liberty	46.05 354	IAmb	IAmb	19 42 11.7	
	comp=Z,11nm,1.2s					
ASAJ	Asahikawa	46.12 88	LR	LR	20 01 26.0	
	comp=Z,163nm,21.5s,baz=8.0,slow=36					
D05A	Enumclaw	46.12 355	P	P	19 42 09.1	-0.1
E38A	The Farm, Brul	46.17 327	IAmb	IAmb	19 42 19.7	
	comp=Z,19nm,1.2s					
MSO	Missoula	46.42 348	P	P	19 42 12.4	+0.8
MSO	Missoula	46.42 348	P	P	19 42 11.4	-0.3
	baz=0.8,SNR=6.1					
PKME	Peaks-Kenny Pk	46.67 305	P	P	19 42 13.5	+0.1
	baz=3.5					
MXC	Moxie City	46.73 354	IAmb	IAmb	19 42 20.1	
	comp=Z,14nm,1.2s					
PBRG	Braganca	46.88 242	eP	P	19 42 17.2	+2.0
HAWA	Hanford	46.91 353	P	P	19 42 14.7	-0.7
HAWA			IAmb	IAmb	19 42 21.2	
	comp=Z,9.7nm,1.1s					
PCAB	Cabril	47.04 244	eP	P	19 42 19.1	+2.7
	comp=Z,45nm,1.6s					
BTK	Batken	47.16 162	P	P	19 42 18.4	+1.0
BTK			IAmb	IAmb	19 42 33.1	
	comp=Z,9.2nm,0.9s					
BTK	Batken	47.16 162	P	P	19 42 18.4	+1.0
BTK			pmax	pmax		
	comp=Z,9.0nm,1.0s					
BRTR	Keskin Array B	47.52 201	P	P	19 42 21.0	+0.7
	comp=Z,1.7nm,0.8s,baz=2.6,slow=5.9,SNR=8.1					
BRTR			LR	LR	20 03 53.2	
	comp=Z,171nm,20.5s,baz=353,slow=38					
	comp=Z,1.7nm,0.8s					
LONY	Lake Ozonia	47.54 310	P	P	19 42 19.8	-0.5
	baz=3.2					
SADO	Sadowa	47.58 315	LR	LR	20 03 25.6	
	comp=Z,123nm,18.1s,baz=360,slow=37					
SPMN	Marine on St.	47.59 328	P	P	19 42 19.8	-0.8
	baz=2.2					
BOZ	Bozeman (W)	47.62 346	P	P	19 42 20.1	-1.0
	baz=1.0,SNR=15					
HHC	Hu-ho-hao-te	47.75 119	eP	P	19 42 22.9	+0.8
HHC			S	S	19 49 16.9	-0.5
HHC			sS	sS	19 49 24.8	+0.9
HHC			pmax	pmax		
	comp=Z,31nm,0.6s					
HHC			pmax	pmax		
	comp=Z,160nm,5.6s					
HHC			LR	LR		
	comp=Z,160nm,15.3s					
HHC			LR	LR		
	comp=Z,130nm,14.1s					
HHC			LR	LR		
	comp=Z,230nm,16.8s					
KSH	Kashi	47.80 156	P	P	19 42 24.8	+2.3
KSH			sP	pwP	19 42 33.9	+2.4
KSH			pmax	pmax		
	comp=Z,3.0nm,0.6s					
KSH			LR	LR		
	comp=Z,470nm,18.2s					
KSH			LR	LR		
	comp=Z,220nm,13.7s					
KSH			LR	LR		
	comp=Z,440nm,20.6s					
DLMT	Dillon	47.87 347	IAmb	IAmb	19 42 48.6	
	comp=Z,11nm,1.2s					
G08A	Pilot Rock	48.00 353	P	P	19 42 22.9	-1.1
G08A			IAmb	IAmb	19 42 31.1	
	comp=Z,12nm,1.2s					
RLMT	Red Lodge	48.06 343	P	P	19 42 23.0	-1.6
	baz=1.1					
GAR	Garm	48.20 162	P	P	19 42 26.1	+0.4
MTE	Manteigas	48.32 243	eP	P	19 42 28.2	+1.8
BMO	Blue Mountains	48.43 351	IAmb	IAmb	19 42 34.3	
	comp=Z,19nm,1.6s					
TIP	Timpagrande	48.52 218	P	P	19 42 28.7	+0.8
TIP	Timpagrande	48.52 218	P	P	19 42 29.6	+1.6
	comp=Z,26nm,1.8s					
SUSD	Miller	48.53 334	P	P	19 42 27.3	-0.7
	baz=1.8					
GTA	Gaotai	48.67 131	eP	P	19 42 30.1	+0.9
GTA			pP	pwP	19 42 36.6	-2.3
GTA			sP	sP	19 42 39.9	+5.2
GTA			sS	sS	19 49 39.5	+2.2
GTA			pmax	pmax		
	comp=Z,3.0nm,1.1s					
GTA			LR	LR		
	comp=Z,350nm,18.9s					
GTA			LR	LR		
	comp=Z,320nm,19.6s					
GTA			LR	LR		
	comp=Z,490nm,20.7s					
J59A	Piesco	48.69 310	P	P	19 42 29.1	-0.1
PCAS	Casmilo, Conde	48.71 244	eP	P	19 42 32.1	+2.7
H04D	Lebanon	48.79 356	P	P	19 42 29.1	-0.8
ESDC	Sonseca Array	48.87 239	P	P	19 42 32.4	+1.8
	comp=Z,7.2nm,0.9s,baz=1.2,slow=8.2,SNR=49					
	comp=Z,7.2nm,0.9s					
PCBR	Castelo Branco	48.87 243	eP	P	19 42 33.3	+2.7
	comp=Z,29nm,1.4s					
RSSD	Black Hills	48.97 338	P	P	19 42 31.0	-0.6
RSSD			IAmb	IAmb	19 42 36.1	
	comp=Z,11nm,0.8s					
RSSD	Black Hills	48.97 338	P	P	19 42 30.8	-0.7
	baz=1.5					
RSSD	Black Hills	48.97 338	P	P	19 42 31.0	-0.6
RSSD			pmax	pmax		
	comp=Z,11nm,0.8s					
PAB	San Pablo	49.02 240	P	P	19 42 33.0	+1.2
PAB	San Pablo	49.02 240	P	P	19 42 33.0	+1.2
PAB			pmax	pmax		
	comp=Z,19nm,1.1s					
FLWY	Flagg Ranch	49.12 345	P	P	19 42 32.0	-0.7
ECSD	EROS Data Cent	49.18 331	P	P	19 42 33.3	+0.4
ECSD			IAmb	IAmb	19 42 38.7	
	comp=Z,14nm,1.0s					
ECSD	EROS Data Cent	49.18 331	P	P	19 42 32.7	-0.2
	baz=1.9					
PMRV	Marv??o	49.28 243	eP	P	19 42 35.7	+2.0
MOOW	Moose Ponds	49.46 345	IAmb	IAmb	19 42 42.2	
	comp=Z,10nm,1.1s					
PINE	Pine Mountain	49.51 354	IAmb	IAmb	19 42 43.3	
	comp=Z,15nm,1.1s					
FXWY	Fox Creek	49.57 345	P	P	19 42 35.3	-0.9
FXWY			IAmb	IAmb	19 42 43.2	
	comp=Z,14nm,1.3s					
HLID	Hailey	49.69 348	P	P	19 42 35.7	-1.3
	baz=0.7					
TPAW	Teton Pass	49.72 345	P	P	19 42 36.7	-0.7
TPAW			IAmb	IAmb	19 42 43.8	
	comp=Z,12nm,1.2s					
JFWS	Jewell Farm	49.82 325	P	P	19 42 36.4	-1.4
	baz=2.3					
BINY	Binghamton	50.02 311	P	P	19 42 38.3	-1.0
	baz=3.1					
J05D	Fort Rock, OR	50.02 355	IAmb	IAmb	19 42 47.2	
	comp=Z,15nm,1.1s					
VAE	Valguarnera	50.30 220	LR	LR	20 04 35.7	
	comp=Z,191nm,18.8s,baz=350,slow=37					
BW06	Boulder Array	50.42 344	P	P	19 42 42.2	-0.5
	baz=1.1,SNR=8.8					
PDAR	Pinedale Array	50.42 344	P	P	19 42 44.3	+1.6
	comp=Z,4.0nm,0.8s,baz=3.8,slow=4.5,SNR=18					
PDAR			LR	LR	20 04 00.1	
	comp=Z,227nm,21.2s,baz=352,slow=36					
	comp=Z,4.0nm,0.8s					
K22A	Casper	50.49 341	IAmb	IAmb	19 42 46.6	
	comp=Z,10nm,0.8s					
K22A	Casper	50.49 341	P	P	19 42 42.7	-0.4
	baz=1.3					
HUMO	Hull Mountain	50.71 356	P	P	19 42 44.2	-0.4
HUMO			IAmb	IAmb	19 42 50.6	
	comp=Z,29nm,1.8s					
M53A	Wl Miller and	50.96 316	P	P	19 42 45.7	-0.7
	baz=2.8					
PAL	Palisades	51.12 309	P	P	19 42 47.7	+0.1
	baz=3.1					
HNS	HongShan	51.34 116	⇓P	P	19 42 51.3	+2.0
HNS			pmax	pmax		
	comp=Z,17nm,1.1s					
HNS			LR	LR		
	comp=Z,150nm,14.3s					
HNS			LR	LR		
	comp=Z,150nm,12.0s					
HNS			LR	LR		
	comp=Z,160nm,20.1s					
RWWY	Rawlins	51.46 341	IAmb	IAmb	19 42 55.0	
	comp=Z,25nm,1.3s					
YBH	Yreka Blue Hor	51.58 356	LR	LR	20 07 05.3	
	comp=Z,84nm,18.4s,baz=360,slow=39					
HWUT	Hardware Ranch	51.61 345	IAmb	IAmb	19 42 57.8	
	comp=Z,14nm,1.1s					
SSPA	Standing Stone	51.65 313	P	P	19 42 51.0	-0.6
	baz=2.9					
GOMU	GeErMu	51.67 137	P	P	19 42 53.6	+1.3
GOMU			pP	pwP	19 42 59.1	-2.9
GOMU			sP	sP	19 43 01.3	+3.5
GOMU			pmax	pmax		
	comp=Z,10.0nm,0.7s					
SPUT	South Promonto	51.92 346	P	P	19 42 53.0	-0.8
SPUT			IAmb	IAmb	19 43 00.0	
	comp=Z,15nm,1.2s					
KSRS	Korea Array	51.97 103	P	P	19 42 54.0	0.0
	comp=Z,1.1nm,0.8s,baz=356,slow=7.7,SNR=6.3					
KSRS			LR	LR	20 06 12.9	
	comp=Z,88nm,18.2s,baz=350,slow=38					
	comp=Z,1.1nm,0.8s					
KSRS	Korea Array	51.97 103	P	P	19 42 54.0	0.0
OGNE	Ogallala	52.10 336	IAmb	IAmb	19 43 00.6	
	comp=Z,23nm,1.1s					
OGNE	Ogallala	52.10 336	P	P	19 42 54.4	-0.7
	baz=1.5					
LZH	Lanzhou	52.15 128	eP	P	19 42 49.9	-5.7
LZH			sP	pwP	19 43 02.3	-2.9
LZH			sS	sS	19 50 30.8	+4.9
LZH			pmax	pmax		
	comp=Z,18nm,1.0s					
O53A	New Philadelph	52.17 316	P	P	19 42 54.5	-0.9
	baz=2.7					
KEST	Kesra	52.23 226	P	P	19 42 57.9	+1.8
	comp=Z,25nm,1.1s,baz=24,slow=9.2,SNR=9.7					
	comp=Z,25nm,1.1s					
N23A	Red Feather La	52.23 340	P	P	19 42 55.1	-1.1
	baz=1.3					
ACSO	Alum Creek Sta	52.25 318	P	P	19 42 56.5	+0.4
O48B	Farmland	52.30 320	P	P	19 42 55.9	-0.6
	baz=2.5					
BGU	Big Grassy Mou	52.31 347	IAmb	IAmb	19 43 07.4	
	comp=Z,13nm,1.3s					
O49A	Covington	52.34 319	P	P	19 42 55.7	-1.0
TIA	Tai'an	52.65 114	P	P	19 42 59.5	+0.4
TIA			pmax	pmax		
	comp=Z,23nm,1.0s					
MCWV	Mont Chateau	52.70 315	P	P	19 42 58.8	-0.7
	baz=2.8					
P52A	Corning	52.81 317	P	P	19 42 59.5	-0.8
	baz=2.7					
P49A	Miami Univ. Ec	53.01 320	P	P	19 43 01.3	-0.4
	baz=2.5					
O20A	White River Ci	53.03 342	P	P	19 43 01.2	-0.9
	baz=1.1					
DUG	Dugway, Tooele	53.03 347	P	P	19 43 01.9	-0.2
DUG	Dugway, Tooele	53.03 347	P	P	19 43 01.8	-0.2
	baz=0.8					
DUG	Dugway, Tooele	53.03 347	P	P	19 43 01.9	-0.2
DUG			pmax	pmax		
	comp=Z,5.0nm,0.9s					
ISCO	Idaho Springs	53.32 340	P	P	19 43 03.4	-1.0
	baz=1.3,SNR=5.9					
MJAR	Matsushiro Arr	53.43 93	P	P	19 43 03.8	-1.1
	comp=Z,2.5nm,1.0s,baz=348,slow=9.5,SNR=6.6					
MJAR			LR	LR	20 06 27.0	
	comp=Z,76nm,19.5s,baz=346,slow=37					
	comp=Z,2.5nm,1.0s					
P18A	Preston Nutter	53.57 344	IAmb	IAmb	19 43 12.2	
	comp=Z,16nm,1.2s					
TMUT	Trail Mountain	53.91 345	P	P	19 43 07.9	-0.8
KSCO	Kaye Shedlock'	54.04 337	P	P	19 43 09.1	-0.3
	baz=1.4					
Q24A	Divide	54.14 339	IAmb	IAmb	19 43 16.3	
	comp=Z,18nm,1.2s					
Q24A	Divide	54.14 339	P	P	19 43 09.7	-0.7
	baz=1.3					
CBKS	Cedar Bluff	54.17 334	P	P	19 43 10.1	-0.2
	baz=1.6					
MMAI	Mount Meron Ar	54.19 198	LR	LR	20 11 50.5	
	comp=Z,116nm,18.3s,baz=29,slow=42					
SPR3	Spring Creek 3	54.25 348	IAmb	IAmb	19 43 16.8	
	comp=Z,12nm,1.3s					
Q16A	Castle Valley	54.29 345	P	P	19 43 10.2	-1.1
AFDM	Forest Hills D	54.35 354	IAmb	IAmb	19 43 23.1	
	comp=Z,9.5nm,1.2s					
XAN	Xi'an	54.42 122	⇑P	P	19 43 13.0	+0.9
XAN			pP	pwP	19 43 17.8	-4.0
XAN			pmax	pmax		
	comp=Z,6.0nm,1.0s					
XAN			LR	LR		
	comp=Z,430nm,17.9s					
XAN			LR	LR		
	comp=Z,350nm,12.4s					
RYN	Ryan	54.66 352	IAmb	IAmb	19 43 25.7	
	comp=Z,19nm,1.5s					
CCM	Cathedral Cave	54.70 326	P	P	19 43 13.7	-0.4
CCM			IAmb	IAmb	19 43 18.7	
	comp=Z,9.2nm,1.1s					
CCM	Cathedral Cave	54.70 326	P	P	19 43 14.4	+0.3
	baz=2.1					
CCM	Cathedral Cave	54.70 326	P	P	19 43 13.7	-0.4
CCM			pmax	pmax		
	comp=Z,9.0nm,1.1s					
PSUT	Pine Spring	54.71 348	IAmb	IAmb	19 43 21.3	
	comp=Z,19nm,1.5s					
NVAR	Mina Array Bea	54.85 352	P	P	19 43 17.3	+1.8
	comp=Z,1.7nm,0.7s,baz=13,slow=4.9,SNR=9.8					
NVAR			LR	LR	20 07 50.8	
	comp=Z,246nm,19.1s,baz=340,slow=37					
	comp=Z,1.7nm,0.7s					
R11B	Troy Canyon, C	54.91 349	P	P	19 43 15.7	-0.2
	baz=0.6,SNR=13					
HMU	Henry Mountain	55.26 345	P	P	19 43 17.1	-1.3
SDCO	Great Sand Dun	55.37 340	P	P	19 43 19.1	-0.2
	baz=1.2					
S22A	4UR Ranch, Cre	55.39 341	IAmb	IAmb	19 43 26.0	
	comp=Z,16nm,1.1s					
S22A	4UR Ranch, Cre	55.39 341	P	P	19 43 19.4	-0.1
	baz=1.2					
T42A	Van Buren	55.72 326	P	P	19 43 20.9	-0.5
T42A			IAmb	IAmb	19 43 31.7	
	comp=Z,9.9nm,1.2s					
PRN	Pahroc Range	55.84 349	IAmb	IAmb	19 43 35.0	
	comp=Z,17nm,1.6s					
DSP	Deep Springs	55.91 352	IAmb	IAmb	19 43 34.5	
	comp=Z,30nm,1.9s					
TZTN	Tazewell	55.95 318	P	P	19 43 23.0	-0.1
	baz=2.5					
MVCO	Mesa Verde	55.95 342	P	P	19 43 23.2	-0.2
	baz=1.1					
GMN	Gold Mountain	55.97 351	P	P	19 43 22.1	-1.5
GMN			IAmb	IAmb	19 43 33.9	
	comp=Z,18nm,2.0s					
GRAC	Grapevine Rang	56.28 351	P	P	19 43 24.8	-0.7
	baz=0.5					
TPNV	Topopah Spring	56.31 350	P	P	19 43 26.4	+0.4
	baz=0.6					
JNU	Nakatsue	56.44 100	LR	LR	20 07 29.4	
	comp=Z,70nm,20.0s,baz=358,slow=36					
WVT	Waverly	56.51 322	P	P	19 43 27.3	+0.2
	baz=2.2					
CWC	Cottonwood Cre	56.84 352	P	P	19 43 29.8	+0.1
	baz=0.4					
TKL	Tuckaleechee C	56.84 318	P	P	19 43 30.4	+1.0
	comp=Z,3.6nm,0.8s,baz=345,slow=4.1,SNR=3.4					
TKL			LR	LR	20 07 04.4	
	comp=Z,332nm,21.9s,baz=2.0,slow=35					
	comp=Z,3.6nm,0.8s					
NJ2	Nanjing	56.88 113	eP	P	19 43 29.6	-0.1
NJ2			pmax	pmax		
	comp=Z,30nm,0.7s					
JHJ	Hachijo jima 2	56.92 91	LR	LR	20 08 13.5	
	comp=Z,54nm,21.8s,baz=4.0,slow=36					
TUL3	Leonard	56.97 330	P	P	19 43 30.0	-0.3
	baz=1.8					
GWY	Greenwater Val	57.08 350	IAmb	IAmb	19 43 42.8	
	comp=Z,18nm,1.5s					
MPMC	Manual Prospec	57.22 351	P	P	19 43 32.0	-0.4
	baz=0.5					
CD2	Chengdu	57.30 128	P	P	19 43 30.1	-2.7
SHOC	Shoshone, Teco	57.36 350	P	P	19 43 33.8	+0.6
	baz=0.6					
WHAR	Wooly Hollow	57.49 327	IAmb	IAmb	19 43 37.0	
	comp=Z,6.8nm,0.9s					
V12A	Nelson	57.52 349	IAmb	IAmb	19 43 40.7	
	comp=Z,8.1nm,1.0s					
EIL	Elat	57.53 199	LR	LR	20 11 49.6	
	comp=Z,66nm,18.6s,baz=255,slow=40					
WUAZ	Wupatki	57.69 345	P	P	19 43 35.3	-0.4
WUAZ			IAmb	IAmb	19 43 42.5	
	comp=Z,18nm,1.2s					
WUAZ	Wupatki	57.69 345	P	P	19 43 35.4	-0.3
	baz=0.8					
LRMC	Laurel Mtn Rad	57.79 351	P	P	19 43 36.3	-0.1
	baz=0.5					
GSC	Goldstone, Bar	57.96 350	P	P	19 43 37.0	-0.4
	baz=0.5					
W18A	Petrified Fore	58.06 344	P	P	19 43 37.6	-0.7
	baz=0.9					
W13A	Hualapai Mount	58.13 348	IAmb	IAmb	19 43 45.5	
	comp=Z,16nm,1.8s					
X48A	Hartselle	58.16 322	IAmb	IAmb	19 43 47.6	
	comp=Z,10nm,1.1s					
OXF	Oxford	58.17 324	P	P	19 43 38.2	-0.6
	baz=2.1					
ANMO	Albuquerque	58.18 340	LR	LR	20 09 09.6	
	comp=Z,266nm,20.5s,baz=87,slow=36					
WMOK	Wichita Mounta	58.22 333	P	P	19 43 38.0	-1.2
WMOK			IAmb	IAmb	19 43 49.2	
	comp=Z,16nm,1.4s					
WMOK	Wichita Mounta	58.22 333	P	P	19 43 38.1	-1.2
	baz=1.6					
WMOK	Wichita Mounta	58.22 333	P	P	19 43 38.0	-1.2
WMOK			pmax	pmax		
	comp=Z,16nm,1.5s					
MIAR	Mount Ida	58.27 328	IAmb	IAmb	19 43 43.7	
	comp=Z,7.0nm,0.9s					
MIAR	Mount Ida	58.27 328	P	P	19 43 38.8	-0.7
	baz=1.9					
EDW2	Edwards Air Fo	58.39 352	P	P	19 43 39.7	-0.7
	baz=0.4					
PKM	Mcpherson Peak	58.40 353	P	P	19 43 40.3	-0.4
	baz=0.3					
HEC	Hector,Ludlow	58.43 350	P	P	19 43 40.2	-0.6
	baz=0.5					
GMRC	Granite Mounta	58.47 349	P	P	19 43 40.9	-0.1
	baz=0.6					
PDMCI	Parker Dam,Lak	58.93 348	P	P	19 43 44.8	+0.7
	baz=0.7					
BFSC	Mount Baldy Ra	59.03 351	P	P	19 43 44.9	-0.1
	baz=0.5					
GOGA	Godfrey	59.07 318	P	P	19 43 45.2	+0.1
	baz=2.4					
IRM	Iron Mountain	59.09 349	P	P	19 43 45.2	-0.1
	baz=0.6					
BELC	Belle Mtn. Jos	59.25 350	P	P	19 43 46.4	-0.2
	baz=0.6					
LRAL	Lakeview Retre	59.57 321	P	P	19 43 48.4	-0.2
	baz=2.2					
PFO	Pinyon Flats O	59.65 350	LR	LR	20 10 18.3	
	comp=Z,334nm,20.6s,baz=4.0,slow=37					
TPFO	Pinon Flats	59.65 350	P	P	19 43 49.0	-0.3
	baz=0.5					
ABTX	Abilene, Hawle	60.35 334	P	P	19 43 54.2	+0.2
	baz=1.5					
MONP2	Monument Peak	60.36 350	P	P	19 43 53.7	-0.5
	baz=0.5					
IKP	In-Ko-Pah, Jac	60.60 350	P	P	19 43 55.0	-0.7
	baz=0.5					
121A	Cookes Peak, D	60.61 342	P	P	19 43 54.3	-1.6
121A			IAmb	IAmb	19 44 01.8	
	comp=Z,10nm,1.4s					
121A	Cookes Peak, D	60.61 342	P	P	19 43 54.6	-1.3
	baz=1.1					
TUC	Tucson	60.88 345	P	P	19 43 56.9	-0.7
	baz=0.9					
214A	Organ Pipe Nat	61.26 346	P	P	19 44 00.2	0.0
	baz=0.7					
MNTX	Cornudas Mount	61.39 339	P	P	19 44 01.1	+0.1
	baz=1.2					
PZH	PanZhiHua	61.60 130	P	P	19 44 04.4	+1.8
PZH			pmax	pmax		
	comp=Z,30nm,0.9s					
PZH			pmax	pmax		
	comp=Z,140nm,3.7s					
BRDY	Brady	61.66 333	P	P	19 44 02.8	-0.1
GYA	Guiyang	61.86 125	⇑P	P	19 44 06.0	+1.6
GYA			pmax	pmax		
	comp=Z,22nm,0.9s					
OZNA	Ozona	62.08 335	P	P	19 44 05.6	-0.1
OZNA			IAmb	IAmb	19 44 11.0	
	comp=Z,10nm,1.0s					
VHRN	Van Horn	62.30 339	P	P	19 44 06.2	-1.1
JCT	Junction City	62.49 334	P	P	19 44 07.6	-0.8
	baz=1.5					
ALPN	Alpine	62.68 338	IAmb	IAmb	19 44 20.8	
	comp=Z,15nm,1.5s					
TNCH	TengChong	62.94 134	P	P	19 44 12.9	+1.2
TNCH			pP	sP	19 44 16.6	-0.6
TNCH			sP	pwP	19 44 19.0	-2.5
TNCH			PP	PP	19 46 26.0	-3.8
TNCH			S	S	19 52 42.3	+1.6
TNCH			sS	sS	19 52 46.3	-1.0
TNCH			pmax	pmax		
	comp=Z,9.0nm,1.2s					
TNCH			pmax	pmax		
	comp=Z,110nm,4.3s					
TNCH			LR	LR		
	comp=Z,110nm,6.6s					
TNCH			LR	LR		
	comp=Z,180nm,9.2s					
TNCH			LR	LR		
	comp=Z,190nm,8.6s					
JCJ	Chichijima	63.05 89	LR	LR	20 13 52.2	
	comp=Z,29nm,19.4s,baz=294,slow=38					
SAND	Sanderson	63.06 336	P	P	19 44 11.7	-0.6
SAND			IAmb	IAmb	19 44 17.2	
	comp=Z,9.3nm,1.3s					
RAYN	Ar Rayn	63.52 188	P	P	19 44 16.1	+0.7
RAYN	Ar Rayn	63.52 188	P	P	19 44 16.1	+0.7
RAYN			pmax	pmax		
	comp=Z,16nm,1.3s					
TXAR	Lajitas Array	63.72 338	P	P	19 44 17.2	+0.6
	comp=Z,3.5nm,0.9s,baz=20,slow=3.7,SNR=23					
TXAR			LR	LR	20 13 18.2	
	comp=Z,416nm,18.2s,baz=1.0,slow=37					
	comp=Z,3.5nm,0.9s					
WSAR	Wadi Sarin	63.78 174	LR	LR	20 14 04.6	
	comp=Z,64nm,18.7s,baz=46,slow=38					
DWPF	Disney Wildern	64.27 316	P	P	19 44 20.2	0.0
	baz=2.4					
833A	Chaparral WMA,	64.62 333	P	P	19 44 22.5	-0.1
	baz=1.5					
TAM	Tamanrasset	65.26 229	P	P	19 44 27.2	+0.3
TAM			IAmb	IAmb	19 44 38.6	

comp=Z,8.1nm,1.1s
TAM Tamanrasset 65.26 229 P **P** **19 44 27.2 +0.3**
TAM pmax pmax
comp=Z,8.0nm,1.1s
LPIG La Paz 69.05 344 LR LR 20 16 26.3
comp=Z,202nm,19.4s,baz=15,slow=37
CMAR Chiang Mai Arr 69.49 133 P **P** **19 44 52.9 -0.6**
comp=Z,4.1nm,0.8s,baz=348,slow=7.5,SNR=30
CMAR LR LR 20 17 23.6
comp=Z,155nm,20.5s,baz=355,slow=38
comp=Z,4.1nm,0.8s
CMAR Chiang Mai Arr 69.49 133 *i* P **P** **19 44 53.7 +0.2**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
TEIG Tepich 72.36 322 LR LR 20 17 10.6
comp=Z,307nm,21.2s,baz=42,slow=36
SJG San Juan 73.56 300 LR LR 20 17 46.9
comp=Z,91nm,20.0s,baz=12,slow=36
TORD Torodi Ar. Bea 75.00 232 P **P** **19 45 27.5 +1.0**
comp=Z,7.3nm,0.8s,baz=12,slow=7.4,SNR=35
comp=Z,7.3nm,0.8s
CMIG Matias Romero 75.68 329 LR LR 20 22 39.8
comp=Z,93nm,20.1s,baz=7.0,slow=39
FURI Furi 78.13 195 LR LR 20 24 24.0
comp=Z,54nm,20.7s,baz=180,slow=39
PALK Pallekele 80.00 152 LR LR 20 25 40.3
comp=Z,416nm,19.5s,baz=129,slow=39
PCRV Puerto La Cruz 81.36 298 LR LR 20 20 39.7
comp=Z,79nm,21.4s,slow=35
DBIC Dimbokro 81.73 238 LR LR 20 23 57.2
comp=Z,42nm,18.1s,baz=52,slow=37
BAUV El Baul 82.75 302 P **P** **19 46 08.9 -0.1**
SDV Santo Domingo 82.92 304 LR LR 20 22 47.2
comp=Z,76nm,21.1s,baz=330,slow=36
MYLDM Lahad Datu 83.55 114 P **P** **19 46 11.0 -2.1**
MDP Montagnes des 85.80 286 LR LR 20 19 43.6
comp=Z,63nm,22.0s,baz=31,slow=32
ATAH Atahualpa 99.16 311 LR LR 20 37 35.8
comp=Z,30nm,18.9s,baz=18,slow=39
ELIB Princess Elisa 159.06 206 *d*PKP **PKPab** **19 54 20.2 +1.9**
SNAA Sanae 159.65 229 PKPab **PKPab** **19 54 22.0 +1.2**
comp=Z,1.7nm,0.9s,baz=22,slow=3.8,SNR=5.2

*IPEC **17** 19:40:44.4±0.4, 49°.85N×18°.56E, h1km, ML1.4/4, Error ellipse: s-maj=2.4km s-min=2.0km az=113.0*
PRU 17 19:40:45.4, 49°.85N×18°.52E, h0km, 2C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.24**	**267**	*e*PG	Pg	19 40 50.0	0.0
OKC				*e*SG	Sg	19 40 53.5	+0.4
comp=Z,16nm,0.4s							
MORC	**Moravsky Berou**	**0.64**	**264**	*e*Pg	Pg	19 40 56.9	-0.7
MORC	baz=83			*e*Sg	Sg	19 41 05.1	-0.8
8.6nm,0.4s,baz=83							
MORC	**Moravsky Berou**	**0.64**	**264**	*e*PG	Pg	19 40 57.0	-0.6
MORC				*e*SG	Sg	19 41 05.2	-0.7
LANS	**Liptovska Anna**	**0.93**	**138**	*e*P	Pg	19 41 03.0	-0.3
LANS	**Liptovska Anna**	**0.93**	**138**	*e*PG	Pg	19 41 03.0	-0.3
LANS				*e*SG	Sg	19 41 14.9	-0.5
KRLC	**Kraliky**	**1.15**	**282**	*e*PG	Pg	19 41 05.5	-1.8
KRLC				*e*SG	Sg	19 41 22.6	+0.4
comp=Z,7.0nm,0.4s							
KRLC	**Kraliky**	**1.15**	**282**	*e*P	Pg	19 41 05.5	-1.8
VRAC	**Vranov**	**1.37**	**247**	⇑P	Pg	19 41 09.0	-2.6
VRAC	**Vranov**	**1.37**	**247**	*e*Pg	Pg	19 41 10.4	-1.2
VRAC	baz=66			*e*Sg	Sg	19 41 28.2	-1.1
4.2nm,0.4s,baz=66							
VRAC	**Vranov**	**1.37**	**247**	*e*P	Pg	19 41 08.4	-3.2
VRAC	**Vranov**	**1.37**	**247**	P	Pg	19 41 08.9	-2.7
VYHS	**Vyhne**	**1.37**	**171**	*e*PG	Pg	19 41 10.4	-1.3
DPC	**Dobruska-Polom**	**1.50**	**290**	*e*PG	Pn	19 41 12.4	-1.2
DPC				*e*SG	Sg	19 41 32.7	-0.9
comp=Z,4.8nm,0.8s							
KRUC	**Moravsky**	**1.59**	**241**	*e*Pg	Pn	19 41 13.9	-1.0
KRUC	baz=60			*e*Sg	Sn	19 41 35.0	-1.2
1.9nm,0.3s,baz=60							
MODS	**Modra-Piesok**	**1.69**	**209**	*e*	PnPn	19 41 24.9	+1.5
MODS	**Modra-Piesok**	**1.69**	**209**	*e*P	Pb	19 41 17.2	-0.1
MODS				*e*		19 41 24.9	
MODS	**Modra-Piesok**	**1.69**	**209**	pmax	pmax		
comp=Z,58nm,1.1s							
MODS	**Modra-Piesok**	**1.69**	**209**	*e*P	Pb	19 41 17.2	-0.1
UPC	**Upice**	**1.74**	**293**	*e*PG	Pn	19 41 16.8	-0.1
SRO	**Srobarova**	**2.04**	**184**	*e*	PnPn	19 41 29.7	+1.4
SRO	**Srobarova**	**2.04**	**184**	*e*P	Pn	19 41 21.0	0.0
SRO				*e*		19 41 29.7	
SRO	**Srobarova**	**2.04**	**184**	pmax	pmax		
comp=Z,16nm,1.4s							
SRO	**Srobarova**	**2.04**	**184**	*e*P	Pn	19 41 21.0	0.0
PSZ	**Piszkesteto**	**2.14**	**154**	⇑P	Pn	19 41 20.0	-2.4
PSZ	**Piszkesteto**	**2.14**	**154**	P	Pn	19 41 19.9	-2.5
BRG	**Berggiesshubel**	**3.10**	**291**	P	Pn	19 41 36.7	+1.1
BRG				Amp		19 41 39.3	
comp=Z,3.4nm,0.9s							
KHC	**Kasperske Hory**	**3.30**	**259**	*e*SG	Sg	19 42 29.8	-1.6

*DJA **17** 20:16:01.4±1.0, 1°.N±3°.×12°.6E±°, h12km±9km, M4.7/17, mb4.9/15, mB5.1/4, MLv4.8/17, Mw(mB)4.4/4*
*NEIC **17** 20:16:03.0±1.5, 1°.01N±0°.09×125°.97E±0°.07, h72km±9km, mb4.7/27, Error ellipse: s-maj=12.6km s-min=9.3km az=192.0*
*IDC **17** 20:16:06.2±2.8, 0°.88N×125°.87E, h101km±25km, mb3.7/11, mbtmp4.1/12, MS2.9/2, Error ellipse: s-maj=29.8km s-min=9.7km az=77.0*
ISC 17 20:16:04.9±0.5, 0°.94N±0°.06×125°.91E±0°.06, h100km, n74, σ1°.50/74, mb4.5/24, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.46**	**97**	P	**Pn**	**20 16 27.8**	**-2.9**
TNTI	**Ternate**	**1.46**	**97**		**Pn**	**20 16 27.6**	**-3.0**
TNTI	**Ternate**	**1.46**	**97**	P	**Pn**	**20 16 27.6**	**-3.0**
KMSI	**Cibinong**	**1.97**	**259**	P	**Pn**	**20 16 35.7**	**-1.3**
KMSI				S	**Sn**	**20 16 58.0**	**-3.6**
LBMI	**Labuha**	**2.23**	**135**	P	**Pn**	**20 16 38.7**	**-1.8**
GTOI	**Gorontalo**	**2.92**	**264**	P	**Pn**	**20 16 50.0**	**+0.4**
SANI	**Sanana**	**2.98**	**179**	P	**Pn**	**20 16 47.2**	**-3.1**
SANI	**Sanana**	**2.98**	**179**	P	**Pn**	**20 16 47.0**	**-3.3**
LUWI	**Luwuk**	**3.71**	**238**	P	**Pn**	**20 17 00.6**	**+0.4**
LUWI	**Luwuk**	**3.71**	**238**	Pn	**Pn**	**20 16 59.1**	**-1.0**
LUWI	**Luwuk**	**3.71**	**238**	P	**Pn**	**20 17 00.2**	**0.0**
MRSI	**Marisa**	**4.00**	**263**	P	**Pn**	**20 17 03.3**	**-0.8**
NLAI	**Namlea**	**4.32**	**164**	P	**Pn**	**20 17 06.4**	**-2.0**
TOLI2	**Tolitoli**	**5.13**	**272**		**Pn**	**20 17 17.4**	**-2.0**
SWI	**Sorong**	**5.64**	**109**	P	**Pn**	**20 17 25.2**	**-1.1**
MPSI	**Mapaga**	**6.05**	**264**	P	**Pn**	**20 17 30.7**	**-1.1**
46nm,0.5s,1μm0.3nm							
BNDI	**Bandanaira**	**6.74**	**144**	P	**Pn**	**20 17 39.4**	**-1.8**
BBSI	**Bau Bau**	**7.21**	**208**	P	**Pn**	**20 17 47.7**	**0.0**
87nm,0.7s,0.3nm							
FAKI	**Fak Fak**	**7.40**	**121**	P	**Pn**	**20 17 49.3**	**-1.0**
FAKI	**Fak Fak**	**7.40**	**121**	Pn	**Pn**	**20 17 47.6**	**-2.7**
FAKI	**Fak Fak**	**7.40**	**121**	P	**Pn**	**20 17 49.3**	**-1.0**
BKSI	**Bulukumba**	**8.50**	**223**	P	**Pn**	**20 18 05.1**	**-0.1**
47nm,0.5s,703nm							
MYLDM	**Lahad Datu**	**8.52**	**300**		**Pn**	**20 18 06.1**	**+0.7**
KAPI	**Kappang**	**8.54**	**226**	P	**Pn**	**20 18 06.0**	**+0.2**
KAPI	**Kappang**	**8.54**	**226**	Pn	**Pn**	**20 18 05.3**	**-0.4**
KAPI	**Kappang**	**8.54**	**226**	P	**Pn**	**20 18 05.5**	**-0.3**
12nm,0.3s,baz=54,slow=10,SNR=7.8							
KAPI				S	**Sn**	**20 19 40.5**	**0.0**
14nm,0.4s,baz=106,slow=19,SNR=1.7							
BKB	**Balikpapan**	**9.28**	**256**	Pn	**Pn**	**20 18 15.0**	**-0.8**
EDFI	**Ende, Flores**	**10.51**	**204**	P	**Pn**	**20 18 33.4**	**+0.7**
17nm,0.6s							
SOEI	**Soe**	**10.76**	**189**	Pn	**Pn**	**20 18 35.4**	**-0.7**
SOEI	**Soe**	**10.76**	**189**	P	**Pn**	**20 18 37.4**	**+1.4**
89nm,0.9s							
KKM	**Kota Kinabalu**	**10.92**	**298**	Pn	**Pn**	**20 18 34.6**	**-3.7**
BATI	**Baumata**	**11.30**	**191**	P	**Pn**	**20 18 43.8**	**+0.5**
MTN	**Manton Dam**	**14.64**	**159**	Pn	**Pn**	**20 19 25.1**	**-2.1**
JAGI	**Jajag, Banyuwa**	**15.00**	**231**		**P**	**20 19 35.4**	**+0.7**
JAGI				IAmb	IAmb	20 20 07.3	
comp=Z,82nm,1.5s							
KNRA	**Kununurra**	**16.75**	**170**		**P**	**20 19 52.9**	**-1.2**
WB0	**Warramunga Arr**	**22.20**	**158**	P	**P**	**20 20 52.9**	**-0.4**
WRAB	**Tennant Creek**	**22.34**	**159**	P	**P**	**20 20 54.3**	**-0.4**
WRAB				IAmb	IAmb	20 20 55.3	
comp=Z,12nm,0.6s							
WRA	**Warramunga Arr**	**22.34**	**159**	P	**P**	**20 20 54.5**	**-0.2**
comp=Z,11nm,0.4s,baz=340,slow=11,SNR=193							
WRA				S	**S**	**20 24 53.4**	**-0.3**
comp=Z,4.5nm,1.0s,baz=344,slow=15,SNR=8.9							
comp=Z,11nm,0.4s							
WB2	**Warramunga Arr**	**22.34**	**159**		**P**	**20 20 54.0**	**-0.8**
WB2				IAmb	IAmb	20 20 55.7	
comp=Z,27nm,1.2s							
WR0	**Warramunga Arr**	**22.43**	**158**	P	**P**	**20 20 55.4**	**-0.2**
WR0				IAmb	IAmb	20 20 56.9	
comp=Z,40nm,1.4s							
COEN	**Coen**	**22.62**	**131**	P	**P**	**20 20 58.0**	**+0.4**
YULB	**Yu-li**	**22.76**	**349**	P	**P**	**20 20 57.6**	**-1.3**
MBWA	**Marble Bar**	**22.79**	**195**	P	**P**	**20 20 59.2**	**+0.1**
MBWA				IAmb	IAmb	20 21 07.9	
comp=Z,28nm,1.1s							
TPUB	**Ta-pu**	**22.81**	**347**	P	**P**	**20 20 58.5**	**-0.9**
XMIS	**Christmas Isla**	**23.13**	**240**	P	**P**	**20 21 03.2**	**+0.5**
SSLB	**Suanglung**	**23.21**	**348**	P	**P**	**20 21 02.7**	**-0.6**
SSLB				IAmb	IAmb	20 21 36.0	
comp=Z,34nm,1.3s							
YHNB	**Yeheng**	**23.99**	**350**	P	**P**	**20 21 08.3**	**-2.1**
ASAR	**Alice Springs**	**25.67**	**163**	P	**P**	**20 21 26.9**	**+1.3**
comp=Z,16nm,0.7s,baz=348,slow=13,SNR=112							
ASAR				S	**S**	**20 25 49.2**	**+2.2**
comp=Z,1.4nm,0.9s,baz=352,slow=26,SNR=5.7							
comp=Z,16nm,0.7s							
JOW	**Kunigami**	**25.84**	**5**	P	**P**	**20 21 26.4**	**-0.7**
JOW				IAmb	IAmb	20 21 41.7	
comp=Z,60nm,1.4s							
GSI	**Gunungsitoli**	**28.34**	**271**	P	**P**	**20 21 49.1**	**-0.6**
GSI				IAmb	IAmb	20 21 54.2	
comp=Z,32nm,1.1s							
JCJ	**Chichijima**	**30.34**	**30**	LR	LR	20 34 29.1	
comp=Z,16nm,18.4s,baz=151,slow=36							
MORW	**Morawa**	**31.30**	**197**	P	**P**	**20 22 14.9**	**-0.8**
MORW				IAmb	IAmb	20 22 16.9	
comp=Z,32nm,1.5s							
FORT	**Forrest**	**31.61**	**176**	P	**P**	**20 22 18.2**	**-0.2**
JHJ	**Hachijo jima 2**	**34.56**	**21**	LR	LR	20 37 10.1	
comp=Z,20nm,19.9s,baz=154,slow=36							
BBOO	**Buckleboo**	**34.91**	**165**	P	**P**	**20 22 48.5**	**+1.4**
STKA	**Stephens Creek**	**35.87**	**157**	P	**P**	**20 22 56.7**	**+1.4**
STKA	**Stephens Creek**	**35.87**	**157**	P	**P**	**20 22 56.9**	**+1.7**
comp=Z,4.4nm,0.7s,baz=321,slow=9.4,SNR=14							
comp=Z,4.4nm,0.7s							
KSRS	**Korea Array**	**36.38**	**3**	P	P	20 23 02.3	+2.8
comp=Z,0.6nm,0.5s,baz=176,slow=9.5,SNR=1.6							
comp=Z,0.6nm,0.5s							
JMM	**Marumori**	**39.21**	**19**	P	**P**	**20 23 23.1**	**-0.2**
JKA	**Kamikawa-asahi**	**45.48**	**17**	P	**P**	**20 24 13.4**	**-0.7**
JKA				IAmb	IAmb	20 24 53.3	
comp=Z,16nm,1.3s							
KLR	**Kul'dur**	**48.36**	**5**	P	**P**	**20 24 37.0**	**+0.5**
comp=Z,1.1nm,0.5s,baz=180,slow=11,SNR=4.6							
comp=Z,1.1nm,0.5s							
HEH	**HeiHe**	**49.14**	**1**	*e*P	P	20 24 45.8	+3.4
HEH				pmax	pmax		
comp=Z,3.0nm,0.8s							
SONM	**Songino Array**	**49.68**	**343**	P	**P**	**20 24 47.7**	**+1.0**
comp=Z,0.3nm,0.6s,baz=159,slow=8.1,SNR=2.8							
comp=Z,0.3nm,0.6s							
FOZ	**Fox Glacier**	**59.15**	**144**	P	**P**	**20 25 56.7**	**+1.5**
MK31	**Makanchi Array**	**59.39**	**327**	P	**P**	**20 25 57.5**	**+0.7**
MKAR	**Makanchi Array**	**59.39**	**327**	P	**P**	**20 25 57.9**	**+1.0**
comp=Z,0.6nm,0.3s,baz=120,slow=7.6,SNR=15							
comp=Z,0.6nm,0.3s							
MAKZ	**Makanchi**	**59.57**	**326**	P	**P**	**20 25 58.8**	**+0.7**
MAKZ				IAmb	IAmb	20 26 05.0	
comp=Z,2.8nm,0.8s							
LBZ	**Lake Benmore**	**59.87**	**145**	P	**P**	**20 26 00.8**	**+0.7**
LBZ				IAmb	IAmb	20 26 35.8	
comp=Z,12nm,1.2s							
KURBB	**Kurchatov Arra**	**63.65**	**328**	P	**P**	**20 26 26.8**	**+1.4**
comp=Z,1.2nm,0.6s,baz=128,slow=6.4,SNR=12							
comp=Z,1.2nm,0.6s							
KURK	**Kurchatov**	**63.66**	**329**	P	**P**	**20 26 26.2**	**+0.8**
KURK				IAmb	IAmb	20 26 42.8	
comp=Z,4.4nm,0.8s							
BVAR	**Borovoye Array**	**69.21**	**328**	P	**P**	**20 27 03.1**	**+2.3**
comp=Z,0.3nm,0.3s,baz=144,slow=12,SNR=2.1							
comp=Z,0.3nm,0.3s							
ABKAR	**Akbulak array**	**73.79**	**321**	P	**P**	**20 27 29.3**	**+0.9**
VNDA	**Vanda**	**80.79**	**173**	P	**P**	**20 28 08.4**	**+1.5**
comp=Z,1.1nm,0.4s,baz=308,slow=9.5,SNR=3.0							
comp=Z,1.1nm,0.4s							
ILAR	**Eielson Array**	**87.95**	**25**	P	**P**	**20 28 44.5**	**+1.2**
comp=Z,0.2nm,0.5s,baz=275,slow=4.4,SNR=2.1							
comp=Z,0.2nm,0.5s							

*NEIC **17** 20:23:52.2±1.1, 10°.8S±0°.1×166°.3E±0°.1, h154km±11km, mb4.3/17, Error ellipse: s-maj=19.3km s-min=15.6km az=208.0*
*IDC **17** 20:24:02.3±10.0, 11°.31S×166°.45E, h275km±124km, mb3.4/6, mbtmp4.1/7, Error ellipse: s-maj=87.1km s-min=27.7km az=156.0*
ISC 17 20:23:50.8±0.8, 10°.78S±0°.08×166°.3E±0°.1, h146km, n36, σ1°.12/32, mb4.2/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.43**	**281**	Pn	**Pn**	**20 25 24.0**	**+0.8**
HNR				Sn	**Sn**	**20 26 35.6**	**0.0**
KOUNC	**Koumac, New Ca**	**9.91**	**191**	Pn	**Pn**	**20 26 11.9**	**+2.1**
LIFNC	**LIFOU**	**9.98**	**175**	Pn	**Pn**	**20 26 10.1**	**-0.5**
DZM	**Mont Dzumac**	**11.23**	**179**		**Pn**	**20 26 29.0**	**+1.8**
DZM	**Mont Dzumac**	**11.23**	**179**	P	**Pn**	**20 26 29.8**	**+2.6**
18nm,0.5s,baz=4.3,slow=20,SNR=25							
DZM				S	**Sn**	**20 28 29.3**	**-2.0**
3.0nm,0.7s,baz=323,slow=20,SNR=1.1							
ONTNC	**Ouen Toro**	**11.46**	**179**		**Pn**	**20 26 31.2**	**+1.0**
PINNC	**Pines Island,**	**11.82**	**175**		**Pn**	**20 26 36.3**	**+1.5**
EIDS	**Eidsvold**	**20.48**	**223**	P	**P**	**20 28 17.9**	**+0.7**
COEN	**Coen**	**22.84**	**260**	P	**P**	**20 28 41.5**	**-0.2**
COEN				IAmb	IAmb	20 29 08.0	
comp=Z,16nm,1.2s							
H11S2	**WAKE ISLAND Hy**	**29.09**	**1**	T	T	21 00 42.6	
baz=182,slow=76,SNR=6.1							
H11S3	**WAKE ISLAND Hy**	**29.09**	**1**	T	T	21 00 41.6	
baz=182,slow=76,SNR=4.1							
H11S1	**WAKE ISLAND Hy**	**29.10**	**1**	T	T	21 00 44.9	
baz=182,slow=76,SNR=4.2							
RTZ	**Ruatahuna**	**29.31**	**163**	P	**P**	**20 29 40.0**	**+0.4**
BKZ	**Black Stump Fm**	**29.68**	**164**	P	**P**	**20 29 43.5**	**+0.5**
H11N1	**WAKE ISLAND Hy**	**30.30**	**1**	T	T	21 02 17.9	
baz=188,slow=74							
H11N3	**WAKE ISLAND Hy**	**30.31**	**1**	T	T	21 02 14.7	
baz=188,slow=74							
H11N2	**WAKE ISLAND Hy**	**30.32**	**1**	T	T	21 02 17.9	
baz=188							
MRZ	**Mangatainoka R**	**30.86**	**166**	P	**P**	**20 29 53.3**	**+0.1**
BFZ	**Birch Farm**	**31.05**	**165**	P	**P**	**20 29 54.0**	**-0.8**
WB0	**Warramunga Arr**	**32.04**	**250**	P	**P**	**20 30 03.0**	**-0.8**
WB0				IAmb	IAmb	20 30 03.8	
comp=Z,4.2nm,0.8s							
WB2	**Warramunga Arr**	**32.11**	**250**	P	**P**	**20 30 03.0**	**-1.4**
WB2				IAmb	IAmb	20 30 23.8	
comp=Z,8.0nm,1.1s							
WRA	**Warramunga Arr**	**32.12**	**250**	P	**P**	**20 30 03.5**	**-1.1**
comp=Z,3.6nm,0.8s,baz=81,slow=9.0,SNR=16							
comp=Z,3.6nm,0.8s							
ASAR	**Alice Springs**	**33.43**	**243**	P	**P**	**20 30 14.6**	**-1.3**
comp=Z,1.4nm,0.6s,baz=67,slow=9.5,SNR=16							
comp=Z,1.4nm,0.6s							
KNRA	**Kununurra**	**36.87**	**258**	P	**P**	**20 30 44.2**	**-1.1**
KNRA				IAmb	IAmb	20 31 06.3	
comp=Z,14nm,1.4s							
CMAR	**Chiang Mai Arr**	**72.54**	**293**	P	**P**	**20 35 02.3**	**0.0**
comp=Z,1.0nm,0.8s,baz=120,slow=5.4,SNR=7.0							
comp=Z,1.0nm,0.8s							
Q19K	**Cape Douglas,**	**76.62**	**20**	P	**P**	**20 35 25.2**	**+0.1**
M16K	**Timber Creek**	**76.64**	**17**	P	**P**	**20 35 26.5**	**+1.5**
M16K				IAmb	IAmb	20 35 42.4	
comp=Z,6.8nm,1.4s							
K15K	**Wolf Creek Mou**	**77.02**	**15**	P	**P**	**20 35 27.3**	**+0.2**
K15K				IAmb	IAmb	20 35 28.8	
comp=Z,5.2nm,1.1s							
L18K	**Granite Mounta**	**78.25**	**17**	P	**P**	**20 35 34.3**	**+0.3**
L18K				IAmb	IAmb	20 35 35.3	
comp=Z,6.0nm,1.4s							
J17K	**VABM Dome**	**78.56**	**15**	P	**P**	**20 35 36.6**	**+0.9**
SONM	**Songino Array**	**78.80**	**324**	P	**P**	**20 35 36.8**	**-0.7**
comp=Z,0.4nm,0.5s,baz=144,slow=6.7,SNR=4.4							
comp=Z,0.4nm,0.5s							
E19K	**Redstone River**	**82.33**	**13**	P	**P**	**20 35 56.4**	**+0.6**
D19K	**Kuna River**	**82.99**	**12**	P	**P**	**20 35 59.8**	**+0.6**
D19K				IAmb	IAmb	20 36 04.9	
comp=Z,7.7nm,1.2s							
ILAR	**Eielson Array**	**83.08**	**18**	P	**P**	**20 35 59.0**	**-0.7**
comp=Z,0.6nm,0.7s,baz=227,slow=5.6,SNR=6.9							
comp=Z,0.6nm,0.7s							
J25K	**Salcha River,**	**83.44**	**19**	P	**P**	**20 36 01.4**	**-0.2**
MKAR	**Makanchi Array**	**93.73**	**317**	P	**P**	**20 36 50.6**	**-0.5**
comp=Z,0.8nm,0.6s,baz=90,slow=6.7,SNR=7.8							
comp=Z,0.8nm,0.6s							

NEIC 17 20:38:07.8±0.4, 35°.655N±0°.010×97°.41W±0°.01, h6km±1km, mb_Lg3.1/122, ML3.3/48, Error ellipse: s-maj=1.5km s-min=1.4km az=122.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.04**	**95**	Pg	Pg	20 38 09.4	+0.3
ADOK				Sg	Sg	20 38 10.6	+0.6
OK029	**Liberty Lake**	**0.14**	**347**	Pg	Pg	20 38 11.2	+0.4
OK029				Sg	Sg	20 38 13.8	+1.0
OKCSW	**OKLAHOMA CITY**	**0.25**	**185**	Pg	Pg	20 38 13.1	+0.4
OKCSW				Sg	Sg	20 38 17.2	+1.1
OKCSW				IAML		20 38 17.6	
comp=E,4μm,0.5s							
OKCSW				IAML		20 38 19.8	
comp=N,4μm,0.4s							
FNO	**Franklin**	**0.40**	**178**	Pg	Pg	20 38 16.0	+0.4
FNO				Sg	Sg	20 38 21.7	+0.9
OK031	**S. Brethren Rd**	**0.55**	**57**	Pg	Pg	20 38 18.8	+0.2
OK031				Sg	Sg	20 38 26.6	+0.8
OK031				IAML		20 38 27.4	
comp=N,2μm,0.5s							
OK052	**Battle Ridge R**	**0.60**	**56**	Pg	Pg	20 38 19.7	+0.3
OK052				Sg	Sg	20 38 27.9	+0.7
OK052				IAML		20 38 28.9	
comp=N,2μm,0.4s							
W35A	**Tecumseh**	**0.67**	**139**		Pg	20 38 20.9	+0.2
W35A				IAML		20 38 30.5	
comp=E,2μm,0.5s							
W35A				IAML		20 38 30.6	
comp=N,2μm,0.3s							
DEOK	**Depew**	**0.77**	**76**	Pg	Pg	20 38 22.3	-0.3
DEOK				IAML		20 38 33.9	
comp=E,794nm,0.3s							
DEOK				IAML		20 38 36.3	
comp=N,1μm,0.5s							
QUOK	**Quay**	**0.77**	**48**	Pg	Pg	20 38 22.7	0.0
QUOK				Sg	Sg	20 38 33.2	+0.6
OK048	**Pawnee Station**	**0.85**	**26**	Pg	Pg	20 38 24.1	-0.1
OK048				IAML		20 38 36.0	
comp=N,736nm,0.4s							
CROK	**Carrier**	**0.97**	**332**	Pg	Pg	20 38 26.1	-0.3
OK051	**E0350 and S346**	**0.97**	**29**	Pg	Pg	20 38 26.2	-0.3
CSTR	**Hydro, Custer**	**1.04**	**270**	Pg	Pg	20 38 27.4	-0.4
X34A	**Smith Ranch, M**	**1.11**	**198**	Pg	Pg	20 38 28.9	-0.1
X34A				IAML		20 38 45.8	
comp=E,762nm,0.4s							
X34A				IAML		20 38 45.8	
comp=N,933nm,0.3s							
BLOK	**Blackwell**	**1.11**	**8**	Pg	Pg	20 38 28.7	-0.5
GC02	**Grant County #**	**1.25**	**343**	Pg	Pg	20 38 31.0	-0.7
OK032	**Salt Plains WL**	**1.31**	**331**	Pg	Pn	20 38 32.0	-0.8
TUL3	**Leonard**	**1.34**	**79**	Pg	Pn	20 38 32.1	-1.1
TUL3				IAML		20 38 54.2	
comp=N,618nm,0.4s							
TUL3				IAML		20 38 54.2	
comp=E,541nm,0.6s							
OK038	**West end E0370**	**1.35**	**308**		Pn	20 38 32.7	-0.7
KAN13	**South Haven SW**	**1.36**	**358**		Pn	20 38 33.2	-0.2
KAN14	**Manchester OK**	**1.37**	**341**		Pn	20 38 33.3	-0.3
KAN17	**Caldwell West**	**1.42**	**349**		Pn	20 38 33.9	-0.2
WMOK	**Wichita Mounta**	**1.45**	**231**		Pn	20 38 34.2	-0.4
T35A	**Sooner Cattle**	**1.45**	**30**		Pn	20 38 34.2	-0.5
U32A	**Winter Ranch,**	**1.48**	**300**		Pn	20 38 34.8	-0.2
KAN09	**Caldwell North**	**1.49**	**354**		Pn	20 38 35.1	0.0
KAN05	**Bluff City Nor**	**1.50**	**346**		Pn	20 38 35.4	+0.1
KAN01	**Argonia South**	**1.52**	**350**		Pn	20 38 35.8	+0.1
NOKA	**Waynoka**	**1.57**	**309**		Pn	20 38 36.3	0.0
KAN08	**Anthony NE Sta**	**1.63**	**344**		Pn	20 38 37.4	+0.3
KS21	**Milan North St**	**1.64**	**353**		Pn	20 38 37.7	+0.4
LOOK	**Love County**	**1.67**	**173**		Pb	20 38 38.5	-0.6
LOOK				IAmb_Lg		20 39 02.4	
comp=Z,92nm,0.9s							
KAN12	**Harper NE Stat**	**1.71**	**344**		Pb	20 38 39.0	-0.6
X37A	**Clayton**	**1.98**	**122**	Pn	Pn	20 38 42.5	+0.6
RLO	**Rose Lookout**	**2.01**	**75**	Pn	Pn	20 38 42.9	+0.6
WTFS	**Witchita Falls**	**2.07**	**205**	Pn	Pb	20 38 44.9	-1.0
Z35A	**Perchaven, San**	**2.32**	**177**	Pn	Pn	20 38 48.3	+1.6
Z35A				IAmb_Lg		20 39 27.4	

	comp=Z,39nm,0.9s						
BRDY	**Brady**	**4.55 197**	Pn	Pn	20 39 17.2	-0.1	
BRDY			IAmb_Lg		20 40 36.7		
	comp=Z,49nm,0.8s						
MSTX	**Muleshoe**	**4.72 251**	Pn	Pn	20 39 19.6	0.0	
SGCY	**Sterling City**	**4.84 221**		Pn	20 39 21.2	-0.1	
435B	**Jarrell**	**4.86 182**		Pn	20 39 21.7	+0.2	
435B			IAmb_Lg		20 40 52.0		
	comp=Z,46nm,0.8s						
R40A	**Maddies Statio**	**4.89 56**	Pn	Pn	20 39 21.4	-0.5	
R40A			IAmb_Lg		20 40 48.5		
	comp=Z,28nm,0.8s						
P38A	**Dawn**	**5.02 37**	Pn	Pn	20 39 22.1	-1.6	
P38A			IAmb_Lg		20 40 51.2		
	comp=Z,36nm,0.8s						
LCAR	**Lake Charles**	**5.10 84**	Pn	Pn	20 39 23.9	-0.9	
LCAR			IAmb_Lg		20 40 59.0		
	comp=Z,24nm,0.7s						
T42A	**Van Buren**	**5.28 73**	Pn	Pn	20 39 25.9	-1.4	
T42A			IAmb_Lg		20 40 59.5		
	comp=Z,36nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.34 310**	Pn	Pn	20 39 27.5	-0.7	
KSCO			IAmb_Lg		20 41 10.8		
	comp=Z,38nm,0.7s						
N35A	**Tabor**	**5.38 14**	Pn	Pn	20 39 26.9	-1.7	
CCM	**Cathedral Cave**	**5.50 62**	Pn	Pn	20 39 30.6	+0.3	
CCM			IAmb_Lg		20 41 02.1		
	comp=Z,46nm,0.7s						
JCT	**Junction City**	**5.54 202**	Pn	Pn	20 39 29.2	-1.7	
ODSA	**Odessa**	**5.54 232**	IAmb_Lg		20 41 10.1		
	comp=Z,43nm,1.2s						
OZNA	**Ozona**	**5.65 214**	Pn	Pn	20 39 31.9	-0.6	
OZNA			IAmb_Lg		20 41 13.3		
	comp=Z,53nm,0.8s						
P40A	**Paris**	**5.75 46**	Pn	Pn	20 39 32.0	-1.8	
PBMO	**Poplar Bluff**	**5.76 77**	Pn	Pn	20 39 32.6	-1.2	
PBMO			IAmb_Lg		20 41 14.3		
	comp=Z,32nm,0.8s						
BGNE	**Belgrade**	**5.77 354**	Pn	Pn	20 39 33.9	-0.2	
143A	**Socs Landing,**	**5.79 119**	Pn	Pn	20 39 32.6	-1.6	
143A			IAmb_Lg		20 41 25.6		
	comp=Z,29nm,1.0s						
T25A	**Trinidad**	**5.83 287**	Pn	Pn	20 39 34.8	-0.4	
T25A			IAmb_Lg		20 41 16.1		
	comp=Z,45nm,0.9s						
MLDN	**Muldoon**	**5.86 177**	IAmb_Lg		20 41 17.8		
	comp=Z,21nm,0.8s						
N38A	**Joes South For**	**6.09 31**	Pn	Pn	20 39 37.3	-1.1	
MNHN	**Monahans**	**6.20 228**	IAmb_Lg		20 41 28.3		
	comp=Z,27nm,0.8s						
HNDO	**Hondo**	**6.31 195**	Pn	Pn	20 39 41.2	-0.2	
L34A	**Svendsen Farm,**	**6.35 7**	Pn	Pn	20 39 41.8	-0.3	
OGNE	**Ogallala**	**6.41 327**	Pn	Pn	20 39 43.4	+0.5	
SLM	**Saint Louis**	**6.46 60**	IAmb_Lg		20 41 33.4		
	comp=Z,43nm,0.9s						
CGM3	**Cape Girardeau**	**6.46 73**	IAmb_Lg		20 41 37.8		
	comp=Z,26nm,0.7s						
OXF	**Oxford**	**6.66 98**	Pn	Pn	20 39 45.0	-1.2	
OXF			IAmb_Lg		20 41 45.8		
	comp=Z,20nm,0.8s						
Y45A	**Yeager Farm, C**	**6.72 103**	Pn	Pn	20 39 46.6	-0.4	
DRIO	**Del Rio**	**6.78 204**	Pn	Pn	20 39 45.8	-2.1	
DRIO			IAmb_Lg		20 41 48.5		
	comp=Z,14nm,0.8s						
SDCO	**Great Sand Dun**	**6.82 290**	Pn	Pn	20 39 46.9	-1.9	
SDCO			IAmb_Lg		20 41 58.3		
	comp=Z,15nm,1.0s						
S44A	**Carbondale**	**6.87 70**	Pn	Pn	20 39 47.4	-1.6	
PECS	**Pecos**	**6.88 233**	Pn	Pn	20 39 47.1	-2.2	
PECS			IAmb_Lg		20 41 52.2		
	comp=Z,21nm,0.7s						
SAND	**Sanderson**	**6.93 216**	Pn	Pn	20 39 48.6	-1.4	
SAND			IAmb_Lg		20 42 07.3		
	comp=Z,29nm,0.8s						
Q24A	**Divide**	**6.99 300**	Pn	Pn	20 39 48.7	-2.4	
Q24A			IAmb_Lg		20 41 59.9		
	comp=Z,22nm,0.7s						
SCIA	**State Center**	**7.05 26**	Pn	Pn	20 39 50.2	-1.3	
SCIA			IAmb_Lg		20 42 04.8		
	comp=Z,32nm,0.7s						
K30B	**Basset**	**7.21 347**	IAmb_Lg		20 42 01.6		
	comp=Z,36nm,0.7s						
N41A	**Harden Midland**	**7.22 44**	Pn	Pn	20 39 53.4	-0.5	
BRIGG	**Briggsdale**	**7.33 314**	IAmb_Lg		20 42 07.0		
	comp=Z,26nm,0.7s						
ALPN	**Alpine**	**7.42 227**	IAmb_Lg		20 42 21.3		
	comp=Z,25nm,1.0s						
833A	**Chaparral WMA,**	**7.50 193**	IAmb_Lg		20 42 13.8		
	comp=Z,18nm,0.8s						
ISCO	**Idaho Springs**	**7.70 305**	Pn	Pn	20 39 59.6	-1.2	
VHRN	**Van Horn**	**7.99 235**	Pn	Pn	20 40 04.0	-0.5	
VHRN			IAmb_Lg		20 42 32.9		
	comp=Z,15nm,0.8s						
L40A	**Anamosa**	**8.01 35**	Pn	Pn	20 40 04.1	-0.7	
HDIL	**Hopedale**	**8.05 50**	Pn	Pn	20 40 04.0	-1.4	
ECSD	**EROS Data Cent**	**8.09 4**	Pn	Pn	20 40 04.3	-1.6	
PHWY	**Pilot Hill**	**8.46 314**	Pn	Pn	20 40 09.2	-2.0	
N23A	**Red Feather La**	**8.50 311**	Pn	Pn	20 40 11.8	0.0	
L42A	**Oliver, Polo**	**8.76 41**	Pn	Pn	20 40 14.8	-0.1	
121A	**Cookes Peak, D**	**9.15 253**	Pn	Pn	20 40 19.4	-1.2	
WCI	**Wyandotte Cave**	**9.27 71**	Pn	Pn	20 40 21.3	-0.6	
M44A	**Midewin, Midew**	**9.31 49**	Pn	Pn	20 40 22.0	-0.5	
RWWY	**Rawlins**	**9.74 311**	IAmb_Lg		20 43 44.2		
	comp=Z,17nm,1.1s						
I40A	**Norwalk**	**9.74 30**	IAmb_Lg		20 43 19.4		
	comp=Z,19nm,0.8s						
RSSD	**Black Hills**	**9.87 331**	IAmb_Lg		20 43 32.4		
	comp=Z,10nm,1.0s						
K22A	**Casper**	**9.94 317**	IAmb_Lg		20 43 34.0		
	comp=Z,15nm,0.8s						
R49A	**Shelbyville**	**10.14 71**	Pn	Pn	20 40 31.3	-2.7	

*BUT **17** 20:44:22.8±1.1, 46°.15N±0°.01×111°.89W±0°.02, h7km±5km,*
Error ellipse: s-maj=2.5km s-min=1.5km az=87.0
NEIC 17 20:44:22.3±1.2, 46°.14N±0°.02×111°.91W±0°.03, h7km±5km,
ML2.6/44, ML2.8/21(BUT), Error ellipse: s-maj=3.1km
s-min=1.9km az=60.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRM	**Limekiln Ridge**	**0.49**	**230**	Pg	Pg	20 44 32.5	+0.5
BOZ	**Bozeman (W)**	**0.58**	**160**	Sg	Sg	20 44 41.0	0.0
LYMT	**Lyon Mountain**	**0.87**	**342**		Pg	20 44 38.9	-0.3
DLMT	**Dillon**	**0.92**	**212**		Pg	20 44 40.2	+0.2
DLMT				Sg	Sb	20 44 53.3	+0.2
BPMT	**Black Pine Rid**	**1.11**	**286**	Pg	Pg	20 44 43.7	+0.1
OVMT	**Ovando**	**1.19**	**321**	Pg	Pg	20 44 45.0	-0.2
QLMT	**Earthquake Lak**	**1.35**	**165**		Pn	20 44 47.6	-0.2
YHL	**Hebgen Lake**	**1.39**	**158**		Pn	20 44 48.2	-0.2
YHL					Sn	20 45 07.2	0.0
YHL				IAML		20 45 11.1	
	comp=E,122nm,0.5s						
YHL				IAML		20 45 11.8	
	comp=N,72nm,0.5s						
MCMT	**McKenzie Canyo**	**1.47**	**207**		Pn	20 44 49.7	+0.2
YHB	**Horse Butte**	**1.48**	**160**		Pn	20 44 46.7	-2.9
YPDC	**Denny Creek**	**1.50**	**162**		Pb	20 44 50.6	-0.1
YMC	**Maple Creek**	**1.52**	**155**		Pb	20 44 50.6	-0.3
YHH	**Holmes Hill**	**1.54**	**151**		Pn	20 44 50.8	+0.3
MSO	**Missoula**	**1.57**	**297**		Pn	20 44 50.3	-0.4
MSO					Sb	20 45 11.7	-0.1
MSO				IAML		20 45 14.8	
	comp=N,59nm,0.2s						
MSO				IAML		20 45 16.1	
	comp=N,91nm,0.6s						
GCMT	**Greycliff**	**1.60**	**102**		Pb	20 44 52.1	-0.2
YMR	**Madison River**	**1.61**	**155**		Pb	20 44 52.1	-0.5
YMR				IAML		20 45 16.4	
	comp=E,76nm,0.4s						
YMR				IAML		20 45 18.6	
	comp=N,76nm,0.7s						
CMI	**Centennial Mou**	**1.63**	**173**		Pb	20 44 52.3	-0.6
YPWB	**West Boundary**	**1.64**	**159**		Pb	20 44 52.7	-0.3
YNM	**Yellowstone No**	**1.65**	**149**		Pn	20 44 51.9	0.0
YNM				IAML		20 45 14.2	
	comp=N,107nm,0.2s						
YPM	**Purple Mountai**	**1.65**	**153**		Pb	20 44 53.5	+0.2
YFT	**Old Faithful**	**1.85**	**156**		Pn	20 44 54.0	-0.7
YMP	**Mirror Lake Pl**	**1.86**	**138**		Pn	20 44 55.7	+0.7
YMP				IAML		20 45 22.6	
	comp=N,96nm,0.3s						
H17A	**Grant Village**	**1.98**	**151**	Pn	Pb	20 44 57.9	-1.0
H17A				IAML		20 46 01.6	
	comp=E,25nm,0.1s						
H17A				IAML		20 46 03.9	
	comp=N,30nm,0.1s						
YPP	**Pitchstone Pla**	**2.02**	**157**		Pn	20 44 58.1	+1.0
RLMT	**Red Lodge**	**2.11**	**118**		Pn	20 44 59.1	+0.7
RLMT				IAML		20 45 32.0	
	comp=N,66nm,0.5s						
RLMT				IAML		20 45 34.4	
	comp=N,62nm,0.3s						
FLWY	**Flagg Ranch**	**2.23**	**157**		Pn	20 45 00.9	+1.0
FLWY				IAML		20 45 38.7	
	comp=N,15nm,1.2s						
IMW	**Indian Meadow**	**2.34**	**163**	Pn	Pn	20 45 03.0	+1.4
IMW				IAML		20 45 43.3	
	comp=N,35nm,0.4s						
EGMT	**Eagleton**	**2.39**	**37**	Pn	Pn	20 45 03.1	+1.1
MOOW	**Moose Ponds**	**2.53**	**161**	Pn	Pn	20 45 04.9	+0.9
FXWY	**Fox Creek**	**2.58**	**166**		Pn	20 45 06.0	+1.2
LOHW	**Long Hollow**	**2.69**	**159**		Pn	20 45 07.2	+0.9
TPAW	**Teton Pass**	**2.73**	**165**	Pn	Pn	20 45 07.2	+0.3
TPAW				IAML		20 45 51.4	
	comp=N,9.7nm,0.8s						
TPAW				IAML		20 45 51.9	
	comp=N,17nm,0.8s						
SNOW	**Snow King Moun**	**2.80**	**163**	Pn	Pn	20 45 09.1	+1.3
SNOW				IAML		20 45 31.5	
	comp=N,13nm,0.5s						
SNOW				IAML		20 45 52.3	
	comp=N,16nm,0.5s						
REDW	**Red Top Meadow**	**2.88**	**165**		Pn	20 45 08.7	-0.2
HLID	**Hailey**	**3.13**	**216**		Pn	20 45 13.1	+0.8
HLID				IAML		20 46 05.2	
	comp=N,22nm,0.4s						
HLID				IAML		20 46 05.2	
	comp=N,25nm,0.4s						
F10A	**Beach Ranch, E**	**3.71**	**269**		Pn	20 45 21.1	+0.9
MFID	**Camas Ranch**	**3.90**	**227**		Pn	20 45 22.4	-0.4
BMO	**Blue Mountains**	**4.01**	**253**		Pn	20 45 24.5	+0.2
NEW	**Newport**	**4.14**	**303**	Pn	Pn	20 45 25.4	-0.7
NEW				IAML		20 46 35.6	
	comp=N,9.2nm,1.0s						
NEW				IAML		20 46 39.5	
	comp=N,6.9nm,0.7s						
E09A	**Wood Farm, Sta**	**4.34**	**277**		Pn	20 45 28.8	+0.1
D08A	**Wollman Farm,**	**4.92**	**283**	Pn	Pn	20 45 37.2	+0.5
G08A	**Pilot Rock**	**5.01**	**263**	Pn	Pn	20 45 39.4	+1.3
B08A	**Colville Reser**	**5.52**	**296**	Pn	Pn	20 45 43.5	-1.5
RWWY	**Rawlins**	**5.59**	**141**	Pn	Pn	20 45 43.8	-2.4
ELK	**Elko**	**5.91**	**205**	Pn	Pn	20 45 47.9	-2.7

*SOME **17** 21:04:17.7, 41°.58N×72°.47E, h10km*
*KRNET **17** 21:04:18.0±0.1, 41°.60N×72°.41E, h25km, mb3.3*
*NNC **17** 21:04:19.4±1.2, 41°.72N×72°.39E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=12.8km s-min=5.0km az=176.0
*KNET **17** 21:04:21.2±0.6, 41°.64N×72°.67E, h8km±4km, ml3.0, Error*
ellipse: s-maj=7.0km s-min=3.9km az=139.0
ISC 17 21:04:16.5±1.1, 41°.60N±0°.02×72°.45E±0°.02, h2km±10km,
n88, σ1°58/147, 54C-28D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.41**	**299**	⇑*e*P	**Pb**	**21 04 26.1**	**-0.5**
ARK	baz=1.0			⇑*e*S	**Sb**	**21 04 31.8**	**-1.5**
ARSB	**Arslanbob**	**0.49**	**124**	⇑*e*P	**Pb**	**21 04 28.0**	**+0.2**
ARSB	baz=23			⇑*e*S	**Sb**	**21 04 35.3**	**-0.1**
MNAS	**Manas**	**0.89**	**3**	⇑*e*P	**Pb**	**21 04 34.9**	**+0.2**
MNAS	baz=5.0			⇑*e*S	**Sb**	**21 04 47.0**	**-0.1**
TRKS	**Terek-Say**	**0.98**	**267**	⇓*e*P	**Pg**	**21 04 35.7**	**+0.4**
TRKS	baz=62			⇑*e*S	**Sg**	**21 04 48.4**	**+0.4**
AML	**Almayashu**	**1.07**	**60**	⇑P	**Pn**	**21 04 38.7**	**-0.2**
AML	35nm,0.2s,SNR=60			⇑S	**Sn**	**21 04 52.8**	**-1.8**
AML	**Almayashu**	**1.07**	**60**	⇑*e*P	**Pn**	**21 04 38.6**	**-0.2**
AML	baz=61			⇑*e*S	**Sn**	**21 04 53.4**	**-1.2**
OHH	**Osh**	**1.10**	**166**	⇑*e*P	**Pn**	**21 04 38.7**	**-0.2**
OHH	baz=65			⇑*e*S	**Sn**	**21 04 53.6**	**-1.1**
MRKS	**Merke**	**1.29**	**27**	*e*P	**Pg**	**21 04 42.3**	**+1.2**
MRKS	26nm,0.8s			*e*S	**Sn**	**21 05 00.4**	**+1.0**
MRKS	**Merke**	**1.29**	**27**	P	**Pg**	**21 04 42.3**	**+1.2**
MRKS	26nm,0.8s			S	**Sn**	**21 05 00.4**	**+1.0**
ARLS	**Aral**	**1.43**	**79**	⇑*e*P	**Pg**	**21 04 44.7**	**+0.8**
ARLS	baz=79			⇑*e*S	**Sg**	**21 05 04.0**	**+1.6**
EKS2	**Erkin-Say**	**1.45**	**42**	⇓P	**Pg**	**21 04 45.6**	**+1.2**
EKS2	20nm,0.2s,SNR=38			⇑S	**Sg**	**21 05 05.5**	**+2.3**
EKS2	**Erkin-Say**	**1.45**	**42**	⇓*e*P	**Pg**	**21 04 44.9**	**+0.6**
EKS2	baz=43			⇓*e*S	**Sg**	**21 05 04.3**	**+1.1**
UCH	**Uchtor**	**1.67**	**67**	⇓P	**Pg**	**21 04 49.4**	**+1.0**
UCH	24nm,0.3s,SNR=26			⇑S	**Sg**	**21 05 10.8**	**+0.8**
UCH	**Uchtor**	**1.67**	**67**	⇑*e*P	**Pg**	**21 04 48.8**	**+0.4**
UCH	baz=68			⇑*e*S	**Sg**	**21 05 11.1**	**+1.0**
SFK	**Sufi-Kurgan**	**1.77**	**153**	⇑*e*P	**Pb**	**21 04 50.0**	**+0.2**
SFK	baz=52			⇑*e*S	**Sg**	**21 05 13.4**	**0.0**
AAK	**Ala-Archa**	**1.85**	**55**	⇓P	**Pg**	**21 04 52.6**	**+0.8**
AAK	31nm,0.4s,SNR=25			⇑S	**Sg**	**21 05 16.5**	**+0.8**
AAK	**Ala-Archa**	**1.85**	**55**	⇓Pn	**Pg**	**21 04 52.5**	**+0.6**
AAK	17nm,0.6s			⇓Lg	Lg	21 05 17.9	
AAK	**Ala-Archa**	**1.85**	**55**	⇓*e*P	**Pb**	**21 04 51.1**	**+0.1**
AAK	baz=56			⇓*e*S	**Sg**	**21 05 15.1**	**-0.7**
IUG	**Iuzhnay**	**1.89**	**288**	*e*P	**Pg**	**21 04 53.0**	**+0.4**
IUG	58nm,0.3s			*e*S	**Sg**	**21 05 18.7**	**+1.6**
IUG	**Iuzhnay**	**1.89**	**288**	Pg	**Pg**	**21 04 53.0**	**+0.4**
IUG	58nm,0.3s			Lg	Lg	21 05 18.7	
BTK	**Batken**	**1.97**	**219**	⇓*e*P	**Pb**	**21 04 52.2**	**-0.9**
BTK	baz=19			⇓*e*S	**Sb**	**21 05 17.2**	**-0.9**
FRU1	**Bishkek**	**2.03**	**52**	⇑*e*P	**Pb**	**21 04 53.6**	**-0.4**
FRU1	baz=53			⇑*e*S	**Sb**	**21 05 19.4**	**-0.3**
KK31	**Karatay Array**	**2.08**	**317**	Pn	**Pg**	**21 04 55.9**	**-0.5**
KK31	5.1nm,0.3s,baz=123,slow=12,SNR=206			⇓Lg	Lg	21 05 22.8	
	44nm,0.5s,baz=138,slow=28,SNR=13						
KKAR	**Karatay Array**	**2.08**	**317**	⇓*e*P	**Pb**	**21 04 53.6**	**-1.3**
KKAR	baz=18			⇓*e*S	**Sb**	**21 05 19.4**	**-1.8**
KBK	**Karagaybulak**	**2.14**	**60**	⇑P	**Pg**	**21 04 58.2**	**+0.6**
KBK	32nm,0.3s,SNR=30			⇑S	**Sg**	**21 05 27.2**	**+2.0**
KBK	**Karagaybulak**	**2.14**	**60**	⇑*e*P	**Pb**	**21 04 55.2**	**-0.9**
KBK	baz=60			⇑*e*S	**Sb**	**21 05 22.2**	**-0.9**
DRK	**Karamyk**	**2.17**	**193**	⇑*e*P	**Pb**	**21 04 55.3**	**-1.3**
DRK	baz=92			⇑*e*S	**Sb**	**21 05 22.5**	**-1.5**
CHMS	**Chumysh**	**2.21**	**50**	⇑P	**Pg**	**21 04 58.7**	**-0.1**
CHMS	22nm,0.3s,SNR=18			⇓S	**Sg**	**21 05 28.6**	**+1.1**
CHMS	**Chumysh**	**2.21**	**50**	⇓Pn	**Pn**	**21 04 54.6**	**+0.5**
CHMS	23nm,0.5s			Pg	**Pg**	**21 04 59.8**	**+1.0**
CHMS	16nm,0.1s			⇓Lg	Lg	21 05 29.0	
CHMS	112nm,0.6s			Lg	Lg	21 05 29.9	
CHMS	**Chumysh**	**2.21**	**50**	⇑*e*P	**Pb**	**21 04 56.0**	**-1.2**
CHMS	baz=50			⇑*e*S	**Sb**	**21 05 23.6**	**-1.4**
CHM	**Chimkent**	**2.24**	**290**	*e*P	**Pg**	**21 04 59.8**	**+0.4**
CHM	16nm,0.1s			*e*S	**Sg**	**21 05 29.9**	**+1.5**
USP	**Ospenovka**	**2.26**	**42**	⇓P	**Pg**	**21 04 59.1**	**-0.7**
USP	30nm,0.2s,SNR=68			⇓S	**Sg**	**21 05 29.9**	**+0.8**
USP	**Ospenovka**	**2.26**	**42**	⇑*i*P	**Pb**	**21 04 56.7**	**-1.3**
USP	baz=42			⇑*e*S	**Sb**	**21 05 24.7**	**-1.6**
BRLS	**Borolday**	**2.41**	**307**	*e*P	**Pg**	**21 05 01.9**	**-0.7**
BRLS	22nm,0.0s			*e*S	**Sg**	**21 05 33.9**	**0.0**
BRLS	**Borolday**	**2.41**	**307**	Pg	**Pg**	**21 05 01.9**	**-0.7**
BRLS	22nm,0.0s			Lg	Lg	21 05 33.9	
SGDS	**Sogindy**	**2.46**	**40**	Pg	**Pg**	**21 05 03.0**	**-0.6**
SGDS	11nm,0.3s			Lg	Lg	21 05 35.8	
NRN	**Naryn**	**2.67**	**92**	⇑*e*P	**Pn**	**21 05 02.4**	**+1.6**
NRN	baz=93			⇑*e*S	**Sn**	**21 05 34.7**	**+0.8**
TKM2	**Tokmak 2**	**2.69**	**59**	⇑P	**Pb**	**21 05 05.7**	**+0.3**
TKM2	17nm,0.2s,SNR=37			⇑Pn	**Pb**	**21 05 05.8**	**+0.4**
TKM2	**Tokmak 2**	**2.69**	**59**				
TKM2	29nm,1.0s			⇓Lg	Lg	21 05 42.5	
TKM2	**Tokmak 2**	**2.69**	**59**	⇑*e*P	**Pb**	**21 05 02.9**	**-2.5**
TKM2	baz=60			⇑*e*S	**Sn**	**21 05 35.5**	**+1.4**
BOOM	**Boomskoye usch**	**2.75**	**70**	⇑*e*P	**Pb**	**21 05 03.8**	**-2.6**
BOOM	baz=70			⇑*e*S	**Sn**	**21 05 37.0**	**+1.4**
ULHL	**Ulahol**	**2.91**	**76**	⇑*e*P	**Pn**	**21 05 06.0**	**+2.1**
ULHL	baz=76			⇑*e*S	**Sn**	**21 05 40.8**	**+1.3**
DGS	**Degeres**	**2.96**	**55**	*e*P	**Pg**	**21 05 12.6**	**-0.6**
DGS	18nm,0.6s			*e*S	**Sg**	**21 05 52.2**	**+0.6**
DGS	**Degeres**	**2.96**	**55**	Pg	**Pg**	**21 05 12.6**	**-0.6**
DGS	18nm,0.6s			Lg	Lg	21 05 52.2	
KST	**Kastek**	**2.98**	**60**	*e*P	**Pg**	**21 05 12.8**	**-0.8**
KST	9.7nm,0.5s			*e*S	**Sg**	**21 05 52.4**	**+0.1**
KST	**Kastek**	**2.98**	**60**	Pg	**Pg**	**21 05 12.8**	**-0.8**
KST	9.7nm,0.5s			Lg	Lg	21 05 52.4	
GAR	**Garm**	**3.06**	**213**	⇓*e*P	**Pn**	**21 05 07.4**	**+1.5**
GAR	baz=12			⇓*e*S	**Sn**	**21 05 43.4**	**+0.2**
KRBS	**Karabastau**	**3.17**	**48**	*e*P	**Pg**	**21 05 16.0**	**-1.3**
KRBS	16nm,1.0s			*e*S	**Sg**	**21 05 58.0**	**-0.4**
KRBS	**Karabastau**	**3.17**	**48**	Pg	**Pg**	**21 05 16.0**	**-1.3**
KRBS	16nm,1.0s			Lg	Lg	21 05 58.1	
MTBS	**Maitube**	**3.33**	**61**	*e*P	**Pg**	**21 05 19.0**	**-1.2**
MTBS	3.3nm,0.1s			*e*S	**Sg**	**21 06 03.1**	**-0.2**
MTBS	**Maitube**	**3.33**	**61**	Pg	**Pg**	**21 05 19.0**	**-1.2**
MTBS	3.3nm,0.1s			Lg	Lg	21 06 03.1	
KDJ	**Kajisay**	**3.58**	**80**	⇑*e*P	**Pn**	**21 05 15.3**	**+2.2**
KDJ	baz=80			⇑*e*S	**Sn**	**21 05 57.1**	**+1.1**
TNSS	**Tian-Shan**	**3.63**	**65**	*e*P	**Pg**	**21 05 24.8**	**-1.4**
TNSS	4.7nm,1.0s			*e*S	**Sg**	**21 06 13.0**	**-0.2**
TNSS	**Tian-Shan**	**3.63**	**65**	Pg	**Pg**	**21 05 24.7**	**-1.4**
TNSS	4.7nm,1.0s			Lg	Lg	21 06 13.0	
BTLS	**Baital**	**3.64**	**18**	*e*P	**Pg**	**21 05 25.5**	**-0.6**
BTLS	4.7nm,0.9s			*e*S	**Sg**	**21 06 14.4**	**+1.2**
BTLS	**Baital**	**3.64**	**18**	Pg	**Pg**	**21 05 25.5**	**-0.6**
BTLS	4.7nm,0.9s			Lg	Lg	21 06 14.4	
KUU	**Kurty**	**3.67**	**50**	*e*P	**Pg**	**21 05 25.1**	**-1.7**
KUU	5.4nm,0.1s			*e*S	**Sg**	**21 06 13.4**	**-1.0**
KUU	**Kurty**	**3.67**	**50**	Pg	**Pg**	**21 05 25.1**	**-1.7**
KUU	5.4nm,0.1s			Lg	Lg	21 06 13.5	
AAA	**Alma-Ata**	**3.68**	**63**	*e*P	**Pg**	**21 05 25.9**	**-1.1**
AAA	12nm,0.4s			*e*S	**Sg**	**21 06 15.1**	**+0.4**
AAA	**Alma-Ata**	**3.68**	**63**	Pg	**Pg**	**21 05 25.9**	**-1.1**
AAA	12nm,0.4s			Lg	Lg	21 06 15.1	
KNDC	**Almaty**	**3.72**	**63**	⇑Pg	**Pg**	**21 05 30.0**	**+2.3**
KNDC	24nm,0.5s			⇑Lg	Lg	21 06 15.6	
MDOK	**Medeo**	**3.75**	**64**	*e*P	**Pg**	**21 05 26.9**	**-1.5**
MDOK	5.2nm,0.2s			*e*S	**Sg**	**21 06 16.6**	**-0.4**
MDOK	**Medeo**	**3.75**	**64**	⇑Pn	**Pb**	**21 05 20.7**	**-2.8**
MDOK	5.0nm,0.4s			Pg	**Pg**	**21 05 26.8**	**-1.5**
MDOK	5.2nm,0.2s			⇑Pg	**Pg**	**21 05 28.8**	**+0.5**
MDOK	12nm,0.5s			Lg	Lg	21 06 16.6	
MDOK	26nm,0.8s			⇓Lg	Lg	21 06 19.3	
KTBS	**Karatobe**	**3.77**	**54**	*e*P	**Pg**	**21 05 27.2**	**-1.6**
KTBS	7.6nm,0.9s			*e*S	**Sg**	**21 06 17.2**	**-0.5**
KTBS	**Karatobe**	**3.77**	**54**	Pg	**Pg**	**21 05 27.2**	**-1.6**
KTBS	7.6nm,0.9s			Lg	Lg	21 06 17.2	
KOTS	**Kotyrbulak**	**3.82**	**63**	*e*P	**Pg**	**21 05 28.3**	**-1.4**
KOTS	4.9nm,0.4s			*e*S	**Sg**	**21 06 19.4**	**+0.1**
	71nm,1.3s						

KOTS	**Kotyrbulak** 4.9nm,0.4s	**3.82**	**63**	Pg	**Pg**	**21 05 28.3**	**-1.4**
KOTS	71nm,1.3s			Lg	Lg	21 06 19.4	
CHGR	**Chuyangaron** baz=21	**3.87**	**222**	⇓*e*P	**Pn**	**21 05 18.6**	**+1.6**
CHGR	baz=21			⇓*e*S	**Sn**	**21 06 02.7**	**-0.3**
CHKK	**Chushkaly** 1.8nm,0.6s	**4.04**	**54**	*e*P	**Pg**	**21 05 32.0**	**-1.8**
CHKK	24nm,0.6s			*e*S	**Sg**	**21 06 25.4**	**-0.7**
CHKK	**Chushkaly** 1.8nm,0.6s	**4.04**	**54**	Pg	**Pg**	**21 05 32.0**	**-1.8**
CHKK	24nm,0.6s			Lg	Lg	21 06 25.4	
PRZ	**Przheval'sk** baz=77	**4.52**	**77**	⇓*e*P	**Pn**	**21 05 28.3**	**+2.2**
PRZ	baz=77			⇓*e*S	**Sn**	**21 06 19.6**	**+0.3**
KURS	**Kuram** 2.7nm,0.8s	**4.63**	**64**	*e*P	**Pg**	**21 05 43.0**	**-2.2**
KURS	8.1nm,0.6s			*e*S	**Sg**	**21 06 44.6**	**-0.7**
KURS	**Kuram** 2.7nm,0.8s	**4.63**	**64**	Pg	**Pg**	**21 05 43.0**	**-2.2**
KURS	8.1nm,0.6s			Lg	Lg	21 06 44.6	
SATY	**Saty** 1.8nm,0.3s	**4.65**	**70**	*e*P	**Pg**	**21 05 43.8**	**-1.9**
SATY	21nm,0.4s			*e*S	**Sg**	**21 06 45.9**	**-0.1**
SATY	**Saty** 1.8nm,0.3s	**4.65**	**70**	Pg	**Pg**	**21 05 43.8**	**-1.9**
SATY	21nm,0.4s			Lg	Lg	21 06 45.9	
KPKS	**Kokpek** 4.6nm,0.7s	**4.97**	**66**	*e*P	**Pg**	**21 05 49.1**	**-2.7**
KPKS	18nm,0.8s			*e*S	**Sg**	**21 06 54.7**	**-1.5**
KPKS	**Kokpek** 4.6nm,0.7s	**4.97**	**66**	Pg	**Pg**	**21 05 49.1**	**-2.7**
KPKS	18nm,0.8s			Lg	Lg	21 06 54.7	
BLB	**Baldybastay** 23nm,1.7s	**5.09**	**59**	Pg	**Pg**	**21 05 52.1**	**-1.9**
BLB	24nm,0.4s			Lg	Lg	21 07 00.0	
UZB	**Uzynbulak** 2.1nm,0.3s	**5.11**	**70**	*e*P	**Pg**	**21 05 51.8**	**-2.6**
UZB	6.7nm,0.9s			*e*S	**Sg**	**21 06 59.2**	**-1.4**
UZB	**Uzynbulak** 2.1nm,0.3s	**5.11**	**70**	Pg	**Pg**	**21 05 51.8**	**-2.6**
UZB	6.7nm,0.9s			Lg	Lg	21 06 59.2	
SHLS	**Shalkode** 2.8nm,1.2s	**5.43**	**71**	*e*P	**Pg**	**21 06 03.4**	**+3.0**
SHLS	16nm,1.2s			*e*S	**Sg**	**21 07 19.2**	**+8.5**
SHLS	**Shalkode** 2.8nm,1.2s	**5.43**	**71**	Pg	**Pg**	**21 06 03.4**	**+3.0**
SHLS	16nm,1.2s			Lg	Lg	21 07 19.2	
PDGK	**Podgornoye** 0.6nm,0.4s	**5.49**	**69**	Pg	**Pg**	**21 05 58.8**	**-2.9**
PDGK	5.4nm,0.4s			Lg	Lg	21 07 11.7	
KNOS	**Konyrlen** 0.7nm,0.6s	**5.66**	**59**	Pg	**Pg**	**21 06 01.8**	**-3.0**
KNOS	6.5nm,0.9s			Lg	Lg	21 07 16.8	
DJR	**Jarkent** 0.8nm,0.2s	**6.04**	**61**	*e*P	**Pg**	**21 06 09.5**	**-2.7**
DJR	8.4nm,0.0s			*e*S	**Sg**	**21 07 30.0**	**-0.5**
DJR	**Jarkent** 0.8nm,0.2s	**6.04**	**61**	Pg	**Pg**	**21 06 09.5**	**-2.7**
DJR	8.4nm,0.0s			Lg	Lg	21 07 30.0	
MK31	**Makanchi Array** 0.8nm,0.5s,baz=241,slow=16,SNR=4.2	**8.77**	**50**	⇓Pn	**Pn**	**21 06 28.1**	**+3.9**
MK31	2.9nm,0.9s,baz=206,slow=37,SNR=3.9			⇑Lg	Lg	21 08 53.5	
AB31	**Akbulak array** 0.3nm,0.4s,baz=118,slow=14,SNR=8.1	**11.64**	**315**	⇑Pn	**Pn**	**21 07 03.5**	**0.0**

IDC **17** *21:12:40.0±2.5,* **6°.01S×130°.74E,** *h0km,* **mb3.6/1, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=140.4km s-min=33.1km az=71.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=349,slow=13,SNR=15	**14.28**	**166**	Pn	Pn	21 16 04.4	+0.7
WRA	0.9nm,0.3s,baz=340,slow=22,SNR=11 0.3nm,0.4s			Sn	Sn	21 18 30.6	-12
ASAR	**Alice Springs** 0.1nm,0.3s,baz=352,slow=13,SNR=2.5	**17.82**	**170**	P	Pn	21 16 49.0	-0.5
ASAR	0.4nm,0.7s,baz=357,slow=26,SNR=4.2 0.3nm,0.7s			S	Sn	21 19 54.1	-15
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=130,slow=6.9,SNR=4.1 0.4nm,0.7s	**67.81**	**326**	P	P	21 23 39.9	0.0

IDC **17** *21:24:05.9±3.5, 12°.33N×93°.63E, h132km±32km, mb3.3/7, mbtmp3.8/9, Error ellipse: s-maj=27.3km s-min=19.8km az=52.0*

ISC 17 21:24:01.5±0.9, 12°.2N±0°.1×93°.4E±0°.1, h93km, n9, σ0°.75/11, mb3.6/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 3.1nm,0.7s,baz=234,slow=14,SNR=30	**8.22**	**40**	P	**Pn**	**21 25 58.5**	**+0.6**
CMAR	0.4nm,0.3s,baz=240,slow=29,SNR=4.3			S	**Sn**	**21 27 28.1**	**-1.1**
PALK	**Pallekele** 12nm,0.9s,baz=12,slow=18,SNR=3.4	**13.44**	**250**	P	**P**	**21 27 15.2**	**+0.7**
PALK	4.5nm,0.8s,baz=90,slow=20,SNR=0.9			S	**Sn**	**21 29 35.3**	**-1.2**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=167,slow=9.4,SNR=1.8 0.2nm,0.5s	**35.77**	**347**	P	**P**	**21 30 52.0**	**+0.5**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=302,slow=10.0,SNR=1.4 0.4nm,0.8s	**51.39**	**128**	P	**P**	**21 32 56.7**	**-0.5**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=305,slow=6.9,SNR=4.2 0.3nm,0.5s	**53.26**	**132**	P	**P**	**21 33 11.1**	**+0.1**
BRTR	**Keskin Array B** 0.7nm,0.7s,baz=90,slow=4.9,SNR=3.7 0.7nm,0.7s	**59.14**	**309**	P	**P**	**21 33 53.1**	**+0.3**
FINES	**FINESS Array B** 0.9nm,0.8s,baz=93,slow=7.7,SNR=3.7 0.9nm,0.8s	**68.61**	**332**	P	**P**	**21 34 53.7**	**-0.6**
HFS	**Hagfors** 0.3nm,0.4s,baz=93,slow=7.2,SNR=5.4 0.3nm,0.4s	**74.42**	**329**	P	**P**	**21 35 28.9**	**-0.4**
SPITS	**Spitsbergen Ar** 4.0nm,1.0s,baz=112,slow=11,SNR=2.0 4.0nm,1.0s	**75.51**	**348**	P	**P**	**21 35 35.3**	**0.0**

IDC **17** *22:45:30.4±2.2,* **5°.69S×151°.34E,** *h0km,* **mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=131.1km s-min=30.7km az=125.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.6nm,0.8s,baz=54,slow=11,SNR=12 1.6nm,0.8s	**21.77**	**228**	P	P	22 50 23.7	-0.3
ASAR	**Alice Springs** 1.5nm,0.7s,baz=53,slow=9.8,SNR=14 1.5nm,0.7s	**24.52**	**221**	P	P	22 50 51.5	-0.4
ILAR	**Eielson Array** 0.3nm,0.6s,baz=248,slow=4.9,SNR=2.1 0.3nm,0.6s	**83.53**	**22**	P	P	22 57 58.8	-1.1
TORD	**Torodi Ar. Bea** 0.4nm,0.6s,baz=79,slow=4.9,SNR=7.6	**149.18**	**286**	PKPbc	PKiKP	23 05 22.8	-0.4

JMA **17** *23:29:38.9±0.4, 46°.N±2°.×14°.3E±°, h328km±2km, MV3.1/23, NE OFF HOKKAIDO*

IDC **17** *23:29:39.2±1.0, 45°.89N×143°.05E, h312km±15km, mb2.9/5, mbtmp3.6/9, Error ellipse: s-maj=28.6km s-min=21.3km az=164.0*

ISC 17 23:29:38.7±0.8, 45°.61N±0°.08×143°.14E±0°.09, h326km±8km, n21, σ1°.34/29, mb3.1/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.93**	**252**	P	**Pn**	**23 30 22.3**	**+0.7**
JWK2				S	**S**	**23 30 55.9**	**0.0**
JRBN	**Rebuntou**	**1.47**	**263**	P	**Pn**	**23 30 24.1**	**-0.2**
ASAJ	**Asahikawa** 37nm,0.6s,baz=3.1,slow=5.5,SNR=22	**1.54**	**195**	P	**Pn**	**23 30 26.2**	**+1.4**
ASAJ	3.2nm,0.4s,baz=127,slow=20,SNR=1.5			S	**S**	**23 31 02.8**	**+1.1**
ASAJ	**Asahikawa**	**1.54**	**195**	*e*P	**Pn**	**23 30 26.0**	**+1.2**
JKK2	**Kamakawa 2**	**1.76**	**189**	*e*P	**Pn**	**23 30 27.8**	**+1.5**
JAR	**Ashorobuto**	**2.35**	**169**	*e*P	**Pn**	**23 30 32.3**	**+1.6**
JAR				*e*S	**S**	**23 31 13.0**	**+0.7**
JAK	**Akkeshi**	**2.84**	**156**	*e*P	**Pn**	**23 30 35.8**	**+0.9**
JAK				*e*S	**S**	**23 31 19.1**	**-0.8**
NEM2	**Nemuro 2**	**2.91**	**139**	*e*P	**Pn**	**23 30 36.1**	**+0.6**
NEM2				*e*S	**S**	**23 31 18.4**	**-2.7**
JCH	**Churui**	**3.00**	**177**	*e*P	**Pn**	**23 30 36.7**	**+0.3**
JCH				*e*S	**S**	**23 31 19.9**	**-2.8**
JNBK	**Urakawa-nobuka**	**3.34**	**185**	*e*P	**Pn**	**23 30 41.0**	**+1.3**
JNBK				*e*S	**S**	**23 31 28.2**	**-0.4**
JOSM	**Okushiri--Mats**	**4.41**	**218**	P	**Pn**	**23 30 51.9**	**+1.1**
JOT	**Ohata**	**4.49**	**201**	P	**Pn**	**23 30 52.4**	**+0.7**
JOT				*e*S	**S**	**23 31 48.0**	**-2.4**
USRK	**Ussuriysk Ar.** 1.8nm,0.6s,baz=77,slow=12,SNR=4.3	**8.04**	**264**	P	**Pn**	**23 31 33.0**	**0.0**
KLR	**Kul'dur** 0.8nm,0.5s,baz=114,slow=14,SNR=4.3	**8.53**	**299**	P	**Pn**	**23 31 37.4**	**-1.4**
MJAR	**Matsushiro Arr** 1.1nm,0.3s,baz=28,slow=9.6,SNR=6.0	**9.79**	**204**	P	**P**	**23 31 57.0**	**+0.1**
SEY	**Seymchan**	**18.14**	**14**	P	**P**	**23 33 26.3**	**-1.8**
SONM	**Songino Array** 0.6nm,0.5s,baz=70,slow=7.6,SNR=3.6 0.6nm,0.5s	**25.14**	**288**	P	**P**	**23 34 34.9**	**-0.1**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=77,slow=9.0,SNR=4.0 0.2nm,0.5s	**41.20**	**294**	P	**P**	**23 36 53.2**	**+0.9**
KURBB	**Kurchatov Arra** 0.4nm,0.4s,baz=75,slow=8.2,SNR=4.7 0.4nm,0.4s	**42.21**	**301**	P	**P**	**23 37 00.1**	**-0.1**
FINES	**FINESS Array B** 0.5nm,0.5s,baz=45,slow=8.4,SNR=7.6 0.5nm,0.5s	**61.89**	**331**	P	**P**	**23 39 23.4**	**-0.4**
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=344,slow=1.3,SNR=2.6 0.2nm,0.5s	**70.84**	**48**	P	**P**	**23 40 22.3**	**+1.5**

IDC **17** *23:39:15.3±1.8, 7°.67S×125°.17E, h355km±22km, mb3.4/10, mbtmp4.1/13, Error ellipse: s-maj=29.9km s-min=9.3km az=61.0*

DJA **17** *23:39:20.0±0.7, 8°.S±5°.×12°.5E±°, h318km±7km, M4.1/9, mb4.1/5, mB5.3/1, MLv4.1/9, Mw(mB)4.7/1*

ISC 17 23:39:15.3±0.5, 7°.70S±0°.05×125°.13E±0°.07, h350km, n36, σ1°.52/41, mb3.6/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.21**	**203**	P	**Pn**	**23 40 10.6**	**+2.4**
SOEI	**Soe**	**2.21**	**203**	P	**Pn**	**23 40 10.2**	**+2.0**
SOEI				S	**S**	**23 40 50.5**	**-0.2**
BATI	**Baumata**	**2.88**	**210**	P	**Pn**	**23 40 16.0**	**+2.4**
BATI				S	**S**	**23 40 59.7**	**-0.7**
MMRI	**Maumere**	**3.01**	**252**	P	**Pn**	**23 40 16.3**	**+1.6**
MMRI	**Maumere**	**3.01**	**252**	P	**Pn**	**23 40 15.8**	**+1.1**
BBSI	**Bau Bau**	**3.36**	**311**	P	**Pn**	**23 40 18.8**	**+0.8**
EDFI	**Ende, Flores**	**3.56**	**253**	P	**Pn**	**23 40 21.1**	**+1.1**
NLAI	**Namlea**	**4.85**	**24**	P	**Pn**	**23 40 37.3**	**+4.0**
BASI	**Baing, Sumba**	**5.14**	**241**	P	**Pn**	**23 40 37.5**	**+1.0**
KAPI	**Kappang** 2.6nm,0.4s,baz=247,slow=15,SNR=1.5	**5.97**	**296**	P	**Pn**	**23 40 44.7**	**-1.1**
KAPI	2.3nm,0.3s,baz=46,slow=18,SNR=1.9			S	**S**	**23 42 01.0**	**+1.7**
PLAI	**Plampang**	**7.36**	**261**	P	**Pn**	**23 41 02.9**	**+1.0**
PLAI	**Plampang**	**7.36**	**261**	P	**Pn**	**23 41 00.4**	**-1.5**
TWSI	**Taliwang, Sumb** 16nm,0.7s	**8.23**	**262**	P	**P**	**23 41 13.9**	**-1.1**
FAKI	**Fak Fak**	**8.54**	**57**	P	**Pn**	**23 41 13.7**	**-2.2**
GTOI	**Gorontalo** 28nm,0.7s	**8.55**	**346**	P	**P**	**23 41 21.7**	**+3.0**
SWI	**Sorong**	**9.14**	**42**	P	**Pn**	**23 41 22.5**	**-0.5**
TOLI2	**Tolitoli**	**9.77**	**333**	P	**P**	**23 41 35.3**	**+3.0**
JAGI	**Jajag, Banyuwa**	**10.89**	**265**	P	**P**	**23 41 45.4**	**+0.7**
JAGI	**Jajag, Banyuwa**	**10.89**	**265**	P	**Pn**	**23 41 41.6**	**-2.4**
MBWA	**Marble Bar**	**14.36**	**201**	P	**Pn**	**23 42 24.2**	**-0.5**
WRA	**Warramunga Arr** 1.4nm,0.6s,baz=314,slow=14,SNR=39	**15.09**	**145**	P	**P**	**23 42 30.8**	**-0.2**
WRA	5.4nm,1.2s,baz=322,slow=21,SNR=8.2			S	**S**	**23 45 14.4**	**+1.2**
WRKA	**Warakurna**	**17.50**	**170**	P	**P**	**23 42 58.0**	**+1.0**
ASAR	**Alice Springs** 1.6nm,0.3s,baz=330,slow=9.9,SNR=22	**17.97**	**153**	P	**P**	**23 43 02.4**	**+0.4**
ASAR	0.8nm,0.5s,baz=344,slow=20,SNR=4.7			S	**S**	**23 46 09.6**	**-0.3**
COEN	**Coen**	**18.78**	**111**	P	**P**	**23 43 11.1**	**+0.5**
QIS	**Mount Isa**	**18.96**	**134**	P	**P**	**23 43 12.5**	**0.0**
MEEK	**Meekatharra**	**19.82**	**197**	P	**P**	**23 43 21.3**	**-0.2**
STKA	**Stephens Creek** 1.5nm,0.3s,baz=334,slow=5.3,SNR=5.5 1.5nm,0.3s	**28.53**	**150**	P	**P**	**23 44 40.1**	**+0.2**
CMAR	**Chiang Mai Arr** 2.3nm,0.8s,baz=146,slow=6.7,SNR=10 2.3nm,0.8s	**36.65**	**315**	P	**P**	**23 45 50.4**	**+0.5**
KSRS	**Korea Array** 0.7nm,0.6s,baz=176,slow=9.7,SNR=6.3 0.7nm,0.6s	**45.00**	**3**	P	**P**	**23 46 56.5**	**-0.5**
MJAR	**Matsushiro Arr** 1.4nm,0.5s,baz=185,slow=8.0,SNR=4.4 1.4nm,0.5s	**45.69**	**15**	P	**P**	**23 47 01.3**	**-1.2**
USRK	**Ussuriysk Ar.** 2.2nm,0.5s,baz=192,slow=7.8,SNR=5.2 2.2nm,0.5s	**52.03**	**6**	P	**P**	**23 47 49.9**	**-0.2**
KLR	**Kul'dur** 0.7nm,0.4s,baz=212,slow=9.5,SNR=3.8 0.7nm,0.4s	**56.99**	**5**	P	**P**	**23 48 24.4**	**-0.9**
SONM	**Songino Array** 1.0nm,0.9s,baz=165,slow=9.0,SNR=4.8 1.0nm,0.9s	**57.73**	**345**	P	**P**	**23 48 29.1**	**-1.5**
MKAR	**Makanchi Array** 3.7nm,0.7s,baz=125,slow=7.4,SNR=33 3.7nm,0.7s	**66.26**	**329**	P	**P**	**23 49 26.7**	**-0.1**
ZALV	**Zalesovo Beam** 1.8nm,0.7s,baz=134,slow=4.3,SNR=8.1 1.8nm,0.7s	**70.17**	**336**	P	**P**	**23 49 49.4**	**-1.2**
KURBB	**Kurchatov Arra** 0.7nm,0.3s,baz=136,slow=4.8,SNR=8.0 0.7nm,0.3s	**70.66**	**331**	P	**P**	**23 49 52.8**	**-0.9**

JMA **17** *23:44:49.1±0.1, 24°.2N±0°.4×123°.9E±0°.3, h17km±1km, MV3.4/9, NEAR ISHIGAKIJIMA ISLAND*

JMA Felt I J1 at NEAR ISHIGAKIJIMA ISLAND.

ISC 17 23:44:49.4±0.9, 24°.24N±0°.05×123°.86E±0°.03, h14km±8km, n14, σ0°.69/21, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKRS	**Kuro-shima**	**0.14**	**90**	P	**Pb**	**23 44 53.3**	**-0.5**
JKRS				S	**Sb**	**23 44 56.3**	**-0.3**
IRIF	**Iriomote-Funau**	**0.15**	**310**	P	**Pg**	**23 44 53.3**	**+0.1**
HATJ	**Hateruma jima**	**0.19**	**195**	P	**Pg**	**23 44 53.5**	**-0.2**
HATJ				S	**Sg**	**23 44 56.8**	**+0.2**
JIJ	**Ishigaki jima**	**0.29**	**64**	P	**Pg**	**23 44 55.4**	**-0.1**
JIJ				S	**Sg**	**23 44 59.7**	**+0.2**
JISG	**Ishigakijimahi**	**0.54**	**50**	*i* P	**Pg**	**23 44 59.9**	**-0.1**
JISG				S	**Sb**	**23 45 07.9**	**-0.4**
YOJ	**Yonaguni jima**	**0.81**	**286**	P	**Pb**	**23 45 04.6**	**-0.5**
YOJ	**Yonaguni jima**	**0.81**	**286**	P	**Pb**	**23 45 04.5**	**-0.7**
YOJ				S	**Sg**	**23 45 15.7**	**+0.1**
JYNG	**Yonagunijimaku**	**0.86**	**285**	P	**Pb**	**23 45 05.5**	**-0.6**
JYNG				*e*S	**Sg**	**23 45 17.4**	**0.0**
JTJ	**Tarama**	**0.87**	**62**	P	**Pg**	**23 45 06.2**	**0.0**
JTJ				S	**Sg**	**23 45 18.0**	**+0.4**
NACB	**Ninganchiao**	**2.07**	**269**	P	**Pn**	**23 45 23.6**	**-0.1**
YHNB	**Yeheng**	**2.30**	**281**	P	**Pn**	**23 45 27.7**	**+0.7**
YULB	**Yu-li**	**2.49**	**251**	P	**Pn**	**23 45 28.8**	**-0.7**
SSLB	**Suanglung**	**2.69**	**261**	P	**Pn**	**23 45 33.7**	**+1.4**
TPUB	**Ta-pu**	**3.10**	**253**	P	**Pn**	**23 45 39.7**	**+1.8**

VIE **17** *23:47:31.7±1.4, 50°.12N×19°.58E, h0km, mb2.3/3, ml2.6/2, Error ellipse: s-maj=14.1km s-min=12.1km az=110.0, Suspected Mining induced.*

IPEC **17** *23:47:33.6±0.2, 50°.24N×19°.32E, h1km, ML2.8/4, Error ellipse: s-maj=2.2km s-min=1.3km az=16.0*

IDC **17** *23:47:34.8±2.2, 49°.98N×19°.27E, h0km, mbtmp3.0/5, ML2.4/5, Error ellipse: s-maj=26.6km s-min=8.4km az=129.0*

PRU **17** *23:47:35.8, 50°.26N×19°.18E, h0km*

ISC 17 23:47:32.7±0.7, 50°.23N±0°.03×19°.27E±0°.02, h0km, n52, σ1°.47/80, 6C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.34**	**92**	*e*Pg	**Pb**	**23 47 41.0**	**-0.6**
OJC				*e*Sg	**Sg**	**23 47 45.8**	**+2.2**
OKC	**Ostrava-Krasne**	**0.82**	**242**	*e*PG	**Pb**	**23 47 50.6**	**+0.8**
OKC	comp=Z,54nm,0.4s			*e*SG	**Sb**	**23 48 01.9**	**+0.4**
NIE	**Niedzica**	**1.05**	**140**	*e*Pg	**Pb**	**23 47 53.8**	**0.0**
NIE				*e*Sg	**Sb**	**23 48 08.5**	**+0.3**
LANS	**Liptovska Anna**	**1.09**	**173**	*e*PG	**Pb**	**23 47 54.7**	**+0.3**
LANS				*e*SG	**Sb**	**23 48 08.5**	**-0.7**
LANS				*e*LG	Lg	23 48 10.1	
MORC	**Moravsky Berou**	**1.20**	**248**	⇑P	**Pn**	**23 47 57.6**	**+0.8**
MORC	**Moravsky Berou** baz=67	**1.20**	**248**	*e*Pg	**Pn**	**23 47 57.2**	**+0.4**
MORC	119nm,0.4s,baz=67			*e*Sg	**Sb**	**23 48 12.5**	**+0.1**
ANAC	**Anensky vrch** baz=82	**1.22**	**263**	*e*Pg	**Pn**	**23 47 57.5**	**+0.4**
ANAC	baz=82			*e*Sg	**Sb**	**23 48 13.0**	**-0.1**
KRLC	**Kraliky**	**1.60**	**265**	*e*PG	**Pg**	**23 48 03.5**	**+0.1**
KRLC	comp=Z,78nm,0.4s			*e*SG	**Sg**	**23 48 25.6**	**+1.4**
JAVC	**Velka Javorina** baz=37	**1.72**	**218**	*e*Pn	**Pb**	**23 48 05.0**	**-0.2**
JAVC	**Velka Javorina**	**1.72**	**218**	*e*PN	**Pb**	**23 48 05.1**	**-0.2**
VYHS	**Vyhne**	**1.76**	**189**	*e*PN	**Pn**	**23 48 05.0**	**+0.5**
VYHS				*e*SN	**Sn**	**23 48 27.1**	**-0.5**
DPC	**Dobruska-Polom**	**1.89**	**275**	*e*PG	**Pb**	**23 48 08.1**	**0.0**
DPC	comp=Z,93nm,0.5s			*e*SG	**Sg**	**23 48 33.6**	**+0.2**
KECS	**Kecovo**	**1.92**	**155**	*e*PN	**Pn**	**23 48 07.2**	**+0.5**
KECS				*e*SG	**Sb**	**23 48 33.4**	**+0.2**
KECS				*e*LG	Lg	23 48 36.5	
CRVS	**Cervenica-Dubn**	**1.95**	**132**	*e*PN	**Pb**	**23 48 08.5**	**-0.6**
CRVS				*e*SN	**Sn**	**23 48 32.9**	**+0.6**
VRAC	**Vranov**	**1.96**	**243**	⇓P	**Pg**	**23 48 10.4**	**+0.1**
VRAC	**Vranov** baz=61	**1.96**	**243**	*e*Pn	**Pb**	**23 48 08.5**	**-0.8**
VRAC	54nm,0.6s,baz=61			*e*Sg	**Sg**	**23 48 35.9**	**+0.2**
VRAC	**Vranov**	**1.96**	**243**	*e*PN	**Pb**	**23 48 08.6**	**-0.8**
VRAC				*e*SG	**Sg**	**23 48 36.0**	**+0.2**
VRAC	**Vranov** 3.6nm,0.3s,baz=62,slow=16,SNR=18	**1.96**	**243**	Pg	**Pg**	**23 48 10.0**	**-0.3**
VRAC	2.6nm,0.3s,baz=30,slow=18,SNR=3.7			Lg	Lg	23 48 34.6	
OSTC	**Ostas**	**1.98**	**281**	*e*PG	**Pb**	**23 48 09.5**	**-0.1**
OSTC	comp=Z,24nm,0.4s			*e*SG	**Sg**	**23 48 37.0**	**+0.8**
KSP	**Ksiaz**	**1.99**	**289**	*e*Pg	**Pg**	**23 48 12.4**	**+1.6**
KSP				*e*Sg	**Sg**	**23 48 39.4**	**+2.8**
UPC	**Upice**	**2.10**	**279**	*e*PG	**Pg**	**23 48 13.4**	**+0.5**
UPC	comp=Z,34nm,0.4s			*e*SG	**Sg**	**23 48 41.4**	**+1.2**
KRUC	**Moravsky** baz=57	**2.20**	**239**	*e*Pn	**Pb**	**23 48 11.9**	**-1.5**
KRUC	35nm,0.5s,baz=57			*e*Sg	**Sg**	**23 48 43.7**	**+0.3**
MODS	**Modra-Piesok**	**2.27**	**216**	*e*PN	**Pb**	**23 48 14.4**	**-0.1**
MODS				*e*		23 48 21.4	
MODS	**Modra-Piesok**	**2.27**	**216**	*e*SN	**Sn**	**23 48 39.7**	**-0.4**
MODS				*e*LG	Lg	23 48 49.9	
KOLS	**Kolonicke sedl**	**2.35**	**122**	*e*PN	**Pn**	**23 48 13.4**	**+0.9**
KOLS				*e*		23 48 20.7	
KOLS	**Kolonicke sedl**	**2.35**	**122**	*e*SN	**Sn**	**23 48 42.2**	**+0.1**
KOLS				*e*LG	Lg	23 48 51.3	
PSZ	**Piszkesteto**	**2.35**	**170**	⇓P	**Pg**	**23 48 17.9**	**+0.1**
TREC	**Trest** comp=Z,23nm,0.4s	**2.62**	**250**	*e*SG	**Sg**	**23 48 57.4**	**+0.5**
GOPC	**GO Pecny, Ondr** comp=Z,15nm,0.3s	**2.90**	**265**	*e*SG	**Sg**	**23 49 05.1**	**-0.8**
PRU	**Pruhonice** comp=Z,14nm,0.4s	**3.05**	**267**	*e*SG	**Sg**	**23 49 09.7**	**-0.9**
CONA	**Conrad Observa** 0.5nm,0.3s	**3.21**	**225**	*i* Pn	**Pn**	**23 48 23.7**	**-0.8**
BRG	**Berggiesshubel**	**3.46**	**283**	Pg	**Pg**	**23 48 39.1**	**+0.3**
BRG				Sg	**Sg**	**23 49 24.0**	**+0.4**
BRG				Amp		23 49 28.7	
CKRC	**Cesky Krumlov** comp=Z,13nm,0.5s	**3.52**	**248**	*e*SG	**Sg**	**23 49 25.9**	**0.0**
KHC	**Kasperske Hory**	**3.85**	**256**	*e*PN	**Pn**	**23 48 34.7**	**+1.5**
KHC				*e*PG	**Pb**	**23 48 43.0**	**+1.5**
KHC				*e*SG	**Sg**	**23 49 36.6**	**+0.2**
GERES	**GERESS Array B** comp=Z,0.2nm,0.3s,baz=74,slow=15,SNR=4.9	**3.88**	**251**	Pn	**Pn**	**23 48 35.3**	**+1.6**
GERES	comp=Z,0.3nm,0.3s,baz=76,slow=16,SNR=2.4			Pg	**Pb**	**23 48 42.4**	**+0.4**
GERES	comp=Z,0.8nm,0.3s,baz=53,slow=20,SNR=5.4			Sn	**Sn**	**23 49 19.8**	**-0.1**
GERES	comp=Z,3.8nm,0.3s,baz=67,slow=28,SNR=16 comp=Z,0.3nm,0.3s			Lg	Lg	23 49 34.2	
MOA	**Molln** comp=Z,0.4nm,0.2s	**4.06**	**236**	*e*Pn	**Pn**	**23 48 36.2**	**+0.1**
CLL	**Collm**	**4.12**	**288**	*e*Pg	**Pg**	**23 48 53.0**	**+1.4**
CLL				*i* x	x	23 48 57.4	
CLL				*e*Sg	**Sg**	**23 49 46.0**	**+1.1**
DRGR	comp=Z,13nm,1.0s	**4.13**	**145**	⇑P	**Pn**	**23 48 38.9**	**+1.8**
MARR	**Marisel-Cluj**	**4.39**	**143**	⇑P	**Pn**	**23 48 38.3**	**-2.3**
BURAR	**Bucovina Array**	**4.72**	**121**	⇑P	**Pn**	**23 48 47.3**	**+2.1**
FRGS	**Fruska Gora**	**5.09**	**176**	⇑P	**Pn**	**23 48 52.2**	**+2.0**
GZR	**Gura Zlata**	**5.39**	**153**	⇑P	**Pn**	**23 48 55.8**	**+1.4**
BSD	**Bornholm Skovb**	**5.56**	**333**	*e*P	**Pn**	**23 48 58.1**	**+1.5**
BSD				*e*		23 50 08.6	
AKASG	**Malin Array Be** comp=Z,0.6nm,0.3s,baz=76,slow=34,SNR=2.0	**6.38**	**82**	Sn	**Sn**	**23 50 22.1**	**+0.9**
AKASG	comp=Z,0.9nm,0.3s,baz=32,slow=23,SNR=1.5			Lg	Lg	23 50 51.1	
BLEU	**Blekinge**	**6.42**	**343**	*e*P	**Pn**	**23 49 09.6**	**+1.2**
BLEU				*e*S	**Sn**	**23 50 18.2**	**-4.1**
LUNU	**Lund**	**6.45**	**329**	*i* P	**Pn**	**23 49 10.1**	**+1.3**
BJUU	**Bjuv**	**6.95**	**330**	*e*P	**Pn**	**23 49 16.9**	**+1.3**
DEL	**Delary**	**7.03**	**335**	*i* P	**Pn**	**23 49 18.3**	**+1.5**
DEL				*e*S	**Sn**	**23 50 30.0**	**-7.3**
DAVOX	**Davos/Dischmat

mbtmp3.6/9, Error ellipse: s-maj=57.3km s-min=18.2km az=12.0

ISC 17 23:47:42.0±1.1, 51°40N±0°09×178°80E±0°05, h46km±8km, n40, σ1§09/41, mb3.6/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.32**	**94**	Pn	**Pn**	**23 47 50.9**	**0.0**
AMKA					**Sn**	**23 47 57.2**	**+0.1**
LSSE	**Little Sitkin**	**0.55**	**345**		**Pn**	**23 47 53.8**	**+0.2**
LSPA	**Little Sitkin**	**0.57**	**346**		**Pn**	**23 47 54.2**	**+0.3**
LSPA					**Sn**	**23 48 02.9**	**+0.4**
LSNW	**Little Sitkin**	**0.60**	**343**		**Pn**	**23 47 54.2**	**0.0**
CESW	**Semis' Southwe**	**0.69**	**43**		**Pn**	**23 47 55.8**	**+0.4**
CERB	**Semis' Cerberu**	**0.74**	**44**		**Pn**	**23 47 56.8**	**+0.7**
CERB					**Sn**	**23 48 06.9**	**+0.6**
CEAP	**Semis' Anvil P**	**0.77**	**38**		**Pn**	**23 47 56.9**	**+0.4**
CEPE	**Semis' Perret**	**0.77**	**43**		**Pn**	**23 47 57.0**	**+0.4**
GASW	**Gareloi Southw**	**1.51**	**75**		**Pn**	**23 48 07.6**	**+1.0**
GASW					**Sn**	**23 48 27.4**	**+2.3**
GANE	**Gareloi Northe**	**1.57**	**74**		**Pn**	**23 48 08.2**	**+0.8**
TANO	**Tanaga North**	**1.99**	**74**		**Pn**	**23 48 14.1**	**+1.0**
TASE	**Tanaga Southea**	**2.02**	**76**		**Pn**	**23 48 14.4**	**+0.9**
TAFP	**Tanaga Falls P**	**2.06**	**75**		**Pn**	**23 48 14.9**	**+0.7**
TAFP					**Sn**	**23 48 39.7**	**+1.0**
KIMD	**Kanaga Island**	**2.50**	**80**		**Pn**	**23 48 21.1**	**+1.0**
KIWB	**Kanaga Island**	**2.56**	**78**		**Pn**	**23 48 22.1**	**+1.1**
KINC	**Kanaga Island**	**2.59**	**77**		**Pn**	**23 48 22.4**	**+1.0**
KIRH	**Kanaga Island**	**2.61**	**77**		**Pn**	**23 48 22.5**	**+1.0**
ADK	**Adak**	**2.85**	**78**		**Sn**	**23 48 57.5**	**-0.5**
ADK	**Adak**	**2.85**	**78**	Pn	**Pn**	**23 48 25.6**	**+0.6**
SHEM	**Shemya Is, Ala**	**3.19**	**296**	P	**Pn**	**23 48 30.8**	**+1.2**
	63nm,0.3s,baz=136,slow=4.3,SNR=20						
SHEM				S	**Sn**	**23 49 09.6**	**+3.3**
	76nm,0.4s,baz=273,slow=21,SNR=11						
GSMY	**Great Sitkin M**	**3.26**	**77**		**Pn**	**23 48 31.6**	**+1.1**
GSTR	**Great Sitkin T**	**3.27**	**76**	Pn	**Pn**	**23 48 31.8**	**+1.1**
ATKA	**Atka Island**	**4.42**	**77**	Pn	**Pn**	**23 48 47.9**	**+1.5**
ATKA				Sn	**Sn**	**23 49 36.9**	**+0.3**
NIKH	**Nikolski High**	**7.75**	**73**	Pn	**Pn**	**23 49 31.7**	**-0.4**
CNBA	**Chernabura Isl**	**13.41**	**67**	Pn	**Pn**	**23 50 47.9**	**-1.5**
M13K	**Dall Lake**	**13.44**	**41**	Pn	**Pn**	**23 50 49.7**	**0.0**
ILAR	**Eielson Array**	**22.18**	**40**	P	**P**	**23 52 34.6**	**+0.9**
	0.2nm,0.6s,baz=257,slow=12,SNR=2.1						
	0.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**32.97**	**201**	T	T	00 29 24.2	
	baz=11,slow=76						
H11N3	**WAKE ISLAND Hy**	**32.98**	**201**	T	T	00 29 18.6	
	baz=11,slow=76						
H11N1	**WAKE ISLAND Hy**	**32.98**	**201**	T	T	00 29 13.2	
	baz=11,slow=76						
H11S1	**WAKE ISLAND Hy**	**34.19**	**201**	T	T	00 30 49.2	
	baz=19						
H11S2	**WAKE ISLAND Hy**	**34.21**	**201**	T	T	00 30 49.2	
	baz=19						
H11S3	**WAKE ISLAND Hy**	**34.21**	**201**	T	T	00 30 43.6	
	baz=19						
NVAR	**Mina Array Bea**	**45.04**	**81**	P	**P**	**23 55 54.1**	**+0.9**
	0.2nm,0.5s,baz=289,slow=8.2,SNR=2.4						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**47.73**	**71**	P	**P**	**23 56 14.5**	**+0.2**
	0.2nm,0.5s,baz=325,slow=5.8,SNR=4.6						
	0.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**50.24**	**355**	P	**P**	**23 56 31.9**	**-0.8**
	1.7nm,0.5s,baz=32,slow=8.5,SNR=6.0						
	1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**58.01**	**312**	P	**P**	**23 57 29.4**	**-0.2**
	0.6nm,0.4s,baz=43,slow=6.6,SNR=4.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**58.83**	**307**	P	**P**	**23 57 33.3**	**-2.2**
	0.2nm,0.5s,baz=45,slow=5.5,SNR=1.9						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**59.89**	**319**	P	**P**	**23 57 42.0**	**-0.6**
	0.8nm,0.6s,baz=39,slow=5.5,SNR=3.2						
	0.8nm,0.6s						
TXAR	**Lajitas Array**	**60.13**	**79**	P	**P**	**23 57 44.5**	**-0.3**
	0.3nm,0.5s,baz=302,slow=4.7,SNR=4.9						
	0.3nm,0.5s						

TEH 17 23:49:10.4, 35°50N×46°03E, h7km±48km, ML3.0
ISN 17 23:49:11.1±1.3, 35°59N×46°04E, h19km±45km, ML2.9

ISC 17 23:49:11.1±1.2, 35°50N±0°03×46°02E±0°04, h13km±12km, n22, σ1§58/27, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDS1	**Sardasht. Az.**	**0.78**	**326**	Pg	**Pg**	**23 49 25.9**	**-0.4**
IDHR	**Dehrash**	**0.85**	**159**	Pg	**Pb**	**23 49 27.9**	**+0.1**
IDHR				Sg	**Sn**	**23 49 40.6**	**-0.7**
ILIN	**Lien**	**0.96**	**127**	Pg	**Pb**	**23 49 29.9**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**1.05**	**200**	Pg	**Pn**	**23 49 31.7**	**+0.2**
IGHG	**Ghaleghazi**	**1.25**	**159**	Pg	**Pn**	**23 49 35.6**	**+1.2**
MAHB	**Mahabad**	**1.29**	**349**	Pg	**Pg**	**23 49 35.7**	**-0.2**
IKRK	**Kirkuk**	**1.38**	**266**	*e*Pg	**Pg**	**23 49 37.0**	**-0.5**
IKRK				*e*Sg	**Sb**	**23 49 54.0**	**-0.1**
IKRK				AML	AML	23 50 03.0	
	comp=E,157nm,0.5s						
IKRK				AML	AML	23 50 05.3	
	comp=N,186nm,0.5s						
GLG1	**Gilan-e-Gharb**	**1.38**	**184**	Pg	**Pg**	**23 49 38.2**	**+0.5**
SNQR	**Sonqor, Kerman**	**1.46**	**115**	Pg	**Pg**	**23 49 38.9**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.48**	**145**	Pg	**Pg**	**23 49 39.7**	**+0.2**
KCHF				Sg	**Sg**	**23 50 00.3**	**+1.5**
IBZA	**Bozab**	**1.83**	**124**	Pn	**Pg**	**23 49 45.3**	**-0.8**
ILBA	**Ilam Banvizeh**	**1.88**	**175**	Pn	**Pg**	**23 49 47.1**	**+0.1**
IHSH	**Hashtrud**	**2.06**	**29**	Pn	**Pb**	**23 49 48.5**	**-0.1**
IAZR	**Azarshahr**	**2.18**	**359**	Pn	**Pb**	**23 49 50.0**	**-0.5**
IBDR	**Badra**	**2.38**	**182**	*e*Pn	**Pb**	**23 49 52.0**	**-1.8**
IBDR				*e*Sn	**Sb**	**23 50 22.0**	**-1.1**
ZNJK	**Zanjan**	**2.46**	**61**	Pn	**Pb**	**23 49 54.7**	**-0.5**
BHD	**Baghdad**	**2.60**	**212**	*e*Pn	**Pn**	**23 49 55.0**	**+2.2**
BHD				*e*Sn	**Sb**	**23 50 28.0**	**-1.4**
BHD				AML	AML	23 50 37.6	
	comp=E,163nm,0.6s						
ISRB	**Sarab**	**2.67**	**29**	Pn	**Pb**	**23 49 57.2**	**-1.7**
ISHB	**Shabestar**	**2.80**	**353**	Pn	**Pn**	**23 49 58.3**	**+2.5**
IHRS	**Heris**	**2.93**	**16**	Pn	**Pb**	**23 50 00.6**	**-2.7**
GIDE	**GILAN DEYLAMAN**	**3.45**	**65**	Pn	**Pb**	**23 50 08.4**	**-3.8**
GRMI	**Germi**	**3.63**	**24**	Pn	**Pn**	**23 50 10.0**	**+3.0**

TEH 17 23:58:23.1, 35°56N×46°06E, h6km±71km, ML2.8
ISN 17 23:58:25.3±1.1, 35°47N×46°07E, h25km, ML2.5

ISC 17 23:58:24.0±1.1, 35°53N±0°04×46°05E±0°05, h10km, n13, σ1§48/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDS1	**Sardasht. Az.**	**0.77**	**324**	Pg	**Pg**	**23 58 37.2**	**-1.8**
IDHR	**Dehrash**	**0.87**	**162**	Pg	**Pg**	**23 58 39.6**	**-1.2**
ILIN	**Lien**	**0.96**	**129**	Pg	**Pg**	**23 58 41.2**	**-1.3**
IGHG	**Ghaleghazi**	**1.27**	**160**	Pg	**Pn**	**23 58 48.0**	**0.0**
MAHB	**Mahabad**	**1.27**	**347**	Sg	**Sb**	**23 59 03.5**	**-1.0**
IKRK	**Kirkuk**	**1.40**	**265**	*e*Pg	**Pn**	**23 58 50.0**	**+0.4**
	baz=87						
IKRK				*e*Sg	**Sn**	**23 59 10.0**	**+1.8**
IKRK				AML	AML	23 59 16.8	
	comp=N,92nm,0.7s						
IKRK				AML	AML	23 59 22.0	
	comp=E,74nm,0.5s						
GLG1	**Gilan-e-Gharb**	**1.42**	**185**	Pg	**Pn**	**23 58 50.0**	**+0.1**
SNQR	**Sonqor, Kerman**	**1.45**	**117**	Pg	**Pn**	**23 58 49.9**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.49**	**147**	Pg	**Pn**	**23 58 52.3**	**+1.3**
IBZA	**Bozab**	**1.82**	**125**	Pn	**Pn**	**23 58 57.4**	**+1.8**
ILBA	**Ilam Banvizeh**	**1.90**	**176**	Pn	**Pn**	**23 58 58.5**	**+2.0**
IHSH	**Hashtrud**	**2.02**	**28**	Pn	**Pn**	**23 59 00.0**	**+1.5**
IAZR	**Azarshahr**	**2.15**	**358**	Pn	**Pn**	**23 59 01.5**	**+1.4**

IDC 18 00:09:58.4±0.9, 49°91N×19°29E, h0km, mbtmp3.2/6, ML2.8/6, Error ellipse: s-maj=13.7km s-min=7.0km az=148.0
IPEC 18 00:09:58.8±0.3, 50°15N×19°13E, h1km, ML3.1/4, Error ellipse: s-maj=2.3km s-min=1.3km az=18.0
DNK 18 00:09:59.7±1.5, 50°08N×18°63E, h0km, ML2.2
PRU 18 00:10:00.5, 50°25N×19°00E, h0km

ISC 18 00:09:57.3±0.6, 50°23N±0°03×19°18E±0°02, h0km, n74, σ1§38/113, 11C-12D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.40**	**90**	*e*Pg	**Pb**	**00 10 07.9**	**+0.7**
OJC				*e*Sg	**Sb**	**00 10 14.4**	**+0.6**
RAC	**Raciborz**	**0.65**	**258**	*e*PG	**Pb**	**00 10 12.3**	**+0.7**
RAC				*e*SG	**Sb**	**00 10 21.5**	**+0.3**
OKC	**Ostrava-Krasne**	**0.77**	**240**	*e*PG	**Pb**	**00 10 13.4**	**-0.2**
OKC				*e*SG	**Sg**	**00 10 23.1**	**+1.0**
	comp=Z,154nm,0.4s						
NIE	**Niedzica**	**1.08**	**138**	*e*Pg	**Pb**	**00 10 18.9**	**0.0**
NIE				*e*Sg	**Sb**	**00 10 34.4**	**+0.7**
LANS	**Liptovska Anna**	**1.09**	**170**	*e*PG	**Pg**	**00 10 18.3**	**+0.1**
LANS				*e*SG	**Sg**	**00 10 32.0**	**-0.3**
LANS				*e*LG	Lg	00 10 32.5	
MORC	**Moravsky Berou**	**1.15**	**248**	⇓P	**Pn**	**00 10 20.5**	**-0.3**
MORC				⇓S	**Sg**	**00 10 34.4**	**+0.2**
MORC	**Moravsky Berou**	**1.15**	**248**	*e*Pg	**Pb**	**00 10 19.8**	**-0.3**
	baz=70						
MORC				*e*Sg	**Sg**	**00 10 32.6**	**-1.6**
	295nm,0.5s,baz=70						
KRLC	**Kraliky**	**1.55**	**265**	*e*PG	**Pn**	**00 10 26.1**	**-0.2**
KRLC				*e*SG	**Sn**	**00 10 46.8**	**-0.3**
	comp=Z,112nm,0.3s						
JAVC	**Velka Javorina**	**1.69**	**216**	*e*Pn	**Pn**	**00 10 28.2**	**+0.1**
	baz=36						
VYHS	**Vyhne**	**1.75**	**188**	*e*PN	**Pn**	**00 10 28.4**	**-0.5**
VYHS				*e*SN	**Sn**	**00 10 50.0**	**-1.9**
DPC	**Dobruska-Polom**	**1.84**	**275**	*e*PG	**Pb**	**00 10 31.3**	**-0.6**
DPC				*e*SG	**Sb**	**00 10 55.2**	**-0.3**
	comp=Z,115nm,0.4s						
VRAC	**Vranov**	**1.91**	**242**	⇑P	**Pn**	**00 10 31.9**	**+0.7**
VRAC				⇑S	**Sn**	**00 10 55.4**	**-0.6**
VRAC	**Vranov**	**1.91**	**242**	*e*Pn	**Pn**	**00 10 31.3**	**+0.1**
	baz=62						
VRAC				*e*Sg	**Sn**	**00 10 56.6**	**+0.6**
	142nm,0.7s,baz=62						
VRAC	**Vranov**	**1.91**	**242**	Pn	**Pn**	**00 10 30.7**	**-0.5**
	9.3nm,0.3s,baz=69,slow=16,SNR=74						
VRAC				Lg	Lg	00 10 57.0	
	22nm,0.3s,baz=160,slow=17,SNR=17						
OSTC	**Ostas**	**1.93**	**281**	*e*PG	**Pb**	**00 10 32.8**	**-0.6**
OSTC				*e*SG	**Sb**	**00 10 58.5**	**+0.5**
	comp=Z,85nm,0.8s						
KECS	**Kecovo**	**1.94**	**153**	*e*PN	**Pn**	**00 10 31.4**	**-0.1**
KECS				*e*SN	**Sn**	**00 10 56.8**	**+0.2**
KECS				*e*LG	Lg	00 11 00.1	
KSP	**Ksiaz**	**1.95**	**290**	*e*Pg	**Pb**	**00 10 33.2**	**-0.5**
KSP				*e*Sg	**Sb**	**00 10 59.2**	**+0.7**
CRVS	**Cervenica-Dubn**	**1.99**	**131**	*e*PG	**Pg**	**00 10 36.1**	**+0.7**
CRVS				*e*SG	**Sg**	**00 11 01.6**	**+0.5**
UPC	**Upice**	**2.05**	**279**	*e*SG	**Sb**	**00 11 01.2**	**-0.3**
	comp=Z,61nm,0.6s						
KRUC	**Moravsky**	**2.15**	**238**	*e*Pn	**Pn**	**00 10 34.7**	**+0.3**
	baz=58						
KRUC				*e*Sg	**Sb**	**00 11 04.2**	**-0.2**
	110nm,0.6s,baz=58						
KRUC	**Moravsky**	**2.15**	**238**	*e*PN	**Pn**	**00 10 34.8**	**+0.3**
KRUC				*e*SG	**Sb**	**00 11 04.3**	**-0.2**
MODS	**Modra-Piesok**	**2.23**	**215**	*e*PN	**Pn**	**00 10 35.6**	**0.0**
MODS				*e*		00 10 43.8	
MODS	**Modra-Piesok**	**2.23**	**215**	*e*SN	**Sn**	**00 11 02.5**	**-1.4**
MODS				*e*LG	Lg	00 11 11.9	
PSZ	**Piszkesteto**	**2.35**	**168**	⇑P	**Pn**	**00 10 37.5**	**+0.2**
PSZ				⇑S	**Sn**	**00 11 05.9**	**-1.0**
KOLS	**Kolonicke sedl**	**2.39**	**122**	*e*PN	**Pn**	**00 10 39.1**	**+1.4**
KOLS				*e*		00 10 46.4	
KOLS	**Kolonicke sedl**	**2.39**	**122**	*e*SN	**Sb**	**00 11 09.9**	**-1.3**
KOLS				*e*LG	Lg	00 11 22.6	
SRO	**Srobarova**	**2.48**	**194**	*e*SN	**Sn**	**00 11 10.1**	**+0.2**
SRO				*e*LG	Lg	00 11 20.9	
GOPC	**GO Pecny, Ondr**	**2.85**	**265**	*e*PN	**Pn**	**00 10 44.7**	**+0.6**
GOPC				*e*SG	**Sb**	**00 11 25.8**	**+1.3**
	comp=Z,30nm,0.3s						
PRU	**Pruhonice**	**3.00**	**267**	*e*PG	**Pb**	**00 10 53.0**	**+1.4**
PRU				*e*SG	**Sb**	**00 11 31.0**	**+2.3**
	comp=Z,28nm,0.4s						
RONA	**Rosalia, Austr**	**3.16**	**218**	*e*Pn	**Pn**	**00 10 49.3**	**+0.9**
	3.4nm,0.2s						
CONA	**Conrad Observa**	**3.17**	**225**	Pn	**Pn**	**00 10 47.8**	**-0.8**
	0.9nm,0.3s						
CONA				*e*Sn	**Sn**	**00 11 24.5**	**-2.6**
	14nm,0.7s						
BRG	**Berggiesshubel**	**3.41**	**283**	Pg	**Pg**	**00 11 03.0**	**+0.4**
BRG				Sg	**Sg**	**00 11 46.5**	**-0.2**
BRG				Amp		00 11 52.8	
	comp=Z,25nm,0.5s						
CKRC	**Cesky Krumlov**	**3.47**	**248**	*e*PN	**Pn**	**00 10 54.6**	**+2.0**
CKRC				*e*PG	**Pb**	**00 11 01.0**	**+1.3**
CKRC				*e*SG	**Sg**	**00 11 48.0**	**-0.8**
	comp=Z,48nm,0.5s						
BORR	**Bors**	**3.58**	**150**	⇓P	**Pn**	**00 10 55.8**	**+1.7**
HSKC	**Hora Svate Kat**	**3.70**	**278**	*e*SG	**Sg**	**00 11 55.0**	**-1.1**
KHC	**Kasperske Hory**	**3.80**	**255**	*e*PN	**Pn**	**00 10 58.0**	**+0.8**
KHC				*e*SG	**Sg**	**00 11 57.9**	**-1.5**
	comp=Z,32nm,0.6s						
BMR	**Baia Mare**	**3.82**	**130**	⇑P	**Pn**	**00 10 58.5**	**+1.1**
GERES	**GERESS Array B**	**3.83**	**251**	Pn	**Pn**	**00 10 58.7**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=69,slow=14,SNR=5.5						
GERES				Pg	**Pb**	**00 11 07.0**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=70,slow=18,SNR=9.8						
GERES				Lg	Lg	00 11 57.9	
	comp=Z,5.0nm,0.3s,baz=68,slow=29,SNR=14						
	comp=Z,0.6nm,0.4s						
ARSA	**Arzberg**	**3.84**	**221**	*e*Pn	**Pn**	**00 11 00.1**	**+2.5**
	comp=Z,0.6nm,0.3s						
MOA	**Molln**	**4.01**	**236**	*e*Pn	**Pn**	**00 10 60.0**	**-0.1**
	comp=Z,0.9nm,0.2s						
MORH	**Mrgy, Hungar**	**4.03**	**185**	⇑P	**Pn**	**00 10 59.9**	**-0.3**
CLL	**Collm**	**4.07**	**288**	*e*Pn	**Pn**	**00 11 02.0**	**+1.2**
CLL				*e*Pg	**Pg**	**00 11 16.0**	**+0.7**
CLL				*i* Sg	**Sg**	**00 12 08.9**	**+0.9**
	comp=Z,27nm,0.5s						
DRGR		**4.16**	**144**	⇓P	**Pn**	**00 11 03.1**	**+1.0**
DRGR				⇓S	**Sn**	**00 11 51.3**	**-0.1**
SIRR	**Siria**	**4.29**	**156**	⇓P	**Pn**	**00 11 04.5**	**+0.7**
MARR	**Marisel-Cluj**	**4.41**	**142**	⇑P	**Pn**	**00 11 07.1**	**+1.5**
MARR				⇑S	**Sn**	**00 11 59.0**	**+1.3**
BIOA	**Bad Ischl, Aus**	**4.45**	**237**	Pn	**Pn**	**00 11 08.4**	**+2.4**
	comp=Z,1.6nm,0.3s						
BIOA				*e*Sn	**Sb**	**00 12 11.0**	**+0.5**
	comp=Z,21nm,0.5s						
CJR	**Cluj-Napoca**	**4.58**	**138**	⇑P	**Pn**	**00 11 09.7**	**+1.9**
BURAR	**Bucovina Array**	**4.76**	**121**	⇓P	**Pn**	**00 11 12.6**	**+2.2**
BZS	**Buzias**	**4.89**	**160**	⇓P	**Pn**	**00 11 12.3**	**+0.2**
FRGS	**Fruska Gora**	**5.09**	**175**	⇓P	**Pn**	**00 11 15.8**	**+1.0**
GZR	**Gura Zlata**	**5.41**	**152**	⇑P	**Pn**	**00 11 20.6**	**+1.4**
GZR				⇓S	**Sn**	**00 12 21.3**	**-0.8**
BSD	**Bornholm Skovb**	**5.54**	**334**	*e*P	**Pn**	**00 11 23.2**	**+2.2**
BSD	**Bornholm Skovb**	**5.54**	**334**	*e*	**Pn**	**00 11 20.4**	**-0.6**
	baz=161,slow=10						
BSD				*i* P	**Pn**	**00 11 23.1**	**+2.1**
BSD				*i* S	**Sn**	**00 12 25.5**	**+0.2**
BSD				IAML		00 12 27.1	
	comp=Z,1.9nm,0.4s						
LOT	**Lotru**	**5.69**	**145**	⇓P	**Pn**	**00 11 24.4**	**+1.3**
HERR	**Herculane**	**5.78**	**157**	⇓P	**Pn**	**00 11 25.1**	**+0.9**
PABE	**Paberze**	**6.03**	**27**	*e*P	**Pn**	**00 11 30.9**	**+3.2**
ARR	**Arges**	**6.09**	**141**	⇑P	**Pn**	**00 11 29.5**	**+0.9**
BLEU	**Blekinge**	**6.42**	**343**	*i* P	**Pn**	**00 11 35.3**	**+2.3**
BLEU				*e*S	**Sn**	**00 12 45.0**	**-1.8**
BLEU				IAML		00 12 57.4	
	comp=Z,0.4nm,0.4s						
AKASG	**Malin Array Be**	**6.43**	**82**	Pn	**Pn**	**00 11 30.7**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=266,slow=13,SNR=1.4						
AKASG				Sn	**Sn**	**00 12 43.5**	**-3.7**
	comp=Z,1.7nm,0.3s,baz=265,slow=22,SNR=3.3						
AKASG				Lg	Lg	00 13 20.1	
	comp=Z,1.9nm,0.3s,baz=268,slow=27,SNR=4.7						
	comp=Z,0.5nm,0.5s						
LUNU	**Lund**	**6.43**	**330**	*i* P	**Pn**	**00 11 35.0**	**+1.9**
NACGM	**Naroch**	**6.59**	**42**	*e*P	**Pn**	**00 11 36.5**	**+1.2**
	comp=Z,5.0nm,0.7s,baz=227						
IIGN	**Ignalina**	**6.67**	**37**	*e*P	**Pn**	**00 11 39.7**	**+3.2**
DEL	**Delary**	**7.02**	**335**	*i* P	**Pn**	**00 11 43.1**	**+1.8**
DEL				IAML		00 13 03.2	
	comp=Z,1.1nm,0.4s						
DAVOX	**Davos/Dischmat**	**7.08**	**244**	Pn	**Pn**	**00 11 41.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=9.3,slow=15,SNR=2.5						
DAVOX				Lg	Lg	00 13 40.5	
	comp=Z,0.6nm,0.3s,baz=162,slow=21,SNR=2.4						
	comp=Z,0.7nm,0.3s						
SLIT	**Slitere, Latvi**	**7.64**	**13**	*e*P	**Pn**	**00 11 52.2**	**+2.5**
MTSE	**Matsula**	**8.92**	**16**	*e*P	**Pn**	**00 12 09.3**	**+2.0**
HFS	**Hagfors**	**10.41**	**345**	Pn	**Pn**	**00 12 28.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=158,slow=12,SNR=9.1						
HFS				Sn	**Sn**	**00 14 21.5**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=167,slow=20,SNR=2.2						
	comp=Z,0.8nm,0.5s						
MEF	**Metsahovi**	**10.44**	**14**	*e*P	**Pn**	**00 12 30.4**	**+2.3**
RAF	**Rauma**	**10.92**	**7**	*e*P	**Pn**	**00 12 35.9**	**+1.2**
NOA	**NORSAR Array B**	**11.72**	**341**	Pn	**Pn**	**00 12 45.0**	**-0.7**
	baz=154,slow=14,SNR=6.5						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**11.88**	**16**	Pn	**Pn**	**00 12 47.6**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=197,slow=12,SNR=17						
FINES				Sn	**Sn**	**00 14 56.7**	**-4.3**
	comp=Z,0.3nm,0.3s,baz=200,slow=23,SNR=5.5						
	comp=Z,0.8nm,0.3s						
KEF	**Keuruu**	**12.38**	**13**	*e*P	**Pn**	**00 12 55.8**	**+1.3**
VAF	**Ylistaro**	**12.99**	**7**	*e*P	**Pn**	**00 13 03.4**	**+0.4**
JOF	**Joensuu**	**14.33**	**23**	*e*P	**Pn**	**00 13 20.1**	**-1.2**

JMA 18 00:29:55.1±0.2, 24°2N±0°4×123°8E±0°4, h16km±1km, MV1.2/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**315**	P	Pg	00 29 58.7	0.0
IRIF				*e*S	Sg	00 30 01.3	+0.1
JKRS	**Kuro-shima**	**0.17**	**92**	P	Pg	00 29 59.3	0.0
JKRS				*e*S	Sb	00 30 02.7	-0.2
HATJ	**Hateruma jima**	**0.19**	**187**	*i* P	Pg	00 29 59.4	-0.2
HATJ				*e*S	Sg	00 30 02.9	+0.3
JIJ	**Ishigaki jima**	**0.31**	**67**	P	Pg	00 30 01.4	-0.2
JIJ				*e*S	Sg	00 30 05.8	-0.3
JISG	**Ishigakijimahi**	**0.56**	**52**	P	Pg	00 30 06.0	0.0
JISG				*e*S	Sb	00 30 14.6	+0.4
YOJ	**Yonaguni jima**	**0.78**	**286**	*e*P	Pb	00 30 10.3	+0.1
JTJ	**Tarama**	**0.89**	**63**	*e*S	Sn	00 30 25.3	-0.2

TAP 18 00:30:11.5, 24°54N×121°84E, h8km, ML1.4, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.04**	**11**	*e*P	Pg	00 30 13.4	+0.2
	baz=10.0						
ESAO				*e*S	Sg	00 30 14.8	+0.4
	baz=10.0						
TWC	**Suao**	**0.07**	**9**	*i* P	Pg	00 30 14.4	+0.8
	baz=16						
TWC				S	Sg	00 30 15.6	+0.5
	baz=16						
EWUT	**Wuta**	**0.10**	**210**	P	Pg	00 30 15.1	+1.1
	baz=209						
EWUT				S	Sg	00 30 16.9	+1.1
	baz=209						
ENA	**Nanau**	**0.14**	**219**	P	Pg	00 30 15.6	+1.0
	baz=215						
ENA				S	Sg	00 30 17.7	+1.0
	baz=215						
ENTT	**Nioudou**	**0.27**	**293**	P	Pb	00 30 18.5	-0.1
	baz=292						
LATG	**Datong**	**0.28**	**270**	P	Pb	00 30 18.4	-0.6
	baz=269						
LATG				*e*S	Sb	00 30 23.4	-0.5
	baz=269						
NDT	**Datong Townshi**	**0.30**	**283**	*e*P	Pb	00 30 18.8	-0.4
	baz=282						
FUSB	**Fushanzhiwuyua**	**0.32**	**314**	*e*S	Sb	00 30 23.9	-0.9
	baz=314						
EGS		**0.32**	**16**	*e*S	Sg	00 30 22.6	+0.5
	baz=17						
EOS2	**EOS2**	**0.38**	**108**	*e*S	Sb	00 30 26.2	-0.2
	baz=107						
NWLT	**Wulai**	**0.39**	**308**	*e*P	Pb	00 30 20.4	-0.2
	baz=308						
NWLT				S	Sb	00 30 26.3	-0.5
	baz=308						
NACB	**Ninganchiao**	**0.42**	**211**	*e*S	Sg	00 30 26.0	+0.7
	baz=211						
NNSB	**Datong**	**0.43**	**255**	*e*P	Pb	00 30 20.8	-0.6
	baz=255						
NNSB		

STKA	Stephens Creek	45.06	183	P	P	00 51 11.6	-0.1
STKA	Stephens Creek	45.06	183	P	P	00 51 11.3	-0.3
	comp=Z,4.3nm,0.7s,baz=356,slow=6.7,SNR=6.0						
	comp=Z,4.3nm,0.7s						
SONM	Songino Array	46.66	325	P	P	00 51 24.6	+0.2
	comp=Z,0.4nm,0.3s,baz=119,slow=7.6,SNR=4.0						
	comp=Z,0.4nm,0.3s						
MK31	Makanchi Array	61.35	316	P	P	00 53 10.6	-0.2
MKAR	Makanchi Array	61.35	316	P	P	00 53 11.0	+0.2
	comp=Z,0.8nm,0.6s,baz=94,slow=6.7,SNR=9.2						
	comp=Z,0.8nm,0.6s						
ZALV	Zalesovo Beam	61.55	325	P	P	00 53 11.6	-0.4
	comp=Z,0.5nm,0.4s,baz=101,slow=6.4,SNR=1.8						
	comp=Z,0.5nm,0.4s						
MAKZ	Makanchi	61.56	316	P	P	00 53 12.5	+0.3
MAKZ				IAmb	IAmb	00 53 16.3	
	comp=Z,2.1nm,1.0s						
N15K	Kwethluk River	61.67	28	P	P	00 53 12.6	-0.2
N15K				IAmb	IAmb	00 53 16.9	
	comp=Z,4.7nm,1.1s						
J16K	Anvik River	62.79	25	P	P	00 53 20.6	+0.4
J16K				IAmb	IAmb	00 53 32.1	
	comp=Z,5.4nm,1.1s						
KURK	Kurchatov	64.47	320	P	P	00 53 31.1	-0.3
KURK				IAmb	IAmb	00 53 31.4	
	comp=Z,2.4nm,0.5s						
N19K	Bonanza Creek	64.49	28	P	P	00 53 31.9	+0.5
N19K				IAmb	IAmb	00 53 49.8	
	comp=Z,2.6nm,1.1s						
KURBB	Kurchatov Arra	64.51	320	P	P	00 53 31.5	-0.1
	comp=Z,2.0nm,0.4s,baz=105,slow=6.9,SNR=26						
	comp=Z,2.0nm,0.4s						
PPLA	Purkeypile	66.19	27	P	P	00 53 42.5	+0.1
PPLA				IAmb	IAmb	00 53 43.0	
	comp=Z,2.9nm,0.9s						
CAST	Castle Rocks	66.40	26	P	P	00 53 43.1	-0.5
RND	Reindeer	67.79	27	P	P	00 53 50.9	-1.6
RND				IAmb	IAmb	00 53 54.4	
	comp=Z,2.7nm,0.9s						
KLU	Klutina	68.67	29	P	P	00 53 58.2	+0.2
ILAR	Eielson Array	68.97	25	P	P	00 53 58.1	-1.5
	comp=Z,0.4nm,0.5s,baz=258,slow=5.4,SNR=8.6						
	comp=Z,0.4nm,0.5s						
BVAR	Borovoye Array	69.83	322	P	P	00 54 05.0	-0.1
	comp=Z,0.7nm,0.3s,baz=98,slow=7.2,SNR=6.8						
	comp=Z,0.7nm,0.3s						
SCRK	Sand Creek	70.03	26	P	P	00 54 05.9	-0.4
J26L	Joseph Creek	70.31	26	P	P	00 54 07.9	-0.1
CHGR	Chuyangaron	70.32	306	P	P	00 54 08.4	-0.1
GRNC	Granite Creek	70.54	30	P	P	00 54 09.2	-0.4
GRNC				IAmb	IAmb	00 54 22.7	
	comp=Z,4.9nm,1.2s						
J05D	Fort Rock, OR	84.09	47	P	P	00 55 25.8	+0.3
J05D				IAmb	IAmb	00 55 27.4	
	comp=Z,3.1nm,0.7s						
PINE	Pine Mountain	84.19	47	P	P	00 55 26.9	+1.0
PINE				IAmb	IAmb	00 55 27.9	
	comp=Z,3.1nm,0.8s						
B08A	Colville Reser	84.24	42	P	P	00 55 26.2	+0.3
NVAR	Mina Array Bea	87.41	51	P	P	00 55 43.1	+1.1
	comp=Z,0.8nm,0.7s,baz=287,slow=6.0,SNR=6.5						
	comp=Z,0.8nm,0.7s						
TORD	Torodi Ar. Bea	134.62	304	PKP	PKPdf	01 02 12.8	0.0
	comp=Z,0.4nm,0.6s,baz=59,slow=2.4,SNR=4.0						

IDC ***18*** *01:20:11.5±0.8, 3.35S×146.45E, h0km, mb4.1/12, mbtmp4.1/13, ML2.3/2, MS4.0/42, Error ellipse: s-maj=31.7km s-min=14.7km az=83.0*

GCMT ***18*** *01:20:15.7±0.3, 3.39S±0.01×146.48E±0.02, h21km±1km, MW4.9/103, Moment Tensor Solution. s17,c18; s103,c137; Duration: 0 Moment tensor: Scale 1016Nm; Mrr0.42±.14; Mθθ-0.09±.11; Mφφ-0.33±.12; Mrθ-0.33±.20; Mθφ2.92±.09; Mφr-0.80±.21; Best double couple: M:3.06400×1016 NP1:φs180.00000°, δ82.00000°, λ163.00000°. NP2:φs272.00000°, δ74.00000°, λ9.00000°. Principal axes: T 2.9600, Plg17.0000°, Azm135.0000°; N 0.2080, Plg72.0000°, Azm334.0000°; P -3.1680, Plg6.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***18*** *01:20:18.7±1.5, 3.53S±0.09×146.4E±0.1, h40km±9km, mb4.5/24 Error ellipse: s-maj=22.2km s-min=10.5km az=113.0*

ISC 18 01:20:15.2±0.7, 3.41S±0.07×146.4E±0.1, h20km, n80, σ1.9 08/43, mb4.4/21, MS4.0/41, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.01	173	Pn	Pn	01 21 42.1	-0.9
PMG	Port Moresby	6.01	173	Pn	Pn	01 21 42.4	-0.6
	5.0nm,0.3s,baz=358,slow=6.8,SNR=12						
PMG				Sn	Sn	01 22 52.6	+1.3
	1.7nm,0.3s,baz=316,slow=7.2,SNR=4.3						
	49nm,0.7s						
COEN	Coen	10.95	197	Pn	Pn	01 22 52.0	+1.1
FAKI	Fak Fak	14.12	272	P	P	01 23 42.2	+0.5
HNR	Honiara	14.74	115	LR	LR	01 28 27.7	
	comp=Z,7μm,21.8s,baz=278,slow=34						
CTA	Charters Tower	16.58	180	Pn	Pn	01 24 05.9	-0.8
	baz=284,slow=5.0,SNR=2.3						
CTA				LR	LR	01 29 35.9	
	comp=Z,22nm,20.7s,baz=360,slow=34						
CTAO	Charters Tower	16.58	180	P	P	01 24 09.2	+0.1
GUMO	Guam	16.95	355	LR	LR	01 29 03.5	
	comp=Z,372nm,21.8s,baz=160,slow=32						
MTN	Manton Dam	17.76	237		P	01 24 21.9	-0.3
WB0	Warramunga Arr	20.04	215	P	P	01 24 46.0	-1.1
WB0				IAmb	IAmb	01 24 54.2	
	comp=Z,26nm,1.2s						
WR0	Warramunga Arr	20.11	214	P	P	01 24 47.5	-0.4
WR0				IAmb	IAmb	01 24 49.6	
	comp=Z,18nm,0.8s						
WRAB	Tennant Creek	20.19	215	P	P	01 24 48.2	-0.6
WRAB				IAmb	IAmb	01 24 50.1	
	comp=Z,20nm,0.8s						
WB2	Warramunga Arr	20.20	215	P	P	01 24 47.8	-1.1
WB2				IAmb	IAmb	01 24 50.2	
	comp=Z,20nm,0.8s						
WRA	Warramunga Arr	20.21	215	P	P	01 24 48.7	-0.3
	comp=Z,11nm,0.7s,baz=38,slow=12,SNR=34						
	comp=Z,11nm,0.7s						
KNRA	Kununurra	21.20	234	P	P	01 24 58.0	-1.8
EIDS	Eidsvold	22.30	169	P	P	01 25 10.9	-0.5
DAV	Davao City (W)	23.23	297	LR	LR	01 34 11.3	
	comp=Z,259nm,18.7s,baz=108,slow=36						
ASAR	Alice Springs	23.48	210	P	P	01 25 23.2	-0.6
	comp=Z,8.3nm,0.7s,baz=41,slow=8.8,SNR=27						
ASAR				LR	LR	01 34 10.9	
	comp=Z,508nm,20.8s,baz=40,slow=36						
	comp=Z,8.3nm,0.7s						
FITZ	Fitzroy Crossi	25.02	233	P	P	01 25 36.9	-1.2
DZM	Mont Dzumac	26.89	135	P	P	01 25 55.7	+0.6
	comp=Z,12nm,1.0s,baz=23,slow=7.1,SNR=4.0						
DZM				LR	LR	01 35 15.6	
	comp=Z,669nm,20.0s,baz=308,slow=34						
	comp=Z,12nm,1.0s						
ARMA	Armidale	27.32	170	P	P	01 25 58.0	-0.9
ARMA				IAmb	IAmb	01 26 00.6	
	comp=Z,10nm,0.9s						
STKA	Stephens Creek	28.68	189	P	P	01 26 11.5	+0.6
	comp=Z,24nm,0.9s,baz=22,slow=11,SNR=1.7						
STKA				LR	LR	01 39 46.0	
	comp=Z,366nm,18.4s,baz=263,slow=41						
	comp=Z,24nm,0.9s						
H11S3	WAKE ISLAND Hy	29.55	42	T	T	01 57 26.1	
	baz=222,slow=75,SNR=7.1						
H11S2	WAKE ISLAND Hy	29.56	42	T	T	01 57 21.5	
	baz=222,slow=75,SNR=5.8						
H11S1	WAKE ISLAND Hy	29.57	42	T	T	01 57 24.6	
	baz=222,slow=75,SNR=5.9						
H11N1	WAKE ISLAND Hy	30.56	40	T	T	01 58 35.2	
	baz=221						
H11N3	WAKE ISLAND Hy	30.58	40	T	T	01 58 31.5	
	baz=221						
H11N2	WAKE ISLAND Hy	30.58	40	T	T	01 58 39.1	
	baz=221						
JCJ	Chichijima	30.59	353	LR	LR	01 36 48.7	
	comp=Z,99nm,21.4s,baz=135,slow=33						
FORT	Forrest	32.26	210	P	P	01 26 42.0	-0.6
JOW	Kunigami	34.78	331	LR	LR	01 38 11.1	
	comp=Z,439nm,21.9s,baz=152,slow=31						
JHJ	Hachijo jima 2	36.86	351	LR	LR	01 40 53.3	
	comp=Z,167nm,18.0s,baz=136,slow=34						
JNU	Nakatsue	39.18	339	LR	LR	01 40 52.8	
	comp=Z,146nm,21.2s,baz=160,slow=32						
NWAO	Narrogin (SRO)	40.08	220	LR	LR	01 45 04.5	
	comp=Z,549nm,19.6s,baz=56,slow=37						
MJAR	Matsushiro Arr	40.47	350	LR	LR	01 43 39.8	
	comp=Z,72nm,18.4s,baz=150,slow=35						
RAO	Raoul Island	42.51	131	LR	LR	01 43 07.7	
	comp=Z,89nm,20.2s,baz=74,slow=32						
KSRS	Korea Array	44.13	339	P	P	01 28 21.2	-1.1
	comp=Z,0.9nm,0.4s,baz=147,slow=8.9,SNR=2.4						
KSRS				LR	LR	01 45 20.7	
	comp=Z,147nm,18.4s,baz=145,slow=34						
	comp=Z,0.9nm,0.4s						
URZ	Urewera	44.61	145	LR	LR	01 44 42.0	
	comp=Z,222nm,19.0s,baz=30,slow=33						
USRK	Ussuriysk Ar.	49.12	346	P	P	01 29 00.7	-0.7
	comp=Z,2.0nm,0.6s,baz=160,slow=7.0,SNR=4.3						
USRK				LR	LR	01 46 43.4	
	comp=Z,74nm,20.7s,baz=163,slow=32						
	comp=Z,2.0nm,0.6s						
CMAR	Chiang Mai Arr	51.52	297	P	P	01 29 21.0	+1.0
	comp=Z,2.7nm,0.7s,baz=123,slow=6.0,SNR=3.4						
CMAR				LR	LR	01 52 37.9	
	comp=Z,60nm,18.2s,baz=315,slow=38						
KLR	Kul'dur	53.94	348	LR	LR	01 48 48.7	
	comp=Z,65nm,21.4s,baz=168,slow=32						
RAR	Rarotonga	55.19	113	LR	LR	01 52 27.5	
	comp=Z,108nm,18.4s,baz=285,slow=35						
SHEM	Shemya Is, Ala	60.62	19	LR	LR	01 52 12.6	
	comp=Z,59nm,20.9s,baz=264,slow=32						
SONM	Songino Array	61.86	331	P	P	01 30 33.2	+0.1
	comp=Z,0.3nm,0.4s,baz=139,slow=6.2,SNR=2.7						
SONM				LR	LR	01 56 50.2	
	comp=Z,236nm,19.7s,baz=116,slow=36						
	comp=Z,0.3nm,0.4s						
MA2	Magadan	62.88	3	LR	LR	01 58 51.9	
	comp=Z,29nm,18.4s,baz=174,slow=37						
VNDA	Vanda	74.52	177	LR	LR	02 02 42.9	
	comp=Z,105nm,18.7s,baz=346,slow=34						
MKAR	Makanchi Array	75.12	320	P	P	01 31 55.2	-0.8
	comp=Z,1.0nm,0.7s,baz=108,slow=8.0,SNR=6.8						
MKAR				LR	LR	02 04 39.2	
	comp=Z,64nm,19.7s,baz=84,slow=36						
	comp=Z,1.0nm,0.7s						
MAKZ	Makanchi	75.33	320	P	P	01 31 58.8	+1.6
ZALV	Zalesovo Beam	76.50	328	P	P	01 32 02.5	-1.2
	comp=Z,0.4nm,0.4s,baz=106,slow=5.1,SNR=1.6						
ZALV				LR	LR	02 04 16.6	
	comp=Z,155nm,22.0s,baz=98,slow=35						
	comp=Z,0.4nm,0.4s						
KDAK	Kodiak Island	77.92	29	LR	LR	02 06 36.6	
	comp=Z,48nm,18.3s,baz=256,slow=36						
NIL	Nilore	77.93	305	P	P	01 32 12.2	0.0
L18K	Granite Mounta	78.28	24	P	P	01 32 13.3	-0.2
L18K				IAmb	IAmb	01 32 41.6	
	comp=Z,6.8nm,1.4s						
KURK	Kurchatov	78.78	323	P	P	01 32 17.4	+1.0
KURK				IAmb	IAmb	01 32 29.4	
	comp=Z,6.1nm,1.2s						
KURBB	Kurchatov Arra	78.80	323	P	P	01 32 16.5	0.0
	comp=Z,0.4nm,0.8s,baz=112,slow=4.9,SNR=2.7						
KURBB				LR	LR	02 05 50.4	
	comp=Z,149nm,21.9s,baz=168,slow=35						
	comp=Z,0.4nm,0.8s						
F17K	Baldwin Pennin	78.99	19	P	P	01 32 19.4	+2.1
L19K	White Mountain	79.00	24	P	P	01 32 18.6	+1.2
L19K				IAmb	IAmb	01 32 28.6	
	comp=Z,5.1nm,0.9s						
AAK	Ala-Archa	79.10	314	LR	LR	02 06 56.9	
	comp=Z,166nm,21.3s,baz=103,slow=36						
M20K	Styx River	79.57	25	P	P	01 32 22.7	+2.0
M20K				IAmb	IAmb	01 32 40.1	
	comp=Z,6.0nm,1.1s						
K20K	Telida	79.89	23	P	P	01 32 24.0	+1.7
G19K	Purcell Mounta	80.21	20	P	P	01 32 26.2	+2.3
G19K				IAmb	IAmb	01 32 45.4	
	comp=Z,7.7nm,1.4s						
E21K	Killik River	82.44	19	P	P	01 32 36.2	+0.4
E21K				IAmb	IAmb	01 33 02.9	
	comp=Z,4.1nm,1.1s						
NRIK	Noril'sk	82.63	342	LR	LR	02 07 51.0	
	comp=Z,29nm,21.9s,baz=138,slow=35						
ILAR	Eielson Array	83.35	23	P	P	01 32 39.0	-1.5
	comp=Z,1.0nm,0.7s,baz=245,slow=5.1,SNR=13						
ILAR				LR	LR	02 07 42.0	
	comp=Z,65nm,18.6s,baz=250,slow=34						
	comp=Z,1.0nm,0.7s						
J25K	Salcha River,	83.90	24	P	P	01 32 41.9	-1.6
J25K				IAmb	IAmb	01 33 06.2	
	comp=Z,4.1nm,0.9s						
F24K	Squaw Lake	84.07	21	P	P	01 32 43.5	-0.7
BVAR	Borovoye Array	84.33	324	P	P	01 32 45.9	+0.1
	comp=Z,2.2nm,0.8s,baz=111,slow=6.6,SNR=8.0						
BVAR				LR	LR	02 11 49.2	
	comp=Z,51nm,19.5s,baz=79,slow=37						
	comp=Z,2.2nm,0.8s						
MAW	Mawson	84.39	202	LR	LR	02 08 59.7	
	comp=Z,77nm,19.2s,baz=89,slow=35						
M27K	Edge Creek, AK	84.62	26	P	P	01 32 47.2	-0.1
M27K				IAmb	IAmb	01 32 59.3	
	comp=Z,2.9nm,0.9s						
QSPA	South Pole Qui	86.55	180	LR	LR	02 11 15.0	
	comp=Z,121nm,19.2s,baz=18,slow=35						
INK	Inuvik	89.48	21	LR	LR	02 08 39.3	
	comp=Z,92nm,20.4s,baz=172,slow=32						
DLBC	Dease Lake	89.52	32	LR	LR	02 04 59.8	
	comp=Z,98nm,21.7s,baz=300,slow=30						
BBB	Bella Bella	89.90	38	LR	LR	02 05 58.1	
	comp=Z,109nm,20.8s,baz=235,slow=31						
AKTO	Aktyubinsk	91.56	320	LR	LR	02 13 45.0	
	comp=Z,129nm,21.5s,baz=264,slow=35						
ARU	Arti	91.61	326	LR	LR	02 13 59.3	
	comp=Z,93nm,22.0s,baz=93,slow=35						
NVAR	Mina Array Bea	96.26	52	LR	LR	02 08 07.4	
	comp=Z,117nm,21.9s,baz=271,slow=30						
KIRV	Kirov	96.53	328	LR	LR	02 17 59.4	
	comp=Z,290nm,20.4s,baz=86,slow=36						
NEW	Newport	96.85	42	LR	LR	02 09 45.9	
	comp=Z,38nm,20.8s,baz=266,slow=31						
BELG	Belogornoye	98.04	322	LR	LR	02 20 18.5	
	comp=Z,51nm,19.8s,baz=71,slow=37						
ELK	Elko	98.56	49	LR	LR	02 13 40.4	
	comp=Z,58nm,19.1s,baz=269,slow=33						
TORD	Torodi Ar. Bea	143.79	288	PKP	PKPbc	01 39 48.2	+0.5
	comp=Z,0.5nm,0.8s,baz=90,slow=3.9,SNR=2.5						

NEIC ***18*** *01:28:54.7±2.4, 2.31N±0.06×79.40W±0.09, h10km±1km, mb4.6/97, Error ellipse: s-maj=15.9km s-min=9.7km az=247.0*

RSNC ***18*** *01:28:56.2±0.0, 2.1N±3.7×79.9W±.1, h10km±4km, M4.3, mb4.6, mB5.0, ML3.5, MLv4.4, Mw(mB)4.3*

IDC ***18*** *01:29:05.1±2.4, 2.99N×79.25W, h76km±20km, mb3.8/14, mbtmp4.2/19, MS3.6/8, Error ellipse: s-maj=21.8km s-min=12.7km az=42.0*

ISC 18 01:28:56.2±2.1, 2.37N±0.03×79.49W±0.05, h23km±16km, n324, σ1.9 51/327, mb4.6/60, MS3.7/6, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMC	Tumaco	0.93	125	P	Pn	01 29 12.3	-1.6
TUMC				S	Sb	01 29 25.3	-0.4
GR1C	Gorgona, Isla	1.46	64	P	Pn	01 29 18.7	-2.5
GR1C				S	Sn	01 29 35.6	-4.1
CMBC	Cumbal	2.19	130	P	Pn	01 29 29.8	-1.7
CMBC				S	Sn	01 29 54.6	-3.5
PAC1	Pacto, Paraso	2.20	162	P	Pn	01 29 29.5	-2.0
PAC1				S	Sn	01 29 53.5	-4.6
BBAC	Balboa, Cauca	2.27	99	P	Pn	01 29 30.7	-1.7
BBAC				S	Sn	01 29 56.9	-2.9
CUSE	Cuicocha Este	2.32	152	P	Pn	01 29 32.0	-1.4
CUSE				S	Sn	01 29 58.0	-3.4
OTAV	Otavalo	2.36	154	Pn	Pn	01 29 30.9	-3.0
TULM	Tulcn-Chalpat	2.36	134		Pn	01 29 32.0	-2.0
TULM	Tulcn-Chalpat	2.36	134	P	Pn	01 29 35.0	+1.0
TULM				S	Sn	01 30 03.1	+0.5
GCUF	Volcan Galeras	2.42	118	P	Pn	01 29 34.1	-0.8
GCUF				S	Sn	01 30 03.2	-0.9
IMBA	Imbabura, San	2.44	148	Pn	Pn	01 29 33.6	-1.5
PULU	Pululahua	2.53	157	Pn	Pn	01 29 34.2	-2.0
CRUC	La Cruz	2.66	107	P	Pn	01 29 37.8	-0.2
CRUC				S	Sn	01 30 08.4	-1.3
MALC	Bahia Malaga	2.70	53	P	Pn	01 29 37.1	-1.1
MALC				S	Sn	01 30 09.0	-1.2
BONI	La Bonita	2.73	134	P	Pn	01 29 38.7	-0.2
BONI				S	Sn	01 30 10.6	-0.7
POPC	Popayan, Colom	2.81	86	P	Pn	01 29 38.5	-1.5
POPC				S	Sn	01 30 10.3	-3.1
JAMC	Jamundi, Valle	2.94	73	P	Pn	01 29 39.4	-2.3
JAMC				S	Sn	01 30 12.2	-4.1
ANTS	Antisana-Sarah	3.14	155	Pn	Pn	01 29 44.1	-0.6
SLOR	San Lorenzo -	3.23	162	Pn	Pn	01 29 45.9	-0.1
PIZC	Pizarro, Choco	3.34	39	P	Pn	01 29 46.8	-0.3
PIZC				S	Sn	01 30 24.3	-1.8
YOTC	Yotoco, Valle	3.52	63	P	Pn	01 29 47.6	-2.1
YOTC				S	Sn	01 30 25.9	-4.9
GARC	Garzon, Huila	4.00	92	P	Pn	01 29 56.7	+0.4
GARC				S	Sn	01 30 42.8	+0.2
BETC	Betania	4.05	86	P	Pn	01 29 58.8	+1.9
BETC				S	Sn	01 30 45.6	+1.8
PLMC	San Jos del P	4.07	52	P	Pn	01 29 55.4	-1.8
PLMC				S	Sn	01 30 40.4	-3.8
ORTC	Ortega, Tolima	4.50	70	P	Pn	01 30 04.0	+0.9
ORTC				S	Sn	01 30 56.5	+1.6
ANIL	Santa Ana	4.59	63	P	Pn	01 30 04.0	-0.5
ANIL				S	Sn	01 30 56.8	-0.5
PRAC	Prado	4.79	74	P	Pn	01 30 07.5	+0.5
PRAC				S	Sn	01 31 03.1	+1.3
NIZA	Niza - Manizal	4.82	56	P	Pn	01 30 10.2	+2.6
NIZA				S	Sn	01 31 03.7	+0.8
GUY2C	Guyana, Caldas	5.00	55	P	Pn	01 30 10.1	-0.2
	37nm,0.7s,749nm0.5nm						
GUY2C				S	Sn	01 31 07.1	-0.5
	37nm,0.7s,749nm0.5nm						
PTAC	Punta Ardita,	5.04	19	P	Pn	01 30 16.8	+6.4
	23nm,0.7s,1μm0.1nm						
PTAC				S	Sn	01 31 01.3	-6.6
	23nm,0.7s,1μm0.1nm						
PTLC	Puerto Leguiza	5.17	115	P	Pn	01 30 14.2	+1.9
	76nm,0.7s,4μm1.6nm						
PTLC				S	Sn	01 31 01.7	-10
	76nm,0.7s,4μm1.6nm						
AZU	Azuero	5.45	352	P	Pn	01 30 16.2	+0.2
	35nm,1.0s						
AZU				S	Sn	01 31 11.3	-6.7
	35nm,1.0s						
NORC	Norcasia	5.60	55	P	Pn	01 30 18.9	+0.8
	43nm,0.7s,509nm						
NORC				S	Sn	01 31 20.7	-1.1
	43nm,0.7s,509nm						
DBBC	Dabeiba	5.66	35	P	Pn	01 30 21.1	+2.1
DBBC				S	Sn	01 31 24.3	+0.9
ROSC	El Rosal	5.71	64	Pn	Pn	01 30 20.9	+0.9
ROSC	El Rosal	5.71	64	P	Pn	01 30 21.6	+1.5
	72nm,0.4s,baz=195,slow=4.9,SNR=28						
ROSC				S	Sn	01 31 26.8	+1.6
	49nm,0.5s,baz=222,slow=23,SNR=5.3						
ROSC	El Rosal	5.71	64	P	Pn	01 30 21.3	+1.3
	139nm,0.7s,1μm						
ROSC				S	Sn	01 31 27.8	+2.7
	139nm,0.7s,1μm						
CVER	Cruz Verde, Cu	5.81	68	P	Pn	01 30 23.0	+1.5
	154nm,0.7s,3μm						
CVER				S	Sn	01 31 29.4	+1.7
	154nm,0.7s,3μm						
VILC	Villavicencio,	6.04	73	P	Pn	01 30 26.4	+2.1
VILC				S	Sn	01 31 35.0	+2.1
CHIC	Chingaza	6.17	68	P	Pn	01 30 27.7	+1.4
	138nm,0.5s,2μm						
CHIC				S	Sn	01 31 36.6	+0.2
	138nm,0.5s,2μm						
APAC	Apartado, Choc	6.21	28	P	Pn	01 30 29.9	+3.4
	26nm,0.9s						
APAC				S	Sn	01 31 38.2	+1.3
	26nm,0.9s						
SPBC	San Pablo de B	6.31	59	P	Pn	01 30 29.1	+1.1
	22nm,0.6s						
SPBC				S	Sn	01 31 39.0	-0.5
	22nm,0.6s						
PTBC	PUERTO BERRIO,	6.51	50	P	Pn	01 30 31.3	+0.7
	12nm,0.7s,377nm						
PTBC				S	Sn	01 31 43.5	-0.7
	12nm,0.7s,377nm						
BCIP	Isla Barro Col	6.76	357	Pn	Pn	01 30 35.7	+1.6
BCIP	Isla Barro Col	6.76	357	P	Pn	01 30 39.5	+5.4
	83nm,1.8s						
BCIP				S	Sn	01 31 45.6	-4.9
	83nm,1.8s						
ZARC	Zaragoza, Cauc	6.87	42	P	Pn	01 30 37.5	+1.9
	16nm,0.6s,403nm						
ZARC				S	Sn	01 31 54.0	+0.9
	16nm,0.6s,403nm						
OCAC	Ocana	8.47	46	P	Pn	01 31 00.4	+2.7
	32nm,0.6s						
OCAC				S	Sn	01 32 32.3	-0.4
	32nm,0.6s						
SJCC	San Jacinto, C	8.62	30	P	Pn	01 31 02.7	+3.0
SJCC				S	Sn	01 33 19.3	+43
JTS	Las Juntas de	9.56	326	Pn	Pn	01 31 13.3	+0.7
JTS	Las Juntas de	9.56	326	P	Pn	01 31 14.7	+2.1
	2.9nm,0.6s,baz=288,slow=20,SNR=1.8						
JTS				S	Sn	01 32 56.6	-2.8
	5.4nm,0.5s,baz=323,slow=21,SNR=7.7						
JTS				LR	LR	01 34 17.5	
	comp=Z,384nm,18.6s,baz=146,slow=34						
SDV	Santo Domingo	10.93	53	P	Pn	01 31 30.7	-0.8
	5.7nm,0.3s,baz=328,slow=18,SNR=3.4						
SDV				S	Sn	01 33 26.1	-7.2
	6.9nm,0.5s,baz=248,slow=22,SNR=3.1						
BAUV	El Baul	13.13	60	Pn	Pn	01 31 57.2	-4.2
BAUV	El Baul	13.13	60	eP	Pn	01 31 57.4	-4.0
NNA	Nana	14.50	170	Pn	Pn	01 32 18.9	-1.4
MTO3	Montecristo	15.43	321	Pn	Pn	01 32 34.2	+1.5
MTO3				IAmb	IAmb	01 32 40.6	
	comp=Z,40nm,0.8s						
PCRV	Puerto La Cruz	16.67	62	P	Pn	01 32 49.4	+0.9
	comp=Z,11nm,0.4s,baz=260,slow=18,SNR=15						
PCRV	Puerto La Cruz	16.67	62	eP	P	01 32 51.6	+0.9
BOAV	Boa Vista	18.95	90	P	P	01 33 13.3	-2.7

SAND	Sanderson	34.84	324	P	P	01 35 46.1 +0.3
WHAR	Wooly Hollow	34.85	342	P	P	01 35 44.7 -1.0
WHAR				IAmb	IAmb	01 35 55.4
	comp=Z,10nm,0.9s					
PLPT	Palo Pinto	35.06	332	P	P	01 35 46.7 -0.9
PLPT				IAmb	IAmb	01 35 57.6
	comp=Z,11nm,0.8s					
TXAR	Lajitas Array	35.32	322	P	P	01 35 51.2 +1.2
	comp=Z,0.9nm,0.8s,baz=138,slow=8.1,SNR=9.0					
TXAR				PcP	PcP	01 38 21.1 +0.9
	comp=Z,1.1nm,0.8s,baz=134,slow=7.2,SNR=4.3					
	comp=Z,0.9nm,0.8s					
FCAR	Ozark Folk Cen	35.35	342	IAmb	IAmb	01 35 58.9
	comp=Z,6.0nm,0.9s					
CPUP	Villa Florida	35.67	145	LR	LR	01 52 59.9
	comp=Z,77nm,19.3s,baz=310,slow=40					
BDFB	Brasilia	35.90	121	LR	LR	01 51 44.9
	comp=Z,138nm,18.9s,baz=321,slow=38					
ALPN	Alpine	36.05	323	IAmb	IAmb	01 36 07.4
	comp=Z,8.0nm,1.0s					
WCI	Wyandotte Cave	36.23	351	P	P	01 35 58.9 +1.4
	baz=168					
MNHN	Monahans	36.24	325	IAmb	IAmb	01 36 08.7
	comp=Z,7.7nm,0.9s					
TUL3	Leonard	36.63	338	P	P	01 36 02.7 +1.7
	baz=152					
FVM	French Village	36.84	346	IAmb	IAmb	01 36 03.5
	comp=Z,7.3nm,0.9s					
WMOK	Wichita Mounta	36.88	333	P	P	01 36 04.4 +1.3
	baz=147					
DKNS	Dickens	37.03	330	P	P	01 36 04.4 -0.1
OK031	S. Brethren Rd	37.08	336	IAmb	IAmb	01 36 14.2
	comp=Z,16nm,1.0s					
CCM	Cathedral Cave	37.12	345	P	P	01 36 03.9 -1.1
CCM				IAmb	IAmb	01 36 13.7
	comp=Z,6.1nm,0.8s					
CCM	Cathedral Cave	37.12	345	P	P	01 36 04.7 -0.3
	baz=160					
MCWV	Mont Chateau	37.12	360	P	P	01 36 05.6 +0.6
	baz=179					
VHRN	Van Horn	37.15	322	P	P	01 36 06.9 +1.2
P52A	Corning	37.17	357	P	P	01 36 05.6 +0.1
	baz=176					
P49A	Miami Univ. Ec	37.30	353	P	P	01 36 06.5 -0.1
	baz=171					
O53A	New Philadelph	37.74	358	P	P	01 36 10.0 -0.3
	baz=177					
ACSO	Alum Creek Sta	37.82	356	P	P	01 36 11.8 +0.8
	baz=174					
MNTX	Cornudas Mount	38.03	323	P	P	01 36 13.9 +0.9
	baz=135					
SSPA	Standing Stone	38.12	2	P	P	01 36 13.9 +0.4
	baz=182					
MSTX	Muleshoe	38.23	328	P	P	01 36 15.2 +0.5
MSTX				IAmb	IAmb	01 36 25.1
	comp=Z,8.1nm,0.8s					
MSTX	Muleshoe	38.23	328	P	P	01 36 15.7 +1.1
	baz=140					
M57A	Sunshine Farm,	38.85	3	P	P	01 36 20.8 +1.1
M53A	WI Miller and	38.91	359	P	P	01 36 20.8 +0.6
	baz=178					
ERPA	Erie	39.58	359	P	P	01 36 27.1 +1.4
	baz=179					
BINY	Binghamton	39.78	4	P	P	01 36 28.7 +1.2
	baz=185					
121A	Cookes Peak, D	40.08	322	IAmb	IAmb	01 36 44.7
	comp=Z,9.5nm,1.0s					
121A	Cookes Peak, D	40.08	322	P	P	01 36 31.8 +1.6
	baz=133					
RTBA	Rita Blanca	40.13	330	P	P	01 36 31.8 +1.2
RTBA				IAmb	IAmb	01 36 41.3
	comp=Z,12nm,1.0s					
HRV	Adam Dziewonsk	40.59	9	P	P	01 36 35.0 +0.9
	baz=192					
CBKS	Cedar Bluff	40.72	336	P	P	01 36 36.8 +1.5
	baz=148					
ANMO	Albuquerque	40.98	325	P	P	01 36 38.0 +0.3
ANMO	Albuquerque	40.98	325	P	P	01 36 38.4 +0.7
	baz=136					
T25A	Trinidad	41.52	329	P	P	01 36 43.5 +1.4
	baz=141					
TUC	Tucson	41.86	319	P	P	01 36 46.6 +1.8
	baz=129					
SDCO	Great Sand Dun	42.54	329	P	P	01 36 51.5 +0.9
	baz=140,SNR=8.7					
W18A	Petrified Fore	43.02	323	IAmb	IAmb	01 37 08.3
	comp=Z,18nm,1.1s					
W18A	Petrified Fore	43.02	323	P	P	01 36 55.7 +1.3
	baz=132					
S22A	4UR Ranch, Cre	43.23	328	P	P	01 36 58.1 +2.0
	baz=138					
OGNE	Ogallala	43.46	335	P	P	01 36 60.0 +2.3
	baz=146					
X16A	Lo Mia Camp, P	43.62	321	P	P	01 37 00.6 +1.4
PLCA	Paso Flores	43.66	170	P	P	01 37 08.5 +9.2
	comp=Z,4.5nm,0.8s,baz=337,slow=9.9,SNR=8.9					
	comp=Z,4.5nm,0.8s					
G40A	Rib Lake	43.75	349	IAmb	IAmb	01 36 59.5
	comp=Z,15nm,1.4s					
MVCO	Mesa Verde	43.75	326	P	P	01 37 02.0 +1.7
	baz=136					
ISCO	Idaho Springs	44.17	331	P	P	01 37 04.7 +1.0
	baz=141					
WUAZ	Wupatki	44.29	322	P	P	01 37 05.8 +1.3
WUAZ				IAmb	IAmb	01 37 16.3
	comp=Z,7.2nm,0.9s					
WUAZ	Wupatki	44.29	322	P	P	01 37 06.1 +1.5
	baz=131					
N23A	Red Feather La	45.18	332	P	P	01 37 12.5 +0.8
	baz=141					
HMU	Henry Mountain	45.53	325	IAmb	IAmb	01 37 28.9
	comp=Z,5.5nm,0.9s					
W13A	Hualapai Mount	45.61	320	P	P	01 37 15.6 +0.4
SRU	San Rafael Swe	46.22	326	P	P	01 37 21.3 +1.4
SRU				IAmb	IAmb	01 37 22.8
	comp=Z,4.2nm,0.7s					
TPFO	Pinon Flats	46.46	316	P	P	01 37 23.0 +1.2
	baz=124					
PFO	Pinyon Flats O	46.47	316	P	P	01 37 22.8 +1.0
	baz=124					
RDMU	Red Mountain	46.75	328	IAmb	IAmb	01 37 26.0
	comp=Z,4.2nm,0.9s					
RSSD	Black Hills	46.92	336	P	P	01 37 26.7 +1.4
	baz=145					
BSUT	Blindstream Ca	47.36	327	P	P	01 37 29.3 +0.3
BSUT				IAmb	IAmb	01 37 31.8
	comp=Z,9.4nm,1.4s					
TCUT	Toone Canyon	48.12	328	IAmb	IAmb	01 37 37.8
	comp=Z,5.1nm,0.7s					
EDW2	Edwards Air Fo	48.23	317	P	P	01 37 37.4 +2.0
	baz=124					
DUG	Dugway, Tooele	48.25	326	P	P	01 37 37.3 +1.7
	baz=133					
BW06	Boulder Array	48.35	330	P	P	01 37 38.5 +2.0
	baz=138					
PDAR	Pinedale Array	48.35	330	P	P	01 37 36.9 +0.4
	comp=Z,0.5nm,0.5s,baz=138,slow=6.8,SNR=6.2					
PDAR				PcP	PcP	01 39 02.3 -0.7
	comp=Z,0.2nm,0.5s,baz=133,slow=5.0,SNR=1.7					
	comp=Z,0.5nm,0.5s					
HWUT	Hardware Ranch	48.54	328	IAmb	IAmb	01 37 39.5
	comp=Z,2.7nm,0.7s					
R11B	Troy Canyon, C	48.69	322	P	P	01 37 41.0 +1.9
	baz=128					
REDW	Red Top Meadow	49.44	330	P	P	01 37 44.4 -0.3
ULM	Lac du Bonnet	49.70	346	P	P	01 37 44.5 -1.8
	comp=Z,7.6nm,0.7s,baz=154,slow=7.8,SNR=14					
	comp=Z,7.6nm,0.7s					
RLMT	Red Lodge	49.99	333	P	P	01 37 50.6 +1.7
	baz=140					
NVAR	Mina Array Bea	50.44	320	P	P	01 37 53.4 +0.9
	comp=Z,0.8nm,0.6s,baz=112,slow=6.6,SNR=6.7					
NVAR				PcP	PcP	01 39 09.8 -0.9
	comp=Z,0.5nm,0.7s,baz=133,slow=4.0,SNR=2.2					
	comp=Z,0.8nm,0.6s					
BMN	Battle Mountai	50.97	323	P	P	01 37 56.0 -0.4
BMN				IAmb	IAmb	01 37 59.4
	comp=Z,12nm,1.4s					
HLID	Hailey	51.41	328	P	P	01 38 00.2 +0.5
	baz=133					
BOZ	Bozeman (W)	51.45	331	P	P	01 38 00.7 +0.8
	baz=137,SNR=5.4					
EGMT	Eagleton	52.43	335	P	P	01 38 08.1 +1.0
	baz=141					
SCHQ	Schefferville	53.31	9	P	P	01 38 13.0 -0.3
	comp=Z,4.1nm,0.9s,baz=196,slow=5.0,SNR=4.4					
	comp=Z,4.1nm,0.9s					
MSO	Missoula	53.45	331	P	P	01 38 15.1 +0.5
	baz=135					
G08A	Pilot Rock	55.00	327	IAmb	IAmb	01 38 27.8
	comp=Z,7.5nm,1.3s					
NEW	Newport	56.00	331	P	P	01 38 34.1 +1.1
	baz=133					
YKA	Yellowknife Ar	65.43	343	P	P	01 39 36.5 -0.4
	comp=Z,4.6nm,0.8s,baz=140,slow=6.3,SNR=13					
	comp=Z,4.6nm,0.8s					
TOAD	Toad River Com	66.58	336	P	P	01 39 44.8 +0.4
	baz=129					
T35M	Bob Quinn	67.64	333	P	P	01 39 52.1 +0.8
	baz=123					
DLBC	Dease Lake	68.35	334	P	P	01 39 56.5 +0.8
	baz=124,SNR=6.7					
S34M	Telegraph Cree	68.55	333	P	P	01 39 57.7 +0.9
	baz=123					
WRGLY	Wrigley	68.76	340	P	P	01 39 58.4 +0.3
R33M	Jennings River	69.29	335	IAmb	IAmb	01 40 12.6
	comp=Z,4.9nm,1.0s					
R33M	Jennings River	69.29	335	P	P	01 40 02.8 +1.2
	baz=123					
TGTN	Hyland Airport	69.42	337	P	P	01 40 03.7 +1.5
	baz=127					
Q32M	Nakina River	69.62	334	P	P	01 40 04.4 +0.7
	baz=122					
S32K	Killisnoo	69.91	332	P	P	01 40 06.2 +1.0
	baz=119					
R32K	Eaglecrest	70.28	333	P	P	01 40 07.9 +0.3
	baz=120					
P33M	Teslin, Yukon	70.52	335	IAmb	IAmb	01 40 20.6
	comp=Z,7.1nm,1.0s					
P33M	Teslin, Yukon	70.52	335	P	P	01 40 09.4 +0.4
	baz=122,SNR=7.4					
P32M	Atlin	70.58	334	P	P	01 40 09.9 +0.5
	baz=121					
MMPY	Sheldon Lake,	71.20	337	IAmb	IAmb	01 40 24.4
	comp=Z,5.6nm,0.8s					
MMPY	Sheldon Lake,	71.20	337	P	P	01 40 14.2 +1.1
	baz=124					
PLBC	Pleasant Camp	71.69	333	P	P	01 40 17.6 +1.5
	baz=118					
O30N	Mendenhall	72.20	335	IAmb	IAmb	01 40 30.9
	comp=Z,7.9nm,0.9s					
O30N	Mendenhall	72.20	335	P	P	01 40 20.1 +0.9
	baz=119,SNR=5.0					
M31M	Drury Creek, Y	72.21	336	P	P	01 40 20.9 +1.7
	baz=121					
P30M	Million Dollar	72.27	334	P	P	01 40 21.1 +1.5
	baz=118					
P29M	Windy Craggy	72.39	333	IAmb	IAmb	01 40 31.6
	comp=Z,6.7nm,0.9s					
P29M	Windy Craggy	72.39	333	P	P	01 40 22.2 +1.9
	baz=117					
N31M	Braeburn, Yuko	72.42	335	P	P	01 40 22.4 +1.9
	baz=119					
N30M	Aishikik Lake	72.96	335	IAmb	IAmb	01 40 35.2
	comp=Z,5.6nm,0.8s					
N30M	Aishikik Lake	72.96	335	P	P	01 40 25.3 +1.6
	baz=118					
M30M	Minto, Yukon	73.37	336	P	P	01 40 26.3 +0.2
M30M				IAmb	IAmb	01 40 37.5
	comp=Z,6.6nm,0.8s					
M30M	Minto, Yukon	73.37	336	P	P	01 40 27.3 +1.2
	baz=119					
PINM	Pinnacle	73.74	333	P	P	01 40 30.0 +1.6
	baz=115					
M29M	Somme Creek	73.99	336	IAmb	IAmb	01 40 41.1
	comp=Z,5.4nm,0.9s					
M29M	Somme Creek	73.99	336	P	P	01 40 31.2 +1.4
	baz=117,SNR=6.5					
O28M	Mount Upton	74.00	334	P	P	01 40 31.2 +1.1
	baz=115					
L29M	L29M	74.16	336	P	P	01 40 31.7 +0.9
	baz=118,SNR=5.9					
J30M	Hart River	74.16	338	P	P	01 40 32.2 +1.4
	baz=120					
K29M	Barlow Dome	74.26	337	P	P	01 40 32.2 +0.8
	baz=118,SNR=5.3					
DBIC	Dimbokro	74.47	84	P	P	01 40 34.6 +1.2
	comp=Z,10nm,1.1s,baz=289,slow=11,SNR=2.8					
	comp=Z,10nm,1.1s					
I30M	Mount Dempster	74.50	339	P	P	01 40 32.9 +0.2
I30M				IAmb	IAmb	01 40 43.9
	comp=Z,6.1nm,0.9s					
I30M	Mount Dempster	74.50	339	P	P	01 40 33.5 +0.7
	baz=120					
YUK3	Moose Creek	74.54	334	P	P	01 40 34.4 +1.2
	baz=115					
MESA	MESA	74.55	333	P	P	01 40 34.1 +0.9
	baz=113					
SUMG	Summit	74.56	12	P	P	01 40 32.5 -0.8
SUMG				IAmb	IAmb	01 40 34.1
	comp=Z,6.0nm,1.0s					
G31M	Satah River	74.64	340	P	P	01 40 34.5 +1.1
	baz=122					
DAWY	Dawson	75.10	337	P	P	01 40 37.3 +1.2
	baz=116					
INK	Inuvik	75.15	342	P	P	01 40 37.4 +1.1
	baz=123					
EPYK	Eagle Plains	75.19	339	P	P	01 40 38.1 +1.4
	baz=120					
M27K	Edge Creek, AK	75.39	335	P	P	01 40 38.6 +0.6
	baz=114					
F30M	Barrier River	75.50	341	P	P	01 40 39.2 +0.8
	baz=121					
L27K	Beaver Creek,	75.65	335	P	P	01 40 40.2 +0.8
	baz=114,SNR=8.1					
H29M	Whitestone	75.70	339	P	P	01 40 41.0 +1.4
	baz=118					
M26K	Nabesna, AK	75.88	335	P	P	01 40 41.7 +1.0
	baz=113					
G29M	Pine Creek	75.91	340	P	P	01 40 40.5 -0.3
G29M				IAmb	IAmb	01 40 51.5
	comp=Z,6.4nm,0.8s					
G29M	Pine Creek	75.91	340	P	P	01 40 42.0 +1.2
	baz=118					
I28M	Miner Creek	75.92	338	P	P	01 40 41.0 0.0
I28M				IAmb	IAmb	01 40 52.4
	comp=Z,5.4nm,0.9s					
I28M	Miner Creek	75.92	338	P	P	01 40 41.8 +0.9
	baz=116					
BMRM	Bremner River	76.06	333	P	P	01 40 42.6 +0.9
	baz=111					
EGAK	Eagle	76.10	337	IAmb	IAmb	01 40 52.6
	comp=Z,4.8nm,0.9s					
EGAK	Eagle	76.10	337	P	P	01 40 42.1 +0.3
	baz=115					
K27K	Chicken	76.15	336	P	P	01 40 43.2 +1.1
	baz=114					
L26K	Log Cabin Wild	76.28	335	P	P	01 40 43.8 +0.9
	baz=112					
N25K	Chitina, Valde	76.29	333	P	P	01 40 43.7 +0.6
	baz=111					
Q23K	Middleton Isla	76.35	331	P	P	01 40 43.9 +0.6
	baz=109					
EYAK	Cordova Ski Ar	76.44	332	P	P	01 40 45.5 +1.7
	baz=110					
E29M	Blow River	76.58	341	IAmb	IAmb	01 40 55.0
	comp=Z,6.8nm,1.0s					
E29M	Blow River	76.58	341	P	P	01 40 44.7 +0.2
	baz=119					
KLU	Klutina	76.84	333	P	P	01 40 47.1 +1.0
	baz=110					
H27K	Steamboat Moun	76.86	338	P	P	01 40 46.6 +0.5
	baz=115					
F28M	Old Crow	76.88	340	IAmb	IAmb	01 40 56.9
	comp=Z,3.0nm,0.8s					
F28M	Old Crow	76.88	340	P	P	01 40 47.3 +1.1
	baz=117					
SCRK	Sand Creek	76.90	336	P	P	01 40 46.7 +0.1
SCRK				IAmb	IAmb	01 40 57.5
	comp=Z,6.3nm,0.8s					
SCRK	Sand Creek	76.90	336	P	P	01 40 46.8 +0.2
	baz=112,SNR=5.2					
J26L	Joseph Creek	76.93	336	IAmb	IAmb	01 40 58.3
	comp=Z,6.6nm,0.8s					
J26L	Joseph Creek	76.93	336	P	P	01 40 47.0 +0.3
	baz=113,SNR=5.2					
I26K	Coal Creek Min	77.09	337	P	P	01 40 47.8 +0.4
	baz=113					
G27K	Doyon Strip	77.15	339	P	P	01 40 47.7 -0.1
	baz=115					
PAX	Paxson	77.16	335	P	P	01 40 47.8 -0.2
	baz=111					
E28M	Babbage River	77.22	341	IAmb	IAmb	01 40 58.5
	comp=Z,4.4nm,0.9s					
E28M	Babbage River	77.22	341	P	P	01 40 48.5 +0.4
	baz=117					
ESDC	Sonseca Array	77.36	50	P	P	01 40 50.1 +0.6
	comp=Z,0.6nm,0.7s,baz=266,slow=5.4,SNR=2.2					
	comp=Z,0.6nm,0.7s					
K24K	Donnelly Dome	77.58	335	P	P	01 40 50.1 -0.1
	baz=110					
SCM	Sheep Creek Mo	77.59	333	P	P	01 40 50.6 +0.3
	baz=109					
J25K	Salcha River,	77.70	336	P	P	01 40 50.7 -0.2
J25K				IAmb	IAmb	01 41 01.7
	comp=Z,5.1nm,0.8s					
J25K	Salcha River,	77.70	336	P	P	01 40 50.9 -0.1
	baz=111					
E27K	Coleen River	77.72	340	IAmb	IAmb	01 41 01.9
	comp=Z,4.4nm,0.9s					
E27K	Coleen River	77.72	340	P	P	01 40 51.3 +0.4
	baz=115					
M23K	Glacier View	77.75	333	P	P	01 40 51.2 0.0
	baz=108					
D27M	Malcolm River	77.97	341	P	P	01 40 53.0 +0.7
	baz=116					
KNK	Knik Glacier	77.97	333	P	P	01 40 52.5 0.0
	baz=108					
G26K	Porcupine Rive	77.97	339	P	P	01 40 52.9 +0.6
	baz=113					
DHY	Denali Highway	78.01	334	P	P	01 40 53.3 +0.5
	baz=109					
WAT6	Susitna Watana	78.01	334	P	P	01 40 52.9 +0.1
	baz=108,SNR=5.3					
SML	Sawmill	78.03	333	P	P	01 40 53.2 +0.4
	baz=108					
SEW	Seward	78.05	331	P	P	01 40 53.3 +0.5
	baz=106					
PRP	Porcupine Dome	78.09	337	P	P	01 40 53.5 +0.3
	baz=111					
HDA	Harding Lake	78.27	336	P	P	01 40 53.8 -0.2
	baz=110					
ILAR	Eielson Array	78.37	336	P	P	01 40 54.6 +0.1
	comp=Z,0.6nm,0.8s,baz=123,slow=3.5,SNR=6.8					
	comp=Z,0.6nm,0.8s					
F26K	Sheenjek River	78.39	339	P	P	01 40 55.6 +0.9
	baz=113					
RC01	Rabbit Creek A	78.47	332	P	P	01 40 56.0 +0.8
RC01	Rabbit Creek A	78.47	332	P	P	01 40 56.3 +1.1
	baz=106					
H25L	Birch Creek	78.47	338	P	P	01 40 56.0 +1.0
	baz=111					
G25K	Bearman Lake	78.75	338	P	P	01 40 57.8 +1.2
	baz=111					
MCK	McKinley	78.88	335	P	P	01 40 58.0 +0.5
	baz=108					
F25K	Christian Rive	78.89	339	P	P	01 40 58.5 +1.1
	baz=111					
C27K	Jago River	79.01	341	P	P	01 40 59.2 +1.1
	baz=114					
SUA	Susitna One	79.04	332	P	P	01 40 59.6 +1.1
	baz=105					
H24K	Noodor Dome	79.11	337	P	P	01 40 59.2 +0.5
	baz=109					
NEA2	Nenana	79.20	336	P	P	01 40 59.9 +0.8
	baz=108					
G24K	Hadweenzic Riv	79.25	338	P	P	01 40 59.5 +0.2
	baz=109					
OHAK	Old Harbor	79.28	328	P	P	01 41 00.4 +0.7
	baz=102					
I23K	Minto, Yukon-K	79.48	336	P	P	01 41 01.6 +0.9
	baz=107					
C26K	Camden Bay	79.51	341	P	P	01 41 01.5 +0.8
	baz=112					
SKT	Skwentna	79.53	333	P	P	01 41 02.2 +1.2
	baz=105					
SII	Sitkinak Islan	79.62	327	P	P	01 41 02.6 +1.0
	baz=102					
D25K	Kavik River	79.77	341	P	P	01 41 02.7 +0.5
	baz=111,SNR=6.4					
Q19K	Cape Douglas,	79.83	330	P	P	01 41 03.1 +0.4
	baz=102					
BPAW	Bear Paw Mtn.	79.86	335	IAmb	IAmb	01 41 13.4
	comp=Z,6.9nm,0.8s					
BPAW	Bear Paw Mtn.	79.86	335	P	P	01 41 02.9 +0.1
	baz=106,SNR=5.1					
MLY	Manley	80.01	336	P	P	01 41 04.7 +1.1
	baz=106					
PPLA	Purkeypile	80.06	334	P	P	01 41 04.9 +0.9
	baz=104					
E24K	Your Creek	80.07	339	P	P	01 41 04.8 +0.9
	baz=109					
CAST	Castle Rocks	80.15	334	P	P	01 41 05.6 +1.2
	baz=105					
G23K	Bananza Creek	80.21	338	P	P	01 41 05.1 +0.5
	baz=107					
M20K	Styx River	80.25	333	P	P	01 41 05.7 +0.7
	baz=103					
EKA	Eskdalemuir Ar	80.29	34	P	P	01 41 03.8 -1.4
	comp=Z,0.5nm,0.7s,baz=259,slow=4.7,SNR=2.2					
	comp=Z,0.5nm,0.7s					
E23K	Chandalar	80.46	339	P	P	01 41 06.2 +0.2
	baz=108					
Q18K	Katmai Hardscr	80.47	329	P	P	01 41 07.0 +0.7
	baz=101					
H22K	Ishtalitna Cre	80.50	337	P	P	01 41 06.7 +0.5
	baz=106					
TOLK	Toolik Lake Re	80.63	340	P	P	01 41 07.4 +0.6
	baz=108					
N19K	Bonanza Creek	80.64	331	P	P	01 41 07.4 +0.2
	baz=102					
L20K	Farewell, AK	80.72	333	P	P	01 41 08.1 +0.6
	baz=103					
P18K	Big Mountain,	80.72	330	P	P	01 41 07.9 +0.4
	baz=101					
O18K	Koktuh Hills	80.80	330	P	P	01 41 08.7 +0.7
	baz=101					
M19K	Big River Lodg	80.83	332	P	P	01 41 08.8 +0.8
	baz=102					
Q17K	Contact Creek	80.85	329	P	P	01 41 08.7 +0.4
	baz=100					
R17L	Mt. Peulik Vol	80.99	328	P	P	01 41 09.6 +0.7
	baz=100					
K20K	Telida	81.00	334	P	P	01 41 09.0 +0.1
	baz=103					
H21K	Melozitna Rive	81.01	336	P	P	01 41 08.8 -0.1
	baz=104					
L19K	White Mountain	81.10	333	P	P	01 41 09.8 +0.3
	baz=102					
D23K	Nanushuk River	81.11	340	P	P	01 41 10.1 +0.7
	baz=107					
J20K	Nowinta River	81.22	335	P	P	01 41 10.7 +0.7
	baz=103					
F22K	John River	81.24	338	P	P	01 41 10.8 +0.7
	baz=105					
E22K	Anaktuvuk Pass	81.28	339	P	P	01 41 10.6 +0.3
	baz=106					
N18K	Kilae Creek	81.30	331	P	P	01 41 10.0 -0.5
	baz=101					
P17K	Kvichak River	81.30	330	P	P	01 41 10.7 +0.2
	baz=100					
C23K	Itkillik River	81.34	341	P	P	01 41 11.3 +0.7
	baz=107					
O17K	Koliganek Bris	81.73	330	P	P	01 41 13.1 +0.3
	baz=100					
H20K	Anotleneega Mo	81.81	336	P	P	01 41 12.9 -0.3
	baz=102					
M16K	Timber Creek	82.83	331	P	P	01 41 19.1 +0.6
	baz=98					
E20K	Nigu River	82.89	339	P	P	01 41 19.7 +0.9
	baz=102					
NB2	NORSAR Subarra	88.29	29	P	P	01 41 46.4 +0.7
	comp=Z,0.3nm,0.7s,baz=270,slow=4.6					
NOA	NORSAR Array B	88.29	29	P	P	01 41 44.8 -0.9
	comp=Z,0.3nm,0.6s,baz=248,slow=4.7,SNR=3.9					
	comp=Z,0.3nm,0.6s					
SPITS	Spitsbergen Ar	88.91	12	LR	LR	02 24 13.7
	comp=Z,24nm,18.7s,baz=34,slow=38					
FINES	FINESS Array B	95.33	28	LR	LR	02 25 39.7
	comp=Z,46nm,18.0s,baz=66,slow=36					
AKASG	Malin Array Be	99.92	38	LR	LR	02 23 33.7
	comp=Z,60nm,21.3s,baz=46,slow=33					
KURBB	Kurchatov Arra	123.95	17	PKP	PKPdf	01 47 52.8 +0.1
	comp=Z,1.0nm,0.6s,baz=336,slow=2.2,SNR=7.7					
MKAR	Makanchi Array	128.48	16	PKP	PKPdf	01 48 01.1 -0.5
	comp=Z,0.9nm,0.8s,baz=314,slow=1.5,SNR=3.7					
SONM	Songino Array	129.74	355	PKP	PKPdf	01 48 04.3 +0.3
	comp=Z,0.5nm,0.6s,baz=220,slow=1.1,SNR=2.4					
KSRS	Korea Array	132.92	330	PKP	PKPdf	01 48 10.2 +0.1
	comp=Z,0.8nm,0.4s,baz=151,slow=1.5,SNR=2.2					
ASAR	Alice Springs	141.38	234	PKhKP	PKPpre	01 48 21.8
	comp=Z,1.3nm,0.8s,baz=162,slow=1.6,SNR=8.7					
WRA	Warramunga Arr	142.63	240	PKhKP	PKPpre	01 48 23.9
	comp=Z,2.3nm,0.8s,baz=112,slow=2.1,SNR=14					

*IDC **18** 01:29:33.9±0.5, 5°.45S×76°.45W, h0^km, mb4.2/18, mbtmp4.2/24, ML3.9/5, MS3.6/8, Error ellipse: s-maj=19.8km s-min=12.0km az=70.0*
*NEIC **18** 01:29:41.5±1.5, 5°.66S±0°.08×76°.57W±0°.07, h57^km±3^km, mb4.7/123, Error ellipse: s-maj=11.0km s-min=10.3km az=173.0*
*VAO **18** 01:29:45.0±0.8, 5°.54S×76°.34W, h92^km±4^km, mb4.5*
*IGQ **18** 01:30:42.9±5.2, 5°.S±43°×7°.8W±1°.8, h0^km, M4.9/7*
ISC 18 01:29:38.9±0.3, 5°.57S±0°.04×76°.49W±0°.05, h35^km, n435, σ1°.02/440, mb4.7/75, MS3.8/4, 2C, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res	ISC
ATAH	**Atahualpa**	**2.45**	**231**	Pn		**Pn**	**01 30 18.1**	**+1.4**	
	39nm,0.3s,baz=40,slow=9.0,SNR=108								
ATAH				Sn		**Sn**	**01 30 44.4**	**-1.2**	
	66nm,0.3s,baz=4.5,slow=13,SNR=6.5								
ATAH				LR		LR	01 31 37.8		
	comp=Z,1μm,20.7s,baz=81,slow=48								
	220nm,0.5s								
PCRA	**Pucara 2**	**3.81**	**308**	P		**Sn**	**01 31 17.4**	**-2.0**	
LAMO	**ALAMOR**	**3.84**	**294**	P		**Sn**	**01 31 16.7**	**-3.0**	
CZSB	**Cruzeiro do Su**	**4.33**	**120**			**Pn**	**01 30 44.9**	**+2.7**	
CZSB	**Cruzeiro do Su**	**4.33**	**120**	*e*P		**Pn**	**01 30 45.1**	**+2.9**	
CZSB				*e*S		**Sn**	**01 31 36.6**	**+5.1**	
BPAT	**Tungurahua Vol**	**4.48**	**334**	P		**Sn**	**01 31 35.9**	**-0.1**	
BBIL	**Ulba Tungurahu**	**4.55**	**334**	P		**Sn**	**01 31 37.5**	**0.0**	
JUI6	**Juive**	**4.57**	**334**	P		**Sn**	**01 31 37.7**	**-0.2**	
PIS1	**Pisayambo**	**4.87**	**337**	P		**Sn**	**01 31 45.4**	**-0.1**	
PIAT	**Ana Tenorio**	**4.88**	**339**	P		**Sn**	**01 31 42.9**	**-2.7**	
VCES	**Cotopaxi**	**5.11**	**338**	P		**Sn**	**01 31 50.6**	**-0.9**	
SLOR	**San Lorenzo -**	**5.21**	**337**	P		**Sn**	**01 31 54.1**	**+0.1**	
BVC2	**Cotopaxi Volca**	**5.25**	**338**	P		**Sn**	**01 31 56.3**	**+1.3**	
VC1	**Cotopaxi 1**	**5.26**	**339**	P		**Sn**	**01 31 55.8**	**+0.6**	
REVS	**Reventador Sur**	**5.55**	**348**	P		**Sn**	**01 31 59.9**	**-2.0**	
TING	**Casa Alexandra**	**5.61**	**340**	P		**Sn**	**01 31 56.8**	**-6.7**	
CASC	**Dorado de Casc**	**5.74**	**351**	P		**Sn**	**01 32 03.7**	**-2.7**	
NNA	**Nana**	**6.38**	**183**	Pn		**Pn**	**01 31 10.9**	**+0.3**	
NNA	**Nana**	**6.38**	**183**	Pn		**Pn**	**01 31 12.5**	**+2.0**	
	3.5nm,0.3s,baz=13,slow=8.8,SNR=8.8								
NNA				Sn		**Sn**	**01 32 17.8**	**-4.5**	
	9.4nm,0.3s,baz=347,slow=17,SNR=3.8								
NNA				LR		LR	01 33 12.0		
	comp=Z,139nm,19.4s,baz=340,slow=34								
	7.7nm,0.3s								
TBTG	**Tabatinga, AM**	**6.70**	**78**	Pn		**Pn**	**01 31 17.6**	**+2.8**	
TBTG	**Tabatinga, AM**	**6.70**	**78**	*e*P		**Pn**	**01 31 18.1**	**+3.2**	
TBTG				*e*S		**Sn**	**01 32 32.5**	**+2.4**	
ROSC	**El Rosal**	**10.57**	**12**	Lg		Lg	01 35 11.2		
	4.7nm,0.3s,baz=6.8,slow=23,SNR=2.1								
ETMB	**Extrema**	**11.02**	**113**	Pn		**Pn**	**01 32 13.7**	**-0.4**	
LPAZ	**La Paz**	**13.44**	**143**	Pn		**Pn**	**01 32 47.1**	**-0.6**	
LPAZ	**La Paz**	**13.44**	**143**	Pn		**Pn**	**01 32 48.0**	**+0.3**	
	0.2nm,0.3s,baz=318,slow=9.0,SNR=7.3								
LPAZ				Lg		Lg	01 36 41.9		
	0.2nm,0.3s,baz=29,slow=24,SNR=1.6								
	1.7nm,0.7s								
SAML	**Samuel**	**13.62**	**105**	Pn		**Pn**	**01 32 48.5**	**-1.2**	
BCIP	**Isla Barro Col**	**15.02**	**347**			**P**	**01 33 13.2**	**-0.4**	
BCIP				IAmb		IAmb	01 33 15.0		
	comp=Z,73nm,1.1s								
SDV	**Santo Domingo**	**15.51**	**22**	Lg		Lg	01 37 40.7		
	comp=Z,2.1nm,0.3s,baz=34,slow=14,SNR=3.5								
SDV				LR		LR	01 40 42.6		
	comp=Z,237nm,19.7s,baz=238,slow=44								
GO01	**Chusmiza**	**15.71**	**154**	P		**P**	**01 33 22.1**	**+0.3**	
MACA	**Manacapuru-AM**	**15.94**	**82**			**Pn**	**01 33 22.0**	**+1.4**	
MACA				IAmb		IAmb	01 33 26.5		
	comp=Z,36nm,0.7s								
MACA	**Manacapuru-AM**	**15.94**	**82**	*e*P		**P**	**01 33 22.9**	**-1.0**	
MACA	**Manacapuru-AM**	**15.94**	**82**	P		**Pn**	**01 33 22.0**	**+1.4**	
BAUV	**El Baul**	**16.70**	**30**			**P**	**01 33 33.0**	**+0.7**	
BAUV				IAmb		IAmb	01 33 41.9		
	comp=Z,25nm,0.7s								
PB09	**IPOC Station P**	**17.59**	**157**			**P**	**01 33 43.2**	**+0.9**	
VILB	**Vilhena**	**17.66**	**116**			**P**	**01 33 42.9**	**-0.1**	
VILB	**Vilhena**	**17.66**	**116**	*e*P		**P**	**01 33 43.3**	**+0.3**	
PB05	**IPOC Station P**	**18.22**	**161**	P		**P**	**01 33 48.9**	**-0.3**	
SIV	**San Ignacio**	**18.33**	**126**	P		**P**	**01 33 50.2**	**-0.2**	
	baz=300,slow=12,SNR=9.3								
SIV				Lg		Lg	01 39 16.5		
	baz=358,slow=15,SNR=2.1								
	comp=Z,2.2nm,0.8s								
LVC	**Limon Verde**	**18.45**	**157**	P		**Pn**	**01 33 53.4**	**+1.1**	
	comp=Z,0.3nm,0.3s,baz=327,slow=11,SNR=3.0								
LVC				LR		LR	01 41 23.0		
	comp=Z,166nm,19.9s,baz=322,slow=38								
	comp=Z,9.0nm,1.1s								
BBSD	**Serra de San D**	**19.36**	**128**	*e*P		**P**	**01 34 02.0**	**+0.3**	
PCRV	**Puerto La Cruz**	**19.60**	**37**	P		**P**	**01 34 03.1**	**-1.2**	
	comp=Z,10nm,0.9s,baz=15,slow=15,SNR=1.6								
PTLB	**Pontes e Lacer**	**19.66**	**121**	P		**Pn**	**01 34 06.0**	**-0.6**	
PTLB	**Pontes e Lacer**	**19.66**	**121**	*e*P		**Pn**	**01 34 06.3**	**-0.3**	
PDRB	**Porto dos Gac**	**20.43**	**108**	*e*P		**P**	**01 34 13.7**	**+0.3**	
GO02	**Mina Guanaco**	**20.57**	**162**	P		**P**	**01 34 15.5**	**+0.4**	
ITTB	**Itaituba**	**20.71**	**88**	*e*P		**P**	**01 34 15.0**	**-1.4**	
ITTB				*e*S		**S**	**01 38 01.9**	**-4.1**	
NPGB	**Novo Progresso**	**21.05**	**95**	*e*P		**P**	**01 34 19.1**	**-1.1**	
NPGB				*e*S		**S**	**01 38 09.2**	**-3.7**	
AC05	**El Transito**	**23.88**	**166**	P		**P**	**01 34 50.2**	**+0.8**	
MURT	**Porto Murtinho**	**24.29**	**133**	*e*P		**P**	**01 34 53.2**	**+0.1**	
RVDE	**Rio Verde (Bra**	**24.90**	**124**	*e*P		**P**	**01 34 59.1**	**+0.4**	
RVDE				*e*S		**S**	**01 39 15.0**	**-4.9**	
SDDR	**Presa de Saban**	**24.93**	**12**	P		**P**	**01 35 02.4**	**+3.4**	
SDDR				IAmb		IAmb	01 35 10.4		
	comp=Z,14nm,1.0s								
MCPB	**Macapa, AP**	**24.94**	**79**	*e*S		**S**	**01 39 14.9**	**-5.7**	
CO01	**Juntas del Tor**	**25.01**	**167**	P		**P**	**01 35 01.6**	**+1.6**	
AOPR	**Arecibo Observ**	**25.64**	**22**	P		**P**	**01 35 06.1**	**+0.7**	
AOPR				IAmb		IAmb	01 35 14.2		
	comp=Z,19nm,0.8s								
SJG	**San Juan**	**25.65**	**23**	P		**P**	**01 35 04.4**	**-1.1**	
	comp=Z,7.7nm,0.7s,baz=276,slow=10,SNR=1.8								
SJG				LR		LR	01 46 58.9		
	comp=Z,122nm,18.9s,baz=180,slow=41								
	comp=Z,7.7nm,0.7s								
SNDB	**Serra Nova Dou**	**25.69**	**106**	*e*P		**P**	**01 35 05.6**	**-0.4**	
CO03	**El Pedregal**	**25.72**	**168**	P		**P**	**01 35 06.4**	**+0.3**	
CO03				IAmb		IAmb	01 35 09.7		
	comp=Z,19nm,1.2s								
CO02	**Combarbal**	**26.01**	**169**	P		**P**	**01 35 08.5**	**-0.3**	
CO02				IAmb		IAmb	01 35 10.8		
	comp=Z,12nm,0.8s								
ARAG	**Araguaiana, MT**	**26.23**	**115**	*e*P		**P**	**01 35 11.1**	**+0.2**	
CPUP	**Villa Florida**	**27.59**	**140**	P		**P**	**01 35 22.2**	**-0.7**	
	comp=Z,2.4nm,0.7s,baz=328,slow=10,SNR=5.3								
	comp=Z,2.4nm,0.7s								
TEIG	**Tepich**	**28.13**	**336**	P		**P**	**01 35 27.0**	**-0.8**	
	comp=Z,2.3nm,0.4s,baz=191,slow=16,SNR=1.8								
	comp=Z,2.3nm,0.4s								
SMTB	**Santa Maria do**	**28.85**	**98**	*e*P		**P**	**01 35 34.5**	**+0.2**	
CMIG	**Matias Romero**	**28.94**	**321**	P		**P**	**01 35 34.4**	**-0.6**	
	comp=Z,1.5nm,0.5s,baz=127,slow=7.7,SNR=5.1								
	comp=Z,1.5nm,0.5s								
IPMB	**Ipameri, GO**	**30.25**	**116**	*e*P		**P**	**01 35 46.7**	**0.0**	
ITQB	**Itaqui**	**30.43**	**144**	P		**P**	**01 35 48.0**	**-0.2**	
BB19B	**Bebedouro**	**31.18**	**122**	*e*P		**P**	**01 35 54.3**	**-0.7**	
SDBA	**SAO DESIDERIO**	**31.91**	**104**	*e*P		**P**	**01 36 01.5**	**+0.1**	
PLTB	**Pedras Altas**	**33.73**	**143**	P		**P**	**01 36 15.5**	**-1.7**	
PLCA	**Paso Flores**	**35.41**	**172**	P		**P**	**01 36 32.8**	**+1.2**	
	comp=Z,1.4nm,0.7s,baz=350,slow=9.5,SNR=3.8								
	comp=Z,1.4nm,0.7s								
BRAL	**Brewton**	**37.90**	**345**	P		**P**	**01 36 53.2**	**+0.3**	
	baz=163								
NHSC	**New Hope**	**38.63**	**355**	P		**P**	**01 36 59.7**	**+0.9**	
	baz=174								
GOGA	**Godfrey**	**39.33**	**351**	P		**P**	**01 37 05.3**	**+0.6**	
	baz=169								
LRAL	**Lakeview Retre**	**39.67**	**346**	P		**P**	**01 37 07.0**	**-0.6**	
LRAL	**Lakeview Retre**	**39.67**	**346**	P		**P**	**01 37 08.2**	**+0.6**	
	baz=164								
Y49A	**Blount Mountai**	**40.33**	**347**	P		**P**	**01 37 11.7**	**-1.3**	
CNNC	**Cliffs of the**	**40.62**	**358**	P		**P**	**01 37 16.1**	**+0.7**	
	baz=178								
KMSC	**Kings Mountain**	**40.75**	**354**	P		**P**	**01 37 16.9**	**+0.3**	
	baz=173								
HNDO	**Hondo**	**41.20**	**329**	P		**P**	**01 37 20.8**	**+0.4**	
V53A	**Saluda**	**41.45**	**352**	P		**P**	**01 37 22.3**	**-0.1**	
CPCT	**Cooper Cave**	**41.50**	**350**	P		**P**	**01 37 21.8**	**-0.9**	
DRIO	**Del Rio**	**41.81**	**328**	P		**P**	**01 37 25.1**	**-0.3**	
DRIO				IAmb		IAmb	01 37 26.5		
	comp=Z,12nm,0.8s								
T59A	**Double "B" Far**	**42.33**	**359**	P		**P**	**01 37 29.8**	**+0.3**	
WHTX	**Lake Whitney,**	**42.36**	**333**	P		**P**	**01 37 29.0**	**-0.8**	
	baz=148								
TZTN	**Tazewell**	**42.41**	**352**	P		**P**	**01 37 29.7**	**-0.5**	
TZTN				IAmb		IAmb	01 37 34.4		
	comp=Z,9.5nm,1.1s								
TZTN	**Tazewell**	**42.41**	**352**	P		**P**	**01 37 29.9**	**-0.3**	
	baz=170								
T57A	**Hurt**	**42.43**	**357**	P		**P**	**01 37 30.4**	**+0.1**	
T57A				IAmb		IAmb	01 37 31.7		
	comp=Z,9.0nm,0.8s								
BLA	**Blacksburg**	**42.72**	**355**	P		**P**	**01 37 32.5**	**-0.2**	
	baz=174								
WVT	**Waverly**	**42.83**	**346**	P		**P**	**01 37 33.1**	**-0.4**	
	baz=164								
MIAR	**Mount Ida**	**43.04**	**339**	P		**P**	**01 37 35.4**	**+0.1**	
	baz=155								
WHAR	**Wooly Hollow**	**43.28**	**341**	P		**P**	**01 37 36.2**	**-1.0**	
TXAR	**Lajitas Array**	**43.44**	**325**	P		**P**	**01 37 39.1**	**+0.4**	
	comp=Z,1.3nm,0.7s,baz=151,slow=9.2,SNR=6.4								
TXAR				PcP		**PcP**	**01 39 27.2**	**+0.5**	
	comp=Z,0.5nm,0.8s,baz=141,slow=4.6,SNR=2.9								
	comp=Z,1.3nm,0.7s								
FW03	**Perrin-Whitt E**	**43.52**	**333**	P		**P**	**01 37 40.1**	**+0.9**	
FW03				IAmb		IAmb	01 37 41.0		
	comp=Z,13nm,1.2s								
X37A	**Clayton**	**43.74**	**337**	P		**P**	**01 37 40.8**	**-0.1**	
ABTX	**Abilene, Hawle**	**43.90**	**331**	P		**P**	**01 37 41.4**	**-0.9**	
	baz=146								
WTFS	**Witchita Falls**	**44.31**	**333**	P		**P**	**01 37 45.6**	**+0.1**	
WTFS				IAmb		IAmb	01 37 47.0		
	comp=Z,11nm,0.6s								
APMT	**Aspermont**	**44.71**	**332**	P		**P**	**01 37 48.7**	**0.0**	
APMT				IAmb		IAmb	01 37 49.8		
	comp=Z,6.1nm,0.6s								
X34A	**Smith Ranch, M**	**44.75**	**335**	P		**P**	**01 37 49.4**	**+0.4**	
X34A				IAmb		IAmb	01 37 50.8		
	comp=Z,9.1nm,0.8s								
MGMO	**Mountain Grove**	**44.99**	**342**	P		**P**	**01 37 50.2**	**-0.6**	
MCWV	**Mont Chateau**	**45.11**	**356**	P		**P**	**01 37 51.9**	**+0.1**	
	baz=175								
WMOK	**Wichita Mounta**	**45.27**	**334**	P		**P**	**01 37 52.7**	**-0.5**	
	baz=148,SNR=5.2								
VHRN	**Van Horn**	**45.28**	**325**	P		**P**	**01 37 53.0**	**-0.4**	
P52A	**Corning**	**45.28**	**354**	P		**P**	**01 37 53.4**	**+0.3**	
	baz=172								
MVL	**Millersville**	**45.35**	**0**	P		**P**	**01 37 55.2**	**+1.5**	
MVL				IAmb		IAmb	01 37 56.0		
	comp=Z,12nm,0.8s								
DKNS	**Dickens**	**45.37**	**331**	P		**P**	**01 37 54.5**	**+0.5**	
OK051	**E0350 and S346**	**45.99**	**337**	P		**P**	**01 37 59.0**	**+0.1**	
SSPA	**Standing Stone**	**46.00**	**359**	P		**P**	**01 37 59.9**	**+1.1**	
SSPA				IAmb		IAmb	01 38 00.8		
	comp=Z,6.1nm,0.8s								
SSPA	**Standing Stone**	**46.00**	**359**	P		**P**	**01 37 59.1**	**+0.3**	
	baz=178								
MNTX	**Cornudas Mount**	**46.18**	**325**	P		**P**	**01 38 00.2**	**-0.3**	
	baz=138								
SMWD	**Samnorwood**	**46.23**	**333**	P		**P**	**01 38 01.1**	**+0.3**	
MSTX	**Muleshoe**	**46.53**	**330**	P		**P**	**01 38 03.5**	**+0.3**	
	baz=143								
M57A	**Sunshine Farm,**	**46.69**	**359**	P		**P**	**01 38 04.9**	**+0.7**	
KSPA	**Keystone Colle**	**46.91**	**1**	P		**P**	**01 38 07.1**	**+1.2**	
UCCT	**U. Connecticut**	**47.30**	**4**	P		**P**	**01 38 09.9**	**+1.0**	
L56A	**Greenwood**	**47.49**	**359**	P		**P**	**01 38 10.6**	**0.0**	
L56A				IAmb		IAmb	01 38 12.1		
	comp=Z,9.8nm,0.8s								
BINY	**Binghamton**	**47.55**	**1**	P		**P**	**01 38 11.8**	**+0.9**	
BINY	**Binghamton**	**47.55**	**1**	P		**P**	**01 38 11.4**	**+0.5**	
	baz=181,SNR=7.3								
L59A	**Walton**	**47.55**	**1**	P		**P**	**01 38 12.0**	**+1.0**	
L59A				IAmb		IAmb	01 38 21.3		
	comp=Z,16nm,1.4s								
L61B	**Northampton**	**47.92**	**4**	P		**P**	**01 38 14.4**	**+0.6**	
	baz=185								
HRV	**Adam Dziewonsk**	**48.06**	**5**	P		**P**	**01 38 15.9**	**+1.1**	
	baz=187								
K57A	**Scipio Center**	**48.08**	**360**	P		**P**	**01 38 16.2**	**+1.2**	
121A	**Cookes Peak, D**	**48.18**	**324**	P		**P**	**01 38 16.1**	**-0.1**	
	baz=136								
J58A	**Remsen**	**48.72**	**1**	P		**P**	**01 38 20.7**	**+0.8**	
J58A				IAmb		IAmb	01 38 21.6		
	comp=Z,5.2nm,0.5s								
J59A	**Piesco**	**48.84**	**2**	P		**P**	**01 38 21.1**	**+0.2**	
J59A				IAmb		IAmb	01 38 22.9		
	comp=Z,6.9nm,0.7s								
HNH	**Hanover**	**49.20**	**4**	P		**P**	**01 38 24.7**	**+1.1**	
ANMO	**Albuquerque**	**49.21**	**327**	P		**P**	**01 38 24.4**	**+0.4**	
ANMO				IAmb		IAmb	01 38 25.6		
	comp=Z,5.5nm,0.8s								
ANMO	**Albuquerque**	**49.21**	**327**	P		**P**	**01 38 23.6**	**-0.4**	
	baz=139								
NCB	**Newcomb**	**49.36**	**2**	P		**P**	**01 38 26.2**	**+1.3**	
NCB				IAmb		IAmb	01 38 26.6		
	comp=Z,4.6nm,0.6s								
I63A	**Otisfield**	**49.68**	**6**	P		**P**	**01 38 27.9**	**+0.7**	
LBNH	**Lisbon**	**49.75**	**4**	P		**P**	**01 38 28.9**	**+1.1**	
LBNH				IAmb		IAmb	01 38 29.8		
	comp=Z,6.8nm,0.7s								
LBNH	**Lisbon**	**49.75**	**4**	P		**P**	**01 38 28.9**	**+1.1**	
	baz=186								
TUC	**Tucson**	**49.83**	**321**	P		**P**	**01 38 28.5**	**-0.2**	
	baz=133								
T25A	**Trinidad**	**49.85**	**331**	P		**P**	**01 38 29.1**	**+0.1**	
	baz=143								
JFWS	**Jewell Farm**	**49.85**	**347**	P		**P**	**01 38 29.7**	**+1.1**	
	baz=162								
DELO	**Deloro Mine**	**49.87**	**359**	P		**P**	**01 38 28.8**	**+0.1**	
LONY	**Lake Ozonia**	**49.99**	**2**	P		**P**	**01 38 30.3**	**+0.6**	
LONY				IAmb		IAmb	01 38 30.5		
	comp=Z,6.1nm,1.0s								
LONY	**Lake Ozonia**	**49.99**	**2**	P		**P**	**01 38 30.7**	**+1.0**	
	baz=183								
G62A	**West of Eustis**	**50.84**	**5**	P		**P**	**01 38 37.7**	**+1.6**	
SDCO	**Great Sand Dun**	**50.86**	**330**	P		**P**	**01 38 37.3**	**+0.6**	
SDCO	**Great Sand Dun**	**50.86**	**330**	P		**P**	**01 38 37.0**	**+0.3**	
	baz=142,SNR=7.1								
PKME	**Peaks-Kenny Pk**	**51.02**	**7**	P		**P**	**01 38 38.5**	**+1.2**	
	baz=189								
W18A	**Petrified Fore**	**51.16**	**325**	P		**P**	**01 38 39.0**	**+0.1**	
	baz=136								
S22A	**4UR Ranch, Cre**	**51.53**	**329**	P		**P**	**01 38 42.1**	**+0.4**	
	baz=140								
F62A	**Pittston Farm,**	**51.57**	**6**	P		**P**	**01 38 42.0**	**+0.5**	
TRQ	**Mont Tremblant**	**51.59**	**2**	P		**P**	**01 38 42.2**	**+0.4**	
TRQ				IAmb		IAmb	01 38 43.0		
	comp=Z,3.2nm,0.7s								
X16A	**Lo Mia Camp, P**	**51.67**	**323**	P		**P**	**01 38 42.3**	**-0.4**	
X16A				IAmb		IAmb	01 38 44.4		
	comp=Z,4.5nm,0.8s								
F64A	**Sherman**	**51.72**	**7**	P		**P**	**01 38 43.6**	**+1.0**	
F64A				IAmb		IAmb	01 38 44.7		
	comp=Z,8.9nm,1.0s								
LMN	**Caledonia Moun**	**52.25**	**10**	P		**P**	**01 38 47.4**	**+0.8**	
LMN				IAmb		IAmb	01 38 54.6		
	comp=Z,11nm,1.3s								
E62A	**Clayton Lake**	**52.33**	**6**	P		**P**	**01 38 48.9**	**+1.8**	
E62A				IAmb		IAmb	01 38 49.8		
	comp=Z,9.1nm,0.8s								
ECSD	**EROS Data Cent**	**52.34**	**342**	P		**P**	**01 38 48.1**	**+0.8**	
	baz=155								
WUAZ	**Wupatki**	**52.39**	**324**	P		**P**	**01 38 48.0**	**0.0**	
	baz=134,SNR=5.4								
ISCO	**Idaho Springs**	**52.53**	**332**	P		**P**	**01 38 48.9**	**-0.2**	
	baz=143								
D62A	**Allapoint, All**	**52.84**	**6**	P		**P**	**01 38 52.4**	**+1.5**	
D62A				IAmb		IAmb	01 38 52.8		
	comp=Z,7.1nm,0.8s								
LMQ	**La Malbaie**	**53.17**	**5**	P		**P**	**01 38 54.1**	**+0.8**	
LMQ				IAmb		IAmb	01 38 57.9		
	comp=Z,9.0nm,1.0s								
IKP	**In-Ko-Pah, Jac**	**53.49**	**318**	P		**P**	**01 38 55.4**	**-0.7**	
	baz=128								
LDAQ	**Lac Daran**	**53.51**	**4**	P		**P**	**01 38 56.6**	**+0.7**	
BC3	**Big Chuckawall**	**53.68**	**319**	P		**P**	**01 38 57.0**	**-0.5**	
	baz=129								
IRM	**Iron Mountain**	**53.80**	**320**	P		**P**	**01 38 58.3**	**0.0**	
	baz=130								
O20A	**White River Ci**	**54.06**	**330**	P		**P**	**01 39 00.9**	**+0.6**	
	baz=140								
BELC	**Belle Mtn. Jos**	**54.25**	**319**	P		**P**	**01 39 01.4**	**-0.2**	
	baz=129								
TPFO	**Pinon Flats**	**54.30**	**319**	P		**P**	**01 39 02.4**	**+0.3**	
	baz=128								
PFO	**Pinyon Flats O**	**54.31**	**319**	P		**P**	**01 39 02.3**	**+0.2**	
	baz=128								
GMRC	**Granite Mounta**	**54.52**	**320**	P		**P**	**01 39 04.3**	**+0.6**	
	baz=130								
HEC	**Hector,Ludlow**	**54.98**	**320**	P		**P**	**01 39 07.9**	**+1.0**	
	baz=129								
SCI2	**San Clemente I**	**55.33**	**317**	P		**P**	**01 39 10.2**	**+0.8**	
	baz=126								
BFSC	**Mount Baldy Ra**	**55.48**	**319**	P		**P**	**01 39 11.1**	**+0.5**	
	baz=128								
GSC	**Goldstone, Bar**	**55.58**	**320**	P		**P**	**01 39 11.5**	**+0.3**	
	baz=129								
GWY	**Greenwater Val**	**56.05**	**321**	P		**P**	**01 39 14.0**	**-0.6**	
EDW2	**Edwards Air Fo**	**56.09**	**319**	P		**P**	**01 39 15.3**	**+0.5**	
	baz=128								
TPNV	**Topopah Spring**	**56.27**	**322**	P		**P**	**01 39 17.2**	**+0.9**	
	baz=130								
FURC	**Furnace Creek,**	**56.35**	**321**	P		**P**	**01 39 17.2**	**+0.7**	
	baz=130								
DUG	**Dugway, Tooele**	**56.48**	**327**	P		**P**	**01 39 18.4**	**+0.7**	
	baz=135								
MPMC	**Manual Prospec**	**56.48**	**320**	P		**P**	**01 39 18.3**	**+0.5**	
	baz=129								
PDAR	**Pinedale Array**	**56.70**	**331**	P		**P**	**01 39 18.7**	**-0.6**	
	comp=Z,0.8nm,0.8s,baz=137,slow=7.3,SNR=5.2								
PDAR				PcP		**PcP**	**01 40 13.7**	**-1.4**	
	comp=Z,0.3nm,0.5s,baz=140,slow=7.1,SNR=3.8								
	comp=Z,0.8nm,0.8s								
ARVC	**Arvin**	**56.78**	**319**	P		**P**	**01 39 21.1**	**+1.3**	
	baz=127								
R11B	**Troy Canyon, C**	**56.78**	**324**	P		**P**	**01 39 21.2**	**+1.3**	
	baz=132								
ISA	**Isabella, Lake**	**56.87**	**319**	P		**P**	**01 39 20.9**	**+0.5**	
	baz=128								
MDND	**Maddock**	**56.95**	**342**	P		**P**	**01 39 21.4**	**+0.7**	
	baz=152								
CWC	**Cottonwood Cre**	**57.09**	**320**	P		**P**	**01 39 22.3**	**+0.2**	
	baz=128								
GMN	**Gold Mountain**	**57.12**	**322**	P		**P**	**01 39 21.2**	**-1.1**	
PKM	**Mcpherson Peak**	**57.29**	**318**	P		**P**	**01 39 23.8**	**+0.3**	
	baz=126								
DSP	**Deep Springs**	**57.60**	**321**	P		**P**	**01 39 25.9**	**+0.4**	
ULM	**Lac du Bonnet**	**58.08**	**345**	P		**P**	**01 39 27.2**	**-1.3**	
ULM				IAmb		IAmb	01 39 27.6		
	comp=Z,5.3nm,0.9s								
ULM	**Lac du Bonnet**	**58.08**	**345**	P		**P**	**01 39 27.2**	**-1.3**	
	comp=Z,3.5nm,0.7s,baz=165,slow=7.5,SNR=5.4								
	comp=Z,3.5nm,0.7s								
RLMT	**Red Lodge**	**58.38**	**333**	P		**P**	**01 39 32.2**	**+1.2**	
	baz=141								
NVAR	**Mina Array Bea**	**58.47**	**322**	P		**P**	**01 39 32.1**	**+0.3**	
	comp=Z,1.5nm,0.7s,baz=126,slow=7.5,SNR=7.3								
NVAR				PcP		**PcP**	**01 40 21.6**	**-0.6**	
	comp=Z,0.7nm,0.7s,baz=128,slow=4.1,SNR=3.5								
	comp=Z,1.5nm,0.7s								
KVN	**Kaiserville**	**58.74**	**323**	P		**P**	**01 39 33.2**	**-0.4**	
YHL	**Hebgen Lake**	**59.05**	**332**	P		**P**	**01 39 36.9**	**+1.1**	
HLID	**Hailey**	**59.70**	**329**	P		**P**	**01 39 40.4**	**+0.3**	
	baz=135								
BOZ	**Bozeman (W)**	**59.82**	**332**	P		**P**	**01 39 41.3**	**+0.4**	
	baz=139								
SCHQ	**Schefferville**	**60.72**	**6**	P		**P**	**01 39 46.8**	**+0.1**	
SCHQ				IAmb		IAmb	01 39 47.6		
	comp=Z,4.6nm,0.

comp=Z,6.5nm,0.8s
M29M Somme Creek 82.41 336 P P 01 41 57.8 +0.6
baz=118,SNR=8.5
L29M L29M 82.58 336 P P 01 41 58.8 +0.7
baz=118,SNR=17
J30M Hart River 82.60 338 P P 01 41 58.9 +0.7
J30M IAmb IAmb 01 42 00.0
comp=Z,5.5nm,0.9s
J30M Hart River 82.60 338 P P 01 41 59.3 +1.1
baz=120,SNR=6.0
K29M Barlow Dome 82.69 337 P P 01 41 59.3 +0.5
K29M IAmb IAmb 01 41 59.9
comp=Z,5.7nm,0.7s
K29M Barlow Dome 82.69 337 P P 01 41 59.2 +0.4
baz=119,SNR=8.1
MESA MESA 82.93 333 P P 01 42 00.1 0.0
baz=114
I30M Mount Dempster 82.94 338 P P 01 42 00.7 +0.7
baz=120,SNR=14
YUK3 Moose Creek 82.95 335 P P 01 42 00.6 +0.3
baz=116
CTG Chitna Glacier 82.98 334 P P 01 42 00.3 0.0
baz=115
G31M Satah River 83.08 340 P P 01 42 00.3 -0.2
G31M Satah River 83.08 340 P P 01 42 00.5 0.0
baz=122,SNR=5.7
F31M Tsiigehtchic 83.18 341 P P 01 42 01.0 0.0
baz=123
DAWY Dawson 83.53 337 P P 01 42 02.7 -0.3
baz=117
INK Inuvik 83.58 342 P P 01 42 02.9 -0.1
INK IAmb IAmb 01 42 04.3
comp=Z,8.4nm,0.8s
INK Inuvik 83.58 342 P P 01 42 03.5 +0.4
baz=123,SNR=6.8
EPYK Eagle Plains 83.63 339 P P 01 42 03.8 +0.3
baz=120
CRQE Cirque 83.68 333 P P 01 42 03.6 -0.3
baz=113
I29M Ogilvie Camp, 83.71 338 P P 01 42 03.7 -0.1
baz=118
M27K Edge Creek, AK 83.80 335 P P 01 42 04.7 +0.2
M27K IAmb IAmb 01 42 06.1
comp=Z,8.5nm,0.8s
M27K Edge Creek, AK 83.80 335 P P 01 42 04.7 +0.2
baz=115,SNR=8.1
MCARA McCarthy VSAT 83.90 334 P P 01 42 05.5 +0.7
baz=114
F30M Barrier River 83.94 341 P P 01 42 05.2 +0.3
baz=121
VRDI Verde Repeater 84.03 333 P P 01 42 06.1 +0.3
VRDI IAmb IAmb 01 42 07.0
comp=Z,9.5nm,1.0s
HMT Hamilton 84.05 332 P P 01 42 06.1 +0.4
L27K Beaver Creek, 84.07 335 P P 01 42 06.3 +0.6
L27K IAmb IAmb 01 42 07.4
comp=Z,7.0nm,0.8s
L27K Beaver Creek, 84.07 335 P P 01 42 06.5 +0.7
baz=115,SNR=11
NEEM North Greenlan 84.11 5 *e*P P 01 42 06.5 +0.5
H29M Whitestone 84.14 339 P P 01 42 06.3 +0.3
H29M IAmb IAmb 01 42 07.2
comp=Z,6.3nm,0.9s
H29M Whitestone 84.14 339 P P 01 42 06.0 0.0
baz=118
GLB Gilahina Butte 84.27 334 P P 01 42 07.1 +0.2
GLB IAmb IAmb 01 42 08.0
comp=Z,5.2nm,0.8s
M26K Nabesna, AK 84.29 335 P P 01 42 07.2 +0.2
baz=114
G29M Pine Creek 84.35 340 P P 01 42 06.3 -0.8
G29M IAmb IAmb 01 42 08.0
comp=Z,8.9nm,0.8s
G29M Pine Creek 84.35 340 P P 01 42 07.3 +0.2
baz=119,SNR=5.4
I28M Miner Creek 84.36 338 P P 01 42 07.0 -0.3
I28M IAmb IAmb 01 42 08.4
comp=Z,4.0nm,0.8s
I28M Miner Creek 84.36 338 P P 01 42 07.6 +0.3
baz=117,SNR=8.2
BMRM Bremner River 84.45 333 P P 01 42 07.9 +0.2
baz=112
QSPA South Pole Qui 84.52 180 P P 01 42 05.5 -2.7
QSPA IAmb IAmb 01 42 11.2
comp=Z,6.4nm,1.2s
QSPA South Pole Qui 84.52 180 P P 01 42 09.0 +0.9
comp=Z,3.8nm,1.0s,baz=133,slow=3.9,SNR=12
comp=Z,3.8nm,1.0s
EGAK Eagle 84.53 337 P P 01 42 07.0 -1.0
EGAK IAmb IAmb 01 42 09.1
comp=Z,5.3nm,0.9s
EGAK Eagle 84.53 337 P P 01 42 08.5 +0.5
baz=116,SNR=5.6
K27K Chicken 84.58 336 P P 01 42 08.5 +0.2
K27K IAmb IAmb 01 42 10.2
comp=Z,8.4nm,0.8s
K27K Chicken 84.58 336 P P 01 42 09.0 +0.7
baz=115
N25K Chitina, Valde 84.68 334 P P 01 42 09.6 +0.6
baz=112
Q23K Middleton Isla 84.71 331 P P 01 42 09.8 +0.8
baz=110
TAM Tamanrasset 84.81 67 P P 01 42 12.4 +1.9
EYAK Cordova Ski Ar 84.82 332 P P 01 42 09.8 +0.3
baz=111
E29M Blow River 85.02 341 P P 01 42 09.8 -0.6
E29M IAmb IAmb 01 42 11.3
comp=Z,6.5nm,0.9s
E29M Blow River 85.02 341 P P 01 42 10.5 +0.1
baz=119,SNR=6.9
I27K Kandik River 85.06 338 P P 01 42 10.8 +0.1
baz=115
EKA Eskdalemuir Ar 85.18 33 P P 01 42 11.3 -0.2
comp=Z,1.6nm,0.8s,baz=253,slow=4.8,SNR=5.8
comp=Z,1.6nm,0.8s
KLU Klutina 85.23 333 P P 01 42 11.6 -0.1
baz=111
H27K Steamboat Moun 85.29 338 P P 01 42 11.4 -0.5
baz=115
F28M Old Crow 85.31 340 P P 01 42 12.1 +0.2
baz=117
SCRK Sand Creek 85.33 336 P P 01 42 12.3 +0.1
SCRK IAmb IAmb 01 42 13.1
comp=Z,3.5nm,0.6s
SCRK Sand Creek 85.33 336 P P 01 42 12.0 -0.2
baz=113,SNR=6.4
J26L Joseph Creek 85.36 336 P P 01 42 12.2 -0.2
J26L IAmb IAmb 01 42 13.6
comp=Z,6.1nm,1.1s
J26L Joseph Creek 85.36 336 P P 01 42 12.4 +0.1
baz=113,SNR=6.4
I26K Coal Creek Min 85.52 337 P P 01 42 13.3 +0.3
baz=114
M24K Tolsona, Glenn 85.56 334 P P 01 42 13.6 +0.3
baz=111
PAX Paxson 85.57 335 P P 01 42 13.4 0.0
baz=111,SNR=6.3
G27K Doyon Strip 85.58 339 P P 01 42 13.3 0.0
baz=115,SNR=5.0
E28M Babbage River 85.65 341 P P 01 42 13.4 -0.2
baz=117
SCM Sheep Creek Mo 85.98 333 P P 01 42 15.2 -0.2
baz=110
J25K Salcha River, 86.13 336 P P 01 42 15.4 -0.7
J25K IAmb IAmb 01 42 17.0
comp=Z,3.7nm,0.9s
J25K Salcha River, 86.13 336 P P 01 42 16.4 +0.3
baz=112,SNR=7.2
M23K Glacier View 86.14 333 P P 01 42 15.3 -0.9
baz=109
E27K Coleen River 86.15 340 P P 01 42 15.5 -0.6
E27K IAmb IAmb 01 42 17.1
comp=Z,4.7nm,1.1s
E27K Coleen River 86.15 340 P P 01 42 15.7 -0.3
baz=115
D27M Malcolm River 86.40 341 P P 01 42 18.1 +0.7
baz=116,SNR=5.2
G26K Porcupine Rive 86.41 339 P P 01 42 17.2 -0.1
baz=113
WAT6 Susitna Watana 86.41 334 P P 01 42 17.5 -0.1
baz=109,SNR=6.0
SEW Seward 86.41 331 P P 01 42 17.5 +0.1
baz=108
DHY Denali Highway 86.42 334 P P 01 42 17.1 -0.6
baz=110
SML Sawmill 86.42 333 P P 01 42 17.8 +0.2
baz=109

PRP Porcupine Dome 86.52 337 P P 01 42 18.2 +0.1
baz=112
HDA Harding Lake 86.69 336 P P 01 42 19.0 +0.2
baz=110
ILAR Eielson Array 86.79 336 P P 01 42 18.8 -0.5
comp=Z,1.7nm,0.9s,baz=107,slow=4.3,SNR=7.8
comp=Z,1.7nm,0.9s
F26K Sheenjek River 86.83 339 P P 01 42 19.3 -0.2
baz=113,SNR=5.5
WAT1 Susitna Watana 86.84 334 P P 01 42 19.6 0.0
baz=109
H25L Birch Creek 86.90 338 P P 01 42 20.3 +0.5
baz=111
BRSE Bradley Lake S 86.92 331 P P 01 42 20.3 +0.3
baz=106
POKR Poker Flat Res 87.13 336 P P 01 42 21.6 +0.7
baz=110
G25K Bearman Lake 87.19 338 P P 01 42 22.3 +1.2
baz=111
MCK McKinley 87.30 335 P P 01 42 22.4 +0.6
baz=108
F25K Christian Rive 87.32 339 P P 01 42 23.0 +1.1
baz=112
KDAK Kodiak Island 87.32 329 P P 01 42 22.1 +0.1
baz=105
MDM Murphy Dome 87.39 336 P P 01 42 22.0 -0.2
SUA Susitna One 87.42 332 P P 01 42 22.6 +0.1
baz=107
Q20K Shuyak Island 87.44 329 P P 01 42 22.6 +0.2
baz=105
C27K Jago River 87.44 341 P P 01 42 23.0 +0.7
baz=113
H24K Noodor Dome 87.54 337 P P 01 42 22.8 -0.1
H24K IAmb IAmb 01 42 24.3
comp=Z,6.5nm,0.9s
H24K Noodor Dome 87.54 337 P P 01 42 23.5 +0.6
baz=109
OHAK Old Harbor 87.55 328 P P 01 42 24.1 +1.0
baz=104
NEA2 Nenana 87.62 336 P P 01 42 23.6 +0.3
baz=108
G24K Hadweenzic Riv 87.68 338 P P 01 42 24.6 +1.1
baz=110,SNR=6.1
SII Sitkinak Islan 87.87 327 P P 01 42 24.3 -0.3
baz=104
I23K Minto, Yukon-K 87.91 336 P P 01 42 24.8 +0.2
baz=108,SNR=11
SKT Skwentna 87.92 333 P P 01 42 24.5 -0.3
SKT Skwentna 87.92 333 P P 01 42 24.9 +0.1
baz=106,SNR=16
C26K Camden Bay 87.94 341 P P 01 42 25.8 +1.1
baz=112,SNR=8.6
N20K Mount Spurr 88.02 332 P P 01 42 25.2 -0.2
baz=105
F24K Squaw Lake 88.11 339 P P 01 42 26.3 +0.7
baz=109
H23K Yukon River 88.19 337 P P 01 42 25.8 -0.2
baz=108
D25K Kavik River 88.20 341 P P 01 42 25.8 -0.2
D25K Kavik River 88.20 341 P P 01 42 26.5 +0.5
baz=111,SNR=10
BPAW Bear Paw Mtn. 88.27 335 P P 01 42 25.4 -1.0
BPAW Bear Paw Mtn. 88.27 335 P P 01 42 26.4 0.0
baz=106,SNR=16
DAG Danmarks Havn 88.39 11 *i*P P 01 42 26.0 -0.7
MLY Manley 88.43 336 P P 01 42 27.2 0.0
MLY Manley 88.43 336 P P 01 42 27.3 0.0
baz=107,SNR=12
PPLA Purkeypile 88.46 334 P P 01 42 27.5 +0.1
baz=105,SNR=6.1
E24K Your Creek 88.50 339 P P 01 42 28.2 +0.7
baz=109
CAST Castle Rocks 88.55 334 P P 01 42 26.8 -1.0
CAST Castle Rocks 88.55 334 P P 01 42 27.4 -0.4
baz=106
M20K Styx River 88.62 333 P P 01 42 28.0 -0.2
baz=104
G23K Bananza Creek 88.64 338 P P 01 42 28.5 +0.3
G23K Bananza Creek 88.64 338 P P 01 42 29.0 +0.9
baz=107,SNR=12
Q18K Katmai Hardscr 88.78 329 P P 01 42 28.9 -0.1
baz=103
COLD Coldfoot 88.86 338 P P 01 42 30.3 +1.2
baz=107
E23K Chandalar 88.90 339 P P 01 42 29.7 +0.3
baz=108
H22K Ishtalitna Cre 88.93 337 P P 01 42 29.5 0.0
baz=106
N19K Bonanza Creek 89.00 331 P P 01 42 29.2 -0.8
baz=103
TOLK Toolik Lake Re 89.06 339 P P 01 42 30.3 +0.3
baz=108
C24K Franklin Bluff 89.11 341 P P 01 42 30.7 +0.5
baz=109
L20K Farewell, AK 89.11 333 P P 01 42 30.1 -0.4
baz=104,SNR=5.7
O18K Koktuh Hills 89.14 330 P P 01 42 30.7 +0.2
baz=103
Q17K Contact Creek 89.14 329 P P 01 42 31.0 +0.2
baz=102,SNR=5.5
M19K Big River Lodg 89.21 332 P P 01 42 31.0 +0.1
baz=103
R17L Mt. Peulik Vol 89.26 328 P P 01 42 31.8 +0.5
baz=102
K20K Telida 89.40 334 P P 01 42 31.0 -0.7
K20K IAmb IAmb 01 42 31.8
comp=Z,3.4nm,0.6s
K20K Telida 89.40 334 P P 01 42 31.3 -0.4
baz=104
H21K Melozitna Rive 89.44 336 P P 01 42 31.7 -0.1
baz=105
L19K White Mountain 89.48 333 P P 01 42 31.0 -1.2
L19K IAmb IAmb 01 42 32.6
comp=Z,4.6nm,0.9s
L19K White Mountain 89.48 333 P P 01 42 31.8 -0.3
baz=103,SNR=5.5
D23K Nanushuk River 89.55 340 P P 01 42 32.8 +0.5
baz=107
P17K Kvichak River 89.62 330 P P 01 42 32.3 -0.5
baz=102
J20K Nowinta River 89.63 335 P P 01 42 32.4 -0.4
J20K IAmb IAmb 01 42 33.3
comp=Z,5.5nm,1.1s
J20K Nowinta River 89.63 335 P P 01 42 32.7 -0.1
baz=104,SNR=5.0
N18K Kilae Creek 89.65 331 P P 01 42 32.7 -0.3
baz=102
F22K John River 89.68 338 P P 01 42 33.5 +0.6
baz=105
E22K Anaktuvuk Pass 89.71 339 P P 01 42 33.1 -0.1
E22K IAmb IAmb 01 42 33.8
comp=Z,6.8nm,1.2s
E22K Anaktuvuk Pass 89.71 339 P P 01 42 33.3 +0.2
baz=106
C23K Itkillik River 89.77 341 P P 01 42 33.8 +0.5
baz=107
M18K Stony River 89.78 332 P P 01 42 33.5 0.0
baz=102
G21K Allakaket 89.93 337 P P 01 42 34.1 0.0
baz=104
O17K Koliganek Bris 90.06 330 P P 01 42 34.7 -0.2
baz=101
D22K Ayikyak River 90.22 339 P P 01 42 36.4 +0.9
baz=105
J19K Poorman 90.22 334 P P 01 42 36.2 +0.7
baz=102
H20K Anotleneega Mo 90.24 336 P P 01 42 35.9 +0.3
baz=103,SNR=5.5
N17K Nushagak Hills 90.25 331 P P 01 42 35.8 +0.1
baz=101
L18K Granite Mounta 90.33 333 P P 01 42 36.0 -0.1
baz=101
M17K Holitna River 90.53 332 P P 01 42 37.2 +0.2
baz=101
CHNA Chernabura Isl 90.54 325 P P 01 42 36.8 -0.4
baz=99
E21K Killik River 90.57 339 P P 01 42 37.4 +0.3
baz=104
J18K Innoko River 90.59 334 P P 01 42 37.7 +0.4
baz=101
S14K Fog Glacier 90.75 326 P P 01 42 38.8 +0.6
baz=99
H19K Roundabout Mou 90.88 336 P P 01 42 39.1 +0.5
baz=102
C21K Knifeblade Rid 91.02 339 P P 01 42 40.1 +0.9
baz=103
L17K Donlin 91.06 332 P P 01 42 39.9 +0.4
baz=100

B21K Ikpikpuk River 91.06 340 P P 01 42 40.2 +0.9
baz=103
K17K Iditarod 91.16 333 P P 01 42 40.8 +0.9
baz=100
M16K Timber Creek 91.19 331 P P 01 42 41.2 +1.2
baz=99
E20K Nigu River 91.33 338 P P 01 42 41.4 +0.7
baz=102
L16K Owhat River 91.54 332 P P 01 42 42.8 +1.1
baz=99
E19K Redstone River 91.56 338 P P 01 42 42.6 +0.8
baz=101
D20K Etivluk River 91.57 339 P P 01 42 42.7 +1.0
baz=101
H18K Honhosa River 91.60 335 P P 01 42 42.7 +0.8
baz=100
N15K Kwethluk River 91.61 330 P P 01 42 43.2 +1.1
baz=98
F19K Shaleruckik Mo 91.66 337 P P 01 42 43.1 +1.0
baz=100
G18K Tagagawik 91.85 336 P P 01 42 43.6 +0.6
baz=100
M15K Kasigluk River 91.98 331 P P 01 42 44.4 +0.7
baz=98
O14K Tigyukauivet M 92.07 329 P P 01 42 45.2 +1.0
baz=98
D19K Kuna River 92.08 339 P P 01 42 45.0 +0.9
baz=100
J16K Anvik River 92.29 333 P P 01 42 46.0 +0.8
baz=98
F18K Selawik 92.36 337 P P 01 42 46.1 +0.7
baz=99
N14K Kuskokwak Cree 92.37 330 P P 01 42 46.0 +0.5
baz=97
I17K Unalakleet 92.41 334 P P 01 42 46.2 +0.6
baz=98
L15K Ungalak Mounta 92.49 332 P P 01 42 46.9 +0.8
baz=97
K15K Wolf Creek Mou 92.58 332 P P 01 42 46.9 +0.3
baz=97
M14K Bethel 92.60 331 P P 01 42 47.6 +1.0
baz=97
L14K Kuka Creek 93.02 331 P P 01 42 49.2 +0.7
baz=96
SUR Sutherland 93.19 123 LR LR 02 21 32.4
comp=Z,72nm,19.7s,baz=122,slow=34
J14K Nanvaranak Lak 93.56 333 P P 01 42 50.9 -0.1
baz=95
LBTB Lobatse 98.54 116 LR LR 02 27 43.9
comp=Z,49nm,18.2s,baz=152,slow=35
BVAR Borovoye Array 125.48 24 PKP PKiKP 01 48 37.1 +0.4
comp=Z,1.5nm,0.7s,baz=326,slow=1.5,SNR=5.7
ZALV Zalesovo Beam 129.43 14 PKP PKiKP 01 48 44.4 -0.1
comp=Z,1.9nm,0.4s,baz=346,slow=1.7,SNR=8.5
KURBB Kurchatov Arra 130.47 21 PKP PKiKP 01 48 46.4 -0.3
comp=Z,2.0nm,0.8s,baz=325,slow=2.3,SNR=13
MKAR Makanchi Array 135.04 21 PKP PKPdf 01 48 55.0 +0.3
comp=Z,1.0nm,0.5s,baz=346,slow=1.7,SNR=10.0
SONM Songino Array 137.82 357 PKP PKPdf 01 48 59.9 -0.1
comp=Z,0.8nm,0.7s,baz=351,slow=2.7,SNR=2.8
ASAR Alice Springs 138.48 224 PKP PKPdf 01 49 00.9 -0.9
comp=Z,0.9nm,0.8s,baz=131,slow=2.1,SNR=4.1
WRA Warramunga Arr 140.48 229 PKP PKPdf 01 49 04.9 -0.6
comp=Z,0.6nm,0.4s,baz=121,slow=2.1,SNR=5.5

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*ISN **18** 01:30:31.6±1.5, 34°.66N×46°.39E, h25km±34km, ML3.2*
*TEH **18** 01:30:31.2, 34°.62N×46°.28E, h6km±15km, ML3.1*
ISC 18 01:30:31.9±0.9, **34°.62N**±0°.03×**46°.27E**±0°.03, **h13**km±7km,
n18, σ1§31/26, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.12**	**50**	Pg	**Pg**	**01 30 35.2**	**-0.2**
IDHR				Sg	**Sg**	**01 30 37.7**	**-0.2**
IGHG	**Ghaleghazi**	**0.38**	**140**	Pg	**Pb**	**01 30 40.3**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.57**	**259**	Pg	**Pg**	**01 30 43.3**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.59**	**211**	Pg	**Pg**	**01 30 43.4**	**0.0**
GLG1				Sg	**Sb**	**01 30 53.0**	**+0.7**
ILIN	**Lien**	**0.64**	**62**	Pg	**Pb**	**01 30 44.3**	**-0.8**
ILIN				Sg	**Sn**	**01 30 54.8**	**-2.2**
KCHF	**Cheshme Sefid,**	**0.72**	**118**	Pg	**Pb**	**01 30 45.8**	**-0.6**
KCHF				Sg	**Sn**	**01 30 57.7**	**-1.2**
ILBA	**Ilam Banvizeh**	**0.99**	**183**	Pg	**Pn**	**01 30 51.4**	**-0.1**
SNQR	**Sonqor, Kerman**	**1.14**	**78**	Pg	**Pg**	**01 30 54.2**	**+0.3**
IBZA	**Bozab**	**1.32**	**96**	Pg	**Pg**	**01 30 57.5**	**+0.2**
IBZA				Sg	**Sg**	**01 31 16.6**	**+2.1**
IBDR	**Badra**	**1.53**	**191**	*e*Pg	**Pg**	**01 31 01.0**	**-0.3**
IBDR				*e*Sg	**Sb**	**01 31 20.0**	**+0.6**
IBDR				AML	AML	01 31 27.5	
	comp=E,270nm,0.9s						
IBDR				AML	AML	01 31 29.6	
	comp=N,137nm,0.5s						
IKFM	**Kafar-mosalman**	**1.70**	**129**	Pg	**Pg**	**01 31 05.1**	**+0.5**
IKRK	**Kirkuk**	**1.77**	**297**	*e*Pn	**Pn**	**01 31 03.0**	**+0.9**
IKRK				*e*Sn	**Sb**	**01 31 27.0**	**+0.8**
IKRK				AML	AML	01 31 32.5	
	comp=E,313nm,0.5s						
IKRK				AML	AML	01 31 35.0	
	comp=N,444nm,0.8s						
HSAM	**Samen**	**1.97**	**101**	Pn	**Pg**	**01 31 08.6**	**-1.1**
BHD	**Baghdad**	**2.07**	**230**	*e*Pn	**Pb**	**01 31 08.0**	**-1.3**
BHD				*e*Sn	**Sb**	**01 31 35.0**	**+0.1**
BHD				AML	AML	01 31 40.5	
	comp=E,243nm,0.4s						
MAHB	**Mahabad**	**2.19**	**348**	Pn	**Pb**	**01 31 11.1**	**-0.4**
IHSH	**Hashtrud**	**2.80**	**16**	Pn	**Pb**	**01 31 20.0**	**-1.9**
IAZR	**Azarshahr**	**3.06**	**356**	Pn	**Pb**	**01 31 23.9**	**-2.4**
ISHB	**Shabestar**	**3.69**	**352**	Pn	**Pn**	**01 31 32.1**	**+3.2**

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*JMA **18** 01:39:39.1±0.3, 44°.N±1°.×13°.9E±°, h245km±2km, MV3.3/29, NW OFF SHAKOTAN PEN*
*IDC **18** 01:39:40.7±0.7, 44°.03N×139°.56E, h238km±12km, mb3.5/11, mbtmp4.0/16, Error ellipse: s-maj=24.2km s-min=13.8km az=158.0*
*SKHL **18** 01:39:40.1±0.2, 44°.10N×139°.40E, h223km±9km, mb4.5/5, msh4.2/2, msha4.4/2*
ISC 18 01:39:40.1±0.7, **43°.97N**±0°.05×**139°.49E**±0°.05, **h241**km±7km,
n37, σ1§32/46, **mb3.8**/10, **Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**1.39**	**163**	P	**Pn**	**01 40 16.7**	**0.0**
JSS	**Shosan**	**1.75**	**75**	P	**Pn**	**01 40 19.6**	**+0.1**
JSS				*e*S	**S**	**01 40 50.8**	**+0.4**
JEW	**Eniwo**	**1.82**	**128**	*e*P	**Pn**	**01 40 20.8**	**+0.6**
JEW				S	**S**	**01 40 53.3**	**+1.7**
JRBN	**Rebuntou**	**1.83**	**37**	P	**Pn**	**01 40 19.4**	**-0.7**
JOSM	**Okushiri--Mats**	**1.89**	**180**	P	**Pn**	**01 40 21.2**	**+0.4**
JOSM				*e*S	**S**	**01 40 53.2**	**+0.5**
JWK2	**Keihoku**	**2.18**	**51**	*e*P	**Pn**	**01 40 23.7**	**+0.4**
ASAJ	**Asahikawa**	**2.24**	**85**	P	**Pn**	**01 40 23.7**	**-0.3**
	14nm,0.4s,baz=267,slow=14,SNR=13						
ASAJ				S	**S**	**01 40 58.6**	**0.0**
	10nm,0.8s,baz=137,slow=28,SNR=8.0						
TEY	**Ternei**	**2.33**	**298**	*e*P	**Pn**	**01 40 23.8**	**-1.0**
TEY				AMB	AMB	01 40 24.7	
	10.0nm,0.4s						
TEY				*e*S	**S**	**01 40 58.0**	**-2.0**
TEY				A	A	01 40 59.2	
	20nm,0.7s						
TEY				A	A	01 40 59.2	
	30nm,0.7s						
TEY				A	A	01 40 59.3	
	90nm,3.0s						
TEY				A	A	01 40 59.3	
	90nm,3.0s						
JKK2	**Kamakawa 2**	**2.35**	**91**	*e*P	**Pn**	**01 40 25.5**	**+0.3**
JKK2				*e*S	**S**	**01 41 01.0**	**+0.4**
JSE	**Soyaes**	**2.42**	**65**	P	**Pn**	**01 40 26.0**	**+0.2**
JSE				*e*S	**S**	**01 41 02.1**	**+0.4**
JOMM	**Oshimamatsumae**	**2.47**	**171**	P	**Pn**	**01 40 26.6**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.92**	**124**	S	**S**	**01 41 11.1**	**-0.2**
JCH	**Churui**	**3.13**	**114**	S	**S**	**01 41 11.5**	**-4.0**
JAR	**Ashorobuto**	**3.18**	**101**	P	**Pn**	**01 40 34.0**	**+0.2**
JAR				*e*S	**S**	**01 41 16.1**	**-0.2**
YSS	**Yuzh-Sakhalins**	**3.76**	**36**	*e*P	**Pn**	**01 40 40.2**	**-0.3**
YSS				AMB	AMB	01 40 41.3	
	60nm,0.5s						
YSS				*e*S	**S**	**01 41 26.9**	**-1.5**
YSS				A	A	01 41 28.8	
	30nm,0.3s						
YSS				A	A	01 41 28.8	

20nm,0.3s
YSS A A 01 41 29.3
60nm,0.4s
YSS A A 01 41 29.3
50nm,0.4s
JANG Nango 3.90 157 P **Pn 01 40 41.3 -0.9**
NEM2 Nemuro 2 4.57 95 *eS* **S 01 41 40.8 -5.2**
YUK Yuzh-Kuril'sk 4.59 87 *eP* **Pn 01 40 50.9 +0.4**
YUK AMB AMB 01 40 55.6
170nm,0.4s
YUK *e*rx rx 01 41 28.4
JOM Ohasama 4.69 163 P **Pn 01 40 50.9 -0.9**
SHO Shikotan 5.30 89 *eP* **Pn 01 40 59.8 +0.6**
SHO AMB AMB 01 41 02.3
50nm,0.8s
USRK Ussuriysk Ar. 5.41 275 P **Pn 01 41 01.0 +0.5**
15nm,0.5s,baz=79,slow=14,SNR=26
MJAR Matsushiro Arr 7.49 188 P **Pn 01 41 27.6 +0.8**
3.4nm,0.5s,baz=2.4,slow=12,SNR=7.7
KLR Kul'dur 7.49 317 P **Pn 01 41 26.4 -0.2**
4.4nm,0.8s,baz=129,slow=13,SNR=11
KLR Kul'dur 7.49 317 *eP* **Pn 01 41 25.3 -1.4**
KSRS Korea Array 10.93 237 P **P 01 42 12.8 -2.4**
1.5nm,0.5s,baz=50,slow=12,SNR=5.7
SEY Seymchan 20.41 17 P **P 01 43 58.8 0.0**
0.8nm,0.3s,baz=210,slow=16,SNR=1.9
0.8nm,0.3s
SONM Songino Array 23.25 291 P **P 01 44 26.8 +0.6**
0.4nm,0.4s,baz=89,slow=9.4,SNR=1.6
0.4nm,0.4s
ZALV Zalesovo Beam 36.41 306 P **P 01 46 21.8 +0.4**
1.4nm,0.4s,baz=86,slow=8.9,SNR=3.6
1.4nm,0.4s
MKAR Makanchi Array 39.52 295 P **P 01 46 48.6 +1.2**
1.0nm,0.6s,baz=81,slow=9.2,SNR=7.8
1.0nm,0.6s
KURBB Kurchatov Arra 40.84 302 P **P 01 46 59.4 +1.2**
3.6nm,0.6s,baz=75,slow=9.1,SNR=22
3.6nm,0.6s
BVAR Borovoye Array 45.02 307 P **P 01 47 33.0 +1.5**
3.5nm,0.3s,baz=80,slow=9.7,SNR=24
3.5nm,0.3s
FINES FINESS Array B 62.04 330 P **P 01 49 34.9 +0.3**
3.3nm,0.4s,baz=54,slow=7.8,SNR=51
3.3nm,0.4s
HFS Hagfors 67.20 334 P **P 01 50 08.4 +0.6**
2.0nm,0.5s,baz=48,slow=6.6,SNR=31
2.0nm,0.5s
NB2 NORSAR Subarra 67.25 336 P **P 01 50 08.5 +0.2**
comp=Z,0.9nm,0.6s,baz=36,slow=6.5
NOA NORSAR Array B 67.25 336 P **P 01 50 08.4 +0.2**
comp=Z,1.7nm,0.8s,baz=38,slow=6.4,SNR=16
comp=Z,1.7nm,0.8s
AKASG Malin Array Be 67.98 320 P **P 01 50 14.0 +1.1**
comp=Z,0.4nm,0.3s,baz=41,slow=7.4,SNR=2.7
comp=Z,0.4nm,0.3s
EKA Eskdalemuir Ar 76.12 339 P **P 01 51 01.3 +0.3**
comp=Z,0.2nm,0.3s,baz=27,slow=4.9,SNR=3.6
comp=Z,0.2nm,0.3s

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*HVO **18** 01:49:10.4±0.8, 19.°416N±0.°007×155.°278W±0.°007, h1km±1km, ML3.6/32, ML3.4/24(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=219.0*
*NEIC **18** 01:49:10.8±1.0, 19.°419N±0.°007×155.°290W±0.°007, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.2km az=125.0*
*IDC **18** 01:49:11.8±2.4, 19.°61N×155.°31W, h0km, mb3.5/3, mbtmp3.5/3, MS3.7/5, Error ellipse: s-maj=76.6km s-min=16.4km az=169.0*
ISC 18 01:49:11.0±1.3, 19.°44N±0.°02×155.°28W±0.°02, h0km±11km, n38, σ0°62/37, mb3.6/3, MS3.7/5, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.02**	**174**			**Pg**	**01 49 11.1**	**-0.2**
SBLHI	**Steaming Bluff**	**0.02**	**144**			**Pg**	**01 49 11.3**	**-0.1**
RSD	**Rainshed**	**0.02**	**6**	Pg		**Pg**	**01 49 11.8**	**+0.4**
RSD	comp=N,36μm,0.8s			IAML			01 49 12.5	
RSD				Sg		**Sg**	**01 49 12.9**	**+1.2**
OBL	**Observatory Le**	**0.03**	**188**			**Pg**	**01 49 11.1**	**-0.4**
UWE	**Uwekahuna**	**0.03**	**209**	Pg		**Pg**	**01 49 11.3**	**-0.2**
UWE						**Sg**	**01 49 11.9**	**+0.1**
HATHI	**Halema'uma'u T**	**0.03**	**138**	Pg		**Pg**	**01 49 11.3**	**-0.2**
BYL	**Byron's Ledge**	**0.04**	**148**	Pg		**Pg**	**01 49 11.2**	**-0.5**
BYL				Sg		**Sg**	**01 49 12.1**	**-0.1**
WRMHI	**West Rim**	**0.04**	**207**			**Pg**	**01 49 12.4**	**+0.7**
KKO	**Keanakako`i**	**0.05**	**163**			**Pg**	**01 49 12.3**	**+0.4**
RIM	**Rim**	**0.05**	**173**			**Pg**	**01 49 12.1**	**+0.2**
SDHHI	**Sand Hill**	**0.06**	**194**			**Pg**	**01 49 12.5**	**+0.5**
PUH	**Pauahi**	**0.09**	**139**	Pg		**Pg**	**01 49 12.8**	**+0.1**
PUH	comp=E,25μm,0.6s			IAML			01 49 14.1	
PUH				Sg		**Sg**	**01 49 14.2**	**+0.2**
MLH	**Mauna Loa**	**0.11**	**297**	Pg		**Pg**	**01 49 13.8**	**+0.7**
MLH	comp=N,11μm,0.8s			IAML			01 49 16.6	
MLH				IAML			01 49 17.1	
KNHH	**Kane Nui o Ham**	**0.12**	**121**	Pg		**Pg**	**01 49 13.2**	**-0.1**
HLP	**Hilina Pali**	**0.15**	**190**	Pg		**Pg**	**01 49 13.6**	**-0.3**
HLP	comp=N,16μm,0.6s			IAML			01 49 16.6	
STCH	**Steam Cracks**	**0.16**	**111**	Pg		**Pg**	**01 49 13.9**	**0.0**
STCH	comp=N,12μm,0.9s			IAML			01 49 17.4	
STCH				IAML			01 49 17.9	
NPOC	**North of Pu'u**	**0.17**	**107**			**Pg**	**01 49 14.2**	**0.0**
JCUZ	**Jacuzzi**	**0.18**	**109**			**Pg**	**01 49 14.4**	**0.0**
HTC	**Hot Caves**	**0.23**	**209**			**Pg**	**01 49 15.3**	**-0.1**
HMH	**Humu'ula Sheep**	**0.25**	**310**	Pg		**Pg**	**01 49 16.0**	**+0.2**
HMH	comp=N,8μm,0.9s			IAML			01 49 23.7	
HMH				IAML			01 49 24.1	
JOKA	**Jonika Flow**	**0.26**	**92**	Pg		**Pg**	**01 49 16.2**	**+0.2**
MLOA	**Mauna Loa Obse**	**0.29**	**288**	Pg		**Pg**	**01 49 16.5**	**-0.1**
MLOA	comp=N,7μm,0.9s			IAML			01 49 24.6	
MWH	**Moku'aweowe**	**0.30**	**278**	Pg		**Pg**	**01 49 17.2**	**+0.4**
PAH	**Pahoa**	**0.32**	**81**	Pg		**Pg**	**01 49 17.2**	**+0.2**
KHU	**Kahuku**	**0.37**	**238**	Pg		**Pg**	**01 49 17.7**	**-0.4**
HPO	**Honuapo**	**0.44**	**216**	Pg		**Pg**	**01 49 19.1**	**-0.2**
HUH	**Hualalai**	**0.58**	**295**	Pg		**Pg**	**01 49 22.7**	**+0.7**
I59US	**HAWAII INFRASO**	**0.60**	**284**	Pg		**Pg**	**01 49 22.4**	**0.0**
	baz=141,slow=8.4							
HPAH	**Hawaii Prepara**	**0.70**	**326**	Pg		**Pg**	**01 49 23.0**	**-1.5**
MHA	**Mahukona**	**0.94**	**322**	Pg		**Pg**	**01 49 26.8**	**-2.4**
PDAR	**Pinedale Array**	**44.85**	**48**	P		**P**	**01 57 27.4**	**+0.1**
	comp=N,0.2nm,0.6s,baz=229,slow=11,SNR=2.3							
	comp=N,0.2nm,0.6s							
ANMO	**Albuquerque**	**45.65**	**60**	LR		LR	02 14 23.0	
	comp=N,41nm,20.7s,baz=26,slow=33							
ILAR	**Eielson Array**	**45.65**	**5**	P		**P**	**01 57 32.5**	**-0.5**
	comp=N,0.6nm,0.8s,baz=199,slow=8.3,SNR=5.5							
	comp=N,0.6nm,0.8s							
TXAR	**Lajitas Array**	**47.70**	**68**	P		**P**	**01 57 50.3**	**+0.5**
	comp=N,1.3nm,0.8s,baz=257,slow=8.2,SNR=12							
	comp=N,1.3nm,0.8s							
CMIG	**Matias Romero**	**57.15**	**82**	LR		LR	02 19 54.2	
	comp=N,60nm,21.9s,baz=200,slow=32							
TKL	**Tuckaleechee C**	**64.16**	**59**	LR		LR	02 24 27.9	
	comp=N,108nm,21.9s,baz=296,slow=33							
JTS	**Las Juntas de**	**68.20**	**86**	LR		LR	02 22 08.5	
	comp=N,48nm,21.8s,baz=274,slow=29							
ATAH	**Atahualpa**	**80.12**	**101**	LR		LR	02 29 32.7	
	comp=N,52nm,18.7s,baz=233,slow=30							

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*IDC **18** 01:56:32.1±1.4, 26.°96S×177.°73W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=54.1km s-min=44.7km az=86.0*
ISC 18 01:56:35.9±1.4, 26.°7S±0.°3×177.°6W±0.°3, h35km, n7, σ1°65/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.45**	**268**	P		**P**	**02 04 43.8**	**-0.1**
	0.5nm,0.7s,baz=108,slow=6.5,SNR=5.4							
	0.5nm,0.7s							
QSPA	**South Pole Qui**	**63.37**	**180**	P		**P**	**02 07 01.7**	**+0.2**
	0.5nm,0.9s,baz=46,slow=2.5,SNR=1.1							
	0.5nm,0.9s							
FINES	**FINESS Array B**	**141.81**	**342**	PKhKP		PKPpre	02 16 00.6	
	0.7nm,0.8s,baz=79,slow=2.1,SNR=4.1							
NB2	**NORSAR Subarra**	**145.18**	**353**	PKP		**PKiKP**	**02 16 11.5**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=13,slow=2.9							
NOA	**NORSAR Array B**	**145.18**	**353**	PKPbc		**PKiKP**	**02 16 11.4**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=15,slow=4.7,SNR=3.9							
HFS	**Hagfors**	**145.72**	**350**	PKPbc		**PKPab**	**02 16 12.4**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=50,slow=2.3,SNR=6.5							
AKASG	**Malin Array Be**	**148.52**	**327**	PKPbc		**PKPbc**	**02 16 19.3**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=42,slow=2.4,SNR=5.0							

IDC 18 02:05:27.8±5.1, 22.°06N×94.°96E, h35km±46km, mb3.4/3, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=47.8km s-min=22.5km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.18**	**133**	Pn		Pn	02 06 44.4	+1.5
	0.8nm,0.3s,baz=311,slow=13,SNR=16							
CMAR				Pg		Pb	02 07 03.8	+6.1
	0.8nm,0.3s,baz=311,slow=19,SNR=12							
CMAR				Sn		Sn	02 07 41.8	+0.3
	0.7nm,0.3s,baz=306,slow=17,SNR=1.1							
CMAR				Lg		Lg	02 08 10.5	
	1.5nm,0.3s,baz=317,slow=25,SNR=9.6							
	3.3nm,0.6s							
MKAR	**Makanchi Array**	**26.72**	**340**	P		P	02 11 04.6	+0.6
	0.8nm,0.4s,baz=144,slow=11,SNR=11							
	0.8nm,0.4s							
KURBB	**Kurchatov Arra**	**31.28**	**340**	P		P	02 11 43.3	-1.0
	0.4nm,0.4s,baz=148,slow=7.4,SNR=4.8							
	0.4nm,0.4s							
WRA	**Warramunga Arr**	**56.77**	**134**	P		P	02 15 08.4	-0.4
	0.4nm,0.9s,baz=320,slow=7.5,SNR=2.2							
	0.4nm,0.9s							

IDC 18 02:30:01.7±1.5, 19.°83S×177.°07W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=59.9km s-min=33.2km az=170.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.52**	**256**	P		P	02 38 23.6	+0.3
	3.5nm,0.5s,baz=94,slow=7.5,SNR=46							
	3.5nm,0.5s							
WRA	**Warramunga Arr**	**45.56**	**261**	P		P	02 38 23.3	-0.4
	2.1nm,0.3s,baz=96,slow=7.6,SNR=77							
	2.1nm,0.3s							
QSPA	**South Pole Qui**	**70.23**	**180**	P		P	02 41 16.3	-0.2
	1.1nm,0.9s,baz=56,slow=3.6,SNR=2.3							
	1.1nm,0.9s							
TXAR	**Lajitas Array**	**85.96**	**57**	P		P	02 42 44.4	+0.1
	0.2nm,0.7s,baz=230,slow=5.9,SNR=3.7							
	0.2nm,0.7s							

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*IDC **18** 03:21:53.9±2.2, 6.°52S×129.°71E, h0km, mb3.9/1, mbtmp3.9/3, ML4.0/2, Error ellipse: s-maj=146.6km s-min=30.7km az=69.0*
*NEIC **18** 03:22:10.3±1.4, 6.°86S±0.°06×129.°86E±0.°10, h169km±6km, mb4.3/10, Error ellipse: s-maj=14.3km s-min=8.0km az=69.0*
ISC 18 03:22:08.4±0.6, 6.°91S±0.°07×129.°71E±0.°09, h150km, n34, σ2°25/35, mb4.2/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.91**	**124**	P		**Pn**	**03 22 45.4**	**+3.0**
SAUI	**Saumlaki**	**1.91**	**124**	Pn		**Pn**	**03 22 44.5**	**+2.0**
FAKI	**Fak Fak**	**4.70**	**33**	P		**Pn**	**03 23 17.9**	**0.0**
FAKI	**Fak Fak**	**4.70**	**33**	Pn		**Pn**	**03 23 17.7**	**-0.2**
DRS	**Darwin Rock St**	**5.61**	**168**	P		**Pn**	**03 23 31.4**	**+1.4**
MTN	**Manton Dam**	**6.06**	**167**	P		**Pn**	**03 23 36.7**	**+0.7**
MTN	**Manton Dam**	**6.06**	**167**	Pn		**Pn**	**03 23 36.6**	**+0.6**
SOEI	**Soe**	**6.08**	**242**	Pn		**Pn**	**03 23 38.5**	**+2.1**
KDU	**Kakadu**	**6.36**	**155**	P		**Pn**	**03 23 40.6**	**+0.7**
KNRA	**Kununurra**	**8.77**	**186**	Pn		**Pn**	**03 24 11.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**11.81**	**199**	Pn		**Pn**	**03 24 50.0**	**-2.2**
WB0	**Warramunga Arr**	**13.57**	**161**	Pn		**Pn**	**03 25 12.6**	**-2.3**
WRA	**Warramunga Arr**	**13.72**	**161**	Pn		**Pn**	**03 25 14.7**	**-2.1**
	0.6nm,0.3s,baz=344,slow=13,SNR=19							
WRA				Sn		Sn	03 27 36.9	-12
	1.1nm,0.3s,baz=342,slow=24,SNR=12							
	0.9nm,0.4s							
WB2	**Warramunga Arr**	**13.72**	**161**	Pn		**Pn**	**03 25 14.7**	**-2.2**
WR0	**Warramunga Arr**	**13.80**	**161**	Pn		**Pn**	**03 25 15.2**	**-2.6**
COEN	**Coen**	**14.98**	**119**	P		**P**	**03 25 37.6**	**+3.1**
COEN	**Coen**	**14.98**	**119**			**Pn**	**03 25 32.9**	**+0.3**
QIS	**Mount Isa**	**16.62**	**146**	P		**Pn**	**03 25 54.6**	**+1.8**
MBWA	**Marble Bar**	**17.14**	**213**	P		**Pn**	**03 25 59.2**	**+0.1**
MBWA	comp=Z,23nm,1.3s			IAmb		IAmb	03 26 40.3	
ASAR	**Alice Springs**	**17.14**	**167**	P		**Pn**	**03 25 59.8**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=346,slow=12,SNR=39							
ASAR				S		**S**	**03 29 00.6**	**-8.9**
	comp=Z,0.8nm,0.6s,baz=346,slow=24,SNR=6.7							
	comp=Z,3.1nm,0.7s							
AS01	**Alice Springs**	**17.15**	**167**	P		**Pn**	**03 26 01.1**	**+1.9**
PSA00	**Pilbara Seismi**	**17.42**	**212**	P		**Pn**	**03 26 03.0**	**+0.6**
PSA00	comp=Z,13nm,1.1s			IAmb		IAmb	03 26 18.7	
WRKA	**Warakurna**	**18.08**	**184**	P		**Pn**	**03 26 10.7**	**+0.5**
CTAO	**Charters Tower**	**20.72**	**131**	P		**P**	**03 26 36.4**	**-0.7**
CTAO				IAmb		IAmb	03 27 03.6	
	comp=Z,12nm,1.2s							
OOD	**Oodnadatta**	**21.54**	**165**	P		**P**	**03 26 46.9**	**+1.1**
FORT	**Forrest**	**23.80**	**184**	P		**P**	**03 27 08.9**	**+1.5**
TAU	**Tasmania Unive**	**39.08**	**159**	P		**P**	**03 29 20.0**	**-0.8**
MK31	**Makanchi Array**	**67.99**	**327**	P		**P**	**03 32 51.9**	**+0.6**
MK31	comp=Z,4.2nm,1.4s			IAmb		IAmb	03 33 15.4	
MKAR	**Makanchi Array**	**67.99**	**327**	P		**P**	**03 32 53.0**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=124,slow=6.6,SNR=9.3							
	comp=Z,0.4nm,0.3s							
KKAR	**Karatay Array**	**73.08**	**319**	P		**P**	**03 33 22.4**	**+0.1**
KIWB	**Kanaga Island**	**74.00**	**31**	P		**P**	**03 33 26.5**	**-0.9**
ABKAR	**Akbulak array**	**82.25**	**322**	P		**P**	**03 34 12.6**	**-0.4**
QSPA	**South Pole Qui**	**83.07**	**180**	P		**P**	**03 34 18.2**	**+1.2**
QSPA				IAmb		IAmb	03 34 18.3	
	comp=Z,8.4nm,1.5s							
K13K	**Kusilvak Mount**	**84.92**	**26**	P		**P**	**03 34 23.8**	**-2.4**
K13K				IAmb		IAmb	03 34 55.8	
	comp=Z,8.0nm,1.1s							

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*BUG **18** 03:40:49.8, 50.°36N×7.°42E, h14km±3km, MD3.3/12, ML3.0/14*
*LDG **18** 03:40:50.3±0.1, 50.°36N×7.°37E, h12km, Md3.0/2, Ml3.0/32, Error ellipse: s-maj=1.0km s-min=0.9km az=1.0*
*BNS **18** 03:40:50.7±0.5, 50.°37N×7.°41E, h10km±2km, ML2.4*
*BGR **18** 03:40:50.1±0.2, 50.°38N×7.°41E, h10km, ML2.4/13, Error ellipse: s-maj=3.3km s-min=3.3km az=139.0*
*UCC **18** 03:40:50.5±1.0, 50.°37N×7.°41E, h10km±1km, ML2.4*
*STR **18** 03:40:52.1±1.1, 50.°N±5.°×.°±.°, h7km±5km, MLv2.8/20, Error ellipse: s-maj=0.0km s-min=0.0km az=37.2, preliminary*
*PRU **18** 03:40:56.8, 50.°38N×7.°84E, h10km*
ISC 18 03:40:50.1±1.0, 50.°37N±0.°01×7.°36E±0.°01, h18km±3km, n164, σ1°71/251, 17C-47D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OCHT	**Ochtendung**	**0.03**	**183**	⇓Pg		**Pb**	**03 40 53.1**	**-0.1**
OCHT				Sg		**Sb**	**03 40 54.6**	**-0.7**
BHE	**Schloss Buerre**	**0.12**	**262**	⇑*i*Pg		**Pb**	**03 40 54.2**	**+0.5**
BHE				*e*Sg		**Sb**	**03 40 56.4**	**+0.4**
	2μm,0.2s							
BGG	**Burgeitz**	**0.17**	**185**	⇑*i*Pg		**Pb**	**03 40 54.5**	**0.0**
BGG				*e*Sg		**Sb**	**03 40 57.1**	**-0.4**
	3μm,0.1s							
LAGB	**Langenfeld Gru**	**0.17**	**267**	⇓Pg		**Pb**	**03 40 54.9**	**+0.3**
LAGB				Sg		**Sb**	**03 40 57.5**	**-0.1**
KOE	**Koeppel**	**0.24**	**77**	⇓*i*Pg		**Pb**	**03 40 55.6**	**-0.4**
KOE				*e*Sg		**Sb**	**03 40 58.6**	**-1.4**
	614nm,0.3s							
AHRW	**Bad Neuenahr-A**	**0.25**	**313**	⇓Pg		**Pb**	**03 40 56.3**	**+0.2**
AHRW				Sg		**Sb**	**03 40 59.7**	**-0.4**
TDN	**Todenfeld**	**0.34**	**308**	Pg		**Pb**	**03 40 58.2**	**+0.7**
FSH	**Hochheid**	**0.34**	**209**	⇑Pg		**Pb**	**03 40 57.2**	**-0.3**
FSH				Sg		**Sb**	**03 41 01.5**	**-1.1**
NAST	**IGS Nastaetten**	**0.37**	**118**	⇓*i*Pg		**Pb**	**03 40 57.6**	**-0.5**
FACH	**Fachingen**	**0.41**	**92**	⇓Pg		**Pb**	**03 40 58.2**	**-0.6**
FACH				Sg		**Sb**	**03 41 02.7**	**-2.0**
GWBD	**Espenschied/He**	**0.43**	**126**	⇓Pg		**Pb**	**03 40 58.9**	**-0.3**
GWBD				Sg		**Sb**	**03 41 03.9**	**-1.5**
WBS	**Wahnbachtalspe**	**0.44**	**354**	*e*Pg		**Pb**	**03 40 59.6**	**+0.3**
WBS				*e*Sg		**Sb**	**03 41 05.4**	**-0.2**
	276nm,0.1s							
HILG	**Hillesheim**	**0.44**	**260**	⇓*i*Pg		**Pb**	**03 40 59.6**	**+0.1**
BIW	**Bindweide**	**0.47**	**40**	⇑Pg		**Pb**	**03 40 59.2**	**-0.8**
ABH	**Alteburg**	**0.51**	**166**	Pg		**Pb**	**03 41 00.3**	**-0.2**
ABH				Sg		**Sb**	**03 41 06.1**	**-1.5**
ABH	**Alteburg**	**0.51**	**166**	⇑Pg		**Pb**	**03 41 00.3**	**-0.2**
ABH				*e*Sg		**Sb**	**03 41 05.9**	**-1.7**
LOH	**Wallersheim-Lo**	**0.56**	**251**	⇑Pg		**Pb**	**03 41 01.6**	**+0.2**
LOH				*e*Sg		**Sb**	**03 41 09.0**	**-0.1**
	235nm,0.4s							
GWBC	**Aumenau**	**0.58**	**87**	Pg		**Pb**	**03 41 01.6**	**-0.2**
GWBC				Sg		**Sb**	**03 41 08.0**	**-1.7**
GWBE	**Wiesbaden**	**0.59**	**116**	⇓Pg		**Pb**	**03 41 00.8**	**-1.1**
GWBE				Sg		**Sb**	**03 41 09.5**	**-0.4**
GWBO	**Ockenheim**	**0.59**	**137**	Pg		**Pb**	**03 41 02.4**	**+0.5**
GWBO				Sg		**Sb**	**03 41 09.5**	**-0.5**
BNS	**Bensberg**	**0.61**	**349**	⇑*e*Pg		**Pb**	**03 41 02.5**	**+0.3**
HOBG	**Hohbusch**	**0.61**	**358**	⇑*e*Pg		**Pb**	**03 41 02.5**	**+0.2**
OLFT	**Oleftalsperre**	**0.61**	**282**	⇓*e*Pg		**Pb**	**03 41 02.8**	**+0.5**
OLFT				*e*Sg		**Sb**	**03 41 11.4**	**+0.7**
WBFO	**Grube Fortuna**	**0.71**	**73**	Pg		**Pb**	**03 41 03.7**	**-0.2**
WBFO				Sg		**Sb**	**03 41 11.8**	**-1.6**
TNS	**Taunus Mts**	**0.71**	**102**	⇓Pg		**Pb**	**03 41 03.6**	**-0.4**
TNS				*e*Sg		**Sb**	**03 41 12.2**	**-1.3**
PLH	**Pulheim**	**0.72**	**332**	*e*Pg		**Pb**	**03 41 04.7**	**+0.6**
PLH				*e*Sg		**Sb**	**03 41 14.2**	**+0.5**
GSH	**Grosshau**	**0.72**	**301**	Pg		**Pb**	**03 41 04.9**	**-0.6**
GSH				Sg		**Sb**	**03 41 13.7**	**-0.1**
	116nm,0.5s							
KLL	**Kalltalsperre**	**0.72**	**293**	*e*Pg		**Pb**	**03 41 04.6**	**+0.4**
BODE	**Bodenheim**	**0.76**	**127**	Pg		**Pb**	**03 41 04.7**	**-0.1**
BODE				*e*Sg		**Sb**	**03 41 15.5**	**+0.8**
RIVT	**Riveris**	**0.77**	**210**	Pg		**Pb**	**03 41 04.5**	**-0.4**
RIVT				Sg		**Sn**	**03 41 15.8**	**-1.4**
DREG	**Dreilaegerbach**	**0.78**	**293**	*e*Pg		**Pn**	**03 41 05.7**	**-0.5**
LKLB	**Kalborn**	**0.85**	**252**	κP		**Pb**	**03 41 06.3**	**0.0**
LKLB				*d*S		**Sb**	**03 41 16.8**	**-0.6**
	comp=N,78nm,0.2s							
IMS	**Imsbach**	**0.85**	**156**	Pn		**Pb**	**03 41 06.6**	**+0.2**
IMS				Pg		**Pn**	**03 41 07.2**	**0.0**
IMS				Sg		**Sb**	**03 41 18.1**	**+0.6**
LVIA	**Vianden**	**0.86**	**240**	*bP*		**Pb**	**03 41 06.1**	**-0.4**
LVIA				*d*S		**Sb**	**03 41 17.4**	**-0.4**
	comp=E,170nm,0.2s							
BHOU	**Houvegnez**	**0.87**	**269**	κP		**Pb**	**03 41 06.7**	**+0.1**
BHOU				*d*S		**Sb**	**03 41 17.6**	**-0.3**
	comp=N,247nm,0.1s							
ENTS	**Ennepetalsperr**	**0.87**	**2**	*e*Pg		**Pb**	**03 41 06.9**	**+0.1**
ENTS				*e*Sg		**Sb**	**03 41 18.6**	**+0.5**
MEM	**Membach**	**0.90**	**286**	κP		**Pn**	**03 41 08.0**	**+0.1**
MEM				*d*S		**Sb**	**03 41 18.9**	**+0.1**
GODD	**Goddelau**	**0.92**	**126**	Pg		**Pn**	**03 41 08.6**	**+0.4**
WBB	**Darmstadt**	**0.99**	**122**	Pn		**Pb**	**03 41 08.8**	**+0.1**
WBB				Pg		**Pn**	**03 41 09.1**	**0.0**
WBB				Sg		**Sb**	**03 41 21.8**	**+0.3**
HGN	**Heimansgroeve**	**0.99**	**294**	Pg		**Pn**	**03 41 09.7**	**+0.5**
HGN				Sg		**Sn**	**03 41 22.9**	**+0.2**
LAUG	**Laupendahl**	**1.02**	**345**	*e*Pg		**Pn**	**03 41 09.6**	**+0.1**
HES	**Velbert-Hesper**	**1.02**	**349**	Pg		**Pb**	**03 41 09.4**	**+0.2**
HES				Sg		**Sn**	**03 41 23.0**	**-0.4**
	comp=N,94nm,0.1s							
EBSD	**Ebsdorfer Grun**	**1.02**	**70**	Pg		**Pb**	**03 41 09.4**	**+0.2**
EBSD				Sg		**Sb**	**03 41 21.1**	**-1.2**
WLF	**Walferdange**	**1.05**	**228**	*bP*		**Pb**	**03 41 09.1**	**-0.7**
WLF				*d*S		**Sn**	**03 41 23.4**	**-0.7**
	comp=N,64nm,0.2s							
WLF	**Walferdange**	**1.05**	**228**	Pg		**Pb**	**03 41 09.1**	**-0.7**
WLF	**Walferdange**	**1.05**	**228**	Pn		**Pb**	**03 41 09.1**	**-0.7**
WLF				*e*Pg		**Pn**	**03 41 09.8**	**-0.2**
WLF				*e*Sg		**Sn**	**03 41 23.4**	**-0.7**
SORT	**Sorpetalsperre**	**1.05**	**21**	*e*Pg		**Pb**	**03 41 10.0**	**+0.2**
SORT				*e*Sg		**Sb**	**03 41 23.9**	**+0.6**
	comp=N,101nm,0.5s							
KASTN	**Kahler Asten**	**1.07**	**38**	*e*Pg		**Pb**	**03 41 09.7**	**-0.5**
KASTN				*e*Sg		**Sb**	**03 41 22.1**	**-1.7**
BKLB	**Ruhr-Universit**	**1.07**	**357**	Pg		**Pb**	**03 41 10.4**	**+0.3**
BUG	**Bochum--Univer**	**1.07**	**357**	*e*Pg		**Pn**	**03 41 10.3**	**+0.1**
BUG				*e*Sg		**Sb**	**03 41 24.0**	**+0.1**
RODG	**Roetgen-Dahlhe**	**1.08**	**316**	*e*Pg		**Pb**	**03 41 11.5**	**+1.3**
BTEZ	**Ruhr-Universit**	**1.08**	**357**	Pg		**Pb**	**03 41 10.7**	**+0.4**
BULI	**Ruhr-Universit**	**1.09**	**357**	Pg		**Pn**	**03 41 09.7**	**-0.8**
KTD	**Kalmit**	**1.15**	**156**	Pg		**Pb**	**03 41 11.6**	**+0.1**
KTD	**Kalmit**	**1.15**	**156**	Sg		**Sn**	**03 41 26.3**	**-0.4**
KTD	**Kalmit**	**1.15**	**156**	*e*Pg		**Pb**	**03 41 11.8**	**+0.3**
BEBN	**Eben Emael

XAFF	**Xaffevillers**	**2.02 194**	Pg	**Pb**	**03 41 27.1**	**+0.8**
BAIF	**Baives**	**2.05 262**	*e*Pn	**Pn**	**03 41 23.3**	**-0.4**
BAIF	**Baives**	**2.05 262**	*e*Pg	**Pb**	**03 41 28.7**	**+1.9**
	SNR=1.0					
BAIF			*e*Sn	**Sn**	**03 41 47.8**	**-1.0**
BAIF			*e*Sg	**Sb**	**03 41 55.4**	**+3.5**
	comp=N,72nm,0.3s,SNR=1.0					
ZELS	**Zelsheim**	**2.08 175**	Pg	**Pb**	**03 41 28.8**	**+1.5**
PAGF	**Fort de Pagny**	**2.11 211**	*e*Pg	**Pb**	**03 41 29.4**	**+1.6**
	baz=30					
PAGF			*e*Sg	**Sb**	**03 41 56.4**	**+2.8**
	comp=N,12nm,0.2s					
BSKQ	**Steenkerk**	**2.11 279**	*b*P	**Pn**	**03 41 25.9**	**+1.4**
BSKQ			*d*S	**Sb**	**03 41 53.9**	**+0.2**
	comp=E,15nm,0.2s					
BFO	**Black Forest**	**2.14 162**	*e*Pn	**Pn**	**03 41 25.5**	**+0.6**
BFO			*e*Pg	**Pb**	**03 41 30.3**	**+1.9**
BFO			Sn	**Sn**	**03 41 51.1**	**0.0**
ECH	**Echery**	**2.16 184**	Pn	**Pn**	**03 41 24.8**	**-0.5**
ECH			Pg	**Pb**	**03 41 29.0**	**+0.3**
A100A	**Rottenburg, We**	**2.17 151**	Pn	**Pb**	**03 41 27.4**	**-1.5**
BBOU	**Bougnies**	**2.19 272**	*d*P	**Pb**	**03 41 27.6**	**-1.5**
A106B	**Goeppingen, Ma**	**2.23 136**	Sn	**Sn**	**03 41 51.3**	**-2.0**
SAVF	**Savonnieres en**	**2.28 221**	*e*Pg	**Pb**	**03 41 32.7**	**+1.9**
	baz=39					
SAVF			*e*Sn	**Sn**	**03 41 52.8**	**-1.8**
SAVF			*e*Sg	**Sb**	**03 42 02.4**	**+3.8**
	comp=E,16nm,0.2s					
MEZF	**Maizieres J'vi**	**2.40 220**	*e*Pg	**Pb**	**03 41 34.9**	**+2.1**
	baz=38,SNR=1.0					
MEZF			*e*Sg	**Sb**	**03 42 06.2**	**+4.2**
	comp=E,23nm,0.4s,SNR=1.0					
CLZ	**Clausthal**	**2.40 51**	Pn	**Pn**	**03 41 28.2**	**-0.4**
CLZ			*e*Pg	**Pb**	**03 41 33.8**	**+1.0**
CLZ			Sn	**Sn**	**03 41 57.7**	**+0.1**
KIZ	**Kirchzarten**	**2.44 171**	Pn	**Pn**	**03 41 29.6**	**+0.5**
KIZ	**Kirchzarten**	**2.44 171**	Pg	**Pb**	**03 41 35.4**	**+1.9**
HAU	**Haudompre**	**2.46 196**	*e*Pn	**Pn**	**03 41 28.8**	**-0.5**
	SNR=1.0					
HAU	**Haudompre**	**2.46 196**	*e*Pg	**Pb**	**03 41 35.6**	**+1.8**
HAU			*e*Sg	**Sb**	**03 42 07.5**	**+3.8**
	comp=E,23nm,0.4s					
MOF	**Molkenrain**	**2.52 183**	Pn	**Pn**	**03 41 30.5**	**+0.2**
A102A	**Sigmaringen, J**	**2.54 151**	Pn	**Pn**	**03 41 31.1**	**+0.6**
BERGE	**Lenzkirch (DE)**	**2.56 168**	*e*Pg	**Pb**	**03 41 37.9**	**+2.4**
HINF	**Hinteralfeld**	**2.58 188**	*e*Pn	**Pn**	**03 41 30.5**	**-0.5**
HINF	**Hinteralfeld**	**2.58 188**	*e*Pg	**Pb**	**03 41 37.4**	**+1.6**
	SNR=1.0					
HINF			*e*Sn	**Sn**	**03 41 59.0**	**-2.9**
	SNR=1.0					
HINF			*e*Sg	**Sb**	**03 42 10.5**	**+3.3**
	comp=E,8.9nm,0.2s,SNR=1.0					
GRF	**Grafenberg Arr**	**2.58 104**	*e*Pg	**Pb**	**03 41 38.0**	**+2.2**
SFTF	**Sexfontaines**	**2.65 216**	*e*Pn	**Pn**	**03 41 31.7**	**-0.2**
SFTF	**Sexfontaines**	**2.65 216**	*e*Pg	**Pb**	**03 41 38.8**	**+1.8**
SFTF			*e*Sn	**Sn**	**03 42 01.7**	**-1.9**
SFTF			*e*Sg	**Sb**	**03 42 13.7**	**+4.6**
	comp=E,18nm,0.4s					
SLE	**Schleitheim**	**2.71 164**	Pn	**Pn**	**03 41 32.5**	**-0.3**
ROTZ	**Rotzenmuhle**	**3.18 99**	*e*Pg	**Pb**	**03 41 48.5**	**+2.5**
ROTZ			*e*Sg	**Sb**	**03 42 27.9**	**+3.4**
RETA	**Reutte**	**3.66 141**	*e*Pn	**Pn**	**03 41 44.6**	**-1.2**
	comp=E,0.4nm,0.2s					
CLL	**Collm**	**3.70 73**	*e*Pg	Pb	03 42 01.0	+6.1
CLL			*e*Sg	**Sb**	**03 42 45.0**	**+5.7**
	comp=Z,7.0nm,0.5s					
WET	**Wettzell**	**3.78 107**	*e*Pn	**Pn**	**03 41 48.8**	**+1.3**
CABF	**La Chapelle**	**3.86 193**	*e*Pn	**Pn**	**03 41 47.9**	**-0.7**
CABF	**La Chapelle**	**3.86 193**	*e*Pg	Pb	03 42 02.1	+4.5
CABF			*e*Sg	Sb	03 42 52.2	+8.2
	comp=Z,8.4nm,0.5s					
LOR	**Lormes**	**3.87 218**	*e*Pn	**Pn**	**03 41 47.9**	**-0.9**
	baz=35					
LOR	**Lormes**	**3.87 218**	*e*Pg	**Pb**	**03 42 01.7**	**+3.9**
LOR			*e*Sn	**Sn**	**03 42 30.6**	**-3.2**
	SNR=1.0					
LOR			*e*Sg	**Sb**	**03 42 51.7**	**+7.3**
	comp=Z,10nm,0.4s					
HSKC	**Hora Svate Kat**	**3.88 84**	*e*SG	**Sb**	**03 42 50.2**	**+5.4**
	comp=Z,6.2nm,0.7s					
GIMEL	**St. Georges /**	**3.91 191**	Pn	**Pn**	**03 41 49.2**	**-0.1**
SQTA	**Sankt Quirin**	**4.05 140**	*e*Pn	**Pn**	**03 41 50.8**	**-0.5**
	comp=Z,0.9nm,0.3s					
SSF	**Saint Saulge**	**4.18 219**	*e*Pn	**Pn**	**03 41 52.1**	**-0.9**
SSF	**Saint Saulge**	**4.18 219**	*e*Pg	Pb	03 42 07.6	+4.5
SSF			*e*Sn	**Sn**	**03 42 38.0**	**-3.4**
SSF			*e*Sg	Sb	03 43 01.4	+8.2
	comp=Z,8.0nm,0.4s,SNR=1.0					
WTTA	**Wattenberg**	**4.20 136**	*e*Pn	**Pn**	**03 41 53.1**	**-0.4**
	comp=Z,0.6nm,0.2s					
KHC	**Kasperske Hory**	**4.22 105**	*e*PN	**Pn**	**03 41 55.7**	**+2.2**
KHC			*e*SN	**Sn**	**03 42 42.3**	**-0.1**
KHC			*e*SG	**Sb**	**03 43 00.8**	**+6.4**
BRG	**Berggiesshubel**	**4.22 81**	Pg	Pb	03 42 09.1	+5.3
BRG			Sg	Sb	03 43 03.1	+8.7
BRG			Amp		03 43 07.8	
	comp=Z,2.3nm,0.6s					
GEC2	**GERESS Array S**	**4.40 108**	*e*Pn	**Pn**	**03 41 57.2**	**+1.1**
SMF	**Signal de Mont**	**4.40 213**	*e*Pn	**Pn**	**03 41 54.3**	**-1.7**
	SNR=1.0					
SMF	**Signal de Mont**	**4.40 213**	*e*Pg	Pb	03 42 11.3	+4.4
	SNR=1.0					
SMF			*e*Sn	**Sn**	**03 42 43.4**	**-3.4**
	comp=Z,1.6nm,0.2s,SNR=1.0					
SMF			*e*Sg	Sb	03 43 08.1	+8.5
	comp=Z,5.3nm,0.3s					
AVF	**Avril sur Loir**	**4.46 218**	*e*Pn	**Pn**	**03 41 55.9**	**-0.9**
AVF	**Avril sur Loir**	**4.46 218**	*e*Pg	Pb	03 42 12.8	+4.9
AVF			*e*Sn	**Sn**	**03 42 44.8**	**-3.5**
	comp=Z,1.7nm,0.3s,SNR=1.0					
AVF			*e*Sg	Sb	03 43 10.1	+8.8
	comp=Z,2.9nm,0.5s					
LESA	**Schwarzleotal**	**4.58 128**	*e*Pn	**Pn**	**03 41 59.2**	**+0.6**
	comp=Z,0.3nm,0.2s					
CKRC	**Cesky Krumlov**	**4.78 106**	*e*SG	Sb	03 43 20.3	+10
BGF	**Bois d'Agland**	**4.85 220**	*e*Pn	**Pn**	**03 42 01.0**	**-1.2**
	SNR=1.0					
BGF	**Bois d'Agland**	**4.85 220**	*e*Pg	Pb	03 42 19.9	+5.3
	SNR=1.0					
BGF			*e*Sn	**Sn**	**03 42 54.3**	**-3.7**
	SNR=1.0					
BGF			*e*Sg	Sb	03 43 21.5	+8.9
	comp=Z,17nm,0.5s,SNR=1.0					
LPL	**La Plagne**	**4.88 185**	*e*Pg	Pb	03 42 20.6	+5.5
MOA	**Molln**	**5.19 116**	*e*Pn	**Pn**	**03 42 07.0**	**+0.1**
	comp=Z,1.0nm,0.3s					
LDF	**La Druitiere**	**5.19 253**	*e*Pn	**Pn**	**03 42 05.9**	**-1.0**
	SNR=1.0					
LDF	**La Druitiere**	**5.19 253**	*e*Pg	Pb	03 42 26.9	+6.6
LDF			*e*Sn	**Sn**	**03 43 02.3**	**-4.0**
LDF			*e*Sg	Sb	03 43 33.0	+11
	comp=Z,5.0nm,0.4s,SNR=1.0					
TCF	**Toulx Ste Croi**	**5.34 222**	*e*Pn	**Pn**	**03 42 07.4**	**-1.5**
	SNR=1.0					
TCF	**Toulx Ste Croi**	**5.34 222**	*e*Pg	Pb	03 42 28.8	+6.0
TCF			*e*Sn	**Sn**	**03 43 05.6**	**-4.3**
TCF			*e*Sg	Sb	03 43 37.7	+11
	comp=Z,3.0nm,0.5s					
FLN	**La Foliniere**	**5.35 256**	*e*Pn	**Pn**	**03 42 07.8**	**-1.2**
	SNR=1.0					
FLN			*e*Sn	**Sn**	**03 43 06.6**	**-3.6**
FLN			*e*Sg	Sb	03 43 38.2	+11
	comp=Z,7.5nm,0.4s,SNR=1.0					
ORIF	**Oris-en-Rattie**	**5.55 191**	*e*Pg	Pb	03 42 32.8	+6.4
GRR	**Gorron**	**5.72 253**	*e*Pn	**Pn**	**03 42 12.9**	**-1.2**
GRR	**Gorron**	**5.72 253**	*e*Pg	Pb	03 42 35.6	+6.3
GRR			*e*Sn	**Sn**	**03 43 15.7**	**-3.6**
	comp=Z,2.9nm,0.3s					
GRR			*e*Sg	Sb	03 43 49.8	+12
	SNR=1.0					
MFF	**Saint Martin d**	**6.25 236**	*e*Pn	**Pn**	**03 42 20.2**	**-1.2**
MFF			*e*Sn	**Sn**	**03 43 27.1**	**-5.3**
	comp=Z,1.4nm,0.3s					
MFF			*e*Sg	Sb	03 44 06.3	+13
	comp=Z,2.1nm,0.4s					
CAF	**Calviac**	**6.51 215**	*e*Pn	**Pn**	**03 42 23.9**	**-1.2**
CAF			*e*Sn	**Sn**	**03 43 34.7**	**-4.2**
	comp=Z,0.6nm,0.3s					
SGMF	**Saint Gilles**	**6.82 256**	*e*Pn	**Pn**	**03 42 28.1**	**-1.1**
SGMF			*e*Sn	**Sn**	**03 43 41.4**	**-5.0**
SGMF			*e*Sg	Sb	03 44 24.1	+15
	comp=Z,4.4nm,0.6s					
ROSF	**Rostrenen**	**7.24 258**	*e*Pn	**Pn**	**03 42 34.4**	**-0.5**
ROSF	**Rostrenen**	**7.24 258**	*e*Pg	Pb	03 43 03.9	+8.8
ROSF			*e*Sn	**Sn**	**03 43 51.5**	**-5.1**
ROSF			*e*Sg	Sb	03 44 37.4	+16
	comp=Z,3.1nm,0.5s,SNR=1.0					
QUIF	**Quistinic**	**7.33 254**	*e*Pn	**Pn**	**03 42 35.8**	**-0.4**
QUIF	**Quistinic**	**7.33 254**	*e*Pg	Pb	03 43 04.2	+7.5
QUIF			*e*Sn	**Sn**	**03 43 53.8**	**-5.0**
QUIF			*e*Sg	Sb	03 44 39.9	+16
	comp=Z,4.0nm,0.6s					

NAM 18 03:43:07.1±4.4, 19°.70S×14°.49E, h23km±15km, ML1.1, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ST3N	**ST3**	**0.04 172**		*i* P	Pb	03 43 13.0	+1.7
ST3N				*i* S	Sb	03 43 14.5	+0.5
ST3N				IAML		03 43 14.6	
	comp=Z,27nm,0.1s						
ST3N	**ST3**	**0.04 172**		*i* P	Pb	03 43 13.1	+1.9
ST3N				*i* S	Sb	03 43 14.5	+0.5
ST3N				IAML		03 43 14.6	
	comp=Z,26nm,0.1s						
ST9N	**ST9**	**0.11 153**		*i* P	Pb	03 43 12.2	+0.6
ST9N				*i* S	Sb	03 43 13.2	-1.6
ST9N				IAML		03 43 13.6	
	comp=Z,248nm,0.1s						
ST9N	**ST9**	**0.11 153**		*i* P	Pb	03 43 12.2	+0.6
ST9N				*i* S	Sb	03 43 13.2	-1.6
ST9N				IAML		03 43 13.6	
	comp=Z,251nm,0.1s						
ST1N	**ST1**	**0.12 107**		*i* P	Pb	03 43 12.5	+0.8
ST1N				*i* S	Sb	03 43 13.9	-1.0
ST1N				IAML		03 43 14.0	
	comp=Z,57nm,0.0s						
ST1N	**ST1**	**0.12 107**		*i* P	Pb	03 43 12.6	+0.9
ST1N				*i* S	Sb	03 43 13.9	-1.0
ST1N				IAML		03 43 14.0	
	comp=Z,57nm,0.0s						
ST6N	**ST6**	**0.13 222**		*i* P	Pn	03 43 14.3	+0.4
ST6N				*i* S	Sb	03 43 16.8	+1.7
ST6N				IAML		03 43 17.0	
	comp=Z,6.7nm,0.1s						
ST6N	**ST6**	**0.13 222**		*i* P	Pn	03 43 14.3	+0.4
ST6N				IAML		03 43 16.7	
	comp=Z,7.5nm,0.1s						
ST6N				*i* S	Sb	03 43 16.8	+1.6
ST8N	**ST8**	**0.17 274**		*i* P	Pn	03 43 16.2	+1.8
ST8N				*i* S	Sb	03 43 20.1	+4.4
ST8N	**ST8**	**0.17 274**		*i* P	Pn	03 43 16.2	+1.8
ST8N				*i* S	Sb	03 43 19.8	+4.1
ST2N	**ST2**	**0.24 156**		*i* P	Pb	03 43 13.6	+0.4
ST2N				*i* S	Sb	03 43 15.7	-1.7
ST2N				IAML		03 43 15.8	
	comp=Z,12nm,0.1s						
ST2N	**ST2**	**0.24 156**		*i* P	Pb	03 43 13.6	+0.4
ST2N				*i* S	Sb	03 43 15.7	-1.7
ST2N				IAML		03 43 15.8	
	comp=Z,12nm,0.1s						
ST5N	**ST5**	**0.27 109**		*i* S	Sb	03 43 16.7	-1.2
ST5N	**ST5**	**0.27 109**		*i* P	Pb	03 43 14.4	+0.9
ST5N				*i* S	Sb	03 43 16.5	-1.4
ST5N				IAML		03 43 16.9	
	comp=Z,11nm,0.0s						
ST10N	**ST10**	**0.31 199**		*i* P	Pn	03 43 16.0	-0.3
ST10N				*i* S	Sb	03 43 19.7	+0.7
ST10N				IAML		03 43 20.4	
	comp=Z,11nm,0.1s						
ST10N	**ST10**	**0.31 199**		*i* P	Pn	03 43 16.0	-0.3
ST10N				*i* P	Pn	03 43 16.0	-0.3
ST10N				IAML		03 43 19.8	
	comp=N,19nm,0.1s						
ST10N				IAML		03 43 20.4	
	comp=Z,12nm,0.1s						
ST4N	**ST4**	**0.49 113**		*i* P	Pb	03 43 17.5	+0.4
ST4N				*i* S	Sb	03 43 23.6	-0.4
ST4N				IAML		03 43 23.7	
	comp=Z,3.7nm,0.1s						
ST4N	**ST4**	**0.49 113**		*i* P	Pb	03 43 18.0	+0.8
ST4N				*i* S	Sb	03 43 23.6	-0.4

JMA ***18*** *03:47:19.6±0.1, 23°.8N±0°.7×122°.6E±0°.4, h41km, MV3.7/18, NEAR ISHIGAKIJIMA ISLAND*
TAP ***18*** *03:47:20.4, 23°.81N×122°.58E, h39km, ML4.1, C*
ASIES ***18*** *03:47:20.4, 23°.81N×122°.58E, h39km, ML4.1, Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.18; $M_{\theta\theta}$4.17; $M_{\phi\phi}$-4.35; $M_{r\theta}$0.71; $M_{\theta\phi}$0.89; $M_{\phi r}$-0.59; Fault plane solution: $M_0$4.45639×10^{21} NP1: ϕ_s129.18000°, δ89.35000°, λ12.01000°. NP2:ϕ_s39.04000°, δ77.99000°, λ179.34000°. Principal axes: T Plg8.9230°, Azm354.7420°; N Plg77.9720°, Azm132.2090°; P Plg8.0000°, Azm263.4780°;*
IDC ***18*** *03:47:22.3±4.2, 24°.04N×122°.74E, h50km±39km, mb3.6/10, mbtmp3.8/11, ML3.4/1 Error ellipse: s-maj=31.0km s-min=24.7km az=39.0*

ISC 18 03:47:20.2±1.0, 23°.73N±0°.03×122°.62E±0°.02, h38km±2km, n144, σ1§12/208, mb3.8/10, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.47 325**		*i* P	**Pn**	**03 47 29.6**	**-0.5**
	baz=322						
EOS4				*i* S	**Sn**	**03 47 36.3**	**-0.8**
	baz=322						
EOS3	**EOS3**	**0.61 334**		*i* P	**Pn**	**03 47 32.1**	**-0.4**
	baz=326						
EOS3				*e*S	**Sn**	**03 47 40.6**	**-0.4**
	baz=326						
EOS2	**EOS2**	**0.77 333**		*e*P	**Pn**	**03 47 34.6**	**+0.1**
	baz=326						
JYNG	**Yonagunijimaku**	**0.78 23**		P	**Pn**	**03 47 34.2**	**-0.4**
JYNG				*e*S	**Sn**	**03 47 44.1**	**-1.1**
YOJ	**Yonaguni jima**	**0.81 26**		P	**Pn**	**03 47 35.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.81 26**		P	**Pn**	**03 47 34.8**	**-0.3**
	baz=30						
YOJ				S	**Sn**	**03 47 45.2**	**-0.8**
	baz=30						
YOJ	**Yonaguni jima**	**0.81 26**		P	**Pn**	**03 47 34.8**	**-0.3**
YOJ				S	**Sn**	**03 47 45.2**	**-0.8**
TEYL	**Yanliau Villag**	**0.94 278**		*e*P	**Pn**	**03 47 36.1**	**-0.8**
	baz=267						
TEYL				*e*S	**Sn**	**03 47 47.9**	**-1.3**
	baz=267						
SHUL	**Shoufeng**	**0.97 273**		*i* P	**Pn**	**03 47 36.5**	**-0.8**
	baz=277						
SHUL				*i* S	**Sn**	**03 47 49.0**	**-0.7**
	baz=277						
TWD	**Chiawan**	**0.99 291**		*i* P	**Pn**	**03 47 36.5**	**-1.1**
	baz=276						
TWD				*e*S	**Sn**	**03 47 47.6**	**-2.8**
	baz=276						
EAHA	**Aohua**	**1.00 307**		*e*P	**Pn**	**03 47 37.7**	**0.0**
	baz=304						
EAHA				*e*S	**Sn**	**03 47 50.0**	**-0.6**
	baz=304						
ETL	**Fush Village**	**1.00 295**		*e*P	**Pn**	**03 47 37.1**	**-0.7**
	baz=280						
NACB	**Ninganchiao**	**1.03 295**		P	**Pn**	**03 47 37.0**	**-1.2**
NACB	**Ninganchiao**	**1.03 295**		P	**Pn**	**03 47 37.0**	**-1.2**
	baz=292						
NACB				*e*S	**Sn**	**03 47 49.4**	**-2.0**
	baz=292						
EWUT	**Wuta**	**1.04 313**		*e*P	**Pn**	**03 47 38.0**	**-0.3**
	baz=320						
ETM	**Tongmen**	**1.05 283**		*e*P	**Pn**	**03 47 37.2**	**-1.3**
	baz=272						
ENA	**Nanau**	**1.06 311**		P	**Pn**	**03 47 38.4**	**-0.1**
	baz=309						
ENA				*e*S	**Sn**	**03 47 51.7**	**-0.4**
	baz=309						
ESL	**Shilin**	**1.09 275**		*e*P	**Pn**	**03 47 37.6**	**-1.3**
	baz=262						
ESAO	**Su ao**	**1.10 320**		*e*P	**Pn**	**03 47 38.6**	**-0.5**
	baz=318						
ESAO				*e*S	**Sn**	**03 47 52.2**	**-0.8**
	baz=318						
HGSD	**Ruisui**	**1.12 258**		*i* P	**Pn**	**03 47 38.5**	**-0.9**
	baz=253						
HGSD				*e*S	**Sn**	**03 47 52.1**	**-1.4**
	baz=253						
TWC	**Suao**	**1.12 321**		*e*P	**Pn**	**03 47 38.8**	**-0.6**
	baz=320						
WARBT	**Fenglin Townsh**	**1.13 270**		P	**Pn**	**03 47 38.3**	**-1.2**
	baz=256						
WARBT				*e*S	**Sn**	**03 47 51.6**	**-2.1**
	baz=256						
HATJ	**Hateruma jima**	**1.14 73**		P	**Pn**	**03 47 40.2**	**+0.6**
HATJ				S	**Sn**	**03 47 54.8**	**+0.8**
LXIB	**Xiulin Townshi**	**1.14 285**		P	**Pn**	**03 47 38.6**	**-1.2**
	baz=275						
LXIB				*e*S	**Sn**	**03 47 52.6**	**-1.6**
	baz=275						
ECBN	**Changbin**	**1.15 249**		*e*P	**Pn**	**03 47 39.4**	**-0.4**
	baz=233						
ECBN				*i* S	**Sn**	**03 47 53.0**	**-1.1**
	baz=233						
IRIF	**Iriomote-Funau**	**1.18 59**		*e*P	**Pn**	**03 47 40.6**	**+0.4**
IRIF				*e*S	**Sn**	**03 47 55.3**	**+0.2**
EHYH	**Wanrong**	**1.19 259**		*e*P	**Pn**	**03 47 40.1**	**-0.2**
	baz=254						
EHY	**Hungye**	**1.21 260**		P	**Pn**	**03 47 40.2**	**-0.4**
	baz=255						
EHY				*e*S	**Sn**	**03 47 55.0**	**-0.7**
	baz=255						
NDS	**Dongshan**	**1.22 318**		*e*P	**Pn**	**03 47 40.8**	**0.0**
	baz=316						
CHKH	**Chenggong**	**1.24 245**		*e*P	**Pn**	**03 47 40.2**	**-0.9**
	baz=240						
CHKH				*e*S	**Sn**	**03 47 54.2**	**-2.4**
	baz=240						
EYUL	**Yuli**	**1.25 252**		P	**Pn**	**03 47 40.8**	**-0.4**
	baz=240						
YULB	**Yu-li**	**1.26 255**		P	**Pn**	**03 47 40.7**	**-0.6**
YULB	**Yu-li**	**1.26 255**		*e*P	**Pn**	**03 47 40.7**	**-0.6**
	baz=250						
YULB				*e*S	**Sn**	**03 47 56.3**	**-0.6**
	baz=250						
EGS		**1.27 331**		*e*P	**Pn**	**03 47 41.6**	**+0.1**
	baz=330						
LATG	**Datong**	**1.28 309**		*e*P	**Pn**	**03 47 41.7**	**0.0**
	baz=307						
WHF	**Hehuan Shan**	**1.30 289**		P	**Pn**	**03 47 41.6**	**-0.6**
	baz=276						
WHF				S	**Sn**	**03 47 56.8**	**-1.9**
	baz=276						
CHKT	**Chengkung**	**1.31 241**		*e*P	**Pn**	**03 47 41.1**	**-0.9**
	baz=228						
CHKT				*e*S	**Sn**	**03 47 56.0**	**-2.2**
	baz=228						
TWE	**Neicheng**	**1.31 319**		*e*P	**Pn**	**03 47 42.1**	**+0.1**
	baz=318						
ENTT	**Nioudou**	**1.32 314**		*e*P	**Pn**	**03 47 42.2**	**+0.1**
	baz=300						
NNSB	**Datong**	**1.32 302**		*i* P	**Pn**	**03 47 42.1**	**-0.1**
	baz=299						
NNSB				*i* S	**Sn**	**03 47 57.8**	**-0.9**
	baz=299						
FULB	**Fuli**	**1.32 247**		*e*P	**Pn**	**03 47 41.5**	**-0.8**
	baz=233						
FULB				*e*S	**Sn**	**03 47 56.6**	**-2.1**
	baz=233						
NDT	**Datong Townshi**	**1.33 311**		P	**Pn**	**03 47 42.4**	**+0.1**
	baz=309						
NDT				*e*S	**Sn**	**03 47 58.1**	**-0.6**
	baz=309						
NNS	**Nan Shan**	**1.34 302**		*e*P	**Pn**	**03 47 42.5**	**0.0**
	baz=299						
NNS				*e*S	**Sn**	**03 47 58.2**	**-0.9**
	baz=299						
OWD	**Renai**	**1.34 280**		*e*P	**Pn**	**03 47 42.0**	**-0.5**
	baz=276						
VWDT	**VWDT**	**1.35 271**		P	**Pn**	**03 47 42.4**	**-0.2**
	baz=259						
VWDT				*e*S	**Sn**	**03 47 58.1**	**-1.1**
	baz=259						
FUSS	**Fushou**	**1.35 293**		*e*P	**Pn**	**03 47 42.5**	**-0.3**
	baz=289						
FUSS				*e*S	**Sn**	**03 47 58.8**	**-0.9**
	baz=289						
CHGB	**Renai**	**1.36 284**		P	**Pn**	**03 47 42.3**	**-0.6**
	baz=273						
CHGB				*e*S	**Sn**	**03 47 58.6**	**-1.2**
	baz=273						
JKRS	**Kuro-shima**	**1.37 68**		P	**Pn**	**03 47 43.6**	**+0.8**
JKRS				*e*S	**Sn**	**03 48 01.0**	**+1.2**
FUSB	**Fushanzhiwuyua**	**1.39 318**		*e*P	**Pn**	**03 47 43.5**	**+0.3**
	baz=305						
FUSB				*e*S	**Sn**	**03 48 00.3**	**0.0**
	baz=305						
TWB1	**Santiao Chiao**	**1.39 336**		*i* P	**Pn**	**03 47 42.9**	**-0.2**
	baz=336						
WUSB	**Renai**	**1.40 281**		*e*P	**Pn**	**03 47 43.0**	**-0.2**
	baz=277						
WUSB				*e*S	**Sn**	**03 47 59.5**	**-1.1**
	baz=277						
TWT	**Tachien**	**1.42 292**		*e*P	**Pn**	**03 47 44.0**	**+0.4**
	baz=288						
TWT				*i* S	**Sn**	**03 48 00.5**	**-0.6**
	baz=288						
EHD	**Haiduan**	**1.42 246**		*e*P	**Pn**	**03 47 43.2**	**-0.3**
	baz=234						
EHD				*e*S	**Sn**	**03 47 59.8**	**-1.2**
	baz=234						
TIPB	**Shuangxi**	**1.43 330**		*e*P	**Pn**	**03 47 43.6**	**-0.1**
	baz=329						
TDCB	**Techi**	**1.43 292**		*e*P	**Pn**	**03 47 43.7**	**-0.1**
	baz=288						
TDCB				*e*S	**Sn**	**03 48 00.1**	**-1.3**
	baz=288						
ECS	**Chishang**	**1.43 244**		*e*P	**Pn**	**03 47 43.6**	**-0.1**
	baz=232						
NWLT	**Wulai**	**1.45 316**		*e*P	**Pn**	**03 47 44.4**	**+0.4**
	baz=314						
NWLT				*e*S	**Sn**	**03 48 01.3**	**-0.6**
	baz=314						
YHNB	**Yeheng**	**1.47 310**		P	**Pn**	**03 47 44.5**	**+0.3**
YHNB	**Yeheng**	**1.47 310**		*e*P	**Pn**	**03 47 44.4**	**+0.1**
	baz=308						
NSK	**Sanguang**	**1.48 310**		*e*P	**Pn**	**03 47 44.7**	**+0.3**
	baz=308						
LDUT	**Ludao**	**1.49 225**		*e*P	**Pn**	**03 47 43.7**	**-0.7**
	baz=221						
LDUT				*e*S	**Sn**	**03 48 00.3**	**-2.4**
	baz=221						
SSLB	**Suanglung**	**1.52 272**		P	**Pn**	**03 47 44.8**	**-0.2**
SSLB	**Suanglung**	**1.52 272**		*e*P	**Pn**	**03 47 44.7

baz=290
NSTT Nanjuang 1.73 302 P Pn 03 47 49.3 +1.6
baz=289
NSTT S Sn 03 48 08.7 +0.2
baz=289
YM08 YM08 1.73 327 *e*P **Pn 03 47 48.1 +0.4**
baz=326
TWS1 Kuangyinshan 1.75 322 *e*S **Sn 03 48 09.8 +0.8**
baz=333
JISG Ishigakijimahi 1.77 61 *e*P **Pn 03 47 48.3 0.0**
JISG *e*S **Sn 03 48 08.9 -0.6**
WNT Mingjian 1.77 275 P **Pn 03 47 49.9 +1.5**
baz=272
WNT *e*S **Sn 03 48 11.4 +1.7**
baz=272
STYH Taoyuan 1.78 252 *e*P **Pn 03 47 49.0 +0.6**
baz=241
STYH *e*S **Sn 03 48 09.8 0.0**
baz=241
CHN5 Tsauling 1.78 266 *e*P **Pn 03 47 49.8 +1.2**
baz=262
CHN5 *e*S **Sn 03 48 10.9 +0.9**
baz=262
TWQ1 Liyutan 1.79 290 *i* P **Pn 03 47 50.3 +1.6**
baz=288
TWQ1 *i* S **Sn 03 48 11.6 +1.4**
baz=288
NCUH Zhongli 1.79 314 *e*S **Sn 03 48 11.1 +1.0**
baz=311
TCU Taichung 1.82 284 *e*P **Pn 03 47 50.8 +1.7**
baz=280
TCU *e*S **Sn 03 48 13.2 +2.3**
baz=280
SBCB Hsinchu 1.82 306 *e*S **Sn 03 48 12.3 +1.4**
baz=304
NSY Sanyi 1.83 292 *e*S **Sn 03 48 13.0 +2.0**
baz=290
WCKO Fanlu 1.87 261 *e*P **Pn 03 47 51.5 +1.8**
baz=250
WCKO *e*S **Sn 03 48 13.9 +1.9**
baz=250
TPUB Ta-pu 1.87 257 P **Pn 03 47 50.9 +1.1**
TPUB Ta-pu 1.87 257 *e*P **Pn 03 47 51.1 +1.4**
baz=245
WTP Ta-pu 1.90 256 *e*P **Pn 03 47 51.5 +1.3**
baz=252
ECL Taimali 1.90 234 *e*P **Pn 03 47 49.5 -0.6**
baz=242
WDLH Douliu 1.90 269 *e*P **Pn 03 47 52.0 +1.8**
baz=266
LAY Lan-yu 1.95 210 *e*P **Pn 03 47 50.2 -0.7**
baz=217
PCYT Pengchaiyu 1.95 345 *e*P **Pn 03 47 51.0 +0.2**
baz=345
SLGT Liugui 1.95 248 *e*P **Pn 03 47 52.3 +1.4**
baz=238
LYUB Lan-yu 1.97 209 *e*P **Pn 03 47 50.0 -1.0**
baz=215
SGST Jiashian 1.98 251 *e*P **Pn 03 47 52.0 +0.9**
baz=248
TWK Hsinying 2.01 257 *e*P **Pn 03 47 53.3 +1.7**
baz=254
SNST Tainan City 2.01 256 *e*P **Pn 03 47 53.5 +1.9**
baz=253
WTK Tuku 2.04 269 *e*P **Pn 03 47 54.1 +2.0**
baz=266
WRL Guolierlin Hig 2.06 275 *e*P **Pn 03 47 53.9 +1.6**
baz=262
WRL *e*S **Sn 03 48 18.7 +2.0**
baz=262
JTJ Tarama 2.11 64 *e*P **Pn 03 47 53.3 +0.3**
JTJ *e*S **Sn 03 48 17.8 -0.1**
EAST Anshuo 2.11 231 *e*P **Pn 03 47 52.9 -0.1**
baz=236
TAWH Dawu Township 2.11 229 *e*P **Pn 03 47 53.6 +0.6**
baz=234
TAWH *e*S **Sn 03 48 17.7 -0.3**
baz=234
SCST Cishan 2.12 247 *e*P **Pn 03 47 55.6 +2.4**
baz=244
MASBT Mashibuluo 2.14 239 *e*P **Pn 03 47 54.1 +0.7**
baz=231
ICHU Yijhu 2.17 261 *e*P **Pn 03 47 55.8 +1.9**
baz=257
ICHU *e*S **Sn 03 48 21.7 +2.1**
baz=257
SHHT Tainan City 2.20 252 *e*P **Pn 03 47 57.5 +3.3**
baz=249
CHN8 Yiju 2.24 261 *e*P **Pn 03 47 56.4 +1.6**
baz=258
SLIU Shizi 2.25 228 *e*P **Pn 03 47 55.2 +0.2**
baz=226
SCZT Fangliau 2.28 234 *e*P **Pn 03 47 56.5 +1.1**
baz=226
TSCK Chigu Township 2.40 256 *e*P **Pn 03 47 59.9 +3.0**
baz=253
TWKBT Hengchun 2.44 223 *e*P **Pn 03 47 59.0 +1.4**
baz=220
TWKBT *e*S **Sn 03 48 27.4 +1.4**
baz=220
HEN Hengchun 2.44 226 *e*S **Sn 03 48 27.7 +1.6**
baz=222
JIRB Irabujima 2.58 64 *e*P **Pn 03 47 59.6 +0.2**
JIRB *e*S **Sn 03 48 29.7 +0.3**
JMJ Miyako jima 2 2.67 66 P **Pn 03 47 59.5 -1.2**
JMJ2 Miyako jima3 2.67 67 *e*P **Pn 03 48 02.0 +1.3**
JMJ2 *e*S **Sn 03 48 32.1 +0.3**
JIKM Ikemajima 2.68 63 *e*S **Sn 03 48 32.4 +0.4**
JOGS Gusukube 2.75 68 *e*S **Sn 03 48 33.6 -0.1**
WDGT Dungji 2.75 261 *e*P **Pn 03 48 02.9 +1.0**
baz=257
WDGT *e*S **Sn 03 48 34.3 +0.4**
baz=257
PHUB P'eng-hu 2.80 266 *e*P **Pn 03 48 03.5 +1.0**
baz=253
PHUB *e*S **Sn 03 48 35.5 +0.5**
baz=253
PNG Penghu 2.81 267 P **Pn 03 48 03.7 +1.0**
baz=255
PNG *e*S **Sn 03 48 35.9 +0.7**
baz=255
VCHM Qimei 2.97 261 *e*P **Pn 03 48 05.9 +1.1**
baz=258
KNM Kinmen 3.88 281 *e*P **Pn 03 48 19.3 +2.0**
baz=278
JOW Kunigami 5.98 58 P **Pn 03 48 44.6 -1.6**
2.6nm,0.3s,baz=134,slow=18,SNR=6.2
JOW S **Sn 03 49 50.1 -3.4**
9.0nm,0.6s,baz=136,slow=27,SNR=1.3
6.0nm,0.3s
KSRS Korea Array 14.42 17 P **Pn 03 50 42.4 +0.8**
0.5nm,0.4s,baz=199,slow=11,SNR=3.5
SONM Songino Array 27.30 336 P **P 03 53 00.5 -0.9**
1.1nm,0.6s,baz=150,slow=8.7,SNR=7.4
1.1nm,0.6s
MKAR Makanchi Array 39.57 316 P **P 03 54 47.7 -0.1**
0.9nm,0.6s,baz=100,slow=9.3,SNR=12
0.9nm,0.6s
ZALV Zalesovo Beam 41.34 327 P **P 03 55 01.0 -1.2**
0.7nm,0.4s,baz=120,slow=8.2,SNR=2.4
0.7nm,0.4s
WRA Warramunga Arr 44.89 164 P **P 03 55 34.1 +2.9**
0.3nm,0.7s,baz=342,slow=8.0,SNR=1.6
0.3nm,0.7s
ILAR Eielson Array 69.01 27 P **P 03 58 19.7 -1.9**
0.2nm,0.5s,baz=276,slow=5.8,SNR=7.6
0.2nm,0.5s
ARCES ARCESS Array B 70.44 338 P **P 03 58 29.8 -0.5**
0.6nm,0.3s,baz=70,slow=7.8,SNR=1.8
0.6nm,0.3s
FINES FINESS Array B 72.49 330 P **P 03 58 41.8 -0.9**
0.8nm,0.8s,baz=72,slow=4.5,SNR=4.7
0.8nm,0.8s
HFS Hagfors 78.59 331 P **P 03 59 17.0 -0.7**
1.0nm,0.8s,baz=72,slow=4.7,SNR=2.7
1.0nm,0.8s
NB2 NORSAR Subarra 79.23 333 P **P 03 59 21.0 -0.3**
comp=Z,0.3nm,0.6s,baz=53,slow=5.9
NOA NORSAR Array B 79.23 333 P **P 03 59 21.2 -0.1**
comp=Z,0.4nm,0.6s,baz=57,slow=5.7,SNR=6.0
comp=Z,0.4nm,0.6s
YKA Yellowknife Ar 82.87 23 P **P 03 59 40.7 +0.1**
comp=Z,1.5nm,0.7s,baz=314,slow=4.8,SNR=5.6
comp=Z,1.5nm,0.7s

*BGS **18** 03:59:56.8±1.9, 51°.16N×0°.25W, h1km, ML1.9*
*LDG **18** 03:59:56.3±0.1, 51°.19N×0°.15W, h2km, Ml2.7/15, Error ellipse: s-maj=2.1km s-min=1.3km az=6.0*

ISC 18 03:59:56.1±1.2, 51°.08N±0°.02×0°.16W±0°.03, h8km±10km, n25, σ1§19/51, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMNX	**Herstmonceux**	**0.38**	**125**	*e*P	**Pn**	**04 00 06.9**	**-1.0**
HMNX				*e*S	**Sb**	**04 00 14.8**	**+3.7**
HMNX				IAML		04 00 18.3	
	comp=E,137nm,0.6s						
HMNX				IAML		04 00 24.3	
	comp=N,124nm,0.3s						
WOL	**Wolverton**	**0.71**	**289**	*e*P	**Pg**	**04 00 09.8**	**0.0**
WOL				*e*S	**Sb**	**04 00 21.2**	**+0.6**
ELSH	**Elham, Standar**	**0.81**	**85**	*e*P	**Pn**	**04 00 14.8**	**+0.9**
ELSH				*e*S	**Sn**	**04 00 28.4**	**+2.2**
ELSH				IAML		04 00 29.6	
	comp=N,22nm,0.4s						
ELSH				IAML		04 00 34.7	
	comp=E,27nm,0.5s						
ELMS	**Elmsett, Ipswi**	**1.24**	**35**	*e*P	**Pn**	**04 00 20.4**	**+0.8**
ELMS				*e*S	**Sn**	**04 00 37.3**	**+0.7**
WACR	**West Acre**	**1.71**	**16**	*e*P	**Pg**	**04 00 28.3**	**-0.6**
WACR				*e*S	**Sg**	**04 00 50.0**	**-1.1**
WACR				IAML		04 00 52.2	
	comp=N,34nm,0.3s						
WACR				IAML		04 00 56.7	
	comp=E,24nm,0.3s						
MONM	**Monmouth**	**1.82**	**296**	*e*P	**Pn**	**04 00 28.2**	**+0.5**
MONM				*e*S	**Sn**	**04 00 50.9**	**0.0**
MCH1	**Michaelchurch**	**2.00**	**298**	*e*S	**Sn**	**04 00 56.0**	**+0.7**
HLM1	**Long Mynd**	**2.22**	**311**	*e*P	**Pn**	**04 00 32.8**	**-0.4**
HLM1				*e*S	**Sb**	**04 01 02.8**	**-1.3**
FLN	**La Foliniere**	**2.33**	**185**	*e*Pg	**Pg**	**04 00 41.4**	**+0.6**
FLN				*e*Sg	**Sg**	**04 01 12.7**	**+1.7**
	comp=E,14nm,0.4s						
LDF	**La Druitiere**	**2.49**	**179**	*e*Pg	**Pg**	**04 00 44.8**	**+1.0**
LDF				*e*Sn	**Sn**	**04 01 07.5**	**0.0**
LDF				*e*Sg	**Sg**	**04 01 17.2**	**+1.1**
	comp=E,8.4nm,0.4s						
GRR	**Gorron**	**2.74**	**190**	*e*Pg	**Pg**	**04 00 48.8**	**+0.3**
GRR				*e*Sn	**Sn**	**04 01 14.0**	**+0.5**
GRR				*e*Sg	**Sg**	**04 01 25.6**	**+1.7**
	comp=E,8.8nm,0.5s						
SGMF	**Saint Gilles**	**3.23**	**210**	*e*Pg	**Pg**	**04 00 57.7**	**-0.3**
SGMF				*e*Sn	**Sn**	**04 01 25.0**	**-0.8**
SGMF				*e*Sg	**Sg**	**04 01 41.0**	**+1.1**
	comp=E,8.9nm,0.6s						
ROSF	**Rostrenen**	**3.41**	**218**	*e*Pn	**Pn**	**04 00 49.7**	**+0.1**
ROSF	**Rostrenen**	**3.41**	**218**	*e*Pg	**Pg**	**04 01 01.6**	**+0.1**
ROSF				*e*Sn	**Sn**	**04 01 28.8**	**-1.5**
ROSF				*e*Sg	**Sg**	**04 01 46.2**	**+0.5**
	comp=E,4.0nm,0.4s						
QUIF	**Quistinic**	**3.73**	**213**	*e*Pn	**Pn**	**04 00 53.9**	**0.0**
QUIF				*e*Sg	**Sg**	**04 01 55.9**	**+0.2**
	comp=E,7.6nm,0.7s						
MFF	**Saint Martin d**	**4.49**	**180**	*e*Pn	**Pn**	**04 01 04.6**	**+0.3**
MFF	**Saint Martin d**	**4.49**	**180**	*e*Pg	**Pg**	**04 01 21.2**	**-0.8**
MFF				*e*Sn	**Sn**	**04 01 55.0**	**-1.7**
MFF				*e*Sg	**Sg**	**04 02 19.9**	**-0.1**
	comp=E,2.5nm,0.5s						
LOR	**Lormes**	**4.64**	**144**	*e*Pn	**Pn**	**04 01 07.7**	**+1.3**
LOR	**Lormes**	**4.64**	**144**	*e*Pg	**Pg**	**04 01 23.9**	**-1.0**
LOR				*e*Sn	**Sn**	**04 01 58.4**	**-2.1**
LOR				*e*Sg	**Sg**	**04 02 24.3**	**-0.6**
	comp=E,3.2nm,0.5s						
SSF	**Saint Saulge**	**4.69**	**148**	*e*Pg	**Pg**	**04 01 24.7**	**-1.2**
SSF				*e*Sg	**Sg**	**04 02 25.7**	**-0.9**
	comp=E,4.1nm,0.6s						
AVF	**Avril sur Loir**	**4.88**	**150**	*e*Pg	**Pg**	**04 01 28.4**	**-1.1**
AVF				*e*Sg	**Sg**	**04 02 31.8**	**-0.8**
	comp=E,2.2nm,0.5s						
BGF	**Bois d'Agland**	**4.94**	**155**	*e*Pg	**Pg**	**04 01 29.2**	**-1.5**
BGF				*e*Sg	**Sg**	**04 02 34.6**	**-0.1**
	comp=E,15nm,0.6s						
TCF	**Toulx Ste Croi**	**5.05**	**161**	*e*Sg	**Sg**	**04 02 38.3**	**+0.2**
	comp=E,3.3nm,0.5s						
RJF	**Les Rejaudoux**	**5.89**	**168**	*e*Pn	**Pn**	**04 01 23.6**	**0.0**
RJF	**Les Rejaudoux**	**5.89**	**168**	*e*Pg	**Pg**	**04 01 47.2**	**-1.6**
RJF				*e*Sn	**Sn**	**04 02 29.2**	**-2.1**
RJF				*e*Sg	**Sg**	**04 03 03.5**	**-1.6**
	comp=E,3.3nm,0.5s						

IDC 18 04:04:31.0±2.0, 6°.10S×153°.84E, h0km, mb3.5/5, mbtmp3.5/5, MS3.6/1, Error ellipse: s-maj=76.5km s-min=27.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.42**	**232**	P	P	04 09 41.8	-0.2
	0.6nm,0.8s,baz=57,slow=9.6,SNR=3.3						
WRA				PcP	PcP	04 13 29.3	+0.4
	0.4nm,1.0s,baz=59,slow=2.5,SNR=1.6						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**25.94**	**226**	P	P	04 10 05.2	-0.2
	1.2nm,0.8s,baz=63,slow=9.2,SNR=9.4						
	1.2nm,0.8s						
KAPI	**Kappang**	**33.94**	**270**	LR	LR	04 27 40.7	
	comp=Z,98nm,18.6s,baz=128,slow=41						
SONM	**Songino Array**	**67.97**	**328**	P	P	04 15 32.6	+0.5
	0.2nm,0.3s,baz=131,slow=5.7,SNR=1.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**81.98**	**319**	P	P	04 16 52.2	-0.8
	0.6nm,0.8s,baz=104,slow=6.1,SNR=3.7						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**82.97**	**22**	P	P	04 16 57.9	+0.2
	0.2nm,0.8s,baz=228,slow=4.7,SNR=1.7						
	0.2nm,0.8s						

*IDC **18** 04:11:12.3±1.3, 29°.89N×87°.55E, h0km, mb3.7/10, mbtmp3.7/12, ML4.1/2, MS3.5/2, Error ellipse: s-maj=39.9km s-min=23.1km az=53.0*

ISC 18 04:11:17.4±1.0, 29°.9N±0°.2×87°.7E±0°.2, h35km, n14, σ1§44/13, mb3.6/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.35**	**136**	Pn	**Pn**	**04 14 50.0**	**-1.5**
	0.8nm,0.3s,baz=319,slow=12,SNR=1.7						
	2.3nm,0.3s						
MKAR	**Makanchi Array**	**17.35**	**348**	P	**Pn**	**04 15 15.2**	**-1.6**
	0.1nm,0.3s,baz=169,slow=12,SNR=3.4						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**21.78**	**344**	P	**P**	**04 16 04.1**	**-1.9**
	0.6nm,0.2s,baz=161,slow=11,SNR=5.5						
	0.6nm,0.2s						
SONM	**Songino Array**	**22.96**	**34**	P	**P**	**04 16 20.6**	**+1.8**
	0.5nm,0.6s,baz=225,slow=7.3,SNR=2.1						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**24.09**	**356**	P	**P**	**04 16 30.1**	**+0.6**
	1.3nm,0.6s,baz=180,slow=7.2,SNR=4.2						
ZALV				LR	LR	04 26 16.2	
	comp=Z,27nm,19.7s,baz=207,slow=38						
	1.3nm,0.6s						
BVAR	**Borovoye Array**	**26.32**	**336**	P	**P**	**04 16 51.0**	**+1.2**
	0.6nm,0.5s,baz=146,slow=10,SNR=3.6						
	0.6nm,0.5s						
BRTR	**Keskin Array B**	**44.83**	**298**	P	**P**	**04 19 29.2**	**+0.9**
	0.3nm,0.5s,baz=77,slow=8.7,SNR=2.1						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**50.67**	**327**	P	**P**	**04 20 11.9**	**-1.0**
	1.3nm,0.8s,baz=103,slow=12,SNR=2.8						
	1.3nm,0.8s						
SEY	**Seymchan**	**52.33**	**32**	LR	LR	04 43 41.8	
	comp=Z,185nm,19.3s,baz=150,slow=37						
ARCES	**ARCESS Array B**	**52.61**	**337**	P	**P**	**04 20 26.5**	**-0.9**
	1.2nm,0.4s,baz=108,slow=7.7,SNR=1.9						
	1.2nm,0.4s						
HFS	**Hagfors**	**56.66**	**325**	P	**P**	**04 20 56.1**	**-0.7**
	1.7nm,0.6s,baz=88,slow=10,SNR=7.7						
	1.7nm,0.6s						
NB2	**NORSAR Subarra**	**57.82**	**326**	P	**P**	**04 21 07.0**	**+1.9**
	comp=Z,1.4nm,0.7s,baz=86,slow=6.9						
NOA	**NORSAR Array B**	**57.82**	**326**	P	**P**	**04 21 05.1**	**0.0**
	comp=Z,0.5nm,0.6s,baz=85,slow=7.2,SNR=5.9						
	comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**66.91**	**132**	P	**P**	**04 22 07.0**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=324,slow=6.5,SNR=2.4						
	comp=Z,0.4nm,0.7s						

*NEIC **18** 04:19:26.7±0.9, 19°.40N±0°.01×155°.269W±0°.008, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.9km az=82.0*

HVO 18 04:19:26.3±0.8, 19°.41N±0°.01×155°.262W±0°.008, h0km±2km, ML3.6/23, ML3.1/33(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=175.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.00**	**131**		Pg	04 19 26.6	0.0
HATHI	**Halema'uma'u T**	**0.01**	**5**		Pg	04 19 26.6	0.0
HATHI	**Halema'uma'u T**	**0.01**	**5**	IAML		04 19 26.8	
	comp=N,13μm,0.2s						
SBLHI	**Steaming Bluff**	**0.01**	**336**		Pg	04 19 26.8	+0.1
KKO	**Keanakako`i**	**0.02**	**194**		Pg	04 19 27.7	+1.0
UWB	**Uwekahuna B**	**0.02**	**306**		Pg	04 19 26.9	+0.1
OBL	**Observatory Le**	**0.02**	**281**		Pg	04 19 27.1	+0.3
UWE	**Uwekahuna**	**0.03**	**284**		Pg	04 19 26.6	-0.4
WRMHI	**West Rim**	**0.04**	**259**		Pg	04 19 27.9	+0.8
RSD	**Rainshed**	**0.05**	**343**		Pg	04 19 27.7	+0.4
RSD	**Rainshed**	**0.05**	**343**	IAML		04 19 28.6	
	comp=N,15μm,0.4s						
RSD				IAML		04 19 28.9	
	comp=E,9μm,0.3s						
PUH	**Pauahi**	**0.06**	**132**		Pg	04 19 28.1	+0.7
PUH				IAML		04 19 29.0	
	comp=E,9μm,1.0s						
KNHH	**Kane Nui o Ham**	**0.09**	**111**		Pg	04 19 28.8	+0.7
HLP	**Hilina Pali**	**0.12**	**200**	Pg	Pg	04 19 29.5	+0.8
HLP				IAML		04 19 31.1	
	comp=E,10μm,1.4s						
STCH	**Steam Cracks**	**0.13**	**102**		Pg	04 19 29.2	+0.3
STCH				IAML		04 19 32.1	
	comp=E,9μm,1.2s						
STCH				IAML		04 19 32.9	
	comp=N,4μm,0.5s						
MLH	**Mauna Loa**	**0.14**	**304**		Pg	04 19 30.1	+1.1
MLH				IAML		04 19 32.1	
	comp=E,6μm,0.8s						
MLH				IAML		04 19 33.5	
	comp=N,9μm,1.5s						
NPOC	**North of Pu'u**	**0.14**	**98**		Pg	04 19 31.2	+2.1
JCUZ	**Jacuzzi**	**0.15**	**101**		Pg	04 19 30.1	+0.9
JOKA	**Jonika Flow**	**0.24**	**85**	Pg	Pg	04 19 32.1	+1.1
JOKA				IAML		04 19 35.7	
	comp=E,4μm,1.5s						
HMH	**Humu'ula Sheep**	**0.28**	**312**		Sg	04 19 37.1	+1.8
HMH	**Humu'ula Sheep**	**0.28**	**312**	Pg	Pg	04 19 32.4	+0.6
HMH	**Humu'ula Sheep**	**0.28**	**312**	IAML		04 19 39.6	
	comp=N,3μm,0.6s						
HMH				IAML		04 19 41.0	
	comp=E,3μm,0.8s						
PAH	**Pahoa**	**0.31**	**75**	Pg	Pg	04 19 32.5	+0.2
MLOA	**Mauna Loa Obse**	**0.32**	**292**	Pg	Pg	04 19 32.7	+0.3
MLOA				IAML		04 19 39.8	
	comp=E,4μm,1.2s						
MWH	**Moku'aweowe**	**0.32**	**283**	Pg	Pg	04 19 32.5	0.0
KHU	**Kahuku**	**0.37**	**244**	Pg	Pg	04 19 33.9	+0.5
KHU				IAML		04 19 37.3	
	comp=N,3μm,1.7s						
HPO	**Honuapo**	**0.42**	**221**	Pg	Pg	04 19 35.2	+0.7
POHA	**Pohakuloa**	**0.43**	**323**		Sg	04 19 41.9	+1.8
POHA	**Pohakuloa**	**0.43**	**323**	Pg	Pg	04 19 35.1	+0.6
POHA	**Pohakuloa**	**0.43**	**323**	IAML		04 19 42.8	
	comp=N,2μm,1.1s						
POHA				IAML		04 19 48.9	
	comp=N,3μm,1.8s						
HUH	**Hualalai**	**0.60**	**297**	Pg	Pg	04 19 38.4	+0.5
MHA	**Mahukona**	**0.98**	**322**	Pg	Pg	04 19 44.8	-0.3

*IDC **18** 04:20:42.1±1.7, 49°.31N×94°.66E, h0km, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=49.7km s-min=15.8km az=5.0*
*ASRS **18** 04:20:51.3±0.4, 50°N±2°×9°4E±°, h5km, MLh4.1/16, Error ellipse: s-maj=4.7km s-min=3.4km az=143.8, confirmed*
*NNC **18** 04:21:38.3±5.5, 48°.99N×91°.75E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=69.0km s-min=38.3km az=11.0*

ISC 18 04:20:51.9±1.8, 49°.55N±0°.07×94°.06E±0°.07, h10km, n27, σ2§33/53, 2C-4D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**2.18**	**6**	Pg	**Pb**	**04 21 30.9**	**-0.5**
KZLR				Sg	**Sg**	**04 22 04.5**	**+2.7**
TEL	**Teeli**	**2.88**	**302**	Pn	**Pn**	**04 21 38.6**	**+0.6**
TEL				Pg	**Pb**	**04 21 43.4**	**-0.1**
TEL				Sg	**Sg**	**04 22 28.8**	**+4.3**
ARDR	**Aradan**	**3.06**	**353**	Pg	**Pb**	**04 21 46.3**	**-0.3**
ARDR				Sg	**Sg**	**04 22 31.4**	**+1.2**
DJO	**Djoy, Khakassi**	**3.70**	**332**	Pn	**Pn**	**04 21 50.9**	**+1.7**
DJO				Pg	**Pb**	**04 21 58.7**	**+1.4**
DJO				Sg	**Sg**	**04 22 52.0**	**+1.3**
CERR	**Cheremushki**	**3.71**	**334**	Pg	**Pg**	**04 21 59.5**	**-3.4**
CERR				Sg	**Sg**	**04 22 51.9**	**+1.0**
CUR	**Chagan-Uzun**	**3.74**	**281**	Pn	**Pn**	**04 21 49.7**	**-0.1**
CUR				Pg	**Pb**	**04 21 59.1**	**+1.0**
CUR				Sg	**Sg**	**04 22 53.1**	**+1.1**
ULGR	**Ulagan, Altay**	**4.08**	**288**	Pn	**Pn**	**04 21 57.0**	**+2.7**
ULGR				Pg	**Pg**	**04 22 08.5**	**-1.4**
ULGR				Sg	**Sg**	**04 23 07.3**	**+4.6**
AKAR	**Aktash**	**4.23**	**283**	Pn	**Pn**	**04 21 56.1**	**-0.5**
AKAR				Pg	**Pb**	**04 22 08.5**	**+2.0**
AKAR				Sg	**Sg**	**04 23 10.2**	**+2.3**
DGZ	**Jazzator, Alta**	**4.32**	**275**	Pn	**Pn**	**04 21 57.6**	**-0.1**
DGZ				Pg	**Pb**	**04 22 08.5**	**+0.6**
DGZ				Sg	**Sg**	**04 23 09.8**	**-0.6**
VEH	**Verkhnyaya Baz**	**4.39**	**329**	Pn	**Pn**	**04 22 00.8**	**+2.1**
VEH				Pg	**Pg**	**04 22 13.2**	**-2.8**
VEH				Sg	**Sg**	**04 23 14.5**	**+1.7**
YALR	**Yailyu, Altay**	**4.67**	**301**	Pn	**Pn**	**04 22 04.1**	**+1.7**
YALR				Pg	**Pg**	**04 22 19.1**	**-2.2**
YALR				Sg	**Sg**	**04 23 24.5**	**+2.7**
ARTR	**Artybash**	**4.87**	**300**	Pn	**Pn**	**04 22 06.8**	**+1.6**
ARTR				Pg	**Pg**	**04 22 21.6**	**-3.5**
ARTR				Sg	**Sg**	**04 23 30.6**	**+2.5**
TASR	**Tashtagol**	**5.05**	**312**	Pn	**Pn**	**04 22 06.9**	**-0.8**
TASR				Pg	**Pg**	**04 22 24.2**	**-4.3**
TASR				Sg	**Sg**	**04 23 35.5**	**+1.5**
LUZB	**Luzhba, Kemero**	**5.23**	**324**	Pn	**Pn**	**04 22 10.1**	**0.0**
LUZB				Pg	Pg	04 22 26.8	-5.2
LUZB				Sg	**Sg**	**04 23 39.5**	**-0.1**
MINR	**Mina**	**5.36**	**1**	Pn	**Pn**	**04 22 12.0**	**0.0**
MINR				Pg	**Pg**	**04 22 33.0**	**-1.5**
MINR				Sg	**Sg**	**04 23 46.2**	**+2.2**
ELDR	**Elanda**	**5.37**	**291**	Pn	**Pn**	**04 22 14.1**	**+2.1**
ELDR				Pg	**Pg**	**04 22 33.0**	**-1.7**
ELDR				Sg	**Sg**	**04 23 47.2**	**+3.0**
GALT	**Gorno-Altaysk,**	**5.69**	**298**	Pg	**Pg**	**04 22 36.3**	**-4.5**
GALT				Sg	**Sg**	**04 23 51.7**	**-2.7**
ELT	**Eltsovka**	**6.15**	**310**	Pn	**Pn**	**04 22 22.1**	**-0.6**
ELT				Pg	**Pg**	**04 22 45.4**	**-4.2**
ELT				Sg	**Sg**	**04 24 11.7**	**+2.6**
ZALV	**Zalesovo Beam**	**7.23**	**311**	Pg	Pg	04 23 03.1	-7.3
	0.4nm,0.3s,baz=119,slow=15,SNR=3.9						
ZALV				Lg	Lg	04 24 38.5	
	0.9nm,0.3s,baz=121,slow=27,SNR=4.1						
SONM	**Songino Array**	**8.34**	**97**	Pn	Pn	04 22 37.9	-15
	0.2nm,0.3s,baz=283,slow=15,SNR=3.5						
SONM				Pg	Pb	04 23 07.3	-9.1
	1.0nm,0.3s,baz=282,slow=17,SNR=7.3						
SONM				Lg	Lg	04 24 52.6	
	3.1nm,0.3s,baz=287,slow=30,SNR=17						
	0.4nm,0.2s						
MK31	**Makanchi Array**	**8.34**	**255**	⇑Pn	**Pb**	**04 23 19.3**	**+3.0**
	1.0nm,0.5s,baz=77,slow=17,SNR=3.6						
MK31				⇓Lg	Lg	04 25 13.7	
	8.7nm,0.8s,baz=76,slow=33,SNR=4.5						
MKAR	**Makanchi Array**	**8.34**	**255**	Pn	**Pn**	**04 22 49.6**	**-3.3**
	baz=68,slow=14,SNR=1.6						
MKAR				Pg	Pg	04 23 17.3	-14
	0.2nm,0.3s,baz=76,slow=23,SNR=3.4						
MKAR				Lg	Lg	04 25 13.5	
	0.3nm,0.3s,baz=66,slow=29,SNR=4.0						
	0.2nm,0.6s						
MAKZ	**Makanchi**	**8.53**	**256**	⇑Pn		04 23 20.8	
	2.2nm,0.6s						
MAKZ				⇓Lg	Lg	04 25 17.9	
	21nm,1.4s						
KURK	**Kurchatov**	**9.99**	**283**	⇓Lg	Lg	04 26 09.7	
	8.6n

KURBB	Kurchatov Arra	10.05 282	⇓Lg		Lg	04 26 17.1
	16nm,0.8s					
BVAR	Borovoye Array	15.20 292	Pn		Pn	04 24 24.7 -1.7
	baz=104,slow=12					

AEIC ***18*** *04:45:21.5±2.1, 67°.58N±0°.02×159°.56W±0°.05, h14km±6km, ML3.3, ML3.5/104(NEIC), Error ellipse: s-maj=3.3km s-min=2.3km az=129.0*
IDC ***18*** *04:45:23.9±1.4, 68°.04N×159°.29W, h0km, mb3.5/4, mbtmp3.6/8, ML3.3/4, Error ellipse: s-maj=32.2km s-min=18.6km az=44.0*
NEIC ***18*** *04:45:23.3±1.8, 67°.58N±0°.03×159°.59W±0°.07, h10km±2km, Error ellipse: s-maj=4.7km s-min=4.1km az=120.0*
ISC 18 04:45:22.3±1.1, 67°.59N±0°.02×159°.54W±0°.02, h4km±8km, n261, σ1°06/259, mb3.5/4, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
E18K	**Tukpahlearik C**	**0.44**	**248**		**Pg**	**04 45 30.2**	**-0.5**
E18K	**Tukpahlearik C**	**0.44**	**248**		**Sg**	**04 45 36.3**	**-0.2**
E18K	**Tukpahlearik C**	**0.44**	**248**	P	**Pg**	**04 45 30.2**	**-0.5**
	baz=68						
E18K				S	**Sg**	**04 45 36.3**	**-0.2**
	baz=68						
E19K	**Redstone River**	**0.90**	**98**		**Pg**	**04 45 38.6**	**-0.8**
E19K					**Sg**	**04 45 50.4**	**-0.7**
E19K	**Redstone River**	**0.90**	**98**	IAML		04 45 53.1	
	comp=E,1μm,0.6s						
E19K				IAML		04 45 54.9	
	comp=N,2μm,0.5s						
E19K	**Redstone River**	**0.90**	**98**	P	**Pg**	**04 45 38.6**	**-0.8**
	baz=279						
E19K				S	**Sg**	**04 45 50.4**	**-0.7**
	baz=279						
F18K	**Selawik**	**1.00**	**182**		**Pg**	**04 45 41.1**	**-0.2**
F18K	**Selawik**	**1.00**	**182**	P	**Pg**	**04 45 41.2**	**-0.1**
	baz=1.9						
E17K	**Hotham Inlet**	**1.02**	**241**		**Pg**	**04 45 40.5**	**-1.3**
E17K	**Hotham Inlet**	**1.02**	**241**	P	**Pg**	**04 45 40.5**	**-1.3**
	baz=59						
F19K	**Shaleruckik Mo**	**1.03**	**137**		**Pg**	**04 45 41.3**	**-0.6**
F19K					**Sb**	**04 45 56.8**	**+0.5**
F19K	**Shaleruckik Mo**	**1.03**	**137**	P	**Pg**	**04 45 41.8**	**-0.2**
	baz=318						
F19K				S	**Sb**	**04 45 56.8**	**+0.5**
	baz=318						
D19K	**Kuna River**	**1.05**	**30**		**Pg**	**04 45 41.9**	**-0.6**
D19K				IAML		04 46 02.2	
	comp=N,2μm,0.6s						
D19K				IAML		04 46 02.5	
	comp=E,1μm,0.4s						
D19K	**Kuna River**	**1.05**	**30**	P	**Pg**	**04 45 42.2**	**-0.3**
	baz=211						
C18K	**Utukok River**	**1.23**	**331**		**Pn**	**04 45 46.0**	**-0.2**
C18K					**Sb**	**04 46 02.6**	**+0.4**
C18K	**Utukok River**	**1.23**	**331**	IAML		04 46 06.6	
	comp=N,653nm,0.9s						
C18K	**Utukok River**	**1.23**	**331**	P	**Pn**	**04 45 46.0**	**-0.2**
	baz=150						
C18K				S	**Sb**	**04 46 02.6**	**+0.4**
	baz=150						
F17K	**Baldwin Pennin**	**1.33**	**211**		**Pn**	**04 45 47.1**	**-0.5**
F17K					**Sn**	**04 46 05.7**	**-0.1**
F17K	**Baldwin Pennin**	**1.33**	**211**	IAML		04 46 08.5	
	comp=N,1μm,1.1s						
F17K	**Baldwin Pennin**	**1.33**	**211**	P	**Pn**	**04 45 47.1**	**-0.5**
	baz=29						
F17K				S	**Sn**	**04 46 05.7**	**-0.1**
	baz=29						
D17K	**Noatak River**	**1.36**	**276**		**Pn**	**04 45 46.8**	**-1.1**
D17K	**Noatak River**	**1.36**	**276**	P	**Pn**	**04 45 46.8**	**-1.1**
	baz=94						
RDOG	**Red Dog Mine**	**1.36**	**292**		**Pn**	**04 45 48.1**	**+0.1**
RDOG					**Sg**	**04 46 06.7**	**+0.9**
RDOG	**Red Dog Mine**	**1.36**	**292**	P	**Pn**	**04 45 48.1**	**+0.1**
	baz=109						
RDOG				S	**Sg**	**04 46 06.7**	**+0.9**
	baz=109						
E20K	**Nigu River**	**1.43**	**61**		**Pn**	**04 45 48.8**	**-0.3**
E20K					**Sb**	**04 46 09.1**	**+1.0**
E20K	**Nigu River**	**1.43**	**61**	P	**Pn**	**04 45 48.8**	**-0.3**
	baz=243						
E20K				S	**Sb**	**04 46 09.1**	**+1.0**
	baz=243						
C19K	**Lookout Ridge**	**1.52**	**359**		**Pn**	**04 45 50.7**	**+0.5**
C19K	**Lookout Ridge**	**1.52**	**359**	IAML		04 46 25.2	
	comp=N,446nm,0.8s						
C19K	**Lookout Ridge**	**1.52**	**359**	P	**Pn**	**04 45 50.7**	**+0.5**
	baz=180						
D20K	**Etivluk River**	**1.57**	**43**		**Pn**	**04 45 51.4**	**+0.5**
D20K					**Sg**	**04 46 14.8**	**+2.1**
D20K	**Etivluk River**	**1.57**	**43**	P	**Pn**	**04 45 51.8**	**+0.9**
	baz=226						
D20K				S	**Sg**	**04 46 14.8**	**+2.1**
	baz=226						
F20K	**Avaraart Lake**	**1.58**	**108**		**Pn**	**04 45 50.5**	**-0.4**
F20K	**Avaraart Lake**	**1.58**	**108**	IAML		04 46 15.4	
	comp=E,424nm,0.6s						
F20K				IAML		04 46 16.4	
	comp=N,540nm,0.7s						
F20K	**Avaraart Lake**	**1.58**	**108**	P	**Pn**	**04 45 51.9**	**+0.9**
	baz=291						
C17K	**DeLong Mountai**	**1.63**	**305**		**Pn**	**04 45 51.9**	**+0.2**
C17K	**DeLong Mountai**	**1.63**	**305**	P	**Pn**	**04 45 51.9**	**+0.2**
	baz=122						
G18K	**Tagagawik**	**1.74**	**168**		**Pn**	**04 45 53.2**	**0.0**
G18K	**Tagagawik**	**1.74**	**168**	IAML		04 46 21.0	
	comp=E,426nm,0.7s						
G18K	**Tagagawik**	**1.74**	**168**	P	**Pn**	**04 45 53.5**	**+0.3**
	baz=348						
G19K	**Purcell Mounta**	**1.75**	**145**		**Sb**	**04 46 18.1**	**+1.0**
G19K	**Purcell Mounta**	**1.75**	**145**		**Pn**	**04 45 52.6**	**-0.7**
G19K	**Purcell Mounta**	**1.75**	**145**	IAML		04 46 19.3	
	comp=N,708nm,0.4s						
G19K				IAML		04 46 19.5	
	comp=E,799nm,0.6s						
G19K	**Purcell Mounta**	**1.75**	**145**	P	**Pn**	**04 45 53.3**	**0.0**
	baz=327						
G19K				S	**Sb**	**04 46 18.1**	**+1.0**
	baz=327						
B18K	**Kokolik River**	**1.97**	**336**		**Pn**	**04 45 56.5**	**+0.2**
B18K	**Kokolik River**	**1.97**	**336**	P	**Pn**	**04 45 56.2**	**-0.1**
	baz=154						
G17K	**Kiwalik Mounta**	**2.15**	**192**		**Pn**	**04 45 58.0**	**-0.8**
G17K	**Kiwalik Mounta**	**2.15**	**192**	P	**Pn**	**04 45 58.0**	**-0.8**
	baz=11						
E21K	**Killik River**	**2.26**	**65**		**Pn**	**04 46 00.2**	**-0.2**
E21K					**Pb**	**04 46 02.7**	**-1.0**
E21K	**Killik River**	**2.26**	**65**	P	**Pb**	**04 46 02.7**	**-1.0**
	baz=250						
C16K	**Lisburne Hills**	**2.30**	**290**		**Pn**	**04 46 00.9**	**+0.1**
C16K	**Lisburne Hills**	**2.30**	**290**	P	**Pn**	**04 46 00.9**	**+0.1**
	baz=105						
C21K	**Knifeblade Rid**	**2.36**	**46**		**Pn**	**04 46 02.7**	**+0.9**
C21K	**Knifeblade Rid**	**2.36**	**46**	P	**Pn**	**04 46 02.7**	**+0.9**
	baz=230						
F21K	**Alatna River**	**2.37**	**96**		**Pn**	**04 46 03.0**	**+1.1**
F21K	**Alatna River**	**2.37**	**96**	IAML		04 46 40.1	
	comp=E,343nm,0.7s						
F21K	**Alatna River**	**2.37**	**96**	P	**Pn**	**04 46 03.0**	**+1.1**
	baz=282						
H19K	**Roundabout Mou**	**2.41**	**148**	Pn	**Pn**	**04 46 02.2**	**-0.2**
H19K				IAML		04 46 40.5	
	comp=N,240nm,0.6s						
H19K				IAML		04 46 46.3	
	comp=E,250nm,0.6s						
H19K	**Roundabout Mou**	**2.41**	**148**	P	**Pn**	**04 46 02.6**	**+0.2**
	baz=330						
G16K	**Koyuk River**	**2.48**	**208**		**Pn**	**04 46 02.7**	**-0.6**
G16K					**Sn**	**04 46 35.0**	**+1.0**
G16K	**Koyuk River**	**2.48**	**208**	P	**Pn**	**04 46 02.7**	**-0.6**
	baz=26						
G16K				S	**Sn**	**04 46 35.0**	**+1.0**
	baz=26						
H18K	**Honhosa River**	**2.50**	**168**		**Pn**	**04 46 03.6**	**0.0**
H18K	**Honhosa River**	**2.50**	**168**	IAML		04 46 47.2	
	comp=E,184nm,0.7s						
H18K				IAML		04 46 47.4	
	comp=N,193nm,0.6s						
H18K	**Honhosa River**	**2.50**	**168**	P	**Pn**	**04 46 03.6**	**0.0**
	baz=349						
B20K	**Meade River**	**2.58**	**19**		**Pn**	**04 46 04.6**	**0.0**
B20K	**Meade River**	**2.58**	**19**	IAML		04 46 57.3	
	comp=N,163nm,0.8s						
B20K				IAML		04 47 11.1	
	comp=E,223nm,1.1s						
B20K	**Meade River**	**2.58**	**19**	P	**Pn**	**04 46 04.6**	**0.0**
	baz=201						
G21K	**Allakaket**	**2.60**	**112**		**Pn**	**04 46 04.6**	**-0.4**
G21K				IAML		04 46 51.1	
	comp=E,182nm,0.8s						
G21K				IAML		04 46 53.9	
	comp=N,280nm,1.1s						
G21K	**Allakaket**	**2.60**	**112**	P	**Pn**	**04 46 05.2**	**+0.2**
	baz=297						
H17K	**Granite Mounta**	**2.67**	**183**	Pn	**Pn**	**04 46 05.2**	**-0.8**
H17K				IAML		04 46 52.0	
	comp=N,175nm,0.8s						
H17K				IAML		04 46 52.2	
	comp=E,260nm,1.0s						
H17K	**Granite Mounta**	**2.67**	**183**	P	**Pn**	**04 46 06.1**	**+0.1**
	baz=2.9						
A19K	**Wainwright**	**2.68**	**349**		**Pn**	**04 46 06.8**	**+0.7**
A19K	**Wainwright**	**2.68**	**349**	P	**Pn**	**04 46 06.8**	**+0.7**
	baz=168						
B21K	**Ikpikpuk River**	**2.73**	**39**		**Pn**	**04 46 07.1**	**+0.4**
B21K	**Ikpikpuk River**	**2.73**	**39**	P	**Pn**	**04 46 06.6**	**0.0**
	baz=224						
F15K	**North Star Dit**	**2.78**	**229**		**Pn**	**04 46 06.9**	**-0.5**
F15K	**North Star Dit**	**2.78**	**229**	P	**Pn**	**04 46 06.5**	**-1.0**
	baz=45						
H20K	**Anotleneega Mo**	**2.81**	**136**		**Pn**	**04 46 07.9**	**0.0**
H20K	**Anotleneega Mo**	**2.81**	**136**	P	**Pn**	**04 46 07.9**	**0.0**
	baz=320						
F22K	**John River**	**2.83**	**88**		**Pn**	**04 46 09.9**	**+1.7**
D22K	**Ayikyak River**	**2.87**	**60**		**Pn**	**04 46 09.7**	**+1.0**
D22K	**Ayikyak River**	**2.87**	**60**	P	**Pn**	**04 46 09.7**	**+1.0**
	baz=246						
E22K	**Anaktuvuk Pass**	**2.98**	**76**		**Pn**	**04 46 11.1**	**+0.8**
E22K	**Anaktuvuk Pass**	**2.98**	**76**	IAML		04 46 57.6	
	comp=E,213nm,0.8s						
E22K				IAML		04 47 02.4	
	comp=N,148nm,0.5s						
H16K	**Elim**	**3.16**	**202**		**Pn**	**04 46 12.5**	**-0.2**
G15K	**Niukluk**	**3.18**	**217**		**Pn**	**04 46 12.7**	**-0.2**
G15K	**Niukluk**	**3.18**	**217**	P	**Pn**	**04 46 12.9**	**0.0**
	baz=33						
H21K	**Melozitna Rive**	**3.31**	**123**	Pn	**Pn**	**04 46 14.5**	**-0.3**
H21K				IAML		04 47 10.3	
	comp=E,79nm,0.9s						
H21K				IAML		04 47 13.9	
	comp=N,90nm,1.3s						
H21K	**Melozitna Rive**	**3.31**	**123**	P	**Pn**	**04 46 14.9**	**+0.1**
	baz=309						
F14K	**Arctic Creek**	**3.45**	**235**		**Pn**	**04 46 16.7**	**+0.1**
I20K	**Naaghedeneel**	**3.48**	**141**		**Pn**	**04 46 17.0**	**0.0**
I20K	**Naaghedeneel**	**3.48**	**141**	P	**Pn**	**04 46 17.9**	**+0.9**
	baz=326						
B22K	**Teshekpuk Lake**	**3.54**	**36**		**Pn**	**04 46 17.8**	**0.0**
B22K	**Teshekpuk Lake**	**3.54**	**36**	P	**Pn**	**04 46 17.9**	**+0.1**
	baz=222						
H22K	**Ishtalitna Cre**	**3.66**	**114**		**Pn**	**04 46 20.1**	**+0.6**
H22K	**Ishtalitna Cre**	**3.66**	**114**	P	**Pn**	**04 46 20.1**	**+0.6**
	baz=301						
I17K	**Unalakleet**	**3.75**	**188**		**Pn**	**04 46 21.2**	**+0.4**
I17K	**Unalakleet**	**3.75**	**188**	IAML		04 47 26.0	
	comp=E,111nm,0.8s						
I17K				IAML		04 47 30.3	
	comp=N,100nm,1.0s						
I17K	**Unalakleet**	**3.75**	**188**	P	**Pn**	**04 46 21.5**	**+0.7**
	baz=6.6						
A22K	**Sinclair Lake**	**3.79**	**23**		**Pn**	**04 46 21.1**	**-0.2**
A22K	**Sinclair Lake**	**3.79**	**23**	P	**Pn**	**04 46 21.1**	**-0.2**
	baz=208						
E23K	**Chandalar**	**3.79**	**78**		**Pn**	**04 46 22.8**	**+1.3**
G23K	**Bananza Creek**	**3.82**	**99**	Pn	**Pn**	**04 46 20.9**	**-0.8**
G23K				IAML		04 47 30.7	
	comp=E,66nm,0.7s						
G23K				IAML		04 47 31.8	
	comp=N,61nm,0.8s						
TOLK	**Toolik Lake Re**	**3.88**	**70**		**Pn**	**04 46 23.8**	**+1.2**
TOLK	**Toolik Lake Re**	**3.88**	**70**	P	**Pn**	**04 46 23.8**	**+1.2**
	baz=259						
A21K	**Barrow**	**3.89**	**14**		**Pn**	**04 46 22.1**	**-0.5**
A21K	**Barrow**	**3.89**	**14**	P	**Pn**	**04 46 22.5**	**-0.1**
	baz=197						
J19K	**Poorman**	**3.96**	**154**	Pn	**Pn**	**04 46 23.8**	**+0.2**
J19K	**Poorman**	**3.96**	**154**	P	**Pn**	**04 46 24.1**	**+0.5**
	baz=338						
C23K	**Itkillik River**	**3.96**	**51**		**Pn**	**04 46 24.1**	**+0.5**
C23K	**Itkillik River**	**3.96**	**51**	P	**Pn**	**04 46 24.1**	**+0.5**
	baz=240						
J20K	**Nowinta River**	**4.08**	**145**		**Pn**	**04 46 25.6**	**+0.3**
J20K	**Nowinta River**	**4.08**	**145**	IAML		04 47 40.8	
	comp=E,67nm,1.3s						
J20K				IAML		04 47 45.2	
	comp=N,43nm,0.7s						
J20K	**Nowinta River**	**4.08**	**145**	P	**Pn**	**04 46 25.6**	**+0.3**
	baz=329						
E24K	**Your Creek**	**4.22**	**78**		**Pn**	**04 46 28.0**	**+0.7**
J17K	**VABM Dome**	**4.22**	**177**		**Pn**	**04 46 27.7**	**+0.5**
J17K	**VABM Dome**	**4.22**	**177**	P	**Pn**	**04 46 27.7**	**+0.5**
	baz=357						
D24K	**Happy Valley**	**4.27**	**64**		**Pn**	**04 46 28.3**	**+0.4**
J18K	**Innoko River**	**4.31**	**163**		**Pn**	**04 46 28.9**	**+0.5**
J18K	**Innoko River**	**4.31**	**163**	IAML		04 47 39.4	
	comp=N,40nm,0.8s						
J18K	**Innoko River**	**4.31**	**163**	P	**Pn**	**04 46 29.0**	**+0.5**
	baz=345						
H23K	**Yukon River**	**4.35**	**109**		**Pn**	**04 46 30.1**	**+1.1**
H23K	**Yukon River**	**4.35**	**109**	IAML		04 47 44.5	
	comp=N,50nm,0.9s						
H23K				IAML		04 47 49.6	
	comp=E,44nm,0.8s						
H23K	**Yukon River**	**4.35**	**109**	P	**Pn**	**04 46 30.1**	**+1.1**
	baz=298						
J16K	**Anvik River**	**4.35**	**186**		**Pn**	**04 46 29.4**	**+0.4**
J16K	**Anvik River**	**4.35**	**186**	IAML		04 47 48.2	
	comp=E,63nm,0.9s						
J16K	**Anvik River**	**4.35**	**186**	P	**Pn**	**04 46 29.7**	**+0.7**
	baz=5.2						
MLY	**Manley**	**4.38**	**122**		**Pn**	**04 46 29.5**	**0.0**
MLY	**Manley**	**4.38**	**122**	P	**Pn**	**04 46 29.8**	**+0.3**
	baz=310						
F24K	**Squaw Lake**	**4.47**	**86**		**Pn**	**04 46 32.5**	**+1.8**
F24K	**Squaw Lake**	**4.47**	**86**	IAML		04 47 54.5	
	comp=E,60nm,0.6s						
F24K				IAML		04 48 02.3	
	comp=N,57nm,1.0s						
F24K	**Squaw Lake**	**4.47**	**86**	P	**Pn**	**04 46 32.5**	**+1.8**
	baz=276						
CHUM	**Lake Minchumin**	**4.77**	**138**		**Pn**	**04 46 35.7**	**+1.0**
CHUM	**Lake Minchumin**	**4.77**	**138**	P	**Pn**	**04 46 35.9**	**+1.2**
	baz=324						
I23K	**Minto, Yukon-K**	**4.77**	**116**		**Pn**	**04 46 35.7**	**+0.9**
I23K	**Minto, Yukon-K**	**4.77**	**116**	IAML		04 47 57.8	
	comp=N,43nm,2.1s						
I23K				IAML		04 47 58.8	
	comp=E,41nm,0.9s						
I23K	**Minto, Yukon-K**	**4.77**	**116**	P	**Pn**	**04 46 35.9**	**+1.0**
	baz=305						
K20K	**Telida**	**4.82**	**149**	Pn	**Pn**	**04 46 34.1**	**-1.4**
K20K	**Telida**	**4.82**	**149**	P	**Pn**	**04 46 36.1**	**+0.6**
	baz=334						
TTA	**Tatalina**	**4.91**	**161**		**Pn**	**04 46 37.7**	**+0.9**
TTA	**Tatalina**	**4.91**	**161**	IAML		04 48 06.4	
	comp=N,33nm,1.0s						
TTA	**Tatalina**	**4.91**	**161**	P	**Pn**	**04 46 37.9**	**+1.1**
	baz=344						
K17K	**Iditarod**	**4.92**	**173**		**Pn**	**04 46 37.3**	**+0.4**
K17K	**Iditarod**	**4.92**	**173**	P	**Pn**	**04 46 37.6**	**+0.7**
	baz=354						
H24K	**Noodor Dome**	**4.95**	**105**		**Pn**	**04 46 37.4**	**+0.1**
H24K	**Noodor Dome**	**4.95**	**105**	IAML		04 47 59.8	
	comp=N,30nm,0.9s						
H24K				IAML		04 48 12.2	
	comp=E,30nm,1.4s						
H24K	**Noodor Dome**	**4.95**	**105**	P	**Pn**	**04 46 37.9**	**+0.5**
	baz=296						
BPAW	**Bear Paw Mtn.**	**4.96**	**131**		**Pn**	**04 46 36.4**	**-1.1**
BPAW				IAML		04 48 04.0	
	comp=E,26nm,1.5s						
BPAW				IAML		04 48 05.2	
	comp=N,24nm,0.9s						
BPAW	**Bear Paw Mtn.**	**4.96**	**131**	P	**Pn**	**04 46 38.3**	**+0.9**
	baz=319						
D25K	**Kavik River**	**5.15**	**64**		**Pn**	**04 46 40.5**	**+0.4**
D25K	**Kavik River**	**5.15**	**64**	IAML		04 47 43.8	
	comp=E,28nm,0.6s						
D25K				IAML		04 48 14.2	
	comp=N,36nm,0.8s						
D25K	**Kavik River**	**5.15**	**64**	P	**Pn**	**04 46 40.5**	**+0.4**
	baz=256						
CAST	**Castle Rocks**	**5.21**	**140**		**Pn**	**04 46 41.6**	**+0.7**
CAST	**Castle Rocks**	**5.21**	**140**	IAML		04 47 45.5	
	comp=N,22nm,0.7s						
CAST				IAML		04 48 13.4	
	comp=E,22nm,1.3s						
CAST	**Castle Rocks**	**5.21**	**140**	P	**Pn**	**04 46 41.6**	**+0.7**
	baz=327						
NEA2	**Nenana**	**5.21**	**120**		**Pn**	**04 46 41.3**	**+0.4**
NEA2	**Nenana**	**5.21**	**120**	IAML		04 48 24.7	
	comp=N,20nm,1.2s						
NEA2	**Nenana**	**5.21**	**120**	P	**Pn**	**04 46 41.3**	**+0.4**
	baz=310						
MDM	**Murphy Dome**	**5.28**	**115**		**Pn**	**04 46 42.3**	**+0.5**
F25K	**Christian Rive**	**5.32**	**84**		**Pn**	**04 46 43.5**	**+1.1**
F25K	**Christian Rive**	**5.32**	**84**	P	**Pn**	**04 46 43.5**	**+1.1**
	baz=276						
BWN	**Browne**	**5.37**	**125**		**Pn**	**04 46 44.1**	**+1.1**
K15K	**Wolf Creek Mou**	**5.39**	**190**		**Pn**	**04 46 43.7**	**+0.4**
K15K	**Wolf Creek Mou**	**5.39**	**190**	IAML		04 48 25.1	
	comp=N,24nm,1.4s						
K15K				IAML		04 48 30.1	
	comp=E,23nm,1.1s						
K15K	**Wolf Creek Mou**	**5.39**	**190**	P	**Pn**	**04 46 44.0**	**+0.7**
	baz=8.1						
KTH	**Kantishna Hill**	**5.40**	**135**		**Pn**	**04 46 44.7**	**+1.1**
COLA	**College**	**5.46**	**115**		**Pn**	**04 46 44.1**	**0.0**
L17K	**Donlin**	**5.51**	**174**		**Pn**	**04 46 45.9**	**+1.0**
L17K	**Donlin**	**5.51**	**174**	P	**Pn**	**04 46 45.9**	**+1.0**
	baz=355						
L18K	**Granite Mounta**	**5.53**	**166**		**Pn**	**04 46 46.2**	**+1.0**
L18K	**Granite Mounta**	**5.53**	**166**	P	**Pn**	**04 46 46.2**	**+1.0**
	baz=348						
CCB	**Clear Creek Bu**	**5.61**	**116**		**Pn**	**04 46 45.4**	**-0.9**
WRH	**Wood River Hil**	**5.62**	**118**		**Pn**	**04 46 47.0**	**+0.6**
PPLA	**Purkeypile**	**5.63**	**143**		**Pn**	**04 46 48.0**	**+1.2**
L20K	**Farewell, AK**	**5.66**	**152**		**Pn**	**04 46 48.1**	**+1.1**
L20K	**Farewell, AK**	**5.66**	**152**	P	**Pn**	**04 46 48.1**	**+1.1**
	baz=337						
L19K	**White Mountain**	**5.79**	**158**		**Pn**	**04 46 49.4**	**+0.6**
L19K	**White Mountain**	**5.79**	**158**	P	**Pn**	**04 46 49.6**	**+0.9**
	baz=342						
C26K	**Camden Bay**	**5.80**	**60**		**Pn**	**04 46 49.9**	**+1.0**
C26K	**Camden Bay**	**5.80**	**60**	P	**Pn**	**04 46 49.9**	**+1.0**
	baz=253						
MCK	**McKinley**	**5.85**	**126**		**Pn**	**04 46 50.5**	**+0.9**
MCK	**McKinley**	**5.85**	**126**	P	**Pn**	**04 46 50.5**	**+0.9**
	baz=316						
IL31		**5.85**	**113**		**Pn**	**04 46 50.2**	**+0.5**
ILAR	**Eielson Array**	**5.85**	**113**	Pn	**Pn**	**04 46 50.1**	**+0.4**
	comp=E,1.6nm,0.3s,baz=304,slow=13,SNR=80						
ILAR				Sn	**Sn**	**04 47 55.3**	**-1.8**
	comp=E,1.0nm,0.3s,baz=311,slow=27,SNR=5.0						
ILAR				Lg	Lg	04 48 20.7	
	comp=E,0.3nm,0.3s,baz=312,slow=28,SNR=4.1						
	comp=E,4.2nm,0.4s						
L16K	**Owhat River**	**5.91**	**180**		**Pn**	**04 46 50.3**	**-0.1**
PRP	**Porcupine Dome**	**5.97**	**104**		**Pn**	**04 46 51.0**	**-0.4**
L15K	**Ungalak Mounta**	**6.00**	**189**		**Pn**	**04 46 51.9**	**+0.3**
L15K	**Ungalak Mounta**	**6.00**	**189**	P	**Pn**	**04 46 51.9**	**+0.3**
	baz=7.1						
HDA	**Harding Lake**	**6.05**	**116**		**Pn**	**04 46 52.9**	**+0.6**
HDA	**Harding Lake**	**6.05**	**116**	P	**Pn**	**04 46 52.9**	**+0.6**
	baz=307						
RND	**Reindeer**	**6.11**	**128**		**Pn**	**04 46 54.3**	**+1.0**
M19K	**Big River Lodg**	**6.12**	**156**		**Pn**	**04 46 54.5**	**+1.2**
M19K	**Big River Lodg**	**6.12**	**156**	P	**Pn**	**04 46 54.5**	**+1.2**
	baz=341						
C27K	**Jago River**	**6.14**	**63**		**Pn**	**04 46 54.0**	**+0.5**
C27K	**Jago River**	**6.14**	**63**	P	**Pn**	**04 46 54.0**	**+0.5**
	baz=258						
G26K	**Porcupine Rive**	**6.14**	**89**		**Pn**	**04 46 54.6**	**+1.1**
G26K	**Porcupine Rive**	**6.14**	**89**	P	**Pn**	**04 46 54.6**	**+1.1**
	baz=283						
M17K	**Holitna River**	**6.28**	**171**		**Pn**	**04 46 56.5**	**+0.9**
M17K	**Holitna River**	**6.28**	**171**	P	**Pn**	**04 46 56.5**	**+0.9**
	baz=352						
M18K	**Stony River**	**6.33**	**164**		**Pn**	**04 46 57.1**	**+0.9**
M18K	**Stony River**	**6.33**	**164**	P	**Pn**	**04 46 57.1**	**+0.9**
	baz=347						
M20K	**Styx River**	**6.35**	**151**		**Pn**	**04 46 58.1**	**+1.5**
M20K	**Styx River**	**6.35**	**151**	P	**Pn**	**04 46 58.0**	**+1.4**
	baz=337						
J25K	**Salcha River,**	**6.48**	**111**		**Pn**	**04 46 59.0**	**+0.7**
J25K	**Salcha River,**	**6.48**	**111**	P	**Pn**	**04 46 59.0**	**+0.7**
	baz=304						
WAT7	**Susitna Watana**	**6.55**	**132**		**Pn**	**04 47 01.1**	**+1.8**
SKT	**Skwentna**	**6.59**	**145**	Pn	**Pn**	**04 47 01.6**	**+1.9**
SKT	**Skwentna**	**6.59**	**145**	P	**Pn**	**04 47 01.6**	**+1.9**
	baz=332						
M16K	**Timber Creek**	**6.60**	**178**		**Pn**	**04 47 00.5**	**+0.6**
M16K	**Timber Creek**	**6.60**	**178**	P	**Pn**	**04 47 01.0**	**+1.0**
	baz=358						
WAT1	**Susitna Watana**	**6.64**	**131**		**Pn**	**04 47 02.1**	**+1.6**
WAT1	**Susitna Watana**	**6.64**	**131**	P	**Pn**	**04 47 02.1**	**+1.6**
	baz=321						
SVW2	**Sparrevohn**	**6.74**	**163**		**Pn**	**04 47 01.9**	**0.0**
E27K	**Coleen River**	**6.80**	**77**		**Pn**	**04 47 03.6**	**+1.0**
E27K	**Coleen River**	**6.80**	**77**	P	**Pn**	**04 47 03.9**	**+1.3**
	baz=273						
DHY	**Denali Highway**	**6.81**	**126**		**Pn**	**04 47 04.4**	**+1.5**
DHY	**Denali Highway**	**6.81**	**126**	P	**Pn**	**04 47 04.6**	**+1.7**
	baz=317						
M15K	**Kasigluk River**	**6.94**	**185**		**Pn**	**04 47 05.3**	**+0.7**
M15K	**Kasigluk River**	**6.94**	**185**	P	**Pn**	**04 47 05.3**	**+0.7**
	baz=3.6					

comp=E,0.1nm,0.3s,baz=305,slow=12,SNR=2.7
comp=E,1.7nm,1.0s
PDAR Pinedale Array 36.26 108 P P 04 52 28.7 +2.4
comp=E,0.1nm,0.4s,baz=340,slow=7.7,SNR=2.7
comp=E,0.1nm,0.4s
NVAR Mina Array Bea 37.05 121 P P 04 52 35.3 +2.2
comp=E,0.3nm,0.6s,baz=322,slow=5.7,SNR=4.8
comp=E,0.3nm,0.6s
ZALV Zalesovo Beam 49.69 316 P P 04 54 14.8 +0.2
comp=E,0.6nm,0.4s,baz=21,slow=9.6,SNR=1.7
comp=E,0.6nm,0.4s
FINES FINESS Array B 51.20 357 P P 04 54 25.2 -0.7
comp=E,0.8nm,0.8s,baz=358,slow=12,SNR=3.9
comp=E,0.8nm,0.8s

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*IDC **18** 04:46:25.2±6.2, 29°.14N×142°.72E, h0km, mb3.9/5, mbtmp3.8/6, ML2.7/1, Error ellipse: s-maj=242.3km s-min=25.2km az=73.0*
*NEIC **18** 04:46:31.2±1.9, 29°.1N±0°.1×142°.6E±0°.2, h35km±1km, mb4.3/13, Error ellipse: s-maj=33.3km s-min=9.0km az=303.0*
ISC 18 04:46:27.8±1.0, 28°.89N±0°.07×142°.6E±0°.2, h27km, n27, σ1§48/16, mb4.2/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.81**	**190**	Pn	**Pb**	**04 47 00.9**	**+0.5**
JCJ	**Chichijima**	**1.81**	**190**	Pn	**Pb**	**04 46 58.1**	**-2.3**
	2.8nm,0.3s,baz=18,slow=14,SNR=1.4						
JCJ				Sn	**Sb**	**04 47 23.1**	**+0.3**
	13nm,0.3s,baz=7.7,slow=18,SNR=4.8						
MJAR	**Matsushiro Arr**	**8.46**	**336**	Pn	**Pn**	**04 48 26.0**	**-2.7**
	0.1nm,0.3s,baz=157,slow=10,SNR=7.2						
	1.0nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**23.95**	**107**	T	T	05 17 07.5	
	baz=302						
H11N1	**WAKE ISLAND Hy**	**23.95**	**107**	T	T	05 17 11.0	
	baz=302						
H11N3	**WAKE ISLAND Hy**	**23.97**	**107**	T	T	05 17 15.0	
	baz=302						
H11S3	**WAKE ISLAND Hy**	**24.36**	**110**	T	T	05 17 41.8	
	baz=304						
H11S1	**WAKE ISLAND Hy**	**24.36**	**110**	T	T	05 17 44.2	
	baz=304						
H11S2	**WAKE ISLAND Hy**	**24.38**	**110**	T	T	05 17 46.5	
	baz=304						
SONM	**Songino Array**	**33.67**	**314**	P	**P**	**04 53 08.1**	**+1.5**
	0.4nm,0.5s,baz=117,slow=8.4,SNR=2.0						
	0.4nm,0.5s						
MTN	**Manton Dam**	**42.93**	**196**	P	P	04 54 27.8	+3.4
WB0	**Warramunga Arr**	**49.01**	**190**	P	P	04 55 15.8	+3.4
WB0				IAmb	IAmb	04 55 26.1	
	comp=Z,6.6nm,1.3s						
WR0	**Warramunga Arr**	**49.17**	**190**	P	P	04 55 17.0	+3.4
WB2	**Warramunga Arr**	**49.19**	**190**	P	P	04 55 17.1	+3.4
WRA	**Warramunga Arr**	**49.19**	**190**	P	P	04 55 17.2	+3.4
	comp=Z,1.6nm,0.8s,baz=9.9,slow=8.2,SNR=12						
	comp=Z,1.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**49.49**	**201**	P	P	04 55 19.1	+3.1
MKAR	**Makanchi Array**	**49.60**	**308**	P	**P**	**04 55 17.5**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=81,slow=9.3,SNR=3.5						
	comp=Z,0.4nm,0.6s						
N17K	**Nushagak Hills**	**50.74**	**34**	P	**P**	**04 55 27.2**	**+2.0**
N17K				IAmb	IAmb	04 55 38.9	
	comp=Z,8.2nm,1.5s						
M17K	**Holitna River**	**50.79**	**33**	P	**P**	**04 55 24.9**	**-0.6**
M17K				IAmb	IAmb	04 55 44.3	
	comp=Z,4.6nm,1.2s						
L18K	**Granite Mounta**	**51.30**	**32**	P	**P**	**04 55 30.9**	**+1.7**
L18K				IAmb	IAmb	04 55 43.5	
	comp=Z,5.3nm,1.4s						
KURBB	**Kurchatov Arra**	**52.03**	**313**	P	**P**	**04 55 35.6**	**+0.7**
	comp=Z,1.2nm,0.2s,baz=95,slow=7.4,SNR=10						
	comp=Z,1.2nm,0.2s						
K20K	**Telida**	**52.69**	**30**	P	**P**	**04 55 38.0**	**-1.6**
SYI	**Shuyak Island**	**52.91**	**37**	P	**P**	**04 55 40.8**	**-0.5**
CAST	**Castle Rocks**	**53.58**	**31**	P	**P**	**04 55 47.0**	**+0.8**
BVAR	**Borovoye Array**	**56.95**	**317**	P	**P**	**04 56 11.4**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=82,slow=8.6,SNR=6.0						
	comp=Z,1.2nm,0.5s						
J26L	**Joseph Creek**	**57.41**	**30**	P	**P**	**04 56 13.3**	**-0.5**
J26L				IAmb	IAmb	04 56 20.5	
	comp=Z,2.9nm,1.5s						
ABKAR	**Akbulak array**	**64.08**	**314**	P	**P**	**04 57 00.2**	**+0.8**
ABKAR				IAmb	IAmb	04 57 00.7	
	comp=Z,1.4nm,0.7s						

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*NEIC **18** 04:48:51.6±0.9, 36°.65N±0°.01×98°.46W±0°.01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.0km az=210.0*
TUL 18 04:48:52±0.9, 36°.66N±0°.02×98°.47W±0°.02, h7km±4km, ML3.0, mb_Lg2.4/53(NEIC), ML2.8/24(NEIC), Error ellipse: s-maj=2.3km s-min=1.6km az=146.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.25**	**55**	Pg	Pg	04 48 57.3	+0.3
OK032				Sg	Sg	04 49 01.2	+0.7
OK032				IAML		04 49 02.7	
	2μm,0.2s						
OK038	**West end E0370**	**0.28**	**231**	Sg	Sg	04 49 02.3	+0.9
NOKA	**Waynoka**	**0.37**	**267**	Sg	Sg	04 49 05.0	+0.8
CROK	**Carrier**	**0.42**	**111**	Pg	Pg	04 49 00.3	+0.2
CROK				Sg	Sg	04 49 06.2	+0.5
CROK				IAML		04 49 06.6	
	comp=N,993nm,0.4s						
CROK				IAML		04 49 14.3	
	comp=E,545nm,0.2s						
KAN14	**Manchester OK**	**0.50**	**53**	Pg	Pg	04 49 01.9	+0.2
KAN14				Sg	Sg	04 49 08.8	+0.5
KAN14				IAML		04 49 09.1	
	comp=E,664nm,0.3s						
KAN14				IAML		04 49 14.8	
	comp=N,464nm,0.1s						
U32A	**Winter Ranch,**	**0.51**	**237**	Pg	Pg	04 49 01.9	+0.1
U32A				Sg	Sg	04 49 09.2	+0.7
GC02	**Grant County #**	**0.53**	**68**	Pg	Pg	04 49 02.3	+0.2
GC02				Sg	Sg	04 49 09.5	+0.4
KAN05	**Bluff City Nor**	**0.66**	**46**	Pg	Pg	04 49 04.0	-0.7
KAN05				Sg	Sg	04 49 13.2	-0.1
KAN17	**Caldwell West**	**0.68**	**55**	Pg	Pg	04 49 05.1	-0.1
KAN17				Sg	Sg	04 49 14.0	-0.1
KAN12	**Harper NE Stat**	**0.74**	**30**	Pg	Pg	04 49 06.1	-0.2
KAN12				Sg	Sg	04 49 16.4	+0.4
KAN01	**Argonia South**	**0.75**	**49**	Pg	Pg	04 49 06.5	0.0
KAN01				Sg	Sg	04 49 16.6	+0.2
KAN09	**Caldwell North**	**0.83**	**55**	Pg	Pg	04 49 07.5	-0.5
KAN13	**South Haven SW**	**0.87**	**66**	Pg	Pg	04 49 08.3	-0.4
BLOK	**Blackwell**	**1.01**	**84**	Pg	Pg	04 49 10.7	-0.7
CSTR	**Hydro, Custer**	**1.02**	**190**	Pg	Pg	04 49 11.4	-0.3
OK029	**Liberty Lake**	**1.19**	**136**	Pg	Pg	04 49 13.7	-1.1
OK029				IAML		04 49 33.0	
	comp=N,202nm,0.6s						
OK029				IAML		04 49 33.0	
	comp=N,207nm,0.5s						
OK048	**Pawnee Station**	**1.25**	**101**	Pg	Pn	04 49 15.2	-0.7
OK048				IAML		04 49 36.1	
	comp=N,273nm,0.2s						
OK051	**E0350 and S346**	**1.32**	**96**		Pn	04 49 16.5	-0.4
OK031	**S. Brethren Rd**	**1.49**	**118**		Pn	04 49 19.3	+0.1
OK052	**Battle Ridge R**	**1.50**	**116**		Pn	04 49 19.2	-0.1
QUOK	**Quay**	**1.50**	**108**		Pn	04 49 18.9	-0.4
OKCSW	**OKLAHOMA CITY**	**1.50**	**146**		Pn	04 49 19.1	-0.2
T35A	**Sooner Cattle**	**1.59**	**80**		Pn	04 49 20.8	+0.2
FNO	**Franklin**	**1.64**	**148**		Pn	04 49 21.6	+0.3
R32A	**Long Quarter,**	**1.77**	**354**	Pn	Pn	04 49 23.5	+0.4
DEOK	**Depew**	**1.79**	**116**	Pn	Pn	04 49 23.6	+0.3
WMOK	**Wichita Mounta**	**1.93**	**188**	Pn	Pn	04 49 25.1	-0.1
W35A	**Tecumseh**	**1.98**	**139**	Pn	Pn	04 49 25.9	-0.1
SMWD	**Samnorwood**	**2.12**	**223**	IAmb_Lg		04 50 03.5	
	comp=Z,18nm,0.7s						
X34A	**Smith Ranch, M**	**2.12**	**166**	IAmb_Lg		04 50 00.2	
	comp=Z,22nm,0.8s						
TUL3	**Leonard**	**2.29**	**108**	IAmb_Lg		04 50 08.8	
	comp=Z,17nm,0.9s						
LOOK	**Love County**	**2.86**	**158**	Pn	Pn	04 49 37.6	-0.4
WTFS	**Witchita Falls**	**2.88**	**180**	Pn	Pn	04 49 38.0	-0.4
AMTX	**Amarillo**	**3.15**	**237**	Pn	Pn	04 49 41.5	-0.6
AMTX				IAmb_Lg		04 50 37.9	
	comp=Z,16nm,0.8s						
X37A	**Clayton**	**3.26**	**128**	Pn	Pn	04 49 43.5	+0.1
X37A				IAmb_Lg		04 50 40.0	
	comp=Z,11nm,0.8s						
U38A	**Gravette**	**3.29**	**93**	Pn	Pn	04 49 44.7	+0.7
FW03	**Perrin-Whitt E**	**3.62**	**175**	IAmb_Lg		04 50 52.3	
	comp=Z,6.5nm,0.8s						
HHAR	**Hobbs**	**3.67**	**95**	Pn	Pn	04 49 49.0	-0.2
KSCO	**Kaye Shedlock'**	**4.04**	**307**	IAmb_Lg		04 51 10.4	
	comp=Z,9.5nm,0.9s						
SN07	**Snyder 07**	**4.08**	**210**	IAmb_Lg		04 51 07.1	
	comp=Z,10nm,0.9s						
ABTX	**Abilene, Hawle**	**4.14**	**194**	Pn	Pn	04 49 54.8	-0.8
S39A	**Bolivar**	**4.24**	**74**	Pn	Pn	04 49 56.4	-0.6
S39A				IAmb_Lg		04 51 15.4	
	comp=Z,4.9nm,0.8s						
POST	**Post**	**4.37**	**216**	Pn	Pn	04 49 57.9	-0.8
POST				IAmb_Lg		04 51 16.1	
	comp=Z,7.9nm,0.9s						
MSTX	**Muleshoe**	**4.42**	**234**	IAmb_Lg		04 51 14.0	
	comp=Z,7.0nm,1.2s						
MIAR	**Mount Ida**	**4.51**	**116**	Pn	Pn	04 50 00.1	-0.5
MIAR				IAmb_Lg		04 51 25.9	
	comp=Z,5.2nm,0.7s						
P38A	**Dawn**	**4.89**	**51**	Pn	Pn	04 50 06.5	+0.6
P38A				IAmb_Lg		04 51 35.5	
	comp=Z,8.2nm,0.9s						
X40A	**Basin Creek Fa**	**5.08**	**114**	IAmb_Lg		04 51 34.3	
	comp=Z,7.3nm,0.8s						
237A	**Washetta, Mont**	**5.14**	**154**	IAmb_Lg		04 51 42.7	
	comp=Z,11nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.18**	**97**	IAmb_Lg		04 51 45.4	
	comp=Z,5.3nm,0.7s						
R40A	**Maddies Statio**	**5.19**	**70**	Pn	Pn	04 50 09.6	-0.4
R40A				IAmb_Lg		04 51 39.0	
	comp=Z,5.9nm,0.8s						
WHAR	**Wooly Hollow**	**5.19**	**103**	Pn	Pn	04 50 09.9	-0.2
Q24A	**Divide**	**5.77**	**296**	IAmb_Lg		04 52 05.1	
	comp=Z,8.1nm,0.7s						
CCM	**Cathedral Cave**	**5.92**	**74**	IAmb_Lg		04 52 01.1	
	comp=Z,5.9nm,0.8s						
LCAR	**Lake Charles**	**5.93**	**94**	IAmb_Lg		04 52 04.6	
	comp=Z,5.1nm,0.9s						
JCT	**Junction City**	**6.26**	**191**	IAmb_Lg		04 52 17.7	
	comp=Z,4.1nm,0.8s						
ISCO	**Idaho Springs**	**6.44**	**301**	IAmb_Lg		04 52 21.7	
	comp=Z,3.5nm,0.8s						
CGM3	**Cape Girardeau**	**7.08**	**82**	IAmb_Lg		04 52 34.3	
	comp=Z,6.9nm,0.9s						
PHWY	**Pilot Hill**	**7.15**	**313**	IAmb_Lg		04 52 57.0	
	comp=Z,3.3nm,0.9s						
N23A	**Red Feather La**	**7.21**	**308**	IAmb_Lg		04 52 46.3	
	comp=Z,7.3nm,0.9s						
K22A	**Casper**	**8.62**	**316**	IAmb_Lg		04 53 32.3	
	comp=Z,5.1nm,1.1s						

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*IDC **18** 04:53:40.7±5.0, 14°.18S×166°.40E, h52km±46km, mb4.0/10, mbtmp4.2/11, ML4.0/1, MS3.8/9, Error ellipse: s-maj=28.6km s-min=25.3km az=79.0*
*NEIC **18** 04:53:42.0±1.7, 14°.18S±0°.07×166°.2E±0°.1, h40km±6km, mb4.6/22, Error ellipse: s-maj=17.7km s-min=10.0km az=91.0*
ISC 18 04:53:40.0±0.6, 14°.11S±0°.08×166°.10E±0°.10, h31km, n47, σ1§33/40, mb4.5/19, MS3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**6.64**	**195**		**Pn**	**04 55 16.5**	**+1.0**
HNR	**Honiara**	**7.61**	**307**	LR	LR	04 57 46.8	
	comp=Z,1μm,19.9s,baz=156,slow=31						
DZM	**Mont Dzumac**	**7.92**	**178**		**Pn**	**04 55 32.9**	**-0.3**
DZM	**Mont Dzumac**	**7.92**	**178**	P	**Pn**	**04 55 32.7**	**-0.5**
	2.1nm,0.3s,baz=9.5,slow=18,SNR=9.8						
DZM				S	**Sn**	**04 57 01.0**	**-1.0**
	7.6nm,0.8s,baz=330,slow=20,SNR=1.3						
	4.2nm,0.4s						
ONTNC	**Ouen Toro**	**8.16**	**178**	Pn	**Pn**	**04 55 36.0**	**-0.4**
MSVF	**Nonsavu**	**12.04**	**109**		**Pn**	**04 56 30.8**	**+1.2**
PMG	**Port Moresby**	**19.12**	**282**	LR	LR	05 03 52.6	
	comp=Z,156nm,18.8s,baz=101,slow=32						
CTA	**Charters Tower**	**19.87**	**250**	P	**Pn**	**04 58 10.3**	**-0.3**
	0.5nm,0.9s,baz=75,slow=12,SNR=5.0						
CTA				LR	LR	05 05 57.1	
	comp=Z,15nm,18.4s,baz=126,slow=37						
CTAO	**Charters Tower**	**19.87**	**250**		**P**	**04 58 09.8**	**+0.9**
CTAO				IAmb	IAmb	04 58 25.5	
	comp=Z,36nm,1.4s						
TOZ	**Tahuroa Road**	**24.97**	**162**	P	**P**	**04 58 59.5**	**-1.2**
TOZ				IAmb	IAmb	04 59 19.5	
	comp=Z,24nm,1.5s						
RTZ	**Ruatahuna**	**26.24**	**160**	P	**P**	**04 59 13.7**	**+1.3**
RTZ				IAmb	IAmb	04 59 37.5	
	comp=Z,20nm,1.4s						
BKZ	**Black Stump Fm**	**26.59**	**162**	P	**P**	**04 59 14.0**	**-1.5**
STKA	**Stephens Creek**	**28.55**	**228**	P	**P**	**04 59 31.9**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=52,slow=12,SNR=1.6						
STKA				LR	LR	05 11 05.6	
	comp=Z,289nm,18.5s,baz=183,slow=36						
	comp=Z,1.3nm,0.6s						
LTZ	**Lake Taylor**	**29.06**	**171**	P	**P**	**04 59 37.2**	**-0.4**
RPZ	**Rata Peaks**	**29.81**	**173**	P	**P**	**04 59 43.8**	**-0.4**
RPZ				IAmb	IAmb	05 00 10.2	
	comp=Z,24nm,1.4s						
WB0	**Warramunga Arr**	**30.82**	**255**	P	**P**	**04 59 52.3**	**-1.1**
WB0				IAmb	IAmb	04 59 55.0	
	comp=Z,7.3nm,0.8s						
WB2	**Warramunga Arr**	**30.88**	**255**	P	**P**	**04 59 54.3**	**+0.4**
WB2				IAmb	IAmb	04 59 54.8	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**30.89**	**255**	P	**P**	**04 59 54.8**	**+0.8**
	comp=Z,4.1nm,0.9s,baz=85,slow=9.3,SNR=23						
	comp=Z,4.1nm,0.9s						
ASAR	**Alice Springs**	**31.85**	**248**	P	**P**	**05 00 03.2**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=74,slow=9.6,SNR=25						
	comp=Z,2.4nm,0.6s						
KNRA	**Kununurra**	**36.09**	**263**	P	**P**	**05 00 39.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.02**	**259**	P	**P**	**05 01 03.9**	**-0.2**
MBWA	**Marble Bar**	**44.62**	**254**	P	**P**	**05 01 51.9**	**+2.0**
MORW	**Morawa**	**48.52**	**244**	P	**P**	**05 02 21.6**	**+1.2**
KSRS	**Korea Array**	**62.60**	**326**	P	**P**	**05 04 01.8**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=131,slow=6.6,SNR=1.7						
	comp=Z,0.5nm,0.3s						
CASY	**Casey**	**63.67**	**202**	P	**P**	**05 04 10.4**	**+2.3**
CASY				IAmb	IAmb	05 04 52.5	
	comp=Z,11nm,1.4s						
SBA	**Scott Base**	**63.75**	**180**	P	**P**	**05 04 09.0**	**+0.6**
SBA				IAmb	IAmb	05 04 23.9	
	comp=Z,4.6nm,1.0s						
USRK	**Ussuriysk Ar.**	**65.83**	**334**	P	**P**	**05 04 23.1**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=134,slow=10,SNR=3.3						
	comp=Z,2.4nm,0.9s						
SHEM	**Shemya Is, Ala**	**66.92**	**5**	LR	LR	05 28 19.2	
	comp=Z,42nm,21.0s,baz=180,slow=31						
MDJ	**Mudanjiang**	**67.21**	**333**	P	**P**	**05 04 30.1**	**-1.1**
MDJ				IAmb	IAmb	05 04 38.5	
	comp=Z,5.5nm,0.6s						
QSPA	**South Pole Qui**	**75.91**	**180**	P	**P**	**05 05 22.6**	**-1.0**
QSPA				IAmb	IAmb	05 05 33.8	
	comp=Z,5.5nm,0.9s						
QSPA	**South Pole Qui**	**75.91**	**180**	P	**P**	**05 05 22.0**	**-1.6**
	comp=Z,3.5nm,0.9s,baz=12,slow=2.5,SNR=7.1						
	comp=Z,3.5nm,0.9s						
KDAK	**Kodiak Island**	**79.29**	**21**	LR	LR	05 36 46.2	
	comp=Z,37nm,19.1s,baz=232,slow=33						
P18K	**Big Mountain,**	**79.66**	**19**	P	**P**	**05 05 44.7**	**+0.4**
M16K	**Timber Creek**	**79.88**	**16**	P	**P**	**05 05 47.9**	**+2.6**
K15K	**Wolf Creek Mou**	**80.28**	**15**	P	**P**	**05 05 49.2**	**+1.7**
K15K				IAmb	IAmb	05 06 05.0	
	comp=Z,11nm,1.4s						
SONM	**Songino Array**	**81.33**	**324**	P	**P**	**05 05 51.8**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=126,slow=2.5,SNR=4.8						
	comp=Z,0.7nm,0.7s						
Q23K	**Middleton Isla**	**82.73**	**22**	P	**P**	**05 06 01.2**	**+0.7**
MID	**Middleton Isla**	**82.73**	**22**	P	**P**	**05 06 01.2**	**+0.8**
CAST	**Castle Rocks**	**83.74**	**18**	P	**P**	**05 06 07.8**	**+2.1**
ILAR	**Eielson Array**	**86.29**	**18**	P	**P**	**05 06 15.2**	**-3.3**
	comp=Z,0.6nm,0.8s,baz=228,slow=6.0,SNR=8.5						
	comp=Z,0.6nm,0.8s						
PFO	**Pinyon Flats O**	**87.56**	**55**	LR	LR	05 40 14.9	
	comp=Z,60nm,18.3s,baz=246,slow=32						
NVAR	**Mina Array Bea**	**87.73**	**50**	LR	LR	05 39 03.2	
	comp=Z,71nm,19.4s,baz=270,slow=31						
PDAR	**Pinedale Array**	**95.36**	**47**	LR	LR	05 44 22.1	
	comp=Z,16nm,18.7s,baz=297,slow=32						
ANMO	**Albuquerque**	**95.88**	**56**	LR	LR	05 43 15.8	
	comp=Z,41nm,19.8s,baz=356,slow=31						
MKAR	**Makanchi Array**	**95.98**	**317**	P	**P**	**05 07 04.5**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=96,slow=7.1,SNR=4.5						
	comp=Z,0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**96.23**	**324**	P	**P**	**05 07 03.7**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=126,slow=7.4,SNR=1.7						
	comp=Z,0.8nm,0.4s						
KEST	**Kesra**	**150.02**	**320**	PKPbc	**PKPbc**	**05 13 26.4**	**-1.7**
	comp=Z,1.6nm,0.8s,baz=338,slow=5.4,SNR=2.2						

IDC 18 04:57:36.5±48.0, 16°.21S×176°.88W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=897.8km s-min=167.1km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.74**	**240**	P	P	05 05 18.9	-0.5
	1.1nm,0.4s,baz=75,slow=8.9,SNR=3.3						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**46.40**	**258**	P	P	05 06 05.0	-0.2
	0.3nm,0.4s,baz=92,slow=7.6,SNR=17						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**46.68**	**253**	P	P	05 06 07.5	+0.1
	4.4nm,0.6s,baz=88,slow=8.2,SNR=42						
	4.4nm,0.6s						

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*IDC **18** 05:01:00.7±2.5, 53°.55N×87°.80E, h0km, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=22.1km s-min=14.1km az=61.0*
*NNC **18** 05:01:01.7±2.5, 53°.50N×87°.53E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=18.4km s-min=16.4km az=18.0, Suspected Mining explosion.*
ISC 18 05:01:01.5±3.6, 53°.6N±0°.1×87°.6E±0°.2, h0km, n8, σ1§04/13, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.68**	**284**	Pn	**Pn**	**05 01 31.9**	**-0.2**
	7.3nm,0.3s,baz=104,slow=18,SNR=43						
ZALV				Lg	Lg	05 01 57.1	
	4.9nm,0.3s,baz=101,slow=31,SNR=14						
I46RU	**ZALESOVO INFRA**	**1.68**	**284**	I	I	05 12 20.0	
	0.1nm,0.8s,baz=98,slow=313,SNR=18						
KURK	**Kurchatov**	**6.21**	**246**	⇓Pn	**Pn**	**05 02 33.4**	**-0.9**
	1.0nm,0.5s						
KURK				⇑Sn	**Sn**	**05 03 46.2**	**+0.2**
	1.0nm,0.5s						
KURK				⇑Lg	Lg	05 04 19.6	
	14nm,1.1s						
KURBB	**Kurchatov Arra**	**6.31**	**246**	Pn	**Pn**	**05 02 36.6**	**+0.9**
	0.2nm,0.3s,baz=62,slow=14,SNR=11						
KURBB				Sn	**Sn**	**05 03 49.2**	**+0.9**
	0.1nm,0.3s,baz=65,slow=27,SNR=1.7						
KURBB				Lg	Lg	05 04 24.8	
	0.1nm,0.3s,baz=64,slow=31,SNR=9.9						
	1.5nm,0.4s						
KURBB	**Kurchatov Arra**	**6.31**	**246**	⇓Pn	**Pn**	**05 02 35.8**	**+0.1**
	1.8nm,0.4s						
KURBB				⇑Sn	**Sn**	**05 03 47.4**	**-1.0**
	3.0nm,0.5s						
KURBB				⇑Lg	Lg	05 04 22.2	
	18nm,1.1s						
MK31	**Makanchi Array**	**7.58**	**209**	⇓Pn	**Pn**	**05 02 52.3**	**-1.0**
	0.1nm,0.3s,baz=28,slow=14,SNR=8.2						
MK31				⇓Sn	**Sn**	**05 04 19.7**	**-0.2**
	0.2nm,0.4s						
MK31				⇑Lg	Lg	05 04 58.2	
	2.9nm,0.9s						
MKAR	**Makanchi Array**	**7.58**	**209**	Pn	**Pn**	**05 02 53.7**	**+0.4**
	0.2nm,0.3s,baz=26,slow=13,SNR=6.4						
MKAR				Sn	**Sn**	**05 04 21.2**	**+1.3**
	baz=23,slow=26						
MKAR				Lg	Lg	05 05 00.7	
	0.1nm,0.3s,baz=20,slow=31,SNR=2.5						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**10.31**	**274**	Pn	**Pn**	**05 03 32.1**	**+1.6**
	0.1nm,0.3s,baz=78,slow=13,SNR=2.5						
BVAR				Sn	**Sn**	**05 05 25.2**	**-1.4**
	baz=80,slow=24,SNR=2.8						
	0.4nm,0.3s						

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*NEIC **18** 05:19:28.0±0.6, 36°.661N±0°.010×98°.46W±0°.01, h2km±1km, Error ellipse: s-maj=1.8km s-min=1.2km az=133.0*
TUL 18 05:19:28.4±0.5, 36°.66N±0°.01×98°.47W±0°.01, h7km±1km, ML3.2, mb_Lg2.8/88(NEIC), ML3.0/28(NEIC), Error ellipse: s-maj=2.0km s-min=1.2km az=138.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.25**	**55**	Pg	Pg	05 19 33.7	+0.3
OK032				Sg	Sg	05 19 36.1	-0.7
OK032				IAML		05 19 37.9	
	3μm,0.3s						
OK032				IAML		05 19 37.9	
	2μm,0.3s						
OK038	**West end E0370**	**0.28**	**231**	Pg		05 19 34.4	+0.4
OK038				Sg	Sg	05 19 38.7	+0.9
NOKA	**Waynoka**	**0.38**	**267**	Pg	Pg	05 19 36.0	+0.3
NOKA				Sg	Sg	05 19 41.3	+0.7
NOKA				IAML		05 19 41.7	
	comp=E,1μm,0.6s						
NOKA				IAML		05 19 42.0	
	comp=N,2μm,0.3s						
CROK	**Carrier**	**0.42**	**111**	Pg	Pg	05 19 36.7	+0.2
CROK				IAML		05 19 43.0	
	comp=N,2μm,0.4s						
CROK				IAML		05 19 45.3	
	comp=E,1μm,0.3s						
KAN14	**Manchester OK**	**0.50**	**53**	Pg		05 19 38.0	-0.2
KAN14				Sg	Sg	05 19 45.3	+0.6
KAN14				IAML		05 19 45.6	
	comp=E,616nm,0.4s					

MIAR	Mount Ida	4.51	116	IAmb_Lg	05 21 55.3
	comp=Z,17nm,0.7s				
P38A	Dawn	4.89	51	IAmb_Lg	05 22 03.9
	comp=Z,18nm,0.7s				
X40A	Basin Creek Fa	5.08	114	IAmb_Lg	05 22 11.9
	comp=Z,16nm,0.8s				
FCAR	Ozark Folk Cen	5.18	97	IAmb_Lg	05 22 22.8
	comp=Z,12nm,0.9s				
R40A	Maddies Statio	5.19	70	IAmb_Lg	05 22 15.1
	comp=Z,12nm,0.8s				
WHAR	Wooly Hollow	5.19	103	IAmb_Lg	05 22 16.1
	comp=Z,16nm,0.7s				
WLAR	White Oak Lake	5.29	122	IAmb_Lg	05 22 23.1
	comp=Z,11nm,0.8s				
Z41A	Richland Creek	5.75	124	IAmb_Lg	05 22 43.6
	comp=Z,12nm,0.9s				
435B	Jarrell	5.91	173	IAmb_Lg	05 22 50.6
	comp=Z,13nm,0.8s				
CCM	Cathedral Cave	5.92	74	IAmb_Lg	05 22 52.9
	comp=Z,13nm,0.9s				
LCAR	Lake Charles	5.93	94	IAmb_Lg	05 22 36.8
	comp=Z,9.2nm,0.8s				
BRIGG	Briggsdale	6.03	312	IAmb_Lg	05 22 54.5
	comp=Z,16nm,0.8s				
K30B	Basset	6.07	352	IAmb_Lg	05 22 51.9
	comp=Z,16nm,0.8s				
JCT	Junction City	6.26	191	IAmb_Lg	05 23 00.6
	comp=Z,14nm,1.0s				
ISCO	Idaho Springs	6.44	301	IAmb_Lg	05 22 58.1
	comp=Z,9.0nm,0.8s				
PBMO	Poplar Bluff	6.46	87	IAmb_Lg	05 22 58.8
	comp=Z,11nm,0.7s				
CGM3	Cape Girardeau	7.08	82	IAmb_Lg	05 23 11.1
	comp=Z,13nm,0.8s				
PHWY	Pilot Hill	7.15	313	IAmb_Lg	05 23 15.8
	comp=Z,7.8nm,0.8s				
N41A	Harden Midland	7.20	54	IAmb_Lg	05 23 36.0
	comp=Z,13nm,0.8s				
S44A	Carbondale	7.43	79	IAmb_Lg	05 23 25.0
	comp=Z,12nm,0.7s				
OXF	Oxford	7.68	104	IAmb_Lg	05 23 50.8
	comp=Z,12nm,0.8s				
RWWY	Rawlins	8.45	309	IAmb_Lg	05 24 04.3
	comp=Z,6.6nm,0.9s				
K22A	Casper	8.62	316	IAmb_Lg	05 24 21.5
	comp=Z,7.4nm,0.8s				
F33A	5 Mile Ranch,	9.32	9	IAmb_Lg	05 24 21.8
	comp=Z,7.4nm,1.1s				
SPMN	Marine on St.	9.57	25	IAmb_Lg	05 24 40.1
	comp=Z,5.5nm,0.9s				

*IDC **18** 05:22:27.0±0.9, 19°.60N×69°.94W, h0km, mb3.6/8, mbtmp3.8/10, ML3.2/2, MS3.3/11, Error ellipse: s-maj=26.0km s-min=22.0km az=135.0*
*NEIC **18** 05:22:28.7±2.1, 19°.59N±0°.05×69°.92W±0°.05, h10km±1km, mb4.3/7, Error ellipse: s-maj=9.9km s-min=6.4km az=33.0*
*SDD **18** 05:22:29.3±1.0, 19°.51N×69°.92W, h18km±12km, MD4.2, ML4.0, MW4.2*
*OSPL **18** 05:22:30.4±4.1, 19°.54N×69°.92W, h5km±13km, ML4.0*
ISC 18 05:22:27.3±1.1, 19°.64N±0°.03×69°.95W±0°.03, h9km±7km, n97, σ1°.88/108, mb4.0/11, MS3.3/7, 10C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONA1	Toro Cenizo, N	0.27	163	*i* P		Pg	05 22 32.8	+0.1
LONA1				*e*S		Sg	05 22 36.6	+0.2
LONA1				IAML			05 22 37.0	
	comp=Z,22μm,0.4s							
NADR	Nagua	0.30	163⇑	*e*Pg		Pg	05 22 33.4	+0.1
NADR				IAML			05 22 38.1	
	comp=N,12nm,0.5s							
SODR	Sosua Marina B	0.60	281⇑	*e*Pg		Pn	05 22 41.6	-0.4
SODR				IAML			05 23 01.8	
	comp=N,15μm,1.0s							
SC01	Santiago de Io	0.77	254	*i* P		Pb	05 22 43.3	+0.5
SC01				*e*S		Sn	05 22 56.6	+0.7
SC01				IAML			05 23 04.0	
	comp=Z,10μm,0.8s							
LUDR	Luperon	0.98	285⇑	*e*Pg		Pn	05 22 47.9	+0.7
LUDR				IAML			05 23 06.0	
	comp=N,38μm,0.3s							
ABDR	Alto Bandera	1.04	218⇑	*e*Pg		Pg	05 22 45.9	-1.5
ABDR				IAML			05 23 02.3	
	comp=N,6μm,0.5s							
MIDR	Miches	1.07	128⇓	*e*Pg		Pb	05 22 46.6	-1.4
MIDR				IAML			05 23 03.6	
	comp=N,970nm,0.4s							
MIDR				IAML			05 23 03.7	
	comp=N,970nm,0.4s							
SDD	Santo Domingo	1.18	178⇓	*e*Pg		Pn	05 22 47.4	-2.5
SDD				IAML			05 23 06.6	
	comp=N,864nm,0.8s							
SDD	Santo Domingo	1.18	178	*i* P		Pn	05 22 47.5	-2.5
SDD				*e*S		Sb	05 23 02.3	-2.9
LOPP1	Punta Rusia, P	1.20	280	*i* P		Pg	05 22 51.2	+0.9
LOPP1				*e*S		Sn	05 23 09.6	+3.0
LOPP1				IAML			05 23 17.2	
	comp=Z,3μm,1.0s							
BANI	BANI	1.30	197⇓	*e*Pg		Pn	05 22 49.9	-1.9
BANI				IAML			05 23 10.5	
	comp=N,13μm,0.6s							
SDDR	Presa de Saban	1.43	243	Pn		Pn	05 22 53.1	-0.3
SDDR	Presa de Saban	1.43	243⇑	*e*Pg		Pn	05 22 53.5	+0.1
SDDR				IAML			05 23 20.6	
	comp=N,2μm,0.6s							
SDDR	Presa de Saban	1.43	243	*e*P		Pn	05 22 52.5	-0.9
SDDR				*e*S		Sn	05 23 07.6	-4.6
SDDR	Presa de Saban	1.43	243	*i* P		Pn	05 22 53.4	+0.1
SDDR				*e*S		Sn	05 23 09.8	-2.4
SDDR				IAML			05 23 17.0	
	comp=Z,2μm,0.7s							
SDDR	Presa de Saban	1.43	243	*e*P		Pn	05 22 52.9	-0.5
SDDR				*e*S		Sn	05 23 12.2	0.0
REDR	Restauracion	1.44	251⇑	*e*Pg		Pg	05 22 58.0	+3.0
REDR				IAML			05 23 22.2	
	comp=N,4μm,0.1s							
HIDR	Higuey Centro	1.56	132⇑	*e*Pg		Pn	05 22 54.7	-0.5
HIDR				IAML			05 23 20.9	
	comp=N,7μm,0.2s							
MCDR	Montecristi	1.63	279⇑	*e*Pg		Pb	05 22 57.6	+0.2
MCDR				IAML			05 23 22.0	
	comp=N,3μm,1.1s							
LODA1	ITESIL, Dajabo	1.66	267	*i* P		Pb	05 22 58.0	0.0
LODA1				*e*S		Sg	05 23 20.7	+0.1
LODA1				IAML			05 23 26.9	
	comp=Z,3μm,0.3s							
NEDR	Neiba UASD	1.81	231⇑	*e*Pg		Pb	05 23 00.5	0.0
NEDR				IAML			05 23 29.1	
	comp=N,2μm,0.8s							
PCDR	Punta Cana, DR	1.86	127	Pn		Pn	05 22 59.9	+0.5
PCDR	Punta Cana, DR	1.86	127⇑	*e*Pg		Pn	05 22 59.8	+0.5
PCDR				IAML			05 23 26.6	
	comp=N,5μm,0.4s							
PCDR	Punta Cana, DR	1.86	127	*i* P		Pn	05 22 59.8	+0.5
PCDR				*e*S		Sn	05 23 24.0	+1.2
PCDR				IAML			05 23 26.6	
	comp=Z,3μm,0.7s							
PODR	Polo	1.94	221⇓	*e*Pg		Pn	05 23 02.1	+1.5
PODR				IAML			05 23 31.9	
	comp=N,3μm,0.6s							
PODR	Polo	1.94	221	*i* P		Pn	05 23 02.0	+1.5
PODR				*i* S		Sb	05 23 28.9	+1.7
PODR				IAML			05 23 31.3	
	comp=Z,2μm,0.8s							
JIDR	Jimani	2.13	238⇓	*e*Pg		Pb	05 23 05.7	-0.4
JIDR				IAML			05 23 37.2	
	comp=N,5μm,0.7s							
GRTK	Grand Turk	2.17	329			Pb	05 23 05.5	-1.2
GRTK	Grand Turk	2.17	329	*i* P		Pb	05 23 05.5	-1.2
GRTK				*e*S		Sg	05 23 33.9	-3.1
GRTK				IAML			05 23 53.1	
	comp=Z,678nm,0.9s							
PAPH	Port-au-Prince	2.49	244			Pn	05 23 10.2	+2.2
PAPH	Port-au-Prince	2.49	244	*e*P		Pn	05 23 10.1	+2.2
PAPH				*e*S		Sn	05 23 38.2	-0.2
PAPH	Port-au-Prince	2.49	244	*i* P		Pn	05 23 10.3	+2.3
PAPH				IAML			05 23 50.0	
	comp=Z,728nm,0.7s							
AGPR	Aguadilla, PR	2.93	113	Pn		Pn	05 23 14.7	+0.7
AGPR	Aguadilla, PR	2.93	113	*i* P		Pn	05 23 14.6	+0.6
AGPR				IAML			05 24 02.7	
	comp=Z,543nm,0.4s							
PRSN	Puerto Rico Se	3.01	118			Pn	05 23 16.4	+1.3
CRPR	Cabo Rojo, PR	3.14	121			Pn	05 23 18.8	+1.9
CRPR	Cabo Rojo, PR	3.14	121	*i* P		Pn	05 23 18.8	+1.9
CRPR				IAML			05 24 08.3	
	comp=Z,713nm,0.8s							
MLPR	Magueyes Islan	3.21	121	Pn		Pn	05 23 18.3	+0.3
AOPR	Arecibo Observ	3.29	113			Pn	05 23 19.9	+0.9
AOPR	Arecibo Observ	3.29	113	*e*P		Pn	05 23 20.8	+1.8
AOPR				*e*S		Sn	05 23 57.2	-1.0
UUPR	Utuado, UPR, P	3.35	114			Pn	05 23 20.0	+0.1
EMPR	Esperanza - Ma	3.44	109	Pn		Pn	05 23 21.3	+0.3
OBIP	Obispado Ponce	3.54	116			Pn	05 23 23.1	+0.6
CELP	Cerrillos	3.55	115			Pn	05 23 22.8	+0.3
GCPR	Guaynabo City	3.89	109			Pn	05 23 27.5	+0.3
SJG	San Juan	3.91	112			Pn	05 23 26.8	-0.6
SJG	San Juan	3.91	112	LR		LR	05 25 09.1	
	comp=Z,174nm,21.1s,baz=278,slow=42							
SJG	San Juan	3.91	112	*e*P		Pn	05 23 26.5	-0.9
MASC	Masc	4.06	278	*e*P		Pn	05 23 28.4	-1.3
MASC				*e*S		Sn	05 24 16.7	-0.6
MASC				*e*Sg		Sb	05 24 26.6	-1.6
MASC				IAML			05 24 33.9	
	comp=E,231nm,0.6s							
MASC				IAML			05 24 35.2	
	comp=N,224nm,0.7s							
MASC	Masc	4.06	278	IAML			05 24 39.5	
	comp=Z,179nm,0.8s							
HUMP	Col San Antoni	4.16	110			Pn	05 23 30.3	-0.6
QMBU	Quimbuelo	4.61	278	*e*P		Pn	05 23 35.3	-1.9
QMBU				*e*S		Sn	05 24 27.5	-3.3
QMBU				IAML			05 24 47.0	
	comp=N,142nm,0.5s							
QMBU				IAML			05 24 49.2	
	comp=E,162nm,0.4s							
NMDO	Nuevo Mundo	4.82	282	Pn		Pn	05 23 38.2	-1.8
GTBY	Guantanamo Bay	4.87	274			Pn	05 23 39.8	-0.9
GTBY	Guantanamo Bay	4.87	274	*e*P		Pn	05 23 39.1	-1.6
GTBY				*e*S		Sn	05 24 33.8	-3.4
RCC	Rio Carpintero	5.42	275	*e*P		Pn	05 23 46.1	-2.2
RCC				*e*S		Sn	05 24 47.8	-3.0
MARVS	Santiago de Cu	5.61	275	*e*P		Pn	05 23 48.6	-2.3
MARVS				*e*S		Sn	05 24 49.6	-6.0
HLGC	Holguin	5.87	283	*e*P		Pn	05 23 53.1	-1.4
HLGC				*e*S		Sn	05 24 59.8	-2.1
CHIV	Chivirico	6.10	274			Pn	05 23 55.5	-2.1
CHIV	Chivirico	6.10	274	*e*P		Pn	05 23 55.4	-2.2
CHIV				*e*S		Sn	05 25 02.2	-5.3
LMGC	Las Mercedes	6.66	275	*e*P		Pn	05 24 03.5	-1.7
LMGC				*e*S		Sn	05 25 18.2	-3.0
SMRT	St. Maarten	6.70	103	Pn		Pn	05 24 06.4	+0.6
AUA1	Aruba	7.10	180			Pn	05 24 10.7	-0.6
MTDJ	Mount Denham	7.32	260	*i* P		Pn	05 24 14.9	+0.4
ANBD	Bethesda, Anti	8.19	107	*e*P		Pn	05 24 27.9	+1.6
ANBD	Bethesda, Anti	8.19	107	*e*S		Sn	05 25 53.0	-6.0
SDV	Santo Domingo	10.71	184			Pn	05 25 02.1	+0.9
SDV	Santo Domingo	10.71	184	LR		LR	05 29 39.3	
	comp=E,155nm,18.1s,baz=37,slow=40							
BAUV	El Baul	10.79	170	Pn		Pn	05 25 02.1	+0.1
BBSR	BB Station	13.52	19	Pn		Pn	05 25 39.4	+0.1
ROSC	El Rosal	15.32	197	Pn		Pn	05 26 05.5	+1.4
	comp=E,1.3nm,0.3s,baz=61,slow=19,SNR=2.9							
ROSC				Sn		Sn	05 28 57.1	+2.9
	comp=E,0.2nm,0.3s,baz=54,slow=19,SNR=2.0							
	comp=E,3.6nm,0.3s							
V61A	Roper	17.12	341	Pn		Pn	05 26 26.7	0.0
JTS	Las Juntas de	17.21	239	LR		LR	05 33 33.1	
	comp=E,64nm,18.2s,baz=88,slow=39							
TEIG	Tepich	17.25	275	P		P	05 26 30.7	+0.7
	comp=E,0.2nm,0.3s,baz=109,slow=18,SNR=4.4							
TEIG				LR		LR	05 33 50.3	
	comp=E,57nm,18.7s,baz=216,slow=40							
	comp=E,7.2nm,0.9s							
BOAV	Boa Vista	19.46	151	P		Pn	05 26 55.9	+0.2
S57A	Dark Hollow, R	19.68	338	P		Pn	05 26 58.7	+0.6
S57A				IAmb		IAmb	05 27 14.2	
	comp=Z,17nm,1.4s							
TKL	Tuckaleechee C	20.08	325	P		Pn	05 27 03.8	+1.0
	comp=Z,2.8nm,0.8s,baz=69,slow=12,SNR=2.4							
	comp=Z,2.8nm,0.8s							
OTAV	Otavalo	21.01	204	P		P	05 27 08.7	-3.0
OTAV				IAmb		IAmb	05 27 26.8	
	comp=Z,21nm,1.2s							
TLIG	Tlapa	27.19	270	P		P	05 28 12.2	+0.6
TLIG				IAmb		IAmb	05 28 21.3	
	comp=Z,17nm,1.2s							
SAML	Samuel	29.18	166	P		P	05 28 26.8	-2.3
SAML				IAmb		IAmb	05 28 45.6	
	comp=Z,6.0nm,1.3s							
ETMB	Extrema	29.50	173	P		P	05 28 32.4	+0.4
ETMB				IAmb		IAmb	05 28 35.2	
	comp=Z,2.2nm,0.8s							
TXAR	Lajitas Array	32.07	294	P		P	05 28 55.3	+0.6
	comp=Z,0.2nm,0.7s,baz=106,slow=9.5,SNR=3.5							
	comp=Z,0.2nm,0.7s							
NNA	Nana	32.16	193	LR		LR	05 43 42.8	
	comp=Z,41nm,18.1s,baz=340,slow=40							
LPAZ	La Paz	35.75	177	P		P	05 29 28.5	+1.1
	comp=Z,0.6nm,0.7s,baz=0.0,slow=0.0,SNR=2.3							
LPAZ				LR		LR	05 45 59.5	
	comp=Z,30nm,18.4s,baz=48,slow=40							
	comp=Z,0.6nm,0.7s							
H07S1	FLORES T-PHASE	38.66	51	T		T	06 10 35.5	
	SNR=33							
H07N1	FLORES T-PHASE	38.82	51	T		T	06 10 48.0	
	SNR=20							
NVAR	Mina Array Bea	45.67	305	P		P	05 30 50.7	+1.9
	comp=Z,0.4nm,0.7s,baz=160,slow=22,SNR=3.0							
	comp=Z,0.4nm,0.7s							
BORG	Borgarnes	55.31	23	LR		LR	05 52 11.8	
	comp=Z,27nm,20.6s,baz=301,slow=32							
MDT	Midelt	59.25	63	LR		LR	05 54 17.1	
	comp=Z,24nm,20.4s,baz=178,slow=32							
ESDC	Ososeca Array	59.44	55	P		P	05 32 31.3	+0.7
	comp=Z,0.9nm,0.8s,baz=269,slow=7.4,SNR=4.3							
ESDC				LR		LR	05 53 22.0	
	comp=Z,42nm,21.4s,baz=314,slow=31							
	comp=Z,0.9nm,0.8s							
EKA	Eskdalemuir Ar	60.89	37	P		P	05 32 43.3	+3.2
	comp=Z,0.4nm,0.6s,baz=261,slow=9.1,SNR=4.1							
	comp=Z,0.4nm,0.6s							
NOA	NORSAR Array B	68.75	31	P		P	05 33 33.2	+1.9
	comp=Z,0.5nm,0.9s,baz=275,slow=6.4,SNR=2.0							
	comp=Z,0.5nm,0.9s							
VRAC	Vranov	73.15	43	LR		LR	06 02 57.6	
	comp=Z,29nm,19.2s,baz=244,slow=33							
ARCES	ARCESS Array B	73.66	21	P		P	05 34 00.6	-0.3
	comp=Z,0.8nm,0.4s,baz=296,slow=4.9,SNR=1.8							
	comp=Z,0.8nm,0.4s							
VAE	Valguarnera	73.97	55	LR		LR	06 01 16.5	
	comp=Z,60nm,20.4s,baz=321,slow=32							
WRA	Warramunga Arr	157.15	265	PKPab		PKPab	05 42 54.8	-0.2
	comp=Z,0.7nm,0.9s,baz=86,slow=4.2,SNR=3.5							
ASAR	Alice Springs	157.48	255	PKPab		PKPab	05 42 57.1	+0.7
	comp=Z,0.4nm,0.4s,baz=109,slow=5.0,SNR=2.7							

*IDC **18** 05:30:40.1±1.1, 29°.27N×81°.09E, h0km, mb3.6/8, mbtmp3.6/10, ML3.0/1, MS3.4/1, Error ellipse: s-maj=45.5km s-min=18.2km az=53.0*
ISC 18 05:30:42.9±1.2, 29°.3N±0°.2×81°.2E±0°.2, h17km, n11, σ0°.73/10, mb3.7/8, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	17.46	3	P		Pn	05 34 44.8	-0.9
	0.1nm,0.3s,baz=188,slow=12,SNR=1.9							
	0.4nm,0.7s							
CMAR	Chiang Mai Arr	19.50	120	P		P	05 35 08.9	-0.5
	1.0nm,0.3s,baz=322,slow=10,SNR=1.0							
KURBB	Kurchatov Arra	21.36	355	P		P	05 35 29.1	-0.2
	0.3nm,0.5s,baz=180,slow=11,SNR=1.9							
	0.3nm,0.5s							
SONM	Songino Array	26.84	40	P		P	05 36 23.6	+1.0
	0.2nm,0.3s,baz=232,slow=8.9,SNR=1.4							
	0.2nm,0.3s							
MMAI	Mount Meron Ar	39.09	287	LR		LR	05 57 43.9	
	comp=Z,46nm,18.8s,baz=74,slow=42							
ARCES	ARCESS Array B	50.99	338	P		P	05 39 44.0	+0.6
	1.0nm,0.4s,baz=99,slow=8.3,SNR=2.0							
	1.0nm,0.4s							
HFS	Hagfors	53.89	325	P		P	05 40 04.0	-1.0
	0.9nm,0.6s,baz=99,slow=8.9,SNR=4.1							
	0.9nm,0.6s							
NOA	NORSAR Array B	55.15	326	P		P	05 40 14.1	-0.2
	0.2nm,0.6s,baz=98,slow=6.2,SNR=2.0							
	0.2nm,0.6s							
EKA	Eskdalemuir Ar	63.30	320	P		P	05 41 11.2	+0.5
	0.1nm,0.3s,baz=82,slow=7.2,SNR=1.5							
	0.1nm,0.3s							
WRA	Warramunga Arr	70.91	127	P		P	05 41 59.4	-0.1
	0.6nm,0.5s,baz=321,slow=6.2,SNR=15							
	0.6nm,0.5s							
ASAR	Alice Springs	73.13	130	P		P	05 42 12.9	+0.1
	0.7nm,0.3s,baz=311,slow=6.1,SNR=7.6							
	0.7nm,0.3s							

*NEIC **18** 05:40:19.3±0.9, 36°.55N±0°.02×98°.97W±0°.02, h5km±2km, Error ellipse: s-maj=3.9km s-min=2.8km az=302.0*
TUL 18 05:40:19.6±0.9, 36°.54N±0°.02×98°.95W±0°.03, h6km±4km, ML2.9, mb_Lg2.5/69(NEIC), ML2.6/10(NEIC), Error ellipse: s-maj=3.6km s-min=1.8km az=115.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	Waynoka	0.09	10	Pg	Pg	05 40 22.4	+0.7
NOKA				IAML		05 40 25.1	
	comp=N,4μm,0.2s						
NOKA				IAML		05 40 25.4	
	comp=E,2μm,0.3s						
U32A	Winter Ranch,	0.17	194	Pg	Pg	05 40 23.4	+0.4
U32A				Sg	Sg	05 40 26.3	+1.0
U32A				IAML		05 40 28.5	
	comp=E,651nm,0.1s						
U32A				IAML		05 40 28.8	
	comp=N,929nm,0.4s						
OK038	West end E0370	0.18	111		Pg	05 40 23.8	+0.6
OK038				IAML		05 40 26.9	
	comp=N,3μm,0.3s						
OK038				IAML		05 40 29.7	
	comp=N,3μm,0.2s						
ELIS	Ellis County	0.61	218	Sg	Sg	05 40 39.3	+0.1
OK032	Salt Plains WL	0.65	66		Pg	05 40 32.2	+0.1
OK032				Sg	Sg	05 40 41.2	+0.6
CROK	Carrier	0.78	93	Pg	Pg	05 40 34.6	0.0
KAN14	Manchester OK	0.90	62		Pg	05 40 36.5	-0.2
KAN14				Sg	Sg	05 40 48.5	+0.1
CSTR	Hydro, Custer	0.92	167		Pg	05 40 37.1	-0.2
CSTR				Sg	Sg	05 40 49.8	+0.5
GC02	Grant County #	0.93	70		Pg	05 40 37.2	-0.3
GC02				Sg	Sg	05 40 49.6	+0.1
KAN05	Bluff City Nor	1.03	57	Sg	Sg	05 40 52.7	-0.2
KAN08	Anthony NE Sta	1.04	49	Sg	Sg	05 40 53.1	0.0
KAN01	Argonia South	1.13	57	Pg	Pg	05 40 41.1	-0.3
KAN01				Sg	Sg	05 40 56.1	+0.1
KAN09	Caldwell North	1.22	61	Pg	Pg	05 40 42.6	-0.4
BLOK	Blackwell	1.41	81		Pn	05 40 45.9	0.0
OK029	Liberty Lake	1.42	121		Pn	05 40 45.8	-0.2
OK048	Pawnee Station	1.62	94		Pn	05 40 49.3	+0.5
SMWD	Samnorwood	1.78	217		Pn	05 40 51.8	+0.8
SMWD				IAmb_Lg		05 41 19.4	
	comp=Z,33nm,0.9s						
FNO	Franklin	1.80	135		Pn	05 40 51.7	+0.5
WMOK	Wichita Mounta	1.81	176	Pn	Pn	05 40 51.5	+0.1
OK052	Battle Ridge R	1.82	107		Pn	05 40 51.8	+0.3
QUOK	Quay	1.85	101		Pn	05 40 52.2	+0.3
R32A	Long Quarter,	1.89	6		Pn	05 40 53.4	+1.0
DEOK	Depew	2.10	109		Pn	05 40 56.3	+0.9
X34A	Smith Ranch, M	2.14	154	Pn	Pb	05 40 58.0	-0.8
W35A	Tecumseh	2.19	129	Pn	Pn	05 40 56.9	+0.4
CBKS	Cedar Bluff	2.35	345	Pn	Pn	05 40 59.7	+0.9
TUL3	Leonard	2.63	103	Pn	Pn	05 41 03.0	+0.3
AMTX	Amarillo	2.77	234	IAmb_Lg		05 41 47.1	
	comp=Z,18nm,1.0s						
RTBA	Rita Blanca	3.05	269	Pn	Pn	05 41 10.1	+1.6
DKNS	Dickens	3.29	210	Pn	Pn	05 41 13.1	+1.3
DKNS				IAmb_Lg		05 42 10.7	
	comp=Z,18nm,1.2s						
APMT	Aspermont	3.35	197	Pn	Pn	05 41 13.1	+0.5
X37A	Clayton	3.51	123	Pn	Pn	05 41 15.1	+0.4
X37A				IAmb_Lg		05 42 18.9	
	comp=Z,15nm,0.8s						
FW06	Azle	3.74	162	IAmb_Lg		05 42 27.3	
	comp=Z,9.7nm,0.8s						
SN07	Snyder 07	3.80	205	IAmb_Lg		05 42 24.1	
	comp=Z,12nm,0.8s						
KSCO	Kaye Shedlock'	3.81	311	IAmb_Lg		05 42 26.4	
	comp=Z,17nm,0.8s						
ABTX	Abilene, Hawle	3.95	188	IAmb_Lg		05 42 29.9	
	comp=Z,8.7nm,1.1s						
SN05	Snyder 5	3.99	204	IAmb_Lg		05 42 27.5	
	comp=Z,12nm,0.8s						
MSTX	Muleshoe	4.04	232	IAmb_Lg		05 42 36.2	
	comp=Z,9.3nm,1.1s						
POST	Post	4.05	212	IAmb_Lg		05 42 31.3	
	comp=Z,7.8nm,0.8s						
FW13	Cleburne	4.37	163	IAmb_Lg		05 42 44.2	
	comp=Z,8.0nm,0.7s						
T25A	Trinidad	4.42	279	IAmb_Lg		05 42 41.4	
	comp=Z,12nm,1.0s						
TREL	Terrell	4.48	147	IAmb_Lg		05 42 45.4	
	comp=Z,12nm,0.8s						
Z38A	Mt. Pleasant	4.62	134	IAmb_Lg		05 42 52.8	
	comp=Z,11nm,1.0s						
S39A	Bolivar	4.64	74	IAmb_Lg		05 42 50.9	
	comp=Z,13nm,0.7s						
P38A	Dawn	5.27	53	IAmb_Lg		05 43 16.2	
	comp=Z,12nm,0.9s						
Q24A	Divide	5.47	298	IAmb_Lg		05 43 13.7	
	comp=Z,6.5nm,0.9s						
WHAR	Wooly Hollow	5.55	101	IAmb_Lg		05 43 20.9	
	comp=Z,8.6nm,0.8s						
FCAR	Ozark Folk Cen	5.56	95	IAmb_Lg		05 43 19.6	
	comp=Z,8.4nm,0.8s						
R40A	Maddies Statio

	4.4nm,0.4s						
SATY				Lg	Lg	05 51 19.4	
	9.0nm,0.2s						
ULHL	**Ulahol**	**2.70**	**313**	⇑*i*P	**Pn**	**05 50 42.7**	**+1.1**
	baz=11						
ULHL				⇑*i*S	**Sb**	**05 51 17.0**	**-2.8**
	baz=11						
UZB	**Uzynbulak**	**2.73**	**2**	*e*P	**Pn**	**05 50 43.0**	**+1.0**
	3.7nm,0.3s						
UZB				*e*S	**Sn**	**05 51 16.3**	**+1.1**
	6.5nm,0.3s						
UZB	**Uzynbulak**	**2.73**	**2**	Pg	**Pn**	**05 50 43.4**	**+1.4**
	3.7nm,0.3s						
UZB				Lg	Lg	05 51 17.5	
	6.5nm,0.3s						
SHLS	**Shalkode**	**2.77**	**9**	*e*P	**Pn**	**05 50 45.0**	**+2.5**
	3.9nm,0.2s						
SHLS				*e*S	**Sb**	**05 51 20.0**	**-1.7**
	12nm,0.3s						
SHLS	**Shalkode**	**2.77**	**9**	Pg	**Pb**	**05 50 46.9**	**-0.7**
	11nm,0.3s						
SHLS				Lg	Lg	05 51 23.5	
	12nm,0.5s						
PDGK	**Podgornoye**	**2.95**	**9**	Pg	**Pn**	**05 50 46.6**	**+1.7**
	4.3nm,0.3s						
PDGK				Lg	Lg	05 51 22.8	
	5.0nm,0.4s						
PDGK	**Podgornoye**	**2.95**	**9**	⇓Pg	**Pb**	**05 50 48.5**	**-2.1**
	3.9nm,0.4s						
PDGK				⇓Lg	Lg	05 51 26.5	
	5.5nm,0.4s						
TNSS	**Tian-Shan**	**2.99**	**332**	*e*P	**Pb**	**05 50 50.8**	**-0.8**
	3.3nm,0.4s						
TNSS				*e*S	**Sb**	**05 51 30.1**	**+1.8**
	2.9nm,0.5s						
TNSS	**Tian-Shan**	**2.99**	**332**	Pg	**Pb**	**05 50 50.8**	**-0.8**
	3.3nm,0.4s						
TNSS				Lg	Lg	05 51 30.1	
	2.9nm,0.5s						
BOOM	**Boomskoye usch**	**3.03**	**314**	⇑*e*P	**Pn**	**05 50 47.1**	**+1.0**
	baz=12						
BOOM				⇑*i*S	**Sn**	**05 51 24.7**	**+2.1**
	baz=12						
KPKS	**Kokpek**	**3.05**	**357**	*e*P	**Pb**	**05 50 49.6**	**-2.8**
	2.7nm,0.2s						
KPKS				*e*S	**Sb**	**05 51 27.9**	**-1.9**
	16nm,0.3s						
MDOK	**Medeo**	**3.07**	**334**	*e*P	**Pb**	**05 50 50.6**	**-2.1**
	3.8nm,0.3s						
MDOK				*e*S	**Sb**	**05 51 29.6**	**-0.6**
	8.1nm,0.4s						
MDOK	**Medeo**	**3.07**	**334**	Pg	**Pb**	**05 50 50.6**	**-2.1**
	3.8nm,0.3s						
MDOK				Pg	**Pn**	**05 50 50.9**	**+4.3**
	5.6nm,0.8s						
MDOK				Lg	Lg	05 51 29.6	
	8.1nm,0.4s						
MDOK				Lg	Lg	05 51 31.6	
	9.7nm,0.6s						
KOTS	**Kotyrbulak**	**3.11**	**335**	*e*P	**Pb**	**05 50 50.9**	**-2.5**
	3.1nm,0.4s						
KOTS				*e*S	**Sb**	**05 51 30.1**	**-1.4**
	8.3nm,0.3s						
KST	**Kastek**	**3.42**	**321**	*e*P	**Pb**	**05 50 57.6**	**-1.0**
	2.9nm,0.3s						
KST				*e*S	**Sb**	**05 51 41.6**	**+1.4**
	16nm,0.5s						
KST	**Kastek**	**3.42**	**321**	Pg	**Pb**	**05 50 57.6**	**-1.0**
	2.9nm,0.3s						
KST				Lg	Lg	05 51 41.6	
	16nm,0.5s						
TKM2	**Tokmak 2**	**3.51**	**317**	⇑Pg	**Pb**	**05 50 59.0**	**-1.2**
	1.0nm,0.3s						
TKM2				⇓Lg	Lg	05 51 45.2	
	14nm,0.7s						
TKM2	**Tokmak 2**	**3.51**	**317**	⇑*i*P	**Pn**	**05 50 53.7**	**+1.0**
	baz=15						
TKM2				⇑*i*S	**Sn**	**05 51 36.3**	**+1.9**
	baz=15						
KTBS	**Karatobe**	**3.68**	**334**	*e*P	**Pb**	**05 51 02.1**	**-1.0**
	1.3nm,0.3s						
KTBS				*e*S	**Sb**	**05 51 49.3**	**+1.6**
	2.9nm,0.3s						
KTBS	**Karatobe**	**3.68**	**334**	Pg	**Pb**	**05 51 02.1**	**-1.0**
	1.3nm,0.3s						
KTBS				Lg	Lg	05 51 49.3	
	2.9nm,0.3s						
ARXS	**Arharly**	**3.88**	**349**	*e*P	**Pb**	**05 51 05.3**	**-1.1**
	0.7nm,0.2s						
ARXS				*e*S	**Sb**	**05 51 54.6**	**+1.2**
	4.3nm,0.5s						

***DJA* 18 05:59:07.8±0.9, 4°N±8°×12°6E±°, *h*77km±13km, M4.1/11, mb4.2/6, mbB4.8/1, MLv4.1/11, Mw(mB)4.1/1, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.70**	**156**	P	Pn	06 00 03.0	+0.3
GTOI	**Gorontalo**	**4.51**	**219**	P	Pn	06 00 13.4	-0.3
LBMI	**Labuha**	**5.06**	**161**	P	Pn	06 00 20.8	-0.4
MRSI	**Marisa**	**5.35**	**227**	P	Pn	06 00 26.6	+1.4
	57nm,0.8s,1μm0.3nm						
LUWI	**Luwuk**	**6.02**	**211**	P	Pn	06 00 34.3	0.0
	43nm,0.9s,0.2nm						
SANI	**Sanana**	**6.18**	**179**	P	Pn	06 00 36.2	-0.3
	11nm,0.8s,0.1nm						
MPSI	**Mapaga**	**7.05**	**237**	P	Pn	06 00 49.5	+1.1
	11nm,0.9s,0.1nm						

***IDC* 18 06:00:24.9±1.6, 8°76S×159°31E, *h*0km, mb3.6/4, mbtmp3.7/5, ML3.3/1, MS3.2/1, Error ellipse: s-maj=46.5km s-min=35.2km az=136.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**12.01**	**266**	LR	LR	06 06 58.5	
	comp=Z,111nm,18.8s,baz=148,slow=33						
DZM	**Mont Dzumac**	**14.91**	**153**	Pn	Pn	06 03 57.3	0.0
	0.1nm,0.3s,baz=306,slow=19,SNR=6.4						
	3.2nm,0.8s						
WRA	**Warramunga Arr**	**26.58**	**243**	P	P	06 06 06.0	+0.9
	0.7nm,0.8s,baz=68,slow=9.3,SNR=3.3						
	0.7nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**28.04**	**15**	T	T	06 35 08.5	
	baz=194,slow=76,SNR=54						
H11S2	**WAKE ISLAND Hy**	**28.04**	**15**	T	T	06 35 03.5	
	baz=194,slow=76,SNR=63						
H11S1	**WAKE ISLAND Hy**	**28.06**	**15**	T	T	06 35 07.3	
	baz=194,slow=76,SNR=35						
ASAR	**Alice Springs**	**28.47**	**236**	P	P	06 06 21.6	-0.4
	0.4nm,0.6s,baz=61,slow=9.9,SNR=7.5						
	0.4nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**29.26**	**15**	T	T	06 36 35.3	
	baz=194,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy**	**29.27**	**15**	T	T	06 36 55.6	
	baz=194,slow=76,SNR=40						
H11N2	**WAKE ISLAND Hy**	**29.28**	**15**	T	T	06 36 44.8	
	baz=194,slow=76,SNR=47						
QSPA	**South Pole Qui**	**81.23**	**180**	P	P	06 12 42.3	-0.4
	0.4nm,0.6s,baz=357,slow=6.2,SNR=5.4						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**83.48**	**20**	P	P	06 12 54.6	+0.3
	0.3nm,0.8s,baz=240,slow=5.2,SNR=2.2						
	0.3nm,0.8s						

NEIC ***18*** *06:10:29.2±0.9, 19°414N±0°008×155°291W±0°009, h8km±1km, Error ellipse: s-maj=1.4km s-min=0.9km az=134.0*

HVO 18 06:10:28.9±0.8, 19°42N±0°01×155°279W±0°008, *h*0km±3km, ML3.9/14, ML3.1/31(NEIC), Error ellipse: s-maj=1.7km s-min=1.0km az=190.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**285**		Pg	06 10 30.1	+0.9
UWB	**Uwekahuna B**	**0.01**	**8**		Pg	06 10 30.2	+0.9
UWE	**Uwekahuna**	**0.01**	**290**		Pg	06 10 29.6	+0.2
SBLHI	**Steaming Bluff**	**0.01**	**45**		Pg	06 10 30.4	+1.1
HATHI	**Halema'uma'u T**	**0.02**	**69**		Pg	06 10 30.0	+0.6
BYL	**Byron's Ledge**	**0.02**	**103**		Pg	06 10 30.1	+0.7
RIM	**Rim**	**0.02**	**167**		Pg	06 10 30.6	+1.2
KKO	**Keanakako`i**	**0.02**	**146**		Pg	06 10 30.8	+1.4
WRMHI	**West Rim**	**0.02**	**244**		Pg	06 10 30.8	+1.4
SDHHI	**Sand Hill**	**0.03**	**208**		Pg	06 10 31.2	+1.7
RSD	**Rainshed**	**0.05**	**1**	Pg	Pg	06 10 30.5	+0.6
PUH	**Pauahi**	**0.07**	**125**	IAML		06 10 30.9	
	comp=N,8μm,1.2s						
PUH				Pg	Pg	06 10 31.3	+1.0
PUH				IAML		06 10 32.5	
	comp=E,14μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.11**	**109**		Pg	06 10 32.0	+1.0
HLP	**Hilina Pali**	**0.12**	**193**		Pg	06 10 32.4	+1.1
HLP	**Hilina Pali**	**0.12**	**193**	IAML		06 10 35.2	
	comp=E,15μm,1.0s						
HLP				IAML		06 10 35.4	
	comp=N,14μm,1.1s						
MLH	**Mauna Loa**	**0.13**	**308**		Pg	06 10 32.5	+1.1
MLH					Sg	06 10 35.1	+2.0
MLH	**Mauna Loa**	**0.13**	**308**	IAML		06 10 35.3	
	comp=N,8μm,1.1s						
MLH				IAML		06 10 35.6	
	comp=E,10μm,0.7s						
STCH	**Steam Cracks**	**0.15**	**102**		Pg	06 10 32.7	+0.9
STCH	**Steam Cracks**	**0.15**	**102**	IAML		06 10 36.6	
	comp=N,10μm,0.8s						
STCH				IAML		06 10 36.6	
	comp=E,8μm,0.8s						
NPOC	**North of Pu'u**	**0.16**	**98**		Pg	06 10 32.9	+0.9
JCUZ	**Jacuzzi**	**0.17**	**101**		Pg	06 10 33.2	+1.0
JCUZ					Sg	06 10 36.5	+2.1
HTC	**Hot Caves**	**0.21**	**212**		Pg	06 10 34.0	+1.0
JOKA	**Jonika Flow**	**0.26**	**86**	Pg	Pg	06 10 34.4	+0.5
JOKA				IAML		06 10 41.1	
	comp=E,4μm,1.5s						
HMH	**Humu'ula Sheep**	**0.27**	**314**		Pg	06 10 34.8	+0.7
HMH					Sg	06 10 39.5	+1.9
HMH	**Humu'ula Sheep**	**0.27**	**314**	IAML		06 10 42.0	
	comp=E,3μm,0.6s						
HMH				IAML		06 10 42.1	
	comp=N,4μm,0.8s						
MLOA	**Mauna Loa Obse**	**0.30**	**293**		Pg	06 10 35.6	+0.8
MLOA					Sg	06 10 40.7	+2.0
MLOA	**Mauna Loa Obse**	**0.30**	**293**	IAML		06 10 41.0	
	comp=E,3μm,0.8s						
MLOA				IAML		06 10 42.3	
	comp=N,4μm,1.0s						
MWH	**Moku'aweowe**	**0.31**	**283**	Pg	Pg	06 10 35.6	+0.8
KHU	**Kahuku**	**0.36**	**242**		Pg	06 10 36.3	+0.5
ALEP	**Alea Permanent**	**0.37**	**290**		Pg	06 10 36.6	+0.7
POHA	**Pohakuloa**	**0.41**	**325**		Pg	06 10 37.4	+0.5
POHA	**Pohakuloa**	**0.41**	**325**	IAML		06 10 45.6	
	comp=N,2μm,1.1s						
POHA				IAML		06 10 45.6	
	comp=N,2μm,0.9s						
HUH	**Hualalai**	**0.59**	**297**	Pg	Pg	06 10 40.7	+0.5
HPAH	**Hawaii Prepara**	**0.73**	**327**	Pg	Pg	06 10 42.0	-0.8

IDC ***18*** *06:17:12.3±2.4, 3°62N×123°61E, h483km±29km, mb3.4/8, mbtmp4.3/9, Error ellipse: s-maj=66.5km s-min=11.4km az=64.0*

NEIC ***18*** *06:17:12.6±1.6, 3°6N±0°2×123°4E±0°3, h479km±12km, mb4.2/20, Error ellipse: s-maj=39.2km s-min=15.5km az=64.0*

ISC 18 06:17:13.6±0.7, 3°5N±0°1×123°3E±0°2, h500km, n32, σ0§89/33, mb4.0/17, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**3.43**	**227**	P	**P**	**06 18 25.5**	**-2.2**
MYLDM	**Lahad Datu**	**5.04**	**290**	P	**P**	**06 18 40.9**	**-0.1**
KAPI	**Kappang**	**9.15**	**203**	P	**P**	**06 19 23.4**	**+1.3**
	14nm,0.9s,baz=56,slow=7.3,SNR=4.7						
SOEI	**Soe**	**13.19**	**176**	P	**P**	**06 20 04.8**	**-0.2**
MTN	**Manton Dam**	**18.01**	**154**	P	**P**	**06 20 54.1**	**-0.1**
KNRA	**Kununurra**	**19.80**	**164**	P	**P**	**06 21 10.1**	**-0.5**
KNRA				IAmb	IAmb	06 21 25.6	
	comp=Z,18nm,1.5s						
YULB	**Yu-li**	**19.88**	**355**	P	**P**	**06 21 10.3**	**-0.9**
YULB				IAmb	IAmb	06 21 32.2	
	comp=Z,16nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.57**	**174**	P	**P**	**06 21 26.0**	**-0.6**
WB0	**Warramunga Arr**	**25.56**	**155**	P	**P**	**06 22 00.8**	**-1.5**
WB0				IAmb	IAmb	06 22 09.7	
	comp=Z,16nm,1.5s						
WRAB	**Tennant Creek**	**25.69**	**155**	P	**P**	**06 22 02.2**	**-1.2**
WRAB				IAmb	IAmb	06 22 15.5	
	comp=Z,2.8nm,0.7s						
WRA	**Warramunga Arr**	**25.70**	**155**	P	**P**	**06 22 02.2**	**-1.3**
	comp=Z,1.9nm,0.3s,baz=332,slow=10.0,SNR=64						
WRA				ScP	**ScP**	**06 28 10.7**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=338,slow=2.9,SNR=10.0						
	comp=Z,1.9nm,0.3s						
WB2	**Warramunga Arr**	**25.70**	**155**	P	**P**	**06 22 02.3**	**-1.2**
WB2				IAmb	IAmb	06 22 42.0	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**25.80**	**155**	P	**P**	**06 22 03.2**	**-1.1**
WR0				IAmb	IAmb	06 22 07.2	
	comp=Z,8.1nm,1.2s						
ASAR	**Alice Springs**	**28.91**	**160**	P	**P**	**06 22 31.3**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=335,slow=7.5,SNR=24						
	comp=Z,1.1nm,0.3s						
FORT	**Forrest**	**34.38**	**173**	P	**P**	**06 23 18.5**	**+0.2**
BBOO	**Buckleboo**	**38.08**	**162**	P	**P**	**06 23 48.8**	**-0.2**
STKA	**Stephens Creek**	**39.25**	**155**	P	**P**	**06 23 58.8**	**+0.2**
STKA	**Stephens Creek**	**39.25**	**155**	P	**P**	**06 23 58.7**	**+0.2**
	comp=Z,2.5nm,0.3s,baz=328,slow=7.4,SNR=6.7						
	comp=Z,2.5nm,0.3s						
EIDS	**Eidsvold**	**39.38**	**138**	P	**P**	**06 23 58.9**	**-0.8**
EIDS				IAmb	IAmb	06 23 59.9	
	comp=Z,5.1nm,1.1s						
ARMA	**Armidale**	**43.25**	**143**	P	**P**	**06 24 30.7**	**+0.2**
ARMA				IAmb	IAmb	06 24 50.3	
	comp=Z,10nm,1.4s						
CAN	**Canberra**	**45.53**	**150**	P	**P**	**06 24 49.2**	**+1.2**
CAN				IAmb	IAmb	06 25 08.1	
	comp=Z,24nm,1.5s						
SONM	**Songino Array**	**46.51**	**344**	P	**P**	**06 24 55.6**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=163,slow=4.5,SNR=3.1						
	comp=Z,0.9nm,0.5s						
MK31	**Makanchi Array**	**55.83**	**327**	P	**P**	**06 26 03.9**	**+0.8**
MKAR	**Makanchi Array**	**55.83**	**327**	P	**P**	**06 26 03.9**	**+0.8**
	comp=Z,2.7nm,0.3s,baz=124,slow=7.4,SNR=61						
	comp=Z,2.7nm,0.3s						
MAKZ	**Makanchi**	**56.01**	**327**	P	**P**	**06 26 04.8**	**+0.6**
MAKZ				IAmb	IAmb	06 26 09.3	
	comp=Z,8.4nm,1.4s						
ZAA0	**Zalesovo Array**	**59.28**	**335**	P	**P**	**06 26 25.2**	**-1.2**
ZALV	**Zalesovo Beam**	**59.28**	**335**	P	**P**	**06 26 25.8**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=144,slow=5.9,SNR=4.4						
	comp=Z,1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**60.12**	**329**	P	**P**	**06 26 32.5**	**+0.4**
	comp=Z,2.1nm,0.5s,baz=132,slow=6.7,SNR=29						
	comp=Z,2.1nm,0.5s						
KURK	**Kurchatov**	**60.13**	**329**	P	**P**	**06 26 32.6**	**+0.5**
KURK				IAmb	IAmb	06 26 33.0	
	comp=Z,8.0nm,0.4s						
BKZ	**Black Stump Fm**	**64.75**	**136**	P	**P**	**06 27 02.6**	**+0.1**
BVAR	**Borovoye Array**	**65.67**	**328**	P	**P**	**06 27 08.1**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=132,slow=8.8,SNR=5.5						
	comp=Z,0.8nm,0.5s						
ABKAR	**Akbulak array**	**70.17**	**322**	P	**P**	**06 27 35.8**	**+0.3**

NEIC ***18*** *06:21:27.5±1.4, 36°54N±0°02×98°96W±0°02, h9km±8km, Error ellipse: s-maj=3.4km s-min=1.5km az=141.0*

TUL 18 06:21:27.6±1.0, 36°54N±0°02×98°96W±0°02, h6km±3km, ML2.7, mb_Lg2.5/69(NEIC), ML2.7/16(NEIC), Error ellipse: s-maj=2.6km s-min=1.9km az=135.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	**Waynoka**	**0.10**	**12**	Pg	Pg	06 21 30.2	+0.5
NOKA				IAML		06 21 32.7	
	comp=N,2μm,0.4s						
U32A	**Winter Ranch,**	**0.17**	**193**	Pg	Pg	06 21 31.3	+0.4
U32A				IAML		06 21 35.9	
	comp=N,1μm,0.2s						
OK038	**West end E0370**	**0.18**	**110**		Pg	06 21 31.6	+0.3
OK038				Sg	Sg	06 21 33.9	+0.2
OK038				IAML		06 21 35.0	
	comp=N,1μm,0.2s						
OK038				IAML		06 21 37.7	
	comp=N,3μm,0.4s						
ELIS	**Ellis County**	**0.60**	**218**	Sg	Sg	06 21 47.4	+0.3
OK032	**Salt Plains WL**	**0.65**	**66**	Sg	Sg	06 21 48.9	+0.2
CSTR	**Hydro, Custer**	**0.92**	**166**	Pg	Pg	06 21 45.2	-0.1
CSTR				Sg	Sb	06 21 58.0	-0.5
KAN05	**Bluff City Nor**	**1.04**	**57**	Sg	Sg	06 22 01.1	+0.1
KAN12	**Harper NE Stat**	**1.08**	**45**	Pg	Pg	06 21 48.0	-0.3
KAN17	**Caldwell West**	**1.08**	**62**		Pg	06 21 48.1	-0.3
KAN17				IAML		06 22 09.2	
	comp=N,186nm,0.3s						
KAN17				IAML		06 22 10.1	
	comp=E,156nm,0.3s						
KAN01	**Argonia South**	**1.14**	**57**		Pg	06 21 49.2	-0.2
KAN01				Sg	Sg	06 22 04.4	+0.2
KAN01				IAML		06 22 09.6	
	comp=N,158nm,0.2s						
KAN01				IAML		06 22 09.7	
	comp=E,204nm,0.1s						
KAN09	**Caldwell North**	**1.23**	**61**		Pg	06 21 50.5	-0.7
BLOK	**Blackwell**	**1.42**	**81**		Pn	06 21 53.7	-0.3
OK029	**Liberty Lake**	**1.42**	**121**		Pn	06 21 53.8	-0.3
OK048	**Pawnee Station**	**1.63**	**94**		Pn	06 21 57.1	+0.2
OK051	**E0350 and S346**	**1.71**	**91**		Pn	06 21 58.3	+0.3
SMWD	**Samnorwood**	**1.77**	**216**	Pn	Pb	06 21 59.8	-0.8
FNO	**Franklin**	**1.80**	**135**	Pn	Pn	06 21 59.6	+0.3
WMOK	**Wichita Mounta**	**1.81**	**175**	Pn	Pn	06 21 59.4	+0.1
OK052	**Battle Ridge R**	**1.82**	**107**		Pn	06 21 59.9	+0.4
R32A	**Long Quarter,**	**1.89**	**6**	Pn	Pn	06 22 00.8	+0.3
DEOK	**Depew**	**2.11**	**109**	Pn	Pn	06 22 04.1	+0.6
X34A	**Smith Ranch, M**	**2.14**	**154**	Pn	Pb	06 22 05.8	-1.0
X34A				IAmb_Lg		06 22 35.9	
	comp=Z,19nm,0.8s						
W35A	**Tecumseh**	**2.19**	**129**	Pn	Pn	06 22 05.3	+0.7
CBKS	**Cedar Bluff**	**2.35**	**345**		Pb	06 22 08.8	-1.7
TUL3	**Leonard**	**2.63**	**103**		Pn	06 22 11.0	+0.2
TUL3				IAmb_Lg		06 22 57.7	
	comp=Z,11nm,1.0s						
RTBA	**Rita Blanca**	**3.05**	**269**		Pn	06 22 19.3	+2.8
RTBA				IAmb_Lg		06 23 10.7	
	comp=Z,9.4nm,0.9s						
RLO	**Rose Lookout**	**3.20**	**96**	IAmb_Lg		06 23 14.6	
	comp=Z,7.4nm,0.7s						
DKNS	**Dickens**	**3.29**	**210**	Pn	Pn	06 22 21.3	+1.5
DKNS				IAmb_Lg		06 23 19.1	
	comp=Z,10nm,0.7s						
APMT	**Aspermont**	**3.35**	**197**	Pn	Pn	06 22 22.2	+1.7
X37A	**Clayton**	**3.51**	**123**	Pn	Pn	06 22 23.0	+0.2
FW06	**Azle**	**3.74**	**162**	IAmb_Lg		06 23 30.1	
	comp=Z,11nm,0.8s						
SN07	**Snyder 07**	**3.79**	**205**	IAmb_Lg		06 23 33.5	
	comp=Z,14nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.81**	**311**	IAmb_Lg		06 23 36.8	
	comp=Z,13nm,0.8s						
ABTX	**Abilene, Hawle**	**3.95**	**188**		Pb	06 22 40.0	+2.3
FW07	**Weatherford**	**3.95**	**166**	IAmb_Lg		06 23 40.1	
	comp=Z,8.2nm,0.8s						
SN05	**Snyder 5**	**3.98**	**204**	IAmb_Lg		06 23 35.4	
	comp=Z,14nm,0.9s						
POST	**Post**	**4.05**	**212**	IAmb_Lg		06 23 46.0	
	comp=Z,14nm,1.1s						
HHAR	**Hobbs**	**4.05**	**92**	IAmb_Lg		06 23 39.9	
	comp=Z,7.9nm,0.8s						
T25A	**Trinidad**	**4.42**	**279**	IAmb_Lg		06 23 49.2	
	comp=Z,12nm,0.8s						
S39A	**Bolivar**	**4.65**	**74**	IAmb_Lg		06 23 53.8	
	comp=Z,9.6nm,0.7s						
WHTX	**Lake Whitney,**	**4.71**	**164**	IAmb_Lg		06 24 07.2	
	comp=Z,7.0nm,1.0s						
MIAR	**Mount Ida**	**4.82**	**113**	IAmb_Lg		06 24 08.4	
	comp=Z,6.9nm,1.0s						
BGNE	**Belgrade**	**4.90**	**7**	IAmb_Lg		06 24 13.9	
	comp=Z,10nm,0.8s						
SDCO	**Great Sand Dun**	**5.37**	**285**	IAmb_Lg		06 24 25.7	
	comp=Z,5.3nm,0.9s						
X40A	**Basin Creek Fa**	**5.40**	**111**	IAmb_Lg		06 24 24.5	
	comp=Z,5.5nm,1.0s						
MGMO	**Mountain Grove**	**5.40**	**82**	IAmb_Lg		06 24 23.5	
	comp=Z,8.9nm,0.8s						
Q24A	**Divide**	**5.47**	**298**	IAmb_Lg		06 24 21.6	
	comp=Z,9.3nm,0.9s						
WHAR	**Wooly Hollow**	**5.55**	**101**	IAmb_Lg		06 24 29.0	
	comp=Z,7.1nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.56**	**95**	IAmb_Lg		06 24 28.0	
	comp=Z,8.0nm,1.0s						
R40A	**Maddies Statio**	**5.60**	**70**	IAmb_Lg		06 24 24.8	
	comp=Z,6.9nm,0.9s						
435B	**Jarrell**	**5.86**	**168**	IAmb_Lg		06 24 41.4	
	comp=Z,8.7nm,0.9s						
MNHN	**Monahans**	**6.08**	**212**	IAmb_Lg		06 24 44.9	
	comp=Z,4.9nm,0.8s						
JCT	**Junction City**	**6.09**	**187**	IAmb_Lg		06 24 49.5	
	comp=Z,7.0nm,0.7s						
ISCO	**Idaho Springs**	**6.17**	**304**	IAmb_Lg		06 24 56.7	
	comp=Z,4.7nm,0.8s						
T42A	**Van Buren**	**6.33**	**83**	IAmb_Lg		06 25 05.9	
	comp=Z,5.3nm,1.1s						
CCM	**Cathedral Cave**	**6.33**	**74**	IAmb_Lg		06 24 56.3	
	comp=Z,6.8nm,0.7s						
PBMO	**Poplar Bluff**	**6.86**	**85**	IAmb_Lg		06 25 03.9	
	comp=Z,5.0nm,0.8s						
PHWY	**Pilot Hill**	**6.95**	**315**	IAmb_Lg		06 25 17.2	
	comp=Z,5.6nm,0.8s						
ECSD	**EROS Data Cent**	**7.40**	**13**	IAmb_Lg		06 25 20.9	
	comp=Z,4.0nm,1.2s						
CGM3	**Cape Girardeau**	**7.49**	**81**	IAmb_Lg		06 25 34.7	
	comp=Z,5.6nm,1.0s						

NEIC ***18*** *06:39:13.2±1.4, 5°6S±0°1×148°3E±0°1, h88km±9km, mb4.4/16, Error ellipse: s-maj=22.0km s-min=17.2km az=108.0*

IDC ***18*** *06:39:15.6±2.3, 5°62S×148°28E, h120km±20km, mb3.7/6, mbtmp4.1/7, MS3.2/1, Error ellipse: s-maj=39.2km s-min=13.8km az=111.0*

ISC 18 06:39:13.6±0.7, 5°64S±0°08×148°3E±0°1, h100km, n39, σ1§17/41, mb4.2/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.90**	**196**		**Pn**	**06 40 11.7**	**+0.2**
PMG	**Port Moresby**	**3.90**	**196**	P	**Pn**	**06 40 12.6**	**+1.1**
	65nm,0.5s,baz=333,slow=6.4,SNR=14						
PMG				S	**Sn**	**06 40 53.7**	**-2.6**
	175nm,0.4s,baz=276,slow=5.9,S

PSA00 Pilbara Seismi 31.74 237 P P 06 45 28.0 -0.4
PSA00 IAmb IAmb 06 45 54.5
comp=Z,14nm,1.4s
MORW Morawa 38.35 229 P P 06 46 24.7 -0.3
JHJ Hachijo jima 2 39.38 349 LR LR 07 00 58.9
comp=Z,33nm,21.5s,baz=222,slow=33
RTZ Ruatahuna 41.89 146 P P 06 46 54.1 -0.2
USRK Ussuriysk Ar. 51.73 345 P P 06 48 10.2 -0.5
comp=Z,1.4nm,0.7s,baz=125,slow=7.6,SNR=2.3
comp=Z,1.4nm,0.7s
SONM Songino Array 64.71 330 P P 06 49 41.7 +0.5
comp=Z,0.2nm,0.4s,baz=153,slow=9.7,SNR=1.8
comp=Z,0.2nm,0.4s
QSPA South Pole Qui 84.33 180 P P 06 51 33.9 -0.5
comp=Z,0.4nm,0.5s,baz=283,slow=0.8,SNR=5.1
comp=Z,0.4nm,0.5s
ILAR Eielson Array 84.66 23 P P 06 51 35.0 -0.8
comp=Z,1.0nm,0.6s,baz=256,slow=5.0,SNR=14
comp=Z,1.0nm,0.6s
J25K Salcha River, 85.19 23 P P 06 51 38.8 +0.2
J25K IAmb IAmb 06 51 40.0
comp=Z,1.9nm,0.7s
SAML Samuel 145.47 115 PKPdf 06 58 40.1 -0.9
PTLB Pontes e Lacer 145.72 128 PKPdf 06 58 40.9 -0.5
BDFB Brasilia 153.41 143 PKPbc **PKPbc 06 59 00.6 -0.8**
comp=Z,1.1nm,0.4s,baz=60,slow=22,SNR=3.2

IDC 18 06:47:54.0±3.5,54°.27N×87°.21E,h0km,mbtmp2.8/2,
ML2.3/2,Error ellipse: s-maj=31.3km s-min=20.1km
az=52.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**258**	I	I	06 56 30.0	
	baz=75,slow=311,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.44**	**258**	Pg	Pn	06 48 20.1	-1.2
	1.0nm,0.3s,baz=73,slow=16,SNR=7.3						
ZALV				Lg	Lg	06 48 39.4	
	1.2nm,0.3s,baz=77,slow=27,SNR=6.6						
KURBB	**Kurchatov Arra**	**6.44**	**239**	Pn	Pn	06 49 31.7	+1.7
	0.1nm,0.3s,baz=54,slow=14,SNR=3.7						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.11**	**205**	Pn	Pn	06 49 53.2	+0.3
	0.1nm,0.3s,baz=25,slow=14,SNR=2.0						
	0.4nm,0.8s						

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*IDC **18** 06:49:43.5±0.6,39°.85N×20°.82E,h0km,mb4.1/23,*
mbtmp4.1/36,ML4.0/9,MS3.4/23,Error ellipse:
s-maj=12.9km s-min=11.4km az=15.0
*TIR **18** 06:49:46.5,39°.78N×20°.67E,h27km±1km,Ml4.2*
*SKO **18** 06:49:46.2,39°.60N×20°.89E,h10km,ML4.1*
*NEIC **18** 06:49:46.2±2.6,39°.79N±0°.04×20°.69E±0°.06,h10km±1km,*
mb4.4/23,Error ellipse: s-maj=7.9km s-min=6.1km
az=237.0
*PDG **18** 06:49:46.4±0.6,39°.81N×20°.60E,h16km±1km,ML3.9/10,*
Error ellipse: s-maj=0.6km s-min=1.0km az=0.0
*THE **18** 06:49:47.1,39°.79N×20°.70E,h0km±2km,ML4.1/15,Error*
ellipse: s-maj=2.0km s-min=0.6km az=297.0
*ATH **18** 06:49:47.1,39°.82N×20°.63E,h5km,Mw4.1,Moment*
Tensor Solution. s7 Moment tensor: Mrr1.82; Mθθ-0.53;
Mφφ-1.29; Mrθ-0.17; Mθφ0.75; Mφr-0.74; Fault plane
solution: NP1:φs315.00000°,δ38.00000°,λ68.00000°.
NP2:φs163.00000°,δ55.00000°,λ107.00000°.
*MCSM **18** 06:49:48.6±0.5,40°N±5°×2°0E±°,h10km,mb4.4,mB4.8,*
MLv4.5,Mw(mB)4.1
*BEO **18** 06:49:48.0±0.5,39°.74N×20°.68E,h15km±4km,ML3.9/6*
*NAO **18** 06:49:54.5,40°.07N×18°.09E,h33km,mb4.2*
ISC 18 06:49:46.6±0.7,**39°.78N**±0°.01×**20°.68E**±0°.02,**h15**km±4km,
n375,σ1°**73**/417,**mb4.4**/43,**MS3.4**/13,**27C-19D,**
Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.37**	**227**	P	**Pg**	**06 49 54.2**	**+0.1**
	baz=227						
IGT				S	**Sb**	**06 50 01.9**	**+1.6**
	baz=227						
IGT				AMP			
	comp=E,149nm,0.5s,baz=227						
IGT	**Igoumenitsa**	**0.37**	**227**	P	**Pb**	**06 49 54.5**	**-0.3**
IGT				S	**Sb**	**06 50 00.7**	**+0.4**
	comp=E,39μm,0.7s						
IGT	**Igoumenitsa**	**0.37**	**227**	*e*Pg	**Pb**	**06 49 54.5**	**-0.3**
IGT				*e*Sg	**Sb**	**06 50 01.9**	**+1.6**
IGT	**Igoumenitsa**	**0.37**	**227**	*i* Pg	**Pg**	**06 49 54.2**	**+0.1**
IGT				*i* Sg	**Sb**	**06 50 02.0**	**+1.8**
IGT	**Igoumenitsa**	**0.37**	**227**	P	**Pg**	**06 49 54.1**	**0.0**
IGT				S	**Sg**	**06 49 59.4**	**+0.2**
LSK	**Leskovik**	**0.37**	**351**	P	**Pb**	**06 49 54.6**	**-0.3**
	baz=352						
LSK				S	**Sb**	**06 50 01.3**	**+0.7**
	baz=352						
LSK				AMP			
	comp=E,144nm,0.8s,baz=352						
LSK	**Leskovik**	**0.37**	**351**	P	**Pb**	**06 49 54.5**	**-0.4**
LSK				S	**Sb**	**06 50 00.0**	**-0.6**
	comp=E,30μm,0.8s						
SRN	**Sarande**	**0.53**	**281**	P	**Pb**	**06 49 57.3**	**-0.3**
	baz=282						
SRN				S	**Sb**	**06 50 05.7**	**+0.7**
	baz=282						
SRN				AMP			
	comp=E,35nm,0.2s,baz=282						
SRN	**Sarande**	**0.53**	**281**	P	**Pb**	**06 49 57.2**	**-0.3**
SRN				S	**Sb**	**06 50 06.1**	**+1.1**
	comp=E,10μm,0.4s						
PENT	**Pentalofos**	**0.54**	**41**	P	**Pg**	**06 49 57.3**	**0.0**
PENT	**Pentalofos**	**0.54**	**41**	P	**Pg**	**06 49 57.3**	**0.0**
PENT				S	**Sg**	**06 50 04.8**	**+0.1**
KPRO	**Kipourio**	**0.56**	**72**	P	**Pg**	**06 49 57.5**	**-0.1**
KPRO				S	**Sb**	**06 50 06.4**	**+0.6**
	comp=E,37μm,0.5s						
KPRO	**Kipourio**	**0.56**	**72**	P	**Pg**	**06 49 57.5**	**-0.1**
KASA	**Kassiopi**	**0.57**	**267**	P	**Pg**	**06 49 57.9**	**0.0**
NEST	**Nestorio**	**0.69**	**24**	P	**Pg**	**06 50 00.1**	**0.0**
NEST	**Nestorio**	**0.69**	**24**	P	**Pg**	**06 49 60.0**	**-0.2**
KBN	**Korca**	**0.84**	**6**	P	**Pg**	**06 50 02.7**	**-0.2**
	baz=5.0						
KBN				S	**Sn**	**06 50 16.4**	**+0.2**
	baz=5.0						
KBN				AMP			
	comp=N,23nm,0.6s,baz=5.0						
KBN	**Korca**	**0.84**	**6**		**Pg**	**06 50 02.6**	**-0.4**
KBN	**Korca**	**0.84**	**6**	P	**Pg**	**06 50 02.4**	**-0.6**
KBN				S	**Sb**	**06 50 15.2**	**+1.0**
	comp=N,5μm,0.9s						
TSLK	**Tsoukalades, L**	**0.96**	**181**	P	**Pg**	**06 50 04.8**	**-0.3**
TSLK				S	**Sn**	**06 50 19.4**	**+0.6**
	comp=N,14μm,0.6s						
TSLK	**Tsoukalades, L**	**0.96**	**181**	P	**Pg**	**06 50 05.0**	**-0.2**
LKD2	**Lefkada island**	**0.99**	**181**	P	**Pg**	**06 50 05.6**	**-0.2**
	baz=181						
LKD2				S	**Sn**	**06 50 20.4**	**+0.6**
	baz=181						
LKD2				AMP			
	comp=N,33nm,0.9s,baz=181						
LKD2	**Lefkada island**	**0.99**	**181**	P	**Pg**	**06 50 05.4**	**-0.4**
LKD2				S	**Sn**	**06 50 20.8**	**+1.0**
	comp=N,9μm,0.6s						
LKD2	**Lefkada island**	**0.99**	**181**	P	**Pg**	**06 50 05.3**	**-0.4**
THL	**Klokotos Trika**	**1.05**	**102**	P	**Pg**	**06 50 05.5**	**-1.5**
THL				S	**Sb**	**06 50 21.0**	**+0.9**
	comp=N,5μm,0.8s						
THL	**Klokotos Trika**	**1.05**	**102**	P	**Pg**	**06 50 05.7**	**-1.2**
NYDR	**Nydri-Lefkada**	**1.07**	**179**	P	**Pg**	**06 50 06.7**	**-0.5**
NYDR				S	**Sn**	**06 50 23.0**	**+1.5**
	comp=N,9μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.07**	**179**	P	**Pg**	**06 50 06.7**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.10**	**184**	P	**Pn**	**06 50 08.1**	**+0.6**
DRAG	**Dragano-Lefkad**	**1.10**	**184**	P	**Pn**	**06 50 08.4**	**+0.9**
FNA	**Florina**	**1.13**	**28**	P	**Pb**	**06 50 07.3**	**-0.6**
	baz=28						
FNA				S	**Sn**	**06 50 26.0**	**+2.7**
	baz=28						
FNA	**Florina**	**1.13**	**28**		**Pb**	**06 50 07.8**	**-0.1**
FNA	**Florina**	**1.13**	**28**	P	**Pb**	**06 50 07.5**	**-0.4**
FNA				S	**Sn**	**06 50 24.6**	**+1.3**
	comp=N,16μm,0.6s						
FNA	**Florina**	**1.13**	**28**	*e*Pg	**Pn**	**06 50 08.8**	**+0.8**
FNA				*e*Sg	**Sn**	**06 50 25.3**	**+2.0**
FNA	**Florina**	**1.13**	**28**	⇓*i* Pg	**Pb**	**06 50 07.3**	**-0.6**
FNA				*i* Sg	**Sn**	**06 50 26.3**	**+3.0**
FNA	**Florina**	**1.13**	**28**	P	**Pb**	**06 50 07.5**	**-0.4**
VLO	**Vlora**	**1.14**	**307**	P	**Pn**	**06 50 10.4**	**+2.5**
	baz=308						
VLO				S	**Sn**	**06 50 28.1**	**+4.9**
	baz=308						
VLO	**Vlora**	**1.14**	**307**		**Pn**	**06 50 09.8**	**+1.9**
EVGI	**Lefkada island**	**1.16**	**181**	P	**Pb**	**06 50 08.3**	**0.0**
EVGI				S	**Sn**	**06 50 26.8**	**+2.9**
	comp=N,9μm,0.3s						
TYRN	**Tyrnavos**	**1.20**	**93**	P	**Pb**	**06 50 08.1**	**-0.9**
TYRN				S	**Sn**	**06 50 27.1**	**+2.3**
	comp=N,9μm,0.7s						
EVR	**Evrytania**	**1.23**	**134**	P	**Pg**	**06 50 11.0**	**+0.7**
KTI	**Kastanea**	**1.26**	**61**	P	**Pn**	**06 50 10.2**	**+0.4**
FSK	**Fiskardo**	**1.33**	**184**	P	**Pb**	**06 50 11.5**	**+0.4**
FSK	**Fiskardo**	**1.33**	**184**	P	**Pn**	**06 50 11.2**	**+0.7**
LRSO	**Larissa Observ**	**1.33**	**94**	P	**Pg**	**06 50 11.8**	**-0.3**
OHR	**Ohrid**	**1.33**	**4**	⇑*i*Pn	**Pg**	**06 50 12.1**	**-0.1**
OHR				*i* Sn	**Sg**	**06 50 34.0**	**+4.4**
OHR				*e*Lg	Lg	06 50 34.7	
	comp=N,2μm,0.9s						
OHR				*e*Lg	Lg	06 50 35.5	
	comp=E,3μm,0.6s						
PVO	**Paravola**	**1.34**	**150**	P	**Pg**	**06 50 12.8**	**+0.4**
PVO	**Paravola**	**1.34**	**150**	P	**Pg**	**06 50 12.6**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.36**	**124**	P	**Pg**	**06 50 12.5**	**-0.3**
MAKR				S	**Sg**	**06 50 31.9**	**+1.3**
	comp=E,12μm,0.4s						
LIT	**Litokhoron**	**1.43**	**77**		**Pn**	**06 50 12.7**	**+0.6**
LIT	**Litokhoron**	**1.43**	**77**	P	**Pn**	**06 50 12.6**	**+0.6**
LIT				S	**Sg**	**06 50 33.6**	**+0.9**
	comp=E,11μm,0.7s						
AGG	**Agios Georgios**	**1.49**	**120**		**Pb**	**06 50 14.5**	**+0.6**
AGG	**Agios Georgios**	**1.49**	**120**	P	**Pb**	**06 50 14.4**	**+0.4**
AGG				S	**Sg**	**06 50 36.1**	**+1.5**
	comp=E,6μm,0.6s						
AGG	**Agios Georgios**	**1.49**	**120**	P	**Pb**	**06 50 14.3**	**+0.3**
ANX	**Ano Chora**	**1.53**	**140**	P	**Pb**	**06 50 15.3**	**+0.6**
ANX	**Ano Chora**	**1.53**	**140**	P	**Pb**	**06 50 15.1**	**+0.3**
DMLN	**Damoulianata-K**	**1.56**	**189**	P	**Pb**	**06 50 15.2**	**0.0**
VLS	**Valsamata**	**1.61**	**182**	P	**Pn**	**06 50 15.1**	**+0.7**
VLS	**Valsamata**	**1.61**	**182**	P	**Pn**	**06 50 14.9**	**+0.5**
EFP	**Efpalio**	**1.66**	**144**	P	**Pg**	**06 50 17.9**	**-0.5**
PSDA	**Pessada-Kefalo**	**1.67**	**183**	P	**Pn**	**06 50 16.4**	**+1.2**
TIR	**Tirane**	**1.68**	**339**	⇑P	**Pb**	**06 50 17.7**	**+0.4**
TIR				⇓S	**Sg**	**06 50 40.9**	**+0.2**
TIR	**Tirane**	**1.68**	**339**	P	**Pb**	**06 50 17.6**	**+0.4**
	baz=339						
TIR				S	**Sg**	**06 50 45.6**	**+4.9**
	baz=339						
TIR				AMP			
	comp=E,4.4nm,0.8s,baz=339						
TIR	**Tirane**	**1.68**	**339**		**Pb**	**06 50 16.9**	**-0.4**
TIR	**Tirane**	**1.68**	**339**	P	**Pb**	**06 50 17.4**	**+0.2**
TIR	**Tirane**	**1.68**	**339**	*e*Pn	**Pg**	**06 50 18.0**	**-0.9**
TIR	**Tirane**	**1.68**	**339**	P	**Pb**	**06 50 17.5**	**+0.2**
TIR				Pn	**Pb**	**06 50 17.6**	**+0.4**
RTZL	**Ratzakli, Kefa**	**1.71**	**178**	P	**Pb**	**06 50 17.7**	**+0.1**
UPR	**University Cam**	**1.73**	**150**	P	**Pg**	**06 50 19.4**	**-0.4**
KALE	**Kalithea**	**1.80**	**140**	P	**Pb**	**06 50 20.1**	**+0.9**
RLS	**Riolos of Patr**	**1.83**	**160**	P	**Pb**	**06 50 20.2**	**+0.5**
RLS	**Riolos of Patr**	**1.83**	**160**	P	**Pb**	**06 50 19.4**	**-0.3**
AXAR	**Agios Charalam**	**1.84**	**123**	P	**Pb**	**06 50 20.9**	**+0.9**
THE	**Thessaloniki**	**1.95**	**63**	P	**Pn**	**06 50 20.2**	**+1.1**
THE	**Thessaloniki**	**1.95**	**63**	*i* Pn	**Pn**	**06 50 20.2**	**+1.1**
HORT	**Hortiatis**	**2.03**	**66**	P	**Pn**	**06 50 20.9**	**+0.6**
HORT	**Hortiatis**	**2.03**	**66**	P	**Pn**	**06 50 20.8**	**+0.6**
KLV	**Kalavryta, Ach**	**2.08**	**146**	P	**Pb**	**06 50 24.1**	**0.0**
KNT	**Kendrikon**	**2.18**	**50**	P	**Pn**	**06 50 23.2**	**+0.8**
KNT	**Kendrikon**	**2.18**	**50**	*i* Pn	**Pn**	**06 50 23.1**	**+0.8**
PLG	**Polygyros**	**2.20**	**74**	P	**Pn**	**06 50 23.2**	**+0.5**
PLG	**Polygyros**	**2.20**	**74**	P	**Pn**	**06 50 23.2**	**+0.5**
GUR	**Goura**	**2.26**	**144**	P	**Pn**	**06 50 25.7**	**+2.3**
GUR	**Goura**	**2.26**	**144**	P	**Pn**	**06 50 25.5**	**+2.1**
SKO	**Skopje**	**2.26**	**15**	⇓*i*Pn	**Pb**	**06 50 26.1**	**-1.0**
SKO				*i* Sn	**Sb**	**06 50 54.7**	**-0.2**
SOH	**Sokhos**	**2.29**	**62**	P	**Pn**	**06 50 25.6**	**+1.7**
SOH	**Sokhos**	**2.29**	**62**	*i* Pn	**Pn**	**06 50 25.5**	**+1.7**
PAIG	**Paliouri**	**2.32**	**85**	*e*P	**Pn**	**06 50 24.3**	**+0.2**
PAIG	**Paliouri**	**2.32**	**85**	P	**Pn**	**06 50 24.6**	**+0.5**
PUK	**Puka**	**2.33**	**345**	P	**Pn**	**06 50 26.4**	**+1.9**
	baz=346						
PUK				S	**Sb**	**06 50 57.7**	**+0.7**
	baz=346						
PUK	**Puka**	**2.33**	**345**		**Pn**	**06 50 26.2**	**+1.7**
AOS	**Alonnisos**	**2.55**	**103**	P	**Pn**	**06 50 28.8**	**+1.4**
SRS	**Serrai**	**2.59**	**58**	P	**Pn**	**06 50 28.7**	**+0.7**
SRS	**Serrai**	**2.59**	**58**	*e*Pn	**Pn**	**06 50 29.2**	**+1.2**
SRS	**Serrai**	**2.59**	**58**	*i* Pn	**Pn**	**06 50 28.9**	**+0.9**
SRS				*i* Sn	**Sn**	**06 51 00.3**	**+1.1**
OUR	**Ouranopolis**	**2.59**	**77**	*e*P	**Pn**	**06 50 28.3**	**+0.3**
OUR	**Ouranopolis**	**2.59**	**77**	P	**Pn**	**06 50 29.1**	**+1.1**
PEHC	**Pehcevo**	**2.61**	**40**	*i* Pn	**Pn**	**06 50 29.9**	**+1.6**
BCI	**Bajram Curri**	**2.62**	**350**	P	**Pb**	**06 50 31.2**	**-2.0**
	baz=351						
DRME	**Dracevica, Mon**	**2.65**	**335**	*e*Pn	**Pn**	**06 50 30.5**	**+1.7**
DRME	**Dracevica, Mon**	**2.65**	**335**	*e*Pn	**Pn**	**06 50 29.6**	**+0.8**
DRME	**Dracevica, Mon**	**2.65**	**335**	⇑*i*Pn	**Pn**	**06 50 29.7**	**+0.9**
KOKK	**Kokkinochori,**	**2.74**	**67**	P	**Pn**	**06 50 31.0**	**+1.0**
KKB	**Krupnik**	**2.77**	**41**	*i* Pn	**Pn**	**06 50 31.8**	**+1.4**
KKB				*i* Sn	**Sb**	**06 51 07.9**	**-1.7**
ITM	**Ithomi**	**2.78**	**159**		**Pn**	**06 50 32.3**	**+1.8**
BUM	**Brajici-Budva**	**2.85**	**332**	⇓*i*Pn	**Pn**	**06 50 32.4**	**+0.8**
BUM				*i* Sn	**Sn**	**06 51 07.3**	**+1.6**
PDG	**Podgorica**	**2.85**	**338**	Pn	**Pn**	**06 50 32.3**	**+0.8**
PDG	**Podgorica**	**2.85**	**338**	*e*Pn	**Pn**	**06 50 32.6**	**+1.1**
PDG	**Podgorica**	**2.85**	**338**	*e*Pn	**Pn**	**06 50 32.6**	**+1.1**
PDG	**Podgorica**	**2.85**	**338**	⇑*i*Pn	**Pn**	**06 50 32.6**	**+1.1**
PDG				*i* Sn	**Sn**	**06 51 07.5**	**+1.9**
PVY	**Plav**	**2.86**	**349**	⇑*i*Pn	**Pn**	**06 50 32.7**	**+0.9**
PVY				*i* Sn	**Sn**	**06 51 08.0**	**+2.0**
PRVS	**Prvonek**	**2.92**	**21**	*e*Pn	**Pn**	**06 50 34.4**	**+1.9**
BOSS	**Bosilegrad**	**3.03**	**26**	*e*Pn	**Pn**	**06 50 36.0**	**+2.0**
BOSS				*e*Sn	**Sn**	**06 51 11.8**	**+1.7**
CEME	**Cevo**	**3.06**	**335**	⇑*i*Pn	**Pn**	**06 50 35.2**	**+0.7**
CEME				*i* Sn	**Sn**	**06 51 12.2**	**+1.3**
TIP	**Timpagrande**	**3.09**	**260**	⇓P	**Pn**	**06 50 35.1**	**+0.2**
TIP				⇑S	**Sn**	**06 51 10.6**	**-1.0**
TIP	**Timpagrande**	**3.09**	**260**	Pn	**Pn**	**06 50 35.2**	**+0.2**
TIP	**Timpagrande**	**3.09**	**260**	P	Pb	06 50 35.0	-6.3
TIP				Pn	**Pn**	**06 50 34.7**	**-0.2**
IVA	**Berane**	**3.14**	**349**	⇓*i*Pn	**Pn**	**06 50 36.9**	**+1.3**
IVA				*i* Sn	**Sn**	**06 51 14.7**	**+1.8**
MATE	**Matera**	**3.16**	**287**	⇑P	**Pn**	**06 50 36.4**	**+0.6**
KOME	**Kolasin**	**3.19**	**344**	*e*Pn	**Pn**	**06 50 38.6**	**+2.4**
KOME	**Kolasin**	**3.19**	**344**	⇑*i*Pn	**Pn**	**06 50 37.3**	**+1.1**
KOME				*i* Sn	**Sn**	**06 51 15.8**	**+1.8**
NKME	**Niksic**	**3.25**	**337**	⇑*i*Pn	**Pn**	**06 50 37.9**	**+0.8**
NKME				*i* Sn	**Sn**	**06 51 16.9**	**+1.4**
TREB	**Trebinje**	**3.42**	**330**	*e*Pn	**Pn**	**06 50 39.1**	**-0.2**
VTS	**Vitosha**	**3.43**	**33**	*e*Pn	**Pn**	**06 50 41.2**	**+1.6**
SELS	**Selova**	**3.45**	**5**	*e*Pn	**Pn**	**06 50 42.3**	**+2.5**
DBRK	**Dubrovnik**	**3.46**	**327**	*e*Pn	**Pn**	**06 50 39.7**	**-0.2**
BRY	**Bratogost**	**3.51**	**333**	*e*Pn	**Pn**	**06 50 41.0**	**+0.3**
BRY	**Bratogost**	**3.51**	**333**	⇑*i*Pn	**Pn**	**06 50 41.4**	**+0.7**
BRY				*i* Sn	**Sn**	**06 51 22.8**	**+0.9**
SJES	**Sjenica**	**3.52**	**352**	*e*Pn	**Pn**	**06 50 43.5**	**+2.8**
SJES	**Sjenica**	**3.52**	**352**	*e*Pn	**Pn**	**06 50 42.8**	**+2.1**
PLE	**Pljevlja**	**3.67**	**345**	⇑*i*Pn	**Pn**	**06 50 43.8**	**+0.9**
PLE				*i* Sn	**Sn**	**06 51 27.0**	**+1.0**
CUC	**Castrocucco**	**3.75**	**275**	Pn	**Pn**	**06 50 44.8**	**+1.0**
ZAPS	**Zavoj**	**3.78**	**22**	*e*Pn	**Pn**	**06 50 47.0**	**+2.6**
IVAS	**Ivanjica**	**3.81**	**354**	*e*Pn	**Pn**	**06 50 45.9**	**+1.1**
STON	**Ston**	**3.81**	**325**	*e*Pn	**Pn**	**06 50 44.2**	**-0.5**
STON				Sn	**Sn**	**06 51 27.4**	**-1.8**
STON	**Ston**	**3.81**	**325**	*e*Pn	**Pn**	**06 50 44.1**	**-0.6**
BOVS	**Bovan**	**3.92**	**11**	⇑P	**Pn**	**06 50 47.8**	**+1.5**
BOVS	**Bovan**	**3.92**	**11**	*e*Pn	**Pn**	**06 50 48.1**	**+1.8**
RDO	**Rodhopi**	**3.95**	**68**	*e*P	**Pn**	**06 50 47.8**	**+1.2**
RDO	**Rodhopi**	**3.95**	**68**	Pn	**Pn**	**06 50 47.1**	**+0.5**
RUDO	**Rudo**	**3.95**	**346**	*e*Pn	**Pn**	**06 50 47.4**	**+0.7**
CEL	**Celeste**	**4.02**	**249**		**Pn**	**06 50 47.6**	**-0.1**
CEL	**Celeste**	**4.02**	**249**	Pn	**Pn**	**06 50 47.7**	**0.0**
GADA	**Gvkgeada**	**4.03**	**83**	*e*P	**Pn**	**06 50 47.5**	**-0.2**
SIGR	**SIGŘI**	**4.05**	**96**	*e*P	**Pn**	**06 50 47.3**	**-0.6**
GRUS	**Gruza**	**4.10**	**0**	*e*Pn	**Pn**	**06 50 50.4**	**+1.7**
BBLS	**Lazi&#263i**	**4.19**	**347**	*e*Pn	**Pn**	**06 50 51.4**	**+1.4**
BBLS	**Lazi&#263i**	**4.19**	**347**	*e*Pn	**Pn**	**06 50 51.0**	**+1.0**
ZAGS	**Zajecar**	**4.19**	**16**	*e*Pn	**Pn**	**06 50 52.4**	**+2.5**
SGRT	**San Giovanni R**	**4.23**	**299**	Pn	**Pn**	**06 50 51.2**	**+0.7**
ALN	**Alexandroupoli**	**4.25**	**73**	*e*P	**Pn**	**06 50 51.7**	**+1.0**
ALN	**Alexandroupoli**	**4.25**	**73**		**Pn**	**06 50 51.5**	**+0.8**
ENEZ	**Enez**	**4.30**	**75**	*e*P	**Pn**	**06 50 52.2**	**+0.8**
DIVS	**Divibare**	**4.34**	**353**	*e*Pn	**Pn**	**06 50 53.4**	**+1.3**
EZN	**Ezine**	**4.35**	**88**	*e*P	**Pn**	**06 50 51.3**	**-0.8**
CHOS	**Chios island**	**4.41**	**107**	*e*P	**Pn**	**06 50 54.3**	**+1.3**
TRUS	**Trudelj**	**4.44**	**357**	*e*Pn	**Pn**	**06 50 55.0**	**+1.6**
MAKA	**Makarska**	**4.45**	**323**	*e*Pn	**Pn**	**06 50 53.3**	**-0.2**
COMU	**Canakkale**	**4.47**	**84**	*e*P	**Pn**	**06 50 52.5**	**-1.2**
GELI	**Tayfur-Gelibol**	**4.49**	**80**	*e*P	**Pn**	**06 50 54.6**	**+0.6**
HAPS	**Han Pijesak,BI**	**4.49**	**344**	*e*Pn	**Pn**	**06 50 54.7**	**+0.6**
ERIK	**Erikli-Kesan**	**4.55**	**77**	*e*P	**Pn**	**06 50 55.9**	**+1.0**
RICI	**Ricice**	**4.56**	**326**	*e*Pn	**Pn**	**06 50 54.6**	**-0.4**
HVAR	**Hvar**	**4.65**	**318**	*e*Pn	**Pn**	**06 50 55.6**	**-0.6**
APE	**Apeiranthos**	**4.68**	**124**	⇓P	**Pn**	**06 50 58.5**	**+1.8**
KUBS	**Kucevo**	**4.69**	**9**	*e*Pn	**Pn**	**06 50 58.4**	**+1.7**
LPK	**Lapseki**	**4.70**	**81**	*e*P	**Pn**	**06 50 57.5**	**+0.5**
UKOP	**Uzunkopru-Edir**	**4.74**	**72**	*e*P	**Pn**	**06 50 58.9**	**+1.5**
URLA	**Izmir**	**4.82**	**105**	*e*P	**Pn**	**06 50 58.0**	**-0.6**
PAOL	**Paolisi**	**4.83**	**287**	Pn	**Pn**	**06 51 00.5**	**+1.8**
AVAS	**Avala Beograd**	**4.91**	**359**	*e*Pn	**Pn**	**06 51 01.1**	**+1.3**
ELND	**Elena**	**5.02**	**50**	⇑P	**Pn**	**06 51 03.5**	**+2.2**
EDRB	**Edirne**	**5.04**	**64**	*e*P	**Pn**	**06 51 03.5**	**+1.9**
MDVR	**Moldovita**	**5.05**	**8**	⇑P	**Pn**	**06 51 03.7**	**+1.8**
HERR	**Herculane**	**5.25**	**14**	⇓P	**Pn**	**06 51 07.0**	**+2.5**
KIJV	**Kijevo**	**5.29**	**324**	*e*Pn	**Pn**	**06 51 05.2**	**+0.2**
SOMA	**Soma-Manisa**	**5.34**	**95**	*e*P	**Pn**	**06 51 05.3**	**-0.5**
MGRS	**Mrkonjic Grad**	**5.35**	**331**	*e*Pn	**Pn**	**06 51 06.3**	**+0.5**
MRMT	**Marmara Adasi**	**5.36**	**79**	*e*P	**Pn**	**06 51 06.8**	**+0.7**
ZIRJ	**Zirje**	**5.40**	**317**	*e*Pn	**Pn**	**06 51 05.8**	**-0.7**
FRGS	**Fruska Gora**	**5.41**	**353**	*e*Pn	**Pn**	**06 51 07.6**	**+0.9**
FRGS	**Fruska Gora**	**5.41**	**353**	*e*Pn	**Pn**	**06 51 07.1**	**+0.4**
FRGS	**Fruska Gora**	**5.41**	**353**	Pn	**Pn**	**06 51 06.7**	**0.0**
	comp=E,91nm,1.1s,comp=E,936nmcomp=E,0.3nm						
VAE	**Valguarnera**	**5.42**	**247**	Pn	**Pn**	**06 51 08.4**	**+1.5**
	comp=E,6.6nm,0.4s,baz=184,slow=22,SNR=2.0						
VAE				Sn	**Sn**	**06 52 06.3**	**-2.6**
	comp=E,4.2nm,0.3s,baz=339,slow=21,SNR=1.8						
MORI	**Morici**	**5.51**	**319**	*e*Pn	**Pn**	**06 51 08.1**	**0.0**
RAFF	**Raffo Rosso**	**5.57**	**245**	Pn	**Pn**	**06 51 08.1**	**-0.8**
INTR	**Introdacqua**	**5.59**	**296**	Pn	**Pn**	**06 51 10.8**	**+1.5**
BLY	**Banja Luka**	**5.60**	**334**	*e*Pn	**Pn**	**06 51 09.5**	**+0.3**
IDI	**Anoyia**	**5.60**	**142**	Pn	**Pn**	**06 51 10.1**	**+0.8**
IDI	**Anoyia**	**5.60**	**142**	Pn	**Pn**	**06 51 08.8**	**-0.5**
	comp=E,11nm,0.4s,baz=319,slow=13,SNR=14						
IDI				Sn	**Sn**	**06 52 07.8**	**-5.6**
	comp=E,9.2nm,0.3s,baz=154,slow=16,SNR=11						
A050A	**Klekovaca**	**5.62**	**328**	*e*Pn	**Pn**	**06 51 10.5**	**+0.9**
SUSR	**Susurluk-Balik**	**5.70**	**86**	*e*P	**Pn**	**06 51 11.2**	**+0.5**
GZR	**Gura Zlata**	**5.

comp=E,0.8nm,0.3s,baz=149,slow=15,SNR=5.0
DAVOX Sn Sn 06 54 03.5 -11
comp=E,0.2nm,0.3s,baz=142,slow=20,SNR=1.1
DAVOX LR LR 06 56 60.0
comp=E,113nm,20.3s,baz=117,slow=41
comp=E,3.3nm,0.5s
TUE Stuetta 10.63 313 Pn Pn 06 52 18.4 -0.2
TUE Stuetta 10.63 313 Pn Pn 06 52 18.8 +0.3
comp=E,46nm,0.8s
LUBAR Lubar, Ukraine 11.31 24 Pn Pn 06 52 32.0 +4.5
SENIN Lac Senin/Sane 11.78 308 Pn 06 52 35.7 +1.5
RNPP5 Staryi Chortor 12.01 16 Pn Pn 06 52 40.5 +3.4
AK14 Malin Array Si 12.36 26 Pn Pn 06 52 45.3 +3.5
AK12 Malin Array Si 12.38 26 Pn Pn 06 52 46.0 +3.8
AK11 Malin Array Si 12.42 26 Pn Pn 06 52 46.0 +3.3
AK18 Malin Array Si 12.42 26 Pn Pn 06 52 46.1 +3.4
KIEV Kiev 12.45 26 Pn 06 52 44.1 +1.0
KIEV Kiev 12.45 26 P Pn 06 52 46.3 +3.3
comp=E,27nm,1.2s
AK04 Malin Array Si 12.46 26 P Pn 06 52 46.7 +3.5
AK22 Malin Array Si 12.46 25 P Pn 06 52 46.6 +3.4
AKASG Malin Array Be 12.46 26 Pn Pn 06 52 42.8 -0.4
comp=E,0.6nm,0.3s,baz=213,slow=12,SNR=1.9
AKASG LR LR 06 58 54.7
comp=E,93nm,21.4s,baz=214,slow=45
AKBB Malin Array Si 12.46 26 P Pn 06 52 46.3 +3.1
CLL Collm 12.71 338 *e*P **Pn 06 52 47.0 +0.4**
CLL *i* PP **PnPn 06 52 57.9 +3.5**
comp=Z,7.0nm,1.0s
CLL AMS AMS 06 58 00.0
comp=Z,200nm,18.1s
ECH Echery 12.86 315 Pn 06 52 50.7 +1.9
MMAI Mount Meron Ar 13.64 115 Pn **Pn 06 52 57.3 -2.2**
comp=Z,0.8nm,0.3s,baz=320,slow=13,SNR=1.3
MMAI LR LR 06 59 26.3
comp=Z,124nm,20.1s,baz=242,slow=43
comp=Z,0.6nm,0.3s
PLTM Poltava 13.90 40 Pn **Pn 06 53 06.4 +3.6**
QRNJ Al-Qirein 14.15 117 P **P 06 53 17.2 +3.3**
ZFRI Zfri 15.00 123 P **P 06 53 29.8 +6.5**
PRNI Paran 15.02 124 P **P 06 53 23.7 0.0**
MBRI Mt Berech 15.35 126 P **P 06 53 34.0 +6.6**
EIL Elat 15.46 126 Pn **Pn 06 53 22.9 -1.2**
comp=Z,0.6nm,0.3s,baz=353,slow=22,SNR=2.6
EIL Sn Sn 06 55 59.6 -15
comp=Z,0.5nm,0.3s,baz=58,slow=14,SNR=2.0
comp=Z,2.1nm,0.4s
MNK Minsk 15.51 16 *i* P **Pn 06 53 26.5 +2.0**
comp=E,9.0nm,0.8s
MNK *i* P **Pn 06 53 26.5 +2.0**
comp=N,42nm,0.9s
MNK *i* P **Pn 06 53 26.5 +2.0**
comp=Z,41nm,0.8s,baz=201
MNK *i* PP **sP 06 53 33.8 -1.7**
MNK *i* S **Sn 06 56 19.1 +3.2**
MNK *i* SS **S 06 56 34.9 +3.4**
MNK *i* LR LR 06 58 47.9
MNK *i* LRM MLR 06 59 37.6
comp=E,69nm,12.8s
MNK *i* LRM MLR 06 59 38.2
comp=Z,176nm,14.9s
MNK *i* LRM MLR 07 00 28.1
comp=N,105nm,13.1s
NACGM Naroch 15.67 13 *e*P **Pn 06 53 27.7 +1.0**
comp=Z,23nm,0.9s,baz=198
PABE Paberze 15.88 7 Pn **Pn 06 53 29.6 +0.2**
KBZ Khabaz 17.03 69 Pn **Pn 06 53 42.2 -1.8**
comp=Z,0.1nm,0.3s,baz=42,slow=11,SNR=1.5
comp=Z,1.5nm,0.9s
GNI Garni 18.44 81 P **P 06 53 59.4 -2.2**
comp=Z,0.8nm,0.3s,baz=163,slow=4.2,SNR=4.4
GNI LR LR 07 00 31.9
comp=Z,19nm,21.9s,baz=231,slow=35
comp=Z,3.6nm,0.5s
OBN Obninsk 18.66 29 P **P 06 54 00.7 -2.9**
comp=Z,25nm,0.4s,baz=243,slow=16,SNR=3.6
OBN LR LR 07 02 14.8
comp=Z,308nm,18.7s,baz=152,slow=40
ESDC Sonseca Array 18.94 278 P **Pn 06 54 08.0 +0.2**
comp=Z,0.2nm,0.3s,baz=74,slow=11,SNR=12
ESDC LR LR 07 01 13.0
comp=Z,51nm,19.6s,baz=78,slow=36
comp=Z,0.9nm,0.7s
MTSE Matsula 19.05 5 *e*P **P 06 54 08.0 0.0**
HOMB Homborsund 20.09 341 *e*P **P 06 54 19.2 -0.1**
SNART Snartemo 20.49 339 *e*P **P 06 54 24.2 +0.6**
MEF Metsahovi 20.59 5 *e*P **P 06 54 23.4 -1.3**
HFS Hagfors 20.84 350 P **P 06 54 26.2 -1.2**
comp=Z,8.3nm,0.6s,baz=154,slow=11,SNR=47
HFS LR LR 07 03 11.7
comp=Z,70nm,21.2s,baz=164,slow=39
comp=Z,8.3nm,0.6s
KONO Kongsberg 21.08 344 *e*P **P 06 54 29.6 -0.5**
OSL Oslo 21.12 346 *e*P **P 06 54 29.2 -1.3**
RAF Rauma 21.28 1 *e*P **P 06 54 31.1 -1.0**
MDT Midelt 21.49 259 P **P 06 54 34.8 0.0**
comp=Z,2.3nm,0.8s,baz=117,slow=12,SNR=2.6
comp=Z,2.3nm,0.8s
BLS5 Blasjo 21.62 340 *e*P **P 06 54 35.4 -0.5**
NC602 NORSAR Array S 21.73 348 *e*P **P 06 54 35.6 -1.4**
NC602 IAmb IAmb 06 54 36.2
comp=Z,17nm,1.1s
KMY Karmoy 21.77 338 *e*P **P 06 54 36.7 -0.7**
FINES FINESS Array B 21.94 7 P **P 06 54 37.8 -1.5**
comp=Z,7.7nm,0.6s,baz=174,slow=11,SNR=38
FINES LR LR 07 03 50.5
comp=Z,102nm,19.1s,baz=225,slow=39
comp=Z,7.7nm,0.6s
NB2 NORSAR Subarra 22.07 348 P **P 06 54 39.2 -1.6**
comp=Z,12nm,0.9s,baz=165,slow=11
NB2 NORSAR Subarra 22.07 348 P **P 06 54 39.2 -1.6**
baz=165,slow=11
NOA NORSAR Array B 22.07 348 P **P 06 54 39.0 -1.8**
comp=Z,10nm,1.0s,baz=164,slow=11,SNR=35
NOA LR LR 07 03 44.1
comp=Z,68nm,21.8s,baz=175,slow=38
comp=Z,10nm,1.0s
EKA Eskdalemuir Ar 22.21 322 P **P 06 54 41.5 -0.7**
comp=Z,3.3nm,0.6s,baz=122,slow=11,SNR=23
comp=Z,3.3nm,0.6s
BELG Belogornoye 22.39 47 LR LR 07 04 34.0
comp=Z,150nm,19.6s,baz=242,slow=40
KEF Keuruu 22.56 5 *e*P **P 06 54 44.5 -1.4**
ASK Askoy 22.86 340 *e*P **P 06 54 48.1 -0.9**
HYA Hoyanger 23.20 342 *e*P **P 06 54 53.5 +1.0**
VAF Ylistaro 23.32 2 *e*P **P 06 54 53.3 -0.5**
DOMB Dombas 23.39 346 *e*P **P 06 54 53.6 -0.9**
DOMB IAmb IAmb 06 54 56.0
comp=Z,37nm,1.6s
JOF Joensuu 24.03 12 *e*P **P 06 54 59.3 -1.4**
NSS Namsos 25.31 351 IAmb IAmb 06 55 12.7
comp=Z,14nm,1.3s
NSS *e*P **P 06 55 12.8 +0.6**
KIRV Kirov 26.26 35 LR LR 07 06 43.0
comp=Z,173nm,18.1s,baz=236,slow=39
STEI Steigen 28.36 356 *e*P **P 06 55 39.7 +0.1**
KTK1 Kautokeino 29.32 2 *e*P **P 06 55 47.0 -1.2**
KTK1 IAmb IAmb 06 55 56.0
comp=Z,5.8nm,1.0s
ARU Arti 29.79 43 LR LR 07 08 33.5
comp=Z,121nm,18.2s,baz=218,slow=38
ARU Arti 29.79 43 P **P 06 55 56.9 +4.4**
ARCES ARCESS Array B 29.93 3 P **P 06 55 51.4 -2.1**
comp=Z,1.9nm,0.4s,baz=188,slow=12,SNR=5.6
comp=Z,1.9nm,0.4s
VADS Vadso 30.74 6 *e*P **P 06 55 60.0 -0.8**
VADS IAmb IAmb 06 56 00.2
comp=Z,14nm,0.6s
FURI Furi 34.71 148 LR LR 07 11 08.7
comp=Z,50nm,20.4s,baz=41,slow=37
BORG Borgarnes 34.78 330 LR LR 07 13 23.2
comp=Z,36nm,18.5s,baz=171,slow=41
BVAR Borovoye Array 36.01 52 P **P 06 56 46.0 -0.9**
comp=Z,0.7nm,0.6s,baz=240,slow=12,SNR=2.7
comp=Z,0.7nm,0.6s
KKAR Karatay Array 37.06 68 P **P 06 56 55.0 -0.9**
SIMJ Simiganj 37.10 76 P **P 06 56 55.7 -0.8**
CHGR Chuyangaron 37.21 76 P **P 06 56 56.9 -0.4**
SPITS Spitsbergen Ar 38.55 359 P **P 06 57 06.7 -1.3**
comp=Z,3.7nm,0.9s,baz=172,slow=11,SNR=2.8
comp=Z,3.7nm,0.9s
AAK Ala-Archa 40.02 68 LR LR 07 17 09.1
comp=Z,42nm,18.2s,baz=263,slow=41
DBIC Dimbokro 40.16 222 P **P 06 57 21.6 -0.6**
comp=Z,4.5nm,1.0s,baz=182,slow=6.2,SNR=1.5
DBIC LR LR 07 14 26.8
comp=Z,79nm,20.3s,baz=43,slow=37
comp=Z,4.5nm,1.0s
KURBB Kurchatov Arra 41.19 55 P **P 06 57 27.9 -2.4**
comp=Z,0.3nm,0.4s,baz=280,slow=8.6,SNR=7.2
comp=Z,0.3nm,0.4s
KSH Kashi 41.99 72 P **P 06 57 35.6 -1.6**
KSH pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 44.16 60 P **P 06 57 53.2 -1.3**
MAKZ IAmb IAmb 06 57 54.5
comp=Z,5.6nm,0.8s
MK31 Makanchi Array 44.37 60 P **P 06 57 54.7 -1.6**
MKAR Makanchi Array 44.37 60 P **P 06 57 55.1 -1.1**
comp=Z,6.9nm,0.5s,baz=276,slow=7.5,SNR=76
MKAR LR LR 07 18 52.4
comp=Z,42nm,19.3s,baz=246,slow=40
comp=Z,6.9nm,0.5s
ZAA0 Zalesovo Array 44.54 49 P **P 06 57 56.2 -1.3**
ZAA0 IAmb IAmb 06 57 56.4
comp=Z,3.7nm,0.6s
ZALV Zalesovo Beam 44.54 49 P **P 06 57 56.0 -1.4**
comp=Z,3.7nm,0.4s,baz=273,slow=8.0,SNR=15
ZALV LR LR 07 18 30.6
comp=Z,72nm,18.1s,baz=184,slow=39
comp=Z,3.7nm,0.4s
NRIK Noril'sk 45.31 27 P **P 06 58 03.4 0.0**
comp=Z,2.5nm,0.5s,baz=226,slow=4.3,SNR=4.3
comp=Z,2.5nm,0.5s
SONM Songino Array 59.35 51 P **P 06 59 46.6 -1.4**
comp=Z,3.1nm,1.0s,baz=292,slow=7.8,SNR=16
comp=Z,3.1nm,1.0s
ULN Ulaanbaatar 59.73 51 P **P 06 59 49.8 -1.0**
ULN IAmb IAmb 06 59 50.7
comp=Z,3.1nm,0.9s
LZH Lanzhou 63.38 64 *e*P **P 07 00 14.8 -0.8**
LZH pP pP 07 00 19.3 -1.3
LZH pmax pmax
comp=Z,29nm,0.9s
HHC Hu-ho-hao-te 66.03 56 *e*P **P 07 00 31.3 -1.4**
HHC sP sP 07 00 39.3 -0.4
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,87nm,4.5s
BOSA Boshof 68.18 176 P **P 07 00 46.1 -0.1**
comp=Z,1.4nm,0.7s,baz=0.0,slow=10,SNR=1.7
comp=Z,1.4nm,0.7s
KMI Kunming 68.56 75 ⇑P **P 07 00 51.5 +2.4**
KMI pmax pmax
comp=Z,16nm,0.6s
YKA Yellowknife Ar 71.92 340 P **P 07 01 08.1 -0.7**
comp=Z,0.8nm,0.8s,baz=24,slow=5.4,SNR=4.0
comp=Z,0.8nm,0.8s
I30M Mount Dempster 73.80 350 P **P 07 01 18.9 -1.2**
MDP Montagnes des 73.94 263 LR LR 07 34 02.7
comp=Z,20nm,18.1s,baz=140,slow=36
J30M Hart River 74.41 350 P **P 07 01 22.6 -1.0**
J30M IAmb IAmb 07 01 24.7
comp=Z,4.9nm,1.1s
ULM Lac du Bonnet 74.48 323 P **P 07 01 23.0 -1.1**
comp=Z,2.9nm,0.9s,baz=22,slow=5.8,SNR=4.3
comp=Z,2.9nm,0.9s
H21K Melozitna Rive 74.77 357 IAmb IAmb 07 01 37.0
comp=Z,4.1nm,1.1s
DAWY Dawson 75.29 351 P **P 07 01 28.9 +0.2**
ILAR Eielson Array 75.32 355 P **P 07 01 28.2 -0.6**
comp=Z,0.5nm,0.7s,baz=348,slow=3.8,SNR=4.4
comp=Z,0.5nm,0.7s
K27K Chicken 75.63 352 IAmb IAmb 07 01 31.9
comp=Z,4.2nm,1.1s
HDA Harding Lake 75.69 354 IAmb IAmb 07 01 31.1
comp=Z,3.2nm,0.9s
FARO Faro, Yukon 76.19 348 IAmb IAmb 07 01 35.6
comp=Z,5.0nm,1.3s
DHY Denali Highway 77.04 354 IAmb IAmb 07 01 52.3
comp=Z,4.2nm,0.9s
KSRS Korea Array 78.22 51 P **P 07 01 44.1 -1.4**
comp=Z,2.6nm,0.6s,baz=310,slow=5.2,SNR=10
comp=Z,2.6nm,0.6s
L19K White Mountain 78.32 358 IAmb IAmb 07 01 46.8
comp=Z,2.9nm,0.8s
L18K Granite Mounta 78.32 359 P **P 07 01 46.1 +0.5**
L18K IAmb IAmb 07 02 13.5
comp=Z,4.2nm,1.1s
SKT Skwentna 78.39 356 P **P 07 01 45.3 -0.8**
SKT IAmb IAmb 07 02 01.8
comp=Z,6.0nm,1.5s
BDFB Brasilia 84.32 244 P **P 07 02 18.9 +0.6**
comp=Z,1.2nm,0.6s,baz=98,slow=7.1,SNR=1.7
comp=Z,1.2nm,0.6s
MJAR Matsushiro Arr 84.78 46 P **P 07 02 19.4 -0.9**
comp=Z,2.6nm,0.5s,baz=330,slow=5.5,SNR=5.2
comp=Z,2.6nm,0.5s
PDAR Pinedale Array 86.29 326 P **P 07 02 27.4 -0.6**
comp=Z,0.2nm,0.6s,baz=81,slow=5.6,SNR=2.5
comp=Z,0.2nm,0.6s
TXAR Lajitas Array 93.95 314 P **P 07 03 03.6 -0.5**
comp=Z,0.7nm,0.9s,baz=59,slow=3.3,SNR=7.3
comp=Z,0.7nm,0.9s
WRA Warramunga Arr 120.47 91 PKP **PKPdf 07 08 35.0 -2.7**
comp=Z,0.4nm,0.7s,baz=334,slow=1.5,SNR=4.8
ASAR Alice Springs 122.21 95 PKP **PKPdf 07 08 39.0 -2.0**
comp=Z,1.1nm,0.7s,baz=308,slow=1.7,SNR=10

IDC ***18*** *06:54:18.5±1.8, 39.°76N×20.°73E, h0km, mb3.6/7, mbtmp3.6/10, ML3.9/2, Error ellipse: s-maj=27.8km s-min=24.5km az=10.0*
TIR ***18*** *06:54:22.8, 39.°81N×20.°64E, h21km±5km, Ml3.5*
ATH ***18*** *06:54:22.9, 39.°84N×20.°60E, h15km±1km, ML3.4/18, Error ellipse: s-maj=2.3km s-min=1.4km az=334.0*
BEO ***18*** *06:54:23.0±0.6, 39.°66N×20.°76E, h16km±4km, ML3.3/10*
THE ***18*** *06:54:23.1, 39.°79N×20.°71E, h0km±1km, ML3.4/21, Error ellipse: s-maj=1.7km s-min=0.6km az=308.0*
NAO ***18*** *06:54:28.6, 39.°97N×18.°57E, h33km, mb3.6*
ISC 18 06:54:22.9±0.8, 39.°79N±0.°02×20.°66E±0.°02, h24km±6km, n108, σ1°62/148, mb3.6/6, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JAN	**Janina**	**0.20**	**132**	P		**Pb**	**06 54 29.4**	**+0.9**
JAN				S		**Sb**	**06 54 33.2**	**+1.0**
JAN				AML		AML	06 54 33.4	
JAN				AML		AML	06 54 33.8	
comp=N,93084μm,0.2s								
IGT	**Igoumenitsa**	**0.36**	**225**	P		**Pb**	**06 54 30.2**	**-0.6**
baz=221								
IGT				S		**Sb**	**06 54 36.8**	**+0.6**
baz=221								
IGT	**Igoumenitsa**	**0.36**	**225**	P		**Pb**	**06 54 30.0**	**-0.8**
IGT				S		**Sb**	**06 54 36.7**	**+0.5**
comp=N,9μm,0.3s								
IGT	**Igoumenitsa**	**0.36**	**225**	*e*Pg		**Pb**	**06 54 30.0**	**-0.8**
IGT				*e*Sg		**Sb**	**06 54 37.3**	**+1.1**
IGT	**Igoumenitsa**	**0.36**	**225**	P		**Pb**	**06 54 29.9**	**-0.9**
IGT				S		**Sb**	**06 54 35.2**	**-0.9**
IGT				AML		AML	06 54 38.6	
comp=E,15438μm,0.3s								
IGT				AML		AML	06 54 39.0	
comp=N,18616μm,0.3s								
LSK	**Leskovik**	**0.36**	**353**	P		**Pb**	**06 54 30.3**	**-0.7**
baz=356								
LSK				S		**Sb**	**06 54 36.3**	**0.0**
baz=356								
LSK				AMP				
comp=E,38nm,0.7s,baz=356								
LSK	**Leskovik**	**0.36**	**353**	P		**Pb**	**06 54 30.2**	**-0.7**
LSK				S		**Sb**	**06 54 36.8**	**+0.5**
comp=E,8μm,0.8s								
SRN	**Sarande**	**0.52**	**280**	P		**Pb**	**06 54 32.9**	**-0.5**
baz=279								
SRN				S		**Sn**	**06 54 41.4**	**-1.5**
baz=279								
SRN				AMP				
comp=E,11nm,0.5s,baz=279								
SRN	**Sarande**	**0.52**	**280**	P		**Pb**	**06 54 32.9**	**-0.5**
SRN				S		**Sn**	**06 54 42.1**	**-0.8**
comp=E,3μm,0.5s								
PENT	**Pentalofos**	**0.55**	**42**	P		**Pb**	**06 54 33.1**	**-0.9**
PENT	**Pentalofos**	**0.55**	**42**	P		**Pb**	**06 54 33.0**	**-0.9**
KASA	**Kassiopi**	**0.56**	**266**	P		**Pb**	**06 54 33.5**	**-0.6**
KASA				S		**Sb**	**06 54 40.7**	**-1.0**
KPRO	**Kipourio**	**0.56**	**73**	P		**Pb**	**06 54 33.2**	**-1.0**
KPRO				S		**Sb**	**06 54 41.3**	**-0.6**
comp=E,8μm,0.7s								
KPRO	**Kipourio**	**0.56**	**73**	P		**Pb**	**06 54 33.2**	**-1.0**
KPRO				S		**Sb**	**06 54 42.7**	**+0.8**
KPRO				AML		AML	06 54 43.4	
comp=N,14982μm,0.6s								
KPRO				AML		AML	06 54 45.9	
comp=E,16860μm,0.8s								
NEST	**Nestorio**	**0.69**	**25**	P		**Pb**	**06 54 35.8**	**-0.6**
NEST	**Nestorio**	**0.69**	**25**	P		**Pb**	**06 54 36.0**	**-0.4**
NEST				AML		AML	06 54 52.2	
comp=N,4367μm,0.5s								
NEST				AML		AML	06 54 52.4	
comp=E,4331μm,0.6s								
KBN	**Korca**	**0.84**	**7**	P		**Pb**	**06 54 38.9**	**0.0**
baz=8.0								
KBN				S		**Sb**	**06 54 49.8**	**0.0**
baz=8.0								
TSLK	**Tsoukalades, L**	**0.96**	**180**	P		**Pb**	**06 54 40.6**	**-0.4**
TSLK				S		**Sn**	**06 54 54.6**	**+0.6**
comp=E,2μm,0.6s								
TSLK	**Tsoukalades, L**	**0.96**	**180**	P		**Pb**	**06 54 40.5**	**-0.5**
LKD2	**Lefkada island**	**1.00**	**180**	P		**Pn**	**06 54 41.9**	**+0.4**
baz=178								
LKD2				S		**Sn**	**06 54 58.0**	**+3.1**
baz=178								
LKD2				AMP				
comp=E,5.1nm,0.2s,baz=178								
LKD2	**Lefkada island**	**1.00**	**180**	P		**Pb**	**06 54 41.5**	**-0.1**
LKD2				S		**Sn**	**06 54 57.1**	**+2.2**
comp=E,2μm,0.5s								
LKD2	**Lefkada island**	**1.00**	**180**	P		**Pb**	**06 54 41.6**	**0.0**
THL	**Klokotos Trika**	**1.07**	**102**	P		**Pn**	**06 54 41.1**	**-1.3**
THL				S		**Sn**	**06 54 57.5**	**+1.0**
comp=E,908nm,0.7s								
THL	**Klokotos Trika**	**1.07**	**102**	P		**Pn**	**06 54 41.3**	**-1.1**
THL				AML		AML	06 55 01.2	
comp=E,1794μm,0.4s								
THL				AML		AML	06 55 05.4	
comp=N,1757μm,0.7s								
NYDR	**Nydri-Lefkada**	**1.08**	**178**	P		**Pb**	**06 54 43.0**	**+0.2**
NYDR				S		**Sn**	**06 54 59.6**	**+2.9**
comp=N,2μm,0.4s								
NYDR	**Nydri-Lefkada**	**1.08**	**178**	P		**Pn**	**06 54 42.2**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.11**	**184**	P		**Pb**	**06 54 43.8**	**+0.4**
VLO	**Vlora**	**1.12**	**308**	P		**Pb**	**06 54 46.6**	**+2.9**
baz=308								
VLO				S		**Sn**	**06 55 02.2**	**+4.4**
baz=308								
FNA	**Florina**	**1.13**	**29**	P		**Pb**	**06 54 44.1**	**+0.2**
baz=30								
FNA				S		**Sn**	**06 55 01.4**	**+3.2**
baz=30								
FNA	**Florina**	**1.13**	**29**	P		**Pb**	**06 54 43.8**	**-0.1**
FNA				S		**Sn**	**06 55 01.1**	**+2.8**
comp=N,4μm,0.6s								
FNA	**Florina**	**1.13**	**29**	*e*Pg		**Pb**	**06 54 44.1**	**+0.2**
FNA				*e*Sg		**Sn**	**06 55 02.3**	**+4.0**
FNA	**Florina**	**1.13**	**29**	P		**Pb**	**06 54 43.8**	**-0.1**
FNA				AML		AML	06 55 03.6	
comp=N,7377μm,0.7s								
FNA				AML		AML	06 55 04.1	
comp=E,8062μm,0.5s								
EVGI	**Lefkada island**	**1.17**	**180**	P		**Pn**	**06 54 44.3**	**+0.4**
EVGI				S		**Sn**	**06 55 02.0**	**+3.0**
comp=E,2μm,0.4s								
EVGI	**Lefkada island**	**1.17**	**180**	P		**Pn**	**06 54 44.2**	**+0.4**
TYRN	**Tyrnavos**	**1.21**	**93**	P		**Pn**	**06 54 44.2**	**-0.2**
TYRN				S		**Sn**	**06 55 01.9**	**+1.8**
comp=E,2μm,0.7s								
TYRN	**Tyrnavos**	**1.21**	**93**	P		**Pn**	**06 54 43.9**	**-0.5**
EVR	**Evrytania**	**1.25**	**134**	P		**Pb**	**06 54 46.7**	**+0.9**
EVR				S		**Sb**	**06 55 04.2**	**+2.7**
EVR	**Evrytania**	**1.25**	**134**	P		**Pn**	**06 54 45.5**	**+0.5**
EVR				AML		AML	06 55 10.7	
comp=E,2789μm,0.8s								
EVR				AML		AML	06 55 12.2	
comp=N,2355μm,0.8s								
OHR	**Ohrid**	**1.32**	**5**	*i* Pn		**Pb**	**06 54 48.4**	**+1.2**
OHR				*i* Sn		**Sb**	**06 55 10.1**	**+6.4**
FSK	**Fiskardo**	**1.33**	**183**	P		**Pb**	**06 54 48.0**	**+0.8**
FSK				S		**Sb**	**06 55 06.9**	**+3.1**
comp=N,1μm,0.5s								
FSK	**Fiskardo**	**1.33**	**183**	P		**Pn**	**06 54 46.5**	**+0.5**
FSK				AML		AML	06 55 07.4	
comp=N,2120μm,0.6s								
FSK				AML		AML	06 55 09.1	
comp=E,3455μm,0.4s								
PVO	**Paravola**	**1.35**	**150**	P		**Pb**	**06 54 47.7**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.38**	**124**	P		**Pb**	**06 54 48.1**	**+0.1**
MAKR				S		**Sb**	**06 55 07.8**	**+2.6**
comp=E,3μm,0.6s								
MAKR	**Makrakomi, Fth**	**1.38**	**124**	P		**Pb**	**06 54 47.9**	**-0.1**
MAKR				AML		AML	06 55 13.7	
comp=N,4701μm,0.6s								
MAKR				AML		AML	06 55 18.2	
comp=E,6045μm,0.4s								
LIT	**Litokhoron**	**1.44**	**77**	P		**Pb**	**06 54 48.6**	**-0.5**
LIT				S		**Sb**	**06 55 08.1**	**+1.1**
comp=E,2μm,0.6s								
AGG	**Agios Georgios**	**1.50**	**120**	P		**Pb**	**06 54 49.8**	**-0.4**
AGG				S		**Sb**	**06 55 10.5**	**+1.7**
comp=E,1μm,0.9s								
AGG	**Agios Georgios**	**1.50**	**120**	P		**Pb**	**06 54 49.7**	**-0.4**
AGG				AML		AML	06 55 14.6	
comp=N,3508μm,0.4s								
AGG				AML		AML	06 55 17.2	
comp=E,2892μm,0.4s								
ANX	**Ano Chora**	**1.54**	**140**	P		**Pb**	**06 54 51.2**	**+0.3**
ANX				S		**Sb**	**06 55 13.2**	**+3.1**
comp=E,932nm,0.6s								
ANX	**Ano Chora**	**1.54**	**140**	P		**Pb**	**06 54 50.9**	**0.0**
ANX				AML		AML	06 55 22.4	
comp=E,1634μm,0.5s								
ANX				AML		AML	06 55 25.3	
comp=N,2221μm,0.7s								
DMLN	**Damoulianata-K**	**1.57**	**188**	P		**Pb**	**06 54 52.3**	**+1.1**
DMLN				S		**Sb**	**06 55 12.1**	**+1.5**
comp=N,1μm,0.4s								
VLS	**Valsamata**	**1.61**	**182**	P		**Pb**	**06 54 52.5**	**+0.5**
VLS	**Valsamata**	**1.61**	**182**	P		**Pn**	**06 54 50.7**	**+0.7**
VLS				AML		AML	06 55 17.9	
comp=E,2139μm,0.5s								
VLS				AML		AML	06 55 18.9	
comp=N,2188μm,0.5s								
TIR	**Tirane**	**1.67**	**339**	P		**Pb**	**06 54 53.7**	**+0.7**
baz=340								
TIR	**Tirane**	**1.67**	**339**	*e*Pn		**Pb**	**06 54 54.3**	**+1.3**
EFP	**Efpalio**	**1.67**	**144**	P		**Pb**	**06 54 53.5**	**+0.5**
EFP	**Efpalio**	**1.67**	**144**	P		**Pb**	**06 54 52.5**	**-0.5**
EFP				AML		AML	06 55 24.3	
comp=E,2214μm,0.7s								
EFP				AML		AML	06 55 26.0	
comp=N,1663μm,0.7s								
KALE	**Kalithea**	**1.81**	**140**	P		**Pb**	**06 54 55.7**	**+0.3**
KALE	**Kalithea**	**1.81**	**140**	P		**Pb**	**06 54 55.0**	**-0.4**
KALE				AML		AML	06 55 31.5	
comp=E,1234μm,0.9s								
KALE				AML		AML	06 55 42.6	
comp=N,1114μm,0.7s								
RLS	**Riolos of Patr**	**1.84**	**160**	P		**Pb**	**06 54 55.0**	**-0.9**
RLS				AML		AML	06 55 38.8	
comp=E,625μm,0.5s								
RLS				AML		AML	06 55 42.9	
comp=N,607μm,0.7s								
HORT	**Hortiatis**	**2.03**	**66**	P		**Pn**	**06 54 56.9**	**+1.1**
HORT				S		**Sb**	**06 55 23.6**	**-0.6**
comp=N,222nm,0.4s								
HORT	**Hortiatis**	**2.03**	**66**	P		**Pn**	**06 54 56.9**	**+1.1**
HORT				AML		AML	06 55 28.4	
comp=N,384μm,0.4s								
HORT				AML		AML	06 55 28.5	
comp=E,505μm,0.5s								
KLV	**Kalavryta, Ach**	**2.10**	**146**	P		**Pb**	**06 54 58.9**	**-1.4**
KLV				AML		AML	06 55 42.1	
comp=N,594μm,1.2s								
KLV				AML		AML	06 55 46.3	
comp=E,407μm,0.7s								
PLG	**Polygyros**	**2.21**	**74**	P		**Pn**	**06 55 00.3**	**+2.1**
PLG				S		**Sb**	**06 55 28.4**	**-0.9**
comp=E,368nm,0.5s								
SKO	**Skopje**	**2.26**	**15**	*i* Pn		**Pb**	**06 55 02.2**	**-0.8**
GUR	**Goura**	**2.27**	**144**	P		**Pn**	**06 55 01.2**	**+2.1**
GUR				AML		AML	06 55 41.3	
comp=E,1016μm,0.5s								
GUR				AML		AML	06 55 49.9	
comp=N,858μm,0.4s								
SOH	**Sokhos**	**2.30**	**63**	P		**Pn**	**06 55 01.4**	**+1.9**
SOH				S		**Sb**	**06 55 30.2**	**-1.6**
comp=N,305nm,0.7s								

SRS	**Serrai**	**2.60**	**58**	*e*Pn	**Pn**	**06 55 04.0**	**+0.5**
BCI	**Bajram Curri**	**2.61**	**350**	P	**Pb**	**06 55 07.4**	**-1.6**
	baz=351						
PEHC	**Pehcevo**	**2.61**	**40**	*i* Pn	**Pn**	**06 55 05.7**	**+1.9**
PEHC				*i* Sn	**Sb**	**06 55 39.8**	**-1.0**
DRME	**Dracevica, Mon**	**2.64**	**335**	*e*Pn	**Pn**	**06 55 06.3**	**+2.2**
KOKK	**Kokkinochori,**	**2.75**	**67**	P	**Pn**	**06 55 07.2**	**+1.6**
KOKK				S	**Sn**	**06 55 40.8**	**+2.7**
	comp=N,65nm,0.9s						
PRVS	**Prvonek**	**2.92**	**21**	*e*Pn	**Pn**	**06 55 10.3**	**+2.4**
NOCI	**Noci**	**2.93**	**291**	P	**Pn**	**06 55 09.3**	**+1.3**
	baz=291						
BOSS	**Bosilegrad**	**3.03**	**26**	*e*Pn	**Pn**	**06 55 12.3**	**+2.8**
KOME	**Kolasin**	**3.18**	**345**	*e*Pn	**Pb**	**06 55 15.7**	**-3.0**
VTS	**Vitosha**	**3.43**	**34**	*e*Pn	**Pn**	**06 55 16.9**	**+1.9**
SELS	**Selova**	**3.44**	**6**	*e*Pn	**Pn**	**06 55 18.4**	**+3.3**
DBRK	**Dubrovnik**	**3.44**	**327**	*e*Pn	**Pn**	**06 55 15.4**	**+0.3**
SJES	**Sjenica**	**3.51**	**352**	*e*Pn	**Pn**	**06 55 19.2**	**+3.1**
ZAPS	**Zavoj**	**3.78**	**22**	*e*Pn	**Pn**	**06 55 22.8**	**+3.0**
STON	**Ston**	**3.80**	**325**	*e*Pn	**Pn**	**06 55 20.2**	**+0.2**
STON				Sn	**Sn**	**06 56 01.8**	**-2.1**
IVAS	**Ivanjica**	**3.80**	**354**	*e*Pn	**Pn**	**06 55 22.0**	**+1.9**
BOVS	**Bovan**	**3.92**	**11**	*e*Pn	**Pn**	**06 55 24.1**	**+2.4**
GRUS	**Gruza**	**4.09**	**1**	*e*Pn	**Pn**	**06 55 26.1**	**+2.0**
ZAGS	**Zajecar**	**4.19**	**16**	*e*Pn	**Pn**	**06 55 28.3**	**+3.0**
SGRT	**San Giovanni R**	**4.22**	**299**	P	**Pn**	**06 55 27.2**	**+1.4**
	baz=300						
DIVS	**Divibare**	**4.33**	**354**	*e*Pn	**Pn**	**06 55 28.6**	**+1.2**
TRUS	**Trudelj**	**4.43**	**358**	*e*Pn	**Pn**	**06 55 30.7**	**+2.0**
MAKA	**Makarska**	**4.44**	**323**	*e*Pn	**Pn**	**06 55 29.6**	**+0.9**
RICI	**Ricice**	**4.55**	**326**	*e*Pn	**Pn**	**06 55 29.9**	**-0.4**
RICI				Sn	**Sn**	**06 56 21.0**	**-1.4**
HVAR	**Hvar**	**4.63**	**318**	*e*Pn	**Pn**	**06 55 31.6**	**+0.2**
KIJV	**Kijevo**	**5.27**	**324**	*e*Pn	**Pn**	**06 55 41.2**	**+1.0**
ZIRJ	**Zirje**	**5.38**	**317**	*e*Pn	**Pn**	**06 55 42.4**	**+0.6**
MORI	**Morici**	**5.50**	**319**	*e*Pn	**Pn**	**06 55 43.9**	**+0.6**
IDI	**Anoyia**	**5.61**	**142**	Pn	**Pn**	**06 55 43.5**	**-1.5**
	comp=N,6.7nm,0.6s,baz=32,slow=16,SNR=1.4						
IDI				Sn	**Sn**	**06 56 45.7**	**-3.0**
	comp=N,0.9nm,0.3s,baz=198,slow=16,SNR=1.1						
DUGI	**Dugi Otok**	**5.92**	**317**	*e*Pn	**Pn**	**06 55 50.2**	**+1.0**
UDBI	**Udbina**	**5.97**	**324**	*e*Pn	**Pn**	**06 55 51.4**	**+1.5**
NVLJ	**Novalja**	**6.42**	**320**	*e*Pn	**Pn**	**06 55 56.4**	**+0.4**
MLR	**Muntele Rosu**	**6.90**	**33**	Pn	**Pn**	**06 56 03.0**	**+0.3**
	comp=N,0.3nm,0.3s,baz=270,slow=24,SNR=7.1						
	comp=N,1.0nm,0.4s						
ESDC	**Sonseca Array**	**18.93**	**278**	P	**P**	**06 58 41.7**	**-0.4**
	comp=N,0.2nm,0.3s,baz=68,slow=10,SNR=2.4						
	comp=N,0.1nm,0.3s						
HFS	**Hagfors**	**20.83**	**350**	P	**P**	**06 59 01.9**	**-0.6**
	comp=N,2.0nm,0.6s,baz=163,slow=11,SNR=10.0						
	comp=N,2.0nm,0.6s						
FINES	**FINESS Array B**	**21.94**	**7**	P	**P**	**06 59 13.6**	**-0.8**
	comp=N,1.3nm,0.4s,baz=167,slow=12,SNR=12						
	comp=N,1.3nm,0.4s						
NB2	**NORSAR Subarra**	**22.06**	**348**	P	**P**	**06 59 15.0**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=164,slow=11						
NOA	**NORSAR Array B**	**22.06**	**348**	P	**P**	**06 59 15.4**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=165,slow=10,SNR=5.6						
	comp=Z,0.6nm,0.6s						
EKA	**Eskdalemuir Ar**	**22.20**	**322**	P	**P**	**06 59 17.2**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=116,slow=9.4,SNR=3.8						
	comp=Z,0.6nm,0.6s						
ARCES	**ARCESS Array B**	**29.92**	**3**	P	**P**	**07 00 26.9**	**-1.7**
	comp=Z,1.0nm,0.4s,baz=191,slow=9.2,SNR=1.6						
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**44.55**	**49**	P	**P**	**07 02 31.1**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=284,slow=8.3,SNR=3.2						
	comp=Z,1.2nm,0.3s						
SONM	**Songino Array**	**59.36**	**51**	P	**P**	**07 04 21.7**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=316,slow=6.0,SNR=2.1						
	comp=Z,0.2nm,0.4s						

SKHL ***18*** *07:15:16.8±0.1, 45°.20N×150°.20E, h40km±9km, mb4.5/3*
JMA 18 07:15:17.4±1.1, 45°N±5°×15°0E±°, h30km, MV4.4/10,
KURILE ISLANDS REGION, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.57**	**270**	*e*P	Pn	07 15 42.7	-0.6
KUR				AMB	AMB	07 15 44.0	
	70nm,0.3s						
KUR				*e*S	Sn	07 16 02.2	-0.4
KUR				A	A	07 16 05.1	
	680nm,0.4s						
KUR				A	A	07 16 05.1	
	400nm,0.4s						
SHO	**Shikotan**	**2.72**	**240**	*i* P	Pn	07 15 58.3	-0.7
SHO				AMB	AMB	07 16 00.9	
	60nm,0.2s						
SHO				*e*S	Sn	07 16 29.4	-1.5
SHO				A	A	07 16 31.1	
	170nm,0.3s						
SHO				A	A	07 16 31.1	
	130nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.26**	**249**	*i* P	Pn	07 16 06.6	+0.1
YUK				AMB	AMB	07 16 08.3	
	100nm,0.3s						
YUK				*e*S	Sn	07 16 43.4	-0.9
YUK				A	A	07 16 48.3	
	340nm,0.8s						
YUK				A	A	07 16 48.3	
	190nm,0.8s						
NEM2	**Nemuro 2**	**3.66**	**240**	*e*P	Pn	07 16 11.1	-0.8
NEM2				*e*S	Sn	07 16 50.5	-3.5
JRA	**Rausu**	**3.79**	**251**	*e*P	Pn	07 16 15.6	+1.9
JNK	**Nakash**	**4.20**	**248**	*e*P	Pn	07 16 20.4	+1.0
JAK	**Akkeshi**	**4.50**	**242**	*e*P	Pn	07 16 22.8	-0.7
JTKR	**Abashiri--Toko**	**4.60**	**256**	*e*P	Pn	07 16 26.9	+2.0
JAR	**Ashorobuto**	**4.95**	**249**	P	Pn	07 16 31.3	+1.6
JOB	**Onbets**	**5.09**	**245**	*e*P	Pn	07 16 32.1	+0.5
JOB				*e*S	Sn	07 17 29.0	-0.4
JCH	**Churui**	**5.54**	**244**	*e*P	Pn	07 16 37.4	-0.3
JCH				*e*S	Sn	07 17 37.5	-2.8
JNBK	**Urakawa-nobuka**	**6.09**	**243**	*e*P	Pn	07 16 44.5	-1.0

DRS ***18*** *07:24:34.6, 43°.03N×44°.72E, h54km*
NORS ***18*** *07:24:35.9, 43°.08N×44°.78E, h10km, MPVA3.7*
MOS 18 07:24:35.1, 43°.11N×44°.78E, h9km, MPVA3.7, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMGR	**Komgaron**	**0.08**	**129**	*i* Pg	Pg	07 24 38.6	+1.2
KMGR				*e*Sg	Sg	07 24 40.2	+1.2
VLKR	**Vladikavkaz**	**0.10**	**231**	*i* Pg	Pg	07 24 39.2	+1.7
VLKR				*e*Sg	Sg	07 24 42.6	+3.3
BTKR	**Batakoyurt**	**0.32**	**327**	*e*Pg	Pb	07 24 42.6	-0.4
BTKR				*e*Sg	Sb	07 24 47.9	-0.4
ARNR	**Ardon**	**0.37**	**281**	*e*Pg	Pb	07 24 44.9	+1.0
ARNR				*e*Sg	Sb	07 24 48.7	-1.1
LACR	**Lac**	**0.45**	**232**	*e*Pg	Pb	07 24 46.4	+1.0
LACR				*e*Sg	Sb	07 24 54.3	+2.0
KORR	**Kora**	**0.52**	**268**	*e*Pg	Pn	07 24 48.5	-0.3
KORR				*e*Sg	Sn	07 24 56.7	-1.1
STDR	**Stavd-Durt**	**0.58**	**297**	*e*Pg	Pn	07 24 49.4	-0.3
STDR				*e*Sg	Sb	07 24 56.2	+0.3
TRKR	**Terskaya**	**0.62**	**357**	*e*Pg	Pb	07 24 48.5	+0.4
TRKR				*e*Sg	Sb	07 24 57.7	+0.9
GUDG	**Gudauri**	**0.68**	**199**	*e*Pg	Pn	07 24 50.3	-0.9
GUDG				*e*Sg	Sb	07 24 59.8	+0.8
LSNR	**Lesken**	**0.72**	**284**	*e*Pg	Pb	07 24 50.7	+0.8
LSNR				*e*Sg	Sn	07 25 02.2	-0.5
PRTR	**Priterechnaya**	**0.74**	**331**	*e*Pg	Pb	07 24 50.6	+0.5
PRTR				*e*Sg	Sn	07 25 03.7	+0.5
GROC	**Groznyy**	**0.75**	**82**	*e*Pg	Pn	07 24 53.0	+1.1
GROC				*e*Sg	Sn	07 25 03.9	+0.5
BTLR	**Botlikh**	**1.15**	**112**	*e*Pg	Pn	07 24 58.9	+1.5
BTLR				*e*Sg	Sn	07 25 15.4	+2.0
KBTC	**Kuba-Taba**	**1.22**	**306**	*e*Pg	Pg	07 24 59.3	+0.7
KBTC				*e*Sg	Sn	07 25 18.2	+3.0
DLMR	**Dylym**	**1.36**	**91**	*e*Pg	Pg	07 25 01.8	+0.7
DLMR				*e*Sg	Sg	07 25 21.7	+3.0
DBC	**Dubki**	**1.50**	**93**	*e*Pg	Pg	07 25 03.9	-0.1
DBC				*e*Sg	Sg	07 25 26.1	+2.6
KBZ	**Khabaz**	**1.50**	**295**	*e*Pg	Pb	07 25 03.3	+0.1
KBZ				*i* Sg	Sg	07 25 24.4	+0.9
UNCR	**Uncukul**	**1.53**	**104**	*e*Pg	Pg	07 25 04.4	0.0
UNCR				*e*Sg	Sg	07 25 26.4	+2.1
PYA1	**Pyatigorsk**	**1.55**	**309**	*e*Pg	Pb	07 25 04.1	0.0
PYA1				*e*Sg	Sg	07 25 25.2	+0.2
KRNR	**Karanay**	**1.59**	**99**	*e*Pg	Pb	07 25 04.7	0.0
KRNR				*e*Sg	Sg	07 25 27.3	+1.2
SHA1	**Shidzhatmaz**	**1.67**	**293**	*e*Pg	Pg	07 25 07.0	-0.1
SHA1				*e*Sg	Sg	07 25 30.1	+1.3
BEYR	**Belyy Ugol+**	**1.69**	**303**	*e*Pg	Pb	07 25 06.0	-0.4
BEYR				*e*Sg	Sb	07 25 28.4	+0.7
ARKR	**Arakani**	**1.71**	**106**	*e*Pg	Pg	07 25 07.4	-0.4
ARKR				*e*Sg	Sg	07 25 31.0	+1.2
BUJR	**Buynaksk**	**1.73**	**99**	*e*Pg	Pb	07 25 07.3	+0.1
BUJR				*e*Sg	Sg	07 25 30.5	-0.3
KIV	**Kislovodsk**	**1.74**	**300**	*e*Pg	Pb	07 25 06.9	-0.5
KIV				*e*Sg	Sg	07 25 30.6	-0.5
GNBR	**Gunib**	**1.76**	**113**	*e*Pg	Pg	07 25 10.6	+1.7
GNBR				*e*Sg	Sg	07 25 33.2	+1.5
KMKR	**Kumukh**	**1.97**	**119**	*e*Pg	Pg	07 25 13.6	+0.7
KMKR				*e*Sg	Sg	07 25 38.6	+0.2
GRYR	**Gornoye**	**2.86**	**292**	*e*Pn	Pn	07 25 23.3	+2.3
GRYR				*e*Sn	Sn	07 25 57.7	+2.1
KSMR	**Kasumkent**	**2.90**	**120**	*e*Pn	Pb	07 25 27.9	+0.8
KSMR				*e*Sn	Sn	07 25 58.7	+2.1
GNI	**Garni**	**2.96**	**181**	*e*Pn	Pb	07 25 27.9	-0.2
GNI				*e*Sn	Sb	07 26 03.5	-0.9

IDC 18 07:33:26.1±2.7, 53°.73N×87°.04E, h0km, mbtmp2.5/2,
ML2.2/2, Error ellipse: s-maj=24.5km s-min=16.5km
az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**280**	I	I	07 41 33.5	
	baz=100,slow=312,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.34**	**280**	Pg	Pg	07 33 49.8	-1.9
	0.7nm,0.3s,baz=102,slow=13,SNR=14						
ZALV				Lg	Lg	07 34 08.6	
	1.0nm,0.3s,baz=103,slow=33,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.09**	**243**	Pn	Pn	07 34 58.6	+1.3
	baz=59,slow=13,SNR=2.1						
KURBB				Sn	Sn	07 36 08.0	+0.4
	baz=60,slow=28,SNR=1.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.58**	**206**	Pn	Pn	07 35 19.1	+1.3
	0.1nm,0.3s,baz=26,slow=13,SNR=7.8						
	0.1nm,0.3s						

JMA 18 07:44:02.4±0.3, 34°N±1°×13°7E±°, h32km±3km, MV0.5/7,
SE OFF KII PENINSULA, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.23**	**321**	P	Pb	07 44 09.2	-0.1
JIE				*e*S	Sn	07 44 14.4	+0.2
TTO2	**TONANKAI O.B.S**	**0.49**	**166**	S	Sb	07 44 19.7	+0.1
JKN2	**Miekihoku**	**0.51**	**273**	*e*S	Sb	07 44 17.0	-3.4

BJI ***18*** *07:44:50.1±0.0, 35°.91N×141°.20E, h30km, mb4.7/47,*
mB4.9/19, Ms4.2/26, Ms7 4.0/29
NEIC ***18*** *07:44:51.6±2.1, 35°.78N±0°.06×141°.51E±0°.09, h37km±7km,*
mb4.6/70, Error ellipse: s-maj=11.1km s-min=7.6km
az=115.0
NIED ***18*** *07:44:51.7, 35°.89N×141°.31E, h39km, MW4.7, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm;
M_{rr}-0.30; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$0.44; $M_{r\theta}$-0.09; $M_{\phi\phi}$-0.59; $M_{\phi r}$1.11;
Fault plane solution: $M_0$1.30000×10^{16} NP1:
ϕ_s178.00000°, δ81.00000°, λ-65.00000°. NP2:
ϕ_s286.00000°, δ27.00000°, λ-160.00000°.
JMA ***18*** *07:44:51.7±0.2, 35°.9N±0°.6×14°7E±°, h39km±1km,*
MD4.5/37, MW4.7/37, FAR E OFF IBARAKI PREF
JMA Felt II J1 at FAR E OFF IBARAKI PREF .
IDC ***18*** *07:44:53.5±1.6, 35°.77N×141°.25E, h46km±16km, mb4.0/26,*
mbtmp4.2/32, ML3.3/6, MS3.9/58, Error ellipse:
s-maj=14.9km s-min=9.1km az=73.0
ISC 18 07:44:52.4±0.5, 35°.86N±0°.04×141°.28E±0°.05, h39km±2km,
n239, σ1^{s}71/155, mb4.6/86, MS3.9/59, 1C-11D, Near east
coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.62**	**280**	⇓*e*P	**Pn**	**07 45 04.9**	**+0.1**
JIHU	**Itakohorinouch**	**0.62**	**280**	A	A	07 45 04.9	
	comp=E,171nm,3.0s,comp=N,181nm,0.9s						
JSMT	**Sammumatsuo**	**0.71**	**252**	P	**Pn**	**07 45 06.4**	**+0.4**
JSMT	**Sammumatsuo**	**0.71**	**252**	A	A	07 45 06.4	
	comp=E,141nm,2.0s,comp=N,162nm,2.7s						
JHYU	**Hitachinakayam**	**0.74**	**311**	⇓P	**Pn**	**07 45 06.0**	**-0.3**
JHYU				⇓*e*S	**Sn**	**07 45 16.8**	**+0.4**
JHYU	**Hitachinakayam**	**0.74**	**311**	A	A	07 45 06.0	
	comp=E,52nm,3.1s,comp=N,45nm,1.2s						
JHO	**Hitachi**	**0.94**	**323**	⇓P	**Pn**	**07 45 08.5**	**-0.7**
JHO				⇓*e*S	**Sn**	**07 45 19.4**	**-2.1**
JHO	**Hitachi**	**0.94**	**323**	A	A	07 45 08.5	
	comp=E,15nm,2.7s,comp=N,12nm,3.4s						
JYT	**Yasato**	**0.95**	**293**	⇓P	**Pn**	**07 45 08.7**	**-0.6**
JYT				⇓*e*S	**Sn**	**07 45 21.1**	**-0.5**
JYT	**Yasato**	**0.95**	**293**	A	A	07 45 08.7	
	comp=E,27nm,0.4s,comp=N,20nm,0.6s						
I30JP	**ISUMI INFRASON**	**0.96**	**235**	P	**Pn**	**07 45 10.3**	**+0.9**
	baz=61,slow=17						
I30JP				S	**Sn**	**07 45 22.9**	**+1.1**
	baz=55,slow=35						
I30JP				I	I	07 47 40.0	
	baz=38,slow=321,SNR=1.2						
JCN	**Nagara**	**0.98**	**244**	A	A	07 45 09.8	
	comp=E,101nm,2.7s,comp=N,70nm,1.3s						
JKUC	**kamogawauchiur**	**1.13**	**232**	A	A	07 45 11.9	
	comp=E,31nm,2.9s,comp=N,21nm,3.1s						
BSO4	**Boso 4**	**1.16**	**222**	P	**Pn**	**07 45 12.8**	**+0.7**
BSO1	**Boso 1**	**1.23**	**192**	*e*P	**Pn**	**07 45 12.6**	**0.0**
BSO3	**Boso 3**	**1.23**	**211**	P	**Pn**	**07 45 12.9**	**0.0**
TOK	**Tokyo**	**1.25**	**262**	A	A	07 45 13.6	
	comp=E,74nm,1.8s,comp=N,33nm,2.5s						
ONAJ	**Iwakimizuishiy**	**1.30**	**343**	A	A	07 45 13.8	
	comp=E,15nm,1.3s,comp=N,6.0nm,2.0s						
JFFD	**Fukushimafurud**	**1.36**	**335**	A	A	07 45 14.7	
	comp=E,12nm,1.4s,comp=N,8.0nm,2.1s						
TATJ	**Tateyama 2**	**1.41**	**234**	A	A	07 45 16.0	
	comp=E,34nm,4.0s,comp=N,33nm,3.8s						
JYO	**Yokosk**	**1.46**	**245**	A	A	07 45 16.8	
	comp=E,30nm,3.2s,comp=N,31nm,5.1s						
JFK	**Kawauchi**	**1.54**	**348**	P	**Pn**	**07 45 16.9**	**-0.5**
JFK	**Kawauchi**	**1.54**	**348**	A	A	07 45 16.9	
	comp=E,6.0nm,4.8s,comp=N,4.0nm,2.6s						
JSB	**Shiboa**	**1.56**	**316**	A	A	07 45 17.8	
	comp=E,31nm,1.6s,comp=N,32nm,3.6s						
JAG	**Ashikaga**	**1.58**	**291**	⇓P	**Pn**	**07 45 17.8**	**-0.2**
JAG	**Ashikaga**	**1.58**	**291**	A	A	07 45 17.8	
	comp=E,4.0nm,0.8s,comp=N,10.0nm,2.5s						
JHU	**Hanno**	**1.62**	**270**	A	A	07 45 19.0	
	comp=E,8.0nm,2.0s,comp=N,9.0nm,1.1s						
JSGW	**Sagamiharawaka**	**1.71**	**262**	A	A	07 45 20.2	
	comp=E,10.0nm,1.4s,comp=N,10.0nm,1.2s						
JOTO	**OTAMA OYAMA**	**1.86**	**336**	A	A	07 45 21.9	
	comp=E,40nm,1.3s,comp=N,32nm,0.9s						
JKT	**Katashina**	**1.87**	**299**	A	A	07 45 22.5	
	comp=E,12nm,1.2s,comp=N,10.0nm,0.7s						
JMST	**Minamisoumatoc**	**1.89**	**350**	A	A	07 45 22.2	
	comp=E,6.0nm,2.0s,comp=N,4.0nm,1.2s						
JOD2	**Odawara 2**	**1.89**	**252**	A	A	07 45 22.9	
	comp=E,12nm,4.0s,comp=N,12nm,5.3s						
JIM2	**Oshima 3**	**1.90**	**234**	A	A	07 45 23.1	
	comp=E,12nm,1.4s,comp=N,11nm,1.7s						
JRY	**Ryogami san**	**1.94**	**275**	A	A	07 45 23.5	
	comp=E,6.0nm,5.9s,comp=N,7.0nm,4.9s						
JFY	**Yanaizu**	**2.00**	**321**	A	A	07 45 24.1	
	comp=E,6.0nm,2.6s,comp=N,5.0nm,1.8s						
JMM	**Marumori**	**2.04**	**349**	P	**Pn**	**07 45 24.3**	**+0.1**
JMM	**Marumori**	**2.04**	**349**		**Pn**	**07 45 24.3**	**+0.1**
JMM	**Marumori**	**2.04**	**349**	A	A	07 45 24.5	
	comp=E,7.0nm,10.1s,comp=N,6.0nm,0.9s						
MJAR	**Matsushiro Arr**	**2.58**	**286**	P	**Pn**	**07 45 33.3**	**+1.7**
	comp=N,5.4nm,0.3s,baz=87,slow=12,SNR=91						
MJAR				S	**Sn**	**07 46 03.3**	**+1.5**
	comp=N,114nm,0.5s,baz=35,slow=36,SNR=3.6						
MJAR				LR	LR	07 46 42.7	
	comp=N,2μm,20.9s,baz=173,slow=42						
	comp=N,87nm,0.8s						
MAJO	**Matsushiro**	**2.58**	**286**	P	**Pn**	**07 45 33.5**	**+1.8**
MAJO	**Matsushiro**	**2.58**	**286**		**Pn**	**07 45 32.4**	**+0.7**
JSG	**Sagara**	**2.80**	**246**		**Pn**	**07 45 35.9**	**+1.3**
JHJ2	**Mitsune**	**3.00**	**204**	P	**Pn**	**07 45 37.6**	**+0.2**
JHJ2	**Mitsune**	**3.00**	**204**		**Pn**	**07 45 36.7**	**-0.7**
JHJ	**Hachijo jima 2**	**3.00**	**205**	P	**Pn**	**07 45 36.5**	**-1.0**
	comp=N,25nm,0.3s,baz=74,slow=16,SNR=26						
JHJ				S	**Sn**	**07 46 10.7**	**-1.5**
	comp=N,454nm,0.3s,baz=242,slow=22,SNR=5.8						
JHJ				LR	LR	07 47 05.2	
	comp=N,618nm,18.3s,baz=34,slow=45						
	comp=N,110nm,0.2s						
JGF	**Kuroka**	**3.20**	**266**	P	**Pn**	**07 45 42.8**	**+2.5**
JGF	**Kuroka**	**3.20**	**266**		**Pn**	**07 45 42.4**	**+2.1**
JSD	**Sado**	**3.25**	**313**	P	Pn	07 45 45.1	+4.2
JSD	**Sado**	**3.25**	**313**	Pn	**Pn**	**07 45 41.9**	**+1.0**
INU	**Inuyama**	**3.51**	**263**	P	**Pn**	**07 45 47.2**	**+2.7**
INU	**Inuyama**	**3.51**	**263**		**Pn**	**07 45 46.0**	**+1.6**
JTM	**Tenmabayashi**	**4.92**	**358**	P	**Pn**	**07 46 04.9**	**+1.1**
JTM	**Tenmabayashi**	**4.92**	**358**	Pn	**Pn**	**07 46 03.9**	**+0.1**
ERM	**Erimo**	**6.32**	**13**	Pn	**Pn**	**07 46 22.1**	**-0.9**
JEM	**Erimo**	**6.32**	**13**	P	**Pn**	**07 46 21.8**	**-1.2**
JMN	**Monobe**	**6.45**	**253**	P	**Pn**	**07 46 28.3**	**+3.4**
JMN	**Monobe**	**6.45**	**253**	Pn	**Pn**	**07 46 25.8**	**+0.9**
JKA	**Kamikawa-asahi**	**8.31**	**7**	Pn	**Pn**	**07 46 50.3**	**0.0**
ASAJ	**Asahikawa**	**8.31**	**7**	P	**Pn**	**07 46 48.6**	**-1.6**
	comp=N,4.6nm,0.3s,baz=207,slow=7.9,SNR=8.3						
ASAJ				S	**Sn**	**07 48 19.0**	**-3.7**
	comp=N,8.8nm,0.6s,baz=7.9,slow=29,SNR=1.2						
ASAJ				LR	LR	07 50 44.6	
	comp=N,517nm,20.9s,baz=184,slow=42						
JCJ	**Chichijima**	**8.77**	**175**	Pn	**Pn**	**07 46 53.2**	**-3.5**
JCJ	**Chichijima**	**8.77**	**175**	P	Pn	07 46 49.1	-7.6
	comp=N,204nm,0.7s,baz=71,slow=22,SNR=17						
JCJ				S	Sn	07 48 19.3	-15
	comp=N,96nm,0.8s,baz=106,slow=23,SNR=2.4						
JNU	**Nakatsue**	**9.01**	**255**	Pn	**Pn**	**07 47 02.0**	**+2.0**
JNU	**Nakatsue**	**9.01**	**255**	P	**Pn**	**07 47 01.9**	**+1.9**
	comp=N,0.2nm,0.3s,baz=54,slow=9.0,SNR=10						
JNU				LR	LR	07 51 01.3	
	comp=N,2μm,19.3s,baz=60,slow=41						
	comp=N,16nm,1.0s						
KSRS	**Korea Array**	**10.85**	**282**	P	**Pn**	**07 47 27.4**	**+2.3**
	comp=N,0.2nm,0.3s,baz=103,slow=13,SNR=12						
KSRS				LR	LR	07 51 28.3	
	comp=N,801nm,21.9s,baz=95,slow=36						
	comp=N,2.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**10.95**	**322**	P	**Pn**	**07 47 28.1**	**+1.7**
	comp=N,0.2nm,0.3s,baz=137,slow=13,SNR=6.0						
USRK				LR	LR	07 51 33.2	
	comp=N,697nm,18.9s,baz=138,slow=36						
	comp=N,2.5nm,0.7s						
MDJ	**Mudanjiang**	**12.49**	**318**	P	**Pn**	**07 47 49.1**	**+1.6**
MDJ				sP	P	07 48 02.1	+3.6
MDJ				S	**Sn**	**07 50 08.4**	**+3.2**
MDJ				sS	S	07 50 20.0	-11
MDJ				PcS	**PcS**	**07 57 01.0**	**+1.7**
MDJ				pmax	pmax		
	comp=N,6.0nm,0.8s						
MDJ				pmax	pmax		
	comp=N,130nm,5.8s						
MDJ				LR	LR		
	comp=N,570nm,16.1s						
MDJ				LR	LR		
	comp=N,320nm,18.2s						
MDJ				LR	LR		
	comp=N,860nm,18.2s						
JOW	**Kunigami**	**14.29**	**235**	LR	LR	07 53 50.4	
	comp=N,239nm,19.6s,baz=106,slow=38						
BNX	**BinXian**	**14.40**	**318**	⇓P	**Pn**	**07 48 11.8**	**-1.7**
BNX				pmax	pmax		
	comp=N,3.0nm,1.2s						
CN2	**Changchun**	**14.51**	**308**	P	**Pn**	**07 48 12.9**	**-2.1**
CN2				pmax	pmax		
	comp=N,10.0nm,0.5s						
CN2				LR	LR		
	comp=N,300nm,16.0s						
SNY	**Shenyang**	**15.02**	**299**	⇓P	**Pn**	**07 48 21.1**	**-0.7**
SNY				pmax	pmax		
	comp=N,8.0nm,0.5s						
SNY				pmax	pmax		
	comp=N,100nm,4.7s						
SNY				LR	LR	

SONM Songino Array 28.37 306 P **P** **07 50 43.5 +0.5**
comp=Z,2.0nm,0.5s,baz=107,slow=8.2,SNR=12
SONM LR LR 08 02 37.9
comp=Z,244nm,19.5s,baz=100,slow=38
comp=Z,2.0nm,0.5s
SHEM Shemya Is, Ala 28.58 44 LR LR 08 00 11.9
comp=Z,138nm,20.3s,baz=283,slow=32
GYA Guiyang 30.94 262 P **P** **07 51 05.3 -0.6**
GYA pmax pmax
comp=Z,19nm,1.2s
CD2 Chengdu 31.59 272 P **P** **07 51 11.4 -0.1**
QIZ Qiongzhong 32.36 247 P **P** **07 51 19.8 +1.5**
QIZ S **S** **07 56 30.3 +0.4**
QIZ LR LR
comp=Z,710nm,11.8s
QIZ LR LR
comp=Z,420nm,14.3s
QIZ LR LR
comp=Z,440nm,14.3s
GTA Gaotai 32.82 289 *e*P **P** **07 51 22.1 -0.2**
GTA sP pP 07 51 33.3 +0.2
GTA pmax pmax
comp=Z,11nm,1.2s
PZH PanZhiHua 34.89 266 P **P** **07 51 42.0 +1.6**
PZH S **S** **07 57 10.8 +1.6**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,170nm,4.7s
PZH LR LR
comp=Z,300nm,18.6s
PZH LR LR
comp=Z,230nm,18.8s
PZH LR LR
comp=Z,330nm,18.6s
CMAR Chiang Mai Arr 41.11 256 LR LR 08 11 16.0
comp=Z,169nm,19.0s,baz=300,slow=38
WMQ Urumqi 41.28 298 *e*P **P** **07 52 36.6 +2.6**
WMQ pP sP 07 52 47.5 -2.2
WMQ LR LR
comp=Z,120nm,22.9s
ZALV Zalesovo Beam 42.63 313 P **P** **07 52 45.0 +0.2**
comp=Z,2.9nm,0.3s,baz=87,slow=7.6,SNR=7.7
ZALV LR LR 08 11 18.6
comp=Z,110nm,18.5s,baz=104,slow=37
comp=Z,2.9nm,0.3s
ZSN Zaisan 42.84 304 *e*P **P** **07 52 47.2 +0.6**
comp=Z,14nm,0.9s,baz=304
NRIK Noril'sk 44.29 336 P **P** **07 52 58.4 +0.5**
comp=Z,1.5nm,0.5s,baz=151,slow=13,SNR=1.8
comp=Z,1.5nm,0.5s
MKAR Makanchi Array 44.66 303 P **P** **07 53 01.8 +0.5**
comp=Z,11nm,0.9s,baz=90,slow=8.9,SNR=59
MKAR LR LR 08 12 32.4
comp=Z,208nm,18.6s,baz=87,slow=37
comp=Z,11nm,0.9s
L16K Owhat River 44.71 36 P **P** **07 53 02.3 +1.0**
L16K IAmb IAmb 07 53 17.4
comp=Z,8.2nm,1.1s
MAKZ Makanchi 44.87 303 P **P** **07 53 02.2 -0.7**
MAKZ IAmb IAmb 07 53 16.2
comp=Z,13nm,0.9s
K17K Iditarod 45.38 34 P **P** **07 53 07.3 +0.7**
K17K IAmb IAmb 07 53 26.1
comp=Z,8.9nm,0.8s
KAPI Kappang 45.40 211 LR LR 08 12 33.2
comp=Z,71nm,20.0s,baz=274,slow=37
SEM Semipalatinsk 45.58 308 *e*P **P** **07 53 08.3 -0.4**
comp=Z,5.2nm,0.8s,baz=308
KURK Kurchatov 46.58 309 P **P** **07 53 16.7 +0.4**
P18K Big Mountain, 46.64 39 IAmb IAmb 07 53 33.2
comp=Z,6.0nm,0.9s
KURBB Kurchatov Arra 46.65 309 P **P** **07 53 16.8 0.0**
KURBB LR LR 08 13 49.0
comp=Z,6.1nm,0.5s,baz=85,slow=8.3,SNR=94
KURBB LR LR 08 13 49.0
comp=Z,197nm,18.4s,baz=177,slow=37
comp=Z,6.1nm,0.5s
O18K Koktuh Hills 46.66 38 IAmb IAmb 07 53 33.2
comp=Z,7.3nm,1.0s
J19K Poorman 46.72 33 IAmb IAmb 07 53 33.1
comp=Z,6.0nm,1.0s
SHLS Shalkode 47.30 299 *e*P **P** **07 53 20.0 -2.2**
comp=Z,4.1nm,0.8s,baz=299
K20K Telida 47.36 34 P **P** **07 53 22.1 -0.1**
K20K IAmb IAmb 07 53 37.2
comp=Z,5.8nm,0.8s
UZB Uzynbulak 47.61 299 *e*P **P** **07 53 24.9 +0.2**
baz=299
TDK Taldyqorghan 47.64 301 *e*P **P** **07 53 25.2 +0.5**
comp=Z,10.0nm,0.8s,baz=301
KPKS Kokpek 47.78 299 *e*P **P** **07 53 26.2 +0.4**
comp=Z,4.7nm,0.8s,baz=299
KDAK Kodiak Island 48.05 41 P **P** **07 53 28.6 +1.0**
comp=Z,4.1nm,0.7s,baz=315,slow=4.4,SNR=10
KDAK LR LR 08 13 27.0
comp=Z,122nm,20.9s,baz=262,slow=36
comp=Z,4.1nm,0.7s
SATY Saty 48.07 299 *e*P **P** **07 53 28.7 +0.5**
baz=299
HNR Honiara 48.37 155 LR LR 08 12 01.4
comp=Z,923nm,21.7s,baz=292,slow=34
CHKK Chushkaly 48.89 300 *e*P **P** **07 53 34.4 +0.1**
baz=300
MLY Manley 48.90 31 IAmb IAmb 07 53 50.5
comp=Z,5.6nm,1.0s
MDOK Medeo 49.01 299 *e*P **P** **07 53 36.1 +0.7**
baz=299
AAA Alma-Ata 49.09 299 *e*P **P** **07 53 36.8 +0.8**
baz=299
TNSS Tian-Shan 49.11 299 *e*P **P** **07 53 37.1 +0.6**
baz=299
NEA2 Nenana 49.60 32 IAmb IAmb 07 53 58.0
comp=Z,7.5nm,1.0s
PMR Palmer 49.63 36 IAmb IAmb 07 54 11.9
comp=Z,4.4nm,0.9s
GHO Glory Hole Cre 49.72 36 IAmb IAmb 07 53 55.9
comp=Z,7.7nm,0.9s
MDM Murphy Dome 49.97 32 IAmb IAmb 07 53 58.4
comp=Z,9.2nm,1.0s
H24K Noodor Dome 50.11 30 IAmb IAmb 07 54 01.7
comp=Z,5.8nm,1.1s
NRN Naryn 50.22 297 IAmb IAmb 07 53 49.5
comp=Z,5.5nm,0.8s
ILAR Eielson Array 50.54 32 P **P** **07 53 47.5 +1.0**
comp=Z,0.9nm,0.7s,baz=273,slow=6.4,SNR=12
ILAR LR LR 08 18 03.7
comp=Z,42nm,18.6s,baz=266,slow=39
comp=Z,0.9nm,0.7s
BTLS Baital 50.64 302 *e*P **P** **07 53 47.7 +0.1**
baz=302
SGDS Sogindy 50.64 300 *e*P **P** **07 53 47.8 +0.1**
comp=Z,5.3nm,0.8s,baz=300
KSH Kashi 50.79 295 P P 07 53 53.5 +4.5
KSH pP sP 07 54 04.6 -0.3
KSH pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 50.96 299 LR LR 08 16 42.6
comp=Z,272nm,19.1s,baz=92,slow=37
BVAR Borovoye Array 51.29 313 P **P** **07 53 52.7 +0.4**
comp=Z,5.6nm,0.8s,baz=84,slow=7.6,SNR=18
comp=Z,5.6nm,0.8s
BRVK Borovoye 51.34 313 P **P** **07 53 53.7 +1.0**
BRVK IAmb IAmb 07 54 06.2
comp=Z,9.8nm,0.8s
SCRK Sand Creek 51.84 33 IAmb IAmb 07 54 11.9
comp=Z,7.4nm,1.2s
GLB Gilahina Butte 52.18 36 IAmb IAmb 07 54 22.8
comp=Z,12nm,1.4s
L26K Log Cabin Wild 52.22 34 IAmb IAmb 07 54 17.8
comp=Z,6.0nm,0.9s
E27K Coleen River 52.51 27 IAmb IAmb 07 54 20.1
comp=Z,4.4nm,0.8s
K27K Chicken 52.68 33 IAmb IAmb 07 54 20.4
comp=Z,5.6nm,0.9s
M27K Edge Creek, AK 52.97 35 IAmb IAmb 07 54 23.9
comp=Z,6.0nm,1.0s
I28M Miner Creek 53.42 31 IAmb IAmb 07 54 23.9
comp=Z,4.8nm,0.8s
KKAR Karatay Array 53.63 301 IAmb IAmb 07 54 11.6
comp=Z,10nm,1.0s
BRLS Borolday 54.12 301 *e*P **P** **07 54 15.1 +1.7**
baz=301
IUG Iuzhnay 54.26 300 *e*P **P** **07 54 15.2 +0.6**
comp=Z,11nm,1.0s,baz=300
M29M Somme Creek 54.53 34 IAmb IAmb 07 54 31.2
comp=Z,4.3nm,0.8s
L29M L29M 54.56 33 IAmb IAmb 07 54 35.7
comp=Z,9.8nm,0.9s
I30M Mount Dempster 54.93 31 IAmb IAmb 07 54 37.7
comp=Z,8.8nm,0.9s
M30M Minto, Yukon 55.26 34 IAmb IAmb 07 54 38.3
comp=Z,4.2nm,0.8s
P29M Windy Craggy 55.45 38 IAmb IAmb 07 54 39.9
comp=Z,7.2nm,0.8s
INK Inuvik 55.48 27 P **P** **07 54 23.3 +0.5**
comp=Z,1.5nm,0.9s,baz=315,slow=7.9,SNR=5.1
comp=Z,1.5nm,0.9s
WRA Warramunga Arr 55.89 188 P **P** **07 54 26.0 -0.3**
comp=Z,6.6nm,0.8s,baz=4.8,slow=7.6,SNR=40
comp=Z,6.6nm,0.8s
SIMJ Simiganj 56.19 296 P **P** **07 54 27.5 -1.1**
FARO Faro, Yukon 56.91 34 IAmb IAmb 07 54 49.4
comp=Z,3.9nm,0.8s
ARU Arti 57.17 319 P **P** **07 54 34.7 -0.4**
ARU Arti 57.17 319 LR LR 08 21 27.4
comp=Z,137nm,18.3s,baz=78,slow=38
ARU Arti 57.17 319 P **P** **07 54 35.4 +0.3**
comp=Z,24nm,0.9s
P33M Teslin, Yukon 57.70 36 IAmb IAmb 07 55 12.7
comp=Z,6.6nm,0.9s
ASAR Alice Springs 59.62 188 P **P** **07 54 52.5 +0.1**
comp=Z,2.9nm,0.7s,baz=18,slow=9.4,SNR=26
comp=Z,2.9nm,0.7s
DLBC Dease Lake 59.62 38 P **P** **07 54 52.2 0.0**
comp=Z,1.2nm,0.8s,baz=314,slow=11,SNR=1.8
comp=Z,1.2nm,0.8s
KIRV Kirov 61.12 323 LR LR 08 23 22.7
comp=Z,112nm,19.6s,baz=64,slow=38
SPITS Spitsbergen Ar 61.65 349 LR LR 08 25 12.7
comp=Z,61nm,18.4s,baz=8.0,slow=39
DZM Mont Dzumac 62.35 154 *e*LR LR 08 13 40.3
comp=Z,164nm,22.4s
DZM Mont Dzumac 62.35 154 LR LR 08 19 44.0
comp=Z,86nm,20.1s,baz=336,slow=34
BBB Bella Bella 62.98 44 LR LR 08 20 04.0
comp=Z,45nm,20.4s,baz=286,slow=34
RES Resolute Bay 63.76 14 LR LR 08 26 38.8
comp=Z,46nm,18.4s,baz=6.5,slow=39
YKA Yellowknife Ar 64.87 30 P **P** **07 55 28.4 +1.2**
comp=Z,0.9nm,0.8s,baz=302,slow=6.8,SNR=3.2
YKA LR LR 08 25 37.3
comp=Z,28nm,19.8s,baz=316,slow=38
comp=Z,0.9nm,0.8s
ARCES ARCESS Array B 65.06 340 P **P** **07 55 29.9 +1.6**
comp=Z,0.6nm,0.4s,baz=32,slow=8.7,SNR=2.9
ARCES LR LR 08 28 28.8
comp=Z,60nm,18.3s,baz=64,slow=40
comp=Z,0.6nm,0.4s
TULEG Thule 66.27 7 P **P** **07 55 36.5 +0.5**
STKA Stephens Creek 67.38 180 P **P** **07 55 43.6 0.0**
comp=Z,2.2nm,0.7s,baz=337,slow=7.7,SNR=1.7
comp=Z,2.2nm,0.7s
FINES FINESS Array B 69.80 332 P **P** **07 55 58.9 +0.5**
comp=Z,6.0nm,0.9s,baz=75,slow=8.1,SNR=11
FINES LR LR 08 28 39.9
comp=Z,65nm,19.2s,baz=60,slow=38
comp=Z,6.0nm,0.9s
WSAR Wadi Sarin 71.07 285 LR LR 08 32 58.1
comp=Z,45nm,18.4s,baz=86,slow=41
JMIC Jan Mayen 71.28 350 LR LR 08 30 58.3
comp=Z,18nm,18.1s,baz=48,slow=39
KBZ Khabaz 71.59 311 P **P** **07 56 10.5 +0.9**
comp=Z,3.4nm,1.0s,baz=194,slow=9.0,SNR=4.4
KBZ LR LR 08 31 35.7
comp=Z,69nm,18.1s,baz=57,slow=39
comp=Z,3.4nm,1.0s
KVAR Kislovodsk Arr 71.59 311 LR LR 08 28 15.6
comp=Z,566nm,21.1s,slow=36
KIV Kislovodsk 71.59 311 P **P** **07 56 10.7 +0.9**
comp=Z,25nm,0.9s
SUMG Summit 71.86 360 P **P** **07 56 12.6 +1.3**
SUMG IAmb IAmb 07 56 26.0
comp=Z,9.8nm,1.0s
GNI Garni 72.32 307 LR LR 08 30 44.8
comp=Z,63nm,19.1s,baz=73,slow=38
HFS Hagfors 75.11 336 P **P** **07 56 30.1 0.0**
comp=Z,1.9nm,0.9s,baz=264,slow=4.0,SNR=4.8
HFS LR LR 08 32 10.2
comp=Z,89nm,19.8s,baz=28,slow=38
comp=Z,1.9nm,0.9s
AK03 Malin Array Si 75.14 322 P **P** **07 56 30.6 +0.2**
AKASG Malin Array Be 75.16 322 P **P** **07 56 30.3 -0.2**
comp=Z,2.6nm,0.7s,baz=49,slow=5.4,SNR=4.5
AKASG LR LR 08 32 42.3
comp=Z,157nm,18.5s,baz=54,slow=38
comp=Z,2.6nm,0.7s
AKBB Malin Array Si 75.16 322 P **P** **07 56 30.6 +0.1**
AK01 Malin Array Si 75.17 322 P **P** **07 56 30.1 -0.5**
KIEV Kiev 75.17 322 P **P** **07 56 30.7 +0.1**
KIEV Kiev 75.17 322 P **P** **07 56 30.5 -0.1**
comp=Z,57nm,1.0s
EGMT Eagleton 75.22 41 P **P** **07 56 29.9 -1.1**
EGMT IAmb IAmb 07 56 46.7
comp=Z,7.5nm,1.0s
NB2 NORSAR Subarra 75.22 337 P **P** **07 56 31.2 +0.4**
comp=Z,7.4nm,0.7s,baz=40,slow=5.9
NOA NORSAR Array B 75.22 337 P **P** **07 56 31.1 +0.4**
comp=Z,2.5nm,0.9s,baz=39,slow=5.8,SNR=10
NOA LR LR 08 32 54.8
comp=Z,92nm,19.4s,baz=40,slow=38
comp=Z,2.5nm,0.9s
DLMT Dillon 75.25 44 IAmb IAmb 07 56 33.7
comp=Z,5.7nm,1.1s
MI30 MI30,Zelenitsa 75.64 323 P **P** **07 56 33.6 +0.3**
NVAR Mina Array Bea 75.78 53 P **P** **07 56 36.3 +1.7**
comp=Z,1.9nm,0.9s,baz=278,slow=7.2,SNR=14
NVAR LR LR 08 22 27.0
comp=Z,30nm,21.2s,baz=270,slow=30
comp=Z,1.9nm,0.9s
LUBAR Lubar, Ukraine 76.38 322 P **P** **07 56 37.5 0.0**
DSP Deep Springs 76.60 54 P **P** **07 56 39.7 +0.7**
ARPR Arapgir-MALATY 77.02 309 P **P** **07 56 38.5 -3.0**
SFJD Kangerlussuaq 77.06 5 LR LR 08 31 22.6
comp=Z,43nm,21.9s,baz=356,slow=36
SORM Soroca 77.23 321 P **P** **07 56 42.3 0.0**
comp=Z,15nm,0.8s,comp=Z,877nm
PURM Purcari 77.45 319 P **P** **07 56 44.5 +0.9**
GWY Greenwater Val 78.13 54 P **P** **07 56 47.7 -0.1**
PDAR Pinedale Array 78.56 45 P **P** **07 56 50.8 +0.6**
comp=Z,0.4nm,0.7s,baz=262,slow=2.2,SNR=7.2
comp=Z,0.4nm,0.7s
BRTR Keskin Array B 79.55 312 P **P** **07 56 56.8 +1.3**
comp=Z,2.6nm,1.0s,baz=113,slow=2.8,SNR=5.2
BRTR LR LR 08 37 31.5
comp=Z,48nm,18.1s,baz=98,slow=40
comp=Z,2.6nm,1.0s
RAR Rarotonga 79.56 126 LR LR 08 30 10.4
comp=Z,84nm,18.2s,baz=278,slow=34
KOLS Kolonicke sedl 79.71 324 *e*P **P** **07 56 58.9 +2.9**
PFO Pinyon Flats O 79.78 56 LR LR 08 27 40.8
comp=Z,77nm,18.7s,baz=276,slow=32
CRVS Cervenica-Dubn 80.11 324 *e*P **P** **07 56 59.9 +1.7**
MLR Muntele Rosu 80.21 320 LR LR 08 35 34.3
comp=Z,127nm,18.3s,baz=0.0,slow=38
ULM Lac du Bonnet 80.54 33 P **P** **07 57 00.8 +0.4**
comp=Z,2.0nm,0.8s,baz=337,slow=6.3,SNR=3.2
comp=Z,2.0nm,0.8s
URZ Urewera 80.86 152 LR LR 08 31 41.5
comp=Z,86nm,18.2s,baz=26,slow=35
RAYN Ar Rayn 81.00 292 P **P** **07 57 02.8 -0.7**
RAYN IAmb IAmb 07 57 17.9
comp=Z,7.2nm,1.0s
KSP Ksiaz 81.04 328 P **P** **07 57 04.2 +1.1**
comp=Z,7.8nm,1.1s
VYHS Vyhne 81.63 325 *e*P **P** **07 57 08.2 +1.9**
VRAC Vranov 82.05 327 LR LR 08 36 25.5
comp=Z,51nm,20.0s,baz=59,slow=38
CLL Collm 82.06 330 *e*P **P** **07 57 08.0 -0.5**
CLL *i* pP **pP** **07 57 20.7 +0.5**
comp=Z,12nm,1.2s
CLL *i* pPP 08 00 28.0
CLL AMS AMS 08 36 00.0
comp=Z,100nm,19.6s
CLL Collm 82.06 330 P **P** **07 57 08.4 -0.1**
comp=Z,12nm,1.0s
MMAI Mount Meron Ar 82.56 305 LR LR 08 37 26.3
comp=Z,92nm,19.2s,baz=360,slow=38
MORH Mrgy, Hungar 83.37 324 P **P** **07 57 16.1 +0.7**
comp=Z,2.3nm,1.5s
KHC Kasperske Hory 83.48 328 P **P** **07 57 16.9 +0.9**
comp=Z,5.1nm,1.3s
FRGS Fruska Gora 83.56 323 P **P** **07 57 17.1 +0.6**
comp=Z,11nm,0.6s
GERES GERESS Array B 83.65 328 P **P** **07 57 17.4 +0.5**
comp=Z,0.9nm,0.3s,baz=33,slow=5.1,SNR=3.8
GERES LR LR 08 38 52.3
comp=Z,86nm,18.9s,baz=350,slow=39
comp=Z,0.9nm,0.3s
PPT Papeete 84.21 116 LR LR 08 24 57.6
comp=Z,82nm,21.8s,baz=298,slow=29
PPT2 Papeete2 84.22 116 *e*LR LR 08 23 47.2
comp=Z,205nm,27.8s
PPT2 *e*LR LR 08 23 48.3
comp=Z,117nm,23.2s
ANMO Albuquerque 85.42 50 P **P** **07 57 24.7 -1.6**
ANMO Albuquerque 85.42 50 LR LR 08 29 37.0
comp=Z,38nm,21.4s,baz=38,slow=31
DAVOX Davos/Dischmat 86.88 329 LR LR 08 39 60.0
comp=Z,62nm,19.8s,baz=66,slow=38
TBI Tubuai 88.02 121 *e*LR LR 08 25 33.3
comp=Z,757nm,25.8s
TXAR Lajitas Array 90.92 52 P **P** **07 57 53.0 +0.5**
comp=Z,1.1nm,0.8s,baz=268,slow=3.3,SNR=13
TXAR LR LR 08 33 28.2
comp=Z,28nm,19.5s,baz=285,slow=32
comp=Z,1.1nm,0.8s
SADO Sadowa 91.78 28 LR LR 08 41 47.3
comp=Z,54nm,20.0s,baz=283,slow=37
VAE Valguarnera 91.97 320 LR LR 08 44 52.6
comp=Z,79nm,18.7s,baz=104,slow=39
FURI Furi 94.91 285 LR LR 08 44 49.7
comp=Z,46nm,19.6s,baz=166,slow=38
KEST Kesra 95.89 323 LR LR 08 47 40.5
comp=Z,52nm,18.2s,baz=275,slow=39
TKL Tuckaleechee C 97.40 36 LR LR 08 50 51.8
comp=Z,18nm,18.0s,baz=334,slow=41
ESDC Sonseca Array 98.29 334 LR LR 08 46 49.1
comp=Z,77nm,20.7s,baz=5.0,slow=38
QSPA South Pole Qui 125.61 180 PKP **PKiKP** **08 03 48.8 -0.2**
comp=Z,3.3nm,1.0s,baz=317,slow=2.2,SNR=5.3
H03N2 Juan Fernandez 146.99 98 T T 10 48 59.4
baz=289,slow=76,SNR=67
H03N3 Juan Fernandez 147.00 98 T T 10 48 56.0
baz=289,slow=76,SNR=57
H03N1 Juan Fernandez 147.01 98 T T 10 49 00.5
baz=289,slow=76,SNR=52
LPAZ La Paz 147.37 61 PKPbc **PKPbc** **08 04 32.8 -0.4**
comp=Z,6.8nm,0.9s,baz=7.3,slow=6.9,SNR=16

CATAC ***18*** *07:45:39.1±0.6, 10°.09N×86°.71W, h10km, ML3.6*
UCR ***18*** *07:45:40.7±0.7, 10°.34N×86°.56W, h13km±6km, MW4.2*
ISC 18 07:45:42.0±2.0, 10°.23N±0°.06×86°.49W±0°.07, h7km±11km,
n67, σ1°37/76, 20C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.89**	**88**	↑*i*	*i*	P	**07 45 58.4**	**-0.7**
SACU				*e*S		**Sg**	**07 46 11.2**	**+0.5**
DELF	**Filadelfia**	**0.94**	**77**	↑*i*	*i*	P	**07 46 00.1**	**-0.1**
ELI1	**Hacienda Flor**	**1.01**	**66**	↑*i*	*i*	P	**07 46 00.7**	**-0.7**
ELI1				*e*S		**Sg**	**07 46 15.2**	**+0.7**
NICO	**Nicoya**	**1.03**	**95**	*e*P		**Pg**	**07 46 00.8**	**-1.0**
NICO				*e*S		**Sg**	**07 46 12.8**	**-2.4**
INDI	**Punta indio, G**	**1.04**	**110**	*i*	*i*	P	**07 46 01.1**	**-0.8**
INDI						IAML	07 46 28.3	
	comp=Z,500nm,1.0s							
ERIA	**Liberia**	**1.11**	**69**	↑*e*	*e*	P	**07 46 02.0**	**-1.5**
LCRUZ	**La Cruz**	**1.19**	**45**	↑*i*	*i*	P	**07 46 02.7**	**-2.4**
GPS3	**Bodega del ICE**	**1.22**	**65**	↑*i*	*i*	P	**07 46 03.2**	**-2.4**
GPS3				*e*S		**Sb**	**07 46 22.9**	**+1.4**
GPS2	**Hotel Rincn d**	**1.23**	**65**	↑*i*	*i*	P	**07 46 03.2**	**-2.5**
VRLE	**La Escondida,**	**1.23**	**63**	↑*e*	*e*	P	**07 46 03.2**	**-2.7**
NYURE	**Nandayure**	**1.24**	**101**	↑*e*	*e*	P	**07 46 04.8**	**-1.0**
BAGA	**Bagaces**	**1.24**	**76**	↑*i*	*i*	P	**07 46 03.8**	**-2.0**
VORI	**VORI**	**1.26**	**63**	*e*P		**Pn**	**07 46 03.7**	**-2.6**
COLC	**Colonia**	**1.33**	**71**	↑*i*	*i*	P	**07 46 04.9**	**-2.3**
COLC				*e*S		**Sb**	**07 46 24.6**	**-0.1**
CUI	**Cuipilapa**	**1.37**	**72**	↑*i*	*i*	P	**07 46 05.5**	**-2.1**
CNAS	**Canas**	**1.39**	**82**	↑*e*	*e*	P	**07 46 07.1**	**-0.7**
CNAS				*e*S		**Sg**	**07 46 30.4**	**+3.7**
JUNT	**Juntas**	**1.51**	**88**	↑*i*	*i*	P	**07 46 07.7**	**-1.8**
JAPN	**AI SSO del Vol**	**1.51**	**32**	*i*	*i*	P	**07 46 09.3**	**-0.3**
JAPN						IAML	07 46 18.0	
	comp=Z,690nm,1.0s							
JAPN				*i*		S	**07 46 32.9**	**+2.2**
JTS	**Las Juntas de**	**1.51**	**88**	↑*i*	*i*	P	**07 46 07.7**	**-1.9**
JTS				*e*S		**Sn**	**07 46 29.0**	**-0.6**
NADN	**Granada**	**1.57**	**16**	*i*	*i*	P	**07 46 09.1**	**-1.3**
NADN						IAML	07 46 11.9	
	comp=Z,2μm,1.0s							
VERA	**Finca Concepci**	**1.71**	**69**	↑*e*	*e*	P	**07 46 10.6**	**-1.6**
VERA				*e*S		**Sb**	**07 46 36.2**	**+0.8**
CEDE	**Laguna Cedeo**	**1.77**	**82**	↑*e*	*e*	P	**07 46 12.4**	**-0.8**
VACR	**Volcan Arenal**	**1.80**	**82**	*e*P		**Pn**	**07 46 12.7**	**-0.8**
MAS3	**AI N del Volca**	**1.81**	**10**	*i*	*i*	P	**07 46 12.4**	**-1.2**
MAS3						IAML	07 46 44.5	
	comp=Z,430nm,1.0s							
TUNA	**La Fortuna**	**1.83**	**82**	*e*P		**Pn**	**07 46 14.2**	**+0.2**
SOCE	**Pocosol**	**1.85**	**85**	*i*	*i*	P	**07 46 13.6**	**-0.6**
SOCE						IAML	07 46 47.8	
	comp=Z,450nm,1.0s							
SOCE	**Pocosol**	**1.85**	**85**	*e*P		**Pn**	**07 46 13.1**	**-1.1**
TISN	**Laguna Tiscapa**	**1.91**	**6**	*i*	*i*	P	**07 46 14.2**	**-0.8**
TISN						IAML	07 46 44.0	
	comp=Z,28nm,1.0s							
LCHIL	**Los Chiles**	**1.92**	**65**	↑*i*	*i*	P	**07 46 13.1**	**-2.0**
R4DEC	**Barrio San Lui**	**1.92**	**7**	*i*	*i*	P	**07 46 13.9**	**-1.3**
R4DEC						IAML	07 46 33.9	
	comp=Z,300nm,1.0s							
R4DEC				*i*		S	**07 46 40.8**	**+1.2**
COPN	**Copaltepe**	**1.94**	**357**	*i*	*i*	P	**07 46 14.6**	**-0.8**
COPN						IAML	07 46 24.4	
	comp=Z,230nm,1.0s							
WILN	**Americas 2**	**1.94**	**9**	*i*	*i*	P	**07 46 14.2**	**-1.2**
WILN						IAML	07 46 27.4	
	comp=Z,260nm,1.0s							
SRA1	**San Ramn**	**1.98**	**94**	*e*P		**Pn**	**07 46 15.5**	**-0.6**
TRB2	**Turrubares**	**2.03**	**99**	*e*P		**Pn**	**07 46 16.0**	**-0.7**
NARAN	**Naranjo de Ala**	**2.08**	**94**	*e*P		Pn	07 46 08.4	-9.1
COVE	**Coope Vega, Sa**	**2.11**	**77**	*i*	*i*	P	**07 46 18.3**	**+0.5**
COVE				*i*		S	**07 46 47.9**	**+0.9**
COVE						IAML	07 46 59.1	
	comp=Z,360nm,1.0s							
HUEN		**2.11**	**8**	*i*	*i*	P	**07 46 16.6**	**-1.2**
HUEN						IAML	07 46 26.6	
	comp=Z,250nm,1.0s							
ACON	**Acoyapa**	**2.15**	**37**			IAML	07 46 16.6	
	comp=Z,220nm,1.0s							
ACON				*i*		P	**07 46 17.4**	**-1.0**
ACON	**Acoyapa**	**2.15**	**37**	↑*i*	*i*	P	**07 46 16.4**	**-2.0**
LEVN	**Ruinas Leon Vi**	**2.16**	**357**	*i*	*i*	P	**07 46 17.4**	**-1.1**
LEVN						IAML	07 46 31.3	
	comp=Z,320nm,1.0s							
TCS1	**Tacares**	**2.16**	**95**	*i*	*i*	P	**07 46 17.9**	**-0.7**
TCS1						IAML	07 46 55.6	
	comp=Z,2μm,1.0s							
ITAL	**Pital**	**2.19**	**84**	↑*i*	*i*	P	**07 46 18.6**	**-0.3**
MOM2	**El Cardon**	**2.19**	**0**	*i*	*i*	P	**07 46 18.0**	**-0.9**
MOM2						IAML	07 46 28.2	
	comp=Z,280nm,1.0s							
CNGA	**AI SSO del Vol**	**2.26**	**355**	*i*	*i*	P	**07 46 18.4**	**-1.5**
CNGA						IAML	07 46 25.8	
	comp=Z,270nm,1.0s							
CNGN	**Cerro Negro**	**2.26**	**355**	*i*	*i*	P	**07 46 18.4**	**-1.5**
CNGN						IAML	07 47 05.8	
	comp=Z,220nm,1.0s							
CNGN	**Cerro Negro**	**2.26**	**355**	*e*P		**Pn**	**07 46 21.2**	**+1.3**
BELE	**Belen**	**2.28**	**96**	*e*P		**Pn**	**07 46 20.1**	**-0.1**
ACOS	**Acosta**	**2.33**	**101**	*e*P		**Pn**	**07 46 21.5**	**+0.6**
BOAB	**BOACO BROADBAN**	**2.34**	**20**	*i*	*i*	P	**07 46 20.2**	**-0.8**
BOAB						IAML	07 46 37.8	
	comp=Z,130nm,1.0s							
HDC	**Heredia**	**2.35**	**95**	*i*	*i*	P	**07 46 20.5**	**-0.7**
HDC						IAML	07 47 03.1	
	comp=Z,300nm,1.0s							
HDC	**Heredia**	**2.35**	**95**	*e*P		**Pn**	**07 46 21.1**	**-0.1**
HDC3	**Heredia 3**	**2.35**	**95**	*i*	*i*	P	**07 46 20.8**	**-0.4**
HDC3						IAML	07 47 03.1	
	comp=Z,310nm,1.0s							
LUJA	**Lujan**	**2.40**	**97**	*e*P		**Pb**	**07 46 26.9**	**+1.2**
ABE2	**San Pablo**	**2.46**	**102**	*e*P		**Pn**	**07 46 22.5**	**-0.2**
CORON	**Coronado**	**2.46**	**96**	*e*P		**Pn**	**07 46 24.6**	**+1.9**
BRAN	**Las Pilas**	**2.48**	**3**	*i*	*i*	Pn	07 46 14.7	-8.1
BRAN						IAML	07 46 20.0	
	comp=Z,370nm,1.0s							
LCR2	**La Lucha 2**	**2.49**	**101**	*i*	*i*	P	**07 46 22.6**	**-0.7**
LCR2						IAML	07 47 09.2	
	comp=Z,100nm,1.0s							
LCR2	**La Lucha 2**	**2.49**	**101**	*e*P		**Pn**	**07 46 23.5**	**+0.2**

VICA	**Volcano Irazu**	**2.61**	**95**	*e*P	**Pn**	**07 46 25.8**	**+0.7**
CARI	**Cariari**	**2.71**	**87**	*e*P	**Pb**	**07 46 31.7**	**+0.8**
VERB	**Verbena**	**2.77**	**96**	*e*P	**Pn**	**07 46 27.5**	**+0.6**
BUS1	**Rivas**	**2.78**	**104**	*e*P	**Pn**	**07 46 27.1**	**-0.4**
LIMN	**Finca el Limon**	**2.81**	**2**	*i* P	**Pn**	**07 46 26.5**	**-1.1**
LIMN				IAML		07 47 17.4	
	comp=Z,68nm,1.0s						
ESPN	**Las Esperanzas**	**2.90**	**48**	*i* P	**Pn**	**07 46 28.5**	**-0.2**
ESPN				IAML		07 46 40.6	
	comp=Z,94nm,1.0s						
OCHAL	**Ojochal**	**3.02**	**112**	*i* P	**Pn**	**07 46 29.2**	**-1.1**
OCHAL				IAML		07 47 12.5	
	comp=Z,98nm,1.0s						
DRK0	**Durika**	**3.34**	**106**	*i* P	**Pn**	**07 46 34.1**	**-0.8**
DRK0				IAML		07 47 12.4	
	comp=Z,380nm,1.0s						
DRK0	**Durika**	**3.34**	**106**	*e*P	**Pn**	**07 46 35.0**	**+0.1**

*AZER **18** 07:50:18.1, 38.°47N×46.°91E, h23km, ml2.5*
*TEH **18** 07:50:19.4, 38.°47N×46.°96E, h9km±42km, ML2.4*
ISC 18 07:50:19.1±0.9, **38.°46N**±0.°03×**46.°92E**±0.°03, **h14**km±8km, **n18**, σ0°**79**/28, **Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.17**	**147**	Pg	**Pg**	**07 50 23.2**	**-0.2**
IHRS				Sg	**Sg**	**07 50 26.0**	**-0.3**
ITBZ	**Tabriz**	**0.65**	**250**	Pg	**Pb**	**07 50 32.1**	**-0.3**
GRMI	**Germi**	**0.83**	**65**	Pg	**Pg**	**07 50 34.9**	**-0.5**
ORD	**Ordubad**	**0.86**	**303**	P	**Pn**	**07 50 36.3**	**-0.7**
ORD				S	**Sn**	**07 50 47.9**	**-1.6**
ISRB	**Sarab**	**0.86**	**137**	Pg	**Pb**	**07 50 35.5**	**-0.5**
IMRD	**Marand**	**0.99**	**285**	Pg	**Pn**	**07 50 38.8**	**0.0**
ISHB	**Shabestar**	**1.04**	**261**	Pg	**Pg**	**07 50 39.2**	**-0.1**
QRD	**Qoradiz**	**1.04**	**17**	P	**Pg**	**07 50 39.0**	**-0.2**
QRD				S	**Sn**	**07 50 54.8**	**+1.0**
IAZR	**Azarshahr**	**1.08**	**224**	Pg	**Pg**	**07 50 40.8**	**+0.8**
LRK	**Lerik**	**1.12**	**80**	P	**Pg**	**07 50 41.1**	**+0.3**
LRK				S	**Sn**	**07 50 56.6**	**+0.6**
YRD	**Yardimli**	**1.13**	**66**	P	**Pg**	**07 50 40.6**	**-0.2**
YRD				S	**Sn**	**07 50 56.0**	**-0.1**
IHSH	**Hashtrud**	**1.19**	**167**	Pg	**Pb**	**07 50 41.5**	**-0.1**
NAX	**Nakhchivan**	**1.32**	**303**	S	**Sg**	**07 51 03.1**	**+1.3**
GLBA	**Clilabad**	**1.39**	**55**	P	**Pg**	**07 50 44.7**	**-1.0**
GLBA				S	**Sg**	**07 51 05.3**	**+1.5**
SBZ	**Shahbuz**	**1.42**	**312**	P	**Pg**	**07 50 45.8**	**-0.6**
SBZ				S	**Sg**	**07 51 06.0**	**+1.1**
ASTR	**Astara**	**1.47**	**86**	P	**Pb**	**07 50 45.7**	**-0.5**
ASTR				S	**Sg**	**07 51 07.5**	**+1.1**
AGDM	**Agdam**	**1.65**	**5**	P	**Pg**	**07 50 51.3**	**+0.5**
AGDM				S	**Sg**	**07 51 12.7**	**+0.5**
ZRD	**Zardab**	**1.91**	**18**	P	**Pg**	**07 50 55.6**	**-0.1**
ZRD				S	**Sg**	**07 51 21.3**	**+0.8**

IDC 18 07:50:31.0±2.8, **54.°11N**×**86.°50E, h0**km, **mbtmp3.0**/2, **ML2.9**/2, **Error ellipse: s-maj=23.2km s-min=13.7km az=54.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**261**	I	I	07 56 51.8	
	baz=80,slow=320,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.01**	**261**	Pg	Pg	07 50 48.9	-1.4
	1.1nm,0.3s,baz=78,slow=17,SNR=6.3						
ZALV				Lg	Lg	07 51 05.3	
	1.8nm,0.3s,baz=83,slow=29,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.00**	**238**	Pn	Pn	07 52 01.0	-0.1
	0.1nm,0.3s,baz=56,slow=14,SNR=3.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.80**	**202**	Pn	Pn	07 52 27.3	+1.6
	0.5nm,0.3s,baz=26,slow=13,SNR=12						
	0.4nm,0.3s						

IDC 18 08:01:12.2±1.5, **5.°89S**×**150.°95E, h0**km, **mb3.7**/4, **mbtmp3.7**/5, **ML1.4**/1, **Error ellipse: s-maj=78.2km s-min=25.9km az=131.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.13**	**227**	Pn	Pn	08 02 29.0	-1.5
	0.9nm,0.3s,baz=47,slow=19,SNR=1.1						
PMG				Sn	Sn	08 03 30.9	+0.4
	2.7nm,0.3s,baz=3.4,slow=17,SNR=2.0						
	3.9nm,0.3s						
WRA	**Warramunga Arr**	**21.35**	**228**	P	P	08 06 02.2	+0.9
	1.5nm,0.5s,baz=53,slow=11,SNR=26						
WRA				PcP	PcP	08 10 05.4	-0.4
	0.4nm,0.9s,baz=33,slow=1.7,SNR=2.1						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**24.12**	**221**	P	P	08 06 30.4	+0.4
	1.8nm,0.5s,baz=56,slow=9.1,SNR=35						
	1.8nm,0.5s						
ILAR	**Eielson Array**	**83.85**	**22**	P	P	08 13 43.5	0.0
	0.2nm,0.6s,baz=260,slow=4.4,SNR=2.3						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**84.08**	**180**	P	P	08 13 44.4	-0.5
	1.2nm,1.1s,baz=318,slow=4.7,SNR=1.4						
	1.2nm,1.1s						

*IDC **18** 08:01:48.6±2.8, 39.°46N×20.°36E, h0km, mb3.5/6, mbtmp3.6/7, ML1.8/1, MS3.6/1, Error ellipse: s-maj=58.5km s-min=24.7km az=45.0*
*ATH **18** 08:01:55.9, 39.°86N×20.°61E, h14km±1km, ML3.1/17, Error ellipse: s-maj=1.5km s-min=1.1km az=317.0*
*TIR **18** 08:01:55.5, 39.°80N×20.°64E, h9km±2km, Ml3.3*
*BEO **18** 08:01:56.3±0.4, 39.°74N×20.°69E, h13km±3km, ML3.1/5*
*THE **18** 08:01:56.0, 39.°80N×20.°69E, h0km±2km, ML3.1/12, Error ellipse: s-maj=2.7km s-min=0.8km az=295.0*
ISC 18 08:01:55.7±0.9, **39.°80N**±0.°02×**20.°66E**±0.°02, **h18**km±7km, **n92**, σ1°**38**/126, **mb3.4**/5, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.21**	**135**	P	**Pb**	**08 02 02.4**	**+1.8**
JAN				S	**Sb**	**08 02 05.8**	**+2.0**
JAN				AML	AML	08 02 06.5	
	comp=E,31489μm,0.2s						
JAN				AML	AML	08 02 06.8	
	comp=N,22532μm,0.2s						
LSK	**Leskovik**	**0.35**	**353**	P	**Pg**	**08 02 03.2**	**0.0**
	baz=356						
LSK				S	**Sb**	**08 02 09.1**	**+0.3**
	baz=356						
LSK				AMP			
	comp=E,30nm,0.6s,baz=356						
LSK	**Leskovik**	**0.35**	**353**	P	**Pg**	**08 02 03.1**	**-0.1**
LSK				S	**Sb**	**08 02 08.9**	**+0.2**
	comp=E,6μm,0.6s						
IGT	**Igoumenitsa**	**0.37**	**223**	P	**Pg**	**08 02 03.0**	**-0.4**
IGT				S	**Sb**	**08 02 09.4**	**+0.1**
	comp=E,6μm,0.5s						
IGT	**Igoumenitsa**	**0.37**	**223**	*e*Pg	**Pg**	**08 02 03.1**	**-0.4**
IGT				*e*Sg	**Sb**	**08 02 10.0**	**+0.8**
IGT	**Igoumenitsa**	**0.37**	**223**	P	**Pg**	**08 02 02.8**	**-0.7**
IGT				S	**Sb**	**08 02 09.4**	**+0.1**
IGT				AML	AML	08 02 11.8	
	comp=N,12971μm,0.4s						
IGT				AML	AML	08 02 13.4	
	comp=E,8906μm,0.3s						
SRN	**Sarande**	**0.51**	**279**	P	**Pg**	**08 02 05.9**	**-0.2**
	baz=280						
SRN				S	**Sb**	**08 02 13.6**	**+0.4**
	baz=280						
SRN				AMP			
	comp=E,15nm,0.2s,baz=280						
SRN	**Sarande**	**0.51**	**279**	P	**Pg**	**08 02 05.8**	**-0.2**
SRN				S	**Sb**	**08 02 14.3**	**+1.1**
	comp=E,4μm,0.6s						
PENT	**Pentalofos**	**0.54**	**43**	P	**Pg**	**08 02 06.0**	**-0.6**
PENT	**Pentalofos**	**0.54**	**43**	P	**Pg**	**08 02 06.0**	**-0.6**
PENT				S	**Sg**	**08 02 13.6**	**-0.3**
KASA	**Kassiopi**	**0.56**	**264**	P	**Pg**	**08 02 06.3**	**-0.6**
KASA				S	**Sg**	**08 02 13.8**	**-0.6**
KASA				AML	AML	08 02 18.3	
	comp=E,7138μm,0.3s						
KASA				AML	AML	08 02 18.7	
	comp=N,8655μm,0.3s						
KPRO	**Kipourio**	**0.56**	**74**	P	**Pg**	**08 02 06.1**	**-0.9**
KPRO				S	**Sg**	**08 02 15.2**	**+0.6**
	comp=N,3μm,0.7s						
KPRO	**Kipourio**	**0.56**	**74**	P	**Pg**	**08 02 06.1**	**-0.9**
KPRO				S	**Sg**	**08 02 15.1**	**+0.5**
KPRO				AML	AML	08 02 17.5	
	comp=N,6270μm,0.6s						
KPRO				AML	AML	08 02 18.8	
	comp=E,7519μm,0.8s						
NEST	**Nestorio**	**0.68**	**26**	P	**Pg**	**08 02 08.8**	**-0.4**
NEST	**Nestorio**	**0.68**	**26**	P	**Pg**	**08 02 08.7**	**-0.5**
NEST				AML	AML	08 02 25.3	
	comp=E,1847μm,0.8s						
NEST				AML	AML	08 02 29.5	
	comp=N,2087μm,0.7s						
KBN	**Korca**	**0.82**	**7**	P	**Pg**	**08 02 11.6**	**-0.3**
	baz=7.0						
KBN				S	**Sb**	**08 02 23.8**	**+1.5**
	baz=7.0						
KBN				AMP			
	comp=E,2.3nm,0.5s,baz=7.0						
TSLK	**Tsoukalades, L**	**0.98**	**180**	P	**Pb**	**08 02 13.9**	**-0.2**
TSLK				S	**Sn**	**08 02 29.7**	**+1.8**
	comp=E,952nm,0.7s						
TSLK	**Tsoukalades, L**	**0.98**	**180**	P	**Pb**	**08 02 13.9**	**-0.2**
TSLK				AML	AML	08 02 33.7	
	comp=E,1556μm,0.6s						
TSLK				AML	AML	08 02 39.2	
	comp=N,2651μm,0.8s						
LKD2	**Lefkada island**	**1.01**	**180**	P	**Pb**	**08 02 14.9**	**+0.2**
	baz=179						
LKD2				S	**Sn**	**08 02 30.5**	**+1.7**
	baz=179						
LKD2				AMP			
	comp=N,2.4nm,0.6s,baz=179						
LKD2	**Lefkada island**	**1.01**	**180**	P	**Pb**	**08 02 14.4**	**-0.4**
LKD2				S	**Sn**	**08 02 30.6**	**+1.8**
	comp=N,652nm,0.6s						
LKD2	**Lefkada island**	**1.01**	**180**	P	**Pb**	**08 02 14.3**	**-0.4**
LKD2				AML	AML	08 02 36.9	
	comp=N,1394μm,0.7s						
LKD2				AML	AML	08 02 39.7	
	comp=E,1202μm,0.5s						
THL	**Klokotos Trika**	**1.07**	**102**	P	**Pb**	**08 02 14.4**	**-1.3**
THL				S	**Sn**	**08 02 31.5**	**+1.3**
	comp=E,482nm,0.7s						
THL	**Klokotos Trika**	**1.07**	**102**	P	**Pb**	**08 02 14.1**	**-1.6**
THL				AML	AML	08 02 36.0	
	comp=E,1013μm,0.6s						
THL				AML	AML	08 02 39.7	
	comp=N,906μm,0.8s						
NYDR	**Nydri-Lefkada**	**1.09**	**178**	P	**Pb**	**08 02 15.3**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.09**	**178**	P	**Pb**	**08 02 15.4**	**-0.5**
VLO	**Vlora**	**1.11**	**307**	P	**Pg**	**08 02 19.6**	**+2.3**
	baz=308						
VLO				S	**Sn**	**08 02 34.9**	**+3.7**
	baz=308						
FNA	**Florina**	**1.12**	**29**	P	**Pb**	**08 02 16.5**	**-0.1**
	baz=30						
FNA				S	**Sn**	**08 02 34.5**	**+3.0**
	baz=30						
FNA				AMP			
	comp=E,4.5nm,0.5s,baz=30						
FNA	**Florina**	**1.12**	**29**	P	**Pb**	**08 02 16.7**	**+0.1**
FNA				S	**Sn**	**08 02 33.5**	**+2.0**
	comp=E,3μm,0.6s						
FNA	**Florina**	**1.12**	**29**	*e*Pg	**Pb**	**08 02 17.0**	**+0.4**
FNA				*e*Sg	**Sn**	**08 02 33.6**	**+2.0**
FNA	**Florina**	**1.12**	**29**	P	**Pb**	**08 02 16.3**	**-0.3**
FNA				S	**Sb**	**08 02 31.0**	**+0.1**
FNA				AML	AML	08 02 36.5	
	comp=N,4420μm,0.6s						
FNA				AML	AML	08 02 36.9	
	comp=E,5750μm,0.5s						
EVGI	**Lefkada island**	**1.18**	**180**	P	**Pn**	**08 02 17.4**	**+0.1**
EVGI				S	**Sn**	**08 02 34.4**	**+1.5**
	comp=E,600nm,0.4s						
EVGI	**Lefkada island**	**1.18**	**180**	P	**Pn**	**08 02 18.0**	**+0.7**
EVGI				S	**Sn**	**08 02 34.0**	**+1.1**
TYRN	**Tyrnavos**	**1.22**	**94**	P	**Pn**	**08 02 17.4**	**-0.4**
TYRN				S	**Sg**	**08 02 36.1**	**+0.9**
	comp=E,602nm,0.7s						
TYRN	**Tyrnavos**	**1.22**	**94**	P	**Pn**	**08 02 17.3**	**-0.4**
TYRN				AML	AML	08 02 38.5	
	comp=N,1416μm,0.8s						
TYRN				AML	AML	08 02 41.1	
	comp=E,1016μm,0.6s						
EVR	**Evrytania**	**1.26**	**134**	P	**Pb**	**08 02 19.6**	**+0.7**
EVR	**Evrytania**	**1.26**	**134**	P	**Pn**	**08 02 18.6**	**+0.2**
EVR				AML	AML	08 02 46.4	
	comp=N,989μm,0.7s						
EVR				AML	AML	08 02 48.8	
	comp=E,844μm,1.1s						
OHR	**Ohrid**	**1.31**	**5**	*i* Pn	**Pg**	**08 02 21.3**	**+0.3**
OHR				*i* Sn	**Sg**	**08 02 42.5**	**+4.3**
FSK	**Fiskardo**	**1.34**	**183**	P	**Pn**	**08 02 20.4**	**+0.9**
FSK				AML	AML	08 02 42.1	
	comp=E,1189μm,0.5s						
FSK				AML	AML	08 02 45.7	
	comp=N,741μm,0.5s						
PVO	**Paravola**	**1.36**	**150**	P	**Pg**	**08 02 22.7**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.39**	**124**	P	**Pn**	**08 02 21.4**	**+1.2**
MAKR	**Makrakomi, Fth**	**1.39**	**124**	P	**Pn**	**08 02 21.1**	**+0.9**
MAKR				S	**Sn**	**08 02 39.0**	**+1.0**
MAKR				AML	AML	08 02 46.0	
	comp=N,1743μm,0.8s						
MAKR				AML	AML	08 02 49.9	
	comp=E,2005μm,0.7s						
LIT	**Litokhoron**	**1.44**	**78**	P	**Pn**	**08 02 21.4**	**+0.5**
LIT				S	**Sg**	**08 02 42.6**	**+0.4**
	comp=E,882nm,0.7s						
AGG	**Agios Georgios**	**1.51**	**121**	P	**Pn**	**08 02 22.9**	**+1.0**
AGG				S	**Sg**	**08 02 44.4**	**-0.2**
	comp=E,412nm,0.9s						
AGG	**Agios Georgios**	**1.51**	**121**	P	**Pn**	**08 02 22.9**	**+1.0**
AGG				AML	AML	08 02 50.1	
	comp=E,1398μm,1.0s						
AGG				AML	AML	08 02 52.6	
	comp=N,1230μm,0.6s						
ANX	**Ano Chora**	**1.56**	**141**	P	**Pb**	**08 02 25.2**	**+1.2**
ANX	**Ano Chora**	**1.56**	**141**	P	**Pn**	**08 02 23.9**	**+1.4**
ANX				AML	AML	08 02 54.6	
	comp=E,723μm,0.4s						
ANX				AML	AML	08 02 58.4	
	comp=N,1234μm,0.8s						
VLS	**Valsamata**	**1.62**	**182**	P	**Pn**	**08 02 24.5**	**+1.1**
VLS				AML	AML	08 02 54.9	
	comp=E,764μm,0.6s						
VLS				AML	AML	08 02 56.8	
	comp=N,908μm,0.5s						
TIR	**Tirane**	**1.66**	**339**	P	**Pb**	**08 02 26.5**	**+0.8**
	baz=340						
TIR				S	**Sg**	**08 02 50.3**	**+1.2**
	baz=340						
TIR				AMP			
	comp=N,1.0nm,0.5s,baz=340						
TIR	**Tirane**	**1.66**	**339**	*e*Pg	**Pb**	**08 02 26.4**	**+0.7**
TIR				*e*Sg	**Sg**	**08 02 51.6**	**+2.4**
EFP	**Efpalio**	**1.68**	**144**	P	**Pb**	**08 02 27.2**	**+1.1**
PSDA	**Pessada-Kefalo**	**1.69**	**182**	P	**Pn**	**08 02 25.5**	**+1.2**
HORT	**Hortiatis**	**2.03**	**66**	P	**Pn**	**08 02 30.0**	**+0.9**
HORT				AML	AML	08 03 08.6	
	comp=E,167μm,0.7s						
HORT				AML	AML	08 03 11.8	
	comp=N,172μm,0.6s						
KLV	**Kalavryta, Ach**	**2.11**	**146**	P	**Pn**	**08 02 32.0**	**+1.9**
PLG	**Polygyros**	**2.21**	**74**	P	**Pn**	**08 02 33.4**	**+1.9**
SKO	**Skopje**	**2.25**	**15**	*i* Pn	**Pb**	**08 02 35.0**	**-0.7**
GUR	**Goura**	**2.28**	**144**	P	**Pn**	**08 02 34.3**	**+1.8**
PUK	**Puka**	**2.31**	**346**	P	**Pn**	**08 02 35.4**	**+2.4**
	baz=347						
PUK				S	**Sb**	**08 03 05.2**	**+0.1**
	baz=347						
PUK				AMP			
	comp=N,0.6nm,0.4s,baz=347						
SRS	**Serrai**	**2.59**	**59**	*e*Pn	**Pn**	**08 02 37.7**	**+0.9**
SRS	**Serrai**	**2.59**	**59**	P	**Pn**	**08 02 37.2**	**+0.4**
BCI	**Bajram Curri**	**2.60**	**350**	P	**Pb**	**08 02 40.2**	**-1.5**
	baz=351						
PEHC	**Pehcevo**	**2.60**	**40**	*i* Pn	**Pb**	**08 02 40.7**	**-1.2**
PEHC				*i* Sn	**Sb**	**08 03 12.7**	**-0.9**
PRVS	**Prvonek**	**2.91**	**21**	*e*Pn	**Pn**	**08 02 42.9**	**+1.8**
BOSS	**Bosilegrad**	**3.02**	**26**	*e*Pn	**Pn**	**08 02 45.2**	**+2.6**
VTS	**Vitosha**	**3.42**	**34**	*e*Pn	**Pn**	**08 02 50.0**	**+1.8**
SELS	**Selova**	**3.43**	**6**	*e*Pn	**Pn**	**08 02 51.0**	**+2.7**
DBRK	**Dubrovnik**	**3.43**	**327**	*e*Pn	**Pn**	**08 02 48.3**	**0.0**
DBRK				Sn	**Sn**	**08 03 27.6**	**-0.8**
SJES	**Sjenica**	**3.49**	**352**	*e*Pn	**Pn**	**08 02 51.5**	**+2.3**
ZAPS	**Zavoj**	**3.77**	**22**	*e*Pn	**Pn**	**08 02 55.6**	**+2.7**
IVAS	**Ivanjica**	**3.79**	**354**	*e*Pn	**Pn**	**08 02 55.2**	**+2.0**
STON	**Ston**	**3.79**	**325**	*e*Pn	**Pn**	**08 02 53.1**	**0.0**
STON				Sn	**Sn**	**08 03 34.3**	**-2.9**
BOVS	**Bovan**	**3.91**	**11**	*e*Pn	**Pn**	**08 02 57.1**	**+2.3**
GRUS	**Gruza**	**4.08**	**1**	*e*Pn	**Pn**	**08 02 58.9**	**+1.7**
ZAGS	**Zajecar**	**4.17**	**16**	*e*Pn	**Pn**	**08 03 00.9**	**+2.4**
DIVS	**Divibare**	**4.32**	**354**	*e*Pn	**Pn**	**08 03 01.9**	**+1.4**
TRUS	**Trudelj**	**4.42**	**358**	*e*Pn	**Pn**	**08 03 04.7**	**+2.9**
MAKA	**Makarska**	**4.42**	**323**	*e*Pn	**Pn**	**08 03 01.9**	**0.0**
MAKA				Sn	**Sn**	**08 03 50.1**	**-2.7**
RICI	**Ricice**	**4.54**	**326**	*e*Pn	**Pn**	**08 03 03.3**	**-0.1**
HVAR	**Hvar**	**4.62**	**318**	*e*Pn	**Pn**	**08 03 04.2**	**-0.4**
KUBS	**Kucevo**	**4.67**	**9**	*e*Pn	**Pn**	**08 03 05.3**	**+0.1**
TEKS	**Tekeris**	**4.82**	**350**	*e*Pn	**Pn**	**08 03 07.9**	**+0.6**
KJIV	**Kijevo**	**5.26**	**324**	*e*Pn	**Pn**	**08 03 14.1**	**+0.6**
MORI	**Morici**	**5.49**	**319**	*e*Pn	**Pn**	**08 03 16.7**	**+0.2**
IDI	**Anoyia**	**5.62**	**142**	Pn	Pn	08 03 11.3	-7.2
	comp=N,1.5nm,0.3s,baz=295,slow=17,SNR=1.5						
	comp=N,3.6nm,0.3s						
DUGI	**Dugi Otok**	**5.91**	**317**	*e*Pn	**Pn**	**08 03 22.6**	**+0.2**
VIRC	**Vir**	**6.12**	**319**	*e*Pn	**Pn**	**08 03 25.6**	**+0.4**
HFS	**Hagfors**	**20.82**	**350**	P	**P**	**08 06 34.6**	**-1.2**
	comp=N,1.6nm,0.5s,baz=163,slow=11,SNR=10						
	comp=N,1.6nm,0.5s						
FINES	**FINESS Array B**	**21.92**	**7**	P	**P**	**08 06 46.5**	**-1.2**
	comp=N,1.2nm,0.4s,baz=173,slow=11,SNR=12						
	comp=N,1.2nm,0.4s						
NOA	**NORSAR Array B**	**22.05**	**348**	P	**P**	**08 06 47.3**	**-1.9**
	comp=N,0.4nm,0.6s,baz=166,slow=11,SNR=5.1						
	comp=N,0.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**22.19**	**322**	P	**P**	**08 06 48.1**	**-2.5**
	comp=N,0.7nm,0.7s,baz=118,slow=9.9,SNR=4.0						
	comp=N,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**41.19**	**55**	P	**P**	**08 09 37.8**	**-1.2**
	comp=N,0.2nm,0.2s,baz=273,slow=8.3,SNR=2.3						
	comp=N,0.2nm,0.2s						
MKAR	**Makanchi Array**	**44.38**	**60**	P	**P**	**08 10 03.9**	**-1.0**
	comp=N,0.7nm,0.5s,baz=272,slow=7.2,SNR=8.1						
	comp=N,0.7nm,0.5s						
SCHQ	**Schefferville**	**57.35**	**317**	LR	LR	08 36 08.0	
	comp=N,59nm,20.5s,baz=310,slow=36						

*SJA **18** 08:09:09.8±0.8, 21.°34S×68.°54W, h136km±7km, ML3.5, MW3.6*
*GUC **18** 08:09:12.3±0.7, 21.°34S×68.°49W, h105km±6km, ML3.4*
ISC 18 08:09:12.0±1.5, **21.°36S**±0.°03×**68.°60W**±0.°04, **h123**km±12km, **n32**, σ1°**31**/59, **5C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.74**	**234**	*e*P	**Pn**	**08 09 32.2**	**0.0**
PB09				*e*S	**Sn**	**08 09 48.6**	**+1.1**
PB09				IAML		08 09 49.4	
	comp=Z,377nm,0.6s						
PB09	**IPOC Station P**	**0.74**	**234**	*e*P	**Pn**	**08 09 31.9**	**-0.3**
PB09				*i* S	**Sn**	**08 09 46.9**	**-0.6**
LVC	**Limon Verde**	**1.28**	**193**	*e*P	**Pn**	**08 09 37.5**	**-0.1**
LVC				*e*S	**Sn**	**08 09 59.1**	**+2.1**
LVC	**Limon Verde**	**1.28**	**193**	⇓*i*P	**Pn**	**08 09 37.4**	**-0.2**
LVC				*e*S	**Sn**	**08 09 56.3**	**-0.7**
LVC				IAML		08 09 58.2	
	comp=Z,812nm,0.5s						
PX03	**IPOC Station P**	**1.35**	**314**	*e*P	**Pn**	**08 09 37.0**	**-1.1**
PX03				*i* S	**Sn**	**08 09 56.6**	**-1.2**
PX03				IAML		08 09 59.9	
	comp=N,620nm,0.3s						
PATCX	**Punta Patache**	**1.54**	**290**	*e*P	**Pn**	**08 09 40.2**	**-0.1**
PATCX				*e*S	**Sn**	**08 10 03.5**	**+1.7**
PATCX				IAML		08 10 09.6	
	comp=Z,309nm,0.4s						
PATCX	**Punta Patache**	**1.54**	**290**	⇑*i*P	**Pn**	**08 09 40.1**	**-0.2**
PATCX				*i* S	**Sn**	**08 10 01.9**	**+0.2**
PATCX				IAML		08 10 04.0	
	comp=E,851nm,0.2s						
HMBC	**Humberstone**	**1.61**	**311**	*e*P	**Pn**	**08 09 40.3**	**-0.9**
HMBC				*e*S	**Sn**	**08 10 04.3**	**+1.1**
HMBC				IAML		08 10 06.5	
	comp=Z,515nm,0.1s						
HMBC	**Humberstone**	**1.61**	**311**	⇑*e*P	**Pn**	**08 09 40.2**	**-0.9**
HMBC				*i* S	**Sn**	**08 10 02.4**	**-0.9**
HMBC				IAML		08 10 04.5	
	comp=N,759nm,0.3s						
PB06	**IPOC Station P**	**1.62**	**214**	*e*P	**Pn**	**08 09 41.4**	**+0.2**
PB06				*e*S	**Sn**	**08 10 04.5**	**+1.0**
PB06				IAML		08 10 05.7	
	comp=Z,235nm,0.2s						
PB06	**IPOC Station P**	**1.62**	**214**	⇓*i*P	**Pn**	**08 09 41.2**	**+0.1**
PB06				*i* S	**Sn**	**08 10 03.7**	**+0.2**
PB06				IAML		08 10 05.4	
	comp=E,406nm,0.2s						
AF01	**San Pedro de A**	**1.64**	**166**	*e*P	**Pn**	**08 09 41.6**	**+0.1**
AF01	**San Pedro de A**	**1.64**	**166**	*i* P	**Pn**	**08 09 41.7**	**+0.1**
AF01				*i* S	**Sn**	**08 10 05.6**	**+1.5**
TA01	**Diego Aracena**	**1.67**	**298**	*e*P	**Pn**	**08 09 41.2**	**-0.4**
TA01				*e*S	**Sn**	**08 10 05.6**	**+1.3**
TA01				IAML		08 10 05.7	
	comp=Z,254nm,0.2s						
TA01	**Diego Aracena**	**1.67**	**298**	⇑*i*P	**Pn**	**08 09 41.1**	**-0.4**
TA01				*i* S	**Sn**	**08 10 03.7**	**-0.6**
TA01				IAML		08 10 05.8	
	comp=N,1μm,0.2s						
PB04	**IPOC Station P**	**1.74**	**236**	*e*P	**Pn**	**08 09 42.9**	**+0.3**
PB04				*e*S	**Sn**	**08 10 06.6**	**+0.7**
PB04				IAML		08 10 15.6	
	comp=Z,213nm,0.2s						
PB04	**IPOC Station P**	**1.74**	**236**	*e*P	**Pn**	**08 09 42.2**	**-0.4**
PB04				*i* S	**Sn**	**08 10 05.9**	**-0.1**
P

MKAR Makanchi Array 69.39 324 P P 08 24 47.2 0.0
0.3nm,0.4s,baz=112,slow=7.6,SNR=4.1
0.3nm,0.4s

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*IDC **18** 08:20:31.4±1.7,31°.48S×178°.11W,h0km,mb3.8/3, mbtmp3.9/4,ML4.0/1,Error ellipse: s-maj=43.1km s-min=32.0km az=99.0*

ISC 18 08:20:31.9±1.6,31°.34S±0°.10×178°.0W±0°.3,h10km,n6, σ0s13/6,mb3.8/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.08**	**1**	Pn	**Pb**	**08 21 09.8**	**+0.1**
	41nm,0.3s,baz=60,slow=22,SNR=1.8						
RAO				Sn	**Sb**	**08 21 35.5**	**-0.1**
	72nm,0.3s,baz=46,slow=22,SNR=2.1						
	125nm,0.3s						
URZ	**Urewera**	**8.00**	**209**	Pn	Pn	08 22 21.8	-6.3
	0.5nm,0.3s,baz=11,slow=3.2,SNR=7.1						
URZ				Sn	Sn	08 23 47.5	-11
	1.8nm,0.3s,baz=175,slow=20,SNR=8.1						
ASAR	**Alice Springs**	**43.08**	**268**	P	**P**	**08 28 32.2**	**-0.1**
	0.7nm,0.6s,baz=104,slow=7.9,SNR=6.2						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**44.16**	**273**	P	**P**	**08 28 41.2**	**+0.1**
	0.7nm,0.4s,baz=111,slow=8.1,SNR=22						
	0.7nm,0.4s						
QSPA	**South Pole Qui**	**58.77**	**180**	P	**P**	**08 30 30.0**	**0.0**
	1.5nm,1.1s,baz=51,slow=6.5,SNR=2.3						
	1.5nm,1.1s						
FINES	**FINESS Array B**	**146.03**	**339**	PKPbc	**PKPab**	**08 40 11.8**	**0.0**
	0.9nm,0.5s,baz=35,slow=4.7,SNR=5.1						

IDC 18 08:26:28.2±2.1,6°.48S×154°.67E,h0km,mb3.8/5, mbtmp3.8/5,MS3.5/1,Error ellipse: s-maj=58.1km s-min=42.7km az=111.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**19.23**	**145**	LR	LR	08 37 18.9	
	comp=Z,132nm,18.4s,baz=212,slow=34						
WRA	**Warramunga Arr**	**23.85**	**234**	P	P	08 31 43.5	+0.1
	1.4nm,0.5s,baz=58,slow=9.6,SNR=9.2						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**26.28**	**227**	P	P	08 32 05.5	-0.1
	0.4nm,0.5s,baz=60,slow=9.2,SNR=4.8						
	0.4nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**27.50**	**25**	T	T	09 00 25.9	
	baz=207,slow=75,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**27.50**	**25**	T	T	09 00 25.1	
	baz=207,slow=75,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**27.52**	**25**	T	T	09 00 26.6	
	baz=207,slow=75,SNR=3.3						
MKAR	**Makanchi Array**	**82.81**	**319**	P	P	08 38 54.7	+0.2
	0.4nm,0.7s,baz=96,slow=5.8,SNR=2.8						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**83.49**	**180**	P	P	08 38 57.5	-0.3
	1.4nm,1.0s,baz=312,slow=3.7,SNR=2.4						
	1.4nm,1.0s						
MAW	**Mawson**	**84.75**	**203**	P	P	08 39 04.1	+0.2
	0.6nm,0.5s,baz=66,slow=6.6,SNR=1.4						
	0.6nm,0.5s						

JMA 18 08:40:32.7±0.2,24°.7N±0°.5×123°.5E±0°.8,h9km,MV1.7/6, NW OFF ISHIGAKIJIMA IS,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.38**	**144**	P	Pg	08 40 40.1	0.0
IRIF				S	Sg	08 40 45.6	+0.4
JKRS	**Kuro-shima**	**0.63**	**130**	P	Pg	08 40 44.8	0.0
JKRS				S	Sg	08 40 53.1	+0.1
HATJ	**Hateruma jima**	**0.66**	**154**	S	Sg	08 40 54.0	0.0
JIJ	**Ishigaki jima**	**0.66**	**115**	P	Pg	08 40 45.6	+0.2
JIJ				S	Sg	08 40 53.7	-0.4
JISG	**Ishigakijimahi**	**0.75**	**94**	P	Pg	08 40 47.1	-0.1
JISG				S	Sg	08 40 57.4	+0.3

TAP 18 08:41:10.5,24°.14N×121°.61E,h4km,ML1.3,1C-2D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.02**	**26**	⇓P	Pg	08 41 11.9	+0.5
	baz=27						
ETL				S	Sg	08 41 12.4	+0.5
	baz=27						
NACB	**Ninganchiao**	**0.04**	**331**	⇑P	Pg	08 41 12.2	+0.7
	baz=330						
NACB				*i* S	Sg	08 41 13.1	+0.9
	baz=330						
TWD	**Chiawan**	**0.06**	**195**	⇓P	Pg	08 41 13.1	+1.2
	baz=187						
TWD				S	Sg	08 41 14.4	+1.5
	baz=187						
HWA	**Hwalien**	**0.16**	**183**	*i* P	Pg	08 41 14.8	+1.1
	baz=180						
ETM	**Tongmen**	**0.21**	**212**	P	Pg	08 41 15.6	+1.1
	baz=212						
ETM				S	Sg	08 41 19.0	+1.7
	baz=212						
EAHA	**Aohua**	**0.22**	**32**	P	Pg	08 41 15.8	+1.1
	baz=31						
EAHA				*i* S	Sg	08 41 19.8	+2.1
	baz=31						
LXIB	**Xiulin Townshi**	**0.22**	**237**	*i* P	Pg	08 41 16.0	+1.1
	baz=236						
LXIB				S	Sg	08 41 19.6	+1.9
	baz=236						
ENA	**Nanau**	**0.31**	**22**	*i* P	Pb	08 41 17.8	-0.8
	baz=23						
ENA				*e*S	Sg	08 41 22.2	+1.7
	baz=23						
WHF	**Hehuan Shan**	**0.32**	**271**	P	Pb	08 41 18.4	-0.7
	baz=270						
WHF				S	Sb	08 41 23.1	-1.7
	baz=270						
FUSS	**Fushou**	**0.35**	**287**	*e*P	Pb	08 41 19.7	+0.1
	baz=287						
FUSS				*i* S	Sb	08 41 24.8	-0.9
	baz=287						
NNSB	**Datong**	**0.35**	**324**	P	Pb	08 41 18.5	-1.0
	baz=323						
NNSB				*i* S	Sb	08 41 24.8	-0.8
	baz=323						
ENTT	**Nioudou**	**0.50**	**355**	P	Pb	08 41 21.9	0.0
	baz=355						
ENTT				*i* S	Sb	08 41 29.7	+0.2
	baz=355						
FUSB	**Fushanzhiwuyua**	**0.61**	**358**	*i* P	Pb	08 41 24.0	0.0
	baz=357						
FUSB				S	Sb	08 41 33.7	+0.7
	baz=357						

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*IDC **18** 09:33:20.7±4.0,37°.25N×94°.57E,h0km,mb3.6/5, mbtmp3.7/9,ML3.4/4,Error ellipse: s-maj=81.1km s-min=37.7km az=7.0*

ISC 18 09:33:29.0±3.6,37°.7N±0°.4×94°.5E±0°.2,h35km,n9,σ0s58/9, mb3.7/5,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**12.77**	**319**	Pn	**Pn**	**09 36 27.4**	**-0.6**
	0.7nm,0.3s,baz=131,slow=13,SNR=20						
MKAR				Sn	Sn	09 38 42.2	-6.7
	0.1nm,0.3s,baz=134,slow=16,SNR=1.6						
	1.2nm,0.3s						
SONM	**Songino Array**	**13.36**	**37**	Pn	**Pn**	**09 36 36.2**	**0.0**
	0.4nm,0.3s,baz=223,slow=9.8,SNR=3.4						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**17.18**	**324**	P	**Pn**	**09 37 26.2**	**0.0**
	0.1nm,0.3s,baz=133,slow=12,SNR=22						
	2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**17.54**	**341**	P	**P**	**09 37 31.7**	**+0.4**
	0.1nm,0.3s,baz=145,slow=13,SNR=2.3						
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**22.65**	**320**	P	**P**	**09 38 27.9**	**+1.0**
	1.0nm,0.5s,baz=120,slow=10,SNR=5.5						
	1.0nm,0.5s						
FINES	**FINESS Array B**	**47.57**	**323**	P	**P**	**09 42 01.1**	**+0.3**
	1.1nm,0.8s,baz=54,slow=9.7,SNR=4.5						
	1.1nm,0.8s						
HFS	**Hagfors**	**53.76**	**322**	P	**P**	**09 42 47.6**	**+0.1**
	0.8nm,0.7s,baz=81,slow=8.9,SNR=2.0						
	0.8nm,0.7s						
NOA	**NORSAR Array B**	**54.72**	**324**	P	**P**	**09 42 54.0**	**-0.6**
	0.4nm,0.5s,baz=73,slow=7.3,SNR=3.3						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**67.20**	**24**	P	**P**	**09 44 18.9**	**-0.2**
	0.3nm,0.8s,baz=299,slow=7.9,SNR=4.9						
	0.3nm,0.8s						

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*BJI **18** 09:38:05.3±0.0,3°.60S×145°.98E,h10km,mb5.1/67, mB5.2/32,Ms4.5/19,Ms7 4.3/18*
*MOS **18** 09:38:08.9±0.7,3°.45S×145°.31E,h11km,mb5.2/48,Error ellipse: s-maj=10.8km s-min=5.1km az=105.6*
*IDC **18** 09:38:08.6±0.5,3°.41S×145°.62E,h0km,mb4.9/18, mbtmp4.9/20,ML2.4/2,MS4.0/40,Error ellipse: s-maj=23.2km s-min=10.1km az=96.0*
*NEIC **18** 09:38:11.3±1.2,3°.47S±0°.08×145°.24E±0°.08,h10km±1km, mb5.3/228,Mwws5.1/11,Error ellipse: s-maj=15.1km s-min=10.6km az=313.0*
*GCMT **18** 09:38:13.3±0.2,3°.38S±0°.01×145°.33E±0°.02,h12km, MW5.0/113,Moment Tensor Solution. s48,c55; s113,c175; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.10±.12; Mθθ-3.22±.09; Mφφ0.11±.09; Mrθ-1.26±.22; Mrφ1.13±.06; Mθφ0.32±.24; Best double couple: M0 3.57700×10^16 NP1:φs286.00000°,δ56.00000°, λ88.00000°. NP2:φs109.00000°,δ34.00000°,λ92.00000°. Principal axes: T 3.3450, Plg79.0000°, Azm190.0000°; N 0.4640, Plg1.0000°, Azm287.0000°; P -3.8100, Plg11.0000°, Azm17.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **18** 09:38:17.3±1.4,4°.S±6°×14°.5E±°,h51km±12km,M5.1/28, mB5.6/11,mb5.1/28,Mw(mB)5.1/11,MwMwp5.8/2, Mwp5.9/2*

ISC 18 09:38:11.3±0.5,3°.45S±0°.04×145°.35E±0°.05,h14km±2km, h14km:pP-P,n688,σ1s21/619,mb5.2/201,MS4.2/49, 27C-8D,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**4.49**	**246**	P	**Pn**	**09 39 21.7**	**+2.6**
JAY	**Jayapura**	**4.73**	**281**	P	**Pn**	**09 39 17.9**	**-4.4**
GENI	**Genyem**	**5.24**	**279**	P	**Pn**	**09 39 32.7**	**+3.4**
GENI	**Genyem**	**5.24**	**279**	P	**Pn**	**09 39 26.0**	**-3.3**
KAVG	**Kavieng**	**5.52**	**81**	P	Pn	09 39 40.2	+7.0
PMG	**Port Moresby**	**6.18**	**163**	Pn	**Pn**	**09 39 41.5**	**-0.7**
	6.2nm,0.3s,baz=326,slow=6.3,SNR=8.9						
PMG				Sn	**Sn**	**09 40 52.8**	**0.0**
	4.0nm,0.3s,baz=110,slow=23,SNR=2.4						
PMG				LR	LR	09 42 19.7	
	comp=Z,4μm,20.4s,baz=326,slow=41						
	21nm,0.3s						
COEN	**Coen**	**10.66**	**191**	P	**Pn**	**09 40 47.4**	**+3.7**
COEN	**Coen**	**10.66**	**191**		**Pn**	**09 40 43.0**	**-0.8**
COEN	**Coen**	**10.66**	**191**	P	**Pn**	**09 40 47.1**	**+3.4**
	28nm,1.0s,SNR=2.1						
MTSU	**Mount Surprise**	**14.63**	**184**	P	**P**	**09 41 42.2**	**-2.2**
MTSU	**Mount Surprise**	**14.63**	**184**	P	**P**	**09 41 42.3**	**-2.2**
	11nm,1.1s,SNR=3.3						
KDU	**Kakadu**	**15.70**	**233**	P	**P**	**09 41 55.0**	**-1.2**
KDU	**Kakadu**	**15.70**	**233**	P	**Pn**	**09 41 50.3**	**-1.9**
	34nm,0.9s,SNR=4.1						
TV1H	**Townsville Har**	**15.78**	**175**	P	**P**	**09 41 57.6**	**+0.5**
AUAYR	**Ayr State High**	**16.16**	**173**	P	**P**	**09 42 02.4**	**+1.1**
CTA	**Charters Tower**	**16.56**	**177**	Pn	**Pn**	**09 42 02.5**	**-0.8**
	baz=351,slow=15,SNR=2.4						
CTA				LR	LR	09 48 47.2	
	comp=Z,102nm,18.2s,baz=0.5,slow=38						
CTAO	**Charters Tower**	**16.56**	**177**	P	**P**	**09 42 08.3**	**+2.5**
CTAO	**Charters Tower**	**16.56**	**177**		**Pn**	**09 42 03.2**	**-0.1**
CTAO	**Charters Tower**	**16.56**	**177**	P	**Pn**	**09 42 03.2**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,75nm,1.5s						
DRS	**Darwin Rock St**	**16.85**	**237**	P	**P**	**09 42 09.0**	**-0.1**
MTN	**Manton Dam**	**16.87**	**236**	P	**Pn**	**09 42 08.4**	**+1.1**
MTN	**Manton Dam**	**16.87**	**236**	Pn	**Pn**	**09 42 05.9**	**-1.4**
MTN	**Manton Dam**	**16.87**	**236**	P	**Pn**	**09 42 04.9**	**-2.3**
	comp=Z,43nm,1.2s,SNR=4.4						
GUMO	**Guam**	**16.94**	**358**	LR	LR	09 48 17.2	
	comp=Z,549nm,18.2s,baz=162,slow=36						
QIS	**Mount Isa**	**17.90**	**198**	P	**P**	**09 42 23.7**	**+3.0**
QIS	**Mount Isa**	**17.90**	**198**	P	**P**	**09 42 21.0**	**+0.3**
	comp=Z,28nm,1.5s,SNR=3.0						
NLAI	**Namlea**	**18.22**	**270**	P	**Pn**	**09 42 23.5**	**-0.5**
	comp=Z,66nm,0.9s						
SANI	**Sanana**	**19.39**	**274**	P	**Pn**	**09 42 39.4**	**+1.2**
SANI	**Sanana**	**19.39**	**274**	P	**P**	**09 42 36.4**	**-0.7**
	comp=Z,26nm,0.8s,comp=Z,1μm						
WRAB	**Tennant Creek**	**19.58**	**212**	P	**P**	**09 42 38.8**	**-0.4**
WRAB	**Tennant Creek**	**19.58**	**212**	*c iP*	**P**	**09 42 38.9**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,64nm,0.9s						
WRA	**Warramunga Arr**	**19.60**	**212**	P	**P**	**09 42 39.0**	**-0.3**
	comp=Z,41nm,0.8s,baz=34,slow=11,SNR=255						
WRA				S	**Sn**	**09 46 25.6**	**+5.0**
	comp=Z,6.0nm,1.1s,baz=32,slow=18,SNR=3.0						
WRA				PcP	**PcP**	**09 46 59.8**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=19,slow=1.9,SNR=7.2						
WRA				LR	LR	09 51 17.7	
	comp=Z,2μm,18.5s,baz=24,slow=40						
KNRA	**Kununurra**	**20.35**	**232**	P	**P**	**09 42 45.2**	**-2.3**
	comp=Z,75nm,0.9s,SNR=9.0						
RK1H	**Rockhampton Ha**	**20.43**	**166**	P	Pn	09 42 51.0	+0.5
SOEI	**Soe**	**21.85**	**252**	P	**P**	**09 43 06.8**	**+2.9**
SOEI	**Soe**	**21.85**	**252**	P	**P**	**09 43 02.9**	**-0.9**
SOEI	**Soe**	**21.85**	**252**	P	**P**	**09 43 03.1**	**-0.8**
	comp=Z,303nm,0.9s,comp=Z,3μm						
DAV	**Davao City (W)**	**22.33**	**298**	LR	LR	09 51 14.1	
	comp=Z,53nm,19.1s,baz=164,slow=35						
EIDS	**Eidsvold**	**22.48**	**166**	P	**P**	**09 43 12.4**	**+2.0**
EIDS	**Eidsvold**	**22.48**	**166**	P	**P**	**09 43 10.0**	**-0.4**
EIDS	**Eidsvold**	**22.48**	**166**	P	**P**	**09 43 11.1**	**+0.7**
	comp=Z,22nm,1.9s,SNR=3.5						
BATI	**Baumata**	**22.54**	**252**	P	**P**	**09 43 11.1**	**-0.1**
	comp=Z,172nm,0.9s						
LUWI	**Luwuk**	**22.68**	**276**	P	**P**	**09 43 14.9**	**+2.2**
LUWI	**Luwuk**	**22.68**	**276**	P	**P**	**09 43 11.6**	**-1.2**
LUWI				IAmb	IAmb	09 43 30.4	
	comp=Z,109nm,1.0s						
LUWI	**Luwuk**	**22.68**	**276**	P	**P**	**09 43 10.6**	**-2.1**
	comp=Z,110nm,1.1s,comp=Z,2μm						
GTOI	**Gorontalo**	**22.69**	**280**	P	**P**	**09 43 13.4**	**+0.6**
	comp=Z,46nm,0.9s						
BBSI	**Bau Bau**	**22.80**	**264**	P	**P**	**09 43 14.6**	**+0.7**
	comp=Z,177nm,1.2s						
AS01	**Alice Springs**	**22.92**	**208**	P	**P**	**09 43 15.5**	**+0.4**
ASAR	**Alice Springs**	**22.94**	**208**	P	**P**	**09 43 15.2**	**-0.1**
	comp=Z,28nm,0.6s,baz=36,slow=8.5,SNR=274						
ASAR				PcP	**PcP**	**09 47 06.5**	**+0.8**
	comp=Z,4.8nm,0.9s,baz=43,slow=2.7,SNR=7.9						
ASAR				S	**S**	**09 47 25.1**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=26,slow=22,SNR=5.3						
	comp=Z,28nm,0.6s						
ASPA	**Alice Springs**	**22.94**	**208**	P	**P**	**09 43 15.0**	**-0.4**
	comp=Z,16nm,1.0s,SNR=15						
QLP	**Quilpie**	**23.02**	**183**	P	**P**	**09 43 18.3**	**+2.2**
QLP	**Quilpie**	**23.02**	**183**	P	**P**	**09 43 16.8**	**+0.7**
	comp=Z,168nm,1.7s,SNR=13						
MMRI	**Maumere**	**23.54**	**256**	P	**P**	**09 43 20.4**	**-1.2**
MMRI				IAmb	IAmb	09 43 21.5	
	comp=Z,83nm,0.9s						
MRSI	**Marisa**	**23.72**	**279**	P	**P**	**09 43 21.9**	**-1.3**
	comp=Z,41nm,0.7s,comp=Z,3μm						
EDFI	**Ende, Flores**	**24.10**	**256**	P	**P**	**09 43 25.0**	**-1.9**
	comp=Z,72nm,1.0s,comp=Z,944nm						
FITZ	**Fitzroy Crossi**	**24.18**	**232**	P	**P**	**09 43 26.2**	**-1.3**
INKA	**Innaminka**	**24.55**	**190**	P	**P**	**09 43 33.7**	**+2.9**
TOLI2	**Tolitoli**	**24.97**	**280**	P	**P**	**09 43 36.1**	**+1.3**
TOLI2	**Tolitoli**	**24.97**	**280**	P	**P**	**09 43 33.8**	**-1.0**
TOLI2				IAmb	IAmb	09 43 37.4	
	comp=Z,52nm,0.9s						
BKSI	**Bulukumba**	**25.22**	**265**	P	**P**	**09 43 35.6**	**-1.4**
	comp=Z,44nm,1.5s,comp=Z,3μm						
BASI	**Baing, Sumba**	**25.48**	**253**	P	**P**	**09 43 39.1**	**-0.3**
KAPI	**Kappang**	**25.57**	**266**	P	**P**	**09 43 41.4**	**+1.2**
KAPI	**Kappang**	**25.57**	**266**	P	**P**	**09 43 39.2**	**-1.0**
KAPI				IAmb	IAmb	09 43 43.0	
	comp=Z,30nm,0.8s						
KAPI	**Kappang**	**25.57**	**266**	LR	LR	09 54 22.8	
	comp=Z,123nm,19.0s,baz=94,slow=38						
KAPI	**Kappang**	**25.57**	**266**	P	**P**	**09 43 39.2**	**-1.0**
KAPI				pmax	pmax		
	comp=Z,30nm,0.8s						
OOD	**Oodnadatta**	**25.90**	**200**	P	**P**	**09 43 44.0**	**+0.9**
WRKA	**Warakurna**	**27.02**	**216**	P	**P**	**09 43 54.0**	**+0.7**
WRKA	**Warakurna**	**27.02**	**216**	P	**P**	**09 43 52.2**	**-1.1**
	comp=Z,103nm,1.0s,SNR=7.2						
ARMA	**Armidale**	**27.47**	**168**	P	**P**	**09 43 59.4**	**+2.1**
ARMA	**Armidale**	**27.47**	**168**	P	**P**	**09 43 58.3**	**+1.0**
ARMA	**Armidale**	**27.47**	**168**	P	**P**	**09 43 57.5**	**+0.2**
	comp=Z,13nm,1.4s,SNR=1.2						
DZM	**Mont Dzumac**	**27.60**	**134**	*e*LR	LR	09 50 59.9	
	comp=Z,288nm,20.9s						
LCRK	**Leigh Creek**	**27.68**	**193**	P	**P**	**09 44 01.3**	**+2.2**
CMSA	**Cobar Meteorol**	**27.94**	**179**	P	**P**	**09 44 03.0**	**+1.6**
CMSA	**Cobar Meteorol**	**27.94**	**179**	P	**P**	**09 44 02.6**	**+1.2**
	comp=Z,27nm,1.2s,SNR=1.9						
STKA	**Stephens Creek**	**28.50**	**187**	P	**P**	**09 44 08.8**	**+2.5**
STKA	**Stephens Creek**	**28.50**	**187**	P	**P**	**09 44 04.4**	**-1.9**
	comp=Z,5.8nm,2.3s,SNR=1.7						
STKA	**Stephens Creek**	**28.50**	**187**	P	**P**	**09 44 06.8**	**+0.5**
	comp=Z,9.8nm,1.1s,baz=10.0,slow=8.6,SNR=9.0						
STKA				LR	LR	09 56 60.0	
	comp=Z,809nm,18.3s,baz=349,slow=40						
	comp=Z,9.8nm,1.1s						
STKA	**Stephens Creek**	**28.50**	**187**	⇑*eP*	P	**09 44 07.0**	**+0.7**
MULG	**Mulgathing**	**28.74**	**201**	P	**P**	**09 44 09.7**	**+1.1**
BBOO	**Buckleboo**	**30.48**	**196**	P	**P**	**09 44 23.9**	**0.0**
BBOO				IAmb	IAmb	09 44 39.5	
	comp=Z,45nm,1.4s						
MBWA	**Marble Bar**	**30.50**	**233**	P	**P**	**09 44 23.6**	**-0.7**
MBWA	**Marble Bar**	**30.50**	**233**	P	**P**	**09 44 23.3**	**-0.9**
	comp=Z,33nm,1.2s,SNR=1.9						
KKM	**Kota Kinabalu**	**30.58**	**288**	P	**P**	**09 44 23.5**	**-1.7**
YNG	**Young**	**30.82**	**175**	P	**P**	**09 44 28.2**	**+1.2**
YNG	**Young**	**30.82**	**175**	P	**P**	**09 44 26.7**	**-0.3**
	comp=Z,83nm,1.7s,SNR=1.4						
FORT	**Forrest**	**31.71**	**209**	P	**P**	**09 44 36.0**	**+1.2**
FORT	**Forrest**	**31.71**	**209**	P	**P**	**09 44 33.8**	**-1.0**
FORT	**Forrest**	**31.71**	**209**	P	**P**	**09 44 34.2**	**-0.6**
	comp=Z,91nm,0.8s,SNR=3.0						
CAN	**Canberra**	**31.89**	**174**	P	**P**	**09 44 33.8**	**-2.6**
CAN	**Canberra**	**31.89**	**174**	P	**P**	**09 44 33.8**	**-2.6**
CAN				pmax	pmax		
	comp=Z,14nm,1.1s						
SBUM	**Sibu**	**33.63**	**280**	P	**P**	**09 44 50.2**	**-1.6**
TOO	**Toolangi**	**33.96**	**180**	P	**P**	**09 44 54.3**	**-0.1**
TOO				IAmb	IAmb	09 44 57.4	
	comp=Z,31nm,1.4s						
TOO	**Toolangi**	**33.96**	**180**	P	**P**	**09 44 54.3**	**-0.1**
TOO				pmax	pmax		
	comp=Z,31nm,1.4s						
JOW	**Kunigami**	**34.33**	**332**	LR	LR	09 56 01.0	
	comp=Z,282nm,19.7s,baz=26,slow=31						
MSVF	**Nonsavu**	**35.05**	**116**	P	**P**	**09 45 07.4**	**+3.2**
MSVF	**Nonsavu**	**35.05**	**116**	P	**P**	**09 45 05.0**	**+0.8**
MSVF	**Nonsavu**	**35.05**	**116**	P	**P**	**09 45 05.0**	**+0.8**
MSVF				pmax	pmax		
	comp=Z,15nm,1.1s						
NACB	**Ninganchiao**	**35.89**	**321**	P	**P**	**09 45 12.4**	**+1.2**
YHNB	**Yeheng**	**36.39**	**321**	P	**P**	**09 45 16.5**	**+0.9**
YHNB	**Yeheng**	**36.39**	**321**	P	**P**	**09 45 14.4**	**-1.2**
YHNB				IAmb	IAmb	09 45 17.4	
	comp=Z,82nm,1.2s						
JHJ	**Hachijo jima 2**	**36.75**	**352**	LR	LR	09 58 37.4	
	comp=Z,311nm,19.3s,baz=160,slow=33						
MORW	**Morawa**	**37.73**	**224**	P	**P**	**09 45 25.7**	**-1.2**
KNMB	**Chin-men Tao**	**38.17**	**318**	P	**P**	**09 45 30.3**	**-0.4**
KNMB				IAmb	IAmb	09 45 32.2	
	comp=Z,80nm,1.0s						
JMN	**Monobe**	**38.53**	**345**	P	**P**	**09 45 34.5**	**+0.9**
JMN	**Monobe**	**38.53**	**345**	P	**P**	**09 45 33.1**	**-0.5**
JNU	**Nakatsue**	**38.87**	**340**	P	**P**	**09 45 37.4**	**+1.0**
JNU	**Nakatsue**	**38.87**	**340**	P	**P**	**09 45 36.4**	**-0.1**
JNU	**Nakatsue**	**38.87**	**340**	LR	LR	09 59 00.5	
	comp=Z,291nm,20.0s,baz=168,slow=32						
JGF	**Kuroka**	**39.56**	**350**	P	**P**	**09 45 44.6**	**+2.4**
JGF	**Kuroka**	**39.56**	**350**	P	**P**	**09 45 41.1**	**-1.1**
MJAR	**Matsushiro Arr**	**40.34**	**351**	P	**P**	**09 45 47.2**	**-1.4**
	comp=Z,3.2nm,0.7s,baz=175,slow=8.7,SNR=7.2						
MJAR				PcP	**PcP**	**09 47 51.6**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=155,slow=3.4,SNR=4.4						
MJAR				LR	LR	10 00 37.7	
	comp=Z,94nm,21.8s,baz=194,slow=33						
	comp=Z,3.2nm,0.7s						
MAJO	**Matsushiro**	**40.34**	**351**	P	**P**	**09 45 50.1**	**+1.5**
MAJO	**Matsushiro**	**40.34**	**351**	P	**P**	**09 45 47.8**	**-0.8**
MAJO	**Matsushiro**	**40.34**	**351**	*c iP*	**P**	**09 45 47.2**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JMM	**Marumori**	**41.33**	**355**	P	**P**	**09 45 58.7**	**+2.0**
JMM	**Marumori**	**41.33**	**355**	P	**P**	**09 45 56.2**	**-0.5**
JSD	**Sado**	**41.80**	**352**	P	**P**	**09 45 59.4**	**-1.1**
JSD				IAmb	IAmb	09 46 01.9	
	comp=Z,44nm,0.9s						
TJN	**Taejon**	**43.04**	**339**	⇓*iP*	**P**	**09 46 10.6**	**-0.1**
KUZ	**Kuaotunu**	**43.33**	**144**	P	**P**	**09 46 16.1**	**+3.0**
NJ2	**Nanjing**	**43.36**	**327**	*eP*	**P**	**09 46 15.0**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
KSRS	**Korea Array**	**43.80**	**340**	P	**P**	**09 46 17.2**	**+0.4**
	comp=Z,9.3nm,0.8s,baz=159,slow=9.3,SNR=48						
KSRS				PcP	**PcP**	**09 48 03.3**	**0.0**
	comp=Z,1.5nm,0.8s,baz=160,slow=4.0,SNR=6.4						
KSRS				LR	LR	10 01 31.2	
	comp=Z,384nm,21.9s,baz=160,

VLA pmax pmax
comp=Z,53nm,1.6s
ENH Enshi 47.94 317 P P 09 46 51.1 +1.4
GSI Gunungsitoli 47.98 275 P P 09 46 48.3 -1.9
GSI IAmb IAmb 09 46 49.4
comp=Z,42nm,1.1s
LYN LuoYang 48.84 323 *e*P **P 09 46 56.4 -0.1**
LYN pmax pmax
comp=Z,20nm,0.8s
LYN LR LR
comp=Z,280nm,17.5s
USA0B Ussuriysk Arra 48.93 347*c i*P **P 09 46 57.1 +0.1**
USRK Ussuriysk Ar. 48.93 347 P **P 09 46 57.4 +0.3**
comp=Z,20nm,0.8s,baz=172,slow=7.5,SNR=40
USRK PcP **PcP 09 48 20.4 -0.8**
comp=Z,1.1nm,0.5s,baz=203,slow=3.0,SNR=1.2
USRK LR LR 10 06 19.1
comp=Z,110nm,19.2s,baz=169,slow=34
comp=Z,20nm,0.8s
SNY Shenyang 49.22 339 ⇓P **P 09 46 59.6 +0.3**
SNY S **S 09 54 02.5 -2.3**
SNY pmax pmax
comp=Z,9.0nm,1.0s
SNY pmax pmax
comp=Z,150nm,5.1s
SNY LR LR
comp=Z,190nm,22.4s
SNY LR LR
comp=Z,200nm,22.0s
SNY LR LR
comp=Z,370nm,25.0s
HNS HongShan 49.62 328 ⇑P **P 09 47 02.4 -0.1**
HNS pmax pmax
comp=Z,45nm,1.0s
HNS pmax pmax
comp=Z,310nm,6.0s
HNS LR LR
comp=Z,240nm,19.9s
HNS LR LR
comp=Z,230nm,21.5s
MDJ Mudanjiang 49.89 345 P **P 09 47 05.6 +1.2**
MDJ Mudanjiang 49.89 345 P **P 09 47 04.4 0.0**
MDJ PcP **PcP 09 48 24.3 -0.4**
MDJ ScP **ScP 09 52 20.4 +0.2**
MDJ S **S 09 54 14.5 +0.4**
MDJ sS sS 09 54 22.0 +1.8
MDJ ScS **ScS 09 56 56.3 +0.7**
MDJ pmax pmax
comp=Z,14nm,1.2s
MDJ pmax pmax
comp=Z,180nm,4.5s
MDJ LR LR
comp=Z,130nm,16.1s
MDJ LR LR
comp=Z,180nm,14.1s
MDJ LR LR
comp=Z,210nm,17.2s
KMI Kunming 50.15 307 ⇑P **P 09 47 08.8 +1.8**
KMI pmax pmax
comp=Z,47nm,1.0s
KMI pmax pmax
comp=Z,240nm,4.1s
YSS Yuzh-Sakhalins 50.24 358 P **P 09 47 07.0 0.0**
YSS Yuzh-Sakhalins 50.24 358 *e*P **P 09 47 05.6 -1.4**
YSS *e**SP **sP 09 47 11.2 -1.1**
YSS *e*PPP PPP 09 49 53.9
YSS *e*S **S 09 54 13.0 -5.9**
YSS *e*SS **SS 09 57 53.4 +0.8**
YSS pmax pmax
comp=Z,200nm,4.0s
YSS pmax pmax
comp=N,100nm,3.3s
YSS pmax pmax
comp=Z,10.0nm,0.5s
YSS MLR MLR
comp=Z,200nm,12.0s
YSS MLR MLR
comp=E,100nm,11.0s
CN2 Changchun 50.33 341 P **P 09 47 08.8 +1.1**
CN2 pmax pmax
comp=E,10.0nm,0.5s
CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=E,200nm,17.0s
CMAR Chiang Mai Arr 50.61 297 P **P 09 47 11.7 +1.3**
comp=E,4.1nm,0.4s,baz=111,slow=6.0,SNR=26
CMAR LR LR 10 10 39.3
comp=E,23nm,18.1s,baz=105,slow=38
comp=E,4.1nm,0.4s
CMAR Chiang Mai Arr 50.61 297 *i* P **P 09 47 12.0 +1.7**
CMAR pmax pmax
comp=Z,6.0nm,0.6s
XAN Xi'an 50.68 320 ⇑P **P 09 47 10.6 0.0**
XAN pP sP 09 47 15.4 -0.4
XAN sP pwP 09 47 19.3 +2.3
XAN pmax pmax
comp=Z,38nm,1.2s
CHTO Chiang Mai 50.74 298 P **P 09 47 10.5 -0.8**
CHTO Chiang Mai 50.74 298 P **P 09 47 10.5 -0.8**
CHTO pmax pmax
comp=Z,18nm,1.2s
BJI Beijing 50.89 331 P **P 09 47 11.6 -0.4**
BNX BinXian 51.51 344 ⇑P **P 09 47 16.5 -0.1**
BNX pP **sP 09 47 20.6 -1.0**
BNX S **S 09 54 34.6 -1.9**
BNX pmax pmax
comp=Z,40nm,0.9s
BNX pmax pmax
comp=Z,200nm,5.0s
BNX LR LR
comp=Z,130nm,21.7s
BNX LR LR
comp=Z,130nm,21.2s
BNX LR LR
comp=Z,230nm,21.6s
CD2 Chengdu 52.33 314 P **P 09 47 23.5 +0.4**
CD2 pP pP 09 47 26.5 -0.3
CD2 S **S 09 54 49.6 +1.2**
CD2 pmax pmax
comp=Z,70nm,0.8s
CD2 pmax pmax
comp=Z,140nm,5.6s
CD2 LR LR
comp=Z,300nm,13.0s
CD2 LR LR
comp=Z,230nm,13.1s
CD2 LR LR
comp=Z,340nm,16.2s
TNCH TengChong 53.53 305 *e*P **P 09 47 33.6 +1.4**
KLR Kul'dur 53.78 349 LR LR 10 08 57.9
comp=Z,64nm,20.6s,baz=159,slow=34
KLR Kul'dur 53.78 349*c i*P **P 09 47 33.2 -0.1**
KLR pmax pmax
comp=Z,21nm,1.7s
HHC Hu-ho-hao-te 53.81 328 *e*P **P 09 47 34.8 +0.9**
HHC pP sP 09 47 38.9 -0.2
HHC *e*S **S 09 55 06.5 -1.9**
HHC SS **SS 09 58 53.8 +4.1**
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,53nm,5.4s
HHC LR LR
comp=Z,110nm,12.2s
HHC LR LR
comp=Z,130nm,12.9s
HHC LR LR
comp=Z,170nm,14.2s
XLT XiLinHaoTe 53.97 334 *e*P **P 09 47 35.3 +0.3**
XLT pmax pmax
comp=Z,10.0nm,0.5s
XLT pmax pmax
comp=Z,94nm,4.1s
XLT LR LR
comp=Z,190nm,19.8s
XLT LR LR
comp=Z,230nm,19.0s
TYV Tymovskoe 54.15 358 *e*P **P 09 47 36.6 +0.6**
TYV *e*S **S 09 55 17.6 +5.2**
TYV pmax pmax
comp=Z,6.0nm,1.1s
TYV pmax pmax
comp=Z,100nm,3.3s
TYV smax smax
comp=N,100nm,6.1s
TYV smax smax
comp=E,100nm,6.1s
BTO Baotou 54.46 327 *e*P **P 09 47 40.1 +1.5**
BTO pP **pwP 09 47 44.8 -0.1**
BTO sP **sP 09 47 47.0 +3.2**
BTO PP **PP 09 49 44.3 +3.4**
BTO pmax pmax
comp=E,37nm,1.1s
BTO pmax pmax
comp=E,190nm,4.1s
BTO LR LR
comp=E,270nm,16.6s
BTO LR LR
comp=E,390nm,21.3s
BTO LR LR
comp=E,410nm,18.0s
LZH Lanzhou 55.22 319 P **P 09 47 45.5 +1.2**
LZH pP pwP 09 47 51.0 +0.4
LZH pmax pmax
comp=E,61nm,1.0s
LZH pmax pmax
comp=E,240nm,4.1s
HEH HeiHe 55.68 346 *e*P **P 09 47 46.8 -0.3**
HEH pmax pmax
comp=E,25nm,1.0s
HEH pmax pmax
comp=E,180nm,5.0s
HIA Hailar 57.01 340 P **P 09 47 57.9 +1.2**
HIA Hailar 57.01 340*c i*P **P 09 47 57.1 +0.4**
HIA pmax pmax
comp=Z,34nm,1.4s
PET Petropavlovsk 57.38 10 P **P 09 47 59.8 +0.7**
ZEA Zeya 58.97 348 *e*P **P 09 48 11.1 +0.9**
ZEA pmax pmax
comp=Z,30nm,1.2s
SHL Shillong 59.27 302 P **P 09 48 12.6 -0.5**
SHL IAmb IAmb 09 48 14.7
comp=Z,30nm,0.9s
SHL Shillong 59.27 302 P **P 09 48 12.6 -0.5**
SHL pmax pmax
comp=Z,30nm,0.9s
GTA Gaotai 59.74 320 ⇑P **P 09 48 17.0 +0.9**
GTA pP pwP 09 48 22.6 -0.1
GTA sP sP 09 48 26.3 +5.0
GTA PcP **PcP 09 49 04.0 +1.1**
GTA pmax pmax
comp=Z,29nm,0.9s
SHEM Shemya Is, Ala 61.00 20 LR LR 10 09 29.1
comp=Z,289nm,21.9s,baz=278,slow=31
ULN Ulaanbaatar 61.10 332 P **P 09 48 25.8 +0.6**
ULN IAmb IAmb 09 48 27.2
comp=Z,17nm,1.0s
ULN Ulaanbaatar 61.10 332*c i*P **P 09 48 26.1 +0.9**
ULN pmax pmax
comp=Z,24nm,1.3s
SONM Songino Array 61.39 331 P **P 09 48 27.7 +0.5**
comp=Z,6.1nm,0.8s,baz=151,slow=7.2,SNR=21
SONM PcP **PcP 09 49 08.6 -0.7**
comp=Z,1.5nm,0.6s,baz=134,slow=3.9,SNR=2.1
SONM LR LR 10 15 33.3
comp=Z,80nm,20.4s,baz=136,slow=36
comp=Z,6.1nm,0.8s
GOMU GeErMu 61.44 315 P **P 09 48 29.3 +1.3**
GOMU pP pwP 09 48 34.4 -0.3
GOMU sP sP 09 48 39.8 +6.6
GOMU pmax pmax
comp=Z,35nm,0.8s
MA2 Magadan 62.98 3 LR LR 10 12 35.5
comp=Z,78nm,21.6s,baz=182,slow=33
KIWB Kanaga Island 63.62 25 P **P 09 48 41.7 -0.1**
ZAK Zakamensk 64.63 332 *e*P **P 09 48 48.6 0.0**
ZAK pmax pmax
comp=Z,26nm,1.1s
PPT2 Papeete2 65.22 108 *e*LR LR 10 08 23.1
comp=Z,62nm,21.0s
TBI Tubuai 65.89 114 *e*LR LR 10 08 43.1
comp=Z,857nm,42.0s
BOD Bodaibo 66.06 342 *e*P **P 09 48 57.5 -0.1**
BOD pmax pmax
comp=Z,31nm,1.3s
YAK Yakutsk 66.40 352 *e*P **P 09 48 59.5 -0.1**
YAK *e**PP **sP 09 49 03.8 -1.0**
YAK *e* 09 49 27.8
YAK *e* 09 51 25.1
YAK *e*S **S 09 57 49.4 +0.3**
YAK *e*SS **SS 10 02 06.9 +0.9**
YAK pmax pmax
comp=Z,37nm,1.2s
YAK pmax pmax
comp=N,19nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,98nm,3.2s
YAK pmax pmax
comp=N,25nm,2.3s
YAK pmax pmax
comp=E,37nm,2.8s
YAK smax smax
comp=E,39nm,2.5s
SEY Seymchan 66.42 4*ce*P **P 09 49 00.0 +0.2**
SEY pmax pmax
comp=Z,18nm,1.3s
MOY Mondy 66.56 332 *e*P **P 09 49 01.8 +0.7**
MOY pmax pmax
comp=Z,37nm,2.5s
CASY Casey 67.28 194 P **P 09 49 05.2 -0.1**
CASY IAmb IAmb 09 49 06.2
comp=Z,16nm,1.2s
CLES Cleveland East 67.50 28 P **P 09 49 07.4 +0.5**
NIKH Nikolski High 68.08 28 P **P 09 49 11.8 +1.3**
baz=230
HYB Hyderabad 69.04 290 *e*P **P 09 49 16.8 -0.5**
UNV Unalaska Valle 69.73 28 P **P 09 49 22.0 +1.3**
baz=232
WMQ Urumqi 69.80 319 ⇑P **P 09 49 22.1 +0.6**
WMQ pmax pmax
comp=Z,27nm,1.5s
P08K Saint George I 70.13 25 P **P 09 49 24.2 +1.0**
baz=229
SPIA Saint Paul Isl 70.23 24 P **P 09 49 24.7 +0.9**
baz=228
BILL Bilibino 72.83 8 *e*P **P 09 49 40.0 +0.8**
BILL *e* 09 49 57.3
BILL *e* 09 52 21.9
BILL *e*PPP PPP 09 54 06.1
BILL pmax pmax
comp=Z,12nm,1.3s
S12K Black Hills 72.91 28 P **P 09 49 41.1 +1.1**
baz=236
ZSN Zaisan 73.15 322 *e*P **P 09 49 41.4 -0.3**
comp=Z,8.6nm,0.8s,baz=322
ZSN Zaisan 73.15 322 *e*P **P 09 49 41.3 -0.3**
ZSN pmax pmax
comp=Z,9.0nm,0.8s
SDPT Sand Point 73.47 29 P **P 09 49 44.4 +1.2**
baz=238
CHNA Chernabura Isl 73.62 30 P **P 09 49 45.0 +0.9**
baz=239
M11K Mekoryuk 73.92 23 P **P 09 49 47.0 +1.2**
baz=231
S14K Fog Glacier 74.40 28 P **P 09 49 49.9 +1.0**
baz=238
MK31 Makanchi Array 74.50 321*c i*P **P 09 49 49.7 +0.2**
MKAR Makanchi Array 74.50 321 P **P 09 49 49.9 +0.4**
comp=Z,8.3nm,0.9s,baz=106,slow=7.7,SNR=46
comp=Z,8.3nm,0.9s
VNDA Vanda 74.54 176 P **P 09 49 49.0 -0.2**
comp=Z,5.6nm,1.1s,baz=320,slow=5.0,SNR=6.1
VNDA LR LR 10 21 14.1
comp=Z,201nm,18.9s,baz=342,slow=35
comp=Z,5.6nm,1.1s
MAKZ Makanchi 74.70 320 P **P 09 49 50.3 -0.4**
MAKZ IAmb IAmb 09 49 52.1
comp=Z,21nm,1.1s
MAKZ Makanchi 74.70 320 P **P 09 49 50.3 -0.4**
MAKZ pmax pmax
comp=Z,21nm,1.1s
CHGN Chignik 74.96 29 P **P 09 49 52.4 +0.5**
CHGN IAmb IAmb 09 49 53.4
comp=Z,30nm,0.9s
CHGN Chignik 74.96 29 P **P 09 49 52.4 +0.5**
baz=239,SNR=8.9
M13K Dall Lake 75.06 24 P **P 09 49 54.1 +1.7**
baz=234,SNR=8.2
SHLS Shalkode 75.07 316 *e*P **P 09 49 50.9 -2.2**
baz=316
SHLS Shalkode 75.07 316 *e*P **P 09 49 50.8 -2.2**
O14K Tigyukauivet M 75.25 25 P **P 09 49 53.4 -0.1**
O14K IAmb IAmb 09 49 56.4
comp=Z,33nm,1.0s
O14K Tigyukauivet M 75.25 25 P **P 09 49 54.8 +1.2**
baz=236,SNR=9.0
UZB Uzynbulak 75.37 316 *e*P **P 09 49 54.2 -0.6**
comp=Z,9.2nm,0.7s,baz=316
UZB Uzynbulak 75.37 316 *e*P **P 09 49 54.2 -0.6**
UZB pmax pmax
comp=Z,9.0nm,0.7s
N14K Kuskokwak Cree 75.45 25 P **P 09 49 55.8 +1.1**
baz=236,SNR=5.7
KPKS Kokpek 75.70 316 *e*P **P 09 49 56.3 -0.4**
comp=Z,8.7nm,1.1s,baz=316
KPKS Kokpek 75.70 316 *e*P **P 09 49 56.3 -0.4**
KPKS pmax pmax
comp=Z,9.0nm,1.1s
TIXI Tiksi 75.73 355 LR LR 10 26 07.7
comp=Z,37nm,18.1s,baz=186,slow=38
TIXI Tiksi 75.73 355⇑*e*P **P 09 49 55.0 -1.1**
TIXI pmax pmax
comp=Z,31nm,1.3s
SATY Saty 75.77 316 *e*P **P 09 49 56.7 -0.4**
comp=Z,8.0nm,0.9s,baz=316
SATY Saty 75.77 316 *e*P **P 09 49 56.6 -0.5**
SATY pmax pmax
comp=Z,8.0nm,0.9s
M14K Bethel 75.82 24 P **P 09 49 57.9 +1.1**
M14K Bethel 75.82 24 P **P 09 49 58.4 +1.6**
baz=235,SNR=26
O15K Ungalikthiuk R 75.83 26 P **P 09 49 58.2 +1.3**
baz=237,SNR=14
L14K Kuka Creek 75.87 23 P **P 09 49 57.9 +0.9**
L14K Kuka Creek 75.87 23 P **P 09 49 58.4 +1.3**
baz=234,SNR=23
ZALV Zalesovo Beam 75.99 328 P **P 09 49 57.1 -0.8**
comp=Z,5.6nm,0.8s,baz=109,slow=5.7,SNR=19
ZALV LR LR 10 22 23.5
comp=Z,144nm,21.4s,baz=90,slow=35
comp=Z,5.6nm,0.8s
CHIR Chirikof Islan 76.08 30 P **P 09 49 59.2 +0.8**
baz=242
N15K Kwethluk River 76.26 25 P **P 09 50 00.7 +1.4**
baz=237,SNR=20
M15K Kasigluk River 76.30 24 P **P 09 50 00.6 +1.1**
baz=236,SNR=16
J14K Nanvaranak Lak 76.38 22 IAmb IAmb 09 50 03.5
comp=Z,22nm,1.0s
J14K Nanvaranak Lak 76.38 22 P **P 09 50 01.5 +1.6**
baz=233
TDK Taldyqorghan 76.39 318 *e*P **P 09 50 00.2 -0.4**
comp=Z,8.5nm,0.5s,baz=318
TDK Taldyqorghan 76.39 318 *e*P **P 09 50 00.1 -0.4**
TDK pmax pmax
comp=Z,9.0nm,0.5s
KSH Kashi 76.46 312 P **P 09 50 02.9 +1.8**
KSH pP pwP 09 50 06.5 -1.3
KSH pmax pmax
comp=Z,17nm,1.1s
KSH LR LR
comp=Z,450nm,15.8s
KSH LR LR
comp=Z,410nm,14.8s
ARXS Arharly 76.53 317 *e*P **P 09 50 01.0 -0.4**
L15K Ungalak Mounta 76.54 23 P **P 09 50 01.7 +0.8**
baz=235,SNR=8.3
P16K Nushagak River 76.56 26 P **P 09 50 01.7 +0.7**
baz=239,SNR=5.6
R17L Mt. Peulik Vol 76.60 28 P **P 09 50 02.2 +0.9**
baz=241,SNR=19
TNA Tin City 76.69 18 P **P 09 50 02.1 +0.5**
baz=228
MDOK Medeo 76.74 316 *e*P **P 09 50 02.1 -0.6**
baz=316
MDOK Medeo 76.74 316 *e*P **P 09 50 02.1 -0.6**
O16K Kokwok River B 76.80 26 P **P 09 50 03.5 +1.1**
O16K Kokwok River B 76.80 26 P **P 09 50 03.5 +1.1**
baz=239,SNR=33
AAA Alma-Ata 76.85 316 *e*P **P 09 50 02.7 -0.5**
comp=Z,9.8nm,0.5s,baz=316
AAA Alma-Ata 76.85 316 *e*P **P 09 50 02.6 -0.5**
AAA pmax pmax
comp=Z,10.0nm,0.5s
ANM Nome 76.86 20 P **P 09 50 03.9 +1.2**
baz=231
K15K Wolf Creek Mou 76.87 23 P **P 09 50 04.3 +1.5**
baz=235,SNR=17
N16K Nishlik Lake 76.98 25 P **P 09 50 05.2 +1.8**
baz=238,SNR=23
CHKK Chushkaly 77.00 316 *e*P **P 09 50 03.3 -0.6**
baz=316
CHKK Chushkaly 77.00 316 *e*P **P 09 50 03.3 -0.6**
NIL Nilore 77.11 305 P **P 09 50 05.2 +0.4**
NIL Nilore 77.11 305 P **P 09 50 05.2 +0.4**
NIL pmax pmax
comp=Z,93nm,0.7s
SEM Semipalatinsk 77.11 323 *e*P **P 09 50 03.6 -1.1**
baz=324
SEM Semipalatinsk 77.11 323 *e*P **P 09 50 03.6 -1.1**
Q17K Contact Creek 77.12 28 P **P 09 50 04.7 +0.2**
baz=241,SNR=44
SII Sitkinak Islan 77.14 30 P **P 09 50 06.1 +1.7**
SII Sitkinak Islan 77.14 30 P **P 09 50 05.4 +1.0**
SII Sitkinak Islan 77.14 30 P **P 09 50 05.4 +1.0**
baz=243,SNR=6.2
M16K Timber Creek 77.19 24 P **P 09 50 06.0 +1.4**
baz=238,SNR=27
BOOM Boomskoye usch 77.32 315 P **P 09 50 06.7 +0.7**
BOOM Boomskoye usch 77.32 315 P **P 09 50 06.7 +0.7**
BOOM pmax pmax
comp=Z,14nm,0.9s
O17K Koliganek Bris 77.33 26 P **P 09 50 06.8 +1.4**
baz=240,SNR=106
P17K Kvichak River 77.33 27 P **P 09 50 05.2 -0.2**
baz=240
L16K Owhat River 77.35 24 P **P 09 50 06.6 +1.2**
L16K IAmb IAmb 09 50 07.6
comp=Z,52nm,1.4s
L16K Owhat River 77.35 24 P **P 09 50 06.7 +1.2**
baz=237,SNR=17
ACHA Angle Creek He 77.36 28 P **P 09 50 06.2 +0.5**
ACHA IAmb IAmb 09 50 07.1
comp=Z,27nm,0.8s
R18K Karluk 77.47 29 P **P 09 50 06.8 +0.7**
baz=243,SNR=12
G15K Niukluk 77.58 20 P **P 09 50 07.6 +0.9**
baz=232
N17K Nushagak Hills 77.67 25 IAmb IAmb 09 50 10.1
comp=Z,33nm,0.8s
N17K Nushagak Hills 77.67 25 P **P 09 50 09.2 +1.9**
baz=240,SNR=30
TKM2 Tokmak 2 77.69 315 P **P 09 50 08.5 +0.4**
SNR=8.8
Q18K Katmai Hardscr 77.72 27 P **P 09 50 07.8 0.0**
baz=242,SNR=49
J16K Anvik River 77.79 22 IAmb IAmb 09 50 10.2
comp=Z,15nm,0.9s
J16K Anvik River 77.79 22 P **P 09 50 09.5 +1.6**
baz=236
F15K North Star Dit 77.82 19 P **P 09 50 09.2 +1.2**
baz=232
OHAK Old Harbor 77.88 29 P **P 09 50 10.4 +1.9**
OHAK Old Harbor 77.88 29 IAmb IAmb 09 50 10.6
comp=Z,50nm,1.2s
OHAK Old Harbor 77.88 29 P **P 09 50 09.6 +1.2**
baz=244,SNR=14
P18K Big Mountain, 77.97 27 IAmb IAmb 09 50 09.9
comp=Z,15nm,0.8s
P18K Big Mountain, 77.97 27 P **P 09 50 08.9 -0.2**
baz=242,SNR=11
H16K Elim 77.98 20 P **P 09 50 09.9 +1.0**
baz=234
M17K Holitna River 78.02 24 P **P 09 50 11.1 +1.9**
baz=239,SNR=27
L17K Donlin 78.05 24 P **P 09 50 11.0 +1.6**
baz=238,SNR=17
I17K Unalakleet 78.09 21 P **P 09 50 11.4 +1.9**
baz=236
KURK Kurchatov 78.20 323 P **P 09 50 10.2 -0.2**
KURK IAmb IAmb 09 50 11.5
comp=Z,24nm,0.9s
KURK Kurchatov 78.20 323*c i*P **P 09 50 10.2 -0.2**
KURK pmax pmax

comp=Z,37nm,1.3s
O18K **Koktuh Hills** 78.20 26 P P 09 50 10.8 +0.5
O18K IAmb IAmb 09 50 11.7
comp=Z,20nm,0.9s
O18K **Koktuh Hills** 78.20 26 P P 09 50 10.8 +0.5
baz=242,SNR=14
KURBB **Kurchatov Arra** 78.22 323 P P 09 50 10.3 -0.2
comp=Z,10.0nm,0.9s,baz=108,slow=5.3,SNR=48
comp=Z,10.0nm,0.9s
UCH **Uchtor** 78.27 314 P P 09 50 12.7 +1.1
SNR=15
N18K **Kilae Creek** 78.30 25 P P 09 50 12.0 +1.1
N18K IAmb IAmb 09 50 13.6
comp=Z,29nm,0.9s
N18K **Kilae Creek** 78.30 25 P P 09 50 12.6 +1.7
baz=241,SNR=15
CHMS **Chumysh** 78.31 315 P P 09 50 11.7 +0.4
SNR=5.8
K17K **Iditarod** 78.36 23 P P 09 50 12.9 +1.8
baz=238,SNR=42
G16K **Koyuk River** 78.39 20 P P 09 50 12.4 +1.2
baz=234
AAK **Ala-Archa** 78.39 315 P P 09 50 12.0 +0.1
AAK **Ala-Archa** 78.39 315*ce*P P 09 50 12.5 +0.6
AAK pmax pmax
comp=Z,6.0nm,0.7s
J17K **VABM Dome** 78.42 22 P P 09 50 13.2 +1.8
baz=237,SNR=24
KDAK **Kodiak Island** 78.47 29 P P 09 50 12.8 +1.2
KDAK **Kodiak Island** 78.47 29 P P 09 50 12.9 +1.2
baz=244
KDAK **Kodiak Island** 78.47 29 LR LR 10 24 56.4
comp=Z,95nm,18.3s,baz=268,slow=36
KDAK **Kodiak Island** 78.47 29*c i*P P 09 50 12.2 +0.5
Q19K **Cape Douglas,** 78.47 28 P P 09 50 12.1 +0.2
baz=243,SNR=11
USP **Ospenovka** 78.56 315 P P 09 50 13.0 +0.3
SNR=7.2
SVW2 **Sparrevohn** 78.64 25 P P 09 50 14.9 +2.2
M18K **Stony River** 78.73 25 P P 09 50 14.8 +1.7
baz=241,SNR=51
L18K **Granite Mounta** 78.74 24 IAmb IAmb 09 50 16.0
comp=Z,53nm,1.1s
L18K **Granite Mounta** 78.74 24 P P 09 50 14.9 +1.7
baz=240,SNR=34
O19K **Port Alsworth** 78.75 26 P P 09 50 13.7 +0.4
baz=242
AML **Almayashu** 78.83 314 P P 09 50 15.4 +0.8
SNR=14
EKS2 **Erkin-Say** 78.91 315 P P 09 50 15.3 +0.6
SNR=8.6
Q20K **Shuyak Island** 78.92 28 P P 09 50 15.1 +0.9
baz=244,SNR=9.2
H17K **Granite Mounta** 78.97 21 IAmb IAmb 09 50 17.0
comp=Z,37nm,0.9s
H17K **Granite Mounta** 78.97 21 P P 09 50 15.9 +1.6
baz=236,SNR=13
N19K **Bonanza Creek** 78.97 26 P P 09 50 15.9 +1.3
baz=242,SNR=45
P19K **Oil Pt** 78.99 27 P P 09 50 14.9 +0.3
baz=243,SNR=17
G17K **Kiwalik Mounta** 79.03 20 P P 09 50 16.3 +1.6
baz=235,SNR=8.2
C16K **Lisburne Hills** 79.23 17 P P 09 50 16.4 +0.6
baz=230
BTLS **Baital** 79.36 317 *e*P P 09 50 16.4 -0.6
baz=317
BTLS **Baital** 79.36 317 *e*P P 09 50 16.3 -0.6
J18K **Innoko River** 79.36 23 P P 09 50 17.4 +0.8
J18K IAmb IAmb 09 50 18.6
comp=Z,22nm,0.9s
J18K **Innoko River** 79.36 23 P P 09 50 17.4 +0.8
baz=240,SNR=21
TTA **Tatalina** 79.37 23 P P 09 50 18.1 +1.4
TTA **Tatalina** 79.37 23 P P 09 50 17.5 +0.8
TTA IAmb IAmb 09 50 18.9
comp=Z,23nm,0.8s
TTA **Tatalina** 79.37 23 P P 09 50 17.8 +1.1
baz=240,SNR=24
TTA **Tatalina** 79.37 23 P P 09 50 17.5 +0.8
TTA pmax pmax
comp=Z,23nm,0.8s
O20K **Slope Mountain** 79.46 27 P P 09 50 17.4 +0.2
baz=244
L19K **White Mountain** 79.47 24 P P 09 50 18.8 +1.5
baz=241,SNR=56
M19K **Big River Lodg** 79.53 25 P P 09 50 19.2 +1.6
baz=242
D17K **Noatak River** 79.54 18 P P 09 50 18.8 +1.3
baz=233
E17K **Hotham Inlet** 79.56 18 P P 09 50 18.8 +1.2
baz=234
DRK **Karamyk** 79.58 311 P P 09 50 18.4 -0.2
DRK **Karamyk** 79.58 311 P P 09 50 18.4 -0.2
DRK pmax pmax
comp=Z,12nm,0.7s
H18K **Honhosa River** 79.64 21 P P 09 50 18.7 +0.6
baz=238
HOM **Homer** 79.72 27 P P 09 50 19.3 +0.7
baz=245
RDOG **Red Dog Mine** 79.81 17 P P 09 50 19.8 +0.9
baz=233
G18K **Tagagawik** 79.94 20 IAmb IAmb 09 50 21.5
comp=Z,28nm,0.9s
G18K **Tagagawik** 79.94 20 P P 09 50 20.8 +1.1
baz=237,SNR=14
GCSA **Galena City Sc** 79.96 22 P P 09 50 20.7 +0.9
baz=239
C17K **DeLong Mountai** 79.99 17 P P 09 50 21.0 +1.1
baz=233
F18K **Selawik** 79.99 19 P P 09 50 20.7 +0.8
baz=236
L20K **Farewell, AK** 80.01 24 P P 09 50 21.5 +1.3
baz=242,SNR=24
M20K **Styx River** 80.05 25 P P 09 50 21.6 +1.2
baz=243,SNR=42
J19K **Poorman** 80.05 23 IAmb IAmb 09 50 22.8
comp=Z,52nm,1.3s
J19K **Poorman** 80.05 23 P P 09 50 21.5 +1.2
baz=240,SNR=23
BRLK **Bradley Lake** 80.11 27 IAmb IAmb 09 50 22.7
comp=Z,22nm,0.7s
N20K **Mount Spurr** 80.14 26 P P 09 50 20.6 -0.4
baz=244
E18K **Tukpahlearik C** 80.15 18 IAmb IAmb 09 50 23.1
comp=Z,27nm,0.9s
E18K **Tukpahlearik C** 80.15 18 P P 09 50 21.9 +1.1
baz=235,SNR=7.1
BRSE **Bradley Lake S** 80.17 27 P P 09 50 21.4 +0.3
baz=246,SNR=9.1
K20K **Telida** 80.35 23 IAmb IAmb 09 50 24.5
comp=Z,34nm,0.9s
K20K **Telida** 80.35 23 P P 09 50 23.5 +1.6
baz=242,SNR=33
H19K **Roundabout Mou** 80.52 21 IAmb IAmb 09 50 25.1
comp=Z,43nm,0.9s
H19K **Roundabout Mou** 80.52 21 P P 09 50 24.2 +1.4
baz=239,SNR=18
GAR **Garm** 80.59 310 P P 09 50 23.1 -0.8
GAR IAmb IAmb 09 50 25.1
comp=Z,59nm,1.5s
G19K **Purcell Mounta** 80.61 20 IAmb IAmb 09 50 25.6
comp=Z,35nm,0.8s
G19K **Purcell Mounta** 80.61 20 P P 09 50 24.6 +1.3
baz=239,SNR=22
J20K **Nowinta River** 80.71 23 IAmb IAmb 09 50 26.4
comp=Z,42nm,1.0s
J20K **Nowinta River** 80.71 23 P P 09 50 25.3 +1.5
baz=242,SNR=41
F19K **Shaleruckik Mo** 80.74 20 IAmb IAmb 09 50 25.7
comp=Z,18nm,0.8s
F19K **Shaleruckik Mo** 80.74 20 P P 09 50 24.6 +0.7
baz=238,SNR=10
SKT **Skwentna** 80.77 25 P P 09 50 23.4 -0.9
baz=244,SNR=8.0
I20K **Naaghedeneel** 80.88 22 P P 09 50 26.1 +1.4
baz=241,SNR=15
SUA **Susitna One** 80.89 26 IAmb IAmb 09 50 26.1
comp=Z,24nm,0.8s
SUA **Susitna One** 80.89 26 P P 09 50 24.6 -0.4
baz=245,SNR=14
PPLA **Purkeypile** 80.90 24 P P 09 50 25.3 +0.3
baz=244
SEW **Seward** 80.91 27 P P 09 50 25.3 +0.3
baz=247,SNR=16
B18K **Kokolik River** 80.92 17 P P 09 50 25.5 +0.6
baz=234
O22K **Cooper Landing** 80.94 27 P P 09 50 25.4 +0.4
baz=246
H20K **Anotleneega Mo** 81.07 21 P P 09 50 26.7 +1.0
baz=241,SNR=26
CAST **Castle Rocks** 81.17 24 P P 09 50 26.6 +0.2
baz=244
RC01 **Rabbit Creek A** 81.18 26 P P 09 50 26.7 +0.3
baz=246,SNR=23
E19K **Redstone River** 81.25 19 P P 09 50 27.9 +1.2
baz=238,SNR=23
M22K **Willow** 81.28 26 P P 09 50 26.9 +0.1
M22K **Willow** 81.28 26 P P 09 50 26.6 -0.3
baz=246,SNR=26
CHUM **Lake Minchumin** 81.29 23 P P 09 50 27.9 +1.0
baz=244
KKAR **Karatay Array** 81.34 314 P P 09 50 27.2 -0.5
KKAR **Karatay Array** 81.34 314 P P 09 50 27.2 -0.5
KKAR pmax pmax
comp=Z,19nm,1.3s
CHGR **Chuyangaron** 81.41 310 P P 09 50 27.7 -0.6
CHGR IAmb IAmb 09 50 28.8
comp=Z,26nm,0.8s
CHGR **Chuyangaron** 81.41 310 P P 09 50 27.7 -0.6
CHGR pmax pmax
comp=Z,26nm,0.8s
C19K **Lookout Ridge** 81.42 17 P P 09 50 28.9 +1.4
baz=236,SNR=5.9
IUG **Iuzhnay** 81.48 313 *e*P P 09 50 27.9 -0.6
baz=313
IUG **Iuzhnay** 81.48 313 *e*P P 09 50 27.9 -0.6
CUT **Chulitna** 81.49 25 P P 09 50 27.7 -0.3
CUT **Chulitna** 81.49 25 P P 09 50 28.6 +0.6
baz=246
SIMJ **Simiganj** 81.53 310 P P 09 50 28.0 -0.9
D19K **Kuna River** 81.53 18 P P 09 50 29.1 +1.0
baz=237
F20K **Avaraart Lake** 81.55 20 IAmb IAmb 09 50 30.6
comp=Z,38nm,1.1s
F20K **Avaraart Lake** 81.55 20 P P 09 50 29.6 +1.5
baz=240,SNR=23
A19K **Wainwright** 81.62 16 P P 09 50 29.0 +0.5
baz=234
PMR **Palmer** 81.65 26 P P 09 50 30.6 +1.8
PMR **Palmer** 81.65 26 P P 09 50 28.8 0.0
PMR IAmb IAmb 09 50 30.0
comp=Z,40nm,1.1s
PMR **Palmer** 81.65 26 P P 09 50 28.9 +0.1
baz=247,SNR=30
PMR **Palmer** 81.65 26 P P 09 50 28.8 0.0
PMR pmax pmax
comp=Z,41nm,1.1s
BRLS **Boroldoy** 81.81 314 *e*P P 09 50 30.1 -0.2
baz=314
BRLS **Boroldoy** 81.81 314 *e*P P 09 50 30.0 -0.2
GHO **Glory Hole Cre** 81.81 26 IAmb IAmb 09 50 31.1
comp=Z,30nm,1.0s
P23K **Montague Islan** 81.82 28 P P 09 50 30.3 +0.5
baz=248
KNK **Knik Glacier** 81.87 26 IAmb IAmb 09 50 31.7
comp=Z,42nm,1.0s
KNK **Knik Glacier** 81.87 26 P P 09 50 30.5 +0.4
baz=247,SNR=12
H21K **Melozitna Rive** 81.91 22 P P 09 50 31.0 +0.8
baz=243,SNR=14
BPAW **Bear Paw Mtn.** 81.91 23 IAmb IAmb 09 50 31.4
comp=Z,20nm,0.9s
BPAW **Bear Paw Mtn.** 81.91 23 P P 09 50 30.4 +0.1
baz=245,SNR=19
E20K **Nigu River** 82.01 19 P P 09 50 31.7 +1.0
baz=239,SNR=14
G21K **Allakaket** 82.05 21 P P 09 50 31.7 +0.7
baz=242,SNR=12
SML **Sawmill** 82.08 26 P P 09 50 31.6 +0.4
baz=247,SNR=39
D20K **Etivluk River** 82.11 18 P P 09 50 31.9 +0.7
baz=239,SNR=6.1
M23K **Glacier View** 82.34 26 P P 09 50 32.7 +0.2
baz=248,SNR=8.4
NRIK **Noril'sk** 82.36 342 P P 09 50 32.5 +0.1
comp=Z,39nm,0.8s,baz=125,slow=4.7,SNR=46
NRIK LR LR 10 25 16.5
comp=Z,129nm,21.8s,baz=150,slow=34
comp=Z,39nm,0.8s
NRIK **Noril'sk** 82.36 342*c i*P P 09 50 32.4 -0.1
NRIK pmax pmax
comp=Z,52nm,0.9s
HIN **Hinchinbrook I** 82.38 28 IAmb IAmb 09 50 34.4
comp=Z,30nm,0.9s
WAT1 **Susitna Watana** 82.39 25 P P 09 50 32.7 -0.1
baz=247
F21K **Alatna River** 82.39 20 P P 09 50 33.5 +0.7
baz=242,SNR=6.8
MLY **Manley** 82.41 23 IAmb IAmb 09 50 34.6
comp=Z,40nm,1.0s
MLY **Manley** 82.41 23 P P 09 50 33.5 +0.7
baz=245,SNR=44
SCM **Sheep Creek Mo** 82.53 26 P P 09 50 34.1 +0.5
baz=248,SNR=24
H22K **Ishtalitna Cre** 82.54 22 P P 09 50 34.4 +0.9
baz=244,SNR=12
MCK **McKinley** 82.58 24 P P 09 50 33.5 -0.3
baz=247,SNR=30
B20K **Meade River** 82.63 17 P P 09 50 34.7 +0.9
baz=238
WAT6 **Susitna Watana** 82.64 25 P P 09 50 34.4 +0.2
baz=248,SNR=23
EYAK **Cordova Ski Ar** 82.79 28 P P 09 50 36.6 +1.8
EYAK **Cordova Ski Ar** 82.79 28 P P 09 50 35.2 +0.4
baz=250
E21K **Killik River** 82.81 19 P P 09 50 35.8 +0.8
baz=241
NEA2 **Nenana** 82.87 23 IAmb IAmb 09 50 36.1
comp=Z,26nm,0.9s
NEA2 **Nenana** 82.87 23 P P 09 50 35.0 -0.3
baz=246,SNR=32
C21K **Knifeblade Rid** 82.91 18 P P 09 50 36.4 +1.0
baz=240
G22K **Bettles** 82.95 21 P P 09 50 36.2 +0.7
baz=244
F22K **John River** 82.97 20 P P 09 50 36.8 +1.0
baz=243
DHY **Denali Highway** 82.98 25 P P 09 50 36.5 +0.5
baz=248,SNR=38
I23K **Minto, Yukon-K** 82.98 23 IAmb IAmb 09 50 37.4
comp=Z,31nm,1.4s
I23K **Minto, Yukon-K** 82.98 23 P P 09 50 36.1 +0.3
baz=246,SNR=12
KLU **Klutina** 83.04 27 P P 09 50 36.9 +0.6
baz=250,SNR=27
M24K **Tolsona, Glenn** 83.14 26 P P 09 50 37.6 +0.8
baz=249,SNR=11
B21K **Ikpikpuk River** 83.19 18 P P 09 50 37.5 +0.7
baz=241
H23K **Yukon River** 83.19 22 IAmb IAmb 09 50 38.8
comp=Z,18nm,1.0s
H23K **Yukon River** 83.19 22 P P 09 50 37.7 +0.8
baz=246,SNR=20
KAIM **Kayak Island** 83.20 29 P P 09 50 38.0 +1.0
baz=251
MDM **Murphy Dome** 83.35 23 IAmb IAmb 09 50 38.3
comp=Z,25nm,1.5s
G23K **Bananza Creek** 83.39 21 IAmb IAmb 09 50 40.0
comp=Z,23nm,1.1s
G23K **Bananza Creek** 83.39 21 P P 09 50 39.0 +1.1
baz=245,SNR=19
D22K **Ayikyak River** 83.44 19 P P 09 50 39.5 +1.4
baz=243
BMRM **Bremner River** 83.46 27 P P 09 50 38.8 +0.4
baz=251,SNR=16
COLA **College** 83.47 23 P P 09 50 39.2 +1.0
COLA **College** 83.47 23 P P 09 50 37.7 -0.5
COLA **College** 83.47 23 P P 09 50 37.6 -0.7
baz=248
COLA **College** 83.47 23*c i*P P 09 50 37.5 -0.7
COLA pmax pmax
comp=Z,38nm,0.9s
A21K **Barrow** 83.47 16 P P 09 50 38.5 +0.3
baz=239
COLD **Coldfoot** 83.54 21 P P 09 50 39.6 +1.0
baz=245,SNR=15
HDA **Harding Lake** 83.65 24 IAmb IAmb 09 50 39.6
comp=Z,12nm,0.9s
HDA **Harding Lake** 83.65 24 P P 09 50 38.5 -0.7
baz=248,SNR=17
N25K **Chitina, Valde** 83.67 27 P P 09 50 40.4 +0.8
baz=251,SNR=7.7
HARP **HAARP** 83.69 26 P P 09 50 40.2 +0.7
baz=250,SNR=5.2
POKR **Poker Plat Res** 83.72 23 P P 09 50 39.0 -0.7
baz=248
PAX **Paxson** 83.75 25 P P 09 50 40.1 +0.2
baz=250,SNR=14
BVAR **Borovoye Array** 83.75 324 P P 09 50 40.0 0.0
comp=Z,39nm,0.8s,baz=104,slow=6.3,SNR=140
BVAR LR LR 10 29 39.1
comp=Z,51nm,18.5s,baz=79,slow=37
comp=Z,39nm,0.8s
A22K **Sinclair Lake** 83.77 17 P P 09 50 40.4 +0.7
baz=240
BGLC **Bering Glacier** 83.81 29 P P 09 50 40.9 +0.8
baz=252
ILAR **Eielson Array** 83.81 24 P P 09 50 38.9 -1.2
comp=Z,25nm,0.8s,baz=255,slow=5.0,SNR=234
ILAR LR LR 10 26 49.4
comp=Z,87nm,18.4s,baz=246,slow=35
comp=Z,25nm,0.8s
BRVK **Borovoye** 83.82 324 P P 09 50 40.3 0.0
BRVK IAmb IAmb 09 50 41.5
comp=Z,28nm,0.9s
BRVK **Borovoye** 83.82 324*c i*P P 09 50 40.2 -0.2
BRVK pmax pmax
comp=Z,27nm,0.8s
H24K **Noodor Dome** 83.83 22 IAmb IAmb 09 50 42.5
comp=Z,17nm,0.9s
H24K **Noodor Dome** 83.83 22 P P 09 50 40.7 +0.5
baz=247,SNR=21
B22K **Teshekpuk Lake** 83.90 17 P P 09 50 41.2 +0.8
baz=242
K24K **Donnelly Dome** 83.91 25 P P 09 50 40.8 +0.1
baz=250,SNR=5.8
MAW **Mawson** 83.95 202 P P 09 50 40.9 +0.1
comp=Z,7.0nm,0.8s,baz=54,slow=6.6,SNR=13
MAW LR LR 10 27 12.5
comp=Z,79nm,18.0s,baz=76,slow=35
comp=Z,7.0nm,0.8s
GLB **Gilahina Butte** 83.97 27 IAmb IAmb 09 50 42.7
comp=Z,22nm,1.0s
VRDI **Verde Repeater** 84.07 27 IAmb IAmb 09 50 43.3
comp=Z,16nm,1.1s
CRQE **Cirque** 84.09 28 P P 09 50 42.4 +0.6
baz=252,SNR=9.1
E23K **Chandalar** 84.09 20 P P 09 50 42.7 +1.2
baz=246,SNR=9.8
WAX **Waxell Ridge** 84.11 28 IAmb IAmb 09 50 48.9
comp=Z,24nm,1.0s
D23K **Nanushuk River** 84.12 19 P P 09 50 43.2 +1.6
baz=244
TGL **Tana Glacier** 84.21 28 IAmb IAmb 09 50 44.2
comp=Z,31nm,1.1s
G24K **Hadweenzic Riv** 84.31 22 P P 09 50 43.4 +0.8
baz=248,SNR=21
MCARA **McCarthy VSAT** 84.32 27 IAmb IAmb 09 50 44.5
comp=Z,16nm,0.9s
MCARA **McCarthy VSAT** 84.32 27 P P 09 50 43.2 +0.5
baz=252,SNR=5.2
TOLK **Toolik Lake Re** 84.35 20 IAmb IAmb 09 50 45.1
comp=Z,24nm,1.2s
TOLK **Toolik Lake Re** 84.35 20 P P 09 50 43.9 +1.1
baz=246,SNR=7.2
J25K **Salcha River,** 84.36 24 P P 09 50 42.9 -0.1
J25K **Salcha River,** 84.36 24 P P 09 50 42.8 -0.1
baz=250,SNR=79
ISLE **Juniper Island** 84.40 28 IAmb IAmb 09 50 44.9
comp=Z,13nm,1.0s
MESA **MESA** 84.46 29 P P 09 50 44.5 +0.8
baz=253
F24K **Squaw Lake** 84.48 21 IAmb IAmb 09 50 45.9
comp=Z,27nm,1.1s
F24K **Squaw Lake** 84.48 21 P P 09 50 44.9 +1.4
baz=247,SNR=17
E24K **Your Creek** 84.49 20 P P 09 50 44.0 +0.5
baz=247,SNR=6.6
MENT **Mentasta** 84.49 26 P P 09 50 44.8 +1.2
MENT **Mentasta** 84.49 26 IAmb IAmb 09 50 45.3
comp=Z,12nm,0.8s
C23K **Itkillik River** 84.52 18 P P 09 50 44.4 +0.9
baz=244,SNR=8.4
PRP **Porcupine Dome** 84.61 23 P P 09 50 43.5 -0.8
baz=250
M26K **Nabesna, AK** 84.64 26 P P 09 50 44.7 +0.3
baz=252,SNR=6.8
L26K **Log Cabin Wild** 84.68 26 IAmb IAmb 09 50 51.5
comp=Z,18nm,1.0s
L26K **Log Cabin Wild** 84.68 26 P P 09 50 45.1 +0.5
baz=252,SNR=17
SCRK **Sand Creek** 84.72 25 IAmb IAmb 09 50 46.1
comp=Z,12nm,1.0s
SCRK **Sand Creek** 84.72 25 P P 09 50 45.1 +0.2
baz=251,SNR=18
H25L **Birch Creek** 84.77 22 P P 09 50 45.8 +0.9
baz=249,SNR=12
D24K **Happy Valley** 84.81 19 IAmb IAmb 09 50 47.6
comp=Z,38nm,1.2s
D24K **Happy Valley** 84.81 19 P P 09 50 46.2 +1.2
baz=246,SNR=8.7
G25K **Bearman Lake** 84.84 22 P P 09 50 46.4 +1.2
baz=249
TABL **Table Mountain** 84.92 29 IAmb IAmb 09 50 47.8
comp=Z,18nm,0.8s
CTG **Chitna Glacier** 84.97 28 P P 09 50 47.2 +1.0
baz=254,SNR=14
J26L **Joseph Creek** 85.06 24 IAmb IAmb 09 50 48.1
comp=Z,22nm,1.0s
J26L **Joseph Creek** 85.06 24 P P 09 50 46.9 +0.4
baz=252,SNR=36
C24K **Franklin Bluff** 85.08 19 P P 09 50 47.4 +1.0
baz=246
LOGN **Logan Glacier** 85.09 28 IAmb IAmb 09 50 48.7
comp=Z,19nm,1.0s
M27K **Edge Creek, AK** 85.13 27 P P 09 50 47.9 +0.9
baz=253,SNR=32
PINM **Pinnacle** 85.25 29 P P 09 50 48.0 +0.5
baz=255
F25K **Christian Rive** 85.31 21 P P 09 50 48.7 +1.1
baz=249,SNR=10
L27K **Beaver Creek,** 85.35 26 IAmb IAmb 09 50 50.0
comp=Z,30nm,1.2s
L27K **Beaver Creek,** 85.35 26 P P 09 50 48.9 +0.9
baz=253,SNR=40
O28M **Mount Upton** 85.46 28 P P 09 50 49.5 +0.6
baz=255,SNR=11
I26K **Coal Creek Min** 85.48 24 P P 09 50 48.6 +0.1
baz=252
K27K **Chicken** 85.53 25 P P 09 50 50.1 +1.3
baz=253
PNL **Peninsula** 85.56 29 P P 09 50 50.5 +1.5
PNL **Peninsula** 85.56 29 P P 09 50 49.8 +0.8
baz=256,SNR=5.3
YUK3 **Moose Creek** 85.60 27 P P 09 50 50.4 +0.9
baz=254,SNR=14
D25K **Kavik River** 85.68 19 IAmb IAmb 09 50 51.3
comp=Z,28nm,1.2s
D25K **Kavik River** 85.68 19 P P 09 50 50.2 +0.7
baz=248,SNR=14
G26K **Porcupine Rive** 85.77 22 P P 09 50 51.1 +1.3
baz=251,SNR=21
F26K **Sheenjek River** 85.88 21 P P 09 50 52.0 +1.5
baz=251,SNR=16
O29M **Mount Kennedy** 86.12 29 IAmb IAmb 09 50 54.1
comp=Z,16nm,0.8s
O29M **Mount Kennedy** 86.12 29 P P 09 50 53.0 +1.0
baz=256,SNR=15
EGAK **Eagle** 86.13 24 IAmb IAmb 09 50 53.4
comp=Z,21nm,0.9s
EGAK **Eagle** 86.13 24 P P 09 50 52.2 +0.5
baz=254,SNR=40
I27K **Kandik River** 86.18 23 P P 09 50 53.0 +1.0
baz=253,SNR=24
YUK4 **Talbot Arm** 86.33 28 P P 09 50 54.3 +1.2
baz=256
P29M **Windy Craggy** 86.37 30 IAmb IAmb 09 51 00.5
comp=Z,29nm,0.8s
P29M **Windy Craggy** 86.37 30 P P 09 50 54.0 +1.0
baz=257,SNR=17
YUK6 **Outpost Mounta** 86.37 28 P P 09 50 54.1 +0.8
baz=256
C26K **Camden Bay** 86.37 19 P P 09 50 54.4 +1.6
baz=250
H27K **Steamboat Moun** 86.40 23 P P 09 50 54.1 +1.0
baz=253,SNR=26
QSPA **South Pole Qui** 86.50 180 P P 09 50 53.4 -0.3
comp=Z,12nm,0.9s,baz=333,slow=0.9,SNR=53
QSPA LR LR 10 30 42.4
comp=Z,154nm,18.7s,baz=12,slow=36
comp=Z,12nm,0.9s
G27K **Doyon Strip** 86.52 22 P P 09 50 54.7 +1.0
baz=253,SNR=7.2

C27K	**Jago River**	86.67	19	P	P	09 50 55.4 +1.1
	baz=251,SNR=20					
DAWY	**Dawson**	86.68	25	P	P	09 50 55.2 +0.7
DAWY	**Dawson**	86.68	25	P	P	09 50 55.5 +1.0
	baz=255,SNR=41					
M29M	**Somme Creek**	86.68	27	IAmb	IAmb	09 50 56.6
	comp=Z,20nm,0.7s					
M29M	**Somme Creek**	86.68	27	P	P	09 50 55.5 +0.8
	baz=256,SNR=36					
S31K	**Pelican**	86.78	32	P	P	09 50 55.7 +0.7
	baz=258					
I28M	**Miner Creek**	86.81	24	IAmb	IAmb	09 51 02.2
	comp=Z,12nm,0.9s					
I28M	**Miner Creek**	86.81	24	P	P	09 50 55.9 +0.6
	baz=255,SNR=18					
P30M	**Million Dollar**	86.86	29	P	P	09 50 56.6 +1.1
	baz=258					
E27K	**Coleen River**	86.95	21	P	P	09 50 56.9 +1.2
	baz=253,SNR=20					
L29M	**L29M**	86.99	26	P	P	09 50 57.1 +1.1
	baz=256,SNR=49					
PLBC	**Pleasant Camp**	87.02	30	P	P	09 50 56.8 +0.7
	baz=258,SNR=16					
SIT	**Sitka**	87.08	33	P	P	09 50 57.5 +1.0
	baz=259					
N30M	**Aishikik Lake**	87.09	28	IAmb	IAmb	09 50 58.6
	comp=Z,17nm,1.0s					
N30M	**Aishikik Lake**	87.09	28	P	P	09 50 57.6 +1.0
	baz=258,SNR=20					
R31K	**City Hall, Gus**	87.12	31	P	P	09 50 57.7 +1.1
	baz=259					
J29N	**Klondike Camp**	87.27	25	IAmb	IAmb	09 50 59.8
	comp=Z,18nm,1.0s					
J29N	**Klondike Camp**	87.27	25	P	P	09 50 58.5 +1.1
	baz=256					
F28M	**Old Crow**	87.41	22	IAmb	IAmb	09 51 00.1
	comp=Z,17nm,1.1s					
F28M	**Old Crow**	87.41	22	P	P	09 50 59.0 +1.1
	baz=255,SNR=16					
O30N	**Mendenhall**	87.42	29	IAmb	IAmb	09 50 59.6
	comp=Z,9.8nm,0.8s					
O30N	**Mendenhall**	87.42	29	P	P	09 50 59.1 +1.0
	baz=258,SNR=15					
K29M	**Barlow Dome**	87.43	26	P	P	09 50 59.3 +1.1
	baz=257,SNR=51					
I29M	**Ogilvie Camp,**	87.45	24	IAmb	IAmb	09 51 05.0
	comp=Z,13nm,0.9s					
I29M	**Ogilvie Camp,**	87.45	24	P	P	09 50 58.7 +0.5
	baz=256,SNR=17					
M30M	**Minto, Yukon**	87.47	27	IAmb	IAmb	09 51 00.3
	comp=Z,21nm,1.2s					
M30M	**Minto, Yukon**	87.47	27	P	P	09 50 59.3 +1.0
	baz=258,SNR=20					
D27M	**Malcolm River**	87.47	20	IAmb	IAmb	09 51 08.9
	comp=Z,15nm,1.1s					
D27M	**Malcolm River**	87.47	20	P	P	09 50 59.2 +0.9
	baz=254					
SKAG	**Skagway**	87.53	30	P	P	09 51 00.4 +1.8
SKAG	**Skagway**	87.53	30	IAmb	IAmb	09 51 00.9
	comp=Z,29nm,1.1s					
SKAG	**Skagway**	87.53	30	P	P	09 50 59.5 +0.9
	baz=259,SNR=8.7					
S32K	**Killisnoo**	87.56	32	P	P	09 50 59.8 +1.0
	baz=260					
H29M	**Whitestone**	87.63	23	IAmb	IAmb	09 51 16.3
	comp=Z,19nm,1.4s					
H29M	**Whitestone**	87.63	23	P	P	09 50 59.7 +0.6
	baz=256					
N31M	**Braeburn, Yuko**	87.71	28	IAmb	IAmb	09 51 01.7
	comp=Z,21nm,1.1s					
N31M	**Braeburn, Yuko**	87.71	28	P	P	09 51 00.6 +1.1
	baz=259,SNR=11					
R32K	**Eaglecrest**	87.73	31	P	P	09 51 00.6 +1.0
	baz=260					
E28M	**Babbage River**	87.80	21	IAmb	IAmb	09 51 02.1
	comp=Z,16nm,1.1s					
E28M	**Babbage River**	87.80	21	P	P	09 51 00.9 +1.1
	baz=255,SNR=14					
JIS	**Juneau Island**	87.80	31	P	P	09 51 01.8 +1.9
JIS	**Juneau Island**	87.80	31	IAmb	IAmb	09 51 02.0
	comp=Z,9.3nm,0.9s					
G29M	**Pine Creek**	87.93	23	P	P	09 51 01.4 +0.9
	baz=256,SNR=13					
MAYO	**Mayo, Yukon**	88.08	26	P	P	09 51 02.0 +0.8
	baz=258,SNR=7.7					
J30M	**Hart River**	88.09	25	IAmb	IAmb	09 51 08.7
	comp=Z,15nm,1.0s					
J30M	**Hart River**	88.09	25	P	P	09 51 02.3 +0.8
	baz=258,SNR=17					
U33K	**Whale Pass**	88.12	34	P	P	09 51 01.9 +0.4
	baz=261					
I30M	**Mount Dempster**	88.21	24	IAmb	IAmb	09 51 03.7
	comp=Z,28nm,1.5s					
I30M	**Mount Dempster**	88.21	24	P	P	09 51 02.5 +0.5
	baz=258,SNR=11					
EPYK	**Eagle Plains**	88.32	23	IAmb	IAmb	09 51 04.8
	comp=Z,21nm,1.1s					
EPYK	**Eagle Plains**	88.32	23	P	P	09 51 02.5 +0.1
	baz=258,SNR=13					
T33K	**Petersburg**	88.32	33	P	P	09 51 03.3 +0.9
	baz=261					
E29M	**Blow River**	88.33	21	P	P	09 51 02.6 +0.3
	baz=256					
P32M	**Atlin**	88.37	30	IAmb	IAmb	09 51 04.7
	comp=Z,14nm,1.1s					
P32M	**Atlin**	88.37	30	P	P	09 51 03.4 +0.7
	baz=260,SNR=7.8					
M31M	**Drury Creek, Y**	88.49	28	P	P	09 51 03.5 +0.3
	baz=260,SNR=7.5					
WRAK	**Wrangell Islan**	88.59	33	P	P	09 51 03.9 +0.1
	baz=262					
G30M	**tAoh Zraii Nji**	88.64	23	IAmb	IAmb	09 51 05.1
	comp=Z,22nm,1.2s					
G30M	**tAoh Zraii Nji**	88.64	23	P	P	09 51 04.0 +0.2
	baz=258,SNR=7.0					
V35K	**Ketchikan**	88.85	35	P	P	09 51 05.6 +0.6
	baz=262					
P33M	**Teslin, Yukon**	88.91	30	P	P	09 51 05.5 +0.1
	baz=261					
N32M	**Quiet Lake**	88.93	29	P	P	09 51 06.1 +0.7
	baz=261					
F30M	**Barrier River**	88.93	22	P	P	09 51 05.5 +0.4
	baz=258,SNR=7.8					
FARO	**Faro, Yukon**	88.98	28	IAmb	IAmb	09 51 07.1
	comp=Z,16nm,1.4s					
FARO	**Faro, Yukon**	88.98	28	P	P	09 51 05.7 +0.1
	baz=261,SNR=13					
Q32M	**Nakina River**	89.00	31	P	P	09 51 06.7 +0.8
	baz=262					
G31M	**Satah River**	89.38	23	IAmb	IAmb	09 51 08.6
	comp=Z,18nm,1.2s					
G31M	**Satah River**	89.38	23	P	P	09 51 07.3 +0.1
	baz=260,SNR=6.4					
S34M	**Telegraph Cree**	89.45	32	P	P	09 51 07.7 0.0
	baz=263					
ABKAR	**Akbulak array**	89.59	319	P	P	09 51 07.3 -1.3
ABKAR				IAmb	IAmb	09 51 08.3
	comp=Z,11nm,0.9s					
F31M	**Tsiigehtchic**	89.67	22	IAmb	IAmb	09 51 09.7
	comp=Z,21nm,1.4s					
F31M	**Tsiigehtchic**	89.67	22	P	P	09 51 08.5 -0.1
	baz=260					
R33M	**Jennings River**	89.72	31	P	P	09 51 09.8 +0.6
	baz=263					
INK	**Inuvik**	89.90	22	P	P	09 51 09.3 -0.4
	baz=261,SNR=6.6					
INK	**Inuvik**	89.90	22	LR	LR	10 30 26.4
	comp=Z,115nm,19.1s,baz=188,slow=35					
DLBC	**Dease Lake**	90.10	32	P	P	09 51 11.7 +0.8
	baz=264					
DLBC	**Dease Lake**	90.10	32	LR	LR	10 25 17.3
	comp=Z,118nm,20.5s,baz=280,slow=32					
BBB	**Bella Bella**	90.58	38	LR	LR	10 25 35.5
	comp=Z,114nm,19.6s,baz=261,slow=32					
WTLY	**Watson Lake, Y**	90.90	30	IAmb	IAmb	09 51 16.4
	comp=Z,11nm,1.0s					
WTLY	**Watson Lake, Y**	90.90	30	P	P	09 51 15.2 +0.6
	baz=265					
AKTO	**Aktyubinsk**	90.93	320	LR	LR	10 33 51.7
	comp=Z,51nm,19.4s,baz=50,slow=37					
ARU	**Arti**	91.07	326	LR	LR	10 32 50.8
	comp=Z,74nm,20.5s,baz=70,slow=36					
ARU	**Arti**	91.07	326	*c iP*	P	09 51 13.5 -1.8
ARU						09 54 50.5
ARU				S	SKSac	10 01 45.3 -1.7
ARU				SS	SS	10 08 16.2 -0.3
ARU				pmax	pmax	
	comp=Z,11nm,1.4s					
TGTN	**Hyland Airport**	91.28	29	P	P	09 51 17.0 +0.7
	baz=265					
LIRD	**Liard River Hi**	92.21	31	P	P	09 51 21.3 +0.7
	baz=267					
TOAD	**Toad River Com**	92.63	31	P	P	09 51 23.2 +0.7
	baz=268					
KOTAN	**Kotaneelee Air**	93.27	30	P	P	09 51 26.3 +0.8
	baz=269					
WRGLY	**Wrigley**	93.60	27	P	P	09 51 27.9 +1.0
	baz=270					
YBH	**Yreka Blue Hor**	93.73	49	LR	LR	10 25 11.8
	comp=Z,156nm,21.9s,baz=285,slow=30					
GNW	**Green Mountain**	93.76	43	P	P	09 51 28.2 +0.2
GNW				IAmb	IAmb	09 51 31.1
	comp=Z,12nm,1.1s					
J05D	**Fort Rock, OR**	94.84	47	P	P	09 51 33.0 -0.3
PINE	**Pine Mountain**	95.05	47	P	P	09 51 34.5 +0.2
PINE				IAmb	IAmb	09 51 38.0
	comp=Z,15nm,1.4s					
PKM	**Mcpherson Peak**	95.93	55	P	P	09 51 38.6 +0.1
	baz=270					
KIRV	**Kirov**	96.03	328	LR	LR	10 35 36.6
	comp=Z,94nm,21.4s,baz=85,slow=36					
KIRV	**Kirov**	96.03	328	*i* P	P	09 51 39.1 +1.0
ELIB	**Princess Elisa**	96.21	195	*d*P	P	09 51 39.3 +0.4
	comp=Z,5.7nm,1.0s					
G08A	**Pilot Rock**	96.45	45	P	P	09 51 40.2 -0.3
NVAR	**Mina Array Bea**	97.11	52	P	P	09 51 42.0 -1.8
	comp=Z,0.6nm,0.6s,baz=250,slow=5.6,SNR=6.7					
NVAR				LR	LR	10 27 24.8
	comp=Z,134nm,21.8s,baz=270,slow=30					
	comp=Z,0.6nm,0.6s					
BELG	**Belogornoye**	97.44	322	*d i* P	P	09 51 42.8 -1.8
BELG				pmax	pmax	
	comp=Z,4.0nm,0.9s					
NEW	**Newport**	97.58	42	LR	LR	10 28 36.3
	comp=Z,91nm,20.4s,baz=290,slow=31					
BMO	**Blue Mountains**	97.63	45	IAmb	IAmb	09 51 47.8
	comp=Z,12nm,1.5s					
F10A	**Beach Ranch, E**	97.63	44	IAmb	IAmb	09 51 49.3
	comp=Z,9.7nm,1.4s					
YKA	**Yellowknife Ar**	97.69	27	P	P	09 51 42.9 -2.7
	comp=Z,4.0nm,1.1s,baz=276,slow=4.3,SNR=11					
YKA				LR	LR	10 31 34.4
	comp=Z,81nm,21.6s,baz=312,slow=33					
	comp=Z,4.0nm,1.1s					
YKA	**Yellowknife Ar**	97.69	27	*i* P	P	09 51 45.5 -0.1
YKA				pmax	pmax	
	comp=Z,4.0nm,1.1s					
ELK	**Elko**	99.38	49	LR	LR	10 32 17.7
	comp=Z,50nm,18.6s,baz=264,slow=33					
NVL	**N'lazarevskaya**	99.87	194	*e*P	Pdif	09 51 55.9 +0.7
NVL				pmax	pmax	
	comp=Z,5.0nm,0.6s					
SPR3	**Spring Creek 3**	100.19	51	Pdif	Pdif	09 51 57.9 +0.1
APA	**Apatity**	101.44	339	⇓*i*P	Pdif	09 51 59.0 -3.2
APA				*i*		09 56 17.0
APA				pmax	pmax	
	comp=Z,2.0nm,0.8s					
APA				MLR	MLR	
	comp=Z,200nm,20.0s					
KIV	**Kislovodsk**	101.50	314	*e*P	Pdif	09 52 00.3 -2.9
KIV				pmax	pmax	
	comp=Z,4.0nm,0.9s					
ARCES	**ARCESS Array B**	103.34	342	Pdiff	Pdif	09 52 08.0 -2.7
	comp=Z,1.4nm,0.7s,baz=336,slow=2.0,SNR=2.5					
PDAR	**Pinedale Array**	103.41	47	Pdiff	Pdif	09 52 09.1 -2.7
	comp=Z,0.2nm,0.4s,baz=270,slow=3.6,SNR=2.7					
OBN	**Obninsk**	103.51	326	*i* P	Pdif	09 52 10.4 -1.2
OBN				*e*		09 56 27.4
OBN				*e*PPP	PPP	09 58 38.4
OBN				pmax	pmax	
	comp=Z,6.0nm,1.0s					
FINES	**FINESS Array B**	106.68	334	Pdiff	Pdif	09 52 23.7 -1.9
	comp=Z,1.1nm,0.7s,baz=181,slow=9.5,SNR=3.8					
MIAR	**Mount Ida**	117.33	53	P	PKPdf	09 56 56.8 -0.2
	baz=286					
CLL	**Collm**	117.94	328	*i* PKiKP	PKPdf	09 56 57.5 -0.2
	comp=Z,5.0nm,0.9s					
CLL				*e*PP	PP	09 58 11.0 -0.4
CLL	**Collm**	117.94	328	*i* PKIKP	PKPdf	09 56 57.5 -0.2
CLL				pmax	pmax	
	comp=Z,5.0nm,0.9s					
CCM	**Cathedral Cave**	118.07	48	P	PKPdf	09 56 58.4 0.0
	baz=289					
HDIL	**Hopedale**	118.61	45	P	PKPdf	09 56 59.4 0.0
	baz=292					
STAL	**STALIGIAL**	120.81	324		PKPdf	09 57 02.4 -1.0
EKA	**Eskdalemuir Ar**	122.37	339	PKP	PKPdf	09 57 05.7 -0.4
	comp=Z,0.8nm,0.5s,baz=0,0,slow=2.5,SNR=6.2					
TUE	**Stuetta**	122.65	325	PKPdf	PKPdf	09 57 06.9 -0.3
W50A	**Signal Mountai**	123.54	49		PKPdf	09 57 06.4 -2.6
GOGA	**Godfrey**	125.63	51	P	PKPdf	09 57 12.4 -0.6
	baz=293					
BI02	**San Fabin de**	127.49	143		PKPdf	09 57 15.4 -1.2
GO01	**Chusmiza**	139.01	125		PKPdf	09 57 39.6 +0.4
LPAZ	**La Paz**	141.53	122	PKhKP	PKPpre	09 57 39.4
	comp=Z,2.4nm,0.8s,baz=226,slow=6.5,SNR=8.8					
CPUP	**Villa Florida**	143.15	145	PKhKP	PKPpre	09 57 42.2
	comp=Z,3.3nm,0.9s,baz=180,slow=5.8,SNR=5.6					
SDV	**Santo Domingo**	143.84	80		PKPbc	09 57 45.9 +0.6
ETMB	**Extrema**	145.91	113		PKPdf	09 57 50.4 -0.6
HUMP	**Col San Antoni**	146.15	62		PKPdf	09 57 52.0 +0.8
BAUV	**El Baul**	146.38	79		PKPdf	09 57 51.0 -0.8
AQDB	**Aquidauana**	148.50	140		PKPbc	09 57 59.2 +0.5
PTLB	**Pontes e Lacer**	149.34	128	PKPdf	PKPdf	09 57 56.9 +0.3
PTLB				PKPbc	PKPbc	09 58 01.6 +0.6
VILB	**Vilhena**	149.84	123	PKPdf	PKPdf	09 57 57.4 -0.1
VILB				PKPbc	PKPbc	09 58 02.9 +0.6
KIC	**Kosan Boka**	150.06	277	⇑*e*PKIKP	PKPbc	09 58 02.5 -0.3
	comp=Z,36nm,1.2s					
DBIC	**Dimbokro**	150.15	277	PKPbc	PKPbc	09 58 02.5 -0.5
	comp=Z,23nm,1.1s,baz=30,slow=4.3,SNR=6.3					
TIC	**Toumodi**	150.32	277	⇑*e*PKIKP	PKPbc	09 58 03.0 -0.4
	comp=Z,18nm,0.9s					
LIC	**Lamto**	150.36	276	⇑*e*PKIKP	PKPbc	09 58 03.0 -0.5
	comp=Z,48nm,1.0s					

HEL 18 10:17:20.1±0.6, 67°.83N×20°.28E, h0km, ML0.8,
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	0.68	71	PG	Pg	10 17 32.4	-0.7
LANU				SG	Sg	10 17 41.0	-1.0
HEF	**Hetta**	1.39	64	PG	Pg	10 17 44.6	-2.2
	baz=247						
HEF				MSG		10 18 02.1	
	comp=Z,0.6nm,0.2s						
HEF				SN	Sn	10 18 06.8	+1.0
ERTU	**Ertsjaerv**	1.48	149	SN	Sn	10 18 09.1	+1.1
KLF	**Kolari**	1.54	111	PG	Pn	10 17 47.4	-1.3
KLF				MSG		10 18 06.2	
	comp=Z,0.8nm,0.2s						
KLF				SN	Sg	10 18 11.1	+1.7
KTK1	**Kautokeino**	1.61	41	SN	Sg	10 18 12.1	+0.2
TOF	**Tornio**	2.37	136	MSG		10 18 30.3	
	comp=Z,0.3nm,0.2s						
TOF				SG	Sb	10 18 33.2	-0.1
RNF	**Rovaniemi**	2.55	116	PB	Pn	10 18 03.7	+1.1
RNF				SG	Sb	10 18 37.7	-0.7
OBF0	**Syolatti, Pyha**	3.71	153	PB	Pb	10 18 23.0	-3.4

*IDC **18** 10:18:16.4±1.3, 7°.96S×122°.51E, h233km±13km, mb3.7/13, mbtmp4.3/16, Error ellipse: s-maj=25.5km s-min=7.8km az=62.0*
*DJA **18** 10:18:16.0±0.2, 8°.S±3°.×12°.2E±°, h228km±3km, M4.6/18, mB5.4/5, mb4.4/17, MLv4.5/18, Mw(mB)4.8/5*
*NEIC **18** 10:18:16.3±1.2, 8°.01S±0°.07×122°.36E±0°.08, h229km±4km, mb4.3/41, Error ellipse: s-maj=12.9km s-min=9.5km az=54.0*

ISC 18 10:18:15.7±0.4, 8°.00S±0°.04×122°.41E±0°.06, h226km, n111, σ0.92/116, mb4.2/30, 1D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	0.65	195	P	Pn	10 18 47.4	+0.9
MMRI	**Maumere**	0.65	195		Pn	10 18 47.3	+0.8
MMRI	**Maumere**	0.65	195	P	Pn	10 18 47.3	+0.8
EDFI	**Ende, Flores**	1.03	223	P	Pn	10 18 48.9	+0.4
BBSI	**Bau Bau**	2.50	4	P	Pn	10 19 02.9	+1.5
BATI	**Baumata**	2.52	151	P	Pn	10 19 02.7	+1.1
SOEI	**Soe**	2.54	134	P	Pn	10 19 03.2	+1.4
SOEI	**Soe**	2.54	134		Pn	10 19 03.2	+1.4
SOEI	**Soe**	2.54	134	P	Pn	10 19 02.6	+0.8
BASI	**Baing, Sumba**	2.85	219	P	Pn	10 19 04.9	-0.2
BKSI	**Bulukumba**	3.50	319	P	Pn	10 19 12.5	0.0
KAPI	**Kappang**	3.97	318		Pn	10 19 18.5	+0.3
KAPI	**Kappang**	3.97	318	P	Pn	10 19 19.5	+1.3
	76nm,0.8s,baz=137,slow=9.0,SNR=36						
KAPI				S	S	10 20 09.1	+1.8
	9.9nm,0.6s,baz=36,slow=23,SNR=1.3						
PLAI	**Plampang**	4.65	259	P	Pn	10 19 26.3	-0.2
PLAI	**Plampang**	4.65	259	P	Pn	10 19 26.0	-0.5
TWSI	**Taliwang, Sumb**	5.51	262	P	Pn	10 19 36.4	-0.9
	42nm,0.7s,0.8nm						
SANI	**Sanana**	6.90	31	P	Pn	10 19 56.2	+1.2
LUWI	**Luwuk**	6.92	3	P	Pn	10 19 57.5	+2.3
LUWI	**Luwuk**	6.92	3	Pn	Pn	10 19 55.6	+0.4
LUWI	**Luwuk**	6.92	3	P	Pn	10 19 56.2	+1.0
	71nm,0.5s						
SRBI	**Singaraja**	7.12	269	P	Pn	10 19 57.1	-0.7
	45nm,1.0s,0.2nm						
JAGI	**Jajag, Banyuwa**	8.18	266	Pn	Pn	10 20 10.3	-1.1
DRS	**Darwin Rock St**	9.45	118	P	Pn	10 20 28.0	+0.4
MTN	**Manton Dam**	9.84	120		Pn	10 20 32.8	+0.1
KNRA	**Kununurra**	9.84	141	Pn	Pn	10 20 32.2	-0.5
PWJI	**Pagerwojo**	10.50	269	P	Pn	10 20 40.6	-0.5
	53nm,0.6s						
FITZ	**Fitzroy Crossi**	10.52	163		Pn	10 20 40.6	-0.7
KDU	**Kakadu**	10.94	116	P	Pn	10 20 47.4	+0.7
FAKI	**Fak Fak**	11.02	63	Pn	Pn	10 20 48.3	+0.6
FAKI	**Fak Fak**	11.02	63	P	Pn	10 20 48.5	+0.8
	32nm,0.7s						
UGM	**Wanagama**	11.77	270	P	Pn	10 20 58.0	+0.8
UGM	**Wanagama**	11.77	270	Pn	Pn	10 20 56.2	-1.0
MBWA	**Marble Bar**	13.34	191	P	P	10 21 19.6	+1.0
MBWA	**Marble Bar**	13.34	191		Pn	10 21 16.4	-0.2
PSA00	**Pilbara Seismi**	13.72	190		Pn	10 21 20.6	-0.7
SBUM	**Sibu**	14.53	315		Pn	10 21 30.2	-1.0
BBJI	**Bungbulang**	14.63	271	P	P	10 21 34.7	+1.6
KKM	**Kota Kinabalu**	15.26	336	P	P	10 21 38.5	-1.5
KKM				IAmb	IAmb	10 21 49.0	
	comp=Z,11nm,0.9s						
WB0	**Warramunga Arr**	16.49	136	P	P	10 21 53.7	+0.3
WB0				IAmb	IAmb	10 21 55.4	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	16.57	137	P	P	10 21 55.0	+0.6
	comp=Z,7.2nm,0.6s,baz=315,slow=12,SNR=81						
WRA				S	S	10 24 54.7	-1.6
	comp=Z,2.3nm,0.5s,baz=306,slow=22,SNR=7.6						
WRAB	**Tennant Creek**	16.57	137		P	10 21 54.6	+0.2
WRAB				IAmb	IAmb	10 21 56.5	
	comp=Z,14nm,0.9s						
WB2	**Warramunga Arr**	16.58	137	P	P	10 21 54.2	-0.3
WB2				IAmb	IAmb	10 21 57.0	
	comp=Z,9.2nm,0.6s						
WR0	**Warramunga Arr**	16.72	137	P	P	10 21 56.0	0.0
WRKA	**Warakurna**	17.85	162	P	Pn	10 22 10.0	-0.8
MEEK	**Meekatharra**	18.88	191	P	Pn	10 22 21.8	-1.1
ASAR	**Alice Springs**	19.08	146	P	P	10 22 23.0	+1.3
	comp=Z,34nm,0.6s,baz=330,slow=13,SNR=242						
ASAR				S	S	10 25 44.7	-1.4
	comp=Z,5.2nm,0.9s,baz=328,slow=22,SNR=14						
AS01	**Alice Springs**	19.11	146	P	P	10 22 23.3	+1.3
QIS	**Mount Isa**	20.80	129	P	P	10 22 40.6	+0.6
COEN	**Coen**	21.22	108	P	P	10 22 43.8	-0.6
COEN	**Coen**	21.22	108	P	P	10 22 43.9	-0.6
COEN				IAmb	IAmb	10 22 50.0	
	comp=Z,19nm,1.1s						
MORW	**Morawa**	21.80	195	P	P	10 22 50.2	+0.3
MORW	**Morawa**	21.80	195	P	P	10 22 49.8	-0.1
MORW				IAmb	IAmb	10 23 07.8	
	comp=Z,3.5nm,0.6s						
BLDU	**Ballidu**	23.12	193	P	P	10 23 02.3	+0.3
KMBL	**Kambalda**	23.25	181	P	P	10 23 04.6	+1.4
FORT	**Forrest**	23.27	168	P	P	10 23 04.2	+0.9
FORT	**Forrest**	23.27	168	P	P	10 23 02.4	-1.0
OOD	**Oodnadatta**	23.36	149	P	P	10 23 04.8	+0.7
KLBR	**Kellerberrin**	23.87	190	P	P	10 23 09.1	+0.3
PMG	**Port Moresby**	24.51	95	P	P	10 23 12.7	-2.1
MULG	**Mulgathing**	24.71	155	P	P	10 23 17.3	+0.9
NWAO	**Narrogin (SRO)**	25.26	190	P	P	10 23 22.1	+0.7
NWAO	**Narrogin (SRO)**	25.26	190	P	P	10 23 21.5	+0.1
CTAO	**Charters Tower**	26.02	120	P	P	10 23 26.9	-1.5
CTAO				IAmb	IAmb	10 23 34.3	
	comp=Z,8.9nm,1.1s						
BBOO	**Buckleboo**	27.75	155	P	P	10 23 44.2	+0.7
BBOO	**Buckleboo**	27.75	155	P	P	10 23 44.2	+0.7
HTT	**Hallett**	29.56	151	P	P	10 24 01.0	+1.4
STKA	**Stephens Creek**	29.72	146	P	P	10 24 02.3	+1.2
STKA	**Stephens Creek**	29.72	146	P	P	10 24 00.3	-0.7
STKA	**Stephens Creek**	29.72	146	P	P	10 24 00.7	-0.4
	comp=Z,2.6nm,0.5s,baz=298,slow=8.2,SNR=7.3						
	comp=Z,2.6nm,0.5s						
TPUB	**Ta-pu**	31.16	357	P	P	10 24 13.3	-0.4
SSLB	**Suanglung**	31.62	357	P	P	10 24 16.8	-1.0
SSLB				IAmb	IAmb	10 24 19.0	
	comp=Z,7.4nm,0.7s						
CMSA	**Cobar Meteorol**	31.93	140	P	P	10 24 22.3	+1.9
ARPS	**Mount Arapiles**	33.66	151	P	P	10 24 37.4	+2.1
CMAR	**Chiang Mai Arr**	35.03	319	P	P	10 24 47.6	+0.3
	comp=Z,0.6nm,0.4s,baz=232,slow=11,SNR=2.0						
	comp=Z,0.6nm,0.4s						
CHTO	**Chiang Mai**	35.29	319	P	P	10 24 48.3	-1.2
JCJ	**Chichijima**	39.81	28	P	P	10 25 25.9	-1.3
KSRS	**Korea Array**	45.51	6	P	P	10 26 12.2	-0.6
	comp=Z,0.4nm,0.5s,baz=185,slow=9.8,SNR=2.2						
	comp=Z,0.4nm,0.5s						
JGF	**Kuroka**	45.60	17	P	P	10 26 13.4	-0.2
MJAR	**Matsushiro Arr**	46.73	18	P	P	10 26 21.0	-1.4
	comp=Z,1.9nm,0.7s,baz=208,slow=10,SNR=5.2						
	comp=Z,1.9nm,0.7s						
JMM	**Marumori**	48.75	19	P	P	10 26 38.5	+0.7

KURBB	**Kurchatov Arra**	**69.62 332**	P	**P**	**10 29 00.5**	**0.0**
	comp=Z,2.6nm,0.5s,baz=138,slow=5.8,SNR=13					
	comp=Z,2.6nm,0.5s					
BVAR	**Borovoye Array**	**75.05 330**	P	**P**	**10 29 32.4**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=129,slow=12,SNR=2.6					
	comp=Z,1.2nm,0.6s					
BRVK	**Borovoye**	**75.12 330**	P	**P**	**10 29 33.2**	**+0.3**
BRVK			IAmb	IAmb	10 29 36.5	
	comp=Z,4.5nm,0.9s					
ABKAR	**Akbulak array**	**78.72 324**	P	**P**	**10 29 53.5**	**+0.5**
QSPA	**South Pole Qui**	**81.99 180**	P	**P**	**10 30 10.9**	**+0.6**
QSPA	**South Pole Qui**	**81.99 180**	P	**P**	**10 30 10.1**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=306,slow=1.1,SNR=10					
	comp=Z,1.6nm,0.9s					
ARU	**Arti**	**82.67 330**	P	**P**	**10 30 13.6**	**-0.2**
ARU			IAmb	IAmb	10 30 31.9	
	comp=Z,2.1nm,0.5s					
KBZ	**Khabaz**	**87.97 314**	P	**P**	**10 30 40.0**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=52,slow=6.6,SNR=3.9					
	comp=Z,1.9nm,0.8s					
SNAA	**Sanae**	**92.85 195**	P	**P**	**10 31 03.0**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=158,slow=5.4,SNR=2.0					
	comp=Z,1.1nm,0.9s					
LPAZ	**La Paz**	**153.71 157**	PKPbc	**PKiKP**	**10 37 51.0**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=222,slow=18,SNR=3.6					
LPAZ			PKPab	**PKPab**	**10 38 02.1**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=154,slow=3.3,SNR=6.2					

BJI ***18*** *10:35:19.0±0.0, 20°.34N×121°.32E, h12km, mb4.5/27, mB4.8/10, ML3.8/3, Ms3.8/7, Ms7 3.7/9*
NEIC ***18*** *10:35:22.7±1.2, 20°.28N±0°.07×121°.31E±0°.08, h39km±7km, mb4.4/60, Error ellipse: s-maj=11.4km s-min=9.9km az=142.0*
IDC ***18*** *10:35:23.4±3.0, 20°.35N×121°.39E, h44km±29km, mb3.9/19, mbtmp4.2/22, ML3.9/3, MS3.5/19, Error ellipse: s-maj=21.2km s-min=12.3km az=76.0*
JMA ***18*** *10:35:23.5±0.5, 20°.N±2°×12°.2E±°, h127km, MV3.9/13, PHILIPPINE ISL REGION*
ISC 18 10:35:22.0±0.4, 20°.25N±0°.05×121°.38E±0°.05, h35km, n134, σ1§69/124, mb4.4/50, MS3.5/18, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.57**	**354**	P	**Pn**	**10 36 04.8**	**+3.6**
TWG	**Pinlang**	**2.58**	**354**		**Pn**	**10 35 59.8**	**-1.4**
TPUB	**Ta-pu**	**3.12**	**347**	P	Pn	10 36 15.3	+6.6
TPUB	**Ta-pu**	**3.12**	**347**		**Pn**	**10 36 08.2**	**-0.5**
YULB	**Yu-li**	**3.13**	**359**	P	**Pn**	**10 36 12.9**	**+4.0**
YULB	**Yu-li**	**3.13**	**359**		**Pn**	**10 36 08.9**	**0.0**
SSLB	**Suanglung**	**3.54**	**354**	P	Pn	10 36 20.0	+5.4
SSLB	**Suanglung**	**3.54**	**354**	Pn	**Pn**	**10 36 14.8**	**+0.2**
NACB	**Ninganchiao**	**3.91**	**3**	P	Pn	10 36 27.9	+8.3
NACB	**Ninganchiao**	**3.91**	**3**		**Pn**	**10 36 19.5**	**-0.1**
YHNB	**Yeheng**	**4.40**	**360**	P	Pn	10 36 34.5	+8.1
YHNB	**Yeheng**	**4.40**	**360**		**Pn**	**10 36 26.5**	**+0.1**
HATJ	**Hateruma jima**	**4.41**	**30**	*e*P	**Pn**	**10 36 26.0**	**-0.5**
HATJ				*e*S	**Sn**	**10 37 14.1**	**-2.5**
JYNG	**Yonagunijimaku**	**4.43**	**19**	*e*P	**Pn**	**10 36 27.1**	**+0.4**
JYNG				*e*S	**Sn**	**10 37 16.8**	**-0.3**
YOJ	**Yonaguni jima**	**4.46**	**20**	Pn	**Pn**	**10 36 27.2**	**+0.1**
YOJ	**Yonaguni jima**	**4.46**	**20**	*e*S	**Sn**	**10 37 17.4**	**-0.3**
IRIF	**Iriomote-Funau**	**4.61**	**28**	P	**Pn**	**10 36 29.5**	**+0.2**
IRIF				*e*S	**Sn**	**10 37 20.5**	**-1.1**
JKRS	**Kuro-shima**	**4.66**	**31**	*e*P	**Pn**	**10 36 30.2**	**+0.3**
JKRS				*e*S	**Sn**	**10 37 21.0**	**-1.7**
TATO	**Taipei**	**4.71**	**1**	Pn	**Pn**	**10 36 30.2**	**-0.3**
JIJ	**Ishigaki jima**	**4.83**	**32**	*e*P	**Pn**	**10 36 31.6**	**-0.7**
JIJ				*e*S	**Sn**	**10 37 22.5**	**-4.5**
KNMB	**Chin-men Tao**	**5.03**	**327**	Pn	**Pn**	**10 36 33.9**	**-1.0**
JISG	**Ishigakijimahi**	**5.10**	**32**	*e*P	**Pn**	**10 36 35.5**	**-0.4**
JISG				*e*S	**Sn**	**10 37 31.0**	**-2.6**
QZH	**Quanzhou**	**5.33**	**332**	Pn	**Pn**	**10 36 37.3**	**-1.9**
QZH				Sn	**Sn**	**10 37 33.0**	**-6.4**
QZH				smax	smax		
	comp=N,36nm,0.5s						
QZH				smax	smax		
	comp=E,50nm,0.6s						
JTJ	**Tarama**	**5.34**	**35**	*e*S	**Sn**	**10 37 36.4**	**-3.2**
HKPS	**Hong Kong Po S**	**7.04**	**288**	Pn	**Pn**	**10 37 01.0**	**-1.7**
JOW	**Kunigami**	**9.11**	**43**	Pn	**Pn**	**10 37 29.0**	**-2.0**
JOW	**Kunigami**	**9.11**	**43**	P	**Pn**	**10 37 29.6**	**-1.3**
	4.5nm,0.3s,baz=141,slow=20,SNR=8.2						
JOW				S	**Sn**	**10 39 05.3**	**-7.0**
	10nm,0.7s,baz=275,slow=30,SNR=1.4						
	13nm,0.4s						
JMZ	**Minamidaito 2**	**10.62**	**57**	Pn	**Pn**	**10 37 52.0**	**+0.2**
QIZ	**Qiongzhong**	**10.94**	**266**	Pn	**Pn**	**10 37 55.0**	**-1.1**
NJ2	**Nanjing**	**11.97**	**350**	*e*P	**Pn**	**10 38 11.1**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
DAV	**Davao City (W)**	**13.72**	**162**	LR	LR	10 43 60.0	
	comp=Z,210nm,20.0s,baz=328,slow=37						
GYA	**Guiyang**	**14.85**	**297**	P	**Pn**	**10 38 50.8**	**+1.2**
GYA				pmax	pmax		
	comp=Z,29nm,0.9s						
GYA				LR	LR		
	comp=Z,290nm,18.4s						
KKM	**Kota Kinabalu**	**14.98**	**200**	Pn	**Pn**	**10 38 50.6**	**-0.8**
JNU	**Nakatsue**	**15.37**	**32**		**Pn**	**10 38 56.4**	**+0.1**
JNU	**Nakatsue**	**15.37**	**32**	P	**Pn**	**10 38 56.5**	**+0.2**
	0.3nm,0.3s,baz=297,slow=11,SNR=1.6						
JNU				LR	LR	10 45 02.5	
	comp=Z,91nm,19.7s,baz=202,slow=38						
	3.1nm,0.9s						
LYN	**LuoYang**	**16.28**	**333**	*e*P	**P**	**10 39 12.8**	**+2.1**
LYN				pmax	pmax		
	comp=Z,30nm,1.0s						
LYN				pmax	pmax		
	comp=Z,250nm,5.7s						
LYN				LR	LR		
	comp=N,280nm,11.3s						
LYN				LR	LR		
	comp=Z,340nm,16.5s						
HNS	**HongShan**	**18.05**	**343**	⇑P	**P**	**10 39 31.5**	**+1.3**
HNS				PP	**pwP**	**10 39 45.6**	**+2.5**
HNS				*e*S	**Sn**	**10 42 48.4**	**-1.9**
HNS				pmax	pmax		
	comp=Z,18nm,0.8s						
HNS				LR	LR		
	comp=N,180nm,11.5s						
HNS				LR	LR		
	comp=Z,210nm,11.9s						
KSRS	**Korea Array**	**18.07**	**17**	P	**Pn**	**10 39 29.7**	**-0.5**
	0.3nm,0.3s,baz=204,slow=12,SNR=11						
KSRS				LR	LR	10 47 37.2	
	comp=Z,64nm,18.4s,baz=210,slow=41						
	3.0nm,0.9s						
PZH	**PanZhiHua**	**19.06**	**293**	P	**Pn**	**10 39 43.8**	**+1.3**
PZH				pmax	pmax		
	comp=Z,30nm,0.9s						
PZH				pmax	pmax		
	comp=Z,150nm,3.5s						
SBUM	**Sibu**	**19.82**	**208**		**P**	**10 39 49.2**	**-0.6**
BJT	**Baijiatuan**	**20.20**	**348**	P	**P**	**10 39 53.4**	**-0.4**
BJT				IAmb	IAmb	10 39 55.1	
	comp=Z,17nm,0.6s						
BJI	**Beijing**	**20.23**	**348**	P	**P**	**10 39 54.3**	**+0.3**
BJI				pmax	pmax		
	comp=Z,12nm,0.6s						
JCJ	**Chichijima**	**20.23**	**66**	LR	LR	10 47 30.7	
	comp=Z,55nm,18.7s,baz=252,slow=36						
JHJ	**Hachijo jima 2**	**20.81**	**48**	LR	LR	10 48 24.4	
	comp=Z,69nm,18.6s,baz=310,slow=38						
CMAR	**Chiang Mai Arr**	**21.24**	**269**	P	**P**	**10 40 06.1**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=71,slow=9.7,SNR=8.1						
CMAR				LR	LR	10 48 25.2	
	comp=Z,145nm,19.8s,baz=90,slow=37						
	comp=Z,2.4nm,0.9s						
TNCH	**TengChong**	**21.62**	**287**	P	**P**	**10 40 11.4**	**+2.0**
TNCH				pmax	pmax		
	comp=Z,190nm,3.6s						
MJAR	**Matsushiro Arr**	**21.92**	**39**	P	**P**	**10 40 13.1**	**+0.8**
	comp=Z,4.4nm,1.1s,baz=222,slow=8.5,SNR=5.3						
MJAR				LR	LR	10 48 07.2	
	comp=Z,41nm,18.9s,baz=204,slow=35						
	comp=Z,4.4nm,1.1s						
HHC	**Hu-ho-hao-te**	**22.18**	**340**	*e*P	**P**	**10 40 17.9**	**+2.8**
HHC				pP	pP	10 40 23.0	-0.4
HHC				*e*S	**S**	**10 44 21.4**	**+4.0**
HHC				SS	**SnSn**	**10 44 53.0**	**+7.3**
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,86nm,5.4s						
HHC				LR	LR		
	comp=Z,160nm,14.5s						
HHC				LR	LR		
	comp=Z,150nm,16.3s						
HHC				LR	LR		
	comp=Z,160nm,14.7s						
GUMO	**Guam**	**23.41**	**103**	LR	LR	10 49 27.2	
	comp=Z,93nm,19.8s,baz=263,slow=36						
CN2	**Changchun**	**23.73**	**7**	P	**P**	**10 40 28.6**	**-2.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KULM	**Kulim**	**25.04**	**236**	P	**P**	**10 40 42.4**	**-0.8**
KULM				IAmb	IAmb	10 40 45.0	
	comp=Z,12nm,1.0s						
KAPI	**Kappang**	**25.16**	**184**	P	**P**	**10 40 46.8**	**+2.7**
	comp=Z,4.9nm,0.3s,baz=68,slow=19,SNR=1.1						
	comp=Z,4.9nm,0.3s						
MDJ	**Mudanjiang**	**25.24**	**14**	P	**P**	**10 40 47.9**	**+3.2**
MDJ				pP	pP	10 40 55.3	+1.6
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,100nm,6.5s						
MDJ				LR	LR		
	comp=Z,120nm,15.8s						
MDJ				LR	LR		
	comp=Z,120nm,18.6s						
MDJ				LR	LR		
	comp=Z,140nm,19.2s						
USRK	**Ussuriysk Ar.**	**25.47**	**18**	P	**P**	**10 40 47.2**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=200,slow=7.6,SNR=5.6						
	comp=Z,2.7nm,0.9s						
JTM	**Tenmabayashi**	**26.47**	**35**	P	**P**	**10 40 56.1**	**+0.2**
JTM				IAmb	IAmb	10 41 06.5	
	comp=Z,14nm,1.1s						
ERM	**Erimo**	**28.46**	**35**	P	**P**	**10 41 13.3**	**-0.3**
ASAJ	**Asahikawa**	**29.64**	**32**	LR	LR	10 52 25.8	
	comp=Z,41nm,20.8s,baz=192,slow=35						
ULN	**Ulaanbaatar**	**29.89**	**340**	P	**P**	**10 41 26.0**	**-0.5**
GSI	**Gunungsitoli**	**29.93**	**234**	P	**P**	**10 41 26.7**	**-0.3**
SONM	**Songino Array**	**30.08**	**340**	P	**P**	**10 41 28.3**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=158,slow=9.7,SNR=5.6						
SONM				LR	LR	10 54 47.9	
	comp=Z,135nm,18.2s,baz=152,slow=39						
	comp=Z,1.3nm,0.5s						
KLR	**Kul'dur**	**30.09**	**14**	LR	LR	10 54 53.0	
	comp=Z,72nm,18.1s,baz=202,slow=39						
YSS	**Yuzh-Sakhalins**	**31.83**	**28**	P	**P**	**10 41 42.7**	**-0.7**
YSS				IAmb	IAmb	10 42 02.3	
	comp=Z,5.1nm,0.7s						
MTN	**Manton Dam**	**34.26**	**163**	P	**P**	**10 42 04.8**	**-0.1**
MTN				IAmb	IAmb	10 42 06.9	
	comp=Z,7.7nm,1.1s						
KNRA	**Kununurra**	**36.43**	**168**	P	**P**	**10 42 23.6**	**+0.1**
KNRA				IAmb	IAmb	10 42 45.7	
	comp=Z,4.8nm,1.0s						
FITZ	**Fitzroy Crossi**	**38.34**	**173**	P	**P**	**10 42 38.5**	**-1.2**
MK31	**Makanchi Array**	**41.35**	**319**	P	**P**	**10 43 05.5**	**+1.0**
MKAR	**Makanchi Array**	**41.35**	**319**	P	**P**	**10 43 04.0**	**-0.6**
	comp=Z,2.4nm,0.5s,baz=112,slow=9.2,SNR=26						
MKAR				PcP	**PcP**	**10 45 03.2**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=101,slow=7.6,SNR=3.3						
	comp=Z,2.4nm,0.5s						
PALK	**Pallekele**	**41.43**	**258**	LR	LR	11 01 37.2	
	comp=Z,72nm,18.5s,baz=226,slow=38						
MAKZ	**Makanchi**	**41.55**	**319**	P	**P**	**10 43 04.3**	**-1.8**
MAKZ				IAmb	IAmb	10 43 08.2	
	comp=Z,7.8nm,1.1s						
WB0	**Warramunga Arr**	**41.76**	**161**	P	**P**	**10 43 07.9**	**-0.2**
WB0				IAmb	IAmb	10 43 09.4	
	comp=Z,6.7nm,0.8s						
WRAB	**Tennant Creek**	**41.91**	**162**	P	**P**	**10 43 09.7**	**+0.4**
WRAB				IAmb	IAmb	10 43 10.8	
	comp=Z,5.1nm,0.8s						
WRA	**Warramunga Arr**	**41.91**	**162**	P	**P**	**10 43 09.3**	**0.0**
	comp=Z,4.2nm,0.8s,baz=343,slow=9.1,SNR=17						
WRA				PcP	**PcP**	**10 45 05.5**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=340,slow=3.6,SNR=1.7						
	comp=Z,4.2nm,0.8s						
WB2	**Warramunga Arr**	**41.92**	**162**	P	**P**	**10 43 09.4**	**+0.1**
WB2				IAmb	IAmb	10 43 12.7	
	comp=Z,6.5nm,0.8s						
WR0	**Warramunga Arr**	**41.99**	**161**	P	**P**	**10 43 10.2**	**+0.2**
WR0				IAmb	IAmb	10 43 11.5	
	comp=Z,5.4nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**42.67**	**83**	T	T	11 28 37.0	
	baz=278,slow=75,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**42.68**	**83**	T	T	11 28 35.7	
	baz=278,slow=75,SNR=7.7						
H11S3	**WAKE ISLAND Hy**	**42.68**	**84**	T	T	11 28 33.4	
	baz=281,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**42.69**	**83**	T	T	11 28 35.4	
	baz=278,slow=75,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**42.69**	**84**	T	T	11 28 35.5	
	baz=281,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**42.70**	**84**	T	T	11 28 34.4	
	baz=281,slow=75,SNR=13						
ZALV	**Zalesovo Beam**	**43.67**	**329**	P	**P**	**10 43 23.0**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=120,slow=7.5,SNR=13						
ZALV				LR	LR	11 02 49.3	
	comp=Z,44nm,19.7s,baz=110,slow=38						
	comp=Z,3.1nm,0.6s						
NRN	**Naryn**	**43.72**	**309**	P	**P**	**10 43 23.7**	**-0.6**
NRN				IAmb	IAmb	10 43 27.2	
	comp=Z,8.3nm,0.9s						
MA2	**Magadan**	**44.56**	**21**	LR	LR	11 03 37.6	
	comp=Z,32nm,18.6s,baz=233,slow=38						
AAK	**Ala-Archa**	**45.11**	**311**	P	**P**	**10 43 33.6**	**-1.6**
AAK	**Ala-Archa**	**45.11**	**311**	LR	LR	11 04 55.8	
	comp=Z,86nm,19.4s,baz=110,slow=39						
KURK	**Kurchatov**	**45.26**	**323**	P	**P**	**10 43 35.8**	**-0.3**
KURBB	**Kurchatov Arra**	**45.27**	**322**	P	**P**	**10 43 36.4**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=133,slow=7.2,SNR=11						
	comp=Z,2.4nm,0.8s						
ASAR	**Alice Springs**	**45.33**	**164**	P	**P**	**10 43 38.0**	**+1.2**
	comp=Z,3.0nm,0.5s,baz=350,slow=6.7,SNR=28						
	comp=Z,3.0nm,0.5s						
GAR	**Garm**	**47.51**	**305**	P	**P**	**10 43 54.2**	**+0.1**
KK31	**Karatay Array**	**48.06**	**310**	P	**P**	**10 43 57.1**	**-1.0**
KK31				IAmb	IAmb	10 44 00.3	
	comp=Z,3.2nm,0.8s						
KKAR	**Karatay Array**	**48.06**	**310**	P	**P**	**10 43 57.0**	**-1.1**
KKAR				IAmb	IAmb	10 44 00.3	
	comp=Z,3.2nm,0.8s						
BRVK	**Borovoye**	**50.93**	**323**	P	**P**	**10 44 19.2**	**-0.6**
BRVK				IAmb	IAmb	10 44 21.7	
	comp=Z,4.6nm,0.8s						
FORT	**Forrest**	**51.14**	**173**	P	**P**	**10 44 21.9**	**+0.3**
NRIK	**Noril'sk**	**53.24**	**346**	P	**P**	**10 44 36.3**	**-0.4**
NRIK				IAmb	IAmb	10 44 37.5	
	comp=Z,5.1nm,0.8s						
NRIK	**Noril'sk**	**53.24**	**346**	P	**P**	**10 44 36.2**	**-0.4**
	comp=Z,6.1nm,0.8s,baz=126,slow=3.3,SNR=4.6						
	comp=Z,6.1nm,0.8s						
STKA	**Stephens Creek**	**55.33**	**159**	P	**P**	**10 44 53.3**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=269,slow=14,SNR=1.7						
	comp=Z,2.0nm,0.8s						
ABKAR	**Akbulak array**	**56.35**	**316**	P	**P**	**10 44 59.1**	**-0.4**
ABKAR				IAmb	IAmb	10 45 00.9	
	comp=Z,2.8nm,0.6s						
ADK	**Adak**	**57.06**	**41**	P	**P**	**10 45 05.3**	**+0.7**
ARU	**Arti**	**58.37**	**325**	P	**P**	**10 45 13.3**	**-0.4**
KIRV	**Kirov**	**63.55**	**326**	LR	LR	11 15 33.3	
	comp=Z,56nm,19.7s,baz=85,slow=38						
M14K	**Bethel**	**66.04**	**32**	P	**P**	**10 46 05.0**	**0.0**
K15K	**Wolf Creek Mou**	**66.28**	**30**	P	**P**	**10 46 06.1**	**-0.4**
K15K				IAmb	IAmb	10 46 19.6	
	comp=Z,6.2nm,1.1s						
E18K	**Tukpahlearik C**	**66.88**	**24**	P	**P**	**10 46 10.7**	**+0.5**
N15K	**Kwethluk River**	**66.96**	**32**	P	**P**	**10 46 11.3**	**+0.3**
N15K				IAmb	IAmb	10 46 14.3	
	comp=Z,3.8nm,0.8s						
GNI	**Garni**	**67.21**	**306**	P	**P**	**10 46 12.1**	**-1.0**
L16K	**Owhat River**	**67.25**	**30**	P	**P**	**10 46 12.8**	**+0.2**
L16K				IAmb	IAmb	10 46 42.1	
	comp=Z,3.8nm,1.1s						
K17K	**Iditarod**	**67.78**	**29**	P	**P**	**10 46 16.5**	**+0.4**
O16K	**Kokwok River B**	**67.99**	**33**	P	**P**	**10 46 17.8**	**+0.4**
CHGN	**Chignik**	**68.00**	**36**	P	**P**	**10 46 16.3**	**-1.1**
KBZ	**Khabaz**	**68.10**	**310**	LR	LR	11 20 22.8	
	comp=Z,28nm,18.5s,baz=86,slow=40						
H19K	**Roundabout Mou**	**68.53**	**26**	P	**P**	**10 46 21.8**	**+1.1**
L18K	**Granite Mounta**	**68.55**	**30**	P	**P**	**10 46 21.8**	**+1.0**
J19K	**Poorman**	**68.95**	**28**	P	**P**	**10 46 23.1**	**-0.2**
O18K	**Koktuh Hills**	**69.43**	**32**	P	**P**	**10 46 27.1**	**+0.7**
O18K				IAmb	IAmb	10 46 31.1	
	comp=Z,3.8nm,0.7s						
J20K	**Nowinta River**	**69.58**	**28**	P	**P**	**10 46 28.4**	**+1.2**
J20K				IAmb	IAmb	10 46 33.1	
	comp=Z,2.8nm,0.8s						
H21K	**Melozitna Rive**	**70.03**	**26**	P	**P**	**10 46 30.8**	**+0.8**
H21K				IAmb	IAmb	10 46 36.3	
	comp=Z,4.2nm,0.9s						
CAST	**Castle Rocks**	**70.56**	**28**	IAmb	IAmb	10 46 49.6	
	comp=Z,4.2nm,0.9s						
BPAW	**Bear Paw Mtn.**	**70.97**	**28**	P	**P**	**10 46 36.4**	**+0.6**
BPAW				IAmb	IAmb	10 46 49.4	
	comp=Z,4.3nm,1.0s						
H23K	**Yukon River**	**71.35**	**26**	P	**P**	**10 46 39.2**	**+1.2**
H23K				IAmb	IAmb	10 46 44.5	
	comp=Z,6.1nm,0.9s						
E24K	**Your Creek**	**71.46**	**23**	P	**P**	**10 46 39.1**	**+0.4**
E24K				IAmb	IAmb	10 46 45.0	
	comp=Z,3.6nm,0.8s						
RND	**Reindeer**	**72.00**	**28**	IAmb	IAmb	10 46 54.5	
	comp=Z,4.7nm,0.8s						
MDM	**Murphy Dome**	**72.03**	**27**	P	**P**	**10 46 41.8**	**-0.3**
ILAR	**Eielson Array**	**72.62**	**27**	P	**P**	**10 46 44.9**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=268,slow=4.3,SNR=6.3						
	comp=Z,0.5nm,0.9s						
ARCES	**ARCESS Array B**	**73.24**	**339**	P	**P**	**10 46 48.7**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=71,slow=5.6,SNR=3.2						
	comp=Z,0.8nm,0.4s						
SPITS	**Spitsbergen Ar**	**73.35**	**348**	P	**P**	**10 46 49.3**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=72,slow=11,SNR=1.8						
	comp=Z,1.8nm,0.8s						
FINES	**FINESS Array B**	**74.93**	**330**	P	**P**	**10 46 58.6**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=61,slow=5.8,SNR=11						
	comp=Z,1.4nm,0.5s						
DAWY	**Dawson**	**75.95**	**27**	P	**P**	**10 47 06.2**	**+1.1**
DAWY				IAmb	IAmb	10 47 10.6	
	comp=Z,3.4nm,0.9s						
G30M	**tAoh Zraii Nji**	**76.29**	**23**	P	**P**	**10 47 07.5**	**+0.5**
G30M				IAmb	IAmb	10 47 08.7	
	comp=Z,3.8nm,1.1s						
NIUE	**Niue**	**77.83**	**116**	P	**P**	**10 47 15.2**	**-1.2**
HFS	**Hagfors**	**81.08**	**331**	P	**P**	**10 47 32.2**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=139,slow=7.5,SNR=5.6						
	comp=Z,1.3nm,0.7s						
NB2	**NORSAR Subarra**	**81.78**	**333**	P	**P**	**10 47 36.6**	**-0.5**
	comp=Z,5.9nm,1.2s,baz=65,slow=5.6						
NOA	**NORSAR Array B**	**81.78**	**333**	P	**P**	**10 47 36.6**	**-0.5**
	comp=Z,2.5nm,1.0s,baz=64,slow=5.2,SNR=7.1						
NOA				LR	LR	11 27 30.2	
	comp=Z,67nm,19.1s,baz=65,slow=38						
	comp=Z,2.5nm,1.0s						
IDI	**Anoyia**	**83.62**	**305**	LR	LR	11 31 03.9	
	comp=Z,102nm,20.5s,baz=278,slow=40						
YKA	**Yellowknife Ar**	**86.51**	**23**	P	**P**	**10 48 01.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=306,slow=4.6,SNR=5.4						
	comp=Z,0.7nm,0.6s						

IDC ***18*** *10:36:44.7±2.4, 2°.47N×128°.68E, h228km±22km, mb3.4/7, mbtmp3.9/7, Error ellipse: s-maj=53.5km s-min=12.5km az=77.0*
NEIC ***18*** *10:36:45.4±1.1, 2°.50N±0°.06×128°.7E±0°.1, h228km±8km, mb4.1/15, Error ellipse: s-maj=20.1km s-min=6.9km az=69.0*
DJA ***18*** *10:36:49.7±1.1, 2°.N±7°×12°.8E±°, h201km±11km, M4.2/8, mb4.1/5, mB5.4/1, MLv4.2/8, Mw(mB)4.9/1*
ISC 18 10:36:46.8±0.6, 2°.32N±0°.08×128°.50E±0°.09, h250km, n33, σ1§32/37, mb4.0/14, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.91**	**216**		**Pn**	**10 37 26.9**	**-1.6**
TNTI	**Ternate**	**1.91**	**216**	P	**Pn**	**10 37 27.1**	**-1.4**
KMSI	**Cibinong**	**4.84**	**249**	P	**Pn**	**10 37 59.9**	**-0.8**
SANI	**Sanana**	**5.01**	**210**	P	**Pn**	**10 38 00.8**	**-2.0**
GTOI	**Gorontalo**	**5.74**	**253**	P	**Pn**	**10 38 11.6**	**-0.1**
GTOI				S	**S**	**10 39 17.1**	**-2.4**
FAKI	**Fak Fak**	**6.41**	**144**	Pn	**Pn**	**10 38 16.9**	**-3.3**
LUWI	**Luwuk**	**6.63**	**240**	Pn	**Pn**	**10 38 22.8**	**-0.1**
LUWI	**Luwuk**	**6.63**	**240**	P	**Pn**	**10 38 22.1**	**-0.8**
	43nm,0.8s,0.3nm						
MRSI	**Marisa**	**6.81**	**255**	P	**Pn**	**10 38 25.0**	**-0.1**
TOLI2	**Tolitoli**	**7.81**	**261**	Pn	**Pn**	**10 38 38.4**	**+0.6**
KNRA	**Kununurra**	**17.88**	**179**		**Pn**	**10 40 39.5**	**-1.5**
KNRA				IAmb	IAmb	10 40 41.2	
	comp=Z,5.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.48**	**188**	P	**P**	**10 41 07.2**	**+1.1**
COEN	**Coen**	**21.75**	**138**	P	**P**	**10 41 18.2**	**-0.5**
COEN				IAmb	IAmb	10 41 25.0	
	comp=Z,10nm,1.1s						
WB0	**Warramunga Arr**	**22.70**	**165**	P	**P**	**10 41 27.9**	**+0.6**
WB0				IAmb	IAmb	10 41 29.0	
	comp=Z,11nm,1.1s						
WRAB	**Tennant Creek**	**22.84**	**166**	P	**P**	**10 41 29.6**	**+0.9**
WRAB				IAmb	IAmb

comp=Z,1.0nm,0.2s
RUF Ruokolahti 1.48 67 PN Pn 11 04 34.4 +0.1
RUF MSG 11 04 50.9
comp=Z,1.0nm,0.2s
RUF SN Sn 11 04 56.2 +1.9
RAF Rauma 2.12 276 PG Pb 11 04 45.1 -0.4
RAF MSG 11 05 09.3
comp=Z,0.8nm,0.2s
RAF SG Sn 11 05 10.6 +0.6
KPF Kankaanpaa 2.16 298 SG Sn 11 05 12.0 +1.0
VSU Vasula 2.45 172 PN Pn 11 04 46.6 -0.8
AAL Aland 3.10 259 PB Pb 11 04 60.0 -2.3
AAL SN Sn 11 05 34.5 +0.4

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*HEL **18** 11:05:07.8±0.2,64°.77N×30°.77E,h0km,ML2.0,Explosion*
*KOLA **18** 11:05:08.9,64°.76N×31°.22E,h0km,ML2.2,Error ellipse: s-maj=20.0km s-min=8.9km az=160.0,Karelia*
*IDC **18** 11:05:09.2±2.2,64°.71N×30°.54E,h0km,mbtmp2.9/3, ML2.0/3,Error ellipse: s-maj=29.8km s-min=9.3km az=103.0*

ISC 18 11:05:06.7±0.9,64°.81N±0°.02×30°.80E±0°.04,h0km,n48, σ2°.24/71,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.70**	**213**	PG	**Pg**	**11 05 20.0**	**-0.1**
RMF				SG	**Sg**	**11 05 28.1**	**-1.1**
RMF				MSG		11 05 28.8	
comp=Z,34nm,0.2s							
KU6	**Riekki**	**1.28**	**343**	PG	**Pg**	**11 05 31.1**	**-0.1**
baz=164							
KU6				MSG		11 05 47.5	
comp=Z,12nm,0.2s							
KU6				SG	**Sg**	**11 05 48.2**	**+0.4**
MSF	**Maaselka**	**1.33**	**327**	PG	**Pg**	**11 05 31.9**	**-0.3**
baz=152							
MSF				SB	**Sg**	**11 05 50.0**	**+0.6**
OLKF	**Oulanka, Finla**	**1.63**	**340**	PG	**Pn**	**11 05 37.2**	**+0.7**
OLKF				MSG		11 05 57.3	
comp=Z,13nm,0.2s							
OLKF				SN	**Sg**	**11 06 00.5**	**+1.6**
JOF	**Joensuu**	**1.91**	**173**	*e*P	**Pn**	**11 05 41.0**	**+0.5**
JOF	**Joensuu**	**1.91**	**173**	SB	**Pn**	**11 05 40.9**	**+0.5**
JOF	**Joensuu**	**1.91**	**173**	PG	**Pn**	**11 05 40.9**	**+0.5**
NIF	**Nilsia**	**1.94**	**224**	PG	**Pn**	**11 05 41.7**	**+0.9**
RANF	**Ranua**	**2.07**	**308**	PG	**Pn**	**11 05 44.0**	**+1.4**
baz=125							
RANF				SG	**Sb**	**11 06 10.9**	**-0.4**
OUL	**Oulu**	**2.11**	**280**	SB	**Sn**	**11 06 11.3**	**+1.4**
OUL	**Oulu**	**2.11**	**280**	PG	**Pn**	**11 05 44.7**	**+1.6**
baz=98							
OUL				SG	**Sn**	**11 06 11.3**	**+1.4**
OBF4	**Vikkela, Lumij**	**2.44**	**273**	PG	**Pn**	**11 05 50.0**	**+2.3**
baz=88							
OBF4				MSG		11 06 19.3	
comp=Z,12nm,0.2s							
OBF4				SG	**Sb**	**11 06 23.0**	**+1.2**
OUF	**Merijarvi**	**2.66**	**263**	PB	**Pn**	**11 05 52.5**	**+1.8**
OUF				MSG		11 06 25.5	
comp=Z,11nm,0.2s							
OUF				SB	**Sb**	**11 06 27.8**	**-0.3**
RNF	**Rovaniemi**	**2.68**	**315**	PB	**Pn**	**11 05 52.9**	**+1.9**
RNF				SB	**Sb**	**11 06 29.1**	**+0.3**
OBF0	**Syolatti, Pyha**	**2.84**	**267**	SB	**Pn**	**11 05 56.0**	**+2.8**
OBF0	**Syolatti, Pyha**	**2.84**	**267**	PB	**Pn**	**11 05 56.0**	**+2.8**
OBF0				MSG		11 06 31.0	
comp=Z,5.7nm,0.2s							
OBF0				SG	**Sb**	**11 06 35.3**	**+1.8**
SUF	**Sumiainen**	**2.94**	**227**	PB	**Pn**	**11 05 57.4**	**+2.7**
SUF				MSG		11 06 33.3	
comp=Z,3.7nm,0.2s							
APA	**Apatity**	**2.97**	**20**	P	**Pn**	**11 05 55.3**	**+0.3**
APA				S	**Sn**	**11 06 30.1**	**-1.1**
TOF	**Tornio**	**2.99**	**298**	PB	**Pn**	**11 05 57.7**	**+2.4**
TOF				MSG		11 06 35.6	
comp=Z,2.7nm,0.2s							
TOF				SB	**Sb**	**11 06 37.2**	**-0.5**
VRF	**Varrio**	**2.99**	**351**	PB	**Pn**	**11 05 57.6**	**+2.3**
VRF				MSG		11 06 36.7	
comp=Z,4.0nm,0.2s							
VRF				SG	**Sg**	**11 06 41.4**	**-1.3**
SGF	**Sodankyl**	**3.17**	**329**	SB	**Sb**	**11 06 42.8**	**0.0**
OBF8	**Ulkokalla**	**3.21**	**265**	SG	**Pn**	**11 05 59.3**	**+1.0**
OBF8	**Ulkokalla**	**3.21**	**265**	PN	**Pn**	**11 05 59.3**	**+1.0**
KALU	**Kalix**	**3.29**	**292**	PB	**Pn**	**11 06 02.4**	**+3.0**
KALU				SG	**Sb**	**11 06 47.5**	**+1.0**
KAF	**Kangasniemi**	**3.38**	**219**	PB	**Pn**	**11 06 03.7**	**+3.1**
KAF				SG	**Sb**	**11 06 49.2**	**+0.4**
LVZ	**Lovozero**	**3.47**	**25**	S	**Sn**	**11 06 43.6**	**0.0**
LVZ	**Lovozero**	**3.47**	**25**	PN	**Pn**	**11 06 04.2**	**+2.3**
RUF	**Ruokolahti**	**3.50**	**195**	PN	**Pn**	**11 06 04.0**	**+1.7**
baz=13							
KLF	**Kolari**	**3.70**	**314**	PB	**Pb**	**11 06 11.4**	**-1.5**
baz=125							
KEF	**Keuruu**	**3.75**	**228**	*e*P	**Pn**	**11 06 08.2**	**+2.5**
KEF	**Keuruu**	**3.75**	**228**	PB	**Pn**	**11 06 09.5**	**+3.7**
KEF				SG	**Sb**	**11 07 03.0**	**+3.2**
RAJF	**Raja-Jooseppi**	**3.81**	**346**	PN	**Pn**	**11 06 08.5**	**+1.9**
RAJF				SG	**Sb**	**11 07 05.1**	**+3.7**
ERTU	**Ertsjaerv**	**3.97**	**300**	PN	**Pn**	**11 06 11.5**	**+2.8**
ERTU				SG	**Sg**	**11 07 11.7**	**-2.4**
FIA0	**FINESS Array S**	**4.00**	**215**	PN	**Pn**	**11 06 10.4**	**+1.3**
FINES	**FINESS Array B**	**4.00**	**215**	Pn	**Pn**	**11 06 10.5**	**+1.3**
comp=Z,0.1nm,0.3s,baz=33,slow=13,SNR=8.7							
FINES				Sn	**Sn**	**11 06 55.0**	**-1.6**
comp=Z,0.3nm,0.3s,baz=27,slow=28,SNR=1.7							
FINES				Lg	Lg	11 07 08.2	
comp=Z,1.5nm,0.3s,baz=34,slow=27,SNR=10							
comp=Z,1.3nm,0.8s							
VAF	**Ylistaro**	**4.00**	**247**	*e*P	**Pn**	**11 06 12.2**	**+3.1**
VAF	**Ylistaro**	**4.00**	**247**	PG	**Pb**	**11 06 18.6**	**+0.7**
VAF				SG	**Sg**	**11 07 12.0**	**-3.1**
BURU	**Burvik**	**4.05**	**271**	SB	**Pn**	**11 06 11.5**	**+1.6**
BURU	**Burvik**	**4.05**	**271**	PN	**Pn**	**11 06 11.5**	**+1.6**
UMAU	**Umeaa**	**4.50**	**263**	PN	**Pn**	**11 06 15.7**	**-0.3**
UMAU				SG	**Sb**	**11 07 26.2**	**+5.1**
VJF	**Virojoki**	**4.54**	**201**	SG	**Sb**	**11 07 27.0**	**+4.7**
HEF	**Hetta**	**4.60**	**325**	PN	**Pn**	**11 06 19.3**	**+1.9**
HEF				SG	**Sg**	**11 07 30.0**	**-4.3**
ARCES	**ARCESS Array B**	**5.17**	**339**	Pn	**Pn**	**11 06 26.0**	**+0.7**
comp=Z,0.4nm,0.3s,baz=158,slow=15,SNR=5.9							
ARCES				Sn	**Sn**	**11 07 24.4**	**-1.2**
comp=Z,0.2nm,0.3s,baz=158,slow=24,SNR=1.9							
ARCES				Lg	Lg	11 07 46.0	
comp=Z,0.8nm,0.3s,baz=155,slow=31,SNR=9.5							
comp=Z,1.2nm,0.4s							
VADS	**Vadso**	**5.37**	**355**	S	**Sn**	**11 07 33.6**	**+3.4**
RAF	**Rauma**	**5.61**	**232**	*e*P	**Pn**	**11 06 31.4**	**+0.3**
I37NO	**I37NO**	**6.42**	**317**	I	I	11 41 20.0	
baz=127,slow=310,SNR=2.4							
FAUS	**Fauske**	**6.81**	**299**	S	**Sn**	**11 08 06.7**	**+1.0**
HFS	**Hagfors**	**9.19**	**247**	Pn	**Pn**	**11 07 17.5**	**-2.8**
comp=Z,0.1nm,0.3s,baz=54,slow=14,SNR=1.6							
HFS				Sn	**Sn**	**11 08 56.8**	**-7.5**
comp=Z,0.1nm,0.3s,baz=71,slow=22,SNR=1.9							
HFS				Lg	Lg	11 09 47.5	
comp=Z,0.3nm,0.3s,baz=62,slow=28,SNR=2.8							
comp=Z,0.3nm,0.3s							

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*NEIC **18** 11:23:04.5±1.2,3°.47S±0°.09×145°.3E±0°.1,h10km, mb4.8/95,Error ellipse: s-maj=19.5km s-min=14.7km az=86.0*
*IDC **18** 11:23:13.5±3.3,3°.61S×145°.41E,h99km±32km,mb3.9/15, mbtmp4.2/17,MS3.7/3,Error ellipse: s-maj=32.6km s-min=14.5km az=89.0*

ISC 18 11:23:06.0±0.5,3°.55S±0°.05×145°.3E±0°.1,h23km,n305, σ0°.66/279,mb4.7/66,1D,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.10**	**162**	Pn	**Pn**	**11 24 34.8**	**-0.1**
PMG	**Port Moresby**	**6.10**	**162**	P	Pn	11 24 40.4	+5.5
15nm,0.8s,baz=308,slow=7.7,SNR=7.7							
PMG				S	**Sn**	**11 25 43.8**	**-0.2**
9.1nm,0.5s,baz=294,slow=14,SNR=1.1							
COEN	**Coen**	**10.55**	**191**	Pn	**Pn**	**11 25 37.1**	**+1.1**
CTA	**Charters Tower**	**16.46**	**177**	P	**P**	**11 26 58.4**	**+0.1**
0.6nm,0.9s,baz=92,slow=23,SNR=3.9							
CTAO	**Charters Tower**	**16.46**	**177**	Pn	**Pn**	**11 26 56.8**	**+1.1**
MTN	**Manton Dam**	**16.77**	**236**		**Pn**	**11 26 59.5**	**-0.1**
GUMO	**Guam**	**17.04**	**359**	LR	LR	11 33 27.4	
comp=Z,110nm,18.3s,baz=168,slow=36							
WB0	**Warramunga Arr**	**19.31**	**213**	P	**Pn**	**11 27 30.6**	**-0.2**
WR0	**Warramunga Arr**	**19.39**	**212**	P	**Pn**	**11 27 31.8**	**0.0**
WR0				IAmb	IAmb	11 27 35.9	
comp=Z,41nm,0.8s							
WRAB	**Tennant Creek**	**19.47**	**212**	P	**Pn**	**11 27 32.0**	**-0.7**
WRAB				IAmb	IAmb	11 27 37.5	
comp=Z,38nm,1.0s							
WB2	**Warramunga Arr**	**19.48**	**212**	P	**Pn**	**11 27 32.3**	**-0.5**
WB2				IAmb	IAmb	11 27 35.2	
comp=Z,31nm,0.7s							
WRA	**Warramunga Arr**	**19.48**	**212**	P	**Pn**	**11 27 32.3**	**-0.6**
comp=Z,19nm,0.8s,baz=37,slow=11,SNR=76							
WRA				LR	LR	11 36 19.1	
comp=Z,290nm,21.5s,baz=310,slow=40							
KNRA	**Kununurra**	**20.25**	**232**	P	**P**	**11 27 39.7**	**-0.2**
SOEI	**Soe**	**21.77**	**253**	P	**P**	**11 27 55.6**	**-0.9**
EIDS	**Eidsvold**	**22.39**	**166**	P	**P**	**11 28 02.4**	**-0.6**
ASAR	**Alice Springs**	**22.83**	**208**	P	**P**	**11 28 08.4**	**+0.8**
comp=Z,7.1nm,0.5s,baz=39,slow=7.2,SNR=73							
ASAR				LR	LR	11 36 37.8	
comp=Z,263nm,21.2s,baz=77,slow=35							
comp=Z,7.1nm,0.5s							
FITZ	**Fitzroy Crossi**	**24.07**	**232**	P	**P**	**11 28 19.7**	**-0.2**
TOLI2	**Tolitoli**	**24.94**	**280**	P	**P**	**11 28 27.1**	**-0.8**
TOLI2				IAmb	IAmb	11 28 32.6	
comp=Z,13nm,0.9s							
KAPI	**Kappang**	**25.51**	**266**	P	**P**	**11 28 32.0**	**-1.1**
KAPI				IAmb	IAmb	11 28 37.0	
comp=Z,24nm,1.1s							
STKA	**Stephens Creek**	**28.39**	**187**	P	**P**	**11 29 00.4**	**+1.6**
STKA	**Stephens Creek**	**28.39**	**187**	P	**P**	**11 28 57.9**	**-0.9**
comp=Z,3.7nm,0.9s,baz=335,slow=14,SNR=2.2							
comp=Z,3.7nm,0.9s							
BBOO	**Buckleboo**	**30.36**	**196**	P	**P**	**11 29 16.3**	**0.0**
MBWA	**Marble Bar**	**30.40**	**233**	P	**P**	**11 29 16.4**	**-0.3**
LHI	**Lord Howe Isla**	**30.69**	**157**	P	**P**	**11 29 19.4**	**+0.2**
FORT	**Forrest**	**31.59**	**209**	P	**P**	**11 29 27.4**	**+0.2**
TOO	**Toolangi**	**33.86**	**180**	P	**P**	**11 29 47.8**	**+0.8**
TOO				IAmb	IAmb	11 29 55.3	
comp=Z,11nm,1.1s							
MJAR	**Matsushiro Arr**	**40.43**	**351**	P	**P**	**11 30 42.4**	**-0.3**
comp=Z,1.0nm,0.8s,baz=119,slow=7.5,SNR=2.1							
comp=Z,1.0nm,0.8s							
NJ2	**Nanjing**	**43.42**	**327**	*e*P	**P**	**11 31 07.3**	**+0.1**
NJ2				pmax	pmax		
comp=Z,8.0nm,0.5s							
KSRS	**Korea Array**	**43.88**	**340**	P	**P**	**11 31 10.8**	**0.0**
comp=Z,1.5nm,0.9s,baz=159,slow=9.2,SNR=6.4							
comp=Z,1.5nm,0.9s							
USRK	**Ussuriysk Ar.**	**49.02**	**347**	P	**P**	**11 31 51.5**	**+0.5**
comp=Z,4.2nm,0.8s,baz=167,slow=5.2,SNR=8.1							
comp=Z,4.2nm,0.8s							
HNS	**HongShan**	**49.68**	**328**	*e*P	**P**	**11 31 57.8**	**+1.6**
CMAR	**Chiang Mai Arr**	**50.62**	**297**	P	**P**	**11 32 04.2**	**+0.5**
comp=Z,1.4nm,0.9s,baz=114,slow=4.5,SNR=5.1							
comp=Z,1.4nm,0.9s							
BNX	**BinXian**	**51.59**	**344**	⇓P	**P**	**11 32 11.1**	**+0.6**
BNX				pmax	pmax		
comp=Z,9.0nm,1.0s							
PZH	**PanZhiHua**	**51.62**	**308**	P	**P**	**11 32 12.0**	**+0.7**
PZH				pmax	pmax		
comp=Z,30nm,1.1s							
PZH				pmax	pmax		
comp=Z,150nm,5.0s							
HHC	**Hu-ho-hao-te**	**53.87**	**329**	*e*P	**P**	**11 32 27.9**	**+0.3**
HHC				sP	pP	11 32 34.0	-0.2
HHC				pmax	pmax		
comp=Z,13nm,0.7s							
HHC				pmax	pmax		
comp=Z,130nm,4.5s							
LZH	**Lanzhou**	**55.26**	**319**	*e*P	**P**	**11 32 40.4**	**+2.5**
LZH				pP	pwP	11 32 49.4	+2.2
LZH				pmax	pmax		
comp=Z,17nm,1.0s							
HEH	**HeiHe**	**55.77**	**346**	*e*P	**P**	**11 32 40.8**	**-0.2**
HEH				pmax	pmax		
comp=Z,6.0nm,1.0s							
SONM	**Songino Array**	**61.45**	**331**	P	**P**	**11 33 21.1**	**+0.2**
comp=Z,0.2nm,0.3s,baz=161,slow=10,SNR=1.7							
comp=Z,0.2nm,0.3s							
CASY	**Casey**	**67.17**	**194**	P	**P**	**11 33 59.5**	**+1.7**
CASY				IAmb	IAmb	11 33 59.9	
comp=Z,8.4nm,1.1s							
NIKH	**Nikolski High**	**68.20**	**28**	P	**P**	**11 34 05.1**	**+0.6**
baz=230							
UNV	**Unalaska Valle**	**69.84**	**28**	P	**P**	**11 34 16.0**	**+1.2**
baz=232							
P08K	**Saint George I**	**70.25**	**25**	P	**P**	**11 34 17.8**	**+0.6**
baz=229							
SPIA	**Saint Paul Isl**	**70.34**	**24**	P	**P**	**11 34 18.5**	**+0.7**
baz=228							
FALS	**False Pass**	**71.90**	**28**	P	**P**	**11 34 28.4**	**+1.2**
baz=235							
S12K	**Black Hills**	**73.02**	**28**	P	**P**	**11 34 35.1**	**+1.2**
baz=236							
CHNA	**Chernabura Isl**	**73.73**	**30**	P	**P**	**11 34 38.5**	**+0.4**
baz=239							
MKAR	**Makanchi Array**	**74.54**	**321**	P	**P**	**11 34 42.1**	**-1.0**
comp=Z,1.9nm,1.1s,baz=89,slow=10,SNR=5.8							
comp=Z,1.9nm,1.1s							
CHGN	**Chignik**	**75.07**	**29**	P	**P**	**11 34 46.4**	**+0.6**
baz=239							
M13K	**Dall Lake**	**75.17**	**24**	P	**P**	**11 34 46.9**	**+0.6**
baz=234							
O14K	**Tigyukauivet M**	**75.37**	**25**	P	**P**	**11 34 47.0**	**-0.5**
baz=236							
N14K	**Kuskokwak Cree**	**75.57**	**25**	P	**P**	**11 34 48.1**	**-0.6**
baz=236							
M14K	**Bethel**	**75.93**	**24**	P	**P**	**11 34 50.5**	**-0.1**
M14K	**Bethel**	**75.93**	**24**	P	**P**	**11 34 50.0**	**-0.7**
baz=235							
O15K	**Ungalikthiuk R**	**75.94**	**26**	P	**P**	**11 34 50.9**	**+0.1**
baz=237							
L14K	**Kuka Creek**	**75.99**	**23**	P	**P**	**11 34 51.4**	**+0.4**
L14K	**Kuka Creek**	**75.99**	**23**	P	**P**	**11 34 51.8**	**+0.8**
baz=234							
ZALV	**Zalesovo Beam**	**76.05**	**328**	P	**P**	**11 34 49.4**	**-2.1**
comp=Z,0.5nm,0.6s,baz=116,slow=6.6,SNR=1.8							
comp=Z,0.5nm,0.6s							
N15K	**Kwethluk River**	**76.37**	**25**	P	**P**	**11 34 53.3**	**0.0**
N15K				IAmb	IAmb	11 34 54.6	
comp=Z,10nm,1.0s							
N15K	**Kwethluk River**	**76.37**	**25**	P	**P**	**11 34 53.5**	**+0.3**
baz=237							
M15K	**Kasigluk River**	**76.41**	**24**	P	**P**	**11 34 53.9**	**+0.4**
baz=236							
KSH	**Kashi**	**76.49**	**312**	P	**P**	**11 34 57.8**	**+3.2**
KSH				pmax	pmax		
comp=Z,2.0nm,0.6s							
J14K	**Nanvaranak Lak**	**76.49**	**22**	P	**P**	**11 34 54.2**	**+0.4**
baz=233							
L15K	**Ungalak Mounta**	**76.65**	**23**	P	**P**	**11 34 55.4**	**+0.7**
baz=235							
P16K	**Nushagak River**	**76.67**	**26**	P	**P**	**11 34 55.3**	**+0.4**
baz=239							
R17L	**Mt. Peulik Vol**	**76.71**	**28**	P	**P**	**11 34 55.4**	**+0.2**
baz=241							
TNA	**Tin City**	**76.80**	**18**	P	**P**	**11 34 56.6**	**+1.1**
baz=228							
O16K	**Kokwok River B**	**76.92**	**26**	P	**P**	**11 34 55.7**	**-0.6**
O16K				IAmb	IAmb	11 34 57.2	
comp=Z,10nm,1.1s							
O16K	**Kokwok River B**	**76.92**	**26**	P	**P**	**11 34 56.6**	**+0.3**
baz=239,SNR=5.5							
ANM	**Nome**	**76.97**	**20**	P	**P**	**11 34 57.3**	**+0.7**
baz=231							
K15K	**Wolf Creek Mou**	**76.98**	**23**	P	**P**	**11 34 56.8**	**+0.1**
K15K				IAmb	IAmb	11 34 58.0	
comp=Z,9.5nm,0.9s							
K15K	**Wolf Creek Mou**	**76.98**	**23**	P	**P**	**11 34 57.3**	**+0.6**
baz=235							
N16K	**Nishlik Lake**	**77.09**	**25**	P	**P**	**11 34 57.8**	**+0.5**
baz=238							
NIL	**Nilore**	**77.13**	**306**	P	**P**	**11 34 57.3**	**-0.9**
Q17K	**Contact Creek**	**77.24**	**28**	P	**P**	**11 34 58.2**	**-0.1**
baz=241							
F14K	**Arctic Creek**	**77.24**	**19**	P	**P**	**11 34 58.3**	**+0.3**
baz=230							
SII	**Sitkinak Islan**	**77.25**	**30**	P	**P**	**11 34 58.6**	**+0.3**
baz=243							
M16K	**Timber Creek**	**77.30**	**24**	P	**P**	**11 34 58.5**	**+0.1**
M16K				IAmb	IAmb	11 34 59.9	
comp=Z,9.6nm,1.1s							
M16K	**Timber Creek**	**77.30**	**24**	P	**P**	**11 34 59.0**	**+0.5**
baz=238							
O17K	**Koliganek Bris**	**77.44**	**26**	P	**P**	**11 34 59.6**	**+0.4**
baz=240,SNR=17							
L16K	**Owhat River**	**77.46**	**24**	P	**P**	**11 34 59.8**	**+0.4**
baz=237							
ACHA	**Angle Creek He**	**77.47**	**28**	P	**P**	**11 34 58.7**	**-0.9**
ACHA				IAmb	IAmb	11 35 02.0	
comp=Z,10nm,1.2s							
R18K	**Karluk**	**77.58**	**29**	P	**P**	**11 34 59.5**	**-0.5**
baz=243							
N17K	**Nushagak Hills**	**77.78**	**25**	P	**P**	**11 35 01.5**	**+0.3**
N17K				IAmb	IAmb	11 35 02.8	
comp=Z,5.9nm,0.9s							
N17K	**Nushagak Hills**	**77.78**	**25**	P	**P**	**11 35 01.4**	**+0.3**
baz=240,SNR=5.5							
Q18K	**Katmai Hardscr**	**77.83**	**28**	P	**P**	**11 35 01.0**	**-0.6**
baz=242							
J16K	**Anvik River**	**77.90**	**22**	P	**P**	**11 35 02.1**	**+0.3**
baz=236							
OHAK	**Old Harbor**	**77.99**	**29**	P	**P**	**11 35 02.8**	**+0.5**
baz=244							
P18K	**Big Mountain,**	**78.08**	**27**	P	**P**	**11 35 03.1**	**+0.2**
baz=242							
M17K	**Holitna River**	**78.13**	**24**	P	**P**	**11 35 03.2**	**+0.1**
M17K				IAmb	IAmb	11 35 05.0	
comp=Z,7.7nm,0.9s							
M17K	**Holitna River**	**78.13**	**24**	P	**P**	**11 35 03.3**	**+0.3**
baz=239							
L17K	**Donlin**	**78.16**	**24**	P	**P**	**11 35 03.6**	**+0.4**
baz=238							
I17K	**Unalakleet**	**78.21**	**21**	P	**P**	**11 35 04.0**	**+0.6**
baz=236							
KURBB	**Kurchatov Arra**	**78.27**	**323**	P	**P**	**11 35 03.1**	**-1.0**
comp=Z,0.9nm,0.2s,baz=107,slow=5.2,SNR=4.7							
comp=Z,0.9nm,0.2s							
O18K	**Koktuh Hills**	**78.31**	**26**	P	**P**	**11 35 03.5**	**-0.7**
O18K				IAmb	IAmb	11 35 05.9	
comp=Z,7.0nm,1.1s							
O18K	**Koktuh Hills**	**78.31**	**26**	P	**P**	**11 35 04.2**	**+0.1**
baz=242							
N18K	**Kilae Creek**	**78.42**	**25**	P	**P**	**11 35 05.4**	**+0.7**
baz=241							
K17K	**Iditarod**	**78.47**	**23**	P	**P**	**11 35 05.0**	**+0.1**
K17K	**Iditarod**	**78.47**	**23**	P	**P**	**11 35 05.8**	**+0.8**
baz=238							
J17K	**VABM Dome**	**78.54**	**22**	P	**P**	**11 35 05.5**	**+0.3**
J17K	**VABM Dome**	**78.54**	**22**	P	**P**	**11 35 06.1**	**+0.9**
baz=237							
KDAK	**Kodiak Island**	**78.58**	**29**	P	**P**	**11 35 06.4**	**+0.8**
baz=244							
Q19K	**Cape Douglas,**	**78.59**	**28**	P	**P**	**11 35 05.9**	**+0.2**
baz=243							
M18K	**Stony River**	**78.84**	**25**	P	**P**	**11 35 07.7**	**+0.7**
baz=241,SNR=7.8							
L18K	**Granite Mounta**	**78.85**	**24**	P	**P**	**11 35 07.4**	**+0.4**
L18K	**Granite Mounta**	**78.85**	**24**	P	**P**	**11 35 07.9**	**+0.8**
baz=240							
Q20K	**Shuyak Island**	**79.03**	**28**	P	**P**	**11 35 09.0**	**+0.9**
baz=244							
H17K	**Granite Mounta**	**79.08**	**21**	P	**P**	**11 35 08.1**	**-0.2**
baz=236							
N19K	**Bonanza Creek**	**79.09**	**26**	P	**P**	**11 35 08.4**	**-0.1**
N19K	**Bonanza Creek**	**79.09**	**26**	P	**P**	**11 35 08.9**	**+0.4**
baz=242							
P19K	**Oil Pt**	**79.11**	**27**	P	**P**	**11 35 07.7**	**-0.8**
P19K	**Oil Pt**	**79.11**	**27**	P	**P**	**11 35 08.6**	**0.0**
baz=243							
G17K	**Kiwalik Mounta**	**79.14**	**20**	P	**P**	**11 35 09.0**	**+0.4**
baz=235							
J18K	**Innoko River**	**79.48**	**23**	P	**P**	**11 35 10.8**	**+0.3**
baz=240							
TTA	**Tatalina**	**79.48**	**23**	P	**P**	**11 35 10.1**	**-0.5**
TTA	**Tatalina**	**79.48**	**23**	P	**P**	**11 35 10.4**	**-0.2**
baz=240							
O20K	**Slope Mountain**	**79.57**	**27**	P	**P**	**11 35 11.2**	**+0.1**
baz=244							
L19K	**White Mountain**	**79.58**	**24**	P	**P**	**11 35 11.4**	**+0.3**
L19K				IAmb	IAmb	11 35 12.5	
comp=Z,12nm,0.9s							
L19K	**White Mountain**	**79.58**	**24**	P	**P**	**11 35 10.9**	**-0.2**
baz=241,SNR=12							
M19K	**Big River Lodg**	**79.64**	**25**	IAmb	IAmb	11 35 13.0	
comp=Z,8.6nm,0.9s							
M19K	**Big River Lodg**	**79.64**	**25**	P	**P**	**11 35 11.6**	**+0.2**
baz=242							
D17K	**Noatak River**	**79.65**	**18**	P	**P**	**11 35 11.9**	**+0.6**
baz=233							
E17K	**Hotham Inlet**	**79.67**	**19**	P	**P**	**11 35 11.5**	**+0.1**
baz=234							
G18K	**Tagagawik**	**80.05**	**20**	P	**P**	**11 35 13.1**	**-0.4**
baz=237							
C17K	**DeLong Mountai**	**80.10**	**17**	P	**P**	**11 35 14.3**	**+0.5**
baz=232							
L20K	**Farewell, AK**	**80.12**	**24**	P	**P**	**11 35 14.1**	**+0.1**
baz=242,SNR=5.4							
M20K	**Styx River**	**80.16**	**25**	IAmb	IAmb	11 35 15.5	
comp=Z,8.8nm,0.9s							
M20K	**Styx River**	**80.16**	**25**	P	**P**	**11 35 14.7**	**+0.4**
baz=243							
J19K	**Poorman**	**80.16**	**23**	P	**P**	**11 35 14.8**	**+0.6**
baz=240							
E18K	**Tukpahlearik C**	**80.26**	**19**	P	**P**	**11 35 15.0**	**+0.4**
baz=235							
BRSE	**Bradley Lake S**	**80.28**	**27**	P	**P**	**11 35 15.1**	**+0.1**
baz=246							
K20K	**Telida**	**80.46**	**23**	IAmb	IAmb	11 35 17.3	
comp=Z,8.3nm,1.0s							
K20K	**Telida**	**80.46**	**23**	P	**P**	**11 35 15.9**	**+0.1**
baz=242,SNR=5.4							
CAPN	**Captain Cook N**	**80.53**	**26**	P	**P**	**11 35 16.5**	**+0.3**
baz=245							
H19K	**Roundabout Mou**	**80.63**	**21**	IAmb	IAmb

baz=247
KTH **Kantishna Hill** 81.81 24 IAmb IAmb 11 35 23.3
comp=Z,7.0nm,1.1s
GHO **Glory Hole Cre** 81.92 26 IAmb IAmb 11 35 23.8
comp=Z,6.6nm,1.0s
P23K **Montague Islan** 81.93 28 P **P** **11 35 22.8 -0.9**
baz=248
KNK **Knik Glacier** 81.99 26 P **P** **11 35 23.4 -0.6**
KNK IAmb IAmb 11 35 24.5
comp=Z,7.8nm,1.0s
KNK **Knik Glacier** 81.99 26 P **P** **11 35 23.6 -0.4**
baz=247
H21K **Melozitna Rive** 82.02 22 P **P** **11 35 23.8 -0.3**
baz=243
BPAW **Bear Paw Mtn.** 82.02 23 P **P** **11 35 23.9 -0.2**
baz=245,SNR=5.7
I21K **Tanana** 82.11 22 P **P** **11 35 24.4 -0.1**
I21K **Tanana** 82.11 22 P **P** **11 35 24.6 +0.1**
baz=244
E20K **Nigu River** 82.12 19 P **P** **11 35 24.9 +0.3**
baz=239
G21K **Allakaket** 82.17 21 P **P** **11 35 24.5 -0.3**
baz=242
SML **Sawmill** 82.19 26 P **P** **11 35 24.4 -0.7**
baz=247
Q23K **Middleton Isla** 82.23 29 P **P** **11 35 25.0 -0.2**
baz=250
NRIK **Noril'sk** 82.44 342 P **P** **11 35 25.6 -0.5**
NRIK IAmb IAmb 11 35 35.2
comp=Z,9.3nm,1.1s
NRIK **Noril'sk** 82.44 342 P **P** **11 35 25.5 -0.6**
comp=Z,4.4nm,0.7s,baz=132,slow=3.5,SNR=5.3
comp=Z,4.4nm,0.7s
M23K **Glacier View** 82.45 26 P **P** **11 35 26.3 -0.1**
baz=248
WAT1 **Susitna Watana** 82.50 25 P **P** **11 35 25.8 -0.8**
baz=247
F21K **Alatna River** 82.51 20 P **P** **11 35 26.1 -0.5**
baz=242
MLY **Manley** 82.52 23 IAmb IAmb 11 35 27.4
comp=Z,9.1nm,1.0s
MLY **Manley** 82.52 23 P **P** **11 35 26.4 -0.4**
baz=245
SCM **Sheep Creek Mo** 82.65 26 P **P** **11 35 27.2 -0.3**
SCM IAmb IAmb 11 35 28.6
comp=Z,8.5nm,1.0s
SCM **Sheep Creek Mo** 82.65 26 P **P** **11 35 27.1 -0.3**
baz=248
H22K **Ishtalitna Cre** 82.65 22 P **P** **11 35 27.1 -0.3**
baz=244
MCK **McKinley** 82.69 24 P **P** **11 35 26.3 -1.4**
baz=247
B20K **Meade River** 82.74 17 P **P** **11 35 27.1 -0.5**
baz=238
WAT6 **Susitna Watana** 82.75 25 P **P** **11 35 27.0 -1.1**
baz=248
EYAK **Cordova Ski Ar** 82.90 28 P **P** **11 35 27.4 -1.2**
baz=250
NEA2 **Nenana** 82.99 23 IAmb IAmb 11 35 28.8
comp=Z,5.0nm,1.0s
NEA2 **Nenana** 82.99 23 P **P** **11 35 28.3 -0.8**
baz=246,SNR=5.7
C21K **Knifeblade Rid** 83.02 18 P **P** **11 35 28.8 -0.4**
baz=240
F22K **John River** 83.09 20 P **P** **11 35 29.1 -0.5**
baz=243
DHY **Denali Highway** 83.09 25 IAmb IAmb 11 35 30.2
comp=Z,7.3nm,0.9s
DHY **Denali Highway** 83.09 25 P **P** **11 35 29.8 -0.1**
baz=248
DIV **Divide** 83.09 27 P **P** **11 35 29.2 -0.5**
I23K **Minto, Yukon-K** 83.10 23 P **P** **11 35 29.2 -0.4**
baz=246
KLU **Klutina** 83.15 27 IAmb IAmb 11 35 30.8
comp=Z,9.9nm,1.1s
KLU **Klutina** 83.15 27 P **P** **11 35 29.6 -0.5**
baz=250
M24K **Tolsona, Glenn** 83.25 26 P **P** **11 35 30.5 -0.1**
baz=249
B21K **Ikpikpuk River** 83.30 18 P **P** **11 35 30.6 0.0**
baz=241
H23K **Yukon River** 83.31 22 P **P** **11 35 30.5 -0.2**
baz=246
G23K **Bananza Creek** 83.50 21 P **P** **11 35 31.3 -0.5**
baz=245
CCB **Clear Creek Bu** 83.51 23 IAmb IAmb 11 35 31.1
comp=Z,7.7nm,1.0s
D22K **Ayikyak River** 83.55 19 P **P** **11 35 31.8 -0.2**
baz=243
BMRM **Bremner River** 83.57 27 P **P** **11 35 32.4 +0.1**
baz=251
COLA **College** 83.58 23 P **P** **11 35 30.9 -1.2**
COLA **College** 83.58 23 P **P** **11 35 31.9 -0.2**
baz=248
COLD **Coldfoot** 83.65 21 P **P** **11 35 32.6 +0.2**
baz=245
HDA **Harding Lake** 83.76 24 P **P** **11 35 33.2 +0.1**
baz=248
N25K **Chitina, Valde** 83.78 27 P **P** **11 35 33.6 +0.2**
baz=251
HARP **HAARP** 83.80 26 P **P** **11 35 33.4 +0.1**
baz=250
BVAR **Borovoye Array** 83.81 324 P **P** **11 35 32.4 -1.2**
comp=Z,5.1nm,0.9s,baz=103,slow=6.5,SNR=16
comp=Z,5.1nm,0.9s
POKR **Poker Plat Res** 83.83 23 P **P** **11 35 33.4 -0.1**
baz=248
MAW **Mawson** 83.84 202 P **P** **11 35 32.5 -0.9**
comp=Z,2.4nm,0.8s,baz=75,slow=9.5,SNR=4.4
comp=Z,2.4nm,0.8s
PAX **Paxson** 83.86 25 P **P** **11 35 33.4 -0.4**
baz=250
BRVK **Borovoye** 83.88 324 P **P** **11 35 33.2 -0.7**
BRVK IAmb IAmb 11 35 35.7
comp=Z,6.7nm,1.1s
ILAR **Eielson Array** 83.92 24 P **P** **11 35 31.9 -2.0**
comp=Z,5.1nm,0.9s,baz=256,slow=5.0,SNR=52
comp=Z,5.1nm,0.9s
H24K **Noodor Dome** 83.94 22 IAmb IAmb 11 35 35.2
comp=Z,5.0nm,1.1s
H24K **Noodor Dome** 83.94 22 P **P** **11 35 33.9 -0.2**
baz=247
K24K **Donnelly Dome** 84.02 25 P **P** **11 35 34.3 -0.2**
baz=250
GLB **Gilahina Butte** 84.09 27 P **P** **11 35 34.6 -0.3**
GLB IAmb IAmb 11 35 35.4
comp=Z,6.9nm,1.1s
CRQE **Cirque** 84.20 28 P **P** **11 35 35.6 0.0**
baz=252
E23K **Chandalar** 84.20 20 P **P** **11 35 35.6 +0.2**
baz=246
D23K **Nanushuk River** 84.24 19 P **P** **11 35 35.6 +0.2**
baz=244
G24K **Hadweenzic Riv** 84.42 22 P **P** **11 35 36.7 +0.2**
baz=248
TOLK **Toolik Lake Re** 84.46 20 P **P** **11 35 37.0 +0.3**
baz=246
J25K **Salcha River,** 84.47 24 P **P** **11 35 35.6 -1.1**
J25K **Salcha River,** 84.47 24 P **P** **11 35 35.8 -1.1**
baz=250,SNR=18
MESA **MESA** 84.57 29 P **P** **11 35 36.8 -0.8**
baz=253
F24K **Squaw Lake** 84.59 21 P **P** **11 35 37.3 0.0**
baz=247
E24K **Your Creek** 84.60 20 P **P** **11 35 37.1 -0.3**
baz=247
C23K **Itkillik River** 84.64 18 P **P** **11 35 37.4 0.0**
baz=244
PRP **Porcupine Dome** 84.73 23 P **P** **11 35 37.5 -0.6**
baz=250
M26K **Nabesna, AK** 84.75 26 P **P** **11 35 37.7 -0.6**
baz=252
L26K **Log Cabin Wild** 84.80 26 P **P** **11 35 38.7 +0.3**
baz=252
SCRK **Sand Creek** 84.83 25 P **P** **11 35 38.6 -0.1**
baz=251
H25L **Birch Creek** 84.88 22 P **P** **11 35 38.8 +0.2**
baz=249
D24K **Happy Valley** 84.92 19 P **P** **11 35 39.3 +0.4**
baz=246
G25K **Bearman Lake** 84.95 22 P **P** **11 35 39.0 -0.1**
baz=249
CTG **Chitna Glacier** 85.09 28 P **P** **11 35 39.5 -0.5**
baz=254
CTGM **Chitina Glacie** 85.09 28 IAmb IAmb 11 35 41.9
comp=Z,5.5nm,1.0s
J26L **Joseph Creek** 85.17 24 P **P** **11 35 39.6 -0.7**
baz=252,SNR=6.2

M27K **Edge Creek, AK** 85.24 27 IAmb IAmb 11 35 41.9
comp=Z,7.3nm,1.0s
M27K **Edge Creek, AK** 85.24 27 P **P** **11 35 40.3 -0.5**
baz=253
PINM **Pinnacle** 85.37 29 P **P** **11 35 41.4 0.0**
baz=255
F25K **Christian Rive** 85.42 21 P **P** **11 35 41.4 -0.1**
baz=249
L27K **Beaver Creek,** 85.47 26 IAmb IAmb 11 35 42.8
comp=Z,4.8nm,1.1s
L27K **Beaver Creek,** 85.47 26 P **P** **11 35 41.7 -0.1**
baz=253
O28M **Mount Upton** 85.57 28 P **P** **11 35 42.2 -0.5**
baz=255
I26K **Coal Creek Min** 85.59 24 P **P** **11 35 42.0 -0.3**
baz=252
K27K **Chicken** 85.64 25 IAmb IAmb 11 35 44.1
comp=Z,8.7nm,1.1s
K27K **Chicken** 85.64 25 P **P** **11 35 42.8 +0.2**
baz=253
PNL **Peninsula** 85.67 29 P **P** **11 35 42.5 -0.4**
baz=256
YUK3 **Moose Creek** 85.72 27 P **P** **11 35 42.7 -0.6**
baz=254
D25K **Kavik River** 85.79 19 P **P** **11 35 42.8 -0.5**
baz=248
G26K **Porcupine Rive** 85.88 22 P **P** **11 35 43.1 -0.6**
baz=251
F26K **Sheenjek River** 85.99 21 P **P** **11 35 43.9 -0.4**
baz=251
O29M **Mount Kennedy** 86.23 29 P **P** **11 35 45.2 -0.5**
baz=256
EGAK **Eagle** 86.24 24 IAmb IAmb 11 35 47.6
comp=Z,4.3nm,0.9s
EGAK **Eagle** 86.24 24 P **P** **11 35 44.9 -0.6**
baz=254
I27K **Kandik River** 86.30 23 P **P** **11 35 45.4 -0.5**
baz=253
QSPA **South Pole Qui** 86.40 180 P **P** **11 35 45.8 -0.7**
QSPA IAmb IAmb 11 35 50.3
comp=Z,7.5nm,1.1s
QSPA **South Pole Qui** 86.40 180 P **P** **11 35 44.7 -1.8**
comp=Z,4.3nm,1.0s,baz=293,slow=0.7,SNR=9.7
comp=Z,4.3nm,1.0s
YUK4 **Talbot Arm** 86.45 28 P **P** **11 35 46.8 -0.1**
baz=256
P29M **Windy Craggy** 86.48 30 P **P** **11 35 46.6 -0.3**
baz=257
C26K **Camden Bay** 86.48 19 P **P** **11 35 46.3 -0.3**
baz=250
H27K **Steamboat Moun** 86.51 23 P **P** **11 35 47.2 +0.3**
baz=253
G27K **Doyon Strip** 86.63 22 P **P** **11 35 46.9 -0.6**
baz=253
C27K **Jago River** 86.78 19 P **P** **11 35 48.1 0.0**
baz=251
DAWY **Dawson** 86.79 25 IAmb IAmb 11 35 49.3
comp=Z,7.4nm,1.1s
DAWY **Dawson** 86.79 25 P **P** **11 35 48.1 -0.2**
baz=255,SNR=8.0
M29M **Somme Creek** 86.80 27 IAmb IAmb 11 35 49.4
comp=Z,3.8nm,0.8s
M29M **Somme Creek** 86.80 27 P **P** **11 35 47.8 -0.6**
baz=256,SNR=5.8
I28M **Miner Creek** 86.92 24 P **P** **11 35 49.0 0.0**
baz=255
P30M **Million Dollar** 86.97 29 P **P** **11 35 48.8 -0.5**
baz=258
E27K **Coleen River** 87.06 21 P **P** **11 35 49.1 -0.4**
baz=253
L29M **L29M** 87.10 26 P **P** **11 35 50.1 +0.2**
baz=256,SNR=11
PLBC **Pleasant Camp** 87.13 30 P **P** **11 35 49.6 -0.4**
baz=258
N30M **Aishikik Lake** 87.20 28 P **P** **11 35 50.0 -0.3**
baz=258
F28M **Old Crow** 87.53 22 P **P** **11 35 51.8 0.0**
baz=255
O30N **Mendenhall** 87.53 29 P **P** **11 35 51.4 -0.6**
baz=258
K29M **Barlow Dome** 87.54 26 IAmb IAmb 11 35 53.1
comp=Z,7.1nm,1.0s
K29M **Barlow Dome** 87.54 26 P **P** **11 35 52.1 0.0**
baz=257,SNR=14
I29M **Ogilvie Camp,** 87.56 24 P **P** **11 35 52.2 +0.2**
baz=256
M30M **Minto, Yukon** 87.58 27 P **P** **11 35 51.8 -0.3**
baz=258
H29M **Whitestone** 87.75 23 P **P** **11 35 52.6 -0.2**
baz=256
N31M **Braeburn, Yuko** 87.82 28 P **P** **11 35 53.7 +0.3**
baz=259
E28M **Babbage River** 87.91 21 P **P** **11 35 53.7 +0.1**
baz=255
G29M **Pine Creek** 88.05 23 P **P** **11 35 54.5 +0.2**
baz=256
J30M **Hart River** 88.21 25 IAmb IAmb 11 36 01.8
comp=Z,3.7nm,1.1s
J30M **Hart River** 88.21 25 P **P** **11 35 54.9 -0.3**
baz=258
I30M **Mount Dempster** 88.32 24 P **P** **11 35 55.3 -0.4**
baz=258
D28M **Stokes Point** 88.37 20 P **P** **11 35 55.6 -0.1**
baz=256
EPYK **Eagle Plains** 88.43 23 P **P** **11 35 55.6 -0.5**
baz=258
E29M **Blow River** 88.44 21 P **P** **11 35 55.5 -0.5**
baz=256
P32M **Atlin** 88.48 30 P **P** **11 35 55.8 -0.7**
baz=260
M31M **Drury Creek, Y** 88.60 28 P **P** **11 35 56.4 -0.6**
baz=260
G30M **tAoh Zraii Nji** 88.75 23 P **P** **11 35 57.6 -0.1**
baz=258
F30M **Barrier River** 89.05 22 P **P** **11 35 58.6 -0.3**
baz=258
FARO **Faro, Yukon** 89.09 28 P **P** **11 35 59.3 0.0**
baz=261
G31M **Satah River** 89.50 23 P **P** **11 36 00.6 -0.4**
baz=260
KOLS **Kolonicke sedl** 113.89 323 *e*PDIFF **Pdif** **11 37 52.7 +1.4**
LPAZ **La Paz** 141.52 122 PKP **PKPdf** **11 42 34.3 -2.9**
comp=Z,1.2nm,0.4s,baz=336,slow=4.6,SNR=4.3
CPUP **Villa Florida** 143.09 145 PKP PKPbc 11 42 36.8 +1.0
comp=Z,1.9nm,0.9s,baz=149,slow=5.6,SNR=3.0

NEIC ***18*** *11:28:03.6, 19°.29N×155°.38W, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.99; $M_{\theta\theta}$0.57; $M_{\phi\phi}$0.42; $M_{r\theta}$-0.51; $M_{\theta\phi}$0.47; $M_{r\phi}$0.16; Fault plane solution: $M_0$1.11000×10^{17} NP1:ϕ_s70.36000°, δ56.86000°, λ-66.23000°. NP2:ϕ_s211.51000°, δ39.97000°, λ-121.69000°. Principal axes: T 1.0175, Plg9.0000°, Azm144.0000°; N 0.1797, Plg20.0000°, Azm237.0000°; P -1.1972, Plg68.0000°, Azm30.0000°;*

NEIC ***18*** *11:28:03.6, 19°.39N×155°.28W, h12km*

HVO ***18*** *11:28:03.6±0.8, 19°.394N±0°.006×155°.276W±0°.008, h-1km±2km, ML4.8/19, mb4.5/63(NEIC), ML3.6/41(NEIC), Mww5.3/15(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=123.0*

NEIC ***18*** *11:28:04.8±0.8, 19°.380N±0°.010×155°.282W±0°.007, h1km±2km, Error ellipse: s-maj=1.4km s-min=0.9km az=178.0*

BJI ***18*** *11:28:04.5±0.0, 19°.40N×155°.30W, h5km, mb4.7/9, mB5.6/24, Ms5.2/24, Ms7 5.0/26*

IDC ***18*** *11:28:06.9±0.7, 19°.43N×155°.25W, h0km, mb4.1/12, mbtmp4.1/12, MS4.4/70, Error ellipse: s-maj=15.7km s-min=11.4km az=142.0*

ISC 18 11:28:07.2±0.4, 19°.36N±0°.07×155°.15W±0°.05, h10km, n562, σ1$66/480, mb4.5/48, MS4.5/87, 2C-1D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	Kane Nui o Ham	0.03	319	Pg	**Pg**	**11 28 07.4**	**-1.9**
STCH	Steam Cracks	0.04	37		**Pg**	**11 28 07.6**	**-1.6**
STCH	comp=N,19μm,1.0s			IAML		11 28 11.2	
STCH	comp=E,38μm,0.5s			IAML		11 28 11.6	
NPOC	North of Pu'u	0.05	45		**Pg**	**11 28 07.9**	**-1.5**
JCUZ	Jacuzzi	0.05	58		**Pg**	**11 28 08.1**	**-1.2**
PUH	Pauahi	0.07	285	Pg	Pg	11 28 06.2	-3.3
BYL	Byron's Ledge	0.12	298	Pg	Pg	11 28 05.2	-5.0
BYL					Sg	11 28 05.5	-6.9
KKO	Keanakako`i	0.12	290		Pg	11 28 05.2	-5.0
RIM	Rim	0.12	288		Pg	11 28 04.7	-5.6
HATHI	Halema'uma'u T	0.13	302		Pg	11 28 05.3	-5.0
SBLHI	Steaming Bluff	0.13	302		Pg	11 28 05.3	-5.1
UWB	Uwekahuna B	0.14	299		Pg	11 28 06.0	-4.5
OBL	Observatory Le	0.14	295		Pg	11 28 05.8	-4.8
SDHHI	Sand Hill	0.14	283		Pg	11 28 05.5	-5.1
UWE	Uwekahuna	0.15	295	Pg	Pg	11 28 05.2	-5.5
WRMHI	West Rim	0.15	289		Pg	11 28 05.8	-4.9
JOKA	Jonika Flow	0.16	60	Pg	**Pg**	**11 28 09.6**	**-1.1**
JOKA	comp=E,16μm,1.5s			IAML		11 28 17.3	
JOKA	comp=N,30μm,1.0s			IAML		11 28 17.9	
HLP	Hilina Pali	0.16	248		Pg	11 28 06.7	-4.1
HLP	comp=E,12μm,0.7s			IAML		11 28 08.6	
HLP	comp=N,15μm,0.9s			IAML		11 28 08.7	
RSD	Rainshed	0.16	311	Pg	Pg	11 28 06.2	-4.7
RSD	comp=N,9μm,0.5s			IAML		11 28 06.9	
RSD	comp=E,8μm,0.7s			IAML		11 28 07.0	
PAH	Pahoa	0.23	54	Pg	**Pg**	**11 28 11.3**	**-0.8**
MLH	Mauna Loa	0.26	301	Pg	Pg	11 28 08.2	-4.5
MLH	comp=N,4μm,0.3s			IAML		11 28 11.0	
MLH	comp=E,13μm,0.5s			IAML		11 28 11.3	
HTC	Hot Caves	0.26	243		Pg	11 28 08.7	-3.9
HMH	Humu'ula Sheep	0.40	308	Pg	Pg	11 28 10.3	-5.0
HMH	comp=E,21μm,1.3s			IAML		11 28 18.7	
HMH	comp=N,24μm,0.9s			IAML		11 28 19.2	
MLOA	Mauna Loa Obse	0.44	294	Pg	Pg	11 28 11.2	-4.8
MWH	Moku'aweowe	0.44	287	Pg	Pg	11 28 10.9	-5.2
KHU	Kahuku	0.45	256	Pg	Pg	11 28 11.2	-5.0
KHU	comp=N,17μm,0.9s			IAML		11 28 22.6	
KHU	comp=E,15μm,0.7s			IAML		11 28 23.2	
HPO	Honuapo	0.47	235		Pg	11 28 12.9	-3.5
POHA	Pohakuloa	0.54	318	Pg	Pg	11 28 13.3	-4.5
POHA	comp=E,15μm,1.2s			IAML		11 28 25.5	
I59US	HAWAII INFRASO	0.74	289	Pg	Pg	11 28 17.7	-3.9
I59US	baz=114,slow=29			I	I	11 31 20.0	
	comp=E,0.2nm,0.9s,baz=106,slow=320,SNR=13						
HPAH	Hawaii Prepara	0.85	322	Pg	Pg	11 28 17.8	-5.8
MHA	Mahukona	1.09	319		Pb	11 28 21.6	-6.7
HLK	Haleakala	1.74	324		Pn	11 28 32.6	-5.1
KHLH	Kahului Airpor	1.95	322	Pn	Pn	11 28 34.4	-6.0
KPA	Kalaupapa	2.51	317	Pn	Pn	11 28 38.6	-9.5
DHH	Diamond Head	3.13	308	Pn	Pn	11 28 49.7	-6.9
HON	Honolulu	3.32	307	Pn	Pn	11 28 53.7	-5.5
KIP	Kipapa	3.38	308	Pn	Pn	11 28 54.8	-5.3
KEKH	Kekaha	5.01	302	Pn	Pn	11 29 16.7	-5.7
SNCC	San Nicolas Is	34.62	59	P	**P**	**11 34 54.9**	**-1.8**
SCZ2	baz=256 Santa Cruz Isl	34.73	58	P	**P**	**11 34 55.0**	**-2.6**
SBC	baz=254 Santa Barbara	34.79	57	P	**P**	**11 34 56.1**	**-2.0**
SMMC	baz=254 Simmler	34.82	56	P	**P**	**11 34 56.7**	**-1.8**
PKM	baz=252 Mcpherson Peak	34.84	56	P	**P**	**11 34 57.1**	**-1.7**
NIKH	baz=253 Nikolski High	35.20	346	P	**P**	**11 34 57.9**	**-3.5**
ORV	baz=157 Oroville	35.25	48	P	**P**	**11 34 59.4**	**-2.7**
ORV	comp=Z,8.4nm,1.2s			IAmb	IAmb	11 35 18.3	
SCI2	San Clemente I	35.35	60	P	**P**	**11 34 59.9**	**-3.1**
AFDM	baz=257 Forest Hills D	35.38	49	P	**P**	**11 35 00.5**	**-2.7**
AFDM	comp=Z,18nm,1.5s			IAmb	IAmb	11 35 14.3	
YBH	Yreka Blue Hor	35.42	44	LR	LR	11 45 34.9	
	comp=Z,224nm,21.4s,baz=252,slow=30						
CMB	Columbia Colle	35.45	51	P	**P**	**11 35 00.1**	**-3.7**
UNV	Unalaska Valle	35.52	348	P	**P**	**11 35 01.3**	**-2.9**
CIS	baz=162 Catalina Islan	35.56	59	P	**P**	**11 35 01.9**	**-2.9**
CHNA	baz=256 Chernabura Isl	35.58	356	P	**P**	**11 35 01.1**	**-3.5**
VOG	baz=173 Valley Oaks Go	35.61	54	P	**P**	**11 35 03.1**	**-2.0**
OSI	baz=252 Osito Audit: C	35.62	57	P	**P**	**11 35 03.8**	**-1.6**
ARVC	baz=254 Arvin	35.68	56	P	**P**	**11 35 03.5**	**-2.3**
VES	baz=254 Vestal, Richgr	35.69	55	P	**P**	**11 35 04.9**	**-1.0**
H11N3	baz=252 WAKE ISLAND Hy	35.71	277	T	T	12 12 18.8	
H11N2	baz=84,slow=73,SNR=48 WAKE ISLAND Hy	35.72	277	T	T	12 12 15.5	
H11N1	baz=84,slow=73,SNR=33 WAKE ISLAND Hy	35.73	277	T	T	12 12 13.6	
H11S1	baz=84,slow=73,SNR=26 WAKE ISLAND Hy	35.75	275	T	T	12 12 39.0	
H11S3	baz=83,slow=74,SNR=8.6 WAKE ISLAND Hy	35.76	275	T	T	12 12 36.3	
ISA	baz=83,slow=74,SNR=12 Isabella, Lake	36.11	56	P	**P**	**11 35 07.9**	**-1.7**
ISA	comp=Z,10.0nm,1.2s			IAmb	IAmb	11 35 20.6	
ISA	Isabella, Lake	36.11	56	P	**P**	**11 35 09.3**	**-0.3**
SDPT	baz=253 Sand Point	36.16	355	P	**P**	**11 35 09.0**	**-0.6**
EDW2	baz=172 Edwards Air Fo	36.27	57	P	**P**	**11 35 10.7**	**-0.3**
MDPB	baz=255 Devils Postpil	36.27	52	P	**P**	**11 35 09.2**	**-1.9**
MDPB	comp=Z,7.9nm,1.2s			IAmb	IAmb	11 35 22.5	
WAKR	Walker	36.31	51	P	**P**	**11 35 09.1**	**-2.4**
WAKR	comp=Z,13nm,1.3s			IAmb	IAmb	11 35 23.0	
OMMB	Old Mammoth Mi	36.32	52	P	**P**	**11 35 09.2**	**-2.5**
OMMB	comp=Z,5.4nm,0.5s			IAmb	IAmb	11 35 39.5	
BFSC	Mount Baldy Ra	36.37	58	P	**P**	**11 35 12.0**	**+0.1**
CHIR	baz=256 Chirikof Islan	36.41	360	P	**P**	**11 35 11.0**	**-0.8**
PNTR	baz=179 Pine Nut	36.42	50	P	**P**	**11 35 10.0**	**-2.3**
PNTR	comp=Z,7.8nm,1.2s			IAmb	IAmb	11 35 50.9	
ELS	Elsinore Mount	36.42	59	P	**P**	**11 35 09.4**	**-2.9**
ELS	comp=Z,19nm,1.5s			IAmb	IAmb	11 35 22.9	
MLAC	Mammoth, Mammo	36.45	52	P	**P**	**11 35 13.6**	**+0.9**
109C	baz=250 Camp Elliot, M	36.52	61	P	**P**	**11 35 12.0**	**-1.0**
MURC	baz=258 Murrieta	36.60	59	P	**P**	**11 35 13.2**	**-0.5**
YERR	baz=257 Yerington	36.63	50	P	**P**	**11 35 13.0**	**-1.2**
YERR	comp=Z,21nm,1.8s			IAmb	IAmb	11 35 46.5	
CWC	Cottonwood Cre	36.65	55	P	**P**	**11 35 14.7**	**+0.4**
S12K	baz=253 Black Hills	36.66	353	P	**P**	**11 35 12.7**	**-1.2**
LRMC	baz=169 Laurel Mtn Rad	36.68	56	P	**P**	**11 35 13.1**	**-1.5**
TIN	baz=254 Tinemaha, Big	36.72	53	P	**P**	**11 35 14.0**	**-0.9**
PAHR	baz=252 Pah Rah Range	36.81	49	P	**P**	**11 35 13.2**	**-2.4**
PAHR	comp=Z,11nm,1.3s			IAmb	IAmb	11 35 26.9	
H04D	Lebanon	36.83	40	P	**P**	**11 35 11.9**	**-3.6**
LHV	Little Huntoon	36.91	51	P	**P**	**11 35 14.3**	**-2.0**

LHV IAmb IAmb 11 35 36.1
comp=Z,15nm,1.5s
CHGN Chignik 36.97 357 P P 11 35 15.7 -0.8
baz=175
BBRC Big Bear Solar 36.97 58 P P 11 35 18.0 +0.8
baz=256
MPMC Manual Prospec 36.99 55 P P 11 35 18.2 +1.0
baz=254
DSP Deep Springs 37.02 53 P P 11 35 15.7 -1.4
DSP IAmb IAmb 11 35 28.9
comp=Z,14nm,1.5s
S14K Fog Glacier 37.02 356 P P 11 35 16.6 -0.5
baz=173
RYN Ryan 37.03 51 P P 11 35 14.9 -2.6
RYN IAmb IAmb 11 35 34.1
comp=Z,13nm,1.5s
RRX Edison Barstow 37.06 57 P P 11 35 17.9 +0.3
baz=256
MONP2 Monument Peak 37.08 61 P P 11 35 19.2 +1.1
baz=258
PPT Papeete 37.10 171 LR LR 11 46 39.5
comp=Z,1μm,20.9s,baz=332,slow=30
NVAR Mina Array Bea 37.12 51 P P 11 35 18.1 -0.2
comp=Z,0.6nm,0.9s,baz=239,slow=12,SNR=8.7
NVAR PcP **PcP 11 37 40.8 +2.1**
comp=Z,0.1nm,0.4s,baz=232,slow=5.6,SNR=3.3
NVAR LR LR 11 46 32.7
comp=Z,296nm,20.7s,baz=248,slow=30
comp=Z,0.6nm,0.9s
PPT2 Papeete2 37.12 171 *e*P **P 11 35 14.8 -3.5**
comp=Z,134nm,23.0s
PPT2 *e*S **S 11 41 05.8 +1.1**
comp=Z,405nm,25.5s
PPT2 *e*LQ LQ 11 43 33.8
comp=Z,604nm,21.5s
PPT2 *e*LR LR 11 45 14.2
comp=Z,3μm,27.2s
PPT2 *e*LR LR 11 45 14.6
comp=Z,4μm,25.2s
J05D Fort Rock, OR 37.13 42 P P 11 35 16.2 -2.1
J05D IAmb IAmb 11 35 23.6
comp=Z,10.0nm,1.2s
SII Sitkinak Islan 37.15 1 P P 11 35 18.4 +0.3
baz=182
PFO Pinyon Flats O 37.20 60 P P 11 35 17.5 -1.5
PFO Pinyon Flats O 37.20 60 P P 11 35 18.8 -0.1
baz=258
TPFO Pinon Flats 37.20 60 P P 11 35 18.9 -0.1
baz=258
PMD Palm Desert 37.27 60 P P 11 35 18.2 -1.2
PMD IAmb IAmb 11 35 53.0
comp=Z,18nm,1.8s
IKP In-Ko-Pah, Jac 37.29 61 P P 11 35 18.8 -0.9
baz=259
GSC Goldstone, Bar 37.32 57 P P 11 35 17.9 -2.1
GSC IAmb IAmb 11 35 30.9
comp=Z,9.0nm,1.2s
GSC Goldstone, Bar 37.32 57 P P 11 35 20.1 +0.2
baz=255
GRAC Grapevine Rang 37.36 54 P P 11 35 20.9 +0.7
baz=252
YUH Yuha Desert 37.44 61 P P 11 35 20.1 -0.8
YUH IAmb IAmb 11 35 36.4
comp=Z,12nm,1.4s
KVN Kaiserville 37.49 50 P P 11 35 19.0 -2.4
GMN Gold Mountain 37.53 53 P P 11 35 18.9 -3.0
MZP Montezuma Peak 37.56 53 P P 11 35 20.0 -2.2
PINE Pine Mountain 37.56 42 P P 11 35 18.9 -3.2
PINE IAmb IAmb 11 35 34.0
comp=Z,20nm,1.5s
HEC Hector,Ludlow 37.58 58 P P 11 35 22.0 -0.1
baz=256
FURC Furnace Creek, 37.59 55 P P 11 35 22.8 +0.8
baz=254
SWSC Sam W. Stewart 37.60 61 P P 11 35 23.4 +1.2
baz=259
BELC Belle Mtn. Jos 37.66 59 P P 11 35 22.4 -0.4
baz=257
GWY Greenwater Val 37.66 55 P P 11 35 20.9 -2.1
OHAK Old Harbor 37.84 2 P P 11 35 25.1 +1.2
baz=183
WCT Wildcat Mounta 37.87 55 P P 11 35 21.5 -3.1
WCT IAmb IAmb 11 35 35.8
comp=Z,8.1nm,1.0s
SHOC Shoshone, Teco 37.89 56 P P 11 35 25.0 +0.3
baz=255
BC3 Big Chuckawall 38.03 60 P P 11 35 26.1 +0.1
baz=258
TUQ Turquoise Moun 38.05 57 P P 11 35 27.4 +1.2
baz=256
GMRC Granite Mounta 38.11 58 P P 11 35 27.8 +1.2
baz=257
TPNV Topopah Spring 38.20 54 P P 11 35 28.9 +1.4
baz=254,SNR=7.1
R17L Mt. Peulik Vol 38.23 359 P P 11 35 27.7 +0.5
baz=178,SNR=10.0
IRM Iron Mountain 38.38 59 P P 11 35 30.2 +1.3
baz=258
KDAK Kodiak Island 38.42 2 P P 11 35 30.4 +1.7
baz=184
KDAK Kodiak Island 38.42 2 LR LR 11 47 33.8
comp=Z,1μm,21.5s,baz=208,slow=30
GLA Glamis 38.43 61 P P 11 35 30.0 +0.7
baz=260
I07A Izee 38.61 42 P P 11 35 28.8 -2.0
I07A IAmb IAmb 11 35 52.0
comp=Z,13nm,1.4s
BMN Battle Mountai 38.62 49 P 11 35 29.1 -1.8
CBB Campbell River 38.72 31 P P 11 35 29.5 -1.9
Q17K Contact Creek 38.86 359 P P 11 35 34.0 +1.4
baz=179
SHPR Sheep Range 38.92 55 P 11 35 32.4 -1.1
NEE2 Needles Airpor 38.94 58 P P 11 35 34.0 +0.5
baz=258
BBB Bella Bella 38.98 26 LR LR 11 47 39.6
comp=Z,295nm,19.7s,baz=224,slow=30
R11B Troy Canyon, C 39.12 53 P P 11 35 34.5 -0.7
R11B IAmb IAmb 11 35 46.4
comp=Z,21nm,1.8s
R11B Troy Canyon, C 39.12 53 P P 11 35 36.0 +0.8
baz=252
PDMCI Parker Dam,Lak 39.23 59 P P 11 35 36.7 +0.8
baz=258
Q18K Katmai Hardscr 39.24 0 P P 11 35 37.3 +1.5
baz=180
PRN Pahroc Range 39.25 54 P 11 35 35.1 -1.2
PRN IAmb IAmb 11 35 47.6
comp=Z,13nm,1.3s
Q20K Shuyak Island 39.25 2 P P 11 35 36.8 +1.1
baz=184
Q16K King Salmon 39.28 359 P P 11 35 37.6 +1.6
baz=178
PIX Pinacate 39.33 64 P P 11 35 33.8 -3.0
PIX IAmb IAmb 11 36 07.3
comp=Z,20nm,1.1s
LTY Liberty 39.52 37 P P 11 35 36.2 -2.1
LTY IAmb IAmb 11 35 49.5
comp=Z,18nm,1.5s
Q19K Cape Douglas, 39.54 1 P P 11 35 39.8 +1.6
baz=182
P16K Nushagak River 39.68 358 P P 11 35 40.9 +1.6
baz=176
CRAG Craig 39.71 20 P P 11 35 41.9 +2.3
baz=214
Q12A Willow Creek R 39.89 52 P P 11 35 38.9 -2.6
O15K Ungalikthiuk R 39.92 356 P P 11 35 41.7 +0.4
baz=173
214A Organ Pipe Nat 39.93 63 P P 11 35 43.4 +1.5
baz=262
P18K Big Mountain, 39.99 360 P P 11 35 42.4 +0.4
baz=180
V35K Ketchikan 40.09 21 P P 11 35 43.4 +0.7
baz=216
O14K Tigyukauivet M 40.09 355 P P 11 35 43.3 +0.6
baz=171
ELK Elko 40.14 49 LR LR 11 51 32.6
comp=Z,200nm,18.3s,baz=250,slow=35
O16K Kokwok River B 40.25 358 P P 11 35 45.1 +1.1
baz=176
U33K Whale Pass 40.26 19 P P 11 35 44.8 +0.7
baz=213
P19K Oil Pt 40.27 2 P P 11 35 44.5 +0.2
baz=183
HOM Homer 40.33 3 P P 11 35 44.9 +0.2
baz=185
O17K Koliganek Bris 40.39 358 P P 11 35 44.0 -1.2
baz=177

SIT Sitka 40.43 17 P P 11 35 44.2 -1.3
baz=210
O18K Koktuh Hills 40.45 360 P P 11 35 45.4 -0.4
baz=180
BRSE Bradley Lake S 40.46 3 P P 11 35 45.3 -0.6
baz=187
Q23K Middleton Isla 40.53 7 P P 11 35 45.6 -0.7
baz=193
RAR Rarotonga 40.57 187 LR LR 11 48 59.9
comp=Z,806nm,18.4s,baz=359,slow=31
O20K Slope Mountain 40.72 2 P P 11 35 48.7 +0.7
baz=184
WRAK Wrangell Islan 40.75 19 P P 11 35 49.4 +1.2
baz=214
N14K Kuskokwak Cree 40.79 355 P P 11 35 50.0 +1.6
baz=171
T33K Petersburg 40.89 19 P P 11 35 49.5 +0.2
baz=213
SEW Seward 40.91 4 P P 11 35 48.9 -0.5
baz=188
N15K Kwethluk River 40.92 356 P P 11 35 50.6 +1.0
baz=173
P23K Montague Islan 40.97 6 P P 11 35 50.0 0.0
baz=191
SHEM Shemya Is, Ala 40.98 332 LR LR 11 49 20.1
comp=Z,1μm,21.6s,baz=129,slow=31
S31K Pelican 40.99 15 P P 11 35 50.3 +0.2
baz=208
S32K Killisnoo 40.99 17 P P 11 35 50.7 +0.6
baz=210
U15A North Rim 41.15 56 P P 11 35 49.6 -2.6
U15A IAmb IAmb 11 36 26.0
comp=Z,10nm,1.4s
N17K Nushagak Hills 41.15 358 P P 11 35 53.0 +1.6
baz=177
N16K Nishlik Lake 41.15 357 P P 11 35 53.0 +1.5
baz=175
C09A Chrisman Ranch 41.19 38 P P 11 35 50.4 -1.6
O22K Cooper Landing 41.26 4 P P 11 35 53.5 +1.1
baz=188
N18K Kilae Creek 41.28 359 P P 11 35 50.4 -2.2
N18K IAmb IAmb 11 35 56.6
comp=Z,16nm,1.2s
N18K Kilae Creek 41.28 359 P P 11 35 53.7 +1.1
baz=179,SNR=6.0
N19K Bonanza Creek 41.41 0 P P 11 35 53.6 -0.2
baz=181,SNR=13
M13K Dall Lake 41.43 354 P P 11 35 53.8 +0.1
baz=168
X16A Lo Mia Camp, P 41.44 60 P P 11 35 52.7 -1.8
CAPN Captain Cook N 41.47 3 P P 11 35 54.6 +0.6
baz=186
M15K Kasigluk River 41.48 356 P P 11 35 53.8 -0.4
baz=172
R31K City Hall, Gus 41.51 15 P P 11 35 55.6 +1.2
baz=208
BGLC Bering Glacier 41.60 9 P P 11 35 56.3 +1.2
baz=197
M14K Bethel 41.63 355 P P 11 35 56.1 +0.7
baz=170
TUC Tucson 41.68 63 P P 11 35 56.2 -0.2
baz=263
EYAK Cordova Ski Ar 41.69 7 P P 11 35 55.9 +0.1
baz=194
WUAZ Wupatki 41.69 58 P P 11 35 57.0 +0.5
baz=259
R32K Eaglecrest 41.70 16 P P 11 35 57.8 +1.7
baz=210
M16K Timber Creek 41.71 357 P P 11 35 56.5 +0.4
baz=175
DUG Dugway, Tooele 41.72 51 P P 11 35 58.5 +1.9
baz=253
HLID Hailey 41.73 45 P P 11 35 57.8 +1.1
baz=248,SNR=5.7
M11K Mekoryuk 41.74 352 P P 11 35 56.2 0.0
baz=164
LPIG La Paz 41.79 75 LR LR 11 48 27.1
comp=Z,450nm,21.4s,baz=266,slow=29
PNL Peninsula 41.83 12 P P 11 35 57.9 +0.8
baz=203
N20K Mount Spurr 41.85 2 P P 11 35 58.2 +0.9
baz=184
MESA MESA 41.86 10 P P 11 35 58.9 +1.4
baz=199
RC01 Rabbit Creek A 41.87 4 P P 11 35 58.6 +1.3
baz=188
T35M Bob Quinn 41.88 20 P P 11 35 57.8 +0.2
baz=217
M17K Holitna River 42.03 358 P P 11 35 58.9 +0.2
baz=177
PINM Pinnacle 42.07 11 P P 11 35 59.1 0.0
baz=201
NEW Newport 42.09 38 P P 11 36 00.5 +1.0
baz=240
NEW Newport 42.09 38 LR LR 11 49 21.0
comp=Z,174nm,21.0s,baz=233,slow=30
M18K Stony River 42.09 360 P P 11 35 59.1 -0.1
baz=179,SNR=7.5
P29M Windy Craggy 42.14 13 P P 11 36 00.5 +0.8
baz=205
SUA Susitna One 42.18 3 P P 11 36 00.9 +0.9
baz=186
CRQE Cirque 42.23 9 P P 11 36 01.4 +0.9
baz=197
BMRM Bremner River 42.23 8 P P 11 36 01.2 +0.8
baz=195
KNK Knik Glacier 42.28 5 P P 11 36 02.3 +1.6
baz=190
L14K Kuka Creek 42.28 355 P P 11 36 01.6 +0.9
baz=170
PLBC Pleasant Camp 42.29 14 P P 11 36 01.7 +0.9
baz=207
S34M Telegraph Cree 42.36 19 P P 11 36 02.6 +1.2
baz=215
PMR Palmer 42.41 4 P P 11 35 58.3 -3.4
PMR IAmb IAmb 11 36 05.4
comp=Z,16nm,1.2s
PMR Palmer 42.41 4 P P 11 36 03.1 +1.4
baz=189
L16K Owhat River 42.42 357 P P 11 36 02.0 +0.1
baz=174
M20K Styx River 42.51 1 P P 11 36 03.7 +1.0
baz=183
L15K Ungalak Mounta 42.52 356 P P 11 36 03.6 +1.0
baz=171
SKAG Skagway 42.53 15 P P 11 36 03.6 +0.8
baz=208
O29M Mount Kennedy 42.58 12 P P 11 36 04.9 +1.5
baz=204
KLU Klutina 42.59 7 P P 11 36 03.3 -0.1
baz=193
SKT Skwentna 42.66 3 P P 11 36 04.3 +0.5
baz=185,SNR=6.7
SML Sawmill 42.68 5 P P 11 36 05.1 +1.1
baz=190
CTG Chitna Glacier 42.70 10 P P 11 36 05.3 +0.9
baz=200
M23K Glacier View 42.71 5 P P 11 36 05.9 +1.6
baz=190
O28M Mount Upton 42.72 11 P P 11 36 06.2 +1.6
baz=201,SNR=5.9
P30M Million Dollar 42.75 13 P P 11 36 06.0 +1.3
baz=206
L19K White Mountain 42.79 0 P P 11 36 05.9 +1.0
baz=181,SNR=8.1
SCM Sheep Creek Mo 42.79 5 P P 11 36 04.0 -0.9
baz=191
L17K Donlin 42.80 358 P P 11 36 05.0 +0.1
baz=176
TBI Tubuai 42.81 172 *e*P **P 11 36 05.4 +0.1**
comp=Z,600nm,26.2s
TBI *e*S **S 11 42 29.5 -0.1**
comp=Z,1μm,27.0s
TBI *e*LQ LQ 11 46 03.6
comp=Z,3μm,27.2s
TBI *e*LR LR 11 47 50.3
comp=Z,13μm,28.5s
TBI *e*LR LR 11 47 54.5
comp=Z,3μm,26.2s
L18K Granite Mounta 42.84 359 P P 11 36 05.1 -0.1
baz=178
MCARA McCarthy VSAT 42.85 9 P P 11 36 06.5 +1.2
baz=197
N25K Chitina, Valde 42.85 7 P P 11 36 07.5 +2.0
baz=195
Q32M Nakina River 42.90 17 P P 11 36 06.9 +0.9
baz=213
W18A Petrified Fore 42.94 59 P P 11 36 06.9 +0.2
baz=261

P32M Atlin 43.05 16 P P 11 36 07.3 +0.3
baz=210
L20K Farewell, AK 43.09 1 P P 11 36 06.4 -0.9
baz=182,SNR=9.7
DLBC Dease Lake 43.13 19 P P 11 36 07.7 0.0
baz=216
DLBC Dease Lake 43.13 19 LR LR 11 50 05.8
comp=Z,520nm,20.5s,baz=226,slow=31
K15K Wolf Creek Mou 43.13 356 P P 11 36 07.1 -0.4
baz=171
CUT Chulitna 43.14 3 P P 11 36 07.4 -0.3
baz=187
M24K Tolsona, Glenn 43.17 6 P P 11 36 07.9 -0.1
baz=193
YUK6 Outpost Mounta 43.21 12 P P 11 36 08.1 -0.5
baz=204
YUK8 Steele Glacier 43.27 11 P P 11 36 09.0 0.0
baz=202
MSO Missoula 43.34 41 P P 11 36 10.9 +1.2
baz=245
K17K Iditarod 43.38 358 P P 11 36 09.2 -0.4
baz=176
WAT6 Susitna Watana 43.49 5 P P 11 36 10.7 0.0
baz=190,SNR=8.5
O30N Mendenhall 43.53 13 P P 11 36 12.0 +1.1
baz=207
YUK4 Talbot Arm 43.53 11 P P 11 36 13.8 +2.7
baz=203
TTA Tatalina 43.54 359 P P 11 36 10.5 -0.5
baz=179
PPLA Purkeypile 43.55 2 P P 11 36 10.8 -0.4
baz=184
HARP HAARP 43.56 7 P P 11 36 11.7 +0.6
baz=194
YUK3 Moose Creek 43.61 10 P P 11 36 12.0 +0.3
baz=200
R33M Jennings River 43.63 18 P P 11 36 12.6 +0.7
baz=214
WAT1 Susitna Watana 43.67 4 P P 11 36 12.8 +0.7
baz=189
J14K Nanvaranak Lak 43.74 354 P P 11 36 13.4 +0.9
baz=169
P33M Teslin, Yukon 43.82 16 P P 11 36 13.2 -0.1
baz=211
M26K Nabesna, AK 43.83 8 P P 11 36 10.4 -2.9
M26K Nabesna, AK 43.83 8 P P 11 36 14.9 +1.6
baz=197,SNR=12
N30M Aishikik Lake 43.94 12 P P 11 36 15.5 +1.3
baz=205
M27K Edge Creek, AK 43.94 9 P P 11 36 15.0 +0.6
baz=198,SNR=10
K20K Telida 43.97 1 P P 11 36 14.3 -0.1
baz=182
DHY Denali Highway 44.01 5 P P 11 36 15.4 +0.6
baz=191,SNR=6.9
J16K Anvik River 44.05 356 P P 11 36 15.4 +0.4
baz=173
FXWY Fox Creek 44.06 47 P P 11 36 13.3 -2.4
FXWY IAmb IAmb 11 36 31.8
comp=Z,11nm,1.4s
PAX Paxson 44.09 6 P P 11 36 15.8 +0.4
baz=193,SNR=11
J17K VABM Dome 44.09 357 P P 11 36 15.8 +0.5
baz=175
J18K Innoko River 44.09 359 P P 11 36 12.1 -3.3
J18K IAmb IAmb 11 36 18.6
comp=Z,11nm,1.2s
J18K Innoko River 44.09 359 P P 11 36 16.3 +1.0
baz=178
121A Cookes Peak, D 44.23 63 P P 11 36 17.6 +0.4
baz=265
N31M Braeburn, Yuko 44.24 13 P P 11 36 18.7 +2.1
baz=207
MOOW Moose Ponds 44.29 47 P P 11 36 14.2 -3.3
MVCO Mesa Verde 44.29 56 P P 11 36 17.7 +0.1
baz=260
BOZ Bozeman (W) 44.33 44 P P 11 36 14.2 -3.5
BOZ IAmb IAmb 11 36 37.3
comp=Z,22nm,1.9s
BOZ Bozeman (W) 44.33 44 P P 11 36 17.1 -0.6
baz=249
L26K Log Cabin Wild 44.38 8 P P 11 36 18.2 +0.5
baz=196,SNR=6.4
YPP Pitchstone Pla 44.42 46 P P 11 36 14.5 -4.1
CHUM Lake Minchumin 44.54 2 P P 11 36 15.7 -3.1
baz=184
MCK McKinley 44.55 4 P P 11 36 18.6 -0.4
baz=188
M29M Somme Creek 44.58 11 P P 11 36 19.5 +0.1
baz=203,SNR=7.9
J19K Poorman 44.61 360 P P 11 36 16.1 -3.3
J19K IAmb IAmb 11 36 22.9
comp=Z,12nm,1.2s
J19K Poorman 44.61 360 P P 11 36 20.0 +0.6
baz=180
H17A Grant Village 44.61 46 P P 11 36 20.8 +0.7
baz=251
L27K Beaver Creek, 44.62 9 P P 11 36 20.9 +1.3
baz=198,SNR=8.6
I17K Unalakleet 44.66 357 P P 11 36 21.0 +1.2
baz=173
J20K Nowinta River 44.79 1 P P 11 36 20.6 -0.4
baz=182
BPAW Bear Paw Mtn. 44.80 3 P P 11 36 21.2 +0.1
baz=186,SNR=7.4
BW06 Boulder Array 44.81 48 P P 11 36 23.2 +1.5
baz=253,SNR=6.7
PDAR Pinedale Array 44.81 48 P P 11 36 23.0 +1.3
comp=Z,2.9nm,1.0s,baz=255,slow=5.7,SNR=17
PDAR LR LR 11 54 47.3
comp=Z,56nm,18.4s,baz=259,slow=36
comp=Z,2.9nm,1.0s
WTLY Watson Lake, Y 44.86 18 P P 11 36 21.7 +0.2
baz=217
K24K Donnelly Dome 44.87 6 P P 11 36 21.2 -0.4
baz=193
M30M Minto, Yukon 45.01 12 P P 11 36 23.4 +0.6
baz=205
TOAD Toad River Com 45.02 22 P P 11 36 24.0 +1.2
baz=222
O20A White River Ci 45.08 52 P P 11 36 23.8 -0.1
baz=257
Y22D IRIS PASSCAL I 45.10 61 P P 11 36 25.0 +1.0
baz=264
LIRD Liard River Hi 45.15 21 P P 11 36 24.1 +0.3
baz=220
M31M Drury Creek, Y 45.18 14 P P 11 36 24.7 +0.7
baz=208
SCRK Sand Creek 45.23 7 P P 11 36 24.6 +0.1
baz=195,SNR=6.4
L29M L29M 45.25 11 P P 11 36 24.1 -0.6
baz=203
HDA Harding Lake 45.36 5 P P 11 36 26.2 +0.7
baz=191,SNR=6.3
GCSA Galena City Sc 45.38 359 P P 11 36 25.4 -0.1
baz=178
NEA2 Nenana 45.39 4 P P 11 36 25.6 -0.1
baz=188,SNR=10
I20K Naaghedeneel 45.41 0 P P 11 36 25.7 -0.1
baz=181
FARO Faro, Yukon 45.44 14 P P 11 36 27.2 +1.0
baz=210,SNR=7.8
H16K Elim 45.50 356 P P 11 36 26.1 -0.5
baz=171
ANMO Albuquerque 45.58 60 P P 11 36 27.8 -0.2
baz=263
ANMO Albuquerque 45.58 60 LR LR 11 51 27.5
comp=Z,173nm,18.6s,baz=349,slow=31
H17K Granite Mounta 45.66 357 P P 11 36 28.7 +0.9
baz=174
S22A 4UR Ranch, Cre 45.69 56 P P 11 36 30.7 +1.9
baz=260,SNR=5.7
ANM Nome 45.70 354 P P 11 36 28.5 +0.4
baz=167
J25K Salcha River, 45.70 6 P P 11 36 28.4 +0.1
baz=193,SNR=12
ILAR Eielson Array 45.72 5 P P 11 36 29.1 +0.8
comp=Z,4.3nm,0.9s,baz=196,slow=6.4,SNR=21
ILAR PcP **PcP 11 38 07.8 +1.8**
comp=Z,0.3nm,0.8s,baz=197,slow=2.8,SNR=1.7
ILAR LR LR 11 52 29.4
comp=Z,477nm,19.4s,baz=185,slow=32
comp=Z,4.3nm,0.9s
RLMT Red Lodge 45.73 45 P P 11 36 29.7 +0.7
baz=251
MLY Manley 45.74 3 P P 11 36 26.1 -2.4
MLY Manley 45.74 3 P P 11 36 30.1 +1.6

baz=186,SNR=8.2
COLA College 45.75 4 P P 11 36 28.9 +0.4
baz=190
J26L Joseph Creek 45.78 7 P P 11 36 30.1 +1.2
baz=196,SNR=7.1
I23K Minto, Yukon-K 45.93 3 P P 11 36 31.5 +1.6
baz=188
DAWY Dawson 45.94 10 P P 11 36 31.8 +1.7
baz=201,SNR=9.8
POKR Poker Plat Res 46.02 5 P P 11 36 32.2 +1.6
baz=190
K29M Barlow Dome 46.04 11 P P 11 36 31.3 +0.4
baz=204
H20K Anotleneega Mo 46.11 0 P P 11 36 31.2 -0.2
baz=180,SNR=6.9
MAYO Mayo, Yukon 46.11 12 P P 11 36 33.0 +1.6
baz=206
TGTN Hyland Airport 46.15 17 P P 11 36 33.4 +1.6
baz=216
H19K Roundabout Mou 46.15 359 P P 11 36 32.1 +0.4
baz=178
MNTX Cornudas Mount 46.20 64 P P 11 36 34.0 +1.4
baz=267,SNR=10
G17K Kiwalik Mounta 46.26 357 P P 11 36 34.0 +1.5
baz=173
H21K Melozitna Rive 46.30 1 P P 11 36 33.9 +1.0
baz=183
EGAK Eagle 46.35 8 P P 11 36 34.0 +0.8
baz=198,SNR=9.8
KOTAN Kotaneelee Air 46.38 21 P P 11 36 35.7 +2.2
baz=222
EGMT Eagleton 46.43 41 P P 11 36 35.2 +1.0
baz=248
J29N Klondike Camp 46.48 10 P P 11 36 35.4 +1.0
baz=202
G18K Tagagwik 46.57 358 P P 11 36 36.0 +1.0
baz=176
PRP Porcupine Dome 46.57 6 P P 11 36 32.0 -3.1
PRP Porcupine Dome 46.57 6 P P 11 36 35.2 0.0
baz=193,SNR=7.5
H22K Ishtalitna Cre 46.58 2 P P 11 36 35.6 +0.5
baz=185
H23K Yukon River 46.59 3 P P 11 36 35.8 +0.7
baz=187,SNR=6.9
I26K Coal Creek Min 46.61 7 P P 11 36 35.4 +0.1
baz=196
F14K Arctic Creek 46.68 354 P P 11 36 36.8 +1.0
baz=166
H24K Noodor Dome 46.70 4 P P 11 36 37.0 +0.9
baz=190
SDCO Great Sand Dun 46.73 56 P P 11 36 39.1 +2.1
baz=261,SNR=14
F15K North Star Dit 46.75 355 P P 11 36 37.2 +0.8
baz=168
G19K Purcell Mounta 46.78 359 P P 11 36 38.6 +2.0
baz=178
J30M Hart River 46.92 11 P P 11 36 38.5 +0.6
baz=205,SNR=6.1
K22A Casper 46.93 49 P P 11 36 39.7 +1.3
baz=256
TNA Tin City 46.95 353 P P 11 36 37.9 0.0
baz=164
N23A Red Feather La 46.96 52 P P 11 36 40.1 +1.4
baz=258,SNR=12
ISCO Idaho Springs 46.99 53 P P 11 36 41.1 +2.1
baz=259
I27K Kandik River 47.08 8 P P 11 36 39.7 +0.7
baz=198,SNR=5.6
I28M Miner Creek 47.16 9 P P 11 36 39.8 +0.1
baz=200,SNR=5.4
Q24A Divide 47.20 54 P P 11 36 36.8 -3.9
Q24A Divide 47.20 54 P P 11 36 41.3 +0.6
baz=260
H25L Birch Creek 47.28 5 P P 11 36 40.7 +0.2
baz=192,SNR=13
F18K Selawik 47.31 358 P P 11 36 41.2 +0.5
baz=174
I29M Ogilvie Camp, 47.32 10 P P 11 36 41.9 +1.1
baz=202
G23K Bananza Creek 47.45 3 P P 11 36 42.9 +1.0
baz=187
T25A Trinidad 47.50 57 P P 11 36 40.5 -2.4
T25A Trinidad 47.50 57 P P 11 36 44.4 +1.4
baz=263,SNR=6.4
I30M Mount Dempster 47.51 11 P P 11 36 42.5 +0.1
baz=204,SNR=15
G24K Hadweenzic Riv 47.59 4 P P 11 36 42.8 -0.1
baz=190,SNR=6.1
TXAR Lajitas Array 47.62 68 P P 11 36 45.2 +1.3
comp=Z,6.7nm,1.0s,baz=260,slow=7.8,SNR=36
TXAR LR LR 11 52 45.1
comp=Z,94nm,21.3s,baz=242,slow=31
comp=Z,6.7nm,1.0s
F20K Avaraart Lake 47.67 360 P P 11 36 45.0 +1.5
baz=179
H27K Steamboat Moun 47.69 7 P P 11 36 44.7 +0.9
baz=198,SNR=14
G25K Bearman Lake 47.75 5 P P 11 36 44.2 +0.1
baz=192
F21K Alatna River 47.86 1 P P 11 36 42.3 -2.8
F21K Alatna River 47.86 1 P P 11 36 46.2 +1.1
baz=182,SNR=6.1
E17K Hotham Inlet 47.90 356 P P 11 36 46.7 +1.4
baz=172
COLD Coldfoot 47.96 3 P P 11 36 46.8 +1.0
baz=186
H29M Whitestone 48.11 9 P P 11 36 48.0 +1.1
baz=202
G26K Porcupine Rive 48.14 6 P P 11 36 47.9 +0.7
baz=195,SNR=9.1
F22K John River 48.17 2 P P 11 36 48.4 +1.0
baz=184
E18K Tukpahlearik C 48.17 357 P P 11 36 48.4 +0.9
baz=173
G27K Doyon Strip 48.23 7 P P 11 36 45.1 -2.8
G27K IAmb IAmb 11 36 51.6
comp=Z,5.8nm,1.4s
G27K Doyon Strip 48.23 7 P P 11 36 48.5 +0.5
baz=197
F24K Squaw Lake 48.37 4 P P 11 36 50.0 +1.0
baz=189
EPYK Eagle Plains 48.50 10 P P 11 36 51.1 +1.0
baz=204
MSTX Muleshoe 48.53 61 P P 11 36 51.8 +1.0
baz=266,SNR=8.8
D17K Noatak River 48.59 356 P P 11 36 53.0 +2.4
baz=170
F25K Christian Rive 48.60 5 P P 11 36 51.8 +1.0
baz=192
G29M Pine Creek 48.81 9 P P 11 36 53.4 +1.1
baz=202
E23K Chandalar 48.81 3 P P 11 36 51.9 -0.5
baz=187
F26K Sheenjek River 48.83 6 P P 11 36 53.4 +0.9
baz=194,SNR=8.8
WRGLY Wrigley 48.88 18 P P 11 36 54.6 +1.7
baz=221
E24K Your Creek 48.89 3 P P 11 36 54.4 +1.4
baz=188
RDOG Red Dog Mine 48.93 356 P P 11 36 54.6 +1.4
baz=170
RSSD Black Hills 49.05 48 P P 11 36 55.0 +0.2
baz=257
G30M tAoh Zraii Nji 49.14 10 P P 11 36 55.3 +0.3
baz=204,SNR=6.0
KSCO Kaye Shedlock' 49.15 55 P P 11 36 57.8 +2.2
baz=262
F28M Old Crow 49.22 8 P P 11 36 56.1 +0.7
baz=199,SNR=7.5
C16K Lisburne Hills 49.33 355 P P 11 36 56.5 +0.3
baz=167
TOLK Toolik Lake Re 49.40 3 P P 11 36 56.9 0.0
baz=187
G31M Satah River 49.42 11 P P 11 36 57.7 +0.8
baz=206
C18K Utukok River 49.43 357 P P 11 36 58.4 +1.3
baz=173
AMTX Amarillo 49.49 60 P P 11 36 59.7 +1.5
baz=266
D22K Ayikyak River 49.54 1 P P 11 36 59.8 +1.9
baz=183
E27K Coleen River 49.56 7 P P 11 36 58.8 +0.6
baz=197
D23K Nanushuk River 49.68 2 P P 11 36 59.3 +0.4
baz=186
F30M Barrier River 49.79 10 P P 11 37 01.6 +1.8
baz=204
C21K Knifeblade Rid 49.79 0 P P 11 37 01.2 +1.4
baz=181
OGNE Ogallala 49.88 52 P P 11 37 02.9 +1.8
baz=261
D24K Happy Valley 49.94 3 P P 11 37 02.4 +1.5
baz=188
F31M Tsiigehtchic 49.98 11 P P 11 37 02.8 +1.6
baz=207
DGMT Dagmar 50.08 42 P P 11 37 03.5 +1.1
baz=253
E28M Babbage River 50.20 7 P P 11 37 03.9 +1.0
baz=200
E29M Blow River 50.20 8 P P 11 37 03.4 +0.4
baz=202,SNR=6.1
D25K Kavik River 50.25 4 P P 11 37 05.0 +1.7
baz=191,SNR=5.2
B21K Ikpikpuk River 50.26 0 P P 11 37 04.8 +1.5
baz=181
C23K Itkillik River 50.55 2 P P 11 37 07.0 +1.5
baz=186
D27M Malcolm River 50.64 6 P P 11 37 07.8 +1.4
baz=198
B20K Meade River 50.66 359 P P 11 37 06.7 +0.4
baz=178
C27K Jago River 50.75 5 P P 11 37 07.7 +0.7
baz=194,SNR=5.3
INK Inuvik 50.79 10 P P 11 37 04.0 -3.3
INK Inuvik 50.79 10 P P 11 37 07.8 +0.5
baz=207
INK Inuvik 50.79 10 LR LR 11 54 44.8
comp=Z,615nm,21.5s,baz=182,slow=32
C26K Camden Bay 50.94 5 P P 11 37 10.0 +1.5
baz=193
JCT Junction City 50.97 66 P P 11 37 09.2 -0.1
baz=271
D28M Stokes Point 50.98 7 P P 11 37 10.3 +1.6
baz=200
B22K Teshekpuk Lake 50.99 1 P P 11 37 09.5 +0.6
baz=182
ABTX Abilene, Hawle 51.10 63 P P 11 37 10.2 -0.1
baz=270
YKA Yellowknife Ar 51.32 23 P P 11 37 11.8 +0.3
comp=Z,2.9nm,1.1s,baz=230,slow=7.8,SNR=11
YKA LR LR 11 55 55.3
comp=Z,214nm,20.6s,baz=217,slow=32
comp=Z,2.9nm,1.1s
CBKS Cedar Bluff 51.36 55 P P 11 37 12.1 -0.1
baz=264
833A Chaparral WMA, 51.40 69 P P 11 37 13.0 +0.4
baz=273
A22K Sinclair Lake 51.65 0 P P 11 37 14.7 +1.0
baz=180
WMOK Wichita Mounta 51.86 61 P P 11 37 16.4 +0.4
baz=268
A21K Barrow 51.98 359 P P 11 37 17.1 +1.0
baz=178
SUSD Miller 52.69 48 P P 11 37 23.3 +1.4
baz=261
HNR Honiara 52.69 241 LR LR 11 56 25.6
comp=Z,2μm,20.7s,baz=46,slow=32
BGNE Belgrade 52.85 52 P P 11 37 25.5 +2.3
baz=264
435B Jarrell 52.87 66 P P 11 37 23.4 -0.1
baz=272
MDND Maddock 52.89 44 P P 11 37 23.9 +0.4
baz=258
WHTX Lake Whitney, 52.95 64 P P 11 37 24.2 +0.1
baz=271
RAO Raoul Island 53.09 205 LR LR 11 55 29.8
comp=Z,130nm,20.6s,baz=106,slow=31
C36M Paulatuk 53.49 13 P P 11 37 27.8 +0.4
baz=218
ECSD EROS Data Cent 54.25 50 P P 11 37 35.8 +2.3
baz=263
TUL3 Leonard 54.33 59 P P 11 37 34.6 +0.4
baz=269
NATX Nacogdoches 55.34 64 P P 11 37 42.8 +1.3
baz=273
A36M Sachs Harbour 55.41 11 P P 11 37 43.3 +2.0
baz=215
AGMN Agassiz Nation 55.44 44 P P 11 37 43.1 +1.1
baz=260
MA2 Magadan 55.56 330 LR LR 11 57 07.6
comp=Z,957nm,21.8s,baz=112,slow=31
DZM Mont Dzumac 55.72 224 eP P 11 37 42.3 -2.1
comp=Z,160nm,23.6s
DZM eS S 11 45 28.7 -2.6
comp=Z,246nm,25.9s
DZM eSS SS 11 49 26.1 +9.0
comp=Z,164nm,26.0s
DZM eLR LR 11 53 54.2
comp=Z,472nm,32.4s
DZM Mont Dzumac 55.72 224 LR LR 11 59 28.8
comp=Z,162nm,19.2s,baz=23,slow=34
ULM Lac du Bonnet 55.78 42 P P 11 37 45.7 +1.3
comp=Z,5.6nm,1.0s,baz=262,slow=8.2,SNR=6.8
ULM LR LR 11 57 43.2
comp=Z,117nm,21.4s,baz=248,slow=32
comp=Z,5.6nm,1.0s
MIAR Mount Ida 56.15 61 P P 11 37 48.1 +0.8
baz=271
SEY Seymchan 56.21 334 LR LR 11 59 51.5
comp=Z,368nm,21.0s,baz=149,slow=34
SCIA State Center 56.58 52 P P 11 37 50.4 +0.2
baz=267
ASAJ Asahikawa 56.97 311 LR LR 11 56 57.2
comp=Z,1μm,21.8s,baz=117,slow=30
CMIG Matias Romero 57.03 82 LR LR 11 56 32.5
comp=Z,288nm,21.7s,baz=288,slow=30
SPMN Marine on St. 57.12 48 P P 11 37 54.9 +0.9
baz=265
P40A Paris 57.37 55 P P 11 37 52.9 -3.0
GUMO Guam 57.58 274 LR LR 11 57 21.1
comp=Z,368nm,21.7s,baz=70,slow=30
CCM Cathedral Cave 57.99 57 P P 11 38 00.6 +0.3
baz=270
EYMN Ely 58.29 45 P P 11 38 03.1 +0.8
baz=264
JFWS Jewell Farm 58.82 51 P P 11 38 06.8 +0.8
baz=268
VBMS Vicksburg 58.82 64 P P 11 38 08.4 +2.3
baz=274
JHJ Hachijo jima 2 59.12 298 LR LR 12 00 13.3
comp=Z,395nm,19.9s,baz=126,slow=33
HDIL Hopedale 59.49 54 P P 11 38 13.0 +2.3
baz=270
OXF Oxford 59.59 61 P P 11 38 13.2 +1.8
baz=274
MJAR Matsushiro Arr 60.21 302 P P 11 38 17.1 +1.3
comp=Z,1.2nm,0.4s,baz=90,slow=4.5,SNR=8.6
MJAR LR LR 11 59 55.1
comp=Z,292nm,21.3s,baz=76,slow=32
comp=Z,1.2nm,0.4s
L44A Lake County Fo 60.53 52 P P 11 38 19.6 +1.8
baz=270
WVT Waverly 60.78 59 P P 11 38 20.4 +0.8
baz=274
SFIN Lafayette 61.17 54 P P 11 38 23.5 +1.3
baz=272
LRAL Lakeview Retre 61.71 62 P P 11 38 27.2 +1.3
baz=276
BRAL Brewton 61.86 64 P P 11 38 28.8 +1.8
baz=277
WCI Wyandotte Cave 61.88 56 P P 11 38 27.8 +0.8
baz=273
TEIG Tepich 62.52 77 LR LR 12 02 02.6
comp=Z,147nm,20.4s,baz=224,slow=32
O48B Farmland 62.66 54 P P 11 38 29.2 -3.1
O48B Farmland 62.66 54 P P 11 38 32.5 +0.3
baz=273
GLMI Grayling 62.91 49 P P 11 38 34.6 +0.8
baz=271
P49A Miami Univ. Ec 63.04 55 P P 11 38 35.0 +0.3
baz=274
E46A Sault Ste Mari 63.11 47 P P 11 38 32.2 -2.9
PMG Port Moresby 63.61 249 LR LR 12 06 56.4
comp=Z,132nm,18.0s,baz=70,slow=37
AAM Ann Arbor 63.69 52 P P 11 38 39.3 +0.3
baz=273
RES Resolute Bay 63.76 15 LR LR 12 02 22.5
comp=Z,492nm,21.6s,baz=229,slow=32
RPN Rapa Nui 64.08 135 LR LR 11 59 17.9
comp=Z,561nm,21.3s,baz=312,slow=29
TKL Tuckaleechee C 64.10 59 LR LR 12 02 06.6
comp=Z,75nm,21.0s,baz=276,slow=32
TZTN Tazewell 64.19 58 P P 11 38 42.7 +0.2
baz=276
ACSO Alum Creek Sta 64.32 54 P P 11 38 43.9 +0.7
baz=274
USRK Ussuriysk Ar. 64.60 310 P P 11 38 46.8 +1.9
comp=Z,2.6nm,1.1s,baz=90,slow=7.8,SNR=2.0
USRK LR LR 12 02 11.2
comp=Z,584nm,20.5s,baz=86,slow=32
comp=Z,2.6nm,1.1s
GOGA Godfrey 64.61 62 P P 11 38 46.0 +0.8
baz=277
KLR Kul'dur 64.61 316 LR LR 12 02 02.9
comp=Z,416nm,20.8s,baz=117,slow=32
TIGA Tifton 64.77 64 P P 11 38 47.0 +0.8
baz=278
P52A Corning 65.02 55 P P 11 38 47.9 +0.1
baz=275
O53A New Philadelph 65.67 54 P P 11 38 53.7 +1.7
baz=275
M53A Wl Miller and 65.97 52 P P 11 38 55.6 +1.7
baz=275
KMSC Kings Mountain 66.14 59 P P 11 38 56.8 +1.7
baz=278
MDJ Mudanjiang 66.28 311 P P 11 38 57.3 +1.4
MDJ PcP PcP 11 39 22.8 -3.0
MDJ pmax pmax
comp=Z,500nm,8.2s
MDJ LR LR
comp=Z,280nm,22.0s
MDJ LR LR
comp=Z,590nm,24.4s
MDJ LR LR
comp=Z,1μm,24.0s
ERPA Erie 66.42 52 P P 11 38 56.9 +0.1
baz=275
BLA Blacksburg 66.61 57 P P 11 38 59.0 +0.8
baz=277
MCWV Mont Chateau 66.77 54 P P 11 38 60.0 +0.9
baz=276
SADO Sadowa 66.81 49 LR LR 12 08 45.7
comp=Z,70nm,18.2s,baz=242,slow=36
DWPF Disney Wildern 67.15 67 P P 11 39 03.9 +2.2
baz=281
HEH HeiHe 67.39 317 eP P 11 38 58.1 -4.7
HEH S S 11 47 56.4 -2.1
HEH pmax pmax
comp=Z,4.0nm,0.7s
HEH pmax pmax
comp=Z,380nm,6.9s
HEH LR LR
comp=Z,360nm,20.8s
HEH LR LR
comp=Z,880nm,21.4s
HEH LR LR
comp=Z,1μm,22.8s
BNX BinXian 67.73 312 ⇑P P 11 39 06.3 +1.2
BNX S S 11 48 08.8 +6.0
BNX SS SS 11 52 26.9 +3.2
BNX pmax pmax
comp=Z,540nm,6.5s
BNX LR LR
comp=Z,350nm,20.0s
BNX LR LR
comp=Z,510nm,22.9s
BNX LR LR
comp=Z,720nm,17.8s
SSPA Standing Stone 68.15 53 P P 11 39 09.0 +1.2
baz=277
KSRS Korea Array 68.32 303 LR LR 12 07 29.8
comp=Z,294nm,18.8s,baz=80,slow=35
CBN Corbin Frederi 68.87 56 P P 11 39 12.7 +0.4
baz=279
CNNC Cliffs of the 68.92 59 P P 11 39 13.0 +0.4
baz=279
CN2 Changchun 69.33 310 P P 11 39 18.3 +3.2
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,800nm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
BINY Binghamton 69.36 51 P P 11 39 16.0 +0.6
baz=278
CTA Charters Tower 69.52 239 LR LR 12 07 10.4
comp=Z,8.2nm,18.4s,baz=74,slow=34
JOW Kunigami 69.89 292 LR LR 12 10 24.4
comp=Z,146nm,18.3s,baz=102,slow=36
RPZ Rata Peaks 70.00 205 LR LR 12 04 59.6
comp=Z,248nm,20.5s,baz=96,slow=32
LONY Lake Ozonia 70.05 49 P P 11 39 20.2 +0.7
baz=278
PAL Palisades 71.08 52 P P 11 39 26.5 +0.7
baz=280
FRB Frobisher Bay 71.34 28 LR LR 12 06 35.9
comp=Z,109nm,21.6s,baz=316,slow=32
L61B Northampton 71.75 51 P P 11 39 28.8 -1.1
baz=280
LBNH Lisbon 71.99 49 P P 11 39 31.5 +0.1
baz=280
HRV Adam Dziewonsk 72.56 50 P P 11 39 35.8 +1.1
baz=281
DL2 Dalian 72.96 306 P P 11 39 41.6 +4.4
DL2 pmax pmax
comp=Z,470nm,7.6s
DL2 LR LR
comp=Z,240nm,18.2s
DL2 LR LR
comp=Z,350nm,21.0s
DL2 LR LR
comp=Z,470nm,22.8s
M65A Busby, Falmout 73.40 51 P P 11 39 38.7 -1.0
baz=281
SCHQ Schefferville 73.45 37 LR LR 12 08 29.9
comp=Z,58nm,19.3s,baz=266,slow=33
PKME Peaks-Kenny Pk 73.65 47 P P 11 39 40.1 -1.1
baz=281
SSE Sheshan 75.01 298 P P 11 39 43.9 -5.4
SSE S S 11 49 24.1 -3.3
SSE pmax pmax
comp=Z,10.0nm,0.6s
SSE pmax pmax
comp=Z,130nm,6.1s
SSE LR LR
comp=Z,83nm,24.1s
SSE LR LR
comp=Z,240nm,23.7s
DAV Davao City (W) 77.60 273 LR LR 12 07 16.8
comp=Z,300nm,21.9s,baz=100,slow=30
SFJD Kangerlussuaq 77.89 23 LR LR 12 10 24.3
comp=Z,314nm,21.7s,baz=298,slow=33
HNS HongShan 78.62 306 ⇓P P 11 40 10.4 +0.9
HNS S S 11 50 11.6 +4.9
HNS SKS SKSac 11 50 23.5 -1.5
HNS pmax pmax
comp=Z,580nm,6.9s
HNS LR LR
comp=Z,170nm,19.1s
HNS LR LR
comp=Z,420nm,23.1s
HNS LR LR
comp=Z,480nm,23.9s
QZH Quanzhou 78.81 293 P P 11 40 12.8 +2.0
QZH LR LR
comp=Z,590nm,18.9s
STKA Stephens Creek 79.14 231 LR LR 12 13 43.5
comp=Z,139nm,18.4s,baz=339,slow=35
SUMG Summit 79.26 16 P P 11 40 10.8 -2.2
WRA Warramunga Arr 79.36 244 P P 11 40 14.4 +0.5
comp=Z,1.1nm,1.1s,baz=68,slow=3.8,SNR=3.3
WRA LR LR 12 09 00.8
comp=Z,316nm,21.2s,baz=78,slow=31
comp=Z,1.1nm,1.1s
ROSC El Rosal 79.77 88 LR LR 12 08 09.0
comp=Z,218nm,21.2s,baz=282,slow=30
ATAH Atahualpa 79.98 101 LR LR 12 09 28.3
comp=Z,282nm,18.1s,baz=298,slow=31
HHC Hu-ho-hao-te 80.00 310 eP P 11 40 14.3 -2.9
HHC sP pP 11 40 21.0 +0.1
HHC eS S 11 50 16.1 -5.5
HHC SS SS 11 55 33.6 +2.6
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,220nm,5.5s
HHC LR LR
comp=Z,160nm,18.0s
HHC LR LR
comp=Z,440nm,18.8s
HHC LR LR

comp=Z,590nm,19.0s
WHN Wuhan 80.82 299 ⇑P **P** **11 40 25.3 +3.6**
WHN LR LR
comp=Z,2μm,19.3s
NRIK Noril'sk 81.12 341 LR LR 12 14 36.9
comp=Z,315nm,21.8s,baz=58,slow=34
LYN LuoYang 81.17 303 P **P** **11 40 24.4 +1.0**
LYN PP **PP** **11 43 29.9 +1.5**
LYN SS SS 11 55 52.5 +4.1
LYN pmax pmax
comp=Z,580nm,6.6s
LYN LR LR
comp=Z,690nm,18.1s
LYN LR LR
comp=Z,900nm,22.7s
ASAR Alice Springs 81.31 241 P **P** **11 40 26.1 +1.7**
comp=Z,0.7nm,0.8s,baz=56,slow=5.1,SNR=4.4
ASAR LR LR 12 15 13.0
comp=Z,188nm,18.4s,baz=74,slow=35
comp=Z,0.7nm,0.8s
SONM Songino Array 81.38 318 P **P** **11 40 25.6 +1.1**
comp=Z,2.0nm,1.0s,baz=94,slow=4.5,SNR=8.6
SONM LR LR 12 14 21.1
comp=Z,522nm,20.9s,baz=61,slow=34
comp=Z,2.0nm,1.0s
SDV Santo Domingo 81.97 83 LR LR 12 10 06.3
comp=Z,146nm,21.9s,baz=250,slow=31
SPITS Spitsbergen Ar 82.54 2 LR LR 12 13 34.7
comp=Z,202nm,21.4s,baz=327,slow=33
NNA Nana 83.15 105 LR LR 12 08 29.6
comp=Z,358nm,21.3s,baz=285,slow=29
SJG San Juan 83.25 73 LR LR 12 14 49.7
comp=Z,45nm,20.9s,baz=306,slow=34
JMIC Jan Mayen 86.97 10 LR LR 12 16 22.2
comp=Z,171nm,22.0s,baz=292,slow=33
KAPI Kappang 87.03 264 LR LR 12 17 41.8
comp=Z,104nm,18.2s,baz=88,slow=34
PCRV Puerto La Cruz 87.16 80 LR LR 12 16 44.7
comp=Z,128nm,19.3s,slow=33
LZH Lanzhou 87.30 307 P **P** **11 40 54.3 -0.5**
LZH pmax pmax
comp=Z,500nm,7.9s
LZH LR LR
comp=Z,290nm,16.1s
LZH LR LR
comp=Z,400nm,19.9s
LZH LR LR
comp=Z,670nm,18.9s
GTA Gaotai 88.94 312 *e*P **P** **11 41 01.8 -0.7**
GTA S **S** **11 51 51.3 +0.4**
GTA pmax pmax
comp=Z,250nm,5.8s
GTA LR LR
comp=Z,310nm,20.0s
GTA LR LR
comp=Z,430nm,19.3s
GTA LR LR
comp=Z,530nm,21.4s
BORG Borgarnes 89.02 18 LR LR 12 17 34.7
comp=Z,126nm,21.9s,baz=328,slow=33
CD2 Chengdu 89.30 302 P P 11 41 00.0 -4.3
CD2 SKS **SKSac** **11 51 28.5 -6.4**
CD2 S **S** **11 51 53.3 -1.1**
CD2 SS **SS** **11 57 45.3 -3.1**
CD2 pmax pmax
comp=Z,260nm,8.3s
CD2 LR LR
comp=Z,260nm,14.7s
CD2 LR LR
comp=Z,370nm,17.5s
CD2 LR LR
comp=Z,400nm,16.5s
H03N2 Juan Fernandez 89.58 126 T T 13 20 11.4
baz=298,slow=76,SNR=6.0
H03N3 Juan Fernandez 89.59 126 T T 13 20 11.9
baz=298,slow=76,SNR=4.8
H03N1 Juan Fernandez 89.59 126 T T 13 20 16.4
baz=298,slow=76,SNR=6.8
ZALV Zalesovo Beam 90.78 329 P **P** **11 41 11.7 +1.0**
comp=Z,0.6nm,0.3s,baz=88,slow=4.9,SNR=7.1
ZALV LR LR 12 19 50.4
comp=Z,534nm,20.5s,baz=64,slow=34
comp=Z,0.6nm,0.3s
ARCES ARCESS Array B 91.35 360 LR LR 12 17 46.4
comp=Z,188nm,21.9s,baz=337,slow=33
LPAZ La Paz 92.56 106 LR LR 12 15 22.7
comp=Z,154nm,19.7s,baz=282,slow=31
PZH PanZhiHua 92.62 299 P P 11 41 15.0 -4.9
PZH S **S** **11 52 18.1 -7.0**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,300nm,5.9s
PZH LR LR
comp=Z,260nm,18.8s
PZH LR LR
comp=Z,260nm,18.2s
PZH LR LR
comp=Z,450nm,23.0s
LVC Limon Verde 93.94 112 LR LR 12 14 39.5
comp=Z,407nm,20.1s,baz=276,slow=30
WMQ Urumqi 94.85 320 *e*P **P** **11 41 26.6 -3.1**
WMQ LR LR
comp=Z,520nm,18.5s
WMQ LR LR
comp=Z,460nm,20.9s
WMQ LR LR
comp=Z,400nm,24.0s
KURBB Kurchatov Arra 95.87 329 LR LR 12 22 31.4
comp=Z,538nm,21.9s,baz=72,slow=34
MKAR Makanchi Array 96.30 324 LR LR 12 22 16.0
comp=Z,397nm,21.7s,baz=64,slow=34
BVAR Borovoye Array 97.87 334 LR LR 12 26 29.8
comp=Z,183nm,20.1s,baz=50,slow=36
CMAR Chiang Mai Arr 98.16 293 LR LR 12 25 28.3
comp=Z,168nm,19.2s,baz=65,slow=35
SIV San Ignacio 98.90 104 LR LR 12 21 39.7
comp=Z,400nm,18.0s,baz=296,slow=32
NOA NORSAR Array B 99.14 7 LR LR 12 24 06.4
comp=Z,122nm,20.7s,baz=350,slow=34
ARU Arti 99.35 342 LR LR 12 27 11.3
comp=Z,481nm,21.4s,baz=38,slow=36
KIRV Kirov 99.74 347 LR LR 12 29 50.3
comp=Z,356nm,19.7s,baz=26,slow=37

IDC 18 11:38:14.0±1.9, 6°.08S×151°.31E, h0km, mb4.0/3, mbtmp4.0/4, ML1.5/1, MS4.6/3, Error ellipse: s-maj=122.9km s-min=25.7km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.28**	**231**	Pn	Pn	11 39 34.3	+0.2
	1.1nm,0.3s,baz=14,slow=12,SNR=2.3						
PMG				Sn	Sn	11 40 33.8	-1.9
	1.5nm,0.3s,baz=117,slow=19,SNR=2.6						
PMG				LR	LR	11 41 08.0	
	comp=Z,89nm,20.8s,baz=124,slow=33						
	16nm,0.9s						
WRA	**Warramunga Arr**	**21.49**	**229**	P	P	11 43 04.2	-0.3
	5.9nm,0.8s,baz=54,slow=11,SNR=47						
	5.9nm,0.8s						
ASAR	**Alice Springs**	**24.21**	**222**	P	P	11 43 32.8	+0.2
	3.6nm,0.5s,baz=56,slow=9.0,SNR=40						
	3.6nm,0.5s						
QSPA	**South Pole Qui**	**83.88**	**180**	LR	LR	12 25 18.6	
	comp=Z,178nm,20.0s,baz=48,slow=34						
ILAR	**Eielson Array**	**83.90**	**22**	P	P	11 50 45.5	0.0
	0.3nm,0.6s,baz=246,slow=5.4,SNR=9.4						
	0.3nm,0.6s						
AAK	**Ala-Archa**	**84.47**	**314**	LR	LR	12 28 55.3	
	comp=Z,383nm,20.7s,baz=70,slow=36						
ELK	**Elko**	**96.54**	**50**	LR	LR	12 25 48.8	
	comp=Z,451nm,20.5s,baz=82,slow=30						

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*UPA **18** 11:41:48.3±2.0, 9°.75N×83°.70W, h66km±21km, ML3.3*
*UCR **18** 11:41:48.8±1.4, 9°.37N×83°.97W, h54km±3km, MW3.6*
*CATAC **18** 11:41:49.0±0.4, 9°.37N×83°.93W, h28km±3km, ML3.5*

ISC 18 11:41:50.3±1.2, 9°.39N±0°.03×83°.92W±0°.03, h41km±6km, n75, σ1°.09/130, 6C-13D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLNJ	**Naranjito**	**0.20**	**296**	⇓*i*P	**Pn**	**11 41 56.8**	**-0.9**
LLNJ				*e*S	**Sn**	**11 42 03.7**	**+0.9**
ZELE	**Perez Zeledon**	**0.21**	**94**	⇓*i*P	**Pn**	**11 41 57.7**	**-0.3**
ZELE				*e*S	**Sn**	**11 42 04.8**	**+1.5**
RAZU	**San Marcos de**	**0.29**	**340**	*e*P	**Pn**	**11 41 58.0**	**-0.8**
RAZU				*e*S	**Sn**	**11 42 05.5**	**+0.8**
ABE2	**San Pablo**	**0.34**	**338**	⇓*i*P	**Pn**	**11 41 58.4**	**-1.0**
ABE2				*e*S	**Sn**	**11 42 06.2**	**+0.4**
LCR2	**La Lucha 2**	**0.36**	**347**	*i*P	**Pn**	**11 41 58.6**	**-1.0**
LCR2				*i*S	**Sn**	**11 42 06.1**	**0.0**
LCR2				IAML		11 42 06.7	
	comp=Z,6μm,1.0s						
LCR2	**La Lucha 2**	**0.36**	**347**	⇓*i*P	**Pn**	**11 41 58.5**	**-1.0**
LCR2				*e*S	**Sn**	**11 42 06.3**	**+0.2**
OCHAL	**Ojochal**	**0.40**	**136**	*i*P	**Pn**	**11 41 58.6**	**-1.2**
OCHAL				*i*S	**Sn**	**11 42 07.0**	**+0.5**
OCHAL				IAML		11 42 07.0	
	comp=Z,2μm,1.0s						
REPA	**Paraso**	**0.44**	**7**	*e*P	**Pn**	**11 42 00.7**	**+0.2**
REPA				*e*S	**Sn**	**11 42 09.7**	**+2.0**
ACOS	**Acosta**	**0.47**	**330**	*e*P	**Pn**	**11 41 59.4**	**-1.4**
ACOS				*e*S	**Sn**	**11 42 07.9**	**-0.4**
TAGO	**Cartago**	**0.47**	**360**	*e*P	**Pn**	**11 42 00.4**	**-0.6**
TAGO				*e*S	**Sn**	**11 42 09.4**	**+0.9**
TRIO	**Tres Rios**	**0.52**	**352**	*e*P	**Pn**	**11 42 00.4**	**-1.2**
TRIO				*e*S	**Sn**	**11 42 09.7**	**+0.3**
AMPA	**Desamparados**	**0.52**	**345**	*e*P	**Pn**	**11 42 00.5**	**-1.1**
AMPA				*e*S	**Sn**	**11 42 09.5**	**0.0**
VINA	**Juan Vinas**	**0.53**	**19**	⇓*i*P	**Pn**	**11 42 01.1**	**-0.6**
VINA				*e*S	**Sn**	**11 42 11.0**	**+1.3**
PCAYA	**Pacayas**	**0.54**	**12**	*e*P	**Pn**	**11 42 01.2**	**-0.6**
PCAYA				*e*S	**Sn**	**11 42 10.9**	**+1.0**
LUJA	**Lujan**	**0.55**	**345**	⇑*e*P	**Pn**	**11 42 02.1**	**+0.1**
LUJA				*e*S	**Sn**	**11 42 11.4**	**+1.2**
CENT	**San Jose**	**0.56**	**344**	*e*P	**Pn**	**11 42 01.1**	**-1.0**
CENT				*e*S	**Sn**	**11 42 11.8**	**+1.4**
SJS3	**Mercedes San J**	**0.56**	**347**	*e*P	**Pn**	**11 42 01.4**	**-0.7**
SJS3				*e*S	**Sn**	**11 42 11.0**	**+0.6**
SJS	**Escuela Geolog**	**0.56**	**347**	*e*P	**Pn**	**11 42 01.2**	**-0.9**
SJS				*e*S	**Sn**	**11 42 11.0**	**+0.5**
TURIB	**Turrialba**	**0.57**	**24**	*e*P	**Pn**	**11 42 01.2**	**-0.9**
TURIB				*e*S	**Sn**	**11 42 10.9**	**+0.5**
LUPE	**Guadalupe**	**0.57**	**347**	⇓*e*P	**Pn**	**11 42 01.3**	**-0.9**
LUPE				*e*S	**Sn**	**11 42 11.3**	**+0.7**
MEXI	**Barrio Mexico**	**0.57**	**344**	*e*P	**Pn**	**11 42 02.4**	**+0.2**
MEXI				*e*S	**Sn**	**11 42 11.0**	**+0.3**
RAFA	**San Farael, Vo**	**0.58**	**11**	*i*P	**Pn**	**11 42 01.8**	**-0.7**
RAFA				*i*S	**Sn**	**11 42 11.8**	**+0.7**
RAFA				IAML		11 42 13.1	
	comp=Z,19μm,1.0s						
RAFA	**San Farael, Vo**	**0.58**	**11**	⇓*i*P	**Pn**	**11 42 01.8**	**-0.7**
RAFA				*e*S	**Sn**	**11 42 11.8**	**+0.7**
CORON	**Coronado**	**0.59**	**352**	*e*P	Pn	11 42 11.7	+9.2
VERB	**Verbena**	**0.60**	**22**	*e*P	**Pn**	**11 42 01.9**	**-0.7**
VERB				*e*S	**Sn**	**11 42 12.6**	**+1.3**
VICA	**Volcano Irazu**	**0.60**	**7**	⇓*i*P	**Pn**	**11 42 02.0**	**-0.8**
VICA				*e*S	**Sn**	**11 42 12.8**	**+1.1**
SANTA	**Santa Ana**	**0.60**	**335**	*e*P	**Pn**	**11 42 02.7**	**+0.1**
DOMI	**Santo Domingo**	**0.61**	**344**	*e*P	**Pn**	**11 42 03.3**	**+0.5**
BURE	**Buenos Aires**	**0.62**	**110**	*e*P	**Pn**	**11 42 01.8**	**-0.9**
BURE				*e*S	**Sn**	**11 42 12.1**	**+0.6**
VTCV	**VTCV, Calle Va**	**0.62**	**18**	⇓*i*P	**Pn**	**11 42 02.3**	**-0.7**
VTCV				*e*S	**Sn**	**11 42 13.0**	**+1.1**
EDPN	**Palmar Norte**	**0.62**	**133**	*e*P	**Pn**	**11 42 01.6**	**-1.1**
EDPN				*e*S	**Sn**	**11 42 12.1**	**+0.4**
VTLA	**Turrialba Volc**	**0.63**	**13**	⇓*i*P	**Pn**	**11 42 02.5**	**-0.7**
VTLA				*e*S	**Sn**	**11 42 13.2**	**+1.0**
CVIMO	**Finca Echandi**	**0.63**	**358**	*e*P	**Pn**	**11 42 02.6**	**-0.5**
CVIMO				*e*S	**Sn**	**11 42 13.3**	**+1.1**
HDC	**Heredia**	**0.64**	**343**	⇑*e*P	**Pn**	**11 42 02.0**	**-1.1**
HDC				*e*S	**Sn**	**11 42 12.7**	**+0.5**
HDC3	**Heredia 3**	**0.64**	**343**	*i*P	**Pn**	**11 42 02.3**	**-0.8**
HDC3				*i*S	**Sn**	**11 42 12.2**	**0.0**
HDC3				IAML		11 42 15.7	
	comp=Z,2μm,1.0s						
BELE	**Belen**	**0.64**	**336**	*e*P	**Pn**	**11 42 01.7**	**-1.4**
BELE				*e*S	**Sn**	**11 42 11.7**	**-0.5**
RVSTA	**Santa Teresita**	**0.64**	**25**	⇓*e*P	**Pn**	**11 42 02.6**	**-0.6**
RVSTA				*e*S	**Sn**	**11 42 13.6**	**+1.3**
VTR0	**Volcan Turrial**	**0.65**	**14**	⇓*e*P	**Pn**	**11 42 03.0**	**-0.5**
VTR0				*e*S	**Sn**	**11 42 13.9**	**+1.1**
CVTR	**Volcan Turrial**	**0.65**	**14**	⇓*e*P	**Pn**	**11 42 02.8**	**-0.7**
CVTR				*e*S	**Sn**	**11 42 13.7**	**+0.8**
EDBA	**Buenos Aires**	**0.68**	**109**	⇑*i*P	**Pn**	**11 42 02.0**	**-1.5**
EDBA				*e*S	**Sn**	**11 42 12.5**	**-0.5**
DRK0	**Durika**	**0.68**	**100**	*e*P	**Pn**	**11 42 02.4**	**-1.2**
DRK0				*e*S	**Sn**	**11 42 13.3**	**0.0**
DRK0	**Durika**	**0.68**	**100**	*i*P	**Pn**	**11 42 02.5**	**-1.2**
DRK0				*i*S	**Sn**	**11 42 13.3**	**0.0**
DRK0				IAML		11 42 14.8	
	comp=Z,8μm,1.0s						
DRK0	**Durika**	**0.68**	**100**	*e*P	**Pn**	**11 42 02.3**	**-1.4**
DRK0				*e*S	**Sn**	**11 42 13.2**	**0.0**
BITO	**Garabito Jaco**	**0.73**	**288**	*e*P	**Pn**	**11 42 05.8**	**+1.6**
TRB2	**Turrubares**	**0.74**	**315**	*e*P	**Pn**	**11 42 02.7**	**-1.6**
TRB2				*e*S	**Sn**	**11 42 13.5**	**-0.9**
TCS1	**Tacares**	**0.75**	**330**	*i*P	**Pn**	**11 42 03.4**	**-1.1**
TCS1				IAML		11 42 17.2	
	comp=Z,5μm,1.0s						
TCS1	**Tacares**	**0.75**	**330**	*e*P	**Pn**	**11 42 03.5**	**-1.1**
TCS1				*e*S	**Sn**	**11 42 14.8**	**0.0**
LCOCO	**El Coco**	**0.78**	**28**	*e*P	**Pn**	**11 42 04.5**	**-0.4**
LCOCO				*e*S	**Sn**	**11 42 16.4**	**+0.9**
EDP2	**Potrero Grande**	**0.82**	**117**	*e*P	**Pn**	**11 42 04.7**	**-0.8**
EDP2				*e*S	**Sn**	**11 42 17.3**	**+0.8**
RAMO	**San Ramon**	**0.88**	**322**	*e*P	**Pn**	**11 42 07.4**	**+1.1**
RAMO				*e*S	**Sn**	**11 42 18.1**	**+0.1**
SRA1	**San Ramn**	**0.88**	**322**	*e*P	**Pn**	**11 42 04.8**	**-1.6**
SRA1				*e*S	**Sn**	**11 42 17.5**	**-0.6**
ARZA	**Esparza**	**0.95**	**309**	*e*P	**Pn**	**11 42 06.6**	**-0.6**
JIME	**Puerto Jimenez**	**1.03**	**145**	*e*P	**Pn**	**11 42 07.4**	**-0.9**
PTJ1	**Puerto Jimnez**	**1.04**	**144**	*e*P	**Pn**	**11 42 08.5**	**0.0**
PTJ1				*e*S	**Sn**	**11 42 25.4**	**+3.4**
EDAD	**Golfito**	**1.05**	**134**	*e*P	**Pn**	**11 42 06.6**	**-2.0**
FITO	**Golfito**	**1.07**	**135**	*e*P	**Pn**	**11 42 07.1**	**-1.8**
FITO				*e*S	**Sn**	**11 42 21.6**	**-1.0**
BRIBI	**Bribri**	**1.08**	**77**	*e*P	**Pn**	**11 42 09.5**	**+0.5**
ITAL	**Pital**	**1.11**	**342**	*e*P	**Pn**	**11 42 09.8**	**+0.4**
SOCE	**Pocosol**	**1.20**	**325**	*i*P	**Pn**	**11 42 10.2**	**-0.5**
SOCE				*i*S	**Sn**	**11 42 27.0**	**+1.1**
SOCE				IAML		11 42 28.2	
	comp=Z,2μm,1.0s						
SOCE	**Pocosol**	**1.20**	**325**	*e*P	**Pn**	**11 42 10.2**	**-0.5**
VACR	**Volcan Arenal**	**1.31**	**325**	⇑*e*P	**Pn**	**11 42 11.7**	**-0.5**
CEDE	**Laguna Cedeo**	**1.33**	**325**	*e*P	**Pn**	**11 42 12.2**	**-0.3**
CEDE				*e*S	**Sn**	**11 42 31.1**	**+1.9**
BRU2	**Volcan**	**1.35**	**116**	*e*P	**Pn**	**11 42 11.9**	**-1.0**
BRU2				AMP		11 42 14.5	
	comp=Z,446nm,0.2s						
BRU2				*e*S	**Sn**	**11 42 29.2**	**-0.5**
BRU2	**Volcan**	**1.35**	**116**	*i*P	**Pn**	**11 42 12.1**	**-0.8**
BRU2				*i*S	**Sn**	**11 42 29.6**	**-0.1**
BRU2				IAML		11 42 37.0	
	comp=Z,200nm,1.0s						
JUNT	**Juntas**	**1.35**	**311**	*e*P	**Pn**	**11 42 11.1**	**-1.7**
JTS	**Las Juntas de**	**1.35**	**312**	⇑*e*P	**Pn**	**11 42 11.1**	**-1.7**
JTS				*e*S	**Sn**	**11 42 28.7**	**-0.8**
JTS	**Las Juntas de**	**1.35**	**312**	⇑*e*P	**Pn**	**11 42 11.0**	**-1.7**
JTS				*e*S	**Sn**	**11 42 28.1**	**-1.4**
COVE	**Coope Vega, Sa**	**1.41**	**340**	*i*P	**Pn**	**11 42 12.9**	**-0.6**
COVE				IAML		11 42 34.4	
	comp=Z,340nm,1.0s						
NYURE	**Nandayure**	**1.44**	**295**	*e*P	**Pn**	**11 42 15.0**	**+1.0**
BCO2	**Palmira**	**1.53**	**116**	*e*P	**Pn**	**11 42 12.7**	**-2.6**
BCO2				*e*S	**Sn**	**11 42 34.5**	**+0.4**
PTPM	**Petroterminale**	**1.56**	**139**	*e*P	**Pn**	**11 42 16.7**	**+1.1**
PTPM				*e*S	**Sn**	**11 42 39.1**	**+4.4**
INDI	**Punta indio, G**	**1.63**	**287**	*i*P	**Pn**	**11 42 16.0**	**-0.5**
INDI				IAML		11 42 46.7	
	comp=Z,94nm,1.0s						
CUI	**Cuipilapa**	**1.76**	**316**	*e*P	**Pn**	**11 42 18.2**	**-0.1**
COLC	**Colonia**	**1.79**	**315**	*e*P	**Pn**	**11 42 19.8**	**+1.1**
BOAB	**BOACO BROADBAN**	**1.49**	**331**	*i*P	**Pn**	**11 42 41.5**	**-0.6**
BOAB				IAML		11 43 47.6	
	comp=Z,32nm,1.0s						

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*NEIC **18** 11:42:30.7±0.6, 3°.61N±0°.05×124°.8E±0°.1, h307km±9km, mb4.2/9, Error ellipse: s-maj=15.1km s-min=7.1km az=76.0*
*IDC **18** 11:42:32.4±6.7, 3°.29N×123°.87E, h329km±67km, mb3.6/6, mbtmp4.3/6, Error ellipse: s-maj=115.1km s-min=14.6km az=61.0*
*DJA **18** 11:42:33.3±0.8, 3°N±7°×12°5E±°, h235km±11km, M4.5/9, mb4.4/5, mB4.8/2, MLv4.6/9, Mw(mB)4.0/2*

ISC 18 11:42:29.7±0.6, 3°.66N±0°.08×124°.75E±0°.09, h300km, n42, σ0°.88/44, mb4.0/8, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**3.47**	**210**	P	Pn	11 43 38.7	+8.5
TNTI	**Ternate**	**3.88**	**138**		**Pn**	**11 43 35.2**	**+0.6**
TNTI	**Ternate**	**3.88**	**138**	P	**Pn**	**11 43 34.7**	**+0.1**
TOLI2	**Tolitoli**	**4.70**	**238**	Pn	**Pn**	**11 43 44.7**	**+0.9**
LBMI	**Labuha**	**5.07**	**147**	P	**Pn**	**11 43 47.2**	**-0.9**
SANI	**Sanana**	**5.80**	**168**	P	**Pn**	**11 43 54.6**	**-2.1**
MYLDM	**Lahad Datu**	**6.41**	**284**		**Pn**	**11 44 05.9**	**+1.9**
NLAI	**Namlea**	**7.24**	**161**	P	**Pn**	**11 44 14.5**	**+0.5**
	30nm,0.5s,0.4nm						
KKM	**Kota Kinabalu**	**8.83**	**286**	Pn	**Pn**	**11 44 34.1**	**+0.5**
SBUM	**Sibu**	**12.57**	**265**	P	**P**	**11 45 20.5**	**+0.4**
SOEI	**Soe**	**13.33**	**182**	P	**Pn**	**11 45 28.3**	**-0.2**
JAGI	**Jajag, Banyuwa**	**16.02**	**221**	P	**P**	**11 45 57.7**	**-0.4**
MTN	**Manton Dam**	**17.57**	**159**	P	**P**	**11 46 14.1**	**-0.8**
MTN				IAmb	IAmb	11 46 22.6	
	comp=Z,11nm,1.1s						
KNRA	**Kununurra**	**19.61**	**168**	P	**P**	**11 46 35.9**	**-0.8**
KNRA				IAmb	IAmb	11 46 39.5	
	comp=Z,9.8nm,0.8s						
TPUB	**Ta-pu**	**19.93**	**349**	P	**P**	**11 46 40.2**	**+0.2**
TPUB				IAmb	IAmb	11 46 41.8	
	comp=Z,18nm,1.1s						
MBWA	**Marble Bar**	**25.15**	**191**	P	**P**	**11 47 28.2**	**-0.1**
MBWA				IAmb	IAmb	11 47 28.6	
	comp=Z,8.3nm,0.8s						
WRA	**Warramunga Arr**	**25.27**	**158**	P	**P**	**11 47 28.6**	**-0.9**
	comp=Z,3.0nm,0.4s,baz=331,slow=11,SNR=81						
WRA				PcP	**PcP**	**11 50 53.2**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=327,slow=2.2,SNR=5.0						
	comp=Z,3.0nm,0.4s						
PSA00	**Pilbara Seismi**	**25.53**	**191**	P	**P**	**11 47 31.5**	**-0.2**
QIS	**Mount Isa**	**28.13**	**149**	P	**P**	**11 47 55.9**	**+1.0**
ASAR	**Alice Springs**	**28.58**	**162**	P	**P**	**11 47 59.0**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=340,slow=7.1,SNR=28						
ASAR				PcP	**PcP**	**11 51 01.3**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=349,slow=2.4,SNR=1.2						
	comp=Z,1.4nm,0.3s						
AS01	**Alice Springs**	**28.60**	**162**	P	**P**	**11 47 59.3**	**+0.3**
WRKA	**Warakurna**	**28.73**	**173**	P	**P**	**11 48 00.6**	**+0.5**
MEEK	**Meekatharra**	**30.69**	**191**	P	**P**	**11 48 16.7**	**-0.7**
OOD	**Oodnadatta**	**33.00**	**162**	P	**P**	**11 48 38.2**	**+0.9**
MORW	**Morawa**	**33.59**	**194**	P	**P**	**11 48 42.2**	**-0.2**
FORT	**Forrest**	**34.39**	**175**	P	**P**	**11 48 49.7**	**+0.5**
MULG	**Mulgathing**	**34.90**	**166**	P	**P**	**11 48 54.3**	**+0.7**
BLDU	**Ballidu**	**34.93**	**192**	P	**P**	**11 48 53.2**	**-0.6**
KMBL	**Kambalda**	**34.93**	**184**	P	**P**	**11 48 54.5**	**+0.6**
LCRK	**Leigh Creek**	**36.27**	**160**	P	**P**	**11 49 06.0**	**+0.8**
NWAO	**Narrogin (SRO)**	**37.07**	**191**	P	**P**	**11 49 12.3**	**+0.4**
BBOO	**Buckleboo**	**37.82**	**164**	P	**P**	**11 49 18.7**	**+0.6**
STKA	**Stephens Creek**	**38.80**	**157**	P	**P**	**11 49 27.6**	**+1.4**
STKA	**Stephens Creek**	**38.80**	**157**	P	**P**	**11 49 27.3**	**+1.1**
	comp=Z,2.5nm,0.3s,baz=339,slow=7.9,SNR=14						
	comp=Z,2.5nm,0.3s						
HTT	**Hallett**	**39.24**	**161**	P	**P**	**11 49 31.5**	**+1.6**
MKAR	**Makanchi Array**	**56.50**	**326**	P	**P**	**11 51 40.0**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=119,slow=7.6,SNR=13						
MKAR				PcP	**PcP**	**11 52 32.6**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=116,slow=3.4,SNR=2.2						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**60.75**	**328**	P	**P**	**11 52 09.2**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=126,slow=6.1,SNR=7.0						
	comp=Z,1.0nm,0.5s						
OHAK	**Old Harbor**	**82.59**	**33**	P	**P**	**11 54 20.1**	**+0.8**
OHAK				IAmb	IAmb	11 54 20.9	
	comp=Z,3.7nm,1.0s						
J20K	**Nowinta River**	**82.85**	**26**	P	**P**	**11 54 21.4**	**+0.8**
KDAK	**Kodiak Island**	**83.01**	**32**	P	**P**	**11 54 21.9**	**+0.3**
SPITS	**Spitsbergen Ar**	**90.17**	**349**	P	**P**	**11 54 54.9**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=65,slow=5.4,SNR=1.1						
	comp=Z,1.3nm,0.7s						
TXAR	**Lajitas Array**	**123.20**	**51**	PKP	**PKPdf**	**12 00 52.0**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=253,slow=0.9,SNR=3.9						

GII 18 11:49:48.6±0.7, 31°.092N±0°.003×36°.170E±0°.003, h0km, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSBI	**Mazada**	**0.73**	**288**	P	Pb	11 50 04.1	0.0
MSBI	**Mazada**	**0.73**	**288**	P	Pb	11 50 04.2	0.0
MSBI	**Mazada**	**0.73**	**288**	S	Sb	11 50 15.3	+0.7
DSI	**Dead Sea**	**0.83**	**305**	P	Pb	11 50 05.4	-0.4
DSI	**Dead Sea**	**0.83**	**305**	S	Sb	11 50 16.8	-0.8
DSI	**Dead Sea**	**0.83**	**305**	P	Pb	11 50 06.0	+0.2
DSI	**Dead Sea**	**0.83**	**305**	S	Sb	11 50 17.5	0.0
YTIR	**Yattir**	**0.94**	**287**	P	Pb	11 50 07.5	-0.4
YTIR	**Yattir**	**0.94**	**287**	S	Sb	11 50 21.7	+0.8
YTIR	**Yattir**	**0.94**	**287**	P	Pg	11 50 06.8	+0.2
YTIR	**Yattir**	**0.94**	**287**	S	Sn	11 50 22.4	-1.0
ZFRI	**Zfri**	**1.01**	**238**	P	Pb	11 50 08.5	-0.4
ZFRI	**Zfri**	**1.01**	**238**	S	Sb	11 50 23.0	+0.3
AMAZ	**Amatzia**	**1.16**	**293**	P	Pn	11 50 11.9	-0.1
AMAZ	**Amatzia**	**1.16**	**293**	S	Sn	11 50 29.1	+0.4
PRNI	**Paran**	**1.25**	**234**	P	Pg	11 50 12.6	+0.2
PRNI	**Paran**	**1.25**	**234**	S	Sn	11 50 30.4	-0.3
HMDT	**Nahal Hemdat**	**1.28**	**335**	P	Pg	11 50 13.2	0.0
HMDT	**Nahal Hemdat**	**1.28**	**335**	S	Sn	11 50 31.5	-0.2
HMDT	**Nahal Hemdat**	**1.28**	**335**	P	Pb	11 50 13.4	-0.2
HMDT	**Nahal Hemdat**	**1.28**	**335**	S	Sn	11 50 31.8	+0.1
HRFI	**Mount Harif**	**1.44**	**223**	P	Pg	11 50 16.0	-0.1
HRFI	**Mount Harif**	**1.44**	**223**	S	Sn	11 50 35.9	+0.4
KRMI	**Paran Flat**	**1.58**	**232**	P	Pn	11 50 17.9	0.0
KRMI	**Paran Flat**	**1.58**	**232**	S	Sg	11 50 39.5	+0.2
MBRI	**Mt Berech**	**1.69**	**220**

1.0nm,0.6s,baz=123,slow=5.5,SNR=3.7
1.0nm,0.6s
QSPA South Pole Qui 83.10 180 P **P 12 08 40.5 +0.8**
2.9nm,1.1s,baz=352,slow=7.8,SNR=3.8
2.9nm,1.1s
MKAR Makanchi Array 83.19 319 P **P 12 08 40.1 -0.2**
1.3nm,0.7s,baz=104,slow=5.7,SNR=6.4
1.3nm,0.7s
ILAR Eielson Array 83.34 22 P **P 12 08 40.1 -0.6**
0.3nm,0.8s,baz=254,slow=3.9,SNR=3.3
0.3nm,0.8s
NVAR Mina Array Bea 91.80 52 P **P 12 09 22.2 -0.3**
0.7nm,0.7s,baz=250,slow=5.8,SNR=7.5
0.7nm,0.7s
YKA Yellowknife Ar 96.33 28 P **P 12 09 42.8 +0.4**
0.5nm,0.9s,baz=264,slow=4.9,SNR=2.9
0.5nm,0.9s

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*DJA **18** 12:14:07.4±0.4,8°.S±3°×12°.4E±°,h168km±5km,M3.9/11,*
mb4.3/4,mB4.9/1,MLv3.6/11,Mw(mB)4.2/1
ISC 18 12:14:08.7±1.0,8°.04S±0°.07×124°.02E±0°.07,h150km,n16,
σ1§22/20,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.72**	**172**	P	**Pn**	**12 14 41.0**	**+0.2**
SOEI				S	**Sn**	**12 15 05.5**	**0.0**
MMRI	**Maumere**	**1.86**	**251**	P	**Pn**	**12 14 41.4**	**-0.8**
MMRI				S	**Sn**	**12 15 07.7**	**-0.2**
BATI	**Baumata**	**2.18**	**189**	P	**Pn**	**12 14 45.5**	**-0.5**
BATI				S	**Sn**	**12 15 13.5**	**-1.2**
EDFI	**Ende, Flores**	**2.41**	**253**	P	**Pn**	**12 14 48.2**	**-0.6**
EDFI				S	**Sn**	**12 15 20.5**	**+0.9**
BBSI	**Bau Bau**	**2.92**	**330**	P	**Pn**	**12 14 54.7**	**-0.3**
BASI	**Baing, Sumba**	**4.03**	**237**	P	**Pn**	**12 15 08.8**	**-0.5**
BKSI	**Bulukumba**	**4.72**	**305**	P	**Pn**	**12 15 18.1**	**-0.3**
PLAI	**Plampang**	**6.22**	**262**	P	**Pn**	**12 15 36.8**	**-1.6**
	31nm,1.1s,2μm0.2nm						
LUWI	**Luwuk**	**7.06**	**350**	P	**Pn**	**12 15 49.3**	**-0.3**
	28nm,0.7s						
TWSI	**Taliwang, Sumb**	**7.09**	**264**	P	**Pn**	**12 15 48.3**	**-1.7**
	17nm,1.8s						
MTN	**Manton Dam**	**8.47**	**125**	P	**Pn**	**12 16 07.3**	**-1.1**
KDU	**Kakadu**	**9.51**	**120**	P	**Pn**	**12 16 20.6**	**-1.7**
WRKA	**Warakurna**	**17.39**	**167**	P	**Pn**	**12 18 05.7**	**+3.4**
AS01	**Alice Springs**	**18.22**	**150**	P	**P**	**12 18 10.5**	**0.0**
QIS	**Mount Isa**	**19.55**	**131**	P	**P**	**12 18 24.6**	**-0.3**
COEN	**Coen**	**19.70**	**109**	P	**Pn**	**12 18 29.3**	**-0.3**

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*TEH **18** 12:16:52.0,37°.26N×57°.01E,h8km±13km,ML3.6*
*IDC **18** 12:16:53.4±5.4,37°.37N×56°.77E,h0km,mb3.2/3,*
mbtmp3.6/5,ML3.5/2,Error ellipse: s-maj=95.9km
s-min=19.6km az=6.0
ISC 18 12:16:54.1±0.8,37°.28N±0°.06×57°.02E±0°.04,h10km,n38,
σ0§96/39,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISFR	**Sfrayin**	**0.82**	**106**	Pg	**Pg**	**12 17 09.4**	**-0.5**
MRVT	**Maraveh tapeh**	**0.83**	**297**	Pg	**Pg**	**12 17 09.1**	**-1.0**
MRVT				Sg	**Sg**	**12 17 21.5**	**+0.5**
SBZV	**Sabzevar**	**1.01**	**152**	Pg	**Pg**	**12 17 11.8**	**-1.9**
IMND	**Minoodasht**	**1.29**	**269**	Pg	**Pn**	**12 17 17.1**	**-1.1**
IEMG	**Emamgholi**	**1.31**	**84**	Pg	**Pn**	**12 17 18.2**	**-0.5**
IAKL	**Akhelmad**	**1.55**	**116**	Pg	**Pn**	**12 17 22.0**	**0.0**
IPAY	**Payeh**	**1.79**	**117**	Pg	**Pn**	**12 17 25.3**	**0.0**
IKRD	**Kardeh**	**2.06**	**104**	Pn	**Pn**	**12 17 30.3**	**+1.2**
IMOG	**Moghan**	**2.20**	**122**	Pn	**Pn**	**12 17 31.6**	**+0.5**
IMYA	**Miami**	**2.65**	**110**	Pn	**Pn**	**12 17 38.5**	**+1.5**
IGLO	**Ghaloghah**	**2.67**	**254**	Pn	**Pn**	**12 17 37.9**	**+0.5**
IANJ	**Anjilo**	**3.09**	**235**	Pn	**Pn**	**12 17 43.8**	**+0.5**
TNSJ	**Nastanj**	**3.33**	**186**	Pn	**Pn**	**12 17 46.9**	**+0.5**
TBJM	**Torbat-e-JAM**	**3.35**	**126**	Pn	**Pn**	**12 17 47.9**	**+1.2**
TKDS	**Koohdasht(Taba**	**3.66**	**179**	Pn	**Pn**	**12 17 51.6**	**+0.6**
IFIR	**Firoozkooh**	**3.81**	**246**	Pn	**Pn**	**12 17 53.9**	**+0.8**
IPRN	**Peran**	**3.90**	**256**	Pn	**Pn**	**12 17 55.0**	**+0.7**
AFRZ	**Afriz**	**4.18**	**156**	Pn	**Pn**	**12 17 59.3**	**+1.1**
TPRV	**Parvadeh(Tabas**	**4.25**	**184**	Pn	**Pn**	**12 17 59.7**	**+0.6**
IDMV	**Damavand**	**4.37**	**249**	Pn	**Pn**	**12 18 01.1**	**+0.3**
SHRT	**Shahrakht**	**4.51**	**143**	Pn	**Pn**	**12 18 03.4**	**+0.9**
KLST	**Kelardasht - M**	**4.84**	**263**	Pn	**Pn**	**12 18 08.3**	**+1.0**
ISFB	**Sefidab**	**4.86**	**234**	Pn	**Pn**	**12 18 08.0**	**+0.6**
ANAR	**Anarak**	**4.89**	**214**	Pn	**Pn**	**12 18 08.3**	**+0.4**
IKOO	**Kooshah**	**5.12**	**161**	Pn	**Pn**	**12 18 12.2**	**+1.1**
KRSH	**Karshahi**	**5.17**	**232**	Pn	**Pn**	**12 18 12.4**	**+0.6**
BSRN	**Basiran**	**5.58**	**161**	Pn	**Pn**	**12 18 17.9**	**+0.5**
QAMS	**Qamsar**	**5.79**	**234**	Pn	**Pn**	**12 18 21.7**	**+1.3**
IZEF	**Zefreh**	**5.83**	**223**	Pn	**Pn**	**12 18 21.4**	**+0.5**
IKLH	**Kolahrood**	**5.95**	**230**	Pn	**Pn**	**12 18 23.3**	**+0.8**
ISRB	**Sarab**	**7.45**	**277**	Pn	**Pn**	**12 18 43.9**	**+0.8**
KLNJ	**Kolanjah**	**7.71**	**217**	Pn	**Pn**	**12 18 47.7**	**+1.0**
IHRS	**Heris**	**7.97**	**280**	Pn	**Pn**	**12 18 50.7**	**+0.5**
KBZ	**Khabaz**	**12.52**	**305**	Pn	**Pn**	**12 19 50.9**	**-1.4**
	0.6nm,0.3s,baz=120,slow=10,SNR=7.1						
KBZ				Sn	Sn	12 22 03.9	-7.8
	0.1nm,0.3s,baz=304,slow=16,SNR=2.0						
	2.8nm,0.6s						
BVAR	**Borovoye Array 18.30 26** P **P 12 21 09.5 +1.4**						
	0.1nm,0.3s,baz=211,slow=10.0,SNR=10						
	2.7nm,0.6s						
KURBB	**Kurchatov Arra 20.34 42** P **P 12 21 31.9 +1.5**						
	0.4nm,0.6s,baz=230,slow=9.5,SNR=3.3						
	0.4nm,0.6s						
MKAR	**Makanchi Array 20.96 55** P **P 12 21 38.3 +1.1**						
	1.0nm,0.6s,baz=242,slow=9.8,SNR=8.4						
	1.0nm,0.6s						
AKASG	**Malin Array Be 23.91 313** P **P 12 22 06.8 -1.1**						
	0.7nm,0.5s,baz=104,slow=7.7,SNR=1.4						
	0.7nm,0.5s						

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*ISU **18** 12:21:21.6,39°.57N×71°.68E,h19km*
*KRNET **18** 12:21:22.0±0.1,39°.57N×71°.61E,h17km,mb3.7*
*SOME **18** 12:21:24.0,39°.82N×71°.92E,h5km*
*NNC **18** 12:21:30.0±4.3,39°.91N×71°.84E,h0km,mb4.1,mpv3.7,*
Error ellipse: s-maj=36.3km s-min=16.0km az=3.0
ISC 18 12:21:22.7±0.8,39°.54N±0°.03×71°.64E±0°.02,h10km,n59,
σ2§04/103,40C-20D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.14**	**113**	⇑*iP*	**Pg**	**12 21 25.6**	**-0.5**
	baz=18						
DRK				⇑*iS*	**Sg**	**12 21 28.0**	**-0.5**
	baz=18						
CHMI	**Chimion**	**0.74**	**353**	P	**Pg**	**12 21 35.5**	**-1.5**
CHMI				S	**Sg**	**12 21 45.8**	**-0.9**
BTK	**Batken**	**0.82**	**310**	⇑*iP*	**Pg**	**12 21 36.7**	**-1.8**
	baz=9.0						
BTK				⇑*iS*	**Sg**	**12 21 47.8**	**-1.4**
	baz=9.0						
GAR	**Garm**	**1.16**	**243**	⇑*iP*	**Pb**	**12 21 43.7**	**-1.2**
	baz=41						
GAR				⇑*iS*	**Sb**	**12 21 59.3**	**-0.7**
	baz=41						
OHH	**Osh**	**1.32**	**41**	⇑*iP*	**Pn**	**12 21 46.6**	**-0.8**
	baz=43						
OHH				⇑*iS*	**Sb**	**12 22 04.4**	**-0.4**
	baz=43						
SFK	**Sufi-Kurgan**	**1.52**	**71**	⇑*iP*	**Pn**	**12 21 50.3**	**+0.1**
	baz=72						
SFK				⇑*iS*	**Sg**	**12 22 11.0**	**-0.6**
	baz=72						
TRKS	**Terek-Say**	**2.03**	**349**	⇑*iP*	**Pn**	**12 21 57.4**	**+0.3**
	baz=50						
TRKS				⇑*iS*	**Sn**	**12 22 22.9**	**+0.3**
	baz=50						
ARSB	**Arslanbob**	**2.06**	**29**	⇓*iP*	**Pb**	**12 21 59.0**	**-1.3**
	baz=30						
ARSB				⇓*iS*	**Sb**	**12 22 25.9**	**-0.2**
	baz=30						
CHGR	**Chuyangaron**	**2.12**	**246**	⇑*iP*	**Pn**	**12 22 00.0**	**+1.7**
	baz=45						
CHGR				⇑*iS*	**Sb**	**12 22 27.3**	**-0.3**
	baz=45						
ARK	**Arkit**	**2.27**	**6**	⇑*iP*	**Pn**	**12 22 01.8**	**+1.3**
	baz=7.0						
ARK				⇑*iS*	**Sb**	**12 22 30.7**	**-1.5**
	baz=7.0						
IUG	**Iuzhnay**	**2.88**	**336**	*eP*	**Pb**	**12 22 15.2**	**+0.9**
	106nm,0.3s						
IUG				*eS*	**Sg**	**12 22 52.9**	**-2.3**
	258nm,0.8s						
IUG	**Iuzhnay**	**2.88**	**336**	Pg	**Pb**	**12 22 15.2**	**+0.9**
	106nm,0.3s						
IUG				Lg	Lg	12 22 52.9	
	258nm,0.8s						
MNAS	**Manas**	**3.02**	**12**	⇑*eP*	**Pn**	**12 22 12.4**	**+1.6**
	baz=13						
MNAS				⇑*eS*	**Sn**	**12 22 48.8**	**+1.7**
	baz=13						
AML	**Almayashu**	**3.03**	**30**	P	**Pb**	**12 22 13.9**	**-3.0**
	SNR=24						
AML	**Almayashu**	**3.03**	**30**	⇓*iP*	**Pn**	**12 22 12.5**	**+1.4**
	baz=31						
AML				⇓*iS*	**Sn**	**12 22 49.5**	**+1.9**
	baz=31						
KRSA	**Karasay**	**3.06**	**282**	P	**Pn**	**12 22 13.6**	**+2.5**
KRSA				S	**Sb**	**12 22 54.9**	**+0.4**
ARLS	**Aral**	**3.09**	**40**	⇓*iP*	**Pn**	**12 22 13.4**	**+1.6**
	baz=41						
ARLS				⇓*iS*	**Sn**	**12 22 50.7**	**+1.8**
	baz=41						
CHM	**Chimkent**	**3.18**	**332**	*eP*	**Pb**	**12 22 19.9**	**+0.6**
	118nm,0.1s						
CHM				*eS*	**Sb**	**12 23 00.4**	**+2.3**
	154nm,0.3s						
MRKS	**Merke**	**3.42**	**20**	*eP*	**Pb**	**12 22 20.7**	**-2.8**
	8.9nm,0.3s						
MRKS				*eS*	**Sb**	**12 23 02.2**	**-3.1**
	25nm,0.5s						
UCH	**Uchtor**	**3.46**	**38**	P	**Pb**	**12 22 22.5**	**-1.9**
	SNR=24						
UCH	**Uchtor**	**3.46**	**38**	⇑*iP*	**Pn**	**12 22 18.7**	**+1.6**
	baz=39						
UCH				⇑*iS*	**Sn**	**12 23 00.1**	**+1.7**
	baz=39						
EKS2	**Erkin-Say**	**3.52**	**27**	P	**Pb**	**12 22 21.5**	**-3.7**
	SNR=11						
EKS2	**Erkin-Say**	**3.52**	**27**	⇓*iP*	**Pn**	**12 22 19.0**	**+1.4**
	baz=27						
EKS2				⇓*iS*	**Sn**	**12 23 00.9**	**+1.6**
	baz=27						
KK31	**Karatay Array**	**3.66**	**347**	⇑Pn	**Pn**	**12 22 22.2**	**+2.7**
	1.9nm,0.3s,baz=173,slow=14,SNR=64						
KK31				⇑Pg	**Pg**	**12 22 33.6**	**+0.7**
	15nm,0.6s,baz=151,slow=16,SNR=8.6						
KK31				⇓Lg	Lg	12 23 17.7	
	27nm,0.5s,baz=150,slow=28,SNR=6.0						
BRLS	**Borolday**	**3.75**	**339**	*eP*	**Pb**	**12 22 27.6**	**-1.3**
	3.2nm,0.1s						
BRLS				*eS*	**Sb**	**12 23 13.4**	**-1.0**
	30nm,0.3s						
BRLS	**Borolday**	**3.75**	**339**	Pg	**Pb**	**12 22 29.0**	**0.0**
	41nm,0.6s						
BRLS				Lg	Lg	12 23 16.2	
	40nm,0.4s						
AAK	**Ala-Archa**	**3.78**	**34**	P	**Pn**	**12 22 24.3**	**+3.1**
	SNR=7.3						
AAK	**Ala-Archa**	**3.78**	**34**	⇑Pn	**Pn**	**12 22 24.3**	**+3.1**
	7.1nm,0.4s						
AAK				Pg	**Pg**	**12 22 32.3**	**-2.8**
	17nm,0.6s						
AAK				⇓Lg	Lg	12 23 20.5	
	26nm,0.5s						
AAK	**Ala-Archa**	**3.78**	**34**	⇓*iP*	**Pn**	**12 22 22.9**	**+1.7**
	baz=34						
AAK				⇓*iS*	**Sn**	**12 23 07.1**	**+1.3**
	baz=34						
NRN	**Naryn**	**3.83**	**59**	⇑*iP*	**Pn**	**12 22 23.4**	**+1.3**
	baz=59						
NRN				⇑*iS*	**Sn**	**12 23 08.3**	**+1.0**
	baz=59						
FRU1	**Bishkek**	**3.98**	**34**	⇑*iP*	**Pn**	**12 22 25.8**	**+2.0**
	baz=34						
FRU1				⇑*iS*	**Sn**	**12 23 12.2**	**+1.7**
	baz=34						
KBK	**Karagaybulak**	**4.00**	**38**	⇑*iP*	**Pn**	**12 22 25.9**	**+1.7**
	baz=38						
KBK				⇑*iS*	**Sn**	**12 23 12.6**	**+1.4**
	baz=38						
CHMS	**Chumysh**	**4.18**	**33**	P	**Pn**	**12 22 30.6**	**+4.0**
	SNR=11						
CHMS	**Chumysh**	**4.18**	**33**	⇓*iP*	**Pn**	**12 22 28.4**	**+1.8**
	baz=34						
CHMS				⇓*iS*	**Sn**	**12 23 16.7**	**+1.2**
	baz=34						
USP	**Ospenovka**	**4.31**	**29**	P	**Pn**	**12 22 31.7**	**+3.3**
	SNR=14						
USP	**Ospenovka**	**4.31**	**29**	⇓*iP*	**Pn**	**12 22 29.9**	**+1.6**
	baz=30						
USP				⇓*iS*	**Sn**	**12 23 19.8**	**+1.2**
	baz=30						
BOOM	**Boomskoye usch**	**4.39**	**46**	⇑*iP*	**Pn**	**12 22 31.7**	**+2.0**
	baz=47						
BOOM				⇑*iS*	**Sn**	**12 23 22.3**	**+1.3**
	baz=47						
ZRB	**Zarabog**	**4.42**	**253**	P	**Pn**	**12 22 30.6**	**+0.7**
ZRB				S	**Sb**	**12 23 29.4**	**-4.4**
ULHL	**Ulahol**	**4.42**	**51**	⇑*iP*	**Pn**	**12 22 32.0**	**+2.0**
	baz=51						
ULHL				⇑*iS*	**Sn**	**12 23 22.9**	**+1.3**
	baz=51						
TKM2	**Tokmak 2**	**4.51**	**40**	P	**Pn**	**12 22 34.8**	**+3.5**
	SNR=11						
TKM2	**Tokmak 2**	**4.51**	**40**	⇑Pn	**Pn**	**12 22 34.5**	**+3.2**
	3.4nm,0.5s						
TKM2				⇓Pg	**Pg**	**12 22 46.4**	**-2.7**
	8.0nm,0.6s						
TKM2				⇓Lg	Lg	12 23 44.2	
	21nm,0.7s						
TKM2	**Tokmak 2**	**4.51**	**40**	⇑*iP*	**Pn**	**12 22 33.1**	**+1.8**
	baz=41						
TKM2				⇑*iS*	**Sn**	**12 23 25.1**	**+1.1**
	baz=41						
NUT	**Nurota**	**4.68**	**284**	P	**Pn**	**12 22 36.5**	**+3.0**
NUT				S	**Sb**	**12 23 40.8**	**-0.6**
KST	**Kastek**	**4.79**	**42**	*eP*	**Pb**	**12 22 46.0**	**-0.7**
	2.9nm,0.3s						
KST				*eS*	**Sb**	**12 23 44.9**	**+0.4**
	8.2nm,0.4s						
KST	**Kastek**	**4.79**	**42**	Pg	**Pg**	**12 22 51.6**	**-2.8**
	7.7nm,0.5s						
KST				Lg	Lg	12 23 54.8	
	36nm,0.4s						
DGS	**Degeres**	**4.84**	**39**	*eP*	**Pb**	**12 22 46.6**	**-1.0**
	1.9nm,0.5s						
DGS				*eS*	**Sb**	**12 23 45.8**	**-0.1**
	9.0nm,0.5s						
DGS	**Degeres**	**4.84**	**39**	Pg	**Pb**	**12 22 50.2**	**+2.6**
	14nm,0.7s						
DGS				Lg	Lg	12 23 53.1	
	28nm,0.7s						
KDJ	**Kajisay**	**4.94**	**57**	⇓*iP*	**Pn**	**12 22 39.2**	**+2.0**
	baz=57						
KDJ				⇓*iS*	**Sn**	**12 23 35.7**	**+1.2**
	baz=57						
KRBS	**Karabastau**	**5.14**	**35**	*eP*	**Pb**	**12 22 52.2**	**-0.6**
	2.9nm,0.4s						
KRBS				*eS*	**Sb**	**12 23 55.5**	**+0.9**
	3.9nm,0.6s						
KRBS	**Karabastau**	**5.14**	**35**	Pg	**Pb**	**12 22 56.3**	**+3.5**
	8.5nm,0.7s						
KRBS				Lg	Lg	12 24 02.8	
	13nm,0.7s						
TARG	**Taragay, Kyrgy**	**5.18**	**63**	⇑*iP*	**Pn**	**12 22 42.7**	**+2.0**
	baz=63						
TARG				⇑*iS*	**Sn**	**12 23 41.4**	**+0.7**
	baz=63						
TNSS	**Tian-Shan**	**5.32**	**47**	*eP*	**Pb**	**12 22 56.2**	**+0.3**
	1.5nm,0.3s						
TNSS				*eS*	**Sb**	**12 24 02.0**	**+2.1**
	2.0nm,0.2s						
TNSS	**Tian-Shan**	**5.32**	**47**	Pg	**Pg**	**12 23 00.4**	**-4.1**
	7.7nm,0.5s						
TNSS				Lg	Lg	12 24 09.7	
	7.9nm,0.6s						
MDOK	**Medeo**	**5.45**	**47**	*eP*	**Pb**	**12 22 58.5**	**+0.4**
	2.2nm,0.2s						
MDOK				*eS*	**Sb**	**12 24 06.2**	**+2.5**
	5.0nm,0.3s						
MDOK	**Medeo**	**5.45**	**47**	Pg	**Pb**	**12 23 02.0**	**+3.9**
	5.0nm,0.6s						
MDOK				Lg	Lg	12 24 12.5	
	11nm,0.7s						
KTBS	**Karatobe**	**5.63**	**41**	*eP*	**Pb**	**12 23 01.2**	**+0.1**
	1.2nm,0.3s						
KTBS				*eS*	**Sb**	**12 24 10.9**	**+2.3**
	7.3nm,0.6s						
KTBS	**Karatobe**	**5.63**	**41**	Pg	**Pb**	**12 23 05.6**	**+4.5**
	2.8nm,0.4s						
KTBS				Lg	Lg	12 24 18.7	
	21nm,0.5s						
PRZ	**Przheval'sk**	**5.90**	**58**	⇑*iP*	**Pn**	**12 22 52.5**	**+2.1**
	baz=58						
PRZ				⇑*iS*	**Sn**	**12 23 58.4**	**+0.2**
	baz=58						
DZN	**Dzhankel'dy**	**6.49**	**284**	P	**Pn**	**12 23 02.2**	**+4.0**
DZN				S	**Sb**	**12 24 29.6**	**-3.6**

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*BJI **18** 12:27:09.4±0.0,13°.37N×144°.64E,h115km,mb4.9/52,*
mB5.0/16
*DJA **18** 12:27:09.9±0.3,13°N±5°×14°4E±°,h94km±5km,M4.7/15,*
mB5.5/1,mb4.8/15,MLv4.7/1,Mw(mB)4.9/1
*IDC **18** 12:27:10.4±0.5,13°.42N×144°.51E,h103km±4km,mb4.3/23,*
mbtmp4.6/24,MS3.5/9,Error ellipse: s-maj=16.4km
s-min=10.2km az=78.0
*NEIC **18** 12:27:11±1.1,13°.35N±0°.05×144°.41E±0°.09,h100km±5km,*
mb4.7/250,Error ellipse: s-maj=12.8km s-min=5.3km
az=69.0
ISC 18 12:27:13.4±0.3,13°.39N±0°.05×144°.44E±0°.07,h129km,
n494,σ1§03/405,mb4.7/156,7C-1D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.46**	**64**	P	Pn	12 27 27.6	-4.5
GUMO	**Guam**	**0.46**	**64**	Pn	Pn	12 27 26.9	-5.2
GUMO				Sn	**Sn**	**12 27 39.6**	**-6.6**
GUMO	**Guam**	**0.46**	**64**	P	Pn	12 27 27.2	-4.9
	6μm,0.3s,baz=140,slow=5.2,SNR=2091						
GUMO				S	**Sn**	**12 27 39.1**	**-7.2**
	10μm,0.3s,baz=151,slow=11,SNR=12						
JCJ	**Chichijima**	**13.80**	**352**	Pn	**Pn**	**12 30 22.9**	**-0.8**
JCJ	**Chichijima**	**13.80**	**352**	P	**Pn**	**12 30 21.4**	**-2.3**
	28nm,0.5s,baz=236,slow=12,SNR=6.4						
DAV	**Davao City (W)**	**19.59**	**253**	LR	LR	12 38 12.0	
	comp=Z,62nm,20.6s,baz=164,slow=34						
JHJ	**Hachijo jima 2**	**20.10**	**349**	P	**P**	**12 31 35.8**	**-1.1**
	31nm,0.6s,baz=93,slow=14,SNR=2.3						
JHJ				LR	LR	12 39 05.3	
	comp=Z,84nm,18.0s,baz=121,slow=36						
	31nm,0.6s						
JOW	**Kunigami**	**20.20**	**314**	P	**P**	**12 31 39.2**	**+1.1**
JOW	**Kunigami**	**20.20**	**314**	P	**P**	**12 31 36.9**	**-1.3**
JOW				IAmb	IAmb	12 31 43.4	
	comp=Z,58nm,0.9s						
JOW	**Kunigami**	**20.20**	**314**	P	**P**	**12 31 37.5**	**-0.6**
	comp=Z,46nm,0.7s,baz=146,slow=14,SNR=7.7						
	comp=Z,46nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**21.98**	**74**	T	T	12 54 45.9	
	baz=259,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy**	**21.99**	**74**	T	T	12 54 46.9	
	baz=259,slow=75,SNR=48						
H11S2	**WAKE ISLAND Hy**	**21.99**	**74**	T	T	12 54 46.1	
	baz=259,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**22.41**	**71**	T	T	12 54 58.6	
	baz=257,slow=75,SNR=40						
H11N2	**WAKE ISLAND Hy**	**22.42**	**71**	T	T	12 55 08.3	
	baz=257,slow=75,SNR=55						
JMN	**Monobe**	**22.42**	**336**	P	**P**	**12 32 02.6**	**+1.1**
JMN	**Monobe**	**22.42**	**336**	P	**P**	**12 32 01.0**	**-0.5**
H11N3	**WAKE ISLAND Hy**	**22.43**	**71**	T	T	12 55 08.3	
	baz=257,slow=75,SNR=91						
PMG	**Port Moresby**	**22.80**	**173**	P	**P**	**12 32 03.7**	**-1.6**
PMG				IAmb	IAmb	12 32 05.5	
	comp=Z,32nm,1.1s						
JGF	**Kuroka**	**23.02**	**345**	P	**P**	**12 32 09.7**	**+2.4**
JGF	**Kuroka**	**23.02**	**345**	P	**P**	**12 32 07.2**	**-0.1**
JNU	**Nakatsue**	**23.22**	**330**	P	**P**	**12 32 10.4**	**+1.3**
JNU	**Nakatsue**	**23.22**	**330**	P	**P**	**12 32 08.9**	**-0.2**
MJAR	**Matsushiro Arr**	**23.73**	**347**	P	**P**	**12 32 12.9**	**-0.7**
	comp=Z,27nm,0.8s,baz=166,slow=7.8,SNR=47						
MJAR				LR	LR	12 40 09.6	
	comp=Z,155nm,21.1s,baz=169,slow=33						
	comp=Z,27nm,0.8s						
MAJO	**Matsushiro**	**23.73**	**347**	P	**P**	**12 32 14.2**	**+0.5**
MAJO	**Matsushiro**	**23.73**	**347**	P	**P**	**12 32 13.3**	**-0.3**
MAJO				IAmb	IAmb	12 32 15.6	
	comp=Z,37nm,0.8s						
YULB	**Yu-li**	**24.08**	**298**	P	**P**	**12 32 19.2**	**+2.2**
YULB	**Yu-li**	**24.08**	**298**	P	**P**	**12 32 16.4**	**-0.6**
YULB				IAmb	IAmb	12 32 18.2	
	comp=Z,32nm,0.6s						
TWG	**Pinlang**	**24.08**	**296**	P	**P**	**12 32 16.4**	**-0.6**
TWG				IAmb	IAmb	12 32 17.4	
	comp=Z,34nm,0.7s						
SSLB	**Suanglung**	**24.51**	**298**	P	**P**	**12 32 22.4**	**+1.5**
SSLB	**Suanglung**	**24.51**	**298**	P	**P**	**12 32 20.6**	**-0.3**
SSLB				IAmb	IAmb	12 32 24.4	
	comp=Z,50nm,0.9s						
JMM	**Marumori**	**24.60**	**353**	P	**P**	**12 32 23.6**	**+2.1**
JMM	**Marumori**	**24.60**	**353**	P	**P**	**12 32 21.6**	**+0.1**
JMM				IAmb	IAmb	12 32 22.6	
	comp=Z,22nm,0.7s						
TPUB	**Ta-pu**	**24.62**	**297**	P	**P**	**12 32 23.6**	**+1.6**
TPUB	**Ta-pu**	**24.62**	**297**	P	**P**	**12 32 21.0**	**-1.0**
TPUB				IAmb	IAmb	12 32 23.2	
	comp=Z,30nm,0.7s						
GTOI	**Gorontalo**	**24.72**	**241**	P	**P**	**12 32 22.5**	**-0.3**
JSD	**Sado**	**25.16**	**348**	P	**P**	**12 32 26.4**	**-0.3**
JSD				IAmb	IAmb	12 32 48.5	
	comp=Z,39nm,0.8s						
LUWI	**Luwuk**	**25.83**	**238**	P	**P**	**12 32 30.7**	**-2.2**
HNR	**Honiara**	**27.40**	**145**	LR	LR	12 43 02.4	
	comp=Z,2μm,18.6s,baz=254,slow=35						
JTM	**Tenmabayashi**	**27.46**	**354**	P	**P**	**12 32 47.9**	**+0.7**
JTM				IAmb	IAmb	12 32 48.7	
	comp=Z,21nm,0.8s						
KSRS	**Korea Array**	**28.14**	**331**	P	**P**	**12 32 53.2**	**-0.1**
	comp=Z,5.1nm,0.5s,baz=141,slow=9.7,SNR=33						
KSRS				PcP	**PcP**	**12 36 04.5**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=168,slow=2.3,SNR=6.4						
	comp=Z,5.1nm,0.5s	

BNX pmax pmax
comp=Z,32nm,0.9s
HNS HongShan 35.70 317 ⇓P **P 12 34 00.1 +0.7**
HNS pmax pmax
comp=Z,44nm,0.9s
LYN LuoYang 35.78 312 P **P 12 34 00.8 +0.6**
LYN pmax pmax
comp=Z,61nm,0.8s
BJT Baijiatuan 36.34 322 P **P 12 34 05.0 +0.2**
BJT IAmb IAmb 12 34 06.0
comp=Z,13nm,0.9s
BJI Beijing 36.35 322 P **P 12 34 04.6 -0.3**
BJI pmax pmax
comp=Z,8.0nm,0.8s
ENH Enshi 36.35 303 P **P 12 34 05.3 +0.2**
JAGI Jajag, Banyuwa 37.10 236 P **P 12 34 10.2 -1.3**
KLR Kul'dur 37.24 346 LR LR 12 47 37.6
comp=Z,65nm,19.8s,baz=188,slow=33
GYA Guiyang 37.68 296 P **P 12 34 18.3 +1.8**
GYA pmax pmax
comp=Z,12nm,1.2s
XAN Xi'an 38.20 309 ⇑P **P 12 34 21.1 +0.4**
XAN pmax pmax
comp=Z,26nm,0.7s
ASAR Alice Springs 38.24 196 P **P 12 34 20.7 -0.4**
comp=Z,1.4nm,0.6s,baz=23,slow=11,SNR=20
ASAR PcP **PcP 12 36 33.2 +0.3**
comp=Z,2.9nm,0.8s,baz=36,slow=3.2,SNR=9.9
comp=Z,1.4nm,0.6s
XLT XiLinHaoTe 38.92 327 *e*P **P 12 34 26.8 +0.2**
XLT pmax pmax
comp=Z,11nm,0.7s
EIDS Eidsvold 39.06 170 P **P 12 34 27.0 -0.8**
HEH HeiHe 39.31 343 *e*P **P 12 34 30.0 +0.4**
HEH pmax pmax
comp=Z,50nm,0.7s
HHC Hu-ho-hao-te 39.66 320 *e*P **P 12 34 33.9 +1.1**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,82nm,3.8s
BTO Baotou 40.51 319 *e*P **P 12 34 41.5 +1.7**
BTO pP **pP 12 35 07.0 -0.6**
BTO sP **sP 12 35 20.1 -1.7**
BTO pmax pmax
comp=Z,34nm,0.7s
BTO pmax pmax
comp=Z,170nm,3.8s
PET Petropavlovsk 41.13 13 P **P 12 34 45.0 +0.4**
PET IAmb IAmb 12 34 50.0
comp=Z,7.2nm,0.9s
DZM Mont Dzumac 41.32 148 P **P 12 34 46.4 -0.2**
MYKOM Kota Tinggi 41.77 257 P **P 12 34 50.7 +0.3**
PZH PanZhiHua 42.01 295 P **P 12 34 52.8 +0.4**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,160nm,5.4s
MBWA Marble Bar 42.04 216 P **P 12 34 52.3 -0.1**
MBWA IAmb IAmb 12 34 52.9
comp=Z,8.2nm,0.8s
PSA00 Pilbara Seismi 42.31 215 P **P 12 34 55.0 +0.4**
PSA00 IAmb IAmb 12 34 55.5
comp=Z,16nm,0.9s
PHRA Phrae 42.74 283 P **P 12 34 58.6 +0.4**
LZH Lanzhou 42.83 309 *e*P **P 12 35 00.0 +1.1**
LZH pmax pmax
comp=Z,13nm,1.0s
KULM Kulim 43.89 264 P **P 12 35 07.8 +0.2**
KULM IAmb IAmb 12 35 18.7
comp=Z,12nm,1.0s
CHTO Chiang Mai 43.95 283 P **P 12 35 08.5 +0.6**
CMAR Chiang Mai Arr 43.96 283 P **P 12 35 08.6 +0.6**
comp=Z,8.9nm,0.6s,baz=83,slow=6.5,SNR=50
CMAR PcP **PP 12 36 52.7 -0.2**
comp=Z,3.9nm,0.7s,baz=100,slow=2.0,SNR=13
comp=Z,8.9nm,0.6s
ARMA Armidale 44.10 171 P **P 12 35 08.5 -0.4**
STKA Stephens Creek 45.09 183 P **P 12 35 20.1 +3.5**
STKA Stephens Creek 45.09 183 P **P 12 35 16.0 -0.7**
comp=Z,8.3nm,0.6s,baz=352,slow=9.2,SNR=10
comp=Z,8.3nm,0.6s
MSVF Nonsavu 45.34 132 P **P 12 35 22.1 +3.1**
MSVF Nonsavu 45.34 132 P **P 12 35 19.1 +0.1**
MSVF IAmb IAmb 12 35 21.9
comp=Z,14nm,0.9s
SHEM Shemya Is, Ala 45.82 25 LR LR 12 49 54.9
comp=Z,48nm,21.7s,baz=312,slow=30
ULN Ulaanbaatar 46.31 326 P **P 12 35 26.3 0.0**
MA2 Magadan 46.35 4 P **P 12 35 26.9 +0.7**
BBOO Buckleboo 46.63 190 P **P 12 35 28.1 -0.6**
BBOO IAmb IAmb 12 35 30.7
comp=Z,25nm,1.1s
SONM Songino Array 46.66 325 P **P 12 35 29.3 +0.3**
comp=Z,3.6nm,0.7s,baz=143,slow=8.6,SNR=17
comp=Z,3.6nm,0.7s
GTA Gaotai 47.00 312 *e*P **P 12 35 32.3 +0.5**
GTA pP pwP 12 36 03.0 -1.7
GTA pmax pmax
comp=Z,12nm,1.1s
SISI Saibi 47.28 255 P **P 12 35 32.1 -2.0**
GSI Gunungsitoli 47.90 259 P **P 12 35 37.9 -1.1**
GSI IAmb IAmb 12 35 42.2
comp=Z,18nm,0.9s
GSI Gunungsitoli 47.90 259 P **P 12 35 37.2 -1.8**
CAN Canberra 48.63 175 P **P 12 35 45.1 +0.9**
CAN IAmb IAmb 12 35 47.0
comp=Z,8.2nm,1.0s
ADK Adak 49.45 31 P **P 12 35 50.6 +0.4**
GSTR Great Sitkin T 49.89 31 P **P 12 35 54.9 +1.3**
MORW Morawa 50.34 213 P **P 12 35 56.9 -0.3**
MORW IAmb IAmb 12 35 58.0
comp=Z,5.1nm,1.0s
TOO Toolangi 50.69 179 P **P 12 36 00.9 +1.1**
TOO IAmb IAmb 12 36 01.1
comp=Z,9.4nm,0.9s
ATKA Atka Island 50.89 32 P **P 12 36 01.0 0.0**
CLES Cleveland East 53.45 33 P **P 12 36 20.1 +0.2**
NIKH Nikolski High 54.07 33 P **P 12 36 23.7 -0.8**
baz=241
SPIA Saint Paul Isl 55.55 28 P **P 12 36 35.1 0.0**
baz=237
P08K Saint George I 55.57 29 P **P 12 36 34.8 -0.4**
baz=238
UNV Unalaska Valle 55.72 33 P **P 12 36 36.0 -0.3**
baz=243
LVA Lava Point 56.11 33 P **P 12 36 39.2 +0.1**
BILL Bilibino 56.43 10 P **P 12 36 41.0 -0.1**
BILL IAmb IAmb 12 36 42.0
comp=Z,9.9nm,0.7s
FALS False Pass 57.79 33 P **P 12 36 50.7 -0.2**
baz=245
S12K Black Hills 58.85 32 P **P 12 36 57.9 -0.4**
baz=246
SDPT Sand Point 59.54 33 P **P 12 37 02.6 -0.4**
baz=248
CHNA Chernabura Isl 59.82 34 P **P 12 37 05.1 +0.1**
baz=249
RTZ Ruatahuna 60.02 151 P **P 12 37 06.9 +0.3**
M13K Dall Lake 60.29 27 P **P 12 37 08.2 +0.2**
baz=242
S14K Fog Glacier 60.37 32 P **P 12 37 09.2 +0.3**
baz=248
O14K Tigyukauivet M 60.72 29 P **P 12 37 12.0 +1.0**
baz=245
N14K Kuskokwak Cree 60.81 28 P **P 12 37 11.9 +0.4**
baz=244
CHGN Chignik 60.97 32 P **P 12 37 12.7 -0.1**
baz=249
L14K Kuka Creek 61.01 26 P **P 12 37 13.2 +0.3**
baz=242
M14K Bethel 61.05 27 P **P 12 37 13.7 +0.5**
baz=244
TNA Tin City 61.18 21 P **P 12 37 14.8 +0.8**
baz=235
MKAR Makanchi Array 61.35 316 P **P 12 37 15.8 +0.2**
comp=Z,5.1nm,0.5s,baz=93,slow=9.0,SNR=42
comp=Z,5.1nm,0.5s
O15K Ungalikthiuk R 61.36 29 P **P 12 37 15.9 +0.5**
baz=246
ANM Nome 61.54 22 P **P 12 37 16.6 +0.2**
baz=238
ZALV Zalesovo Beam 61.55 325 P **P 12 37 16.2 -0.5**
comp=Z,2.1nm,0.5s,baz=104,slow=7.4,SNR=11
ZALV PcP **PcP 12 37 56.3 -1.0**
comp=Z,0.9nm,0.4s,baz=119,slow=4.1,SNR=4.5
comp=Z,2.1nm,0.5s
MAKZ Makanchi 61.56 316 P **P 12 37 17.6 +0.6**
MAKZ IAmb IAmb 12 37 18.1
comp=Z,7.8nm,0.7s
M15K Kasigluk River 61.59 27 P **P 12 37 16.9 0.0**
baz=245
N15K Kwethluk River 61.64 28 P **P 12 37 17.9 +0.6**
baz=246
L15K Ungalak Mounta 61.67 26 P **P 12 37 18.2 +0.8**
baz=244
K15K Wolf Creek Mou 61.93 25 P **P 12 37 19.6 +0.5**
baz=243
P16K Nushagak River 62.17 30 P **P 12 37 20.5 -0.3**
baz=248
CHIR Chirikof Islan 62.29 33 P **P 12 37 21.9 +0.3**
baz=252
O16K Kokwok River B 62.34 29 P **P 12 37 22.1 +0.2**
baz=248
R17L Mt. Peulik Vol 62.48 31 P **P 12 37 23.6 +0.7**
baz=250
M16K Timber Creek 62.50 27 P **P 12 37 23.7 +0.8**
baz=246
L16K Owhat River 62.55 26 P **P 12 37 23.7 +0.4**
baz=246
J16K Anvik River 62.76 25 P **P 12 37 25.1 +0.5**
baz=244
O17K Koliganek Bris 62.88 29 P **P 12 37 25.9 +0.5**
baz=249
Q17K Contact Creek 62.94 31 P **P 12 37 26.7 +0.7**
baz=251
P17K Kvichak River 62.98 30 P **P 12 37 26.3 +0.2**
baz=250
N17K Nushagak Hills 63.11 28 P **P 12 37 27.2 +0.2**
baz=248
L17K Donlin 63.23 26 P **P 12 37 28.6 +0.8**
baz=246
SII Sitkinak Islan 63.28 33 P **P 12 37 28.5 +0.3**
baz=253
M17K Holitna River 63.32 27 P **P 12 37 29.6 +1.2**
M17K IAmb IAmb 12 37 29.9
comp=Z,5.3nm,0.8s
M17K Holitna River 63.32 27 P **P 12 37 28.7 +0.3**
baz=248
J17K VABM Dome 63.43 25 P **P 12 37 29.8 +0.8**
baz=245
R18K Karluk 63.44 32 P **P 12 37 29.6 +0.4**
baz=252
K17K Iditarod 63.47 26 P **P 12 37 30.3 +1.0**
K17K IAmb IAmb 12 37 31.8
comp=Z,6.2nm,0.7s
K17K Iditarod 63.47 26 P **P 12 37 29.6 +0.2**
baz=246
Q18K Katmai Hardscr 63.50 31 P **P 12 37 29.6 -0.2**
baz=251
G17K Kiwalik Mounta 63.74 22 P **P 12 37 31.1 0.0**
baz=243
N18K Kilae Creek 63.76 28 P **P 12 37 31.1 -0.2**
baz=249
O18K Koktuh Hills 63.80 29 P **P 12 37 31.3 -0.2**
baz=250
OHAK Old Harbor 63.94 32 P **P 12 37 32.9 +0.4**
baz=254
L18K Granite Mounta 63.96 27 P **P 12 37 33.6 +1.0**
baz=248
F17K Baldwin Pennin 63.97 21 P **P 12 37 33.2 +0.7**
baz=242
M18K Stony River 64.08 27 P **P 12 37 33.8 +0.5**
baz=249
E17K Hotham Inlet 64.08 21 P **P 12 37 33.9 +0.6**
baz=241
O19K Port Alsworth 64.33 29 P **P 12 37 35.2 +0.2**
baz=251
C17K DeLong Mountai 64.34 19 P **P 12 37 35.8 +0.8**
baz=239
J18K Innoko River 64.43 25 P **P 12 37 37.0 +1.4**
baz=247
N19K Bonanza Creek 64.46 28 P **P 12 37 37.1 +1.1**
baz=251
KDAK Kodiak Island 64.46 32 P **P 12 37 36.4 +0.6**
baz=254
KURK Kurchatov 64.47 320 P **P 12 37 36.2 +0.1**
KURK IAmb IAmb 12 37 36.5
comp=Z,12nm,0.7s
KURBB Kurchatov Arra 64.51 320 P **P 12 37 36.0 -0.4**
comp=Z,11nm,0.5s,baz=101,slow=7.0,SNR=78
comp=Z,11nm,0.5s
TTA Tatalina 64.52 26 P **P 12 37 37.5 +1.2**
TTA Tatalina 64.52 26 P **P 12 37 36.5 +0.2**
baz=248
F18K Selawik 64.61 21 P **P 12 37 36.1 -0.6**
baz=243
E18K Tukpahlearik C 64.66 20 P **P 12 37 37.9 +0.9**
baz=242
G18K Tagagawik 64.66 22 P **P 12 37 36.1 -1.0**
baz=244
P19K Oil Pt 64.68 30 P **P 12 37 37.7 +0.4**
baz=252
L19K White Mountain 64.75 27 P **P 12 37 38.1 +0.3**
baz=250
Q20K Shuyak Island 64.79 31 P **P 12 37 38.3 +0.3**
baz=254
M19K Big River Lodg 64.86 27 P **P 12 37 38.9 +0.5**
baz=250
KSH Kashi 65.03 307 P **P 12 37 42.5 +2.3**
KSH pmax pmax
comp=Z,5.0nm,0.7s
J19K Poorman 65.08 25 P **P 12 37 40.2 +0.4**
baz=248
B18K Kokolik River 65.22 18 P **P 12 37 41.5 +0.9**
baz=240
L20K Farewell, AK 65.28 27 P **P 12 37 41.9 +0.7**
baz=251
H19K Roundabout Mou 65.34 23 P **P 12 37 41.7 +0.3**
baz=247
G19K Purcell Mounta 65.35 22 P **P 12 37 42.3 +0.8**
baz=246
M20K Styx River 65.42 28 P **P 12 37 42.5 +0.3**
baz=252
HOM Homer 65.45 30 P **P 12 37 42.4 +0.1**
baz=254
K20K Telida 65.50 26 P **P 12 37 43.0 +0.5**
baz=250
J20K Nowinta River 65.75 25 P **P 12 37 44.8 +0.6**
baz=250
I20K Naaghedeneel 65.83 24 P **P 12 37 45.4 +0.8**
baz=249
E19K Redstone River 65.84 21 P **P 12 37 45.5 +0.8**
baz=245
BRSE Bradley Lake S 65.92 30 P **P 12 37 44.7 -0.6**
baz=255
H20K Anotleneega Mo 65.93 23 P **P 12 37 45.5 +0.2**
baz=248
D19K Kuna River 65.99 20 P **P 12 37 46.1 +0.4**
baz=244
PPLA Purkeypile 66.15 27 P **P 12 37 46.8 -0.2**
baz=252
SKT Skwentna 66.17 28 P **P 12 37 46.7 -0.1**
baz=253
NRIK Noril'sk 66.19 341 P **P 12 37 46.1 -0.7**
comp=Z,3.2nm,0.5s,baz=87,slow=11,SNR=4.4
comp=Z,3.2nm,0.5s
F20K Avaraart Lake 66.21 22 P **P 12 37 47.5 +0.5**
baz=247
SUA Susitna One 66.38 28 P **P 12 37 48.2 -0.2**
baz=254
CHUM Lake Minchumin 66.41 26 P **P 12 37 48.6 +0.3**
baz=252
E20K Nigu River 66.53 20 P **P 12 37 50.0 +0.8**
baz=246
D20K Etivluk River 66.58 20 P **P 12 37 49.9 +0.6**
baz=245
O22K Cooper Landing 66.60 29 P **P 12 37 50.6 +1.0**
baz=255
SEW Seward 66.64 30 P **P 12 37 50.2 +0.4**
baz=256
M22K Willow 66.75 28 IAmb IAmb 12 37 59.8
comp=Z,9.6nm,0.8s
M22K Willow 66.75 28 P **P 12 37 49.3 -1.2**
baz=254
RC01 Rabbit Creek A 66.75 29 P **P 12 37 50.7 +0.1**
baz=255
H21K Melozitna Rive 66.80 24 P **P 12 37 51.3 +0.5**
baz=250
KTH Kantishna Hill 66.90 26 IAmb IAmb 12 37 53.8
comp=Z,7.6nm,1.2s
I21K Tanana 66.96 24 P **P 12 37 51.7 -0.1**
baz=251
BPAW Bear Paw Mtn. 67.03 26 P **P 12 37 53.0 +0.7**
baz=253
F21K Alatna River 67.09 22 P **P 12 37 53.2 +0.6**
F21K Alatna River 67.09 22 P **P 12 37 52.9 +0.3**
baz=249
NIL Nilore 67.13 301 P **P 12 37 54.3 +0.8**
PMR Palmer 67.16 28 P **P 12 37 53.0 -0.1**
PMR Palmer 67.16 28 P **P 12 37 53.0 -0.1**
baz=255
C21K Knifebiade Rid 67.37 20 P **P 12 37 55.1 +0.8**
baz=247
MLY Manley 67.42 25 P **P 12 37 55.0 +0.3**
baz=252,SNR=5.5
H22K Ishtalitna Cre 67.43 24 P **P 12 37 55.3 +0.5**
baz=252
KNK Knik Glacier 67.43 29 IAmb IAmb 12 37 57.1
comp=Z,5.5nm,0.8s
KNK Knik Glacier 67.43 29 P **P 12 37 54.4 -0.5**
baz=256
SML Sawmill 67.58 28 IAmb IAmb 12 37 56.5
comp=Z,15nm,1.2s
SML Sawmill 67.58 28 P **P 12 37 55.8 -0.1**
baz=256
P23K Montague Islan 67.61 30 P **P 12 37 56.4 +0.4**
baz=258
F22K John River 67.66 22 P **P 12 37 56.7 +0.5**
baz=250
G22K Bettles 67.71 23 P **P 12 37 56.2 -0.3**
baz=251
WAT1 Susitna Watana 67.74 27 P **P 12 37 56.1 -0.7**
baz=256
M23K Glacier View 67.86 28 P **P 12 37 57.7 +0.1**
baz=257
D22K Ayikyak River 67.96 20 P **P 12 37 58.7 +0.7**
baz=249
NEA2 Nenana 67.98 25 P **P 12 37 59.4 +1.2**
baz=254
I23K Minto, Yukon-K 68.01 25 P **P 12 37 58.7 +0.3**
baz=254,SNR=5.4
WAT6 Susitna Watana 68.04 28 P **P 12 37 58.2 -0.6**
baz=256
SCM Sheep Creek Mo 68.05 28 IAmb IAmb 12 37 59.7
comp=Z,7.3nm,0.7s
SCM Sheep Creek Mo 68.05 28 P **P 12 37 59.5 +0.7**
baz=257
G23K Bananza Creek 68.20 23 P **P 12 38 00.9 +1.2**
baz=253
COLD Coldfoot 68.29 22 P **P 12 38 00.9 +0.8**
baz=252
DHY Denali Highway 68.32 27 P **P 12 38 01.1 +0.5**
baz=256
EYAK Cordova Ski Ar 68.53 30 P **P 12 38 02.4 +0.7**
baz=259
KLU Klutina 68.64 29 IAmb IAmb 12 38 03.6
comp=Z,9.4nm,1.2s
KLU Klutina 68.64 29 P **P 12 38 02.8 +0.3**
baz=258
D23K Nanushuk River 68.67 21 P **P 12 38 03.8 +1.3**
baz=251
E23K Chandalar 68.76 22 P **P 12 38 04.4 +1.2**
baz=252
H24K Noodor Dome 68.79 24 P **P 12 38 03.7 +0.4**
baz=255
HDA Harding Lake 68.82 26 P **P 12 38 04.2 +0.7**
baz=256
ILAR Eielson Array 68.93 25 P **P 12 38 02.4 -1.7**
comp=Z,1.8nm,0.5s,baz=252,slow=5.6,SNR=67
ILAR LR LR 13 06 14.4
comp=Z,25nm,20.1s,baz=270,slow=34
comp=Z,1.8nm,0.5s
TOLK Toolik Lake Re 68.95 21 P **P 12 38 05.1 +0.8**
baz=252
C23K Itkillik River 68.98 20 P **P 12 38 05.5 +1.1**
baz=251
PAX Paxson 69.14 27 P **P 12 38 05.7 +0.1**
baz=258,SNR=5.8
BMRM Bremner River 69.16 30 P **P 12 38 06.0 +0.3**
baz=260
HARP HAARP 69.17 28 P **P 12 38 05.7 0.0**
baz=259
E24K Your Creek 69.17 22 P **P 12 38 06.6 +1.0**
baz=254
G24K Hadweenzic Riv 69.17 23 P **P 12 38 06.4 +0.7**
baz=255
K24K Donnelly Dome 69.18 26 P **P 12 38 05.0 -0.7**
baz=258
F24K Squaw Lake 69.24 22 P **P 12 38 06.4 +0.3**
baz=254
KKAR Karatay Array 69.27 311 P **P 12 38 06.5 -0.2**
N25K Chitina, Valde 69.28 29 P **P 12 38 07.0 +0.5**
baz=260
D24K Happy Valley 69.37 21 P **P 12 38 08.2 +1.4**
D24K IAmb IAmb 12 38 08.5
comp=Z,15nm,0.9s
D24K Happy Valley 69.37 21 P **P 12 38 08.0 +1.2**
baz=253,SNR=5.8
C24K Franklin Bluff 69.58 20 P **P 12 38 08.6 +0.6**
baz=253
H25L Birch Creek 69.71 24 P **P 12 38 09.6 +0.7**
baz=257,SNR=6.1
BVAR Borovoye Array 69.83 322 P **P 12 38 09.2 -0.7**
comp=Z,2.9nm,0.3s,baz=102,slow=6.8,SNR=26
comp=Z,2.9nm,0.3s
CRQE Cirque 69.86 30 P **P 12 38 10.3 +0.2**
baz=261
BRVK Borovoye 69.89 322 P **P 12 38 09.9 -0.4**
MCARA McCarthy VSAT 69.99 29 P **P 12 38 11.1 +0.4**
baz=261
SCRK Sand Creek 69.99 26 P **P 12 38 10.6 -0.2**
baz=259,SNR=6.7
F25K Christian Rive 70.09 23 P **P 12 38 11.4 +0.1**
baz=256
L26K Log Cabin Wild 70.11 28 P **P 12 38 12.0 +0.6**
baz=260
M26K Nabesna, AK 70.16 28 P **P 12 38 11.9 +0.1**
baz=261
D25K Kavik River 70.25 21 IAmb IAmb 12 38 13.6
comp=Z,9.9nm,1.1s
D25K Kavik River 70.25 21 P **P 12 38 12.6 +0.3**
baz=255,SNR=6.4
J26L Joseph Creek 70.27 26 P **P 12 38 12.2 -0.4**
baz=260,SNR=7.2
SIMJ Simiganj 70.44 306 P **P 12 38 14.0 -0.1**
I26K Coal Creek Min 70.59 25 P **P 12 38 13.9 -0.4**
baz=260
G26K Porcupine Rive 70.65 23 P **P 12 38 15.5 +0.8**
baz=258
F26K Sheenjek River 70.67 23 P **P 12 38 15.7 +0.9**
baz=258,SNR=7.0
M27K Edge Creek, AK 70.67 28 P **P 12 38 15.2 +0.2**
baz=262,SNR=5.1
CTG Chitna Glacier 70.74 30 P **P 12 38 15.9 +0.4**
baz=263
CTGM Chitina Glacie 70.74 30 IAmb IAmb 12 38 16.8
comp=Z,7.7nm,1.0s
TABL Table Mountain 70.77 30 IAmb IAmb 12 38 16.9
comp=Z,10nm,0.8s
L27K Beaver Creek, 70.80 28 P **P 12 38 15.8 +0.2**
baz=262,SNR=6.4
K27K Chicken 70.83 27 P **P 12 38 16.2 +0.4**
baz=261
LOGN Logan Glacier 70.88 30 IAmb IAmb 12 38 18.8
comp=Z,9.0nm,0.8s
C26K Camden Bay 70.90 20 P **P 12 38 16.9 +0.9**
baz=256,SNR=6.7
C27K Jago River 71.24 21 P **P 12 38 18.9 +0.8**
baz=258,SNR=5.3
YUK3 Moose Creek 71.26 29 P **P 12 38 19.3 +0.6**
baz=263,SNR=8.0
O28M Mount Upton 71.27 30 P **P 12 38 19.6 +0.7**
baz=264,SNR=6.7
I27K Kandik River 71.27 25 P **P 12 38 18.5 0.0**
baz=261
EGAK Eagle 71.34 26 P **P 12 38 19.2 +0.4**
baz=262
H27K Steamboat Moun 71.41 24 P **P 12 38 19.9 +0.6**
baz=261,SNR=14
G27K Doyon Strip 71.45 24 P **P 12 38 20.2 +0.6**
baz=260
BCPM Bancas Point 71.47 31 IAmb IAmb 12 38 25.1
comp=Z,23nm,1.2s
YUK8 Steele Glacier 71.53 30 P **P 12 38 21.2 +0.8**
baz=264
PNL Peninsula 71.56 31 P **P 12 38 20.9 +0.6**
baz=265
E27K Coleen River 71.71 22 P **P 12 38 22.0 +0.9**
baz=260
I28M Miner Creek 71.94 25 P **P 12 38 23.1 +0.5**
baz=263

DAWY	Dawson baz=264,SNR=5.7	72.01	27	P	P	12 38 23.4 +0.5
O29M	Mount Kennedy baz=265	72.02	31	P	P	12 38 23.8 +0.7
D27M	Malcolm River comp=Z,6.7nm,0.8s	72.12	21	IAmb	IAmb	12 38 25.2
D27M	Malcolm River baz=260,SNR=5.2	72.12	21	P	P	12 38 24.7 +1.2
M29M	Somme Creek baz=265,SNR=8.6	72.26	28	P	P	12 38 25.3 +0.8
F28M	Old Crow baz=262,SNR=6.1	72.26	23	P	P	12 38 25.0 +0.7
P29M	Windy Craggy baz=266	72.40	31	P	P	12 38 26.0 +0.7
L29M	L29M comp=Z,8.2nm,1.1s	72.47	28	IAmb	IAmb	12 38 27.6
L29M	L29M baz=265,SNR=8.2	72.47	28	P	P	12 38 26.6 +0.9
E28M	Babbage River baz=262	72.53	22	P	P	12 38 26.8 +1.0
I29M	Ogilvie Camp, baz=264	72.61	25	P	P	12 38 27.0 +0.6
H29M	Whitestone baz=264	72.68	24	P	P	12 38 27.5 +0.7
K29M	Barlow Dome baz=265,SNR=7.4	72.81	27	P	P	12 38 28.8 +1.0
P30M	Million Dollar baz=267	72.82	31	P	P	12 38 29.1 +1.3
N30M	Aishikik Lake baz=266,SNR=5.3	72.83	30	P	P	12 38 28.9 +1.1
G29M	Pine Creek baz=264	72.89	24	P	P	12 38 29.0 +0.9
M30M	Minto, Yukon baz=266,SNR=7.7	73.04	28	P	P	12 38 29.9 +0.8
PLBC	Pleasant Camp baz=268	73.08	32	P	P	12 38 29.8 +0.5
E29M	Blow River baz=264	73.10	22	P	P	12 38 29.9 +0.7
EPYK	Eagle Plains baz=265	73.36	24	P	P	12 38 32.0 +1.1
J30M	Hart River baz=266,SNR=5.5	73.38	26	P	P	12 38 32.0 +0.9
I30M	Mount Dempster baz=266	73.41	26	P	P	12 38 31.7 +0.4
N31M	Braeburn, Yuko baz=268	73.46	30	P	P	12 38 31.8 +0.3
MAYO	Mayo, Yukon baz=267	73.51	27	P	P	12 38 32.3 +0.6
G30M	tAoh Zraii Nji comp=Z,11nm,1.1s	73.60	24	IAmb	IAmb	12 38 33.3
G30M	tAoh Zraii Nji baz=266,SNR=6.0	73.60	24	P	P	12 38 33.0 +0.7
F30M	Barrier River baz=266	73.82	23	P	P	12 38 34.0 +0.5
R32K	Eaglecrest baz=270	74.02	33	P	P	12 38 34.9 +0.1
M31M	Drury Creek, Y baz=269,SNR=6.4	74.14	29	P	P	12 38 35.8 +0.3
G31M	Satah River comp=Z,16nm,0.9s	74.36	24	IAmb	IAmb	12 38 37.6
G31M	Satah River baz=267,SNR=10	74.36	24	P	P	12 38 36.8 +0.2
P32M	Atlin baz=270	74.44	32	P	P	12 38 37.5 +0.2
F31M	Tsiigehtchic baz=268	74.59	23	P	P	12 38 38.1 +0.1
FARO	Faro, Yukon baz=270	74.63	29	P	P	12 38 38.4 0.0
INK	Inuvik comp=Z,8.6nm,0.9s	74.71	22	IAmb	IAmb	12 38 39.2
INK	Inuvik baz=268,SNR=5.3	74.71	22	P	P	12 38 38.7 +0.1
N32M	Quiet Lake comp=Z,9.8nm,0.8s	74.75	30	IAmb	IAmb	12 38 41.2
N32M	Quiet Lake baz=270	74.75	30	P	P	12 38 39.4 +0.3
P33M	Teslin, Yukon baz=270	74.89	31	P	P	12 38 40.3 +0.4
Q32M	Nakina River baz=271	75.19	32	P	P	12 38 42.8 +1.0
WRAK	Wrangell Islan baz=272	75.22	35	P	P	12 38 42.5 +0.8
V35K	Ketchikan baz=273	75.67	36	P	P	12 38 44.8 +0.4
S34M	Telegraph Cree baz=273	75.82	33	P	P	12 38 45.6 +0.5
R33M	Jennings River baz=272,SNR=7.2	75.84	32	P	P	12 38 46.7 +1.2
DLBC	Dease Lake comp=Z,8.3nm,0.9s	76.38	33	IAmb	IAmb	12 38 50.4
DLBC	Dease Lake baz=273,SNR=8.2	76.38	33	P	P	12 38 49.8 +1.4
ABKAR	Akbulak array	76.41	318	P	P	12 38 47.7 -1.0
WTLY	Watson Lake, Y	76.90	31	P	P	12 38 51.9 +0.6
WTLY	comp=Z,20nm,1.0s			IAmb	IAmb	12 38 53.2
WTLY	Watson Lake, Y baz=274	76.90	31	P	P	12 38 52.0 +0.8
TGTN	Hyland Airport baz=274	77.06	29	P	P	12 38 52.8 +0.6
AKTO	Aktyubinsk comp=Z,0.8nm,0.4s,baz=79,slow=8.2,SNR=4.2 comp=Z,0.8nm,0.4s	77.55	319	P	P	12 38 55.0 0.0
C36M	Paulatuk baz=276	78.11	21	P	P	12 38 58.1 +0.4
TOAD	Toad River Com baz=277	78.83	32	P	P	12 39 02.2 +0.2
WRGLY	Wrigley comp=Z,11nm,0.8s	79.11	27	IAmb	IAmb	12 39 04.8
WRGLY	Wrigley baz=278	79.11	27	P	P	12 39 04.2 +0.8
KOTAN	Kotaneelee Air baz=278	79.26	31	P	P	12 39 05.4 +1.2
GNW	Green Mountain comp=Z,9.2nm,0.8s	82.08	43	IAmb	IAmb	12 39 22.0
I03D	Drain, OR comp=Z,14nm,0.9s	82.47	47	IAmb	IAmb	12 39 23.9
F04A	Amboy comp=Z,11nm,0.9s	82.67	45	IAmb	IAmb	12 39 24.6
HUMO	Hull Mountain comp=Z,8.8nm,0.8s	82.96	48	IAmb	IAmb	12 39 26.8
H04A	Detroit Lake comp=Z,9.3nm,0.6s	83.09	46	IAmb	IAmb	12 39 26.1
I04A	Tendick Farm, comp=Z,7.7nm,0.7s	83.11	47	IAmb	IAmb	12 39 26.3
YKA	Yellowknife Ar comp=Z,3.8nm,0.8s,baz=290,slow=5.5,SNR=22 comp=Z,3.8nm,0.8s	83.23	27	P	P	12 39 25.1 -0.1
YBH	Yreka Blue Hor comp=Z,27nm,18.1s,baz=267,slow=33	83.32	49	LR	LR	13 12 53.6
LTY	Liberty comp=Z,6.4nm,0.8s	83.57	43	IAmb	IAmb	12 39 29.0
O02D	Mt. Diablo Mer comp=Z,8.5nm,0.7s	83.58	50	IAmb	IAmb	12 39 29.9
I05D	Terrebonne, OR comp=Z,5.8nm,0.8s	83.75	46	IAmb	IAmb	12 39 32.0
MXC	Moxie City comp=Z,8.4nm,0.9s	83.98	44	IAmb	IAmb	12 39 31.3
BRLDA	Berland Lookou comp=Z,11nm,0.7s	84.00	36	IAmb	IAmb	12 39 30.9
J05D	Fort Rock, OR	84.06	47	P	P	12 39 31.4 +1.4
PINE	Pine Mountain	84.15	47	P	P	12 39 31.9 +1.4
B08A	Colville Reser	84.20	42	P	P	12 39 31.1 +0.7
B08A	comp=Z,9.3nm,0.7s			IAmb	IAmb	12 39 31.6
HAWA	Hanford comp=Z,6.9nm,0.7s	84.53	44	IAmb	IAmb	12 39 34.1
D08A	Wollman Farm, comp=Z,5.1nm,0.7s	84.78	43	IAmb	IAmb	12 39 34.7
C09A	Chrisman Ranch comp=Z,8.1nm,0.8s	85.03	42	IAmb	IAmb	12 39 36.3
G08A	Pilot Rock comp=Z,6.7nm,1.1s	85.18	45	IAmb	IAmb	12 39 37.5
AFDM	Forest Hills D comp=Z,6.9nm,0.9s	85.22	51	IAmb	IAmb	12 39 37.8
E09A	Wood Farm, Sta comp=Z,11nm,0.8s	85.43	43	IAmb	IAmb	12 39 38.7
NEW	Newport baz=285,SNR=17	85.66	42	P	P	12 39 38.6 +0.9
EMB	Emerald Bay comp=Z,6.2nm,0.6s	85.87	51	IAmb	IAmb	12 39 41.3
CMB	Columbia Colle comp=Z,8.4nm,0.7s	85.88	52	IAmb	IAmb	12 39 41.0
J08A	Circle Bar Ran comp=Z,9.4nm,0.9s	86.00	47	IAmb	IAmb	12 39 41.7
WVOR	Wild Horse Val comp=Z,11nm,1.0s	86.11	47	IAmb	IAmb	12 39 42.2
F10A	Beach Ranch, E	86.19	44	IAmb	IAmb	12 39 42.2
	comp=Z,6.0nm,0.8s					
PAHR	Pah Rah Range comp=Z,10nm,1.0s	86.24	50	IAmb	IAmb	12 39 42.9
WAKR	Walker comp=Z,6.4nm,0.6s	86.49	51	IAmb	IAmb	12 39 44.6
YERR	Yerington comp=Z,10nm,0.8s	86.52	51	IAmb	IAmb	12 39 44.5
SMMC	Simmler baz=284	86.83	55	P	P	12 39 45.6 +1.8
MDPB	Devils Postpil comp=Z,5.1nm,0.8s	86.98	52	IAmb	IAmb	12 39 46.8
PKM	Mcpherson Peak baz=284,SNR=9.2	87.08	55	P	P	12 39 47.0 +1.9
ARCES	ARCESS Array B comp=Z,0.9nm,0.3s,baz=57,slow=4.5,SNR=4.3 comp=Z,0.9nm,0.3s	87.15	342	P	P	12 39 45.3 +0.7
RYN	Ryan comp=Z,10nm,0.8s	87.16	51	IAmb	IAmb	12 39 47.7
MLAC	Mammoth, Mammo baz=285	87.17	52	P	P	12 39 46.8 +1.2
LHV	Little Huntoon comp=Z,8.6nm,0.8s	87.27	51	IAmb	IAmb	12 39 49.5
SBC	Santa Barbara baz=284	87.27	55	P	P	12 39 47.0 +1.2
NVAR	Mina Array Bea comp=Z,13nm,0.8s,baz=267,slow=5.7,SNR=94 comp=Z,13nm,0.8s	87.37	51	P	P	12 39 47.9 +1.3
BCW	Bitter Crk WRg comp=Z,12nm,0.9s	87.39	55	IAmb	IAmb	12 39 49.3
VES	Vestal, Richgr baz=285	87.42	54	P	P	12 39 47.6 +1.0
BMN	Battle Mountai comp=Z,8.3nm,0.7s	87.66	49	IAmb	IAmb	12 39 49.9
ARVC	Arvin baz=285	87.81	55	P	P	12 39 49.7 +1.4
DSP	Deep Springs comp=Z,8.9nm,0.7s	87.90	52	IAmb	IAmb	12 39 51.4
ISA	Isabella, Lake	87.95	54	P	P	12 39 49.3 +0.2
ISA	comp=Z,4.2nm,0.8s			IAmb	IAmb	12 39 50.8
ISA	Isabella, Lake baz=285	87.95	54	P	P	12 39 49.7 +0.6
CWC	Cottonwood Cre baz=285	88.06	53	P	P	12 39 50.8 +1.0
MZP	Montezuma Peak comp=Z,8.8nm,0.7s	88.26	52	IAmb	IAmb	12 39 53.0
GRAC	Grapevine Rang comp=Z,7.1nm,0.7s	88.46	52	IAmb	IAmb	12 39 53.8
GRAC	Grapevine Rang baz=286	88.46	52	P	P	12 39 53.2 +1.6
EDW2	Edwards Air Fo baz=285,SNR=7.1	88.53	55	P	P	12 39 53.2 +1.3
CIS	Catalina Islan baz=285	88.58	56	P	P	12 39 52.9 +0.8
FMP	Fort Macarthur baz=285	88.60	56	P	P	12 39 53.5 +1.4
MPMC	Manual Prospec baz=286,SNR=28	88.62	53	P	P	12 39 53.9 +1.4
LRMC	Laurel Mtn Rad baz=285	88.62	54	P	P	12 39 54.0 +1.6
HLID	Hailey baz=287,SNR=23	88.78	46	P	P	12 39 54.3 +1.2
BFSC	Mount Baldy Ra baz=285	88.97	55	P	P	12 39 54.8 +0.8
FURC	Furnace Creek, baz=286,SNR=11	89.00	53	P	P	12 39 55.7 +1.8
TPNV	Topopah Spring baz=286,SNR=34	89.34	52	P	P	12 39 57.2 +1.4
GSC	Goldstone, Bar baz=286,SNR=16	89.36	54	P	P	12 39 57.4 +1.6
R11B	Troy Canyon, C comp=Z,4.0nm,0.9s	89.45	51	IAmb	IAmb	12 39 58.7
R11B	Troy Canyon, C baz=287,SNR=11	89.45	51	P	P	12 39 57.7 +1.4
MURC	Murrieta baz=286	89.51	56	P	P	12 39 57.4 +0.9
BBRC	Big Bear Solar baz=286	89.55	55	P	P	12 39 57.9 +1.0
SHOC	Shoshone, Teco baz=286	89.61	53	P	P	12 39 58.1 +1.2
109C	Camp Elliot, M baz=286	89.77	56	P	P	12 39 58.6 +0.9
HEC	Hector,Ludlow baz=286,SNR=12	89.86	54	P	P	12 39 59.7 +1.5
TUQ	Turquoise Moun baz=286	90.01	54	P	P	12 40 00.2 +1.3
BOZ	Bozeman (W) comp=Z,3.4nm,0.9s	90.04	43	IAmb	IAmb	12 40 01.7
BOZ	Bozeman (W) baz=289,SNR=5.1	90.04	43	P	P	12 40 00.4 +1.6
PFO	Pinyon Flats O	90.10	55	P	P	12 39 59.5 +0.2
PFO	comp=Z,10nm,1.1s			IAmb	IAmb	12 40 02.2
PFO	Pinyon Flats O baz=286,SNR=8.0	90.10	55	P	P	12 40 00.6 +1.3
TPFO	Pinon Flats baz=286,SNR=7.4	90.10	55	P	P	12 40 00.6 +1.3
PRN	Pahroc Range comp=Z,10nm,1.1s	90.12	52	IAmb	IAmb	12 40 02.0
PMD	Palm Desert comp=Z,10nm,1.0s	90.15	55	IAmb	IAmb	12 40 02.2
SPR3	Spring Creek 3 comp=Z,10nm,1.1s	90.20	50	IAmb	IAmb	12 40 02.5
SHPR	Sheep Range comp=Z,6.1nm,0.7s	90.30	52	IAmb	IAmb	12 40 03.0
MONP2	Monument Peak baz=286,SNR=17	90.33	56	P	P	12 40 01.9 +1.4
BELC	Belle Mtn. Jos baz=286,SNR=12	90.36	55	P	P	12 40 01.8 +1.2
GMRC	Granite Mounta baz=287,SNR=20	90.41	54	P	P	12 40 02.3 +1.6
EGMT	Eagleton baz=291	90.43	40	P	P	12 40 01.5 +1.0
HVU	Hansel Valley comp=Z,9.9nm,1.1s	90.48	47	IAmb	IAmb	12 40 03.4
IKP	In-Ko-Pah, Jac baz=286,SNR=6.3	90.65	56	P	P	12 40 03.5 +1.6
PSUT	Pine Spring comp=Z,6.9nm,0.9s	90.69	50	IAmb	IAmb	12 40 04.3
V12A	Nelson	90.77	53	P	P	12 40 03.4 +1.0
SWSC	Sam W. Stewart baz=286	90.81	56	P	P	12 40 02.6 +0.1
BC3	Big Chuckawall baz=287,SNR=8.5	90.89	55	P	P	12 40 04.6 +1.6
DUG	Dugway, Tooele comp=Z,5.6nm,0.8s	90.95	48	IAmb	IAmb	12 40 05.2
DUG	Dugway, Tooele baz=288,SNR=8.2	90.95	48	P	P	12 40 04.1 +0.9
ESJX	Sierra Juarez comp=Z,5.0nm,0.7s	90.96	57	IAmb	IAmb	12 40 05.5
IRM	Iron Mountain baz=287,SNR=12	90.99	55	P	P	12 40 04.5 +1.2
IMW	Indian Meadow comp=Z,6.2nm,0.8s	91.07	44	IAmb	IAmb	12 40 06.3
FXWY	Fox Creek comp=Z,2.9nm,0.8s	91.09	45	IAmb	IAmb	12 40 05.7
FINES	FINESS Array B comp=Z,1.3nm,0.6s,baz=68,slow=4.6,SNR=6.9	91.17	335	P	P	12 40 01.0 -2.5
TPAW	Teton Pass comp=Z,4.0nm,0.7s	91.20	45	IAmb	IAmb	12 40 06.2
NEE2	Needles Airpor baz=287	91.23	54	P	P	12 40 05.8 +1.4
MOOW	Moose Ponds comp=Z,3.3nm,0.8s	91.25	44	IAmb	IAmb	12 40 06.8
VNDA	Vanda comp=Z,3.7nm,0.8s,baz=306,slow=2.3,SNR=9.3 comp=Z,3.7nm,0.8s	91.29	176	P	P	12 40 03.9 +0.2
CCUT	Cedar City comp=Z,4.6nm,0.9s	91.36	51	IAmb	IAmb	12 40 07.9
NLU	North Lily Min comp=Z,4.5nm,0.8s	91.56	48	IAmb	IAmb	12 40 08.1
GLA	Glamis baz=287,SNR=6.9	91.57	56	P	P	12 40 07.9 +1.9
LCMT	Little Creek M comp=Z,4.3nm,0.9s	91.62	51	IAmb	IAmb	12 40 08.9
W13A	Hualapai Mount comp=Z,6.0nm,0.8s	91.71	53	IAmb	IAmb	12 40 09.3
PDMCI	Parker Dam,Lak baz=287	91.74	54	P	P	12 40 08.5 +1.8
RLMT	Red Lodge comp=Z,6.1nm,1.1s	91.77	43	IAmb	IAmb	12 40 09.0
RLMT	Red Lodge baz=291	91.77	43	P	P	12 40 08.5 +1.6
JLU	Jordanelle comp=Z,5.0nm,0.7s	91.81	48	IAmb	IAmb	12 40 08.7
SBA	Scott Base	91.95	175	P	P	12 40 09.5 +2.9
SBA	comp=Z,4.7nm,1.1s			IAmb	IAmb	12 40 10.9
MTPU	Mount Pierson comp=Z,2.7nm,0.9s	92.10	50	IAmb	IAmb	12 40 10.9
BSUT	Blindstream Ca comp=Z,2.7nm,0.9s	92.32	48	IAmb	IAmb	12 40 13.4
BW06	Boulder Array baz=291	92.40	45	P	P	12 40 10.9 +0.9
PDAR	Pinedale Array comp=Z,1.3nm,0.6s,baz=235,slow=3.5,SNR=23 comp=Z,1.3nm,0.6s	92.40	45	P	P	12 40 09.3 -0.7
TMUT	Trail Mountain comp=Z,3.3nm,0.8s	92.41	49	IAmb	IAmb	12 40 13.4
U15A	North Rim comp=Z,6.5nm,0.9s	92.53	52	IAmb	IAmb	12 40 13.2
SRU	San Rafael Swe comp=Z,4.5nm,0.7s	92.97	49	IAmb	IAmb	12 40 15.5
RDMU	Red Mountain comp=Z,4.1nm,0.9s	93.16	47	IAmb	IAmb	12 40 14.7
HMU	Henry Mountain comp=Z,4.7nm,0.7s	93.21	50	IAmb	IAmb	12 40 15.3
214A	Organ Pipe Nat baz=288	93.52	56	P	P	12 40 16.4 +1.3
WUAZ	Wupatki baz=289,SNR=7.8	93.53	52	P	P	12 40 17.2 +2.0
TUC	Tucson baz=289	95.04	55	P	P	12 40 23.4 +1.3
MVCO	Mesa Verde baz=291	95.13	50	P	P	12 40 23.7 +1.0
N23A	Red Feather La baz=293	95.60	46	P	P	12 40 26.1 +1.3
S22A	4UR Ranch, Cre baz=292	96.17	49	P	P	12 40 28.4 +0.9
HFS	Hagfors comp=Z,0.6nm,0.7s,baz=81,slow=4.7,SNR=1.7 comp=Z,0.6nm,0.7s	96.82	338	P	P	12 40 28.0 -1.5
SDCO	Great Sand Dun baz=293	97.14	49	P	Pdif	12 40 32.7 +0.8
121A	Cookes Peak, D baz=291	97.34	54	P	Pdif	12 40 34.3 +1.5
ANMO	Albuquerque baz=292	97.50	52	P	Pdif	12 40 34.6 +1.2
MMAI	Mount Meron Ar comp=Z,74nm,22.0s,baz=136,slow=38	98.16	307	LR	LR	13 28 50.6
T25A	Trinidad baz=294	98.18	49	P	Pdif	12 40 36.8 +0.4
MNTX	Cornudas Mount baz=292	99.55	54	P	Pdif	12 40 43.1 +0.7
TXAR	Lajitas Array comp=Z,0.5nm,0.8s,baz=278,slow=4.1,SNR=5.7	101.81	56	P	Pdif	12 40 51.5 -1.1
GOGA	Godfrey baz=307	114.81	43	P	PKiKP	12 45 39.2 0.0
TROLL	Troll, Antarti comp=Z,41nm,0.5s	117.17	192	⇑PKPdf	PKiKP	12 45 43.2 +0.4
SNAA	Sanae comp=Z,32nm,0.7s	118.51	191	⇑PKPdf	PKPdf	12 45 45.0 -0.3
SNAA	Sanae comp=Z,1.4nm,0.7s,baz=210,slow=5.4,SNR=8.6	118.51	191	PKP	PKPdf	12 45 45.0 -0.3
ESDC	Sonseca Array comp=Z,0.2nm,0.6s,baz=59,slow=2.3,SNR=4.9	119.57	332	PKP	PKPdf	12 45 48.5 +0.1
VNA2	Neumayer--Watz comp=Z,6.0nm,0.6s,baz=182,slow=0.9	119.95	190	⇑PKPdf	PKPdf	12 45 47.9 -0.1
VNA3	Neumayer Olymp comp=Z,2.9nm,0.6s	120.06	189	⇑PKPdf	PKPdf	12 45 47.6 -0.6
VNA1	Neumayer--Stat comp=Z,3.5nm,0.8s	120.34	190	⇑PKPdf	PKPdf	12 45 48.8 0.0
BOSA	Boshof comp=Z,0.8nm,0.4s,baz=23,slow=5.9,SNR=1.6	121.79	245	PKP	PKPdf	12 45 53.0 0.0
DBIC	Dimbokro comp=Z,2.5nm,0.5s,baz=62,slow=1.7,SNR=6.8	143.58	301	PKP	PKPbc	12 46 31.6 0.0
LPAZ	La Paz comp=Z,30nm,0.7s,baz=306,slow=2.7,SNR=42	148.40	99	PKPbc	PKiKP	12 46 47.7 -0.3

HEL 18 12:29:54.3±0.4, 67°.64N×33°.32E, h0km, ML1.2,
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	Lovozero	0.57	62	PG	Pg	12 30 04.8	-0.4
VRF	Varrio	1.42	276	PG	Pn	12 30 20.6	-0.8
VRF	baz=96			MSG		12 30 37.1	
VRF	comp=Z,1.3nm,0.2s			SN	Sn	12 30 42.2	+1.4
OLKF	Oulanka, Finla	2.03	231	PG	Pb	12 30 31.3	-0.7
OLKF	comp=Z,0.7nm,0.2s			MSG		12 30 54.7	
RAJF	Raja-Jooseppi	2.06	296	PG	Pn	12 30 30.8	+0.7
RAJF				SG	Sb	12 30 59.5	+0.8
KU6	Riekki	2.11	222	PG	Pn	12 30 31.7	+0.9
KU6	comp=Z,0.8nm,0.2s			MSG		12 30 57.0	
RNF	Rovaniemi	3.04	254	SN	Sn	12 31 16.6	-3.9
KEV	Kevo	3.14	316	PN	Pn	12 30 44.8	-0.1
KEV				SB	Sn	12 31 25.9	+2.9
KEV	comp=Z,0.7nm,0.2s			MSG		12 31 26.5	
OUL	Oulu	3.94	233	PG	Pb	12 31 04.4	-0.1

*IDC **18** 12:37:17.6±1.1, 38°.37N×36°.17E, h0km, mb3.7/14, mbtmp3.7/19, ML3.7/4, MS3.4/1, Error ellipse: s-maj=20.2km s-min=12.5km az=13.0*
*ISK **18** 12:37:18.0, 38°.38N×36°.23E, h3km, ML3.9/45*
*AFAD **18** 12:37:18.5±0.0, 38°.35N×36°.22E, h10km±3km, MW3.9*
ISC 18 12:37:18.6±1.1, 38°.37N±0°.02×36°.21E±0°.02, h6km±8km,
n91, ∩1°03/115, mb3.6/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARI	SarD1z-Kayseri	0.17	77	Pg	Pg	12 37 22.0	-0.1
SAIM	ADANA	0.41	195	P	Pg	12 37 26.6	+0.1
SAIM				S	Sb	12 37 33.1	-1.6
BNN	Bunyan	0.56	329	Pg	Pg	12 37 29.3	-0.1
BNN				Sg	Sb	12 37 37.7	-1.5
GUNE	Kayseri	0.70	319	P	Pb	12 37 32.5	-0.8
GUNE				S	Sb	12 37 42.9	-0.4
ELBS	KAHRAMANMARAS	0.73	93	P	Pg	12 37 31.5	-1.1
ELBS				S	Sb	12 37 42.5	-1.5
ANDN	Andirin	0.80	172	P	Pb	12 37 35.1	+0.2
CUGUR	Gurin_SVAS	0.90	67	P	Pg	12 37 35.3	-0.7
CUGUR				S	Sb	12 37 49.6	+0.5
KOZT	Kozan	0.94	199	Pg	Pb	12 37 37.0	-0.3
KOZT				Sg	Sn	12 37 51.1	-1.0
CUAYA	Sivas-Altinyay	0.99	25	P	Pg	12 37 37.1	-0.5
CUAYA				S	Sb	12 37 52.2	+0.7
DARE	Darende-Malaty	1.02	78	Pg	Pg	12 37 37.0	-1.2
DARE				Sg	Sb	12 37 52.6	+0.2
KMRS	Kahramanmaras	1.02	148	Pg	Pb	12 37 38.1	-0.6
CUSAR	Sarkisla-SIVAS	1.05	1	P	Pg	12 37 38.5	-0.2
CUSAR				S	Sb	12 37 53.9	+0.7
KAHM	Kahramanmaras,	1.05	144	P	Pb	12 37 38.6	-0.6
KAHM				S	Sb	12 37 52.5	-0.7
AKO	Adana	1.09	214	P	Pb	12 37 39.3	-0.5
AKO				S	Sb	12 37 54.6	+0.2
HCB	Kahramanmara	1.16	152	P	Pb	12 37 40.8	-0.3
HCB				S	Sn	12 37 58.0	+0.3
KHMR	Kahramanmara	1.16	152	P	Pb	12 37 40.7	-0.4
KHMR				S	Sn	12 37 58.2	+0.6
NIDE	Nigde/Merkez-G	1.19	252	P	Pg	12 37 40.8	-0.6
NIDE				S	Sb	12 37 57.1	-0.2
CMRD	Camardi-Nigde	1.20	234	Pn	Pg	12 37 40.4	-1.2
KHMN	Narli-Kahraman	1.23	142	Pn	Pn	12 37 42.1	-0.3
KAMA	Osmaniye	1.24	163	P	Pn	12 37 43.4	+0.9
KAMA				S	Sn	12 38 01.3	+1.8
AKCA	Adyaman/G¶ll	1.30	116	P	Pb	12 37 43.0	-0.5
AKCA				S	Sn	12 38 01.2	+0.1
KOZK	Kozakli-Nevseh	1.34	309	Pn	Pb	12 37 44.1	-0.2
AKCD	Akcadag	1.35	93	P	Pg	12 37 43.0	-1.4
AKCD				S	Sn	12 38 02.3	-0.1
GAZ	Gaziantep	1.44	146	Pn	Pg	12 37 45.5	-0.6
YOZ	Yozgat	1.45	332	Pn	Pn	12 37 45.3	-0.1
GZT	Gaziantep	1.47	133	P	Pb	12 37 45.9	-0.6
GZT				S	Sn	12 38 08.0	+2.5
GULE	Gulek	1.57	227	P	Pb	12 37 47.8	-0.3
GULE				S	Sg	12 38 09.5	+0.4
YURE	YUREGIR	1.61	197	P	Pb	12 37 48.0	-0.7
HASA	Hatay-Hassa-Ha	1.63	172	P	Pb	12 37 48.8	-0.3
SCER	sogukcermik	1.65	25	P	Pb	12 37 49.3	-0.2
SCER				S	Sg	12 38 12.9	+1.2
SVSK	Karacayir	1.66	21	Pn	Pb	12 37 48.8	-0.8
AZEY	Adyaman-Merk	1.70	109	P	Pb	12 37 49.7	-0.7
AZEY				S	Sg	12 38 14.9	+1.6
KUZU	Kuzuini	1.74	156	P	Pb	12 37 50.2	-0.7
KUZU				S	Sg	12 38 15.7	+1.3

NZIP	**Nizip/Gaziante**	**1.76**	**138**	P	**Pn**	**12 37 49.9**	**+0.2**
ARPR	**Arapgir-MALATY**	**1.81**	**66**	Pn	**Pn**	**12 37 50.9**	**+0.4**
ATAB	**Bozova**	**1.88**	**118**	P	**Pg**	**12 37 53.8**	**-0.8**
ATAB				S	**Sg**	**12 38 19.2**	**+0.3**
TOKT	**Tokat**	**1.96**	**7**	Pn	**Pn**	**12 37 53.1**	**+0.6**
TAHT	**Tahtakopru-Hat**	**1.99**	**181**	Pn	**Pb**	**12 37 53.9**	**-1.3**
KEMA	**Kemaliye**	**2.00**	**63**	P	**Pb**	**12 37 55.0**	**-0.3**
KEMA				S	**Sg**	**12 38 22.5**	**-0.2**
YESY	**Yesilyurt**	**2.03**	**254**	Pn	**Pb**	**12 37 55.2**	**-0.8**
SULT	**Sultanhani-AKS**	**2.13**	**266**	Pn	**Pb**	**12 37 56.1**	**-1.5**
ILIC	**ilic-Erzincan**	**2.13**	**59**	Pn	**Pn**	**12 37 55.8**	**+0.9**
SERE	**Sereflikochisa**	**2.15**	**286**	Pn	**Pb**	**12 37 56.4**	**-1.6**
CORM	**Corum**	**2.18**	**326**	Pn	**Pn**	**12 37 56.8**	**+1.2**
KAMT	**Kaman**	**2.19**	**298**	Pn	**Pn**	**12 37 56.7**	**+1.1**
RSDY	**Resadiye-TOKAT**	**2.20**	**23**	Pn	**Pn**	**12 37 56.8**	**+1.1**
HANM	**anlurfa/Hi**	**2.25**	**110**	P	**Pb**	**12 37 59.9**	**+0.2**
URFA	**Urfa**	**2.26**	**113**	Pn	**Pn**	**12 37 57.5**	**+0.9**
BR131	**Keskin Array S**	**2.42**	**305**	Pn	**Pn**	**12 37 59.7**	**+0.9**
BRTR	**Keskin Array B**	**2.42**	**305**	Pn	**Pn**	**12 37 58.9**	**+0.1**
	9.6nm,0.3s,baz=128,slow=18,SNR=76						
BRTR				Lg	Lg	12 38 34.3	
	7.7nm,0.3s,baz=126,slow=27,SNR=4.9						
	150nm,0.8s						
KIZK	**Mersin**	**2.50**	**222**	Pn	**Pn**	**12 38 01.3**	**+1.5**
PTK	**Pertek**	**2.54**	**77**	Pn	**Pn**	**12 38 01.4**	**+0.8**
KULU	**Kulu**	**2.60**	**286**	Pn	**Pn**	**12 38 02.6**	**+1.4**
CHBY	**Cihanbeyli**	**2.62**	**276**	Pn	**Pn**	**12 38 02.8**	**+1.3**
KRMN	**Karaman**	**2.62**	**244**	Pn	**Pn**	**12 38 03.1**	**+1.5**
SLFK	**Silifke-Mersin**	**2.67**	**223**	Pn	**Pn**	**12 38 04.1**	**+1.9**
AFSR	**Afar-Bala (An**	**2.67**	**295**	Pn	**Pn**	**12 38 03.8**	**+1.5**
SILI	**Silifke-Mersin**	**2.71**	**223**	Pn	**Pn**	**12 38 03.8**	**+1.2**
KVT	**Kavak**	**2.71**	**357**	Pn	**Pn**	**12 38 04.5**	**+1.8**
KEBE	**Keben-Mersin**	**2.77**	**227**	Pn	**Pn**	**12 38 05.1**	**+1.6**
IKL	**Isikli**	**2.93**	**224**	Pn	**Pn**	**12 38 07.5**	**+1.8**
ERZN	**Erzincan**	**2.99**	**65**	Pn	**Pn**	**12 38 08.1**	**+1.4**
CANT	**Cankiri**	**3.00**	**319**	Pn	**Pn**	**12 38 08.4**	**+1.7**
LADK	**Ladik-KONYA**	**3.03**	**268**	Pn	**Pn**	**12 38 09.2**	**+2.0**
AKKU	**Akkuyu-Mersin**	**3.06**	**225**	Pn	**Pn**	**12 38 09.5**	**+2.0**
KONT	**Konya--Tatoy**	**3.06**	**263**	Pn	**Pn**	**12 38 09.3**	**+1.7**
ESPY	**Espiye-Giresun**	**3.20**	**37**	Pn	**Pn**	**12 38 10.6**	**+1.2**
HDMB	**Hadim**	**3.27**	**246**	Pn	**Pn**	**12 38 12.6**	**+2.0**
EREN	**Erenkoy**	**3.27**	**211**	Pn	**Pn**	**12 38 12.1**	**+1.7**
TEKE	**Tekeli-Mersin**	**3.32**	**229**	Pn	**Pn**	**12 38 13.1**	**+2.0**
DIKM	**Dikmen**	**3.36**	**348**	Pn	**Pn**	**12 38 13.0**	**+1.4**
MAZI	**Mazidag**	**3.47**	**104**	Pn	**Pn**	**12 38 14.5**	**+1.3**
MMAI	**Mount Meron Ar**	**5.38**	**187**	Pn	**Pn**	**12 38 39.9**	**+0.4**
	4.3nm,0.3s,baz=14,slow=15,SNR=9.1						
MMAI				Sn	**Sn**	**12 39 43.3**	**+1.5**
	2.8nm,0.3s,baz=328,slow=27,SNR=1.4						
	9.5nm,0.5s						
MLR	**Muntele Rosu**	**10.44**	**316**	LR	LR	12 44 18.3	
	comp=Z,211nm,20.8s,baz=1.0,slow=40						
AKASG	**Malin Array Be**	**13.29**	**340**	Pn	**Pn**	**12 40 26.8**	**-0.9**
	0.8nm,0.3s,baz=165,slow=11,SNR=2.2						
	0.5nm,0.4s						
GERES	**GERESS Array B**	**19.30**	**310**	P	**P**	**12 41 43.8**	**-0.5**
	0.7nm,0.2s,baz=126,slow=13,SNR=1.7						
AKTO	**Aktyubinsk**	**19.62**	**45**	P	**P**	**12 41 47.9**	**+0.3**
	0.1nm,0.3s,baz=240,slow=8.7,SNR=4.2						
	1.4nm,0.8s						
DAVOX	**Davos/Dischmat**	**21.06**	**302**	P	**P**	**12 42 03.4**	**-0.1**
	1.4nm,0.4s,baz=180,slow=20,SNR=2.0						
	1.4nm,0.4s						
KEST	**Kesra**	**21.58**	**271**	P	**P**	**12 42 09.2**	**+0.2**
	6.7nm,0.9s,baz=14,slow=2.8,SNR=4.9						
	6.7nm,0.9s						
FINES	**FINESS Array B**	**23.94**	**348**	P	**P**	**12 42 33.4**	**+0.2**
	2.5nm,0.6s,baz=134,slow=14,SNR=6.6						
	2.5nm,0.6s						
HFS	**Hagfors**	**26.02**	**334**	P	**P**	**12 42 52.1**	**-0.1**
	1.8nm,0.6s,baz=133,slow=14,SNR=4.7						
	1.8nm,0.6s						
NOA	**NORSAR Array B**	**27.53**	**334**	P	**P**	**12 43 06.5**	**+0.7**
	0.4nm,0.7s,baz=144,slow=11,SNR=2.6						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**27.69**	**47**	P	**P**	**12 43 07.1**	**-0.1**
	0.4nm,0.4s,baz=230,slow=17,SNR=2.1						
	0.4nm,0.4s						
ESDC	**Sonseca Array**	**31.06**	**285**	P	**P**	**12 43 36.5**	**-0.8**
	0.6nm,0.8s,baz=65,slow=8.2,SNR=2.9						
	0.6nm,0.8s						
EKA	**Eskdalemuir Ar**	**31.29**	**316**	P	**P**	**12 43 39.3**	**+0.2**
	0.3nm,0.5s,baz=98,slow=9.4,SNR=2.4						
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**31.75**	**353**	P	**P**	**12 43 43.4**	**+0.4**
	0.7nm,0.3s,baz=144,slow=10,SNR=1.9						
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**32.14**	**54**	P	**P**	**12 43 46.7**	**+0.1**
	0.6nm,0.3s,baz=270,slow=8.8,SNR=6.2						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**34.53**	**61**	P	**P**	**12 44 08.2**	**+0.6**
	0.5nm,0.5s,baz=283,slow=5.9,SNR=4.9						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**36.31**	**48**	P	**P**	**12 44 22.5**	**-0.3**
	0.4nm,0.4s,baz=246,slow=6.1,SNR=2.0						
	0.4nm,0.4s						
YKA	**Yellowknife Ar**	**76.77**	**347**	P	**P**	**12 49 10.5**	**+0.1**
	0.7nm,0.8s,baz=26,slow=7.6,SNR=2.9						
	0.7nm,0.8s						
PDAR	**Pinedale Array**	**93.46**	**335**	P	**P**	**12 50 34.2**	**-1.1**
	0.1nm,0.5s,baz=64,slow=2.1,SNR=1.7						
	0.1nm,0.5s						

*HEL **18** 12:48:20.3±0.2, 68°.19N×32°.96E, h0km, ML1.7, Explosion*
*KOLA **18** 12:48:21.2, 68°.13N×32°.88E, h0km, ML2.0, Error ellipse:*
s-maj=3.3km s-min=1.8km az=80.0, Murmansk region,
Monchegorsk district,Murmansk region, Olenegorsk district
*IDC **18** 12:48:24.4±3.5, 68°.22N×32°.26E, h0km, mbtmp2.7/2,*
ML2.0/2, Error ellipse: s-maj=43.7km s-min=13.6km
az=56.0

ISC 18 12:48:20.1±0.8, **68°.15N**±0°.03×**32°.90E**±0°.03, **h0**km, **n28,**
σ1§66/45, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.61**	**162**	S	**Sg**	**12 48 39.5**	**-0.1**
LVZ	**Lovozero**	**0.70**	**110**	P	**Pb**	**12 48 35.0**	**-0.3**
LVZ				S	**Sg**	**12 48 43.1**	**+0.5**
LVZ	**Lovozero**	**0.70**	**110**	PG	**Pg**	**12 48 33.4**	**-0.1**
LVZ				SG	**Sg**	**12 48 42.1**	**-0.5**
VRF	**Varrio**	**1.31**	**254**	PG	**Pg**	**12 48 44.8**	**-0.3**
VRF				MSG		12 49 00.7	
	comp=Z,7.7nm,0.2s						
VRF				SG	**Sg**	**12 49 02.4**	**+0.5**
TERR	**Teriberka**	**1.33**	**36**	P	**Pg**	**12 48 44.2**	**-1.4**
TERR				S	**Sb**	**12 49 03.0**	**-0.5**
PRVG	**Vayda Guba**	**1.63**	**351**	P	**Pg**	**12 48 51.5**	**+0.2**
PRVG				S	**Sb**	**12 49 12.2**	**+0.2**
RAJF	**Raja-Jooseppi**	**1.74**	**283**	PG	**Pn**	**12 48 52.0**	**+0.5**
RAJF				SN	**Sn**	**12 49 14.7**	**+0.4**
OLKF	**Oulanka, Finla**	**2.28**	**218**	PB	**Pn**	**12 49 00.7**	**+1.7**
OLKF				MSG		12 49 29.2	
	comp=Z,4.2nm,0.2s						
OLKF				SN	**Sn**	**12 49 30.0**	**+2.2**
VADS	**Vadso**	**2.35**	**329**	P	**Pn**	**12 49 01.0**	**+1.1**
VADS				S	**Sn**	**12 49 30.2**	**+0.7**
KU6	**Riekki**	**2.43**	**210**	PB	**Pn**	**12 49 02.7**	**+1.7**
	baz=28						
KU6				MSG		12 49 33.6	
	comp=Z,1.9nm,0.2s						
KU6				SB	**Sb**	**12 49 34.5**	**-0.6**
SGF	**Sodankyl**	**2.52**	**257**	PN	**Pn**	**12 49 03.1**	**+0.9**
SGF				SG	**Sb**	**12 49 38.2**	**+0.5**
KEV	**Kevo**	**2.67**	**310**	PB	**Pn**	**12 49 05.8**	**+1.5**
KEV				MSG		12 49 38.8	
	comp=Z,3.3nm,0.2s						
KEV				SB	**Sn**	**12 49 39.1**	**+1.8**
MSF	**Maaselka**	**2.71**	**216**	PB	**Pn**	**12 49 06.9**	**+2.1**
MSF				SB	**Sb**	**12 49 42.2**	**-0.8**
ARA0	**ARCESS Array S**	**3.02**	**301**	PB	**Pn**	**12 49 10.0**	**+0.9**
	baz=118						
ARCES	**ARCESS Array B**	**3.02**	**301**	Pn	**Pn**	**12 49 10.3**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=111,slow=13,SNR=2.9						
ARCES				Lg	Lg	12 49 51.7	
	comp=Z,0.6nm,0.3s,baz=116,slow=35,SNR=10						
ARCES				Rg	Rg	12 50 06.5	
	comp=Z,3.3nm,0.8s,baz=110,slow=26,SNR=2.5						
	comp=Z,0.7nm,0.3s						
RNF	**Rovaniemi**	**3.08**	**243**	PN	**Pn**	**12 49 10.7**	**+0.9**
	baz=58						
RNF				SN	**Sn**	**12 49 48.0**	**+0.7**
RANF	**Ranua**	**3.21**	**231**	PN	**Pn**	**12 49 12.5**	**+0.8**
	baz=41						
RANF				SN	**Sn**	**12 49 51.7**	**+1.2**
HEF	**Hetta**	**3.45**	**279**	PN	**Pn**	**12 49 15.4**	**+0.5**
	baz=94						
HEF				SN	**Sn**	**12 49 56.3**	**-0.1**
KLF	**Kolari**	**3.53**	**259**	PN	**Pn**	**12 49 16.8**	**+0.7**
KTK1	**Kautokeino**	**3.65**	**288**	PN	**Pn**	**12 49 18.5**	**+0.8**
KTK1				SG	**Sb**	**12 50 11.7**	**+1.5**
TOF	**Tornio**	**3.94**	**242**	PN	**Pn**	**12 49 21.8**	**+0.1**
TOF				SN	**Sn**	**12 50 07.2**	**-1.3**
LANU	**Lannavaara**	**4.09**	**274**	PN	**Pn**	**12 49 23.6**	**-0.1**
LANU				SG	**Sb**	**12 50 26.9**	**+4.2**
OUL	**Oulu**	**4.15**	**226**	PB	**Pb**	**12 49 31.2**	**-2.7**
ERTU	**Ertsjaerv**	**4.44**	**254**	PN	**Pn**	**12 49 29.3**	**+0.7**
OBF4	**Vikkela, Lumij**	**4.58**	**227**	PN	**Pn**	**12 49 31.3**	**+0.8**
	baz=38						
I37NO	**I37NO**	**5.31**	**287**	I	I	13 19 00.0	
	baz=93,slow=312,SNR=18						
FAUS	**Fauske**	**6.72**	**272**	S	**Sn**	**12 51 10.2**	**-6.9**
FINES	**FINESS Array B**	**7.33**	**207**	Pn	**Pn**	**12 50 09.9**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=32,slow=13,SNR=1.4						
	comp=Z,0.6nm,0.6s						

*NEIC **18** 13:31:29.7±0.5, 36°.65N±0°.02×98°.75W±0°.03, h2km±2km,*
Error ellipse: s-maj=3.7km s-min=1.8km az=127.0

TUL 18 13:31:29.9±0.5, **36°.67N**±0°.02×**98°.76W**±0°.06, **h6**km±6km,
ML2.7, mb_Lg2.3/30(NEIC), **ML2.6**/14(NEIC), **Error**
ellipse: s-maj=6.8km s-min=1.2km az=107.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	**Waynoka**	**0.14**	**257**	Pg	Pg	13 31 33.3	+0.5
NOKA				IAML		13 31 36.0	
	comp=N,2μm,0.3s						
NOKA				IAML		13 31 36.2	
	comp=E,2μm,0.4s						
OK038	**West end E0370**	**0.19**	**175**		Pg	13 31 34.2	+0.6
OK038				IAML		13 31 39.6	
	comp=E,890nm,0.3s						
U32A	**Winter Ranch,**	**0.35**	**214**	Pg	Pg	13 31 37.0	+0.3
U32A				IAML		13 31 42.8	
	comp=N,717nm,0.2s						
CROK	**Carrier**	**0.65**	**104**		Pg	13 31 42.3	-0.1
CROK				IAML		13 31 57.9	
	comp=E,248nm,0.2s						
CROK				IAML		13 31 58.0	
	comp=N,332nm,0.3s						
KAN14	**Manchester OK**	**0.70**	**66**		Pg	13 31 43.5	+0.1
GC02	**Grant County #**	**0.75**	**76**	Pg	Pg	13 31 44.0	-0.2
KAN05	**Bluff City Nor**	**0.84**	**58**	Pg	Pg	13 31 45.8	-0.2
KAN08	**Anthony NE Sta**	**0.84**	**48**	Pg	Pg	13 31 46.1	0.0
KAN12	**Harper NE Stat**	**0.88**	**44**	Pg	Pg	13 31 46.6	-0.1
KAN17	**Caldwell West**	**0.88**	**65**		Pg	13 31 46.7	-0.1
KAN01	**Argonia South**	**0.94**	**59**		Pg	13 31 47.9	0.0
CSTR	**Hydro, Custer**	**1.02**	**177**	Pg	Pg	13 31 49.5	0.0
KAN09	**Caldwell North**	**1.03**	**63**		Pg	13 31 49.5	-0.2
KS21	**Milan North St**	**1.07**	**55**	Pg	Pg	13 31 50.3	-0.3
KAN13	**South Haven SW**	**1.09**	**71**		Pg	13 31 50.3	-0.5
BLOK	**Blackwell**	**1.25**	**85**		Pg	13 31 53.2	-0.6
OK048	**Pawnee Station**	**1.48**	**99**		Pn	13 31 57.1	0.0
OK051	**E0350 and S346**	**1.56**	**95**		Pn	13 31 58.6	+0.4
OK031	**S. Brethren Rd**	**1.71**	**114**		Pn	13 32 00.5	+0.3
OK052	**Battle Ridge R**	**1.72**	**112**		Pn	13 32 00.2	-0.2
R32A	**Long Quarter,**	**1.75**	**1**	Pn	Pn	13 32 01.3	+0.5
WMOK	**Wichita Mounta**	**1.93**	**180**	Pn	Pn	13 32 03.7	+0.5
SMWD	**Samnorwood**	**1.97**	**218**		Pn	13 32 04.7	+0.8
SMWD				IAmb_Lg		13 32 32.6	
	comp=Z,18nm,0.8s						
AMTX	**Amarillo**	**2.97**	**234**	IAmb_Lg		13 33 06.3	
	comp=Z,14nm,0.8s						
X37A	**Clayton**	**3.45**	**126**	IAmb_Lg		13 33 28.3	
	comp=Z,12nm,0.7s						
APMT	**Aspermont**	**3.52**	**199**	IAmb_Lg		13 33 29.5	
	comp=Z,4.9nm,0.7s						
U38A	**Gravette**	**3.53**	**92**	IAmb_Lg		13 33 26.2	
	comp=Z,5.4nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.85**	**309**	IAmb_Lg		13 33 35.4	
	comp=Z,7.5nm,0.7s						
SN07	**Snyder 07**	**3.97**	**207**	IAmb_Lg		13 33 39.3	
	comp=Z,12nm,0.9s						
S39A	**Bolivar**	**4.46**	**75**	IAmb_Lg		13 33 52.9	
	comp=Z,4.8nm,0.8s						
SGCY	**Sterling City**	**5.13**	**203**	IAmb_Lg		13 34 23.3	
	comp=Z,7.6nm,0.9s						
Q24A	**Divide**	**5.55**	**296**	IAmb_Lg		13 34 33.2	
	comp=Z,4.6nm,0.7s						
OZNA	**Ozona**	**6.06**	**200**	IAmb_Lg		13 34 51.8	
	comp=Z,6.2nm,1.1s						
CCM	**Cathedral Cave**	**6.15**	**75**	IAmb_Lg		13 34 44.3	
	comp=Z,5.2nm,0.7s						
ISCO	**Idaho Springs**	**6.23**	**302**	IAmb_Lg		13 34 51.3	
	comp=Z,5.4nm,0.9s						
N23A	**Red Feather La**	**7.02**	**309**	IAmb_Lg		13 35 24.0	
	comp=Z,5.1nm,0.8s						

*BGS **18** 13:33:18.8±1.6, 51°.16N×0°.24W, h1km, ML2.4*
*LDG **18** 13:33:19.8±0.1, 51°.12N×0°.25W, h2km, Ml3.1/23, Error*
ellipse: s-maj=1.4km s-min=1.3km az=25.0

ISC 18 13:33:16.9±1.1, **51°.13N**±0°.02×**0°.26W**±0°.02, **h8**km±10km,
n44, σ1§14/84, **United Kingdom**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMNX	**Herstmonceux**	**0.46**	**125**	*e*P	**Pb**	**13 33 28.4**	**+1.2**
HMNX				*e*S	**Sb**	**13 33 36.4**	**+2.2**
HMNX				IAML		13 33 38.1	
	comp=N,332nm,0.4s						
HMNX				IAML		13 33 40.2	
	comp=E,500nm,0.6s						
WOL	**Wolverton**	**0.63**	**287**	*e*P	**Pn**	**13 33 32.1**	**-0.1**
WOL				*e*S	**Sn**	**13 33 43.1**	**+0.6**
ELSH	**Elham, Standar**	**0.88**	**88**	*e*P	**Pn**	**13 33 36.6**	**+1.1**
ELSH				IAML		13 33 54.1	
	comp=N,88nm,0.5s						
ELSH				IAML		13 34 00.6	
	comp=E,166nm,0.6s						
SWN1	**Swindon**	**1.04**	**292**	*e*P	**Pn**	**13 33 39.9**	**+2.1**
SWN1				*e*S	**Sn**	**13 33 53.6**	**+1.0**
SWN1				IAML		13 33 57.8	
	comp=E,99nm,0.4s						
SWN1				IAML		13 34 10.0	
	comp=N,180nm,0.5s						
ELMS	**Elmsett, Ipswi**	**1.24**	**38**	*e*P	**Pn**	**13 33 42.3**	**+1.8**
ELMS				*e*S	**Sn**	**13 33 57.9**	**+0.6**
ELMS				IAML		13 34 00.2	
	comp=N,145nm,0.4s						
ELMS				IAML		13 34 00.7	
	comp=E,142nm,0.3s						
WACR	**West Acre**	**1.69**	**19**	*e*P	**Pg**	**13 33 49.7**	**+0.5**
WACR				*e*S	**Sg**	**13 34 11.2**	**+0.2**
WACR				IAML		13 34 14.1	
	comp=N,116nm,0.3s						
WACR				IAML		13 34 18.6	
	comp=E,98nm,0.3s						
MONM	**Monmouth**	**1.74**	**295**	*e*P	**Pg**	**13 33 50.1**	**-0.2**
MONM				*e*S	**Sg**	**13 34 12.5**	**-0.5**
MCH1	**Michaelchurch**	**1.92**	**298**	*e*P	**Pg**	**13 33 52.9**	**-0.8**
MCH1				*e*S	**Sb**	**13 34 16.8**	**+0.6**
HLM1	**Long Mynd**	**2.14**	**311**	*e*P	**Pb**	**13 33 54.5**	**-1.4**
HLM1				*e*S	**Sb**	**13 34 23.0**	**+0.4**
FLN	**La Foliniere**	**2.38**	**184**	*e*Pn	**Pn**	**13 33 57.6**	**+1.4**
FLN	**La Foliniere**	**2.38**	**184**	*e*Pg	**Pg**	**13 34 03.7**	**+1.3**
	baz=3.8						
FLN				*e*Sg	**Sg**	**13 34 34.6**	**+1.4**
	comp=E,38nm,0.3s						
FOEL	**Foel Wylfa**	**2.53**	**315**	*e*P	**Pb**	**13 34 00.5**	**-2.1**
LDF	**La Druitiere**	**2.54**	**178**	*e*Pg	**Pg**	**13 34 06.9**	**+1.3**
LDF				*e*Sn	**Sn**	**13 34 29.9**	**+0.3**
LDF				*e*Sg	**Sg**	**13 34 40.0**	**+1.4**
	comp=E,24nm,0.3s						
GRR	**Gorron**	**2.77**	**188**	*e*Pn	**Pn**	**13 34 03.1**	**+1.5**
GRR	**Gorron**	**2.77**	**188**	*e*Pg	**Pg**	**13 34 11.1**	**+1.0**
GRR				*e*Sn	**Sn**	**13 34 35.7**	**+0.4**
GRR				*e*Sg	**Sg**	**13 34 47.0**	**+1.0**
	comp=E,31nm,0.5s						
BAIF	**Baives**	**3.04**	**109**	*e*Pn	**Pn**	**13 34 06.5**	**+1.2**
BAIF				*e*Sg	**Sg**	**13 34 55.3**	**+0.8**
	comp=E,18nm,0.4s						
SGMF	**Saint Gilles**	**3.25**	**208**	*e*Pn	**Pn**	**13 34 09.3**	**+1.2**
SGMF	**Saint Gilles**	**3.25**	**208**	*e*Pg	**Pg**	**13 34 19.6**	**+0.5**
SGMF				*e*Sn	**Sn**	**13 34 46.6**	**-0.3**
SGMF				*e*Sg	**Sg**	**13 35 01.7**	**+0.6**
	comp=E,9.1nm,0.3s						
GIVF	**Givet**	**3.40**	**106**	*e*Pn	**Pn**	**13 34 11.3**	**+1.1**
GIVF	**Givet**	**3.40**	**106**	*e*Pg	**Pg**	**13 34 22.3**	**+0.4**
GIVF				*e*Sn	**Sn**	**13 34 49.7**	**-0.9**
GIVF				*e*Sg	**Sg**	**13 35 05.7**	**-0.2**
	comp=E,8.9nm,0.3s						
ROSF	**Rostrenen**	**3.42**	**216**	*e*Pn	**Pn**	**13 34 11.5**	**+1.1**
ROSF	**Rostrenen**	**3.42**	**216**	*e*Pg	**Pg**	**13 34 20.9**	**-1.4**
ROSF				*e*Sn	**Sn**	**13 34 50.8**	**-0.3**
ROSF				*e*Sg	**Sg**	**13 35 06.9**	**+0.4**
	comp=E,18nm,0.5s						
QUIF	**Quistinic**	**3.74**	**212**	*e*Pn	**Pn**	**13 34 15.3**	**+0.5**
QUIF	**Quistinic**	**3.74**	**212**	*e*Pg	**Pg**	**13 34 28.9**	**+0.5**
QUIF				*e*Sn	**Sn**	**13 34 58.2**	**-0.8**
QUIF				*e*Sg	**Sg**	**13 35 17.0**	**+0.2**
	comp=E,7.3nm,0.4s						
MEZF	**Maizieres J'vi**	**4.33**	**125**	*e*Pn	**Pn**	**13 34 24.1**	**+1.1**
MFF	**Saint Martin d**	**4.54**	**179**	*e*Pn	**Pn**	**13 34 27.1**	**+1.3**
MFF	**Saint Martin d**	**4.54**	**179**	*e*Pg	**Pg**	**13 34 43.4**	**-0.3**
MFF				*e*Sn	**Sn**	**13 35 17.5**	**-1.2**
MFF				*e*Sg	**Sg**	**13 35 42.0**	**-0.5**
	comp=E,6.4nm,0.3s						
LOR	**Lormes**	**4.71**	**144**	*e*Pg	**Pg**	**13 34 47.0**	**-0.2**
	baz=327						
LOR				*e*Sg	**Sg**	**13 35 47.8**	**-0.4**
	comp=E,12nm,0.5s,baz=327						
SSF	**Saint Saulge**	**4.76**	**147**	*e*Pn	**Pn**	**13 34 29.5**	**+0.5**
SSF	**Saint Saulge**	**4.76**	**147**	*e*Pg	**Pg**	**13 34 47.9**	**-0.2**
SSF				*e*Sg	**Sg**	**13 35 49.2**	**-0.6**
	comp=E,11nm,0.5s						
AVF	**Avril sur Loir**	**4.95**	**150**	*e*Pn	**Pn**	**13 34 32.8**	**+1.2**
AVF	**Avril sur Loir**	**4.95**	**150**	*e*Pg	**Pg**	**13 34 51.1**	**-0.6**
AVF				*e*Sn	**Sn**	**13 35 27.3**	**-1.7**
AVF				*e*Sg	**Sg**	**13 35 55.0**	**-0.9**
	comp=E,8.6nm,0.7s						
BGF	**Bois d'Agland**	**5.02**	**155**	*e*Pn	**Pn**	**13 34 33.4**	**+1.0**
BGF				*e*Sn	**Sn**	**13 35 29.1**	**-1.5**
BGF				*e*Sg	**Sg**	**13 35 57.3**	**-0.6**
	comp=E,38nm,0.5s						
TCF	**Toulx Ste Croi**	**5.12**	**160**	*e*Pn	**Pn**	**13 34 35.1**	**+1.3**
TCF	**Toulx Ste Croi**	**5.12**	**160**	*e*Pg	**Pg**	**13 34 54.1**	**-0.8**
TCF				*e*Sn	**Sn**	**13 35 31.8**	**-1.3**
TCF				*e*Sg	**Sg**	**13 36 00.4**	**-0.7**
	comp=E,14nm,0.5s						
SMF	**Signal de Mont**	**5.24**	**147**	*e*Pn	**Pn**	**13 34 36.8**	**+1.3**
SMF	**Signal de Mont**	**5.24**	**147**	*e*Pg	**Pg**	**13 34 56.6**	**-0.6**
SMF				*e*Sn	**Sn**	**13 35 34.5**	**-1.6**
SMF				*e*Sg	**Sg**	**13 36 04.1**	**-1.0**
	comp=E,4.2nm,0.3s						
CDF	**Champ du Feu**	**5.59**	**116**	*e*Pg	**Pg**	**13 35 02.7**	**-1.2**
CDF				*e*Sg	**Sg**	**13 36 14.9**	**-1.3**
	comp=E,5.6nm,0.5s						
HINF	**Hinteralfeld**	**5.70**	**123**	*e*Pg	**Pg**	**13 35 04.8**	**-1.2**
RJF	**Les Rejaudoux**	**5.95**	**168**	*e*Pn	**Pn**	**13 34 46.5**	**+1.2**
RJF				*e*Sn	**Sn**	**13 35 51.4**	**-2.2**
	comp=E,4.2nm,0.3s						
RJF				*e*Sg	**Sg**	**13 36 26.4**	**-1.5**
	comp=E,3.9nm,0.3s						
CABF	**La Chapelle**	**6.16**	**135**	*e*Pg	**Pg**	**13 35 13.7**	**-1.2**
CABF				*e*Sg	**Sg**	**13 36 32.7**	**-1.9**
	comp=E,3.2nm,0.3s						
CAF	**Calviac**	**6.40**	**165**	*e*Pn	**Pn**	**13 34 52.6**	**+1.1**
CAF	**Calviac**	**6.40**	**165**	*e*Pg	**Pg**	**13 35 18.1**	**-1.4**
CAF				*e*Sn	**Sn**	**13 36 02.7**	**-2.1**
	comp=E,1.7nm,0.2s						
CAF				*e*Sg	**Sg**	**13 36 40.6**	**-1.8**
	comp=E,7.5nm,0.5s						
VIVF	**Saint-Julien-l**	**7.10**	**150**	*e*Pn	**Pn**	**13 35 01.8**	**+0.8**

*JMA **18** 13:54:34.0±0.5, 44°.N±2°.×14°.8E±°, h0km, MV3.6/22, SE*
OFF ETOROFU
*SKHL **18** 13:54:35.9±0.2, 44°.20N×148°.30E, h39km±8km, mb4.0/2*

**

Z35A	**Perchaven, San**	**1.67**	**172**		Pn	14 00 24.8	-0.7
TUL3	**Leonard**	**1.70**	**57**		Pn	14 00 25.8	-0.2
TUL3				IAmb_Lg		14 00 51.7	
	comp=Z,32nm,0.9s						
OK038	**West end E0370**	**1.78**	**327**	IAmb_Lg		14 00 52.2	
	comp=Z,14nm,0.9s						
BLOK	**Blackwell**	**1.79**	**8**	IAmb_Lg		14 00 55.0	
	comp=Z,25nm,0.7s						
X37A	**Clayton**	**1.83**	**102**	Pn	Pn	14 00 28.0	+0.2
ELIS	**Ellis County**	**1.87**	**306**	IAmb_Lg		14 00 56.7	
	comp=Z,16nm,0.7s						
OK032	**Salt Plains WL**	**1.90**	**344**	IAmb_Lg		14 00 56.3	
	comp=Z,20nm,0.7s						
KAN14	**Manchester OK**	**2.00**	**350**	IAmb_Lg		14 01 01.8	
	comp=Z,13nm,0.7s						
KAN13	**South Haven SW**	**2.03**	**1**	IAmb_Lg		14 01 02.6	
	comp=Z,17nm,1.2s						
KAN17	**Caldwell West**	**2.06**	**355**	IAmb_Lg		14 01 04.7	
	comp=Z,20nm,0.9s						
KAN09	**Caldwell North**	**2.15**	**358**	IAmb_Lg		14 01 03.0	
	comp=Z,14nm,0.9s						
KAN01	**Argonia South**	**2.17**	**355**	IAmb_Lg		14 01 06.8	
	comp=Z,17nm,1.0s						
SMWD	**Samnorwood**	**2.22**	**274**	IAmb_Lg		14 01 09.3	
	comp=Z,15nm,1.0s						
PLPT	**Palo Pinto**	**2.26**	**197**	IAmb_Lg		14 01 10.6	
	comp=Z,10nm,0.8s						
FW07	**Weatherford**	**2.28**	**185**	IAmb_Lg		14 01 11.5	
	comp=Z,21nm,0.9s						
FW14	**Alvarado**	**2.59**	**173**	IAmb_Lg		14 01 23.1	
	comp=Z,21nm,0.9s						
FW13	**Cleburne**	**2.63**	**178**	IAmb_Lg		14 01 25.1	
	comp=Z,14nm,0.9s						
WHTX	**Lake Whitney,**	**2.98**	**179**	IAmb_Lg		14 01 32.6	
	comp=Z,18nm,1.2s						
MIAR	**Mount Ida**	**3.29**	**96**	IAmb_Lg		14 01 48.5	
	comp=Z,12nm,0.8s						
AMTX	**Amarillo**	**3.40**	**270**	IAmb_Lg		14 01 47.3	
	comp=Z,7.3nm,0.9s						
R32A	**Long Quarter,**	**3.56**	**345**	IAmb_Lg		14 01 54.9	
	comp=Z,15nm,1.0s						
CBKS	**Cedar Bluff**	**4.21**	**336**	IAmb_Lg		14 02 18.3	
	comp=Z,9.2nm,0.8s						
SGCY	**Sterling City**	**4.28**	**225**	IAmb_Lg		14 02 20.8	
	comp=Z,9.9nm,1.1s						
WHAR	**Wooly Hollow**	**4.32**	**84**	IAmb_Lg		14 02 18.7	
	comp=Z,12nm,0.8s						
S39A	**Bolivar**	**4.35**	**50**	IAmb_Lg		14 02 18.3	
	comp=Z,10nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.51**	**77**	IAmb_Lg		14 02 26.0	
	comp=Z,8.9nm,0.9s						
MGMO	**Mountain Grove**	**4.79**	**62**	IAmb_Lg		14 02 36.9	
	comp=Z,11nm,0.9s						
LCAR	**Lake Charles**	**5.32**	**76**	IAmb_Lg		14 02 51.3	
	comp=Z,4.9nm,0.7s						
R40A	**Maddies Statio**	**5.37**	**51**	IAmb_Lg		14 02 59.0	
	comp=Z,8.1nm,0.9s						
T42A	**Van Buren**	**5.61**	**67**	IAmb_Lg		14 03 08.2	
	comp=Z,6.6nm,0.7s						
HNDO	**Hondo**	**5.63**	**196**	IAmb_Lg		14 03 00.7	
	comp=Z,9.6nm,0.9s						
T25A	**Trinidad**	**5.96**	**293**	IAmb_Lg		14 03 11.5	
	comp=Z,5.3nm,0.7s						
DRIO	**Del Rio**	**6.13**	**206**	IAmb_Lg		14 03 24.2	
	comp=Z,7.1nm,1.1s						
CGM3	**Cape Girardeau**	**6.78**	**68**	IAmb_Lg		14 03 37.7	
	comp=Z,6.9nm,0.9s						
Q24A	**Divide**	**7.27**	**305**	IAmb_Lg		14 03 46.1	
	comp=Z,6.8nm,1.0s						
ECSD	**EROS Data Cent**	**8.77**	**4**	IAmb_Lg		14 04 43.7	
	comp=Z,2.2nm,0.8s						
N23A	**Red Feather La**	**8.88**	**314**	IAmb_Lg		14 04 47.5	
	comp=Z,3.5nm,0.9s						

*NAO **18** 14:02:06.2±2.7, 71.°96N×0.°26E, ML3.0*
*BER **18** 14:02:11.1±3.0, 72.°10N×0.°49E, h10km, mb(Pn)4.0, ML3.0(NAO), Confirmed Earthquake*

ISC 18 14:02:11.6±1.8, 72.°06N±0.°08×1.°8E±0.°1, h10km, n30, σ1°53/36, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**5.54**	**56**	*eP*	**Pn**	**14 03 34.4**	**+0.6**
BJO1	**Bjornoya**	**5.54**	**56**	Pn	**Pn**	**14 03 34.5**	**+0.6**
LOF	**Lofoten**	**5.63**	**129**	*eP*	**Pn**	**14 03 37.3**	**+2.1**
LOF				*eS*	**Sn**	**14 04 39.2**	**-0.6**
LOF				IAML		14 04 46.8	
	comp=Z,2.9nm,0.8s						
LOF	**Lofoten**	**5.63**	**129**	Pn	**Pn**	**14 03 37.0**	**+1.8**
LOF				Sn	**Sn**	**14 04 39.1**	**-0.6**
TRO	**Tromso**	**6.15**	**105**	*eP*	**Pn**	**14 03 44.0**	**+1.8**
TRO				*eS*	**Sn**	**14 04 50.5**	**-1.9**
TRO				IAML		14 04 55.3	
	comp=Z,2.7nm,0.5s						
HSPB	**Hornsund (broa**	**6.16**	**30**	Pn	**Pn**	**14 03 42.1**	**-0.3**
STEI	**Steigen**	**6.20**	**125**	*eP*	**Pn**	**14 03 45.0**	**+1.9**
STEI				*eS*	**Sn**	**14 04 51.7**	**-2.1**
STEI				IAML		14 04 57.9	
	comp=Z,2.6nm,0.4s						
JETT	**Jettan, Norway**	**6.63**	**103**	Pn	**Pn**	**14 03 50.0**	**+1.0**
JETT	**Jettan, Norway**	**6.63**	**103**	Pn	**Pn**	**14 03 50.0**	**+1.0**
FAUS	**Fauske**	**6.63**	**128**	*eP*	**Pn**	**14 03 50.3**	**+1.4**
FAUS				*eS*	**Sn**	**14 05 02.5**	**-1.9**
FAUS				IAML		14 05 08.2	
	comp=Z,2.8nm,0.3s						
DBG	**Daneborg**	**6.74**	**300**	*eP*	Pn	14 03 40.5	-10
DBG				*eS*	Sn	14 04 47.3	-20
DBG	**Daneborg**	**6.74**	**300**	Pn	Pn	14 03 40.8	-10
BRBA	**Barentsburg A**	**6.81**	**22**	*eP*	**Pn**	**14 03 51.3**	**0.0**
BRBB	**Barentsburg B**	**6.84**	**22**	*eP*	**Pn**	**14 03 53.0**	**+1.3**
BRBB	**Barentsburg B**	**6.84**	**22**	Pn	**Pn**	**14 03 52.7**	**+1.0**
KONS	**Konsvik**	**6.88**	**139**	*eP*	**Pn**	**14 03 53.5**	**+1.3**
KONS				*eS*	**Sn**	**14 05 09.0**	**-1.4**
KONS				IAML		14 05 16.9	
	comp=Z,2.1nm,0.4s						
KIF	**Kilpisjarvi**	**7.05**	**106**	*eP*	**Pn**	**14 03 55.5**	**+0.9**
KIF	**Kilpisjarvi**	**7.05**	**106**	Pn	**Pn**	**14 03 56.0**	**+1.4**
SPA0	**Spitsbergen Ar**	**7.18**	**25**	Pn	**Pn**	**14 03 57.0**	**+0.7**
	baz=207,slow=18						
SPA0	**Spitsbergen Ar**	**7.18**	**25**	Pn	**Pn**	**14 03 57.0**	**+0.7**
	baz=207,slow=18						
DAG	**Danmarks Havn**	**7.21**	**320**	*eP*	Pn	14 03 48.1	-8.6
DAG				*eS*	Sn	14 04 57.3	-21
KBS	**Kingsbay**	**7.34**	**16**	*eP*	**Pn**	**14 03 56.5**	**-2.1**
KBS	**Kingsbay**	**7.34**	**16**	Pn	**Pn**	**14 03 57.8**	**-0.8**
SALU	**Saltoluokta**	**7.46**	**121**	*eP*	**Pn**	**14 04 02.8**	**+2.6**
KTK1	**Kautokeino**	**7.77**	**103**	*eP*	**Pn**	**14 04 06.3**	**+1.7**
ARA0	**ARCESS Array S**	**8.20**	**96**	Pn	**Pn**	**14 04 12.1**	**+1.7**
	baz=300,slow=12						
ARA0				Sn	**Sn**	**14 05 43.3**	**+0.4**
	baz=301,slow=22						
ARA0	**ARCESS Array S**	**8.20**	**96**	Pn	**Pn**	**14 04 12.1**	**+1.7**
	baz=300,slow=12						
ARA0				Sn	**Sn**	**14 05 43.3**	**+0.4**
	baz=301,slow=22						
HEF	**Hetta**	**8.24**	**106**	*eP*	**Pn**	**14 04 13.0**	**+1.9**
HEF				*eS*	**Sn**	**14 05 41.4**	**-2.7**
HEF	**Hetta**	**8.24**	**106**	Pn	**Pn**	**14 04 12.6**	**+1.6**
NSS	**Namsos**	**8.44**	**148**	*eP*	**Pn**	**14 04 14.8**	**+1.1**

*IDC **18** 14:10:36.1±4.2, 8.°06S×123.°29E, h129km±32km, mb3.1/1, mbtmp3.7/3, Error ellipse: s-maj=262.7km s-min=28.2km az=57.0*
*DJA **18** 14:10:37.3±0.3, 9.°S±3.°×12.°2E±.°, h109km±4km, M3.8/12, mb4.1/3, MLv3.6/12*

ISC 18 14:10:36.1±1.8, 8.°82S±0.°07×122.°38E±0.°06, h125km±6km, n22, σ1°76/28, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.23**	**322**	P	**Pn**	**14 10 53.5**	**+0.1**
MMRI	**Maumere**	**0.23**	**322**	P	**Pn**	**14 10 53.0**	**-0.4**
MMRI				S	**Sn**	**14 11 05.5**	**-0.9**
EDFI	**Ende, Flores**	**0.68**	**275**	P	**Pn**	**14 10 55.5**	**-0.4**
EDFI				S	**Sn**	**14 11 10.5**	**-0.4**
BATI	**Baumata**	**1.88**	**138**	P	**Pn**	**14 11 10.8**	**+2.5**
SOEI	**Soe**	**2.09**	**117**	P	**Pn**	**14 11 13.1**	**+2.1**
BASI	**Baing, Sumba**	**2.26**	**232**	P	**Pn**	**14 11 12.7**	**-0.3**
BASI				S	**Sn**	**14 11 41.1**	**-0.2**
BBSI	**Bau Bau**	**3.31**	**3**	P	**Pn**	**14 11 28.0**	**+1.4**
BKSI	**Bulukumba**	**4.13**	**327**	P	**Pn**	**14 11 37.7**	**+0.2**
PLAI	**Plampang**	**4.55**	**270**	P	**Pn**	**14 11 44.7**	**+1.7**
PLAI	**Plampang**	**4.55**	**270**	P	**Pn**	**14 11 44.5**	**+1.5**
PLAI				S	**Sn**	**14 12 34.2**	**-0.9**
TWSI	**Taliwang, Sumb**	**5.43**	**270**	P	**Pn**	**14 11 55.5**	**+0.6**
	27nm,1.1s						
MTN	**Manton Dam**	**9.49**	**116**	P	**Pn**	**14 12 48.7**	**-0.9**
KDU	**Kakadu**	**10.64**	**112**	P	**Pn**	**14 13 03.7**	**-1.4**
WRA	**Warramunga Arr**	**16.01**	**135**	P	**Pn**	**14 14 12.5**	**-1.7**
	0.9nm,0.4s,baz=311,slow=13,SNR=29						
WRA				S	Sn	14 16 59.6	-13
	0.4nm,0.3s,baz=320,slow=24,SNR=4.5						
WB1	**Warramunga Ar.**	**16.02**	**135**	P	**Pn**	**14 14 15.1**	**+0.6**
WRKA	**Warakurna**	**17.09**	**161**	P	**Pn**	**14 14 29.4**	**+1.9**
ASAR	**Alice Springs**	**18.43**	**145**	P	**Pn**	**14 14 43.5**	**-0.1**
	1.5nm,0.5s,baz=329,slow=13,SNR=32						
ASAR				S	**S**	**14 18 00.9**	**-5.3**
	0.4nm,0.4s,baz=312,slow=21,SNR=2.8						
ASAR				ScP	**ScP**	**14 22 30.4**	**-1.3**
	0.4nm,0.7s,baz=345,slow=2.9,SNR=5.3						
QIS	**Mount Isa**	**20.32**	**127**	P	**P**	**14 15 03.9**	**+1.4**
BLDU	**Ballidu**	**22.33**	**193**	P	**P**	**14 15 24.3**	**+0.7**
OOD	**Oodnadatta**	**22.68**	**148**	P	**P**	**14 15 28.2**	**+1.1**
MULG	**Mulgathing**	**23.99**	**154**	P	**P**	**14 15 41.8**	**+2.7**
MKAR	**Makanchi Array**	**65.86**	**331**	P	**P**	**14 21 06.5**	**-1.7**
	0.3nm,0.5s,baz=146,slow=7.5,SNR=3.6						
	0.3nm,0.5s						

*IDC **18** 14:22:56.2±0.7, 3.°41S×145.°47E, h0km, mb4.3/17, mbtmp4.3/19, ML1.9/2, MS3.7/31, Error ellipse: s-maj=33.8km s-min=13.0km az=87.0*
*BJI **18** 14:22:56.5±0.0, 3.°39S×145.°81E, h18km, mb4.6/40, mB5.1/14, Ms4.3/2, Ms7 3.9/2*
*NEIC **18** 14:22:59.3±1.2, 3.°37S±0.°09×145.°3E±0.°1, h10km±1km, mb4.9/38, Error ellipse: s-maj=21.6km s-min=15.9km az=94.0*
*DJA **18** 14:23:01.3±1.0, 3.°S±6.°×14.°5E±.°, h26km±5km, M4.1/14, mb4.8/14, MLv3.7/1*

ISC 18 14:23:00.5±0.4, 3.°50S±0.°05×145.°36E±0.°09, h23km, n310, σ0°86/294, mb4.8/53, MS3.8/27, 2C-3D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.75**	**282**	P	**Pn**	**14 24 09.7**	**-1.1**
PMG	**Port Moresby**	**6.14**	**163**	Pn	**Pn**	**14 24 30.7**	**+0.8**
PMG	**Port Moresby**	**6.14**	**163**	Pn	**Pn**	**14 24 30.5**	**+0.6**
	2.2nm,0.3s,baz=73,slow=3.3,SNR=6.2						
PMG				Sn	**Sn**	**14 25 37.7**	**-1.7**
	baz=334,slow=19						
PMG				LR	LR	14 27 05.3	
	comp=Z,1μm,18.0s,baz=330,slow=40						
	14nm,0.7s						
COEN	**Coen**	**10.62**	**192**	Pn	**Pn**	**14 25 33.7**	**+2.3**
HNR	**Honiara**	**15.64**	**113**	LR	LR	14 32 03.1	
	comp=Z,2μm,21.3s,baz=272,slow=35						
CTA	**Charters Tower**	**16.51**	**177**	Pn	**Pn**	**14 26 51.5**	**+0.7**
	baz=356,slow=15,SNR=2.7						
CTA				LR	LR	14 33 13.1	
	comp=Z,47nm,18.2s,baz=352,slow=37						
CTAO	**Charters Tower**	**16.51**	**177**	Pn	**Pn**	**14 26 52.4**	**+1.5**
MTN	**Manton Dam**	**16.86**	**236**	Pn	**Pn**	**14 26 54.4**	**-0.9**
GUMO	**Guam**	**16.98**	**358**	LR	LR	14 33 04.6	
	comp=Z,209nm,18.4s,baz=174,slow=36						
WRAB	**Tennant Creek**	**19.55**	**212**	P	**P**	**14 27 26.4**	**-0.4**
WRAB				IAmb	IAmb	14 27 31.9	
	comp=Z,52nm,0.8s						
WRA	**Warramunga Arr**	**19.57**	**212**	P	**P**	**14 27 26.8**	**-0.2**
	comp=Z,34nm,0.8s,baz=35,slow=10,SNR=106						
WRA				LR	LR	14 36 13.8	
	comp=Z,535nm,21.7s,baz=66,slow=40						
KMSI	**Cibinong**	**21.75**	**280**	P	**P**	**14 27 52.0**	**+1.3**
	comp=Z,96nm,1.5s						
SOEI	**Soe**	**21.85**	**252**	P	**P**	**14 27 51.0**	**-0.8**
SOEI	**Soe**	**21.85**	**252**	P	**P**	**14 27 50.8**	**-1.0**
	comp=Z,109nm,1.1s						
DAV	**Davao City (W)**	**22.36**	**298**	LR	LR	14 37 26.9	
	comp=Z,115nm,18.0s,baz=124,slow=39						
EIDS	**Eidsvold**	**22.43**	**166**	P	**P**	**14 27 58.4**	**+0.5**
BATI	**Baumata**	**22.54**	**252**	P	**P**	**14 27 58.9**	**-0.3**
	comp=Z,60nm,0.9s						
BBSI	**Bau Bau**	**22.80**	**264**	P	**P**	**14 28 04.4**	**+2.4**
	comp=Z,46nm,1.3s						
ASAR	**Alice Springs**	**22.91**	**208**	P	**P**	**14 28 02.1**	**-0.9**
ASAR	**Alice Springs**	**22.91**	**208**	P	**P**	**14 28 03.2**	**+0.3**
	comp=Z,6.4nm,0.5s,baz=28,slow=13,SNR=92						
ASAR				LR	LR	14 37 18.4	
	comp=Z,433nm,19.1s,baz=31,slow=37						
	comp=Z,6.4nm,0.5s						
EDFI	**Ende, Flores**	**24.10**	**256**	P	**P**	**14 28 12.5**	**-2.3**
	comp=Z,22nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.16**	**232**	P	**P**	**14 28 13.8**	**-1.4**
DZM	**Mont Dzumac**	**27.56**	**134**	eLR	LR	14 35 50.9	
	comp=Z,222nm,23.9s						
STKA	**Stephens Creek**	**28.45**	**187**	P	**P**	**14 28 55.7**	**+1.9**
STKA	**Stephens Creek**	**28.45**	**187**	P	**P**	**14 28 54.1**	**+0.3**
	comp=Z,4.8nm,0.7s,baz=351,slow=11,SNR=6.4						
	comp=Z,4.8nm,0.7s						
BBOO	**Buckleboo**	**30.44**	**196**	P	**P**	**14 29 13.5**	**+2.1**
MBWA	**Marble Bar**	**30.49**	**233**	P	**P**	**14 29 12.4**	**+0.4**
MBWA				IAmb	IAmb	14 29 20.4	
	comp=Z,16nm,1.1s						
FORT	**Forrest**	**31.67**	**209**	P	**P**	**14 29 22.5**	**+0.2**
JOW	**Kunigami**	**34.38**	**332**	LR	LR	14 40 48.4	
	comp=Z,89nm,19.9s,baz=155,slow=31						
JHJ	**Hachijo jima 2**	**36.80**	**352**	LR	LR	14 43 34.6	
	comp=Z,89nm,19.8s,baz=152,slow=34						
JNU	**Nakatsue**	**38.91**	**340**	LR	LR	14 43 26.2	
	comp=Z,159nm,21.0s,baz=156,slow=32						
MJAR	**Matsushiro Arr**	**40.39**	**351**	P	**P**	**14 30 34.5**	**-2.3**
	comp=Z,1.2nm,0.7s,baz=146,slow=6.6,SNR=4.3						
MJAR				LR	LR	14 46 14.0	
	comp=Z,58nm,20.2s,baz=186,slow=35						
	comp=Z,1.2nm,0.7s						
NJ2	**Nanjing**	**43.41**	**327**	*eP*	**P**	**14 31 02.3**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KSRS	**Korea Array**	**43.85**	**340**	P	**P**	**14 31 04.2**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=159,slow=9.3,SNR=20						
KSRS				LR	LR	14 46 29.7	
	comp=Z,133nm,21.6s,baz=150,slow=32						
	comp=Z,2.4nm,0.7s						
KSAR	**Wonju Array Be**	**43.85**	**340**	P	**P**	**14 31 03.5**	**-1.6**
JTM	**Tenmabayashi**	**44.24**	**355**	P	**P**	**14 31 07.7**	**-0.4**
JTM				IAmb	IAmb	14 31 12.9	
	comp=Z,23nm,0.9s						
GYA	**Guiyang**	**47.82**	**311**	P	**P**	**14 31 39.5**	**+2.7**
GYA				pmax	pmax		
	comp=Z,13nm,1.5s						
USA0B	**Ussuriysk Arra**	**48.98**	**347**	P	**P**	**14 31 44.5**	**-0.7**
USA0B				IAmb	IAmb	14 31 50.4	
	comp=Z,11nm,0.9s						
USRK	**Ussuriysk Ar.**	**48.98**	**347**	P	**P**	**14 31 44.4**	**-0.8**
USRK	**Ussuriysk Ar.**	**48.98**	**347**	P	**P**	**14 31 44.8**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=171,slow=6.5,SNR=8.3						
USRK				LR	LR	14 49 53.8	
	comp=Z,61nm,21.0s,baz=189,slow=33						
	comp=Z,3.8nm,0.7s						
HNS	**HongShan**	**49.67**	**328**	⇑P	**P**	**14 31 50.3**	**-0.3**
HNS				pmax	pmax		
	comp=Z,11nm,0.7s						
MDJ	**Mudanjiang**	**49.94**	**345**	P	**P**	**14 31 54.9**	**+2.3**
MDJ				PP	**PP**	**14 33 47.5**	**-0.2**
MDJ				S	**S**	**14 39 04.5**	**+2.9**
MDJ				sS	sS	14 39 11.4	-1.0
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.5s						
MDJ				LR	LR		
	comp=Z,89nm,11.7s						
MDJ				LR	LR		
	comp=Z,85nm,13.7s						
MDJ				LR	LR		
	comp=Z,100nm,14.8s						
KMI	**Kunming**	**50.19**	**307**	⇓P	**P**	**14 31 57.0**	**+1.9**
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
CMAR	**Chiang Mai Arr**	**50.65**	**297**	P	**P**	**14 31 58.8**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=116,slow=5.9,SNR=8.4						
CMAR				LR	LR	14 54 32.4	
	comp=Z,26nm,19.5s,baz=190,slow=37						
	comp=Z,1.3nm,0.6s						
XAN	**Xi'an**	**50.72**	**320**	⇓P	**P**	**14 32 00.4**	**+1.6**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BNX	**BinXian**	**51.56**	**344**	⇑P	**P**	**14 32 04.0**	**-0.7**
BNX				pmax	pmax		
	comp=Z,9.0nm,1.2s						
PZH	**PanZhiHua**	**51.64**	**308**	P	**P**	**14 32 07.3**	**+1.4**
PZH				pmax	pmax		
	comp=Z,30nm,1.3s						
PZH				pmax	pmax		
	comp=Z,140nm,5.0s						
KLR	**Kul'dur**	**53.83**	**349**	LR	LR	14 54 30.2	
	comp=Z,33nm,18.8s,baz=182,slow=35						
HHC	**Hu-ho-hao-te**	**53.86**	**328**	*eP*	**P**	**14 32 22.4**	**+0.4**
HHC				pP	pP	14 32 27.4	-1.2
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,4.9s						
LZH	**Lanzhou**	**55.26**	**319**	*eP*	**P**	**14 32 33.3**	**+0.9**
LZH				pP	pP	14 32 38.3	-0.6
LZH				pmax	pmax		
	comp=Z,15nm,0.9s						
HEH	**HeiHe**	**55.73**	**346**	*eP*	**P**	**14 32 34.3**	**-0.9**
HEH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA	**Gaotai**	**59.78**	**320**	*eP*	**P**	**14 33 04.8**	**+0.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SHEM	**Shemya Is, Ala**	**61.04**	**20**	LR	LR	14 54 27.4	
	comp=Z,84nm,21.6s,baz=135,slow=31						
SONM	**Songino Array**	**61.44**	**331**	P	**P**	**14 33 14.2**	**-1.1**
SONM	**Songino Array**	**61.44**	**331**	P	**P**	**14 33 14.3**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=155,slow=11,SNR=3.9						
SONM				LR	LR	14 59 26.7	
	comp=Z,44nm,20.1s,baz=178,slow=36						
	comp=Z,0.4nm,0.4s						
MA2	**Magadan**	**63.03**	**3**	LR	LR	15 00 10.9	
	comp=Z,26nm,19.8s,baz=199,slow=36						
PPT2	**Papeete2**	**65.19**	**108**	*e*LR	LR	14 53 19.0	
	comp=Z,65nm,21.5s						
YAK	**Yakutsk**	**66.44**	**352**	LR	LR	15 02 17.2	
	comp=Z,27nm,20.3s,baz=212,slow=36						
NIKH	**Nikolski High**	**68.12**	**28**	P	**P**	**14 33 59.1**	**+0.6**
	baz=230						
WMQ	**Urumqi**	**69.84**	**319**	*eP*	**P**	**14 34 09.6**	**0.0**
S12K	**Black Hills**	**72.94**	**28**	P	**P**	**14 34 28.4**	**+0.4**
	baz=236						
SDPT	**Sand Point**	**73.50**	**29**	P	**P**	**14 34 31.5**	**+0.4**
	baz=238						
M11K	**Mekoryuk**	**73.96**	**23**	P	**P**	**14 34 33.6**	**-0.1**
	baz=231						
VNDA	**Vanda**	**74.49**	**176**	P	**P**	**14 34 36.7**	**0.0**
	comp=Z,1.3nm,0.8s,baz=312,slow=4.7,SNR=3.6						
VNDA				LR	LR	15 04 34.2	
	comp=Z,58nm,19.9s,baz=22,slow=34						
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**74.54**	**321**	P	**P**	**14 34 36.9**	**-0.7**
MKAR	**Makanchi Array**	**74.54**	**321**	P	**P**	**14 34 37.1**	**-0.4**
	comp=Z,2.0nm,1.0s,baz=111,slow=6.6,SNR=8.0						
	comp=Z,2.0nm,1.0s						
CHGN	**Chignik**	**74.99**	**29**	P	**P**	**14 34 40.7**	**+0.8**
	baz=239						
M13K	**Dall Lake**	**75.10**	**24**	P	**P**	**14 34 40.8**	**+0.4**
	baz=234						
O14K	**Tigyukauivet M**	**75.29**	**25**	P	**P**	**14 34 42.4**	**+0.8**
	baz=236						
N14K	**Kuskokwak Cree**	**75.49**	**25**	P	**P**	**14 34 43.6**	**+1.0**
	baz=236						
M14K	**Bethel**	**75.85**	**24**	P	**P**	**14 34 45.1**	**+0.3**
M14K	**Bethel**	**75.85**	**24**	P	**P**	**14 34 45.9**	**+1.2**
	baz=235						
O15K	**Ungalikthiuk R**	**75.86**	**26**	P	**P**	**14 34 46.1**	**+1.2**
	baz=237						
L14K	**Kuka Creek**	**75.91**	**23**	P	**P**	**14 34 45.4**	**+0.4**
L14K				IAmb	IAmb	14 34 51.9	
	comp=Z,15nm,1.1s						
L14K	**Kuka Creek**	**75.91**	**23**	P	**P**	**14 34 45.9**	**+0.9**
	baz=234						
ZALV	**Zalesovo Beam**	**76.04**	**328**	P	**P**	**14 34 44.9**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=98,slow=6.1,SNR=4.4						
ZALV				LR	LR	15 07 10.8	
	comp=Z,36nm,21.9s,baz=114,slow=35						
	comp=Z,1.6nm,0.8s						
CHIR	**Chirikof Islan**	**76.11**	**30**	P	**P**	**14 34 46.6**	**+0.3**
	baz=242						
N15K	**Kwethluk River**	**76.29**	**25**	P	**P**	**14 34 47.8**	**+0.5**
N15K				IAmb	IAmb	14 34 49.1	
	comp=Z,14nm,1.1s						
N15K	**Kwethluk River**	**76.29**	**25**	P	**P**	**14 34 47.6**	**+0.3**
	baz=237						
M15K	**Kasigluk River**	**76.34**	**24**	P	**P**	**14 34 48.0**	**+0.5**
	baz=236						
KSH	**Kashi**	**76.50**	**312**	P	**P**	**14 34 52.1**	**+3.0**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.1s						
L15K	**Ungalak Mounta**	**76.57**	**23**	P	**P**	**14 34 49.8**	**+0.9**
	baz=235						
P16K	**Nushagak River**	**76.59**	**26**	P	**P**	**14 34 50.6**	**+1.6**
	baz=239						
R17L	**Mt. Peulik Vol**	**76.63**	**28**	P	**P**	**14 34 50.2**	**+0.9**
	baz=241						
O16K	**Kokwok River B**	**76.84**	**26**	P	**P**	**14 34 50.6**	**+0.2**
O16K				IAmb	IAmb	14 34 51.8	
	comp=Z,10.0nm,0.9s						
O16K	**Kokwok River B**	**76.84**	**26**	P	**P**	**14 34 51.4**	**+1.0**
	baz=239						
**K15K

	baz=241					
K17K	Iditarod	78.39	23	P	P	14 35 00.1 +1.1
	baz=238					
J17K	VABM Dome	78.46	22	P	P	14 34 59.6 +0.2
J17K				IAmb	IAmb	14 35 06.6
	comp=Z,11nm,0.8s					
J17K	VABM Dome	78.46	22	P	P	14 35 00.5 +1.1
	baz=237					
KDAK	Kodiak Island	78.50	29	P	P	14 35 00.6 +0.9
KDAK				IAmb	IAmb	14 35 04.0
	comp=Z,14nm,1.1s					
KDAK	Kodiak Island	78.50	29	P	P	14 34 59.8 +0.2
	baz=244					
KDAK	Kodiak Island	78.50	29	LR	LR	15 07 49.3
	comp=Z,45nm,19.6s,baz=259,slow=34					
Q19K	Cape Douglas,	78.51	28	P	P	14 35 00.2 +0.4
	baz=243					
M18K	Stony River	78.77	25	P	P	14 35 02.5 +1.4
	baz=241					
L18K	Granite Mounta	78.78	24	P	P	14 35 01.8 +0.6
	baz=240					
Q20K	Shuyak Island	78.95	28	P	P	14 35 02.9 +0.7
	baz=244					
H17K	Granite Mounta	79.01	21	P	P	14 35 03.6 +1.2
	baz=236					
N19K	Bonanza Creek	79.01	26	P	P	14 35 02.7 +0.1
N19K				IAmb	IAmb	14 35 04.2
	comp=Z,15nm,0.9s					
N19K	Bonanza Creek	79.01	26	P	P	14 35 03.5 +1.0
	baz=242,SNR=10					
P19K	Oil Pt	79.03	27	P	P	14 35 02.8 +0.2
	baz=243					
G17K	Kiwalik Mounta	79.07	20	P	P	14 35 03.4 +0.8
	baz=235					
C16K	Lisburne Hills	79.27	17	P	P	14 35 04.2 +0.5
	baz=230					
J18K	Innoko River	79.40	23	P	P	14 35 05.3 +0.7
	baz=240					
TTA	Tatalina	79.41	23	P	P	14 35 04.8 +0.1
TTA	Tatalina	79.41	23	P	P	14 35 05.3 +0.6
	baz=240					
O20K	Slope Mountain	79.49	27	P	P	14 35 05.7 +0.5
	baz=244					
L19K	White Mountain	79.50	24	P	P	14 35 05.6 +0.4
	baz=241,SNR=15					
M19K	Big River Lodg	79.56	25	P	P	14 35 06.5 +1.0
	baz=242,SNR=8.6					
RSO	Redoubt South	79.60	26	P	P	14 35 06.0 +0.1
CNPM	China Poot	79.88	28	P	P	14 35 05.8 -1.5
G18K	Tagagawik	79.97	20	P	P	14 35 07.7 +0.1
G18K				IAmb	IAmb	14 35 14.2
	comp=Z,12nm,1.1s					
G18K	Tagagawik	79.97	20	P	P	14 35 07.7 +0.1
	baz=237					
C17K	DeLong Mountai	80.03	17	P	P	14 35 08.5 +0.6
	baz=233					
L20K	Farewell, AK	80.05	24	P	P	14 35 08.5 +0.4
	baz=242,SNR=6.5					
M20K	Styx River	80.08	25	P	P	14 35 09.5 +1.1
M20K				IAmb	IAmb	14 35 10.0
	comp=Z,9.8nm,0.9s					
M20K	Styx River	80.08	25	P	P	14 35 09.1 +0.7
	baz=243					
J19K	Poorman	80.09	23	P	P	14 35 09.1 +0.8
	baz=240					
E18K	Tukpahlearik C	80.19	18	P	P	14 35 10.0 +1.3
	baz=235					
K20K	Telida	80.38	23	P	P	14 35 10.3 +0.5
	baz=242					
H19K	Roundabout Mou	80.56	21	P	P	14 35 11.4 +0.7
	baz=239					
G19K	Purcell Mounta	80.65	20	P	P	14 35 12.3 +1.1
	baz=239					
J20K	Nowinta River	80.74	23	P	P	14 35 12.9 +1.2
	baz=242,SNR=7.3					
F19K	Shaleruckik Mo	80.78	20	P	P	14 35 12.1 +0.2
	baz=238					
I20K	Naaghedeneel	80.92	22	P	P	14 35 13.3 +0.6
	baz=241					
SUA	Susitna One	80.92	26	P	P	14 35 13.0 +0.1
	baz=245					
PPLA	Purkeypile	80.93	24	P	P	14 35 13.0 0.0
	baz=244					
SEW	Seward	80.94	27	P	P	14 35 13.1 +0.2
	baz=247					
H20K	Anotleneega Mo	81.10	21	P	P	14 35 13.9 +0.2
	baz=241					
RC01	Rabbit Creek A	81.21	26	P	P	14 35 14.3 -0.1
RC01				IAmb	IAmb	14 35 20.7
	comp=Z,16nm,1.0s					
RC01	Rabbit Creek A	81.21	26	P	P	14 35 14.5 +0.2
	baz=246					
E19K	Redstone River	81.29	19	P	P	14 35 15.2 +0.6
	baz=238					
M22K	Willow	81.31	26	P	P	14 35 15.3 +0.5
	baz=246					
CHUM	Lake Minchumin	81.32	23	P	P	14 35 15.6 +0.8
	baz=244,SNR=13					
D19K	Kuna River	81.56	18	P	P	14 35 16.8 +0.7
	baz=237					
F20K	Avaraart Lake	81.58	20	P	P	14 35 16.9 +0.7
F20K				IAmb	IAmb	14 35 23.8
	comp=Z,13nm,1.2s					
F20K	Avaraart Lake	81.58	20	P	P	14 35 17.1 +1.0
	baz=240					
PMR	Palmer	81.68	26	P	P	14 35 17.7 +0.9
	baz=247					
P23K	Montague Islan	81.85	28	P	P	14 35 17.9 +0.2
	baz=248					
KNK	Knik Glacier	81.91	26	P	P	14 35 18.2 +0.1
	baz=247					
H21K	Melozitna Rive	81.94	22	P	P	14 35 18.8 +0.7
	baz=243					
BPAW	Bear Paw Mtn.	81.94	23	P	P	14 35 18.3 +0.1
	baz=245					
E20K	Nigu River	82.05	19	P	P	14 35 19.2 +0.5
	baz=239					
G21K	Allakaket	82.09	21	P	P	14 35 19.8 +0.9
	baz=242					
SML	Sawmill	82.12	26	P	P	14 35 20.0 +0.8
	baz=247					
M23K	Glacier View	82.38	26	P	P	14 35 21.3 +0.8
	baz=248					
NRIK	Noril'sk	82.41	342	P	P	14 35 19.8 -0.7
	comp=Z,4.6nm,0.6s,baz=157,slow=3.7,SNR=5.8					
NRIK				LR	LR	15 09 54.2
	comp=Z,60nm,21.8s,baz=181,slow=34					
	comp=Z,4.6nm,0.6s					
WAT1	Susitna Watana	82.42	25	P	P	14 35 20.5 -0.2
	baz=247					
F21K	Alatna River	82.43	20	P	P	14 35 21.3 +0.6
	baz=242					
MLY	Manley	82.44	23	P	P	14 35 21.2 +0.4
	baz=245,SNR=8.8					
SCM	Sheep Creek Mo	82.57	26	P	P	14 35 22.2 +0.6
	baz=248					
H22K	Ishtalitna Cre	82.58	22	P	P	14 35 21.6 +0.2
	baz=244					
MCK	McKinley	82.62	24	P	P	14 35 21.6 -0.1
	baz=247					
B20K	Meade River	82.67	17	P	P	14 35 22.2 +0.4
	baz=238					
WAT6	Susitna Watana	82.67	25	P	P	14 35 22.1 0.0
	baz=248					
EYAK	Cordova Ski Ar	82.82	28	P	P	14 35 22.9 +0.2
	baz=250					
E21K	Killik River	82.85	19	P	P	14 35 23.6 +0.8
	baz=241					
NEA2	Nenana	82.91	23	P	P	14 35 22.9 -0.3
	baz=246					
C21K	Knifeblade Rid	82.94	18	P	P	14 35 23.7 +0.5
	baz=241					
G22K	Bettles	82.98	21	P	P	14 35 24.1 +0.6
	baz=244					
DHY	Denali Highway	83.01	25	P	P	14 35 24.5 +0.5
	baz=248					
F22K	John River	83.01	20	P	P	14 35 24.4 +0.8
	baz=243					
I23K	Minto, Yukon-K	83.02	23	P	P	14 35 24.5 +0.8
	baz=246					
KLU	Klutina	83.07	27	P	P	14 35 24.8 +0.6
	baz=250					
M24K	Tolsona, Glenn	83.17	26	P	P	14 35 25.4 +0.8
	baz=249					
H23K	Yukon River	83.23	22	P	P	14 35 25.1 +0.3
	baz=246					
KAIM	Kayak Island	83.24	29	P	P	14 35 26.0 +1.0
	baz=251					
G23K	Bananza Creek	83.42	21	P	P	14 35 26.9 +1.0
	baz=245					
D22K	Ayikyak River	83.48	19	P	P	14 35 26.4 +0.3
	baz=243					
BMRM	Bremner River	83.49	27	P	P	14 35 27.1 +0.7
	baz=251					
COLD	Coldfoot	83.58	21	P	P	14 35 26.9 +0.3
	baz=245					
HDA	Harding Lake	83.69	24	P	P	14 35 27.6 +0.4
	baz=248					
N25K	Chitina, Valde	83.70	27	P	P	14 35 27.9 +0.5
	baz=251					
HARP	HAARP	83.72	26	P	P	14 35 28.5 +1.0
	baz=250					
PAX	Paxson	83.78	25	P	P	14 35 27.6 -0.2
	baz=250					
BVAR	Borovoye Array	83.80	324	P	P	14 35 27.2 -0.8
	comp=Z,5.6nm,0.8s,baz=104,slow=6.3,SNR=28					
	comp=Z,5.6nm,0.8s					
ILAR	Eielson Array	83.84	24	P	P	14 35 26.8 -1.2
ILAR	Eielson Array	83.84	24	P	P	14 35 26.2 -1.8
	comp=Z,6.8nm,0.9s,baz=257,slow=4.8,SNR=41					
ILAR				LR	LR	15 12 34.4
	comp=Z,41nm,18.1s,baz=260,slow=36					
	comp=Z,6.8nm,0.9s					
H24K	Noodor Dome	83.86	22	P	P	14 35 28.2 +0.1
	baz=247					
BRVK	Borovoye	83.87	324	P	P	14 35 27.4 -0.9
BRVK				IAmb	IAmb	14 35 33.7
	comp=Z,9.9nm,1.2s					
MAW	Mawson	83.92	202	P	P	14 35 27.9 -0.4
	comp=Z,4.4nm,1.0s,baz=59,slow=6.6,SNR=5.8					
	comp=Z,4.4nm,1.0s					
B22K	Teshekpuk Lake	83.94	17	P	P	14 35 28.7 +0.4
	baz=242					
K24K	Donnelly Dome	83.94	25	P	P	14 35 29.0 +0.4
	baz=250					
CRQE	Cirque	84.12	28	P	P	14 35 30.7 +1.1
	baz=252					
E23K	Chandalar	84.13	20	P	P	14 35 29.7 +0.2
	baz=246					
D23K	Nanushuk River	84.16	19	P	P	14 35 30.5 +1.0
	baz=244					
G24K	Hadweenzic Riv	84.35	22	P	P	14 35 30.9 +0.4
	baz=248					
MCARA	McCarthy VSAT	84.35	27	P	P	14 35 31.3 +0.7
	baz=252					
TOLK	Toolik Lake Re	84.39	19	P	P	14 35 31.4 +0.7
	baz=246					
J25K	Salcha River,	84.40	24	P	P	14 35 30.7 -0.2
J25K	Salcha River,	84.40	24	P	P	14 35 31.3 +0.4
	baz=250					
MESA	MESA	84.49	29	P	P	14 35 32.3 +0.6
	baz=253					
F24K	Squaw Lake	84.52	21	P	P	14 35 32.0 +0.6
	baz=247					
E24K	Your Creek	84.53	20	P	P	14 35 31.9 +0.4
	baz=247					
C23K	Itkillik River	84.56	18	P	P	14 35 32.1 +0.6
	baz=244					
PRP	Porcupine Dome	84.65	23	P	P	14 35 32.3 +0.1
	baz=250					
M26K	Nabesna, AK	84.68	26	P	P	14 35 32.4 0.0
	baz=252					
L26K	Log Cabin Wild	84.72	26	P	P	14 35 33.0 +0.5
	baz=252					
SCRK	Sand Creek	84.75	25	P	P	14 35 33.1 +0.3
	baz=251					
H25L	Birch Creek	84.80	22	P	P	14 35 33.5 +0.8
	baz=249					
D24K	Happy Valley	84.85	19	P	P	14 35 33.9 +0.9
	baz=246					
G25K	Bearman Lake	84.88	22	P	P	14 35 33.7 +0.5
	baz=249					
CTG	Chitna Glacier	85.01	28	P	P	14 35 34.3 +0.1
	baz=254					
J26L	Joseph Creek	85.09	24	P	P	14 35 34.4 0.0
	baz=252					
C24K	Franklin Bluff	85.12	19	P	P	14 35 35.2 +0.9
	baz=246					
M27K	Edge Creek, AK	85.16	27	P	P	14 35 35.1 +0.2
	baz=253					
PINM	Pinnacle	85.29	29	P	P	14 35 36.6 +1.1
	baz=255					
F25K	Christian Rive	85.34	21	P	P	14 35 36.3 +0.7
	baz=249					
L27K	Beaver Creek,	85.39	26	P	P	14 35 36.7 +0.8
	baz=253					
BCAR	Beaver Creek A	85.41	26	P	P	14 35 35.7 -0.3
O28M	Mount Upton	85.50	28	P	P	14 35 37.3 +0.5
	baz=255					
I26K	Coal Creek Min	85.52	24	P	P	14 35 37.0 +0.6
	baz=252					
K27K	Chicken	85.57	25	P	P	14 35 37.4 +0.7
	baz=253					
PNL	Peninsula	85.59	29	P	P	14 35 37.1 +0.1
	baz=256					
YUK3	Moose Creek	85.64	27	P	P	14 35 38.2 +0.8
	baz=254					
BMAR	Burnt Mountain	85.67	21	P	P	14 35 37.9 +0.7
D25K	Kavik River	85.72	19	P	P	14 35 38.4 +1.0
	baz=248					
G26K	Porcupine Rive	85.80	22	P	P	14 35 38.3 +0.5
	baz=251					
YUK8	Steele Glacier	85.83	28	P	P	14 35 38.3 -0.1
	baz=255					
F26K	Sheenjek River	85.92	21	P	P	14 35 39.5 +1.1
	baz=251					
O29M	Mount Kennedy	86.15	29	P	P	14 35 39.2 -0.6
	baz=256					
EGAK	Eagle	86.17	24	P	P	14 35 40.0 +0.4
	baz=254,SNR=12					
I27K	Kandik River	86.22	23	P	P	14 35 40.6 +0.6
	baz=253,SNR=13					
P29M	Windy Craggy	86.40	30	P	P	14 35 41.3 +0.3
	baz=257					
YUK6	Outpost Mounta	86.40	28	P	P	14 35 41.1 -0.2
	baz=256					
C26K	Camden Bay	86.41	19	P	P	14 35 41.0 +0.3
	baz=250					
H27K	Steamboat Moun	86.44	23	P	P	14 35 42.0 +0.9
	baz=253					
QSPA	South Pole Qui	86.45	180	P	P	14 35 40.2 -1.0
	comp=Z,6.8nm,1.1s,baz=341,slow=3.9,SNR=6.9					
QSPA				LR	LR	15 16 18.7
	comp=Z,94nm,18.5s,baz=2.5,slow=37					
	comp=Z,6.8nm,1.1s					
G27K	Doyon Strip	86.56	22	P	P	14 35 42.5 +1.0
	baz=253					
C27K	Jago River	86.70	19	P	P	14 35 42.0 -0.2
	baz=251					
DAWY	Dawson	86.71	25	P	P	14 35 43.1 +0.6
	baz=255,SNR=15					
M29M	Somme Creek	86.72	27	P	P	14 35 43.0 +0.5
	baz=256,SNR=11					
S31K	Pelican	86.81	32	P	P	14 35 43.5 +0.6
	baz=258					
I28M	Miner Creek	86.85	24	P	P	14 35 43.7 +0.6
	baz=255					
E27K	Coleen River	86.98	21	P	P	14 35 43.9 +0.3
	baz=253					
L29M	L29M	87.02	26	P	P	14 35 44.6 +0.7
	baz=256,SNR=20					
PLBC	Pleasant Camp	87.05	30	P	P	14 35 44.9 +0.8
	baz=258					
SIT	Sitka	87.11	33	P	P	14 35 45.0 +0.6
	baz=259					
N30M	Aishikik Lake	87.12	28	P	P	14 35 44.2 -0.3
	baz=258					
J29N	Klondike Camp	87.31	25	P	P	14 35 46.1 +0.7
	baz=256,SNR=11					
F28M	Old Crow	87.45	22	P	P	14 35 47.0 +1.1
	baz=255					
O30N	Mendenhall	87.45	29	P	P	14 35 46.4 +0.3
	baz=258					
K29M	Barlow Dome	87.46	26	P	P	14 35 46.5 +0.4
	baz=257,SNR=23					
M30M	Minto, Yukon	87.50	27	P	P	14 35 47.1 +0.9
	baz=258					
D27M	Malcolm River	87.51	20	P	P	14 35 47.1 +0.9
	baz=254					
SKAG	Skagway	87.57	30	P	P	14 35 47.5 +0.9
	baz=259					
S32K	Killisnoo	87.59	32	P	P	14 35 47.7 +1.0
	baz=260					
H29M	Whitestone	87.67	23	P	P	14 35 47.7 +0.7
	baz=256					
N31M	Braeburn, Yuko	87.74	28	P	P	14 35 48.1 +0.6
	baz=259					
R32K	Eaglecrest	87.76	31	P	P	14 35 48.0 +0.4
	baz=260					
E28M	Babbage River	87.83	21	P	P	14 35 48.2 +0.5
	baz=255					
G29M	Pine Creek	87.97	23	P	P	14 35 49.0 +0.6
	baz=256					
CRAG	Craig	88.05	34	P	P	14 35 49.1 +0.2
	baz=261					
J30M	Hart River	88.13	25	P	P	14 35 49.6 +0.3
	baz=258					
I30M	Mount Dempster	88.25	24	P	P	14 35 50.3 +0.4
	baz=258					
D28M	Stokes Point	88.30	20	P	P	14 35 50.4 +0.6
	baz=256					
EPYK	Eagle Plains	88.35	23	P	P	14 35 50.7 +0.4
	baz=258					
P32M	Atlin	88.40	30	P	P	14 35 51.0 +0.3
	baz=261					
WRAK	Wrangell Islan	88.62	33	P	P	14 35 52.4 +0.8
	baz=262					
P33M	Teslin, Yukon	88.94	30	P	P	14 35 53.7 +0.5
	baz=261					
F30M	Barrier River	88.97	22	P	P	14 35 53.6 +0.5
	baz=258					
FARO	Faro, Yukon	89.01	28	P	P	14 35 54.0 +0.6
	baz=261					
Q32M	Nakina River	89.03	31	P	P	14 35 54.1 +0.2
	baz=262					
G31M	Satah River	89.42	23	P	P	14 35 55.9 +0.7
	baz=260					
S34M	Telegraph Cree	89.48	32	P	P	14 35 56.3 +0.6
	baz=263					
ABKAR	Akbulak array	89.63	319	P	P	14 35 54.1 -2.4
F31M	Tsiigehtchic	89.71	22	P	P	14 35 56.2 -0.3
	baz=260					
R33M	Jennings River	89.76	31	P	P	14 35 56.5 -0.6
	baz=263					
T35M	Bob Quinn	89.84	33	P	P	14 35 57.8 +0.4
	baz=264					
INK	Inuvik	89.94	22	LR	LR	15 13 44.0
	comp=Z,55nm,19.0s,baz=174,slow=34					
BBB	Bella Bella	90.60	38	LR	LR	15 10 31.0
	comp=Z,39nm,19.4s,baz=246,slow=32					
ARU	Arti	91.11	326	LR	LR	15 19 37.5
	comp=Z,26nm,18.5s,baz=124,slow=37					
YBH	Yreka Blue Hor	93.75	49	LR	LR	15 11 38.1
	comp=Z,47nm,19.8s,baz=264,slow=31					
KIRV	Kirov	96.07	328	LR	LR	15 20 47.7
	comp=Z,35nm,21.4s,baz=98,slow=36					
ELIB	Princess Elisa	96.17	195	dP	P	14 36 26.4 -0.1
YKA	Yellowknife Ar	97.72	27	P	Pdif	14 36 33.6 +0.1
	comp=Z,0.3nm,0.4s,baz=282,slow=4.1,SNR=3.9					
YKA				LR	LR	15 16 20.9
	comp=Z,39nm,20.3s,baz=326,slow=33					
	comp=Z,0.3nm,0.4s					
O48B	Farmland	121.65	44	P	PKiKP	14 41 53.6 +0.6
	baz=296					
ERPA	Erie	124.22	40	P	PKiKP	14 41 58.2 +0.2
	baz=301					
TZTN	Tazewell	124.35	47	P	PKiKP	14 41 58.8 +0.3
	baz=295					
LONY	Lake Ozonia	126.08	35	P	PKiKP	14 42 01.5 -0.2
	baz=308					

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*SKHL **18** 15:01:22.4±0.5, 47°.50N×153°.20E, h79km±9km, mb4.4/5*
*IDC **18** 15:01:55.3±3.4, 47°.18N×149°.35E, h340km±34km, mb3.0/5, mbtmp3.7/6, Error ellipse: s-maj=39.5km s-min=21.1km az=88.0*

ISC 18 15:01:22.6±1.1, **47°.5N**±0°.1×**153°.3E**±0°.1, **h100**km, **n12**, σ2°.23/16, **mb3.6/5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.71**	**29**	*e*P	**Pn**	**15 02 16.6**	**-1.1**
SKR				AMB	AMB	15 02 18.6	
	40nm,0.5s						
SKR				*e*S	**Sn**	**15 02 57.6**	**-2.8**
SKR				A	A	15 03 06.2	
	230nm,0.6s						
SKR				A	A	15 03 06.2	
	170nm,0.6s						
KUR	**Kuril'sk**	**4.37**	**241**	*e*P	**Pn**	**15 02 26.0**	**-0.6**
KUR				AMB	AMB	15 02 26.6	
	40nm,0.6s						
KUR				*e*S	**Sn**	**15 03 14.4**	**-2.0**
KUR				A	A	15 03 30.4	
	130nm,0.5s						
KUR				A	A	15 03 30.4	
	110nm,0.5s						
SHO	**Shikotan**	**5.78**	**234**	*e*P	**Pn**	**15 02 45.9**	**+0.1**
SHO				*e*S	**Sn**	**15 03 48.0**	**-2.7**
SHO				A	A	15 04 03.0	
	30nm,0.4s						
SHO				A	A	15 04 03.0	
	40nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.22**	**239**	*e*P	**Pn**	**15 02 51.8**	**0.0**
YUK				AMB	AMB	15 02 54.7	
	60nm,0.3s						
YUK				*e*S	**Sn**	**15 03 58.6**	**-2.9**
YUK				A	A	15 04 06.4	
	70nm,0.6s						
YUK				A	A	15 04 06.4	
	60nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.18**	**270**	*e*P	**Pn**	**15 03 05.9**	**+1.1**
YSS				AMB	AMB	15 03 15.0	
	10.0nm,0.7s						
YSS				*e*S	**Sn**	**15 04 22.3**	**-2.4**
YSS				A	A	15 04 29.4	
	10.0nm,0.9s						
YSS				A	A	15 04 29.4	
	10.0nm,0.9s						
ASAJ	**Asahikawa**	**8.18**	**250**	P	**Pn**	**15 03 21.7**	**+3.2**
	2.2nm,0.6s,baz=315,slow=10.0,SNR=5.8						
MJAR	**Matsushiro Arr**	**15.62**	**231**	P	**Pn**	**15 04 57.9**	**+0.9**
	1.1nm,0.7s,baz=29,slow=7.5,SNR=4.4						
FINES	**FINESS Array B**	**63.42**	**335**	P	**P**	**15 11 43.6**	**+2.6**
	0.7nm,0.5s,baz=25,slow=6.3,SNR=6.7						
	0.7nm,0.5s						
HFS	**Hagfors**	**67.81**	**339**	P	**P**	**15 12 12.2**	**+2.9**
	0.6nm,0.4s,baz=66,slow=3.9,SNR=9.9						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**69.24**	**199**	P	**P**	**15 12 19.3**	**+0.7**
	0.4nm,0.7s,baz=14,slow=6.2,SNR=1.3						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**72.94**	**199**	P	**P**	**15 12 42.1**	**+1.2**
	0.3nm,0.6s,baz=21,slow=5.5,SNR=4.9						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**77.04**	**61**	P	P	15 13 25.0	+20
	0.6nm,0.6s,baz=299,slow=4.1,SNR=9.5						
	0.6nm,0.6s						

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*ATH **18** 15:06:25.2, 38°.28N×22°.66E, h6km±1km, ML3.4/20, Error ellipse: s-maj=1.2km s-min=0.4km az=157.0*
*THE **18** 15:06:25.2, 38°.26N×22°.62E, h7km±7km, ML3.5/7, Error ellipse: s-maj=7.6km s-min=0.3km az=226.0*

ISC 18 15:06:24.2±1.0, **38°.25N**±0°.02×**22°.70E**±0°.02, **h8**km±9km, **n64**, σ0°.49/99, **Greece**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DLFA	**Delphi**	**0.27**	**325**	P	**Pg**	**15 06 29.3**	**-0.3**
DLFA				S	**Sg**	**15 06 33.4**	**+0.1**
DLFA				AML	AML	15 06 34.3	
	comp=N,40485μm,0.4s						
DLFA				AML	AML	15 06 35.3	
	comp=E,37108μm,0.3s						
LOUT	**Loutraki**	**0.34**	**140**	P	**Pb**	**15 06 32.7**	**+0.1**
LOUT				S	**Sb**	**15 06 38.9**	**+0.7**
	comp=E,12μm,0.2s						
LOUT	**Loutraki**	**0.34**	**140**	P	**Pb**	**15 06 32.5**	**-0.1**
LOUT				S	**Sb**	**15 06 38.2**	**0.0**
GUR	**Goura**	**0.42**	**221**	P	**Pg**	**15 06 32.4**	**0.0**
GUR				S	**Sg**	**15 06 38.4**	**+0.5**
	comp=E,10μm,0.3s						
GUR	**Goura**	**0.42**	**221**	P	**Pb**	**15 06 33.1**	**-0.9**
GUR				S	**Sg**	**15 06 38.6**	**+0.7**
GUR				AML	AML	15 06 40.9	
	comp=N,24846μm,0.3s						
GUR				AML	AML	15 06 41.3	
	comp=E,16355μm,0.3s						
VIL2	**Platees**	**0.45**	**95**	P	**Pn**	**15 06 35.4**	**-1.7**
VIL2				S	**Sb**	**15 06 42.2**	**+0.8**
VIL2				AML	AML	15 06 45.5	
	comp=N,16817μm,0.3s						

VIL2			AML	AML	15 06 47.9	
	comp=E,12319μm,0.5s					
KALE	**Kalithea**	**0.46 288**	P	**Pg**	**15 06 33.0**	**-0.1**
KALE			S	**Sg**	**15 06 39.0**	**-0.1**
	comp=E,5μm,0.3s					
KALE	**Kalithea**	**0.46 288**	P	**Pg**	**15 06 33.0**	**-0.1**
KALE			S	**Sg**	**15 06 39.0**	**-0.1**
KALE			AML	AML	15 06 41.8	
	comp=E,9901μm,0.4s					
KALE			AML	AML	15 06 44.1	
	comp=N,9085μm,0.2s					
ALIK	**Aliki, Aigiali**	**0.46 271**	P	**Pg**	**15 06 33.0**	**-0.1**
KLV	**Kalavryta, Ach**	**0.48 244**	P	**Pg**	**15 06 33.6**	**+0.2**
KLV			S	**Sg**	**15 06 39.4**	**-0.3**
	comp=N,1μm,0.3s					
KLV	**Kalavryta, Ach**	**0.48 244**	P	**Pg**	**15 06 33.9**	**+0.5**
KLV			S	**Sg**	**15 06 40.1**	**+0.4**
VILL	**Villia**	**0.49 100**	P	**Pb**	**15 06 35.1**	**-0.1**
VILL			S	**Sb**	**15 06 44.0**	**+1.4**
	comp=N,8μm,0.4s					
AXAR	**Agios Charalam**	**0.51 357**	P	**Pg**	**15 06 34.4**	**+0.3**
AXAR			S	**Sb**	**15 06 42.4**	**-0.7**
	comp=N,17μm,0.3s					
AXAR	**Agios Charalam**	**0.51 357**	P	**Pg**	**15 06 34.4**	**+0.3**
AXAR			S	**Sg**	**15 06 41.4**	**+0.5**
AXAR			AML	AML	15 06 46.0	
	comp=E,30994μm,0.4s					
AXAR			AML	AML	15 06 49.6	
	comp=N,37025μm,0.3s					
EFP	**Efpalio**	**0.64 286**	P	**Pg**	**15 06 36.1**	**-0.5**
EFP			S	**Sg**	**15 06 45.2**	**+0.2**
EFP	**Efpalio**	**0.64 286**	P	**Pg**	**15 06 36.1**	**-0.5**
EFP			S	**Sg**	**15 06 45.0**	**0.0**
EFP			AML	AML	15 06 51.1	
	comp=E,4456μm,0.3s					
EFP			AML	AML	15 06 52.2	
	comp=N,6863μm,0.4s					
ANX	**Ano Chora**	**0.70 299**	P	**Pg**	**15 06 37.0**	**-0.6**
ANX			S	**Sg**	**15 06 46.4**	**-0.3**
ANX	**Ano Chora**	**0.70 299**	P	**Pg**	**15 06 37.4**	**-0.2**
ANX			S	**Sg**	**15 06 46.6**	**-0.1**
ANX			AML	AML	15 06 50.6	
	comp=N,15651μm,0.4s					
ANX			AML	AML	15 06 52.0	
	comp=E,14373μm,0.4s					
UPR	**University Cam**	**0.72 273**	P	**Pg**	**15 06 38.1**	**+0.2**
UPR			S	**Sg**	**15 06 47.1**	**-0.2**
AGG	**Agios Georgios**	**0.82 340**	P	**Pg**	**15 06 39.8**	**-0.1**
AGG			S	**Sg**	**15 06 50.7**	**+0.1**
ATH	**Athens Observa**	**0.85 109**	P	**Pn**	**15 06 42.6**	**+0.1**
ATH			S	**Sn**	**15 06 54.8**	**-0.4**
ATH	**Athens Observa**	**0.85 109**	P	**Pn**	**15 06 42.2**	**-0.3**
ATH			S	**Sn**	**15 06 54.3**	**-0.9**
ATH			AML	AML	15 06 57.5	
	comp=N,6151μm,0.4s					
ATH			AML	AML	15 06 58.6	
	comp=E,11525μm,0.3s					
MAKR	**Makrakomi, Fth**	**0.88 330**	P	**Pg**	**15 06 40.7**	**-0.3**
MAKR			S	**Sg**	**15 06 52.5**	**0.0**
MAKR			AML	AML	15 06 55.3	
	comp=N,8980μm,0.4s					
MAKR			AML	AML	15 06 58.2	
	comp=E,8029μm,0.4s					
ATHU	**Athens Univers**	**0.91 108**	P	**Pn**	**15 06 43.4**	**+0.1**
ATHU			S	**Sn**	**15 06 55.9**	**-0.7**
KRND	**KRANIDI**	**0.94 157**	P	**Pn**	**15 06 43.5**	**-0.2**
KRND			S	**Sn**	**15 06 57.4**	**0.0**
KRND	**KRANIDI**	**0.94 157**	P	**Pn**	**15 06 43.6**	**-0.2**
KRND			S	**Sn**	**15 06 57.6**	**+0.2**
KRND			AML	AML	15 07 00.2	
	comp=N,15574μm,0.5s					
KRND			AML	AML	15 07 00.2	
	comp=E,12621μm,0.5s					
PTL	**Penteli**	**0.94 102**	P	**Pn**	**15 06 43.6**	**-0.2**
PTL			S	**Sn**	**15 06 57.2**	**-0.4**
PTL			AML	AML	15 06 59.0	
	comp=N,4715μm,0.6s					
PTL			AML	AML	15 07 02.1	
	comp=E,4016μm,0.6s					
VLY	**Voula,Athens**	**0.96 114**	P	**Pn**	**15 06 43.9**	**0.0**
VLY			S	**Sn**	**15 06 58.7**	**+0.9**
	comp=E,3μm,0.4s					
VLY	**Voula,Athens**	**0.96 114**	P	**Pn**	**15 06 44.2**	**+0.2**
VLY			S	**Sn**	**15 06 57.3**	**-0.5**
VLY			AML	AML	15 07 01.9	
	comp=N,5540μm,0.4s					
VLY			AML	AML	15 07 02.9	
	comp=E,5500μm,0.4s					
EVR	**Evrytania**	**0.96 314**	P	**Pg**	**15 06 42.9**	**+0.3**
EVR			S	**Sb**	**15 06 56.3**	**+0.2**
EVR	**Evrytania**	**0.96 314**	P	**Pg**	**15 06 42.7**	**+0.1**
EVR			S	**Sg**	**15 06 55.2**	**+0.1**
PVO	**Paravola**	**0.99 292**	P	**Pg**	**15 06 43.0**	**-0.1**
PVO			S	**Sg**	**15 06 56.4**	**+0.4**
RLS	**Riolos of Patr**	**0.99 259**	P	**Pg**	**15 06 43.0**	**-0.1**
RLS			S	**Sg**	**15 06 56.4**	**+0.5**
RLS			AML	AML	15 07 01.7	
	comp=N,824μm,0.4s					
RLS			AML	AML	15 07 08.4	
	comp=E,1292μm,0.5s					
DION	**Dionisos Attik**	**0.99 100**	P	**Pn**	**15 06 44.9**	**+0.4**
DION			S	**Sn**	**15 06 58.9**	**+0.2**
DION			AML	AML	15 07 02.7	
	comp=E,8166μm,0.5s					
DION			AML	AML	15 07 03.5	
	comp=N,8748μm,0.5s					
NEO	**Neokhori**	**1.13 21**	P	**Pg**	**15 06 45.7**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.17 71**	P	**Pn**	**15 06 47.2**	**+0.3**
KYMI			S	**Sn**	**15 07 03.6**	**+0.6**
KYMI			AML	AML	15 07 07.8	
	comp=N,1567μm,0.4s					
KYMI			AML	AML	15 07 08.7	
	comp=E,1515μm,0.6s					
ITM	**Ithomi**	**1.23 210**	P	**Pn**	**15 06 48.0**	**+0.2**
AOS2	**Alonissos-2**	**1.27 45**	P	**Pb**	**15 06 48.2**	**-0.1**
AOS2			S	**Sn**	**15 07 05.3**	**-0.2**
AOS2			AML	AML	15 07 11.1	
	comp=E,1292μm,0.5s					
AOS2			AML	AML	15 07 12.0	
	comp=N,1816μm,0.5s					
THL	**Klokotos Trika**	**1.41 338**	P	**Pn**	**15 06 50.1**	**-0.1**
THL			AML	AML	15 07 14.9	
	comp=E,977μm,0.5s					
THL			AML	AML	15 07 16.3	
	comp=N,726μm,0.7s					
TYRN	**Tyrnavos**	**1.50 346**	P	**Pn**	**15 06 51.6**	**+0.2**
PYL	**PYLOS**	**1.55 209**	P	**Pg**	**15 06 53.2**	**-0.7**
LTHK	**Lithakia**	**1.56 250**	P	**Pn**	**15 06 52.4**	**+0.1**
LTHK			AML	AML	15 07 24.9	
	comp=N,1177μm,0.6s					
LTHK			AML	AML	15 07 28.4	
	comp=E,1650μm,0.5s					
SKY	**Skiros Island**	**1.58 66**	P	**Pb**	**15 06 52.9**	**-0.8**
MNVA	**Monemvasia**	**1.59 170**	P	**Pg**	**15 06 53.7**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.63 287**	P	**Pn**	**15 06 53.9**	**+0.7**
EVGI	**Lefkada island**	**1.64 284**	P	**Pn**	**15 06 54.0**	**+0.6**
VLS	**Valsamata**	**1.66 268**	P	**Pn**	**15 06 54.1**	**+0.5**
PSDA	**Pessada-Kefalo**	**1.67 266**	P	**Pn**	**15 06 53.6**	**-0.2**
LKD2	**Lefkada island**	**1.69 289**	P	**Pn**	**15 06 54.0**	**0.0**
LKD2			AML	AML	15 07 26.1	
	comp=E,1191μm,0.7s					
LKD2			AML	AML	15 07 28.3	
	comp=N,1274μm,0.6s					
FSK	**Fiskardo**	**1.69 278**	P	**Pn**	**15 06 54.8**	**+0.8**
FSK			AML	AML	15 07 24.3	
	comp=N,1218μm,0.6s					
FSK			AML	AML	15 07 33.5	
	comp=E,1092μm,0.8s					
TSLK	**Tsoukalades, L**	**1.70 290**	P	**Pn**	**15 06 54.0**	**-0.1**
DMLN	**Damoulianata-K**	**1.83 270**	P	**Pn**	**15 06 56.6**	**+0.7**
KPRO	**Kipourio**	**1.99 329**	P	**Pn**	**15 06 58.1**	**-0.1**
PLG	**Polygyros**	**2.20 15**	P	**Pn**	**15 07 00.6**	**-0.5**
PENT	**Pentalofos**	**2.29 329**	P	**Pn**	**15 07 02.7**	**+0.4**
OUR	**Ouranopolis**	**2.31 25**	P	**Pn**	**15 07 02.3**	**-0.2**
HORT	**Hortiatis**	**2.36 8**	P	**Pn**	**15 07 02.9**	**-0.5**
LIA	**Limnos Island**	**2.54 49**	P	**Pn**	**15 07 06.1**	**+0.4**
SOH	**Sokhos**	**2.62 11**	P	**Pn**	**15 07 07.0**	**+0.1**
CHOS	**Chios island**	**2.65 86**	P	**Pn**	**15 07 08.2**	**+1.0**
FNA	**Florina**	**2.73 338**	P	**Pn**	**15 07 08.9**	**+0.6**
SRS	**Serrai**	**2.94 13**	P	**Pn**	**15 07 11.1**	**-0.2**
OHR	**Ohrid**	**3.21 333**	*i* Pn	**Pb**	**15 07 20.8**	**-0.6**
STIP	**Stip**	**3.46 354**	*i* Pn	**Pn**	**15 07 19.6**	**+1.2**

IDC ***18*** *15:11:01.0±2.5, 43°.73N×81°.93E, h0km, mbtmp3.2/4, ML2.7/4, Error ellipse: s-maj=25.1km s-min=16.0km az=130.0*
SOME ***18*** *15:11:02.2, 43°.53N×82°.10E, h15km*
NNC ***18*** *15:11:03.3±1.0, 43°.69N×82°.03E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=9.4km s-min=4.4km az=138.0*
ISC 18 15:11:01.0±1.6, 43°.60N±0°.05×82°.09E±0°.05, h5km±11km, n55, σ1°.95/88, 8C-11D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.27**	**264**	*e*P	**Pb**	**15 11 26.7**	**+1.2**
	50nm,0.1s						
KTMS				*e*S	**Sn**	**15 11 44.8**	**+1.6**
	243nm,0.3s						
KTMS	**Ketmen**	**1.27**	**264**	P	**Pb**	**15 11 26.7**	**+1.2**
	50nm,0.1s						
KTMS				S	**Sn**	**15 11 44.8**	**+1.6**
	243nm,0.3s						
DJR	**Jarkent**	**1.81**	**295**	*e*P	**Pg**	**15 11 35.8**	**0.0**
	31nm,0.2s						
DJR				*e*S	**Sg**	**15 12 00.1**	**+0.9**
	171nm,0.3s						
DJR	**Jarkent**	**1.81**	**295**	P	**Pg**	**15 11 35.8**	**0.0**
	31nm,0.2s						
DJR				S	**Sg**	**15 12 00.1**	**+0.9**
	171nm,0.3s						
PDGK	**Podgornoye**	**1.91**	**263**	P	**Pb**	**15 11 36.7**	**+0.3**
	28nm,0.2s						
PDGK				S	**Sb**	**15 12 02.0**	**+1.4**
	118nm,0.3s						
PDGK	**Podgornoye**	**1.91**	**263**	⇑Pn	**Pb**	**15 11 36.6**	**+0.3**
	16nm,0.3s						
PDGK				⇓Sn	**Sg**	**15 12 02.4**	**0.0**
	134nm,0.4s						
SHLS	**Shalkode**	**1.96**	**258**	*e*P	**Pn**	**15 11 34.0**	**-1.1**
	235nm,0.3s						
SHLS				*e*S	**Sn**	**15 11 57.4**	**-2.7**
	1μm,0.3s						
SHLS	**Shalkode**	**1.96**	**258**	P	**Pn**	**15 11 34.0**	**-1.1**
	235nm,0.3s						
SHLS				S	**Sn**	**15 11 57.4**	**-2.7**
	1μm,0.3s						
KNOS	**Konyrlen**	**2.23**	**291**	Pg	**Pb**	**15 11 42.8**	**+0.9**
KNOS				Lg	Lg	15 12 12.5	
UZB	**Uzynbulak**	**2.28**	**260**	*e*P	**Pb**	**15 11 44.0**	**+1.3**
	28nm,0.2s						
UZB				*e*S	**Sg**	**15 12 14.6**	**+0.4**
	89nm,0.3s						
UZB	**Uzynbulak**	**2.28**	**260**	Pg	**Pb**	**15 11 44.0**	**+1.3**
	28nm,0.2s						
UZB				Lg	Lg	15 12 14.6	
	89nm,0.3s						
KPKS	**Kokpek**	**2.48**	**268**	*e*P	**Pb**	**15 11 47.1**	**+1.0**
	19nm,0.3s						
KPKS				*e*S	**Sg**	**15 12 19.5**	**-1.0**
	272nm,0.5s						
KPKS	**Kokpek**	**2.48**	**268**	Pg	**Pb**	**15 11 47.1**	**+1.0**
	19nm,0.3s						
KPKS				Lg	Lg	15 12 19.5	
	272nm,0.5s						
BLB	**Baldybastay**	**2.66**	**282**	Pg	**Pb**	**15 11 50.1**	**+1.0**
	97nm,0.3s						
BLB				Lg	Lg	15 12 24.9	
	276nm,0.2s						
SATY	**Saty**	**2.74**	**260**	*e*P	**Pb**	**15 11 51.5**	**+1.0**
	9.9nm,0.2s						
SATY				*e*S	**Sb**	**15 12 27.0**	**+2.6**
	165nm,0.2s						
SATY	**Saty**	**2.74**	**260**	Pg	**Pb**	**15 11 51.5**	**+1.0**
	9.9nm,0.2s						
SATY				Lg	Lg	15 12 27.0	
	165nm,0.2s						
KURS	**Kuram**	**2.85**	**269**	*e*P	**Pb**	**15 11 54.1**	**+1.7**
	8.9nm,0.4s						
KURS				*e*S	**Sg**	**15 12 31.8**	**-0.7**
	54nm,0.7s						
KURS	**Kuram**	**2.85**	**269**	Pg	**Pb**	**15 11 54.1**	**+1.7**
	8.9nm,0.4s						
KURS				Lg	Lg	15 12 31.8	
	54nm,0.7s						
TDK	**Taldyqorghan**	**2.99**	**299**	*e*P	**Pg**	**15 11 57.7**	**-0.6**
	61nm,0.3s						
TDK				*e*S	**Sg**	**15 12 38.1**	**+1.0**
	114nm,0.4s						
TDK	**Taldyqorghan**	**2.99**	**299**	Pg	**Pg**	**15 11 57.7**	**-0.6**
	61nm,0.3s						
TDK				Lg	Lg	15 12 38.1	
	114nm,0.4s						
ARXS	**Arharly**	**3.14**	**283**	*e*P	**Pg**	**15 12 00.0**	**-1.1**
	20nm,0.5s						
ARXS				*e*S	**Sg**	**15 12 41.3**	**-0.5**
	116nm,0.4s						
ARXS	**Arharly**	**3.14**	**283**	Pg	**Pb**	**15 11 58.9**	**+1.5**
	20nm,0.5s						
ARXS				Lg	Lg	15 12 39.8	
	116nm,0.4s						
MK31	**Makanchi Array**	**3.20**	**3**	Pn	**Pn**	**15 11 53.5**	**+1.5**
	0.2nm,0.2s,baz=186,slow=14,SNR=141						
MK31				⇑Pg	**Pg**	**15 12 01.9**	**-0.4**
	2.0nm,0.3s,baz=185,slow=14,SNR=52						
MK31				Sn	**Sn**	**15 12 30.3**	**-0.3**
	1.4nm,0.2s,baz=190,slow=27,SNR=4.8						
MK31				Lg	Lg	15 12 44.9	
	10nm,0.3s,baz=184,slow=20,SNR=11						
MKAR	**Makanchi Array**	**3.20**	**3**	Pn	**Pn**	**15 11 53.6**	**+1.6**
	0.4nm,0.3s,baz=186,slow=14,SNR=16						
MKAR				Sn	**Sn**	**15 12 30.0**	**-0.5**
	4.7nm,0.3s,baz=33,slow=19,SNR=9.8						
MKAR				Lg	Lg	15 12 40.7	
	6.8nm,0.3s,baz=171,slow=29,SNR=8.7						
	0.5nm,0.3s						
MAKZ	**Makanchi**	**3.21**	**359**	⇓Pn	**Pn**	**15 11 53.3**	**+1.1**
	10nm,0.8s						
MAKZ				⇑Pg	Pg	15 12 08.2	+5.7
	14nm,0.5s						
MAKZ				⇑Lg	Lg	15 12 44.3	
	18nm,0.4s						
KOTS	**Kotyrbulak**	**3.64**	**266**	*e*P	**Pb**	**15 12 07.6**	**+1.6**
	18nm,0.5s						
KOTS				*e*S	**Sg**	**15 12 54.9**	**-3.1**
	127nm,0.5s						
KOTS	**Kotyrbulak**	**3.64**	**266**	Pg	**Pb**	**15 12 07.6**	**+1.6**
	18nm,0.5s						
KOTS				Lg	Lg	15 12 54.9	
	127nm,0.5s						
MDOK	**Medeo**	**3.70**	**265**	*e*P	**Pg**	**15 12 10.7**	**-1.1**
	8.3nm,0.3s						
MDOK				*e*S	**Sg**	**15 13 00.1**	**+0.4**
	39nm,0.8s						
MDOK	**Medeo**	**3.70**	**265**	⇓Pn	**Pn**	**15 12 00.9**	**+1.9**
	2.7nm,0.5s						
MDOK				⇓Pg	**Pg**	**15 12 10.5**	**-1.4**
	15nm,0.9s						
MDOK				Pg	**Pg**	**15 12 10.7**	**-1.1**
	8.3nm,0.3s						
MDOK				Lg	Lg	15 13 00.2	
	39nm,0.8s						
MDOK				⇓Lg	Lg	15 13 00.4	
	37nm,0.6s						
CHKK	**Chushkaly**	**3.71**	**276**	*e*P	**Pg**	**15 12 10.0**	**-2.0**
	3.9nm,0.3s						
CHKK				*e*S	**Sg**	**15 12 59.1**	**-0.8**
	50nm,0.4s						
CHKK	**Chushkaly**	**3.71**	**276**	Pg	**Pg**	**15 12 10.0**	**-2.0**
	3.9nm,0.3s						
CHKK				Lg	Lg	15 12 59.1	
	50nm,0.4s						
TNSS	**Tian-Shan**	**3.79**	**263**	*e*P	**Pg**	**15 12 12.8**	**-0.9**
	7.5nm,0.2s						
TNSS				*e*S	**Sg**	**15 13 03.5**	**+0.8**
	19nm,0.4s						
TNSS	**Tian-Shan**	**3.79**	**263**	Pg	**Pg**	**15 12 12.8**	**-0.9**
	7.5nm,0.2s						
TNSS				Lg	Lg	15 13 03.5	
	19nm,0.4s						
KTBS	**Karatobe**	**3.92**	**274**	*e*P	**Pb**	**15 12 13.1**	**+2.4**
	12nm,0.6s						
KTBS				*e*S	**Sg**	**15 13 04.6**	**-2.4**
	73nm,0.6s						
KTBS	**Karatobe**	**3.92**	**274**	Pg	**Pb**	**15 12 13.1**	**+2.4**
	12nm,0.6s						
KTBS				Lg	Lg	15 13 04.6	
	73nm,0.6s						
MTBS	**Maitube**	**4.15**	**266**	*e*P	**Pb**	**15 12 17.7**	**+3.1**
	7.4nm,0.3s						
MTBS				*e*S	**Sg**	**15 13 12.8**	**-1.5**
	40nm,0.3s						
MTBS	**Maitube**	**4.15**	**266**	Pg	**Pb**	**15 12 17.7**	**+3.1**
	7.4nm,0.3s						
MTBS				Lg	Lg	15 13 12.8	
	40nm,0.3s						
ZSN	**Zaisan**	**4.32**	**26**	*e*P	**Pb**	**15 12 20.2**	**+2.8**
	31nm,0.3s						
ZSN				*e*S	**Sg**	**15 13 16.3**	**-3.4**
	84nm,0.6s						
ZSN	**Zaisan**	**4.32**	**26**	Pg	**Pb**	**15 12 20.2**	**+2.8**
	31nm,0.3s						
ZSN				Lg	Lg	15 13 16.3	
	84nm,0.6s						
KST	**Kastek**	**4.50**	**265**	*e*P	**Pg**	**15 12 25.2**	**-2.0**
	7.1nm,0.7s						
KST				*e*S	**Sg**	**15 13 23.8**	**-1.7**
	34nm,0.9s						
KST	**Kastek**	**4.50**	**265**	Pg	**Pg**	**15 12 25.2**	**-2.0**
	7.1nm,0.7s						
KST				Lg	Lg	15 13 23.8	
	34nm,0.9s						
DGS	**Degeres**	**4.61**	**268**	*e*P	**Pg**	**15 12 27.1**	**-2.3**
	3.6nm,0.3s						
DGS				*e*S	**Sg**	**15 13 26.6**	**-2.5**
	34nm,0.5s						
DGS	**Degeres**	**4.61**	**268**	Pg	**Pg**	**15 12 27.1**	**-2.3**
	3.6nm,0.3s						
DGS				Lg	Lg	15 13 26.6	
	34nm,0.5s						
KRBS	**Karabastau**	**4.66**	**273**	*e*P	**Pg**	**15 12 27.6**	**-2.6**
	3.0nm,0.4s						
KRBS				*e*S	**Sg**	**15 13 27.6**	**-2.9**
	15nm,0.4s						
KRBS	**Karabastau**	**4.66**	**273**	Pg	**Pg**	**15 12 27.6**	**-2.6**
	3.0nm,0.4s						
KRBS				Lg	Lg	15 13 27.5	
	15nm,0.4s						
TKM2	**Tokmak 2**	**4.79**	**264**	⇑Pn	**Pn**	**15 12 16.9**	**+2.9**
	1.8nm,0.6s						
TKM2				⇓Pg	**Pg**	**15 12 30.2**	**-2.5**
	5.1nm,0.6s						
TKM2				⇓Lg	Lg	15 13 33.2	
	16nm,0.5s						
AAK	**Ala-Archa**	**5.64**	**263**	Pg	**Pb**	**15 12 42.1**	**+2.1**
	0.9nm,0.3s,baz=66,slow=17,SNR=2.1						
AAK				Lg	Lg	15 13 56.8	
	0.4nm,0.3s,baz=252,slow=20,SNR=1.2						
BTLS	**Baital**	**5.95**	**287**	*e*P	**Pg**	**15 12 54.1**	**-0.8**
	1.9nm,0.3s						
BTLS				*e*S	**Sg**	**15 14 15.1**	**+3.2**
	5.0nm,0.8s						
BTLS	**Baital**	**5.95**	**287**	Pg	**Pg**	**15 12 54.1**	**-0.8**
	1.9nm,0.3s						
BTLS				Lg	Lg	15 14 15.0	
	5.0nm,0.8s						
KURBB	**Kurchatov Arra**	**7.44**	**342**	Pn	**Pn**	**15 12 49.8**	**-0.3**
	0.1nm,0.3s,baz=161,slow=12,SNR=3.0						
KURBB				Sn	**Sn**	**15 14 09.9**	**-4.9**
	0.2nm,0.3s,baz=164,slow=18,SNR=2.7						
KURBB				Lg	Lg	15 14 53.8	
	0.2nm,0.3s,baz=295,slow=26,SNR=4.5						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**7.44**	**342**	⇓Pn	**Pn**	**15 12 50.0**	**-0.1**
	0.9nm,0.5s						
KURBB				⇑Sn	**Sn**	**15 14 09.4**	**-5.4**
	5.7nm,0.6s						
KURBB				⇓Lg	Lg	15 14 59.4	
	18nm,0.6s						
KURK	**Kurchatov**	**7.50**	**343**	⇓Pn	**Pn**	**15 12 51.4**	**+0.4**
	0.5nm,0.4s						
KURK				⇑Sn	**Sn**	**15 14 12.0**	**-4.5**
	3.0nm,0.7s						
KURK				⇑Lg	Lg	15 15 00.9	
	9.1nm,0.7s						
OTUK	**Ortayu**	**8.23**	**308**	⇓Lg	Lg	15 15 24.7	
	6.0nm,0.7s						
ZALV	**Zalesovo Beam**	**10.52**	**9**	Pn	**Pn**	**15 13 31.4**	**-0.9**
	0.1nm,0.3s,baz=186,slow=13,SNR=2.1						
	0.6nm,0.3s						
SONM	**Songino Array**	**17.47**	**67**	P	**Pn**	**15 15 05.6**	**+0.1**
	0.2nm,0.3s,baz=270,slow=11,SNR=5.0						
	0.9nm,0.5s						

JSO ***18*** *15:24:09, 32°.87N×35°.59E, h1km, ML2.4/12*
GII ***18*** *15:24:09.1±0.3, 32°.865N±0°.001×35°.574E±0°.001, h1km, Md2.1/6, Mws2.1/7, confirmed*
GRAL ***18*** *15:24:11.4±0.3, 32°.86N×35°.64E, h0km±4km, MD2.9*
ISC 18 15:24:10.0±0.8, 32°.87N±0°.02×35°.58E±0°.03, h13km, n42, σ0°.61/44, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	**Mount Meron ar**	**0.21**	**317**	P	**Pg**	**15 24 13.8**	**-0.9**
MMA0B	**Mount Meron ar**	**0.21**	**315**	P	**Pg**	**15 24 13.9**	**-0.9**
MMC1	**Mount Meron ar**	**0.22**	**318**	P	**Pg**	**15 24 14.3**	**-0.6**
MMC7	**Mount Meron ar**	**0.22**	**315**	P	**Pg**	**15 24 14.2**	**-0.8**
KSHT	**Keshet**	**0.23**	**59**	S	**Sg**	**15 24 18.8**	**+0.5**
KSHT	**Keshet**	**0.23**	**59**	P	**Pg**	**15 24 14.2**	**-0.8**
BLGI	**Bet Lehem HaGe**	**0.35**	**248**	P	**Pg**	**15 24 16.9**	**-0.3**
BLGI	**Bet Lehem HaGe**	**0.35**	**248**	S	**Sg**	**15 24 22.4**	**+0.5**
BLGI	**Bet Lehem HaGe**	**0.35**	**248**	P	**Pg**	**15 24 16.4**	**-0.8**
GEM	**Giv'at Ha'Em**	**0.35**	**12**	P	**Pg**	**15 24 16.6**	**-0.6**
GEM	**Giv'at Ha'Em**	**0.35**	**12**	S	**Sb**	**15 24 23.2**	**-0.5**
GEM	**Giv'at Ha'Em**	**0.35**	**12**	P	**Pg**	**15 24 16.6**	**-0.6**
HNTI	**Hanita**	**0.40**	**303**	P	**Pg**	**15 24 18.2**	**+0.1**
HNTI	**Hanita**	**0.40**	**303**	S	**Sb**	**15 24 24.7**	**-0.5**
HNTI	**Hanita**	**0.40**	**303**	P	**Pg**	**15 24 18.2**	**+0.1**
NATI	**Neve Ativ**	**0.42**	**18**	S	**Sg**	**15 24 24.8**	**+0.8**
NATI	**Neve Ativ**	**0.42**	**18**	P	**Pg**	**15 24 17.8**	**-0.6**
MMLI	**Mount Malkishu**	**0.45**	**197**	S	**Sb**	**15 24 25.9**	**-0.5**
MMLI	**Mount Malkishu**	**0.45**	**197**	P	**Pg**	**15 24 18.8**	**-0.1**
QRNJ	**Al-Qirein**	**0.53**	**180**	P	**Pg**	**15 24 20.4**	**0.0**
OFRI	**`Ofer**	**0.56**	**244**	P	**Pg**	**15 24 20.9**	**-0.1**
OFRI	**`Ofer**	**0.56**	**244**	S	**Sb**	**15 24 29.4**	**-0.2**
OFRI	**`Ofer**	**0.56**	**244**	P	**Pg**	**15 24 20.9**	**-0.1**
HMDT	**Nahal Hemdat**	**0.61**	**184**	P	**Pg**	**15 24 21.7**	**-0.3**
HMDT	**Nahal Hemdat**	**0.61**	**184**	S	**Sb**	**15 24 31.5**	**+0.3**
HMDT	**Nahal Hemdat**	**0.61**	**184**	P	**Pg**	**15 24 21.5**	**-0.5**
RCY	**Rachaya**	**0.67**	**19**	*e*P	**Pg**	**15 24 23.2**	**+0.2**
RCY				*e*S	**Sg**	**15 24 31.9**	**0.0**
QRWL	**Qaraoun**	**0.69**	**7**	*e*P	**Pg**	**15 24 23.7**	**+0.3**
SLTI	**Sal'it**	**0.77**	**216**	P	**Pg**	**15 24 24.3**	**-0.8**
SLTI	**Sal'it**	**0.77**	**216**	S	**Sb**	**15 24 36.2**	**+0.4**
DQRL	**Deir Qamar**	**0.84**	**359**	*e*P	**Pg**	**15 24 26.5**	**+0.2**
DQRL				*e*S	**Sb**	**15 24 37.9**	**+0.1**
BHL	**Bhannes**	**1.04**	**3**	*e*P	**P

EIDS	Eidsvold	17.79	208	P	P	15 33 53.0 +1.0
ARMA	Armidale	22.05	200	P	P	15 34 38.4 -0.1
WR0	Warramunga Arr	26.83	245	P	P	15 35 24.1 +0.2
WR0	comp=Z,14nm,1.5s			IAmb	IAmb	15 35 25.4
WB0	Warramunga Arr	26.90	245	P	P	15 35 24.6 0.0
WB0	comp=Z,6.7nm,1.1s			IAmb	IAmb	15 35 51.6
WRAB	Tennant Creek	26.99	245	P	P	15 35 25.4 0.0
WB2	Warramunga Arr	26.99	245	P	P	15 35 25.3 0.0
WRA	Warramunga Arr	27.00	245	P	P	15 35 25.5 0.0
WRA	comp=Z,2.8nm,0.9s,baz=76,slow=8.8,SNR=14			PcP	PcP	15 38 47.1 +0.5
STKA	Stephens Creek	27.98	216		P	15 35 34.0 -0.1
STKA	Stephens Creek	27.98	216	P	P	15 35 33.9 -0.2
AS31	Alice Springs	28.72	238	P	P	15 35 40.4 -0.4
ASAR	Alice Springs	28.72	238	P	P	15 35 40.1 -0.7
KNRA	Kununurra	31.29	256	P	P	15 36 03.5 0.0
KNRA	comp=Z,5.1nm,1.0s			IAmb	IAmb	15 36 23.4
FITZ	Fitzroy Crossi	34.58	252	P	P	15 36 32.6 +0.2
JHJ2	Mitsune	46.93	336	P	P	15 38 14.0 +0.2
MJAR	Matsushiro Arr	50.57	337	P	P	15 38 41.3 -0.5
JNU	Nakatsue	51.07	328	P	P	15 38 46.4 +0.8
JNU	comp=Z,6.0nm,1.1s			IAmb	IAmb	15 38 53.8
KSRS	Korea Array	55.95	329	P	P	15 39 22.1 +0.8
USRK	Ussuriysk Ar.	59.56	337	P	P	15 39 46.4 -0.2
CMAR	Chiang Mai Arr	66.72	295	P	P	15 40 34.4 -0.2
MA2	Magadan	69.57	355	P	P	15 40 51.9 +0.2
SONM	Songino Array	74.56	326	P	P	15 41 22.6 +0.6
O14K	Tigyukauivet M	75.43	19	P	P	15 41 26.4 -0.1
N17K	Nushagak Hills	77.75	20	P	P	15 41 40.4 +0.8
N17K	comp=Z,5.4nm,1.3s			IAmb	IAmb	15 42 06.2
Q19K	Cape Douglas,	77.87	22	P	P	15 41 42.3 +1.9
L18K	Granite Mounta	79.15	19	P	P	15 41 47.8 +0.5
L18K	comp=Z,4.6nm,1.4s			IAmb	IAmb	15 41 50.5
J17K	VABM Dome	79.30	17	P	P	15 41 49.0 +0.9
M19K	Big River Lodg	79.68	20	P	P	15 41 51.2 +1.0
L19K	White Mountain	79.72	20	P	P	15 41 51.0 +0.5
QSPA	South Pole Qui	80.19	180	P	P	15 41 53.5 +0.2
QSPA	South Pole Qui	80.19	180	P	P	15 41 52.7 -0.5
SUA	Susitna One	80.65	22	P	P	15 41 55.5 -0.1
SUA	comp=Z,4.7nm,1.2s			IAmb	IAmb	15 42 09.9
K20K	Telida	80.81	19	P	P	15 41 56.6 +0.3
K20K	comp=Z,3.7nm,1.4s			IAmb	IAmb	15 42 16.6
J20K	Nowinta River	81.36	18	P	P	15 41 58.7 -0.5
J20K	comp=Z,4.3nm,1.3s			IAmb	IAmb	15 42 01.3
G19K	Purcell Mounta	81.92	16	P	P	15 42 02.4 +0.2
G19K	comp=Z,3.6nm,0.9s			IAmb	IAmb	15 42 04.6
E19K	Redstone River	82.86	15	P	P	15 42 07.5 +0.4
N25K	Chitina, Valde	83.05	23	P	P	15 42 09.3 +1.1
N25K	comp=Z,5.6nm,1.4s			IAmb	IAmb	15 42 10.4
G21K	Allakaket	83.20	17	P	P	15 42 09.1 +0.3
G21K	comp=Z,4.5nm,1.4s			IAmb	IAmb	15 42 20.1
WRH	Wood River Hil	83.53	20	P	P	15 42 10.1 -0.4
WRH	comp=Z,5.1nm,1.5s			IAmb	IAmb	15 42 21.3
CCB	Clear Creek Bu	83.73	20	P	P	15 42 10.2 -1.4
CCB	comp=Z,3.3nm,1.3s			IAmb	IAmb	15 42 10.7
TABL	Table Mountain	83.80	25	P	P	15 42 12.4 +0.2
IL31		84.12	20	P	P	15 42 12.7 -0.8
IL31	comp=Z,2.2nm,1.1s			IAmb	IAmb	15 42 23.5
ILAR	Eielson Array	84.12	20	P	P	15 42 13.0 -0.6
ILAR	Eielson Array	84.12	20	P	P	15 42 12.8 -0.8
J25K	Salcha River,	84.54	21	P	P	15 42 15.4 -0.4
J25K	comp=Z,1.5nm,0.8s			IAmb	IAmb	15 42 19.6
MKAR	Makanchi Array	88.98	318	P	P	15 42 36.9 -0.8
NVAR	Mina Array Bea	89.36	51	P	P	15 42 40.6 +0.6
YKA	Yellowknife Ar	96.36	28	P	P	15 43 09.7 -1.6

*IDC **18** 15:45:08.8±19.0, 36°.86N×71°.09E, h199km±150km, mb2.9/2, mbtmp3.4/6, Error ellipse: s-maj=182.1km s-min=80.2km az=173.0*
*NNC **18** 15:45:09.7±7.0, 37°.28N×70°.76E, h186km±141km, mb2.8, mpv3.8, Error ellipse: s-maj=76.3km s-min=45.6km az=7.0*

ISC 18 15:45:12.6±2.4, 37°.4N±0°.2×70°.8E±0°.1, h200km, n10, σ1§45/13, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.70	358	P	Pn	15 46 32.8	-3.1
KK31	3.0nm,0.2s,baz=172,slow=11,SNR=89			⇓S	Sn	15 47 43.7	+2.0
AAK	Ala-Archa	5.95	27	⇑P	Pn	15 46 39.0	-0.2
AAK	2.7nm,0.3s			S	Sn	15 47 47.2	-0.6
TKM2	Tokmak 2	6.62	32	⇓P	Pn	15 46 47.0	-1.0
TKM2	2.0nm,0.6s			⇑S	Sn	15 48 03.1	-0.5
MKAR	Makanchi Array	12.67	39	P	Pn	15 48 05.8	+0.1
AB31	Akbulak array	14.22	330	⇑P	Pn	15 48 23.8	-1.2
KURBB	Kurchatov Arra	14.32	20	P	P	15 48 28.2	+0.5
BVAR	Borovoye Array	15.62	359	P	Pn	15 48 43.6	+1.5
ZALV	Zalesovo Beam	19.16	26	P	P	15 49 21.2	+0.5
HFS	Hagfors	42.26	321	P	P	15 52 47.2	+1.4
NOA	NORSAR Array B	43.56	322	P	P	15 52 56.4	0.0

IDC 18 16:12:18.5±4.1, 47°.59N×92°.66W, h0km, mbtmp2.6/1, ML1.1/1, Error ellipse: s-maj=71.2km s-min=28.5km az=53.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	Lac du Bonnet	3.41	323	Pn	Pn	16 13 11.2	-1.7
ULM	0.3nm,0.3s,baz=135,slow=7.1,SNR=2.0			Pg	Pb	16 13 19.6	-0.2
ULM	0.5nm,0.3s,baz=140,slow=14,SNR=7.3			Sn	Sn	16 13 47.5	-6.5
ULM	0.3nm,0.3s,baz=252,slow=20,SNR=2.3			Lg	Lg	16 14 03.6	
I10CA	LAC DU BONNET	3.44	321	I	I	16 33 00.0	
I56US	NEWPORT INFRASI	6.40	281	I	I	17 48 00.0	

baz=84,slow=316,SNR=1.2

*NEIC **18** 16:23:08.7±1.7, 18°.6N±0°.1×64°.73W±0°.09, h35km±2km, ML2.3/14, Md2.9/5(RSPR), Error ellipse: s-maj=22.1km s-min=13.5km az=158.0*

RSPR 18 16:23:12.2, 18°.79N×64°.96W, h51km±8km, MD2.9/5, 4C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	Col San Antoni	1.06	233	⇑eP	Pn	16 23 29.9	-0.9
HUMP	Col San Antoni	1.06	233	eS	Sn	16 23 43.7	-0.9
HUMP	Col San Antoni	1.06	233	Pn	Pn	16 23 27.0	-3.9
HUMP					Sn	16 23 43.8	-0.8
GCPR	Guaynabo City	1.17	246	⇑eP	Pn	16 23 31.2	-1.0
GCPR	Guaynabo City	1.17	246	Pn	Pn	16 23 29.8	-2.5
GCPR				IAML		16 23 54.7	
	comp=E,31nm,2.1s						
IGPR	InterUniversit	1.36	233	⇑eP	Pn	16 23 33.7	-1.2
IGPR	InterUniversit	1.36	233	eS	Sn	16 23 50.9	-1.0
IGPR	InterUniversit	1.36	233	Pn	Pn	16 23 32.1	-2.7
IGPR				Sn	Sn	16 23 49.9	-2.0
IGPR				IAML		16 23 55.9	
	comp=N,29nm,0.2s						
IGPR				IAML		16 23 57.8	
	comp=E,44nm,0.2s						
CELP	Cerrillos	1.70	246	⇑eP	Pn	16 23 37.9	-1.5
CELP	Cerrillos	1.70	246	eS	Sn	16 23 59.4	-0.7
CELP	Cerrillos	1.70	246	Pn	Pn	16 23 37.5	-1.9
CELP				IAML		16 23 52.3	
	comp=N,20nm,2.7s						
CELP				Sn	Sn	16 23 58.6	-1.4
CELP				IAML		16 24 19.0	
	comp=E,17nm,3.0s						
AOPR	Arecibo Observ	1.76	256	⇓eP	Pn	16 23 39.6	-0.8
AOPR	Arecibo Observ	1.76	256	eS	Sn	16 24 00.4	-1.3
AOPR	Arecibo Observ	1.76	256	Pn	Pn	16 23 38.9	-1.4
AOPR				Sn	Sn	16 24 01.2	-0.4
AOPR				IAML		16 24 25.3	
	comp=E,36nm,2.6s						
AOPR				IAML		16 24 47.7	
	comp=N,30nm,1.6s						
AGPR	Aguadilla, PR	2.07	261	Pn	Pn	16 23 44.2	-0.3
MLPR	Magueyes Islan	2.14	248	Pn	Pn	16 23 43.6	-1.9
MLPR				IAML		16 24 47.0	
	comp=N,20nm,2.9s						

*KOLA **18** 16:27:06.9, 67°.60N×34°.08E, h0km, ML2.1, Error ellipse: s-maj=7.3km s-min=3.7km az=130.0, Khibiny Massif*
*HEL **18** 16:27:06.3±0.2, 67°.60N×34°.04E, h0km, ML1.8, Explosion*
*IDC **18** 16:27:11.9±3.9, 67°.49N×32°.90E, h0km, mbtmp2.9/2, ML1.9/2, Error ellipse: s-maj=46.4km s-min=13.0km az=85.0*

ISC 18 16:27:05.1±0.9, 67°.57N±0°.04×34°.10E±0°.04, h0km, n22, σ1§53/38, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.27	270	P	Pg	16 27 11.1	+0.9
APA				S	Sg	16 27 14.8	+1.1
LVZ	Lovozero	0.39	32	P	Pg	16 27 12.9	+0.3
LVZ				S	Sg	16 27 18.2	+0.6
LVZ	Lovozero	0.39	32	PG	Pg	16 27 12.9	+0.3
LVZ				SG	Sg	16 27 18.2	+0.6
APA0	Apatity Array	0.43	276	P	Pg	16 27 13.7	+0.4
APA0				S	Sg	16 27 18.9	+0.1
TERR	Teriberka	1.68	12	P	Pn	16 27 35.7	0.0
TERR				S	Sn	16 27 56.8	-1.1
VRF	Varrio	1.73	278	PG	Pn	16 27 36.8	+0.4
VRF				MSG		16 27 57.1	
	comp=Z,7.4nm,0.2s						
VRF				SG	Sn	16 27 58.4	-0.7
OLKF	Oulanka, Finla	2.23	238	PG	Pb	16 27 46.1	-0.2
OLKF				MSG		16 28 12.4	
	comp=Z,4.2nm,0.2s						
OLKF				SG	Sb	16 28 15.8	+1.3
KU6	Riekki	2.28	229	PG	Pb	16 27 47.0	0.0
KU6	baz=44						
KU6				MSG		16 28 13.7	
	comp=Z,3.5nm,0.2s						
KU6				SG	Sb	16 28 17.0	+1.3
PRVG	Vayda Guba	2.30	343	P	Pb	16 27 46.6	-0.7
PRVG				S	Sb	16 28 16.1	-0.1
RAJF	Raja-Jooseppi	2.36	295	PB	Pn	16 27 45.8	+0.8
RAJF				SG	Sn	16 28 15.9	+1.2
MSF	Maaselka	2.61	233	SG	Sb	16 28 27.1	+1.9
SGF	Sodankyl	2.92	271	PG	Pb	16 27 58.2	+0.3
SGF				SG	Sb	16 28 33.8	-0.3
VADS	Vadso	3.09	328	P	Pn	16 27 55.5	+0.5
VADS				S	Sn	16 28 31.6	-0.9
RANF	Ranua	3.29	245	PG	Pb	16 28 03.4	-0.9
RANF	baz=55						
RANF				SG	Sb	16 28 45.7	+0.9
RNF	Rovaniemi	3.31	257	PN	Pn	16 27 59.2	+1.1
RNF				SG	Sg	16 28 48.5	-2.7
KEV	Kevo	3.40	314	eP	Pn	16 27 59.0	-0.3
KEV	Kevo	3.40	314	PN	Pn	16 28 00.3	+1.0
KEV				SN	Sn	16 28 40.3	+0.1
ARCES	ARCESS Array B	3.72	306	Pn	Pn	16 28 04.4	+0.6
ARCES	comp=Z,0.1nm,0.3s,baz=127,slow=15,SNR=2.2						
ARCES				Sn	Sn	16 28 47.5	-0.8
	comp=Z,0.2nm,0.3s,baz=127,slow=28,SNR=3.1						
	comp=Z,0.8nm,0.4s						
RMF	Romuvaara	3.77	209	PN	Pn	16 28 05.9	+1.4
I37NO	I37NO	5.93	292	I	I	17 01 00.0	
	baz=97,slow=312,SNR=5.5						
FINES	FINESS Array B	7.05	213	Pn	Pn	16 28 51.2	+1.8
FINES	comp=Z,0.1nm,0.3s,baz=33,slow=12,SNR=1.8						
FINES				Sn	Sn	16 30 04.5	-5.7
	comp=Z,0.1nm,0.3s,baz=36,slow=22,SNR=1.6						
FINES				Lg	Lg	16 30 43.4	
	comp=Z,0.2nm,0.3s,baz=33,slow=28,SNR=4.0						
	comp=Z,2.8nm,1.1s						
FAUS	Fauske	7.22	277	S	Sn	16 30 10.3	-4.0

HEL 18 16:27:39.4±0.5, 67°.87N×20°.43E, h0km, ML1.3, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	Lannavaara	0.62	72	PG	Pg	16 27 50.3	-0.9
LANU				SG	Sg	16 27 58.1	-1.0
HEF	Hetta	1.32	64	eP	Pg	16 28 02.1	-2.6
HEF	Hetta	1.32	64	PG	Pg	16 28 03.6	-1.1
HEF	baz=247			MSG		16 28 19.3	
	comp=Z,2.9nm,0.2s						
HEF				SN	Sn	16 28 23.2	-0.3
ERTU	Ertsjaerv	1.49	152	PB	Sg	16 28 26.5	-0.6
ERTU	Ertsjaerv	1.49	152	PG	Pn	16 28 06.1	-1.3
ERTU				SG	Sg	16 28 26.5	-0.6
KLF	Kolari	1.50	114	PN	Pn	16 28 06.5	-1.0
KLF	Kolari	1.50	114	PG	Pn	16 28 06.5	-1.0
KLF				MSG		16 28 24.2	
	comp=Z,2.0nm,0.2s						
KLF				SG	Sn	16 28 28.3	+0.6
KALU	Kalix	2.33	149	PG	Pb	16 28 20.7	-1.4
KALU	baz=329						
KALU				SG	Sb	16 28 50.7	-0.7
TOF	Tornio	2.36	138	PG	Pn	16 28 19.0	-0.3
TOF	Tornio	2.36	138	PN	Pn	16 28 19.0	-0.3
TOF				MSG		16 28 49.4	
	comp=Z,0.9nm,0.2s						
TOF				SB	Sb	16 28 52.0	-0.4
ARA0	ARCESS Array S	2.50	46	SB	Sb	16 28 56.3	0.0
ARA0	ARCESS Array S	2.50	46	SG	Sb	16 28 56.3	0.0
RNF	Rovaniemi	2.51	118	SG	Sb	16 28 58.0	+1.3
RAJF	Raja-Jooseppi	3.01	75	PN	Pn	16 28 27.1	-1.1
OUL	Oulu	3.55	139	SN	Sn	16 29 18.6	+0.3
OUF	Merijarvi	3.93	152	SG	Sb	16 29 40.6	+3.2

*BJI **18** 16:56:28.5±0.0, 6°.34S×146°.79E, h112km, mb4.9/52, mB5.1/16*
*IDC **18** 16:56:31.0±1.3, 6°.44S×146°.33E, h110km±13km, mb4.4/18, mbtmp4.8/22, MS3.6/7, Error ellipse: s-maj=20.2km s-min=8.5km az=91.0*
*NEIC **18** 16:56:30.6±1.5, 6°.39S±0°.08×146°.3E±0°.1, h98km±5km, mb5.0/186, Error ellipse: s-maj=15.7km s-min=11.2km az=77.0*
*DJA **18** 16:56:32.7±0.8, 6°.5S±4°.×14°.6E±°, h118km±6km, M4.8/25, mB5.2/5, mb4.9/25, MLv4.9/3, Mw(mB)4.6/5*

ISC 18 16:56:31.3±0.3, 6°.45S±0°.04×146°.26E±0°.06, h110km, n537, σ0§82/477, mb5.0/128, 6C-4D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.07	163		Pn	16 57 19.0	+0.7
PMG				Sn	Sn	16 57 53.6	-0.9
PMG	Port Moresby	3.07	163	P	Pn	16 57 19.2	+0.9
PMG	183nm,0.3s,baz=360,slow=6.3,SNR=269			S	Sn	16 57 54.2	-0.4
MMPI	Merauke	6.16	251	P	Pn	16 57 58.7	-1.2
JAY	Jayapura	6.78	305	P	Pn	16 58 07.8	-0.5
GENI	Genyem	7.18	302	P	Pn	16 58 14.8	+1.1
GENI	Genyem	7.18	302	P	Pn	16 58 11.6	-2.1
COEN	Coen	8.06	202	P	Pn	16 58 28.0	+2.4
COEN	Coen	8.06	202	Pn	Pn	16 58 27.2	+1.6
MTSU	Mount Surprise	11.77	189	P	Pn	16 59 18.0	+2.2
TV1H	Townsville Har	12.75	178	P	Pn	16 59 29.9	+1.3
CTA	Charters Tower	13.56	180	P	Pn	16 59 40.5	+1.3
CTA	Charters Tower	13.56	180	P	Pn	16 59 40.6	+1.3
CTA	2.9nm,0.3s,baz=3.2,slow=14,SNR=43			S	Sn	17 02 07.0	-1.7
CTAO	Charters Tower	13.56	180	Pn	Pn	16 59 39.6	+0.4
HNR	Honiara	13.88	103	P	P	16 59 46.7	-1.2
FAKI	Fak Fak	14.39	283		P	16 59 53.8	+0.1
FAKI	Fak Fak	14.39	283	P	Pn	16 59 50.8	+0.8
KDU	Kakadu	14.94	244	P	Pn	16 59 57.1	+0.2
QIS	Mount Isa	15.44	204	P	Pn	17 00 03.1	-0.1
SWI	Sorong	15.96	290	P	Pn	17 00 09.3	-0.4
MTN	Manton Dam	16.20	246		Pn	17 00 12.3	-0.5
DRS	Darwin Rock St	16.27	247	P	P	17 00 14.5	0.0
WB0	Warramunga Arr	17.56	220		P	17 00 27.6	-1.1
WR0	Warramunga Arr	17.61	219		P	17 00 27.8	-1.4
WRAB	Tennant Creek	17.71	220		P	17 00 29.0	-1.3
WB2	Warramunga Arr	17.71	220		P	17 00 29.1	-1.3
WRA	Warramunga Arr	17.72	220		P	17 00 28.8	-1.7
WRA	Warramunga Arr	17.72	220		P	17 00 29.6	-0.9
EIDS	Eidsvold	19.37	167	P	Pn	17 00 50.3	-0.5
EIDS	Eidsvold	19.37	167	P	Pn	17 00 49.3	-1.5
KNRA	Kununurra	19.45	240	P	P	17 00 47.6	-1.8
GUMO	Guam	19.95	356	P	P	17 00 53.5	-1.3
GUMO	Guam	19.95	356	P	P	17 00 53.2	-1.7
AS31	Alice Springs	20.84	213	P	P	17 01 04.4	0.0
ASAR	Alice Springs	20.84	213	P	P	17 01 04.5	+0.1
ASAR	Alice Springs	20.84	213	P	P	17 01 03.8	-0.6
ASAR	10nm,0.4s,baz=52,slow=8.9,SNR=298			S	S	17 04 51.1	+0.2
ASAR	4.1nm,0.7s,baz=33,slow=22,SNR=5.9			ScP	ScP	17 08 36.0	+0.2
ASAR	2.1nm,0.9s,baz=46,slow=4.0,SNR=5.1			LR	LR	17 09 48.3	
AUWSH	Wavell State H	21.81	164	P	P	17 01 15.5	+0.8
INKA	Innaminka	21.82	193	P	P	17 01 15.4	+0.7
AULRC	Lightning Ridg	22.92	176	P	P	17 01 26.4	+0.4
FITZ	Fitzroy Crossi	23.20	238	P	P	17 01 28.9	+0.1
FITZ	Fitzroy Crossi	23.20	238	P	P	17 01 26.9	-1.9
OOD	Oodnadatta	23.48	204	P	P	17 01 31.8	+0.6
GTOI	Gorontalo	24.25	286	P	P	17 01 40.0	+1.7
ARMA	Armidale	24.38	169	P	P	17 01 40.7	+1.3
ARMA	Armidale	24.38	169	P	P	17 01 39.7	+0.3
AUPHS	Peel High Scho	24.91	171	P	P	17 01 45.7	+1.6
DZM	Mont Dzumac	24.93	131	LR	LR	17 09 48.7	
CMSA	Cobar Meteorol	24.97	181	P	P	17 01 45.6	+0.9
LCRK	Leigh Creek	25.04	197	P	P	17 01 45.6	+0.2
WRKA	Warakurna	25.25	221	P	P	17 01 47.4	0.0
STKA	Stephens Creek	25.67	189	P	P	17 01 51.7	+0.6
STKA	Stephens Creek	25.67	189	P	P	17 01 51.0	0.0
STKA	Stephens Creek	25.67	189	P	P	17 01 50.8	-0.3
STKA	41nm,0.5s,baz=360,slow=8.9,SNR=103			LR	LR	17 12 13.6	
AUDCS	Dubbo College	25.75	175	P	P	17 01 52.0	+0.3
MULG	Mulgathing	26.34	204	P	P	17 01 57.5	+0.4
KAPI	Kappang	26.41	272	LR	LR	17 14 31.6	
WHYH	Whyalla	27.66	196	P	P	17 02 09.2	+0.4
HTT	Hallett	27.70	193	P	P	17 02 10.7	+1.4
YNG	Young	27.79	176	P	P	17 02 10.9	+0.9
BBOO	Buckleboo	27.90	199	P	P	17 02 10.7	-0.3
BBOO	comp=Z,100nm,1.6s			IAmb	IAmb	17 02 11.4	
CAN	Canberra	28.85	175	P	P	17 02 20.0	+0.5
CAN	comp=Z,64nm,1.7s			IAmb	IAmb	17 03 12.4	
MBWA	Marble Bar	29.55	238	P	P	17 02 25.5	-0.3
MBWA	comp=Z,14nm,0.5s			IAmb	IAmb	17 02 26.3	
FORT	Forrest	29.62	213	P	P	17 02 25.2	-1.1
FORT	comp=Z,40nm,0.8s			IAmb	IAmb	17 03 23.8	
PSA00	Pilbara Seismi	29.63	237	P	P	17 02 26.2	-0.4
PSA00	comp=Z,22nm,0.6s			IAmb	IAmb	17 02 27.1	
TOO	Toolangi	30.99	181	P	P	17 02 38.8	+0.4
MSVF	Nonsavu	32.99	113	P	P	17 02 58.2	+2.0
MEEK	Meekatharra	33.10	229	P	P	17 02 57.3	+0.3
JCJ	Chichijima	33.58	353	LR	LR	17 13 54.8	
KMBL	Kambalda	33.69	220	P	P	17 03 02.4	+0.4
MORW	Morawa	36.33	228	P	P	17 03 24.9	+0.2
KLBR	Kellerberrin	36.55	223	P	P	17 03 26.1	-0.4
NWAO	Narrogin (SRO)	37.71	222	P	P	17 03 35.5	-0.8
NWAO	Narrogin (SRO)	37.71	222	P	P	17 03 36.1	-0.2
TWG	Pinlang	38.12	321	P	P	17 03 38.6	-1.3
TPUB	Ta-pu	38.75	321	P	P	17 03 45.4	+0.2
TPUB	Ta-pu	38.75	321	P	P	17 03 44.6	-0.6
YHNB	Yeheng	39.30	323	P	P	17 03 49.8	+0.1
TATO	Taipei	39.46	323	P	P	17 03 51.1	+0.1
TATO	Taipei	39.46	323	P	P	17 03 51.6	+0.6
JMN	Monobe	41.64	344	P	P	17 04 09.5	+0.6
DSZ	Denniston Nort	41.85	151	P	P	17 04 11.7	+1.1
DSZ	comp=Z,53nm,1.3s			IAmb	IAmb	17 05 30.2	
JNU	Nakatsue	41.98	341	P	P	17 04 11.8	+0.2
RTZ	Ruatahuna	42.39	144	P	P	17 04 15.7	+0.6
RTZ	comp=Z,15nm,0.6s			IAmb	IAmb	17 04 17.7	
BKZ	Black Stump Fm	42.47	145	P	P	17 04 16.3	+0.6
BKZ	Black Stump Fm	42.47	145	P	P	17 04 16.5	+0.9
JGF	Kuroka	42.65	349	P	P	17 04 18.0	+0.9
JGF	Kuroka	42.65	349	P	P	17 04 16.4	-0.7
LTZ	Lake Taylor	42.86	152	P	P	17 04 19.5	+0.7
LTZ	comp=Z,56nm,1.7s			IAmb	IAmb	17 04 44.7	
MRZ	Mangatainoka R	42.98	147	P	P	17 04 20.5	+0.8
MRZ	comp=Z,28nm,1.0s			IAmb	IAmb	17 04 22.0	
RPZ	Rata Peaks	43.03	154	P	P	17 04 20.4	+0.3
RPZ	comp=Z,45nm,1.3s			IAmb	IAmb	17 04 22.6	
GVZ	Greta Valley S	43.37	151	P	P	17 04 23.0	+0.2
MJAR	Matsushiro Arr	43.42	351	P	P	17 04 22.0	-1.2
	comp=Z,6.2nm,0.8s,baz=182,slow=9.4,SNR=19						
	comp=Z,6.2nm,0.8s						
MAJO	Matsushiro	43.42	351	P	P	17 04 23.3	0.0
MAJO	Matsushiro	43.42	351	P	P	17 04 21.9	-1.3
MAJO				IAmb	IAmb	17 04 23.1	
	comp=Z,15nm,0.8s						
MAJO	Matsushiro	43.42	351	P	P	17 04 22.2	-1.0
MJB9	Matsu-Tunnel	43.43	351	IAmb	IAmb	17 04 23.1	
	comp=Z,14nm,0.7s						
NJ2	Nanjing	46.35	327	eP	P	17 04 49.1	+2.6
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSRS	Korea Array	46.91	340	P	P	17 04 50.7	0.0
	comp=Z,5.2nm,0.8s,baz=159,slow=8.9,SNR=24						
	comp=Z,5.2nm,0.8s						
KSAR	Wonju Array Be	46.91	340	P	P	17 04 50.2	-0.6

JTM	**Tenmabayashi**	47.24	355	P	P	17 04 52.8	-0.5
JTM				IAmb	IAmb	17 04 53.5	
	comp=Z,16nm,0.6s						
NONG	**Nongkai**	49.02	301	P	P	17 05 08.0	+0.6
GSI	**Gunungsitoli**	49.20	277	P	P	17 05 08.2	-0.7
GYA	**Guiyang**	50.43	312	P	P	17 05 20.1	+2.0
GYA				pmax	pmax		
	comp=Z,16nm,0.7s						
JKA	**Kamikawa-asahi**	50.44	357	P	P	17 05 17.2	-0.4
JKA				IAmb	IAmb	17 05 52.6	
	comp=Z,15nm,1.4s						
ASAJ	**Asahikawa**	50.44	357	LR	LR	17 26 35.8	
	comp=Z,21nm,19.0s,baz=190,slow=36						
PHRA	**Phrae**	51.72	300	P	P	17 05 29.1	+1.4
USA0B	**Ussuriysk Arra**	52.03	347	P	P	17 05 29.4	-0.2
USA0B				IAmb	IAmb	17 05 30.4	
	comp=Z,15nm,1.2s						
USRK	**Ussuriysk Ar.**	52.03	347	P	P	17 05 29.5	0.0
	comp=Z,9.7nm,0.7s,baz=171,slow=10.0,SNR=16						
	comp=Z,9.7nm,0.7s						
HNS	**HongShan**	52.63	328	⇓P	P	17 05 33.9	-0.2
KMI	**Kunming**	52.69	308	⇓P	P	17 05 37.3	+2.2
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
CM31	**Chiang Mai Arr**	52.81	299	P	P	17 05 37.1	+1.2
CM31				IAmb	IAmb	17 05 38.5	
	comp=Z,15nm,0.9s						
CMAR	**Chiang Mai Arr**	52.81	299	P	P	17 05 37.2	+1.3
CMAR	**Chiang Mai Arr**	52.81	299	P	P	17 05 37.6	+1.8
	comp=Z,11nm,0.8s,baz=123,slow=5.8,SNR=54						
	comp=Z,11nm,0.8s						
CHTO	**Chiang Mai**	52.95	299	P	P	17 05 37.7	+0.8
MDJ	**Mudanjiang**	53.00	345	P	P	17 05 39.5	+2.8
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,73nm,4.1s						
XAN	**Xi'an**	53.56	321	⇑P	P	17 05 41.5	+0.4
XAN				pmax	pmax		
	comp=Z,11nm,1.2s						
PZH	**PanZhiHua**	54.16	309	P	P	17 05 46.4	+0.7
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,170nm,6.0s						
BNX	**BinXian**	54.62	344	⇓P	P	17 05 47.8	-0.7
BNX				pmax	pmax		
	comp=Z,17nm,0.5s						
CD2	**Chengdu**	55.06	315	P	P	17 05 53.0	+1.0
CD2				pmax	pmax		
	comp=Z,70nm,0.5s						
TNCH	**TengChong**	55.99	306	eP	P	17 06 00.8	+1.8
TNCH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HHC	**Hu-ho-hao-te**	56.83	329	eP	P	17 06 06.0	+1.5
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,47nm,4.1s						
HEH	**HeiHe**	58.79	346	eP	P	17 06 17.3	-0.6
HEH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HIA	**Hailar**	60.12	340	P	P	17 06 28.6	+1.5
HIA	**Hailar**	60.12	340	IAmb	IAmb	17 06 27.9	
	comp=Z,11nm,1.1s						
PET	**Petropavlovsk**	60.17	9	P	P	17 06 27.0	-0.3
	comp=Z,7.6nm,2.4s						
DRV	**Dumont d'Urvil**	60.28	183	⇑P	P	17 06 28.1	+0.3
SHL	**Shillong**	61.64	303	P	P	17 06 38.2	+0.2
SHL				IAmb	IAmb	17 06 39.4	
	comp=Z,10nm,0.6s						
GTA	**Gaotai**	62.62	321	eP	P	17 06 45.3	+1.0
GTA				sP	sP	17 07 26.6	+3.0
GTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LSA	**Lhasa**	63.92	307	P	P	17 06 55.8	+2.3
LSA				pmax	pmax		
	comp=Z,24nm,0.8s						
LSA	**Lhasa**	63.92	307	P	P	17 06 55.4	+1.9
ULN	**Ulaanbaatar**	64.15	332	P	P	17 06 53.9	-0.3
ULN	**Ulaanbaatar**	64.15	332	P	P	17 06 54.7	+0.5
AMKA	**Amchitka**	64.20	22	P	P	17 06 54.4	+0.1
SONM	**Songino Array**	64.44	331	P	P	17 06 56.4	+0.2
SONM	**Songino Array**	64.44	331	P	P	17 06 56.3	+0.2
	comp=Z,1.6nm,0.7s,baz=151,slow=7.9,SNR=11						
	comp=Z,1.6nm,0.7s						
CASY	**Casey**	64.64	195	P	P	17 06 56.8	-0.1
CASY				IAmb	IAmb	17 06 57.4	
	comp=Z,15nm,0.6s						
CASY	**Casey**	64.64	195	P	P	17 06 56.9	+0.1
MA2	**Magadan**	65.91	3	P	P	17 07 05.1	-0.1
MA2	**Magadan**	65.91	3	P	P	17 07 05.0	-0.1
KIWB	**Kanaga Island**	65.96	24	P	P	17 07 06.5	+0.9
ATKA	**Atka Island**	67.44	25	P	P	17 07 14.4	-0.6
CCD	**Concordia, Ant**	69.85	186	P	P	17 07 30.4	+0.2
NIKH	**Nikolski High**	70.31	27	P	P	17 07 33.8	+1.1
	baz=228						
VNDA	**Vanda**	71.51	176	P	P	17 07 39.9	+0.1
VNDA	**Vanda**	71.51	176	P	P	17 07 40.2	+0.4
	comp=Z,6.6nm,0.6s,baz=331,slow=6.4,SNR=22						
	comp=Z,6.6nm,0.6s						
VNDA	**Vanda**	71.51	176	P	P	17 07 40.1	+0.4
UNV	**Unalaska Valle**	71.94	27	P	P	17 07 43.3	+0.7
	baz=230						
SBA	**Scott Base**	72.17	176	P	P	17 07 44.6	+1.0
LVA	**Lava Point**	72.36	27	P	P	17 07 44.9	-0.3
WMQ	**Urumqi**	72.65	320	eP	P	17 07 49.1	+1.9
S12K	**Black Hills**	75.12	27	P	P	17 08 01.7	+0.5
S12K	**Black Hills**	75.12	27	P	P	17 08 01.6	+0.4
	baz=234						
SDPT	**Sand Point**	75.64	28	P	P	17 08 04.2	0.0
	baz=235						
CNBA	**Chernabura Isl**	75.77	29	P	P	17 08 04.6	-0.3
CNBA				IAmb	IAmb	17 08 05.6	
	comp=Z,16nm,0.6s						
CHNA	**Chernabura Isl**	75.77	29	P	P	17 08 04.8	-0.1
	baz=236						
ZSN	**Zaisan**	76.05	322	eP	P	17 08 07.0	+0.3
	baz=322						
S14K	**Fog Glacier**	76.61	28	P	P	17 08 10.0	+0.2
	baz=236						
CHGN	**Chignik**	77.14	28	P	P	17 08 12.9	+0.3
	baz=237						
MK31	**Makanchi Array**	77.37	321	P	P	17 08 14.3	0.0
MKAR	**Makanchi Array**	77.37	321	P	P	17 08 14.3	0.0
MKAR	**Makanchi Array**	77.37	321	P	P	17 08 14.6	+0.4
	comp=Z,3.3nm,0.5s,baz=97,slow=8.7,SNR=71						
	comp=Z,3.3nm,0.5s						
M13K	**Dall Lake**	77.43	23	P	P	17 08 15.6	+1.5
	baz=232,SNR=5.9						
O14K	**Tigyukauivet M**	77.57	25	IAmb	IAmb	17 08 16.6	
	comp=Z,21nm,0.8s						
O14K	**Tigyukauivet M**	77.57	25	P	P	17 08 15.8	+0.9
	baz=234						
N14K	**Kuskokwak Cree**	77.80	24	P	P	17 08 16.9	+0.7
	baz=233						
SHLS	**Shalkode**	77.85	317	eP	P	17 08 15.9	-1.2
	comp=Z,9.5nm,1.1s,baz=317						
K13K	**Kusilvak Mount**	77.90	21	P	P	17 08 17.1	+0.4
K13K				IAmb	IAmb	17 08 18.9	
	comp=Z,26nm,1.4s						
K13K	**Kusilvak Mount**	77.90	21	P	P	17 08 17.2	+0.5
	baz=230						
O15K	**Ungalikthiuk R**	78.13	25	P	P	17 08 18.8	+0.8
	baz=235,SNR=9.3						
UZB	**Uzynbulak**	78.15	316	eP	P	17 08 19.2	+0.4
	comp=Z,11nm,1.1s,baz=316						
M14K	**Bethel**	78.18	23	P	P	17 08 19.3	+1.0
	baz=233,SNR=17						
L14K	**Kuka Creek**	78.27	23	P	P	17 08 19.2	+0.5
L14K	**Kuka Creek**	78.27	23	P	P	17 08 19.6	+0.9
	baz=232,SNR=14						
KPKS	**Kokpek**	78.49	317	eP	P	17 08 20.9	+0.4
	baz=317						
SATY	**Saty**	78.54	316	eP	P	17 08 21.3	+0.4
	baz=316						
N15K	**Kwethluk River**	78.59	24	IAmb	IAmb	17 08 22.4	
	comp=Z,20nm,0.9s						
N15K	**Kwethluk River**	78.59	24	P	P	17 08 21.4	+0.8
	baz=235,SNR=7.1						
M15K	**Kasigluk River**	78.65	24	P	P	17 08 21.3	+0.4
	baz=234,SNR=5.3						
R17L	**Mt. Peulik Vol**	78.81	28	P	P	17 08 22.1	+0.2
	baz=239,SNR=9.8						
PLK4	**Peulik 4**	78.81	28	P	P	17 08 22.0	0.0
PLK4				IAmb	IAmb	17 08 24.4	
	comp=Z,18nm,0.8s						
J14K	**Nanvaranak Lak**	78.82	21	P	P	17 08 23.0	+1.3
	baz=231						
P16K	**Nushagak River**	78.83	26	P	P	17 08 21.9	0.0
	baz=237						
L15K	**Ungalak Mounta**	78.93	23	P	P	17 08 22.8	+0.4
	baz=233						
ZALV	**Zalesovo Beam**	79.00	328	P	P	17 08 21.9	-1.1
	comp=Z,6.0nm,0.7s,baz=106,slow=5.8,SNR=24						
	comp=Z,6.0nm,0.7s						
O16K	**Kokwok River B**	79.09	25	IAmb	IAmb	17 08 24.5	
	comp=Z,14nm,0.6s						
O16K	**Kokwok River B**	79.09	25	P	P	17 08 23.7	+0.3
	baz=237						
KSH	**Kashi**	79.13	312	P	P	17 08 26.5	+2.3
KSH				pmax	pmax		
	comp=Z,11nm,0.9s						
TDK	**Taldygorghan**	79.21	318	eP	P	17 08 24.6	+0.2
	comp=Z,5.1nm,0.6s,baz=318						
TNA	**Tin City**	79.24	18	P	P	17 08 24.8	+0.8
	baz=226						
K15K	**Wolf Creek Mou**	79.28	22	P	P	17 08 25.1	+0.8
K15K				IAmb	IAmb	17 08 26.2	
	comp=Z,25nm,0.7s						
K15K	**Wolf Creek Mou**	79.28	22	P	P	17 08 25.3	+1.0
	baz=233,SNR=10						
SII	**Sitkinak Islan**	79.29	29	P	P	17 08 24.8	+0.3
	baz=241						
N16K	**Nishlik Lake**	79.30	24	P	P	17 08 25.6	+1.0
	baz=236,SNR=8.0						
Q17K	**Contact Creek**	79.35	27	P	P	17 08 24.5	-0.4
	baz=239						
ANM	**Nome**	79.37	19	P	P	17 08 25.7	+0.9
	baz=229						
MDOK	**Medeo**	79.51	316	eP	P	17 08 26.6	+0.4
	baz=316						
M16K	**Timber Creek**	79.53	24	IAmb	IAmb	17 08 27.6	
	comp=Z,21nm,0.8s						
M16K	**Timber Creek**	79.53	24	P	P	17 08 26.7	+1.0
	baz=236,SNR=15						
TNSS	**Tian-Shan**	79.54	316	eP	P	17 08 26.6	-0.1
	baz=316						
ACHA	**Angle Creek He**	79.58	27	P	P	17 08 25.9	-0.2
ACHA				IAmb	IAmb	17 08 26.8	
	comp=Z,12nm,0.7s						
P17K	**Kvichak River**	79.59	26	P	P	17 08 25.2	-0.9
	baz=238						
AAA	**Alma-Ata**	79.62	316	eP	P	17 08 27.2	+0.5
	comp=Z,7.3nm,0.4s,baz=316						
O17K	**Koliganek Bris**	79.62	25	P	P	17 08 26.8	+0.6
	baz=238						
F14K	**Arctic Creek**	79.67	18	P	P	17 08 27.2	+0.8
	baz=228						
L16K	**Owhat River**	79.72	23	P	P	17 08 27.3	+0.5
	baz=235,SNR=7.3						
CHKK	**Chushkaly**	79.78	317	eP	P	17 08 27.7	+0.2
	baz=316						
Q18K	**Katmai Hardscr**	79.94	27	P	P	17 08 27.8	-0.4
	baz=240						
N17K	**Nushagak Hills**	79.98	25	P	P	17 08 28.7	+0.5
	baz=237						
OHAK	**Old Harbor**	80.04	29	P	P	17 08 28.9	+0.4
OHAK	**Old Harbor**	80.04	29	P	P	17 08 28.2	-0.2
OHAK	**Old Harbor**	80.04	29	P	P	17 08 28.9	+0.4
	baz=241,SNR=6.8						
SEM	**Semipalatinsk**	80.05	324	eP	P	17 08 28.7	-0.3
	baz=324						
G15K	**Niukluk**	80.08	19	P	P	17 08 29.5	+0.9
	baz=230						
J16K	**Anvik River**	80.22	22	IAmb	IAmb	17 08 31.4	
	comp=Z,22nm,0.7s						
J16K	**Anvik River**	80.22	22	P	P	17 08 30.6	+1.3
	baz=234,SNR=6.3						
P18K	**Big Mountain,**	80.23	26	P	P	17 08 29.4	-0.1
	baz=239						
F15K	**North Star Dit**	80.35	18	P	P	17 08 30.7	+0.6
	baz=230						
M17K	**Holitna River**	80.36	24	IAmb	IAmb	17 08 32.4	
	comp=Z,16nm,0.8s						
M17K	**Holitna River**	80.36	24	P	P	17 08 31.5	+1.3
	baz=237,SNR=11						
L17K	**Donlin**	80.42	23	P	P	17 08 31.6	+1.2
	baz=236,SNR=5.6						
TKM2	**Tokmak 2**	80.44	315	P	P	17 08 32.1	+0.8
	SNR=11						
H16K	**Elim**	80.46	20	P	P	17 08 31.6	+1.0
	baz=232						
O18K	**Koktuh Hills**	80.47	26	P	P	17 08 30.1	-0.7
O18K	**Koktuh Hills**	80.47	26	P	P	17 08 30.7	-0.2
	baz=239						
I17K	**Unalakleet**	80.54	21	P	P	17 08 32.2	+1.2
	baz=234						
N18K	**Kilae Creek**	80.61	25	P	P	17 08 32.6	+1.0
	baz=238						
KDAK	**Kodiak Island**	80.64	28	P	P	17 08 31.5	-0.2
KDAK				IAmb	IAmb	17 08 33.1	
	comp=Z,16nm,0.9s						
KDAK	**Kodiak Island**	80.64	28	P	P	17 08 32.2	+0.5
	baz=242						
Q19K	**Cape Douglas,**	80.70	27	P	P	17 08 31.8	-0.3
	baz=241						
K17K	**Iditarod**	80.75	23	IAmb	IAmb	17 08 34.1	
	comp=Z,18nm,0.8s						
K17K	**Iditarod**	80.75	23	P	P	17 08 33.2	+1.0
	baz=236,SNR=11						
J17K	**VABM Dome**	80.84	22	IAmb	IAmb	17 08 34.6	
	comp=Z,18nm,0.7s						
J17K	**VABM Dome**	80.84	22	P	P	17 08 33.9	+1.2
	baz=235,SNR=6.3						
G16K	**Koyuk River**	80.89	19	P	P	17 08 33.6	+0.7
G16K				IAmb	IAmb	17 08 34.6	
	comp=Z,16nm,0.8s						
G16K	**Koyuk River**	80.89	19	P	P	17 08 33.6	+0.7
	baz=232						
UCH	**Uchtor**	81.00	314	P	P	17 08 36.0	+1.4
	SNR=22						
M18K	**Stony River**	81.06	24	P	P	17 08 34.8	+0.9
	baz=238,SNR=11						
L18K	**Granite Mounta**	81.10	23	P	P	17 08 35.1	+1.0
	baz=238,SNR=7.4						
Q20K	**Shuyak Island**	81.12	28	P	P	17 08 34.4	+0.1
	baz=242						
SYI	**Shuyak Island**	81.12	28	IAmb	IAmb	17 08 35.4	
	comp=Z,20nm,0.8s						
KURBB	**Kurchatov Arra**	81.14	323	P	P	17 08 34.4	-0.2
	comp=Z,3.0nm,0.7s,baz=116,slow=4.4,SNR=32						
	comp=Z,3.0nm,0.7s						
P19K	**Oil Pt**	81.24	27	P	P	17 08 34.6	-0.4
	baz=241						
N19K	**Bonanza Creek**	81.27	25	P	P	17 08 35.4	+0.3
	baz=240,SNR=8.5						
SGDS	**Sogindy**	81.28	316	eP	P	17 08 35.9	+0.3
	comp=Z,5.9nm,0.7s,baz=316						
USP	**Ospenovka**	81.31	315	P	P	17 08 36.3	+0.6
	SNR=7.7						
H17K	**Granite Mounta**	81.44	20	IAmb	IAmb	17 08 37.5	
	comp=Z,23nm,0.7s						
H17K	**Granite Mounta**	81.44	20	P	P	17 08 36.7	+0.9
	baz=234,SNR=7.6						
ILSW	**Iliamna Southw**	81.44	26	P	P	17 08 35.0	-1.1
G17K	**Kiwalik Mounta**	81.52	20	P	P	17 08 36.9	+0.7
	baz=233,SNR=7.0						
AML	**Almayashu**	81.55	314	P	P	17 08 38.8	+1.4
	SNR=23						
MAW	**Mawson**	81.55	203	P	P	17 08 36.1	-0.3
	comp=Z,7.0nm,0.6s,baz=106,slow=7.6,SNR=29						
	comp=Z,7.0nm,0.6s						
EKS2	**Erkin-Say**	81.64	315	P	P	17 08 38.8	+1.2
	SNR=9.6						
O20K	**Slope Mountain**	81.71	26	P	P	17 08 36.4	-1.0
	baz=242						
TTA	**Tatalina**	81.75	23	P	P	17 08 37.8	+0.2
	baz=238						
J18K	**Innoko River**	81.76	22	P	P	17 08 38.0	+0.4
	baz=237,SNR=6.6						
L19K	**White Mountain**	81.81	24	P	P	17 08 38.5	+0.6
	baz=239,SNR=13						
M19K	**Big River Lodg**	81.86	24	P	P	17 08 38.3	+0.2
M19K	**Big River Lodg**	81.86	24	P	P	17 08 38.8	+0.6
	baz=240						
HOM	**Homer**	81.95	27	P	P	17 08 38.7	+0.1
	baz=242						
H18K	**Honhosa River**	82.10	21	P	P	17 08 39.5	+0.2
	baz=236						
E17K	**Hotham Inlet**	82.10	18	P	P	17 08 40.1	+0.9
	baz=232						
D17K	**Noatak River**	82.11	17	P	P	17 08 40.2	+0.9
	baz=231						
BTLS	**Baital**	82.15	317	eP	P	17 08 40.4	+0.3
	baz=317						
L20K	**Farewell, AK**	82.36	24	P	P	17 08 41.1	+0.4
	baz=240,SNR=13						
M20K	**Styx River**	82.37	25	IAmb	IAmb	17 08 42.1	
	comp=Z,17nm,0.7s						
M20K	**Styx River**	82.37	25	P	P	17 08 41.1	+0.2
	baz=241						
RDOG	**Red Dog Mine**	82.38	17	P	P	17 08 41.5	+0.7
	baz=231						
BRSE	**Bradley Lake S**	82.40	27	P	P	17 08 40.8	-0.2
	baz=243						
GCSA	**Galena City Sc**	82.40	21	P	P	17 08 41.2	+0.4
	baz=237						
G18K	**Tagagawik**	82.42	20	IAmb	IAmb	17 08 42.0	
	comp=Z,34nm,1.1s						
G18K	**Tagagawik**	82.42	20	P	P	17 08 41.2	+0.2
	baz=235,SNR=14						
J19K	**Poorman**	82.46	22	P	P	17 08 41.9	+0.7
	baz=238,SNR=11						
F18K	**Selawik**	82.50	19	P	P	17 08 41.7	+0.4
	baz=234						
C17K	**DeLong Mountai**	82.57	17	P	P	17 08 42.4	+0.7
	baz=231						
E18K	**Tukpahlearik C**	82.69	18	P	P	17 08 42.7	+0.4
	baz=233						
K20K	**Telida**	82.72	23	IAmb	IAmb	17 08 44.2	
	comp=Z,14nm,0.8s						
K20K	**Telida**	82.72	23	P	P	17 08 43.2	+0.6
	baz=240,SNR=18						
H19K	**Roundabout Mou**	82.98	21	IAmb	IAmb	17 08 45.3	
	comp=Z,21nm,0.8s						
H19K	**Roundabout Mou**	82.98	21	P	P	17 08 44.2	+0.4
	baz=237,SNR=14						
SKT	**Skwentna**	83.08	25	P	P	17 08 43.0	-1.5
SKT	**Skwentna**	83.08	25	P	P	17 08 42.9	-1.5
	baz=242,SNR=7.8						
G19K	**Purcell Mounta**	83.09	20	IAmb	IAmb	17 08 46.5	
	comp=Z,16nm,0.8s						
G19K	**Purcell Mounta**	83.09	20	P	P	17 08 44.9	+0.5
	baz=237,SNR=7.8						
J20K	**Nowinta River**	83.11	22	IAmb	IAmb	17 08 46.1	
	comp=Z,16nm,0.9s						
J20K	**Nowinta River**	83.11	22	P	P	17 08 45.2	+0.7
	baz=240,SNR=9.9						
SEW	**Seward**	83.14	27	P	P	17 08 44.6	-0.2
	baz=244,SNR=5.8						
SUA	**Susitna One**	83.17	26	IAmb	IAmb	17 08 45.2	
	comp=Z,15nm,0.6s						
SUA	**Susitna One**	83.17	26	P	P	17 08 44.2	-0.9
	baz=243,SNR=12						
O22K	**Cooper Landing**	83.18	27	P	P	17 08 44.8	-0.1
	baz=244						
GAR	**Garm**	83.21	310	IAmb	IAmb	17 08 47.2	
	comp=Z,19nm,1.2s						
F19K	**Shaleruckik Mo**	83.25	19	P	P	17 08 45.2	+0.1
	baz=236						
I20K	**Naaghedeneel**	83.30	22	IAmb	IAmb	17 08 47.1	
	comp=Z,21nm,0.7s						
I20K	**Naaghedeneel**	83.30	22	P	P	17 08 46.3	+0.8
	baz=239,SNR=6.3						
RC01	**Rabbit Creek A**	83.44	26	P	P	17 08 45.7	-0.6
RC01	**Rabbit Creek A**	83.44	26	P	P	17 08 45.9	-0.4
	baz=244,SNR=10						
H20K	**Anotlenegа Mo**	83.51	21	P	P	17 08 47.1	+0.5
	baz=239,SNR=10						
QSPA	**South Pole Qui**	83.52	180	P	P	17 08 46.5	-0.3
QSPA				IAmb	IAmb	17 08 47.4	
	comp=Z,16nm,0.7s						
QSPA	**South Pole Qui**	83.52	180	P	P	17 08 46.6	-0.3
	comp=Z,14nm,0.6s,baz=307,slow=0.7,SNR=132						
QSPA				LR	LR	17 46 31.2	
	comp=Z,91nm,18.4s,baz=348,slow=36						
	comp=Z,14nm,0.6s						
M22K	**Willow**	83.57	25	IAmb	IAmb	17 08 47.4	
	comp=Z,33nm,1.0s						
M22K	**Willow**	83.57	25	P	P	17 08 46.0	-1.0
	baz=244						
CHUM	**Lake Minchumin**	83.66	23	P	P	17 08 48.1	+0.7
	baz=241						
E19K	**Redstone River**	83.77	19	P	P	17 08 48.6	+0.7
	baz=236						
CUT	**Chulitna**	83.80	25	P	P	17 08 47.7	-0.4
	baz=243,SNR=5.6						
PMR	**Palmer**	83.93	26	P	P	17 08 48.8	+0.1
PMR	**Palmer**	83.93	26	P	P	17 08 48.2	-0.6
	baz=244						
C19K	**Lookout Ridge**	83.99	17	P	P	17 08 49.6	+0.6
C19K				IAmb	IAmb	17 08 50.3	
	comp=Z,30nm,0.9s						
C19K	**Lookout Ridge**	83.99	17	P	P	17 08 50.1	+1.0
	baz=234						
P23K	**Montague Islan**	84.03	28	P	P	17 08 49.4	0.0
	baz=246						
F20K	**Avaraart Lake**	84.04	20	IAmb	IAmb	17 08 50.8	
	comp=Z,12nm,0.6s						
F20K	**Avaraart Lake**	84.04	20	P	P	17 08 49.8	+0.6
	baz=238,SNR=9.1						
KTH	**Kantishna Hill**	84.06	24	IAmb	IAmb	17 08 49.4	
	comp=Z,15nm,0.8s						
KK31	**Karatay Array**	84.07	314	IAmb	IAmb	17 08 51.6	
	comp=Z,17nm,1.2s						
KKAR	**Karatay Array**	84.07	314	P	P	17 08 50.0	0.0
KKAR	**Karatay Array**	84.07	314	IAmb	IAmb	17 08 51.6	
	comp=Z,17nm,1.2s						
D19K	**Kuna River**	84.08	18	P	P	17 08 49.5	+0.1
	baz=236						
GHO	**Glory Hole Cre**	84.09	26	IAmb	IAmb	17 08 50.1	
	comp=Z,14nm,0.6s						
KNK	**Knik Glacier**	84.14	26	IAmb	IAmb	17 08 51.2	
	comp=Z,16nm,0.7s						
KNK	**Knik Glacier**	84.14	26	P	P	17 08 49.9	0.0
	baz=245,SNR=7.5						
IMAR	**Indian Mountai**	84.17	21	P	P	17 08 49.5	-0.4
IUG	**Iuzhnay**	84.18	313	eP	P	17 08 50.9	+0.2
	comp=Z,6.8nm,0.6s,baz=313						
BPAW	**Bear Paw Mtn.**	84.28	23	P	P	17 08 50.2	-0.4
	baz=243,SNR=11						
H21K	**Melozitna Rive**	84.34	21	P	P	17 08 51.0	+0.1
	baz=241,SNR=7.3						
SML	**Sawmill**	84.36	26	P	P	17 08 50.9	-0.2
	baz=245,SNR=22						
G21K	**Allakaket**	84.52	20	P	P	17 08 51.5	-0.3
G21K	**Allakaket**	84.52	20	P	P	17 08 52.0	+0.3
	baz=240						
CHM	**Chimkent**	84.53	314	eP	P	17 08 52.8	+0.4
	baz=314						
BRLS	**Boroldaу**	84.53	314	eP	P	17 08 52.8	+0.5
	baz=314						
E20K	**Nigu River**	84.54	18	P	P	17 08 52.0	+0.2
	baz=237,SNR=7.3						
HIN	**Hinchinbrook I**	84.60	27	IAmb	IAmb	17 08 53.1	
	comp=Z,22nm,0.8s						
M23K	**Glacier View**	84.62	26	P	P	17 08 52.0	-0.3
	baz=246,SNR=6.3						
D20K	**Etivluk River**	84.66

E21K	**Killik River**	85.34	19	P	**P**	17 08 56.2	+0.4
	baz=240						
I23K	**Minto, Yukon-K**	85.38	22	P	**P**	17 08 55.8	-0.2
	baz=244,SNR=17						
KAIM	**Kayak Island**	85.39	28	P	**P**	17 08 56.6	+0.5
	baz=249						
G22K	**Bettles**	85.41	20	P	**P**	17 08 56.3	+0.1
	baz=242						
M24K	**Tolsona, Glenn**	85.42	26	P	**P**	17 08 56.6	+0.3
	baz=247,SNR=14						
RAGM	**Ragged Mountai**	85.44	28	IAmb	IAmb	17 08 57.8	
	comp=Z,13nm,0.8s						
C21K	**Knifeblade Rid**	85.45	18	P	**P**	17 08 56.9	+0.5
	baz=239						
F22K	**John River**	85.46	20	P	**P**	17 08 56.8	+0.4
	baz=241						
NRIK	**Noril'sk**	85.47	342	IAmb	IAmb	17 08 57.2	
	comp=Z,13nm,1.0s						
NRIK	**Noril'sk**	85.47	342	P	**P**	17 08 55.7	-0.7
	comp=Z,8.5nm,0.7s,baz=101,slow=4.2,SNR=13						
	comp=Z,8.5nm,0.7s						
WRH	**Wood River Hil**	85.58	23	IAmb	IAmb	17 08 56.9	
	comp=Z,22nm,0.8s						
H23K	**Yukon River**	85.61	22	IAmb	IAmb	17 08 58.3	
	comp=Z,14nm,0.7s						
H23K	**Yukon River**	85.61	22	P	**P**	17 08 57.4	+0.2
	baz=244,SNR=16						
BMRM	**Bremner River**	85.68	27	P	**P**	17 08 57.8	+0.1
	baz=249,SNR=14						
B21K	**Ikpikpuk River**	85.75	18	P	**P**	17 08 57.6	-0.1
	baz=239						
G23K	**Bananza Creek**	85.83	21	IAmb	IAmb	17 08 59.5	
	comp=Z,12nm,0.8s						
G23K	**Bananza Creek**	85.83	21	P	**P**	17 08 58.8	+0.5
	baz=243,SNR=17						
COLA	**College**	85.84	23	P	**P**	17 08 57.8	-0.5
COLA	**College**	85.84	23	P	**P**	17 08 57.8	-0.5
	baz=245						
N25K	**Chitina, Valde**	85.92	27	IAmb	IAmb	17 08 60.0	
	comp=Z,8.9nm,0.7s						
N25K	**Chitina, Valde**	85.92	27	P	**P**	17 08 59.1	+0.2
	baz=249,SNR=12						
D22K	**Ayikyak River**	85.97	19	P	**P**	17 08 59.8	+0.9
	baz=241,SNR=8.1						
HARP	**HAARP**	85.97	26	P	**P**	17 08 59.2	+0.2
	baz=248						
BGLC	**Bering Glacier**	85.99	28	P	**P**	17 08 59.2	+0.1
	baz=250						
COLD	**Coldfoot**	86.01	20	P	**P**	17 08 59.6	+0.5
	baz=243,SNR=6.9						
HDA	**Harding Lake**	86.01	24	IAmb	IAmb	17 09 00.1	
	comp=Z,14nm,0.6s						
HDA	**Harding Lake**	86.01	24	P	**P**	17 08 57.9	-1.3
	baz=246,SNR=21						
PAX	**Paxson**	86.05	25	P	**P**	17 08 59.0	-0.5
	baz=248,SNR=11						
POKR	**Poker Plat Res**	86.11	23	P	**P**	17 08 58.8	-0.8
	baz=246						
ILAR	**Eielson Array**	86.18	23	P	**P**	17 08 58.6	-1.4
ILAR	**Eielson Array**	86.18	23	P	**P**	17 08 58.4	-1.6
	comp=Z,26nm,0.6s,baz=251,slow=5.1,SNR=329						
GLB	**Gilahina Butte**	86.21	27	IAmb	IAmb	17 09 01.3	
	comp=Z,18nm,0.7s						
H24K	**Noodor Dome**	86.24	22	P	**P**	17 09 00.3	0.0
	baz=245						
K24K	**Donnelly Dome**	86.24	24	P	**P**	17 09 00.3	-0.1
	baz=247,SNR=6.4						
CRQE	**Cirque**	86.30	28	P	**P**	17 09 01.0	+0.2
	baz=250,SNR=14						
VRDI	**Verde Repeater**	86.30	27	P	**P**	17 09 00.6	-0.3
VRDI				IAmb	IAmb	17 09 01.8	
	comp=Z,10nm,0.7s						
WAX	**Waxell Ridge**	86.31	28	IAmb	IAmb	17 09 02.1	
	comp=Z,23nm,1.0s						
TGL	**Tana Glacier**	86.42	28	IAmb	IAmb	17 10 07.9	
	comp=Z,19nm,1.0s						
MCARA	**McCarthy VSAT**	86.55	27	P	**P**	17 09 02.0	+0.2
	baz=250						
E23K	**Chandalar**	86.58	20	P	**P**	17 09 02.6	+0.6
	baz=244,SNR=5.7						
ISLE	**Juniper Island**	86.60	28	IAmb	IAmb	17 09 03.8	
	comp=Z,13nm,0.9s						
MESA	**MESA**	86.64	28	P	**P**	17 09 02.2	-0.4
	baz=251						
D23K	**Nanushuk River**	86.64	19	P	**P**	17 09 03.4	+1.2
	baz=243						
BVAR	**Borovoye Array**	86.69	324	P	**P**	17 09 02.2	-0.5
	comp=Z,2.2nm,0.5s,baz=93,slow=5.9,SNR=9.0						
	comp=Z,2.2nm,0.5s						
J25K	**Salcha River,**	86.72	24	P	**P**	17 09 02.1	-0.6
	baz=248,SNR=69						
G24K	**Hadweenzic Riv**	86.75	21	P	**P**	17 09 02.9	+0.2
	baz=246						
MENT	**Mentasta**	86.78	26	P	**P**	17 09 03.8	+0.8
MENT	**Mentasta**	86.78	26	IAmb	IAmb	17 09 04.0	
	comp=Z,14nm,0.6s						
TOLK	**Toolik Lake Re**	86.86	19	P	**P**	17 09 03.8	+0.5
	baz=244						
M26K	**Nabesna, AK**	86.91	26	P	**P**	17 09 03.8	+0.2
	baz=250,SNR=5.1						
GRNC	**Granite Creek**	86.91	28	P	**P**	17 09 04.4	+0.5
GRNC				IAmb	IAmb	17 09 05.2	
	comp=Z,13nm,1.0s						
F24K	**Squaw Lake**	86.94	21	IAmb	IAmb	17 09 05.3	
	comp=Z,11nm,0.6s						
F24K	**Squaw Lake**	86.94	21	P	**P**	17 09 04.3	+0.6
	baz=245,SNR=13						
E24K	**Your Creek**	86.97	20	P	**P**	17 09 04.1	+0.2
	baz=245						
L26K	**Log Cabin Wild**	86.97	25	IAmb	IAmb	17 09 05.0	
	comp=Z,14nm,0.6s						
L26K	**Log Cabin Wild**	86.97	25	P	**P**	17 09 04.2	+0.2
	baz=250						
PRP	**Porcupine Dome**	87.00	23	P	**P**	17 09 02.3	-1.8
	baz=248						
SCRK	**Sand Creek**	87.04	24	P	**P**	17 09 03.9	-0.4
	baz=249,SNR=19						
C23K	**Itkillik River**	87.07	18	P	**P**	17 09 04.9	+0.7
	baz=243,SNR=9.6						
CTG	**Chitna Glacier**	87.18	28	P	**P**	17 09 05.6	+0.5
	baz=252,SNR=20						
H25L	**Birch Creek**	87.18	22	P	**P**	17 09 05.7	+0.9
	baz=247						
G25K	**Bearman Lake**	87.27	22	P	**P**	17 09 06.3	+1.1
	baz=247						
D24K	**Happy Valley**	87.33	19	P	**P**	17 09 06.0	+0.5
D24K	**Happy Valley**	87.33	19	P	**P**	17 09 06.3	+0.9
	baz=244,SNR=8.2						
M27K	**Edge Creek, AK**	87.39	26	P	**P**	17 09 06.8	+0.7
	baz=251,SNR=35						
J26L	**Joseph Creek**	87.40	24	IAmb	IAmb	17 09 07.0	
	comp=Z,14nm,0.8s						
J26L	**Joseph Creek**	87.40	24	P	**P**	17 09 06.1	0.0
	baz=249,SNR=27						
PINM	**Pinnacle**	87.42	29	P	**P**	17 09 06.6	+0.4
	baz=252,SNR=7.7						
FYU	**Fort Yukon**	87.51	22	IAmb	IAmb	17 09 07.4	
	comp=Z,8.3nm,0.7s						
C24K	**Franklin Bluff**	87.61	18	P	**P**	17 09 07.4	+0.6
	baz=244						
L27K	**Beaver Creek,**	87.64	26	IAmb	IAmb	17 09 08.5	
	comp=Z,13nm,1.1s						
L27K	**Beaver Creek,**	87.64	26	P	**P**	17 09 07.5	+0.4
	baz=251,SNR=18						
O28M	**Mount Upton**	87.65	28	P	**P**	17 09 08.0	+0.4
	baz=252,SNR=21						
PNL	**Peninsula**	87.71	29	P	**P**	17 09 08.9	+1.4
PNL	**Peninsula**	87.71	29	P	**P**	17 09 08.1	+0.5
	baz=253,SNR=8.4						
F25K	**Christian Rive**	87.76	21	P	**P**	17 09 08.5	+0.9
	baz=247						
YUK3	**Moose Creek**	87.83	27	P	**P**	17 09 08.8	+0.4
	baz=252,SNR=21						
I26K	**Coal Creek Min**	87.85	23	P	**P**	17 09 08.2	+0.1
	baz=250						
K27K	**Chicken**	87.85	25	P	**P**	17 09 09.1	+1.0
	baz=251,SNR=36						
YUK8	**Steele Glacier**	88.00	28	P	**P**	17 09 09.8	+0.6
	baz=253,SNR=9.4						
BMAR	**Burnt Mountain**	88.08	21	P	**P**	17 09 09.8	+0.7
D25K	**Kavik River**	88.19	19	IAmb	IAmb	17 09 10.8	
	comp=Z,14nm,0.7s						
D25K	**Kavik River**	88.19	19	P	**P**	17 09 10.1	+0.4
	baz=247,SNR=13						
G26K	**Porcupine Rive**	88.19	22	P	**P**	17 09 10.6	+1.0
	baz=249,SNR=19						
O29M	**Mount Kennedy**	88.28	29	IAmb	IAmb	17 09 12.1	
	comp=Z,10.0nm,0.8s						
O29M	**Mount Kennedy**	88.28	29	P	**P**	17 09 11.1	+0.7
	baz=254,SNR=9.8						
F26K	**Sheenjek River**	88.33	21	P	**P**	17 09 11.1	+0.8
	baz=249,SNR=7.5						
EGAK	**Eagle**	88.47	24	P	**P**	17 09 10.9	-0.1
EGAK				IAmb	IAmb	17 09 12.0	
	comp=Z,13nm,0.8s						
EGAK	**Eagle**	88.47	24	P	**P**	17 09 11.0	+0.1
	baz=252,SNR=23						
P29M	**Windy Craggy**	88.51	30	IAmb	IAmb	17 09 13.1	
	comp=Z,13nm,0.7s						
P29M	**Windy Craggy**	88.51	30	P	**P**	17 09 12.1	+0.8
	baz=255,SNR=8.4						
YUK4	**Talbot Arm**	88.54	28	P	**P**	17 09 12.6	+1.0
	baz=254						
I27K	**Kandik River**	88.56	23	P	**P**	17 09 12.0	+0.5
	baz=251,SNR=28						
YUK6	**Outpost Mounta**	88.56	28	P	**P**	17 09 12.3	+0.5
	baz=254						
H27K	**Steamboat Moun**	88.79	23	P	**P**	17 09 13.3	+0.8
	baz=251,SNR=19						
S31K	**Pelican**	88.84	31	P	**P**	17 09 13.8	+0.9
	baz=256						
C26K	**Camden Bay**	88.89	19	P	**P**	17 09 14.1	+1.3
	baz=248,SNR=8.0						
M29M	**Somme Creek**	88.93	27	IAmb	IAmb	17 09 14.8	
	comp=Z,8.1nm,0.7s						
M29M	**Somme Creek**	88.93	27	P	**P**	17 09 14.0	+0.7
	baz=254,SNR=14						
G27K	**Doyon Strip**	88.93	22	IAmb	IAmb	17 09 14.7	
	comp=Z,5.2nm,0.6s						
G27K	**Doyon Strip**	88.93	22	P	**P**	17 09 13.9	+0.8
	baz=251,SNR=9.1						
DAWY	**Dawson**	88.99	25	P	**P**	17 09 14.1	+0.6
	baz=253,SNR=6.9						
P30M	**Million Dollar**	89.01	29	P	**P**	17 09 15.0	+1.3
	baz=255						
PLBC	**Pleasant Camp**	89.14	30	P	**P**	17 09 14.6	+0.4
	baz=256,SNR=6.2						
I28M	**Miner Creek**	89.17	24	P	**P**	17 09 14.4	+0.1
I28M				IAmb	IAmb	17 09 15.5	
	comp=Z,7.2nm,0.8s						
I28M	**Miner Creek**	89.17	24	P	**P**	17 09 14.6	+0.2
	baz=253,SNR=13						
C27K	**Jago River**	89.18	19	P	**P**	17 09 14.9	+0.7
	baz=249,SNR=9.4						
L29M	**L29M**	89.26	26	IAmb	IAmb	17 09 16.4	
	comp=Z,11nm,0.7s						
L29M	**L29M**	89.26	26	P	**P**	17 09 15.4	+0.6
	baz=254,SNR=16						
N30M	**Aishikik Lake**	89.29	28	P	**P**	17 09 15.6	+0.6
	baz=255,SNR=5.5						
E27K	**Coleen River**	89.40	21	IAmb	IAmb	17 09 17.1	
	comp=Z,9.3nm,0.7s						
E27K	**Coleen River**	89.40	21	P	**P**	17 09 15.9	+0.5
	baz=251,SNR=9.0						
J29N	**Klondike Camp**	89.59	25	P	**P**	17 09 17.1	+0.8
	baz=254						
O30N	**Mendenhall**	89.59	29	P	**P**	17 09 16.8	+0.4
	baz=256,SNR=7.5						
SKAG	**Skagway**	89.65	30	P	**P**	17 09 17.8	+1.2
	baz=257						
M30M	**Minto, Yukon**	89.71	27	P	**P**	17 09 17.5	+0.6
	baz=256						
K29M	**Barlow Dome**	89.72	25	P	**P**	17 09 17.6	+0.6
	baz=255,SNR=32						
I29M	**Ogilvie Camp,**	89.80	24	P	**P**	17 09 17.6	+0.3
	baz=254,SNR=11						
R32K	**Eaglecrest**	89.80	31	P	**P**	17 09 18.0	+0.7
	baz=258						
F28M	**Old Crow**	89.84	22	P	**P**	17 09 17.8	+0.4
	baz=253						
N31M	**Braeburn, Yuko**	89.91	28	P	**P**	17 09 18.6	+0.7
	baz=256						
D27M	**Malcolm River**	89.96	20	P	**P**	17 09 18.9	+0.9
	baz=252						
H29M	**Whitestone**	90.01	23	P	**P**	17 09 18.6	+0.4
	baz=254						
U33K	**Whale Pass**	90.10	34	P	**P**	17 09 19.2	+0.5
	baz=259						
E28M	**Babbage River**	90.26	21	P	**P**	17 09 19.9	+0.7
	baz=253						
G29M	**Pine Creek**	90.33	22	P	**P**	17 09 19.7	0.0
G29M				IAmb	IAmb	17 09 20.8	
	comp=Z,9.3nm,0.9s						
G29M	**Pine Creek**	90.33	22	P	**P**	17 09 20.0	+0.3
	baz=254						
MAYO	**Mayo, Yukon**	90.36	26	P	**P**	17 09 20.6	+0.8
	baz=256						
J30M	**Hart River**	90.41	25	IAmb	IAmb	17 09 21.6	
	comp=Z,9.8nm,0.7s						
J30M	**Hart River**	90.41	25	P	**P**	17 09 20.8	+0.6
	baz=256,SNR=16						
P32M	**Atlin**	90.48	30	P	**P**	17 09 21.2	+0.6
	baz=258						
I30M	**Mount Dempster**	90.55	24	P	**P**	17 09 21.2	+0.3
	baz=256,SNR=9.7						
WRAK	**Wrangell Islan**	90.58	33	P	**P**	17 09 21.8	+0.8
	baz=259						
EPYK	**Eagle Plains**	90.69	23	P	**P**	17 09 21.8	+0.4
	baz=256						
E29M	**Blow River**	90.78	21	P	**P**	17 09 21.4	-0.3
	baz=254						
G30M	**tAoh Zraii Nji**	91.04	23	IAmb	IAmb	17 09 23.6	
	comp=Z,9.5nm,1.1s						
G30M	**tAoh Zraii Nji**	91.04	23	P	**P**	17 09 22.2	-0.8
	baz=256						
P33M	**Teslin, Yukon**	91.05	30	P	**P**	17 09 23.1	-0.2
	baz=259						
Q32M	**Nakina River**	91.09	31	P	**P**	17 09 22.3	-1.3
	baz=259						
FARO	**Faro, Yukon**	91.20	28	P	**P**	17 09 24.3	+0.5
	baz=259						
F30M	**Barrier River**	91.35	22	P	**P**	17 09 25.1	+0.7
	baz=256						
G31M	**Satah River**	91.77	23	IAmb	IAmb	17 09 26.8	
	comp=Z,7.2nm,0.8s						
G31M	**Satah River**	91.77	23	P	**P**	17 09 26.4	+0.2
	baz=258						
T35M	**Bob Quinn**	91.81	33	P	**P**	17 09 27.3	+0.5
	baz=261						
R33M	**Jennings River**	91.83	31	P	**P**	17 09 27.4	+0.5
	baz=261						
MMPY	**Sheldon Lake,**	92.22	27	P	**P**	17 09 29.4	+0.8
	baz=260						
ABKAR	**Akbulak array**	92.43	319	P	**P**	17 09 28.3	-1.5
ABKAR	**Akbulak array**	92.43	319	IAmb	IAmb	17 09 29.7	
	comp=Z,6.2nm,0.7s						
ELIB	**Princess Elisa**	93.58	195	*d*P	**P**	17 09 34.8	0.0
	comp=Z,3.3nm,0.9s						
BELA	**Belgrano 2**	95.80	180	IAmb	IAmb	17 09 44.9	
	comp=Z,5.0nm,0.8s						
TROLL	**Troll, Antarti**	98.22	191	⇑Pdiff	**P**	17 09 55.1	-0.8
	comp=Z,62nm,0.5s						
NVAR	**Mina Array Bea**	98.22	52	P	Pdif	17 09 57.1	+0.3
	comp=Z,0.5nm,0.6s,baz=253,slow=5.9,SNR=4.9						
	comp=Z,0.5nm,0.6s						
SNAA	**Sanae**	99.44	189	⇑Pdiff	**Pdif**	17 09 59.1	-2.2
	comp=Z,17nm,0.9s						
SNAA	**Sanae**	99.44	189	P	**Pdif**	17 10 00.3	-1.0
	comp=Z,0.8nm,0.9s,baz=206,slow=14,SNR=2.1						
	comp=Z,0.8nm,0.9s						
YKA	**Yellowknife Ar**	99.91	28	P	**Pdif**	17 10 03.0	-0.3
	comp=Z,0.7nm,0.7s,baz=270,slow=4.3,SNR=7.3						
	comp=Z,0.7nm,0.7s						
VNA2	**Neumayer--Watz**	100.80	189	⇑Pdiff	**Pdif**	17 10 06.4	-0.9
	comp=Z,0.6nm,0.6s,baz=117,slow=3.5						
VNA3	**Neumayer Olymp**	100.83	188	⇑Pdiff	**Pdif**	17 10 05.7	-1.7
	comp=Z,0.9nm,0.8s						
FINES	**FINESS Array B**	109.75	334	PKiKP	**PKiKP**	17 14 48.2	-0.9
	comp=Z,0.9nm,0.5s,baz=64,slow=3.2,SNR=8.9						
ECSD	**EROS Data Cent**	113.91	45	P	**PKiKP**	17 14 57.0	-0.5
	baz=285						
WMOK	**Wichita Mounta**	114.12	55	P	PKPdf	17 14 57.5	-0.7
	baz=279						
WHTX	**Lake Whitney,**	115.64	58	P	**PKPdf**	17 15 01.1	-0.1
	baz=279						
HFS	**Hagfors**	115.66	336	PKP	**PKiKP**	17 14 58.8	-1.6
	comp=Z,0.7nm,0.5s,baz=93,slow=6.4,SNR=5.1						
EYMN	**Ely**	116.04	39	P	**PKPdf**	17 15 01.0	-0.6
	baz=291						
NOA	**NORSAR Array B**	116.08	337	PKP	**PKPdf**	17 15 00.3	-1.0
	comp=Z,0.2nm,0.5s,baz=64,slow=2.5,SNR=3.3						
S39A	**Bolivar**	117.84	51	PKPdf	**PKPdf**	17 15 03.9	-1.4
VYHS	**Vyhne**	119.01	323	*e*PKP	**PKPdf**	17 15 07.2	0.0
MODS	**Modra-Piesok**	120.00	323	*e*PKP	**PKiKP**	17 15 11.5	+2.3
CLL	**Collm**	120.95	328	*i* PKiKP	**PKPdf**	17 15 10.6	-0.2
	comp=Z,4.0nm,0.7s						
GERES	**GERESS Array B**	121.85	325	PKP	**PKPdf**	17 15 12.6	-0.2
	comp=Z,2.1nm,0.6s,baz=64,slow=3.1,SNR=10.0						
OBKA	**Obir**	122.50	322	*i* PKiKP	**PKiKP**	17 15 14.4	+0.1
	comp=Z,1.4nm,0.5s						
T47A	**Sharon Grove**	122.80	50	PKPdf	**PKPdf**	17 15 14.0	-0.9
MYKA	**Terra Mystica**	122.99	323	*e*PKiKP	**PKiKP**	17 15 15.4	+0.1
	comp=Z,3.8nm,0.9s						
WCI	**Wyandotte Cave**	123.00	48	PKPdf	**PKPdf**	17 15 14.9	-0.3
O48B	**Farmland**	123.10	46	P	**PKPdf**	17 15 14.8	-0.6
	baz=292						
LESA	**Schwarzleotal**	123.17	324	*i* PKP	**PKPdf**	17 15 14.8	-0.6
	comp=Z,2.9nm,0.6s						
ABTA	**Abfaltersbach**	123.61	323	*i* PKP	**PKPdf**	17 15 15.3	-0.9
	comp=Z,3.8nm,0.8s						
STAL	**STALIGIAL**	123.73	323	PKPdf	**PKPdf**	17 15 16.0	-0.4
WATA	**Walderalm**	123.85	324	*e*PKP	**PKPdf**	17 15 16.4	-0.4
	comp=Z,2.9nm,0.6s						
WTTA	**Wattenberg**	123.86	324	*i* PKP	**PKPdf**	17 15 16.8	0.0
	comp=Z,3.2nm,0.5s						
SQTA	**Sankt Quirin**	124.12	324	*i* PKP	**PKPdf**	17 15 17.3	0.0
	comp=Z,3.1nm,0.6s						
FETA	**Feichten**	124.51	324	*i* PKiKP	**PKiKP**	17 15 18.3	0.0
	comp=Z,4.2nm,1.0s						
DAVA	**Damuels**	124.85	325	*i* PKiKP	**PKPdf**	17 15 18.9	+0.2
	comp=Z,4.6nm,0.5s						
EKA	**Eskdalemuir Ar**	125.48	339	PKP	**PKPdf**	17 15 19.1	-0.3
	comp=Z,1.9nm,0.5s,baz=25,slow=3.0,SNR=21						
TUE	**Stuetta**	125.61	324		**PKPdf**	17 15 20.2	-0.1
TZTN	**Tazewell**	125.63	49	P	**PKPdf**	17 15 20.3	0.0
	baz=291						
GOGA	**Godfrey**	126.76	53	P	**PKPdf**	17 15 22.6	0.0
	baz=289						
L61B	**Northampton**	130.32	38	P	**PKiKP**	17 15 29.7	-0.2
	baz=305						
SDV	**Santo Domingo**	143.37	84	PKPdf	PKPbc	17 15 51.1	-0.5
BAUV	**El Baul**	145.93	84	PKPdf	**PKPdf**	17 15 57.7	-0.6
IGPR	**InterUniversit**	146.43	67	PKPdf	**PKPbc**	17 16 00.2	-0.3
HUMP	**Col San Antoni**	146.61	67	PKPdf	**PKPdf**	17 15 56.8	-2.6
HUMP				PKPbc	**PKPbc**	17 16 00.6	-0.4
DBIC	**Dimbokro**	151.30	272	PKPbc	**PKPbc**	17 16 13.3	+0.2
	comp=Z,3.5nm,0.4s,baz=63,slow=1.6,SNR=8.4						

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*NEIC **18** 17:17:02.2±1.4, 20°.5S±0°.1×177°.7W±0°.1, h421km±12km, mb4.3/23, Error ellipse: s-maj=20.4km s-min=15.9km az=84.0*
*NOU **18** 17:17:02.3, 20°.57S×177°.64W, h410km, mb4.0/11, Fiji Islands Region*
*IDC **18** 17:17:04.0±4.7, 20°.82S×178°.08W, h404km±49km, mb3.5/5, mbtmp4.3/7, Error ellipse: s-maj=28.0km s-min=19.5km az=70.0*

ISC 18 17:17:01.2±0.6, **20°.62S**±0°.09×**177°.71W**±0°.08, **h400**km, **n49**, σ1°.34/50, **mb4.1**/15, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	4.93	305	P	**Pn**	17 18 23.4	+0.7
MSVF	**Nonsavu**	4.93	305	P	**Pn**	17 18 23.0	+0.3
NIUE	**Niue**	7.49	79	P	**P**	17 18 51.3	+0.3
NIUE	**Niue**	7.49	79	P	**P**	17 18 50.9	-0.1
AFI	**Afiamalu**	8.76	41	P	**Pn**	17 19 03.0	-2.2
PINNC	**Pines Island,**	13.94	259	P	**Pn**	17 20 04.9	-0.1
PINNC	**Pines Island,**	13.94	259	P	**P**	17 20 04.1	+1.8
LIFNC	**LIFOU**	14.08	267	P	**P**	17 20 04.7	+0.9
LIFNC	**LIFOU**	14.08	267	P	**P**	17 20 04.4	+0.6
YATNC	**Mamie plateau,**	14.42	262	P	**P**	17 20 10.8	+3.3
DZM	**Mont Dzumac**	14.83	262	P	**P**	17 20 14.3	+2.2
DZM	**Mont Dzumac**	14.83	262	P	**P**	17 20 12.1	0.0
DZM	**Mont Dzumac**	14.83	262	P	**P**	17 20 12.6	+0.5
	6.4nm,0.7s,baz=80,slow=18,SNR=8.1						
NOUC	**Port Laguerre**	14.96	261	P	**P**	17 20 14.5	+1.1
MXZ	**Matakaoa Point**	17.23	191	P	**P**	17 20 39.1	+1.6
MXZ	**Matakaoa Point**	17.23	191	P	**P**	17 20 38.7	+1.2
URZ	**Urewera**	18.14	193	P	**P**	17 20 47.5	+0.4
URZ	**Urewera**	18.14	193	P	**P**	17 20 45.9	-1.2
	1.6nm,0.3s,baz=349,slow=4.0,SNR=9.4						
URZ				S	**S**	17 23 50.6	-3.2
	3.0nm,0.7s,baz=29,slow=19,SNR=1.9						
RTZ	**Ruatahuna**	18.51	193	P	**P**	17 20 51.5	+0.4
RTZ				IAmb	IAmb	17 21 32.4	
	comp=Z,16nm,1.3s						
BKZ	**Black Stump Fm**	19.14	194	P	**P**	17 20 58.6	+1.0
BKZ	**Black Stump Fm**	19.14	194	P	**P**	17 20 55.6	-2.0
BKZ				IAmb	IAmb	17 21 29.5	
	comp=Z,16nm,1.4s						
MRZ	**Mangatainoka R**	20.77	195	P	**P**	17 21 11.1	-1.5
MRZ				IAmb	IAmb	17 21 42.0	
	comp=Z,20nm,1.3s						
TCW	**Tory Channel**	21.62	197	P	**P**	17 21 21.0	+0.7
LTZ	**Lake Taylor**	23.64	199	P	**P**	17 21 40.3	+1.7
LTZ				IAmb	IAmb	17 22 06.2	
	comp=Z,17nm,1.4s						
EIDS	**Eidsvold**	29.07	255	P	**P**	17 22 27.3	+0.3
EIDS	**Eidsvold**	29.07	255	P	**P**	17 22 27.1	+0.1
EIDS				IAmb	IAmb	17 22 27.7	
	comp=Z,3.3nm,0.5s						
ARMA	**Armidale**	29.25	244	P	**P**	17 22 28.0	-0.7
ARMA				IAmb	IAmb	17 22 45.6	
	comp=Z,19nm,1.5s						
CTAO	**Charters Tower**	33.74	264	P	**P**	17 23 07.4	-0.1
CTAO				IAmb	IAmb	17 23 08.2	
	comp=Z,12nm,1.0s						
COEN	**Coen**	37.86	274	P	**P**	17 23 42.4

22nm,0.4s
AAK Ala-Archa 4.25 14 P **Pn 17 38 58.2 -0.1**
SNR=5.2
AAK Ala-Archa 4.25 14 ⇑P **Pn 17 38 58.1 -0.2**
6.9nm,0.5s
AAK ⇓S **Sn 17 39 47.8 -0.2**
9.1nm,0.5s
IUG luzhnay 4.34 328 *e*P **Pb 17 39 12.1 +2.3**
3.0nm,0.1s
IUG *e*S **Sg 17 40 10.1 -2.6**
18nm,0.5s
TKM2 Tokmak 2 4.78 22 P **Pn 17 39 05.3 -0.4**
SNR=5.7
TKM2 Tokmak 2 4.78 22 ⇑P **Pn 17 39 04.8 -0.9**
1.6nm,0.5s
TKM2 ⇓S **Sn 17 40 02.0 +0.7**
1.6nm,0.5s
KK31 Karatay Array 5.00 337 ⇑P **Pn 17 39 06.2 -2.3**
0.5nm,0.3s,baz=143,slow=11,SNR=27
KK31 ⇑S **Sn 17 40 00.8 -5.5**
6.7nm,0.5s,baz=188,slow=82,SNR=4.5
KST Kastek 5.01 24 *e*P **Pn 17 39 08.4 -0.3**
7.7nm,0.4s
KST *e*S **Sn 17 40 03.9 -2.7**
4.7nm,0.4s
DGS Degeres 5.13 22 *e*P **Pn 17 39 10.2 -0.1**
4.4nm,0.5s
DGS *e*S **Sn 17 40 06.8 -2.8**
3.6nm,0.6s
BRLS Borolday 5.16 332 *e*P **Pb 17 39 24.6 +0.8**
1.4nm,0.1s
BRLS *e*S **Sb 17 40 31.6 +5.7**
2.6nm,0.3s
MTBS Maitube 5.25 27 *e*P **Pn 17 39 11.6 -0.2**
1.8nm,0.1s
MTBS *e*S **Sn 17 40 09.2 -3.3**
3.1nm,0.1s

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*PNSN **18** 17:54:18.8, 46°.91N×121°.98W, h12km, MD2.5, Fault plane solution: NP1:φ=65.00000°, δ=40.00000°, λ=20.00000°.*
*NEIC **18** 17:54:18.1±0.8, 46°.91N±0°.03×121°.99W±0°.03, h16km±4km, Error ellipse: s-maj=4.4km s-min=1.9km az=211.0*
SEA 18 17:54:18.8±1.1, 46°.91N±0°.02×121°.98W±0°.02, h12km±2km, ML2.5/23, ML2.5/48(NEIC), Error ellipse: s-maj=3.4km s-min=1.0km az=220.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBSR	**Observation Ro**	**0.11**	**96**		Pg	17 54 21.9	-0.2
OBSR					Sg	17 54 24.4	0.0
REMR	**Mount Rainier-**	**0.13**	**135**		Pg	17 54 22.1	-0.2
RCS	**Mount Rainier-**	**0.17**	**103**		Pg	17 54 22.7	-0.3
B941	**Kapowsin**	**0.18**	**294**		Pg	17 54 22.7	-0.2
B941					Sg	17 54 25.7	0.0
RCM	**Mount Rainier-**	**0.18**	**114**		Pg	17 54 23.0	-0.2
RCM					Sg	17 54 26.0	-0.2
LON	**Longmire**	**0.20**	**145**	Pg	Pg	17 54 22.9	-0.3
LON				Sg	Sg	17 54 25.7	-0.6
LON				IAML		17 54 26.2	
	comp=E,1μm,0.2s						
LON	**Longmire**	**0.20**	**145**		Pg	17 54 22.9	-0.3
FMW	**Mount Fremont**	**0.21**	**84**		Pg	17 54 23.1	-0.4
GHW	**Garrison Hill**	**0.24**	**303**		Pg	17 54 23.6	-0.3
GHW					Sg	17 54 27.3	-0.1
D05A	**Enumclaw**	**0.28**	**358**		Pg	17 54 24.4	-0.2
D05A	**Enumclaw**	**0.28**	**358**	IAML		17 54 29.0	
	comp=E,213nm,0.3s						
D05A				IAML		17 54 29.1	
	comp=N,239nm,0.4s						
GSM	**Grass Mountain**	**0.32**	**23**		Pg	17 54 25.0	-0.3
PCFR	**Pierce County**	**0.33**	**284**		Pg	17 54 25.3	-0.2
KOSW	**Kosmos**	**0.47**	**198**		Pg	17 54 27.8	-0.4
RATT	**Rattlesnake La**	**0.53**	**13**		Pg	17 54 28.4	-0.7
RATT					Sg	17 54 35.9	-0.3
TDL	**Tradedollar La**	**0.58**	**197**		Pg	17 54 29.4	-0.8
B201	**Coldwater, Mou**	**0.64**	**198**		Pg	17 54 30.2	-1.1
ERK	**Elk Rock**	**0.66**	**203**		Pg	17 54 30.6	-1.0
ERK					Sg	17 54 39.6	-0.6
JRO	**Jston Ridge Ob**	**0.66**	**195**		Pg	17 54 30.6	-1.0
JRO	**Jston Ridge Ob**	**0.66**	**195**	IAML		17 54 42.9	
	comp=E,216nm,0.1s						
JRO				IAML		17 54 43.1	
	comp=N,165nm,0.2s						
B202	**Windy Ridge, M**	**0.68**	**189**		Pg	17 54 30.8	-1.2
B202					Sg	17 54 39.8	-1.0
SOSW	**Source of Smit**	**0.68**	**189**		Pg	17 54 30.9	-1.0
EGRN	**Evergreen Coll**	**0.70**	**284**		Pg	17 54 31.9	-0.5
BOLM	**Sugar Bowl**	**0.71**	**191**		Pg	17 54 31.8	-0.8
BOLM					Sb	17 54 42.6	-0.3
VALT	**Mount Saint He**	**0.71**	**192**		Pg	17 54 31.8	-0.9
SEPW	**September Lobe**	**0.73**	**192**		Pg	17 54 32.2	-0.7
SWF2	**Southwest Flan**	**0.75**	**193**		Pg	17 54 32.5	-0.9
HSR	**South Ridge**	**0.75**	**191**		Pg	17 54 32.4	-1.0
FL2	**Flat Top 2**	**0.76**	**200**		Pg	17 54 32.5	-1.1
JLK	**June Lake**	**0.78**	**189**		Pg	17 54 32.7	-1.1
B203	**Quarry, Mount**	**0.78**	**199**		Pg	17 54 32.7	-1.3
CPW	**Capitol Peak**	**0.80**	**275**		Pg	17 54 33.4	-0.9
NAC	**Naches**	**0.81**	**102**		Pg	17 54 34.0	-0.4
GMW	**Gold Mountain**	**0.84**	**319**		Pg	17 54 33.5	-1.6
GNW	**Green Mountain**	**0.87**	**319**		Pg	17 54 33.9	-1.8
GNW				IAML		17 54 46.1	
	comp=N,130nm,0.3s						
GNW				IAML		17 54 46.4	
	comp=E,134nm,0.3s						
MTMW	**Mount Mitchell**	**0.90**	**191**		Pg	17 54 35.0	-1.2
LTY	**Liberty**	**0.96**	**68**		Pg	17 54 35.8	-1.5
LTY					Sg	17 54 48.6	-1.1
LTY	**Liberty**	**0.96**	**68**	IAML		17 54 49.2	
	comp=E,145nm,0.3s						
TBM	**Table Mountain**	**0.98**	**74**		Pg	17 54 36.6	-1.0
F04A	**Amboy**	**1.03**	**198**		Pb	17 54 37.0	-1.4
F04A				IAML		17 54 52.4	
	comp=N,91nm,0.3s						
F04A				IAML		17 54 57.4	
	comp=E,95nm,0.5s						
C04A	**Brinnon**	**1.05**	**320**		Pb	17 54 36.9	-2.0
F04D	**Rainier, OR**	**1.09**	**221**		Pb	17 54 38.4	-1.2
B023	**Clatskanie**	**1.10**	**224**		Pb	17 54 38.1	-1.6
E03A	**Lebam**	**1.15**	**252**		Pb	17 54 39.0	-1.6
E03A				IAML		17 55 01.2	
	comp=E,143nm,0.6s						
TRW	**Toppenish Ridg**	**1.17**	**122**		Pb	17 54 40.8	-0.1
MXC	**Moxie City**	**1.21**	**106**		Pn	17 54 41.0	-0.4
MXC				IAML		17 54 57.9	
	comp=N,119nm,0.4s						
MXC				IAML		17 54 58.5	
	comp=E,70nm,0.2s						
WISH	**Wishkah**	**1.24**	**280**		Pn	17 54 41.4	-0.5
JCW	**Jim Creek**	**1.28**	**1**		Pn	17 54 41.1	-1.4
RADR	**Rader Ridge**	**1.35**	**249**		Pn	17 54 43.1	-0.3
RADR	**Rader Ridge**	**1.35**	**249**	IAML		17 55 05.4	
	comp=E,80nm,0.8s						
RADR				IAML		17 55 10.5	
	comp=N,71nm,0.6s						
NLWA	**Neilton Lookou**	**1.38**	**291**		Pn	17 54 42.7	-1.2
NLWA				IAML		17 55 04.8	
	comp=N,51nm,0.5s						
E07A	**Sunnyside**	**1.50**	**103**		Pn	17 54 45.9	+0.4
E07A				IAML		17 55 07.5	
	comp=E,51nm,0.7s						
E07A				IAML		17 55 08.3	
	comp=N,82nm,0.5s						
B04A	**Port Angeles**	**1.54**	**318**		Pn	17 54 45.9	-0.2
B04A				IAML		17 55 07.0	
	comp=E,52nm,0.4s						
B04A				IAML		17 55 07.8	
	comp=N,47nm,0.3s						
HOOD	**Mount Hood Mea**	**1.61**	**172**	Pn	Pn	17 54 44.8	-2.2
NLW	**Nelson Butte**	**1.61**	**43**		Pn	17 54 47.3	+0.1
KMOR	**Kings Mountain**	**1.65**	**220**		Pn	17 54 47.0	-0.7
G05A	**Wamic**	**1.73**	**164**	Pn	Pn	17 54 47.6	-1.1
HAWA	**Hanford**	**1.76**	**106**		Pn	17 54 49.1	+0.1
HAWA				IAML		17 55 14.4	
	comp=N,48nm,0.5s						
DHW2	**Dyer Hill 2**	**1.84**	**54**		Pb	17 54 52.2	-0.2
MCW	**Mount Constitu**	**1.86**	**342**		Pn	17 54 50.3	-0.1
PGC	**Sidney**	**2.00**	**331**	Pn	Pn	17 54 51.8	-0.5
PGC				IAML		17 55 22.6	
	comp=E,27nm,0.5s						
D08A	**Wollman Farm,**	**2.10**	**85**	Pn	Pn	17 54 53.1	-0.6
D08A				IAML		17 55 23.9	
	comp=E,20nm,0.1s						
HEBO	**Mount Hebo**	**2.10**	**217**	Pn	Pn	17 54 53.5	-0.3
H04A	**Detroit Lake**	**2.23**	**184**		Pn	17 54 56.9	+1.4
B08A	**Colville Reser**	**2.30**	**50**		Pn	17 54 56.0	-0.5
H04D	**Lebanon**	**2.45**	**193**	Pn	Pn	17 54 57.2	-1.2
G08A	**Pilot Rock**	**2.65**	**127**	Pn	Pn	17 55 00.6	-0.8
PRLK	**Prince Lake**	**2.70**	**180**	IAML		17 55 47.5	
	comp=N,17nm,0.6s						
I04A	**Tendick Farm,**	**3.13**	**186**	Pn	Pn	17 55 06.4	-1.6
BMO	**Blue Mountains**	**3.86**	**121**		Pn	17 55 18.8	+0.8
BMO				IAML		17 57 14.3	
	comp=N,8.7nm,1.2s						
BMO				IAML		17 57 19.2	
	comp=N,6.4nm,0.3s						

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*IDC **18** 18:18:02.7±1.0, 2°.56N×79°.71W, h0km, mb3.6/7, mbtmp3.9/10, ML3.5/3, MS3.0/9, Error ellipse: s-maj=27.2km s-min=22.7km az=29.0*
*NEIC **18** 18:18:07.0±1.3, 2°.72N±0°.08×79°.7W±0°.1, h10km±2km, mb4.1/19, Error ellipse: s-maj=19.8km s-min=13.0km az=254.0*
*RSNC **18** 18:18:09.5±0.0, 3°N±4°×7°9W±°, h0km±4km, M3.1, mb4.6, ML3.1*
ISC 18 18:18:06.1±4.2, 2°.85N±0°.04×79°.61W±0°.05, h15km±27km, n67, σ1§97/78, mb4.0/15, MS3.0/5, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMC	**Tumaco**	**1.35**	**139**	P	**Pn**	**18 18 29.4**	**-1.0**
TUMC				S	**Sb**	**18 18 46.1**	**-2.1**
GR1C	**Gorgona, Isla**	**1.45**	**84**	P	**Pn**	**18 18 30.0**	**-1.8**
GR1C				S	**Sn**	**18 18 47.7**	**-2.8**
BBAC	**Balboa, Cauca**	**2.50**	**109**	P	**Pn**	**18 18 45.5**	**-1.0**
BBAC				S	**Sn**	**18 19 13.6**	**-3.2**
MALC	**Bahia Malaga**	**2.55**	**63**	P	**Pn**	**18 18 46.5**	**-0.4**
MALC				S	**Sn**	**18 19 16.9**	**-0.8**
GCUF	**Volcan Galeras**	**2.78**	**125**	P	**Pn**	**18 18 50.9**	**+0.4**
GCUF				S	**Sn**	**18 19 22.1**	**-2.0**
OTAV	**Otavalo**	**2.84**	**156**		**Pn**	**18 18 49.9**	**-1.5**
IMBA	**Imbabura, San**	**2.92**	**151**		**Pn**	**18 18 51.1**	**-1.4**
CRUC	**La Cruz**	**2.95**	**116**	P	**Pn**	**18 18 53.7**	**+1.0**
CRUC				S	**Sn**	**18 19 29.4**	**+1.4**
POPC	**Popayan, Colom**	**2.95**	**96**	P	**Pn**	**18 18 51.8**	**-0.8**
POPC				S	**Sn**	**18 19 30.3**	**+2.4**
JAMC	**Jamundi, Valle**	**2.96**	**83**	P	**Pn**	**18 18 51.4**	**-1.3**
JAMC				S	**Sn**	**18 19 24.8**	**-3.2**
PULU	**Pululahua**	**3.02**	**158**	Pn	**Pn**	**18 18 53.6**	**-0.2**
PIZC	**Pizarro, Choco**	**3.07**	**47**	P	**Pn**	**18 18 55.3**	**+1.1**
PIZC				S	**Sn**	**18 19 29.0**	**-1.7**
YOTC	**Yotoco, Valle**	**3.45**	**71**	P	**Pn**	**18 18 58.2**	**-1.2**
YOTC				S	**Sn**	**18 19 38.5**	**-1.6**
ANTS	**Antisana-Sarah**	**3.62**	**157**	Pn	**Pn**	**18 19 01.8**	**-0.4**
SLOR	**San Lorenzo -**	**3.73**	**163**	Pn	**Pn**	**18 19 03.3**	**-0.3**
PLMC	**San Jos del P**	**3.90**	**58**	P	**Pn**	**18 19 03.7**	**-1.9**
PLMC				S	**Sn**	**18 19 47.6**	**-3.5**
GARC	**Garzon, Huila**	**4.17**	**99**	P	**Pn**	**18 19 11.3**	**+1.9**
BETC	**Betania**	**4.17**	**92**	P	**Pn**	**18 19 12.3**	**+3.0**
ORTC	**Ortega, Tolima**	**4.48**	**76**	P	**Pn**	**18 19 15.4**	**+1.8**
ORTC				S	**Sn**	**18 20 06.6**	**+1.1**
ANIL	**Santa Ana**	**4.50**	**69**	P	**Pn**	**18 19 15.7**	**+1.6**
ANIL				S	**Sn**	**18 20 06.1**	**-0.3**
PTAC	**Punta Ardita,**	**4.63**	**23**	P	**Pn**	**18 19 15.8**	**+0.2**
PTAC				S	**Sn**	**18 20 04.3**	**-4.8**
PRAC	**Prado**	**4.79**	**80**	P	**Pn**	**18 19 19.4**	**+1.5**
PRAC				S	**Sn**	**18 20 14.9**	**+1.7**
GUY2C	**Guyana, Caldas**	**4.85**	**61**	P	**Pn**	**18 19 19.6**	**+0.6**
GUY2C				S	**Sn**	**18 20 15.1**	**0.0**
NORC	**Norcasia**	**5.44**	**60**	P	**Pn**	**18 19 28.4**	**+1.6**
ROSC	**El Rosal**	**5.64**	**69**		**Pn**	**18 19 31.7**	**+1.9**
ROSC	**El Rosal**	**5.64**	**69**	Pn	**Pn**	**18 19 32.8**	**+3.0**
	12nm,0.3s,baz=214,slow=18,SNR=11						
ROSC				Sn	**Sn**	**18 20 39.7**	**+5.3**
	2.9nm,0.3s,baz=108,slow=21,SNR=4.4						
	41nm,0.5s						
CVER	**Cruz Verde, Cu**	**5.77**	**73**	P	**Pn**	**18 19 34.4**	**+2.7**
VILC	**Villavicencio,**	**6.04**	**78**	P	**Pn**	**18 19 37.7**	**+2.7**
CHIC	**Chingaza**	**6.13**	**73**	P	**Pn**	**18 19 38.7**	**+2.2**
PTBC	**PUERTO BERRIO,**	**6.31**	**54**	P	**Pn**	**18 19 40.7**	**+2.0**
ZARC	**Zaragoza, Cauc**	**6.61**	**46**	P	**Pn**	**18 19 42.5**	**-0.3**
	19nm,0.5s						
JTS	**Las Juntas de**	**9.10**	**325**	LR	LR	18 22 08.0	
	comp=Z,18nm,21.4s,baz=109,slow=26						
SDV	**Santo Domingo**	**10.75**	**56**	Pn	**Pn**	**18 20 41.6**	**+1.7**
	4.5nm,0.3s,baz=115,slow=1.9,SNR=14						
SDV				Sn	**Sn**	**18 22 38.3**	**-1.9**
	1.4nm,0.3s,baz=53,slow=21,SNR=6.3						
SDV				LR	LR	18 25 37.5	
	comp=Z,58nm,18.5s,baz=254,slow=41						
	8.4nm,0.4s						
BAUV	**El Baul**	**13.00**	**62**	Pn	**Pn**	**18 21 07.3**	**-3.1**
MTO3	**Montecristo**	**14.98**	**321**		**Pn**	**18 21 38.0**	**+0.3**
MTO3				IAmb	IAmb	18 21 52.8	
	comp=Z,6.3nm,0.9s						
NNA	**Nana**	**14.99**	**169**	LR	LR	18 28 22.4	
	comp=Z,12nm,18.3s,baz=158,slow=42						
PCRV	**Puerto La Cruz**	**16.55**	**63**	Pn	**Pn**	**18 21 59.1**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=263,slow=17,SNR=1.5						
PCRV				LR	LR	18 28 53.3	
	comp=Z,83nm,21.9s,slow=39						
	comp=Z,4.8nm,0.7s						
ETMB	**Extrema**	**18.34**	**133**		**Pn**	**18 22 17.1**	**-3.1**
BOAV	**Boa Vista**	**19.07**	**91**	P	**P**	**18 22 29.3**	**+1.1**
BOAV				IAmb	IAmb	18 22 32.4	
	comp=Z,9.7nm,0.7s						
SAML	**Samuel**	**20.14**	**126**	P	**P**	**18 22 40.1**	**+0.2**
CMIG	**Matias Romero**	**20.62**	**314**	LR	LR	18 29 30.7	
	comp=Z,45nm,19.1s,baz=188,slow=33						
LPAZ	**La Paz**	**22.14**	**150**	P	**P**	**18 23 03.1**	**+1.0**
LPAZ	**La Paz**	**22.14**	**150**	P	**P**	**18 22 58.0**	**-4.1**
	comp=Z,0.4nm,0.4s,baz=346,slow=8.3,SNR=3.0						
LPAZ				LR	LR	18 32 51.5	
	comp=Z,44nm,20.6s,baz=238,slow=40						
	comp=Z,0.4nm,0.4s						
VILB	**Vilhena**	**24.86**	**130**	P	**P**	**18 23 29.0**	**+0.7**
SIV	**San Ignacio**	**26.20**	**136**	LR	LR	18 34 16.1	
	comp=Z,84nm,21.4s,baz=295,slow=37						
MDP	**Montagnes des**	**26.99**	**84**	LR	LR	18 34 34.3	
	comp=Z,45nm,20.9s,baz=38,slow=37						
PTLB	**Pontes e Lacer**	**27.22**	**132**	P	**P**	**18 23 50.7**	**+1.0**
PTLB				IAmb	IAmb	18 23 54.3	
	comp=Z,6.3nm,0.8s						
TXAR	**Lajitas Array**	**34.87**	**321**	P	**P**	**18 24 58.7**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=150,slow=7.3,SNR=2.6						
TXAR				PcP	**PcP**	**18 27 29.7**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=160,slow=2.9,SNR=6.3						
	comp=Z,0.3nm,0.8s						
BDFB	**Brasilia**	**36.26**	**121**	LR	LR	18 40 24.8	
	comp=Z,57nm,19.4s,baz=140,slow=37						
ANMO	**Albuquerque**	**40.52**	**325**	P	**P**	**18 25 46.9**	**+2.0**
ANMO				IAmb	IAmb	18 25 48.0	
	comp=Z,2.3nm,0.8s						
SDCO	**Great Sand Dun**	**42.06**	**329**	P	**P**	**18 25 60.0**	**+2.2**
SDCO				IAmb	IAmb	18 26 01.4	
	comp=Z,4.7nm,1.2s						
W18A	**Petrified Fore**	**42.57**	**323**	P	**P**	**18 26 03.5**	**+1.7**
W18A				IAmb	IAmb	18 26 20.4	
	comp=Z,5.3nm,0.8s						
WUAZ	**Wupatki**	**43.84**	**322**	P	**P**	**18 26 14.2**	**+2.2**
U15A	**North Rim**	**44.99**	**322**	P	**P**	**18 26 22.8**	**+1.4**
U15A				IAmb	IAmb	18 26 24.6	
	comp=Z,2.3nm,1.0s						
W13A	**Hualapai Mount**	**45.17**	**319**	P	**P**	**18 26 24.6**	**+1.8**
W13A				IAmb	IAmb	18 26 25.3	
	comp=Z,1.6nm,1.0s						
RSSD	**Black Hills**	**46.43**	**336**	P	**P**	**18 26 34.2**	**+1.6**
BSUT	**Blindstream Ca**	**46.89**	**327**	P	**P**	**18 26 38.4**	**+2.0**
NVAR	**Mina Array Bea**	**50.00**	**320**	P	**P**	**18 27 00.5**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=123,slow=6.6,SNR=4.1						
	comp=Z,0.5nm,0.5s						
BMN	**Battle Mountai**	**50.52**	**323**	P	**P**	**18 27 05.5**	**+1.5**
BMN				IAmb	IAmb	18 27 06.3	
	comp=Z,3.9nm,1.0s						
HLID	**Hailey**	**50.94**	**328**	P	**P**	**18 27 09.3**	**+2.1**
WVOR	**Wild Horse Val**	**52.58**	**324**	P	**P**	**18 27 20.6**	**+1.1**
WVOR				IAmb	IAmb	18 27 35.2	
	comp=Z,5.9nm,1.1s						
YKA	**Yellowknife Ar**	**64.94**	**343**	P	**P**	**18 28 44.7**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=131,slow=7.0,SNR=6.3						
	comp=Z,0.8nm,0.8s						
ILAR	**Eielson Array**	**77.88**	**336**	P	**P**	**18 30 02.9**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=116,slow=4.1,SNR=5.2						
	comp=Z,0.5nm,0.8s						
NOA	**NORSAR Array B**	**87.93**	**29**	P	**P**	**18 30 55.7**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=270,slow=4.5,SNR=3.0						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**92.88**	**180**	P	**P**	**18 31 16.7**	**-1.6**
	comp=Z,1.6nm,0.9s,baz=169,slow=1.7,SNR=7.8						
	comp=Z,1.6nm,0.9s						
ASAR	**Alice Springs**	**141.56**	**235**	PKhKP	PKPpre	18 37 31.1	
	comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=5.9						
WRA	**Warramunga Arr**	**142.77**	**240**	PKhKP	PKPpre	18 37 35.6	
	comp=Z,0.7nm,0.7s,baz=106,slow=2.8,SNR=7.1						

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*MDD **18** 18:26:59.9±1.2, 36°.63N×9°.77W, h15km±5km, mb_Lg2.5/7, Error ellipse: s-maj=8.5km s-min=7.6km az=19.0*
*IGIL **18** 18:26:59.9, 36°.56N×9°.81W, h16km, ML1.6*
*SFS **18** 18:26:59.2, 36°.59N×9°.80W, h14km, ML2.1/11, ML2.6/7, MLv1.9/11*
*INMG **18** 18:26:59.9±1.2, 36°.59N×9°.82W, h14km±5km, ML1.7, Error ellipse: s-maj=5.9km s-min=5.6km az=65.0*
*CNRM **18** 18:27:01.6, 36°.23N×9°.33W, h22km*
ISC 18 18:26:56.0±1.8, 36°.41N±0°.03×9°.90W±0°.08, h31km±14km, n45, σ1§65/69, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.12**	**50**	*e*P	**Pb**	**18 27 17.3**	**+0.5**
PFVI				*e*S	**Sn**	**18 27 30.0**	**0.0**
PFVI				A	A	18 27 43.1	
	9.7nm,0.5s						
PFVI	**Vila Bisbo**	**1.12**	**50**	Pg	**Pn**	**18 27 16.2**	**+0.6**
MORF	**Marmelete**	**1.34**	**48**	*e*P	**Pb**	**18 27 20.4**	**-0.1**
MORF				*e*S	**Sb**	**18 27 35.7**	**-1.6**
MORF				A	A	18 27 36.7	
	12nm,0.1s						
MORF	**Marmelete**	**1.34**	**48**	*e*P	**Pb**	**18 27 20.3**	**-0.2**
MORF				*e*S	**Sn**	**18 27 35.0**	**-0.4**
MORF				IAML		18 27 36.4	
	comp=N,12nm,0.1s						
PTEO	**Sao Teotonio**	**1.47**	**40**	*e*P	**Pn**	**18 27 21.9**	**+1.5**
PTEO				*e*S	**Sn**	**18 27 38.7**	**+0.1**
PTEO				A	A	18 27 40.6	
	comp=N,3.6nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.78**	**62**	Sn	**Sn**	**18 27 45.9**	**-0.5**
PCVE	**Castro Verde**	**1.92**	**50**	*e*P	**Pn**	**18 27 28.6**	**+2.0**
PCVE				*e*S	**Sn**	**18 27 50.3**	**+0.6**
PCVE				A	A	18 27 51.9	
	comp=N,2.9nm,0.2s						
PCVE	**Castro Verde**	**1.92**	**50**	Pn	**Pn**	**18 27 28.5**	**+1.9**
PCVE				Sn	**Sn**	**18 27 50.0**	**+0.3**
MESJ	**Messejana**	**1.96**	**43**	*e*P	**Pn**	**18 27 28.7**	**+1.6**
MESJ				*e*S	**Sn**	**18 27 50.4**	**-0.2**
MESJ				A	A	18 27 51.8	
	comp=N,4.3nm,0.8s						
MESJ	**Messejana**	**1.96**	**43**	*e*P	**Pn**	**18 27 28.6**	**+1.6**
MESJ				*e*S	**Sn**	**18 27 49.8**	**-0.8**
MESJ				IAML		18 27 52.7	
	comp=N,3.2nm,0.1s						
PVAQ	**Vaqueiros**	**2.01**	**60**	*e*P	**Pn**	**18 27 29.7**	**+1.9**
PVAQ				*e*S	**Sn**	**18 27 51.9**	**0.0**
PVAQ				A	A	18 27 55.3	
	comp=N,4.5nm,0.1s						
PVAQ	**Vaqueiros**	**2.01**	**60**	Pn	**Pn**	**18 27 29.4**	**+1.6**
PVAQ	**Vaqueiros**	**2.01**	**60**	P	**Pn**	**18 27 30.5**	**+2.7**
PVAQ	**Vaqueiros**	**2.01**	**60**	S	**Sn**	**18 27 52.9**	**+1.0**
PNCL	**Nicolau / Gran**	**2.02**	**32**	*e*P	**Pn**	**18 27 29.3**	**+1.4**
PNCL				*e*S	**Sn**	**18 27 51.4**	**-0.6**
PNCL				A	A	18 27 53.5	
	comp=N,3.9nm,0.4s						
PNCL	**Nicolau / Gran**	**2.02**	**32**	Pn	**Pn**	**18 27 29.0**	**+1.1**
PNCL				Sn	**Sn**	**18 27 51.4**	**-0.6**
EGRO	**El Granado**	**2.24**	**59**	Pn	**Pn**	**18 27 32.7**	**+1.8**
EGRO				Sn	**Sn**	**18 27 57.2**	**-0.2**
EGRO	**El Granado**	**2.24**	**59**	Pn	**Pn**	**18 27 32.2**	**+1.3**
EGRO				Sn	**Sn**	**18 27 57.5**	**+0.1**
EGRO				*i* Vmb_Lg		18 28 00.4	
PBEJ	**Beja**	**2.29**	**45**	*e*S	**Sn**	**18 27 58.3**	**-0.4**
PMAFR	**Mafra**	**2.58**	**11**	*e*P	**Pn**	**18 27 36.6**	**+0.9**
PMAFR				*e*S	**Sn**	**18 28 05.8**	**-0.2**
PMAFR	**Mafra**	**2.58**	**11**	Pn	**Pn**	**18 27 36.6**	**+0.9**
EVO	**Evora**	**2.59**	**35**	*e*S	**Sn**	**18 28 05.3**	**-1.0**
EVO				A	A	18 28 08.0	
	comp=N,5.1nm,0.3s						
EVO	**Evora**	**2.59**	**35**	Sn	**Sn**	**18 28 05.0**	**-1.3**
PBAR	**Barrancos**	**2.88**	**52**	*e*P	**Pn**	**18 27 41.8**	**+2.0**
PBAR				*e*S	**Sn**	**18 28 13.3**	**-0.1**
PBAR				A	A	18 28 15.9	
	comp=N,1.3nm,0.3s						
PBAR	**Barrancos**	**2.88**	**52**	Pn	**Pn**	**18 27 41.4**	**+1.7**
EMIN	**Mina Concepcio**	**2.91**	**61**	Pn	**Pn**	**18 27 42.3**	**+2.1**
EMIN				Sn	**Sn**	**18 28 14.0**	**-0.1**
EMIN				*i* Vmb_Lg		18 28 19.0	
PMTG	**Montargil**	**2.96**	**26**	*e*P	**Pn**	**18 27 42.1**	**+1.2**
PMTG				*e*S	**Sn**	**18 28 13.4**	**-2.0**
PMTG				A	A	18 28 15.2	
	comp=N,2.4nm,0.2s						
PESTR	**Estremoz**	**3.06**	**36**	*e*S	**Sn**	**18 28 16.5**	**-1.3**
PESTR	**Estremoz**	**3.06**	**36**	Pn	**Pn**	**18 27 43.1**	**+0.9**
EBAD	**Badajoz**	**3.27**	**44**	Pn	**Pn**	**18 27 46.1**	**+0.9**
EBAD				Sn	**Sn**	**18 28 21.5**	**-1.6**
EBAD	**Badajoz**	**3.27**	**44**	Pn	**Pn**	**18 27 46.1**	**+0.9**
EBAD			

GRSS	Sisters	2.11	16	eP	Pn	18 38 10.4	+1.6
GRSS				eS	Sn	18 38 33.8	-0.1
GCMP	Grenada, Carri	2.34	19	eP	Pn	18 38 12.1	+0.2
GCMP				eS	Sn	18 38 40.0	+0.4
PCRV	Puerto La Cruz	2.40	268⇑	eP	Pn	18 38 14.3	+1.5
PCRV				eS	Sn	18 38 40.0	-1.2
PCRV	Puerto La Cruz	2.40	268	eP	Pn	18 38 14.9	+2.1
PCRV				eS	Sn	18 38 44.8	+3.5
SVT	Saint Vincent	3.04	18	eP	Pn	18 38 22.0	+0.4
SVT				eS	Sn	18 38 55.5	-1.5
SVB	Belmont	3.14	17	eP	Pn	18 38 24.6	+1.7
SVB				eS	Sn	18 38 58.2	-1.1
SLBI	Saint Lucia, B	3.93	18	eP	Pn	18 38 35.9	+2.1
SLBI				eS	Sn	18 39 17.6	-1.2
MERV	Las Mercedes	4.16	256	eP	Pn	18 38 38.6	+1.6
MERV				eS	Sn	18 39 22.0	-2.7
LUEV	Luepa	4.44	171	eP	Pn	18 38 43.2	+2.2
LUEV				eS	Sn	18 39 31.4	-0.4
TACV	Tcata	4.76	269	eP	Pn	18 38 46.8	+1.6
TACV				eS	Sn	18 39 36.2	-3.2
CACV	CAICARA DEL OR	5.06	238	eP	Pn	18 38 45.2	-4.1
CACV				eS	Sn	18 39 35.6	-11
BENV	Beln	5.33	267	eP	Pn	18 38 54.0	+0.9
BENV				eS	Sn	18 39 50.0	-3.4
TURV	Turiamo	5.56	272	eP	Pn	18 38 56.7	+0.6
TURV				eS	Sn	18 39 54.8	-4.2
BAUV	El Baul	5.91	258⇑	eP	Pn	18 39 01.8	+0.7
BAUV				eS	Sn	18 40 04.2	-3.5
BAUV	El Baul	5.91	258	eP	Pn	18 39 04.0	+2.9
BAUV				eS	Sn	18 40 08.5	+0.8
MAPV	Macapo	6.18	267	eP	Pn	18 39 05.7	+0.9

MOS ***18*** *19:06:01.9±1.0,54°.61N×161°.00W,h21km,mb6.1/96, MS5.2/82,Error ellipse: s-maj=7.8km s-min=3.7km az=97.4*

IPGP ***18*** *19:06:02.0,54°.45N×160°.80W,h34km,Mw5.6,Fault plane solution: NP1:φs59.00000°,δ64.00000°,λ84.00000°. NP2:φs253.00000°,δ27.00000°,λ102.00000°.*

BJI ***18*** *19:06:02.8±0.0,54°.77N×161°.42W,h19km,mb5.7/89, mB5.7/70,Ms5.7/89,Ms7 5.5/86*

NEIC ***18*** *19:06:03.9,54°.47N×160°.82W,h36km*

NEIC ***18*** *19:06:03.7±2.0,54°.42N±0°.03×160°.77W±0°.06,h30km±3km, mb5.6/664,ML5.5/24,Ms_20 5.2/774,Mwb5.5/91, Mww5.6/64,ML5.5(AEIC),Error ellipse: s-maj=5.4km s-min=4.2km az=56.0,Moment Tension Solution. Moment tensor: Scale 10^17^Nm; Mrr1.62; Mθθ-1.42; Mφφ-0.20; Mrθ1.27; Mθφ-0.31; Mφr0.72; Fault plane solution: M∘2.14000×10^17^ NP1:φs264.37000°,δ24.39000°, λ106.83000°. NP2:φs65.99000°,δ66.72000°,λ82.52000°. Principal axes: T 2.2230, Plg67.0000°, Azm322.0000°; N -0.1764, Plg7.0000°, Azm69.0000°; P -2.0466, Plg21.0000°, Azm162.0000°;*

NEIC ***18*** *19:06:03.9,54°.27N×160°.82W,h36km,Moment Tensor Solution. Duration:3s2 Moment tensor: Scale 10^17^Nm; Mrr2.36; Mθθ-1.99; Mφφ-0.37; Mrθ1.37; Mθφ-1.11; Mφr0.92; Fault plane solution: M∘2.96000×10^17^ NP1:φs58.98000°, δ61.94000°,λ85.99000°. NP2:φs247.45000°,δ28.32000°, λ97.47000°. Principal axes: T 2.8627, Plg73.0000°, Azm319.0000°; N 0.1873, Plg4.0000°, Azm61.0000°; P -3.0500, Plg17.0000°, Azm152.0000°;*

NEIC ***18*** *19:06:03.4,54°.40N×160°.73W,h28km*

AEIC ***18*** *19:06:04.7±3.0,54°.42N±0°.03×160°.77W±0°.08,h10km±2km, Error ellipse: s-maj=6.6km s-min=4.8km az=99.0*

IDC ***18*** *19:06:05.2±1.4,54°.60N×160°.97W,h31km±8km,mb5.3/32, mbtmp5.4/36,ML4.7/5,MS5.2/87,Error ellipse: s-maj=10.9km s-min=6.7km az=171.0*

GCMT ***18*** *19:06:07.7±0.1,54°.35N±0°.01×160°.77W±0°.01,h36km, MW5.6/150,Moment Tensor Solution. s142,c271; s150,c323; Duration: 1s6 Moment tensor: Scale 10^17^ Nm; Mrr2.46±.04; Mθθ-2.16±.03; Mφφ-0.30±.03; Mrθ2.10±.05; Mθφ-1.23±.02; Mφr1.04±.04; Best double couple: M∘3.51300×10^17^ NP1:φs64.00000°,δ66.00000°, λ90.00000°. NP2:φs243.00000°,δ24.00000°,λ90.00000°. Principal axes: T 3.3560, Plg69.0000°, Azm334.0000°; N 0.3050, Plg0.0000°, Azm244.0000°; P -3.6700, Plg21.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***18*** *19:06:12.3,55°.55N×161°.78W,h33km,mb5.7,Ms5.0, Hypocentre not reviewed by the ISC*

ISC 18 19:06:04.3±0.3,54°.41N±0°.03×160°.86W±0°.02,h30km±1km, h30km:pP-P,n1983,σ1°72/1758,mb5.7/612,MS5.2/552, 165C-48D,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	Chernabura Isl	0.84	60		Pn	19 06 18.8	-1.4
CHNA	Chernabura Isl	0.85	60	P	Pn	19 06 18.8	-1.4
	baz=240,SNR=838						
CHNA				S	Sn	19 06 27.2	-4.4
	baz=240						
SDPT	Sand Point	0.97	13	P	Pn	19 06 21.1	-0.7
SDPT	Sand Point	0.97	13	IAML		19 06 41.1	
	comp=N,108μm,0.7s						
SDPT				IAML		19 06 43.0	
	comp=E,113μm,0.5s						
SDPT	Sand Point	0.97	13		Pn	19 06 20.8	-1.0
SDPT					Sn	19 06 33.4	-1.1
SDPT	Sand Point	0.97	13	P	Pn	19 06 21.0	-0.8
	baz=190,SNR=1000						
SDPT				S	Sn	19 06 33.8	-0.7
	baz=190						
HAG	Hague Volcano	1.09	327		Pn	19 06 23.8	+0.2
HAG					Sb	19 06 38.5	-0.1
PS4A	Pavlof South-4	1.10	329		Pn	19 06 23.7	0.0
PS4A					Sb	19 06 39.1	+0.3
PVV	Pavlof Volcano	1.11	331		Pn	19 06 23.7	0.0
PVV					Sb	19 06 39.7	+0.8
PS1A	Pavlof South-1	1.14	334		Pn	19 06 24.5	+0.4
PS1A					Sb	19 06 40.1	+0.3
PN7A	Pavlof North-7	1.22	328		Pn	19 06 26.1	+0.7
S12K	Black Hills	1.47	332		Pn	19 06 28.2	-0.5
S12K	Black Hills	1.47	332	P	Pn	19 06 29.7	+0.9
	baz=149,SNR=1000						
S12K				S	Sb	19 06 49.3	0.0
	baz=149						
FALS	False Pass	1.56	288	P	Pn	19 06 30.9	+1.0
FALS	False Pass	1.56	288		Pn	19 06 31.0	+1.1
FALS					Sb	19 06 52.0	+0.3
FALS	False Pass	1.56	288	P	Pn	19 06 30.9	+1.0
	baz=104,SNR=1000						
FALS				S	Sb	19 06 52.4	+0.6
	baz=104						
ISNN	Isanotski Nort	1.75	285		Pn	19 06 34.0	+1.4
SSLS	Shishaldin Sou	1.86	281		Pn	19 06 35.7	+1.6
S14K	Fog Glacier	2.02	21	P	Pn	19 06 37.4	+1.0
	baz=201,SNR=717						
CHGN	Chignik	2.35	35		Pn	19 06 40.0	-0.8
CHGN				IAML		19 07 19.0	
	comp=E,35μm,1.1s						
CHGN	Chignik	2.35	35	P	Pn	19 06 41.3	+0.5
	baz=216,SNR=460						
CHGN				S	Sn	19 07 10.4	+1.7
	baz=216						
AKSA	Akutan Strait	2.85	266		Pn	19 06 49.5	+1.8
ANPK	Aniakchak Peak	2.89	31		Pn	19 06 49.2	+0.9
LVA	Lava Point	3.05	267		Pn	19 06 51.5	+1.1
LVA				IAML		19 07 46.3	
	comp=E,23μm,0.9s						
CHIR	Chirikof Islan	3.32	63	IAML		19 07 55.2	
	comp=N,14μm,1.4s						
CHIR				IAML		19 07 55.2	
	comp=E,14μm,1.1s						
CHIR	Chirikof Islan	3.32	63	P	Pn	19 06 53.8	-0.4
	baz=247						
UNV	Unalaska Valle	3.37	263	P	Pn	19 06 56.4	+1.6
UNV	Unalaska Valle	3.37	263	P	Pn	19 06 55.3	+0.5
	baz=78,SNR=241						
R17L	Mt. Peulik Vol	4.10	36	P	Pn	19 07 05.8	+1.0
	baz=219,SNR=448						
SII	Sitkinak Islan	4.36	58	P	Pn	19 07 09.0	+0.5
SII	Sitkinak Islan	4.36	58	Pn	Pn	19 07 07.4	-1.1
SII				IAML		19 08 46.1	
	comp=E,8μm,0.7s						
SII	Sitkinak Islan	4.36	58	P	Pn	19 07 07.6	-0.9
	baz=243,SNR=171						
Q17K	Contact Creek	4.75	34	P	Pn	19 07 14.2	+0.3
	baz=217						
R18K	Karluk	4.79	46	P	Pn	19 07 14.1	-0.1
	baz=231						
O15K	Ungalikthiuk R	4.81	6	P	Pn	19 07 15.0	+0.3
	baz=187,SNR=288						
O14K	Tigyukauivet M	4.86	358	Pn	Pn	19 07 15.9	+0.6
O14K				IAML		19 08 52.5	
	comp=E,4μm,1.0s						
O14K				IAML		19 08 57.2	
	comp=N,4μm,1.5s						
O14K	Tigyukauivet M	4.86	358	P	Pn	19 07 16.0	+0.8
	baz=176,SNR=49						
Q16K	King Salmon	4.87	27	P	Pn	19 07 16.6	+1.2
	baz=210						
P16K	Nushagak River	4.89	18	P	Pn	19 07 16.3	+0.6
	baz=199,SNR=137						
NIKH	Nikolski High	4.97	256	P	Pn	19 07 18.3	+1.5
NIKH	Nikolski High	4.97	256	P	Pn	19 07 17.0	+0.2
	baz=70,SNR=54						
OHAK	Old Harbor	5.11	53	P	Pn	19 07 18.6	-0.1
OHAK	Old Harbor	5.11	53	Pn	Pn	19 07 16.8	-2.0
OHAK				IAML		19 08 44.5	
	comp=E,3μm,1.7s						
OHAK				IAML		19 08 47.3	
	comp=N,3μm,1.5s						
OHAK	Old Harbor	5.11	53	P	Pn	19 07 17.9	-0.8
	baz=240,SNR=95						
Q18K	Katmai Hardscr	5.34	35	P	Pn	19 07 22.3	+0.3
	baz=219,SNR=356						
P17K	Kvichak River	5.38	25	P	Pn	19 07 23.3	+1.0
	baz=208,SNR=202						
P08K	Saint George I	5.41	297	P	Pn	19 07 23.8	+1.1
	baz=110,SNR=32						
O16K	Kokwok River B	5.41	15	Pn	Pn	19 07 23.0	+0.1
O16K				IAML		19 09 19.4	
	comp=N,2μm,1.1s						
O16K	Kokwok River B	5.41	15	P	Pn	19 07 23.1	+0.3
	baz=197,SNR=262						
N14K	Kuskokwak Cree	5.55	356	P	Pn	19 07 25.7	+1.0
	baz=174,SNR=786						
CLES	Cleveland East	5.61	257	Pn	Pn	19 07 26.2	+0.6
KDAK	Kodiak Island	5.73	51	Pn	Pn	19 07 26.1	-1.2
KDAK	Kodiak Island	5.73	51	P	Pn	19 07 26.0	-1.3
	baz=237						
KDAK	Kodiak Island	5.73	51	Pn	Pn	19 07 26.2	-1.0
	comp=N,36nm,0.3s,baz=242,slow=6.3,SNR=143						
KDAK				Sn	Sn	19 08 28.0	-3.9
	comp=N,26nm,0.3s,baz=1.2,slow=12,SNR=2.3						
	comp=N,92nm,0.4s						
KDAK	Kodiak Island	5.73	51	c iP	Pn	19 07 25.8	-1.4
O17K	Koliganek Bris	5.75	19	P	Pn	19 07 27.8	+0.2
	baz=202,SNR=216						
N15K	Kwethluk River	5.79	4	Pn	Pn	19 07 28.1	0.0
N15K	Kwethluk River	5.79	4	P	Pn	19 07 28.9	+0.8
	baz=184,SNR=754						
N15K				S	Sn	19 08 36.1	+2.8
	baz=184						
P18K	Big Mountain,	5.87	29	Pn	Pn	19 07 29.5	+0.3
P18K	Big Mountain,	5.87	29	P	Pn	19 07 29.8	+0.7
	baz=214,SNR=372						
P18K				S	Sn	19 08 37.4	+2.0
	baz=214						
SPIA	Saint Paul Isl	5.98	301	P	Pn	19 07 31.4	+0.8
SPIA	Saint Paul Isl	5.98	301		Pn	19 07 32.4	+1.7
SPIA	Saint Paul Isl	5.98	301	P	Pn	19 07 32.0	+1.4
	baz=113,SNR=48						
Q19K	Cape Douglas,	6.02	38	P	Pn	19 07 31.4	+0.1
	baz=224						
M13K	Dall Lake	6.17	348		Pn	19 07 34.1	+0.9
M13K	Dall Lake	6.17	348	P	Pn	19 07 34.6	+1.4
	baz=166,SNR=379						
N16K	Nishlik Lake	6.18	10	P	Pn	19 07 34.4	+0.9
	baz=191,SNR=1000						
N16K				S	Sn	19 08 47.0	+3.9
	baz=191						
O18K	Koktuh Hills	6.26	27		Pn	19 07 34.2	-0.3
O18K	Koktuh Hills	6.26	27	P	Pn	19 07 35.5	+0.9
	baz=211,SNR=385						
O18K				S	Sn	19 08 47.8	+2.8
	baz=211						
Q20K	Shuyak Island	6.29	45	P	Pn	19 07 34.4	-0.6
	baz=231,SNR=61						
SYI	Shuyak Island	6.30	45		Pn	19 07 33.8	-1.2
M15K	Kasigluk River	6.30	1	P	Pn	19 07 35.2	+0.2
	baz=180,SNR=287						
M15K				S	Sn	19 08 48.9	+3.0
	baz=180						
M14K	Bethel	6.39	355		Pn	19 07 36.1	-0.1
M14K	Bethel	6.39	355	P	Pn	19 07 36.9	+0.7
	baz=174,SNR=1000						
N17K	Nushagak Hills	6.44	16	Pn	Pn	19 07 36.6	-0.4
N17K	Nushagak Hills	6.44	16	P	Pn	19 07 37.4	+0.4
	baz=199,SNR=329						
M11K	Mekoryuk	6.65	336	P	Pn	19 07 40.8	+1.0
	baz=152,SNR=75						
P19K	Oil Pt	6.70	35	P	Pn	19 07 40.8	+0.2
	baz=221,SNR=178						
M16K	Timber Creek	6.71	8	P	Pn	19 07 41.4	+0.8
	baz=189,SNR=245						
N18K	Kilae Creek	6.83	21	P	Pn	19 07 42.8	+0.5
	baz=205,SNR=233						
L14K	Kuka Creek	7.02	353	P	Pn	19 07 45.6	+0.7
	baz=171,SNR=902						
O20K	Slope Mountain	7.23	35	P	Pn	19 07 47.7	-0.1
	baz=221,SNR=78						
M17K	Holitna River	7.24	13	P	Pn	19 07 48.6	+0.6
	baz=196,SNR=172						
HOM	Homer	7.27	40	P	Pn	19 07 47.6	-0.7
	baz=227,SNR=25						
N19K	Bonanza Creek	7.27	25	P	Pn	19 07 49.7	+1.3
	baz=210,SNR=590						
SVW2	Sparrevohn	7.27	21	P	Pn	19 07 49.8	+1.4
SVW2	Sparrevohn	7.27	21		Pn	19 07 48.1	-0.3
L15K	Ungalak Mounta	7.30	358	P	Pn	19 07 48.5	-0.2
	baz=177,SNR=264						
L16K	Owhat River	7.36	5	P	Pn	19 07 49.0	-0.6
	baz=186,SNR=232						
L16K				S	Sn	19 09 13.8	+2.0
	baz=186						
M18K	Stony River	7.59	19	P	Pn	19 07 53.2	+0.5
	baz=202,SNR=322						
BRLK	Bradley Lake	7.63	41		Pn	19 07 51.7	-1.6
BRSE	Bradley Lake S	7.67	42	P	Pn	19 07 52.7	-1.1
	baz=230,SNR=98						
K13K	Kusilvak Mount	7.81	347	P	Pn	19 07 55.8	+0.1
	baz=163						
L17K	Donlin	7.86	9	P	Pn	19 07 56.5	+0.1
	baz=191,SNR=219						
K15K	Wolf Creek Mou	7.92	358		Pn	19 07 57.3	+0.1
K15K	Wolf Creek Mou	7.92	358	P	Pn	19 07 57.8	+0.6
	baz=177,SNR=144						
K15K				S	Sn	19 09 28.0	+2.4
	baz=177						
L18K	Granite Mounta	8.13	14	P	Pn	19 08 00.2	0.0
	baz=197,SNR=147						
N20K	Mount Spurr	8.22	31	P	Pn	19 07 59.9	-1.5
	baz=218,SNR=30						
SPCR	Spurr Chakacha	8.22	31	P	Pn	19 07 55.6	-5.8
	baz=218,SNR=9.7						
CAPN	Captain Cook N	8.23	35	P	Pn	19 08 02.5	+1.1
	baz=223						
M19K	Big River Lodg	8.25	22	P	Pn	19 08 02.6	+0.8
	baz=207						
ATKA	Atka Island	8.29	260	P	Pn	19 08 03.9	+1.6
L19K	White Mountain	8.41	20	P	Pn	19 08 03.9	-0.1
	baz=204,SNR=268						
SEW	Seward	8.41	43	P	Pn	19 08 03.3	-0.5
	baz=232,SNR=55						
K17K	Iditarod	8.44	8	P	Pn	19 08 04.5	+0.2
	baz=190,SNR=200						
J14K	Nanvaranak Lak	8.48	352	P	Pn	19 08 05.5	+0.6
	baz=169,SNR=211						
J14K				S	Sn	19 09 40.5	+1.1
	baz=169						
M20K	Styx River	8.53	25	P	Pn	19 08 06.3	+0.6
	baz=212						
O22K	Cooper Landing	8.54	40	P	Pn	19 08 05.8	+0.1
	baz=229,SNR=27						
L20K	Farewell, AK	8.87	21	P	Pn	19 08 09.9	-0.5
	baz=207,SNR=223						
SUA	Susitna One	8.87	33	P	Pn	19 08 09.9	-0.5
	baz=221,SNR=175						
J16K	Anvik River	8.90	1	P	Pn	19 08 10.8	+0.1
	baz=181,SNR=107						
TTA	Tatalina	8.91	14	P	Pn	19 08 10.7	-0.1
	baz=198,SNR=71						
RC01	Rabbit Creek A	8.94	37	P	Pn	19 08 11.2	0.0
	baz=226,SNR=21						
SKT	Skwentna	9.04	29	P	Pn	19 08 13.2	+0.6
	baz=217,SNR=172						
J17K	VABM Dome	9.06	5	P	Pn	19 08 12.1	-0.8
	baz=186,SNR=32						
P23K	Montague Islan	9.19	47	P	Pn	19 08 13.2	-1.4
	baz=238,SNR=63						
M22K	Willow	9.29	33	P	Pn	19 08 16.6	+0.6
	baz=222,SNR=42						
J18K	Innoko River	9.33	12	P	Pn	19 08 16.9	+0.4
	baz=195,SNR=113						
Q23K	Middleton Isla	9.38	52	P	Pn	19 08 16.3	-0.9
	baz=244						
Q23K				S	Sn	19 10 00.2	-1.4
	baz=244						
MID	Middleton Isla	9.39	52	P	Pn	19 08 17.1	-0.2
PMR	Palmer	9.50	36	P	Pn	19 08 19.2	+0.3
PMR	Palmer	9.50	36	P	Pn	19 08 18.8	-0.1
	baz=226,SNR=22						
I17K	Unalakleet	9.51	0	P	Pn	19 08 18.8	-0.2
	baz=180,SNR=19						
I17K				S	Sn	19 10 06.7	+2.1
	baz=180						
KNK	Knik Glacier	9.62	38	P	Pn	19 08 19.8	-0.8
	baz=228,SNR=49						
K20K	Telida	9.63	19	P	Pn	19 08 20.7	0.0
	baz=204,SNR=93						
CUT	Chulitna	9.74	30	P	Pn	19 08 22.4	+0.3
	baz=219,SNR=14						
ADK	Adak	9.84	262	P	Pn	19 08 24.4	+0.8
ADK	Adak	9.84	262		Pn	19 08 24.1	+0.5
ADK	Adak	9.84	262	P	Pn	19 08 24.1	+0.5
SML	Sawmill	9.93	37	P	Pn	19 08 24.4	-0.4
	baz=227,SNR=23						
J19K	Poorman	9.98	13	P	Pn	19 08 26.6	+1.3
	baz=198,SNR=227						
KIWB	Kanaga Island	10.12	262		Pn	19 08 28.1	+0.6
M23K	Glacier View	10.13	38	P	Pn	19 08 27.1	-0.5
	baz=229,SNR=59						
EYAK	Cordova Ski Ar	10.18	47	P	Pn	19 08 28.0	-0.2
EYAK	Cordova Ski Ar	10.18	47	P	Pn	19 08 27.1	-1.1
	baz=239,SNR=73						
H16K	Elim	10.29	357	P	Pn	19 08 31.3	+1.7
	baz=175,SNR=21						
SCM	Sheep Creek Mo	10.30	38		Pn	19 08 28.3	-1.7
SCM	Sheep Creek Mo	10.30	38	P	Pn	19 08 29.5	-0.5
	baz=230,SNR=74						
SCM	Sheep Creek Mo	10.30	38	P	Pn	19 08 28.3	-1.7
J20K	Nowinta River	10.37	17	P	Pn	19 08 31.3	+0.5
	baz=202,SNR=87						
ANM	Nome	10.44	349		Pn	19 08 30.6	-1.1
ANM	Nome	10.44	349	P	Pn	19 08 32.8	+1.1
	baz=165,SNR=20						
ANM	Nome	10.44	349	P	Pn	19 08 30.6	-1.1
KAIM	Kayak Island	10.48	52		Pn	19 08 31.6	-0.8
KAIM	Kayak Island	10.48	52	P	Pn	19 08 31.6	-0.8
	baz=245,SNR=87						
GCSA	Galena City Sc	10.56	9	P	Pn	19 08 33.8	+0.4
	baz=192,SNR=13						
H17K	Granite Mounta	10.57	2	P	Pn	19 08 33.5	0.0
	baz=183,SNR=49						
WAT1	Susitna Watana	10.58	32	P	Pn	19 08 32.3	-1.5
	baz=222						
KLU	Klutina	10.62	42		Pn	19 08 32.9	-1.5
KLU	Klutina	10.62	42	P	Pn	19 08 33.2	-1.2
	baz=235,SNR=243						
WAT6	Susitna Watana	10.66	35	P	Pn	19 08 33.2	-1.8
	baz=226,SNR=88						
G15K	Niukluk	10.74	353	P	Pn	19 08 36.6	+0.8
	baz=170						
H18K	Honhosa River	10.85	6	P	Pn	19 08 38.0	+0.7
	baz=188,SNR=24						
BMRM	Bremner River	10.88	46	P	Pn	19 08 36.4	-1.4
	baz=240,SNR=90						
M24K	Tolsona, Glenn	10.90	39	P	Pn	19 08 37.2	-0.9
	baz=231,SNR=60						
I20K	Naaghedeneel	10.90	15	P	Pn	19 08 39.5	+1.5
	baz=200,SNR=44						
RND	Reindeer	10.93	30		Pn	19 08 36.8	-1.7
RND	Reindeer	10.93	30	P	Pn	19 08 36.8	-1.7
BPAW	Bear Paw Mtn.	10.94	23	P	Pn	19 08 39.1	+0.6
	baz=212,SNR=126						
G16K	Koyuk River	11.04	357	P	Pn	19 08 40.8	+0.9
	baz=175						
BGLC	Bering Glacier	11.08	52	P	Pn	19 08 40.6	+0.1
	baz=246						
G17K	Kiwalik Mounta	11.13	0	P	Pn	19 08 41.6	+0.5
	baz=180,SNR=48						
DHY	Denali Highway	11.13	33	P	Pn	19 08 40.6	-0.7
	baz=225,SNR=51						
MCK	McKinley	11.16	28	P	Pn	19 08 41.5	-0.1
	baz=218,SNR=30						
N25K	Chitina, Valde	11.21	43	P	Pn	19 08 41.8	-0.7
	baz=237,SNR=65						
H19K	Roundabout Mou	11.37	9	P	Pn	19 08 44.3	0.0
	baz=193,SNR=104						
H19K				S	Sn	19 10 53.0	+2.9
	baz=193						
F14K	Arctic Creek	11.43	348	P	Pn	19 08 44.4	-0.8
	baz=163,SNR=38						
F14K				S	Sn	19 10 57.2	+5.6
	baz=163						
CRQE	Cirque	11.43	49	P	Pn	19 08 44.3	-1.1
	baz=244,SNR=59						
HARP	HAARP	11.46	39	P	Pn	19 08 44.8	-0.9
	baz=233,SNR=24						
F15K	North Star Dit	11.49	352	P	Pn	19 08 46.1	+0.1
	baz=168,SNR=68						
H20K	Anotleneega Mo	11.51	13	P	Pn	19 08 46.6	+0.2
	baz=198,SNR=205						
H20K				S	Sn	19 10 57.3	+3.7
	baz=198						
TGL	Tana Glacier	11.55	49		Pn	19 08 45.9	-1.1
G18K	Tagagawik	11.57	5	P	Pn	19 08 47.9	+0.7
	baz=186,SNR=95						
G18K				S	Sn	19 11 02.0	+6.8
	baz=186						
PAX	Paxson	11.70	37	P	Pn	19 08 47.8	-1.3
	baz=230,SNR=71						
MESA	MESA	11.72	53	P	Pn	19 08 48.9	-0.6
	baz=249,SNR=42						
TNA	Tin City	11.72	345	P	Pn	19 08 49.2	0.0
	baz=159,SNR=20						
MCARA	McCarthy VSAT	11.75	46	P	Pn	19 08 48.0	-1.7
	baz=241,SNR=45						
MLY	Manley	11.79	21	P	Pn	19 08 49.8	-0.5
	baz=210,SNR=140						
NEA2	Nenana	11.81	26	P	Pn	19 08 50.0	-0.4
	baz=215,SNR=27						
G19K	Purcell Mounta	11.92	7	P	Pn	19 08 52.6	+0.7
	baz=190,SNR=24						
H21K	Melozitna Rive	11.96	16	P	Pn	19 08 53.2	+0.7
	baz=203,SNR=213						
IMAR	Indian Mountai	12.12	14		Pn	19 08 54.5	-0.3
K24K	Donnelly Dome	12.16	33	P	Pn	19 08 54.9	-0.3
	baz=226,SNR=29						
I23K	Minto, Yukon-K	12.20	23	P	Pn	19 08 54.8	-0.9
	baz=213,SNR=40						
HDA	Harding Lake	12.24	29	P	Pn	19 08 54.2	-2.1
	baz=221,SNR=50						
F18K	Selawik	12.25	2	P	Pn	19 08 57.3	+0.9
	baz=183,SNR=51						
M26K	Nabesna, AK	12.28	42	P	Pn	19 08 56.7	-0.3
	baz=237,SNR=98						
CTG	Chitna Glacier	12.30	50

ILAR ScP **ScP** 19 18 07.8 -0.3
comp=N,2.6nm,1.0s,baz=256,slow=3.2,SNR=5.0
ILAR Eielson Array 12.53 28 P **Pn** 19 08 57.2 -3.1
F19K Shaleruckik Mo 12.55 6 P **Pn** 19 09 01.0 +0.4
baz=188
POKR Poker Plat Res 12.65 27 P **Pn** 19 08 59.9 -2.0
baz=218,SNR=36
G21K Allakaket 12.66 14 P **Pn** 19 09 01.9 -0.1
baz=200,SNR=90
M27K Edge Creek, AK 12.70 44 P **Pn** 19 09 02.6 -0.2
baz=240,SNR=64
E17K Hotham Inlet 12.72 358 P **Pn** 19 09 03.0 +0.1
baz=177,SNR=20
H23K Yukon River 12.73 22 P **Pn** 19 09 02.9 -0.2
baz=211,SNR=37
H23K S **Sn** 19 11 23.2 -0.4
baz=211
O28M Mount Upton 12.75 52 P **Pn** 19 09 02.9 -0.6
baz=249,SNR=189
PNL Peninsula 12.79 57 P **Pn** 19 09 05.3 +1.5
PNL Peninsula 12.79 57 P **Pn** 19 09 03.3 -0.5
baz=255,SNR=107
J25K Salcha River, 12.86 31 P **Pn** 19 09 02.5 -2.3
baz=224,SNR=97
SCRK Sand Creek 12.86 35 P **Pn** 19 09 03.0 -2.0
baz=229,SNR=64
F20K Avaraart Lake 12.92 9 P **Pn** 19 09 05.7 +0.1
baz=193,SNR=77
F20K S **Sn** 19 11 31.5 +3.5
baz=193
YUK3 Moose Creek 13.02 47 P **Pn** 19 09 06.0 -1.2
baz=245,SNR=127
E18K Tukpahlearik C 13.06 0 **Pn** 19 09 07.9 +0.4
E18K Tukpahlearik C 13.06 0 P **Pn** 19 09 07.6 +0.1
baz=180,SNR=50
L27K Beaver Creek, 13.09 41 P **Pn** 19 09 06.3 -1.7
baz=237,SNR=65
BCAR Beaver Creek A 13.11 41 **Pn** 19 09 06.0 -2.2
H24K Noodor Dome 13.12 24 P **Pn** 19 09 06.5 -1.8
baz=215,SNR=62
YUK8 Steele Glacier 13.13 50 P **Pn** 19 09 09.2 +0.4
baz=248,SNR=98
E19K Redstone River 13.21 6 P **Pn** 19 09 10.3 +0.8
baz=189,SNR=33
F21K Alatna River 13.33 13 P **Pn** 19 09 12.2 +1.0
baz=199,SNR=203
F21K S **Sn** 19 11 41.3 +3.1
baz=199
G22K Bettles 13.34 16 P **Pn** 19 09 11.2 0.0
baz=204
J26L Joseph Creek 13.35 34 P **Pn** 19 09 10.9 -0.6
baz=229,SNR=60
O29M Mount Kennedy 13.36 55 P **Pn** 19 09 12.7 +1.0
baz=254,SNR=117
D17K Noatak River 13.38 356 P **Pn** 19 09 13.1 +1.3
baz=174
G23K Bananza Creek 13.41 19 P **Pn** 19 09 12.4 +0.2
baz=208,SNR=76
PRP Porcupine Dome 13.47 28 P **Pn** 19 09 11.6 -1.7
baz=221,SNR=17
P29M Windy Craggy 13.60 58 P **Pn** 19 09 14.7 -0.2
baz=257,SNR=63
YUK6 Outpost Mounta 13.65 52 P **Pn** 19 09 15.1 -0.7
baz=251,SNR=19
YUK4 Talbot Arm 13.65 51 P **Pn** 19 09 16.3 +0.4
baz=249,SNR=15
RDOG Red Dog Mine 13.73 357 **Pn** 19 09 17.2 +0.7
RDOG Red Dog Mine 13.73 357 P **Pn** 19 09 17.5 +0.9
baz=175,SNR=24
F22K John River 13.78 14 P **Pn** 19 09 16.6 -0.7
baz=202,SNR=71
F22K S **Sn** 19 11 50.8 +1.8
baz=202
COLD Coldfoot 13.84 18 P **Pn** 19 09 17.3 -0.8
baz=207,SNR=123
COLD S **Sn** 19 11 53.2 +2.8
baz=207
G24K Hadweenzic Riv 13.93 22 P **Pn** 19 09 17.1 -2.2
baz=214,SNR=64
H25L Birch Creek 13.97 26 P **Pn** 19 09 18.6 -1.3
baz=219,SNR=20
I26K Coal Creek Min 14.02 32 P **Pn** 19 09 18.5 -2.0
baz=227,SNR=33
E20K Nigu River 14.07 7 P **Pn** 19 09 21.7 +0.4
baz=191,SNR=98
E20K S **Sn** 19 12 01.3 +5.2
baz=191
C16K Lisburne Hills 14.07 353 P **Pn** 19 09 20.2 -1.0
baz=169
S31K Pelican 14.13 65 P **Pn** 19 09 21.6 -0.5
baz=266,SNR=53
C17K DeLong Mountai 14.16 356 P **Pn** 19 09 21.9 -0.5
baz=174,SNR=12
M29M Somme Creek 14.16 46 P **Pn** 19 09 21.8 -0.9
baz=245,SNR=363
D19K Kuna River 14.19 4 P **Pn** 19 09 22.7 -0.3
baz=186,SNR=53
D19K S **Sn** 19 12 05.6 +6.4
baz=186
PLBC Pleasant Camp 14.25 59 P **Pn** 19 09 23.5 -0.3
baz=260,SNR=56
C18K Utukok River 14.29 359 P **Pn** 19 09 26.6 +2.3
C18K Utukok River 14.29 359 P **Pn** 19 09 23.6 -0.7
baz=179,SNR=93
C18K S **Sn** 19 12 03.9 +2.3
baz=179
G25K Bearman Lake 14.30 24 P **Pn** 19 09 22.2 -2.1
baz=217,SNR=11
EGAK Eagle 14.32 36 P **Pn** 19 09 22.9 -1.8
baz=233,SNR=24
N30M Aishikik Lake 14.40 51 P **Pn** 19 09 24.3 -1.5
baz=251,SNR=16
R31K City Hall, Gus 14.43 64 P **Pn** 19 09 24.3 -1.9
baz=265
E21K Killik River 14.44 10 P **Pn** 19 09 26.3 -0.1
baz=196,SNR=35
E21K S **Sn** 19 12 08.1 +2.8
baz=196
D20K Etivluk River 14.49 6 P **Pn** 19 09 26.6 -0.5
baz=190,SNR=47
D20K S **Sn** 19 12 12.0 +5.7
baz=190
F24K Squaw Lake 14.53 20 P **Pn** 19 09 26.3 -1.3
baz=211,SNR=23
DAWY Dawson 14.55 40 P **Pn** 19 09 26.5 -1.4
baz=238,SNR=37
L29M L29M 14.58 44 P **Pn** 19 09 27.0 -1.3
baz=244,SNR=49
SIT Sitka 14.59 69 P **Pn** 19 09 30.2 +1.8
SIT Sitka 14.59 69 P **Pn** 19 09 27.0 -1.4
baz=270
O30N Mendenhall 14.66 54 P **Pn** 19 09 27.1 -2.4
baz=255,SNR=39
E23K Chandalar 14.68 17 P **Pn** 19 09 28.6 -1.0
baz=206,SNR=90
I27K Kandik River 14.70 33 P **Pn** 19 09 27.6 -2.3
baz=229,SNR=120
C19K Lookout Ridge 14.76 2 P **Pn** 19 09 30.4 -0.3
baz=183
C19K S **Sn** 19 12 21.1 +8.2
baz=183
SKAG Skagway 14.77 60 P **Pn** 19 09 32.5 +1.7
SKAG Skagway 14.77 60 P **Pn** 19 09 29.6 -1.2
baz=261,SNR=19
E24K Your Creek 14.89 18 P **Pn** 19 09 31.9 -0.6
baz=209,SNR=51
M30M Minto, Yukon 14.92 47 P **Pn** 19 09 31.5 -1.4
baz=248
SHEM Shemya Is, Ala 14.95 274 Pn **Pn** 19 09 31.5 -1.8
comp=N,3.6nm,0.3s,baz=355,slow=3.2,SNR=14
SHEM Sn **Sn** 19 12 17.0 -0.7
comp=N,0.1nm,0.3s,baz=287,slow=19,SNR=0.8
SHEM LR LR 19 15 21.1
comp=N,10μm,20.1s,baz=84,slow=37
comp=N,194nm,1.0s
S32K Killisnoo 15.00 68 P **Pn** 19 09 32.5 -1.4
baz=269,SNR=24
N31M Braeburn, Yuko 15.01 52 P **Pn** 19 09 32.0 -2.0
baz=253
D22K Ayikyak River 15.01 11 P **Pn** 19 09 33.1 -0.9
baz=198,SNR=61
B18K Kokolik River 15.02 359 P **Pn** 19 09 34.2 +0.2
baz=178,SNR=28
B18K S **Sn** 19 12 27.2 +8.1
baz=178
G26K Porcupine Rive 15.02 26 P **Pn** 19 09 32.2 -1.9
baz=221,SNR=13
R32K Eaglecrest 15.06 64 P **Pn** 19 09 34.0 -0.7
baz=266,SNR=17
C21K Knifeblade Rid 15.06 8 P **Pn** 19 09 34.2 -0.5
baz=194,SNR=75
C21K S **Sn** 19 12 25.7 +5.5
baz=194
F25K Christian Rive 15.07 23 P **Pn** 19 09 33.4 -1.5
baz=216,SNR=25
F25K S **Sn** 19 12 24.6 +4.1
baz=216
H27K Steamboat Moun 15.14 31 P **Pn** 19 09 33.3 -2.4
baz=228,SNR=60
I28M Miner Creek 15.14 35 P **Pn** 19 09 33.0 -2.8
baz=233,SNR=147
K29M Barlow Dome 15.16 42 P **Pn** 19 09 34.0 -2.1
baz=242,SNR=538
BMAR Burnt Mountain 15.19 24 **Pn** 19 09 34.0 -2.4
J29N Klondike Camp 15.19 40 P **Pn** 19 09 35.0 -1.5
baz=239,SNR=30
TOLK Toolik Lake Re 15.21 16 P **Pn** 19 09 36.0 -0.8
baz=206,SNR=50
TOLK S **Sn** 19 12 27.5 +3.5
baz=206
D23K Nanushuk River 15.35 14 P **Pn** 19 09 37.9 -0.5
baz=203,SNR=50
D23K S **Sn** 19 12 33.1 +6.0
baz=203
G27K Doyon Strip 15.50 29 P **Pn** 19 09 38.2 -2.2
baz=226,SNR=25
F26K Sheenjek River 15.50 24 P **Pn** 19 09 38.8 -1.7
baz=219,SNR=27
B21K Ikpikpuk River 15.53 8 P **Pn** 19 09 40.2 -0.6
baz=194,SNR=30
P32M Atlin 15.60 60 P **Pn** 19 09 39.8 -2.1
baz=262,SNR=60
I29M Ogilvie Camp, 15.65 37 P **Pn** 19 09 40.3 -2.1
baz=236,SNR=288
MAYO Mayo, Yukon 15.70 44 IAmb IAmb 19 09 49.5
comp=Z,250nm,0.8s
MAYO Mayo, Yukon 15.70 44 P **Pn** 19 09 42.7 -0.4
baz=246,SNR=52
B20K Meade River 15.74 5 IAmb IAmb 19 09 49.2
comp=Z,409nm,1.2s
B20K Meade River 15.74 5 P **Pn** 19 09 43.2 -0.3
baz=188,SNR=16
D24K Happy Valley 15.80 16 IAmb IAmb 19 09 49.9
comp=Z,460nm,0.9s
D24K Happy Valley 15.80 16 P **Pn** 19 09 43.5 -0.7
baz=206,SNR=149
M31M Drury Creek, Y 15.85 50 P **Pn** 19 09 43.2 -1.7
baz=252
A19K Wainwright 15.85 360 P **Pn** 19 09 44.1 -0.8
baz=179
U33K Whale Pass 15.86 73 P **Pn** 19 09 43.5 -1.6
baz=275,SNR=11
T33K Petersburg 15.90 70 P **Pn** 19 09 44.3 -1.3
baz=273
CRAG Craig 15.93 75 P **Pn** 19 09 47.4 +1.4
CRAG Craig 15.93 75 P **Pn** 19 09 44.6 -1.4
baz=278,SNR=9.7
J30M Hart River 15.96 41 P **Pn** 19 09 45.3 -1.2
baz=242,SNR=273
H29M Whitestone 16.12 34 P **Pn** 19 09 46.5 -1.9
baz=234,SNR=196
P33M Teslin, Yukon 16.14 58 P **Pn** 19 09 47.4 -1.3
baz=261,SNR=262
C23K Itkillik River 16.16 13 IAmb IAmb 19 09 54.0
comp=Z,268nm,0.8s
C23K Itkillik River 16.16 13 P **Pn** 19 09 48.0 -0.8
baz=202,SNR=65
N32M Quiet Lake 16.18 54 P **Pn** 19 09 48.5 -0.8
baz=258
WRAK Wrangell Islan 16.26 71 P **Pn** 19 09 47.8 -2.4
baz=275,SNR=22
I30M Mount Dempster 16.26 39 P **Pn** 19 09 48.6 -1.8
baz=240,SNR=197
Q32M Nakina River 16.28 62 P **Pn** 19 09 49.6 -1.0
baz=266,SNR=60
FARO Faro, Yukon 16.32 50 P **Pn** 19 09 51.1 +0.1
baz=254,SNR=93
C24K Franklin Bluff 16.33 15 P **Pn** 19 09 50.4 -0.6
baz=206
B22K Teshekpuk Lake 16.33 9 IAmb IAmb 19 09 57.2
comp=Z,952nm,2.0s
B22K Teshekpuk Lake 16.33 9 P **Pn** 19 09 50.3 -0.7
baz=195,SNR=6.6
D25K Kavik River 16.37 18 P **Pn** 19 09 50.3 -1.3
baz=211,SNR=73
E27K Coleen River 16.50 26 P **Pn** 19 09 52.2 -1.1
baz=223,SNR=22
F28M Old Crow 16.56 29 P **Pn** 19 09 52.4 -1.5
baz=227,SNR=58
G29M Pine Creek 16.65 32 IAmb IAmb 19 09 59.5
comp=Z,660nm,0.9s
G29M Pine Creek 16.65 32 P **Pn** 19 09 54.2 -0.9
baz=232,SNR=408
EPYK Eagle Plains 16.75 35 IAmb IAmb 19 10 01.1
comp=Z,435nm,0.9s
EPYK Eagle Plains 16.75 35 P **Pn** 19 09 54.5 -2.0
baz=236,SNR=265
DIB Dawson Inlet, 16.76 83 P **Pn** 19 09 56.5 0.0
V35K Ketchikan 16.80 75 P **Pn** 19 09 55.3 -1.8
baz=279,SNR=28
V35K S **Sn** 19 13 04.2 +1.6
baz=279
A22K Sinclair Lake 16.86 7 P **Pn** 19 09 56.2 -1.4
baz=192
R33M Jennings River 16.98 61 P **Pn** 19 09 56.5 -2.9
baz=266,SNR=74
A21K Barrow 17.08 5 P **Pn** 19 09 58.9 -1.5
baz=188
A21K S **Sn** 19 13 13.5 +4.5
baz=188
C27K Jago River 17.14 21 P **Pn** 19 09 59.4 -1.8
baz=216,SNR=73
C26K Camden Bay 17.15 19 P **Pn** 19 10 00.3 -0.9
baz=213,SNR=32
C26K S **S** 19 13 18.9 -0.5
baz=213
G30M tAoh Zraii Nji 17.27 34 IAmb IAmb 19 10 07.7
comp=Z,278nm,0.9s
G30M tAoh Zraii Nji 17.27 34 P **Pn** 19 10 02.0 -0.9
baz=235,SNR=202
E28M Babbage River 17.34 27 P **Pn** 19 10 02.9 -0.8
baz=225,SNR=11
MMPY Sheldon Lake, 17.36 50 P **Pn** 19 10 03.9 -0.2
baz=255,SNR=78
MMPY S **Sn** 19 13 18.9 +2.7
baz=255
T35M Bob Quinn 17.37 69 P **Pn** 19 10 02.5 -1.7
baz=274
DLBC Dease Lake 17.43 64 P **Pn** 19 10 02.5 -2.5
baz=270,SNR=38
DLBC Dease Lake 17.43 64 P **P** 19 10 07.3 +1.3
comp=Z,3.0nm,0.3s,baz=223,slow=10,SNR=16
DLBC S **Sn** 19 13 17.9 0.0
comp=Z,11nm,0.8s,baz=260,slow=26,SNR=1.0
DLBC LR LR 19 16 44.7
comp=Z,6μm,18.7s,baz=282,slow=37
comp=Z,15nm,0.6s
D27M Malcolm River 17.45 24 P **Pn** 19 10 03.4 -1.7
baz=221
E29M Blow River 17.63 28 P **Pn** 19 10 05.7 -1.6
baz=229,SNR=30
F30M Barrier River 17.77 32 P **Pn** 19 10 07.7 -1.3
baz=234,SNR=92
G31M Satah River 17.88 35 P **Pn** 19 10 07.8 -2.6
baz=238,SNR=102
WTLY Watson Lake, Y 18.12 59 P **P** 19 10 13.9 +0.3
baz=266,SNR=11
F31M Tsiigehtchic 18.33 34 P **P** 19 10 14.0 -1.7
baz=238,SNR=16
TGTN Hyland Airport 18.53 54 P **P** 19 10 15.7 -2.4
baz=262,SNR=86
INK Inuvik 18.87 32 P **P** 19 10 19.9 -1.7
baz=236,SNR=36
INK Inuvik 18.87 32 P **P** 19 10 19.7 -1.9
comp=Z,2.4nm,0.3s,baz=224,slow=10.0,SNR=30
INK S **Sn** 19 13 51.1 -1.2
comp=Z,22nm,1.0s,baz=24,slow=30,SNR=1.9
INK ScP **ScP** 19 18 18.8 -1.1
comp=Z,5.2nm,0.9s,baz=132,slow=5.5,SNR=2.0
INK LR LR 19 18 37.7
comp=Z,16μm,18.4s,baz=226,slow=40
INK ScS **ScS** 19 21 59.7 -1.2
comp=Z,3.0nm,0.7s,baz=207,slow=2.3,SNR=7.3
comp=Z,46nm,0.9s
LIRD Liard River Hi 19.47 61 P **P** 19 10 28.7 +0.4
baz=270
BBB Bella Bella 19.60 83 P **Pn** 19 10 31.6 +0.4
comp=Z,0.4nm,0.3s,baz=284,slow=14,SNR=3.4
BBB S **Sn** 19 14 11.6 +1.4
comp=Z,16nm,1.2s,baz=335,slow=11,SNR=1.8
BBB LR LR 19 16 39.1
comp=Z,7μm,19.4s,baz=294,slow=32
TOAD Toad River Com 19.93 63 P **P** 19 10 32.9 -0.4
baz=273
KOTAN Kotaneelee Air 20.50 59 P **P** 19 10 39.7 +0.2
baz=270,SNR=44
KOTAN S Sn 19 14 31.1 -0.7
baz=270
BILL Bilibino 20.54 324 P **P** 19 10 38.5 -1.4
BILL IAms_20 IAms_20 19 19 10.5
comp=Z,16μm,20.0s
BILL Bilibino 20.54 324 *ce*P **P** 19 10 37.9 -2.0
BILL *e*PPP PPP 19 11 01.5
BILL *e*S **S** 19 14 24.7 -3.0
BILL *e* 19 14 49.7
BILL pmax pmax
comp=Z,212nm,1.7s
BILL MLR MLR
comp=Z,28μm,14.0s
WRGLY Wrigley 20.98 50 P **P** 19 10 45.1 +0.4
WRGLY Wrigley 20.98 50 P **P** 19 10 44.4 -0.2
baz=262
WRGLY S **S** 19 14 37.3 +0.8
baz=262
CBB Campbell River 22.02 87 P **P** 19 10 54.8 -1.1
C36M Paulatuk 22.38 34 P **P** 19 10 57.7 -1.9
C36M IAmb IAmb 19 11 06.0
comp=Z,193nm,1.1s
C36M Paulatuk 22.38 34 P **P** 19 10 58.0 -1.6
baz=247,SNR=30
C36M S **S** 19 15 02.0 -1.3
baz=247
A36M Sachs Harbour 23.23 27 P **P** 19 11 04.7 -3.7
A36M IAmb IAmb 19 11 22.9
comp=Z,183nm,0.8s
A36M IAms_20 IAms_20 19 21 09.3
comp=Z,8μm,20.0s
A36M Sachs Harbour 23.23 27 P **P** 19 11 06.4 -2.0
baz=240,SNR=9.2
A36M S **S** 19 15 16.8 -1.2
baz=240
C03A Quillayute Air 23.45 91 IAms_20 IAms_20 19 18 17.1
comp=Z,9μm,19.0s
PGC Sidney 23.76 89 IAms_20 IAms_20 19 18 20.3
comp=Z,7μm,21.0s
PET Petropavlovsk 23.77 283 P **P** 19 11 14.0 +0.1
PET Petropavlovsk 23.77 283 P **P** 19 11 12.7 -1.1
PET Petropavlovsk 23.77 283 *α iP* **P** 19 11 12.3 -1.6
PET *e*S **S** 19 15 25.3 -1.8
PET pmax pmax
comp=Z,800nm,6.6s
PET pmax pmax
comp=Z,808nm,1.3s
PET Petropavlovsk 23.77 283 P **P** 19 11 13.9 +0.1
comp=Z,695nm,1.1s,comp=Z,8μm
NLWA Neilton Lookou 24.14 92 IAms_20 IAms_20 19 18 28.2
comp=Z,9μm,20.0s
WISH Wishkah 24.34 92 IAms_20 IAms_20 19 18 34.5
comp=Z,7μm,20.0s
E03A Lebam 24.76 93 P **P** 19 11 23.0 0.0
E03A IAmb IAmb 19 11 40.2
comp=Z,128nm,1.2s
E03A IAms_20 IAms_20 19 18 36.7
comp=Z,7μm,21.0s
YKA Yellowknife Ar 25.00 53 P **P** 19 11 24.3 -0.7
YKA Yellowknife Ar 25.00 53 P **P** 19 11 25.7 +0.7
comp=Z,23nm,0.8s,baz=276,slow=10,SNR=52
YKA PcP **PcP** 19 14 59.7 +0.6
comp=Z,13nm,0.8s,baz=274,slow=2.3,SNR=6.8
YKA S **S** 19 15 45.9 -0.8
comp=Z,1.0nm,0.6s,baz=286,slow=11,SNR=1.1
YKA ScP **ScP** 19 18 34.5 -1.1
comp=Z,5.7nm,0.9s,baz=279,slow=2.3,SNR=8.4
YKA LR LR 19 22 33.2
comp=Z,6μm,19.8s,baz=271,slow=40
YKA P3KPbc 19 44 28.1
comp=Z,2.2nm,0.9s,baz=102,slow=5.0,SNR=13
comp=Z,23nm,0.8s
BRLDA Berland Lookou 25.09 73 P **P** 19 11 24.8 -1.3
SEY Seymchan 25.22 309 LR LR 19 21 57.3
comp=Z,7μm,21.8s,baz=102,slow=38
SEY Seymchan 25.22 309 *d iP* **P** 19 11 25.4 -1.6
SEY pmax pmax
comp=Z,108nm,1.7s
SEY MLR MLR
comp=Z,6μm,14.0s
D05A Enumclaw 25.34 90 IAmb IAmb 19 11 46.9
comp=Z,297nm,1.4s
G03D McMinnville, O 25.67 95 IAms_20 IAms_20 19 19 09.8
comp=Z,7μm,19.0s
COR Corvallis 26.00 97 IAms_20 IAms_20 19 19 09.7
comp=Z,7μm,21.0s
LTY Liberty 26.08 89 IAms_20 IAms_20 19 19 53.6
comp=Z,7μm,20.0s
SKR Severo-Kuril's 26.12 280 ⇓ *iP* **P** 19 11 34.3 -1.0
SKR pmax pmax
comp=Z,1μm,6.8s
SKR pmax pmax
comp=Z,248nm,0.7s
SKR MLR MLR
comp=Z,4μm,18.0s
MA2 Magadan 26.36 301 P **P** 19 11 37.6 +0.2
MA2 Magadan 26.36 301 P **P** 19 11 36.5 -0.9
MA2 IAmb IAmb 19 11 43.2
comp=Z,85nm,0.9s
MA2 IAms_20 IAms_20 19 21 48.3
comp=Z,8μm,20.0s
MA2 Magadan 26.36 301 LR LR 19 22 46.1
comp=Z,6μm,18.4s,baz=98,slow=38
MA2 Magadan 26.36 301 *de*P **P** 19 11 36.6 -0.8
MA2 pmax pmax
comp=Z,82nm,0.9s
MA2 MLR MLR
comp=Z,5μm,15.0s
MA2 Magadan 26.36 301 P **P** 19 11 36.5 -0.9
comp=Z,98nm,1.1s,comp=Z,1μm
J01E Myrtle Point 26.50 100 IAmb IAmb 19 11 57.7
comp=Z,280nm,1.4s
J01E IAms_20 IAms_20 19 19 12.7
comp=Z,9μm,22.0s
I03D Drain, OR 26.50 98 IAms_20 IAms_20 19 19 14.0
comp=Z,8μm,22.0s
HOOD Mount Hood Mea 26.54 94 IAms_20 IAms_20 19 19 31.0
comp=Z,6μm,22.0s
H04A Detroit Lake 26.60 95 IAmb IAmb 19 11 59.2
comp=Z,103nm,1.1s
H04A IAms_20 IAms_20 19 19 58.4
comp=Z,5μm,19.0s
MXC Moxie City 26.65 90 IAms_20 IAms_20 19 20 11.7
comp=Z,6μm,20.0s
G05A Wamic 26.79 94 P **P** 19 11 39.9 -1.4
G05A IAmb IAmb 19 12 16.6
comp=Z,170nm,1.3s
G05A IAms_20 IAms_20 19 19 38.3
comp=Z,6μm,22.0s
E07A Sunnyside 26.92 90 P **P** 19 11 39.7 -2.9
E07A IAms_20 IAms_20 19 20 20.8
comp=Z,6μm,20.0s
KBO Bosley Butte 26.92 102 IAms_20 IAms_20 19 19 23.0
comp=Z,10μm,21.0s
HAWA Hanford 27.20 90 P **P** 19 11 44.8 -0.2
HAWA IAms_20 IAms_20 19 20 29.1
comp=Z,6μm,20.0s
F07A Phinny Hill Vi 27.23 91 P **P** 19 11 43.6 -1.7
F07A IAms_20 IAms_20 19 20 09.1
comp=Z,6μm,21.0s
I05D Terrebonne, OR 27.29 95 IAms_20 IAms_20 19 20 31.7
comp=Z,5μm,19.0s
KSXB Camp Six Broad 27.37 102 IAms_20 IAms_20 19 19 55.8
comp=Z,10μm,20.0s
HUMO Hull Mountain 27.40 100 IAms_20 IAms_20 19 19 52.7
comp=Z,8μm,21.0s
E08A Dider Farm, El 27.42 89 IAms_20 IAms_20 19 20 46.0
comp=Z,6μm,20.0s
KRMB Red Mountain 27.55 103 IAms_20 IAms_20 19 19 40.6
comp=Z,9μm,21.0s
NEW Newport 27.64 85 P **P** 19 11 47.0 -2.1
baz=300
NEW S **S** 19 16 31.5 +2.7
baz=300
NEW Newport 27.64 85 LR LR 19 21 08.6
comp=Z,5μm,20.9s,baz=292,slow=33
KRPM Rodgers 27.72 103 IAms_20 IAms_20 19 19 45.2

comp=Z,9μm,21.0s
PINE Pine Mountain 27.84 96 IAMs_20 IAMs_20 19 20 30.4
comp=Z,6μm,20.0s
E09A Wood Farm, Sta 27.94 89 IAMs_20 IAMs_20 19 21 10.8
comp=Z,5μm,20.0s
JCC Jacoby Creek, 27.94 104 IAMs_20 IAMs_20 19 19 50.1
comp=Z,6μm,21.0s
J05D Fort Rock, OR 27.98 97 IAMs_20 IAMs_20 19 20 34.0
comp=Z,6μm,20.0s
KHMM Horse Mountain 28.07 103 IAMs_20 IAMs_20 19 20 04.5
comp=Z,9μm,20.0s
K04D Chiloquin, OR 28.08 99 IAMs_20 IAMs_20 19 20 15.8
comp=Z,6μm,21.0s
YBH Yreka Blue Hor 28.10 101 IAMs_20 IAMs_20 19 20 23.1
comp=Z,9μm,20.0s
YBH Yreka Blue Hor 28.10 101 LR LR 19 20 34.6
comp=Z,10μm,20.3s,baz=316,slow=31
I07A Izee 28.51 94 IAMs_20 IAMs_20 19 21 05.0
comp=Z,5μm,20.0s
KMRM Mail Ridge 28.52 104 IAMs_20 IAMs_20 19 20 07.8
comp=Z,7μm,22.0s
F10A Beach Ranch, E 28.77 89 IAMs_20 IAMs_20 19 21 37.7
comp=Z,5μm,19.0s
KCPM Cahto Peak 28.95 105 IAMs_20 IAMs_20 19 20 38.9
comp=Z,5μm,21.0s
O02D Mt. Diablo Mer 29.07 104 IAMs_20 IAMs_20 19 20 39.0
comp=Z,8μm,21.0s
BMO Blue Mountains 29.35 91 IAMs_20 IAMs_20 19 21 24.1
comp=Z,7μm,22.0s
HATC Hat Creek Radi 29.41 101 IAmb IAmb 19 12 21.3
comp=Z,153nm,1.3s
HATC IAMs_20 IAMs_20 19 21 05.8
comp=Z,9μm,20.0s
HOPS Hopland Field 29.72 106 IAmb IAmb 19 12 24.3
comp=Z,136nm,1.4s
HOPS IAMs_20 IAMs_20 19 20 59.1
comp=Z,5μm,20.0s
WVOR Wild Horse Val 30.01 96 IAMs_20 IAMs_20 19 22 28.7
comp=Z,6μm,19.0s
MSO Missoula 30.23 85 P **P** **19 12 11.1 -1.0**
baz=302
MSO S **S** **19 17 08.9 -0.6**
baz=302
MCCM Marconi Confer 30.42 107 IAMs_20 IAMs_20 19 21 14.6
comp=Z,6μm,20.0s
AFDM Forest Hills D 30.94 103 IAMs_20 IAMs_20 19 21 56.4
comp=Z,5μm,20.0s
MPK Martis Peak 31.24 102 IAMs_20 IAMs_20 19 21 51.2
comp=Z,5μm,22.0s
PAHR Pah Rah Range 31.33 101 IAMs_20 IAMs_20 19 22 37.7
comp=Z,8μm,19.0s
PNTR Pine Nut 31.62 102 IAmb IAmb 19 12 36.0
comp=Z,80nm,1.0s
PNTR IAMs_20 IAMs_20 19 22 15.5
comp=Z,5μm,22.0s
HLID Hailey 31.79 91 IAMs_20 IAMs_20 19 23 24.7
comp=Z,6μm,20.0s
HLID Hailey 31.79 91 P **P** **19 12 24.5 -1.5**
baz=307,SNR=18
HLID S **S** **19 17 38.5 +4.4**
baz=307
CMB Columbia Colle 31.90 104 IAMs_20 IAMs_20 19 22 23.8
comp=Z,6μm,21.0s
YERR Yerington 31.90 102 IAmb IAmb 19 12 45.7
comp=Z,82nm,1.1s
YERR IAMs_20 IAMs_20 19 22 24.8
comp=Z,6μm,22.0s
EGMT Eagleton 32.03 80 P **P** **19 12 28.1 +0.1**
baz=301
BMN Battle Mountai 32.10 98 IAMs_20 IAMs_20 19 23 27.1
comp=Z,5μm,20.0s
WAKR Walker 32.12 102 IAmb IAmb 19 12 45.4
comp=Z,110nm,1.5s
WAKR IAMs_20 IAMs_20 19 22 37.5
comp=Z,5μm,20.0s
SAO San Andreas Ge 32.20 107 IAMs_20 IAMs_20 19 21 54.8
comp=Z,6μm,20.0s
BOZ Bozeman (W) 32.24 85 P **P** **19 12 29.0 -0.9**
baz=304,SNR=5.9
BOZ S **S** **19 17 44.0 +2.8**
baz=304
RES Resolute Bay 32.28 27 P **P** **19 12 28.5 -1.2**
RES IAMs_20 IAMs_20 19 26 44.8
comp=Z,4μm,19.0s
RES Resolute Bay 32.28 27 LR LR 19 26 55.6
comp=Z,4μm,19.9s,baz=264,slow=39
RES Resolute Bay 32.28 27 P **P** **19 12 28.5 -1.2**
RES pmax pmax
comp=Z,36nm,1.1s
RES MLR MLR
comp=Z,4μm,19.0s
KEKH Kekaha 32.39 178 IAMs_20 IAMs_20 19 22 58.9
comp=Z,4μm,19.0s
KVN Kaiserville 32.51 100 IAmb IAmb 19 12 48.5
comp=Z,101nm,1.5s
KVN IAMs_20 IAMs_20 19 23 08.0
comp=Z,7μm,20.0s
RYN Ryan 32.55 101 IAmb IAmb 19 12 58.2
comp=Z,115nm,1.7s
RYN IAMs_20 IAMs_20 19 22 46.1
comp=Z,6μm,22.0s
BBGB Big Mountain B 32.56 107 IAMs_20 IAMs_20 19 22 17.4
comp=Z,6μm,21.0s
NVAR Mina Array Bea 32.81 101 P **P** **19 12 35.9 +0.8**
NVAR Mina Array Bea 32.81 101 P **P** **19 12 37.4 +2.3**
comp=Z,19nm,0.8s,baz=301,slow=8.7,SNR=21
NVAR S **S** **19 17 53.8 +3.5**
comp=Z,0.2nm,0.4s,baz=124,slow=32,SNR=0.4
NVAR ScP **ScP** **19 19 02.2 +1.3**
comp=Z,6.5nm,0.9s,baz=292,slow=3.3,SNR=6.7
NVAR LR LR 19 23 30.4
comp=Z,6μm,21.1s,baz=310,slow=32
comp=Z,19nm,0.8s
LHV Little Huntoon 32.82 102 IAMs_20 IAMs_20 19 23 05.2
comp=Z,6μm,21.0s
MDPB Devils Postpil 32.92 103 IAMs_20 IAMs_20 19 22 56.9
comp=Z,7μm,21.0s
PMPB Monarch Peak 32.95 107 IAMs_20 IAMs_20 19 22 27.8
comp=Z,5μm,20.0s
YHB Horse Butte 32.98 86 IAmb IAmb 19 12 48.7
comp=Z,57nm,1.1s
OMMB Old Mammoth Mi 32.98 103 IAmb IAmb 19 12 53.0
comp=Z,88nm,1.4s
OMMB IAMs_20 IAMs_20 19 22 59.4
comp=Z,7μm,21.0s
KIP Kipapa 33.01 175 IAMs_20 IAMs_20 19 22 54.5
comp=Z,5μm,20.0s
ELK Elko 33.05 95 IAmb IAmb 19 12 52.5
comp=Z,48nm,1.0s
ELK IAMs_20 IAMs_20 19 23 50.2
comp=Z,5μm,20.0s
ELK Elko 33.05 95 LR LR 19 24 11.4
comp=Z,5μm,19.9s,baz=318,slow=33
MLAC Mammoth, Mammo 33.06 103 P **P** **19 12 36.5 -0.8**
baz=314
MLAC S **S** **19 17 59.9 +5.7**
baz=314
HON Honolulu 33.10 175 IAMs_20 IAMs_20 19 23 39.0
comp=Z,6μm,18.0s
FFC Flin Flon 33.26 65 P **P** **19 12 38.4 -0.1**
FFC Flin Flon 33.26 65 IAMs_20 IAMs_20 19 26 03.4
comp=Z,4μm,19.0s
FFC Flin Flon 33.26 65 P **P** **19 12 38.4 -0.1**
FFC pmax pmax
comp=Z,19nm,1.1s
FFC MLR MLR
comp=Z,4μm,19.0s
FFC Flin Flon 33.26 65 P **P** **19 12 40.0 +1.4**
FFC pP **pP** **19 12 48.9 +1.5**
FFC sP **sP** **19 12 52.8 +1.7**
FFC PcP **PcP** **19 15 21.6 +1.5**
H17A Grant Village 33.54 86 IAmb IAmb 19 12 59.4
comp=Z,88nm,1.4s
H17A Grant Village 33.54 86 P **P** **19 12 40.5 -0.9**
baz=306
KHLH Kahului Airpor 33.63 173 IAMs_20 IAMs_20 19 23 41.8
comp=Z,6μm,20.0s
KUR Kuril'sk 33.64 276*c i*P **P** **19 12 42.1 +0.2**
KUR S **S** **19 18 09.4 +6.9**
KUR pmax pmax
comp=Z,267nm,1.2s
KUR pmax pmax
comp=Z,906nm,3.1s
KUR MLR MLR
comp=Z,2μm,18.0s
KUR MLR MLR
comp=N,2μm,17.0s
KUR MLR MLR
comp=E,1μm,19.0s
VOG Valley Oaks Go 33.67 105 P **P** **19 12 42.0 -0.3**
baz=316
VOG S **S** **19 18 09.1 +6.0**
baz=316
TYV Tymovskoe 33.68 288 *e*P **P** **19 12 42.5 +0.3**
TYV *e*S **S** **19 18 07.6 +4.6**
TYV pmax pmax
comp=Z,400nm,3.8s
TYV pmax pmax
comp=Z,117nm,0.8s
TYV smax smax
comp=N,100nm,5.4s
TYV smax smax
comp=E,100nm,5.4s
TYV MLR MLR
comp=Z,3μm,19.0s
TYV MLR MLR
comp=E,2μm,20.0s
TIXI Tiksi 33.69 327 P **P** **19 12 40.6 -1.5**
TIXI Tiksi 33.69 327 LR LR 19 28 18.6
comp=E,8μm,18.5s,baz=130,slow=40
TIXI Tiksi 33.69 327 ⇑*i*P **P** **19 12 40.4 -1.6**
TIXI pmax pmax
comp=Z,55nm,1.3s
TIXI MLR MLR
comp=Z,10μm,16.0s
NKL Nikolayevsk 33.71 292 *e*P **P** **19 12 39.6 -2.8**
NKL *e*S **S** **19 18 02.8 -0.6**
NKL pmax pmax
comp=N,317nm,1.3s
NKL pmax pmax
comp=E,55nm,1.4s
NKL pmax pmax
comp=Z,680nm,1.4s
NKL smax smax
comp=E,149nm,1.2s
NKL smax smax
comp=N,272nm,2.9s
NKL MLR MLR
comp=E,5μm,20.0s
NKL MLR MLR
comp=N,7μm,18.0s
NKL MLR MLR
comp=Z,11μm,19.0s
DSP Deep Springs 33.74 103 IAmb IAmb 19 12 59.5
comp=Z,70nm,1.3s
DSP IAMs_20 IAMs_20 19 23 29.4
comp=Z,5μm,20.0s
HLK Haleakala 33.78 172 IAMs_20 IAMs_20 19 22 54.8
comp=Z,5μm,22.0s
TIN Tinemaha, Big 33.81 103 P **P** **19 12 44.1 +0.5**
baz=315
TIN S **S** **19 18 09.9 +4.4**
baz=315
HVU Hansel Valley 33.83 92 IAmb IAmb 19 12 59.9
comp=Z,88nm,1.4s
MZP Montezuma Peak 33.84 102 IAMs_20 IAMs_20 19 23 58.2
comp=Z,4μm,20.0s
RLMT Red Lodge 33.89 84 P **P** **19 12 45.1 +0.8**
baz=305
RLMT S **S** **19 18 10.0 +3.2**
baz=305
SMMC Simmler 34.06 107 P **P** **19 12 46.9 +1.2**
baz=317
VES Vestal, Richgr 34.19 106 P **P** **19 12 48.3 +1.6**
baz=316,SNR=5.5
VES S **S** **19 18 17.5 +6.4**
baz=316
GMN Gold Mountain 34.19 102 IAMs_20 IAMs_20 19 23 58.4
comp=Z,4μm,20.0s
AHID Auburn Hatcher 34.21 89 IAMs_20 IAMs_20 19 25 13.6
comp=Z,5μm,19.0s
EUNU Eureka 34.28 17 IAmb IAmb 19 13 01.9
comp=Z,52nm,0.8s
CWC Cottonwood Cre 34.33 104 P **P** **19 12 48.0 -0.1**
baz=315
CWC S **S** **19 18 18.3 +4.7**
baz=315
GRAC Grapevine Rang 34.34 102 IAMs_20 IAMs_20 19 23 48.5
comp=Z,5μm,21.0s
GRAC Grapevine Rang 34.34 102 P **P** **19 12 49.3 +1.2**
baz=315
GRAC S **S** **19 18 20.6 +7.0**
baz=315
Q12A Willow Creek R 34.41 97 IAmb IAmb 19 13 09.5
comp=Z,156nm,1.4s
Q12A IAMs_20 IAMs_20 19 24 12.0
comp=Z,5μm,22.0s
R11B Troy Canyon, C 34.43 99 IAmb IAmb 19 13 04.9
comp=Z,103nm,1.3s
R11B Troy Canyon, C 34.43 99 P **P** **19 12 49.9 +0.8**
baz=313,SNR=59
R11B S **S** **19 18 19.6 +4.3**
baz=313
PKM Mcpherson Peak 34.47 108 P **P** **19 12 50.5 +1.0**
baz=318,SNR=11
PKM S **S** **19 18 23.8 +8.0**
baz=318
HPAH Hawaii Prepara 34.55 171 P **P** **19 12 50.4 +0.3**
HPAH IAMs_20 IAMs_20 19 23 47.1
comp=Z,4μm,20.0s
HWUT Hardware Ranch 34.65 91 IAMs_20 IAMs_20 19 24 57.4
comp=Z,3μm,19.0s
BCW Bitter Crk WRg 34.66 107 IAmb IAmb 19 13 13.4
comp=Z,133nm,1.4s
BCW IAMs_20 IAMs_20 19 23 19.9
comp=Z,5μm,22.0s
ISA Isabella, Lake 34.66 105 IAmb IAmb 19 13 09.2
comp=Z,78nm,1.4s
ISA IAMs_20 IAMs_20 19 24 31.9
comp=Z,5μm,18.0s
ISA Isabella, Lake 34.66 105 P **P** **19 12 51.8 +0.8**
baz=316,SNR=7.5
ISA S **S** **19 18 22.3 +3.7**
baz=316
SPR3 Spring Creek 3 34.72 97 IAmb IAmb 19 13 08.5
comp=Z,90nm,1.3s
SPR3 IAMs_20 IAMs_20 19 24 46.4
comp=Z,4μm,21.0s
LAO LASA Array 34.77 80 IAMs_20 IAMs_20 19 25 32.4
comp=Z,4μm,21.0s
DUG Dugway, Tooele 34.82 94 IAmb IAmb 19 13 08.3
comp=Z,102nm,1.3s
DUG Dugway, Tooele 34.82 94 P **P** **19 12 52.8 +0.5**
baz=311,SNR=38
DUG S **S** **19 18 24.4 +3.2**
baz=311
S11A Rachel 34.82 100 IAmb IAmb 19 13 37.0
comp=Z,98nm,1.2s
S11A IAMs_20 IAMs_20 19 24 43.1
comp=Z,6μm,20.0s
POHA Pohakuloa 34.83 171 P **P** **19 12 56.4 +3.7**
POHA Pohakuloa 34.83 171 P **P** **19 12 50.5 -2.1**
POHA IAmb IAmb 19 12 56.7
comp=Z,109nm,0.9s
POHA IAMs_20 IAMs_20 19 25 38.6
comp=Z,4μm,19.0s
ARVC Arvin 34.85 106 P **P** **19 12 52.8 +0.3**
baz=317
ARVC S **S** **19 18 26.7 +5.4**
baz=317
SBC Santa Barbara 34.85 108 P **P** **19 12 52.5 0.0**
baz=318
HUH Hualalai 34.88 172 IAMs_20 IAMs_20 19 24 54.9
comp=Z,5μm,19.0s
UGL Uglegorsk 34.90 285 *e*P **P** **19 12 53.5 +0.8**
UGL *e*S **S** **19 18 16.2 -5.6**
UGL pmax pmax
comp=Z,900nm,1.3s
UGL pmax pmax
comp=Z,400nm,0.9s
UGL MLR MLR
comp=N,2μm,20.0s
UGL MLR MLR
comp=E,3μm,20.0s
UGL MLR MLR
comp=Z,2μm,20.0s
WCT Wildcat Mounta 34.91 102 IAMs_20 IAMs_20 19 24 21.4
comp=Z,6μm,21.0s
MPMC Manual Prospec 34.93 104 P **P** **19 12 54.5 +1.0**
baz=316,SNR=40
MPMC S **S** **19 18 29.6 +6.6**
baz=316
DGMT Dagmar 34.98 76 IAMs_20 IAMs_20 19 26 52.4
comp=Z,6μm,18.0s
DGMT Dagmar 34.98 76 P **P** **19 12 53.6 +0.1**
baz=302
DGMT S **S** **19 18 25.5 +2.3**
baz=302
HMH Humu'ula Sheep 34.99 171 IAMs_20 IAMs_20 19 24 50.8
comp=Z,4μm,19.0s
FURC Furnace Creek, 35.00 103 P **P** **19 12 55.6 +1.9**
baz=315,SNR=9.3
FURC S **S** **19 18 28.4 +4.8**
baz=315
TPNV Topopah Spring 35.01 101 P **P** **19 12 55.0 +0.9**
baz=314,SNR=34
TPNV S **S** **19 18 30.6 +6.4**
baz=314
MLOA Mauna Loa Obse 35.05 171 IAMs_20 IAMs_20 19 23 51.4
comp=Z,4μm,20.0s
MWH Moku'aweowe 35.09 171 IAMs_20 IAMs_20 19 23 54.6
comp=Z,4μm,20.0s
MLH Mauna Loa 35.10 171 IAMs_20 IAMs_20 19 23 30.9
comp=Z,4μm,22.0s
BW06 Boulder Array 35.11 88 P **P** **19 12 55.6 +0.7**
baz=308
BW06 S **S** **19 18 29.3 +3.7**
baz=308
PDAR Pinedale Array 35.11 88 P **P** **19 12 53.4 -1.5**
PDAR Pinedale Array 35.11 88 P **P** **19 12 56.4 +1.5**
comp=Z,1.9nm,0.6s,baz=310,slow=7.0,SNR=7.3
PDAR S **S** **19 18 28.8 +3.1**
comp=Z,0.2nm,0.4s,baz=344,slow=26,SNR=1.0
PDAR ScP **ScP** **19 19 08.8 -0.3**
comp=Z,2.1nm,1.0s,baz=324,slow=2.0,SNR=4.6
PDAR LR LR 19 26 24.8
comp=Z,1μm,18.7s,baz=290,slow=35
PDAR P3KPbc 19 43 44.9
comp=Z,0.8nm,0.8s,baz=114,slow=6.6,SNR=6.9
HATHI Halema'uma'u T 35.19 171 IAMs_20 IAMs_20 19 23 55.1
comp=Z,4μm,19.0s
JOKA Jonika Flow 35.20 170 IAMs_20 IAMs_20 19 24 54.4
comp=Z,4μm,21.0s
SCZ2 Santa Cruz Isl 35.23 108 P **P** **19 12 56.8 +1.0**
baz=318
SCZ2 S **S** **19 18 33.2 +6.0**
baz=318
LRMC Laurel Mtn Rad 35.24 105 P **P** **19 12 56.9 +0.9**
baz=316,SNR=11
LRMC S **S** **19 18 31.5 +3.9**
baz=316
OSI Osito Audit: C 35.28 107 P **P** **19 12 56.3 0.0**
baz=317
OSI S **S** **19 18 33.7 +5.6**
baz=317
CCAC Calif City Air 35.28 105 IAMs_20 IAMs_20 19 24 15.5
comp=Z,6μm,19.0s
HLP Hilina Pali 35.31 171 IAMs_20 IAMs_20 19 25 45.3
comp=Z,4μm,18.0s
GWY Greenwater Val 35.31 103 IAmb IAmb 19 13 13.2
comp=Z,61nm,0.9s
PSUT Pine Spring 35.31 97 IAmb IAmb 19 13 14.9
comp=Z,50nm,1.0s
PSUT IAMs_20 IAMs_20 19 24 52.0
comp=Z,5μm,22.0s
KHU Kahuku 35.33 171 IAMs_20 IAMs_20 19 25 09.9
comp=Z,4μm,20.0s
PRN Pahroc Range 35.38 100 IAmb IAmb 19 13 13.4
comp=Z,114nm,1.2s
PRN IAMs_20 IAMs_20 19 25 02.0
comp=Z,6μm,20.0s
NLU North Lily Min 35.41 94 IAmb IAmb 19 13 17.6
comp=Z,66nm,1.5s
EDW2 Edwards Air Fo 35.49 106 P **P** **19 12 57.2 -0.9**
baz=317
EDW2 S **S** **19 18 35.9 +4.4**
baz=317
YUK Yuzh-Kuril'sk 35.51 275*c i*P **P** **19 12 57.5 -0.5**
YSS Yuzh-Sakhalins 35.64 282 P **P** **19 12 59.6 +0.5**
YSS Yuzh-Sakhalins 35.64 282 P **P** **19 12 57.6 -1.5**
YSS IAmb IAmb 19 13 04.0
comp=Z,135nm,1.3s
YSS IAMs_20 IAMs_20 19 27 25.0
comp=Z,6μm,22.0s
YSS Yuzh-Sakhalins 35.64 282*ce*P **P** **19 12 58.5 -0.6**
YSS *e**SP **sP** **19 13 12.3 +0.7**
YSS *e* 19 14 18.2
YSS *e*S **S** **19 18 32.5 -0.7**
YSS pmax pmax
comp=Z,60nm,0.9s
YSS pmax pmax
comp=Z,500nm,5.9s
YSS pmax pmax
comp=N,200nm,4.3s
YSS pmax pmax
comp=Z,500nm,7.0s
YSS pmax pmax
comp=N,300nm,6.6s
YSS pmax pmax
comp=E,400nm,7.5s
YSS smax smax
comp=E,300nm,13.8s
YSS MLR MLR
comp=Z,4μm,20.0s
YSS MLR MLR
comp=N,900nm,17.0s
YSS MLR MLR
comp=E,3μm,21.0s
FCC Fort Churchill 35.65 55 IAmb IAmb 19 13 18.7
comp=Z,49nm,0.9s
FCC IAMs_20 IAMs_20 19 28 25.1
comp=Z,5μm,19.0s
YAK Yakutsk 35.69 311 P **P** **19 12 57.6 -1.8**
YAK Yakutsk 35.69 311 LR LR 19 29 01.5
comp=Z,11μm,19.2s,baz=80,slow=39
YAK Yakutsk 35.69 311 *e*P **P** **19 12 57.6 -1.8**
YAK *e**PP **pP** **19 13 07.5 -0.8**
YAK *e* 19 14 15.8
YAK *e* 19 15 26.6
YAK *e*S **S** **19 18 31.8 -1.9**
YAK *e*SS **SnSn** **19 20 57.1 +1.0**
YAK *e* 19 23 13.9
YAK pmax pmax
comp=Z,181nm,0.8s
YAK pmax pmax
comp=N,20nm,1.0s
YAK pmax pmax
comp=E,70nm,1.5s
YAK pmax pmax
comp=Z,58nm,1.5s
YAK pmax pmax
comp=N,28nm,1.4s
YAK pmax pmax
comp=E,81nm,1.5s
YAK smax smax
comp=E,214nm,4.2s
YAK smax smax
comp=N,28nm,2.0s
YAK MLR MLR
comp=Z,12μm,23.0s
YAK MLR MLR
comp=N,5μm,27.0s
YAK MLR MLR
comp=E,8μm,22.0s
YAK Yakutsk 35.69 311 P **P** **19 12 57.8 -1.6**
YAK PcP **PcP** **19 15 26.4 -0.6**
SHOC Shoshone, Teco 35.74 103 P **P** **19 13 00.1 -0.1**
baz=316
SHOC S **S** **19 18 40.1 +5.0**
baz=316
DECC Green Verdugo 35.76 107 P **P** **19 12 59.4 -1.0**
baz=318
DECC S **S** **19 18 38.9 +3.4**
baz=318
BSUT Blindstream Ca 35.80 92 IAmb IAmb 19 13 16.9
comp=Z,84nm,1.1s
SNCC San Nicolas Is 35.85 109 IAMs_20 IAMs_20 19 23 34.5
comp=Z,4μm,21.0s
SNCC San Nicolas Is 35.85 109 P **P** **19 12 59.9 -1.2**
baz=319
GSC Goldstone, Bar 35.86 104 IAmb IAmb 19 13 19.9
comp=Z,88nm,1.4s
GSC Goldstone, Bar 35.86 104 P **P** **19 12 59.9 -1.4**
baz=316,SNR=16
GSC S **S** **19 18 42.6 +5.5**
baz=316
PASC Pasadena Art C 35.91 107 IAMs_20 IAMs_20 19 24 08.0
comp=Z,5μm,21.0s
SHPR Sheep Range 35.95 101 IAMs_20 IAMs_20 19 25 17.0
comp=Z,5μm,20.0s
RRX Edison Barstow 36.06 105 P **P** **19 13 02.4 -0.5**
baz=317
TCRU Three Creeks R 36.08 96 IAmb IAmb 19 13 22.2

comp=Z,68nm,1.1s
TCRU IAMs_20 IAMs_20 19 26 06.3
comp=Z,4μm,19.0s
BFSC Mount Baldy Ra 36.15 106 P **P** **19 13 02.9 -1.0**
baz=318,SNR=9.4
BFSC S **S** **19 18 47.5 +5.9**
baz=318
FMP Fort Macarthur 36.18 107 P **P** **19 13 03.9 0.0**
baz=318
CCUT Cedar City 36.26 98 IAmb IAmb 19 13 21.0
comp=Z,78nm,1.3s
CCUT IAMs_20 IAMs_20 19 25 43.2
comp=Z,6μm,20.0s
TUQ Turquoise Moun 36.27 103 P **P** **19 13 04.6 -0.2**
baz=316
TUQ S **S** **19 18 49.6 +6.2**
baz=316
MVU Marysvale 36.28 96 IAmb IAmb 19 13 19.2
comp=Z,108nm,1.0s
TMUT Trail Mountain 36.34 94 IAmb IAmb 19 13 19.6
comp=Z,64nm,1.0s
CIS Catalina Islan 36.35 108 P **P** **19 13 06.1 +0.7**
baz=318
CIS S **S** **19 18 49.9 +5.5**
baz=318
SZCU Shurtz Canyon 36.39 98 IAmb IAmb 19 13 21.8
comp=Z,119nm,1.9s
SZCU IAMs_20 IAMs_20 19 25 47.6
comp=Z,6μm,21.0s
HEC Hector,Ludlow 36.47 104 P **P** **19 13 07.3 +0.8**
baz=317,SNR=9.6
HEC S **S** **19 18 51.6 +5.3**
baz=317
RDMU Red Mountain 36.47 91 IAmb IAmb 19 13 22.4
comp=Z,123nm,1.3s
RDMU IAMs_20 IAMs_20 19 25 44.6
comp=Z,5μm,22.0s
BBRC Big Bear Solar 36.55 105 P **P** **19 13 06.7 -0.6**
baz=317
BBRC S **S** **19 18 52.3 +4.4**
baz=317
SCI2 San Clemente I 36.59 108 P **P** **19 13 07.1 -0.3**
baz=319
MTPU Mount Pierson 36.61 96 IAMs_20 IAMs_20 19 26 05.4
comp=Z,3μm,20.0s
Q16A Castle Valley 36.61 94 IAmb IAmb 19 13 24.1
comp=Z,128nm,1.2s
V12A Nelson 36.67 101 IAmb IAmb 19 13 24.6
comp=Z,160nm,1.6s
V12A IAMs_20 IAMs_20 19 25 15.2
comp=Z,5μm,22.0s
P18A Preston Nutter 36.69 93 IAmb IAmb 19 13 30.3
comp=Z,63nm,1.0s
LCMT Little Creek M 36.70 98 IAmb IAmb 19 13 23.9
comp=Z,57nm,1.1s
LCMT IAMs_20 IAMs_20 19 26 23.8
comp=Z,5μm,19.0s
ELS Elsinore Mount 36.72 106 IAmb IAmb 19 13 26.9
comp=Z,81nm,1.4s
ELS IAMs_20 IAMs_20 19 24 44.4
comp=Z,4μm,20.0s
SRU San Rafael Swe 36.86 93 IAmb IAmb 19 13 34.8
comp=Z,77nm,0.9s
MURC Murrieta 36.88 106 P **P** **19 13 10.7 +0.7**
baz=318
MURC S **S** **19 18 58.4 +5.8**
baz=318
GMRC Granite Mounta 36.89 103 P **P** **19 13 10.7 +0.6**
baz=316,SNR=20
GMRC S **S** **19 18 57.7 +4.8**
baz=316
KNB Kanab 36.94 98 IAMs_20 IAMs_20 19 26 33.2
comp=Z,6μm,19.0s
PKCU Pink Cliffs 36.94 97 IAmb IAmb 19 13 23.7
comp=Z,54nm,0.9s
PKCU IAMs_20 IAMs_20 19 26 17.2
comp=Z,4μm,20.0s
K22A Casper 36.95 86 P **P** **19 13 10.1 -0.6**
baz=308
K22A S **S** **19 18 54.6 +0.9**
baz=308
RWWY Rawlins 37.14 87 IAmb IAmb 19 13 26.5
comp=Z,84nm,1.1s
GRNR Gornyy 37.17 291⇑ *i*P **P** **19 13 11.1 -1.1**
GRNR pmax pmax
comp=N,10.0nm,0.8s
GRNR pmax pmax
comp=E,20nm,0.8s
GRNR pmax pmax
comp=Z,40nm,0.8s
GRNR MLR MLR
comp=E,1μm,15.0s
GRNR MLR MLR
comp=N,880nm,14.0s
GRNR MLR MLR
comp=Z,2μm,17.0s
BELC Belle Mtn. Jos 37.26 105 P **P** **19 13 13.8 +0.5**
baz=317,SNR=16
BELC S **S** **19 19 03.7 +5.1**
baz=317
PFO Pinyon Flats O 37.29 105 P **P** **19 13 13.8 +0.2**
PFO IAmb IAmb 19 13 39.3
comp=Z,74nm,1.4s
PFO Pinyon Flats O 37.29 105 IAMs_20 IAMs_20 19 25 34.6
comp=Z,6μm,19.0s
PFO Pinyon Flats O 37.29 105 P **P** **19 13 14.3 +0.8**
baz=318,SNR=10
PFO S **S** **19 19 05.0 +6.1**
baz=318
PFO Pinyon Flats O 37.29 105 LR LR 19 25 47.3
comp=Z,6μm,19.7s,baz=310,slow=32
PFO Pinyon Flats O 37.29 105*d i*P **P** **19 13 15.0 +1.5**
PFO pmax pmax
comp=Z,31nm,1.0s
PFO MLR MLR
comp=Z,2μm,14.0s
PFO Pinyon Flats O 37.29 105 P **P** **19 13 14.7 +1.2**
PFO pP **pP** **19 13 23.9 +1.5**
PFO sP **sP** **19 13 27.2 +1.1**
TPFO Pinon Flats 37.29 105 P **P** **19 13 14.7 +1.1**
baz=318,SNR=10
TPFO S **S** **19 19 03.6 +4.6**
baz=318
JKA Kamikawa-asahi 37.35 278 P **P** **19 13 11.9 -1.9**
ASAJ Asahikawa 37.35 278 LR LR 19 27 13.9
comp=Z,3μm,21.5s,baz=68,slow=34
ASAJ Asahikawa 37.35 278 P **P** **19 13 11.9 -1.9**
ASAJ pmax pmax
comp=Z,217nm,1.2s
ASAJ MLR MLR
comp=Z,3μm,21.0s
109C Camp Elliot, M 37.46 107 IAmb IAmb 19 13 33.6
comp=Z,96nm,1.1s
109C Camp Elliot, M 37.46 107 P **P** **19 13 16.1 +1.3**
baz=318
109C S **S** **19 19 07.2 +5.9**
baz=318
NEE2 Needles Airpor 37.49 102 P **P** **19 13 16.0 +0.9**
baz=316
NEE2 S **S** **19 19 07.8 +6.0**
baz=316
RSSD Black Hills 37.51 82 P **P** **19 13 15.4 0.0**
RSSD Black Hills 37.51 82 IAMs_20 IAMs_20 19 26 40.8
comp=Z,4μm,22.0s
RSSD Black Hills 37.51 82 P **P** **19 13 15.2 -0.2**
baz=307
RSSD S **S** **19 19 02.9 +0.7**
baz=307
RSSD Black Hills 37.51 82 P **P** **19 13 15.4 0.0**
RSSD pmax pmax
comp=Z,25nm,0.9s
RSSD MLR MLR
comp=Z,4μm,22.0s
HMU Henry Mountain 37.52 95 IAmb IAmb 19 13 23.5
comp=Z,98nm,0.8s
O20A White River Ci 37.53 90 IAMs_20 IAMs_20 19 26 51.6
comp=Z,4μm,20.0s
O20A White River Ci 37.53 90 P **P** **19 13 15.9 +0.3**
baz=310,SNR=15
O20A S **S** **19 19 04.5 +1.9**
baz=310
ALE Alert 37.54 12 P **P** **19 13 14.2 -0.7**
ALE pP **pP** **19 13 23.8 -0.1**
IRM Iron Mountain 37.63 104 P **P** **19 13 17.9 +1.6**
baz=317,SNR=23
IRM S **S** **19 19 09.3 +5.3**
baz=317
U15A North Rim 37.66 98 IAMs_20 IAMs_20 19 26 26.1
comp=Z,5μm,20.0s
W13A Hualapai Mount 37.67 101 IAmb IAmb 19 13 32.8
comp=Z,216nm,1.7s
BC3 Big Chuckawall 37.82 104 P **P** **19 13 19.0 +0.9**
baz=317,SNR=10
BC3 S **S** **19 19 12.0 +5.0**
baz=317
MONP2 Monument Peak 37.84 106 P **P** **19 13 19.1 +0.8**
baz=318,SNR=16
MONP2 S **S** **19 19 12.5 +5.0**
baz=318
MDND Maddock 37.90 74 IAMs_20 IAMs_20 19 28 27.9
comp=Z,4μm,19.0s
MDND Maddock 37.90 74 P **P** **19 13 18.6 +0.1**
baz=304,SNR=12
MDND S **S** **19 19 10.3 +2.5**
baz=304
PDMCI Parker Dam,Lak 38.10 102 P **P** **19 13 21.0 +0.8**
baz=317,SNR=7.7
PDMCI S **S** **19 19 14.7 +3.7**
baz=317
CBX Cerro Bola 38.14 107 IAmb IAmb 19 13 36.3
comp=Z,115nm,1.1s
CBX IAMs_20 IAMs_20 19 24 58.1
comp=Z,3μm,22.0s
SWSC Sam W. Stewart 38.15 106 P **P** **19 13 21.9 +1.3**
baz=318
SWSC S **S** **19 19 11.6 -0.2**
baz=318
IKP In-Ko-Pah, Jac 38.20 106 P **P** **19 13 22.2 +1.1**
baz=318,SNR=12
IKP S **S** **19 19 19.8 +7.1**
baz=318
JOHN Johnston Islan 38.20 194 IAMs_20 IAMs_20 19 25 53.6
comp=Z,4μm,20.0s
RMX La Rumorosa 38.25 106 IAMs_20 IAMs_20 19 25 19.7
comp=Z,3μm,21.0s
BLYC Blythe 38.28 103 IAmb IAmb 19 13 40.2
comp=Z,145nm,1.3s
YUH Yuha Desert 38.30 106 IAMs_20 IAMs_20 19 25 21.4
comp=Z,4μm,21.0s
ERM Erimo 38.31 275 P **P** **19 13 20.5 -1.3**
ERM Erimo 38.31 275*c i*P **P** **19 13 21.2 -0.6**
ERM pmax pmax
comp=Z,320nm,1.3s
ERM MLR MLR
comp=Z,3μm,22.0s
ERM Erimo 38.31 275 P **P** **19 13 21.3 -0.6**
ERM PcP **PcP** **19 15 37.0 +1.8**
TULEG Thule 38.38 22 IAMs_20 IAMs_20 19 31 56.6
comp=Z,4μm,20.0s
TULEG Thule 38.38 22 *i* P **P** **19 13 20.5 -1.6**
TULEG IAmb IAmb 19 13 23.9
comp=Z,23nm,0.7s
N23A Red Feather La 38.38 87 P **P** **19 13 23.5 +0.6**
baz=310
N23A S **S** **19 19 17.1 +1.3**
baz=310
GLA Glamis 38.62 104 IAmb IAmb 19 13 43.0
comp=Z,140nm,1.4s
GLA IAMs_20 IAMs_20 19 26 47.8
comp=Z,5μm,19.0s
GLA Glamis 38.62 104 P **P** **19 13 25.3 +0.6**
baz=318,SNR=9.2
GLA S **S** **19 19 25.1 +6.1**
baz=318
ULM Lac du Bonnet 38.67 69 IAmb IAmb 19 13 28.1
comp=Z,73nm,1.1s
ULM Lac du Bonnet 38.67 69 P **P** **19 13 25.1 +0.3**
comp=Z,46nm,0.9s,baz=299,slow=8.5,SNR=47
ULM PcP **PcP** **19 15 36.5 +0.3**
comp=Z,14nm,0.8s,baz=214,slow=0.2,SNR=3.6
ULM S **S** **19 19 18.6 -0.6**
comp=Z,4.3nm,0.8s,baz=232,slow=7.6,SNR=2.7
ULM LR LR 19 29 17.1
comp=Z,3μm,19.5s,baz=308,slow=36
comp=Z,46nm,0.9s
WUAZ Wupatki 38.82 98 IAmb IAmb 19 13 42.6
comp=Z,288nm,1.9s
WUAZ IAMs_20 IAMs_20 19 27 15.0
comp=Z,4μm,20.0s
WUAZ Wupatki 38.82 98 P **P** **19 13 28.7 +2.2**
baz=315,SNR=22
WUAZ S **S** **19 19 26.4 +4.2**
baz=315
SMCO Snowmass 38.89 90 IAMs_20 IAMs_20 19 27 54.7
comp=Z,4μm,20.0s
ISCO Idaho Springs 39.28 89 IAMs_20 IAMs_20 19 28 22.0
comp=Z,5μm,20.0s
ISCO Idaho Springs 39.28 89 P **P** **19 13 31.4 +0.9**
baz=311
ISCO S **S** **19 19 33.1 +3.7**
baz=311
MVCO Mesa Verde 39.32 94 P **P** **19 13 31.0 +0.3**
baz=313,SNR=26
MVCO S **S** **19 19 31.0 +1.2**
baz=313
113A Mohawk Valley, 39.43 104 IAMs_20 IAMs_20 19 27 42.3
comp=Z,3μm,18.0s
AGMN Agassiz Nation 39.74 71 IAmb IAmb 19 13 37.0
comp=Z,76nm,1.0s
AGMN Agassiz Nation 39.74 71 P **P** **19 13 34.0 +0.2**
baz=304,SNR=38
AGMN S **S** **19 19 35.6 +0.2**
baz=304
S22A 4UR Ranch, Cre 39.93 92 P **P** **19 13 35.5 -0.4**
baz=313,SNR=14
S22A S **S** **19 19 44.2 +5.1**
baz=313
W18A Petrified Fore 40.05 97 IAMs_20 IAMs_20 19 28 05.6
comp=Z,4μm,20.0s
W18A Petrified Fore 40.05 97 P **P** **19 13 37.2 +0.4**
baz=315
W18A S **S** **19 19 45.2 +4.5**
baz=315
Q24A Divide 40.10 89 IAMs_20 IAMs_20 19 28 40.7
comp=Z,4μm,20.0s
Q24A Divide 40.10 89 P **P** **19 13 36.1 -1.2**
baz=312
Q24A S **S** **19 19 44.2 +2.5**
baz=312
SUSD Miller 40.24 78 P **P** **19 13 37.5 -0.5**
SUSD IAmb IAmb 19 13 41.9
comp=Z,119nm,0.9s
SUSD IAMs_20 IAMs_20 19 29 06.9
comp=Z,4μm,21.0s
SUSD Miller 40.24 78 P **P** **19 13 37.7 -0.3**
baz=307,SNR=11
SUSD S **S** **19 19 43.2 +0.2**
baz=307
TEY Ternei 40.25 283⇑ *e*P **P** **19 13 36.1 -1.9**
TEY *e* 19 15 07.4
TEY pmax pmax
comp=E,10.0nm,1.2s
TEY pmax pmax
comp=Z,20nm,1.2s
TEY pmax pmax
comp=N,10.0nm,1.2s
JTM Tenmabayashi 40.30 275 P **P** **19 13 38.9 +0.4**
JTM Tenmabayashi 40.30 275 P **P** **19 13 36.1 -2.4**
JTM IAmb IAmb 19 13 40.0
comp=Z,213nm,1.2s
JTM IAMs_20 IAMs_20 19 30 03.1
comp=Z,3μm,22.0s
X18A Snowflake 40.35 98 IAmb IAmb 19 13 55.3
comp=Z,110nm,1.4s
ZEA Zeya 40.48 300*ce*P **P** **19 13 38.6 -1.3**
ZEA *e* 19 15 21.5
ZEA *e*S **S** **19 19 48.5 +2.1**
ZEA pmax pmax
comp=E,200nm,2.2s
ZEA pmax pmax
comp=N,100nm,2.0s
ZEA pmax pmax
comp=Z,400nm,2.7s
ZEA pmax pmax
comp=N,80nm,0.6s
ZEA pmax pmax
comp=E,70nm,0.6s
ZEA pmax pmax
comp=Z,180nm,0.7s
ZEA pmax pmax
comp=E,100nm,6.7s
ZEA pmax pmax
comp=Z,200nm,6.7s
ZEA smax smax
comp=E,200nm,6.8s
ZEA MLR MLR
comp=E,2μm,17.0s
ZEA MLR MLR
comp=N,1μm,20.0s
ZEA MLR MLR
comp=Z,2μm,18.0s
PIX Pinacate 40.50 105 P **P** **19 13 40.6 +0.3**
KLR Kul'dur 40.54 291 LR LR 19 32 31.9
comp=Z,3μm,18.5s,baz=63,slow=39
KLR Kul'dur 40.54 291*c i*P **P** **19 13 38.6 -1.8**
KLR pmax pmax
comp=Z,175nm,1.3s
KLR MLR MLR
comp=Z,2μm,15.0s
214A Organ Pipe Nat 40.58 104 IAmb IAmb 19 13 56.1
comp=Z,125nm,1.3s
214A IAMs_20 IAMs_20 19 27 48.5
comp=Z,4μm,19.0s
214A Organ Pipe Nat 40.58 104 P **P** **19 13 42.3 +1.4**
baz=318,SNR=14
214A S **S** **19 19 54.2 +5.9**
baz=318
OGNE Ogallala 40.63 84 P **P** **19 13 41.6 +0.3**
baz=310
OGNE S **S** **19 19 51.0 +2.0**
baz=310
SDCO Great Sand Dun 40.71 91 P **P** **19 13 42.9 +0.6**
baz=313,SNR=17
SDCO S **S** **19 19 52.4 +1.7**
baz=313
K30B Basset 40.94 81 IAMs_20 IAMs_20 19 29 13.6
comp=Z,3μm,20.0s
TUC Tucson 41.47 101 P **P** **19 13 48.4 0.0**
TUC Tucson 41.47 101 P **P** **19 13 49.6 +1.2**
baz=318
TUC S **S** **19 20 07.6 +5.9**
baz=318
TUC Tucson 41.47 101 P **P** **19 13 48.4 0.0**
TUC pmax pmax
comp=Z,55nm,1.2s
TUC MLR MLR
comp=Z,2μm,21.0s
TUC Tucson 41.47 101 P **P** **19 13 50.2 +1.9**
TUC pP **sP** **19 13 59.6 -1.3**
TUC PcP **PcP** **19 15 47.7 +2.1**
KSCO Kaye Shedlock' 41.54 87 IAMs_20 IAMs_20 19 29 57.8
comp=Z,3μm,20.0s
KSCO Kaye Shedlock' 41.54 87 P **P** **19 13 49.8 +0.8**
baz=312
KSCO S **S** **19 20 06.0 +3.2**
baz=312
NEEM North Greenlan 41.55 18 *i* P **P** **19 13 48.0 -0.7**
NEEM IAmb IAmb 19 13 51.3
comp=Z,114nm,0.8s
T25A Trinidad 41.76 91 IAmb IAmb 19 14 06.5
comp=Z,83nm,1.0s
T25A IAMs_20 IAMs_20 19 29 13.5
comp=Z,3μm,22.0s
T25A Trinidad 41.76 91 P **P** **19 13 51.8 +1.0**
baz=313,SNR=15
T25A S **S** **19 20 09.5 +3.4**
baz=313
KULLO Kullorsuaq 41.85 23 *i* P **P** **19 13 50.4 -0.5**
KULLO IAmb IAmb 19 13 53.3
comp=Z,61nm,0.8s
ECSD EROS Data Cent 42.01 77 P **P** **19 13 51.0 -1.5**
ECSD EROS Data Cent 42.01 77 IAMs_20 IAMs_20 19 30 10.7
comp=Z,5μm,21.0s
ECSD EROS Data Cent 42.01 77 P **P** **19 13 53.8 +1.3**
baz=308,SNR=13
ECSD S **S** **19 20 07.4 -1.8**
baz=308
ANMO Albuquerque 42.08 95 P **P** **19 13 53.7 +0.2**
ANMO Albuquerque 42.08 95 P **P** **19 13 54.2 +0.8**
baz=315
ANMO S **S** **19 20 14.8 +3.9**
baz=315
ANMO Albuquerque 42.08 95 LR LR 19 30 57.6
comp=Z,920nm,18.3s,baz=38,slow=35
ANMO Albuquerque 42.08 95*ce*P **P** **19 13 55.1 +1.6**
ANMO MLR MLR
comp=Z,1μm,34.0s
ANMO Albuquerque 42.08 95 P **P** **19 13 54.7 +1.3**
ANMO pP **pP** **19 14 04.2 +1.7**
ANMO PcP **PcP** **19 15 49.5 +1.7**
DUN6 Lazy B Ranch 42.27 100 IAmb IAmb 19 14 15.3
comp=Z,201nm,1.3s
HEH HeiHe 42.29 295 *e*P **P** **19 13 52.8 -1.9**
HEH sP **sP** **19 14 06.1 -1.3**
HEH PcP **PcP** **19 15 48.8 +0.9**
HEH ScP **ScP** **19 19 36.5 +0.5**
HEH S **S** **19 20 11.0 -2.2**
HEH ScS **ScS** **19 23 52.1 -1.8**
HEH pmax pmax
comp=Z,190nm,0.9s
HEH LR LR
comp=Z,2μm,16.5s
HEH LR LR
comp=Z,4μm,17.5s
HEH LR LR
comp=Z,4μm,18.6s
EYMN Ely 42.34 69 P **P** **19 13 55.1 -0.1**
EYMN IAmb IAmb 19 13 58.4
comp=Z,85nm,0.9s
EYMN Ely 42.34 69 P **P** **19 13 56.3 +1.1**
baz=306,SNR=64
EYMN S **S** **19 20 12.6 -1.5**
baz=306
JMM Marumori 42.38 272 P **P** **19 13 56.9 +1.3**
JMM Marumori 42.38 272 IAmb IAmb 19 13 57.4
comp=Z,150nm,1.1s
Y22D IRIS PASSCAL I 42.43 96 P **P** **19 13 57.0 +0.7**
baz=316
H11N2 WAKE ISLAND Hy 42.44 228 T T 19 59 11.0
baz=27,slow=76,SNR=480
H11N3 WAKE ISLAND Hy 42.44 228 T T 19 59 11.3
baz=27,slow=76,SNR=528
H11N1 WAKE ISLAND Hy 42.46 228 T T 19 59 12.4
baz=27,slow=76,SNR=3878
BGNE Belgrade 42.59 81 IAmb IAmb 19 14 28.1
comp=Z,72nm,0.7s
BGNE IAMs_20 IAMs_20 19 30 25.2
comp=Z,3μm,20.0s
BGNE Belgrade 42.59 81 P **P** **19 13 58.0 +0.7**
baz=310
BGNE S **S** **19 20 18.3 +0.4**
baz=310
NOR Nord 42.88 7⇑ *i*P **P** **19 13 58.6 -0.5**
NOR IAmb IAmb 19 14 01.5
comp=Z,41nm,1.0s
121A Cookes Peak, D 43.03 98 P **P** **19 14 02.1 +0.9**
baz=317,SNR=21
121A S **S** **19 20 29.3 +4.4**
baz=317
UPNV Upernavik 43.09 25 *i* P **P** **19 14 00.0 -0.9**
UPNV IAmb IAmb 19 14 02.9
comp=Z,70nm,0.8s
E38A The Farm, Brul 43.10 71 IAmb IAmb 19 14 04.2
comp=Z,93nm,1.0s
RTBA Rita Blanca 43.22 90 IAmb IAmb 19 14 17.6
comp=Z,75nm,1.1s
SPMN Marine on St. 43.24 73 IAMs_20 IAMs_20 19 31 51.8
comp=Z,3μm,19.0s
SPMN Marine on St. 43.24 73 P **P** **19 14 03.3 +0.8**
baz=308
SPMN S **S** **19 20 27.0 -0.4**
baz=308
L34A Svendsen Farm, 43.25 79 IAMs_20 IAMs_20 19 30 36.7
comp=Z,3μm,21.0s
CBKS Cedar Bluff 43.36 85 P **P** **19 14 04.0 +0.4**
baz=312
CBKS S **S** **19 20 30.7 +1.4**
baz=312
USA0B Ussuriysk Arra 43.37 285 P **P** **19 14 02.1 -1.4**
USA0B Ussuriysk Arra 43.37 285*ce*P **P** **19 14 01.6 -2.0**
USRK Ussuriysk Ar. 43.37 285 P **P** **19 14 02.1 -1.5**
comp=Z,13nm,0.7s,baz=65,slow=12,SNR=23
USRK PcP **PcP** **19 15 53.2 +1.6**
comp=Z,12nm,0.9s,baz=31,slow=1.1,SNR=5.6
USRK LR LR 19 32 15.6
comp=Z,5μm,21.2s,baz=57,slow=36
comp=Z,13nm,0.7s
H11S1 WAKE ISLAND Hy 43.60 228 T T 20 00 25.2
baz=26,slow=76,SNR=508
H11S2 WAKE ISLAND Hy 43.62 228 T T 20 00 26.9
baz=26,slow=76,SNR=1017
H11S3 WAKE ISLAND Hy 43.62 228 T T 20 00 29.0
baz=26,slow=76,SNR=902

I37A	Lemond, Waseca	43.66	75		IAmb	IAmb	19 14 09.2	
	comp=Z,130nm,1.1s							
JSD	Sado	43.74	274		P	P	19 14 07.0	+0.4
VLA	Vladivostok	44.11	284		P	P	19 14 09.9	+0.4
VLA					pmax	pmax		
	comp=Z,258nm,1.5s							
FRB	Frobisher Bay	44.26	40		LR	LR	19 34 30.3	
	comp=Z,3μm,20.6s,baz=302,slow=39							
EPT	El Paso	44.33	98		IAmb	IAmb	19 14 27.1	
	comp=Z,144nm,1.4s							
N35A	Tabor	44.38	80		IAmb	IAmb	19 14 35.6	
	comp=Z,102nm,0.7s							
N35A					IAMs_20	IAMs_20	19 31 12.7	
	comp=Z,4μm,21.0s							
MDJ	Mudanjiang	44.46	287		P	P	19 14 11.3	-1.0
MDJ	Mudanjiang	44.46	287		P	P	19 14 10.3	-2.0
MDJ					pP	pP	19 14 18.6	-2.7
MDJ					ScP	ScP	19 19 42.6	-2.3
MDJ					S	S	19 20 47.5	+2.4
MDJ					sS	sS	19 21 00.6	+0.6
MDJ					pmax	pmax		
	comp=Z,26nm,0.9s							
MDJ					pmax	pmax		
	comp=Z,390nm,7.9s							
MDJ					LR	LR		
	comp=Z,1μm,18.2s							
MDJ					LR	LR		
	comp=Z,3μm,22.0s							
MDJ					LR	LR		
	comp=Z,5μm,22.7s							
MDJ	Mudanjiang	44.46	287		IAmb	IAmb	19 14 13.2	
	comp=Z,58nm,0.9s							
MDJ					IAMs_20	IAMs_20	19 35 01.4	
	comp=Z,4μm,18.0s							
MDJ	Mudanjiang	44.46	287		P	P	19 14 10.6	-1.7
MDJ					pP	pP	19 14 19.5	-1.9
NUUG	Nuugaatsiaq	44.55	26	*i*	P	P	19 14 12.2	-0.5
NUUG					IAmb	IAmb	19 14 14.8	
	comp=Z,29nm,0.8s							
BOD	Bodaibo	44.61	311	*e*	P	P	19 14 12.0	-1.3
BOD					pmax	pmax		
	comp=Z,129nm,1.1s							
MJAR	Matsushiro Arr	44.79	272		P	P	19 14 14.9	-0.1
	comp=Z,67nm,0.9s,baz=46,slow=6.4,SNR=126							
MJAR					PcP	PcP	19 15 57.6	+1.0
	comp=Z,18nm,1.2s,baz=29,slow=1.3,SNR=3.8							
MJAR					ScP	ScP	19 19 45.3	-1.1
	comp=Z,2.3nm,0.8s,baz=24,slow=3.3,SNR=5.4							
MJAR					LR	LR	19 31 53.5	
	comp=Z,1μm,21.3s,baz=60,slow=35							
	comp=Z,67nm,0.9s							
MJB9	Matsu-Tunnel	44.79	272		P	P	19 14 14.2	-0.9
MAJO	Matsushiro	44.79	272		P	P	19 14 15.3	+0.2
MAJO	Matsushiro	44.79	272		P	P	19 14 14.4	-0.6
MAJO	Matsushiro	44.79	272	*c i*	P	P	19 14 14.5	-0.6
MAJO					pmax	pmax		
	comp=Z,254nm,1.0s							
MAJO					MLR	MLR		
	comp=Z,581nm,15.0s							
MAJO	Matsushiro	44.79	272		P	P	19 14 15.0	-0.1
MAJO					PcP	PcP	19 15 58.0	+1.3
MSHR	Mys Shultsa	44.86	284	*c i*	P	P	19 14 15.2	-0.3
MSHR					pmax	pmax		
	comp=Z,428nm,1.0s							
MSHR					MLR	MLR		
	comp=Z,2μm,19.0s							
AMTX	Amarillo	44.91	91		IAmb	IAmb	19 14 31.2	
	comp=Z,79nm,1.1s							
AMTX					IAMs_20	IAMs_20	19 31 24.1	
	comp=Z,3μm,20.0s							
AMTX	Amarillo	44.91	91		P	P	19 14 16.3	+0.1
	baz=315							
AMTX					S	S	19 20 53.3	+1.2
	baz=315							
MSTX	Muleshoe	44.92	93		IAmb	IAmb	19 14 31.2	
	comp=Z,78nm,1.2s							
MSTX					IAMs_20	IAMs_20	19 31 52.3	
	comp=Z,2μm,18.0s							
MSTX	Muleshoe	44.92	93		P	P	19 14 15.5	-0.8
	baz=316,SNR=6.8							
MSTX					S	S	19 20 51.8	-0.5
	baz=316							
BNX	BinXian	44.97	290	⇓	P	P	19 14 15.8	-0.6
BNX					sP	pP	19 14 25.3	-0.1
BNX					S	S	19 20 48.4	-4.1
BNX					sS	pS	19 21 04.1	+1.2
BNX					pmax	pmax		
	comp=Z,150nm,1.1s							
BNX					pmax	pmax		
	comp=Z,740nm,8.1s							
BNX					LR	LR		
	comp=Z,2μm,20.2s							
BNX					LR	LR		
	comp=Z,4μm,20.9s							
BNX					LR	LR		
	comp=Z,4μm,21.9s							
KSU1	Kansas State U	44.99	82		IAMs_20	IAMs_20	19 31 39.8	
	comp=Z,2μm,20.0s							
KSU1	Kansas State U	44.99	82		P	P	19 14 17.0	+0.4
	baz=312							
KSU1					S	S	19 20 52.1	-0.8
	baz=312							
PSTR	Posyet	45.02	284	*de*	P	P	19 14 16.8	+0.1
MNTX	Cornudas Mount	45.03	97		P	P	19 14 17.1	+0.1
	baz=317,SNR=65							
MNTX					S	S	19 20 59.5	+5.7
	baz=317							
SCIA	State Center	45.10	77		IAMs_20	IAMs_20	19 32 08.6	
	comp=Z,4μm,20.0s							
SCIA	State Center	45.10	77		P	P	19 14 17.9	+0.5
	baz=310							
I40A	Norwalk	45.30	73		IAmb	IAmb	19 14 36.2	
	comp=Z,61nm,0.5s							
UMMG	Uummannaq	45.37	26	*i*	P	P	19 14 19.0	-0.1
UMMG					IAmb	IAmb	19 14 22.1	
	comp=Z,89nm,1.0s							
F42A	Maple Grove Fa	45.50	70		IAmb	IAmb	19 14 23.9	
	comp=Z,99nm,1.0s							
OK032	Salt Plains WL	45.61	86		IAMs_20	IAMs_20	19 32 47.4	
	comp=Z,2μm,19.0s							
E43A	Lone Tree Farm	45.74	68		IAmb	IAmb	19 14 38.4	
	comp=Z,63nm,0.9s							
N38A	Joes South For	45.81	78		IAmb	IAmb	19 14 46.2	
	comp=Z,57nm,0.7s							
N38A					IAMs_20	IAMs_20	19 32 29.5	
	comp=Z,3μm,20.0s							
VHRN	Van Horn	45.93	98		IAmb	IAmb	19 14 40.4	
	comp=Z,106nm,1.1s							
JGF	Kuroka	45.94	272		P	P	19 14 24.9	+0.7
JFWS	Jewell Farm	46.13	74		IAmb	IAmb	19 14 27.7	
	comp=Z,59nm,1.1s							
JFWS	Jewell Farm	46.13	74		P	P	19 14 25.7	+0.1
	baz=310,SNR=8.3							
JFWS					S	S	19 21 07.9	-1.4
	baz=310							
L40A	Anamosa	46.13	76		IAmb	IAmb	19 14 39.6	
	comp=Z,66nm,1.2s							
DKNS	Dickens	46.22	91		IAmb	IAmb	19 14 40.5	
	comp=Z,41nm,1.0s							
I42A	Draeger Farm,	46.25	72		IAmb	IAmb	19 14 44.0	
	comp=Z,45nm,0.7s							
JHJ	Hachijo jima 2	46.27	268		LR	LR	19 34 33.6	
	comp=Z,632nm,19.4s,baz=52,slow=37							
POST	Post	46.31	92		IAmb	IAmb	19 14 41.9	
	comp=Z,90nm,1.0s							
P38A	Dawn	46.41	80		IAmb	IAmb	19 14 50.6	
	comp=Z,35nm,0.6s							
P38A					IAMs_20	IAMs_20	19 32 37.4	
	comp=Z,3μm,20.0s							
H43A	Windswept, Lux	46.51	71		IAmb	IAmb	19 14 31.3	
	comp=Z,88nm,0.9s							
WMOK	Wichita Mounta	46.71	89		IAmb	IAmb	19 14 45.0	
	comp=Z,40nm,0.9s							
WMOK	Wichita Mounta	46.71	89		IAMs_20	IAMs_20	19 32 42.6	
	comp=Z,3μm,20.0s							
WMOK	Wichita Mounta	46.71	89		P	P	19 14 31.1	+0.9
	baz=315,SNR=24							
WMOK					S	S	19 21 19.8	+2.0
	baz=315							
KBS	Kingsbay	46.85	2		P	P	19 14 30.8	+0.1
KBS	Kingsbay	46.85	2		IAMs_20	IAMs_20	19 34 38.8	
	comp=Z,3μm,19.0s							
KBS	Kingsbay	46.85	2	*e*	P	P	19 14 30.6	-0.2
KBS					IVmBBB		19 14 31.9	
	comp=Z,512nm,1.0s							
KBS				*e*	S	S	19 21 20.9	+2.2
KBS				*e*	ScS	ScS	19 24 24.0	+2.0
KBS					IVMs_BB	IVMs_BB	19 34 38.6	
	comp=Z,971nm,18.8s							
KBS	Kingsbay	46.85	2	*c i*	P	P	19 14 30.8	+0.1
KBS					pmax	pmax		
	comp=Z,177nm,1.3s							
KBS					MLR	MLR		
	comp=Z,2μm,15.0s							
KBS	Kingsbay	46.85	2	*i*	P	P	19 14 30.8	+0.1
KBS	Kingsbay	46.85	2		P	P	19 14 30.9	+0.1
KBS					pP	pP	19 14 40.6	+0.7
KBS					PcP	PcP	19 16 03.5	+0.4
HIA	Hailar	46.89	298		P	P	19 14 30.7	-0.8
HIA	Hailar	46.89	298		IAmb	IAmb	19 14 32.5	
	comp=Z,37nm,0.8s							
HIA	Hailar	46.89	298		IAMs_20	IAMs_20	19 37 05.2	
	comp=Z,4μm,19.0s							
HIA	Hailar	46.89	298	*c i*	P	P	19 14 29.8	-1.7
HIA					pmax	pmax		
	comp=Z,41nm,0.8s							
HIA					MLR	MLR		
	comp=Z,4μm,16.0s							
HIA	Hailar	46.89	298		P	P	19 14 30.5	-1.0
HIA					sP	sP	19 14 43.8	-0.4
DAG	Danmarks Havn	46.91	11	*i*	P	P	19 14 29.9	-1.3
DAG					IAmb	IAmb	19 14 34.6	
	comp=Z,41nm,0.8s							
APMT	Aspermont	46.93	91		IAmb	IAmb	19 14 46.3	
	comp=Z,52nm,1.3s							
NRIK	Noril'sk	46.98	333		P	P	19 14 30.3	-1.6
NRIK					IAmb	IAmb	19 14 33.7	
	comp=Z,84nm,0.8s							
NRIK	Noril'sk	46.98	333		P	P	19 14 31.0	-0.9
	comp=Z,60nm,0.8s,baz=58,slow=6.2,SNR=41							
NRIK					ScP	ScP	19 19 55.4	+0.4
	comp=Z,1.7nm,0.3s,baz=77,slow=4.5,SNR=3.8							
NRIK					LR	LR	19 37 16.1	
	comp=Z,6μm,18.7s,baz=46,slow=40							
	comp=Z,60nm,0.8s							
NRIK	Noril'sk	46.98	333	*c i*	P	P	19 14 30.6	-1.3
NRIK					pmax	pmax		
	comp=Z,112nm,0.9s							
NRIK					MLR	MLR		
	comp=Z,3μm,15.0s							
OK052	Battle Ridge R	46.99	86		IAMs_20	IAMs_20	19 33 49.9	
	comp=Z,2μm,19.0s							
L42A	Oliver, Polo	47.05	75		IAmb	IAmb	19 14 34.7	
	comp=Z,47nm,1.1s							
E46A	Sault Ste Mari	47.20	67		IAmb	IAmb	19 14 36.8	
	comp=Z,90nm,1.1s							
SUMG	Summit	47.21	20		P	P	19 14 33.2	-0.9
SUMG	Summit	47.21	20		P	P	19 14 33.2	-0.9
SUMG					pmax	pmax		
	comp=Z,203nm,1.4s							
SUMG					MLR	MLR		
	comp=Z,5μm,19.0s							
SUMG	Summit	47.21	20	*i*	P	P	19 14 32.7	-1.4
SUMG					IAmb	IAmb	19 14 40.8	
	comp=Z,44nm,1.1s							
N41A	Harden Midland	47.23	77		IAmb	IAmb	19 14 48.9	
	comp=Z,73nm,1.1s							
CN2	Changchun	47.28	289		P	P	19 14 33.5	-1.0
CN2					sP	pP	19 14 44.3	+0.7
CN2					PcP	PcP	19 16 11.9	+6.7
CN2					S	S	19 21 23.0	-2.6
CN2					pmax	pmax		
	comp=Z,210nm,0.9s							
CN2					pmax	pmax		
	comp=Z,800nm,4.0s							
CN2					LR	LR		
	comp=Z,2μm,19.0s							
CN2					LR	LR		
	comp=Z,3μm,19.0s							
CN2					LR	LR		
	comp=Z,3μm,24.0s							
G45A	Suttons Bay	47.31	69		IAmb	IAmb	19 14 51.0	
	comp=Z,61nm,0.9s							
P40A	Paris	47.33	79		IAmb	IAmb	19 14 49.7	
	comp=Z,80nm,1.1s							
P40A					IAMs_20	IAMs_20	19 33 06.7	
	comp=Z,4μm,21.0s							
K43A	Burlington	47.34	73		IAmb	IAmb	19 14 37.3	
	comp=Z,78nm,1.1s							
SGCY	Sterling City	47.36	93		IAmb	IAmb	19 14 49.9	
	comp=Z,63nm,1.0s							
X34A	Smith Ranch, M	47.36	88		P	P	19 14 33.4	-1.9
X34A					IAMs_20	IAMs_20	19 32 57.8	
	comp=Z,5μm,22.0s							
WTFS	Witchita Falls	47.58	89		P	P	19 14 36.2	-0.8
TUL3	Leonard	47.63	85		P	P	19 14 37.7	+0.2
	baz=314							
TUL3					S	S	19 21 29.8	-1.1
	baz=314							
SPA0	Spitsbergen Ar	47.66	1	*e*	P	P	19 14 36.9	-0.2
SPA0					IAmb	IAmb	19 14 38.3	
	comp=Z,138nm,1.3s							
SPA0				*e*	S	S	19 21 32.1	+1.8
SPITS	Spitsbergen Ar	47.66	1		P	P	19 14 35.4	-1.7
	comp=Z,8.6nm,0.5s,baz=40,slow=5.6,SNR=25							
SPITS					PcP	PcP	19 16 04.6	-1.4
	comp=Z,19nm,0.9s,baz=11,slow=2.9,SNR=2.1							
SPITS					LR	LR	19 34 41.5	
	comp=Z,1μm,20.1s,baz=327,slow=36							
	comp=Z,8.6nm,0.5s							
ABTX	Abilene, Hawle	47.71	91		IAmb	IAmb	19 14 52.8	
	comp=Z,81nm,1.1s							
ABTX					IAMs_20	IAMs_20	19 33 00.1	
	comp=Z,3μm,21.0s							
ABTX	Abilene, Hawle	47.71	91		P	P	19 14 37.5	-0.5
	baz=316							
ABTX					S	S	19 21 33.0	+0.9
	baz=316							
TX31	Lajitas Ar. Si	47.77	98		IAmb	IAmb	19 14 54.2	
	comp=Z,76nm,1.1s							
TXAR	Lajitas Array	47.77	98		P	P	19 14 38.9	+0.2
TXAR	Lajitas Array	47.77	98		P	P	19 14 40.3	+1.6
	comp=Z,20nm,1.1s,baz=304,slow=4.8,SNR=68							
TXAR					PcP	PcP	19 16 09.3	+2.0
	comp=Z,3.0nm,0.6s,baz=212,slow=1.1,SNR=4.1							
TXAR					ScP	ScP	19 20 00.6	+1.5
	comp=Z,2.8nm,1.0s,baz=322,slow=3.7,SNR=4.1							
TXAR					LR	LR	19 34 04.2	
	comp=Z,2μm,18.4s,baz=305,slow=35							
	comp=Z,20nm,1.1s							
S39A	Bolivar	47.84	81		IAMs_20	IAMs_20	19 33 07.4	
	comp=Z,3μm,22.0s							
RLO	Rose Lookout	47.91	84		IAmb	IAmb	19 14 53.0	
	comp=Z,41nm,0.9s							
RLO					IAMs_20	IAMs_20	19 31 49.5	
	comp=Z,1μm,21.0s							
L44A	Lake County Fo	47.92	73		IAmb	IAmb	19 14 41.4	
	comp=Z,87nm,1.1s							
L44A	Lake County Fo	47.92	73		P	P	19 14 38.8	-0.8
	baz=311							
GLMI	Grayling	48.01	68		P	P	19 14 39.5	-0.8
	baz=310							
LPIG	La Paz	48.02	108		LR	LR	19 32 30.9	
	comp=Z,2μm,18.2s,baz=320,slow=33							
R40A	Maddies Statio	48.04	80		IAMs_20	IAMs_20	19 33 36.5	
	comp=Z,3μm,20.0s							
OZNA	Ozona	48.08	94		IAmb	IAmb	19 14 55.7	
	comp=Z,75nm,1.4s							
U38A	Gravette	48.09	83		IAmb	IAmb	19 14 54.0	
	comp=Z,48nm,0.9s							
LOOK	Love County	48.17	88		P	P	19 14 40.2	-1.4
LOOK					IAmb	IAmb	19 14 56.5	
	comp=Z,33nm,0.8s							
SFJD	Kangerlussuaq	48.20	30		P	P	19 14 41.5	+0.3
SFJD	Kangerlussuaq	48.20	30		LR	LR	19 36 59.0	
	comp=Z,2μm,18.8s,baz=314,slow=39							
SFJD	Kangerlussuaq	48.20	30		P	P	19 14 41.5	+0.3
SFJD					pmax	pmax		
	comp=Z,206nm,1.2s							
SFJD					MLR	MLR		
	comp=Z,2μm,19.0s							
SFJD	Kangerlussuaq	48.20	30	*i*	P	P	19 14 41.8	+0.5
SFJD					IAmb	IAmb	19 14 44.4	
	comp=Z,86nm,1.1s							
SFJD	Kangerlussuaq	48.20	30		P	P	19 14 41.6	+0.3
SFJD					pP	pP	19 14 51.4	+1.0
SFJD					PcP	PcP	19 16 09.1	+1.1
SAND	Sanderson	48.21	96		IAmb	IAmb	19 14 57.0	
	comp=Z,47nm,1.4s							
HDIL	Hopedale	48.21	76		IAMs_20	IAMs_20	19 34 33.7	
	comp=Z,4μm,20.0s							
HDIL	Hopedale	48.21	76		P	P	19 14 42.0	+0.2
	baz=312,SNR=13							
HDIL					S	S	19 21 37.8	-1.1
	baz=312							
CIT	Chita	48.27	304	*e*	P	P	19 14 41.3	-0.9
CIT				*e*			19 16 35.7	
CIT				*e*			19 21 33.5	
CIT					pmax	pmax		
	comp=Z,230nm,1.4s							
FW03	Perrin-Whitt E	48.33	90		IAmb	IAmb	19 14 57.2	
	comp=Z,54nm,0.9s							
FW03					IAMs_20	IAMs_20	19 33 48.6	
	comp=Z,2μm,20.0s							
PLPT	Palo Pinto	48.35	90		IAmb	IAmb	19 14 57.5	
	comp=Z,49nm,0.9s							
M44A	Midewin, Midew	48.37	74		IAmb	IAmb	19 14 57.9	
	comp=Z,85nm,1.1s							
HPIG		48.43	102		IAMs_20	IAMs_20	19 32 11.6	
	comp=Z,2μm,20.0s							
SLBS	Sierra La Lagu	48.55	108		P	P	19 14 46.1	+1.4
Z35A	Perchaven, San	48.60	89		IAMs_20	IAMs_20	19 33 52.6	
	comp=Z,3μm,20.0s							
FW06	Azle	48.68	89		IAMs_20	IAMs_20	19 33 52.7	
	comp=Z,3μm,20.0s							
FW07	Weatherford	48.74	90		IAMs_20	IAMs_20	19 33 46.3	
	comp=Z,3μm,20.0s							
CCM	Cathedral Cave	48.79	80		P	P	19 14 45.7	-0.6
CCM					IAmb	IAmb	19 16 25.0	
	comp=Z,47nm,1.4s							
CCM	Cathedral Cave	48.79	80		IAMs_20	IAMs_20	19 34 00.3	
	comp=Z,3μm,20.0s							
CCM	Cathedral Cave	48.79	80		P	P	19 14 45.5	-0.8
	baz=313							
CCM					S	S	19 21 43.9	-3.3
	baz=313							
CCM	Cathedral Cave	48.79	80		P	P	19 14 45.7	-0.6
CCM					pmax	pmax		
	comp=Z,47nm,1.4s							
CCM					MLR	MLR		
	comp=Z,3μm,20.0s							
CCM	Cathedral Cave	48.79	80		P	P	19 14 46.8	+0.5
MGMO	Mountain Grove	48.82	81		IAmb	IAmb	19 14 58.8	
	comp=Z,36nm,0.9s							
MGMO					IAMs_20	IAMs_20	19 33 38.1	
	comp=Z,3μm,22.0s							
DBG	Daneborg	48.88	13	*i*	P	P	19 14 45.3	-1.2
DBG					IAmb	IAmb	19 14 49.5	
	comp=Z,38nm,0.8s							
L46A	Eue Claire	48.93	72		IAmb	IAmb	19 14 49.8	
	comp=Z,84nm,1.1s							
L46A					IAMs_20	IAMs_20	19 35 09.3	
	comp=Z,3μm,20.0s							
J47A	Sunmer	48.94	70		IAmb	IAmb	19 14 50.0	
	comp=Z,67nm,1.1s							
SLM	Saint Louis	48.97	78		IAmb	IAmb	19 15 14.6	
	comp=Z,102nm,1.1s							
BRDY	Brady	49.05	92		IAmb	IAmb	19 15 02.9	
	comp=Z,53nm,1.1s							
JCT	Junction City	49.18	93		IAMs_20	IAMs_20	19 33 20.0	
	comp=Z,2μm,22.0s							
JCT	Junction City	49.18	93		P	P	19 14 49.5	+0.1
	baz=318,SNR=5.4							
JCT					S	S	19 21 51.9	-0.9
	baz=318							
JMN	Monobe	49.29	273		P	P	19 14 52.4	+2.2
JMN	Monobe	49.29	273		IAMs_20	IAMs_20	19 33 42.1	
	comp=Z,2μm,22.0s							
HOPEN	Hopen	49.30	358	*e*	P	P	19 14 48.4	-1.3
HOPEN					IAmb	IAmb	19 14 51.2	
	comp=Z,167nm,1.1s							
HOPEN				*e*	S	S	19 21 49.4	-3.9
HOPEN					IAMs_20	IAMs_20	19 40 31.2	
	comp=Z,2μm,16.5s							
FVM	French Village	49.31	79		IAmb	IAmb	19 15 09.8	
	comp=Z,63nm,1.2s							
FVM					IAMs_20	IAMs_20	19 34 06.5	
	comp=Z,4μm,22.0s							
JCJ	Chichijima	49.33	260		P	P	19 14 53.0	+2.5
JCJ	Chichijima	49.33	260		LR	LR	19 33 09.2	
	comp=Z,1μm,22.0s,baz=38,slow=33							
WHTX	Lake Whitney,	49.44	90		P	P	19 14 51.2	-0.2
	baz=317							
WHTX					S	S	19 21 56.5	0.0
	baz=317							
DRIO	Del Rio	49.48	95		IAmb	IAmb	19 15 05.7	
	comp=Z,84nm,1.3s							
Q44A	Meyer Farm, Va	49.49	77		IAmb	IAmb	19 14 54.0	
	comp=Z,65nm,1.0s							
I49A	Point Hope	49.56	68		IAmb	IAmb	19 15 08.4	
	comp=Z,61nm,0.9s							
ICESG	Greenland Ices	49.57	24	⇑ *i*	P	P	19 14 52.0	-0.3
ICESG					IAmb	IAmb	19 14 54.8	
	comp=Z,192nm,0.9s							
SFIN	Lafayette	49.57	74		P	P	19 14 53.3	+1.1
	baz=313,SNR=7.2							
SFIN					S	S	19 21 56.6	-1.5
	baz=313							
T42A	Van Buren	49.58	80		IAmb	IAmb	19 16 29.6	
	comp=Z,40nm,1.1s							
T42A					IAMs_20	IAMs_20	19 34 13.3	
	comp=Z,3μm,21.0s							
SNY	Shenyang	49.61	288	⇑	P	P	19 14 52.6	+0.1
SNY					S	S	19 21 57.3	-1.3
SNY					pmax	pmax		
	comp=Z,79nm,1.4s							
SNY					pmax	pmax		
	comp=Z,860nm,3.5s							
SNY					LR	LR		
	comp=Z,2μm,20.0s							
SNY					LR	LR		
	comp=Z,2μm,20.4s							
SNY					LR	LR		
	comp=Z,4μm,22.8s							
VLDQ	Val d'Or	49.67	61		IAmb	IAmb	19 14 53.7	
	comp=Z,56nm,1.0s							
VLDQ					IAMs_20	IAMs_20	19 36 28.7	
	comp=Z,3μm,19.0s							
FCAR	Ozark Folk Cen	49.78	82		IAmb	IAmb	19 15 06.2	
	comp=Z,69nm,1.0s							
FCAR					IAMs_20	IAMs_20	19 34 27.7	
	comp=Z,3μm,21.0s							
NUUK	Nuuk	49.79	33	*i*	P	P	19 14 53.9	+0.3
NUUK					IAmb	IAmb	19 14 57.2	
	comp=Z,74nm,0.9s							
DY2G	Dye2	49.80	29	*i*	P	P	19 14 52.9	-1.0
DY2G					IAmb	IAmb	19 14 56.5	
	comp=Z,25nm,1.4s							
MIAR	Mount Ida	49.88	85		IAmb	IAmb	19 15 07.5	
	comp=Z,56nm,1.1s							
MIAR	Mount Ida	49.88	85		P	P	19 14 53.6	-1.1
	baz=315,SNR=30							
MIAR					S	S	19 22 02.8	+0.2
	baz=315							
Z38A	Mt. Pleasant	49.98	87		IAMs_20	IAMs_20	19 35 44.0	
	comp=Z,2μm,18.0s							
L48A	N Adams	50.01	71		IAmb	IAmb	19 14 58.0	
	comp=Z,62nm,1.1s							
P46A	Rosedale	50.03	75		IAmb	IAmb	19 15 10.1	
	comp=Z,94nm,1.1s							
WHAR	Wooly Hollow	50.10	83		IAMs_20	IAMs_20	19 34 47.4	
	comp=Z,2μm,20.0s							
KS19	Wonju Array Si	50.13	281		P	P	19 14 55.5	-1.0
KSRS	Korea Array	50.13	281		P	P	19 14 56.9	+0.4
	comp=Z,70nm,1.0s,baz=49,slow=6.7,SNR=135							
KSRS					PcP	PcP	19 16 16.4	+0.8
	comp=Z,11nm,0.9s,baz=59,slow=4.4,SNR=1.9							
KSRS					ScP	ScP	19 20 09.2	+0.4
	comp=Z,1.6nm,0.8s,baz=50,slow=4.6,SNR=6.0					

baz=317
SCHQ Schefferville 50.35 49 IAmb IAmb 19 15 00.8
comp=Z,69nm,1.2s
SCHQ Schefferville 50.35 49 P **P** **19 14 57.9 -0.2**
comp=Z,38nm,1.0s,baz=329,slow=8.0,SNR=13
SCHQ S **S** **19 22 07.4 -1.2**
comp=Z,4.2nm,1.0s,baz=222,slow=9.9,SNR=1.8
SCHQ LR LR 19 37 14.4
comp=Z,4μm,20.2s,baz=322,slow=37
comp=Z,38nm,1.0s
237A Washetta, Mont 50.40 89 IAms_20 IAms_20 19 35 00.3
comp=Z,2μm,20.0s
UALR University of 50.44 84 IAms_20 IAms_20 19 37 52.1
comp=Z,2μm,18.0s
PARMO Parma 50.61 80 IAms_20 IAms_20 19 34 55.5
comp=Z,2μm,22.0s
BLO Bloomington 50.72 75 IAmb IAmb 19 15 15.0
comp=Z,113nm,1.4s
O48B Farmland 50.75 73 IAmb IAmb 19 15 05.3
comp=Z,63nm,0.8s
O48B Farmland 50.75 73 P **P** **19 15 00.2 -1.0**
baz=313,SNR=18
O48B S **S** **19 22 10.7 -3.8**
baz=313
WLAR White Oak Lake 50.76 85 IAmb IAmb 19 15 14.3
comp=Z,72nm,1.0s
PVMO Portageville 50.81 80 IAms_20 IAms_20 19 35 11.9
comp=Z,2μm,20.0s
N49A Columbus Grove 50.84 72 IAmb IAmb 19 15 04.0
comp=Z,66nm,1.1s
N49A IAms_20 IAms_20 19 36 37.8
comp=Z,3μm,19.0s
INCN Inchon 50.85 282 P **P** **19 15 02.6 +0.6**
INCN Inchon 50.85 282 P **P** **19 15 01.6 -0.4**
INCN Inchon 50.85 282 P **P** **19 15 01.6 -0.4**
INCN pmax pmax
comp=Z,158nm,1.1s
INCN MLR MLR
comp=Z,2μm,21.0s
INCN Inchon 50.85 282 P **P** **19 15 01.8 -0.2**
PEBM Pemiscott Bayo 50.93 80 IAms_20 IAms_20 19 34 53.0
comp=Z,2μm,21.0s
GNAR Gosnell 50.95 81 IAms_20 IAms_20 19 34 52.4
comp=Z,2μm,22.0s
SADO Sadowa 50.99 65 LR LR 19 37 15.6
comp=Z,1μm,18.1s,baz=342,slow=37
HICK Hickman 51.00 80 IAms_20 IAms_20 19 35 18.7
comp=Z,2μm,21.0s
T45A Paducah 51.00 79 IAms_20 IAms_20 19 35 18.8
comp=Z,4μm,22.0s
833A Chaparral WMA, 51.01 95 IAms_20 IAms_20 19 34 54.7
comp=Z,2μm,20.0s
833A Chaparral WMA, 51.01 95 P **P** **19 15 04.2 +0.9**
baz=319
833A S **S** **19 22 19.4 +1.0**
baz=319
P48A Milroy 51.14 74 IAmb IAmb 19 15 06.0
comp=Z,108nm,1.2s
M50A Fremont 51.14 71 IAms_20 IAms_20 19 37 13.8
comp=Z,2μm,18.0s
GLAT Glass 51.15 80 IAms_20 IAms_20 19 35 22.9
comp=Z,2μm,20.0s
LNXT Lenox 51.15 80 IAms_20 IAms_20 19 34 59.9
comp=Z,2μm,22.0s
TJN Taejon 51.20 280 P **P** **19 15 05.0 +0.4**
TJN Taejon 51.20 280 IAms_20 IAms_20 19 34 32.1
comp=Z,4μm,21.0s
TJN Taejon 51.20 280 *c iP* **P** **19 15 04.5 -0.1**
NATX Nacogdoches 51.25 88 P **P** **19 15 03.9 -1.1**
baz=317
NATX S **S** **19 22 22.0 +0.5**
baz=317
JTU Tsushima 51.33 277 P **P** **19 15 07.2 +1.6**
BJO1 Bjornoya 51.37 0 *eP* **P** **19 15 05.0 -0.3**
BJO1 IAmb IAmb 19 15 07.1
comp=Z,109nm,1.2s
BJO1 *e*S **S** **19 22 18.0 -4.2**
BJO1 IAms_20 IAms_20 19 41 39.3
comp=Z,2μm,15.3s
HALT Halls 51.37 80 IAms_20 IAms_20 19 36 06.7
comp=Z,2μm,19.0s
JNU Nakatsue 51.47 275 P **P** **19 15 07.5 +0.8**
JNU Nakatsue 51.47 275 IAmb IAmb 19 15 16.8
comp=Z,90nm,1.0s
JNU IAms_20 IAms_20 19 36 12.8
comp=Z,2μm,21.0s
JNU Nakatsue 51.47 275 LR LR 19 36 12.5
comp=Z,3μm,21.8s,baz=56,slow=35
P49A Miami Univ. Ec 51.49 74 IAmb IAmb 19 15 08.3
comp=Z,64nm,1.0s
P49A Miami Univ. Ec 51.49 74 P **P** **19 15 06.8 +0.1**
baz=314,SNR=11
P49A S **S** **19 22 20.9 -3.8**
baz=314
WCI Wyandotte Cave 51.50 76 P **P** **19 15 06.2 -0.6**
WCI Wyandotte Cave 51.50 76 P **P** **19 15 06.6 -0.2**
baz=314
WCI S **S** **19 22 21.9 -2.9**
baz=314
WCI Wyandotte Cave 51.50 76 P **P** **19 15 06.2 -0.6**
WCI pmax pmax
comp=Z,24nm,0.8s
WCI MLR MLR
comp=Z,4μm,19.0s
735A Kenedy 51.54 93 IAms_20 IAms_20 19 35 44.6
comp=Z,2μm,20.0s
MET Memphis--Engin 51.59 81 IAms_20 IAms_20 19 35 34.4
comp=Z,2μm,21.0s
N51A Ashland 51.84 71 IAmb IAmb 19 15 11.3
comp=Z,74nm,1.1s
H06N1 SOCORRO T-PHAS 51.87 113 T T 20 10 59.4
SNR=13
HKT Hockley 51.88 91 *de*P **P** **19 15 10.6 +0.9**
HKT pmax pmax
comp=Z,53nm,1.4s
HKT MLR MLR
comp=Z,1μm,15.0s
T47A Sharon Grove 51.90 78 IAmb IAmb 19 15 24.1
comp=Z,89nm,1.0s
DELO Deloro Mine 51.96 64 IAmb IAmb 19 15 27.1
comp=Z,51nm,1.0s
SCO Scoresbysund 51.97 16 IAmb IAmb 19 15 24.3
comp=Z,74nm,1.1s
SCO IAms_20 IAms_20 19 41 18.6
comp=Z,3μm,18.0s
SCO Scoresbysund 51.97 16 *i* P **P** **19 15 12.0 +2.2**
M52A Chesterland 51.98 70 IAmb IAmb 19 15 24.8
comp=Z,50nm,0.8s
ACSO Alum Creek Sta 51.98 72 IAms_20 IAms_20 19 37 13.9
comp=Z,3μm,19.0s
ACSO Alum Creek Sta 51.98 72 P **P** **19 15 10.0 -0.4**
baz=314
ACSO S **S** **19 22 28.3 -3.1**
baz=314
WVT Waverly 52.09 79 P **P** **19 15 11.0 -0.2**
WVT IAmb IAmb 19 15 23.8
comp=Z,99nm,0.9s
WVT Waverly 52.09 79 IAms_20 IAms_20 19 35 52.6
comp=Z,4μm,21.0s
WVT Waverly 52.09 79 P **P** **19 15 11.5 +0.3**
baz=315
WVT S **S** **19 22 32.0 -1.0**
baz=315
WVT Waverly 52.09 79 P **P** **19 15 11.0 -0.2**
WVT pmax pmax
comp=Z,99nm,1.0s
WVT MLR MLR
comp=Z,4μm,21.0s
WVT Waverly 52.09 79 P **P** **19 15 11.4 +0.3**
WVT pP **pP** **19 15 20.8 +0.4**
SOEG Soedalen 52.13 21 *i* P **P** **19 15 10.8 -0.3**
SOEG *i* P pP 19 15 11.1 -9.2
SOEG IAmb IAmb 19 15 13.7
comp=Z,84nm,0.8s
J54A Appleton 52.27 66 IAmb IAmb 19 15 30.1
comp=Z,96nm,1.1s
XLT XiLinHaoTe 52.29 295 *eP* **P** **19 15 13.3 +0.5**
XLT PcP **PcP** **19 16 25.3 +1.6**
XLT S **S** **19 22 33.1 -2.7**
XLT sS sS 19 22 51.1 +0.2
XLT pmax pmax
comp=Z,240nm,1.0s
XLT pmax pmax
comp=Z,410nm,4.7s
XLT LR LR
comp=Z,1μm,20.2s
XLT LR LR
comp=Z,1μm,24.7s
OXF Oxford 52.32 82 IAMs_20 IAMs_20 19 35 45.1
comp=Z,2μm,22.0s
OXF Oxford 52.32 82 P **P** **19 15 12.6 -0.4**
baz=316,SNR=17
OXF S **S** **19 22 33.7 -2.5**
baz=316
ERPA Erie 52.33 68 IAmb IAmb 19 15 15.5
comp=Z,78nm,1.1s
ERPA IAMs_20 IAMs_20 19 39 12.1
comp=Z,2μm,19.0s
ERPA Erie 52.33 68 P **P** **19 15 12.4 -0.5**
baz=313
ERPA S **S** **19 22 32.8 -3.4**
baz=313
TRQ Mont Tremblant 52.40 61 IAmb IAmb 19 15 15.6
comp=Z,88nm,1.1s
TRQ IAMs_20 IAMs_20 19 37 17.6
comp=Z,3μm,20.0s
M53A WI Miller and 52.42 69 IAmb IAmb 19 15 15.9
comp=Z,84nm,0.9s
M53A WI Miller and 52.42 69 P **P** **19 15 13.1 -0.5**
baz=314,SNR=12
M53A S **S** **19 22 34.9 -2.6**
baz=314
P51A Williamsport 52.45 73 IAmb IAmb 19 15 16.0
comp=Z,63nm,1.2s
IRK Irkutsk 52.46 309 *eP* **P** **19 15 12.3 -1.5**
IRK pmax pmax
comp=Z,187nm,2.4s
ISOG Isortoq, Green 52.47 26 *i* P **P** **19 15 12.8 -0.8**
ISOG *i* P **P** **19 15 12.8 -0.8**
ALLY Alegheny Colle 52.56 69 IAMs_20 IAMs_20 19 39 12.4
comp=Z,2μm,18.0s
R50A Paris 52.57 75 IAmb IAmb 19 15 17.2
comp=Z,58nm,1.0s
O52A Adamsville 52.69 71 IAmb IAmb 19 15 17.7
comp=Z,73nm,1.1s
DL2 Dalian 52.69 287 P **P** **19 15 15.3 -0.4**
DL2 PP **PP** **19 17 15.0 +0.3**
DL2 pmax pmax
comp=Z,140nm,1.1s
DL2 pmax pmax
comp=Z,440nm,5.6s
DL2 LR LR
comp=Z,2μm,20.6s
DL2 LR LR
comp=Z,2μm,21.8s
DL2 LR LR
comp=Z,3μm,19.2s
Y45A Yeager Farm, C 52.71 82 IAMs_20 IAMs_20 19 36 38.2
comp=Z,2μm,20.0s
J55A Hilton 52.71 66 IAmb IAmb 19 15 17.8
comp=Z,50nm,0.9s
J55A IAMs_20 IAMs_20 19 37 38.2
comp=Z,3μm,19.0s
ANGG Ammassalik, Gr 52.76 26 IAmb IAmb 19 15 17.1
comp=Z,106nm,1.1s
ANGG IAMs_20 IAMs_20 19 40 58.6
comp=Z,3μm,20.0s
ANGG Ammassalik, Gr 52.76 26 *i* P **P** **19 15 12.8 -2.9**
ANGG *eP* **P** **19 15 12.8 -2.9**
PLAL Pickwick Lake 52.76 80 IAmb IAmb 19 15 28.6
comp=Z,60nm,0.9s
PLAL IAMs_20 IAMs_20 19 36 12.4
comp=Z,2μm,21.0s
N53A Lisbon 52.76 70 IAmb IAmb 19 15 18.2
comp=Z,64nm,0.9s
441A DeRidder 52.84 88 IAMs_20 IAMs_20 19 38 18.9
comp=Z,3μm,18.0s
P52A Corning 52.86 72 IAMs_20 IAMs_20 19 37 50.3
comp=Z,3μm,19.0s
P52A Corning 52.86 72 P **P** **19 15 15.6 -1.3**
baz=314
P52A S **S** **19 22 42.8 -0.7**
baz=314
WBO Williamsburg 52.86 63 IAmb IAmb 19 15 19.1
comp=Z,70nm,1.1s
WVNY West Valley, N 52.88 67 IAmb IAmb 19 15 19.1
comp=Z,65nm,0.9s
LDAQ Lac Daran 52.88 57 IAmb IAmb 19 15 19.4
comp=Z,55nm,1.3s
LDAQ IAMs_20 IAMs_20 19 38 06.0
comp=Z,3μm,20.0s
O53A New Philadelph 52.94 71 IAMs_20 IAMs_20 19 37 54.5
comp=Z,2μm,18.0s
O53A New Philadelph 52.94 71 P **P** **19 15 17.2 -0.4**
baz=314,SNR=9.1
O53A S **S** **19 22 42.5 -2.1**
baz=314
CLTN Cedars of Leba 52.97 78 IAmb IAmb 19 15 20.7
comp=Z,114nm,1.2s
U49A Red Boiling Sp 52.99 77 IAmb IAmb 19 16 42.6
comp=Z,46nm,1.0s
IVI Ivigtut 53.08 34 IAMs_20 IAMs_20 19 39 03.2
comp=Z,3μm,21.0s
IVI Ivigtut 53.08 34 *i* P **P** **19 15 18.8 +0.6**
IVI IAmb IAmb 19 15 21.3
comp=Z,87nm,1.0s
IVI Ivigtut 53.08 34 P **P** **19 15 18.8 +0.6**
T50A Nancy 53.17 76 IAmb IAmb 19 15 33.4
comp=Z,61nm,1.2s
J56A Wolcott 53.21 65 IAmb IAmb 19 15 35.6
comp=Z,51nm,1.0s
J56A IAMs_20 IAMs_20 19 38 22.1
comp=Z,2μm,18.0s
JMIC Jan Mayen 53.36 11 *eP* **P** **19 15 21.6 +1.4**
JMIC IAmb IAmb 19 15 23.0
comp=Z,89nm,1.1s
JMIC *e*S **S** **19 22 45.9 -3.5**
JMIC IAMs_20 IAMs_20 19 37 45.7
comp=Z,2μm,21.9s
JMIC Jan Mayen 53.36 11 LR LR 19 38 15.7
comp=Z,2μm,20.8s,baz=339,slow=36
MNTQ Montreal, Queb 53.37 61 IAmb IAmb 19 15 22.1
comp=Z,49nm,1.0s
MNTQ IAMs_20 IAMs_20 19 37 55.1
comp=Z,3μm,20.0s
P53A Whipple 53.38 71 IAMs_20 IAMs_20 19 38 06.9
comp=Z,2μm,20.0s
JMI Jan Mayen 53.39 11 *eP* **P** **19 15 21.6 +1.2**
JMI IAMs_20 IAMs_20 19 37 46.8
comp=Z,2μm,22.4s
S51A Beattyville 53.44 75 IAmb IAmb 19 15 23.4
comp=Z,52nm,1.0s
M55A Ridgway 53.44 68 IAMs_20 IAMs_20 19 39 55.5
comp=Z,2μm,18.0s
O54A Avella 53.45 70 IAmb IAmb 19 15 22.7
comp=Z,74nm,0.9s
O54A IAMs_20 IAMs_20 19 38 27.9
comp=Z,2μm,18.0s
LONY Lake Ozonia 53.48 62 P **P** **19 15 20.4 -1.1**
baz=314,SNR=9.2
LONY S **S** **19 22 50.7 -1.2**
baz=314
LMQ La Malbaie 53.62 57 IAmb IAmb 19 15 24.3
comp=Z,41nm,1.1s
LMQ IAMs_20 IAMs_20 19 39 16.4
comp=Z,3μm,20.0s
L56A Greenwood 53.62 67 IAmb IAmb 19 15 24.6
comp=Z,88nm,1.0s
X48A Hartselle 53.73 80 IAMs_20 IAMs_20 19 36 53.1
comp=Z,2μm,20.0s
K57A Scipio Center 53.77 65 IAmb IAmb 19 15 26.1
comp=Z,43nm,1.0s
K57A IAMs_20 IAMs_20 19 38 48.3
comp=Z,2μm,18.0s
146A Union 53.88 83 IAMs_20 IAMs_20 19 42 30.2
comp=Z,2μm,18.0s
NRS Narsarsuaq 53.99 33 IAmb IAmb 19 15 27.8
comp=Z,85nm,0.9s
NRS Narsarsuaq 53.99 33 *i* P **P** **19 15 23.8 -1.1**
NRS IAmb IAmb 19 15 28.3
comp=Z,65nm,0.9s
Q54A Coxs Mills 54.03 72 IAmb IAmb 19 15 27.1
comp=Z,40nm,1.1s
Q54A IAMs_20 IAMs_20 19 38 28.4
comp=Z,2μm,20.0s
Z47A Carrollton 54.04 82 IAmb IAmb 19 15 37.8
comp=Z,62nm,0.9s
Z47A IAMs_20 IAMs_20 19 37 09.5
comp=Z,2μm,20.0s
MCWV Mont Chateau 54.11 70 IAmb IAmb 19 15 28.2
comp=Z,68nm,1.0s
MCWV IAMs_20 IAMs_20 19 38 39.3
comp=Z,3μm,19.0s
MCWV Mont Chateau 54.11 70 P **P** **19 15 25.4 -0.7**
baz=315,SNR=8.1
NCB Newcomb 54.12 63 IAmb IAmb 19 15 43.0
comp=Z,71nm,1.2s
ULN Ulaanbaatar 54.16 304 P **P** **19 15 25.7 -0.8**
ULN IAmb IAmb 19 15 28.6
comp=Z,69nm,0.9s
ULN Ulaanbaatar 54.16 304 *c iP* **P** **19 15 25.8 -0.8**
ULN pmax pmax
comp=Z,84nm,0.9s
ULN MLR MLR
comp=Z,7μm,17.0s
ULN Ulaanbaatar 54.16 304 P **P** **19 15 26.0 -0.5**
ULN pP **pP** **19 15 35.8 0.0**
ULN PcP **PcP** **19 16 32.1 +1.3**
W50A Signal Mountai 54.19 78 IAmb IAmb 19 15 40.0
comp=Z,67nm,1.1s
ZAK Zakamensk 54.19 308 *eP* **P** **19 15 26.1 -0.6**
ZAK pmax pmax
comp=Z,47nm,1.2s
TZTN Tazewell 54.23 76 IAmb IAmb 19 15 46.0
comp=Z,98nm,1.1s
TZTN Tazewell 54.23 76 P **P** **19 15 26.3 -0.8**
baz=316,SNR=12
TZTN S **S** **19 23 01.3 -0.9**
baz=316
MOY Mondy 54.33 311 *eP* **P** **19 15 25.6 -2.0**
MOY pmax pmax
comp=Z,106nm,1.3s
M57A Sunshine Farm, 54.41 67 IAmb IAmb 19 15 45.8
comp=Z,69nm,1.2s
BINY Binghamton 54.42 65 IAmb IAmb 19 15 31.1
comp=Z,74nm,1.1s
BINY IAMs_20 IAMs_20 19 39 00.5
comp=Z,2μm,19.0s
BINY Binghamton 54.42 65 P **P** **19 15 28.3 0.0**
baz=314,SNR=11
BINY S **S** **19 23 04.1 -0.6**
baz=314
CPCT Cooper Cave 54.46 77 IAmb IAmb 19 15 43.1
comp=Z,65nm,1.3s
FPAL Fort Paine 54.49 79 IAmb IAmb 19 15 41.9
comp=Z,50nm,0.9s
FPAL IAMs_20 IAMs_20 19 37 38.2
comp=Z,3μm,20.0s
SSPA Standing Stone 54.49 68 P **P** **19 15 27.4 -1.5**
SSPA Standing Stone 54.49 68 IAMs_20 IAMs_20 19 40 29.5
comp=Z,3μm,18.0s
SSPA Standing Stone 54.49 68 P **P** **19 15 28.5 -0.3**
baz=315
SSPA S **S** **19 23 03.7 -1.9**
baz=315
SSPA Standing Stone 54.49 68 P **P** **19 15 28.6 -0.3**
SSPA pP **pP** **19 15 38.0 0.0**
SSPA PcP **PcP** **19 16 33.2 +1.3**
SONM Songino Array 54.50 304 P **P** **19 15 28.1 -0.9**
SONM Songino Array 54.50 304 P **P** **19 15 28.8 -0.2**
comp=Z,60nm,0.8s,baz=50,slow=6.0,SNR=139
SONM PcP **PcP** **19 16 31.7 -0.4**
comp=Z,32nm,0.8s,baz=53,slow=1.9,SNR=7.4
SONM ScP **ScP** **19 20 29.3 +1.4**
comp=Z,1.5nm,0.8s,baz=41,slow=4.6,SNR=2.7
SONM S **S** **19 23 06.2 +0.4**
comp=Z,0.3nm,0.4s,baz=236,slow=38,SNR=1.3
SONM LR LR 19 41 19.4
comp=Z,6μm,18.6s,baz=40,slow=39
comp=Z,60nm,0.8s
Y49A Blount Mountai 54.52 80 IAmb IAmb 19 15 40.8
comp=Z,40nm,1.0s
Y49A IAMs_20 IAMs_20 19 37 16.1
comp=Z,2μm,21.0s
346A Big Creek Wild 54.55 84 IAMs_20 IAMs_20 19 42 58.0
comp=Z,2μm,19.0s
D62A Allapoint, All 54.57 57 IAmb IAmb 19 15 31.6
comp=Z,76nm,1.1s
D62A IAMs_20 IAMs_20 19 41 18.6
comp=Z,3μm,20.0s
KRAR Krasnoyarsk 54.60 319 ||*iP* **P** **19 15 28.7 -0.7**
S54A Dingess, Beckl 54.60 73 IAmb IAmb 19 15 32.0
comp=Z,34nm,0.9s
VT1 Waterbury 54.62 62 IAmb IAmb 19 15 32.0
comp=Z,50nm,1.0s
E62A Clayton Lake 54.66 58 IAmb IAmb 19 15 31.9
comp=Z,39nm,1.1s
E62A IAMs_20 IAMs_20 19 39 10.0
comp=Z,3μm,21.0s
V52A Sevierville 54.71 76 IAmb IAmb 19 15 45.3
comp=Z,108nm,1.2s
TKL Tuckaleechee C 54.74 76 IAmb IAmb 19 15 45.2
comp=Z,110nm,1.3s
TKL Tuckaleechee C 54.74 76 LR LR 19 38 30.7
comp=Z,3μm,19.2s,baz=328,slow=36
LRAL Lakeview Retre 54.78 81 IAMs_20 IAMs_20 19 37 10.8
comp=Z,2μm,22.0s
LRAL Lakeview Retre 54.78 81 P **P** **19 15 30.3 -0.7**
baz=317,SNR=5.5
LRAL S **S** **19 23 06.2 -3.3**
baz=317
Q56A Snyder Ridge, 54.90 70 IAmb IAmb 19 16 36.1
comp=Z,43nm,1.0s
Q56A IAMs_20 IAMs_20 19 39 13.4
comp=Z,3μm,18.0s
X51A Calhoun 54.90 78 IAmb IAmb 19 15 45.7
comp=Z,86nm,1.2s
BJI Beijing 54.91 291 P **P** **19 15 31.4 -0.5**
BJI S **S** **19 23 12.3 +1.1**
BJI sS **pS** **19 23 23.9 +1.7**
BJI pmax pmax
comp=Z,19nm,1.4s
BJI pmax pmax
comp=Z,310nm,4.9s
BJI LR LR
comp=Z,730nm,15.9s
BJI LR LR
comp=Z,990nm,17.2s
BJI LR LR
comp=Z,2μm,17.5s
R55A Marlinton 54.92 72 IAmb IAmb 19 15 54.2
comp=Z,40nm,0.9s
R55A IAMs_20 IAMs_20 19 39 04.0
comp=Z,2μm,18.0s
L59A Walton 54.93 65 IAmb IAmb 19 15 34.4
comp=Z,61nm,1.0s
L59A IAMs_20 IAMs_20 19 41 58.5
comp=Z,2μm,19.0s
BJT Baijiatuau 54.93 291 P **P** **19 15 33.0 +1.0**
BJT Baijiatuau 54.93 291 IAmb IAmb 19 15 34.2
comp=Z,51nm,1.2s
BJT Baijiatuau 54.93 291 IAMs_20 IAMs_20 19 42 05.5
comp=Z,3μm,19.0s
545A Edgard 54.94 86 IAMs_20 IAMs_20 19 41 27.4
comp=Z,3μm,19.0s
F62A Pittston Farm, 54.94 59 IAmb IAmb 19 15 34.2
comp=Z,48nm,1.1s
F62A IAMs_20 IAMs_20 19 41 39.6
comp=Z,3μm,18.0s
N58A Sunbury 54.98 67 IAmb IAmb 19 15 49.8
comp=Z,59nm,1.1s
N58A IAMs_20 IAMs_20 19 38 49.4
comp=Z,3μm,20.0s
KSPA Keystone Colle 54.99 66 IAmb IAmb 19 15 34.4
comp=Z,39nm,1.0s
W52A Murphy 55.06 77 IAmb IAmb 19 15 35.1
comp=Z,51nm,1.2s
LBNH Lisbon 55.11 61 IAmb IAmb 19 15 35.7
comp=Z,36nm,1.1s
LBNH Lisbon 55.11 61 P **P** **19 15 33.2 -0.1**
baz=315,SNR=6.8
LBNH S **S** **19 23 13.3 -0.5**
baz=315
G62A West of Eustis 55.13 59 IAmb IAmb 19 15 35.8
comp=Z,59nm,1.1s
G62A IAMs_20 IAMs_20 19 41 46.7
comp=Z,2μm,19.0s
HAMF Hammerfest 55.21 358 *eP* **P** **19 15 32.1 -1.5**
HAMF IAmb IAmb 19 15 34.5
comp=Z,94nm,1.1s
HAMF *e*S **S** **19 23 12.9 -1.4**
HAMF IAMs_20 IAMs_20 19 42 31.8
comp=Z,2μm,20.0s
P57A Homestead Farm 55.24 69 IAmb IAmb 19 15 36.5
comp=Z,87nm,1.0s
P57A IAMs_20 IAMs_20 19 39 02.1
comp=Z,2μm,21.0s
H62A Milan 55.27 60 IAmb IAmb 19 15 37.3
comp=Z,69nm,1.1s
H62A IAMs_20 IAMs_20 19 39 05.4
comp=Z,3μm,20.0s
V53A Saluda 55.28 76 IAmb IAmb 19 15 37.2

	comp=Z,87nm,1.2s							
HNH	**Hanover**	**55.30**	**62**	IAmb	IAmb	19 15 47.9		
	comp=Z,36nm,1.0s							
J61A	**Chester**	**55.42**	**62**	IAmb	IAmb	19 15 48.8		
	comp=Z,51nm,1.0s							
F63A	**Nahmakanta, Br**	**55.51**	**58**	IAmb	IAmb	19 15 37.5		
	comp=Z,47nm,1.0s							
F63A				IAms_20	IAms_20	19 41 48.5		
	comp=Z,2μm,18.0s							
BLA	**Blacksburg**	**55.52**	**73**	P	**P**	**19 15 36.0**	**-0.4**	
	baz=316							
VADS	**Vadso**	**55.56**	**356**	*e*P	**P**	**19 15 34.1**	**-1.9**	
VADS				IAmb	IAmb	19 15 37.3		
	comp=Z,105nm,1.1s							
VADS				*e*S	**S**	**19 23 17.4**	**-1.6**	
VADS				IAms_20	IAms_20	19 38 47.8		
	comp=Z,3μm,22.3s							
BG3	**Lake Jocassee**	**55.70**	**76**	IAmb	IAmb	19 15 51.5		
	comp=Z,84nm,1.3s							
PKME	**Peaks-Kenny Pk**	**55.73**	**59**	IAmb	IAmb	19 15 39.8		
	comp=Z,58nm,1.1s							
PKME				IAms_20	IAms_20	19 39 22.2		
	comp=Z,2μm,20.0s							
PKME	**Peaks-Kenny Pk**	**55.73**	**59**	P	**P**	**19 15 37.0**	**-0.7**	
	baz=315,SNR=6.5							
F64A	**Sherman**	**55.77**	**58**	IAmb	IAmb	19 15 39.9		
	comp=Z,63nm,1.0s							
F64A				IAms_20	IAms_20	19 39 54.8		
	comp=Z,3μm,20.0s							
MVL	**Millersville**	**55.77**	**68**	IAmb	IAmb	19 15 40.4		
	comp=Z,36nm,1.0s							
MVL				IAms_20	IAms_20	19 41 16.4		
	comp=Z,2μm,18.0s							
Y52A	**Lilburn**	**55.87**	**78**	IAmb	IAmb	19 15 53.2		
	comp=Z,50nm,1.2s							
LUPA	**Lehigh Univers**	**55.88**	**66**	IAmb	IAmb	19 15 41.4		
	comp=Z,87nm,1.0s							
BATG	**Bathurst New B**	**55.88**	**55**	IAmb	IAmb	19 15 41.1		
	comp=Z,92nm,1.0s							
BATG				IAms_20	IAms_20	19 40 12.2		
	comp=Z,3μm,20.0s							
I63A	**Otisfield**	**55.93**	**61**	IAmb	IAmb	19 15 42.4		
	comp=Z,66nm,1.3s							
I63A				IAms_20	IAms_20	19 39 25.2		
	comp=Z,2μm,20.0s							
ODNJ	**Ogdensburg**	**55.94**	**66**	IAms_20	IAms_20	19 39 56.8		
	comp=Z,2μm,18.0s							
S57A	**Dark Hollow, R**	**55.94**	**71**	IAmb	IAmb	19 15 42.0		
	comp=Z,57nm,1.3s							
S57A				IAms_20	IAms_20	19 43 20.6		
	comp=Z,2μm,18.0s							
250A	**Grady**	**55.97**	**81**	IAms_20	IAms_20	19 37 59.6		
	comp=Z,2μm,22.0s							
L61B	**Northampton**	**55.99**	**63**	IAms_20	IAms_20	19 40 08.9		
	comp=Z,3μm,20.0s							
L61B	**Northampton**	**55.99**	**63**	P	**P**	**19 15 38.3**	**-1.3**	
	baz=315							
KEV	**Kevo**	**56.01**	**357**	P	**P**	**19 15 37.8**	**-1.5**	
KEV	**Kevo**	**56.01**	**357**	P	**P**	**19 15 37.8**	**-1.5**	
KEV				pmax	pmax			
	comp=Z,161nm,1.3s							
KEV				MLR	MLR			
	comp=Z,1μm,22.0s							
KEV	**Kevo**	**56.01**	**357**	P	**P**	**19 15 38.0**	**-1.4**	
KEV				pP	**pP**	**19 15 47.2**	**-1.4**	
KEV				PcP	**PcP**	**19 16 37.3**	**0.0**	
WVL	**Waterville**	**56.04**	**60**	IAmb	IAmb	19 15 52.4		
	comp=Z,43nm,1.1s							
WVL				IAms_20	IAms_20	19 42 24.5		
	comp=Z,3μm,19.0s							
V55A	**Taylorsville**	**56.05**	**74**	IAmb	IAmb	19 15 54.3		
	comp=Z,70nm,1.1s							
K62A	**Royalston**	**56.07**	**63**	IAmb	IAmb	19 15 53.6		
	comp=Z,47nm,0.8s							
TRNY	**Table Rock, Ra**	**56.10**	**65**	IAms_20	IAms_20	19 39 04.0		
	comp=Z,2μm,20.0s							
BRAL	**Brewton**	**56.11**	**83**	IAms_20	IAms_20	19 38 56.3		
	comp=Z,2μm,20.0s							
BRAL	**Brewton**	**56.11**	**83**	P	**P**	**19 15 40.6**	**0.0**	
	baz=318							
U56A	**King**	**56.16**	**73**	IAmb	IAmb	19 15 55.2		
	comp=Z,54nm,1.1s							
WUPA	**West Chester U**	**56.22**	**67**	IAms_20	IAms_20	19 39 38.2		
	comp=Z,2μm,20.0s							
BRNJ	**Basking Ridge**	**56.25**	**66**	IAmb	IAmb	19 15 43.5		
	comp=Z,82nm,0.9s							
TRO	**Tromso**	**56.27**	**0**	*e*P	**P**	**19 15 40.0**	**-1.1**	
TRO				IAmb	IAmb	19 15 42.3		
	comp=Z,80nm,0.8s							
TRO				*e*S	**S**	**19 23 28.9**	**+0.4**	
TRO				*e*		19 30 37.5		
TRO				IAms_20	IAms_20	19 36 58.7		
	comp=Z,2μm,24.0s							
ARCES	**ARCESS Array B**	**56.28**	**357**	P	**P**	**19 15 39.7**	**-1.5**	
ARCES				IAmb	IAmb	19 15 42.6		
	comp=Z,53nm,1.1s							
ARCES	**ARCESS Array B**	**56.28**	**357**	P	**P**	**19 15 40.0**	**-1.3**	
	comp=Z,33nm,0.8s,baz=8.9,slow=8.6,SNR=16							
ARCES				PcP	**PcP**	**19 16 38.7**	**+0.3**	
	comp=Z,21nm,0.8s,baz=32,slow=7.1,SNR=4.2							
ARCES				LR	LR	19 41 01.5		
	comp=Z,1μm,18.9s,baz=358,slow=37							
	comp=Z,33nm,0.8s							
152A	**Waverly Hall**	**56.36**	**80**	IAms_20	IAms_20	19 38 13.8		
	comp=Z,3μm,22.0s							
PAL	**Palisades**	**56.37**	**65**	IAms_20	IAms_20	19 39 12.7		
	comp=Z,2μm,21.0s							
PAL	**Palisades**	**56.37**	**65**	P	**P**	**19 15 42.0**	**-0.3**	
	baz=316							
PAL				S	**S**	**19 23 29.8**	**-0.8**	
	baz=316							
R58B	**Mineral**	**56.39**	**70**	IAmb	IAmb	19 15 45.2		
	comp=Z,58nm,1.1s							
R58B				IAms_20	IAms_20	19 40 07.5		
	comp=Z,3μm,18.0s							
PAULI	**Pauline**	**56.45**	**76**	IAmb	IAmb	19 15 44.9		
	comp=Z,38nm,1.1s							
CPNY	**Central Park**	**56.49**	**65**	IAms_20	IAms_20	19 41 35.0		
	comp=Z,2μm,18.0s							
KMSC	**Kings Mountain**	**56.49**	**75**	IAmb	IAmb	19 15 57.0		
	comp=Z,88nm,1.1s							
KMSC	**Kings Mountain**	**56.49**	**75**	P	**P**	**19 15 43.5**	**+0.2**	
	baz=317,SNR=14							
KMSC				S	**S**	**19 23 29.8**	**-2.7**	
	baz=317							
CBN	**Corbin Frederi**	**56.50**	**70**	IAms_20	IAms_20	19 41 37.5		
	comp=Z,2μm,18.0s							
CBN	**Corbin Frederi**	**56.50**	**70**	P	**P**	**19 15 42.8**	**-0.5**	
	baz=316							
HRV	**Adam Dziewonsk**	**56.53**	**62**	P	**P**	**19 15 43.1**	**-0.4**	
HRV				IAmb	IAmb	19 15 46.1		
	comp=Z,50nm,1.2s							
HRV	**Adam Dziewonsk**	**56.53**	**62**	P	**P**	**19 15 43.3**	**-0.2**	
	baz=316							
HRV				S	**S**	**19 23 31.9**	**-0.8**	
	baz=316							
HRV	**Adam Dziewonsk**	**56.53**	**62**	P	**P**	**19 15 43.1**	**-0.4**	
HRV				pmax	pmax			
	comp=Z,50nm,1.2s							
HRV				MLR	MLR			
	comp=Z,4μm,18.0s							
GOGA	**Godfrey**	**56.53**	**78**	P	**P**	**19 15 43.1**	**-0.5**	
	baz=317,SNR=7.3							
GOGA				S	**S**	**19 23 29.2**	**-3.8**	
	baz=317							
HODGE	**Hodges**	**56.63**	**77**	IAmb	IAmb	19 15 46.0		
	comp=Z,39nm,1.0s							
G65A	**Princeton**	**56.63**	**58**	IAmb	IAmb	19 15 46.1		
	comp=Z,55nm,1.1s							
N62A	**Caumsett State**	**56.65**	**65**	IAms_20	IAms_20	19 39 31.3		
	comp=Z,2μm,21.0s							
UCCT	**U. Connecticut**	**56.69**	**63**	IAmb	IAmb	19 15 58.7		
	comp=Z,85nm,1.3s							
UCCT				IAms_20	IAms_20	19 40 30.2		
	comp=Z,2μm,19.0s							
WES	**Weston**	**56.74**	**62**	IAmb	IAmb	19 15 58.6		
	comp=Z,73nm,1.0s							
HHC	**Hu-ho-hao-te**	**56.81**	**295⇑**	*i*P	**P**	**19 15 45.6**	**-0.1**	
HHC				sP	sP	19 15 59.5	+1.0	
HHC				PP	**PP**	**19 17 52.8**	**+1.1**	
HHC				S	**S**	**19 23 38.6**	**+1.8**	
HHC				pmax	pmax			
	comp=Z,78nm,0.9s							
HHC				pmax	pmax			
	comp=Z,230nm,3.8s							
HHC				LR	LR			
	comp=Z,2μm,16.7s							
HHC				LR	LR			
	comp=Z,2μm,15.1s							
HHC				LR	LR			
	comp=Z,4μm,15.7s							
KTK1	**Kautokeino**	**56.85**	**358**	*e*P	**P**	**19 15 44.2**	**-1.2**	
KTK1				IAmb	IAmb	19 15 46.0		
	comp=Z,50nm,0.9s							
KTK1				IAMs_20	IAMs_20	19 41 27.2		
	comp=Z,1μm,21.3s							
EMMW	**East Machias**	**57.03**	**58**	IAmb	IAmb	19 15 48.9		
	comp=Z,72nm,1.1s							
GGN	**Saint George**	**57.04**	**57**	IAmb	IAmb	19 15 59.0		
	comp=Z,37nm,1.0s							
GGN				IAMs_20	IAMs_20	19 42 46.5		
	comp=Z,3μm,21.0s							
M63A	**Gales Ferry**	**57.06**	**64**	IAmb	IAmb	19 15 49.8		
	comp=Z,82nm,1.1s							
M63A				IAMs_20	IAMs_20	19 41 31.1		
	comp=Z,2μm,18.0s							
TARA	**Tarawa**	**57.09**	**212**	IAMs_20	IAMs_20	19 34 17.7		
	comp=Z,3μm,22.0s							
352A	**Blakely**	**57.11**	**81**	IAmb	IAmb	19 16 00.1		
	comp=Z,75nm,0.9s							
352A				IAMs_20	IAMs_20	19 38 23.7		
	comp=Z,2μm,22.0s							
TIA	**Tai'an**	**57.12**	**288**	P	**P**	**19 15 47.3**	**-0.5**	
TIA				pmax	pmax			
	comp=Z,65nm,1.2s							
TIA				pmax	pmax			
	comp=Z,450nm,4.4s							
TIA				LR	LR			
	comp=Z,880nm,21.4s							
TIA				LR	LR			
	comp=Z,3μm,21.1s							
TIA				LR	LR			
	comp=Z,3μm,22.3s							
JSC	**Jenkinsville**	**57.16**	**76**	IAmb	IAmb	19 16 01.6		
	comp=Z,81nm,1.3s							
BORG	**Borgarnes**	**57.17**	**19**	P	**P**	**19 15 47.5**	**-0.2**	
BORG				IAmb	IAmb	19 15 57.3		
	comp=Z,64nm,1.1s							
BORG	**Borgarnes**	**57.17**	**19**	IAMs_20	IAMs_20	19 41 16.8		
	comp=Z,2μm,21.0s							
BORG	**Borgarnes**	**57.17**	**19**	LR	LR	19 43 20.6		
	comp=Z,2μm,18.8s,baz=334,slow=39							
BORG	**Borgarnes**	**57.17**	**19**	P	**P**	**19 15 47.5**	**-0.2**	
BORG				pmax	pmax			
	comp=Z,64nm,1.1s							
BORG				MLR	MLR			
	comp=Z,2μm,21.0s							
W57A	**Gilead**	**57.24**	**74**	IAmb	IAmb	19 16 02.9		
	comp=Z,94nm,1.4s							
V58A	**Windy Hill, Pi**	**57.27**	**73**	IAmb	IAmb	19 15 51.1		
	comp=Z,68nm,1.0s							
451A	**Vernon**	**57.27**	**82**	IAMs_20	IAMs_20	19 39 33.1		
	comp=Z,2μm,20.0s							
T59A	**Double "B" Far**	**57.28**	**71**	IAmb	IAmb	19 15 51.4		
	comp=Z,90nm,1.1s							
154A	**Montrose**	**57.32**	**78**	IAmb	IAmb	19 16 01.3		
	comp=Z,47nm,0.8s							
BIRD	**Birdtown, Kers**	**57.34**	**75**	IAmb	IAmb	19 16 03.1		
	comp=Z,51nm,1.3s							
LVZ	**Lovozero**	**57.46**	**353**	P	**P**	**19 15 48.3**	**-1.5**	
LVZ				IAMs_20	IAMs_20	19 42 01.3		
	comp=Z,3μm,19.0s							
LVZ	**Lovozero**	**57.46**	**353***c*	*i*P	**P**	**19 15 48.4**	**-1.3**	
LVZ				pmax	pmax			
	comp=Z,226nm,1.3s							
LVZ				MLR	MLR			
	comp=Z,3μm,18.0s							
LVZ	**Lovozero**	**57.46**	**353**	P	**P**	**19 15 48.5**	**-1.3**	
	comp=Z,175nm,1.0s,comp=Z,2μm							
LVZ	**Lovozero**	**57.46**	**353**	P	**P**	**19 15 48.4**	**-1.3**	
LVZ				pP	**pP**	**19 15 57.9**	**-1.1**	
HNS	**HongShan**	**57.60**	**290**	⇑P	**P**	**19 15 51.3**	**+0.2**	
HNS				*e*S	**S**	**19 23 45.4**	**-1.5**	
HNS				pmax	pmax			
	comp=Z,180nm,1.0s							
HNS				pmax	pmax			
	comp=Z,850nm,3.7s							
HNS				LR	LR			
	comp=Z,2μm,19.9s							
HNS				LR	LR			
	comp=Z,3μm,19.9s							
HNS				LR	LR			
	comp=Z,3μm,22.2s							
JOW	**Kunigami**	**57.63**	**272**	P	**P**	**19 15 54.0**	**+2.6**	
JOW	**Kunigami**	**57.63**	**272**	LR	LR	19 39 17.1		
	comp=Z,503nm,21.9s,baz=35,slow=35							
M65A	**Busby, Falmout**	**57.68**	**63**	P	**P**	**19 15 50.0**	**-1.6**	
	baz=316							
LOF	**Lofoten**	**57.70**	**2**	*e*P	**P**	**19 15 50.5**	**-0.8**	
LOF				IAmb	IAmb	19 15 54.6		
	comp=Z,57nm,0.9s							
LOF				*e*S	**S**	**19 23 50.7**	**+3.2**	
LOF				*e*		19 30 23.8		
LOF				IAMs_20	IAMs_20	19 40 07.6		
	comp=Z,1μm,18.2s							
BTO	**Baotou**	**57.80**	**296**	*e*P	**P**	**19 15 52.3**	**-0.3**	
BTO				pP	**pP**	**19 15 59.9**	**-2.0**	
BTO				sP	**sP**	**19 16 03.1**	**-2.4**	
BTO				S	**S**	**19 23 50.8**	**+1.0**	
BTO				sS	**pS**	**19 24 00.1**	**-0.8**	
BTO				pmax	pmax			
	comp=Z,140nm,1.4s							
BTO				pmax	pmax			
	comp=Z,1μm,7.6s							
BTO				LR	LR			
	comp=Z,5μm,17.7s							
BTO				LR	LR			
	comp=Z,5μm,17.1s							
BTO				LR	LR			
	comp=Z,9μm,16.1s							
S61A	**Accomac**	**57.80**	**69**	IAMs_20	IAMs_20	19 40 38.9		
	comp=Z,2μm,19.0s							
Y57A	**Sumter**	**57.84**	**75**	IAmb	IAmb	19 15 54.8		
	comp=Z,74nm,1.0s							
APA	**Apatity**	**57.87**	**354⇓**	*i*P	**P**	**19 15 49.9**	**-2.7**	
APA				*i*		19 16 42.0		
APA				*i*		19 17 59.0		
APA				*i* PPP	PPP	19 19 24.0		
APA				*i* S	**S**	**19 23 45.0**	**-4.7**	
APA				*i* PS	**PnS**	**19 24 02.0**	**-1.1**	
APA				*i*		19 25 40.0		
APA				pmax	pmax			
	comp=Z,23nm,0.8s							
APA				MLR	MLR			
	comp=Z,2μm,20.0s							
TIGA	**Tifton**	**57.91**	**80**	IAMs_20	IAMs_20	19 39 23.9		
	comp=Z,2μm,22.0s							
TIGA	**Tifton**	**57.91**	**80**	P	**P**	**19 15 52.5**	**-0.8**	
	baz=318							
STEI	**Steigen**	**57.94**	**2**	*e*P	**P**	**19 15 52.2**	**-0.9**	
UNM	**Universidad Na**	**58.07**	**102**	IAMs_20	IAMs_20	19 38 31.9		
	comp=Z,2μm,19.0s							
553A	**Crawfordville**	**58.35**	**81**	IAMs_20	IAMs_20	19 40 05.6		
	comp=Z,2μm,20.0s							
CNNC	**Cliffs of the**	**58.35**	**73**	P	**P**	**19 15 55.2**	**-1.2**	
	baz=317							
DRLN	**Deer Lake**	**58.37**	**48**	IAmb	IAmb	19 16 14.9		
	comp=Z,75nm,1.0s							
FAUS	**Fauske**	**58.49**	**2**	*e*P	**P**	**19 15 56.0**	**-0.9**	
FAUS				IAmb	IAmb	19 15 57.9		
	comp=Z,75nm,0.9s							
FAUS				*e*S	**S**	**19 23 55.2**	**-2.5**	
FAUS				IAMs_20	IAMs_20	19 36 55.5		
	comp=Z,2μm,26.9s							
SSE	**Sheshan**	**58.56**	**280**	P	**P**	**19 15 58.3**	**+0.4**	
SSE				S	**S**	**19 24 00.4**	**+0.8**	
SSE				pmax	pmax			
	comp=Z,43nm,0.9s							
SSE				pmax	pmax			
	comp=Z,530nm,3.3s							
SSE				LR	LR			
	comp=Z,450nm,21.3s							
SSE				LR	LR			
	comp=Z,200nm,20.6s							
GUMO	**Guam**	**58.58**	**248**	P	**P**	**19 15 57.3**	**-0.9**	
GUMO	**Guam**	**58.58**	**248**	P	**P**	**19 15 55.2**	**-2.9**	
GUMO	**Guam**	**58.58**	**248**	LR	LR	19 37 41.2		
	comp=Z,358nm,21.9s,baz=38,slow=32							
GUMO	**Guam**	**58.58**	**248**	P	**P**	**19 15 55.3**	**-2.9**	
GUMO				pmax	pmax			
	comp=Z,181nm,1.0s							
GUMO	**Guam**	**58.58**	**248**	P	**P**	**19 15 55.9**	**-2.3**	
TIY	**Taiyuan**	**58.61**	**292**	P	**P**	**19 15 58.9**	**+0.6**	
TIY				sP	**sP**	**19 16 11.9**	**+0.8**	
TIY				S	**S**	**19 23 57.1**	**-3.2**	
TIY				pmax	pmax			
	comp=Z,94nm,1.1s							
TIY				pmax	pmax			
	comp=Z,600nm,8.6s							
TIY				LR	LR			
	comp=Z,2μm,16.5s							
TIY				LR	LR			
	comp=Z,1μm,19.9s							
TIY				LR	LR			
	comp=Z,2μm,21.3s							
NHSC	**New Hope**	**58.63**	**76**	P	**P**	**19 15 56.8**	**-1.5**	
	baz=318							
V61A	**Roper**	**58.68**	**71**	IAMs_20	IAMs_20	19 42 15.1		
	comp=Z,2μm,18.0s							
NJ2	**Nanjing**	**59.19**	**283**	⇑P	**P**	**19 16 01.5**	**-0.7**	
NJ2				pP	**pP**	**19 16 12.5**	**+1.0**	
NJ2				sP	**sP**	**19 16 17.3**	**+2.2**	
NJ2				S	**S**	**19 24 14.1**	**+6.4**	
NJ2				pmax	pmax			
	comp=Z,88nm,0.8s							
NJ2				pmax	pmax			
	comp=Z,680nm,3.5s							
NJ2				LR	LR			
	comp=Z,1μm,16.2s							
NJ2				LR	LR			
	comp=Z,1μm,18.1s							
NJ2				LR	LR			
	comp=Z,2μm,23.5s							
ZALV	**Zalesovo Beam**	**59.20**	**321**	P	**P**	**19 16 00.7**	**-1.3**	
ZALV	**Zalesovo Beam**	**59.20**	**321**	P	**P**	**19 16 01.2**	**-0.8**	
	comp=Z,35nm,0.7s,baz=35,slow=6.4,SNR=87							
ZALV				PcP	**PcP**	**19 16 51.5**	**+1.4**	
	comp=Z,21nm,0.8s,baz=18,slow=2.8,SNR=5.8							
ZALV				LR	LR	19 43 58.5		
	comp=Z,10μm,18.6s,baz=38,slow=38							
	comp=Z,35nm,0.7s							
ZALV	**Zalesovo Beam**	**59.20**	**321**	P	**P**	**19 16 00.7**	**-1.3**	
KONS	**Konsvik**	**59.33**	**3**	*e*P	**P**	**19 16 02.3**	**-0.4**	
STOK	**Stokkvaagen**	**59.49**	**3**	*e*P	**P**	**19 16 03.3**	**-0.5**	
STOK				IAmb	IAmb	19 16 05.6		
	comp=Z,92nm,1.0s							
STOK				IAms_20	IAms_20	19 40 42.3		
	comp=Z,1μm,19.2s							
TLIG	**Tlapa**	**59.82**	**102**	IAMs_20	IAMs_20	19 37 01.4		
	comp=Z,2μm,22.0s							
656A	**Willston**	**60.05**	**81**	IAMs_20	IAMs_20	19 44 32.7		
	comp=Z,2μm,19.0s							
LYN	**LuoYang**	**60.92**	**289**	P	**P**	**19 16 14.4**	**+0.3**	
LYN				pP	pP	19 16 22.8	-0.6	
LYN				PP	**PP**	**19 18 27.8**	**-0.3**	
LYN				S	**S**	**19 24 32.5**	**+2.6**	
LYN				sS	sS	19 24 45.8	+0.5	
LYN				pmax	pmax			
	comp=Z,230nm,0.8s							
LYN				pmax	pmax			
	comp=Z,1μm,3.5s							
LYN				LR	LR			
	comp=Z,4μm,21.4s							
LYN				LR	LR			
	comp=Z,3μm,19.4s							
LYN				LR	LR			
	comp=Z,6μm,21.6s							
ADZR	**Andozero**	**61.06**	**350**	*e*P	**P**	**19 16 13.6**	**-1.0**	
ADZR				pmax	pmax			
	comp=Z,194nm,0.9s							
NSS	**Namsos**	**61.26**	**4**	*e*P	**P**	**19 16 15.1**	**-0.8**	
NSS				IAmb	IAmb	19 16 17.6		
	comp=Z,102nm,0.9s							
DWPF	**Disney Wildern**	**61.64**	**81**	P	**P**	**19 16 17.6**	**-1.3**	
	baz=319							
CMIG	**Matias Romero**	**62.31**	**99**	LR	LR	19 40 44.5		
	comp=Z,2μm,21.8s,baz=324,slow=33							
TBLU	**Trondheim**	**62.47**	**5**	*e*P	**P**	**19 16 22.7**	**-1.4**	
TBLU				IAmb	IAmb	19 16 24.9		
	comp=Z,116nm,0.9s							
YOJ	**Yonaguni jima**	**62.50**	**274**	P	**P**	**19 16 25.2**	**+0.4**	
JOF	**Joensuu**	**62.62**	**354**	*e*P	**P**	**19 16 24.5**	**-0.6**	
VAF	**Ylistaro**	**62.85**	**358**	*e*P	**P**	**19 16 26.1**	**-0.5**	
WHN	**Wuhan**	**62.87**	**285**	⇑P	**P**	**19 16 26.8**	**-0.4**	
WHN				S	**S**	**19 24 54.8**	**+0.2**	
WHN				pmax	pmax			
	comp=Z,190nm,0.8s							
WHN				pmax	pmax			
	comp=Z,2μm,4.0s							
WHN				LR	LR			
	comp=Z,5μm,21.6s							
WHN				LR	LR			
	comp=Z,5μm,18.5s							
WHN				LR	LR			
	comp=Z,6μm,19.7s							
TATO	**Taipei**	**62.99**	**276**	IAMs_20	IAMs_20	19 41 19.9		
	comp=Z,2μm,22.0s							
MOL	**Molde**	**63.01**	**6**	*e*P	**P**	**19 16 27.4**	**-0.2**	
MOL				IAmb	IAmb	19 16 29.6		
	comp=Z,93nm,0.9s							
060A	**Indiantown**	**63.07**	**81**	IAMs_20	IAMs_20	19 47 01.4		
	comp=Z,2μm,18.0s							
XAN	**Xi'an**	**63.24**	**292**	⇑P	**P**	**19 16 29.4**	**-0.4**	
XAN				pP	sP	19 16 41.1	-1.6	
XAN				pmax	pmax			
	comp=Z,150nm,1.2s							
XAN				pmax	pmax			
	comp=Z,1μm,7.7s							
XAN				LR	LR			
	comp=Z,2μm,21.3s							
XAN				LR	LR			
	comp=Z,2μm,20.6s							
XAN				LR	LR			
	comp=Z,4μm,21.3s							
YHNB	**Yeheng**	**63.29**	**276**	P	**P**	**19 16 30.1**	**-0.1**	
YHNB	**Yeheng**	**63.29**	**276**	IAmb	IAmb	19 16 34.2		
	comp=Z,47nm,0.9s							
YHNB				IAMs_20	IAMs_20	19 42 04.9		
	comp=Z,2μm,22.0s							
NACB	**Ninganchiao**	**63.55**	**275**	P	**P**	**19 16 33.0**	**+1.2**	
DOMB	**Dombas**	**63.62**	**5**	*e*P	**P**	**19 16 31.3**	**-0.4**	
DOMB				IAmb	IAmb	19 16 33.4		
	comp=Z,144nm,0.9s							
061Z	**Ochoppi**	**63.64**	**82**	IAMs_20	IAMs_20	19 43 29.7		
	comp=Z,2μm,20.0s							
KEF	**Keuruu**	**63.68**	**357**	*e*P	**P**	**19 16 31.5**	**-0.6**	
TEIG	**Tepich**	**63.69**	**92**	LR	LR	19 46 28.5		
	comp=Z,621nm,18.7s,baz=333,slow=38							
SEM	**Semipalatinsk**	**63.72**	**321**	*e*P	**P**	**19 16 31.7**	**-1.2**	
	comp=Z,86nm,1.4s,baz=321							
SEM				LR	LR	19 45 37.1		
	comp=Z,6μm,17.8s,baz=321							
SEM	**Semipalatinsk**	**63.72**	**321**	*e*P	**P**	**19 16 31.7**	**-1.2**	
SEM				pmax	pmax			
	comp=Z,86nm,1.4s							
SEM				MLR	MLR			
	comp=Z,6μm,18.0s							
FOO	**Floro**	**63.80**	**7**	*e*P	**P**	**19 16 32.7**	**-0.2**	
FOO				IAmb	IAmb	19 16 34.7		
	comp=Z,91nm,0.9s							
FOO				*e*S	**S**	**19 25 04.2**	**-1.1**	
GTA	**Gaotai**	**63.92**	**302**	⇑P	**P**	**19 16 33.4**	**-0.9**	
GTA				pP	pP	19 16 40.0	-3.6	
GTA				S	**S**	**19 25 07.5**	**-0.3**	
GTA				sS	sS	19 25 22.8	-0.5	
GTA				pmax	pmax			
	comp=Z,140nm,1.3s							
GTA				pmax	pmax			
	comp=Z,720nm,4.9s							
GTA

KURBB PKP2ab 19 45 40.0
comp=Z,1.1nm,1.1s,baz=219,slow=2.8,SNR=4.7
KURBB LR LR 19 46 57.0
comp=Z,11µm,18.1s,baz=27,slow=38
comp=Z,74nm,1.1s
KURBB Kurchatov Arra 64.16 322 P **P 19 16 34.2 -1.3**
VALR Valaam 64.20 354*c i*P **P 19 16 34.7 -0.8**
VALR pmax pmax
comp=Z,188nm,1.0s
SSLB Suanglung 64.22 275 P **P 19 16 36.7 +0.5**
SSLB Suanglung 64.22 275 IAMs_20 IAMs_20 19 42 35.3
comp=Z,2µm,22.0s
HYA Hoyanger 64.31 7 *e*P **P 19 16 36.0 -0.2**
HYA IAmb IAmb 19 16 38.3
comp=Z,81nm,1.0s
HYA *e*S **S 19 25 09.2 -2.5**
SUE Sulen 64.31 8 *e*P **P 19 16 35.7 -0.5**
SUE IAmb IAmb 19 16 37.8
comp=Z,45nm,0.9s
YULB Yu-li 64.32 275 P **P 19 16 37.9 +1.0**
YULB Yu-li 64.32 275 IAMs_20 IAMs_20 19 43 36.1
comp=Z,1µm,19.0s
ZSN Zaisan 64.36 317 *e*P **P 19 16 36.6 -0.3**
comp=Z,71nm,0.8s,baz=317
ZSN *e*S **S 19 25 15.4 +2.6**
baz=317
ZSN Zaisan 64.36 317 *e*P **P 19 16 36.6 -0.3**
ZSN *e*S **S 19 25 15.4 +2.6**
ZSN pmax pmax
comp=Z,71nm,0.8s
FINES FINESS Array B 64.36 356 P **P 19 16 35.6 -0.9**
comp=Z,144nm,0.9s,baz=15,slow=7.9,SNR=209
FINES PKPPKP **P'P'df 19 45 28.9 -3.6**
comp=Z,1.5nm,0.8s,baz=222,slow=2.6,SNR=4.7
FINES LR LR 19 48 44.3
comp=Z,860nm,18.2s,baz=9.5,slow=40
comp=Z,144nm,0.9s
LZH Lanzhou 64.40 297 ⇑P **P 19 16 37.4 -0.1**
LZH sP pP 19 16 47.8 +0.9
LZH S **S 19 25 09.3 -4.7**
LZH pmax pmax
comp=Z,220nm,1.2s
LZH pmax pmax
comp=Z,960nm,4.4s
LZH LR LR
comp=Z,3µm,16.1s
LZH LR LR
comp=Z,3µm,18.9s
LZH LR LR
comp=Z,5µm,17.9s
LRW Lerwick 64.65 11⇑*e*P **P 19 16 38.6 +0.1**
LRW IAmb IAmb 19 16 41.0
comp=Z,209nm,0.9s
QZH Quanzhou 64.70 278 P **P 19 16 40.4 +1.1**
QZH sP **sP 19 16 54.6 +2.4**
QZH S **S 19 25 20.5 +3.0**
QZH pmax pmax
comp=Z,610nm,3.5s
QZH LR LR
comp=Z,710nm,17.9s
QZH LR LR
comp=Z,1µm,19.9s
QZH LR LR
comp=Z,1µm,19.9s
NB2 NORSAR Subarra 64.72 4 P **P 19 16 38.7 -0.4**
comp=Z,200nm,0.9s,baz=355,slow=6.5
NB2 NORSAR Subarra 64.72 4 P **P 19 16 38.7 -0.4**
baz=355,slow=6.5
NOA NORSAR Array B 64.72 4 P **P 19 16 38.5 -0.5**
comp=Z,123nm,0.8s,baz=355,slow=6.6,SNR=366
NOA ScS **ScS 19 26 30.2 -0.7**
comp=Z,0.4nm,0.9s,baz=257,slow=12,SNR=1.3
NOA PKP2bc 19 45 31.2
comp=Z,0.9nm,0.9s,baz=151,slow=2.4,SNR=3.4
comp=Z,123nm,0.8s
KIRV Kirov 64.74 343 LR LR 19 50 45.5
comp=Z,2µm,18.1s,baz=19,slow=42
KIRV Kirov 64.74 343*c i*P **P 19 16 37.9 -1.2**
TPUB Ta-pu 64.78 275 P **P 19 16 40.6 +0.7**
TPUB Ta-pu 64.78 275 IAmb IAmb 19 16 59.8
comp=Z,71nm,1.0s
TPUB IAMs_20 IAMs_20 19 43 05.3
comp=Z,2µm,22.0s
SOR Soroa 64.78 86 IAmb IAmb 19 17 03.5
comp=Z,41nm,1.3s
BVA0 Borovoye Array 64.81 329 *i* P **P 19 16 39.3 -0.4**
BVAR Borovoye Array 64.81 329 P **P 19 16 39.4 -0.3**
comp=Z,56nm,0.6s,baz=38,slow=7.1,SNR=155
BVAR PKPPKP **P'P'df 19 45 26.6 -4.7**
comp=Z,1.3nm,0.9s,baz=209,slow=2.7,SNR=5.0
BVAR LR LR 19 48 29.1
comp=Z,4µm,18.2s,baz=33,slow=39
comp=Z,56nm,0.6s
BRVK Borovoye 64.82 329 P **P 19 16 39.2 -0.5**
BRVK Borovoye 64.82 329*c i*P **P 19 16 39.4 -0.3**
BRVK pmax pmax
comp=Z,156nm,1.0s
BRVK MLR MLR
comp=Z,4µm,16.0s
BRVK Borovoye 64.82 329 P **P 19 16 39.3 -0.5**
TWGBT Beinan 64.89 274 P **P 19 16 42.3 +1.7**
RAF Rauma 64.89 359 *e*P **P 19 16 39.4 -0.6**
ASK Askoy 64.92 8 *e*P **P 19 16 38.5 -1.7**
ARU Arti 64.93 337 P **P 19 16 38.8 -1.6**
ARU IAMs_20 IAMs_20 19 50 13.7
comp=Z,2µm,18.0s
ARU Arti 64.93 337 LR LR 19 50 27.5
comp=Z,2µm,18.9s,baz=20,slow=41
ARU Arti 64.93 337*c i*P **P 19 16 39.3 -1.1**
ARU 19 17 07.9
ARU PPP PPP 19 20 32.2
ARU S **S 19 25 21.5 +2.0**
ARU 19 26 37.8
ARU pmax pmax
comp=Z,234nm,1.4s
ARU MLR MLR
comp=Z,3µm,16.0s
ARU Arti 64.93 337 P **P 19 16 39.5 -0.9**
comp=Z,185nm,1.1s,comp=Z,2µm
ARU Arti 64.93 337 P **P 19 16 39.3 -1.1**
ARU pP **pP 19 16 49.3 -0.5**
BER Bergen 65.03 8 *e*P **P 19 16 40.8 -0.1**
BER IAmb IAmb 19 16 42.9
comp=Z,94nm,1.0s
BER *e*S **S 19 25 19.7 -0.8**
NC602 NORSAR Array S 65.04 4 *e*P **P 19 16 40.2 -0.8**
NC602 IAmb IAmb 19 16 42.8
comp=Z,89nm,1.1s
NC602 *e*S **S 19 25 14.9 -5.8**
CNSH ChangSha 65.47 284 P **P 19 16 44.4 +0.1**
CNSH S **S 19 25 26.3 -0.5**
CNSH pmax pmax
comp=Z,43nm,0.7s
CNSH LR LR
comp=Z,2µm,20.3s
CNSH LR LR
comp=Z,1µm,17.5s
CNSH LR LR
comp=Z,1µm,17.3s
CAMR Camarioca 65.53 84 IAMs_20 IAMs_20 19 47 05.6
comp=Z,2µm,19.0s
ODD1 Odda 65.59 7 *e*P **P 19 16 44.4 -0.3**
ODD1 IAmb IAmb 19 16 46.9
comp=Z,113nm,0.9s
ODD1 *e*S **S 19 25 27.3 -0.2**
ODD1 IAMs_20 IAMs_20 19 43 26.4
comp=Z,943nm,22.6s
MEF Metsahovi 65.64 357 *e*P **P 19 16 44.6 -0.3**
HFS Hagfors 65.72 3 P **P 19 16 44.8 -0.7**
comp=Z,205nm,0.8s,baz=25,slow=4.9,SNR=262
comp=Z,205nm,0.8s
ENH Enshi 65.80 288 P **P 19 16 46.2 -0.3**
ENH Enshi 65.80 288 IAMs_20 IAMs_20 19 43 54.1
comp=Z,2µm,22.0s
ENH Enshi 65.80 288 P **P 19 16 46.1 -0.4**
OSL Oslo 65.80 5 *e*P **P 19 16 45.8 -0.2**
OSL IAmb IAmb 19 16 48.3
comp=Z,87nm,1.0s
OSL *e*S **S 19 25 25.8 -4.2**
PUL Pulkovo 65.82 354⇓*e*P **P 19 16 47.5 +1.5**
PUL pmax pmax
comp=Z,219nm,0.9s
LEWI Lewis, Hebride 65.84 15⇑*e*P **P 19 16 46.3 0.0**
LEWI IAmb IAmb 19 16 48.8
comp=Z,109nm,1.0s
MK31 Makanchi Array 65.92 318 IAmb IAmb 19 16 48.5
comp=Z,66nm,0.9s
MK31 Makanchi Array 65.92 318*c i*P **P 19 16 45.8 -1.2**
MKAR Makanchi Array 65.92 318 P **P 19 16 45.6 -1.4**
MKAR Makanchi Array 65.92 318 P **P 19 16 45.9 -1.1**
comp=Z,56nm,0.7s,baz=46,slow=6.5,SNR=198
MKAR PKP2bc 19 45 28.1
comp=Z,0.6nm,0.9s,baz=163,slow=1.3,SNR=3.8
MKAR LR LR 19 47 31.7
comp=Z,6µm,19.6s,baz=36,slow=38
comp=Z,56nm,0.7s
BIGH Upper Bighouse 65.92 13 *e*P **P 19 16 47.0 +0.2**
BIGH IAmb IAmb 19 16 49.5
comp=Z,137nm,0.9s
BIGH IAMs_20 IAMs_20 19 48 07.2
comp=Z,2µm,19.5s
MAKZ Makanchi 66.03 318 P **P 19 16 46.3 -1.4**
MAKZ Makanchi 66.03 318 P **P 19 16 46.3 -1.4**
MAKZ pmax pmax
comp=Z,262nm,1.6s
MAKZ MLR MLR
comp=Z,6µm,20.0s
MAKZ Makanchi 66.03 318 P **P 19 16 46.7 -1.0**
KONO Kongsberg 66.03 5 P **P 19 16 47.0 -0.5**
KONO Kongsberg 66.03 5 *e*P **P 19 16 47.1 -0.3**
KONO IAmb IAmb 19 16 49.9
comp=Z,192nm,0.9s
KONO *e*S **S 19 25 34.4 +1.5**
KONO IAMs_20 IAMs_20 19 42 24.5
comp=Z,1µm,27.2s
KONO Kongsberg 66.03 5*c i*P **P 19 16 47.3 -0.2**
KONO pmax pmax
comp=Z,211nm,0.9s
KONO MLR MLR
comp=Z,782nm,18.0s
KONO Kongsberg 66.03 5 P **P 19 16 47.5 +0.1**
KONO pP **pP 19 16 56.9 0.0**
BLS5 Blasjo 66.06 7 *e*P **P 19 16 47.3 -0.4**
BLS5 IAmb IAmb 19 16 50.0
comp=Z,129nm,0.9s
BLS5 *e*S **S 19 25 32.1 -1.2**
BLS5 IAMs_20 IAMs_20 19 45 36.6
comp=Z,999nm,20.9s
LINV Loch Inver, As 66.08 14⇑*e*P **P 19 16 48.0 +0.2**
LINV IAmb IAmb 19 16 50.5
comp=Z,80nm,0.9s
LINV IAMs_20 IAMs_20 19 46 08.8
comp=Z,2µm,18.7s
WMQ Urumqi 66.10 313 ⇑P **P 19 16 48.1 -0.2**
WMQ pmax pmax
comp=Z,180nm,1.1s
WMQ pmax pmax
comp=Z,770nm,4.1s
WMQ LR LR
comp=Z,2µm,19.9s
WMQ LR LR
comp=Z,2µm,19.5s
WMQ LR LR
comp=Z,3µm,23.9s
KMY Karmoy 66.18 8 *e*P **P 19 16 48.0 -0.4**
KMY IAmb IAmb 19 16 49.9
comp=Z,33nm,0.9s
KMY *e*S **S 19 25 32.9 -1.7**
ARBE Arbavere 66.37 356 *e*P **P 19 16 49.2 -0.4**
STRU Stroemstad 66.73 4 *i* P **P 19 16 51.4 -0.5**
KPL Plockton 66.80 14⇑*e*P **P 19 16 52.4 0.0**
KPL IAmb IAmb 19 16 54.3
comp=Z,60nm,0.9s
KPL IAMs_20 IAMs_20 19 45 26.7
comp=Z,2µm,21.9s
MCD Coleburn Disti 66.89 13⇑*e*P **P 19 16 53.1 +0.1**
MCD IAmb IAmb 19 16 55.6
comp=Z,292nm,1.0s
MTSE Matsula 67.17 357 *e*P **P 19 16 54.5 -0.2**
SNART Snartemo 67.19 7 *e*P **P 19 16 55.1 +0.2**
SNART Snartemo 67.19 7 *i* P **P 19 16 54.8 -0.1**
VSU Vasula 67.31 356*c i*P **P 19 16 55.2 -0.4**
VSU pmax pmax
comp=Z,281nm,1.0s
VSU MLR MLR
comp=Z,2µm,17.0s
HOMB Homborsund 67.34 6 *e*P **P 19 16 55.5 -0.3**
HOMB IAmb IAmb 19 16 58.2
comp=Z,160nm,1.0s
HOMB *e*S **S 19 25 51.9 +3.1**
HOMB Homborsund 67.34 6 *i* P **P 19 16 55.5 -0.3**
DRUM Mains of Drumt 67.64 13⇑*e*P **P 19 16 57.8 0.0**
DRUM IAmb IAmb 19 17 00.1
comp=Z,469nm,1.0s
DRUM IAMs_20 IAMs_20 19 45 00.1
comp=Z,2µm,21.7s
MTO3 Montecristo 67.65 97 IAMs_20 IAMs_20 19 44 38.4
comp=Z,1µm,20.0s
BBSR BB Station 67.71 65 IAMs_20 IAMs_20 19 46 35.0
comp=Z,1µm,20.0s
TJOU Tjoern 67.75 4 *i* P **P 19 16 57.7 -0.7**
LAWE Loch Awe, Argy 67.88 14⇑*e*P **P 19 16 59.4 +0.1**
LAWE IAmb IAmb 19 17 01.7
comp=Z,145nm,1.1s
LAWE IAMs_20 IAMs_20 19 46 08.3
comp=Z,3µm,21.8s
INVG Invergeldie, C 67.91 14⇑*e*P **P 19 16 59.3 -0.1**
INVG IAmb IAmb 19 17 01.8
comp=Z,46nm,0.9s
INVG IAMs_20 IAMs_20 19 46 51.6
comp=Z,1µm,19.2s
BORU Boraas 68.19 4 *i* P **P 19 17 00.9 -0.3**
SLIT Slitere, Latvi 68.29 358 *e*P **P 19 17 01.5 -0.2**
SNET Serv Nac Est T 68.29 97 IAMs_20 IAMs_20 19 44 15.4
comp=Z,1µm,20.0s
OTUK Ortayu 68.33 325 P **P 19 17 01.3 -0.9**
ONAU Onsala 68.40 4 *i* P **P 19 17 01.8 -0.6**
CD2 Chengdu 68.44 293 P **P 19 17 01.5 -1.7**
CD2 pP pP 19 17 09.5 -3.1
CD2 sP sP 19 17 14.3 -1.9
CD2 S **S 19 26 02.8 +0.1**
CD2 sS pS 19 26 15.5 +1.2
CD2 SKS **SKSac 19 26 58.0 -1.9**
CD2 pmax pmax
comp=Z,230nm,0.7s
CD2 pmax pmax
comp=Z,810nm,5.7s
CD2 LR LR
comp=Z,2µm,15.1s
CD2 LR LR
comp=Z,2µm,18.0s
CD2 LR LR
comp=Z,2µm,15.3s
PGBU Glenifferbraes 68.45 14 *e*P **P 19 17 02.7 -0.1**
PGBU IAmb IAmb 19 17 05.2
comp=Z,152nm,1.1s
EDI Edinburgh 68.52 13 *e*P **P 19 17 03.2 0.0**
EDI IAmb IAmb 19 17 05.7
comp=Z,104nm,0.9s
EDI IAMs_20 IAMs_20 19 46 59.7
comp=Z,2µm,19.3s
ESY Stoneypath 68.60 13⇑*e*P **P 19 17 03.7 -0.1**
AFI Afiamalu 68.68 191 IAMs_20 IAMs_20 19 39 48.5
comp=Z,2µm,22.0s
IDGL Inch Island, C 68.70 16 *e*P **P 19 17 04.5 +0.2**
FABU Falkenberg 68.82 4 *i* P **P 19 17 04.6 -0.6**
GOMU GeErMu 68.90 303 P **P 19 17 05.1 -1.3**
GOMU pP pP 19 17 16.3 +0.4
GOMU S S 19 25 58.5 -10
GOMU pmax pmax
comp=Z,65nm,1.2s
GOMU LR LR
comp=Z,7µm,18.6s
GOMU LR LR
comp=Z,3µm,17.4s
GOMU LR LR
comp=Z,8µm,16.9s
CLGH Cloghs, Cushen 68.91 15 *e*P **P 19 17 05.7 0.0**
CLGH IAMs_20 IAMs_20 19 45 17.4
comp=Z,3µm,24.0s
TDK Taldyqorghan 68.91 319 *e*P **P 19 17 05.7 -0.2**
comp=Z,55nm,0.8s,baz=319
TDK LR LR 19 48 17.3
comp=Z,5µm,19.5s,baz=319
TDK Taldyqorghan 68.91 319 *e*P **P 19 17 05.7 -0.2**
TDK pmax pmax
comp=Z,55nm,0.8s
TDK MLR MLR
comp=Z,5µm,19.0s
CBCY The Bluff, Cay 69.05 85 IAMs_20 IAMs_20 19 46 57.0
comp=Z,2µm,20.0s
EKA Eskdalemuir Ar 69.09 13 P **P 19 17 07.0 +0.1**
comp=Z,84nm,0.9s,baz=344,slow=4.9,SNR=176
EKA PKPPKP P'P'df 19 45 15.0 -9.3
comp=Z,1.7nm,0.9s,baz=226,slow=3.4,SNR=5.8
comp=Z,84nm,0.9s
ESK Eskdalemuir 69.10 13 P **P 19 17 05.4 -1.5**
ESK Eskdalemuir 69.10 13 IAMs_20 IAMs_20 19 47 42.5
comp=Z,2µm,20.0s
ESK Eskdalemuir 69.10 13⇑*e*P **P 19 17 06.9 0.0**
ESK IAmb IAmb 19 17 09.5
comp=Z,111nm,1.0s
ESK IAMs_20 IAMs_20 19 45 57.7
comp=Z,2µm,22.3s
ESK Eskdalemuir 69.10 13 P **P 19 17 05.4 -1.5**
ESK pmax pmax
comp=Z,115nm,1.0s
ESK MLR MLR
comp=Z,2µm,20.0s
ESK Eskdalemuir 69.10 13 P **P 19 17 06.9 0.0**
NEWG New Galloway 69.16 14 *e*P **P 19 17 07.0 -0.2**
NEWG IAmb IAmb 19 17 09.6
comp=Z,82nm,1.1s
NEWG IAMs_20 IAMs_20 19 49 03.6
comp=Z,2µm,18.4s
MOS Moscow 69.17 349 *e*P **P 19 17 05.0 -2.3**
MOS *e*S **S 19 26 08.3 -2.3**
MOS pmax pmax
comp=Z,274nm,1.3s
MOS pmax pmax
comp=N,180nm,1.0s
MOS pmax pmax
comp=Z,500nm,1.5s
MOS pmax pmax
comp=N,200nm,1.3s
MOS smax smax
comp=Z,2µm,20.0s
MOS MLR MLR
comp=N,2µm,20.0s
MUD Monsted U'grnd 69.19 6 *i* P **P 19 17 07.0 -0.5**
GAL1 Galloway 69.33 14⇑*e*P **P 19 17 08.3 0.0**
GAL1 IAmb IAmb 19 17 10.7
comp=Z,131nm,1.0s
GAL1 IAMs_20 IAMs_20 19 49 26.8
comp=Z,3µm,18.7s
DEL Delary 69.40 3 *i* P **P 19 17 08.2 -0.5**
BLEU Blekinge 69.61 2 *i* P **P 19 17 09.1 -0.9**
EDMD Edmundbyers 69.74 13 *e*P **P 19 17 11.0 +0.1**
EDMD IAmb IAmb 19 17 13.5
comp=Z,90nm,0.9s
EDMD IAMs_20 IAMs_20 19 47 35.4
comp=Z,1µm,21.2s
BJUU Bjuv 69.76 4 *i* P **P 19 17 10.5 -0.5**
ARXS Arharly 69.80 319 *e*P **P 19 17 11.0 -0.5**
KESW Keswick, Cumbr 69.83 14⇑*e*P **P 19 17 11.5 +0.1**
KESW IAmb IAmb 19 17 13.9
comp=Z,90nm,1.0s
KESW IAMs_20 IAMs_20 19 46 30.4
comp=Z,2µm,23.4s
ILTH Belurgan, Co L 69.89 16 *e*P **P 19 17 11.9 +0.1**
PDGK Podgornoye 69.90 318 P **P 19 17 11.2 -1.0**
OBN Obninsk 69.90 349 ⇓P **P 19 17 11.0 -0.8**
OBN Obninsk 69.90 349 P **P 19 17 10.2 -1.6**
OBN Obninsk 69.90 349 LR LR 19 53 44.0
comp=Z,2µm,18.4s,baz=18,slow=41
OBN Obninsk 69.90 349*c i*P **P 19 17 10.5 -1.3**
OBN *e* 19 17 33.5
OBN *e* 19 19 44.4
OBN *e*PPP PPP 19 21 26.5
OBN *e*S **S 19 26 18.4 -0.7**
OBN *e*SS **SS 19 30 47.5 +0.4**
OBN pmax pmax
comp=Z,270nm,1.0s
OBN MLR MLR
comp=Z,2µm,18.0s
OBN Obninsk 69.90 349 P **P 19 17 10.8 -1.0**
comp=Z,253nm,1.0s,comp=Z,2µm
OBN Obninsk 69.90 349 P **P 19 17 10.6 -1.3**
OBN pP **pP 19 17 20.0 -1.2**
PBUR Paburge 69.90 358 *e*P **P 19 17 11.7 -0.1**
IOMK Kirk Michael 69.94 15⇑*e*P **P 19 17 11.9 -0.2**
IOMK IAmb IAmb 19 17 13.8
comp=Z,107nm,0.9s
IOMK IAMs_20 IAMs_20 19 49 54.3
comp=Z,6µm,19.0s
IGLA Glengowla, Co 69.97 18 *e*P **P 19 17 12.6 +0.3**
WIM Isle of Man 70.03 15 *e*P **P 19 17 12.1 -0.6**
SHLS Shalkode 70.05 317⇑*i*P **P 19 17 12.2 -1.0**
comp=Z,64nm,0.8s,baz=317
SHLS Shalkode 70.05 317*c i*P **P 19 17 12.1 -1.0**
SHLS pmax pmax
comp=Z,64nm,0.8s
KPKS Kokpek 70.10 318⇑*i*P **P 19 17 13.4 0.0**
comp=Z,96nm,1.0s,baz=318
KPKS *e*S **S 19 26 25.1 +2.9**
baz=318
KPKS Kokpek 70.10 318*c i*P **P 19 17 13.4 0.0**
KPKS *e*S **S 19 26 25.0 +2.9**
KPKS pmax pmax
comp=Z,95nm,1.0s
COP Copenhagen 70.13 4 *e*P **P 19 17 11.4 -1.8**
SSRD Sdr. Stenderup 70.19 6 *i* P **P 19 17 14.8 +1.2**
ISAL Salakas 70.23 356 *e*P **P 19 17 14.2 +0.3**
UZB Uzynbulak 70.24 318⇑*i*P **P 19 17 14.1 -0.2**
comp=Z,63nm,1.1s,baz=318
UZB Uzynbulak 70.24 318*c i*P **P 19 17 14.1 -0.2**
UZB pmax pmax
comp=Z,63nm,1.1s
GDLE Glaisdale, N Y 70.29 12 *e*P **P 19 17 14.3 +0.1**
GYA Guiyang 70.31 288 ⇓P **P 19 17 15.3 +0.3**
GYA pP pP 19 17 23.9 -0.5
GYA S **S 19 26 25.8 +0.7**
GYA pmax pmax
comp=Z,170nm,0.9s
GYA pmax pmax
comp=Z,1µm,4.2s
GYA LR LR
comp=Z,990nm,14.2s
GYA LR LR
comp=Z,1µm,19.2s
GYA LR LR
comp=Z,2µm,18.6s
PABE Paberze 70.38 357 IAMs_20 IAMs_20 19 52 21.7
comp=Z,1µm,20.0s
PABE Paberze 70.38 357 *e*P **P 19 17 14.8 +0.1**
BTLS Baital 70.50 322⇑*i*P **P 19 17 15.3 -0.4**
comp=Z,85nm,0.8s,baz=322
BTLS *e*S **S 19 26 29.7 +3.2**
baz=322
BTLS Baital 70.50 322*c i*P **P 19 17 15.3 -0.4**
BTLS *e*S **S 19 26 29.7 +3.2**
BTLS pmax pmax
comp=Z,85nm,0.8s
SATY Saty 70.55 318⇑*i*P **P 19 17 16.2 -0.1**
comp=Z,103nm,1.2s,baz=318
SATY *e*S **S 19 26 30.1 +2.6**
baz=318
SATY Saty 70.55 318*c i*P **P 19 17 16.1 -0.1**
SATY *e*S **S 19 26 30.1 +2.6**
SATY pmax pmax
comp=Z,103nm,1.2s
AKTO Aktyubinsk 70.57 335 LR LR 19 54 47.6
comp=Z,2µm,18.3s,baz=12,slow=42
DSB Dublin 70.64 16 IAmb IAmb 19 17 19.2
comp=Z,39nm,0.9s
DSB IAMs_20 IAMs_20 19 48 42.2
comp=Z,2µm,20.0s
WPS Cemaes, Angles 70.78 15 *e*P **P 19 17 16.9 -0.3**
WPS IAmb IAmb 19 17 19.5
comp=Z,47nm,1.1s
BSD Bornholm Skovb 70.78 3 *e*P **P 19 17 17.4 +0.1**
BSD Bornholm Skovb 70.78 3 *i* P **P 19 17 16.6 -0.6**
BSD IAmb IAmb 19 17 17.9
comp=Z,37nm,0.9s
CHIV Chivirico 70.80 82 IAmb IAmb 19 17 30.1
comp=Z,76nm,0.9s
CHIV IAMs_20 IAMs_20 19 48 21.4
comp=Z,1µm,21.0s
WME Myndd Eilian 70.82 15⇑*e*P **P 19 17 16.9 -0.6**
BELG Belogornoye 70.96 342 LR LR 19 52 37.6
comp=Z,2µm,20.1s,baz=20,slow=40
BELG Belogornoye 70.96 342*c i*P **P 19 17 17.4 -0.9**
BELG pmax pmax
comp=Z,71nm,1.0s
MDOK Medeo 70.99 319 *e*P **P 19 17 18.7 -0.2**
baz=319

MDOK LR LR 19 49 19.6
comp=Z,2μm,19.4s,baz=319
MDOK Medeo 70.99 319 *e*P **P 19 17 18.7 -0.2**
MDOK MLR MLR
comp=Z,2μm,19.0s
AAA Alma-Ata 71.00 319 *e*P **P 19 17 18.9 +0.1**
comp=Z,100nm,0.9s,baz=319
AAA Alma-Ata 71.00 319 *e*P **P 19 17 18.9 +0.1**
AAA pmax pmax
comp=Z,100nm,0.9s
TNSS Tian-Shan 71.13 319 *e*P **P 19 17 19.6 -0.5**
baz=319
TNSS Tian-Shan 71.13 319 *e*P **P 19 17 19.6 -0.5**
AB31 Akbulak array 71.16 333 P **P 19 17 18.9 -0.7**
ABKAR Akbulak array 71.16 333 P **P 19 17 18.9 -0.7**
ABKAR Akbulak array 71.16 333 IAmb IAmb 19 17 22.1
comp=Z,187nm,1.1s
LBWR Ladybower, Pea 71.17 13 *e*P **P 19 17 19.3 -0.3**
LBWR IAmb IAmb 19 17 22.2
comp=Z,102nm,0.9s
NMDO Nuevo Mundo 71.17 81 IAmb IAmb 19 17 35.2
comp=Z,66nm,0.9s
NMDO IAMs_20 IAMs_20 19 47 34.2
comp=Z,2μm,21.0s
MNK Minsk 71.21 355 *e*P **P 19 17 20.0 +0.2**
LMK Market Rasen 71.30 12 *e*P **P 19 17 21.3 +1.0**
LMK IAmb IAmb 19 17 22.9
comp=Z,262nm,1.0s
RGN Rugen 71.30 4 *e*P **P 19 17 21.1 +0.8**
RGN Rugen 71.30 4 *e*P 19 17 20.6
comp=Z,287nm,1.0s,baz=356,slow=5.8
STNC Stoke 71.41 13 *e*P **P 19 17 21.1 +0.1**
STNC IAmb IAmb 19 17 24.0
comp=Z,172nm,1.0s
IWEX Carrickbyrne, 71.42 16 *e*P **P 19 17 21.1 -0.1**
FOEL Foel Wylfa 71.47 14⇑ *e*P **P 19 17 21.6 +0.2**
FOEL IAmb IAmb 19 17 24.2
comp=Z,181nm,0.9s
HNR Honiara 71.65 221 IAMs_20 IAMs_20 19 44 16.1
comp=Z,1μm,20.0s
HNR Honiara 71.65 221 LR LR 19 44 48.3
comp=Z,11μm,19.8s,baz=8.0,slow=32
SGDS Sogindy 71.65 321 *e*P **P 19 17 22.8 -0.1**
comp=Z,46nm,0.7s,baz=321
SGDS Sogindy 71.65 321 *e*P **P 19 17 22.7 -0.1**
SGDS pmax pmax
comp=Z,46nm,0.7s
TKM2 Tokmak 2 71.75 320 P **P 19 17 23.8 +0.2**
SNR=184
TKM2 Tokmak 2 71.75 320 P **P 19 17 22.9 -0.7**
BSEG Bad Segeberg 71.78 5 *e*P 19 17 23.3
comp=Z,120nm,1.0s,baz=356,slow=5.8
WUS Wushi 71.80 316 P **P 19 17 23.8 0.0**
USP Ospenovka 71.86 321 P **P 19 17 24.4 +0.4**
SNR=92
CWF Charnwood Fore 71.87 13 *e*P **P 19 17 24.1 +0.2**
HLM1 Long Mynd 71.88 14⇑ *e*P **P 19 17 24.0 +0.1**
HLM1 IAmb IAmb 19 17 26.0
comp=Z,60nm,1.1s
HLM1 IAMs_20 IAMs_20 19 50 54.6
comp=Z,2μm,18.5s
SUW Suwalki 71.89 357 *e*P **P 19 17 23.9 0.0**
CHMS Chumysh 72.00 320 P **P 19 17 25.2 +0.3**
SNR=112
ULHL Ulahol 72.08 319 P **P 19 17 26.0 +0.4**
SNR=70
LPSR Galich'ya Gora 72.09 347 *e*P **P 19 17 22.8 -2.4**
LPSR pmax pmax
comp=Z,290nm,1.2s
WACR West Acre 72.13 12 *e*P **P 19 17 25.1 -0.2**
WACR IAmb IAmb 19 17 27.8
comp=Z,298nm,0.9s
RSBS Rosebush, Pemb 72.15 15 *e*P **P 19 17 25.6 +0.1**
RSBS IAmb IAmb 19 17 28.1
comp=Z,106nm,1.0s
KBK Karagaybulak 72.22 320 P **P 19 17 26.9 +0.5**
SNR=107
PPT Papeete 72.33 169 LR LR 19 41 46.5
comp=Z,2μm,21.8s,baz=338,slow=30
PPT2 Papeete2 72.36 169 *e*P **P 19 17 29.5 +2.4**
comp=Z,154nm,25.2s
PPT2 *e*S **S 19 26 45.4 -3.0**
comp=Z,1μm,29.0s
PPT2 *e*SS **SS 19 31 20.3 -7.2**
comp=Z,697nm,34.2s
PPT2 *e*LR LR 19 39 29.6
comp=Z,3μm,24.2s
PPT2 *e*LR LR 19 39 29.6
comp=Z,4μm,23.8s
AAK Ala-Archa 72.40 320 P **P 19 17 27.9 +0.5**
SNR=51
AAK Ala-Archa 72.40 320 P **P 19 17 27.3 -0.1**
AAK Ala-Archa 72.40 320 *i* P **P 19 17 27.9 +0.5**
SNR=52
AAK Ala-Archa 72.40 320 LR LR 19 52 11.3
comp=Z,8μm,18.3s,baz=35,slow=38
AAK Ala-Archa 72.40 320*c i*P **P 19 17 27.6 +0.2**
AAK pmax pmax
comp=Z,252nm,1.0s
AAK MLR MLR
comp=Z,8μm,18.0s
MONM Monmouth 72.55 14 *e*P **P 19 17 28.2 +0.3**
MONM IAmb IAmb 19 17 30.1
comp=Z,78nm,1.0s
MONM IAMs_20 IAMs_20 19 51 24.2
comp=Z,2μm,19.8s
EKS2 Erkin-Say 72.65 321 P **P 19 17 29.2 +0.4**
SNR=131
GKP Gorka Klasztor 72.68 1 *e*P **P 19 17 29.7 +1.1**
STRD Stroud 72.70 14 *e*P **P 19 17 29.0 +0.2**
STRD IAmb IAmb 19 17 31.1
comp=Z,148nm,0.9s
UCH Uchtor 72.75 320 P **P 19 17 30.3 +0.4**
SNR=72
GORT1 Trebel 72.77 5 *e*P 19 17 29.4
comp=Z,123nm,1.3s,baz=356,slow=5.8
RETH Rethem/Aller, 72.91 6 *e*P 19 17 30.1
comp=Z,87nm,1.2s,baz=356,slow=5.8
VORR Voronezh 72.97 347 *e*P **P 19 17 27.7 -2.7**
VORR pmax pmax
comp=Z,370nm,1.3s
PZH PanZhiHua 72.98 292 P **P 19 17 31.0 -0.1**
PZH pP **pP 19 17 39.3 -1.3**
PZH S **S 19 26 55.1 -0.8**
PZH SS **SS 19 31 33.5 -2.6**
PZH pmax pmax
comp=Z,130nm,0.9s
PZH pmax pmax
comp=Z,690nm,3.5s
PZH LR LR
comp=Z,1μm,21.2s
PZH LR LR
comp=Z,1μm,20.1s
PZH LR LR
comp=Z,2μm,20.6s
SWN1 Swindon 73.01 14 *e*P **P 19 17 30.9 +0.3**
SWN1 IAmb IAmb 19 17 33.0
comp=Z,169nm,0.9s
VRH Novokhopyorsk 73.08 345 *e*P **P 19 17 29.4 -1.6**
VRH pmax pmax
comp=Z,226nm,1.0s
VRH pmax pmax
comp=Z,300nm,1.0s
HTL Hartland 73.12 15 *e*P **P 19 17 31.5 +0.2**
HTL IAmb IAmb 19 17 34.1
comp=Z,97nm,0.9s
AML Almayashu 73.14 321 P **P 19 17 32.7 +0.6**
SNR=127
NRDL Niedersach Rie 73.20 6 *e*P 19 17 31.6
comp=Z,106nm,1.0s,baz=356,slow=5.8
IBBN Ibbenburen 73.23 7 *e*P 19 17 32.0
comp=Z,146nm,1.2s,baz=356,slow=5.8
WOL Wolverton 73.28 13 *e*P **P 19 17 32.6 +0.3**
RUE Ruedersdorf 73.39 3 *e*P **P 19 17 33.6 +0.8**
VSR Storozhevoye 73.42 347 *e*P **P 19 17 30.5 -2.6**
VSR pmax pmax
comp=Z,350nm,1.2s
VSR MLR MLR
comp=Z,3μm,20.0s
FLTG Flechtingen 73.43 5 *e*P 19 17 32.4
comp=Z,82nm,1.0s,baz=356,slow=5.8
KK31 Karatay Array 73.43 323 P **P 19 17 32.4 -0.9**
KKAR Karatay Array 73.43 323 P **P 19 17 32.1 -1.2**
KKAR Karatay Array 73.43 323 IAmb IAmb 19 17 35.6
comp=Z,179nm,0.9s
KKAR Karatay Array 73.43 323 P **P 19 17 32.1 -1.2**

JTS Las Juntas de 73.49 95 LR LR 19 50 53.5
comp=Z,609nm,20.7s,baz=319,slow=36
KMI Kunming 73.53 290 ⇑P **P 19 17 33.9 -0.5**
KMI pP pP 19 17 44.3 +0.4
KMI PP **PP 19 20 17.3 -0.8**
KMI S **SKiKP 19 27 02.0 -0.2**
KMI pmax pmax
comp=Z,50nm,1.0s
KMI pmax pmax
comp=Z,500nm,3.9s
KMI LR LR
comp=Z,1μm,19.3s
KMI LR LR
comp=Z,760nm,24.4s
KMI LR LR
comp=Z,2μm,20.2s
VORD Divnogorie 73.65 347 *e*P **P 19 17 33.0 -1.4**
VORD pmax pmax
comp=Z,260nm,0.9s
BRLS Borolday 73.73 324⇑ *i*P **P 19 17 36.2 +1.1**
baz=324
BRLS Borolday 73.73 324*c i*P **P 19 17 36.2 +1.1**
DYA Yadsworthy 73.75 15 *e*P **P 19 17 34.7 -0.3**
DYA IAmb IAmb 19 17 37.5
comp=Z,105nm,0.9s
CCA1 Carnmenellis 73.79 16 *e*P **P 19 17 35.3 +0.1**
CCA1 IAmb IAmb 19 17 38.0
comp=Z,128nm,1.0s
CCA1 IAMs_20 IAMs_20 19 50 32.2
comp=Z,2μm,19.9s
CLZ Clausthal 73.87 6 *e*P 19 17 36.0
comp=Z,128nm,1.1s,baz=356,slow=5.8
BUG Bochum--Univer 74.06 8 *e*P 19 17 36.4
comp=Z,108nm,0.9s,baz=356,slow=5.8
MSVF Nonsavu 74.09 201 P **P 19 17 39.8 +2.5**
MSVF Nonsavu 74.09 201 P **P 19 17 36.7 -0.6**
MSVF IAmb IAmb 19 17 52.8
comp=Z,64nm,1.2s
MSVF Nonsavu 74.09 201 IAMs_20 IAMs_20 19 42 19.4
comp=Z,2μm,22.0s
MSVF Nonsavu 74.09 201⇓ *e*P **P 19 17 38.5 +1.2**
MSVF pmax pmax
comp=Z,68nm,1.3s
MSVF MLR MLR
comp=Z,565nm,18.0s
GTTG Gottingen 74.14 6 *e*P 19 17 37.4
comp=Z,151nm,1.1s,baz=356,slow=5.8
JAY Jayapura 74.32 242 P **P 19 17 40.2 +1.4**
comp=Z,87nm,1.2s
QIZ Qiongzhong 74.35 281 P **P 19 17 39.9 +0.9**
QIZ Qiongzhong 74.35 281 P **P 19 17 39.1 +0.1**
QIZ S **S 19 27 13.1 +1.8**
QIZ pmax pmax
comp=Z,75nm,1.1s
QIZ LR LR
comp=Z,930nm,16.8s
QIZ LR LR
comp=Z,1μm,18.5s
QIZ LR LR
comp=Z,1μm,21.9s
QIZ Qiongzhong 74.35 281 IAmb IAmb 19 17 42.0
comp=Z,93nm,1.1s
QIZ Qiongzhong 74.35 281 IAMs_20 IAMs_20 19 49 30.4
comp=Z,1μm,22.0s
KASTN Kahler Asten 74.38 7 *e*P 19 17 38.6
comp=Z,61nm,1.1s,baz=356,slow=5.8
RNPP9 Sopachiv 74.40 356 P **P 19 17 38.4 -0.4**
CHM Chimkent 74.44 324 *e*P **P 19 17 39.2 0.0**
comp=Z,88nm,0.9s,baz=324
CHM LR LR 19 51 18.9
comp=Z,1μm,16.1s,baz=324
CHM Chimkent 74.44 324 *e*P **P 19 17 39.2 0.0**
CHM pmax pmax
comp=Z,88nm,0.9s
CHM MLR MLR
comp=Z,1μm,16.0s
IUG Iuzhnay 74.44 323⇑ *i*P **P 19 17 39.4 0.0**
comp=Z,124nm,1.0s,baz=323
IUG Iuzhnay 74.44 323*c i*P **P 19 17 39.3 0.0**
IUG pmax pmax
comp=Z,124nm,1.0s
RNPP8 Varash 74.47 356 P **P 19 17 38.6 -0.6**
KSH Kashi 74.53 318 P **P 19 17 43.3 +3.4**
KSH PcP **PcP 19 17 59.3 +5.0**
KSH pmax pmax
comp=Z,380nm,1.1s
KSH LR LR
comp=Z,6μm,22.0s
KSH LR LR
comp=Z,4μm,19.6s
KSH LR LR
comp=Z,9μm,21.3s
CLL Collm 74.53 4 IAmb IAmb 19 17 42.0
comp=Z,90nm,1.0s
CLL Collm 74.53 4⇑ *i*P **P 19 17 39.2 -0.3**
CLL *e**SP **sP 19 17 53.0 +0.4**
CLL *e*S **S 19 27 12.0 -0.3**
CLL pmax pmax
comp=Z,91nm,1.0s
CLL Collm 74.53 4 P **P 19 17 39.3 -0.3**
comp=Z,101nm,1.0s,comp=Z,1μm
CLL Collm 74.53 4 *e*P 19 17 39.0
comp=Z,76nm,0.9s,baz=356,slow=5.8
SDDR Presa de Saban 74.54 79 IAmb IAmb 19 17 52.6
comp=Z,74nm,0.9s
SDDR IAMs_20 IAMs_20 19 51 05.4
comp=Z,2μm,20.0s
BEBN Eben Emael 74.56 9 *d*P **P 19 17 40.5 +0.8**
NEUB Neuenburg 74.57 5 *e*P 19 17 39.6
comp=Z,166nm,1.0s,baz=356,slow=5.8
RNPP5 Staryi Chortor 74.58 356 P **P 19 17 39.4 -0.4**
GENI Genyem 74.66 243 P **P 19 17 43.2 +2.4**
GENI Genyem 74.66 243 P **P 19 17 42.0 +1.2**
comp=Z,131nm,0.9s
DAV Davao City (W) 74.73 261 IAMs_20 IAMs_20 19 48 23.5
comp=Z,1μm,19.0s
DAV Davao City (W) 74.73 261 LR LR 19 48 01.7
comp=Z,782nm,20.6s,baz=56,slow=34
BSTI Sart Tilman 74.76 9 *d*P **P 19 17 41.2 +0.3**
comp=Z,15nm,0.8s
MEM Membach 74.77 9 *d*P **P 19 17 40.9 -0.1**
comp=Z,54nm,0.9s
MI28 MI28,Pidlybu 74.79 354 P **P 19 17 40.8 -0.2**
BTNL Ternell 74.81 9 *d*P **P 19 17 41.1 -0.1**
comp=Z,39nm,0.9s
AK21 Malin Array Si 74.86 354 P **P 19 17 40.7 -0.7**
UBBA Unterbreizbach 74.86 6 *e*P 19 17 41.3
comp=Z,72nm,1.5s,baz=356,slow=5.8
AK23 Malin Array Si 74.87 353 P **P 19 17 40.8 -0.7**
BCLA Clavier 74.90 9 *d*P **P 19 17 41.1 -0.6**
comp=Z,27nm,1.0s
BGES Gesves 74.91 9 *d*P **P 19 17 41.5 -0.3**
comp=Z,19nm,1.0s
AKASG Malin Array Be 74.92 353 P **P 19 17 40.3 -1.5**
AKASG Malin Array Be 74.92 353 P **P 19 17 40.9 -0.9**
comp=Z,216nm,0.8s,baz=8.9,slow=5.5,SNR=96
comp=Z,216nm,0.8s
AKASG Malin Array Be 74.92 353 P **P 19 17 40.3 -1.5**
AKASG pmax pmax
comp=Z,337nm,1.0s
AKBB Malin Array Si 74.92 353*c i*P **P 19 17 40.8 -1.0**
AKBB pmax pmax
comp=Z,435nm,1.0s
AKBB Malin Array Si 74.92 353 P **P 19 17 40.8 -1.0**
KIEV Kiev 74.93 353 P **P 19 17 40.8 -1.0**
KIEV Kiev 74.93 353 *i* P **P 19 17 41.3 -0.5**
SNR=48
KIEV Kiev 74.93 353 P **P 19 17 40.8 -1.0**
KIEV pmax pmax
comp=Z,342nm,1.0s
KIEV MLR MLR
comp=Z,3μm,19.0s
AHRW Bad Neuenahr-A 74.93 8 *e*P 19 17 42.0
comp=Z,57nm,0.9s,baz=356,slow=5.8
MI30 MI30,Zelenitsa 74.94 354 P **P 19 17 40.9 -1.0**
BMRD Maredsous 74.96 9 *d*P **P 19 17 42.2 +0.1**
comp=Z,43nm,1.1s
BMRD *d*PcP **sP 19 17 54.8 -0.3**
BRG Berggiesshubel 75.00 3 *i* P **P 19 17 42.3 0.0**
BRG Amp 19 17 45.1
comp=Z,88nm,1.0s
BRG Berggiesshubel 75.00 3 S **S 19 27 19.0 +1.4**
BRG Berggiesshubel 75.00 3 SS SS 19 32 10.0 +5.0
BRG Berggiesshubel 75.00 3 *i* P **P 19 17 42.2 0.0**
BRG 19 17 53.6
BRG pmax pmax
comp=Z,88nm,1.0s
BRG pmax pmax
comp=Z,43nm,0.9s
BRG pmax pmax
comp=Z,27nm,1.0s
BRG Berggiesshubel 75.00 3 *e*P 19 17 41.9
comp=Z,88nm,1.0s,baz=356,slow=5.8
BHOU Houvegnez 75.03 9 *d*P **P 19 17 42.6 +0.2**
comp=Z,18nm,1.0s
KSP Ksiaz 75.09 2 P **P 19 17 42.6 -0.2**
comp=Z,121nm,0.9s,comp=Z,1μm
MOX Moxa 75.13 5 *e*P 19 17 42.9
comp=Z,101nm,0.9s,baz=356,slow=5.8
MOX *e*L 19 54 55.6
comp=Z,615nm,21.8s
DOU Dourbes 75.15 10 *d*P **P 19 17 43.2 0.0**
comp=Z,32nm,1.0s
RCHB Rochefort 75.15 9 *d*P **P 19 17 42.8 -0.4**
comp=Z,43nm,0.9s
JSA Saint Aubin 75.23 14 *e*P **P 19 17 43.5 -0.1**
JSA IAmb IAmb 19 17 46.1
comp=Z,138nm,1.0s
HSKC Hora Svate Kat 75.25 4 *e*P **P 19 17 44.1 +0.3**
HSKC *e*pP **pP 19 17 53.6 +0.3**
HSKC *e*S **S 19 27 20.1 -0.3**
HSKC AMS AMS 20 00 10.0
comp=Z,900nm,17.6s
MI29 MI29, Kamyanyy 75.29 354 P **P 19 17 43.2 -0.7**
PLN Plauen 75.31 5 *e*P 19 17 43.9
comp=Z,48nm,1.0s,baz=356,slow=5.8
RAR Rarotonga 75.32 179 LR LR 19 44 46.2
comp=Z,812nm,19.5s,baz=60,slow=31
RICC Richard 75.33 3 *e*P **P 19 17 45.2 +1.0**
CHVC Chvalec 75.34 2 *e*P **P 19 17 44.6 +0.3**
CHVC AMS AMS 20 00 30.0
comp=Z,2μm,17.8s
CHVC Chvalec 75.34 2 *e*P **P 19 17 44.6 +0.3**
CHVC MLR MLR
comp=Z,2μm,17.8s
TNS Taunus Mts 75.36 7 *e*P 19 17 44.2
comp=Z,59nm,0.9s,baz=356,slow=5.8
PVCC Panska Ves 75.36 3 *e*P **P 19 17 44.8 +0.4**
PVCC AMS AMS 19 58 00.0
comp=Z,1μm,19.5s
PVCC Panska Ves 75.36 3 *e*P **P 19 17 44.8 +0.4**
PVCC MLR MLR
comp=Z,1μm,19.5s
OSTC Ostas 75.38 2 *e*P **P 19 17 44.8 +0.3**
OSTC *e*S **S 19 27 21.7 -0.2**
OSTC AMS AMS 20 00 40.0
comp=Z,2μm,17.6s
OSTC Ostas 75.38 2 *e*P **P 19 17 44.8 +0.3**
OSTC *e*S **S 19 27 21.7 -0.2**
OSTC MLR MLR
comp=Z,2μm,17.6s
TANN Tannenbergstha 75.40 4 *e*P 19 17 44.6
comp=Z,62nm,1.2s,baz=356,slow=5.8
UPC Upice 75.42 2 *e*P **P 19 17 45.0 +0.3**
UPC AMS AMS 20 00 40.0
comp=Z,2μm,18.0s
UPC Upice 75.42 2 *e*P **P 19 17 45.0 +0.3**
UPC MLR MLR
comp=Z,2μm,18.0s
PLTM Poltava 75.55 350 P **P 19 17 43.9 -1.6**
DPC Dobruska-Polom 75.58 2 *e*P **P 19 17 46.1 +0.3**
DPC *e*S **S 19 27 24.4 +0.2**
DPC AMS AMS 20 00 50.0
comp=Z,2μm,16.2s
DPC Dobruska-Polom 75.58 2 *e*P **P 19 17 46.1 +0.3**
DPC *e*S **S 19 27 24.4 +0.2**
DPC MLR MLR
comp=Z,2μm,16.2s
DPC Dobruska-Polom 75.58 2 P **P 19 17 46.0 +0.3**
comp=Z,154nm,1.0s,comp=Z,2μm
WLF Walferdange 75.72 9 IAmb IAmb 19 17 49.8
comp=Z,83nm,1.0s
WLF IAMs_20 IAMs_20 19 52 16.7
comp=Z,1μm,21.0s
WLF Walferdange 75.72 9 *d*P **P 19 17 47.2 +0.7**
comp=Z,47nm,1.1s
WLF Walferdange 75.72 9 *e*P 19 17 46.8
comp=Z,83nm,1.0s,baz=356,slow=5.8
OJC Ojcow 75.74 360 IAmb IAmb 19 17 52.0
comp=Z,61nm,0.9s
OJC Ojcow 75.74 360 P **P 19 17 46.4 -0.2**
comp=Z,87nm,0.9s,comp=Z,1μm
LUBAR Lubar, Ukraine 75.79 354 P **P 19 17 45.8 -1.0**
MANZ Manzenberg 75.81 5 *e*P 19 17 46.8
comp=Z,18nm,1.4s,baz=356,slow=5.8
PRA Prague 75.82 3 *e*P **P 19 17 47.2 +0.2**
PRA AMS AMS 19 58 10.0
comp=Z,2μm,20.0s
PRA Prague 75.82 3 *e*P **P 19 17 47.2 +0.2**
PRA MLR MLR
comp=Z,2μm,20.0s
KRLC Kraliky 75.87 2 *e*P **P 19 17 47.7 +0.3**
KRLC Kraliky 75.87 2 *e*P **P 19 17 47.7 +0.3**
SLVN Son La 75.90 287 IAMs_20 IAMs_20 19 53 41.4
comp=Z,1μm,20.0s
PRU Pruhonice 75.90 3 *e*P **P 19 17 47.5 0.0**
PRU *e*S **S 19 27 28.6 +1.0**
PRU AMS AMS 19 57 50.0
comp=Z,2μm,20.1s
PRU Pruhonice 75.90 3 *e*P **P 19 17 47.5 0.0**
PRU *e*S **S 19 27 28.6 +1.0**
PRU MLR MLR
comp=Z,2μm,20.1s
TNCH TengChong 75.90 293 ⇑P **P 19 17 48.3 +0.2**
TNCH pP pP 19 17 52.1 -5.5
TNCH S **S 19 27 28.3 -0.4**
TNCH SKS **SKSac 19 27 53.8 -2.8**
TNCH pmax pmax
comp=Z,110nm,1.0s
TNCH pmax pmax
comp=Z,700nm,3.2s
TNCH LR LR
comp=Z,940nm,16.4s
TNCH LR LR
comp=Z,960nm,16.1s
TNCH LR LR
comp=Z,3μm,21.7s
LSA Lhasa 75.95 301 P **P 19 17 50.1 +1.4**
LSA pmax pmax
comp=Z,110nm,0.7s
LSA Lhasa 75.95 301 *i* P **P 19 17 49.4 +0.7**
SNR=74
GOPC GO Pecny, Ondr 75.98 3 *e*P **P 19 17 47.7 -0.3**
GOPC GO Pecny, Ondr 75.98 3 *e*P **P 19 17 47.7 -0.3**
ROTZ Rotzenmuhle 76.03 5 *e*P 19 17 48.3
comp=Z,18nm,1.1s,baz=356,slow=5.8
GRA1 Grafenberg Arr 76.06 5 IAmb IAmb 19 17 51.6
comp=Z,111nm,1.3s
GRF Grafenberg Arr 76.06 5 *e*P 19 17 48.6
comp=Z,98nm,1.2s,baz=356,slow=5.8
GRF *e*L 20 00 42.9
comp=Z,814nm,18.3s
GRFO Grafenberg 76.06 5 P **P 19 17 47.9 -0.5**
GRFO IAmb IAmb 19 17 51.6
comp=Z,118nm,1.3s
GRFO Grafenberg 76.06 5 P **P 19 17 47.9 -0.5**
GRFO pmax pmax
comp=Z,118nm,1.3s
GRFO MLR MLR
comp=Z,600nm,20.0s
LVV L'vov 76.06 357 *e*P **P 19 17 48.1 -0.3**
LVV *e* 19 17 59.1
LVV *e* 19 20 41.3
LVV *e*S **S 19 27 26.5 -2.9**
LVV pmax pmax
comp=Z,230nm,1.2s
LVV MLR MLR
comp=E,600nm,17.0s
LVV MLR MLR
comp=N,600nm,18.0s
LVV MLR MLR
comp=Z,2μm,17.0s
OKC Ostrava-Krasne 76.12 1 *e*P **P 19 17 49.1 +0.4**
OKC AMS AMS 20 01 10.0
comp=Z,700nm,15.1s
OKC Ostrava-Krasne 76.12 1 *e*P **P 19 17 49.1 +0.4**
OKC MLR MLR
comp=Z,700nm,15.1s
MORC Moravsky Berou 76.18 1 ⇑P **P 19 17 49.3 +0.2**
MORC Moravsky Berou 76.18 1 IAmb IAmb 19 17 51.8
comp=Z,91nm,1.0s
MORC IAMs_20 IAMs_20 19 57 35.0

comp=Z,915nm,19.0s
MORC Moravsky Berou 76.18 1 *e*P **P 19 17 48.9 -0.2**
MORC Moravsky Berou 76.18 1 P **P 19 17 49.3 +0.2**
KWP Kalwaria Pacla 76.29 358 IAMs_20 IAMs_20 19 56 10.1
comp=Z,1μm,19.0s
KWP Kalwaria Pacla 76.29 358 P **P 19 17 50.0 +0.3**
comp=Z,256nm,1.0s,comp=Z,3μm
NIE Niedzica 76.54 359 P **P 19 17 51.6 +0.4**
comp=Z,42nm,1.0s,comp=Z,535nm
MAUC Maruska 76.59 1 *e*P **P 19 17 51.8 +0.3**
MAUC *e*pP **pP 19 18 01.4 +0.4**
TREC Trest 76.62 2 *e*P **P 19 17 51.6 0.0**
TREC AMS AMS 20 01 30.0
comp=Z,2μm,18.6s
TREC Trest 76.62 2 *e*P **P 19 17 51.6 0.0**
TREC MLR MLR
comp=Z,2μm,18.6s
VRAC Vranov 76.63 2 ⇑P **P 19 17 52.1 +0.4**
VRAC Vranov 76.63 2 *e*P **P 19 17 50.6 -1.1**
VRAC Vranov 76.63 2 P **P 19 17 52.0 +0.4**
WET Wettzell 76.69 4 *e*P 19 17 52.2
comp=Z,67nm,1.1s,baz=356,slow=5.8
KHC Kasperske Hory 76.73 4 IAMs_20 IAMs_20 19 58 05.4
comp=Z,1μm,20.0s
KHC Kasperske Hory 76.73 4 *e*P **P 19 17 53.0 +0.8**
KHC *e*pP **PcP 19 18 02.8 -0.7**
KHC *e*S **S 19 27 37.4 +0.6**
KHC AMS AMS 19 57 50.0
comp=Z,1μm,20.6s
KHC Kasperske Hory 76.73 4*c i*P **P 19 17 52.6 +0.4**
KHC pmax pmax
comp=Z,290nm,1.2s
KHC MLR MLR
comp=Z,2μm,21.0s
KHC Kasperske Hory 76.73 4 P **P 19 17 52.6 +0.4**
comp=Z,102nm,1.3s,comp=Z,1μm
LANS Liptovska Anna 76.81 360 *e*P **P 19 17 53.7 +1.0**
LANS pmax pmax
comp=Z,65nm,0.8s
LANS Liptovska Anna 76.81 360 *e*P **P 19 17 53.7 +1.0**
KRUC Moravsky 76.88 2 *e*P **P 19 17 52.3 -0.7**
CLF Chambon-Foret 76.94 12 IAMs_20 IAMs_20 19 53 19.0
comp=Z,1μm,22.0s
KOLS Kolonicke sedl 77.00 358 *e*P **P 19 17 54.3 +0.6**
KOLS pmax pmax
comp=Z,86nm,1.2s
KOLS Kolonicke sedl 77.00 358 *e*P **P 19 17 54.3 +0.6**
GEC2 GERESS Array S 77.02 4 IAmb IAmb 19 17 56.7
comp=Z,63nm,1.1s
GERES GERESS Array B 77.02 4 P **P 19 17 53.1 -0.8**
GERES GERESS Array B 77.02 4 P **P 19 17 54.0 +0.1**
comp=Z,25nm,0.8s,baz=359,slow=5.3,SNR=67
comp=Z,25nm,0.8s
GERES GERESS Array B 77.02 4 P **P 19 17 53.1 -0.8**
GEC2 GERESS Array S 77.02 4 *e*P 19 17 53.7
comp=Z,64nm,1.1s,baz=356,slow=5.8
CRVS Cervenica-Dubn 77.04 358 *e*P **P 19 17 54.3 +0.3**
CRVS pmax pmax
comp=Z,129nm,1.0s
CRVS Cervenica-Dubn 77.04 358 *e*P **P 19 17 54.3 +0.3**
CKRC Cesky Krumlov 77.06 3 *e*P **P 19 17 54.4 +0.3**
CKRC AMS AMS 19 58 50.0
comp=Z,2μm,20.3s
CKRC Cesky Krumlov 77.06 3 *e*P **P 19 17 54.4 +0.3**
CKRC MLR MLR
comp=Z,2μm,20.3s
PMG Port Moresby 77.08 233 LR LR 19 46 45.0
comp=Z,1μm,21.6s,baz=50,slow=32
JAVC Velka Javorina 77.10 1 *e*P **P 19 17 55.2 +0.9**
KMPD K-Podol'skiy 77.22 355 P **P 19 17 54.1 -0.8**
BFO Black Forest 77.23 7 P **P 19 17 53.5 -1.6**
BFO IAmb IAmb 19 17 57.2
comp=Z,41nm,0.9s
BFO Black Forest 77.23 7 P **P 19 17 53.5 -1.6**
BFO pmax pmax
comp=Z,41nm,0.9s
BFO Black Forest 77.23 7 *e*P 19 17 54.7
comp=Z,41nm,0.9s,baz=356,slow=5.8
ECH Echery 77.25 8 IAmb IAmb 19 17 57.9
comp=Z,79nm,0.9s
UZHM Uzhgorod 77.30 358 P **P 19 17 55.4 0.0**
SMOL Smolenice 77.44 1 *e*P **P 19 17 57.1 +0.9**
SMOL pmax pmax
comp=Z,55nm,1.0s
VYHS Vyhne 77.47 0 *e*P **P 19 17 56.8 +0.4**
VYHS pmax pmax
comp=Z,114nm,1.0s
VYHS Vyhne 77.47 0 *e*P **P 19 17 56.8 +0.4**
KECS Kecovo 77.47 359 *e*P **P 19 17 57.3 +0.9**
KECS pmax pmax
comp=Z,103nm,0.9s
KECS Kecovo 77.47 359 *e*P **P 19 17 57.2 +0.9**
SORM Soroca 77.53 354 ⇑P **P 19 17 56.5 -0.2**
SORM Soroca 77.53 354 P **P 19 17 55.8 -0.9**
SORM Soroca 77.53 354 P **P 19 17 55.7 -0.9**
comp=Z,251nm,1.0s,comp=Z,3μm
MODS Modra-Piesok 77.58 1 *e*P **P 19 17 57.7 +0.7**
MODS pmax pmax
comp=Z,316nm,1.1s
MODS Modra-Piesok 77.58 1 *e*P **P 19 17 57.7 +0.7**
FUR Furstenfeldbru 77.58 5 *e*P 19 17 57.0
comp=Z,86nm,1.0s,baz=356,slow=5.8
AOPR Arecibo Observ 77.64 76 IAmb IAmb 19 18 09.5
comp=Z,56nm,0.9s
BAL3X Bal3x, Balta 77.65 353 P **P 19 17 56.5 -0.8**
UUPR Utuado, UPR, P 77.73 76 IAmb IAmb 19 18 10.5
comp=Z,88nm,1.2s
UUPR IAMs_20 IAMs_20 19 53 31.6
comp=Z,878nm,19.0s
ZST Bratislava 77.75 1 *e*P **P 19 17 59.0 +1.1**
ZST pmax pmax
comp=Z,299nm,1.0s
ZST Bratislava 77.75 1 *e*P **P 19 17 59.0 +1.1**
MLPR Magueyes Islan 77.77 76 IAMs_20 IAMs_20 19 53 45.8
comp=Z,953nm,20.0s
SIMJ Simiganj 77.89 322 P **P 19 17 58.1 -1.0**
CELP Cerrillos 77.95 76 IAmb IAmb 19 18 14.2
comp=Z,59nm,0.9s
CELP IAMs_20 IAMs_20 19 53 48.5
comp=Z,1μm,20.0s
OBIP Obispado Ponce 77.96 76 IAmb IAmb 19 18 22.6
comp=Z,84nm,0.9s
OBIP IAMs_20 IAMs_20 19 53 41.8
comp=Z,1μm,20.0s
CONA Conrad Observa 78.00 2 *i*pP **P 19 18 00.0 +0.6**
comp=Z,111nm,1.0s,SNR=72
UBR Ueberruh 78.00 6 *e*P 19 17 59.3
comp=Z,48nm,0.9s,baz=356,slow=5.8
SWI Sorong 78.00 251 P **P 19 17 59.5 -0.2**
comp=Z,168nm,1.1s,comp=Z,2μm
MOA Molln 78.03 3 *i*pP **P 19 17 59.7 +0.1**
comp=Z,43nm,1.1s,SNR=22
PSZ Piszkesteto 78.04 359 ⇑P **P 19 18 00.5 +0.8**
PSZ Piszkesteto 78.04 359 IAMs_20 IAMs_20 19 53 21.4
comp=Z,1μm,21.0s
PSZ Piszkesteto 78.04 359 P **P 19 18 00.5 +0.8**
GCPR Guaynabo City 78.05 75 IAmb IAmb 19 18 02.6
comp=Z,92nm,0.9s
TBI Tubuai 78.06 169 *e*S S 19 27 38.3 -13
comp=Z,3μm,26.5s
TBI *e*SS **SS 19 32 52.3 -1.6**
comp=Z,2μm,28.5s
TBI *e*LR LR 19 42 14.8
comp=Z,11μm,23.0s
TBI *e*LR LR 19 42 16.8
comp=Z,3μm,23.8s
RJOB Jochberg 78.09 4 *e*P 19 17 59.8
comp=Z,100nm,0.8s,baz=356,slow=5.8
SRO Srobarova 78.15 1 *e*P **P 19 18 02.8 +2.7**
SRO pmax pmax
comp=Z,68nm,1.2s
SRO Srobarova 78.15 1 *e*P **P 19 18 02.8 +2.7**
SJG San Juan 78.17 76 P **P 19 18 00.8 +0.1**
SJG IAmb IAmb 19 18 24.2
comp=Z,47nm,1.0s
SJG San Juan 78.17 76 IAMs_20 IAMs_20 19 52 36.2
comp=Z,1μm,21.0s
SJG San Juan 78.17 76 LR LR 19 53 06.2
comp=Z,870nm,19.0s,baz=306,slow=36
SJG San Juan 78.17 76 P **P 19 18 00.8 +0.1**
SJG pmax pmax
comp=Z,47nm,1.0s
SJG MLR MLR
comp=Z,1μm,21.0s
BIOA Bad Ischl, Aus 78.17 4 *i*pP **P 19 18 00.4 +0.1**
comp=Z,49nm,1.1s,SNR=35

BUR08 Bucovina Ar. S 78.19 356 IAmb IAmb 19 18 03.2
comp=Z,82nm,1.1s
BURAR Bucovina Array 78.22 356 ⇑P **P 19 18 00.9 +0.3**
BURAR Bucovina Array 78.22 356 P **P 19 17 59.9 -0.8**
BURAR IAmb IAmb 19 18 03.1
comp=Z,58nm,0.8s
BMR Baia Mare 78.22 357 ⇑P **P 19 18 01.6 +1.0**
BMR Baia Mare 78.22 357 P **P 19 18 01.3 +0.7**
RETA Reutte 78.23 6 *i*pP **P 19 18 01.0 +0.2**
comp=Z,37nm,0.9s,SNR=29
RONA Rosalia, Austr 78.24 2 *i*pP **P 19 18 01.3 +0.6**
comp=Z,71nm,1.0s,SNR=45
IGPR InterUniversit 78.31 76 IAmb IAmb 19 18 16.0
comp=Z,109nm,1.2s
HUMP Col San Antoni 78.31 75 IAmb IAmb 19 18 25.1
comp=Z,57nm,1.1s
HUMP IAMs_20 IAMs_20 19 53 33.0
comp=Z,2μm,20.0s
DAVA Damuels 78.37 6 *i*pP **P 19 18 02.0 +0.3**
comp=Z,28nm,0.8s,SNR=16
LESA Schwarzleotal 78.39 4 *i*pP **P 19 18 02.1 +0.5**
comp=Z,66nm,1.4s
PRAR RASCA 78.42 355 ⇓P **P 19 18 01.2 -0.5**
WATA Walderalm 78.43 5 *i*pP **P 19 18 02.2 +0.3**
comp=Z,105nm,1.1s,SNR=52
WTTA Wattenberg 78.50 5 *i*pP **P 19 18 02.9 +0.5**
comp=Z,107nm,1.0s,SNR=52
PGRA Graciosa 78.52 36 *e*P P 19 18 15.1 +13
comp=Z,206nm,1.7s
SQTA Sankt Quirin 78.52 6 *i*pP **P 19 18 02.8 +0.4**
comp=Z,123nm,1.0s,SNR=66
ERBR Yeremizino-Bor 78.61 345 *e*P **P 19 18 03.2 +0.4**
ERBR *e**PP **PcP 19 18 05.0 -6.7**
ERBR *e*S **S 19 28 02.4 +5.2**
ERBR pmax pmax
comp=Z,319nm,0.9s
ERBR MLR MLR
comp=E,813nm,15.0s
ERBR MLR MLR
comp=N,3μm,18.0s
ERBR MLR MLR
comp=Z,2μm,21.0s
KIS Kishinev 78.63 353⇑*i*P **P 19 18 01.7 -1.1**
comp=Z,220nm,1.1s
KIS Kishinev 78.63 353 *e*PcP **PcP 19 18 10.0 -1.7**
KIS Kishinev 78.63 353*c i*P **P 19 18 01.7 -1.1**
KIS *e* 19 18 10.0
KIS pmax pmax
comp=Z,220nm,1.1s
KIS MLR MLR
comp=Z,650nm,15.5s
ARSA Arzberg 78.67 3 *i*pP **P 19 18 03.7 +0.7**
comp=Z,78nm,1.0s,SNR=61
FETA Feichten 78.69 6 *i*pP **P 19 18 03.9 +0.5**
comp=Z,78nm,0.9s,SNR=74
MILM Milestii Mici 78.71 353 ⇓P **P 19 18 02.9 -0.3**
MILM Milestii Mici 78.71 353⇑*i*P **P 19 18 02.0 -1.3**
comp=Z,460nm,1.1s
MILM Milestii Mici 78.71 353 *e*PcP **PcP 19 18 10.0 -2.1**
MILM Milestii Mici 78.71 353 *e*PP PP 19 21 07.0 +6.3
MILM *e*S **S 19 27 50.0 -8.2**
MILM Milestii Mici 78.71 353*c i*P **P 19 18 02.0 -1.3**
MILM *e* 19 18 10.0
MILM *e* 19 21 07.0
MILM *e*S **S 19 27 50.0 -8.2**
MILM pmax pmax
comp=Z,460nm,1.1s
MILM MLR MLR
comp=Z,2μm,16.0s
MESR Meseseni 78.76 357 ⇑P **P 19 18 04.4 +0.8**
KBA Koelnbreinsper 78.77 4 *i*pP **P 19 18 04.7 +0.9**
comp=Z,149nm,1.1s,SNR=46
ARCR ARCALIA 78.78 356 ⇓P **P 19 18 04.5 +0.8**
MPLH Magyarpolny 78.78 1 P **P 19 18 04.4 +0.7**
comp=Z,277nm,1.3s,comp=Z,4μm
TNTI Ternate 78.83 255 P **P 19 18 07.4 +3.0**
TNTI Ternate 78.83 255 IAmb IAmb 19 18 12.0
comp=Z,40nm,1.0s
TNTI Ternate 78.83 255 P **P 19 18 04.8 +0.4**
comp=Z,45nm,1.1s,comp=Z,596nm
GOF Gofitskoye 78.84 343*c e*P **P 19 18 04.1 +0.1**
PICO Pico 78.84 36 *e*P **P 19 18 06.5 +2.3**
comp=Z,191nm,1.3s
DAVOX Davos/Dischmat 78.88 6 LR LR 19 57 35.3
comp=Z,501nm,18.0s,baz=0.5,slow=39
PAGU Agualva, Azore 79.02 35 *e*P **P 19 18 08.4 +3.3**
comp=Z,146nm,1.3s
PURM Purcari 79.02 352 ⇑P **P 19 18 04.3 -0.6**
ABTA Abfaltersbach 79.06 5 *i*pP **P 19 18 05.7 +0.4**
comp=Z,66nm,1.0s,SNR=34
FUORN Ofenpass-Fuorn 79.06 6 IAmb IAmb 19 18 19.7
comp=Z,34nm,0.8s
DRGR 79.13 358 ⇑P **P 19 18 05.9 +0.2**
DRGR 79.13 358 P **P 19 18 06.0 +0.3**
TUE Stuetta 79.15 7 IAmb IAmb 19 18 08.7
comp=Z,32nm,0.9s
TUE Stuetta 79.15 7 P **P 19 18 06.6 +0.6**
comp=Z,149nm,0.8s,comp=Z,3μm
FAKI Fak Fak 79.16 249 P **P 19 18 07.7 +1.6**
FAKI Fak Fak 79.16 249 P **P 19 18 06.1 0.0**
CJR Cluj-Napoca 79.18 357 ⇑P **P 19 18 06.0 +0.1**
CJR Cluj-Napoca 79.18 357 P **P 19 18 07.9 +2.0**
SOKA Soboth 79.23 3 *i*pP **P 19 18 06.7 +0.5**
comp=Z,164nm,1.1s,SNR=114
MYKA Terra Mystica 79.23 4 *i*pP **P 19 18 06.2 0.0**
comp=Z,37nm,1.0s,SNR=24
MARR Marisel-Cluj 79.23 357 ⇑P **P 19 18 06.3 0.0**
TESR Tescani 79.25 355 ⇑P **P 19 18 05.8 -0.5**
TESR Tescani 79.25 355 P **P 19 18 05.6 -0.6**
comp=Z,76nm,0.9s,comp=Z,1μm
OBKA Obir 79.38 3 *i*pP **P 19 18 07.4 +0.3**
comp=Z,234nm,0.8s,SNR=143
OBKA Obir 79.38 3⇑*i*P **P 19 18 07.2 +0.1**
PRED Cave del Predi 79.41 4 IAmb IAmb 19 18 24.5
comp=Z,97nm,1.3s
PRED IAMs_20 IAMs_20 20 00 01.4
comp=Z,1μm,20.0s
ONER Baraj Valea Uz 79.44 355 ⇓P **P 19 18 08.0 +0.7**
STAL STALIGIAL 79.56 5 IAmb IAmb 19 18 30.7
comp=Z,48nm,1.2s
STAL IAMs_20 IAMs_20 19 58 03.2
comp=Z,935nm,20.0s
MOZS Mozjanca 79.59 3 *i*P **P 19 18 08.0 -0.1**
MOZS *e*S **S 19 28 06.6 -1.1**
LABN Labinsk 79.62 345 *e*P **P 19 18 05.2 -3.1**
LABN *e**PP **PcP 19 18 09.0 -7.1**
LABN *e*S **S 19 28 06.5 -1.5**
LABN pmax pmax
comp=Z,84nm,0.8s
LABN MLR MLR
comp=Z,2μm,19.0s
LABN MLR MLR
comp=E,2μm,20.0s
LABN MLR MLR
comp=N,2μm,17.0s
CADS Cadrg 79.63 4 *i*P **P 19 18 07.7 -0.7**
GHRR 79.66 354 ⇑P **P 19 18 08.8 +0.4**
GHRR 79.66 354 P **P 19 18 08.9 +0.4**
SIRR Siria 79.67 358 ⇓P **P 19 18 09.2 +0.6**
OZUR 79.71 355 ⇑P **P 19 18 08.1 -0.7**
CTI Castel Tesino 79.71 5 IAmb IAmb 19 18 25.5
comp=Z,56nm,1.0s
LIFNC LIFOU 79.73 210 IAMs_20 IAMs_20 19 46 29.4
comp=Z,1μm,20.0s
BOSR Bodos 79.74 355 ⇑P **P 19 18 09.8 +0.8**
TURR Turia 79.74 355 ⇓P **P 19 18 09.9 +1.0**
MORH Mrgy, Hungar 79.75 0 ⇑P **P 19 18 08.9 -0.1**
MORH Mrgy, Hungar 79.75 0 P **P 19 18 08.7 -0.2**
comp=Z,39nm,1.3s,comp=Z,622nm
VARL Varlezi 79.79 354 ⇑P **P 19 18 08.6 -0.5**
KALN Kalnik 79.81 2 *i*P **P 19 18 09.4 +0.1**
VLDR Vladesti 79.83 354 ⇑P **P 19 18 09.6 +0.2**
DOPR Dopca 79.86 356 ⇑P **P 19 18 10.2 +0.6**
PANC Panciu 79.86 354 ⇓P **P 19 18 10.3 +0.8**
COSR Cosmesti PH 79.87 354 ⇑P **P 19 18 10.1 +0.5**
SABO M.te Sabotino 79.87 4 IAmb IAmb 19 18 26.1
comp=Z,62nm,1.0s
SABO IAMs_20 IAMs_20 20 00 15.5
comp=Z,1μm,20.0s
VRI Vrincioaia 79.89 355 ⇓P **P 19 18 09.9 +0.2**
VRI Vrincioaia 79.89 355 P **P 19 18 09.9 +0.2**
VRI Vrincioaia 79.89 355 P **P 19 18 09.9 +0.2**
comp=Z,39nm,1.2s,comp=Z,345nm
PLOR Plostina 79.91 355 ⇑P **P 19 18 10.0 +0.1**
PLOR Plostina 79.91 355 P **P 19 18 10.0 +0.1**

SSB Saint Sauveur 79.91 10 IAMs_20 IAMs_20 19 56 30.5
comp=Z,894nm,20.0s
PLOR5 Plostina Array 79.92 355 P **P 19 18 10.5 +0.6**
comp=Z,90nm,0.8s,comp=Z,2μm
COVR Voineasa-Covas 79.94 355 ⇑P **P 19 18 10.8 +0.7**
ANN Anapa 79.94 347 *e*P **P 19 18 07.0 -3.0**
ANN *e**PP **PcP 19 18 10.8 -6.7**
ANN *e* 19 21 05.6
ANN *e*S **S 19 28 10.1 -1.2**
ANN pmax pmax
comp=Z,75nm,1.2s
SMRT St. Maarten 79.94 73 IAMs_20 IAMs_20 19 58 03.4
comp=Z,2μm,22.0s
KVAR Kislovodsk Arr 79.97 343 LR LR 19 59 59.3
comp=Z,900nm,18.3s,baz=258,slow=40
KIV Kislovodsk 79.97 343 ⇑P **P 19 18 11.3 +1.0**
KIV Kislovodsk 79.97 343 P **P 19 18 09.7 -0.6**
KIV IAMs_20 IAMs_20 20 00 08.2
comp=Z,1μm,19.0s
KIV Kislovodsk 79.97 343 *i*P **P 19 18 10.6 +0.3**
SNR=68
KIV Kislovodsk 79.97 343 *e*P **P 19 18 10.3 0.0**
KIV *e* 19 21 10.1
KIV *e*PPP PPP 19 23 01.1
KIV *e*S **S 19 28 14.5 +2.6**
KIV *e*SS **SS 19 33 25.6 +5.2**
KIV pmax pmax
comp=Z,168nm,1.0s
KIV pmax pmax
comp=Z,163nm,4.4s
KIV MLR MLR
comp=Z,784nm,19.0s
ODBI Odobesti 79.97 354 P **P 19 18 11.2 +1.0**
comp=Z,72nm,1.0s,comp=Z,769nm
SCTR Scanteiesti 80.01 354 ⇑P **P 19 18 10.6 +0.3**
MAK Makhachkala 80.02 339 *e*P **P 19 18 09.3 -1.1**
MAK *e* 19 21 09.0
MAK *e*PPP PPP 19 22 57.2
MAK *e*S **S 19 28 11.9 -0.2**
MAK *e*SS **SS 19 33 26.1 +5.2**
MAK pmax pmax
comp=Z,372nm,1.1s
PTJ Puntijarka 80.02 2 *i*P **P 19 18 10.4 -0.1**
DEV Deva 80.03 357 ⇑P **P 19 18 11.4 +0.9**
DEV Deva 80.03 357 P **P 19 18 11.3 +0.9**
CRES Cresnjev 80.09 3⇑*i*P **P 19 18 09.9 -0.9**
VISS Visnje 80.09 3 *i*P **P 19 18 10.4 -0.5**
SLCR Slobozia Conac 80.11 354 ⇓P **P 19 18 11.4 +0.6**
TUDR 80.11 354 ⇑P **P 19 18 10.9 +0.1**
CEY Cerknica 80.14 3⇑*i*P **P 19 18 10.6 -0.5**
NEGRR Negrea 80.15 354 ⇓P **P 19 18 11.7 +0.6**
IZVR Izvoarele 80.15 354 ⇑P **P 19 18 11.2 +0.1**
KBZ Khabaz 80.16 343 P **P 19 18 11.7 +0.6**
comp=Z,126nm,0.9s,baz=345,slow=4.7,SNR=109
KBZ LR LR 20 00 00.7
comp=Z,1μm,19.0s,baz=7.5,slow=40
comp=Z,126nm,0.9s
KBZ Khabaz 80.16 343 *i*P **P 19 18 11.5 +0.4**
KBZ pmax pmax
comp=Z,153nm,0.9s
KBZ MLR MLR
comp=Z,806nm,17.0s
SURR Surduc 80.18 358 ⇑P **P 19 18 11.8 +0.5**
SCHL Schela 80.19 354 ⇑P **P 19 18 11.6 +0.3**
SIM Simferopol' 80.20 349 *e*P **P 19 18 11.6 +0.2**
SIM *e*S **S 19 28 17.2 +3.2**
SIM pmax pmax
comp=Z,74nm,0.8s
SIM MLR MLR
comp=Z,2μm,18.0s
TNR Turnu Rosu 80.22 356 ⇑P **P 19 18 12.4 +0.9**
TNR Turnu Rosu 80.22 356 P **P 19 18 12.4 +0.9**
SCHLR Schela 80.22 354 ⇓P **P 19 18 11.9 +0.4**
NCK Nalchik 80.26 342⇓*i*P **P 19 18 12.8 +1.0**
NCK pmax pmax
comp=Z,335nm,0.8s
NCK MLR MLR
comp=Z,1μm,17.0s
MLR Muntele Rosu 80.31 355 ⇑P **P 19 18 12.6 +0.4**
MLR Muntele Rosu 80.31 355 IAmb IAmb 19 18 27.4
comp=Z,51nm,0.9s
MLR Muntele Rosu 80.31 355 LR LR 19 58 48.6
comp=Z,1μm,18.1s,baz=0.0,slow=40
MLR Muntele Rosu 80.31 355 P **P 19 18 12.5 +0.4**
BZS Buzias 80.33 358 ⇑P **P 19 18 12.1 0.0**
BZS Buzias 80.33 358 P **P 19 18 12.0 -0.1**
MOSL Moslavina 80.33 2 *i*P **P 19 18 12.2 +0.1**
BNI Bardonecchia 80.34 9 IAmb IAmb 19 18 16.4
comp=Z,62nm,1.1s
PSET Sete Cidades 80.37 35 *e*P **P 19 18 13.2 +0.7**
comp=Z,129nm,1.1s
VOIR 80.40 356 ⇑P **P 19 18 12.9 +0.4**
VOIR 80.40 356 P **P 19 18 12.9 +0.4**
VOIR 80.40 356 P **P 19 18 13.0 +0.4**
comp=Z,69nm,1.2s,comp=Z,1μm
BOJS Bojanci 80.41 3 *i*P **P 19 18 12.5 -0.1**
BOJS *e*S **S 19 28 14.8 -1.3**
BOJS Bojanci 80.41 3⇑*i*P **P 19 18 12.4 -0.1**
TLCR 80.44 353 ⇓P **P 19 18 12.5 -0.1**
TLCR 80.44 353 P **P 19 18 12.5 -0.1**
LOT Lotru 80.44 357 ⇑P **P 19 18 12.9 0.0**
CMLA Cha da Macela 80.48 34 IAMs_20 IAMs_20 19 51 23.4
comp=Z,1μm,20.0s
CMLA Cha da Macela 80.48 34 *e*P **P 19 18 16.4 +3.3**
ARR Arges 80.49 356 ⇑P **P 19 18 14.1 +1.1**
CFR Carcaliu 80.49 354 ⇑P **P 19 18 12.4 -0.5**
CFR Carcaliu 80.49 354 P **P 19 18 12.4 -0.5**
GZR Gura Zlata 80.52 357 ⇑P **P 19 18 13.5 +0.3**
GZR Gura Zlata 80.52 357 P **P 19 18 13.5 +0.3**
RIY Rijeka 80.56 3 *i*P **P 19 18 13.6 +0.2**
BART Pico Bartolome 80.59 34 *e*P **P 19 18 16.7 +3.0**
comp=Z,226nm,1.4s
ISR Istrita 80.65 355 ⇑P **P 19 18 14.2 +0.3**
ISR Istrita 80.65 355 P **P 19 18 14.2 +0.3**
ISR Istrita 80.65 355 P **P 19 18 14.0 +0.1**
comp=Z,77nm,1.0s
CHTO Chiang Mai 80.68 289 P **P 19 18 13.3 -1.1**
CHTO IAmb IAmb 19 18 16.3
comp=Z,64nm,0.9s
CHTO IAMs_20 IAMs_20 19 57 24.7
comp=Z,875nm,19.0s
CHTO Chiang Mai 80.68 289 P **P 19 18 13.3 -1.1**
CHTO pmax pmax
comp=Z,64nm,0.9s
CHTO MLR MLR
comp=Z,900nm,19.0s
NIL Nilore 80.70 317 P **P 19 18 13.7 -0.6**
NIL Nilore 80.70 317 P **P 19 18 13.7 -0.6**
NIL pmax pmax
comp=Z,219nm,0.8s
NIL MLR MLR
comp=Z,5μm,21.0s
DLV T Lat 80.78 278 P **P 19 18 16.8 +1.6**
DLV T Lat 80.78 278 IAmb IAmb 19 18 17.5
comp=Z,70nm,1.0s
TPGR Topolog 80.79 353 ⇑P **P 19 18 14.7 +0.1**
FRGS Fruska Gora 80.81 360 ⇑P **P 19 18 14.6 -0.1**
FRGS Fruska Gora 80.81 360 P **P 19 18 14.6 -0.1**
comp=Z,89nm,1.1s,comp=Z,1μm
SOC Sochi 80.81 345 *e*P **P 19 18 13.9 -0.8**
SOC *e* 19 21 16.8
SOC *e*PPP PPP 19 23 06.2
SOC *e*S **S 19 28 23.2 +2.7**
SOC *e*SS **SS 19 33 37.5 +4.8**
SOC pmax pmax
comp=Z,122nm,0.8s
SOC MLR MLR
comp=Z,1μm,18.0s
PGOR Pogoanele 80.83 354 ⇓P **P 19 18 15.1 +0.3**
VSLR Vesyoloye 80.88 345*c i*P **P 19 18 15.0 -0.1**
VSLR pmax pmax
comp=Z,198nm,1.4s
VSLR MLR MLR
comp=Z,1μm,18.0s
KMSI Cibinong 80.92 258 P **P 19 18 16.0 +0.3**
BRJN Brijuni 80.95 4 *i*P **P 19 18 14.8 -0.6**
CMAR Chiang Mai Arr 80.97 289 P **P 19 18 15.1 -0.8**
CMAR Chiang Mai Arr 80.97 289 P **P 19 18 15.7 -0.2**
comp=Z,108nm,0.8s,baz=21,slow=5.0,SNR=137
CMAR LR LR 19 57 54.2
comp=Z,758nm,18.8s,baz=35,slow=38
comp=Z,108nm,0.8s
CMAR Chiang Mai Arr 80.97 289 P **P 19 18 15.1 -0.8**
STFAR Stefanesti-Arg 80.98 356 ⇑P **P 19 18 16.3 +0.7**

HARR Harsova 80.99 354 ⇑P P 19 18 15.5 -0.2
HARR Harsova 80.99 354 P P 19 18 15.4 -0.2
KKM Kota Kinabalu 81.00 268 P P 19 18 19.2 +3.0
KKM Kota Kinabalu 81.00 268 IAmb IAmb 19 18 19.3
comp=Z,124nm,1.5s
HERR Herculane 81.05 358 ⇑P P 19 18 16.4 +0.5
SULR 81.10 355 ⇑P P 19 18 16.3 +0.1
TLBR Topalu 81.13 354 ⇓P P 19 18 16.5 +0.2
MDVR Moldovita 81.16 358 ⇑P P 19 18 16.8 +0.2
DZM Mont Dzumac 81.19 210 P P 19 18 19.6 +2.7
DZM Mont Dzumac 81.19 210 eS S 19 28 21.4 -3.4
comp=Z,391nm,26.2s
DZM eSS SS 19 33 39.1 -2.0
comp=Z,566nm,26.6s
DZM Mont Dzumac 81.19 210 eLR LR 19 43 44.1
comp=Z,3μm,22.1s
DZM Mont Dzumac 81.19 210 P P 19 18 18.5 +1.6
comp=Z,9.0nm,1.0s,baz=299,slow=5.8,SNR=3.5
DZM LR LR 19 50 41.1
comp=Z,2μm,18.9s,baz=16,slow=33
comp=Z,9.0nm,1.0s
BLY Banja Luka 81.20 1⇑iP P 19 18 16.8 0.0
SRE Strehaia 81.24 357 ⇓P P 19 18 17.5 +0.5
SRE Strehaia 81.24 357 P P 19 18 17.5 +0.5
DJES Djerdap 81.26 358 ⇑P P 19 18 18.2 +1.1
HATO Hato, Curacao 81.31 81 IAms_20 IAms_20 19 52 43.3
comp=Z,2μm,22.0s
MSSA Maissana 81.31 7 IAmb IAmb 19 18 38.6
comp=Z,38nm,0.8s
HUMR Humele 81.31 356 ⇑P P 19 18 17.2 -0.1
PSMN Pico do Norte, 81.33 34 eP P 19 18 17.4 -0.2
comp=Z,89nm,1.6s
NVLJ Novalja 81.33 3 iP P 19 18 16.9 -0.5
ZCCA Zocca 81.37 6 IAmb IAmb 19 18 49.4
comp=Z,97nm,1.1s
UDBI Udbina 81.39 2 iP P 19 18 17.7 -0.2
TEKS Tekeris 81.42 360 eP P 19 18 17.8 -0.1
GTOI Gorontalo 81.43 259 P P 19 18 17.5 -0.9
A050A Klekovaca 81.46 2⇑iP P 19 18 18.2 0.0
PCAB Cabril 81.46 20 eP P 19 18 19.6 +1.3
comp=Z,85nm,1.4s
PCAB iLQ LQ 19 18 35.0
MFTR Murfatlar 81.47 353 ⇓P P 19 18 17.8 -0.3
MGRS Mrkonjic Grad 81.53 1 eP P 19 18 19.5 +0.9
KBL Kabul 81.54 320 P P 19 18 16.5 -2.5
KBL Kabul 81.54 320 P P 19 18 16.5 -2.5
KBL pmax pmax
comp=Z,116nm,0.8s
ICOR Ion Corvin 81.57 354 ⇑P P 19 18 19.7 +1.0
VIRC Vir 81.61 3 iP P 19 18 18.8 -0.1
PBRG Braganca 81.63 19 eP P 19 18 19.9 +0.8
comp=Z,50nm,1.5s
PBRG iLQ LQ 19 18 41.9
PUNG Punghina 81.63 357 ⇓P P 19 18 18.9 -0.1
COPA Copaceanca 81.69 356 ⇑P P 19 18 19.2 -0.2
POLO Lamas de Olo 81.83 20 eP P 19 18 20.9 +0.6
comp=Z,57nm,1.4s
POLO iLQ LQ 19 18 35.9
HAPS Han Pijesak,BI 81.88 0⇑iP P 19 18 20.6 +0.1
DUGI Dugi Otok 81.91 3 iP P 19 18 20.4 -0.1
SANI Sanana 81.93 255 P P 19 18 21.7 +0.7
SANI Sanana 81.93 255 P P 19 18 20.0 -1.0
comp=Z,140nm,0.9s,comp=Z,1μm
KIJV Kijevo 81.93 2 iP P 19 18 20.4 -0.3
PVRL Vila Real 81.94 20 eP P 19 18 21.7 +0.9
comp=Z,146nm,1.6s
PSN Preselentsi 82.03 353 P P 19 18 22.8 +1.7
BBLS Lazi&#263i 82.10 360⇑iP P 19 18 22.1 +0.5
ABD La Joyeuse, An 82.10 73 IAms_20 IAms_20 19 55 16.2
comp=Z,1μm,20.0s
GDHS Morne Mazeau, 82.11 73 IAms_20 IAms_20 19 59 46.1
comp=Z,1μm,20.0s
CEST Esterri de Car 82.16 13 IAmb IAmb 19 18 30.2
comp=Z,54nm,1.0s
OSSC Osservatorio P 82.21 6 IAmb IAmb 19 18 25.4
comp=Z,58nm,0.9s
NLAI Namlea 82.28 253 P P 19 18 23.0 +0.2
comp=Z,53nm,0.8s
BOVS Bovan 82.31 358 ⇑P P 19 18 22.2 -0.4
TOLI2 Tolitoli 82.33 261 P P 19 18 23.8 +0.7
TOLI2 Tolitoli 82.33 261 IAmb IAmb 19 18 39.6
comp=Z,36nm,0.9s
RUDO Rudo 82.35 360 eP P 19 18 22.6 -0.2
PVIS Viseu 82.45 20 eP P 19 18 24.0 +0.5
PVIS iLQ LQ 19 18 40.1
NEF NEVSHA 82.45 354 P P 19 18 23.8 +0.4
RICI Ricice 82.45 1 iP P 19 18 22.2 -1.2
GDSD La Dsirade Is 82.47 73 IAms_20 IAms_20 19 56 25.9
comp=Z,1μm,21.0s
MPEP Malo Peshtene 82.53 357 P P 19 18 23.7 -0.1
PRD Provadia 82.55 354 P P 19 18 25.9 +2.0
PLE Pljevlja 82.63 360⇑iP P 19 18 23.0 -1.5
SJES Sjenica 82.70 359⇑iP P 19 18 25.3 +0.5
GUMA Gualdo di Mace 82.78 4 IAmb IAmb 19 18 41.2
comp=Z,108nm,0.9s
GUMA IAms_20 IAms_20 20 02 29.3
comp=Z,831nm,21.0s
MTE Manteigas 82.82 20 IAms_20 IAms_20 19 54 14.3
comp=Z,1μm,21.0s
MTE Manteigas 82.82 20 eP P 19 18 26.4 +0.9
comp=Z,211nm,1.2s
MTE iLQ LQ 19 18 40.8
MTE Manteigas 82.82 20 eS S 19 28 47.0 +5.5
MTE Manteigas 82.82 20 eLQ LQ 19 40 39.4
MTE eLR LR 19 43 34.8
comp=Z,1μm,22.0s
COI Coimbra 82.83 21 eP P 19 18 27.2 +1.8
comp=Z,351nm,1.1s
CASP Castiglione de 82.92 6 IAmb IAmb 19 18 28.6
comp=Z,56nm,1.0s
COEN Coen 82.93 234 P P 19 18 28.2 +2.1
LUWI Luwuk 82.93 258 P P 19 18 27.4 +1.2
LUWI Luwuk 82.93 258 IAms_20 IAms_20 19 49 51.4
comp=Z,977nm,22.0s
LUWI Luwuk 82.93 258 P P 19 18 24.6 -1.6
PCAS Casmilo, Conde 82.96 21 eP P 19 18 26.3 +0.2
comp=Z,272nm,1.3s
SDV Santo Domingo 82.98 85 P P 19 18 25.1 -1.6
SDV IAmb IAmb 19 18 58.6
comp=Z,42nm,1.4s
SDV Santo Domingo 82.98 85 LR LR 19 59 30.6
comp=Z,478nm,18.1s,baz=320,slow=39
SDV Santo Domingo 82.98 85 eP P 19 18 27.9 +1.2
NAYO Nakonayok 82.98 285 P P 19 18 27.9 +1.4
NRCA Norcia 82.99 4 IAmb IAmb 19 18 33.6
comp=Z,57nm,0.9s
BRY Bratogost 83.06 0 eP P 19 18 25.9 -0.8
BRY Bratogost 83.06 0⇑iP P 19 18 24.0 -2.7
STON Ston 83.08 1 iP P 19 18 26.0 -0.7
STON Ston 83.08 1 eP P 19 18 25.7 -0.9
IVA Berane 83.09 359⇑iP P 19 18 25.3 -1.5
KOME Kolasin 83.11 360⇑iP P 19 18 26.7 -0.2
NKME Niksic 83.20 0⇑iP P 19 18 25.6 -1.7
TREB Trebinje 83.25 1 eP P 19 18 25.7 -1.8
JMB Yambol 83.27 355 P P 19 18 27.9 +0.3
GNI Garni 83.28 341 P P 19 18 27.8 -0.1
GNI Garni 83.28 341 P P 19 18 28.5 +0.5
GNI Garni 83.28 341 LR LR 20 02 41.3
comp=Z,2μm,18.8s,baz=17,slow=41
GNI Garni 83.28 341c iP P 19 18 29.1 +1.1
GNI pmax pmax
comp=Z,93nm,1.0s
GNI MLR MLR
comp=Z,2μm,23.0s
GNI Garni 83.28 341 P P 19 18 29.5 +1.5
comp=Z,156nm,0.9s,comp=Z,2μm
VTS Vitosha 83.28 357 P P 19 18 27.7 -0.2
CAMP Campotosto 83.30 4 IAmb IAmb 19 18 51.4
comp=Z,73nm,1.1s
PCBR Castelo Branco 83.38 20 eP P 19 18 28.7 +0.5
comp=Z,156nm,1.1s
PSBE So Bento 83.42 21 eP P 19 18 29.6 +1.1
comp=Z,232nm,1.3s
CEME Cevo 83.42 0⇑iP P 19 18 27.4 -1.1
PDG Podgorica 83.53 360 ⇓P P 19 18 29.2 +0.3
PDG Podgorica 83.53 360⇑iP P 19 18 28.4 -0.6
BUM Brajici-Budva 83.66 0⇑iP P 19 18 28.7 -1.1
PLD Plovdiv 83.70 356 P P 19 18 31.7 +1.9
FDF Fort de France 83.70 74 IAms_20 IAms_20 19 57 45.6
comp=Z,1μm,20.0s
DRME Dracevica, Mon 83.78 360⇑iP P 19 18 27.1 -3.2
PMRV Marv??o 83.79 20 eP P 19 18 31.0 +0.6
comp=Z,126nm,1.5s
PMRV iLQ LQ 19 18 45.7

PMRV Marv??o 83.79 20 eS S 19 28 51.9 +0.7
PMRV Marv??o 83.79 20 eLQ LQ 19 40 41.5
PMRV eLR LR 19 45 02.2
comp=Z,872nm,20.0s
ILAM Ilet Lapin Mar 83.82 73 IAms_20 IAms_20 19 58 06.7
comp=Z,1μm,20.0s
INTR Introdacqua 83.85 4 IAmb IAmb 19 18 33.8
comp=Z,38nm,1.0s
PUK Puka 83.92 359 IAmb IAmb 19 18 41.9
comp=Z,51nm,0.8s
PUK IAms_20 IAms_20 20 01 59.8
comp=Z,1μm,21.0s
BIM Bigot 83.92 74 IAms_20 IAms_20 19 55 27.4
comp=Z,1μm,21.0s
PMTG Montargil 83.96 21 eP P 19 18 31.6 +0.4
comp=Z,105nm,1.3s
PMTG iLQ LQ 19 18 46.3
SKO Skopje 83.97 358 iP P 19 18 31.8 +0.6
KKB Krupnik 84.06 357 P P 19 18 33.6 +1.9
ROSC El Rosal 84.08 90 LR LR 20 00 00.7
comp=Z,515nm,18.5s,baz=40,slow=38
HRA Herat 84.08 325 IAmb IAmb 19 18 34.6
comp=Z,51nm,0.8s
MPOM Morne Pois Mar 84.10 74 IAms_20 IAms_20 19 55 10.0
comp=Z,1μm,20.0s
LIS Lisbon 84.10 22 eP P 19 18 32.1 +0.2
LIS IAms_20 IAms_20 19 53 41.9
comp=N,3μm,22.7s
LIS Lisbon 84.10 22 eP P 19 18 32.1 +0.2
PACT Alcochete 84.12 22 eP P 19 18 34.0 +2.0
comp=N,503nm,1.3s
PEHC Pehcevo 84.13 357 iP P 19 18 32.5 +0.3
SRDT SRDT 84.19 286 P P 19 18 33.6 +0.9
ESDC Sonseca Array 84.21 18 P P 19 18 32.2 -0.3
ESDC Sonseca Array 84.21 18 P P 19 18 32.8 +0.3
comp=N,58nm,0.9s,baz=342,slow=4.5,SNR=107
ESDC PP PP 19 21 44.7 -1.6
comp=N,3.5nm,0.9s,baz=348,slow=5.6,SNR=4.3
ESDC PKKPbc PKKPbc 19 36 44.1 +1.1
comp=N,0.4nm,0.6s,baz=132,slow=1.9,SNR=4.8
ESDC PKPPKP P'P'df 19 44 51.9 -5.0
comp=N,0.8nm,0.9s,baz=241,slow=1.7,SNR=4.3
ESDC LR LR 19 57 58.7
comp=N,1μm,19.6s,baz=350,slow=37
comp=N,58nm,0.9s
STIP Stip 84.23 358 iP P 19 18 32.3 -0.3
PAB San Pablo 84.26 18 P P 19 18 31.8 -1.1
PAB IAmb IAmb 19 18 35.9
comp=Z,48nm,1.2s
PAB San Pablo 84.26 18 P P 19 18 31.8 -1.1
PAB pmax pmax
comp=Z,48nm,1.2s
PAB MLR MLR
comp=Z,2μm,19.0s
PESTR Estremoz 84.29 21 eP P 19 18 32.9 0.0
comp=Z,136nm,1.5s
MMB Musomishta 84.33 357 P P 19 18 33.5 +0.3
EVO Evora 84.52 21 eP P 19 18 34.4 +0.3
comp=Z,74nm,1.3s
EVO iLQ LQ 19 18 48.5
RAO Raoul Island 84.61 195 LR LR 19 49 36.0
comp=Z,737nm,21.9s,baz=73,slow=31
TIR Tirane 84.61 359⇑iP P 19 18 35.3 +0.8
TIR Tirane 84.61 359 IAms_20 IAms_20 19 58 17.2
comp=Z,1μm,21.0s
TIR Tirane 84.61 359 P P 19 18 35.3 +0.8
PNCL Nicolau / Gran 84.82 22 eP P 19 18 36.6 +1.0
comp=Z,150nm,1.4s
PNCL iLQ LQ 19 18 50.3
OHR Ohrid 84.84 359 iP P 19 18 36.2 +0.4
PBEJ Beja 85.04 21 eP P 19 18 38.9 +2.2
comp=Z,59nm,1.4s
PBEJ iLQ LQ 19 18 51.8
PBAR Barrancos 85.07 20 eP P 19 18 37.8 +0.9
comp=Z,115nm,1.4s
MESJ Messejana 85.15 21 eP P 19 18 39.3 +2.0
comp=Z,29nm,1.4s
MESJ iLQ LQ 19 18 51.2
MESJ Messejana 85.15 21 eP P 19 18 37.3 +0.1
MESJ IAms_20 IAms_20 19 53 24.2
comp=Z,2μm,24.1s
MESJ Messejana 85.15 21 eP P 19 18 37.3 +0.1
MATE Matera 85.29 2⇑P P 19 18 39.0 +1.1
PTEO Sao Teotonio 85.32 22 eP P 19 18 39.9 +1.8
comp=Z,98nm,1.3s
KBN Korca 85.33 359 IAms_20 IAms_20 20 02 17.1
comp=Z,1μm,22.0s
GURO Guroymak-BITLI 85.34 342 IAmb IAmb 19 18 42.0
comp=Z,57nm,1.5s
GURO IAms_20 IAms_20 20 00 42.1
comp=Z,818nm,20.0s
ANTO Ankara 85.36 350⇑iP P 19 18 39.7 +1.3
ANTO Ankara 85.36 350 P P 19 18 38.0 -0.4
ANTO Ankara 85.36 350 IAms_20 IAms_20 20 03 16.4
comp=Z,1μm,21.0s
ANTO Ankara 85.36 350 P P 19 18 38.0 -0.4
ANTO pmax pmax
comp=Z,120nm,1.0s
ANTO MLR MLR
comp=Z,1μm,21.0s
PCVE Castro Verde 85.39 21 eP P 19 18 38.7 +0.3
comp=Z,71nm,1.7s
PCRV Puerto La Cruz 85.41 79 LR LR 19 55 36.8
comp=Z,1μm,21.3s,slow=35
BR131 Keskin Array S 85.41 349c iP P 19 18 38.7 0.0
BRTR Keskin Array B 85.41 349 P P 19 18 38.2 -0.5
BRTR Keskin Array B 85.41 349 P P 19 18 38.8 0.0
comp=Z,39nm,0.8s,baz=24,slow=2.2,SNR=76
BRTR LR LR 20 02 11.3
comp=Z,944nm,18.8s,baz=21,slow=40
comp=Z,39nm,0.8s
BRTR Keskin Array B 85.41 349 P P 19 18 38.2 -0.5
ARPR Arapgir-MALATY 85.42 345 IAms_20 IAms_20 20 02 36.1
comp=Z,955nm,20.0s
VLO Vlora 85.49 360 IAms_20 IAms_20 19 56 32.4
comp=Z,1μm,20.0s
GRGR Grenville 85.53 76 IAms_20 IAms_20 20 00 04.9
comp=Z,1μm,20.0s
MORF Marmelete 85.57 22 eP P 19 18 38.8 -0.6
comp=Z,98nm,1.4s
MORF iLQ LQ 19 18 54.2
MORF Marmelete 85.57 22 eP P 19 18 39.5 +0.1
MORF IAms_20 IAms_20 19 54 32.9
comp=Z,3μm,24.0s
MORF Marmelete 85.57 22 eP P 19 18 39.5 +0.1
PVAQ Vaqueiros 85.67 21 IAmb IAmb 19 18 43.6
comp=Z,35nm,1.2s
PVAQ IAms_20 IAms_20 19 58 07.7
comp=Z,1μm,20.0s
PVAQ Vaqueiros 85.67 21 eP P 19 18 40.4 +0.5
comp=Z,82nm,1.6s
PVAQ iLQ LQ 19 18 54.7
PVAQ Vaqueiros 85.67 21 eS S 19 29 12.3 +2.4
PVAQ Vaqueiros 85.67 21 eLQ LQ 19 43 10.1
PVAQ eLR LR 19 47 05.7
comp=Z,1μm,20.0s
PFVI Vila Bisbo 85.69 22 eP P 19 18 41.7 +1.7
comp=Z,158nm,1.5s
PFVI iLQ LQ 19 18 54.4
PBDV Barranco-do-Ve 85.78 21 eP P 19 18 42.7 +2.2
comp=Z,67nm,2.3s
PBDV iLQ LQ 19 18 55.6
TV1H Townsville Har 85.91 229 P P 19 18 43.4 +2.3
CUC Castrocucco 85.92 3 IAms_20 IAms_20 19 58 38.7
comp=Z,966nm,22.0s
MTSU Mount Surprise 86.03 231 P P 19 18 43.6 +1.9
SBUM Sibu 86.23 269 IAmb IAmb 19 18 49.6
comp=Z,18nm,0.7s
BBSI Bau Bau 86.67 256 P P 19 18 44.0 -1.0
comp=Z,57nm,0.9s
CART Cartagena 86.74 16 IAms_20 IAms_20 19 58 49.1
comp=Z,1μm,20.0s
CTA Charters Tower 86.88 229 LR LR 19 51 46.4
comp=Z,51nm,21.9s,baz=26,slow=32
CTAO Charters Tower 86.88 229 P P 19 18 47.3 +1.5
CTAO Charters Tower 86.88 229 P P 19 18 46.6 +0.8
CTAO Charters Tower 86.88 229 IAms_20 IAms_20 19 52 08.0
comp=Z,1μm,20.0s
CTAO Charters Tower 86.88 229 P P 19 18 46.7 +0.8
CTAO pmax pmax
comp=Z,76nm,1.0s
CTAO MLR MLR
comp=Z,1μm,20.0s
AGG Agios Georgios 86.90 358 IAms_20 IAms_20 20 01 38.7
comp=Z,1μm,20.0s
KDU Kakadu 87.20 244 P P 19 18 49.0 +1.5

MTKI Muara Teweh, K 87.40 265 P P 19 18 48.5 -0.1
comp=Z,134nm,1.1s
GAZ Gaziantep 87.47 346 IAms_20 IAms_20 20 02 45.3
comp=Z,883nm,21.0s
ISP Isparta 87.61 351 IAms_20 IAms_20 19 57 34.4
comp=Z,1μm,22.0s
PMOZ Porto Moniz, M 87.64 30 eLR LR 19 49 44.2
comp=Z,753nm,20.0s
CEL Celeste 87.66 3 IAmb IAmb 19 19 03.8
comp=Z,38nm,0.8s
CEL Celeste 87.66 3 P P 19 18 49.7 +0.1
comp=Z,54nm,0.8s,comp=Z,665nm
KAPI Kappang 87.89 258 P P 19 18 50.5 -0.4
KAPI Kappang 87.89 258 LR LR 19 54 11.0
comp=Z,426nm,20.6s,baz=38,slow=33
KAPI Kappang 87.89 258c iP P 19 18 52.1 +1.2
KAPI pmax pmax
comp=Z,110nm,1.1s
KAPI MLR MLR
comp=Z,415nm,18.0s
BKSI Bulukumba 87.93 258 P P 19 18 50.4 -0.7
comp=Z,44nm,1.3s
RK1H Rockhampton Ha 88.02 224 P P 19 18 52.9 +1.7
MTN Manton Dam 88.04 245 P P 19 18 52.7 +1.2
SURA Surathani 88.11 283 P P 19 18 53.4 +1.4
GD1S Gladstone Soft 88.15 223 P P 19 18 55.5 +3.7
STKI Sintang 88.58 268 P P 19 18 53.7 -0.6
comp=Z,37nm,1.1s
ITM Ithomi 88.75 358 IAms_20 IAms_20 20 05 21.6
comp=Z,894nm,20.0s
SOEI Soe 89.21 252 P P 19 19 00.5 +3.2
SOEI Soe 89.21 252 IAmb IAmb 19 19 06.7
comp=Z,39nm,0.8s
SOEI Soe 89.21 252 P P 19 18 56.8 -0.5
comp=Z,58nm,0.8s
SANT Santorini 89.42 355 IAms_20 IAms_20 20 03 50.4
comp=Z,811nm,20.0s
MMRI Maumere 89.43 254 P P 19 18 57.0 -1.2
comp=Z,55nm,1.1s
EIDS Eidsvold 89.56 222 P P 19 19 01.5 +3.1
EIDS Eidsvold 89.56 222 IAmb IAmb 19 19 14.2
comp=Z,29nm,1.2s
KEST Kesra 89.83 8 IAmb IAmb 19 19 24.7
comp=Z,24nm,0.9s
KEST Kesra 89.83 8 P P 19 19 00.2 +0.2
comp=Z,21nm,1.0s,baz=314,slow=3.1,SNR=15
KEST LR LR 20 02 58.0
comp=Z,664nm,19.2s,baz=302,slow=38
comp=Z,21nm,1.0s
EDFI Ende, Flores 89.83 255 P P 19 18 57.7 -2.5
comp=Z,27nm,0.9s
BATI Baumata 89.92 252 P P 19 18 58.8 -1.7
comp=Z,55nm,0.9s
KARP Karpathos 90.14 353 IAms_20 IAms_20 20 06 02.5
comp=Z,1μm,20.0s
CSS Mathiatis 90.15 348 IAms_20 IAms_20 20 07 23.1
comp=Z,767nm,21.0s
QIS Mount Isa 90.32 234 P P 19 19 03.8 +1.7
KULM Kulim 90.67 280 IAms_20 IAms_20 20 05 29.8
comp=Z,855nm,20.0s
GC1S Gold Coast 1 S 91.15 219 P P 19 19 09.4 +3.7
MMAI Mount Meron Ar 91.81 346 P P 19 19 07.4 -1.8
comp=Z,2.8nm,0.7s,baz=5.4,slow=3.0,SNR=2.3
MMAI LR LR 20 06 43.6
comp=Z,504nm,18.4s,baz=324,slow=40
comp=Z,2.8nm,0.7s
WB0 Warramunga Arr 92.17 238 IAmb IAmb 19 19 12.7
comp=Z,41nm,1.1s
WRAB Tennant Creek 92.34 238 P P 19 19 10.9 -0.6
WRAB Tennant Creek 92.34 238⇓iP P 19 19 11.1 -0.4
WRAB pmax pmax
comp=Z,55nm,1.1s
WRAB MLR MLR
comp=Z,300nm,11.0s
WRA Warramunga Arr 92.35 238 P P 19 19 11.3 -0.3
comp=Z,24nm,0.9s,baz=40,slow=5.4,SNR=90
WRA LR LR 19 56 32.0
comp=Z,660nm,21.6s,baz=26,slow=33
comp=Z,24nm,0.9s
HYB Hyderabad 92.44 305 eP P 19 19 11.8 -0.5
RPN Rapa Nui 92.51 136 LR LR 19 53 05.3
comp=Z,701nm,19.0s,baz=348,slow=30
TATN Tataouine 93.05 7 IAmb IAmb 19 19 15.2
comp=Z,23nm,0.8s
QLP Quilpie 93.45 227 P P 19 19 19.7 +3.2
GHAJ Ghor Haditha 93.47 346 IAms_20 IAms_20 20 09 56.0
comp=Z,974nm,20.0s
SHME Shamm 93.76 327 iP P 19 19 17.9 -0.3
SNR=7.3
ARMA Armidale 93.88 220 P P 19 19 20.8 +2.3
ARMA Armidale 93.88 220 IAmb IAmb 19 19 34.1
comp=Z,34nm,1.1s
TOZ Tahuroa Road 94.00 199 P P 19 19 17.5 -1.2
TOZ IAmb IAmb 19 19 22.5
comp=Z,34nm,1.3s
TOZ IAms_20 IAms_20 19 53 15.8
comp=Z,947nm,20.0s
URZ Urewera 94.23 197 LR LR 19 55 19.5
comp=Z,1μm,20.8s,baz=91,slow=31
AULRC Lightning Ridg 94.41 223 P P 19 19 22.7 +1.9
MDH Madha 94.41 327 P P 19 19 21.0 -0.2
AUPHS Peel High Scho 94.77 220 P P 19 19 24.8 +2.3
UOSS Minazif 94.77 327 P P 19 19 22.2 -0.6
HATD Hatta, Dubai 94.91 327 P P 19 19 23.0 -0.5
ASHO Ashiyiah 95.06 327 P P 19 19 23.1 -1.2
EIL Elat 95.16 346 LR LR 20 05 34.4
comp=Z,419nm,21.5s,baz=50,slow=38
ASUD Al Ashush, Dub 95.35 327 P P 19 19 25.3 -0.2
WSAR Wadi Sarin 95.55 324 LR LR 20 08 13.4
comp=Z,2μm,20.3s,baz=58,slow=39
GSI Gunungsitoli 95.67 280 P P 19 19 28.6 +1.5
GSI Gunungsitoli 95.67 280 P P 19 19 27.4 +0.3
ASAR Alice Springs 95.70 237 P P 19 19 26.5 -0.4
ASAR Alice Springs 95.70 237 P P 19 19 26.9 0.0
comp=Z,14nm,0.8s,baz=34,slow=4.5,SNR=68
ASAR PKKPbc PKKPdf 19 36 15.9 -0.4
comp=Z,1.8nm,0.9s,baz=209,slow=1.1,SNR=9.7
ASAR LR LR 19 57 46.5
comp=Z,966nm,21.0s,baz=27,slow=32
comp=Z,14nm,0.8s
ALNE Al Ain 95.75 327 iP P 19 19 26.7 -0.6
SNR=6.5
INKA Innaminka 95.98 229 P P 19 19 29.5 +1.5
MDP Montagnes des 96.33 72 LR LR 20 03 28.1
comp=Z,781nm,20.6s,baz=322,slow=36
AUDCS Dubbo College 96.64 221 P P 19 19 34.0 +3.1
MRZ Mangatainoka R 96.83 198 IAms_20 IAms_20 19 58 02.7
comp=Z,1μm,19.0s
MZR Muzera 97.44 328 P P 19 19 34.2 -0.8
RAYN Ar Rayn 99.14 336 P Pdif 19 19 42.0 -0.7
RAYN Ar Rayn 99.14 336 iP Pdif 19 19 42.6 -0.1
SNR=18
RAYN Ar Rayn 99.14 336 P Pdif 19 19 42.0 -0.7
RAYN pmax pmax
comp=Z,32nm,0.8s
RAYN MLR MLR
comp=Z,1μm,19.0s
STKA Stephens Creek 99.18 227 P Pdif 19 19 43.7 +1.3
comp=Z,7.7nm,1.0s,baz=22,slow=7.4,SNR=4.5
STKA PKKP PKKPbc 19 36 08.1 +2.2
comp=Z,2.8nm,0.8s,baz=138,slow=13,SNR=2.9
STKA LR LR 20 00 19.4
comp=Z,1μm,20.8s,baz=23,slow=33
comp=Z,7.7nm,1.0s
PALK Pallekele 100.03 298 LR LR 20 09 20.1
comp=Z,900nm,21.6s,baz=116,slow=38
SAML Samuel 101.68 89 IAms_20 IAms_20 20 09 23.0
comp=Z,872nm,20.0s
TAM Tamanrasset 102.23 13 IAms_20 IAms_20 20 12 04.9
comp=Z,844nm,18.0s
VILB Vilhena 106.62 89 IAms_20 IAms_20 20 10 12.3
comp=Z,1μm,20.0s
PTLB Pontes e Lacer 109.22 90 IAms_20 IAms_20 20 11 11.2
comp=Z,1μm,22.0s
H03N2 Juan Fernandez 112.11 117 T T 21 26 30.9
baz=323,slow=77,SNR=56
H03N1 Juan Fernandez 112.12 117 T T 21 26 34.8
baz=323,slow=77,SNR=56
H03N3 Juan Fernandez 112.12 117 T T 21 26 28.0
baz=323,slow=77,SNR=66
RCBR Riachuelo 114.52 64 IAms_20 IAms_20 20 12 45.9
comp=Z,899nm,21.0s
DBIC Dimbokro 115.90 27 PKP PKPdf 19 24 43.8 -0.3
comp=Z,4.6nm,0.8s,baz=313,slow=5.8,SNR=3.2
CPUP Villa Florida 118.73 96 PKP PKPdf 19 24 48.7 -0.3
comp=Z,1.6nm,0.8s,baz=220,slow=8.0,SNR=3.2
CPUP PKKPab PKKPab 19 35 06.7 +0.4

comp=Z,3.1nm,0.8s,baz=104,slow=2.3,SNR=5.2
LODK Lodwar 120.81 341 PKiKP 19 24 54.1 +0.4
LODK IAMs_20 IAMs_20 20 28 11.2
comp=Z,636nm,20.0s
LL01 San Ignacio de 122.21 119 PKiKP 19 24 55.4 0.0
SPB Sao Paulo 122.42 86 IAMs_20 IAMs_20 20 18 32.9
comp=Z,705nm,21.0s
KMBO Kilima Mbogo 124.84 338 *i* P **PKiKP 19 25 02.2 +0.3**
SNR=16
VNDA Vanda 133.69 191 PKP **PKiKP 19 25 16.9 -0.5**
comp=Z,1.2nm,0.9s,baz=0.4,slow=8.1,SNR=3.1
VNDA SKPbc **SKPbc 19 28 42.4 +0.1**
comp=Z,2.0nm,0.8s,baz=16,slow=5.1,SNR=7.0
QSPA South Pole Qui 144.19 180 PKPab 19 25 33.0 -0.4
QSPA South Pole Qui 144.19 180 PKP PKPbc 19 25 33.9 +0.1
comp=Z,32nm,0.7s,baz=335,slow=0.7,SNR=76
TSUM Tsumeb 144.84 3 PKPab 19 25 36.0 -1.3
LBTB Lobatse 150.25 348 PKPdf 19 25 46.7 -0.3
LBTB Lobatse 150.25 348 PKIKP **PKPdf 19 25 46.7 -0.3**
BOSA Boshof 153.84 348 PKP **PKPdf 19 25 52.3 0.0**
comp=Z,7.8nm,0.9s,baz=21,slow=1.1,SNR=9.5
BOSA PKPbc **PKiKP 19 26 00.9 +0.6**
comp=Z,13nm,0.8s,baz=25,slow=2.4,SNR=18
BOSA PP **PP 19 29 47.8 +0.5**
comp=Z,5.7nm,0.8s,baz=32,slow=4.4,SNR=4.8
MAW Mawson 155.68 220 PKP **PKPdf 19 25 53.6 +0.2**
comp=Z,2.4nm,0.9s,baz=160,slow=4.5,SNR=4.9
MAW PKPbc **pPKPdf 19 26 02.6 -0.8**
comp=Z,7.1nm,0.9s,baz=308,slow=3.1,SNR=8.4
MAW PKPab **PKPab 19 26 20.6 +0.6**
comp=Z,41nm,1.0s,baz=92,slow=5.6,SNR=9.1
VNA3 Neumayer Olymp 158.97 154 ⇑PKPdf **PKPdf 19 25 55.0 -2.5**
comp=Z,5.0nm,0.8s
VNA2 Neumayer--Watz 159.75 155 ⇑PKPdf **PKPdf 19 25 55.4 -3.0**
comp=Z,3.5nm,0.8s,baz=354,slow=1.2
SNAA Sanae 160.25 159 ⇑PKPdf **PKPdf 19 25 57.6 -1.5**
comp=Z,50nm,1.3s
SNAA Sanae 160.25 159 PKP **PKPdf 19 25 57.6 -1.5**
comp=Z,3.1nm,1.1s,baz=23,slow=7.0,SNR=4.6
SNAA PKPab **PKPab 19 26 38.6 -1.2**
comp=Z,5.7nm,0.9s,baz=208,slow=11,SNR=6.2
TROLL Troll, Antarti 160.95 164 ⇑PKPdf **PKPdf 19 25 56.8 -3.1**
comp=Z,137nm,1.1s
ELIB Princess Elisa 162.30 184 *d*PKPdf **PKPdf 19 26 01.7 +0.4**
ELIB *d*PKP **PKPab 19 26 49.0 +0.2**
NVL N'lazarevskaya 163.26 172 *e*PKP2 **PKPab 19 26 53.9 +1.0**
NVL pmax pmax
comp=Z,14nm,0.9s

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*ISK **18** 19:22:40.1,39°.56N×26°.02E,h7km,ML2.8/20*
*AFAD **18** 19:22:40.6±0.0,39°.56N×26°.10E,h12km±1km,ML2.7*
*ATH **18** 19:22:41.0,39°.53N×26°.04E,h14km±1km,ML2.4/6,Error ellipse: s-maj=1.9km s-min=0.8km az=241.0*
ISC 18 19:22:40.4±0.8,39°.54N±0°.02×26°.04E±0°.02,h14km±5km, n55,σ0$51/85,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.08**	**118**	P	**Pg**	**19 22 43.3**	**-0.1**
KOCA				*i* AML	AML	19 22 45.0	
	comp=E,3μm,0.2s						
KOCA				S	**Sg**	**19 22 45.2**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.11**	**140**	Pg	**Pg**	**19 22 43.3**	**-0.4**
GPNR				Sg	**Sg**	**19 22 45.5**	**-0.4**
BOZC	**Bozcaada**	**0.30**	**2**	P	**Pg**	**19 22 46.7**	**0.0**
BOZC				S	**Sg**	**19 22 50.6**	**-0.3**
EZNE	**Ezine-Canakkal**	**0.33**	**49**	Pg	**Pg**	**19 22 47.3**	**+0.1**
EZNE				Sg	**Sg**	**19 22 52.2**	**+0.4**
PRK	**Paraskevi**	**0.34**	**149**	P	**Pg**	**19 22 47.7**	**+0.3**
PRK				S	**Sg**	**19 22 52.6**	**+0.4**
PRK				AML	AML	19 22 53.1	
	comp=N,2770μm,0.2s						
PRK				AML	AML	19 22 53.1	
	comp=E,2881μm,0.2s						
EZN	**Ezine**	**0.36**	**38**	Pg	**Pg**	**19 22 47.6**	**-0.1**
EZN				Sg	**Sg**	**19 22 53.0**	**+0.3**
SIGR	**SIGRI**	**0.36**	**204**	Pg	**Pg**	**19 22 47.9**	**+0.2**
SIGR				Sg	**Sg**	**19 22 53.4**	**+0.7**
SIGR	**SIGRI**	**0.36**	**204**	P	**Pg**	**19 22 47.9**	**+0.2**
SIGR				S	**Sg**	**19 22 53.3**	**+0.6**
SIGR				AML	AML	19 22 53.6	
	comp=E,1717μm,0.3s						
SIGR				AML	AML	19 22 54.3	
	comp=N,2146μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.44**	**63**	P	**Pg**	**19 22 48.9**	**-0.3**
BAYC				S	**Sg**	**19 22 54.8**	**-0.3**
BAYC				*i* AML	AML	19 22 55.0	
	comp=N,516nm,0.2s						
ECEA	**Canakkale, Ece**	**0.51**	**11**	P	**Pg**	**19 22 50.7**	**+0.2**
ECEA				S	**Sg**	**19 22 57.1**	**-0.3**
ECEA				*i* AML	AML	19 22 59.0	
	comp=N,557nm,0.4s						
ECEA				*i* AML	AML	19 23 01.0	
	comp=N,327nm,0.3s						
AYVA	**Ayvalik**	**0.55**	**115**	P	**Pg**	**19 22 50.9**	**-0.3**
CNKL	**anakkale-Mer**	**0.59**	**27**	P	**Pg**	**19 22 51.8**	**-0.2**
CNKL				S	**Sg**	**19 22 59.1**	**-0.6**
GOAD	**anakkale-G¶**	**0.63**	**351**	P	**Pg**	**19 22 52.6**	**0.0**
GOAD				S	**Sg**	**19 22 59.9**	**-1.1**
COMU	**Canakkale**	**0.65**	**31**	Pg	**Pg**	**19 22 53.1**	**0.0**
GADA	**Gvkgeada**	**0.66**	**350**	Pg	**Pg**	**19 22 52.9**	**-0.4**
LIA	**Limnos Island**	**0.75**	**299**	P	**Pb**	**19 22 55.3**	**+0.1**
LIA				S	**Sb**	**19 23 05.4**	**+0.1**
LIA				AML	AML	19 23 09.6	
	comp=E,590μm,0.3s						
LIA				AML	AML	19 23 10.1	
	comp=N,565μm,0.3s						
BUHA	**Balikesir, Bur**	**0.80**	**93**	P	**Pg**	**19 22 55.5**	**-0.4**
BUHA				S	**Sg**	**19 23 05.8**	**-0.7**
EFSA	**Agios Efstrati**	**0.81**	**270**	P	**Pb**	**19 22 56.5**	**+0.2**
EFSA				S	**Sb**	**19 23 08.2**	**+1.1**
DKL	**Dikili**	**0.82**	**125**	Pg	**Pb**	**19 22 56.8**	**+0.5**
IZMD	**zmir-Dikili-**	**0.89**	**129**	P	**Pb**	**19 22 58.2**	**+0.6**
IZMD				S	**Sg**	**19 23 08.9**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.92**	**21**	Pg	**Pg**	**19 22 57.9**	**-0.3**
KARB	**zmir-Karabur**	**0.92**	**162**	P	**Pg**	**19 22 58.2**	**0.0**
KARB				S	**Sg**	**19 23 09.8**	**-0.5**
KARB				*i* AML	AML	19 23 13.0	
	comp=N,227nm,0.5s						
ZEDA	**zmir-Bergama**	**0.99**	**125**	P	**Pb**	**19 22 59.7**	**+0.4**
ZEDA				S	**Sg**	**19 23 12.5**	**+0.2**
ZEDA				*i* AML	AML	19 23 14.0	
	comp=N,163nm,0.3s						
LPK	**Lapseki**	**1.00**	**33**	Pg	**Pb**	**19 22 59.6**	**+0.2**
SMTH	**Samothraki Isl**	**1.01**	**337**	P	**Pb**	**19 22 59.7**	**+0.1**
SMTH				S	**Sn**	**19 23 13.6**	**-0.4**
PSRA	**Psara**	**1.06**	**201**	P	**Pb**	**19 23 00.4**	**-0.1**
PSRA				S	**Sb**	**19 23 15.1**	**+0.9**
CAVK	**Edirne/Enez-Ca**	**1.15**	**5**	P	**Pb**	**19 23 01.5**	**-0.5**
CAVK				S	**Sb**	**19 23 17.1**	**+0.3**
CHOS	**Chios island**	**1.15**	**179**	P	**Pb**	**19 23 01.5**	**-0.6**
CHOS				S	**Sb**	**19 23 16.8**	**-0.1**
CHOS				AML	AML	19 23 20.0	
	comp=E,585μm,0.3s						
CHOS				AML	AML	19 23 21.7	
	comp=N,294μm,0.2s						
ERIK	**Erikli-Kesan**	**1.19**	**18**	Pn	**Pb**	**19 23 02.5**	**-0.1**
ENEZ	**Enez**	**1.20**	**4**	Pn	**Pb**	**19 23 03.0**	**+0.2**
SOMA	**Soma-Manisa**	**1.22**	**108**	Pn	**Pb**	**19 23 03.9**	**+0.7**
BALY	**Balya**	**1.23**	**80**	P	**Pn**	**19 23 03.5**	**+0.3**
BALY				S	**Sb**	**19 23 19.3**	**+0.1**
BALY				*i* AML	AML	19 23 21.0	
	comp=N,189nm,0.4s						
BALY				*i* AML	AML	19 23 21.0	
	comp=N,129nm,0.3s						
URLA	**Izmir**	**1.26**	**160**	Pn	**Pn**	**19 23 03.6**	**+0.1**
URLA	**Izmir**	**1.26**	**160**	P	**Pn**	**19 23 03.5**	**0.0**
KRBG	**Karabiga-Canak**	**1.29**	**48**	Pn	**Pn**	**19 23 04.1**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.31**	**97**	P	**Pn**	**19 23 04.3**	**+0.1**
STEP				S	**Sb**	**19 23 21.6**	**+0.3**
ZEYE	**Izmir, Urla-Ze**	**1.35**	**164**	P	**Pn**	**19 23 04.8**	**+0.1**
ZEYE				S	**Sn**	**19 23 20.2**	**-2.2**
ALN	**Alexandroupoli**	**1.35**	**0**	Pn	**Pb**	**19 23 05.7**	**+0.2**
ALN	**Alexandroupoli**	**1.35**	**0**	P	**Pn**	**19 23 05.2**	**+0.4**
ALN				S	**Sn**	**19 23 23.1**	**+0.6**
ALN				AML	AML	19 23 24.5	
	comp=E,270μm,0.4s						
ALN				AML	AML	19 23 25.0	
	comp=N,257μm,0.4s						
KNL	**Balıkesir**	**1.35**	**57**	P	**Pn**	**19 23 05.3**	**+0.5**
KNL				S	**Sn**	**19 23 23.4**	**+0.8**
KNL				*i* AML	AML	19 23 25.0	
	comp=N,265nm,0.6s						
RKY	**Sarkoy-Tekirda**	**1.44**	**37**	P	**Pb**	**19 23 06.9**	**-0.1**
SART	**Tekirdag**	**1.44**	**37**	P	**Pb**	**19 23 06.9**	**-0.1**
SART				S	**Sn**	**19 23 24.9**	**+0.1**
SART				*i* AML	AML	19 23 27.0	
	comp=N,145nm,0.2s						
SART				*i* AML	AML	19 23 28.0	
	comp=N,202nm,0.3s						
BKES	**Balkesir-Mer**	**1.47**	**82**	P	**Pn**	**19 23 07.0**	**+0.6**
BKES				S	**Sn**	**19 23 24.8**	**-0.6**
THAS	**Thassos island**	**1.47**	**317**	P	**Pn**	**19 23 06.0**	**-0.4**
BLKS	**Balkesir-Sus**	**1.52**	**77**	P	**Pn**	**19 23 06.9**	**-0.3**
BLKS				S	**Sn**	**19 23 25.7**	**-1.0**
MRMT	**Marmara Adasi**	**1.60**	**48**	Pn	**Pb**	**19 23 09.4**	**-0.2**
EDC	**Edincik**	**1.61**	**60**	Pn	**Pb**	**19 23 09.9**	**0.0**
SUSR	**Susurluk-Balik**	**1.63**	**74**	Pn	**Pn**	**19 23 09.0**	**+0.4**
RDO	**Rodhopi**	**1.65**	**347**	Pn	**Pn**	**19 23 09.6**	**+0.8**
RDO	**Rodhopi**	**1.65**	**347**	P	**Pn**	**19 23 09.0**	**+0.1**
RDO				AML	AML	19 23 33.3	
	comp=N,50μm,0.3s						
RDO				AML	AML	19 23 37.1	
	comp=E,50μm,0.3s						
UKOP	**Uzunkopru-Edir**	**1.65**	**16**	Pn	**Pn**	**19 23 09.8**	**+1.0**
KYMI	**Kymi, Euboea I**	**1.76**	**240**	P	**Pn**	**19 23 09.8**	**-0.6**
OUR	**Ouranopolis**	**1.77**	**297**	P	**Pn**	**19 23 10.1**	**-0.4**
KAVA	**Kavala**	**1.86**	**322**	P	**Pn**	**19 23 12.4**	**+0.6**
SMG	**Samos**	**1.93**	**161**	P	**Pn**	**19 23 13.0**	**+0.2**

NNC 18 19:48:00.8±8.2,37°.26N×70°.97E,h0km,mb3.7,mpv3.4, 3C-2D,Error ellipse: s-maj=72.0km s-min=56.6km az=144.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.85**	**357**	⇑P	Pn	19 49 30.3	+1.4
	2.1nm,0.5s,baz=183,slow=13,SNR=26						
KK31				⇓S	Sn	19 50 38.7	+2.0
	7.9nm,0.8s,baz=185,slow=23,SNR=15						
AAK	**Ala-Archa**	**6.02**	**26**	⇑P	Pn	19 49 31.9	+0.6
	1.4nm,0.5s						
AAK				⇓S	Sn	19 50 40.8	-0.1
	3.3nm,0.6s						
AB31	**Akbulak array**	**14.42**	**330**	⇑P	Pn	19 51 22.1	-3.9
	0.6nm,0.6s						

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*ISK **18** 19:56:07.3,39°.55N×26°.03E,h8km,ML3.5/21*
*AFAD **18** 19:56:08.1±0.0,39°.56N×26°.10E,h10km,MW3.4*
*ATH **18** 19:56:08.5,39°.52N×26°.03E,h16km±2km,ML3.0/15,Error ellipse: s-maj=2.5km s-min=0.9km az=121.0*
*THE **18** 19:56:08.0,39°.54N×26°.05E,h6km±1km,ML3.3/5,Error ellipse: s-maj=1.7km s-min=0.6km az=155.0*
*SOF **18** 19:56:12.3,39°.89N±0°.02×25°.64E±0°.01,h5km±1km, MD3.1/4*
ISC 18 19:56:07.9±0.8,39°.53N±0°.01×26°.03E±0°.02,h16km±5km, n105,σ1$10/145,13C-3D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.09**	**108**	P	**Pg**	**19 56 10.6**	**-0.5**
KOCA				S	**Sg**	**19 56 12.5**	**-0.7**
GPNR	**Gulpinar-Canak**	**0.11**	**133**	Pg	**Pg**	**19 56 10.7**	**-0.6**
BOZC	**Bozcaada**	**0.31**	**3**	P	**Pg**	**19 56 14.1**	**-0.4**
BOZC				S	**Sg**	**19 56 18.2**	**-0.8**
PRK	**Paraskevi**	**0.34**	**147**	P	**Pg**	**19 56 15.1**	**+0.1**
PRK				S	**Sg**	**19 56 20.2**	**+0.5**
	8μm,0.5s						
PRK	**Paraskevi**	**0.34**	**147**	P	**Pg**	**19 56 15.0**	**+0.1**
PRK				S	**Sg**	**19 56 20.1**	**+0.5**
PRK				AML	AML	19 56 20.4	
	comp=N,13180μm,0.6s						
PRK				AML	AML	19 56 22.1	
	comp=E,20396μm,0.7s						
EZNE	**Ezine-Canakkal**	**0.34**	**49**	Pg	**Pg**	**19 56 14.5**	**-0.5**
EZNE				Sg	**Sg**	**19 56 19.5**	**-0.4**
SIGR	**SIGRI**	**0.35**	**203**	Pg	**Pg**	**19 56 15.3**	**+0.3**
SIGR				Sg	**Sg**	**19 56 20.6**	**+0.7**
SIGR	**SIGRI**	**0.35**	**203**	P	**Pg**	**19 56 15.3**	**+0.3**
SIGR				S	**Sg**	**19 56 20.7**	**+0.8**
	comp=E,7μm,0.5s						
SIGR	**SIGRI**	**0.35**	**203**	P	**Pg**	**19 56 15.2**	**+0.2**
SIGR				S	**Sg**	**19 56 20.5**	**+0.6**
SIGR				AML	AML	19 56 21.4	
	comp=E,12902μm,0.6s						
SIGR				AML	AML	19 56 21.6	
	comp=N,14735μm,0.4s						
EZN	**Ezine**	**0.37**	**37**	Pg	**Pg**	**19 56 14.9**	**-0.6**
EZN				Sg	**Sg**	**19 56 20.2**	**-0.5**
EZN	**Ezine**	**0.37**	**37**	P	**Pg**	**19 56 15.0**	**-0.6**
EZN				S	**Sg**	**19 56 20.3**	**-0.5**
	comp=N,5μm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.45**	**62**	P	**Pg**	**19 56 16.4**	**-0.5**
BAYC				S	**Sg**	**19 56 21.0**	**-2.1**
ECEA	**Canakkale, Ece**	**0.53**	**12**	P	**Pg**	**19 56 18.2**	**-0.2**
ECEA				S	**Sg**	**19 56 25.0**	**-0.4**
AYVA	**Ayvalik**	**0.56**	**113**	P	**Pg**	**19 56 18.8**	**-0.1**
AYVA				S	**Sg**	**19 56 26.4**	**0.0**
CNKL	**anakkale-Mer**	**0.60**	**27**	P	**Pg**	**19 56 18.9**	**-0.9**
CNKL				S	**Sg**	**19 56 26.4**	**-1.4**
GOAD	**anakkale-G¶**	**0.64**	**352**	P	**Pg**	**19 56 19.8**	**-0.7**
GOAD				S	**Sg**	**19 56 27.5**	**-1.4**
COMU	**Canakkale**	**0.66**	**31**	Pg	**Pg**	**19 56 20.4**	**-0.5**
GADA	**Gvkgeada**	**0.67**	**351**	Pg	**Pg**	**19 56 20.3**	**-0.7**
GADA				Sg	**Sg**	**19 56 29.8**	**-0.1**
LIA	**Limnos Island**	**0.75**	**300**	P	**Pg**	**19 56 22.6**	**0.0**
LIA	**Limnos Island**	**0.75**	**300**	P	**Pg**	**19 56 22.5**	**0.0**
EFSA	**Agios Efstrati**	**0.81**	**271**	P	**Pg**	**19 56 23.8**	**+0.2**
EFSA				AML	AML	19 56 36.9	
	comp=E,3606μm,0.3s						
EFSA				AML	AML	19 56 37.8	
	comp=N,2524μm,0.3s						
BUHA	**Balikesir, Bur**	**0.81**	**92**	P	**Pg**	**19 56 23.0**	**-0.6**
BUHA				S	**Sg**	**19 56 33.8**	**-0.5**
DKL	**Dikili**	**0.82**	**124**	Pg	**Pg**	**19 56 24.0**	**+0.2**
IZMD	**zmir-Dikili-**	**0.88**	**128**	P	**Pg**	**19 56 24.9**	**-0.1**
IZMD				S	**Sg**	**19 56 36.6**	**-0.1**
KARB	**zmir-Karabur**	**0.91**	**161**	P	**Pg**	**19 56 25.0**	**-0.6**
KARB				S	**Sg**	**19 56 36.5**	**-1.1**
GELI	**Tayfur-Gelibol**	**0.93**	**21**	Pg	**Pg**	**19 56 25.2**	**-0.8**
GELI				Sg	**Sb**	**19 56 38.3**	**+0.4**
FOCM	**Foa**	**0.98**	**146**	Pg	**Pg**	**19 56 26.4**	**-0.5**
EAG2	**Marmaro, Chios**	**0.99**	**177**	P	**Pg**	**19 56 26.7**	**-0.3**
ZEDA	**zmir-Bergama**	**0.99**	**124**	P	**Pg**	**19 56 26.5**	**-0.5**
ZEDA				S	**Sg**	**19 56 39.4**	**-0.5**
LPK	**Lapseki**	**1.01**	**33**	Pg	**Pg**	**19 56 26.6**	**-0.9**
LPK				Sg	**Sb**	**19 56 40.8**	**+0.6**
SMTH	**Samothraki Isl**	**1.02**	**338**	P	**Pg**	**19 56 26.8**	**-0.8**
SMTH				S	**Sb**	**19 56 41.2**	**+0.9**
SMTH	**Samothraki Isl**	**1.02**	**338**	P	**Pg**	**19 56 27.0**	**-0.5**
PSRA	**Psara**	**1.05**	**200**	P	**Pg**	**19 56 27.4**	**-0.8**
ENZZ	**Sultanice-Enez**	**1.08**	**4**	Pg	**Pg**	**19 56 27.9**	**-0.9**
CHOS	**Chios island**	**1.14**	**179**	P	**Pg**	**19 56 29.1**	**-0.9**
CHOS				S	**Sg**	**19 56 45.1**	**+0.2**
	comp=N,1μm,0.4s						
CHOS	**Chios island**	**1.14**	**179**	P	**Pg**	**19 56 29.1**	**-0.9**
CHOS				AML	AML	19 56 51.7	
	comp=E,3293μm,0.2s						
CHOS				AML	AML	19 56 51.9	
	comp=N,2390μm,0.5s						
CAVK	**Edirne/Enez-Ca**	**1.17**	**5**	P	**Pg**	**19 56 29.3**	**-1.1**
ERIK	**Erikli-Kesan**	**1.20**	**18**	Pn	**Pb**	**19 56 29.7**	**-0.6**
ENEZ	**Enez**	**1.21**	**4**	Pn	**Pb**	**19 56 30.2**	**-0.3**
ENEZ				Sn	**Sn**	**19 56 47.2**	**+0.9**
ENEZ	**Enez**	**1.21**	**4**	P	**Pb**	**19 56 30.2**	**-0.3**
ENEZ				S	**Sb**	**19 56 46.3**	**+0.4**
SOMA	**Soma-Manisa**	**1.22**	**107**	Pn	**Pn**	**19 56 31.2**	**+0.8**
BALY	**Balya**	**1.24**	**80**	P	**Pn**	**19 56 30.8**	**0.0**
URLA	**Izmir**	**1.25**	**159**	Pn	**Pn**	**19 56 30.5**	**-0.3**
URLA	**Izmir**	**1.25**	**159**	P	**Pn**	**19 56 30.5**	**-0.3**
KRBG	**Karabiga-Canak**	**1.30**	**48**	Pn	**Pn**	**19 56 31.4**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.31**	**96**	P	**Pn**	**19 56 31.8**	**+0.1**
STEP				S	**Sb**	**19 56 48.9**	**0.0**
SKY	**Skiros Island**	**1.32**	**241**	P	**Pn**	**19 56 31.2**	**-0.5**
SKY				AML	AML	19 56 55.5	
	comp=N,976μm,0.3s						
SKY				AML	AML	19 56 55.5	
	comp=E,1468μm,0.6s						
ZEYE	**Izmir, Urla-Ze**	**1.34**	**164**	P	**Pn**	**19 56 31.1**	**-0.9**
ZEYE				S	**Sb**	**19 56 47.7**	**-1.9**
ALN	**Alexandroupoli**	**1.37**	**0**	Pn	**Pn**	**19 56 32.7**	**+0.4**
ALN				Sn	**Sg**	**19 56 51.3**	**-0.7**
ALN	**Alexandroupoli**	**1.37**	**0**	P	**Pn**	**19 56 32.8**	**+0.4**
ALN				S	**Sb**	**19 56 50.8**	**+0.4**
	comp=E,1μm,0.4s						
ALN	**Alexandroupoli**	**1.37**	**0**	P	**Pn**	**19 56 32.1**	**-0.3**
ALN				AML	AML	19 56 51.8	
	comp=E,2204μm,0.5s						
ALN				AML	AML	19 56 52.4	
	comp=N,1976μm,0.4s						
KNL	**Balıkesir**	**1.37**	**57**	P	**Pn**	**19 56 32.4**	**0.0**
KNL				S	**Sb**	**19 56 51.0**	**+0.5**
GONE	**Gonen-Balikesi**	**1.38**	**67**	Pn	**Pn**	**19 56 33.0**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.45**	**37**	Pn	**Pn**	**19 56 33.9**	**+0.3**
RKY				Sn	**Sb**	**19 56 53.7**	**+0.7**
SART	**Tekirdag**	**1.46**	**37**	P	**Pn**	**19 56 33.5**	**-0.1**
SART				S	**Sn**	**19 56 53.4**	**+0.9**
THAS	**Thassos island**	**1.47**	**317**	P	**Pn**	**19 56 33.7**	**-0.1**
THAS				AML	AML	19 56 57.5	
	comp=E,707μm,0.4s						
THAS				AML	AML	19 56 57.8	
	comp=N,578μm,0.3s						
BKES	**Balkesir-Mer**	**1.48**	**81**	P	**Pn**	**19 56 33.9**	**-0.1**
BLKS	**Balkesir-Sus**	**1.53**	**76**	P	**Pn**	**19 56 34.8**	**+0.1**
MRMT	**Marmara Adasi**	**1.61**	**48**	Pn	**Pn**	**19 56 36.3**	**+0.5**
EDC	**Edincik**	**1.63**	**59**	Pn	**Pn**	**19 56 35.9**	**-0.1**
SUSR	**Susurluk-Balik**	**1.64**	**74**	Pn	**Pn**	**19 56 36.3**	**+0.1**
RDO	**Rodhopi**	**1.66**	**347**	Pn	**Pn**	**19 56 36.9**	**+0.5**
RDO	**Rodhopi**	**1.66**	**347**	P	**Pn**	**19 56 36.9**	**+0.5**
RDO	**Rodhopi**	**1.66**	**347**	P	**Pn**	**19 56 36.7**	**+0.3**
RDO				AML	AML	19 57 01.0	
	comp=E,342μm,0.3s						
RDO				AML	AML	19 57 01.9	
	comp=N,309μm,0.4s						
UKOP	**Uzunkopru-Edir**	**1.66**	**16**	Pn	**Pn**	**19 56 36.9**	**+0.5**
AOS2	**Alonissos-2**	**1.74**	**258**	P	**Pn**	**19 56 37.4**	**-0.1**
AOS2				AML	AML	19 57 08.7	
	comp=E,330μm,0.5s						
AOS2				AML	AML	19 57 11.0	
	comp=N,641μm,1.0s						
KYMI	**Kymi, Euboea I**	**1.75**	**240**	P	**Pn**	**19 56 37.0**	**-0.7**
KYMI				AML	AML	19 57 06.8	
	comp=N,449μm,0.7s						
KYMI				AML	AML	19 57 07.8	
	comp=E,423μm,0.7s						
OUR	**Ouranopolis**	**1.77**	**298**	P	**Pn**	**19 56 38.8**	**+0.9**
OUR	**Ouranopolis**	**1.77**	**298**	P	**Pn**	**19 56 38.5**	**+0.6**
OUR				AML	AML	19 57 06.2	
	comp=E,423μm,0.5s						
OUR				AML	AML	19 57 08.6	
	comp=N,502μm,0.7s						
KAVA	**Kavala**	**1.87**	**322**	P	**Pn**	**19 56 39.5**	**+0.2**
KVLA	**Kavala**	**1.89**	**319**	P	**Pn**	**19 56 39.4**	**-0.1**
SMG	**Samos**	**1.92**	**161**	P	**Pn**	**19 56 39.8**	**-0.2**
SMG	**Samos**	**1.92**	**161**	P	**Pn**	**19 56 39.9**	**-0.2**
SMG				AML	AML	19 57 12.1	
	comp=E,1289μm,0.5s						
SMG				AML	AML	19 57 12.7	
	comp=N,799μm,0.6s						
KOKK	**Kokkinochori,**	**2.02**	**310**	P	**Pn**	**19 56 41.7**	**+0.3**
KOKK	**Kokkinochori,**	**2.02**	**310**	P	**Pn**	**19 56 41.5**	**+0.1**
PLG	**Polygyros**	**2.16**	**294**	P	**Pn**	**19 56 43.7**	**+0.4**
PLG				AML	AML	19 57 18.4	
	comp=N,221μm,0.5s						
PLG				AML	AML	19 57 21.5	
	comp=E,169μm,0.6s						
DION	**Dionisos Attik**	**2.19**	**229**	P	**Pn**	**19 56 44.1**	**+0.4**
KULA	**Kula-Manisa**	**2.29**	**115**	P	**Pn**	**19 56 45.8**	**+0.7**
RZN	**Rozhen**	**2.38**	**336**	P	**Pn**	**19 56 47.2**	**+0.8**
RZN				S	**Sn**	**19 57 13.9**	**-1.5**
EDRB	**Edirne**	**2.38**	**13**	P	**Pn**	**19 56 46.4**	**+0.1**
VLY	**Voula,Athens**	**2.42**	**227**	P	**Pn**	**19 56 46.4**	**-0.5**
NVR	**Nevrokopi**	**2.46**	**318**	P	**Pn**	**19 56 48.7**	**+1.3**
NVR				AML	AML	19 57 29.0	
	comp=E,106μm,0.6s						
NVR				AML	AML	19 57 30.8	
	comp=N,125μm,0.5s						
VIL2	**Platees**	**2.53**	**239**	P	**Pn**	**19 56 47.9**	**-0.5**
VIL2				AML	AML	19 57 36.9	
	comp=N,162μm,0.7s						
VIL2				AML	AML	19 57 39.9	
	comp=E,277μm,1.1s						
MMB	**Musomishta**	**2.66**	**320**	P	**Pn**	**19 56 51.2**	**+1.0**
MMB				S	**Sn**	**19 57 19.4**	**-2.8**
JMB	**Yambol**	**2.98**	**7**	P	**Pb**	**19 57 01.9**	**+1.2**
JMB				S	**Sn**	**19 57 32.6**	**+2.5**
KKB	**Krupnik**	**3.19**	**317**	P	**Pn**	**19 56 59.1**	**+1.6**
KKB				S	**Sn**	**19 57 32.9**	**-2.4**
PEHC	**Pehcevo**	**3.27**	**314**	*i* Pn	**Pg**	**19 57 09.8**	**-0.9**
ELND	**Elena**	**3.40**	**358**	⇑P	**Pn**	**19 57 02.8**	**+2.5**
ELND				⇑S	**Sg**	**19 57 53.4**	**-3.6**
STIP	**Stip**	**3.64**	**308**	*i* Pn	**Pn**	**19 57 04.3**	**+0.7**
VTS	**Vitosha**	**3.74**	**326**	P	**Pn**	**19 57 06.5**	**+1.3**
VTS				S	**Sn**	**19 57 48.4**	**-0.6**
MPEP	**Malo Peshtene**	**4.19**	**336**	P	**Pn**	**19 57 12.5**	**+1.3**

KARP	**Karpathos**	**1.19**	**41**	P	**Pb**	**20 01 12.7**	**+1.1**
KARP				AML	AML	20 01 32.1	
	comp=N,218μm,0.2s						
KARP				AML	AML	20 01 32.6	
	comp=E,303μm,0.3s						
IDI	**Anoyia**	**1.24**	**301**	P	**Pn**	**20 01 11.5**	**+0.6**
SANT	**Santorini**	**1.81**	**341**	P	**Pn**	**20 01 20.2**	**+1.6**
THR8	**Santorini-Mono**	**1.84**	**342**	P	**Pn**	**20 01 19.4**	**+0.4**
SNT5	**Nea Kammeni, S**	**1.86**	**340**	P	**Pn**	**20 01 19.9**	**+0.7**
THR3	**Thira Island,**	**1.86**	**340**	P	**Pn**	**20 01 20.0**	**+0.7**
THR5	**Thira Island,**	**1.89**	**339**	P	**Pn**	**20 01 20.0**	**+0.4**
IMMV	**Iera Moni Meta**	**1.99**	**294**	P	**Pn**	**20 01 21.4**	**+0.4**
TURN	**Turunc**	**2.69**	**38**	P	**Pn**	**20 01 31.4**	**+0.8**
TURN				S	**Sn**	**20 02 01.6**	**-0.5**
IZZE	**Mula-Seydike**	**3.04**	**53**	P	**Pn**	**20 01 36.6**	**+1.1**
IZZE				S	**Sn**	**20 02 08.5**	**-2.3**
IZZE				*i* AML	AML	20 02 14.0	
	comp=E,43nm,0.7s						
SABU	**Mula-Dalaman**	**3.12**	**45**	P	**Pn**	**20 01 38.4**	**+1.8**
SABU				S	**Sn**	**20 02 08.9**	**-3.9**
AKAS	**Kas**	**3.19**	**60**	P	**Pn**	**20 01 39.3**	**+1.6**
AKAS				S	**Sn**	**20 02 11.4**	**-3.4**
AKAS				*i* AML	AML	20 02 58.0	
	comp=E,75nm,1.3s						
AKAS				*i* AML	AML	20 03 08.0	
	comp=E,48nm,1.8s						
DNZT	**Denizli-Tavas-**	**3.48**	**40**	P	**Pn**	**20 01 43.2**	**+1.6**
DNZT				S	**Sn**	**20 02 20.9**	**-0.8**
KNIK	**Mula-Seydike**	**3.51**	**51**	P	**Pn**	**20 01 42.9**	**+0.9**
KNIK				S	**Sn**	**20 02 19.2**	**-3.3**
TAVA	**DENIZLI_Tavas**	**3.56**	**37**	P	**Pn**	**20 01 44.5**	**+1.8**
GOLH	**Golhisar**	**3.75**	**46**	P	**Pn**	**20 01 47.0**	**+1.7**
AKUM	**Antalya-Kumluc**	**3.77**	**63**	P	**Pn**	**20 01 46.2**	**+0.7**
AKUM				*i* AML	AML	20 02 43.0	
	comp=E,26nm,1.7s						
AKUM				*i* AML	AML	20 03 31.0	
	comp=E,24nm,1.5s						

*IDC **18** 20:09:47.4±1.6, 7°.43S×156°.03E, h0km, mb3.9/8, mbtmp3.8/8, Error ellipse: s-maj=55.6km s-min=27.3km az=98.0*

ISC 18 20:09:53.9±1.8, 7°.5S±0°.2×156°.0E±0°.4, h44km, n14, σ0§84/8, mb3.9/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.39**	**237**	P	**P**	**20 15 08.2**	**-0.2**
	0.4nm,0.5s,baz=62,slow=9.6,SNR=6.6						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**26.63**	**230**	P	**P**	**20 15 28.7**	**+0.1**
	0.2nm,0.6s,baz=59,slow=11,SNR=1.4						
	0.2nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**27.87**	**22**	T	T	20 44 00.6	
	baz=202,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**27.88**	**22**	T	T	20 43 53.3	
	baz=202,slow=76,SNR=25						
H11S1	**WAKE ISLAND Hy**	**27.89**	**22**	T	T	20 43 54.4	
	baz=202,slow=76,SNR=79						
H11N1	**WAKE ISLAND Hy**	**29.07**	**21**	T	T	20 45 31.8	
	baz=203						
H11N3	**WAKE ISLAND Hy**	**29.07**	**21**	T	T	20 45 34.1	
	baz=203						
H11N2	**WAKE ISLAND Hy**	**29.08**	**21**	T	T	20 45 34.7	
	baz=203						
SONM	**Songino Array**	**70.29**	**327**	P	**P**	**20 21 03.8**	**+0.9**
	0.3nm,0.3s,baz=124,slow=7.1,SNR=4.5						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**82.50**	**180**	P	**P**	**20 22 12.0**	**+0.2**
	0.5nm,0.5s,baz=33,slow=5.5,SNR=6.8						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**84.43**	**318**	P	**P**	**20 22 22.3**	**+0.3**
	2.2nm,0.7s,baz=106,slow=5.9,SNR=13						
	2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**85.14**	**326**	P	**P**	**20 22 24.5**	**-0.8**
	1.4nm,0.4s,baz=102,slow=6.0,SNR=4.8						
	1.4nm,0.4s						
KURBB	**Kurchatov Array**	**87.86**	**322**	P	**P**	**20 22 38.3**	**-0.4**
	0.4nm,0.5s,baz=96,slow=5.5,SNR=5.8						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**93.29**	**323**	P	**P**	**20 23 02.7**	**-1.3**
	0.5nm,0.5s,baz=92,slow=3.3,SNR=2.1						
	0.5nm,0.5s						

*IDC **18** 20:12:22.8±8.4, 3°.06N×98°.23E, h106km±73km, mb3.8/13, mbtmp4.1/14, ML3.8/1, Error ellipse: s-maj=50.9km s-min=14.6km az=57.0*

*NEIC **18** 20:12:23.4±1.1, 3°.00N±0°.07×98°.06E±0°.09, h111km±4km, mb4.3/21, Error ellipse: s-maj=12.6km s-min=9.6km az=74.0*

*DJA **18** 20:12:24.0±0.4, 3°N±2°×9°8E±°, h87km±8km, M4.0/9, mb4.1/2, mB5.8/1, MLv4.0/9, Mw(mB)5.4/1*

ISC 18 20:12:22.1±0.5, 2°.98N±0°.04×98°.16E±0°.05, h100km, n48, σ1§35/53, mb4.2/22, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**0.66**	**324**	Pn	**Pn**	**20 12 40.3**	**+1.1**
KCSI				S	**Sn**	**20 12 53.3**	**+1.3**
GSI	**Gunungsitoli**	**1.77**	**199**		**Pn**	**20 12 53.0**	**+1.4**
GSI	**Gunungsitoli**	**1.77**	**199**	P	**Pn**	**20 12 52.8**	**+1.1**
GSI				S	**Sn**	**20 13 16.3**	**+2.1**
SNSI	**Sinabang, Aceh**	**1.92**	**253**	P	**Pn**	**20 12 55.3**	**+1.7**
SNSI				S	**Sn**	**20 13 18.1**	**+0.5**
MLSI	**Meulaboh, Aceh**	**2.17**	**306**	P	**Pn**	**20 12 58.6**	**+1.7**
MLSI				S	**Sn**	**20 13 25.1**	**+1.6**
LHMI	**Lhok Sumawe**	**2.54**	**332**	Pn	**Pn**	**20 13 04.4**	**+2.6**
LHMI	**Lhok Sumawe**	**2.54**	**332**	P	**Pn**	**20 13 03.6**	**+1.9**
PBSI	**Pulau Batu**	**3.02**	**178**	P	**Pn**	**20 13 09.5**	**+1.4**
PBSI				S	**Sn**	**20 13 45.0**	**+1.5**
KULM	**Kulim**	**3.38**	**47**		**Pn**	**20 13 14.3**	**+1.3**
MYKOM	**Kota Tinggi**	**5.80**	**102**	Pn	**Pn**	**20 13 48.5**	**+2.7**
CMAR	**Chiang Mai Arr**	**15.40**	**3**	P	**Pn**	**20 15 55.4**	**+1.4**
	0.1nm,0.3s,baz=188,slow=12,SNR=5.6						
	0.7nm,0.6s						
KKM	**Kota Kinabalu**	**18.25**	**80**	Pn	**Pn**	**20 16 30.6**	**+1.5**
KKM				IAmb	IAmb	20 17 01.8	
	comp=Z,32nm,1.4s						
SLVN	**Son La**	**19.08**	**17**	Pn	**P**	**20 16 38.3**	**+1.3**
MYLDM	**Lahad Datu**	**20.40**	**83**	P	**P**	**20 16 52.9**	**+1.6**
TOLI2	**Tolitoli**	**22.68**	**94**	P	**P**	**20 17 11.8**	**-3.7**
TOLI2				IAmb	IAmb	20 17 12.1	
	comp=Z,20nm,1.2s						
SHL	**Shillong**	**23.25**	**346**	P	**P**	**20 17 19.3**	**-1.8**
GTA	**Gaotai**	**36.29**	**2**	*e*P	**P**	**20 19 16.0**	**-0.1**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WB0	**Warramunga Arr**	**42.16**	**124**	P	**P**	**20 20 05.0**	**-0.1**
WB0				IAmb	IAmb	20 20 43.2	
	comp=Z,7.1nm,1.3s						
WRA	**Warramunga Arr**	**42.20**	**124**	P	**P**	**20 20 05.2**	**-0.2**
WRA	**Warramunga Arr**	**42.20**	**124**	P	**P**	**20 20 05.0**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=303,slow=9.1,SNR=35						
WRA				PcP	**PcP**	**20 21 57.7**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=318,slow=2.5,SNR=2.3						
	comp=Z,1.2nm,0.6s						
WRAB	**Tennant Creek**	**42.20**	**124**	P	**P**	**20 20 05.5**	**+0.1**
WRAB				IAmb	IAmb	20 20 40.8	
	comp=Z,3.6nm,1.2s						
WB2	**Warramunga Arr**	**42.21**	**124**	P	**P**	**20 20 05.5**	**+0.1**
WR0	**Warramunga Arr**	**42.37**	**124**	P	**P**	**20 20 07.3**	**+0.5**
WR0				IAmb	IAmb	20 20 28.3	
	comp=Z,10nm,1.4s						
ASAR	**Alice Springs**	**43.73**	**129**	P	**P**	**20 20 17.4**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=303,slow=8.4,SNR=1.8						
	comp=Z,0.6nm,0.9s						
KSRS	**Korea Array**	**43.85**	**35**	P	**P**	**20 20 17.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=219,slow=9.4,SNR=2.0						
	comp=Z,0.3nm,0.3s						
SONM	**Songino Array**	**45.25**	**8**	P	**P**	**20 20 29.4**	**-0.2**
SONM	**Songino Array**	**45.25**	**8**	P	**P**	**20 20 29.3**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=193,slow=9.6,SNR=11						
SONM				PcP	**PcP**	**20 22 07.5**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=194,slow=0.6,SNR=3.0						
	comp=Z,1.7nm,0.7s						
MK31	**Makanchi Array**	**45.77**	**345**	P	**P**	**20 20 33.1**	**-0.5**
MKAR	**Makanchi Array**	**45.77**	**345**	P	**P**	**20 20 32.5**	**-1.1**
MKAR	**Makanchi Array**	**45.77**	**345**	P	**P**	**20 20 33.1**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=156,slow=9.3,SNR=21						
	comp=Z,1.0nm,0.3s						
MAKZ	**Makanchi**	**45.87**	**345**	P	**P**	**20 20 32.1**	**-2.2**
MAKZ				IAmb	IAmb	20 20 36.3	
	comp=Z,5.7nm,1.3s						
KURBB	**Kurchatov Arra**	**50.29**	**344**	P	**P**	**20 21 07.6**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=163,slow=7.2,SNR=24						
KURBB				PcP	**PcP**	**20 22 25.9**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=156,slow=3.9,SNR=4.4						
	comp=Z,2.2nm,0.7s						
KURK	**Kurchatov**	**50.34**	**344**	P	**P**	**20 21 08.0**	**-0.7**
KURK				IAmb	IAmb	20 21 09.2	
	comp=Z,2.4nm,0.8s						
ZAA0	**Zalesovo Array**	**51.97**	**350**	P	**P**	**20 21 20.2**	**-0.6**
ZAA0				IAmb	IAmb	20 21 21.1	
	comp=Z,3.5nm,0.9s						
ZALV	**Zalesovo Beam**	**51.97**	**350**	P	**P**	**20 21 20.3**	**-0.5**
	comp=Z,2.9nm,0.4s,baz=165,slow=6.4,SNR=14						
	comp=Z,2.9nm,0.4s						
BVAR	**Borovoye Array**	**54.91**	**340**	P	**P**	**20 21 41.8**	**-0.5**
	comp=Z,3.2nm,0.5s,baz=142,slow=9.1,SNR=19						
	comp=Z,3.2nm,0.5s						
BRVK	**Borovoye**	**54.97**	**340**	P	**P**	**20 21 42.2**	**-0.6**
BRVK				IAmb	IAmb	20 21 42.8	
	comp=Z,2.8nm,0.6s						
ABKAR	**Akbulak array**	**56.42**	**331**	P	**P**	**20 21 52.7**	**-0.5**
CAN	**Canberra**	**60.92**	**133**	P	**P**	**20 22 22.1**	**-2.6**
ARU	**Arti**	**61.94**	**336**	P	**P**	**20 22 29.5**	**-1.6**
ARU				IAmb	IAmb	20 22 31.8	
	comp=Z,5.1nm,1.0s						
ARU	**Arti**	**61.94**	**336**	P	**P**	**20 22 30.3**	**-0.8**
	comp=Z,5.5nm,0.9s,baz=204,slow=3.2,SNR=6.8						
	comp=Z,5.5nm,0.9s						
H04N2	**CROZET ISLANDS**	**63.78**	**214**	T	T	21 30 57.7	
	baz=53						
H04N1	**CROZET ISLANDS**	**63.79**	**214**	T	T	21 30 55.4	
	baz=53,slow=75						
H04N3	**CROZET ISLANDS**	**63.79**	**214**	T	T	21 30 57.2	
	baz=53,slow=75						
FINES	**FINESS Array B**	**78.88**	**332**	P	**P**	**20 24 14.0**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=101,slow=7.2,SNR=8.8						
	comp=Z,0.8nm,0.5s						
ARCES	**ARCESS Array B**	**81.20**	**340**	P	**P**	**20 24 26.2**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=101,slow=4.7,SNR=2.6						
	comp=Z,0.7nm,0.3s						
HFS	**Hagfors**	**84.67**	**330**	P	**P**	**20 24 45.0**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=111,slow=3.2,SNR=2.1						
	comp=Z,0.9nm,0.6s						
QSPA	**South Pole Qui**	**92.91**	**180**	P	**P**	**20 25 25.1**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=250,slow=4.2,SNR=2.0						
	comp=Z,0.8nm,0.8s						

*NNC **18** 20:15:15.0±3.3, 37°.11N×71°.78E, h162km±64km, mb2.8, mpv3.6, Error ellipse: s-maj=33.9km s-min=26.6km az=12.0*

*IDC **18** 20:15:15.9±13.0, 36°.85N×71°.95E, h161km±123km, mb3.2/6, mbtmp3.7/9, ML3.3/3, Error ellipse: s-maj=75.5km s-min=21.3km az=18.0*

ISC 18 20:15:12.0±0.8, 36°.75N±0°.07×72°.2E±0°.1, h150km, n19, σ2§69/25, mb3.5/6, 4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**4.60**	**150**	*e*P	**Pn**	**20 16 19.2**	**-0.9**
JMU				*e*S	**Sn**	**20 17 10.3**	**-2.9**
THN	**Thein Dam**	**5.20**	**145**	*e*P	**Pn**	**20 16 28.9**	**+0.9**
THN				*e*S	**Sn**	**20 17 25.3**	**-2.0**
THN				IAML		20 17 29.1	
	comp=E,132nm,0.6s						
THN				IAML		20 17 42.0	
	comp=E,73nm,0.5s						
DHRM	**DHARAMSHALA**	**5.63**	**142**	*e*P	**Pn**	**20 16 33.4**	**-0.6**
DHRM				*e*S	**Sn**	**20 17 35.6**	**-2.3**
DHRM				IAML		20 17 39.5	
	comp=E,199nm,0.3s						
DHRM				IAML		20 17 39.7	
	comp=N,202nm,0.4s						
AAK	**Ala-Archa**	**6.14**	**16**	⇓P	**Pn**	**20 16 40.5**	**-0.2**
	comp=N,1.9nm,0.5s						
AAK				⇓S	**Sn**	**20 17 48.1**	**-1.9**
	comp=N,9.6nm,0.7s						
BHK	**Bhakra**	**6.37**	**145**	*e*S	**Sn**	**20 17 51.5**	**-4.0**
BHK				IAML		20 17 54.0	
	comp=E,42nm,0.4s						
BHK				IAML		20 18 07.0	
	comp=E,62nm,0.6s						
KK31	**Karatay Array**	**6.47**	**349**	P	**Pn**	**20 16 42.6**	**-2.3**
	comp=E,3.3nm,0.3s,baz=178,slow=13,SNR=59						
KK31				⇓S	**Sn**	**20 17 51.9**	**-5.9**
	comp=E,1.2nm,0.2s,baz=171,slow=22,SNR=6.3						
SMLA	**Simla**	**6.97**	**142**	*e*P	**Pn**	**20 16 51.6**	**0.0**
SMLA				*e*S	**Sn**	**20 18 04.4**	**-5.2**
SMLA				IAML		20 18 09.2	
	comp=E,76nm,0.6s						
SMLA				IAML		20 18 09.4	
	comp=N,64nm,0.4s						
MKAR	**Makanchi Array**	**12.54**	**34**	P	**Pn**	**20 18 05.2**	**+0.1**
	comp=N,0.3nm,0.7s,baz=219,slow=11,SNR=1.8						
KURBB	**Kurchatov Arra**	**14.59**	**16**	P	**P**	**20 18 35.0**	**+1.5**
	baz=206,slow=10,SNR=9.0						
	comp=N,0.5nm,0.6s						
AB31	**Akbulak array**	**15.35**	**328**	⇓P	**Pn**	**20 18 37.0**	**-3.5**
	comp=N,0.3nm,0.3s,baz=144,slow=12,SNR=26						
AKTO	**Aktyubinsk**	**17.06**	**328**	P	**Pn**	**20 19 01.5**	**+0.1**
	comp=N,0.4nm,0.3s,baz=138,slow=8.0,SNR=4.2						
	comp=N,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**19.30**	**23**	P	**Pn**	**20 19 27.4**	**-0.3**
	comp=N,0.3nm,0.3s,baz=215,slow=13,SNR=3.6						
	comp=N,0.6nm,0.3s						
SONM	**Songino Array**	**27.40**	**55**	P	**P**	**20 20 47.5**	**+4.0**
	comp=N,0.6nm,0.6s,baz=240,slow=8.5,SNR=4.2						
	comp=N,0.6nm,0.6s						
FINES	**FINESS Array B**	**37.81**	**326**	P	**P**	**20 22 14.8**	**+1.4**
	comp=N,0.4nm,0.4s,baz=116,slow=9.4,SNR=5.3						
	comp=N,0.4nm,0.4s						
HFS	**Hagfors**	**43.46**	**322**	P	**P**	**20 23 01.2**	**+1.4**
	comp=N,0.9nm,0.4s,baz=87,slow=12,SNR=18						
	comp=N,0.9nm,0.4s						
NB2	**NORSAR Subarra**	**44.76**	**323**	P	**P**	**20 23 11.2**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.76**	**323**	P	**P**	**20 23 10.9**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=97,slow=7.7,SNR=4.1						
	comp=Z,0.3nm,0.5s						
ESDC	**Sonseca Array**	**58.19**	**298**	P	**P**	**20 24 51.5**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=59,slow=8.0,SNR=4.3						
	comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**81.31**	**123**	P	**P**	**20 27 15.5**	**+3.7**
	comp=Z,0.7nm,1.1s,baz=308,slow=5.6,SNR=1.7						
	comp=Z,0.7nm,1.1s						

*IDC **18** 20:21:34.8±4.0, 0°.49S×99°.55E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=175.6km s-min=23.6km az=57.0*

*DJA **18** 20:21:41.1±0.5, 1°S±3°×9°9E±°, h59km±12km, M3.8/8, mb3.9/1, MLv3.7/8*

ISC 18 20:21:41.2±0.9, 0°.51S±0°.05×99°.28E±0°.06, h54km, n18, σ1§00/15, mb3.4/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.83**	**193**	P	**Pn**	**20 21 56.7**	**-0.1**
SISI				S	**Sn**	**20 22 08.6**	**+0.4**
PBSI	**Pulau Batu**	**1.09**	**294**	P	**Pn**	**20 21 59.9**	**-0.4**
PBSI				S	**Sn**	**20 22 15.4**	**+0.9**
PDSI	**Padang**	**1.25**	**109**	P	**Pn**	**20 22 03.1**	**+0.7**
BKNI	**Bangkinang**	**1.95**	**65**	P	**Pn**	**20 22 12.1**	**+0.2**
SBSI	**Sibolga**	**2.08**	**349**	P	**Pn**	**20 22 12.9**	**-0.9**
SBSI				S	**Sn**	**20 22 37.0**	**-1.6**
PPSI	**Pulau Pagai**	**2.35**	**162**	P	**Pn**	**20 22 16.5**	**-0.9**
GSI	**Gunungsitoli**	**2.48**	**317**	P	**Pn**	**20 22 19.3**	**+0.1**
H08S2	**Diego Garcia H**	**27.62**	**254**	T	T	20 55 36.2	
	baz=77						
H08S3	**Diego Garcia H**	**27.63**	**254**	T	T	20 55 35.7	
	baz=77						
H08S1	**Diego Carcia H**	**27.64**	**254**	T	T	20 55 37.6	
	baz=77						
WRA	**Warramunga Arr**	**39.38**	**122**	P	**P**	**20 29 04.4**	**-1.5**
	0.2nm,0.6s,baz=302,slow=9.1,SNR=4.6						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**40.71**	**127**	P	**P**	**20 29 15.8**	**-1.2**
	0.5nm,0.9s,baz=305,slow=7.9,SNR=4.5						
	0.5nm,0.9s						
SONM	**Songino Array**	**48.55**	**6**	P	**P**	**20 30 20.3**	**+1.2**
	0.2nm,0.5s,baz=188,slow=9.7,SNR=2.1						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**49.41**	**345**	P	**P**	**20 30 26.6**	**+1.0**
	0.4nm,0.6s,baz=160,slow=8.3,SNR=5.1						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**55.58**	**350**	P	**P**	**20 31 11.7**	**+0.6**
	0.6nm,0.4s,baz=154,slow=7.7,SNR=4.1						
	0.6nm,0.4s						
H04N2	**CROZET ISLANDS**	**61.57**	**216**	T	T	21 37 42.6	
	baz=57,slow=75,SNR=6.0						
H04N1	**CROZET ISLANDS**	**61.58**	**216**	T	T	21 37 45.4	
	baz=57,slow=75,SNR=6.9						
H04N3	**CROZET ISLANDS**	**61.59**	**216**	T	T	21 37 49.0	
	baz=57,slow=75,SNR=7.8						

*IDC **18** 20:40:29.5±0.5, 3°.24N×128°.34E, h0km, mb4.4/17, mbtmp4.4/17, MS2.5/1, Error ellipse: s-maj=31.4km s-min=11.7km az=76.0*

*DJA **18** 20:40:37.2±1.1, 3°N±4°×12°8E±°, h35km±19km, M4.5/12, mB4.9/7, mb4.7/12, MLv4.7/12, Mw(mB)4.2/7*

*NEIC **18** 20:40:37.9±1.9, 3°.20N±0°.09×128°.23E±0°.10, h62km±7km, mb4.6/84, Error ellipse: s-maj=14.8km s-min=11.4km az=58.0*

ISC 18 20:40:34.7±0.4, 3°.28N±0°.05×128°.37E±0°.08, h35km, n156, σ1§52/145, mb4.6/64, MS3.9/3, 2C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.69**	**202**	P	**Pn**	**20 41 17.5**	**+2.0**
TNTI	**Ternate**	**2.69**	**202**	Pn	**Pn**	**20 41 16.0**	**+0.5**
TNTI	**Ternate**	**2.69**	**202**	P	**Pn**	**20 41 17.2**	**+1.7**
SWI	**Sorong**	**5.03**	**145**	P	**Pn**	**20 41 49.9**	**+2.2**
	52nm,0.5s,1μm0.3nm						
KMSI	**Cibinong**	**5.14**	**239**	P	**Pn**	**20 41 49.9**	**+0.6**
SANI	**Sanana**	**5.80**	**204**	P	**Pn**	**20 41 59.5**	**+1.1**
SANI	**Sanana**	**5.80**	**204**	P	**Pn**	**20 41 58.4**	**0.0**
	40nm,0.7s,1μm0.3nm						
GTOI	**Gorontalo**	**5.96**	**244**	P	**Pn**	**20 42 01.5**	**+0.9**
	26nm,0.5s						
MRSI	**Marisa**	**7.00**	**247**	P	**Pn**	**20 42 15.8**	**+0.9**
LUWI	**Luwuk**	**7.05**	**233**	P	**Pn**	**20 42 17.0**	**+1.4**
LUWI	**Luwuk**	**7.05**	**233**	Pn	**Pn**	**20 42 16.7**	**+1.1**
LUWI	**Luwuk**	**7.05**	**233**	P	**Pn**	**20 42 16.5**	**+0.9**
	51nm,0.5s,1μm1.0nm						
FAKI	**Fak Fak**	**7.28**	**148**	P	**Pn**	**20 42 21.7**	**+3.0**
FAKI	**Fak Fak**	**7.28**	**148**	Pn	**Pn**	**20 42 22.1**	**+3.4**
FAKI	**Fak Fak**	**7.28**	**148**	P	**Pn**	**20 42 21.9**	**+3.2**
TOLI2	**Tolitoli**	**7.88**	**254**	P	**Pn**	**20 42 27.0**	**0.0**
TOLI2	**Tolitoli**	**7.88**	**254**	Pn	**Pn**	**20 42 26.2**	**-0.7**
MYLDM	**Lahad Datu**	**10.02**	**281**	Pn	**Pn**	**20 42 57.2**	**+0.8**
BBSI	**Bau Bau**	**10.46**	**214**	P	**Pn**	**20 43 04.6**	**+2.3**
	50nm,0.9s						
BKSI	**Bulukumba**	**11.87**	**224**	P	**Pn**	**20 43 23.3**	**+1.7**
	20nm,0.6s						
KKM	**Kota Kinabalu**	**12.42**	**283**	Pn	**Pn**	**20 43 30.1**	**+0.9**
SOEI	**Soe**	**13.58**	**197**		**Pn**	**20 43 45.6**	**+0.5**
EDFI	**Ende, Flores**	**13.68**	**209**	P	**Pn**	**20 43 48.0**	**+1.5**
	21nm,0.8s						
SBUM	**Sibu**	**16.15**	**267**	P	**Pn**	**20 44 16.4**	**-2.9**
MTN	**Manton Dam**	**16.25**	**170**	P	**Pn**	**20 44 18.9**	**-1.6**
MTN				IAmb	IAmb	20 44 30.0	
	comp=Z,22nm,0.5s						
KDU	**Kakadu**	**16.38**	**166**	P	**Pn**	**20 44 23.6**	**+1.5**
FITZ	**Fitzroy Crossi**	**21.41**	**187**	P	**P**	**20 45 20.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**21.41**	**187**	P	**P**	**20 45 18.3**	**-1.4**
YHNB	**Yeheng**	**22.31**	**343**	P	**P**	**20 45 29.0**	**-0.4**
WB0	**Warramunga Arr**	**23.66**	**166**	P	**P**	**20 45 41.4**	**-1.8**
WB0				IAmb	IAmb	20 45 45.1	
	comp=Z,27nm,0.9s						
WRAB	**Tennant Creek**	**23.80**	**166**	P	**P**	**20 45 42.8**	**-1.8**
WRAB				IAmb	IAmb	20 45 45.8	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**23.81**	**166**	P	**P**	**20 45 43.1**	**-1.5**
WRA	**Warramunga Arr**	**23.81**	**166**	P	**P**	**20 45 43.9**	**-0.7**
	comp=Z,16nm,0.5s,baz=345,slow=10,SNR=267						
	comp=Z,16nm,0.5s						
WB2	**Warramunga Arr**	**23.81**	**166**	P	**P**	**20 45 43.2**	**-1.4**
WB2				IAmb	IAmb	20 45 45.9	
	comp=Z,19nm,0.8s						
WR0	**Warramunga Arr**	**23.88**	**166**	P	**P**	**20 45 44.2**	**-1.1**
WR0				IAmb	IAmb	20 45 46.5	
	comp=Z,21nm,0.7s						
QIS	**Mount Isa**	**26.13**	**156**	P	**P**	**20 46 06.3**	**+0.6**
AS31	**Alice Springs**	**27.32**	**169**	P	**P**	**20 46 14.1**	**-2.3**
ASAR	**Alice Springs**	**27.32**	**169**	P	**P**	**20 46 14.9**	**-1.6**
ASAR	**Alice Springs**	**27.32**	**169**	P	**P**	**20 46 16.0**	**-0.5**
	comp=Z,3.0nm,0.4s,baz=348,slow=7.1,SNR=76						
ASAR				PcP	**PcP**	**20 49 35.5**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=356,slow=2.3,SNR=11						
	comp=Z,3.0nm,0.4s						
WRKA	**Warakurna**	**28.15**	**180**	P	**P**	**20 46 24.7**	**+0.8**
CTA	**Charters Tower**	**29.12**	**144**	LR	LR	20 57 51.3	
	comp=Z,8.4nm,20.4s,baz=228,slow=36						
MEEK	**Meekatharra**	**31.20**	**197**	P	**P**	**20 46 50.7**	**-0.2**
**O

baz=250,slow=75,SNR=5.8
MDJ Mudanjiang 41.18 1 P **P** **20 48 17.3 +1.4**
MDJ PcP **PcP** **20 50 10.4 -4.2**
MDJ ScP **ScP** **20 53 55.4 -6.6**
MDJ PcS **PcS** **20 54 02.6 -3.0**
MDJ S **S** **20 54 31.4 +4.5**
MDJ sS sS 20 55 00.6 +18
MDJ pmax pmax
comp=Z,9.0nm,1.0s
MDJ pmax pmax
comp=Z,83nm,4.1s
MDJ LR LR
comp=N,120nm,15.1s
MDJ LR LR
comp=E,120nm,14.1s
MDJ LR LR
comp=Z,150nm,19.2s
SHL Shillong 41.46 306 P **P** **20 48 18.6 -0.2**
JKA Kamikawa-asahi 42.57 15 P **P** **20 48 28.5 +1.3**
JKA IAmb IAmb 20 48 30.0
comp=Z,10.0nm,0.8s
TOO Toolangi 43.65 160 P **P** **20 48 37.5 +1.5**
LSA Lhasa 43.97 311 P **P** **20 48 41.3 +2.0**
LSA pmax pmax
comp=Z,11nm,1.0s
LSA Lhasa 43.97 311 IAmb IAmb 20 48 45.0
comp=Z,9.3nm,0.7s
GTA Gaotai 44.33 328 *e*P **P** **20 48 42.8 +1.1**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA LR LR
comp=N,130nm,18.5s
GTA LR LR
comp=E,110nm,17.8s
GTA LR LR
comp=Z,100nm,17.5s
HEH HeiHe 46.81 359 *e*P **P** **20 49 01.8 +0.8**
SONM Songino Array 48.26 340 P **P** **20 49 13.2 +0.7**
SONM Songino Array 48.26 340 P **P** **20 49 12.8 +0.4**
comp=Z,1.0nm,0.7s,baz=156,slow=9.2,SNR=9.3
comp=Z,1.0nm,0.7s
MK31 Makanchi Array 58.86 325 P **P** **20 50 29.8 -0.3**
MK31 IAmb IAmb 20 50 34.2
comp=Z,4.1nm,0.8s
MKAR Makanchi Array 58.86 325 P **P** **20 50 30.2 +0.1**
MKAR Makanchi Array 58.86 325 P **P** **20 50 30.4 +0.4**
comp=Z,4.5nm,0.6s,baz=122,slow=8.1,SNR=45
comp=Z,4.5nm,0.6s
MAKZ Makanchi 59.05 325 P **P** **20 50 31.3 -0.1**
MAKZ IAmb IAmb 20 50 35.4
comp=Z,5.7nm,0.8s
PRZ Przheval'sk 59.12 319 P **P** **20 50 32.8 +0.6**
NIL Nilore 59.49 307 P **P** **20 50 33.8 -0.9**
KSH Kashi 59.52 315 P **P** **20 50 36.9 +2.0**
KSH pP pwP 20 50 55.8 +7.6
KSH PcP **PcP** **20 51 22.1 -0.1**
KSH pmax pmax
comp=Z,7.0nm,1.0s
NRN Naryn 60.28 317 P **P** **20 50 39.2 -1.1**
NRN IAmb IAmb 20 50 43.4
comp=Z,5.2nm,1.2s
BOOM Boomskoye usch 60.76 318 P **P** **20 50 43.1 -0.2**
BOOM IAmb IAmb 20 50 48.6
comp=Z,2.3nm,0.7s
PLWZ Palliser 61.68 142 P **P** **20 50 48.5 -1.0**
ZAA0 Zalesovo Array 61.73 332 P **P** **20 50 48.3 -1.2**
ZALV Zalesovo Beam 61.73 332 P **P** **20 50 48.1 -1.4**
ZALV Zalesovo Beam 61.73 332 P **P** **20 50 48.7 -0.9**
comp=Z,0.6nm,0.4s,baz=122,slow=5.9,SNR=5.5
comp=Z,0.6nm,0.4s
ARSB Arslanbob 62.32 316 P **P** **20 50 53.3 -0.7**
KURBB Kurchatov Arra 63.00 327 P **P** **20 50 57.8 -0.2**
comp=Z,3.4nm,0.6s,baz=127,slow=6.5,SNR=43
comp=Z,3.4nm,0.6s
KURK Kurchatov 63.00 327 P **P** **20 50 57.1 -1.0**
KBL Kabul 63.09 307 P **P** **20 50 58.4 -0.9**
KBL IAmb IAmb 20 51 04.3
comp=Z,5.1nm,0.9s
CHGR Chuyangaron 64.19 312 P **P** **20 51 05.4 -0.9**
SIMJ Simiganj 64.30 312 P **P** **20 51 06.5 -0.6**
KK31 Karatay Array 64.68 317 P **P** **20 51 08.6 -0.7**
KKAR Karatay Array 64.68 317 P **P** **20 51 08.6 -0.7**
KKAR Karatay Array 64.68 317 IAmb IAmb 20 51 12.2
comp=Z,3.8nm,0.9s
BVAR Borovoye Array 68.59 327 P **P** **20 51 33.8 -0.3**
comp=Z,2.4nm,0.6s,baz=124,slow=8.5,SNR=12
comp=Z,2.4nm,0.6s
BRVK Borovoye 68.66 327 P **P** **20 51 34.0 -0.5**
BRVK IAmb IAmb 20 51 41.4
comp=Z,5.1nm,0.8s
ABKAR Akbulak array 73.53 321 P **P** **20 52 03.2 -0.8**
ABKAR Akbulak array 73.53 321 IAmb IAmb 20 52 11.0
comp=Z,4.6nm,1.4s
OBL Observatory Le 76.04 71 P **P** **20 52 17.7 -1.6**
SBLHI Steaming Bluff 76.06 71 P **P** **20 52 17.9 -1.5**
HATHI Halema'uma'u T 76.06 71 P **P** **20 52 17.4 -2.0**
ARU Arti 76.19 328 P **P** **20 52 17.8 -1.5**
ARU IAmb IAmb 20 52 26.8
comp=Z,5.4nm,1.0s
L16K Owhat River 78.71 28 P **P** **20 52 31.6 -1.7**
O16K Kokwok River B 78.88 30 P **P** **20 52 35.6 +1.3**
O16K IAmb IAmb 20 52 36.5
comp=Z,4.3nm,0.8s
L18K Granite Mounta 80.11 27 P **P** **20 52 42.3 +1.4**
L18K IAmb IAmb 20 52 43.7
comp=Z,9.7nm,1.4s
G19K Purcell Mounta 80.78 23 IAmb IAmb 20 52 47.0
comp=Z,5.7nm,0.8s
N19K Bonanza Creek 80.89 29 P **P** **20 52 45.1 -0.1**
J19K Poorman 80.94 26 P **P** **20 52 46.7 +1.4**
J19K IAmb IAmb 20 52 48.5
comp=Z,7.0nm,1.1s
D19K Kuna River 80.95 21 P **P** **20 52 45.7 +0.4**
Q19K Cape Douglas, 81.00 31 P **P** **20 52 45.8 -0.1**
Q19K IAmb IAmb 20 53 05.9
comp=Z,8.9nm,0.8s
P19K Oil Pt 81.32 30 P **P** **20 52 48.5 +1.0**
P19K IAmb IAmb 20 53 30.7
comp=Z,10nm,1.2s
KDAK Kodiak Island 81.40 32 P **P** **20 52 48.9 +1.0**
KDAK IAmb IAmb 20 52 49.9
comp=Z,5.2nm,0.8s
F20K Avaraart Lake 81.51 23 P **P** **20 52 48.8 +0.5**
F20K IAmb IAmb 20 52 50.9
comp=Z,6.2nm,1.1s
SYI Shuyak Island 81.61 31 P **P** **20 52 49.6 +0.7**
SYI IAmb IAmb 20 52 53.7
comp=Z,8.2nm,1.1s
J20K Nowinta River 81.61 26 IAmb IAmb 20 52 51.7
comp=Z,4.7nm,0.8s
IMAR Indian Mountai 82.09 24 P **P** **20 52 52.5 +1.1**
G21K Allakaket 82.28 23 P **P** **20 52 52.9 +0.6**
G21K IAmb IAmb 20 53 13.5
comp=Z,10.0nm,1.5s
H21K Melozitna Rive 82.42 24 P **P** **20 52 53.1 0.0**
H21K IAmb IAmb 20 52 56.0
comp=Z,8.0nm,1.3s
SKT Skwentna 82.46 28 **P** **20 52 53.5 +0.1**
SUA Susitna One 82.77 29 IAmb IAmb 20 52 56.9
comp=Z,4.3nm,0.7s
VNDA Vanda 82.78 173 P **P** **20 52 54.6 -0.1**
VNDA Vanda 82.78 173 P **P** **20 52 55.1 +0.4**
comp=Z,2.4nm,0.5s,baz=316,slow=6.6,SNR=10
comp=Z,2.4nm,0.5s
BPAW Bear Paw Mtn. 82.97 26 IAmb IAmb 20 52 59.8
comp=Z,6.2nm,1.2s
MLY Manley 83.19 25 P **P** **20 52 57.8 +0.6**
MLY IAmb IAmb 20 52 59.4
comp=Z,4.0nm,0.8s
SBA Scott Base 83.67 172 P **P** **20 53 00.7 +1.4**
G23K Bananza Creek 83.68 23 IAmb IAmb 20 53 02.5
comp=Z,7.0nm,0.8s
I23K Minto, Yukon-K 83.78 25 IAmb IAmb 20 53 02.5
comp=Z,6.0nm,0.9s
MAW Mawson 83.91 201 P **P** **20 53 00.5 -0.2**
comp=Z,3.3nm,0.7s,baz=96,slow=5.8,SNR=9.8
comp=Z,3.3nm,0.7s
DHY Denali Highway 84.48 27 P **P** **20 53 04.4 +0.4**
G24K Hadweenzic Riv 84.69 23 P **P** **20 53 06.0 +1.2**
G24K IAmb IAmb 20 53 07.3
comp=Z,4.0nm,0.8s
ILAR Eielson Array 84.81 25 P **P** **20 53 05.6 +0.2**
comp=Z,0.5nm,0.7s,baz=248,slow=6.1,SNR=5.3
comp=Z,0.5nm,0.7s
M24K Tolsona, Glenn 84.99 28 P **P** **20 53 08.1 +1.6**

KLU Klutina 85.08 29 P **P** **20 53 07.8 +0.9**
GURO Guroymak-BITLI 85.11 308 IAmb IAmb 20 53 11.1
comp=Z,7.2nm,1.4s
N25K Chitina, Valde 85.72 29 IAmb IAmb 20 53 12.5
comp=Z,2.6nm,0.8s
BMAR Burnt Mountain 85.86 23 P **P** **20 53 11.8 +1.2**
HMT Hamilton 85.87 30 P **P** **20 53 12.4 +1.6**
HMT IAmb IAmb 20 53 13.0
comp=Z,6.3nm,0.9s
J26L Joseph Creek 86.23 26 P **P** **20 53 13.3 +0.7**
BCAR Beaver Creek A 87.03 27 P **P** **20 53 18.1 +1.6**
KIBK Kibwezi 90.45 268 P **P** **20 53 31.3 -2.4**
ARCES ARCESS Array B 91.43 340 P **P** **20 53 35.5 -1.5**
comp=Z,0.6nm,0.3s,baz=94,slow=6.7,SNR=1.2
comp=Z,0.6nm,0.3s
QSPA South Pole Qui 93.19 180 P **P** **20 53 45.4 +0.2**
comp=Z,2.2nm,0.6s,baz=271,slow=1.1,SNR=12
comp=Z,2.2nm,0.6s
TXAR Lajitas Array 120.57 53 PKP **PKPdf** **20 59 24.4 +0.7**
comp=Z,0.2nm,0.4s,baz=43,slow=2.5,SNR=3.4

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*IDC **18** 20:41:17.9±0.7, 3°.29N×128°.45E, h0km, mb4.2/11, mbtmp4.2/11, MS3.5/1, Error ellipse: s-maj=40.7km s-min=16.1km az=77.0*
*NEIC **18** 20:41:27.0±1.8, 3°.3N±0°.1×128°.26E±0°.10, h69km±8km, mb4.3/14, Error ellipse: s-maj=18.5km s-min=10.9km az=215.0*
ISC 18 20:41:24.2±0.6, 3°.27N±0°.09×128°.4E±0°.1, h45km, n28, σ0s82/29, mb4.3/19, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.68**	**324**	LR	LR	20 44 25.7	
	comp=Z,472nm,19.8s,baz=137,slow=40						
TOLI2	**Tolitoli**	**7.88**	**254**	Pn	**Pn**	**20 43 15.9**	**-0.4**
SBUM	**Sibu**	**16.15**	**268**	P	**P**	**20 45 11.1**	**+0.3**
WB0	**Warramunga Arr**	**23.65**	**166**	P	**P**	**20 46 32.2**	**+0.6**
WB0				IAmb	IAmb	20 46 36.0	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**23.80**	**166**	P	**P**	**20 46 33.4**	**+0.3**
WRA	**Warramunga Arr**	**23.80**	**166**	P	**P**	**20 46 33.4**	**+0.3**
	comp=Z,10.0nm,0.5s,baz=345,slow=10,SNR=7.5						
	comp=Z,10.0nm,0.5s						
ASAR	**Alice Springs**	**27.32**	**169**	P	**P**	**20 47 05.5**	**+0.6**
	comp=Z,3.6nm,0.9s,baz=358,slow=10,SNR=2.0						
ASAR				PcP	**PcP**	**20 50 23.7**	**0.0**
	comp=Z,1.0nm,0.5s,baz=0.0,slow=2.4,SNR=5.2						
	comp=Z,3.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**32.51**	**300**	P	**P**	**20 47 52.5**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=114,slow=7.2,SNR=5.2						
	comp=Z,1.8nm,0.7s						
KSRS	**Korea Array**	**34.02**	**359**	P	**P**	**20 48 04.5**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=177,slow=9.7,SNR=1.9						
	comp=Z,0.8nm,0.6s						
MJAR	**Matsushiro Arr**	**34.33**	**14**	P	**P**	**20 48 06.5**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=184,slow=9.2,SNR=5.0						
	comp=Z,2.9nm,0.7s						
BBOO	**Buckleboo**	**36.62**	**169**	P	**P**	**20 48 26.0**	**-0.3**
STKA	**Stephens Creek**	**37.15**	**161**	P	**P**	**20 48 30.0**	**-0.7**
STKA	**Stephens Creek**	**37.15**	**161**	P	**P**	**20 48 30.1**	**-0.7**
	comp=Z,2.9nm,0.6s,baz=332,slow=9.7,SNR=1.5						
STKA				PcP	**PcP**	**20 50 50.5**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=338,slow=5.4,SNR=1.3						
	comp=Z,2.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**40.88**	**4**	P	**P**	**20 49 01.0**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=210,slow=8.3,SNR=2.3						
	comp=Z,2.7nm,0.7s						
MK31	**Makanchi Array**	**58.87**	**325**	P	**P**	**20 51 18.0**	**-0.5**
MK31				IAmb	IAmb	20 51 24.8	
	comp=Z,2.6nm,1.1s						
MKAR	**Makanchi Array**	**58.87**	**325**	P	**P**	**20 51 17.9**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=121,slow=9.2,SNR=1.8						
	comp=Z,1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**63.01**	**327**	P	**P**	**20 51 46.0**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=130,slow=6.8,SNR=1.6						
	comp=Z,1.3nm,0.6s						
GAR	**Garm**	**63.44**	**312**	P	**P**	**20 51 48.9**	**-0.9**
BILL	**Bilibino**	**69.58**	**14**	P	**P**	**20 52 28.2**	**0.0**
CASY	**Casey**	**70.57**	**188**	P	**P**	**20 52 33.8**	**-0.4**
CASY				IAmb	IAmb	20 53 06.4	
	comp=Z,5.1nm,1.1s						
M17K	**Holitna River**	**79.60**	**28**	P	**P**	**20 53 28.6**	**+2.1**
M17K				IAmb	IAmb	20 53 36.6	
	comp=Z,7.7nm,1.3s						
VNDA	**Vanda**	**82.77**	**173**	P	**P**	**20 53 43.9**	**+0.9**
VNDA				IAmb	IAmb	20 53 44.8	
	comp=Z,4.4nm,1.3s						
SUA	**Susitna One**	**82.78**	**29**	P	**P**	**20 53 44.0**	**+0.6**
SUA				IAmb	IAmb	20 53 45.3	
	comp=Z,2.7nm,0.7s						
G23K	**Bananza Creek**	**83.69**	**23**	P	**P**	**20 53 47.5**	**-0.5**
G23K				IAmb	IAmb	20 53 50.9	
	comp=Z,3.4nm,0.8s						
NEA2	**Nenana**	**83.86**	**25**	P	**P**	**20 53 46.8**	**-2.0**
NEA2				IAmb	IAmb	20 53 51.1	
	comp=Z,3.3nm,1.3s						
MAW	**Mawson**	**83.90**	**201**	P	**P**	**20 53 49.1**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=11,slow=5.2,SNR=2.2						
	comp=Z,1.1nm,0.5s						
QSPA	**South Pole Qui**	**93.18**	**180**	P	**P**	**20 54 33.3**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=199,slow=4.5,SNR=2.2						
	comp=Z,1.7nm,0.7s						
TXAR	**Lajitas Array**	**120.58**	**53**	PKP	**PKiKP**	**21 00 11.7**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=191,slow=3.7,SNR=2.3						

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*JMA **18** 20:52:07.0±0.3, 36°.N±1°.×129°.8E±0°.9, h13km, MV2.8/23, S KOREAN PENINSULA REG*
*KMA **18** 20:52:11.4±0.2, 35°.83N×129°.82E, h21km±1km, Error ellipse: s-maj=2.1km s-min=0.7km az=94.0*
ISC 18 20:52:11.3±1.1, 35°.89N±0°.03×129°.80E±0°.04, h26km±9km, n34, σ0s73/55, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMGA	**Homigot**	**0.27**	**316**	P	**Pb**	**20 52 18.7**	**+0.8**
	SNR=24						
JEJB	**Jeongja**	**0.38**	**229**	P	**Pb**	**20 52 19.3**	**-0.3**
	SNR=160						
JEJB				P	**Pb**	**20 52 19.3**	**-0.3**
	SNR=160						
JEJB				S	**Sb**	**20 52 24.8**	**-0.4**
JEJB				S	**Sb**	**20 52 24.8**	**-0.4**
KSPHA	**Pohang**	**0.46**	**312**	P	**Pn**	**20 52 21.8**	**-0.5**
	SNR=112						
KSPHA				P	**Pn**	**20 52 21.8**	**-0.5**
	SNR=112						
KSPHA				S	**Sn**	**20 52 29.0**	**-0.6**
KSPHA				S	**Sn**	**20 52 29.0**	**-0.6**
GIGA	**Gigye**	**0.52**	**291**	P	**Pn**	**20 52 22.4**	**-0.6**
	SNR=51						
KSUSN	**Ulsan**	**0.58**	**252**	P	**Pb**	**20 52 22.9**	**0.0**
	SNR=230						
GGGA	**Ganggu**	**0.58**	**326**	P	**Pn**	**20 52 23.6**	**-0.3**
	SNR=78						
UNCA	**Ungchon**	**0.61**	**228**	P	**Pb**	**20 52 23.2**	**-0.3**
	SNR=71						
GSNA	**Gyeongjusannae**	**0.65**	**259**	P	**Pb**	**20 52 24.2**	**+0.1**
	SNR=135						
YOCB	**Yeongcheon**	**0.69**	**278**	P	**Pn**	**20 52 25.2**	**-0.2**
	SNR=30						
YOCB				P	**Pn**	**20 52 25.2**	**-0.2**
	SNR=30						
YODB	**Yeongdeok**	**0.72**	**334**	P	**Pn**	**20 52 26.0**	**+0.2**
	SNR=64						
YODB				P	**Pn**	**20 52 26.0**	**+0.2**
	SNR=64						
KSDAG	**Daegu**	**0.74**	**261**	P	**Pn**	**20 52 25.7**	**-0.4**
	SNR=30						
KSDAG				P	**Pn**	**20 52 25.7**	**-0.4**
	SNR=30						
MSNA0	**Miryangsannae**	**0.75**	**247**	P	**Pb**	**20 52 25.7**	**0.0**
	SNR=61						
KSCHS	**CHEONGSONG**	**0.77**	**311**	P	**Pb**	**20 52 24.7**	**-1.4**
	SNR=176						
KSCHS				P	**Pb**	**20 52 24.7**	**-1.4**
	SNR=176						
KSCHS	**CHEONGSONG**	**0.77**	**311**	P	**Pn**	**20 52 26.9**	**+0.4**
	SNR=20						
KSBUS	**Busan**	**0.85**	**221**	P	**Pb**	**20 52 26.9**	**-0.4**
	SNR=28						
KSBUS				P	**Pb**	**20 52 26.9**	**-0.4**
	SNR=28						
KSBUS				P	**Pb**	**20 52 26.9**	**-0.4**
	SNR=20						
KSADO	**Andong**	**0.86**	**308**	P	**Pn**	**20 52 28.5**	**+0.8**
	SNR=98						
KSADO				P	**Pn**	**20 52 28.5**	**+0.8**
	SNR=98						
MLGA	**Mulgeum**	**0.87**	**229**	P	**Pb**	**20 52 27.5**	**-0.3**
	SNR=15						
KSULJ	**Uljin**	**0.87**	**339**	P	**Pn**	**20 52 28.5**	**+0.6**
	SNR=253						
KSULJ				P	**Pn**	**20 52 28.5**	**+0.6**
	SNR=253						
YEYB	**Yeongyang**	**0.93**	**322**	P	**Pn**	**20 52 29.6**	**+0.8**
	SNR=44						
YEYB				P	**Pn**	**20 52 29.6**	**+0.8**
	SNR=44						
CGDA	**Cheongdo**	**0.94**	**257**	P	**Pn**	**20 52 29.2**	**+0.3**
	SNR=24						
MIYA	**Miryang-si**	**0.94**	**246**	P	**Pn**	**20 52 29.0**	**+0.1**
	SNR=11						
KSDAU	**Deagu-acc**	**0.96**	**270**	P	**Pn**	**20 52 29.8**	**+0.7**
	SNR=16						
KSBSA	**Busan_acc**	**1.00**	**219**	P	**Pb**	**20 52 29.7**	**-0.3**
	SNR=8.4						
SUBA	**Subi**	**1.01**	**333**	P	**Pn**	**20 52 30.9**	**+1.1**
	SNR=35						
EUSB	**Uiseong**	**1.01**	**298**	P	**Pn**	**20 52 30.9**	**+1.1**
EUSB				P	**Pn**	**20 52 30.9**	**+1.1**
JUCA	**Juchon**	**1.02**	**231**	P	**Pb**	**20 52 30.1**	**-0.2**
	SNR=5.8						
GUWB	**Gunwi**	**1.02**	**287**	P	**Pn**	**20 52 31.0**	**+1.1**
	SNR=38						
GUWB				P	**Pn**	**20 52 31.0**	**+1.1**
	SNR=38						
JNYA	**Jinyeong**	**1.07**	**236**	P	**Pb**	**20 52 31.2**	**+0.1**
	SNR=5.5						
JTU	**Tsushima**	**1.40**	**194**	P	**Pn**	**20 52 34.6**	**-0.6**
JTU				S	**Sn**	**20 52 53.3**	**+0.6**
JHGM	**Hagimishima**	**1.56**	**135**	P	**Pn**	**20 52 37.0**	**-0.3**
JHGM				S	**Sn**	**20 52 58.0**	**+1.4**
JTY	**Toyota**	**1.93**	**147**	P	**Pn**	**20 52 41.6**	**-0.7**
JTY				S	**Sn**	**20 53 07.9**	**+2.1**
JII	**Iki**	**2.09**	**181**	P	**Pn**	**20 52 45.0**	**+0.3**
JGT2	**ShimaneMisato**	**2.36**	**110**	P	**Pn**	**20 52 47.5**	**-0.9**
JFI	**Itaya**	**2.50**	**169**	P	**Pn**	**20 52 50.3**	**0.0**

ROM 18 20:56:27.8±0.1, 37°.733N±0°.003×14°.963E±0°.004, h7km, ML1.9/16, 2C-3D, Error ellipse: s-maj=0.4km s-min=0.1km az=263.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.04**	**167**	⇑P	Pg	20 56 29.2	-0.2
ESLN				S	Sg	20 56 30.7	+0.1
ESLN				AML	AML		
	comp=N,7078μm,0.2s						
ESLN				AML	AML		
	comp=E,4751μm,0.2s						
EMSG	**Monte Spagnolo**	**0.09**	**353**	⇑P	Pg	20 56 30.4	+0.4
EMSG				S	Sg	20 56 31.9	+0.3
EMSG				AML	AML		
	comp=E,3205μm,0.3s						
EMSG				AML	AML		
	comp=N,4005μm,0.2s						
EMSG				AML	AML		
	comp=N,4003μm,0.2s						
EPZF	**Pizzo Felice**	**0.12**	**317**	P	Pg	20 56 30.7	+0.2
EPZF				S	Sg	20 56 33.6	+1.2
EPZF				AML	AML		
	comp=N,1580μm,0.3s						
EPZF				AML	AML		
	comp=N,1580μm,1.7s						
EPZF				AML	AML		
	comp=E,1780μm,0.4s						
ESML	**S. M. di Licod**	**0.13**	**211**	P	Pg	20 56 31.0	+0.4
ESML				S	Sg	20 56 33.2	+0.7
ESML				AML	AML		
	comp=N,1145μm,0.6s						
ESML				AML	AML		
	comp=E,1270μm,1.0s						
EVRN	**Santa Venerina**	**0.14**	**108**	P	Pg	20 56 30.9	+0.1
EVRN				S	Sg	20 56 33.6	+0.8
EPOZ	**Pozzillo**	**0.24**	**157**	P	Pg	20 56 32.4	-0.1
EPOZ				S	Sg	20 56 35.8	+0.1
EPOZ				AML	AML		
	comp=N,1064μm,0.7s						
EPOZ				AML	AML		
	comp=E,1102μm,0.6s						
EPOZ				AML	AML		
	comp=E,1102μm,1.4s						
MNO	**Monte Soro**	**0.29**	**313**	P	Pb	20 56 35.0	-0.5
GALF	**Gagliano Caste**	**0.32**	**266**	⇓P	Pb	20 56 35.1	-0.7
GALF				AML	AML		
	comp=N,692μm,0.6s						
GALF				AML	AML		
	comp=E,308μm,0.6s						
GALF				AML	AML		
	comp=E,119μm,0.3s						
MUCR	**Ucria**	**0.32**	**347**	P	Pg	20 56 34.7	+0.7
MUCR				S	Sb	20 56 40.0	-1.4
MUCR				AML	AML		
	comp=E,230μm,0.8s						
MUCR				AML	AML		
	comp=N,318μm,0.6s						
AIO	**Antillo**	**0.32**	**42**	P	Pg	20 56 34.9	+0.8
AIO				S	Sb	20 56 40.4	-1.0
AIO				AML	AML		
	comp=E,188μm,0.4s						
AIO				AML	AML		
	comp=N,171μm,0.5s						
NOV	**Novara**	**0.33**	**25**	P	Pg	20 56 34.9	+0.7
NOV				S	Sb	20 56 40.8	-0.7
HAGA	**Augusta**	**0.47**	**161**	P	Pb	20 56 38.0	-0.4
SSY	**Sortino**	**0.58**	**171**	⇓P	Pg	20 56 39.2	+0.1
SSY				S	Sb	20 56 48.5	-0.3
SSY				AML	AML		
	comp=E,119μm,0.5s						
SSY				AML	AML		
	comp=N,466μm,0.5s						
SSY				AML	AML		
	comp=E,77μm,0.8s						
SSY				AML	AML		
	comp=N,158μm,2.0s						
RAFF	**Raffo Rosso**	**0.70**	**223**	⇓P	Pb	20 56 42.0	-0.3

ROM 18 20:56:37.8±0.1, 37°.721N±0°.004×14°.959E±0°.006, h8km, ML2.0/14, Error ellipse: s-maj=0.5km s-min=0.1km az=259.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.03**	**157**	P	Pg	20 56 39.2	-0.3
ESLN				S	Sg	20 56 40.4	-0.3
EMCN	**Etna Monte Con**	**0.09**	**40**	P	Pg	20 56 40.4	+0.2
EMCN				S	Sg	20 56 42.3	+0.4
EMSG	**Monte Spagnolo**	**0.10**	**356**	P	Pg	20 56 40.4	+0.1
EMSG				S	Sg	20 56 42.4	+0.4
EMSG				AML	AML		
	comp=N,4005μm,0.2s						
EMSG				AML	AML		
	comp=E,3205μm,0.3s						
ESML	**S. M. di Licod**	**0.12**	**212**	P	Pg	20 56 41.2	+0.7
ESML				S	Sg	20 56 43.5	+1.2
ESML				AML	AML		
	comp=N,1145μm,0.6s						
ESML				AML	AML		
	comp=E,1270μm,1.0s						
EPZF	**Pizzo Felice**	**0.13**	**322**	P	Pg	20 56 40.6	-0.1
EPZF				S	Sg	20 56 43.5	+0.8
EPZF				AML	AML		
	comp=E,1780μm,0.4s						
EPZF				AML	AML		
	comp=N,1580μm,0.3s						
EPZF				AML	AML		
	comp=N,1580μm,1.7s						
EPOZ	**Pozzillo**	**0.23**	**155**	P	Pg	20 56 42.1	-0.3
EPOZ				S	Sg	20 56 45.8	+0.4
EPOZ				AML	AML		
	comp=N,1064μm,0.7s						
EPOZ				AML	AML		
	comp=E,1102μm,0.6s						
EPOZ				AML	AML		
	comp=E,1102μm,1.4s						
MNO	**Monte Soro**	**0.30**	**315**	P	Pb	20 56 44.7	-0.8

GALF	**Gagliano Caste**	**0.31 268**	AML	AML		
	comp=E,308μm,0.6s					
GALF			AML	AML		
	comp=N,692μm,0.6s					
MUCR	**Ucria**	**0.33 348**	P	Pb	20 56 45.4	-0.6
MUCR			AML	AML		
	comp=E,230μm,0.8s					
MUCR			AML	AML		
	comp=N,318μm,0.6s					
AIO	**Antillo**	**0.33 41**	P	Pb	20 56 45.6	-0.4
AIO			AML	AML		
	comp=N,171μm,0.5s					
AIO			AML	AML		
	comp=E,188μm,0.4s					
NOV	**Novara**	**0.34 25**	P	Pg	20 56 45.0	+0.6
HAGA	**Augusta**	**0.46 160**	P	Pg	20 56 47.3	+0.5
SSY	**Sortino**	**0.57 171**	P	Pg	20 56 49.3	+0.5
SSY			AML	AML		
	comp=E,119μm,0.5s					
SSY			AML	AML		
	comp=N,466μm,0.5s					

ROM 18 21:20:24.8±0.1,37°.719N±0°.005×14°.993E±0°.009,
h9km,ML1.8/6,1D,Error ellipse: s-maj=0.8km
s-min=0.5km az=268.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.03**	**210**	P	Pg	21 20 26.3	-0.4
ESLN				S	Sg	21 20 28.0	0.0
EMCN	**Etna Monte Con**	**0.08**	**24**	P	Pg	21 20 27.3	0.0
EMCN				S	Sg	21 20 29.1	+0.2
EMSG	**Monte Spagnolo**	**0.11**	**341**	P	Pg	21 20 27.4	-0.1
EMSG				S	Sg	21 20 30.3	+0.9
EMSG				AML	AML		
	comp=N,1605μm,0.2s						
EMSG				AML	AML		
	comp=N,1443μm,0.3s						
EMSG				AML	AML		
	comp=E,1365μm,0.2s						
EMSG				AML	AML		
	comp=E,1364μm,0.2s						
ESML	**S. M. di Licod**	**0.14**	**222**	⇓P	Pg	21 20 28.3	+0.4
ESML				AML	AML		
	comp=N,780μm,0.8s						
ESML				AML	AML		
	comp=E,750μm,0.3s						
ESML				AML	AML		
	comp=N,781μm,0.8s						
ESML				AML	AML		
	comp=N,685μm,0.7s						
EPZF	**Pizzo Felice**	**0.15**	**314**	P	Pg	21 20 28.4	+0.2
EPZF				S	Sg	21 20 31.8	+1.3
EPZF				AML	AML		
	comp=N,809μm,0.3s						
EPZF				AML	AML		
	comp=N,791μm,0.3s						
EPZF				AML	AML		
	comp=E,805μm,0.3s						
EPZF				AML	AML		
	comp=E,805μm,0.3s						
EPZF				AML	AML		
	comp=N,791μm,1.7s						
EPZF				AML	AML		
	comp=N,808μm,0.3s						
EPOZ	**Pozzillo**	**0.22**	**161**	P	Pg	21 20 29.4	+0.2
EPOZ				AML	AML		
	comp=N,4395μm,0.3s						
EPOZ				AML	AML		
	comp=E,3120μm,0.4s						
AIO	**Antillo**	**0.32**	**37**	P	Pb	21 20 32.0	-0.8
AIO				AML	AML		
	comp=E,7285μm,0.4s						
AIO				AML	AML		
	comp=N,6345μm,0.4s						
AIO				AML	AML		
	comp=E,7625μm,1.1s						
AIO				AML	AML		
	comp=N,6370μm,0.8s						
AIO				AML	AML		
	comp=N,50μm,1.8s						
AIO				AML	AML		
	comp=N,79μm,0.3s						
MNO	**Monte Soro**	**0.32**	**312**	P	Pb	21 20 32.1	-0.8
NOV	**Novara**	**0.33**	**20**	P	Pg	21 20 31.8	+0.5
MUCR	**Ucria**	**0.34**	**344**	P	Pg	21 20 32.1	+0.5
MUCR				AML	AML		
	comp=E,4265μm,0.8s						
MUCR				AML	AML		
	comp=N,4595μm,0.6s						
MUCR				AML	AML		
	comp=N,7420μm,0.7s						
GALF	**Gagliano Caste**	**0.34**	**269**	P	Pb	21 20 32.3	-0.8
GALF				AML	AML		
	comp=E,935μm,0.4s						
GALF				AML	AML		
	comp=E,2785μm,0.3s						
GALF				AML	AML		
	comp=E,690μm,0.7s						
GALF				AML	AML		
	comp=N,1290μm,0.5s						
GALF				AML	AML		
	comp=E,2755μm,0.8s						
GALF				AML	AML		
	comp=N,3745μm,0.4s						
HAGA	**Augusta**	**0.45**	**163**	P	Pg	21 20 33.8	+0.2
SSY	**Sortino**	**0.57**	**174**	P	Pb	21 20 36.7	-0.3
SSY				AML	AML		
	comp=E,5000μm,1.5s						
SSY				AML	AML		
	comp=N,8075μm,0.4s						
RAFF	**Raffo Rosso**	**0.70**	**226**	P	Pb	21 20 39.0	-0.3
RAFF				AML	AML		
	comp=E,5280μm,1.2s						
RAFF				AML	AML		
	comp=N,3915μm,0.6s						
HMDC	**Modica**	**0.78**	**193**	P	Pg	21 20 40.0	+0.2
HMDC				AML	AML		
	comp=E,4140μm,1.5s						
HMDC				AML	AML		
	comp=N,10760μm,0.6s						

*IDC **18** 21:20:34.9±1.5,37°.62N×15°.28E,h0km,mb3.3/4,*
mbtmp3.5/7,ML3.3/2,Error ellipse: s-maj=27.4km
s-min=9.5km az=159.0
*ROM **18** 21:20:36.8±0.1,37°.721N±0°.005×15°.007E±0°.008,*
h8km,ML3.4/104,Error ellipse: s-maj=0.8km s-min=0.1km
az=299.0
ISC 18 21:20:36.6±0.8,37°.71N±0°.02×15°.03E±0°.02,h11km±4km,
n79,σ1°.00/86,mb3.4/4,9C-4D,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.04**	**245**	⇑P	**Pg**	**21 20 38.5**	**-0.5**
ESLN				S	**Sg**	**21 20 40.1**	**-0.6**
EMCN	**Etna Monte Con**	**0.08**	**5**	P	**Pg**	**21 20 39.2**	**-0.2**
EMCN				S	**Sg**	**21 20 41.1**	**-0.2**
EMCN				AML	AML		
	comp=E,29200μm,0.8s						
EMCN				AML	AML		
	comp=N,20300μm,0.5s						
EMCN				AML	AML		
	comp=N,16250μm,1.3s						
EMSG	**Monte Spagnolo**	**0.12**	**331**	⇑P	**Pg**	**21 20 39.6**	**-0.3**
EMSG				S	**Sg**	**21 20 42.7**	**+0.6**
EMSG				AML	AML		
EMSG				AML	AML		
	comp=E,75050μm,0.8s						
EMSG				AML	AML		
	comp=E,72350μm,0.4s						
EMSG				AML	AML		
	comp=N,79250μm,0.6s						
EMSG				AML	AML		
	comp=E,72350μm,1.6s						
ESML	**S. M. di Licod**	**0.15**	**231**	⇑P	**Pg**	**21 20 40.3**	**+0.2**
ESML				S	**Sg**	**21 20 42.7**	**+0.2**
ESML				AML	AML		
	comp=N,62850μm,0.8s						
ESML				AML	AML		
	comp=E,64250μm,0.5s						
ESML				AML	AML		
	comp=N,62850μm,1.2s						
EPZF	**Pizzo Felice**	**0.17**	**310**	⇑P	**Pg**	**21 20 40.0**	**-0.6**
EPZF				S	**Sg**	**21 20 43.3**	**0.0**
EPZF				AML	AML		
	comp=N,52900μm,1.2s						
EPZF				AML	AML		
	comp=N,52850μm,1.2s						
EPZF				AML	AML		
	comp=E,49950μm,0.3s						
EPOZ	**Pozzillo**	**0.20**	**167**	⇓P	**Pg**	**21 20 41.5**	**+0.5**
EPOZ				AML	AML		
	comp=N,67850μm,0.8s						
EPOZ				AML	AML		
	comp=E,77750μm,0.6s						
AIO	**Antillo**	**0.31**	**32**	P	**Pg**	**21 20 43.6**	**+0.7**
AIO				S	**Sb**	**21 20 49.5**	**+0.2**
AIO				AML	AML		
	comp=N,6370μm,0.8s						
AIO				AML	AML		
	comp=E,7625μm,1.1s						
AIO				AML	AML		
	comp=E,7625μm,0.9s						
AIO				AML	AML		
	comp=N,6370μm,1.2s						
NOV	**Novara**	**0.33**	**16**	⇑P	**Pg**	**21 20 43.9**	**+0.6**
NOV				S	**Sb**	**21 20 49.5**	**-0.4**
NOV				AML	AML		
	comp=E,10940μm,0.9s						
NOV				AML	AML		
	comp=N,8200μm,0.6s						
NOV				AML	AML		
	comp=E,10940μm,1.1s						
MNO	**Monte Soro**	**0.34**	**310**	⇑P	**Pg**	**21 20 43.5**	**0.0**
MNO				S	**Sb**	**21 20 49.5**	**-1.0**
MNO				AML	AML		
	comp=N,28000μm,0.5s						
MNO				AML	AML		
	comp=E,18600μm,0.7s						
MUCR	**Ucria**	**0.35**	**340**	⇑P	**Pg**	**21 20 43.8**	**+0.1**
MUCR				S	**Sb**	**21 20 50.0**	**-0.6**
MUCR				AML	AML		
	comp=E,10600μm,0.9s						
MUCR				AML	AML		
	comp=N,14350μm,0.7s						
MUCR				AML	AML		
	comp=E,10600μm,1.1s						
GALF	**Gagliano Caste**	**0.36**	**270**	P	**Pg**	**21 20 44.3**	**+0.4**
GALF				S	**Sb**	**21 20 50.8**	**-0.1**
GALF				AML	AML		
	comp=E,5345μm,0.5s						
GALF				AML	AML		
	comp=N,22950μm,0.9s						
GALF				AML	AML		
	comp=E,5345μm,0.5s						
GALF				AML	AML		
	comp=N,6770μm,0.7s						
GALF				AML	AML		
	comp=E,17800μm,0.6s						
GALF				AML	AML		
	comp=N,22950μm,1.1s						
GALF				AML	AML		
	comp=E,5345μm,1.5s						
GALF				AML	AML		
	comp=N,6770μm,0.6s						
GALF				AML	AML		
	comp=E,17800μm,1.4s						
CAGR	**Agira**	**0.43**	**258**	P	**Pb**	**21 20 46.7**	**+0.5**
CAGR				AML	AML		
	comp=E,16950μm,0.6s						
CAGR				AML	AML		
	comp=N,14000μm,1.0s						
CAGR				AML	AML		
	comp=E,16950μm,1.4s						
CAGR				AML	AML		
	comp=N,14000μm,1.0s						
HAGA	**Augusta**	**0.44**	**166**	P	**Pg**	**21 20 46.1**	**+0.8**
HAGA				AML	AML		
	comp=N,3225μm,1.4s						
HAGA				AML	AML		
	comp=E,2945μm,0.5s						
HAGA				AML	AML		
	comp=N,3575μm,1.5s						
HAGA				AML	AML		
	comp=N,3575μm,0.5s						
HAGA				AML	AML		
	comp=E,3045μm,0.7s						
MPNC	**Port Mandanici**	**0.50**	**31**	P	**Pb**	**21 20 47.4**	**-0.1**
MPNC				AML	AML		
	comp=E,8725μm,0.8s						
MPNC				AML	AML		
	comp=N,7105μm,0.7s						
MPNC				AML	AML		
	comp=E,11075μm,0.7s						
MPNC				AML	AML		
	comp=N,7865μm,0.6s						
MPNC				AML	AML		
	comp=N,7865μm,1.4s						
MPNC				AML	AML		
	comp=E,11075μm,1.3s						
VAE	**Valguarnera**	**0.54**	**245**	Pg	**Pn**	**21 20 50.0**	**-0.4**
	comp=E,25nm,0.3s,baz=58,slow=14,SNR=49						
VAE				Lg	Lg	21 20 59.7	
	comp=E,93nm,0.3s,baz=351,slow=20,SNR=14						
SSY	**Sortino**	**0.56**	**176**	P	**Pg**	**21 20 48.0**	**+0.5**
SSY				S	**Sb**	**21 20 57.1**	**+0.7**
SSY				AML	AML		
	comp=E,5970μm,0.5s						
SSY				AML	AML		
	comp=N,9770μm,0.3s						
SSY				AML	AML		
	comp=N,10035μm,0.3s						
SSY				AML	AML		
	comp=E,6180μm,1.6s						
MILZ	**Milazzo**	**0.58**	**16**	P	**Pg**	**21 20 48.0**	**+0.1**
MILZ				AML	AML		
	comp=E,3585μm,0.5s						
MILZ				AML	AML		
	comp=N,3960μm,0.7s						
MILZ				AML	AML		
	comp=E,4380μm,0.4s						
MILZ				AML	AML		
	comp=N,4160μm,1.6s						
MILZ				AML	AML		
	comp=N,4160μm,0.4s						
HVZN	**Vizzini**	**0.59**	**205**	⇑P	**Pg**	**21 20 48.2**	**+0.1**
HVZN				S	**Sb**	**21 20 57.6**	**+0.3**
MTTG	**Motta San Giov**	**0.60**	**61**	⇓P	**Pb**	**21 20 49.6**	**+0.4**
MTTG				AML	AML		
	comp=N,1585μm,0.7s						
MTTG				AML	AML		
	comp=E,1554μm,1.5s						
VPL	**Vulcano Piano**	**0.67**	**357**	⇑P	**Pg**	**21 20 49.8**	**+0.2**
VPL				AML	AML		
	comp=E,8615μm,0.5s						
VPL				AML	AML		
	comp=N,9890μm,1.1s						
VPL				AML	AML		
	comp=N,9885μm,0.4s						
VPL				AML	AML		
	comp=E,8995μm,0.5s						
RAFF	**Raffo Rosso**	**0.72**	**227**	P	**Pg**	**21 20 50.4**	**-0.2**
RAFF				AML	AML		
	comp=E,6210μm,1.0s						
RAFF				AML	AML		
	comp=N,4985μm,0.4s						
PETRA	**Petralia Sopra**	**0.73**	**280**	P	**Pb**	**21 20 51.2**	**-0.3**
PETRA				AML	AML		
	comp=E,3675μm,0.6s						
PETRA				AML	AML		
	comp=N,3350μm,0.6s						
PETRA				AML	AML		
	comp=N,3355μm,0.9s						
LLI	**Lipari**	**0.73**	**355**	P	**Pb**	**21 20 52.2**	**+0.7**
PLLN	**Pollina**	**0.75**	**292**	P	**Pb**	**21 20 52.3**	**+0.5**
PLLN				AML	AML		
	comp=E,10700μm,1.0s						
PLLN				AML	AML		
	comp=N,10395μm,1.3s						
RESU	**Resuttano**	**0.77**	**265**	P	**Pb**	**21 20 52.8**	**+0.7**
RESU				AML	AML		
	comp=E,1865μm,0.6s						
RESU				AML	AML		
	comp=N,3130μm,0.7s						
RESU				AML	AML		
	comp=E,1865μm,1.4s						
HMDC	**Modica**	**0.78**	**194**	P	**Pg**	**21 20 51.3**	**-0.4**
HMDC				AML	AML		
	comp=N,12000μm,0.4s						
HMDC				AML	AML		
	comp=E,5445μm,0.9s						
CSLB	**Castelbuono**	**0.80**	**287**	P	**Pg**	**21 20 51.5**	**-0.6**
CSLB				AML	AML		
	comp=E,1137μm,1.1s						
CSLB				AML	AML		
	comp=N,2385μm,0.7s						
CSLB				AML	AML		
	comp=E,1194μm,0.4s						
GIB	**Gibilmanna**	**0.84**	**290**	P	**Pb**	**21 20 53.1**	**-0.1**
GIB				AML	AML		
	comp=E,6260μm,0.9s						
GIB				AML	AML		
	comp=N,6350μm,0.7s						
CEL	**Celeste**	**0.88**	**51**	P	**Pg**	**21 20 54.0**	**+0.5**
CEL				AML	AML		
	comp=N,1382μm,0.7s						
CEL				AML	AML		
	comp=E,1079μm,1.0s						
CEL				AML	AML		
	comp=N,1725μm,0.7s						
CEL				AML	AML		
	comp=N,1382μm,0.7s						
CEL				AML	AML		
	comp=E,880μm,1.0s						
CEL				AML	AML		
	comp=N,1721μm,0.7s						
SOI	**Samo**	**0.89**	**66**	P	**Pg**	**21 20 54.2**	**+0.3**
SOI				AML	AML		
	comp=N,1250μm,0.8s						
SOI				AML	AML		
	comp=E,1165μm,0.5s						
SOI				AML	AML		
	comp=N,1250μm,1.2s						
IACL	**Alicudi**	**0.97**	**327**	⇓P	**Pg**	**21 20 55.4**	**0.0**
IACL				AML	AML		
	comp=N,4250μm,0.9s						
IACL				AML	AML		
	comp=E,5875μm,1.6s						
IACL				AML	AML		
	comp=N,4250μm,1.1s						
CMDO	**Montedoro**	**0.99**	**256**	P	**Pn**	**21 20 57.3**	**+0.8**
CMDO				AML	AML		
	comp=E,668μm,1.0s						
CMDO				AML	AML		
	comp=N,1215μm,0.9s						
CMDO				AML	AML		
	comp=E,668μm,1.0s						
ALJA	**Alia**	**1.01**	**272**	P	**Pb**	**21 20 56.3**	**+0.2**
ALJA				AML	AML		
	comp=N,2380μm,0.7s						
ALJA				AML	AML		
	comp=E,2995μm,0.9s						
ALJA				AML	AML		
	comp=N,2565μm,0.7s						
ALJA				AML	AML		
	comp=N,2565μm,1.3s						
CLTA	**Licata**	**1.01**	**237**	AML	AML		
	comp=N,875μm,1.0s						
CLTA				AML	AML		
	comp=E,992μm,1.4s						
CLTA				AML	AML		
	comp=N,753μm,1.1s						
CLTA				AML	AML		
	comp=N,875μm,1.0s						
CLTA				AML	AML		
	comp=E,992μm,0.6s						
HPAC	**Pachino**	**1.02**	**176**	P	**Pg**	**21 20 55.5**	**-0.7**
HPAC				AML	AML		
	comp=E,3295μm,1.5s						
HPAC				AML	AML		
	comp=N,3760μm,1.0s						
HPAC				AML	AML		
	comp=N,3760μm,1.0s						
HPAC				AML	AML		
	comp=E,3295μm,0.5s						
JOPP	**Joppolo**	**1.12**	**37**	P	**Pg**	**21 20 57.9**	**-0.3**
JOPP				AML	AML		
	comp=N,1095μm,0.9s						
JOPP				AML	AML		
	comp=E,830μm,1.6s						
PLAC	**Placanica**	**1.34**	**56**	⇓P	**Pg**	**21 21 02.6**	**+0.3**
PLAC				AML	AML		
	comp=E,1018μm,0.6s						
PLAC				AML	AML		
	comp=N,766μm,1.2s						
PLAC				AML	AML		
	comp=E,780μm,1.2s						
PLAC				AML	AML		
	comp=E,780μm,0.8s						
PLAC				AML	AML		
	comp=N,766μm,0.8s						
PLAC				AML	AML		
	comp=N,1056μm,0.6s						
CORL	**Corleone**	**1.38**	**278**	P	**Pg**	**21 21 03.1**	**0.0**
CORL				AML	AML		
	comp=N,3100μm,0.9s						
CORL				AML	AML		
	comp=E,2635μm,0.7s						
MPG	**Monte Pellegri**	**1.39**	**289**	P	**Pn**	**21 21 01.4**	**-0.6**
MPG				AML	AML		
	comp=N,790μm,0.7s						
MPG				AML	AML		
	comp=E,708μm,0.9s						
CLTB	**Caltabellotta**	**1.44**	**265**	P	**Pg**	**21 21 04.1**	**-0.3**
CLTB				AML	AML		
	comp=E,8150μm,0.5s						
CLTB				AML	AML		
	comp=N,18400μm,0.6s						
CRJA	**Costa Raja**	**1.60**	**274**	P	**Pb**	**21 21 06.7**	**+0.3**
CRJA				AML	AML		
	comp=E,1820μm,1.6s						
CRJA				AML	AML		
	comp=N,897μm,1.6s						
CRJA				AML	AML		
	comp=E,1820μm,0.4s						
MBFT	**Monte Bonifato**	**1.66**	**279**	P	**Pb**	**21 21 07.1**	**-0.1**
MBFT				AML	AML		
	comp=E,518μm,0.8s						
MBFT				AML	AML		
	comp=N,655μm,0.6s						
USI	**Ustica**	**1.76**	**305**	P	**Pn**	**21 21 06.2**	**-0.9**
USI				AML	AML		
	comp=E,545μm,0.7s						
USI				AML	AML		
	comp=N,1920μm,0.5s						
USI				AML	AML		
	comp=N,1923μm,0.5s						
USI				AML	AML		
	comp=E,545μm,1.3s						
CAR1	**CAROLEI**	**1.80**	**31**	P	**Pn**	**21 21 07.4**	**-0.3**
CAR1				AML	AML		
	comp=N,1247μm,0.6s						
CAR1				AML	AML		
	comp=N,1520μm,0.6s						
CAR1				AML	AML		
	comp=E,1150μm,0.6s						
CAR1				AML	AML		
	comp=E,1110μm,0.5s						
SERS	**Sersale**	**1.86**	**44**	P	**Pn**	**21 21 10.0**	**+1.5**
SERS				AML	AML		
	comp=E,310μm,0.5s						
SERS				AML	AML		
	comp=N,316μm,1.4s						
SERS				AML	AML		
	comp=E,334μm,1.4s						
SERS				AML	AML		
	comp=N,280μm,0.5s						
SERS				AML	AML		
	comp=N,316μm,0.6s						
SERS				AML	AML		
	comp=N,280μm,1.5s						
SERS				AML	AML		
	comp=E,334μm,0.6s						
SERS				AML	AML		
	comp=E,310μm,1.5s						
SPS2	**Spezzano della**	**1.89**	**33**	P	**Pn**	**21 21 09.6**	**+0.8**
SPS2				AML	AML		
	comp=N,240μm,0.4s						
SPS2				AML	AML		
	comp=E,282μm,0.4s						
CET2	**Cetraro**	**1.95**	**22**	P	**Pn**	**21 21 09.3**	**-0.5**
CET2				AML	AML		
	comp=N,1425μm,0.4s						
CET2				AML	AML		
	comp=E,1070μm,0.7s						
CUC	**Castrocucco**	**2.36**	**15**	P	**Pn**	**21 21 15.3**	**-0.1**
CUC				AML	AML		
	comp=E,308μm,1.0s						

CUC				AML	AML	
	comp=N,248μm,0.8s					
SALB	**San Lorenzo Be**	**2.40**	**25**	P	**Pn**	**21 21 16.6 +0.7**
MGR	**Morigerati**	**2.46**	**9**	P	**Pn**	**21 21 16.5 -0.2**
MGR				AML	AML	
	comp=N,180μm,1.1s					
MGR				AML	AML	
	comp=N,180μm,0.9s					
MGR				AML	AML	
	comp=E,192μm,0.7s					
LINA	**Linosa Island**	**2.53**	**224**	AML	AML	
	comp=E,860μm,0.5s					
LINA				AML	AML	
	comp=N,636μm,0.7s					
MTSN	**Montesano sull**	**2.61**	**12**	P	**Pn**	**21 21 19.4 +0.5**
MTSN				AML	AML	
	comp=E,254μm,0.9s					
MTSN				AML	AML	
	comp=N,198μm,1.6s					
MTSN				AML	AML	
	comp=N,198μm,0.4s					
MTSN				AML	AML	
	comp=E,254μm,1.1s					
MATE	**Matera**	**3.21**	**23**	AML	AML	
	comp=E,100μm,1.1s					
MATE				AML	AML	
	comp=N,99μm,1.0s					
TAR1	**Taranto**	**3.31**	**31**	AML	AML	
	comp=N,123μm,0.8s					
TAR1				AML	AML	
	comp=N,123μm,1.2s					
TAR1				AML	AML	
	comp=E,106μm,1.0s					
AMUR	**Altamura**	**3.42**	**21**	AML	AML	
	comp=N,121μm,0.8s					
AMUR				AML	AML	
	comp=E,111μm,0.6s					
AMUR				AML	AML	
	comp=N,121μm,1.2s					
NOCI	**Noci**	**3.46**	**27**	AML	AML	
	comp=E,106μm,1.5s					
NOCI				AML	AML	
	comp=N,118μm,1.1s					
KEST	**Kesra**	**4.97**	**248**	Pn	**Pn**	**21 21 51.6 +0.3**
	comp=N,0.5nm,0.3s,baz=60,slow=7.8,SNR=9.0					
KEST				Sn	**Sn**	**21 22 49.6 +0.8**
	comp=N,0.3nm,0.3s,baz=14,slow=21,SNR=1.3					
	comp=N,5.0nm,0.7s					
IDI	**Anoyia**	**8.30**	**104**	Pn	**Pn**	**21 22 35.3 -1.8**
	comp=N,16nm,1.1s,baz=39,slow=2.7,SNR=2.5					
IDI				Sn	**Sn**	**21 24 06.0 -4.9**
	comp=N,0.8nm,0.3s,baz=264,slow=20,SNR=5.7					
OBKA	**Obir**	**8.80**	**358**	*e*Pn	**Pn**	**21 22 47.0 +3.1**
	comp=N,1.1nm,0.6s					
SOKA	**Soboth**	**8.96**	**0**	*e*Pn	**Pn**	**21 22 46.7 +0.7**
	comp=N,0.7nm,0.6s					
MYKA	**Terra Mystica**	**8.97**	**354**	*e*Pn	**Pn**	**21 22 47.6 +1.5**
	comp=N,2.9nm,1.0s					
ABTA	**Abfaltersbach**	**9.22**	**349**	*e*Pn	**Pn**	**21 22 50.1 +0.6**
ARSA	**Arzberg**	**9.54**	**2**	*e*Pn	**Pn**	**21 22 54.6 +0.6**
	comp=N,1.3nm,0.9s					
FETA	**Feichten**	**9.83**	**343**	*i* Pn	**Pn**	**21 22 57.7 -0.3**
	comp=N,3.4nm,1.1s					
DAVOX	**Davos/Dischmat**	**9.83**	**339**	Pn	Pn	21 23 04.4 +6.4
	comp=N,0.1nm,0.3s,baz=158,slow=13,SNR=3.5					
LESA	**Schwarzleotal**	**9.86**	**351**	*e*Pn	**Pn**	**21 22 58.2 -0.2**
	comp=N,1.5nm,0.8s					
WTTA	**Wattenberg**	**9.87**	**346**	*e*Pn	**Pn**	**21 22 58.9 +0.3**
	comp=N,2.8nm,0.9s					
SQTA	**Sankt Quirin**	**9.91**	**345**	*i* Pn	**Pn**	**21 22 59.5 +0.5**
	comp=N,0.6nm,0.2s					
WATA	**Walderalm**	**9.95**	**346**	*e*Pn	**Pn**	**21 22 59.6 0.0**
RONA	**Rosalia, Austr**	**10.03**	**5**	*e*Pn	**Pn**	**21 23 00.0 -0.6**
	comp=N,0.3nm,0.3s					
MOA	**Molln**	**10.15**	**357**	*e*Pn	**Pn**	**21 23 02.8 +0.6**
	comp=N,2.8nm,0.8s					
CONA	**Conrad Observa**	**10.23**	**3**	*i* Pn	**Pn**	**21 23 04.0 +0.6**
	comp=N,2.5nm,1.3s					
RETA	**Reutte**	**10.26**	**344**	*e*Pn	**Pn**	**21 23 03.5 -0.3**
	comp=N,1.7nm,0.9s					
GERES	**GERESS Array B**	**11.17**	**355**	Pn	**Pn**	**21 23 19.2 +3.0**
	comp=N,0.1nm,0.3s,baz=184,slow=14,SNR=2.1					
	comp=N,0.2nm,0.4s					
MLR	**Muntele Rosu**	**11.27**	**43**	Pn	**Pn**	**21 23 20.5 +2.8**
	comp=N,0.1nm,0.3s,baz=270,slow=23,SNR=1.3					
EKA	**Eskdalemuir Ar**	**21.50**	**331**	P	**P**	**21 25 27.2 +1.9**
	comp=N,0.7nm,0.8s,baz=148,slow=11,SNR=5.7					
	comp=N,0.7nm,0.8s					
HFS	**Hagfors**	**22.46**	**358**	P	**P**	**21 25 36.4 +0.9**
	comp=N,0.8nm,0.6s,baz=187,slow=10,SNR=4.2					
	comp=N,0.8nm,0.6s					
FINES	**FINESS Array B**	**24.74**	**13**	P	**P**	**21 25 56.2 -1.7**
	comp=N,0.7nm,0.7s,baz=208,slow=5.7,SNR=2.1					
	comp=N,0.7nm,0.7s					
MKAR	**Makanchi Array**	**49.22**	**57**	P	**P**	**21 29 23.9 -1.0**
	comp=N,0.4nm,0.8s,baz=291,slow=6.0,SNR=3.0					
	comp=N,0.4nm,0.8s					

ROM 18 21:20:54.5±0.1, 37°.723N±0°.004×14°.973E±0°.006, h7^{km}, ML3.4/51, Error ellipse: s-maj=0.5km s-min=0.1km az=106.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.03**	**177**	P	Pg	21 20 55.5	-0.6
ESLN				S	Sg	21 20 57.3	0.0
EMCN	**Etna Monte Con**	**0.08**	**35**	P	Pg	21 20 56.6	-0.1
EMCN				S	Sg	21 20 58.4	+0.1
EMCN				AML	AML		
	comp=E,29200μm,0.8s						
EMCN				AML	AML		
	comp=N,20300μm,0.5s						
EMCN				AML	AML		
	comp=E,29200μm,0.8s						
EMCN				AML	AML		
	comp=N,16250μm,1.3s						
EMSG	**Monte Spagnolo**	**0.10**	**350**	P	Pg	21 20 56.9	0.0
EMSG				S	Sg	21 20 59.1	+0.5
EMSG				AML	AML		
EMSG				AML	AML		
	comp=E,87450μm,0.8s						
EMSG				AML	AML		
	comp=E,72350μm,0.4s						
EMSG				AML	AML		
	comp=N,79250μm,0.6s						
ESML	**S. M. di Licod**	**0.13**	**216**	P	Pg	21 20 57.3	+0.1
ESML				S	Sg	21 21 00.4	+1.2
ESML				AML	AML		
	comp=N,62850μm,0.8s						
ESML				AML	AML		
	comp=E,64250μm,0.5s						
ESML				AML	AML		
	comp=N,33651μm,0.6s						
ESML				AML	AML		
	comp=N,62850μm,1.2s						
ESML				AML	AML		
	comp=N,33651μm,1.4s						
ESML				AML	AML		
	comp=E,51300μm,0.5s						
EPZF	**Pizzo Felice**	**0.14**	**318**	P	Pg	21 20 57.2	-0.2
EPZF				S	Sg	21 21 00.8	+1.3
EPZF				AML	AML		
	comp=N,52900μm,1.2s						
EPZF				AML	AML		
	comp=N,52850μm,1.2s						
EPZF				AML	AML		
	comp=E,49950μm,0.3s						
EPZF				AML	AML		
	comp=E,45808μm,1.1s						
EPOZ	**Pozzillo**	**0.23**	**157**	P	Pg	21 20 58.5	-0.4
EPOZ				S	Sg	21 21 02.7	+0.7
EPOZ				AML	AML		
	comp=E,77750μm,0.6s						
EPOZ				AML	AML		
	comp=N,67850μm,0.8s						
MNO	**Monte Soro**	**0.30**	**314**	P	Pg	21 21 01.2	+0.7
MNO				AML	AML		
	comp=E,18600μm,0.7s						
MNO				AML	AML		
	comp=N,28000μm,0.5s						
AIO	**Antillo**	**0.32**	**40**	P	Pg	21 21 01.5	+0.7
AIO				S	Sb	21 21 07.2	-0.8
AIO				AML	AML		
	comp=E,7625μm,1.1s						
AIO				AML	AML		
	comp=N,6370μm,0.8s						
AIO				AML	AML		
	comp=N,6370μm,1.2s						
AIO				AML	AML		
	comp=E,7625μm,0.9s						
GALF	**Gagliano Caste**	**0.32**	**268**	P	Pb	21 21 02.3	-0.2
GALF				AML	AML		
	comp=E,5345μm,0.5s						
GALF				AML	AML		
	comp=E,5345μm,0.5s						
GALF				AML	AML		
	comp=N,6770μm,0.7s						
GALF				AML	AML		
	comp=N,6770μm,0.6s						
GALF				AML	AML		
	comp=E,17800μm,0.6s						
GALF				AML	AML		
	comp=N,22950μm,0.9s						
MUCR	**Ucria**	**0.33**	**346**	P	Pb	21 21 02.1	-0.6
MUCR				AML	AML		
	comp=E,10600μm,0.9s						
MUCR				AML	AML		
	comp=N,14350μm,0.7s						
NOV	**Novara**	**0.33**	**23**	P	Pg	21 21 01.7	+0.7
NOV				AML	AML		
	comp=E,10940μm,0.9s						
NOV				AML	AML		
	comp=N,8200μm,0.6s						
CAGR	**Agira**	**0.39**	**255**	AML	AML		
	comp=N,14000μm,1.0s						
CAGR				AML	AML		
	comp=E,16950μm,0.6s						
HAGA	**Augusta**	**0.46**	**162**	P	Pb	21 21 04.1	-0.7
HAGA				AML	AML		
	comp=E,2945μm,0.5s						
HAGA				AML	AML		
	comp=N,3225μm,1.4s						
HAGA				AML	AML		
	comp=E,3045μm,0.7s						
HAGA				AML	AML		
	comp=N,3575μm,1.5s						
AGST	**Augusta-Monte**	**0.51**	**156**	P	Pg	21 21 04.7	+0.4
MPNC	**Port Mandanici**	**0.52**	**35**	P	Pb	21 21 05.2	-0.6
MPNC				AML	AML		
	comp=E,8725μm,0.8s						
MPNC				AML	AML		
	comp=N,7105μm,0.7s						
MPNC				AML	AML		
	comp=E,11225μm,0.7s						
MPNC				AML	AML		
	comp=N,7865μm,0.6s						
MPNC				AML	AML		
	comp=N,7865μm,1.4s						
MPNC				AML	AML		
	comp=E,11225μm,1.3s						
SSY	**Sortino**	**0.57**	**172**	P	Pg	21 21 05.8	+0.3
SSY				AML	AML		
	comp=E,5970μm,0.5s						
SSY				AML	AML		
	comp=N,9770μm,0.3s						
SSY				AML	AML		
	comp=N,10035μm,0.3s						
SSY				AML	AML		
	comp=E,6180μm,1.6s						
MILZ	**Milazzo**	**0.58**	**20**	P	Pb	21 21 06.8	-0.2
MILZ				AML	AML		
	comp=E,3585μm,0.5s						
MILZ				AML	AML		
	comp=N,3960μm,0.7s						
MILZ				AML	AML		
	comp=N,4160μm,1.6s						
MILZ				AML	AML		
	comp=N,4160μm,0.4s						
MILZ				AML	AML		
	comp=E,4380μm,0.4s						
MTTG	**Motta San Giov**	**0.64**	**64**	P	Pb	21 21 07.7	-0.2
MTTG				AML	AML		
	comp=N,1585μm,0.7s						
MTTG				AML	AML		
	comp=E,1554μm,1.5s						
VPL	**Vulcano Piano**	**0.66**	**1**	P	Pg	21 21 07.5	+0.4
VPL				AML	AML		
	comp=E,8615μm,0.5s						
VPL				AML	AML		
	comp=N,9890μm,1.1s						
VPL				AML	AML		
	comp=E,8995μm,0.5s						
VPL				AML	AML		
	comp=N,9885μm,0.4s						
PETRA	**Petralia Sopra**	**0.69**	**280**	AML	AML		
	comp=E,3675μm,0.6s						
PETRA				AML	AML		
	comp=N,3350μm,0.6s						
PETRA				AML	AML		
	comp=N,3355μm,0.9s						
RAFF	**Raffo Rosso**	**0.70**	**224**	P	Pb	21 21 08.4	-0.5
RAFF				AML	AML		
	comp=E,6210μm,1.0s						
RAFF				AML	AML		
	comp=N,4985μm,0.4s						
PLLN	**Pollina**	**0.71**	**293**	P	Pg	21 21 08.3	+0.2
PLLN				AML	AML		
	comp=E,10700μm,1.0s						
PLLN				AML	AML		
	comp=N,10395μm,1.3s						
LLI	**Lipari**	**0.72**	**358**	P	Pb	21 21 09.2	-0.1
RESU	**Resuttano**	**0.73**	**264**	AML	AML		
	comp=N,3130μm,0.7s						
RESU				AML	AML		
	comp=E,1865μm,0.6s						
CSLB	**Castelbuono**	**0.76**	**287**	P	Pg	21 21 08.9	-0.1
CSLB				AML	AML		
	comp=E,1137μm,1.1s						
CSLB				AML	AML		
	comp=N,2385μm,0.7s						
CSLB				AML	AML		
	comp=E,1194μm,0.4s						
HMDC	**Modica**	**0.78**	**191**	P	Pg	21 21 09.7	+0.3
HMDC				AML	AML		
	comp=E,5445μm,0.9s						
HMDC				AML	AML		
	comp=N,12000μm,0.4s						
GIB	**Gibilmanna**	**0.80**	**290**	P	Pg	21 21 09.8	0.0
GIB				AML	AML		
	comp=E,6260μm,0.9s						
GIB				AML	AML		
	comp=N,6350μm,0.7s						
CEL	**Celeste**	**0.90**	**53**	AML	AML		
	comp=N,1725μm,0.7s						
CEL				AML	AML		
	comp=E,880μm,1.0s						
CEL				AML	AML		
	comp=N,1382μm,0.7s						
CEL				AML	AML		
	comp=N,1382μm,0.7s						
CEL				AML	AML		
	comp=E,1079μm,1.0s						
SOI	**Samo**	**0.93**	**67**	AML	AML		
	comp=N,1250μm,0.8s						
SOI				AML	AML		
	comp=E,1165μm,0.5s						
IACL	**Alicudi**	**0.94**	**329**	P	Pg	21 21 12.5	-0.1
IACL				AML	AML		
	comp=N,4250μm,0.9s						
IACL				AML	AML		
	comp=N,4250μm,1.1s						
IACL				AML	AML		
	comp=E,5875μm,1.6s						
CMDO	**Montedoro**	**0.95**	**255**	AML	AML		
	comp=N,1215μm,0.9s						
CMDO				AML	AML		
	comp=E,668μm,1.0s						
ALJA	**Alia**	**0.97**	**272**	AML	AML		
	comp=E,2995μm,0.9s						
ALJA				AML	AML		
	comp=N,2375μm,0.7s						
HPAC	**Pachino**	**1.03**	**174**	AML	AML		
	comp=N,3760μm,1.0s						
HPAC				AML	AML		
	comp=E,3295μm,1.5s						
JOPP	**Joppolo**	**1.14**	**39**	P	Pg	21 21 16.0	-0.3
JOPP				AML	AML		
	comp=E,830μm,1.6s						
JOPP				AML	AML		
	comp=N,1095μm,0.9s						
CORL	**Corleone**	**1.33**	**278**	P	Pn	21 21 19.5	0.0
CORL				AML	AML		
	comp=E,2635μm,0.7s						
CORL				AML	AML		
	comp=N,3100μm,0.9s						
MPG	**Monte Pellegri**	**1.35**	**289**	AML	AML		
	comp=N,790μm,0.7s						
MPG				AML	AML		
	comp=E,708μm,0.9s						
PLAC	**Placanica**	**1.36**	**57**	P	Pn	21 21 19.8	-0.2
PLAC				AML	AML		
	comp=N,766μm,1.2s						
PLAC				AML	AML		
	comp=E,780μm,1.2s						
PLAC				AML	AML		
	comp=E,1018μm,0.6s						
PLAC				AML	AML		
	comp=N,1056μm,0.6s						
PLAC				AML	AML		
	comp=E,780μm,0.8s						
PLAC				AML	AML		
	comp=N,766μm,0.8s						
CLTB	**Caltabellotta**	**1.40**	**265**	AML	AML		
	comp=N,18400μm,0.6s						
CLTB				AML	AML		
	comp=E,8150μm,0.5s						
CRJA	**Costa Raja**	**1.56**	**273**	AML	AML		
	comp=E,1820μm,1.6s						
CRJA				AML	AML		
	comp=N,897μm,1.6s						
CRJA				AML	AML		
	comp=E,1820μm,0.4s						
MBFT	**Monte Bonifato**	**1.61**	**279**	P	Pb	21 21 24.6	0.0
MBFT				AML	AML		
	comp=E,518μm,0.8s						
MBFT				AML	AML		
	comp=N,655μm,0.6s						
USI	**Ustica**	**1.72**	**305**	AML	AML		
	comp=N,1920μm,0.5s						
USI				AML	AML		
	comp=E,545μm,0.7s						
USI				AML	AML		
	comp=E,545μm,1.3s						
USI				AML	AML		
	comp=N,1923μm,0.5s						
CAR1	**CAROLEI**	**1.81**	**32**	AML	AML		
	comp=E,1110μm,0.5s						
CAR1				AML	AML		
	comp=E,1150μm,0.6s						
CAR1				AML	AML		
	comp=N,1247μm,0.6s						
CAR1				AML	AML		
	comp=N,1520μm,0.6s						
SERS	**Sersale**	**1.88**	**45**	AML	AML		
	comp=E,334μm,1.4s						
SERS				AML	AML		
	comp=E,310μm,0.5s						
SERS				AML	AML		
	comp=N,316μm,1.4s						
SERS				AML	AML		
	comp=N,280μm,0.5s						
SERS				AML	AML		
	comp=N,316μm,0.6s						
SERS				AML	AML		
	comp=E,334μm,0.6s						
SERS				AML	AML		
	comp=E,310μm,1.5s						
SERS				AML	AML		
	comp=N,280μm,1.5s						
SPS2	**Spezzano della**	**1.90**	**34**	P	Pn	21 21 26.9	-0.3
SPS2				AML	AML		
	comp=E,282μm,0.4s						
SPS2				AML	AML		
	comp=N,240μm,0.4s						
CET2	**Cetraro**	**1.96**	**23**	AML	AML		
	comp=E,1070μm,0.7s						
CET2				AML	AML		
	comp=N,1425μm,0.4s						
CUC	**Castrocucco**	**2.36**	**16**	P	Pn	21 21 35.2	+1.6
CUC				AML	AML		
	comp=E,308μm,1.0s						
CUC				AML	AML		
	comp=N,248μm,0.8s						
SALB	**San Lorenzo Be**	**2.40**	**26**	P	Pn	21 21 35.9	+1.6
MGR	**Morigerati**	**2.45**	**10**	AML	AML		
	comp=N,180μm,0.9s						
MGR				AML	AML		
	comp=N,180μm,1.1s						
MGR				AML	AML		
	comp=E,192μm,0.7s						
LINA	**Linosa Island**	**2.51**	**223**	P	Pn	21 21 35.3	-0.3
LINA				AML	AML		
	comp=N,636μm,0.7s						
LINA				AML	AML		
	comp=E,860μm,0.5s						
MTSN	**Montesano sull**	**2.61**	**13**	AML	AML		
	comp=N,198μm,1.6s						
MTSN				AML	AML		
	comp=E,254μm,0.9s						
MTSN				AML	AML		
	comp=N,198μm,0.4s						
MTSN				AML	AML		
	comp=E,254μm,1.1s						
MATE	**Matera**	**3.22**	**24**	P	Pn	21 21 45.5	+0.2
MATE				AML	AML		
	comp=N,99μm,1.0s						
MATE				AML	AML		
	comp=E,100μm,1.1s						
TAR1	**Taranto**	**3.33**	**32**	AML	AML		
	comp=N,123μm,0.8s						
TAR1				AML	AML		
	comp=E,106μm,1.0s						
TAR1				AML	AML		
	comp=N,123μm,1.2s						
AMUR	**Altamura**	**3.42**	**21**	AML	AML		
	comp=N,121μm,1.2s						
AMUR				AML	AML		
	comp=E,111μm,0.6s						
NOCI	**Noci**	**3.47**	**27**	AML	AML		
	comp=E,106μm,1.5s						
NOCI				AML	AML		
	comp=N,118μm,1.1s						

ROM 18 21:22:34.2±0.1, 37°.746N±0°.004×14°.965E±0°.004, h8^{km}, ML2.7/28, 2C, Error ellipse: s-maj=0.4km s-min=0.3km az=197.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMCN	**Etna Monte Con**	**0.07**	**50**	P	Pg	21 22 36.1	-0.2
EMCN				S	Sg	21 22 38.0	+0.1
EMCN				AML	AML		
	comp=N,5370μm,0.4s						
EMCN				AML	AML		
	comp=E,5485μm,1.1s						
EMSG	**Monte Spagnolo**	**0.08**	**351**	⇑P	Pg	21 22 36.6	+0.3
EMSG				S	Sg	21 22 38.6	+0.6
EMSG				AML	AML		
	comp=E,16750μm,0.4s						
EMSG				AML	AML		
	comp=N,18000μm,0.5s						
EMSG				AML	AML		
	comp=E,16750μm,1.6s						
EPZF	**Pizzo Felice**	**0.12**	**312**	⇑P	Pg	21 22 37.1	+0.2
EPZF				S	Sg	21 22 39.5	+0.7
EPZF				AML	AML		
	comp=E,10850μm,0.3s						
EPZF				AML	AML		
	comp=N,11950μm,0.3s						
ESML	**S. M. di Licod**	**0.14**	**209**	P	Pg	21 22 37.5	+0.2
ESML				S	Sg	21 22 40.6	+1.3
ESML				AML	AML		
	comp=E,9600μm,1.2s						
ESML				AML	AML		
	comp=E,9600μm,0.8s						
ESML				AML	AML		
	comp=N,7975μm,0.7s						
EPOZ	**Pozzillo**	**0.25**	**158**	P	Pg	21 22 38.5	-0.6
EPOZ				S	Sg	21 22 42.6	+0.1
EPOZ				AML	AML		
	comp=E,9595μm,0.7s						
EPOZ				AML	AML		
	comp=N,9775μm,0.7s						
MNO	**Monte Soro**	**0.28**	**311**	P	Pb	21 22 40.9	-0.8
MNO				S	Sg	21 22 45.2	+1.5
MNO				AML	AML		
	comp=E,2925μm,0.4s						
MNO				AML	AML		
	comp=N,2865μm,0.5s						
MUCR	**Ucria**	**0.30**	**346**	P	Pg	21 22 41.0	+0.7

MUCR				AML	AML	
	comp=E,1175μm,0.4s					
MUCR				AML	AML	
	comp=N,1440μm,0.7s					
AIO	**Antillo**	**0.31**	**43**	P	Pg	21 22 41.0 +0.7
AIO				S	Sb	21 22 46.1 -1.2
AIO				AML	AML	
	comp=E,1120μm,1.2s					
AIO				AML	AML	
	comp=N,1045μm,0.3s					
AIO				AML	AML	
	comp=E,1120μm,0.8s					
AIO				AML	AML	
	comp=N,1045μm,1.7s					
NOV	**Novara**	**0.31**	**26**	P	Pg	21 22 40.9 +0.6
NOV				AML	AML	
	comp=E,1930μm,0.9s					
NOV				AML	AML	
	comp=E,1930μm,1.1s					
NOV				AML	AML	
	comp=N,1198μm,0.3s					
GALF	**Gagliano Caste**	**0.32**	**264**	P	Pb	21 22 41.4 -0.8
GALF				S	Sb	21 22 47.2 -0.3
GALF				AML	AML	
	comp=N,930μm,0.6s					
GALF				AML	AML	
	comp=N,930μm,0.6s					
GALF				AML	AML	
	comp=E,1985μm,0.5s					
GALF				AML	AML	
	comp=N,3245μm,0.5s					
GALF				AML	AML	
	comp=N,930μm,1.4s					
GALF				AML	AML	
	comp=E,686μm,0.6s					
GALF				AML	AML	
	comp=E,1985μm,1.5s					
HAGA	**Augusta**	**0.48**	**162**	P	Pg	21 22 44.0 +0.4
MPNC	**Port Mandanici**	**0.50**	**37**	P	Pb	21 22 44.7 -0.6
MPNC				AML	AML	
	comp=E,1146μm,0.7s					
MPNC				AML	AML	
	comp=E,1146μm,1.3s					
MPNC				AML	AML	
	comp=N,892μm,0.8s					
MILZ	**Milazzo**	**0.56**	**22**	P	Pg	21 22 45.6 +0.5
MILZ				AML	AML	
	comp=N,639μm,1.1s					
MILZ				AML	AML	
	comp=N,639μm,0.9s					
MILZ				AML	AML	
	comp=E,654μm,0.4s					
SSY	**Sortino**	**0.60**	**172**	P	Pg	21 22 45.7 0.0
SSY				AML	AML	
	comp=E,606μm,1.0s					
SSY				AML	AML	
	comp=N,1365μm,1.4s					
SSY				AML	AML	
	comp=N,1365μm,0.6s					
SSY				AML	AML	
	comp=E,606μm,1.0s					
MTTG	**Motta San Giov**	**0.63**	**66**	P	Pb	21 22 47.0 -0.5
VPL	**Vulcano Piano**	**0.63**	**1**	P	Pb	21 22 47.1 -0.4
HMDC	**Modica**	**0.80**	**191**	P	Pg	21 22 49.1 -0.4
HMDC				S	Sb	21 23 01.4 0.0
HMDC				AML	AML	
	comp=E,580μm,0.5s					
HMDC				AML	AML	
	comp=E,580μm,1.5s					
HMDC				AML	AML	
	comp=N,1225μm,0.6s					
GMB	**Gambarie**	**0.80**	**58**	P	Pg	21 22 49.7 +0.1
CEL	**Celeste**	**0.90**	**55**	P	Pg	21 22 51.2 -0.1
SOI	**Samo**	**0.92**	**69**	P	Pg	21 22 51.8 -0.1
SOI				S	Sb	21 23 05.3 +0.5
JOPP	**Joppolo**	**1.12**	**40**	P	Pg	21 22 55.7 -0.1
PLAC	**Placanica**	**1.36**	**58**	P	Pn	21 22 59.6 +0.1
CAR1	**CAROLEI**	**1.79**	**33**	P	Pn	21 23 05.6 +0.1
CET2	**Cetraro**	**1.94**	**23**	P	Pn	21 23 08.0 +0.4

ROM 18 21:23:26.9±0.1, 37°.721N±0°.005×14°.993E±0°.006, h9km, ML2.1/16, 1C, Error ellipse: s-maj=0.6km s-min=0.5km az=189.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.03**	**208**	P	Pg	21 23 28.5	-0.3
ESLN				S	Sg	21 23 30.0	-0.2
ESLN				AML	AML		
	comp=N,6670μm,0.2s						
ESLN				AML	AML		
	comp=E,5368μm,0.2s						
EMSG	**Monte Spagnolo**	**0.11**	**341**	P	Pg	21 23 29.5	-0.1
EMSG				S	Sg	21 23 32.3	+0.8
EMSG				AML	AML		
	comp=N,4536μm,0.2s						
EMSG				AML	AML		
	comp=E,4349μm,0.2s						
EVRN	**Santa Venerina**	**0.12**	**106**	P	Pg	21 23 30.0	+0.4
EVRN				S	Sg	21 23 32.7	+1.2
ESML	**S. M. di Licod**	**0.14**	**222**	P	Pg	21 23 30.4	+0.5
ESML				S	Sg	21 23 33.5	+1.4
ESML				AML	AML		
	comp=E,1860μm,1.0s						
ESML				AML	AML		
	comp=N,1715μm,0.7s						
ESML				AML	AML		
	comp=E,1860μm,1.0s						
ESML				AML	AML		
	comp=N,1370μm,0.7s						
ESML				AML	AML		
	comp=E,1727μm,0.3s						
EPZF	**Pizzo Felice**	**0.15**	**314**	⇑P	Pg	21 23 30.3	+0.1
EPZF				S	Sg	21 23 33.8	+1.3
EPZF				AML	AML		
	comp=N,2460μm,0.3s						
EPZF				AML	AML		
	comp=E,2670μm,0.3s						
EPZF				AML	AML		
	comp=N,2462μm,0.3s						
EPZF				AML	AML		
	comp=E,2668μm,0.3s						
EPOZ	**Pozzillo**	**0.22**	**161**	P	Pg	21 23 31.5	+0.1
EPOZ				S	Sg	21 23 33.4	-0.9
EPOZ				AML	AML		
	comp=E,1735μm,0.5s						
EPOZ				AML	AML		
	comp=N,1705μm,0.7s						
EPOZ				AML	AML		
	comp=E,1735μm,1.5s						
EPOZ				AML	AML		
	comp=E,1355μm,0.3s						
EPOZ				AML	AML		
	comp=N,1693μm,0.6s						
AIO	**Antillo**	**0.31**	**37**	P	Pb	21 23 34.0	-0.8
AIO				AML	AML		
	comp=N,244μm,0.4s						
AIO				AML	AML		
	comp=E,161μm,0.3s						
MNO	**Monte Soro**	**0.32**	**312**	P	Pb	21 23 34.3	-0.6
MNO				S	Sb	21 23 39.4	-0.9
NOV	**Novara**	**0.33**	**20**	P	Pg	21 23 34.1	+0.7
MUCR	**Ucria**	**0.34**	**344**	P	Pg	21 23 34.1	+0.5
MUCR				AML	AML		
	comp=N,299μm,0.7s						
MUCR				AML	AML		
	comp=E,288μm,0.5s						
GALF	**Gagliano Caste**	**0.34**	**268**	P	Pb	21 23 34.4	-0.8
GALF				S	Sb	21 23 39.8	-0.9
GALF				AML	AML		
	comp=N,614μm,0.6s						
GALF				AML	AML		
	comp=E,380μm,0.4s						
GALF				AML	AML		
	comp=E,179μm,0.8s						
GALF				AML	AML		
	comp=N,230μm,0.9s						
MPNC	**Port Mandanici**	**0.51**	**34**	P	Pb	21 23 37.6	-0.5

ROM 18 21:24:43.9±0.1, 37°.723N±0°.004×14°.969E±0°.006, h6km, ML2.1/17, 1C, Error ellipse: s-maj=0.5km s-min=0.1km az=82.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.03**	**172**	⇑P	Pg	21 24 45.2	-0.1
ESLN				S	Sg	21 24 46.0	-0.4
EMSG	**Monte Spagnolo**	**0.10**	**351**	P	Pg	21 24 46.5	+0.3
EMSG				S	Sg	21 24 48.4	+0.6
ESML	**S. M. di Licod**	**0.13**	**215**	P	Pg	21 24 47.2	+0.6
ESML				S	Sg	21 24 49.4	+1.0
ESML				AML	AML		
	comp=N,1790μm,0.7s						
ESML				AML	AML		
	comp=E,1425μm,0.6s						
EPZF	**Pizzo Felice**	**0.13**	**319**	P	Pg	21 24 47.1	+0.3
EPZF				S	Sg	21 24 49.5	+0.8
EPZF				AML	AML		
	comp=E,2175μm,0.4s						
EPZF				AML	AML		
	comp=N,1805μm,0.2s						
EPOZ	**Pozzillo**	**0.23**	**157**	P	Pg	21 24 48.2	-0.2
EPOZ				S	Sg	21 24 51.4	0.0
EPOZ				AML	AML		
	comp=E,1265μm,0.6s						
EPOZ				AML	AML		
	comp=E,1265μm,1.4s						
EPOZ				AML	AML		
	comp=N,1217μm,0.7s						
MNO	**Monte Soro**	**0.30**	**314**	P	Pb	21 24 51.2	-0.6
MNO				AML	AML		
	comp=E,316μm,1.0s						
MNO				AML	AML		
	comp=N,618μm,0.5s						
MNO				AML	AML		
	comp=N,619μm,0.5s						
MNO				AML	AML		
	comp=N,619μm,1.5s						
MNO				AML	AML		
	comp=E,316μm,1.0s						
GALF	**Gagliano Caste**	**0.32**	**268**	P	Pb	21 24 51.2	-0.9
GALF				AML	AML		
	comp=N,486μm,0.7s						
GALF				AML	AML		
	comp=E,315μm,0.5s						
GALF				AML	AML		
	comp=E,315μm,1.5s						
AIO	**Antillo**	**0.32**	**40**	P	Pg	21 24 51.2	+0.9
AIO				AML	AML		
	comp=E,146μm,1.2s						
AIO				AML	AML		
	comp=N,160μm,0.4s						
AIO				AML	AML		
	comp=E,146μm,0.8s						
AIO				AML	AML		
	comp=N,160μm,1.6s						
MUCR	**Ucria**	**0.33**	**347**	P	Pg	21 24 51.0	+0.6
MUCR				S	Sg	21 24 56.2	+1.5
MUCR				AML	AML		
	comp=N,346μm,0.6s						
MUCR				AML	AML		
	comp=E,278μm,0.6s						
MUCR				AML	AML		
	comp=N,346μm,1.4s						
NOV	**Novara**	**0.33**	**23**	P	Pg	21 24 51.2	+0.8
NOV				S	Sb	21 24 56.8	-1.1
HAGA	**Augusta**	**0.46**	**161**	P	Pg	21 24 53.6	+0.8
MPNC	**Port Mandanici**	**0.52**	**36**	P	Pb	21 24 55.3	-0.1
MPNC				AML	AML		
	comp=E,227μm,0.4s						
MPNC				AML	AML		
	comp=N,234μm,0.6s						
MPNC				AML	AML		
	comp=N,234μm,1.4s						
MPNC				AML	AML		
	comp=E,227μm,1.6s						
SSY	**Sortino**	**0.57**	**172**	P	Pg	21 24 55.2	+0.3
SSY				AML	AML		
	comp=E,277μm,0.5s						
SSY				AML	AML		
	comp=N,472μm,1.2s						
SSY				AML	AML		
	comp=E,277μm,1.5s						
SSY				AML	AML		
	comp=N,472μm,0.8s						
HMDC	**Modica**	**0.78**	**191**	P	Pg	21 24 59.2	+0.4
HMDC				AML	AML		
	comp=E,224μm,0.8s						
HMDC				AML	AML		
	comp=N,411μm,0.5s						

ROM 18 21:24:58.6±0.1, 37°.735N±0°.004×14°.962E±0°.008, h2km, ML2.1/15, 1C, Error ellipse: s-maj=0.7km s-min=0.4km az=270.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.04**	**167**	⇑P	Pg	21 24 59.4	-0.1
ESLN				S	Sg	21 25 00.2	+0.1
EMCN	**Etna Monte Con**	**0.08**	**45**	P	Pg	21 25 00.8	+0.5
EMCN				S	Sg	21 25 01.6	+0.2
EMSG	**Monte Spagnolo**	**0.09**	**353**	P	Pg	21 25 00.9	+0.5
EMSG				S	Sg	21 25 02.3	+0.7
EPZF	**Pizzo Felice**	**0.12**	**317**	P	Pg	21 25 01.2	+0.2
EPZF				S	Sg	21 25 03.8	+1.2
EPZF				AML	AML		
	comp=E,2175μm,0.4s						
EPZF				AML	AML		
	comp=N,1805μm,0.2s						
EPZF				AML	AML		
	comp=N,2114μm,0.3s						
EPZF				AML	AML		
	comp=E,2127μm,0.3s						
ESML	**S. M. di Licod**	**0.14**	**210**	P	Pg	21 25 01.6	+0.4
ESML				S	Sg	21 25 03.4	+0.4
ESML				AML	AML		
	comp=E,1425μm,0.6s						
ESML				AML	AML		
	comp=N,1790μm,0.7s						
ESML				AML	AML		
	comp=E,2297μm,0.4s						
ESML				AML	AML		
	comp=N,1422μm,0.4s						
EPOZ	**Pozzillo**	**0.24**	**157**	P	Pg	21 25 02.6	-0.6
EPOZ				AML	AML		
	comp=E,1265μm,0.6s						
EPOZ				AML	AML		
	comp=N,1217μm,0.7s						
EPOZ				AML	AML		
	comp=E,1611μm,0.3s						
EPOZ				AML	AML		
	comp=N,1478μm,0.5s						
MNO	**Monte Soro**	**0.29**	**313**	P	Pg	21 25 04.6	+0.4
MNO				AML	AML		
	comp=E,316μm,1.0s						
MNO				AML	AML		
	comp=N,618μm,0.5s						
MNO				AML	AML		
	comp=N,619μm,0.5s						
MNO				AML	AML		
	comp=N,945μm,0.5s						
MNO				AML	AML		
	comp=E,549μm,0.4s						
GALF	**Gagliano Caste**	**0.32**	**266**	AML	AML		
	comp=E,315μm,0.5s						
GALF				AML	AML		
	comp=N,486μm,0.7s						
MUCR	**Ucria**	**0.32**	**347**	P	Pg	21 25 05.3	+0.6
MUCR				AML	AML		
	comp=E,278μm,0.6s						
MUCR				AML	AML		
	comp=N,346μm,0.6s						
MUCR				AML	AML		
	comp=E,392μm,0.4s						
AIO	**Antillo**	**0.32**	**42**	P	Pg	21 25 05.8	+1.1
AIO				AML	AML		
	comp=N,160μm,0.4s						
AIO				AML	AML		
	comp=E,146μm,1.2s						
AIO				AML	AML		
	comp=N,217μm,0.3s						
AIO				AML	AML		
	comp=E,240μm,0.3s						
NOV	**Novara**	**0.32**	**25**	P	Pg	21 25 05.1	+0.2
HAGA	**Augusta**	**0.47**	**161**	P	Pb	21 25 09.7	+0.1
HAGA				AML	AML		
	comp=E,134μm,0.3s						
HAGA				AML	AML		
	comp=N,112μm,0.2s						
MPNC	**Port Mandanici**	**0.51**	**37**	P	Pb	21 25 10.0	-0.4
MPNC				AML	AML		
	comp=E,227μm,0.4s						
MPNC				AML	AML		
	comp=N,234μm,0.6s						
SSY	**Sortino**	**0.59**	**171**	P	Pb	21 25 11.3	-0.3
SSY				AML	AML		
	comp=E,277μm,0.5s						
SSY				AML	AML		
	comp=N,472μm,1.2s						
SSY				AML	AML		
	comp=E,207μm,0.2s						
SSY				AML	AML		
	comp=N,437μm,0.1s						
HMDC	**Modica**	**0.79**	**191**	P	Pb	21 25 14.8	-0.2
HMDC				AML	AML		
	comp=E,224μm,0.8s						
HMDC				AML	AML		
	comp=N,411μm,0.5s						
HPAC	**Pachino**	**1.04**	**173**	P	Pb	21 25 19.2	-0.2

*IDC **18** 21:25:57.0±1.5, 29°.52S×176°.93W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=47.9km s-min=41.6km az=14.0*

ISC 18 21:26:01.1±1.4, 29°.4S±0°.3×176°.9W±0°.3, h31km, n7, σ0°.27/7, mb3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.14**	**265**	P	**P**	**21 34 07.3**	**+0.3**
	0.4nm,0.6s,baz=102,slow=7.1,SNR=6.1						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**45.04**	**271**	P	**P**	**21 34 14.0**	**-0.2**
	0.3nm,0.5s,baz=112,slow=6.8,SNR=8.0						
	0.3nm,0.5s						
QSPA	**South Pole Qui**	**60.71**	**180**	P	**P**	**21 36 09.4**	**0.0**
	1.2nm,1.1s,baz=0.0,slow=3.0,SNR=1.9						
	1.2nm,1.1s						
FINES	**FINESS Array B**	**144.52**	**341**	PKP	**PKPdf**	**21 45 33.6**	**0.0**
	0.8nm,0.6s,baz=64,slow=3.2,SNR=4.2						
NB2	**NORSAR Subarra**	**147.89**	**353**	PKP	**PKiKP**	**21 45 44.4**	**0.0**
	comp=Z,0.6nm,0.6s,baz=13,slow=4.4						
HFS	**Hagfors**	**148.44**	**350**	PKPbc	**PKiKP**	**21 45 45.8**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=5.2,slow=3.3,SNR=8.1						
AKASG	**Malin Array Be**	**151.07**	**325**	PKPbc	**PKPbc**	**21 45 50.4**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=45,slow=3.0,SNR=1.9						

ROM 18 21:31:12.8±0.2, 37°.712N±0°.010×14°.95E±0°.01, h8km±1km, ML1.9/10, Error ellipse: s-maj=1.3km s-min=0.5km az=234.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.03**	**137**	P	Pg	21 31 14.1	-0.5
ESLN				S	Sg	21 31 15.6	-0.2
ESLN				AML	AML		
	comp=E,5662μm,0.4s						
ESLN				AML	AML		
	comp=N,6091μm,0.3s						
ESLN				AML	AML		
	comp=E,5662μm,1.6s						
EMCN	**Etna Monte Con**	**0.10**	**39**	P	Pg	21 31 15.1	-0.3
EMSG	**Monte Spagnolo**	**0.11**	**359**	P	Pg	21 31 15.3	-0.2
EMSG				S	Sg	21 31 18.4	+1.1
EMSG				AML	AML		
	comp=E,1852μm,0.2s						
EMSG				AML	AML		
	comp=N,1638μm,0.2s						
ESML	**S. M. di Licod**	**0.11**	**213**	P	Pg	21 31 15.9	+0.5
ESML				AML	AML		
	comp=E,1405μm,0.7s						
ESML				AML	AML		
	comp=N,990μm,0.7s						
ESML				AML	AML		
	comp=N,907μm,0.4s						
ESML				AML	AML		
	comp=E,1271μm,0.2s						
EPZF	**Pizzo Felice**	**0.14**	**326**	P	Pg	21 31 15.6	-0.2
EPZF				S	Sg	21 31 19.7	+1.7
EPZF				AML	AML		
	comp=E,1140μm,0.3s						
EPZF				AML	AML		
	comp=N,939μm,0.3s						
EPZF				AML	AML		
	comp=E,1140μm,0.3s						
EPZF				AML	AML		
	comp=N,939μm,0.3s						
EPOZ	**Pozzillo**	**0.22**	**153**	P	Pg	21 31 17.2	-0.1
EPOZ				S	Sg	21 31 21.8	+1.5
MNO	**Monte Soro**	**0.30**	**317**	P	Pb	21 31 20.2	-0.3
GALF	**Gagliano Caste**	**0.31**	**270**	P	Pb	21 31 19.9	-0.6
GALF				AML	AML		
	comp=E,238μm,0.5s						
GALF				AML	AML		
	comp=N,326μm,0.9s						
GALF				AML	AML		
	comp=N,299μm,0.4s						
GALF				AML	AML		
	comp=E,238μm,0.5s						
MUCR	**Ucria**	**0.34**	**349**	P	Pg	21 31 19.7	+0.2
MUCR				AML	AML		
	comp=E,136μm,0.5s						
MUCR				AML	AML		
	comp=N,198μm,0.9s						
AIO	**Antillo**	**0.34**	**41**	P	Pb	21 31 20.6	-0.6
AIO				AML	AML		
	comp=E,91μm,1.2s						
AIO				AML	AML		
	comp=N,120μm,1.4s						
AIO				AML	AML		
	comp=E,82μm,0.5s						
AIO				AML	AML		
	comp=N,83μm,0.6s						
AIO				AML	AML		
	comp=E,82μm,1.6s						
NOV	**Novara**	**0.35**	**25**	P	Pb	21 31 20.6	-0.7
SSY	**Sortino**	**0.56**	**170**	P	Pb	21 31 24.6	-0.4

ROM 18 21:31:30.4±0.1, 37°.709N±0°.006×14°.963E±0°.009, h8km, ML2.3/15, Error ellipse: s-maj=0.8km s-min=0.6km az=248.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.02**	**151**	P	Pg	21 31 31.7	-0.5
ESLN				S	Sg	21 31 33.3	-0.1
ESLN				AML	AML		
	comp=E,17050μm,0.3s						
ESLN				AML	AML		
	comp=N,14700μm,0.3s						
EMCN	**Etna Monte Con**	**0.10**	**34**	P	Pg	21 31 32.9	-0.1
EMSG	**Monte Spagnolo**	**0.11**	**355**	P	Pg	21 31 33.0	-0.2
EMSG				S	Sg	21 31 36.1	+1.1
EMSG				AML	AML		
	comp=N,4065μm,0.2s						
EMSG				AML	AML		
	comp=E,4455μm,0.4s						
ESML	**S. M. di Licod**	**0.11**	**217**	P	Pg	21 31 33.4	+0.4
ESML				S	Sg	21 31 35.9	+1.1
ESML				AML	AML		
	comp=E,2460μm,0.7s						
ESML				AML	AML		
	comp=N,2795μm,0.6s						
EVRN	**Santa Venerina**	**0.14**	**99**	P	Pg	21 31 33.4	-0.1
EVRN				S	Sg	21 31 36.2	+0.6
EPZF	**Pizzo Felice**	**0.14**	**324**	P	Pg	21 31 33.6	0.0
EPZF				S	Sg	21 31 37.4	+1.6
EPZF				AML	AML		
	comp=E,2855μm,0.3s						
EPZF				AML	AML		
	comp=N,2555μm,0.3s						
EPZF				AML	AML		
	comp=E,2855μm,1.7s						
EPOZ	**Pozzillo**	**0.22**	**154**	P	Pg	21 31 35.0	+0.2
EPOZ				S	Sg	21 31 39.2	+1.4
EPOZ				AML	AML		
	comp=E,2090μm,0.6s						
EPOZ				AML	AML		
	comp=N,1960μm,0.7s						
EPOZ				AML	AML		
	comp=N,1960μm,1.3s						
MNO	**Monte Soro**	**0.31**	**316**	P	Pb	21 31 37.9	-0.4

GALF	Gagliano Caste	0.32 270	P	Pb	21 31 37.8	-0.5
AIO	Antillo	0.34 39	P	Pb	21 31 38.1	-0.6
AIO			AML	AML		
	comp=N,245μm,0.8s					
AIO			AML	AML		
	comp=E,245μm,1.2s					
MUCR	Ucria	0.34 348	P	Pg	21 31 37.4	+0.2
MUCR			AML	AML		
	comp=E,327μm,1.1s					
MUCR			AML	AML		
	comp=N,518μm,0.7s					
MUCR			AML	AML		
	comp=N,518μm,1.3s					
NOV	Novara	0.35 23	P	Pb	21 31 38.3	-0.6
HAGA	Augusta	0.45 160	P	Pg	21 31 39.7	+0.5
HAGA			S	Sb	21 31 46.8	-0.6
HAGA			AML	AML		
	comp=N,143μm,0.5s					
HAGA			AML	AML		
	comp=N,143μm,1.5s					
MPNC	Port Mandanici	0.53 35	P	Pb	21 31 41.4	-0.6
SSY	Sortino	0.56 171	P	Pb	21 31 42.2	-0.3
SSY			AML	AML		
	comp=N,492μm,1.6s					
SSY			AML	AML		
	comp=E,186μm,0.5s					
SSY			AML	AML		
	comp=N,492μm,0.4s					
PLLN	Pollina	0.71 294	P	Pg	21 31 43.4	-0.7
PLLN			AML	AML		
	comp=E,274μm,0.7s					
PLLN			AML	AML		
	comp=N,532μm,0.6s					
HPAC	Pachino	1.02 173	P	Pg	21 31 48.9	-1.0
PLAC	Placanica	1.38 57	P	Pn	21 31 56.1	+0.1
CAR1	CAROLEI	1.83 32	P	Pn	21 32 02.4	+0.2

DJA 18 21:44:25.6±0.6, 3°N±6°×12°8E±°, h113km±8km, M3.7/8, mb3.8/5, mB4.8/1, MLv3.7/8, Mw(mB)4.0/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.29	188	P	Pn	21 45 02.3	-0.1
GTOI	Gorontalo	5.25	243	P	Pn	21 45 43.3	+1.5
	7.3nm,0.7s,0.0nm						
SWI	Sorong	5.28	137	P	Pn	21 45 42.1	-0.2
	6.9nm,0.6s,0.1nm						
SANI	Sanana	5.34	198	P	Pn	21 45 42.0	-1.1
	12nm,0.9s,1μm0.1nm						
FAKI	Fak Fak	7.48	142	P	Pn	21 46 12.3	+0.1

SDD ***18*** *21:57:41.4±1.7, 18°.49N×71°.32W, h12km±12km, MD3.2, ML2.7, MW3.6*
OSPL ***18*** *21:57:41.5±1.6, 18°.50N×71°.36W, h12km±9km, ML2.3*
ISC 18 21:57:40.7±1.0, 18°.50N±0°.03×71°.35W±0°.03, h19km±3km, n13, σ0°60/22, 5C-7D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEDR	Neiba UASD	0.07	259	⇑*e*Pg	Pg	21 57 44.0	-0.2
NEDR				⇓*e*Sg	Sg	21 57 47.1	+0.5
NEDR				IAML		21 57 47.3	
	comp=E,2μm,0.2s						
NEDR				IAML		21 57 48.2	
	comp=N,1μm,0.2s						
PODR	Polo	0.33	169	⇑*e*Pg	Pg	21 57 47.5	-0.5
PODR				IAML		21 57 53.9	
	comp=N,908nm,0.6s						
PODR				IAML		21 57 54.1	
	comp=E,1μm,0.1s						
PODR	Polo	0.33	169	*i* P	Pg	21 57 47.5	-0.5
PODR				*e*S	Sg	21 57 53.3	+0.3
PODR				IAML		21 57 53.9	
	comp=Z,784nm,0.2s						
JIDR	Jimani	0.48	269	⇓*e*Pg	Pg	21 57 50.1	-0.3
JIDR				⇓*e*Sg	Sb	21 57 58.4	+1.2
JIDR				IAML		21 57 59.2	
	comp=E,550nm,0.4s						
JIDR				IAML		21 57 59.5	
	comp=N,474nm,1.6s						
JIDR				IAML		21 58 00.9	
	comp=N,325nm,0.5s						
LOBA2	Hotel Casa Bon	0.48	149	⇓*e*Pg	Pg	21 57 50.5	0.0
SDDR	Presa de Saban	0.49	7	⇓*e*Pg	Pg	21 57 50.1	-0.5
SDDR				⇑*e*Sg	Sg	21 57 57.8	+0.4
SDDR				IAML		21 57 58.7	
	comp=E,140nm,0.2s						
SDDR				IAML		21 57 58.9	
	comp=N,212nm,0.3s						
SDDR	Presa de Saban	0.49	7	*i* P	Pg	21 57 50.1	-0.5
SDDR				*e*S	Sg	21 57 57.7	+0.4
SDDR				IAML		21 57 58.8	
	comp=Z,108nm,0.2s						
REDR	Restauracion	0.67	356	⇑*e*Pg	Pn	21 57 56.3	+1.1
REDR				IAML		21 58 08.7	
	comp=N,392nm,0.2s						
REDR				IAML		21 58 09.5	
	comp=E,388nm,0.3s						
PAPH	Port-au-Prince	0.90	272	⇓*e*Pg	Pb	21 57 56.8	-0.9
PAPH				⇓*e*Sg	Sn	21 58 10.8	-0.1
PAPH				IAML		21 58 10.9	
	comp=E,388nm,0.3s						
PAPH				IAML		21 58 11.6	
	comp=N,365nm,0.2s						
PAPH	Port-au-Prince	0.90	272	*i* P	Pb	21 57 56.9	-0.9
PAPH				*e*S	Sg	21 58 10.2	-0.1
PAPH				IAML		21 58 11.7	
	comp=Z,65nm,0.2s						
BANI	BANI	0.95	96	⇑*e*Pg	Pb	21 57 58.3	-0.3
BANI				IAML		21 58 12.9	
	comp=N,740nm,0.3s						
BANI				IAML		21 58 14.3	
	comp=E,383nm,0.2s						
LODA1	ITESIL, Dajabo	1.10	342	*i* P	Pb	21 58 00.8	-0.3
LODA1				*e*S	Sb	21 58 15.1	0.0
LODA1				IAML		21 58 17.8	
	comp=Z,601nm,0.8s						
SC01	Santiago de lo	1.10	32	*i* P	Pn	21 58 01.2	+0.1
SC01				*e*S	Sb	21 58 14.9	-0.2
SC01				IAML		21 58 30.7	
	comp=Z,85nm,1.1s						

BJI ***18*** *22:04:12.0±0.0, 45°.10N×137°.64E, h332km, mb4.4/32, mB4.5/10*
NEIC ***18*** *22:04:13.9±1.5, 45°.00N±0°.07×137°.45E±0°.09, h321km±6km, mb4.4/97, Error ellipse: s-maj=9.6km s-min=9.5km az=151.0*
MOS ***18*** *22:04:13.7±0.9, 45°.04N×137°.40E, h329km, mb4.3/55, Error ellipse: s-maj=6.1km s-min=4.6km az=114.6*
NIED ***18*** *22:04:13.7, 44°.89N×137°.52E, h345km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.32; $M_{\theta\theta}$=3.40; $M_{\phi\phi}$=-3.09; $M_{r\theta}$=2.47; $M_{\theta\phi}$=-4.04; $M_{\phi r}$=-3.91; Fault plane solution: M_0=6.63000×10^{15} NP1: ϕ_s=73.00000°, δ=74.00000°, λ=-151.00000°. NP2: ϕ_s=335.00000°, δ=62.00000°, λ=-18.00000°.*
JMA ***18*** *22:04:13.7±0.4, 45°.N±1°×13°.8E±°, h345km, MV4.2/35, EASTERN SEA OF JAPAN*
SKHL ***18*** *22:04:14.2±0.5, 44°.98N×137°.45E, h333km±1km, mb4.6/12, msh4.7/6*
IDC ***18*** *22:04:14.0±0.6, 45°.08N×137°.40E, h318km±6km, mb3.7/28, mbtmp4.5/39, Error ellipse: s-maj=7.3km s-min=6.9km az=90.0*
ISC 18 22:04:14.1±0.3, 45°.00N±0°.03×137°.44E±0°.03, h324km±3km, h324km:pP-P, n675, σ1°24/735, mb4.3/135, 22C-21D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEY	Ternei	0.59	274	⇑*i* P	Pn	22 04 56.4	+0.8
TEY				AMB	AMB	22 04 56.8	
	100nm,0.8s						
TEY				*e*S	S	22 05 28.6	-0.1
TEY				A	A	22 05 29.5	
	185nm,0.9s						
TEY				A	A	22 05 29.5	
	202nm,0.9s						
TEY	Ternei	0.59	274	⇑*e*P	Pn	22 04 56.4	+0.8
TEY				*e*		22 05 28.5	
TEY				pmax	pmax		
	comp=Z,80nm,0.7s						
TEY				pmax	pmax		
	comp=N,10.0nm,0.7s						
TEY				pmax	pmax		
	comp=E,20nm,0.7s						
JRBN	Rebuntou	2.60	79	P	Pn	22 05 08.4	+0.6
JRBN				S	S	22 05 49.7	-1.1
JRR	Rishiri	2.75	86	P	Pn	22 05 10.2	+1.1
JRR				S	S	22 05 53.5	+0.3
JYG	Yagishiri	2.90	100	P	Pn	22 05 10.9	+0.4
JSH	Shimam	3.02	140	P	Pn	22 05 11.9	+0.2
JSH				S	S	22 05 57.3	-0.6
JWK2	Keihoku	3.17	83	P	Pn	22 05 14.9	+1.8
JWK2				S	S	22 06 02.3	+1.9
JSS	Shosan	3.20	99	P	Pn	22 05 14.6	+1.1
JSS				S	S	22 06 02.9	+1.9
JOSM	Okushiri--Mats	3.27	152	P	Pn	22 05 14.5	+0.3
JOSM				S	S	22 06 01.9	-0.5
JHR	Hokuryu	3.32	111	P	Pn	22 05 15.5	+0.9
JEW	Eniwo	3.61	125	P	Pn	22 05 18.3	+0.7
JEW				S	S	22 06 09.9	+1.4
JSE	Soyaes	3.65	89	P	Pn	22 05 19.0	+1.1
JSE				S	S	22 06 09.9	+0.8
ASAJ	Asahikawa	3.79	102	P	Pn	22 05 20.1	+0.7
	comp=E,553nm,0.9s,baz=280,slow=12,SNR=371						
ASAJ				S	S	22 06 12.5	+0.7
	comp=E,51nm,0.7s,baz=236,slow=18,SNR=7.5						
JKA	Kamikawa-asahi	3.79	102		Pn	22 05 19.9	+0.4
JKA	Kamikawa-asahi	3.79	102	P	Pn	22 05 20.1	+0.7
KHLM	Kholmsk	3.81	56	*e*P	Pn	22 05 21.0	+1.5
KHLM				AMB	AMB	22 05 21.5	
	comp=E,160nm,0.7s						
KHLM				*e*S	S	22 06 13.3	+1.2
KHLM				A	A	22 06 14.5	
	comp=E,220nm,1.2s						
KHLM				A	A	22 06 14.5	
	comp=E,130nm,1.2s						
USA0B	Ussuriysk Arra	3.98	260		Pn	22 05 21.9	+0.6
USA0B	Ussuriysk Arra	3.98	260	*c i*P	Pn	22 05 22.1	+0.8
USRK	Ussuriysk Ar.	3.98	260	P	Pn	22 05 22.0	+0.7
	comp=E,62nm,0.5s,baz=76,slow=11,SNR=101						
USRK				S	S	22 06 15.5	+0.2
	comp=E,14nm,1.0s,baz=84,slow=21,SNR=4.6						
GRTR	Gornotajezhnoj	4.00	253	⇑*i*P	Pn	22 05 22.2	+0.5
GRTR				AMB	AMB	22 05 22.8	
	comp=E,57nm,0.8s						
GRTR				*e*S	S	22 06 15.7	-0.2
YSS	Yuzh-Sakhalins	4.19	60	P	Pn	22 05 24.9	+1.4
YSS	Yuzh-Sakhalins	4.19	60		Pn	22 05 24.6	+1.1
YSS	Yuzh-Sakhalins	4.19	60	*e*P	Pn	22 05 24.4	+0.9
YSS				AMB	AMB	22 05 25.3	
	comp=E,88nm,0.6s						
YSS				*e*S	S	22 06 19.4	0.0
YSS				A	A	22 06 20.8	
	comp=E,2μm,3.0s						
YSS				A	A	22 06 20.8	
	comp=E,800nm,3.0s						
YSS				A	A	22 06 21.2	
	comp=E,280nm,0.8s						
YSS	Yuzh-Sakhalins	4.19	60	*c i*P	Pn	22 05 24.4	+0.9
YSS				*i* S	S	22 06 19.3	-0.1
YSS				pmax	pmax		
	comp=Z,80nm,0.6s						
YSS				smax	smax		
	comp=N,2μm,4.4s						
YSS				smax	smax		
	comp=E,800nm,2.5s						
YSS				smax	smax		
	comp=N,330nm,1.1s						
YSS				smax	smax		
	comp=E,130nm,1.3s						
YSS				MLR	MLR		
	comp=Z,200nm,17.0s						
VLA	Vladivostok	4.42	247	*i* P	Pn	22 05 27.4	+1.2
JOT	Ohata	4.47	143	P	Pn	22 05 25.8	-0.9
JTKR	Abashiri--Toko	4.74	100	P	Pn	22 05 29.4	-0.2
JTKR				S	S	22 06 29.3	-1.2
JCH	Churui	4.90	117	P	Pn	22 05 30.0	-1.5
JCH				S	S	22 06 29.5	-4.4
JTM	Tenmabayashi	4.98	146	P	Pn	22 05 31.3	-1.1
JTM	Tenmabayashi	4.98	146		Pn	22 05 30.8	-1.6
ERM	Erimo	5.12	124	P	Pn	22 05 34.0	+0.1
ERM	Erimo	5.12	124		Pn	22 05 34.0	+0.1
ERM	Erimo	5.12	124	*de*P	Pn	22 05 33.9	+0.1
ERM				pmax	pmax		
	comp=Z,406nm,0.8s						
JEM	Erimo	5.12	124	P	Pn	22 05 34.2	+0.3
MSHR	Mys Shultsa	5.15	244	*c i*P	Pn	22 05 35.3	+1.0
UGL	Uglegorsk	5.16	36	*e*P	Pn	22 05 35.5	+1.2
UGL				AMB	AMB	22 05 37.3	
	comp=Z,370nm,1.1s						
UGL				*e*S	S	22 06 39.1	+0.2
UGL				A	A	22 06 41.6	
	comp=Z,700nm,2.0s						
UGL				A	A	22 06 41.6	
	comp=Z,600nm,2.0s						
UGL	Uglegorsk	5.16	36	*e*P	Pn	22 05 35.5	+1.2
UGL				S	S	22 06 39.1	+0.2
UGL				pmax	pmax		
	comp=Z,800nm,1.3s						
UGL				pmax	pmax		
	comp=Z,378nm,1.1s						
UGL				smax	smax		
	comp=N,700nm,2.0s						
UGL				smax	smax		
	comp=E,600nm,1.3s						
PSTR	Posyet	5.34	246	⇑*i*P	Pn	22 05 37.8	+1.3
PSTR				AMB	AMB	22 05 38.4	
	comp=E,121nm,0.7s						
PSTR				*e*S	S	22 06 43.1	+0.2
PSTR				A	A	22 06 44.2	
	comp=E,100nm,2.0s						
PSTR				A	A	22 06 44.2	
	comp=E,110nm,2.0s						
PSTR				A	A	22 06 44.8	
	comp=E,26nm,1.0s						
PSTR				A	A	22 06 44.8	
	comp=E,36nm,1.0s						
PSTR	Posyet	5.34	246	*c i*P	Pn	22 05 37.7	+1.3
MDJ	Mudanjiang	5.60	269	P	Pn	22 05 41.1	+1.7
MDJ	Mudanjiang	5.60	269	P	Pn	22 05 39.8	+0.4
MDJ				S	S	22 06 45.8	-2.4
MDJ				smax	smax		
	comp=E,60nm,1.8s						
MDJ				smax	smax		
	comp=E,31nm,1.7s						
MDJ	Mudanjiang	5.60	269	Pn	Pn	22 05 40.0	+0.6
KLR	Kul'dur	5.74	319	P	Pn	22 05 41.1	+0.1
	comp=E,8.8nm,0.4s,baz=127,slow=12,SNR=54						
KLR				S	S	22 06 50.9	-0.3
	comp=E,3.6nm,0.8s,baz=181,slow=20,SNR=1.2						
KLR	Kul'dur	5.74	319	⇓*i*P	Pn	22 05 41.4	+0.4
KLR				*e*S	S	22 06 50.4	-0.8
KLR	Kul'dur	5.74	319	*e*P	Pn	22 05 39.0	-2.0
KLR				pmax	pmax		
	comp=Z,55nm,1.5s						
GRNR	Gornyy	5.81	354	*e*P	Pn	22 05 42.7	+1.0
GRNR				AMB	AMB	22 05 43.4	
	comp=Z,30nm,0.7s						
GRNR				*e*S	S	22 06 52.0	-0.6
GRNR	Gornyy	5.81	354	⇑*i*P	Pn	22 05 42.8	+1.0
GRNR				pmax	pmax		
	comp=E,20nm,0.9s						
GRNR				pmax	pmax		
	comp=N,60nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,70nm,1.1s						
GRNR				MLR	MLR		
	comp=E,150nm,19.0s						
GRNR				MLR	MLR		
	comp=N,280nm,18.0s						
GRNR				MLR	MLR		
	comp=Z,120nm,19.0s						
YUK	Yuzh-Kuril'sk	6.10	96	*e*P	Pn	22 05 45.7	+0.5
YUK	Yuzh-Kuril'sk	6.10	96	*de*P	Pn	22 05 45.7	+0.5
NEM2	Nemuro 2	6.19	102	P	Pn	22 05 43.9	-2.4
NEM2				S	S	22 06 54.5	-6.3
JMK	Ichinoseki	6.67	154	P	Pn	22 05 49.7	-2.3
SHO	Shikotan	6.82	96	*e*P	Pn	22 05 53.7	0.0
SHO	Shikotan	6.82	96	*e*P	Pn	22 05 53.7	0.0
SHO				*e*S	S	22 07 08.0	-6.4
SHO				smax	smax		
	comp=N,295nm,0.4s						
SHO				smax	smax		
	comp=E,271nm,0.4s						
TYV	Tymovskoe	6.83	29	*e*P	Pn	22 05 55.7	+2.0
TYV				AMB	AMB	22 05 57.3	
	comp=E,150nm,1.1s						
TYV	Tymovskoe	6.83	29	*e*P	Pn	22 05 55.8	+2.0
TYV				*e*S	S	22 07 11.4	-3.1
TYV				pmax	pmax		
	comp=Z,300nm,1.5s						
TYV				pmax	pmax		
	comp=Z,100nm,1.2s						
TYV				smax	smax		
	comp=N,11nm,1.3s						
TYV				smax	smax		
	comp=E,11nm,1.3s						
JSD	Sado	6.98	175	P	Pn	22 05 56.2	+0.4
JSD	Sado	6.98	175		Pn	22 05 55.2	-0.5
BNX	BinXian	7.11	280	⇓P	Pn	22 05 57.8	+0.7
BNX				S	S	22 07 18.6	-2.1
BNX				pmax	pmax		
	comp=E,150nm,1.0s						
BNX				pmax	pmax		
	comp=E,330nm,6.6s						
KUR	Kuril'sk	7.38	84	*e*P	Pn	22 06 01.7	+1.3
KUR				*e*S	S	22 07 26.8	+0.2
KUR	Kuril'sk	7.38	84	*de*P	Pn	22 06 01.7	+1.3
JMM	Marumori	7.56	159	P	Pn	22 06 01.4	-1.3
JMM	Marumori	7.56	159		Pn	22 06 00.5	-2.1
NKL	Nikolayevsk	8.43	13	*e*P	Pn	22 06 13.3	+0.4
NKL				AMB	AMB	22 06 13.9	
	comp=E,45nm,0.8s						
MJB9	Matsu-Tunnel	8.46	176		Pn	22 06 12.6	-1.0
MAJO	Matsushiro	8.47	176	P	Pn	22 06 13.6	-0.1
MAJO	Matsushiro	8.47	176		Pn	22 06 13.3	-0.4
MAJO	Matsushiro	8.47	176	*ce*P	Pn	22 06 12.6	-1.1
MJAR	Matsushiro Arr	8.47	176	P	Pn	22 06 13.2	-0.5
	comp=E,27nm,1.0s,baz=359,slow=11,SNR=80						
MJAR				S	S	22 07 48.8	-2.3
	comp=E,2.9nm,0.4s,baz=346,slow=23,SNR=1.4						
HEH	HeiHe	8.57	311	*e*P	Pn	22 06 14.3	-0.3
HEH				pmax	pmax		
	comp=E,56nm,1.0s						
EKMR	Ekimchan	8.60	342	*e*P	Pn	22 06 15.5	+0.5
CN2	Changchun	8.67	266	P	Pn	22 06 16.8	+0.8
CN2				S	S	22 07 54.3	-1.0
CN2				pmax	pmax		
	comp=E,10.0nm,0.9s						
JRY	Ryogami san	9.04	172	P	Pn	22 06 18.2	-2.5
JRY				S	S	22 07 58.5	-5.3
JOI	OKI	9.26	202	P	Pn	22 06 24.3	+1.0
JGF	Kuroka	9.39	180	P	Pn	22 06 24.2	-0.6
JGF	Kuroka	9.39	180		Pn	22 06 24.0	-0.8
INU	Inuyama	9.64	182	P	Pn	22 06 27.2	-0.7
INU	Inuyama	9.64	182		Pn	22 06 26.9	-0.9
JOD2	Odawara 2	9.80	172	P	Pn	22 06 29.6	-0.3
KS19	Wonju Array Si	10.39	227	P	Pn	22 06 37.4	+0.5
KSRS	Korea Array	10.39	227	P	Pn	22 06 38.1	+1.2
	comp=E,11nm,0.7s,baz=43,slow=11,SNR=45						
KSAR	Wonju Array Be	10.42	227	Pn	Pn	22 06 37.1	-0.2
KSAR	Wonju Array Be	10.42	227	P	Pn	22 06 37.1	-0.2
KSAR	Wonju Array Be	10.42	227	P	Pn	22 06 37.1	-0.2
SNY	Shenyang	10.57	257	⇑P	Pn	22 06 40.3	+1.3
SNY				sP		22 07 50.8	
SNY				S	S	22 08 34.3	-3.5
SNY				pmax	pmax		
	comp=E,7.0nm,0.7s						
SNY				pmax	pmax		
	comp=E,36nm,3.6s						
ZEA	Zeya	10.97	326	*e*P	Pn	22 06 44.4	+0.7
ZEA	Zeya	10.97	326	*e*P	Pn	22 06 43.7	0.0
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.6s						
INCN	Inchon	11.06	231	P	Pn	22 06 46.6	+1.6
INCN	Inchon	11.06	231	P	Pn	22 06 45.5	+0.5
INCN	Inchon	11.06	231	P	Pn	22 06 45.5	+0.5
INCN	Inchon	11.06	231	P	Pn	22 06 45.5	+0.5
TJN	Taejon	11.51	225	P	Pn	22 06 51.6	+1.2
TJN	Taejon	11.51	225	P	Pn	22 06 50.8	+0.4
TJN	Taejon	11.51	225	*c i*P	Pn	22 06 51.3	+0.9
JMN	Monobe	11.59	195	P	Pn	22 06 51.7	+0.3
JMN	Monobe	11.59	195		Pn	22 06 51.5	+0.2
JHJ	Hachijo jima 2	12.00	171	P	P	22 06 58.0	+1.1
	comp=Z,239nm,0.5s,baz=283,slow=3.0,SNR=15						
JHJ				S	S	22 08 58.2	-12
	comp=Z,82nm,0.3s,baz=75,slow=20,SNR=9.4						
JHJ2	Mitsune	12.01	170	P	P	22 06 57.2	+0.1
JHJ2	Mitsune	12.01	170		Pn	22 06 53.4	-3.0
JHJ2	Mitsune	12.01	170	P	P	22 06 58.8	+1.7
JTU	Tsushima	12.14	213	P	Pn	22 06 58.6	+0.6
JTU	Tsushima	12.14	213	P	Pn	22 06 58.6	+0.6
HIA	Hailar	12.78	296	P	Pn	22 07 03.8	-1.6
HIA	Hailar	12.78	296	P	Pn	22 07 03.8	-1.6
JNU	Nakatsue	12.90	205	P	P	22 07 07.0	0.0
JNU	Nakatsue	12.90	205		P	22 07 06.3	-0.6
JNU	Nakatsue	12.90	205	P	P	22 07 06.5	-0.5
	comp=Z,49nm,0.9s,baz=24,slow=7.9,SNR=30						
SKR	Severo-Kuril's	13.76	59	*e*P	Pn	22 07 19.0	+2.1
SKR	Severo-Kuril's	13.76	59	*e*P	Pn	22 07 19.0	+2.1
SKR				*e*S	S	22 09 39.2	-7.9
SKR				pmax	pmax		
	comp=Z,127nm,0.7s						
SKR				MLR	MLR		
	comp=Z,500nm,18.0s						
XLT	XiLinHaoTe	15.29	273	*e*P	P	22 07 33.3	+0.1
XLT				S	S	22 10 10.8	-7.5
XLT				pmax	pmax		
	comp=Z,19nm,1.0s						
PET	Petropavlovsk	16.02	52	P	P	22 07 40.3	-0.6
PET				IAmb	IAmb	22 07 47.9	
	comp=Z,19nm,1.1s						
PET	Petropavlovsk	16.02	52	P	Pn	22 07 41.7	-1.7
PET	Petropavlovsk	16.02	52	⇑*e*P	Pn	22 07 41.7	-1.7
BJT	Baijiatuau	16.44	260	P	P	22 07 44.8	-0.8
BJT				IAmb	IAmb	22 07 47.5	
	comp=Z,9.6nm,0.8s						
BJT	Baijiatuau	16.44	260	P	P	22 07 44.8	-0.8
BJT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MA2	Magadan	16.67	24	P	P	22 07 46.6	-1.2
MA2	Magadan	16.67	24	P	P	22 07 47.7	-0.1
	comp=Z,30nm,0.7s,baz=192,slow=8.6,SNR=18						
MA2	Magadan	16.67	24	P	P	22 07 48.1	+0.3
MA2	Magadan	16.67	24	*c i*P	P	22 07 48.1	+0.3
MA2				pmax	pmax		
	comp=Z,41nm,0.8s						
MA2	Magadan	16.67	24	P	Pn	22 07 48.3	-2.6
	comp=Z,58nm,1.1s						
YAK	Yakutsk	17.65	348	P	P	22 07 56.6	-1.7
YAK	Yakutsk	17.65	348	P	P	22 07 57.1	-1.3
	comp=Z,14nm,0.4s,baz=145,slow=4.7,SNR=9.0						
YAK				S	S	22 10 59.8	-4.5
	comp=Z,35nm,0.9s,baz=142,slow=20,SNR=53						
YAK	Yakutsk	17.65	348	*e*P	P	22 07 57.0	-1.3
YAK				*e*S	S	22 11 02.6	-1.8
YAK				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				smax	smax		
	comp=N,728nm,1.8s						
YAK				smax	smax		
	comp=E,117nm,1.4s						
JCJ	Chichijima	18.27	166	P	P	22 08 04.3	-1.1
JCJ	Chichijima	18.27	166	P	P	22 08 00.5	-4.9
	comp=E,102nm,0.7s,baz=264,slow=10,SNR=9.4						
JCJ				S	S	22 11 13.4	-3.8
	comp=E,45nm,0.6s,baz=287,slow=19,SNR=2.2						
HNS	HongShan	18.68	254	*e*P	P	22 08 12.3	+2.7
BOD	Bodaibo	19.32	320	*e*P	P	22 08 13.8	-2.4
BOD				pmax	pmax		
	comp=Z,14nm,1.6s						
JOW	Kunigami	19.56	205	P	P	22 08 19.8	+0.6
	comp=Z,6.8nm,0.4s,baz=80,slow=12,SNR=1.7						
SEY	Seymchan	19.91	20	P	P	22 08 21.4	-1.0
	comp=Z,31nm,0.8s,baz=218,slow=8.3,SNR=74						
SEY				S	S	22 11 48.5	+1.9
	comp=Z,1.5nm,0.4s,baz=222,slow=19,SNR=7.7						
SEY	Seymchan	19.91	20	P	P	22 08 22.4	+0.1
SE

comp=Z,30nm,0.7s
BTO Baotou 20.55 267 *e*P **P** **22 08 28.8 -0.2**
BTO sP **sP** **22 10 00.8 +0.9**
BTO pmax pmax
comp=Z,37nm,1.0s
BTO pmax pmax
comp=Z,130nm,6.9s
ULN Ulaanbaatar 21.07 289 P **P** **22 08 32.3 -1.6**
ULN IAmb IAmb 22 08 35.0
comp=Z,12nm,1.0s
ULN Ulaanbaatar 21.07 289 P **P** **22 08 32.8 -1.1**
ULN Ulaanbaatar 21.07 289|| *e*P **P** **22 08 32.8 -1.1**
ULN pmax pmax
comp=Z,15nm,1.1s
SONM Songino Array 21.52 289 P **P** **22 08 36.8 -1.1**
SONM IAmb IAmb 22 08 39.1
comp=Z,30nm,1.0s
SONM Songino Array 21.52 289 P **P** **22 08 36.9 -1.0**
comp=Z,20nm,0.9s,baz=84,slow=7.7,SNR=80
comp=Z,20nm,0.9s
SONM Songino Array 21.52 289 P **P** **22 08 36.8 -1.1**
SONM pmax pmax
comp=Z,31nm,1.0s
ZAK Zakamensk 23.48 296 *e*P **P** **22 08 54.1 -1.5**
ZAK pmax pmax
comp=Z,11nm,1.0s
MOY Mondy 24.93 299 P **P** **22 09 08.1 -0.6**
MOY Mondy 24.93 299 *e*P **P** **22 09 08.1 -0.6**
MOY pmax pmax
comp=Z,29nm,1.8s
YULB Yu-li 25.26 217 P **P** **22 09 13.1 +1.3**
YULB IAmb IAmb 22 09 32.1
comp=Z,26nm,1.4s
TPUB Ta-pu 25.63 218 P **P** **22 09 15.3 +0.2**
LZH Lanzhou 26.88 262 *e*P **P** **22 09 29.0 +2.7**
LZH pmax pmax
comp=Z,18nm,1.3s
BILL Bilibino 27.53 23 P **P** **22 09 31.9 +0.5**
BILL Bilibino 27.53 23|| *e*P **P** **22 09 31.9 +0.5**
BILL *e**PP **pP** **22 10 31.5 -0.8**
BILL *e**SP **sP** **22 11 12.3 +2.1**
BILL *e* 22 12 37.1
BILL pmax pmax
comp=Z,10.0nm,1.5s
GTA Gaotai 28.25 272 *e*P **P** **22 09 39.1 +0.8**
GTA pmax pmax
comp=Z,5.0nm,1.1s
AMKA Amchitka 28.32 62 P **P** **22 09 38.0 -0.6**
KRAR Krasnoyarsk 29.89 308⇑ *e*P **P** **22 09 52.0 -0.3**
KIWB Kanaga Island 30.49 61 P **P** **22 09 57.0 -0.7**
SPIA Saint Paul Isl 34.18 50 P **P** **22 10 28.6 -0.9**
baz=272
P08K Saint George I 34.59 51 P **P** **22 10 32.2 -0.7**
baz=273
ZAA0 Zalesovo Array 34.61 304 P **P** **22 10 32.5 -0.6**
ZAA0 IAmb IAmb 22 10 33.8
comp=Z,11nm,0.8s
ZAA0 **PcP** **22 12 59.8 +0.6**
ZALV Zalesovo Beam 34.61 304 P **P** **22 10 32.4 -0.8**
ZALV **PcP** **22 12 59.8 +0.6**
ZALV Zalesovo Beam 34.61 304 P **P** **22 10 32.6 -0.5**
comp=Z,4.0nm,0.3s,baz=85,slow=8.0,SNR=33
ZALV PcP **PcP** **22 12 59.5 +0.3**
comp=Z,3.3nm,0.6s,baz=94,slow=1.4,SNR=12
ZALV ScP **ScP** **22 16 13.9 +1.0**
comp=Z,2.6nm,0.8s,baz=69,slow=2.8,SNR=9.0
comp=Z,4.0nm,0.3s
NRIK Noril'sk 34.81 332 P **P** **22 10 32.5 -2.1**
comp=Z,2.0nm,0.4s,baz=124,slow=5.5,SNR=3.0
comp=Z,2.0nm,0.4s
NIKH Nikolski High 35.39 57 P **P** **22 10 38.5 -1.3**
baz=279
TNA Tin City 35.74 36 P **P** **22 10 41.6 -0.9**
baz=262
M11K Mekoryuk 36.21 44 P **P** **22 10 45.7 -0.8**
baz=271
F14K Arctic Creek 36.39 36 P **P** **22 10 47.6 -0.4**
baz=264
UNV Unalaska Valle 36.64 55 P **P** **22 10 49.5 -0.8**
baz=280
ANM Nome 36.71 37 P **P** **22 10 50.4 -0.4**
baz=266
TNCH TengChong 37.13 251 *e*P **P** **22 10 54.1 -0.8**
TNCH pmax pmax
comp=Z,15nm,0.9s
C16K Lisburne Hills 37.15 31 P **P** **22 10 53.4 -0.8**
baz=261
J14K Nanvaranak Lak 37.46 40 P **P** **22 10 56.5 -0.4**
baz=270
M13K Dall Lake 37.62 44 P **P** **22 10 57.5 -0.8**
baz=273
MK31 Makanchi Array 37.76 293 **P** **22 10 59.3 -0.4**
MK31 IAmb IAmb 22 11 00.8
comp=Z,9.9nm,0.8s
MK31 Makanchi Array 37.76 293 P **P** **22 10 59.3 -0.4**
MK31 pmax pmax
comp=Z,10.0nm,0.9s
MKAR Makanchi Array 37.76 293 **P** **22 10 59.0 -0.7**
MKAR Makanchi Array 37.76 293 P **P** **22 10 59.5 -0.3**
comp=Z,7.5nm,0.8s,baz=82,slow=9.5,SNR=46
MKAR ScP **S** **22 16 26.2 +0.7**
comp=Z,1.2nm,0.8s,baz=67,slow=4.3,SNR=5.9
comp=Z,7.5nm,0.8s
MKAR Makanchi Array 37.76 293 P **P** **22 10 59.7 0.0**
MKAR Makanchi Array 37.76 293 *i* P **P** **22 10 59.7 0.0**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
L14K Kuka Creek 37.90 43 P **P** **22 11 00.0 -0.6**
baz=273
D17K Noatak River 37.92 32 P **P** **22 10 59.8 -0.9**
baz=264
MAKZ Makanchi 37.96 293 P **P** **22 11 00.9 -0.5**
MAKZ IAmb IAmb 22 11 02.6
comp=Z,15nm,0.8s
MAKZ Makanchi 37.96 293 P **P** **22 11 00.9 -0.5**
MAKZ pmax pmax
comp=Z,15nm,0.9s
C17K DeLong Mountai 37.97 31 P **P** **22 11 00.7 -0.5**
baz=263
RDOG Red Dog Mine 38.02 32 P **P** **22 11 00.9 -0.7**
baz=264
H16K Elim 38.07 37 P **P** **22 11 01.3 -0.6**
baz=269
M14K Bethel 38.29 44 P **P** **22 11 03.0 -0.8**
M14K IAmb IAmb 22 11 04.5
comp=Z,12nm,1.1s
M14K Bethel 38.29 44 P **P** **22 11 03.5 -0.3**
baz=274
E17K Hotham Inlet 38.35 33 P **P** **22 11 03.4 -0.8**
baz=266
K15K Wolf Creek Mou 38.41 41 P **P** **22 11 04.7 -0.2**
baz=272
L15K Ungalak Mounta 38.46 42 P **P** **22 11 04.8 -0.5**
baz=273
N14K Kuskokwak Cree 38.49 45 P **P** **22 11 05.0 -0.5**
baz=275
B18K Kokolik River 38.57 30 P **P** **22 11 06.1 0.0**
baz=263
C18K Utukok River 38.72 31 P **P** **22 11 06.9 -0.4**
baz=265
I17K Unalakleet 38.74 39 P **P** **22 11 07.4 -0.1**
baz=271
G17K Kiwalik Mounta 38.76 36 P **P** **22 11 07.3 -0.4**
baz=269
O14K Tigyukauivet M 38.77 46 P **P** **22 11 07.8 -0.1**
baz=276
J16K Anvik River 38.80 40 P **P** **22 11 07.8 -0.2**
baz=272
E18K Tukpahlearik C 38.84 33 P **P** **22 11 07.7 -0.6**
baz=267
S12K Black Hills 38.86 52 P **P** **22 11 08.2 -0.5**
baz=280
M15K Kasigluk River 38.91 44 P **P** **22 11 08.9 -0.1**
baz=275
A19K Wainwright 38.93 28 P **P** **22 11 08.0 -1.0**
baz=263
KURK Kurchatov 38.97 300 **P** **22 11 09.5 -0.1**
KURK IAmb IAmb 22 11 11.3
comp=Z,24nm,0.9s
KURK Kurchatov 38.97 300 P **P** **22 11 09.1 -0.5**
KURK Kurchatov 38.97 300 *d i* P **P** **22 11 09.1 -0.5**
KURK pmax pmax
comp=Z,23nm,0.8s
KURBB Kurchatov Arra 39.05 300 P **P** **22 11 10.0 -0.2**
comp=Z,14nm,0.5s,baz=75,slow=9.2,SNR=82
KURBB PcP **PcP** **22 13 13.3 +0.6**
comp=Z,0.7nm,0.2s,baz=78,slow=3.4,SNR=6.0
KURBB ScP **ScP** **22 16 30.3 +0.8**
comp=Z,0.3nm,0.4s,baz=104,slow=3.9,SNR=1.6
comp=Z,14nm,0.5s
H17K Granite Mounta 39.06 37 P **P** **22 11 09.8 -0.4**
baz=270
F18K Selawik 39.19 34 P **P** **22 11 11.1 -0.1**
baz=269
N15K Kwethluk River 39.26 44 P **P** **22 11 11.4 -0.5**
baz=276
LSA Lhasa 39.29 263 P **P** **22 11 13.0 -0.1**
LSA Lhasa 39.29 263 P **P** **22 11 13.0 -0.1**
LSA pmax pmax
comp=Z,12nm,1.3s
C19K Lookout Ridge 39.33 30 P **P** **22 11 11.8 -0.7**
baz=266
L16K Owhat River 39.41 42 P **P** **22 11 12.1 -1.0**
baz=275
J17K VABM Dome 39.48 39 P **P** **22 11 13.1 -0.5**
baz=273
O15K Ungalikthiuk R 39.51 46 P **P** **22 11 13.5 -0.5**
baz=278
G18K Tagagawik 39.58 35 P **P** **22 11 13.9 -0.5**
baz=270
H18K Honhosa River 39.72 37 P **P** **22 11 15.1 -0.5**
baz=272
M16K Timber Creek 39.72 43 P **P** **22 11 15.6 -0.1**
baz=276
SDPT Sand Point 39.81 52 P **P** **22 11 16.2 -0.2**
baz=282
D19K Kuna River 39.83 31 P **P** **22 11 16.0 -0.5**
baz=268
K17K Iditarod 39.88 40 P **P** **22 11 15.9 -0.9**
baz=275
N16K Nishlik Lake 39.88 44 P **P** **22 11 16.5 -0.5**
baz=277
L17K Donlin 39.93 41 P **P** **22 11 17.5 +0.1**
baz=275
E19K Redstone River 40.15 33 P **P** **22 11 17.8 -1.2**
E19K Redstone River 40.15 33 P **P** **22 11 19.0 0.0**
baz=270
G19K Purcell Mounta 40.22 35 P **P** **22 11 19.6 -0.1**
baz=272
B20K Meade River 40.24 29 P **P** **22 11 19.3 -0.4**
baz=267
O16K Kokwok River B 40.33 45 P **P** **22 11 20.4 -0.2**
baz=278
D20K Etivluk River 40.39 31 P **P** **22 11 21.0 0.0**
baz=269
M17K Holitna River 40.41 42 P **P** **22 11 21.0 -0.3**
M17K Holitna River 40.41 42 P **P** **22 11 21.6 +0.3**
baz=277
CHNA Chernabura Isl 40.42 53 P **P** **22 11 20.6 -0.8**
baz=283
H19K Roundabout Mou 40.51 36 P **P** **22 11 20.7 -1.2**
H19K Roundabout Mou 40.51 36 P **P** **22 11 21.2 -0.7**
baz=273
J18K Innoko River 40.53 39 P **P** **22 11 21.5 -0.7**
baz=275
E20K Nigu River 40.54 32 P **P** **22 11 21.1 -1.2**
baz=270
N17K Nushagak Hills 40.65 44 P **P** **22 11 22.6 -0.6**
baz=278
L18K Granite Mounta 40.67 41 P **P** **22 11 23.4 0.0**
baz=276
PHRA Phrae 40.67 242 P **P** **22 11 25.3 +1.4**
F20K Avanaart Lake 40.74 34 P **P** **22 11 23.8 0.0**
baz=272
O17K Koliganek Bris 40.81 45 P **P** **22 11 24.4 -0.1**
baz=279
TTA Tatalina 40.90 40 P **P** **22 11 25.4 +0.1**
baz=276
SHLS Shalkode 40.92 289 *e*P **P** **22 11 23.3 -2.5**
SHLS pmax pmax
comp=Z,13nm,1.3s
J19K Poorman 40.97 38 P **P** **22 11 25.5 -0.3**
baz=275
C21K Knifeblade Rid 41.06 30 P **P** **22 11 26.0 -0.4**
baz=270
B21K Ikpikpuk River 41.12 30 P **P** **22 11 26.7 -0.1**
baz=270
H20K Anotleneega Mo 41.16 36 P **P** **22 11 27.0 -0.3**
baz=274
M18K Stony River 41.17 42 P **P** **22 11 27.0 -0.4**
baz=278
UZB Uzynbulak 41.22 289 *e*P **P** **22 11 28.0 -0.3**
UZB pmax pmax
comp=Z,7.0nm,1.3s
P17K Kvichak River 41.23 46 P **P** **22 11 27.5 -0.3**
baz=280
N18K Kilae Creek 41.26 43 P **P** **22 11 27.4 -0.7**
baz=279
SHL Shillong 41.31 258 P **P** **22 11 28.8 -0.4**
SHL IAmb IAmb 22 11 30.1
comp=Z,21nm,0.7s
SHL Shillong 41.31 258 P **P** **22 11 28.8 -0.4**
SHL pmax pmax
comp=Z,21nm,0.7s
CMAR Chiang Mai Arr 41.51 243 P **P** **22 11 31.9 +1.2**
comp=Z,1.4nm,0.8s,baz=24,slow=6.5,SNR=5.9
comp=Z,1.4nm,0.8s
L19K White Mountain 41.53 41 P **P** **22 11 30.1 -0.2**
baz=278
R17L Mt. Peulik Vol 41.58 48 P **P** **22 11 30.2 -0.6**
baz=275
IMAR Indian Mountai 41.59 35 P **P** **22 11 29.3 -1.4**
J20K Nowinta River 41.59 38 P **P** **22 11 30.4 -0.4**
baz=276
ARXS Arharly 41.60 291 *e*P **P** **22 11 31.0 -0.2**
F21K Alatna River 41.60 33 P **P** **22 11 30.1 -0.7**
baz=274
G21K Allakaket 41.64 34 P **P** **22 11 30.2 -0.9**
G21K Allakaket 41.64 34 P **P** **22 11 30.7 -0.5**
baz=274,SNR=5.8
Q17K Contact Creek 41.69 47 P **P** **22 11 30.1 -1.6**
baz=282
K20K Telida 41.73 39 P **P** **22 11 31.2 -0.7**
baz=277
O18K Koktuh Hills 41.73 44 P **P** **22 11 31.0 -0.9**
baz=280
M19K Big River Lodg 41.78 41 P **P** **22 11 32.6 +0.2**
baz=279
P18K Big Mountain, 41.81 45 P **P** **22 11 33.0 +0.4**
baz=281
D22K Ayiyak River 41.82 31 P **P** **22 11 32.5 0.0**
baz=272
N19K Bonanza Creek 41.92 43 P **P** **22 11 33.3 -0.2**
baz=280
L20K Farewell, AK 41.94 40 P **P** **22 11 33.5 -0.1**
baz=278
H21K Melozitna Rive 42.01 36 P **P** **22 11 33.8 -0.3**
baz=276
Q18K Katmai Hardscr 42.07 46 P **P** **22 11 34.3 -0.5**
baz=282
F22K John River 42.09 33 P **P** **22 11 34.2 -0.5**
baz=274
M20K Styx River 42.38 41 P **P** **22 11 37.0 -0.2**
baz=280
G22K Bettles 42.40 34 P **P** **22 11 36.2 -1.0**
baz=276
C23K Itkillik River 42.50 29 P **P** **22 11 37.1 -0.8**
baz=273
D23K Nanushuk River 42.54 30 P **P** **22 11 37.4 -0.8**
baz=274
H22K Ishtalitna Cre 42.56 35 P **P** **22 11 37.9 -0.6**
baz=277
TARG Taragay, Kyrgy 42.63 288 P **P** **22 11 40.1 +0.2**
TARG Taragay, Kyrgy 42.63 288 P **P** **22 11 40.1 +0.2**
TARG pmax pmax
comp=Z,8.0nm,0.9s
Q19K Cape Douglas, 42.70 46 P **P** **22 11 39.3 -0.5**
baz=283
MLY Manley 42.94 36 P **P** **22 11 40.5 -1.1**
baz=278
O20K Slope Mountain 42.96 44 P **P** **22 11 41.1 -0.8**
baz=282
TOLK Toolik Lake Re 42.97 31 P **P** **22 11 40.7 -1.0**
baz=276
BPAW Bear Paw Mtn. 42.98 38 P **P** **22 11 41.3 -0.6**
baz=279
G23K Bananza Creek 43.01 34 P **P** **22 11 41.0 -1.1**
G23K Bananza Creek 43.01 34 P **P** **22 11 41.6 -0.5**
baz=277
E23K Chandalar 43.01 32 P **P** **22 11 40.8 -1.3**
baz=276
SKT Skwentna 43.10 41 P **P** **22 11 42.3 -0.6**
baz=281
D24K Happy Valley 43.19 30 P **P** **22 11 42.7 -0.8**
baz=276
BVAR Borovoye Array 43.22 306 P **P** **22 11 44.2 +0.3**
comp=Z,4.8nm,0.5s,baz=71,slow=8.8,SNR=38
BVAR PcP **PcP** **22 13 27.4 +0.8**
comp=Z,2.7nm,0.5s,baz=85,slow=2.1,SNR=11
comp=Z,4.8nm,0.5s
BRVK Borovoye 43.27 306 P **P** **22 11 44.5 +0.3**
BRVK Borovoye 43.27 306 P **P** **22 11 44.6 +0.3**
BRVK Borovoye 43.27 306 *d i* P **P** **22 11 44.6 +0.3**
BRVK pmax pmax
comp=Z,11nm,1.0s
OHAK Old Harbor 43.29 48 P **P** **22 11 44.0 -0.4**
baz=285
H23K Yukon River 43.32 35 P **P** **22 11 43.8 -0.7**
H23K Yukon River 43.32 35 P **P** **22 11 44.1 -0.5**
baz=278
Q20K Shuyak Island 43.41 46 P **P** **22 11 44.8 -0.5**
baz=284
E24K Your Creek 43.43 32 P **P** **22 11 45.0 -0.5**
baz=277
I23K Minto, Yukon-K 43.50 36 P **P** **22 11 45.1 -0.9**
baz=279
KDAK Kodiak Island 43.51 47 P **P** **22 11 45.9 -0.2**
baz=284
HOM Homer 43.54 44 P **P** **22 11 46.5 +0.2**
baz=283
BOOM Boomskoye usch 43.56 289 P **P** **22 11 47.1 +0.1**
BOOM IAmb IAmb 22 11 49.0
comp=Z,20nm,0.9s
BOOM Boomskoye usch 43.56 289 P **P** **22 11 47.1 +0.1**
BOOM pmax pmax
comp=Z,20nm,0.9s
SUA Susitna One 43.57 41 P **P** **22 11 46.0 -0.8**
baz=282
TKM2 Tokmak 2 43.61 290 P **P** **22 11 48.5 +1.1**
SNR=37
NEA2 Nenana 43.72 37 P **P** **22 11 47.2 -0.5**
baz=280,SNR=7.1
F24K Squaw Lake 43.73 32 P **P** **22 11 47.4 -0.4**
baz=276
BTLS Baital 43.76 294 *e*P **P** **22 11 48.2 -0.1**
BTLS pmax pmax
comp=Z,3.0nm,0.7s
MCK McKinley 43.94 38 P **P** **22 11 49.5 0.0**
baz=281
BRSE Bradley Lake S 43.96 44 P **P** **22 11 48.9 -0.8**
baz=284
NRN Naryn 43.98 288 P **P** **22 11 50.4 -0.1**
NRN Naryn 43.98 288 P **P** **22 11 50.4 -0.1**
H24K Noodor Dome 44.00 35 P **P** **22 11 49.5 -0.4**
baz=280
G24K Hadweenzic Riv 44.01 34 P **P** **22 11 49.6 -0.4**
baz=279
D25K Kavik River 44.03 30 P **P** **22 11 49.0 -1.2**
baz=278
RC01 Rabbit Creek A 44.13 42 P **P** **22 11 50.5 -0.5**
baz=283
KBK Karagaybulak 44.15 290 P **P** **22 11 52.8 +1.1**
SNR=14
COLA College 44.18 36⇑ *e*P **P** **22 11 50.7 -0.6**
COLA pmax pmax
comp=Z,6.0nm,0.7s
USP Ospenovka 44.19 291 P **P** **22 11 52.4 +0.6**
SNR=6.5
CCB Clear Creek Bu 44.24 37 P **P** **22 11 50.7 -1.1**
POKR Poker Plat Res 44.31 36 P **P** **22 11 51.7 -0.7**
baz=281
GHO Glory Hole Cre 44.36 41 P **P** **22 11 51.8 -1.0**
C26K Camden Bay 44.46 29 P **P** **22 11 54.0 +0.6**
baz=278
AAK Ala-Archa 44.46 290 P **P** **22 11 53.5 -0.5**
AAK Ala-Archa 44.46 290 P **P** **22 11 54.7 +0.6**
AAK Ala-Archa 44.46 290|| *e*P **P** **22 11 54.7 +0.6**
AAK pmax pmax
comp=Z,18nm,1.7s
SEW Seward 44.51 43 P **P** **22 11 54.5 +0.6**
baz=284
F25K Christian Rive 44.57 32 P **P** **22 11 54.1 -0.3**
baz=280
IL31 44.61 36 P **P** **22 11 53.2 -1.4**
ILAR Eielson Array 44.61 36 P **P** **22 11 53.1 -1.5**
ILAR Eielson Array 44.61 36 P **P** **22 11 53.7 -1.0**
comp=Z,2.6nm,0.7s,baz=290,slow=7.8,SNR=37
comp=Z,2.6nm,0.7s
SML Sawmill 44.62 41 P **P** **22 11 54.7 -0.2**
baz=284
HDA Harding Lake 44.66 37 P **P** **22 11 53.2 -1.8**
HDA Harding Lake 44.66 37 P **P** **22 11 54.6 -0.5**
baz=282
KNK Knik Glacier 44.66 41 P **P** **22 11 55.0 -0.2**
baz=284
WAT6 Susitna Watana 44.71 39 P **P** **22 11 54.7 -1.0**
baz=283
H25L Birch Creek 44.74 34 P **P** **22 11 55.8 +0.1**
baz=281
DHY Denali Highway 44.76 39 P **P** **22 11 54.7 -1.4**
DHY Denali Highway 44.76 39 P **P** **22 11 55.4 -0.7**
baz=283
PWL Port Wells 44.85 42 P **P** **22 11 56.9 +0.2**
baz=284
KSH Kashi 44.87 286 P **P** **22 12 01.8 +4.6**
KSH pmax pmax
comp=Z,8.0nm,1.0s
ARLS Aral 44.91 289 P **P** **22 11 58.9 +1.3**
C27K Jago River 44.92 29 P **P** **22 11 56.5 -0.6**
baz=280
EKS2 Erkin-Say 44.93 291 P **P** **22 11 58.1 +0.4**
SNR=11
BMAR Burnt Mountain 45.00 32 P **P** **22 11 56.9 -0.9**
PRP Porcupine Dome 45.01 35 P **P** **22 11 57.2 -0.8**
PRP IAmb IAmb 22 11 58.6
comp=Z,9.3nm,0.6s
PRP Porcupine Dome 45.01 35 P **P** **22 11 58.1 +0.1**
baz=282,SNR=7.3
SCM Sheep Creek Mo 45.08 40 P **P** **22 11 58.7 +0.2**
baz=284
F26K Sheenjek River 45.11 32 P **P** **22 11 59.0 +0.4**
baz=281
AML Almayashu 45.22 290 P **P** **22 12 01.4 +1.1**
SNR=6.9
J25K Salcha River, 45.28 36 P **P** **22 11 58.1 -1.9**
baz=283
K24K Donnelly Dome 45.29 37 P **P** **22 11 58.5 -1.5**
baz=284
G26K Porcupine Rive 45.40 33 P **P** **22 11 59.9 -0.9**
baz=282
P23K Montague Islan 45.52 43 P **P** **22 12 02.2 +0.3**
baz=286
M24K Tolsona, Glenn 45.54 40 P **P** **22 12 02.5 +0.5**
baz=285
PAX Paxson 45.63 39 P **P** **22 12 02.8 0.0**
baz=285
KLU Klutina 45.81 41 P **P** **22 12 03.7 -0.5**
baz=286
HARP HAARP 45.92 39 P **P** **22 12 04.9 0.0**
baz=286
D27M Malcolm River 45.94 29 P **P** **22 12 03.7 -1.4**
baz=282
SCRK Sand Creek 46.02 37 P **P** **22 12 04.3 -1.5**
SCRK Sand Creek 46.02 37 P **P** **22 12 04.8 -1.0**
baz=285,SNR=9.8
I26K Coal Creek Min 46.03 35 P **P** **22 12 04.5 -1.2**
baz=284
ARSB Arslanbob 46.05 289 P **P** **22 12 07.1 +0.6**
ARSB IAmb IAmb 22 12 08.7
comp=Z,12nm,1.0s
ARSB Arslanbob 46.05 289 P **P** **22 12 07.1 +0.6**
ARSB pmax pmax
comp=Z,12nm,1.0s
J26L Joseph Creek 46.06 36 P **P** **22 12 05.1 -1.0**
baz=285
EYAK Cordova Ski Ar 46.16 42 P **P** **22 12 05.1 -1.7**
baz=287
G27K Doyon Strip 46.25 33 P **P** **22 12 06.8 -0.7**
baz=284
N25K Chitina, Valde 46.39 40 P **P** **22 12 08.8 +0.1**
baz=287
H27K Steamboat Moun 46.45 34 P **P** **22 12 09.4 +0.4**
baz=285,SNR=7.1
ARK Arkit 46.52 290 P **P** **22 12 11.3 +1.3**
L26K Log Cabin Wild 46.55 38 P **P** **22 12 09.2 -0.6**
baz=286
I27K Kandik River 46.57 34 P **P** **22 12 08.5 -1.5**
baz=285,SNR=6.4
BMRM Bremner River 46.58 41 P **P** **22 12 10.6 +0.6**
baz=287
E28M Babbage River 46.59 30 P **P** **22 12 10.4 +0.3**
baz=284

K27K Chicken 46.81 37 P **P** 22 12 11.7 -0.1
baz=286
M26K Nabesna, AK 46.88 39 P **P** 22 12 13.5 +1.0
baz=287
KK31 Karatay Array 46.89 293 P **P** 22 12 12.6 -0.1
KK31 IAmb IAmb 22 12 14.0
comp=Z,12nm,0.8s
KK31 Karatay Array 46.89 293 P **P** 22 12 12.6 -0.1
KK31 pmax pmax
comp=Z,12nm,0.9s
KKAR Karatay Array 46.89 293 P **P** 22 12 12.5 -0.2
KKAR Karatay Array 46.89 293 P **P** 22 12 12.5 -0.2
EGAK Eagle 46.98 35 P **P** 22 12 12.1 -1.0
EGAK IAmb IAmb 22 12 13.2
comp=Z,11nm,0.7s
EGAK Eagle 46.98 35 P **P** 22 12 12.8 -0.3
baz=286,SNR=6.0
MCARA McCarthy VSAT 47.18 40 P **P** 22 12 14.7 +0.1
baz=288
TRKS Terek-Say 47.19 290 P **P** 22 12 16.0 +0.8
L27K Beaver Creek, 47.20 38 P **P** 22 12 14.0 -0.8
baz=287,SNR=6.7
BCAR Beaver Creek A 47.22 38 P **P** 22 12 14.9 0.0
E29M Blow River 47.23 30 P **P** 22 12 13.8 -1.2
baz=286
I28M Miner Creek 47.29 34 P **P** 22 12 14.9 -0.6
baz=287,SNR=17
SVE Sverdlovsk 47.34 313*ce*P **P** 22 12 16.5 +0.6
SVE pmax pmax
comp=Z,29nm,0.9s
CRQE Cirque 47.35 41 P **P** 22 12 15.4 -0.6
baz=288
M27K Edge Creek, AK 47.39 39 P **P** 22 12 17.0 +0.6
baz=288
G29M Pine Creek 47.61 32 P **P** 22 12 16.7 -1.1
baz=287
IUG Iuzhnay 47.64 292 *e*P **P** 22 12 19.1 +0.5
IUG pmax pmax
comp=Z,6.0nm,0.6s
H29M Whitestone 47.68 33 P **P** 22 12 17.8 -0.6
baz=287
SBUM Sibu 47.84 215 P **P** 22 12 21.8 +1.5
FAKI Fak Fak 47.93 187 P **P** 22 12 21.6 +0.7
FAKI IAmb IAmb 22 12 47.5
comp=Z,43nm,1.3s
I29M Ogilvie Camp, 47.97 34 P **P** 22 12 20.7 +0.1
baz=288
CTG Chitna Glacier 48.09 40 P **P** 22 12 22.0 +0.3
baz=290
CTGM Chitina Glacie 48.09 40 P **P** 22 12 21.6 -0.2
CTGM IAmb IAmb 22 12 22.9
comp=Z,9.0nm,0.8s
BTK Batken 48.10 289 P **P** 22 12 22.1 0.0
BTK IAmb IAmb 22 12 23.5
comp=Z,12nm,0.8s
BTK Batken 48.10 289 P **P** 22 12 22.1 0.0
BTK pmax pmax
comp=Z,12nm,0.9s
YUK3 Moose Creek 48.22 39 P **P** 22 12 22.4 -0.4
baz=290
F30M Barrier River 48.22 31 P **P** 22 12 23.1 +0.6
baz=288
G30M tAoh Zraii Nji 48.26 32 P **P** 22 12 21.7 -1.1
baz=288
EPYK Eagle Plains 48.27 33 P **P** 22 12 23.0 +0.1
baz=288,SNR=7.7
ARU Arti 48.55 313 P **P** 22 12 24.4 -0.7
ARU IAmb IAmb 22 12 26.3
comp=Z,19nm,1.1s
ARU Arti 48.55 313 P **P** 22 12 24.4 -0.7
ARU Arti 48.55 313*c iP* **P** 22 12 25.0 -0.1
ARU 22 13 42.6
ARU 22 14 18.8
ARU S **S** 22 19 01.7 +0.8
ARU SS **SS** 22 22 27.1 -7.9
ARU pmax pmax
comp=Z,16nm,1.3s
ARU Arti 48.55 313 P **P** 22 12 25.0 -0.1
comp=Z,16nm,1.6s
O28M Mount Upton 48.68 40 P **P** 22 12 26.4 0.0
baz=291
YUK8 Steele Glacier 48.70 40 P **P** 22 12 27.2 +0.8
baz=290
I30M Mount Dempster 48.78 34 P **P** 22 12 27.0 +0.1
baz=290,SNR=8.5
L29M L29M 48.78 37 P **P** 22 12 26.9 0.0
baz=290,SNR=9.3
K29M Barlow Dome 48.78 36 P **P** 22 12 26.7 -0.3
baz=290,SNR=6.5
INK Inuvik 48.80 30 P **P** 22 12 26.1 -0.7
INK Inuvik 48.80 30 P **P** 22 12 26.8 0.0
baz=290
INK Inuvik 48.80 30 P **P** 22 12 26.1 -0.7
INK pmax pmax
comp=Z,5.0nm,0.7s
M29M Somme Creek 48.87 38 P **P** 22 12 27.6 +0.1
baz=290,SNR=10
GAR Garm 48.96 288 P **P** 22 12 28.3 -0.3
GAR IAmb IAmb 22 12 30.7
comp=Z,33nm,1.2s
G31M Satah River 49.01 31 P **P** 22 12 27.9 -0.5
baz=290,SNR=6.0
J30M Hart River 49.02 35 P **P** 22 12 29.2 +0.5
baz=290
YUK4 Talbot Arm 49.18 39 P **P** 22 12 30.4 +0.4
baz=291
YUK6 Outpost Mounta 49.45 40 P **P** 22 12 33.0 +0.8
baz=292
M30M Minto, Yukon 49.54 37 P **P** 22 12 32.9 +0.3
baz=292
NIL Nilore 49.73 280 P **P** 22 12 34.0 -0.3
NIL IAmb IAmb 22 12 36.2
comp=Z,10nm,0.8s
NIL Nilore 49.73 280 P **P** 22 12 34.1 -0.3
NIL pmax pmax
comp=Z,10.0nm,0.9s
CHGR Chuyangaron 49.91 288 P **P** 22 12 35.6 -0.1
CHGR Chuyangaron 49.91 288 P **P** 22 12 35.6 -0.1
CHGR pmax pmax
comp=Z,45nm,0.8s
SIMJ Simiganj 50.01 288 P **P** 22 12 36.1 -0.4
SIMJ IAmb IAmb 22 12 37.7
comp=Z,22nm,0.9s
P29M Windy Craggy 50.24 41 P **P** 22 12 39.5 +1.7
baz=293
N31M Braeburn, Yuko 50.40 38 P **P** 22 12 40.1 +1.1
baz=293
P30M Million Dollar 50.41 40 P **P** 22 12 40.4 +1.3
baz=293
O30N Mendenhall 50.55 39 P **P** 22 12 41.2 +1.1
baz=294
ABKAR Akbulak array 50.73 304 P **P** 22 12 42.1 +0.6
ABKAR Akbulak array 50.73 304 P **P** 22 12 41.9 +0.4
ABKAR IAmb IAmb 22 12 43.2
comp=Z,21nm,0.8s
PLBC Pleasant Camp 50.96 41 P **P** 22 12 43.4 +0.4
baz=294
SKAG Skagway 51.44 41 P **P** 22 12 48.4 +1.9
baz=295
C36M Paulatuk 51.56 27 P **P** 22 12 48.7 +1.4
baz=296
S31K Pelican 51.65 43 P **P** 22 12 50.3 +2.2
baz=296
MMPY Sheldon Lake, 51.87 36 P **P** 22 12 50.9 +1.1
baz=296,SNR=7.0
SPITS Spitsbergen Ar 52.12 347 P **P** 22 12 50.7 -0.6
comp=Z,2.8nm,0.8s,baz=69,slow=9.4,SNR=6.2
comp=Z,2.8nm,0.8s
P32M Atlin 52.12 40 P **P** 22 12 52.6 +1.0
baz=296
KBL Kabul 52.17 284 P **P** 22 12 51.8 -0.8
KBL IAmb IAmb 22 12 53.0
comp=Z,12nm,0.9s
KBL Kabul 52.17 284 P **P** 22 12 51.8 -0.8
KBL pmax pmax
comp=Z,12nm,0.9s
KIRV Kirov 52.19 318*d iP* **P** 22 12 52.0 0.0
KAPI Kappang 52.25 203 P **P** 22 12 53.9 +0.9
comp=Z,9.4nm,0.5s,baz=340,slow=5.1,SNR=5.5
comp=Z,9.4nm,0.5s
KAPI Kappang 52.25 203⇑*eP* **P** 22 12 53.7 +0.7
KAPI pmax pmax
comp=Z,33nm,1.5s
P33M Teslin, Yukon 52.25 39 P **P** 22 12 54.2 +1.5
baz=296
Q32M Nakina River 53.07 40 P **P** 22 12 59.3 +0.5
baz=298

R33M Jennings River 53.46 40 P **P** 22 13 00.6 -0.8
baz=298
TGTN Hyland Airport 53.62 36 P **P** 22 13 04.0 +1.5
baz=298
U33K Whale Pass 54.01 44 P **P** 22 13 07.1 +1.8
baz=299
APA Apatity 54.22 333⇓*iP* **P** 22 13 09.2 +2.6
APA *i* *PP **PcP** 22 14 08.7 +2.4
APA *i* 22 14 16.4
APA pmax pmax
comp=Z,2.0nm,1.0s
APA MLR MLR
comp=Z,100nm,14.0s
CRAG Craig 54.32 45 P **P** 22 13 08.1 +0.6
baz=299
T35M Bob Quinn 54.97 42 P **P** 22 13 13.4 +1.3
baz=300
ARCES ARCESS Array B 55.49 337 P **P** 22 13 14.6 -1.1
comp=Z,1.5nm,0.5s,baz=102,slow=3.8,SNR=2.7
comp=Z,1.5nm,0.5s
BELG Belogornoye 56.06 312*d iP* **P** 22 13 20.3 +0.4
BELG pmax pmax
comp=Z,5.0nm,1.1s
KOTAN Kotaneelee Air 56.11 37 P **P** 22 13 20.5 +0.4
baz=302
TOAD Toad River Com 56.29 38 P **P** 22 13 22.6 +1.1
baz=302
GRNB Grenville Isla 56.73 45 P **P** 22 13 26.1 +1.6
HRA Herat 56.90 287 P **P** 22 13 26.0 -0.3
MTN Manton Dam 57.85 187 P **P** 22 13 32.8 +0.1
MTN IAmb IAmb 22 13 33.7
comp=Z,6.8nm,0.7s
YKA Yellowknife Ar 58.49 31 P **P** 22 13 36.1 -0.5
comp=Z,0.6nm,0.7s,baz=312,slow=6.5,SNR=2.0
comp=Z,0.6nm,0.7s
VRH Novokhopyorsk 59.78 314 *eP* **P** 22 13 42.8 -2.7
VRH pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 60.01 319 P **P** 22 13 47.1 +0.2
OBN Obninsk 60.01 319 *eP* **P** 22 13 47.1 +0.2
OBN *e* 22 14 27.9
OBN *e**PP **pP** 22 14 57.7 +0.6
OBN *e**SP **sP** 22 15 31.0 -1.6
OBN *e* 22 16 03.1
OBN *e*PPP PPP 22 17 32.5
OBN pmax pmax
comp=Z,9.0nm,0.5s
LPSR Galich'ya Gora 60.37 316 *eP* **P** 22 13 47.4 -2.1
LPSR pmax pmax
comp=Z,10.0nm,0.8s
FIA1 FINESS Array S 60.41 329 P **P** 22 13 48.9 -0.6
FINES FINESS Array B 60.41 329 P **P** 22 13 49.0 -0.6
FINES FINESS Array B 60.41 329 P **P** 22 13 49.1 -0.4
comp=Z,6.7nm,0.7s,baz=53,slow=7.1,SNR=47
comp=Z,6.7nm,0.7s
FINES FINESS Array B 60.41 329 P **P** 22 13 49.0 -0.6
VORR Voronezh 60.78 315 *eP* **P** 22 13 51.9 -0.3
VORR pmax pmax
comp=Z,15nm,1.2s
KNRA Kununurra 60.90 190 P **P** 22 13 53.5 +0.2
VSR Storozhevoye 61.08 315 *eP* **P** 22 13 51.3 -2.9
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 61.16 314 *eP* **P** 22 13 53.7 -1.1
VORD pmax pmax
comp=Z,20nm,1.4s
VSU Vasula 62.12 326*deP* **P** 22 14 00.6 -0.4
VSU pmax pmax
comp=Z,12nm,0.8s
BRLDA Berland Lookou 62.60 40 P **P** 22 14 04.4 0.0
NCK Nalchik 63.34 306⇑*eP* **P** 22 14 10.6 +1.3
NCK pmax pmax
comp=Z,17nm,1.4s
KIV Kislovodsk 63.58 307 P **P** 22 14 11.2 +0.2
KIV Kislovodsk 63.58 307 P **P** 22 14 11.2 +0.2
KIV Kislovodsk 63.58 307 *eP* **P** 22 14 12.2 +1.3
KIV pmax pmax
comp=Z,36nm,1.0s
KIV Kislovodsk 63.58 307 P **P** 22 14 12.6 +1.7
comp=Z,42nm,1.0s,comp=Z,415nm
KBZ Khabaz 63.60 306 P **P** 22 14 11.8 +0.8
comp=Z,7.4nm,0.8s,baz=62,slow=6.1,SNR=19
comp=Z,7.4nm,0.8s
KBZ Khabaz 63.60 306*d iP* **P** 22 14 11.7 +0.8
KBZ pmax pmax
comp=Z,12nm,0.9s
NLWA Neilton Lookou 63.63 49 P **P** 22 14 11.8 +0.7
NLWA IAmb IAmb 22 14 38.0
comp=Z,14nm,1.4s
FITZ Fitzroy Crossi 63.71 193 P **P** 22 14 12.2 +0.4
MNK Minsk 64.28 322 *i P* **P** 22 14 16.0 +0.8
MNK *i* 22 14 46.4
MNK *i* *PP **pP** 22 15 29.3 +2.8
MNK *i* 22 16 42.7
MNK *i* PPP PPP 22 18 19.5
MNK *i* S **S** 22 22 27.6 +1.4
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=Z,19nm,0.9s
WB0 Warramunga Arr 64.51 183 P **P** 22 14 16.8 -0.2
WB0 IAmb IAmb 22 14 22.7
comp=Z,13nm,1.5s
WRAB Tennant Creek 64.68 183⇑*eP* **P** 22 14 15.6 -2.5
WRAB pmax pmax
comp=Z,35nm,4.5s
WRA Warramunga Arr 64.69 183 P **P** 22 14 17.8 -0.4
comp=Z,1.6nm,0.8s,baz=360,slow=6.8,SNR=37
comp=Z,1.6nm,0.8s
WRA Warramunga Arr 64.69 183 *i* P **P** 22 14 15.8 -2.3
WRA pmax pmax
comp=Z,1.0nm,0.3s
GNI Garni 64.72 302*deP* **P** 22 14 19.8 +1.3
GNI pmax pmax
comp=Z,21nm,1.3s
NC405 NORSAR Array S 65.49 334 P **P** 22 14 21.9 -0.9
NC405 IAmb IAmb 22 14 23.9
comp=Z,14nm,1.3s
SOC Sochi 65.49 308 *eP* **P** 22 14 22.3 -0.8
SOC *e**PP **pP** 22 15 36.1 +1.4
SOC *e**SP **sP** 22 16 09.5 -0.2
SOC *e* 22 16 52.0
SOC *e*PPP PPP 22 18 28.5
SOC *e*S **S** 22 22 41.2 0.0
SOC *e*SS **SS** 22 26 57.0 -3.8
SOC pmax pmax
comp=Z,18nm,0.7s
HFS Hagfors 65.62 333 P **P** 22 14 23.1 -0.5
comp=Z,2.5nm,0.6s,baz=41,slow=4.7,SNR=20
comp=Z,2.5nm,0.6s
NB2 NORSAR Subarra 65.70 334 P **P** 22 14 23.4 -0.8
comp=Z,0.9nm,0.6s,baz=37,slow=6.5
NOA NORSAR Array B 65.70 334 P **P** 22 14 23.7 -0.5
comp=Z,2.1nm,0.7s,baz=39,slow=6.3,SNR=12
comp=Z,2.1nm,0.7s
AK03 Malin Array Si 66.23 319 P **P** 22 14 27.3 -0.3
AKASG Malin Array Be 66.25 319 P **P** 22 14 27.3 -0.4
AKASG IAmb IAmb 22 14 28.9
comp=Z,4.8nm,0.9s
AKASG Malin Array Be 66.25 319 P **P** 22 14 27.4 -0.3
comp=Z,6.8nm,0.6s,baz=46,slow=6.7,SNR=33
comp=Z,6.8nm,0.6s
AKASG Malin Array Be 66.25 319 *i* P **P** 22 14 27.7 0.0
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 66.25 319 P **P** 22 14 27.1 -0.6
AKBB Malin Array Si 66.25 319*d iP* **P** 22 14 27.6 -0.1
AKBB pmax pmax
comp=Z,18nm,0.9s
AKBB Malin Array Si 66.25 319 P **P** 22 14 27.7 0.0
KIEV Kiev 66.26 319 P **P** 22 14 27.4 -0.4
comp=Z,78nm,0.8s
AK09 Malin Array Si 66.28 319 P **P** 22 14 28.0 +0.1
AK22 Malin Array Si 66.28 319 P **P** 22 14 28.1 +0.2
AK18 Malin Array Si 66.30 319 P **P** 22 14 28.0 -0.1
NEW Newport 66.54 45 P **P** 22 14 31.5 +1.8
baz=312
MI30 MI30,Zelenitsa 66.70 319 P **P** 22 14 30.3 -0.3
MI28 Mi28,Pidlybu 66.81 320 P **P** 22 14 30.8 -0.5
UOSS Minazif 66.81 283 P **P** 22 14 32.1 +0.4
MI29 MI29, Kamyanyy 67.08 319 P **P** 22 14 32.6 -0.4
RNPP9 Sopachiv 67.28 321 P **P** 22 14 34.3 +0.1
RNPP8 Varash 67.35 321 P **P** 22 14 34.8 +0.2
GURO Guroymak-BITLI 67.36 302 P **P** 22 14 36.4 +1.3
LUBAR Lubar, Ukraine 67.47 319 P **P** 22 14 35.1 -0.3

PINE Pine Mountain 67.51 50 P **P** 22 14 37.0 +0.9
PINE IAmb IAmb 22 14 38.9
comp=Z,8.5nm,0.8s
MBWA Marble Bar 67.79 198 P **P** 22 14 37.4 -0.2
ASAR Alice Springs 68.41 183 P **P** 22 14 42.0 +0.5
ASAR Alice Springs 68.41 183 P **P** 22 14 42.6 +1.2
comp=Z,3.8nm,0.8s,baz=0.6,slow=5.2,SNR=30
comp=Z,3.8nm,0.8s
ASAR Alice Springs 68.41 183 P **P** 22 14 42.0 +0.5
SORM Soroca 68.42 317 P **P** 22 14 41.0 -0.3
comp=Z,16nm,0.9s,comp=Z,383nm
FFC Flin Flon 68.61 32 P **P** 22 14 42.5 +0.1
FFC IAmb IAmb 22 14 43.8
comp=Z,5.4nm,0.8s
FFC Flin Flon 68.61 32 P **P** 22 14 42.5 +0.1
FFC pmax pmax
comp=Z,5.0nm,0.9s
KMPD K-Podol'skiy 69.02 318 P **P** 22 14 44.3 -0.7
MSO Missoula 69.10 44 P **P** 22 14 47.3 +1.6
baz=314
ARPR Arapgir-MALATY 69.19 305 P **P** 22 14 47.3 +0.9
KWP Kalwaria Pacla 69.98 321 P **P** 22 14 50.9 +0.1
KWP Kalwaria Pacla 69.98 321 P **P** 22 14 50.9 +0.1
KWP pmax pmax
comp=Z,20nm,1.1s
KWP Kalwaria Pacla 69.98 321 P **P** 22 14 51.4 +0.6
comp=Z,23nm,1.4s
EGMT Eagleton 70.26 41 P **P** 22 14 53.9 +1.2
baz=316
BUR08 Bucovina Ar. S 70.27 318 P **P** 22 14 52.5 -0.3
BUR08 IAmb IAmb 22 14 54.5
comp=Z,6.4nm,1.0s
BURAR Bucovina Array 70.28 318 P **P** 22 14 53.1 +0.3
BURAR IAmb IAmb 22 14 54.8
comp=Z,5.6nm,0.9s
TESR Tescani 70.38 317 P **P** 22 14 53.5 +0.2
comp=Z,13nm,1.1s
KOLS Kolonicke sedl 70.68 321 *eP* **P** 22 14 56.0 +0.9
KOLS pmax pmax
comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 70.68 321 *eP* **P** 22 14 56.0 +0.9
DLMT Dillon 70.79 45 P **P** 22 14 56.8 +0.8
DLMT IAmb IAmb 22 14 58.4
comp=Z,8.2nm,0.7s
BNN Bunyan 70.80 306 P **P** 22 14 55.7 -0.4
OJC Ojcow 70.81 323 P **P** 22 14 55.7 -0.1
OJC Ojcow 70.81 323 P **P** 22 14 55.7 -0.1
OJC pmax pmax
comp=Z,15nm,0.9s
OJC Ojcow 70.81 323 P **P** 22 14 56.4 +0.6
comp=Z,18nm,0.9s
PLOR5 Plostina Array 70.85 316 P **P** 22 14 58.2 +2.0
comp=Z,11nm,1.0s
CRVS Cervenica-Dubn 71.07 321 *eP* **P** 22 14 58.4 +1.0
CRVS pmax pmax
comp=Z,9.0nm,1.2s
CRVS Cervenica-Dubn 71.07 321 *eP* **P** 22 14 58.4 +1.0
BOZ Bozeman (W) 71.10 44 P **P** 22 14 58.7 +0.9
BOZ IAmb IAmb 22 15 00.2
comp=Z,3.6nm,0.8s
BOZ Bozeman (W) 71.10 44 P **P** 22 14 59.3 +1.5
baz=316,SNR=5.9
BOZ Bozeman (W) 71.10 44 P **P** 22 14 58.7 +0.9
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 71.45 308 P **P** 22 15 00.3 +0.3
BRTR Keskin Array B 71.45 308 P **P** 22 15 00.8 +0.8
comp=Z,2.8nm,0.8s,baz=62,slow=2.9,SNR=16
comp=Z,2.8nm,0.8s
LANS Liptovska Anna 71.76 322 *eP* **P** 22 15 03.3 +1.8
LANS Liptovska Anna 71.76 322 *eP* **P** 22 15 03.3 +1.8
KSP Ksiaz 71.80 325 P **P** 22 15 02.5 +0.8
comp=Z,8.1nm,1.1s
VOIR 71.93 317 P **P** 22 15 03.7 +1.1
comp=Z,4.9nm,1.1s
CHVC Chvalec 72.09 325 *eP* **P** 22 15 04.2 +0.8
CHVC Chvalec 72.09 325 *eP* **P** 22 15 04.2 +0.8
MORC Moravsky Berou 72.10 324 P **P** 22 15 03.5 -0.1
MORC IAmb IAmb 22 15 05.5
comp=Z,10nm,1.0s
MORC Moravsky Berou 72.10 324 *eP* **P** 22 15 04.3 +0.8
MORC Moravsky Berou 72.10 324 P **P** 22 15 03.5 -0.1
MORC pmax pmax
comp=Z,10.0nm,1.0s
DPC Dobruska-Polom 72.17 325 *eP* **P** 22 15 04.7 +0.8
DPC Dobruska-Polom 72.17 325 *eP* **P** 22 15 04.7 +0.8
DPC Dobruska-Polom 72.17 325 P **P** 22 15 04.9 +1.0
comp=Z,8.1nm,1.2s
PSZ Piszkesteto 72.50 321 P **P** 22 15 06.1 +0.2
PSZ IAmb IAmb 22 15 08.2
comp=Z,6.7nm,1.0s
PSZ Piszkesteto 72.50 321 P **P** 22 15 06.1 +0.2
PSZ pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 72.53 322 *eP* **P** 22 15 07.4 +1.4
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 72.53 322 *eP* **P** 22 15 07.3 +1.3
RLMT Red Lodge 72.60 43 P **P** 22 15 07.5 +0.8
baz=317
NVAR Mina Array Bea 72.60 53 P **P** 22 15 07.9 +1.0
NVAR Mina Array Bea 72.60 53 P **P** 22 15 08.7 +1.8
comp=Z,4.1nm,0.7s,baz=294,slow=5.5,SNR=24
comp=Z,4.1nm,0.7s
NV11 Mina Array Sit 72.69 53 P **P** 22 15 07.9 +0.6
BRG Berggiesshubel 72.72 326 *eP* **P** 22 15 07.9 +0.8
BRG Amp 22 15 08.2
comp=Z,2.1nm,0.6s
BRG Berggiesshubel 72.72 326 *eP* **P** 22 15 07.8 +0.8
BRG pmax pmax
comp=Z,2.0nm,0.6s
CLL Collm 72.74 327 P **P** 22 15 06.8 -0.3
CLL Collm 72.74 327⇓*iP* **P** 22 15 07.5 +0.4
comp=Z,11nm,1.0s
CLL Collm 72.74 327⇓*iP* **P** 22 15 07.5 +0.4
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 72.74 327 P **P** 22 15 07.3 +0.2
comp=Z,13nm,0.9s
JAVC Velka Javorina 72.75 323 *eP* **P** 22 15 09.1 +1.7
VRAC Vranov 72.86 324 *eP* **P** 22 15 08.8 +0.9
VRAC Vranov 72.86 324 P **P** 22 15 08.0 +0.1
MOOW Moose Ponds 72.87 45 P **P** 22 15 08.7 +0.3
MOOW IAmb IAmb 22 15 11.4
comp=Z,5.0nm,1.1s
KRUC Moravsky 73.13 324 *eP* **P** 22 15 10.3 +0.8
KRUC Moravsky 73.13 324 P **P** 22 15 10.7 +1.2
PRU Pruhonice 73.17 326 *eP* **P** 22 15 10.9 +1.2
PRU Pruhonice 73.17 326 *eP* **P** 22 15 10.9 +1.2
MODS Modra-Piesok 73.29 323 *eP* **P** 22 15 13.3 +2.8
MODS Modra-Piesok 73.29 323 *eP* **P** 22 15 13.3 +2.8
CWC Cottonwood Cre 74.11 54 P **P** 22 15 17.6 +2.0
baz=314
GRAC Grapevine Rang 74.13 53 P **P** 22 15 17.3 +1.7
baz=315
PD31 Pinedale Array 74.18 45 P **P** 22 15 16.0 0.0
PD31 IAmb IAmb 22 15 17.9
comp=Z,4.6nm,0.8s
PDAR Pinedale Array 74.18 45 P **P** 22 15 16.4 +0.4
PDAR Pinedale Array 74.18 45 P **P** 22 15 17.0 +1.0
comp=Z,3.7nm,0.7s,baz=317,slow=1.3,SNR=44
comp=Z,3.7nm,0.7s
R11B Troy Canyon, C 74.18 51 P **P** 22 15 17.2 +1.2
baz=315
CKRC Cesky Krumlov 74.18 325 *eP* **P** 22 15 16.6 +1.0
CKRC Cesky Krumlov 74.18 325 *eP* **P** 22 15 16.6 +1.0
RONA Rosalia, Austr 74.23 323 *i P* **P** 22 15 17.6 +1.7
comp=Z,8.4nm,1.1s,SNR=6.7
KHC Kasperske Hory 74.23 325 P **P** 22 15 16.3 +0.4
KHC IAmb IAmb 22 15 18.0
comp=Z,8.9nm,1.1s
KHC Kasperske Hory 74.23 325 *eP* **P** 22 15 17.1 +1.1
KHC Kasperske Hory 74.23 325*d iP* **P** 22 15 17.0 +1.1
KHC pmax pmax
comp=Z,19nm,1.1s
KHC Kasperske Hory 74.23 325 P **P** 22 15 16.6 +0.7
comp=Z,8.8nm,1.1s
CONA Conrad Observa 74.24 323 *eP* **P** 22 15 17.5 +1.5
comp=Z,6.1nm,1.0s,SNR=6.1
MORH Mrgy, Hungar 74.35 321 P **P** 22 15 16.6 +0.1
comp=Z,2.7nm,1.4s
DUG Dugway, Tooele 74.37 48 P **P** 22 15 19.2 +2.2
baz=316,SNR=5.2
GERES GERESS Array B 74.41 325 P **P** 22 15 16.9 -0.1
GERES GERESS Array B 74.41 325 P **P** 22 15 17.4 +0.4

comp=Z,1.6nm,0.8s,baz=23,slow=7.2,SNR=9.1
comp=Z,1.6nm,0.8s
ISA Isabella, Lake 74.43 55 P P 22 15 17.5 +0.2
baz=314
ULM Lac du Bonnet 74.44 32 P P 22 15 16.6 -0.5
comp=Z,2.8nm,0.6s,baz=310,slow=7.3,SNR=5.1
comp=Z,2.8nm,0.6s
WET Wettzell 74.50 326 P P 22 15 18.7 +1.3
ARVC Arvin 74.60 56 P P 22 15 19.5 +1.3
baz=314
FRGS Fruska Gora 74.62 319 P P 22 15 18.4 +0.2
comp=Z,8.9nm,1.3s
EKA Eskdalemuir Ar 74.63 338 P P 22 15 18.1 +0.2
comp=Z,0.3nm,0.4s,baz=19,slow=5.4,SNR=5.9
comp=Z,0.3nm,0.4s
MPMC Manual Prospec 74.72 54 P P 22 15 20.7 +1.5
baz=315,SNR=5.5
FURC Furnace Creek, 74.79 54 P P 22 15 21.2 +2.0
baz=315
TPNV Topopah Spring 74.80 53 P P 22 15 21.3 +1.8
baz=315,SNR=7.8
ARSA Arzberg 74.91 323 *e*P **P 22 15 21.6 +1.8**
comp=Z,3.9nm,0.9s
MOA Molln 74.97 324 *e*P **P 22 15 20.7 +0.6**
comp=Z,3.6nm,1.0s
LRMC Laurel Mtn Rad 75.02 55 P P 22 15 22.0 +1.2
baz=315
RAYN Ar Rayn 75.07 288 P P 22 15 21.1 0.0
RAYN IAmb IAmb 22 15 21.7
comp=Z,5.0nm,0.7s
RAYN Ar Rayn 75.07 288 P P 22 15 21.1 0.0
RAYN pmax pmax
comp=Z,5.0nm,0.7s
EDW2 Edwards Air Fo 75.26 55 P P 22 15 23.9 +1.9
baz=315
BIOA Bad Ischl, Aus 75.35 325 *i* P **P 22 15 23.2 +1.0**
comp=Z,4.7nm,1.0s
SNCC San Nicolas Is 75.50 57 P P 22 15 24.5 +1.2
baz=315
SOKA Soboth 75.57 323 *e*P **P 22 15 24.6 +1.0**
comp=Z,9.4nm,1.2s,SNR=8.3
GSC Goldstone, Bar 75.65 54 P P 22 15 26.1 +1.9
baz=315
K22A Casper 75.76 43 P P 22 15 27.2 +2.4
baz=319
RSSD Black Hills 75.82 41 P P 22 15 26.0 +0.8
baz=320
OBKA Obir 75.91 323 *e*P **P 22 15 26.4 +0.9**
comp=Z,1.1nm,0.5s
LESA Schwarzleotal 75.96 325 *i* P **P 22 15 27.0 +1.3**
comp=Z,9.6nm,1.2s
KBA Koelnbreinsper 75.96 324 *e*P **P 22 15 27.4 +1.5**
comp=Z,1.0nm,0.5s
AGMN Agassiz Nation 76.03 33 P P 22 15 26.7 +0.7
baz=324
MYKA Terra Mystica 76.19 324 *i* P **P 22 15 27.0 -0.1**
comp=Z,4.3nm,1.0s
PRED Cave del Predi 76.37 324 P P 22 15 27.9 -0.2
WATA Walderalm 76.47 325 *e*P **P 22 15 29.7 +1.0**
comp=Z,1.0nm,0.4s
WTTA Wattenberg 76.51 325 *e*P **P 22 15 29.9 +1.0**
comp=Z,6.1nm,1.3s
ABTA Abfaltersbach 76.57 325 *i* P **P 22 15 29.5 +0.3**
comp=Z,4.2nm,1.2s
STKA Stephens Creek 76.60 176 P P 22 15 30.9 +1.7
comp=Z,3.7nm,0.8s,baz=293,slow=9.8,SNR=3.7
comp=Z,3.7nm,0.8s
STKA Stephens Creek 76.60 176 P P 22 15 31.0 +1.7
MURC Murrieta 76.63 56 P P 22 15 31.9 +2.2
baz=315
GMRC Granite Mounta 76.68 54 P P 22 15 31.9 +1.9
baz=316
RETA Reutte 76.68 326 *i* P **P 22 15 30.7 +1.0**
comp=Z,5.4nm,0.9s
SQTA Sankt Quirin 76.72 326 *e*P **P 22 15 31.1 +1.0**
comp=Z,7.1nm,1.2s
O20A White River Ci 76.79 46 P P 22 15 32.0 +1.2
baz=318
BFO Black Forest 76.93 328 P P 22 15 31.4 +0.3
BFO IAmb IAmb 22 15 32.8
comp=Z,8.2nm,1.0s
BFO Black Forest 76.93 328 P P 22 15 31.4 +0.3
BFO pmax pmax
comp=Z,8.0nm,1.0s
BELC Belle Mtn. Jos 77.04 55 P P 22 15 33.6 +1.5
baz=316
PFO Pinyon Flats O 77.05 55 P P 22 15 33.7 +1.5
baz=316
TPFO Pinon Flats 77.06 55 P P 22 15 33.7 +1.5
baz=316
FETA Feichten 77.07 326 *i* P **P 22 15 32.9 +0.8**
comp=Z,6.1nm,1.3s
DAVA Damuels 77.19 326 *i* P **P 22 15 33.6 +0.9**
comp=Z,3.5nm,0.6s
DSB Dublin 77.34 339 P P 22 15 33.4 +0.2
DSB IAmb IAmb 22 15 50.3
comp=Z,9.6nm,1.3s
IRM Iron Mountain 77.42 54 P P 22 15 35.7 +1.7
baz=316
CTI Castel Tesino 77.48 325 P P 22 15 33.7 -0.6
CTI IAmb IAmb 22 15 35.3
comp=Z,7.9nm,1.4s
CTI Castel Tesino 77.48 325 P P 22 15 33.7 -0.6
CTI pmax pmax
comp=Z,8.0nm,1.4s
FUORN Ofenpass-Fuorn 77.58 326 P P 22 15 35.4 +0.4
FUORN IAmb IAmb 22 15 37.0
comp=Z,12nm,1.3s
BC3 Big Chuckawall 77.60 55 P P 22 15 36.6 +1.4
baz=316
PDMCI Parker Dam,Lak 77.89 53 P P 22 15 37.9 +1.3
baz=317
SWSC Sam W. Stewart 77.91 55 P P 22 15 39.8 +3.1
baz=316
IKP In-Ko-Pah, Jac 77.94 56 P P 22 15 38.7 +1.6
baz=316
EYMN Ely 77.97 31 P P 22 15 37.5 +0.7
baz=327
TUE Stuetta 78.07 326 P P 22 15 37.5 -0.1
TUE IAmb IAmb 22 15 39.4
comp=Z,6.7nm,1.1s
TUE Stuetta 78.07 326 P P 22 15 38.0 +0.4
comp=Z,26nm,1.4s
ISCO Idaho Springs 78.37 45 P P 22 15 41.3 +1.8
baz=320
MVCO Mesa Verde 78.85 48 P P 22 15 43.7 +1.6
baz=319
SENIN Lac Senin/Sane 78.95 327 P P 22 15 42.4 0.0
NRCA Norcia 79.45 322 P P 22 15 45.2 +0.2
SDCO Great Sand Dun 80.00 46 P P 22 15 50.2 +1.9
baz=320
214A Organ Pipe Nat 80.36 54 P P 22 15 53.1 +3.1
baz=318
T25A Trinidad 81.02 46 P P 22 15 54.7 +1.1
baz=321
TUC Tucson 81.26 53 P P 22 15 56.2 +1.5
baz=318
ANMO Albuquerque 81.64 48 P P 22 15 58.8 +1.9
baz=320
JFWS Jewell Farm 82.69 33 P P 22 16 03.3 +1.5
baz=328
121A Cookes Peak, D 82.76 51 P P 22 16 04.7 +2.1
baz=320
MNTX Cornudas Mount 84.71 50 P P 22 16 14.0 +1.8
baz=321
HDIL Hopedale 85.07 34 P P 22 16 15.7 +1.9
baz=329
CCM Cathedral Cave 86.40 36 P P 22 16 21.4 +1.0
baz=328
PKME Peaks-Kenny Pk 87.05 19 P P 22 16 25.7 +2.4
baz=341
TXAR Lajitas Array 87.47 50 P P 22 16 25.6 -0.1
comp=Z,0.3nm,0.7s,baz=292,slow=3.0,SNR=5.6
comp=Z,0.3nm,0.7s
WCI Wyandotte Cave 88.25 33 P P 22 16 31.3 +2.2
baz=331
O53A New Philadelph 88.31 29 P P 22 16 31.5 +2.1
baz=334
MIAR Mount Ida 88.32 40 P P 22 16 32.4 +3.0
baz=327
P52A Corning 88.55 29 P P 22 16 32.0 +1.6
baz=333
WHTX Lake Whitney, 88.58 44 P P 22 16 33.7 +3.0
baz=325
ESDC Sonseca Array 88.85 331 P P 22 16 31.6 -0.3
comp=Z,0.6nm,0.8s,baz=11,slow=3.0,SNR=4.9
comp=Z,0.6nm,0.8s

*BGR **18** 22:44:47.6, 17°.47S×177°.15W, h33km, Hypocentre not reviewed by the ISC*
*IDC **18** 22:45:40.9±1.6, 17°.68S×178°.36W, h494km±17km, mb3.9/19, mbtmp4.7/21, Error ellipse: s-maj=12.3km s-min=10.9km az=136.0*
*NOU **18** 22:45:44.8, 17°.69S×178°.33W, h533km, mb4.9/64, Fiji Islands Region*
*NEIC **18** 22:45:44.8±1.7, 17°.70S±0°.09×178°.3W±0°.1, h533km±5km, mb4.6/93, Error ellipse: s-maj=14.4km s-min=13.5km az=110.0*
ISC 18 22:45:45.2±0.3, 17°.75S±0°.05×178°.38W±0°.06, h547km, n603, σ0.97/606, mb4.6/84, 30C-18D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.41**	**270**	P	**P**	**22 47 02.3**	**-0.4**
MSVF	**Nonsavu**	**3.41**	**270**	P	**P**	**22 47 02.3**	**-0.4**
FUTU	**Fugatoga**	**3.43**	**4**	P	**P**	**22 47 00.9**	**-2.0**
AFI	**Afiamalu**	**7.41**	**60**	P	P	22 47 31.7	-5.5
NIUE	**Niue**	**8.13**	**101**	P	**P**	**22 47 43.1**	**-1.0**
RAO	**Raoul Island**	**11.46**	**178**	P	**P**	**22 48 18.5**	**+0.5**
RAO	**Raoul Island**	**11.46**	**178**	P	**P**	**22 48 15.1**	**-2.9**
	202nm,0.3s,baz=17,slow=19,SNR=2.3						
RAO				S	**S**	**22 50 21.0**	**-2.8**
	186nm,0.4s,baz=260,slow=23,SNR=1.4						
PINNC	**Pines Island,**	**14.16**	**248**	P	**P**	**22 48 47.2**	**+1.1**
DZM	**Mont Dzumac**	**14.91**	**251**	P	**P**	**22 48 52.0**	**-1.9**
DZM	**Mont Dzumac**	**14.91**	**251**	P	**P**	**22 48 50.3**	**-3.6**
	11nm,0.9s,baz=75,slow=19,SNR=7.6						
KOUNC	**Koumac, New Ca**	**16.62**	**258**	P	**P**	**22 49 12.3**	**+1.7**
KOUNC	**Koumac, New Ca**	**16.62**	**258**	P	**P**	**22 49 08.1**	**-2.6**
RAR	**Rarotonga**	**17.88**	**104**	P	**P**	**22 49 19.2**	**-3.0**
	42nm,1.0s,baz=259,slow=7.1,SNR=3.4						
KUZ	**Kuaotunu**	**19.63**	**194**	P	**P**	**22 49 39.5**	**+1.6**
RUGZ	**Raukumara Rang**	**20.44**	**189**	P	**P**	**22 49 45.6**	**+0.2**
TWGZ	**Tauwhareparae**	**20.61**	**188**	P	**P**	**22 49 47.2**	**+0.4**
TOZ	**Tahuroa Road**	**20.62**	**194**	P	**P**	**22 49 49.4**	**+2.5**
URZ	**Urewera**	**20.82**	**190**	P	**P**	**22 49 46.3**	**-2.3**
	39nm,0.6s,baz=90,slow=5.1,SNR=34						
URZ				S	**S**	**22 53 01.7**	**-3.8**
	5.0nm,0.7s,baz=294,slow=20,SNR=2.0						
	39nm,0.6s						
URZ	**Urewera**	**20.82**	**190**	P	**P**	**22 49 46.5**	**-2.1**
MWZ	**Matawai**	**20.82**	**189**	P	**P**	**22 49 46.8**	**-2.0**
RTZ	**Ruatahuna**	**21.19**	**190**	P	**P**	**22 49 50.1**	**-2.0**
BKZ	**Black Stump Fm**	**21.81**	**191**	P	**P**	**22 49 55.3**	**-2.3**
BKZ				IAmb	IAmb	22 50 08.7	
	comp=Z,10nm,0.8s						
TMVZ	**Te Maari**	**21.91**	**192**	P	**P**	**22 49 58.3**	**-0.3**
ETVZ	**East Tongariro**	**21.93**	**192**	P	**P**	**22 49 58.4**	**-0.3**
NNVZ	**North Ngauruho**	**21.94**	**193**	P	**P**	**22 49 59.6**	**+0.7**
OTVZ	**Oturere**	**21.96**	**192**	P	**P**	**22 49 58.3**	**-0.8**
KWHZ	**Kaweka Forest**	**22.07**	**191**	P	**P**	**22 49 59.2**	**-0.8**
WNVZ	**Wahianoa**	**22.13**	**192**	P	**P**	**22 50 00.4**	**-0.3**
QRZ	**Quartz Range**	**24.30**	**197**	P	**P**	**22 50 20.1**	**+0.4**
KHZ	**Kahutara**	**25.54**	**194**	P	**P**	**22 50 30.8**	**+0.2**
PPT	**Papeete**	**27.43**	**94**	P	**P**	**22 50 46.5**	**-1.2**
	comp=Z,45nm,0.6s,baz=217,slow=3.5,SNR=4.7						
	comp=Z,45nm,0.6s						
EIDS	**Eidsvold**	**29.35**	**250**	P	**P**	**22 51 04.0**	**-0.3**
EIDS	**Eidsvold**	**29.35**	**250**	P	**P**	**22 51 03.9**	**-0.3**
EIDS				IAmb	IAmb	22 51 04.7	
	comp=Z,17nm,0.8s						
RK1H	**Rockhampton Ha**	**29.64**	**254**	P	**P**	**22 51 07.0**	**+0.2**
ARMA	**Armidale**	**30.05**	**240**	P	**P**	**22 51 11.4**	**+1.0**
ARMA	**Armidale**	**30.05**	**240**	P	**P**	**22 51 10.8**	**+0.4**
ARMA				IAmb	IAmb	22 51 12.1	
	comp=Z,22nm,0.8s						
AUPHS	**Peel High Scho**	**30.86**	**239**	P	**P**	**22 51 18.5**	**+1.2**
AULRC	**Lightning Ridg**	**32.84**	**243**	P	**P**	**22 51 34.6**	**+0.5**
CTA	**Charters Tower**	**33.50**	**260**	P	**P**	**22 51 39.7**	**-0.2**
CTAO	**Charters Tower**	**33.50**	**260**	P	**P**	**22 51 39.1**	**-0.8**
CTAO				IAmb	IAmb	22 51 40.4	
	comp=Z,20nm,0.8s						
CNB	**Canberra Magne**	**33.55**	**232**	P	**P**	**22 51 41.3**	**+1.2**
CMSA	**Cobar Meteorol**	**35.26**	**240**	P	**P**	**22 51 54.7**	**+0.4**
MTSU	**Mount Surprise**	**35.45**	**263**	P	**P**	**22 51 55.9**	**-0.3**
QLP	**Quilpie**	**35.62**	**249**	P	**P**	**22 51 57.4**	**0.0**
COEN	**Coen**	**37.13**	**270**	P	**P**	**22 52 10.1**	**0.0**
COEN	**Coen**	**37.13**	**270**	P	**P**	**22 52 09.9**	**-0.2**
COEN				IAmb	IAmb	22 52 11.7	
	comp=Z,28nm,1.1s						
TOO	**Toolangi**	**37.30**	**231**	P	**P**	**22 52 12.4**	**+1.3**
TOO	**Toolangi**	**37.30**	**231**	P	**P**	**22 52 12.0**	**+0.9**
STKA	**Stephens Creek**	**38.73**	**241**	P	**P**	**22 52 23.7**	**+0.8**
STKA	**Stephens Creek**	**38.73**	**241**	P	**P**	**22 52 23.4**	**+0.5**
STKA	**Stephens Creek**	**38.73**	**241**	P	**P**	**22 52 23.1**	**+0.3**
	comp=Z,19nm,0.7s,baz=91,slow=9.1,SNR=19						
STKA				PcP	**PcP**	**22 54 22.0**	**+1.4**
	comp=Z,5.1nm,0.8s,baz=11,slow=5.2,SNR=3.2						
	comp=Z,19nm,0.7s						
INKA	**Innaminka**	**38.84**	**248**	P	**P**	**22 52 25.1**	**+1.4**
HTT	**Hallett**	**41.25**	**239**	P	**P**	**22 52 44.0**	**+0.9**
LCRK	**Leigh Creek**	**41.35**	**244**	P	**P**	**22 52 44.6**	**+0.8**
WHYH	**Whyalla**	**42.29**	**240**	P	**P**	**22 52 52.0**	**+0.9**
JAY	**Jayapura**	**42.89**	**286**	P	**P**	**22 52 55.2**	**-1.0**
	comp=Z,68nm,1.1s						
OOD	**Oodnadatta**	**43.31**	**248**	P	**P**	**22 53 00.0**	**+0.8**
GENI	**Genyem**	**43.35**	**286**	P	**P**	**22 53 01.0**	**+1.3**
GENI	**Genyem**	**43.35**	**286**	P	**P**	**22 52 59.2**	**-0.5**
	comp=Z,196nm,1.1s						
BBOO	**Buckleboo**	**43.51**	**241**	P	**P**	**22 53 01.2**	**+0.5**
BBOO	**Buckleboo**	**43.51**	**241**	P	**P**	**22 53 00.9**	**+0.2**
WR0	**Warramunga Arr**	**44.50**	**259**	P	**P**	**22 53 07.3**	**-1.3**
WR0				IAmb	IAmb	22 53 32.7	
	comp=Z,22nm,1.5s						
WRA	**Warramunga Arr**	**44.69**	**259**	P	**P**	**22 53 08.6**	**-1.4**
WRA	**Warramunga Arr**	**44.69**	**259**	P	**P**	**22 53 08.8**	**-1.2**
	comp=Z,12nm,0.8s,baz=96,slow=7.0,SNR=56						
WRA				PcP	**PcP**	**22 54 41.6**	**+0.9**
	comp=Z,8.5nm,0.8s,baz=91,slow=3.6,SNR=18						
WRA				ScP	**ScP**	**22 57 45.8**	**+4.7**
	comp=Z,1.4nm,1.0s,baz=89,slow=4.5,SNR=3.0						
WRA				S	**S**	**22 59 01.6**	**-5.5**
	comp=Z,0.4nm,0.8s,baz=72,slow=12,SNR=2.1						
	comp=Z,12nm,0.8s						
AS31	**Alice Springs**	**44.86**	**254**	P	**P**	**22 53 10.7**	**-0.6**
ASAR	**Alice Springs**	**44.86**	**254**	P	**P**	**22 53 11.0**	**-0.3**
ASAR	**Alice Springs**	**44.86**	**254**	P	**P**	**22 53 11.2**	**-0.2**
	comp=Z,80nm,0.6s,baz=86,slow=8.4,SNR=651						
ASAR				PcP	**PcP**	**22 54 41.8**	**+0.4**
	comp=Z,11nm,0.8s,baz=100,slow=3.7,SNR=15						
ASAR				ScP	**ScP**	**22 57 46.7**	**+4.9**
	comp=Z,0.6nm,0.6s,baz=92,slow=4.2,SNR=1.6						
ASAR				S	**S**	**22 59 07.4**	**-2.2**
	comp=Z,4.4nm,0.9s,baz=88,slow=15,SNR=17						
	comp=Z,80nm,0.6s						
MULG	**Mulgathing**	**44.91**	**245**	P	**P**	**22 53 11.8**	**+0.3**
GUMO	**Guam**	**47.80**	**308**	P	**P**	**22 53 32.8**	**-0.8**
GUMO	**Guam**	**47.80**	**308**	P	**P**	**22 53 31.9**	**-1.6**
MTN	**Manton Dam**	**48.83**	**268**	P	**P**	**22 53 40.9**	**-0.4**
WRKA	**Warakurna**	**49.92**	**252**	P	**P**	**22 53 49.4**	**+0.1**
FORT	**Forrest**	**50.10**	**244**	P	**P**	**22 53 49.8**	**-0.7**
FAKI	**Fak Fak**	**50.58**	**281**	P	**P**	**22 53 53.8**	**-0.3**
SWI	**Sorong**	**52.24**	**283**	P	**P**	**22 54 06.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**53.08**	**260**	P	**P**	**22 54 12.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.08**	**260**	P	**P**	**22 54 12.2**	**0.0**
SOEI	**Soe**	**56.10**	**270**	P	**P**	**22 54 35.1**	**+1.6**
SOEI	**Soe**	**56.10**	**270**	P	**P**	**22 54 33.7**	**+0.2**
SOEI	**Soe**	**56.10**	**270**	P	**P**	**22 54 35.1**	**+1.6**
	comp=Z,115nm,0.9s						
TNTI	**Ternate**	**56.45**	**283**	P	**P**	**22 54 36.6**	**+0.8**
TNTI	**Ternate**	**56.45**	**283**	P	**P**	**22 54 35.5**	**-0.3**
TNTI	**Ternate**	**56.45**	**283**	P	**P**	**22 54 35.5**	**-0.3**
	comp=Z,95nm,0.8s						
SANI	**Sanana**	**56.74**	**279**	P	**P**	**22 54 37.9**	**+0.1**
SANI	**Sanana**	**56.74**	**279**	P	**P**	**22 54 37.7**	**-0.1**
	comp=Z,78nm,0.9s,comp=Z,941nm						
MBWA	**Marble Bar**	**58.14**	**256**	P	**P**	**22 54 46.9**	**-0.3**
EDFI	**Ende, Flores**	**58.82**	**270**	P	**P**	**22 54 50.7**	**-1.3**
	comp=Z,39nm,1.1s						
BBSI	**Bau Bau**	**58.89**	**274**	P	**P**	**22 54 54.8**	**+2.4**
	comp=Z,45nm,1.1s						
KLBR	**Kellerberrin**	**58.93**	**243**	P	**P**	**22 54 52.6**	**+0.3**
LUWI	**Luwuk**	**60.11**	**279**	P	**P**	**22 55 01.6**	**+1.1**
LUWI	**Luwuk**	**60.11**	**279**	P	**P**	**22 55 00.6**	**+0.1**
LUWI	**Luwuk**	**60.11**	**279**	P	**P**	**22 55 02.4**	**+1.9**
	comp=Z,95nm,1.2s						
GTOI	**Gorontalo**	**60.46**	**281**	P	**P**	**22 55 03.4**	**+0.6**
	comp=Z,17nm,0.8s						
MORW	**Morawa**	**60.57**	**246**	P	**P**	**22 55 02.3**	**-1.1**
MORW				IAmb	IAmb	22 55 03.5	
	comp=Z,56nm,1.5s						
SBA	**Scott Base**	**60.58**	**184**	P	**P**	**22 55 04.7**	**+2.3**
VNDA	**Vanda**	**60.61**	**185**	P	**P**	**22 55 04.1**	**+1.4**
VNDA	**Vanda**	**60.61**	**185**	P	**P**	**22 55 04.1**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=343,slow=10,SNR=4.7						
	comp=Z,0.8nm,0.4s						
PLAI	**Plampang**	**62.53**	**269**	P	**P**	**22 55 17.8**	**+1.5**
TOLI2	**Tolitoli**	**62.72**	**281**	P	**P**	**22 55 18.9**	**+1.4**
TOLI2	**Tolitoli**	**62.72**	**281**	P	**P**	**22 55 17.1**	**-0.4**
TOLI2				IAmb	IAmb	22 55 21.5	
	comp=Z,22nm,0.8s						
CASY	**Casey**	**66.30**	**205**	P	**P**	**22 55 40.1**	**+0.9**
JGF	**Kuroka**	**67.63**	**322**	P	**P**	**22 55 48.1**	**+0.2**
JGF	**Kuroka**	**67.63**	**322**	P	**P**	**22 55 46.6**	**-1.3**
JGF				IAmb	IAmb	22 55 48.9	
	comp=Z,28nm,1.4s						
INU	**Inuyama**	**67.66**	**322**	P	**P**	**22 55 47.6**	**-0.4**
INU				IAmb	IAmb	22 55 49.2	
	comp=Z,13nm,1.0s						
MJAR	**Matsushiro Arr**	**67.80**	**323**	P	**P**	**22 55 48.5**	**-0.4**
	comp=Z,5.8nm,0.6s,baz=155,slow=6.0,SNR=24						
	comp=Z,5.8nm,0.6s						
MAJO	**Matsushiro**	**67.80**	**323**	P	**P**	**22 55 48.8**	**-0.1**
MAJO	**Matsushiro**	**67.80**	**323**	P	**P**	**22 55 48.2**	**-0.7**
MAJO				IAmb	IAmb	22 55 49.2	
	comp=Z,11nm,0.7s						
MJB9	**Matsu-Tunnel**	**67.80**	**323**	P	**P**	**22 55 48.1**	**-0.8**
MJB9				IAmb	IAmb	22 55 49.1	
	comp=Z,11nm,0.7s						
JMN	**Monobe**	**68.49**	**318**	P	**P**	**22 55 54.4**	**+1.2**
JMN	**Monobe**	**68.49**	**318**	P	**P**	**22 55 53.1**	**-0.1**
KKM	**Kota Kinabalu**	**68.73**	**284**	P	**P**	**22 55 55.9**	**+0.7**
KKM	**Kota Kinabalu**	**68.73**	**284**	P	**P**	**22 55 54.4**	**-0.7**
AMKA	**Amchitka**	**68.85**	**358**	P	**P**	**22 55 53.9**	**-1.0**
ADK	**Adak**	**69.35**	**1**	P	**P**	**22 55 57.0**	**-0.9**
ATKA	**Atka Island**	**69.75**	**3**	P	**P**	**22 55 59.3**	**-0.9**
JNU	**Nakatsue**	**70.04**	**316**	P	**P**	**22 56 03.0**	**+0.5**
JNU	**Nakatsue**	**70.04**	**316**	P	**P**	**22 56 02.2**	**-0.4**
JNU				IAmb	IAmb	22 56 03.9	
	comp=Z,29nm,1.3s						
NIKH	**Nikolski High**	**70.90**	**6**	P	**P**	**22 56 05.9**	**-1.2**
	baz=190						
JKA	**Kamikawa-asahi**	**71.15**	**331**	P	**P**	**22 56 08.8**	**+0.1**
JKA				IAmb	IAmb	22 56 10.6	
	comp=Z,12nm,0.7s						
SBUM	**Sibu**	**71.21**	**279**	P	**P**	**22 56 09.6**	**-0.1**
NACB	**Ninganchiao**	**71.85**	**304**	P	**P**	**22 56 13.6**	**+0.3**
NACB	**Ninganchiao**	**71.85**	**304**	P	**P**	**22 56 12.9**	**-0.4**
SSLB	**Suanglung**	**72.17**	**303**	P	**P**	**22 56 15.1**	**-0.1**
TPUB	**Ta-pu**	**72.20**	**302**	P	**P**	**22 56 14.7**	**-0.6**
QSPA	**South Pole Qui**	**72.31**	**180**	P	**P**	**22 56 17.0**	**+1.6**
QSPA				IAmb	IAmb	22 56 17.6	
	comp=Z,8.1nm,0.8s						
QSPA	**South Pole Qui**	**72.31**	**180**	P	**P**	**22 56 16.7**	**+1.3**
	comp=Z,7.5nm,0.8s,baz=343,slow=0.3,SNR=63						
	comp=Z,7.5nm,0.8s						
LEM	**Lembang**	**72.75**	**268**	P	**P**	**22 56 20.0**	**+1.1**
KSRS	**Korea Array**	**74.60**	**318**	P	**P**	**22 56 29.7**	**+1.0**
	comp=Z,4.5nm,0.9s,baz=137,slow=6.3,SNR=22						
	comp=Z,4.5nm,0.9s						
KSAR	**Wonju Array Be**	**74.62**	**318**	P	**P**	**22 56 29.2**	**+0.5**
S14K	**Fog Glacier**	**75.43**	**11**	P	**P**	**22 56 32.3**	**-0.7**
	baz=198						
CHGN	**Chignik**	**75.65**	**11**	P	**P**	**22 56 33.4**	**-0.7**
	baz=200						
SNCC	**San Nicolas Is**	**75.66**	**48**	P	**P**	**22 56 35.8**	**+1.1**
	baz=237						
CHIR	**Chirikof Islan**	**75.77**	**13**	P	**P**	**22 56 34.4**	**-0.3**
	baz=202						
SCZ2	**Santa Cruz Isl**	**75.98**	**47**	P	**P**	**22 56 37.4**	**+0.9**
	baz=237						
PKM	**Mcpherson Peak**	**76.34**	**46**	P	**P**	**22 56 38.3**	**-0.4**
	baz=237						
USA0B	**Ussuriysk Arra**	**76.50**	**326**	P	**P**	**22 56 39.6**	**+0.6**
USA0B				IAmb	IAmb	22 56 42.4	
	comp=Z,16nm,1.1s						
USRK	**Ussuriysk Ar.**	**76.50**	**326**	P	**P**	**22 56 39.5**	**+0.4**
USRK	**Ussuriysk Ar.**	**76.50**	**326**	P	**P**	**22 56 39.0**	**0.0**
	comp=Z,2.6nm,0.7s,baz=164,slow=7.0,SNR=3.9						
	comp=Z,2.6nm,0.7s						
SII	**Sitkinak Islan**	**76.76**	**13**	P	**P**	**22 56 40.0**	**-0.3**
	baz=204						
R17L	**Mt. Peulik Vol**	**77.30**	**12**	P	**P**	**22 56 42.9**	**-0.2**
	baz=201,SNR=6.7						
VOG	**Valley Oaks Go**	**77.42**	**45**	P	**P**	**22 56 45.0**	**+0.7**
	baz=237						
MURC	**Murrieta**	**77.49**	**49**	P	**P**	**22 56 45.7**	**+0.9**
	baz=239						
BFSC	**Mount Baldy Ra**	**77.50**	**48**	P	**P**	**22 56 46.0**	**+1.1**
	baz=238						
OHAK	**Old Harbor**	**77.57**	**14**	P	**P**	**22 56 44.8**	**+0.3**
OHAK	**Old Harbor**	**77.57**	**14**	P	**P**	**22 56 44.3**	**-0.2**
OHAK				IAmb	IAmb	22 56 45.1	
	comp=Z,12nm,0.8s						
OHAK	**Old Harbor**	**77.57**	**14**	P	**P**	**22 56 44.3**	**-0.2**
	baz=204						
EDW2	**Edwards Air Fo**	**77.60**	**47**	P	**P**	**22 56 46.4**	**+1.0**
	baz=238						
R18K	**Karluk**	**77.63**	**13**	P	**P**	**22 56 44.4**	**-0.4**
	baz=203						
ISA	**Isabella, Lake**	**77.68**	**46**	P	**P**	**22 56 46.1**	**+0.2**
ISA	**Isabella, Lake**	**77.68**	**46**	P	**P**	**22 56 47.0**	**+1.1**
	baz=238						
MONP2	**Monument Peak**	**77.69**	**49**	P	**P**	**22 56 47.4**	**+1.3**
	baz=239						
IKP	**In-Ko-Pah, Jac**	**77.79**	**50**	P	**P**	**22 56 47.9**	**+1.4**
	baz=240						
AFDM	**Forest Hills D**	**77.84**	**42**	P	**P**	**22 56 46.5**	**0.0**
YUH	**Yuha Desert**	**77.93**	**50**	P	**P**	**22 56 48.2**	**+1.1**
Q17K	**Contact Creek**	**77.98**	**12**	P	**P**	**22 56 46.2**	**-0.7**
	baz=202,SNR=9.9						
PFO	**Pinyon Flats O**	**78.03**	**49**	P	**P**	**22 56 48.2**	**+0.4**
	baz=239						
TPFO	**Pinon Flats**	**78.03**	**49**	P	**P**	**22 56 48.8**	**+0.9**
	baz=239						
ACHA	**Angle Creek He**	**78.04**	**12**	P	**P**	**22 56 46.4**	**-0.8**
MDJ	**Mudanjiang**	**78.07**	**325**	P	**P**	**22 56 49.2**	**+1.6**
MDJ	**Mudanjiang**	**78.07**	**325**	P	**P**	**22 56 48.6**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,31nm,1.2s						
MDJ	**Mudanjiang**	**78.07**	**325**	P	**P**	**22 56 48.4**	**+0.8**
MDJ				IAmb	IAmb	22 56 50.0	
	comp=Z,47nm,1.3s						
LRMC	**Laurel Mtn Rad**	**78.13**	**47**	P	**P**	**22 56 49.1**	**+0.8**
	baz=238						
SWSC	**Sam W. Stewart**	**78.17**	**50**	P	**P**	**22 56 49.5**	**+1.1**
	baz=240						
KDAK	**Kodiak Island**	**78.24**	**14**	P	**P**	**22 56 48.1**	**0.0**
KDAK				IAmb	IAmb	22 56 50.1	
	comp=Z,15nm,0.8s						
KDAK	**Kodiak Island**	**78.24

baz=238
P18K **Big Mountain,** 79.16 12 P P 22 56 52.2 -0.9
baz=202,SNR=18
O17K **Koliganek Bris** 79.16 11 P P 22 56 52.4 -0.7
baz=201
GMRC **Granite Mounta** 79.19 48 P P 22 56 54.5 +0.5
baz=240
FURC **Furnace Creek,** 79.22 46 P P 22 56 54.2 +0.4
baz=238
IRM **Iron Mountain** 79.24 49 P P 22 56 54.7 +0.5
baz=240
NVAR **Mina Array Bea** 79.29 44 P P 22 56 55.2 +0.7
NVAR **Mina Array Bea** 79.29 44 P P 22 56 55.4 +0.9
comp=Z,4.0nm,0.7s,baz=225,slow=8.6,SNR=29
comp=Z,4.0nm,0.7s
SHOC **Shoshone, Teco** 79.33 47 P P 22 56 55.5 +0.9
baz=239
M14K **Bethel** 79.34 8 P P 22 56 54.2 +0.3
baz=196
TUQ **Turquoise Moun** 79.34 47 P P 22 56 55.8 +1.1
baz=239
NV11 **Mina Array Sit** 79.39 44 P P 22 56 55.6 +0.7
M15K **Kasigluk River** 79.46 9 P P 22 56 54.9 +0.3
baz=197
N16K **Nishlik Lake** 79.54 10 P P 22 56 55.1 0.0
baz=199
O18K **Koktuh Hills** 79.59 12 P P 22 56 55.2 -0.1
baz=202,SNR=28
P19K **Oil Pt** 79.80 13 P P 22 56 55.8 -0.7
baz=204,SNR=5.2
L14K **Kuka Creek** 79.81 8 P P 22 56 56.7 +0.3
baz=195
TPH **Tonopah** 79.81 45 P P 22 56 57.9 +0.6
TPH IAmb IAmb 22 56 59.0
comp=Z,21nm,0.9s
N17K **Nushagak Hills** 79.86 10 P P 22 56 56.3 -0.4
baz=200
TPNV **Topopah Spring** 79.89 46 P P 22 56 58.4 +0.8
baz=239
214A **Organ Pipe Nat** 79.89 52 P P 22 56 59.1 +1.5
baz=242
CN2 **Changchun** 79.91 322 P P 22 56 58.4 +1.0
CN2 pmax pmax
comp=Z,30nm,1.0s
M16K **Timber Creek** 80.03 9 P P 22 56 58.4 +0.8
baz=199,SNR=12
PDMCI **Parker Dam,Lak** 80.04 49 P P 22 56 59.7 +1.4
baz=240
ILSW **Iliamna Southw** 80.12 13 P P 22 56 57.2 -1.0
ILSW IAmb IAmb 22 56 58.6
comp=Z,22nm,0.8s
K13K **Kusilvak Mount** 80.16 7 P P 22 56 58.3 +0.1
baz=193
J05D **Fort Rock, OR** 80.18 39 P P 22 56 59.7 +0.7
J05D IAmb IAmb 22 57 00.9
comp=Z,12nm,0.6s
N18K **Kilae Creek** 80.23 11 P P 22 56 58.2 -0.5
baz=202,SNR=6.8
L15K **Ungalak Mounta** 80.29 8 P P 22 56 59.0 0.0
baz=196
O20K **Slope Mountain** 80.32 13 P P 22 56 58.4 -0.8
baz=205
BRLK **Bradley Lake** 80.41 14 P P 22 56 59.4 -0.3
BRLK IAmb IAmb 22 56 59.9
comp=Z,14nm,0.7s
BRSE **Bradley Lake S** 80.42 14 P P 22 56 59.4 -0.3
baz=207
L16K **Owhat River** 80.61 9 P P 22 57 01.0 +0.5
baz=198,SNR=7.4
N19K **Bonanza Creek** 80.62 12 P P 22 56 59.8 -1.0
baz=203,SNR=7.2
M17K **Holitna River** 80.64 10 P P 22 57 01.9 +1.2
baz=200,SNR=10
K15K **Wolf Creek Mou** 80.88 8 P P 22 57 02.8 +0.8
K15K **Wolf Creek Mou** 80.88 8 P P 22 57 02.7 +0.7
baz=196,SNR=12
M18K **Stony River** 81.00 11 P P 22 57 02.7 +0.1
baz=202,SNR=5.2
R11B **Troy Canyon, C** 81.06 45 P P 22 57 04.4 +0.6
baz=239
BMN **Battle Mountai** 81.07 43 P P 22 57 04.3 +0.6
J14K **Nanvaranak Lak** 81.07 7 P P 22 57 03.1 +0.2
baz=194
BKNI **Bangkinang** 81.13 273 P P 22 57 06.0 +1.6
L17K **Donlin** 81.19 9 P P 22 57 04.2 +0.7
baz=199,SNR=11
N20K **Mount Spurr** 81.42 12 P P 22 57 03.7 -1.2
baz=205
P23K **Montague Islan** 81.45 15 P P 22 57 04.7 -0.2
baz=210
L18K **Granite Mounta** 81.53 10 P P 22 57 05.7 +0.4
baz=201,SNR=14
TUC **Tucson** 81.58 52 P P 22 57 07.2 +0.8
TUC **Tucson** 81.58 52 P P 22 57 08.2 +1.8
baz=243
M19K **Big River Lodg** 81.64 11 P P 22 57 05.2 -0.8
baz=203,SNR=6.9
I07A **Izee** 81.66 39 P P 22 57 07.6 +1.0
K17K **Iditarod** 81.74 9 P P 22 57 07.0 +0.6
baz=199
L19K **White Mountain** 81.81 11 P P 22 57 06.6 -0.2
baz=203,SNR=9.8
RC01 **Rabbit Creek A** 81.86 14 P P 22 57 06.9 -0.1
baz=207
M20K **Styx River** 81.86 12 P P 22 57 07.7 +0.6
baz=204
J08A **Circle Bar Ran** 81.88 40 P P 22 57 08.5 +0.8
J08A IAmb IAmb 22 57 10.0
comp=Z,18nm,1.3s
UBPT **Khong Chiam** 81.91 289 P P 22 57 09.6 +1.3
J16K **Anvik River** 81.95 8 P P 22 57 08.2 +0.8
baz=197
SUA **Susitna One** 81.97 13 P P 22 57 06.9 -0.8
baz=206,SNR=13
PWL **Port Wells** 81.97 14 P P 22 57 07.0 -0.6
baz=209,SNR=8.0
KAIM **Kayak Island** 82.16 16 P P 22 57 08.6 +0.1
baz=212
L20K **Farewell, AK** 82.27 11 P P 22 57 08.8 -0.3
baz=203,SNR=14
SKT **Skwentna** 82.27 12 P P 22 57 07.5 -1.6
baz=206
J17K **VABM Dome** 82.27 9 P P 22 57 09.3 +0.2
baz=198
TTA **Tatalina** 82.31 10 P P 22 57 09.8 +0.4
TTA **Tatalina** 82.31 10 P P 22 57 09.8 +0.4
baz=201,SNR=7.9
BELA **Belgrano 2** 82.32 173 P P 22 57 10.3 +1.0
PSUT **Pine Spring** 82.32 46 P P 22 57 10.9 +0.7
M22K **Willow** 82.36 13 P P 22 57 09.0 -0.5
M22K **Willow** 82.36 13 P P 22 57 10.0 +0.5
baz=207
U15A **North Rim** 82.39 48 P P 22 57 11.1 +0.4
U15A IAmb IAmb 22 57 13.6
comp=Z,13nm,1.0s
KNK **Knik Glacier** 82.43 14 P P 22 57 09.6 -0.4
baz=209
ELK **Elko** 82.52 43 P P 22 57 11.2 0.0
J18K **Innoko River** 82.69 10 P P 22 57 11.4 +0.1
baz=201,SNR=11
HEH **HeiHe** 82.79 328 *e*P P 22 57 12.4 +0.4
HEH pmax pmax
comp=Z,14nm,1.5s
SML **Sawmill** 82.81 14 P P 22 57 12.9 +1.0
baz=209
SNH **Sunshine Point** 82.81 17 P P 22 57 12.2 +0.3
SNH IAmb IAmb 22 57 13.5
comp=Z,23nm,0.9s
U33K **Whale Pass** 82.83 24 P P 22 57 11.8 -0.2
baz=223
PKCU **Pink Cliffs** 82.86 47 P P 22 57 14.2 +1.1
PKCU IAmb IAmb 22 57 16.6
comp=Z,26nm,1.3s
E07A **Sunnyside** 82.87 36 P P 22 57 13.1 +0.6
E07A IAmb IAmb 22 57 14.6
comp=Z,19nm,1.2s
CUT **Chulitna** 82.91 13 P P 22 57 11.5 -0.8
CUT **Chulitna** 82.91 13 P P 22 57 12.2 -0.1
baz=207
HAWA **Hanford** 82.96 37 P P 22 57 13.1 +0.2
HAWA IAmb IAmb 22 57 14.5
comp=Z,8.9nm,0.8s
BMRM **Bremner River** 82.99 16 P P 22 57 12.8 0.0
baz=212,SNR=7.0
K20K **Telida** 83.04 11 P P 22 57 12.5 -0.5
baz=203,SNR=14
KULM **Kulim** 83.04 278 P P 22 57 14.9 +0.8
KULM IAmb IAmb 22 57 16.3
comp=Z,24nm,0.9s
MESA **MESA** 83.06 17 P P 22 57 13.5 +0.1
MESA IAmb IAmb 22 57 14.3
comp=Z,20nm,0.6s
MESA **MESA** 83.06 17 P P 22 57 13.8 +0.4
baz=215,SNR=5.7
SCM **Sheep Creek Mo** 83.06 14 P P 22 57 12.9 -0.3
SCM IAmb IAmb 22 57 14.0
comp=Z,20nm,0.8s
SCM **Sheep Creek Mo** 83.06 14 P P 22 57 13.1 -0.2
baz=210,SNR=5.9
S31K **Pelican** 83.09 21 P P 22 57 14.0 +0.8
baz=220
KLU **Klutina** 83.11 15 P P 22 57 13.3 -0.2
baz=211
G15K **Niukluk** 83.21 6 P P 22 57 14.1 +0.3
baz=194
ISLE **Juniper Island** 83.30 17 P P 22 57 14.2 -0.3
ISLE IAmb IAmb 22 57 15.5
comp=Z,20nm,1.1s
WRAK **Wrangell Islan** 83.35 24 P P 22 57 15.6 +1.0
baz=224
J19K **Poorman** 83.37 10 P P 22 57 15.1 +0.5
baz=202,SNR=5.4
PNL **Peninsula** 83.40 19 P P 22 57 15.3 +0.5
baz=217
TNA **Tin City** 83.43 4 P P 22 57 14.6 -0.2
baz=190
HNS **HongShan** 83.43 312 ⇑P P 22 57 17.3 +1.8
HNS pmax pmax
comp=Z,19nm,1.4s
PINM **Pinnacle** 83.48 18 P P 22 57 15.3 0.0
baz=216
TABL **Table Mountain** 83.50 18 P P 22 57 15.3 -0.3
TABL IAmb IAmb 22 57 16.2
comp=Z,14nm,0.8s
MFID **Camas Ranch** 83.53 41 P P 22 57 16.8 +0.8
N25K **Chitina, Valde** 83.54 16 P P 22 57 15.2 -0.4
baz=212,SNR=12
M24K **Tolsona, Glenn** 83.58 15 P P 22 57 16.0 +0.3
baz=211
GLB **Gilahina Butte** 83.60 16 P P 22 57 15.7 -0.2
GLB IAmb IAmb 22 57 16.3
comp=Z,11nm,0.6s
WAT6 **Susitna Watana** 83.62 14 P P 22 57 15.6 -0.5
baz=209
WAT1 **Susitna Watana** 83.66 13 P P 22 57 15.1 -1.0
baz=208
BJT **Baijiatuau** 83.68 315 P P 22 57 17.7 +1.0
BJT **Baijiatuau** 83.68 315 P P 22 57 17.2 +0.5
BJT IAmb IAmb 22 57 18.8
comp=Z,38nm,1.4s
LYN **LuoYang** 83.75 309 P P 22 57 18.9 +1.8
LYN pmax pmax
comp=Z,45nm,1.2s
J20K **Nowinta River** 83.78 10 P P 22 57 16.5 -0.1
baz=203,SNR=10
LOGN **Logan Glacier** 83.86 17 P P 22 57 17.1 -0.2
LOGN IAmb IAmb 22 57 18.4
comp=Z,33nm,1.5s
CTG **Chitna Glacier** 83.88 17 P P 22 57 17.5 +0.2
baz=215
P29M **Windy Craggy** 83.88 19 P P 22 57 18.1 +0.8
baz=219,SNR=5.9
MAW **Mawson** 84.02 200 P P 22 57 18.2 +0.3
comp=Z,1.5nm,0.4s,baz=210,slow=11,SNR=3.6
comp=Z,1.5nm,0.4s
O28M **Mount Upton** 84.05 18 P P 22 57 18.2 -0.2
baz=216,SNR=8.8
HARP **HAARP** 84.07 15 P P 22 57 18.0 -0.1
baz=212
G17K **Kiwalik Mounta** 84.08 7 P P 22 57 17.5 -0.5
baz=197
DHY **Denali Highway** 84.14 14 P P 22 57 18.1 -0.5
baz=210,SNR=7.3
PLBC **Pleasant Camp** 84.19 20 P P 22 57 19.0 +0.3
baz=220,SNR=6.2
ENH **Enshi** 84.20 304 P P 22 57 21.0 +1.4
BPAW **Bear Paw Mtn.** 84.29 12 P P 22 57 19.1 -0.1
baz=206
MCK **McKinley** 84.38 13 P P 22 57 19.1 -0.4
baz=208,SNR=7.6
PAX **Paxson** 84.49 14 P P 22 57 19.4 -0.9
baz=211,SNR=5.2
HLID **Hailey** 84.49 41 P P 22 57 21.9 +1.1
baz=239
P30M **Million Dollar** 84.52 19 P P 22 57 20.9 +0.5
baz=219,SNR=13
YUK8 **Steele Glacier** 84.58 18 P P 22 57 20.8 -0.1
baz=217,SNR=10
M26K **Nabesna, AK** 84.62 16 P P 22 57 21.3 +0.5
baz=214,SNR=16
G18K **Tagagawik** 84.71 8 P P 22 57 20.7 -0.5
baz=199
GSI **Gununguitoli** 84.72 273 P P 22 57 24.3 +1.8
GSI **Gununguitoli** 84.72 273 P P 22 57 24.2 +1.8
YUK6 **Outpost Mounta** 84.72 18 P P 22 57 21.6 0.0
baz=218
YUK3 **Moose Creek** 84.78 17 P P 22 57 21.7 -0.2
baz=216,SNR=23
M27K **Edge Creek, AK** 84.88 16 P P 22 57 22.4 +0.1
baz=215,SNR=23
H20K **Anotleneega Mo** 84.88 10 P P 22 57 22.1 +0.1
baz=202
MENT **Mentasta** 84.89 15 P P 22 57 22.3 +0.2
S34M **Telegraph Cree** 84.89 23 P P 22 57 23.4 +1.2
baz=225
YUK4 **Talbot Arm** 84.96 18 P P 22 57 23.2 +0.5
baz=218
GYA **Guiyang** 84.98 300 P P 22 57 25.0 +1.4
GYA pmax pmax
comp=Z,26nm,1.2s
L26K **Log Cabin Wild** 85.05 15 P P 22 57 23.1 +0.2
baz=213,SNR=6.5
NEA2 **Nenana** 85.11 12 P P 22 57 22.0 -1.1
baz=208
K24K **Donnelly Dome** 85.13 14 P P 22 57 23.0 -0.3
baz=211,SNR=6.9
G19K **Purcell Mounta** 85.16 9 P P 22 57 23.3 0.0
baz=200
MLY **Manley** 85.18 11 P P 22 57 22.4 -1.1
baz=206,SNR=6.2
P32M **Atlin** 85.18 21 P P 22 57 23.8 +0.2
baz=222
WRH **Wood River Hil** 85.20 13 P P 22 57 22.7 -0.9
Q32M **Nakina River** 85.22 22 P P 22 57 24.3 +0.3
baz=224,SNR=5.5
SURA **Surathani** 85.23 281 P P 22 57 26.7 +1.9
O30N **Mendenhall** 85.29 19 P P 22 57 24.8 +0.7
baz=220,SNR=9.4
NAYO **Nakonayok** 85.34 287 P P 22 57 27.3 +2.0
NEW **Newport** 85.36 36 P P 22 57 24.8 +0.1
baz=237
H21K **Melozitna Rive** 85.37 10 P P 22 57 24.1 -0.3
baz=204
HDA **Harding Lake** 85.39 13 P P 22 57 24.2 -0.3
baz=210,SNR=8.0
MNTX **Cornudas Mount** 85.46 55 P P 22 57 26.2 +0.6
baz=246
L27K **Beaver Creek,** 85.47 16 P P 22 57 24.9 -0.1
baz=215,SNR=6.2
BCAR **Beaver Creek A** 85.48 16 P P 22 57 24.9 -0.1
N30M **Aishikik Lake** 85.52 19 P P 22 57 25.3 +0.1
baz=219
IMAR **Indian Mountai** 85.52 10 P P 22 57 24.3 -0.8
I23K **Minto, Yukon-K** 85.55 12 P P 22 57 24.1 -1.1
baz=208
COLA **College** 85.61 13 P P 22 57 25.0 -0.5
XLT **XiLinHaoTe** 85.65 319 *e*P P 22 57 26.9 +0.6
XLT S S 23 07 07.3 -5.8
XLT pmax pmax
comp=Z,19nm,1.3s
DLBC **Dease Lake** 85.67 23 P P 22 57 25.7 -0.3
baz=226
SCRK **Sand Creek** 85.70 14 P P 22 57 26.0 -0.1
baz=213,SNR=6.9
F19K **Shaleruckik Mo** 85.72 8 P P 22 57 25.6 -0.3
baz=200
ILAR **Eielson Array** 85.72 13 P P 22 57 25.4 -0.6
ILAR **Eielson Array** 85.72 13 P P 22 57 25.2 -0.9
comp=Z,3.9nm,0.7s,baz=231,slow=5.0,SNR=30
comp=Z,3.9nm,0.7s
H22K **Ishtalitna Cre** 85.84 11 P P 22 57 26.3 -0.3
baz=206,SNR=5.3
TX31 **Lajitas Ar. Si** 85.88 58 P P 22 57 28.9 +1.1
TX31 IAmb IAmb 22 57 31.3
comp=Z,13nm,1.3s
TXAR **Lajitas Array** 85.88 58 P P 22 57 28.7 +0.9
TXAR **Lajitas Array** 85.88 58 P P 22 57 29.6 +1.8
comp=Z,3.1nm,0.8s,baz=216,slow=6.2,SNR=37
comp=Z,3.1nm,0.8s
M29M **Somme Creek** 85.88 17 P P 22 57 27.3 +0.3
baz=218,SNR=9.5
POKR **Poker Plat Res** 85.91 13 P P 22 57 25.9 -1.0
baz=209
J25K **Salcha River,** 85.92 14 P P 22 57 26.9 -0.2
baz=211,SNR=9.2
D17K **Noatak River** 85.94 6 P P 22 57 29.3 +2.3
baz=195
N31M **Braeburn, Yuko** 85.94 19 P P 22 57 27.7 +0.5
baz=220
P33M **Teslin, Yukon** 85.94 21 P P 22 57 27.7 +0.4
baz=223
ANMO **Albuquerque** 85.97 52 P P 22 57 29.0 +0.8
ANMO **Albuquerque** 85.97 52 P P 22 57 29.1 +0.9
baz=245
R33M **Jennings River** 86.00 22 P P 22 57 28.3 +0.7
baz=225
G21K **Allakaket** 86.05 10 P P 22 57 27.5 -0.1
baz=204
XAN **Xi'an** 86.19 307 ⇓P P 22 57 30.5 +1.4
XAN pmax pmax
comp=Z,72nm,1.1s
F20K **Avaraart Lake** 86.20 9 P P 22 57 28.4 +0.1
baz=202
K27K **Chicken** 86.21 15 P P 22 57 28.4 +0.1
baz=214
J26L **Joseph Creek** 86.24 14 P P 22 57 28.9 +0.3
baz=213,SNR=11
HIA **Hailar** 86.25 325 P P 22 57 28.9 -0.1
HIA IAmb IAmb 22 57 31.7
comp=Z,8.7nm,1.0s
BILL **Bilibino** 86.27 354 P P 22 57 28.5 -0.1
BILL IAmb IAmb 22 57 29.7
comp=Z,10nm,0.9s
E19K **Redstone River** 86.38 8 P P 22 57 28.6 -0.5
baz=200
MSO **Missoula** 86.44 38 P P 22 57 30.5 +0.4
baz=239
M30M **Minto, Yukon** 86.47 18 P P 22 57 29.7 0.0
baz=219
L29M **L29M** 86.51 17 P P 22 57 29.8 0.0
baz=218,SNR=13
F21K **Alatna River** 86.70 9 P P 22 57 30.9 +0.2
baz=204
G22K **Bettles** 86.75 10 P P 22 57 31.2 +0.4
baz=206
G23K **Bananza Creek** 86.82 11 P P 22 57 31.3 +0.1
baz=207
DAWY **Dawson** 86.92 16 P P 22 57 31.9 +0.1
baz=217
I26K **Coal Creek Min** 87.01 14 P P 22 57 32.3 +0.2
baz=213
EGAK **Eagle** 87.05 15 P P 22 57 31.8 -0.5
EGAK **Eagle** 87.05 15 P P 22 57 32.3 0.0
baz=215
F22K **John River** 87.17 10 P P 22 57 33.0 +0.1
baz=205
HHC **Hu-ho-hao-te** 87.18 314 *e*P P 22 57 35.0 +1.3
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,71nm,4.0s
BW06 **Boulder Array** 87.21 43 P P 22 57 34.2 +0.3
baz=243
PDAR **Pinedale Array** 87.21 43 P P 22 57 34.1 +0.2
PDAR **Pinedale Array** 87.21 43 P P 22 57 34.5 +0.6
comp=Z,1.9nm,0.6s,baz=204,slow=3.3,SNR=4.8
comp=Z,1.9nm,0.6s
BOZ **Bozeman (W)** 87.22 40 P P 22 57 34.5 +0.7
BOZ **Bozeman (W)** 87.22 40 P P 22 57 34.7 +0.9
baz=241
COLD **Coldfoot** 87.25 11 P P 22 57 34.5 +1.3
baz=207
K29M **Barlow Dome** 87.25 17 P P 22 57 33.7 +0.2
baz=219,SNR=5.8
FARO **Faro, Yukon** 87.26 19 P P 22 57 34.1 +0.7
baz=222
E20K **Nigu River** 87.27 8 P P 22 57 33.6 +0.2
baz=201
G24K **Hadweenzic Riv** 87.29 12 P P 22 57 33.5 +0.1
baz=209
G25K **Bearman Lake** 87.61 12 P P 22 57 35.5 +0.6
baz=211
I27K **Kandik River** 87.62 14 P P 22 57 35.0 0.0
baz=215
B18K **Kokolik River** 87.68 6 P P 22 57 36.0 +0.9
baz=196
PHRA **Phrae** 87.72 290 P 22 57 38.0 +1.4
E21K **Kilik River** 87.75 9 P P 22 57 35.9 +0.3
baz=202
KMI **Kunming** 87.78 297 ⇓P P 22 57 38.8 +1.8
KMI pmax pmax
comp=Z,16nm,0.9s
TOAD **Toad River Com** 87.80 25 P P 22 57 36.7 +0.7
baz=230
SDCO **Great Sand Dun** 87.83 49 P P 22 57 37.2 +0.1
baz=246
I28M **Miner Creek** 87.90 15 P P 22 57 36.7 +0.3
baz=216
F24K **Squaw Lake** 87.93 11 P P 22 57 36.9 +0.5
baz=209,SNR=6.0
E23K **Chandalar** 88.09 10 P P 22 57 37.5 +0.2
baz=207
J30M **Hart River** 88.15 17 P P 22 57 38.1 +0.4
baz=220
H27K **Steamboat Moun** 88.16 14 P P 22 57 37.9 +0.3
baz=215
MMPY **Sheldon Lake,** 88.21 20 P P 22 57 38.7 +0.8
baz=224
I29M **Ogilvie Camp,** 88.24 16 P P 22 57 38.3 +0.3
baz=218
G26K **Porcupine Rive** 88.25 13 P P 22 57 38.3 +0.5
baz=213
C21K **Knifeblade Rid** 88.30 8 P P 22 57 38.8 +0.7
baz=202
E24K **Your Creek** 88.31 11 P P 22 57 38.0 -0.2
baz=208
D22K **Ayikyak River** 88.34 9 P P 22 57 38.4 +0.1
baz=204
F25K **Christian Rive** 88.42 12 P P 22 57 39.6 +0.8
baz=211
TGTN **Hyland Airport** 88.45 22 P P 22 57 40.0 +1.0
baz=227
RLMT **Red Lodge** 88.47 41 P P 22 57 40.9 +1.2
baz=243
BMAR **Burnt Mountain** 88.50 12 P P 22 57 39.7 +0.6
G27K **Doyon Strip** 88.60 14 P P 22 57 40.0 +0.4
baz=215
TOLK **Toolik Lake Re** 88.62 10 P P 22 57 40.5 +0.8
baz=207
I30M **Mount Dempster** 88.64 16 P P 22 57 40.1 +0.2
baz=220
D23K **Nanushuk River** 88.73 10 P P 22 57 40.8 +0.7
baz=206
F26K **Sheenjek River** 88.81 12 P P 22 57 40.6 0.0
baz=212
N23A **Red Feather La** 88.83 46 P P 22 57 42.5 +0.9
baz=245
CMAR **Chiang Mai Arr** 88.86 290 P P 22 57 43.0 +1.1
CMAR **Chiang Mai Arr** 88.86 290 P P 22 57 43.6 +1.7
comp=Z,13nm,0.9s,baz=108,slow=2.8,SNR=42
comp=Z,13nm,0.9s
H29M **Whitestone** 88.91 15 P P 22 57 40.9 -0.1
baz=218
D24K **Happy Valley** 89.20 10 P P 22 57 42.7 +0.5
baz=208
ELIB **Princess Elisa** 89.32 187 *d*P P 22 57 44.0 +0.8
comp=Z,3.6nm,0.9s
EPYK **Eagle Plains** 89.44 16 P P 22 57 43.1 -0.4
baz=219
HNDO **Hondo** 89.51 59 P P 22 57 45.9 +1.2
HNDO IAmb IAmb 22 57 47.8
comp=Z,10nm,0.9s
C23K **Itkillik River** 89.53 9 P P 22 57 44.5 +0.7
baz=206
G29M **Pine Creek** 89.54 15 P P 22 57 43.9 0.0
baz=218
E27K **Coleen River** 89.75 13 P P 22 57 44.9 0.0
baz=215
D25K **Kavik River** 89.78 11 P P 22 57 45.5 +0.5
baz=210
G30M **tAoh Zraii Nji** 90.04 15 P P 22 57 45.9 -0.4
baz=220

ABTX Abilene, Hawle 90.31 56 P P 22 57 49.1 +0.8
ABTX IAmb IAmb 22 57 50.5
comp=Z,15nm,1.3s
ABTX Abilene, Hawle 90.31 56 P P 22 57 49.1 +0.8
baz=249
TROLL Troll, Antarti 90.47 180 ⇑P P 22 57 49.4 +0.9
comp=Z,128nm,0.5s
G31M Satah River 90.50 16 P P 22 57 47.7 -0.5
baz=222
C27K Jago River 90.53 11 P P 22 57 48.5 0.0
baz=213
E28M Babbage River 90.54 13 P P 22 57 48.5 0.0
baz=217
F30M Barrier River 90.63 15 P P 22 57 49.8 +0.9
baz=220
E29M Blow River 90.74 14 P P 22 57 50.5 +1.2
baz=218
D27M Malcolm River 90.75 13 P P 22 57 50.4 +0.9
baz=215
SNAA Sanae 90.76 179 ⇑P P 22 57 49.9 +0.2
comp=Z,22nm,0.6s
SNAA Sanae 90.76 179 P P 22 57 50.2 +0.5
comp=Z,1.3nm,0.7s,baz=196,slow=9.8,SNR=31
comp=Z,1.3nm,0.7s
LZH Lanzhou 90.82 308 *e*P **P 22 57 52.4 +1.7**
LZH pP pP 22 59 47.8 -3.2
LZH pmax pmax
comp=Z,21nm,1.3s
VNA3 Neumayer Olymp 90.90 176 ⇑P P 22 57 51.5 +1.2
comp=Z,3.9nm,0.4s
F31M Tsiigehtchic 91.02 16 P P 22 57 50.8 +0.1
baz=222
D28M Stokes Point 91.30 13 P P 22 57 52.2 +0.3
baz=217
VNA2 Neumayer--Watz 91.34 177 ⇑P P 22 57 53.3 +1.0
comp=Z,2.9nm,0.6s,baz=188,slow=4.5
VNA1 Neumayer--Stat 91.57 177 ⇑P P 22 57 53.8 +0.5
comp=Z,2.7nm,0.7s
INK Inuvik 91.72 15 P P 22 57 53.6 -0.3
baz=222
WMOK Wichita Mounta 91.72 54 P P 22 57 56.0 +1.2
baz=250
ULN Ulaanbaatar 93.05 319 P P 22 58 00.7 -0.1
ULN IAmb IAmb 22 58 02.1
comp=Z,9.7nm,1.1s
SONM Songino Array 93.45 319 P P 22 58 01.9 -0.6
SONM IAmb IAmb 22 58 04.6
comp=Z,8.6nm,1.4s
SONM Songino Array 93.45 319 P P 22 58 02.8 +0.3
comp=Z,1.9nm,0.8s,baz=132,slow=5.0,SNR=12
comp=Z,1.9nm,0.8s
YKA Yellowknife Ar 94.17 25 P P 22 58 05.1 -0.1
comp=Z,1.8nm,0.8s,baz=246,slow=4.5,SNR=12
comp=Z,1.8nm,0.8s
ZALV Zalesovo Beam 108.12 322 PKiKP **PKiKP 23 03 09.9 -1.0**
comp=Z,1.0nm,0.7s,baz=90,slow=3.0,SNR=4.6
MKAR Makanchi Array 109.04 314 PKiKP **PKiKP 23 03 12.2 -0.7**
comp=Z,0.9nm,0.7s,baz=66,slow=2.9,SNR=7.6
KURBB Kurchatov Arra 111.78 318 PKiKP **PKiKP 23 03 17.2 -0.7**
comp=Z,1.5nm,0.6s,baz=95,slow=1.9,SNR=15
KSH Kashi 113.01 306 PKP **PKiKP 23 03 22.1 +1.3**
BVAR Borovoye Array 116.74 321 PKP **PKPdf 23 03 27.0 -0.3**
comp=Z,2.8nm,0.8s,baz=101,slow=1.5,SNR=17
BRVK Borovoye 116.80 321 PKPdf **PKPdf 23 03 26.6 -0.9**
KK31 Karatay Array 117.24 310 PKPdf 23 03 28.0 -0.6
KKAR Karatay Array 117.24 310 PKPdf **PKPdf 23 03 28.1 -0.6**
KKAR Karatay Array 117.24 310 PKPdf 23 03 28.2 -0.5
KBL Kabul 118.23 300 PKPdf **PKiKP 23 03 31.2 0.0**
ARU Arti 122.73 326 PKPdf **PKPdf 23 03 38.3 -0.4**
ABKAR Abkulak array 123.83 318 PKPdf **PKPdf 23 03 40.9 -0.1**
ABKAR Abkulak array 123.83 318 PKPdf **PKPdf 23 03 41.0 -0.1**
HRA Herat 123.85 300 PKPdf **PKPdf 23 03 41.7 -0.2**
ARCES ARCESS Array B 126.16 350 PKP **PKiKP 23 03 45.3 -0.2**
comp=Z,2.0nm,0.7s,baz=329,slow=2.1,SNR=5.2
BOSA Boshof 128.56 207 PKP **PKiKP 23 03 52.2 +0.5**
comp=Z,2.8nm,0.8s,baz=101,slow=4.7,SNR=5.2
FINES FINESS Array B 133.04 344 PKPdf 23 03 58.7 +0.5
FINES FINESS Array B 133.04 344 PKP **PKPdf 23 03 58.4 +0.2**
comp=Z,1.3nm,0.6s,baz=66,slow=3.8,SNR=9.4
NB2 NORSAR Subarra136.22 353 PKP **PKPdf 23 03 58.0 -6.2**
comp=Z,3.7nm,1.2s,baz=17,slow=2.6
NOA NORSAR Array B 136.22 353 PKP **PKPdf 23 04 04.7 +0.4**
comp=Z,0.3nm,0.7s,baz=8.0,slow=3.2,SNR=7.0
KBZ Khabaz 136.71 316 PKP **PKiKP 23 04 08.4 +1.0**
comp=Z,2.2nm,0.7s,baz=0.0,slow=1.0,SNR=5.3
HFS Hagfors 136.78 351 PKhKP PKPpre 23 03 58.5
HFS PKP **PKiKP 23 04 06.4 -0.7**
comp=Z,0.5nm,0.4s,baz=88,slow=3.4,SNR=6.2
AKASG Malin Array Be 140.43 332 PKPdf 23 04 11.9 -0.3
AKASG Malin Array Be 140.43 332 PKhKP PKPpre 23 04 05.2
comp=Z,1.0nm,0.6s,baz=40,slow=4.3,SNR=6.5
AKASG PKP **PKPdf 23 04 12.1 -0.1**
comp=Z,1.2nm,0.5s,baz=40,slow=1.9,SNR=7.3
EKA Eskdalemuir Ar 142.30 4 PKhKP PKPpre 23 04 11.5
comp=Z,1.0nm,0.7s,baz=329,slow=2.8,SNR=7.5
SORM Soroca 142.66 330 ⇑P PKPdf 23 04 13.5 -2.7
PURM Purcari 143.01 327 ⇑P PKPbc 23 04 15.4 +0.5
GAZ Gaziantep 143.25 309 PKPdf **PKPdf 23 04 17.0 -0.8**
BSEG Bad Segeberg 143.26 351 *e*PKPbc 23 04 15.1
baz=15,slow=2.9
BNN Bunyan 143.57 312 PKPdf **PKPdf 23 04 17.7 -0.6**
KWP Kalwaria Pacla 143.93 337 PKPbc 23 04 17.5 -0.3
VLDR Vladesti 144.39 328 ⇓P **PKPab 23 04 20.5 +0.8**
TLCR 144.45 326 ⇓P **PKPab 23 04 20.5 +0.5**
BUR08 Bucovina Ar. S 144.47 332 PKPbc 23 04 19.6 0.0
OJC Ojcow 144.47 340 PKPbc 23 04 19.4 0.0
BURAR Bucovina Array 144.48 332 ⇑P **PKPab 23 04 20.7 +0.6**
BURAR Bucovina Array 144.48 332 PKPdf 23 04 19.4 -0.2
RETH Rethem/Aller, 144.56 352 *e*PKPbc 23 04 20.0
baz=15,slow=2.9
GHRR 144.58 328 ⇓P **PKPab 23 04 21.5 +1.1**
TESR Tescani 144.63 330 ⇓P PKPbc 23 04 20.3 +0.3
KOLS Kolonicke sedl 144.67 336 *e*PKP **PKPab 23 04 21.0 +0.3**
FLTG Flechtingen 144.67 350 *e*PKPbc 23 04 19.9
baz=15,slow=2.9
BR131 Keskin Array S 144.69 315 PKPdf **PKPdf 23 04 20.1 -0.2**
BRTR Keskin Array B 144.69 315 PKPdf **PKPdf 23 04 20.3 +0.1**
BRTR Keskin Array B 144.69 315 PKP PKPbc 23 04 20.9 +0.3
comp=Z,16nm,0.9s,baz=141,slow=2.8,SNR=53
NRDL Niedersach Rie 144.69 351 *e*PKPbc 23 04 20.2
baz=15,slow=2.9
CFR Carcaliu 144.82 327 ⇓P **PKPab 23 04 21.0 -0.3**
TPGR Topolog 144.88 326 ⇓P **PKPab 23 04 22.0 +0.3**
ONER Baraj Valea Uz 144.88 330 ⇓P **PKPab 23 04 22.2 +0.6**
CRVS Cervenica-Dubn 145.00 337 *e*PKP **PKPab 23 04 22.2 +0.3**
VRI Vrincioaia 145.06 329 ⇑P **PKPbc 23 04 21.4 +0.1**
PLOR Plostina 145.10 329 ⇑P **PKPab 23 04 22.6 +0.1**
IBBN Ibbenburen 145.18 353 *e*PKPbc 23 04 22.0
baz=15,slow=2.9
BMR Baia Mare 145.18 334 ⇓P **PKPab 23 04 22.3 -0.4**
ANTO Ankara 145.18 316 ⇑P **PKPab 23 04 23.2 +0.1**
BR231 Keskin MP Arra 145.21 316 PKPbc 23 04 21.9 -0.2
OSTC Ostas 145.24 344 *e*PKP **PKPab 23 04 22.6 -0.2**
HARR Harsova 145.25 326 ⇑P **PKPab 23 04 22.6 -0.4**
CHVC Chvalec 145.26 344 *e*PKP **PKPab 23 04 22.7 -0.2**
ARCR ARCALIA 145.27 332 ⇑P **PKPab 23 04 23.0 0.0**
TURR Turia 145.27 330 ⇑P **PKPab 23 04 22.8 -0.3**
CLZ Clausthal 145.28 350 *e*PKPbc 23 04 22.4
baz=15,slow=2.9
TLBR Topalu 145.29 326 ⇑P **PKPdf 23 04 19.4 -1.5**
CLL Collm 145.31 347 PKPdf **PKPdf 23 04 21.2 +0.4**
CLL Collm 145.31 347 *i* PKPbc **PKPbc 23 04 21.7 -0.1**
comp=Z,91nm,1.6s
CLL Collm 145.31 347 *e*PKPbc 23 04 22.2
baz=15,slow=2.9
UPC Upice 145.34 344 *e*PKP **PKPab 23 04 22.9 -0.3**
OZUR 145.35 330 ⇑P **PKPbc 23 04 22.6 +0.4**
DPC Dobruska-Polom 145.40 343 *e*PKP **PKPab 23 04 23.3 -0.2**
BOSR Bodos 145.42 330 ⇑P **PKPbc 23 04 22.4 0.0**
LANS Liptovska Anna 145.50 339 *e*PKP **PKPab 23 04 24.3 +0.4**
BRG Berggiesshubel 145.52 346 *e*PKP **PKPbc 23 04 22.1 -0.4**
BRG Amp 23 04 23.9
comp=Z,15nm,0.9s
BRG Berggiesshubel 145.52 346 *e*PKPbc 23 04 23.0
baz=15,slow=2.9
MORC Moravsky Berou 145.57 342 ⇑P **PKPdf 23 04 21.7 +0.4**
MORC Moravsky Berou 145.57 342 PKPdf **PKPdf 23 04 21.9 +0.6**
MORC Moravsky Berou 145.57 342 *e*PKP **PKPbc 23 04 22.4 -0.3**
DOPR Dopca 145.63 330 ⇑P **PKPab 23 04 24.4 -0.1**
ISR Istrita 145.68 328 ⇑P **PKPab 23 04 24.1 -0.7**
PVCC Panska Ves 145.69 345 *e*PKP **PKPab 23 04 23.8 -0.8**
MLR Muntele Rosu 145.71 329 ⇓P **PKPbc 23 04 22.8 -0.6**
MLR Muntele Rosu 145.71 329 PKPbc 23 04 23.2 -0.2
MESR Meseseni 145.82 334 ⇑P **PKPbc 23 04 22.7 -0.7**

HSKC Hora Svate Kat 145.88 347 *e*PKP **PKPbc 23 04 24.2 +0.6**
CJR Cluj-Napoca 145.89 333 ⇓P **PKPab 23 04 24.8 -0.8**
MMAI Mount Meron Ar 146.08 303 PKPbc **PKPbc 23 04 25.0 +0.3**
comp=Z,27nm,0.7s,baz=64,slow=5.7,SNR=29
MARR Marisel-Cluj 146.12 333 ⇑P **PKPbc 23 04 24.4 0.0**
PRU Pruhonice 146.20 345 *e*PKP **PKPbc 23 04 25.1 +0.7**
DRGR 146.21 334 ⇑P **PKPbc 23 04 25.1 +0.4**
VRAC Vranov 146.26 342 ⇑P **PKPbc 23 04 25.4 +0.8**
VRAC Vranov 146.26 342 *e*PKP **PKPbc 23 04 24.3 -0.4**
TANN Tannenbergstha 146.27 347 *e*PKPbc 23 04 25.5
baz=15,slow=2.9
VYHS Vyhne 146.28 339 *e*PKP **PKPab 23 04 25.9 -1.1**
JAVC Velka Javorina 146.34 341 *e*PKP **PKPbc 23 04 24.7 -0.2**
PSZ Piszkesteto 146.40 338 ⇑P **PKPbc 23 04 25.7 +0.6**
PSZ Piszkesteto 146.40 338 PKPdf **PKPdf 23 04 23.0 +0.2**
ARR Arges 146.43 330 ⇑P **PKiKP 23 04 27.1 -0.5**
KRUC Moravsky 146.54 342 *e*PKP **PKPdf 23 04 23.8 +0.9**
TREC Trest 146.59 343 *e*PKP **PKPbc 23 04 26.1 +0.5**
MANZ Manzenberg 146.75 348 *e*PKPbc 23 04 26.7
baz=15,slow=2.9
MODS Modra-Piesok 146.89 341 *e*PKP **PKiKP 23 04 27.9 -0.4**
ROTZ Rotzenmuhle 146.94 347 *e*PKPbc 23 04 27.2
baz=15,slow=2.9
CSS Mathiatis 147.00 308 PKPbc 23 04 26.4 -0.7
SRO Srobarova 147.04 339 *e*PKP **PKiKP 23 04 28.0 -0.6**
SIRR Siria 147.06 334 ⇓P **PKPbc 23 04 27.8 +0.9**
GRFO Grafenberg 147.21 348 PKPdf 23 04 23.2 -0.8
KHC Kasperske Hory 147.23 345 PKPdf **PKPdf 23 04 23.8 -0.3**
KHC Kasperske Hory 147.23 345 *e*PKP **PKPbc 23 04 27.7 +0.4**
KHC *ex* x 23 04 31.7
GZR Gura Zlata 147.27 332 ⇑P **PKPdf 23 04 25.5 +1.2**
CKRC Cesky Krumlov 147.33 344 *e*PKP **PKiKP 23 04 28.4 -0.8**
CKRC *ex* x 23 04 32.0
GEC2 GERESS Array S 147.46 345 PKPdf 23 04 24.1 -0.5
GEC2 GERESS Array S 147.46 345 *e*PKPbc 23 04 28.5
baz=15,slow=2.9
GERES GERESS Array B 147.46 345 PKPdf 23 04 23.9 -0.7
GERES GERESS Array B 147.46 345 PKPbc **PKPbc 23 04 28.1 +0.1**
comp=Z,7.2nm,0.7s,baz=29,slow=3.0,SNR=42
BZS Buzias 147.60 333 ⇓P **PKPbc 23 04 28.4 +0.1**
CONA Conrad Observa 147.72 342 *i* PKiKP **PKiKP 23 04 29.7 -0.4**
comp=Z,18nm,0.8s,SNR=21
RONA Rosalia, Austr 147.79 341 *i* PKiKP **PKiKP 23 04 29.9 -0.3**
comp=Z,18nm,0.8s,SNR=15
HERR Herculane 147.83 332 ⇑P **PKPbc 23 04 29.1 +0.2**
WLF Walferdange 147.95 354 *e*PKPbc 23 04 30.3
baz=15,slow=2.9
MDVR Moldovita 148.22 332 ⇓P **PKPbc 23 04 30.4 +0.4**
MOA Molln 148.24 344 *i* PKiKP **PKiKP 23 04 30.6 -0.5**
comp=Z,16nm,1.4s,SNR=9.0
MORH Mrgy, Hungar 148.29 337 ⇓P **PKPbc 23 04 30.4 +0.4**
ARSA Arzberg 148.43 342 *i* PKiKP **PKiKP 23 04 31.4 -0.1**
comp=Z,13nm,1.5s,SNR=5.1
BIOA Bad Ischl, Aus 148.55 344 *i* PKiKP **PKPbc 23 04 31.2 +0.5**
comp=Z,12nm,1.3s,SNR=11
FRGS Fruska Gora 148.72 335 ⇓P **PKiKP 23 04 31.9 -0.3**
ALN Alexandroupoli 148.80 323 PKPdf **PKPdf 23 04 26.3 -0.5**
RDO Rodhopi 148.93 324 PKPdf 23 04 26.1 -0.9
BFO Black Forest 149.01 351 PKPdf **PKPdf 23 04 27.3 +0.3**
BFO Black Forest 149.01 351 *e*PKPbc 23 04 32.3
baz=15,slow=2.9
LESA Schwarzleotal 149.04 345 *i* PKiKP **PKiKP 23 04 32.5 -0.4**
comp=Z,7.9nm,0.7s
SOKA Soboth 149.09 342 *i* PKP **PKPbc 23 04 32.1 0.0**
comp=Z,23nm,1.5s,SNR=17
PERS Pernice 149.10 342 *i* PKPbc **PKPbc 23 04 32.0 -0.1**
BOVS Bovan 149.11 331 ⇑P **PKPbc 23 04 31.8 -0.3**
KBA Koelnbreinsper 149.19 344 *i* PKiKP **PKPbc 23 04 32.8 +0.4**
comp=Z,7.6nm,0.7s
ECH Echery 149.27 353 PKPbc 23 04 31.5 -0.9
UBR Ueberruh 149.34 349 *e*PKPbc 23 04 33.1
baz=15,slow=2.9
WATA Walderalm 149.37 347 *i* PKP **PKPbc 23 04 32.8 0.0**
comp=Z,24nm,1.3s,SNR=9.3
OBKA Obir 149.38 342 *i* PKP **PKPbc 23 04 32.5 -0.3**
comp=Z,9.6nm,1.4s
RETA Reutte 149.40 348 *i* PKiKP **PKiKP 23 04 33.2 -0.4**
comp=Z,18nm,1.4s,SNR=11
WTTA Wattenberg 149.43 347 *i* PKiKP **PKiKP 23 04 33.5 -0.3**
comp=Z,23nm,0.7s,SNR=14
MYKA Terra Mystica 149.53 344 *i* PKP **PKPbc 23 04 32.9 -0.2**
comp=Z,7.2nm,0.6s,SNR=10
SQTA Sankt Quirin 149.56 347 *i* PKiKP **PKPbc 23 04 33.6 +0.3**
comp=Z,16nm,0.7s,SNR=8.8
ABTA Abfaltersbach 149.71 345 *i* PKP **PKPbc 23 04 33.6 0.0**
comp=Z,20nm,0.7s,SNR=9.8
PRED Cave del Predi 149.72 344 PKPbc 23 04 32.8 -0.8
DAVA Damuels 149.76 349 *i* PKiKP **PKiKP 23 04 34.4 -0.1**
comp=Z,34nm,1.3s,SNR=12
CLF Chambon-Foret 149.79 359 PKPbc 23 04 33.1 -0.4
LJU Ljubljana 149.81 342 *e*PKPbc **PKiKP 23 04 34.1 -0.3**
FETA Feichten 149.85 348 *i* PKiKP **PKiKP 23 04 34.8 +0.1**
comp=Z,16nm,1.0s,SNR=8.6
CRNS Crni Vrh 149.86 342 *e*PKPbc **PKPbc 23 04 33.9 +0.1**
BOJS Bojanci 150.08 341 *e*PKPdf **PKPdf 23 04 29.1 +0.4**
BOJS *i* PKPbc **PKiKP 23 04 35.1 +0.2**
STAL STALIGIAL 150.12 344 PKPdf 23 04 28.2 -0.6
SABO M.te Sabotino 150.14 343 PKPbc 23 04 33.5 -1.1
FUORN Ofenpass-Fuorn 150.33 348 PKPdf **PKPdf 23 04 28.9 -0.5**
SKO Skopje 150.51 329 *i* P **PKiKP 23 04 36.4 +0.4**
CTI Castel Tesino 150.57 346 PKPdf **PKPdf 23 04 28.8 -0.8**
TUE Stuetta 150.65 349 PKPdf 23 04 29.3 -0.5
PDG Podgorica 151.17 332 PKPbc 23 04 36.6 -0.3
PUK Puka 151.19 331 PKPbc 23 04 37.0 -0.1
TEOL Teolo 151.22 345 PKPbc 23 04 36.4 -0.6
FNA Florina 151.43 328 PKPbc 23 04 37.0 -0.6
OHR Ohrid 151.47 329 *i* P **PKiKP 23 04 38.7 +0.6**
BNI Bardonecchia 152.45 352 PKiKP 23 04 40.6 +0.5
ESDC Sonseca Array 157.62 11 PKPab 23 05 14.8 -0.3
ESDC Sonseca Array 157.62 11 PKPab **PKPab 23 05 14.4 -0.6**
comp=Z,1.3nm,0.9s,baz=331,slow=3.3,SNR=7.6
KEST Kesra 160.82 341 PKPab **PKPab 23 05 29.0 -0.1**
comp=Z,3.6nm,0.8s,baz=322,slow=3.2,SNR=3.4

*IDC **18** 22:58:30.5±1.5, 38.°58S×93.°73W, h0km, mb3.9/6, mbtmp3.9/6, MS3.5/12, Error ellipse: s-maj=43.5km s-min=31.9km az=56.0*
ISC 18 22:58:32.6±1.4, **38.°6S**±0.°2×**93.°7W**±0.°3, **h13**km, **n25**, σ0°**29/6**, **mb4.0**/6, **MS3.5**/11, **West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.84**	**73**	T	T	23 14 52.8	
	baz=244,slow=74,SNR=134						
H03S1	**Juan Fernandez**	**12.85**	**73**	T	T	23 14 51.0	
	baz=244,slow=74,SNR=149						
H03S3	**Juan Fernandez**	**12.86**	**73**	T	T	23 14 48.4	
	baz=244,slow=74,SNR=159						
H03N3	**Juan Fernandez**	**13.01**	**71**	T	T	23 14 58.2	
	baz=250,slow=72,SNR=132						
H03N2	**Juan Fernandez**	**13.01**	**71**	T	T	23 14 59.5	
	baz=250,slow=72,SNR=176						
H03N1	**Juan Fernandez**	**13.03**	**71**	T	T	23 14 57.1	
	baz=250,slow=72,SNR=260						
RPN	**Rapa Nui**	**17.38**	**307**	LR	LR	23 07 16.8	
	comp=Z,194nm,21.8s,baz=348,slow=30						
LVC	**Limon Verde**	**26.51**	**60**	LR	LR	23 11 56.9	
	comp=Z,124nm,19.1s,baz=238,slow=30						
NNA	**Nana**	**30.45**	**34**	LR	LR	23 13 53.3	
	comp=Z,84nm,18.6s,baz=186,slow=30						
LPAZ	**La Paz**	**31.57**	**52**	P	**P**	**23 04 55.7 +0.1**	
	2.5nm,0.9s,baz=204,slow=9.1,SNR=6.3						
LPAZ				LR	LR	23 15 41.4	
	comp=Z,28nm,18.1s,baz=214,slow=33						
	2.5nm,0.9s						
CPUP	**Villa Florida**	**32.83**	**79**	LR	LR	23 17 03.0	
	comp=Z,96nm,18.7s,baz=225,slow=34						
ATAH	**Atahualpa**	**34.23**	**28**	LR	LR	23 16 26.6	
	comp=Z,89nm,18.4s,baz=238,slow=31						
SIV	**San Ignacio**	**36.41**	**61**	LR	LR	23 19 01.0	
	comp=Z,54nm,19.2s,baz=292,slow=34						
BDFB	**Brasilia**	**46.06**	**73**	P	**P**	**23 06 56.4 -0.1**	
	1.1nm,0.5s,baz=180,slow=14,SNR=1.7						
BDFB				LR	LR	23 25 14.1	
	comp=Z,69nm,19.2s,baz=138,slow=35						
	1.1nm,0.5s						
JTS	**Las Juntas de**	**49.31**	**11**	LR	LR	23 23 11.1	
	comp=Z,44nm,18.1s,baz=246,slow=30						
SDV	**Santo Domingo**	**51.89**	**29**	LR	LR	23 27 33.8	
	comp=Z,94nm,19.7s,baz=246,slow=34						
SNAA	**Sanae**	**54.16**	**157**	P	**P**	**23 07 57.1 0.0**	
	1.3nm,1.0s,baz=279,slow=7.6,SNR=2.8						
	1.3nm,1.0s						
MDP	**Montagnes des**	**57.74**	**51**	LR	LR	23 30 44.4	
	comp=Z,38nm,18.5s,baz=192,slow=34						
TXAR	**Lajitas Array**	**68.21**	**351**	P	**P**	**23 09 32.7 -0.1**	
	0.7nm,1.0s,baz=165,slow=10,SNR=5.6						
	0.7nm,1.0s						
NVAR	**Mina Array Bea**	**79.91**	**341**	P	**P**	**23 10 41.5 +0.3**	
	1.2nm,0.9s,baz=163,slow=6.6,SNR=6.0						
	1.2nm,0.9s						
PDAR	**Pinedale Array**	**82.25**	**348**	P	**P**	**23 10 53.2 -0.3**	
	1.9nm,1.1s,baz=152,slow=6.1,SNR=2.2						
	1.9nm,1.1s						
BBTS	**Babate**	**89.30**	**71**	LR	LR	23 49 02.1	
	comp=Z,37nm,19.8s,baz=320,slow=34						
H11S2	**WAKE ISLAND Hyl**	**108.65**	**279**	T	T	01 14 28.4	
	baz=126						
H11S1	**WAKE ISLAND Hyl**	**108.66**	**279**	T	T	01 14 30.0	
	baz=126						
H11S3	**WAKE ISLAND Hyl**	**108.66**	**279**	T	T	01 14 31.6	
	baz=126						

SDD 18 23:13:30.4±1.6, **20.°05N**×**70.°49W**, **h11**km±28km, **MD2.7, ML2.3, MW2.4, 5C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SODR	**Sosua Marina B**	**0.31**	**195**	⇑*e*Pg	Pb	23 13 37.3	-0.6
SODR				⇑*e*Sg	Sg	23 13 40.8	+0.1
SODR				IAML		23 13 41.4	
	comp=N,1μm,0.3s						
SODR				IAML		23 13 42.1	
	comp=E,512nm,0.2s						
LUDR	**Luperon**	**0.46**	**250**	⇑*e*Pg	Pg	23 13 38.3	-1.1
LUDR				IAML		23 13 53.0	
	comp=N,304nm,0.3s						
LUDR				IAML		23 13 55.5	
	comp=E,249nm,0.3s						
MCDR	**Montecristi**	**1.11**	**262**	IAML		23 14 14.7	
	comp=E,72nm,0.1s						
MCDR				IAML		23 14 15.5	
	comp=N,60nm,0.1s						
REDR	**Restauracion**	**1.22**	**224**	*e*Pg	Pg	23 13 55.1	+1.2
REDR				⇑*e*Sg	Sn	23 14 13.8	+3.8
REDR				IAML		23 14 14.3	
	comp=E,71nm,0.1s						
REDR				IAML		23 14 16.8	
	comp=N,46nm,0.2s						
SDDR	**Presa de Saban**	**1.30**	**215**	*e*Pg	Pn	23 13 54.1	-0.5
SDDR				IAML		23 14 08.8	
	comp=E,17nm,2.3s						
SDDR				*e*Sg	Sb	23 14 10.1	-1.6
SDDR				IAML		23 14 26.1	
	comp=N,18nm,2.6s						
MIDR	**Miches**	**1.73**	**128**	*e*Pg	Pn	23 14 01.2	+0.9
MIDR				⇑*e*Sg	Sb	23 14 24.1	+0.3
MIDR				IAML		23 14 34.7	
	comp=N,21nm,1.2s						

*SJA **18** 23:21:57.1±0.8, 23.°66S×68.°22W, h142km±6km, ML4.1, MW4.0*
*NEIC **18** 23:21:57.4±2.5, 23.°70S±0.°04×68.°22W±0.°08, h140km±6km, mb4.3/14, ML4.2(GUC), Error ellipse: s-maj=11.7km s-min=3.4km az=112.0*
*IDC **18** 23:21:58.2±1.1, 23.°63S×68.°00W, h129km±12km, mb3.6/9, mbtmp4.1/11, MS3.6/1, Error ellipse: s-maj=21.3km s-min=16.6km az=109.0*
*GUC **18** 23:21:58.7±0.7, 23.°68S×68.°30W, h143km±4km, ML4.2*
*VAO **18** 23:22:00.0±0.8, 23.°33S×68.°18W, h149km±7km, mb4.5*
ISC 18 23:21:57.6±0.6, **23.°66S**±0.°03×**68.°23W**±0.°04, **h136**km±6km, **n110**, σ1°**46**/134, **mb4.2**/11, **4C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.70**	**4**		**Pn**	**23 22 19.9**	**+0.9**
AF01				Sn	**Sn**	**23 22 36.1**	**+0.9**
AF01	**San Pedro de A**	**0.70**	**4**	*e*P	**Pn**	**23 22 19.3**	**+0.3**
AF01				IAML		23 22 39.2	
	comp=Z,8μm,0.3s						
AF01	**San Pedro de A**	**0.70**	**4**	*e*P	**Pn**	**23 22 20.1**	**+1.1**
AF01				*e*S	**Sn**	**23 22 36.7**	**+1.5**
LVC	**Limon Verde**	**1.22**	**329**		**Pn**	**23 22 24.7**	**+1.2**
LVC				Sn	**Sn**	**23 22 43.9**	**+0.7**
LVC	**Limon Verde**	**1.22**	**329**	*e*P	**Pn**	**23 22 24.0**	**+0.5**
LVC				*e*S	**Sn**	**23 22 44.8**	**+1.6**
LVC				IAML		23 22 45.7	
	comp=Z,749nm,0.2s						
LVC	**Limon Verde**	**1.22**	**329**	P	**Pn**	**23 22 25.0**	**+1.4**
	comp=Z,526nm,0.3s,baz=144,slow=8.8,SNR=1418						
LVC				S	**Sn**	**23 22 44.5**	**+1.3**
	comp=Z,2μm,0.3s,baz=240,slow=20,SNR=97						
LVC				LR	LR	23 22 59.4	
	comp=Z,66nm,19.6s,baz=338,slow=46						
LVC	**Limon Verde**	**1.22**	**329**	*e*P	**Pn**	**23 22 24.7**	**+1.2**
LVC				*e*S	**Sn**	**23 22 44.7**	**+1.5**
LVC	**Limon Verde**	**1.22**	**329**	*e*P	**Pn**	**23 22 24.4**	**+0.8**
PB15	**IPOC Station P**	**1.22**	**291**		**Pn**	**23 22 23.9**	**+0.5**
PB15	**IPOC Station P**	**1.22**	**291**	*e*P	**Pn**	**23 22 24.6**	**+1.2**
PB15				*e*S	**Sn**	**23 22 44.2**	**+1.2**
PB15	**IPOC Station P**	**1.22**	**291**	⇑*i*P	**Pn**	**23 22 24.7**	**+1.2**
PB15				*e*S	**Sn**	**23 22 44.0**	**+1.0**
PB06	**IPOC Station P**	**1.56**	**307**		**Pn**	**23 22 28.0**	**+1.1**
PB06	**IPOC Station P**	**1.56**	**307**	*e*P	**Pn**	**23 22 28.0**	**+1.1**
PB06				*e*S	**Sn**	**23 22 50.0**	**+0.8**
PB06				IAML		23 22 51.9	
	comp=Z,3μm,0.4s						
PB06	**IPOC Station P**	**1.56**	**307**	⇑*e*P	**Pn**	**23 22 28.1**	**+1.3**
PB06				*e*S	**Sn**	**23 22 49.7**	**+0.5**
PB06				IAML		23 22 51.2	
	comp=E,5μm,0.4s						
GO02	**Mina Guanaco**	**1.94**	**219**		**Pn**	**23 22 32.6**	**+1.0**
GO02	**Mina Guanaco**	**1.94**	**219**	*e*P	**Pn**	**23 22 32.5**	**+1.0**
GO02				*e*S	**Sn**	**23 22 58.8**	**+1.3**
GO02	**Mina Guanaco**	**1.94**	**219**	⇑*i*P	**Pn**	**23 22 32.6**	**+1.0**
GO02				*e*S	**Sn**	**23 22 58.9**	**+1.3**
GO02				IAML		23 22 58.9	
	comp=E,4μm,0.1s						
PB05	**IPOC Station P**	**1.98**	**293**		**Pn**	**23 22 32.2**	**+0.5**
PB09	**IPOC Station P**	**2.07**	**333**		**Pn**	**23 22 34.5**	**+1.5**
PB09	**IPOC Station P**	**2.07**	**333**	*e*P	**Pn**	**23 22 34.0**	**+1.0**
PB09				*e*S	**Sn**	**23 23 01.2**	**+1.2**
PB09				IAML		23 23 03.3	
	comp=Z,1μm,0.7s						
PB09	**IPOC Station P**	**2.07**	**333**	*e*P	**Pn**	**23 22 34.7**	**+1.7**
PB09				*e*S	**Sn**	**23 23 01.9**	**+1.8**
PB10	**IPOC Station P**	**2.14**	**273**		**Pn**	**23 22 34.5**	**+1.0**
PB10	**IPOC Station P**	**2.14**	**273**	*e*P	**Pn**	**23 22 34.5**	**+1.0**
PB10				*e*S	**Sn**	**23 23 01.9**	**+0.8**
PB10				IAML		23 23 04.7	
	comp=Z,674nm,0.3s						
PB10	**IPOC Station P**	**2.14**	**273

PATCX IAML 23 23 25.0
comp=Z,363nm,0.5s
PATCX Punta Patache 3.34 327 *eP* **Pn 23 22 48.6 -0.4**
TA01 Diego Aracena 3.57 329 **Pn 23 22 50.8 -1.0**
TA01 Diego Aracena 3.57 329 *eP* **Pn 23 22 51.0 -0.8**
TA01 *eS* Sn 23 23 21.0 -13
TA01 IAML 23 23 27.4
comp=Z,169nm,0.3s
TA01 Diego Aracena 3.57 329 *eP* **Pn 23 22 51.1 -0.8**
HMBC Humberstone 3.70 335 **Pn 23 22 52.6 -1.0**
HMBC Humberstone 3.70 335 *eP* **Pn 23 22 52.8 -0.9**
TA02 Huaiquique 3.80 332 Pn **Pn 23 22 56.1 +1.2**
GO01 Chusmiza 4.07 347 **Pn 23 22 59.0 +0.2**
GO01 Chusmiza 4.07 347 *eP* **Pn 23 22 59.6 +0.7**
GO01 *eS* Sn 23 23 33.1 -13
PB11 IPOC Station P 4.10 341 **Pn 23 22 58.0 -0.9**
AC06 Mina Casimiro 4.15 207 **Pn 23 22 58.1 -1.4**
GO03 Copiap 4.32 204 **Pn 23 23 00.6 -1.1**
GO03 Copiap 4.32 204 *eP* **Pn 23 23 00.7 -1.1**
GO03 *eS* **Sn 23 23 50.2 -1.4**
VCA Vinchina 5.06 180 *eP* **Pn 23 23 13.0 +1.3**
VCA *eS* **Sn 23 24 15.7 +6.3**
AC05 El Transito 5.47 199 Pn **Pn 23 23 15.1 -2.1**
LCO Las Campanas 5.77 202 Pn **Pn 23 23 18.7 -2.6**
CO01 Juntas del Tor 6.51 194 Pn **Pn 23 23 29.7 -1.5**
LPAZ La Paz 7.33 1 P **Pn 23 23 42.9 +0.3**
LPAZ La Paz 7.33 1 P **Pn 23 23 43.5 +0.8**
comp=Z,3.6nm,0.4s,baz=187,slow=7.7,SNR=28
LPAZ S **Sn 23 25 04.7 -0.2**
comp=Z,2.0nm,0.6s,baz=250,slow=14,SNR=1.0
LPAZ La Paz 7.33 1 *eP* **Pn 23 23 40.2 -2.4**
CO03 El Pedregal 7.48 196 Pn **Pn 23 23 41.5 -2.6**
BBSD Serra de San D 9.62 49 *eP* **Pn 23 24 10.2 -2.6**
SIV San Ignacio 10.17 43 P **Pn 23 24 17.1 -3.1**
comp=Z,3.6nm,0.4s,baz=249,slow=8.8,SNR=31
SIV S Sn 23 26 00.5 -12
comp=Z,1.6nm,0.4s,baz=284,slow=18,SNR=1.6
LMEL Las Melosas 10.30 189 Pn **Pn 23 24 19.5 -2.4**
PTLB Pontes e Lacer 11.83 48 **Pn 23 24 40.1 -2.1**
PTLB Pontes e Lacer 11.83 48 *eP* **Pn 23 24 40.4 -1.8**
VILB Vilhena 13.09 37 **Pn 23 24 55.7 -2.8**
CRSM Crissiumal (Br 13.36 110 *eP* **P 23 25 05.4 -1.2**
SALV Santo Antonio 14.09 59 *eP* **Pn 23 25 12.4 +1.1**
TRCB Terra Rica 14.37 90 *eP* **P 23 25 17.2 -0.7**
ALGR Alto Alegre (B 14.57 114 *eP* **P 23 25 19.9 -0.1**
PTGB Pitanga 14.79 97 *eP* **P 23 25 23.1 +0.5**
ITAB Concordia 14.97 107 Pn **Pn 23 25 21.3 -1.0**
PLTB Pedras Altas 15.25 125 Pn **Pn 23 25 23.9 -1.9**
PLTB IAmb IAmb 23 25 39.9
comp=Z,19nm,1.4s
TRQA Tornquist 15.32 161 **Pn 23 25 26.0 -0.5**
LDASE Londrina, Braz 15.70 92 *eP* **P 23 25 32.8 +0.2**
PCMB Pacaembu 15.80 86 *eP* **P 23 25 34.5 +0.8**
GO06 Curarrehue 16.11 189 **Pn 23 25 34.9 -1.6**
GO06 IAmb IAmb 23 25 40.3
comp=Z,9.4nm,0.8s
PDRB Porto dos Gac 16.22 44 *eP* **Pn 23 25 36.5 -1.3**
ITRB Iturama 17.07 80 *eP* **Pn 23 25 48.3 +0.2**
ARAG Araguaiana, MT 17.36 66 *eP* **P 23 25 50.1 -0.8**
LL06 Loncomilla 19.05 192 P **P 23 26 08.1 -1.0**
IPMB Ipameri, GO 19.54 77 *eP* **P 23 26 13.6 -1.2**
VAO Valinhos 19.54 92 P **P 23 26 12.1 -2.7**
VAO Valinhos 19.54 92 *eP* **P 23 26 13.4 -1.3**
SNDB Serra Nova Dou 19.85 57 *eP* **P 23 26 16.0 -2.1**
TEFE Tefe 20.33 10 *eP* **P 23 26 22.2 -1.0**
BDFB Brasilia 20.63 71 P **P 23 26 24.1 -2.4**
BDFB IAmb IAmb 23 26 27.3
comp=Z,16nm,1.3s
BDFB Brasilia 20.63 71 P **P 23 26 24.2 -2.3**
comp=Z,5.8nm,0.6s,baz=232,slow=12,SNR=8.5
comp=Z,5.8nm,0.6s
NPGB Novo Progresso 20.63 39 *eP* **P 23 26 25.0 -1.5**
MACA Manacapuru-AM 21.64 21 P **P 23 26 35.8 -1.5**
ITTB Itaituba 22.66 34 *eP* **P 23 26 45.9 -1.6**
SDBA SAO DESIDERIO 24.80 67 *eP* **P 23 27 07.2 0.0**
MAL2 Monte Alegre, 25.45 34 P **P 23 27 12.7 -0.4**
MAL2 IAmb IAmb 23 27 17.2
comp=Z,13nm,0.7s
BOAV Boa Vista 26.96 17 P **P 23 27 26.4 -0.1**
BELA Belgrano 2 56.53 172 P **P 23 31 26.2 +0.9**
BELA IAmb IAmb 23 31 27.9
comp=Z,6.3nm,1.5s
SNAA Sanae 60.05 161 P **P 23 31 50.1 +0.3**
SNAA Sanae 60.05 161 P **P 23 31 50.4 +0.7**
comp=Z,0.4nm,0.6s,baz=260,slow=5.9,SNR=5.3
comp=Z,0.4nm,0.6s
TKL Tuckaleechee C 60.80 346 LR LR 00 01 08.5
comp=Z,44nm,18.5s,baz=28,slow=39
TXAR Lajitas Array 62.75 325 P **P 23 32 09.4 +0.9**
comp=Z,0.1nm,0.5s,baz=144,slow=11,SNR=1.8
comp=Z,0.1nm,0.5s
QSPA South Pole Qui 66.55 180 P **P 23 32 34.4 +1.7**
QSPA IAmb IAmb 23 32 42.9
comp=Z,8.2nm,1.5s
QSPA South Pole Qui 66.55 180 P **P 23 32 34.2 +1.5**
comp=Z,1.2nm,0.5s,baz=241,slow=1.2,SNR=17
comp=Z,1.2nm,0.5s
DBIC Dimbokro 68.77 72 P **P 23 32 47.9 +0.6**
comp=Z,6.9nm,1.2s,baz=212,slow=7.9,SNR=1.4
comp=Z,6.9nm,1.2s
TOA0 Torodi Ar. Sit 77.50 70 P **P 23 33 38.8 +0.1**
TOA0 IAmb IAmb 23 33 40.0
comp=Z,5.4nm,0.9s
TORD Torodi Ar. Bea 77.50 70 P **P 23 33 39.4 +0.7**
comp=Z,4.3nm,0.6s,baz=244,slow=4.6,SNR=24
comp=Z,4.3nm,0.6s
ULM Lac du Bonnet 77.55 342 P **P 23 33 39.0 +0.9**
comp=Z,1.8nm,0.7s,baz=168,slow=12,SNR=3.4
comp=Z,1.8nm,0.7s
BOSA Boshof 81.89 118 P **P 23 34 02.7 +0.3**
BOSA IAmb IAmb 23 34 07.9
comp=Z,5.9nm,1.2s
BOSA Boshof 81.89 118 P **P 23 34 02.7 +0.3**
comp=Z,0.7nm,0.4s,baz=196,slow=14,SNR=1.6
comp=Z,0.7nm,0.4s
ESDC Sonseca Array 86.93 44 P **P 23 34 29.6 +2.3**
comp=Z,0.8nm,1.0s,baz=297,slow=8.5,SNR=2.6
comp=Z,0.8nm,1.0s
WRA Warramunga Arr 131.40 209 PKP **PKiKP 23 40 56.0 +0.4**
comp=Z,0.3nm,0.8s,baz=149,slow=3.3,SNR=1.7
ZALV Zalesovo Beam 143.61 27 PKP **PKPdf 23 41 15.1 -0.8**
comp=Z,1.2nm,0.7s,baz=278,slow=4.3,SNR=5.0
MKAR Makanchi Array 146.97 38 PKPbc **PKPab 23 41 25.9 0.0**
comp=Z,1.6nm,0.7s,baz=315,slow=2.7,SNR=14

IDC 18 23:26:57.2±5.1, 11°.91S×166°.93E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=257.8km s-min=31.1km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.30**	**252**	P	P	23 33 28.1	-0.1
	0.6nm,0.6s,baz=83,slow=9.0,SNR=10						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**33.46**	**245**	P	P	23 33 38.4	0.0
	0.4nm,0.3s,baz=74,slow=9.2,SNR=4.1						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**83.97**	**18**	P	P	23 39 29.0	0.0
	1.4nm,0.6s,baz=234,slow=5.7,SNR=16						
	1.4nm,0.6s						

IDC 18 23:27:45.9±8.3, 17°.21S×174°.62W, h0km, mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=216.0km s-min=48.3km az=28.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.13**	**241**	P	P	23 35 40.1	-0.1
	1.9nm,0.6s,baz=105,slow=8.0,SNR=2.3						
	1.9nm,0.6s						
WRA	**Warramunga Arr**	**48.31**	**258**	P	P	23 36 29.1	-0.4
	2.4nm,0.5s,baz=96,slow=7.0,SNR=83						
	2.4nm,0.5s						
ASAR	**Alice Springs**	**48.46**	**253**	P	P	23 36 30.7	+0.1
	8.6nm,0.6s,baz=86,slow=8.7,SNR=71						
	8.6nm,0.6s						
QSPA	**South Pole Qui**	**72.84**	**180**	P	P	23 39 16.5	+0.1
	1.9nm,1.0s,baz=82,slow=1.2,SNR=3.4						
	1.9nm,1.0s						

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*ISK **18** 23:28:43.2, 39°.55N×26°.04E, h6km, ML2.5/20*
*ATH **18** 23:28:44.1, 39°.55N×26°.03E, h11km±2km, ML2.4/2, Error ellipse: s-maj=2.3km s-min=0.9km az=94.0*
*AFAD **18** 23:28:44.0±0.0, 39°.57N×26°.10E, h9km±1km, ML2.3*

ISC 18 23:28:43.4±0.9, 39°.55N±0°.02×26°.05E±0°.02, h14km±5km, n48, σ0°70/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.09**	**122**	P	**Pg**	**23 28 46.4**	**-0.1**
KOCA				S	**Sg**	**23 28 48.1**	**-0.4**
GPNR	**Gulpinar-Canak**	**0.11**	**143**	Pg	**Pg**	**23 28 46.5**	**-0.2**
GPNR				Sg	**Sg**	**23 28 48.6**	**-0.3**
BOZC	**Bozcaada**	**0.29**	**1**	P	**Pg**	**23 28 49.9**	**+0.2**
BOZC				S	**Sg**	**23 28 53.9**	**+0.1**
BOZC				*i* AML	AML	23 28 54.0	
	comp=N,382nm,0.3s						
EZNE	**Ezine-Canakkal**	**0.32**	**50**	Pg	**Pg**	**23 28 50.4**	**+0.3**
EZNE				Sg	**Sg**	**23 28 55.1**	**+0.5**
PRK	**Paraskevi**	**0.35**	**150**	P	**Pg**	**23 28 50.9**	**+0.4**
PRK				S	**Sg**	**23 28 56.2**	**+0.8**
EZN	**Ezine**	**0.35**	**38**	Pg	**Pg**	**23 28 50.8**	**+0.2**
EZN				Sg	**Sg**	**23 28 55.9**	**+0.4**
SIGR	**SIGRI**	**0.37**	**204**	Pg	**Pg**	**23 28 51.1**	**+0.2**
SIGR				Sg	**Sg**	**23 28 56.5**	**+0.6**
SIGR	**SIGRI**	**0.37**	**204**	P	**Pg**	**23 28 51.1**	**+0.2**
SIGR				S	**Sg**	**23 28 56.3**	**+0.4**
SIGR				AML	AML	23 28 56.9	
	comp=E,1049μm,0.2s						
SIGR				AML	AML	23 28 56.9	
	comp=N,1135μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.43**	**63**	P	**Pg**	**23 28 52.0**	**-0.1**
BAYC				S	**Sg**	**23 28 57.1**	**-0.8**
ECEA	**Canakkale, Ece**	**0.51**	**11**	P	**Pg**	**23 28 53.9**	**+0.5**
ECEA				S	**Sg**	**23 28 60.0**	**-0.3**
ECEA				*i* AML	AML	23 29 01.0	
	comp=N,211nm,0.3s						
ECEA				*i* AML	AML	23 29 02.0	
	comp=N,265nm,0.3s						
AYVA	**Ayvalik**	**0.55**	**115**	P	**Pg**	**23 28 54.1**	**-0.3**
AYVA				S	**Sb**	**23 29 03.4**	**+0.8**
AYVA				*i* AML	AML	23 29 09.0	
	comp=N,150nm,0.4s						
CNKL	**anakkale-Mer**	**0.58**	**27**	P	**Pg**	**23 28 54.6**	**-0.2**
CNKL				S	**Sg**	**23 29 02.1**	**-0.5**
GOAD	**anakkale-G¶**	**0.62**	**350**	P	**Pg**	**23 28 55.7**	**0.0**
COMU	**Canakkale**	**0.64**	**31**	Pg	**Pg**	**23 28 55.9**	**-0.1**
GADA	**Gvkgeada**	**0.65**	**350**	Pg	**Pg**	**23 28 56.1**	**-0.1**
LIA	**Limnos Island**	**0.75**	**298**	P	**Pg**	**23 28 58.4**	**+0.3**
LIA				S	**Sg**	**23 29 08.5**	**+0.6**
LIA				AML	AML	23 29 11.6	
	comp=E,934μm,0.4s						
LIA				AML	AML	23 29 13.0	
	comp=N,925μm,0.3s						
BUHA	**Balikesir, Bur**	**0.80**	**93**	P	**Pg**	**23 28 58.7**	**-0.3**
BUHA				S	**Sg**	**23 29 09.8**	**+0.4**
BUHA				*i* AML	AML	23 29 14.0	
	comp=N,102nm,0.2s						
DKL	**Dikili**	**0.82**	**125**	Pg	**Pg**	**23 28 59.5**	**+0.2**
IZMD	**zmir-Dikili-**	**0.89**	**129**	P	**Pg**	**23 29 00.6**	**0.0**
IZMD				S	**Sg**	**23 29 12.2**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.91**	**21**	Pg	**Pg**	**23 29 01.0**	**-0.1**
KARB	**zmir-Karabur**	**0.93**	**162**	P	**Pg**	**23 29 01.8**	**+0.4**
KARB				*i* AML	AML	23 29 15.0	
	comp=N,105nm,0.2s						
KARB				*i* AML	AML	23 29 16.0	
	comp=N,116nm,0.4s						
FOCM	**Foa**	**0.99**	**147**	Pg	**Pg**	**23 29 02.9**	**+0.4**
ZEDA	**zmir-Bergama**	**0.99**	**126**	P	**Pg**	**23 29 02.9**	**+0.4**
ZEDA				S	**Sg**	**23 29 15.1**	**-0.3**
ZEDA				*i* AML	AML	23 29 18.0	
	comp=N,87nm,0.2s						
LPK	**Lapseki**	**0.99**	**33**	Pg	**Pg**	**23 29 02.3**	**-0.3**
SMTH	**Samothraki Isl**	**1.00**	**337**	P	**Pg**	**23 29 02.8**	**-0.1**
ENZZ	**Sultanice-Enez**	**1.06**	**4**	Pg	**Pg**	**23 29 03.9**	**0.0**
PSRA	**Psara**	**1.07**	**201**	P	**Pg**	**23 29 03.9**	**-0.2**
CAVK	**Edirne/Enez-Ca**	**1.15**	**5**	P	**Pg**	**23 29 05.1**	**-0.5**
CAVK				S	**Sg**	**23 29 18.7**	**-1.8**
CHOS	**Chios island**	**1.16**	**180**	P	**Pg**	**23 29 05.6**	**-0.2**
ERIK	**Erikli-Kesan**	**1.18**	**18**	Pn	**Pb**	**23 29 05.4**	**-0.2**
ENEZ	**Enez**	**1.19**	**4**	Pn	**Pb**	**23 29 06.0**	**+0.2**
SOMA	**Soma-Manisa**	**1.22**	**108**	Pn	**Pn**	**23 29 07.2**	**+1.2**
BALY	**Balya**	**1.23**	**80**	P	**Pn**	**23 29 06.5**	**+0.2**
BALY				S	**Sb**	**23 29 22.0**	**-0.3**
BALY				*i* AML	AML	23 29 24.0	
	comp=N,86nm,0.4s						
BALY				*i* AML	AML	23 29 26.0	
	comp=N,46nm,0.3s						
URLA	**Izmir**	**1.26**	**160**	Pn	**Pn**	**23 29 07.8**	**+1.1**
URLA	**Izmir**	**1.26**	**160**	P	**Pn**	**23 29 06.0**	**-0.6**
URLA				S	**Sb**	**23 29 21.5**	**-1.6**
KRBG	**Karabiga-Canak**	**1.28**	**48**	Pn	**Pn**	**23 29 07.8**	**+0.9**
STEP	**BALIKESIR_Sava**	**1.31**	**97**	P	**Pn**	**23 29 07.8**	**+0.6**
ALN	**Alexandroupoli**	**1.35**	**360**	Pn	**Pn**	**23 29 08.8**	**+1.0**
ALN	**Alexandroupoli**	**1.35**	**360**	P	**Pn**	**23 29 08.0**	**+0.1**
KNL	**Balıkesir**	**1.35**	**57**	P	**Pn**	**23 29 08.3**	**+0.4**
ZEYE	**Izmir, Urla-Ze**	**1.35**	**165**	P	**Pn**	**23 29 08.2**	**+0.3**
ZEYE				S	**Sb**	**23 29 23.0**	**-2.7**
RKY	**Sarkoy-Tekirda**	**1.43**	**37**	Pn	**Pn**	**23 29 10.2**	**+1.2**
MRMT	**Marmara Adasi**	**1.59**	**48**	Pn	**Pn**	**23 29 12.5**	**+1.3**
SUSR	**Susurluk-Balik**	**1.62**	**75**	Pn	**Pn**	**23 29 12.4**	**+0.8**
UKOP	**Uzunkopru-Edir**	**1.64**	**16**	Pn	**Pn**	**23 29 13.1**	**+1.2**
RDO	**Rodhopi**	**1.64**	**346**	P	**Pn**	**23 29 12.5**	**+0.7**
OUR	**Ouranopolis**	**1.77**	**297**	P	**Pn**	**23 29 14.6**	**+1.0**
KOKK	**Kokkinochori,**	**2.02**	**310**	P	**Pn**	**23 29 16.5**	**-0.5**

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*NOU **19** 00:32:25.9, 21°.26S×169°.69E, h0km, MLv3.9/8, Southeast of Loyalty Islands*
*IDC **19** 00:32:27.1±0.9, 21°.33S×169°.55E, h0km, mb3.9/5, mbtmp4.0/7, ML3.6/2, MS3.3/4, Error ellipse: s-maj=30.4km s-min=25.6km az=162.0*
*NEIC **19** 00:32:29.8±1.4, 21°.24S±0°.04×169°.4E±0°.1, h10km±1km, mb4.4/8, Error ellipse: s-maj=17.9km s-min=8.1km az=91.0*

ISC 19 00:32:30.4±0.7, 21°.31S±0°.09×169°.45E±0°.08, h21km, n51, σ0°93/44, mb4.3/9, 10C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.34**	**262**	P	**Pn**	**00 32 54.0**	**+0.2**
LIFNC	**LIFOU**	**2.13**	**284**	P	**Pn**	**00 33 04.4**	**-0.4**
LIFNC	**LIFOU**	**2.13**	**284**		**Pn**	**00 33 04.0**	**-0.7**
PINNC	**Pines Island,**	**2.27**	**235**	P	**Pn**	**00 33 07.4**	**+0.7**
PINNC	**Pines Island,**	**2.27**	**235**		**Pn**	**00 33 06.9**	**+0.2**
YATNC	**Mamie plateau,**	**2.50**	**252**	P	**Pn**	**00 33 09.6**	**-0.2**
DZM	**Mont Dzumac**	**2.90**	**254**	P	**Pn**	**00 33 16.6**	**+1.2**
DZM	**Mont Dzumac**	**2.90**	**254**		**Pn**	**00 33 16.3**	**+0.9**
DZM	**Mont Dzumac**	**2.90**	**254**	Pn	**Pn**	**00 33 16.4**	**+1.0**
	10nm,0.3s,baz=115,slow=10.0,SNR=68						
DZM				Sn	**Sn**	**00 33 48.3**	**-1.4**
	22nm,0.3s,baz=230,slow=24,SNR=8.3						
DZM				LR	LR	00 33 56.5	
	comp=Z,323nm,20.0s,baz=94,slow=30						
	20nm,0.3s						
ONTNC	**Ouen Toro**	**2.96**	**250**	P	**Pn**	**00 33 17.2**	**+1.1**
ONTNC	**Ouen Toro**	**2.96**	**250**		**Pn**	**00 33 16.3**	**+0.1**
NOUC	**Port Laguerre**	**3.03**	**254**	P	**Pn**	**00 33 18.6**	**+1.4**
KOUNC	**Koumac, New Ca**	**4.89**	**278**	P	**Pn**	**00 33 44.6**	**+1.9**
KOUNC	**Koumac, New Ca**	**4.89**	**278**		**Pn**	**00 33 44.1**	**+1.4**
URZ	**Urewera**	**18.14**	**160**	P	**Pn**	**00 36 39.9**	**-1.1**
	0.1nm,0.3s,baz=49,slow=18,SNR=2.2						
URZ				LR	LR	00 42 47.9	
	comp=Z,255nm,19.5s,baz=32,slow=34						
	4.3nm,0.9s						
RTZ	**Ruatahuna**	**18.43**	**161**		**Pn**	**00 36 46.5**	**+1.9**
RTZ				IAmb	IAmb	00 36 56.5	
	comp=Z,13nm,0.9s						
NIUE	**Niue**	**19.48**	**87**	P	**Pn**	**00 36 57.1**	**-0.3**
MRZ	**Mangatainoka R**	**19.98**	**166**		**Pn**	**00 37 02.7**	**-0.4**
MRZ				IAmb	IAmb	00 37 17.1	
	comp=Z,30nm,1.5s						
TCW	**Tory Channel**	**20.26**	**169**	P	Pn	00 37 05.5	-0.9
CTA	**Charters Tower**	**21.73**	**269**	LR	LR	00 45 04.6	
	comp=Z,15nm,18.7s,baz=214,slow=35						
STKA	**Stephens Creek**	**26.97**	**241**	LR	LR	00 47 26.4	
	comp=Z,276nm,20.8s,baz=18,slow=33						
WB0	**Warramunga Arr**	**32.83**	**266**	P	**P**	**00 39 02.8**	**0.0**
WB0				IAmb	IAmb	00 39 24.7	
	comp=Z,4.7nm,1.1s						
WRA	**Warramunga Arr**	**32.85**	**266**	P	**P**	**00 39 03.0**	**+0.1**
WRA	**Warramunga Arr**	**32.85**	**266**	P	**P**	**00 39 03.1**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=97,slow=8.4,SNR=6.9						
	comp=Z,0.3nm,0.4s						
AS31	**Alice Springs**	**32.88**	**259**	P	**P**	**00 39 01.4**	**-1.8**
ASAR	**Alice Springs**	**32.88**	**259**	P	**P**	**00 39 02.7**	**-0.5**
ASAR	**Alice Springs**	**32.88**	**259**	P	**P**	**00 39 03.9**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=85,slow=9.1,SNR=11						
	comp=Z,1.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**41.28**	**267**	P	**P**	**00 40 14.9**	**+0.4**
QSPA	**South Pole Qui**	**68.76**	**180**	P	**P**	**00 43 33.0**	**+0.4**
QSPA				IAmb	IAmb	00 43 53.0	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**68.76**	**180**	P	**P**	**00 43 32.6**	**0.0**
	comp=Z,2.4nm,0.9s,baz=18,slow=3.6,SNR=6.5						
	comp=Z,2.4nm,0.9s						
TROLL	**Troll, Antarti**	**86.50**	**184**	⇑P	**P**	**00 45 11.3**	**-0.1**
	comp=Z,144nm,0.7s						
TROLL	**Troll, Antarti**	**86.50**	**184**	⇑P	P	00 45 18.1	+6.7
	comp=Z,208nm,0.7s						
SNAA	**Sanae**	**87.11**	**182**	⇑P	**P**	**00 45 14.0**	**-0.4**
	comp=Z,13nm,0.6s						
SNAA	**Sanae**	**87.11**	**182**	⇑P	P	00 45 19.8	+5.4
	comp=Z,31nm,0.6s						
VNA3	**Neumayer Olymp**	**87.69**	**180**	⇑P	**P**	**00 45 16.8**	**-0.3**
	comp=Z,3.6nm,0.6s						
VNA3	**Neumayer Olymp**	**87.69**	**180**	⇑P	P	00 45 23.8	+6.7
	comp=Z,5.7nm,0.8s						
VNA2	**Neumayer--Watz**	**87.99**	**181**	⇑P	**P**	**00 45 18.3**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=185,slow=5.3						
VNA2	**Neumayer--Watz**	**87.99**	**181**	⇑P	P	00 45 24.8	+6.2
	comp=Z,3.6nm,0.6s,baz=175,slow=5.0						
VNA1	**Neumayer--Stat**	**88.28**	**181**	⇑P	**P**	**00 45 18.0**	**-1.8**
	comp=Z,2.8nm,0.8s						
VNA1	**Neumayer--Stat**	**88.28**	**181**	⇑P	P	00 45 27.0	+7.2
	comp=Z,4.2nm,0.9s						
SONM	**Songino Array**	**88.99**	**323**	P	**P**	**00 45 24.3**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=106,slow=3.8,SNR=4.4						
	comp=Z,0.3nm,0.4s						
NVAR	**Mina Array Bea**	**90.02**	**48**	P	**P**	**00 45 29.0**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=235,slow=5.2,SNR=6.5						
	comp=Z,0.9nm,0.7s						
FINES	**FINESS Array B**	**132.56**	**337**	PKP	**PKPdf**	**00 51 43.0**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=29,slow=3.2,SNR=4.0						
EKA	**Eskdalemuir Ar**	**145.57**	**353**	PKPbc	**PKPdf**	**00 52 05.7**	**-1.1**
	comp=Z,2.0nm,0.4s,baz=359,slow=2.6,SNR=46						
RONA	**Rosalia, Austr**	**145.93**	**327**	*e*PKP	**PKPbc**	**00 52 08.4**	**0.0**
	comp=Z,2.6nm,0.7s						
CONA	**Conrad Observa**	**146.00**	**328**	*e*PKP	**PKPbc**	**00 52 08.5**	**-0.1**
	comp=Z,2.6nm,1.0s						
GERES	**GERESS Array B**	**146.39**	**331**	PKPbc	**PKPbc**	**00 52 09.8**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=27,slow=3.3,SNR=8.6						
BIOA	**Bad Ischl, Aus**	**147.25**	**329**	*e*PKP	**PKPdf**	**00 52 10.9**	**+1.0**
	comp=Z,0.7nm,0.5s						
LESA	**Schwarzleotal**	**147.90**	**330**	*i* PKP	**PKPdf**	**00 52 09.1**	**-1.9**
	comp=Z,2.9nm,0.9s						
ABTA	**Abfaltersbach**	**148.46**	**329**	*e*PKP	**PKPdf**	**00 52 12.6**	**+0.6**
	comp=Z,1.7nm,0.9s						
FETA	**Feichten**	**149.09**	**331**	*e*PKP	**PKPdf**	**00 52 13.7**	**+0.6**
	comp=Z,1.9nm,0.7s						

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*IDC **19** 00:39:29.0±2.8, 21°.57N×143°.31E, h307km±26km, mb3.2/9, mbtmp3.9/11, Error ellipse: s-maj=36.5km s-min=19.4km az=85.0*

ISC 19 00:39:28.5±1.2, 21°.6N±0°.1×143°.2E±0°.3, h300km, n11, σ0°79/12, mb3.5/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.54**	**350**	P	**Pn**	**00 40 53.0**	**+0.7**
	18nm,0.4s,baz=127,slow=20,SNR=1.3						
JCJ				S	**S**	**00 41 58.8**	**-1.1**
	63nm,1.0s,baz=283,slow=20,SNR=2.0						
MJAR	**Matsushiro Arr**	**15.51**	**345**	P	**Pn**	**00 42 52.8**	**0.0**
	1.0nm,0.3s,baz=162,slow=8.5,SNR=4.0						
WRA	**Warramunga Arr**	**42.20**	**192**	P	**P**	**00 46 52.5**	**-0.3**
	0.2nm,0.3s,baz=14,slow=9.4,SNR=6.8						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**54.30**	**322**	P	**P**	**00 48 24.5**	**+0.3**
	0.5nm,0.4s,baz=119,slow=9.1,SNR=2.5						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**54.79**	**313**	P	**P**	**00 48 28.5**	**+0.6**
	0.4nm,0.5s,baz=88,slow=8.9,SNR=5.4						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**57.62**	**317**	P	**P**	**00 48 48.1**	**+0.5**
	1.8nm,0.5s,baz=96,slow=7.9,SNR=10						
	1.8nm,0.5s						
ILAR	**Eielson Array**	**62.10**	**27**	P	**P**	**00 49 18.0**	**+0.3**
	0.3nm,0.7s,baz=259,slow=5.6,SNR=4.2						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**62.77**	**320**	P	**P**	**00 49 22.9**	**+0.5**
	1.6nm,0.3s,baz=94,slow=7.9,SNR=11						
	1.6nm,0.3s						
ARCES	**ARCESS Array B**	**79.02**	**342**	P	**P**	**00 50 59.7**	**+0.5**
	0.5nm,0.3s,baz=71,slow=8.7,SNR=2.0						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**83.28**	**334**	P	**P**	**00 51 20.9**	**-0.7**
	0.3nm,0.3s,baz=66,slow=4.5,SNR=7.1						
	0.3nm,0.3s						
HFS	**Hagfors**	**88.82**	**337**	P	**P**	**00 51 47.1**	**-1.4**
	0.3nm,0.5s,baz=45,slow=2.9,SNR=1.0						
	0.3nm,0.5s						

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*ATH **19** 00:40:42.6, 34°.91N×25°.10E, h7km±1km, ML3.3/12, Manual Solution by K.Orfanogiannaki This location: 2020/06/28 10:25:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*IDC **19** 00:40:43.2±1.4, 34°.73N×25°.30E, h0km, mb3.7/3, mbtmp3.5/6, ML3.7/3, Error ellipse: s-maj=35.4km s-min=24.3km az

ARG	Arkhangelos	2.79 61	P	Pn	00 41 28.6	+0.1
KRND	KRANIDI	2.92 328	P	Pn	00 41 30.5	+0.1
VLY	Voula,Athens	3.12 341	P	Pn	00 41 33.2	+0.1
SMG	Samos	3.12 26	P	Pn	00 41 33.2	0.0
PYL	PYLOS	3.37 307	P	Pn	00 41 36.8	+0.2
GUR	Goura	3.75 324	P	Pn	00 41 42.2	+0.4
KYMI	Kymi, Euboea I	3.80 348	P	Pn	00 41 42.4	-0.1
KLV	Kalavryta, Ach	3.92 324	P	Pn	00 41 44.7	+0.5
MMAI	Mount Meron Ar	8.77 100	Pn	Pn	00 42 49.5	-1.3
	0.7nm,0.3s,baz=289,slow=14,SNR=1.5					
	2.3nm,0.6s					
AKASG	Malin Array Be	16.06 10	Pn	P	00 44 32.2	-1.0
	0.7nm,0.3s,baz=203,slow=11,SNR=10					
	0.4nm,0.4s					
GERES	GERESS Array B	16.27 332	Pn	P	00 44 36.7	+1.0
	0.1nm,0.3s,baz=144,slow=14,SNR=2.6					
	0.3nm,0.4s					
TORD	Torodi Ar. Bea	30.29 230	P	P	00 46 56.4	+0.8
	0.4nm,0.4s,baz=36,slow=8.3,SNR=8.2					
	0.4nm,0.4s					
KURBB	Kurchatov Arra	41.31 51	P	P	00 48 29.3	-0.4
	0.3nm,0.4s,baz=275,slow=8.4,SNR=1.9					
	0.3nm,0.4s					
MKAR	Makanchi Array	43.95 56	P	P	00 48 51.7	+0.5
	0.4nm,0.3s,baz=268,slow=6.8,SNR=7.2					
	0.4nm,0.3s					

*SJA **19** 00:47:59.4±0.7, 24°.31S×67°.98W, h170km±5km, ML3.4, MW3.5*
*NEIC **19** 00:48:01.0±2.8, 24°.34S±0°.06×67°.90W±0°.06, h133km±9km, mb4.2/6, ML3.8(GUC), Error ellipse: s-maj=8.8km s-min=8.2km az=209.0*
*IDC **19** 00:48:02.8±2.1, 24°.16S×67°.72W, h134km±20km, mb3.3/4, mbtmp3.7/6, Error ellipse: s-maj=26.4km s-min=22.5km az=146.0*
*GUC **19** 00:48:02.6±0.7, 24°.29S×67°.98W, h138km±7km, ML3.7*
ISC 19 00:48:00.7±0.8, 24°.32S±0°.03×67°.94W±0°.04, h146km±7km, n81, σ1§41/104, mb4.0/6, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.38 351			Pn	00 48 29.2	+0.3
AF01				Sn	Sn	00 48 49.7	-0.8
AF01	San Pedro de A	1.38 351		eP	Pn	00 48 28.9	-0.1
AF01				IAML		00 49 07.5	
	comp=Z,218nm,0.5s						
AF01	San Pedro de A	1.38 351		eP	Pn	00 48 29.5	+0.5
AF01				eS	Sn	00 48 50.0	-0.5
AF01				IAML		00 48 51.2	
	comp=E,479nm,0.3s						
GO02	Mina Guanaco	1.72 240			Pn	00 48 33.8	+1.2
GO02	Mina Guanaco	1.72 240		eP	Pn	00 48 33.7	+1.1
GO02				eS	Sn	00 48 58.4	+1.3
GO02	Mina Guanaco	1.72 240	⇑	iP	Pn	00 48 33.9	+1.2
GO02				eS	Sn	00 48 58.2	+1.1
GO02				IAML		00 48 58.9	
	comp=N,2μm,0.2s						
PB15	IPOC Station P	1.78 308			Pn	00 48 34.2	+0.9
PB15	IPOC Station P	1.78 308		eP	Pn	00 48 33.7	+0.5
PB15				eS	Sn	00 48 59.9	+1.7
PB15	IPOC Station P	1.78 308	⇑	iP	Pn	00 48 34.1	+0.9
PB15				eS	Sn	00 48 59.2	+1.0
PB15				IAML		00 49 03.8	
	comp=E,2μm,0.3s						
LVC	Limon Verde	1.92 332			Pn	00 48 35.9	+0.9
LVC	Limon Verde	1.92 332		eP	Pn	00 48 35.9	+0.9
LVC				eS	Sn	00 49 02.0	+0.8
LVC				IAML		00 49 03.0	
	comp=Z,82nm,0.6s						
LVC	Limon Verde	1.92 332		P	Pn	00 48 36.0	+1.1
	comp=Z,19nm,0.4s,baz=131,slow=11,SNR=62						
LVC				S	Sn	00 49 01.5	+0.2
	comp=Z,111nm,0.4s,baz=193,slow=6.3,SNR=7.5						
LVC	Limon Verde	1.92 332		eP	Pn	00 48 36.0	+1.1
LVC				eS	Sn	00 49 01.4	+0.2
PB06	IPOC Station P	2.19 317			Pn	00 48 39.1	+1.1
PB06	IPOC Station P	2.19 317		eP	Pn	00 48 38.9	+0.9
PB06				eS	Sn	00 49 07.7	+1.0
PB06				IAML		00 49 13.4	
	comp=Z,103nm,0.2s						
PB06	IPOC Station P	2.19 317		eP	Pn	00 48 39.0	+0.9
PB06				eS	Sn	00 49 06.2	-0.5
PB06				IAML		00 49 08.8	
	comp=N,1μm,0.1s						
SLA	San Lorenzo	2.26 101		eP	Pn	00 48 40.3	+1.6
PB14	IPOC Station P	2.26 262			Pn	00 48 39.2	+0.2
PB14	IPOC Station P	2.26 262		eP	Pn	00 48 39.9	+0.9
PB14				eS	Sn	00 49 09.3	+0.8
PB14				IAML		00 49 17.1	
	comp=Z,204nm,0.3s						
PB10	IPOC Station P	2.52 288			Pn	00 48 42.8	+1.0
PB10	IPOC Station P	2.52 288		eP	Pn	00 48 42.9	+1.0
PB10				eS	Sn	00 49 13.6	+0.1
PB10				IAML		00 49 21.4	
	comp=Z,236nm,0.4s						
PB10	IPOC Station P	2.52 288		eP	Pn	00 48 43.0	+1.2
PB10				eS	Sn	00 49 13.9	+0.4
PB10				IAML		00 49 23.2	
	comp=E,225nm,0.3s						
FSA	Cafayete	2.52 136		eP	Pn	00 48 42.8	+0.8
PB05	IPOC Station P	2.53 305			Pn	00 48 42.7	+0.6
AZAP	Zapla	2.63 89		eP	Pn	00 48 42.8	-0.6
PB09	IPOC Station P	2.78 334			Pn	00 48 46.7	+1.4
PB09	IPOC Station P	2.78 334		eP	Pn	00 48 46.5	+1.2
PB09				eS	Sn	00 49 21.4	+1.7
PB09				IAML		00 49 26.5	
	comp=Z,78nm,0.5s						
PB09	IPOC Station P	2.78 334		eP	Pn	00 48 46.6	+1.4
PB09				eS	Sn	00 49 20.0	+0.4
PB09				IAML		00 49 25.0	
	comp=N,84nm,0.5s						
PB04	IPOC Station P	2.83 314		Pn	Pn	00 48 46.3	+0.3
PB04	IPOC Station P	2.83 314		eP	Pn	00 48 46.2	+0.3
PB04				eS	Sn	00 49 20.1	-0.7
PB04				IAML		00 49 31.3	
	comp=Z,115nm,0.4s						
PB04	IPOC Station P	2.83 314		eP	Pn	00 48 46.4	+0.5
AC01	Pan de Azucar	3.02 232			Pn	00 48 48.2	+0.2
AC01	Pan de Azucar	3.02 232		eP	Pn	00 48 48.2	+0.2
AC01				eS	Sn	00 49 20.9	-4.0
AC01				IAML		00 49 25.6	
	comp=Z,75nm,0.3s						
AC01	Pan de Azucar	3.02 232		iP	Pn	00 48 48.3	+0.2
YJA	Yavi	3.09 47		eP	Pn	00 48 50.9	+1.5
AHML	Horco Molle	3.41 137		eP	Pn	00 48 50.5	-2.6
ALOL	LOMAS DE OLMED	3.65 83		eP	Pn	00 48 57.1	+0.8
AC06	Mina Casimiro	3.73 215			Pn	00 48 57.1	-0.2
AC06	Mina Casimiro	3.73 215		eP	Pn	00 48 57.1	-0.2
AC06				eS	Sn	00 49 40.3	-0.9
GO03	Copiap	3.86 212			Pn	00 48 58.8	-0.3
GO03	Copiap	3.86 212		eP	Pn	00 48 59.1	+0.1
GO03				eS	Sn	00 49 44.4	0.0
GO03	Copiap	3.86 212		eP	Pn	00 48 59.1	+0.1
PATCX	Punta Patache	4.03 329		eP	Pn	00 49 01.0	-0.4
PATCX				eS	Sn	00 49 46.7	-1.8
PATCX				IAML		00 50 06.8	
	comp=Z,35nm,0.9s						
PATCX	Punta Patache	4.03 329		eP	Pn	00 49 00.5	-0.9
TA01	Diego Aracena	4.27 331		eP	Pn	00 49 04.0	-0.4
TA01				IAML		00 50 07.5	
	comp=Z,32nm,0.5s						
HMBC	Humberstone	4.40 335			Pn	00 49 06.3	0.0
HMBC	Humberstone	4.40 335		eP	Pn	00 49 06.2	-0.1
HMBC				eS	Sn	00 49 57.9	+0.6
HMBC				IAML		00 50 10.0	
	comp=Z,46nm,0.4s						
VCA	Vinchina	4.41 183		eP	Pn	00 49 08.5	+2.2
VCA				eS	Sn	00 50 01.2	+3.8
VCA				IAML		00 50 23.6	
	comp=Z,16nm,1.3s						
GO01	Chusmiza	4.77 346			Pn	00 49 11.4	-0.1
AC04	Llanos de Chal	4.79 215			Pn	00 49 09.7	-1.5
AC04	Llanos de Chal	4.79 215		eP	Pn	00 49 09.2	-2.0
AC04				eS	Sn	00 50 04.1	-2.0
AC04				IAML		00 50 23.4	
	comp=Z,37nm,0.5s						
AC04	Llanos de Chal	4.79 215		eP	Pn	00 49 09.7	-1.5
PB11	IPOC Station P	4.80 340		Pn	Pn	00 49 10.5	-1.1
PB11	IPOC Station P	4.80 340		eP	Pn	00 49 11.4	-0.2
PB11				eS	Sn	00 50 05.8	-1.0
PB11				IAML		00 50 19.4	
	comp=Z,18nm,0.3s						
AC05	El Transito	4.96 204			Pn	00 49 13.0	-0.7
AC05	El Transito	4.96 204		eP	Pn	00 49 12.6	-1.0
AC05				eS	Sn	00 50 09.6	-1.0
AC05				IAML		00 50 12.1	
	comp=Z,24nm,0.3s						
ACLC	CERRO LA CRUZ	5.17 170		eP	Pn	00 49 17.8	+1.5
LCO	Las Campanas	5.29 207			Pn	00 49 16.8	-1.3
LCO	Las Campanas	5.29 207		eS	Sn	00 50 17.1	-1.3
CO01	Juntas del Tor	5.96 198			Pn	00 49 26.9	-0.1
GO04	Tololo Observa	6.36 203		Pn	Pn	00 49 30.4	-2.0
CO03	El Pedregal	6.94 200			Pn	00 49 38.0	-2.0
CO06	Fray Jorge	7.13 207		Pn	Pn	00 49 39.4	-3.0
CO02	Combarbal	7.38 201		Pn	Pn	00 49 43.2	-2.6
LPAZ	La Paz	7.99 359		Pn	Pn	00 49 55.8	+1.3
LPAZ	La Paz	7.99 359		P	Pn	00 49 56.5	+1.9
	comp=Z,1.0nm,0.3s,baz=146,slow=5.4,SNR=6.3						
LPAZ				S	Sn	00 51 22.6	-1.3
	comp=Z,0.4nm,0.3s,baz=198,slow=1.3,SNR=1.5						
VA03	San Esteban	8.72 195		Pn	Pn	00 50 00.8	-3.0
MT02	Curacav	9.34 197		Pn	Pn	00 50 08.1	-3.8
SIV	San Ignacio	10.49 39		P	Pn	00 50 24.2	-3.2
	comp=Z,2.1nm,0.3s,baz=240,slow=12,SNR=17						
TBTG	Tabatinga, AM	20.10 354		P	Pn	00 52 24.7	-1.7
BDFB	Brasilia	20.60 69		P	P	00 52 28.2	-0.4
BDFB	Brasilia	20.60 69		P	Pn	00 52 29.2	-3.3
	comp=Z,2.0nm,0.5s,baz=239,slow=11,SNR=4.7						
	comp=Z,2.0nm,0.5s						
MACA	Manacapuru-AM	22.17 20		P	P	00 52 44.1	-0.9
MACA				IAmb	IAmb	00 52 58.6	
	comp=Z,10nm,1.3s						
SWET	Sewanee	61.61 343		P	P	00 58 04.6	+1.8
SWET				IAmb	IAmb	00 58 17.2	
	comp=Z,10.0nm,1.5s						
TXAR	Lajitas Array	63.44 325		P	P	00 58 17.6	+2.5
	comp=Z,0.1nm,0.4s,baz=146,slow=6.6,SNR=2.5						
	comp=Z,0.1nm,0.4s						
QSPA	South Pole Qui	65.89 180		P	P	00 58 34.0	+3.4
QSPA				IAmb	IAmb	00 58 38.4	
	comp=Z,4.2nm,1.4s						
QSPA	South Pole Qui	65.89 180		P	P	00 58 34.8	+4.2
	comp=Z,0.7nm,0.6s,baz=167,slow=1.6,SNR=5.4						
	comp=Z,0.7nm,0.6s						
TOA0	Torodi Ar. Sit	77.48 69		P	P	00 59 42.7	+2.2
TOA0				IAmb	IAmb	01 00 07.8	
	comp=Z,5.5nm,1.5s						
TORD	Torodi Ar. Bea	77.48 69		P	P	00 59 42.9	+2.4
	comp=Z,0.9nm,0.5s,baz=261,slow=5.3,SNR=15						
	comp=Z,0.9nm,0.5s						
ZALV	Zalesovo Beam	144.07 27		PKP	PKiKP	01 07 20.9	-1.3
	comp=Z,0.3nm,0.3s,baz=325,slow=1.8,SNR=4.4						
MKAR	Makanchi Array	147.31 39		PKPbc	PKiKP	01 07 29.7	+0.6
	comp=Z,0.6nm,0.5s,baz=310,slow=3.4,SNR=6.1						

*SJA **19** 01:01:40.2±0.6, 22°.79S×66°.36W, h263km±6km, ML3.8, MW3.7*
*GUC **19** 01:01:42.5±0.6, 22°.75S×66°.76W, h284km±9km, ML3.7*
*NEIC **19** 01:01:42.3±1.3, 22°.82S±0°.09×66°.6W±0°.1, h267km±5km, mb4.0/8, Error ellipse: s-maj=19.8km s-min=12.0km az=111.0*
*IDC **19** 01:01:49.8±8.6, 22°.04S×66°.09W, h294km±61km, mb3.2/1, mbtmp3.9/3, Error ellipse: s-maj=113.0km s-min=37.0km az=20.0*
ISC 19 01:01:40.3±0.7, 22°.80S±0°.05×66°.34W±0°.04, h245km±7km, n71, σ1§61/96, mb4.0/4, 2C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	Yavi	0.98 51		eP	Pn	01 02 17.5	+2.2
YJA				eS	S	01 02 36.2	-6.4
AF01	San Pedro de A	1.71 264		Pn	Pn	01 02 22.9	+2.7
AZAP	Zapla	1.84 141		eP	Pn	01 02 23.1	+1.9
SLA	San Lorenzo	2.06 158		eP	Pn	01 02 22.2	-0.9
LVC	Limon Verde	2.38 274		Pn	Pn	01 02 28.1	+1.7
LVC	Limon Verde	2.38 274		eP	Pn	01 02 27.9	+1.5
LVC				eS	S	01 03 02.9	+0.2
LVC	Limon Verde	2.38 274	⇑	iP	Pn	01 02 27.9	+1.5
LVC				i S	S	01 03 02.5	-0.2
ALOL	LOMAS DE OLMED	2.39 116		eP	Pn	01 02 27.9	+1.8
ALOL				eS	S	01 03 20.1	+18
PB09	IPOC Station P	2.87 290		Pn	Pn	01 02 33.3	+2.0
PB09	IPOC Station P	2.87 290		eP	Pn	01 02 32.9	+1.6
PB09				eS	S	01 03 11.9	+0.5
PB09				IAML		01 03 16.4	
	comp=Z,82nm,0.2s						
PB09	IPOC Station P	2.87 290		eP	Pn	01 02 33.1	+1.9
PB09				i S	S	01 03 11.1	-0.3
PB09				IAML		01 03 16.6	
	comp=N,89nm,0.2s						
PB15	IPOC Station P	2.92 261		Pn	Pn	01 02 33.8	+2.0
PB15	IPOC Station P	2.92 261		eP	Pn	01 02 33.3	+1.5
PB15				eS	S	01 03 12.1	-0.3
PB15	IPOC Station P	2.92 261		eP	Pn	01 02 33.0	+1.2
PB15				i S	S	01 03 11.8	-0.5
PB06	IPOC Station P	2.99 271		Pn	Pn	01 02 33.8	+1.2
PB06	IPOC Station P	2.99 271		eP	Pn	01 02 33.9	+1.4
PB06				eS	S	01 03 14.1	+0.4
PB06				IAML		01 03 17.0	
	comp=Z,96nm,0.1s						
PB06	IPOC Station P	2.99 271		eP	Pn	01 02 33.4	+0.8
PB06				i S	S	01 03 12.5	-1.2
FSA	Cafayete	3.32 174		eP	Pn	01 02 33.0	-3.1
PB04	IPOC Station P	3.55 277		Pn	Pn	01 02 39.8	+1.0
PB04	IPOC Station P	3.55 277		eP	Pn	01 02 39.8	+1.0
PB04				eS	S	01 03 23.7	-1.4
PB04				IAML		01 03 25.6	
	comp=Z,166nm,0.2s						
PB04	IPOC Station P	3.55 277		eP	Pn	01 02 39.9	+1.0
PB04				i S	S	01 03 22.8	-2.3
PB05	IPOC Station P	3.57 268		Pn	Pn	01 02 39.9	+0.9
GO02	Mina Guanaco	3.79 231		Pn	Pn	01 02 43.3	+1.5
PB10	IPOC Station P	3.95 259		Pn	Pn	01 02 44.1	+0.9
PB10	IPOC Station P	3.95 259		eP	Pn	01 02 44.0	+0.7
PB10				eS	S	01 03 30.9	-2.2
PB10				IAML		01 03 32.6	
	comp=Z,83nm,0.4s						
PB10	IPOC Station P	3.95 259		eP	Pn	01 02 44.3	+1.1
PB10				i S	S	01 03 30.0	-3.1
PATCX	Punta Patache	4.05 298		Pn	Pn	01 02 45.5	+0.9
PATCX	Punta Patache	4.05 298		eP	Pn	01 02 45.4	+0.7
PATCX				eS	S	01 03 33.9	-1.8
PATCX				IAML		01 03 36.5	
	comp=Z,82nm,0.2s						
PATCX	Punta Patache	4.05 298		eP	Pn	01 02 45.2	+0.6
PATCX				i S	S	01 03 32.8	-2.8
GO01	Chusmiza	4.10 319		Pn	Pn	01 02 47.2	+1.6
GO01	Chusmiza	4.10 319		eP	Pn	01 02 47.2	+1.6
GO01				eS	S	01 03 37.8	+0.5
GO01	Chusmiza	4.10 319		eP	Pn	01 02 47.0	+1.5
GO01				i S	S	01 03 36.3	-1.0
HMBC	Humberstone	4.15 306		Pn	Pn	01 02 46.2	+0.4
HMBC	Humberstone	4.15 306		eP	Pn	01 02 46.0	+0.2
HMBC				eS	S	01 03 35.6	-2.2
HMBC				IAML		01 03 37.2	
	comp=Z,125nm,0.3s						
HMBC	Humberstone	4.15 306	⇑	iP	Pn	01 02 45.8	0.0
HMBC				i S	S	01 03 34.2	-3.5
PB14	IPOC Station P	4.15 243		Pn	Pn	01 02 46.5	+0.5
PB14	IPOC Station P	4.15 243		eP	Pn	01 02 46.9	+0.9
PB14				eS	S	01 03 35.6	-2.4
PB14				IAML		01 03 37.9	
	comp=Z,174nm,0.2s						
PB14	IPOC Station P	4.15 243		i P	Pn	01 02 46.6	+0.7
TA01	Diego Aracena	4.21 301		Pn	Pn	01 02 46.5	+0.1
TA01	Diego Aracena	4.21 301		eP	Pn	01 02 46.6	+0.2
TA01				eS	S	01 03 36.0	-2.8
TA01				IAML		01 03 37.8	
	comp=Z,63nm,0.5s						
TA01	Diego Aracena	4.21 301		eP	Pn	01 02 46.6	+0.2
TA01				i S	S	01 03 35.5	-3.3
PB11	IPOC Station P	4.33 314		Pn	Pn	01 02 48.4	+0.4
PB11	IPOC Station P	4.33 314		eP	Pn	01 02 48.2	+0.3
PB11				eS	S	01 03 39.5	-2.1
PB11				IAML		01 03 40.4	
	comp=Z,88nm,0.2s						
PB11	IPOC Station P	4.33 314		eP	Pn	01 02 48.3	+0.3
PB11				i S	S	01 03 38.8	-2.8
TA02	Huaiquique	4.34 305		Pn	Pn	01 02 48.7	+0.8
AC01	Pan de Azucar	5.12 228		Pn	Pn	01 02 57.5	+0.1
AC01	Pan de Azucar	5.12 228		eP	Pn	01 02 57.3	-0.1
AC01				eS	S	01 03 56.0	-2.8
AC01				IAML		01 04 00.8	
	comp=Z,42nm,0.8s						
AC06	Mina Casimiro	5.82 218		Pn	Pn	01 03 06.2	+0.1
LPAZ	La Paz	6.69 345			Pn	01 03 19.4	+1.6
LPAZ	La Paz	6.69 345		P	Pn	01 03 19.6	+1.9
	comp=Z,2.8nm,0.4s,baz=169,slow=6.6,SNR=23						
LPAZ				S	S	01 04 33.7	-1.9
	comp=Z,2.5nm,0.9s,baz=264,slow=21,SNR=2.3						
AC04	Llanos de Chal	6.88 217		Pn	Pn	01 03 18.7	-0.6
AC05	El Transito	6.98 210		Pn	Pn	01 03 21.3	+0.5
LCO	Las Campanas	7.33 212		Pn	Pn	01 03 24.6	-0.7
CO03	El Pedregal	8.90 205		Pn	Pn	01 03 45.6	+0.5
CO02	Combarbal	9.35 205		Pn	Pn	01 03 51.0	+0.2
VA03	San Esteban	10.61 200		Pn	Pn	01 04 08.0	+1.4
MT02	Curacav	11.25 201		Pn	Pn	01 04 15.1	+0.4
LMEL	Las Melosas	11.52 196			Pn	01 04 19.8	+1.7
BO04	La Punta	11.77 198		Pn	Pn	01 04 20.8	-0.3
MT01	Popeta	11.84 200		Pn	Pn	01 04 22.4	+0.4
TRQA	Tornquist	15.66 167			P	01 05 08.7	+1.0
GO06	Curarrehue	17.30 193		P	P	01 05 25.7	0.0
GO06				IAmb	IAmb	01 05 39.1	
	comp=Z,6.1nm,1.2s						
VAO	Valinhos	17.85 94		P	P	01 05 33.1	+1.3
BDFB	Brasilia	18.70 71		P	P	01 05 43.0	+1.9
BDFB	Brasilia	18.70 71		P	Pn	01 05 43.3	-1.3
	comp=Z,4.0nm,0.8s,baz=240,slow=8.6,SNR=5.8						
SNAA	Sanae	60.28 161		P	P	01 11 22.0	-0.8
SNAA				IAmb	IAmb	01 11 31.8	
	comp=Z,6.2nm,1.5s						
QSPA	South Pole Qui	67.40 180		P	P	01 12 08.3	-1.0
QSPA				IAmb	IAmb	01 12 12.6	
	comp=Z,6.0nm,1.5s						
TOA0	Torodi Ar. Sit	75.57 69		P	P	01 12 59.5	+0.8
TOA0				IAmb	IAmb	01 13 03.2	
	comp=Z,2.9nm,1.1s						
TORD	Torodi Ar. Bea	75.57 69		P	P	01 12 59.8	+1.2
	comp=Z,0.6nm,0.6s,baz=260,slow=7.2,SNR=13						
	comp=Z,0.6nm,0.6s						
VNDA	Vanda	75.98 190		P	P	01 13 00.2	+0.3
MKAR	Makanchi Array	145.21 39		PKP	PKiKP	01 20 51.7	-0.9
	comp=Z,0.3nm,0.4s,baz=299,slow=2.5,SNR=4.2						

*CATAC **19** 01:27:14.8±0.4, 13°.52N×91°.31W, h5km, ML4.4*
*SNET **19** 01:27:15.5±0.7, 13°.39N×91°.26W, h18km±187km, ML4.1*
*IDC **19** 01:27:19.6±2.1, 13°.85N×91°.10W, h52km±18km, mb3.9/9, mbtmp4.2/13, ML3.8/4, MS3.7/38, Error ellipse: s-maj=32.1km s-min=11.3km az=37.0*
*NEIC **19** 01:27:19.2±1.4, 13°.63N±0°.08×91°.26W±0°.07, h42km±7km, mb4.5/253, Error ellipse: s-maj=13.2km s-min=7.9km az=222.0*
*GCG **19** 01:27:23.2±0.3, 14°.14N×91°.29W, h52km±14km, MD4.7*
ISC 19 01:27:18.6±1.1, 13°.58N±0°.06×91°.33W±0°.04, h46km±10km, n560, σ1§01/502, mb4.5/108, MS3.7/34, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	Suchitepequez,	0.76 343		eP	Pn	01 27 32.5	-0.5
FUG	Fuego 3	0.99 29		eP	Pn	01 27 35.5	-0.8
RTAL	Retalhuleu	1.00 340		Pn	Pn	01 27 34.1	-2.3
RTAL				Sn	Sn	01 27 47.0	-2.5
RTAL	Retalhuleu	1.00 340		i P	Pn	01 27 33.7	-2.7
RTAL				i S	Sn	01 27 48.2	-1.3
RTAL				IAML		01 28 21.2	
	comp=Z,9μm,1.0s						
PCG	Pacaya	1.07 41		eP	Pn	01 27 36.9	-0.7
STG3	Santiaguito 3,	1.15 348		eP	Pn	01 27 36.7	-1.8
CHTG	Tecpan	1.23 16		i P	Pn	01 27 38.3	-1.4
CHTG				i S	Sn	01 27 55.9	+0.7
CHTG				IAML		01 27 59.9	
	comp=Z,27μm,1.0s						
SOKI	Kika Raxquin	1.24 357		i P	Pn	01 27 38.0	-1.9
SOKI				i S	Sn	01 27 56.9	+1.2
SOKI				IAML		01 27 59.2	
	comp=Z,12μm,1.0s						
GUMI	Mixco	1.26 34		i P	Pn	01 27 39.2	-0.9
GUMI				i S	Sn	01 27 57.7	+1.7
GUMI				IAML		01 28 02.9	
	comp=Z,15μm,1.0s						
GCG4	OSOP	1.27 38		i P	Pn	01 27 39.9	-0.3
GCG4				i S	Sn	01 27 57.7	+1.5
GCG4				IAML		01 28 04.4	
	comp=Z,8μm,1.0s						
NBG	Las Nubes	1.39 43		eP	Pn	01 27 42.1	+0.3
NUBE	Las Nubes	1.54 78		eP	Pn	01 27 41.5	-2.3
NUBE				eS	Sn	01 28 02.2	-0.7
NUBE	Las Nubes	1.54 78		i P	Pn	01 27 41.6	-2.3
NUBE				i S	Sn	01 28 01.3	-1.5
NUBE				IAML		01 28 22.3	
	comp=Z,2μm,1.0s						
LOAL	Lomas de Alarc	1.57 74		eP	Pn	01 27 42.3	-1.8
LOAL				eS	Sn	01 28 03.2	0.0
LOAL	Lomas de Alarc	1.57 74		i P	Pn	01 27 42.7	-1.4
LOAL				i S	Sn	01 28 02.7	-0.5
LOAL				IAML		01 28 17.6	
	comp=Z,6μm,1.0s						
SLOZ	Alcaldia de Sa	1.57 73		eP	Pn	01 27 42.5	-1.7
SLOZ				eS	Sn	01 28 03.0	-0.3
RTR	El Retiro	1.67 79		eP	Pn	01 27 43.9	-1.7
CEVE	Cerro Verde	1.68 81		eP	Pn	01 27 43.9	-1.9
CEVE				IAML		01 28 17.5	
	comp=Z,3μm,0.3s						
CEVE	Cerro Verde	1.68 81		i P	Pn	01 27 44.0	-1.8
CEVE				i S	Sn	01 28 06.8	+0.5
CEVE				IAML		01 28 17.2	
	comp=Z,3μm,1.0s						
SBLS	San Blas	1.68 81		eP	Pn	01 27 44.0	-1.9
SNJE	San Jose	1.70 80		eP	Pn	01 27 44.0	-2.1
QUIS	Sacapulas	1.72 8		i P	Pn	01 27 46.4	+0.1
QUIS				IAML		01 27 48.5	
	comp=Z,7μm,1.0s						
QUIS				i S	Sn	01 28 10.4	+3.3
UNIC

LOMA Loma Larga 2.10 88 *i* P **Pn 01 27 50.7 -0.8**
LOMA *i* S **Sn 01 28 18.0 +1.4**
LOMA IAML 01 28 28.6
comp=Z,2µm,1.0s
UDBS Universidad Do 2.12 86 *i* S **Sn 01 28 19.2 +2.3**
MRL Marmol 2.19 47 *e*P **Pn 01 27 54.4 +1.6**
COEG Centro de Oper 2.38 89 *i* P **Pn 01 27 54.6 -0.7**
COEG *i* S **Sn 01 28 25.1 +1.7**
COEG IAML 01 28 36.0
comp=Z,950nm,1.0s
LLGN La Laguna 2.39 76 *i* P **Pn 01 27 55.0 -0.5**
LLGN *i* S **Sn 01 28 25.2 +1.6**
LLGN IAML 01 28 41.7
comp=Z,660nm,1.0s
UESV Universidad de 2.48 88 *i* P **Pn 01 27 55.8 -0.8**
UESV *i* S **Sn 01 28 26.6 +1.0**
UESV IAML 01 28 49.2
comp=Z,700nm,1.0s
TECO Alcaldia de Te 2.48 91 *i* P **Pn 01 27 55.9 -0.7**
TECO *i* S **Sn 01 28 27.6 +1.8**
TECO IAML 01 28 44.6
comp=Z,450nm,1.0s
SCLA Alcaldia de Sa 2.54 87 *i* P **Pn 01 27 56.5 -0.9**
SCLA *i* S **Sn 01 28 30.5 +3.4**
SCLA IAML 01 28 48.2
comp=Z,540nm,1.0s
CCIG Comitan 2.80 344 Pn 01 28 01.1 -0.1
PACA Pacayal 2.93 92 *i* P **Pn 01 28 03.7 +0.8**
PACA IAML 01 28 59.2
comp=Z,4µm,1.0s
JUCU Jucuarın 3.02 96 *e*P **Pn 01 28 01.4 -2.6**
JUCU IAML 01 28 49.5
comp=Z,316nm,0.5s
JUCU Jucuarın 3.02 96 *i* P **Pn 01 28 04.1 +0.1**
JUCU *i* S **Sn 01 28 38.8 -0.2**
JUCU IAML 01 28 55.2
comp=Z,390nm,1.0s
LCND La Caada 3.36 94 *i* P **Pn 01 28 07.7 -1.0**
LCND IAML 01 28 13.2
comp=Z,360nm,1.0s
LCND *i* S **Sn 01 28 47.8 +0.4**
CNCH Conchagua 3.42 95 *i* P **Pn 01 28 08.2 -1.4**
CNCH *i* S **Sn 01 28 49.0 +0.1**
CNCH IAML 01 28 57.4
comp=Z,1µm,1.0s
PETF Flores 3.61 23 Pn 01 28 12.4 +0.3
PETF Flores 3.61 23 *i* P **Pn 01 28 12.9 +0.8**
TGUH Tegucigalpa,Un 3.97 83 Pn **Pn 01 28 17.6 +0.3**
CRIN San Cristobal 4.26 101 Pn 01 28 21.0 -0.2
PACN Al O del Volca 4.55 103 *i* P **Pn 01 28 23.7 -1.4**
PACN IAML 01 29 48.8
comp=Z,530nm,1.0s
MACN El Madrono 4.67 103 *i* P **Pn 01 28 25.6 -1.1**
MACN IAML 01 29 33.7
comp=Z,71nm,1.0s
COPN Copaltepe 4.83 106 *i* P **Pn 01 28 27.5 -1.3**
COPN IAML 01 28 37.6
comp=Z,180nm,1.0s
CMIG Matias Romero 4.89 316 P **Pn 01 28 29.7 0.0**
comp=Z,6.5nm,0.3s,baz=140,slow=10,SNR=39
CMIG S **Sn 01 29 25.3 +0.2**
comp=Z,147nm,0.6s,baz=29,slow=8.3,SNR=6.6
CMIG LR LR 01 30 35.5
comp=Z,691nm,19.6s,baz=116,slow=40
comp=Z,19nm,0.3s
BOAB BOACO BROADBAN 5.64 101 Pn **Pn 01 28 40.0 0.0**
ACON Acoyapa 6.22 104 Pn 01 28 47.8 -0.1
JTS Las Juntas de 7.05 117 Pn 01 28 58.9 -0.4
JTS Las Juntas de 7.05 117 P **Pn 01 28 59.7 +0.4**
comp=Z,1.3nm,0.3s,baz=311,slow=6.3,SNR=6.0
JTS S **Sn 01 30 18.2 0.0**
comp=Z,4.9nm,0.4s,baz=340,slow=23,SNR=1.1
JTS LR LR 01 31 43.1
comp=Z,423nm,19.2s,baz=298,slow=38
comp=Z,18nm,1.0s
TEIG Tepich 7.23 23 Pn **Pn 01 29 02.6 +0.9**
TEIG Tepich 7.23 23 P **Pn 01 29 01.8 +0.1**
comp=Z,78nm,0.5s,baz=179,slow=1.7,SNR=102
TEIG S **Sn 01 30 16.4 -6.2**
comp=Z,37nm,0.5s,baz=298,slow=18,SNR=1.1
TEIG LR LR 01 31 37.2
comp=Z,298nm,21.7s,baz=222,slow=37
MOIG Morelia 11.22 304 Pn 01 29 59.1 +2.3
SOR Soroa 12.10 40 Pn **Pn 01 30 07.7 -0.8**
ZAIG Zacatecas 14.05 312 Pn **Pn 01 30 35.3 0.0**
833A Chaparral WMA, 16.48 334 Pn **Pn 01 31 06.5 -0.2**
833A Chaparral WMA, 16.48 334 P **Pn 01 31 07.2 +0.6**
baz=151
HKT Hockley 16.82 346 P **Pn 01 31 11.4 +0.6**
HNDO Hondo 17.50 336 P **Pn 01 31 20.1 +0.7**
DRIO Del Rio 17.96 333 P **Pn 01 31 24.7 -0.4**
435B Jarrell 18.07 342 P **P 01 31 27.4 +1.1**
baz=160
NATX Nacogdoches 18.35 351 P **P 01 31 29.9 +0.5**
baz=170
JCT Junction City 18.55 336 P **Pn 01 31 32.8 +0.6**
baz=153
352A Blakely 18.77 17 IAmb IAmb 01 31 39.7
comp=Z,31nm,1.0s
ROSC El Rosal 18.89 116 P **P 01 31 35.4 -0.4**
comp=Z,1.1nm,0.3s,baz=82,slow=21,SNR=1.6
comp=Z,3.9nm,0.5s
250A Grady 18.90 13 IAmb IAmb 01 31 40.4
comp=Z,29nm,1.0s
BRDY Brady 18.98 339 P **P 01 31 36.8 +0.5**
SAND Sanderson 19.11 330 P **P 01 31 38.4 +0.6**
TIGA Tifton 19.15 21 P **P 01 31 38.3 +0.2**
baz=203,SNR=5.9
WHTX Lake Whitney, 19.17 344 P **P 01 31 38.3 0.0**
baz=162
TXAR Lajitas Array 19.41 326 P 01 31 41.7 +0.6
TXAR Lajitas Array 19.41 326 P **P 01 31 41.6 +0.5**
comp=Z,0.4nm,0.3s,baz=154,slow=11,SNR=96
TXAR LR LR 01 40 31.6
comp=Z,58nm,18.3s,baz=96,slow=41
comp=Z,13nm,0.8s
TX31 Lajitas Ar. Si 19.41 326 P **P 01 31 42.0 +0.9**
OZNA Ozona 19.48 334 P **P 01 31 41.9 +0.1**
FW14 Alvarado 19.49 345 IAmb IAmb 01 31 49.0
comp=Z,34nm,0.9s
Z47A Carrollton 19.76 8 P **P 01 31 44.6 -0.2**
Z47A IAmb IAmb 01 32 08.4
comp=Z,28nm,0.8s
LRAL Lakeview Retre 19.77 11 P 01 31 44.7 -0.2
LRAL IAmb IAmb 01 31 52.2
comp=Z,18nm,0.8s
LRAL Lakeview Retre 19.77 11 P **P 01 31 45.1 +0.2**
baz=192
FW07 Weatherford 19.93 344 IAmb IAmb 01 31 54.2
comp=Z,49nm,1.4s
152A Waverly Hall 19.94 17 P **P 01 31 46.4 -0.4**
152A IAmb IAmb 01 31 53.1
comp=Z,17nm,0.8s
WLAR White Oak Lake 20.09 356 IAmb IAmb 01 32 22.0
comp=Z,25nm,0.9s
FW06 Azle 20.13 345 IAmb IAmb 01 31 56.2
comp=Z,31nm,1.0s
PLPT Palo Pinto 20.18 343 IAmb IAmb 01 31 51.8
comp=Z,38nm,1.0s
ALPN Alpine 20.21 328 P **P 01 31 50.7 +0.8**
ALPN IAmb IAmb 01 31 54.2
comp=Z,28nm,0.8s
Y45A Yeager Farm, C 20.26 4 IAmb IAmb 01 31 53.1
comp=Z,24nm,0.8s
FW03 Perrin-Whitt E 20.32 344 IAmb IAmb 01 31 52.8
comp=Z,18nm,0.7s
SGCY Sterling City 20.34 335 P **P 01 31 51.3 +0.1**
SGCY IAmb IAmb 01 31 52.9
comp=Z,20nm,0.9s
Z35A Perchaven, San 20.39 346 IAmb IAmb 01 32 21.4
comp=Z,18nm,0.9s
ABTX Abilene, Hawle 20.43 340 IAmb IAmb 01 31 54.0
comp=Z,32nm,0.8s
ABTX Abilene, Hawle 20.43 340 P **P 01 31 52.6 +0.6**
baz=156,SNR=20
SDV Santo Domingo 20.83 101 P **P 01 31 55.5 -1.2**
comp=Z,1.6nm,0.2s,baz=208,slow=14,SNR=1.5
SDV LR LR 01 41 22.9
comp=Z,107nm,19.1s,baz=269,slow=41
comp=Z,1.6nm,0.2s
OXF Oxford 20.92 4 P **P 01 31 57.0 -0.3**
OXF IAmb IAmb 01 32 23.7
comp=Z,30nm,1.0s
OXF Oxford 20.92 4 P **P 01 31 57.3 +0.1**
baz=185
MIAR Mount Ida 20.98 355 P **P 01 31 58.9 +0.9**
baz=174
GOGA Godfrey 21.00 19 P **P 01 31 58.1 -0.2**
GOGA IAmb IAmb 01 32 12.8
comp=Z,15nm,0.9s
GOGA Godfrey 21.00 19 P **P 01 31 58.9 +0.7**
baz=202
SN05 Snyder 5 21.10 337 IAmb IAmb 01 32 00.2
comp=Z,21nm,0.9s
WTFS Witchita Falls 21.12 343 P **P 01 31 59.9 +0.4**
ODSA Odessa 21.12 333 IAmb IAmb 01 32 01.4
comp=Z,26nm,1.0s
UALR University of 21.13 358 IAmb IAmb 01 32 03.8
comp=Z,25nm,1.0s
X48A Hartselle 21.14 10 IAmb IAmb 01 32 09.9
comp=Z,17nm,0.9s
APMT Aspermont 21.23 339 IAmb IAmb 01 32 02.0
comp=Z,24nm,0.8s
X37A Clayton 21.24 351 IAmb IAmb 01 32 08.4
comp=Z,15nm,0.9s
Y52A Lilburn 21.25 17 IAmb IAmb 01 32 23.2
comp=Z,26nm,1.2s
SN07 Snyder 07 21.29 337 IAmb IAmb 01 32 02.4
comp=Z,13nm,0.8s
POST Post 21.50 336 IAmb IAmb 01 32 04.9
comp=Z,32nm,0.9s
FPAL Fort Paine 21.51 13 IAmb IAmb 01 32 27.9
comp=Z,23nm,1.2s
WHAR Wooly Hollow 21.64 358 IAmb IAmb 01 32 08.3
comp=Z,17nm,1.0s
X34A Smith Ranch, M 21.74 345 IAmb IAmb 01 32 12.7
comp=Z,19nm,1.0s
DKNS Dickens 21.82 338 IAmb IAmb 01 32 12.4
comp=Z,13nm,0.8s
NHSC New Hope 21.94 26 P **P 01 32 08.5 +0.1**
baz=210
W35A Tecumseh 22.06 348 IAmb IAmb 01 32 19.8
comp=Z,15nm,1.0s
WMOK Wichita Mounta 22.12 344 P **P 01 32 10.7 +0.4**
baz=160,SNR=6.9
MNTX Cornudas Mount 22.17 327 P **P 01 32 11.4 +0.6**
baz=141,SNR=66
FCAR Ozark Folk Cen 22.23 358 IAmb IAmb 01 32 12.0
comp=Z,11nm,0.7s
FNO Franklin 22.27 347 IAmb IAmb 01 32 12.7
comp=Z,13nm,0.9s
LCAR Lake Charles 22.40 0 IAmb IAmb 01 32 14.6
comp=Z,10nm,0.6s
TUL3 Leonard 22.60 351 P **P 01 32 16.2 +0.9**
baz=168
WVT Waverly 22.68 7 P **P 01 32 14.7 -1.5**
WVT Waverly 22.68 7 P **P 01 32 16.6 +0.4**
baz=189
RLO Rose Lookout 22.74 352 IAmb IAmb 01 32 48.4
comp=Z,10nm,1.0s
MSTX Muleshoe 22.81 335 IAmb IAmb 01 32 20.9
comp=Z,13nm,0.9s
MSTX Muleshoe 22.81 335 P **P 01 32 18.0 +0.3**
baz=150
TKL Tuckaleechee C 23.02 16 IAmb IAmb 01 32 50.9
comp=Z,19nm,1.0s
TKL Tuckaleechee C 23.02 16 P **P 01 32 18.4 -1.3**
comp=Z,7.0nm,0.7s,baz=186,slow=12,SNR=12
TKL LR LR 01 42 05.3
comp=Z,238nm,21.3s,baz=172,slow=39
comp=Z,7.0nm,0.7s
PBMO Poplar Bluff 23.12 2 IAmb IAmb 01 32 22.1
comp=Z,11nm,0.7s
AMTX Amarillo 23.19 338 P **P 01 32 21.9 +0.4**
baz=154
KMSC Kings Mountain 23.29 21 IAmb IAmb 01 32 41.3
comp=Z,13nm,0.8s
KMSC Kings Mountain 23.29 21 P **P 01 32 21.5 -1.0**
baz=205
BAUV El Baul 23.30 99 P **P 01 32 21.9 -0.7**
BAUV IAmb IAmb 01 32 24.7
comp=Z,14nm,0.9s
V53A Saluda 23.30 18 IAmb IAmb 01 32 53.3
comp=Z,16nm,0.8s
OK051 E0350 and S346 23.36 349 IAmb IAmb 01 32 22.7
comp=Z,13nm,0.8s
MGMO Mountain Grove 23.50 358 IAmb IAmb 01 32 23.7
comp=Z,26nm,1.1s
T47A Sharon Grove 23.62 8 IAmb IAmb 01 32 47.8
comp=Z,15nm,0.8s
TZTN Tazewell 23.91 16 IAmb IAmb 01 32 54.2
comp=Z,14nm,0.9s
TZTN Tazewell 23.91 16 P **P 01 32 27.4 -0.9**
baz=199
T50A Nancy 24.06 13 IAmb IAmb 01 32 51.0
comp=Z,12nm,1.1s
S39A Bolivar 24.08 356 IAmb IAmb 01 32 29.7
comp=Z,14nm,0.8s
S44A Cabondale 24.09 4 IAmb IAmb 01 32 31.6
comp=Z,15nm,0.7s
121A Cookes Peak, D 24.13 324 P **P 01 32 32.3 +1.8**
baz=138,SNR=12
319A Douglas 24.20 320 P **P 01 32 32.2 +1.1**
319A IAmb IAmb 01 32 42.4
comp=Z,17nm,1.1s
CCM Cathedral Cave 24.38 0 P **P 01 32 31.7 -0.8**
CCM Cathedral Cave 24.38 0 P **P 01 32 31.7 -0.8**
baz=180
R40A Maddies Statio 24.63 358 IAmb IAmb 01 32 35.2
comp=Z,14nm,0.7s
SJG San Juan 24.63 76 LR LR 01 43 16.1
comp=Z,225nm,19.3s,baz=2.0,slow=39
V58A Windy Hill, Pi 24.70 24 IAmb IAmb 01 32 35.5
comp=Z,8.8nm,0.8s
WCI Wyandotte Cave 24.96 9 P **P 01 32 36.5 -1.2**
WCI IAmb IAmb 01 33 10.1
comp=Z,16nm,0.9s
WCI Wyandotte Cave 24.96 9 P **P 01 32 36.8 -1.0**
baz=192
OLIL Olney 25.22 6 IAmb IAmb 01 32 42.9
comp=Z,12nm,0.7s
ANMO Albuquerque 25.29 330 P **P 01 32 41.5 +0.5**
ANMO Albuquerque 25.29 330 P **P 01 32 41.3 +0.2**
baz=144
BLA Blacksburg 25.48 21 P **P 01 32 41.7 -0.9**
baz=205
TUC Tucson 25.77 320 P **P 01 32 45.4 0.0**
TUC IAmb IAmb 01 32 51.6
comp=Z,9.7nm,0.9s
TUC Tucson 25.77 320 P **P 01 32 46.5 +1.1**
baz=132
P40A Paris 25.86 359 IAmb IAmb 01 32 47.2
comp=Z,12nm,0.8s
T25A Trinidad 26.21 336 P **P 01 32 50.5 +1.1**
baz=150
P49A Miami Univ. Ec 26.51 12 P **P 01 32 53.2 +1.4**
baz=194
214A Organ Pipe Nat 26.87 316 P **P 01 32 56.9 +1.8**
baz=128
HDIL Hopedale 26.94 3 P **P 01 32 57.7 +2.1**
baz=184
SFIN Lafayette 26.96 7 P **P 01 32 58.0 +2.2**
baz=189
O48B Farmland 27.13 10 P **P 01 32 59.5 +2.1**
baz=193
W18A Petrified Fore 27.13 325 P **P 01 32 59.5 +1.8**
baz=138
SDCO Great Sand Dun 27.18 335 P **P 01 32 58.7 +0.5**
SDCO Great Sand Dun 27.18 335 P **P 01 32 59.7 +1.5**
baz=149
X16A Lo Mia Camp, P 27.61 322 P **P 01 33 03.0 +1.1**
S22A 4UR Ranch, Cre 27.75 333 P **P 01 33 04.7 +1.5**
baz=146
MVCO Mesa Verde 28.09 330 P **P 01 33 06.6 +0.3**
MVCO IAmb IAmb 01 33 08.4
comp=Z,7.1nm,0.8s
MVCO Mesa Verde 28.09 330 P **P 01 33 08.0 +1.7**
baz=142,SNR=6.4
WUAZ Wupatki 28.34 324 P **P 01 33 08.8 +0.3**
WUAZ Wupatki 28.34 324 P **P 01 33 10.3 +1.8**
baz=135
L40A Anamosa 28.38 0 P **P 01 33 08.9 +0.4**
L40A IAmb IAmb 01 33 39.6
comp=Z,9.2nm,1.1s
ISCO Idaho Springs 28.99 337 P **P 01 33 16.1 +1.8**
baz=150
NNA Nana 29.18 150 LR LR 01 42 44.6
comp=Z,105nm,20.3s,baz=312,slow=32
PDMCI Parker Dam,Lak 29.20 319 P **P 01 33 17.8 +1.9**
baz=129
JFWS Jewell Farm 29.25 2 P **P 01 33 17.8 +1.6**
baz=182
U15A North Rim 29.51 324 P **P 01 33 21.4 +2.4**
IKP In-Ko-Pah, Jac 29.53 314 P **P 01 33 20.4 +1.4**
baz=124
BC3 Big Chuckawall 29.66 316 P **P 01 33 21.7 +1.5**
baz=127
IRM Iron Mountain 29.76 318 P **P 01 33 22.2 +1.2**
baz=128
HMU Henry Mountain 29.77 328 IAmb IAmb 01 33 30.1
comp=Z,9.8nm,1.0s
N23A Red Feather La 30.07 338 P **P 01 33 25.2 +1.4**
baz=151
ERPA Erie 30.09 17 P **P 01 33 25.6 +1.8**
baz=202
KNB Kanab 30.23 324 P **P 01 33 26.3 +1.1**
KNB IAmb IAmb 01 33 29.1
comp=Z,9.7nm,0.8s
BELC Belle Mtn. Jos 30.23 316 P **P 01 33 26.4 +1.1**
baz=126
PKCU Pink Cliffs 30.25 326 IAmb IAmb 01 33 31.3
comp=Z,8.6nm,0.9s
TPFO Pinon Flats 30.31 315 P **P 01 33 27.0 +1.1**
baz=125
PFO Pinyon Flats O 30.32 315 P **P 01 33 27.5 +1.5**
baz=125
PFO Pinyon Flats O 30.32 315 LR LR 01 45 54.0
comp=Z,89nm,20.3s,baz=128,slow=37
O20A White River Ci 30.34 334 P **P 01 33 27.3 +1.2**
O20A White River Ci 30.34 334 P **P 01 33 27.5 +1.3**
baz=146
ECSD EROS Data Cent 30.39 352 P **P 01 33 27.2 +0.9**
baz=170
LCMT Little Creek M 30.46 324 IAmb IAmb 01 33 32.3
comp=Z,7.3nm,0.9s
GMRC Granite Mounta 30.48 318 P **P 01 33 28.9 +1.5**
baz=128
V12A Nelson 30.56 320 P **P 01 33 28.7 +0.6**
V12A IAmb IAmb 01 33 30.9
comp=Z,7.1nm,0.9s
MTPU Mount Pierson 30.61 327 P **P 01 33 30.0 +1.2**
MTPU IAmb IAmb 01 33 34.5
comp=Z,8.8nm,0.8s
Q16A Castle Valley 30.74 329 P **P 01 33 31.0 +1.3**
SZCU Shurtz Canyon 30.78 325 IAmb IAmb 01 33 34.1
comp=Z,8.4nm,0.8s
CCUT Cedar City 30.91 325 IAmb IAmb 01 33 36.9
comp=Z,9.4nm,0.9s
MSU Marysvale 30.95 327 P **P 01 33 31.7 +0.1**
SCI2 San Clemente I 31.43 313 P **P 01 33 37.3 +1.6**
baz=122
BINY Binghamton 31.47 22 P **P 01 33 37.3 +1.4**
baz=209
GSC Goldstone, Bar 31.54 318 P **P 01 33 38.4 +1.7**
baz=127
CIS Catalina Islan 31.56 313 P **P 01 33 38.8 +1.9**
baz=122
MPU Maple Canyon 31.81 330 P **P 01 33 40.6 +1.5**
MPU IAmb IAmb 01 33 41.2
comp=Z,5.3nm,0.8s
PSUT Pine Spring 31.88 325 P **P 01 33 41.1 +1.3**
PSUT IAmb IAmb 01 33 44.3
comp=Z,7.4nm,0.8s
TPNV Topopah Spring 32.21 321 P **P 01 33 44.4 +1.7**
baz=130
FURC Furnace Creek, 32.29 319 P **P 01 33 44.7 +1.6**
baz=128
MPMC Manual Prospec 32.44 318 P **P 01 33 45.9 +1.1**
baz=127
SPR3 Spring Creek 3 32.47 325 P **P 01 33 46.0 +0.9**
SPR3 IAmb IAmb 01 33 48.2
comp=Z,6.9nm,0.9s
COWI Conover 32.47 3 IAmb IAmb 01 34 25.5
comp=Z,6.3nm,1.2s
DUG Dugway, Tooele 32.53 329 P **P 01 33 46.9 +1.5**
baz=138
TCUT Toone Canyon 32.55 331 P **P 01 33 46.1 +0.4**
TCUT IAmb IAmb 01 33 56.7
comp=Z,7.1nm,0.9s
R11B Troy Canyon, C 32.73 323 P **P 01 33 47.6 +0.4**
R11B Troy Canyon, C 32.73 323 P **P 01 33 48.4 +1.2**
baz=132,SNR=6.8
SCZ2 Santa Cruz Isl 32.74 313 P **P 01 33 48.3 +1.2**
baz=122
Q12A Willow Creek R 32.77 325 P **P 01 33 48.1 +0.5**
Q12A IAmb IAmb 01 33 51.4
comp=Z,14nm,1.3s
SADO Sadowa 32.78 16 LR LR 01 47 58.9
comp=Z,178nm,19.8s,baz=248,slow=38
ARVC Arvin 32.79 316 P **P 01 33 49.0 +1.5**
baz=124
ISA Isabella, Lake 32.85 317 P **P 01 33 49.7 +1.5**
baz=125
E43A Lone Tree Farm 32.90 6 IAmb IAmb 01 33 48.5
comp=Z,5.3nm,1.1s
GRAC Grapevine Rang 32.93 320 P **P 01 33 50.6 +1.7**
baz=128
L61B Northampton 32.99 26 P **P 01 33 50.3 +1.1**
baz=215
HWUT Hardware Ranch 33.01 332 P **P 01 33 50.9 +1.3**
HWUT IAmb IAmb 01 33 54.6
comp=Z,5.7nm,0.8s
HWUT **PcP 01 36 34.5 +1.7**
CWC Cottonwood Cre 33.05 318 P **P 01 33 51.6 +1.5**
baz=127
BW06 Boulder Array 33.07 335 P **P 01 33 51.4 +1.2**
baz=146
PDAR Pinedale Array 33.07 335 P **P 01 33 48.6 -1.6**
comp=Z,0.9nm,0.6s,baz=128,slow=9.6,SNR=8.4
PDAR PcP **PcP 01 36 33.0 +0.1**
comp=Z,0.3nm,0.5s,baz=133,slow=3.8,SNR=2.2
PDAR LR LR 01 49 27.1
comp=Z,66nm,18.9s,baz=153,slow=40
comp=Z,0.9nm,0.6s
BGU Big Grassy Mou 33.19 329 P **P 01 33 52.5 +1.3**
VES Vestal, Richgr 33.36 317 P **P 01 33 54.0 +1.5**
baz=125
HRV Adam Dziewonsk 33.52 27 P **P 01 33 55.2 +1.4**
baz=216
HVU Hansel Valley 33.72 330 IAmb IAmb 01 34 01.5
comp=Z,8.3nm,1.0s
AHID Auburn Hatcher 33.73 333 IAmb IAmb 01 33 57.0
comp=Z,5.6nm,0.9s
LONY Lake Ozonia 34.08 22 P **P 01 34 00.1 +1.4**
baz=210
ETMB Extrema 34.09 132 P **P 01 33 58.5 -0.5**
ETMB IAmb IAmb 01 34 10.3
comp=Z,7.8nm,1.1s
REDW Red Top Meadow 34.10 334 P **P 01 33 59.4 +0.2**
ELK Elko 34.20 327 P **P 01 34 01.2 +1.2**
ELK IAmb IAmb 01 34 04.2
comp=Z,5.4nm,0.8s
ELK Elko 34.20 327 LR LR 01 49 38.7
comp=Z,135nm,19.9s,baz=154,slow=39
LOHW Long Hollow 34.20 335 IAmb IAmb 01 34 01.5
comp=Z,4.2nm,0.9s
TPAW Teton Pass 34.25 334 IAmb IAmb 01 34 04.4
comp=Z,3.8nm,0.7s
EYMN Ely 34.27 360 P **P 01 34 02.0 +1.7**
baz=180
NV11 Mina Array Sit 34.32 321 P **P 01 34 01.7 +0.7**
NV11 IAmb IAmb 01 34 04.4
comp=Z,7.9nm,1.1s
MOOW Moose Ponds 34.37 335 P **P 01 34 01.9 +0.4**
NVAR Mina Array Bea 34.41 321 P **P 01 34 03.0 +1.1**
NVAR Mina Array Bea 34.41 321 P **P 01 34 02.5 +0.7**
comp=Z,5.0nm,0.7s,baz=128,slow=8.8,SNR=30
NVAR PcP **PcP 01 36 36.3 -0.5**
comp=Z,1.4nm,0.8s,baz=152,slow=4.1,SNR=5.6
NVAR LR LR 01 50 43.8
comp=Z,177nm,18.3s,baz=114,slow=41
comp=Z,5.0nm,0.7s
LHV Little Huntoon 34.42 321 P **P 01 34 04.0 +2.3**
IMW Indian Meadow 34.58 335 P **P 01 34 02.5 -0.8**
IMW **PcP 01 36 37.7 +0.5**
RYN Ryan 34.66 321 P **P 01 34 04.6 +0.6**
KVN Kaiserville 34.67 322 P **P 01 34 04.3 +0.2**
RLMT Red Lodge 34.94 338 P **P 01 34 07.0 +0.6**
baz=148
BMN Battle Mountai 35.07 325 P **P 01 34 07.9 +0.5**
BMN IAmb IAmb 01 34 10.7
comp=Z,7.2nm,0.8s
WAKR Walker 35.15 320 IAmb IAmb 01 34 13.4
comp=Z,3.8nm,0.8s
YERR Yerington 35.33 321 P **P 01 34 09.5 -0.2**
YERR IAmb IAmb 01 34 12.8
comp=Z,7.1nm,1.2s
CMB Columbia Colle 35.48 319 P **P 01 34 10.5 -0.4**
HLID Hailey 35.86 331 P **P 01 34 15.8 +1.6**
HLID IAmb IAmb 01 34 19.6
comp=Z,3.4nm,0.7s

HLID	Hailey	35.86 331	P	P	01 34 15.5	+1.3
	baz=139,SNR=9.0					
BOZ	Bozeman (W)	36.25 336	P	P	01 34 18.3	+0.8
	baz=145					
MFID	Camas Ranch	36.43 329	P	P	01 34 19.5	+0.4
MFID			IAmb	IAmb	01 34 26.1	
	comp=Z,5.4nm,0.9s					
DLMT	Dillon	36.46 335	P	P	01 34 19.5	+0.2
DLMT			IAmb	IAmb	01 34 21.3	
	comp=Z,5.4nm,1.0s					
ULM	Lac du Bonnet	36.76 355	P	P	01 34 19.3	-2.3
	comp=Z,3.3nm,0.7s,baz=179,slow=5.8,SNR=6.7					
	comp=Z,3.3nm,0.7s					
WVOR	Wild Horse Val	37.20 326	P	P	01 34 26.1	+0.5
LPAZ	La Paz	37.50 142	LR	LR	01 49 34.5	
	comp=Z,107nm,19.3s,baz=307,slow=36					
EGMT	Eagleton	37.61 340	P	P	01 34 29.4	+0.5
	baz=150					
BPMT	Black Pine Rid	37.67 335	P	P	01 34 30.2	+0.5
J08A	Circle Bar Ran	37.75 327	P	P	01 34 30.4	+0.2
MSO	Missoula	38.19 335	P	P	01 34 34.4	+0.5
MSO	Missoula	38.19 335	P	P	01 34 34.6	+0.7
	baz=143					
I07A	Izee	38.79 327	P	P	01 34 39.6	+0.6
I07A			IAmb	IAmb	01 34 42.0	
	comp=Z,9.6nm,1.0s					
F10A	Beach Ranch, E	38.99 331	P	P	01 34 41.3	+0.7
MDP	Montagnes des	39.05 99	LR	LR	01 51 37.7	
	comp=Z,82nm,21.9s,baz=284,slow=38					
YBH	Yreka Blue Hor	39.10 322	LR	LR	01 53 34.5	
	comp=Z,92nm,18.6s,baz=152,slow=40					
PINE	Pine Mountain	39.37 326	P	P	01 34 45.1	+1.2
PINE			IAmb	IAmb	01 34 46.3	
	comp=Z,8.1nm,0.8s					
I05D	Terrebonne, OR	39.94 326	P	P	01 34 48.8	+0.3
I05D			IAmb	IAmb	01 34 53.1	
	comp=Z,17nm,1.2s					
G05A	Wamic	40.52 327	P	P	01 34 54.5	+1.2
H04A	Detroit Lake	40.62 326	P	P	01 34 55.2	+1.0
NEW	Newport	40.66 334	P	P	01 34 54.5	+0.1
NEW	Newport	40.66 334	P	P	01 34 55.4	+1.0
	baz=140					
NEW	Newport	40.66 334	LR	LR	01 54 25.9	
	comp=Z,140nm,18.0s,baz=144,slow=40					
HOOD	Mount Hood Mea	40.75 327	P	P	01 34 56.2	+0.9
C09A	Chrisman Ranch	40.82 332	P	P	01 34 56.5	+0.8
LTY	Liberty	41.56 330	P	P	01 35 02.2	+0.4
LTY			IAmb	IAmb	01 35 04.5	
	comp=Z,4.2nm,0.6s					
LON	Longmire	41.79 328	P	P	01 35 04.4	+0.7
LON			IAmb	IAmb	01 35 07.5	
	comp=Z,8.7nm,0.9s					
LVC	Limon Verde	42.14 148	LR	LR	01 51 47.3	
	comp=Z,74nm,18.0s,baz=302,slow=35					
RPN	Rapa Nui	44.07 203	LR	LR	01 48 54.5	
	comp=Z,123nm,20.5s,baz=3.5,slow=29					
BRLDA	Berland Lookou	45.33 339	IAmb	IAmb	01 35 33.1	
	comp=Z,13nm,1.3s					
SCHQ	Schefferville	45.40 20	P	P	01 35 30.1	-2.5
SCHQ			IAmb	IAmb	01 35 31.0	
	comp=Z,8.6nm,0.9s					
SCHQ	Schefferville	45.40 20	P	P	01 35 29.4	-3.2
	comp=Z,7.4nm,0.8s,baz=217,slow=6.9,SNR=7.0					
SCHQ			LR	LR	01 55 45.7	
	comp=Z,182nm,18.2s,baz=238,slow=38					
	comp=Z,7.4nm,0.8s					
YKA	Yellowknife Ar	51.59 346	P	P	01 36 19.0	-1.0
	comp=Z,1.9nm,0.7s,baz=150,slow=7.6,SNR=12					
	comp=Z,1.9nm,0.7s					
CPUP	Villa Florida	51.65 140	LR	LR	01 59 30.0	
	comp=Z,63nm,18.3s,baz=6.0,slow=37					
TOAD	Toad River Com	51.77 338	P	P	01 36 21.5	0.0
	baz=136					
KOTAN	Kotaneelee Air	52.31 340	P	P	01 36 26.0	+0.5
	baz=138					
FRB	Frobisher Bay	52.58 13	LR	LR	02 00 09.8	
	comp=Z,83nm,18.8s,baz=195,slow=38					
DLBC	Dease Lake	53.30 336	P	P	01 36 33.7	+0.8
DLBC	Dease Lake	53.30 336	P	P	01 36 34.4	+1.5
	baz=131,SNR=9.8					
R33M	Jennings River	54.30 336	P	P	01 36 41.2	+1.0
R33M			IAmb	IAmb	01 36 42.0	
	comp=Z,5.1nm,0.9s					
R33M	Jennings River	54.30 336	P	P	01 36 41.0	+0.8
	baz=130					
Q32M	Nakina River	54.54 335	IAmb	IAmb	01 36 44.4	
	comp=Z,5.8nm,0.8s					
Q32M	Nakina River	54.54 335	P	P	01 36 43.4	+1.3
	baz=128,SNR=5.2					
S32K	Killisnoo	54.62 333	P	P	01 36 42.4	0.0
	baz=125					
R32K	Eaglecrest	55.06 334	P	P	01 36 46.0	+0.4
	baz=126					
P32M	Atlin	55.51 335	P	P	01 36 49.4	+0.5
P32M			IAmb	IAmb	01 36 50.5	
	comp=Z,5.8nm,1.1s					
P32M	Atlin	55.51 335	P	P	01 36 49.2	+0.3
	baz=127					
P33M	Teslin, Yukon	55.54 336	P	P	01 36 49.6	+0.5
P33M			IAmb	IAmb	01 36 52.6	
	comp=Z,3.5nm,0.9s					
P33M	Teslin, Yukon	55.54 336	P	P	01 36 49.5	+0.4
	baz=129					
N32M	Quiet Lake	56.23 337	P	P	01 36 54.8	+0.8
	baz=129					
MMPY	Sheldon Lake,	56.52 339	P	P	01 36 56.6	+0.5
MMPY			IAmb	IAmb	01 36 57.4	
	comp=Z,5.2nm,0.9s					
MMPY	Sheldon Lake,	56.52 339	P	P	01 36 56.4	+0.3
	baz=132,SNR=8.6					
PLBC	Pleasant Camp	56.53 334	P	P	01 36 56.3	+0.3
	baz=124					
FARO	Faro, Yukon	57.01 338	P	P	01 37 00.0	+0.5
	baz=129					
P30M	Million Dollar	57.15 335	P	P	01 37 01.0	+0.4
	baz=124					
O30N	Mendenhall	57.17 336	P	P	01 37 01.2	+0.5
O30N			IAmb	IAmb	01 37 02.2	
	comp=Z,4.9nm,0.8s					
O30N	Mendenhall	57.17 336	P	P	01 37 01.4	+0.7
	baz=125,SNR=5.7					
P29M	Windy Craggy	57.21 334	P	P	01 37 01.9	+0.9
P29M			IAmb	IAmb	01 37 03.0	
	comp=Z,6.3nm,0.8s					
P29M	Windy Craggy	57.21 334	P	P	01 37 01.1	+0.2
	baz=123					
M31M	Drury Creek, Y	57.38 338	P	P	01 37 02.6	+0.6
	baz=128					
N31M	Braeburn, Yuko	57.47 337	P	P	01 37 03.2	+0.4
N31M			IAmb	IAmb	01 37 04.0	
	comp=Z,5.5nm,0.8s					
N31M	Braeburn, Yuko	57.47 337	P	P	01 37 03.4	+0.6
	baz=126					
PNL	Peninsula	57.94 334	P	P	01 37 06.2	+0.1
	baz=121					
N30M	Aishikik Lake	57.96 336	P	P	01 37 07.2	+0.9
N30M			IAmb	IAmb	01 37 07.9	
	comp=Z,3.3nm,0.8s					
N30M	Aishikik Lake	57.96 336	P	P	01 37 06.2	-0.1
	baz=125					
YUK6	Outpost Mounta	58.19 335	P	P	01 37 07.9	-0.2
	baz=123					
BCPM	Bancas Point	58.19 334	P	P	01 37 08.6	+0.8
M30M	Minto, Yukon	58.50 337	P	P	01 37 10.4	+0.4
	baz=126					
YUK4	Talbot Arm	58.52 335	P	P	01 37 10.3	-0.1
	baz=123					
PINM	Pinnacle	58.53 334	P	P	01 37 10.4	+0.1
	baz=121					
O28M	Mount Upton	58.85 334	P	P	01 37 13.1	+0.3
	baz=121					
YUK8	Steele Glacier	58.95 335	P	P	01 37 13.7	+0.3
	baz=122					
M29M	Somme Creek	59.06 337	P	P	01 37 14.3	+0.4
M29M	Somme Creek	59.06 337	P	P	01 37 14.4	+0.4
	baz=124,SNR=13					
L29M	L29M	59.30 337	IAmb	IAmb	01 37 18.5	
	comp=Z,4.6nm,1.2s					
L29M	L29M	59.30 337	P	P	01 37 16.1	+0.5
	baz=124					
CTG	Chitna Glacier	59.44 334	P	P	01 37 16.3	-0.3
	baz=120					
YUK3	Moose Creek	59.49 335	P	P	01 37 17.4	+0.4
	baz=121					
K29M	Barlow Dome	59.50 338	P	P	01 37 17.6	+0.5
	baz=125					
J30M	Hart River	59.52 339	P	P	01 37 17.2	+0.1
	baz=127					
SFJD	Kangerlussuaq	59.72 17	LR	LR	02 03 07.0	
	comp=Z,145nm,21.7s,baz=228,slow=36					
I30M	Mount Dempster	59.93 340	P	P	01 37 19.9	0.0
	baz=127					
DAWY	Dawson	60.31 338	P	P	01 37 22.5	+0.1
	baz=124					
G31M	Satah River	60.33 342	P	P	01 37 22.2	-0.2
	baz=130					
M27K	Edge Creek, AK	60.36 336	IAmb	IAmb	01 37 24.7	
	comp=Z,2.3nm,0.8s					
M27K	Edge Creek, AK	60.36 336	P	P	01 37 23.0	0.0
	baz=120					
VRDI	Verde Repeater	60.46 334	IAmb	IAmb	01 37 25.3	
	comp=Z,5.1nm,1.0s					
BCAR	Beaver Creek A	60.68 336	P	P	01 37 25.3	+0.3
L27K	Beaver Creek,	60.70 336	IAmb	IAmb	01 37 26.2	
	comp=Z,3.3nm,0.8s					
L27K	Beaver Creek,	60.70 336	P	P	01 37 25.7	+0.6
	baz=121,SNR=6.5					
GLB	Gilahina Butte	60.71 334	P	P	01 37 26.5	+1.2
M26K	Nabesna, AK	60.84 335	P	P	01 37 26.5	+0.5
	baz=119					
BMRM	Bremner River	60.84 333	P	P	01 37 26.6	+0.5
	baz=117					
G30M	tAoh Zraii Nji	60.96 341	P	P	01 37 26.8	0.0
	baz=128					
INK	Inuvik	61.03 343	LR	LR	02 09 42.3	
	comp=Z,109nm,18.3s,baz=260,slow=42					
N25K	Chitina, Valde	61.12 334	P	P	01 37 28.6	+0.5
	baz=117,SNR=9.7					
RES	Resolute Bay	61.13 359	LR	LR	02 06 38.8	
	comp=Z,91nm,19.7s,baz=168,slow=39					
H29M	Whitestone	61.19 340	P	P	01 37 28.1	-0.2
	baz=126					
F30M	Barrier River	61.22 342	P	P	01 37 28.1	-0.4
	baz=129					
I28M	Miner Creek	61.27 339	P	P	01 37 28.8	-0.2
	baz=124					
L26K	Log Cabin Wild	61.28 336	P	P	01 37 29.0	-0.1
	baz=119					
K27K	Chicken	61.29 337	IAmb	IAmb	01 37 31.4	
	comp=Z,3.0nm,1.0s					
K27K	Chicken	61.29 337	P	P	01 37 29.2	+0.2
	baz=121					
EGAK	Eagle	61.34 338	P	P	01 37 28.8	-0.5
	baz=122					
HIN	Hinchinbrook I	61.43 332	P	P	01 37 31.1	+1.0
G29M	Pine Creek	61.48 341	P	P	01 37 29.9	-0.5
	baz=126					
KLU	Klutina	61.64 334	P	P	01 37 32.5	+0.9
KLU	Klutina	61.64 334	P	P	01 37 32.0	+0.4
	baz=116,SNR=9.9					
P23K	Montague Islan	61.68 332	P	P	01 37 32.2	+0.4
	baz=114					
HARP	HAARP	61.72 335	P	P	01 37 32.5	+0.4
	baz=117					
GLI	Glacier Island	61.90 333	P	P	01 37 33.4	+0.2
	baz=114					
I27K	Kandik River	61.95 339	P	P	01 37 33.2	-0.3
	baz=122					
SCRK	Sand Creek	61.99 337	P	P	01 37 33.8	-0.2
	baz=119					
M24K	Tolsona, Glenn	62.02 334	P	P	01 37 33.9	-0.2
	baz=116					
J26L	Joseph Creek	62.09 337	IAmb	IAmb	01 37 35.8	
	comp=Z,2.7nm,0.8s					
J26L	Joseph Creek	62.09 337	P	P	01 37 34.2	-0.4
	baz=120					
PAX	Paxson	62.11 335	P	P	01 37 34.8	+0.1
	baz=117					
H27K	Steamboat Moun	62.25 339	P	P	01 37 35.3	-0.3
	baz=122					
E29M	Blow River	62.33 342	P	P	01 37 35.3	-0.6
	baz=127					
I26K	Coal Creek Min	62.34 338	IAmb	IAmb	01 37 47.5	
	comp=Z,4.0nm,1.2s					
I26K	Coal Creek Min	62.34 338	P	P	01 37 35.7	-0.4
	baz=120					
SCM	Sheep Creek Mo	62.39 334	P	P	01 37 37.0	+0.4
SCM	Sheep Creek Mo	62.39 334	P	P	01 37 36.6	0.0
	baz=114					
PWL	Port Wells	62.44 332	P	P	01 37 37.0	+0.2
	baz=113					
F28M	Old Crow	62.48 341	P	P	01 37 37.2	+0.2
F28M	Old Crow	62.48 341	P	P	01 37 37.2	+0.2
	baz=125,SNR=12					
M23K	Glacier View	62.55 334	P	P	01 37 37.6	0.0
	baz=114					
G27K	Doyon Strip	62.61 340	P	P	01 37 37.8	-0.1
	baz=122					
K24K	Donnelly Dome	62.61 336	P	P	01 37 38.1	+0.1
	baz=117					
SEW	Seward	62.67 331	P	P	01 37 38.6	+0.3
	baz=112					
KNK	Knik Glacier	62.72 333	P	P	01 37 39.2	+0.4
KNK	Knik Glacier	62.72 333	P	P	01 37 39.1	+0.4
	baz=113					
SML	Sawmill	62.82 333	P	P	01 37 39.7	+0.3
SML	Sawmill	62.82 333	P	P	01 37 39.3	-0.1
	baz=114,SNR=5.1					
J25K	Salcha River,	62.83 337	IAmb	IAmb	01 37 40.4	
	comp=Z,2.7nm,0.7s					
J25K	Salcha River,	62.83 337	P	P	01 37 39.5	+0.1
	baz=118,SNR=5.3					
WAT6	Susitna Watana	62.88 334	P	P	01 37 39.9	-0.1
	baz=114,SNR=5.5					
DHY	Denali Highway	62.94 335	P	P	01 37 40.2	-0.1
	baz=115					
E28M	Babbage River	62.95 342	P	P	01 37 40.1	0.0
	baz=126					
BRSE	Bradley Lake S	63.14 331	P	P	01 37 42.2	+0.6
	baz=110					
D28M	Stokes Point	63.14 343	P	P	01 37 41.2	-0.2
	baz=127					
RC01	Rabbit Creek A	63.16 332	P	P	01 37 41.9	+0.3
RC01	Rabbit Creek A	63.16 332	P	P	01 37 42.1	+0.4
	baz=112,SNR=6.1					
BRLK	Bradley Lake	63.22 331	P	P	01 37 42.2	+0.1
CNPM	China Poot	63.31 330	P	P	01 37 42.5	-0.1
PRP	Porcupine Dome	63.31 338	P	P	01 37 42.7	0.0
	baz=118					
E27K	Colleen River	63.34 341	P	P	01 37 43.1	+0.4
	baz=123					
HDA	Harding Lake	63.34 336	P	P	01 37 42.9	+0.1
	baz=116					
KDAK	Kodiak Island	63.41 328	P	P	01 37 44.3	+1.0
	baz=108					
ILAR	Eielson Array	63.48 337	P	P	01 37 43.4	-0.3
	comp=Z,2.9nm,0.9s,baz=123,slow=4.7,SNR=23					
ILAR			LR	LR	02 08 08.4	
	comp=Z,61nm,18.5s,baz=130,slow=39					
	comp=Z,2.9nm,0.9s					
Q20K	Shuyak Island	63.57 329	P	P	01 37 45.3	+1.0
	baz=108					
OHAK	Old Harbor	63.61 328	P	P	01 37 45.5	+0.9
	baz=107					
RND	Reindeer	63.68 335	P	P	01 37 45.5	+0.4
D27M	Malcolm River	63.74 342	P	P	01 37 45.6	+0.2
	baz=124					
SUA	Susitna One	63.76 333	P	P	01 37 46.1	+0.5
SUA	Susitna One	63.76 333	P	P	01 37 46.3	+0.6
	baz=111,SNR=10					
H25L	Birch Creek	63.77 338	P	P	01 37 46.3	+0.8
	baz=118					
CCB	Clear Creek Bu	63.78 336	P	P	01 37 45.4	-0.3
MCK	McKinley	63.85 335	P	P	01 37 46.4	+0.3
	baz=114					
CUT	Chulitna	63.89 334	P	P	01 37 46.6	+0.2
	baz=112					
F26K	Sheenjek River	63.90 340	P	P	01 37 46.5	+0.1
	baz=120					
BMAR	Burnt Mountain	63.91 340	P	P	01 37 46.7	+0.2
G25K	Bearman Lake	64.11 339	P	P	01 37 48.0	+0.3
	baz=118					
O20K	Slope Mountain	64.15 331	P	P	01 37 47.8	-0.4
	baz=109					
BWN	Browne	64.24 336	P	P	01 37 49.5	+0.8
NEA2	Nenana	64.25 336	P	P	01 37 48.9	+0.1
	baz=114					
SKT	Skwentna	64.29 333	P	P	01 37 49.2	+0.2
SKT	Skwentna	64.29 333	P	P	01 37 49.3	+0.2
	baz=110,SNR=14					
Q19K	Cape Douglas,	64.29 329	P	P	01 37 49.4	+0.2
Q19K	Cape Douglas,	64.29 329	P	P	01 37 48.9	-0.3
	baz=107					
P19K	Oil Pt	64.31 330	P	P	01 37 49.4	+0.1
P19K	Oil Pt	64.31 330	P	P	01 37 48.7	-0.5
	baz=108					
R18K	Karluk	64.31 328	P	P	01 37 49.3	0.0
	baz=106					
N20K	Mount Spurr	64.33 332	P	P	01 37 49.8	+0.4
	baz=110					
H24K	Noodor Dome	64.33 338	P	P	01 37 50.4	+1.1
H24K			IAmb	IAmb	01 38 15.0	
	comp=Z,3.6nm,1.1s					
H24K	Noodor Dome	64.33 338	P	P	01 37 49.7	+0.4
	baz=116					
RSO	Redoubt South	64.33 331	P	P	01 37 50.3	+0.7
F25K	Christian Rive	64.35 340	P	P	01 37 49.9	+0.5
	baz=119					
ILSW	Iliamna Southw	64.37 331	P	P	01 37 50.7	+1.0
ILSW			IAmb	IAmb	01 37 51.8	
	comp=Z,6.2nm,0.8s					
CHIR	Chirikof Islan	64.49 326	P	P	01 37 50.8	+0.3
	baz=104					
I23K	Minto, Yukon-K	64.59 337	P	P	01 37 50.8	-0.2
I23K	Minto, Yukon-K	64.59 337	P	P	01 37 51.3	+0.4
	baz=114,SNR=8.3					
C27K	Jago River	64.76 342	P	P	01 37 51.7	-0.3
	baz=122					
BPAW	Bear Paw Mtn.	64.83 335	P	P	01 37 52.4	-0.2
BPAW	Bear Paw Mtn.	64.83 335	P	P	01 37 52.5	-0.1
	baz=112,SNR=8.0					
Q18K	Katmai Hardscr	64.89 329	P	P	01 37 53.0	-0.2
	baz=106					
M20K	Styx River	64.97 333	P	P	01 37 53.6	0.0
M20K	Styx River	64.97 333	P	P	01 37 53.6	0.0
	baz=109,SNR=9.9					
MLY	Manley	65.08 336	P	P	01 37 53.9	-0.3
MLY	Manley	65.08 336	P	P	01 37 54.2	0.0
	baz=113,SNR=16					
P18K	Big Mountain,	65.21 330	P	P	01 37 54.9	-0.2
	baz=106					
Q17K	Contact Creek	65.24 328	P	P	01 37 55.6	+0.2
	baz=105					
N19K	Bonanza Creek	65.25 331	P	P	01 37 55.7	+0.3
N19K	Bonanza Creek	65.25 331	P	P	01 37 55.4	-0.1
	baz=107,SNR=12					
C26K	Camden Bay	65.27 342	P	P	01 37 54.8	-0.4
	baz=120					
O18K	Koktuh Hills	65.32 330	P	P	01 37 56.1	+0.3
O18K	Koktuh Hills	65.32 330	P	P	01 37 55.7	-0.1
	baz=106,SNR=7.1					
R17L	Mt. Peulik Vol	65.32 328	P	P	01 37 55.7	-0.2
	baz=104					
D25K	Kavik River	65.42 341	P	P	01 37 56.5	+0.2
D25K			IAmb	IAmb	01 37 57.1	
	comp=Z,3.6nm,0.9s					
D25K	Kavik River	65.42 341	P	P	01 37 56.5	+0.2
	baz=119					
G23K	Bananza Creek	65.48 338	P	P	01 37 56.7	-0.1
	baz=114					
L20K	Farewell, AK	65.49 333	P	P	01 37 56.8	-0.1
	baz=108,SNR=16					
M19K	Big River Lodg	65.54 332	P	P	01 37 57.0	-0.2
M19K	Big River Lodg	65.54 332	P	P	01 37 57.3	+0.1
	baz=108					
H22K	Ishtalitna Cre	65.66 337	P	P	01 37 58.0	0.0
	baz=112					
L19K	White Mountain	65.83 333	P	P	01 37 59.0	-0.1
L19K			IAmb	IAmb	01 37 59.6	
	comp=Z,4.6nm,0.8s					
L19K	White Mountain	65.83 333	P	P	01 37 59.0	-0.1
	baz=107,SNR=6.3					
K20K	Telida	65.86 334	P	P	01 37 58.8	-0.4
K20K	Telida	65.86 334	P	P	01 37 59.1	-0.2
	baz=109,SNR=9.3					
N18K	Kilae Creek	65.88 331	P	P	01 37 59.4	0.0
N18K	Kilae Creek	65.88 331	P	P	01 37 59.6	+0.2
	baz=106,SNR=6.6					
E23K	Chandalar	65.90 339	P	P	01 38 00.0	+0.5
	baz=115					
M18K	Stony River	66.07 332	P	P	01 38 00.7	+0.1
	baz=106,SNR=9.6					
H21K	Melozitna Rive	66.12 337	P	P	01 38 00.4	-0.5
	baz=111					
J20K	Nowinta River	66.15 335	P	P	01 38 00.2	-0.8
J20K			IAmb	IAmb	01 38 01.4	
	comp=Z,4.1nm,0.8s					
J20K	Nowinta River	66.15 335	P	P	01 38 00.8	-0.3
	baz=109					
O17K	Koliganek Bris	66.22 330	P	P	01 38 02.6	+1.0
	baz=104,SNR=6.4					
N17K	Nushagak Hills	66.46 331	P	P	01 38 03.0	-0.1
N17K	Nushagak Hills	66.46 331	P	P	01 38 03.7	+0.6
	baz=104,SNR=6.4					
TTA	Tatalina	66.57 333	P	P	01 38 03.4	-0.5
TTA			IAmb	IAmb	01 38 04.0	
	comp=Z,6.0nm,0.8s					
TTA	Tatalina	66.57 333	P	P	01 38 03.5	-0.4
	baz=107,SNR=6.3					
F22K	John River	66.57 339	P	P	01 38 03.9	+0.1
	baz=112					
D23K	Nanushuk River	66.64 340	P	P	01 38 04.9	+0.8
	baz=114					
L18K	Granite Mounta	66.67 332	P	P	01 38 04.4	0.0
L18K			IAmb	IAmb	01 38 05.6	
	comp=Z,6.0nm,1.0s					
L18K	Granite Mounta	66.67 332	P	P	01 38 04.6	+0.2
	baz=106,SNR=5.4					
O16K	Kokwok River B	66.67 329	P	P	01 38 04.5	+0.1
O16K			IAmb	IAmb	01 38 05.3	
	comp=Z,7.0nm,1.1s					
O16K	Kokwok River B	66.67 329	P	P	01 38 05.1	+0.7
	baz=103					
E22K	Anaktuvuk Pass	66.69 339	P	P	01 38 04.8	+0.3
	baz=113					
G21K	Allakaket	66.69 337	P	P	01 38 04.7	+0.2
	baz=110					
J19K	Poorman	66.71 334	P	P	01 38 04.3	-0.3
J19K	Poorman	66.71 334	P	P	01 38 04.6	0.0
	baz=107,SNR=5.1					
M17K	Holitna River	66.80 331	P	P	01 38 05.6	+0.4
M17K	Holitna River	66.80 331	P	P	01 38 05.7	+0.4
	baz=105					
H20K	Anotleneega Mo	66.88 336	P	P	01 38 06.3	+0.6
	baz=109					
F21K	Alatna River	66.94 338	P	P	01 38 06.6	+0.6
F21K	Alatna River	66.94 338	P	P	01 38 06.7	+0.6
	baz=111					
C23K	Itkillik River	66.98 341	P	P	01 38 06.3	+0.1
	baz=115					
J18K	Innoko River	67.02 334	P	P	01 38 07.2	+0.6
	baz=106					
SDPT	Sand Point	67.09 325	P	P	01 38 07.1	-0.1
	baz=99					
N16K	Nishlik Lake	67.20 330	P	P	01 38 08.1	+0.2
	baz=103					
L17K	Donlin	67.38 332	P	P	01 38 08.9	0.0
	baz=104					
M16K	Timber Creek	67.42 331	P	P	01 38 09.0	-0.2
	baz=103					
O15K	Ungalikthiuk R	67.45 329	P	P	01 38 09.0	-0.4
	baz=102					
H19K	Roundabout Mou	67.51 336	P	P	01 38 09.7	0.0
H19K			IAmb	IAmb	01 38 10.2	
	comp=Z,5.3nm,0.8s					
H19K	Roundabout Mou	67.51 336	P	P	01 38 09.3	-0.4
	baz=107					
K17K	Iditarod	67.52 333	P	P	01 38 09.9	+0.1
K17K	Iditarod	67.52 333	P	P	01 38 09.4	-0.4
	baz=104					
E21K	Killik River	67.55 339	P	P	01 38 10.2	+0.3
	baz=111					
F20K	Avaraart Lake	67.70 338	P	P	01 38 10.7	-0.1
	baz=108					
N15K	Kwethluk River	67.78 330	P	P	01 38 12.1	+0.6
	baz=102					
L16K	Owhat River	67.82 331	P	P	01 38 12.2	+0.5
L16K	Owhat River	67.82 331	P	P	01 38 11.9	+0.3
	baz=103					
G19K	Purcell Mounta	67.94 336	P	P	01 38 12.2	-0.2
	baz=107					
J17K	VABM Dome	68.03 333	P	P	01 38 12.8	-0.2
	baz=104					
H18K	Honhosa River	68.18 335	P	P	01 38 14.4	+0.5
	baz=105					
E20K	Nigu River	68.26 339	P	P	01 38 14.9	+0.4
	baz=109					
E19K	Redstone River	68.39 338	P	P	01 38 15.2	+0.1
	baz=107					
F19K	Shaleruckik Mo	68.41 337	P	P	01 38 15.7	+0.4
	baz=106					

D20K Etivluk River 68.55 339 P **P 01 38 16.6 +0.4**
baz=108
J16K Anvik River 68.67 333 P **P 01 38 17.2 +0.2**
baz=102
L15K Ungalak Mounta 68.75 331 P **P 01 38 17.8 +0.3**
baz=101
H17K Granite Mounta 68.76 335 P **P 01 38 17.9 +0.3**
baz=104
M14K Bethel 68.80 330 P **P 01 38 18.9 +1.1**
M14K Bethel 68.80 330 P **P 01 38 17.8 0.0**
baz=100,SNR=6.8
K15K Wolf Creek Mou 68.89 332 P **P 01 38 19.5 +1.2**
K15K Wolf Creek Mou 68.89 332 P **P 01 38 18.1 -0.3**
baz=101
G17K Kiwalik Mounta 69.19 335 P **P 01 38 19.9 -0.3**
baz=103
BORG Borgarnes 69.31 26 LR LR 02 08 36.1
comp=Z,40nm,18.3s,baz=286,slow=36
M13K Dall Lake 69.42 330 P **P 01 38 21.6 -0.1**
baz=99
E18K Tukpahlearik C 69.63 337 P **P 01 38 22.7 -0.1**
baz=104
J14K Nanvaranak Lak 69.89 332 P **P 01 38 24.3 -0.3**
baz=100
E17K Hotham Inlet 70.01 337 P **P 01 38 25.3 0.0**
baz=103
UNV Unalaska Valle 70.41 323 P **P 01 38 27.7 -0.1**
baz=94
RDOG Red Dog Mine 70.63 338 P **P 01 38 28.7 -0.3**
baz=102
C17K DeLong Mountai 70.81 338 P **P 01 38 30.0 -0.2**
baz=102
BBTS Babate 72.22 79 LR LR 02 06 41.2
comp=Z,33nm,20.3s,baz=156,slow=33
JMIC Jan Mayen 74.92 20 LR LR 02 12 26.0
comp=Z,50nm,20.2s,baz=243,slow=36
EKA Eskdalemuir Ar 77.33 36 P **P 01 39 08.7 -3.0**
comp=Z,0.8nm,0.6s,baz=264,slow=5.8,SNR=6.5
comp=Z,0.8nm,0.6s
MDT Midelt 80.06 59 LR LR 02 08 56.7
comp=Z,50nm,20.9s,baz=334,slow=31
NOA NORSAR Array B 84.21 29 LR LR 02 17 24.8
comp=Z,18nm,18.5s,baz=300,slow=36
DBIC Dimbokro 85.05 84 LR LR 02 16 52.7
comp=Z,17nm,20.3s,baz=191,slow=35
HFS Hagfors 85.66 29 LR LR 02 16 48.9
comp=Z,27nm,19.3s,baz=346,slow=35
ARCES ARCESS Array B 86.33 18 LR LR 02 18 43.3
comp=Z,39nm,19.9s,baz=304,slow=36
DAVOX Davos/Dischmat 87.74 42 LR LR 02 18 15.4
comp=Z,24nm,18.4s,baz=264,slow=35
VRAC Vranov 91.12 39 LR LR 02 18 39.0
comp=Z,41nm,20.6s,baz=328,slow=34
NRIK Noril'sk 97.30 0 LR LR 02 28 21.2
comp=Z,48nm,19.6s,baz=12,slow=38
AKASG Malin Array Be 97.72 34 LR LR 02 29 03.5
comp=Z,25nm,18.0s,baz=57,slow=38
MKAR Makanchi Array 119.64 5 PKP **PKPdf 01 46 02.6 -1.1**
comp=Z,0.4nm,0.7s,baz=11,slow=2.1,SNR=3.4
WRA Warramunga Arr 135.92 255 PKP **PKPdf 01 46 34.1 -1.2**
comp=Z,0.4nm,0.9s,baz=100,slow=2.3,SNR=3.4
ASAR Alice Springs 136.13 250 PKP **PKPdf 01 46 35.4 -0.3**
comp=Z,0.2nm,0.4s,baz=69,slow=3.1,SNR=1.7
CMAR Chiang Mai Arr 146.59 342 PKPbc **PKPdf 01 46 55.9 +1.3**
comp=Z,2.4nm,0.3s,baz=338,slow=4.1,SNR=24

*IDC **19** 01:32:44.3±1.8, 10°.42S×118°.97E, h0km, mb3.8/3, mbtmp3.7/6, ML3.4/3, Error ellipse: s-maj=60.1km s-min=24.0km az=63.0*
*DJA **19** 01:32:51.2±0.9, 10°.S±13°×11°.9E±°, h10km, M4.2/7, mb4.8/1, mB4.8/1, MLv3.9/7, Mw(mB)4.0/1*
ISC 19 01:32:49.9±1.0, 10.48S±0.10×118.93E±0.05, h41km, n15, σ2°03/18, mb3.9/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.64**	**81**	P	**Pn**	**01 33 18.0**	**+1.7**
BASI				S	**Sn**	**01 33 39.6**	**+3.4**
PLAI	**Plampang**	**1.99**	**325**	P	**Pn**	**01 33 23.0**	**+1.9**
TWSI	**Taliwang, Sumb**	**2.66**	**310**	P	**Pn**	**01 33 33.3**	**+3.1**
TWSI				S	**Sn**	**01 34 01.6**	**+0.4**
EDFI	**Ende, Flores**	**3.22**	**58**	P	**Pn**	**01 33 38.7**	**+0.6**
IGBI	**Denpasar**	**4.08**	**294**	S	**Sn**	**01 34 33.6**	**-2.6**
DNP	**Denpasar**	**4.08**	**296**	S	**Sn**	**01 34 36.8**	**+0.5**
SRBI	**Singaraja**	**4.37**	**303**	P	Pn	01 33 59.4	+5.7
SRBI				S	**Sn**	**01 34 42.3**	**-1.1**
BATI	**Baumata**	**4.67**	**87**	S	**Sn**	**01 34 49.2**	**-1.7**
BKSI	**Bulukumba**	**5.25**	**13**	P	**Pn**	**01 34 08.9**	**+3.0**
KAPI	**Kappang**	**5.49**	**9**	Pn	**Pn**	**01 34 06.4**	**-2.7**
	0.8nm,0.3s,baz=184,slow=19,SNR=1.2						
KAPI				Sn	**Sn**	**01 35 10.4**	**-0.6**
	3.2nm,0.3s,baz=168,slow=19,SNR=1.5						
	3.6nm,0.3s						
WRA	**Warramunga Arr**	**17.59**	**124**	P	**Pn**	**01 36 50.0**	**-2.1**
	0.1nm,0.3s,baz=300,slow=12,SNR=8.2						
WRA				S	Sn	01 39 52.9	-14
	0.4nm,0.6s,baz=298,slow=23,SNR=1.9						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**19.39**	**134**	P	**Pn**	**01 37 12.8**	**-1.2**
	0.3nm,0.3s,baz=312,slow=11,SNR=7.2						
	0.7nm,0.5s						
KSRS	**Korea Array**	**48.42**	**10**	P	**P**	**01 41 27.9**	**-0.1**
	0.9nm,0.7s,baz=191,slow=9.4,SNR=5.0						
	0.9nm,0.7s						
SONM	**Songino Array**	**59.11**	**350**	P	**P**	**01 42 46.0**	**-0.2**
	0.4nm,0.4s,baz=162,slow=8.7,SNR=4.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**65.73**	**333**	P	**P**	**01 43 30.6**	**+0.1**
	0.8nm,0.7s,baz=147,slow=7.1,SNR=6.2						
	0.8nm,0.7s						

*PRE **19** 01:34:38.8±2.3, 26°.10S×30°.27E, h5km, ML3.2, Fault plane solution: NP1:φ=58.00000°, δ=90.00000°, λ=-42.00000°.*
*NEIC **19** 01:34:39.9±1.7, 26°.05S±0°.06×30°.16E±0°.04, h5km±1km, mb4.3/4, Error ellipse: s-maj=9.9km s-min=6.8km az=350.0*
*BUL **19** 01:34:39.5±2.2, 26°.37S×30°.43E, h10km*
*BGSI **19** 01:34:42.3±3.3, 26°.10S×30°.51E, h23km±34.3km, ML3.4*
ISC 19 01:34:41.4±0.9, 26.05S±0.03×30.20E±0.04, h27km±7km, n46, σ2°16/74, 1C-9D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.17**	**290**	⇓*iP*	**Pb**	**01 34 47.2**	**0.0**
CRLN				*eS*	**Sb**	**01 34 50.4**	**-0.8**
CRLN				IAML		01 34 50.6	
	comp=Z,10μm,0.1s						
PILG	**Pilgrimsrest,**	**1.21**	**22**	⇓*iP*	**Pb**	**01 35 04.0**	**+0.2**
PILG				*eS*	**Sb**	**01 35 19.5**	**+0.4**
PILG				IAML		01 35 21.0	
	comp=Z,1μm,0.7s						
HOED	**Hoedspruit, Li**	**1.76**	**22**	⇓*iP*	**Pb**	**01 35 11.3**	**-1.8**
HOED				*eS*	**Sb**	**01 35 34.8**	**0.0**
HOED				IAML		01 35 35.6	
	comp=Z,329nm,0.5s						
POGA	**Pongola**	**1.86**	**134**	Pn	**Pb**	**01 35 13.5**	**-1.3**
POGA				Sn	**Sb**	**01 35 37.2**	**-0.5**
HRAO	**HartRAO**	**2.27**	**274**	*eP*	**Pn**	**01 35 19.1**	**+1.9**
HRAO				*eS*	**Sn**	**01 35 47.7**	**+3.3**
HRAO				IAML		01 35 53.9	
	comp=Z,900nm,0.5s						
PRYS	**Parys**	**2.69**	**251**	⇑*iP*	**Pn**	**01 35 23.6**	**+0.6**
PRYS				*eS*	**Sn**	**01 35 57.3**	**+2.5**
PRYS				IAML		01 36 06.8	
	comp=Z,182nm,0.5s						
MOPA	**Mopani**	**2.75**	**24**	⇓*iP*	**Pn**	**01 35 24.9**	**+1.2**
MOPA				*eS*	**Sn**	**01 35 56.7**	**+0.6**
MOPA				IAML		01 36 09.1	
	comp=Z,467nm,0.3s						
MOPA	**Mopani**	**2.75**	**24**	*iP*	**Pb**	**01 35 25.5**	**-4.4**
LEPH	**Lephalale, Lim**	**3.09**	**315**	*eP*	**Pn**	**01 35 29.9**	**+1.5**
LEPH				*eS*	**Sn**	**01 36 07.7**	**+3.2**
LEPH				IAML		01 36 22.6	
	comp=Z,293nm,0.4s						
SNKL	**Senekal, Frees**	**3.10**	**224**	⇓*iP*	**Pn**	**01 35 29.9**	**+1.2**
SNKL				*eS*	**Sn**	**01 36 08.5**	**+3.7**
SNKL				IAML		01 36 19.9	
	comp=Z,232nm,0.3s						
PMBG	**Pietermaritzbu**	**3.46**	**176**	*eP*	**Pn**	**01 35 31.2**	**-2.3**
PMBG				*eS*	**Sn**	**01 36 11.5**	**-2.1**
PMBG				IAML		01 36 36.5	
	comp=Z,168nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUSN	**Musina, Limpop**	**3.76**	**355**	⇓*iP*	**Pn**	**01 35 39.0**	**+1.3**
MUSN				*eS*	**Sn**	**01 36 21.6**	**+0.5**
MUSN				IAML		01 36 35.1	
	comp=Z,178nm,0.4s						
MUSN	**Musina, Limpop**	**3.76**	**355**	*iP*	**Pb**	**01 35 44.2**	**-3.0**
LBTB	**Lobatse**	**4.29**	**283**	Pn	**Pn**	**01 35 46.7**	**+1.8**
LBTB				Sn	**Sn**	**01 36 35.1**	**+0.9**
LBTB	**Lobatse**	**4.29**	**283**	⇓*iP*	**Pn**	**01 35 47.0**	**+2.0**
LBTB				*eS*	**Sn**	**01 36 36.3**	**+2.2**
LBTB				IAML		01 36 56.8	
	comp=Z,150nm,0.5s						
LBTB	**Lobatse**	**4.29**	**283**	*iP*	**Pn**	**01 35 47.7**	**+2.7**
KSTD	**Kokstad**	**4.62**	**190**	*eP*	**Pn**	**01 35 51.8**	**+2.3**
KSTD				*eS*	**Sn**	**01 36 44.2**	**+1.9**
KSTD				IAML		01 37 12.9	
	comp=Z,32nm,0.5s						
BOSA	**Boshof**	**5.08**	**239**	Pn	**Pn**	**01 35 55.1**	**-0.8**
BOSA	**Boshof**	**5.08**	**239**	*eP*	**Pn**	**01 35 55.8**	**-0.1**
BOSA				*eS*	**Sn**	**01 36 56.2**	**+2.4**
BOSA				IAML		01 37 29.8	
	comp=Z,49nm,0.9s						
BOSA	**Boshof**	**5.08**	**239**	*iP*	**Pn**	**01 35 56.0**	**0.0**
BROLN	**Tlhalogang**	**5.59**	**331**	*iP*	**Pn**	**01 36 04.9**	**+2.1**
BROLN				*eS*	**Sn**	**01 37 03.4**	**-2.9**
BROLN				IAML		01 37 34.9	
	comp=Z,52nm,0.5s						
MATP	**Matopo**	**5.82**	**344**	*iP*	**Pn**	**01 36 08.6**	**+2.6**
SKOMA	**Sekoma**	**5.88**	**284**	*iP*	**Pn**	**01 36 09.5**	**+2.7**
SKOMA				*eS*	**Sn**	**01 37 13.5**	**+0.2**
SKOMA				IAML		01 37 59.5	
	comp=Z,83nm,0.6s						
SOOWA	**Sowa**	**6.58**	**325**	*iP*	**Pn**	**01 36 18.9**	**+2.5**
SOOWA				*eS*	**Sn**	**01 37 28.9**	**-1.7**
SOOWA				IAML		01 38 11.9	
	comp=Z,135nm,0.3s						
SOE	**Somerset East**	**7.77**	**210**	Pn	**Pn**	**01 36 33.4**	**+0.6**
PHDHD	**Phuduhudu**	**7.82**	**317**	*iP*	**Pn**	**01 36 33.4**	**-0.2**
PHDHD				*eS*	**Sn**	**01 37 59.0**	**-2.2**
PHDHD				IAML		01 38 50.1	
	comp=Z,51nm,0.8s						
GRHM	**Grahamstown, E**	**7.93**	**204**	Pn	**Pn**	**01 36 36.2**	**+1.2**
GRHM	**Grahamstown, E**	**7.93**	**204**	*eP*	**Pn**	**01 36 36.0**	**+1.1**
GRHM				*eS*	**Sn**	**01 38 00.9**	**-2.8**
GRHM				IAML		01 38 32.0	
	comp=Z,4.3nm,0.6s						
GRAF	**Camdeboo Natio**	**7.96**	**217**	*eP*	**Pn**	**01 36 37.9**	**+2.5**
GRAF				*eS*	**Sn**	**01 38 04.7**	**+0.1**
GRAF				IAML		01 39 06.2	
	comp=Z,18nm,0.8s						
BFON	**Badsfontein, M**	**8.08**	**223**	*eP*	**Pn**	**01 36 38.8**	**+1.7**
BFON				*eS*	**Sn**	**01 38 05.3**	**-2.3**
BFON				IAML		01 38 31.3	
	comp=Z,10nm,0.3s						
BRAK	**Brakfontein**	**8.57**	**227**	*eP*	**Pn**	**01 36 44.8**	**+1.0**
BRAK				*eS*	**Sn**	**01 38 18.7**	**-1.0**
BRAK				IAML		01 38 32.9	
	comp=Z,7.1nm,0.2s						
ROOI	**Rooidraai Farm**	**8.65**	**221**	⇓*iP*	**Pn**	**01 36 46.5**	**+1.6**
ROOI				*eS*	**Sn**	**01 38 10.0**	**-3.6**
ROOI				IAML		01 38 49.7	
	comp=Z,6.5nm,0.5s						
KRI	**Karoi**	**9.19**	**356**	*iP*	Pn	01 36 47.3	-5.1
GRAN	**Grantham**	**9.38**	**227**	⇓*iP*	**Pn**	**01 36 55.4**	**+0.6**
GRAN				*eS*	**Sn**	**01 38 35.2**	**-4.3**
GRAN				IAML		01 38 51.9	
	comp=Z,6.7nm,0.3s						
FRAZ	**Fraserburg**	**9.67**	**231**	*eP*	**Pn**	**01 36 59.4**	**+0.5**
FRAZ				*eS*	**Sn**	**01 38 42.6**	**-4.1**
FRAZ				IAML		01 38 58.2	
	comp=Z,7.9nm,0.3s						
MERW	**Merweville**	**10.04**	**227**	*eP*	**Pn**	**01 37 04.5**	**+0.6**
MERW				*eS*	**Sn**	**01 38 51.3**	**-4.4**
MERW				IAML		01 39 46.5	
	comp=Z,7.0nm,0.4s						
SUR	**Sutherland**	**10.34**	**230**	Pn	**Pn**	**01 37 07.9**	**-0.2**
SUR	**Sutherland**	**10.34**	**230**	*eP*	**Pn**	**01 37 09.5**	**+1.4**
SUR				*eS*	**Sn**	**01 38 58.0**	**-5.3**
SUR				IAML		01 39 20.3	
	comp=Z,7.0nm,0.6s						
QNGWA	**Qangwa**	**10.55**	**306**	*iP*	**Pn**	**01 37 12.1**	**+1.0**
QNGWA				*eS*	Sn	01 39 02.8	-5.6
QNGWA				IAML		01 40 29.5	
	comp=Z,7.3nm,1.1s						
LSZ	**Lusaka**	**10.89**	**350**	Pn	**Pn**	**01 37 15.6**	**0.0**
MATJ	**Matjiesfontein**	**11.02**	**227**	*eP*	**Pn**	**01 37 17.8**	**+0.4**
MATJ				*eS*	**Sn**	**01 39 15.3**	**-4.6**
MATJ				IAML		01 39 40.2	
	comp=Z,6.2nm,0.4s						
WIN	**Windhoek**	**12.44**	**283**	Pn	**Pn**	**01 37 37.9**	**+1.0**
FOMA	**Nahampoana Res**	**15.19**	**90**	Pn	**Pn**	**01 38 14.5**	**+0.4**
ABPO	**Ambohimpanom**	**17.21**	**69**	Pn	**P**	**01 38 41.2**	**-0.3**
ABPO				IAmb	IAmb	01 38 44.8	
	comp=Z,20nm,1.2s						
MBAR	**Mbarara**	**25.31**	**1**	P	**P**	**01 40 07.0**	**+0.9**
QSPA	**South Pole Qui**	**64.13**	**180**	P	**P**	**01 45 14.2**	**+1.1**
QSPA				IAmb	IAmb	01 45 30.6	
	comp=Z,3.9nm,1.4s						

*IDC **19** 01:50:50.8±2.2, 15°.08S×76°.03W, h0km, mb4.0/1, mbtmp3.8/5, ML3.6/4, MS3.1/2, Error ellipse: s-maj=53.6km s-min=20.7km az=54.0*
ISC 19 01:50:51.5±1.3, 15.24S±0.10×76.2W±0.1, h10km, n10, σ1°82/10, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.30**	**349**	Pn	**Pn**	**01 51 43.3**	**0.0**
	3.7nm,0.3s,baz=187,slow=9.3,SNR=6.0						
NNA				Sn	**Sn**	**01 52 21.2**	**-1.4**
	32nm,0.3s,baz=204,slow=14,SNR=10						
NNA				LR	LR	01 52 53.5	
	comp=Z,63nm,19.0s,baz=143,slow=39						
	7.8nm,0.3s						
LPAZ	**La Paz**	**7.81**	**99**	Pn	**Pn**	**01 52 47.0**	**+1.1**
	0.7nm,0.3s,baz=262,slow=8.3,SNR=11						
LPAZ				Sn	**Sn**	**01 54 15.5**	**+0.7**
	baz=236,slow=13						
	1.6nm,0.4s						
ATAH	**Atahualpa**	**8.34**	**345**	Pn	**Pn**	**01 52 52.7**	**-0.3**
	0.9nm,0.3s,baz=129,slow=13,SNR=2.6						
ATAH				Sn	**Sn**	**01 54 28.1**	**+0.6**
	baz=146,slow=16						
	2.3nm,0.4s						
LVC	**Limon Verde**	**10.05**	**138**	Pn	**Pn**	**01 53 17.9**	**+1.6**
	0.8nm,0.3s,baz=311,slow=13,SNR=6.4						
LVC				Sn	**Sn**	**01 55 06.3**	**-3.1**
	0.4nm,0.3s,baz=109,slow=17,SNR=1.7						
	3.3nm,0.4s						
H03N1	**Juan Fernandez**	**18.29**	**187**	T	T	02 14 18.9	
	baz=9.6,slow=74,SNR=888						
H03N2	**Juan Fernandez**	**18.29**	**187**	T	T	02 14 18.2	
	baz=9.6,slow=74,SNR=990						
H03N3	**Juan Fernandez**	**18.31**	**187**	T	T	02 14 17.6	
	baz=9.6,slow=74,SNR=1065						
TORD	**Torodi Ar. Bea**	**82.04**	**74**	P	**P**	**02 03 10.9**	**-1.7**
	1.2nm,0.8s,baz=263,slow=3.5,SNR=5.6						
	1.2nm,0.8s						
YKA	**Yellowknife Ar**	**83.12**	**343**	LR	LR	02 43 35.9	
	comp=Z,43nm,18.7s,baz=204,slow=38						
WRA	**Warramunga Arr**	**133.93**	**222**	PKP	**PKPdf**	**02 10 12.1**	**+2.1**
	0.7nm,1.0s,baz=132,slow=1.9,SNR=2.5						

IDC 19 01:58:25.4±5.6, 5.01S×133.18E, h0km, mb3.5/1, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=333.7km s-min=32.3km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.88**	**176**	Pn	Pn	02 01 56.6	-0.7
	0.2nm,0.3s,baz=354,slow=13,SNR=8.7						
WRA				Sn	Sn	02 04 34.7	-8.3
	baz=357,slow=22,SNR=2.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**18.56**	**178**	P	Pn	02 02 44.0	0.0
	0.2nm,0.3s,baz=0.0,slow=11,SNR=11						
ASAR				S	Sn	02 06 04.9	-7.4
	0.5nm,0.9s,baz=351,slow=24,SNR=2.3						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**68.36**	**325**	P	P	02 09 28.8	0.0
	0.2nm,0.4s,baz=122,slow=6.9,SNR=4.2						
	0.2nm,0.4s						

*IDC **19** 02:17:03.4±9.8, 20°.59S×176°.04W, h194km±86km, mb3.4/4, mbtmp3.9/5, Error ellipse: s-maj=43.9km s-min=39.9km az=163.0*
ISC 19 02:17:05.1±1.2, 20.7S±0.2×175.9W±0.2, h211km, n9, σ1°11/11, mb3.4/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.54**	**262**	P	**Pn**	**02 20 47.3**	**+1.8**
	5.0nm,0.7s,baz=68,slow=18,SNR=5.1						
URZ	**Urewera**	**18.54**	**198**	P	**P**	**02 21 05.8**	**-0.1**
	2.3nm,0.5s,baz=6.7,slow=8.0,SNR=2.0						
ASAR	**Alice Springs**	**46.42**	**257**	P	**P**	**02 25 09.9**	**-1.1**
	0.9nm,0.7s,baz=88,slow=8.6,SNR=8.4						
ASAR				PcP	**PcP**	**02 26 42.4**	**+0.1**
	0.8nm,0.6s,baz=97,slow=3.9,SNR=8.6						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**46.55**	**262**	P	**P**	**02 25 10.5**	**-1.5**
	0.5nm,0.3s,baz=96,slow=7.4,SNR=23						
WRA				PcP	**PcP**	**02 26 42.6**	**-0.1**
	0.5nm,0.6s,baz=104,slow=3.1,SNR=5.0						
	0.5nm,0.3s						
MJAR	**Matsushiro Arr**	**71.56**	**322**	P	**P**	**02 28 02.8**	**-0.5**
	0.8nm,0.3s,baz=149,slow=5.7,SNR=1.7						
	0.8nm,0.3s						
ILAR	**Eielson Array**	**88.06**	**12**	P	**P**	**02 29 31.2**	**+0.1**
	0.2nm,0.5s,baz=222,slow=5.7,SNR=2.0						
	0.2nm,0.5s						
AKASG	**Malin Array Be**	**144.12**	**333**	PKP	**PKPab**	**02 36 13.3**	**-0.2**
	1.0nm,0.4s,baz=42,slow=4.0,SNR=9.7						
EKA	**Eskdalemuir Ar**	**144.97**	**7**	PKP	**PKPdf**	**02 36 16.8**	**0.0**
	0.4nm,0.4s,baz=322,slow=2.8,SNR=9.2						
BRTR	**Keskin Array B**	**148.43**	**313**	PKPbc	**PKPdf**	**02 36 25.0**	**+1.7**
	0.5nm,0.4s,baz=349,slow=3.0,SNR=1.9						

*IDC **19** 02:28:12.4±0.9, 54°.52N×161°.18W, h0km, mb3.8/19, mbtmp3.8/22, ML3.4/3, MS3.2/7, Error ellipse: s-maj=21.5km s-min=16.9km az=5.0*
*NEIC **19** 02:28:15.8±1.1, 54°.47N±0°.04×160°.86W±0°.04, h10km±1km, ML3.7/26, ML3.6(AEIC), Error ellipse: s-maj=6.6km s-min=3.6km az=175.0*
*AEIC **19** 02:28:16.8±0.9, 54°.48N±0°.04×160°.79W±0°.02, h4km±4km, Error ellipse: s-maj=6.1km s-min=1.4km az=179.0*
ISC 19 02:28:15.5±1.5, 54.46N±0.06×160.78W±0.03, h16km±8km, n187, σ1°07/175, mb3.9/19, MS3.3/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.78**	**62**	Pg	**Pg**	**02 28 30.9**	**+0.1**
CNBA	**Chernabura Isl**	**0.78**	**62**		**Sb**	**02 28 43.3**	**+2.3**
CHNA	**Chernabura Isl**	**0.79**	**61**	P	**Pg**	**02 28 30.8**	**0.0**
	baz=244						
CHNA				S	**Sb**	**02 28 43.3**	**+2.2**
	baz=244						
SDPT	**Sand Point**	**0.91**	**11**	P	**Pg**	**02 28 33.2**	**+0.1**
SDPT	**Sand Point**	**0.91**	**11**		**Pg**	**02 28 32.9**	**-0.2**
SDPT					**Sg**	**02 28 45.9**	**+0.8**
SDPT	**Sand Point**	**0.91**	**11**	IAML		02 28 50.6	
	comp=E,2μm,0.8s						
SDPT				IAML		02 28 51.8	
	comp=N,2μm,0.7s						
SDPT	**Sand Point**	**0.91**	**11**	P	**Pg**	**02 28 32.9**	**-0.2**
	baz=192						
SDPT				S	**Sg**	**02 28 45.9**	**+0.8**
	baz=192						
HAG	**Hague Volcano**	**1.07**	**323**		**Pg**	**02 28 35.8**	**-0.6**
HAG					**Sg**	**02 28 51.0**	**+0.6**
PS4A	**Pavlof South-4**	**1.08**	**325**		**Pg**	**02 28 35.7**	**-0.8**
PVV	**Pavlof Volcano**	**1.08**	**328**		**Pg**	**02 28 35.8**	**-0.7**
PVV					**Sg**	**02 28 50.2**	**-0.5**
PS1A	**Pavlof South-1**	**1.11**	**330**		**Pg**	**02 28 36.3**	**-0.7**
PS1A					**Sg**	**02 28 51.6**	**+0.1**
PN7A	**Pavlof North-7**	**1.20**	**325**		**Pg**	**02 28 37.8**	**-0.9**
S12K	**Black Hills**	**1.45**	**330**		**Sb**	**02 29 01.0**	**+0.8**
S12K	**Black Hills**	**1.45**	**330**		**Pn**	**02 28 41.6**	**+0.7**
S12K	**Black Hills**	**1.45**	**330**	IAML		02 29 02.2	
	comp=E,3μm,0.5s						
S12K				IAML		02 29 03.2	
	comp=N,3μm,0.3s						
S12K	**Black Hills**	**1.45**	**330**	P	**Pn**	**02 28 41.6**	**+0.7**
	baz=149						
S12K				S	**Sb**	**02 29 01.0**	**+0.8**
	baz=149						
FALS	**False Pass**	**1.58**	**286**	P	**Pn**	**02 28 43.6**	**+0.8**
FALS	**False Pass**	**1.58**	**286**		**Pn**	**02 28 43.5**	**+0.8**
FALS					**Sn**	**02 29 04.4**	**+1.6**
FALS	**False Pass**	**1.58**	**286**	P	**Pn**	**02 28 43.5**	**+0.8**
	baz=103						
FALS				S	**Sn**	**02 29 04.4**	**+1.6**
	baz=103						
ISLZ	**Isanotski Laza**	**1.73**	**280**		**Pn**	**02 28 45.1**	**+0.3**
VNKR	**Veniaminof 5**	**1.77**	**27**		**Pn**	**02 28 46.5**	**+1.0**
ISNN	**Isanotski Nort**	**1.78**	**283**		**Pn**	**02 28 46.7**	**+1.1**
VNWF	**Veniaminof 8**	**1.83**	**22**		**Pn**	**02 28 47.9**	**+1.5**
SSLS	**Shishaldin Sou**	**1.89**	**279**		**Pn**	**02 28 47.9**	**+0.8**
VNSS	**Veniaminof 8**	**1.93**	**23**		**Pn**	**02 28 49.1**	**+1.4**
VNSG	**Veniaminof 6**	**1.93**	**29**		**Pn**	**02 28 48.9**	**+1.2**
S14K	**Fog Glacier**	**1.96**	**20**	P	**Pn**	**02 28 49.9**	**+1.8**
	baz=202						
VNFG	**Fog Glacier, M**	**1.96**	**20**		**Pn**	**02 28 49.9**	**+1.8**
VNHG	**Veniaminof 1**	**1.99**	**27**		**Pn**	**02 28 50.2**	**+1.6**
WESE	**West Dahl East**	**2.22**	**272**		**Pn**	**02 28 53.0**	**+1.3**
CHGN	**Chignik**	**2.29**	**35**		**Pn**	**02 28 54.0**	**+1.6**
CHGN	**Chignik**	**2.29**	**35**	IAML		02 29 28.6	
	comp=E,610nm,0.9s						
CHGN				IAML		02 29 33.2	
	comp=N,401nm,0.9s						
CHGN	**Chignik**	**2.29**	**35**	P	**Pn**	**02 28 54.1**	**+1.6**
	baz=218						
WEBT	**Westdahl Beart**	**2.32**	**275**		**Pn**	**02 28 53.8**	**+0.8**
AKSA	**Akutan Strait**	**2.90**	**266**		**Pn**	**02 29 01.6**	**+0.7**
ANNE	**Aniakchak Nort**	**2.90**	**31**		**Pn**	**02 29 02.1**	**+1.1**
AHB	**Akutan Harbor**	**2.97**	**265**		**Pn**	**02 29 03.2**	**+1.3**
AKGG	**Akutan Green G**	**3.06**	**267**		**Pn**	**02 29 03.8**	**+0.6**
ZRO	**Akutan Zero**	**3.07**	**265**		**Pn**	**02 29 03.9**	**+0.6**
LVA	**Lava Point**	**3.09**	**267**	Pn	**Pn**	**02 29 04.1**	**+0.5**
LVA				IAML		02 29 58.9	
	comp=E,267nm,0.7s						
CHIR	**Chirikof Islan**	**3.26**	**63**		**Pn**	**02 29 06.1**	**+0.2**

OHAK Old Harbor 5.05 54 Pn 02 29 30.1 -0.3
OHAK Old Harbor 5.05 54 IAML 02 30 57.0
comp=N,45nm,1.5s
OHAK IAML 02 30 59.6
comp=E,37nm,0.8s
OHAK Old Harbor 5.05 54 P **Pn 02 29 30.1 -0.3**
baz=240
KAHC Katmai Hardscr 5.27 35 Pn 02 29 34.6 +1.0
Q18K Katmai Hardscr 5.27 35 P **Pn 02 29 34.7 +1.0**
baz=220
P17K Kvichak River 5.31 25 Pn 02 29 35.1 +1.1
P17K Kvichak River 5.31 25 P **Pn 02 29 35.1 +1.1**
baz=209
O16K Kokwok River B 5.35 15 Pn 02 29 35.5 +0.9
O16K Kokwok River B 5.35 15 P **Pn 02 29 35.5 +0.9**
baz=197
N14K Kuskokwak Cree 5.50 355 Pn 02 29 37.8 +1.2
N14K Kuskokwak Cree 5.50 355 P **Pn 02 29 37.8 +1.2**
baz=175
KDAK Kodiak Island 5.67 51 Pn **Pn 02 29 38.6 -0.2**
comp=E,1.1nm,0.3s,baz=212,slow=6.3,SNR=27
KDAK Sn **Sn 02 30 39.5 -4.0**
comp=E,2.3nm,0.3s,baz=12,slow=23,SNR=6.4
comp=E,3.2nm,0.3s
O17K Koliganek Bris 5.69 19 Pn 02 29 40.4 +1.1
O17K Koliganek Bris 5.69 19 P **Pn 02 29 40.4 +1.1**
baz=202
N15K Kwethluk River 5.74 3 Pn 02 29 40.7 +0.9
N15K Kwethluk River 5.74 3 P **Pn 02 29 40.7 +0.9**
baz=184
P18K Big Mountain, 5.80 29 Pn **Pn 02 29 42.1 +1.2**
P18K Big Mountain, 5.80 29 P **Pn 02 29 42.3 +1.5**
baz=214
Q19K Cape Douglas, 5.96 38 Pn 02 29 43.9 +1.0
Q19K **Sb 02 31 10.1 +0.2**
SPIA Saint Paul Isl 5.99 301 P **Pn 02 29 45.6 +2.3**
N16K Nishlik Lake 6.13 9 Pn 02 29 47.1 +1.9
N16K Nishlik Lake 6.13 9 P **Pn 02 29 47.1 +1.9**
baz=191
M13K Dall Lake 6.13 348 Pn 02 29 46.0 +0.8
M13K Dall Lake 6.13 348 P **Pn 02 29 46.0 +0.8**
baz=166
O18K Koktuh Hills 6.20 27 Pn 02 29 48.2 +2.0
O18K Koktuh Hills 6.20 27 P **Pn 02 29 48.2 +2.0**
baz=212
Q20K Shuyak Island 6.23 45 P **Pn 02 29 47.5 +0.8**
baz=232
SYI Shuyak Island 6.23 45 Pn 02 29 47.5 +0.8
M15K Kasigluk River 6.25 0 Pn 02 29 48.0 +1.1
M15K Kasigluk River 6.25 0 P **Pn 02 29 48.0 +1.1**
baz=181
M14K Bethel 6.34 355 Pn **Pn 02 29 49.0 +0.9**
M14K Bethel 6.34 355 P **Pn 02 29 49.2 +1.1**
baz=174
N17K Nushagak Hills 6.38 16 Pn 02 29 49.9 +1.1
N17K Nushagak Hills 6.38 16 P **Pn 02 29 49.8 +1.1**
baz=199
P19K Oil Pt 6.63 35 Pn 02 29 53.4 +1.1
M16K Timber Creek 6.65 8 Pn **Pn 02 29 53.5 +1.1**
M16K Timber Creek 6.65 8 P **Pn 02 29 53.8 +1.3**
baz=189
N18K Kilae Creek 6.77 21 Pn 02 29 54.7 +0.7
N18K Kilae Creek 6.77 21 P **Pn 02 29 54.7 +0.7**
baz=205
ILSW Iliamna Southw 6.91 34 Pn 02 29 57.2 +1.0
L14K Kuka Creek 6.97 352 Pn **Pn 02 29 57.5 +0.8**
L14K Kuka Creek 6.97 352 P **Pn 02 29 57.6 +0.8**
baz=171
M17K Holitna River 7.18 13 Pn 02 30 00.4 +0.6
M17K Holitna River 7.18 13 P **Pn 02 30 00.4 +0.6**
baz=196
N19K Bonanza Creek 7.21 25 Pn 02 30 01.6 +1.4
N19K Bonanza Creek 7.21 25 P **Pn 02 30 01.6 +1.4**
baz=211
L15K Ungalak Mounta 7.25 357 Pn 02 30 01.5 +0.9
L15K Ungalak Mounta 7.25 357 P **Pn 02 30 01.5 +0.9**
baz=177
CNPM China Poot 7.27 42 Pn 02 30 02.3 +1.3
L16K Owhat River 7.30 5 Pn **Pn 02 30 02.2 +0.9**
L16K Owhat River 7.30 5 P **Pn 02 30 02.3 +0.9**
baz=186
M18K Stony River 7.52 18 Pn 02 30 05.3 +0.9
M18K Stony River 7.52 18 P **Pn 02 30 05.3 +0.9**
baz=203
K13K Kusilvak Mount 7.77 346 Pn 02 30 08.8 +1.2
L17K Donlin 7.80 9 Pn 02 30 08.4 +0.2
L17K Donlin 7.80 9 P **Pn 02 30 08.4 +0.2**
baz=191
K15K Wolf Creek Mou 7.87 357 Pn 02 30 09.1 0.0
K15K Wolf Creek Mou 7.87 357 P **Pn 02 30 09.0 0.0**
baz=177
L18K Granite Mounta 8.07 14 Pn 02 30 12.3 +0.5
L18K Granite Mounta 8.07 14 P **Pn 02 30 12.3 +0.5**
baz=197
M19K Big River Lodg 8.19 22 Pn 02 30 14.5 +1.0
M19K Big River Lodg 8.19 22 P **Pn 02 30 14.5 +1.0**
baz=207
L19K White Mountain 8.34 20 Pn 02 30 16.2 +0.6
L19K White Mountain 8.34 20 P **Pn 02 30 16.2 +0.6**
baz=205
J14K Nanvaranak Lak 8.44 351 Pn 02 30 16.8 -0.1
J14K Nanvaranak Lak 8.44 351 P **Pn 02 30 16.8 -0.1**
baz=169
M20K Styx River 8.46 25 Pn 02 30 18.0 +0.7
SUA Susitna One 8.81 33 Pn **Pn 02 30 22.2 +0.1**
J16K Anvik River 8.85 1 Pn 02 30 23.1 +0.6
J16K Anvik River 8.85 1 P **Pn 02 30 23.1 +0.6**
baz=181
P23K Montague Islan 9.12 47 Pn 02 30 26.6 +0.3
P23K Montague Islan 9.12 47 P **Pn 02 30 26.6 +0.3**
baz=238
PWL Port Wells 9.24 41 Pn 02 30 27.6 -0.3
PWL Port Wells 9.24 41 P **Pn 02 30 28.5 +0.5**
baz=232
KNK Knik Glacier 9.55 38 Pn 02 30 30.3 -1.9
HIN Hinchinbrook I 9.72 47 Pn **Pn 02 30 34.4 -0.1**
SML Sawmill 9.86 37 Pn **Pn 02 30 37.7 +1.2**
ADK Adak 9.89 261 P **Pn 02 30 37.9 +1.1**
FID Port Fidalgo 9.92 45 Pn 02 30 36.2 -0.9
J19K Poorman 9.92 13 Pn **Pn 02 30 38.6 +1.5**
J20K Nowinta River 10.31 16 Pn 02 30 43.5 +1.0
KLU Klutina 10.56 42 Pn **Pn 02 30 44.2 -1.8**
N25K Chitina, Valde 11.15 44 Pn 02 30 54.7 +0.6
GRNC Granite Creek 11.96 51 Pn 02 31 05.4 +0.2
ILAR Eielson Array 12.46 28 Pn Pn 02 31 08.7 -3.3
comp=E,0.1nm,0.3s,baz=225,slow=11,SNR=2.0
ILAR Sn Sn 02 33 20.0 -10
baz=210,slow=8.5,SNR=1.6
ILAR LR LR 02 36 21.4
comp=E,69nm,19.6s,baz=184,slow=39
comp=E,0.1nm,0.3s
BCPM Bancas Point 12.68 56 Pn 02 31 16.0 +1.0
SHEM Shemya Is, Ala 14.99 274 LR LR 02 36 58.0
comp=E,65nm,20.5s,baz=118,slow=36
INK Inuvik 18.80 32 P **P 02 32 32.6 -1.2**
comp=E,0.3nm,0.3s,baz=216,slow=11,SNR=8.9
comp=E,1.7nm,0.6s
BBB Bella Bella 19.55 83 LR LR 02 39 14.9
comp=E,52nm,19.2s,baz=271,slow=34
YKA Yellowknife Ar 24.94 53 P **P 02 33 38.8 +1.3**
comp=E,0.3nm,0.6s,baz=281,slow=10.0,SNR=1.8
comp=E,0.3nm,0.6s
MA2 Magadan 26.37 301 LR LR 02 44 09.4
comp=E,44nm,18.6s,baz=126,slow=37
YBH Yreka Blue Hor 28.07 101 LR LR 02 42 20.6
comp=E,58nm,21.5s,baz=238,slow=30
NVAR Mina Array Bea 32.78 102 P **P 02 34 49.7 +1.8**
comp=E,1.0nm,0.8s,baz=302,slow=8.5,SNR=6.7
comp=E,1.0nm,0.8s
PDAR Pinedale Array 35.06 88 P **P 02 35 09.4 +1.7**
comp=E,0.1nm,0.4s,baz=287,slow=6.5,SNR=2.4
comp=E,0.1nm,0.4s
YAK Yakutsk 35.69 311 LR LR 02 51 24.1
comp=E,67nm,18.1s,baz=154,slow=39
H11N2 WAKE ISLAND Hy 42.50 228 T T 03 21 37.6
baz=27,slow=76,SNR=24
H11N3 WAKE ISLAND Hy 42.51 228 T T 03 21 38.3
baz=27,slow=76,SNR=25
H11N1 WAKE ISLAND Hy 42.52 228 T T 03 21 32.9
baz=27,slow=76,SNR=18
H11S1 WAKE ISLAND Hy 43.67 228 T T 03 22 35.7
baz=27,slow=76,SNR=32
H11S2 WAKE ISLAND Hy 43.68 228 T T 03 23 06.3
baz=27,slow=76,SNR=25
H11S3 WAKE ISLAND Hy 43.69 228 T T 03 22 35.3
baz=27,slow=76,SNR=15

TXAR Lajitas Array 47.74 98 P **P 02 36 52.7 +1.1**
comp=E,0.2nm,0.6s,baz=317,slow=5.8,SNR=4.8
TXAR PcP **PcP 02 38 19.7 -0.9**
comp=E,0.2nm,0.8s,baz=318,slow=1.2,SNR=1.7
comp=E,0.2nm,0.6s
SONM Songino Array 54.51 304 P P 02 37 39.9 -2.3
comp=E,0.6nm,0.6s,baz=74,slow=6.2,SNR=2.8
comp=E,0.6nm,0.6s
ARCES ARCESS Array B 56.23 357 P P 02 37 52.0 -2.2
comp=E,1.2nm,0.5s,baz=24,slow=6.9,SNR=1.4
comp=E,1.2nm,0.5s
ZALV Zalesovo Beam 59.18 321 LR LR 03 05 43.5
comp=E,46nm,18.7s,baz=173,slow=38
KURBB Kurchatov Arra 64.15 323 P **P 02 38 47.4 -1.2**
comp=E,0.3nm,0.3s,baz=24,slow=6.4,SNR=4.0
comp=E,0.3nm,0.3s
FINES FINESS Array B 64.31 356 P **P 02 38 47.9 -1.7**
comp=E,1.2nm,0.6s,baz=17,slow=7.4,SNR=16
comp=E,1.2nm,0.6s
NB2 NORSAR Subarra 64.67 4 P **P 02 38 50.9 -1.0**
comp=Z,0.4nm,0.6s,baz=356,slow=6.5
NOA NORSAR Array B 64.67 4 P **P 02 38 50.7 -1.2**
comp=Z,1.3nm,0.8s,baz=356,slow=6.6,SNR=6.6
comp=Z,1.3nm,0.8s
BVAR Borovoye Array 64.79 329 P **P 02 38 51.6 -1.3**
comp=Z,1.1nm,0.6s,baz=47,slow=6.3,SNR=3.7
comp=Z,1.1nm,0.6s
HFS Hagfors 65.67 3 P **P 02 38 57.1 -1.2**
comp=Z,1.5nm,0.5s,baz=22,slow=3.3,SNR=15
comp=Z,1.5nm,0.5s
MKAR Makanchi Array 65.91 318 P P 02 38 58.3 -1.9
comp=Z,0.5nm,0.6s,baz=40,slow=5.1,SNR=4.1
comp=Z,0.5nm,0.6s
EKA Eskdalemuir Ar 69.03 13 P **P 02 39 19.2 -0.6**
comp=Z,0.5nm,0.6s,baz=336,slow=5.0,SNR=7.0
comp=Z,0.5nm,0.6s
AKASG Malin Array Be 74.87 353 P P 02 39 53.1 -1.7
comp=Z,1.1nm,0.4s,baz=10.0,slow=6.0,SNR=7.5
comp=Z,1.1nm,0.4s
GERES GERESS Array B 76.96 4 P **P 02 40 07.9 +0.9**
comp=Z,0.3nm,0.5s,baz=9.5,slow=7.2,SNR=1.9
comp=Z,0.3nm,0.5s
KBZ Khabaz 80.12 343 P **P 02 40 24.4 +0.2**
comp=Z,1.5nm,0.9s,baz=347,slow=7.3,SNR=2.3
comp=Z,1.5nm,0.9s
CMAR Chiang Mai Arr 80.99 289 P **P 02 40 28.8 -0.6**
comp=Z,1.4nm,0.3s,baz=9.2,slow=6.8,SNR=1.8
comp=Z,1.4nm,0.3s
ESDC Sonseca Array 84.14 18 P **P 02 40 45.2 -0.4**
comp=Z,0.5nm,0.9s,baz=341,slow=3.1,SNR=3.2
comp=Z,0.5nm,0.9s
BRTR Keskin Array B 85.37 349 P **P 02 40 52.3 +0.5**
comp=Z,0.7nm,0.7s,baz=24,slow=5.6,SNR=2.4
comp=Z,0.7nm,0.7s
QSPA South Pole Qui 144.24 180 PKP **PKPab 02 47 46.3 -0.7**
comp=Z,0.7nm,0.3s,baz=6.4,slow=5.2,SNR=4.1

*ASIES **19** 02:30:45.9, 24.°64N×122.°05E, h56km, ML4.4, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}5.62; $M_{\theta\theta}$-5.50; $M_{\phi\phi}$-3.82; $M_{r\theta}$0.17; $M_{\theta\phi}$-3.97; $M_{\phi r}$-0.75; Fault plane solution: $M_0$7.38743×10^{21} NP1: ϕ_s224.79000°, δ46.71000°, λ81.43000°. NP2:ϕ_s57.19000°, δ43.96000°, λ98.99000°. Principal axes: T Plg83.6190°, Azm63.3360°; N Plg6.2270°, Azm230.6930°; P Plg1.3860°, Azm320.8440°;*
*NIED **19** 02:30:45.5, 24.°60N×122.°09E, h61km, MW3.8, Moment Tensor Solution. s1 Moment tensor: Scale 10^{14}Nm; M_{rr}2.94; $M_{\theta\theta}$1.65; $M_{\phi\phi}$-4.59; $M_{r\theta}$3.27; $M_{\theta\phi}$-3.65; $M_{\phi r}$-1.57; Fault plane solution: $M_0$6.52000×10^{14} NP1: ϕ_s169.00000°, δ61.00000°, λ34.00000°. NP2:ϕ_s61.00000°, δ61.00000°, λ146.00000°.*
*TAP **19** 02:30:45.9, 24.°65N×122.°05E, h56km, ML4.4, C*
*JMA **19** 02:30:45.5±0.1, 25.°N±1.°×122.°1E±0.°6, h61km, MV4.0/15, TAIWAN REGION*
*IDC **19** 02:30:47.6±7.1, 24.°69N×122.°18E, h84km±74km, mb3.3/5, mbtmp3.7/6, ML3.3/1, MS3.1/2, Error ellipse: s-maj=54.0km s-min=17.7km az=56.0*
ISC 19 02:30:45.4±0.8, 24.°63N±0.°02×122.°10E±0.°02, h58km±4km, n150, σ1°22/251, mb3.6/5, 12C-13D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
TWC	**Suao**	**0.23**	**264**	⇑*i*P	**Pn**	**02 30 54.9**	**+0.1**	
TWC	baz=257			*i* S	**Sn**	**02 31 01.3**	**-0.2**	
ESAO	**Su ao**	**0.24**	**256**	P	**Pn**	**02 30 55.0**	**+0.2**	
ESAO	baz=249			S	**Sn**	**02 31 01.3**	**-0.3**	
EOS2	**EOS2**	**0.25**	**150**	*i* P	**Pn**	**02 30 55.9**	**+1.2**	
EOS2	baz=152			S	**Sn**	**02 31 03.8**	**+2.3**	
EGS	**Eguchi**	**0.26**	**325**	*e*P	**Pn**	**02 30 55.3**	**+0.3**	
EGS	baz=341			*e*S	**Sn**	**02 31 01.9**	**0.0**	
NTC	**Toucheng**	**0.33**	**312**	*e*P	**Pn**	**02 30 55.8**	**+0.3**	
NTC	baz=317			S	**Sn**	**02 31 03.0**	**+0.2**	
ILA	**Ilan**	**0.34**	**293**	*e*P	**Pn**	**02 30 56.2**	**+0.5**	
ILA	baz=294			S	**Sn**	**02 31 03.5**	**+0.5**	
EWUT	**Wuta**	**0.34**	**237**	P	**Pn**	**02 30 56.2**	**+0.5**	
EWUT	baz=231			S	**Sn**	**02 31 03.8**	**+0.7**	
NDS	**Dongshan**	**0.35**	**270**	⇑*i*P	**Pn**	**02 30 56.2**	**+0.5**	
NDS	baz=268			S	**Sn**	**02 31 03.4**	**+0.3**	
ENA	**Nanau**	**0.38**	**238**	⇑*i*P	**Pn**	**02 30 56.6**	**+0.6**	
ENA	baz=231			*i* S	**Sn**	**02 31 04.7**	**+1.1**	
TWB1	**Santiao Chiao**	**0.39**	**345**	P	**Pn**	**02 30 56.1**	**+0.1**	
TWB1	baz=349			S	**Sn**	**02 31 03.2**	**-0.5**	
TWE	**Neicheng**	**0.40**	**283**	⇑*i*P	**Pn**	**02 30 56.6**	**+0.5**	
TWE	baz=282			S	**Sn**	**02 31 04.2**	**+0.2**	
EOS3	**EOS3**	**0.40**	**150**	P	**Pn**	**02 30 57.4**	**+1.4**	
EOS3	baz=154			*e*S	**Sn**	**02 31 06.3**	**+2.7**	
TIPB	**Shuangxi**	**0.42**	**324**	⇓*i*P	**Pn**	**02 30 56.5**	**+0.1**	
TIPB	baz=335			S	**Sn**	**02 31 03.8**	**-0.5**	
EAHA	**Aohua**	**0.45**	**227**	P	**Pn**	**02 30 57.1**	**+0.5**	
EAHA	baz=221			S	**Sn**	**02 31 05.6**	**+0.9**	
EHP	**Heping Village**	**0.46**	**225**	*e*P	**Pn**	**02 30 57.2**	**+0.4**	
EHP	baz=218			*e*S	**Sn**	**02 31 06.5**	**+1.6**	
FUSB	**Fushanzhiwuyua**	**0.48**	**285**	P	**Pn**	**02 30 57.6**	**+0.5**	
FUSB	baz=291			S	**Sn**	**02 31 05.3**	**-0.2**	
ENTT	**Nioudou**	**0.48**	**271**	⇑*i*P	**Pn**	**02 30 57.7**	**+0.7**	
ENTT	baz=272			*e*S	**Sn**	**02 31 06.0**	**+0.5**	
NWF	**Wu-fen Shan**	**0.52**	**327**	⇓*i*P	**Pn**	**02 30 57.8**	**+0.3**	
NWF	baz=330			*i* S	**Sn**	**02 31 06.1**	**-0.2**	
WFSB	**Wu-fen Shan**	**0.52**	**327**	⇓*i*P	**Pn**	**02 30 57.8**	**+0.4**	
WFSB	baz=330			*i* S	**Sn**	**02 31 05.8**	**-0.4**	
LATG	**Datong**	**0.53**	**259**	⇑P	**Pn**	**02 30 58.4**	**+0.7**	
LATG	baz=256			*e*S	**Sn**	**02 31 07.5**	**+1.1**	
NDT	**Datong Townshi**	**0.53**	**267**	P	**Pn**	**02 30 58.5**	**+0.9**	
NDT	baz=268			*e*S	**Sn**	**02 31 06.9**	**+0.6**	
EOS4	**EOS4**	**0.55**	**158**	P	**Pn**	**02 30 58.0**	**+0.7**	
NWLT	baz=154 **Wulai** baz=292	**0.56**	**285**	P	**Pn**	**02 30 59.0**	**+1.1**	
NWLT	baz=292			S	**Sn**	**02 31 06.9**	**-0.1**	
TWA	**Mucha**	**0.58**	**307**	⇓*i*P	**Pn**	**02 30 58.3**	**+0.2**	
TWA	baz=316			*i* S	**Sn**	**02 31 06.9**	**-0.4**	
TNOU	**National Taiwa**	**0.59**	**330**	⇓*i*P	**Pn**	**02 30 58.3**	**+0.1**	
TNOU	baz=334			S	**Sn**	**02 31 06.9**	**-0.7**	
NHDH	**Xindian Distri**	**0.61**	**302**	*e*P	**Pn**	**02 30 58.7**	**+0.2**	
NHDH	baz=304			*e*S	**Sn**	**02 31 07.2**	**-0.8**	
ETL	**Fush Village**	**0.64**	**222**	P	**Pn**	**02 30 58.9**	**0.0**	
ETL	baz=208			S	**Sn**	**02 31 08.9**	**+0.3**	
NACB	**Ninganchiao**	**0.65**	**225**	P	**Pn**	**02 30 58.8**	**-0.1**	
NACB	**Ninganchiao**	**0.65**	**225**	P	**Pn**	**02 30 58.7**	**-0.2**	
NACB	baz=211			S	**Sn**	**02 31 08.6**	**-0.1**	
TATO	**Taipei**	**0.65**	**302**	P	**Pn**	**02 30 58.9**	**0.0**	
TATO	**Taipei**	**0.65**	**302**	*e*P	**Pn**	**02 30 59.0**	**+0.1**	
TATO	baz=313			*e*S	**Sn**	**02 31 08.3**	**-0.4**	
YHNB	**Yeheng**	**0.66**	**273**	P	**Pn**	**02 31 00.0**	**+0.9**	
YHNB	**Yeheng**	**0.66**	**273**	P	**Pn**	**02 30 59.9**	**+0.9**	
YHNB	baz=279			S	**Sn**	**02 31 09.5**	**+0.4**	
TAP	**Taipei**	**0.67**	**307**	⇓*i*P	**Pn**	**02 30 59.3**	**+0.2**	
TAP	baz=309			*i* S	**Sn**	**02 31 09.0**	**-0.2**	
NSK	**Sanguang**	**0.67**	**274**	⇓*i*P	**Pn**	**02 30 60.0**	**+0.7**	
NSK	baz=279			S	**Sn**	**02 31 10.2**	**+0.8**	
NNSB	**Datong**	**0.68**	**253**	⇑*i*P	**Pn**	**02 30 60.0**	**+0.5**	
NNSB	baz=244			S	**Sn**	**02 31 10.6**	**+0.9**	
NNSH	**Datong**	**0.68**	**253**	P	**Pn**	**02 30 59.9**	**+0.5**	
NNS	**Nan Shan**	**0.69**	**254**	⇑*i*P	**Pn**	**02 31 00.0**	**+0.5**	
NNS	baz=244			*e*S	**Sn**	**02 31 10.4**	**+0.7**	
NWRT	**Kuosheng**	**0.69**	**325**	*e*P	**Pn**	**02 30 59.1**	**-0.3**	
NWRT	baz=328			*e*S	**Sn**	**02 31 09.2**	**-0.4**	
YM01	**YM01**	**0.70**	**317**	⇓*i*P	**Pn**	**02 30 59.6**	**0.0**	
YM01	baz=319			S	**Sn**	**02 31 09.4**	**-0.5**	
TWD	**Chiawan**	**0.72**	**220**	P	**Pn**	**02 30 59.6**	**-0.1**	
TWD	baz=207			*e*S	**Sn**	**02 31 09.8**	**-0.4**	
YM08	**YM08**	**0.72**	**320**	⇓*i*P	**Pn**	**02 30 59.5**	**-0.3**	
YM08	baz=322			*i* S	**Sn**	**02 31 09.0**	**-1.3**	
ANP	**Anpu**	**0.76**	**317**	P	**Pn**	**02 30 59.9**	**-0.4**	
ANP	baz=319			S	**Sn**	**02 31 10.0**	**-1.3**	
TWS1	**Kuangyinshan**	**0.77**	**307**	⇓*i*P	**Pn**	**02 31 00.8**	**+0.3**	
TWS1	baz=316			*i* S	**Sn**	**02 31 11.5**	**+0.1**	
TWY	**Chenhua**	**0.78**	**325**	⇓*i*P	**Pn**	**02 31 00.9**	**+0.3**	
TWY	baz=327			S	**Sn**	**02 31 12.0**	**+0.4**	
NTST	**Danshui**	**0.79**	**312**	P	**Pn**	**02 31 01.0**	**+0.3**	
NTST	baz=321			S	**Sn**	**02 31 11.9**	**+0.1**	
HWA	**Hwalien**	**0.79**	**215**	*e*P	**Pn**	**02 31 00.9**	**+0.3**	
HWA	baz=199			*e*S	**Sn**	**02 31 13.7**	**+1.8**	
JYNG	**Yonagunijimaku**	**0.80**	**103**	P	**Pn**	**02 31 01.3**	**+0.6**	
JYNG				S	**Sn**	**02 31 12.6**	**+0.7**	
JYNG	**Yonagunijimaku**	**0.80**	**103**	A	A	02 31 01.3		
	comp=E,6.0nm,0.6s,comp=N,7.0nm,3.2s							
YOJ	**Yonaguni jima**	**0.85**	**101**	P	**Pn**	**02 31 01.8**	**+0.4**	
YOJ	**Yonaguni jima**	**0.85**	**101**	P	**Pn**	**02 31 01.9**	**+0.4**	
YOJ	baz=102			S	**Sn**	**02 31 13.4**	**+0.3**	
YOJ	**Yonaguni jima**	**0.85**	**101**	P	**Pn**	**02 31 01.9**	**+0.4**	
YOJ				*e*S	**Sn**	**02 31 13.8**	**+0.6**	
ETM	**Tongmen**	**0.86**	**220**	P	**Pn**	**02 31 01.4**	**-0.2**	
ETM	baz=215			*e*S	**Sn**	**02 31 12.7**	**-0.8**	
FUSS	**Fushou**	**0.87**	**244**	P	**Pn**	**02 31 02.4**	**+0.5**	
FUSS	baz=234			*e*S	**Sn**	**02 31 14.7**	**+0.8**	
LXIB	**Xiulin Townshi**	**0.87**	**226**	P	**Pn**	**02 31 01.4**	**-0.4**	
LXIB	baz=222			S	**Sn**	**02 31 13.2**	**-0.7**	
TEYL	**Yanliau Villag**	**0.89**	**211**	*e*P	**Pn**	**02 31 01.8**	**-0.1**	
TEYL	baz=199			*e*S	**Sn**	**02 31 14.0**	**0.0**	
NFF	**Wufeng Townshi**	**0.89**	**270**	P	**Pn**	**02 31 02.8**	**+0.8**	
NFF	baz=278			S	**Sn**	**02 31 15.2**	**+1.0**	
NCUH	**Zhongli**	**0.89**	**292**	P	**Pn**	**02 31 02.3**	**+0.4**	
NCUH	baz=292			S	**Sn**	**02 31 15.0**	**+0.9**	
WHF	**Hehuan Shan**	**0.90**	**237**	P	**Pn**	**02 31 02.8**	**+0.3**	
WHF	baz=234			*e*S	**Sn**	**02 31 15.1**	**+0.1**	
TWT	**Tachien**	**0.92**	**246**	P	**Pn**	**02 31 03.6**	**+1.1**	
TWT	baz=238			S	**Sn**	**02 31 15.7**	**+0.6**	
NJD	**Zhudong**	**0.92**	**277**	*e*P	**Pn**	**02 31 03.6**	**+1.3**	
NJD	baz=288			*e*S	**Sn**	**02 31 16.5**	**+1.7**	
TDCB	**Techi**	**0.94**	**246**	*e*P	**Pn**	**02 31 03.5**	**+0.8**	
TDCB	baz=237			*e*S	**Sn**	**02 31 15.4**	**0.0**	
SHUL	**Shoufeng**	**0.97**	**210**	P	**Pn**	**02 31 03.1**	**+0.1**	
SHUL	baz=206			*e*S	**Sn**	**02 31 17.1**	**+1.1**	
LIOB	**Emei**	**0.98**	**271**	P	**Pn**	**02 31 04.0**	**+0.9**	
LIOB	baz=270			S	**Sn**	**02 31 17.5**	**+1.2**	
HSN1	**Hsinchu**	**0.99**	**279**	*e*P	**Pn**	**02 31 04.1**	**+0.9**	
HSN1	baz=289			*e*S	**Sn**	**02 31 17.9**	**+1.4**	
PCYT	**Pengchaiyu**	**0.99**	**359**	⇓P	**Pn**	**02 31 03.8**	**+0.5**	
PCYT	baz=353			*e*S	**Sn**	**02 31 17.4**	**+0.9**	
NSTT	**Nanjuang**	**1.00**	**270**	⇓*i*P	**Pn**	**02 31 04.0**	**+0.7**	
NSTT	baz=280			*i* S	**Sn**	**02 31 17.5**	**+1.0**	
ESL	**Shilin**	**1.02**	**217**	⇑*i*P	**Pn**	**02 31 02.9**	**-0.6**	
ESL	baz=222			*e*S	**Sn**	**02 31 15.8**	**-1.3**	
CHGB	**Renai**	**1.02**	**236**	P	**Pn**	**02 31 04.3**	**+0.5**	

baz=233
CHGB S Sn 02 31 17.5 +0.1
baz=233
NHW Xinwu Township 1.02 291 *e*P Pn 02 31 04.3 +0.6
baz=300
NHW *e*S Sn 02 31 18.6 +1.4
baz=300
SBCB Hsinchu 1.02 279 *e*P Pn 02 31 04.3 +0.7
baz=289
SBCB *e*S Sn 02 31 18.2 +1.1
baz=289
HSN Hsinchu 1.04 280 *e*P Pn 02 31 04.1 +0.3
baz=291
HSN S Sn 02 31 17.9 +0.4
baz=291
OWD Renai 1.08 231 *e*S Sn 02 31 18.2 -0.5
baz=219
WUSB Renai 1.10 235 P Pn 02 31 05.3 +0.6
baz=231
WUSB *e*S Sn 02 31 19.1 -0.1
baz=231
WHP Taichung City 1.11 252 *e*P Pn 02 31 06.5 +1.6
baz=249
WHP *e*S Sn 02 31 20.7 +1.4
baz=249
WARBT Fenglin Townsh 1.12 216 ⇑P Pn 02 31 04.0 -1.0
baz=212
WARBT *e*S Sn 02 31 17.8 -1.7
baz=212
NMLH Miaoli 1.19 266 *e*P Pn 02 31 07.0 +1.1
baz=265
WPL Puli Township 1.21 239 *e*P Pn 02 31 07.3 +1.1
baz=231
DPDB Guoxing 1.22 241 *e*P Pn 02 31 07.6 +1.2
baz=234
WCS Beigang Elemen 1.22 242 *e*P Pn 02 31 07.9 +1.6
baz=232
NSY Sanyi 1.23 260 *e*P Pn 02 31 07.5 +1.0
baz=259
VWDT VWDT 1.24 225 ⇑P Pn 02 31 07.0 +0.5
baz=211
VWDT S Sn 02 31 21.7 -0.5
baz=211
TWQ1 Liyutan 1.24 257 *e*P Pn 02 31 07.5 +0.9
baz=255
TWQ1 *e*S Sn 02 31 23.9 +1.6
baz=255
HGSD Ruisui 1.29 209 *e*P Pn 02 31 06.7 -0.6
baz=214
HGSD *e*S Sn 02 31 24.9 +1.4
baz=214
SMLT Sun Moon Lake 1.32 236 *e*P Pn 02 31 08.7 +0.9
baz=232
SMLT *e*S Sn 02 31 27.7 +3.2
baz=232
EHYH Wanrong 1.33 211 *e*P Pn 02 31 06.7 -1.0
baz=208
EHY Hungye 1.33 212 P Pn 02 31 06.5 -1.2
baz=210
SSLB Suanglung 1.34 231 P Pn 02 31 08.7 +0.8
SSLB Suanglung 1.34 231 *e*P Pn 02 31 08.5 +0.6
baz=221
SSLB *e*S Sn 02 31 26.0 +1.2
baz=221
TYC Yuchr 1.34 238 P Pn 02 31 08.9 +1.0
baz=234
TYC S Sn 02 31 27.3 +2.5
baz=234
TCU Taichung 1.38 250 *e*P Pn 02 31 12.0 +3.5
baz=248
YULB Yu-li 1.44 211 P Pn 02 31 08.2 -1.0
YULB Yu-li 1.44 211 *e*P Pn 02 31 08.2 -1.0
baz=208
ECBN Changbin 1.44 204 *e*S Sn 02 31 24.9 -2.2
baz=191
EYUL Yuli 1.47 209 *e*P Pn 02 31 09.7 +0.1
baz=215
EYUL *e*S Sn 02 31 27.0 -0.7
baz=215
WHYT Xinyi Township 1.47 231 P Pn 02 31 11.3 +1.7
baz=218
WHYT S Sn 02 31 30.6 +2.6
baz=218
WJS Zhushan 1.49 237 *e*P Pn 02 31 11.8 +1.9
baz=248
WJS *e*S Sn 02 31 30.9 +2.6
baz=248
WNT Mingjian 1.49 240 P Pn 02 31 12.0 +2.0
baz=251
WNT S Sn 02 31 30.7 +2.3
baz=251
IRIF Iriomote-Funau 1.52 101 P Pn 02 31 10.6 +0.3
IRIF S Sn 02 31 29.6 +0.6
CHKH Chenggong 1.57 204 *e*P Pn 02 31 09.9 -1.1
baz=210
CHKH *e*S Sn 02 31 28.3 -2.0
baz=210
FULB Fuli 1.61 207 P Pn 02 31 11.3 -0.3
baz=213
FULB S Sn 02 31 31.8 +0.6
baz=213
CHN5 Tsauling 1.66 232 *i*P Pn 02 31 13.7 +1.5
baz=241
CHN5 S Sn 02 31 35.0 +2.4
baz=241
HATJ Hateruma jima 1.66 110 *e*P Pn 02 31 13.0 +0.8
CHKT Chengkung 1.67 204 *e*P Pn 02 31 10.8 -1.5
baz=190
CHKT *e*S Sn 02 31 30.2 -2.5
baz=190
WGK Gukeng 1.69 236 *e*P Pn 02 31 14.3 +1.7
baz=244
WGK *e*S Sn 02 31 35.5 +2.3
baz=244
WDLH Douliu 1.71 237 *e*P Pn 02 31 14.9 +2.0
baz=247
WDLH *e*S Sn 02 31 35.7 +2.1
baz=247
WRL Guolierlin Hig 1.73 245 *e*P Pn 02 31 13.8 +0.6
baz=254
WRL *e*S Sn 02 31 34.5 +0.3
baz=254
ELDTW Lidau 1.75 215 *e*P Pn 02 31 12.8 -0.6
baz=205
JKRS Kuro-shima 1.79 102 P Pn 02 31 14.9 +0.9
JKRS S Sn 02 31 36.7 +1.2
WCKO Fanlu 1.81 229 *e*P Pn 02 31 16.1 +1.8
baz=236
WCKO *e*S Sn 02 31 39.0 +2.9
baz=236
WTK Tuku 1.82 239 *e*P Pn 02 31 15.8 +1.3
baz=236
WTK *e*S Sn 02 31 37.4 +1.0
baz=236
CHN4 Tsaushan 1.88 227 *e*P Pn 02 31 17.1 +1.9
baz=239
CHN4 *e*S Sn 02 31 40.9 +3.1
baz=239
JIJ Ishigaki jima 1.88 98 P Pn 02 31 15.5 +0.3
JIJ *e*S Sn 02 31 37.8 -0.1
TPUB Ta-pu 1.89 226 P Pn 02 31 17.0 +1.7
TPUB Ta-pu 1.89 226 *e*P Pn 02 31 16.6 +1.3
baz=235
TPUB *e*S Sn 02 31 40.3 +2.3
baz=235
STYH Taoyuan 1.89 220 *e*P Pn 02 31 16.6 +1.2
baz=210
LONT Longtian 1.93 207 *e*P Pn 02 31 15.0 -1.0
baz=196
WTP Ta-pu 1.94 225 P Pn 02 31 17.8 +1.7
baz=234
WTP S Sn 02 31 42.4 +3.1
baz=234
WSF Szhu 1.98 240 *e*P Pn 02 31 17.1 +0.6
baz=237
WSF *e*S Sn 02 31 40.9 +0.7
baz=237
TWK Hsinying 2.00 228 P Pn 02 31 18.8 +1.8
baz=238
TWK S Sn 02 31 43.0 +2.0
baz=238
JISG Ishigakijimahi 2.02 91 P Pn 02 31 17.6 +0.5
JISG *e*S Sn 02 31 41.9 +0.8
SNST Tainan City 2.03 226 *e*P Pn 02 31 20.2 +2.9
baz=237
SNST *e*S Sn 02 31 44.6 +3.1
baz=237
TWG Pinlang 2.03 208 *e*P Pn 02 31 16.5 -0.8
baz=196
TWG *e*S Sn 02 31 39.3 -2.4
baz=196
TWGBT Beinan 2.03 207 P Pn 02 31 16.2 -1.1
TWGBT Beinan 2.03 207 *e*P Pn 02 31 16.3 -1.0
baz=197
CHN1 Nanshi 2.04 225 *e*P Pn 02 31 19.0 +1.7
baz=235
CHN1 *e*S Sn 02 31 44.5 +2.9
baz=235
LDUT Ludao 2.04 197 *e*P Pn 02 31 16.1 -1.2
baz=188
LDUT *e*S Sn 02 31 37.4 -4.2
baz=188
SGST Jiashian 2.08 222 *e*P Pn 02 31 18.3 +0.4
baz=234
ICHU Yijhu 2.09 233 *e*P Pn 02 31 19.8 +1.8
baz=231
ECL Taimali 2.28 208 *e*P Pn 02 31 19.2 -1.5
baz=198
TSMG Majia 2.34 215 *e*P Pn 02 31 22.9 +1.5
baz=204
JTJ Tarama 2.37 89 P Pn 02 31 23.4 +1.5
JTJ *e*S Sn 02 31 51.9 +2.1
MASBT Mashibuluo 2.42 214 *e*P Pn 02 31 22.9 +0.4
baz=204
VWUC VWUC 2.43 279 *e*P Pn 02 31 22.4 -0.3
baz=279
EAST Anshuo 2.52 207 *e*P Pn 02 31 24.9 +0.9
baz=199
PHUB P'eng-hu 2.56 245 *e*P Pn 02 31 22.2 -2.3
baz=243
WDGT Dungji 2.62 239 *e*P Pn 02 31 25.7 +0.5
baz=237
LAY Lan-yu 2.63 191 *e*P Pn 02 31 23.9 -1.6
baz=181
JIKM Ikemajima 2.88 84 *e*S Sn 02 32 05.2 +2.9
KNM Kinmen 3.34 267 *e*P Pn 02 31 36.3 +1.1
baz=265
JOW Kunigami 5.99 67 P Pn 02 32 12.1 +0.7
JOW Kunigami 5.99 67 P Pn 02 32 12.7 +1.2
comp=N,1.8nm,0.3s,baz=137,slow=26,SNR=17
JOW S Sn 02 33 19.2 +0.6
comp=N,5.1nm,0.3s,baz=116,slow=28,SNR=1.0
comp=N,8.8nm,0.2s
KSRS Korea Array 13.72 20 P P 02 34 04.2 +0.3
comp=N,3.6nm,0.6s,baz=201,slow=12,SNR=14
KSRS LR LR 02 40 43.2
comp=N,28nm,18.1s,baz=250,slow=44
SONM Songino Array 26.29 336 P P 02 36 15.1 -0.4
comp=N,0.8nm,0.7s,baz=157,slow=8.0,SNR=3.9
comp=N,0.8nm,0.7s
MKAR Makanchi Array 38.60 315 P P 02 38 02.7 -0.1
comp=N,0.5nm,0.4s,baz=100,slow=8.2,SNR=11
comp=N,0.5nm,0.4s
KURBB Kurchatov Arra 42.31 319 P P 02 38 32.1 -1.2
comp=N,0.3nm,0.3s,baz=101,slow=7.5,SNR=3.1
comp=N,0.3nm,0.3s
WRA Warramunga Arr 45.88 164 P P 02 39 01.9 -0.4
comp=N,0.6nm,0.5s,baz=346,slow=8.7,SNR=12
WRA PcP PcP 02 40 37.7 -1.0
comp=N,0.2nm,0.7s,baz=342,slow=4.1,SNR=1.0
comp=N,0.6nm,0.5s
BVAR Borovoye Array 47.86 320 LR LR 03 02 02.9
comp=N,46nm,19.9s,baz=154,slow=39
ASAR Alice Springs 49.36 166 P P 02 39 29.0 -0.2
comp=N,0.5nm,0.9s,baz=347,slow=8.2,SNR=1.4
comp=N,0.5nm,0.9s
TROLL Troll, Antarti 122.24 199 ⇑P Pdif 02 46 03.0 +0.4
comp=Z,8.0nm,0.1s

TRN 19 02:37:47.3, 17°.80N×61°.93W, h6km, MD3.7, North of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.76**	**168**	*e*P	Pn	02 38 05.3	+0.7
ANBD				*e*S	Sn	02 38 18.4	+2.0
MBFL	**Flemmings, Mon**	**1.08**	**195**	*e*P	Pn	02 38 10.2	+1.2
MBFL				*e*S	Sn	02 38 27.6	+3.3
MLYT	**Lee's Yard**	**1.10**	**193**	*e*P	Pn	02 38 11.5	+2.2
MLYT				*e*S	Sn	02 38 29.7	+4.9
TBG	**Guadaloupe-3**	**1.95**	**172**	*e*P	Pb	02 38 23.9	+0.6

BJI ***19*** *02:51:44.7±0.0, 36°.69N×70°.05E, h213km, mb4.5/35, mB4.7/12*
MOS ***19*** *02:51:44.1±1.0, 36°.53N×70°.11E, h210km, mb4.5/42, Error ellipse: s-maj=5.7km s-min=3.2km az=79.7*
IDC ***19*** *02:51:45.1±1.3, 36°.43N×70°.15E, h213km±11km, mb4.0/24, mbtmp4.6/30, Error ellipse: s-maj=9.7km s-min=8.0km az=2.0*
NEIC ***19*** *02:51:45.7±0.9, 36°.55N±0°.06×70°.07E±0°.07, h206km±5km, mb4.4/75, Error ellipse: s-maj=8.8km s-min=8.6km az=83.0*
NNC ***19*** *02:51:51.5±3.6, 37°.06N×70°.34E, h224km±32km, mb3.8, mpv4.8, Error ellipse: s-maj=31.5km s-min=20.6km az=7.0*
ISC 19 02:51:44.7±0.4, 36°.48N±0°.03×70°.18E±0°.03, h207km±3km, h207km:pP-P, n586, σ1919/639, mb4.5/104, 37C-18D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGR	**Igron**	**1.95**	**339**	PN	**Pn**	**02 52 23.0**	**-0.1**
IGR				S	**S**	**02 52 50.2**	**-2.6**
KBL	**Kabul**	**2.14**	**206**	Pn	**Pn**	**02 52 26.5**	**+1.0**
KBL	**Kabul**	**2.14**	**206**	P	**Pn**	**02 52 26.7**	**+1.2**
SNR=200							
KBL				S	**S**	**02 52 57.0**	**+0.3**
KBL	**Kabul**	**2.14**	**206**	PN	**Pn**	**02 52 26.5**	**+1.0**
CHGR	**Chuyangaron**	**2.32**	**340**	Pn	**Pn**	**02 52 27.0**	**-0.2**
CHGR	**Chuyangaron**	**2.32**	**340**	PN	**Pn**	**02 52 27.0**	**-0.2**
SIMJ	**Simiganj**	**2.37**	**337**	Pn	**Pn**	**02 52 27.6**	**-0.1**
GAR	**Garm**	**2.52**	**2**	Pn	**Pn**	**02 52 29.9**	**+0.5**
DZET	**Dzherino**	**2.56**	**336**	PN	**Pn**	**02 52 29.7**	**-0.1**
DRK	**Karamyk**	**3.26**	**23**		**Pn**	**02 52 38.9**	**+0.9**
DRK	**Karamyk**	**3.26**	**23**	PN	**Pn**	**02 52 38.9**	**+0.9**
BTK	**Batken**	**3.61**	**8**		**Pn**	**02 52 43.3**	**+1.3**
BTK	**Batken**	**3.61**	**8**	PN	**Pn**	**02 52 43.3**	**+1.3**
NIL	**Nilore**	**3.78**	**137**		**Pn**	**02 52 46.7**	**+2.5**
NIL	**Nilore**	**3.78**	**137**	PN	**Pn**	**02 52 46.7**	**+2.5**
OHH	**Osh**	**4.53**	**26**	PN	**Pn**	**02 52 54.0**	**+0.7**
TRKS	**Terek-Say**	**5.10**	**8**	PN	**Pn**	**02 53 00.1**	**-0.5**
ARSB	**Arslanbob**	**5.31**	**23**		**Pn**	**02 53 03.1**	**-0.2**
ARSB	**Arslanbob**	**5.31**	**23**	PN	**Pn**	**02 53 03.1**	**-0.2**
JMU	**Jammu**	**5.41**	**133**	*e*P	**Pn**	**02 53 05.9**	**+1.4**
JMU				*e*S	**S**	**02 54 05.9**	**-1.2**
KSH	**Kashi**	**5.49**	**55**	P	**Pn**	**02 53 01.8**	**-3.8**
KSH				S	S	02 53 59.5	-10
KSH				smax	smax		
comp=N,870nm,0.6s							
KSH				smax	smax		
comp=E,920nm,0.8s							
ARK	**Arkit**	**5.49**	**14**	PN	**Pn**	**02 53 05.5**	**-0.1**
IUG	**Iuzhnay**	**5.66**	**359**	*e*P	**Pn**	**02 53 07.9**	**+0.1**
baz=359							
IUG	**Iuzhnay**	**5.66**	**359**	*e*PN	**Pn**	**02 53 07.8**	**+0.1**
CHM	**Chimkent**	**5.85**	**356**	*e*P	**Pn**	**02 53 10.4**	**+0.3**
baz=356							
CHM	**Chimkent**	**5.85**	**356**	*e*PN	**Pn**	**02 53 10.4**	**+0.3**
THN	**Thein Dam**	**6.10**	**130**	*e*P	**Pn**	**02 53 15.4**	**+2.0**
THN				*e*S	**S**	**02 54 23.0**	**-0.3**
THN				IAML		02 54 25.1	
comp=E,733nm,0.2s							
THN				IAML		02 54 26.8	
comp=N,1μm,0.2s							
ARLS	**Aral**	**6.26**	**30**	PN	**Pn**	**02 53 15.4**	**-0.2**
AML	**Almayashu**	**6.27**	**25**	P	**Pn**	**02 53 15.8**	**0.0**
SNR=179							
BRLS	**Borolday**	**6.55**	**358**	⇓*i*P	**Pn**	**02 53 15.3**	**-3.8**
comp=N,12nm,0.5s,baz=357							
BRLS	**Borolday**	**6.55**	**358**	*d i*PN	**Pn**	**02 53 15.2**	**-3.8**
BRLS				pmax	pmax		
comp=Z,12nm,0.5s							
DHRM	**DHARAMSHALA**	**6.59**	**128**	*e*P	**Pn**	**02 53 20.9**	**+1.0**
DHRM				*e*S	**S**	**02 54 33.9**	**-1.3**
DHRM				IAML		02 54 37.5	
comp=E,2μm,0.8s							
DHRM				IAML		02 54 37.5	
comp=N,2μm,0.2s							
KK31	**Karatay Array**	**6.62**	**2**	Pn	**Pn**	**02 53 19.4**	**-0.7**
KK31	**Karatay Array**	**6.62**	**2**	⇑P	**Pn**	**02 53 19.1**	**-0.9**
comp=N,13nm,0.3s,baz=185,slow=13,SNR=267							
KK31				⇓S	**S**	**02 54 30.4**	**-5.2**
comp=N,58nm,0.7s,baz=190,slow=22,SNR=5.3							
KK31	**Karatay Array**	**6.62**	**2**	*i* PN	**Pn**	**02 53 19.1**	**-0.9**
KKAR	**Karatay Array**	**6.62**	**2**	Pn	**Pn**	**02 53 19.4**	**-0.6**
KKAR	**Karatay Array**	**6.62**	**2**	Pn	**Pn**	**02 53 19.4**	**-0.6**
KKAR	**Karatay Array**	**6.62**	**2**	PN	**Pn**	**02 53 19.4**	**-0.6**
UCH	**Uchtor**	**6.65**	**29**	P	**Pn**	**02 53 21.0**	**+0.1**
SNR=140							
NRN	**Naryn**	**6.71**	**41**	Pn	**Pn**	**02 53 20.3**	**-1.2**
NRN	**Naryn**	**6.71**	**41**	PN	**Pn**	**02 53 20.3**	**-1.2**
EKS2	**Erkin-Say**	**6.77**	**23**	P	**Pn**	**02 53 22.3**	**+0.2**
SNR=74							
HRA	**Herat**	**6.81**	**254**	Pn	**Pn**	**02 53 22.9**	**+0.2**
AAK	**Ala-Archa**	**7.00**	**27**	P	**Pn**	**02 53 25.4**	**+0.4**
SNR=50							
AAK	**Ala-Archa**	**7.00**	**27**	Pn	**Pn**	**02 53 25.2**	**+0.2**
AAK	**Ala-Archa**	**7.00**	**27**	P	**Pn**	**02 53 25.1**	**+0.2**
AAK	**Ala-Archa**	**7.00**	**27**	P	**Pn**	**02 53 25.4**	**+0.4**
comp=N,83nm,0.5s,baz=188,slow=5.4,SNR=65							
AAK				S	**S**	**02 54 41.8**	**-2.8**
comp=N,86nm,0.4s,baz=131,slow=19,SNR=20							
AAK	**Ala-Archa**	**7.00**	**27**	P	**Pn**	**02 53 25.4**	**+0.4**
AAK				S	**S**	**02 54 41.8**	**-2.8**
AAK	**Ala-Archa**	**7.00**	**27**	⇑P	**Pn**	**02 53 25.2**	**+0.2**
comp=N,55nm,0.5s							
AAK				⇑S	**S**	**02 54 41.3**	**-3.3**
comp=N,462nm,0.9s							
AAK	**Ala-Archa**	**7.00**	**27**	*d i*PN	**Pn**	**02 53 25.3**	**+0.4**
AAK				pmax	pmax		
comp=Z,42nm,0.5s							
KBK	**Karagaybulak**	**7.18**	**29**	P	**Pn**	**02 53 27.9**	**+0.5**
SNR=34							
FRU1	**Bishkek**	**7.19**	**27**		**Pn**	**02 53 28.2**	**+0.7**
FRU1	**Bishkek**	**7.19**	**27**	PN	**Pn**	**02 53 28.2**	**+0.7**
BHK	**Bhakra**	**7.23**	**132**	*e*P	**Pn**	**02 53 29.1**	**+1.0**
BHK				*e*S	**S**	**02 54 46.9**	**-3.3**
BHK				IAML		02 54 48.2	
comp=E,781nm,0.8s							
BHK				IAML		02 54 48.4	
comp=N,807nm,0.8s							
CHMS	**Chumysh**	**7.40**	**27**	P	**Pn**	**02 53 30.0**	**-0.1**
SNR=43							
CHMS	**Chumysh**	**7.40**	**27**	⇓P	**Pn**	**02 53 29.7**	**-0.4**
comp=N,70nm,0.6s							
CHMS				⇓S	**S**	**02 54 51.5**	**-2.6**
comp=N,172nm,0.9s							
ULHL	**Ulahol**	**7.43**	**37**	P	**Pn**	**02 53 30.8**	**+0.1**
SNR=42							
BOOM	**Boomskoye usch**	**7.47**	**35**	Pn	**Pn**	**02 53 31.5**	**+0.3**
BOOM	**Boomskoye usch**	**7.47**	**35**	PN	**Pn**	**02 53 31.5**	**+0.3**
USP	**Ospenovka**	**7.55**	**25**	P	**Pn**	**02 53 31.2**	**-0.9**
SNR=24							
TKM2	**Tokmak 2**	**7.67**	**31**	P	**Pn**	**02 53 33.8**	**0.0**
SNR=99							
TKM2	**Tokmak 2**	**7.67**	**31**	⇑P	**Pn**	**02 53 33.5**	**-0.2**
comp=N,59nm,0.6s							
TKM2				⇓S	S	02 54 50.8	-10
comp=N,111nm,0.6s							
TKM2	**Tokmak 2**	**7.67**	**31**	*i* PN	**Pn**	**02 53 33.5**	**-0.2**
TKM2				pmax	pmax		
comp=Z,50nm,0.6s							
SMLA	**Simla**	**7.89**	**131**	*e*P	**Pn**	**02 53 37.0**	**+0.4**
SMLA				*e*S	**S**	**02 55 01.4**	**-4.2**
SMLA				IAML		02 55 05.1	
comp=E,543nm,0.0s							
SMLA				IAML		02 55 05.3	
comp=N,809nm,0.6s							
SMLA				IAML		02 55 15.9	
comp=N,464nm,0.2s							
TARG	**Taragay, Kyrgy**	**7.91**	**46**		**Pn**	**02 53 36.5**	**-0.6**
TARG	**Taragay, Kyrgy**	**7.91**	**46**	PN	**Pn**	**02 53 36.5**	**-0.6**
TNSS	**Tian-Shan**	**8.37**	**36**	*e*P	**Pn**	**02 53 43.3**	**+0.3**
baz=37							
TNSS	**Tian-Shan**	**8.37**	**36**	*e*PN	**Pn**	**02 53 43.3**	**+0.3**
AAA	**Alma-Ata**	**8.48**	**36**	*e*P	**Pn**	**02 53 44.7**	**+0.5**
comp=N,18nm,0.5s,baz=36							
AAA	**Alma-Ata**	**8.48**	**36**	*e*PN	**Pn**	**02 53 44.7**	**+0.5**
AAA				pmax	pmax		
comp=Z,18nm,0.5s							
MDOK	**Medeo**	**8.51**	**36**	*e*P	**Pn**	**02 53 45.1**	**+0.5**
baz=37							
MDOK	**Medeo**	**8.51**	**36**	P	**Pn**	**02 53 44.7**	**0.0**
comp=Z,28nm,0.7s							
MDOK				S	**S**	**02 55 12.6**	**-7.9**
comp=Z,96nm,1.3s							
MDOK	**Medeo**	**8.51**	**36**	*e*PN	**Pn**	**02 53 45.1**	**+0.5**
PRZ	**Przheval'sk**	**8.73**	**44**	Pn	**Pn**	**02 53 48.1**	**+0.5**
PRZ	**Przheval'sk**	**8.73**	**44**	PN	**Pn**	**02 53 48.1**	**+0.5**
CHKK	**Chushkaly**	**9.02**	**33**	*e*P	**Pn**	**02 53 51.0**	**-0.2**
baz=34							
CHKK	**Chushkaly**	**9.02**	**33**	*e*P	**Pn**	**02 53 50.9**	**-0.2**
BTLS	**Baital**	**9.04**	**18**	⇓*i*P	**Pn**	**02 53 51.0**	**-0.3**
baz=18							
BTLS	**Baital**	**9.04**	**18**	*d i*P	**Pn**	**02 53 51.0**	**-0.3**
SATY	**Saty**	**9.12**	**41**	*e*P	**Pn**	**02 53 52.5**	**0.0**
baz=42							
SATY				*e*S	**S**	**02 55 35.4**	**+0.3**
baz=42							
SATY	**Saty**	**9.12**	**41**	*e*P	**Pn**	**02 53 52.5**	**0.0**
SATY				*e*S	**S**	**02 55 35.3**	**+0.3**
UZB	**Uzynbulak**	**9.52**	**43**	*e*P	**Pn**	**02 53 57.7**	**0.0**
baz=43							
UZB	**Uzynbulak**	**9.52**	**43**	*e*P	**Pn**	**02 53 57.6**	**0.0**
JASL	**Jaisalmer**	**9.54**	**176**	*e*P	**Pn**	**02 53 56.5**	**-1.6**
JASL				*e*S	**S**	**02 55 36.4**	**-8.8**
KPKS	**Kokpek**	**9.55**	**40**	*e*P	**Pn**	**02 53 58.2**	**+0.2**
comp=Z,8.6nm,0.6s,baz=41							
KPKS	**Kokpek**	**9.55**	**40**	*e*P	**Pn**	**02 53 58.2**	**+0.2**
KPKS				pmax	pmax		
comp=Z,9.0nm,0.6s							
ARXS	**Arharly**	**9.68**	**35**	*i* P	**Pn**	**02 53 59.7**	**0.0**
SHLS	**Shalkode**	**9.77**	**44**	*e*P	**Pn**	**02 54 04.2**	**+3.3**
baz=46							
SHLS	**Shalkode**	**9.77**	**44**	*e*P	**Pn**	**02 54 04.1**	**+3.3**
PDGK	**Podgornoye**	**9.89**	**43**	⇑P	**Pn**	**02 54 01.2**	**-1.3**
comp=Z,11nm,0.7s							
PDGK				⇑S	**S**	**02 55 48.8**	**-4.5**
comp=Z,99nm,1.1s							
PDGK	**Podgornoye**	**9.89**	**43**	P	**Pn**	**02 54 01.2**	**-1.3**
PDGK				S	**S**	**02 55 48.8**	**-4.5**
TDK	**Taldyqorghan**	**10.55**	**34**	*e*P	**Pn**	**02 54 11.4**	**+0.5**
comp=Z,12nm,0.5s,baz=34							
TDK	**Taldyqorghan**	**10.55**	**34**	*e*P	**Pn**	**02 54 11.3**	**+0.5**
TDK				pmax	pmax		
comp=Z,12nm,0.5s							
OTUK	**Ortayu**	**11.87**	**7**	⇓P	**Pn**	**02 54 27.2**	**-0.4**
comp=Z,28nm,0.9s							
OTUK	**Ortayu**	**11.87**	**7**	P	**Pn**	**02 54 27.2**	**-0.4**
NGCH	**Negor - Chabah**	**13.52**	**217**	P	**P**	**02 54 49.6**	**-1.2**
NGCH				S	**S**	**02 57 18.3**	**-0.3**
MAKZ	**Makanchi**	**13.56**	**37**	P	**Pn**	**02 54 48.7**	**-0.1**
MAKZ	**Makanchi**	**13.56**	**37**	⇑P	**Pn**	**02 54 48.9**	**0.0**
comp=Z,52nm,0.8s							
MAKZ	**Makanchi**	**13.56**	**37**	P	**Pn**	**02 54 48.7**	**-0.1**
MK31	**Makanchi Array**	**13.70**	**37**		**Pn**	**02 54 50.7**	**+0.1**
MK31	**Makanchi Array**	**13.70**	**37**	⇑P	**Pn**	**02 54 49.9**	**-0.7**
comp=Z,19nm,0.5s,baz=223,slow=11,SNR=268							
MK31	**Makanchi Array**	**13.70**	**37**	*c i*P	**Pn**	**02 54 50.3**	**-0.3**
MKAR	**Makanchi Array**	**13.70**	**37**		**Pn**	**02 54 50.3**	**-0.3**
MKAR	**Makanchi Array**	**13.70**	**37**	P	**Pn**	**02 54 50.7**	**+0.1**
comp=Z,27nm,0.5s,baz=218,slow=16,SNR=57							
MKAR				S	**S**	**02 57 22.9**	**+0.3**
comp=Z,2.4nm,0.8s,baz=236,slow=17,SNR=1.1							
AB31	**Akbulak array**	**14.79**	**333**	⇑P	**Pn**	**02 55 02.6**	**-1.4**
comp=Z,6.1nm,0.5s,baz=148,slow=12,SNR=306							
AB31				⇑S	**S**	**02 57 41.5**	**-6.2**
comp=Z,3.9nm,0.7s,baz=141,slow=22,SNR=3.6							
AB31	**Akbulak array**	**14.79**	**333**	*i* P	**Pn**	**02 55 02.2**	**-1.7**
ABKAR	**Akbulak array**	**14.79**	**333**	Pn	**Pn**	**02 55 02.4**	**-1.6**
ABKAR	**Akbulak array**	**14.79**	**333**		**Pn**	**02 55 02.2**	**-1.7**
JASK	**Jask - Hormozg**	**14.92**	**228**	P	**Pn**	**02 55 04.8**	**-0.9**
JASK				S	**S**	**02 57 48.2**	**-2.8**
WMQ	**Urumqi**	**15.25**	**56**	*e*P	**P**	**02 55 10.5**	**+0.6**
WMQ				pmax	pmax		
comp=Z,53nm,1.1s							
WMQ				pmax	pmax		
comp=Z,130nm,3.8s							
KURBB	**Kurchatov Arra**	**15.36**	**20**	P	**Pn**	**02 55 10.2**	**-0.7**
comp=Z,23nm,0.7s,baz=209,slow=10,SNR=69							
KURBB				S	**S**	**02 58 01.9**	**+1.0**
comp=Z,0.6nm,0.3s,baz=216,slow=16,SNR=4.3							
KURBB	**Kurchatov Arra**	**15.36**	**20**	⇓P	**Pn**	**02 55 10.0**	**-0.9**
comp=Z,38nm,0.8s							
ZSN	**Zaisan**	**15.45**	**40**	*e*P	**Pn**	**02 55 12.1**	**+0.2**
comp=Z,6.0nm,0.7s,baz=40							

ZSN Zaisan 15.45 40 *eP* **Pn 02 55 12.1 +0.2**
ZSN pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 15.47 20 P 02 55 11.2 -0.9
KURK Kurchatov 15.47 20 P **P 02 55 11.6 -0.6**
KURK Kurchatov 15.47 20 ⇑P **P 02 55 11.0 -1.2**
comp=Z,24nm,1.0s
KURK Kurchatov 15.47 20*c i*P **P 02 55 10.8 -1.3**
KURK pmax pmax
comp=Z,34nm,1.3s
SHME Shamm 15.86 233 P **Pn 02 55 17.5 +0.4**
SHME Shamm 15.86 233 P **Pn 02 55 17.0 -0.1**
MDH Madha 16.29 231 P **P 02 55 20.9 -0.5**
MDH Madha 16.29 231 P **P 02 55 20.8 -0.7**
MASF Masafi 16.33 231 P **Pn 02 55 21.9 -0.8**
AKTO Aktyubinsk 16.48 332 P **Pn 02 55 23.8 -0.4**
comp=Z,25nm,0.5s,baz=145,slow=8.3,SNR=102
AKTO S **S 02 58 21.1 -3.9**
comp=Z,5.5nm,1.0s,baz=126,slow=17,SNR=4.1
BVA2 Borovoye Array 16.54 0 P **P 02 55 24.3 +0.4**
BVA0 Borovoye Array 16.55 0 ⇓P **P 02 55 24.6 +0.6**
comp=Z,34nm,1.1s,baz=152,slow=8.1,SNR=92
BVA0 Borovoye Array 16.55 0 P **P 02 55 24.6 +0.6**
BVAR Borovoye Array 16.55 0 P **P 02 55 24.6 +0.6**
comp=Z,18nm,0.4s,baz=170,slow=9.0,SNR=65
BVAR S **S 02 58 26.4 0.0**
comp=Z,6.7nm,0.8s,baz=170,slow=21,SNR=6.8
BVAR ScP **ScP 03 03 14.8 -2.4**
comp=Z,1.4nm,0.7s,baz=199,slow=3.1,SNR=3.9
WSAR Wadi Sarin 16.55 220 P **P 02 55 23.5 -0.8**
comp=Z,7.7nm,0.4s,baz=89,slow=7.9,SNR=17
BRVK Borovoye 16.58 0 P **P 02 55 24.5 +0.3**
BRVK Borovoye 16.58 0 ⇑P **P 02 55 24.6 +0.3**
comp=Z,17nm,0.5s
BRVK Borovoye 16.58 0 *i* P **P 02 55 24.0 -0.3**
BRVK pmax pmax
comp=Z,17nm,0.5s
BIDO Bidbid 16.59 222 P **P 02 55 24.8 +0.1**
UOSS Minazif 16.61 230 P **Pn 02 55 25.5 -0.6**
UOSS Minazif 16.61 230 *i* P **Pn 02 55 25.2 -0.9**
SNR=5.4
UOSS Minazif 16.61 230 P **Pn 02 55 25.5 -0.6**
HATD Hatta, Dubai 16.74 230 *i* P **Pn 02 55 27.5 -0.1**
SNR=6.5
HATD Hatta, Dubai 16.74 230 P **Pn 02 55 27.9 +0.3**
ASHO Ashiyiah 16.89 230 *i* P **Pn 02 55 29.3 -0.1**
SNR=27
ASHO Ashiyiah 16.89 230 P **Pn 02 55 29.3 -0.1**
SNR=8.0
WBK Wadi Bani Khal 16.89 218 P **Pn 02 55 30.0 +0.5**
HOQ Hoqain 16.99 224 P **P 02 55 28.3 -0.8**
SMDO Samad 17.00 221 P **Pn 02 55 29.9 -0.9**
SOHO SOHO 17.01 227 P **P 02 55 28.6 -0.8**
JLN Jalan Bani Buh 17.07 216 P **Pn 02 55 31.2 -0.3**
FAQ Al Faqa, Dubai 17.14 231 P **Pn 02 55 32.3 0.0**
FAQ Al Faqa, Dubai 17.14 231 P **Pn 02 55 31.8 -0.4**
ASUD Al Ashush, Dub 17.39 231 *i* P **Pn 02 55 35.5 +0.2**
SNR=6.2
ASUD Al Ashush, Dub 17.39 231 P **Pn 02 55 34.8 -0.5**
SNR=6.3
JMDO Jabal Madar 17.54 220 P **P 02 55 34.9 -0.2**
ALNE Al Ain 17.54 229 *i* P **Pn 02 55 36.0 -1.1**
SNR=5.7
ALNE Al Ain 17.54 229 P **Pn 02 55 36.0 -1.1**
SNR=5.7
ARQ Araqi 17.63 226 P **Pn 02 55 36.8 -1.3**
AJN Ajban 17.65 232 P **P 02 55 36.6 +0.4**
BSY Bisya 17.71 223 P **Pn 02 55 38.6 -0.5**
MAK Makhachkala 18.58 297 *eP* **P 02 55 47.0 +0.8**
MAK *eS* **S 02 59 09.7 +2.8**
MAK pmax pmax
comp=Z,116nm,1.3s
MHTO MHTO 18.76 218 P **Pn 02 55 49.7 -1.7**
JRN Qarnain Island 18.79 237 P **P 02 55 47.7 -0.9**
LSA Lhasa 18.81 105 P **Pn 02 55 53.3 +0.9**
LSA pmax pmax
comp=Z,16nm,0.7s
LSA Lhasa 18.81 105 P **P 02 55 50.8 +1.5**
LSA Lhasa 18.81 105 P **P 02 55 50.8 +1.5**
LSA pmax pmax
comp=Z,15nm,0.7s
GHWR Ruwais 19.43 235 P **P 02 55 54.7 -0.9**
SHMA Al-Shehemyia 19.52 243 P **P 02 55 56.5 0.0**
SNR=11
MZR Muzera 19.73 232 P **P 02 55 58.4 -0.3**
MZR Muzera 19.73 232 P **P 02 55 57.9 -0.8**
SAKB Bahrain 19.76 244 P **P 02 55 59.1 0.0**
GOMU GeErMu 19.84 83 P **P 02 56 02.5 +2.3**
GOMU pmax pmax
comp=Z,18nm,0.9s
TRNA Turayna 20.05 240 P **P 02 56 00.7 -1.5**
SLWR Sila 20.16 237 P **P 02 56 01.9 -1.4**
ZAA0 Zalesovo Array 20.21 26 P **P 02 56 03.9 +0.2**
ZAA0 Zalesovo Array 20.21 26 ⇑P **P 02 56 03.6 0.0**
comp=Z,7.7nm,0.6s
ZALV Zalesovo Beam 20.21 26 P **P 02 56 03.9 +0.2**
comp=Z,62nm,0.5s,baz=218,slow=11,SNR=142
ZALV S **S 02 59 39.0 +0.3**
comp=Z,4.0nm,0.8s,baz=210,slow=17,SNR=4.0
ZALV ScP **ScP 03 03 23.6 -1.5**
comp=Z,0.8nm,0.5s,baz=224,slow=4.0,SNR=2.3
comp=Z,62nm,0.5s
GNI Garni 20.27 288 P **P 02 56 03.4 -1.2**
comp=Z,2.8nm,0.3s,baz=90,slow=5.2,SNR=4.9
comp=Z,2.8nm,0.3s
SMRA Abu-Samra 20.31 240 P **P 02 56 04.3 -0.7**
SVE Sverdlovsk 21.34 345 *eP* **P 02 56 16.0 +0.5**
SVE pmax pmax
comp=Z,58nm,1.5s
ARU Arti 21.44 342 P **P 02 56 16.4 -0.2**
ARU Arti 21.44 342 P **P 02 56 17.0 +0.5**
comp=Z,19nm,0.4s,baz=158,slow=10,SNR=45
comp=Z,19nm,0.4s
ARU Arti 21.44 342*c i*P **P 02 56 16.4 -0.2**
ARU pmax pmax
comp=Z,72nm,1.3s
NCK Nalchik 21.48 297⇓*eP* **P 02 56 16.3 -0.9**
NCK pmax pmax
comp=Z,21nm,1.1s
SHL Shillong 21.50 114 P **P 02 56 18.3 +0.6**
SHL Shillong 21.50 114 P **P 02 56 18.3 +0.6**
SNR=9.8
SHL Shillong 21.50 114 P **P 02 56 18.3 +0.6**
SHL pmax pmax
comp=Z,38nm,1.0s
KBZ Khabaz 22.02 298 P **P 02 56 21.8 -0.6**
comp=Z,2.9nm,0.8s,baz=120,slow=9.4,SNR=5.4
comp=Z,2.9nm,0.8s
SHA1 Shidzhatmaz 22.20 298*c i*P **P 02 56 24.7 +0.4**
KIV Kislovodsk 22.21 298 *eP* **P 02 56 24.6 +0.3**
KIV *eS* **S 03 00 13.9 +0.5**
KIV pmax pmax
comp=Z,5.0nm,1.0s
BELG Belogornoye 22.50 322*c i*P **P 02 56 26.9 +0.3**
BELG pmax pmax
comp=Z,10.0nm,0.9s
DOK Doka 22.73 223 P **P 02 56 29.4 +0.3**
SNR=11
DMTO DMTO 23.03 220 P **P 02 56 32.0 +0.2**
SNR=7.8
WHFO Wadi Hawf 23.49 222 P **P 02 56 36.0 0.0**
SNR=40
GTA Gaotai 23.50 74 *eP* **P 02 56 38.3 +2.2**
GTA pP pP 02 57 21.1 +5.7
GTA sP sP 02 57 48.0 +6.0
GTA pmax pmax
comp=Z,7.0nm,1.1s
RBK Rabkut 23.60 221 P **P 02 56 37.0 0.0**
ABTO Aybut 24.21 223 P **P 02 56 45.0 +2.4**
SNR=9.0
RAYN Ar Rayn 24.89 246 P **P 02 56 48.8 +0.1**
RAYN IAmb IAmb 02 56 50.5
comp=Z,15nm,1.1s
RAYN Ar Rayn 24.89 246 *i* P **P 02 56 49.0 +0.4**
SNR=9.9
RAYN Ar Rayn 24.89 246 P **P 02 56 48.8 +0.1**
RAYN pmax pmax
comp=Z,15nm,1.1s
KIRV Kirov 25.98 335*c i*P **P 02 56 58.7 +0.7**
VSR Storozhevoye 26.54 314 *eP* **P 02 57 01.4 -1.7**
VSR pmax pmax
comp=Z,5.0nm,0.8s
MOY Mondy 26.59 45 *eP* **P 02 57 06.0 +2.2**
MOY pmax pmax
comp=Z,24nm,2.1s

VORR Voronezh 26.68 314 *eP* **P 02 57 02.5 -1.9**
VORR pmax pmax
comp=Z,10.0nm,0.9s
LZH Lanzhou 27.06 81 *eP* **P 02 57 10.3 +2.1**
LZH sP PP 02 58 14.3 +0.7
LZH pmax pmax
comp=Z,31nm,1.0s
LPSR Galich'ya Gora 27.21 316 *eP* **P 02 57 07.7 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ZAK Zakamensk 27.50 49 *eP* **P 02 57 12.1 +0.2**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
PZH PanZhiHua 28.58 101 P **P 02 57 24.8 +3.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.2s
BRTR Keskin Array B 28.81 288 P **P 02 57 24.8 +1.1**
comp=Z,0.7nm,0.5s,baz=83,slow=12,SNR=2.1
SONM Songino Array 28.89 55 P **P 02 57 25.6 +1.4**
SONM IAmb IAmb 02 57 27.4
comp=Z,14nm,1.2s
SONM Songino Array 28.89 55 P **P 02 57 26.3 +2.0**
comp=Z,6.7nm,0.7s,baz=260,slow=10.0,SNR=32
comp=Z,6.7nm,0.7s
SONM Songino Array 28.89 55 P **P 02 57 25.7 +1.4**
SONM pmax pmax
comp=Z,14nm,1.2s
MOS Moscow 29.26 321 *eP* **P 02 57 26.0 -1.3**
ULN Ulaanbaatar 29.33 56 P **P 02 57 29.9 +1.6**
ULN IAmb IAmb 02 57 30.5
comp=Z,7.3nm,0.7s
ULN Ulaanbaatar 29.33 56*c i*P **P 02 57 30.0 +1.8**
ULN pmax pmax
comp=Z,18nm,1.7s
OBN Obninsk 29.53 320*ceP* **P 02 57 30.0 +0.4**
OBN pmax pmax
comp=Z,45nm,1.7s
KMI Kunming 30.04 103 ⇑P **P 02 57 37.5 +2.8**
KMI pmax pmax
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 31.03 118 P **P 02 57 43.9 +0.7**
comp=Z,3.3nm,0.6s,baz=295,slow=8.0,SNR=14
CMAR ScP **ScP 03 03 55.1 -1.7**
comp=Z,1.8nm,0.3s,baz=294,slow=4.5,SNR=9.3
comp=Z,3.3nm,0.6s
CMAR Chiang Mai Arr 31.03 118*ceP* **P 02 57 44.5 +1.3**
CMAR pmax pmax
comp=Z,3.0nm,0.5s
XAN Xi'an 31.59 83 ⇑P **P 02 57 49.6 +1.6**
XAN pmax pmax
comp=Z,15nm,0.6s
HHC Hu-ho-hao-te 32.39 69 *eP* **P 02 57 54.3 -0.7**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,73nm,6.0s
AKASG Malin Array Be 32.45 309 P **P 02 57 55.0 -0.2**
AKASG Malin Array Be 32.45 309 P **P 02 57 55.1 -0.1**
comp=Z,4.4nm,0.6s,baz=84,slow=7.0,SNR=40
AKASG ScP **ScP 03 03 58.0 -3.1**
comp=Z,0.4nm,0.3s,baz=86,slow=3.2,SNR=2.2
comp=Z,4.4nm,0.6s
AKASG Malin Array Be 32.45 309*ceP* **P 02 57 55.0 -0.2**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKBB Malin Array Si 32.45 309 P **P 02 57 55.1 -0.1**
AKBB IAmb IAmb 02 57 56.0
comp=Z,7.2nm,0.6s
AKBB Malin Array Si 32.45 309*c i*P **P 02 57 55.1 -0.1**
AKBB pmax pmax
comp=Z,6.0nm,0.6s
KIEV Kiev 32.45 309 P **P 02 57 55.2 -0.1**
KIEV IAmb IAmb 02 57 56.0
comp=Z,6.5nm,0.6s
KIEV Kiev 32.45 309 P **P 02 57 55.3 0.0**
KIEV Kiev 32.45 309 P **P 02 57 55.2 -0.1**
KIEV pmax pmax
comp=Z,7.0nm,0.6s
MNK Minsk 34.05 315 *i* P **P 02 58 09.5 +0.5**
comp=E,5.0nm,1.0s,baz=315
MNK *i* P **P 02 58 09.5 +0.5**
comp=N,3.0nm,0.7s,baz=315
MNK *i* P **P 02 58 09.5 +0.5**
comp=Z,6.0nm,0.8s,baz=315
MNK *i* pP **pP 02 58 52.6 +0.9**
baz=315
MNK *i* PP **PnPn 02 59 31.1 +0.4**
baz=315
MNK *i* PcP **PcP 03 00 42.2 +0.6**
baz=315
MNK *i* S **S 03 03 19.5 +0.6**
baz=315
MNK *i* sS **sS 03 04 36.8 +0.8**
baz=315
MNK *i* SS **SS 03 05 58.6 +6.5**
baz=315
MNK *i* LR LR 03 13 14.6
baz=315
MNK *i* LRM MLR 03 14 26.2
comp=Z,71nm,20.2s,baz=315
MNK *i* LRM MLR 03 15 51.5
comp=N,523nm,21.6s,baz=315
MNK *i* LRM MLR 03 16 16.4
comp=E,122nm,19.8s,baz=315
MNK Minsk 34.05 315 *i* P **P 02 58 09.5 +0.5**
MNK *i* *PP **pP 02 58 52.6 +0.9**
MNK *i* 02 59 31.0
MNK *i* 03 00 42.2
MNK *i* S **S 03 03 19.4 +0.6**
MNK *i* *SS **sS 03 04 36.7 +0.8**
MNK pmax pmax
comp=E,5.0nm,1.0s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=N,3.0nm,0.6s
MNK MLR MLR
comp=Z,71nm,20.0s
MNK MLR MLR
comp=N,523nm,22.0s
MNK MLR MLR
comp=E,122nm,20.0s
MLR Muntele Rosu 34.22 299 P **P 02 58 10.7 -0.1**
MLR IAmb IAmb 02 58 13.9
comp=Z,8.8nm,0.9s
MLR Muntele Rosu 34.22 299 P **P 02 58 10.7 -0.1**
MLR pmax pmax
comp=Z,9.0nm,0.9s
NRIK Noril'sk 34.27 11 P **P 02 58 12.0 +1.2**
NRIK Noril'sk 34.27 11 P **P 02 58 12.2 +1.5**
comp=Z,27nm,0.5s,baz=201,slow=5.9,SNR=28
comp=Z,27nm,0.5s
NRIK Noril'sk 34.27 11*c i*P **P 02 58 12.0 +1.2**
LYN LuoYang 34.28 80 *eP* **P 02 58 13.5 +2.2**
LYN pmax pmax
comp=Z,16nm,0.9s
LYN pmax pmax
comp=Z,400nm,5.1s
NACGM Naroch 34.77 316 *eP* **P 02 58 13.7 -1.5**
comp=Z,22nm,1.1s,baz=104
VALR Valaam 34.99 328⇑*eP* **P 02 58 17.2 +0.2**
VALR pmax pmax
comp=Z,32nm,1.0s
JOF Joensuu 35.56 330 *eP* **P 02 58 22.5 +0.7**
VSU Vasula 35.79 322*c i*P **P 02 58 23.8 0.0**
VSU pmax pmax
comp=Z,19nm,0.7s
ARBE Arbavere 36.48 323 *eP* **P 02 58 30.4 +0.8**
PABE Paberze 36.48 316 *eP* **P 02 58 30.4 +0.8**
KWP Kalwaria Pacla 36.49 306 P **P 02 58 30.0 +0.1**
KWP IAmb IAmb 02 58 31.9
comp=Z,7.4nm,0.9s
KWP Kalwaria Pacla 36.49 306 P **P 02 58 30.0 +0.1**
KWP pmax pmax
comp=Z,7.0nm,0.9s
VSVD Vaisvydziai 36.60 317 *eP* **P 02 58 31.5 +0.8**
KOLS Kolonicke sedl 36.75 305 *eP* **P 02 58 33.5 +1.4**
KOLS Kolonicke sedl 36.75 305 *eP* **P 02 58 33.5 +1.4**
FIA1 FINESS Array S 37.13 326 P **P 02 58 35.3 +0.2**
FINES FINESS Array B 37.13 326 P **P 02 58 35.2 +0.1**
FINES FINESS Array B 37.13 326 P **P 02 58 35.5 +0.4**
comp=Z,13nm,0.7s,baz=111,slow=9.4,SNR=71
comp=Z,13nm,0.7s
FINES FINESS Array B 37.13 326 P **P 02 58 35.2 +0.1**

LVZ Lovozero 37.24 339 P **P 02 58 35.5 -0.6**
LVZ Lovozero 37.24 339*c i*P **P 02 58 36.1 +0.1**
LVZ pmax pmax
comp=Z,49nm,2.5s
MTSE Matsula 37.33 321 *eP* **P 02 58 37.4 +0.6**
APA Apatity 37.41 338⇓*i*P **P 02 58 35.0 -2.4**
APA *i* *PP **pP 02 59 21.9 +1.2**
APA pmax pmax
comp=Z,8.0nm,0.6s
APA MLR MLR
comp=Z,100nm,10.0s
MEF Metsahovi 37.49 324 *eP* **P 02 58 38.7 +0.6**
TIA Tai'an 37.52 76 P **P 02 58 40.6 +1.8**
TIA pmax pmax
comp=Z,12nm,1.5s
PBUR Paburge 37.71 317 *eP* **P 02 58 40.6 +0.5**
SLIT Slitere, Latvi 37.84 319 *eP* **P 02 58 40.4 -0.7**
KEF Keuruu 37.93 327 *eP* **P 02 58 42.6 +0.7**
RAF Rauma 38.97 325 *eP* **P 02 58 50.5 +0.1**
VYHS Vyhne 39.02 304 *eP* **P 02 58 51.8 +0.6**
VYHS Vyhne 39.02 304 *eP* **P 02 58 51.8 +0.6**
VAF Ylistaro 39.19 328 *eP* **P 02 58 53.0 +0.7**
GKP Gorka Klasztor 40.09 312 *eP* **P 02 59 00.4 +0.5**
VADS Vadso 40.10 340 *eP* **P 02 59 00.4 +0.7**
VADS IAmb IAmb 02 59 00.9
comp=Z,26nm,0.9s
KEV Kevo 40.58 339 P **P 02 59 04.1 +0.5**
KEV IAmb IAmb 02 59 04.9
comp=Z,21nm,1.0s
KEV Kevo 40.58 339 P **P 02 59 04.1 +0.5**
KEV pmax pmax
comp=Z,21nm,1.0s
ARCES ARCESS Array B 40.91 338 P **P 02 59 07.0 +0.6**
ARCES IAmb IAmb 02 59 08.0
comp=Z,15nm,0.8s
ARCES ARCESS Array B 40.91 338 P **P 02 59 06.9 +0.5**
comp=Z,9.8nm,0.5s,baz=116,slow=8.2,SNR=10
comp=Z,9.8nm,0.5s
ARCES ARCESS Array B 40.91 338 P **P 02 59 07.0 +0.6**
ARCES pmax pmax
comp=Z,15nm,0.9s
KTK1 Kautokeino 41.37 337 *eP* **P 02 59 10.4 +0.3**
KTK1 IAmb IAmb 02 59 10.7
comp=Z,26nm,0.5s
HAMF Hammerfest 42.01 339 *eP* **P 02 59 16.1 +1.0**
HAMF IAmb IAmb 02 59 16.4
comp=Z,40nm,0.6s
GERES GERESS Array B 42.40 305 ScP **ScP 03 04 36.3 -2.5**
comp=Z,0.1nm,0.3s,baz=57,slow=7.2,SNR=4.5
ZEA Zeya 42.57 47 *eP* **P 02 59 22.5 +2.5**
HFS Hagfors 42.68 322 P **P 02 59 20.6 -0.1**
comp=Z,13nm,0.4s,baz=98,slow=11,SNR=167
comp=Z,13nm,0.4s
CLL Collm 42.69 309 *eP* **P 02 59 23.0 +2.0**
CLL *e*SP **sP 03 00 29.0 +0.4**
CLL *e*S **S 03 05 30.0 +1.6**
HEH HeiHe 42.78 53 *eP* **P 02 59 23.3 +1.5**
HEH pmax pmax
comp=Z,33nm,1.0s
TRO Tromso 43.02 336 *eP* **P 02 59 23.7 +0.3**
TRO IAmb IAmb 02 59 24.9
comp=Z,58nm,1.6s
FAUS Fauske 43.52 333 *eP* **P 02 59 27.6 +0.2**
FAUS IAmb IAmb 02 59 27.9
comp=Z,19nm,0.9s
STEI Steigen 43.70 333 *eP* **P 02 59 29.1 +0.4**
NC405 NORSAR Array S 43.77 323 P **P 02 59 29.1 -0.3**
NC405 IAmb IAmb 02 59 30.4
comp=Z,18nm,1.2s
NC602 NORSAR Array S 43.81 323 *eP* **P 02 59 29.5 -0.3**
NC602 IAmb IAmb 02 59 29.8
comp=Z,64nm,2.4s
NC303 NORSAR Array S 43.95 323 P **P 02 59 31.1 +0.2**
NB201 NORSAR Array S 43.96 323 P **P 02 59 30.8 -0.2**
NB2 NORSAR Subarra 44.00 323 P **P 02 59 30.7 -0.7**
comp=Z,4.8nm,0.4s,baz=98,slow=7.9
NB2 NORSAR Subarra 44.00 323 P **P 02 59 30.7 -0.7**
baz=98,slow=7.9
NOA NORSAR Array B 44.00 323 P **P 02 59 30.8 -0.5**
comp=Z,4.4nm,0.4s,baz=104,slow=7.3,SNR=60
comp=Z,4.4nm,0.4s
KONS Konsvik 44.11 331 *eP* **P 02 59 32.4 +0.3**
STOK Stokkvaagen 44.11 331 *eP* **P 02 59 32.4 +0.4**
NBO00 NORSAR Array S 44.21 323 P **P 02 59 32.6 -0.4**
NBO00 IAmb IAmb 02 59 33.4
comp=Z,29nm,1.4s
NC204 NORSAR Array S 44.24 323 P **P 02 59 32.8 -0.5**
NC204 IAmb IAmb 02 59 33.8
comp=Z,17nm,1.2s
LOF Lofoten 44.37 333 *eP* **P 02 59 34.4 +0.3**
YAK Yakutsk 44.37 36 *eP* **P 02 59 33.1 -1.1**
YAK *e*PP **pP 03 00 17.3 -2.2**
YAK *e* 03 01 12.8
YAK *e*S **S 03 05 51.9 -0.4**
YAK *e*SS **sS 03 07 10.4 -1.7**
YAK *e* 03 09 07.0
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK smax smax
comp=E,49nm,1.7s
YAK smax smax
comp=N,18nm,1.5s
KONO Kongsberg 44.69 321 *eP* **P 02 59 36.6 -0.1**
KONO IAmb IAmb 02 59 37.0
comp=Z,9.1nm,1.2s
HOPEN Hopen 44.86 346 *eP* **P 02 59 39.7 +1.8**
OSSC Osservatorio P 44.87 298 P **P 02 59 38.5 0.0**
BJO1 Bjornoya 45.09 343 *eP* **P 02 59 40.4 +0.7**
BJO1 IAmb IAmb 02 59 40.9
comp=Z,44nm,0.8s
DOMB Dombas 45.13 324 *eP* **P 02 59 40.4 +0.2**
HOMB Homborsund 45.20 319 *eP* **P 02 59 41.2 +0.4**
KSAR Wonju Array Be 45.48 71 P **P 02 59 43.4 0.0**
KSAR Wonju Array Be 45.48 71 P **P 02 59 43.4 0.0**
KSRS Korea Array 45.51 71 P **P 02 59 43.8 +0.3**
comp=Z,5.5nm,0.7s,baz=281,slow=7.3,SNR=21
comp=Z,5.5nm,0.7s
KLR Kul'dur 45.69 54*c i*P **P 02 59 45.6 +0.8**
KLR pmax pmax
comp=Z,16nm,1.7s
SNART Snartemo 45.89 319 *eP* **P 02 59 47.2 +1.1**
LODK Lodwar 45.92 233 P **P 02 59 47.5 +0.4**
LODK Lodwar 45.92 233 P **P 02 59 48.6 +1.5**
TIXI Tiksi 46.04 22 P **P 02 59 47.8 +0.6**
TIXI Tiksi 46.04 22*ceP* **P 02 59 47.6 +0.4**
TIXI pmax pmax
comp=Z,16nm,0.8s
PSTR Posyet 46.27 63⇓*eP* **P 02 59 51.4 +2.0**
USRK Ussuriysk Ar. 46.76 60 P **P 02 59 53.4 +0.2**
comp=Z,2.9nm,0.8s,baz=255,slow=12,SNR=2.5
comp=Z,2.9nm,0.8s
ASK Askoy 46.92 322 *eP* **P 02 59 53.9 -0.2**
SPB2 Spitsbergen Ar 47.36 347 P **P 02 59 58.3 +1.0**
SPB2 IAmb IAmb 02 59 59.5
comp=Z,21nm,0.8s
SPA0 Spitsbergen Ar 47.36 347 *eP* **P 02 59 57.9 +0.5**
SPITS Spitsbergen Ar 47.36 347 P **P 02 59 58.7 +1.3**
comp=Z,9.0nm,0.5s,baz=116,slow=12,SNR=51
comp=Z,9.0nm,0.5s
SPITS Spitsbergen Ar 47.36 347 P **P 02 59 58.5 +1.1**
SPITS pmax pmax
comp=Z,19nm,1.0s
KMBO Kilima Mbogo 48.33 227 P **P 03 00 06.6 +0.7**
KMBO Kilima Mbogo 48.33 227 P **P 03 00 07.0 +1.1**
KMBO Kilima Mbogo 48.33 227 P **P 03 00 06.6 +0.7**
KMBO pmax pmax
comp=Z,14nm,1.4s
KBS Kingsbay 48.49 347 P **P 03 00 06.9 +0.9**
KBS IAmb IAmb 03 00 08.1
comp=Z,24nm,0.9s
KBS Kingsbay 48.49 347 *eP* **P 03 00 06.3 +0.3**
KBS Kingsbay 48.49 347*c i*P **P 03 00 07.0 +1.0**
KBS pmax pmax
comp=Z,25nm,1.3s
KIBK Kibwezi 48.86 225 P **P 03 00 10.8 +1.2**
KIBK IAmb IAmb 03 00 11.3
comp=Z,8.9nm,0.7s
KIBK Kibwezi 48.86 225 P **P 03 00 10.7 +1.1**
JNU Nakatsue 49.24 75 P **P 03 00 13.4 +1.0**
JNU IAmb IAmb 03 00 14.1
comp=Z,9.3nm,0.8s

EKA	**Eskdalemuir Ar**	51.84	316	P	P	03 00 31.0	-0.4
	comp=Z,0.4nm,0.3s,baz=79,slow=7.5,SNR=9.4						
	comp=Z,0.4nm,0.3s						
YSS	**Yuzh-Sakhalins**	53.38	55	*e*P	P	03 00 43.6	+0.8
YSS				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MAJO	**Matsushiro**	53.57	68	*de*P	P	03 00 44.5	+0.1
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MJAR	**Matsushiro Arr**	53.58	68	P	P	03 00 44.5	+0.1
	comp=Z,3.7nm,0.8s,baz=294,slow=9.6,SNR=9.2						
	comp=Z,3.7nm,0.8s						
MA2	**Magadan**	54.79	38	*ce*P	P	03 00 53.4	+0.6
MA2				pmax	pmax		
	comp=Z,29nm,1.7s						
SEY	**Seymchan**	54.80	34⇑	*e*P	P	03 00 53.9	+1.1
SEY				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ESDC	**Sonseca Array**	56.88	298	P	P	03 01 08.6	+0.5
	comp=Z,0.4nm,0.5s,baz=54,slow=7.5,SNR=5.0						
ESDC				ScP	ScP	03 05 38.0	-2.7
	comp=Z,0.2nm,0.5s,baz=64,slow=5.9,SNR=2.2						
BILL	**Bilibino**	58.92	26⇓	*e*P	P	03 01 23.0	+1.4
BILL				*e**PP	PcP	03 02 08.1	-0.4
BILL				*e*		03 03 34.6	
BILL				*e*PPP	PPP	03 05 00.3	
BILL				*e*S	S	03 09 04.6	-6.1
BILL				pmax	pmax		
	comp=Z,14nm,1.5s						
SUMG	**Summit**	60.87	341	P	P	03 01 35.8	+0.5
SUMG				IAmb	IAmb	03 01 37.0	
	comp=Z,9.5nm,1.0s						
SUMG	**Summit**	60.87	341	P	P	03 01 35.8	+0.5
SUMG				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TORD	**Torodi Ar. Bea**	65.06	268	P	P	03 02 02.3	-1.0
	comp=Z,1.2nm,0.4s,baz=57,slow=7.0,SNR=12						
	comp=Z,1.2nm,0.4s						
A19K	**Wainwright**	67.38	17	P	P	03 02 16.6	-0.5
	baz=317						
C17K	**DeLong Mountai**	68.12	19	P	P	03 02 22.1	+0.2
	baz=316						
C18K	**Utukok River**	68.50	18	P	P	03 02 23.8	-0.4
	baz=318						
C19K	**Lookout Ridge**	68.55	17	P	P	03 02 25.2	+0.7
	baz=319						
D17K	**Noatak River**	68.71	19	P	P	03 02 25.8	+0.4
	baz=316						
TNA	**Tin City**	68.83	22	P	P	03 02 26.7	+0.5
	baz=313						
B22K	**Teshekpuk Lake**	68.93	14	P	P	03 02 27.6	+0.8
	baz=324						
B21K	**Ikpikpuk River**	69.26	15	P	P	03 02 28.6	-0.2
	baz=323						
D19K	**Kuna River**	69.36	17	P	P	03 02 29.8	+0.3
	baz=320						
E17K	**Hotham Inlet**	69.49	19	P	P	03 02 30.2	-0.1
	baz=317						
D20K	**Etivluk River**	69.54	17	P	P	03 02 30.8	+0.2
	baz=321						
E18K	**Tukpahlearik C**	69.56	19	P	P	03 02 30.9	+0.2
	baz=318						
C21K	**Knifeblade Rid**	69.60	16	P	P	03 02 31.1	+0.2
	baz=323						
F15K	**North Star Dit**	69.70	21	P	P	03 02 31.7	+0.1
	baz=316						
C23K	**Itkillik River**	69.90	14	P	P	03 02 32.3	-0.5
	baz=326						
E20K	**Nigu River**	70.00	17	P	P	03 02 33.9	+0.5
	baz=322						
D22K	**Ayikyak River**	70.27	15	P	P	03 02 35.3	+0.3
	baz=324						
ANM	**Nome**	70.31	22	P	P	03 02 35.4	+0.1
	baz=315						
E19K	**Redstone River**	70.38	18	P	P	03 02 35.3	-0.4
	baz=321						
G15K	**Niukluk**	70.40	21	P	P	03 02 35.8	0.0
	baz=316						
F18K	**Selawik**	70.42	19	P	P	03 02 35.7	-0.2
	baz=319						
D23K	**Nanushuk River**	70.61	15	P	P	03 02 36.9	-0.2
	baz=326						
F19K	**Shaleruckiy Mo**	70.73	18	P	P	03 02 37.4	-0.3
	baz=321						
D24K	**Happy Valley**	70.82	14	P	P	03 02 37.7	-0.6
	baz=328						
G17K	**Kiwalik Mounta**	70.99	20	P	P	03 02 39.0	-0.3
	baz=319						
F20K	**Avaraart Lake**	71.06	17	P	P	03 02 39.9	+0.1
	baz=322						
E22K	**Anaktuvuk Pass**	71.07	15	P	P	03 02 40.4	+0.5
E22K				IAmb	IAmb	03 02 40.9	
	comp=Z,9.7nm,1.2s						
TOLK	**Toolik Lake Re**	71.11	14	P	P	03 02 41.0	+0.9
TOLK	**Toolik Lake Re**	71.11	14	P	P	03 02 40.0	-0.1
	baz=327						
D25K	**Kavik River**	71.13	13	P	P	03 02 41.3	+1.1
D25K				IAmb	IAmb	03 02 42.4	
	comp=Z,10nm,1.0s						
D25K	**Kavik River**	71.13	13	P	P	03 02 40.2	0.0
	baz=330						
H16K	**Elim**	71.19	21	P	P	03 02 40.5	-0.1
	baz=318						
G18K	**Tagagawik**	71.23	19	P	P	03 02 40.9	+0.1
	baz=320						
A36M	**Sachs Harbour**	71.29	5	P	P	03 02 41.4	+0.4
	baz=347						
C27K	**Jago River**	71.33	12	P	P	03 02 41.1	-0.3
	baz=332						
G19K	**Purcell Mounta**	71.44	18	P	P	03 02 42.6	+0.6
	baz=322,SNR=6.4						
F21K	**Alatna River**	71.45	16	P	P	03 02 42.8	+0.7
F21K				IAmb	IAmb	03 02 44.8	
	comp=Z,6.9nm,0.9s						
F21K	**Alatna River**	71.45	16	P	P	03 02 42.9	+0.7
	baz=324						
F22K	**John River**	71.50	16	P	P	03 02 43.0	+0.5
	baz=325						
E23K	**Chandalar**	71.59	15	P	P	03 02 42.8	-0.3
	baz=327						
H17K	**Granite Mounta**	71.62	20	P	P	03 02 43.3	+0.1
	baz=320						
H18K	**Honhosa River**	71.88	19	P	P	03 02 44.5	-0.3
	baz=321						
G21K	**Allakaket**	72.02	17	P	P	03 02 45.6	+0.1
	baz=324						
H19K	**Roundabout Mou**	72.09	19	P	P	03 02 46.6	+0.7
	baz=322						
D27M	**Malcolm River**	72.11	11	P	P	03 02 47.1	+1.0
	baz=334						
G22K	**Bettles**	72.14	16	P	P	03 02 46.1	-0.1
	baz=326,SNR=5.1						
COLD	**Coldfoot**	72.17	15	P	P	03 02 46.8	+0.4
	baz=327						
J14K	**Nanvaranak Lak**	72.18	23	P	P	03 02 46.2	-0.3
	baz=317						
IMAR	**Indian Mountai**	72.39	17	P	P	03 02 47.9	+0.2
F24K	**Squaw Lake**	72.40	14	P	P	03 02 47.9	+0.1
	baz=329						
K13K	**Kusilvak Mount**	72.42	24	P	P	03 02 47.6	-0.3
	baz=316						
H20K	**Anotleneega Mo**	72.51	18	P	P	03 02 48.1	-0.4
	baz=323						
G23K	**Bananza Creek**	72.64	16	P	P	03 02 49.4	+0.2
G23K	**Bananza Creek**	72.64	16	P	P	03 02 50.1	+0.9
	baz=327						
J16K	**Anvik River**	72.68	22	P	P	03 02 49.2	-0.2
	baz=319						
F25K	**Christian Rive**	72.77	14	P	P	03 02 50.3	+0.3
	baz=330,SNR=8.2						
H21K	**Melozitna Rive**	72.88	17	P	P	03 02 50.9	+0.3
	baz=325,SNR=5.3						
E28M	**Babbage River**	72.92	11	P	P	03 02 51.9	+1.1
E28M	**Babbage River**	72.92	11	P	P	03 02 51.5	+0.7
	baz=335,SNR=6.6						
F26K	**Sheenjek River**	72.96	13	P	P	03 02 51.2	+0.1
	baz=332						
E27K	**Coleen River**	72.97	12	P	P	03 02 51.8	+0.7
E27K				IAmb	IAmb	03 02 53.2	
	comp=Z,7.8nm,1.0s						
E27K	**Coleen River**	72.97	12	P	P	03 02 51.2	+0.1
	baz=334,SNR=5.3						
M11K	**Mekoryuk**	73.02	26	P	P	03 02 51.6	+0.2
	baz=316						
H22K	**Ishtalitna Cre**	73.02	17	P	P	03 02 51.3	-0.2
	baz=326						
J17K	**VABM Dome**	73.04	21	P	P	03 02 51.7	+0.1
	baz=320						
BMAR	**Burnt Mountain**	73.11	13	P	P	03 02 53.0	+1.0
K15K	**Wolf Creek Mou**	73.15	23	P	P	03 02 52.3	+0.1
	baz=319						
G24K	**Hadweenzic Riv**	73.19	15	P	P	03 02 51.9	-0.6
	baz=329						
E29M	**Blow River**	73.36	10	P	P	03 02 54.1	+0.8
E29M				IAmb	IAmb	03 02 55.5	
	comp=Z,7.1nm,0.9s						
E29M	**Blow River**	73.36	10	P	P	03 02 53.4	0.0
	baz=337,SNR=9.8						
G25K	**Bearman Lake**	73.41	14	P	P	03 02 53.5	-0.2
	baz=330						
H23K	**Yukon River**	73.49	16	P	P	03 02 54.6	+0.3
	baz=328						
L14K	**Kuka Creek**	73.50	24	P	P	03 02 55.1	+0.8
	baz=318						
J19K	**Poorman**	73.52	19	P	P	03 02 54.9	+0.5
J19K				IAmb	IAmb	03 02 56.2	
	comp=Z,9.0nm,1.1s						
J19K	**Poorman**	73.52	19	P	P	03 02 54.8	+0.4
	baz=323,SNR=6.2						
L15K	**Ungalak Mounta**	73.63	23	P	P	03 02 55.4	+0.3
	baz=319						
J18K	**Innoko River**	73.65	20	P	P	03 02 56.0	+0.8
J18K	**Innoko River**	73.65	20	P	P	03 02 55.6	+0.4
	baz=322						
G26K	**Porcupine Rive**	73.69	13	P	P	03 02 55.4	+0.2
	baz=332						
J20K	**Nowinta River**	73.76	19	P	P	03 02 56.7	+0.9
J20K	**Nowinta River**	73.76	19	P	P	03 02 56.5	+0.8
	baz=324,SNR=5.2						
F28M	**Old Crow**	73.77	12	P	P	03 02 57.0	+1.2
F28M	**Old Crow**	73.77	12	P	P	03 02 56.2	+0.4
	baz=335,SNR=5.1						
K17K	**Iditarod**	73.79	21	P	P	03 02 56.4	+0.4
	baz=321						
H24K	**Noodor Dome**	73.84	15	P	P	03 02 57.2	+0.9
H24K	**Noodor Dome**	73.84	15	P	P	03 02 56.6	+0.3
	baz=329,SNR=5.2						
MLY	**Manley**	73.89	17	P	P	03 02 57.8	+1.2
MLY				IAmb	IAmb	03 02 58.1	
	comp=Z,7.0nm,1.1s						
MLY	**Manley**	73.89	17	P	P	03 02 56.6	0.0
	baz=327						
H25L	**Birch Creek**	73.90	14	P	P	03 02 57.0	+0.5
	baz=331						
C36M	**Paulatuk**	73.96	5	P	P	03 02 56.7	-0.1
	baz=348						
M13K	**Dall Lake**	73.97	25	P	P	03 02 56.8	-0.2
	baz=318						
INK	**Inuvik**	74.03	9	P	P	03 02 57.3	0.0
	baz=340,SNR=7.3						
I23K	**Minto, Yukon-K**	74.11	16	P	P	03 02 58.8	+1.1
I23K				IAmb	IAmb	03 02 59.7	
	comp=Z,9.0nm,1.1s						
I23K	**Minto, Yukon-K**	74.11	16	P	P	03 02 57.7	0.0
	baz=328,SNR=6.3						
M14K	**Bethel**	74.17	24	P	P	03 02 59.1	+1.0
	baz=319						
G27K	**Doyon Strip**	74.20	13	P	P	03 02 59.5	+1.2
G27K				IAmb	IAmb	03 03 00.5	
	comp=Z,6.3nm,0.8s						
G27K	**Doyon Strip**	74.20	13	P	P	03 02 59.1	+0.8
	baz=334,SNR=13						
L16K	**Owhat River**	74.22	22	P	P	03 02 59.8	+1.3
L16K				IAmb	IAmb	03 03 00.7	
	comp=Z,6.4nm,0.8s						
L16K	**Owhat River**	74.22	22	P	P	03 02 59.5	+1.0
	baz=320						
L17K	**Donlin**	74.25	21	P	P	03 02 59.6	+1.0
	baz=321						
TTA	**Tatalina**	74.27	20	P	P	03 02 59.6	+0.8
TTA	**Tatalina**	74.27	20	P	P	03 02 59.3	+0.4
	baz=323						
TTA	**Tatalina**	74.27	20	P	P	03 02 59.6	+0.8
TTA				pmax	pmax		
	comp=Z,8.0nm,1.5s						
F30M	**Barrier River**	74.38	10	P	P	03 02 59.7	+0.3
	baz=339,SNR=7.2						
K20K	**Telida**	74.45	19	P	P	03 03 00.5	+0.7
K20K				IAmb	IAmb	03 03 01.6	
	comp=Z,10nm,1.1s						
K20K	**Telida**	74.45	19	P	P	03 02 59.9	+0.1
	baz=324,SNR=6.5						
MDM	**Murphy Dome**	74.52	16	P	P	03 03 01.1	+0.9
MDM				IAmb	IAmb	03 03 02.3	
	comp=Z,9.6nm,1.1s						
POKR	**Poker Plat Res**	74.56	16	P	P	03 03 00.8	+0.4
	baz=329,SNR=11						
BPAW	**Bear Paw Mtn.**	74.61	17	P	P	03 03 00.7	0.0
	baz=327						
M15K	**Kasigluk River**	74.63	23	P	P	03 03 01.2	+0.3
	baz=320						
L18K	**Granite Mounta**	74.65	21	P	P	03 03 01.6	+0.6
	baz=323						
NEA2	**Nenana**	74.65	16	P	P	03 03 00.9	0.0
	baz=328,SNR=8.9						
COLA	**College**	74.68	16	P	P	03 03 01.3	+0.3
	baz=329						
COLA	**College**	74.68	16	*ce*P	P	03 03 01.4	+0.3
COLA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
G29M	**Pine Creek**	74.70	11	P	P	03 03 02.4	+1.2
G29M				IAmb	IAmb	03 03 03.1	
	comp=Z,7.1nm,1.1s						
G29M	**Pine Creek**	74.70	11	P	P	03 03 01.5	+0.3
	baz=337						
H27K	**Steamboat Moun**	74.74	13	P	P	03 03 01.5	+0.1
	baz=334,SNR=9.3						
F31M	**Tsiigehtchic**	74.82	9	P	P	03 03 02.0	+0.3
	baz=340						
N14K	**Kuskokwak Cree**	74.89	24	P	P	03 03 02.7	+0.4
	baz=319						
G30M	**tAoh Zraii Nji**	74.91	10	P	P	03 03 03.5	+1.1
G30M				IAmb	IAmb	03 03 04.5	
	comp=Z,9.3nm,0.9s						
G30M	**tAoh Zraii Nji**	74.91	10	P	P	03 03 02.7	+0.3
	baz=338,SNR=7.1						
M16K	**Timber Creek**	74.92	22	P	P	03 03 02.9	+0.4
	baz=321						
ILAR	**Eielson Array**	74.98	16	P	P	03 03 02.5	-0.2
	comp=Z,2.2nm,0.8s,baz=315,slow=5.2,SNR=30						
ILAR				PP	PP	03 05 53.8	+1.0
	comp=Z,0.6nm,0.9s,baz=316,slow=6.6,SNR=4.7						
	comp=Z,2.2nm,0.8s						
M17K	**Holitna River**	75.08	22	P	P	03 03 03.6	+0.2
	baz=322						
L19K	**White Mountain**	75.19	20	P	P	03 03 05.1	+1.0
L19K				IAmb	IAmb	03 03 05.9	
	comp=Z,9.7nm,1.3s						
L19K	**White Mountain**	75.19	20	P	P	03 03 04.2	+0.1
	baz=324						
L20K	**Farewell, AK**	75.22	20	P	P	03 03 04.2	0.0
	baz=325						
G31M	**Satah River**	75.24	10	P	P	03 03 04.9	+0.7
G31M				IAmb	IAmb	03 03 05.6	
	comp=Z,7.5nm,0.8s						
G31M	**Satah River**	75.24	10	P	P	03 03 04.3	+0.1
	baz=340						
I26K	**Coal Creek Min**	75.27	14	P	P	03 03 04.3	-0.1
	baz=333						
HDA	**Harding Lake**	75.28	16	P	P	03 03 04.8	+0.2
	baz=330						
H29M	**Whitestone**	75.29	12	P	P	03 03 05.3	+0.8
H29M				IAmb	IAmb	03 03 06.4	
	comp=Z,9.1nm,0.8s						
H29M	**Whitestone**	75.29	12	P	P	03 03 04.8	+0.3
	baz=337,SNR=7.7						
I27K	**Kandik River**	75.29	13	P	P	03 03 05.0	+0.4
	baz=334,SNR=5.7						
N16K	**Nishlik Lake**	75.40	23	P	P	03 03 05.1	-0.2
	baz=321						
EPYK	**Eagle Plains**	75.41	11	P	P	03 03 04.6	-0.6
	baz=338						
MCK	**McKinley**	75.41	17	P	P	03 03 04.8	-0.5
	baz=328						
J25K	**Salcha River,**	75.44	15	P	P	03 03 05.8	+0.3
J25K	**Salcha River,**	75.44	15	P	P	03 03 05.2	-0.3
	baz=331,SNR=6.1						
M18K	**Stony River**	75.48	21	P	P	03 03 05.6	0.0
	baz=323						
O14K	**Tigyukauivet M**	75.54	25	P	P	03 03 06.2	+0.1
	baz=320						
M19K	**Big River Lodg**	75.55	20	P	P	03 03 06.8	+0.7
	baz=324						
I28M	**Miner Creek**	75.73	12	P	P	03 03 07.5	+0.3
I28M	**Miner Creek**	75.73	12	P	P	03 03 07.0	-0.1
	baz=336,SNR=7.7						
N17K	**Nushagak Hills**	75.85	22	P	P	03 03 08.2	+0.4
	baz=322						
J26L	**Joseph Creek**	75.91	14	P	P	03 03 08.4	+0.3
J26L	**Joseph Creek**	75.91	14	P	P	03 03 07.7	-0.5
	baz=333,SNR=9.2						
K24K	**Donnelly Dome**	76.06	16	P	P	03 03 09.2	+0.2
	baz=331,SNR=6.7						
O15K	**Ungalikthiuk R**	76.07	24	P	P	03 03 09.3	+0.2
	baz=321						
I29M	**Ogilvie Camp,**	76.09	12	P	P	03 03 09.5	+0.4
	baz=337,SNR=7.8						
N18K	**Kilae Creek**	76.11	21	P	P	03 03 09.6	+0.3
	baz=323						
EGAK	**Eagle**	76.12	13	P	P	03 03 09.7	+0.5
	baz=334						
SKT	**Skwentna**	76.25	19	P	P	03 03 10.2	+0.1
	baz=327						
WAT1	**Susitna Watana**	76.28	17	P	P	03 03 10.7	+0.4
	baz=329						
SCRK	**Sand Creek**	76.29	15	P	P	03 03 11.4	+1.0
SCRK				IAmb	IAmb	03 03 11.8	
	comp=Z,6.8nm,1.0s						
SCRK	**Sand Creek**	76.29	15	P	P	03 03 10.9	+0.5
	baz=332,SNR=9.1						
O16K	**Kokwok River B**	76.30	23	P	P	03 03 11.4	+1.0
O16K	**Kokwok River B**	76.30	23	P	P	03 03 11.6	+1.2
	baz=322						
DHY	**Denali Highway**	76.34	17	P	P	03 03 11.5	+0.8
DHY	**Denali Highway**	76.34	17	P	P	03 03 11.4	+0.8
	baz=330,SNR=9.7						
N19K	**Bonanza Creek**	76.41	21	P	P	03 03 12.0	+0.9
N19K				IAmb	IAmb	03 03 13.0	
	comp=Z,13nm,1.4s						
N19K	**Bonanza Creek**	76.41	21	P	P	03 03 11.7	+0.6
	baz=324						
O17K	**Koliganek Bris**	76.47	22	P	P	03 03 12.2	+0.9
	baz=323						
I30M	**Mount Dempster**	76.53	11	P	P	03 03 12.1	+0.3
I30M				IAmb	IAmb	03 03 13.0	
	comp=Z,7.6nm,0.9s						
I30M	**Mount Dempster**	76.53	11	P	P	03 03 11.7	0.0
	baz=338,SNR=13						
K27K	**Chicken**	76.62	14	P	P	03 03 12.8	+0.7
	baz=334						
WAT6	**Susitna Watana**	76.68	17	P	P	03 03 13.3	+0.6
	baz=330						
P16K	**Nushagak River**	76.78	23	P	P	03 03 13.8	+0.8
	baz=322						
PAX	**Paxson**	76.86	16	P	P	03 03 13.7	+0.1
	baz=331,SNR=6.6						
SUA	**Susitna One**	76.89	19	P	P	03 03 14.4	+0.6
	baz=327						
O18K	**Koktuh Hills**	76.98	22	P	P	03 03 15.2	+1.1
	baz=324						
DAWY	**Dawson**	77.09	13	P	P	03 03 15.1	+0.4
	baz=336,SNR=7.0						
P17K	**Kvichak River**	77.14	23	P	P	03 03 15.9	+0.9
	baz=323						
J30M	**Hart River**	77.14	11	P	P	03 03 15.7	+0.5
J30M	**Hart River**	77.14	11	P	P	03 03 15.6	+0.5
	baz=338,SNR=7.1						
SML	**Sawmill**	77.21	18	P	P	03 03 15.3	-0.2
	baz=329						
BOSA	**Boshof**	77.31	220	P	P	03 03 15.3	-1.1
	comp=Z,3.8nm,1.1s,baz=25,slow=5.8,SNR=5.2						
	comp=Z,3.8nm,1.1s						
P18K	**Big Mountain,**	77.35	22	P	P	03 03 16.8	+0.6
	baz=324						
M23K	**Glacier View**	77.37	17	P	P	03 03 17.0	+0.7
	baz=330						
SCM	**Sheep Creek Mo**	77.43	17	P	P	03 03 17.1	+0.4
	baz=330						
HARP	**HAARP**	77.43	16	P	P	03 03 17.5	+0.9
	baz=332						
M24K	**Tolsona, Glenn**	77.46	17	P	P	03 03 18.0	+1.1
M24K	**Tolsona, Glenn**	77.46	17	P	P	03 03 17.5	+0.6
	baz=331						
RC01	**Rabbit Creek A**	77.47	19	P	P	03 03 17.0	+0.1
	baz=328						
Q16K	**King Salmon**	77.48	23	P	P	03 03 18.0	+1.0
	baz=323						
KNK	**Knik Glacier**	77.52	18	P	P	03 03 17.6	+0.4
	baz=329						
O20K	**Slope Mountain**	77.54	20	P	P	03 03 18.1	+0.7
	baz=326						
L27K	**Beaver Creek,**	77.54	14	P	P	03 03 18.1	+0.8
	baz=334						
K29M	**Barlow Dome**	77.62	12	P	P	03 03 18.8	+1.0
K29M	**Barlow Dome**	77.62	12	P	P	03 03 18.4	+0.6
	baz=338						
P19K	**Oil Pt**	77.72	21	P	P	03 03 19.0	+0.7
	baz=326						
M26K	**Nabesna, AK**	77.90	15	P	P	03 03 20.0	+0.7
	baz=333						
Q18K	**Katmai Hardscr**	78.02	22	P	P	03 03 20.2	+0.1
	baz=324						
PWL	**Port Wells**	78.02	18	P	P	03 03 20.0	+0.1
	baz=329						
KLU	**Klutina**	78.06	17	P	P	03 03 20.9	+0.7
	baz=331						
Q17K	**Contact Creek**	78.06	23	P	P	03 03 21.3	+1.1
	baz=324						
M27K	**Edge Creek, AK**	78.17	15	P	P	03 03 21.5	+0.6
	baz=334,SNR=10						
L29M	**L29M**	78.20	13	P	P	03 03 22.1	+1.1
L29M				IAmb	IAmb	03 03 22.8	
	comp=Z,7.4nm,1.2s						
L29M	**L29M**	78.20	13	P	P	03 03 20.7	-0.2
	baz=337,SNR=5.6						
N25K	**Chitina, Valde**	78.26	16	P	P	03 03 21.3	0.0
	baz=332						
GLI	**Glacier Island**	78.31	18	P	P	03 03 21.2	-0.3
	baz=330						
BRSE	**Bradley Lake S**	78.35	20	P	P	03 03 22.0	+0.2
	baz=328						
M29M	**Somme Creek**	78.75	13	P	P	03 03 25.2	+1.2
M29M	**Somme Creek**	78.75	13	P	P	03 03 24.5	+0.5
	baz=337						
CHGN	**Chignik**	78.80	25	P	P	03 03 25.1	+0.9
	baz=322						
MCARA	**McCarthy VSAT**	78.80	16	P	P	03 03 24.5	+0.3
	baz=333						
SDPT	**Sand Point**	78.81	27	P	P	03 03 25.0	+0.7
	baz=321						
BMRM	**Bremner River**	78.82	16	P	P	03 03 24.6	+0.3
	baz=332						
M30M	**Minto, Yukon**	78.92	12	P	P	03 03 24.7	-0.2
	baz=338						
YUK3	**Moose Creek**	78.98	14	P	P	03 03 25.2	-0.2
	baz=335						
KDAK	**Kodiak Island**	79.46	22	P	P	03 03 28.3	+0.5
	baz=326						
CTG	**Chitna Glacier**	79.54	15	P	P	03 03 28.6	+0.2
	baz=335						
M31M	**Drury Creek, Y**	79.67	11	P	P	03 03 29.4	+0.5
	baz=340						
OHAK	**Old Harbor**	79.72	22	P	P	03 03 29.8	+0.6
	baz=326						
YUK4	**Talbot Arm**	79.73	14	P	P	03 03 29.4	-0.1
	baz=337						
MMPY	**Sheldon Lake,**	79.75	10	P	P	03 03 30.1	+0.8
	baz=343						
FARO	**Faro, Yukon**	79.81	11	P	P	03 03 30.1	+0.4
	baz=341						
N30M	**Aishikik Lake**	79.91	13	P	P	03 03 31.1	+0.9
	baz=338						
O28M	**Mount Upton**	79.95	15	P	P	03 03 31.3	+0.5
	baz=336						
WRGLY	**Wrigley**	80.03	6	P	P	03 03 31.0	+0.3
	baz=349						
N31M	**Braeburn, Yuko**	80.12	12	P	P	03 03 31.4	+0.1
	baz=339						
YUK6	**Outpost Mounta**	80.16	14	P	P	03 03 32.2	+0.4
	baz=337						
PINM	**Pinnacle**	80.56	15	P	P	03 03 33.9	+0.2

YKA	**Yellowknife Ar**	**81.30**	**2**	*ce*P	**P**		**03 03 37.7**	**+0.3**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
P29M	**Windy Craggy**	**81.49**	**14**	P	**P**		**03 03 38.3**	**-0.3**
	baz=338							
P33M	**Teslin, Yukon**	**81.81**	**11**	P	**P**		**03 03 40.7**	**+0.4**
	baz=342							
SCHQ	**Schefferville**	**81.85**	**337**	P	**P**		**03 03 40.7**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=48,slow=12,SNR=1.4							
	comp=Z,1.8nm,0.7s							
PLBC	**Pleasant Camp**	**81.91**	**13**	P	**P**		**03 03 40.8**	**+0.1**
	baz=339							
P32M	**Atlin**	**82.26**	**12**	P	**P**		**03 03 42.5**	**-0.2**
	baz=341							
WRA	**Warramunga Arr**	**82.54**	**121**	P	**P**		**03 03 43.2**	**-1.4**
	comp=Z,1.9nm,0.6s,baz=322,slow=5.0,SNR=47							
	comp=Z,1.9nm,0.6s							
WRA	**Warramunga Arr**	**82.54**	**121**	*i* P	**P**		**03 03 44.0**	**-0.6**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
R33M	**Jennings River**	**82.88**	**11**	P	**P**		**03 03 46.1**	**+0.2**
	baz=343							
Q32M	**Nakina River**	**83.09**	**11**	P	**P**		**03 03 47.8**	**+0.7**
	baz=342							
S31K	**Pelican**	**83.34**	**14**	P	**P**		**03 03 48.9**	**+0.9**
	baz=339							
R32K	**Eaglecrest**	**83.36**	**13**	P	**P**		**03 03 49.7**	**+1.5**
	baz=340							
DLBC	**Dease Lake**	**83.94**	**11**	P	**P**		**03 03 52.3**	**+1.0**
	baz=344							
S32K	**Killisnoo**	**84.11**	**13**	P	**P**		**03 03 53.2**	**+1.2**
	baz=340							
S34M	**Telegraph Cree**	**84.27**	**11**	P	**P**		**03 03 52.7**	**-0.1**
	baz=343							
ASAR	**Alice Springs**	**84.79**	**124**	P	**P**		**03 03 54.6**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=311,slow=4.9,SNR=29							
	comp=Z,2.5nm,0.6s							
T35M	**Bob Quinn**	**85.31**	**11**	P	**P**		**03 03 58.7**	**+0.6**
	baz=344							
WRAK	**Wrangell Islan**	**85.50**	**12**	P	**P**		**03 03 59.5**	**+0.5**
	baz=342							
U33K	**Whale Pass**	**85.66**	**13**	P	**P**		**03 04 00.6**	**+0.8**
	baz=342							
CRAG	**Craig**	**86.27**	**13**	P	**P**		**03 04 03.3**	**+0.6**
	baz=342							
V35K	**Ketchikan**	**86.67**	**12**	P	**P**		**03 04 05.4**	**+0.7**
	baz=343							
PKME	**Peaks-Kenny Pk**	**90.78**	**333**	P	**P**		**03 04 25.0**	**+0.8**
	baz=32							
LBNH	**Lisbon**	**92.61**	**334**	P	**P**		**03 04 33.1**	**+0.3**
	baz=30							
LONY	**Lake Ozonia**	**93.20**	**336**	P	**P**		**03 04 35.8**	**+0.3**
	baz=28							
HRV	**Adam Dziewonsk**	**93.98**	**333**	P	**P**		**03 04 38.9**	**-0.1**
	baz=30							
QSPA	**South Pole Qui**	**126.28**	**180**	PKP	**PKPdf**		**03 10 21.3**	**-0.4**
	comp=Z,2.2nm,1.0s,baz=291,slow=2.3,SNR=4.2							

JMA ***19*** *03:53:12.6±0.2,43°.2N±0°.6×146°.0E±1°.0, h46km±1km, MV2.9/32, OFF NEMURO PENINSULA*
SKHL ***19*** *03:53:13.1±0.5,43°.30N×146°.00E, h33km±3km, mb4.1/3*
ISC 19 03:53:12.2±1.7, 43°.22N±0°.09×146°.00E±0°.06, h44km±13km, n11, σ0982/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.24**	**308**	P	**Pn**	**03 53 20.5**	**+0.3**
NEM2				S	**Sn**	**03 53 26.0**	**+0.2**
JKHN	**Kushirohamanak**	**0.63**	**258**	P	**Pn**	**03 53 25.1**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**0.82**	**353**	*e*P	**Pn**	**03 53 26.9**	**-0.4**
YUK				AMB	AMB	03 53 28.0	
	250nm,0.2s						
YUK				*e*S	**Sn**	**03 53 37.3**	**-1.0**
YUK				A	A	03 53 39.5	
	500nm,0.2s						
YUK				A	A	03 53 39.5	
	750nm,0.2s						
SHO	**Shikotan**	**0.89**	**43**	*e*P	**Pn**	**03 53 27.7**	**-0.5**
SHO				AMB	AMB	03 53 27.8	
	30nm,0.2s						
SHO				*e*S	**Sn**	**03 53 38.3**	**-1.6**
SHO				A	A	03 53 39.0	
	310nm,0.3s						
SHO				A	A	03 53 39.0	
	280nm,0.3s						
JNSB	**Nemuroshibetsu**	**0.91**	**308**	*i* P	**Pn**	**03 53 28.5**	**-0.1**
JRA	**Rausu**	**0.96**	**319**	*i* P	**Pn**	**03 53 29.5**	**+0.3**
JRA				S	**Sn**	**03 53 41.8**	**+0.1**
JAK	**Akkeshi**	**0.98**	**257**	P	**Pn**	**03 53 29.2**	**-0.2**
JAK				*e*S	**Sn**	**03 53 41.6**	**-0.6**
JNK	**Nakash**	**1.00**	**292**	*i* P	**Pn**	**03 53 29.5**	**-0.3**
JNK				S	**Sn**	**03 53 42.0**	**-0.7**
JAR	**Ashorobuto**	**1.63**	**273**	P	**Pn**	**03 53 38.8**	**+0.4**
JTKR	**Abashiri--Toko**	**1.69**	**297**	*i* P	**Pn**	**03 53 40.2**	**+1.0**
KUR	**Kuril'sk**	**2.42**	**33**	*e*P	**Pn**	**03 53 50.4**	**+1.2**
KUR				AMB	AMB	03 53 50.9	
	20nm,0.3s						
KUR				*e*S	**Sn**	**03 54 18.7**	**+1.2**
KUR				A	A	03 54 19.6	
	40nm,0.3s						
KUR				A	A	03 54 19.6	
	20nm,0.3s						

IDC 19 03:59:56.3±3.0, 55°.61N×86°.41E, h0km, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=26.6km s-min=21.7km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**210**	I	I	04 11 00.0	
	baz=24,slow=317,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.90**	**210**	Pn	Pn	04 00 28.8	-1.1
	4.0nm,0.3s,baz=32,slow=16,SNR=21						
ZALV				Lg	Lg	04 00 56.9	
	3.3nm,0.3s,baz=30,slow=26,SNR=6.5						
KURBB	**Kurchatov Arra**	**6.88**	**227**	Pn	Pn	04 01 38.5	+0.1
	0.1nm,0.3s,baz=46,slow=14,SNR=2.0						
KURBB				Sn	Sn	04 02 56.5	-0.9
	baz=37,slow=11,SNR=1.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**9.19**	**198**	Pn	Pn	04 02 10.0	-0.1
	0.1nm,0.3s,baz=14,slow=40,SNR=2.0						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**9.71**	**261**	Pn	Pn	04 02 16.6	-0.6
	baz=62,slow=15,SNR=2.4						
	0.7nm,0.4s						

IDC ***19*** *05:39:33.8±0.6, 3°.31N×74°.62W, h49km±4km, mb4.3/24, mbtmp4.6/28, MS3.9/49, Error ellipse: s-maj=11.0km s-min=7.1km az=91.0*
VAO ***19*** *05:39:33.6±0.2, 3°.46N×74°.60W, h48km±1km, mb4.9*
RSNC ***19*** *05:39:34.0±0.0, 3°.N±1°×7°.5W±°, h5km±2km, M5.1, mb5.5, mB5.7, ML4.6, Mw4.9, Mw(mB)5.3, MwMwp4.6, Mwp4.9*
NEIC ***19*** *05:39:34.6±1.7, 3°.43N±0°.04×74°.60W±0°.06, h48km±6km, mb5.1/609, Error ellipse: s-maj=8.8km s-min=5.7km az=69.0*
GCMT ***19*** *05:39:37.6±0.3, 3°.42N±0°.02×74°.61W±0°.02, h41km±1km, MW4.9/78, Moment Tensor Solution. s20,c23; s78,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.24±.19; $M_{\theta\theta}$0.69±.11; $M_{\phi\phi}$-1.93±.12; $M_{r\theta}$1.20±.07; $M_{\theta\phi}$1.43±.06; $M_{r\phi}$0.22±.08; Best double couple: $M_0$2.52900×10^{16} NP1:ϕ_s121.00000°, δ64.00000°, λ38.00000°. NP2: ϕ_s12.00000°, δ57.00000°, λ149.00000°. Principal axes: T 2.4760, Plg44.0000°, Azm339.0000°; N 0.1070, Plg45.0000°, Azm150.0000°; P -2.5820, Plg5.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 05:39:33.4±0.3, 3°.38N±0°.02×74°.65W±0°.03, h43km±2km, h43km: pP-P, n994, σ1921/836, mb5.1/315, MS3.8/44, 5C-14D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRAC	**Prado**	**0.41**	**325**	P	**Pn**	**05 39 42.7**	**-0.6**
PRAC				S	**Sn**	**05 39 49.3**	**-0.9**
ORTC	**Ortega, Tolima**	**0.80**	**312**	P	**Pn**	**05 39 48.4**	**+0.1**
ORTC				S	**Sn**	**05 39 59.6**	**+0.5**
BETC	**Betania**	**1.05**	**229**	P	**Pn**	**05 39 53.0**	**+1.2**
BETC				S	**Sn**	**05 40 07.2**	**+1.9**
VILC	**Villavicencio,**	**1.20**	**52**	P	**Pn**	**05 39 56.5**	**+2.6**
VILC				S	**Sn**	**05 40 13.7**	**+4.6**
CVER	**Cruz Verde, Cu**	**1.27**	**27**	P	**Pn**	**05 39 57.2**	**+2.0**
CVER				S	**Sn**	**05 40 15.1**	**+3.7**
ANIL	**Santa Ana**	**1.34**	**326**	P	**Pn**	**05 39 55.8**	**-0.2**
ANIL				S	**Sn**	**05 40 13.8**	**+1.1**
BOG	**Bogota**	**1.37**	**25**	P	**Pn**	**05 39 59.5**	**+3.1**
BOG				S	**Sn**	**05 40 19.8**	**+6.3**
GARC	**Garzon, Huila**	**1.45**	**216**	P	**Pn**	**05 39 59.1**	**+1.7**
GARC				S	**Sn**	**05 40 19.4**	**+4.0**
ROSC	**El Rosal**	**1.49**	**13**	Pn	**Pn**	**05 39 59.8**	**+1.6**
ROSC	**El Rosal**	**1.49**	**13**	P	**Pn**	**05 40 00.8**	**+2.7**
	28μm,0.4s,baz=257,slow=2.0,SNR=3236						
ROSC				S	**Sn**	**05 40 19.9**	**+3.3**
	32μm,0.4s,baz=180,slow=20,SNR=8.3						
ROSC	**El Rosal**	**1.49**	**13**	P	**Pn**	**05 39 59.6**	**+1.5**
ROSC				S	**Sn**	**05 40 21.2**	**+4.6**
CHIC	**Chingaza**	**1.55**	**36**	P	**Pn**	**05 40 01.2**	**+2.3**
CHIC				S	**Sn**	**05 40 21.5**	**+3.5**
RECRC	**Villamaria, Ca**	**1.73**	**336**	P	**Pn**	**05 40 01.7**	**+0.2**
RECRC				S	**Sn**	**05 40 26.7**	**+4.1**
YOTC	**Yotoco, Valle**	**1.80**	**290**	P	**Pn**	**05 40 02.5**	**+0.4**
YOTC				S	**Sn**	**05 40 24.2**	**+0.4**
NIZA	**Niza - Manizal**	**1.86**	**334**	P	**Pn**	**05 40 05.8**	**+2.7**
NIZA				S	**Sn**	**05 40 31.8**	**+6.2**
CMAN1	**Manizales, Cal**	**1.90**	**333**	P	**Pn**	**05 40 05.5**	**+1.9**
CMAN1				S	**Sn**	**05 40 30.7**	**+4.2**
JAMC	**Jamundi, Valle**	**2.03**	**266**	P	**Pn**	**05 40 07.1**	**+1.8**
JAMC				S	**Sn**	**05 40 33.8**	**+4.2**
GUVC	**San Jose del G**	**2.18**	**112**	P	**Pn**	**05 40 09.9**	**+2.7**
GUVC				S	**Sn**	**05 40 37.3**	**+4.2**
NORC	**Norcasia**	**2.19**	**354**	P	**Pn**	**05 40 07.3**	**-0.1**
NORC				S	**Sn**	**05 40 34.2**	**+1.0**
POPC	**Popayan, Colom**	**2.19**	**248**	P	**Pn**	**05 40 09.8**	**+2.2**
POPC				S	**Sn**	**05 40 38.6**	**+5.0**
PLMC	**San Jos del P**	**2.23**	**313**	P	**Pn**	**05 40 08.8**	**+0.8**
PLMC				S	**Sn**	**05 40 36.4**	**+2.1**
SPBC	**San Pablo de B**	**2.33**	**14**	P	**Pn**	**05 40 10.0**	**+0.6**
SPBC				S	**Sn**	**05 40 42.9**	**+5.9**
PTGC	**Puerto Gaitan,**	**2.64**	**72**	P	**Pn**	**05 40 15.9**	**+2.4**
PTGC				S	Sn	05 40 55.4	+11
MALC	**Bahia Malaga**	**2.75**	**283**	P	**Pn**	**05 40 17.9**	**+2.8**
MALC				S	**Sn**	**05 40 51.7**	**+4.5**
PIZC	**Pizarro, Choco**	**3.13**	**300**	P	**Pn**	**05 40 23.3**	**+3.0**
PIZC				S	**Sn**	**05 41 02.1**	**+5.6**
PTBC	**PUERTO BERRIO,**	**3.15**	**3**	P	**Pn**	**05 40 20.9**	**+0.3**
PTBC				S	**Sn**	**05 41 03.3**	**+6.3**
GR1C	**Gorgona, Isla**	**3.53**	**264**	P	**Pn**	**05 40 26.6**	**+0.8**
GR1C				S	**Sn**	**05 41 10.2**	**+3.8**
SOLC	**Bahia Solano**	**3.95**	**316**	P	**Pn**	**05 40 33.3**	**+1.8**
SOLC				S	Sn	05 41 26.4	+10
CMBC	**Cumbal**	**3.99**	**233**	P	**Pn**	**05 40 34.8**	**+2.3**
ZARC	**Zaragoza, Cauc**	**4.10**	**357**	P	**Pn**	**05 40 34.5**	**+0.9**
ZARC				S	**Sn**	**05 41 26.5**	**+6.2**
TULM	**Tulcn-Chalpat**	**4.10**	**230**		**Pn**	**05 40 36.8**	**+2.8**
TAMC	**Tame, Arauca**	**4.17**	**43**	P	**Pn**	**05 40 37.0**	**+2.4**
TUMC	**Tumaco**	**4.36**	**249**	Pn	**Pn**	**05 40 37.0**	**-0.2**
TUMC	**Tumaco**	**4.36**	**249**	P	**Pn**	**05 40 39.8**	**+2.7**
PAMC	**Pamplona, Colo**	**4.39**	**26**	P	**Pn**	**05 40 39.2**	**+1.2**
UREC	**San Jos de Ur**	**4.44**	**349**	P	**Pn**	**05 40 38.9**	**+0.6**
IMBA	**Imbabura, San**	**4.70**	**229**		**Pn**	**05 40 44.8**	**+2.5**
CUSE	**Cuicocha Este**	**4.83**	**231**	P	Pn	05 40 49.9	+5.8
APAC	**Apartado, Choc**	**4.89**	**337**	P	**Pn**	**05 40 46.9**	**+2.4**
PTAC	**Punta Ardita,**	**4.89**	**320**	P	**Pn**	**05 40 45.1**	**+0.6**
OTAV	**Otavalo**	**4.92**	**231**		**Pn**	**05 40 48.3**	**+3.1**
OCAC	**Ocana**	**5.01**	**15**	P	**Pn**	**05 40 46.3**	**0.0**
PULU	**Pululahua**	**5.09**	**229**		**Pn**	**05 40 49.4**	**+1.8**
PAC1	**Pacto, Paraso**	**5.17**	**233**	P	**Pn**	**05 40 51.1**	**+2.7**
ANTS	**Antisana-Sarah**	**5.21**	**223**		**Pn**	**05 40 51.2**	**+1.8**
SLOR	**San Lorenzo -**	**5.61**	**223**		**Pn**	**05 40 58.2**	**+3.5**
CAPC	**Capurgana**	**5.88**	**333**	P	**Pn**	**05 40 58.5**	**+0.5**
	561nm,1.0s,7μm						
ARGC	**Ariguani, Magd**	**6.45**	**4**	P	**Pn**	**05 41 07.0**	**+1.0**
	334nm,0.6s,5μm2μm						
SJCC	**San Jacinto, C**	**6.50**	**355**	P	**Pn**	**05 41 05.8**	**-0.9**
	400nm,0.7s,5μm						
SDV	**Santo Domingo**	**6.78**	**36**	Pn	**Pn**	**05 41 08.8**	**-1.7**
SDV	**Santo Domingo**	**6.78**	**36**	P	**Pn**	**05 41 11.0**	**+0.4**
	556nm,0.4s,baz=228,slow=6.2,SNR=189						
SDV				S	**Sn**	**05 42 25.8**	**-0.8**
	707nm,0.6s,baz=358,slow=15,SNR=8.6						
SDV	**Santo Domingo**	**6.78**	**36**	P	**Pn**	**05 41 10.9**	**+0.4**
SDV	**Santo Domingo**	**6.78**	**36**	*e*P	**Pn**	**05 41 10.5**	**-0.1**
SDV				*e*S	**Sn**	**05 42 26.2**	**-0.4**
AZU	**Azuero**	**7.11**	**308**	P	**Pn**	**05 41 15.3**	**+0.3**
	94nm,0.6s						
BCIP	**Isla Barro Col**	**7.73**	**318**	Pn	**Pn**	**05 41 24.2**	**+0.8**
CRJC	**Cerrejon, Guaj**	**7.79**	**13**	P	**Pn**	**05 41 24.8**	**+0.3**
	205nm,0.6s,6μm						
GMAL	**Guarumal, Vera**	**7.87**	**304**	P	**Pn**	**05 41 26.7**	**+1.3**
BAUV	**El Baul**	**8.59**	**50**	Pn	**Pn**	**05 41 35.2**	**0.0**
TBTG	**Tabatinga, AM**	**8.88**	**148**		**Pn**	**05 41 40.2**	**+0.9**
TBTG	**Tabatinga, AM**	**8.88**	**148**	*e*P	**Pn**	**05 41 39.9**	**+0.6**
BRU2	**Volcan**	**9.64**	**304**	Pn	**Pn**	**05 41 50.6**	**+0.8**
AUA1	**Aruba**	**10.17**	**27**		**Pn**	**05 41 57.3**	**+0.4**
HATO	**Hato, Curacao**	**10.40**	**32**	Pn	**Pn**	**05 41 58.8**	**-1.4**
ATAH	**Atahualpa**	**11.09**	**200**	P	**Pn**	**05 42 11.0**	**+1.1**
	20nm,0.9s,baz=35,slow=8.8,SNR=11						
ATAH				LR	LR	05 47 28.2	
	comp=Z,2μm,19.7s,baz=24,slow=43						
CZSB	**Cruzeiro do Su**	**11.20**	**170**		**Pn**	**05 42 11.3**	**+0.2**
CZSB	**Cruzeiro do Su**	**11.20**	**170**	*e*P	**Pn**	**05 42 11.3**	**+0.2**
CZSB				*e*S	**Sn**	**05 44 16.0**	**+1.0**
LCR2	**La Lucha 2**	**11.24**	**305**	Pn	**Pn**	**05 42 11.8**	**0.0**
HDC	**Heredia**	**11.47**	**305**	Pn	**Pn**	**05 42 14.6**	**-0.4**
HDC	**Heredia**	**11.47**	**305**	*e*P	**Pn**	**05 42 15.7**	**+0.8**
HDC				*e*S	**Sn**	**05 44 23.5**	**+1.6**
PRVC	**Isla de Provid**	**11.95**	**327**	Pn	**Pn**	**05 42 20.3**	**-1.0**
PCRV	**Puerto La Cruz**	**12.02**	**55**	P	**Pn**	**05 42 21.8**	**-0.5**
	35nm,0.4s,baz=214,slow=7.9,SNR=40						
PCRV				S	**Sn**	**05 44 32.4**	**-2.7**
	77nm,0.6s,baz=307,slow=20,SNR=1.7						
PCRV				LR	LR	05 48 00.8	
	comp=Z,2μm,18.9s,slow=42						
SOCE	**Pocosol**	**12.10**	**306**	Pn	**Pn**	**05 42 23.7**	**+0.4**
TEFE	**Tefe**	**12.12**	**124**	*e*P	**Pn**	**05 42 23.6**	**0.0**
JTS	**Las Juntas de**	**12.32**	**304**		**Pn**	**05 42 27.3**	**+1.0**
JTS	**Las Juntas de**	**12.32**	**304**	P	**Pn**	**05 42 28.9**	**+2.5**
	9.6nm,0.9s,baz=259,slow=10,SNR=2.2						
JTS				LR	LR	05 47 15.9	
	comp=Z,862nm,20.5s,baz=121,slow=37						
ESPN	**Las Esperanzas**	**12.96**	**313**		**Pn**	**05 42 35.8**	**+0.6**
ACON	**Acoyapa**	**13.47**	**310**		**Pn**	**05 42 42.6**	**+0.5**
BOAV	**Boa Vista**	**14.14**	**94**	Pn	**Pn**	**05 42 49.3**	**-1.9**
BOAV	**Boa Vista**	**14.14**	**94**	*e*P	**Pn**	**05 42 47.9**	**-3.3**
MTDJ	**Mount Denham**	**15.03**	**349**	Pn	**Pn**	**05 43 03.9**	**+0.7**
MTDJ	**Mount Denham**	**15.03**	**349**	*e*P	**Pn**	**05 43 02.6**	**-0.5**
PAPH	**Port-au-Prince**	**15.23**	**9**	Pn	**Pn**	**05 43 05.6**	**0.0**
PAPH				IAmb	IAmb	05 43 20.8	
	comp=Z,91nm,0.8s						
MACA	**Manacapuru-AM**	**15.39**	**115**		**Pn**	**05 43 05.4**	**-2.4**
MACA				IAmb	IAmb	05 43 34.2	
	comp=Z,58nm,0.6s						
MACA	**Manacapuru-AM**	**15.39**	**115**	*e*P	**Pn**	**05 43 04.2**	**-3.6**
NNA	**Nana**	**15.42**	**188**	Pn	**Pn**	**05 43 09.0**	**+0.9**
NNA				IAmb	IAmb	05 43 34.6	
	comp=Z,125nm,1.5s						
NNA	**Nana**	**15.42**	**188**	P	**Pn**	**05 43 09.4**	**+1.2**
	comp=Z,2.2nm,0.4s,baz=332,slow=15,SNR=1.5						
NNA				S	**Sn**	**05 45 59.4**	**+1.5**
	comp=Z,9.3nm,0.6s,baz=336,slow=20,SNR=1.9						
NNA				LR	LR	05 50 29.1	
	comp=Z,2μm,18.1s,baz=351,slow=43						
ETMB	**Extrema**	**15.57**	**147**		**Pn**	**05 43 09.4**	**-0.7**
ETMB				IAmb	IAmb	05 43 26.4	
	comp=Z,90nm,0.8s						
ETMB	**Extrema**	**15.57**	**147**	*e*P	**Pn**	**05 43 07.8**	**-2.3**
ETMB				*e*pP	**pP**	**05 43 25.2**	**+0.9**
ETMB				*e*S	S	**05 46 15.7**	**+0.2**
SDDR	**Presa de Saban**	**15.86**	**12**		**Pn**	**05 43 14.1**	**+0.3**
SDDR				IAmb	IAmb	05 43 18.5	
	comp=Z,101nm,0.7s						
SDDR	**Presa de Saban**	**15.86**	**12**	*e*P	**Pn**	**05 43 13.5**	**-0.3**
MLPR	**Magueyes Islan**	**16.31**	**27**	Pn	**Pn**	**05 43 17.0**	**-2.4**
CRPR	**Cabo Rojo, PR**	**16.31**	**26**	Pn	**Pn**	**05 43 17.7**	**-1.8**
TGUH	**Tegucigalpa,Un**	**16.37**	**311**		**Pn**	**05 43 21.0**	**+0.6**
SC01	**Santiago de lo**	**16.41**	**13**	Pn	**Pn**	**05 43 18.5**	**-2.3**
SC01				IAmb	IAmb	05 43 40.8	
	comp=Z,321nm,1.2s						
GTBY	**Guantanamo Bay**	**16.46**	**358**		**Pn**	**05 43 21.2**	**-0.1**
GTBY				IAmb	IAmb	05 43 27.0	
	comp=Z,177nm,0.7s						
GTBY	**Guantanamo Bay**	**16.46**	**358**	*e*P	**P**	**05 43 24.2**	**+0.7**
GTBY				IAmb	IAmb	05 43 27.2	
	comp=Z,91nm,0.6s						
PRSN	**Puerto Rico Se**	**16.48**	**26**		**Pn**	**05 43 18.0**	**-3.7**
RCC	**Rio Carpintero**	**16.55**	**357**	*e*P	**Pn**	**05 43 22.2**	**-0.3**
RCC				IAmb	IAmb	05 43 24.6	
	comp=Z,53nm,1.2s						
MARVS	**Santiago de Cu**	**16.57**	**356**	*e*P	**P**	**05 43 24.5**	**-0.2**
OBIP	**Obispado Ponce**	**16.57**	**28**		**Pn**	**05 43 20.6**	**-2.2**
CHIV	**Chivirico**	**16.59**	**354**	P	**Pn**	**05 43 23.7**	**+0.7**
CHIV				IAmb	IAmb	05 43 26.6	
	comp=Z,146nm,1.5s						
CELP	**Cerrillos**	**16.61**	**28**		**Pn**	**05 43 20.3**	**-3.0**
UUPR	**Utuado, UPR, P**	**16.70**	**27**		**Pn**	**05 43 22.2**	**-2.3**
MASC	**Masc**	**16.70**	**1**	*e*P	**Pn**	**05 43 24.9**	**+0.5**
MASC				IAmb	IAmb	05 43 29.5	
	comp=Z,96nm,0.9s						
QMBU	**Quimbuelo**	**16.72**	**359**	*e*P	**Pn**	**05 43 24.3**	**-0.4**
QMBU				IAmb	IAmb	05 43 25.8	
	comp=Z,36nm,0.8s						
IGPR	**InterUniversit**	**16.74**	**29**		**Pn**	**05 43 21.0**	**-3.9**
LMGC	**Las Mercedes**	**16.75**	**352**	*e*P	**Pn**	**05 43 23.8**	**-1.2**
LMGC				IAmb	IAmb	05 43 29.5	
	comp=Z,339nm,1.8s						
SAML	**Samuel**	**16.75**	**137**		**Pn**	**05 43 24.6**	**-0.5**
AOPR	**Arecibo Observ**	**16.77**	**27**		**Pn**	**05 43 23.8**	**-1.5**
AOPR				IAmb	IAmb	05 43 47.5	
	comp=Z,62nm,0.7s						
SJG	**San Juan**	**16.85**	**29**		**Pn**	**05 43 24.2**	**-2.1**
SJG	**San Juan**	**16.85**	**29**	P	**Pn**	**05 43 23.5**	**-2.8**
	comp=Z,20nm,0.3s,baz=204,slow=16,SNR=13						
SJG				S	**Sn**	**05 46 34.2**	**+1.7**
	comp=Z,19nm,0.3s,baz=333,slow=19,SNR=14						
SJG				LR	LR	05 50 42.4	
	comp=Z,776nm,21.0s,baz=193,slow=40						
HUMP	**Col San Antoni**	**17.02**	**30**	P	**Pn**	**05 43 26.9**	**-1.5**
GCPR	**Guaynabo City**	**17.05**	**29**	P	**Pn**	**05 43 27.0**	**-1.7**
NMDO	**Nuevo Mundo**	**17.08**	**359**	P	**Pn**	**05 43 29.5**	**+0.3**
NMDO				IAmb	IAmb	05 43 36.0	
	comp=Z,45nm,0.7s						
MOAC	**Moa**	**17.18**	**359**	*e*P	**P**	**05 43 32.0**	**+0.4**
BIM	**Bigot**	**17.38**	**50**	P	**Pn**	**05 43 32.0**	**-0.9**
BIM				IAmb	IAmb	05 43 53.3	
	comp=Z,116nm,0.8s						
FDF	**Fort de France**	**17.45**	**49**	P	**Pn**	**05 43 33.5**	**-0.3**
FDF				IAmb	IAmb	05 43 43.4	
	comp=Z,91nm,0.8s						
HLGC	**Holguin**	**17.46**	**356**	*e*P	**P**	**05 43 37.8**	**+3.0**
MPOM	**Morne Pois Mar**	**17.49**	**50**	P	**P**	**05 43 34.7**	**-0.4**
MPOM				IAmb	IAmb	05 43 54.4	
	comp=Z,113nm,1.0s						
SVN	**Savane Anatole**	**17.50**	**49**	P	**P**	**05 43 34.6**	**-0.6**
SVN				IAmb	IAmb	05 43 50.4	
	comp=Z,183nm,0.9s						
GDHS	**Morne Mazeau,**	**18.02**	**44**	P	**Pn**	**05 43 37.8**	**-3.1**
GDHS				IAmb	IAmb	05 44 04.9	
	comp=Z,108nm,1.0s						
MTO3	**Montecristo**	**18.18**	**308**	P	**P**	**05 43 41.8**	**-1.1**
GRTK	**Grand Turk**	**18.35**	**10**	P	**P**	**05 43 43.0**	**-1.5**
GRTK				IAmb	IAmb	05 43 56.5	
	comp=Z,80nm,0.8s						
MGV	**Manicaragua**	**19.33**	**345**	*e*P	**P**	**05 43 55.7**	**+0.5**
PETF	**Flores**	**20.11**	**313**	P	**P**	**05 44 04.2**	**+0.4**
PETF				IAmb	IAmb	05 44 06.4	
	comp=Z,90nm,1.0s						
RTAL	**Retalhuleu**	**20.13**	**304**	P	**P**	**05 44 04.3**	**+0.2**
RTAL				IAmb	IAmb	05 44 06.5	
	comp=Z,122nm,0.9s						
ITTB	**Itaituba**	**20.40**	**112**	*e*P	**P**	**05 44 07.4**	**+0.4**
LPAZ	**La Paz**	**20.57**	**162**	P	**P**	**05 44 08.6**	**-0.8**
LPAZ	**La Paz**	**20.57**	**162**	P	**P**	**05 44 09.4**	**0.0**
	comp=Z,0.3nm,0.4s,baz=343,slow=14,SNR=1.6						
LPAZ				LR	LR	05 52 39.1	
	comp=Z,673nm,18.8s,baz=327,slow=38						
LPAZ	**La Paz**	**20.57**	**162**	*e*P	**P**	**05 44 09.6**	**+0.2**
LPAZ				*e*S	**S**	**05 47 57.4**	**-0.2**
CAMR	**Camarioca**	**20.62**	**342

SMTB *ep*P **pP** **05 45 46.2 -0.5**
MURT Porto Murtinho 29.95 147 *e*P **P** **05 45 37.2 -0.5**
MURT *ep*P **pP** **05 45 49.3 -0.5**
BRAL Brewton 30.02 338 P **P** **05 45 38.4 +0.1**
BRAL Brewton 30.02 338 P **P** **05 45 40.1 +1.8**
baz=155,SNR=5.3
NHSC New Hope 30.03 351 P **P** **05 45 40.9 +2.6**
baz=169
AQDB Aquidauana 30.13 143 P **P** **05 45 38.9 -0.4**
AQDB Aquidauana 30.13 143 *e*P **P** **05 45 39.3 0.0**
AQDB *ep*P **pP** **05 45 51.5 +0.1**
152A Waverly Hall 30.63 343 P **P** **05 45 43.4 -0.3**
152A IAmb IAmb 05 45 45.6
comp=Z,31nm,0.7s
GOGA Godfrey 31.00 346 P **P** **05 45 47.4 +0.6**
GOGA IAmb IAmb 05 45 49.1
comp=Z,35nm,1.1s
GOGA Godfrey 31.00 346 P **P** **05 45 48.4 +1.5**
baz=163,SNR=12
JSC Jenkinsville 31.36 349 IAmb IAmb 05 45 52.3
comp=Z,37nm,1.1s
HODGE Hodges 31.51 348 IAmb IAmb 05 45 53.8
comp=Z,39nm,1.2s
BIRD Birdtown, Kers 31.58 351 IAmb IAmb 05 45 55.0
comp=Z,57nm,1.4s
Y52A Lilburn 31.58 345 IAmb IAmb 05 45 53.9
comp=Z,21nm,0.7s
LRAL Lakeview Retre 31.69 340 P **P** **05 45 53.8 +0.8**
LRAL IAmb IAmb 05 45 55.2
comp=Z,46nm,0.9s
LRAL Lakeview Retre 31.69 340 P **P** **05 45 54.3 +1.3**
baz=156,SNR=24
KMSC Kings Mountain 32.21 350 P **P** **05 45 57.8 +0.3**
KMSC IAmb IAmb 05 45 59.9
comp=Z,32nm,1.2s
KMSC Kings Mountain 32.21 350 P **P** **05 45 58.9 +1.4**
baz=167,SNR=6.9
Y49A Blount Mountai 32.25 341 P **P** **05 45 57.6 -0.3**
VBMS Vicksburg 32.33 334 P **P** **05 45 58.9 +0.2**
VBMS IAmb IAmb 05 45 59.8
comp=Z,26nm,0.6s
VBMS Vicksburg 32.33 334 P **P** **05 45 59.4 +0.8**
baz=149
BG3 Lake Jocassee 32.39 347 P **P** **05 45 59.6 +0.5**
BDFB Brasilia 32.43 126 P **P** **05 46 00.3 +0.5**
comp=Z,3.1nm,0.9s,baz=238,slow=12,SNR=3.7
BDFB LR LR 05 59 38.0
comp=Z,784nm,18.2s,baz=313,slow=37
comp=Z,3.1nm,0.9s
X51A Calhoun 32.45 344 IAmb IAmb 05 46 01.8
comp=Z,19nm,1.0s
V58A Windy Hill, Pi 32.52 353 IAmb IAmb 05 46 01.6
comp=Z,20nm,0.7s
FPAL Fort Paine 32.64 343 P **P** **05 46 02.1 +0.8**
W52A Murphy 32.71 346 IAmb IAmb 05 46 04.5
comp=Z,34nm,0.8s
V55A Taylorsville 32.88 350 IAmb IAmb 05 46 06.2
comp=Z,31nm,1.1s
HBVL Hebbronville 32.91 318 IAmb IAmb 05 46 05.0
comp=Z,50nm,1.4s
X48A Hartselle 33.00 341 IAmb IAmb 05 46 06.3
comp=Z,41nm,0.8s
V53A Saluda 33.01 348 IAmb IAmb 05 46 06.7
comp=Z,20nm,0.7s
143A Socs Landing, 33.13 334 IAmb IAmb 05 46 08.4
comp=Z,19nm,1.0s
HKT Hockley 33.18 325 P **P** **05 46 06.1 +0.1**
HKT IAmb IAmb 05 46 07.3
comp=Z,21nm,1.0s
HKT Hockley 33.18 325 P **P** **05 46 06.1 +0.1**
CPCT Cooper Cave 33.20 345 IAmb IAmb 05 46 08.2
comp=Z,20nm,0.7s
TKL Tuckaleechee C 33.22 346 IAmb IAmb 05 46 08.5
comp=Z,27nm,1.3s
TKL Tuckaleechee C 33.22 346 LR LR 06 00 49.7
comp=Z,89nm,19.8s,baz=154,slow=38
U56A King 33.23 352 IAmb IAmb 05 46 09.4
comp=Z,56nm,1.5s
V52A Sevierville 33.35 347 P **P** **05 46 07.9 +0.4**
V52A IAmb IAmb 05 46 09.8
comp=Z,24nm,0.7s
SWET Sewanee 33.37 343 IAmb IAmb 05 46 09.2
comp=Z,23nm,0.9s
SDBA SAO DESIDERIO 33.46 118 *e*P **P** **05 46 08.6 -0.2**
735A Kenedy 33.57 321 IAmb IAmb 05 46 10.6
comp=Z,26nm,0.9s
IPMB Ipameri, GO 33.61 130 *e*P **P** **05 46 09.5 -0.6**
T57A Hurt 33.73 353 IAmb IAmb 05 46 12.7
comp=Z,50nm,1.2s
TRCB Terra Rica 33.74 141 *e*P **P** **05 46 11.3 +0.2**
PCMB Pacaembu 33.77 138 *e*P **P** **05 46 11.2 -0.2**
MLDN Muldoon 33.78 323 P **P** **05 46 11.8 +0.4**
MLDN IAmb IAmb 05 46 13.4
comp=Z,46nm,1.1s
PLAL Pickwick Lake 33.83 340 P **P** **05 46 11.7 0.0**
PLAL IAmb IAmb 05 46 13.3
comp=Z,46nm,1.2s
OXF Oxford 33.89 338 IAmb IAmb 05 46 13.0
comp=Z,21nm,0.8s
OXF Oxford 33.89 338 P **P** **05 46 12.0 -0.2**
baz=153,SNR=6.6
NATX Nacogdoches 33.94 329 P **P** **05 46 12.4 -0.2**
NATX Nacogdoches 33.94 329 P **P** **05 46 13.1 +0.5**
baz=142
CPUP Villa Florida 33.95 151 P **P** **05 46 13.4 +0.5**
comp=Z,0.6nm,0.5s,baz=341,slow=13,SNR=1.8
CPUP LR LR 06 01 17.1
comp=Z,372nm,18.1s,baz=3.5,slow=38
comp=Z,0.6nm,0.5s
CPUP Villa Florida 33.95 151 *e*P **P** **05 46 12.8 0.0**
TZTN Tazewell 34.01 347 IAmb IAmb 05 46 15.6
comp=Z,29nm,1.1s
TZTN Tazewell 34.01 347 P **P** **05 46 14.6 +1.4**
baz=164,SNR=9.2
BLA Blacksburg 34.09 352 IAmb IAmb 05 46 16.7
comp=Z,42nm,1.1s
BLA Blacksburg 34.09 352 P **P** **05 46 15.5 +1.6**
baz=170,SNR=7.9
833A Chaparral WMA, 34.22 319 P **P** **05 46 14.6 -0.6**
833A Chaparral WMA, 34.22 319 P **P** **05 46 14.6 -0.6**
baz=132,SNR=15
CLTN Cedars of Leba 34.30 343 IAmb IAmb 05 46 17.3
comp=Z,22nm,0.8s
S57A Dark Hollow, R 34.45 354 IAmb IAmb 05 46 19.1
comp=Z,21nm,0.8s
U49A Red Boiling Sp 34.54 344 P **P** **05 46 18.6 +0.9**
R58B Mineral 34.55 355 IAmb IAmb 05 46 20.2
comp=Z,23nm,1.4s
CBN Corbin Frederi 34.76 356 P **P** **05 46 20.5 +0.9**
baz=175
T50A Nancy 34.77 346 P **P** **05 46 20.7 +0.9**
T50A IAmb IAmb 05 46 22.0
comp=Z,44nm,1.4s
WVT Waverly 34.79 341 P **P** **05 46 20.2 +0.1**
WVT Waverly 34.79 341 P **P** **05 46 20.1 +0.1**
baz=156
WVT Waverly 34.79 341 P **P** **05 46 20.2 +0.1**
WVT *p*P **sP** **05 46 36.1 -1.6**
435B Jarrell 34.81 324 P **P** **05 46 20.0 -0.3**
baz=137
HNDO Hondo 34.96 321 P **P** **05 46 21.7 +0.1**
HNDO IAmb IAmb 05 46 22.2
comp=Z,31nm,0.8s
S51A Beattyville 35.07 348 IAmb IAmb 05 46 24.7
comp=Z,36nm,1.1s
LDASE Londrina, Braz 35.13 140 *e*P **P** **05 46 23.1 0.0**
JANB Januaria 35.19 122 *e*P **P** **05 46 23.0 -0.8**
X40A Basin Creek Fa 35.28 333 P **P** **05 46 23.5 -0.7**
X40A IAmb IAmb 05 46 24.1
comp=Z,15nm,0.8s
BB19B Bebedouro 35.29 135 *e*P **P** **05 46 24.1 -0.4**
PMNB Patos De Minas 35.30 129 *e*P **P** **05 46 24.0 -0.7**
UALR University of 35.30 334 P **P** **05 46 24.3 -0.2**
UALR IAmb IAmb 05 46 25.7
comp=Z,18nm,0.8s
T47A Sharon Grove 35.36 343 P **P** **05 46 25.7 +0.9**
PEBM Pemiscott Bayo 35.48 339 P **P** **05 46 25.6 -0.2**
PTGB Pitanga 35.52 143 *e*P **P** **05 46 26.6 +0.1**
WHTX Lake Whitney, 35.63 326 P **P** **05 46 26.9 -0.4**
WHTX Lake Whitney, 35.63 326 P **P** **05 46 27.2 -0.1**
baz=138,SNR=7.0
MIAR Mount Ida 35.66 333 P **P** **05 46 26.4 -1.1**
MIAR IAmb IAmb 05 46 27.5
comp=Z,12nm,0.8s
MIAR Mount Ida 35.66 333 P **P** **05 46 26.6 -0.9**
baz=146,SNR=9.3

WHAR Wooly Hollow 35.72 335 P **P** **05 46 27.4 -0.6**
WHAR IAmb IAmb 05 46 27.9
comp=Z,10.0nm,0.7s
Q56A Snyder Ridge, 35.74 354 IAmb IAmb 05 46 31.2
comp=Z,26nm,1.1s
DRIO Del Rio 35.75 319 P **P** **05 46 28.1 -0.3**
DRIO IAmb IAmb 05 46 29.2
comp=Z,16nm,0.9s
FW14 Alvarado 35.79 326 P **P** **05 46 28.6 0.0**
R50A Paris 35.85 347 P **P** **05 46 29.7 +0.6**
R50A IAmb IAmb 05 46 31.4
comp=Z,30nm,0.9s
Q54A Coxs Mills 35.89 352 IAmb IAmb 05 46 32.0
comp=Z,34nm,1.1s
LCAR Lake Charles 35.93 337 P **P** **05 46 29.6 -0.2**
LCAR IAmb IAmb 05 46 31.2
comp=Z,35nm,1.2s
JCT Junction City 35.94 321 P **P** **05 46 29.5 -0.6**
JCT Junction City 35.94 321 P **P** **05 46 29.5 -0.6**
baz=134
SSFO Shawnee State 36.01 349 P **P** **05 46 31.8 +1.4**
BRDY Brady 36.02 323 P **P** **05 46 30.1 -0.5**
BRDY IAmb IAmb 05 46 30.6
comp=Z,16nm,0.7s
R49A Shelbyville 36.06 346 IAmb IAmb 05 46 32.2
comp=Z,16nm,0.8s
P57A Homestead Farm 36.07 356 IAmb IAmb 05 46 34.2
comp=Z,38nm,1.3s
Q52A Bidwell 36.09 350 IAmb IAmb 05 46 33.6
comp=Z,42nm,1.1s
FRTB Fartura 36.10 139 *e*P **P** **05 46 31.0 -0.5**
FRTB *ep*P **pP** **05 46 43.5 -0.1**
FCAR Ozark Folk Cen 36.16 336 P **P** **05 46 30.6 -1.1**
FCAR IAmb IAmb 05 46 32.0
comp=Z,28nm,1.2s
WCI Wyandotte Cave 36.29 344 P **P** **05 46 33.1 +0.3**
WCI Wyandotte Cave 36.29 344 P **P** **05 46 33.6 +0.8**
baz=160
WCI Wyandotte Cave 36.29 344 P **P** **05 46 33.3 +0.5**
WCI *p*P **sP** **05 46 49.1 -1.3**
FW07 Weatherford 36.35 326 IAmb IAmb 05 46 34.4
comp=Z,35nm,0.9s
MCWV Mont Chateau 36.42 353 IAmb IAmb 05 46 36.8
comp=Z,41nm,1.3s
MCWV Mont Chateau 36.42 353 P **P** **05 46 35.4 +1.4**
baz=171,SNR=5.2
MVL Millersville 36.49 358 IAmb IAmb 05 46 37.8
comp=Z,24nm,1.3s
X37A Clayton 36.55 331 IAmb IAmb 05 46 35.9
comp=Z,28nm,0.8s
CRSM Crissiumal (Br 36.56 148 *e*P **P** **05 46 35.3 0.0**
CRSM *ep*P **pP** **05 46 45.9 -1.5**
P52A Corning 36.73 350 IAmb IAmb 05 46 38.9
comp=Z,29nm,0.8s
P52A Corning 36.73 350 P **P** **05 46 37.6 +1.1**
baz=167,SNR=11
T42A Van Buren 36.75 338 IAmb IAmb 05 46 37.1
comp=Z,19nm,0.9s
O54A Avella 37.01 353 IAmb IAmb 05 46 42.2
comp=Z,24nm,1.1s
LUPA Lehigh Univers 37.06 359 IAmb IAmb 05 46 42.3
comp=Z,32nm,1.1s
NBCL Cascavel-CE 37.11 101 *e*P **P** **05 46 40.3 +0.1**
NBCL *ep*P **pP** **05 46 51.8 -0.5**
ITQB Itaqui 37.12 153 *e*P **P** **05 46 39.8 -0.1**
P49A Miami Univ. Ec 37.14 347 IAmb IAmb 05 46 41.4
comp=Z,27nm,0.7s
P49A Miami Univ. Ec 37.14 347 P **P** **05 46 40.3 +0.3**
baz=163,SNR=12
O52A Adamsville 37.15 351 IAmb IAmb 05 46 42.6
comp=Z,47nm,1.2s
O53A New Philadelph 37.19 352 IAmb IAmb 05 46 43.0
comp=Z,36nm,1.0s
O53A New Philadelph 37.19 352 P **P** **05 46 41.8 +1.3**
baz=169,SNR=10
SSPA Standing Stone 37.21 356 P **P** **05 46 41.4 +0.7**
SSPA IAmb IAmb 05 46 42.9
comp=Z,16nm,0.8s
SSPA Standing Stone 37.21 356 P **P** **05 46 42.2 +1.6**
baz=175
SSPA Standing Stone 37.21 356 P **P** **05 46 42.1 +1.6**
SSPA *p*P **sP** **05 46 58.5 -0.1**
P48A Milroy 37.23 346 P **P** **05 46 41.0 +0.2**
OLIL Olney 37.27 343 P **P** **05 46 41.5 +0.3**
HHAR Hobbs 37.27 334 P **P** **05 46 40.7 -0.5**
MGMO Mountain Grove 37.31 336 P **P** **05 46 41.0 -0.6**
MGMO IAmb IAmb 05 46 43.0
comp=Z,21nm,1.0s
N58A Sunbury 37.34 357 IAmb IAmb 05 46 44.3
comp=Z,18nm,1.2s
DIAM Diamantina, MG 37.35 126 *e*P **P** **05 46 42.1 -0.2**
DIAM *ep*P **pP** **05 46 54.3 0.0**
ABTX Abilene, Hawle 37.35 324 P **P** **05 46 42.1 +0.1**
baz=136,SNR=20
ACSO Alum Creek Sta 37.46 349 P **P** **05 46 43.8 +1.0**
baz=166,SNR=7.7
PAL Palisades 37.47 1 P **P** **05 46 43.6 +0.8**
baz=181
U38A Gravette 37.60 333 P **P** **05 46 43.0 -1.0**
TRNY Table Rock, Ra 37.60 1 P **P** **05 46 44.3 +0.4**
TRNY IAmb IAmb 05 46 47.2
comp=Z,25nm,1.1s
VAO Valinhos 37.64 135 *e*P **P** **05 46 44.4 -0.2**
VAO *ep*P **pP** **05 46 56.7 0.0**
RLO Rose Lookout 37.66 333 P **P** **05 46 43.1 -1.4**
RLO IAmb IAmb 05 46 44.6
comp=Z,18nm,0.8s
N53A Lisbon 37.68 352 IAmb IAmb 05 46 47.1
comp=Z,25nm,1.1s
O49A Covington 37.68 348 IAmb IAmb 05 46 46.2
comp=Z,26nm,0.9s
SPB Sao Paulo 37.71 137 *e*P **P** **05 46 44.7 -0.4**
SPB *ep*P **pP** **05 46 56.8 -0.3**
CCM Cathedral Cave 37.71 338 P **P** **05 46 43.9 -0.9**
CCM IAmb IAmb 05 47 01.3
comp=Z,22nm,0.7s
CCM Cathedral Cave 37.71 338 P **P** **05 46 44.0 -0.9**
baz=152
CCM Cathedral Cave 37.71 338 P **P** **05 46 44.2 -0.7**
CCM *p*P **pP** **05 47 00.2 +2.9**
CCM PcP **PcP** **05 49 01.8 +0.3**
W35A Tecumseh 37.74 330 **P** **05 46 44.6 -0.7**
TXAR Lajitas Array 37.74 316 P **P** **05 46 45.7 +0.3**
TXAR Lajitas Array 37.74 316 P **P** **05 46 46.2 +0.7**
comp=Z,4.7nm,0.7s,baz=134,slow=8.0,SNR=47
TXAR PcP **PcP** **05 49 02.6 +0.7**
comp=Z,2.9nm,0.8s,baz=132,slow=6.2,SNR=6.2
comp=Z,4.7nm,0.7s
SGCY Sterling City 37.75 322 **P** **05 46 45.0 -0.4**
SGCY IAmb IAmb 05 46 46.8
comp=Z,26nm,1.2s
HPIG 37.80 311 IAmb IAmb 05 46 48.5
comp=Z,18nm,0.8s
TUL3 Leonard 37.81 331 P **P** **05 46 45.4 -0.5**
baz=144,SNR=33
SLM Saint Louis 37.87 340 P **P** **05 46 45.8 -0.4**
O48B Farmland 37.93 347 P **P** **05 46 47.2 +0.5**
baz=163,SNR=14
KSPA Keystone Colle 38.03 359 IAmb IAmb 05 46 49.4
comp=Z,13nm,0.6s
FNO Franklin 38.09 329 **P** **05 46 47.9 -0.3**
M55A Ridgway 38.10 355 IAmb IAmb 05 46 50.1
comp=Z,14nm,0.8s
APMT Aspermont 38.14 324 IAmb IAmb 05 46 49.0
comp=Z,16nm,0.7s
ALGR Alto Alegre (B 38.14 148 *e*P **P** **05 46 48.6 -0.1**
ALGR *ep*P **pP** **05 46 58.9 -2.0**
KSCT Kent School, K 38.20 1 P **P** **05 46 48.5 -0.5**
S39A Bolivar 38.20 336 P **P** **05 46 48.4 -0.7**
S39A IAmb IAmb 05 46 49.1
comp=Z,27nm,0.8s
SN05 Snyder 5 38.27 323 IAmb IAmb 05 46 50.9
comp=Z,39nm,1.0s
M53A WI Miller and 38.28 353 IAmb IAmb 05 46 52.3
comp=Z,49nm,1.2s
M53A WI Miller and 38.28 353 P **P** **05 46 51.2 +1.5**
baz=170,SNR=6.2
R40A Maddies Statio 38.30 337 IAmb IAmb 05 46 49.3
comp=Z,14nm,0.7s
MNHN Monahans 38.40 320 IAmb IAmb 05 46 51.7
comp=Z,13nm,0.8s
WMOK Wichita Mounta 38.42 327 IAmb IAmb 05 46 51.3
comp=Z,34nm,0.9s
WMOK Wichita Mounta 38.42 327 P **P** **05 46 50.1 -0.9**
baz=139,SNR=55
SN07 Snyder 07 38.42 323 IAmb IAmb 05 46 51.9
comp=Z,31nm,0.9s
M52A Chesterland 38.47 352 IAmb IAmb 05 46 53.6
comp=Z,46nm,1.4s
SFIN Lafayette 38.52 345 P **P** **05 46 51.6 0.0**
baz=160,SNR=26
BINY Binghamton 38.67 358 IAmb IAmb 05 46 55.7
comp=Z,17nm,0.9s
BINY Binghamton 38.67 358 P **P** **05 46 54.3 +1.4**
baz=178
L56A Greenwood 38.68 357 IAmb IAmb 05 46 55.5
comp=Z,35nm,1.2s
POST Post 38.77 323 P **P** **05 46 53.9 -0.1**
OK048 Pawnee Station 38.77 331 IAmb IAmb 05 46 54.3
comp=Z,37nm,1.0s
PARB Paraibuna 38.80 135 *e*P **P** **05 46 53.9 -0.5**
PARB *ep*P **pP** **05 47 06.5 0.0**
DKNS Dickens 38.85 324 IAmb IAmb 05 46 55.6
comp=Z,22nm,0.7s
ERPA Erie 38.87 354 P **P** **05 46 55.8 +1.2**
baz=171
L61B Northampton 38.95 2 P **P** **05 46 56.1 +0.9**
baz=183
WVNY West Valley, N 39.02 355 IAmb IAmb 05 46 58.4
comp=Z,35nm,1.0s
HRV Adam Dziewonsk 39.06 4 P **P** **05 46 57.4 +1.2**
baz=185
K62A Royalston 39.18 3 P **P** **05 46 59.2 +2.0**
K62A IAmb IAmb 05 47 16.7
comp=Z,45nm,1.4s
BLOK Blackwell 39.18 331 IAmb IAmb 05 46 57.7
comp=Z,54nm,1.2s
CPSB Cacapava Do Su 39.23 150 *e*P **P** **05 46 57.6 -0.1**
P40A Paris 39.30 339 P **P** **05 46 57.6 -0.7**
P40A IAmb IAmb 05 46 58.4
comp=Z,32nm,1.1s
HDIL Hopedale 39.31 342 P **P** **05 46 57.6 -0.7**
baz=156,SNR=29
NBLA Lagarto - SE 39.36 112 *e*P **P** **05 46 58.7 -0.4**
L48A N Adams 39.39 348 IAmb IAmb 05 47 00.4
comp=Z,67nm,1.4s
KAN13 South Haven SW 39.51 331 IAmb IAmb 05 46 59.8
comp=Z,18nm,0.8s
VHRN Van Horn 39.53 317 IAmb IAmb 05 47 02.1
comp=Z,17nm,0.9s
SJMB Sao Joao De Ma 39.58 125 *e*P **P** **05 47 00.4 -0.5**
SLBS Sierra La Lagu 39.62 304 P **P** **05 47 03.3 +2.1**
KAN17 Caldwell West 39.67 331 IAmb IAmb 05 47 02.6
comp=Z,50nm,1.4s
KAN09 Caldwell North 39.67 331 IAmb IAmb 05 47 01.7
comp=Z,35nm,1.1s
KAN14 Manchester OK 39.70 330 IAmb IAmb 05 47 01.8
comp=Z,31nm,1.1s
OK032 Salt Plains WL 39.71 330 IAmb IAmb 05 47 02.0
comp=Z,34nm,0.8s
M44A Midewin, Midew 39.71 344 IAmb IAmb 05 47 01.7
comp=Z,47nm,1.1s
KAN01 Argonia South 39.76 331 IAmb IAmb 05 47 02.5
comp=Z,32nm,1.0s
RCBR Riachuelo 39.76 103 LR LR 06 04 30.4
comp=Z,236nm,18.6s,baz=334,slow=38
J55A Hilton 39.82 356 IAmb IAmb 05 47 04.5
comp=Z,22nm,1.1s
KAN08 Anthony NE Sta 39.92 330 IAmb IAmb 05 47 04.0
comp=Z,34nm,1.2s
NOKA Waynoka 39.94 329 **P** **05 47 03.3 -0.4**
P38A Dawn 39.95 337 IAmb IAmb 05 47 03.0
comp=Z,24nm,0.6s
KAN12 Harper NE Stat 39.99 331 IAmb IAmb 05 47 04.3
comp=Z,50nm,1.1s
LPIG La Paz 40.10 304 LR LR 06 04 56.5
comp=Z,54nm,19.8s,baz=152,slow=38
AMTX Amarillo 40.15 325 P **P** **05 47 05.3 -0.2**
baz=135
MSTX Muleshoe 40.16 323 P **P** **05 47 05.6 -0.1**
baz=133,SNR=47
PLTB Pedras Altas 40.27 152 *e*P **P** **05 47 06.6 +0.2**
MNTX Cornudas Mount 40.36 318 P **P** **05 47 07.6 +0.4**
baz=128,SNR=57
NBAN Anadia - AL 40.37 109 *e*P **P** **05 47 07.7 +0.2**
L44A Lake County Fo 40.42 345 P **P** **05 47 06.6 -0.9**
baz=159
DUB01 Friburgo-RJ 40.45 130 *e*P **P** **05 47 08.5 +0.5**
RIB01 Linhares ES 40.53 125 *e*P **P** **05 47 09.0 +0.2**
LBNH Lisbon 40.77 3 P **P** **05 47 11.4 +1.1**
LBNH Lisbon 40.77 3 P **P** **05 47 11.7 +1.3**
baz=184
KSU1 Kansas State U 40.79 334 P **P** **05 47 09.4 -1.3**
KSU1 IAmb IAmb 05 47 10.3
comp=Z,39nm,0.9s
KSU1 Kansas State U 40.79 334 P **P** **05 47 09.3 -1.3**
baz=145
N38A Joes South For 40.85 338 IAmb IAmb 05 47 11.2
comp=Z,20nm,0.7s
K43A Burlington 41.02 345 IAmb IAmb 05 47 12.5
comp=Z,64nm,1.1s
LONY Lake Ozonia 41.08 0 P **P** **05 47 13.9 +1.0**
baz=180,SNR=5.2
R32A Long Quarter, 41.22 331 IAmb IAmb 05 47 14.5
comp=Z,42nm,1.2s
L40A Anamosa 41.28 341 IAmb IAmb 05 47 14.6
comp=Z,41nm,0.9s
SADO Sadowa 41.41 355 IAmb IAmb 05 47 17.0
comp=Z,20nm,0.8s
SADO Sadowa 41.41 355 LR LR 06 07 40.5
comp=Z,39nm,18.2s,baz=244,slow=41
JFWS Jewell Farm 41.75 343 P **P** **05 47 17.8 -0.7**
baz=156,SNR=50
I45A Fountain 41.77 347 IAmb IAmb 05 47 19.4
comp=Z,50nm,0.9s
G62A West of Eustis 41.83 4 IAmb IAmb 05 47 21.8
comp=Z,38nm,1.4s
N35A Tabor 41.84 336 IAmb IAmb 05 47 18.8
comp=Z,42nm,1.1s
MNTQ Montreal, Queb 41.97 1 IAmb IAmb 05 47 39.1
comp=Z,36nm,0.7s
CBKS Cedar Bluff 42.03 330 IAmb IAmb 05 47 20.9
comp=Z,30nm,0.6s
CBKS Cedar Bluff 42.03 330 P **P** **05 47 20.3 -0.5**
baz=141,SNR=8.5
GLMI Grayling 42.20 349 IAmb IAmb 05 47 26.9
comp=Z,39nm,0.9s
121A Cookes Peak, D 42.49 317 IAmb IAmb 05 47 27.8
comp=Z,43nm,0.9s
121A Cookes Peak, D 42.49 317 P **P** **05 47 26.8 +1.9**
baz=126,SNR=30
H43A Windswept, Lux 42.53 346 P **P** **05 47 24.2 -0.6**
H43A IAmb IAmb 05 47 25.3
comp=Z,32nm,0.8s
CRNM Carthage 42.65 319 P **P** **05 47 27.1 +1.0**
I40A Norwalk 42.75 343 IAmb IAmb 05 47 26.8
comp=Z,68nm,1.1s
319A Douglas 42.87 314 IAmb IAmb 05 47 30.7
comp=Z,30nm,1.1s
ANMO Albuquerque 43.09 321 P **P** **05 47 30.5 +0.8**
ANMO IAmb IAmb 05 47 31.8
comp=Z,31nm,0.8s
ANMO Albuquerque 43.09 321 P **P** **05 47 31.0 +1.2**
baz=130
ANMO Albuquerque 43.09 321 LR LR 06 09 48.4
comp=Z,49nm,18.4s,baz=230,slow=42
ANMO Albuquerque 43.09 321 P **P** **05 47 30.8 +1.0**
ANMO *p*P **sP** **05 47 46.8 -0.6**
E62A Clayton Lake 43.31 5 IAmb IAmb 05 47 33.5
comp=Z,35nm,1.4s
T25A Trinidad 43.31 325 IAmb IAmb 05 47 33.8
comp=Z,28nm,1.1s
T25A Trinidad 43.31 325 P **P** **05 47 32.6 +1.1**
baz=134,SNR=18
BGNE Belgrade 43.35 334 P **P** **05 47 30.4 -1.1**
baz=145
DUN6 Lazy B Ranch 43.40 316 IAmb IAmb 05 47 34.4
comp=Z,34nm,0.7s
E46A Sault Ste Mari 43.64 350 IAmb IAmb 05 47 34.8
comp=Z,35nm,0.9s
KSCO Kaye Shedlock' 43.66 328 IAmb IAmb 05 47 35.5
comp=Z,31nm,0.9s
KSCO Kaye Shedlock' 43.66 328 P **P** **05 47 34.4 +0.3**
baz=137
F42A Maple Grove Fa 43.83 346 IAmb IAmb 05 47 35.9
comp=Z,44nm,1.1s
E43A Lone Tree Farm 44.16 348 P **P** **05 47 37.4 -0.5**
E43A IAmb IAmb 05 47 38.1
comp=Z,29nm,0.8s
LMQ La Malbaie 44.16 4 P **P** **05 47 38.0 +0.1**
LMQ IAmb IAmb 05 47 40.1
comp=Z,26nm,1.2s
SDCO Great Sand Dun 44.35 324 P **P** **05 47 41.2 +1.2**

SDCO IAmb IAmb 05 47 42.0
comp=Z,15nm,0.8s
SDCO Great Sand Dun 44.35 324 P P 05 47 40.8 +0.9
baz=133,SNR=41
COWI Conover 44.40 346 IAmb IAmb 05 47 40.8
comp=Z,33nm,0.9s
TUC Tucson 44.45 315 P P 05 47 41.9 +1.3
TUC Tucson 44.45 315 P P 05 47 41.7 +1.1
baz=123
TUC Tucson 44.45 315 P P 05 47 41.8 +1.1
LDAQ Lac Daran 44.52 3 P P 05 47 41.8 +1.0
SPMN Marine on St. 44.62 342 P P 05 47 40.8 -0.8
baz=154,SNR=17
VLDQ Val d'Or 44.63 357 P P 05 47 42.5 +0.9
ECSD EROS Data Cent 44.65 337 P P 05 47 40.7 -1.2
ECSD IAmb IAmb 05 47 41.5
comp=Z,32nm,1.2s
ECSD EROS Data Cent 44.65 337 P P 05 47 40.4 -1.5
baz=148,SNR=21
OGNE Ogallala 44.79 330 IAmb IAmb 05 47 44.7
comp=Z,23nm,0.8s
OGNE Ogallala 44.79 330 P P 05 47 42.6 -0.5
baz=139
Q24A Divide 44.99 326 P P 05 47 45.2 +0.1
baz=134
X18A Snowflake 45.12 318 IAmb IAmb 05 47 48.4
comp=Z,22nm,0.6s
S22A 4UR Ranch, Cre 45.14 323 P P 05 47 47.3 +1.1
baz=131,SNR=30
D41A Chassel 45.16 347 IAmb IAmb 05 47 46.2
comp=Z,29nm,0.7s
RPN Rapa Nui 45.16 226 LR LR 06 02 29.3
comp=Z,112nm,21.5s,baz=18,slow=30
W18A Petrified Fore 45.32 318 P P 05 47 49.0 +1.4
baz=126,SNR=10
214A Organ Pipe Nat 45.73 313 IAmb IAmb 05 47 53.1
comp=Z,33nm,1.3s
214A Organ Pipe Nat 45.73 313 P P 05 47 51.9 +1.2
baz=120,SNR=15
MVCO Mesa Verde 45.80 322 IAmb IAmb 05 47 53.4
comp=Z,45nm,1.4s
MVCO Mesa Verde 45.80 322 P P 05 47 52.1 +0.7
baz=129,SNR=13
ISCO Idaho Springs 45.83 326 IAmb IAmb 05 47 52.9
comp=Z,12nm,0.7s
ISCO Idaho Springs 45.83 326 P P 05 47 52.5 +0.8
baz=134,SNR=24
X16A Lo Mia Camp, P 46.07 317 IAmb IAmb 05 47 55.9
comp=Z,23nm,0.8s
SUSD Miller 46.17 336 P P 05 47 52.3 -1.6
baz=145,SNR=5.8
F33A 5 Mile Ranch, 46.33 339 IAmb IAmb 05 47 54.5
comp=Z,16nm,0.8s
WUAZ Wupatki 46.64 318 IAmb IAmb 05 48 00.3
comp=Z,37nm,0.9s
WUAZ Wupatki 46.64 318 P P 05 47 59.3 +1.3
baz=125,SNR=36
EYMN Ely 46.71 344 P P 05 47 57.5 -0.6
baz=157,SNR=56
N23A Red Feather La 46.78 327 IAmb IAmb 05 48 01.6
comp=Z,22nm,1.1s
N23A Red Feather La 46.78 327 P P 05 47 59.6 +0.6
baz=135,SNR=14
PHWY Pilot Hill 46.81 328 IAmb IAmb 05 48 00.7
comp=Z,14nm,0.9s
O20A White River Ci 47.54 325 IAmb IAmb 05 48 08.0
comp=Z,14nm,0.8s
O20A White River Ci 47.54 325 P P 05 48 05.5 +0.6
baz=132,SNR=11
GLA Glamis 47.75 313 IAmb IAmb 05 48 08.9
comp=Z,18nm,0.9s
GLA Glamis 47.75 313 P P 05 48 07.5 +1.0
baz=120,SNR=10
U15A North Rim 47.77 318 IAmb IAmb 05 48 09.4
comp=Z,42nm,1.4s
BLYC Blythe 47.88 314 IAmb IAmb 05 48 09.7
comp=Z,18nm,0.9s
RWWY Rawlins 48.02 327 IAmb IAmb 05 48 09.3
comp=Z,18nm,0.9s
RSSD Black Hills 48.16 332 P P 05 48 09.3 -0.4
RSSD Black Hills 48.16 332 P P 05 48 10.0 +0.3
baz=139
RSSD Black Hills 48.16 332 P P 05 48 09.6 -0.1
RSSD pP sP 05 48 26.4 -1.4
RSSD sP pP 05 48 33.2 +11
SRU San Rafael Swe 48.24 322 IAmb IAmb 05 48 12.0
comp=Z,22nm,0.8s
AGMN Agassiz Nation 48.32 341 P P 05 48 09.8 -0.7
AGMN Agassiz Nation 48.32 341 P P 05 48 09.9 -0.7
baz=151,SNR=34
K22A Casper 48.33 329 IAmb IAmb 05 48 12.1
comp=Z,10nm,0.7s
K22A Casper 48.33 329 P P 05 48 10.9 0.0
baz=135,SNR=8.4
P18A Preston Nutter 48.39 323 IAmb IAmb 05 48 13.3
comp=Z,13nm,0.8s
SWSC Sam W. Stewart 48.42 312 P P 05 48 12.8 +1.2
baz=119
KNB Kanab 48.45 319 IAmb IAmb 05 48 15.2
comp=Z,23nm,0.8s
BC3 Big Chuckawall 48.51 313 P P 05 48 13.4 +1.0
baz=120,SNR=8.6
IKP In-Ko-Pah, Jac 48.51 312 P P 05 48 13.5 +1.1
baz=118
IRM Iron Mountain 48.53 314 P P 05 48 13.5 +1.0
baz=120,SNR=6.8
RDMU Red Mountain 48.59 324 IAmb IAmb 05 48 14.4
comp=Z,18nm,0.9s
MTPU Mount Pierson 48.63 320 IAmb IAmb 05 48 15.0
comp=Z,11nm,0.7s
LCMT Little Creek M 48.73 318 P P 05 48 15.3 +1.2
LCMT IAmb IAmb 05 48 16.4
comp=Z,18nm,0.8s
TMUT Trail Mountain 48.77 322 IAmb IAmb 05 48 15.6
comp=Z,9.3nm,0.8s
MONP2 Monument Peak 48.85 312 P P 05 48 16.1 +0.9
baz=118
BELC Belle Mtn. Jos 49.07 313 P P 05 48 17.7 +1.0
baz=119
CCUT Cedar City 49.11 319 IAmb IAmb 05 48 18.9
comp=Z,7.9nm,0.7s
V12A Nelson 49.13 316 IAmb IAmb 05 48 19.3
comp=Z,31nm,1.4s
TPFO Pinon Flats 49.21 313 P P 05 48 18.7 +0.9
baz=118,SNR=6.7
GMRC Granite Mounta 49.21 314 P P 05 48 18.7 +0.9
baz=120,SNR=11
PFO Pinyon Flats O 49.22 313 P P 05 48 18.2 +0.3
PFO Pinyon Flats O 49.22 313 P P 05 48 18.8 +0.9
baz=118,SNR=6.9
PFO Pinyon Flats O 49.22 313 LR LR 06 10 47.1
comp=Z,31nm,18.8s,baz=152,slow=38
PFO Pinyon Flats O 49.22 313 P P 05 48 18.7 +0.8
PFO PcP PcP 05 49 41.5 +1.0
MDND Maddock 49.24 338 P P 05 48 17.1 -0.6
baz=146,SNR=6.2
BSUT Blindstream Ca 49.27 324 IAmb IAmb 05 48 20.2
comp=Z,21nm,1.0s
109C Camp Elliot, M 49.36 312 P P 05 48 19.7 +0.9
baz=117
MPU Maple Canyon 49.47 323 IAmb IAmb 05 48 21.4
comp=Z,22nm,0.8s
NLU North Lily Min 49.70 322 IAmb IAmb 05 48 23.4
comp=Z,15nm,1.2s
HEC Hector,Ludlow 49.72 314 P P 05 48 23.1 +1.5
baz=120,SNR=17
TUQ Turquoise Moun 49.73 315 P P 05 48 22.3 +0.6
baz=120
MURC Murrieta 49.76 312 P P 05 48 22.9 +1.0
baz=118,SNR=6.3
BBRC Big Bear Solar 49.87 313 P P 05 48 24.6 +1.7
baz=119
BW06 Boulder Array 50.03 327 P P 05 48 23.7 -0.3
BW06 Boulder Array 50.03 327 P P 05 48 23.9 -0.1
baz=132,SNR=17
PDAR Pinedale Array 50.03 327 P P 05 48 23.5 -0.5
PDAR Pinedale Array 50.03 327 P P 05 48 23.6 -0.4
comp=Z,5.4nm,0.8s,baz=126,slow=9.1,SNR=43
comp=Z,5.4nm,0.8s
ULM Lac du Bonnet 50.04 342 P P 05 48 22.3 -1.4
ULM IAmb IAmb 05 48 22.8
comp=Z,21nm,0.8s
ULM Lac du Bonnet 50.04 342 P P 05 48 22.2 -1.5
comp=Z,14nm,0.6s,baz=153,slow=8.0,SNR=35
ULM LR LR 06 12 00.1
comp=Z,87nm,18.7s,baz=143,slow=39
comp=Z,14nm,0.6s
RRX Edison Barstow 50.22 314 P P 05 48 26.7 +1.4
baz=119
GSC Goldstone, Bar 50.29 314 IAmb IAmb 05 48 28.1
comp=Z,14nm,0.9s
GSC Goldstone, Bar 50.29 314 P P 05 48 27.2 +1.2
baz=119,SNR=18
DUG Dugway, Tooele 50.30 322 P P 05 48 26.7 +0.7
DUG IAmb IAmb 05 48 27.8
comp=Z,21nm,0.8s
DUG Dugway, Tooele 50.30 322 P P 05 48 27.0 +1.0
baz=127,SNR=30
MCY Mercury 50.38 316 P P 05 48 28.0 +1.4
BFSC Mount Baldy Ra 50.39 313 P P 05 48 27.4 +0.6
baz=118
HWUT Hardware Ranch 50.41 324 IAmb IAmb 05 48 27.9
comp=Z,11nm,0.8s
SCI2 San Clemente I 50.48 311 P P 05 48 28.4 +1.1
baz=116
SPR3 Spring Creek 3 50.56 320 IAmb IAmb 05 48 29.4
comp=Z,10nm,0.7s
CIS Catalina Islan 50.57 311 P P 05 48 29.2 +1.1
baz=117
NSP Numbskull Pass 50.59 316 P P 05 48 29.8 +1.5
TPNV Topopah Spring 50.73 317 P P 05 48 30.8 +1.5
baz=121,SNR=13
S11A Rachel 50.75 318 IAmb IAmb 05 48 32.3
comp=Z,17nm,1.1s
SPUT South Promonto 50.75 323 IAmb IAmb 05 48 30.9
comp=Z,28nm,1.1s
BGU Big Grassy Mou 50.87 323 IAmb IAmb 05 48 31.7
comp=Z,24nm,0.9s
AHID Auburn Hatcher 50.88 326 IAmb IAmb 05 48 31.3
comp=Z,11nm,0.9s
Q12A Willow Creek R 50.90 320 IAmb IAmb 05 48 32.6
comp=Z,17nm,0.9s
FURC Furnace Creek, 50.91 316 P P 05 48 31.5 +1.1
baz=120,SNR=6.0
WCT Wildcat Mounta 50.91 316 P P 05 48 32.1 +1.6
WCT Wildcat Mounta 50.91 316 IAmb IAmb 05 48 32.4
comp=Z,4.7nm,0.9s
EDW2 Edwards Air Fo 50.94 313 P P 05 48 31.8 +1.0
baz=118,SNR=8.0
R11B Troy Canyon, C 51.02 318 P P 05 48 32.7 +1.2
baz=123,SNR=17
CCAC Calif City Air 51.08 314 IAmb IAmb 05 48 34.0
comp=Z,23nm,0.7s
REDW Red Top Meadow 51.13 326 P P 05 48 32.5 +0.1
MPMC Manual Prospec 51.14 315 P P 05 48 33.0 +0.5
baz=119,SNR=11
SNOW Snow King Moun 51.15 327 P P 05 48 32.5 +0.1
SNOW IAmb IAmb 05 48 33.8
comp=Z,18nm,1.0s
LOHW Long Hollow 51.16 327 IAmb IAmb 05 48 33.8
comp=Z,16nm,0.9s
TPAW Teton Pass 51.27 326 P P 05 48 33.2 -0.2
TPAW IAmb IAmb 05 48 34.5
comp=Z,11nm,0.9s
SGV South Grapevin 51.28 316 P P 05 48 35.0 +1.5
MOOW Moose Ponds 51.33 327 P P 05 48 33.6 -0.1
MOOW IAmb IAmb 05 48 34.9
comp=Z,12nm,0.9s
SNCC San Nicolas Is 51.34 311 P P 05 48 34.3 +0.5
baz=116
FXWY Fox Creek 51.41 327 P P 05 48 34.3 -0.2
RLMT Red Lodge 51.47 329 P P 05 48 34.4 -0.4
RLMT Red Lodge 51.47 329 P P 05 48 34.6 -0.2
baz=134
GRAC Grapevine Rang 51.52 316 IAmb IAmb 05 48 37.1
comp=Z,12nm,1.0s
GRAC Grapevine Rang 51.52 316 P P 05 48 36.4 +1.3
baz=120,SNR=5.8
IMW Indian Meadow 51.53 327 IAmb IAmb 05 48 36.4
comp=Z,30nm,1.3s
DGMT Dagmar 51.57 335 P P 05 48 35.4 +0.1
baz=141
GMN Gold Mountain 51.60 316 IAmb IAmb 05 48 38.0
comp=Z,9.9nm,0.8s
ISA Isabella, Lake 51.65 314 P P 05 48 37.3 +1.2
baz=118,SNR=6.2
ARVC Arvin 51.66 313 P P 05 48 37.1 +0.9
baz=118
H17A Grant Village 51.66 328 P P 05 48 37.4 +1.1
baz=132
SCHQ Schefferville 51.69 6 IAmb IAmb 05 48 37.5
comp=Z,26nm,0.8s
SCHQ Schefferville 51.69 6 P P 05 48 36.2 +0.2
comp=Z,23nm,0.8s,baz=194,slow=6.6,SNR=23
SCHQ LR LR 06 13 12.0
comp=Z,54nm,18.1s,baz=230,slow=39
comp=Z,23nm,0.8s
CWC Cottonwood Cre 51.74 315 P P 05 48 37.7 +0.8
baz=119
SCZ2 Santa Cruz Isl 51.75 312 P P 05 48 38.1 +1.3
baz=116
YMR Madison River 52.05 328 IAmb IAmb 05 48 41.0
comp=Z,17nm,0.8s
ELK Elko 52.12 321 P P 05 48 40.4 +0.6
ELK Elko 52.12 321 IAmb IAmb 05 48 41.1
comp=Z,5.4nm,0.8s
ELK Elko 52.12 321 LR LR 06 14 27.1
comp=Z,84nm,19.4s,baz=172,slow=40
DSP Deep Springs 52.12 316 IAmb IAmb 05 48 41.5
comp=Z,9.6nm,0.8s
GCMT Greycliff 52.13 329 P P 05 48 39.9 +0.3
VES Vestal, Richgr 52.17 314 P P 05 48 41.2 +1.2
baz=118,SNR=12
PKM Mcpherson Peak 52.27 313 P P 05 48 42.0 +1.1
baz=116,SNR=5.3
YHL Hebgen Lake 52.29 328 IAmb IAmb 05 48 43.3
comp=Z,24nm,0.9s
SMMC Simmler 52.60 313 P P 05 48 44.2 +1.1
baz=117
NV11 Mina Array Sit 52.78 317 P P 05 48 45.7 +1.1
NV11 Mina Array Sit 52.78 317 IAmb IAmb 05 48 46.9
comp=Z,23nm,1.2s
NV08 Mina Array Sit 52.88 317 P P 05 48 46.7 +1.3
NVAR Mina Array Bea 52.88 317 P P 05 48 46.3 +0.9
NVAR Mina Array Bea 52.88 317 P P 05 48 45.9 +0.4
comp=Z,11nm,0.8s,baz=132,slow=6.9,SNR=71
NVAR PcP PcP 05 49 55.0 +0.8
comp=Z,0.7nm,0.5s,baz=116,slow=5.3,SNR=3.6
comp=Z,11nm,0.8s
NV09 Mina Array Sit 52.91 317 P P 05 48 46.9 +1.3
LHV Little Huntoon 52.93 317 IAmb IAmb 05 48 47.7
comp=Z,12nm,0.9s
BOZ Bozeman (W) 53.02 328 IAmb IAmb 05 48 47.1
comp=Z,11nm,0.8s
BOZ Bozeman (W) 53.02 328 P P 05 48 46.5 +0.3
baz=131,SNR=27
KVN Kaiserville 53.06 318 P P 05 48 47.3 +0.6
KVN Kaiserville 53.06 318 IAmb IAmb 05 48 47.9
comp=Z,7.1nm,0.8s
RYN Ryan 53.13 317 P P 05 48 48.4 +1.2
RYN Ryan 53.13 317 IAmb IAmb 05 48 49.2
comp=Z,14nm,1.1s
MCMT McKenzie Canyo 53.18 327 P P 05 48 48.2 +0.7
BMN Battle Mountai 53.21 320 P P 05 48 48.3 +0.6
BMN Battle Mountai 53.21 320 IAmb IAmb 05 48 49.4
comp=Z,30nm,1.2s
HLID Hailey 53.27 325 P P 05 48 48.5 +0.3
HLID Hailey 53.27 325 P P 05 48 48.8 +0.6
baz=127,SNR=23
DLMT Dillon 53.38 327 IAmb IAmb 05 48 50.6
comp=Z,12nm,0.9s
LRM Limekiln Ridge 53.60 328 P P 05 48 50.8 +0.1
EGMT Eagleton 53.73 331 IAmb IAmb 05 48 52.3
comp=Z,26nm,1.2s
EGMT Eagleton 53.73 331 P P 05 48 51.2 -0.1
baz=135,SNR=9.8
YERR Yerington 53.79 317 IAmb IAmb 05 48 56.7
comp=Z,20nm,1.3s
MFID Camas Ranch 54.02 324 IAmb IAmb 05 48 55.2
comp=Z,17nm,0.8s
MPK Martis Peak 54.48 317 IAmb IAmb 05 49 02.0
comp=Z,20nm,1.2s
OVMT Ovando 54.70 329 P P 05 48 58.0 -0.4
MSO Missoula 55.04 328 P P 05 49 00.9 0.0
baz=130
J08A Circle Bar Ran 55.58 322 IAmb IAmb 05 49 06.1
comp=Z,18nm,0.9s
FFC Flin Flon 55.80 341 P P 05 49 05.3 -0.8
FFC IAmb IAmb 05 49 06.2
comp=Z,17nm,1.2s
FFC Flin Flon 55.80 341 P P 05 49 05.0 -1.0
FFC pP pP 05 49 21.3 +2.3
F10A Beach Ranch, E 56.32 325 IAmb IAmb 05 49 10.6
comp=Z,12nm,0.9s
E09A Wood Farm, Sta 57.15 326 IAmb IAmb 05 49 17.1
comp=Z,27nm,0.9s
J05D Fort Rock, OR 57.25 321 IAmb IAmb 05 49 18.6
comp=Z,32nm,1.1s
YBH Yreka Blue Hor 57.44 319 LR LR 06 17 58.0
comp=Z,39nm,18.1s,baz=138,slow=40
NEW Newport 57.62 328 IAmb IAmb 05 49 20.0
comp=Z,17nm,1.2s
NEW Newport 57.62 328 P P 05 49 18.9 -0.3
baz=127,SNR=9.0
NEW Newport 57.62 328 LR LR 06 17 13.0
comp=Z,37nm,21.6s,baz=148,slow=39
F07A Phinny Hill Vi 57.83 324 IAmb IAmb 05 49 22.4
comp=Z,13nm,1.0s
I05D Terrebonne, OR 57.85 322 IAmb IAmb 05 49 23.2
comp=Z,21nm,0.8s
HAWA Hanford 57.88 325 IAmb IAmb 05 49 22.2
comp=Z,16nm,1.4s
G06A Carlson Farm, 57.89 323 IAmb IAmb 05 49 23.1
comp=Z,18nm,1.0s
D08A Wollman Farm, 57.90 326 IAmb IAmb 05 49 22.6
comp=Z,21nm,1.0s
C09A Chrisman Ranch 57.97 327 IAmb IAmb 05 49 23.0
comp=Z,30nm,1.3s
I04A Tendick Farm, 58.25 321 IAmb IAmb 05 49 25.2
comp=Z,34nm,1.4s
BBTS Babate 58.33 75 LR LR 06 11 45.4
comp=Z,66nm,21.9s,baz=130,slow=33
MXC Moxie City 58.41 325 IAmb IAmb 05 49 26.9
comp=Z,23nm,1.4s
H04A Detroit Lake 58.55 322 IAmb IAmb 05 49 27.2
comp=Z,39nm,1.5s
LON Longmire 59.39 324 IAmb IAmb 05 49 33.1
comp=Z,19nm,1.0s
GNW Green Mountain 60.41 325 IAmb IAmb 05 49 39.4
comp=Z,22nm,1.1s
FRB Frobisher Bay 60.41 3 LR LR 06 16 48.2
comp=Z,96nm,19.5s,baz=194,slow=37
NLWA Neilton Lookou 60.93 324 P P 05 49 43.0 +0.9
NUUK Nuuk 62.92 11 eP P 05 49 55.8 +0.8
SFJD Kangerlussuaq 65.66 10 LR LR 06 17 36.4
comp=Z,96nm,22.0s,baz=207,slow=35
BBB Bella Bella 65.67 327 LR LR 06 22 48.8
comp=Z,52nm,18.3s,baz=168,slow=40
YKA Yellowknife Ar 65.98 341 P P 05 50 13.7 -1.4
YKA Yellowknife Ar 65.98 341 P P 05 50 13.4 -1.6
comp=Z,3.5nm,0.7s,baz=132,slow=7.6,SNR=30
YKA LR LR 06 21 44.4
comp=Z,107nm,18.4s,baz=132,slow=38
comp=Z,3.5nm,0.7s
DY2G Dye2 66.04 12 eP P 05 50 15.5 -0.2
ISOG Isortoq, Green 67.00 15 eP P 05 50 22.2 +0.7
TOAD Toad River Com 67.70 334 P P 05 50 25.2 -1.0
baz=124,SNR=11
KOTAN Kotaneelee Air 67.93 336 P P 05 50 26.9 -0.6
baz=125
LIRD Liard River Hi 68.38 335 P P 05 50 30.0 -0.4
baz=123
V35K Ketchikan 68.96 329 P P 05 50 34.3 +0.2
baz=116
T35M Bob Quinn 69.04 331 IAmb IAmb 05 50 36.5
comp=Z,24nm,1.2s
T35M Bob Quinn 69.04 331 P P 05 50 35.2 +0.6
baz=118,SNR=8.7
DBIC Dimbokro 69.56 84 P P 05 50 38.4 -0.2
comp=Z,3.2nm,0.6s,baz=267,slow=6.6,SNR=6.7
comp=Z,3.2nm,0.6s
DBIC Dimbokro 69.56 84 P P 05 50 38.6 0.0
DBIC pP pP 05 50 54.9 +3.1
ICESG Greenland Ices 69.62 13 eP P 05 50 38.7 +0.4
ICESG IAmb IAmb 05 50 39.1
comp=Z,31nm,1.1s
DLBC Dease Lake 69.63 333 IAmb IAmb 05 50 39.8
comp=Z,22nm,1.5s
DLBC Dease Lake 69.63 333 P P 05 50 38.7 +0.4
baz=119,SNR=10.0
DLBC Dease Lake 69.63 333 LR LR 06 25 08.8
comp=Z,47nm,18.4s,baz=154,slow=39
CRAG Craig 69.80 329 P P 05 50 39.8 +0.6
baz=115
WRAK Wrangell Islan 69.81 330 P P 05 50 39.4 +0.1
baz=116
S34M Telegraph Cree 69.90 332 IAmb IAmb 05 50 41.4
comp=Z,17nm,1.1s
S34M Telegraph Cree 69.90 332 P P 05 50 40.4 +0.5
baz=118,SNR=9.4
WTLY Watson Lake, Y 69.91 334 IAmb IAmb 05 50 40.9
comp=Z,16nm,0.7s
WTLY Watson Lake, Y 69.91 334 P P 05 50 40.6 +0.6
baz=120,SNR=12
U33K Whale Pass 70.07 329 P P 05 50 41.7 +0.8
baz=115
PCBR Castelo Branco 70.39 49 eP P 05 50 42.6 -0.6
PCAB Cabril 70.41 47 eP P 05 50 42.5 -0.8
TGTN Hyland Airport 70.42 336 P P 05 50 43.4 +0.4
baz=121
POLO Lamas de Olo 70.50 47 eP P 05 50 43.4 -0.6
comp=Z,11nm,1.8s
R33M Jennings River 70.52 333 P P 05 50 44.2 +0.4
baz=118,SNR=10
Q32M Nakina River 70.91 332 P P 05 50 46.8 +0.6
baz=117
PBRG Braganca 71.36 47 eP P 05 50 47.9 -1.3
comp=Z,26nm,1.7s
S32K Killisnoo 71.37 330 IAmb IAmb 05 50 50.2
comp=Z,29nm,1.2s
S32K Killisnoo 71.37 330 P P 05 50 49.3 +0.6
baz=114,SNR=8.4
MDT Midelt 71.43 57 LR LR 06 22 33.2
comp=Z,54nm,18.3s,baz=266,slow=36
SIT Sitka 71.57 330 P P 05 50 50.3 +0.4
baz=113
R32K Eaglecrest 71.67 331 P P 05 50 51.0 +0.4
baz=114,SNR=6.1
P33M Teslin, Yukon 71.73 333 P P 05 50 51.0 +0.1
baz=117,SNR=9.5
P32M Atlin 71.86 333 P P 05 50 51.9 +0.2
baz=116
RES Resolute Bay 72.23 354 LR LR 06 27 43.6
comp=Z,43nm,18.0s,baz=94,slow=40
N32M Quiet Lake 72.27 334 P P 05 50 54.5 +0.3
baz=117
S31K Pelican 72.38 331 P P 05 50 55.5 +0.7
baz=113
SKAG Skagway 72.55 332 P P 05 50 56.0 +0.2
baz=114
SUMG Summit 72.63 11 P P 05 50 56.6 +0.1
SUMG IAmb IAmb 05 50 57.6
comp=Z,27nm,0.7s
SUMG Summit 72.63 11 *i* P P 05 50 57.0 +0.5
SUMG IAmb IAmb 05 50 57.4
comp=Z,28nm,0.7s
FARO Faro, Yukon 72.87 335 P P 05 50 57.5 -0.2
FARO Faro, Yukon 72.87 335 P P 05 50 57.8 +0.1
baz=117,SNR=7.7
ESDC Sonseca Array 73.02 50 P P 05 50 58.8 -0.3
ESDC Sonseca Array 73.02 50 P P 05 50 58.7 -0.4
comp=Z,2.7nm,1.1s,baz=260,slow=5.5,SNR=11
ESDC LR LR 06 19 14.8
comp=Z,37nm,21.8s,baz=247,slow=33
comp=Z,2.7nm,1.1s
PLBC Pleasant Camp 73.03 332 P P 05 50 59.2 +0.5
baz=113
TULEG Thule 73.17 1 IAmb IAmb 05 51 00.8
comp=Z,64nm,0.9s
TULEG Thule 73.17 1 *i* P P 05 50 59.8 +0.6
TULEG IAmb IAmb 05 51 00.5
comp=Z,65nm,0.9s
M31M Drury Creek, Y 73.29 335 P P 05 51 00.4 +0.2
baz=116,SNR=7.8
O30N Mendenhall 73.43 333 IAmb IAmb 05 51 02.6
comp=Z,22nm,1.2s
O30N Mendenhall 73.43 333 P P 05 51 01.5 +0.4
baz=114
P30M Million Dollar 73.57 332 P P 05 51 02.4 +0.5
baz=113
N31M Braeburn, Yuko 73.59 334 P P 05 51 02.3 +0.3
baz=114
P29M Windy Craggy 73.74 332 P P 05 51 03.3 +0.4
baz=112,SNR=7.0
N30M Aishikik Lake 74.15 334 P P 05 51 05.8 +0.5
baz=113
M30M Minto, Yukon 74.47 335 IAmb IAmb 05 51 08.2
comp=Z,15nm,0.9s
M30M Minto, Yukon 74.47 335 P P 05 51 07.2 +0.1
baz=114,SNR=17
YUK6 Outpost Mounta 74.52 333 P P 05 51 08.4 +0.7
baz=112,SNR=7.8
PNL Peninsula 74.54 332 P P 05 51 08.1 +0.5

baz=110
YUK4 **Talbot Arm** 74.80 333 P P 05 51 09.9 +0.6
baz=112
NEEM **North Greenlan** 75.09 5 *i* P P 05 51 11.5 +0.7
NEEM IAmb IAmb 05 51 12.2
comp=Z,48nm,0.7s
PINM **Pinnacle** 75.09 332 P P 05 51 11.0 +0.2
baz=110
J30M **Hart River** 75.10 337 P P 05 51 10.8 0.0
baz=114
M29M **Somme Creek** 75.13 334 P P 05 51 11.2 +0.2
baz=112
L29M **L29M** 75.24 335 P P 05 51 11.7 +0.1
baz=112,SNR=12
K29M **Barlow Dome** 75.28 336 IAmb IAmb 05 51 12.8
comp=Z,12nm,0.8s
K29M **Barlow Dome** 75.28 336 P P 05 51 11.6 -0.3
baz=113,SNR=21
YUK8 **Steele Glacier** 75.28 333 P P 05 51 11.9 -0.2
baz=110
O28M **Mount Upton** 75.30 332 P P 05 51 12.4 +0.1
baz=110
G31M **Satah River** 75.36 339 IAmb IAmb 05 51 12.7
comp=Z,14nm,0.9s
G31M **Satah River** 75.36 339 P P 05 51 11.8 -0.3
baz=117,SNR=11
A36M **Sachs Harbour** 75.36 346 P P 05 51 11.5 -0.5
baz=127
I30M **Mount Dempster** 75.39 337 P P 05 51 12.2 -0.3
baz=115,SNR=14
F31M **Tsiigehtchic** 75.42 340 IAmb IAmb 05 51 12.5
comp=Z,11nm,0.8s
F31M **Tsiigehtchic** 75.42 340 P P 05 51 11.8 -0.5
baz=118
INK **Inuvik** 75.75 341 P P 05 51 13.9 -0.4
baz=118,SNR=14
INK **Inuvik** 75.75 341 LR LR 06 25 55.5
comp=Z,86nm,21.9s,baz=17,slow=37
YUK3 **Moose Creek** 75.77 333 P P 05 51 14.9 +0.1
baz=110,SNR=9.1
J29N **Klondike Camp** 75.80 336 P P 05 51 14.9 +0.2
CTGM **Chitina Glacie** 75.89 332 P P 05 51 15.9 +0.5
CTG **Chitna Glacier** 75.89 332 P P 05 51 16.0 +0.5
baz=109
TORD **Torodi Ar. Bea** 75.95 77 P P 05 51 15.6 -0.9
comp=Z,1.4nm,0.8s,baz=286,slow=5.4,SNR=7.0
comp=Z,1.4nm,0.8s
EPYK **Eagle Plains** 76.00 338 IAmb IAmb 05 51 16.1
comp=Z,11nm,0.7s
EPYK **Eagle Plains** 76.00 338 P P 05 51 15.5 -0.3
baz=115,SNR=5.1
G30M **tAoh Zraii Nji** 76.08 339 P P 05 51 15.5 -0.7
baz=115
DAWY **Dawson** 76.12 336 P P 05 51 16.1 -0.4
DAWY **Dawson** 76.12 336 P P 05 51 16.2 -0.4
baz=112,SNR=8.1
I29M **Ogilvie Camp,** 76.19 337 IAmb IAmb 05 51 17.8
comp=Z,22nm,1.5s
I29M **Ogilvie Camp,** 76.19 337 P P 05 51 16.3 -0.6
baz=113,SNR=7.2
F30M **Barrier River** 76.19 340 P P 05 51 16.8 -0.1
baz=116,SNR=15
BGLC **Bering Glacier** 76.54 331 P P 05 51 18.9 0.0
baz=107
H29M **Whitestone** 76.55 338 IAmb IAmb 05 51 19.8
comp=Z,18nm,0.8s
H29M **Whitestone** 76.55 338 P P 05 51 18.7 -0.2
baz=113,SNR=18
M27K **Edge Creek, AK** 76.59 334 IAmb IAmb 05 51 21.1
comp=Z,18nm,1.1s
M27K **Edge Creek, AK** 76.59 334 P P 05 51 19.9 +0.5
baz=109,SNR=8.6
CRQE **Cirque** 76.64 332 P P 05 51 19.9 +0.2
baz=107
G29M **Pine Creek** 76.69 339 IAmb IAmb 05 51 20.4
comp=Z,20nm,0.8s
G29M **Pine Creek** 76.69 339 P P 05 51 19.5 -0.3
baz=114,SNR=20
EKA **Eskdalemuir Ar** 76.76 34 P P 05 51 18.9 -1.3
comp=Z,4.1nm,0.9s,baz=246,slow=5.2,SNR=14
comp=Z,4.1nm,0.9s
BCAR **Beaver Creek A** 76.78 334 P P 05 51 20.7 +0.3
L27K **Beaver Creek,** 76.80 334 IAmb IAmb 05 51 21.5
comp=Z,12nm,0.8s
L27K **Beaver Creek,** 76.80 334 P P 05 51 21.1 +0.6
baz=109,SNR=25
MCARA **McCarthy VSAT** 76.80 333 IAmb IAmb 05 51 22.3
comp=Z,15nm,1.0s
MCARA **McCarthy VSAT** 76.80 333 P P 05 51 21.3 +0.9
baz=108
I28M **Miner Creek** 76.85 337 IAmb IAmb 05 51 21.7
comp=Z,12nm,0.9s
I28M **Miner Creek** 76.85 337 P P 05 51 20.6 -0.1
baz=111,SNR=16
VRDI **Verde Repeater** 76.95 332 IAmb IAmb 05 51 22.9
comp=Z,24nm,1.4s
HMT **Hamilton** 77.07 331 IAmb IAmb 05 51 23.7
comp=Z,22nm,1.2s
EGAK **Eagle** 77.09 336 IAmb IAmb 05 51 23.1
comp=Z,21nm,1.0s
EGAK **Eagle** 77.09 336 P P 05 51 21.9 0.0
baz=110,SNR=21
M26K **Nabesna, AK** 77.10 334 P P 05 51 22.3 +0.2
baz=108
GLB **Gilahina Butte** 77.18 333 IAmb IAmb 05 51 24.1
comp=Z,20nm,1.4s
E29M **Blow River** 77.25 340 IAmb IAmb 05 51 23.4
comp=Z,25nm,0.9s
E29M **Blow River** 77.25 340 P P 05 51 22.4 -0.3
baz=114,SNR=34
BMRM **Bremner River** 77.41 332 P P 05 51 24.2 +0.2
baz=106
L26K **Log Cabin Wild** 77.44 334 IAmb IAmb 05 51 25.4
comp=Z,14nm,1.0s
L26K **Log Cabin Wild** 77.44 334 P P 05 51 24.3 +0.3
baz=108,SNR=13
I27K **Kandik River** 77.56 337 P P 05 51 24.4 -0.2
baz=110,SNR=23
MENT **Mentasta** 77.58 334 IAmb IAmb 05 51 25.4
comp=Z,7.8nm,0.6s
N25K **Chitina, Valde** 77.59 333 P P 05 51 24.8 -0.1
baz=106
F28M **Old Crow** 77.63 339 P P 05 51 24.2 -0.8
baz=112,SNR=12
H27K **Steamboat Moun** 77.74 338 P P 05 51 25.1 -0.5
baz=110,SNR=7.9
Q23K **Middleton Isla** 77.85 330 P P 05 51 24.6 -1.7
baz=104
E28M **Babbage River** 77.89 340 IAmb IAmb 05 51 26.3
comp=Z,14nm,0.8s
E28M **Babbage River** 77.89 340 P P 05 51 25.5 -0.9
baz=112,SNR=23
D28M **Stokes Point** 77.90 341 P P 05 51 25.8 -0.6
baz=113
J26L **Joseph Creek** 77.98 336 P P 05 51 26.7 -0.4
baz=108,SNR=12
G27K **Doyon Strip** 77.99 338 P P 05 51 25.9 -1.1
baz=110,SNR=7.3
SCRK **Sand Creek** 78.00 335 P P 05 51 27.4 +0.2
baz=107,SNR=17
HARP **HAARP** 78.06 333 P P 05 51 27.7 +0.2
baz=106
I26K **Coal Creek Min** 78.07 336 P P 05 51 26.8 -0.7
baz=108
KLU **Klutina** 78.17 332 P P 05 51 27.9 -0.3
baz=105
PAX **Paxson** 78.36 334 P P 05 51 28.6 -0.5
baz=106,SNR=12
M24K **Tolsona, Glenn** 78.44 333 IAmb IAmb 05 51 30.9
comp=Z,38nm,1.3s
M24K **Tolsona, Glenn** 78.44 333 P P 05 51 29.7 +0.1
baz=105,SNR=6.2
E27K **Coleen River** 78.44 339 P P 05 51 28.9 -0.6
baz=110,SNR=14
P23K **Montague Islan** 78.50 331 P P 05 51 29.3 -0.6
baz=103
GLI **Glacier Island** 78.56 332 P P 05 51 29.3 -0.9
baz=104
D27M **Malcolm River** 78.60 341 P P 05 51 29.9 -0.5
baz=111
K24K **Donnelly Dome** 78.71 335 P P 05 51 31.0 -0.1
baz=106
J25K **Salcha River,** 78.76 335 P P 05 51 30.9 -0.5
baz=106,SNR=12
G26K **Porcupine Rive** 78.83 338 P P 05 51 31.3 -0.3
baz=108
SCM **Sheep Creek Mo** 78.90 333 IAmb IAmb 05 51 33.0
comp=Z,17nm,1.0s
SCM **Sheep Creek Mo** 78.90 333 P P 05 51 31.9 -0.3
baz=104,SNR=5.4
M23K **Glacier View** 79.08 332 P P 05 51 32.6 -0.5
baz=103
PRP **Porcupine Dome** 79.08 336 P P 05 51 32.6 -0.6
baz=106
PWL **Port Wells** 79.15 331 P P 05 51 32.8 -0.7
baz=103
JMIC **Jan Mayen** 79.19 18 LR LR 06 24 58.9
comp=Z,30nm,18.7s,baz=248,slow=34
F26K **Sheenjek River** 79.19 339 P P 05 51 33.7 +0.1
baz=108,SNR=8.1
DHY **Denali Highway** 79.22 334 P P 05 51 33.4 -0.6
baz=104
FYU **Fort Yukon** 79.26 337 IAmb IAmb 05 51 35.0
comp=Z,32nm,1.4s
WAT6 **Susitna Watana** 79.27 333 P P 05 51 33.5 -0.7
baz=104,SNR=6.4
BMAR **Burnt Mountain** 79.27 338 P P 05 51 34.0 -0.1
DAG **Danmarks Havn** 79.31 11 *i* P P 05 51 33.8 -0.3
KNK **Knik Glacier** 79.33 332 P P 05 51 34.0 -0.4
baz=103
SML **Sawmill** 79.36 332 P P 05 51 34.0 -0.6
baz=103
HDA **Harding Lake** 79.37 335 IAmb IAmb 05 51 34.9
comp=Z,22nm,1.2s
HDA **Harding Lake** 79.37 335 P P 05 51 33.9 -0.7
baz=105,SNR=15
H25L **Birch Creek** 79.40 337 P P 05 51 34.8 +0.1
baz=106
ILAR **Eielson Array** 79.44 335 P P 05 51 34.1 -0.8
ILAR **Eielson Array** 79.44 335 P P 05 51 33.9 -1.1
comp=Z,3.7nm,0.7s,baz=113,slow=4.3,SNR=40
ILAR PP PP 05 54 33.5 -1.9
comp=Z,1.1nm,0.8s,baz=108,slow=6.2,SNR=4.4
ILAR LR LR 06 30 09.3
comp=Z,35nm,20.2s,baz=172,slow=38
comp=Z,3.7nm,0.7s
GHO **Glory Hole Cre** 79.63 332 IAmb IAmb 05 51 36.6
comp=Z,11nm,0.8s
C27K **Jago River** 79.65 341 P P 05 51 35.8 -0.2
baz=108
G25K **Bearman Lake** 79.65 338 P P 05 51 36.1 +0.1
baz=106,SNR=6.2
PMR **Palmer** 79.68 332 P P 05 51 36.0 -0.3
baz=102
WAT1 **Susitna Watana** 79.69 333 P P 05 51 36.1 -0.3
baz=103
F25K **Christian Rive** 79.71 338 P P 05 51 36.6 +0.2
baz=106,SNR=12
POKR **Poker Plat Res** 79.75 336 P P 05 51 35.8 -0.9
baz=104
COLA **College** 79.86 335 P P 05 51 36.7 -0.5
baz=104
RC01 **Rabbit Creek A** 79.87 332 P P 05 51 36.8 -0.6
baz=101
RND **Reindeer** 79.95 334 IAmb IAmb 05 51 38.4
comp=Z,14nm,0.6s
MDM **Murphy Dome** 80.04 336 IAmb IAmb 05 51 38.8
comp=Z,23nm,1.3s
MCK **McKinley** 80.06 334 P P 05 51 37.6 -0.7
baz=103,SNR=5.7
BRSE **Bradley Lake S** 80.10 330 P P 05 51 38.1 -0.5
baz=100
H24K **Noodor Dome** 80.10 336 P P 05 51 38.3 -0.3
baz=104,SNR=6.9
MLH **Mauna Loa** 80.16 289 P P 05 51 36.6 -3.4
MLH **Mauna Loa** 80.16 289 IAmb IAmb 05 51 45.7
comp=Z,182nm,0.7s
G24K **Hadweenzic Riv** 80.16 337 P P 05 51 39.1 +0.3
baz=104,SNR=7.9
NEA2 **Nenana** 80.30 335 IAmb IAmb 05 51 40.2
comp=Z,29nm,1.2s
NEA2 **Nenana** 80.30 335 P P 05 51 39.2 -0.5
baz=103,SNR=21
BWN **Browne** 80.38 335 IAmb IAmb 05 51 40.6
comp=Z,39nm,1.1s
SUA **Susitna One** 80.42 332 P P 05 51 40.0 -0.5
baz=101
D25K **Kavik River** 80.45 340 P P 05 51 40.1 -0.3
baz=106
DOU **Dourbes** 80.52 40 *d*P P 05 51 40.8 -0.3
comp=Z,4.9nm,1.1s
F24K **Squaw Lake** 80.52 338 P P 05 51 40.8 -0.1
baz=104,SNR=6.0
I23K **Minto, Yukon-K** 80.55 336 P P 05 51 40.7 -0.2
baz=102
BMRD **Maredsous** 80.65 40 *d*P P 05 51 42.0 +0.2
BMRD *d*PcP PcP 05 51 48.6 +0.2
KDAK **Kodiak Island** 80.73 328 P P 05 51 41.4 -0.6
baz=98
KDAK **Kodiak Island** 80.73 328 LR LR 06 30 51.6
comp=Z,57nm,20.8s,baz=155,slow=38
Q20K **Shuyak Island** 80.75 329 P P 05 51 41.4 -0.7
baz=99
H23K **Yukon River** 80.77 336 P P 05 51 41.7 -0.5
baz=102
BGES **Gesves** 80.86 40 *d*P P 05 51 43.0 +0.1
SKT **Skwentna** 80.88 332 P P 05 51 42.2 -0.6
baz=100,SNR=7.6
RCHB **Rochefort** 80.93 40 *d*P P 05 51 43.2 -0.1
comp=Z,8.8nm,0.9s
BCLA **Clavier** 81.00 40 *d*P P 05 51 43.5 -0.1
comp=Z,3.2nm,0.9s
BPAW **Bear Paw Mtn.** 81.02 334 IAmb IAmb 05 51 43.9
comp=Z,17nm,0.9s
BPAW **Bear Paw Mtn.** 81.02 334 P P 05 51 43.1 -0.5
baz=101,SNR=15
OHAK **Old Harbor** 81.02 327 P P 05 51 42.9 -0.7
baz=98
N20K **Mount Spurr** 81.07 331 P P 05 51 43.0 -0.9
baz=99
O20K **Slope Mountain** 81.09 330 P P 05 51 43.6 -0.4
baz=99
MLY **Manley** 81.09 335 P P 05 51 43.5 -0.5
baz=101,SNR=8.6
G23K **Bananza Creek** 81.15 337 P P 05 51 44.4 +0.2
baz=102,SNR=5.6
D24K **Happy Valley** 81.25 340 P P 05 51 45.0 +0.3
baz=104
E23K **Chandalar** 81.29 338 P P 05 51 45.1 +0.2
baz=103
COLD **Coldfoot** 81.33 338 P P 05 51 45.4 +0.3
baz=102
P19K **Oil Pt** 81.33 330 P P 05 51 45.5 +0.2
baz=98
ILSW **Iliamna Southw** 81.33 330 IAmb IAmb 05 51 45.4
comp=Z,11nm,0.8s
C24K **Franklin Bluff** 81.35 340 P P 05 51 44.8 -0.3
baz=104,SNR=6.0
TOLK **Toolik Lake Re** 81.40 339 P P 05 51 44.9 -0.6
baz=103
Q19K **Cape Douglas,** 81.44 329 P P 05 51 44.9 -0.9
baz=98
MEM **Membach** 81.47 39 *d*P P 05 51 46.7 +0.6
comp=Z,6.3nm,0.0s
WLF **Walferdange** 81.48 40 *d*P P 05 51 46.9 +0.7
BNI **Bardonecchia** 81.49 45 P P 05 51 45.3 -1.3
H22K **Ishtalitna Cre** 81.52 336 P P 05 51 45.7 -0.5
baz=101
M20K **Styx River** 81.61 332 P P 05 51 45.8 -1.0
baz=98
I21K **Tanana** 81.64 335 P P 05 51 46.3 -0.4
baz=100
G22K **Bettles** 81.77 337 P P 05 51 47.0 -0.4
baz=101
D23K **Nanushuk River** 81.86 339 P P 05 51 48.1 +0.2
baz=102,SNR=5.5
SENIN **Lac Senin/Sane** 82.01 44 P P 05 51 49.0 -0.4
SENIN IAmb IAmb 05 51 50.7
comp=Z,29nm,0.9s
C23K **Itkillik River** 82.02 340 IAmb IAmb 05 51 49.8
comp=Z,17nm,0.9s
C23K **Itkillik River** 82.02 340 P P 05 51 48.9 +0.2
baz=102,SNR=6.5
ECH **Echery** 82.03 42 P P 05 51 48.6 -0.6
ECH IAmb IAmb 05 51 50.1
comp=Z,14nm,1.1s
L20K **Farewell, AK** 82.04 333 P P 05 51 48.0 -0.9
baz=98,SNR=6.9
H21K **Melozitna Rive** 82.06 336 P P 05 51 47.9 -1.1
baz=99
N19K **Bonanza Creek** 82.11 331 P P 05 51 48.3 -1.1
baz=97
Q18K **Katmai Hardscr** 82.11 329 P P 05 51 48.4 -1.1
baz=96
F22K **John River** 82.13 338 P P 05 51 49.1 -0.3
baz=100
M19K **Big River Lodg** 82.20 332 P P 05 51 48.9 -0.9
baz=97
K20K **Telida** 82.25 333 P P 05 51 49.0 -1.0
baz=98
P18K **Big Mountain,** 82.31 329 P P 05 51 49.5 -1.0
baz=96
O18K **Koktuh Hills** 82.35 330 IAmb IAmb 05 51 50.6
comp=Z,12nm,0.7s
O18K **Koktuh Hills** 82.35 330 P P 05 51 49.8 -0.8
baz=96,SNR=6.0
J20K **Nowinta River** 82.40 334 IAmb IAmb 05 51 50.4
comp=Z,6.7nm,0.6s
J20K **Nowinta River** 82.40 334 P P 05 51 49.9 -0.9
baz=98,SNR=7.9
L19K **White Mountain** 82.45 332 P P 05 51 50.2 -0.9
baz=97
G21K **Allakaket** 82.48 337 P P 05 51 51.0 -0.1
baz=99
Q17K **Contact Creek** 82.53 328 P P 05 51 50.8 -0.9
baz=96,SNR=5.8
D22K **Ayikyak River** 82.56 339 P P 05 51 51.3 -0.3
baz=100
F21K **Alatna River** 82.58 337 P P 05 51 51.5 -0.2
baz=99
I20K **Naaghedeneel** 82.63 335 P P 05 51 51.6 -0.2
baz=98
R17L **Mt. Peulik Vol** 82.72 328 P P 05 51 52.4 -0.2
baz=95
N18K **Kilae Creek** 82.78 331 IAmb IAmb 05 51 52.7
comp=Z,15nm,0.6s
N18K **Kilae Creek** 82.78 331 P P 05 51 51.9 -1.0
baz=96,SNR=12
M18K **Stony River** 82.83 331 P P 05 51 52.4 -0.7
baz=96,SNR=5.4
H20K **Anotleneega Mo** 82.89 336 P P 05 51 52.5 -0.9
baz=97
P17K **Kvichak River** 82.91 329 P P 05 51 52.7 -0.7
baz=95
E21K **Killik River** 82.95 339 P P 05 51 53.3 -0.4
baz=99
J19K **Poorman** 83.02 334 P P 05 51 53.7 -0.3
baz=97
TTA **Tatalina** 83.07 333 P P 05 51 53.5 -0.9
baz=96
KEST **Kesra** 83.17 55 P P 05 51 54.8 -0.7
comp=Z,2.8nm,0.9s,baz=248,slow=5.4,SNR=2.2
KEST LR LR 06 24 24.0
comp=Z,40nm,20.9s,baz=244,slow=32
comp=Z,2.8nm,0.9s
O17K **Koliganek Bris** 83.29 330 P P 05 51 54.8 -0.7
baz=95
L18K **Granite Mounta** 83.31 332 P P 05 51 55.0 -0.6
baz=95
C21K **Knifeblade Rid** 83.35 339 P P 05 51 55.5 -0.1
baz=98
B21K **Ikpikpuk River** 83.36 340 P P 05 51 55.1 -0.4
baz=98
N17K **Nushagak Hills** 83.40 330 P P 05 51 55.5 -0.5
baz=95
F20K **Avaraart Lake** 83.42 337 P P 05 51 55.5 -0.5
baz=97
TUE **Stuetta** 83.43 44 P P 05 51 55.9 -0.8
J18K **Innoko River** 83.45 333 P P 05 51 55.6 -0.6
baz=96
H19K **Roundabout Mou** 83.54 335 P P 05 51 56.5 -0.1
baz=96
M17K **Holitna River** 83.59 331 P P 05 51 56.6 -0.4
baz=95
P16K **Nushagak River** 83.69 329 P P 05 51 57.2 -0.3
baz=94
E20K **Nigu River** 83.74 338 P P 05 51 57.9 +0.2
baz=96
CHGN **Chignik** 83.74 326 P P 05 51 57.8 0.0
baz=93
O16K **Kokwok River B** 83.78 329 P P 05 51 56.5 -1.5
baz=94
DAVOX **Davos/Dischmat** 83.81 43 LR LR 06 26 44.5
comp=Z,37nm,19.6s,baz=260,slow=34
DAVA **Damuels** 83.82 43 *e*P P 05 51 58.3 -0.4
comp=Z,19nm,1.1s
G19K **Purcell Mounta** 83.87 336 P P 05 51 58.3 0.0
baz=96
D20K **Etivluk River** 83.95 339 P P 05 51 58.8 0.0
baz=96
E19K **Redstone River** 84.05 337 P P 05 51 59.0 -0.3
baz=96
L17K **Donlin** 84.06 332 P P 05 51 59.4 +0.1
baz=94
FUORN **Ofenpass-Fuorn** 84.06 44 P P 05 51 59.5 -0.6
K17K **Iditarod** 84.10 333 P P 05 51 59.4 -0.2
baz=94
N16K **Nishlik Lake** 84.18 330 P P 05 51 59.5 -0.5
baz=93
F19K **Shaleruckik Mo** 84.20 337 P P 05 51 59.9 0.0
baz=95
M16K **Timber Creek** 84.30 331 P P 05 52 00.6 0.0
baz=93
H18K **Honhosa River** 84.31 335 P P 05 52 00.7 +0.1
baz=94
CHNA **Chernabura Isl** 84.34 325 P P 05 52 00.6 -0.3
baz=92
S14K **Fog Glacier** 84.38 326 P P 05 52 00.9 -0.4
baz=92
FETA **Feichten** 84.39 43 *e*P P 05 52 01.4 -0.2
RETA **Reutte** 84.42 43 *e*P P 05 52 02.0 +0.3
comp=Z,3.0nm,0.7s
D19K **Kuna River** 84.48 338 P P 05 52 01.4 0.0
baz=95
G18K **Tagagawik** 84.48 336 P P 05 52 01.4 -0.1
baz=94
J17K **VABM Dome** 84.50 333 P P 05 52 01.7 +0.1
baz=93
ZCCA **Zocca** 84.53 46 IAmb IAmb 05 52 03.3
comp=Z,30nm,1.2s
L16K **Owhat River** 84.59 332 P P 05 52 02.2 +0.2
baz=93
SQTA **Sankt Quirin** 84.72 43 *e*P P 05 52 03.2 0.0
comp=Z,4.9nm,0.6s
N15K **Kwethluk River** 84.82 330 P P 05 52 03.1 -0.1
baz=92
NBO00 **NORSAR Array S** 84.85 29 IAmb IAmb 05 52 21.2
comp=Z,11nm,0.9s
NC204 **NORSAR Array S** 84.85 29 IAmb IAmb 05 52 05.5
comp=Z,9.7nm,0.9s
NAO01 **NORSAR Array S** 84.89 29 IAmb IAmb 05 52 06.0
comp=Z,20nm,1.2s
F18K **Selawik** 84.93 336 P P 05 52 03.9 +0.2
baz=93
H17K **Granite Mounta** 84.95 335 P P 05 52 04.0 +0.2
baz=93
WTTA **Wattenberg** 85.02 43 *e*P P 05 52 04.7 0.0
comp=Z,3.2nm,0.6s
C19K **Lookout Ridge** 85.06 339 P P 05 52 04.7 +0.3
baz=94
NB2 **NORSAR Subarra** 85.06 29 P P 05 52 05.2 +0.7
comp=Z,28nm,1.4s,baz=268,slow=5.1
NB2 **NORSAR Subarra** 85.06 29 P P 05 52 05.2 +0.7
baz=268,slow=5.1
NOA **NORSAR Array B** 85.06 29 P P 05 52 04.6 +0.2
comp=Z,3.7nm,0.9s,baz=271,slow=4.9,SNR=7.3
NOA LR LR 06 26 00.6
comp=Z,49nm,21.9s,baz=275,slow=33
comp=Z,3.7nm,0.9s
M15K **Kasigluk River** 85.13 330 P P 05 52 05.0 +0.2
baz=92
J16K **Anvik River** 85.18 333 P P 05 52 05.4 +0.4
baz=92
I17K **Unalakleet** 85.25 334 P P 05 52 05.9 +0.7
I17K **Unalakleet** 85.25 334 P P 05 52 05.7 +0.5
baz=92
G17K **Kiwalik Mounta** 85.29 335 P P 05 52 05.6 +0.2
baz=92
NC405 **NORSAR Array S** 85.30 29 IAmb IAmb 05 52 07.8
comp=Z,17nm,1.3s
VNA3 **Neumayer Olymp** 85.34 163 ⇑P P 05 52 05.4 -0.2
comp=Z,3.0nm,0.8s
VNA3 ⇓pP pP 05 52 18.7 -0.6
comp=Z,6.9nm,0.7s
VNA1 **Neumayer--Stat** 85.52 162 ⇑P P 05 52 07.5 +1.1
comp=Z,4.6nm,1.0s
VNA1 ⇓pP pP 05 52 19.7 -0.5
comp=Z,9.8nm,1.0s
L15K **Ungalak Mounta** 85.55 331 P P 05 52 06.9 +0.1
baz=91
K15K **Wolf Creek Mou** 85.58 332 P P 05 52 07.5 +0.4
K15K **Wolf Creek Mou** 85.58 332 P P 05 52 07.4 +0.4
baz=91
N14K **Kuskokwak Cree** 85.61 330 P P 05 52 07.1 -0.1

bar=91
ABTA Abfaltersbach 85.61 44 *e*P **P 05 52 07.8 +0.2**
comp=Z,8.8nm,0.8s
LESA Schwarzleotal 85.72 43 *e*P **P 05 52 07.9 -0.2**
comp=Z,4.8nm,0.6s
STAL STALIGIAL 85.75 44 IAmb IAmb 05 52 09.8
comp=Z,20nm,1.4s
S12K Black Hills 85.77 325 P **P 05 52 07.7 -0.4**
baz=90
E17K Hotham Inlet 85.81 337 P **P 05 52 08.2 +0.1**
baz=91
VNA2 Neumayer--Watz 85.89 162 ⇑P **P 05 52 08.9 +0.6**
comp=Z,4.3nm,0.6s,baz=292,slow=4.8
VNA2 ⇓pP **pP 05 52 21.5 -0.5**
comp=Z,7.6nm,0.7s,baz=307,slow=3.3
CLL Collm 85.92 39 *i* P **P 05 52 08.5 -0.4**
comp=Z,7.0nm,1.0s
CLL *es*P **sP 05 52 27.0 -0.7**
H16K Elim 85.94 334 P **P 05 52 09.4 +0.7**
baz=91
KBS Kingsbay 86.05 11 P **P 05 52 09.4 +0.4**
L14K Kuka Creek 86.12 331 P **P 05 52 09.9 +0.2**
L14K IAmb IAmb 05 52 15.3
comp=Z,8.8nm,1.2s
KBA Koelnbreinsper 86.18 43 *e*P **P 05 52 10.4 -0.1**
comp=Z,5.8nm,0.8s
HFS Hagfors 86.27 30 P **P 05 52 10.6 +0.2**
comp=Z,1.6nm,0.5s,baz=298,slow=3.1,SNR=11
HFS pP **pP 05 52 23.6 -0.6**
comp=Z,2.0nm,0.7s,baz=250,slow=4.4,SNR=2.9
HFS LR LR 06 26 13.8
comp=Z,111nm,20.9s,baz=280,slow=32
comp=Z,1.6nm,0.5s
D17K Noatak River 86.30 338 P **P 05 52 11.4 +1.0**
baz=90
C17K DeLong Mountai 86.34 338 P **P 05 52 11.4 +0.7**
baz=90
PRED Cave del Predi 86.34 44 P **P 05 52 11.3 +0.1**
PRED IAmb IAmb 05 52 12.3
comp=Z,9.9nm,0.8s
BIOA Bad Ischl, Aus 86.37 43 *e*P **P 05 52 11.3 0.0**
comp=Z,2.8nm,0.5s
MYKA Terra Mystica 86.39 44 *e*P **P 05 52 11.1 -0.3**
comp=Z,9.4nm,0.6s
GEC2 GERESS Array S 86.39 41 P **P 05 52 11.2 -0.3**
GERES GERESS Array B 86.39 41 P **P 05 52 11.7 +0.3**
GERES GERESS Array B 86.39 41 P **P 05 52 11.5 +0.1**
comp=Z,2.0nm,0.6s,baz=242,slow=2.9,SNR=14
GERES pP **pP 05 52 24.4 -0.8**
comp=Z,1.4nm,0.6s,baz=243,slow=4.4,SNR=4.6
GERES LR LR 06 27 01.6
comp=Z,25nm,21.1s,baz=272,slow=33
comp=Z,2.0nm,0.6s
M13K Dall Lake 86.45 330 P **P 05 52 11.7 +0.4**
baz=89
BRG Berggiesshubel 86.52 39 *e*P **P 05 52 12.4 +0.5**
BRG Amp 05 52 12.9
comp=Z,3.7nm,0.8s
J14K Nanvaranak Lak 86.52 333 P **P 05 52 12.4 +0.8**
baz=89
JAVS Javornik 86.70 44 *i* P **P 05 52 13.2 +0.1**
MOA Molln 86.79 42 *e*P **P 05 52 13.4 +0.1**
comp=Z,4.9nm,0.7s
CRNS Crni Vrh 86.83 44 *i* P **P 05 52 13.7 0.0**
SPB3 Spitsbergen Ar 86.93 12 P **P 05 52 14.2 +0.9**
SPITS Spitsbergen Ar 86.93 12 P **P 05 52 14.1 +0.7**
comp=Z,26nm,0.9s,baz=174,slow=2.9,SNR=20
SPITS LR LR 06 30 02.9
comp=Z,85nm,21.5s,baz=235,slow=35
comp=Z,26nm,0.9s
GBRS Gornja Briga 87.24 45 *i* P **P 05 52 15.6 0.0**
SOKA Soboth 87.35 44 *e*P **P 05 52 15.8 -0.3**
comp=Z,1.3nm,0.5s
SNAA Sanae 87.53 162 P **P 05 52 17.5 +1.1**
SNAA IAmb IAmb 05 52 30.6
comp=Z,15nm,0.8s
SNAA Sanae 87.53 162 ⇑P **P 05 52 17.3 +0.9**
comp=Z,126nm,0.5s
SNAA ⇓pP **pP 05 52 29.6 -0.6**
comp=Z,278nm,0.7s
SNAA Sanae 87.53 162 P **P 05 52 17.3 +0.9**
comp=Z,4.9nm,0.6s,baz=277,slow=6.2,SNR=46
SNAA pP **pP 05 52 29.6 -0.6**
comp=Z,12nm,0.8s,baz=280,slow=3.9,SNR=16
comp=Z,4.9nm,0.6s
M11K Mekoryuk 87.86 330 P **P 05 52 18.5 +0.4**
baz=87
CONA Conrad Observa 87.86 42 *i* P **P 05 52 18.7 +0.1**
comp=Z,12nm,1.7s
KRUC Moravsky 88.16 41 *e*P **P 05 52 19.9 0.0**
RONA Rosalia, Austr 88.17 43 *e*P **P 05 52 20.3 +0.3**
comp=Z,4.6nm,1.0s
VRAC Vranov 88.28 41 *e*P **P 05 52 20.8 +0.4**
VRAC Vranov 88.28 41 LR LR 06 29 40.5
comp=Z,33nm,19.4s,baz=286,slow=34
UNV Unalaska Valle 88.40 324 P **P 05 52 21.4 +0.6**
baz=86
MODS Modra-Piesok 88.78 42 *e*P **P 05 52 22.8 0.0**
MORC Moravsky Berou 88.87 40 *e*P **P 05 52 23.8 +0.6**
TROLL Troll, Antarti 89.24 162 ⇑P **P 05 52 25.8 +1.2**
comp=Z,348nm,0.5s
TROLL ⇓pP **pP 05 52 38.2 -0.1**
comp=Z,1μm,0.8s
VYHS Vyhne 89.81 42 *e*P **P 05 52 29.0 +1.4**
ARCES ARCESS Array B 90.41 20 P **P 05 52 30.2 +0.2**
comp=Z,3.7nm,0.6s,baz=286,slow=4.5,SNR=6.3
comp=Z,3.7nm,0.6s
FINES FINESS Array B 92.18 28 P **P 05 52 38.5 +0.3**
comp=Z,0.9nm,0.6s,baz=215,slow=2.3,SNR=5.2
FINES pP **pP 05 52 52.4 +0.2**
comp=Z,1.7nm,0.8s,baz=236,slow=2.1,SNR=3.5
FINES LR LR 06 29 51.3
comp=Z,91nm,21.7s,baz=246,slow=33
comp=Z,0.9nm,0.6s
TSUM Tsumeb 93.20 109 LR LR 06 31 33.3
comp=Z,136nm,20.5s,baz=330,slow=34
QSPA South Pole Qui 93.41 180 P **P 05 52 44.2 +0.2**
comp=Z,2.8nm,0.9s,baz=82,slow=5.2,SNR=2.2
QSPA pP **pP 05 52 58.1 +0.4**
comp=Z,9.7nm,0.9s,baz=147,slow=2.3,SNR=8.9
comp=Z,2.8nm,0.9s
ELIB Princess Elisa 95.67 162 *d*P P 05 53 07.9 +14
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 96.15 38 LR LR 06 33 20.7
comp=Z,71nm,21.8s,baz=273,slow=34
SUR Sutherland 96.40 122 LR LR 06 35 15.1
comp=Z,124nm,18.0s,baz=266,slow=35
ZALV Zalesovo Beam 120.36 14 PKP **PKPdf 05 58 19.1 -1.0**
comp=Z,1.2nm,0.5s,baz=273,slow=2.5,SNR=6.6
KURBB Kurchatov Arra 121.49 20 PKP **PKPdf 05 58 21.1 -1.2**
comp=Z,0.8nm,0.8s,baz=337,slow=2.1,SNR=6.4
MKAR Makanchi Array 126.06 19 PKP **PKPdf 05 58 30.3 -1.0**
comp=Z,0.5nm,0.4s,baz=341,slow=2.7,SNR=6.6
MKAR pPKP **pPKPdf 05 58 43.8 -1.7**
comp=Z,1.6nm,0.9s,baz=345,slow=2.1,SNR=5.1
SONM Songino Array 129.00 359 PKP **PKPdf 05 58 36.2 -0.8**
comp=Z,1.0nm,0.7s,baz=284,slow=0.9,SNR=5.8
WMQ Urumqi 130.41 17 *e*PKP **PKiKP 05 58 40.5 0.0**
KSRS Korea Array 134.28 335 PKP **PKPdf 05 58 44.9 -2.2**
comp=Z,1.2nm,0.8s,baz=25,slow=1.1,SNR=4.2
STKA Stephens Creek 135.70 226 PKP **PKPdf 05 58 49.3 -0.6**
comp=Z,3.7nm,0.8s,baz=357,slow=20,SNR=3.8
GTA Gaotai 137.12 6 *e*PKP **PKPdf 05 58 52.9 +0.4**
NJ2 Nanjing 142.50 341 *e*P **PKPdf 05 59 02.4 +0.1**
NJ2 pmax pmax
comp=Z,15nm,0.9s
WHN Wuhan 145.19 346 PKPbc **PKPbc 05 59 06.3 -0.3**
ASAR Alice Springs 145.83 231 PKPdf **PKPdf 05 59 07.7 -0.6**
ASAR Alice Springs 145.83 231 PKPbc **PKPdf 05 59 08.6 +0.2**
comp=Z,12nm,0.6s,baz=120,slow=3.8,SNR=148
CD2 Chengdu 145.87 2 PKPbc **PKPdf 05 59 06.4 -1.9**
WRA Warramunga Arr 147.28 238 PKPdf **PKPdf 05 59 10.2 -0.7**
WRA **PKPbc 05 59 13.2 0.0**
WRA Warramunga Arr 147.28 238 PKPbc **PKPbc 05 59 13.1 -0.1**
comp=Z,24nm,0.8s,baz=113,slow=2.5,SNR=155
PZH PanZhiHua 150.09 6 PKPbc **PKPdf 05 59 14.4 -1.1**
CMAR Chiang Mai Arr 157.41 16 PKPab **PKPab 05 59 55.7 -1.4**
comp=Z,15nm,0.7s,baz=330,slow=5.4,SNR=38

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*IDC **19** 05:43:38.1±0.8, 48°.59S×31°.75E, h0km, mb4.1/9, mbtmp4.2/10, ML4.4/1, MS3.6/8, Error ellipse: s-maj=34.2km s-min=14.6km az=64.0*
*NEIC **19** 05:43:38.6±1.3, 48°.58S±0°.03×31°.5E±0°.2, h10km±1km, mb4.5/17, Error ellipse: s-maj=27.7km s-min=6.0km az=89.0*

ISC 19 05:43:40.1±0.6, 48°.51S±0°.08×31°.5E±0°.1, h18km, n42, σ1§17/34, mb4.4/13, MS3.6/7, 5C, South of Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**13.84**	**91**	T	T		T	06 01 29.4	
	baz=256,slow=75								
H04S3	**CROZET ISLANDS**	**13.84**	**91**	T	T		T	06 01 27.4	
	baz=256,slow=75								
H04S1	**CROZET ISLANDS**	**13.86**	**91**	T	T		T	06 01 27.3	
	baz=256,slow=75								
GRHM	**Grahamstown, E**	**15.70**	**344**				**Pn**	**05 47 18.4**	**-1.9**
GRHM					IAmb		IAmb	05 47 31.0	
	comp=Z,35nm,1.0s								
SOE	**Somerset East**	**16.41**	**342**		Pn		**Pn**	**05 47 27.9**	**-1.5**
SOE					IAmb		IAmb	05 47 31.9	
	comp=Z,52nm,1.4s								
SUR	**Sutherland**	**18.02**	**330**	P			**Pn**	**05 47 49.3**	**-0.4**
SUR	**Sutherland**	**18.02**	**330**	P			**P**	**05 47 50.8**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=148,slow=8.9,SNR=23								
SUR					S		Sn	05 50 55.6	-15
	comp=Z,3.1nm,1.0s,baz=53,slow=20,SNR=1.5								
SUR					LR		LR	05 53 37.1	
	comp=Z,215nm,19.4s,baz=134,slow=33								
	comp=Z,6.7nm,0.4s								
BOSA	**Boshof**	**20.45**	**344**	P			**P**	**05 48 17.0**	**+0.4**
BOSA	**Boshof**	**20.45**	**344**	P			Pn	05 48 18.0	-0.7
	comp=Z,8.0nm,0.8s,baz=168,slow=11,SNR=15								
BOSA					S		S	05 51 49.5	-15
	comp=Z,2.7nm,1.0s,baz=59,slow=5.9,SNR=2.2								
BOSA					LR		LR	05 54 32.0	
	comp=Z,137nm,20.7s,baz=178,slow=32								
	comp=Z,8.0nm,0.8s								
POGA	**Pongola**	**21.13**	**1**	P			**P**	**05 48 24.9**	**+1.1**
POGA					IAmb		IAmb	05 49 02.7	
	comp=Z,20nm,1.1s								
LBTB	**Lobatse**	**23.91**	**347**	P			**P**	**05 48 53.2**	**+0.3**
LBTB	**Lobatse**	**23.91**	**347**	LR			LR	05 57 45.7	
	comp=Z,61nm,18.7s,baz=151,slow=35								
MAW	**Mawson**	**24.85**	**152**	P			**P**	**05 49 01.5**	**+0.5**
	comp=Z,14nm,0.8s,baz=300,slow=11,SNR=26								
MAW					S		**S**	**05 53 22.8**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=349,slow=5.8,SNR=1.2								
	comp=Z,14nm,0.8s								
TROLL	**Troll, Antarti**	**27.04**	**199**	⇑P			**P**	**05 49 20.8**	**-0.1**
	comp=Z,123nm,1.2s								
SNAA	**Sanae**	**28.09**	**202**				**P**	**05 49 29.6**	**-0.7**
SNAA	**Sanae**	**28.09**	**202**	⇑P			**P**	**05 49 32.4**	**+2.2**
SNAA	**Sanae**	**28.09**	**202**	P			**P**	**05 49 31.5**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=71,slow=7.4,SNR=2.3								
SNAA					LR		LR	05 58 25.2	
	comp=Z,85nm,19.2s,baz=86,slow=32								
	comp=Z,0.9nm,0.8s								
VNA2	**Neumayer--Watz**	**28.89**	**205**	⇑P			**P**	**05 49 36.7**	**-0.6**
	baz=47,slow=6.0								
VNA1	**Neumayer--Stat**	**29.01**	**206**	⇑P			**P**	**05 49 36.9**	**-1.4**
VNA3	**Neumayer Olymp**	**29.70**	**205**	⇑P			P	05 49 37.7	-6.8
TSUM	**Tsumeb**	**31.33**	**334**	P			**P**	**05 49 59.3**	**-0.2**
TSUM					IAmb		IAmb	05 50 01.9	
	comp=Z,8.2nm,1.4s								
TSUM	**Tsumeb**	**31.33**	**334**	LR			LR	06 01 05.4	
	comp=Z,146nm,21.3s,baz=151,slow=33								
LSZ	**Lusaka**	**33.25**	**354**	P			**P**	**05 50 16.5**	**+0.1**
LSZ					IAmb		IAmb	05 50 20.7	
	comp=Z,8.2nm,1.0s								
QSPA	**South Pole Qui**	**41.71**	**180**	P			**P**	**05 51 26.9**	**-0.6**
QSPA					IAmb		IAmb	05 51 28.1	
	comp=Z,12nm,1.0s								
QSPA	**South Pole Qui**	**41.71**	**180**	P			**P**	**05 51 26.7**	**-0.9**
	comp=Z,9.1nm,1.0s,baz=255,slow=3.0,SNR=23								
	comp=Z,9.1nm,1.0s								
SHEL	**Horse Pasture**	**44.50**	**304**	P			**P**	**05 51 49.7**	**-0.7**
PMSA	**Palmer Station**	**49.66**	**214**	P			**P**	**05 52 28.9**	**-1.2**
VNDA	**Vanda**	**50.55**	**168**	P			**P**	**05 52 36.8**	**0.0**
VNDA					IAmb		IAmb	05 52 38.9	
	comp=Z,3.8nm,0.9s								
VNDA	**Vanda**	**50.55**	**168**	P			**P**	**05 52 36.5**	**-0.3**
	comp=Z,3.8nm,0.9s,baz=239,slow=6.5,SNR=9.1								
	comp=Z,3.8nm,0.9s								
SBA	**Scott Base**	**50.96**	**169**	P			**P**	**05 52 39.0**	**-0.8**
SBA					IAmb		IAmb	05 52 42.8	
	comp=Z,12nm,1.0s								
DGAR	**Diego Garcia**	**53.58**	**54**	P			**P**	**05 52 59.1**	**-0.9**
TOA0	**Torodi Ar. Sit**	**66.84**	**328**	P			**P**	**05 54 31.4**	**+0.6**
TOA0					IAmb		IAmb	05 55 15.7	
	comp=Z,5.5nm,1.4s								
TORD	**Torodi Ar. Bea**	**66.84**	**328**	P			**P**	**05 54 32.8**	**+2.0**
	comp=Z,1.5nm,0.7s,baz=148,slow=7.2,SNR=7.4								
TORD					LR		LR	06 21 33.6	
	comp=Z,81nm,21.8s,baz=213,slow=34								
	comp=Z,1.5nm,0.7s								
CPUP	**Villa Florida**	**70.02**	**253**	P			**P**	**05 54 54.3**	**+3.6**
	comp=Z,2.1nm,0.8s,baz=148,slow=5.4,SNR=3.4								
	comp=Z,2.1nm,0.8s								
AQDB	**Aquidauana**	**73.13**	**258**	P			**P**	**05 55 08.8**	**-0.7**
ASAR	**Alice Springs**	**80.38**	**115**	P			**P**	**05 55 51.4**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=222,slow=5.5,SNR=4.8								
	comp=Z,0.4nm,0.6s								
WRA	**Warramunga Arr**	**83.44**	**113**	P			**P**	**05 56 07.4**	**+0.8**
	comp=Z,0.7nm,1.1s,baz=210,slow=3.7,SNR=2.0								
	comp=Z,0.7nm,1.1s								
BRTR	**Keskin Array B**	**87.88**	**2**	LR			LR	06 38 08.1	
	comp=Z,27nm,19.6s,baz=248,slow=37								
KBZ	**Khabaz**	**92.40**	**8**	LR			LR	06 39 05.6	
	comp=Z,22nm,18.2s,baz=338,slow=36								
TXAR	**Lajitas Array**	**140.87**	**257**	PKP			**PKiKP**	**06 03 10.5**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=165,slow=3.7,SNR=3.2								
ULM	**Lac du Bonnet**	**146.28**	**293**	PKPbc			**PKPbc**	**06 03 18.8**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=76,slow=8.3,SNR=2.6								
PDAR	**Pinedale Array**	**152.39**	**273**	PKPbc			**PKPbc**	**06 03 34.7**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=29,slow=4.1,SNR=2.3								

IDC 19 05:54:31.6±5.3, 53°.58N×90°.70E, h0km, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=54.4km s-min=29.6km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.51**	**278**		I		I	06 16 10.0	
	baz=91,slow=318,SNR=5.7								
ZALV	**Zalesovo Beam**	**3.51**	**278**		Pn		Pn	05 55 27.3	-0.1
	0.2nm,0.3s,baz=94,slow=14,SNR=1.6								
ZALV					Lg		Lg	05 56 23.3	
	0.3nm,0.3s,baz=97,slow=33,SNR=2.6								
	0.5nm,0.3s								
KURBB	**Kurchatov Arra**	**8.06**	**253**		Pn		Pn	05 56 29.7	-0.1
	baz=64,slow=15,SNR=2.0								
	0.3nm,0.4s								
MKAR	**Makanchi Array**	**8.67**	**222**		Pn		Pn	05 56 38.9	+0.7
	0.1nm,0.3s,baz=36,slow=15,SNR=2.1								
	0.2nm,0.4s								

IDC 19 05:59:49.9±8.2, 15°.43S×174°.10W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=362.4km s-min=40.6km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.18**	**257**		P		P	06 08 40.0	-0.2
	0.3nm,0.5s,baz=92,slow=7.3,SNR=5.1								
	0.3nm,0.5s								
ASAR	**Alice Springs**	**49.46**	**252**		P		P	06 08 42.2	-0.1
	1.2nm,0.8s,baz=88,slow=8.2,SNR=14								
	1.2nm,0.8s								
ILAR	**Eielson Array**	**82.61**	**11**		P		P	06 12 14.5	0.0
	0.2nm,0.7s,baz=199,slow=4.8,SNR=1.5								
	0.2nm,0.7s								

IDC 19 06:00:17.8±3.1, 54°.16N×86°.77E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=25.1km s-min=15.5km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.17**	**260**		I		I	06 06 30.0	
	baz=79,slow=310,SNR=3.6								
ZALV	**Zalesovo Beam**	**1.17**	**260**		Pg		Pg	06 00 39.6	-0.6
	0.7nm,0.3s,baz=81,slow=17,SNR=14								
ZALV					Lg		Lg	06 00 56.3	
	1.7nm,0.3s,baz=77,slow=28,SNR=14								
KURBB	**Kurchatov Arra**	**6.17**	**238**		Pn		Pn	06 01 51.0	+1.0
	0.1nm,0.3s,baz=57,slow=14,SNR=5.1								
KURBB					Lg		Lg	06 03 33.3	
	baz=61,slow=33,SNR=1.9								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**7.91**	**203**		Pn		Pn	06 02 14.8	+0.7
	0.1nm,0.3s,baz=19,slow=14,SNR=1.4								
	0.3nm,0.2s								

IDC 19 06:05:22.3±3.8, 54°.43N×86°.75E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=33.1km s-min=19.8km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**248**		I		I	06 13 10.0	
	baz=68,slow=316,SNR=4.1								
ZALV	**Zalesovo Beam**	**1.23**	**248**		Pg		Pg	06 05 44.7	-1.2
	0.6nm,0.3s,baz=70,slow=17,SNR=4.6								
ZALV					Lg		Lg	06 06 02.7	
	0.6nm,0.3s,baz=65,slow=26,SNR=2.3								
KURBB	**Kurchatov Arra**	**6.30**	**236**		Pn		Pn	06 06 57.1	+0.7
	0.1nm,0.3s,baz=55,slow=14,SNR=4.5								
	0.3nm,0.3s								
MKAR	**Makanchi Array**	**8.15**	**202**		Pn		Pn	06 07 23.2	+1.3
	0.1nm,0.3s,baz=22,slow=16,SNR=2.0								
	0.2nm,0.3s								

IDC 19 06:24:07.5±3.4, 54°.15N×87°.23E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=30.3km s-min=19.1km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**263**		I		I	06 32 40.0	
	baz=79,slow=317,SNR=3.4								
ZALV	**Zalesovo Beam**	**1.44**	**263**		Pg		Pn	06 24 33.9	-0.8
	1.5nm,0.3s,baz=84,slow=16,SNR=12								
ZALV					Lg		Lg	06 24 53.9	
	1.5nm,0.3s,baz=84,slow=26,SNR=8.3								
KURBB	**Kurchatov Arra**	**6.39**	**240**		Pn		Pn	06 25 42.0	-0.8
	0.1nm,0.3s,baz=57,slow=14,SNR=1.8								
	0.2nm,0.3s								
MKAR	**Makanchi Array**	**8.01**	**205**		Pn		Pn	06 26 07.2	+2.2
	baz=28,slow=14,SNR=1.7								
	0.1nm,0.3s								

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*IPEC **19** 06:26:06.1±0.2, 51°.55N×16°.14E, h1km, ML2.6/5, Error ellipse: s-maj=2.9km s-min=1.3km az=57.0*
*IDC **19** 06:26:07.8±0.7, 51°.48N×15°.90E, h0km, mbtmp3.2/8, ML2.8/8, Error ellipse: s-maj=12.2km s-min=7.2km az=112.0*
*VIE **19** 06:26:08.8±0.6, 51°.39N×16°.06E, h0km, mb2.5/6, ml2.8/5, Error ellipse: s-maj=9.2km s-min=2.9km az=67.0, Suspected Mining induced.*
*PRU **19** 06:26:09.1, 51°.43N×16°.04E, h0km*

ISC 19 06:26:05.1±0.7, 51°.59N±0°.03×16°.08E±0°.03, h0km, n41, σ1§14/70, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.76**	**169**	*e*Pg	**Pg**		**Pg**	**06 26 20.2**	**+0.6**
KSP				*e*Sg	**Sg**		**Sg**	**06 26 29.0**	**-0.3**
CHVC	**Chvalec**	**1.00**	**181**	*e*PG	**Pg**		**Pg**	**06 26 24.7**	**+0.5**
CHVC				*e*SG	**Sg**		**Sg**	**06 26 37.0**	**-0.1**
	comp=Z,59nm,0.6s								
OSTC	**Ostas**	**1.03**	**175**	*e*PG	**Pg**		**Pg**	**06 26 25.6**	**+0.7**
OSTC				*e*SG	**Sg**		**Sg**	**06 26 38.1**	**-0.2**
	comp=Z,52nm,0.5s								
UPC	**Upice**	**1.08**	**182**	*e*PG	**Pg**		**Pg**	**06 26 26.0**	**+0.2**
UPC				*e*SG	**Sg**		**Sg**	**06 26 39.2**	**-0.5**
DPC	**Dobruska-Polom**	**1.25**	**173**	*e*PG	**Pg**		**Pg**	**06 26 28.8**	**-0.1**
DPC				*e*SG	**Sg**		**Sg**	**06 26 43.5**	**-1.6**
	comp=Z,44nm,0.6s								
PVCC	**Panska Ves**	**1.42**	**223**	*e*PG	**Pg**		**Pg**	**06 26 32.8**	**+0.5**
PVCC				*e*SG	**Sb**		**Sb**	**06 26 51.3**	**+0.2**
	comp=Z,148nm,0.4s								
BRG	**Berggiesshubel**	**1.52**	**243**	Pg	**Pg**		**Pg**	**06 26 34.9**	**+0.7**
BRG				Sg	**Sn**		**Sn**	**06 26 55.1**	**+1.2**
BRG				Amp				06 26 56.5	
	comp=Z,66nm,0.4s								
KRLC	**Kraliky**	**1.58**	**163**	*e*PG	**Pn**		**Pn**	**06 26 34.9**	**+0.6**
KRLC				*e*SG	**Sn**		**Sn**	**06 26 54.7**	**-0.8**
GOPC	**GO Pecny, Ondr**	**1.86**	**207**	*e*PG	**Pn**		**Pn**	**06 26 39.5**	**+1.3**
PRU	**Pruhonice**	**1.87**	**212**	*e*PG	**Pb**		**Pb**	**06 26 39.9**	**-0.2**
PRU				*e*SG	**Sn**		**Sn**	**06 27 02.5**	**-0.2**
	comp=Z,37nm,0.5s								
HSKC	**Hora Svate Kat**	**1.93**	**241**	*e*PG	**Pb**		**Pb**	**06 26 41.5**	**+0.3**
HSKC				*e*SG	**Sb**		**Sb**	**06 27 06.8**	**+0.9**
	comp=Z,64nm,0.4s								
CLL	**Collm**	**1.94**	**263**	*e*Pn	**Pn**		**Pn**	**06 26 40.0**	**+0.7**
CLL				*e*Pg	**Pb**		**Pb**	**06 26 42.0**	**+0.7**
CLL				*e*Sg	**Sg**		**Sg**	**06 27 08.0**	**+0.6**
	comp=Z,28nm,0.9s								
MORC	**Moravsky Berou**	**2.04**	**152**	*e*Pn	**Pn**		**Pn**	**06 26 40.8**	**+0.1**
	baz=334								
MORC				*e*Sg	**Sn**		**Sn**	**06 27 08.1**	**+1.3**
	comp=Z,24nm,0.5s,baz=334								
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*PG	**Pb**		**Pb**	**06 26 46.2**	**+0.7**
OKC				*e*SG	**Sb**		**Sb**	**06 27 13.1**	**-0.1**
	comp=Z,28nm,0.5s								
VRAC	**Vranov**	**2.30**	**172**	*e*Pn	**Pn**		**Pn**	**06 26 44.9**	**+0.6**
	baz=353								
VRAC				*e*Sg	**Sb**		**Sb**	**06 27 17.0**	**+0.5**
	comp=Z,28nm,0.6s,baz=353								
VRAC	**Vranov**	**2.30**	**172**	Pn	**Pn**		**Pn**	**06 26 44.3**	**0.0**
	comp=Z,1.4nm,0.3s,baz=351,slow=14,SNR=4.7								
VRAC				Lg	Lg		Lg	06 27 16.4	
	comp=Z,4.2nm,0.3s,baz=236,slow=23,SNR=9.9								
	comp=Z,5.0nm,0.4s								
TREC	**Trest**	**2.32**	**190**	*e*SG	**Sb**		**Sb**	**06 27 18.1**	**+1.0**
KRUC	**Moravsky**	**2.54**	**175**	*e*Pn	**Pn**		**Pn**	**06 26 47.9**	**+0.4**
	baz=356								
KRUC				*e*Sg	**Sb**		**Sb**	**06 27 24.5**	**+1.4**
	comp=Z,24nm,0.7s,baz=356								
OJC	**Ojcow**	**2.73**	**119**	*e*Pg	**Pg**		**Pg**	**06 26 57.9**	**+0.6**
OJC				*e*Sg	**Sg**		**Sg**	**06 27 33.3**	**+0.8**
JAVC	**Velka Javorina**	**2.92**	**159**	*e*Pn	**Pn**		**Pn**	**06 26 53.1**	**+0.4**
	baz=340								
JAVC				*e*Sg	**Sb**		**Sb**	**06 27 36.4**	**+2.3**
	comp=Z,30nm,1.2s,baz=340								
KHC	**Kasperske Hory**	**2.93**	**214**	*e*PN	**Pn**		**Pn**	**06 26 53.4**	**+0.4**
KHC				*e*PG	**Pb**		**Pb**	**06 26 59.7**	**+1.5**
KHC				*e*SN	**Sn**		**Sn**	**06 27 27.4**	**-1.5**
KHC				*e*SG	**Sb**		**Sb**	**06 27 36.5**	**+1.9**
	comp=Z,

comp=Z,1.2nm,0.7s
NOA NORSAR Array B 9.85 346 Pn **Pn 06 28 27.7 -0.1**
baz=160,slow=12,SNR=2.1
comp=Z,0.1nm,0.4s
FINES FINESS Array B 11.30 25 Pn **Pn 06 28 48.2 +0.5**
comp=Z,0.2nm,0.3s,baz=207,slow=11,SNR=8.6
comp=Z,1.2nm,0.6s
EKA Eskdalemuir Ar 12.05 296 Pn **Pn 06 28 55.8 -2.1**
baz=102,slow=14
ARCES ARCESS Array B 18.55 10 Pn **P 06 30 21.4 -1.6**
comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=1.8
comp=Z,1.1nm,0.5s

*IDC **19** 06:37:52.2±1.2, 8°.59S×111°.22E, h0km, mb4.0/9, mbtmp4.0/9, Error ellipse: s-maj=77.9km s-min=18.1km az=48.0*
*DJA **19** 06:37:58.0±0.4, 9°.S±4°.×111°.1E±°, h10km, M4.5/13, mb4.8/1, MLv4.4/13*
*NEIC **19** 06:37:59.4±1.8, 9°.03S±0°.08×111°.14E±0°.08, h61km±9km, mb4.1/17, Error ellipse: s-maj=13.4km s-min=8.9km az=219.0*

ISC 19 06:37:58.5±0.6, 9°.01S±0°.06×111°.13E±0°.05, h55km, n62, σ19.61/62, mb4.1/15, South of Java

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.19**	**34**	P		**Pn**	**06 38 19.1**	**+0.2**
PWJI				S		**Sn**	**06 38 32.7**	**-1.4**
UGM	**Wanagama**	**1.25**	**331**	P		**Pn**	**06 38 21.2**	**+1.5**
UGM	**Wanagama**	**1.25**	**331**			**Pn**	**06 38 21.0**	**+1.3**
UGM	**Wanagama**	**1.25**	**331**	P		**Pn**	**06 38 20.9**	**+1.2**
UGM				S		**Sn**	**06 38 35.7**	**+0.2**
YOGI	**Yogyakarta**	**1.45**	**325**	P		**Pn**	**06 38 23.7**	**+1.3**
YOGI				S		**Sn**	**06 38 41.2**	**+0.9**
SMRI	**Semarang**	**2.07**	**341**	P		**Pn**	**06 38 34.0**	**+3.2**
SMRI	**Semarang**	**2.07**	**341**			**Pn**	**06 38 32.7**	**+1.9**
SMRI	**Semarang**	**2.07**	**341**	P		**Pn**	**06 38 33.3**	**+2.5**
GRJI	**Gresik**	**2.48**	**33**	P		**Pn**	**06 38 38.1**	**+1.7**
KPJI	**Karang Pucung**	**2.74**	**307**	P		**Pn**	**06 38 42.0**	**+2.0**
CMJI	**Cimerak**	**2.92**	**295**	P		**Pn**	**06 38 42.6**	**+0.2**
JAGI	**Jajag, Banyuwa**	**3.04**	**80**	P		**Pn**	**06 38 45.8**	**+1.7**
JAGI	**Jajag, Banyuwa**	**3.04**	**80**			**Pn**	**06 38 45.1**	**+0.9**
JAGI	**Jajag, Banyuwa**	**3.04**	**80**	P		**Pn**	**06 38 45.2**	**+1.1**
ABJI	**Asem Bagus**	**3.31**	**69**	P		**Pn**	**06 38 50.4**	**+2.7**
BBJI	**Bungbulang**	**3.77**	**294**	P		**Pn**	**06 38 56.8**	**+2.6**
LEM	**Lembang**	**4.10**	**302**	P		**Pn**	**06 38 58.5**	**-0.3**
SRBI	**Singaraja**	**4.15**	**77**	P		**Pn**	**06 39 00.3**	**+1.0**
CNJI	**Cibinong**	**4.30**	**293**	P		**Pn**	**06 38 59.2**	**-2.2**
XMI	**Christmas Isla**	**5.55**	**255**	P		**Pn**	**06 39 20.6**	**+2.1**
XMIS	**Christmas Isla**	**5.59**	**254**	P		**Pn**	**06 39 21.5**	**+2.4**
XMIS	**Christmas Isla**	**5.59**	**254**	Pn		**Pn**	**06 39 19.7**	**+0.6**
TWSI	**Taliwang, Sumb**	**5.70**	**88**	P		**Pn**	**06 39 22.8**	**+2.3**
PMBI	**Palembang**	**8.74**	**313**	Pn		**Pn**	**06 40 02.0**	**-0.3**
KAPI	**Kappang**	**9.44**	**66**	Pn		**Pn**	**06 40 11.3**	**-0.5**
COCO	**West Island**	**14.40**	**256**	Pn		**Pn**	**06 41 18.9**	**-0.5**
MBWA	**Marble Bar**	**14.65**	**146**	P		**Pn**	**06 41 22.3**	**-0.4**
MBWA	**Marble Bar**	**14.65**	**146**	Pn		**Pn**	**06 41 21.2**	**-1.5**
PSA00	**Pilbara Seismi**	**15.05**	**147**	Pn		**Pn**	**06 41 27.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**16.74**	**124**	P		**P**	**06 41 52.1**	**+1.2**
FITZ	**Fitzroy Crossi**	**16.74**	**124**			**P**	**06 41 51.0**	**+0.1**
FITZ				IAmb		IAmb	06 41 55.4	
comp=Z,41nm,1.1s
KNRA Kununurra 18.45 113 P **P 06 42 10.1 +0.3**
KNRA IAmb IAmb 06 42 34.8
comp=Z,7.5nm,1.0s
MEEK Meekatharra 18.91 159 P **Pn 06 42 19.6 +3.7**
MTN Manton Dam 20.01 103 P **P 06 42 26.8 0.0**
MTN IAmb IAmb 06 42 42.7
comp=Z,12nm,0.9s
MORW Morawa 20.48 168 P **P 06 42 29.6 -2.2**
WB0 Warramunga Arr 24.91 118 P **P 06 43 18.1 +1.5**
WB0 IAmb IAmb 06 43 21.0
comp=Z,5.4nm,1.1s
WRA Warramunga Arr 24.93 118 P **P 06 43 18.6 +1.8**
comp=Z,1.3nm,0.6s,baz=296,slow=11,SNR=11
WRA PcP **PcP 06 46 53.4 +2.0**
comp=Z,0.3nm,0.5s,baz=300,slow=1.8,SNR=6.5
comp=Z,1.3nm,0.6s
WB2 Warramunga Arr 24.94 118 P **P 06 43 18.7 +1.9**
WR0 Warramunga Arr 25.11 118 P **P 06 43 21.1 +2.7**
WR0 IAmb IAmb 06 43 41.1
comp=Z,5.1nm,0.9s
ASAR Alice Springs 26.21 127 P **P 06 43 29.9 +1.6**
comp=Z,0.6nm,0.5s,baz=302,slow=9.3,SNR=9.8
ASAR PcP **PcP 06 46 56.8 +2.5**
comp=Z,0.7nm,0.4s,baz=301,slow=2.0,SNR=7.8
comp=Z,0.6nm,0.5s
KNMB Chin-men Tao 34.02 12 P **P 06 44 37.3 0.0**
NACB Ninganchiao 34.53 17 P **P 06 44 39.1 -2.7**
H08S2 Diego Garcia H 38.24 269 T T 07 26 04.9
baz=94,slow=75,SNR=15
H08S3 Diego Garcia H 38.25 269 T T 07 25 57.8
baz=94,slow=75,SNR=10
H08S1 Diego Carcia H 38.26 269 T T 07 25 59.5
baz=94,slow=75,SNR=12
SONM Songino Array 56.75 356 P **P 06 47 35.8 -1.1**
comp=Z,0.4nm,0.3s,baz=167,slow=9.6,SNR=1.7
SONM PcP **PcP 06 48 32.0 -0.2**
comp=Z,0.5nm,0.4s,baz=169,slow=2.9,SNR=2.0
comp=Z,0.4nm,0.3s
MK31 Makanchi Array 61.22 338 P **P 06 48 07.5 -0.2**
MK31 IAmb IAmb 06 48 07.5
comp=Z,1.9nm,1.1s
MKAR Makanchi Array 61.22 338 P **P 06 48 07.2 -0.6**
comp=Z,1.9nm,0.5s,baz=151,slow=7.6,SNR=33
comp=Z,1.9nm,0.5s
AAK Ala-Archa 61.32 330 P **P 06 48 08.3 -0.4**
MAKZ Makanchi 61.35 338 P **P 06 48 09.3 +0.7**
MAKZ IAmb IAmb 06 48 09.7
comp=Z,1.8nm,0.5s
H04N2 CROZET ISLANDS 62.47 222 T T 07 56 42.1
baz=71
H04N1 CROZET ISLANDS 62.49 222 T T 07 56 35.1
baz=71
H04N3 CROZET ISLANDS 62.49 222 T T 07 56 50.0
baz=71
KURBB Kurchatov Arra 65.79 338 P **P 06 48 37.1 -0.6**
comp=Z,0.8nm,0.3s,baz=153,slow=6.3,SNR=2.1
comp=Z,0.8nm,0.3s
KURK Kurchatov 65.83 338 P **P 06 48 37.9 -0.1**
ZAA0 Zalesovo Array 66.55 343 P **P 06 48 40.9 -1.7**
ZAA0 IAmb IAmb 06 48 41.1
comp=Z,1.8nm,0.5s
ZALV Zalesovo Beam 66.55 343 P **P 06 48 39.8 -2.8**
comp=Z,0.9nm,0.3s,baz=134,slow=6.2,SNR=2.8
comp=Z,0.9nm,0.3s
BVAR Borovoye Array 70.85 335 P **P 06 49 07.9 -1.5**
comp=Z,0.4nm,0.4s,baz=145,slow=9.0,SNR=4.3
comp=Z,0.4nm,0.4s
BRVK Borovoye 70.92 335 P **P 06 49 08.8 -0.9**
BRVK IAmb IAmb 06 49 09.5
comp=Z,2.0nm,1.1s
ABKAR Akbulak array 73.25 328 P **P 06 49 23.9 +0.1**
KBZ Khabaz 80.89 317 P **P 06 50 07.3 +0.5**
comp=Z,1.8nm,0.8s,baz=191,slow=3.2,SNR=4.1
comp=Z,1.8nm,0.8s
BRTR Keskin Array B 86.22 311 P **P 06 50 35.0 +0.5**
comp=Z,0.9nm,0.7s,baz=90,slow=10,SNR=4.0
comp=Z,0.9nm,0.7s

IDC 19 06:45:36.9±1.4, 13°.06S×167°.39E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=49.3km s-min=35.6km az=137.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.38**	**253**	P		P	06 52 08.4	-0.2
0.1nm,0.6s,baz=84,slow=9.4,SNR=1.1
0.1nm,0.6s
ASAR Alice Springs 33.40 247 P P 06 52 17.7 +0.2
0.4nm,0.6s,baz=74,slow=9.7,SNR=4.1
0.4nm,0.6s
QSPA South Pole Qui 76.96 180 P P 06 57 31.3 0.0
1.8nm,0.8s,baz=72,slow=3.2,SNR=10
1.8nm,0.8s
ILAR Eielson Array 84.91 18 P P 06 58 13.4 0.0
0.1nm,0.4s,baz=236,slow=4.9,SNR=5.7
0.1nm,0.4s

IDC 19 07:14:02.8±3.4, 53°.72N×88°.13E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=30.4km s-min=18.3km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.98**	**278**	I		I	07 26 00.0	
0.1nm,1.1s,baz=95,slow=318,SNR=1.4
ZALV Zalesovo Beam 1.98 278 Pg Pn 07 14 38.5 +1.0
1.3nm,0.3s,baz=91,slow=14,SNR=16
ZALV Lg Lg 07 15 05.9
3.0nm,0.3s,baz=92,slow=28,SNR=20
KURBB Kurchatov Arra 6.67 246 Pn Pn 07 15 42.6 +0.7
0.1nm,0.3s,baz=61,slow=14,SNR=2.8
KURBB Lg Lg 07 17 34.0
baz=62,slow=33,SNR=4.4
0.4nm,0.3s
MKAR Makanchi Array 7.88 211 Pn Pn 07 15 59.8 +1.2
0.1nm,0.3s,baz=23,slow=11,SNR=5.1
MKAR Lg Lg 07 18 11.2
baz=29,slow=27,SNR=1.3
0.2nm,0.3s

JMA 19 07:19:48.4±0.3, 24°.2N±0°.6×123°.7E±0°.8, h20km±2km, MV1.5/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.12**	**141**	P		Pg	07 19 52.4	-0.2
HATJ *e*S Sg 07 19 55.1 -0.2
IRIF Iriomote-Funau 0.18 3 *i* P Pg 07 19 53.2 0.0
IRIF *e*S Sg 07 19 56.4 -0.1
JKRS Kuro-shima 0.28 72 *i* P Pg 07 19 54.8 +0.1
JKRS *e*S Sg 07 19 59.3 +0.3
JIJ Ishigaki jima 0.44 61 P Pg 07 19 57.0 -0.4
JIJ *e*S Sg 07 20 02.7 -0.8
JISG Ishigakijimahi 0.69 51 P Pb 07 20 01.6 -0.2
JTJ Tarama 1.02 61 *e*S Sg 07 20 21.7 0.0

TAP 19 07:20:47.7, 24°.27N×121°.64E, h5km±1km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.11**	**201**	*i* P		Pg	07 20 50.7	+0.8
baz=201
NACB *i* S Sg 07 20 53.0 +1.5
baz=201
EAHA Aohua 0.11 59 *e*P Pg 07 20 50.5 +0.5
baz=59
EAHA *e*S Sg 07 20 53.3 +1.8
baz=59
ETL Fush Village 0.12 186 *e*P Pg 07 20 50.9 +0.8
baz=186
ETL *e*S Sg 07 20 53.8 +2.1
baz=186
TWD Chiawan 0.20 191 *e*P Pg 07 20 52.7 +1.1
baz=188
TWD *e*S Sg 07 20 56.1 +1.9
baz=188
EWUT Wuta 0.21 37 *e*P Pg 07 20 52.1 +0.1
baz=37
EWUT *e*S Sg 07 20 56.1 +1.3
baz=37
NNSB Datong 0.28 304 *e*P Pb 07 20 54.5 -0.8
baz=303
LATG Datong 0.28 339 *e*P Pb 07 20 54.7 -0.6
baz=338
NNS Nan Shan 0.29 305 *e*P Pg 07 20 54.3 +0.9
baz=304
LXIB Xiulin Townshi 0.32 219 P Pg 07 20 55.0 +1.0
baz=219
LXIB *e*S Sb 07 21 00.4 -1.3
baz=219
ETM Tongmen 0.33 203 *e*P Pg 07 20 55.1 +0.9
baz=203
ESAO Su ao 0.35 32 *e*P Pb 07 20 55.7 -0.9
baz=32
FUSS Fushou 0.36 266 *e*P Pb 07 20 56.9 0.0
baz=265
WHF Hehuan Shan 0.36 249 *e*P Pb 07 20 56.3 -0.7
baz=248
WHF *e*S Sb 07 21 01.6 -1.5
baz=248
ENTT Nioudou 0.37 350 *e*P Pb 07 20 57.2 +0.3
baz=350
TWC Suao 0.39 30 *e*P Pb 07 20 56.6 -0.6
baz=31
TWT Tachien 0.42 267 *e*P Pb 07 20 57.6 -0.2
baz=266
TWE Neicheng 0.45 4 *e*P Pb 07 20 59.2 +1.1
baz=5.0
TWE *e*S Sb 07 21 05.1 0.0
baz=5.0
YHNB Yeheng 0.46 329 *e*P Pb 07 20 58.1 -0.4
baz=328
NSK Sanguang 0.47 328 *e*P Pn 07 21 00.1 -1.3
baz=328
FUSB Fushanzhiwuyua 0.49 355 *e*P Pb 07 20 58.6 -0.3
baz=354
FUSB *e*S Sb 07 21 06.3 0.0
baz=354
SHUL Shoufeng 0.49 188 *e*P Pb 07 20 58.9 +0.1
baz=188
WUSB Renai 0.55 239 *e*P Pb 07 21 00.6 +0.6
baz=239
WARBT Fenglin Townsh 0.60 203 *e*P Pb 07 21 00.8 +0.1
baz=202

*HVO **19** 07:25:06±0.9, 19°.413N±0°.010×155°.268W±0°.008, h0km±2km, ML3.4/48, ML2.8/34(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=189.0*
*NEIC **19** 07:25:06.8±1.0, 19°.412N±0°.010×155°.261W±0°.007, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.7km az=188.0*
*IDC **19** 07:25:10.5±2.9, 19°.53N×155°.28W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=83.2km s-min=16.9km az=175.0*

ISC 19 07:25:08.2±0.9, 19°.41N±0°.05×155°.26W±0°.03, h10km, n35, σ29.40/30, mb3.8/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.00**	**91**			**Pg**	**07 25 06.6**	**-3.5**
HATHI Halema'uma'u T 0.01 8 **Pg 07 25 06.7 -3.5**
KKO Keanakako`i 0.01 193 **Pg 07 25 07.6 -2.6**
SBLHI Steaming Bluff 0.02 341 **Pg 07 25 07.2 -3.0**
UWB Uwekahuna B 0.02 311 **Pg 07 25 07.1 -3.1**
RIM Rim 0.02 213 **Pg 07 25 07.6 -2.6**
OBL Observatory Le 0.02 285 **Pg 07 25 07.3 -2.9**
OBL **Sg 07 25 09.1 -2.5**
UWE Uwekahuna 0.03 287 **Pg 07 25 07.9 -2.3**
WRMHI West Rim 0.04 261 **Pg 07 25 08.2 -2.0**
SDHHI Sand Hill 0.04 233 **Pg 07 25 08.4 -1.8**
RSD Rainshed 0.05 344 **Pg 07 25 07.5 -2.9**
RSD IAML 07 25 08.5
comp=N,3μm,0.3s
PUH Pauahi 0.06 131 **Pg 07 25 08.0 -2.5**
PUH IAML 07 25 08.7
comp=E,5μm,1.0s
PUH IAML 07 25 08.7
comp=N,3μm,0.5s
KNHH Kane Nui o Ham 0.09 110 **Pg 07 25 08.7 -2.1**
HLP Hilina Pali 0.12 200 Pg **Pg 07 25 09.5 -1.8**
HLP IAML 07 25 11.7
comp=E,2μm,1.0s
HLP IAML 07 25 11.8
comp=N,2μm,1.0s
STCH Steam Cracks 0.13 102 Pg **Pg 07 25 09.4 -1.9**
STCH IAML 07 25 12.3
comp=E,10μm,1.0s
STCH IAML 07 25 13.0
comp=N,5μm,0.7s
MLH Mauna Loa 0.14 305 **Pg 07 25 09.8 -1.8**
MLH IAML 07 25 12.3
comp=E,3μm,1.1s
MLH IAML 07 25 13.1
comp=N,3μm,0.6s
NPOC North of Pu'u 0.15 97 **Pg 07 25 09.7 -1.8**
NPOC **Sg 07 25 13.1 -0.8**
JCUZ Jacuzzi 0.15 100 **Pg 07 25 09.9 -1.8**
JCUZ **Sg 07 25 13.7 -0.5**
JOKA Jonika Flow 0.24 85 **Pg 07 25 11.2 -2.1**
JOKA IAML 07 25 16.9
comp=N,2μm,1.0s
JOKA IAML 07 25 18.6
comp=E,3μm,1.6s
HMH Humu'ula Sheep 0.28 312 **Pg 07 25 12.4 -1.7**
MWH Moku'aweowe 0.32 283 **Pg 07 25 13.5 -1.4**
KHU Kahuku 0.37 244 Pg **Pg 07 25 14.4 -1.2**
KHU IAML 07 25 22.2
comp=N,2μm,1.2s
KHU IAML 07 25 23.8
comp=E,2μm,1.1s
POHA Pohakuloa 0.43 324 **Pg 07 25 15.2 -1.5**
HUH Hualalai 0.60 297 **Pg 07 25 18.9 -1.2**
I59US HAWAII INFRASO 0.62 287 Pg **Pn 07 25 21.7 -1.6**
baz=114,slow=40
H11N3 WAKE ISLAND Hy 35.60 277 T T 08 09 13.2
baz=84,slow=74,SNR=14
H11N2 WAKE ISLAND Hy 35.61 277 T T 08 09 14.1
baz=84,slow=74,SNR=9.5
H11N1 WAKE ISLAND Hy 35.62 277 T T 08 09 14.4
baz=84,slow=74,SNR=8.4
H11S2 WAKE ISLAND Hy 35.94 275 T T 08 09 38.7
baz=82
H11S1 WAKE ISLAND Hy 35.94 275 T T 08 09 39.2
baz=82
H11S3 WAKE ISLAND Hy 35.95 275 T T 08 09 39.9
baz=82
H02S1 DAWSON INLET T 38.06 22 T T 08 12 25.6
SNR=17
PDAR Pinedale Array 44.85 48 P P 07 33 26.7 +3.7
comp=E,0.1nm,0.4s,baz=249,slow=4.6,SNR=2.2
comp=E,0.1nm,0.4s
ILAR Eielson Array 45.68 5 P **P 07 33 31.6 +2.7**
comp=E,1.0nm,1.0s,baz=193,slow=7.6,SNR=7.0
comp=E,1.0nm,1.0s
TXAR Lajitas Array 47.70 68 P **P 07 33 48.8 +3.3**
comp=E,1.1nm,0.9s,baz=268,slow=7.7,SNR=10
comp=E,1.1nm,0.9s

*ISN **19** 07:27:20.1±0.9, 33°.83N×45°.75E, h34km±5km, ML2.7*
*TEH **19** 07:27:21.4, 33°.74N×45°.58E, h10km±70km, ML2.7*

ISC 19 07:27:22.1±1.0, 33°.70N±0°.04×45°.64E±0°.06, h13km, n10, σ09.94/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.47**	**29**	Pg		**Pg**	**07 27 30.4**	**-1.1**
IBDR Badra 0.64 157 *e*Pg **Pg 07 27 34.0 -0.5**
IBDR *e*Sg **Sb 07 27 45.0 +1.2**
IGHG Ghaleghazi 1.00 51 Pg **Pb 07 27 41.0 -0.5**
BHD Baghdad 1.13 248 *e*Pn **Pn 07 27 44.0 +0.3**
BHD *e*Sn **Sn 07 28 00.0 +0.9**
IDHR Dehrash 1.18 32 Pg **Pb 07 27 43.9 -0.6**
KCHF Cheshme Sefid, 1.30 63 Pg **Pn 07 27 46.8 +0.6**
ILIN Lien 1.64 42 Pg **Pb 07 27 52.2 -0.2**
IBZA Bozab 2.00 67 Pn **Pb 07 27 57.8 -0.7**
RAFI Al-Rafai 2.01 168 *e*Pn **Pn 07 27 55.0 -0.7**
RAFI *e*Sn **Sn 07 28 21.0 +0.3**
RAFI AML AML 07 28 27.2
comp=N,221nm,0.2s
SNQR Sonqor, Kerman 2.02 54 Pn **Pn 07 27 57.8 +1.6**

IDC 19 07:32:32.1±4.0, 53°.53N×90°.18E, h0km, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=36.9km s-min=24.9km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.21**	**280**	I		I	07 54 30.0	
baz=96,slow=316,SNR=3.4
ZALV Zalesovo Beam 3.21 280 Pn Pn 07 33 21.6 -2.1
0.5nm,0.3s,baz=97,slow=12,SNR=7.2
ZALV Pg Pb 07 33 29.3 -0.7
1.0nm,0.3s,baz=94,slow=17,SNR=12
ZALV Lg Lg 07 34 13.7
0.4nm,0.3s,baz=93,slow=28,SNR=2.7
1.5nm,0.4s
KURBB Kurchatov Arra 7.75 253 Pn Pn 07 34 27.9 +1.9
baz=61,slow=12,SNR=1.5
KURBB Lg Lg 07 36 39.7
baz=69,slow=33
0.5nm,0.2s
MKAR Makanchi Array 8.43 220 Pn Pn 07 34 35.8 +0.4
baz=40,slow=11,SNR=2.1
MKAR Lg Lg 07 36 56.5
baz=50,slow=23,SNR=1.8
0.2nm,0.5s

HEL 19 07:33:27.2±0.3, 67°.82N×20°.40E, h0km, ML1.4, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.64**	**69**	PG		Pg	07 33 38.8	-0.7
KIF Kilpisjarvi 1.20 7 *e*P Pg 07 33 48.6 -1.5
HEF Hetta 1.36 63 *e*P Pg 07 33 50.7 -2.5
HEF Hetta 1.36 63 PB Pg 07 33 51.8 -1.3
baz=250
HEF MSG 07 34 08.2
comp=Z,3.1nm,0.2s
HEF SN Sg 07 34 10.8 +0.2
ERTU Ertsjaerv 1.45 150 PG Pn 07 33 52.9 -1.8
ERTU SN Sn 07 34 14.5 +0.1
KLF Kolari 1.49 112 PG Pn 07 33 54.0 -1.2
KLF MSG 07 34 12.0
comp=Z,3.0nm,0.2s
KLF SN Sn 07 34 15.6 +0.2
KTK1 Kautokeino 1.59 40 PN Pn 07 33 56.7 +0.1
KTK1 SN Sn 07 34 17.8 0.0
TRO Tromso 1.90 344 PG Pn 07 34 00.9 +0.2
TRO SG Sn 07 34 24.3 -1.0
KALU Kalix 2.29 148 PN Pn 07 34 06.3 +0.1
KALU SG Sb 07 34 39.3 +1.2
TOF Tornio 2.33 137 PG Pn 07 34 08.3 +1.5
TOF MSG 07 34 36.4
comp=Z,1.0nm,0.2s
TOF SG Sg 07 34 41.3 -0.8
RNF Rovaniemi 2.50 117 PB Pn 07 34 10.8 +1.7
ARA0 ARCESS Array S 2.54 45 PG Pn 07 34 11.1 +1.5
ARA0 SG Sb 07 34 43.7 -1.6
RAJF Raja-Jooseppi 3.03 74 SG Sb 07 35 00.2 +0.8
KEV Kevo 3.09 48 SB Sn 07 34 56.0 +1.3
KEV MSG 07 34 57.9
comp=Z,1.0nm,0.2s
HUSU Husum 4.53 187 PB Pb 07 34 42.7 -4.7

*TEH **19** 07:38:31.9, 37°.21N×57°.00E, h10km±25km, ML3.3*
*IDC **19** 07:38:33.6±2.5, 37°.40N×56°.74E, h0km, mb3.5/4, mbtmp3.9/9, ML3.6/5, Error ellipse: s-maj=32.6km s-min=18.5km az=177.0*
*NNC **19** 07:38:46.4±6.5, 38°.19N×58°.06E, h0km, mb3.6, Error ellipse: s-maj=91.9km s-min=48.9km az=116.0*

ISC 19 07:38:33.0±0.8, 37°.42N±0°.05×57°.02E±0°.04, h10km, n45, σ29.07/48, 5D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ISFR	**Sfrayin**	**0.86**	**115**	Pg		**Pg**	**07 38 48.7**	**-0.9**
SBZV Sabzevar 1.13 155 Pg **Pg 07 38 51.2 -3.6**
IMND Minoodasht 1.29 263 Pg **Pn 07 38 56.5 -0.6**
IMND Sg **Sb 07 39 14.9 +0.8**
IEMG Emamgholi 1.30 90 Pg **Pn 07 38 58.6 +1.1**
IAKL Akhelmad 1.61 120 Pg **Pn 07 39 01.7 -0.1**
IPAY Payeh 1.85 121 Pg **Pn 07 39 04.9 -0.1**
IKRD Kardeh 2.10 107 Pn **Pn 07 39 09.7 +1.3**
IMOG Moghan 2.28 124 Pn **Pn 07 39 11.3 +0.4**
TBHD Torbat heydari 2.68 138 Pn **Pn 07 39 17.2 +0.8**
IMYA Miami 2.69 113 Pn **Pn 07 39 18.3 +1.8**
IGLO Ghaloghah 2.71 251 Pn **Pn 07 39 18.0 +1.1**
IANJ Anjilo 3.17 233 Pn **Pn 07 39 23.4 +0.3**
TBJM Torbat-e-JAM 3.43 128 Pn **Pn 07 39 27.5 +0.9**
TNSJ Nastanj 3.46 186 Pn **Pn 07 39 26.2 -0.9**
IALA Alasht 3.63 250 Pn **Pn 07 39 31.0 +1.4**
TKDS Koohdasht(Taba 3.80 179 Pn **Pn 07 39 31.0 -0.7**
ILAS Lasjerd 3.85 239 Pn **Pn 07 39 33.1 +0.5**
IFIR Firoozkooh 3.87 244 Pn **Pn 07 39 33.5 +0.8**
IPRN Peran 3.93 254 Pn **Pn 07 39 34.8 +1.2**
AFRZ Afriz 4.30 157 Pn **Pn 07 39 38.3 -0.4**
TPRV Parvadeh(Tabas 4.39 184 Pn **Pn 07 39 38.6 -1.2**
IDMV Damavand 4.42 247 Pn **Pn 07 39 41.7 +1.3**
ISFB Sefidab 4.94 233 Pn **Pn 07 39 48.3 +0.9**

ANAR	Anarak	5.00	213	Pn	Pn	07 39 47.4	-0.9
IDAH	Dahanechah	5.22	153	Pn	Pn	07 39 50.9	-0.5
IKOO	Kooshah	5.24	161	Pn	Pn	07 39 51.0	-0.7
KRSH	Karshahi	5.26	231	Pn	Pn	07 39 51.8	0.0
QAMS	Qamsar	5.87	233	Pn	Pn	07 40 00.5	+0.2
IZEF	Zefreh	5.92	222	Pn	Pn	07 40 00.7	-0.3
IKLH	Kolahrood	6.04	229	Pn	Pn	07 40 02.6	-0.1
ISAD	Sadrabad	6.14	208	Pn	Pn	07 40 02.8	-1.3
IRAM	Ramesheh	6.78	216	Pn	Pn	07 40 12.5	-0.2
ISRB	Sarab	7.43	276	Pn	Pn	07 40 23.9	+2.2
AB31	Akbulak array	12.02	9	⇓Pn	Pn	07 41 24.9	+0.6
	0.2nm,0.3s,baz=190,slow=12,SNR=13						
AB31				⇓Sn	Sn	07 43 35.4	-3.0
	1.7nm,0.5s,baz=193,slow=23,SNR=7.7						
KBZ	Khabaz	12.44	305	Pn	Pn	07 41 29.1	-0.9
	0.7nm,0.3s,baz=90,slow=14,SNR=11						
KBZ				Sn	Sn	07 43 44.6	-4.1
	0.1nm,0.3s,baz=32,slow=3.7,SNR=2.1						
	4.6nm,0.7s						
AKTO	Aktyubinsk	13.03	3	Pn	Pn	07 41 37.8	-0.3
	0.5nm,0.3s,baz=184,slow=13,SNR=7.8						
AKTO				Sn	Sn	07 43 59.7	-3.4
	0.4nm,0.3s,baz=90,slow=9.6,SNR=4.5						
	1.7nm,0.5s						
BELG	Belogornoye	16.36	339	Pn	Pn	07 42 22.8	+0.1
	0.8nm,0.3s,baz=62,slow=4.6,SNR=2.7						
BELG				Sn	Sn	07 45 18.8	-5.3
	0.6nm,0.3s,baz=230,slow=14,SNR=4.4						
	7.5nm,0.8s						
BRVK	Borovoye	18.17	26	⇓Pn	Pn	07 42 46.7	+1.5
	0.9nm,0.5s						
BRVK				⇓Sn	Sn	07 45 58.8	-9.1
	1.0nm,0.6s						
BVA0	Borovoye Array	18.18	27	Pn	P	07 42 49.4	+3.8
	1.0nm,0.5s,baz=210,slow=9.1,SNR=17						
BVA0				⇓Sn	Sn	07 45 57.7	-10
	1.4nm,0.6s,baz=0.0,slow=0.1,SNR=6.5						
BVAR	Borovoye Array	18.18	27	P	Pn	07 42 47.9	+2.5
	0.1nm,0.3s,baz=218,slow=9.1,SNR=24						
BVAR				S	Sn	07 46 00.4	-7.7
	1.1nm,0.4s,baz=218,slow=41,SNR=1.5						
	3.4nm,0.5s						
ARU	Arti	19.05	3	P	P	07 42 57.0	+1.9
	baz=177,slow=5.3,SNR=1.2						
	3.8nm,0.2s						
KURBB	Kurchatov Arra	20.24	42	P	Pn	07 43 12.1	+2.0
	0.3nm,0.3s,baz=236,slow=12,SNR=1.7						
	0.3nm,0.3s						
MKAR	Makanchi Array	20.88	55	P	Pn	07 43 19.0	+1.3
	1.3nm,0.8s,baz=244,slow=9.9,SNR=8.2						
	1.3nm,0.8s						
AKASG	Malin Array Be	23.82	313	P	P	07 43 48.5	+2.6
	0.6nm,0.5s,baz=119,slow=10,SNR=1.7						
	0.6nm,0.5s						
HFS	Hagfors	35.54	324	P	P	07 45 32.1	+2.2
	1.8nm,0.9s,baz=128,slow=9.3,SNR=2.1						
	1.8nm,0.9s						

*IDC **19** 07:42:41.7±5.0,5°.00S×103°.14E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=259.8km s-min=24.7km az=50.0*
*DJA **19** 07:42:41.4±0.6,4°.S±3°×10°.2E±°,h29km±8km,M4.2/7, mb4.2/1,MLv4.2/7*
ISC 19 07:42:37.3±1.4,4°.6S±0°.2×102°.4E±0°.1,h10km,n21, σ1°93/8,mb3.5/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	Liwa	1.77	105	P	Pb	07 43 10.3	+0.4
LWLI				S	Sb	07 43 31.9	-0.4
KASI	Kota Agung	2.35	114	P	Pn	07 43 18.3	+2.3
PPSI	Pulau Pagai	2.93	307	P	Pn	07 43 25.3	+1.3
PDSI	Padang	4.08	332	P	Pn	07 43 40.5	+0.7
SISI	Saibi	4.57	314	P	Pn	07 43 48.3	+1.8
H08S2	Diego Garcia H	29.84	263	T	T	08 18 51.2	
	baz=84,slow=75,SNR=4.4						
H08S3	Diego Garcia H	29.84	263	T	T	08 18 49.5	
	baz=84,slow=75,SNR=9.4						
H08S1	Diego Garcia H	29.86	263	T	T	08 18 50.0	
	baz=84,slow=75,SNR=3.3						
H01W3	Cape Leeuwin H	32.10	162	T	T	08 22 55.8	
	baz=339,slow=76,SNR=8.0						
H01W2	Cape Leeuwin H	32.11	162	T	T	08 23 00.1	
	baz=339,slow=76,SNR=9.5						
H01W1	Cape Leeuwin H	32.11	162	T	T	08 23 00.7	
	baz=339,slow=76,SNR=9.7						
WRA	Warramunga Arr	34.70	119	P	P	07 49 25.5	-2.2
	0.2nm,0.3s,baz=294,slow=8.8,SNR=8.2						
	0.2nm,0.3s						
ASAR	Alice Springs	35.87	125	P	P	07 49 36.1	-1.7
	0.2nm,0.3s,baz=299,slow=8.1,SNR=4.4						
	0.2nm,0.3s						
MKAR	Makanchi Array	54.12	343	P	P	07 52 13.6	+11
	0.3nm,0.6s,baz=141,slow=7.4,SNR=3.7						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	58.66	342	P	P	07 52 45.0	+10
	0.4nm,0.4s,baz=148,slow=5.7,SNR=4.1						
	0.4nm,0.4s						
H04N2	CROZET ISLANDS	60.20	218	T	T	08 57 32.2	
	baz=60,slow=74						
H04N1	CROZET ISLANDS	60.21	218	T	T	08 57 38.5	
	baz=60						
H04N3	CROZET ISLANDS	60.22	218	T	T	08 57 36.7	
	baz=60,slow=74						
H04S1	CROZET ISLANDS	60.45	217	T	T	08 57 56.0	
	baz=65						
H04S3	CROZET ISLANDS	60.46	217	T	T	08 57 53.7	
	baz=65						
H04S2	CROZET ISLANDS	60.46	217	T	T	08 57 54.8	
	baz=65						

IDC 19 08:06:57.2±6.3,47°.90N×80°.64E,h0km,2C-2D,Error ellipse: s-maj=44.4km s-min=34.8km az=135.0,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	Makanchi	1.42	140	⇓P	Pb	08 07 29.0	+4.4
	2.3nm,0.6s						
MAKZ				⇑S	Sn	08 07 49.5	+5.7
	0.4nm,0.7s						
MK31	Makanchi Array	1.58	134	⇑P	Pg	08 07 28.5	+1.0
	0.2nm,0.3s,baz=312,slow=13,SNR=14						
MK31				⇓S	Sg	08 07 51.4	+3.6
	0.6nm,0.6s,baz=307,slow=24						
MKAR	Makanchi Array	1.58	134	Pg	Pn	08 07 26.1	-0.3
	0.3nm,0.3s,baz=314,slow=16,SNR=16						
MKAR				Lg	Lg	08 07 47.0	
	0.1nm,0.3s,baz=317,slow=27,SNR=2.1						
I46RU	ZALESOVO INFRA	6.61	22	I	I	08 48 00.0	
	baz=207,slow=322,SNR=2.0						
I31KZ	AKTYUBINSK INF	14.99	288	I	I	09 31 50.0	
	baz=92,slow=310,SNR=1.5						

NOU 19 08:21:20.9,25°.06S×179°.68E,h428km,mb4.0/11,South of Fiji Islands,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.45	348	P	P	08 23 10.0	-0.4
NIUE	Niue	11.32	60	P	P	08 23 53.0	+0.3
URZ	Urewera	13.34	189	P	P	08 24 14.1	-0.3
BKZ	Black Stump Fm	14.32	190	P	P	08 24 26.2	+1.1
BFZ	Birch Farm	15.84	190	P	P	08 24 40.6	-0.8
SNZO	South Karori	16.73	193	P	P	08 24 50.3	-0.4
	31nm,1.0s						
QRZ	Quartz Range	16.82	199	P	P	08 24 53.3	+1.6
KHZ	Kahutara	18.04	195	P	P	08 25 03.7	-0.9
RPZ	Rata Peaks	19.90	199	P	P	08 25 24.4	+1.9
JCZ	Jackson Bay	20.95	202	P	P	08 25 30.1	-2.0
CTAO	Charters Tower	31.21	272	P	P	08 27 03.5	+0.1

*IDC **19** 08:44:02.0±1.2,48°.67N×155°.53E,h0km,mb3.8/12, mbtmp3.8/13,ML3.5/1,MS3.3/6,Error ellipse: s-maj=31.4km s-min=23.9km az=140.0*
*KRSC **19** 08:44:04.1±1.4,48°.49N×156°.70E,h7km±19km,Ml4.2*
ISC 19 08:44:06.7±1.1,48°.4N±0°.1×155°.7E±0°.1,h35km,n36, σ1°36/29,mb3.9/12,MS3.5/4,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	3.74	23	eP	Pn	08 45 01.0	-0.8
KDTR				eS	Sn	08 45 43.5	-1.0
ASAK	Asacha	4.22	19	eP	Pn	08 45 09.1	+0.5
MTVR	Mutnovka	4.38	20	eP	Pn	08 45 10.9	+0.1
MTVR				eS	Sn	08 46 00.5	-0.1
GRL	Gorelyy	4.42	19	eP	Pn	08 45 11.8	+0.4
APC	Apacha	4.62	11	eP	Pn	08 45 16.9	+3.0
DALK	Dalny	5.02	22	eP	Pn	08 45 19.4	0.0
UGLR	Uglovaya	5.20	21	eP	Pn	08 45 23.7	+1.7
AVH	Avacha	5.23	20	eP	Pn	08 45 23.5	+1.1
KOK	Koryaka	5.24	20	eP	Pn	08 45 23.4	+0.9
SMAR	Somma	5.25	21	eP	Pn	08 45 24.0	+1.2
KRX	Arik	5.30	20	eP	Pn	08 45 24.1	+0.7
GNL	Ganaly	5.48	14	eP	Pn	08 45 27.7	+1.8
ASAJ	Asahikawa	10.03	250	Pn	Pn	08 46 28.9	+0.8
	0.5nm,0.3s,baz=87,slow=13,SNR=3.6						
	4.0nm,0.6s						
SHEM	Shemya Is, Ala	12.47	63	LR	LR	08 51 06.6	
	comp=Z,28nm,21.4s,baz=126,slow=34						
SEY	Seymchan	14.68	354	Pn	Pn	08 47 33.6	+2.1
	0.1nm,0.3s,baz=192,slow=20,SNR=1.8						
KLR	Kul'dur	15.78	282	Pn	P	08 47 49.7	+0.1
	0.3nm,0.3s,baz=97,slow=11,SNR=4.3						
KLR				LR	LR	08 54 16.5	
	comp=Z,90nm,19.6s,baz=187,slow=39						
KSRS	Korea Array	22.96	252	P	P	08 49 08.0	+0.1
	1.5nm,0.6s,baz=51,slow=9.2,SNR=6.4						
	1.5nm,0.6s						
H11N2	WAKE ISLAND Hy	30.01	159	T	T	09 22 13.6	
	baz=344,slow=76,SNR=9.6						
H11N1	WAKE ISLAND Hy	30.02	159	T	T	09 22 10.8	
	baz=344,slow=76,SNR=6.0						
H11N3	WAKE ISLAND Hy	30.02	159	T	T	09 22 14.7	
	baz=344,slow=76,SNR=7.5						
H11S1	WAKE ISLAND Hy	31.14	159	T	T	09 23 41.2	
	baz=344,slow=76,SNR=59						
H11S3	WAKE ISLAND Hy	31.15	160	T	T	09 23 36.1	
	baz=344,slow=76,SNR=80						
H11S2	WAKE ISLAND Hy	31.16	159	T	T	09 23 42.6	
	baz=344,slow=76,SNR=63						
ZALV	Zalesovo Beam	43.07	305	LR	LR	09 11 32.3	
	comp=Z,47nm,19.7s,baz=138,slow=38						
MKAR	Makanchi Array	47.73	297	P	P	08 52 38.7	-1.2
	0.9nm,0.6s,baz=69,slow=8.3,SNR=11						
	0.9nm,0.6s						
KURBB	Kurchatov Arra	48.00	303	P	P	08 52 39.9	-1.9
	0.8nm,0.6s,baz=66,slow=8.4,SNR=5.1						
	0.8nm,0.6s						
ARCES	ARCESS Array B	56.85	341	P	P	08 53 44.3	-2.9
	1.5nm,0.9s,baz=36,slow=7.9,SNR=3.7						
	1.5nm,0.9s						
FINES	FINESS Array B	63.27	336	P	P	08 54 30.1	-1.1
	1.2nm,0.8s,baz=26,slow=7.7,SNR=2.0						
	1.2nm,0.8s						
NOA	NORSAR Array B	67.20	342	P	P	08 54 55.8	-1.0
	0.3nm,0.6s,baz=13,slow=6.4,SNR=1.8						
NOA				LR	LR	09 29 06.0	
	comp=Z,13nm,18.6s,baz=105,slow=40						
	0.3nm,0.6s						
HFS	Hagfors	67.50	341	P	P	08 54 57.0	-1.6
	0.5nm,0.4s,baz=23,slow=4.8,SNR=4.1						
	0.5nm,0.4s						
AKASG	Malin Array Be	71.12	327	P	P	08 55 19.9	-1.2
	0.8nm,0.5s,baz=32,slow=6.1,SNR=3.0						
AKASG				LR	LR	09 28 37.8	
	comp=Z,32nm,19.1s,baz=54,slow=38						
	0.8nm,0.5s						
ASAR	Alice Springs	74.35	201	P	P	08 55 41.7	+1.1
	0.4nm,0.9s,baz=23,slow=5.0,SNR=2.3						
	0.4nm,0.9s						
EKA	Eskdalemuir Ar	75.12	348	P	P	08 55 44.8	+0.1
	0.4nm,0.4s,baz=23,slow=5.8,SNR=5.4						
	0.4nm,0.4s						
TXAR	Lajitas Array	75.17	63	P	P	08 55 46.5	+1.0
	0.4nm,0.8s,baz=294,slow=2.9,SNR=6.2						
	0.4nm,0.8s						
BRTR	Keskin Array B	78.35	318	P	P	08 56 03.6	+0.2
	2.3nm,1.1s,baz=12,slow=6.2,SNR=4.0						
	2.3nm,1.1s						
MDT	Midelt	97.24	343	LR	LR	09 46 47.2	
	comp=Z,50nm,18.5s,baz=154,slow=39						

IDC 19 08:52:20.6±3.9,53°.71N×91°.22E,h0km,mbtmp2.8/3, ML2.3/3,Error ellipse: s-maj=34.1km s-min=27.1km az=34.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.80	276	I	I	09 15 10.0	
	baz=93,slow=320,SNR=2.0						
ZALV	Zalesovo Beam	3.80	276	Pn	Pn	08 53 21.9	+1.6
	0.4nm,0.3s,baz=105,slow=11,SNR=2.9						
ZALV				Pg	Pb	08 53 28.3	-0.1
	1.8nm,0.3s,baz=94,slow=15,SNR=11						
ZALV				Lg	Lg	08 54 21.2	
	2.2nm,0.3s,baz=92,slow=26,SNR=2.6						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	8.39	253	Pn	Pn	08 54 21.9	-1.4
	baz=68,slow=14,SNR=1.9						
KURBB				Sn	Sn	08 55 58.0	-0.7
	baz=68,slow=26,SNR=1.8						
KURBB				Lg	Lg	08 56 45.7	
	baz=72,slow=32						
	0.5nm,0.5s						
MKAR	Makanchi Array	8.98	223	Pn	Pn	08 54 32.6	+1.2
	0.1nm,0.3s,baz=32,slow=10,SNR=2.6						
MKAR				Lg	Lg	08 57 05.6	
	0.1nm,0.3s,baz=39,slow=28,SNR=2.4						
	0.2nm,0.4s						

IDC 19 09:00:07.8±3.2,54°.35N×86°.78E,h0km,mbtmp2.8/2, ML2.3/2,Error ellipse: s-maj=24.4km s-min=16.2km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.22	251	I	I	09 07 30.0	
	baz=70,slow=313,SNR=2.9						
ZALV	Zalesovo Beam	1.22	251	Pg	Pg	09 00 29.8	-1.4
	1.0nm,0.3s,baz=68,slow=16,SNR=10						
ZALV				Lg	Lg	09 00 48.8	
	1.3nm,0.3s,baz=74,slow=26,SNR=9.3						
KURBB	Kurchatov Arra	6.27	237	Pn	Pn	09 01 42.6	+1.1
	0.1nm,0.3s,baz=55,slow=14,SNR=5.3						
KURBB				Sn	Sn	09 02 51.0	-2.8
	baz=53,slow=21,SNR=1.5						
KURBB				Lg	Lg	09 03 28.4	
	0.1nm,0.3s,baz=56,slow=34,SNR=5.3						
	1.0nm,0.6s						
MKAR	Makanchi Array	8.09	202	Pn	Pn	09 02 07.6	+1.1
	0.1nm,0.3s,baz=17,slow=12,SNR=3.1						
MKAR				Sn	Sn	09 03 38.5	-0.1
	0.1nm,0.3s,baz=20,slow=25,SNR=4.6						
MKAR				Lg	Lg	09 04 26.0	
	0.1nm,0.3s,baz=19,slow=32,SNR=2.3						
	0.2nm,0.3s						

IDC 19 09:03:31.6±2.9,53°.74N×86°.56E,h0km,mbtmp2.6/2, ML2.3/2,Error ellipse: s-maj=23.9km s-min=14.2km az=69.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.05	282	I	I	09 08 40.0	
	baz=101,slow=316,SNR=2.8						
ZALV	Zalesovo Beam	1.05	282	Pg	Pg	09 03 50.9	-0.9
	0.7nm,0.3s,baz=101,slow=17,SNR=5.7						
ZALV				Lg	Lg	09 04 06.8	
	0.9nm,0.3s,baz=102,slow=28,SNR=4.6						
KURBB	Kurchatov Arra	5.84	241	Pn	Pn	09 05 00.6	+1.2
	baz=60,slow=13,SNR=1.7						
	0.2nm,0.3s						
MKAR	Makanchi Array	7.47	203	Pn	Pn	09 05 22.8	+0.9
	0.1nm,0.3s,baz=25,slow=14,SNR=1.6						
	0.2nm,0.3s						

*IDC **19** 09:03:41.9±4.7,6°.36S×154°.61E,h84km±38km,mb3.7/6, mbtmp4.0/8,MS3.7/1,Error ellipse: s-maj=29.7km s-min=28.1km az=12.0*
ISC 19 09:03:43.4±1.0,6°.5S±0°.2×154°.6E±0°.1,h100km,n9, σ0°75/11,mb3.8/6,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.03	119	LR	LR	09 08 01.7	
	comp=Z,606nm,18.2s,baz=74,slow=43						
PMG	Port Moresby	7.95	248	P	Pn	09 05 35.5	-0.8
	23nm,0.7s,baz=76,slow=4.8,SNR=6.7						
PMG				S	Sn	09 07 04.4	-0.1
	24nm,1.0s,baz=343,slow=19,SNR=2.8						
DZM	Mont Dzumac	19.25	145	P	Pn	09 08 01.0	-1.1
	4.0nm,0.6s,baz=310,slow=14,SNR=2.3						
WRA	Warramunga Arr	23.81	234	P	P	09 08 48.1	+0.7
	2.1nm,0.9s,baz=56,slow=9.5,SNR=12						
WRA				PcP	PcP	09 12 29.1	+0.8
	0.8nm,0.7s,baz=60,slow=2.1,SNR=6.7						
	2.1nm,0.9s						
ASAR	Alice Springs	26.24	227	P	P	09 09 09.9	+0.5
	0.5nm,0.4s,baz=56,slow=9.2,SNR=11						
ASAR				PcP	PcP	09 12 34.4	+0.6
	0.6nm,0.6s,baz=62,slow=2.5,SNR=7.1						
	0.5nm,0.4s						
SONM	Songino Array	68.71	327	P	P	09 14 36.0	-0.5
	0.6nm,0.6s,baz=127,slow=6.4,SNR=2.2						
	0.6nm,0.6s						
QSPA	South Pole Qui	83.49	180	P	P	09 16 00.3	+0.3
	1.2nm,0.5s,baz=353,slow=2.9,SNR=16						
	1.2nm,0.5s						
MAW	Mawson	84.73	203	P	P	09 16 06.7	+0.7
	1.5nm,0.6s,baz=117,slow=14,SNR=4.0						
	1.5nm,0.6s						
NVAR	Mina Array Bea	91.69	52	P	P	09 16 40.0	-0.2
	0.6nm,0.8s,baz=257,slow=6.3,SNR=4.8						
	0.6nm,0.8s						

IDC 19 09:05:09.9±3.8,53°.61N×87°.75E,h0km,mbtmp2.7/2, ML2.4/2,Error ellipse: s-maj=36.8km s-min=18.9km az=52.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.77	282	I	I	09 16 40.0	
	0.1nm,0.9s,baz=99,slow=315,SNR=4.3						
ZALV	Zalesovo Beam	1.77	282	Pg	Pn	09 05 42.2	+0.5
	1.1nm,0.3s,baz=99,slow=15,SNR=5.7						
ZALV				Lg	Lg	09 06 05.7	
	0.7nm,0.3s,baz=102,slow=26,SNR=3.4						
KURBB	Kurchatov Arra	6.42	246	Pn	Pn	09 06 46.4	+0.9
	0.1nm,0.3s,baz=64,slow=14,SNR=3.4						
	0.4nm,0.5s						
MKAR	Makanchi Array	7.67	209	Pn	Pn	09 07 03.6	+0.9
	0.1nm,0.3s,baz=24,slow=9.5,SNR=1.9						
	0.1nm,0.3s						

IDC 19 09:11:09.7±3.6,53°.52N×90°.73E,h0km,mbtmp3.0/3, ML2.2/3,Error ellipse: s-maj=33.2km s-min=24.4km az=30.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.54	279	I	I	09 31 10.0	
	0.1nm,0.9s,baz=92,slow=315,SNR=6.8						
ZALV	Zalesovo Beam	3.54	279	Pn	Pn	09 12 07.7	+1.8
	0.3nm,0.3s,baz=96,slow=15,SNR=11						
ZALV				Lg	Lg	09 12 59.3	
	1.5nm,0.3s,baz=92,slow=25,SNR=12						
	1.9nm,0.6s						
KURBB	Kurchatov Arra	8.05	254	Pn	Pn	09 13 07.3	-0.6
	baz=64,slow=15,SNR=4.4						
KURBB				Sn	Sn	09 14 39.8	+0.2
	baz=69,slow=27,SNR=11						
KURBB				Lg	Lg	09 15 25.2	
	baz=66,slow=33,SNR=8.0						
	1.2nm,0.8s						
MKAR	Makanchi Array	8.63	222	Pn	Pn	09 13 16.4	+0.5
	0.1nm,0.3s,baz=39,slow=13,SNR=5.5						
MKAR				Lg	Lg	09 15 40.6	
	baz=35,slow=32,SNR=2.5						
	0.4nm,0.6s						
SONM	Songino Array	11.44	113	Lg	Lg	09 17 03.1	
	0.2nm,0.3s,baz=306,slow=31,SNR=3.8						

KRSC 19 09:21:47.5±2.1,48°.60N×156°.81E,h7km±32km,Ml3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.13	348	eP	Pn	09 22 23.4	-0.1
KDTR	Khodutka, Kamc	3.31	14	eP	Pn	09 22 42.8	+3.0
ASAK	Asacha	3.85	10	eP	Pb	09 22 51.8	-4.0
MTVR	Mutnovka	3.99	12	eP	Pn	09 22 52.5	+3.3
MTVR				eS	Sb	09 23 42.1	-4.5
GRL	Gorelyy	4.04	11	eP	Pn	09 22 53.4	+3.6
DALK	Dalny	4.61	15	eP	Pn	09 23 00.9	+3.4
UGLR	Uglovaya	4.79	15	eP	Pn	09 23 05.5	+5.3
KOK	Koryaka	4.84	13	eP	Pn	09 23 05.2	+4.4
KRER	Koryakskii	4.87	14	eP	Pn	09 23 06.2	+4.9
KRX	Arik	4.91	13	eP	Pn	09 23 07.0	+5.2

*IDC **19** 09:22:03.0±1.1,39°.10S×91°.95W,h0km,mb3.6/7, mbtmp3.6/7,MS3.5/9,Error ellipse: s-maj=39.2km s-min=26.4km az=84.0*
ISC 19 09:22:04.6±1.0,39°.1S±0°.2×91°.9W±0°.2,h10km,n23, σ0°83/7,mb3.8/7,MS3.5/9,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	11.71	67	T	T	09 37 12.6	
	baz=240,slow=73,SNR=208						
H03S1	Juan Fernandez	11.72	67	T	T	09 37 15.2	
	baz=240,slow=73,SNR=324						
H03S3	Juan Fernandez	11.73	67	T	T	09 37 14.0	
	baz=240,slow=73,SNR=380						
H03N3	Juan Fernandez	11.91	66	T	T	09 37 27.1	
	baz=241,slow=72,SNR=76						
H03N2	Juan Fernandez	11.91	66	T	T	09 37 22.7	
	baz=241,slow=72,SNR=77						
H03N1	Juan Fernandez	11.93	66	T	T	09 37 26.8	
	baz=241,slow=72,SNR=85						
LVC	Limon Verde	25.60	57	LR	LR	09 35 28.9	
	comp=Z,46nm,18.8s,baz=224,slow=32						
NNA	Nana	30.16	30	LR	LR	09 37 04.5	
	comp=Z,106nm,18.9s,baz=189,slow=30						
LPAZ	La Paz	30.82	49	P	P	09 28 21.6	+0.1
	1.4nm,1.0s,baz=214,slow=6.1,SNR=3.6						
LPAZ				LR	LR	09 38 06.1	
	comp=Z,52nm,20.0s,baz=234,slow=31						
	1.4nm,1.0s						
CPUP	Villa Florida	31.58	77	P	P	09 28 27.3	-0.2
	0.6nm,0.4s,baz=272,slow=0.6,SNR=2.1						
CPUP				LR	LR	09 38 44.6	
	comp=Z,36nm,18.2s,baz=222,slow=32						
	0.6nm,0.4s						
ATAH	Atahualpa	34.09	24	LR	LR	09 39 05.7	
	comp=Z,113nm,21.9s,baz=227,slow=30						
BDFB	Brasilia	44.90	71	LR	LR	09 46 58.9	
	comp=Z,44nm,18.2s,baz=167,slow=33						
JTS	Las Juntas de	49.57	9	LR	LR	09 46 37.6	
	comp=Z,66nm,18.4s,baz=210,slow=30						
QSPA	South Pole Qui	51.12	180	P	P	09 31 07.6	+0.3
	0.5nm,0.7s,baz=108,slow=20,SNR=1.4						
	0.5nm,0.7s						
S

s-maj=26.8km s-min=17.9km az=77.0

ISC 19 09:30:42.0±0.7, 20°27N±0°09×146°0E±0°2, h44km, n34, σ1$08/28, mb3.9/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.72**	**189**	Pn	**Pn**	**09 32 18.0**	**-0.2**
GUMO	**Guam**	**6.72**	**189**	P	**Pn**	**09 32 17.8**	**-0.3**
	8.5nm,0.3s,baz=17,slow=15,SNR=4.9						
JMM	**Marumori**	**18.10**	**347**	Pn	**P**	**09 34 46.9**	**-3.2**
JMM				IAmb	IAmb	09 35 10.2	
	comp=Z,17nm,1.2s						
JNU	**Nakatsue**	**18.55**	**317**	P	**P**	**09 34 55.2**	**0.0**
JNU	**Nakatsue**	**18.55**	**317**	P	**Pn**	**09 34 56.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=207,slow=9.0,SNR=2.7						
	comp=Z,6.5nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**19.64**	**92**	T	T	09 55 58.9	
	baz=275,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**19.65**	**92**	T	T	09 55 59.8	
	baz=275,slow=75,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**19.66**	**92**	T	T	09 56 03.5	
	baz=275,slow=75,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**19.68**	**88**	T	T	09 55 24.5	
	baz=275,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**19.69**	**88**	T	T	09 55 23.2	
	baz=275,slow=75,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**19.70**	**88**	T	T	09 55 26.8	
	baz=275,slow=75,SNR=7.9						
KSRS	**Korea Array**	**23.23**	**321**	P	**P**	**09 35 46.3**	**+1.1**
	comp=Z,2.7nm,0.7s,baz=148,slow=8.2,SNR=15						
KSRS				LR	LR	09 44 09.9	
	comp=Z,16nm,21.5s,baz=210,slow=35						
	comp=Z,2.7nm,0.7s						
DAV	**Davao City (W)**	**23.71**	**239**	LR	LR	09 42 51.7	
	comp=Z,51nm,20.8s,baz=180,slow=31						
WB0	**Warramunga Arr**	**41.37**	**197**	P	**P**	**09 38 24.2**	**+0.2**
WB0				IAmb	IAmb	09 38 24.8	
	comp=Z,4.4nm,1.0s						
WR0	**Warramunga Arr**	**41.51**	**196**	P	**P**	**09 38 23.2**	**-2.0**
WR0				IAmb	IAmb	09 38 35.2	
	comp=Z,9.6nm,1.4s						
WRAB	**Tennant Creek**	**41.54**	**197**	P	**P**	**09 38 25.1**	**-0.2**
WRAB				IAmb	IAmb	09 39 02.9	
	comp=Z,5.6nm,1.2s						
WB2	**Warramunga Arr**	**41.55**	**197**	P	**P**	**09 38 25.8**	**+0.4**
WB2				IAmb	IAmb	09 38 59.3	
	comp=Z,6.9nm,1.2s						
WRA	**Warramunga Arr**	**41.55**	**197**	P	**P**	**09 38 25.4**	**-0.1**
WRA	**Warramunga Arr**	**41.55**	**197**	P	**P**	**09 38 24.7**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=19,slow=8.7,SNR=10						
	comp=Z,1.2nm,0.7s						
SONM	**Songino Array**	**42.09**	**320**	P	**P**	**09 38 29.7**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=132,slow=8.4,SNR=2.7						
	comp=Z,0.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**43.02**	**209**	P	**P**	**09 38 36.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**44.28**	**276**	P	**P**	**09 38 48.8**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=90,slow=7.2,SNR=1.3						
	comp=Z,0.6nm,0.3s						
ASAR	**Alice Springs**	**45.22**	**196**	P	**P**	**09 38 54.0**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=14,slow=6.3,SNR=4.1						
	comp=Z,0.2nm,0.6s						
MKAR	**Makanchi Array**	**57.56**	**313**	P	**P**	**09 40 26.4**	**-0.8**
MKAR	**Makanchi Array**	**57.56**	**313**	P	**P**	**09 40 27.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=96,slow=7.8,SNR=3.3						
MKAR				PcP	**PcP**	**09 41 20.4**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=77,slow=6.5,SNR=3.7						
	comp=Z,0.3nm,0.5s						
RSO	**Redoubt South**	**58.49**	**31**	P	**P**	**09 40 31.9**	**-1.9**
RC01	**Rabbit Creek A**	**60.08**	**30**	P	**P**	**09 40 43.9**	**-0.5**
KURBB	**Kurchatov Arra**	**60.33**	**317**	P	**P**	**09 40 46.2**	**-0.1**
	comp=Z,1.5nm,0.2s,baz=93,slow=8.2,SNR=6.7						
	comp=Z,1.5nm,0.2s						
ILAR	**Eielson Array**	**62.14**	**27**	P	**P**	**09 40 58.2**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=269,slow=6.0,SNR=4.1						
	comp=Z,0.3nm,0.7s						
BVAR	**Borovoye Array**	**65.43**	**320**	P	**P**	**09 41 20.6**	**+0.4**
	comp=Z,2.1nm,0.5s,baz=92,slow=7.5,SNR=15						
	comp=Z,2.1nm,0.5s						
ABKAR	**Akbulak array**	**72.37**	**317**	P	**P**	**09 42 03.8**	**+0.4**
ABKAR				IAmb	IAmb	09 42 31.9	
	comp=Z,3.7nm,1.5s						
YKA	**Yellowknife Ar**	**76.50**	**28**	P	**P**	**09 42 28.1**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=292,slow=5.4,SNR=6.2						
	comp=Z,0.7nm,0.6s						
NVAR	**Mina Array Bea**	**81.99**	**52**	P	**P**	**09 42 59.8**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=269,slow=5.4,SNR=5.7						
	comp=Z,0.5nm,0.7s						
FINES	**FINESS Array B**	**85.57**	**335**	P	**P**	**09 43 15.1**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=67,slow=6.4,SNR=8.3						
	comp=Z,0.9nm,0.5s						

*DJA **19** 09:35:12.6±0.6, 2°N±5°×12°7E±°, h113km±8km, M4.5/12, mb4.5/5, mB5.3/1, MLv4.5/12, Mw(mB)4.7/1*
*IDC **19** 09:35:12.8±2.2, 1°49N×127°41E, h139km±19km, mb3.5/7, mbtmp4.0/8, Error ellipse: s-maj=37.3km s-min=12.1km az=76.0*
*NEIC **19** 09:35:13.0±1.9, 1°50N±0°10×127°15E±0°04, h136km±7km, mb4.2/19, Error ellipse: s-maj=14.5km s-min=5.9km az=185.0*

ISC 19 09:35:13.9±0.6, 1°44N±0°08×127°16E±0°09, h150km, n44, σ1$37/49, mb4.1/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.69**	**163**		**Pn**	**09 35 33.8**	**-2.6**
TNTI	**Ternate**	**0.69**	**163**	P	**Pn**	**09 35 34.0**	**-2.3**
KMSI	**Cibinong**	**3.29**	**255**	P	**Pn**	**09 36 03.5**	**-1.5**
SANI	**Sanana**	**3.66**	**199**	P	**Pn**	**09 36 07.6**	**-2.1**
GTOI	**Gorontalo**	**4.23**	**259**	P	**Pn**	**09 36 17.0**	**-0.1**
NLAI	**Namlea**	**4.65**	**181**	P	**Pn**	**09 36 22.2**	**-0.4**
LUWI	**Luwuk**	**5.04**	**241**	Pn	**Pn**	**09 36 26.0**	**-1.8**
LUWI	**Luwuk**	**5.04**	**241**	P	**Pn**	**09 36 27.9**	**+0.1**
	109nm,0.8s,4μm						
MRSI	**Marisa**	**5.31**	**260**	P	**Pn**	**09 36 29.5**	**-1.9**
	50nm,0.6s,0.4nm						
TOLI2	**Tolitoli**	**6.39**	**267**		**Pn**	**09 36 43.3**	**-2.5**
FAKI	**Fak Fak**	**6.68**	**130**	Pn	**Pn**	**09 36 46.9**	**-2.8**
MPSI	**Mapaga**	**7.35**	**262**	P	**Pn**	**09 36 58.4**	**-0.2**
BKSI	**Bulukumba**	**9.72**	**226**	P	**Pn**	**09 37 32.4**	**+2.1**
KAPI	**Kappang**	**9.79**	**229**	Pn	**Pn**	**09 37 30.0**	**-1.2**
KAPI	**Kappang**	**9.79**	**229**	P	**Pn**	**09 37 34.0**	**+2.8**
	26nm,0.4s,baz=150,slow=8.1,SNR=9.1						
MTN	**Manton Dam**	**14.73**	**165**	Pn	**Pn**	**09 38 34.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.47**	**184**	P	**Pn**	**09 39 30.1**	**-1.9**
COEN	**Coen**	**22.04**	**134**	P	**P**	**09 39 56.8**	**+0.1**
COEN				IAmb	IAmb	09 40 22.8	
	comp=Z,22nm,1.4s						
WB0	**Warramunga Arr**	**22.24**	**162**	P	**P**	**09 39 58.1**	**-0.5**
WB0				IAmb	IAmb	09 40 05.3	
	comp=Z,6.3nm,0.8s						
WRAB	**Tennant Creek**	**22.38**	**162**	P	**P**	**09 39 59.6**	**-0.3**
WRAB				IAmb	IAmb	09 40 00.1	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**22.38**	**162**	P	**P**	**09 39 58.2**	**-1.8**
WRA	**Warramunga Arr**	**22.38**	**162**	P	**P**	**09 39 59.3**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=343,slow=10,SNR=37						
WRA				PcP	**PcP**	**09 43 49.9**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=336,slow=2.1,SNR=5.5						
WRA				S	**S**	**09 43 55.7**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=331,slow=13,SNR=2.2						
WRA				ScP	**ScP**	**09 47 15.2**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=354,slow=3.2,SNR=4.5						
	comp=Z,1.7nm,0.4s						
WB2	**Warramunga Arr**	**22.39**	**162**	P	**P**	**09 39 59.4**	**-0.6**
WB2				IAmb	IAmb	09 40 07.5	
	comp=Z,7.0nm,0.9s						
WR0	**Warramunga Arr**	**22.46**	**162**	P	**P**	**09 40 00.6**	**-0.2**
MBWA	**Marble Bar**	**23.61**	**198**	P	**P**	**09 40 11.3**	**0.0**
MBWA				IAmb	IAmb	09 40 48.4	
	comp=Z,16nm,1.4s						
PSA00	**Pilbara Seismi**	**23.96**	**197**	P	**P**	**09 40 16.1**	**+1.6**
PSA00				IAmb	IAmb	09 40 45.1	
	comp=Z,19nm,1.4s						
AS31	**Alice Springs**	**25.80**	**166**	P	**P**	**09 40 31.4**	**+0.2**
ASAR	**Alice Springs**	**25.80**	**166**	P	**P**	**09 40 31.4**	**+0.2**
ASAR	**Alice Springs**	**25.80**	**166**	P	**P**	**09 40 31.1**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=345,slow=7.8,SNR=20						
ASAR				PcP	**PcP**	**09 43 57.0**	**0.0**
	comp=Z,0.2nm,0.7s,baz=346,slow=2.2,SNR=4.5						
ASAR				ScP	**ScP**	**09 47 24.2**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=338,slow=3.2,SNR=1.6						
	comp=Z,0.9nm,0.5s						
KSRS	**Korea Array**	**35.85**	**1**	P	**P**	**09 41 59.4**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=176,slow=8.9,SNR=10						
	comp=Z,1.3nm,0.6s						
STKA	**Stephens Creek**	**35.85**	**159**	P	**P**	**09 41 59.7**	**+0.5**
STKA	**Stephens Creek**	**35.85**	**159**	P	**P**	**09 41 59.3**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=344,slow=8.2,SNR=9.1						
	comp=Z,1.9nm,0.6s						
ARMA	**Armidale**	**39.34**	**146**	P	**P**	**09 42 30.2**	**+1.5**
ARMA				IAmb	IAmb	09 42 31.1	
	comp=Z,6.3nm,1.0s						
LBZ	**Lake Benmore**	**59.56**	**145**	P	**P**	**09 45 02.3**	**+0.6**
MKAR	**Makanchi Array**	**59.68**	**326**	P	**P**	**09 45 00.6**	**-1.9**
MKAR	**Makanchi Array**	**59.68**	**326**	P	**P**	**09 45 02.9**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=140,slow=7.6,SNR=6.2						
	comp=Z,1.2nm,0.6s						
KHZ	**Kahutara**	**60.40**	**142**	P	**P**	**09 45 07.7**	**+0.3**
BKZ	**Black Stump Fm**	**60.61**	**137**	P	**P**	**09 45 09.1**	**+0.1**
KURBB	**Kurchatov Arra**	**63.89**	**328**	P	**P**	**09 45 30.4**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=124,slow=6.7,SNR=4.5						
	comp=Z,0.8nm,0.5s						
G19K	**Purcell Mounta**	**82.94**	**23**	P	**P**	**09 47 23.1**	**+1.4**
H19K	**Roundabout Mou**	**83.07**	**24**	P	**P**	**09 47 24.0**	**+1.7**
ILAR	**Eielson Array**	**86.97**	**25**	P	**P**	**09 47 40.3**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=251,slow=5.0,SNR=4.2						
	comp=Z,0.2nm,0.6s						
K27K	**Chicken**	**89.05**	**26**	P	**P**	**09 47 52.8**	**+1.1**
K27K				IAmb	IAmb	09 47 53.9	
	comp=Z,2.4nm,1.1s						
FARO	**Faro, Yukon**	**93.16**	**28**	P	**P**	**09 48 11.2**	**+0.4**

IDC 19 09:55:18.1±2.7, 54°27N×86°07E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=19.9km s-min=12.1km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.80**	**247**	I	I	10 00 40.0	
	baz=68,slow=316,SNR=1.4						
ZALV	**Zalesovo Beam**	**0.80**	**247**	Pg	Pg	09 55 32.4	-1.1
	1.9nm,0.3s,baz=64,slow=17,SNR=13						
ZALV				Lg	Lg	09 55 45.4	
	6.5nm,0.3s,baz=66,slow=28,SNR=15						
KURBB	**Kurchatov Arra**	**5.88**	**235**	Pn	Pn	09 56 46.9	+0.5
	0.1nm,0.3s,baz=52,slow=13,SNR=4.6						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.86**	**199**	Pn	Pn	09 57 15.1	+1.4
	0.2nm,0.3s,baz=23,slow=11,SNR=5.3						
	0.3nm,0.3s						

*NOU **19** 10:05:05.8, 23°33S×178°83W, h518km, mb4.1/13, South of Fiji Islands*
*IDC **19** 10:05:11.3±5.5, 23°75S×179°75W, h509km±61km, mb3.2/11, mbtmp4.0/12, Error ellipse: s-maj=26.4km s-min=19.1km az=60.0*
*NEIC **19** 10:05:12.7±0.8, 23°9S±0°1×179°7W±0°1, h528km±9km, mb4.4/20, Error ellipse: s-maj=20.2km s-min=17.6km az=139.0*

ISC 19 10:05:11.5±0.5, 23°89S±0°08×179°62W±0°09, h512km, n70, σ1$26/70, mb4.1/18, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.50**	**340**	P	**P**	**10 06 54.5**	**+1.2**
NIUE	**Niue**	**10.21**	**64**	P	**P**	**10 07 32.4**	**+1.1**
PINNC	**Pines Island,**	**11.96**	**274**	P	**P**	**10 07 50.7**	**+1.1**
URZ	**Urewera**	**14.60**	**190**	P	**P**	**10 08 18.6**	**+1.5**
URZ	**Urewera**	**14.60**	**190**	P	**P**	**10 08 16.7**	**-0.3**
	4.3nm,0.3s,baz=340,slow=2.8,SNR=17						
URZ				S	**S**	**10 10 46.8**	**-3.3**
	3.4nm,0.5s,baz=334,slow=23,SNR=8.9						
RTZ	**Ruatahuna**	**14.96**	**190**	P	**P**	**10 08 22.0**	**+1.0**
BKZ	**Black Stump Fm**	**15.59**	**191**	P	**P**	**10 08 27.9**	**+0.5**
BKZ	**Black Stump Fm**	**15.59**	**191**	P	**P**	**10 08 28.0**	**+0.5**
BKZ				IAmb	IAmb	10 08 30.8	
	comp=Z,11nm,1.1s						
BFZ	**Birch Farm**	**17.10**	**191**	P	**P**	**10 08 42.1**	**-0.6**
BFZ	**Birch Farm**	**17.10**	**191**	P	**P**	**10 08 42.2**	**-0.6**
SNZO	**South Karori**	**18.01**	**194**	P	**P**	**10 08 51.7**	**+0.6**
QRZ	**Quartz Range**	**18.13**	**199**	P	**P**	**10 08 54.3**	**+2.1**
QRZ	**Quartz Range**	**18.13**	**199**	P	**P**	**10 08 54.1**	**+1.9**
NNZ	**Nelson**	**18.25**	**197**	P	**P**	**10 08 54.3**	**+1.0**
TUWZ	**Tuamarina**	**18.30**	**196**	P	**P**	**10 08 55.0**	**+1.3**
MRNZ	**Matariki Terra**	**18.59**	**198**	P	**P**	**10 08 57.4**	**+1.0**
THZ	**Tophouse**	**18.89**	**198**	P	**P**	**10 09 00.8**	**+1.7**
DSZ	**Denniston Nort**	**19.19**	**200**	P	**P**	**10 09 03.8**	**+1.8**
KHZ	**Kahutara**	**19.33**	**195**	P	**P**	**10 09 04.0**	**+0.8**
KHZ	**Kahutara**	**19.33**	**195**	P	**P**	**10 09 03.9**	**+0.8**
GVZ	**Greta Valley S**	**19.98**	**196**	P	**P**	**10 09 10.3**	**+1.3**
LTZ	**Lake Taylor**	**20.00**	**198**	P	**P**	**10 09 09.0**	**-0.3**
LTZ	**Lake Taylor**	**20.00**	**198**	P	**P**	**10 09 09.9**	**+0.5**
INZ	**Inchbonnie**	**20.19**	**199**	P	**P**	**10 09 11.3**	**+0.3**
OXZ	**Oxford**	**20.57**	**198**	P	**P**	**10 09 14.2**	**-0.3**
OXZ				IAmb	IAmb	10 09 17.6	
	comp=Z,11nm,0.5s						
OXZ	**Oxford**	**20.57**	**198**	P	**P**	**10 09 14.1**	**-0.4**
WVZ	**Waitaha Valley**	**20.73**	**200**	P	**P**	**10 09 16.4**	**+0.6**
MQZ	**McQueen's Vall**	**20.77**	**196**	P	**P**	**10 09 16.6**	**+0.5**
MHCZ	**Mount Hutt**	**20.89**	**198**	P	**P**	**10 09 19.6**	**+2.2**
RPZ	**Rata Peaks**	**21.21**	**199**	P	**P**	**10 09 21.0**	**+0.7**
RPZ	**Rata Peaks**	**21.21**	**199**	P	**P**	**10 09 21.6**	**+1.4**
ARCZ	**Arundel**	**21.39**	**198**	P	**P**	**10 09 23.5**	**+1.6**
TMZ	**Timaru**	**21.84**	**198**	P	**P**	**10 09 27.9**	**+2.0**
JCZ	**Jackson Bay**	**22.27**	**202**	P	**P**	**10 09 30.9**	**+1.0**
EIDS	**Eidsvold**	**26.65**	**261**	P	**P**	**10 10 09.7**	**+0.7**
EIDS	**Eidsvold**	**26.65**	**261**	P	**P**	**10 10 09.5**	**+0.6**
CAN	**Canberra**	**29.45**	**240**	P	**P**	**10 10 34.8**	**+1.5**
CAN	**Canberra**	**29.45**	**240**	P	**P**	**10 10 34.5**	**+1.1**
CAN				IAmb	IAmb	10 11 01.7	
	comp=Z,22nm,1.4s						
MILA	**Mila**	**29.80**	**237**	P	**P**	**10 10 38.0**	**+1.7**
CTAO	**Charters Tower**	**31.82**	**270**	P	**P**	**10 10 54.2**	**+0.2**
CTAO	**Charters Tower**	**31.82**	**270**	P	**P**	**10 10 54.0**	**+0.1**
CTAO				IAmb	IAmb	10 10 54.9	
	comp=Z,5.5nm,0.6s						
TOO	**Toolangi**	**32.75**	**237**	P	**P**	**10 11 02.8**	**+1.2**
TOO	**Toolangi**	**32.75**	**237**	P	**P**	**10 11 02.8**	**+1.2**
TOO				IAmb	IAmb	10 11 39.6	
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**35.05**	**248**	P	**P**	**10 11 21.4**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=77,slow=14,SNR=4.0						
	comp=Z,2.7nm,0.6s						
BBOO	**Buckleboo**	**39.77**	**247**	P	**P**	**10 11 59.4**	**-0.3**
AS31	**Alice Springs**	**42.38**	**261**	P	**P**	**10 12 19.8**	**-0.9**
ASAR	**Alice Springs**	**42.38**	**261**	P	**P**	**10 12 19.9**	**-0.8**
ASAR	**Alice Springs**	**42.38**	**261**	P	**P**	**10 12 20.1**	**-0.6**
	comp=Z,2.6nm,0.6s,baz=93,slow=6.9,SNR=49						
	comp=Z,2.6nm,0.6s						
WR0	**Warramunga Arr**	**42.57**	**266**	P	**P**	**10 12 21.2**	**-0.9**
WB2	**Warramunga Arr**	**42.74**	**266**	P	**P**	**10 12 22.6**	**-0.9**
WB2				IAmb	IAmb	10 12 46.2	
	comp=Z,13nm,1.4s						
WRAB	**Tennant Creek**	**42.75**	**266**	P	**P**	**10 12 22.6**	**-1.0**
WRAB				IAmb	IAmb	10 12 45.0	
	comp=Z,13nm,1.5s						
WB0	**Warramunga Arr**	**42.75**	**266**	P	**P**	**10 12 22.6**	**-1.0**
WB0				IAmb	IAmb	10 12 23.3	
	comp=Z,7.1nm,0.7s						
WRA	**Warramunga Arr**	**42.76**	**266**	P	**P**	**10 12 22.7**	**-1.0**
WRA	**Warramunga Arr**	**42.76**	**266**	P	**P**	**10 12 22.5**	**-1.2**
	comp=Z,3.5nm,0.4s,baz=96,slow=8.4,SNR=161						
	comp=Z,3.5nm,0.4s						
FORT	**Forrest**	**46.64**	**250**	P	**P**	**10 12 53.0**	**-0.5**
QSPA	**South Pole Qui**	**66.19**	**180**	P	**P**	**10 15 09.0**	**+1.1**
QSPA				IAmb	IAmb	10 15 11.1	
	comp=Z,12nm,1.5s						
QSPA	**South Pole Qui**	**66.19**	**180**	P	**P**	**10 15 09.3**	**+1.4**
	comp=Z,2.7nm,0.7s,baz=54,slow=4.6,SNR=20						
	comp=Z,2.7nm,0.7s						
MJAR	**Matsushiro Arr**	**72.08**	**325**	P	**P**	**10 15 40.7**	**-2.9**
	comp=Z,0.9nm,0.6s,baz=161,slow=7.7,SNR=2.8						
	comp=Z,0.9nm,0.6s						
ADK	**Adak**	**75.49**	**2**	P	**P**	**10 16 01.1**	**-1.4**
ADK				IAmb	IAmb	10 16 16.6	
	comp=Z,22nm,1.5s						
BELA	**Belgrano 2**	**76.40**	**173**	P	**P**	**10 16 07.6**	**+0.2**
MAW	**Mawson**	**77.88**	**200**	P	**P**	**10 16 16.2**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=133,slow=8.6,SNR=2.1						
	comp=Z,1.2nm,0.7s						
KSRS	**Korea Array**	**78.46**	**320**	P	**P**	**10 16 18.9**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=141,slow=5.6,SNR=2.0						
	comp=Z,0.5nm,0.6s						
NVAR	**Mina Array Bea**	**84.50**	**44**	P	**P**	**10 16 51.2**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=198,slow=5.7,SNR=1.8						
	comp=Z,0.1nm,0.4s						
SNAA	**Sanae**	**84.67**	**179**	P	**P**	**10 16 49.7**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=193,slow=15,SNR=7.5						
	comp=Z,0.6nm,0.5s						
TLIG	**Tlapa**	**89.14**	**70**	P	**P**	**10 17 12.7**	**0.0**
TXAR	**Lajitas Array**	**90.13**	**58**	P	**P**	**10 17 17.7**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=218,slow=5.3,SNR=4.9						
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**92.44**	**44**	P	**P**	**10 17 27.7**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=193,slow=3.7,SNR=2.6						
	comp=Z,0.2nm,0.7s						
HFS	**Hagfors**	**142.60**	**349**	PKhKP	PKPpre	10 23 40.3	
	comp=Z,1.2nm,0.3s,baz=93,slow=2.9,SNR=13						
KHC	**Kasperske Hory**	**152.75**	**341**	PKPdf	**PKPdf**	**10 24 00.9**	**-1.5**
GEC2	**GERESS Array S**	**152.96**	**340**		**PKPbc**	**10 24 06.7**	**-3.8**

*SJA **19** 10:10:18.8±0.6, 20°16S×69°21W, h129km±3km, ML3.3, MW3.6*
*GUC **19** 10:10:21.4±0.7, 20°18S×69°19W, h112km±3km, ML3.5*

ISC 19 10:10:21.2±1.5, 20°25S±0°04×69°26W±0°07, h114km±10km, n26, σ1$07/44, 4C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PX03	**IPOC Station P**	**0.38**	**246**	*e*P	**Pn**	**10 10 37.3**	**-0.7**
PX03				*e*S	**Sn**	**10 10 50.7**	**+0.1**
GO01	**Chusmiza**	**0.58**	**6**	*e*P	**Pn**	**10 10 39.0**	**-0.7**
GO01				*e*S	**Sn**	**10 10 53.3**	**-0.2**
GO01	**Chusmiza**	**0.58**	**6**	*e*P	**Pn**	**10 10 38.9**	**-0.8**
GO01				*e*S	**Sn**	**10 10 52.2**	**-1.3**
GO01				IAML		10 10 54.7	
	comp=E,6μm,0.1s						
PB11	**IPOC Station P**	**0.61**	**322**	*e*P	**Pn**	**10 10 39.0**	**-0.5**
PB11				*e*S	**Sn**	**10 10 54.2**	**+0.9**
PB11				IAML		10 10 56.6	
	comp=Z,906nm,0.2s						
PB11	**IPOC Station P**	**0.61**	**322**	⇑*i*P	**Pn**	**10 10 39.2**	**-0.3**
PB11				*e*S	**Sn**	**10 10 53.1**	**-0.2**
PB11				IAML		10 10 54.6	
	comp=E,3μm,0.3s						
TA02	**Huaiquique**	**0.82**	**268**	*e*P	**Pn**	**10 10 40.9**	**-0.1**
TA02				*e*S	**Sn**	**10 10 57.3**	**+1.4**
TA02				IAML		10 11 00.0	
	comp=Z,893nm,0.1s						
TA02	**Huaiquique**	**0.82**	**268**	*e*P	**Pn**	**10 10 41.3**	**+0.4**
TA02				*e*S	**Sn**	**10 10 56.0**	**0.0**
TA01	**Diego Aracena**	**0.92**	**250**	*e*P	**Pn**	**10 10 41.5**	**-0.4**
TA01				*e*S	**Pn**	**10 10 42.2**	**+0.3**
TA01				IAML		10 10 42.4	
	comp=Z,187nm,0.3s						
TA01	**Diego Aracena**	**0.92**	**250**	⇑*i*P	**Pn**	**10 10 42.2**	**+0.3**
TA01				*e*S	**Sn**	**10 10 57.8**	**+0.2**
PATCX	**Punta Patache**	**1.01**	**236**	*e*P	**Pn**	**10 10 43.6**	**+0.6**
PATCX				*e*S	**Sn**	**10 11 01.4**	**+2.0**
PATCX				IAML		10 11 03.3	
	comp=Z,348nm,0.4s						
PATCX	**Punta Patache**	**1.01**	**236**	⇑*i*P	**Pn**	**10 10 43.5**	**+0.6**
PATCX				*e*S	**Sn**	**10 11 00.4**	**+1.0**
PATCX				IAML		10 11 01.5	
	comp=N,1μm,0.2s						
AP01	**Chacalluta**	**2.13**	**331**	*e*P	**Pn**	**10 10 54.6**	**-1.4**
AP01				IAML		10 11 35.0	
	comp=Z,263nm,0.2s						
AP01	**Chacalluta**	**2.13**	**331**	*e*P	**Pn**	**10 10 54.9**	**-1.2**
PB04	**IPOC Station P**	**2.23**	**202**	*e*P	**Pn**	**10 10 57.7**	**+0.2**
PB04				*e*S	**Sn**	**10 11 24.9**	**-0.5**
PB04				IAML		10 11 27.7	
	comp=Z,139nm,0.1s						
PB04	**IPOC Station P**	**2.23**	**202**	⇑*i*P	**Pn**	**10 10 57.8**	**+0.2**
PB04				*i*S	**Sn**	**10 11 24.3**	**-1.1**
LVC	**Limon Verde**	**2.37**	**172**	*e*P	**Pn**	**10 10 59.7**	**+0.2**
LVC				*e*S	**Sn**	**10 11 30.2**	**+1.4**
LVC	**Limon Verde**	**2.37**	**172**	*e*P	**Pn**	**10 11 00.1**	**+0.6**
LVC				IAML		10 11 31.1	
	comp=Z,178nm,0.2s						
PB06	**IPOC Station P

MEF Metsahovi 1.96 301 *e*P **Pn 10 15 55.0 +1.1**
MEF *e*PG **Pb 10 15 55.8 -0.2**
MEF *e*S **Sn 10 16 20.2 +0.9**
MEF MSG 10 16 21.6
comp=Z,14nm,0.1s
NUR Nurmijrvi 2.02 310 *e*PG **Pb 10 15 56.9 -0.1**
NUR *e*SG **Sb 10 16 22.9 +0.4**
NUR MSG 10 16 23.8
comp=Z,13nm,0.1s
MTSE Matsula 2.12 257 *e*P **Pn 10 15 57.1 +1.0**
MTSE Matsula 2.12 257 *e*P **Pb 10 15 57.9 -0.7**
MTSE Matsula 2.12 257 *e*P **Pn 10 15 57.1 +1.0**
MTSE *e*SG **Sb 10 16 24.9 -0.5**
EE01 Perakula, Nova 2.13 271 *e*P **Pn 10 15 57.3 +1.0**
EE01 *e*PB **Pb 10 15 58.2 -0.7**
EE01 *e*SG **Sb 10 16 25.5 -0.4**
RUF Ruokolahti 2.26 15 *e*P **Pn 10 15 59.2 +1.1**
RUF *e*PB **Pb 10 16 00.4 -0.6**
RUF *e*SG **Sb 10 16 30.6 +1.1**
RUF MSG 10 16 32.4
comp=Z,13nm,0.1s
FIA0 FINESS Array S 2.35 340 *e*PB **Pb 10 16 01.8 -0.9**
FIA0 *e*S **Sn 10 16 29.5 +0.6**
FIA0 *e*SB **Sb 10 16 32.3 0.0**
FIA0 MSG 10 16 34.0
comp=Z,7.3nm,0.1s
FINES FINESS Array B 2.35 340 Pn **Pn 10 16 00.4 +1.0**
comp=Z,3.0nm,0.3s,baz=151,slow=16,SNR=82
FINES Lg Lg 10 16 31.4
comp=Z,9.3nm,0.3s,baz=156,slow=22,SNR=24
comp=Z,12nm,0.5s
FIA1 FINESS Array S 2.35 340 *e*PB **Pb 10 16 01.9 -0.8**
FIA1 *e*SG **Sb 10 16 33.2 +0.9**
FIA1 MSG 10 16 34.0
comp=Z,8.1nm,0.1s
KAF Kangasniemi 2.96 347 *e*PB **Pb 10 16 11.7 -1.3**
KAF *e*SG **Sb 10 16 52.1 +2.4**
KEF Keuruu 3.25 335 *e*P **Pn 10 16 13.7 +2.0**
KEF Keuruu 3.25 335 *e*S **Sn 10 16 53.8 +2.7**
KEF MSG 10 17 02.1
comp=Z,3.8nm,0.1s
SLIT Slitere, Latvi 3.31 243 AML AML 10 17 05.0
comp=E,299nm,0.5s
SLIT AML AML 10 17 09.8
comp=N,258nm,0.3s
SLIT AML AML 10 17 12.0
comp=Z,157nm,0.5s
SLIT Slitere, Latvi 3.31 243 *e*SG **Sb 10 16 59.8 +0.2**
RAF Rauma 3.49 303 *e*P **Pn 10 16 16.5 +1.6**
RAF Rauma 3.49 303 *e*P **Pn 10 16 16.9 +2.0**
RAF AML AML 10 17 10.6
comp=Z,16nm,0.4s
RAF AML AML 10 17 16.2
comp=E,15nm,0.3s
RAF AML AML 10 17 16.5
comp=N,16nm,0.3s
RAF Rauma 3.49 303 *e*P **Pn 10 16 16.5 +1.6**
SUF Sumiainen 3.57 348 *e*P **Pn 10 16 17.5 +1.5**
SUF *e*SG **Sg 10 17 11.4 -2.5**
SUF MSG 10 17 12.8
comp=Z,5.0nm,0.2s
KPF Kankaanpaa 3.82 315 *e*P **Pn 10 16 20.9 +1.4**
KPF MSG 10 17 21.4
comp=Z,4.4nm,0.2s
IIGN Ignalina 4.00 193 *e*P **Pn 10 16 24.1 +2.1**
AAL Aland 4.04 287 *e*P **Pn 10 16 24.1 +1.5**
AAL Aland 4.04 287 P **Pn 10 16 25.1 +2.6**
AAL S **Sn 10 17 09.8 -0.8**
AAL Aland 4.04 287 *e*PG **Pb 10 16 32.8 +1.3**
AAL *e*SG **Sb 10 17 24.9 +4.0**
JOF Joensuu 4.06 24 *e*P **Pn 10 16 23.6 +0.8**
JOF Joensuu 4.06 24 *e*P **Pn 10 16 24.1 +1.3**
VAF Ylistaro 4.53 329 *e*P **Pn 10 16 31.8 +2.6**
NRTU Norrtaelje 4.68 279 P **Pn 10 16 33.1 +1.8**
GRAU Graesoe 4.79 287 P **Pn 10 16 32.1 -0.6**
NYNU Nynaeshamn 5.04 271 P **Pn 10 16 36.8 +0.6**
NYNU S **Sn 10 17 33.2 -1.8**
GOTU Gotland 5.08 256 P **Pn 10 16 38.8 +2.1**
GOTU S **Sn 10 17 37.7 +1.8**
FLYU Flymyra 5.08 284 P **Pn 10 16 36.6 -0.2**
FIBU Brunna 5.33 281 P **Pn 10 16 42.2 +2.0**
BACU Backbrunna 5.46 281 P **Pn 10 16 42.6 +0.7**
OSTU Oestervaala 5.47 285 P **Pn 10 16 41.3 -0.7**
VIKU Vikbolandet 5.79 267 *e*P **Pn 10 16 46.6 +0.1**
HFS Hagfors 7.18 283 Pn **Pn 10 17 04.6 -1.0**
comp=Z,0.4nm,0.3s,baz=93,slow=13,SNR=18
HFS Sn **Sn 10 18 24.9 -2.8**
comp=Z,0.5nm,0.3s,baz=96,slow=26,SNR=5.4
HFS Lg Lg 10 18 58.2
comp=Z,1.2nm,0.3s,baz=95,slow=31,SNR=7.3
comp=Z,1.0nm,0.3s
NOA NORSAR Array B 8.45 289 Pn **Pn 10 17 21.9 -1.1**
baz=90,slow=13,SNR=15
NOA Lg Lg 10 19 38.2
comp=Z,0.1nm,0.3s,baz=264,slow=13,SNR=5.8
comp=Z,0.2nm,0.4s
AKASG Malin Array Be 8.61 174 Pn **Pn 10 17 25.6 +0.4**
comp=Z,0.4nm,0.3s,baz=356,slow=12,SNR=6.9
ARCES ARCESS Array B 10.37 356 Pn **Pn 10 17 46.5 -2.7**
comp=Z,0.1nm,0.3s,baz=171,slow=14,SNR=7.1
ARCES Lg Lg 10 20 35.7
comp=Z,0.2nm,0.3s,baz=169,slow=24,SNR=3.4
comp=Z,0.3nm,0.2s
BVAR Borovoye Array 24.20 86 P **P 10 20 37.3 -0.1**
comp=Z,0.5nm,0.6s,baz=303,slow=10,SNR=2.0
comp=Z,0.5nm,0.6s
KURBB Kurchatov Arra 29.73 84 P **P 10 21 26.3 -0.7**
comp=Z,0.1nm,0.3s,baz=323,slow=8.0,SNR=1.9
comp=Z,0.1nm,0.3s
MKAR Makanchi Array 34.08 87 P **P 10 22 05.5 +0.2**
comp=Z,0.3nm,0.5s,baz=325,slow=7.4,SNR=5.1
comp=Z,0.3nm,0.5s

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*IDC **19** 11:03:30.5±0.8, 6°.26S×143°.19E, h0km, mb4.1/8, mbtmp4.2/9, ML2.4/2, MS3.7/3, Error ellipse: s-maj=34.8km s-min=16.9km az=70.0*
*NEIC **19** 11:03:34.1±2.7, 6°.3S±0°.1×142°.98E±0°.08, h10km±1km, mb4.4/16, Error ellipse: s-maj=19.7km s-min=12.2km az=26.0*
ISC 19 11:03:36.7±0.7, **6°.47S**±0°.07×**142°.94E**±0°.07, **h35**km, **n49,** σ**2**^{s}**22**/50, **mb4.1**/10, **MS3.9**/3, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**2.08**	**305**	P	**Pn**	**11 04 09.6**	**+0.4**
PMG	**Port Moresby**	**5.10**	**125**	**Pn**	**Pn**	**11 04 50.8**	**+0.2**
PMG	**Port Moresby**	**5.10**	**125**	Pn	**Pn**	**11 04 48.9**	**-1.7**
	7.5nm,0.3s,baz=314,slow=9.5,SNR=8.4						
PMG				Sn	**Sn**	**11 05 46.4**	**-1.8**
	14nm,0.3s,baz=137,slow=20,SNR=8.7						
	33nm,0.4s						
COEN	**Coen**	**7.45**	**178**	P	**Pn**	**11 05 26.1**	**+3.2**
COEN	**Coen**	**7.45**	**178**	Pn	**Pn**	**11 05 25.8**	**+2.8**
FAKI	**Fak Fak**	**11.22**	**288**	P	**Pn**	**11 06 14.3**	**-0.4**
FAKI	**Fak Fak**	**11.22**	**288**	Pn	**Pn**	**11 06 14.7**	**0.0**
MTSU	**Mount Surprise**	**11.67**	**174**	P	**Pn**	**11 06 23.9**	**+3.0**
KDU	**Kakadu**	**12.03**	**238**	P	**Pn**	**11 06 24.6**	**-1.1**
	28nm,0.9s						
MTN	**Manton Dam**	**13.25**	**241**	P	**Pn**	**11 06 41.4**	**-1.0**
MTN	**Manton Dam**	**13.25**	**241**	Pn	**Pn**	**11 06 41.6**	**-0.9**
CTA	**Charters Tower**	**13.91**	**167**	Pn	**Pn**	**11 06 52.5**	**+0.9**
	baz=11,slow=16,SNR=3.5						
CTAO	**Charters Tower**	**13.91**	**167**	Pn	**Pn**	**11 06 54.4**	**+2.9**
QIS	**Mount Isa**	**14.38**	**193**	P	**Pn**	**11 06 59.3**	**+1.5**
WB0	**Warramunga Arr**	**15.61**	**211**	Pn	**Pn**	**11 07 15.0**	**+0.7**
WR0	**Warramunga Arr**	**15.70**	**211**		**Pn**	**11 07 14.4**	**-0.9**
WR0				IAmb	IAmb	11 07 22.3	
	comp=Z,15nm,0.7s						
WRAB	**Tennant Creek**	**15.77**	**211**		**Pn**	**11 07 15.7**	**-0.6**
WRAB				IAmb	IAmb	11 07 33.7	
	comp=Z,24nm,1.2s						
WB2	**Warramunga Arr**	**15.78**	**211**	Pn	**Pn**	**11 07 15.9**	**-0.5**
WRA	**Warramunga Arr**	**15.79**	**211**	Pn	**Pn**	**11 07 15.8**	**-0.7**
WRA	**Warramunga Arr**	**15.79**	**211**	Pn	**Pn**	**11 07 14.1**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=31,slow=13,SNR=36						
WRA				Sn	**Sn**	**11 10 01.7**	**-8.7**
	comp=Z,0.4nm,0.3s,baz=30,slow=21,SNR=6.7						
KNRA	**Kununurra**	**16.64**	**235**	Pn	**Pn**	**11 07 25.8**	**-1.6**
KNRA				IAmb	IAmb	11 07 45.3	
	comp=Z,17nm,0.8s						
SOEI	**Soe**	**18.77**	**259**		**Pn**	**11 07 54.9**	**+1.1**
SOEI				IAmb	IAmb	11 08 31.7	
	comp=Z,48nm,0.9s						
AS31	**Alice Springs**	**19.18**	**206**		**Pn**	**11 07 59.5**	**+0.9**
AS31				IAmb	IAmb	11 08 03.0	
	comp=Z,16nm,0.7s						
ASAR	**Alice Springs**	**19.18**	**206**		**Pn**	**11 07 59.7**	**+1.1**
ASAR	**Alice Springs**	**19.18**	**206**	P	**Pn**	**11 08 00.0**	**+1.4**
	comp=Z,48nm,0.6s,baz=32,slow=10,SNR=331						
ASAR				S	**Sn**	**11 11 27.0**	**-5.7**
	comp=Z,3.6nm,0.8s,baz=15,slow=28,SNR=4.0						
EIDS	**Eidsvold**	**20.34**	**158**	P	**P**	**11 08 12.0**	**+1.9**
EIDS				IAmb	IAmb	11 08 14.0	
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.45**	**234**	P	**P**	**11 08 12.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**20.45**	**234**	P	**P**	**11 08 12.6**	**+1.2**
INKA	**Innaminka**	**21.26**	**185**	P	**P**	**11 08 23.8**	**+3.8**
OOD	**Oodnadatta**	**22.30**	**197**	P	**P**	**11 08 33.7**	**+2.6**
WRKA	**Warakurna**	**23.19**	**216**	P	**P**	**11 08 41.8**	**+1.3**
LCRK	**Leigh Creek**	**24.26**	**190**	P	**P**	**11 08 52.0**	**+1.4**
MULG	**Mulgathing**	**25.12**	**198**	P	**P**	**11 09 00.0**	**+1.6**
ARMA	**Armidale**	**25.18**	**162**	P	**P**	**11 09 01.8**	**+2.6**
ARMA				IAmb	IAmb	11 09 21.4	
	comp=Z,12nm,1.3s						
STKA	**Stephens Creek**	**25.31**	**183**	P	**P**	**11 09 00.6**	**+0.4**
STKA	**Stephens Creek**	**25.31**	**183**	P	**P**	**11 09 00.5**	**+0.4**
	comp=Z,6.2nm,0.9s,baz=360,slow=11,SNR=7.1						
	comp=Z,6.2nm,0.9s						
BBOO	**Buckleboo**	**26.98**	**193**	P	**P**	**11 09 16.6**	**+1.4**
FORT	**Forrest**	**27.93**	**208**	P	**P**	**11 09 24.7**	**+1.0**
NWAO	**Narrogin (SRO)**	**35.55**	**219**	LR	LR	11 25 45.3	
	comp=Z,272nm,19.3s,baz=276,slow=37						
RTZ	**Ruatahuna**	**44.39**	**141**	P	**P**	**11 11 44.9**	**+0.9**
RTZ				IAmb	IAmb	11 11 49.2	
	comp=Z,12nm,1.0s						
BKZ	**Black Stump Fm**	**44.42**	**142**	P	**P**	**11 11 43.8**	**-0.5**
RPZ	**Rata Peaks**	**44.55**	**151**	LR	LR	11 29 31.2	
	comp=Z,164nm,21.0s,baz=112,slow=35						
KSRS	**Korea Array**	**45.89**	**343**	P	**P**	**11 11 55.1**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=161,slow=7.7,SNR=2.5						
KSRS				LR	LR	11 28 24.3	
	comp=Z,27nm,20.6s,baz=215,slow=33						
	comp=Z,1.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**49.96**	**301**	P	**P**	**11 12 28.5**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=113,slow=6.5,SNR=1.5						
	comp=Z,0.5nm,0.3s						
MKAR	**Makanchi Array**	**75.33**	**322**	P	**P**	**11 15 15.9**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=105,slow=7.9,SNR=8.3						
	comp=Z,1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**79.22**	**324**	P	**P**	**11 15 35.6**	**-2.5**
	comp=Z,0.6nm,0.5s,baz=101,slow=4.8,SNR=7.0						
	comp=Z,0.6nm,0.5s						
QSPA	**South Pole Qui**	**83.50**	**180**	P	**P**	**11 16 00.7**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=299,slow=0.5,SNR=22						
	comp=Z,2.2nm,0.6s						
BVAR	**Borovoye Array**	**84.79**	**325**	P	**P**	**11 16 07.0**	**-0.4**
	comp=Z,5.2nm,0.7s,baz=114,slow=6.6,SNR=21						
	comp=Z,5.2nm,0.7s						
ILAR	**Eielson Array**	**87.52**	**24**	P	**P**	**11 16 18.2**	**-2.3**
	comp=Z,0.7nm,0.9s,baz=262,slow=4.2,SNR=8.1						
	comp=Z,0.7nm,0.9s						

IDC 19 11:15:46.6±5.4, **9°.78S**×**157°.18E**, **h0**km, **mb3.4**/3, **mbtmp3.4**/3, **Error ellipse: s-maj=352.0km s-min=35.7km az=136.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.25**	**243**	P	P	11 21 06.5	+0.8
	1.1nm,0.8s,baz=70,slow=10,SNR=4.7						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**26.16**	**235**	P	P	11 21 22.2	-0.7
	0.4nm,0.7s,baz=59,slow=11,SNR=4.1						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**85.17**	**21**	P	P	11 28 24.4	-0.1
	0.2nm,0.8s,baz=235,slow=3.2,SNR=2.2						
	0.2nm,0.8s						

IDC 19 11:24:28.6±1.7, **12°.45N**×**119°.19E**, **h0**km, **mb3.6**/4, **mbtmp3.6**/4, **Error ellipse: s-maj=248.8km s-min=21.7km az=62.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.48**	**155**	P	P	11 31 26.4	-0.7
	0.8nm,0.6s,baz=332,slow=10,SNR=17						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**38.67**	**158**	P	P	11 31 54.7	+0.5
	0.6nm,0.5s,baz=339,slow=6.7,SNR=18						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**46.18**	**325**	P	P	11 32 56.0	+0.8
	0.5nm,0.8s,baz=120,slow=8.5,SNR=2.7						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**50.42**	**327**	P	P	11 33 26.8	-1.0
	0.3nm,0.4s,baz=125,slow=9.2,SNR=4.7						
	0.3nm,0.4s						

IDC 19 11:45:52.8±2.8, **17°.16S**×**177°.91E**, **h0**km, **mb3.7**/5, **mbtmp3.7**/5, **Error ellipse: s-maj=265.7km s-min=26.2km az=156.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.32**	**259**	P	P	11 53 41.2	+0.6
	0.6nm,1.0s,baz=94,slow=8.2,SNR=2.8						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**41.62**	**254**	P	P	11 53 42.5	-0.6
	0.8nm,0.7s,baz=81,slow=9.7,SNR=11						
	0.8nm,0.7s						
NVAR	**Mina Array Bea**	**81.36**	**45**	P	P	11 58 11.4	-0.3
	0.5nm,0.8s,baz=218,slow=5.7,SNR=3.7						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	**88.59**	**59**	P	P	11 58 48.6	+0.5
	0.5nm,1.1s,baz=211,slow=5.1,SNR=2.8						
	0.5nm,1.1s						
PDAR	**Pinedale Array**	**89.26**	**45**	P	P	11 58 51.0	-0.2
	0.7nm,0.9s,baz=236,slow=4.5,SNR=1.9						
	0.7nm,0.9s						

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*BJI **19** 11:52:02.7±0.0, 37°.18N×141°.24E, h45km, mb4.7/25, mB4.8/8, Ms3.8/7, Ms7 3.9/7*
*NIED **19** 11:52:04.5, 37°.08N×141°.19E, h52km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.54; $M_{\theta\theta}$1.15; $M_{\phi\phi}$0.39; $M_{r\theta}$2.51; $M_{\theta\phi}$0.54; $M_{r\phi}$3.94; Fault plane solution: $M_0$4.89000×10^{15} NP1: ϕ_s214.00000°, δ82.00000°, λ-97.00000°. NP2:ϕ_s74.00000°, δ10.00000°, λ-51.00000°.*
*JMA **19** 11:52:04.5±0.1, 37°.1N±0°.3×141°.2E±0°.7, h52km, MD4.4/39, MV4.6/39, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*IDC **19** 11:52:05.6±0.6, 37°.10N×141°.18E, h57km±5km, mb3.9/21, mbtmp4.2/28, MS3.5/16, Error ellipse: s-maj=12.5km s-min=8.6km az=159.0*
*NEIC **19** 11:52:06.1±2.5, 37°.13N±0°.05×141°.18E±0°.09, h54km±3km, mb4.5/63, Error ellipse: s-maj=10.7km s-min=7.8km az=104.0*
ISC 19 11:52:04.9±0.6, **37°.06N**±0°.04×**141°.24E**±0°.05, **h51**km±4km, **h51**km:**pP-P**, **n179**, σ**1**^{s}**28**/137, **mb4.5**/57, **MS3.6**/11, **2C-17D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.35**	**277**	⇓P	**Pn**	**11 52 13.9**	**-0.8**
ONAJ				⇓S	**Sn**	**11 52 20.7**	**-1.0**
ONAJ	**Iwakimizuishiy**	**0.35**	**277**	A	A	11 52 13.9	
	comp=E,61nm,0.4s,comp=N,24nm,0.2s						
JFK	**Kawauchi**	**0.42**	**317**	⇓P	**Pn**	**11 52 14.5**	**-0.9**
JFK				⇓S	**Sn**	**11 52 21.5**	**-1.4**
JFK	**Kawauchi**	**0.42**	**317**	A	A	11 52 14.5	
	comp=E,33nm,0.7s,comp=N,40nm,1.5s						
JFFD	**Fukushimafurud**	**0.54**	**274**	⇓*i*P	**Pn**	**11 52 15.9**	**-0.9**
JFFD				⇓S	**Sn**	**11 52 23.8**	**-1.4**
JFFD	**Fukushimafurud**	**0.54**	**274**	A	A	11 52 15.9	
	comp=E,25nm,2.0s,comp=N,13nm,0.4s						
JHO	**Hitachi**	**0.70**	**230**	⇓P	**Pn**	**11 52 17.8**	**-0.9**
JHO				⇓S	**Sn**	**11 52 27.0**	**-1.6**
JHO	**Hitachi**	**0.70**	**230**	A	A	11 52 17.8	
	comp=E,6.0nm,0.3s,comp=N,18nm,1.2s						
JMST	**Minamisoumatoc**	**0.72**	**337**	A	A	11 52 18.2	
	comp=E,13nm,0.5s,comp=N,42nm,0.9s						
JOTO	**OTAMA OYAMA**	**0.88**	**305**	*i* P	**Pn**	**11 52 20.9**	**-0.1**
JOTO				S	**Sn**	**11 52 32.6**	**-0.3**
JOTO	**OTAMA OYAMA**	**0.88**	**305**	A	A	11 52 20.9	
	comp=E,151nm,1.1s,comp=N,118nm,1.0s						
JMM	**Marumori**	**0.88**	**336**	P	**Pn**	**11 52 20.3**	**-0.8**
JMM	**Marumori**	**0.88**	**336**		**Pn**	**11 52 20.2**	**-0.8**
JMM	**Marumori**	**0.88**	**336**	⇓*i*P	**Pn**	**11 52 20.2**	**-0.8**
JMM				⇓S	**Sn**	**11 52 31.9**	**-1.0**
JMM	**Marumori**	**0.88**	**336**	A	A	11 52 20.2	
	comp=E,31nm,0.7s,comp=N,58nm,0.6s						
JHYU	**Hitachinakayam**	**0.89**	**216**	A	A	11 52 20.8	
	comp=E,7.0nm,1.0s,comp=N,12nm,0.4s						
JSB	**Shiboa**	**1.06**	**265**	A	A	11 52 22.8	
	comp=E,44nm,1.4s,comp=N,21nm,1.3s						
JYT	**Yasato**	**1.18**	**226**	A	A	11 52 24.8	
	comp=E,18nm,0.3s,comp=N,17nm,0.2s						
JYAR	**Yonezawaarcadi**	**1.22**	**315**	A	A	11 52 24.9	
	comp=E,47nm,0.8s,comp=N,39nm,1.3s						
JIHU	**Itakohorinouch**	**1.23**	**208**	A	A	11 52 25.7	
	comp=E,25nm,3.9s,comp=N,18nm,1.4s						
JFY	**Yanaizu**	**1.27**	**286**	⇓*i*P	**Pn**	**11 52 25.8**	**-0.6**
JFY				⇓*e*S	**Sn**	**11 52 41.7**	**-0.7**
JFY	**Yanaizu**	**1.27**	**286**	A	A	11 52 25.8	
	comp=E,8.0nm,1.2s,comp=N,8.0nm,4.3s						
JOU	**Okura**	**1.38**	**341**	*i* P	**Pn**	**11 52 27.4**	**-0.5**
JOU				S	**Sn**	**11 52 44.6**	**-0.4**
JOU	**Okura**	**1.38**	**341**	A	A	11 52 27.4	
	comp=E,15nm,0.9s,comp=N,20nm,2.1s						
JIO	**Ouri**	**1.40**	**4**	⇓*i*P	**Pn**	**11 52 27.3**	**-0.7**
JYS	**Shiratake**	**1.49**	**322**	*i* P	**Pn**	**11 52 29.2**	**-0.1**
JYS				S	**Sn**	**11 52 47.8**	**+0.2**
JYS	**Shiratake**	**1.49**	**322**	A	A	11 52 29.2	
	comp=E,18nm,1.5s,comp=N,16nm,1.2s						
JOFO	**Osakifurukawao**	**1.56**	**351**	A	A	11 52 30.1	
	comp=E,25nm,1.4s,comp=N,25nm,2.1s						
JAG	**Ashikaga**	**1.57**	**247**	⇓*i*P	**Pn**	**11 52 29.8**	**-0.6**
JAG				⇓*e*S	**Sn**	**11 52 48.8**	**-0.8**
JNS	**Sasagawa**	**1.71**	**297**	A	A	11 52 31.9	
	comp=E,5.0nm,2.6s,comp=N,3.0nm,2.4s						
TOK	**Tokyo**	**1.82**	**222**	A	A	11 52 33.9	
	comp=E,10.0nm,2.6s,comp=N,13nm,1.0s						
JCN	**Nagara**	**1.84**	**207**	A	A	11 52 34.4	
	comp=E,10.0nm,3.0s,comp=N,10.0nm,2.7s						
JYA	**Atsumi**	**1.95**	**322**	A	A	11 52 35.4	
	comp=E,21nm,0.6s,comp=N,17nm,1.4s						
JYK	**Kaneyama**	**1.98**	**340**	A	A	11 52 36.0	
	comp=E,4.0nm,2.8s,comp=N,4.0nm,1.8s						
JIZZ	**Izumozaki**	**2.07**	**284**	A	A	11 52 37.1	
	comp=E,14nm,1.8s,comp=N,7.0nm,2.9s						
JGK	**Kuni**	**2.14**	**257**	A	A	11 52 38.2	
	comp=E,4.0nm,2.3s,comp=N,4.0nm,3.2s						
JYYZ	**Yamagatayuza**	**2.21**	**333**	A	A	11 52 39.1	
	comp=E,11nm,3.7s,comp=N,12nm,2.4s						
TATJ	**Tateyama 2**	**2.30**	**209**	A	A	11 52 40.9	
	comp=E,10.0nm,2.7s,comp=N,11nm,2.2s						
JRG	**Rokugo**	**2.38**	**349**	A	A	11 52 41.7	
	comp=E,4.0nm,0.9s,comp=N,4.0nm,0.8s						
JOM	**Ohasama**	**2.41**	**1**	A	A	11 52 42.3	
	comp=E,6.0nm,0.6s,comp=N,3.0nm,2.3s						
MJAR	**Matsushiro Arr**	**2.48**	**259**	P	**Pn**	**11 52 42.7**	**-0.3**
	comp=N,52nm,0.5s,baz=82,slow=15,SNR=108						
MJAR				S	**Sn**	**11 53 12.9**	**+0.9**
	comp=N,146nm,0.8s,baz=87,slow=29,SNR=5.6						
MJAR				LR	LR	11 54 03.8	
	comp=N,991nm,21.5s,baz=52,slow=48						
MAJO	**Matsushiro**	**2.49**	**259**	P	**Pn**	**11 52 43.7**	**+0.7**
MAJO	**Matsushiro**	**2.49**	**259**	Pn	**Pn**	**11 52 43.6**	**+0.6**
MJB9	**Matsu-Tunnel**	**2.49**	**259**	Pn	**Pn**	**11 52 43.6**	**+0.6**
JOD2	**Odawara 2**	**2.50**	**225**	A	A	11 52 43.5	
	comp=E,3.0nm,1.1s,comp=N,4.0nm,2.6s						
JSD	**Sado**	**2.56**	**293**	P	**Pn**	**11 52 44.8**	**+0.9**
JSD	**Sado**	**2.56**	**293**		**Pn**	**11 52 44.2**	**+0.3**
JYW	**Yuwa**	**2.61**	**342**	A	A	11 52 44.9	
	comp=E,6.0nm,0.9s,comp=N,13nm,2.5s						
JKEN	**Kujiedanarisaw**	**3.16**	**7**	A	A	11 52 52.9	
	comp=E,11nm,0.9s,comp=N,9.0nm,0.5s						
JNY	**Yasuok**	**3.21**	**239**	A	A	11 52 53.5	
	comp=E,5.0nm,1.2s,comp=N,7.0nm,1.6s						
JSG	**Sagara**	**3.44**	**227**	P	**Pn**	**11 52 57.4**	**+1.4**
JSG	**Sagara**	**3.44**	**227**		**Pn**	**11 52 59.1**	**+3.1**
JGF	**Kuroka**	**3.46**	**246**	P	**Pn**	**11 52 57.6**	**+1.3**
JGF	**Kuroka**	**3.46**	**246**	Pn	**Pn**	**11 52 57.7**	**+1.5**
JTM	**Tenmabayashi**	**3.73**	**358**	P	**Pn**	**11 53 00.9**	**+1.0**
JTM	**Tenmabayashi**	**3.73**	**358**	Pn	**Pn**	**11 53 01.2**	**+1.3**
INU	**Inuyama**	**3.82**	**245**	P	**Pn**	**11 53 03.1**	**+1.9**
INU	**Inuyama**	**3.82**	**245**	Pn	**Pn**	**11 53 02.7**	**+1.6**
JHJ2	**Mitsune**	**4.11**	**197**	P	**Pn**	**11 53 05.4**	**+0.2**
JHJ2	**Mitsune**	**4.11**	**197**		**Pn**	**11 53 05.8**	**+0.6**
JHJ	**Hachijo jima 2**	**4.11**	**197**	P	**Pn**	**11 53 05.3**	**+0.1**
	comp=N,232nm,0.3s,baz=325,slow=18,SNR=53						
JHJ				S	**Sn**	**11 53 49.8**	**-2.2**
	comp=N,402nm,0.3s,baz=284,slow=21,SNR=10						
ERM	**Erimo**	**5.17**	**16**	P	**Pn**	**11 53 19.0**	**-0.6**
ERM	**Erimo**	**5.17**	**16**	Pn	**Pn**	**11 53 20.4**	**+0.7**
JEM	**Erimo**	**5.17**	**16**	P	**Pn**	**11 53 20.3**	**+0.6**
JMN	**Monobe**	**6.87**	**243**	P	**Pn**	**11 53 45.2**	**+2.1**
JMN	**Monobe**	**6.87**	**243**	Pn	**Pn**	**11 53 44.5**	**+1.5**
ASAJ	**Asahikawa**	**7.12**	**8**	P	**Pn**	**11 53 45.8**	**-0.7**
	comp=N,10nm,0.3s,baz=215,slow=13,SNR=48						
ASAJ				S	**Sn**	**11 55 02.6**	**-3.4**
	comp=N,38nm,0.7s,baz=195,slow=20,SNR=5.9						
ASAJ				LR	LR	11 57 06.0	
	comp=N,95nm,21.2s,baz=178,slow=42						
JKA	**Kamikawa-asahi**	**7.12**	**8**	Pn	**Pn**	**11 53 46.2**	**-0.3**
JNU	**Nakatsue**	**9.35**	**248**	P	**Pn**	**11 54 19.4**	**+2.3**
JNU	**Nakatsue**	**9.35**	**248**	Pn	**Pn**	**11 54 19.4**	**+2.3**
JNU	**Nakatsue**	**9.35**	**248**	P	**Pn**	**11 54 18.9**	**+1.8**
	comp=N,8.3nm,0.7s,baz=60,slow=11,SNR=8.1

BTO PP **PnPn** **11 57 56.8 +4.3**
BTO pmax pmax
comp=Z,23nm,0.9s
BTO pmax pmax
comp=Z,190nm,4.8s
YAK Yakutsk 26.02 348 LR LR 12 08 10.9
comp=Z,118nm,19.2s,baz=176,slow=37
XAN Xi'an 26.40 273 ⇑P **P** **11 57 39.5 +2.8**
XAN pmax pmax
comp=Z,12nm,0.5s
ULN Ulaanbaatar 27.22 304 P **P** **11 57 43.6 -0.5**
ULN IAmb IAmb 11 57 47.9
comp=Z,12nm,0.8s
SONM Songino Array 27.65 304 P **P** **11 57 46.9 -1.1**
SONM Songino Array 27.65 304 P **P** **11 57 46.0 -1.9**
comp=Z,3.3nm,0.5s,baz=102,slow=8.6,SNR=11
SONM LR LR 12 08 10.5
comp=Z,120nm,20.1s,baz=258,slow=35
comp=Z,3.3nm,0.5s
H11N2 WAKE ISLAND Hy 28.28 121 T T 12 27 47.6
baz=313,slow=75,SNR=207
H11N1 WAKE ISLAND Hy 28.29 121 T T 12 27 49.2
baz=313,slow=75,SNR=272
H11N3 WAKE ISLAND Hy 28.30 121 T T 12 27 48.6
baz=313,slow=75,SNR=226
H11S1 WAKE ISLAND Hy 28.99 123 T T 12 28 47.5
baz=314,slow=76,SNR=213
H11S3 WAKE ISLAND Hy 28.99 123 T T 12 28 40.4
baz=314,slow=76,SNR=194
H11S2 WAKE ISLAND Hy 29.01 123 T T 12 28 50.5
baz=314,slow=76,SNR=154
TIXI Tiksi 35.25 353 LR LR 12 13 58.0
comp=Z,58nm,18.3s,baz=195,slow=37
FAKI Fak Fak 40.65 194 P **P** **11 59 40.4 +0.2**
FAKI IAmb IAmb 11 59 59.7
comp=Z,11nm,1.0s
CMAR Chiang Mai Arr 41.37 255 P **P** **11 59 45.6 -0.6**
comp=Z,0.4nm,0.4s,baz=50,slow=8.2,SNR=1.1
comp=Z,0.4nm,0.4s
ZAA0 Zalesovo Array 41.79 312 P **P** **11 59 47.8 -1.4**
ZAA0 IAmb IAmb 11 59 50.0
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 41.79 312 P **P** **11 59 47.6 -1.6**
ZALV Zalesovo Beam 41.79 312 P **P** **11 59 48.2 -1.1**
comp=Z,14nm,0.8s,baz=91,slow=6.4,SNR=27
ZALV PcP **PcP** **12 01 44.4 -0.1**
comp=Z,0.7nm,0.4s,baz=91,slow=5.8,SNR=1.8
ZALV LR LR 12 17 55.1
comp=Z,82nm,18.8s,baz=84,slow=37
comp=Z,14nm,0.8s
M14K Bethel 42.45 38 P **P** **11 59 55.8 +1.3**
M14K IAmb IAmb 11 59 57.4
comp=Z,6.1nm,0.8s
K15K Wolf Creek Mou 42.87 35 P **P** **11 59 59.3 +1.4**
K15K IAmb IAmb 12 00 37.1
comp=Z,12nm,1.4s
NRIK Noril'sk 43.19 335 P **P** **12 00 00.7 +0.3**
comp=Z,1.5nm,0.3s,baz=101,slow=5.2,SNR=3.5
comp=Z,1.5nm,0.3s
MKAR Makanchi Array 43.99 302 P **P** **12 00 07.3 +0.2**
MKAR Makanchi Array 43.99 302 P **P** **12 00 06.4 -0.7**
comp=Z,3.3nm,0.7s,baz=89,slow=9.3,SNR=25
MKAR ScP **ScP** **12 05 39.4 -0.1**
comp=Z,0.5nm,0.8s,baz=72,slow=4.7,SNR=3.6
comp=Z,3.3nm,0.7s
MAKZ Makanchi 44.20 302 P **P** **12 00 08.3 -0.5**
H19K Roundabout Mou 45.54 31 P **P** **12 00 20.9 +1.7**
H19K IAmb IAmb 12 00 21.9
comp=Z,6.9nm,0.9s
KURK Kurchatov 45.81 308 P **P** **12 00 20.9 -0.6**
KURBB Kurchatov Arra 45.88 308 P **P** **12 00 21.1 -1.0**
comp=Z,8.5nm,0.6s,baz=85,slow=8.4,SNR=63
KURBB ScP **ScP** **12 05 45.0 -2.2**
comp=Z,0.2nm,0.3s,baz=25,slow=4.6,SNR=3.2
KURBB LR LR 12 20 16.2
comp=Z,85nm,19.4s,baz=162,slow=37
comp=Z,8.5nm,0.6s
K20K Telida 46.39 34 IAmb IAmb 12 00 28.8
comp=Z,4.9nm,0.8s
J20K Nowinta River 46.40 33 P **P** **12 00 26.7 +0.8**
J20K IAmb IAmb 12 00 42.2
comp=Z,7.1nm,1.1s
D22K Ayikyak River 47.40 27 P **P** **12 00 35.4 +1.6**
H23K Yukon River 48.42 31 IAmb IAmb 12 00 44.9
comp=Z,3.1nm,0.8s
NEA2 Nenana 48.62 33 IAmb IAmb 12 00 45.8
comp=Z,8.7nm,1.3s
E24K Your Creek 48.89 28 P **P** **12 00 47.1 +1.8**
E24K IAmb IAmb 12 01 01.5
comp=Z,6.3nm,1.1s
MDM Murphy Dome 48.97 32 P **P** **12 00 45.4 -0.5**
MDM IAmb IAmb 12 00 48.6
comp=Z,8.7nm,1.1s
HDA Harding Lake 49.54 33 IAmb IAmb 12 01 05.1
comp=Z,4.3nm,1.0s
IL31 49.55 32 IAmb IAmb 12 00 51.9
comp=Z,3.3nm,0.9s
ILAR Eielson Array 49.55 32 P **P** **12 00 49.6 -0.7**
ILAR Eielson Array 49.55 32 P **P** **12 00 50.1 -0.2**
comp=Z,2.0nm,0.8s,baz=268,slow=6.6,SNR=20
comp=Z,2.0nm,0.8s
KSH Kashi 50.27 294 P P 12 01 05.0 +8.7
KSH pP sP 12 01 15.3 -0.6
KSH pmax pmax
comp=Z,3.0nm,0.6s
AAK Ala-Archa 50.35 298 LR LR 12 23 34.8
comp=Z,161nm,19.6s,baz=84,slow=38
BVAR Borovoye Array 50.45 312 P **P** **12 00 56.3 -1.0**
comp=Z,3.1nm,0.6s,baz=75,slow=7.8,SNR=15
BVAR PcP **PcP** **12 02 14.5 -0.4**
comp=Z,1.4nm,0.6s,baz=48,slow=1.7,SNR=3.8
comp=Z,3.1nm,0.6s
BRVK Borovoye 50.51 312 P **P** **12 00 57.7 -0.1**
BRVK IAmb IAmb 12 00 58.6
comp=Z,4.4nm,0.8s
SCRK Sand Creek 50.86 33 IAmb IAmb 12 01 15.7
comp=Z,6.1nm,1.1s
L26K Log Cabin Wild 51.25 34 IAmb IAmb 12 01 19.6
comp=Z,5.9nm,1.0s
L27K Beaver Creek, 51.93 34 IAmb IAmb 12 01 24.8
comp=Z,5.8nm,1.1s
BCAR Beaver Creek A 51.95 34 P **P** **12 01 10.1 +1.6**
M27K Edge Creek, AK 52.01 35 IAmb IAmb 12 01 26.0
comp=Z,4.5nm,1.0s
I28M Miner Creek 52.41 31 IAmb IAmb 12 01 14.7
comp=Z,2.5nm,0.8s
E29M Blow River 52.81 27 IAmb IAmb 12 01 31.3
comp=Z,5.6nm,1.2s
G29M Pine Creek 52.97 29 IAmb IAmb 12 01 19.4
comp=Z,11nm,1.3s
KKAR Karatay Array 52.99 300 P **P** **12 01 15.8 -0.6**
KKAR Karatay Array 52.99 300 IAmb IAmb 12 01 23.4
comp=Z,12nm,1.4s
I29M Ogilvie Camp, 53.10 31 IAmb IAmb 12 01 33.1
comp=Z,4.3nm,0.9s
M29M Somme Creek 53.56 35 IAmb IAmb 12 01 37.8
comp=Z,6.8nm,1.3s
L29M L29M 53.58 34 P **P** **12 01 22.6 +2.0**
L29M IAmb IAmb 12 01 24.1
comp=Z,6.9nm,0.9s
K29M Barlow Dome 53.71 33 IAmb IAmb 12 01 38.1
comp=Z,5.0nm,0.9s
NIL Nilore 54.47 288 P **P** **12 01 27.7 +0.2**
CHGR Chuyangaron 55.53 295 P **P** **12 01 34.5 -0.6**
SIMJ Simiganj 55.64 295 P **P** **12 01 35.7 -0.2**
ARU Arti 56.25 318 P **P** **12 01 38.5 -1.2**
ARU Arti 56.25 318 LR LR 12 27 53.1
comp=Z,65nm,18.4s,baz=70,slow=38
WRA Warramunga Arr 57.07 188 P **P** **12 01 45.2 -0.7**
comp=Z,3.5nm,0.8s,baz=6.3,slow=7.3,SNR=30
WRA PcP **PcP** **12 02 41.2 +0.8**
comp=Z,0.9nm,0.6s,baz=2.7,slow=4.0,SNR=5.6
comp=Z,3.5nm,0.8s
ABKAR Akbulak array 57.82 310 P **P** **12 01 49.4 -1.5**
ABKAR Akbulak array 57.82 310 IAmb IAmb 12 01 51.0
comp=Z,4.1nm,0.7s
ASAR Alice Springs 60.79 188 P **P** **12 02 11.5 -0.2**
comp=Z,1.0nm,0.7s,baz=6.4,slow=5.4,SNR=22
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 63.86 30 P **P** **12 02 31.2 -0.5**
comp=Z,0.5nm,0.8s,baz=300,slow=6.1,SNR=2.1
comp=Z,0.5nm,0.8s
ARCES ARCESS Array B 63.92 339 P **P** **12 02 32.9 +0.8**
comp=Z,1.8nm,0.8s,baz=60,slow=8.9,SNR=5.4
comp=Z,1.8nm,0.8s
FINES FINESS Array B 68.73 332 P **P** **12 03 02.5 -0.4**
comp=Z,2.9nm,0.8s,baz=27,slow=6.4,SNR=7.9
comp=Z,2.9nm,0.8s
PINE Pine Mountain 70.43 50 P **P** **12 03 15.3 +1.3**
PINE IAmb IAmb 12 03 17.0
comp=Z,8.0nm,0.9s
KBZ Khabaz 70.78 311 P **P** **12 03 15.3 -0.6**
comp=Z,2.9nm,0.8s,baz=54,slow=2.5,SNR=5.6
comp=Z,2.9nm,0.8s
HFS Hagfors 74.01 336 P **P** **12 03 34.0 -0.8**
comp=Z,1.2nm,0.8s,baz=16,slow=7.5,SNR=2.1
comp=Z,1.2nm,0.8s
NB2 NORSAR Subarra 74.11 337 P **P** **12 03 35.0 -0.5**
comp=Z,2.4nm,1.0s,baz=40,slow=6.2
NOA NORSAR Array B 74.11 337 P **P** **12 03 34.6 -0.8**
comp=Z,1.4nm,0.9s,baz=39,slow=5.9,SNR=6.8
NOA LR LR 12 39 25.3
comp=Z,39nm,19.3s,baz=50,slow=38
comp=Z,1.4nm,0.9s
AKASG Malin Array Be 74.19 322 P **P** **12 03 34.6 -1.5**
comp=Z,0.5nm,0.3s,baz=45,slow=6.2,SNR=5.9
AKASG LR LR 12 37 15.3
comp=Z,92nm,21.1s,baz=54,slow=37
comp=Z,0.5nm,0.3s
BOZ Bozeman (W) 74.82 44 P **P** **12 03 40.0 0.0**
KVN Kaiserville 74.85 52 P **P** **12 03 40.3 -0.1**
KVN IAmb IAmb 12 03 57.5
comp=Z,3.2nm,0.8s
NVAR Mina Array Bea 75.08 53 P **P** **12 03 42.9 +1.1**
comp=Z,1.0nm,0.7s,baz=292,slow=5.7,SNR=8.5
NVAR pP **pP** **12 03 58.1 +1.9**
comp=Z,1.8nm,0.7s,baz=285,slow=5.6,SNR=12
comp=Z,1.0nm,0.7s
IMW Indian Meadow 76.25 45 P **P** **12 03 49.7 +1.2**
PDAR Pinedale Array 77.75 45 P **P** **12 03 57.3 +0.5**
comp=Z,0.6nm,0.7s,baz=268,slow=4.2,SNR=6.8
PDAR pP **pP** **12 04 12.2 +1.0**
comp=Z,1.1nm,0.8s,baz=265,slow=3.2,SNR=6.1
comp=Z,0.6nm,0.7s
KWP Kalwaria Pacla 78.03 324 P **P** **12 03 56.9 -1.0**
BRTR Keskin Array B 78.73 311 P **P** **12 04 02.3 +0.1**
comp=Z,1.1nm,0.9s,baz=69,slow=7.9,SNR=2.0
comp=Z,1.1nm,0.9s
RDMU Red Mountain 79.14 47 IAmb IAmb 12 04 21.4
comp=Z,5.5nm,1.0s
KNB Kanab 79.40 52 IAmb IAmb 12 04 09.1
comp=Z,5.4nm,1.2s
HMU Henry Mountain 80.11 50 IAmb IAmb 12 04 27.1
comp=Z,4.8nm,0.7s
CLL Collm 81.00 330 *i* P **P** **12 04 14.7 +0.7**
TXAR Lajitas Array 90.22 52 P **P** **12 05 01.0 +0.7**
comp=Z,0.8nm,0.6s,baz=295,slow=2.8,SNR=12
TXAR pP **pP** **12 05 16.1 +1.0**
comp=Z,1.0nm,0.7s,baz=304,slow=3.1,SNR=8.5
comp=Z,0.8nm,0.6s
TORD Torodi Ar. Bea 117.21 315 PKP **PKPdf** **12 10 44.0 -1.0**
comp=Z,0.3nm,0.8s,baz=9.2,slow=2.4,SNR=1.3
QSPA South Pole Qui 126.80 180 PKP **PKPdf** **12 11 01.8 -0.1**
comp=Z,1.0nm,0.9s,baz=296,slow=2.8,SNR=5.2
LPAZ La Paz 146.80 59 PKPbc **PKPbc** **12 11 43.0 +0.4**
comp=Z,2.9nm,0.6s,baz=344,slow=4.4,SNR=11
H03N2 Juan Fernandez 147.17 96 T T 14 56 40.1
baz=291,slow=76,SNR=31
H03N3 Juan Fernandez 147.18 96 T T 14 56 41.1
baz=291,slow=76,SNR=19
H03N1 Juan Fernandez 147.18 96 T T 14 56 41.1
baz=291,slow=76,SNR=19

IDC 19 11:56:18.0±4.6, 16°.86S×178°.35W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=204.3km s-min=35.7km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.19**	**240**	P	P	12 03 48.8	+0.8
	3.4nm,0.9s,baz=102,slow=14,SNR=2.2						
	3.4nm,0.9s						
WRA	**Warramunga Arr**	**44.88**	**258**	P	P	12 04 33.9	-0.8
	0.4nm,0.6s,baz=97,slow=7.5,SNR=1.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**45.14**	**253**	P	P	12 04 36.4	-0.3
	3.1nm,0.5s,baz=90,slow=7.9,SNR=67						
	3.1nm,0.5s						
ILAR	**Eielson Array**	**84.86**	**13**	P	P	12 08 54.2	0.0
	0.1nm,0.4s,baz=225,slow=5.0,SNR=4.6						
	0.1nm,0.4s						

*IDC **19** 12:03:39.3±0.7, 9°.45S×112°.89E, h0km, mb4.2/17, mbtmp4.2/17, MS3.6/1, Error ellipse: s-maj=26.2km s-min=12.1km az=53.0*
*NEIC **19** 12:03:44.9±2.6, 9°.54S±0°.09×112°.88E±0°.05, h35km±2km, mb4.4/21, Error ellipse: s-maj=15.0km s-min=8.8km az=181.0*
*DJA **19** 12:03:44.0±0.9, 10°S±6°×11°3E±°, h10km±8km, M4.5/12, mb4.4/2, MLv4.5/12*
ISC 19 12:03:44.7±0.5, 9°63S±0°06×112°85E±0°05, h36km, n67, σ19°76/68, mb4.4/26, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.72**	**48**		**Pn**	**12 04 12.7**	**+0.6**
JAGI	**Jajag, Banyuwa**	**1.72**	**48**	P	**Pn**	**12 04 12.8**	**+0.6**
JAGI				S	**Sn**	**12 04 34.8**	**+1.9**
PWJI	**Pagerwojo**	**1.90**	**327**	P	**Pn**	**12 04 15.6**	**+1.0**
PWJI				S	**Sn**	**12 04 38.3**	**+1.0**
ABJI	**Asem Bagus**	**2.27**	**37**	P	**Pn**	**12 04 21.4**	**+1.7**
ABJI				S	**Sn**	**12 04 50.9**	**+4.4**
DNP	**Denpasar**	**2.51**	**68**	P	**Pn**	**12 04 25.9**	**+2.9**
GRJI	**Gresik**	**2.72**	**352**	P	**Pn**	**12 04 29.4**	**+3.5**
SRBI	**Singaraja**	**2.79**	**57**	P	**Pn**	**12 04 28.3**	**+1.5**
UGM	**Wanagama**	**2.86**	**306**	Pn	**Pn**	**12 04 29.6**	**+1.7**
UGM	**Wanagama**	**2.86**	**306**	P	**Pn**	**12 04 29.3**	**+1.4**
UGM				S	**Sn**	**12 05 03.5**	**+2.4**
YOGI	**Yogyakarta**	**3.10**	**305**	P	**Pn**	**12 04 32.6**	**+1.4**
SMRI	**Semarang**	**3.50**	**317**	Pn	**Pn**	**12 04 39.0**	**+2.3**
SMRI	**Semarang**	**3.50**	**317**	P	**Pn**	**12 04 38.4**	**+1.8**
BWJI	**Bawean**	**3.75**	**357**	P	**Pn**	**12 04 41.0**	**+0.9**
TWSI	**Taliwang, Sumb**	**4.08**	**78**	P	**Pn**	**12 04 46.7**	**+2.2**
PLAI	**Plampang**	**4.92**	**81**	P	**Pn**	**12 04 58.4**	**+2.2**
BKSI	**Bulukumba**	**8.38**	**60**	P	**Pn**	**12 05 43.5**	**-0.2**
EDFI	**Ende, Flores**	**8.77**	**85**	P	**Pn**	**12 05 46.9**	**-2.2**
MBWA	**Marble Bar**	**13.24**	**151**	Pn	**Pn**	**12 06 47.4**	**-2.9**
PSA00	**Pilbara Seismi**	**13.65**	**151**	Pn	**Pn**	**12 06 52.7**	**-3.2**
FITZ	**Fitzroy Crossi**	**14.99**	**126**	Pn	**Pn**	**12 07 12.1**	**-2.0**
KNRA	**Kununurra**	**16.64**	**113**		**Pn**	**12 07 35.9**	**+0.5**
MTN	**Manton Dam**	**18.21**	**102**		**P**	**12 07 54.9**	**+0.1**
MORW	**Morawa**	**19.57**	**172**	P	**Pn**	**12 08 10.6**	**-0.6**
MORW				IAmb	IAmb	12 08 51.3	
comp=Z,28nm,1.4s							
FAKI	**Fak Fak**	**20.39**	**72**	P	**P**	**12 08 16.5**	**-2.1**
FAKI				IAmb	IAmb	12 08 21.2	
comp=Z,12nm,0.7s							
WB0	**Warramunga Arr**	**23.12**	**118**	P	**P**	**12 08 48.4**	**+0.6**
WB0				IAmb	IAmb	12 08 59.0	
comp=Z,10nm,1.3s							
WRA	**Warramunga Arr**	**23.14**	**119**	P	**P**	**12 08 48.8**	**+0.7**
WRA	**Warramunga Arr**	**23.14**	**119**	P	**P**	**12 08 48.0**	**-0.1**
comp=Z,1.9nm,0.9s,baz=292,slow=11,SNR=15							
WRA				S	**S**	**12 13 02.4**	**+5.2**
comp=Z,0.4nm,0.5s,baz=290,slow=23,SNR=3.2							
comp=Z,1.9nm,0.9s							
WRAB	**Tennant Creek**	**23.15**	**119**	P	**P**	**12 08 48.6**	**+0.5**
WB2	**Warramunga Arr**	**23.15**	**119**	P	**P**	**12 08 48.8**	**+0.6**
WB2				IAmb	IAmb	12 09 04.2	
comp=Z,14nm,1.4s							
WR0	**Warramunga Arr**	**23.32**	**119**	P	**P**	**12 08 50.0**	**+0.1**
WR0				IAmb	IAmb	12 09 33.8	
comp=Z,10nm,1.3s							
NWAO	**Narrogin (SRO)**	**23.54**	**171**	LR	LR	12 18 32.5	
comp=Z,133nm,18.6s,baz=62,slow=38							
AS31	**Alice Springs**	**24.48**	**127**	P	**P**	**12 09 01.7**	**+1.0**
ASAR	**Alice Springs**	**24.48**	**127**	P	**P**	**12 09 01.3**	**+0.6**
ASAR	**Alice Springs**	**24.48**	**127**	P	**P**	**12 09 01.6**	**+1.0**
comp=Z,2.6nm,0.6s,baz=306,slow=8.3,SNR=41							
ASAR				S	S	12 13 36.5	+18
comp=Z,0.9nm,0.9s,baz=302,slow=25,SNR=4.5							
comp=Z,2.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**31.10**	**334**	P	**P**	**12 09 59.7**	**-0.2**
comp=Z,1.6nm,0.4s,baz=170,slow=7.8,SNR=10							
comp=Z,1.6nm,0.4s							
STKA	**Stephens Creek**	**34.63**	**134**	P	**P**	**12 10 32.2**	**+1.6**
comp=Z,4.0nm,0.9s,baz=313,slow=14,SNR=3.1							
comp=Z,4.0nm,0.9s							
H08S2	**Diego Garcia H**	**39.94**	**270**	T	T	12 54 02.5	
baz=96,slow=75,SNR=4.2							
H08S3	**Diego Garcia H**	**39.95**	**270**	T	T	12 54 32.5	
baz=96,slow=75,SNR=3.1							
H08S1	**Diego Carcia H**	**39.95**	**270**	T	T	12 54 20.0	
baz=96,slow=75,SNR=2.7							
KSRS	**Korea Array**	**48.91**	**16**	P	**P**	**12 12 26.5**	**-0.7**
comp=Z,1.0nm,0.8s,baz=200,slow=7.2,SNR=6.6							
comp=Z,1.0nm,0.8s							
JGF	**Kuroka**	**50.58**	**26**	P	**P**	**12 12 38.1**	**-1.9**
MAJO	**Matsushiro**	**51.74**	**26**	P	**P**	**12 12 46.3**	**-2.4**
MAJO				IAmb	IAmb	12 12 47.1	
comp=Z,6.9nm,1.1s							
MJAR	**Matsushiro Arr**	**51.74**	**26**	P	**P**	**12 12 46.6**	**-2.1**
comp=Z,3.8nm,0.8s,baz=203,slow=7.5,SNR=8.4							
comp=Z,3.8nm,0.8s							
MJB9	**Matsu-Tunnel**	**51.75**	**26**	P	**P**	**12 12 46.3**	**-2.4**
MJB9				IAmb	IAmb	12 12 47.1	
comp=Z,7.0nm,1.1s							
USRK	**Ussuriysk Ar.**	**56.31**	**16**		**P**	**12 13 19.4**	**-2.5**
USRK	**Ussuriysk Ar.**	**56.31**	**16**	P	**P**	**12 13 20.4**	**-1.4**
comp=Z,3.9nm,0.8s,baz=214,slow=10,SNR=4.6							
comp=Z,3.9nm,0.8s							
JTM	**Tenmabayashi**	**56.52**	**25**	P	**P**	**12 13 21.6**	**-1.8**
ULN	**Ulaanbaatar**	**57.47**	**355**	P	**P**	**12 13 29.0**	**-1.2**
SONM	**Songino Array**	**57.49**	**355**	P	**P**	**12 13 29.2**	**-1.1**
SONM	**Songino Array**	**57.49**	**355**	P	**P**	**12 13 29.7**	**-0.6**
comp=Z,6.2nm,0.7s,baz=177,slow=7.9,SNR=16							
comp=Z,6.2nm,0.7s							
MK31	**Makanchi Array**	**62.44**	**337**	P	**P**	**12 14 03.6**	**-0.6**
MK31				IAmb	IAmb	12 14 04.0	
comp=Z,3.0nm,0.7s							
MKAR	**Makanchi Array**	**62.44**	**337**	P	**P**	**12 14 03.3**	**-0.9**
comp=Z,3.5nm,0.5s,baz=148,slow=7.6,SNR=34							
comp=Z,3.5nm,0.5s							
KURBB	**Kurchatov Arra**	**67.00**	**337**	P	**P**	**12 14 32.6**	**-1.2**
comp=Z,1.5nm,0.7s,baz=151,slow=5.4,SNR=14							
comp=Z,1.5nm,0.7s							
KURK	**Kurchatov**	**67.04**	**337**	P	**P**	**12 14 33.1**	**-1.0**
KURK				IAmb	IAmb	12 14 33.8	
comp=Z,3.4nm,0.8s							
ZAA0	**Zalesovo Array**	**67.63**	**343**	P	**P**	**12 14 36.8**	**-0.9**
ZAA0				IAmb	IAmb	12 14 37.2	
comp=Z,4.3nm,0.8s							
ZALV	**Zalesovo Beam**	**67.63**	**343**	P	**P**	**12 14 37.1**	**-0.6**
ZALV	**Zalesovo Beam**	**67.63**	**343**	P	**P**	**12 14 36.5**	**-1.3**
comp=Z,4.5nm,0.5s,baz=146,slow=4.8,SNR=16							
comp=Z,4.5nm,0.5s							
BVAR	**Borovoye Array**	**72.12**	**335**	P	**P**	**12 15 04.3**	**-1.1**
comp=Z,1.3nm,0.7s,baz=134,slow=8.5,SNR=6.6							
comp=Z,1.3nm,0.7s							
VNDA	**Vanda**	**72.37**	**170**	P	**P**	**12 15 07.2**	**+0.7**
comp=Z,0.3nm,0.4s,baz=246,slow=4.8,SNR=1.7							
comp=Z,0.3nm,0.4s							
ABKAR	**Akbulak array**	**74.68**	**327**	P	**P**	**12 15 20.2**	**-0.3**
QSPA	**South Pole Qui**	**80.38**	**180**	P	**P**	**12 15 53.5**	**+1.2**
comp=Z,0.6nm,1.0s,baz=333,slow=6.8,SNR=1.8							
comp=Z,0.6nm,1.0s							
NRIK	**Noril'sk**	**80.73**	**351**	P	**P**	**12 15 52.8**	**-1.0**
comp=Z,2.2nm,0.3s,baz=124,slow=2.3,SNR=2.4							
comp=Z,2.2nm,0.3s							
BOSA	**Boshof**	**83.37**	**242**	P	**P**	**12 16 10.1**	**+1.3**
comp=Z,2.1nm,0.9s,baz=37,slow=5.1,SNR=2.1							
comp=Z,2.1nm,0.9s							
BRTR	**Keskin Array B**	**87.90**	**311**	P	**P**	**12 16 31.2**	**+0.2**
comp=Z,1.5nm,0.7s,baz=120,slow=4.9,SNR=4.0							
comp=Z,1.5nm,0.7s							
SNAA	**Sanae**	**88.72**	**197**	P	**P**	**12 16 35.5**	**+1.3**
SNAA				IAmb	IAmb	12 16 51.6	
comp=Z,3.4nm,1.0s							
NVAR	**Mina Array Bea**	**126.06**	**49**	PKP	**PKiKP**	**12 22 44.1**	**-0.2**
comp=Z,0.1nm,0.3s,baz=35,slow=3.3,SNR=1.1							
PDAR	**Pinedale Array**	**130.43**	**41**	PKP	**PKPdf**	**12 22 50.1**	**-1.9**
comp=Z,0.1nm,0.4s,baz=195,slow=2.4,SNR=1.7							

*IDC **19** 12:17:03.6±0.7, 9°.37S×112°.95E, h0km, mb4.3/15, mbtmp4.2/16, ML3.9/1, Error ellipse: s-maj=24.1km s-min=12.3km az=52.0*
*DJA **19** 12:17:08.8±0.4, 9°S±4°×11°3E±°, h10km, M4.5/15, mb4.6/6, MLv4.5/15*
*NEIC **19** 12:17:09.1±0.8, 9°.42S±0°.09×112°.90E±0°.03, h35km±2km, mb4.4/19, Error ellipse: s-maj=16.0km s-min=4.0km az=171.0*
ISC 19 12:17:09.2±0.5, 9°51S±0°07×112°88E±0°04, h36km, n69, σ28°28/75, mb4.3/24, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.63**	**51**	P	**Pn**	**12 17 36.6**	**+1.3**
JAGI	**Jajag, Banyuwa**	**1.63**	**51**		**Pn**	**12 17 36.5**	**+1.3**
JAGI	**Jajag, Banyuwa**	**1.63**	**51**	P	**Pn**	**12 17 36.5**	**+1.3**
JAGI				S	**Sn**	**12 17 53.4**	**-1.6**
PWJI	**Pagerwojo**	**1.82**	**324**	P	**Pn**	**12 17 39.2**	**+1.2**
PWJI				S	**Sn**	**12 18 01.2**	**+1.4**
ABJI	**Asem Bagus**	**2.17**	**38**	P	**Pn**	**12 17 46.1**	**+3.4**
ABJI				S	**Sn**	**12 18 16.7**	**+8.4**
DNP	**Denpasar**	**2.44**	**70**	P	**Pn**	**12 17 47.9**	**+1.4**
GRJI	**Gresik**	**2.61**	**351**	P	**Pn**	**12 17 51.4**	**+2.6**
SRBI	**Singaraja**	**2.71**	**59**	P	**Pn**	**12 17 51.9**	**+1.8**
UGM	**Wanagama**	**2.82**	**304**	P	**Pn**	**12 17 53.6**	**+1.9**
UGM	**Wanagama**	**2.82**	**304**		**Pn**	**12 17 53.2**	**+1.5**
UGM	**Wanagama**	**2.82**	**304**	P	**Pn**	**12 17 53.4**	**+1.7**
UGM				S	**Sn**	**12 18 26.8**	**+2.3**
YOGI	**Yogyakarta**	**3.06**	**303**	P	**Pn**	**12 17 59.2**	**+4.2**
SMRI	**Semarang**	**3.44**	**315**	P	**Pn**	**12 18 03.1**	**+2.9**
SMRI	**Semarang**	**3.44**	**315**		**Pn**	**12 18 02.3**	**+2.0**
SMRI	**Semarang**	**3.44**	**315**	P	**Pn**	**12 18 02.2**	**+2.0**
BWJI	**Bawean**	**3.64**	**356**	P	**Pn**	**12 18 06.9**	**+3.9**
TWSI	**Taliwang, Sumb**	**4.02**	**79**	P	**Pn**	**12 18 11.1**	**+2.8**
CMJI	**Cimerak**	**4.71**	**291**	P	**Pn**	**12 18 18.2**	**+0.5**
PLAI	**Plampang**	**4.88**	**82**	P	**Pn**	**12 18 23.9**	**+3.8**
PLAI	**Plampang**	**4.88**	**82**	P	**Pn**	**12 18 22.7**	**+2.6**
PLAI				S	**Sn**	**12 19 22.2**	**+6.8**
BBJI	**Bungbulang**	**5.56**	**291**	P	**Pn**	**12 18 32.5**	**+3.0**
CNJI	**Cibinong**	**6.10**	**291**	P	**Pn**	**12 18 39.2**	**+2.4**
49nm,1.3s,0.3nm							
KAPI	**Kappang**	**8.15**	**57**	Pn	**Pn**	**12 19 02.4**	**-2.6**
1.6nm,0.3s,baz=213,slow=17,SNR=2.1							
KAPI				Sn	**Sn**	**12 20 35.0**	**-0.9**
baz=165,slow=21							
2.5nm,0.3s							
BKSI	**Bulukumba**	**8.30**	**60**	P	**Pn**	**12 19 08.9**	**+1.9**
35nm,0.7s							
EDFI	**Ende, Flores**	**8.73**	**86**	P	**Pn**	**12 19 13.3**	**+0.2**
22nm,0.9s							
KASI	**Kota Agung**	**9.21**	**295**	P	**Pn**	**12 19 22.2**	**+2.7**
SOEI	**Soe**	**11.23**	**92**	Pn	**Pn**	**12 19 49.9**	**+2.5**
SOEI	**Soe**	**11.23**	**92**	P	**Pn**	**12 19 51.4**	**+4.1**
FITZ	**Fitzroy Crossi**	**15.04**	**126**	Pn	**Pn**	**12 20 35.9**	**-3.2**
KNRA	**Kununurra**	**16.66**	**113**	Pn	**Pn**	**12 20 59.7**	**-0.3**
MORW	**Morawa**	**19.68**	**172**	P	**P**	**12 21 35.3**	**0.0**
MORW				IAmb	IAmb	12 22 05.3	
comp=Z,27nm,1.4s							
FAKI	**Fak Fak**	**20.33**	**72**	P	**P**	**12 21 40.4**	**-2.0**
FAKI				IAmb	IAmb	12 21 56.4	
comp=Z,40nm,1.4s							
WB0	**Warramunga Arr**	**23.15**	**119**	P	**P**	**12 22 11.9**	**-0.6**
WB0				IAmb	IAmb	12 22 22.1	
comp=Z,15nm,1.4s							
WRA	**Warramunga Arr**

JHJ2	Mitsune	49.55	30	P	P	12 25 55.0	-1.6
JGF	Kuroka	50.47	26	P	P	12 26 02.0	-1.6
JGF				IAmb	IAmb	12 26 02.5	
	comp=Z,7.7nm,0.8s						
MJAR	Matsushiro Arr	51.63	26	P	P	12 26 10.3	-2.0
	comp=Z,4.5nm,0.9s,baz=195,slow=7.6,SNR=9.3						
	comp=Z,4.5nm,0.9s						
XLT	XiLinHaoTe	53.23	3	*e*P	P	12 26 23.1	-1.0
XLT				pP	pP	12 26 29.3	-4.7
XLT				sP	pwP	12 26 31.8	-6.1
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
USRK	Ussuriysk Ar.	56.20	16	P	P	12 26 44.4	-1.1
USRK	Ussuriysk Ar.	56.20	16	P	P	12 26 45.0	-0.5
	comp=Z,1.8nm,0.5s,baz=186,slow=3.8,SNR=6.5						
	comp=Z,1.8nm,0.5s						
ULN	Ulaanbaatar	57.35	355	P	P	12 26 52.6	-1.3
SONM	Songino Array	57.38	355	P	P	12 26 53.2	-0.8
SONM				IAmb	IAmb	12 26 54.4	
	comp=Z,6.2nm,0.8s						
SONM	Songino Array	57.38	355	P	P	12 26 53.2	-0.8
	comp=Z,6.6nm,0.6s,baz=176,slow=8.9,SNR=23						
	comp=Z,6.6nm,0.6s						
HEH	HeiHe	60.85	11	*e*P	P	12 27 16.8	-1.0
HEH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MK31	Makanchi Array	62.34	337	P	P	12 27 27.1	-0.9
MK31				IAmb	IAmb	12 27 27.8	
	comp=Z,3.3nm,0.7s						
MKAR	Makanchi Array	62.34	337	P	P	12 27 27.0	-1.0
MKAR	Makanchi Array	62.34	337	P	P	12 27 27.1	-0.9
	comp=Z,3.8nm,0.5s,baz=148,slow=7.6,SNR=45						
	comp=Z,3.8nm,0.5s						
KURBB	Kurchatov Arra	66.91	337	P	P	12 27 56.5	-1.2
	comp=Z,2.0nm,0.7s,baz=151,slow=5.4,SNR=20						
	comp=Z,2.0nm,0.7s						
KURK	Kurchatov	66.95	337	P	P	12 27 57.1	-0.8
KURK				IAmb	IAmb	12 27 57.7	
	comp=Z,3.2nm,0.8s						
ZAA0	Zalesovo Array	67.53	342	P	P	12 28 00.4	-1.2
ZALV	Zalesovo Beam	67.53	342	P	P	12 28 00.1	-1.5
ZALV	Zalesovo Beam	67.53	342	P	P	12 28 00.3	-1.3
	comp=Z,5.2nm,0.5s,baz=152,slow=4.8,SNR=28						
	comp=Z,5.2nm,0.5s						
BVAR	Borovoye Array	72.03	335	P	P	12 28 28.4	-0.9
	comp=Z,1.0nm,0.5s,baz=138,slow=7.4,SNR=7.6						
	comp=Z,1.0nm,0.5s						
ABKAR	Akbulak array	74.60	327	P	P	12 28 43.9	-0.7
ABKAR	Akbulak array	74.60	327	P	P	12 28 43.9	-0.7
ABKAR				IAmb	IAmb	12 28 44.7	
	comp=Z,13nm,1.0s						
QSPA	South Pole Qui	80.49	180	P	P	12 29 18.9	+1.5
	comp=Z,1.0nm,1.0s,baz=252,slow=9.1,SNR=2.2						
	comp=Z,1.0nm,1.0s						
NRIK	Noril'sk	80.62	351	P	P	12 29 16.9	-0.7
	comp=Z,2.2nm,0.4s,baz=62,slow=6.4,SNR=3.8						
	comp=Z,2.2nm,0.4s						
SNAA	Sanae	88.84	197	P	P	12 30 00.1	+0.9
	comp=Z,0.9nm,0.7s,baz=175,slow=8.1,SNR=7.5						
	comp=Z,0.9nm,0.7s						

IDC ***19*** *12:23:31.0±0.3,9.°38S×112.°83E,h0km,mb4.9/29, mbtmp4.9/29,MS4.7/56,Error ellipse: s-maj=15.9km s-min=8.7km az=62.0*

MOS ***19*** *12:23:35.2±0.9,9.°30S×112.°86E,h41km,mb5.5/60, MS4.5/9,Error ellipse: s-maj=8.4km s-min=4.7km az=110.2*

NEIC ***19*** *12:23:35.7±2.1,9.°56S±0.°07×112.°82E±0.°05,h32km±3km, mb5.4/109,Mww5.4/14,Error ellipse: s-maj=10.1km s-min=7.7km az=180.0*

BJI ***19*** *12:23:35.0±0.0,9.°60S×112.°80E,h55km,mb5.3/81, mB5.4/54,Ms5.1/86,Ms7 5.0/82*

NEIC ***19*** *12:23:36.6,9.°73S×112.°64E,h36km,Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^17^Nm; Mrr1.06; Mθθ-1.16; Mφφ0.09; Mrθ0.70; Mφθ0.67; Mφr-0.21; Fault plane solution: M0 1.45000×10^17^ NP1: φs108.85000°,δ60.19000°,λ84.45000°. NP2: φs299.90000°,δ30.28000°,λ99.58000°. Principal axes: T 1.2661, Plg74.0000°, Azm4.0000°; N 0.3770, Plg5.0000°, Azm112.0000°; P -1.6431, Plg15.0000°, Azm203.0000°;*

NEIC ***19*** *12:23:36.6,9.°53S×112.°84E,h36km*

DJA ***19*** *12:23:37.4±0.2,10.°S±2.°×11.°3E±.°,h55km±2km,M5.3/78, mb5.3/78,mB5.7/48,MLv5.9/21,Mw5.4/77,Mw(mB)5.3/48, MwMwp5.2/19,Mwp5.4/19*

GCMT ***19*** *12:23:37.7±0.1,9.°80S±0.°01×112.°94E±0.°01,h38km, MW5.4/135,Moment Tensor Solution. s125,c223; s135,c251; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr1.28±.02; Mθθ-1.49±.02; Mφφ0.21±.02; Mrθ0.86±.02; Mφθ0.44±.01; Mφr-0.10±.02; Best double couple: M0 1.68200×10^17^ NP1:φs99.00000°,δ61.00000°, λ85.00000°. NP2:φs290.00000°,δ30.00000°,λ100.00000°. Principal axes: T 1.5280, Plg74.0000°, Azm355.0000°; N 0.3150, Plg5.0000°, Azm102.0000°; P -1.8360, Plg15.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 12:23:37.7±0.3,9.°43S±0.°03×112.°81E±0.°04,h49km±2km, h49km:pP-P,n783,σ1§60/775,mb5.3/155,MS4.8/105, 43C-4D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.64	54	P	Pn	12 24 04.6	+0.5
JAGI	Jajag, Banyuwa	1.64	54	Pn	Pn	12 24 03.7	-0.4
JAGI	Jajag, Banyuwa	1.64	54	P	Pn	12 24 03.6	-0.5
PWJI	Pagerwojo	1.72	325	P	Pn	12 24 06.6	+1.4
ABJI	Asem Bagus	2.15	41	P	Pn	12 24 13.5	+2.3
DNP	Denpasar	2.49	73	P	Pn	12 24 16.6	+0.8
GRJI	Gresik	2.52	353	P	Pn	12 24 19.5	+3.2
UGM	Wanagama	2.72	304	P	Pn	12 24 20.7	+1.7
UGM	Wanagama	2.72	304	Pn	Pn	12 24 20.7	+1.7
UGM	Wanagama	2.72	304	P	Pn	12 24 20.3	+1.3
SRBI	Singaraja	2.73	61	P	Pn	12 24 19.5	+0.4
YOGI	Yogyakarta	2.96	303	P	Pn	12 24 23.0	+0.7
SMRI	Semarang	3.33	315	P	Pn	12 24 30.5	+3.1
SMRI	Semarang	3.33	315		Pn	12 24 30.1	+2.6
SMRI	Semarang	3.33	315	P	Pn	12 24 30.0	+2.6
BWJI	Bawean	3.56	358	P	Pn	12 24 33.6	+3.1
TWSI	Taliwang, Sumb	4.08	81	P	Pn	12 24 37.4	-0.3
CMJI	Cimerak	4.61	290	P	Pn	12 24 44.6	-0.3
PLAI	Plampang	4.94	83	P	Pn	12 24 51.4	+1.9
PLAI	Plampang	4.94	83	P	Pn	12 24 50.1	+0.6
JCJI	Jatiwangi	5.36	303	P	Pn	12 24 56.7	+1.5
	810nm,1.2s,14μm						
BBJI	Bungbulang	5.46	291	P	Pn	12 24 58.7	+2.0
LEM	Lembang	5.75	296	P	Pn	12 25 01.3	+0.5
	783nm,0.9s,10μm10nm						
CNJI	Cibinong	6.00	290	P	Pn	12 25 05.7	+1.7
	462nm,0.9s,4μm5.9nm						
SKJI	Sukabumi	6.64	291	P	Pn	12 25 12.5	-0.3
DBJI	Dramaga	6.65	295	P	Pn	12 25 16.2	+3.3
	898nm,1.0s,17μm						
XMI	Christmas Isla	7.08	261	P	Pn	12 25 17.6	-1.3
XMIS	Christmas Isla	7.13	261	P	Pn	12 25 17.7	-1.8
XMIS	Christmas Isla	7.13	261	Pn	Pn	12 25 17.2	-2.3
SBJI	Serang	7.39	296	P	Pn	12 25 25.5	+2.4
	496nm,1.0s,8μm5.4nm						
BASI	Baing, Sumba	7.70	96	P	Pn	12 25 27.8	+0.5
KAPI	Kappang	8.17	58	P	Pn	12 25 36.7	+3.0
KAPI	Kappang	8.17	58		Pn	12 25 34.8	+1.1
KAPI	Kappang	8.17	58	Pn	Pn	12 25 33.2	-0.5
	25nm,0.3s,baz=238,slow=9.0,SNR=9.4						
KAPI				Sn	Sn	12 27 04.5	-0.3
	1.8nm,0.3s,baz=204,slow=20,SNR=1.5						
KAPI				LR	LR	12 29 04.5	
	comp=Z,8μm,20.8s,baz=240,slow=41						
KAPI	Kappang	8.17	58	P	Pn	12 25 31.3	-2.4
KAPI				S	Sn	12 26 59.2	-5.5
KAPI	Kappang	8.17	58	*i* P	Pn	12 25 33.4	-0.3
BKSI	Bulukumba	8.32	61	P	Pn	12 25 37.3	+1.4
	236nm,0.6s,2μm10μm						
MTKI	Muara Teweh, K	8.69	14	P	Pn	12 25 44.2	+3.3
	192nm,0.9s						
EDFI	Ende, Flores	8.80	86	P	Pn	12 25 41.0	-1.5
	184nm,0.6s,3μm						
KASI	Kota Agung	9.11	295	P	Pn	12 25 48.6	+1.9
	392nm,1.1s,4μm						
MMRI	Maumere	9.35	86	P	Pn	12 25 51.3	+1.4
MMRI	Maumere	9.35	86		Pn	12 25 49.6	-0.3
MMRI	Maumere	9.35	86	P	Pn	12 25 51.0	+1.1
	377nm,0.8s,5μm						
STKI	Sintang	9.53	352	P	Pn	12 25 55.6	+3.2
	218nm,1.4s						
LWLI	Liwa	9.72	296	P	Pn	12 25 55.5	+0.3
PPBI	Pangkal Pinang	9.81	317	P	Pn	12 25 59.0	+2.8
	145nm,1.0s						
PMBI	Palembang	10.27	308	P	Pn	12 26 06.1	+3.5
BBSI	Bau Bau	10.44	69	P	Pn	12 26 07.3	+2.4
	193nm,1.2s,3μm5μm						
BATI	Baumata	10.72	95	P	Pn	12 26 09.4	+0.6
	141nm,0.5s,2μm						
SOEI	Soe	11.30	93	P	Pn	12 26 19.4	+2.6
SOEI	Soe	11.30	93	Pn	Pn	12 26 16.3	-0.5
SOEI	Soe	11.30	93	P	Pn	12 26 16.5	-0.3
	224nm,1.1s,3μm						
SBUM	Sibu	11.82	357	Pn	Pn	12 26 27.8	+4.0
MPSI	Mapaga	12.00	36	P	Pn	12 26 30.6	+4.4
	119nm,2.1s,3μm7μm						
LUWI	Luwuk	12.95	51	Pn	Pn	12 26 40.5	+1.3
LUWI	Luwuk	12.95	51	P	Pn	12 26 42.0	+2.8
	119nm,1.6s,2μm6μm						
TOLI2	Tolitoli	13.14	38	P	P	12 26 46.8	-3.9
TOLI2	Tolitoli	13.14	38	Pn	Pn	12 26 46.3	+4.4
TPRI	Tanjung Pinang	13.18	321	P	Pn	12 26 43.3	+0.9
	80nm,0.7s						
MRSI	Marisa	13.40	43	P	P	12 26 49.9	-3.6
	130nm,1.0s,5μm						
MBWA	Marble Bar	13.43	151	Pn	Pn	12 26 38.0	-7.7
MBWA	Marble Bar	13.43	151	P	P	12 26 52.6	-1.2
MBWA				P	P	12 26 52.6	-1.2
PSA00	Pilbara Seismi	13.84	152		Pn	12 26 44.4	-6.9
GTOI	Gorontalo	14.26	46	P	P	12 27 00.7	-2.3
	96nm,0.8s						
MYKOM	Kota Tinggi	14.28	321	Pn	Pn	12 26 57.6	+0.3
PDSI	Padang	14.92	304	P	Pn	12 27 02.7	-3.0
	70nm,0.4s						
KMSI	Cibinong	14.92	49	P	P	12 27 10.3	-0.1
	328nm,0.6s,9μm5μm						
SANI	Sanana	15.02	62	P	P	12 27 11.8	+0.3
SANI	Sanana	15.02	62	P	Pn	12 27 07.9	+0.9
	156nm,1.1s,2μm3μm						
FITZ	Fitzroy Crossi	15.14	126	Pn	Pn	12 27 03.5	-5.0
BKNI	Bangkinang	15.21	309	P	Pn	12 27 10.1	+0.6
BKNI	Bangkinang	15.21	309	P	Pn	12 27 09.4	-0.1
	166nm,0.9s						
NLAI	Namlea	15.47	67	P	P	12 27 17.1	+0.5
	172nm,0.8s,2μm						
MYLDM	Lahad Datu	15.59	22		P	12 27 19.5	+1.7
KKM	Kota Kinabalu	15.74	13	P	P	12 27 20.4	+0.7
KKM	Kota Kinabalu	15.74	13		P	12 27 19.1	-0.6
LBMI	Labuha	17.03	60	P	P	12 27 34.3	+0.4
	202nm,0.8s,4μm						
BNDI	Bandanaira	17.65	75	P	P	12 27 40.9	+0.2
TNTI	Ternate	17.69	56	P	P	12 27 43.2	+2.1
TNTI	Ternate	17.69	56		P	12 27 42.4	+1.2
TNTI	Ternate	17.69	56	P	P	12 27 41.8	+0.7
	105nm,1.1s,2μm						
MEEK	Meekatharra	17.97	163	P	Pn	12 27 41.5	-2.7
MTN	Manton Dam	18.30	102	P	P	12 27 47.8	0.0
MTN	Manton Dam	18.30	102	P	P	12 27 45.5	-2.3
SAUI	Saumlaki	18.34	87	P	P	12 27 48.0	-0.3
GSI	Gunungsitoli	18.55	304	P	P	12 27 47.8	-2.8
GSI	Gunungsitoli	18.55	304	P	P	12 27 47.2	-3.4
KULM	Kulim	18.99	320	P	Pn	12 27 57.8	+1.2
KDU	Kakadu	19.57	101	P	P	12 28 01.3	-0.4
MORW	Morawa	19.77	172	P	P	12 28 02.6	-1.2
MORW	Morawa	19.77	172	P	P	12 28 00.7	-3.2
SWI	Sorong	20.24	66	P	P	12 28 09.5	+0.4
	131nm,1.2s,2μm2μm						
FAKI	Fak Fak	20.37	73	P	P	12 28 10.7	+0.2
FAKI	Fak Fak	20.37	73	P	P	12 28 07.8	-2.7
FAKI				IAmb	IAmb	12 28 24.6	
	comp=Z,118nm,0.6s						
DAV	Davao City (W)	20.75	38	P	P	12 28 14.3	-0.3
	comp=Z,235nm,0.4s,baz=231,slow=18,SNR=1.2						
DAV				LR	LR	12 36 48.3	
	comp=Z,3μm,21.8s,baz=245,slow=38						
	comp=Z,235nm,0.4s						
DAV	Davao City (W)	20.75	38	P	P	12 28 14.1	-0.5
BLDU	Ballidu	21.39	171	P	P	12 28 21.5	+0.2
WRKA	Warakurna	21.40	138	P	P	12 28 21.1	-0.5
KMPI	Kaimana, Papua	21.53	76	P	P	12 28 22.0	-1.0
	comp=Z,380nm,0.7s,comp=Z,3μm						
KLBR	Kellerberrin	22.52	169	P	P	12 28 33.5	0.0
MUN	Mundaring	22.66	172	P	P	12 28 35.1	+0.2
SURA	Surathani	22.66	324	P	P	12 28 36.0	+0.9
WRA	Warramunga Arr	23.27	119	P	P	12 28 40.0	-1.3
	comp=Z,15nm,0.6s,baz=291,slow=11,SNR=69						
WRA				S	S	12 32 56.4	+6.2
	comp=Z,4.0nm,0.7s,baz=282,slow=24,SNR=2.5						
WRA				LR	LR	12 38 17.6	
	comp=Z,3μm,20.1s,baz=300,slow=38						
	comp=Z,15nm,0.6s						
WRA	Warramunga Arr	23.27	119	P	P	12 28 40.0	-1.3
WRAB	Tennant Creek	23.28	119	P	P	12 28 39.5	-1.8
WRAB	Tennant Creek	23.28	119	*i* P	P	12 28 39.3	-2.1
WRAB				pmax	pmax		
	comp=Z,14nm,0.8s						
WB2	Warramunga Arr	23.28	119	P	P	12 28 39.2	-2.2
KMBL	Kambalda	23.40	160	P	P	12 28 42.7	+0.3
NWAO	Narrogin (SRO)	23.74	171	P	P	12 28 45.5	0.0
	comp=Z,14nm,1.0s,baz=299,slow=6.7,SNR=2.8						
NWAO				S	S	12 33 01.6	+4.2
	comp=Z,11nm,0.7s,baz=261,slow=18,SNR=1.9						
NWAO				LR	LR	12 39 13.6	
	comp=Z,5μm,18.6s,baz=318,slow=40						
	comp=Z,14nm,1.0s						
NWAO	Narrogin (SRO)	23.74	171	P	P	12 28 52.6	+7.1
ASAR	Alice Springs	24.63	128	P	P	12 28 52.3	-1.6
ASAR	Alice Springs	24.63	128	P	P	12 28 53.0	-0.9
	comp=Z,42nm,0.7s,baz=305,slow=8.7,SNR=221						
ASAR				PcP	PcP	12 32 30.0	-0.7
	comp=Z,1.6nm,0.4s,baz=289,slow=1.7,SNR=2.7						
ASAR				S	S	12 33 21.5	+9.4
	comp=Z,3.3nm,0.7s,baz=305,slow=23,SNR=3.0						
	comp=Z,42nm,0.7s						
AS31	Alice Springs	24.63	128	P	P	12 28 52.6	-1.3
FORT	Forrest	25.55	148	P	P	12 29 03.2	+1.1
FORT	Forrest	25.55	148	P	P	12 29 01.6	-0.5
FORT				IAmb	IAmb	12 29 34.7	
	comp=Z,104nm,0.8s						
OOD	Oodnadatta	28.26	133	P	P	12 29 26.2	-0.3
QIZ	Qiongzhong	28.43	354	P	P	12 29 29.8	+1.8
QIZ				sP	sP	12 29 48.0	+2.4
QIZ				S	S	12 34 19.3	+7.2
QIZ				LR	LR		
	comp=Z,1μm,16.8s						
QIZ				LR	LR		
	comp=Z,820nm,18.5s						
QIZ				LR	LR		
	comp=Z,2μm,15.7s						
NONG	Nongkai	28.94	341	P	P	12 29 33.7	+1.1
COEN	Coen	30.06	102	P	P	12 29 42.5	-0.1
PHRA	Phrae	30.40	336	P	P	12 29 46.0	+0.5
CMAR	Chiang Mai Arr	30.91	334	P	P	12 29 50.0	0.0
CMAR	Chiang Mai Arr	30.91	334	P	P	12 29 50.6	+0.6
	comp=Z,12nm,0.8s,baz=168,slow=8.0,SNR=58						
CMAR				PcP	PcP	12 32 46.8	+0.9
	comp=Z,0.7nm,0.3s,baz=184,slow=3.7,SNR=2.7						
CMAR				LR	LR	12 43 30.6	
	comp=Z,3μm,18.1s,baz=150,slow=39						
	comp=Z,12nm,0.8s						
CHTO	Chiang Mai	31.22	334	P	P	12 29 52.2	-0.6
CHTO				IAmb	IAmb	12 29 54.7	
	comp=Z,66nm,1.8s						
CHTO	Chiang Mai	31.22	334	P	P	12 29 52.2	-0.6
CHTO				pmax	pmax		
	comp=Z,66nm,1.8s						
MTSU	Mount Surprise	31.76	109	P	P	12 29 58.5	+0.9
INKA	Innaminka	32.01	128	P	P	12 30 01.3	+1.7
TPUB	Ta-pu	33.42	13	P	P	12 30 15.2	+3.2
TPUB	Ta-pu	33.42	13	P	P	12 30 11.7	-0.3
TPUB				IAmb	IAmb	12 30 14.6	
	comp=Z,44nm,1.0s						
YULB	Yu-li	33.66	14	P	P	12 30 13.5	-0.6
YULB				IAmb	IAmb	12 31 25.9	
	comp=Z,45nm,1.3s						
PMG	Port Moresby	33.88	93	P	P	12 30 15.8	-0.3
	comp=Z,23nm,0.7s,baz=320,slow=16,SNR=2.1						
PMG				LR	LR	12 47 11.9	
	comp=Z,2μm,20.9s,baz=270,slow=42						
	comp=Z,23nm,0.7s						
SSLB	Suanglung	33.96	13	P	P	12 30 17.8	+1.1
SSLB	Suanglung	33.96	13	IAmb	IAmb	12 30 20.7	
	comp=Z,30nm,0.9s						
CTA	Charters Tower	33.96	112	P	P	12 30 18.0	+1.2
CTA	Charters Tower	33.96	112	P	P	12 30 16.7	-0.2
	comp=Z,0.6nm,0.7s,baz=284,slow=9.0,SNR=10						
CTA				LR	LR	12 45 20.0	
	comp=Z,134nm,20.2s,baz=285,slow=38						
CTAO	Charters Tower	33.96	112	P	P	12 30 18.1	+1.2
CTAO	Charters Tower	33.96	112	P	P	12 30 16.5	-0.4
CTAO	Charters Tower	33.96	112	P	P	12 30 16.5	-0.4
CTAO				pmax	pmax		
	comp=Z,18nm,1.1s						
CTAO	Charters Tower	33.96	112	P	P	12 30 17.8	+0.9
TV1H	Townsville Har	34.28	110	P	P	12 30 20.1	+0.5
NACB	Ninganchiao	34.49	14	P	P	12 30 20.7	-0.6
QZH	Quanzhou	34.63	9	P	P	12 30 21.8	-0.6
QZH				sP	sP	12 30 39.9	-0.3
QZH				S	S	12 35 51.9	+3.3
QZH				LR	LR		
	comp=Z,1μm,20.3s						
QZH				LR	LR		
	comp=Z,880nm,22.3s						
QZH				LR	LR		
	comp=Z,2μm,20.3s						
STKA	Stephens Creek	34.79	134	P	P	12 30 24.8	+0.9
STKA	Stephens Creek	34.79	134	P	P	12 30 23.7	-0.2
STKA	Stephens Creek	34.79	134	P	P	12 30 24.4	+0.5
	comp=Z,20nm,0.7s,baz=306,slow=8.2,SNR=19						
STKA				LR	LR	12 45 20.2	
	comp=Z,5μm,20.7s,baz=300,slow=38						
	comp=Z,20nm,0.7s						
STKA	Stephens Creek	34.79	134	P	P	12 30 23.7	-0.2
STKA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YHNB	Yeheng	34.91	14	P	P	12 30 25.4	+0.5
YHNB				IAmb	IAmb	12 30 28.7	
	comp=Z,66nm,1.2s						
YOJ	Yonaguni jima	35.13	16	P	P	12 30 27.4	+0.6
YOJ	Yonaguni jima	35.13	16	P	P	12 30 27.4	+0.6
YOJ				pmax	pmax		
	comp=Z,88nm,1.0s						
KMI	Kunming	35.72	344	⇑P	P	12 30 34.3	+2.2
KMI				pP	pwP	12 30 47.3	-0.1
KMI				PP	PnPn	12 31 52.8	-0.3
KMI				S	S	12 36 06.4	+0.5
KMI				pmax	pmax		
	comp=Z,21nm,1.4s						
KMI				pmax	pmax		
	comp=Z,200nm,5.1s						
KMI				LR	LR		
	comp=Z,2μm,12.2s						
KMI				LR	LR		
	comp=Z,2μm,15.5s						
KMI				LR	LR		
	comp=Z,2μm,21.9s						
PALK	Pallekele	36.04	296	P	P	12 30 35.4	+0.6
PALK				IAmb	IAmb	12 30 37.4	
	comp=Z,88nm,1.6s						
PALK	Pallekele	36.04	296	LR	LR	12 44 49.9	
	comp=Z,1μm,22.0s,baz=215,slow=36						
PALK	Pallekele	36.04	296	P	P	12 30 35.4	+0.6
PALK				pmax	pmax		
	comp=Z,88nm,1.6s						
GYA	Guiyang	36.17	351	⇑P	P	12 30 39.6	+3.8
GYA				pP	sP	12 30 52.3	-1.2
GYA				S	S	12 36 15.4	+2.8
GYA				pmax	pmax		
	comp=Z,29nm,0.8s						
GYA				pmax	pmax		
	comp=Z,320nm,3.4s						
GYA				LR	LR		
	comp=Z,1μm,22.8s						
GYA				LR	LR		
	comp=Z,650nm,21.2s						
GYA				LR	LR		
	comp=Z,2μm,23.2s						
TNCH	TengChong	36.98	338	P	P	12 30 44.0	+1.2
TNCH				pP	pwP	12 30 57.4	-0.8
TNCH				S	S	12 36 29.4	+4.4
TNCH				pmax	pmax		
	comp=Z,69nm,1.0s						
TNCH				pmax	pmax		
	comp=Z,350nm,4.1s						
TNCH				LR	LR		
	comp=Z,2μm,16.4s						
TNCH				LR	LR		
	comp=Z,720nm,14.3s						
TNCH				LR	LR		
	comp=Z,3μm,17.0s						
PZH	PanZhiHua	37.30	344	P	P	12 30 48.4	+2.9
PZH				S	S	12 36 34.6	+4.7
PZH				pmax	pmax		
	comp=Z,20nm,1.4s						
PZH				pmax	pmax		
	comp=Z,360nm,6.1s						
PZH				LR	LR		
	comp=Z,1μm,19.2s						
PZH				LR	LR		
	comp=Z,2μm,21.2s						
PZH				LR	LR		
	comp=Z,2μm,17.3s						
CNSH	ChangSha	37.39	0	P	P	12 30 47.6	+1.6
CMSA	Cobar Meteorol	37.61	131	P	P	12 30 47.8	-0.1
AULRC	Lightning Ridg	38.45	126	P	P	12 30 55.8	+0.8
RK1H	Rockhampton Ha	38.59	116	P	P	12 30 56.6	+0.3
JOW	Kunigami	39.05	22	P	P	12 30 59.8	-0.2
JOW				IAmb	IAmb	12 31 28.2	
	comp=Z,46nm,1.0s						
JOW	Kunigami	39.05	22	LR	LR	12 50 30.7	
	comp=Z,300nm,18.9s,baz=198,slow=42						
GUMO	Guam	39.19	55	LR	LR	12 47 04.7	
	comp=Z,490nm,21.8s,baz=232,slow=36						
GUMO	Guam	39.19	55	P	P	12 30 59.7	-1.7
ENH	Enshi	39.60	355	P	P	12 31 06.1	+1.5
ENH	Enshi	39.60	355	IAmb	IAmb	12 31 07.8	
	comp=Z,32nm,0.7s						
ENH	Enshi	39.60	355	P	P	12 31 05.3	+0.6
EIDS	Eidsvold	39.63	119	P	P	12 31 06.4	+1.4
WHN	Wuhan	39.77	2	⇓P	P	12 31 07.3	+1.3
WHN				S	S	12 37 13.6	+6.9
WHN				pmax	pmax		
	comp=Z,62nm,0.6s						
WHN				pmax	pmax		
	comp=Z,1μm,6.3s						
WHN				LR	LR		
	comp=Z,3μm,19.6s						
WHN				LR	LR		
	comp=Z,2μm,16.9s						
WHN				LR	LR		
	comp=Z,5μm,22.1s						
H08S2	Diego Garcia H	39.89	269	T	T	13

comp=Z,390nm,22.8s
SSE LR LR
comp=Z,180nm,21.7s
AUPHS Peel High Scho 41.42 127 P **P 12 31 21.0 +1.3**
NJ2 Nanjing 41.65 8 ⇑P **P 12 31 22.6 +1.2**
NJ2 pP **pwP 12 31 36.3 -0.6**
NJ2 S **S 12 37 37.9 +3.2**
NJ2 pmax pmax
comp=Z,59nm,0.6s
NJ2 pmax pmax
comp=Z,390nm,8.1s
NJ2 LR LR
comp=Z,1μm,20.8s
NJ2 LR LR
comp=Z,630nm,18.0s
NJ2 LR LR
comp=Z,2μm,23.7s
AUWSH Wavell State H 41.91 121 P **P 12 31 25.1 +1.4**
HYB Hyderabad 43.10 308 *e*P **P 12 31 33.1 -0.5**
XAN Xi'an 43.39 355 ⇑P **P 12 31 35.6 0.0**
XAN pP pwP 12 31 50.1 -1.2
XAN sP sP 12 31 58.3 +5.0
XAN S **S 12 38 01.1 +0.8**
XAN pmax pmax
comp=Z,87nm,1.6s
XAN LR LR
comp=Z,2μm,21.3s
XAN LR LR
comp=Z,1μm,19.2s
XAN LR LR
comp=Z,4μm,20.6s
LYN LuoYang 43.74 360 P **P 12 31 38.8 +0.4**
LYN pP sP 12 31 54.8 -1.3
LYN sP pwP 12 31 58.6 +4.4
LYN S **S 12 38 04.3 -1.1**
LYN pmax pmax
comp=Z,120nm,0.7s
LYN pmax pmax
comp=Z,530nm,4.6s
LYN LR LR
comp=Z,1μm,21.1s
LYN LR LR
comp=Z,2μm,19.0s
LYN LR LR
comp=Z,2μm,21.8s
LSA Lhasa 44.15 333 IAmb IAmb 12 31 45.5
comp=Z,36nm,0.8s
LSA Lhasa 44.15 333 P **P 12 31 42.8 +0.5**
LSA Lhasa 44.15 333 P **P 12 31 43.7 +1.4**
LSA P **P 12 31 43.7 +1.4**
LSA Lhasa 44.15 333 P **P 12 31 43.3 +1.1**
LSA sP **pP 12 31 56.0 +1.4**
TIA Tai'an 45.58 5 P **P 12 31 52.5 -0.5**
TIA S **S 12 38 32.3 +0.3**
TIA pmax pmax
comp=Z,62nm,0.7s
TIA pmax pmax
comp=Z,150nm,4.0s
TIA LR LR
comp=Z,2μm,17.7s
TIA LR LR
comp=Z,700nm,15.9s
TIA LR LR
comp=Z,2μm,17.8s
JNU Nakatsue 45.69 21 P **P 12 31 54.7 +0.8**
JNU Nakatsue 45.69 21 P **P 12 31 53.3 -0.6**
JNU IAmb IAmb 12 33 02.5
comp=Z,41nm,0.7s
JNU Nakatsue 45.69 21 LR LR 12 54 01.3
comp=Z,223nm,18.1s,baz=153,slow=40
LZH Lanzhou 46.06 350 *e*P **P 12 31 57.8 +0.8**
LZH sP sP 12 32 14.5 -0.3
LZH PP **PP 12 33 48.3 +2.5**
LZH S **S 12 38 35.6 -3.6**
LZH pmax pmax
comp=Z,110nm,0.9s
LZH pmax pmax
comp=Z,410nm,5.2s
LZH LR LR
comp=Z,2μm,18.6s
LZH LR LR
comp=Z,1μm,15.8s
LZH LR LR
comp=Z,2μm,18.9s
JCJ Chichijima 46.15 37 P **P 12 31 59.0 +1.3**
JCJ Chichijima 46.15 37 P **P 12 31 56.7 -1.0**
JCJ Chichijima 46.15 37 LR LR 12 49 45.1
comp=Z,299nm,20.1s,baz=256,slow=34
JTU Tsushima 46.46 19 P **P 12 31 59.9 0.0**
HNR Honiara 46.47 94 LR LR 12 53 57.5
comp=Z,8μm,18.3s,baz=255,slow=39
HNS HongShan 46.62 2 ⇑P **P 12 32 00.8 -0.3**
HNS PP **PP 12 33 49.3 -2.2**
HNS S **S 12 38 44.4 -2.4**
HNS pmax pmax
comp=Z,50nm,1.1s
HNS LR LR
comp=Z,940nm,16.1s
HNS LR LR
comp=Z,560nm,16.7s
HNS LR LR
comp=Z,1μm,22.6s
TIY Taiyuan 46.90 360 P **P 12 32 04.0 +0.6**
TIY sP **sP 12 32 22.5 +1.3**
TIY S **S 12 38 45.6 -5.4**
TIY pmax pmax
comp=Z,52nm,0.7s
TIY pmax pmax
comp=Z,270nm,5.1s
TIY LR LR
comp=Z,690nm,19.2s
TIY LR LR
comp=Z,710nm,18.6s
TIY LR LR
comp=Z,540nm,19.2s
JMN Monobe 47.37 24 P **P 12 32 08.5 +1.4**
TJN Taejon 47.58 16 P **P 12 32 10.2 +1.5**
TJN Taejon 47.58 16 *i* P **P 12 32 08.4 -0.3**
INCN Inchon 48.43 15 P **P 12 32 14.8 -0.5**
INCN IAmb IAmb 12 32 25.5
comp=Z,68nm,1.8s
INCN Inchon 48.43 15 P **P 12 32 13.4 -1.9**
INCN Inchon 48.43 15 P **P 12 32 14.8 -0.5**
INCN pmax pmax
comp=Z,68nm,1.8s
GOMU GeErMu 48.45 340 P **P 12 32 16.3 +0.4**
GOMU S S 12 39 05.1 -8.5
GOMU pmax pmax
comp=Z,17nm,1.5s
GOMU LR LR
comp=Z,660nm,20.6s
GOMU LR LR
comp=Z,660nm,18.5s
GOMU LR LR
comp=Z,1μm,19.4s
KSAR Wonju Array Be 48.72 16 P **P 12 32 17.3 -0.2**
KSAR Wonju Array Be 48.72 16 P **P 12 32 17.3 -0.2**
KSRS Korea Array 48.74 16 P **P 12 32 17.4 -0.3**
comp=Z,18nm,1.1s,baz=203,slow=6.7,SNR=41
KSRS LR LR 12 54 18.8
comp=Z,396nm,20.4s,baz=205,slow=38
comp=Z,18nm,1.1s
KS19 Wonju Array Si 48.77 16 P **P 12 32 17.9 0.0**
KS19 IAmb IAmb 12 32 20.3
comp=Z,85nm,1.4s
DL2 Dalian 48.79 9 P **P 12 32 17.4 -0.5**
DL2 S **S 12 39 14.3 -3.2**
DL2 pmax pmax
comp=Z,59nm,0.9s
DL2 pmax pmax
comp=Z,240nm,5.4s
DL2 LR LR
comp=Z,1μm,20.3s
DL2 LR LR
comp=Z,310nm,18.0s
DL2 LR LR
comp=Z,1μm,19.9s
BJT Baijiatuau 49.30 3 P **P 12 32 22.6 +0.8**
BJT Baijiatuau 49.30 3 P **P 12 32 21.8 0.0**
BJI Beijing 49.32 3 P **P 12 32 21.8 -0.2**
BJI S **S 12 39 27.6 +2.6**
BJI pmax pmax
comp=Z,29nm,1.0s
BJI LR LR
comp=Z,650nm,18.1s
BJI LR LR
comp=Z,220nm,16.6s
BJI LR LR
comp=Z,620nm,17.2s
JHJ Hachijo jima 2 49.51 30 LR LR 12 55 32.8
comp=Z,322nm,19.7s,baz=236,slow=39
BTO Baotou 49.85 357 ⇑*i*P **P 12 32 27.5 +1.3**
BTO pP **sP 12 32 43.1 -0.9**
BTO sP pwP 12 32 50.0 +7.9
BTO S **S 12 39 35.8 +3.1**
BTO sS sS 12 40 01.4 +8.1
BTO pmax pmax
comp=Z,260nm,0.9s
BTO pmax pmax
comp=Z,1μm,4.7s
BTO LR LR
comp=Z,3μm,18.4s
BTO LR LR
comp=Z,3μm,18.6s
BTO LR LR
comp=Z,3μm,18.1s
HHC Hu-ho-hao-te 50.04 359 ⇑*i*P **P 12 32 27.8 +0.2**
HHC pP pP 12 32 38.4 -1.8
HHC S **S 12 39 31.3 -4.0**
HHC sS sS 12 40 03.4 +7.4
HHC SS **SS 12 43 06.8 -2.4**
HHC pmax pmax
comp=Z,45nm,0.8s
HHC pmax pmax
comp=Z,180nm,5.7s
HHC LR LR
comp=Z,530nm,19.8s
HHC LR LR
comp=Z,580nm,18.8s
HHC LR LR
comp=Z,690nm,19.1s
GTA Gaotai 50.07 347 ⇑P **P 12 32 28.8 +0.9**
GTA pP pP 12 32 40.6 +0.1
GTA sP sP 12 32 45.8 0.0
GTA PcP **PcP 12 33 48.8 +1.7**
GTA S **S 12 39 37.0 +1.2**
GTA ScS **ScS 12 42 14.8 -0.4**
GTA pmax pmax
comp=Z,34nm,1.5s
GTA pmax pmax
comp=Z,290nm,5.8s
GTA LR LR
comp=Z,1μm,17.8s
GTA LR LR
comp=Z,920nm,19.3s
GTA LR LR
comp=Z,1μm,17.4s
MAJO Matsushiro 51.59 26 P **P 12 32 37.4 -1.9**
MAJO Matsushiro 51.59 26 P **P 12 32 37.4 -1.9**
MAJO pmax pmax
comp=Z,282nm,1.9s
MAJO Matsushiro 51.59 26 P **P 12 32 37.5 -1.9**
MJAR Matsushiro Arr 51.59 26 P **P 12 32 37.8 -1.5**
comp=Z,35nm,0.8s,baz=198,slow=7.8,SNR=58
MJAR LR LR 12 56 24.7
comp=Z,364nm,19.5s,baz=210,slow=38
comp=Z,35nm,0.8s
SNY Shenyang 51.96 10 ⇑P **P 12 32 40.8 -1.0**
SNY S **S 12 39 54.0 -7.5**
SNY pmax pmax
comp=Z,56nm,1.5s
SNY pmax pmax
comp=Z,290nm,3.7s
SNY LR LR
comp=Z,410nm,19.6s
SNY LR LR
comp=Z,660nm,16.5s
SNY LR LR
comp=Z,770nm,19.2s
DZM Mont Dzumac 52.88 110 *e*S **S 12 40 18.5 +3.4**
comp=Z,482nm,31.6s
DZM Mont Dzumac 52.88 110 P **P 12 32 49.4 +0.2**
comp=Z,5.7nm,0.8s,baz=119,slow=17,SNR=2.3
DZM LR LR 12 56 46.2
comp=Z,834nm,19.3s,baz=281,slow=38
comp=Z,5.7nm,0.8s
XLT XiLinHaoTe 53.16 3 ⇑*i*P **P 12 32 50.6 -0.2**
XLT pP pwP 12 33 05.9 -1.0
XLT sP sP 12 33 13.0 +4.2
XLT PcP **PcP 12 33 53.5 -5.0**
XLT S **S 12 40 17.3 -0.8**
XLT pmax pmax
comp=Z,62nm,1.0s
XLT pmax pmax
comp=Z,200nm,6.8s
XLT LR LR
comp=Z,54nm,20.8s
XLT LR LR
comp=Z,240nm,17.0s
XLT LR LR
comp=Z,1μm,17.4s
JMM Marumori 53.84 27 P **P 12 32 55.6 -0.2**
JMM Marumori 53.84 27 P **P 12 32 54.1 -1.7**
JMM IAmb IAmb 12 33 03.2
comp=Z,46nm,0.7s
CN2 Changchun 54.21 11 *e*P **P 12 32 57.5 -0.9**
CN2 *e*pP pwP 12 33 13.3 -0.9
CN2 *e*S **S 12 40 30.9 -1.2**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,400nm,14.0s
PSTR Posyet 54.38 16 *i* P **P 12 32 59.4 -0.2**
MSHR Mys Shultsa 54.41 17 *i* P **P 12 32 59.6 -0.3**
MSHR pmax pmax
comp=Z,13nm,0.9s
VLA Vladivostok 55.12 17 P **P 12 33 04.8 -0.2**
VLA pmax pmax
comp=Z,26nm,1.2s
MDJ Mudanjiang 55.90 14 P **P 12 33 11.5 +0.9**
MDJ Mudanjiang 55.90 14 P **P 12 33 09.9 -0.7**
MDJ pP pP 12 33 20.3 -3.1
MDJ sP sP 12 33 27.4 -1.3
MDJ pmax pmax
comp=Z,32nm,1.2s
MDJ pmax pmax
comp=Z,280nm,3.5s
MDJ LR LR
comp=Z,350nm,16.1s
MDJ LR LR
comp=Z,340nm,16.0s
MDJ LR LR
comp=Z,590nm,18.5s
MDJ Mudanjiang 55.90 14 IAmb IAmb 12 33 12.3
comp=Z,37nm,0.9s
MDJ Mudanjiang 55.90 14 P **P 12 33 09.8 -0.8**
MDJ pP **pP 12 33 19.9 -3.5**
USA0B Ussuriysk Arra 56.14 17 IAmb IAmb 12 33 14.2
comp=Z,68nm,1.2s
USRK Ussuriysk Ar. 56.14 17 P **P 12 33 12.1 -0.2**
comp=Z,27nm,0.9s,baz=201,slow=5.0,SNR=41
USRK LR LR 12 59 02.5
comp=Z,436nm,20.0s,baz=213,slow=38
comp=Z,27nm,0.9s
JTM Tenmabayashi 56.36 26 P **P 12 33 13.5 -0.5**
BNX BinXian 56.46 12 ⇑P **P 12 33 13.4 -1.2**
BNX S **S 12 40 59.5 -2.7**
BNX pmax pmax
comp=Z,38nm,1.0s
BNX pmax pmax
comp=Z,220nm,3.8s
BNX LR LR
comp=Z,270nm,15.7s
BNX LR LR
comp=Z,390nm,16.3s
BNX LR LR
comp=Z,450nm,17.3s
CASY Casey 56.79 181 P **P 12 33 16.6 0.0**
NIL Nilore 56.99 321 P **P 12 33 17.2 -1.4**
NIL IAmb IAmb 12 33 51.2
comp=Z,41nm,0.9s
NIL Nilore 56.99 321 P **P 12 33 17.9 -0.8**
NIL P **P 12 33 17.9 -0.8**
NIL Nilore 56.99 321 P **P 12 33 17.2 -1.4**
NIL pmax pmax
comp=Z,41nm,1.0s
NIL Nilore 56.99 321 P **P 12 33 17.2 -1.4**
NIL sP **pP 12 33 31.2 -0.1**
MSEY Mahe Island 57.04 271 P **P 12 33 18.9 -0.5**
ULN Ulaanbaatar 57.27 355 P **P 12 33 20.6 +0.1**
ULN Ulaanbaatar 57.27 355 P **P 12 33 20.6 +0.1**
ULN P **P 12 33 20.6 +0.1**
ULN Ulaanbaatar 57.27 355 *ce*P **P 12 33 20.4 -0.1**
ULN pmax pmax
comp=Z,63nm,0.8s
ULN Ulaanbaatar 57.27 355 P **P 12 33 20.5 -0.1**
SONM Songino Array 57.30 355 P **P 12 33 20.8 +0.1**
SONM Songino Array 57.30 355 P **P 12 33 20.7 +0.1**
comp=Z,35nm,0.6s,baz=176,slow=7.8,SNR=129
SONM PcP **PcP 12 34 15.0 +0.6**
comp=Z,5.8nm,0.6s,baz=178,slow=5.9,SNR=1.8
SONM PKiKP **PKiKP 12 40 37.3 -3.6**
comp=Z,0.9nm,0.5s,baz=172,slow=9.1,SNR=3.6
SONM LR LR 13 00 18.4
comp=Z,1μm,18.8s,baz=202,slow=39
comp=Z,35nm,0.6s
ERM Erimo 58.27 26 P **P 12 33 27.2 -0.2**
ERM Erimo 58.27 26 P **P 12 33 26.7 -0.7**
ERM IAmb IAmb 12 33 29.1
comp=Z,48nm,0.9s
ERM Erimo 58.27 26 *ce*P **P 12 33 27.2 -0.2**
ERM pmax pmax
comp=Z,26nm,0.7s
ERM Erimo 58.27 26 P **P 12 33 27.4 +0.1**
JEM Erimo 58.27 26 P **P 12 33 27.2 -0.2**
TEY Ternei 58.31 20 *e*P **P 12 33 26.9 -0.7**
TEY *e* 12 41 23.9
HIA Hailar 58.76 5 P **P 12 33 32.0 +1.3**
WUS Wushi 59.11 331 P **P 12 33 33.5 +0.1**
KSH Kashi 59.49 327 P **P 12 33 34.8 -1.3**
KSH pP pwP 12 33 50.5 -2.2
KSH PcP **PcP 12 34 21.4 -1.9**
KSH pmax pmax
comp=Z,27nm,1.0s
KSH LR LR
comp=Z,510nm,22.3s
KSH LR LR
comp=Z,650nm,18.5s
KSH LR LR
comp=Z,790nm,18.9s
ASAJ Asahikawa 59.75 24 LR LR 13 00 30.8
comp=Z,189nm,21.7s,baz=216,slow=37
JKA Kamikawa-asahi 59.75 24 IAmb IAmb 12 33 39.2
comp=Z,42nm,0.8s
DRV Dumont d'Urvil 60.07 168 P **P 12 33 39.4 0.0**
ZAK Zakamensk 60.14 353 *e*P **P 12 33 39.2 -1.1**
ZAK pmax pmax
comp=Z,30nm,1.8s
TARG Taragay, Kyrgy 60.20 330 IAmb IAmb 12 34 20.2
comp=Z,23nm,1.0s
KBL Kabul 60.24 319 P **P 12 33 40.5 -1.0**
KBL IAmb IAmb 12 33 41.6
comp=Z,79nm,1.5s
KBL Kabul 60.24 319 P **P 12 33 40.5 -1.0**
SNR=16
KBL P **P 12 33 40.5 -1.0**
SNR=16
KBL Kabul 60.24 319 P **P 12 33 40.5 -1.0**
KBL pmax pmax
comp=Z,79nm,1.5s
SHLS Shalkode 60.52 332 *e*P **P 12 33 41.0 -2.0**
comp=Z,29nm,0.9s,baz=333
SHLS Shalkode 60.52 332 *e*P **P 12 33 41.0 -2.0**
SHLS pmax pmax
comp=Z,29nm,0.9s
UZB Uzynbulak 60.71 332 *e*P **P 12 33 43.6 -0.8**
comp=Z,19nm,0.9s,baz=332
UZB Uzynbulak 60.71 332 *e*P **P 12 33 43.6 -0.8**
UZB pmax pmax
comp=Z,19nm,0.9s
KLR Kul'dur 60.74 14 LR LR 13 03 17.5
comp=Z,684nm,18.1s,baz=230,slow=39
KLR Kul'dur 60.74 14 *ce*P **P 12 33 42.8 -1.5**
KLR pmax pmax
comp=Z,36nm,1.7s
RPZ Rata Peaks 60.75 135 LR LR 13 00 07.7
comp=Z,3μm,19.1s,baz=282,slow=36
HEH HeiHe 60.79 11 *e*P **P 12 33 43.8 -0.8**
HEH pmax pmax
comp=Z,75nm,1.1s
HEH LR LR
comp=Z,270nm,20.8s
HEH LR LR
comp=Z,320nm,20.2s
HEH LR LR
comp=Z,470nm,22.9s
SATY Saty 60.93 332 *e*P **P 12 33 45.1 -0.8**
comp=Z,36nm,1.3s,baz=332
SATY Saty 60.93 332 *e*P **P 12 33 45.1 -0.8**
SATY pmax pmax
comp=Z,36nm,1.3s
JLN Jalan Bani Buh 61.03 302 P **P 12 33 47.4 +0.6**
JLN P **P 12 33 47.4 +0.6**
KPKS Kokpek 61.11 332 *e*P **P 12 33 46.3 -0.8**
comp=Z,19nm,0.9s,baz=332
KPKS *e*S **S 12 42 01.7 -1.2**
baz=332
KPKS Kokpek 61.11 332 *e*P **P 12 33 46.3 -0.8**
KPKS *e*S **S 12 42 01.7 -1.2**
KPKS pmax pmax
comp=Z,19nm,0.9s
CIT Chita 61.21 1 *e*P **P 12 33 47.9 +0.4**
CIT *e* 12 34 00.1
CIT *e* 12 34 04.8
CIT *e* 12 34 27.4
CIT pmax pmax
comp=Z,199nm,1.9s
WBK Wadi Bani Khal 61.59 302 P **P 12 33 51.5 +0.9**
TNSS Tian-Shan 61.60 331 *e*P **P 12 33 49.7 -1.1**
baz=331
TNSS Tian-Shan 61.60 331 *e*P **P 12 33 49.7 -1.1**
MDOK Medeo 61.65 331 *e*P **P 12 33 50.0 -0.8**
baz=331
MDOK *e*S **S 12 42 08.5 -1.3**
baz=331
MDOK LR LR 13 02 04.1
comp=Z,348nm,19.8s,baz=331
MDOK Medeo 61.65 331 *e*P **P 12 33 50.0 -0.8**
MDOK *e*S **S 12 42 08.5 -1.3**
MDOK MLR MLR
comp=Z,348nm,20.0s
BOOM Boomskoye usch 61.69 330 IAmb IAmb 12 33 53.2
comp=Z,24nm,0.9s
AAA Alma-Ata 61.75 331 *e*P **P 12 33 50.7 -0.6**
comp=Z,16nm,0.6s,baz=331
AAA Alma-Ata 61.75 331 *e*P **P 12 33 50.7 -0.6**
AAA pmax pmax
comp=Z,16nm,0.6s
MHTO MHTO 61.77 300 P **P 12 33 52.1 +0.3**
MHTO P **P 12 33 52.1 +0.3**
ZSN Zaisan 61.84 339 *e*P **P 12 33 51.1 -0.7**
comp=Z,28nm,1.1s,baz=339
ZSN Zaisan 61.84 339 *e*P **P 12 33 51.0 -0.7**
ZSN pmax pmax
comp=Z,28nm,1.1s
IRK Irkutsk 61.87 354 *e*P **P 12 33 51.1 -0.7**
IRK pmax pmax
comp=Z,125nm,1.9s
ARXS Arharly 62.08 332 *i* P **P 12 33 51.6 -2.0**
WSAR Wadi Sarin 62.14 302 LR LR 13 01 42.6
comp=Z,425nm,19.1s,baz=123,slow=37
YSS Yuzh-Sakhalins 62.16 23 P **P 12 33 54.3 +0.4**
YSS Yuzh-Sakhalins 62.16 23 P **P 12 33 53.6 -0.2**
YSS Yuzh-Sakhalins 62.16 23 *ce*P **P 12 33 53.4 -0.5**
YSS *e**PP **sP 12 34 11.6 -0.3**
YSS *e* 12 36 09.5
YSS *e*S **S 12 42 12.2 -3.5**
YSS *e*SS **SS 12 46 19.0 -0.6**
YSS pmax pmax
comp=Z,100nm,4.3s
YSS pmax pmax
comp=N,100nm,3.2s
YSS pmax pmax
comp=Z,60nm,1.1s
YSS smax smax
comp=N,100nm,7.3s
YSS smax smax
comp=E,200nm,7.4s
YSS MLR MLR
comp=Z,200nm,20.0s

YSS MLR MLR
comp=N,200nm,18.0s
YSS Yuzh-Sakhalins 62.16 23 P **P 12 33 53.7 -0.2**
TKM2 Tokmak 2 62.18 330 P **P 12 33 54.3 -0.1**
SNR=48
CHKK Chushkaly 62.20 331 *e*P **P 12 33 53.6 -0.8**
baz=331
CHKK Chushkaly 62.20 331 *e*P **P 12 33 53.5 -0.8**
UCH Uchtor 62.22 329 P **P 12 33 54.4 -0.6**
SNR=22
JMDO Jabal Madar 62.22 301 P **P 12 33 55.4 +0.6**
JMDO P **P 12 33 55.4 +0.6**
MK31 Makanchi Array 62.24 337 IAmb IAmb 12 33 55.5
comp=Z,16nm,0.8s
MK31 Makanchi Array 62.24 337*ce*P **P 12 33 54.2 -0.3**
MKAR Makanchi Array 62.24 337 P **P 12 33 54.4 -0.1**
comp=Z,12nm,0.4s,baz=148,slow=7.0,SNR=137
MKAR LR LR 13 03 38.4
comp=Z,687nm,21.2s,baz=156,slow=39
comp=Z,12nm,0.4s
GAR Garm 62.30 324 IAmb IAmb 12 33 56.5
comp=Z,34nm,0.8s
KBK Karagaybulak 62.31 329 P **P 12 33 55.4 +0.2**
SNR=25
ARSB Arslanbob 62.38 327 IAmb IAmb 12 33 57.9
comp=Z,103nm,2.0s
MAKZ Makanchi 62.38 337 P **P 12 33 55.1 -0.3**
MAKZ Makanchi 62.38 337 P **P 12 33 55.1 -0.3**
MAKZ pmax pmax
comp=Z,123nm,2.0s
MAKZ Makanchi 62.38 337 P **P 12 33 55.1 -0.3**
TDK Taldyqorghan 62.43 333 *e*P **P 12 33 55.1 -0.8**
comp=Z,28nm,1.1s,baz=333
TDK LR LR 13 02 34.4
comp=Z,512nm,19.7s,baz=333
TDK Taldyqorghan 62.43 333 *e*P **P 12 33 55.0 -0.8**
TDK pmax pmax
comp=Z,28nm,1.1s
TDK MLR MLR
comp=Z,512nm,20.0s
AAK Ala-Archa 62.52 329 P **P 12 33 57.1 +0.5**
SNR=9.5
AAK Ala-Archa 62.52 329 P **P 12 33 57.0 +0.3**
AAK IAmb IAmb 12 33 57.7
comp=Z,37nm,1.1s
AAK Ala-Archa 62.52 329 P **P 12 33 57.1 +0.5**
AAK Ala-Archa 62.52 329 LR LR 13 05 15.6
comp=Z,697nm,19.3s,baz=132,slow=40
AAK Ala-Archa 62.52 329 P **P 12 33 57.3 +0.6**
AAK P **P 12 33 57.3 +0.6**
AAK Ala-Archa 62.52 329*ce*P **P 12 33 57.2 +0.5**
AAK pmax pmax
comp=Z,68nm,1.7s
AAK Ala-Archa 62.52 329 P **P 12 33 57.0 +0.3**
SMDO Samad 62.55 302 P **P 12 33 57.9 +0.8**
AML Almayashu 62.57 328 P **P 12 33 57.4 +0.1**
SNR=42
BIDO Bidbid 62.68 303 P **P 12 33 58.9 +1.0**
SNR=9.8
BTK Batken 62.71 325 IAmb IAmb 12 34 00.1
comp=Z,57nm,1.4s
BTK Batken 62.71 325 P **P 12 33 57.4 -0.5**
SIMJ Simiganj 62.85 322 P **P 12 33 57.0 -1.9**
SIMJ IAmb IAmb 12 33 58.3
comp=Z,44nm,1.4s
SIMJ Simiganj 62.85 322 P **P 12 33 56.9 -2.1**
EKS2 Erkin-Say 62.91 329 P **P 12 33 59.6 +0.5**
SNR=31
USP Ospenovka 62.98 329 P **P 12 33 59.5 0.0**
SNR=8.4
DMTO DMTO 63.19 295 P **P 12 34 02.1 +0.7**
GRNR Gornyy 63.37 17⇑*i*P **P 12 34 01.5 -0.4**
GRNR pmax pmax
comp=Z,9.0nm,0.9s
HOQ Hoqain 63.38 302 P **P 12 34 03.3 +0.7**
BKZ Black Stump Fm 63.74 129 P **P 12 34 05.3 +0.5**
BKZ Black Stump Fm 63.74 129 P **P 12 34 04.4 -0.4**
BKZ IAmb IAmb 12 34 20.6
comp=Z,17nm,0.9s
RTZ Ruatahuna 64.03 128 P **P 12 34 07.2 +0.5**
RTZ IAmb IAmb 12 34 22.2
comp=Z,48nm,1.0s
URZ Urewera 64.07 128 P **P 12 34 06.8 -0.1**
comp=Z,4.6nm,0.6s,baz=335,slow=8.6,SNR=6.2
URZ LR LR 13 03 20.2
comp=Z,2μm,19.2s,baz=14,slow=37
comp=Z,4.6nm,0.6s
ZEA Zeya 64.11 9 *e*P **P 12 34 06.5 -0.2**
ZEA pmax pmax
comp=N,20nm,1.4s
ZEA pmax pmax
comp=Z,40nm,1.2s
ZEA pmax pmax
comp=Z,200nm,5.4s
ZEA MLR MLR
comp=E,300nm,20.0s
ZEA MLR MLR
comp=Z,300nm,20.0s
DOK Doka 64.23 296 P **P 12 34 08.6 +0.3**
DOK P **P 12 34 08.6 +0.3**
SOHO SOHO 64.26 302 P **P 12 34 09.3 +1.0**
WHFO Wadi Hawf 64.31 295 P **P 12 34 09.0 +0.2**
BTLS Baital 64.49 331 *e*P **P 12 34 08.6 -0.9**
baz=330
BTLS *e*S **S 12 42 43.9 -1.0**
baz=330
BTLS Baital 64.49 331 *e*P **P 12 34 08.5 -0.9**
BTLS *e*S **S 12 42 43.9 -1.0**
ABTO Aybut 64.54 294 P **P 12 34 11.2 +0.8**
IUG Iuzhnay 64.55 326 *e*P **P 12 34 09.1 -0.9**
comp=Z,39nm,1.1s,baz=326
IUG Iuzhnay 64.55 326 *e*P **P 12 34 09.1 -0.9**
IUG pmax pmax
comp=Z,39nm,1.1s
UOSS Minazif 64.87 303 P **P 12 34 12.0 -0.3**
UOSS Minazif 64.87 303 P **P 12 34 11.2 -1.1**
UOSS Minazif 64.87 303 P **P 12 34 12.1 -0.1**
UOSS Minazif 64.87 303 P **P 12 34 11.5 -0.7**
HATD Hatta, Dubai 64.88 303 P **P 12 34 12.5 +0.1**
HATD Hatta, Dubai 64.88 303 P **P 12 34 12.9 +0.5**
SNR=6.1
ASHO Ashiyiah 64.88 303 P **P 12 34 12.4 0.0**
ASHO Ashiyiah 64.88 303 P **P 12 34 13.2 +0.7**
SNR=5.6
ALNE Al Ain 64.88 302 P **P 12 34 13.6 +1.2**
SNR=6.1
KKAR Karatay Array 64.94 327 P **P 12 34 11.6 -0.8**
KKAR Karatay Array 64.94 327 IAmb IAmb 12 34 15.4
comp=Z,11nm,0.8s
KKAR Karatay Array 64.94 327 P **P 12 34 11.6 -0.8**
MDH Madha 64.94 304 P **P 12 34 10.8 -1.9**
MDH Madha 64.94 304 P **P 12 34 13.0 +0.3**
MSFE Esma-Masafi 65.08 304 P **P 12 34 14.6 +0.9**
MASF Masafi 65.08 304 P **P 12 34 14.6 +0.9**
MASF P **P 12 34 14.6 +0.9**
BRLS Boroldey 65.25 327 *e*P **P 12 34 13.3 -1.1**
baz=326
BRLS Boroldey 65.25 327 *e*P **P 12 34 13.3 -1.1**
FAQ Al Faqa, Dubai 65.29 303 P **P 12 34 15.3 +0.3**
FAQ Al Faqa, Dubai 65.29 303 P **P 12 34 16.0 +0.9**
SNR=6.2
SHME Shamm 65.38 304 P **P 12 34 15.8 +0.2**
SHME Shamm 65.38 304 P **P 12 34 16.5 +0.9**
SHME P **P 12 34 16.5 +0.9**
TYV Tymovskoe 65.39 20 *e*P **P 12 34 16.4 +1.3**
TYV *e*S **S 12 42 59.6 +3.9**
TYV pmax pmax
comp=Z,200nm,3.3s
TYV pmax pmax
comp=Z,12nm,1.1s
TYV smax smax
comp=N,100nm,5.5s
TYV smax smax
comp=E,100nm,5.5s
ASUD Al Ashush, Dub 65.46 302 P **P 12 34 15.1 -1.1**
ASUD Al Ashush, Dub 65.46 302 P **P 12 34 16.9 +0.7**
AJN Ajban 65.72 302 P **P 12 34 17.7 -0.1**
CCD Concordia, Ant 65.91 177 P **P 12 34 19.3 +0.7**
MZWR Madinat Zayed 66.34 301 P **P 12 34 22.1 +0.3**
KURBB Kurchatov Arra 66.81 337 P **P 12 34 23.7 -0.5**
comp=E,14nm,0.8s,baz=152,slow=5.2,SNR=74
KURBB LR LR 13 06 39.9
comp=E,417nm,19.3s,baz=145,slow=39
comp=E,14nm,0.8s
MAW Mawson 66.81 199 P **P 12 34 25.1 +1.1**
comp=E,1.5nm,0.7s,baz=46,slow=7.9,SNR=4.5
MAW LR LR 13 00 37.0
comp=E,820nm,18.2s,baz=50,slow=33
comp=E,1.5nm,0.7s
KURK Kurchatov 66.85 337 P **P 12 34 24.8 +0.3**
KURK IAmb IAmb 12 34 26.4
comp=Z,27nm,0.8s
KURK Kurchatov 66.85 337 P **P 12 34 24.5 0.0**
KURK P **P 12 34 24.5 0.0**
KURK Kurchatov 66.85 337*ce*P **P 12 34 24.1 -0.3**
KURK pmax pmax
comp=Z,29nm,0.8s
KURK Kurchatov 66.85 337 P **P 12 34 23.9 -0.5**
BOD Bodaibo 67.02 1 *e*P **P 12 34 25.2 -0.2**
BOD pmax pmax
comp=Z,72nm,1.8s
GHWR Ruwais 67.27 301 P **P 12 34 28.4 +0.7**
GHWR P **P 12 34 28.4 +0.7**
RAO Raoul Island 67.40 118 LR LR 13 05 25.6
comp=Z,615nm,18.4s,baz=284,slow=37
ZAA0 Zalesovo Array 67.44 343 P **P 12 34 27.0 -1.1**
ZALV Zalesovo Beam 67.44 343 P **P 12 34 28.1 0.0**
ZALV Zalesovo Beam 67.44 343 P **P 12 34 27.2 -0.9**
comp=Z,45nm,0.6s,baz=150,slow=4.5,SNR=117
ZALV LR LR 13 06 41.7
comp=Z,480nm,18.7s,baz=158,slow=38
comp=Z,45nm,0.6s
ZALV Zalesovo Beam 67.44 343 *i* P **P 12 34 27.2 -0.9**
ZALV pmax pmax
comp=Z,46nm,0.6s
SLWR Sila 68.31 301 P **P 12 34 34.7 +0.4**
TRNA Turayna 68.96 301 P **P 12 34 38.7 +0.4**
SMRA Abu-Samra 69.29 301 P **P 12 34 40.7 +0.4**
SHMA Al-Shehemyia 69.58 302 P **P 12 34 42.4 +0.3**
SAKB Bahrain 69.98 302 P **P 12 34 44.6 0.0**
SKR Severo-Kuril's 70.66 28 *e*P **P 12 34 46.5 -1.7**
SKR *e*S **S 12 43 52.7 -5.9**
SKR pmax pmax
comp=Z,32nm,1.5s
SKR pmax pmax
comp=Z,100nm,8.1s
BVAR Borovoye Array 71.93 335 P **P 12 34 55.5 -0.4**
comp=Z,12nm,0.8s,baz=142,slow=7.8,SNR=38
BVAR LR LR 13 10 33.2
comp=Z,527nm,21.2s,baz=140,slow=39
comp=Z,12nm,0.8s
BRVK Borovoye 72.00 335 P **P 12 34 56.1 -0.1**
BRVK IAmb IAmb 12 34 57.5
comp=Z,102nm,2.0s
BRVK Borovoye 72.00 335 P **P 12 34 56.3 +0.1**
BRVK Borovoye 72.00 335*ce*P **P 12 34 55.6 -0.6**
BRVK pmax pmax
comp=Z,39nm,1.7s
YAK Yakutsk 72.45 8 P **P 12 34 58.6 -0.1**
YAK Yakutsk 72.45 8 LR LR 13 09 36.5
comp=Z,314nm,19.4s,baz=204,slow=38
YAK Yakutsk 72.45 8*c i*P **P 12 34 57.8 -0.9**
YAK *e**PP **pwP 12 35 14.6 -1.0**
YAK *e* 12 35 16.9
YAK *e* 12 37 38.8
YAK *e*S **S 12 44 17.5 -1.3**
YAK *e**SS sS 12 44 46.5 +5.1
YAK *e* 12 44 58.7
YAK *e*SS **SS 12 48 51.6 -6.8**
YAK pmax pmax
comp=Z,115nm,1.0s
YAK pmax pmax
comp=N,39nm,1.3s
YAK pmax pmax
comp=E,26nm,1.5s
YAK pmax pmax
comp=Z,91nm,4.2s
YAK pmax pmax
comp=N,62nm,4.3s
YAK smax smax
comp=E,56nm,2.6s
YAK smax smax
comp=N,48nm,2.3s
YAK MLR MLR
comp=Z,395nm,21.0s
YAK MLR MLR
comp=E,275nm,17.0s
YAK MLR MLR
comp=N,351nm,19.0s
VNDA Vanda 72.57 170 P **P 12 34 59.3 0.0**
VNDA Vanda 72.57 170 P **P 12 34 59.9 +0.6**
comp=N,2.9nm,0.8s,baz=293,slow=5.0,SNR=9.2
comp=N,2.9nm,0.8s
VNDA Vanda 72.57 170 P **P 12 34 59.3 0.0**
VNDA pmax pmax
comp=Z,12nm,1.3s
ATD Arta Tunnel 72.60 285 LR LR 13 04 24.7
comp=Z,7.9nm,18.9s,baz=94,slow=34
PET Petropavlovsk 73.42 27 P **P 12 35 04.3 -0.3**
PET Petropavlovsk 73.42 27 P **P 12 35 04.2 -0.4**
PET IAmb IAmb 12 35 06.6
comp=Z,80nm,1.7s
PET Petropavlovsk 73.42 27 *e*P **P 12 35 03.2 -1.4**
PET *e*S **SKiKP 12 44 31.6 +0.1**
PET *e*PS **PnS 12 45 13.0 +4.9**
PET pmax pmax
comp=Z,100nm,13.6s
PET pmax pmax
comp=Z,26nm,1.0s
RAYN Ar Rayn 73.45 298 P **P 12 35 05.0 -0.6**
RAYN Ar Rayn 73.45 298 P **P 12 35 05.8 +0.3**
RAYN Ar Rayn 73.45 298 P **P 12 35 05.7 +0.1**
RAYN Ar Rayn 73.45 298 P **P 12 35 05.0 -0.6**
RAYN pmax pmax
comp=Z,15nm,1.0s
KBD Kabd 73.49 304 P **P 12 35 05.5 -0.1**
ABKAR Akbulak array 74.50 327 P **P 12 35 11.4 +0.3**
ABKAR Akbulak array 74.50 327 IAmb IAmb 12 35 13.4
comp=Z,72nm,0.8s
KIBK Kibwezi 74.59 270 P **P 12 35 11.8 -0.7**
KIBK Kibwezi 74.59 270 P **P 12 35 14.5 +2.0**
MA2 Magadan 75.18 19 P **P 12 35 15.9 +1.1**
MA2 Magadan 75.18 19 P **P 12 35 15.0 +0.2**
MA2 IAmb IAmb 12 35 17.0
comp=Z,54nm,1.1s
MA2 Magadan 75.18 19 LR LR 13 11 11.6
comp=Z,149nm,19.4s,baz=230,slow=38
MA2 Magadan 75.18 19*ce*P **P 12 35 15.2 +0.4**
MA2 pmax pmax
comp=Z,58nm,1.3s
MA2 Magadan 75.18 19 P **P 12 35 14.8 0.0**
comp=Z,50nm,0.9s,comp=Z,768nm
KMBO Kilima Mbogo 75.57 271 P **P 12 35 18.4 +0.1**
KMBO Kilima Mbogo 75.57 271 P **P 12 35 18.4 +0.1**
KMBO pmax pmax
comp=Z,17nm,1.2s
FURI Furi 76.02 282 LR LR 13 04 46.6
comp=Z,439nm,21.6s,baz=106,slow=33
AKTO Aktyubinsk 76.20 327 LR LR 13 13 40.3
comp=Z,605nm,19.3s,baz=116,slow=40
LKRN Lenkeran, Azer 76.31 314 P **P 12 35 21.7 0.0**
LODK Lodwar 78.20 276 P **P 12 35 33.0 +0.1**
LODK Lodwar 78.20 276 P **P 12 35 34.6 +1.7**
SEY Seymchan 78.28 17*ce*P **P 12 35 32.0 -0.2**
SEY pmax pmax
comp=Z,72nm,1.7s
SEKA Sheki 78.43 315 P **P 12 35 33.7 +0.1**
SVE Sverdlovsk 78.66 334*de*P **P 12 35 34.7 +0.3**
SVE pmax pmax
comp=Z,135nm,1.6s
SVE MLR MLR
comp=Z,777nm,23.0s
GANJ Ganja 78.82 315 P **P 12 35 36.0 +0.3**
NAX Nakhchivan 78.85 313 P **P 12 35 34.7 -1.3**
MAK Makhachkala 78.93 317 *e*P **P 12 35 33.8 -2.4**
MAK *e**PP **pP 12 35 48.3 -1.1**
MAK *e**SP **sP 12 35 55.1 +0.5**
MAK *e* 12 38 35.8
MAK *e*PPP PPP 12 40 22.8
MAK *e*S **S 12 45 29.4 -1.7**
MAK *e**SS **ScS 12 45 54.1 -0.2**
MAK *e*SS **SS 12 50 43.0 +5.6**
MAK *e*SSS SSS 12 54 01.4
MAK pmax pmax
comp=Z,201nm,1.2s
ARU Arti 79.34 333 P **P 12 35 37.8 -0.4**
ARU Arti 79.34 333 LR LR 13 15 11.4
comp=Z,495nm,20.4s,baz=126,slow=39
ARU Arti 79.34 333*ce*P **P 12 35 37.8 -0.4**
ARU pmax pmax
comp=Z,108nm,1.7s
ARU Arti 79.34 333 P **P 12 35 38.0 -0.2**
comp=Z,53nm,1.6s,comp=Z,1μm
GNI Garni 79.75 314 LR LR 13 15 10.4
comp=Z,226nm,21.7s,baz=98,slow=39
NRIK Noril'sk 80.53 351 IAmb IAmb 12 35 46.3
comp=Z,43nm,1.1s
NRIK Noril'sk 80.53 351 P **P 12 35 43.6 -0.7**
comp=Z,14nm,0.4s,baz=164,slow=5.5,SNR=22
comp=Z,14nm,0.4s
NRIK Noril'sk 80.53 351*ce*P **P 12 35 43.7 -0.6**
NRIK pmax pmax
comp=Z,26nm,1.1s
QSPA South Pole Qui 80.57 180 P **P 12 35 44.2 -0.7**
QSPA IAmb IAmb 12 36 01.9
comp=Z,29nm,1.1s
QSPA South Pole Qui 80.57 180 P **P 12 35 45.5 +0.6**
comp=Z,4.9nm,1.1s,baz=305,slow=2.1,SNR=12
QSPA LR LR 13 10 01.8
comp=Z,1μm,20.0s,baz=342,slow=35
comp=Z,4.9nm,1.1s
TRLG Trialeti 80.71 315 P **P 12 35 47.2 +1.1**
SHEM Shemya Is, Ala 80.85 33 LR LR 13 09 11.0
comp=Z,87nm,21.6s,baz=293,slow=34
ELIB Princess Elisa 80.93 198 *d*P **P 12 35 47.2 +0.4**
comp=Z,11nm,1.2s
MATP Matopo 81.47 251 LR LR 13 07 23.9
comp=Z,167nm,19.2s,baz=62,slow=32
TIXI Tiksi 81.61 5 P **P 12 35 48.8 -1.2**
TIXI Tiksi 81.61 5*ce*P **P 12 35 49.0 -1.0**
TIXI pmax pmax
comp=Z,55nm,0.7s
MBAR Mbarara 82.08 271 P **P 12 35 55.6 +1.6**
MBAR P **P 12 35 55.6 +1.6**
MBAR Mbarara 82.08 271 *i* P **P 12 35 54.4 +0.4**
MBAR pmax pmax
comp=Z,14nm,0.9s
KBZ Khabaz 82.33 317 P **P 12 35 54.9 +0.6**
comp=Z,6.4nm,0.8s,baz=92,slow=4.1,SNR=26
comp=Z,6.4nm,0.8s
KBZ Khabaz 82.33 317*ce*P **P 12 35 54.8 +0.5**
KBZ pmax pmax
comp=Z,58nm,2.0s
SHA1 Shidzhatmaz 82.49 317*ce*P **P 12 35 56.4 +0.8**
KVAR Kislovodsk Arr 82.54 317 LR LR 13 19 23.4
comp=Z,155nm,18.4s,baz=192,slow=41
KIV Kislovodsk 82.55 317 *e*P **P 12 35 55.5 -0.2**
KIV *e*S **S 12 46 08.7 -0.4**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 82.55 317 P **P 12 35 56.6 +0.9**
comp=Z,22nm,0.8s,comp=Z,437nm
GOF Gofitskoye 82.70 318*ce*P **P 12 35 57.0 +0.7**
BELG Belogornoye 82.81 326 LR LR 13 20 06.6
comp=Z,365nm,18.6s,baz=118,slow=41
BELG Belogornoye 82.81 326 *i* P **P 12 35 56.5 -0.2**
BELG pmax pmax
comp=Z,19nm,1.4s
BOSA Boshof 83.42 242 LR LR 13 06 15.6
comp=Z,834nm,21.1s,baz=113,slow=31
LBTB Lobatse 83.57 246 LR LR 13 06 08.5
comp=Z,368nm,21.6s,baz=108,slow=31
LABN Labinsk 84.11 317 *e*P **P 12 36 03.6 0.0**
LABN *e*S **SKSac 12 46 22.3 -0.7**
LABN pmax pmax
comp=Z,18nm,0.3s
EIL Elat 84.23 301 LR LR 13 15 11.1
comp=Z,437nm,18.9s,baz=76,slow=37
SOC Sochi 84.45 316*c i*P **P 12 36 04.2 -1.1**
SOC *e* 12 39 15.7
SOC *e*PPP PPP 12 41 11.3
SOC *e*S **SKSac 12 46 22.2 -3.0**
SOC *e*SS **SS 12 52 00.3 +0.6**
SOC *e*SSS SSS 12 55 29.6
SOC pmax pmax
comp=Z,6.0nm,0.5s
SOC MLR MLR
comp=Z,177nm,17.0s
ERBR Yeremizino-Bor 84.62 318 *e*P **P 12 36 05.0 -1.1**
ERBR pmax pmax
comp=Z,61nm,1.4s
KIRV Kirov 84.68 332 LR LR 13 18 21.1
comp=Z,419nm,19.4s,baz=130,slow=39
KIRV Kirov 84.68 332*ce*P **P 12 36 06.2 +0.1**
MMAI Mount Meron Ar 84.69 305 P **P 12 36 07.5 +0.6**
comp=Z,1.4nm,0.3s,baz=294,slow=0.8,SNR=5.4
MMAI LR LR 13 17 03.2
comp=Z,309nm,19.1s,baz=48,slow=38
comp=Z,1.4nm,0.3s
VRH Novokhopyorsk 85.72 323 *e*P **P 12 36 11.3 -0.2**
VRH pmax pmax
comp=Z,67nm,1.4s
BILL Bilibino 85.98 18*de*P **P 12 36 12.6 +0.2**
BILL *e* 12 39 32.0
BILL pmax pmax
comp=Z,11nm,1.1s
BILL MLR MLR
comp=Z,236nm,21.0s
ANN Anapa 86.39 316 *e*P **P 12 36 14.3 -0.6**
ANN pmax pmax
comp=Z,75nm,1.0s
SUR Sutherland 86.69 238 LR LR 13 08 06.9
comp=Z,858nm,21.1s,baz=110,slow=31
VORD Divnogorie 87.08 323 *e*P **P 12 36 16.0 -2.2**
VORD pmax pmax
comp=Z,10.0nm,1.0s
TROLL Troll, Antarti 87.22 197 ⇑P **P 12 36 19.5 +0.7**
comp=Z,75nm,0.6s
VSR Storozhevoye 87.24 323 *e*P **P 12 36 17.1 -1.8**
VSR pmax pmax
comp=Z,20nm,0.9s
VORR Voronezh 87.36 323 *e*P **P 12 36 19.4 -0.1**
VORR pmax pmax
comp=Z,56nm,0.4s
BR131 Keskin Array S 87.75 311 IAmb IAmb 12 36 44.3
comp=Z,17nm,0.9s
BRTR Keskin Array B 87.75 311 P **P 12 36 21.3 -0.5**
BRTR Keskin Array B 87.75 311 P **P 12 36 22.2 +0.3**
comp=Z,7.5nm,0.8s,baz=135,slow=6.3,SNR=20
BRTR LR LR 13 20 10.1
comp=Z,163nm,19.7s,baz=108,slow=39
comp=Z,7.5nm,0.8s
LPSR Galich'ya Gora 87.82 324 *e*P **P 12 36 20.2 -1.5**
LPSR pmax pmax
comp=Z,30nm,0.9s
SNAA Sanae 88.89 197 P **P 12 36 27.3 +0.7**
SNAA IAmb IAmb 12 36 51.9
comp=Z,13nm,0.9s
SNAA Sanae 88.89 197 ⇑P **P 12 36 28.0 +1.4**
comp=Z,114nm,0.5s
SNAA Sanae 88.89 197 P **P 12 36 27.7 +1.1**
comp=Z,5.1nm,0.7s,baz=170,slow=4.0,SNR=50
SNAA LR LR 13 14 01.8
comp=Z,991nm,18.2s,baz=110,slow=34
comp=Z,5.1nm,0.7s
SNAA Sanae 88.89 197*ce*P **P 12 36 27.4 +0.8**
SNAA pmax pmax
comp=Z,24nm,2.5s
MOS Moscow 89.52 327 *e*P **P 12 36 28.2 -1.4**
MOS *e**PP **pP 12 36 44.3 +1.2**
MOS *e* 12 39 59.3
MOS *e*S **S 12 47 14.0 -2.4**
MOS pmax pmax
comp=Z,97nm,1.3s
MOS pmax pmax
comp=Z,300nm,2.1s
OBN Obninsk 89.91 326 LR LR 13 20 59.4
comp=Z,491nm,21.6s,baz=124,slow=38
OBN Obninsk 89.91 326*ce*P **P 12 36 31.3 -0.1**
OBN *e* 12 40 01.7
OBN *e*S **S 12 47 13.8 -6.3**
OBN *e*SS **SS 12 53 23.6 +4.8**
OBN pmax pmax
comp=Z,43nm,1.5s
OBN Obninsk 89.91 326 P **P 12 36 32.3 +0.9**
comp=Z,70nm,1.8s,comp=Z,941nm
NIKH Nikolski High 90.52 36 P **P 12 36 34.5 +0.2**
baz=255
VNA2 Neumayer--Watz 90.54 197 ⇑P **P 12 36 33.7 -0.5**
comp=Z,4.1nm,0.6s,baz=5.3,slow=2.4
SPIA Saint Paul Isl 90.87 32 P **P 12 36 36.4 +0.5**
baz=254
VNA1 Neumayer--Stat 90.93 197 ⇑P **P 12 36 36.9 +0.9**
comp=Z,3.9nm,0.8s
BELA Belgrano 2 90.95 187 P **P 12 36 36.0 0.0**
BELA IAmb IAmb 12 36 53.1

comp=Z,12nm,1.0s
VNA3 Neumayer Olymp 90.99 196 ⇑P **P 12 36 35.9 -0.4**
comp=Z,2.9nm,0.8s
P08K Saint George I 91.08 33 P **P 12 36 36.7 -0.1**
baz=254
TSUM Tsumeb 91.81 250 LR LR 13 11 36.5
comp=Z,498nm,21.6s,baz=146,slow=31
UNV Unalaska Valle 92.09 36 P **P 12 36 41.8 +0.1**
baz=257
AK09 Malin Array Si 93.13 321 P **P 12 36 45.9 -0.6**
AK10 Malin Array Si 93.15 321 P **P 12 36 46.0 -0.6**
AKASG Malin Array Be 93.18 321 P **P 12 36 46.7 0.0**
comp=Z,0.6nm,0.4s,baz=82,slow=4.5,SNR=11
AKASG LR LR 13 25 13.8
comp=Z,266nm,20.3s,baz=86,slow=40
comp=Z,0.6nm,0.4s
AKBB Malin Array Si 93.18 321 *ce*P **P 12 36 45.8 -0.9**
AKBB pmax pmax
comp=Z,16nm,1.9s
TBI Tubuai 93.31 114 *e*LR LR 13 06 42.2
comp=Z,2μm,23.0s
TBI *e*LR LR 13 06 49.5
comp=Z,1μm,25.8s
IDI Anoyia 93.69 305 P **P 12 36 49.8 +0.2**
comp=Z,6.5nm,1.0s,baz=20,slow=20,SNR=1.7
IDI LR LR 13 25 10.3
comp=Z,91nm,19.7s,baz=95,slow=40
comp=Z,6.5nm,1.0s
M11K Mekoryuk 93.70 29 P **P 12 36 49.5 +0.6**
baz=257
LUBAR Lubar, Ukraine 93.97 320 P **P 12 36 50.0 -0.4**
VRI Vrincioaia 93.98 316 P **P 12 36 50.9 +0.3**
comp=Z,6.3nm,0.7s
TNA Tin City 94.11 24 P **P 12 36 51.4 +0.7**
baz=256
PPT2 Papeete2 94.35 109 *e*LR LR 13 07 10.0
PPT2 *e*LR LR 13 07 19.5
comp=Z,844nm,24.8s
MLR Muntele Rosu 94.46 315 P **P 12 36 52.9 0.0**
MNK Minsk 94.67 324 *i* P **P 12 36 50.8 -2.7**
MNK *i* *PP **pP 12 37 07.8 +0.8**
MNK *i* 12 40 38.9
MNK *i* PPP PPP 12 42 40.4
MNK *i* S **SKSac 12 47 20.3 -4.4**
MNK *i* *SS **SKKSac 12 47 50.8 +4.1**
MNK *i* PS **PS 12 49 22.4 -2.7**
MNK *i* SS **SS 12 54 23.3 -3.9**
MNK *i* SSS SSS 12 58 05.5
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.6s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK MLR MLR
comp=Z,356nm,24.0s
MNK MLR MLR
comp=E,148nm,21.0s
MNK MLR MLR
comp=N,657nm,25.0s
F14K Arctic Creek 94.73 24 P **P 12 36 53.9 +0.4**
baz=258
ANM Nome 94.95 25 P **P 12 36 55.0 +0.4**
baz=258
S12K Black Hills 94.98 34 P **P 12 36 55.1 +0.2**
baz=261
M13K Dall Lake 95.10 30 P **P 12 36 55.5 +0.2**
baz=260
RNPP5 Staryi Chortor 95.35 321 P **P 12 36 56.1 -0.6**
J14K Nanvaranak Lak 95.41 27 P **P 12 36 57.1 +0.5**
baz=260
F15K North Star Dit 95.47 24 P **P 12 36 58.2 +1.3**
baz=259
L14K Kuka Creek 95.57 29 P **P 12 36 58.8 +1.3**
baz=261
C16K Lisburne Hills 95.68 22 P **P 12 36 58.9 +1.1**
baz=259
SDPT Sand Point 95.82 35 P **P 12 36 59.6 +0.9**
baz=262
M14K Bethel 95.83 29 P **P 12 37 00.0 +1.4**
baz=261
N14K Kuskokwak Cree 95.84 30 P **P 12 36 59.9 +1.2**
baz=261
VSU Vasula 95.91 328 *ce*P **P 12 36 59.2 +0.2**
VSU pmax pmax
comp=Z,44nm,2.0s
O14K Tigyukauivet M 95.95 31 P **P 12 37 00.3 +1.0**
baz=262
L15K Ungalak Mounta 96.19 29 P **P 12 37 01.5 +1.2**
baz=262
K15K Wolf Creek Mou 96.26 28 P **P 12 37 01.8 +1.2**
baz=262
H16K Elim 96.29 26 P **P 12 37 01.7 +1.1**
baz=261
D17K Noatak River 96.42 22 P **P 12 37 02.6 +1.5**
baz=261
M15K Kasigluk River 96.44 30 P **P 12 37 02.7 +1.2**
baz=262
S14K Fog Glacier 96.46 34 P **P 12 37 02.5 +0.8**
baz=263
C17K DeLong Mountai 96.51 22 P **P 12 37 03.3 +1.7**
baz=261
FINES FINESS Array B 96.65 331 P **P 12 37 02.2 -0.1**
FINES FINESS Array B 96.65 331 P **P 12 37 02.7 +0.4**
comp=Z,2.4nm,0.7s,baz=127,slow=6.0,SNR=11
FINES PKiKP **PKiKP 12 41 39.6 +0.5**
comp=Z,1.2nm,0.7s,baz=111,slow=4.3,SNR=5.2
FINES LR LR 13 27 35.0
comp=Z,526nm,18.6s,baz=84,slow=40
comp=Z,2.4nm,0.7s
FINES FINESS Array B 96.65 331 *i* P **P 12 37 03.2 +0.9**
FINES pmax pmax
comp=Z,4.0nm,0.9s
N15K Kwethluk River 96.66 30 P **P 12 37 03.8 +1.3**
baz=263
O15K Ungalikthiuk R 96.67 31 P **P 12 37 04.0 +1.5**
baz=263
E17K Hotham Inlet 96.81 23 P **P 12 37 04.3 +1.3**
baz=262
J16K Anvik River 96.82 27 IAmb IAmb 12 37 06.5
comp=Z,13nm,0.9s
J16K Anvik River 96.82 27 P **P 12 37 04.5 +1.4**
baz=263
I17K Unalakleet 96.85 26 P **P 12 37 04.8 +1.6**
baz=263
G17K Kiwalik Mounta 97.08 25 P Pdif 12 37 05.4 +1.1
baz=263
CHGN Chignik 97.09 34 P Pdif 12 37 05.5 +1.0
baz=264
B18K Kokolik River 97.13 21 P Pdif 12 37 05.0 +0.5
baz=262
L16K Owhat River 97.15 29 IAmb IAmb 12 37 07.0
comp=Z,13nm,1.2s
L16K Owhat River 97.15 29 P Pdif 12 37 05.7 +1.0
baz=263
C18K Utukok River 97.25 22 P Pdif 12 37 05.8 +0.6
baz=263
H17K Granite Mounta 97.32 25 IAmb IAmb 12 37 08.2
comp=Z,8.3nm,0.9s
H17K Granite Mounta 97.32 25 P Pdif 12 37 06.6 +1.2
baz=263
M16K Timber Creek 97.32 29 P Pdif 12 37 06.4 +0.9
baz=264
N16K Nishlik Lake 97.35 30 P Pdif 12 37 06.8 +1.1
baz=264
J17K VABM Dome 97.51 27 P Pdif 12 37 07.6 +1.3
baz=264
O16K Kokwok River B 97.60 31 P Pdif 12 37 07.7 +1.0
baz=264
L17K Donlin 97.75 28 P Pdif 12 37 08.6 +1.2
baz=264
K17K Iditarod 97.80 28 IAmb IAmb 12 37 10.4
comp=Z,11nm,0.8s
K17K Iditarod 97.80 28 P Pdif 12 37 09.0 +1.4
baz=265
ARCES ARCESS Array B 97.82 339 P **P 12 37 07.4 -0.1**
comp=Z,2.0nm,0.8s,baz=90,slow=7.3,SNR=9.3
ARCES LR LR 13 26 24.3
comp=Z,429nm,20.6s,baz=100,slow=39
comp=Z,2.0nm,0.8s
C19K Lookout Ridge 97.89 21 P Pdif 12 37 09.4 +1.4
baz=264
G18K Tagagawik 97.94 24 P Pdif 12 37 09.6 +1.4
baz=265
M17K Holitna River 98.09 29 P Pdif 12 37 10.2 +1.3
baz=265
O17K Koliganek Bris 98.12 31 P Pdif 12 37 10.1 +1.1
baz=265
N17K Nushagak Hills 98.14 30 P Pdif 12 37 10.2 +1.1
baz=265
R17L Mt. Peulik Vol 98.33 33 P Pdif 12 37 10.6 +0.5
baz=266
P17K Kvichak River 98.41 31 P Pdif 12 37 11.0 +0.7
baz=266
L18K Granite Mounta 98.50 28 P Pdif 12 37 11.5 +0.8
baz=266
J18K Innoko River 98.58 27 P Pdif 12 37 11.8 +0.7
baz=266
GCSA Galena City Sc 98.59 26 P Pdif 12 37 12.0 +1.0
baz=266
G19K Purcell Mounta 98.60 24 IAmb IAmb 12 37 14.4
comp=Z,7.5nm,0.8s
G19K Purcell Mounta 98.60 24 P Pdif 12 37 12.2 +1.1
baz=266
CHIR Chirikof Islan 98.61 35 P Pdif 12 37 12.0 +0.7
baz=266
E19K Redstone River 98.62 23 IAmb IAmb 12 37 14.2
comp=Z,11nm,0.9s
Q17K Contact Creek 98.63 32 P Pdif 12 37 12.3 +0.7
baz=266
N18K Kilae Creek 98.79 30 P Pdif 12 37 12.9 +0.8
baz=266
B20K Meade River 98.81 20 P Pdif 12 37 12.9 +1.0
baz=267
H19K Roundabout Mou 98.82 25 IAmb IAmb 12 37 15.6
comp=Z,7.7nm,0.8s
H19K Roundabout Mou 98.82 25 P Pdif 12 37 13.0 +0.9
baz=267
TTA Tatalina 98.86 28 P Pdif 12 37 13.0 +0.6
baz=267
M18K Stony River 98.87 29 P Pdif 12 37 12.9 +0.6
baz=267
P18K Big Mountain, 99.04 31 P **Pdif 12 37 13.9 +0.6**
baz=267
O18K Koktuh Hills 99.08 31 P **Pdif 12 37 14.2 +0.8**
baz=267
J19K Poorman 99.09 27 P **Pdif 12 37 13.7 +0.4**
baz=267
Q18K Katmai Hardscr 99.12 32 P **Pdif 12 37 13.7 0.0**
baz=267
F20K Avaraart Lake 99.19 23 P **Pdif 12 37 14.8 +1.1**
baz=268
L19K White Mountain 99.36 28 P **Pdif 12 37 14.8 +0.2**
baz=268
SII Sitkinak Islan 99.45 34 P **Pdif 12 37 15.6 +0.5**
baz=267
H20K Anotleneega Mo 99.47 25 P **Pdif 12 37 15.7 +0.7**
baz=268
N19K Bonanza Creek 99.48 30 P **Pdif 12 37 16.2 +1.0**
baz=268
M19K Big River Lodg 99.57 29 P **Pdif 12 37 17.2 +1.7**
baz=268
A22K Sinclair Lake 99.58 19 P **Pdif 12 37 17.2 +2.0**
baz=269
C21K Knifeblade Rid 99.61 21 P **Pdif 12 37 17.5 +1.9**
baz=269
I20K Naaghedeneel 99.62 26 P **Pdif 12 37 17.5 +1.9**
baz=268
B21K Ikpikpuk River 99.67 21 P **Pdif 12 37 17.9 +2.1**
baz=269
J20K Powinta River 99.75 26 P **Pdif 12 37 17.9 +1.7**
baz=268
K20K Telida 99.76 27 IAmb IAmb 12 37 18.6
comp=Z,25nm,1.9s
K20K Telida 99.76 27 P **Pdif 12 37 17.9 +1.6**
baz=268
L20K Farewell, AK 99.83 28 P **Pdif 12 37 17.9 +1.2**
baz=268
Q19K Cape Douglas, 99.84 32 P **Pdif 12 37 17.3 +0.5**
baz=268
E21K Killik River 99.89 22 P **Pdif 12 37 18.2 +1.4**
baz=269
OHAK Old Harbor 99.97 33 P **Pdif 12 37 17.9 +0.5**
baz=268
F21K Alatna River 100.07 23 P **Pdif 12 37 19.0 +1.3**
baz=270
P19K Oil Pt 100.07 31 P **Pdif 12 37 18.2 +0.4**
baz=268
B22K Teshekpuk Lake 100.09 20 P **Pdif 12 37 18.9 +1.3**
baz=270
M20K Styx River 100.17 29 P **Pdif 12 37 19.4 +1.1**
baz=269
H21K Melozitna River 100.34 25 P **Pdif 12 37 20.5 +1.6**
baz=270
D22K Ayikyak River 100.36 22 P **Pdif 12 37 20.8 +1.9**
baz=271
KDAK Kodiak Island 100.37 33 P **Pdif 12 37 20.2 +1.1**
baz=269
SPITS Spitsbergen Ar 100.49 348 P **Pdif 12 37 19.6 +0.3**
comp=Z,5.1nm,0.6s,baz=92,slow=10,SNR=6.4
HOM Homer 100.88 31 P **Pdif 12 37 23.3 +2.0**
baz=270
SKT Skwentna 100.92 29 P **Pdif 12 37 23.5 +2.0**
baz=270
H22K Ishtalitna Cre 100.92 25 P **Pdif 12 37 23.4 +1.9**
baz=271
C23K Itkillik River 101.06 21 P **Pdif 12 37 23.9 +1.9**
baz=273
BPAW Bear Paw Mtn. 101.13 26 P **Pdif 12 37 24.3 +1.8**
baz=271
MLY Manley 101.22 25 P **Pdif 12 37 24.7 +1.9**
baz=272
SUA Susitna One 101.30 29 P **Pdif 12 37 25.0 +1.6**
baz=271
DPC Dobruska-Polom 101.33 320 AMS AMS 13 29 30.0
comp=Z,300nm,19.6s
BRSE Bradley Lake S 101.33 31 P **Pdif 12 37 24.5 +1.1**
baz=271
OSTC Ostas 101.40 320 AMS AMS 13 30 50.0
comp=Z,300nm,17.2s
G23K Bananza Creek 101.44 24 P **Pdif 12 37 25.3 +1.6**
baz=273
CHVC Chvalec 101.50 320 AMS AMS 13 31 00.0
comp=Z,400nm,19.2s
TOLK Toolik Lake Re 101.50 22 P **Pdif 12 37 26.0 +2.0**
baz=274
CUT Chulitna 101.51 28 P **Pdif 12 37 25.9 +1.9**
baz=272
E23K Chandalar 101.52 22 P **Pdif 12 37 26.3 +2.1**
baz=273
UPC Upice 101.53 320 AMS AMS 13 31 10.0
comp=Z,400nm,20.2s
H23K Yukon River 101.68 25 P **Pdif 12 37 26.9 +2.1**
baz=273
D24K Happy Valley 101.74 21 P **Pdif 12 37 26.7 +1.7**
baz=274
I23K Minto, Yukon-K 101.79 25 P **Pdif 12 37 26.8 +1.5**
baz=273
O22K Cooper Landing 101.83 30 P **Pdif 12 37 26.9 +1.4**
baz=272
E24K Your Creek 101.94 22 P **Pdif 12 37 27.6 +1.6**
baz=274
SEW Seward 101.97 30 P **Pdif 12 37 27.1 +1.0**
baz=272
MCK McKinley 102.06 27 P **Pdif 12 37 27.5 +1.0**
baz=273
F24K Squaw Lake 102.22 23 P **Pdif 12 37 28.0 +0.7**
baz=275
WAT1 Susitna Watana 102.28 28 P **Pdif 12 37 28.5 +0.9**
baz=273
GOPC GO Pecny, Ondr 102.31 319 AMS AMS 13 27 20.0
comp=Z,500nm,23.0s
H24K Noodor Dome 102.36 25 P **Pdif 12 37 29.2 +1.3**
baz=274
KNK Knik Glacier 102.40 29 P **Pdif 12 37 29.4 +1.2**
baz=273
SML Sawmill 102.44 29 P **Pdif 12 37 29.5 +1.2**
baz=273
PVCC Panska Ves 102.45 320 AMS AMS 13 27 30.0
comp=Z,400nm,24.0s
G24K Hadweenzic Riv 102.45 24 P **Pdif 12 37 30.3 +2.1**
baz=275
PRU Pruhonice 102.47 319 AMS AMS 13 27 30.0
comp=Z,300nm,21.1s
PWL Port Wells 102.49 30 P **Pdif 12 37 29.8 +1.2**
baz=273
PRA Prague 102.54 319 AMS AMS 13 30 00.0
comp=Z,300nm,19.4s
D25K Kavik River 102.59 21 P **Pdif 12 37 30.3 +1.5**
baz=277
POKR Poker Plat Res 102.61 25 P **Pdif 12 37 30.2 +1.2**
baz=275
CKRC Cesky Krumlov 102.62 318 AMS AMS 13 30 20.0
comp=Z,200nm,23.6s
HFS Hagfors 102.66 330 P **Pdif 12 37 30.4 +1.1**
comp=Z,2.0nm,0.6s,baz=134,slow=4.3,SNR=7.7
WAT6 Susitna Watana 102.67 28 P **Pdif 12 37 30.8 +1.4**
baz=274
M23K Glacier View 102.73 29 P **Pdif 12 37 31.1 +1.5**
baz=274
DHY Denali Highway 102.80 27 P **Pdif 12 37 31.2 +1.2**
baz=274
ILAR Eielson Array 102.87 26 P **Pdif 12 37 30.6 +0.5**
comp=Z,0.3nm,0.8s,baz=270,slow=2.9,SNR=4.4
ILAR PP **PP 12 41 46.3 +1.8**
comp=Z,0.5nm,0.8s,baz=274,slow=6.5,SNR=6.0
HDA Harding Lake 102.88 26 P **Pdif 12 37 31.3 +1.1**
baz=275
SCM Sheep Creek Mo 102.92 29 P **Pdif 12 37 31.8 +1.3**
baz=274
GLI Glacier Island 103.10 30 P **Pdif 12 37 32.7 +1.5**
baz=274
KHC Kasperske Hory 103.10 318 AMS AMS 13 27 30.0
comp=Z,400nm,25.6s
H25L Birch Creek 103.16 24 P **Pdif 12 37 32.9 +1.6**
baz=276
HSKC Hora Svate Kat 103.17 320 AMS AMS 13 32 20.0
comp=Z,300nm,15.2s
CLL Collm 103.43 321 *e*P **Pdif 12 37 33.0 +0.1**
M24K Tolsona, Glenn 103.44 28 P **Pdif 12 37 33.6 +0.8**
baz=275
K24K Donnelly Dome 103.45 27 P **Pdif 12 37 33.4 +0.6**
baz=276
C27K Jago River 103.48 20 P **Pdif 12 37 34.8 +2.1**
baz=279
J25K Salcha River, 103.54 26 P **Pdif 12 37 34.6 +1.4**
baz=277
KLU Klutina 103.61 29 P **Pdif 12 37 35.0 +1.4**
baz=275
PAX Paxson 103.67 27 P **Pdif 12 37 35.9 +2.0**
baz=276
NOA NORSAR Array B 103.81 331 Pdiff **Pdif 12 37 35.0 +0.5**
comp=Z,0.3nm,0.6s,baz=109,slow=5.6,SNR=2.3
NOA PP **PP 12 41 50.8 -0.9**
comp=Z,1.1nm,0.9s,baz=88,slow=7.6,SNR=3.6
SCRK Sand Creek 104.21 26 Pdif **Pdif 12 37 37.4 +1.2**
SCRK Sand Creek 104.21 26 P **Pdif 12 37 37.9 +1.6**
baz=278
N25K Chitina, Valde 104.23 29 P **Pdif 12 37 37.7 +1.4**
baz=276
BMRM Bremner River 104.30 29 P **Pdif 12 37 38.0 +1.4**
baz=276
J26L Joseph Creek 104.32 26 P **Pdif 12 37 38.2 +1.4**
baz=278
I26K Coal Creek Min 104.38 25 P **Pdif 12 37 38.4 +1.6**
baz=279
D27M Malcolm River 104.50 21 P **Pdif 12 37 39.6 +2.2**
baz=282
EGAK Eagle 105.30 25 P **PKiKP 12 41 57.0 +2.4**
baz=280
L27K Beaver Creek, 105.31 27 P **PKiKP 12 41 56.6 +1.8**
baz=279
M27K Edge Creek, AK 105.40 28 P **PKiKP 12 41 56.1 +1.0**
baz=279
I28M Miner Creek 105.68 24 P **PKiKP 12 41 56.6 +1.1**
baz=282
MESA MESA 105.70 30 P **PKiKP 12 41 56.7 +0.9**
baz=278
E29M Blow River 105.78 21 P **PKiKP 12 41 57.8 +2.3**
baz=284
G29M Pine Creek 106.11 23 P **PKiKP 12 41 57.9 +1.8**
baz=284
ESDC Sonseca Array 116.52 310 PKP **PKiKP 12 42 17.8 +1.1**
comp=Z,0.2nm,0.4s,baz=345,slow=39,SNR=2.4
YKA Yellowknife Ar 117.01 23 PKPdf **PKiKP 12 42 17.2 +0.3**
YKA Yellowknife Ar 117.01 23 PKP **PKiKP 12 42 17.4 +0.6**
comp=Z,1.8nm,0.8s,baz=300,slow=1.7,SNR=8.7
KIC Kosan Boka 118.13 272 ⇑*i*PKIKP **PKiKP 12 42 21.2 +0.7**
comp=Z,6.5nm,0.5s
DBIC Dimbokro 118.28 273 PKP **PKiKP 12 42 21.5 +0.8**
comp=Z,5.0nm,0.4s,baz=87,slow=2.9,SNR=17
LIC Lamto 118.40 272 ⇑*i*PKIKP **PKiKP 12 42 21.4 +0.4**
comp=Z,19nm,0.3s
TIC Toumodi 118.44 272 ⇑*i*PKIKP **PKiKP 12 42 21.7 +0.6**
comp=Z,12nm,0.2s
NVAR Mina Array Bea 125.96 49 PKhKP PKPpre 12 42 32.0
comp=Z,0.5nm,0.7s,baz=330,slow=41,SNR=2.5
NVAR PKP **PKiKP 12 42 36.9 +1.4**
comp=Z,1.2nm,0.7s,baz=254,slow=2.2,SNR=11
FFC Flin Flon 127.06 25 PKPdf **PKPdf 12 42 36.7 +0.3**
FFC Flin Flon 127.06 25 PKIKP **PKPdf 12 42 36.7 +0.3**
GMN Gold Mountain 127.10 50 PKPdf **PKPdf 12 42 37.8 +0.4**
GRAC Grapevine Rang 127.12 50 P **PKiKP 12 42 38.4 +0.7**
baz=288
EDW2 Edwards Air Fo 127.25 53 P **PKiKP 12 42 38.6 +0.6**
baz=286
SCI2 San Clemente I 127.31 56 P **PKiKP 12 42 38.7 +0.6**
baz=284
CIS Catalina Islan 127.31 55 P **PKiKP 12 42 38.3 +0.2**
baz=285
MPMC Manual Prospec 127.31 52 P **PKiKP 12 42 39.1 +0.9**
baz=287
LRMC Laurel Mtn Rad 127.33 52 P **PKiKP 12 42 38.8 +0.5**
baz=287
EGMT Eagleton 127.48 35 P **PKiKP 12 42 39.0 +1.0**
baz=303
BOZ Bozeman (W) 127.63 38 P **PKiKP 12 42 39.6 +1.1**
baz=299
FURC Furnace Creek, 127.67 51 P **PKiKP 12 42 39.4 +0.8**
baz=288
BFSC Mount Baldy Ra 127.70 54 P **PKiKP 12 42 39.9 +0.9**
baz=286
TPNV Topopah Spring 127.98 50 P **PKiKP 12 42 40.5 +1.0**
baz=289
R11B Troy Canyon, C 128.00 48 P **PKiKP 12 42 40.3 +0.8**
baz=290
RRX Edison Barstow 128.04 53 P **PKiKP 12 42 41.0 +1.5**
baz=287
GSC Goldstone, Bar 128.07 52 P **PKiKP 12 42 41.4 +1.7**
baz=287
MURC Murrieta 128.24 54 P **PKiKP 12 42 41.2 +1.2**
baz=286
109C Camp Elliot, M 128.50 55 P **PKiKP 12 42 41.6 +1.1**
baz=285
HEC Hector,Ludlow 128.57 53 P **PKiKP 12 42 41.7 +1.0**
baz=287
TUQ Turquoise Moun 128.71 52 P **PKiKP 12 42 42.0 +1.0**
baz=288
PFO Pinyon Flats O 128.83 54 P **PKiKP 12 42 42.2 +0.9**
baz=286
TPFO Pinon Flats 128.83 54 P **PKiKP 12 42 42.0 +0.7**
baz=286
MONP2 Monument Peak 129.06 55 P **PKiKP 12 42 42.8 +1.0**
baz=286
BELC Belle Mtn. Jos 129.09 54 P **PKiKP 12 42 42.5 +0.7**
baz=287
GMRC Granite Mounta 129.12 53 P **PKiKP 12 42 42.5 +0.7**
baz=288
DUG Dugway, Tooele 129.29 45 P **PKiKP 12 42 43.2 +1.1**
baz=294
RLMT Red Lodge 129.31 38 P **PKiKP 12 42 43.2 +1.2**
baz=301
IKP In-Ko-Pah, Jac 129.38 55 P **PKiKP 12 42 42.6 +0.3**
baz=286
SWSC Sam W. Stewart 129.54 55 P **PKiKP 12 42 43.4 +0.9**
baz=286
BC3 Big Chuckawall 129.62 54 P **PKiKP 12 42 44.0 +1.1**
baz=287
IRM Iron Mountain 129.71 53 P **PKiKP 12 42 44.2 +1.2**
baz=288
BW06 Boulder Array 130.31 41 P **PKiKP 12 42 45.0 +0.8**
baz=299
PDAR Pinedale Array 130.31 41 PKPdf **PKPdf 12 42 42.2 -1.1**
PDAR Pinedale Array 130.31 41 PKP **PKiKP 12 42 44.1 0.0**
comp=Z,0.4nm,0.5s,baz=0.0,slow=0.6,SNR=5.4
PDAR SKPbc **SKPbc 12 46 04.7 +2.1**
comp=Z,1.0nm,0.8s,baz=238,slow=1.4,SNR=5.6
PDAR SKP 12 46 21.1
comp=Z,1.0nm,0.9s,baz=190,slow=0.9,SNR=4.1
WUAZ Wupatki 132.17 50 P **PKiKP 12 42 48.9 +0.9**
baz=292
ULM Lac du Bonnet 132.88 25 PKP **PKPdf 12 42 47.5 -0.1**
comp=Z,3.2nm,0.8s,baz=331,slow=1.9,SNR=4.3
ULM SKPbc **SKPab 12 46 13.3 +0.4**
comp=Z,4.2nm,0.9s,baz=256,slow=4.0,SNR=5.0
ULM SKP 12 46 25.4
comp=Z,5.1nm,0.9s,baz=313,slow=6.3,SNR=4.5
SCHQ Schefferville 134.72 360 PKP **PKPdf 12 42 50.5 -0.4**
comp=Z,2.3nm,0.5s,baz=350,slow=2.1,SNR=5.2
TXAR Lajitas Array 140.54 55 PKPdf **PKPdf 12 42 56.3 -6.3**
TXAR Lajitas Array 140.54 55 PKhKP PKPpre 12 42 55.4
comp=Z,1.0nm,0.6s,baz=258,slow=2.5,SNR=11
TXAR Lajitas Array 140.54 55 PKHKP PKPpre 12 42 56.3
WMOK Wichita Mounta 141.68 44 PKPdf **PKPdf 12 42 59.7 -4.7**

WMOK	**Wichita Mounta**	**141.68**	**44**	PKIKP	**PKPdf**	**12 42 59.7**	**-4.7**
JCT	**Junction City**	**143.10**	**51**	P	PKPbc	12 43 05.7	+1.7
	baz=298						
CPUP	**Villa Florida**	**143.18**	**195**	PKP	**PKPdf**	**12 43 06.2**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=132,slow=5.2,SNR=3.3						
RLO	**Rose Lookout**	**143.29**	**39**		PKPab	12 43 03.8	+0.8
HDIL	**Hopedale**	**143.32**	**29**	P	**PKPdf**	**12 43 06.9**	**-0.2**
	baz=322						
BRDY	**Brady**	**143.32**	**49**	PKPdf	PKPbc	12 43 05.1	+0.6
U38A	**Gravette**	**143.51**	**38**	PKPdf	PKPab	12 43 03.5	-0.4
WHTX	**Lake Whitney,**	**144.09**	**47**	P	PKPbc	12 43 07.3	+0.5
	baz=302						
AAM	**Ann Arbor**	**144.21**	**21**	P	**PKPab**	**12 43 06.6**	**+0.3**
	baz=331						
CCM	**Cathedral Cave**	**144.21**	**33**		**PKPab**	**12 43 06.7**	**+0.2**
CCM	**Cathedral Cave**	**144.21**	**33**	P	**PKPab**	**12 43 06.3**	**-0.2**
	baz=316						
CCM	**Cathedral Cave**	**144.21**	**33**	PKIKP	**PKPab**	**12 43 06.7**	**+0.2**
PKME	**Peaks-Kenny Pk**	**144.25**	**3**	P	**PKPab**	**12 43 06.9**	**+0.5**
	baz=356						
LONY	**Lake Ozonia**	**144.36**	**9**	P	**PKPab**	**12 43 07.3**	**+0.4**
	baz=347						
833A	**Chaparral WMA,**	**144.38**	**54**	P	PKPbc	12 43 08.7	+1.0
	baz=295						
GGN	**Saint George**	**144.44**	**360**		**PKPab**	**12 43 06.5**	**-0.6**
SFIN	**Lafayette**	**144.47**	**27**	P	**PKPab**	**12 43 07.4**	**0.0**
	baz=325						
435B	**Jarrell**	**144.62**	**49**	P	**PKPab**	**12 43 08.5**	**+0.2**
	baz=300						
HAL	**Halifax**	**144.79**	**356**		**PKPab**	**12 43 08.5**	**+0.1**
HAL	**Halifax**	**144.79**	**356**	PKIKP	**PKPab**	**12 43 08.5**	**+0.1**
LBNH	**Lisbon**	**145.08**	**6**	P	**PKPab**	**12 43 10.1**	**+0.5**
	baz=352						
MIAR	**Mount Ida**	**145.24**	**40**	P	**PKPbc**	**12 43 10.6**	**+0.3**
	baz=310						
O48B	**Farmland**	**145.39**	**25**	P	**PKPbc**	**12 43 10.4**	**-0.2**
	baz=328,SNR=28						
ERPA	**Erie**	**145.55**	**17**	P	**PKPab**	**12 43 11.6**	**+0.2**
	baz=337						
M53A	**Wt Miller and**	**145.97**	**18**	P	**PKPbc**	**12 43 12.5**	**+0.1**
	baz=336,SNR=9.0						
P49A	**Miami Univ. Ec**	**146.18**	**25**	P	**PKPdf**	**12 43 12.8**	**+0.8**
	baz=328,SNR=11						
NATX	**Nacogdoches**	**146.20**	**45**	P	**PKPbc**	**12 43 13.3**	**-0.1**
	baz=305						
ACSO	**Alum Creek Sta**	**146.26**	**22**	P	**PKPbc**	**12 43 13.4**	**+0.1**
	baz=331,SNR=8.9						
BINY	**Binghamton**	**146.46**	**12**	P	**PKPab**	**12 43 14.8**	**0.0**
	baz=344,SNR=7.3						
WCI	**Wyandotte Cave**	**146.57**	**28**	P	**PKPbc**	**12 43 14.6**	**+0.3**
	baz=324						
L61B	**Northampton**	**146.76**	**7**	P	**PKPbc**	**12 43 15.3**	**+0.6**
	baz=350						
O53A	**New Philadelph**	**146.87**	**20**	P	**PKPbc**	**12 43 14.8**	**-0.3**
	baz=334,SNR=11						
P52A	**Corning**	**147.10**	**22**	P	**PKPbc**	**12 43 15.6**	**-0.1**
	baz=332,SNR=10						
WVT	**Waverly**	**147.47**	**32**		**PKPbc**	**12 43 16.5**	**-0.3**
WVT	**Waverly**	**147.47**	**32**	P	**PKPbc**	**12 43 17.0**	**+0.1**
	baz=320						
WVT	**Waverly**	**147.47**	**32**	PKP2	**PKPbc**	**12 43 16.5**	**-0.3**
SSPA	**Standing Stone**	**147.51**	**15**		**PKPbc**	**12 43 16.8**	**0.0**
SSPA	**Standing Stone**	**147.51**	**15**	P	**PKPbc**	**12 43 16.8**	**0.0**
	baz=340						
OXF	**Oxford**	**147.79**	**36**	P	**PKPbc**	**12 43 18.1**	**+0.3**
	baz=316						
MCWV	**Mont Chateau**	**147.85**	**19**	P	**PKPbc**	**12 43 18.3**	**+0.5**
	baz=336						
M65A	**Busby, Falmout**	**147.85**	**5**	P	**PKPbc**	**12 43 18.7**	**+1.0**
	baz=354						
PAL	**Palisades**	**148.00**	**10**	P	**PKPbc**	**12 43 18.9**	**+0.8**
	baz=347						
AQDB	**Aquidauana**	**148.20**	**201**		**PKPbc**	**12 43 19.2**	**-0.1**
BDFB	**Brasilia**	**148.67**	**217**	PKPbc	**PKPbc**	**12 43 20.9**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=214,slow=4.9,SNR=4.7						
TZTN	**Tazewell**	**149.20**	**26**	P	**PKPbc**	**12 43 21.6**	**+0.2**
	baz=327						
BLA	**Blacksburg**	**149.87**	**21**	P	**PKPbc**	**12 43 23.1**	**0.0**
	baz=333						
CBN	**Corbin Frederi**	**149.92**	**16**	P	**PKPbc**	**12 43 23.8**	**+0.7**
	baz=340						
LRAL	**Lakeview Retre**	**150.24**	**35**	P	**PKPbc**	**12 43 24.1**	**+0.1**
	baz=318						
KMSC	**Kings Mountain**	**151.33**	**25**	P	**PKPbc**	**12 43 26.5**	**-0.1**
	baz=330						
BRAL	**Brewton**	**151.56**	**38**	P	**PKPbc**	**12 43 27.3**	**+0.2**
	baz=315						
GOGA	**Godfrey**	**151.82**	**30**	P	**PKPbc**	**12 43 27.5**	**-0.2**
	baz=324						
LPAZ	**La Paz**	**154.43**	**178**	PKPbc	**PKiKP**	**12 43 36.0**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=84,slow=3.3,SNR=3.8						
LPAZ				PKPab	**PKPab**	**12 43 50.1**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=206,slow=5.8,SNR=5.5						

DJA 19 12:30:52.2±0.5, 9°S±4°×11°3E±°, h10km, M4.5/13, MLv4.5/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.65**	**53**	P	Pn	12 31 20.1	-1.2
JAGI				S	Sn	12 31 39.8	-2.7
PWJI	**Pagerwojo**	**1.75**	**325**	P	Pn	12 31 22.6	-0.1
PWJI				S	Sn	12 31 44.4	-0.7
ABJI	**Asem Bagus**	**2.17**	**40**	P	Pn	12 31 29.6	+1.1
ABJI				S	Sb	12 31 57.7	-1.0
DNP	**Denpasar**	**2.49**	**72**	P	Pn	12 31 34.3	+1.5
DNP				S	Sn	12 32 05.4	+2.2
GRJI	**Gresik**	**2.56**	**352**	P	Pn	12 31 35.9	+2.1
GRJI				S	Sn	12 32 06.4	+1.4
SRBI	**Singaraja**	**2.74**	**60**	P	Pn	12 31 36.5	+0.3
SRBI				S	Sn	12 32 10.2	+0.8
UGM	**Wanagama**	**2.75**	**304**	P	Pn	12 31 36.7	+0.3
UGM				S	Sn	12 32 09.8	+0.1
YOGI	**Yogyakarta**	**2.99**	**303**	P	Pn	12 31 35.9	-3.8
SMRI	**Semarang**	**3.37**	**315**	P	Pn	12 31 45.5	+0.6
BWJI	**Bawean**	**3.60**	**357**	P	Pn	12 31 49.1	+1.0
TWSI	**Taliwang, Sumb**	**4.08**	**80**	P	Pn	12 31 52.4	-2.3
PLAI	**Plampang**	**4.94**	**83**	P	Pn	12 32 06.0	-0.5

*JMA **19** 12:31:45.6±0.0, 34°.07N±0°.08×135°.4E±0°.1, h8km, MV3.5/20, NE WAKAYAMA PREF*
JMA Felt II J1 at NE WAKAYAMA PREF .
ISC 19 12:31:45.6±1.0, 34°.07N±0°.03×135°.37E±0°.03, h12km±10km, n10, σ0°.21/18, 10D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.22**	**184**	⇓*i*P	**Pg**	**12 31 50.1**	**-0.1**
JWM				⇓S	**Sg**	**12 31 53.3**	**-0.1**
JWY	**Kouya**	**0.24**	**50**	*i* P	**Pg**	**12 31 50.5**	**-0.1**
JWY				S	**Sg**	**12 31 54.0**	**0.0**
JTNC	**Tanabenakahech**	**0.32**	**141**	*i* P	**Pg**	**12 31 52.1**	**0.0**
JTNC				S	**Sg**	**12 31 56.4**	**+0.1**
JAWN	**Awajishima-nag**	**0.57**	**317**	⇓*i*P	**Pg**	**12 31 56.8**	**+0.1**
JAWN				⇓S	**Sg**	**12 32 04.6**	**+0.3**
JHE	**Heguri**	**0.64**	**24**	*i* P	**Pg**	**12 31 58.1**	**+0.1**
JHE				S	**Sg**	**12 32 06.5**	**0.0**
JKN2	**Miekihoku**	**0.77**	**77**	⇓*i*P	**Pg**	**12 32 00.1**	**-0.3**
JKN2				⇓S	**Sg**	**12 32 10.4**	**0.0**
JAI	**Aioi**	**0.81**	**251**	⇓*i*P	**Pg**	**12 32 01.1**	**-0.2**
JAI				⇓S	**Sb**	**12 32 12.7**	**+0.1**
JKS	**Kasai**	**1.01**	**335**	⇓*i*P	**Pg**	**12 32 04.8**	**-0.3**
JKS				⇓S	**Sg**	**12 32 18.1**	**-0.2**
JSG	**Sagara**	**2.40**	**75**	P	**Pb**	**12 32 29.1**	**+0.3**
MAJO	**Matsushiro**	**3.39**	**42**	P	**Pn**	**12 32 38.1**	**-0.2**

TRN 19 12:36:15.8, 17°.86N×62°.47W, h3km, MD4.0, East of St. Barthelemy., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**1.05**	**140**	*e*P	Pn	12 36 39.5	+2.0
ANBD				*e*S	Sn	12 36 55.5	+2.8
TBG	**Guadaloupe-3**	**2.15**	**158**	*e*P	Pb	12 36 56.1	+0.8
TBG				*e*S	Sg	12 37 24.1	-0.8
SVN	**Savane Anatole**	**3.25**	**157**	*e*P	Pb	12 37 11.6	-2.7
BIM	**Bigot**	**3.58**	**158**	*e*P	Pn	12 37 16.1	+3.7
SLBI	**Saint Lucia, B**	**4.08**	**159**	*e*P	Pn	12 37 22.9	+3.7
SLBI				*e*S	Sn	12 38 10.0	+2.6
AOPR	**Arecibo Observ**	**4.10**	**277**	*e*P	Pn	12 37 21.1	+1.5
SVB	**Belmont**	**4.71**	**165**	*e*	Pn	12 37 32.0	+4.1

*IDC **19** 12:39:34.8±1.6, 37°.14N×17°.02E, h0km, mb3.7/7, mbtmp3.6/14, ML3.4/4, Error ellipse: s-maj=34.9km s-min=18.1km az=172.0*
*ROM **19** 12:39:37.3±0.2, 37°.10N±0°.01×16°.95E±0°.01, h61km±2km, ML3.4/96, Error ellipse: s-maj=1.4km s-min=0.2km az=345.0*
*TIR **19** 12:39:40.1, 37°.71N×17°.21E, h40km±13km, Ml3.7*
*BEO **19** 12:39:59.9±0.8, 38°.87N×17°.83E, h10km, ML3.5/8*
ISC 19 12:39:38.5±2.0, 37°.21N±0°.04×16°.96E±0°.03, h28km±15km, n103, σ1°.49/127, mb3.7/7, 1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOI	**Samo**	**1.11**	**320**	P	**Pn**	**12 39 58.1**	**-0.1**
SOI				S	**Sb**	**12 40 13.5**	**+0.3**
SOI				AML	AML		
	comp=N,273μm,0.2s						
SOI				AML	AML		
	comp=E,226μm,0.3s						
SOI				AML	AML		
	comp=N,273μm,1.8s						
MTTG	**Motta San Giov**	**1.27**	**309**	⇓P	**Pn**	**12 40 00.2**	**-0.2**
MTTG				S	**Sn**	**12 40 17.0**	**+0.3**
MTTG				AML	AML		
	comp=E,325μm,1.6s						
MTTG				AML	AML		
	comp=N,478μm,0.5s						
PLAC	**Placanica**	**1.30**	**342**	P	**Pn**	**12 40 01.4**	**+0.6**
PLAC				S	**Sb**	**12 40 18.6**	**0.0**
PLAC				AML	AML		
	comp=N,545μm,0.4s						
PLAC				AML	AML		
	comp=E,586μm,0.4s						
PLAC				AML	AML		
	comp=N,544μm,0.4s						
PLAC				AML	AML		
	comp=E,536μm,0.3s						
PLAC				AML	AML		
	comp=N,544μm,1.6s						
PLAC				AML	AML		
	comp=E,586μm,1.6s						
PLAC				AML	AML		
	comp=N,572μm,0.3s						
CEL	**Celeste**	**1.34**	**321**	P	**Pn**	**12 40 01.6**	**+0.2**
CEL				S	**Sb**	**12 40 19.7**	**0.0**
CEL				AML	AML		
	comp=N,274μm,0.9s						
CEL				AML	AML		
	comp=E,332μm,0.2s						
CEL				AML	AML		
	comp=E,420μm,0.3s						
CEL				AML	AML		
	comp=N,335μm,0.8s						
CEL				AML	AML		
	comp=E,420μm,1.7s						
CEL				AML	AML		
	comp=E,332μm,1.8s						
CEL				AML	AML		
	comp=N,335μm,1.2s						
CEL				AML	AML		
	comp=N,275μm,0.9s						
HAGA	**Augusta**	**1.44**	**273**	P	**Pn**	**12 40 00.7**	**-2.0**
HAGA				S	**Sn**	**12 40 17.9**	**-2.7**
HAGA				AML	AML		
	comp=E,624μm,0.2s						
HAGA				AML	AML		
	comp=N,586μm,0.4s						
SSY	**Sortino**	**1.50**	**268**	P	**Pn**	**12 40 01.5**	**-2.1**
EPOZ	**Pozzillo**	**1.52**	**282**	P	**Pn**	**12 40 02.2**	**-1.6**
EPOZ				S	**Sn**	**12 40 20.8**	**-1.9**
EPOZ				AML	AML		
	comp=N,1135μm,0.9s						
EPOZ				AML	AML		
	comp=E,1012μm,0.3s						
HPAC	**Pachino**	**1.56**	**251**	P	**Pn**	**12 40 03.8**	**-0.6**
HPAC				S	**Sn**	**12 40 22.5**	**-1.3**
HPAC				AML	AML		
	comp=E,1490μm,1.2s						
HPAC				AML	AML		
	comp=N,1765μm,1.0s						
HPAC				AML	AML		
	comp=E,1490μm,0.8s						
MPNC	**Port Mandanici**	**1.57**	**307**	P	**Pn**	**12 40 04.5**	**0.0**
MPNC				S	**Sn**	**12 40 24.6**	**+0.6**
MPNC				AML	AML		
	comp=E,724μm,0.6s						
MPNC				AML	AML		
	comp=N,904μm,1.5s						
MPNC				AML	AML		
	comp=N,904μm,0.5s						
JOPP	**Joppolo**	**1.63**	**329**	P	**Pn**	**12 40 05.7**	**+0.4**
JOPP				S	**Sn**	**12 40 25.4**	**0.0**
JOPP				AML	AML		
	comp=E,322μm,1.1s						
JOPP				AML	AML		
	comp=N,330μm,0.3s						
NOV	**Novara**	**1.66**	**300**	P	**Pn**	**12 40 05.2**	**-0.6**
NOV				S	**Sn**	**12 40 25.1**	**-1.0**
NOV				AML	AML		
	comp=E,400μm,0.3s						
NOV				AML	AML		
	comp=N,446μm,0.3s						
HLNI	**Lentini**	**1.67**	**275**	P	**Pn**	**12 40 03.7**	**-2.1**
HLNI				AML	AML		
	comp=E,1990μm,0.2s						
HLNI				AML	AML		
	comp=N,1745μm,0.7s						
ESML	**S. M. di Licod**	**1.70**	**284**	P	**Pn**	**12 40 05.0**	**-1.4**
ESML				S	**Sn**	**12 40 24.7**	**-2.5**
ESML				AML	AML		
	comp=N,764μm,0.5s						
ESML				AML	AML		
	comp=N,764μm,1.5s						
ESML				AML	AML		
	comp=E,779μm,0.6s						
EMSG	**Monte Spagnolo**	**1.71**	**291**	P	**Pn**	**12 40 06.4**	**-0.1**
EMSG				AML	AML		
	comp=E,1170μm,0.5s						
EMSG				AML	AML		
	comp=N,798μm,0.7s						
MILZ	**Milazzo**	**1.73**	**308**	P	**Pn**	**12 40 07.0**	**+0.4**
MILZ				S	**Sn**	**12 40 28.1**	**+0.3**
MILZ				AML	AML		
	comp=N,462μm,1.0s						
MILZ				AML	AML		
	comp=E,456μm,0.6s						
EPZF	**Pizzo Felice**	**1.77**	**291**	P	**Pn**	**12 40 07.2**	**-0.2**
EPZF				AML	AML		
	comp=E,2015μm,0.4s						
EPZF				AML	AML		
	comp=N,1385μm,0.4s						
HVZN	**Vizzini**	**1.79**	**270**	P	**Pn**	**12 40 06.0**	**-1.6**
HVZN				S	**Sn**	**12 40 26.7**	**-2.7**
SERS	**Sersale**	**1.83**	**354**	P	**Pn**	**12 40 08.7**	**+0.5**
SERS				AML	AML		
	comp=N,208μm,1.5s						
SERS				AML	AML		
	comp=E,205μm,1.5s						
SERS				AML	AML		
	comp=N,354μm,0.3s						
SERS				AML	AML		
	comp=E,205μm,0.5s						
SERS				AML	AML		
	comp=E,332μm,0.3s						
SERS				AML	AML		
	comp=N,208μm,0.5s						
MUCR	**Ucria**	**1.85**	**297**	P	**Pn**	**12 40 08.1**	**-0.3**
MUCR				S	**Sn**	**12 40 30.6**	**-0.3**
MUCR				AML	AML		
	comp=N,426μm,0.5s						
MUCR				AML	AML		
	comp=E,346μm,0.3s						
MUCR				AML	AML		
	comp=N,426μm,1.5s						
MNO	**Monte Soro**	**1.93**	**292**	P	**Pn**	**12 40 10.0**	**+0.3**
MNO				S	**Sn**	**12 40 33.3**	**+0.1**
MNO				AML	AML		
	comp=E,424μm,0.4s						
MNO				AML	AML		
	comp=N,364μm,0.4s						
MNO				AML	AML		
	comp=N,364μm,1.6s						
VPL	**Vulcano Piano**	**1.95**	**307**	P	**Pn**	**12 40 09.5**	**-0.2**
VPL				AML	AML		
	comp=E,791μm,0.3s						
VPL				AML	AML		
	comp=N,827μm,0.4s						
GALF	**Gagliano Caste**	**1.96**	**285**	P	**Pn**	**12 40 09.6**	**-0.4**
GALF				AML	AML		
	comp=E,618μm,0.7s						
GALF				AML	AML		
	comp=N,488μm,0.5s						
GALF				AML	AML		
	comp=N,488μm,1.5s						
LLI	**Lipari**	**2.01**	**308**	P	**Pn**	**12 40 11.1**	**+0.6**
LLI				AML	AML		
	comp=E,890μm,0.6s						
LLI				AML	AML		
	comp=E,890μm,1.4s						
LLI				AML	AML		
	comp=N,957μm,0.4s						
VAE	**Valguarnera**	**2.04**	**278**	Pn	**Pn**	**12 40 11.2**	**+0.1**
	comp=N,11nm,0.3s,baz=336,slow=15,SNR=1.5						
VAE				Sn	**Sn**	**12 40 35.9**	**+0.2**
	comp=N,17nm,0.3s,baz=149,slow=18,SNR=5.1						
LADO	**San Nicola del**	**2.07**	**1**	P	**Pn**	**12 40 12.3**	**+1.0**
RAFF	**Raffo Rosso**	**2.07**	**271**	P	**Pn**	**12 40 10.2**	**-1.2**
RAFF				S	**Sn**	**12 40 35.2**	**-1.1**
RAFF				AML	AML		
	comp=E,1075μm,0.3s						
RAFF				AML	AML		
	comp=N,691μm,0.5s						
RAFF				AML	AML		
	comp=E,1075μm,1.7s						
IST3	**Stromboli F**	**2.09**	**320**	P	**Pn**	**12 40 11.5**	**-0.2**
IST3				AML	AML		
	comp=E,474μm,0.6s						
IST3				AML	AML		
	comp=N,871μm,1.2s						
IST3				AML	AML		
	comp=N,871μm,0.8s						
IST3				AML	AML		
	comp=E,474μm,1.4s						
CAR1	**CAROLEI**	**2.12**	**344**	P	**Pn**	**12 40 12.9**	**+0.8**
CAR1				AML	AML		
	comp=E,453μm,0.8s						
CAR1				AML	AML		
	comp=E,453μm,1.2s						
CAR1				AML	AML		
	comp=N,366μm,0.9s						
PIPA	**Pietrapaola**	**2.27**	**357**	P	**Pn**	**12 40 15.2**	**+1.1**
PIPA				AML	AML		
	comp=N,378μm,0.5s						
PIPA				AML	AML		
	comp=E,599μm,0.7s						
PIPA				AML	AML		
	comp=E,610μm,0.7s						
PIPA				AML	AML		
	comp=N,348μm,0.3s						
PETRA	**Petralia Sopra**	**2.34**	**286**	P	**Pn**	**12 40 15.2**	**-0.1**
PETRA				AML	AML		
	comp=E,213μm,0.5s						
PETRA				AML	AML		
	comp=N,228μm,0.8s						
PETRA				AML	AML		
	comp=N,228μm,1.2s						
CLTA	**Licata**	**2.39**	**270**	P	**Pn**	**12 40 15.6**	**-0.2**
CLTA				AML	AML		
	comp=E,357μm,0.4s						
CLTA				AML	AML		
	comp=N,295μm,0.3s						
CLTA				AML	AML		
	comp=N,295μm,1.7s						
CLTA				AML	AML		
	comp=E,357μm,1.6s						
WDD	**Wied Dalam**	**2.39**	**236**	P	**Pn**	**12 40 15.2**	**-0.6**
WDD				S	**Sn**	**12 40 42.7**	**-1.4**
WDD				AML	AML		
	comp=E,1111μm,0.6s						
WDD				AML	AML		
	comp=N,1270μm,0.6s						
WDD				AML	AML		
	comp=N,1270μm,1.4s						
CET2	**Cetraro**	**2.44**	**342**	P	**Pn**	**12 40 16.7**	**+0.1**
CET2				AML	AML		
	comp=N,539μm,0.8s						
CET2				AML	AML		
	comp=E,308μm,0.4s						
CET2				AML	AML		
	comp=N,539μm,1.2s						
DMLN	**Damoulianata-K**	**2.90**	**68**	P	**Pn**	**12 40 22.3**	**-0.5**
CUC	**Castrocucco**	**2.92**	**343**	P	**Pn**	**12 40 22.9**	**-0.2**
CUC				AML	AML		
	comp=N,112μm,1.3s						
CUC				AML	AML		
	comp=N,82μm,0.5s						
CUC				AML	AML		
	comp=E,174μm,1.2s						
CUC				AML	AML		
	comp=E,111μm,0.2s						
CUC				AML	AML		
	comp=N,112μm,0.7s						
PSDA	**Pessada-Kefalo**	**3.02**	**72**	P	**Pn**	**12 40 23.9**	**-0.5**
VLS	**Valsamata**	**3.04**	**70**	P	**Pn**	**12 40 24.1**	**-0.6**
SCTE	**Santa Cesarea**	**3.09**	**22**	P	**Pn**	**12 40 24.4**	**-1.0**
	baz=22						
SCTE				S	**Sn**	**12 40 56.2**	**-5.2**
	baz=22						
SCTE				AMP			
	comp=N,0.9nm,0.1s,baz=22						
SCTE	**Santa Cesarea**	**3.09**	**22**	P	**Pn**	**12 40 24.8**	**-0.6**
SCTE				S	**Sn**	**12 40 59.0**	**-2.4**
BULG	**Bulgheria - Ca**	**3.12**	**337**	P	**Pn**	**12 40 25.7**	**-0.1**
BULG				AML	AML		
	comp=E,188μm,1.4s						
BULG				AML	AML		
	comp=N,224μm,0.8s						
BULG				AML	AML		
	comp=E,188μm,0.6s						
BULG				AML	AML		
	comp=N,224μm,1.2s						
FSK	**Fiskardo**	**3.12**	**65**	P	**Pn**	**12 40 25.9**	**+0.2**
MGR	**Morigerati**	**3.12**	**340**	P	**Pn**	**12 40 26.0**	**+0.2**
MGR				AML	AML		
	comp=E,116μm,0.8s						
MGR				AML	AML		
	comp=N,111μm,0.3s						
LTHK	**Lithakia**	**3.13**	**80**	P	**Pn**	**12 40 24.8**	**-1.1**
MTSN	**Montesano sull**	**3.19**	**343**	P	**Pn**	**12 40 26.9**	**+0.1**
MTSN				AML	AML		
	comp=E,91μm,0.4s						
MTSN				AML	AML		
	comp=N,78μm,0.9s						
EVGI	**Lefkada island**	**3.25**	**63**	P	**Pn**	**12 40 27.8**	**+0.2**
NYDR	**Nydri-Lefkada**	**3.32**	**62**	P	**Pn**	**12 40 28.6**	**+0.1**
TAR1	**Taranto**	**3.32**	**4**	AML	AML		
	comp=N,562μm,0.3s						
TAR1				AML	AML		
	comp=E,460μm,1.1s						
TAR1				AML	AML		
	comp=E,460μm,0.9s						
LKD2	**Lefkada island**	**3.32**	**61**	P	**Pn**	**12 40 28.8**	**+0.2**
	baz=67						
LKD2				S	**Sn**	**12 41 04.1**	**-3.1**
	baz=67						
LKD2				AMP			
	comp=N,0.5nm,0.1s,baz=67						
MIGL	**Miglionico**	**3.41**	**353**	P	**Pn**	**12 40 30.0**	**+0.2**
MIGL				AML	AML		
	comp=E,418μm,1.5s						
MIGL				AML	AML		
	comp=N,414μm,1.2s						
MIGL				AML	AML		
	comp=N,414μm,0.8s						
MIGL				AML	AML		
	comp=E,418μm,0.5s						
MATE	**Matera**	**3.44**	**357**	P	**Pn**	**12 40 30.0**	**-0.1**
MATE				AML	AML		
	comp=E,219μm,1.1s						
MATE				AML	AML		
	comp=N,250μm,0.2s						
MATE				AML	AML		
	comp=E,219μm,0.9s						
NOCI	**Noci**	**3.57**	**1**	P	**Pn**	**12 40 31.1**	**-0.9**
	baz=359						
NOCI				S	**Sn**	**12 41 08.4**	**-4.9**
	baz=359						
NOCI				AMP			
	comp=N,1.7nm,0.1s,baz=359						
NOCI	**Noci**	**3.57**	**1**	P	**Pn**	**12 40 31.4**	**-0.6**
NOCI				AML	AML		

comp=N,572μm,0.1s
NOCI AML AML
comp=E,474μm,1.0s
SRN Sarande 3.58 41 P **Pn 12 40 30.9 -1.2**
baz=44
SRN Sarande 3.58 41 P **Pn 12 40 31.1 -1.0**
SRN Sarande 3.58 41 P **Pn 12 40 31.1 -1.0**
ACER Acerenza 3.65 348 P **Pn 12 40 34.3 +1.1**
ACER AML AML
comp=N,122μm,0.4s
ACER AML AML
comp=E,117μm,0.4s
ACER AML AML
comp=N,122μm,1.6s
RLS Riolos of Patr 3.68 75 P **Pn 12 40 33.8 +0.3**
AMUR Altamura 3.70 356 P **Pn 12 40 33.8 0.0**
AMUR AML AML
comp=E,398μm,1.0s
AMUR AML AML
comp=N,351μm,0.5s
AMUR AML AML
comp=N,351μm,1.5s
AMUR AML AML
comp=E,398μm,1.0s
MRLC Muro Lucano 3.72 343 P **Pn 12 40 35.6 +1.5**
MRLC AML AML
comp=E,49μm,0.6s
MRLC AML AML
comp=N,52μm,0.3s
PYL PYLOS 3.84 93 P **Pn 12 40 35.0 -0.7**
DRO Drossia 3.85 78 P **Pn 12 40 36.6 +0.7**
PVO Paravola 3.88 67 P **Pn 12 40 37.4 +1.2**
ITM Ithomi 3.97 89 P **Pn 12 40 37.9 +0.4**
LSK Leskovik 4.09 43 P **Pn 12 40 38.6 -0.7**
baz=46
ANX Ano Chora 4.16 69 P **Pn 12 40 41.0 +0.8**
EVR Evrytania 4.19 65 P **Pn 12 40 43.6 +3.0**
MAKR Makrakomi, Fth 4.46 65 P **Pn 12 40 46.2 +1.9**
KBN Korca 4.53 40 P **Pn 12 40 43.6 -1.7**
baz=42
AGG Agios Georgios 4.61 65 P **Pn 12 40 47.5 +1.2**
THL Klokotos Trika 4.62 58 P **Pn 12 40 47.5 +1.1**
SGRT San Giovanni R 4.63 349 P **Pn 12 40 46.3 -0.3**
baz=346
SGRT S **Sn 12 41 34.8 -4.7**
baz=346
SGRT AMP
comp=N,0.3nm,0.1s,baz=346
TIR Tirane 4.71 28 P **Pn 12 40 46.2 -1.4**
baz=28
TIR Tirane 4.71 28 *e*Pn **Pn 12 40 47.1 -0.5**
TIR *e*Sn Sn 12 41 21.9 -19
TYRN Tyrnavos 4.83 57 P **Pn 12 40 50.1 +0.7**
FNA Florina 4.96 43 P **Pn 12 40 51.0 -0.1**
baz=45
FNA Florina 4.96 43 *e*Pn **Pn 12 40 51.9 +0.8**
FNA *e*Sn Sn 12 41 30.9 -17
PUK Puka 5.33 24 P **Pn 12 40 55.4 -0.8**
baz=24
STON Ston 5.68 6 *e*Pn **Pn 12 40 59.3 -1.7**
STON *e*Sn Sn 12 41 47.0 -18
STON Ston 5.68 6 *e*Pn **Pn 12 40 59.3 -1.7**
HVAR Hvar 5.97 356 *e*Pn **Pn 12 41 03.3 -1.6**
RICI Ricice 6.28 1 *e*Pn **Pn 12 41 07.9 -1.3**
KEST Kesra 6.31 259 Pn **Pn 12 41 09.4 -0.3**
comp=N,0.1nm,0.3s,baz=28,slow=22,SNR=1.9
KEST Sn **Sn 12 42 17.9 -3.0**
comp=N,0.4nm,0.3s,baz=37,slow=20,SNR=2.3
comp=N,1.7nm,0.6s
SJES Sjenica 6.47 20 *e*Pn **Pn 12 41 11.0 -0.9**
SJES *e*Sn Sn 12 42 03.0 -22
IDI Anoyia 6.69 104 Pn **Pn 12 41 13.9 -1.1**
comp=N,6.7nm,0.8s,baz=224,slow=8.5,SNR=7.8
IDI Sn **Sn 12 42 24.1 -6.2**
comp=N,3.6nm,0.3s,baz=260,slow=20,SNR=9.2
BOSS Bosilegrad 6.77 37 *e*Pn **Pn 12 41 14.8 -1.2**
SELS Selova 6.79 27 *e*Pn **Pn 12 41 15.5 -0.8**
SELS *e*Sn Sn 12 42 10.4 -22
IVAS Ivanjica 6.81 20 *e*Pn **Pn 12 41 15.3 -1.2**
IVAS *e*Sn Sn 12 42 11.2 -22
BBLS Lazi&#263i 6.90 15 *e*Pn **Pn 12 41 16.9 -0.9**
BBLS *e*Sn Sn 12 42 13.7 -22
DIVS Divibare 7.25 18 *e*Pn **Pn 12 41 21.0 -1.7**
GRUS Gruza 7.25 22 *e*Pn **Pn 12 41 21.3 -1.3**
ZAPS Zavoj 7.45 34 *e*Pn **Pn 12 41 24.1 -1.2**
KUBS Kucevo 8.03 25 *e*Pn **Pn 12 41 30.7 -2.5**
MLR Muntele Rosu 10.67 36 Pn **Pn 12 42 11.4 +1.9**
comp=N,1.1nm,0.3s,baz=141,slow=18,SNR=1.5
BRTR Keskin Array B 13.31 74 Pn **Pn 12 42 46.8 +1.1**
comp=N,0.1nm,0.3s,baz=258,slow=13,SNR=1.3
comp=N,0.5nm,0.4s
AKASG Malin Array Be 16.09 29 Pn **Pn 12 43 23.6 +1.1**
comp=N,0.4nm,0.3s,baz=225,slow=11,SNR=6.8
comp=N,0.6nm,0.5s
ESDC Sonseca Array 16.57 285 Pn **P 12 43 30.3 -0.8**
comp=N,0.1nm,0.3s,baz=93,slow=10,SNR=2.5
comp=N,0.9nm,1.1s
HFS Hagfors 23.03 356 P **P 12 44 41.2 +0.1**
comp=N,1.0nm,0.6s,baz=165,slow=12,SNR=6.1
comp=N,1.0nm,0.6s
FINES FINESS Array B 24.92 10 P **P 12 44 59.5 +0.6**
comp=N,2.0nm,0.6s,baz=180,slow=7.6,SNR=7.1
comp=N,2.0nm,0.6s
BVAR Borovoye Array 39.90 49 P **P 12 47 10.6 +0.9**
comp=N,0.7nm,0.4s,baz=276,slow=5.9,SNR=4.0
comp=N,0.7nm,0.4s
KURBB Kurchatov Arra 45.07 52 P **P 12 47 52.0 +0.3**
comp=N,0.4nm,0.4s,baz=279,slow=8.5,SNR=4.2
comp=N,0.4nm,0.4s
MKAR Makanchi Array 48.21 57 P **P 12 48 16.4 0.0**
comp=N,0.6nm,0.5s,baz=277,slow=7.0,SNR=7.4
comp=N,0.6nm,0.5s
ZALV Zalesovo Beam 48.43 47 P **P 12 48 18.6 +0.6**
comp=N,0.9nm,0.5s,baz=283,slow=9.0,SNR=5.0
comp=N,0.9nm,0.5s
PDAR Pinedale Array 86.70 324 P **P 12 52 22.3 +2.3**
comp=N,0.1nm,0.4s,baz=81,slow=6.5,SNR=2.0
comp=N,0.1nm,0.4s

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*IDC **19** 12:44:50.1±2.6,9.°11S×113.°15E,h0km,mb3.5/4,*
mbtmp3.5/4,Error ellipse: s-maj=146.6km s-min=23.0km
az=49.0
*DJA **19** 12:44:53.5±0.6,10.°S±6.°×11.°3E±.°,h10km,M4.5/10,*
MLv4.5/10
ISC 19 12:44:54.8±1.3,9.°7S±0.°1×112.°82E±0.°05,h36km,n16,
σ1§52/15,mb3.7/4,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.77**	**48**	P	**Pn**	**12 45 22.2**	**-0.7**
JAGI				S	**Sn**	**12 45 42.5**	**-1.7**
PWJI	**Pagerwojo**	**1.92**	**328**	P	**Pn**	**12 45 24.7**	**-0.3**
ABJI	**Asem Bagus**	**2.33**	**37**	P	**Pn**	**12 45 31.5**	**+1.0**
ABJI				S	**Sn**	**12 46 01.2**	**+3.3**
DNP	**Denpasar**	**2.56**	**67**	P	Pn	12 45 43.6	+10
GRJI	**Gresik**	**2.76**	**353**	P	**Pn**	**12 45 37.0**	**+0.5**
SRBI	**Singaraja**	**2.84**	**56**	P	**Pn**	**12 45 37.7**	**+0.2**
UGM	**Wanagama**	**2.87**	**307**	P	**Pn**	**12 45 39.0**	**+1.0**
UGM				S	**Sn**	**12 46 12.5**	**+1.2**
TWSI	**Taliwang, Sumb**	**4.11**	**77**	P	**Pn**	**12 45 55.8**	**+0.7**
PLAI	**Plampang**	**4.96**	**81**	P	**Pn**	**12 46 07.7**	**+0.9**
WRA	**Warramunga Arr**	**23.14**	**119**	P	**P**	**12 49 58.2**	**+0.1**
	0.3nm,0.8s,baz=295,slow=11,SNR=5.3						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**24.48**	**127**	P	**P**	**12 50 11.9**	**+1.2**
	1.1nm,0.7s,baz=304,slow=9.1,SNR=15						
	1.1nm,0.7s						
H08S2	**Diego Garcia H**	**39.91**	**270**	T	T	13 35 35.2	
	baz=95,slow=75,SNR=3.2						
H08S3	**Diego Garcia H**	**39.92**	**270**	T	T	13 35 35.5	
	baz=95,slow=75,SNR=3.2						
H08S1	**Diego Carcia H**	**39.92**	**270**	T	T	13 35 33.4	
	baz=95,slow=75,SNR=3.8						
MKAR	**Makanchi Array**	**62.47**	**337**	P	**P**	**12 55 12.8**	**-1.7**
	0.5nm,0.5s,baz=144,slow=7.6,SNR=6.2						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**67.67**	**343**	P	**P**	**12 55 46.0**	**-1.9**
	0.8nm,0.6s,baz=152,slow=6.0,SNR=3.8						
	0.8nm,0.6s						

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*DJA **19** 12:45:50.3±0.7,10.°S±7.°×11.°3E±.°,h10km,M4.5/11,*
mb4.5/1,MLv4.5/11
*IDC **19** 12:46:05.0±5.6,9.°33S×113.°17E,h165km±50km,mb3.5/11,*
mbtmp4.0/12,Error ellipse: s-maj=39.7km s-min=14.5km
az=63.0
ISC 19 12:45:53.2±1.7,9.°5S±0.°1×112.°87E±0.°05,h58km±14km,
n22,σ1§46/23,mb4.1/11,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.63**	**51**	P	**Pn**	**12 46 18.6**	**-1.0**
JAGI				S	**Sn**	**12 46 38.7**	**-0.9**
PWJI	**Pagerwojo**	**1.81**	**324**	P	**Pn**	**12 46 21.0**	**-1.0**
PWJI				S	**Sn**	**12 46 41.9**	**-1.9**
ABJI	**Asem Bagus**	**2.17**	**39**	P	Pn	12 46 28.9	+2.0
ABJI				S	**Sn**	**12 46 56.2**	**+3.6**
GRJI	**Gresik**	**2.60**	**351**	P	Pn	12 46 36.2	+3.4
SRBI	**Singaraja**	**2.71**	**59**	P	**Pn**	**12 46 34.9**	**+0.6**
SRBI				S	**Sn**	**12 47 08.7**	**+2.7**
UGM	**Wanagama**	**2.80**	**304**	P	**Pn**	**12 46 35.5**	**-0.2**
UGM				S	**Sn**	**12 47 09.0**	**+0.7**
YOGI	**Yogyakarta**	**3.04**	**303**	P	**Pn**	**12 46 39.6**	**+0.7**
SMRI	**Semarang**	**3.42**	**315**	P	**Pn**	**12 46 45.6**	**+1.5**
TWSI	**Taliwang, Sumb**	**4.04**	**80**	P	Pn	12 46 45.9	-6.6
PLAI	**Plampang**	**4.89**	**83**	P	**Pn**	**12 47 02.7**	**-1.6**
KAPI	**Kappang**	**8.15**	**57**	P	Pn	12 47 57.1	+8.2
	3.4nm,0.3s,baz=238,slow=15,SNR=1.0						
KAPI				S	Sn	12 49 23.8	+4.1
	4.0nm,0.3s,baz=204,slow=20,SNR=1.2						
WRA	**Warramunga Arr**	**23.19**	**119**	P	**P**	**12 50 54.5**	**-0.7**
	1.4nm,0.9s,baz=292,slow=12,SNR=8.8						
	1.4nm,0.9s						
ASAR	**Alice Springs**	**24.54**	**128**	P	**P**	**12 51 08.3**	**+0.6**
	4.2nm,0.7s,baz=305,slow=9.2,SNR=26						
	4.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.99**	**334**	P	**P**	**12 52 05.9**	**+0.6**
	0.7nm,0.3s,baz=170,slow=8.0,SNR=6.1						
	0.7nm,0.3s						
MJAR	**Matsushiro Arr**	**51.63**	**26**	P	**P**	**12 54 52.4**	**-1.7**
	1.7nm,0.8s,baz=212,slow=9.3,SNR=1.9						
	1.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**56.19**	**16**	P	**P**	**12 55 26.6**	**-0.5**
	1.1nm,0.6s,baz=178,slow=6.8,SNR=1.8						
	1.1nm,0.6s						
SONM	**Songino Array**	**57.37**	**355**	P	**P**	**12 55 35.7**	**+0.1**
	1.4nm,0.7s,baz=173,slow=8.7,SNR=5.7						
	1.4nm,0.7s						
MKAR	**Makanchi Array**	**62.33**	**337**	P	**P**	**12 56 09.3**	**-0.2**
	1.3nm,0.7s,baz=151,slow=7.6,SNR=14						
	1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**66.89**	**337**	P	**P**	**12 56 38.8**	**-0.4**
	0.3nm,0.3s,baz=146,slow=4.9,SNR=6.5						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**67.52**	**342**	P	**P**	**12 56 42.3**	**-0.8**
	2.2nm,0.8s,baz=159,slow=4.2,SNR=7.8						
	2.2nm,0.8s						
BVAR	**Borovoye Array**	**72.01**	**335**	P	**P**	**12 57 10.5**	**-0.3**
	0.7nm,0.7s,baz=115,slow=8.4,SNR=1.7						
	0.7nm,0.7s						
SNAA	**Sanae**	**88.84**	**197**	P	**P**	**12 58 42.4**	**+1.7**
	0.8nm,0.6s,baz=164,slow=5.4,SNR=7.6						
	0.8nm,0.6s						

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*TAP **19** 12:47:37.9,22.°18N×122.°19E,h31km±1km,ML2.8,D*
*JMA **19** 12:47:38.3±0.5,22.°N±3.°×12.°2E±.°,h119km,MV2.6/8,*
TAIWAN REGION
ISC 19 12:47:37.4±1.3,22.°16N±0.°05×122.°19E±0.°04,h32km±11km,
n77,σ1§00/136,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.58**	**255**	P	**Pb**	**12 47 49.8**	**+0.6**
	baz=252						
LYUB				*e*S	**Sb**	**12 47 57.8**	**+0.4**
	baz=252						
LAY	**Lan-yu**	**0.60**	**259**	P	**Pb**	**12 47 49.5**	**-0.1**
	baz=256						
LAY				*e*S	**Sb**	**12 47 58.1**	**+0.1**
	baz=256						
LDUT	**Ludao**	**0.84**	**308**	P	**Pn**	**12 47 52.5**	**-0.5**
	baz=306						
LDUT				*e*S	**Sn**	**12 48 03.3**	**-1.0**
	baz=306						
TTN	**Taitung**	**1.13**	**302**	*e*P	**Pn**	**12 47 55.0**	**-2.0**
	baz=300						
CHKT	**Chengkung**	**1.21**	**321**	P	**Pn**	**12 47 57.6**	**-0.4**
	baz=320						
CHKT				*e*S	**Sn**	**12 48 12.1**	**-1.2**
	baz=320						
TWGBT	**Beinan**	**1.22**	**303**	*i* P	**Pn**	**12 47 58.7**	**+0.5**
	baz=301						
TWGBT				S	**Sn**	**12 48 14.3**	**+0.7**
	baz=301						
TAWH	**Dawu Township**	**1.22**	**279**	P	**Pn**	**12 47 58.4**	**+0.3**
	baz=277						
TAWH				S	**Sn**	**12 48 13.6**	**0.0**
	baz=277						
ECL	**Taimali**	**1.22**	**291**	P	**Pn**	**12 47 58.6**	**+0.4**
	baz=290						
ECL				S	**Sn**	**12 48 14.3**	**+0.6**
	baz=290						
TWG	**Pinlang**	**1.23**	**303**	*i* P	**Pn**	**12 47 58.7**	**+0.4**
	baz=301						
TWG				S	**Sn**	**12 48 14.4**	**+0.7**
	baz=301						
LONT	**Longtian**	**1.23**	**308**	P	**Pn**	**12 47 59.3**	**+0.9**
	baz=306						
LONT				*e*S	**Sb**	**12 48 15.6**	**-0.1**
	baz=306						
EAST	**Anshuo**	**1.26**	**281**	*i* P	**Pn**	**12 47 59.3**	**+0.5**
	baz=279						
EAST				*i* S	**Sn**	**12 48 14.9**	**+0.2**
	baz=279						
CHKH	**Chenggong**	**1.26**	**325**	P	**Pn**	**12 47 58.4**	**-0.4**
	baz=324						
CHKH				*e*S	**Sn**	**12 48 13.8**	**-0.9**
	baz=324						
SLIU	**Shizi**	**1.29**	**273**	P	**Pn**	**12 47 59.6**	**+0.4**
	baz=271						
SLIU				S	**Sn**	**12 48 15.4**	**+0.1**
	baz=271						
ECS	**Chishang**	**1.29**	**316**	*i* P	**Pn**	**12 47 59.6**	**+0.4**
	baz=315						
ECS				*e*S	**Sb**	**12 48 17.0**	**-0.5**
	baz=315						
TWKBT	**Hengchun**	**1.29**	**261**	*e*P	**Pn**	**12 47 57.4**	**-1.9**
	baz=259						
TWKBT				*e*S	**Sn**	**12 48 14.4**	**-1.1**
	baz=259						
FULB	**Fuli**	**1.33**	**322**	*e*P	**Pn**	**12 47 59.1**	**-0.6**
	baz=320						
FULB				*i* S	**Sn**	**12 48 16.4**	**+0.1**
	baz=320						
ECBN	**Changbin**	**1.34**	**330**	P	**Pn**	**12 48 00.1**	**+0.2**
	baz=329						
ECBN				S	**Sn**	**12 48 16.2**	**-0.4**
	baz=329						
EHD	**Haiduan**	**1.34**	**318**	P	**Pn**	**12 48 00.0**	**+0.1**
	baz=316						
EHD				S	**Sn**	**12 48 17.2**	**+0.5**
	baz=316						
EYUL	**Yuli**	**1.43**	**326**	P	**Pn**	**12 48 00.9**	**-0.2**
	baz=325						
EYUL				S	**Sn**	**12 48 19.1**	**+0.3**
	baz=325						
SCZT	**Fangliau**	**1.47**	**279**	P	**Pn**	**12 48 02.6**	**+1.0**
	baz=277						
YULB	**Yu-li**	**1.48**	**326**	*e*P	**Pn**	**12 48 02.0**	**+0.2**
	baz=325						
YULB				*e*S	**Sn**	**12 48 20.3**	**+0.2**
	baz=325						
ELDTW	**Lidau**	**1.49**	**314**	P	**Pn**	**12 48 01.7**	**-0.3**
	baz=313						
ELDTW				*e*S	**Sn**	**12 48 17.6**	**-2.9**
	baz=313						
HGSD	**Ruisui**	**1.50**	**332**	P	**Pn**	**12 48 01.8**	**-0.3**
	baz=331						
HGSD				*e*S	**Sn**	**12 48 19.6**	**-1.0**
	baz=331						
MASBT	**Mashibuluo**	**1.51**	**288**	P	**Pn**	**12 48 03.4**	**+1.2**
	baz=286						
TSMG	**Majia**	**1.53**	**291**	*e*P	**Pn**	**12 48 04.1**	**+1.7**
	baz=290						
SSD	**Sandimen**	**1.56**	**292**	*e*P	**Pn**	**12 48 04.2**	**+1.3**
	baz=291						
EHY	**Hungye**	**1.56**	**329**	P	**Pn**	**12 48 03.1**	**+0.2**
	baz=329						
EHY				*e*S	**Sn**	**12 48 23.3**	**+1.2**
	baz=329						
STYH	**Taoyuan**	**1.65**	**308**	P	**Pn**	**12 48 05.4**	**+1.3**
	baz=307						
STYH				S	**Sn**	**12 48 25.4**	**+1.2**
	baz=307						
STYT	**Tauyuan**	**1.66**	**307**	P	**Pn**	**12 48 05.4**	**+1.1**
	baz=306						
STYT				S	**Sn**	**12 48 25.2**	**+0.7**
	baz=306						
EGFH	**Guangfu**	**1.66**	**335**	*e*S	**Sn**	**12 48 25.3**	**+0.8**
	baz=334						
WARBT	**Fenglin Townsh**	**1.72**	**335**	*e*P	**Pn**	**12 48 05.5**	**+0.3**
	baz=334						
WARBT				*e*S	**Sn**	**12 48 24.9**	**-1.1**
	baz=334						
SHUL	**Shoufeng**	**1.72**	**341**	*i* P	**Pn**	**12 48 05.7**	**+0.6**
	baz=340						
SHUL				*i* S	**Sn**	**12 48 26.1**	**+0.1**
	baz=340						
YUS	**Yu-Shan**	**1.75**	**320**	*e*P	**Pn**	**12 48 07.0**	**+1.0**
	baz=319						
YUS				*e*S	**Sn**	**12 48 27.8**	**+0.4**
	baz=319						
TEYL	**Yanliau Villag**	**1.79**	**342**	P	**Pn**	**12 48 07.3**	**+1.3**
	baz=342						
TEYL				*i* S	**Sn**	**12 48 28.5**	**+0.9**
	baz=342						
ESL	**Shilin**	**1.79**	**337**	P	**Pn**	**12 48 06.9**	**+0.8**
	baz=337						
ESL				*e*S	**Sn**	**12 48 27.3**	**-0.5**
	baz=337						
WTP	**Ta-pu**	**1.81**	**307**	*e*P	**Pb**	**12 48 08.7**	**-1.4**
	baz=306						
TPUB	**Ta-pu**	**1.83**	**309**	*e*P	**Pn**	**12 48 08.6**	**+1.9**
	baz=307						
CHN1	**Nanshi**	**1.84**	**304**	*e*P	**Pb**	**12 48 10.4**	**-0.1**
	baz=303						
VWDT	**VWDT**	**1.86**	**329**	*e*P	**Pn**	**12 48 08.1**	**+1.1**
	baz=328						
VWDT				*e*S	**Sn**	**12 48 27.6**	**-1.7**
	baz=328						
SNST	**Tainan City**	**1.89**	**304**	*e*P	**Pb**	**12 48 09.9**	**-1.3**
	baz=303						
SNST				S	**Sn**	**12 48 30.1**	**0.0**
	baz=303						
ETM	**Tongmen**	**1.91**	**341**	P	**Pn**	**12 48 08.6**	**+0.9**
	baz=340						
ETM				*e*S	**Sn**	**12 48 30.3**	**-0.4**
	baz=340						
TWK	**Hsinying**	**1.92**	**305**	*e*P	**Pb**	**12 48 10.8**	**-1.1**
	baz=304						
EOS4	**EOS4**	**1.96**	**3**	*e*P	**Pn**	**12 48 08.8**	**+0.8**
	baz=3.0						
EOS4				*e*S	**Sn**	**12 48 31.5**	**+0.2**
	baz=3.0						
WHYT	**Xinyi Township**	**1.97**	**321**	*e*P	**Pn**	**12 48 10.8**	**+2.2**
	baz=320						
WHYT				*e*S	**Sn**	**12 48 34.5**	**+2.4**
	baz=320						
SSLB	**Suanglung**	**1.98**	**325**	P	**Pn**	**12 48 10.4**	**+1.7**
	baz=324						
SSLB				*e*S	**Sn**	**12 48 33.8**	**+1.3**
	baz=324						
LXIB	**Xiulin Townshi**	**1.99**	**339**	*i* P	**Pn**	**12 48 09.6**	**+0.7**
	baz=338						
LXIB				*e*S	**Sn**	**12 48 32.1**	**-0.7**
	baz=338						
TWD	**Chiawan**	**1.99**	**344**	*i* P	**Pn**	**12 48 09.7**	**+0.9**
	baz=344						
TWD				S	**Sn**	**12 48 31.9**	**-0.7**
	baz=344						
OWD	**Renai**	**2.02**	**333**	P	**Pn**	**12 48 09.6**	**+0.3**
	baz=332						
OWD				S	**Sn**	**12 48 32.7**	**-0.8**
	baz=332						
ETL	**Fush Village**	**2.06**	**345**	*e*P	**Pn**	**12 48 10.3**	**+0.5**
	baz=345						
ETL				*e*S	**Sn**	**12 48 34.3**	**-0.1**
	baz=345						
WUSB	**Renai**	**2.08**	**332**	*e*P	**Pn**	**12 48 11.4**	**+1.3**
	baz=331						
WUSB				*e*S	**Sn**	**12 48 34.5**	**-0.4**
	baz=331						
NACB	**Ninganchiao**	**2.08**	**345**	*e*P	**Pn**	**12 48 09.6**	**-0.4**
	baz=344						
NACB				*e*S	**Sn**	**12 48 33.7**	**-1.1**
	baz=344						
CHGB	**Renai**	**2.11**	**334**	*e*P	**Pn**	**12 48 11.1**	**+0.4**
	baz=333						
CHGB				S	**Sn**	**12 48 36.0**	**0.0**
	baz=333						
EOS3	**EOS3**	**2.12**	**3**	*i* P	**Pn**	**12 48 11.6**	**+1.1**
	baz=3.0						
EOS3				S	**Sn**	**12 48 36.7**	**+1.0**
	baz=3.0						
TYC	**Yuchr**	**2.13**	**325**	*e*P	**Pb**	**12 48 13.4**	**-1.9**
	baz=324						
TYC				*e*S	**Sn**	**12 48 37.8**	**+1.7**
	baz=324						
WHF	**Hehuan Shan**	**2.15**	**337**	*e*P	**Pn**	**12 48 10.2**	**-1.2**
	baz=336						
WHF				*i* S	**Sn**	**12 48 36.8**	**-0.5**
	baz=336						
WCS	**Beigang Elemen**	**2.23**	**328**	*e*P	**Pn**	**12 48 14.6**	**+2.5**
	baz=327						
WCS				*e*S	**Sn**	**12 48 39.9**	**+1.4**
	baz=327						
EOS2	**EOS2**	**2.25**	**1**	*e*P	**Pn**	**12 48 14.1**	**+1.8**
	baz=1.0						
EOS2				*e*S	**Sn**	**12 48 40.5**	**+1.6**
	baz=1.0						
FUSS	**Fushou**	**2.26**	**338**	*e*S	**Sn**	**12 48 40.1**	**+0.6**
	baz=337						
TWT	**Tachien**	**2.29**	**336**	S	**Sn**	**12 48 40.4**	**+0.2**
	baz=335						
EWUT	**Wuta**	**2.31**	**351**	P	**Pn**	**12 48 14.8**	**+1.6**
	baz=350						
EWUT				S	**Sn**	**12 48 40.2**	**-0.3**
	baz=350						
NNSB	**Datong**	**2.38**	**342**	*i* P	**Pn**	**12 48 15.1**	**+0.8**
	baz=341						
NNSB				*e*S	**Sn**	**12 48 42.2**	**-0.2**
	baz=341						
JYNG	**Yonagunijimaku**	**2.39**	**17**	*e*P	**Pn**	**12 48 15.1**	**+0.8**
NNS	**Nan Shan**	**2.39**	**342**	*i* P	**Pn**	**12 48 15.3**	**+0.9**
	baz=341						
NNS				*e*S	**Sn**	**12 48 42.3**	**-0.5**
	baz=341						
HATJ	**Hateruma jima**	**2.41**	**38**	P	**Pn**	**12 48 15.0**	**+0.5**
LATG	**Datong**	**2.44**	**346**	P	**Pn**	**12 48 16.4**	**+1.2**
	baz=345						
LATG				*e*S	**Sn**	**12 48 43.1**	**-0.9**
	baz=345						
TWC	**Suao**	**2.46**	**353**	P	**Pn**	**12 48 16.8**	**+1.5**
	baz=352						
TWC				*e*S	**Sn**	**12 48 45.4**	**+1.1**
	baz=352						
NDT	**Datong Townshi**	**2.51**	**346**	P	**Pn**	**12 48 17.6**	**+1.5**
	baz=345						
NDT				*e*S	**Sn**	**12 48 45.9**	**+0.4**
	baz=345						
ENTT	**Nioudou**	**2.54**	**347**	P	**Pn**	**12 48 17.8**	**+1.4**
	baz=347						
ENTT				*e*S	**Sn**	**12 48 47.0**	**+0.8**
	baz=347						
IRIF	**Iriomote-Funau**	**2.59**	**33**	*e*P	**Pn**	**12 48 17.8**	**+0.7**
YHNB	**Yeheng**	**2.61**	**344**	*i* P	**Pn**	**12 48 18.5**	**+1.1**
	baz=343						
YHNB				*e*S	**Sn**	**12 48 47.8**	**-0.3**
	baz=343						
FUSB	**Fushanzhiwuyua**	**2.65**	**348**	*i* P	**Pn**	**12 48 18.9**	**+1.0**
	baz=347						
FUSB				*e*S	**Sn**	**12 48 48.6**	**-0.4**
	baz=347						
JKRS	**Kuro-shima**	**2.66**	**39**	S	**Sn**	**12 48 49.2**	**0.0**
NWLT	**Wulai**	**2.68**	**347**	P	**Pn**	**12 48 20.1**	**+1.7**
	baz=346						
NWLT				*e*S	**Sn**	**12 48 50.2**	**+0.4**
	baz=346						
TIPB	**Shuangxi**	**2.82**	**353**	P	**Pn**	**12 48 21.7**	**+1.4**
	baz=353						
TIPB				*e*S	**Sn**	**12 48 53.5**	**+0.3**
	baz=353						
JIJ	**Ishigaki jima**	**2.84**	**39**	P	**Pn**	**12 48 20.6**	**+0.1**
JISG	**Ishigakijimahi**	**3.11**	**38**	P	**Pn**	**12 48 24.1**	**0.0**
JTJ	**Tarama**	**3.38**	**43**	*e*P	**Pn**	**12 48 28.2**	**+0.3**
JTJ				*e*S	**Sn**	**12 49 06.4**	**-0.6**

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*BJI **19** 12:49:37.0±0.0,9.°80S×112.°80E,h48km,mb4.9/50,*

mB5.3/10,Ms4.6/1,Ms7 4.2/1
*NEIC **19** 12:49:37.9±1.9,9°.78S±0°.08×112°.92E±0°.07,h35km±2km, mb4.8/38,Error ellipse: s-maj=14.3km s-min=10.9km az=201.0*
*DJA **19** 12:49:39.1±0.3,10°S±4°×11°3E±°,h47km±32km,M4.9/17, mb4.7/10,mB5.0/1,MLv4.9/17,Mw(mB)4.3/1*
*IDC **19** 12:49:42.0±2.6,9°.29S×112°.91E,h51km±22km,mb4.2/21, mbtmp4.4/22,ML4.5/1,MS3.8/3,Error ellipse: s-maj=17.6km s-min=9.5km az=54.0*
ISC 19 12:49:39.4±0.7,9°.81S±0°.06×112°.86E±0°.05,h51km±5km, n124,σ1§64/130,mb4.8/51,2D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.84**	**44**	P	**Pn**	**12 50 07.6**	**-1.1**
JAGI	**Jajag, Banyuwa**	**1.84**	**44**		**Pn**	**12 50 07.5**	**-1.1**
JAGI	**Jajag, Banyuwa**	**1.84**	**44**	P	**Pn**	**12 50 07.2**	**-1.5**
JAGI				S	**Sn**	**12 50 29.4**	**-1.4**
PWJI	**Pagerwojo**	**2.06**	**330**	P	**Pn**	**12 50 10.0**	**-1.5**
PWJI				S	**Sn**	**12 50 32.5**	**-3.5**
ABJI	**Asem Bagus**	**2.42**	**34**	P	**Pn**	**12 50 17.1**	**+0.6**
ABJI				S	**Sn**	**12 50 45.4**	**+0.5**
DNP	**Denpasar**	**2.58**	**64**	P	**Pn**	**12 50 20.2**	**+1.5**
DNP				S	**Sn**	**12 50 51.3**	**+2.4**
SRBI	**Singaraja**	**2.89**	**54**	P	**Pn**	**12 50 22.9**	**-0.1**
GRJI	**Gresik**	**2.90**	**353**	P	**Pn**	**12 50 23.6**	**+0.5**
GRJI				S	**Sn**	**12 50 58.4**	**+1.7**
UGM	**Wanagama**	**2.98**	**309**	P	**Pn**	**12 50 24.3**	**+0.1**
UGM	**Wanagama**	**2.98**	**309**	Pn	**Pn**	**12 50 24.4**	**+0.1**
UGM	**Wanagama**	**2.98**	**309**	P	**Pn**	**12 50 23.7**	**-0.5**
UGM				S	**Sn**	**12 50 58.0**	**-0.7**
YOGI	**Yogyakarta**	**3.21**	**308**	P	**Pn**	**12 50 27.5**	**+0.1**
SMRI	**Semarang**	**3.63**	**319**	P	**Pn**	**12 50 34.0**	**+0.7**
SMRI	**Semarang**	**3.63**	**319**	Pn	**Pn**	**12 50 33.9**	**+0.7**
SMRI	**Semarang**	**3.63**	**319**	P	**Pn**	**12 50 33.1**	**-0.1**
BWJI	**Bawean**	**3.93**	**357**	P	**Pn**	**12 50 37.2**	**-0.1**
TWSI	**Taliwang, Sumb**	**4.11**	**75**	P	**Pn**	**12 50 41.0**	**+1.2**
CMJI	**Cimerak**	**4.80**	**294**	P	**Pn**	**12 50 49.3**	**+0.1**
PLAI	**Plampang**	**4.95**	**79**	P	**Pn**	**12 50 54.7**	**+3.4**
PLAI	**Plampang**	**4.95**	**79**	P	**Pn**	**12 50 53.1**	**+1.8**
CNJI	**Cibinong**	**6.18**	**293**	P	**Pn**	**12 51 07.9**	**-0.3**
	65nm,1.2s,0.5nm						
XMIS	**Christmas Isla**	**7.12**	**264**	P	**Pn**	**12 51 22.9**	**+1.8**
KAPI	**Kappang**	**8.33**	**56**	P	**Pn**	**12 51 37.7**	**+0.1**
	5.8nm,0.3s,baz=221,slow=8.6,SNR=3.9						
KAPI				S	**Sn**	**12 53 08.0**	**-2.4**
	8.6nm,0.4s,baz=214,slow=20,SNR=1.0						
KAPI				LR	LR	12 54 55.9	
	comp=Z,409nm,21.6s,baz=251,slow=39						
	13nm,0.3s						
BKSI	**Bulukumba**	**8.47**	**59**	P	**Pn**	**12 51 39.9**	**+0.4**
	44nm,0.8s						
EDFI	**Ende, Flores**	**8.78**	**84**	P	**Pn**	**12 51 42.7**	**-1.2**
KASI	**Kota Agung**	**9.31**	**297**	P	**Pn**	**12 51 51.7**	**+0.6**
	43nm,0.8s						
BKB	**Balikpapan**	**9.39**	**26**	P	**Pn**	**12 51 54.3**	**+2.1**
SOEI	**Soe**	**11.25**	**91**	Pn	**Pn**	**12 52 16.0**	**-1.7**
SOEI	**Soe**	**11.25**	**91**	P	**Pn**	**12 52 17.0**	**-0.7**
	50nm,0.9s						
SBUM	**Sibu**	**12.19**	**357**	Pn	**Pn**	**12 52 30.8**	**+0.3**
MBWA	**Marble Bar**	**13.08**	**150**	Pn	**Pn**	**12 52 40.9**	**-1.7**
TOLI2	**Tolitoli**	**13.41**	**36**	Pn	**Pn**	**12 52 49.1**	**+2.0**
FITZ	**Fitzroy Crossi**	**14.89**	**125**	Pn	**Pn**	**12 53 05.1**	**-1.8**
FITZ					**Sn**	**12 55 46.7**	**-4.0**
MTN	**Manton Dam**	**18.17**	**101**	P	**P**	**12 53 46.3**	**-1.7**
FAKI	**Fak Fak**	**20.44**	**72**	P	**P**	**12 54 10.6**	**-2.3**
FAKI				IAmb	IAmb	12 54 16.1	
	comp=Z,22nm,0.8s						
WB0	**Warramunga Arr**	**23.03**	**118**	P	**P**	**12 54 40.6**	**+0.1**
WRA	**Warramunga Arr**	**23.05**	**118**	P	**P**	**12 54 39.7**	**-1.0**
WRA	**Warramunga Arr**	**23.05**	**118**	P	**P**	**12 54 43.5**	**+2.9**
	comp=Z,1.8nm,0.6s,baz=290,slow=11,SNR=19						
WRA				S	**S**	**12 58 52.7**	**+4.8**
	comp=Z,0.7nm,0.8s,baz=291,slow=25,SNR=2.4						
	comp=Z,1.8nm,0.6s						
WB2	**Warramunga Arr**	**23.06**	**118**	P	**P**	**12 54 42.6**	**+1.8**
WR0	**Warramunga Arr**	**23.23**	**118**	P	**P**	**12 54 44.4**	**+1.9**
NWAO	**Narrogin (SRO)**	**23.36**	**171**	P	P	12 54 51.9	+8.3
	comp=Z,6.8nm,1.0s,baz=0.0,slow=12,SNR=1.4						
NWAO				S	Sn	12 59 05.7	-9.0
	comp=Z,12nm,1.1s,baz=43,slow=14,SNR=2.0						
	comp=Z,6.8nm,1.0s						
AS31	**Alice Springs**	**24.37**	**127**	P	**P**	**12 54 55.6**	**+2.6**
ASAR	**Alice Springs**	**24.37**	**127**	P	**P**	**12 54 54.5**	**+1.5**
ASAR	**Alice Springs**	**24.37**	**127**	P	**P**	**12 54 57.4**	**+4.4**
	comp=Z,8.1nm,0.7s,baz=304,slow=8.9,SNR=50						
ASAR				S	S	12 59 19.9	+11
	comp=Z,0.3nm,0.6s,baz=299,slow=23,SNR=2.5						
	comp=Z,8.1nm,0.7s						
FORT	**Forrest**	**25.21**	**148**	P	**P**	**12 54 59.9**	**-0.6**
FORT				IAmb	IAmb	12 55 24.4	
	comp=Z,33nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.26**	**334**	P	**P**	**12 55 54.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**31.26**	**334**	P	**P**	**12 55 54.9**	**+0.2**
	comp=Z,5.7nm,0.8s,baz=169,slow=8.2,SNR=26						
CMAR				LR	LR	13 08 17.7	
	comp=Z,135nm,19.6s,baz=120,slow=36						
	comp=Z,5.7nm,0.8s						
STKA	**Stephens Creek**	**34.50**	**134**	P	P	12 56 28.3	+5.4
	comp=Z,3.8nm,0.7s,baz=308,slow=11,SNR=5.8						
STKA				LR	LR	13 11 03.3	
	comp=Z,274nm,21.0s,baz=292,slow=37						
	comp=Z,3.8nm,0.7s						
PZH	**PanZhiHua**	**37.67**	**344**	P	**P**	**12 56 52.1**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
H08S2	**Diego Garcia H**	**39.94**	**270**	T	T	13 40 06.1	
	baz=95,slow=75,SNR=7.0						
H08S3	**Diego Garcia H**	**39.95**	**270**	T	T	13 39 52.7	
	baz=95,slow=75,SNR=7.4						
H08S1	**Diego Carcia H**	**39.96**	**270**	T	T	13 39 54.5	
	baz=95,slow=75,SNR=6.0						
ENH	**Enshi**	**39.98**	**355**	P	**P**	**12 57 08.2**	**-1.1**
NJ2	**Nanjing**	**42.01**	**8**	*eP*	**P**	**12 57 26.3**	**+0.4**
NJ2				pP	**pP**	**12 57 36.0**	**-2.4**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,480nm,8.5s						
XAN	**Xi'an**	**43.76**	**355**	∥P	**P**	**12 57 39.5**	**-0.6**
XAN				pmax	pmax		
	comp=Z,20nm,1.2s						
TIA	**Tai'an**	**45.95**	**5**	P	**P**	**12 57 56.3**	**-1.1**
TIA				pmax	pmax		
	comp=Z,14nm,0.8s						
LZH	**Lanzhou**	**46.43**	**350**	*eP*	**P**	**12 58 02.0**	**+0.6**
LZH				pP	pP	12 58 09.1	-4.9
LZH				pmax	pmax		
	comp=Z,34nm,1.0s						
KSAR	**Wonju Array Be**	**49.06**	**16**	P	**P**	**12 58 20.2**	**-1.4**
KSRS	**Korea Array**	**49.09**	**16**	P	**P**	**12 58 21.4**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=198,slow=7.3,SNR=13						
KSRS				PcP	**PcP**	**12 59 45.8**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=182,slow=5.0,SNR=2.5						
	comp=Z,2.6nm,0.8s						
BJT	**Baijiatuan**	**49.66**	**3**	IAmb	IAmb	12 58 26.3	
	comp=Z,8.0nm,0.8s						
BJT	**Baijiatuan**	**49.66**	**3**	P	**P**	**12 58 25.4**	**-0.7**
BJI	**Beijing**	**49.69**	**3**	P	**P**	**12 58 25.5**	**-0.8**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BTO	**Baotou**	**50.23**	**357**	*eP*	**P**	**12 58 31.3**	**+0.8**
BTO				pP	**pwP**	**12 58 46.8**	**-0.4**
BTO				sP	**sP**	**12 58 54.1**	**+5.3**
BTO				pmax	pmax		
	comp=Z,90nm,0.7s						
BTO				pmax	pmax		
	comp=Z,1μm,9.2s						
INU	**Inuyama**	**50.38**	**26**	P	**P**	**12 58 29.7**	**-1.9**
INU	**Inuyama**	**50.38**	**26**	P	**P**	**12 58 29.8**	**-1.9**
HHC	**Hu-ho-hao-te**	**50.41**	**359**	*eP*	**P**	**12 58 34.0**	**+2.1**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GTA	**Gaotai**	**50.44**	**347**	*eP*	**P**	**12 58 32.8**	**+0.6**
GTA				pP	pP	12 58 41.8	-3.1
GTA				PcP	**PcP**	**12 59 52.1**	**+2.2**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
JGF	**Kuroka**	**50.74**	**26**	P	**P**	**12 58 32.6**	**-1.8**
JGF				IAmb	IAmb	12 58 33.3	
	comp=Z,15nm,0.8s						
MAJO	**Matsushiro**	**51.91**	**26**	P	**P**	**12 58 41.0**	**-2.1**
MAJO				IAmb	IAmb	12 58 45.9	
	comp=Z,8.2nm,0.8s						
MAJO	**Matsushiro**	**51.91**	**26**	P	**P**	**12 58 40.8**	**-2.3**
MJAR	**Matsushiro Arr**	**51.91**	**26**	P	**P**	**12 58 40.8**	**-2.3**
	comp=Z,8.7nm,0.8s,baz=203,slow=7.6,SNR=19						
	comp=Z,8.7nm,0.8s						
MJB9	**Matsu-Tunnel**	**51.91**	**26**	P	**P**	**12 58 41.0**	**-2.1**
MJB9				IAmb	IAmb	12 58 45.8	
	comp=Z,7.8nm,0.8s						
XLT	**XiLinHaoTe**	**53.53**	**3**	*eP*	**P**	**12 58 54.3**	**-0.7**
XLT				pP	pwP	12 59 10.5	-1.3
XLT				sP	sP	12 59 17.3	+3.9
XLT				pmax	pmax		
	comp=Z,14nm,1.1s						
MDJ	**Mudanjiang**	**56.25**	**14**	P	**P**	**12 59 13.9**	**-0.6**
MDJ				pP	pP	12 59 26.0	-1.6
MDJ				S	**S**	**13 07 04.5**	**+3.8**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,93nm,4.0s						
USA0B	**Ussuriysk Arra**	**56.48**	**16**	P	**P**	**12 59 14.9**	**-1.4**
USA0B				IAmb	IAmb	12 59 17.0	
	comp=Z,12nm,1.1s						
USRK	**Ussuriysk Ar.**	**56.48**	**16**	P	**P**	**12 59 15.3**	**-1.0**
USRK	**Ussuriysk Ar.**	**56.48**	**16**	P	**P**	**12 59 15.6**	**-0.7**
	comp=Z,5.9nm,0.8s,baz=206,slow=5.2,SNR=12						
	comp=Z,5.9nm,0.8s						
JTM	**Tenmabayashi**	**56.68**	**25**	P	**P**	**12 59 16.2**	**-1.5**
BNX	**BinXian**	**56.82**	**12**	∥P	**P**	**12 59 17.4**	**-1.2**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NIL	**Nilore**	**57.31**	**321**	P	**P**	**12 59 21.4**	**-1.0**
ULN	**Ulaanbaatar**	**57.65**	**355**	P	**P**	**12 59 24.3**	**-0.3**
ULN	**Ulaanbaatar**	**57.65**	**355**	P	**P**	**12 59 24.3**	**-0.3**
SONM	**Songino Array**	**57.67**	**355**	P	**P**	**12 59 24.1**	**-0.6**
SONM				IAmb	IAmb	12 59 25.3	
	comp=Z,12nm,0.8s						
SONM	**Songino Array**	**57.67**	**355**	P	**P**	**12 59 24.3**	**-0.5**
	comp=Z,9.1nm,0.5s,baz=175,slow=8.7,SNR=46						
SONM				PcP	**PcP**	**13 00 16.4**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=175,slow=7.9,SNR=3.9						
	comp=Z,9.1nm,0.5s						
ERM	**Erimo**	**58.58**	**26**	P	**P**	**12 59 30.4**	**-0.6**
ERM	**Erimo**	**58.58**	**26**	P	**P**	**12 59 30.4**	**-0.6**
WUS	**Wushi**	**59.46**	**331**	P	**P**	**12 59 37.4**	**+0.1**
KSH	**Kashi**	**59.83**	**328**	P	**P**	**12 59 38.8**	**-1.1**
KSH				sP	pwP	12 59 54.9	-2.5
KSH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
JKA	**Kamikawa-asahi**	**60.07**	**24**	P	**P**	**12 59 39.9**	**-1.4**
JKA				IAmb	IAmb	12 59 41.4	
	comp=Z,7.5nm,0.8s						
HEH	**HeiHe**	**61.14**	**11**	*eP*	**P**	**12 59 46.6**	**-1.9**
HEH				pmax	pmax		
	comp=Z,11nm,0.7s						
NRN	**Naryn**	**61.22**	**329**	P	**P**	**12 59 48.5**	**-1.1**
NRN				IAmb	IAmb	12 59 50.0	
	comp=Z,8.2nm,0.8s						
BOOM	**Boomskoye usch**	**62.03**	**330**	P	**P**	**12 59 53.5**	**-1.3**
BOOM				IAmb	IAmb	12 59 55.6	
	comp=Z,8.3nm,0.8s						
MK31	**Makanchi Array**	**62.60**	**337**	P	**P**	**12 59 57.8**	**-0.7**
MKAR	**Makanchi Array**	**62.60**	**337**	P	**P**	**12 59 58.0**	**-0.5**
MKAR	**Makanchi Array**	**62.60**	**337**	P	**P**	**12 59 58.4**	**0.0**
	comp=Z,9.6nm,0.4s,baz=149,slow=7.5,SNR=148						
	comp=Z,9.6nm,0.4s						
MAKZ	**Makanchi**	**62.74**	**337**	P	**P**	**12 59 59.0**	**-0.3**
MAKZ				IAmb	IAmb	12 59 59.6	
	comp=Z,4.3nm,0.8s						
MAKZ	**Makanchi**	**62.74**	**337**	P	**P**	**12 59 58.9**	**-0.5**
AAK	**Ala-Archa**	**62.87**	**329**	P	**P**	**13 00 00.8**	**+0.4**
AAK				IAmb	IAmb	13 00 01.6	
	comp=Z,8.2nm,0.8s						
SIMJ	**Simiganj**	**63.18**	**323**	P	**P**	**13 00 00.8**	**-1.7**
SIMJ				IAmb	IAmb	13 00 03.7	
	comp=Z,5.1nm,0.8s						
SIMJ	**Simiganj**	**63.18**	**323**	P	**P**	**13 00 00.4**	**-2.2**
KK31	**Karatay Array**	**65.27**	**327**	P	**P**	**13 00 15.4**	**-0.6**
KKAR	**Karatay Array**	**65.27**	**327**	P	**P**	**13 00 14.9**	**-1.2**
KKAR	**Karatay Array**	**65.27**	**327**	IAmb	IAmb	13 00 17.4	
	comp=Z,3.3nm,0.8s						
KURBB	**Kurchatov Arra**	**67.17**	**337**	P	**P**	**13 00 27.4**	**-0.5**
	comp=Z,4.9nm,0.8s,baz=152,slow=5.2,SNR=33						
KURBB				PcP	**PcP**	**13 00 57.5**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=160,slow=3.0,SNR=4.2						
	comp=Z,4.9nm,0.8s						
KURK	**Kurchatov**	**67.21**	**337**	P	**P**	**13 00 27.8**	**-0.4**
KURK				IAmb	IAmb	13 00 28.6	
	comp=Z,8.1nm,0.8s						
KURK	**Kurchatov**	**67.21**	**337**	P	**P**	**13 00 27.9**	**-0.4**
ZAA0	**Zalesovo Array**	**67.81**	**343**	IAmb	IAmb	13 00 31.9	
	comp=Z,13nm,0.8s						
ZALV	**Zalesovo Beam**	**67.81**	**343**	P	**P**	**13 00 31.1**	**-0.8**
	comp=Z,8.6nm,0.4s,baz=148,slow=4.4,SNR=59						
	comp=Z,8.6nm,0.4s						
VNDA	**Vanda**	**72.19**	**170**	P	**P**	**13 01 03.1**	**+4.5**
	comp=Z,0.5nm,0.6s,baz=244,slow=3.4,SNR=1.5						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**72.28**	**335**	P	**P**	**13 00 59.2**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=134,slow=8.5,SNR=14						
	comp=Z,2.8nm,0.6s						
ABKAR	**Akbulak array**	**74.84**	**327**	P	**P**	**13 01 14.6**	**+0.1**
ABKAR	**Akbulak array**	**74.84**	**327**	IAmb	IAmb	13 01 15.7	
	comp=Z,25nm,0.7s						
ARU	**Arti**	**79.70**	**333**	P	**P**	**13 01 41.3**	**-0.3**
ARU				IAmb	IAmb	13 01 42.6	
	comp=Z,15nm,1.1s						
QSPA	**South Pole Qui**	**80.20**	**180**	P	P	13 01 49.9	+5.5
	comp=Z,0.6nm,0.9s,baz=263,slow=12,SNR=1.6						
	comp=Z,0.6nm,0.9s						
NRIK	**Noril'sk**	**80.91**	**351**	P	**P**	**13 01 46.1**	**-1.7**
	comp=Z,3.1nm,0.4s,baz=122,slow=5.7,SNR=5.1						
	comp=Z,3.1nm,0.4s						
TIXI	**Tiksi**	**81.98**	**5**	P	**P**	**13 01 51.8**	**-1.6**
TIXI				IAmb	IAmb	13 01 53.4	
	comp=Z,14nm,0.8s						
KBZ	**Khabaz**	**82.63**	**317**	P	**P**	**13 01 58.4**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=176,slow=2.1,SNR=4.8						
	comp=Z,2.2nm,0.9s						
BRTR	**Keskin Array B**	**88.02**	**311**	P	**P**	**13 02 24.8**	**+0.2**
BRTR	**Keskin Array B**	**88.02**	**311**	P	**P**	**13 02 25.5**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=147,slow=7.1,SNR=7.5						
	comp=Z,2.4nm,0.8s						
SNAA	**Sanae**	**88.55**	**197**	P	P	13 02 31.6	+5.1
	comp=Z,0.7nm,0.7s,baz=173,slow=14,SNR=5.9						
	comp=Z,0.7nm,0.7s						
AKASG	**Malin Array Be**	**93.50**	**321**	P	**P**	**13 02 49.9**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=89,slow=4.2,SNR=1.8						
	comp=Z,0.3nm,0.4s						
FINES	**FINESS Array B**	**97.00**	**331**	P	**P**	**13 03 06.7**	**+1.3**
	comp=Z,3.1nm,1.1s,baz=108,slow=4.5,SNR=2.6						
	comp=Z,3.1nm,1.1s						
SPITS	**Spitsbergen Ar**	**100.87**	**348**	P	**Pdif**	**13 03 22.9**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=58,slow=3.6,SNR=2.1						
TXAR	**Lajitas Array**	**140.72**	**55**	PKP	**PKPdf**	**13 09 04.1**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=0.0,slow=0.2,SNR=2.4						

*SOME **19** 12:59:23.1,44°.15N×82°.30E,h0km*
NNC 19 12:59:24.4±1.7,44°.19N×82°.33E,h0km,mb3.8,mpv3.2, Error ellipse: s-maj=13.5km s-min=10.8km az=155.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.61**	**243**	*eP*	Pn	12 59 54.2	-0.1
	0.4nm,0.2s						
KTMS				*eS*	Sg	13 00 16.5	+0.3
	1.0nm,0.1s						
PDGK	**Podgornoye**	**2.23**	**248**	Pg	Pb	13 00 05.3	-0.4
	3.3nm,0.3s						
PDGK				Lg	Lg	13 00 35.6	
	3.2nm,0.3s						
KNOS	**Konyrlen**	**2.27**	**275**	Pg	Pb	13 00 06.1	-0.3
	0.8nm,0.5s						
KNOS				Lg	Lg	13 00 37.4	
	3.7nm,0.5s						
SHLS	**Shalkode**	**2.32**	**245**	*eP*	Pn	13 00 02.4	-1.6
	18nm,0.2s						
SHLS				*eS*	Sn	13 00 30.9	-2.4
	17nm,0.2s						
SHLS	**Shalkode**	**2.32**	**245**	Pg	Pn	13 00 02.2	-1.7
	18nm,0.2s						
SHLS				Lg	Lg	13 00 30.9	
	17nm,0.2s						
UZB	**Uzynbulak**	**2.61**	**248**	*eP*	Pb	13 00 11.4	-0.8
	4.0nm,0.2s						
UZB				*eS*	Sb	13 00 46.0	+1.1
	9.7nm,0.6s						
UZB	**Uzynbulak**	**2.61**	**248**	Pg	Pb	13 00 11.4	-0.8
	4.0nm,0.2s						
UZB				Lg	Lg	13 00 46.0	
	9.7nm,0.6s						
KPKS	**Kokpek**	**2.73**	**256**	*eP*	Pb	13 00 13.8	-0.4
	6.3nm,0.2s						
KPKS				*eS*	Sb	13 00 50.2	+1.9
	4.4nm,0.3s						
KPKS	**Kokpek**	**2.73**	**256**	Pg	Pb	13 00 13.8	-0.4
	6.3nm,0.2s						
KPKS				Lg	Lg	13 00 50.2	
	4.4nm,0.3s						
BLB	**Baldybastay**	**2.77**	**270**	Pg	Pb	13 00 15.2	+0.3
	7.6nm,0.4s						
BLB				Lg	Lg	13 00 53.0	
	3.0nm,0.4s						
SATY	**Saty**	**3.06**	**250**	*eP*	Pb	13 00 21.1	+1.2
	1.6nm,0.1s						
SATY				*eS*	Sg	13 01 02.6	-0.2
	5.4nm,0.3s						
SATY	**Saty**	**3.06**	**250**	Pg	Pb	13 00 21.1	+1.2
	1.6nm,0.1s						
SATY				Lg	Lg	13 01 02.6	
	5.4nm,0.3s						

*IDC **19** 13:05:09.7±3.9,12°.84S×166°.66E,h148km±36km,mb3.6/8, mbtmp4.0/9,Error ellipse: s-maj=24.7km s-min=21.0km az=92.0*
*NEIC **19** 13:05:09.7±1.7,12°.84S±0°.08×166°.8E±0°.2,h142km±10km, mb4.5/14,Error ellipse: s-maj=21.9km s-min=12.2km az=84.0*
ISC 19 13:05:09.5±0.7,12°.86S±0°.06×166°.8E±0°.1,h150km,n32, σ1§12/37,mb4.3/16,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**8.01**	**197**	Pn	**Pn**	**13 07 03.8**	**+0.8**
KOUNC				Sn	**Sn**	**13 08 32.8**	**+0.5**
DZM	**Mont Dzumac**	**9.17**	**182**	Pn	**Pn**	**13 07 18.6**	**+0.1**
DZM				Sn	**Sn**	**13 08 58.0**	**-2.2**
DZM	**Mont Dzumac**	**9.17**	**182**	P	**Pn**	**13 07 20.1**	**+1.6**
	7.9nm,0.8s,baz=318,slow=14,SNR=20						
DZM				S	**Sn**	**13 08 58.4**	**-1.9**
	4.9nm,0.9s,baz=120,slow=16,SNR=1.3						
ONTNC	**Ouen Toro**	**9.40**	**182**	Pn	**Pn**	**13 07 22.4**	**+0.9**
PINNC	**Pines Island,**	**9.72**	**176**	Pn	**Pn**	**13 07 27.1**	**+1.3**
PINNC				Sn	**Sn**	**13 09 12.3**	**-1.2**
EIDS	**Eidsvold**	**19.33**	**228**	P	**P**	**13 09 23.8**	**+0.5**
CTA	**Charters Tower**	**20.93**	**247**	P	**P**	**13 09 40.0**	**-0.6**
	0.2nm,0.7s,baz=83,slow=14,SNR=6.0						
CTAO	**Charters Tower**	**20.93**	**247**	P	**P**	**13 09 38.8**	**-1.7**
RAO	**Raoul Island**	**21.64**	**141**	P	**P**	**13 09 45.7**	**-2.3**
RTZ	**Ruatahuna**	**27.21**	**162**	P	**P**	**13 10 40.3**	**+1.0**
RTZ				IAmb	IAmb	13 11 05.9	
	comp=Z,13nm,1.2s						
BKZ	**Black Stump Fm**	**27.58**	**164**	P	**P**	**13 10 44.7**	**+2.1**
BKZ				IAmb	IAmb	13 11 24.7	
	comp=Z,8.0nm,1.1s						
WR0	**Warramunga Arr**	**31.67**	**253**	P	**P**	**13 11 18.1**	**-0.9**
WR0				IAmb	IAmb	13 11 28.5	
	comp=Z,17nm,1.5s						
WB0	**Warramunga Arr**	**31.79**	**253**	P	**P**	**13 11 19.3**	**-0.7**
WB0				IAmb	IAmb	13 11 32.2	
	comp=Z,6.7nm,1.2s						
WRA	**Warramunga Arr**	**31.86**	**253**	P	**P**	**13 11 20.0**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=84,slow=9.2,SNR=13						
	comp=Z,1.3nm,0.7s						
ASAR	**Alice Springs**	**32.93**	**246**	P	**P**	**13 11 29.9**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=69,slow=9.8,SNR=12						
	comp=Z,1.7nm,0.6s						
BBOO	**Buckleboo**	**34.38**	**230**	P	**P**	**13 11 42.9**	**+0.6**
KNRA	**Kununurra**	**36.91**	**261**	P	**P**	**13 12 03.6**	**-0.5**
KNRA				IAmb	IAmb	13 12 41.9	
	comp=Z,17nm,1.4s						
MBWA	**Marble Bar**	**45.60**	**253**	P	**P**	**13 13 15.8**	**+0.8**
MBWA				IAmb	IAmb	13 13 44.1	
	comp=Z,12nm,1.2s						
JMN	**Monobe**	**55.93**	**327**	P	**P**	**13 14 32.6**	**+0.5**
JNU	**Nakatsue**	**57.13**	**324**	P	**P**	**13 14 40.4**	**-0.2**
JNU				IAmb	IAmb	13 14 42.9	
	comp=Z,8.2nm,1.2s						
JKA	**Kamikawa-asahi**	**60.83**	**340**	P	**P**	**13 15 06.0**	**+0.3**
JKA				IAmb	IAmb	13 15 12.2	
	comp=Z,5.3nm,1.0s						
ASAJ	**Asahikawa**	**60.83**	**340**	P	**P**	**13 15 06.4**	**+0.6**
	comp=Z,3.0nm,0.4s,baz=220,slow=7.0,SNR=13						
	comp=Z,3.0nm,0.4s						
KSRS	**Korea Array**	**61.93**	**326**	P	**P**	**13 15 13.3**	**0.0**
	comp=Z,0.3nm,0.5s,baz=152,slow=8.8,SNR=1.8

FETY			Sg	Sn	13 06 07.7	+1.3
FETY	**Fethiye**	**0.82 48**	P	Pn	13 05 56.9	+1.8
FETY			S	Sn	13 06 09.1	+2.7
FETI	**Fethiye-Mugla**	**0.86 46**	Pg	Pn	13 05 56.8	+1.2
DAT	**Datca**	**0.88 317**	Pg	Pn	13 05 56.1	+0.1
DAT			Sg	Sn	13 06 07.1	-0.8
DAT	**Datca**	**0.88 317**	P	Pn	13 05 56.2	+0.2
DAT			S	Sn	13 06 06.3	-1.6
DAT			*i* AML	AML	13 06 08.0	
	comp=E,907nm,0.3s					
DAT			*i* AML	AML	13 06 09.0	
	comp=E,1μm,0.4s					
DAT	**Datca**	**0.88 317**	P	Pn	13 05 56.2	+0.2
DAT			S	Sn	13 06 07.8	-0.1
SABU	**Mula-Dalaman**	**0.90 35**	P	Pn	13 05 57.5	+1.3
SABU			S	Sn	13 06 09.1	+0.9
SABU			*i* AML	AML	13 06 12.0	
	comp=E,706nm,0.5s					
SABU			*i* AML	AML	13 06 14.0	
	comp=E,618nm,0.5s					
YAZI	**Mula-Datşa-**	**0.92 310**	P	Pn	13 05 56.6	+0.2
YAZI			S	Sn	13 06 07.8	-1.0
YAZI			*i* AML	AML	13 06 09.0	
	comp=E,724nm,0.4s					
YAZI			*i* AML	AML	13 06 09.0	
	comp=E,1μm,0.6s					
KSL	**Kastellorizon**	**1.02 86**	P	Pn	13 05 59.6	+1.9
KSL			S	Sn	13 06 13.6	+2.6
	comp=E,1μm,0.3s					
KSL	**Kastellorizon**	**1.02 86**	P	Pn	13 05 59.5	+1.8
KSL			S	Sn	13 06 12.1	+1.0
KSL			AML	AML	13 06 14.9	
	comp=E,2959μm,0.3s					
KSL			AML	AML	13 06 17.7	
	comp=N,1663μm,0.5s					
KSL	**Kastellorizon**	**1.02 86**	P	Pn	13 05 59.5	+1.8
KSL			S	Sn	13 06 11.7	+0.7
KSL			AML	AML	13 06 14.5	
	comp=N,3.0nm,0.3s					
KSL			AML	AML	13 06 17.3	
	comp=N,1.7nm,0.5s					
AKAS	**Kas**	**1.04 82**	Pn	Pn	13 05 59.9	+1.8
AKAS			Sn	Sn	13 06 14.1	+2.2
AKAS	**Kas**	**1.04 82**	P	Pn	13 05 60.0	+1.8
AKAS			S	Sn	13 06 12.6	+0.8
AKAS			*i* AML	AML	13 06 15.0	
	comp=N,725nm,0.2s					
AKAS			*i* AML	AML	13 06 19.0	
	comp=N,1μm,0.4s					
KARP	**Karpathos**	**1.09 241**	Pg	Pn	13 05 59.6	+1.0
KARP			Sg	Sn	13 06 13.4	+0.7
KARP	**Karpathos**	**1.09 241**	P	Pn	13 05 59.7	+1.0
KARP			S	Sn	13 06 13.6	+0.8
	comp=N,2μm,0.4s					
KARP	**Karpathos**	**1.09 241**	P	Pn	13 05 59.7	+1.0
KARP			S	Sn	13 06 13.5	+0.7
KARP			AML	AML	13 06 15.1	
	comp=E,3057μm,0.3s					
KARP			AML	AML	13 06 15.6	
	comp=N,2048μm,0.3s					
KARP	**Karpathos**	**1.09 241**	P	Pn	13 05 59.7	+1.0
KARP			S	Sn	13 06 13.4	+0.7
KARP			AML	AML	13 06 14.7	
	comp=N,3.0nm,0.3s					
KARP			AML	AML	13 06 15.2	
	comp=N,2.0nm,0.3s					
NISR	**Nisiros**	**1.10 299**	P	Pn	13 05 59.0	+0.2
CAME	**Cameli-Denizli**	**1.16 42**	Pn	Pn	13 06 00.8	+1.0
MULA	**Mugla, Merkez-**	**1.17 360**	P	Pn	13 06 01.1	+1.3
MULA			S	Sn	13 06 16.2	+1.5
MULA			*i* AML	AML	13 06 18.0	
	comp=N,244nm,0.2s					
MULA			*i* AML	AML	13 06 20.0	
	comp=N,182nm,0.3s					
BDRM	**Kayabasi**	**1.21 324**	P	Pn	13 06 00.2	-0.1
BDRM			S	Sn	13 06 14.2	-1.4
BDRM			*i* AML	AML	13 06 17.0	
	comp=N,334nm,0.2s					
KNIK	**Mula-Seydike**	**1.26 53**	P	Pn	13 06 02.9	+1.8
KNIK			S	Sn	13 06 19.4	+2.4
KNIK			*i* AML	AML	13 06 20.0	
	comp=N,330nm,0.3s					
KNIK			*i* AML	AML	13 06 20.0	
	comp=N,254nm,0.7s					
BODT	**Bodrum**	**1.27 320**	Pn	Pn	13 06 00.9	-0.2
BODT	**Bodrum**	**1.27 320**	P	Pn	13 06 01.1	0.0
BODT			S	Sn	13 06 15.8	-1.3
MLSB	**Milas**	**1.28 340**	Pn	Pn	13 06 01.4	+0.1
DEMR	**Demre-Antalya**	**1.29 83**	Pn	Pn	13 06 02.3	+1.0
CAEL	**Denizli, Camel**	**1.31 37**	P	Pn	13 06 03.2	+1.5
CAEL			S	Sn	13 06 20.2	+2.0
YKAV	**Yalikavak-Bodr**	**1.33 321**	Pn	Pn	13 06 01.5	-0.4
KLNA	**Kalymnos**	**1.39 309**	P	Pn	13 06 02.3	-0.4
KLNA			S	Sn	13 06 17.9	-2.1
KLNA			AML	AML	13 06 20.3	
	comp=N,1028μm,0.2s					
KLNA			AML	AML	13 06 21.1	
	comp=E,1307μm,0.2s					
ELL	**Elmali**	**1.44 62**	Pn	Pn	13 06 05.1	+1.6
TAVA	**DENIZLI_Tavas**	**1.46 19**	P	Pn	13 06 05.0	+1.3
TAVA			S	Sn	13 06 21.1	-0.6
TAVA			*i* AML	AML	13 06 32.0	
	comp=E,162nm,0.3s					
TAVA			*i* AML	AML	13 06 32.0	
	comp=E,122nm,0.5s					
GOLH	**Golhisar**	**1.52 40**	P	Pn	13 06 06.8	+2.2
GOLH			S	Sn	13 06 24.6	+1.3
GOLH			*i* AML	AML	13 06 27.0	
	comp=E,312nm,0.5s					
GOLH			*i* AML	AML	13 06 28.0	
	comp=E,244nm,0.3s					
APMY	**Acipayam-Deniz**	**1.59 29**	Pn	Pn	13 06 06.4	+0.9
DDIM	**Aydin, Didim**	**1.62 328**	P	Pn	13 06 04.9	-0.9
DDIM			S	Sn	13 06 22.9	-2.7
DDIM			*i* AML	AML	13 06 26.0	
	comp=E,618nm,0.5s					
DDIM			*i* AML	AML	13 06 35.0	
	comp=E,292nm,0.9s					
DNIZ	**Denizli-Tavas-**	**1.64 20**	P	Pn	13 06 07.3	+1.1
DNIZ			S	Sn	13 06 24.1	-2.0
ESEN	**Aydn-Nazilli**	**1.71 1**	P	Pn	13 06 08.2	+1.2
ESEN			S	Sn	13 06 27.7	0.0
ESEN			*i* AML	AML	13 06 30.0	
	comp=E,161nm,0.7s					
ESEN			*i* AML	AML	13 06 31.0	
	comp=E,120nm,0.3s					
GCAM	**G?zelcaml?**	**1.83 332**	Pn	Pn	13 06 09.1	+0.4
GCAM	**G?zelcaml?**	**1.83 332**	P	Pn	13 06 08.1	-0.6
GCAM			S	Sn	13 06 28.8	-1.9
GCAM			*i* AML	AML	13 06 30.0	
	comp=E,140nm,0.3s					
GCAM			*i* AML	AML	13 06 44.0	
	comp=E,106nm,0.4s					
KORT	**Korkueli**	**1.87 60**	Pn	Pn	13 06 11.4	+2.1
KEMT	**Kemer-ANTALYA**	**1.87 73**	Pn	Pn	13 06 11.9	+2.7
NAZL	**Nazilli-Aydin**	**1.87 359**	Pn	Pn	13 06 09.9	+0.6
AYDB	**Zeytinkoy-Aydi**	**1.89 350**	Pn	Pn	13 06 10.0	+0.4
INCE	**Denizli-Bozkur**	**1.90 31**	P	Pn	13 06 10.9	+1.1
INCE			S	Sn	13 06 32.9	+0.2
INCE			*i* AML	AML	13 06 35.0	
	comp=E,129nm,0.5s					
ZKR	**Zakros**	**1.97 241**	Pn	Pn	13 06 12.2	+1.5
ZKR	**Zakros**	**1.97 241**	P	Pn	13 06 12.5	+1.8
ZKR			S	Sn	13 06 35.6	+1.4
	comp=E,418nm,0.6s					
ZKR	**Zakros**	**1.97 241**	P	Pn	13 06 12.3	+1.7
ZKR			S	Sn	13 06 34.2	0.0
ZKR			AML	AML	13 06 36.8	
	comp=E,1173μm,0.5s					
ZKR			AML	AML	13 06 37.4	
	comp=N,357μm,0.6s					
ZKR	**Zakros**	**1.97 241**	P	Pn	13 06 12.3	+1.7
ZKR			AML	AML	13 06 35.7	
	comp=N,1.1nm,0.5s					
ZKR			S	Sn	13 06 36.0	+1.7
ZKR			AML	AML	13 06 36.2	
	comp=N,0.5nm,0.8s					
SMG	**Samos**	**2.01 324**	P	Pn	13 06 10.8	-0.4
SMG			S	Sn	13 06 33.6	-1.6
	comp=N,1μm,0.3s					
SMG	**Samos**	**2.01 324**	P	Pn	13 06 10.8	-0.4
SMG			S	Sn	13 06 32.0	-3.2
SMG			AML	AML	13 06 34.8	
	comp=N,2348μm,0.3s					
SMG			AML	AML	13 06 34.9	
	comp=E,2088μm,0.3s					
ANTB	**Antalya**	**2.04 66**	Pn	Pn	13 06 13.8	+2.2
IZMR	**zmir-demi**	**2.07 352**	P	Pn	13 06 12.6	+0.6
IZMR			S	Sn	13 06 31.4	-5.1
IZMR			*i* AML	AML	13 06 36.0	
	comp=E,62nm,0.4s					
KIRA	**zmir-Kiraz**	**2.11 2**	P	Pn	13 06 12.8	+0.3
KIRA			S	Sn	13 06 33.7	-4.0
ODEM	**Odemis-Izmir**	**2.19 355**	Pn	Pn	13 06 14.5	+0.7
DGB	**zmir**	**2.28 330**	P	Pn	13 06 14.5	-0.2
DGB			S	Sn	13 06 38.3	-3.3
DGB			*i* AML	AML	13 06 40.0	
	comp=E,48nm,0.2s					
DGB			*i* AML	AML	13 06 40.0	
	comp=E,46nm,0.7s					
BASM	**Basmaki-Afyon**	**2.29 37**	Pn	Pn	13 06 17.1	+2.0
THR8	**Santorini-Mono**	**2.32 279**	P	Pn	13 06 15.4	0.0
SANT	**Santorini**	**2.33 278**	Pn	Pn	13 06 16.5	+0.9
THR2	**Thira Island,**	**2.36 280**	P	Pn	13 06 16.4	+0.4
THR6	**Thira Island,**	**2.38 277**	P	Pn	13 06 16.7	+0.4
THR3	**Thira Island,**	**2.39 279**	P	Pn	13 06 16.7	+0.4
SNT5	**Nea Kammeni, S**	**2.39 278**	P	Pn	13 06 16.8	+0.4
MANT	**Manisa**	**2.41 4**	P	Pn	13 06 16.5	-0.3
MANT			S	Sn	13 06 40.3	-4.9
MANT			*i* AML	AML	13 06 58.0	
	comp=E,32nm,0.6s					
MANT			*i* AML	AML	13 06 59.0	
	comp=E,34nm,0.6s					
THR5	**Thira Island,**	**2.43 279**	P	Pn	13 06 17.7	+0.8
KULA	**Kula-Manisa**	**2.44 6**	Pn	Pn	13 06 17.1	0.0
APE	**Apeiranthos**	**2.45 294**	Pn	Pn	13 06 17.2	-0.1
APE	**Apeiranthos**	**2.45 294**	P	Pn	13 06 17.6	+0.3
ISP	**Isparta**	**2.47 45**	Pn	Pn	13 06 19.4	+1.9
ZEYE	**Izmir, Urla-Ze**	**2.59 326**	P	Pn	13 06 17.3	-1.9
ZEYE			S	Sn	13 06 46.5	-2.9
ZEYE			*i* AML	AML	13 06 49.0	
	comp=E,105nm,0.7s					
ZEYE			*i* AML	AML	13 06 49.0	
	comp=E,87nm,0.3s					
GOMA	**Golmarmara-Man**	**2.64 353**	Pn	Pn	13 06 20.4	+0.7
URLA	**Izmir**	**2.66 329**	Pn	Pn	13 06 20.4	+0.4
URLA	**Izmir**	**2.66 329**	P	Pn	13 06 18.3	-1.7
URLA			S	Sn	13 06 46.5	-4.5
URLA			*i* AML	AML	13 06 51.0	
	comp=E,63nm,0.6s					
URLA			*i* AML	AML	13 06 56.0	
	comp=E,46nm,0.7s					
AKS	**Akhisar**	**2.82 352**	Pn	Pn	13 06 22.9	+0.7
IDI	**Anoyia**	**2.91 255**	P	Pn	13 06 23.3	-0.2
IDI			S	Sn	13 06 55.0	-2.3
	comp=E,138nm,0.3s					
IDI	**Anoyia**	**2.91 255**	P	Pn	13 06 23.4	-0.2
CHOS	**Chios island**	**2.92 322**	P	Pn	13 06 23.7	0.0
CHOS			S	Sn	13 06 55.3	-2.4
SHAP	**Saphane-Kutahy**	**3.02 13**	Pn	Pn	13 06 26.3	+1.3
SHUT	**Suhut-Afyon**	**3.03 35**	Pn	Pn	13 06 26.3	+1.0
SIMA	**Simav-Kutahya**	**3.04 10**	Pn	Pn	13 06 25.4	+0.1
AKMS	**Akamas**	**3.44 107**	P	Pn	13 06 31.3	+0.6
AKMS			S	Sn	13 07 10.0	-0.2
AKMS			AML	AML	13 07 12.4	
	comp=E,1.2nm,0.5s					
AKMS			AML	AML	13 07 14.0	
	comp=E,0.8nm,0.5s					
ALFC	**Alefka**	**3.60 104**	P	Pn	13 06 33.3	+0.3
ALFC			AML	AML	13 07 16.6	
	comp=E,0.7nm,0.5s					
ALFC			AML	AML	13 07 20.8	
	comp=E,0.5nm,0.3s					
GVD	**Gavdhos**	**3.68 251**	P	Pn	13 06 35.3	+1.3
SIGR	**SIGRI**	**3.68 329**	P	Pn	13 06 34.0	0.0
NATA	**Nata**	**3.70 109**	P	Pn	13 06 35.0	+0.6
NATA			S	Sn	13 07 16.1	-0.6
NATA			AML	AML	13 07 19.1	
	comp=E,2.7nm,0.3s					
NATA			AML	AML	13 07 19.6	
	comp=E,2.9nm,0.3s					
TROD	**Troodos**	**3.87 106**	P	Pn	13 06 37.0	+0.1
TROD			S	Sn	13 07 21.3	+0.1
TROD			AML	AML	13 07 25.6	
	comp=E,0.4nm,0.4s					
TROD			AML	AML	13 07 30.0	
	comp=E,0.3nm,0.3s					
VLY	**Voula,Athens**	**4.03 297**	P	Pn	13 06 39.6	+0.7
DION	**Dionisos Attik**	**4.04 301**	P	Pn	13 06 40.8	+1.9
PTL	**Penteli**	**4.07 300**	P	Pn	13 06 40.9	+1.4
ANKY	**Antikythira Is**	**4.08 268**	P	Pn	13 06 40.3	+0.8
ATHU	**Athens Univers**	**4.09 299**	P	Pn	13 06 41.2	+1.5
ASGA	**Asgata**	**4.22 106**	P	Pn	13 06 42.5	+1.0
ASGA			S	Sn	13 07 29.3	-0.2
ASGA			AML	AML	13 07 33.4	
	comp=E,0.4nm,0.5s					
ASGA			AML	AML	13 07 33.6	
	comp=E,0.2nm,0.5s					
CSS	**Mathiatis**	**4.23 104**	P	Pn	13 06 42.5	+0.9
CSS			S	Sn	13 07 29.7	-0.1
CSS			AML	AML	13 07 31.9	
	comp=E,0.1nm,0.5s					
CSS			AML	AML	13 07 33.1	
	comp=E,0.2nm,0.3s					
VLI	**Veliai**	**4.39 280**	P	Pn	13 06 44.8	+1.0
MVOU	**Mavrovouni**	**4.46 102**	P	Pn	13 06 44.8	+0.1
MVOU			AML	AML	13 07 39.0	
	comp=E,0.2nm,0.3s					
MVOU			AML	AML	13 07 40.7	
	comp=E,0.1nm,0.3s					
VIL2	**Platees**	**4.56 299**	P	Pn	13 06 47.1	+1.0
SMTH	**Samothraki Isl**	**4.90 334**	P	Pn	13 06 51.7	+0.9
GUR	**Goura**	**5.13 293**	P	Pn	13 06 56.1	+2.1
KLV	**Kalavryta, Ach**	**5.31 293**	P	Pn	13 06 58.4	+2.0
PYL	**PYLOS**	**5.37 281**	P	Pn	13 06 59.1	+2.0
AGG	**Agios Georgios**	**5.59 303**	P	Pn	13 07 02.5	+2.3
DRO	**Drossia**	**5.61 291**	P	Pn	13 07 02.8	+2.3
ANX	**Ano Chora**	**5.68 298**	P	Pn	13 07 03.7	+2.1
MAKR	**Makrakomi, Fth**	**5.72 303**	P	Pn	13 07 04.2	+2.2
OFRI	**`Ofer**	**6.50 120**	S	Sn	13 08 22.6	-3.0
OFRI	**`Ofer**	**6.50 120**	P	Pn	13 07 13.3	+0.5
MMC7	**Mount Meron ar**	**6.58 116**	P	Pn	13 07 14.8	+0.8
MMA0B	**Mount Meron ar**	**6.59 116**	S	Sn	13 08 25.7	-2.3
MMA0B	**Mount Meron ar**	**6.59 116**	P	Pn	13 07 14.9	+0.9
GEM	**Giv'at Ha'Em**	**6.69 113**	S	Sn	13 08 27.9	-2.4
GEM	**Giv'at Ha'Em**	**6.69 113**	P	Pn	13 06 17.2	+0.8
NATI	**Neve Ativ**	**6.72 113**	S	Sn	13 08 28.6	-2.4
NATI	**Neve Ativ**	**6.72 113**	P	Pn	13 07 16.9	+1.1
KSHT	**Keshet**	**6.91 114**	S	Sn	13 08 33.3	-2.4
KSHT	**Keshet**	**6.91 114**	P	Pn	13 07 19.2	+0.8
MMLI	**Mount Malkishu**	**6.91 120**	P	Pn	13 07 18.9	+0.6
MMLI	**Mount Malkishu**	**6.91 120**	S	Sn	13 08 32.9	-2.8
HMDT	**Nahal Hemdat**	**7.09 121**	P	Pn	13 07 21.3	+0.5
HMDT	**Nahal Hemdat**	**7.09 121**	S	Sn	13 08 37.2	-2.7
AMAZ	**Amatzia**	**7.12 128**	P	Pn	13 07 21.6	+0.4
AMAZ	**Amatzia**	**7.12 128**	S	Sn	13 08 37.6	-3.2
KZIT	**Kziot**	**7.24 134**	S	Sn	13 08 39.7	-3.9
KZIT	**Kziot**	**7.24 134**	P	Pn	13 07 23.1	+0.3
YTIR	**Yattir**	**7.36 128**	S	Sn	13 08 43.6	-3.2
YTIR	**Yattir**	**7.36 128**	P	Pn	13 07 24.1	-0.5
DSI	**Dead Sea**	**7.40 125**	S	Sn	13 08 44.2	-3.4
DSI	**Dead Sea**	**7.40 125**	P	Pn	13 07 25.3	+0.3
MSBI	**Mazada**	**7.55 127**	P	Pn	13 07 27.3	+0.3
MSBI	**Mazada**	**7.55 127**	S	Sn	13 08 47.7	-3.5
GHAJ	**Ghor Haditha**	**7.69 126**	P	Pn	13 07 29.3	+0.3
GHAJ	**Ghor Haditha**	**7.69 126**	S	Sn	13 08 51.0	-3.7
PRNI	**Paran**	**8.00 134**	S	Sn	13 08 58.0	-4.4
PRNI	**Paran**	**8.00 134**	P	Pn	13 07 32.8	-0.5
KRMI	**Paran Flat**	**8.01 136**	S	Sn	13 08 58.4	-4.3
KRMI	**Paran Flat**	**8.01 136**	P	Pn	13 07 33.2	-0.3
HRFI	**Mount Harif**	**8.25 135**	S	Sn	13 09 04.6	-4.0
HRFI	**Mount Harif**	**8.25 135**	P	Pn	13 07 36.9	+0.2
MBRI	**Mt Berech**	**8.37 137**	P	Pn	13 07 37.7	-0.7
MBRI	**Mt Berech**	**8.37 137**	S	Sn	13 09 07.2	-4.3
EIL	**Elat**	**8.48 137**	P	Pn	13 07 39.6	-0.3
EIL	**Elat**	**8.48 137**	S	Sn	13 09 09.9	-4.3

*IDC **19** 13:07:30.2±1.8, 15°.76N×145°.08E, h0km, mb3.9/11, mbtmp3.9/12, ML3.6/1, MS3.4/7, Error ellipse: s-maj=66.0km s-min=18.3km az=85.0*
*NEIC **19** 13:07:32.7±1.3, 15°.65N±0°.06×144°.84E±0°.04, h10km±2km, mb4.2/8, Error ellipse: s-maj=11.2km s-min=5.7km az=19.0.*
ISC 19 13:07:31.6±1.3, **15°.67N**±0°.06×**145°.1E**±0°.3, **h10**km, **n34,**
σ1§03/23, mb4.0/15, MS3.3/6, Mariana Islands

Code	Station Name	Δ° AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.09 187**	Pn	**Pn**	**13 08 07.2**	**+0.4**
GUMO			Sn	**Sn**	**13 08 32.5**	**-0.3**
GUMO	**Guam**	**2.09 187**	Pn	**Pn**	**13 08 07.1**	**+0.4**
	19nm,0.3s,baz=284,slow=5.3,SNR=23					
GUMO			Sn	**Sn**	**13 08 31.5**	**-1.3**
	66nm,0.3s,baz=178,slow=23,SNR=24					
GUMO			LR	LR	13 08 38.1	
	comp=Z,113nm,18.1s,baz=356,slow=31					
	39nm,0.3s					
JCJ	**Chichijima**	**11.69 347**	Pn	**Pn**	**13 10 20.9**	**+2.3**
JOW	**Kunigami**	**19.21 308**	LR	LR	13 18 07.3	
	comp=Z,239nm,21.2s,baz=18,slow=33					
H11S3	**WAKE ISLAND Hy 20.79**	**79**	T	T	13 34 10.6	
	baz=265,slow=75,SNR=11					
H11S1	**WAKE ISLAND Hy 20.81**	**79**	T	T	13 34 12.7	
	baz=265,slow=75,SNR=20					
H11S2	**WAKE ISLAND Hy 20.81**	**79**	T	T	13 34 11.8	
	baz=265,slow=75,SNR=18					
DAV	**Davao City (W)**	**20.97 248**	LR	LR	13 18 38.9	
	comp=Z,139nm,21.7s,baz=129,slow=32					
JGF	**Kuroka**	**21.03 342**	P	**P**	**13 12 14.9**	**-0.7**
JGF			IAmb	IAmb	13 12 23.0	
	comp=Z,5.5nm,0.9s					
H11N1	**WAKE ISLAND Hy 21.11**	**76**	T	T	13 34 38.7	
	baz=264,slow=75,SNR=41					
H11N2	**WAKE ISLAND Hy 21.12**	**76**	T	T	13 34 33.3	
	baz=264,slow=75,SNR=43					
H11N3	**WAKE ISLAND Hy 21.13**	**76**	T	T	13 34 39.8	
	baz=264,slow=75,SNR=35					
JNU	**Nakatsue**	**21.64 326**	LR	LR	13 19 23.2	
	comp=Z,126nm,21.9s,baz=156,slow=33					
MJAR	**Matsushiro Arr**	**21.68 345**	LR	LR	13 18 55.0	
	comp=Z,128nm,18.8s,baz=170,slow=32					
MAJO	**Matsushiro**	**21.68 345**	P	**P**	**13 12 21.2**	**-1.4**
MJB9	**Matsu-Tunnel**	**21.68 345**	P	**P**	**13 12 21.2**	**-1.5**
FAKI	**Fak Fak**	**22.44 216**	P	**P**	**13 12 32.1**	**+1.1**
KSRS	**Korea Array**	**26.51 328**	P	**P**	**13 13 08.1**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=149,slow=11,SNR=3.0					
	comp=Z,0.5nm,0.6s					
HNR	**Honiara**	**28.94 149**	LR	LR	13 24 16.0	
	comp=Z,2μm,19.9s,baz=275,slow=35					
KLR	**Kul'dur**	**35.21 345**	P	**P**	**13 14 26.4**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=147,slow=7.2,SNR=4.6					
	comp=Z,1.9nm,0.8s					
WB0	**Warramunga Arr**	**36.77 197**	P	**P**	**13 14 41.1**	**+1.5**
WB0			IAmb	IAmb	13 14 41.7	
	comp=Z,5.0nm,1.0s					
WR0	**Warramunga Arr**	**36.91 197**	P	**P**	**13 14 40.5**	**-0.3**
WR0			IAmb	IAmb	13 15 24.2	
	comp=Z,7.1nm,1.3s					
WB2	**Warramunga Arr**	**36.95 197**	P	**P**	**13 14 41.3**	**+0.1**
WB2			IAmb	IAmb	13 14 43.5	
	comp=Z,4.9nm,0.8s					
WRA	**Warramunga Arr**	**36.95 197**	P	**P**	**13 14 42.2**	**+1.0**
	comp=Z,3.9nm,0.9s,baz=16,slow=9.6,SNR=16					
	comp=Z,3.9nm,0.9s					
FITZ	**Fitzroy Crossi**	**38.66 211**	P	**P**	**13 14 56.1**	**+0.4**
ASAR	**Alice Springs**	**40.61 196**	LR	LR	13 33 29.5	
	comp=Z,148nm,18.3s,baz=29,slow=38					
CMAR	**Chiang Mai Arr**	**44.15 280**	P	**P**	**13 15 40.8**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=88,slow=8.2,SNR=1.4					
CMAR			LR	LR	13 32 47.4	
	comp=Z,36nm,21.3s,baz=185,slow=34					
	comp=Z,0.4nm,0.4s					
SONM	**Songino Array**	**45.20 324**	P	**P**	**13 15 48.6**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=119,slow=7.9,SNR=1.5					
	comp=Z,0.3nm,0.4s					
ZALV	**Zalesovo Beam**	**60.10 324**	P	**P**	**13 17 39.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=92,slow=7.6,SNR=3.9					
	comp=Z,0.6nm,0.6s					
MKAR	**Makanchi Array**	**60.19 315**	P	P	13 17 38.1	-1.8
	comp=Z,0.3nm,0.6s,baz=112,slow=7.4,SNR=1.9					
	comp=Z,0.3nm,0.6s					
KURBB	**Kurchatov Arra**	**63.22 319**	P	**P**	**13 17 59.2**	**-1.0**
	comp=Z,0.9nm,0.2s,baz=99,slow=7.1,SNR=5.1					
	comp=Z,0.9nm,0.2s					
NRIK	**Noril'sk**	**64.26 341**	P	**P**	**13 18 06.5**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=180,slow=9.9,SNR=1.6					
	comp=Z,2.9nm,0.8s					
BVAR	**Borovoye Array**	**68.47 321**	P	**P**	**13 18 33.5**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=106,slow=5.3,SNR=4.4					
	comp=Z,0.6nm,0.5s					
ARCES	**ARCESS Array B**	**85.19 342**	P	**P**	**13 20 06.9**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=36,slow=6.7,SNR=6.1					
	comp=Z,2.7nm,0.8s					

DJA 19 13:09:17.5±1.0, **10°S**±5°×**11°3E**±°, **h11**km±10km, **M3.9**/12, **mb4.1/1, MLv3.8**/12, **South of Jawa**

Code	Station Name	Δ° AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.69 50**	P	Pn	13 09 45.6	-1.4
JAGI			S	Sn	13 10 09.2	+0.6
PWJI	**Pagerwojo**	**1.84 326**	P	Pn	13 09 48.1	-0.9
PWJI			S	Sn	13 10 13.0	+0.7
ABJI	**Asem Bagus**	**2.23 38**	P	Pn	13 09 55.2	+0.8
ABJI			S	Sn	13 10 23.0	+1.0
DNP	**Denpasar**	**2.50 70**	P	Pn	13 09 57.9	-0.2
GRJI	**Gresik**	**2.65 352**	P	Pn	13 09 59.8	-0.4
SRBI	**Singaraja**	**2.77 58**	P	Pn	13 10 02.3	+0.5
UGM	**Wanagama**	**2.81 305**	P	Pn	13 10 02.5	0.0
YOGI	**Yogyakarta**	**3.06 304**	P	Pn	13 10 06.1	+0.3
TWSI	**Taliwang, Sumb**	**4.07 79**	P	Pn	13 10 19.9	+0.1

*GCG **19** 13:30:10.8±3.7, 22°.68N×104°.09W, h1km±99km*
*BGR **19** 13:31:42.1, 17°.03N×99°.00W, h68km, mb5.7, mB_BB6.1, Ms5.0, Hypocentre not reviewed by the ISC*
*CATAC **19** 13:31:44.5±3.3, 18°.93N×98°.26W, h46km±15km, MB6.2, mb5.9, ML6.8*
*BJI **19** 13:31:52.0±0.0, 18°.20N×97°.60W, h45km, mb5.2/2, mB5.8/32, Ms6.0/41, Ms7 5.7/42*
*MOS **19** 13:31:52.6±1.1, 17°.92N×

FTIG eS Sn 13 32 10.7 -2.0
TXIG Tlaxiaco 0.54 178⇑eP Pn 13 32 06.0 -0.8
TXIG eS Sn 13 32 14.7 -1.4
TPIG Tehuac#an 0.74 33⇑iP Pn 13 32 09.0 +0.1
TPIG eS Sn 13 32 20.7 +0.8
HMTT Tlapaneco 0.74 270 eP Pn 13 32 07.5 -1.4
HMTT eS Sn 13 32 17.9 -1.9
TOIG Toxpalan 0.75 66⇑eP Pn 13 32 09.0 +0.1
TOIG iS Sn 13 32 20.0 0.0
TOIG eS Sn 13 32 20.0 0.0
TLIG Tlapa 0.78 253 Pn 13 32 07.6 -1.8
TLIG Sn Sn 13 32 19.1 -1.7
TLIG Tlapa 0.78 253⇑iP Pn 13 32 08.0 -1.5
TLIG eS Sn 13 32 18.7 -2.1
TLIG Tlapa 0.78 253 iP Pn 13 32 07.4 -2.0
TLIG IAML 13 32 10.4
comp=Z,240µm,1.0s
TLIG iS Sn 13 32 19.9 -0.9
YOIG Yosondua 0.96 166⇑eP Pn 13 32 11.5 -0.4
YOIG eS Sn 13 32 25.0 -0.1
MGIG Malinaltepec 0.99 235⇑eP Pn 13 32 10.5 -1.6
MGIG eS Sn 13 32 24.1 -1.3
VHO Vista Hermosa 1.23 126⇓eP Pn 13 32 15.8 +0.5
VHO eS Sn 13 32 31.4 +0.1
OZST Orizaba 1.24 32 eP Pn 13 32 14.8 -0.6
OZST eS Sn 13 32 31.6 +0.2
OXBJ Oaxaca 1.25 126 eP Pn 13 32 17.2 +1.7
OXBJ eS Sn 13 32 33.3 +1.8
OXLC Oaxaca 1.26 125 eP Pn 13 32 16.3 +0.6
OXLC eS Sn 13 32 32.4 +0.5
PHPU Puebla 1.29 344 eP Pn 13 32 18.7 +2.5
PHPU eS Sn 13 32 34.8 +2.0
PNIG Pinotepa 1.44 193⇑eP Pn 13 32 16.0 -1.9
PNIG eS Sn 13 32 32.4 -3.4
YAIG Yautepec 1.61 311⇑eP Pn 13 32 19.9 -0.4
YAIG eS Sn 13 32 39.3 -1.0
CRIG Cruz Grande 1.67 231⇑eP Pn 13 32 17.7 -3.2
CRIG eS Sn 13 32 35.6 -5.7
PLIG Platanillo 1.74 290⇑eP Pn 13 32 21.2 -0.8
PLIG eS Sn 13 32 38.2 -5.0
MEIG Mezcala 1.75 274⇑eP Pn 13 32 20.9 -1.3
MEIG eS Sn 13 32 38.1 -5.5
JAUV Jalcomulco 1.82 31 eP Pn 13 32 22.4 -0.6
JAUV eS Sn 13 32 39.7 -5.4
NEUV Arroyo Zacate 1.89 92 eP Pn 13 32 24.1 +0.2
NEUV eS Sn 13 32 41.9 -4.8
PEIG Puerto Escondi 1.89 161⇑eP Pn 13 32 23.4 -0.6
PEIG eS Sn 13 32 42.0 -4.8
TLVM San Miguel Top 1.92 317⇑eP Pn 13 32 25.0 +0.4
TLVM iS Sn 13 32 39.9 -7.9
XCVM Xochimilco 1.92 319⇑eP Pn 13 32 25.2 +0.5
XCVM eS Sn 13 32 44.6 -3.3
DAIG Los Arroyos 1.94 247⇑eP Pn 13 32 21.9 -2.8
DAIG ⇓eS Sn 13 32 40.2 -7.8
TXVM Universitario 1.95 327⇑eP Pn 13 32 26.2 +1.2
TXVM eS Sn 13 32 46.2 -2.5
MAVM Malinalco, Edo 1.99 306⇓eP Pn 13 32 25.6 +0.1
MAVM eS Sn 13 32 42.9 -6.7
UNM Universidad Na 2.02 319 Pn 13 32 26.0 0.0
UNM Universidad Na 2.02 319 ⇑P Pn 13 32 26.6 +0.7
UNM Universidad Na 2.02 319⇑eP Pn 13 32 26.5 +0.6
UNM eS Sn 13 32 44.7 -5.6
UNM Universidad Na 2.02 319 P Pn 13 32 26.0 0.0
COVM Coyoacan 2.02 320⇑eP Pn 13 32 25.0 -1.0
COVM eS Sn 13 32 44.3 -6.0
CUP5 Mexico City 2.02 319 eP Pn 13 32 26.7 +0.7
CUP5 eS Sn 13 32 45.4 -4.9
BJVM Benito Juarez 2.05 320⇑eP Pn 13 32 26.4 0.0
BJVM eS Sn 13 32 46.5 -4.4
PBVM Pinon 2.05 323⇑eP Pn 13 32 26.7 +0.6
PBVM eS Sn 13 32 43.2 -7.3
AOVM Tlapan 2.07 315⇑eP Pn 13 32 27.2 +0.4
CJVM Cuajimalpa 2.11 318⇑eP Pn 13 32 28.2 +1.0
CJVM eS Sn 13 32 46.9 -5.6
INVM La Marquesa 2.12 315⇓eP Pn 13 32 28.0 +0.5
INVM eS Sn 13 32 45.9 -7.1
APVM Azcapotzalco 2.16 321⇓eP Pn 13 32 28.3 +0.5
APVM eS Sn 13 32 42.8 -11
VTVM Tizayuca 2.18 335⇑eP Pn 13 32 28.4 +0.3
VTVM eS Sn 13 32 46.1 -8.1
ACP2 Acapulco 2.21 246 eP Pn 13 32 25.1 -3.2
ACP2 eS Sn 13 32 50.5 -4.1
LVIG Laguna Verde 2.31 34⇑eP Pn 13 32 28.1 -1.6
LVIG iS Sn 13 32 56.3 -0.7
TOVM TOLUCA 2.33 310⇓eP Pn 13 32 30.8 +0.6
ARIG Puente Sto Nin 2.49 282⇑eP Pn 13 32 31.5 -0.6
CAIG El Cayaco 2.49 253⇑iP Pn 13 32 29.2 -2.9
CAIG eS Sn 13 32 59.3 -2.0
HUIG Huatulco 2.58 141⇑eP Pn 13 32 33.7 +0.3
HUIG eS Sn 13 33 02.0 -1.6
ATYC Atoyac 2.59 257 eP Pn 13 32 30.8 -2.7
ATYC eS Sn 13 32 58.3 -5.6
PMUV Sontecomapan 2.64 73⇑eP Pn 13 32 33.4 -0.8
PMUV iS Sn 13 32 59.3 -5.8
DEIG Demacu 2.76 335⇑eP Pn 13 32 35.6 -0.4
DEIG iS Sn 13 33 08.2 -0.1
ACIG Acambay 2.94 318⇑eP Pn 13 32 38.2 -0.3
ACIG eS Sn 13 32 54.9 -18
TUIG Tuzandepetl 3.21 85⇑eP Pn 13 32 41.9 -0.1
TUIG iS Sn 13 33 13.9 -5.1
PET2 Petatlan 3.33 266 eP Pn 13 32 41.8 -1.8
PET2 eS Sn 13 32 14.6 -7.3
UXUV UXUV 3.50 97⇑eP Pn 13 32 46.2 +0.2
UXUV iS Sn 13 33 22.9 -3.3
ZIIG Zihuatanejo 3.52 267⇑eP Pn 13 32 44.4 -1.7
ZIIG iS Sn 13 33 20.4 -6.1
CTUV Llano Grande 3.69 352 eP Pn 13 32 47.7 -0.9
CTUV eS Sn 13 33 17.3 -14
MOIG Morelia 3.73 301 Pn 13 32 49.9 +0.5
MOIG Morelia 3.73 301 ⇑P Pn 13 32 49.8 +0.5
MOIG Morelia 3.73 301⇓eP Pn 13 32 50.2 +0.9
MOIG eS Sn 13 33 29.6 -2.6
JRQG Juriquilla Cam 3.83 319⇑eP Pn 13 32 54.1 +3.4
JRQG eS Sn 13 33 15.6 -19
UON La Union 3.84 273 eP Pn 13 32 49.9 -0.7
UON eS Sn 13 33 29.7 -4.8
URUA Uruapan 4.38 292 eP Pn 13 32 57.1 -1.0
URUA eS Sn 13 33 48.1 +0.1
RPIG Rio Verde 4.56 333⇑eP Pn 13 33 00.8 +0.2
RPIG iS Sn 13 34 11.0 +19
TGIG 4.57 102⇑eP Pn 13 33 00.9 +0.3
TGIG eS Sn 13 33 47.8 -4.6
TGBT Tuxtla Gutierr 4.60 102⇑eP Pn 13 33 02.8 +1.9
TGBT eS Sn 13 33 50.0 -3.1
PCIG 4.84 115⇑eP Pn 13 33 05.8 +1.5
PCIG iS Sn 13 33 59.2 +0.1
MMIG Aquila 5.31 276⇑iP Pn 13 33 09.3 -1.4
MMIG eS Sn 13 34 08.3 -2.4
GTIG Gomez Farias 5.40 346⇑eP Pn 13 33 11.7 -0.3
GTIG eS Sn 13 34 14.8 +1.9
CCIG Comitan 5.61 105 Pn Pn 13 33 15.4 +0.5
CCIG Comitan 5.61 105 ⇑P Pn 13 33 15.5 +0.5
CCIG Comitan 5.61 105⇑eP Pn 13 33 16.1 +1.1
CCIG iS Sn 13 34 09.5 -8.7
CCIG Comitan 5.61 105 iP Pn 13 33 16.2 +1.2
CCIG iS Sn 13 33 38.1 -40
CCIG IAmb IAmb 13 33 43.2
comp=Z,2µm,0.9s
CCIG IVmB_BB 13 33 50.6
comp=Z,36µm,1.0s
CCIG IAML 13 34 59.2
comp=Z,23µm,1.0s
JUBC Volcan de Coli 5.75 288⇓eP Pn 13 33 19.1 +2.2
JUBC eS Sn 13 34 18.7 -3.0
COIG Colima 5.77 285⇑eP Pn 13 33 17.8 +0.7
COIG iS Sn 13 34 22.0 -0.1
COIG eS 13 34 26.0
MNGA Volcan de Coli 5.78 288⇑eP Pn 13 33 18.8 +1.4
MNGA eS Sn 13 34 20.0 -2.5
INCO Volcan de Coli 5.78 288⇓eP Pn 13 33 19.2 +1.7
INCO eS Sn 13 34 22.0 -0.7
SOMAC Volcano de Col 5.80 288⇓eP Pn 13 33 19.1 +1.3
SOMAC iS Sn 13 34 21.3 -1.9
COMA Comala 5.87 286 eP Pn 13 33 20.6 +2.1
COMA eS Sn 13 34 26.4 +1.9
PAVE Pavencul 5.97 115⇑eP Pn 13 33 22.5 +2.5
PAVE iS Sn 13 34 25.8 -1.3
CEGR Campo Tres 5.97 286⇓eP Pn 13 33 21.1 +1.1
CEGR eS Sn 13 34 25.3 -1.8
AAIG Aguscalientes 5.99 315⇓eP Pn 13 33 21.9 +1.6

AAIG iS Sn 13 34 29.3 +1.6
CDAR Ciudad de Arme 6.02 282⇓eP Pn 13 33 20.0 -0.5
CDAR eS Sn 13 34 25.3 -2.7
THIG 6.03 118 eP Pn 13 33 23.9 +3.4
THIG iS Sn 13 34 30.1 +2.0
CHUJ Union Juarez 6.07 115⇑eP Pn 13 33 23.3 +1.9
CHUJ eS Sn 13 34 30.4 +0.7
SCIG Sabancuy 6.37 78⇑eP Pn 13 33 22.9 -2.4
SCIG iS Sn 13 34 27.3 -9.3
ZAIG Zacatecas 6.68 319 Pn Pn 13 33 30.5 +0.8
ZAIG Zacatecas 6.68 319⇑P Pn 13 33 31.1 +1.3
ZAIG Zacatecas 6.68 319⇓eP Pn 13 33 31.2 +1.5
ZAIG iS Sn 13 34 45.7 +1.1
STG3 Santiaguito 3, 6.71 116 eP Pn 13 33 34.5 +4.4
CIHU Emiliano Zapat 6.75 284⇑eP Pn 13 33 30.2 -0.3
CIHU eS Sn 13 34 45.9 -0.2
SOKI Kika Raxquin 6.80 115 iP Pn 13 33 35.8 +4.2
SOKI IAmb IAmb 13 34 04.0
comp=Z,2µm,1.1s
SOKI IVmB_BB 13 34 17.4
comp=Z,54µm,1.0s
SOKI IAML 13 35 45.7
comp=Z,13µm,1.0s
QUIS Sacapulas 6.88 110 iP Pn 13 33 33.4 +1.0
QUIS iS Sn 13 33 56.5 -53
QUIS IAmb IAmb 13 33 58.5
comp=Z,2µm,0.6s
QUIS IVmB_BB 13 34 10.0
comp=Z,29µm,1.0s
QUIS IAML 13 35 44.8
comp=Z,11µm,1.0s
SULM Suchitepequez, 6.91 119 eP Pn 13 33 36.8 +4.1
CJM Chamela 7.09 285⇑eP Pn 13 33 34.6 -0.4
CJM iS Sn 13 35 04.6 +10
ANIG Ahuacatlan 7.13 298⇓eP Pn 13 33 38.2 +2.4
ANIG iS Sn 13 34 57.5 +1.9
LNIG Linares 7.24 348⇑eP Pn 13 33 36.7 -0.5
LNIG iS Sn 13 35 01.6 +3.7
FUG Fuego 3 7.46 116 eP Pn 13 33 47.0 +6.7
PETF Flores 7.61 95 Pn Pn 13 33 41.5 -0.8
PETF Flores 7.61 95 iP Pn 13 33 41.7 -0.5
NBG Las Nubes 7.82 113 eP Pn 13 33 50.7 +5.3
MYIG Mrida 8.22 66⇑eP Pn 13 33 51.3 +0.8
MYIG iS Sn 13 35 18.9 -3.0
MRL Marmol 8.23 108 eP Pn 13 33 51.9 +1.0
NUBE Las Nubes 8.62 116 iP Pn 13 33 59.3 +3.1
NUBE IAmb IAmb 13 34 15.7
comp=Z,460nm,1.0s
NUBE IVmB_BB 13 34 53.2
comp=Z,14µm,1.0s
MTO3 Montecristo 8.77 111 Pn Pn 13 33 59.3 +1.0
MTO3 Montecristo 8.77 111 iP Pn 13 33 58.9 +0.6
MTO3 IAmb IAmb 13 34 21.1
comp=Z,250nm,0.9s
MTO3 IVmB_BB 13 34 55.1
comp=Z,5µm,1.0s
PMON Piamonte 9.11 115 iP Pn 13 34 08.8 +6.0
HBVL Hebbronville 9.26 355 Pn Pn 13 34 07.5 +2.7
TEIG Tepich 9.31 73 Pn Pn 13 34 04.4 -1.1
TEIG Tepich 9.31 73 P Pn 13 34 05.0 -0.5
comp=Z,535nm,0.5s,baz=271,slow=12,SNR=183
TEIG S Sn 13 35 40.8 -7.9
comp=Z,3µm,0.6s,baz=348,slow=20,SNR=15
TEIG LR LR 13 38 53.9
comp=Z,14µm,18.3s,baz=254,slow=45
KVTX Kingsville 9.70 359 ⇑P Pn 13 34 12.7 +1.9
MAIG Mazatlaan 9.71 305⇓eP Pn 13 34 12.7 +1.7
MAIG iS Sn 13 35 59.0 +0.5
PDIG Papasquiaro 10.11 317⇓eP Pn 13 34 19.3 +2.8
PDIG iS Sn 13 36 11.9 +3.4
833A Chaparral WMA, 10.58 352 Pn Pn 13 34 24.1 +1.3
833A Chaparral WMA, 10.58 352 P Pn 13 34 24.3 +1.5
baz=171,SNR=80
MCIG Muzquiz 10.60 342⇑eP Pn 13 34 24.9 +1.8
MCIG iS Sn 13 36 21.4 +1.2
SSIG Sanalona 11.17 310⇓eP Pn 13 34 33.1 +2.2
SSIG iS Sn 13 36 34.2 0.0
CRIN San Cristobal 11.53 115 eP Pn 13 34 35.6 -0.3
HPIG 11.65 323 ⇓P Pn 13 34 39.8 +2.1
HPIG 11.65 323⇓eP Pn 13 34 40.1 +2.4
HPIG eS Sn 13 36 48.2 +2.0
HNDO Hondo 11.76 354 Pn 13 34 39.6 +0.7
DRIO Del Rio 11.86 348 Pn Pn 13 34 40.5 +0.2
CNGA Al SSO del Vol 11.93 115 iP Pn 13 34 38.4 -2.9
CNGN Cerro Negro 11.93 115 eP Pn 13 34 36.9 -4.4
MLDN Muldoon 11.95 3 Pn Pn 13 34 41.6 +0.1
MACN El Madrono 11.96 115 iP Pn 13 34 47.1 +5.3
MACN IAmb IAmb 13 35 10.8
comp=Z,57nm,0.5s
MACN IVmB_BB 13 35 17.1
comp=Z,870nm,1.0s
LIMN Finca el Limon 11.97 112 iP Pn 13 34 44.9 +2.9
BCIG La Boquilla 11.98 325 eP Pn 13 34 42.8 +0.7
HKT Hockley 12.23 8 ⇑P Pn 13 34 42.5 -2.7
HKT Hockley 12.23 8 iP Pn 13 34 42.9 -2.3
TX31 Lajitas Ar. Si 12.68 336 Pn Pn 13 34 53.3 +1.7
TXAR Lajitas Array 12.68 336 Pn Pn 13 34 51.9 +0.3
TXAR Lajitas Array 12.68 336 P Pn 13 34 53.1 +1.5
comp=Z,22nm,1.0s,baz=157,slow=14,SNR=94
TXAR S Sn 13 37 13.1 +1.9
comp=Z,15nm,0.8s,baz=166,slow=22,SNR=1.6
TXAR LR LR 13 40 14.3
comp=Z,14µm,20.6s,baz=142,slow=39
TXAR Lajitas Array 12.68 336 P Pn 13 34 51.9 +0.3
SAND Sanderson 12.73 343 Pn Pn 13 34 54.8 +2.5
JCT Junction City 12.76 352 Pn Pn 13 34 54.0 +1.4
JCT Junction City 12.76 352 P Pn 13 34 51.8 -0.8
baz=171,SNR=62
JCT Junction City 12.76 352 ⇑P Pn 13 34 52.0 -0.5
JCT Junction City 12.76 352 P Pn 13 34 54.0 +1.4
SLBS Sierra La Lagu 12.79 299 ⇑P Pn 13 34 54.7 +1.6
BOAB BOACO BROADBAN 12.85 113 Pn Pn 13 34 56.5 +2.6
BOAB BOACO BROADBAN 12.85 113 ⇑P Pn 13 34 54.2 +0.4
435B Jarrell 12.93 1 Pn Pn 13 34 55.8 +1.0
435B Jarrell 12.93 1 P Pn 13 34 54.3 -0.6
baz=181
TSIG Topolobambo 13.02 309⇓eP Pn 13 34 57.4 +1.2
TSIG eS Sn 13 37 21.9 +2.5
HNVL Huntsville, TX 13.07 9 Pn Pn 13 34 57.1 +0.3
LPIG La Paz 13.27 300 P Pn 13 35 00.4 +0.9
comp=Z,66nm,0.4s,baz=88,slow=1.3,SNR=21
LPIG S Sn 13 37 33.0 +7.6
comp=Z,24nm,0.3s,baz=225,slow=3.5,SNR=1.0
LPIG LR LR 13 39 58.5
comp=Z,12µm,21.3s,baz=124,slow=36
LPIG La Paz 13.27 300⇓eP Pn 13 35 00.1 +0.6
LPIG eS Sn 13 37 27.5 +2.1
CSIG Choix 13.29 314⇓eP Pn 13 35 00.7 +0.9
CSIG iS Sn 13 37 17.1 -8.7
ACON Acoyapa 13.49 114 Pn Pn 13 35 04.2 +1.6
ACON Acoyapa 13.49 114 iP Pn 13 35 05.4 +2.8
ACON IAmb IAmb 13 35 30.3
comp=Z,300nm,0.8s
ACON Acoyapa 13.49 114 eP Pn 13 35 04.7 +2.1
LCRUZ La Cruz 13.53 118 eP Pn 13 35 05.2 +2.1
ELI1 Hacienda Flor 13.82 119 eP Pn 13 35 09.3 +2.3
VRLE La Escondida, 13.90 118 eP Pn 13 35 10.0 +1.8
DELF Filadelfia 13.93 120 eP P 13 35 12.6 -2.0
GPS2 Hotel Rincn d 13.93 119 eP Pn 13 35 10.7 +2.1
COLC Colonia 14.10 119 eP Pn 13 35 12.1 +1.3
BAGA Bagaces 14.12 119 eP P 13 35 14.2 -2.6
WHTX Lake Whitney, 14.14 1 P Pn 13 35 09.6 -1.4
baz=181,SNR=41
CUI Cuipilapa 14.14 118 eP Pn 13 35 12.8 +1.5
ESPN Las Esperanzas 14.16 111 eP Pn 13 35 11.2 -0.3
NICO Nicoya 14.18 121 eP Pn 13 35 13.0 +1.1
NATX Nacogdoches 14.19 11 P Pn 13 35 09.6 -2.2
baz=192,SNR=52
NATX Nacogdoches 14.19 11 ⇑P Pn 13 35 08.7 -3.1
VERA Finca Concepci 14.29 117 eP P 13 35 16.1 -2.5
INDI Punta indio, G 14.29 122 iP P 13 35 16.1 -2.5
INDI IAmb IAmb 13 35 28.4
comp=Z,540nm,0.9s
INDI IVmB_BB 13 35 36.8
comp=Z,8µm,1.0s
NYURE Nandayure 14.42 121 eP Pn 13 35 04.4 -10
JUNT Juntas 14.51 119 eP Pn 13 35 17.7 +1.7
JTS Las Juntas de 14.51 119 P Pn 13 35 18.0 +2.0
JTS Las Juntas de 14.51 119 ⇑P Pn 13 35 18.0 +2.0
JTS Las Juntas de 14.51 119 P Pn 13 35 17.8 +1.7
comp=Z,35nm,0.3s,baz=272,slow=7.2,SNR=30
JTS S S 13 38 05.6 -6.4
comp=Z,35nm,1.0s,baz=267,slow=20,SNR=1.6

JTS Las Juntas de 14.51 119 eP P 13 35 19.1 -2.0
CEDE Laguna Cedeo 14.61 118 eP P 13 35 20.8 -1.5
ARE1 Arenal 1 14.61 118 eP Pn 13 35 19.1 +1.7
VACR Volcan Arenal 14.64 118 eP P 13 35 21.1 -1.5
SOR Soroa 14.72 68 Pn Pn 13 35 15.8 -3.0
SOR Soroa 14.72 68 eP Pn 13 35 14.1 -4.8
SOR Soroa 14.72 68 P Pn 13 35 15.8 -3.0
SOCE Pocosol 14.74 118 eP Pn 13 35 20.9 +1.8
ABTX Abilene, Hawle 14.86 354 Pn Pn 13 35 20.7 +0.2
ABTX Abilene, Hawle 14.86 354 P Pn 13 35 19.7 -0.8
baz=173,SNR=65
ARZA Esparza 14.90 120 eP P 13 35 24.8 -0.7
PLPT Palo Pinto 14.96 358 Pn Pn 13 35 22.2 +0.4
TRB2 Turrubares 15.13 119 eP P 13 35 26.4 -1.6
FW03 Perrin-Whitt E 15.18 359 P Pn 13 35 24.2 -0.5
TCS1 Tacares 15.18 119 eP Pn 13 35 26.5 +1.7
SN05 Snyder 5 15.28 350 P Pn 13 35 25.9 0.0
BELE Belen 15.31 119 eP P 13 35 29.6 -0.5
HDC Heredia 15.36 118 P P 13 35 30.5 -0.2
HDC IAmb IAmb 13 35 35.5
comp=Z,1µm,1.7s
HDC Heredia 15.36 118 eP Pn 13 35 25.3 -1.9
HDC Heredia 15.36 118 eP P 13 35 33.8 +3.1
SJS3 Mercedes San J 15.44 119 eP P 13 35 34.6 +3.0
MNTX Cornudas Mount 15.46 335 P Pn 13 35 26.5 -1.7
baz=152,SNR=236
MNTX Cornudas Mount 15.46 335 ⇓P Pn 13 35 28.9 +0.6
CORON Coronado 15.47 118 eP P 13 35 39.4 +7.5
Z35A Perchaven, San 15.48 2 P Pn 13 35 27.6 -0.8
SN07 Snyder 07 15.48 350 P Pn 13 35 27.8 -0.8
CVIMO Finca Echandi 15.49 118 eP Pn 13 35 30.6 +1.6
346A Big Creek Wild 15.49 28 P Pn 13 35 26.1 -2.6
CARI Cariari 15.49 117 eP P 13 35 32.9 +0.8
ABE2 San Pablo 15.57 119 eP P 13 35 32.8 -0.4
POST Post 15.57 348 P Pn 13 35 29.2 -0.5
CGIG 15.58 325⇓eP Pn 13 35 31.1 +1.2
CGIG eS Sn 13 38 22.6 +0.8
VICA Volcano Irazu 15.59 118 eP P 13 35 32.4 -1.3
Z38A Mt. Pleasant 15.60 9 P Pn 13 35 28.8 -1.2
APMT Aspermont 15.61 353 P Pn 13 35 29.4 -0.8
RAFA San Farael, Vo 15.63 118 eP P 13 35 33.2 -0.7
VTLA Turrialba Volc 15.64 118 eP P 13 35 33.2 -0.8
CVTR Volcan Turrial 15.65 118 eP Pn 13 35 29.4 -1.8
VTR0 Volcan Turrial 15.65 118 eP P 13 35 35.7 +1.5
CVTQ Turrialba Volc 15.65 118 eP Pn 13 35 32.4 +1.2
GUYB Guaymas 15.69 312⇓eP Pn 13 35 31.7 +0.5
VTCV VTCV, Calle Va 15.69 118 eP Pn 13 35 30.2 -1.3
VERB Verbena 15.74 118 eP P 13 35 37.3 +2.4
RVLA Villa Bonita 15.75 117 eP P 13 35 35.7 +0.8
LCOCO El Coco 15.79 117 eP P 13 35 39.5 +4.2
VBMS Vicksburg 15.79 23 P Pn 13 35 30.5 -1.9
VBMS IAmb IAmb 13 35 38.2
comp=Z,2µm,1.4s
VBMS Vicksburg 15.79 23 P Pn 13 35 31.4 -1.0
baz=206,SNR=42
VBMS Vicksburg 15.79 23 ⇑P Pn 13 35 28.1 -4.3
IRES Siquirres 15.82 117 eP P 13 35 39.6 +3.9
BUS1 Rivas 15.90 119 eP Pn 13 35 34.6 +0.2
WTFS Witchita Falls 15.91 358 Pn 13 35 33.1 -0.9
WTFS IAmb IAmb 13 35 40.2
comp=Z,1µm,1.6s
143A Socs Landing, 15.92 20 Pn Pn 13 35 31.9 -2.2
DKNS Dickens 16.05 350 IAmb IAmb 13 35 43.9
comp=Z,591nm,0.7s
OCHAL Ojochal 16.23 120 iP P 13 35 42.7 +2.4
OCHAL IVmB_BB 13 36 00.7
comp=Z,13µm,1.0s
OCHAL IAmb IAmb 13 36 01.1
comp=Z,950nm,1.1s
CAMR Camarioca 16.25 68 IAmb IAmb 13 35 43.2
comp=Z,123nm,1.0s
CAMR Camarioca 16.25 68 eP Pn 13 35 34.6 -3.7
CAMR IVMs_BB IVMs_BB 13 41 05.8
comp=E,5µm,5.0s
CAMR IVMs_BB IVMs_BB 13 41 09.4
comp=N,6µm,5.1s
SRIG Santa Rosalia 16.36 308 P P 13 35 42.1 +0.6
SRIG Santa Rosalia 16.36 308 ⇓P Pn 13 35 39.9 +0.2
SRIG Santa Rosalia 16.36 308⇓eP Pn 13 35 40.1 +0.4
SRIG iS Sn 13 38 32.8 -7.6
WLAR White Oak Lake 16.37 14 IAmb IAmb 13 35 44.2
comp=Z,3µm,2.0s
EDPN Palmar Norte 16.46 120 eP P 13 35 44.6 +1.9
DRK0 Durika 16.48 119 iP P 13 35 44.0 +0.9
DRK0 IAmb IAmb 13 36 01.5
comp=Z,2µm,1.0s
DRK0 Durika 16.48 119 eP P 13 35 43.6 +0.4
NZIG Nacozari, Sono 16.48 322⇓eP P 13 35 42.3 -0.8
NZIG eS S 13 38 56.5 +4.0
BRAL Brewton 16.50 34 IAmb IAmb 13 35 42.5
comp=Z,1µm,1.2s
BRAL Brewton 16.50 34 P Pn 13 35 41.1 -0.2
baz=219,SNR=17
BRAL Brewton 16.50 34 ⇑P Pn 13 35 39.2 -2.2
BRIBI Bribri 16.62 117 eP P 13 35 45.2 +0.7
EDP2 Potrero Grande 16.66 120 eP P 13 35 47.3 +2.3
MSTX Muleshoe 16.71 345 P Pn 13 35 43.4 -0.8
baz=163,SNR=59
X34A Smith Ranch, M 16.74 360 IAmb IAmb 13 35 50.7
comp=Z,2µm,1.3s
146A Union 16.74 26 IAmb IAmb 13 35 48.9
comp=Z,2µm,1.3s
451A Vernon 16.82 38 IAmb IAmb 13 35 46.2
comp=Z,2µm,1.4s
X37A Clayton 16.86 7 IAmb IAmb 13 35 51.0
comp=Z,2µm,1.5s
EDAD Golfito 16.87 121 eP P 13 35 50.1 +2.7
WMOK Wichita Mounta 16.90 357 P Pn 13 35 44.7 -1.7
baz=177,SNR=170
WMOK Wichita Mounta 16.90 357 ⇑P Pn 13 35 44.5 -1.8
MIAR Mount Ida 17.10 12 IAmb IAmb 13 35 54.1
comp=Z,2µm,1.3s
MIAR Mount Ida 17.10 12 P Pn 13 35 46.8 -2.0
baz=194,SNR=615
BRU2 Volcan 17.19 119 P P 13 35 53.6 +2.7
BRU2 Volcan 17.19 119 eP P 13 35 53.0 +2.0
X40A Basin Creek Fa 17.20 14 Pn 13 35 49.0 -1.0
121A Cookes Peak, D 17.22 330 P P 13 35 51.0 -0.3
baz=146,SNR=92
MGV Manicaragua 17.28 73 eP Pn 13 35 48.7 -2.4
MGV eS Sn 13 38 53.9 -8.7
W35A Tecumseh 17.30 3 IAmb IAmb 13 35 53.9
comp=Z,2µm,1.4s
553A Crawfordville 17.33 42 P Pn 13 35 50.3 -1.4
553A IAmb IAmb 13 35 52.3
comp=Z,1µm,1.6s
AMTX Amarillo 17.37 349 P Pn 13 35 51.4 -0.8
baz=167
AMTX Amarillo 17.37 349 ⇑P Pn 13 35 51.2 -1.0
OKCSW OKLAHOMA CITY 17.54 1 IAmb IAmb 13 35 56.5
comp=Z,1µm,1.0s
Z47A Carrollton 17.65 28 Pn 13 35 53.3 -2.3
Z47A IAmb IAmb 13 35 59.3
comp=Z,2µm,1.2s
ADOK Arcadia Dam 17.79 1 P Pn 13 35 56.7 -0.6
CAIB Caibarien 17.81 72 eP P 13 35 53.8 -3.8
CAIB eS Sn 13 39 08.3 -7.3
DUN6 Lazy B Ranch 17.88 327 IAmb IAmb 13 36 05.1
comp=Z,3µm,2.0s
OK029 Liberty Lake 17.93 1 P P 13 35 58.5 -0.4
OK029 IAmb IAmb 13 36 01.0
comp=Z,1µm,1.7s
DEOK Depew 18.01 3 IAmb IAmb 13 36 02.4
comp=Z,2µm,1.3s
LRAL Lakeview Retre 18.01 31 P P 13 35 57.9 -1.9
baz=215,SNR=119
TUL3 Leonard 18.13 5 IAmb IAmb 13 36 02.9
comp=Z,2µm,1.6s
TUL3 Leonard 18.13 5 P P 13 35 59.9 -1.2
baz=186,SNR=77
OK052 Battle Ridge R 18.15 3 P P 13 36 00.3 -0.9
OK052 IAmb IAmb 13 36 03.9
comp=Z,2µm,1.2s
Y22D IRIS PASSCAL I 18.16 335 P P 13 36 00.1 -1.4
baz=151
DWPF Disney Wildern 18.20 53 P P 13 35 59.8 -2.2
DWPF Disney Wildern 18.20 53 P P 13 35 60.0 -1.9
baz=239
DWPF Disney Wildern 18.20 53 ⇑P P 13 35 58.5 -3.4
DWPF Disney Wildern 18.20 53 eP P 13 35 59.7 -2.2
BAHB Baha de los 18.22 310⇓eP Pn 13 36 03.3 +0.7
OXF Oxford 18.25 23 IAmb IAmb 13 36 03.7
comp=Z,2µm,1.4s
OXF Oxford 18.25 23 P P 13 36 00.8 -1.5

baz=206,SNR=133
OXF Oxford 18.25 23 ⇑P **P 13 36 00.7 -1.7**
QUOK Quay 18.33 3 IAmb IAmb 13 36 05.2
comp=Z,1μm,1.5s
RLO Rose Lookout 18.46 7 IAmb IAmb 13 36 08.3
comp=Z,1μm,1.9s
060A Indiantown 18.53 57 IAmb IAmb 13 36 08.7
comp=Z,973nm,1.2s
OK048 Pawnee Station 18.56 2 IAmb IAmb 13 36 08.7
comp=Z,2μm,1.6s
TUC Tucson 18.62 323 P **Pn 13 36 07.7 +0.2**
TUC Tucson 18.62 323 P **Pn 13 36 07.7 +0.2**
baz=138
TUC Tucson 18.62 323 ⇓P **Pn 13 36 07.7 +0.2**
TUC Tucson 18.62 323 P **Pn 13 36 07.7 +0.2**
TUC pmax pmax
comp=Z,159nm,0.8s
OK051 E0350 and S346 18.66 2 IAmb IAmb 13 36 09.8
comp=Z,2μm,1.5s
FCAR Ozark Folk Cen 18.71 14 P **P 13 36 06.8 -0.6**
FCAR IAmb IAmb 13 36 09.4
comp=Z,1μm,1.6s
TIGA Tifton 18.71 41 IAmb IAmb 13 36 18.0
comp=Z,971nm,1.3s
TIGA Tifton 18.71 41 P **P 13 36 05.5 -1.9**
baz=227,SNR=29
HHAR Hobbs 18.72 10 P **P 13 36 06.5 -1.2**
ANMO Albuquerque 18.75 337 P **P 13 36 06.8 -1.3**
ANMO Albuquerque 18.75 337 P **Pn 13 36 08.9 -0.2**
baz=153
ANMO Albuquerque 18.75 337 P **Pn 13 36 08.7 -0.4**
comp=Z,66nm,0.7s,baz=234,slow=11,SNR=140
ANMO S **S 13 39 38.1 -0.2**
comp=Z,20nm,1.1s,baz=177,slow=11,SNR=2.1
ANMO LR LR 13 44 01.4
comp=Z,13μm,20.3s,baz=249,slow=39
ANMO Albuquerque 18.75 337 *d i* P **Pn 13 36 08.6 -0.5**
BLOK Blackwell 18.90 1 IAmb IAmb 13 36 12.6
comp=Z,2μm,1.2s
OK032 Salt Plains WL 18.94 359 IAmb IAmb 13 36 13.0
comp=Z,2μm,1.6s
GMAL Guarumal, Vera 18.95 120 *e*P **Pn 13 36 12.9 +1.3**
RTBA Rita Blanca 19.08 348 IAmb IAmb 13 36 17.0
comp=Z,2μm,1.9s
KAN14 Manchester OK 19.09 360 IAmb IAmb 13 36 14.6
comp=Z,2μm,1.5s
LCAR Lake Charles 19.12 17 P **P 13 36 09.3 -2.6**
LCAR IAmb IAmb 13 36 16.4
comp=Z,1μm,1.5s
KAN13 South Haven SW 19.14 1 IAmb IAmb 13 36 15.4
comp=Z,1μm,1.3s
KAN17 Caldwell West 19.17 0 IAmb IAmb 13 36 15.6
comp=Z,2μm,1.5s
MTDJ Mount Denham 19.26 86 P **Pn 13 36 15.5 +0.2**
MTDJ Mount Denham 19.26 86 ⇑P **P 13 36 13.7 0.0**
MTDJ Mount Denham 19.26 86 *e*P **Pn 13 36 14.6 -0.6**
KAN01 Argonia South 19.28 0 IAmb IAmb 13 36 16.9
comp=Z,3μm,1.9s
BCIP Isla Barro Col 19.43 114 *e*P **P 13 36 11.5 -4.0**
HALT Halls 19.53 21 IAmb IAmb 13 36 24.4
comp=Z,2μm,1.4s
214A Organ Pipe Nat 19.58 319 P **P 13 36 17.5 +0.4**
214A IAmb IAmb 13 36 21.6
comp=Z,1μm,1.9s
214A Organ Pipe Nat 19.58 319 P **Pn 13 36 18.0 -0.8**
baz=132,SNR=146
PIX Pinacate 19.73 317 P **P 13 36 14.8 -3.9**
255A Hazlehurst 19.73 42 IAmb IAmb 13 36 28.1
comp=Z,551nm,0.9s
LMGC Las Mercedes 19.78 80 *e*P **P 13 36 19.1 -0.2**
LMGC *e*S **S 13 39 55.4 -3.6**
PVMO Portageville 19.87 19 IAmb IAmb 13 36 25.9
comp=Z,2μm,1.4s
MGMO Mountain Grove 19.89 13 P **P 13 36 19.6 -0.7**
MGMO IAmb IAmb 13 36 32.8
comp=Z,640nm,0.9s
FPAL Fort Paine 19.90 31 P **P 13 36 18.9 -1.6**
STH Stony Hill 19.96 86 *e*P **P 13 36 20.4 -0.9**
STH *e*S **S 13 40 04.9 +2.3**
PBMO Poplar Bluff 19.99 17 IAmb IAmb 13 36 33.1
comp=Z,754nm,1.4s
T42A Van Buren 20.05 16 IAmb IAmb 13 36 27.4
comp=Z,2μm,1.6s
T25A Trinidad 20.13 344 IAmb IAmb 13 36 26.6
comp=Z,1μm,1.9s
T25A Trinidad 20.13 344 P **P 13 36 23.9 +0.7**
baz=161,SNR=167
GOGA Godfrey 20.17 37 P **P 13 36 22.1 -1.3**
GOGA IAmb IAmb 13 36 25.4
comp=Z,1μm,1.6s
GOGA Godfrey 20.17 37 P **P 13 36 21.9 -1.5**
baz=223,SNR=238
GOGA Godfrey 20.17 37 ⇑P **P 13 36 21.7 -1.7**
GOGA Godfrey 20.17 37 P **P 13 36 22.1 -1.3**
GOGA pmax pmax
comp=Z,1μm,1.6s
Y52A Lilburn 20.18 35 IAmb IAmb 13 36 27.3
comp=Z,941nm,1.2s
S39A Bolivar 20.20 10 IAmb IAmb 13 36 25.5
comp=Z,512nm,1.0s
W18A Petrified Fore 20.27 331 IAMs_20 IAMs_20 13 44 53.4
comp=Z,17μm,19.0s
W18A Petrified Fore 20.27 331 P **P 13 36 25.2 +0.6**
baz=145,SNR=55
WVT Waverly 20.28 24 P **P 13 36 22.3 -2.2**
WVT IAmb IAmb 13 36 30.3
comp=Z,658nm,1.4s
WVT Waverly 20.28 24 P **P 13 36 23.1 -1.4**
baz=208
WVT Waverly 20.28 24 ⇑P **P 13 36 22.6 -1.9**
WVT Waverly 20.28 24 P **P 13 36 22.3 -2.2**
WVT pmax pmax
comp=Z,658nm,1.4s
SWET Sewanee 20.30 29 IAmb IAmb 13 36 26.0
comp=Z,541nm,1.2s
CHIV Chivirico 20.33 80 IAmb IAmb 13 36 27.5
comp=Z,2μm,2.0s
CHIV IAMs_20 IAMs_20 13 40 53.2
comp=Z,8μm,21.0s
CHIV Chivirico 20.33 80 *e*P **P 13 36 24.2 -1.0**
V48A Smith Brothers 20.35 26 IAmb IAmb 13 36 27.2
comp=Z,1μm,1.6s
X16A Lo Mia Camp, P 20.56 326 IAMs_20 IAMs_20 13 45 12.4
comp=Z,9μm,18.0s
R32A Long Quarter, 20.57 358 IAmb IAmb 13 36 33.4
comp=Z,2μm,1.9s
W50A Signal Mountai 20.58 30 IAmb IAmb 13 36 29.0
comp=Z,1μm,1.4s
CGM3 Cape Girardeau 20.70 19 IAmb IAmb 13 36 34.6
comp=Z,1μm,1.4s
113A Mohawk Valley, 20.72 319 IAMs_20 IAMs_20 13 44 47.1
comp=Z,9μm,20.0s
HLGC Holguin 20.73 78 *e*P **P 13 36 27.5 -2.0**
SPIG San Pedro Mart 20.77 313 ⇓*i*P **P 13 36 30.9 +0.6**
MARVS Santiago de Cu 20.82 80 *e*P **P 13 36 29.0 -1.5**
MARVS *e*S **S 13 40 14.9 -4.6**
CLTN Cedars of Leba 20.86 27 IAmb IAmb 13 36 35.2
comp=Z,989nm,1.3s
CCM Cathedral Cave 20.98 15 P **P 13 36 30.4 -1.7**
CCM IAmb IAmb 13 36 38.3
comp=Z,1μm,1.2s
CCM Cathedral Cave 20.98 15 P **P 13 36 30.9 -1.2**
baz=198
CCM Cathedral Cave 20.98 15 P **P 13 36 30.4 -1.7**
CCM pmax pmax
comp=Z,1μm,1.2s
R40A Maddies Statio 20.98 12 IAmb IAmb 13 36 34.6
comp=Z,1μm,1.3s
SDCO Great Sand Dun 21.00 343 P **P 13 36 31.1 -1.5**
baz=159,SNR=365
SDCO Great Sand Dun 21.00 343 ⇓P **P 13 36 32.7 +0.1**
CBKS Cedar Bluff 21.01 356 IAmb IAmb 13 36 39.4
comp=Z,599nm,1.1s
CBKS Cedar Bluff 21.01 356 P **P 13 36 31.6 -0.8**
baz=175,SNR=31
CBKS Cedar Bluff 21.01 356 ⇑P **P 13 36 32.8 +0.4**
RCC Rio Carpintero 21.01 81 *e*P **P 13 36 31.5 -1.1**
RCC *e*S **S 13 40 22.9 -0.4**
Y14A Wickenburg 21.07 323 IAmb IAmb 13 36 37.4
comp=Z,1μm,1.9s
Y14A IAMs_20 IAMs_20 13 45 26.2
comp=Z,14μm,20.0s
FVM French Village 21.12 16 IAmb IAmb 13 36 38.5
comp=Z,693nm,1.2s
CPCT Cooper Cave 21.17 31 IAmb IAmb 13 36 34.7
comp=Z,698nm,1.5s

W52A Murphy 21.19 33 IAmb IAmb 13 36 35.6
comp=Z,1μm,1.4s
KSU1 Kansas State U 21.25 3 IAmb IAmb 13 36 36.9
comp=Z,926nm,1.6s
KSU1 Kansas State U 21.25 3 P **P 13 36 34.4 -0.6**
baz=183,SNR=26
KSU1 Kansas State U 21.25 3 ⇑P **P 13 36 33.6 -1.3**
T47A Sharon Grove 21.31 24 IAmb IAmb 13 36 40.3
comp=Z,1μm,1.2s
WUAZ Wupatki 21.38 328 P **P 13 36 38.0 +1.4**
baz=142,SNR=104
WUAZ Wupatki 21.38 328 ⇓P **P 13 36 37.8 +1.1**
S22A 4UR Ranch, Cre 21.40 340 P **P 13 36 37.6 +0.7**
baz=156,SNR=66
MBIG Mexicali 21.41 316 *e*P **P 13 36 36.8 +0.1**
U49A Red Boiling Sp 21.45 27 IAmb IAmb 13 36 38.2
comp=Z,1μm,1.5s
HODGE Hodges 21.46 37 IAmb IAmb 13 36 57.8
comp=Z,822nm,1.4s
MVCO Mesa Verde 21.52 336 IAmb IAmb 13 36 44.1
comp=Z,1μm,1.9s
MVCO IAMs_20 IAMs_20 13 45 41.9
comp=Z,10μm,20.0s
MVCO Mesa Verde 21.52 336 P **P 13 36 38.1 0.0**
baz=151,SNR=231
MVCO Mesa Verde 21.52 336 ⇓P **P 13 36 37.8 -0.3**
KSCO Kaye Shedlock' 21.55 350 IAmb IAmb 13 36 45.1
comp=Z,432nm,1.1s
KSCO Kaye Shedlock' 21.55 350 P **P 13 36 38.1 -0.2**
baz=167,SNR=56
GTBY Guantanamo Bay 21.56 81 IAmb IAmb 13 36 40.1
comp=Z,985nm,1.1s
GTBY Guantanamo Bay 21.56 81 ⇑P **P 13 36 37.4 -1.0**
GTBY Guantanamo Bay 21.56 81 *e*P **P 13 36 38.6 +0.2**
GTBY *e*S **S 13 40 31.8 -2.4**
GTBY IVMs_BB IVMs_BB 13 40 43.6
comp=Z,13μm,5.3s
GTBY IVMs_BB IVMs_BB 13 40 48.8
comp=Z,9μm,6.8s
GLA Glamis 21.58 318 P **P 13 36 39.4 +0.8**
baz=130,SNR=93
TKL Tuckaleechee C 21.70 32 IAmb IAmb 13 36 44.6
comp=Z,1μm,1.4s
TKL Tuckaleechee C 21.70 32 P **P 13 36 38.5 -1.4**
comp=Z,966nm,1.3s,baz=208,slow=8.9,SNR=60
TKL S **S 13 40 32.7 -4.1**
comp=Z,18nm,0.8s,baz=359,slow=17,SNR=1.2
comp=Z,966nm,1.3s
NMDO Nuevo Mundo 21.71 79 P **P 13 36 38.2 -1.8**
NMDO IAmb IAmb 13 36 44.3
comp=Z,114nm,0.9s
NMDO IAMs_20 IAMs_20 13 45 08.5
comp=Z,6μm,21.0s
NMDO Nuevo Mundo 21.71 79 *e*P **P 13 36 38.8 -1.2**
NMDO *e*S **S 13 40 36.3 -0.7**
MOAC Moa 21.73 79 *e*P **P 13 36 39.3 -1.0**
MOAC *e*S **S 13 40 36.6 -1.0**
SLM Saint Louis 21.78 16 IAmb IAmb 13 36 46.4
comp=Z,1μm,1.5s
QMBU Quimbuelo 21.85 80 *e*P **P 13 36 41.5 0.0**
QMBU *e*S **S 13 40 40.0 +0.2**
BLYC Blythe 21.85 320 IAMs_20 IAMs_20 13 45 53.9
comp=Z,13μm,20.0s
V52A Sevierville 21.94 32 IAmb IAmb 13 36 46.0
comp=Z,512nm,1.1s
USIN University of 21.96 22 IAmb IAmb 13 36 46.0
comp=Z,1μm,1.5s
NHSC New Hope 21.97 43 P **P 13 36 41.7 -1.1**
NHSC New Hope 21.97 43 P **P 13 36 43.5 +0.8**
baz=230,SNR=19
NHSC S **S 13 40 44.2 +2.3**
baz=230
NHSC New Hope 21.97 43 ⇑P **P 13 36 41.1 -1.7**
PDMCI Parker Dam,Lak 22.00 322 P **P 13 36 43.3 +0.3**
baz=134,SNR=63
PDMCI S **S 13 40 45.6 +3.3**
baz=134
Q24A Divide 22.05 345 P **P 13 36 44.0 +0.1**
baz=161,SNR=41
Q24A S **S 13 40 46.4 +2.7**
baz=161
PAULI Pauline 22.14 37 IAmb IAmb 13 36 47.1
comp=Z,737nm,1.6s
SWSC Sam W. Stewart 22.14 316 P **P 13 36 44.9 +0.3**
baz=128,SNR=37
SWSC S **S 13 40 49.4 +4.4**
baz=128
IKP In-Ko-Pah, Jac 22.16 315 P **P 13 36 45.7 +0.7**
baz=127,SNR=43
IKP S **S 13 40 49.3 +3.8**
baz=127
V53A Saluda 22.21 34 IAmb IAmb 13 36 49.0
comp=Z,784nm,1.4s
T50A Nancy 22.29 28 IAmb IAmb 13 36 47.5
comp=Z,769nm,1.4s
CBX Cerro Bola 22.34 314 ⇓*e*P **P 13 36 47.0 +0.1**
BC3 Big Chuckawall 22.37 318 P **P 13 36 47.4 +0.3**
baz=130,SNR=171
BC3 S **S 13 40 52.8 +3.7**
baz=130
MASC Masc 22.39 80 *e*P **P 13 36 47.0 -0.4**
MASC *e*S **S 13 40 48.6 -0.9**
W13A Hualapai Mount 22.41 323 IAmb IAmb 13 36 52.4
comp=Z,765nm,1.8s
W13A IAMs_20 IAMs_20 13 46 19.6
comp=Z,11μm,19.0s
TJIG Tijuana 22.42 314 ⇓*e*P **P 13 36 47.0 -0.6**
IRM Iron Mountain 22.50 320 P **P 13 36 49.4 +0.8**
baz=132,SNR=176
IRM S **S 13 40 54.3 +3.0**
baz=132
OLIL Olney 22.51 20 IAmb IAmb 13 36 56.2
comp=Z,1μm,1.4s
TZTN Tazewell 22.51 31 IAmb IAmb 13 36 51.6
comp=Z,1μm,1.4s
TZTN Tazewell 22.51 31 P **P 13 36 46.8 -1.7**
baz=218,SNR=157
TZTN S **S 13 40 53.8 +2.5**
baz=218
TZTN Tazewell 22.51 31 ⇑P **P 13 36 45.8 -2.7**
MONP2 Monument Peak 22.52 315 P **P 13 36 49.6 +0.7**
baz=127,SNR=83
MONP2 S **S 13 40 55.4 +3.5**
baz=127
U15A North Rim 22.56 328 IAmb IAmb 13 36 53.7
comp=Z,1μm,1.9s
NEE2 Needles Airpor 22.60 322 P **P 13 36 49.3 -0.2**
baz=134,SNR=9.2
NEE2 S **S 13 40 56.9 +4.0**
baz=134
KMSC Kings Mountain 22.64 37 IAmb IAmb 13 36 51.3
comp=Z,468nm,1.2s
KMSC Kings Mountain 22.64 37 P **P 13 36 48.3 -1.6**
baz=224,SNR=80
KMSC S **S 13 40 54.1 +0.6**
baz=224
WCI Wyandotte Cave 22.70 24 P **P 13 36 48.4 -2.1**
WCI IAmb IAmb 13 37 13.5
comp=Z,1μm,1.5s
WCI Wyandotte Cave 22.70 24 P **P 13 36 49.6 -0.9**
baz=209
WCI S **S 13 40 55.6 +1.2**
baz=209
WCI Wyandotte Cave 22.70 24 ⇑P **P 13 36 48.2 -2.3**
WCI Wyandotte Cave 22.70 24 P **P 13 36 48.4 -2.1**
WCI pmax pmax
comp=Z,1μm,1.5s
SMCO Snowmass 22.76 341 ⇓P **P 13 36 51.2 -0.4**
BIRD Birdtown, Kers 22.81 39 IAmb IAmb 13 36 55.1
comp=Z,625nm,1.4s
P43A Skaggs, Pawnee 22.92 17 IAmb IAmb 13 37 00.3
comp=Z,1μm,1.5s
BELC Belle Mtn. Jos 22.94 318 P **P 13 36 53.3 +0.1**
baz=130,SNR=98
BELC S **S 13 41 02.3 +3.6**
baz=130
ISCO Idaho Springs 22.95 344 P **P 13 36 52.9 -0.5**
ISCO IAmb IAmb 13 37 17.0
comp=Z,785nm,1.8s
ISCO Idaho Springs 22.95 344 P **P 13 36 53.1 -0.3**
baz=160,SNR=109
ISCO S **S 13 41 01.5 +2.4**
baz=160
ISCO Idaho Springs 22.95 344 ⇓P **P 13 36 53.0 -0.5**
ISCO Idaho Springs 22.95 344 P **P 13 36 52.9 -0.5**
ISCO pmax pmax
comp=Z,785nm,1.8s

109C Camp Elliot, M 22.98 315 P **P 13 36 53.1 -0.3**
baz=126
109C S **S 13 41 03.3 +4.2**
baz=126
TPFO Pinon Flats 22.98 317 P **P 13 36 54.1 +0.5**
baz=128,SNR=51
TPFO S **S 13 41 04.6 +5.2**
baz=128
PFO Pinyon Flats O 22.99 317 P **P 13 36 53.9 +0.2**
PFO IAmb IAmb 13 37 19.6
comp=Z,1μm,1.9s
PFO Pinyon Flats O 22.99 317 P **P 13 36 53.8 +0.2**
baz=128,SNR=42
PFO S **S 13 41 03.7 +4.2**
baz=128
PFO Pinyon Flats O 22.99 317 PcP **PcP 13 40 42.9 +1.2**
comp=Z,16nm,1.1s,baz=71,slow=2.3,SNR=3.6
PFO S **S 13 41 02.4 +2.9**
comp=Z,13nm,1.0s,baz=128,slow=1.9,SNR=4.0
PFO LR LR 13 46 35.9
comp=Z,4μm,19.0s,baz=133,slow=38
PFO Pinyon Flats O 22.99 317 *i* P **P 13 36 54.2 +0.5**
PFO pmax pmax
comp=Z,268nm,1.5s
R49A Shelbyville 23.21 26 IAmb IAmb 13 36 57.5
comp=Z,692nm,1.4s
V55A Taylorsville 23.22 36 IAmb IAmb 13 36 57.5
comp=Z,442nm,1.0s
GMRC Granite Mounta 23.24 320 P **P 13 36 56.4 +0.2**
baz=132,SNR=143
GMRC S **S 13 41 08.3 +4.7**
baz=132
N38A Joes South For 23.25 9 IAmb IAmb 13 36 58.1
comp=Z,723nm,1.1s
OGNE Ogallala 23.36 352 P **P 13 36 56.6 -0.5**
baz=170,SNR=37
OGNE Ogallala 23.36 352 ⇓P **P 13 36 56.5 -0.6**
PKCU Pink Cliffs 23.37 330 IAmb IAmb 13 37 21.6
comp=Z,565nm,1.3s
U54A Nelsons Funny 23.38 34 P **P 13 36 55.4 -1.9**
BRIGG Briggsdale 23.40 347 IAmb IAmb 13 37 21.4
comp=Z,549nm,1.0s
V12A Nelson 23.41 323 IAmb IAmb 13 37 23.4
comp=Z,650nm,1.4s
V12A IAMs_20 IAMs_20 13 46 49.0
comp=Z,9μm,21.0s
W57A Gilead 23.44 39 IAmb IAmb 13 36 59.9
comp=Z,1μm,1.8s
X58A Rowland 23.44 41 IAmb IAmb 13 37 00.0
comp=Z,500nm,0.9s
MURC Murrieta 23.46 316 P **P 13 36 58.5 +0.4**
baz=127,SNR=24
LCMT Little Creek M 23.49 328 IAmb IAmb 13 37 23.9
comp=Z,422nm,1.3s
LCMT IAMs_20 IAMs_20 13 46 56.9
comp=Z,10μm,18.0s
BGNE Belgrade 23.53 359 IAmb IAmb 13 37 23.6
comp=Z,546nm,1.1s
BGNE Belgrade 23.53 359 P **P 13 36 57.3 -1.3**
baz=179,SNR=15
R50A Paris 23.56 27 IAmb IAmb 13 36 59.9
comp=Z,614nm,1.6s
N41A Harden Midland 23.60 13 IAmb IAmb 13 37 21.8
comp=Z,490nm,1.0s
P46A Rosedale 23.60 21 IAmb IAmb 13 37 01.4
comp=Z,361nm,1.1s
HEC Hector,Ludlow 23.69 319 P **P 13 37 00.7 +0.5**
baz=131,SNR=31
BBRC Big Bear Solar 23.69 317 P **P 13 37 01.4 +1.0**
baz=129,SNR=16
HDIL Hopedale 23.83 16 IAmb IAmb 13 37 28.6
comp=Z,1μm,1.6s
HDIL Hopedale 23.83 16 P **P 13 36 59.8 -1.6**
baz=200,SNR=32
HDIL Hopedale 23.83 16 ⇑P **P 13 36 59.6 -1.8**
TUQ Turquoise Moun 23.84 321 P **P 13 37 02.2 +0.5**
baz=133,SNR=103
SRU San Rafael Swe 23.96 335 IAmb IAmb 13 37 27.9
comp=Z,373nm,1.2s
SRU IAMs_20 IAMs_20 13 47 08.9
comp=Z,8μm,20.0s
CCUT Cedar City 23.97 328 IAmb IAmb 13 37 28.2
comp=Z,694nm,1.8s
SCI2 San Clemente I 24.02 313 P **P 13 37 03.9 +0.8**
baz=124,SNR=29
O20A White River Ci 24.03 340 P **P 13 37 03.7 +0.3**
baz=155,SNR=53
U56A King 24.04 36 IAmb IAmb 13 37 30.5
comp=Z,463nm,1.4s
N23A Red Feather La 24.07 345 P **P 13 37 03.7 -0.1**
baz=160,SNR=68
P48A Milroy 24.11 24 IAmb IAmb 13 37 33.7
comp=Z,592nm,1.4s
RRX Edison Barstow 24.13 319 P **P 13 37 05.3 +1.2**
baz=130,SNR=6.9
BFSC Mount Baldy Ra 24.16 317 P **P 13 37 04.8 +0.2**
baz=128,SNR=37
CIS Catalina Islan 24.17 314 P **P 13 37 05.1 +0.5**
baz=125,SNR=43
PAPH Port-au-Prince 24.22 84 IAmb IAmb 13 37 10.9
comp=Z,686nm,1.1s
PAPH Port-au-Prince 24.22 84 *e*P **P 13 37 06.9 +1.8**
PAPH *e*S **S 13 41 24.8 +5.3**
FMP Fort Macarthur 24.27 315 P **P 13 37 06.4 +1.1**
baz=126,SNR=7.6
GSC Goldstone, Bar 24.29 320 P **P 13 37 06.7 +1.1**
baz=131,SNR=90
P18A Preston Nutter 24.29 336 IAmb IAmb 13 37 31.4
comp=Z,312nm,0.9s
P18A IAMs_20 IAMs_20 13 47 21.7
comp=Z,11μm,19.0s
SFIN Lafayette 24.32 20 IAmb IAmb 13 37 35.9
comp=Z,804nm,1.6s
SFIN Lafayette 24.32 20 P **P 13 37 04.9 -0.9**
baz=205,SNR=53
SCIA State Center 24.35 8 P **P 13 37 04.5 -1.5**
baz=190,SNR=27
SCIA State Center 24.35 8 ⇑P **P 13 37 04.7 -1.3**
SHOC Shoshone, Teco 24.36 321 P **P 13 37 06.5 +0.2**
baz=133,SNR=13
P49A Miami Univ. Ec 24.45 25 P **P 13 37 04.7 -2.3**
baz=211,SNR=77
PASC Pasadena Art C 24.46 316 IAmb IAmb 13 37 32.4
comp=Z,383nm,1.4s
Q51A Peebles 24.61 28 IAmb IAmb 13 37 38.1
comp=Z,464nm,1.2s
DECC Green Verdugo 24.61 316 P **P 13 37 09.1 +0.6**
baz=126
S54A Dingess, Beckl 24.61 33 IAmb IAmb 13 37 10.3
comp=Z,1μm,1.6s
BLA Blacksburg 24.64 35 IAmb IAmb 13 37 11.3
comp=Z,698nm,1.1s
BLA Blacksburg 24.64 35 P **P 13 37 08.2 -0.7**
baz=223,SNR=47
BLA Blacksburg 24.64 35 ⇑P **P 13 37 07.8 -1.0**
PRN Pahroc Range 24.74 326 IAmb IAmb 13 37 36.7
comp=Z,408nm,1.2s
PRN Pahroc Range 24.74 326 ⇑P **P 13 37 10.3 +0.5**
EDW2 Edwards Air Fo 24.77 317 P **P 13 37 10.2 +0.2**
baz=128,SNR=68
CNNC Cliffs of the 24.79 42 IAmb IAmb 13 37 13.4
comp=Z,494nm,1.1s
CNNC Cliffs of the 24.79 42 P **P 13 37 08.9 -1.2**
baz=231
GWY Greenwater Val 24.79 321 IAmb IAmb 13 37 36.8
comp=Z,634nm,1.4s
L40A Anamosa 24.83 12 IAmb IAmb 13 37 12.6
comp=Z,426nm,1.2s
SNCC San Nicolas Is 24.86 312 IAmb IAmb 13 37 38.1
comp=Z,783nm,1.8s
SNCC San Nicolas Is 24.86 312 P **P 13 37 11.2 +0.4**
baz=123,SNR=5.6
RDMU Red Mountain 24.87 338 IAmb IAmb 13 37 37.4
comp=Z,590nm,0.8s
RDMU IAMs_20 IAMs_20 13 47 31.9
comp=Z,8μm,22.0s
O48B Farmland 24.90 23 IAmb IAmb 13 37 11.9
comp=Z,310nm,0.9s
O48B Farmland 24.90 23 P **P 13 37 09.2 -1.9**
baz=210,SNR=18
LRMC Laurel Mtn Rad 24.95 319 P **P 13 37 12.7 +1.0**
baz=130,SNR=84
CCAC Calif City Air 24.95 318 IAmb IAmb 13 37 38.1
comp=Z,401nm,1.2s
M44A Midewin, Midew 24.95 18 IAmb IAmb 13 37 34.4
comp=Z,841nm,1.5s
TPNV Topopah Spring 25.07 323 P **P 13 37 14.2 +1.3**
baz=134,SNR=92

OSI	Osito Audit: C	25.09	316	P	P	13 37 13.3	+0.4
	baz=126						
FURC	Furnace Creek,	25.10	322	P	P	13 37 13.7	+0.9
	baz=133,SNR=12						
L42A	Oliver, Polo	25.11	14	IAmb	IAmb	13 37 35.0	
	comp=Z,310nm,0.9s						
P51A	Williamsport	25.11	28	IAmb	IAmb	13 37 14.8	
	comp=Z,487nm,1.0s						
T57A	Hurt	25.14	37	IAmb	IAmb	13 37 16.4	
	comp=Z,433nm,0.9s						
RWWY	Rawlins	25.14	343	IAmb	IAmb	13 37 38.9	
	comp=Z,519nm,0.9s						
SDDR	Presa de Saban	25.16	83	IAmb	IAmb	13 37 17.8	
	comp=Z,610nm,1.1s						
SDDR	Presa de Saban	25.16	83	⇑P	P	13 37 15.1	+1.3
SDDR	Presa de Saban	25.16	83	eP	P	13 37 15.1	+1.3
SDDR				eS	S	13 41 36.8	+2.1
MPU	Maple Canyon	25.18	334	IAMs_20	IAMs_20	13 47 49.2	
	comp=Z,7μm,21.0s						
WCT	Wildcat Mounta	25.18	322	IAmb	IAmb	13 37 41.2	
	comp=Z,1μm,2.0s						
MPMC	Manual Prospec	25.20	320	P	P	13 37 14.3	+0.2
	baz=131,SNR=162						
N47A	Urbana	25.25	22	IAmb	IAmb	13 37 36.3	
	comp=Z,274nm,0.8s						
BSUT	Blindstream Ca	25.28	336	IAmb	IAmb	13 37 40.3	
	comp=Z,355nm,1.0s						
BSUT				IAMs_20	IAMs_20	13 47 55.7	
	comp=Z,11μm,21.0s						
NLU	North Lily Min	25.31	334	IAMs_20	IAMs_20	13 47 54.8	
	comp=Z,9μm,20.0s						
SCZ2	Santa Cruz Isl	25.34	314	P	P	13 37 15.7	+0.5
	baz=124,SNR=9.1						
GRTK	Grand Turk	25.36	77	P	P	13 37 15.7	+0.3
GRTK				IAmb	IAmb	13 37 20.1	
	comp=Z,766nm,1.1s						
GRTK	Grand Turk	25.36	77	⇑P	P	13 37 17.7	+2.4
GRTK	Grand Turk	25.36	77	eP	P	13 37 17.8	+2.4
GRTK				eS	S	13 41 43.2	+5.6
ARVC	Arvin	25.46	317	P	P	13 37 17.0	+0.7
	baz=127,SNR=23						
ISA	Isabella, Lake	25.56	318	P	P	13 37 18.7	+1.4
	baz=128,SNR=70						
SPR3	Spring Creek 3	25.57	329	IAmb	IAmb	13 37 43.1	
	comp=Z,456nm,1.1s						
R55A	Marlinton	25.59	34	IAmb	IAmb	13 37 19.8	
	comp=Z,539nm,1.1s						
JLU	Jordanelle	25.60	335	IAMs_20	IAMs_20	13 48 14.4	
	comp=Z,8μm,20.0s						
P52A	Corning	25.65	29	IAmb	IAmb	13 37 38.2	
	comp=Z,1μm,1.6s						
P52A	Corning	25.65	29	P	P	13 37 16.5	-1.3
	baz=216,SNR=35						
SBC	Santa Barbara	25.65	315	P	P	13 37 18.1	+0.1
	baz=124						
R11B	Troy Canyon, C	25.72	326	IAmb	IAmb	13 37 44.6	
	comp=Z,409nm,1.3s						
R11B	Troy Canyon, C	25.72	326	P	P	13 37 19.4	+0.7
	baz=138,SNR=115						
L44A	Lake County Fo	25.72	17	IAmb	IAmb	13 37 21.7	
	comp=Z,367nm,1.1s						
L44A	Lake County Fo	25.72	17	P	P	13 37 18.3	-0.2
	baz=202,SNR=13						
BCW	Bitter Crk WRg	25.73	316	IAmb	IAmb	13 37 45.6	
	comp=Z,368nm,1.1s						
GRAC	Grapevine Rang	25.75	322	IAMs_20	IAMs_20	13 47 56.1	
	comp=Z,8μm,19.0s						
GRAC	Grapevine Rang	25.75	322	P	P	13 37 20.0	+1.1
	baz=132,SNR=61						
ACSO	Alum Creek Sta	25.76	27	IAmb	IAmb	13 37 20.0	
	comp=Z,937nm,1.6s						
ACSO	Alum Creek Sta	25.76	27	P	P	13 37 17.4	-1.5
	baz=214,SNR=46						
ACSO	Alum Creek Sta	25.76	27	⇑P	P	13 37 17.1	-1.8
CTU	Camp Tracy	25.80	335	IAMs_20	IAMs_20	13 48 21.6	
	comp=Z,7μm,20.0s						
OTAV	Otavalo	25.81	130	P	P	13 37 21.7	+1.7
OTAV	Otavalo	25.81	130	P	P	13 37 21.7	+1.7
OTAV				pmax	pmax		
	comp=Z,219nm,1.4s						
CWC	Cottonwood Cre	25.81	320	P	P	13 37 19.7	+0.1
	baz=130						
DUG	Dugway, Tooele	25.83	333	IAMs_20	IAMs_20	13 48 11.5	
	comp=Z,8μm,21.0s						
DUG	Dugway, Tooele	25.83	333	P	P	13 37 20.3	+0.6
	baz=145,SNR=31						
DUG	Dugway, Tooele	25.83	333	⇓P	P	13 37 19.6	0.0
JFWS	Jewell Farm	25.84	13	IAmb	IAmb	13 37 21.9	
	comp=Z,527nm,1.2s						
JFWS	Jewell Farm	25.84	13	P	P	13 37 18.1	-1.5
	baz=197,SNR=94						
JFWS	Jewell Farm	25.84	13	⇓P	P	13 37 18.0	-1.6
S57A	Dark Hollow, R	25.85	36	IAmb	IAmb	13 37 21.3	
	comp=Z,775nm,1.6s						
Q12A	Willow Creek R	25.85	328	IAmb	IAmb	13 37 45.6	
	comp=Z,457nm,1.3s						
Q12A				IAMs_20	IAMs_20	13 48 25.3	
	comp=Z,11μm,18.0s						
K22A	Casper	25.87	345	P	P	13 37 19.4	-0.6
	baz=160,SNR=38						
ECSD	EROS Data Cent	25.88	2	P	P	13 37 18.9	-1.0
	baz=182,SNR=179						
ECSD	EROS Data Cent	25.88	2	⇓P	P	13 37 18.4	-1.5
P53A	Whipple	25.88	30	IAmb	IAmb	13 37 23.2	
	comp=Z,790nm,1.4s						
GMN	Gold Mountain	25.90	323	IAmb	IAmb	13 37 48.2	
	comp=Z,434nm,1.5s						
PKM	Mcpherson Peak	25.97	315	P	P	13 37 21.8	+0.7
	baz=125,SNR=54						
TCUT	Toone Canyon	26.03	336	IAMs_20	IAMs_20	13 48 29.6	
	comp=Z,12μm,21.0s						
L46A	Eue Claire	26.06	20	IAmb	IAmb	13 37 57.3	
	comp=Z,491nm,1.2s						
VES	Vestal, Richgr	26.06	318	P	P	13 37 22.6	+1.0
	baz=128,SNR=7.0						
K43A	Burlington	26.10	16	IAmb	IAmb	13 37 25.1	
	comp=Z,505nm,1.2s						
T59A	Double "B" Far	26.12	39	IAmb	IAmb	13 37 24.5	
	comp=Z,514nm,1.5s						
TIN	Tinemaha, Big	26.30	321	P	P	13 37 25.2	+1.2
	baz=131						
ROSC	El Rosal	26.32	117	IAmb	IAmb	13 37 49.0	
	comp=Z,670nm,1.4s						
ROSC	El Rosal	26.32	117	P	P	13 37 27.2	+2.6
	comp=Z,157nm,1.0s,baz=102,slow=4.0,SNR=21						
ROSC				S	S	13 42 03.1	+10
	comp=Z,3.6nm,0.3s,baz=47,slow=23,SNR=1.1						
SMMC	Simmler	26.34	316	P	P	13 37 25.7	+1.5
	baz=126,SNR=44						
I37A	Lemond, Waseca	26.40	7	IAmb	IAmb	13 37 28.6	
	comp=Z,186nm,0.7s						
HWUT	Hardware Ranch	26.51	336	IAmb	IAmb	13 37 51.0	
	comp=Z,269nm,0.9s						
HWUT				IAMs_20	IAMs_20	13 48 46.3	
	comp=Z,11μm,21.0s						
HWUT	Hardware Ranch	26.51	336	⇓P	P	13 37 25.7	-0.2
ANTS	Antisana-Sarah	26.52	131	IAmb	IAmb	13 37 59.3	
	comp=Z,624nm,1.1s						
BGU	Big Grassy Mou	26.52	333	IAmb	IAmb	13 37 51.4	
	comp=Z,699nm,1.8s						
VOG	Valley Oaks Go	26.55	318	P	P	13 37 27.0	+1.0
	baz=128						
O53A	New Philadelph	26.56	29	IAmb	IAmb	13 37 48.6	
	comp=Z,830nm,1.5s						
O53A	New Philadelph	26.56	29	P	P	13 37 25.6	-0.5
	baz=217,SNR=18						
SUSD	Miller	26.58	358	P	P	13 37 25.4	-0.9
	baz=177						
N51A	Ashland	26.59	27	IAmb	IAmb	13 37 49.0	
	comp=Z,588nm,1.6s						
L48A	N Adams	26.64	23	IAmb	IAmb	13 37 28.2	
	comp=Z,267nm,0.9s						
Q56A	Snyder Ridge,	26.65	34	IAmb	IAmb	13 37 29.1	
	comp=Z,434nm,1.1s						
M50A	Fremont	26.71	25	IAmb	IAmb	13 37 52.8	
	comp=Z,708nm,1.4s						
MCWV	Mont Chateau	26.77	32	IAmb	IAmb	13 37 30.4	
	comp=Z,687nm,1.1s						
MCWV	Mont Chateau	26.77	32	P	P	13 37 27.2	-0.9
	baz=221,SNR=75						
MCWV				S	S	13 42 00.7	+1.2
	baz=221						
MCWV	Mont Chateau	26.77	32	⇑P	P	13 37 27.1	-0.9
RSSD	Black Hills	26.77	350	P	P	13 37 28.0	-0.2
RSSD	Black Hills	26.77	350	P	P	13 37 27.4	-0.7
	baz=167						
RSSD	Black Hills	26.77	350	⇓P	P	13 37 27.7	-0.5
RSSD	Black Hills	26.77	350	P	P	13 37 28.0	-0.2
RSSD				pmax	pmax		
	comp=Z,366nm,2.0s						
BW06	Boulder Array	26.83	341	P	P	13 37 28.1	-0.7
	baz=154,SNR=70						
BW06	Boulder Array	26.83	341	⇑P	P	13 37 27.9	-0.9
PD31	Pinedale Array	26.83	341	IAmb	IAmb	13 37 54.7	
	comp=Z,678nm,1.8s						
PDAR	Pinedale Array	26.83	341	P	P	13 37 27.6	-1.1
PDAR	Pinedale Array	26.83	341	P	P	13 37 28.1	-0.7
	comp=Z,20nm,0.7s,baz=137,slow=10,SNR=80						
PDAR				PcP	PcP	13 40 49.6	-0.6
	comp=Z,12nm,1.1s,baz=147,slow=5.2,SNR=3.5						
PDAR				S	S	13 41 59.1	-1.7
	comp=Z,1.6nm,0.9s,baz=25,slow=25,SNR=1.2						
PDAR				LR	LR	13 49 10.5	
	comp=Z,3μm,20.5s,baz=144,slow=39						
PDAR				P3KPbc		14 10 04.8	
	comp=Z,0.6nm,0.9s,baz=38,slow=4.6,SNR=4.7						
	comp=Z,20nm,0.7s						
O54A	Avella	26.91	30	IAmb	IAmb	13 37 31.5	
	comp=Z,591nm,1.3s						
Q09A	Carvers	26.93	325	IAmb	IAmb	13 37 58.5	
	comp=Z,937nm,1.6s						
MLAC	Mammoth, Mammo	27.05	321	P	P	13 37 31.8	+1.0
	baz=131,SNR=6.7						
CBN	Corbin Frederi	27.05	37	IAmb	IAmb	13 37 32.3	
	comp=Z,290nm,1.2s						
CBN	Corbin Frederi	27.05	37	P	P	13 37 28.5	-2.0
	baz=227						
OMMB	Old Mammoth Mi	27.13	321	IAMs_20	IAMs_20	13 48 29.7	
	comp=Z,6μm,22.0s						
N53A	Lisbon	27.18	29	IAmb	IAmb	13 38 15.8	
	comp=Z,783nm,1.4s						
NV11	Mina Array Sit	27.19	323	IAmb	IAmb	13 37 58.3	
	comp=Z,414nm,1.3s						
AAM	Ann Arbor	27.23	23	IAmb	IAmb	13 38 15.3	
	comp=Z,272nm,1.1s						
AAM	Ann Arbor	27.23	23	P	P	13 37 29.8	-2.3
	baz=210,SNR=5.8						
LHV	Little Huntoon	27.27	323	IAmb	IAmb	13 38 02.3	
	comp=Z,458nm,1.2s						
NVAR	Mina Array Bea	27.27	323	P	P	13 37 33.2	+0.4
NVAR	Mina Array Bea	27.27	323	P	P	13 37 34.0	+1.2
	comp=Z,30nm,0.9s,baz=140,slow=8.3,SNR=136						
NVAR				pP	pP	13 37 50.2	+2.0
	comp=Z,19nm,0.7s,baz=143,slow=9.1,SNR=5.7						
NVAR				PcP	PcP	13 40 52.6	+1.3
	comp=Z,21nm,1.0s,baz=141,slow=4.7,SNR=5.2						
NVAR				LR	LR	13 49 46.6	
	comp=Z,8μm,18.4s,baz=132,slow=39						
NVAR				P3KPbc		14 10 02.0	
	comp=Z,0.2nm,0.6s,baz=302,slow=5.2,SNR=1.6						
NVAR				PKPPKP	P'P'df	14 11 57.8	-3.7
	comp=Z,0.2nm,0.3s,baz=209,slow=1.7,SNR=1.8						
	comp=Z,30nm,0.9s						
AHID	Auburn Hatcher	27.34	338	IAmb	IAmb	13 37 58.2	
	comp=Z,320nm,1.0s						
AHID	Auburn Hatcher	27.34	338	⇓P	P	13 37 33.0	-0.4
ELK	Elko	27.37	330	⇓P	P	13 37 34.0	+0.3
ELK	Elko	27.37	330	P	P	13 37 34.5	+0.9
	comp=Z,23nm,1.0s,baz=147,slow=6.8,SNR=52						
ELK				PcP	PcP	13 40 51.0	-0.5
	comp=Z,26nm,1.2s,baz=87,slow=2.7,SNR=3.8						
ELK				S	S	13 42 09.6	+0.1
	comp=Z,2.3nm,1.0s,baz=353,slow=23,SNR=0.7						
ELK				LR	LR	13 49 33.1	
	comp=Z,13μm,18.6s,baz=142,slow=39						
	comp=Z,23nm,1.0s						
PMPB	Monarch Peak	27.40	317	IAmb	IAmb	13 37 59.5	
	comp=Z,642nm,1.4s						
RYN	Ryan	27.53	323	IAmb	IAmb	13 38 04.8	
	comp=Z,520nm,1.4s						
RYN				IAMs_20	IAMs_20	13 49 17.1	
	comp=Z,6μm,20.0s						
M52A	Chesterland	27.54	27	IAmb	IAmb	13 37 35.6	
	comp=Z,523nm,1.4s						
KVN	Kaiserville	27.59	324	IAMs_20	IAMs_20	13 49 53.4	
	comp=Z,7μm,18.0s						
P57A	Homestead Farm	27.59	34	IAmb	IAmb	13 37 37.6	
	comp=Z,353nm,1.2s						
SPMN	Marine on St.	27.66	8	IAmb	IAmb	13 38 22.3	
	comp=Z,447nm,1.1s						
SPMN	Marine on St.	27.66	8	P	P	13 37 33.8	-2.2
	baz=190,SNR=44						
SPMN				S	S	13 42 11.5	-2.0
	baz=190						
M53A	WI Miller and	27.76	28	IAmb	IAmb	13 37 37.7	
	comp=Z,307nm,1.2s						
M53A	WI Miller and	27.76	28	P	P	13 37 35.4	-1.5
	baz=217,SNR=26						
M53A				S	S	13 42 14.1	-1.0
	baz=217						
SDV	Santo Domingo	27.83	105	P	P	13 37 39.2	+1.2
SDV				IAmb	IAmb	13 37 58.4	
	comp=Z,333nm,0.9s						
SDV	Santo Domingo	27.83	105	LR	LR	13 51 14.4	
	comp=Z,2μm,18.3s,baz=320,slow=42						
SDV	Santo Domingo	27.83	105	eP	P	13 37 38.6	+0.6
H43A	Windswept, Lux	27.89	15	IAmb	IAmb	13 38 27.2	
	comp=Z,325nm,1.3s						
I45A	Fountain	27.91	18	IAmb	IAmb	13 38 40.3	
	comp=Z,208nm,0.8s						
LOHW	Long Hollow	27.93	340	IAMs_20	IAMs_20	13 49 44.7	
	comp=Z,8μm,21.0s						
PCDR	Punta Cana, DR	27.93	84	IAmb	IAmb	13 38 05.7	
	comp=Z,594nm,1.1s						
WAKR	Walker	27.98	322	IAMs_20	IAMs_20	13 49 46.0	
	comp=Z,7μm,21.0s						
FXWY	Fox Creek	28.09	339	IAmb	IAmb	13 38 04.5	
	comp=Z,754nm,1.8s						
MOOW	Moose Ponds	28.09	340	IAmb	IAmb	13 38 05.1	
	comp=Z,254nm,0.9s						
MOOW				IAMs_20	IAMs_20	13 49 51.1	
	comp=Z,7μm,21.0s						
SAO	San Andreas Ge	28.14	317	⇑P	P	13 37 41.2	+0.8
ALLY	Alegheny Colle	28.17	29	IAmb	IAmb	13 37 41.5	
	comp=Z,233nm,1.0s						
YERR	Yerington	28.19	323	P	P	13 37 42.1	+1.1
YERR					PcP	13 40 56.2	+2.8
PNTR	Pine Nut	28.46	323	IAMs_20	IAMs_20	13 49 47.8	
	comp=Z,6μm,20.0s						
SSPA	Standing Stone	28.50	33	P	P	13 37 42.5	-0.9
SSPA				IAmb	IAmb	13 37 45.2	
	comp=Z,486nm,1.2s						
SSPA	Standing Stone	28.50	33	P	P	13 37 42.3	-1.2
	baz=223						
SSPA				S	S	13 42 27.9	+1.1
	baz=223						
SSPA	Standing Stone	28.50	33	⇑P	P	13 37 42.4	-1.0
YPP	Pitchstone Pla	28.58	340	IAmb	IAmb	13 38 25.0	
	comp=Z,598nm,2.0s						
ERPA	Erie	28.61	28	P	P	13 37 42.5	-1.9
	baz=217,SNR=8.5						
ERPA				S	S	13 42 27.0	-1.4
	baz=217						
ERPA	Erie	28.61	28	⇑P	P	13 37 41.4	-3.0
M55A	Ridgway	28.68	31	IAmb	IAmb	13 37 46.6	
	comp=Z,643nm,1.1s						
EMB	Emerald Bay	28.68	322	IAmb	IAmb	13 38 11.9	
	comp=Z,393nm,1.2s						
EMB				IAMs_20	IAMs_20	13 50 16.6	
	comp=Z,6μm,18.0s						
E28A	Huff	28.80	356	IAmb	IAmb	13 38 10.1	
	comp=Z,620nm,1.4s						
YMP	Mirror Lake Pl	28.80	342	IAmb	IAmb	13 38 26.6	
	comp=Z,433nm,1.3s						
MPK	Martis Peak	28.85	322	IAmb	IAmb	13 38 13.7	
	comp=Z,371nm,1.2s						
MPK				IAMs_20	IAMs_20	13 50 00.1	
	comp=Z,6μm,19.0s						
RLMT	Red Lodge	28.89	343	IAmb	IAmb	13 38 12.0	
	comp=Z,570nm,1.0s						
RLMT	Red Lodge	28.89	343	P	P	13 37 46.1	-1.0
	baz=157,SNR=48						
RLMT	Red Lodge	28.89	343	⇑P	P	13 37 46.7	-0.4
I49A	Point Hope	28.96	23	IAmb	IAmb	13 38 37.5	
	comp=Z,333nm,1.4s						
YMR	Madison River	28.98	340	IAmb	IAmb	13 38 13.7	
	comp=Z,384nm,1.0s						
G45A	Suttons Bay	29.00	18	IAmb	IAmb	13 38 40.5	
	comp=Z,297nm,1.1s						
GLMI	Grayling	29.12	19	IAmb	IAmb	13 38 43.2	
	comp=Z,215nm,0.8s						
GLMI	Grayling	29.12	19	P	P	13 37 47.5	-1.4
	baz=206,SNR=7.9						
COWI	Conover	29.12	12	⇓P	P	13 37 47.2	-1.7
E38A	The Farm, Brul	29.19	9	IAmb	IAmb	13 38 37.2	
	comp=Z,509nm,1.2s						
HLID	Hailey	29.28	335	P	P	13 37 50.1	-0.5
	baz=146,SNR=60						
HLID				S	S	13 42 43.2	+3.8
	baz=146						
HLID	Hailey	29.28	335	⇓P	P	13 37 50.4	-0.2
M57A	Sunshine Farm,	29.40	33	IAmb	IAmb	13 37 53.1	
	comp=Z,328nm,1.3s						
WVNY	West Valley, N	29.47	30	IAmb	IAmb	13 37 54.3	
	comp=Z,314nm,1.1s						
UUPR	Utuado, UPR, P	29.53	84	IAmb	IAmb	13 37 56.2	
	comp=Z,433nm,1.4s						
MFID	Camas Ranch	29.75	333	IAMs_20	IAMs_20	13 50 38.4	
	comp=Z,7μm,20.0s						
L56A	Greenwood	29.77	31	IAmb	IAmb	13 37 56.3	
	comp=Z,439nm,1.2s						
MCCM	Marconi Confer	29.87	318	IAmb	IAmb	13 38 21.6	
	comp=Z,283nm,1.2s						
MDND	Maddock	30.01	358	IAmb	IAmb	13 38 21.4	
	comp=Z,481nm,1.0s						
MDND	Maddock	30.01	358	P	P	13 37 55.4	-1.4
	baz=176,SNR=24						
MDND				S	S	13 42 49.5	-0.8
	baz=176						
BOZ	Bozeman (W)	30.03	340	IAmb	IAmb	13 38 22.9	
	comp=Z,908nm,2.0s						
BOZ	Bozeman (W)	30.03	340	P	P	13 37 57.1	0.0
	baz=153,SNR=36						
BOZ				S	S	13 42 51.8	+0.8
	baz=153						
BOZ	Bozeman (W)	30.03	340	⇓P	P	13 37 57.0	0.0
SJG	San Juan	30.08	84	⇑P	P	13 37 58.5	+0.8
SJG	San Juan	30.08	84	LR	LR	13 49 48.2	
	comp=Z,2μm,21.7s,baz=282,slow=36						
SJG	San Juan	30.08	84	P	P	13 37 58.5	+0.8
SJG				pP	pP	13 38 14.6	+1.1
SJG				sP	sP	13 38 21.1	0.0
GCPR	Guaynabo City	30.12	84	IAmb	IAmb	13 38 23.2	
	comp=Z,206nm,1.1s						
IGPR	InterUniversit	30.13	85	PcP	PcP	13 40 59.7	+1.2
DLMT	Dillon	30.14	339	IAMs_20	IAMs_20	13 51 08.3	
	comp=Z,7μm,21.0s						
D41A	Chassel	30.16	13	IAmb	IAmb	13 38 50.8	
	comp=Z,330nm,1.2s						
BAUV	El Baul	30.20	103	P	P	13 37 56.4	-2.4
BAUV				IAmb	IAmb	13 38 17.0	
	comp=Z,212nm,1.0s						
WVOR	Wild Horse Val	30.31	329	IAMs_20	IAMs_20	13 51 10.2	
	comp=Z,8μm,22.0s						
WVOR	Wild Horse Val	30.31	329	⇓P	P	13 37 59.6	+0.1
HUMP	Col San Antoni	30.36	84	IAmb	IAmb	13 38 24.5	
	comp=Z,244nm,1.1s						
AGMN	Agassiz Nation	30.46	3	IAmb	IAmb	13 38 05.2	
	comp=Z,194nm,0.7s						
AGMN	Agassiz Nation	30.46	3	P	P	13 37 59.4	-1.4
	baz=184,SNR=158						
AGMN				S	S	13 42 54.5	-3.0
	baz=184						
AGMN	Agassiz Nation	30.46	3	⇑P	P	13 37 58.0	-2.7
J55A	Hilton	30.50	29	IAmb	IAmb	13 38 02.8	
	comp=Z,337nm,1.2s						
EYMN	Ely	30.51	8	P	P	13 37 59.3	-1.8
	baz=192,SNR=69						
EYMN				S	S	13 42 56.1	-2.1
	baz=192						
EYMN	Ely	30.51	8	⇓P	P	13 37 59.2	-2.0
E46A	Sault Ste Mari	30.60	18	IAmb	IAmb	13 39 05.1	
	comp=Z,402nm,1.9s						
BINY	Binghamton	30.61	33	IAmb	IAmb	13 38 03.9	
	comp=Z,398nm,1.1s						
BINY	Binghamton	30.61	33	P	P	13 38 01.3	-1.0
	baz=224,SNR=66						
BINY				S	S	13 43 01.2	+1.2
	baz=224						
BINY	Binghamton	30.61	33	⇑P	P	13 38 01.2	-1.0
HATC	Hat Creek Radi	30.68	323	IAmb	IAmb	13 38 28.9	
	comp=Z,285nm,1.3s						
HATC				IAMs_20	IAMs_20	13 50 38.4	
	comp=Z,5μm,21.0s						
K57A	Scipio Center	30.73	32	IAmb	IAmb	13 38 05.3	
	comp=Z,375nm,1.1s						
TRNY	Table Rock, Ra	30.83	36	IAmb	IAmb	13 38 05.8	
	comp=Z,220nm,1.0s						
PAL	Palisades	30.92	37	IAmb	IAmb	13 38 06.4	
	comp=Z,449nm,1.6s						
PAL	Palisades	30.92	37	P	P	13 38 03.2	-1.6
	baz=229,SNR=18						
PAL				S	S	13 43 05.7	+1.0
	baz=229						
J08A	Circle Bar Ran	30.92	330	IAmb	IAmb	13 38 30.6	
	comp=Z,410nm,1.0s						
J08A				IAMs_20	IAMs_20	13 51 37.3	
	comp=Z,9μm,19.0s						
DGMT	Dagmar	31.04	352	PcP	PcP	13 41 00.5	+0.2
DGMT	Dagmar	31.04	352	P	P	13 38 04.8	-1.1
	baz=168,SNR=9.7						
DGMT				S	S	13 43 08.1	+1.6
	baz=168						
DGMT	Dagmar	31.04	352	⇑P	P	13 38 05.5	-0.3
L59A	Walton	31.10	34	IAmb	IAmb	13 38 08.3	
	comp=Z,582nm,1.4s						
SADO	Sadowa	31.10	26	⇓P	P	13 38 04.3	-2.1
SADO	Sadowa	31.10	26	P	P	13 38 04.3	-2.1
	comp=Z,30nm,0.6s,baz=228,slow=8.7,SNR=17						
SADO				pP	pP	13 38 23.4	+1.2
	comp=Z,48nm,0.9s,baz=224,slow=9.9,SNR=4.0						
SADO				S	S	13 43 02.4	-5.1
	comp=Z,6.1nm,0.7s,baz=154,slow=23,SNR=0.8						
SADO				LR	LR	13 53 39.8	
	comp=Z,2μm,19.4s,baz=220,slow=42						
	comp=Z,30nm,0.6s						
ATAH	Atahualpa	31.31	141	LR	LR	13 48 54.5	
	comp=Z,3μm,20.3s,baz=319,slow=33						
BMO	Blue Mountains	31.54	333	IAmb	IAmb	13 38 34.3	
	comp=Z,744nm,1.9s						
BMO				IAMs_20	IAMs_20	13 52 16.7	
	comp=Z,6μm,19.0s						
BMO	Blue Mountains	31.54	333	⇓P	P	13 38 09.6	-0.8
DELO	Deloro Mine	31.56	28	IAmb	IAmb	13 38 11.3	
	comp=Z,250nm,1.4s						
EGMT	Eagleton	31.70	345	IAmb	IAmb	13 38 36.6	
	comp=Z,248nm,1.1s						
EGMT	Eagleton	31.70	345	P	P	13 38 11.1	-0.6
	baz=158,SNR=16						
EGMT				S	S	13 43 18.6	+1.7
	baz=158						
EGMT	Eagleton	31.70	345	⇓P	P	13 38 11.2	-0.5
J58A	Rems

comp=Z,42nm,0.9s,baz=199,slow=11,SNR=3.4
ULM PcP **PcP** **13 41 04.3 +0.3**
comp=Z,47nm,1.1s,baz=251,slow=3.2,SNR=3.5
ULM S S 13 43 17.9 -10
comp=Z,8.0nm,0.9s,baz=239,slow=11,SNR=1.6
ULM LR LR 13 52 19.8
comp=Z,2µm,19.5s,baz=180,slow=38
comp=Z,50nm,0.7s
PINE Pine Mountain 32.45 328 IAmb IAmb 13 38 43.3
comp=Z,157nm,1.1s
KRMB Red Mountain 32.55 322 IAmb IAmb 13 38 45.0
comp=Z,201nm,1.3s
L61B Northampton 32.56 36 P **P** **13 38 17.6 -1.6**
baz=229,SNR=26
L61B S **S** **13 43 30.6 +0.3**
baz=229
G08A Pilot Rock 32.62 332 IAmb IAmb 13 38 44.6
comp=Z,378nm,1.4s
G08A IAMs_20 IAMs_20 13 52 29.2
comp=Z,8µm,21.0s
HUMO Hull Mountain 32.70 324 IAMs_20 IAMs_20 13 52 20.9
comp=Z,5µm,22.0s
KSXB Camp Six Broad 32.72 323 IAMs_20 IAMs_20 13 52 48.5
comp=Z,5µm,20.0s
L02F Cave Junction 32.73 323 IAMs_20 IAMs_20 13 52 37.7
comp=Z,6µm,19.0s
NCB Newcomb 32.78 32 IAmb IAmb 13 38 23.5
comp=Z,508nm,1.5s
K62A Royalston 32.95 36 IAmb IAmb 13 38 24.5
comp=Z,157nm,1.1s
SMRT St. Maarten 33.00 84 IAmb IAmb 13 38 46.7
comp=Z,190nm,1.1s
PCRV Puerto La Cruz 33.00 99 LR LR 13 54 33.4
comp=Z,2µm,18.2s,slow=41
WBO Williamsburg 33.01 30 IAmb IAmb 13 38 24.5
comp=Z,374nm,1.3s
I05D Terrebonne, OR 33.04 328 IAmb IAmb 13 38 49.0
comp=Z,267nm,1.1s
LONY Lake Ozonia 33.07 31 IAmb IAmb 13 38 25.7
comp=Z,238nm,1.1s
LONY Lake Ozonia 33.07 31 P **P** **13 38 21.8 -1.9**
baz=223,SNR=81
LONY S **S** **13 43 37.9 -0.3**
baz=223
KBO Bosley Butte 33.16 323 IAMs_20 IAMs_20 13 52 52.2
comp=Z,5µm,21.0s
M65A Busby, Falmout 33.17 39 P **P** **13 38 23.7 -0.9**
baz=233
I04A Tendick Farm, 33.21 327 IAmb IAmb 13 38 49.6
comp=Z,190nm,1.1s
I04A IAMs_20 IAMs_20 13 53 24.2
comp=Z,7µm,18.0s
E09A Wood Farm, Sta 33.22 334 IAmb IAmb 13 38 49.0
comp=Z,223nm,0.9s
E09A IAMs_20 IAMs_20 13 53 13.1
comp=Z,5µm,20.0s
J61A Chester 33.23 35 IAmb IAmb 13 38 27.4
comp=Z,355nm,1.3s
HRV Adam Dziewonsk 33.23 37 ⇓P **P** **13 38 24.4 -0.7**
HRV Adam Dziewonsk 33.23 37 P **P** **13 38 24.1 -1.0**
HRV sP **sP** **13 38 47.9 -0.6**
WES Weston 33.28 37 IAmb IAmb 13 38 27.2
comp=Z,196nm,1.2s
BCX Boston College 33.34 37 IAmb IAmb 13 38 27.8
comp=Z,194nm,1.2s
G06A Carlson Farm, 33.35 330 IAmb IAmb 13 39 13.6
comp=Z,333nm,1.6s
G06A IAMs_20 IAMs_20 13 53 05.7
comp=Z,4µm,19.0s
GAC Glen Almond 33.45 29 ⇑P **P** **13 38 25.5 -1.4**
F07A Phinny Hill Vi 33.52 332 IAMs_20 IAMs_20 13 53 06.0
comp=Z,6µm,21.0s
E08A Dider Farm, El 33.59 333 IAMs_20 IAMs_20 13 52 59.9
comp=Z,4µm,20.0s
J01E Myrtle Point 33.61 324 IAmb IAmb 13 38 54.1
comp=Z,302nm,1.1s
HNH Hanover 33.61 34 IAmb IAmb 13 38 30.7
comp=Z,324nm,1.3s
I03D Drain, OR 33.64 326 IAMs_20 IAMs_20 13 53 04.7
comp=Z,6µm,21.0s
G05A Wamic 33.68 329 IAmb IAmb 13 39 02.9
comp=Z,390nm,1.4s
G05A IAMs_20 IAMs_20 13 53 18.5
comp=Z,5µm,21.0s
HAWA Hanford 33.72 332 IAMs_20 IAMs_20 13 53 43.4
comp=Z,6µm,19.0s
HAWA Hanford 33.72 332 ⇓P **P** **13 38 29.6 +0.2**
VT1 Waterbury 33.79 33 IAmb IAmb 13 38 32.4
comp=Z,381nm,1.9s
D08A Wollman Farm, 33.98 334 IAMs_20 IAMs_20 13 53 12.1
comp=Z,4µm,22.0s
E07A Sunnyside 33.99 332 IAMs_20 IAMs_20 13 53 43.5
comp=Z,6µm,21.0s
LBNH Lisbon 34.16 34 P **P** **13 38 31.4 -1.9**
baz=228,SNR=55
LBNH S **S** **13 43 56.8 +1.7**
baz=228
LBNH Lisbon 34.16 34 ⇓P **P** **13 38 33.2 0.0**
MXC Moxie City 34.20 332 IAMs_20 IAMs_20 13 53 50.1
comp=Z,6µm,20.0s
COR Corvallis 34.22 327 P **P** **13 38 34.3 +0.6**
COR Corvallis 34.22 327 ⇓P **P** **13 38 33.8 +0.1**
COR Corvallis 34.22 327 P **P** **13 38 34.3 +0.6**
COR pmax pmax
comp=Z,554nm,1.1s
COR MLR MLR
comp=Z,7µm,18.0s
COR Corvallis 34.22 327 P **P** **13 38 34.2 +0.6**
COR sP **sP** **13 38 56.9 0.0**
COR PcP **PcP** **13 41 11.2 +2.0**
NEW Newport 34.24 337 IAmb IAmb 13 38 58.3
comp=Z,482nm,1.9s
NEW Newport 34.24 337 IAMs_20 IAMs_20 13 53 57.8
comp=Z,4µm,20.0s
NEW Newport 34.24 337 P **P** **13 38 32.5 -1.3**
baz=146,SNR=10
NEW Newport 34.24 337 ⇓P **P** **13 38 32.8 -1.0**
NEW Newport 34.24 337 P **P** **13 38 33.2 -0.6**
comp=Z,9.7nm,0.8s,baz=145,slow=8.8,SNR=17
NEW pP **pP** **13 38 51.0 +1.4**
comp=Z,16nm,0.8s,baz=135,slow=8.3,SNR=7.2
NEW S **S** **13 43 50.7 -5.6**
comp=Z,2.6nm,0.8s,baz=97,slow=19,SNR=1.5
NEW LR LR 13 53 44.8
comp=Z,3µm,21.6s,baz=150,slow=38
comp=Z,9.7nm,0.8s
GDHS Morne Mazeau, 34.44 87 IAmb IAmb 13 39 01.1
comp=Z,328nm,1.1s
F04A Amboy 34.72 329 IAMs_20 IAMs_20 13 53 39.9
comp=Z,6µm,21.0s
LTY Liberty 34.89 332 IAMs_20 IAMs_20 13 54 21.1
comp=Z,5µm,18.0s
MAGL Barre de l'ile 34.95 87 IAMs_20 IAMs_20 13 53 20.9
comp=Z,5µm,22.0s
LON Longmire 35.02 331 IAmb IAmb 13 39 07.6
comp=Z,229nm,0.9s
LON IAMs_20 IAMs_20 13 54 04.9
comp=Z,6µm,20.0s
GDSD La Dsirade Is 35.10 87 IAmb IAmb 13 39 07.8
comp=Z,110nm,0.9s
F04D Rainier, OR 35.11 329 IAMs_20 IAMs_20 13 54 15.4
comp=Z,7µm,20.0s
B08A Colville Reser 35.18 335 IAMs_20 IAMs_20 13 54 11.8
comp=Z,4µm,20.0s
FDF Fort de France 35.26 90 IAmb IAmb 13 38 48.2
comp=Z,195nm,1.0s
D05A Enumclaw 35.43 331 IAMs_20 IAMs_20 13 54 27.6
comp=Z,6µm,20.0s
CZSB Cruzeiro do Su 35.45 134 *e*P **P** **13 38 46.7 +2.1**
ILAM Ilet Lapin Mar 35.52 89 IAMs_20 IAMs_20 13 54 11.2
comp=Z,4µm,20.0s
WVL Waterville 35.60 35 IAmb IAmb 13 38 47.9
comp=Z,338nm,1.2s
GNW Green Mountain 36.09 331 IAmb IAmb 13 39 14.3
comp=Z,234nm,1.1s
NNA Nana 36.10 144 LR LR 13 51 01.4
comp=Z,2µm,20.2s,baz=324,slow=32
NNA Nana 36.10 144 *ce*P **P** **13 38 51.8 +1.6**
NNA pmax pmax
comp=Z,84nm,1.3s
PKME Peaks-Kenny Pk 36.25 35 P **P** **13 38 50.7 -0.4**
baz=230,SNR=54
PKME S **S** **13 44 28.7 +1.6**
baz=230
PKME Peaks-Kenny Pk 36.25 35 ⇑P **P** **13 38 51.1 0.0**
F62A Pittston Farm, 36.30 33 IAmb IAmb 13 38 53.5
comp=Z,278nm,1.2s
NLWA Neilton Lookou 36.46 330 IAMs_20 IAMs_20 13 54 33.9
comp=Z,7µm,22.0s
NLWA Neilton Lookou 36.46 330 ⇓P **P** **13 38 53.1 +0.2**
F63A Nahmakanta, Br 36.63 34 IAmb IAmb 13 38 56.4
comp=Z,278nm,1.2s
EMMW East Machias 36.93 37 IAmb IAmb 13 38 58.9
comp=Z,347nm,1.2s
FFC Flin Flon 37.00 356 P **P** **13 38 56.3 -1.1**
FFC Flin Flon 37.00 356 IAMs_20 IAMs_20 13 54 41.2
comp=Z,4µm,20.0s
FFC Flin Flon 37.00 356 ⇓P **P** **13 38 55.9 -1.5**
FFC Flin Flon 37.00 356 P **P** **13 38 56.3 -1.1**
FFC pmax pmax
FFC comp=Z,728nm,2.0s MLR MLR
comp=Z,4µm,20.0s
FFC Flin Flon 37.00 356 P **P** **13 38 56.1 -1.3**
FFC pP **pP** **13 39 11.9 -1.4**
FFC sP **sP** **13 39 18.5 -2.3**
E62A Clayton Lake 37.01 33 IAmb IAmb 13 38 59.9
comp=Z,346nm,1.2s
BBGH Gun Hill 37.08 92 IAMs_20 IAMs_20 13 55 19.9
comp=Z,5µm,21.0s
PGC Sidney 37.17 332 IAmb IAmb 13 39 24.0
comp=Z,163nm,1.1s
PGC IAMs_20 IAMs_20 13 55 21.7
comp=Z,4µm,20.0s
C03A Quillayute Air 37.18 330 IAMs_20 IAMs_20 13 54 46.1
comp=Z,5µm,20.0s
CLRS Cowichan Lake 37.60 331 IAmb IAmb 13 39 27.2
comp=Z,446nm,1.8s
TEFE Tefe 38.95 120 *e*P **P** **13 39 13.9 -0.4**
CBB Campbell River 39.03 332 IAmb IAmb 13 39 39.4
comp=Z,362nm,1.7s
LMN Caledonia Moun 39.12 37 IAmb IAmb 13 39 17.3
comp=Z,455nm,1.2s
BRLDA Berland Lookou 39.27 342 IAmb IAmb 13 39 40.9
comp=Z,134nm,0.8s
BOAV Boa Vista 39.62 108 P **P** **13 39 19.9 -0.1**
BOAV Boa Vista 39.62 108 *e*P **P** **13 39 19.2 -0.7**
ICQ Pointe Anglais 40.06 31 IAmb IAmb 13 39 25.3
comp=Z,451nm,1.2s
FCC Fort Churchill 41.00 3 IAmb IAmb 13 39 53.0
comp=Z,362nm,1.8s
ETMB Extrema 41.53 129 P **P** **13 39 35.4 -0.2**
ETMB IAmb IAmb 13 39 54.0
comp=Z,363nm,1.3s
ETMB Extrema 41.53 129 *e*P **P** **13 39 35.5 -0.2**
BBB Bella Bella 41.78 332 IAMs_20 IAMs_20 13 59 18.6
comp=Z,3µm,20.0s
BBB Bella Bella 41.78 332 P **P** **13 39 37.8 +0.6**
comp=Z,8.1nm,0.8s,baz=139,slow=7.5,SNR=5.1
BBB pP **pP** **13 39 54.3 +1.1**
comp=Z,8.4nm,0.8s,baz=42,slow=3.6,SNR=2.2
BBB PcP **PcP** **13 41 32.0 -0.3**
comp=Z,24nm,1.1s,baz=292,slow=6.5,SNR=2.2
BBB S **S** **13 45 47.8 -2.2**
comp=Z,10nm,1.0s,baz=157,slow=14,SNR=1.9
BBB LR LR 13 59 39.1
comp=Z,3µm,18.4s,baz=146,slow=40
MACA Manacapuru-AM 42.09 116 *e*P **P** **13 39 39.8 -0.4**
SAML Samuel 43.29 125 P **P** **13 39 48.3 -1.6**
SAML IAmb IAmb 13 39 50.9
comp=Z,280nm,1.0s
SAML Samuel 43.29 125 P **P** **13 39 48.3 -1.6**
SAML pmax pmax
comp=Z,280nm,1.0s
SCHQ Schefferville 43.90 25 P **P** **13 39 52.8 -1.6**
SCHQ IAmb IAmb 13 40 22.4
comp=Z,174nm,0.8s
SCHQ Schefferville 43.90 25 P **P** **13 39 53.5 -0.8**
comp=Z,126nm,0.7s,baz=231,slow=6.5,SNR=39
SCHQ S S 13 46 08.4 -13
comp=Z,4.2nm,0.8s,baz=169,slow=8.4,SNR=1.7
SCHQ LR LR 14 01 17.9
comp=Z,2µm,19.8s,baz=218,slow=40
comp=Z,126nm,0.7s
LPAZ La Paz 44.73 138 P **P** **13 40 02.7 +0.6**
LPAZ La Paz 44.73 138 ⇑P **P** **13 40 02.6 +0.6**
LPAZ La Paz 44.73 138 P **P** **13 40 02.8 +0.6**
comp=Z,60nm,1.1s,baz=338,slow=8.8,SNR=84
LPAZ pP **pP** **13 40 19.3 +0.7**
comp=Z,44nm,1.0s,baz=287,slow=4.3,SNR=8.4
LPAZ S S 13 46 23.1 -12
comp=Z,0.8nm,0.8s,baz=170,slow=24,SNR=1.0
LPAZ LR LR 13 58 42.4
comp=Z,1µm,19.2s,baz=306,slow=36
comp=Z,60nm,1.1s
LPAZ La Paz 44.73 138 P **P** **13 40 02.6 +0.5**
LPAZ pP **pP** **13 40 18.7 +0.1**
LPAZ sP **sP** **13 40 26.1 +0.1**
LPAZ La Paz 44.73 138 *e*P **P** **13 40 02.6 +0.5**
DRLN Deer Lake 45.11 37 ⇑P **P** **13 40 03.3 -0.7**
U35K Hyder 45.19 335 IAMs_20 IAMs_20 14 01 40.1
comp=Z,4µm,18.0s
U35K Hyder 45.19 335 P **P** **13 40 04.5 -0.1**
baz=134
V35K Ketchikan 45.45 333 IAMs_20 IAMs_20 14 00 41.0
comp=Z,5µm,20.0s
V35K Ketchikan 45.45 333 P **P** **13 40 07.4 +0.8**
baz=132,SNR=8.8
V35K S **S** **13 46 47.0 +3.5**
baz=132
TOAD Toad River Com 45.65 340 P **P** **13 40 07.5 -0.8**
baz=142,SNR=27
MDP Montagnes des 45.88 100 LR LR 14 02 52.5
comp=Z,1µm,18.9s,baz=286,slow=40
T35M Bob Quinn 46.03 336 IAmb IAmb 13 40 37.1
comp=Z,485nm,1.9s
T35M Bob Quinn 46.03 336 P **P** **13 40 11.8 +0.5**
baz=135,SNR=19
T35M S **S** **13 46 56.2 +4.3**
baz=135
YKA Yellowknife Ar 46.17 349 P **P** **13 40 10.3 -2.0**
YKA Yellowknife Ar 46.17 349 P **P** **13 40 10.7 -1.5**
comp=Z,13nm,0.9s,baz=158,slow=7.5,SNR=50
YKA pP **pP** **13 40 31.0 +2.5**
comp=Z,25nm,0.8s,baz=155,slow=7.5,SNR=9.6
YKA PcP **PcP** **13 41 46.2 -0.9**
comp=Z,13nm,1.0s,baz=152,slow=4.6,SNR=5.7
YKA S **S** **13 46 48.4 -5.3**
comp=Z,1.4nm,1.1s,baz=152,slow=16,SNR=1.8
YKA LR LR 14 03 18.0
comp=Z,2µm,18.8s,baz=164,slow=41
comp=Z,13nm,0.9s
CRAG Craig 46.19 333 P **P** **13 40 14.5 +2.1**
comp=Z,156nm,1.7s
CRAG Craig 46.19 333 IAmb IAmb 13 40 38.1
comp=Z,472nm,1.8s
CRAG IAMs_20 IAMs_20 14 01 26.6
comp=Z,3µm,18.0s
CRAG Craig 46.19 333 P **P** **13 40 12.3 -0.1**
baz=130,SNR=5.7
CRAG S **S** **13 46 59.8 +5.7**
baz=130
CRAG Craig 46.19 333 ⇑P **P** **13 40 13.8 +1.3**
KOTAN Kotaneelee Air 46.32 342 P **P** **13 40 12.5 -0.9**
baz=144,SNR=10
LIRD Liard River Hi 46.37 340 P **P** **13 40 13.2 -0.6**
baz=141
PB11 IPOC Station P 46.43 142 P **P** **13 40 15.8 +0.8**
PB11 IAmb IAmb 13 40 34.2
comp=Z,301nm,1.1s
WRAK Wrangell Islan 46.48 334 P **P** **13 40 15.6 +0.9**
baz=132
WRAK S **S** **13 47 02.1 +3.8**
baz=132
U33K Whale Pass 46.61 334 IAMs_20 IAMs_20 14 02 01.7
comp=Z,4µm,18.0s
U33K Whale Pass 46.61 334 P **P** **13 40 16.3 +0.6**
baz=131,SNR=6.4
U33K S **S** **13 47 05.4 +5.4**
baz=131
GO01 Chusmiza 46.63 142 IAmb IAmb 13 40 36.9
comp=Z,251nm,1.1s
TA01 Diego Aracena 46.76 143 P **P** **13 40 16.0 -1.4**
ITTB Itaiuba 46.96 114 *e*P **P** **13 40 17.9 -1.3**
PATCX Punta Patache 46.98 144 IAmb IAmb 13 40 38.6
comp=Z,303nm,1.2s
DLBC Dease Lake 46.98 337 P **P** **13 40 19.6 +0.8**
baz=136,SNR=50
DLBC S **S** **13 47 09.0 +3.4**
baz=136
DLBC Dease Lake 46.98 337 P **P** **13 40 20.3 +1.6**
comp=Z,27nm,0.8s,baz=135,slow=6.7,SNR=40
DLBC pP **pP** **13 40 37.1 +2.0**
comp=Z,50nm,0.8s,baz=150,slow=6.8,SNR=12
DLBC PcP **PcP** **13 41 50.0 -0.2**
comp=Z,38nm,1.1s,baz=152,slow=3.5,SNR=1.5
DLBC S S 13 46 49.5 -16
comp=Z,0.5nm,0.3s,baz=200,slow=22,SNR=0.7
comp=Z,27nm,0.8s
T33K Petersburg 47.00 334 P **P** **13 40 18.7 0.0**
baz=131
S34M Telegraph Cree 47.02 336 P **P** **13 40 20.3 +1.4**
baz=134,SNR=5.4
S34M S **S** **13 47 10.4 +4.4**
baz=134
WTLY Watson Lake, Y 47.79 340 IAMs_20 IAMs_20 14 02 10.6
comp=Z,4µm,20.0s
WTLY Watson Lake, Y 47.79 340 P **P** **13 40 25.7 +0.8**
baz=138,SNR=25
R33M Jennings River 48.01 338 P **P** **13 40 27.7 +1.0**
baz=135,SNR=71
R33M S **S** **13 47 23.4 +3.1**
baz=135
VILB Vilhena 48.06 127 *e*P **P** **13 40 27.1 -0.5**
S32K Killisnoo 48.10 334 P **P** **13 40 27.2 0.0**
baz=130,SNR=5.7
S32K S **S** **13 47 26.9 +5.7**
baz=130
SIT Sitka 48.15 333 P **P** **13 40 30.1 +2.4**
comp=Z,38nm,2.2s
SIT Sitka 48.15 333 IAMs_20 IAMs_20 14 02 42.5
comp=Z,3µm,18.0s
SIT Sitka 48.15 333 P **P** **13 40 28.6 +1.0**
baz=129
SIT S **S** **13 47 27.2 +5.3**
baz=129
Q32M Nakina River 48.18 337 P **P** **13 40 29.3 +1.1**
baz=134,SNR=22
Q32M S **S** **13 47 28.0 +5.2**
baz=134
MCPB Macapa, AP 48.46 107 *e*P **P** **13 40 29.1 -1.6**
JIS Juneau Island 48.54 335 P **P** **13 40 32.7 +2.0**
comp=Z,81nm,1.5s
JIS Juneau Island 48.54 335 IAmb IAmb 13 40 57.2
comp=Z,207nm,1.6s
PB05 IPOC Station P 48.57 145 IAmb IAmb 13 40 51.2
comp=Z,238nm,1.1s
R32K Eaglecrest 48.59 335 P **P** **13 40 32.7 +1.6**
baz=130,SNR=10
R32K S **S** **13 47 33.4 +5.1**
baz=130
NPGB Novo Progresso 48.62 117 *e*P **P** **13 40 30.3 -1.6**
TGTN Hyland Airport 48.69 341 P **P** **13 40 32.4 +0.5**
baz=140,SNR=12
TGTN S **S** **13 47 31.2 +1.5**
baz=140
WRGLY Wrigley 48.72 345 IAmb IAmb 13 40 57.0
comp=Z,175nm,1.3s
WRGLY Wrigley 48.72 345 P **P** **13 40 30.3 -1.7**
baz=147
PB10 IPOC Station P 48.92 146 IAmb IAmb 13 40 53.6
comp=Z,137nm,1.1s
PB10 PcP **PcP** **13 42 00.4 +2.8**
LVC Limon Verde 49.09 144 P **P** **13 40 35.4 -0.4**
LVC IAmb IAmb 13 40 55.9
comp=Z,131nm,1.0s
LVC Limon Verde 49.09 144 ⇑P **P** **13 40 37.6 +1.8**
LVC Limon Verde 49.09 144 LR LR 13 57 46.5
comp=Z,818nm,18.1s,baz=319,slow=32
LVC Limon Verde 49.09 144 P **P** **13 40 35.4 -0.4**
LVC pmax pmax
comp=Z,131nm,1.0s
LVC Limon Verde 49.09 144 P **P** **13 40 37.8 +2.0**
LVC pP **pP** **13 40 54.2 +1.7**
LVC sP **sP** **13 41 01.9 +2.0**
LVC Limon Verde 49.09 144 *e*P **P** **13 40 37.5 +1.7**
S31K Pelican 49.10 334 IAmb IAmb 13 41 00.8
comp=Z,117nm,1.3s
S31K IAMs_20 IAMs_20 14 02 16.5
comp=Z,3µm,20.0s
S31K Pelican 49.10 334 P **P** **13 40 36.0 +1.1**
baz=128,SNR=7.7
S31K S **S** **13 47 39.5 +4.2**
baz=128
P32M Atlin 49.16 337 IAmb IAmb 13 41 01.8
comp=Z,196nm,1.1s
R31K City Hall, Gus 49.18 335 P **P** **13 40 34.7 -0.8**
baz=129
P33M Teslin, Yukon 49.25 338 IAMs_20 IAMs_20 14 03 54.4
comp=Z,3µm,19.0s
P33M Teslin, Yukon 49.25 338 P **P** **13 40 37.0 +0.8**
baz=134,SNR=36
P33M S **S** **13 47 41.4 +3.8**
baz=134
PB15 IPOC Station P 49.26 145 IAmb IAmb 13 40 57.5
comp=Z,108nm,1.0s
SIV San Ignacio 49.35 131 LR LR 14 01 53.3
comp=Z,1µm,20.8s,baz=315,slow=36
SKAG Skagway 49.69 336 P **P** **13 40 41.0 +1.6**
comp=Z,66nm,1.5s
SKAG Skagway 49.69 336 P **P** **13 40 40.5 +1.1**
baz=130,SNR=16
SKAG S **S** **13 47 48.7 +5.2**
baz=130
SKAG Skagway 49.69 336 ⇑P **P** **13 40 40.3 +0.9**
PDRB Porto dos Gac 49.97 123 *e*P **P** **13 40 40.5 -1.7**
N32M Quiet Lake 50.00 339 IAmb IAmb 13 41 08.2
comp=Z,167nm,0.9s
FRB Frobisher Bay 50.07 16 ⇓P **P** **13 40 42.3 0.0**
FRB Frobisher Bay 50.07 16 P **P** **13 40 41.6 -0.6**
comp=Z,12nm,0.6s,baz=223,slow=10,SNR=8.0
FRB LR LR 14 05 08.7
comp=Z,1µm,20.7s,baz=206,slow=40
comp=Z,12nm,0.6s
PLBC Pleasant Camp 50.09 335 P **P** **13 40 44.4 +1.9**
baz=129,SNR=21
PLBC S **S** **13 47 54.5 +5.3**
baz=129
CLDB Colider 50.31 121 *e*P **P** **13 40 42.0 -2.8**
WHY Whitehorse 50.31 337 IAmb IAmb 13 41 10.3
comp=Z,278nm,1.9s
PTLB Pontes e Lacer 50.42 129 IAmb IAmb 13 40 47.2
comp=Z,119nm,1.1s
PTLB Pontes e Lacer 50.42 129 *e*P **P** **13 40 44.9 -0.6**
BBSD Serra de San D 50.47 132 *e*P **P** **13 40 44.8 -1.1**
P30M Million Dollar 50.75 336 P **P** **13 40 49.4 +1.8**
baz=129,SNR=34
P30M S **S** **13 48 03.2 +4.8**
baz=129
P29M Windy Craggy 50.75 335 P **P** **13 40 49.1 +1.6**
baz=128,SNR=27
P29M S **S** **13 48 03.4 +5.0**
baz=128
GO02 Mina Guanaco 50.77 146 ⇑P **P** **13 40 50.1 +1.7**
O30N Mendenhall 50.83 337 IAmb IAmb 13 41 14.8
comp=Z,234nm,1.5s
O30N IAMs_20 IAMs_20 14 03 56.2
comp=Z,3µm,19.0s
O30N Mendenhall 50.83 337 P **P** **13 40 49.1 +0.9**
baz=130,SNR=49
O30N S **S** **13 48 05.3 +5.8**
baz=130
FARO Faro, Yukon 50.85 339 IAmb IAmb 13 41 14.4
comp=Z,334nm,1.9s
FARO IAMs_20 IAMs_20 14 04 06.5
comp=Z,4µm,22.0s
FARO Faro, Yukon 50.85 339 P **P** **13 40 48.9 +0.7**
baz=134,SNR=28
FARO S **S** **13 48 02.4 +2.8**
baz=134
M31M Drury Creek, Y 51.18 339 IAMs_20 IAMs_20 14 04 26.3
comp=Z,3µm,20.0s
M31M Drury Creek, Y 51.18 339 P **P** **13 40 51.8 +1.1**
baz=133,SNR=32
N31M Braeburn, Yuko 51.19 338 IAMs_20 IAMs_20 14 04 09.5
comp=Z,4µm,22.0s
N31M Braeburn, Yuko 51.19 338 P **P** **13 40 51.5 +0.7**
baz=131,SNR=55
N31M S **S** **13 48 07.9 +3.6**
baz=131
PNL Peninsula 51.44 334 P **P** **13 40 54.6 +1.9**
comp=Z,199nm,1.4s
PNL Peninsula 51.44 334 P **P** **13 40 53.8 +1.1**
baz=126,SNR=14
PNL S **S** **13 48 12.3 +4.4**
baz=126
O29M Mount Kennedy 51.49 335 IAmb IAmb 13 41 19.7
comp=Z,144nm,1.1s
O29M Mount Kennedy 51.49 335 P **P** **13 40 54.4 +1.2**
baz=127,SNR=17
O29M S **S** **13 48 14.7 +5.9**

	baz=127					
N30M	Aishikik Lake	51.65 337	IAmb	IAmb	13 41 21.4	
	comp=Z,321nm,1.6s					
N30M			IAMs_20	IAMs_20	14 02 52.7	
	comp=Z,3µm,21.0s					
N30M	Aishikik Lake	51.65 337	P	P	13 40 55.6	+1.4
	baz=130,SNR=58					
N30M			S	S	13 48 16.1	+5.3
	baz=130					
BCPM	Bancas Point	51.71 335	IAMs_20	IAMs_20	14 03 55.5	
	comp=Z,3µm,20.0s					
YUK6	Outpost Mounta	51.80 336	P	P	13 40 57.6	+2.0
	baz=128,SNR=69					
YUK6			S	S	13 48 18.5	+5.2
	baz=128					
PINM	Pinnacle	52.05 335	P	P	13 40 59.0	+1.7
	baz=125,SNR=13					
PINM			S	S	13 48 22.8	+6.5
	baz=125					
YUK4	Talbot Arm	52.16 336	P	P	13 40 59.8	+1.6
	baz=128,SNR=34					
YUK4			S	S	13 48 24.0	+5.9
	baz=128					
AC06	Mina Casimiro	52.17 149	IAmb	IAmb	13 41 18.3	
	comp=Z,135nm,1.1s					
M30M	Minto, Yukon	52.26 338	IAmb	IAmb	13 41 24.3	
	comp=Z,306nm,1.9s					
M30M			IAMs_20	IAMs_20	14 04 53.0	
	comp=Z,4µm,21.0s					
M30M	Minto, Yukon	52.26 338	P	P	13 40 59.6	+0.9
	baz=131,SNR=45					
M30M			S	S	13 48 23.4	+4.2
	baz=131					
O28M	Mount Upton	52.41 335	P	P	13 41 02.4	+2.2
	baz=126,SNR=20					
O28M			S	S	13 48 26.7	+5.0
	baz=126					
YUK8	Steele Glacier	52.55 336	P	P	13 41 03.0	+1.7
	baz=126,SNR=57					
TABL	Table Mountain	52.61 335	IAmb	IAmb	13 41 28.5	
	comp=Z,201nm,1.0s					
MAYO	Mayo, Yukon	52.63 340	IAmb	IAmb	13 41 52.6	
	comp=Z,208nm,1.0s					
MAYO			IAMs_20	IAMs_20	14 05 11.7	
	comp=Z,4µm,22.0s					
MAYO	Mayo, Yukon	52.63 340	P	P	13 41 03.2	+1.7
	baz=132,SNR=12					
MAYO			S	S	13 48 27.7	+3.5
	baz=132					
LOGN	Logan Glacier	52.77 335	IAmb	IAmb	13 41 29.1	
	comp=Z,204nm,1.2s					
M29M	Somme Creek	52.77 338	IAmb	IAmb	13 41 29.6	
	comp=Z,338nm,1.6s					
M29M	Somme Creek	52.77 338	P	P	13 41 04.1	+1.4
	baz=129,SNR=81					
M29M			S	S	13 48 30.4	+4.1
	baz=129					
MESA	MESA	52.79 334	IAMs_20	IAMs_20	14 04 48.2	
	comp=Z,4µm,21.0s					
MESA	MESA	52.79 334	P	P	13 41 04.7	+1.8
	baz=124,SNR=19					
MESA			S	S	13 48 32.8	+6.0
	baz=124					
CTGM	Chitina Glacie	52.98 335	IAMs_20	IAMs_20	14 04 47.2	
	comp=Z,3µm,21.0s					
CTG	Chitna Glacier	52.99 335	P	P	13 41 06.2	+2.0
	baz=125,SNR=44					
CTG			S	S	13 48 33.7	+4.4
	baz=125					
PRPB	Parauapebas	53.00 112	eP	P	13 41 04.5	-0.5
GRNC	Granite Creek	53.02 335	IAmb	IAmb	13 41 31.5	
	comp=Z,203nm,1.0s					
GRNC			IAMs_20	IAMs_20	14 04 22.1	
	comp=Z,3µm,20.0s					
L29M	L29M	53.08 338	IAmb	IAmb	13 41 31.4	
	comp=Z,145nm,0.9s					
L29M	L29M	53.08 338	P	P	13 41 05.6	+0.8
	baz=129,SNR=72					
L29M			S	S	13 48 34.4	+4.1
	baz=129					
YUK3	Moose Creek	53.11 336	P	P	13 41 06.3	+1.0
	baz=126,SNR=33					
YUK3			S	S	13 48 34.6	+3.5
	baz=126					
ISLE	Juniper Island	53.19 334	IAMs_20	IAMs_20	14 05 11.6	
	comp=Z,4µm,20.0s					
SALV	Santo Antonio	53.30 126	eP	P	13 41 05.9	-1.1
WAX	Waxell Ridge	53.32 334	IAmb	IAmb	13 41 33.1	
	comp=Z,287nm,1.2s					
WAX			IAMs_20	IAMs_20	14 04 51.0	
	comp=Z,4µm,19.0s					
BGLC	Bering Glacier	53.32 334	P	P	13 41 08.6	+2.1
	baz=122					
K29M	Barlow Dome	53.34 339	IAmb	IAmb	13 41 32.9	
	comp=Z,143nm,1.4s					
K29M	Barlow Dome	53.34 339	P	P	13 41 07.1	+0.3
	baz=130,SNR=57					
K29M			S	S	13 48 35.8	+1.8
	baz=130					
LCO	Las Campanas	53.39 150	⇓P	P	13 41 09.5	+1.7
LCO	Las Campanas	53.39 150	P	P	13 41 09.2	+1.5
LCO			pP	pP	13 41 25.6	+1.0
J30M	Hart River	53.44 340	IAmb	IAmb	13 41 32.7	
	comp=Z,230nm,1.9s					
J30M			IAMs_20	IAMs_20	14 05 38.9	
	comp=Z,4µm,22.0s					
J30M	Hart River	53.44 340	P	P	13 41 07.9	+0.4
	baz=132,SNR=42					
J30M			S	S	13 48 37.8	+2.5
	baz=132					
AC05	El Transito	53.44 150	IAmb	IAmb	13 41 27.9	
	comp=Z,169nm,1.1s					
TGL	Tana Glacier	53.48 334	IAmb	IAmb	13 41 34.7	
	comp=Z,223nm,1.1s					
TGL			IAMs_20	IAMs_20	14 05 20.2	
	comp=Z,3µm,22.0s					
SUCK	Suckling Hills	53.51 333	IAMs_20	IAMs_20	14 03 10.1	
	comp=Z,3µm,19.0s					
CRQE	Cirque	53.58 334	P	P	13 41 10.0	+1.4
	baz=123,SNR=25					
CRQM	Cirque	53.60 334	IAMs_20	IAMs_20	14 02 20.0	
	comp=Z,3µm,20.0s					
KAIM	Kayak Island	53.71 333	P	P	13 41 11.7	+2.3
	baz=121,SNR=6.4					
HMT	Hamilton	53.85 333	IAMs_20	IAMs_20	14 04 52.2	
	comp=Z,3µm,18.0s					
I30M	Mount Dempster	53.89 341	IAmb	IAmb	13 41 35.8	
	comp=Z,94nm,0.8s					
I30M			IAMs_20	IAMs_20	14 07 51.9	
	comp=Z,3µm,18.0s					
I30M	Mount Dempster	53.89 341	P	P	13 41 10.2	-0.7
	baz=133,SNR=75					
I30M			S	S	13 48 44.8	+3.4
	baz=133					
MCARA	McCarthy VSAT	53.90 335	IAMs_20	IAMs_20	14 04 50.3	
	comp=Z,3µm,20.0s					
MCARA	McCarthy VSAT	53.90 335	P	P	13 41 12.8	+2.1
	baz=123,SNR=30					
MCARA			S	S	13 48 46.1	+4.7
	baz=123					
J29N	Klondike Camp	53.97 340	IAmb	IAmb	13 41 46.0	
	comp=Z,327nm,1.9s					
J29N	Klondike Camp	53.97 340	P	P	13 41 11.4	+0.1
	baz=130					
J29N			S	S	13 48 44.4	+2.0
	baz=130					
VRDI	Verde Repeater	53.99 335	IAmb	IAmb	13 41 37.7	
	comp=Z,166nm,1.2s					
VRDI			IAMs_20	IAMs_20	14 05 46.7	
	comp=Z,3µm,20.0s					
M27K	Edge Creek, AK	53.99 336	IAmb	IAmb	13 41 38.6	
	comp=Z,249nm,1.6s					
M27K	Edge Creek, AK	53.99 336	P	P	13 41 13.2	+1.6
	baz=125,SNR=53					
M27K			S	S	13 48 47.8	+4.9
	baz=125					
C36M	Paulatuk	54.05 349	P	P	13 41 10.3	-1.4
	baz=148					
C36M			S	S	13 48 44.0	+1.0
	baz=148					
RAGM	Ragged Mountai	54.05 333	IAmb	IAmb	13 41 39.1	
	comp=Z,267nm,1.1s					
RAGM			IAMs_20	IAMs_20	14 05 35.6	
	comp=Z,3µm,20.0s					
DAWY	Dawson	54.12 339	IAMs_20	IAMs_20	14 06 00.0	
	comp=Z,2µm,22.0s					
DAWY	Dawson	54.12 339	P	P	13 41 12.5	+0.1
	baz=129,SNR=41					
DAWY			S	S	13 48 45.2	+0.9
	baz=129					
GLB	Gilahina Butte	54.25 335	IAmb	IAmb	13 41 40.2	
	comp=Z,202nm,1.1s					
GLB			IAMs_20	IAMs_20	14 04 59.6	
	comp=Z,2µm,22.0s					
BYL	Byron's Ledge	54.28 281	IAMs_20	IAMs_20	13 58 19.5	
	comp=Z,2µm,19.0s					
MID	Middleton Isla	54.31 332	IAMs_20	IAMs_20	14 04 27.4	
	comp=Z,2µm,18.0s					
Q23K	Middleton Isla	54.31 332	IAMs_20	IAMs_20	14 03 23.4	
	comp=Z,3µm,22.0s					
Q23K	Middleton Isla	54.31 332	P	P	13 41 14.3	+0.5
	baz=118					
BMRM	Bremner River	54.32 334	P	P	13 41 15.4	+1.5
	baz=121,SNR=54					
BMRM			S	S	13 48 51.6	+4.4
	baz=121					
CO06	Fray Jorge	54.36 152	IAMs_20	IAMs_20	13 58 30.2	
	comp=Z,2µm,22.0s					
BCAR	Beaver Creek A	54.37 337	P	P	13 41 14.7	+0.4
L27K	Beaver Creek,	54.38 337	P	P	13 41 15.1	+0.8
	baz=125,SNR=112					
L27K			S	S	13 48 52.1	+4.2
	baz=125					
M26K	Nabesna, AK	54.45 336	P	P	13 41 16.2	+1.4
	baz=124,SNR=90					
M26K			S	S	13 48 52.6	+3.7
	baz=124					
G31M	Satah River	54.47 343	P	P	13 41 14.8	+0.1
	baz=136,SNR=52					
G31M			S	S	13 48 50.0	+1.2
	baz=136					
I29M	Ogilvie Camp,	54.59 340	IAMs_20	IAMs_20	14 08 18.2	
	comp=Z,2µm,20.0s					
I29M	Ogilvie Camp,	54.59 340	P	P	13 41 15.7	-0.1
	baz=130,SNR=37					
EYAK	Cordova Ski Ar	54.59 333	P	P	13 41 17.6	+1.8
	comp=Z,213nm,1.1s					
EYAK	Cordova Ski Ar	54.59 333	P	P	13 41 18.0	+2.2
	baz=120,SNR=30					
EYAK			S	S	13 48 55.8	+5.2
	baz=120					
SNDB	Serra Nova Dou	54.60 119	eP	P	13 41 16.2	-0.3
N25K	Chitina, Valde	54.66 335	IAmb	IAmb	13 41 42.9	
	comp=Z,274nm,1.4s					
N25K	Chitina, Valde	54.66 335	P	P	13 41 18.2	+1.8
	baz=122,SNR=47					
N25K			S	S	13 48 55.3	+3.6
	baz=122					
F31M	Tsiigehtchic	54.70 344	IAmb	IAmb	13 41 41.4	
	comp=Z,232nm,1.3s					
F31M			IAMs_20	IAMs_20	14 07 14.0	
	comp=Z,3µm,20.0s					
F31M	Tsiigehtchic	54.70 344	P	P	13 41 16.3	-0.2
	baz=137,SNR=10.0					
F31M			S	S	13 48 51.9	0.0
	baz=137					
EPYK	Eagle Plains	54.78 342	IAMs_20	IAMs_20	14 09 02.3	
	comp=Z,3µm,18.0s					
EPYK	Eagle Plains	54.78 342	P	P	13 41 17.2	+0.1
	baz=133,SNR=18					
EPYK			S	S	13 48 53.2	+0.1
	baz=133					
HIN	Hinchinbrook I	54.84 333	IAMs_20	IAMs_20	14 04 31.5	
	comp=Z,2µm,19.0s					
CO03	El Pedregal	54.93 151	IAmb	IAmb	13 41 38.3	
	comp=Z,163nm,1.0s					
L26K	Log Cabin Wild	54.93 337	IAmb	IAmb	13 41 44.9	
	comp=Z,371nm,1.6s					
L26K	Log Cabin Wild	54.93 337	P	P	13 41 19.4	+1.1
	baz=124,SNR=85					
L26K			S	S	13 49 00.0	+4.8
	baz=124					
FID	Port Fidalgo	55.01 333	IAMs_20	IAMs_20	14 03 39.9	
	comp=Z,3µm,21.0s					
MENT	Mentasta	55.03 336	P	P	13 41 20.3	+1.3
	comp=Z,91nm,1.8s					
MENT	Mentasta	55.03 336	IAmb	IAmb	13 41 23.1	
	comp=Z,341nm,1.8s					
P23K	Montague Islan	55.05 332	P	P	13 41 20.9	+1.8
	baz=118,SNR=24					
P23K			S	S	13 49 00.9	+4.0
	baz=118					
G30M	tAoh Zraii Nji	55.05 343	P	P	13 41 18.9	-0.3
	baz=134,SNR=8.4					
G30M			S	S	13 48 57.2	+0.4
	baz=134					
CO02	Combarbal	55.10 152	IAmb	IAmb	13 41 39.5	
	comp=Z,128nm,1.1s					
CO02	Combarbal	55.10 152	⇓P	P	13 41 21.6	+1.6
KLU	Klutina	55.14 334	IAMs_20	IAMs_20	14 05 58.3	
	comp=Z,3µm,20.0s					
KLU	Klutina	55.14 334	P	P	13 41 21.5	+1.6
	baz=120,SNR=33					
KLU			S	S	13 49 01.0	+2.8
	baz=120					
EGAK	Eagle	55.16 339	IAMs_20	IAMs_20	14 06 43.6	
	comp=Z,2µm,21.0s					
EGAK	Eagle	55.16 339	P	P	13 41 19.6	-0.3
	baz=127,SNR=63					
EGAK			S	S	13 49 00.5	+2.2
	baz=127					
EGAK	Eagle	55.16 339	⇓P	P	13 41 19.4	-0.5
I28M	Miner Creek	55.17 340	IAMs_20	IAMs_20	14 08 12.6	
	comp=Z,3µm,20.0s					
I28M	Miner Creek	55.17 340	P	P	13 41 19.7	-0.3
	baz=129,SNR=32					
I28M			S	S	13 49 00.3	+1.7
	baz=129					
H29M	Whitestone	55.17 341	IAmb	IAmb	13 41 45.2	
	comp=Z,163nm,0.8s					
H29M			IAMs_20	IAMs_20	14 06 56.6	
	comp=Z,3µm,20.0s					
H29M	Whitestone	55.17 341	P	P	13 41 19.9	-0.1
	baz=131,SNR=57					
H29M			S	S	13 49 00.5	+2.2
	baz=131					
INK	Inuvik	55.28 345	IAmb	IAmb	13 41 48.6	
	comp=Z,197nm,1.1s					
INK			IAMs_20	IAMs_20	14 07 41.5	
	comp=Z,3µm,20.0s					
INK	Inuvik	55.28 345	P	P	13 41 20.1	-0.6
	baz=137,SNR=39					
INK	Inuvik	55.28 345	⇑P	P	13 41 20.1	-0.6
INK	Inuvik	55.28 345	LR	LR	14 09 38.2	
	comp=Z,3µm,18.5s,baz=144,slow=41					
HARP	HAARP	55.30 335	P	P	13 41 22.2	+1.3
	baz=121,SNR=28					
HARP			S	S	13 49 04.4	+4.3
	baz=121					
GLI	Glacier Island	55.33 333	IAMs_20	IAMs_20	14 04 40.4	
	comp=Z,3µm,22.0s					
GLI	Glacier Island	55.33 333	P	P	13 41 22.1	+0.9
	baz=118,SNR=15					
GLI			S	S	13 49 03.9	+3.2
	baz=118					
F30M	Barrier River	55.37 343	P	P	13 41 21.5	+0.2
	baz=134,SNR=34					
F30M			S	S	13 49 02.0	+1.0
	baz=134					
G29M	Pine Creek	55.53 342	IAmb	IAmb	13 41 47.7	
	comp=Z,90nm,0.8s					
G29M	Pine Creek	55.53 342	P	P	13 41 22.6	+0.1
	baz=132,SNR=25					
G29M			S	S	13 49 04.3	+1.2
	baz=132					
MURT	Porto Murtinho	55.55 133	eP	P	13 41 21.8	-1.5
M24K	Tolsona, Glenn	55.55 335	P	P	13 41 24.9	+2.0
	baz=120,SNR=17					
M24K			S	S	13 49 07.0	+3.3
	baz=120					
IVI	Ivigtut	55.62 27	IAMs_20	IAMs_20	14 07 04.7	
	comp=Z,2µm,22.0s					
SCRK	Sand Creek	55.70 337	IAmb	IAmb	13 41 27.1	
	comp=Z,414nm,1.7s					
SCRK	Sand Creek	55.70 337	P	P	13 41 25.0	+1.1
	baz=124,SNR=156					
SCRK			S	S	13 49 07.3	+1.6
	baz=124					
PAX	Paxson	55.72 336	P	P	13 41 25.0	+1.0
	baz=121,SNR=96					
PAX			S	S	13 49 09.4	+3.5
	baz=121					
RVDE	Rio Verde (Bra	55.78 129	eP	P	13 41 23.9	-1.1
I27K	Kandik River	55.82 340	P	P	13 41 25.1	+0.4
	baz=127,SNR=42					
I27K			S	S	13 49 09.1	+2.0
	baz=127					
J26L	Joseph Creek	55.84 338	IAmb	IAmb	13 41 50.8	
	comp=Z,210nm,0.9s					
J26L	Joseph Creek	55.84 338	P	P	13 41 26.5	+1.6
	baz=124,SNR=253					
J26L			S	S	13 49 10.3	+2.8
	baz=124					
PWL	Port Wells	55.86 333	IAMs_20	IAMs_20	14 05 32.2	
	comp=Z,2µm,21.0s					
PWL	Port Wells	55.86 333	P	P	13 41 25.6	+0.6
	baz=117,SNR=32					
PWL			S	S	13 49 10.9	+3.2
	baz=117					
SCM	Sheep Creek Mo	55.89 334	P	P	13 41 26.1	+0.8
	baz=119,SNR=30					
SCM			S	S	13 49 11.6	+3.4
	baz=119					
SEW	Seward	56.02 332	P	P	13 41 26.8	+0.7
	baz=116,SNR=33					
SEW			S	S	13 49 12.7	+3.1
	baz=116					
M23K	Glacier View	56.04 334	P	P	13 41 27.2	+0.9
	baz=118,SNR=16					
M23K			S	S	13 49 12.7	+2.6
	baz=118					
VA06	Catapilco	56.12 153	IAMs_20	IAMs_20	13 59 41.9	
	comp=Z,3µm,22.0s					
AQDB	Aquidauana	56.13 131	eP	P	13 41 26.4	-1.0
I26K	Coal Creek Min	56.16 339	IAMs_20	IAMs_20	14 07 23.8	
	comp=Z,3µm,22.0s					
KNK	Knik Glacier	56.17 333	IAmb	IAmb	13 41 31.0	
	comp=Z,328nm,1.5s					
KNK			IAMs_20	IAMs_20	14 04 04.4	
	comp=Z,3µm,22.0s					
KNK	Knik Glacier	56.17 333	P	P	13 41 27.9	+0.7
	baz=117,SNR=29					
KNK			S	S	13 49 14.8	+3.0
	baz=117					
H27K	Steamboat Moun	56.17 340	P	P	13 41 27.0	-0.2
	baz=128,SNR=37					
H27K			S	S	13 49 12.9	+1.2
	baz=128					
SMTB	Santa Maria do	56.20 114	eP	P	13 41 28.4	+0.3
ARAG	Araguaiana, MT	56.22 124	eP	P	13 41 27.7	-0.4
K24K	Donnelly Dome	56.27 337	P	P	13 41 28.5	+0.6
	baz=122,SNR=77					
K24K			S	S	13 49 14.3	+1.2
	baz=122					
SML	Sawmill	56.30 334	IAMs_20	IAMs_20	14 05 01.8	
	comp=Z,3µm,22.0s					
SML	Sawmill	56.30 334	P	P	13 41 28.7	+0.5
	baz=118,SNR=62					
SML			S	S	13 49 15.5	+1.9
	baz=118					
O22K	Cooper Landing	56.30 332	IAMs_20	IAMs_20	14 05 41.1	
	comp=Z,2µm,21.0s					
O22K	Cooper Landing	56.30 332	P	P	13 41 29.1	+1.1
	baz=116,SNR=6.2					
O22K			S	S	13 49 15.8	+2.3
	baz=116					
VA01	Torpederas	56.37 154	IAmb	IAmb	13 41 48.2	
	comp=Z,109nm,1.1s					
VA01			IAMs_20	IAMs_20	13 59 50.3	
	comp=Z,2µm,21.0s					
WAT6	Susitna Watana	56.42 335	P	P	13 41 30.0	+0.9
	baz=119,SNR=150					
WAT6			S	S	13 49 17.9	+2.5
	baz=119					
BRSE	Bradley Lake S	56.45 331	P	P	13 41 30.0	+0.7
	baz=114,SNR=28					
BRSE			S	S	13 49 18.3	+2.7
	baz=114					
ZON	Zonda	56.46 150	IAmb	IAmb	13 41 50.0	
	comp=Z,188nm,1.2s					
ZON	Zonda	56.46 150	⇑P	P	13 41 30.9	+1.3
E29M	Blow River	56.49 343	IAmb	IAmb	13 41 54.8	
	comp=Z,194nm,1.2s					
E29M	Blow River	56.49 343	P	P	13 41 29.1	-0.2
	baz=132,SNR=47					
E29M			S	S	13 49 16.1	+0.4
	baz=132					
A36M	Sachs Harbour	56.52 350	IAmb	IAmb	13 41 57.1	
	comp=Z,123nm,0.8s					
A36M	Sachs Harbour	56.52 350	P	P	13 41 28.6	-0.8
	baz=148					
DHY	Denali Highway	56.52 335	IAmb	IAmb	13 41 32.1	
	comp=Z,158nm,1.6s					
DHY			IAMs_20	IAMs_20	14 06 31.6	
	comp=Z,3µm,21.0s					
DHY	Denali Highway	56.52 335	P	P	13 41 30.1	+0.3
	baz=120,SNR=47					
DHY			S	S	13 49 19.6	+2.9
	baz=120					
BRLK	Bradley Lake	56.53 331	IAMs_20	IAMs_20	14 05 32.2	
	comp=Z,2µm,20.0s					
GHO	Glory Hole Cre	56.53 334	IAMs_20	IAMs_20	14 06 56.0	
	comp=Z,2µm,20.0s					
F28M	Old Crow	56.53 342	IAmb	IAmb	13 41 55.2	
	comp=Z,166nm,1.0s					
F28M	Old Crow	56.53 342	P	P	13 41 29.7	0.0
	baz=130,SNR=78					
F28M			S	S	13 49 17.9	+1.5
	baz=130					
PMR	Palmer	56.54 333	P	P	13 41 30.8	+1.1
	comp=Z,209nm,1.0s					
PMR	Palmer	56.54 333	P	P	13 41 30.8	+1.1
	baz=117,SNR=14					
PMR			S	S	13 49 19.4	+2.9
	baz=117					
J25K	Salcha River,	56.55 338	IAmb	IAmb	13 41 32.9	
	comp=Z,204nm,1.4s					
J25K			IAMs_20	IAMs_20	14 06 35.3	
	comp=Z,4µm,22.0s					
J25K	Salcha River,	56.55 338	P	P	13 41 30.6	+0.7
	baz=122,SNR=109					
J25K			S	S	13 49 19.6	+2.7
	baz=122					
KIP	Kipapa	56.56 284	P	P	13 41 33.1	+2.5
	comp=Z,70nm,1.5s					
KIP	Kipapa	56.56 284	ceP	P	13 41 31.1	+0.5
KIP			pmax	pmax		
	comp=Z,125nm,1.7s					
G27K	Doyon Strip	56.57 341	IAMs_20	IAMs_20	14 08 56.4	
	comp=Z,3µm,21.0s					
G27K	Doyon Strip	56.57 341	P	P	13 41 29.5	-0.4
	baz=128,SNR=80					
G27K			S	S	13 49 18.2	+1.3
	baz=128					
RC01	Rabbit Creek A	56.58 333	IAmb	IAmb	13 41 56.1	
	comp=Z,147nm,0.8s					
RC01			IAMs_20	IAMs_20	14 05 54.2	
	comp=Z,2µm,21.0s					
RC01	Rabbit Creek A	56.58 333	P	P	13 41 30.6	+0.6
	baz=116,SNR=32					
RC01			S	S	13 49 18.7	+1.6
	baz=116					
KDAK	Kodiak Island	56.58 328	P	P	13 41 30.7	+0.6
KDAK			IAmb	IAmb	13 41 55.8	
	comp=Z,94nm,0.9s					
KDAK	Kodiak Island	56.58 328	IAMs_20	IAMs_20	14 05 27.7	
	comp=Z,2µm,20.0s					
KDAK	Kodiak Island	56.58 328	P	P	13 41 30.8	+0.6
	baz=111					
KDAK			S	S	13 49 20.5	+3.2
	baz=111					
KDAK	Kodiak Island	56.58 328	⇓P	P	13 41 30.5	+0.4
KDAK	Kodiak Island	56.58 328	P	P	13 41 30.7	+0.6
KDAK			pmax	pmax		
	comp=Z,94nm,0.9s					
KDAK			MLR	MLR		
	comp=Z,2µm,20.0s					
KDAK	Kodiak Island	56.58 328	P	P	13 41 30.5	+0.4
KDAK			sP	sP	13 41 54.1	0.0
CNPM	China Poot	56.60 331	IAmb	IAmb	13 41 56.0	
	comp=Z,144nm,1.0s					
CNPM			IAMs_20	IAMs_20	14 04 38.9	
	comp=Z,3µm,22.0s					
VA03	San Esteban	56.62 153	IAmb	IAmb	13 41 50.6	
	comp=Z,201nm,1.1s					
OHAK	Old Harbor	56.74 328	P	P	13 41 32.6	+1.4
	comp=Z,225nm,0.9s					
OHAK	Old Harbor	56.74 328	IAmb	IAmb	13 41 57.7	
	comp=Z,149nm,0.8s					
OHAK	Old Harbor	56.74 328	P	P	13 41 32.1	+0.9
	baz=110,SNR=57					
OHAK			S	S	13 49 22.3	+3.0
	baz=110					
PAPY	Pozo Azul	56.77 136	eP	P	13 41 32.3	+0.5

NRS	Narsarsuaq	56.78	27	IAmb	IAmb	13 42 00.7	
	comp=Z,130nm,0.9s						
NRS	Narsarsuaq	56.78	27	*i* P	P	13 41 31.1	-0.4
NRS				*e*		13 41 54.3	
NRS				*i* S	S	13 49 20.1	+0.3
MT02	Curacav	56.79	153	IAmb	IAmb	13 41 51.6	
	comp=Z,106nm,1.1s						
MT02				IAms_20	IAms_20	14 00 02.3	
	comp=Z,3μm,22.0s						
SYI	Shuyak Island	56.79	329	IAmb	IAmb	13 41 57.9	
	comp=Z,136nm,0.8s						
SYI				IAms_20	IAms_20	14 04 29.2	
	comp=Z,2μm,22.0s						
Q20K	Shuyak Island	56.79	329	P	P	13 41 32.5	+0.9
	baz=112,SNR=12						
FIS	Fire Island	56.81	333	IAms_20	IAms_20	14 06 01.3	
	comp=Z,2μm,21.0s						
HOM	Homer	56.84	331	IAmb	IAmb	13 42 17.8	
	comp=Z,158nm,0.9s						
HOM				IAms_20	IAms_20	14 04 46.4	
	comp=Z,2μm,22.0s						
HOM	Homer	56.84	331	P	P	13 41 32.9	+1.0
	baz=113						
WAT1	Susitna Watana	56.87	335	P	P	13 41 33.0	+0.8
	baz=118						
WAT1				S	S	13 49 23.0	+2.0
	baz=118						
RES	Resolute Bay	56.92	1	IAmb	IAmb	13 41 55.8	
	comp=Z,416nm,1.8s						
RES	Resolute Bay	56.92	1	⇓P	P	13 41 30.7	-1.6
RES	Resolute Bay	56.92	1	LR	LR	14 08 29.0	
	comp=Z,1μm,19.1s,baz=184,slow=39						
VA05	Santo Domingo	56.93	154	IAms_20	IAms_20	14 00 06.1	
	comp=Z,3μm,21.0s						
SII	Sitkinak Islan	56.98	327	P	P	13 41 34.5	+1.5
	comp=Z,315nm,1.2s						
SII	Sitkinak Islan	56.98	327	IAms_20	IAms_20	14 06 10.4	
	comp=Z,2μm,18.0s						
SII	Sitkinak Islan	56.98	327	P	P	13 41 34.1	+1.1
	baz=109,SNR=37						
HDA	Harding Lake	57.03	337	IAms_20	IAms_20	14 07 45.9	
	comp=Z,3μm,21.0s						
HDA	Harding Lake	57.03	337	P	P	13 41 33.3	0.0
	baz=121,SNR=89						
HDA				S	S	13 49 25.6	+2.6
	baz=121						
HDA				S	S	13 49 25.6	+2.6
	baz=121						
M22K	Willow	57.03	333	P	P	13 41 33.9	+0.6
	baz=116,SNR=44						
M22K				S	S	13 49 26.4	+3.4
	baz=116						
CAPN	Captain Cook N	57.06	332	IAms_20	IAms_20	14 05 43.2	
	comp=Z,3μm,19.0s						
CAPN	Captain Cook N	57.06	332	P	P	13 41 35.8	+2.3
	baz=114						
E28M	Babbage River	57.08	343	IAmb	IAmb	13 41 58.5	
	comp=Z,105nm,1.0s						
E28M	Babbage River	57.08	343	P	P	13 41 33.3	-0.3
	baz=131,SNR=31						
E28M				S	S	13 49 24.6	+0.9
	baz=131						
PRP	Porcupine Dome	57.10	338	IAmb	IAmb	13 41 59.1	
	comp=Z,131nm,0.8s						
PRP				IAms_20	IAms_20	14 07 51.7	
	comp=Z,3μm,20.0s						
PRP	Porcupine Dome	57.10	338	P	P	13 41 34.8	+0.9
	baz=123,SNR=14						
PRP				S	S	13 49 26.7	+2.5
	baz=123						
SUA	Susitna One	57.18	333	IAms_20	IAms_20	14 04 16.1	
	comp=Z,2μm,22.0s						
SUA	Susitna One	57.18	333	P	P	13 41 35.3	+0.9
	baz=115,SNR=88						
SUA				S	S	13 49 27.7	+2.4
	baz=115						
ILAR	Eielson Array	57.19	337	P	P	13 41 34.8	+0.4
ILAR	Eielson Array	57.19	337	P	P	13 41 34.2	-0.2
	comp=Z,95nm,1.2s,baz=132,slow=3.7,SNR=89						
ILAR				pP	pP	13 41 54.0	+2.8
	comp=Z,60nm,1.0s,baz=132,slow=4.0,SNR=5.3						
ILAR				S	S	13 49 22.5	-2.6
	comp=Z,0.2nm,0.7s,baz=44,slow=53,SNR=2.0						
ILAR				PKPPKP	P'P'df	14 11 21.9	-3.8
	comp=Z,1.0nm,1.1s,baz=309,slow=3.5,SNR=5.4						
	comp=Z,95nm,1.2s						
MT16	CCHEN	57.20	153	IAmb	IAmb	13 42 05.2	
	comp=Z,136nm,1.1s						
MT16				IAms_20	IAms_20	14 00 15.2	
	comp=Z,2μm,21.0s						
MT03	Universidad Ad	57.26	153	IAmb	IAmb	13 41 57.7	
	comp=Z,194nm,1.1s						
MT03				IAms_20	IAms_20	14 00 06.8	
	comp=Z,2μm,21.0s						
MT01	Popeta	57.26	154	IAms_20	IAms_20	14 00 15.8	
	comp=Z,3μm,22.0s						
RND	Reindeer	57.27	335	P	P	13 41 35.6	+0.6
RND				IAms_20	IAms_20	14 07 04.3	
	comp=Z,3μm,19.0s						
RND	Reindeer	57.27	335	P	P	13 41 35.6	+0.6
RND				pmax	pmax		
	comp=Z,873nm,1.4s						
RND				MLR	MLR		
	comp=Z,3μm,19.0s						
MT09	Talagante	57.30	154	IAms_20	IAms_20	14 00 28.8	
	comp=Z,3μm,21.0s						
G26K	Porcupine Rive	57.33	340	P	P	13 41 35.3	+0.1
	baz=125,SNR=27						
G26K				S	S	13 49 27.8	+1.0
	baz=125						
D28M	Stokes Point	57.35	344	P	P	13 41 35.5	+0.1
	baz=132						
D28M				S	S	13 49 28.2	+1.2
	baz=132						
CUT	Chulitna	57.38	334	IAms_20	IAms_20	14 06 07.4	
	comp=Z,3μm,21.0s						
CUT	Chulitna	57.38	334	P	P	13 41 36.6	+0.9
	baz=116,SNR=13						
CUT				S	S	13 49 29.8	+2.2
	baz=116						
E27K	Coleen River	57.40	342	P	P	13 41 36.0	+0.1
E27K				IAmb	IAmb	13 42 01.4	
	comp=Z,140nm,0.9s						
E27K				IAms_20	IAms_20	14 08 17.4	
	comp=Z,2μm,21.0s						
E27K	Coleen River	57.40	342	P	P	13 41 35.9	+0.1
	baz=128,SNR=66						
E27K				S	S	13 49 29.3	+1.4
	baz=128						
MT08	Bocatoma Ro	57.44	152	IAmb	IAmb	13 41 57.5	
	comp=Z,178nm,1.1s						
R18K	Karluk	57.45	328	P	P	13 41 37.0	+0.7
	baz=109						
R18K				S	S	13 49 30.3	+1.6
	baz=109						
MCK	McKinley	57.45	336	P	P	13 41 36.5	+0.2
	baz=118,SNR=64						
MCK				S	S	13 49 30.6	+2.0
	baz=118						
O20K	Slope Mountain	57.46	331	P	P	13 41 37.2	+0.8
	baz=112,SNR=11						
O20K				S	S	13 49 31.1	+2.2
	baz=112						
CCB	Clear Creek Bu	57.47	337	IAms_20	IAms_20	14 08 08.5	
	comp=Z,3μm,20.0s						
WRH	Wood River Hil	57.49	337	IAmb	IAmb	13 42 04.1	
	comp=Z,89nm,1.0s						
WRH				IAms_20	IAms_20	14 07 47.1	
	comp=Z,3μm,21.0s						
Q19K	Cape Douglas,	57.52	329	P	P	13 41 37.5	+0.7
Q19K				IAmb	IAmb	13 42 04.9	
	comp=Z,174nm,0.8s						
Q19K				IAms_20	IAms_20	14 06 00.3	
	comp=Z,2μm,22.0s						
Q19K	Cape Douglas,	57.52	329	P	P	13 41 37.6	+0.8
	baz=111,SNR=9.0						
CHIR	Chirikof Islan	57.52	326	P	P	13 41 37.5	+0.7
	baz=107,SNR=12						
POKR	Poker Plat Res	57.57	338	IAmb	IAmb	13 42 02.8	
	comp=Z,165nm,1.1s						
POKR				IAms_20	IAms_20	14 07 15.2	
	comp=Z,3μm,21.0s						
POKR	Poker Plat Res	57.57	338	P	P	13 41 37.5	+0.4
	baz=121,SNR=35						
POKR				S	S	13 49 32.2	+2.1
	baz=121						
MT13	San Alfonso	57.57	153	IAmb	IAmb	13 41 57.8	
	comp=Z,119nm,1.2s						
MT13				IAms_20	IAms_20	14 00 28.0	
	comp=Z,2μm,21.0s						
FYU	Fort Yukon	57.58	340	IAms_20	IAms_20	14 09 37.3	
	comp=Z,3μm,18.0s						
P19K	Oil Pt	57.58	330	P	P	13 41 38.2	+0.9
	baz=112,SNR=11						
P19K				S	S	13 49 32.7	+2.3
	baz=112						
COLA	College	57.60	337	P	P	13 41 37.2	0.0
	comp=Z,48nm,1.0s						
COLA	College	57.60	337	P	P	13 41 37.0	-0.2
COLA				IAmb	IAmb	13 41 39.1	
	comp=Z,244nm,1.4s						
COLA	College	57.60	337	IAms_20	IAms_20	14 08 13.1	
	comp=Z,2μm,20.0s						
COLA	College	57.60	337	P	P	13 41 37.4	+0.2
	baz=120						
COLA	College	57.60	337	⇓P	P	13 41 36.0	-1.2
COLA	College	57.60	337	*d i* P	P	13 41 36.8	-0.4
COLA				pmax	pmax		
	comp=Z,193nm,1.5s						
COLA	College	57.60	337	P	P	13 41 36.9	-0.2
COLA				sP	sP	13 42 00.1	-1.1
COLA				PcP	PcP	13 42 30.5	+0.7
H25L	Birch Creek	57.61	339	P	P	13 41 38.0	+0.7
	baz=123,SNR=61						
H25L				S	S	13 49 33.2	+2.7
	baz=123						
SPU	Mount Spurr	57.63	332	P	P	13 41 38.3	+0.7
BO04	La Punta	57.64	153	IAms_20	IAms_20	14 00 27.9	
	comp=Z,2μm,21.0s						
ILSW	Iliamna Southw	57.66	331	IAmb	IAmb	13 42 03.8	
	comp=Z,135nm,1.0s						
ILSW				IAms_20	IAms_20	14 06 08.4	
	comp=Z,2μm,19.0s						
LMEL	Las Melosas	57.70	153	IAmb	IAmb	13 41 58.6	
	comp=Z,116nm,1.1s						
LMEL				IAms_20	IAms_20	14 00 32.2	
	comp=Z,2μm,22.0s						
N20K	Mount Spurr	57.71	332	P	P	13 41 38.6	+0.4
	baz=114,SNR=40						
N20K				S	S	13 49 35.1	+2.9
	baz=114						
SPCR	Spurr Chakacha	57.71	332	P	P	13 41 30.3	-7.8
	baz=114,SNR=38						
SPCR				S	S	13 49 26.4	-5.8
	baz=114						
SFJD	Kangerlussuaq	57.73	20	IAms_20	IAms_20	14 08 38.4	
	comp=Z,2μm,22.0s						
SFJD	Kangerlussuaq	57.73	20	LR	LR	14 09 32.3	
	comp=Z,1μm,19.4s,baz=224,slow=39						
SKT	Skwentna	57.73	333	IAms_20	IAms_20	14 08 20.8	
	comp=Z,2μm,22.0s						
SKT	Skwentna	57.73	333	P	P	13 41 39.0	+0.8
	baz=115,SNR=187						
SKT				S	S	13 49 34.6	+2.2
	baz=115						
MDM	Murphy Dome	57.78	337	IAms_20	IAms_20	14 08 08.9	
	comp=Z,3μm,20.0s						
BO01	Tunca	57.79	154	IAmb	IAmb	13 41 58.5	
	comp=Z,104nm,1.1s						
BO01				IAms_20	IAms_20	14 00 43.7	
	comp=Z,2μm,21.0s						
BMAR	Burnt Mountain	57.86	341	P	P	13 41 39.2	+0.1
F26K	Sheenjek River	57.88	341	P	P	13 41 39.3	+0.1
	baz=125,SNR=41						
F26K				S	S	13 49 35.8	+1.7
	baz=125						
D27M	Malcolm River	57.89	343	IAms_20	IAms_20	14 10 37.3	
	comp=Z,2μm,20.0s						
D27M	Malcolm River	57.89	343	P	P	13 41 39.4	+0.1
	baz=130,SNR=21						
D27M				S	S	13 49 34.0	-0.4
	baz=130						
NEA2	Nenana	57.92	337	IAmb	IAmb	13 42 04.2	
	comp=Z,85nm,1.0s						
NEA2				IAms_20	IAms_20	14 04 32.4	
	comp=Z,2μm,21.0s						
NEA2	Nenana	57.92	337	P	P	13 41 39.3	-0.2
	baz=119,SNR=56						
NEA2				S	S	13 49 36.1	+1.4
	baz=119						
GO05	Huala	57.98	155	IAmb	IAmb	13 41 59.5	
	comp=Z,108nm,1.0s						
GO05				IAms_20	IAms_20	14 00 24.7	
	comp=Z,3μm,21.0s						
GO05	Huala	57.98	155	⇑P	P	13 41 40.9	+0.6
G25K	Bearman Lake	57.98	340	P	P	13 41 40.5	+0.7
	baz=123,SNR=18						
G25K				S	S	13 49 38.0	+2.7
	baz=123						
Q18K	Katmai Hardscr	58.09	329	P	P	13 41 41.0	+0.1
	baz=109,SNR=59						
Q18K				S	S	13 49 37.7	+0.5
	baz=109						
H24K	Noodor Dome	58.10	338	P	P	13 41 40.9	+0.1
H24K	Noodor Dome	58.10	338	P	P	13 41 41.2	+0.5
	baz=120,SNR=136						
H24K				S	S	13 49 38.1	+1.0
	baz=120						
ACHA	Angle Creek He	58.10	328	IAmb	IAmb	13 41 45.7	
	comp=Z,176nm,1.7s						
BO02	Sierra Bellavi	58.26	154	IAmb	IAmb	13 42 01.9	
	comp=Z,85nm,1.1s						
BO02				IAms_20	IAms_20	14 00 36.2	
	comp=Z,3μm,22.0s						
BO02	Sierra Bellavi	58.26	154	⇓P	P	13 41 43.7	+1.4
F25K	Christian Rive	58.29	340	P	P	13 41 42.4	+0.3
	baz=124,SNR=61						
F25K				S	S	13 49 41.2	+1.7
	baz=124						
O19K	Port Alsworth	58.29	331	IAmb	IAmb	13 42 07.7	
	comp=Z,185nm,1.0s						
O19K				IAms_20	IAms_20	14 06 27.0	
	comp=Z,2μm,20.0s						
O19K	Port Alsworth	58.29	331	P	P	13 41 42.4	+0.3
	baz=111						
O19K				S	S	13 49 40.7	+1.1
	baz=111						
I23K	Minto, Yukon-K	58.30	337	IAms_20	IAms_20	14 08 02.3	
	comp=Z,2μm,20.0s						
I23K	Minto, Yukon-K	58.30	337	P	P	13 41 42.8	+0.8
	baz=119,SNR=237						
I23K				S	S	13 49 41.0	+1.5
	baz=119						
M20K	Styx River	58.39	333	IAms_20	IAms_20	14 05 57.1	
	comp=Z,4μm,22.0s						
M20K	Styx River	58.39	333	P	P	13 41 43.5	+0.6
	baz=113,SNR=139						
M20K				S	S	13 49 42.6	+1.6
	baz=113						
Q17K	Contact Creek	58.40	328	P	P	13 41 43.6	+0.5
	baz=108,SNR=48						
Q17K				S	S	13 49 41.9	+0.6
	baz=108						
G24K	Hadweenzic Riv	58.41	339	IAmb	IAmb	13 42 08.2	
	comp=Z,98nm,1.0s						
G24K	Hadweenzic Riv	58.41	339	P	P	13 41 43.4	+0.6
	baz=121,SNR=43						
G24K				S	S	13 49 42.8	+1.8
	baz=121						
BPAW	Bear Paw Mtn.	58.43	336	IAms_20	IAms_20	14 07 06.0	
	comp=Z,3μm,22.0s						
BPAW	Bear Paw Mtn.	58.43	336	P	P	13 41 43.0	0.0
	baz=116,SNR=140						
BPAW				S	S	13 49 42.9	+1.5
	baz=116						
P18K	Big Mountain,	58.44	330	IAms_20	IAms_20	14 06 39.8	
	comp=Z,2μm,19.0s						
P18K	Big Mountain,	58.44	330	P	P	13 41 43.4	+0.1
	baz=109,SNR=21						
P18K				S	S	13 49 42.7	+1.0
	baz=109						
R17L	Mt. Peulik Vol	58.45	327	P	P	13 41 43.7	+0.4
	baz=107,SNR=28						
R17L				S	S	13 49 42.7	+0.9
	baz=107						
N19K	Bonanza Creek	58.59	331	IAms_20	IAms_20	14 06 07.5	
	comp=Z,2μm,20.0s						
N19K	Bonanza Creek	58.59	331	P	P	13 41 44.5	+0.2
	baz=111,SNR=139						
N19K				S	S	13 49 44.5	+0.8
	baz=111						
O18K	Koktuh Hills	58.59	330	IAmb	IAmb	13 42 10.1	
	comp=Z,243nm,1.3s						
O18K				IAms_20	IAms_20	14 05 38.6	
	comp=Z,2μm,22.0s						
O18K	Koktuh Hills	58.59	330	P	P	13 41 44.5	+0.2
	baz=110,SNR=27						
O18K				S	S	13 49 44.7	+1.1
	baz=110						
H23K	Yukon River	58.69	338	IAmb	IAmb	13 41 48.2	
	comp=Z,283nm,1.7s						
H23K				IAms_20	IAms_20	14 08 01.7	
	comp=Z,3μm,22.0s						
H23K	Yukon River	58.69	338	P	P	13 41 45.3	+0.5
	baz=119,SNR=69						
H23K				S	S	13 49 46.2	+1.5
	baz=119						
MLY	Manley	58.76	337	IAms_20	IAms_20	14 05 45.6	
	comp=Z,3μm,21.0s						
MLY	Manley	58.76	337	P	P	13 41 45.7	+0.4
	baz=117,SNR=82						
MLY				S	S	13 49 47.2	+1.5
	baz=117						
ML02	Panimavida	58.84	155	IAmb	IAmb	13 42 05.6	
	comp=Z,152nm,1.1s						
ML02				IAms_20	IAms_20	14 01 32.5	
	comp=Z,3μm,20.0s						
C27K	Jago River	58.89	343	P	P	13 41 46.5	+0.3
	baz=127,SNR=24						
C27K				S	S	13 49 48.4	+1.2
	baz=127						
CPUP	Villa Florida	58.90	137	IAmb	IAmb	13 41 48.2	
	comp=Z,113nm,1.2s						
CPUP	Villa Florida	58.90	137	⇑P	P	13 41 45.2	-1.6
CPUP	Villa Florida	58.90	137	P	P	13 41 46.2	-0.5
	comp=Z,56nm,1.1s,baz=326,slow=7.5,SNR=50						
CPUP				LR	LR	14 07 04.0	
	comp=Z,1μm,21.2s,baz=327,slow=36						
CPUP				PKP2bc		14 11 31.5	
	comp=Z,1.8nm,0.8s,baz=90,slow=4.0,SNR=3.3						
	comp=Z,56nm,1.1s						
CPUP	Villa Florida	58.90	137	P	P	13 41 46.0	-0.8
CPUP				pP	pP	13 42 03.0	-0.8
Q16K	King Salmon	58.91	329	P	P	13 41 47.2	+0.7
	baz=108						
DY2G	Dye2	58.92	22	⇑P	P	13 41 46.4	-0.3
DY2G	Dye2	58.92	22	*i* P	P	13 41 46.5	-0.2
DY2G				IAmb	IAmb	13 41 48.8	
	comp=Z,312nm,1.8s						
DY2G				*i* S	S	13 49 47.7	-0.4
L20K	Farewell, AK	58.94	333	P	P	13 41 46.7	0.0
	baz=112,SNR=208						
L20K				S	S	13 49 50.4	+2.3
	baz=112						
M19K	Big River Lodg	58.95	333	IAms_20	IAms_20	14 07 28.9	
	comp=Z,3μm,21.0s						
M19K	Big River Lodg	58.95	333	P	P	13 41 47.5	+0.8
	baz=112						
M19K				S	S	13 49 50.2	+2.0
	baz=112						
P17K	Kvichak River	58.97	329	P	P	13 41 47.2	+0.4
	baz=108,SNR=24						
P17K				S	S	13 49 49.6	+1.2
	baz=108						
F24K	Squaw Lake	58.97	340	P	P	13 41 47.5	+0.7
	baz=121,SNR=22						
F24K				S	S	13 49 50.9	+2.5
	baz=121						
CHGN	Chignik	59.16	326	P	P	13 41 48.2	0.0
CHGN				IAmb	IAmb	13 42 14.5	
	comp=Z,160nm,0.9s						
CHGN	Chignik	59.16	326	P	P	13 41 48.4	+0.2
	baz=105,SNR=22						
N18K	Kilae Creek	59.19	331	IAms_20	IAms_20	14 06 43.4	
	comp=Z,2μm,21.0s						
N18K	Kilae Creek	59.19	331	P	P	13 41 48.6	+0.3
	baz=110,SNR=108						
N18K				S	S	13 49 53.1	+1.8
	baz=110						
SVW2	Sparrevohn	59.19	331	P	P	13 41 48.8	+0.4
	comp=Z,160nm,1.1s						
SVW2	Sparrevohn	59.19	331	IAmb	IAmb	13 42 13.9	
	comp=Z,114nm,0.8s						
SVW2				IAms_20	IAms_20	14 05 52.0	
	comp=Z,2μm,22.0s						
BDFB	Brasilia	59.24	121	P	P	13 41 50.4	+0.9
BDFB				IAmb	IAmb	13 41 52.1	
	comp=Z,104nm,0.8s						
BDFB	Brasilia	59.24	121	P	P	13 41 49.9	+0.4
	comp=Z,79nm,0.7s,baz=296,slow=8.5,SNR=66						
BDFB				LR	LR	14 08 18.6	
	comp=Z,2μm,21.1s,baz=301,slow=37						
	comp=Z,79nm,0.7s						
L19K	White Mountain	59.25	333	IAms_20	IAms_20	14 06 35.0	
	comp=Z,3μm,21.0s						
L19K	White Mountain	59.25	333	P	P	13 41 48.9	+0.1
	baz=111,SNR=123						
L19K				S	S	13 49 54.3	+2.2
	baz=111						
G23K	Bananza Creek	59.29	339	IAmb	IAmb	13 41 52.4	
	comp=Z,337nm,1.8s						
G23K	Bananza Creek	59.29	339	P	P	13 41 49.1	+0.1
	baz=119,SNR=85						
G23K				S	S	13 49 54.1	+1.6
	baz=119						
I21K	Tanana	59.29	337	IAmb	IAmb	13 42 14.8	
	comp=Z,172nm,1.0s						
I21K				IAms_20	IAms_20	14 06 11.8	
	comp=Z,3μm,20.0s						
K20K	Telida	59.37	334	IAms_20	IAms_20	14 07 09.1	
	comp=Z,2μm,21.0s						
K20K	Telida	59.37	334	P	P	13 41 50.0	+0.4
	baz=113						
K20K				S	S	13 49 54.3	+0.8
	baz=113						
H22K	Ishtalitna Cre	59.39	337	P	P	13 41 49.5	-0.2
	baz=117,SNR=91						
H22K				S	S	13 49 54.2	+0.5
	baz=117						
C26K	Camden Bay	59.40	343	P	P	13 41 50.2	+0.5
	baz=126						
C26K				S	S	13 49 54.6	+0.9
	baz=126						
M18K	Stony River	59.44	332	P	P	13 41 49.9	-0.2
	baz=110,SNR=123						
M18K				S	S	13 49 56.5	+2.1
	baz=110						
CHNA	Chernabura Isl	59.45	324	P	P	13 41 50.2	-0.1
	baz=103,SNR=6.5						
CHNA				S	S	13 49 56.4	+1.6
	baz=103						
E24K	Your Creek	59.46	340	IAmb	IAmb	13 42 16.1	
	comp=Z,94nm,1.0s						
E24K	Your Creek	59.46	340	P	P	13 41 50.4	+0.2
	baz=121,SNR=47						
E24K				S	S	13 49 56.7	+2.1
	baz=121						
O17K	Koliganek Bris	59.47	330	P	P	13 41 50.6	+0.4
	baz=108,SNR=66						
O17K				S	S	13 49 56.5	+1.7
	baz=108						
D25K	Kavik River	59.48	342	IAmb	IAmb	13 42 15.3	
	comp=Z,95nm,0.8s						
D25K				IAms_20	IAms_20	14 09 44.4	
	comp=Z,3μm,21.0s						
D25K	Kavik River	59.48	342	P	P	13 41 50.7	+0.4
	baz=124,SNR=80						
D25K				S	S	13 49 55.7	+0.7
	baz=124						
COLD	Coldfoot	59.60	339	P	P	13 41 51.6	+0.6
	baz=119,SNR=42						
COLD				S	S	13 49 58.0	+1.6
	baz=119						
ITRB	Iturama	59.64	126	*e* P	P	13 41 51.7	-0.4
BI02	San Fabin de	59.67	155	IAmb	IAmb	13 41 54.9	
	comp=Z,137nm,1.3s						
P16K	Nushagak River	59.68	329	P	P	13 41 51.9	+0.1
	baz=107						
J20K	Nowinta River	59.72	335	IAms_20	IAms_20	14 09 25.1	
	comp=Z,3μm,22.0s						
J20K	Nowinta River	59.72	335	P	P	13 41 51.9	0.0
	baz=113,SNR=160						
J20K				S	S	13 49 58.2	+0.3
	baz=113						
N17K	Nushagak Hills	59.74	330	IAms_20	IAms_20	14 07 21.1	
	comp=Z,2μm,20.0s						
N17K	Nushagak Hills	59.74	330	P	P	13 41 52.7	+0.5
	baz=108,SNR=70						
N17K				S	S	13 49 59.6	+1.2
	baz=108						
S14K	Fog Glacier	59.77	325	P	P	13 41 52.8	+0.3
	baz=104,SNR=7.4						
H21K	Melozitna Rive	59.81	337	IAmb	IAmb	13 42 17.9	
	comp=Z,107nm,1.1s						

H21K				IAMs_20	IAMs_20	14 06 28.4
	comp=Z,3μm,21.0s					
H21K	**Melozitna Rive**	**59.81 337**	P	**P**		**13 41 52.6 0.0**
	baz=115,SNR=88					
H21K			S	**S**		**13 49 59.4 +0.2**
	baz=115					
E23K	**Chandalar**	**59.81 340**	P	**P**		**13 41 53.3 +0.6**
	baz=120,SNR=93					
E23K			S	**S**		**13 50 00.9 +1.6**
	baz=120					
O16K	**Kokwok River B**	**59.90 329**	IAMs_20	IAMs_20		14 07 24.2
	comp=Z,2μm,21.0s					
O16K	**Kokwok River B**	**59.90 329**	P	**P**		**13 41 53.3 +0.1**
	baz=107,SNR=48					
O16K			S	**S**		**13 50 01.9 +1.6**
	baz=107					
G22K	**Bettles**	**59.91 338**	P	**P**		**13 41 53.6 +0.4**
	baz=117					
G22K			S	**S**		**13 50 01.8 +1.5**
	baz=117					
TTA	**Tatalina**	**60.02 333**	P	**P**		**13 41 54.1 -0.1**
	comp=Z,272nm,1.4s					
TTA	**Tatalina**	**60.02 333**	P	**P**		**13 41 54.0 -0.1**
	baz=111,SNR=90					
TTA			S	**S**		**13 50 03.1 +0.9**
	baz=111					
TTA	**Tatalina**	**60.02 333**	⇑P	**P**		**13 41 53.4 -0.7**
SDPT	**Sand Point**	**60.07 324**	P	**P**		**13 41 55.4 +1.0**
	comp=Z,155nm,1.4s					
SDPT	**Sand Point**	**60.07 324**	P	**P**		**13 41 54.4 -0.1**
	baz=102					
L18K	**Granite Mounta**	**60.07 332**	P	**P**		**13 41 54.6 +0.2**
L18K			IAMs_20	IAMs_20		14 08 02.6
	comp=Z,2μm,20.0s					
L18K	**Granite Mounta**	**60.07 332**	P	**P**		**13 41 54.7 +0.2**
	baz=110,SNR=157					
L18K			S	**S**		**13 50 04.6 +2.1**
	baz=110					
TOLK	**Toolik Lake Re**	**60.09 341**	P	**P**		**13 41 55.1 +0.6**
	baz=120,SNR=37					
TOLK			S	**S**		**13 50 05.1 +2.3**
	baz=120					
I20K	**Naaghedeneel**	**60.10 336**	IAMs_20	IAMs_20		14 09 56.1
	comp=Z,3μm,19.0s					
I20K	**Naaghedeneel**	**60.10 336**	P	**P**		**13 41 54.6 +0.2**
	baz=113,SNR=54					
I20K			S	**S**		**13 50 02.8 +0.1**
	baz=113					
D24K	**Happy Valley**	**60.12 341**	IAmb	IAmb		13 42 28.4
	comp=Z,80nm,0.9s					
D24K			IAMs_20	IAMs_20		14 09 39.5
	comp=Z,3μm,22.0s					
D24K	**Happy Valley**	**60.12 341**	P	**P**		**13 41 55.0 +0.3**
	baz=121,SNR=23					
D24K			S	**S**		**13 50 04.3 +1.2**
	baz=121					
M17K	**Holitna River**	**60.14 331**	IAMs_20	IAMs_20		14 06 54.5
	comp=Z,2μm,21.0s					
M17K	**Holitna River**	**60.14 331**	P	**P**		**13 41 55.1 +0.3**
	baz=108,SNR=54					
M17K			S	**S**		**13 50 05.3 +1.9**
	baz=108					
SDBA	**SAO DESIDERIO**	**60.21 116**	*e*P	**P**		**13 41 55.3 -0.9**
J19K	**Poorman**	**60.25 335**	IAMs_20	IAMs_20		14 10 06.1
	comp=Z,2μm,22.0s					
J19K	**Poorman**	**60.25 335**	P	**P**		**13 41 55.4 -0.2**
	baz=112,SNR=266					
J19K			S	**S**		**13 50 05.1 +0.3**
	baz=112					
IMAR	**Indian Mountai**	**60.30 337**	P	**P**		**13 41 55.3 -0.6**
IPMB	**Ipameri, GO**	**60.34 124**	*e*P	**P**		**13 41 55.8 -1.1**
C24K	**Franklin Bluff**	**60.39 342**	P	**P**		**13 41 57.1 +0.7**
	baz=122					
C24K			S	**S**		**13 50 07.8 +1.5**
	baz=122					
F22K	**John River**	**60.41 339**	P	**P**		**13 41 57.0 +0.4**
	baz=117,SNR=68					
F22K			S	**S**		**13 50 08.9 +2.1**
	baz=117					
G21K	**Allakaket**	**60.44 338**	IAmb	IAmb		13 41 59.0
	comp=Z,295nm,1.6s					
G21K			IAMs_20	IAMs_20		14 07 51.2
	comp=Z,2μm,21.0s					
N16K	**Nishlik Lake**	**60.48 330**	P	**P**		**13 41 57.6 +0.4**
	baz=107,SNR=102					
N16K			S	**S**		**13 50 10.4 +2.5**
	baz=107					
J18K	**Innoko River**	**60.51 334**	P	**P**		**13 41 57.2 -0.2**
J18K			IAmb	IAmb		13 42 22.8
	comp=Z,190nm,1.1s					
J18K			IAMs_20	IAMs_20		14 09 28.1
	comp=Z,2μm,20.0s					
J18K	**Innoko River**	**60.51 334**	P	**P**		**13 41 57.0 -0.4**
	baz=110,SNR=134					
J18K			S	**S**		**13 50 09.6 +1.4**
	baz=110					
H20K	**Anotleneega Mo**	**60.53 336**	P	**P**		**13 41 57.6 +0.1**
	baz=113,SNR=135					
H20K			S	**S**		**13 50 08.8 +0.4**
	baz=113					
E22K	**Anaktuvuk Pass**	**60.57 340**	IAmb	IAmb		13 42 23.4
	comp=Z,82nm,0.9s					
D23K	**Nanushuk River**	**60.61 341**	P	**P**		**13 41 58.6 +0.6**
	baz=119					
D23K			S	**S**		**13 50 11.0 +1.8**
	baz=119					
TULEG	**Thule**	**60.62 7**	IAMs_20	IAMs_20		14 09 44.6
	comp=Z,2μm,22.0s					
O15K	**Ungalikthiuk R**	**60.63 329**	P	**P**		**13 41 57.8 -0.4**
	baz=105,SNR=37					
O15K			S	**S**		**13 50 09.7 -0.2**
	baz=105					
M16K	**Timber Creek**	**60.72 331**	P	**P**		**13 41 59.3 +0.4**
M16K			IAmb	IAmb		13 42 25.0
	comp=Z,122nm,0.8s					
M16K			IAMs_20	IAMs_20		14 06 57.0
	comp=Z,2μm,22.0s					
M16K	**Timber Creek**	**60.72 331**	P	**P**		**13 41 59.3 +0.4**
	baz=107,SNR=47					
M16K			S	**S**		**13 50 12.3 +1.3**
	baz=107					
F21K	**Alatna River**	**60.73 338**	P	**P**		**13 41 59.9 +1.0**
	baz=116,SNR=209					
F21K			S	**S**		**13 50 12.1 +1.2**
	baz=116					
L17K	**Donlin**	**60.76 332**	P	**P**		**13 41 59.0 -0.1**
	baz=108,SNR=110					
L17K			S	**S**		**13 50 12.5 +1.2**
	baz=108					
KULLO	**Kullorsuaq**	**60.90 11**	⇓P	**P**		**13 41 59.4 -0.4**
KULLO	**Kullorsuaq**	**60.90 11**	*i* S	**S**		**13 50 12.3 -0.5**
K17K	**Iditarod**	**60.94 333**	IAMs_20	IAMs_20		14 07 37.6
	comp=Z,2μm,21.0s					
K17K	**Iditarod**	**60.94 333**	P	**P**		**13 42 00.0 -0.3**
	baz=108,SNR=76					
K17K			S	**S**		**13 50 14.5 +0.8**
	baz=108					
H07S1	**FLORES T-PHASE**	**60.95 54**	*e*P	**P**		**13 42 04.7 +3.8**
	comp=Z,465nm,1.4s					
C23K	**Itkillik River**	**61.02 342**	P	**P**		**13 42 00.8 +0.1**
	baz=120,SNR=42					
C23K			S	**S**		**13 50 15.3 +0.9**
	baz=120					
S12K	**Black Hills**	**61.02 324**	P	**P**		**13 42 00.9 -0.1**
	baz=101,SNR=14					
S12K			S	**S**		**13 50 16.3 +1.3**
	baz=101					
N15K	**Kwethluk River**	**61.02 330**	P	**P**		**13 42 00.7 -0.3**
N15K			IAmb	IAmb		13 42 03.0
	comp=Z,94nm,1.2s					
N15K			IAMs_20	IAMs_20		14 07 39.0
	comp=Z,2μm,22.0s					
N15K	**Kwethluk River**	**61.02 330**	P	**P**		**13 42 00.8 -0.1**
	baz=105,SNR=20					
N15K			S	**S**		**13 50 16.3 +1.5**
	baz=105					
GCSA	**Galena City Sc**	**61.03 335**	P	**P**		**13 42 00.5 -0.3**
	baz=111					
GCSA			S	**S**		**13 50 16.9 +2.2**
	baz=111					
H19K	**Roundabout Mou**	**61.15 336**	IAMs_20	IAMs_20		14 08 41.8
	comp=Z,2μm,22.0s					
H19K	**Roundabout Mou**	**61.15 336**	P	**P**		**13 42 01.4 -0.2**
	baz=112,SNR=106					
H19K			S	**S**		**13 50 16.9 +0.8**
	baz=112					
L16K	**Owhat River**	**61.16 331**	IAmb	IAmb		13 42 27.8
	comp=Z,114nm,0.8s					
L16K			IAMs_20	IAMs_20		14 07 46.5
	comp=Z,2μm,20.0s					
L16K	**Owhat River**	**61.16 331**	P	**P**		**13 42 02.1 +0.3**
	baz=107,SNR=75					
L16K			S	**S**		**13 50 19.5 +3.0**
	baz=107					
D22K	**Ayikyak River**	**61.20 340**	IAmb	IAmb		13 42 28.1
	comp=Z,162nm,0.9s					
D22K	**Ayikyak River**	**61.20 340**	P	**P**		**13 42 02.5 +0.5**
	baz=117,SNR=49					
D22K			S	**S**		**13 50 19.8 +2.9**
	baz=117					
ISOG	**Isortoq, Green**	**61.21 24**	⇑P	**P**		**13 42 01.6 -0.5**
ISOG	**Isortoq, Green**	**61.21 24**	*e*P	**P**		**13 42 01.2 -0.9**
ISOG			IAmb	IAmb		13 42 05.4
	comp=Z,154nm,1.4s					
ISOG			*i* S	**S**		**13 50 16.3 -0.7**
LDASE	**Londrina, Braz**	**61.26 130**	*e*P	**P**		**13 42 01.3 -1.8**
O14K	**Tigyukauivet M**	**61.37 328**	IAmb	IAmb		13 42 04.6
	comp=Z,133nm,1.4s					
O14K			IAMs_20	IAMs_20		14 08 31.2
	comp=Z,2μm,20.0s					
O14K	**Tigyukauivet M**	**61.37 328**	P	**P**		**13 42 02.3 -0.9**
	baz=104,SNR=11					
O14K			S	**S**		**13 50 19.4 +0.2**
	baz=104					
E21K	**Killik River**	**61.43 340**	IAmb	IAmb		13 42 29.3
	comp=Z,212nm,1.2s					
E21K	**Killik River**	**61.43 340**	P	**P**		**13 42 03.8 +0.2**
	baz=116					
E21K			S	**S**		**13 50 20.6 +0.8**
	baz=116					
M15K	**Kasigluk River**	**61.45 330**	P	**P**		**13 42 04.2 +0.4**
	baz=105,SNR=29					
M15K			S	**S**		**13 50 22.1 +2.0**
	baz=105					
F20K	**Avaraart Lake**	**61.46 338**	IAMs_20	IAMs_20		14 12 18.9
	comp=Z,2μm,21.0s					
F20K	**Avaraart Lake**	**61.46 338**	P	**P**		**13 42 04.9 +1.2**
	baz=113,SNR=76					
F20K			S	**S**		**13 50 22.0 +1.9**
	baz=113					
J17K	**VABM Dome**	**61.49 333**	IAmb	IAmb		13 42 29.3
	comp=Z,78nm,0.9s					
J17K			IAMs_20	IAMs_20		14 09 37.1
	comp=Z,2μm,20.0s					
J17K	**VABM Dome**	**61.49 333**	P	**P**		**13 42 04.2 +0.2**
	baz=108,SNR=22					
J17K			S	**S**		**13 50 22.7 +2.1**
	baz=108					
G19K	**Purcell Mounta**	**61.62 337**	IAMs_20	IAMs_20		14 10 08.2
	comp=Z,2μm,18.0s					
G19K	**Purcell Mounta**	**61.62 337**	P	**P**		**13 42 05.1 +0.2**
	baz=111,SNR=135					
G19K			S	**S**		**13 50 23.8 +1.6**
	baz=111					
FALS	**False Pass**	**61.63 323**	P	**P**		**13 42 05.7 +0.6**
	comp=Z,508nm,0.9s					
FALS	**False Pass**	**61.63 323**	P	**P**		**13 42 04.9 -0.2**
	baz=99,SNR=6.6					
ITQB	**Itaqui**	**61.66 139**	*e*P	**P**		**13 42 05.8 +0.1**
LR04	**Corral**	**61.72 159**	IAMs_20	IAMs_20		14 02 10.8
	comp=Z,2μm,20.0s					
N14K	**Kuskokwak Cree**	**61.73 329**	P	**P**		**13 42 05.9 +0.3**
	baz=104,SNR=18					
N14K			S	**S**		**13 50 25.6 +1.8**
	baz=104					
ANGG	**Ammassalik, Gr**	**61.75 24**	IAmb	IAmb		13 42 35.3
	comp=Z,172nm,1.1s					
ANGG	**Ammassalik, Gr**	**61.75 24**	⇑P	**P**		**13 42 05.2 -0.5**
ANGG	**Ammassalik, Gr**	**61.75 24**	*i* P	**P**		**13 42 05.2 -0.5**
H18K	**Honhosa River**	**61.77 335**	IAmb	IAmb		13 42 31.6
	comp=Z,86nm,0.9s					
H18K			IAMs_20	IAMs_20		14 10 37.5
	comp=Z,2μm,21.0s					
H18K	**Honhosa River**	**61.77 335**	P	**P**		**13 42 06.2 +0.3**
	baz=110					
H18K			S	**S**		**13 50 27.0 +2.9**
	baz=110					
CRSM	**Crissiumal (Br**	**61.84 136**	*e*P	**P**		**13 42 05.9 -1.0**
PPT	**Papeete**	**61.90 238**	LR	LR		14 01 38.8
	comp=Z,845nm,19.4s,baz=82,slow=29					
PPT2	**Papeete2**	**61.91 238**	*e*P	**P**		**13 42 08.7 +1.1**
	comp=Z,598nm,31.8s					
PPT2			*e*S	**S**		**13 50 26.2 -1.1**
	comp=Z,1μm,27.2s					
PPT2			*e*SS	**SS**		**13 54 29.5 -1.3**
	comp=Z,2μm,35.8s					
PPT2			*e*LQ	LQ		13 57 57.7
	comp=Z,4μm,35.0s					
PPT2			*e*LR	LR		14 00 33.1
	comp=Z,6μm,27.8s					
PPT2			*e*LR	LR		14 00 35.4
	comp=Z,4μm,28.5s					
JANB	**Januaria**	**62.00 118**	*e*P	**P**		**13 42 08.1 -0.1**
C21K	**Knifeblade Rid**	**62.01 340**	P	**P**		**13 42 08.2 +0.7**
	baz=115,SNR=35					
C21K			S	**S**		**13 50 29.4 +2.4**
	baz=115					
PSAL	**Palomas, Salto**	**62.06 141**	*e*P	**P**		**13 42 08.3 +0.1**
M14K	**Bethel**	**62.07 330**	P	**P**		**13 42 08.4 +0.5**
M14K			IAMs_20	IAMs_20		14 09 13.6
	comp=Z,2μm,19.0s					
M14K	**Bethel**	**62.07 330**	P	**P**		**13 42 08.3 +0.4**
	baz=104,SNR=88					
M14K			S	**S**		**13 50 30.3 +2.4**
	baz=104					
L15K	**Ungalak Mounta**	**62.08 331**	P	**P**		**13 42 08.4 +0.5**
	baz=105,SNR=92					
L15K			S	**S**		**13 50 31.1 +3.0**
	baz=105					
B22K	**Teshekpuk Lake**	**62.10 342**	IAmb	IAmb		13 42 33.4
	comp=Z,154nm,1.0s					
B22K	**Teshekpuk Lake**	**62.10 342**	P	**P**		**13 42 08.1 +0.1**
	baz=117,SNR=6.4					
B22K			S	**S**		**13 50 29.6 +1.5**
	baz=117					
J16K	**Anvik River**	**62.12 333**	IAMs_20	IAMs_20		14 11 06.6
	comp=Z,2μm,20.0s					
J16K	**Anvik River**	**62.12 333**	P	**P**		**13 42 09.6 +1.4**
	baz=106,SNR=46					
J16K			S	**S**		**13 50 29.9 +1.3**
	baz=106					
F19K	**Shaleruckik Mo**	**62.12 337**	P	**P**		**13 42 08.8 +0.6**
	baz=111					
F19K			S	**S**		**13 50 30.2 +1.7**
	baz=111					
G18K	**Tagagawik**	**62.13 336**	IAmb	IAmb		13 42 10.9
	comp=Z,223nm,1.5s					
G18K			IAMs_20	IAMs_20		14 10 25.8
	comp=Z,2μm,21.0s					
G18K	**Tagagawik**	**62.13 336**	P	**P**		**13 42 08.8 +0.5**
	baz=110,SNR=40					
G18K			S	**S**		**13 50 32.0 +3.3**
	baz=110					
GO06	**Curarrehue**	**62.15 157**	⇓P	**P**		**13 42 09.8 +1.0**
B21K	**Ikpikpuk River**	**62.15 341**	P	**P**		**13 42 08.6 +0.3**
	baz=116,SNR=14					
B21K			S	**S**		**13 50 28.9 +0.1**
	baz=116					
E19K	**Redstone River**	**62.16 338**	IAmb	IAmb		13 42 10.9
	comp=Z,181nm,1.5s					
E19K			IAMs_20	IAMs_20		14 12 52.3
	comp=Z,2μm,19.0s					
K15K	**Wolf Creek Mou**	**62.26 332**	IAMs_20	IAMs_20		14 07 59.4
	comp=Z,2μm,20.0s					
K15K	**Wolf Creek Mou**	**62.26 332**	P	**P**		**13 42 10.1 +0.9**
	baz=105,SNR=65					
K15K			S	**S**		**13 50 33.0 +2.7**
	baz=105					
H17K	**Granite Mounta**	**62.32 335**	IAMs_20	IAMs_20		14 11 29.8
	comp=Z,3μm,20.0s					
H17K	**Granite Mounta**	**62.32 335**	P	**P**		**13 42 10.2 +0.6**
	baz=108,SNR=56					
H17K			S	**S**		**13 50 33.5 +2.4**
	baz=108					
I17K	**Unalakleet**	**62.33 334**	IAMs_20	IAMs_20		14 08 24.2
	comp=Z,3μm,22.0s					
I17K	**Unalakleet**	**62.33 334**	P	**P**		**13 42 10.9 +1.3**
	baz=107,SNR=12					
I17K			S	**S**		**13 50 35.8 +4.6**
	baz=107					
ICESG	**Greenland Ices**	**62.35 20**	*e*P	**P**		**13 42 09.5 -0.6**
ICESG			*e*			13 42 27.4
FRTB	**Fartura**	**62.37 129**	*e*P	**P**		**13 42 09.7 -0.9**
L14K	**Kuka Creek**	**62.55 331**	IAMs_20	IAMs_20		14 09 28.3
	comp=Z,2μm,21.0s					
L14K	**Kuka Creek**	**62.55 331**	P	**P**		**13 42 11.9 +0.8**
	baz=103					
L14K			S	**S**		**13 50 35.7 +1.8**
	baz=103					
NBCL	**Cascavel-CE**	**62.60 105**	*e*P	**P**		**13 42 12.8 +0.5**
M13K	**Dall Lake**	**62.66 329**	IAMs_20	IAMs_20		14 09 24.2
	comp=Z,2μm,19.0s					
M13K	**Dall Lake**	**62.66 329**	P	**P**		**13 42 13.0 +1.2**
	baz=102,SNR=30					
G17K	**Kiwalik Mounta**	**62.79 335**	P	**P**		**13 42 13.4 +0.8**
	baz=108,SNR=72					
G17K			S	**S**		**13 50 40.3 +3.4**
	baz=108					
D19K	**Kuna River**	**62.85 339**	IAmb	IAmb		13 42 15.3
	comp=Z,246nm,1.4s					
D19K			IAMs_20	IAMs_20		14 12 31.6
	comp=Z,3μm,21.0s					
A22K	**Sinclair Lake**	**62.87 342**	P	**P**		**13 42 13.7 +0.7**
	baz=116					
PCED	**Cedros**	**62.92 55**	*e*P	**P**		**13 42 10.3 -3.7**
CALA	**Caldeira**	**62.92 55**	*e*P	**P**		**13 42 16.7 +2.6**
	comp=Z,776nm,1.4s					
ITAB	**Concordia**	**62.95 134**	*e*P	**P**		**13 42 14.1 -0.2**
LL04	**Puerto Octay**	**62.98 159**	IAMs_20	IAMs_20		14 02 52.4
	comp=Z,2μm,21.0s					
RODS	**Rosario do Sul**	**63.02 139**	*e*P	**P**		**13 42 14.8 +0.1**
PCAN	**Candelaria**	**63.09 55**	*e*P	**P**		**13 42 19.6 +4.4**
	comp=Z,586nm,1.3s					
B20K	**Meade River**	**63.12 341**	P	**P**		**13 42 15.6 +0.9**
	baz=113					
B20K			S	**S**		**13 50 41.8 +0.9**
	baz=113					
PICO	**Pico**	**63.14 55**	*e*P	**P**		**13 42 18.4 +2.8**
	comp=Z,855nm,1.6s					
H16K	**Elim**	**63.19 334**	P	**P**		**13 42 16.3 +1.0**
	baz=106,SNR=29					
H16K			S	**S**		**13 50 45.2 +3.3**
	baz=106					
LL03	**Petrohue**	**63.19 159**	IAMs_20	IAMs_20		14 02 58.8
	comp=Z,2μm,21.0s					
PPNO	**Prainha do Nor**	**63.26 55**	*e*P	**P**		**13 42 17.4 +1.0**
	comp=Z,686nm,1.6s					
ROSA	**Rosais**	**63.27 55**	*e*P	**P**		**13 42 17.0 +0.6**
	comp=Z,491nm,1.5s					
J14K	**Nanvaranak Lak**	**63.28 332**	IAMs_20	IAMs_20		14 09 28.4
	comp=Z,2μm,21.0s					
J14K	**Nanvaranak Lak**	**63.28 332**	P	**P**		**13 42 17.1 +1.2**
	baz=103,SNR=51					
J14K			S	**S**		**13 50 47.8 +4.8**
	baz=103					
UNV	**Unalaska Valle**	**63.28 322**	P	**P**		**13 42 16.9 +0.8**
	comp=Z,486nm,1.4s					
UNV	**Unalaska Valle**	**63.28 322**	P	**P**		**13 42 16.2 +0.1**
	baz=96,SNR=39					
UNV			S	**S**		**13 50 45.3 +1.9**
	baz=96					
F17K	**Baldwin Pennin**	**63.30 336**	IAmb	IAmb		13 42 18.6
	comp=Z,86nm,1.1s					
F17K			IAMs_20	IAMs_20		14 11 10.1
	comp=Z,2μm,18.0s					
F17K	**Baldwin Pennin**	**63.30 336**	P	**P**		**13 42 17.0 +0.9**
	baz=107					
F17K			S	**S**		**13 50 45.7 +2.5**
	baz=107					
E18K	**Tukpahlearik C**	**63.37 337**	P	**P**		**13 42 17.1 +0.7**
	baz=108					
E18K			S	**S**		**13 50 44.9 +0.8**
	baz=108					
ALGR	**Alto Alegre (B**	**63.37 136**	*e*P	**P**		**13 42 16.4 -0.7**
PID	**Ribeirinha**	**63.38 55**	*e*P	**P**		**13 42 19.0 +1.9**
	comp=Z,618nm,1.6s					
PMAN	**Manadas**	**63.40 55**	*e*P	**P**		**13 42 18.3 +1.1**
	comp=Z,505nm,1.4s					
SRBC	**Serra Branca**	**63.42 55**	*e*P	**P**		**13 42 20.0 +2.7**
	comp=Z,2μm,1.7s					
G16K	**Koyuk River**	**63.44 335**	IAMs_20	IAMs_20		14 09 30.7
	comp=Z,2μm,20.0s					
G16K	**Koyuk River**	**63.44 335**	P	**P**		**13 42 18.3 +1.3**
	baz=106					
G16K			S	**S**		**13 50 48.6 +3.6**
	baz=106					
A21K	**Barrow**	**63.48 342**	P	**P**		**13 42 16.9 -0.2**
	baz=114					
TBOT	**Tacuaremb**	**63.49 141**	*e*P	**P**		**13 42 17.6 -0.2**
C19K	**Lookout Ridge**	**63.57 339**	P	**P**		**13 42 18.4 +0.5**
	baz=110,SNR=26					
C19K			S	**S**		**13 50 48.5 +1.8**
	baz=110					
K13K	**Kusilvak Mount**	**63.60 331**	IAMs_20	IAMs_20		14 10 22.0
	comp=Z,2μm,19.0s					
E17K	**Hotham Inlet**	**63.72 337**	P	**P**		**13 42 19.2 +0.4**
	baz=107,SNR=48					
E17K			S	**S**		**13 50 50.7 +2.3**
	baz=107					
LL06	**Loncomilla**	**63.74 160**	IAmb	IAmb		13 42 55.0
	comp=Z,112nm,1.2s					
C18K	**Utukok River**	**63.97 339**	IAmb	IAmb		13 42 23.4
	comp=Z,315nm,1.8s					
C18K			IAMs_20	IAMs_20		14 10 57.2
	comp=Z,2μm,22.0s					
C18K	**Utukok River**	**63.97 339**	P	**P**		**13 42 20.6 +0.1**
	baz=108,SNR=13					
C18K			S	**S**		**13 50 52.8 +1.2**
	baz=108					
PSBA	**Serra de Santa**	**63.99 55**	*e*P	**P**		**13 42 23.5 +2.4**
	comp=Z,830nm,1.6s					
G15K	**Niukluk**	**64.02 334**	P	**P**		**13 42 22.0 +1.2**
	baz=104					
G15K			S	**S**		**13 50 55.9 +3.6**
	baz=104					
M11K	**Mekoryuk**	**64.04 329**	P	**P**		**13 42 23.0 +2.0**
	baz=100,SNR=5.3					
M11K			S	**S**		**13 50 56.3 +3.7**
	baz=100					
PAGU	**Agualva, Azore**	**64.10 55**	*e*P	**P**		**13 42 24.2 +2.4**
	comp=Z,612nm,1.6s					
SPB	**Sao Paulo**	**64.10 128**	P	**P**		**13 42 22.2 +0.2**
SPB	**Sao Paulo**	**64.10 128**	*e*P	**P**		**13 42 22.4 +0.4**
VAO	**Valinhos**	**64.11 127**	IAmb	IAmb		13 42 24.2
	comp=Z,117nm,1.0s					
VAO	**Valinhos**	**64.11 127**	*e*P	**P**		**13 42 21.8 -0.4**
SUMG	**Summit**	**64.14 17**	IAmb	IAmb		13 42 52.6
	comp=Z,99nm,1.0s					
SUMG	**Summit**	**64.14 17**	⇓P	**P**		**13 42 21.8 -0.3**
SUMG	**Summit**	**64.14 17**	*e*P	**P**		**13 42 22.1 +0.1**
SUMG			IAmb	IAmb		13 42 23.1
	comp=Z,96nm,1.3s					
SUMG			*e*			13 42 41.2
PSCM	**Serra do Cume**	**64.15 55**	*e*P	**P**		**13 42 23.5 +1.3**
	comp=Z,604nm,1.4s					
CPSB	**Cacapava Do Su**	**64.17 138**	*e*P	**P**		**13 42 22.4 +0.1**
LL01	**San Ignacio de**	**64.29 159**	IAMs_20	IAMs_20		14 03 28.0
	comp=Z,2μm,20.0s					
D17K	**Noatak River**	**64.36 337**	P	**P**		**13 42 23.2 +0.2**
	baz=106,SNR=36					
D17K			S	**S**		**13 50 57.1 +0.8**
	baz=106					
RDOG	**Red Dog Mine**	**64.39 338**	IAmb	IAmb		13 42 26.1
	comp=Z,292nm,1.6s					
RDOG			IAMs_20	IAMs_20		14 14 51.5
	comp=Z,2μm,21.0s					
RDOG	**Red Dog Mine**	**64.39 338**	P	**P**		**13 42 23.6 +0.4**
	baz=106,SNR=18					
RDOG			S	**S**		**13 50 57.9 +1.0**
	baz=106					
B18K	**Kokolik River**	**64.40 339**	P	**P**		**13 42 24.3 +1.0**
	baz=108					
B18K			S	**S**		**13 50 59.9 +3.0**
	baz=108					
A19K	**Wainwright**	**64.44 340**	P	**P**		**13 42 23.1 -0.3**
	baz=109					
F15K	**North Star Dit**	**64.44 335**	P	**P**		**13 42 24.9 +1.3**
	baz=104					
F15K			S	**S**		**13 51 00.4 +2.9**
	baz=104					
ANM	**Nome**	**64.48 334**	P	**P**		**13 42 25.2 +1.4**
	baz=102,SNR=7.3					
ANM			S	**S**		**13 51 01.4 +3.4**
	baz=102					
NIKH	**Nikolski High**	**64.61 321**	P	**P**		**13 42 25.0 +0.2**
	comp=Z,353nm,1.0s					
NIKH	**Nikolski High**	**64.61 321**	P	**P**		**13 42 24.6 -0.2**
	baz=94,SNR=18					
C17K	**DeLong Mountai**	**64.61 338**	P	**P**		**13 42 24.5 -0.2**
	baz=106,SNR=12					
PET01	**Itanhaem-SP**	**64.62 129**	*e*P	**P**		**13 42 25.0 -0.3**
BSCB	**Bom Sucesso**	**64.70 124**	*e*P	**P**		**13 42 26.0 0.0**
**SO

comp=Z,262nm,1.5s
TRQA Tornquist 64.95 149 P **P 13 42 27.9 +0.7**
TRQA IAmb IAmb 13 42 29.7
comp=Z,197nm,1.1s
TRQA Tornquist 64.95 149 P **P 13 42 27.9 +0.7**
TRQA pmax pmax
comp=Z,197nm,1.2s
TBI Tubuai 64.96 233 *e*PKP1 **P 13 42 28.8 +1.2**
comp=Z,2µm,34.8s
TBI Tubuai 64.96 233 *e*PP **PP 13 44 51.9 +0.6**
comp=Z,1µm,27.0s
TBI *e*S **S 13 51 04.2 -0.8**
comp=Z,4µm,30.2s
TBI *e*SS **SS 13 55 14.7 -3.4**
comp=Z,8µm,37.2s
TBI *e*LR LR 14 01 55.6
comp=Z,24µm,29.8s
TBI *e*LR LR 14 01 58.4
comp=Z,5µm,28.8s
PLTB Pedras Altas 64.98 139 P **P 13 42 27.3 -0.3**
PLTB IAmb IAmb 13 42 29.6
comp=Z,200nm,1.1s
PLTB Pedras Altas 64.98 139 *e*P **P 13 42 27.0 -0.6**
F14K Arctic Creek 65.07 335 P **P 13 42 28.7 +1.1**
baz=102
F14K S **S 13 51 08.9 +3.8**
baz=102
CNLB Canela 65.15 135 *e*P **P 13 42 28.8 0.0**
P08K Saint George I 65.29 325 P **P 13 42 29.2 0.0**
baz=95
PSET Sete Cidades 65.30 56 *e*P **P 13 42 32.7 +3.0**
comp=Z,998nm,1.8s
PARB Paraibuna 65.32 127 *e*P **P 13 42 30.3 +0.3**
C16K Lisburne Hills 65.33 338 IAmb IAmb 13 42 31.6
comp=Z,376nm,1.7s
C16K IAMs_20 IAMs_20 14 16 06.3
comp=Z,1µm,20.0s
C16K Lisburne Hills 65.33 338 P **P 13 42 29.5 +0.2**
baz=104,SNR=12
RCBR Riachuelo 65.41 105 P **P 13 42 31.2 +0.5**
RCBR IAmb IAmb 13 42 34.1
comp=Z,161nm,1.1s
RCBR Riachuelo 65.41 105 IAMs_20 IAMs_20 14 13 00.1
comp=Z,1µm,20.0s
RCBR Riachuelo 65.41 105 ⇓P **P 13 42 31.3 +0.5**
RCBR Riachuelo 65.41 105 LR LR 14 13 31.3
comp=Z,1µm,19.6s,baz=244,slow=38
RCBR Riachuelo 65.41 105 P **P 13 42 31.2 +0.5**
RCBR pmax pmax
comp=Z,161nm,1.1s
RCBR MLR MLR
comp=Z,2µm,20.0s
RCBR Riachuelo 65.41 105 P **P 13 42 31.7 +0.9**
RCBR pP **pP 13 42 49.0 +0.9**
RCBR sP **sP 13 42 56.3 +1.1**
RCBR Riachuelo 65.41 105 *e*P **P 13 42 30.7 0.0**
PCALD Caldeiras da R 65.49 56 *e*P **P 13 42 29.9 -1.0**
comp=Z,875nm,1.9s
PGRON Lagoa das Cont 65.58 56 *e*P **P 13 42 34.1 +2.6**
comp=Z,1µm,1.6s
SPIA Saint Paul Isl 65.72 325 P **P 13 42 32.7 +0.7**
comp=Z,232nm,1.6s
SPIA Saint Paul Isl 65.72 325 P **P 13 42 32.1 +0.1**
baz=95,SNR=8.1
TNA Tin City 65.74 335 P **P 13 42 32.3 +0.4**
baz=100,SNR=7.7
BART Pico Bartolome 65.74 56 *e*P **P 13 42 34.1 +1.5**
comp=Z,1µm,1.5s
NBLA Lagarto - SE 65.78 111 *e*P **P 13 42 33.3 +0.3**
ALE Alert 66.23 5 P **P 13 42 33.4 -1.5**
ALE pP **pP 13 42 49.6 -2.5**
ALE sP **sP 13 42 57.2 -2.0**
ALE PcP **PcP 13 43 04.0 -0.5**
SJMB Sao Joao De Ma 66.40 120 *e*P **P 13 42 37.5 +0.5**
VAS01 Vassouras-RJ 66.43 125 *e*P **P 13 42 37.6 +0.5**
GUA01 Guaratinga, BA 66.53 118 *e*P **P 13 42 38.4 +0.5**
NBAN Anadia - AL 66.58 109 *e*P **P 13 42 38.5 +0.3**
DUB01 Friburgo-RJ 67.16 124 *e*P **P 13 42 42.7 +0.9**
RIB01 Linhares ES 67.35 120 *e*P **P 13 42 43.1 +0.1**
ATKA Atka Island 67.84 320 P **P 13 42 45.4 -0.1**
comp=Z,276nm,1.5s
ATKA Atka Island 67.84 320 ⇑P **P 13 42 45.0 -0.6**
ABR01 Abrolhos, BA 68.11 118 *e*P **P 13 42 48.7 +0.9**
BORG Borgarnes 68.28 27 P **P 13 42 49.6 +1.5**
BORG IAmb IAmb 13 43 15.1
comp=Z,151nm,1.1s
BORG Borgarnes 68.28 27 ⇑P **P 13 42 49.5 +1.5**
BORG Borgarnes 68.28 27 P **P 13 42 48.4 +0.4**
comp=Z,58nm,1.1s,baz=249,slow=4.6,SNR=13
BORG pP **pP 13 43 07.3 +1.9**
comp=Z,117nm,1.2s,baz=233,slow=3.7,SNR=7.5
BORG LR LR 14 14 49.0
comp=Z,641nm,18.6s,baz=261,slow=38
comp=Z,58nm,1.1s
BORG Borgarnes 68.28 27 P **P 13 42 49.6 +1.5**
BORG pmax pmax
comp=Z,151nm,1.2s
BORG Borgarnes 68.28 27 P **P 13 42 49.4 +1.3**
BORG pP **pP 13 43 07.5 +2.1**
BORG sP **PcP 13 43 14.0 +0.6**
SCO Scoresbysund 68.62 20 IAMs_20 IAMs_20 14 13 38.4
comp=Z,1µm,21.0s
ADK Adak 69.39 319 P **P 13 42 54.8 -0.4**
comp=Z,553nm,1.1s
ADK Adak 69.39 319 P **P 13 42 54.4 -0.8**
ADK Adak 69.39 319 P **P 13 42 54.4 -0.8**
ADK pmax pmax
comp=Z,462nm,1.0s
ADK Adak 69.39 319 P **P 13 42 54.3 -0.9**
ADK pP **pP 13 43 12.4 -0.1**
ADK sP **PcP 13 43 18.9 +0.6**
GO08 Villa O'Higgin 69.70 162 P **P 13 42 58.8 +1.8**
DAG Danmarks Havn 70.31 14 *i* P **P 13 42 58.3 -2.1**
DAG IAmb IAmb 13 43 00.6
comp=Z,102nm,1.0s
SACV Santiago Islan 70.79 80 P **P 13 43 05.8 +1.3**
SACV pP **pP 13 43 23.0 +0.9**
NOR Nord 71.21 9 *i* P **P 13 43 05.0 -0.9**
NOR IAmb IAmb 13 43 07.7
comp=Z,286nm,1.6s
RAR Rarotonga 72.05 240 LR LR 14 06 17.7
comp=Z,1µm,19.9s,baz=90,slow=29
PMOZ Porto Moniz, M 72.84 60 *e*P **P 13 43 19.0 +2.4**
comp=Z,357nm,1.5s
PMOZ *e*S **S 13 52 40.3 +2.0**
PMOZ *e*LQ LQ 14 02 10.2
PMOZ *e*LR LR 14 05 48.6
comp=Z,1µm,22.0s
JMIC Jan Mayen 73.08 20 P **P 13 43 17.5 +0.3**
comp=Z,41nm,0.8s,baz=80,slow=7.0,SNR=2.8
JMIC LR LR 14 20 02.8
comp=Z,684nm,18.3s,baz=260,slow=40
comp=Z,41nm,0.8s
PMAR Madeira 73.09 60 *e*P **P 13 43 20.6 +2.4**
comp=Z,375nm,1.2s
PMAR *e*S **SKiKP 13 52 48.2 +3.0**
FUL Funchal 73.12 61 *e*P **P 13 43 17.4 -0.7**
comp=Z,240nm,1.4s
PMPST Porto Santo, M 73.50 60 *e*P **P 13 43 22.6 +2.2**
comp=Z,424nm,1.3s
PMPST *e*S **S 13 52 51.6 +5.9**
PMPS Porto Santo 73.51 60 *e*P **P 13 43 22.5 +2.1**
comp=Z,527nm,1.7s
MACI Morro de la Ar 74.30 65 IAMs_20 IAMs_20 14 10 28.1
comp=Z,1µm,22.0s
VAL Valentia 74.70 40 P **P 13 43 26.4 -0.5**
IGLA Glengowla, Co 74.98 38 P **P 13 43 28.0 -0.5**
IGLA Glengowla, Co 74.98 38⇓*e*P **P 13 43 28.0 -0.5**
IGLA IAmb IAmb 13 43 30.5
comp=Z,110nm,1.2s
IDGL Inch Island, C 75.76 36 P **P 13 43 32.9 -0.1**
IDGL Inch Island, C 75.76 36⇓*e*P **P 13 43 32.9 -0.1**
IDGL IAmb IAmb 13 43 35.0
comp=Z,206nm,1.3s
BILL Bilibino 75.86 337 P **P 13 43 30.4 -3.0**
BILL IAmb IAmb 13 44 00.2
comp=Z,205nm,1.1s
BILL Bilibino 75.86 337 *d i* P **P 13 43 33.5 +0.2**
BILL *e* 13 46 26.5
BILL *e*PPP PPP 13 48 15.2
BILL pmax pmax
comp=Z,337nm,1.7s
KPL Plockton 76.35 34⇓*e*P **P 13 43 35.8 -0.5**
KPL IAmb IAmb 13 43 37.9
comp=Z,199nm,1.4s
KPL IAMs_20 IAMs_20 14 11 56.7
comp=Z,3µm,30.1s
KBS Kingsbay 76.36 11 P **P 13 43 38.0 +2.0**
KBS Kingsbay 76.36 11 IAMs_20 IAMs_20 14 18 43.5
comp=Z,2µm,22.0s
KBS Kingsbay 76.36 11 *e*P **P 13 43 37.1 +1.2**
KBS IAmb IAmb 13 43 39.0
comp=Z,333nm,1.5s
KBS *e*S **S 13 53 19.8 +4.0**
KBS IAMs_20 IAMs_20 14 14 17.8
comp=Z,3µm,28.6s
KBS Kingsbay 76.36 11 *de*P **P 13 43 37.2 +1.2**
KBS pmax pmax
comp=Z,150nm,1.2s
KBS Kingsbay 76.36 11 *i* P **P 13 43 37.7 +1.7**
LINV Loch Inver, As 76.42 33 *e*P **P 13 43 36.1 -0.6**
LINV IAmb IAmb 13 43 38.9
comp=Z,185nm,1.3s
LINV IAMs_20 IAMs_20 14 10 21.9
comp=Z,3µm,34.7s
CLGH Cloghs, Cushen 76.55 36 *e*P **P 13 43 36.6 -0.9**
CLGH IAmb IAmb 13 43 39.9
comp=Z,237nm,1.7s
ILTH Belurgan, Co L 76.64 37 P **P 13 43 37.7 -0.3**
ILTH Belurgan, Co L 76.64 37⇓*e*P **P 13 43 37.6 -0.3**
LAWE Loch Awe, Argy 76.70 35⇓*e*P **P 13 43 37.8 -0.6**
LAWE IAmb IAmb 13 43 39.9
comp=Z,128nm,1.4s
LAWE IAMs_20 IAMs_20 14 11 33.8
comp=Z,2µm,27.7s
IWEX Carrickbyrne, 76.72 39 P **P 13 43 38.2 -0.3**
IWEX Carrickbyrne, 76.72 39⇓*e*P **P 13 43 37.9 -0.6**
IWEX IAmb IAmb 13 43 40.6
comp=Z,302nm,1.4s
DSB Dublin 76.78 38 P **P 13 43 38.2 -0.6**
DSB Dublin 76.78 38 *e*P **P 13 43 38.4 -0.4**
BIGH Upper Bighouse 77.01 33⇓*e*P **P 13 43 40.2 +0.1**
BIGH IAmb IAmb 13 43 42.4
comp=Z,101nm,1.3s
MBO M'Bour 77.16 79 IAMs_20 IAMs_20 14 18 58.3
comp=Z,2µm,18.0s
PGBU Glenifferbraes 77.30 35⇓*e*P **P 13 43 41.1 -0.6**
PGBU IAmb IAmb 13 43 43.3
comp=Z,188nm,1.4s
EFI East Falkland 77.37 156 IAMs_20 IAMs_20 14 14 04.1
comp=Z,2µm,20.0s
EFI East Falkland 77.37 156 *ce*P **P 13 43 43.2 +1.2**
EFI pmax pmax
comp=Z,22nm,0.9s
GAL1 Galloway 77.39 36⇓*e*P **P 13 43 42.0 -0.2**
GAL1 IAmb IAmb 13 43 43.8
comp=Z,120nm,1.4s
INVG Invergeldie, C 77.40 35⇓*e*P **P 13 43 42.0 -0.3**
INVG IAmb IAmb 13 43 43.8
comp=Z,46nm,1.3s
INVG IAMs_20 IAMs_20 14 12 23.6
comp=Z,1µm,29.1s
SPA0 Spitsbergen Ar 77.47 11 *e*P **P 13 43 42.8 +0.4**
SPA0 IAmb IAmb 13 43 44.4
comp=Z,263nm,1.4s
SPITS Spitsbergen Ar 77.47 11 P **P 13 43 42.6 +0.3**
comp=Z,105nm,1.2s,baz=134,slow=4.8,SNR=20
SPITS pP **pP 13 44 00.4 +0.4**
comp=Z,18nm,0.6s,baz=226,slow=5.7,SNR=4.3
SPITS S **S 13 53 29.3 +1.2**
comp=Z,8.2nm,1.0s,baz=328,slow=13,SNR=1.2
comp=Z,105nm,1.2s
BBTS Babate 77.49 78 LR LR 14 12 32.4
comp=Z,1µm,21.4s,baz=165,slow=32
MCD Coleburn Disti 77.56 33⇓*e*P **P 13 43 42.3 -0.9**
MCD IAmb IAmb 13 43 45.0
comp=Z,226nm,1.4s
WIM Isle of Man 77.57 37⇓*e*P **P 13 43 43.4 +0.2**
NEWG New Galloway 77.60 36 *e*P **P 13 43 43.3 -0.1**
NEWG IAmb IAmb 13 43 45.7
comp=Z,92nm,1.4s
NEWG IAMs_20 IAMs_20 14 11 40.5
comp=Z,1µm,26.2s
IOMK Kirk Michael 77.61 37⇓*e*P **P 13 43 43.2 -0.2**
IOMK IAmb IAmb 13 43 46.0
comp=Z,416nm,1.4s
WPS Cemaes, Angles 77.84 38 *e*P **P 13 43 44.5 -0.2**
WPS IAmb IAmb 13 43 46.2
comp=Z,92nm,1.4s
HSPB Hornsund (broa 77.85 12 *e*PKP **P 13 43 46.1 +1.8**
WLF1 Llynfaes 77.93 38 *e*P **P 13 43 45.3 +0.1**
WME Myndd Eilian 77.96 38⇓*e*P **P 13 43 44.7 -0.7**
EDI Edinburgh 77.99 35⇓*e*P **P 13 43 45.3 -0.2**
EDI IAmb IAmb 13 43 47.1
comp=Z,181nm,1.4s
EDI IAMs_20 IAMs_20 14 12 10.2
comp=Z,2µm,31.2s
LIS Lisbon 78.05 53 *e*P **P 13 43 46.6 +0.3**
LIS IAMs_20 IAMs_20 14 14 31.4
comp=Z,2µm,25.1s
LIS Lisbon 78.05 53 *e*P **P 13 43 46.6 +0.3**
YLL Llanberis 78.09 38 *e*P **P 13 43 45.7 -0.5**
ESK Eskdalemuir 78.12 36 P **P 13 43 46.5 +0.2**
ESK IAmb IAmb 13 44 13.0
comp=Z,139nm,1.1s
ESK Eskdalemuir 78.12 36⇓*e*P **P 13 43 45.9 -0.4**
ESK IAmb IAmb 13 43 48.5
comp=Z,73nm,1.1s
ESK IAMs_20 IAMs_20 14 11 56.5
comp=Z,1µm,23.2s
ESK Eskdalemuir 78.12 36 P **P 13 43 46.5 +0.2**
ESK pmax pmax
comp=Z,139nm,1.1s
DRUM Mains of Drumt 78.12 34⇓*e*P **P 13 43 46.2 -0.1**
DRUM IAmb IAmb 13 43 47.9
comp=Z,150nm,1.4s
DRUM IAMs_20 IAMs_20 14 12 46.6
comp=Z,3µm,30.4s
EKB Eskdalemuir 78.13 36 IAmb IAmb 13 44 13.0
comp=Z,179nm,1.2s
PSBE So Bento 78.14 52 *e*P **P 13 43 47.0 +0.2**
comp=Z,348nm,1.6s
PSBE *e*S **S 13 53 34.6 -2.0**
EKA Eskdalemuir Ar 78.14 36 P **P 13 43 46.6 +0.2**
comp=Z,43nm,1.1s,baz=282,slow=5.8,SNR=48
EKA pP **pP 13 44 04.2 -0.1**
comp=Z,37nm,0.9s,baz=282,slow=6.8,SNR=9.2
EKA S **S 13 53 38.0 +2.0**
comp=Z,0.2nm,0.4s,baz=305,slow=12,SNR=1.6
comp=Z,43nm,1.1s
CCA1 Carnmenellis 78.15 41⇓*e*P **P 13 43 46.2 -0.3**
CCA1 IAmb IAmb 13 43 49.1
comp=Z,197nm,1.6s
PCAB Cabril 78.20 50 *e*P **P 13 43 47.4 +0.3**
comp=Z,219nm,1.4s
PCAS Casmilo, Conde 78.24 52 *e*P **P 13 43 47.6 +0.3**
comp=Z,685nm,1.8s
PCAS *e*S **S 13 53 37.3 -0.3**
COI Coimbra 78.27 51 IAMs_20 IAMs_20 14 16 42.6
comp=Z,1µm,21.0s
COI Coimbra 78.27 51 *e*P **P 13 43 48.5 +1.1**
comp=Z,514nm,1.7s
COI *e*S **S 13 53 37.9 +0.1**
PACT Alcochete 78.28 53 *e*P **P 13 43 48.2 +0.7**
comp=Z,1µm,1.8s
ESY Stoneypath 78.30 35⇓*e*P **P 13 43 47.4 +0.1**
KESW Keswick, Cumbr 78.36 36⇓*e*P **P 13 43 46.9 -0.7**
KESW IAmb IAmb 13 43 49.3
comp=Z,72nm,1.4s
HTL Hartland 78.42 40⇓*e*P **P 13 43 48.0 0.0**
HTL IAmb IAmb 13 43 49.9
comp=Z,144nm,1.4s
POLO Lamas de Olo 78.45 50 *e*P **P 13 43 47.7 -0.9**
comp=Z,130nm,1.2s
POLO *e*S **S 13 53 35.5 -4.5**
PVIS Viseu 78.53 51 *e*P **P 13 43 48.5 -0.5**
comp=Z,310nm,1.2s
PVRL Vila Real 78.53 50 *e*P **P 13 43 49.1 +0.2**
comp=Z,236nm,1.1s
PTEO Sao Teotonio 78.65 54 *e*P **P 13 43 50.2 +0.6**
comp=Z,663nm,1.6s
PNCL Nicolau / Gran 78.67 54 *e*P **P 13 43 49.5 -0.2**
comp=Z,244nm,1.3s
PNCL *e*S **S 13 53 42.5 +0.3**
PFVI Vila Bisbo 78.67 55 *e*P **P 13 43 50.1 +0.4**
comp=Z,640nm,1.4s
PMTG Montargil 78.67 53 *e*P **P 13 43 49.2 -0.5**
comp=Z,306nm,1.5s
PMTG *e*S **S 13 53 42.9 +0.6**
FOEL Foel Wylfa 78.72 38⇓*e*P **P 13 43 49.4 -0.3**
FOEL IAmb IAmb 13 43 51.1
comp=Z,98nm,1.4s
MORF Marmelete 78.76 54 IAmb IAmb 13 44 19.9
comp=Z,291nm,1.2s
MORF Marmelete 78.76 54 *e*P **P 13 43 50.4 +0.2**
comp=Z,316nm,1.4s
MORF *e*S **S 13 53 40.3 -3.1**
MORF Marmelete 78.76 54 *e*P **P 13 43 50.5 +0.2**
MORF *e*S **S 13 53 44.7 +1.3**
MORF IAMs_20 IAMs_20 14 11 02.2
comp=E,2µm,31.0s
MORF Marmelete 78.76 54 *e*P **P 13 43 50.5 +0.2**
MORF *e*S **S 13 53 44.7 +1.3**
MTE Manteigas 78.87 51 IAmb IAmb 13 44 20.6
comp=Z,310nm,1.1s
MTE IAMs_20 IAMs_20 14 17 08.5
comp=Z,1µm,22.0s
MTE Manteigas 78.87 51 *e*P **P 13 43 50.3 -0.5**
comp=Z,375nm,1.2s
MTE *e*S **S 13 53 40.9 -3.5**
MTE *e*SS **SS 13 58 44.7 -5.4**
MTE *e*LR LR 14 08 22.5
comp=Z,883nm,20.0s
DYA Yadsworthy 78.89 41⇓*e*P **P 13 43 50.5 -0.2**
DYA IAmb IAmb 13 43 53.0
comp=Z,252nm,1.6s
EDMD Edmundbyers 78.94 36⇓*e*P **P 13 43 50.7 -0.1**
EDMD IAmb IAmb 13 43 52.6
comp=Z,193nm,1.3s
EVO Evora 78.96 53 *e*P **P 13 43 50.6 -0.7**
comp=Z,241nm,1.7s
MESJ Messejana 78.97 54 IAmb IAmb 13 44 20.9
comp=Z,243nm,1.3s
MESJ IAMs_20 IAMs_20 14 17 39.5
comp=Z,1µm,20.0s
MESJ Messejana 78.97 54 *e*P **P 13 43 51.3 0.0**
comp=Z,232nm,1.9s
MESJ Messejana 78.97 54 *e*P **P 13 43 51.6 +0.3**
MESJ *e*S **S 13 53 46.7 +1.2**
MESJ IAMs_20 IAMs_20 14 09 25.7
comp=Z,2µm,39.5s
MESJ Messejana 78.97 54 *e*P **P 13 43 51.6 +0.3**
MESJ *e*S **S 13 53 46.7 +1.2**
HLM1 Long Mynd 79.00 38⇓*e*P **P 13 43 50.9 -0.4**
HLM1 IAmb IAmb 13 43 52.9
comp=Z,132nm,1.3s
PCBR Castelo Branco 79.05 52 *e*P **P 13 43 52.3 +0.6**
comp=Z,408nm,1.2s
PBRG Braganca 79.12 50 *e*P **P 13 43 51.5 -0.6**
comp=Z,250nm,1.4s
PCVE Castro Verde 79.16 54 *e*P **P 13 43 52.2 -0.2**
comp=Z,333nm,1.4s
PCVE *e*S **S 13 53 49.2 +1.7**
PBEJ Beja 79.20 54 *e*P **P 13 43 52.7 +0.1**
comp=Z,269nm,1.6s
PESTR Estremoz 79.20 53 IAmb IAmb 13 44 21.9
comp=Z,253nm,1.2s
PESTR Estremoz 79.20 53 *e*P **P 13 43 51.8 -0.8**
comp=Z,255nm,1.3s
PESTR *e*S **S 13 53 46.7 -1.3**
PMRV Marv??o 79.22 52 *e*P **P 13 43 52.1 -0.6**
comp=Z,455nm,1.3s
PMRV *e*S **S 13 53 48.7 +0.6**
PMRV Marv??o 79.22 52 *e*LR LR 14 09 10.0
comp=Z,768nm,20.0s
STNC Stoke 79.25 38 *e*P **P 13 43 52.8 +0.2**
STNC IAmb IAmb 13 43 55.3
comp=Z,233nm,1.4s
PBDV Barranco-do-Ve 79.34 54 *e*P **P 13 43 53.6 +0.2**
comp=Z,433nm,1.5s
PBDV *e*S **S 13 53 52.1 +2.6**
HPK Haverah Park 79.36 37 *e*P **P 13 43 52.6 -0.5**
HPK IAmb IAmb 13 43 55.8
comp=Z,161nm,1.6s
LBWR Ladybower, Pea 79.45 37⇓*e*P **P 13 43 53.8 +0.2**
LBWR IAmb IAmb 13 43 55.6
comp=Z,169nm,1.3s
LBWR IAMs_20 IAMs_20 14 12 12.3
comp=Z,1µm,30.6s
PVAQ Vaqueiros 79.46 54 IAmb IAmb 13 44 23.9
comp=Z,269nm,1.2s
PVAQ Vaqueiros 79.46 54 *e*P **P 13 43 54.0 0.0**
comp=Z,380nm,1.3s
PVAQ *e*S **S 13 53 48.1 -2.6**
PVAQ Vaqueiros 79.46 54 *e*LQ LQ 14 05 27.9
PVAQ *e*LR LR 14 09 01.1
GDLE Glaisdale, N Y 79.69 36 *e*P **P 13 43 55.0 +0.1**
GDLE IAmb IAmb 13 43 56.8
comp=Z,54nm,1.1s
PBAR Barrancos 79.79 53 *e*P **P 13 43 55.0 -0.8**
comp=Z,310nm,1.3s
PBAR *e*S **S 13 53 54.6 +0.4**
BJO1 Bjornoya 79.80 14 *e*P **P 13 43 56.0 +0.9**
BJO1 IAmb IAmb 13 43 57.0
comp=Z,101nm,1.0s
BJO1 *e*S **S 13 53 55.7 +2.8**
BJO1 IAMs_20 IAMs_20 14 18 31.6
comp=Z,3µm,26.0s
CWF Charnwood Fore 79.87 38⇓*e*P **P 13 43 55.8 -0.1**
CWF IAmb IAmb 13 43 57.6
comp=Z,143nm,1.5s
SWN1 Swindon 79.91 39⇓*e*P **P 13 43 56.2 0.0**
SWN1 IAmb IAmb 13 43 58.1
comp=Z,460nm,1.5s
HOPEN Hopen 79.97 12 *e*P **P 13 43 57.1 +1.1**
HOPEN IAmb IAmb 13 43 59.6
comp=Z,397nm,1.9s
HOPEN *e*S **S 13 53 56.2 +1.6**
HOPEN IAMs_20 IAMs_20 14 16 15.8
comp=Z,3µm,30.4s
WOL Wolverton 80.32 39⇓*e*P **P 13 43 58.3 0.0**
JSA Saint Aubin 80.32 41⇓*e*P **P 13 43 58.0 -0.4**
JSA IAmb IAmb 13 44 01.0
comp=Z,103nm,1.2s
FOO Floro 80.46 28 *e*P **P 13 43 59.7 +0.8**
FOO IAmb IAmb 13 44 02.2
comp=Z,245nm,1.6s
FOO *e*sP **pP 13 44 19.4 +2.8**
FOO *e*S **S 13 54 03.7 +3.5**
SUE Sulen 80.52 29 *e*P **P 13 44 00.2 +1.0**
SUE *e*S **S 13 54 04.8 +4.0**
AVE Averroes 80.74 58 IAMs_20 IAMs_20 14 13 37.9
comp=Z,2µm,22.0s
ASK Askoy 80.91 29 *e*P **P 13 44 01.7 +0.4**
ASK IAmb IAmb 13 44 04.0
comp=Z,95nm,1.3s
ASK *e*sP **sP 13 44 23.1 -3.0**
ASK *e*S **S 13 54 08.7 +3.7**
WACR West Acre 81.00 38⇓*e*P **P 13 44 02.1 +0.1**
WACR IAmb IAmb 13 44 03.7
comp=Z,165nm,1.2s
BER Bergen 81.01 29 *e*P **P 13 44 02.7 +0.9**
BER IAmb IAmb 13 44 05.9
comp=Z,263nm,1.7s
BER *e*S **S 13 54 10.2 +4.1**
HYA Hoyanger 81.13 28 *e*P **P 13 44 04.0 +1.5**
HYA IAmb IAmb 13 44 05.9
comp=Z,248nm,1.3s
HYA *e*S **S 13 54 09.4 +2.2**
MOL Molde 81.22 27 *e*P **P 13 44 04.2 +1.3**
LOF Lofoten 81.27 21 *e*P **P 13 44 03.8 +0.7**
LOF IAmb IAmb 13 44 06.3
comp=Z,210nm,1.6s
LOF *e*S **S 13 54 12.3 +3.9**
KMY Karmoy 81.37 30 *e*P **P 13 44 04.5 +0.7**
KMY IAmb IAmb 13 44 07.2
comp=Z,251nm,1.4s
KMY *e*S **S 13 54 11.8 +2.0**
KMY IAMs_20 IAMs_20 14 13 20.0
comp=Z,2µm,36.8s
HMNX Herstmonceux 81.39 39 *e*P **P 13 44 04.3 +0.2**
HMNX IAmb IAmb 13 44 06.0
comp=Z,126nm,1.2s
ELMS Elmsett, Ipswi 81.41 38 *e*P **P 13 44 03.9 -0.2**
ELMS IAmb IAmb 13 44 06.5
comp=Z,332nm,1.7s
PAB San Pablo 81.46 51 P **P 13 44 05.3 +0.5**
PAB IAmb IAmb 13 44 35.5
comp=Z,313nm,1.2s
PAB San Pablo 81.46 51 IAMs_20 IAMs_20 14 18 37.1
comp=Z,1µm,20.0s
PAB San Pablo 81.46 51 P **P 13 44 05.6 +0.8**
ESDC Sonseca Array 81.71 51 P **P 13 44 06.4 +0.3**
comp=Z,63nm,1.2s,baz=298,slow=4.6,SNR=104
ESDC pP **pP 13 44 24.7 +0.7**
comp=Z,67nm,1.2s,baz=302,slow=5.4,SNR=8.2

ESDC S **S** **13 54 14.0 -0.3**
comp=Z,0.2nm,0.3s,baz=288,slow=23,SNR=1.4
ESDC PKKPbc **PKKPbc** **14 02 37.0 -1.1**
comp=Z,0.6nm,0.8s,baz=22,slow=2.7,SNR=5.9
ESDC LR LR 14 19 06.7
comp=Z,747nm,19.2s,baz=278,slow=35
comp=Z,63nm,1.2s
ESBB Sonseca Array 81.71 51 IAmb IAmb 13 44 36.8
comp=Z,139nm,1.2s
ELSH Elham, Standar 81.78 39↓*e*P **P** **13 44 06.4 +0.3**
ELSH IAmb IAmb 13 44 08.8
comp=Z,251nm,1.3s
ODD1 Odda 81.78 30 *e*P **P** **13 44 07.2 +1.2**
ODD1 IAmb IAmb 13 44 08.9
comp=Z,105nm,1.3s
ODD1 *e*S **SKSac** **13 54 18.9 -1.8**
KONS Konsvik 81.84 22 *e*P **P** **13 44 06.9 +0.8**
STOK Stokkvaagen 81.87 22 *e*P **P** **13 44 07.3 +1.0**
STOK IAmb IAmb 13 44 10.2
comp=Z,475nm,1.5s
STOK *e*S **S** **13 54 18.9 +4.2**
STOK IAMs_20 IAMs_20 14 16 08.6
comp=Z,2μm,27.7s
BLS5 Blasjo 81.88 30 *e*P **P** **13 44 07.4 +0.8**
BLS5 IAmb IAmb 13 44 09.5
comp=Z,234nm,1.3s
BLS5 *e*S **S** **13 54 18.6 +3.4**
STEI Steigen 81.93 21 *e*P **P** **13 44 07.6 +1.0**
STEI IAmb IAmb 13 44 10.1
comp=Z,524nm,1.4s
STEI *e*S **S** **13 54 19.2 +4.0**
STEI IAMs_20 IAMs_20 14 17 49.7
comp=Z,2μm,26.8s
DOMB Dombas 82.08 27 *e*P **P** **13 44 08.5 +1.0**
DOMB IAmb IAmb 13 44 10.3
comp=Z,266nm,1.5s
DOMB *e*S **S** **13 54 20.7 +3.5**
TBLU Trondheim 82.10 26 *e*P **P** **13 44 08.6 +1.0**
FAUS Fauske 82.20 21 *e*P **P** **13 44 08.8 +0.8**
FAUS IAmb IAmb 13 44 11.4
comp=Z,322nm,1.5s
FAUS *e*S **S** **13 54 20.5 +2.5**
FAUS IAMs_20 IAMs_20 14 17 02.4
comp=Z,2μm,26.7s
NSS Namsos 82.26 24 *e*P **P** **13 44 09.4 +1.1**
NSS IAmb IAmb 13 44 11.1
comp=Z,164nm,1.4s
NSS *e*S **S** **13 54 21.2 +2.5**
NSS IAMs_20 IAMs_20 14 16 19.5
comp=Z,4μm,31.2s
TRO Tromso 82.26 18 *e*P **P** **13 44 09.1 +0.9**
TRO IAmb IAmb 13 44 11.8
comp=Z,572nm,1.5s
TRO *e*S **S** **13 54 21.1 +2.5**
TRO IAMs_20 IAMs_20 14 13 52.1
comp=Z,1μm,30.8s
SEY Seymchan 82.98 334*de*P **P** **13 44 12.9 +0.8**
SEY pmax pmax
comp=Z,79nm,1.7s
HAMF Hammerfest 83.08 17 *e*P **P** **13 44 12.3 -0.2**
NC204 NORSAR Array S 83.13 27 IAmb IAmb 13 44 41.1
comp=Z,226nm,1.4s
MDT Midelt 83.14 58 LR LR 14 15 59.2
comp=Z,799nm,21.7s,baz=312,slow=32
KONO Kongsberg 83.27 29 P **P** **13 44 14.4 +0.7**
KONO Kongsberg 83.27 29 *e*P **P** **13 44 14.7 +0.9**
KONO IAmb IAmb 13 44 17.4
comp=Z,539nm,1.4s
KONO *e*S **S** **13 54 31.1 +1.8**
KONO Kongsberg 83.27 29*de*P **P** **13 44 14.6 +0.9**
KONO pmax pmax
comp=Z,214nm,1.3s
HOMB Homborsund 83.30 31 *e*P **P** **13 44 15.5 +1.6**
HOMB IAmb IAmb 13 44 17.5
comp=Z,293nm,1.3s
HOMB *e*S **S** **13 54 29.2 -0.4**
NC303 NORSAR Array S 83.42 27 IAmb IAmb 13 44 42.6
comp=Z,314nm,1.4s
NB2 NORSAR Subarra 83.43 28 P **P** **13 44 15.4 +0.8**
comp=Z,593nm,1.7s,baz=299,slow=5.3
NB2 NORSAR Subarra 83.43 28 P **P** **13 44 15.4 +0.8**
baz=299,slow=5.3
NOA NORSAR Array B 83.43 28 P **P** **13 44 15.5 +0.9**
comp=Z,84nm,1.1s,baz=302,slow=5.1,SNR=118
NOA pP **pP** **13 44 34.3 +1.8**
comp=Z,82nm,1.1s,baz=298,slow=5.2,SNR=11
NOA S **S** **13 54 30.4 -0.5**
comp=Z,0.3nm,0.8s,baz=300,slow=12,SNR=1.2
NOA LR LR 14 24 42.7
comp=Z,430nm,19.4s,baz=345,slow=38
comp=Z,84nm,1.1s
CLF Chambon-Foret 83.47 42 IAmb IAmb 13 44 46.1
comp=Z,191nm,1.2s
CLF IAMs_20 IAMs_20 14 22 36.4
comp=Z,1μm,22.0s
NC405 NORSAR Array S 83.62 27 IAmb IAmb 13 44 42.9
comp=Z,284nm,1.4s
OSL Oslo 83.67 29 *e*P **P** **13 44 16.6 +0.9**
NC602 NORSAR Array S 83.70 28 *e*P **P** **13 44 16.9 +1.0**
NC602 IAmb IAmb 13 44 19.1
comp=Z,237nm,1.2s
NC602 *e*S **S** **13 54 34.4 +0.8**
NC602 IAMs_20 IAMs_20 14 15 05.0
comp=Z,3μm,35.9s
PET Petropavlovsk 83.85 324 P **P** **13 44 17.6 +0.8**
comp=Z,877nm,1.1s
PET Petropavlovsk 83.85 324 *e*P **P** **13 44 16.8 0.0**
PET *e* 13 47 30.4
PET *e*S **SKSac** **13 54 36.7 +2.2**
PET *e*PS **PnS** **13 55 26.0 -8.8**
PET pmax pmax
comp=Z,196nm,1.5s
PET pmax pmax
comp=Z,600nm,12.3s
KTK1 Kautokeino 83.89 18 *e*P **P** **13 44 18.1 +1.3**
KTK1 IAmb IAmb 13 44 19.7
comp=Z,258nm,1.5s
KTK1 *e*pP **pP** **13 44 36.2 +1.6**
KTK1 *e*S **SKSac** **13 54 36.1 +1.9**
DOU Dourbes 84.21 39 *d*P **P** **13 44 19.0 +0.3**
comp=Z,36nm,1.4s
DOU *d*pP **pP** **13 44 38.0 +1.3**
DOU *d*sP **sP** **13 44 44.0 +0.2**
ARCES ARCESS Array B 84.23 17 P **P** **13 44 18.1 -0.4**
ARCES IAmb IAmb 13 44 47.6
comp=Z,193nm,1.1s
ARCES ARCESS Array B 84.23 17 P **P** **13 44 18.8 +0.3**
comp=Z,18nm,0.7s,baz=308,slow=4.5,SNR=39
ARCES pP **pP** **13 44 37.9 +1.5**
comp=Z,82nm,0.9s,baz=305,slow=4.3,SNR=19
ARCES S **SKSac** **13 54 37.3 +0.8**
comp=Z,1.9nm,0.9s,baz=290,slow=19,SNR=2.0
ARCES PKKPbc **PKKPbc** **14 02 32.0 -1.3**
comp=Z,1.1nm,0.8s,baz=134,slow=3.9,SNR=2.0
comp=Z,18nm,0.7s
BMRD Maredsous 84.24 39 *d*P **P** **13 44 19.7 +0.9**
comp=Z,69nm,1.3s
BMRD *d*pP **pP** **13 44 37.7 +0.8**
MUD Monsted U'grnd 84.35 32 *i* P **P** **13 44 20.3 +1.0**
MUD IAmb IAmb 13 44 21.9
comp=Z,106nm,1.2s
BGES Gesves 84.40 39 *d*P **P** **13 44 20.2 +0.5**
comp=Z,79nm,1.3s
BGES *d*pP **pP** **13 44 38.8 +1.1**
KEV Kevo 84.52 17 P **P** **13 44 19.7 -0.2**
KEV Kevo 84.52 17 P **P** **13 44 19.7 -0.2**
KEV pmax pmax
comp=Z,373nm,1.5s
OVD Ostervraa, Den 84.52 31 *i* P **P** **13 44 23.1 +3.1**
BCLA Clavier 84.52 39 *d*P **P** **13 44 20.7 +0.4**
comp=Z,55nm,1.3s
BCLA *d*pP **pP** **13 44 39.4 +1.1**
CART Cartagena 84.54 52 IAmb IAmb 13 44 41.2
comp=Z,190nm,1.9s
CART IAMs_20 IAMs_20 14 20 11.8
comp=Z,1μm,20.0s
RCHB Rochefort 84.57 39 *d*P **P** **13 44 20.8 +0.3**
comp=Z,65nm,1.4s
HLG Helgoland 84.58 35 *e*P 13 44 21.4
comp=Z,282nm,1.2s,baz=296,slow=4.7
CEST Esterri de Car 84.58 47 IAmb IAmb 13 44 52.6
comp=Z,98nm,1.0s
BEBN Eben Emael 84.60 38 *d*P **P** **13 44 21.1 +0.4**
BEBN *d*pP **pP** **13 44 39.6 +0.9**
BEBN *d*sP **sP** **13 44 47.9 +2.1**
BSTI Sart Tilman 84.62 39 *d*P **P** **13 44 21.8 +1.0**
BSTI *d*pP **pP** **13 44 39.9 +1.1**
MEM Membach 84.87 38 *d*P **P** **13 44 22.7 +0.7**
comp=Z,62nm,1.2s
MEM *d*pP **pP** **13 44 41.0 +0.9**
MEM *d*sP **sP** **13 44 47.5 +0.4**
VADS Vadso 84.91 16 *e*P **P** **13 44 21.1 -0.7**
VADS IAmb IAmb 13 44 48.7
comp=Z,354nm,1.5s
VADS *e*S **S** **13 54 47.5 +2.2**
VADS IAMs_20 IAMs_20 14 16 47.2
comp=Z,2μm,28.9s
HFS Hagfors 84.93 28 P **P** **13 44 22.3 +0.2**
comp=Z,9.2nm,0.6s,baz=294,slow=1.5,SNR=30
HFS pP **pP** **13 44 41.6 +1.6**
comp=Z,36nm,1.1s,baz=299,slow=3.1,SNR=8.2
comp=Z,9.2nm,0.6s
BTNL Ternell 84.95 38 *d*P **P** **13 44 23.3 +0.8**
comp=Z,34nm,1.3s
BHOU Houvegnez 84.96 39 *d*P **P** **13 44 23.7 +1.1**
comp=Z,48nm,1.3s
BHOU *d*pP **pP** **13 44 41.5 +0.9**
BHOU *d*sP **sP** **13 44 50.7 +3.1**
SSRD Sdr. Stenderup 84.98 33 *i* P **P** **13 44 24.6 +2.1**
SSRD IAmb IAmb 13 44 25.8
comp=Z,334nm,1.1s
MA2 Magadan 85.17 332 P **P** **13 44 24.4 +1.0**
comp=Z,257nm,1.9s
MA2 Magadan 85.17 332 P **P** **13 44 24.1 +0.7**
MA2 Magadan 85.17 332*de*P **P** **13 44 23.7 +0.3**
MA2 pmax pmax
comp=Z,217nm,1.6s
IBBN Ibbenburen 85.24 36 *e*P 13 44 24.5
comp=Z,295nm,1.6s,baz=296,slow=4.7
IBBN *e*pP 13 44 43.2
BUG Bochum--Univer 85.29 37 *e*P 13 44 24.6
comp=Z,265nm,1.6s,baz=296,slow=4.7
WLF Walferdange 85.31 39 IAMs_20 IAMs_20 14 23 31.7
comp=Z,1μm,22.0s
WLF Walferdange 85.31 39 *d*P **P** **13 44 25.1 +0.9**
comp=Z,60nm,1.3s
WLF *d*pP **pP** **13 44 43.7 +1.4**
WLF *d*sP **sP** **13 44 51.1 +1.7**
WLF Walferdange 85.31 39 *e*P 13 44 25.0
comp=Z,233nm,1.4s,baz=296,slow=4.7
WLF *e*pP 13 44 43.5
TIXI Tiksi 85.35 347 IAMs_20 IAMs_20 14 24 21.0
comp=Z,1μm,20.0s
TIXI Tiksi 85.35 347*ce*P **P** **13 44 23.7 -0.3**
TIXI pmax pmax
comp=Z,109nm,1.5s
AHRW Bad Neuenahr-A 85.53 38 *e*P 13 44 26.0
comp=Z,269nm,1.5s,baz=296,slow=4.7
SKR Severo-Kuril's 86.20 322*ce*P **P** **13 44 27.9 -0.7**
PMSA Palmer Station 86.27 166 LR LR 14 15 19.5
comp=Z,1μm,20.2s,baz=332,slow=30
PMSA Palmer Station 86.27 166 *e*P **P** **13 44 29.8 +1.3**
COP Copenhagen 86.33 32 *i* P **P** **13 44 31.1 +1.9**
TNS Taunus Mts 86.46 38 *e*P 13 44 30.3
comp=Z,73nm,1.3s,baz=296,slow=4.7
ECH Echery 86.47 40 IAMs_20 IAMs_20 14 28 35.6
comp=Z,1μm,21.0s
DEL Delary 86.70 31 *e*P **P** **13 44 30.2 -0.7**
UPP Uppsala 86.79 27 *e*P **P** **13 44 31.7 +0.4**
GTTG Gottingen 86.80 37 *e*P 13 44 32.0
comp=Z,35nm,1.1s,baz=296,slow=4.7
CLZ Clausthal 86.90 36 *e*P 13 44 32.6
comp=Z,20nm,0.9s,baz=296,slow=4.7
VIKU Vikbolandet 87.06 29 *e*P **P** **13 44 33.5 +0.9**
VAF Ylistaro 87.12 23 *e*P **P** **13 44 32.5 -0.3**
BFO Black Forest 87.14 40 IAMs_20 IAMs_20 14 28 36.4
comp=Z,1μm,21.0s
BFO Black Forest 87.15 40 *e*P 13 44 33.3
comp=Z,60nm,1.7s,baz=296,slow=4.7
FLTG Flechtingen 87.17 36 *e*P 13 44 33.6
comp=Z,26nm,1.2s,baz=296,slow=4.7
STU Stuttgart 87.49 39 IAMs_20 IAMs_20 14 28 22.5
comp=Z,1μm,20.0s
AAL Aland 87.64 26 *e*P **P** **13 44 35.8 +0.4**
APA Apatity 87.72 17↓*i*P **P** **13 44 32.8 -2.9**
APA *i* 13 47 59.0
APA *i* 13 54 54.0
APA *i* S **S** **13 55 08.0 -4.8**
APA *i* PS PS 13 56 29.0 +6.5
APA pmax pmax
comp=Z,11nm,1.4s
LVZ Lovozero 87.83 16*ce*P **P** **13 44 35.3 -1.0**
LVZ pmax pmax
comp=Z,65nm,1.5s
BSD Bornholm Skovb 87.86 32 *e*P **P** **13 44 36.7 +0.2**
BSD Bornholm Skovb 87.86 32 *i* P **P** **13 44 36.1 -0.4**
BSD IAmb IAmb 13 44 38.3
comp=Z,55nm,1.1s
RAF Rauma 87.91 25 *e*P **P** **13 44 36.8 +0.2**
NEUB Neuenburg 87.97 36 *e*P 13 44 37.3
comp=Z,48nm,1.2s,baz=296,slow=4.7
MOX Moxa 88.12 37 *e*P 13 44 37.8
comp=Z,29nm,1.2s,baz=296,slow=4.7
MOX *e*pP 13 44 56.6
MOX *e*L 14 25 37.9
comp=Z,700nm,21.5s
GRA1 Grafenberg Arr 88.31 38 IAmb IAmb 13 45 08.8
comp=Z,71nm,1.1s
GRA1 IAMs_20 IAMs_20 14 28 48.9
comp=Z,774nm,18.0s
GRFO Grafenberg 88.31 38 P **P** **13 44 37.9 -0.9**
GRFO IAmb IAmb 13 45 08.7
comp=Z,88nm,1.2s
GRFO IAMs_20 IAMs_20 14 28 48.9
comp=Z,779nm,18.0s
GRFO Grafenberg 88.31 38 P **P** **13 44 37.9 -0.9**
GRFO pmax pmax
comp=Z,88nm,1.2s
GRF Grafenberg Arr 88.31 38 *e*P 13 44 39.5
comp=Z,31nm,0.8s,baz=296,slow=4.7
GRF *e*L 14 21 58.9
comp=Z,693nm,21.8s
KEF Keuruu 88.45 23 *e*P **P** **13 44 39.3 +0.1**
PLN Plauen 88.50 37 *e*P 13 44 39.5
comp=Z,38nm,1.2s,baz=296,slow=4.7
UBR Ueberruh 88.50 40 *e*P 13 44 39.9
comp=Z,56nm,1.2s,baz=296,slow=4.7
DAVA Damuels 88.53 40 *i* PcP **P** **13 44 40.7 +0.5**
comp=Z,44nm,1.1s,SNR=19
DAVA *e*PP **PP** **13 48 09.3 +0.7**
comp=Z,22nm,1.4s
TUE Stuetta 88.53 41 IAmb IAmb 13 45 11.2
comp=Z,191nm,1.9s
TUE IAMs_20 IAMs_20 14 28 35.2
comp=Z,1μm,21.0s
SMAI San Martin Ant 88.55 169 IAmb IAmb 13 44 44.6
comp=Z,155nm,2.0s
CLL Collm 88.61 36 IAMs_20 IAMs_20 14 29 24.7
comp=Z,1μm,19.0s
CLL Collm 88.61 36 *i* P **P** **13 44 39.9 -0.3**
CLL *e*S **S** **13 55 28.0 +6.2**
CLL pmax pmax
comp=Z,48nm,1.4s
CLL MLR MLR
comp=Z,1μm,21.4s
CLL Collm 88.61 36 *e*P 13 44 39.8
comp=Z,50nm,1.4s,baz=296,slow=4.7
MANZ Manzenberg 88.70 37 *e*P 13 44 40.6
comp=Z,7.9nm,1.2s,baz=296,slow=4.7
MANZ *e*pP 13 44 59.5
TANN Tannenbergstha 88.71 37 *e*P 13 44 40.8
comp=Z,52nm,1.3s,baz=296,slow=4.7
HOPE Hope Point 88.73 149 P **P** **13 44 41.1 +0.7**
HOPE Hope Point 88.73 149 P **P** **13 44 41.1 +0.7**
HOPE pmax pmax
comp=Z,206nm,1.2s
DAVOX Davos/Dischmat 88.74 41 P **P** **13 44 41.4 +0.2**
comp=Z,6.1nm,0.8s,baz=278,slow=5.4,SNR=9.9
comp=Z,6.1nm,0.8s
ROTZ Rotzenmuhle 88.85 38 *e*P 13 44 41.7
comp=Z,9.6nm,1.3s,baz=296,slow=4.7
RETA Reute 88.98 40 *i* PcP **P** **13 44 42.7 +0.5**
comp=Z,62nm,1.2s,SNR=24
RETA *i* PP **PP** **13 48 11.0 -1.1**
comp=Z,36nm,1.4s
FETA Feichten 89.16 40 *i* PcP **P** **13 44 43.9 +0.7**
comp=Z,40nm,1.3s,SNR=17
FETA *e*PP **PP** **13 48 11.1 -2.5**
comp=Z,37nm,1.4s
HSKC Hora Svate Kat 89.17 36 *e*P **P** **13 44 42.8 -0.1**
HSKC AMS AMS 14 20 50.0
comp=Z,1μm,22.5s
BRG Berggiesshubel 89.34 36 *i* P **P** **13 44 44.1 +0.4**
BRG Amp 13 44 46.4
comp=Z,42nm,1.2s
BRG Berggiesshubel 89.34 36 SKS **SKSac** **13 55 15.0 +6.5**
BRG Berggiesshubel 89.34 36 *i* P **P** **13 44 44.0 +0.4**
BRG 13 45 02.5
BRG 13 45 11.5
BRG 13 48 13.1
BRG S **S** **13 55 33.0 +4.4**
BRG SP **SP** **13 56 37.0 +4.2**
BRG SS **SS** **14 01 24.0 +0.4**
BRG pmax pmax
comp=Z,42nm,1.2s
BRG pmax pmax
comp=Z,29nm,1.1s
BRG pmax pmax
comp=Z,15nm,0.9s
BRG pmax pmax
comp=Z,23nm,1.1s
BRG pmax pmax
comp=N,539nm,21.0s
BRG MLR MLR
comp=Z,739nm,19.8s
BRG MLR MLR
comp=E,322nm,16.5s
BRG Berggiesshubel 89.34 36 *e*P 13 44 43.6
comp=E,42nm,1.2s,baz=296,slow=4.7
FINES FINESS Array B 89.35 24 P **P** **13 44 42.3 -1.2**
FINES FINESS Array B 89.35 24 P **P** **13 44 42.8 -0.7**
comp=E,26nm,1.0s,baz=318,slow=2.6,SNR=50
FINES pP **pP** **13 45 02.0 +0.5**
comp=E,30nm,1.0s,baz=318,slow=2.6,SNR=10
comp=E,26nm,1.0s
SQTA Sankt Quirin 89.37 40 *i* PcP **P** **13 44 44.8 +0.7**
comp=E,56nm,1.2s,SNR=19
SQTA *i* PP **PP** **13 48 15.1 -0.1**
comp=E,38nm,1.2s
MEF Metsahovi 89.43 25 *e*P **P** **13 44 43.9 0.0**
WET Wettzell 89.52 38 *e*P 13 44 44.9
comp=E,79nm,1.4s,baz=296,slow=4.7
MSSA Maissana 89.53 43 IAmb IAmb 13 44 46.3
comp=Z,55nm,1.2s
WATA Walderalm 89.55 40 *e*PcP **P** **13 44 45.3 +0.4**
comp=Z,51nm,1.2s,SNR=14
WATA *i* PP **PP** **13 48 15.2 -1.4**
comp=Z,37nm,1.6s
WTTA Wattenberg 89.62 40 *i* PcP **PcP** **13 44 46.0 -0.6**
comp=Z,46nm,1.3s,SNR=14
WTTA *i* PP **PP** **13 48 16.2 -1.1**
comp=Z,25nm,1.5s
KHC Kasperske Hory 89.94 38 IAMs_20 IAMs_20 14 28 33.0
comp=Z,1μm,20.0s
KHC Kasperske Hory 89.94 38 *e*P **P** **13 44 46.2 -0.4**
KHC *e*PP **PP** **13 48 20.1 +0.6**
KHC *e*SKS **SKSac** **13 55 16.7 +4.5**
KHC AMS AMS 14 28 20.0
comp=Z,1μm,17.8s
KHC Kasperske Hory 89.94 38*ce*P **P** **13 44 45.6 -1.0**
KHC pmax pmax
comp=Z,51nm,1.2s
MSVF Nonsavu 89.98 251 P **P** **13 44 50.8 +3.5**
comp=Z,74nm,1.4s
MSVF Nonsavu 89.98 251 *i* P **P** **13 44 47.9 +0.6**
MSVF pmax pmax
comp=Z,68nm,1.2s
MTSE Matsula 90.08 26 *e*P **P** **13 44 46.9 0.0**
PRU Pruhonice 90.09 37 *e*P **P** **13 44 45.9 -1.3**
PRU AMS AMS 14 20 30.0
comp=Z,1μm,23.5s
PRU Pruhonice 90.09 37 *e*P **P** **13 44 45.9 -1.3**
PRU MLR MLR
comp=Z,1μm,23.5s
RJOB Jochberg 90.11 39 *e*P 13 44 47.6
comp=Z,58nm,1.4s,baz=296,slow=4.7
GERES GERESS Array B 90.14 38 P **P** **13 44 47.2 -0.4**
comp=Z,6.0nm,0.8s,baz=327,slow=3.7,SNR=21
GERES pP **pP** **13 45 06.9 +1.3**
comp=Z,1.5nm,0.3s,baz=270,slow=2.7,SNR=2.2
GERES PP **PP** **13 48 20.7 -0.5**
comp=Z,28nm,1.2s,baz=311,slow=6.9,SNR=12
GERES PKKPbc **PKKPbc** **14 02 17.7 -0.9**
comp=Z,0.8nm,0.7s,baz=64,slow=3.1,SNR=4.8
comp=Z,6.0nm,0.8s
GEC2 GERESS Array S 90.14 38 *e*P 13 44 47.3
comp=Z,42nm,1.3s,baz=296,slow=4.7
GEC2 *e*pP 13 45 06.1
LESA Schwarzleotal 90.18 40 *i* PcP **P** **13 44 48.2 +0.4**
comp=Z,47nm,1.3s
LESA *e*PP **PP** **13 48 23.8 +2.2**
comp=Z,24nm,1.2s
GOPC GO Pecny, Ondr 90.27 37 *e*P **P** **13 44 47.7 -0.4**
GOPC AMS AMS 14 26 30.0
comp=Z,1μm,20.8s
GOPC GO Pecny, Ondr 90.27 37 *e*P **P** **13 44 47.7 -0.4**
GOPC MLR MLR
comp=Z,1μm,20.8s
JOF Joensuu 90.28 21 *e*P **P** **13 44 47.5 -0.3**
RAO Raoul Island 90.29 239 LR LR 14 15 51.8
comp=Z,441nm,21.3s,baz=78,slow=29
ABTA Abfaltersbach 90.38 40 *i* PcP **P** **13 44 49.3 +0.5**
comp=Z,95nm,1.3s,SNR=36
ABTA *i* PP **PP** **13 48 19.4 -3.8**
comp=Z,37nm,1.7s
ZCCA Zocca 90.47 43 IAmb IAmb 13 44 54.4
comp=Z,159nm,1.5s
ZCCA IAMs_20 IAMs_20 14 30 16.6
comp=Z,1μm,19.0s
TEOL Teolo 90.47 42 IAmb IAmb 13 44 50.7
comp=Z,97nm,1.3s
CKRC Cesky Krumlov 90.51 38 *e*P **P** **13 44 49.1 -0.1**
CKRC *e*SKS **SKSac** **13 55 18.2 +2.7**
CKRC AMS AMS 14 23 40.0
comp=Z,900nm,23.7s
CKRC Cesky Krumlov 90.51 38 *e*P **P** **13 44 49.1 -0.1**
CKRC *e* 13 55 18.2
CKRC MLR MLR
comp=Z,900nm,23.7s
TIC Toumodi 90.61 83⇑*i*P **P** **13 44 50.3 -0.1**
comp=Z,10nm,0.3s
BIOA Bad Ischl, Aus 90.64 39 *i* PcP **P** **13 44 50.1 +0.3**
comp=Z,54nm,1.6s,SNR=11
BIOA *i* PP **PP** **13 48 26.0 +0.9**
comp=Z,52nm,1.3s
KSP Ksiaz 90.66 35 *e*PKP **P** **13 44 50.0 +0.2**
UPC Upice 90.67 36 AMS AMS 14 23 10.0
comp=Z,1μm,23.9s
STAL STALIGIAL 90.72 41 IAmb IAmb 13 44 52.4
comp=Z,84nm,1.3s
STAL IAMs_20 IAMs_20 14 32 48.1
comp=Z,842nm,20.0s
LIC Lamto 90.73 83⇑*i*P **P** **13 44 51.0 +0.1**
comp=Z,113nm,1.1s
KBA Koelnbreinsper 90.74 40 *i* PcP **P** **13 44 50.8 +0.3**
comp=Z,54nm,1.3s,SNR=34
KBA *i* PP **PP** **13 48 22.5 -3.6**
comp=Z,18nm,1.6s
OSTC Ostas 90.76 36 *e*P **P** **13 44 50.8 +0.5**
OSTC AMS AMS 14 23 20.0
comp=Z,1μm,20.5s
OSTC Ostas 90.76 36 *e*P **P** **13 44 50.8 +0.5**
OSTC MLR MLR
comp=Z,1μm,20.5s
DBIC Dimbokro 90.76 83 P **P** **13 44 50.6 -0.3**
comp=Z,44nm,1.1s,baz=281,slow=4.4,SNR=14
DBIC LR LR 14 22 39.2
comp=Z,478nm,20.7s,baz=272,slow=34
comp=Z,44nm,1.1s
DBIC Dimbokro 90.76 83 P **P** **13 44 50.9 -0.1**
DPC Dobruska-Polom 90.92 36 *e*P **P** **13 44 51.5 +0.4**
DPC AMS AMS 14 23 10.0
comp=Z,1μm,23.8s
DPC Dobruska-Polom 90.92 36 *e*P **P** **13 44 51.5 +0.4**
DPC MLR MLR
comp=Z,1μm,23.8s
MOA Molln 90.94 39 *i* PcP **P** **13 44 51.3 0.0**
comp=Z,53nm,1.4s,SNR=28
MOA *i* PP **PP** **13 48 27.2 -0.3**
comp=Z,50nm,1.6s
KIC Kosan Boka 90.96 83⇑*i*P **P** **13 44 52.0 0.0**
comp=Z,154nm,1.2s
OSSC Osservatorio P 91.00 43 IAMs_20 IAMs_20 14 29 12.8
comp=Z,1μm,18.0s
MYKA Terra Mystica 91.13 40 *i* PcP **P** **13 44 52.2 0.0**
comp=Z,43nm,1.4s,SNR=13
MYKA *i* PP **PP** **13 48 27.9 -1.3**
comp=Z,23nm,1.4s
VALR Valaam 91.18 22 *i* P **P** **13 44 51.4 -0.6**

VALR pmax pmax
comp=Z,82nm,1.3s
KRLC Kraliky 91.31 36 AMS AMS 14 23 50.0
comp=Z,1μm,23.2s
CADS Cadrg 91.37 40 *i* P **P 13 44 53.0 -0.3**
CADS *i* pP **pP 13 45 11.9 +0.6**
CADS *e*PP **PP 13 48 30.5 -0.5**
CADS *i* pPP 13 48 52.0
CADS *i* SKSac **SKSac 13 55 22.2 +1.6**
CADS *e*SS **ScS 13 55 54.1 +3.6**
SABO M.te Sabotino 91.40 41 IAmb IAmb 13 45 24.4
comp=Z,50nm,1.2s
VSU Vasula 91.45 26*ce*P **P 13 44 52.7 -0.6**
VSU pmax pmax
comp=Z,65nm,1.6s
VRAC Vranov 91.59 37 ⇑P **P 13 44 54.5 +0.3**
VRAC Vranov 91.59 37 *e*P **P 13 44 54.0 -0.2**
VRAC *e*SKS **SKSac 13 55 21.5 -0.1**
VRAC Vranov 91.59 37 P **P 13 44 53.8 -0.4**
comp=Z,2.8nm,0.4s,baz=290,slow=5.7,SNR=23
VRAC pP **pP 13 45 12.7 +0.4**
comp=Z,23nm,1.1s,baz=292,slow=5.6,SNR=2.9
VRAC PKKP **PKKPdf 14 02 09.5 -1.5**
comp=Z,2.2nm,0.4s,baz=4.8,slow=4.1,SNR=1.9
comp=Z,2.8nm,0.4s
KRUC Moravsky 91.59 37 *e*P **P 13 44 53.9 -0.3**
KRUC *e*SKS **SKSac 13 55 21.7 +0.1**
OBKA Obir 91.74 40 *i* PcP **P 13 44 55.2 +0.1**
comp=Z,65nm,1.3s,SNR=25
OBKA *i* PP **PP 13 48 31.9 -2.0**
comp=Z,13nm,1.2s
ADZR Andozero 91.76 18 *e*P **P 13 44 52.1 -2.5**
ADZR pmax pmax
comp=Z,66nm,1.5s
CONA Conrad Observa 91.84 38 *i* PcP **P 13 44 55.8 +0.3**
comp=Z,35nm,1.5s,SNR=22
CONA *i* PP **PP 13 48 36.4 +1.7**
comp=Z,18nm,1.3s
MORC Moravsky Berou 91.89 36 ⇑P **P 13 44 56.3 +0.6**
MORC Moravsky Berou 91.89 36 IAMs_20 IAMs_20 14 28 31.4
comp=Z,1μm,18.0s
MORC Moravsky Berou 91.89 36 *e*P **P 13 44 55.8 +0.2**
MORC *e*SKS **SKSac 13 55 25.9 +2.5**
MORC Moravsky Berou 91.89 36 P **P 13 44 56.2 +0.6**
LJU Ljubljana 91.94 40 *i* P **P 13 44 56.1 +0.1**
LJU *i* pP **pP 13 45 14.8 +0.8**
LJU *i* 13 45 23.8
LJU *i* PP **PP 13 48 35.4 -0.1**
SOKA Soboth 91.95 39 *i* PcP **P 13 44 56.0 0.0**
comp=Z,62nm,1.2s,SNR=38
SOKA *i* PP **PP 13 48 33.3 -2.3**
comp=Z,13nm,1.4s
ARSA Arzberg 91.97 39 *i* PcP **P 13 44 55.9 -0.2**
comp=Z,14nm,1.2s,SNR=7.7
ARSA *i* PP **PP 13 48 36.5 +0.9**
comp=Z,19nm,1.4s
CEY Cerknica 92.03 40 *i* P **P 13 44 56.6 +0.3**
CEY *e*SKSac **SKSac 13 55 26.1 +1.8**
PABE Paberze 92.03 29 IAMs_20 IAMs_20 14 29 02.5
comp=Z,846nm,20.0s
PABE Paberze 92.03 29 *e*P **P 13 44 56.0 0.0**
YAK Yakutsk 92.05 340*d i*P **P 13 44 56.0 0.0**
YAK *e* 13 45 14.5
YAK *e*S **SKSac 13 55 28.2 +4.6**
YAK pmax pmax
comp=Z,114nm,1.3s
YAK pmax pmax
comp=E,38nm,1.2s
YAK pmax pmax
comp=N,36nm,1.3s
YAK pmax pmax
comp=Z,78nm,2.3s
YAK pmax pmax
comp=N,54nm,2.3s
YAK pmax pmax
comp=E,44nm,2.3s
YAK smax smax
comp=N,203nm,8.1s
YAK smax smax
comp=E,140nm,8.1s
YAK MLR MLR
comp=Z,2μm,27.0s
OKC Ostrava-Krasne 92.19 36 *e*P **P 13 44 57.3 +0.4**
OKC AMS AMS 14 24 20.0
comp=Z,800nm,22.4s
OKC Ostrava-Krasne 92.19 36 *e*P **P 13 44 57.3 +0.4**
OKC MLR MLR
comp=Z,800nm,22.4s
RONA Rosalia, Austr 92.21 38 *i* PcP **PcP 13 44 57.7 -0.2**
comp=Z,35nm,1.2s,SNR=12
RONA *i* PP **PP 13 48 38.3 +0.8**
comp=Z,34nm,1.5s
CESX Cesi 92.28 44 IAmb IAmb 13 45 17.3
comp=Z,130nm,1.8s
JAVC Velka Javorina 92.42 37 *e*P **P 13 44 59.2 +1.1**
ZST Bratislava 92.43 37 *e*P **P 13 44 59.6 +1.5**
ZST pmax pmax
comp=Z,214nm,1.5s
ZST Bratislava 92.43 37 *e*P **P 13 44 59.6 +1.5**
MODS Modra-Piesok 92.44 37 *e*P **P 13 44 59.2 +1.0**
MODS pmax pmax
comp=Z,141nm,1.4s
MODS Modra-Piesok 92.44 37 *e*P **P 13 44 59.2 +1.0**
SMOL Smolenice 92.46 37 *e*P **P 13 44 59.2 +1.0**
SUW Suwalki 92.53 30 *e*PKP **P 13 44 58.5 +0.1**
SUW Suwalki 92.53 30 IAMs_20 IAMs_20 14 28 02.7
comp=Z,1μm,21.0s
BEL Belsk 92.55 33 *e*PKP **P 13 44 59.2 +0.7**
GUMA Gualdo di Mace 92.57 43 IAmb IAmb 13 45 41.4
comp=Z,29nm,0.9s
CAMP Campotosto 92.86 44 IAMs_20 IAMs_20 14 29 38.0
comp=Z,1μm,19.0s
OJC Ojcow 92.90 35 *e*PKP **P 13 45 00.6 +0.4**
KEST Kesra 92.96 51 P **P 13 45 00.6 -0.3**
comp=Z,21nm,1.2s,baz=312,slow=3.0,SNR=6.4
KEST pP **pP 13 45 18.9 -0.2**
comp=Z,24nm,1.1s,baz=339,slow=3.0,SNR=4.5
KEST sP **sP 13 45 28.6 +2.4**
comp=Z,56nm,1.2s,baz=150,slow=6.4,SNR=5.5
comp=Z,21nm,1.2s
ISAL Salakas 92.97 28 *e*P **P 13 45 02.5 +2.1**
NRIK Noril'sk 93.02 358 P **P 13 45 00.6 +0.2**
comp=Z,11nm,0.8s,baz=46,slow=4.0,SNR=18
NRIK pP **pP 13 45 19.8 +1.4**
comp=Z,11nm,0.7s,baz=29,slow=5.5,SNR=4.3
comp=Z,11nm,0.8s
VYHS Vyhne 93.28 37 *e*P **P 13 45 02.7 +0.7**
VYHS pmax pmax
comp=Z,39nm,1.4s
VYHS Vyhne 93.28 37 *e*P **P 13 45 02.7 +0.7**
VYHS *e*PP **PP 13 48 46.3 +0.5**
LANS Liptovska Anna 93.28 36 *e*P **P 13 45 03.6 +1.5**
LANS pmax pmax
comp=Z,11nm,1.1s
LANS Liptovska Anna 93.28 36 *e*P **P 13 45 03.5 +1.5**
LANS *e*PP **PP 13 48 46.1 +0.2**
SRO Srobarova 93.33 37 *e*P **P 13 45 03.9 +1.7**
SRO Srobarova 93.33 37 *e*P **P 13 45 03.9 +1.7**
NIE Niedzica 93.60 35 *e*PKP **P 13 45 03.7 +0.1**
TYV Tymovskoe 93.60 326 *e*P **P 13 45 04.2 +0.8**
TYV *e*S **S 13 56 07.1 -0.1**
TYV pmax pmax
comp=Z,200nm,3.2s
TYV pmax pmax
comp=Z,19nm,1.6s
TYV smax smax
comp=N,200nm,6.5s
TYV smax smax
comp=E,200nm,6.5s
PSZ Piszkesteto 94.18 37 ⇓P **P 13 45 07.6 +1.3**
PSZ Piszkesteto 94.18 37 IAMs_20 IAMs_20 14 29 13.1
comp=Z,1μm,19.0s
KECS Kecovo 94.21 36 *e*P **P 13 45 07.5 +1.2**
KECS *e* 13 48 52.7
KECS Kecovo 94.21 36 *e*P **P 13 45 07.5 +1.2**
KECS *e*PP **PP 13 48 52.7 -0.4**
MORH Mrgy, Hungar 94.35 39 ⇑P **P 13 45 06.7 -0.3**
MNK Minsk 94.43 28 *i* P **P 13 45 04.1 -3.0**
MNK *i* *PP **pP 13 45 21.2 -4.0**
MNK *i* 13 48 51.8
MNK *i* PPP PPP 13 50 56.7
MNK *i* S **SKSac 13 55 33.6 -3.4**
MNK *i* *SS **SKKSac 13 56 04.1 +5.6**
MNK *i* SS **SS 14 02 37.5 +1.2**
MNK *i* SSS SSS 14 06 17.4

MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=N,25nm,1.0s
MNK pmax pmax
comp=Z,33nm,1.0s
MNK MLR MLR
comp=Z,944nm,23.0s
CRVS Cervenica-Dubn 94.52 35 *e*P **P 13 45 08.4 +0.7**
CRVS pmax pmax
comp=Z,126nm,2.1s
CRVS Cervenica-Dubn 94.52 35 *e*P **P 13 45 08.4 +0.7**
KWP Kalwaria Pacla 94.79 34 *e*PKP **P 13 45 09.8 +0.9**
TORD Torodi Ar. Bea 94.83 75 P **P 13 45 07.8 -2.0**
TORD IAmb IAmb 13 45 11.1
comp=Z,74nm,2.0s
TORD Torodi Ar. Bea 94.83 75 P **P 13 45 08.3 -1.4**
comp=Z,8.6nm,1.2s,baz=324,slow=3.2,SNR=17
TORD PKKPbc **PKKPbc 14 02 05.8 +0.3**
comp=Z,1.0nm,0.8s,baz=64,slow=3.4,SNR=4.2
comp=Z,8.6nm,1.2s
TAM Tamanrasset 94.90 64 IAMs_20 IAMs_20 14 25 55.6
comp=Z,1μm,21.0s
KOLS Kolonicke sedl 94.95 35 *e*P **P 13 45 10.6 +0.9**
KOLS pmax pmax
comp=Z,20nm,1.6s
KOLS Kolonicke sedl 94.95 35 *e*P **P 13 45 10.6 +0.9**
KOLS *e*PP **PP 13 48 59.0 +0.2**
LVV L'vov 95.39 34 *e*P **P 13 45 11.7 +0.1**
LVV *e* 13 45 30.1
LVV *e* 13 49 04.7
LVV *e*S **S 13 56 21.2 -1.6**
LVV *e*PS **PS 13 57 44.1 -3.7**
LVV pmax pmax
comp=Z,200nm,1.3s
RNPP5 Staryi Chortor 95.50 32 P **P 13 45 11.4 -0.7**
FRGS Fruska Gora 95.60 39 ⇑P **P 13 45 12.9 +0.1**
CUC Castrocucco 95.66 45 IAMs_20 IAMs_20 14 32 45.1
comp=Z,717nm,19.0s
YSS Yuzh-Sakhalins 95.72 323 P **P 13 45 13.4 +0.2**
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 95.72 323*ce*P **P 13 45 12.0 -1.2**
YSS pmax pmax
comp=Z,17nm,1.2s
MATE Matera 95.93 44 ⇑P **P 13 45 14.5 +0.2**
SIRR Siria 96.09 37 ⇑P **P 13 45 15.0 +0.1**
BZS Buzias 96.42 38 ⇑P **P 13 45 17.8 +1.4**
BZS Buzias 96.42 38 P **P 13 45 17.8 +1.4**
MI28 Mi28,Pidlybu 96.57 31 P **P 13 45 16.2 -0.8**
SURR Surduc 96.64 38 ⇑P **P 13 45 17.8 +0.4**
PDG Podgorica 96.69 42 IAMs_20 IAMs_20 14 30 05.1
comp=Z,738nm,21.0s
MARR Marisel-Cluj 96.70 37 ⇑P **P 13 45 17.7 -0.1**
WDD Wied Dalam 96.70 49 IAMs_20 IAMs_20 14 29 41.4
comp=Z,1μm,21.0s
GRNR Gornyy 96.84 329 ⇓*i*P **P 13 45 18.5 +0.2**
GRNR pmax pmax
comp=Z,10.0nm,1.3s
MDVR Moldovita 96.94 39 ⇑P **P 13 45 19.1 +0.3**
MI30 MI30,Zelenitsa 96.95 31 P **P 13 45 17.9 -0.8**
MI29 MI29, Kamyanyy 96.98 32 P **P 13 45 18.1 -0.8**
GZR Gura Zlata 97.22 38 ⇓P **P 13 45 20.2 0.0**
GZR Gura Zlata 97.22 38 P **P 13 45 20.1 0.0**
LUBAR Lubar, Ukraine 97.25 32 P **P 13 45 19.0 -1.1**
HERR Herculane 97.30 38 ⇑P Pdif 13 45 21.6 +1.1
BURAR Bucovina Array 97.32 35 ⇑P Pdif 13 45 21.6 +1.0
KIEV Kiev 97.48 31 ⇑P **P 13 45 20.1 -0.9**
KIEV Kiev 97.48 31 P **P 13 45 19.3 -1.8**
KIEV Kiev 97.48 31 P **P 13 45 20.1 -0.9**
AKASG Malin Array Be 97.48 31 P **P 13 45 19.9 -1.1**
comp=Z,1.6nm,0.5s,baz=291,slow=4.1,SNR=25
AKASG PP **PP 13 49 12.5 -5.7**
comp=Z,2.5nm,0.7s,baz=304,slow=6.8,SNR=7.3
AKASG PKKPbc **PKKPbc 14 01 58.2 -1.2**
comp=Z,0.6nm,0.5s,baz=98,slow=1.4,SNR=4.5
comp=Z,1.6nm,0.5s
AKASG Malin Array Be 97.48 31 P **P 13 45 20.0 -1.1**
AKBB Malin Array Si 97.48 31*ce*P **P 13 45 19.2 -1.9**
AKBB pmax pmax
comp=Z,30nm,1.7s
BOVS Bovan 97.56 40 ⇑P **P 13 45 21.1 -0.5**
TIR Tirane 97.64 42 IAMs_20 IAMs_20 14 29 27.3
comp=Z,1μm,18.0s
MOS Moscow 97.65 24 *e*P **P 13 45 19.8 -1.9**
MOS *e**PP **pP 13 45 38.4 -1.5**
MOS *e* 13 49 17.8
MOS *e*PS PS 13 57 59.4 -13
MOS pmax pmax
comp=Z,70nm,1.2s
MOS pmax pmax
comp=Z,100nm,1.7s
MOS MLR MLR
comp=Z,1μm,21.0s
OBN Obninsk 97.70 24 IAMs_20 IAMs_20 14 29 57.1
comp=Z,939nm,22.0s
OBN Obninsk 97.70 24 P **P 13 45 21.4 -0.5**
comp=Z,17nm,0.4s,baz=358,slow=3.0,SNR=11
OBN pP **pP 13 45 39.7 -0.3**
comp=Z,9.5nm,0.4s,baz=289,slow=3.3,SNR=1.0
comp=Z,17nm,0.4s
OBN Obninsk 97.70 24⇑*e*P **P 13 45 20.8 -1.1**
OBN *e* 13 49 21.0
OBN *e*PPP PPP 13 51 23.4
OBN *i* S **SKSac 13 55 48.4 -5.7**
OBN pmax pmax
comp=Z,39nm,1.4s
VLO Vlora 97.86 43 IAMs_20 IAMs_20 14 33 14.2
comp=Z,622nm,18.0s
JEM Erimo 98.18 319 IAMs_20 IAMs_20 14 34 44.5
comp=Z,871nm,18.0s
ARR Arges 98.31 37 ⇑P Pdif 13 45 26.1 +1.0
DOPR Dopca 98.39 36 ⇑P Pdif 13 45 25.4 0.0
VOIR 98.51 37 ⇑P Pdif 13 45 26.9 +0.9
VOIR 98.51 37 P Pdif 13 45 26.9 +0.9
TURR Turia 98.69 36 ⇑P Pdif 13 45 27.7 +1.0
ZEA Zeya 98.95 335 *e*P Pdif 13 45 27.9 +0.3
ZEA pmax pmax
comp=Z,100nm,5.4s
ZEA pmax pmax
comp=Z,10.0nm,1.7s
MLR Muntele Rosu 98.98 36 ⇑P Pdif 13 45 28.5 +0.3
MLR Muntele Rosu 98.98 36 P **P 13 45 27.9 -0.3**
comp=Z,17nm,1.1s,baz=347,slow=4.2,SNR=13
MLR pP **pP 13 45 46.3 0.0**
comp=Z,7.7nm,0.8s,baz=108,slow=14,SNR=3.9
MLR PP **PP 13 49 25.4 -4.7**
comp=Z,27nm,1.3s,baz=251,slow=7.7,SNR=3.8
MLR PKKPbc **PKKPbc 14 01 53.4 -1.8**
comp=Z,1.4nm,0.6s,baz=312,slow=8.2,SNR=3.3
comp=Z,17nm,1.1s
KIRV Kirov 99.25 17 P **Pdif 13 45 27.7 -1.1**
comp=Z,13nm,0.7s,baz=321,slow=12,SNR=19
KIRV pP **pP 13 45 47.1 +0.1**
comp=Z,17nm,0.8s,baz=331,slow=9.2,SNR=2.8
KIRV PP **PP 13 49 28.7 -2.6**
comp=Z,3.4nm,0.5s,baz=317,slow=22,SNR=0.9
comp=Z,13nm,0.7s
BAL3X Bal3x, Balta 99.45 33 P **Pdif 13 45 28.9 -1.1**
MILM Milestii Mici 99.68 34 *e*PP PKiKP 13 49 48.0 -12
MILM *e*SKS **SKSac 13 56 05.0 +0.6**
MILM *e*L L 14 19 45.0
MILM LRM MLR 14 33 47.0
comp=Z,600nm,18.5s
KLR Kul'dur 100.13 330*ce*P **Pdif 13 45 33.9 +0.9**
KLR pmax pmax
comp=Z,13nm,1.8s
BOD Bodaibo 100.18 343 *e*P **Pdif 13 45 32.0 -1.0**
BOD pmax pmax
comp=Z,46nm,1.5s
CFR Carcaliu 100.40 36 ⇑P **Pdif 13 45 34.2 0.0**
CFR Carcaliu 100.40 36 P **Pdif 13 45 34.2 0.0**
LPSR Galich'ya Gora 100.50 25 *e*P **Pdif 13 45 31.1 -3.4**
LPSR pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 101.31 26 *e*P **Pdif 13 45 37.2 -1.0**
VORR pmax pmax
comp=Z,54nm,0.4s
HEH HeiHe 101.42 332 P **Pdif 13 45 38.8 +0.1**
HEH PP **PP 13 49 54.3 +6.2**
HEH LR LR
comp=Z,2μm,18.2s
HEH LR LR
comp=Z,6μm,20.2s
HEH LR LR
comp=Z,7μm,20.8s

VSR Storozhevoye 101.64 26 *e*P **Pdif 13 45 36.8 -2.8**
VSR pmax pmax
comp=Z,30nm,1.3s
DZM Mont Dzumac 101.68 250 *e*SS SS 14 04 22.2 +0.9
comp=Z,525nm,26.9s
DZM Mont Dzumac 101.68 250 *e*LQ LQ 14 14 37.5
comp=Z,2μm,40.8s
DZM *e*LR LR 14 18 55.2
comp=Z,3μm,28.3s
ALN Alexandroupoli 101.77 40 IAMs_20 IAMs_20 14 39 49.5
comp=Z,705nm,21.0s
VORD Divnogorie 101.88 26 *e*P **Pdif 13 45 38.9 -1.8**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VRH Novokhopyorsk 102.69 25 *e*P **Pdif 13 45 44.2 -0.1**
VRH pmax pmax
comp=Z,12nm,0.4s
ARU Arti 103.43 13 Pdiff **Pdif 13 45 46.8 -0.7**
comp=Z,1.6nm,0.4s,baz=337,slow=6.1,SNR=10
ARU Arti 103.43 13 P **Pdif 13 45 46.8 -0.7**
ARU 13 50 01.0
ARU PPP PPP 13 52 14.2
ARU S **SKSac 13 56 21.0 -1.0**
ARU SP **SP 13 59 04.4 -1.0**
ARU PS PS 13 59 59.4 +46
BELG Belogornoye 103.92 21 Pdiff **Pdif 13 45 48.8 -0.9**
comp=Z,11nm,0.7s,baz=116,slow=4.6,SNR=5.2
MJAR Matsushiro Arr 104.42 316 PP **PKiKP 13 50 08.4 -0.1**
comp=Z,1.6nm,0.9s,baz=58,slow=7.2,SNR=4.7
MJAR PKKPbc **PKKPbc 14 01 37.6 -1.5**
comp=Z,1.2nm,0.8s,baz=270,slow=5.8,SNR=2.4
HNR Honiara 104.43 265 IAMs_20 IAMs_20 14 22 45.8
comp=Z,726nm,19.0s
ISP Isparta 106.39 40 IAMs_20 IAMs_20 14 39 06.1
comp=Z,701nm,21.0s
BRTR Keskin Array B 107.02 37 PKiKP **PKiKP 13 50 12.2 -1.2**
comp=Z,3.2nm,1.1s,baz=305,slow=3.0,SNR=4.4
BRTR PP **PP 13 50 29.4 -0.9**
comp=Z,7.7nm,1.2s,baz=297,slow=5.4,SNR=6.8
BRTR PKKPbc **PKKPbc 14 01 29.3 -2.2**
comp=Z,1.1nm,0.8s,baz=145,slow=3.0,SNR=5.4
QSPA South Pole Qui 107.72 180 Pdiff **Pdif 13 46 07.2 +0.9**
comp=Z,3.1nm,1.1s,baz=148,slow=1.4,SNR=4.7
QSPA PKKPbc **PKKPbc 14 01 25.9 -4.9**
comp=Z,2.1nm,0.8s,baz=287,slow=0.7,SNR=11
QSPA PKKP **PKKPdf 14 01 44.0 -0.3**
comp=Z,2.5nm,1.1s,baz=292,slow=2.7,SNR=6.1
SNAA Sanae 108.31 161 IAMs_20 IAMs_20 14 26 47.7
comp=Z,627nm,19.0s
SNAA Sanae 108.31 161 PKiKP **PKiKP 13 50 14.3 -0.3**
comp=Z,1.6nm,0.9s,baz=203,slow=6.5,SNR=3.6
SNAA PP **PP 13 50 42.8 +3.2**
comp=Z,4.5nm,1.1s,baz=298,slow=5.3,SNR=3.4
SNAA PKKPbc **PKKPbc 14 01 24.5 -3.9**
comp=Z,1.0nm,0.7s,baz=174,slow=7.6,SNR=5.0
SNAA PKKPab **PKKPab 14 01 37.7 -0.3**
comp=Z,4.3nm,1.2s,baz=83,slow=6.6,SNR=3.7
ZALV Zalesovo Beam 108.52 358 PKiKP **PKiKP 13 50 16.0 +0.4**
comp=Z,1.2nm,0.8s,baz=15,slow=6.3,SNR=4.1
ZALV PP **PP 13 50 40.1 -0.1**
comp=Z,4.1nm,0.9s,baz=355,slow=4.8,SNR=3.9
ZALV PKKPbc **PKKPbc 14 01 24.0 -3.1**
comp=Z,0.6nm,0.6s,baz=194,slow=0.6,SNR=4.2
KIV Kislovodsk 108.70 29 IAMs_20 IAMs_20 14 39 46.4
comp=Z,1μm,20.0s
BVAR Borovoye Array 108.73 8 PKiKP **PKiKP 13 50 15.7 -0.3**
comp=Z,5.1nm,1.0s,baz=355,slow=4.9,SNR=5.3
BVAR PP **PP 13 50 41.9 +0.1**
comp=Z,5.5nm,0.9s,baz=335,slow=6.6,SNR=5.4
KBZ Khabaz 108.97 29 PP **PP 13 50 42.2 -1.8**
comp=Z,4.3nm,0.9s,baz=285,slow=11,SNR=4.7
KBZ PKKPab **PKKPab 14 01 38.5 -0.8**
comp=Z,4.2nm,0.9s,baz=106,slow=3.0,SNR=6.2
VNDA Vanda 109.50 193 PKiKP **PKiKP 13 50 16.7 0.0**
comp=Z,0.9nm,0.7s,baz=263,slow=2.6,SNR=3.5
ZAK Zakamensk 109.62 346 *e*P **Pdif 13 46 15.8 +0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.6s
KSRS Korea Array 110.21 323 Pdiff **Pdif 13 46 17.9 -0.2**
comp=Z,0.2nm,0.4s,baz=39,slow=4.7,SNR=1.8
KSRS PKiKP **PKiKP 13 50 18.9 -0.3**
comp=Z,6.4nm,1.1s,baz=26,slow=1.2,SNR=20
KSRS PP **PP 13 50 53.1 -0.1**
comp=Z,2.5nm,0.9s,baz=52,slow=4.5,SNR=6.1
KSRS PKKPbc **PKKPbc 14 01 20.0 -1.1**
comp=Z,0.2nm,0.3s,baz=240,slow=1.0,SNR=4.1
KSRS PKKPab **PKKPab 14 01 32.3 -1.3**
comp=Z,4.3nm,1.1s,baz=224,slow=5.4,SNR=15
SONM Songino Array 111.17 343 Pdiff **Pdif 13 46 23.0 +0.7**
comp=Z,0.4nm,0.4s,baz=27,slow=3.5,SNR=2.1
SONM PKiKP **PKiKP 13 50 20.6 -0.3**
comp=Z,1.3nm,0.8s,baz=260,slow=0.9,SNR=6.0
SONM PP **PP 13 51 00.8 +1.1**
comp=Z,1.5nm,0.9s,baz=29,slow=1.5,SNR=4.2
SONM PKKPbc **PKKPbc 14 01 16.4 -2.3**
comp=Z,1.1nm,0.7s,baz=228,slow=3.6,SNR=5.7
XLT XiLinHaoTe 111.22 334 *e*PKP **PKiKP 13 50 20.1 -1.0**
XLT sPKP 13 50 33.9
XLT PP **PP 13 51 00.9 +0.6**
XLT SKS **SKSdf 13 57 27.8 -0.3**
XLT SS **SS 14 06 28.5 +0.6**
MAK Makhachkala 111.63 27 *i* P **Pdif 13 46 22.1 -2.2**
MAK *i* 13 50 21.4
MAK *e* 13 50 59.6
MAK *e*PPP PPP 13 53 24.4
MAK *e*PS **PS 14 00 33.3 -3.2**
MAK *e*SS SS 14 06 34.9 +1.7
MAK *e*SSS SSS 14 10 39.3
MAK pmax pmax
comp=Z,129nm,1.0s
KURK Kurchatov 111.71 2 *i* PKIKP **PKiKP 13 50 21.7 0.0**
KURBB Kurchatov Arra 111.80 3 PKiKP **PKiKP 13 50 21.7 -0.1**
comp=Z,3.6nm,0.8s,baz=348,slow=3.5,SNR=11
KURBB PP **PP 13 51 03.7 -0.2**
comp=Z,1.3nm,0.3s,baz=355,slow=6.0,SNR=4.9
KURBB PKKPbc **PKKPbc 14 01 14.9 -1.5**
comp=Z,3.5nm,0.9s,baz=189,slow=3.1,SNR=11
BALJ Balqa 113.28 42 IAMs_20 IAMs_20 14 33 27.3
comp=Z,568nm,20.0s
GHAJ Ghor Haditha 113.75 43 IAMs_20 IAMs_20 14 37 37.7
comp=Z,504nm,18.0s
BJI Beijing 114.33 332 PKP PKPdf 13 50 27.3 +0.3
BJI PP **PP 13 51 23.4 +1.0**
BJI AMB AMB
comp=Z,150nm,11.3s
BJI LR LR
comp=Z,3μm,15.5s
BJI LR LR
comp=Z,2μm,17.4s
BJI LR LR
comp=Z,3μm,15.3s
ZSN Zaisan 115.01 358 *e*PKP **PKiKP 13 50 26.5 -1.6**
baz=358
ZSN *e*PP **PP 13 51 26.4 -0.4**
baz=358
ZSN Zaisan 115.01 358 *e*PKIKP **PKiKP 13 50 26.5 -1.6**
ZSN *e* 13 51 26.3
HHC Hu-ho-hao-te 115.60 336 *e*PKP **PKPdf 13 50 30.3 +0.7**
HHC sPKP 13 50 47.9
HHC PP **PP 13 51 33.3 +2.0**
HHC SKS **SKSdf 13 57 32.8 -3.9**
HHC SS **SS 14 07 26.1 +0.3**
HHC AMB AMB
comp=Z,290nm,7.3s
MAKZ Makanchi 115.70 0 IAMs_20 IAMs_20 14 46 33.5
comp=Z,641nm,20.0s
MK31 Makanchi Array 115.71 360*c i*PKIKP **PKiKP 13 50 28.7 -0.8**
MKAR Makanchi Array 115.71 360 Pdiff **Pdif 13 46 42.0 -0.5**
comp=Z,0.3nm,0.6s,baz=334,slow=2.9,SNR=2.6
MKAR PKP **PKiKP 13 50 28.5 -1.0**
comp=Z,3.8nm,1.0s,baz=325,slow=1.5,SNR=12
MKAR PP **PP 13 51 30.8 -0.9**
comp=Z,4.7nm,1.0s,baz=35,slow=6.5,SNR=3.5
MKAR PKKPbc **PKKPbc 14 01 01.8 -1.4**
comp=Z,1.7nm,0.9s,baz=144,slow=4.3,SNR=6.9
ELIB Princess Elisa 116.25 163 *d*PKPdf **PKPdf 13 50 29.8 0.0**
ELIB *dp*PKPdf pPKPdf 13 50 47.0 -1.4
ELIB *ds*PKP 13 50 53.1
ELIB *d*PP **PP 13 51 36.0 -0.1**
BTO Baotou 116.40 337 *e*PKP **PKPdf 13 50 30.6 -0.5**
BTO PP **PP 13 51 37.8 +0.8**
BTO SS SS 14 07 39.5 +3.3
BTO LR LR
comp=Z,9μm,21.6s
BTO LR LR
comp=Z,6μm,23.5s

BTO					LR	LR		
	comp=Z,7μm,24.1s							
TIA	**Tai'an**	**116.95**	**329**	PKP	**PKPdf**	**13 50 32.0**	**-0.2**	
TIA				PP	**PP**	**13 51 41.3**	**+0.4**	
TIA				SS	SS	14 07 48.6	+5.0	
BTLS	**Baital**	**117.02**	**6**	*e*PKP	**PKPdf**	**13 50 30.4**	**-1.6**	
	baz=6.6							
BTLS				*e*PP	**PP**	**13 51 40.7**	**-0.2**	
	baz=6.6							
BTLS	**Baital**	**117.02**	**6**	*e*PKIKP	**PKPdf**	**13 50 30.4**	**-1.6**	
BTLS				*e*		13 51 40.6		
HNS	**HongShan**	**117.15**	**331**	⇑PKP	**PKiKP**	**13 50 33.0**	**+0.5**	
HNS				PP	**PP**	**13 51 41.9**	**-0.2**	
HNS				SS	SS	14 07 45.4	-0.5	
HNS				LR	LR			
	comp=Z,2μm,22.6s							
HNS				LR	LR			
	comp=Z,1μm,21.8s							
HNS				LR	LR			
	comp=Z,2μm,22.4s							
TDK	**Taldyqorghan**	**117.41**	**3**	*e*PKP	**PKPdf**	**13 50 31.5**	**-1.3**	
	baz=3.1							
TDK	**Taldyqorghan**	**117.41**	**3**	*e*PKIKP	**PKPdf**	**13 50 31.5**	**-1.3**	
TIY	**Taiyuan**	**117.90**	**333**	PKP	**PKPdf**	**13 50 33.8**	**-0.2**	
TIY				PP	**PP**	**13 51 47.3**	**-0.1**	
TIY				AMB	AMB			
	comp=Z,450nm,4.7s							
TIY				LR	LR			
	comp=Z,1μm,24.0s							
TIY				LR	LR			
	comp=Z,820nm,23.4s							
TIY				LR	LR			
	comp=Z,990nm,23.4s							
ARXS	**Arharly**	**118.16**	**4**	*e*PKIKP	**PKPdf**	**13 50 31.9**	**-2.5**	
BRLS	**Borolday**	**118.41**	**10**	*e*PKP	**PKPdf**	**13 50 33.2**	**-1.6**	
	baz=11							
BRLS	**Borolday**	**118.41**	**10**	*e*PKIKP	**PKPdf**	**13 50 33.2**	**-1.6**	
WMQ	**Urumqi**	**118.48**	**355**	*e*PKP	**PKiKP**	**13 50 35.3**	**+0.3**	
WMQ				sPKP		13 50 53.5		
USP	**Ospenovka**	**118.83**	**6**	P	**PKiKP**	**13 50 36.2**	**+0.5**	
	SNR=8.4							
KPKS	**Kokpek**	**118.95**	**3**	*e*PKP	**PKPdf**	**13 50 34.3**	**-1.7**	
	baz=3.0							
KPKS				*e*PP	**PP**	**13 51 54.1**	**-0.3**	
	baz=3.0							
KPKS	**Kokpek**	**118.95**	**3**	*e*PKIKP	**PKPdf**	**13 50 34.2**	**-1.7**	
KPKS				*e*		13 51 54.0		
MDOK	**Medeo**	**119.16**	**4**	*e*PKP	**PKPdf**	**13 50 34.5**	**-2.0**	
	baz=4.4							
MDOK	**Medeo**	**119.16**	**4**	*e*PKIKP	**PKPdf**	**13 50 34.4**	**-2.0**	
NJ2	**Nanjing**	**119.26**	**324**	⇑PKP	**PKiKP**	**13 50 37.6**	**+0.9**	
TNSS	**Tian-Shan**	**119.28**	**4**	*e*PKP	**PKPdf**	**13 50 35.0**	**-2.0**	
	baz=4.5							
TNSS	**Tian-Shan**	**119.28**	**4**	*e*PKIKP	**PKPdf**	**13 50 35.0**	**-2.0**	
TKM2	**Tokmak 2**	**119.28**	**6**	P	**PKiKP**	**13 50 36.8**	**0.0**	
	SNR=12							
UZB	**Uzynbulak**	**119.29**	**3**	*e*PKP	**PKPdf**	**13 50 34.5**	**-2.2**	
	baz=2.8							
UZB	**Uzynbulak**	**119.29**	**3**	*e*PKIKP	**PKPdf**	**13 50 34.4**	**-2.2**	
SHLS	**Shalkode**	**119.30**	**2**	*e*PKP	**PKPdf**	**13 50 34.6**	**-2.1**	
	baz=2.0							
SHLS				*e*PP	**PP**	**13 51 56.4**	**-0.3**	
	baz=2.0							
SHLS	**Shalkode**	**119.30**	**2**	*e*PKIKP	**PKPdf**	**13 50 34.5**	**-2.1**	
SHLS				*e*		13 51 56.3		
IUG	**Iuzhnay**	**119.30**	**10**	*e*PKP	**PKPdf**	**13 50 35.0**	**-1.7**	
	baz=10							
IUG	**Iuzhnay**	**119.30**	**10**	*e*PKIKP	**PKPdf**	**13 50 35.0**	**-1.7**	
EKS2	**Erkin-Say**	**119.34**	**7**	P	**PKiKP**	**13 50 37.4**	**+0.6**	
	SNR=12							
SATY	**Saty**	**119.35**	**3**	*e*PKP	**PKPdf**	**13 50 34.6**	**-2.2**	
	baz=3.3							
SATY	**Saty**	**119.35**	**3**	*e*PKIKP	**PKPdf**	**13 50 34.5**	**-2.2**	
AAK	**Ala-Archa**	**119.45**	**7**	PKP	**PKiKP**	**13 50 37.1**	**0.0**	
	comp=Z,1.8nm,0.3s,baz=133,slow=1.8,SNR=8.3							
AAK	**Ala-Archa**	**119.45**		*7c i*PKIKP	**PKPdf**	**13 50 36.7**	**-0.3**	
AAK				pmax	pmax			
	comp=Z,20nm,1.7s							
CTA	**Charters Tower**	**119.72**	**257**	PKP	**PKPdf**	**13 50 37.5**	**-0.4**	
	comp=Z,0.4nm,1.1s,baz=96,slow=9.5,SNR=2.9							
AML	**Almayashu**	**119.86**	**7**	P	**PKiKP**	**13 50 38.8**	**+0.6**	
	SNR=7.6							
UCH	**Uchtor**	**119.86**	**7**	P	**PKiKP**	**13 50 38.6**	**+0.4**	
	SNR=15							
ULHL	**Ulahol**	**120.01**	**5**	P	**PKiKP**	**13 50 38.7**	**+0.5**	
	SNR=16							
LYN	**LuoYang**	**120.52**	**331**	PKP	**PKPdf**	**13 50 38.9**	**-0.2**	
LYN				sPKP		13 50 57.3		
LYN				PP	**PP**	**13 52 04.8**	**-0.6**	
LYN				SS	SS	14 08 33.3	+3.8	
LYN				AMB	AMB			
	comp=Z,930nm,4.7s							
LYN				LR	LR			
	comp=Z,6μm,23.7s							
LYN				LR	LR			
	comp=Z,7μm,22.0s							
LYN				LR	LR			
	comp=Z,14μm,21.8s							
GTA	**Gaotai**	**120.76**	**344**	⇑PKP	**PKPdf**	**13 50 39.5**	**-0.1**	
GTA				PP	**PP**	**13 52 09.6**	**+2.7**	
GTA				AMB	AMB			
	comp=Z,190nm,6.9s							
GTA				LR	LR			
	comp=Z,1μm,18.5s							
GTA				LR	LR			
	comp=Z,610nm,20.0s							
GTA				LR	LR			
	comp=Z,1μm,21.4s							
NRN	**Naryn**	**120.79**	**5**	IAMs_20	IAMs_20	14 51 37.4		
	comp=Z,880nm,19.0s							
SIMJ	**Simiganj**	**122.49**	**12**	IAMs_20	IAMs_20	14 54 06.4		
	comp=Z,814nm,21.0s							
XAN	**Xi'an**	**122.51**	**334**	⇓PKP	**PKPdf**	**13 50 42.6**	**-0.4**	
XAN				PP	**PP**	**13 52 23.3**	**+4.3**	
XAN				AMB	AMB			
	comp=Z,480nm,12.7s							
XAN				LR	LR			
	comp=Z,6μm,18.5s							
XAN				LR	LR			
	comp=Z,6μm,19.6s							
XAN				LR	LR			
	comp=Z,10μm,21.3s							
LZH	**Lanzhou**	**122.63**	**339**	*e*PKP	**PKiKP**	**13 50 43.6**	**+0.1**	
LZH				sPKP		13 51 02.0		
LZH				PP	**PP**	**13 52 20.5**	**+0.7**	
LZH				SKKS		13 59 13.1		
LZH				AMB	AMB			
	comp=Z,560nm,6.9s							
LZH				LR	LR			
	comp=Z,9μm,16.5s							
LZH				LR	LR			
	comp=Z,5μm,19.6s							
LZH				LR	LR			
	comp=Z,11μm,16.8s							
KSH	**Kashi**	**122.69**	**6**	PKP	**PKiKP**	**13 50 44.8**	**+1.3**	
KSH				PP	**PP**	**13 52 23.0**	**+3.1**	
KSH				LR	LR			
	comp=Z,1μm,22.0s							
KSH				LR	LR			
	comp=Z,1μm,19.2s							
KSH				LR	LR			
	comp=Z,3μm,23.4s							
WHN	**Wuhan**	**122.85**	**327**	⇓PKP	**PKiKP**	**13 50 43.9**	**+0.1**	
WHN				sPKP		13 51 02.3		
WHN				PP	**PP**	**13 52 23.9**	**+2.5**	
WHN				LR	LR			
	comp=Z,10μm,21.4s							
SUR	**Sutherland**	**123.21**	**117**		**PKiKP**	**13 50 45.8**	**+1.1**	
SUR	**Sutherland**	**123.21**	**117**	P	**PKPdf**	**13 50 43.8**	**-0.7**	
STKA	**Stephens Creek**	**124.93**	**243**	PKP	**PKPdf**	**13 50 47.2**	**-0.3**	
	comp=Z,17nm,1.0s,baz=66,slow=2.3,SNR=9.3							
STKA				pPKP	**pPKPdf**	**13 51 05.6**	**-0.6**	
	comp=Z,12nm,0.9s,baz=51,slow=2.1,SNR=4.8							
GOMU	**GeErMu**	**124.99**	**348**	PKP	**PKiKP**	**13 50 48.6**	**+0.1**	
GOMU				sPKP		13 51 04.8		
ENH	**Enshi**	**125.47**	**331**		**PKPdf**	**13 50 48.2**	**-0.5**	
RAYN	**Ar Rayn**	**125.48**	**42**	IAMs_20	IAMs_20	14 45 30.4		
	comp=Z,608nm,20.0s							
RAYN	**Ar Rayn**	**125.48**	**42**	*i* PKPdf	**PKiKP**	**13 50 49.3**	**0.0**	
	SNR=13							
RAYN	**Ar Rayn**	**125.48**	**42**	P	**PKPdf**	**13 50 48.5**	**-0.5**	
MBAR	**Mbarara**	**126.62**	**77**	IAMs_20	IAMs_20	14 47 50.5		
	comp=Z,806nm,20.0s							
MBAR	**Mbarara**	**126.62**	**77**	P	**PKPdf**	**13 50 51.3**	**-0.2**	
MBAR	**Mbarara**	**126.62**	**77**	*i* PKIKP	**PKPdf**	**13 50 51.3**	**-0.2**	
SAKB	**Bahrain**	**126.69**	**36**	P	**PKPdf**	**13 50 50.9**	**-0.2**	
BOSA	**Boshof**	**126.97**	**113**	PKP	**PKPdf**	**13 50 51.0**	**-0.6**	
	comp=Z,38nm,1.1s,baz=286,slow=2.0,SNR=25							
BOSA				pPKP	**pPKPdf**	**13 51 10.7**	**+0.3**	
	comp=Z,31nm,1.1s,baz=16,slow=1.8,SNR=7.6							
SHMA	**Al-Shehemyia**	**127.02**	**36**	P	**PKiKP**	**13 50 52.1**	**-0.1**	
CD2	**Chengdu**	**127.33**	**337**	PKP	**PKPdf**	**13 50 52.4**	**+0.1**	
CD2				sPKP		13 51 14.8		
CD2				PP	**PP**	**13 52 55.8**	**+4.7**	
CD2				SKS	**SKSac**	**13 57 57.4**	**+3.5**	
CD2				AMB	AMB			
	comp=Z,210nm,8.6s							
SMRA	**Abu-Samra**	**127.81**	**37**	P	**PKPdf**	**13 50 52.6**	**-0.7**	
TRNA	**Turayna**	**128.03**	**36**	P	**PKPdf**	**13 50 53.3**	**-0.4**	
CASY	**Casey**	**128.11**	**194**		**PKiKP**	**13 50 53.3**	**+0.2**	
LSZ	**Lusaka**	**128.29**	**96**	IAMs_20	IAMs_20	14 39 01.5		
	comp=Z,737nm,22.0s							
LSZ	**Lusaka**	**128.29**	**96**	P	**PKPdf**	**13 50 54.7**	**+0.2**	
MAW	**Mawson**	**128.69**	**171**	PKP	**PKPdf**	**13 50 53.7**	**+0.2**	
	comp=Z,32nm,1.0s,baz=240,slow=2.4,SNR=12							
MAW				pPKP	**pPKPdf**	**13 51 12.9**	**+0.8**	
	comp=Z,11nm,1.0s,baz=138,slow=3.5,SNR=2.9							
JRN	**Qarnain Island**	**128.78**	**35**	P	**PKPdf**	**13 50 54.8**	**-0.4**	
GULI	**GuiLin**	**129.15**	**327**	PKP	**PKiKP**	**13 50 56.3**	**-0.2**	
LODK	**Lodwar**	**129.22**	**70**	P	**PKiKP**	**13 50 57.2**	**+0.1**	
	SNR=7.2							
FURI	**Furi**	**129.48**	**62**	IAMs_20	IAMs_20	14 53 25.2		
	comp=Z,674nm,22.0s							
GHWR	**Ruwais**	**129.57**	**36**	P	**PKPdf**	**13 50 56.4**	**-0.2**	
SHME	**Shamm**	**129.58**	**31**	PKPdf	**PKiKP**	**13 50 57.2**	**-0.2**	
SHME	**Shamm**	**129.58**	**31**	P	**PKPdf**	**13 50 55.7**	**-0.9**	
THN	**Thein Dam**	**129.67**	**7**	*e*P	**PKiKP**	**13 50 57.2**	**-0.2**	
THN				*i x*	x	13 51 15.8		
DHRM	**DHARAMSHALA**	**129.92**	**7**	*e*P	**PKiKP**	**13 50 58.1**	**-0.1**	
GYA	**Guiyang**	**130.01**	**331**	⇓PKP	**PKiKP**	**13 50 58.1**	**-0.3**	
GYA				sPKP		13 51 17.0		
GYA				PP	**PP**	**13 53 07.8**	**-1.1**	
GYA				AMB	AMB			
	comp=Z,490nm,6.6s							
GYA				LR	LR			
	comp=Z,690nm,21.1s							
GYA				LR	LR			
	comp=Z,870nm,24.2s							
GYA				LR	LR			
	comp=Z,1μm,28.4s							
MASF	**Masafi**	**130.15**	**31**	P	**PKPdf**	**13 50 58.0**	**+0.2**	
	SNR=8.8							
MSFE	**Esma-Masafi**	**130.16**	**31**	*i* PKPdf	**PKiKP**	**13 50 58.4**	**-0.2**	
	SNR=13							
NAZ	**Nazwa, Dubai**	**130.22**	**32**	*i* PKPdf	**PKiKP**	**13 50 58.4**	**-0.4**	
	SNR=7.1							
NAZ	**Nazwa, Dubai**	**130.22**	**32**	P	**PKPdf**	**13 50 58.0**	**+0.1**	
	SNR=7.4							
AJN	**Ajban**	**130.23**	**33**	*i* PKPdf	**PKiKP**	**13 50 58.5**	**-0.2**	
	SNR=11							
MZWR	**Madinat Zayed**	**130.29**	**35**	P	**PKPdf**	**13 50 58.2**	**+0.2**	
ASUD	**Al Ashush, Dub**	**130.35**	**33**	*i* PKPdf	**PKPdf**	**13 50 58.5**	**+0.4**	
	SNR=6.0							
ASUD	**Al Ashush, Dub**	**130.35**	**33**	P	**PKPdf**	**13 50 58.5**	**+0.4**	
UOSS	**Minazif**	**130.53**	**32**	IAMs_20	IAMs_20	14 42 37.9		
	comp=Z,858nm,21.0s							
UOSS	**Minazif**	**130.53**	**32**	PKPdf	**PKPdf**	**13 50 58.1**	**-0.4**	
UOSS	**Minazif**	**130.53**	**32**	P	**PKPdf**	**13 50 57.8**	**-0.7**	
HATD	**Hatta, Dubai**	**130.59**	**32**	*i* PKPdf	**PKPdf**	**13 50 58.3**	**-0.4**	
	SNR=9.0							
HATD	**Hatta, Dubai**	**130.59**	**32**	P	**PKPdf**	**13 50 58.5**	**-0.1**	
	SNR=6.9							
MZR	**Muzera**	**130.67**	**36**	*i* PKPdf	**PKPdf**	**13 50 59.2**	**+0.4**	
	SNR=9.5							
MZR	**Muzera**	**130.67**	**36**	P	**PKiKP**	**13 50 59.3**	**-0.4**	
	SNR=8.5							
ASHO	**Ashiyiah**	**130.67**	**32**	*i* PKPdf	**PKPdf**	**13 50 58.3**	**-0.5**	
	SNR=10							
ASHO	**Ashiyiah**	**130.67**	**32**	P	**PKPdf**	**13 50 58.4**	**-0.5**	
	SNR=5.8							
WRAB	**Tennant Creek**	**130.78**	**259**		**PKPdf**	**13 50 59.0**	**0.0**	
WRAB	**Tennant Creek**	**130.78**	**259**	*i* PKIKP	**PKPdf**	**13 50 59.2**	**+0.2**	
WRA	**Warramunga Arr**	**130.79**	**259**		**PKPdf**	**13 50 58.8**	**-0.3**	
WRA	**Warramunga Arr**	**130.79**	**259**	PKP	**PKPdf**	**13 50 58.5**	**-0.5**	
	comp=Z,15nm,1.1s,baz=80,slow=1.5,SNR=38							
WRA				pPKP	**pPKPdf**	**13 51 17.8**	**0.0**	
	comp=Z,10nm,1.0s,baz=85,slow=2.7,SNR=6.5							
WRA				PP	**PP**	**13 53 13.7**	**-2.0**	
	comp=Z,4.7nm,1.1s,baz=81,slow=7.4,SNR=5.0							
WRA				SKKPbc	SKKPbc	14 03 51.1	-2.0	
	comp=Z,2.7nm,1.1s,baz=269,slow=2.2,SNR=4.5							
ALNE	**Al Ain**	**131.04**	**33**	*i* PKPdf	**PKPdf**	**13 50 59.5**	**0.0**	
	SNR=9.1							
ALNE	**Al Ain**	**131.04**	**33**	P	**PKPdf**	**13 50 59.5**	**0.0**	
	SNR=8.1							
SMLA	**Simla**	**131.12**	**6**	*e*P	**PKPdf**	**13 50 59.5**	**+0.1**	
SMLA				*i x*	x	13 51 18.2		
SOHO	**SOHO**	**131.37**	**32**	*i* PKPdf	**PKPdf**	**13 50 59.6**	**-0.5**	
	SNR=8.6							
SOHO	**SOHO**	**131.37**	**32**	P	**PKPdf**	**13 50 59.6**	**-0.5**	
ATD	**Arta Tunnel**	**131.42**	**56**	IAMs_20	IAMs_20	14 48 01.9		
	comp=Z,821nm,21.0s							
ASAR	**Alice Springs**	**131.51**	**254**		**PKPdf**	**13 50 59.7**	**-0.6**	
ASAR	**Alice Springs**	**131.51**	**254**	PKhKP	PKPpre	13 50 51.8		
	comp=Z,1.3nm,0.9s,baz=88,slow=4.4,SNR=6.2							
ASAR				PKP	**PKPdf**	**13 51 00.1**	**-0.3**	
	comp=Z,16nm,1.2s,baz=94,slow=2.1,SNR=22							
ASAR				SKKPbc	SKKPbc	14 03 48.2	-2.6	
	comp=Z,5.1nm,1.2s,baz=246,slow=3.7,SNR=5.2							
ASAR	**Alice Springs**	**131.51**	**254**	PKIKP	**PKPdf**	**13 50 59.7**	**-0.6**	
UMZA	**Um Al Zommool**	**131.82**	**34**	P	**PKPdf**	**13 51 01.4**	**+0.4**	
LSA	**Lhasa**	**132.00**	**350**	PKP	**PKiKP**	**13 51 02.3**	**-0.5**	
LSA				LR	LR			
	comp=Z,410nm,19.8s							
LSA				LR	LR			
	comp=Z,120nm,7.9s							
LSA				LR	LR			
	comp=Z,260nm,16.5s							
PZH	**PanZhiHua**	**132.05**	**336**	PKP	**PKPdf**	**13 51 01.8**	**+0.3**	
PZH				PP	**PP**	**13 53 24.3**	**+2.3**	
PZH				AMB	AMB			
	comp=Z,360nm,7.3s							
PZH				LR	LR			
	comp=Z,240nm,21.2s							
PZH				LR	LR			
	comp=Z,220nm,21.7s							
PZH				LR	LR			
	comp=Z,270nm,20.0s							
BIDO	**Bidbid**	**132.67**	**31**	P	**PKPdf**	**13 51 02.5**	**-0.1**	
	SNR=6.3							
KMBO	**Kilima Mbogo**	**132.84**	**74**	*i* PKPdf	**PKiKP**	**13 51 05.1**	**+0.5**	
	SNR=7.0							
BSY	**Bisya**	**132.86**	**32**	P	**PKPdf**	**13 51 02.5**	**-0.5**	
KMI	**Kunming**	**132.89**	**334**	⇓PKP	**PKPdf**	**13 51 02.9**	**-0.3**	
KMI				sPKP		13 51 23.0		
KMI				PP	**PP**	**13 53 29.9**	**+2.4**	
KMI				AMB	AMB			
	comp=Z,310nm,13.5s							
SMDO	**Samad**	**133.02**	**31**	P	**PKiKP**	**13 51 04.4**	**-0.2**	
	SNR=8.2							
JMDO	**Jabal Madar**	**133.63**	**31**	P	**PKPdf**	**13 51 03.6**	**-0.8**	
WBK	**Wadi Bani Khal**	**133.85**	**30**	P	**PKiKP**	**13 51 06.0**	**-0.1**	
KUDL	**Kundal**	**134.00**	**7**	*e*P	**PKPdf**	**13 51 05.2**	**+0.3**	
KIBK	**Kibwezi**	**134.04**	**76**	P	**PKiKP**	**13 51 07.3**	**+0.5**	
	SNR=8.3							
QIZ	**Qiongzhong**	**134.44**	**322**	PKP	**PKPdf**	**13 51 04.0**	**-2.0**	
QIZ				SS	SS	14 11 23.8	+0.5	
QIZ				LR	LR			
	comp=Z,2μm,22.7s							
QIZ				LR	LR			
	comp=Z,1μm,20.2s							
QIZ				LR	LR			
	comp=Z,2μm,23.6s							
TNCH	**TengChong**	**134.57**	**339**	⇑PKP	**PKiKP**	**13 51 08.3**	**+0.6**	
TNCH				PP	**PP**	**13 53 40.3**	**+2.2**	
TNCH				PKS	**PKSdf**	**13 54 43.8**	**+0.8**	
TNCH				SS	SS	14 11 28.0	+3.8	
TNCH				AMB	AMB			
	comp=Z,250nm,4.1s							
TNCH				LR	LR			
	comp=Z,2μm,21.0s							
TNCH				LR	LR			
	comp=Z,2μm,18.7s							
TNCH				LR	LR			
	comp=Z,6μm,21.2s							
ABTO	**Aybut**	**134.94**	**41**	P	**PKiKP**	**13 51 07.8**	**-0.7**	
VLK	**Valmikinagar**	**135.13**	**358**	⇑*ix*	PKPpre	13 50 56.8		
AJM	**Ajmer**	**135.38**	**10**	*ex*	PKPdf	13 51 23.5	+16	
SHL	**Shillong**	**135.88**	**347**	P	**PKiKP**	**13 51 10.3**	**-0.1**	
	SNR=5.8							
LUWI	**Luwuk**	**136.82**	**288**	PKP	**PKiKP**	**13 51 13.7**	**+1.4**	
BOK	**Bokaro**	**138.51**	**355**	*e*P	**PKiKP**	**13 51 14.6**	**-1.0**	
BOK				*i x*	x	13 51 33.6		
BHPL	**Bhopal**	**138.94**	**7**	*e*P	**PKPdf**	**13 51 14.9**	**+0.6**	
CMAR	**Chiang Mai Arr**	**140.40**	**335**	PKhKP	PKPpre	13 51 09.1		
	comp=Z,1.0nm,0.6s,baz=358,slow=4.0,SNR=10							
CMAR				PKP	**PKPdf**	**13 51 16.3**	**-0.7**	
	comp=Z,15nm,1.1s,baz=325,slow=2.1,SNR=33							
AKL	**Akola**	**141.40**	**8**	*ex*	**PKPdf**	**13 51 13.4**	**-5.3**	
MBWA	**Marble Bar**	**144.53**	**258**		**PKPab**	**13 51 22.3**	**-0.5**	
MBWA	**Marble Bar**	**144.53**	**258**	P	**PKPab**	**13 51 22.4**	**-0.3**	
VIS	**Vishakhapatnam**	**144.69**	**358**	*e*P	**PKPab**	**13 51 22.9**	**-0.4**	
VIS				*i x*	x	13 51 42.6		
HYB	**Hyderabad**	**144.82**	**6**	*e*PKPab	**PKPab**	**13 51 23.2**	**-0.6**	
VOI	**Vohitsoka**	**146.48**	**103**	P	**PKPdf**	**13 51 28.0**	**+0.3**	
FOMA	**Nahampoana Res**	**146.49**	**108**	P	**PKPbc**	**13 51 28.9**	**0.0**	
ABPO	**Ambohimpanom**	**146.81**	**98**		**PKPbc**	**13 51 29.8**	**-0.4**	
ABPO	**Ambohimpanom**	**146.81**	**98**	PKP2	**PKPbc**	**13 51 29.8**	**-0.4**	
MORW	**Morawa**	**147.11**	**244**		**PKPbc**	**13 51 29.8**	**-0.8**	
JAGI	**Jajag, Banyuwa**	**147.60**	**282**	PKP	**PKPdf**	**13 51 29.7**	**+0.1**	
MDRS	**Chennai**	**149.27**	**4**	*ex*	**PKPdf**	**13 51 36.0**	**+3.8**	
MDRS				*i x*	x	13 51 54.5		
PWJI	**Pagerwojo**	**149.61**	**285**	PKP	**PKPbc**	**13 51 36.9**	**-0.6**	
SALM	**Salem**	**150.47**	**8**	*e*P	**PKPdf**	**13 51 35.6**	**+1.4**	
TPRI	**Tanjung Pinang**	**151.22**	**308**	PKP	**PKiKP**	**13 51 42.9**	**+1.0**	
KOD	**Kodaikanal**	**151.76**	**10**	*e*P	**PKPbc**	**13 51 40.0**	**-2.9**	
KCSI	**Kotacane, Aceh**	**153.84**	**323**	PKP	**PKPdf**	**13 51 40.8**	**+1.5**	
GSI	**Gunungsitoli**	**155.73**	**320**	PKP	**PKPdf**	**13 51 43.7**	**+1.8**	

*IDC **19** 13:33:07.6±1.6, 34°.77N×23°.51E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=38.4km s-min=15.1km az=159.0*
*GII **19** 13:33:09.9±0.2, 34°.47N±0°.04×24°.11E±0°.02, h1km, Md3.2/1, confirmed*
*ATH **19** 13:33:10.6, 34°.40N×23°.85E, h11km±1km, ML3.4/4, Error ellipse: s-maj=3.5km s-min=1.7km az=12.0*
*THE **19** 13:33:12.8, 34°.50N×23°.83E, h9km±3km, ML2.7/4, Error ellipse: s-maj=4.4km s-min=2.7km az=5.0*
ISC 19 13:33:09.4±1.3, 34°.40N±0°.06×23°.80E±0°.04, h19km±3km, n40, σ1°.38/51, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.50**	**28**	P	**Pb**	**13 33 19.8**	**+0.1**
GVD				S	**Sb**	**13 33 27.1**	**+0.5**
GVD	**Gavdhos**	**0.50**	**28**	P	**Pb**	**13 33 19.8**	**+0.1**
GVD				S	**Sb**	**13 33 27.1**	**+0.5**
GVD				AML	AML	13 33 28.0	
	comp=N,19518μm,0.5s						
GVD				AML	AML	13 33 30.4	
	comp=E,20189μm,0.4s						
KNDR	**Palaiochora Ch**	**0.84**	**354**	P	**Pn**	**13 33 26.1**	**-0.2**
KNDR				AML	AML	13 33 41.9	
	comp=E,7984μm,0.9s						
KNDR				AML	AML	13 33 44.1	
	comp=N,4200μm,0.8s						
TMBK	**Timbaki Herakl**	**1.04**	**49**	P	**Pn**	**13 33 31.4**	**+2.3**
TMBK				S	**Sn**	**13 33 45.0**	**+1.9**
PRNS	**Prines Rethymn**	**1.13**	**31**	P	**Pb**	**13 33 29.5**	**-0.8**
PRNS				S	**Sn**	**13 33 46.0**	**+0.8**
	comp=N,648nm,0.5s						
CHAN	**Chania**	**1.14**	**10**	P	**Pg**	**13 33 31.9**	**+0.4**
CHAN				S	**Sn**	**13 33 46.0**	**+0.6**
CHAN				AML	AML	13 33 52.0	
	comp=E,3987μm,0.7s						
CHAN				AML	AML	13 33 53.7	
	comp=N,3939μm,0.6s						
RODP	**Rodopos**	**1.16**	**358**	P	**Pg**	**13 33 32.5**	**+0.5**
RODP				S	**Sn**	**13 33 47.5**	**+1.4**
	comp=N,285nm,0.6s						
IDI	**Anoyia**	**1.27**	**45**	P	**Pg**	**13 33 32.5**	**-1.5**
IDI				S	**Sg**	**13 33 50.8**	**+0.3**
	comp=N,485nm,0.7s						
IDI	**Anoyia**	**1.27**	**45**	Pg	**Pg**	**13 33 32.4**	**-1.5**
	comp=N,4.5nm,0.3s,baz=244,slow=14,SNR=25						
IDI				Lg	Lg	13 33 48.1	
	comp=N,23nm,0.3s,baz=324,slow=22,SNR=15						
IDI	**Anoyia**	**1.27**	**45**	P	**Pg**	**13 33 32.4**	**-1.5**
IDI				S	**Sg**	**13 33 48.6**	**-1.9**
IDI				AML	AML	13 33 54.4	
	comp=E,1074μm,0.6s						
IDI				AML	AML	13 33 57.8	
	comp=N,1285μm,0.6s						
KSTL	**Kastelli Herak**	**1.38**	**49**	P	**Pg**	**13 33 38.5**	**+2.3**
KSTL				S	**Sg**	**13 33 56.5**	**+2.2**
	comp=N,170nm,0.8s						
ANKY	**Antikythira Is**	**1.52**	**345**	P	**Pg**	**13 33 38.1**	**-0.7**
ANKY	**Antikythira Is**	**1.52**	**345**	P	**Pb**	**13 33 37.3**	**+0.2**
ZKR	**

CHAN			S	Sn	13 34 47.4	-1.5
CHAN			AML	AML	13 34 57.1	
	comp=N,18790μm,0.8s					
CHAN			AML	AML	13 34 57.2	
	comp=E,20500μm,0.8s					
RODP	**Rodopos**	**1.19 357**	P	Pb	13 34 36.0	+0.5
RODP			S	Sb	13 34 50.3	-0.2
	comp=E,2μm,0.8s					
IDI	**Anoyia**	**1.27 43**	P	Pb	13 34 36.6	-0.1
IDI			S	Sb	13 34 54.2	+1.5
	comp=E,2μm,1.1s					
IDI	**Anoyia**	**1.27 43**	Pg	Pn	13 34 35.8	+0.3
	comp=E,21nm,0.3s,baz=259,slow=9.3,SNR=9.4					
IDI			Lg	Lg	13 34 50.7	
	comp=E,58nm,0.3s,baz=334,slow=20,SNR=5.6					
IDI	**Anoyia**	**1.27 43**	P	Pn	13 34 35.7	+0.2
IDI			S	Sn	13 34 50.3	-1.3
IDI			AML	AML	13 34 56.9	
	comp=E,3655μm,1.3s					
IDI			AML	AML	13 35 01.2	
	comp=N,4144μm,1.0s					
KSTL	**Kastelli Herak**	**1.38 47**	P	Pb	13 34 42.4	+3.7
KSTL			S	Sb	13 35 00.8	+4.9
	comp=N,542nm,1.4s					
KSTL	**Kastelli Herak**	**1.38 47**	P	Pb	13 34 39.8	+1.1
KSTL			AML	AML	13 35 11.6	
	comp=N,4029μm,1.2s					
KSTL			AML	AML	13 35 14.3	
	comp=E,2371μm,1.6s					
IACM	**Heraklion**	**1.38 47**	P	Pn	13 34 37.4	+0.4
ANKY	**Antikythira Is**	**1.56 344**	P	Pb	13 34 41.1	-0.6
ANKY			S	Sb	13 35 01.2	+0.2
	comp=E,2μm,0.9s					
ANKY	**Antikythira Is**	**1.56 344**	P	Pn	13 34 39.2	-0.2
ANKY			S	Sn	13 34 57.3	-1.4
ANKY			AML	AML	13 35 17.3	
	comp=N,3008μm,0.9s					
ANKY			AML	AML	13 35 20.2	
	comp=E,3662μm,1.0s					
ZKR	**Zakros**	**2.10 69**	P	Pn	13 34 48.0	+1.1
ZKR			AML	AML	13 35 44.6	
	comp=E,2526μm,1.2s					
ZKR			AML	AML	13 35 47.4	
	comp=N,754μm,1.1s					
VLI	**Veliai**	**2.46 343**	P	Pb	13 34 54.7	-2.3
VLI			S	Sn	13 35 22.9	+2.0
VLI	**Veliai**	**2.46 343**	P	Pn	13 34 51.9	+0.1
VLI			AML	AML	13 35 41.7	
	comp=E,1378μm,1.0s					
VLI			AML	AML	13 35 57.0	
	comp=N,1203μm,0.8s					
ITM	**Ithomi**	**3.21 332**	P	Pn	13 35 02.9	+0.8
BRTR	**Keskin Array B**	**9.49 53**	Pn	Pn	13 36 30.2	+1.8
	comp=N,0.1nm,0.3s,baz=241,slow=13,SNR=2.2					
BRTR			LR	LR	13 40 48.7	
	comp=N,75nm,21.6s,baz=228,slow=42					
	comp=N,0.9nm,0.6s					
MMAI	**Mount Meron Ar**	**9.74 95**	Pn	Pn	13 36 31.1	-0.7
	comp=N,2.1nm,0.3s,baz=289,slow=13,SNR=2.4					
MMAI			Sn	Sn	13 38 14.6	-5.7
	comp=N,2.0nm,0.3s,baz=300,slow=26,SNR=1.7					
	comp=N,1.1nm,0.3s					
EIL	**Elat**	**10.53 113**	Pn	Pn	13 36 43.0	+0.3
	comp=N,0.5nm,0.3s,baz=275,slow=4.3,SNR=13					
EIL			Sn	Sn	13 38 34.3	-5.5
	comp=N,0.3nm,0.3s,baz=40,slow=20,SNR=1.7					
	comp=N,4.0nm,0.6s					
SOKA	**Soboth**	**13.99 334**	*e*Pn	Pn	13 37 34.0	+4.1
ARSA	**Arzberg**	**14.31 337**	*e*Pn	P	13 37 41.9	+0.8
	comp=N,1.7nm,0.5s					
KBA	**Koelnbreinsper**	**14.96 331**	*i* Pn	P	13 37 51.3	+2.8
	comp=N,4.8nm,1.1s					
ABTA	**Abfaltersbach**	**15.04 329**	*i* Pn	P	13 37 48.1	-1.2
	comp=N,8.4nm,1.1s					
MOA	**Molln**	**15.26 335**	*i* Pn	P	13 37 53.0	+1.4
	comp=N,5.4nm,0.9s					
LESA	**Schwarzleotal**	**15.51 331**	*e*Pn	P	13 37 56.4	+2.0
	comp=N,2.8nm,0.4s					
WTTA	**Wattenberg**	**15.82 328**	*e*Pn	P	13 38 01.9	+3.8
	comp=N,13nm,1.2s					
VRAC	**Vranov**	**15.86 342**	Pn	Pn	13 37 55.4	+0.7
	comp=N,0.5nm,0.3s,baz=295,slow=18,SNR=1.5					
	comp=N,3.9nm,0.8s					
WATA	**Walderalm**	**15.90 328**	*e*Pn	P	13 37 59.3	+0.3
	comp=N,3.1nm,0.7s					
SQTA	**Sankt Quirin**	**15.98 327**	*e*Pn	P	13 38 00.7	+1.0
	comp=N,3.8nm,0.6s					
FETA	**Feichten**	**16.05 326**	*i* Pn	P	13 38 06.0	+5.4
	comp=N,9.2nm,1.1s					
GERES	**GERESS Array B**	**16.31 336**	Pn	Pn	13 38 00.3	-0.3
	comp=N,0.3nm,0.3s,baz=150,slow=12,SNR=1.6					
	comp=N,0.7nm,0.5s					
DAVA	**Damuels**	**16.64 325**	*e*Pn	P	13 38 13.8	+6.7
	comp=N,3.0nm,0.5s					
AKASG	**Malin Array Be**	**16.79 12**	Pn	Pn	13 38 05.2	-1.3
	comp=N,0.7nm,0.3s,baz=206,slow=9.7,SNR=4.2					
	comp=N,0.2nm,0.3s					
KBZ	**Khabaz**	**17.48 52**	P	Pn	13 38 15.5	+0.3
	comp=N,0.1nm,0.3s,baz=96,slow=9.5,SNR=1.7					
	comp=N,0.8nm,0.4s					
ESDC	**Sonseca Array**	**22.77 292**	P	P	13 39 13.6	-0.1
	comp=N,1.0nm,0.7s,baz=88,slow=9.7,SNR=8.3					
	comp=N,1.0nm,0.7s					
HFS	**Hagfors**	**26.62 349**	P	P	13 39 48.4	-1.0
	comp=N,2.3nm,0.6s,baz=146,slow=9.0,SNR=11					
	comp=N,2.3nm,0.6s					
FINES	**FINESS Array B**	**27.13 2**	P	P	13 39 53.6	-0.3
	comp=N,1.9nm,1.0s,baz=168,slow=11,SNR=4.0					
	comp=N,1.9nm,1.0s					
NB2	**NORSAR Subarra**	**27.90 347**	P	P	13 40 01.0	0.0
	comp=Z,5.4nm,1.7s,baz=156,slow=9.3					
NOA	**NORSAR Array B**	**27.90 347**	P	P	13 40 00.4	-0.6
	comp=Z,0.8nm,0.9s,baz=152,slow=11,SNR=5.7					
	comp=Z,0.8nm,0.9s					
EKA	**Eskdalemuir Ar**	**28.08 327**	P	P	13 40 01.9	-0.6
	comp=Z,0.2nm,0.3s,baz=121,slow=9.3,SNR=2.2					
	comp=Z,0.2nm,0.3s					
TORD	**Torodi Ar. Bea**	**29.14 229**	P	P	13 40 12.7	+0.3
	comp=Z,1.3nm,0.9s,baz=36,slow=10,SNR=5.8					
	comp=Z,1.3nm,0.9s					
AKTO	**Aktyubinsk**	**29.59 47**	P	P	13 40 16.0	0.0
	comp=Z,0.9nm,0.4s,baz=274,slow=8.7,SNR=4.3					
	comp=Z,0.9nm,0.4s					
ARU	**Arti**	**32.34 36**	P	P	13 40 41.0	+0.8
	comp=Z,1.5nm,0.2s,baz=259,slow=9.4,SNR=3.6					
	comp=Z,1.5nm,0.2s					
ARCES	**ARCESS Array B**	**35.23 1**	P	P	13 41 03.9	-1.2
	comp=Z,1.0nm,0.6s,baz=191,slow=9.2,SNR=2.2					
	comp=Z,1.0nm,0.6s					
DBIC	**Dimbokro**	**38.22 230**	P	P	13 41 31.5	+0.4
	comp=Z,3.6nm,0.9s,baz=199,slow=14,SNR=1.8					
	comp=Z,3.6nm,0.9s					
KURBB	**Kurchatov Arra**	**42.47 50**	P	P	13 42 05.5	-0.5
	comp=Z,1.4nm,0.4s,baz=276,slow=8.4,SNR=7.5					
	comp=Z,1.4nm,0.4s					
SPITS	**Spitsbergen Ar**	**44.03 358**	P	P	13 42 18.2	-0.1
	comp=Z,2.0nm,0.7s,baz=152,slow=9.6,SNR=1.3					
	comp=Z,2.0nm,0.7s					
MKAR	**Makanchi Array**	**45.12 56**	P	P	13 42 27.6	+0.2
	comp=Z,1.1nm,0.5s,baz=268,slow=7.1,SNR=9.9					
	comp=Z,1.1nm,0.5s					
ZALV	**Zalesovo Beam**	**46.34 46**	P	P	13 42 36.4	-0.5
	comp=Z,1.1nm,0.3s,baz=267,slow=8.8,SNR=5.0					
	comp=Z,1.1nm,0.3s					
SONM	**Songino Array**	**60.83 50**	P	P	13 44 23.7	+0.3
	comp=Z,0.4nm,0.6s,baz=297,slow=6.3,SNR=2.0					
	comp=Z,0.4nm,0.6s					

*IDC **19** 13:34:23.8±5.5, 6°.35S×148°.08E, h87km±42km, mb3.6/3, mbtmp3.9/5, Error ellipse: s-maj=75.3km s-min=37.8km az=94.0*

ISC 19 13:34:22.3±2.0, 6°.2S±0°.1×147°.8E±0°.4, h60km, n17, σ0°98/18, mb3.9/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.31**	**192**	P	**Pn**	13 35 11.1	-0.5
PMG	**Port Moresby**	**3.31**	**192**	P	**Pn**	13 35 11.3	-0.3
PMG	**Port Moresby**	**3.31**	**192**	P	**Pn**	13 35 11.3	-0.3
	46nm,0.3s,baz=22,slow=9.9,SNR=34						
PMG				S	**Sn**	13 35 49.2	-0.6
	44nm,0.4s,baz=263,slow=23,SNR=3.8						
COEN	**Coen**	**9.02**	**210**	P	**Pn**	13 36 30.3	+0.4
MTSU	**Mount Surprise**	**12.40**	**196**	P	**Pn**	13 37 16.7	+0.6
QIS	**Mount Isa**	**16.41**	**208**	P	**Pn**	13 38 09.4	+0.7
WRA	**Warramunga Arr**	**18.98**	**222**	P	**P**	13 38 38.0	-1.0
	2.3nm,0.7s,baz=51,slow=11,SNR=36						
QLP	**Quilpie**	**20.61**	**189**	P	**P**	13 38 58.1	+1.4
ASAR	**Alice Springs**	**21.98**	**216**	P	**P**	13 39 10.7	-0.8
	2.5nm,0.5s,baz=50,slow=9.2,SNR=74						
	2.5nm,0.5s						
OOD	**Oodnadatta**	**24.43**	**207**	P	**P**	13 39 36.6	+1.2
FITZ	**Fitzroy Crossi**	**24.71**	**239**	P	**P**	13 39 38.9	+0.9
LCRK	**Leigh Creek**	**25.81**	**199**	P	**P**	13 39 48.5	+0.6
STKA	**Stephens Creek**	**26.26**	**192**	P	**P**	13 39 53.8	+1.8
STKA	**Stephens Creek**	**26.26**	**192**	P	**P**	13 39 50.5	-1.4
	2.7nm,0.7s,baz=11,slow=11,SNR=1.9						
	2.7nm,0.7s						
WRKA	**Warakurna**	**26.52**	**223**	P	**P**	13 39 55.0	+0.5
MKAR	**Makanchi Array**	**78.14**	**320**	P	**P**	13 46 14.9	-0.2
	0.2nm,0.4s,baz=111,slow=6.3,SNR=1.6						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**145.94**	**284**	PKPbc	**PKPdf**	13 53 54.7	-0.7
	1.0nm,1.0s,baz=85,slow=5.2,SNR=2.8						

*IDC **19** 13:34:30.4±0.9, 1°.05N×126°.12E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=68.3km s-min=17.6km az=69.0*

*DJA **19** 13:34:34.7±0.8, 1°.N±2°.×12°.6E±°, h17km±7km, M3.8/11, MLv3.8/11*

*NEIC **19** 13:34:36.2±0.6, 1°.2N±0°.1×126°.51E±0°.08, h40km±12km, mb4.2/7, Error ellipse: s-maj=19.4km s-min=10.1km az=198.0*

ISC 19 13:34:36.2±0.8, 1°.15N±0°.07×126°.52E±0°.04, h39km, n27, σ1°.06/32, mb4.2/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.92**	**114**		**Pn**	13 34 52.8	+0.1
TNTI	**Ternate**	**0.92**	**114**	P	**Pn**	13 34 52.9	+0.2
TNTI				S	**Sn**	13 35 06.2	+1.4
LBMI	**Labuha**	**2.02**	**151**	P	**Pn**	13 35 07.6	-0.3
LBMI				S	**Sn**	13 35 32.3	+0.4
KMSI	**Cibinong**	**2.60**	**257**	P	**Pn**	13 35 15.1	-0.7
KMSI				S	**Sn**	13 35 47.1	+0.9
SANI	**Sanana**	**3.22**	**190**	P	**Pn**	13 35 23.4	-0.9
SANI				S	**Sn**	13 36 02.5	+1.1
GTOI	**Gorontalo**	**3.55**	**262**	P	**Pn**	13 35 30.1	+1.3
GTOI				S	**Sn**	13 36 13.0	+3.5
LUWI	**Luwuk**	**4.33**	**240**	P	**Pn**	13 35 39.0	-0.6
NLAI	**Namlea**	**4.39**	**172**	P	**Pn**	13 35 41.5	+1.0
MRSI	**Marisa**	**4.63**	**262**	P	**Pn**	13 35 42.9	-0.8
TOLI2	**Tolitoli**	**5.74**	**270**	Pn	**Pn**	13 35 58.4	-0.5
MTN	**Manton Dam**	**14.63**	**162**	P	**P**	13 38 08.0	+1.6
KDU	**Kakadu**	**14.96**	**157**	P	**P**	13 38 10.4	+0.4
KNRA	**Kununurra**	**16.86**	**173**	Pn	**Pn**	13 38 29.2	-0.2
WB0	**Warramunga Arr**	**22.17**	**160**	P	**P**	13 39 28.9	-0.1
WB0				IAmb	IAmb	13 39 32.8	
	comp=Z,6.7nm,0.8s						
WRAB	**Tennant Creek**	**22.31**	**160**	P	**P**	13 39 30.1	-0.5
WRAB				IAmb	IAmb	13 39 35.6	
	comp=Z,7.5nm,0.9s						
WRA	**Warramunga Arr**	**22.32**	**160**	P	**P**	13 39 30.1	-0.6
	comp=Z,4.8nm,0.5s,baz=338,slow=11,SNR=12						
	comp=Z,4.8nm,0.5s						
WB2	**Warramunga Arr**	**22.32**	**160**	P	**P**	13 39 30.3	-0.4
WB2				IAmb	IAmb	13 39 33.3	
	comp=Z,15nm,1.2s						
WR0	**Warramunga Arr**	**22.40**	**160**	P	**P**	13 39 30.8	-0.7
WR0				IAmb	IAmb	13 39 33.8	
	comp=Z,5.9nm,0.9s						
ASAR	**Alice Springs**	**25.69**	**164**	P	**P**	13 40 02.6	-0.2
	comp=Z,0.9nm,0.6s,baz=342,slow=8.2,SNR=4.7						
	comp=Z,0.9nm,0.6s						
BBOO	**Buckleboo**	**34.95**	**166**	P	**P**	13 41 23.9	-0.8
STKA	**Stephens Creek**	**35.81**	**158**	P	**P**	13 41 32.3	+0.2
	comp=Z,2.4nm,0.7s,baz=0.0,slow=11,SNR=1.9						
	comp=Z,2.4nm,0.7s						
MJAR	**Matsushiro Arr**	**36.85**	**16**	P	**P**	13 41 42.2	+1.3
	comp=Z,0.6nm,0.4s,baz=214,slow=8.5,SNR=2.0						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**59.56**	**326**	P	**P**	13 44 35.0	-0.9
	comp=Z,0.7nm,0.4s,baz=122,slow=7.8,SNR=12						
	comp=Z,0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**62.79**	**334**	P	**P**	13 44 56.3	-1.3
	comp=Z,0.5nm,0.4s,baz=134,slow=8.3,SNR=2.3						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**63.80**	**328**	P	**P**	13 45 03.6	-0.8
	comp=Z,1.7nm,0.5s,baz=125,slow=6.2,SNR=10.0						
	comp=Z,1.7nm,0.5s						
KURK	**Kurchatov**	**63.80**	**328**	P	**P**	13 45 03.8	-0.6
KURK				IAmb	IAmb	13 45 04.6	
	comp=Z,3.5nm,0.6s						
ABKAR	**Akbulak array**	**74.02**	**321**	P	**P**	13 46 07.2	-0.7

*IDC **19** 13:51:40.2±1.6, 20°.42N×93°.61E, h0km, mb3.8/6, mbtmp3.7/7, ML3.2/1, MS4.3/5, Error ellipse: s-maj=77.0km s-min=19.7km az=56.0*

ISC 19 13:51:45.3±1.6, 20°.4N±0°.3×93°.6E±0°.3, h35km, n12, σ0°97/7, mb3.8/6, MS4.6/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.43**	**110**	Pn	**Pn**	13 53 04.1	+0.3
	0.2nm,0.3s,baz=295,slow=13,SNR=3.9						
CMAR				Lg	Lg	13 54 15.8	
	0.5nm,0.3s,baz=270,slow=30,SNR=1.9						
	1.8nm,0.7s						
MKAR	**Makanchi Array**	**27.90**	**343**	P	**P**	13 57 32.5	+0.5
	0.3nm,0.4s,baz=153,slow=9.7,SNR=2.1						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**32.43**	**342**	P	**P**	13 58 11.2	-0.7
	0.7nm,0.3s,baz=138,slow=7.9,SNR=2.1						
	0.7nm,0.3s						
ZALV	**Zalesovo Beam**	**34.17**	**351**	P	**P**	13 58 26.2	-0.8
	1.0nm,0.3s,baz=164,slow=7.7,SNR=4.4						
	1.0nm,0.3s						
OBN	**Obninsk**	**54.76**	**324**	LR	LR	14 29 59.1	
	comp=Z,536nm,19.0s,baz=324,slow=42						
WRA	**Warramunga Arr**	**56.57**	**133**	P	**P**	14 01 25.3	+0.5
	0.3nm,0.8s,baz=319,slow=7.7,SNR=4.6						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**58.84**	**136**	P	**P**	14 01 39.6	-1.1
	0.5nm,0.9s,baz=317,slow=6.8,SNR=5.3						
	0.5nm,0.9s						
IDI	**Anoyia**	**61.43**	**300**	LR	LR	14 36 23.6	
	comp=Z,214nm,18.9s,baz=292,slow=44						
CTA	**Charters Tower**	**65.41**	**125**	LR	LR	14 32 02.2	
	comp=Z,39nm,21.8s,baz=56,slow=37						
HFS	**Hagfors**	**67.52**	**328**	P	**P**	14 02 38.6	+0.9
	1.2nm,0.8s,baz=102,slow=6.1,SNR=2.0						
	1.2nm,0.8s						
STKA	**Stephens Creek**	**69.41**	**137**	LR	LR	14 35 23.1	
	comp=Z,371nm,20.6s,baz=67,slow=38						
TSUM	**Tsumeb**	**84.17**	**247**	LR	LR	14 39 30.8	
	comp=Z,366nm,21.4s,baz=320,slow=34						

DJA 19 14:00:18.1±0.7, 10°S±4°.×11°3E±°, h14km±6km, M4.2/14, mb4.5/4, mB5.4/1, MLv4.1/14, Mw(mB)4.8/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.68**	**50**	P	Pg	14 00 49.2	-1.1
JAGI				Pn	Pn	14 00 46.9	-0.1
JAGI				Pg	Pb	14 00 49.1	+0.4
JAGI				S	Sb	14 01 09.1	-0.6
PWJI	**Pagerwojo**	**1.84**	**326**	P	Pn	14 00 49.9	+0.7
PWJI				S	Sn	14 01 12.0	-0.3
ABJI	**Asem Bagus**	**2.22**	**38**	P	Pn	14 00 53.4	-1.1
ABJI				S	Sn	14 01 21.9	+0.2
DNP	**Denpasar**	**2.49**	**70**	P	Pn	14 00 58.2	0.0
GRJI	**Gresik**	**2.64**	**352**	P	Pn	14 00 59.9	-0.5
SRBI	**Singaraja**	**2.75**	**58**	P	Pn	14 01 03.0	+1.2
UGM	**Wanagama**	**2.82**	**305**	P	Pn	14 01 03.5	+0.7
YOGI	**Yogyakarta**	**3.06**	**304**	P	Pn	14 01 05.8	-0.3
BWJI	**Bawean**	**3.68**	**357**	P	Pn	14 01 15.1	+0.5
CMJI	**Cimerak**	**4.69**	**292**	P	Pn	14 01 28.8	+0.3
PLAI	**Plampang**	**4.92**	**82**	P	Pn	14 01 32.1	+0.5

*IDC **19** 14:16:23.4±0.4, 54°.48N×161°.09W, h0km, mb5.9/32, mbtmp5.8/36, ML4.9/5, MS5.6/85, Error ellipse: s-maj=12.5km s-min=9.9km az=173.0*

*BJI **19** 14:16:24.0±0.0, 54°.54N×161°.01W, h20km, mb6.0/99, mB5.9/75, Ms6.1/99, Ms7 6.0/99*

*IPGP **19** 14:16:26.0, 54°.48N×160°.90W, h28km, Mw5.9, Fault plane solution: NP1:φs45.00000°, δ62.00000°, λ76.00000°. NP2:φs253.00000°, δ31.00000°, λ115.00000°.*

*NEIC **19** 14:16:26, 54°.45N×160°.83W, h30km*

*NEIC **19** 14:16:26, 54°.45N×160°.65W, h30km, Moment Tensor Solution. Duration: 4s3 Moment tensor: Scale 10^{17}Nm; M_{rr}4.68; $M_{\theta\theta}$-3.76; $M_{\phi\phi}$-0.92; $M_{r\theta}$4.19; $M_{\theta\phi}$-2.08; $M_{\phi r}$2.72; Fault plane solution: $M_0$6.91000×10^{17} NP1:φs58.41000°, δ68.20000°, λ87.07000°. NP2:φs246.25000°, δ21.98000°, λ97.28000°. Principal axes: T 6.8323, Plg67.0000°, Azm323.0000°; N 0.1553, Plg3.0000°, Azm59.0000°; P -6.9875, Plg23.0000°, Azm151.0000°;*

*MOS **19** 14:16:26.0±1.0, 54°.46N×161°.09W, h26km, mb6.5/91, MS5.7/60 Error ellipse: s-maj=8.2km s-min=3.9km az=101.4*

*NEIC **19** 14:16:27.6, 54°.45N×160°.81W, h24km*

*NEIC **19** 14:16:27.1±2.4, 54°.44N±0°.03×160°.80W±0°.06, h21km±3km, mb5.9/787, ML6.0/28, Ms_20 5.7/904, Mwb5.7/89, Mww5.8/70, ML5.8(AEIC), Error ellipse: s-maj=5.6km s-min=4.3km az=45.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.03; $M_{\theta\theta}$-2.31; $M_{\phi\phi}$-0.72; $M_{r\theta}$3.23; $M_{\theta\phi}$-1.94; $M_{\phi r}$1.32; Fault plane solution: $M_0$4.84000×10^{17} NP1:φs224.59000°, δ22.89000°, λ70.87000°. NP2:φs65.23000°, δ68.44000°, λ97.88000°. Principal axes: T 4.5802, Plg66.0000°, Azm349.0000°; N 0.4868, Plg7.0000°, Azm242.0000°; P -5.0670, Plg23.0000°, Azm149.0000°;*

*AEIC **19** 14:16:27.3±3.0, 54°.44N±0°.04×160°.85W±0°.06, h5km±3km Error ellipse: s-maj=6.3km s-min=5.0km az=201.0*

*GCMT **19** 14:16:31.1±0.1, 54°.31N±0°.01×160°.75W±0°.01, h35km, MW5.9/155, Moment Tensor Solution. s152,c322; s155,c459; Duration: 2s2 Moment tensor: Scale 10^{18} Nm; M_{rr}0.56±.01; $M_{\theta\theta}$-0.49±.01; $M_{\phi\phi}$-0.07±.01; $M_{r\theta}$0.57±.01; $M_{\theta\phi}$-0.25±.00; $M_{\phi r}$0.28±.01; Best double couple: $M_0$0.86600×10^{18} NP1:φs64.00000°, δ69.00000°, λ90.00000°. NP2:φs245.00000°, δ21.00000°, λ91.00000°. Principal axes: T 0.8440, Plg66.0000°, Azm334.0000°; N 0.0430, Plg0.0000°, Azm65.0000°; P -0.8870, Plg24.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*BGR **19** 14:16:37.4, 55°.66N×161°.42W, h34km, mb6.2, mB_BB6.5, Ms5.5, Hypocentre not reviewed by the ISC*

ISC 19 14:16:26.2±0.3, 54°.46N±0°.02×160°.92W±0°.02, h17km±1km, h17km:pP-P, n2317, σ1°59/1947, mb6.0/638, MS5.7/609, 275C-46D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.85**	**64**		**Pg**	14 16 41.8	-1.0
CHNA	**Chernabura Isl**	**0.86**	**64**	P	**Pg**	14 16 42.8	-0.1
	baz=242,SNR=911						
SDPT	**Sand Point**	**0.93**	**16**	P	**Pg**	14 16 44.4	+0.2
SDPT	**Sand Point**	**0.93**	**16**		**Pg**	14 16 44.0	-0.2
SDPT					**Sg**	14 16 57.7	+1.3
SDPT	**Sand Point**	**0.93**	**16**	P	**Pg**	14 16 44.3	+0.1
	baz=193,SNR=1000						
HAG	**Hague Volcano**	**1.03**	**327**		**Pg**	14 16 46.3	+0.2
HAG					**Sg**	14 17 01.4	+1.7
HAG	**Hague Volcano**	**1.03**	**327**	P	**Pg**	14 16 46.3	+0.2
HAG						14 17 01.4	
PS4A	**Pavlof South-4**	**1.04**	**329**		**Pg**	14 16 46.3	0.0
PS4A					**Sb**	14 17 02.5	+3.4
PS1A	**Pavlof South-1**	**1.07**	**334**		**Pg**	14 16 47.0	0.0
PN7A	**Pavlof North-7**	**1.16**	**328**		**Pg**	14 16 48.5	-0.1
PN7A					**Sg**	14 17 05.8	+2.1
S12K	**Black Hills**	**1.41**	**333**		**Pn**	14 16 52.4	+1.3
S12K				IAML		14 17 24.2	
	comp=N,253μm,0.6s						
S12K				IAML		14 17 25.6	
	comp=E,241μm,0.8s						
S12K	**Black Hills**	**1.41**	**333**		**Sb**	14 17 12.9	+3.2
S12K	**Black Hills**	**1.41**	**333**	P	**Pn**	14 16 52.7	+1.6
	baz=151,SNR=1000						
FALS	**False Pass**	**1.50**	**286**	P	**Pn**	14 16 54.0	+1.6
FALS	**False Pass**	**1.50**	**286**		**Pn**	14 16 53.5	+1.2
FALS					**Sn**	14 17 15.2	+3.7
FALS	**False Pass**	**1.50**	**286**	P	**Pn**	14 16 54.5	+2.1
	baz=105,SNR=1000						
ISNN	**Isanotski Nort**	**1.70**	**284**		**Pn**	14 16 57.0	+1.9
VNKR	**Veniaminof 5**	**1.81**	**29**		**Pn**	14 16 57.6	+0.9
SSLS	**Shishaldin Sou**	**1.81**	**279**		**Pn**	14 16 58.4	+1.8
S14K	**Fog Glacier**	**1.99**	**23**	P	**Pn**	14 17 01.1	+1.9
	baz=202,SNR=1000						
VNFG	**Fog Glacier, M**	**1.99**	**23**		**Sn**	14 17 23.7	0.0
VNHG	**Veniaminof 1**	**2.03**	**29**		**Pn**	14 17 01.3	+1.6
WESE	**West Dahl East**	**2.14**	**272**		**Pn**	14 17 03.0	+1.7
WEBT	**Westdahl Beart**	**2.24**	**275**		**Pn**	14 17 03.9	+1.4
CHGN	**Chignik**	**2.33**	**37**		**Pn**	14 17 04.5	+0.7
CHGN				IAML		14 17 45.5	
	comp=N,55μm,0.8s						
CHGN	**Chignik**	**2.33**	**37**	P	**Pn**	14 17 05.8	+2.0
	baz=218,SNR=1000						
ANPB	**Aniakchak Plen**	**2.78**	**31**		**Pn**	14 17 11.1	+1.1
AHB	**Akutan Harbor**	**2.89**	**265**		**Pn**	14 17 13.0	+1.5
ANNE	**Aniakchak Nort**	**2.94**	**32**		**Pn**	14 17 13.7	+1.5
ZRO	**Akutan Zero**	**2.99**	**265**		**Pn**	14 17 14.1	+1.3
LVA	**Lava Point**	**3.01**	**266**	Pn	**Pn**	14 17 14.6	+1.4
LVA				IAML		14 18 09.5	
	comp=E,28μm,1.0s						

OHAK	Old Harbor	5.12	54	P		Pn	14 17 42.0 +0.1
	baz=240,SNR=242						
KAHC	Katmai Hardscr	5.32	36			Pn	14 17 45.3 +0.4
Q18K	Katmai Hardscr	5.32	35	P		Pn	14 17 46.2 +1.3
	baz=220,SNR=1000						
P17K	Kvichak River	5.35	26			Pn	14 17 47.4 +2.2
P17K	Kvichak River	5.35	26	P		Pn	14 17 47.1 +2.0
	baz=209,SNR=341						
P08K	Saint George I	5.35	297			Pn	14 17 46.8 +1.6
P08K	Saint George I	5.35	297	P		Pn	14 17 47.0 +1.9
	baz=110,SNR=188						
O16K	Kokwok River B	5.37	16			Pn	14 17 47.1 +1.6
O16K				IAML			14 19 22.5
	comp=E,5µm,1.0s						
O16K	Kokwok River B	5.37	16	P		Pn	14 17 47.2 +1.7
	baz=197,SNR=622						
N14K	Kuskokwak Cree	5.50	356	P		Pn	14 17 49.2 +2.0
	baz=175,SNR=1000						
CLCO	Concord Point,	5.50	256			Pn	14 17 48.4 +1.1
KAPH	Katmai Pasha	5.51	39			Pn	14 17 47.3 -0.2
CLES	Cleveland East	5.58	257	Pn		Pn	14 17 50.5 +2.1
O17K	Koliganek Bris	5.72	20	P		Pn	14 17 52.1 +1.9
	baz=202,SNR=506						
KDAK	Kodiak Island	5.73	51	Pn		Pn	14 17 49.5 -0.9
KDAK	Kodiak Island	5.73	51	P		Pn	14 17 50.1 -0.3
	baz=238						
KDAK	Kodiak Island	5.73	51	Pn		Pn	14 17 50.4 0.0
	comp=E,35nm,0.3s,baz=239,slow=7.6,SNR=665						
KDAK				Sn		Sn	14 18 51.8 -3.9
	comp=E,94nm,0.3s,baz=251,slow=17,SNR=5.8						
	comp=E,160nm,0.5s						
KDAK	Kodiak Island	5.73	51	P		Pn	14 17 49.5 -0.9
N15K	Kwethluk River	5.74	4			Pn	14 17 52.2 +1.6
N15K	Kwethluk River	5.74	4	P		Pn	14 17 52.9 +2.3
	baz=184,SNR=1000						
P18K	Big Mountain,	5.84	30			Pn	14 17 53.1 +1.1
P18K	Big Mountain,	5.84	30	P		Pn	14 17 53.7 +1.7
	baz=214,SNR=438						
SPIA	Saint Paul Isl	5.92	301	P		Pn	14 17 54.4 +1.4
SPIA	Saint Paul Isl	5.92	301			Pn	14 17 55.4 +2.4
SPIA	Saint Paul Isl	5.92	301	P		Pn	14 17 55.5 +2.5
	baz=113,SNR=157						
Q19K	Cape Douglas,	6.01	39			Pn	14 17 54.7 +0.5
Q19K	Cape Douglas,	6.01	39	P		Pn	14 17 55.6 +1.4
	baz=224,SNR=134						
M13K	Dall Lake	6.11	349			Pn	14 17 57.9 +2.3
M13K	Dall Lake	6.11	349	P		Pn	14 17 57.3 +1.7
	baz=166,SNR=993						
N16K	Nishlik Lake	6.14	10	P		Pn	14 17 57.9 +1.8
	baz=191,SNR=1000						
O18K	Koktuh Hills	6.24	28			Pn	14 17 59.1 +1.8
O18K	Koktuh Hills	6.24	28	P		Pn	14 17 59.3 +2.0
	baz=212,SNR=880						
M15K	Kasigluk River	6.25	1	P		Pn	14 17 59.0 +1.4
	baz=181,SNR=1000						
Q20K	Shuyak Island	6.29	45	P		Pn	14 17 58.2 +0.1
	baz=232,SNR=78						
M14K	Bethel	6.33	355			Pn	14 17 59.8 +1.2
M14K	Bethel	6.33	355	P		Pn	14 18 00.9 +2.2
	baz=174,SNR=1000						
AUCH	Augustine Cone	6.39	37			Pn	14 18 01.0 +1.4
N17K	Nushagak Hills	6.41	17	P		Pn	14 18 01.4 +1.7
	baz=199,SNR=684						
AUL	Augustine Lava	6.41	37			Pn	14 18 01.3 +1.5
AU22	Augustine Moun	6.43	37			Pn	14 18 01.8 +1.8
M11K	Mekoryuk	6.59	337			Pn	14 18 04.1 +1.9
M11K	Mekoryuk	6.59	337	P		Pn	14 18 04.4 +2.3
	baz=152,SNR=130						
M16K	Timber Creek	6.66	8	P		Pn	14 18 05.1 +1.9
	baz=190,SNR=813						
P19K	Oil Pt	6.68	36			Pn	14 18 05.0 +1.5
P19K	Oil Pt	6.68	36	P		Pn	14 18 05.4 +1.9
	baz=222,SNR=141						
O19K	Port Alsworth	6.77	29			Pn	14 18 06.6 +1.9
O19K	Port Alsworth	6.77	29	P		Pn	14 18 06.3 +1.7
	baz=214						
N18K	Kilae Creek	6.80	21	P		Pn	14 18 06.7 +1.6
	baz=205,SNR=485						
L14K	Kuka Creek	6.96	353	P		Pn	14 18 09.3 +2.0
	baz=171						
M17K	Holitna River	7.20	13			Pn	14 18 12.6 +2.0
M17K	Holitna River	7.20	13	P		Pn	14 18 12.6 +2.0
	baz=196,SNR=355						
O20K	Slope Mountain	7.21	35			Pn	14 18 12.2 +1.5
O20K	Slope Mountain	7.21	35	P		Pn	14 18 11.4 +0.6
	baz=222						
SVW2	Sparrevohn	7.24	21	P		Pn	14 18 12.7 +1.5
SVW2	Sparrevohn	7.24	21			Pn	14 18 12.7 +1.5
N19K	Bonanza Creek	7.24	26	P		Pn	14 18 13.4 +2.1
	baz=211,SNR=747						
L15K	Ungalak Mounta	7.25	358	P		Pn	14 18 12.1 +0.9
	baz=177,SNR=664						
HOM	Homer	7.26	40			Pn	14 18 12.5 +1.2
HOM	Homer	7.26	40	P		Pn	14 18 12.2 +0.9
	baz=228,SNR=32						
L16K	Owhat River	7.31	5	P		Pn	14 18 13.2 +1.1
	baz=186,SNR=661						
RDWB	Redoubt West	7.45	32			Pn	14 18 15.1 +1.0
M18K	Stony River	7.55	19	P		Pn	14 18 17.1 +1.7
	baz=203,SNR=745						
BRLK	Bradley Lake	7.62	42			Pn	14 18 15.5 -0.9
RDT	Redoubt	7.65	33			Pn	14 18 17.7 +0.9
BRSE	Bradley Lake S	7.66	42			Pn	14 18 16.0 -1.0
BRSE	Bradley Lake S	7.66	42	P		Pn	14 18 16.4 -0.5
	baz=230,SNR=96						
K13K	Kusilvak Mount	7.75	347			Pn	14 18 19.8 +1.7
L17K	Donlin	7.82	9	P		Pn	14 18 20.5 +1.4
	baz=191,SNR=350						
K15K	Wolf Creek Mou	7.86	358	P		Pn	14 18 21.6 +1.9
	baz=177,SNR=396						
L18K	Granite Mounta	8.09	14	P		Pn	14 18 24.2 +1.4
	baz=197,SNR=306						
KOFP	Korovin Flat P	8.18	260			Pn	14 18 25.4 +1.3
SPBG	Spurr Blockage	8.20	30			Pn	14 18 25.8 +1.5
N20K	Mount Spurr	8.20	31	P		Pn	14 18 25.1 +0.8
	baz=218,SNR=55						
SPCR	Spurr Chakacha	8.20	31			Pn	14 18 25.5 +1.2
SPCR	Spurr Chakacha	8.20	31	P		Pn	14 18 17.9 -6.4
	baz=218,SNR=51						
CAPN	Captain Cook N	8.21	36	P		Pn	14 18 26.5 +2.1
	baz=224						
M19K	Big River Lodg	8.22	22			Pn	14 18 26.9 +2.3
M19K	Big River Lodg	8.22	22	P		Pn	14 18 26.4 +1.8
	baz=207,SNR=1000						
KOKL	Mount Kliuchef	8.22	260			Pn	14 18 26.2 +1.5
SPU	Mount Spurr	8.23	31			Pn	14 18 25.9 +1.2
ATKA	Atka Island	8.26	260	P		Pn	14 18 26.7 +1.5
ATKA	Atka Island	8.26	260			Pn	14 18 26.4 +1.2
SPCP	Crater Peak Br	8.27	31			Pn	14 18 26.6 +1.3
SPCG	Spurr Capps Gl	8.32	31			Pn	14 18 27.4 +1.2
SLKM	Skilak Lake	8.36	39			Pn	14 18 26.5 0.0
L19K	White Mountain	8.37	20			Pn	14 18 28.1 +1.4
L19K	White Mountain	8.37	20	P		Pn	14 18 28.2 +1.6
	baz=205,SNR=616						
K17K	Iditarod	8.39	8	P		Pn	14 18 28.4 +1.5
	baz=190,SNR=581						
SEW	Seward	8.39	43			Pn	14 18 26.1 -0.9
SEW	Seward	8.39	43	P		Pn	14 18 27.2 +0.3
	baz=232,SNR=72						
J14K	Nanvaranak Lak	8.43	352			Pn	14 18 28.6 +1.3
J14K	Nanvaranak Lak	8.43	352	P		Pn	14 18 29.5 +2.2
	baz=169,SNR=588						
M20K	Styx River	8.50	26			Pn	14 18 31.1 +2.6
M20K	Styx River	8.50	26	P		Pn	14 18 30.9 +2.4
	baz=212,SNR=970						
O22K	Cooper Landing	8.53	40	P		Pn	14 18 29.5 +0.8
	baz=230,SNR=118						
STLK	Strandline Lak	8.54	31			Pn	14 18 30.3 +1.2
L20K	Farewell, AK	8.84	22			Pn	14 18 34.9 +1.8
L20K	Farewell, AK	8.84	22	P		Pn	14 18 34.8 +1.7
	baz=207,SNR=981						
SUA	Susitna One	8.85	33			Pn	14 18 33.5 +0.2
SUA	Susitna One	8.85	33	P		Pn	14 18 33.6 +0.3
	baz=222,SNR=85						
J16K	Anvik River	8.85	1	P		Pn	14 18 34.8 +1.6
	baz=181,SNR=429						
TTA	Tatalina	8.87	15	P		Pn	14 18 34.9 +1.4
TTA	Tatalina	8.87	15	P		Pn	14 18 34.5 +1.0
	baz=199,SNR=249						
RC01	Rabbit Creek A	8.93	37			Pn	14 18 34.0 -0.3
RC01	Rabbit Creek A	8.93	37	P		Pn	14 18 33.9 -0.3
	baz=226,SNR=93						
SKT	Skwentna	9.01	29			Pn	14 18 36.5 +1.1
SKT	Skwentna	9.01	29	P		Pn	14 18 36.6 +1.2
	baz=217,SNR=324						
J17K	VABM Dome	9.02	5	P		Pn	14 18 35.8 +0.4
	baz=187,SNR=185						
P23K	Montague Islan	9.19	47			Pn	14 18 37.7 0.0
P23K	Montague Islan	9.19	47	P		Pn	14 18 37.4 -0.3
	baz=238,SNR=42						
M22K	Willow	9.27	34			Pn	14 18 39.5 +0.6
M22K	Willow	9.27	34	P		Pn	14 18 38.5 -0.4
	baz=222,SNR=285						
J18K	Innoko River	9.29	12	P		Pn	14 18 40.8 +1.6
	baz=195,SNR=381						
PWL	Port Wells	9.30	41			Pn	14 18 38.3 -1.0
PWL	Port Wells	9.30	41	P		Pn	14 18 39.4 +0.1
	baz=232,SNR=358						
Q23K	Middleton Isla	9.38	52			Pn	14 18 40.4 -0.1
Q23K	Middleton Isla	9.38	52	P		Pn	14 18 40.3 -0.1
	baz=244						
MID	Middleton Isla	9.39	52	P		Pn	14 18 40.8 +0.3
MID	Middleton Isla	9.39	52			Pn	14 18 40.0 -0.5
MID	Middleton Isla	9.39	52	P		Pn	14 18 40.0 -0.5
GSMY	Great Sitkin M	9.39	261			Pn	14 18 41.7 +1.1
I17K	Unalakleet	9.46	1			Pn	14 18 43.0 +1.5
I17K	Unalakleet	9.46	1	P		Pn	14 18 42.9 +1.5
	baz=180,SNR=48						
PMR	Palmer	9.49	36	P		Pn	14 18 42.6 +0.7
PMR	Palmer	9.49	36			Pn	14 18 42.1 +0.3
PMR	Palmer	9.49	36	P		Pn	14 18 41.9 0.0
	baz=226,SNR=20						
PMR	Palmer	9.49	36	P		Pn	14 18 42.1 +0.3
K20K	Telida	9.59	19			Pn	14 18 44.8 +1.4
K20K	Telida	9.59	19	P		Pn	14 18 43.8 +0.4
	baz=204						
KNK	Knik Glacier	9.60	38			Pn	14 18 43.5 -0.1
KNK	Knik Glacier	9.60	38	P		Pn	14 18 42.2 -1.4
	baz=229,SNR=82						
GHO	Glory Hole Cre	9.68	36			Pn	14 18 43.8 -0.9
CUT	Chulitna	9.71	31			Pn	14 18 45.0 0.0
CUT	Chulitna	9.71	31	P		Pn	14 18 44.9 -0.1
	baz=219,SNR=70						
HIN	Hinchinbrook I	9.78	47			Pn	14 18 45.1 -0.8
GLI	Glacier Island	9.79	43			Pn	14 18 45.6 -0.6
GLI	Glacier Island	9.79	43	P		Pn	14 18 44.6 -1.5
	baz=235,SNR=37						
ADK	Adak	9.81	261	P		Pn	14 18 47.7 +1.3
ADK	Adak	9.81	261			Pn	14 18 47.2 +0.8
ADK	Adak	9.81	261	P		Pn	14 18 47.2 +0.8
SML	Sawmill	9.91	37			Pn	14 18 46.6 -1.1
SML	Sawmill	9.91	37	P		Pn	14 18 46.9 -0.8
	baz=227,SNR=95						
J19K	Poorman	9.94	14	P		Pn	14 18 49.2 +1.1
	baz=198,SNR=717						
KIWB	Kanaga Island	10.09	262			Pn	14 18 51.3 +1.1
M23K	Glacier View	10.12	38	P		Pn	14 18 50.0 -0.6
	baz=229,SNR=138						
EYAK	Cordova Ski Ar	10.18	47	P		Pn	14 18 51.0 -0.3
EYAK	Cordova Ski Ar	10.18	47	P		Pn	14 18 50.7 -0.6
	baz=240,SNR=95						
H16K	Elim	10.23	357	P		Pn	14 18 53.4 +1.3
	baz=175,SNR=111						
SCM	Sheep Creek Mo	10.29	39	P		Pn	14 18 52.5 -0.5
	baz=230,SNR=168						
J20K	Nowinta River	10.34	17	P		Pn	14 18 54.5 +1.0
	baz=202,SNR=505						
ANM	Nome	10.38	349			Pn	14 18 56.1 +1.9
ANM	Nome	10.38	349	P		Pn	14 18 56.1 +1.9
	baz=165,SNR=58						
ANM	Nome	10.38	349	P		Pn	14 18 56.1 +1.9
KAIM	Kayak Island	10.48	52			Pn	14 18 55.8 +0.3
KAIM	Kayak Island	10.48	52	P		Pn	14 18 55.8 +0.3
	baz=246,SNR=58						
GCSA	Galena City Sc	10.52	10	P		Pn	14 18 56.8 +0.8
	baz=193,SNR=18						
H17K	Granite Mounta	10.52	2			Pn	14 18 57.2 +1.1
H17K	Granite Mounta	10.52	2	P		Pn	14 18 57.8 +1.7
	baz=183,SNR=111						
WAT1	Susitna Watana	10.56	32	P		Pn	14 18 55.7 -1.0
	baz=223						
KLU	Klutina	10.61	42	P		Pn	14 18 56.6 -0.8
	baz=235,SNR=304						
WAT6	Susitna Watana	10.64	35	P		Pn	14 18 56.4 -1.5
	baz=226,SNR=100						
G15K	Niukluk	10.68	353	P		Pn	14 19 00.6 +2.4
	baz=170						
H18K	Honhosa River	10.80	6	P		Pn	14 19 00.9 +0.9
	baz=188						
I20K	Naaghedeneel	10.86	15	P		Pn	14 19 02.3 +1.7
	baz=200,SNR=185						
BMRM	Bremner River	10.87	47	P		Pn	14 19 00.5 -0.4
	baz=240,SNR=142						
M24K	Tolsona, Glenn	10.88	39	P		Pn	14 19 00.5 -0.6
	baz=232,SNR=130						
BPAW	Bear Paw Mtn.	10.90	24	P		Pn	14 19 02.4 +1.1
	baz=212,SNR=209						
G16K	Koyuk River	10.99	357	P		Pn	14 19 04.4 +1.9
	baz=175						
G17K	Kiwalik Mounta	11.08	1	P		Pn	14 19 05.1 +1.5
	baz=181,SNR=416						
BGLC	Bering Glacier	11.08	52	P		Pn	14 19 03.8 +0.2
	baz=247						
DHY	Denali Highway	11.11	34	P		Pn	14 19 02.6 -1.7
	baz=225,SNR=99						
MCK	McKinley	11.13	29	P		Pn	14 19 03.0 -1.4
	baz=219,SNR=98						
N25K	Chitina, Valde	11.21	44	P		Pn	14 19 05.1 -0.4
	baz=237,SNR=251						
H19K	Roundabout Mou	11.32	10	P		Pn	14 19 08.2 +1.3
	baz=193,SNR=290						
F14K	Arctic Creek	11.37	348	P		Pn	14 19 10.4 +2.7
	baz=164,SNR=145						
CRQE	Cirque	11.43	49	P		Pn	14 19 07.7 -0.9
	baz=244,SNR=102						
F15K	North Star Dit	11.44	352	P		Pn	14 19 11.0 +2.5
	baz=169						
HARP	HAARP	11.44	40	P		Pn	14 19 07.8 -0.9
	baz=233,SNR=54						
H20K	Anotleneega Mo	11.47	13	P		Pn	14 19 10.6 +1.6
	baz=198,SNR=384						
G18K	Tagagawik	11.53	5	P		Pn	14 19 11.1 +1.3
	baz=186,SNR=597						
TNA	Tin City	11.66	345	P		Pn	14 19 14.0 +2.4
	baz=159,SNR=81						
PAX	Paxson	11.68	37	P		Pn	14 19 11.5 -0.5
	baz=230,SNR=401						
MESA	MESA	11.72	53	P		Pn	14 19 12.2 -0.4
	baz=249,SNR=68						
MCARA	McCarthy VSAT	11.74	47	P		Pn	14 19 12.4 -0.4
	baz=242,SNR=55						
MLY	Manley	11.76	22	P		Pn	14 19 14.1 +1.1
	baz=210,SNR=129						
NEA2	Nenana	11.78	26	P		Pn	14 19 10.7 -2.6
	baz=216,SNR=36						
G19K	Purcell Mounta	11.87	8	P		Pn	14 19 15.8 +1.3
	baz=191,SNR=133						
H21K	Melozitna Rive	11.93	16	P		Pn	14 19 16.7 +1.4
	baz=203,SNR=488						
F17K	Baldwin Pennin	12.03	359	P		Pn	14 19 18.3 +1.8
	baz=179						
IMAR	Indian Mountai	12.09	14			Pn	14 19 18.4 +1.0
K24K	Donnelly Dome	12.14	33	P		Pn	14 19 16.8 -1.4
	baz=226,SNR=187						
I23K	Minto, Yukon-K	12.17	24	P		Pn	14 19 17.3 -1.2
	baz=213,SNR=54						
F18K	Selawik	12.20	2	P		Pn	14 19 20.8 +1.9
	baz=183						
HDA	Harding Lake	12.21	30	P		Pn	14 19 16.6 -2.6
	baz=222,SNR=155						
M26K	Nabesna, AK	12.27	42	P		Pn	14 19 19.8 -0.2
	baz=238,SNR=188						
MENT	Mentasta	12.30	39	P		Pn	14 19 20.4 +0.1
CTG	Chitna Glacier	12.30	50	P		Pn	14 19 20.5 0.0
	baz=246,SNR=79						
AMKA	Amchitka	12.32	264			Pn	14 19 21.0 +0.3
COLA	College	12.32	27	P		Pn	14 19 19.2 -1.4
COLA	College	12.32	27			Pn	14 19 18.4 -2.2
COLA	College	12.32	27	P		Pn	14 19 17.1 -3.6
	baz=218						
COLA	College	12.32	27	P		Pn	14 19 18.4 -2.2
H22K	Ishtalitna Cre	12.39	18	P		Pn	14 19 22.9 +1.3
	baz=207,SNR=460						
LOGN	Logan Glacier	12.39	51			Pn	14 19 21.9 +0.1
L26K	Log Cabin Wild	12.48	40	P		Pn	14 19 22.6 -0.3
	baz=234,SNR=105						
PINM	Pinnacle	12.50	55	P		Pn	14 19 23.1 0.0
	baz=252,SNR=44						
ILAR	Eielson Array	12.51	29			Pn	14 19 21.1 -2.1
ILAR	Eielson Array	12.51	29	Pn		Pn	14 19 20.7 -2.5
	comp=E,4.3nm,0.3s,baz=217,slow=13,SNR=162						
ILAR				Sn		Sn	14 21 34.0 -7.9
	comp=E,1.8nm,0.3s,baz=215,slow=22,SNR=1.4						
ILAR				LR		LR	14 24 32.5
	comp=E,49µm,19.6s,baz=226,slow=39						
ILAR	Eielson Array	12.51	29	P		Pn	14 19 21.1 -2.1
F19K	Shaleruckik Mo	12.51	6	P		Pn	14 19 25.0 +1.9
	baz=188						
YKU2	Yakutat	12.62	58	P		Pn	14 19 25.9 +1.2
G21K	Allakaket	12.62	14	P		Pn	14 19 26.0 +1.3
	baz=200						
POKR	Poker Plat Res	12.62	27	P		Pn	14 19 17.4 -7.4
	baz=218,SNR=7.9						
E17K	Hotham Inlet	12.67	358	P		Pn	14 19 26.5 +1.1
	baz=177,SNR=158						
M27K	Edge Creek, AK	12.69	44	P		Pn	14 19 25.9 0.0
	baz=240,SNR=95						
H23K	Yukon River	12.70	22	P		Pn	14 19 24.3 -1.5
	baz=211,SNR=111						
O28M	Mount Upton	12.75	52	P		Pn	14 19 27.3 +0.5
	baz=249,SNR=154						
PNL	Peninsula	12.79	57	P		Pn	14 19 27.9 +0.8
PNL	Peninsula	12.79	57	P		Pn	14 19 26.8 -0.3
	baz=255,SNR=160						
J25K	Salcha River,	12.83	31	P		Pn	14 19 25.4 -2.3
	baz=225,SNR=231						
SCRK	Sand Creek	12.84	35	P		Pn	14 19 27.1 -0.8
	baz=230,SNR=131						
F20K	Avaraart Lake	12.88	9	P		Pn	14 19 29.7 +1.5
	baz=194,SNR=265						
E18K	Tukpahlearik C	13.01	1	P		Pn	14 19 33.2 +3.2
	baz=181						
YUK3	Moose Creek	13.02	48	P		Pn	14 19 30.4 +0.1
	baz=245,SNR=163						
L27K	Beaver Creek,	13.08	41			Pn	14 19 30.6 -0.5
L27K	Beaver Creek,	13.08	41	P		Pn	14 19 29.8 -1.2
	baz=237,SNR=198						
H24K	Noodor Dome	13.09	24	P		Pn	14 19 29.0 -2.2
	baz=215,SNR=64						
BCAR	Beaver Creek A	13.10	41			Pn	14 19 29.8 -1.6
YUK8	Steele Glacier	13.13	50	P		Pn	14 19 32.6 +0.7
	baz=248,SNR=196						
E19K	Redstone River	13.16	6	P		Pn	14 19 33.2 +1.1
	baz=189						
F21K	Alatna River	13.29	13	P		Pn	14 19 36.2 +2.3
	baz=199,SNR=595						
G22K	Bettles	13.30	16	P		Pn	14 19 35.4 +1.5
	baz=204						
D17K	Noatak River	13.33	356	P		Pn	14 19 36.9 +2.6
	baz=174,SNR=76						
J26L	Joseph Creek	13.33	34	P		Pn	14 19 32.7 -1.7
	baz=229,SNR=196						
O29M	Mount Kennedy	13.36	55	P		Pn	14 19 35.8 +0.9
	baz=254,SNR=202						
G23K	Bananza Creek	13.37	19	P		Pn	14 19 35.2 +0.1
	baz=208,SNR=262						
PRP	Porcupine Dome	13.45	28	P		Pn	14 19 34.9 -1.3
	baz=222						
P29M	Windy Craggy	13.60	58	P		Pn	14 19 38.1 0.0
	baz=258,SNR=179						
YUK6	Outpost Mounta	13.65	53	P		Pn	14 19 39.1 +0.1
	baz=251,SNR=67						
YUK4	Talbot Arm	13.65	51	P		Pn	14 19 40.6 +1.6
	baz=249,SNR=135						
RDOG	Red Dog Mine	13.68	357			Pn	14 19 42.3 +3.2
RDOG	Red Dog Mine	13.68	357	P		Pn	14 19 41.9 +2.8
	baz=175,SNR=132						
F22K	John River	13.74	14	P		Pn	14 19 41.7 +1.7
	baz=202,SNR=565						
COLD	Coldfoot	13.80	18	P		Pn	14 19 41.3 +0.5
	baz=207,SNR=279						
G24K	Hadweenzic Riv	13.89	23	P		Pn	14 19 39.5 -2.5
	baz=214,SNR=34						
H25L	Birch Creek	13.94	26	P		Pn	14 19 39.4 -3.4
	baz=219,SNR=29						
C16K	Lisburne Hills	14.02	353	P		Pn	14 19 45.3 +1.5
	baz=169,SNR=88						
E20K	Nigu River	14.02	7	P		Pn	14 19 45.9 +2.0
	baz=191						
C17K	DeLong Mountai	14.11	357	P		Pn	14 19 47.3 +2.4
	baz=174,SNR=73						
S31K	Pelican	14.15	66	P		Pn	14 19 45.3 -0.2
	baz=266,SNR=63						
M29M	Somme Creek	14.15	47	P		Pn	14 19 45.3 -0.5
	baz=246,SNR=295						
C18K	Utukok River	14.24	360	P		Pn	14 19 49.3 +2.4
C18K	Utukok River	14.24	360	P		Pn	14 19 48.7 +1.8
	baz=179,SNR=240						
PLBC	Pleasant Camp	14.25	60	P		Pn	14 19 47.5 +0.5
	baz=260,SNR=151						
G25K	Bearman Lake	14.27	24	P		Pn	14 19 44.0 -3.2
	baz=217,SNR=31						
EGAK	Eagle	14.31	36	P		Pn	14 19 45.8 -1.9
	baz=233,SNR=125						
N30M	Aishikik Lake	14.40	51	P		Pn	14 19 48.8 -0.3
	baz=251,SNR=73						
E21K	Killik River	14.40	10	P		Pn	14 19 50.4 +1.3
	baz=196						
R31K	City Hall, Gus	14.44	64	P		Pn	14 19 49.4 -0.2
	baz=265,SNR=20						
F24K	Squaw Lake	14.49	20	P		Pn	14 19 48.3 -2.0
	baz=212,SNR=49						
DAWY	Dawson	14.54	40	P		Pn	14 19 49.5 -1.5
	baz=238,SNR=128						
L29M	L29M	14.57	44	P		Pn	14 19 50.7 -0.8
	baz=244,SNR=160						
SIT	Sitka	14.61	69	P		Pn	14 19 52.8 +0.9
SIT	Sitka	14.61	69	P		Pn	14 19 50.1 -1.8
	baz=270						
E23K	Chandalar	14.64	17	P		Pn	14 19 52.3 -0.1
	baz=207,SNR=337						
O30N	Mendenhall	14.67	54	P		Pn	14 19 52.7 0.0
	baz=255,SNR=105						
I27K	Kandik River	14.67	33	P		Pn	14 19 50.0 -2.9
	baz=229,SNR=68						
C19K	Lookout Ridge	14.71	2	P		Pn	14 19 54.4 +1.1
	baz=183,SNR=62						
SKAG	Skagway	14.78

baz=236,SNR=77
MAYO Mayo, Yukon 15.69 44 P **Pn 14 20 06.3 +0.1**
baz=246,SNR=43
B20K Meade River 15.70 5 IAmb IAmb 14 20 13.5
comp=Z,955nm,1.1s
B20K Meade River 15.70 5 P **Pn 14 20 06.3 +0.1**
baz=188,SNR=89
D24K Happy Valley 15.76 16 IAmb IAmb 14 20 12.5
comp=Z,1μm,1.0s
D24K Happy Valley 15.76 16 P **Pn 14 20 07.3 +0.2**
baz=207,SNR=450
A19K Wainwright 15.80 360 P **Pn 14 20 08.3 +0.7**
baz=180
M31M Drury Creek, Y 15.84 50 P **Pn 14 20 08.5 +0.3**
baz=253,SNR=48
U33K Whale Pass 15.88 73 P **Pn 14 20 08.4 -0.2**
baz=276,SNR=27
T33K Petersburg 15.92 70 P **Pn 14 20 09.6 +0.4**
baz=273
J30M Hart River 15.95 41 IAmb IAmb 14 20 17.3
comp=Z,1μm,0.8s
J30M Hart River 15.95 41 P **Pn 14 20 10.2 +0.5**
baz=242,SNR=211
CRAG Craig 15.96 75 P **Pn 14 20 12.1 +2.5**
CRAG Craig 15.96 75 P **Pn 14 20 08.0 -1.7**
baz=278
H29M Whitestone 16.10 34 IAmb IAmb 14 20 16.2
comp=Z,527nm,0.9s
H29M Whitestone 16.10 34 P **Pn 14 20 10.0 -1.5**
baz=234,SNR=252
C23K Itkillik River 16.12 13 P **Pn 14 20 12.1 +0.4**
baz=202,SNR=331
P33M Teslin, Yukon 16.14 58 P **Pn 14 20 12.5 +0.3**
baz=261,SNR=372
N32M Quiet Lake 16.18 54 P **Pn 14 20 13.4 +0.8**
baz=258
I30M Mount Dempster 16.25 39 P **Pn 14 20 12.7 -0.8**
baz=240,SNR=438
WRAK Wrangell Islan 16.28 71 P **Pn 14 20 12.8 -1.0**
baz=275
B22K Teshekpuk Lake 16.29 9 IAmb IAmb 14 20 20.8
comp=Z,676nm,1.1s
B22K Teshekpuk Lake 16.29 9 P **Pn 14 20 12.6 -1.3**
baz=196,SNR=52
Q32M Nakina River 16.29 62 P **Pn 14 20 15.6 +1.4**
baz=266,SNR=68
FARO Faro, Yukon 16.32 50 P **Pn 14 20 14.1 -0.3**
baz=254,SNR=134
D25K Kavik River 16.33 18 P **Pn 14 20 12.8 -1.6**
baz=211,SNR=236
E27K Coleen River 16.48 26 P Pn 14 20 11.5 -4.8
baz=223,SNR=34
F28M Old Crow 16.53 29 P **Pn 14 20 12.8 -4.1**
baz=227,SNR=151
G29M Pine Creek 16.63 32 IAmb IAmb 14 20 22.1
comp=Z,1μm,0.8s
G29M Pine Creek 16.63 32 P **Pn 14 20 15.6 -2.7**
baz=232,SNR=785
EPYK Eagle Plains 16.74 35 IAmb IAmb 14 20 23.7
comp=Z,912nm,0.9s
EPYK Eagle Plains 16.74 35 P **Pn 14 20 16.0 -3.6**
baz=236,SNR=403
DIB Dawson Inlet, 16.79 83 P **Pn 14 20 21.9 +1.6**
A22K Sinclair Lake 16.81 7 P **Pn 14 20 18.0 -2.5**
baz=192
V35K Ketchikan 16.83 75 P **Pn 14 20 18.8 -2.0**
baz=279
S34M Telegraph Cree 16.86 66 P **Pn 14 20 20.4 -0.8**
baz=271,SNR=121
R33M Jennings River 16.99 61 P **Pn 14 20 23.1 +0.3**
baz=266,SNR=107
A21K Barrow 17.03 5 P **Pn 14 20 20.3 -2.9**
baz=188,SNR=11
C27K Jago River 17.11 21 P **Pn 14 20 23.9 -0.3**
baz=216,SNR=239
C26K Camden Bay 17.11 19 P **Pn 14 20 24.4 +0.2**
baz=213,SNR=56
G30M tAoh Zraii Nji 17.25 34 IAmb IAmb 14 20 30.2
comp=Z,596nm,0.9s
G30M tAoh Zraii Nji 17.25 34 P **Pn 14 20 25.7 -0.3**
baz=235,SNR=447
E28M Babbage River 17.31 27 P **Pn 14 20 24.5 -2.2**
baz=226,SNR=47
T35M Bob Quinn 17.39 69 P **Pn 14 20 25.0 -2.8**
baz=275,SNR=36
D27M Malcolm River 17.42 24 P **Pn 14 20 24.2 -3.9**
baz=222,SNR=16
DLBC Dease Lake 17.44 64 P **Pn 14 20 27.2 -1.4**
baz=270,SNR=51
DLBC Dease Lake 17.44 64 P **Pn 14 20 30.2 +1.7**
comp=Z,1.3nm,0.3s,baz=264,slow=11,SNR=22
DLBC S **Sn 14 23 42.4 +0.3**
comp=Z,24nm,0.7s,baz=318,slow=12,SNR=2.3
DLBC LR LR 14 27 16.8
comp=Z,14μm,18.5s,baz=282,slow=37
comp=Z,45nm,0.8s
E29M Blow River 17.61 29 P **Pn 14 20 26.4 -4.0**
baz=229,SNR=122
U35K Hyder 17.63 73 P **Pn 14 20 30.6 -0.2**
baz=278
F30M Barrier River 17.75 32 P **Pn 14 20 31.4 -0.7**
baz=234,SNR=269
HG4B Hotspring 17.80 85 P **Pn 14 20 34.5 +1.6**
G31M Satah River 17.86 35 P **Pn 14 20 31.1 -2.4**
baz=238,SNR=310
D28M Stokes Point 18.02 26 P **Pn 14 20 32.5 -3.1**
baz=225
WTLY Watson Lake, Y 18.13 59 P **Pn 14 20 38.5 +1.5**
baz=266,SNR=7.9
F31M Tsiigehtchic 18.31 34 P **Pn 14 20 36.8 -2.2**
baz=238,SNR=51
TGTN Hyland Airport 18.53 54 P **P 14 20 43.6 +1.9**
baz=262,SNR=185
TGTN S **Sn 14 24 10.1 +1.8**
baz=262
INK Inuvik 18.85 32 IAmb IAmb 14 20 50.0
comp=Z,529nm,1.0s
INK Inuvik 18.85 32 P **P 14 20 43.2 -1.8**
baz=236,SNR=282
INK Inuvik 18.85 32 P **P 14 20 43.1 -1.8**
comp=Z,9.6nm,0.3s,baz=228,slow=12,SNR=70
INK S **Sn 14 24 16.1 +0.4**
comp=Z,77nm,1.1s,baz=216,slow=27,SNR=2.9
INK LR LR 14 29 02.2
comp=Z,41μm,18.8s,baz=225,slow=40
comp=Z,135nm,0.7s
LIRD Liard River Hi 19.48 61 P **P 14 20 54.5 +2.6**
baz=270,SNR=40
LIRD S **S 14 24 35.5 +4.3**
baz=270
BBB Bella Bella 19.63 83 P **P 14 20 55.3 +1.6**
comp=Z,1.1nm,0.3s,baz=296,slow=14,SNR=11
BBB LR LR 14 27 01.3
comp=Z,19μm,19.2s,baz=294,slow=32
TOAD Toad River Com 19.94 63 P **P 14 20 59.2 +2.2**
baz=273,SNR=264
TOAD S **Sn 14 24 44.6 +2.3**
baz=273
BILL Bilibino 20.48 324 P **P 14 21 02.5 -0.3**
BILL IAmb IAmb 14 21 17.5
comp=Z,867nm,1.4s
BILL IAMs_20 IAMs_20 14 29 34.8
comp=Z,41μm,19.0s
BILL Bilibino 20.48 324 *c iP* **P 14 21 02.5 -0.3**
BILL *e* 14 21 16.9
BILL pmax pmax
comp=Z,720nm,1.7s
BILL MLR MLR
comp=Z,70μm,14.0s
KOTAN Kotaneelee Air 20.51 59 P **P 14 21 04.3 +1.2**
baz=270,SNR=56
KOTAN S **S 14 24 54.4 +2.7**
baz=270
WRGLY Wrigley 20.98 50 P **P 14 21 09.1 +0.9**
WRGLY IAmb IAmb 14 21 26.6
comp=Z,698nm,1.0s
WRGLY Wrigley 20.98 50 P **P 14 21 09.0 +0.8**
baz=263,SNR=86
WRGLY S **S 14 24 59.5 -1.5**
baz=263
C36M Paulatuk 22.36 34 P **P 14 21 21.3 -1.7**
C36M IAmb IAmb 14 21 28.6
comp=Z,423nm,0.9s
C36M Paulatuk 22.36 34 P **P 14 21 21.1 -1.8**
baz=247,SNR=67
C36M S **S 14 25 25.7 -2.0**
baz=247
OZB Mount Ozzard 22.46 90 IAmb IAmb 14 21 44.8
comp=Z,460nm,1.1s
A36M Sachs Harbour 23.20 27 P **P 14 21 29.8 -1.9**
A36M IAmb IAmb 14 21 46.7
comp=Z,526nm,0.8s
A36M IAMs_20 IAMs_20 14 31 33.0
comp=Z,20μm,20.0s
A36M Sachs Harbour 23.20 27 P **P 14 21 30.0 -1.8**
baz=240,SNR=89
A36M S **S 14 25 41.0 -1.5**
baz=240
C03A Quillayute Air 23.49 91 IAMs_20 IAMs_20 14 28 48.6
comp=Z,26μm,18.0s
PET Petropavlovsk 23.73 283 P **P 14 21 37.0 -0.1**
PET Petropavlovsk 23.73 283 P **P 14 21 35.9 -1.2**
PET Petropavlovsk 23.73 283 *α iP* **P 14 21 36.2 -0.9**
PET *e*S S 14 25 42.5 -8.8
PET *e*SS SnSn 14 26 56.5 +27
PET pmax pmax
comp=Z,2μm,11.6s
PET pmax pmax
comp=Z,2μm,1.1s
PET MLR MLR
comp=Z,9μm,18.0s
PET MLR MLR
comp=Z,8μm,17.0s
PET Petropavlovsk 23.73 283 P **P 14 21 36.6 -0.5**
comp=Z,2μm,1.2s,comp=Z,17μm
PGC Sidney 23.80 89 IAMs_20 IAMs_20 14 28 42.8
comp=Z,19μm,20.0s
NLWA Neilton Lookou 24.18 92 IAmb IAmb 14 21 56.3
comp=Z,519nm,1.6s
NLWA IAMs_20 IAMs_20 14 28 49.8
comp=Z,24μm,20.0s
WISH Wishkah 24.38 92 IAMs_20 IAMs_20 14 28 47.0
comp=Z,20μm,21.0s
RADR Rader Ridge 24.73 94 IAMs_20 IAMs_20 14 28 44.3
comp=Z,18μm,22.0s
E03A Lebam 24.80 93 IAmb IAmb 14 22 06.3
comp=Z,224nm,1.2s
E03A IAMs_20 IAMs_20 14 28 59.2
comp=Z,20μm,21.0s
YKA Yellowknife Ar 25.00 53 P **P 14 21 49.2 +0.4**
YKA Yellowknife Ar 25.00 53 P **P 14 21 49.4 +0.6**
comp=Z,56nm,0.9s,baz=278,slow=9.7,SNR=105
YKA PcP **PcP 14 25 23.2 +0.1**
comp=Z,3.4nm,0.8s,baz=288,slow=2.1,SNR=1.4
YKA ScP **ScP 14 28 59.1 -1.9**
comp=Z,15nm,1.1s,baz=278,slow=2.3,SNR=8.3
YKA LR LR 14 32 56.9
comp=Z,16μm,19.4s,baz=270,slow=40
YKA P3KPbc 14 54 49.8
comp=Z,4.1nm,1.1s,baz=102,slow=5.0,SNR=14
comp=Z,56nm,0.9s
SEY Seymchan 25.16 308 LR LR 14 32 20.9
comp=Z,17μm,22.0s,baz=98,slow=38
SEY Seymchan 25.16 308 *ceP* **P 14 21 48.6 -1.6**
SEY pmax pmax
comp=Z,280nm,1.7s
SEY MLR MLR
comp=Z,20μm,22.0s
F04D Rainier, OR 25.37 94 IAMs_20 IAMs_20 14 29 04.4
comp=Z,20μm,22.0s
D05A Enumclaw 25.38 91 IAmb IAmb 14 22 09.2
comp=Z,434nm,1.2s
HEBO Mount Hebo 25.42 96 IAMs_20 IAMs_20 14 29 12.8
comp=Z,21μm,20.0s
G03D McMinnville, O 25.71 95 IAMs_20 IAMs_20 14 29 31.3
comp=Z,21μm,20.0s
COR Corvallis 26.05 97 IAMs_20 IAMs_20 14 29 31.3
comp=Z,18μm,21.0s
SKR Severo-Kuril's 26.08 279 *eP* **P 14 21 57.2 -1.4**
SKR pmax pmax
comp=Z,429nm,1.2s
SKR pmax pmax
comp=Z,2μm,6.8s
SKR MLR MLR
comp=Z,10μm,18.0s
LTY Liberty 26.11 89 IAMs_20 IAMs_20 14 30 17.1
comp=Z,20μm,20.0s
MA2 Magadan 26.30 301 P **P 14 22 01.0 +0.4**
MA2 Magadan 26.30 301 P **P 14 21 59.8 -0.8**
MA2 IAmb IAmb 14 22 03.7
comp=Z,151nm,0.8s
MA2 IAMs_20 IAMs_20 14 32 12.2
comp=Z,18μm,19.0s
MA2 Magadan 26.30 301 LR LR 14 32 22.8
comp=Z,16μm,19.9s,baz=100,slow=37
MA2 Magadan 26.30 301 *ceP* **P 14 21 59.9 -0.7**
MA2 pmax pmax
comp=Z,239nm,1.3s
MA2 MLR MLR
comp=Z,16μm,19.0s
MA2 Magadan 26.30 301 P **P 14 22 00.5 -0.1**
comp=Z,209nm,1.2s,comp=Z,3μm
B08A Colville Reser 26.34 86 P **P 14 22 02.7 +1.6**
J01E Myrtle Point 26.54 100 IAmb IAmb 14 22 33.4
comp=Z,245nm,1.2s
J01E IAMs_20 IAMs_20 14 29 34.5
comp=Z,24μm,21.0s
I03D Drain, OR 26.55 98 IAMs_20 IAMs_20 14 30 14.7
comp=Z,20μm,20.0s
HOOD Mount Hood Mea 26.59 94 IAMs_20 IAMs_20 14 29 53.5
comp=Z,17μm,21.0s
H04A Detroit Lake 26.64 95 IAmb IAmb 14 22 25.8
comp=Z,220nm,1.2s
H04A IAMs_20 IAMs_20 14 30 12.9
comp=Z,15μm,19.0s
MXC Moxie City 26.69 90 IAMs_20 IAMs_20 14 30 24.0
comp=Z,16μm,20.0s
G05A Wamic 26.83 94 IAmb IAmb 14 22 29.4
comp=Z,206nm,1.2s
G05A IAMs_20 IAMs_20 14 30 00.9
comp=Z,16μm,22.0s
E07A Sunnyside 26.95 90 IAMs_20 IAMs_20 14 30 42.3
comp=Z,17μm,19.0s
KBO Bosley Butte 26.97 102 IAMs_20 IAMs_20 14 29 54.8
comp=Z,25μm,20.0s
K02D Willamette Mer 26.98 100 IAMs_20 IAMs_20 14 29 48.1
comp=Z,30μm,22.0s
I04A Tendick Farm, 27.03 97 IAmb IAmb 14 22 25.2
comp=Z,272nm,1.3s
I04A IAMs_20 IAMs_20 14 30 12.4
comp=Z,14μm,20.0s
G06A Carlson Farm, 27.23 93 IAMs_20 IAMs_20 14 30 45.5
comp=Z,17μm,20.0s
HAWA Hanford 27.23 90 IAMs_20 IAMs_20 14 30 42.6
comp=Z,17μm,20.0s
C09A Chrisman Ranch 27.23 86 IAMs_20 IAMs_20 14 31 27.7
comp=Z,13μm,18.0s
F07A Phinny Hill Vi 27.27 91 IAMs_20 IAMs_20 14 30 30.7
comp=Z,17μm,20.0s
I05D Terrebonne, OR 27.33 95 IAMs_20 IAMs_20 14 30 53.3
comp=Z,16μm,19.0s
KSXB Camp Six Broad 27.41 102 IAMs_20 IAMs_20 14 30 08.6
comp=Z,27μm,20.0s
HUMO Hull Mountain 27.45 100 P **P 14 22 12.7 +1.6**
HUMO IAMs_20 IAMs_20 14 30 14.3
comp=Z,23μm,21.0s
E08A Dider Farm, El 27.46 89 IAMs_20 IAMs_20 14 31 07.5
comp=Z,16μm,20.0s
KRMB Red Mountain 27.59 103 IAMs_20 IAMs_20 14 30 22.2
comp=Z,24μm,20.0s
NEW Newport 27.67 85 P **P 14 22 13.2 +0.1**
baz=300,SNR=11
NEW S **S 14 26 55.7 +1.5**
baz=300
NEW Newport 27.67 85 LR LR 14 31 30.8
comp=Z,13μm,20.6s,baz=292,slow=33
KRPM Rodgers 27.77 103 IAMs_20 IAMs_20 14 30 07.0
comp=Z,23μm,21.0s
PINE Pine Mountain 27.89 96 IAMs_20 IAMs_20 14 30 52.0
comp=Z,17μm,20.0s
E09A Wood Farm, Sta 27.98 89 IAMs_20 IAMs_20 14 31 23.3
comp=Z,14μm,20.0s
JCC Jacoby Creek, 27.99 104 IAMs_20 IAMs_20 14 30 31.9
comp=Z,17μm,19.0s
J05D Fort Rock, OR 28.02 97 IAMs_20 IAMs_20 14 30 55.6
comp=Z,18μm,20.0s
KHMM Horse Mountain 28.12 103 IAmb IAmb 14 22 31.8
comp=Z,251nm,1.7s
KHMM IAMs_20 IAMs_20 14 30 36.3
comp=Z,24μm,19.0s
K04D Chiloquin, OR 28.13 99 IAMs_20 IAMs_20 14 30 48.4
comp=Z,16μm,20.0s
YBH Yreka Blue Hor 28.14 101 IAMs_20 IAMs_20 14 30 44.9
comp=Z,26μm,20.0s
YBH Yreka Blue Hor 28.14 101 LR LR 14 30 46.8
comp=Z,30μm,22.0s,baz=314,slow=31
I07A Izee 28.55 94 IAMs_20 IAMs_20 14 31 16.5
comp=Z,16μm,21.0s
KMRM Mail Ridge 28.57 104 IAMs_20 IAMs_20 14 30 38.6
comp=Z,20μm,21.0s
F10A Beach Ranch, E 28.80 89 IAMs_20 IAMs_20 14 32 00.2
comp=Z,13μm,19.0s
KCPM Cahto Peak 29.00 105 IAMs_20 IAMs_20 14 31 01.8
comp=Z,13μm,20.0s
O02D Mt. Diablo Mer 29.12 104 IAMs_20 IAMs_20 14 31 10.8
comp=Z,21μm,20.0s
BMO Blue Mountains 29.39 91 P **P 14 22 30.5 +2.1**
BMO IAmb IAmb 14 22 44.9
comp=Z,263nm,1.9s
BMO IAMs_20 IAMs_20 14 32 08.6
comp=Z,17μm,20.0s
BMO Blue Mountains 29.39 91 P **P 14 22 30.5 +2.1**
BMO pmax pmax
comp=Z,263nm,2.0s
HATC Hat Creek Radi 29.45 101 IAmb IAmb 14 22 43.1
comp=Z,275nm,1.6s
J08A Circle Bar Ran 29.58 94 IAMs_20 IAMs_20 14 31 59.8
comp=Z,12μm,20.0s
HOPS Hopland Field 29.77 106 IAMs_20 IAMs_20 14 31 21.0
comp=Z,14μm,20.0s
GDXM Geysers 30.05 106 IAMs_20 IAMs_20 14 31 30.3
comp=Z,17μm,20.0s
WVOR Wild Horse Val 30.05 96 IAMs_20 IAMs_20 14 32 51.3
comp=Z,16μm,19.0s
MSO Missoula 30.26 85 P **P 14 22 36.3 +0.2**
baz=302
MSO S **S 14 27 35.8 +0.8**
baz=302
ORV Oroville 30.27 103 IAMs_20 IAMs_20 14 31 49.1
comp=Z,13μm,20.0s
MCCM Marconi Confer 30.47 107 IAMs_20 IAMs_20 14 32 05.3
comp=Z,16μm,19.0s
BPMT Black Pine Rid 30.76 85 P **P 14 22 41.9 +1.2**
AFDM Forest Hills D 30.98 103 IAMs_20 IAMs_20 14 32 09.1
comp=Z,14μm,20.0s
LYMT Lyon Mountain 31.14 84 P **P 14 22 45.0 +1.0**
MPK Martis Peak 31.29 102 IAMs_20 IAMs_20 14 32 25.9
comp=Z,12μm,20.0s
PAHR Pah Rah Range 31.38 101 P **P 14 22 47.0 +0.9**
PAHR IAmb IAmb 14 22 59.0
comp=Z,183nm,1.5s
PAHR IAMs_20 IAMs_20 14 32 50.4
comp=Z,22μm,20.0s
EMB Emerald Bay 31.46 103 IAMs_20 IAMs_20 14 32 16.6
comp=Z,12μm,22.0s
PNTR Pine Nut 31.67 102 IAMs_20 IAMs_20 14 32 38.1
comp=Z,14μm,22.0s
HLID Hailey 31.83 91 IAMs_20 IAMs_20 14 33 46.2
comp=Z,17μm,20.0s
HLID Hailey 31.83 91 P **P 14 22 49.8 -0.3**
baz=307,SNR=35
HLID S **S 14 28 02.1 +2.4**
baz=307
YERR Yerington 31.95 102 IAmb IAmb 14 23 05.0
comp=Z,271nm,1.6s
YERR IAMs_20 IAMs_20 14 32 58.4
comp=Z,15μm,20.0s
CMB Columbia Colle 31.95 104 IAMs_20 IAMs_20 14 32 34.5
comp=Z,17μm,21.0s
EGMT Eagleton 32.06 80 P **P 14 22 51.5 -0.4**
baz=301
EGMT S **S 14 28 03.9 +0.9**
baz=301
BMN Battle Mountai 32.15 98 IAMs_20 IAMs_20 14 33 48.7
comp=Z,13μm,20.0s
WAKR Walker 32.16 102 IAMs_20 IAMs_20 14 33 00.1
comp=Z,12μm,20.0s
SAO San Andreas Ge 32.25 107 IAMs_20 IAMs_20 14 32 28.5
comp=Z,15μm,20.0s
RES Resolute Bay 32.25 27 P **P 14 22 53.2 0.0**
RES IAmb IAmb 14 23 06.4
comp=Z,84nm,0.8s
RES IAMs_20 IAMs_20 14 37 08.3
comp=Z,11μm,20.0s
RES Resolute Bay 32.25 27 LR LR 14 37 20.2
comp=Z,11μm,20.0s,baz=264,slow=39
RES Resolute Bay 32.25 27 P **P 14 22 53.2 0.0**
RES pmax pmax
comp=Z,84nm,0.9s
RES MLR MLR
comp=Z,11μm,20.0s
BOZ Bozeman (W) 32.28 85 P **P 14 22 55.6 +1.7**
baz=304
BOZ S **S 14 28 07.3 +0.6**
baz=304
KVN Kaiserville 32.56 100 IAmb IAmb 14 23 10.2
comp=Z,145nm,1.5s
RYN Ryan 32.60 101 IAmb IAmb 14 23 10.6
comp=Z,218nm,1.7s
RYN IAMs_20 IAMs_20 14 33 19.7
comp=Z,17μm,21.0s
BBGB Big Mountain B 32.61 107 IAmb IAmb 14 23 15.9
comp=Z,140nm,1.0s
BBGB IAMs_20 IAMs_20 14 32 40.0
comp=Z,17μm,20.0s
NVAR Mina Array Bea 32.86 101 P **P 14 23 00.8 +1.6**
NVAR Mina Array Bea 32.86 101 P **P 14 23 01.0 +1.8**
comp=Z,32nm,0.7s,baz=302,slow=8.7,SNR=223
NVAR PcP **PcP 14 25 43.4 -0.1**
comp=Z,2.5nm,0.6s,baz=310,slow=2.4,SNR=1.1
NVAR S **S 14 28 20.8 +4.8**
comp=Z,0.7nm,0.8s,baz=296,slow=7.6,SNR=1.4
NVAR ScP **ScP 14 29 25.1 -1.5**
comp=Z,7.6nm,0.8s,baz=277,slow=3.0,SNR=11
NVAR LR LR 14 33 52.7
comp=Z,17μm,21.0s,baz=310,slow=32
NVAR P3KPbc 14 54 15.5
comp=Z,0.9nm,0.8s,baz=143,slow=3.7,SNR=5.2
comp=Z,32nm,0.7s
LHV Little Huntoon 32.87 102 IAmb IAmb 14 23 13.3
comp=Z,284nm,1.6s
LHV IAMs_20 IAMs_20 14 33 26.8
comp=Z,17μm,21.0s
NV11 Mina Array Sit 32.94 101 IAmb IAmb 14 23 13.6
comp=Z,215nm,1.8s
MDPB Devils Postpil 32.97 103 IAMs_20 IAMs_20 14 33 30.5
comp=Z,16μm,20.0s
PMPB Monarch Peak 33.00 107 IAmb IAmb 14 23 16.0
comp=Z,318nm,1.9s
PMPB IAMs_20 IAMs_20 14 32 50.5
comp=Z,15μm,21.0s
OMMB Old Mammoth Mi 33.03 103 IAMs_20 IAMs_20 14 33 22.1
comp=Z,20μm,21.0s
KIP Kipapa 33.06 175 P **P 14 23 02.6 +1.9**
KIP Kipapa 33.06 175 IAMs_20 IAMs_20 14 34 04.2
comp=Z,14μm,19.0s
KIP Kipapa 33.06 175 *deP* **P 14 23 01.6 +0.9**
ELK Elko 33.09 95 P **P 14 23 02.5 +1.3**
ELK IAmb IAmb 14 23 24.6
comp=Z,94nm,1.1s
ELK IAMs_20 IAMs_20 14 34 22.7
comp=Z,15μm,20.0s
ELK Elko 33.09 95 LR LR 14 34 33.8
comp=Z,15μm,19.8s,baz=316,slow=33
ELK Elko 33.09 95 P **P 14 23 02.5 +1.3**
ELK pmax pmax
comp=Z,95nm,1.1s
MLAC Mammoth, Mammo 33.11 103 P **P 14 23 04.3 +2.9**
baz=314
MLAC S **S 14 28 26.3 +6.4**
baz=314
HON Honolulu 33.16 175 IAMs_20 IAMs_20 14 34 00.0
comp=Z,13μm,19.0s
YMR Madison River 33.19 86 IAmb IAmb 14 23 18.2
comp=Z,101nm,0.9s
Q09A Carvers 33.23 100 IAmb IAmb 14 23 20.5
comp=Z,262nm,1.3s
FFC Flin Flon 33.28 65 P **P 14 23 02.9 +0.5**
FFC Flin Flon 33.28 65 IAMs_20 IAMs_20 14 36 24.5
comp=Z,11μm,20.0s
FFC Flin Flon 33.28 65 P **P 14 23 02.9 +0.5**
FFC MLR MLR
comp=Z,11μm,20.0s
YNR Norris Junctio 33.33 86 IAmb IAmb 14 23 20.4
comp=Z,120nm,1.0s
KUR Kuril'sk 33.60 276 *c iP* **P 14 23 04.4 -0.9**
KUR *i* 14 24 18.2
KUR 14 25 50.4
KUR S **S 14 28 27.0 +0.2**
KUR *e*SSS SSS 14 30 47.7
KUR *e* 14 33 27.9
KUR pmax pmax
comp=Z,469nm,1.3s

KUR				pmax	pmax	
	comp=Z,2μm,5.1s					
KUR				MLR	MLR	
	comp=N,5μm,17.0s					
KUR				MLR	MLR	
	comp=E,4μm,17.0s					
KUR				MLR	MLR	
	comp=Z,5μm,17.0s					
YMP	**Mirror Lake Pl**	**33.62**	**85**	IAmb	IAmb	14 23 27.9
	comp=Z,156nm,1.4s					
TIXI	**Tiksi**	**33.63**	**327**	P	**P**	**14 23 04.0 -1.3**
TIXI				IAmb	IAmb	14 23 06.0
	comp=Z,145nm,1.1s					
TIXI				PcP	**PcP**	**14 25 44.6 -0.2**
TIXI	**Tiksi**	**33.63**	**327**	LR	LR	14 38 42.8
	comp=Z,22μm,18.5s,baz=130,slow=40					
TIXI	**Tiksi**	**33.63**	**327**	*ce*P	**P**	**14 23 03.9 -1.3**
TIXI				pmax	pmax	
	comp=Z,177nm,1.3s					
TIXI				MLR	MLR	
	comp=Z,26μm,15.0s					
TYV	**Tymovskoe**	**33.63**	**288**	*e*P	**P**	**14 23 05.9 +0.4**
TYV				*e*S	**S**	**14 28 30.9 +3.7**
TYV				pmax	pmax	
	comp=Z,1μm,4.0s					
TYV				pmax	pmax	
	comp=Z,242nm,1.3s					
TYV				smax	smax	
	comp=N,200nm,8.0s					
TYV				smax	smax	
	comp=E,300nm,8.0s					
TYV				MLR	MLR	
	comp=Z,7μm,18.0s					
NKL	**Nikolayevsk**	**33.66**	**292**	*e*P	P	14 23 03.4 -2.3
NKL				*e*S	**S**	**14 28 26.0 -1.6**
NKL				pmax	pmax	
	comp=E,135nm,1.0s					
NKL				pmax	pmax	
	comp=N,742nm,1.2s					
NKL				pmax	pmax	
	comp=Z,2μm,1.2s					
NKL				smax	smax	
	comp=N,295nm,2.8s					
NKL				smax	smax	
	comp=E,306nm,2.8s					
NKL				MLR	MLR	
	comp=N,13μm,17.0s					
NKL				MLR	MLR	
	comp=E,13μm,16.0s					
NKL				MLR	MLR	
	comp=Z,22μm,16.0s					
FLWY	**Flagg Ranch**	**33.69**	**87**	IAmb	IAmb	14 23 30.6
	comp=Z,145nm,1.3s					
TPH	**Tonopah**	**33.72**	**101**	IAmb	IAmb	14 23 29.6
	comp=Z,242nm,1.0s					
VOG	**Valley Oaks Go**	**33.72**	**105**	P	**P**	**14 23 07.9 +1.5**
	baz=316					
VOG				S	**S**	**14 28 33.4 +4.5**
	baz=316					
DSP	**Deep Springs**	**33.78**	**103**	IAmb	IAmb	14 23 21.5
	comp=Z,208nm,1.7s					
DSP				IAMs_20	IAMs_20	14 34 01.1
	comp=Z,14μm,19.0s					
HLK	**Haleakala**	**33.83**	**172**	IAMs_20	IAMs_20	14 33 57.6
	comp=Z,11μm,20.0s					
TIN	**Tinemaha, Big**	**33.86**	**103**	P	**P**	**14 23 09.3 +1.5**
	baz=315					
TIN				S	**S**	**14 28 35.8 +4.6**
	baz=315					
MZP	**Montezuma Peak**	**33.89**	**102**	IAMs_20	IAMs_20	14 34 19.8
	comp=Z,11μm,20.0s					
RLMT	**Red Lodge**	**33.92**	**84**	IAmb	IAmb	14 23 30.4
	comp=Z,177nm,1.4s					
RLMT	**Red Lodge**	**33.92**	**84**	P	**P**	**14 23 09.6 +1.2**
	baz=305,SNR=13					
RLMT				S	**S**	**14 28 32.9 +0.7**
	baz=305					
SMMC	**Simmler**	**34.11**	**107**	P	**P**	**14 23 11.7 +1.9**
	baz=317,SNR=6.2					
SMMC				S	**S**	**14 28 40.4 +5.5**
	baz=317					
VES	**Vestal, Richgr**	**34.24**	**106**	P	**P**	**14 23 11.9 +1.0**
	baz=316,SNR=16					
VES				S	**S**	**14 28 41.5 +4.7**
	baz=316					
GMN	**Gold Mountain**	**34.24**	**102**	IAmb	IAmb	14 23 25.2
	comp=Z,151nm,1.7s					
GMN				IAMs_20	IAMs_20	14 34 23.1
	comp=Z,11μm,21.0s					
AHID	**Auburn Hatcher**	**34.24**	**89**	IAMs_20	IAMs_20	14 35 16.1
	comp=Z,12μm,20.0s					
EUNU	**Eureka**	**34.25**	**17**	IAmb	IAmb	14 23 15.8
	comp=Z,102nm,0.8s					
BGU	**Big Grassy Mou**	**34.26**	**93**	IAmb	IAmb	14 23 24.9
	comp=Z,186nm,1.4s					
CWC	**Cottonwood Cre**	**34.38**	**104**	P	**P**	**14 23 14.7 +2.4**
	baz=315					
CWC				S	**S**	**14 28 45.0 +5.7**
	baz=315					
GRAC	**Grapevine Rang**	**34.39**	**102**	IAmb	IAmb	14 24 05.9
	comp=Z,112nm,1.2s					
GRAC				IAMs_20	IAMs_20	14 34 00.1
	comp=Z,12μm,21.0s					
GRAC	**Grapevine Rang**	**34.39**	**102**	P	**P**	**14 23 13.9 +1.6**
	baz=315,SNR=44					
GRAC				S	**S**	**14 28 44.4 +5.1**
	baz=315					
Q12A	**Willow Creek R**	**34.45**	**97**	IAmb	IAmb	14 23 30.7
	comp=Z,227nm,1.2s					
Q12A				IAMs_20	IAMs_20	14 34 45.6
	comp=Z,13μm,21.0s					
R11B	**Troy Canyon, C**	**34.48**	**99**	IAmb	IAmb	14 23 30.8
	comp=Z,121nm,1.2s					
R11B	**Troy Canyon, C**	**34.48**	**99**	P	**P**	**14 23 14.0 +0.8**
	baz=313,SNR=76					
R11B				S	**S**	**14 28 43.8 +2.8**
	baz=313					
PKM	**Mcpherson Peak**	**34.52**	**108**	P	**P**	**14 23 15.3 +1.7**
	baz=318,SNR=29					
PKM				S	**S**	**14 28 47.0 +5.4**
	baz=318					
HPAH	**Hawaii Prepara**	**34.60**	**171**	IAmb	IAmb	14 23 27.5
	comp=Z,201nm,0.9s					
HWUT	**Hardware Ranch**	**34.69**	**91**	IAmb	IAmb	14 23 31.4
	comp=Z,294nm,2.0s					
HWUT				IAMs_20	IAMs_20	14 35 18.9
	comp=Z,10μm,20.0s					
BCW	**Bitter Crk WRg**	**34.71**	**107**	IAMs_20	IAMs_20	14 33 30.5
	comp=Z,12μm,22.0s					
ISA	**Isabella, Lake**	**34.71**	**105**	IAMs_20	IAMs_20	14 34 54.6
	comp=Z,15μm,18.0s					
ISA	**Isabella, Lake**	**34.71**	**105**	P	**P**	**14 23 16.0 +0.9**
	baz=316,SNR=24					
ISA				S	**S**	**14 28 48.3 +4.0**
	baz=316					
SPR3	**Spring Creek 3**	**34.77**	**97**	IAmb	IAmb	14 23 30.3
	comp=Z,250nm,1.6s					
SPR3				IAMs_20	IAMs_20	14 34 57.0
	comp=Z,14μm,22.0s					
LAO	**LASA Array**	**34.80**	**80**	IAMs_20	IAMs_20	14 35 54.5
	comp=Z,11μm,21.0s					
UGL	**Uglegorsk**	**34.85**	**285**	⇑*i*P	**P**	**14 23 16.3 +0.3**
UGL				*e*S	**S**	**14 28 47.8 +1.8**
UGL				pmax	pmax	
	comp=Z,2μm,1.4s					
UGL				pmax	pmax	
	comp=Z,900nm,1.2s					
UGL				smax	smax	
	comp=E,2μm,12.0s					
UGL				smax	smax	
	comp=N,1μm,15.0s					
UGL				MLR	MLR	
	comp=N,2μm,17.0s					
UGL				MLR	MLR	
	comp=Z,8μm,16.0s					
DUG	**Dugway, Tooele**	**34.86**	**94**	IAmb	IAmb	14 23 40.3
	comp=Z,280nm,1.3s					
DUG	**Dugway, Tooele**	**34.86**	**94**	P	**P**	**14 23 17.8 +1.3**
	baz=311,SNR=37					
DUG				S	**S**	**14 28 51.0 +4.3**
	baz=311					
S11A	**Rachel**	**34.87**	**100**	IAmb	IAmb	14 23 59.4
	comp=Z,120nm,1.0s					
S11A				IAMs_20	IAMs_20	14 35 05.7
	comp=Z,17μm,20.0s					
POHA	**Pohakuloa**	**34.89**	**171**	P	**P**	**14 23 19.1 +2.2**
POHA	**Pohakuloa**	**34.89**	**171**	IAMs_20	IAMs_20	14 33 44.5
	comp=Z,10μm,20.0s					
ARVC	**Arvin**	**34.90**	**106**	P	**P**	**14 23 16.4 -0.2**
	baz=317					
ARVC				S	**S**	**14 28 50.6 +3.5**
	baz=317					
SBC	**Santa Barbara**	**34.91**	**108**	P	**P**	**14 23 18.8 +2.1**
	baz=318					
SBC				S	**S**	**14 28 52.7 +5.6**
	baz=318					
HUH	**Hualalai**	**34.93**	**172**	IAMs_20	IAMs_20	14 34 57.7
	comp=Z,12μm,19.0s					
WCT	**Wildcat Mounta**	**34.95**	**102**	IAMs_20	IAMs_20	14 34 42.0
	comp=Z,17μm,21.0s					
MPMC	**Manual Prospec**	**34.98**	**104**	P	**P**	**14 23 19.1 +1.5**
	baz=316,SNR=76					
MPMC				S	**S**	**14 28 53.3 +4.5**
	baz=316					
DGMT	**Dagmar**	**35.00**	**76**	IAMs_20	IAMs_20	14 37 14.1
	comp=Z,15μm,18.0s					
DGMT	**Dagmar**	**35.00**	**76**	P	**P**	**14 23 18.6 +1.1**
	baz=302,SNR=5.6					
DGMT				S	**S**	**14 28 49.5 +1.0**
	baz=302					
HMH	**Humu'ula Sheep**	**35.04**	**171**	IAMs_20	IAMs_20	14 35 19.7
	comp=Z,10μm,20.0s					
FURC	**Furnace Creek,**	**35.05**	**103**	P	**P**	**14 23 19.9 +2.1**
	baz=315,SNR=17					
FURC				S	**S**	**14 28 53.5 +4.2**
	baz=315					
TPNV	**Topopah Spring**	**35.06**	**101**	P	**P**	**14 23 19.9 +1.6**
	baz=314,SNR=86					
TPNV				S	**S**	**14 28 54.2 +4.3**
	baz=314					
TCUT	**Toone Canyon**	**35.09**	**92**	IAmb	IAmb	14 23 34.8
	comp=Z,105nm,1.1s					
MLOA	**Mauna Loa Obse**	**35.10**	**171**	IAMs_20	IAMs_20	14 36 01.2
	comp=Z,11μm,19.0s					
BW06	**Boulder Array**	**35.14**	**88**	P	**P**	**14 23 20.1 +1.1**
	baz=308,SNR=15					
BW06				S	**S**	**14 28 52.6 +1.4**
	baz=308					
PDAR	**Pinedale Array**	**35.14**	**88**	P	**P**	**14 23 18.6 -0.4**
PDAR	**Pinedale Array**	**35.14**	**88**	P	**P**	**14 23 19.9 +0.9**
	comp=Z,2.6nm,0.5s,baz=298,slow=5.0,SNR=37					
PDAR				S	**S**	**14 28 53.1 +2.0**
	comp=Z,0.8nm,0.7s,baz=246,slow=7.6,SNR=1.5					
PDAR				ScP	**ScP**	**14 29 32.4 -2.3**
	comp=Z,8.8nm,1.2s,baz=17,slow=1.5,SNR=5.9					
PDAR				LR	LR	14 36 56.1
	comp=Z,3μm,18.1s,baz=290,slow=35					
PDAR				P3KPbc		14 54 07.2
	comp=Z,1.6nm,0.9s,baz=134,slow=6.4,SNR=13					
MWH	**Moku'aweowe**	**35.15**	**171**	IAMs_20	IAMs_20	14 33 41.5
	comp=Z,11μm,22.0s					
MLH	**Mauna Loa**	**35.16**	**171**	IAMs_20	IAMs_20	14 35 34.8
	comp=Z,9μm,19.0s					
BYL	**Byron's Ledge**	**35.25**	**171**	IAMs_20	IAMs_20	14 35 35.2
	comp=Z,10μm,19.0s					
JOKA	**Jonika Flow**	**35.26**	**170**	IAMs_20	IAMs_20	14 34 56.3
	comp=Z,9μm,20.0s					
SCZ2	**Santa Cruz Isl**	**35.28**	**108**	P	**P**	**14 23 21.7 +1.8**
	baz=318					
SCZ2				S	**S**	**14 28 58.0 +5.0**
	baz=318					
LRMC	**Laurel Mtn Rad**	**35.29**	**105**	P	**P**	**14 23 21.5 +1.4**
	baz=316,SNR=28					
LRMC				S	**S**	**14 28 57.6 +4.3**
	baz=316					
STCH	**Steam Cracks**	**35.29**	**171**	IAMs_20	IAMs_20	14 38 05.3
	comp=Z,11μm,20.0s					
OSI	**Osito Audit: C**	**35.33**	**107**	P	**P**	**14 23 21.7 +1.2**
	baz=317					
OSI				S	**S**	**14 28 58.0 +4.2**
	baz=317					
CCAC	**Calif City Air**	**35.34**	**105**	IAMs_20	IAMs_20	14 34 37.2
	comp=Z,17μm,20.0s					
PSUT	**Pine Spring**	**35.35**	**97**	IAmb	IAmb	14 23 34.4
	comp=Z,312nm,1.8s					
PSUT				IAMs_20	IAMs_20	14 35 35.6
	comp=Z,12μm,20.0s					
GWY	**Greenwater Val**	**35.36**	**103**	IAmb	IAmb	14 23 34.3
	comp=Z,352nm,1.8s					
HLP	**Hilina Pali**	**35.36**	**171**	IAMs_20	IAMs_20	14 34 09.2
	comp=Z,10μm,21.0s					
KHU	**Kahuku**	**35.38**	**171**	IAMs_20	IAMs_20	14 33 46.8
	comp=Z,12μm,22.0s					
JLU	**Jordanelle**	**35.39**	**92**	IAmb	IAmb	14 23 34.5
	comp=Z,188nm,1.6s					
PRN	**Pahroc Range**	**35.43**	**100**	IAmb	IAmb	14 23 44.9
	comp=Z,224nm,1.3s					
YUK	**Yuzh-Kuril'sk**	**35.46**	**275**	*e*P	P	14 23 18.4 -3.0
YUK				*e*		14 24 36.9
YUK				*e*S	**S**	**14 28 53.8 -1.7**
YUK				*e*SS	**SnSn**	**14 31 16.4 +1.3**
YUK				pmax	pmax	
	comp=N,716nm,1.1s					
YUK				pmax	pmax	
	comp=E,1μm,1.1s					
YUK				pmax	pmax	
	comp=Z,1μm,1.1s					
YUK				pmax	pmax	
	comp=Z,2μm,1.3s					
EDW2	**Edwards Air Fo**	**35.54**	**106**	P	**P**	**14 23 23.8 +1.5**
	baz=317,SNR=20					
EDW2				S	**S**	**14 28 59.8 +2.7**
	baz=317					
YSS	**Yuzh-Sakhalins**	**35.59**	**282**	P	**P**	**14 23 22.7 +0.2**
YSS	**Yuzh-Sakhalins**	**35.59**	**282**	P	**P**	**14 23 22.6 +0.2**
YSS				IAmb	IAmb	14 23 25.9
	comp=Z,310nm,1.2s					
YSS				IAMs_20	IAMs_20	14 37 47.9
	comp=Z,13μm,21.0s					
YSS	**Yuzh-Sakhalins**	**35.59**	**282**	*ce*P	**P**	**14 23 22.2 -0.2**
YSS				*e**PP	**sP**	**14 23 29.6 0.0**
YSS				*e**SP	pP	14 23 34.1 +6.6
YSS				*e*		14 24 42.3
YSS				*e*		14 25 50.0
YSS				*e*S	**S**	**14 28 59.2 +1.8**
YSS				*e*SS	**SnSn**	**14 31 17.3 -0.7**
YSS				pmax	pmax	
	comp=Z,1μm,5.1s					
YSS				pmax	pmax	
	comp=Z,180nm,1.2s					
YSS				pmax	pmax	
	comp=Z,1μm,6.6s					
YSS				pmax	pmax	
	comp=N,800nm,8.6s					
YSS				pmax	pmax	
	comp=E,900nm,6.1s					
YSS				MLR	MLR	
	comp=N,2μm,18.0s					
YAK	**Yakutsk**	**35.63**	**311**	P	**P**	**14 23 21.2 -1.4**
YAK				PcP	**PcP**	**14 25 50.7 -0.1**
YAK	**Yakutsk**	**35.63**	**311**	LR	LR	14 39 25.3
	comp=N,25μm,19.3s,baz=81,slow=39					
YAK	**Yakutsk**	**35.63**	**311**	*c i*P	P	14 23 20.5 -2.1
YAK				*e**PP	pP	14 23 26.4 -1.3
YAK				*e*		14 24 43.6
YAK				*e*		14 25 49.8
YAK				*e*S	**S**	**14 28 58.2 +0.5**
YAK				*e**SS	sS	14 29 09.5 +3.4
YAK				*e*SS	**SnSn**	**14 31 20.6 +2.0**
YAK				*e*SSS	SSS	14 31 48.6
YAK				*e*		14 33 37.9
YAK				pmax	pmax	
	comp=Z,539nm,0.9s					
YAK				pmax	pmax	
	comp=N,39nm,1.0s					
YAK				pmax	pmax	
	comp=E,103nm,1.2s					
YAK				pmax	pmax	
	comp=Z,158nm,1.5s					
YAK				pmax	pmax	
	comp=E,112nm,1.4s					
YAK				pmax	pmax	
	comp=N,80nm,1.8s					
YAK				smax	smax	
	comp=N,193nm,1.9s					
YAK				smax	smax	
	comp=E,179nm,1.5s					
YAK				MLR	MLR	
	comp=Z,28μm,21.0s					
YAK				MLR	MLR	
	comp=E,12μm,16.0s					
YAK				MLR	MLR	
	comp=N,4μm,17.0s					
FCC	**Fort Churchill**	**35.65**	**55**	IAmb	IAmb	14 23 36.5
	comp=Z,101nm,0.9s					
FCC				IAMs_20	IAMs_20	14 38 48.3
	comp=Z,12μm,20.0s					
SHOC	**Shoshone, Teco**	**35.78**	**103**	P	**P**	**14 23 25.9 +1.6**
	baz=316,SNR=8.3					
SHOC				S	**S**	**14 29 05.2 +4.5**
	baz=316					
DECC	**Green Verdugo**	**35.81**	**107**	P	**P**	**14 23 25.7 +1.1**
	baz=318					
DECC				S	**S**	**14 29 04.9 +3.6**
	baz=318					
BSUT	**Blindstream Ca**	**35.84**	**92**	IAmb	IAmb	14 23 41.5
	comp=Z,199nm,1.5s					
SNCC	**San Nicolas Is**	**35.90**	**109**	IAMs_20	IAMs_20	14 33 57.1
	comp=Z,9μm,20.0s					
SNCC	**San Nicolas Is**	**35.90**	**109**	P	**P**	**14 23 26.2 +0.9**
	baz=319,SNR=7.4					
SNCC				S	**S**	**14 29 07.3 +4.9**
	baz=319					
GSC	**Goldstone, Bar**	**35.91**	**104**	IAmb	IAmb	14 23 39.1
	comp=Z,333nm,1.8s					
GSC	**Goldstone, Bar**	**35.91**	**104**	P	**P**	**14 23 26.6 +1.2**
	baz=316,SNR=37					
GSC				S	**S**	**14 29 04.9 +2.1**
	baz=316					
PASC	**Pasadena Art C**	**35.96**	**107**	IAMs_20	IAMs_20	14 34 30.6
	comp=Z,15μm,21.0s					
SHPR	**Sheep Range**	**35.99**	**101**	IAMs_20	IAMs_20	14 35 29.6
	comp=Z,13μm,20.0s					
RRX	**Edison Barstow**	**36.11**	**105**	P	**P**	**14 23 28.3 +1.2**
	baz=317					
RRX				S	**S**	**14 29 09.0 +3.3**
	baz=317					
TCRU	**Three Creeks R**	**36.12**	**96**	IAmb	IAmb	14 23 50.9
	comp=Z,133nm,1.1s					
TCRU				IAMs_20	IAMs_20	14 36 17.8
	comp=Z,11μm,20.0s					
BFSC	**Mount Baldy Ra**	**36.20**	**106**	P	**P**	**14 23 29.7 +1.7**
	baz=318,SNR=26					
BFSC				S	**S**	**14 29 11.5 +4.2**
	baz=318					
FMP	**Fort Macarthur**	**36.23**	**107**	P	**P**	**14 23 29.6 +1.5**
	baz=318					
FMP				S	**S**	**14 29 11.2 +3.6**
	baz=318					
CCUT	**Cedar City**	**36.31**	**98**	IAmb	IAmb	14 23 42.9
	comp=Z,222nm,1.5s					
CCUT				IAMs_20	IAMs_20	14 35 51.8
	comp=Z,17μm,20.0s					
TUQ	**Turquoise Moun**	**36.32**	**103**	P	**P**	**14 23 30.3 +1.3**
	baz=316,SNR=5.9					
TUQ				S	**S**	**14 29 14.1 +5.0**
	baz=316					
CIS	**Catalina Islan**	**36.40**	**108**	P	**P**	**14 23 30.1 +0.5**
	baz=318,SNR=6.3					
CIS				S	**S**	**14 29 14.9 +4.8**
	baz=318					
SZCU	**Shurtz Canyon**	**36.43**	**98**	IAmb	IAmb	14 23 43.5
	comp=Z,165nm,1.6s					
SZCU				IAMs_20	IAMs_20	14 36 11.2
	comp=Z,15μm,20.0s					
RDMU	**Red Mountain**	**36.51**	**91**	IAmb	IAmb	14 23 46.0
	comp=Z,120nm,0.9s					
RDMU				IAMs_20	IAMs_20	14 36 18.1
	comp=Z,12μm,21.0s					
HEC	**Hector,Ludlow**	**36.52**	**104**	P	**P**	**14 23 32.1 +1.4**
	baz=317,SNR=22					
HEC				S	**S**	**14 29 15.8 +3.8**
	baz=317					
BBRC	**Big Bear Solar**	**36.60**	**105**	P	**P**	**14 23 33.0 +1.4**
	baz=317,SNR=6.8					
BBRC				S	**S**	**14 29 17.9 +4.3**
	baz=317					
SCI2	**San Clemente I**	**36.64**	**108**	P	**P**	**14 23 32.9 +1.3**
	baz=319,SNR=9.3					
SCI2				S	**S**	**14 29 19.0 +5.2**
	baz=319					
MTPU	**Mount Pierson**	**36.65**	**96**	IAmb	IAmb	14 23 46.3
	comp=Z,286nm,1.8s					
MTPU				IAMs_20	IAMs_20	14 36 28.0
	comp=Z,10μm,20.0s					
V12A	**Nelson**	**36.72**	**101**	IAmb	IAmb	14 23 46.5
	comp=Z,328nm,1.7s					
V12A				IAMs_20	IAMs_20	14 35 25.8
	comp=Z,13μm,22.0s					
LCMT	**Little Creek M**	**36.74**	**98**	IAmb	IAmb	14 23 46.6
	comp=Z,178nm,1.3s					
LCMT				IAMs_20	IAMs_20	14 36 37.4
	comp=Z,15μm,19.0s					
ELS	**Elsinore Mount**	**36.77**	**106**	IAmb	IAmb	14 23 52.4
	comp=Z,188nm,1.8s					
ELS				IAMs_20	IAMs_20	14 35 07.1
	comp=Z,11μm,21.0s					
JMP	**Maruseppu**	**36.93**	**277**	P	**P**	**14 23 33.3 -0.7**
MURC	**Murrieta**	**36.93**	**106**	P	**P**	**14 23 35.4 +1.2**
	baz=318					
MURC				S	**S**	**14 29 21.4 +3.1**
	baz=318					
GMRC	**Granite Mounta**	**36.93**	**103**	P	**P**	**14 23 35.6 +1.4**
	baz=316,SNR=43					
GMRC				S	**S**	**14 29 22.1 +3.5**
	baz=316					
K22A	**Casper**	**36.98**	**86**	P	**P**	**14 23 34.1 -0.6**
	baz=308,SNR=13					
K22A				S	**S**	**14 29 19.0 -0.2**
	baz=308					
KNB	**Kanab**	**36.98**	**98**	IAmb	IAmb	14 23 48.7
	comp=Z,190nm,1.5s					
KNB				IAMs_20	IAMs_20	14 36 35.8
	comp=Z,15μm,20.0s					
PKCU	**Pink Cliffs**	**36.99**	**97**	IAmb	IAmb	14 23 58.5
	comp=Z,177nm,1.2s					
PKCU				IAMs_20	IAMs_20	14 36 39.8
	comp=Z,11μm,20.0s					
GRNR	**Gornyy**	**37.11**	**291**	⇑*i*P	**P**	**14 23 34.2 -1.3**
GRNR				*e*S	**S**	**14 29 22.2 +1.5**
GRNR				pmax	pmax	
	comp=E,50nm,1.0s					
GRNR				pmax	pmax	
	comp=N,40nm,1.1s					
GRNR				pmax	pmax	
	comp=Z,110nm,1.0s					
GRNR				smax	smax	
	comp=N,6.0nm,1.0s					
RWWY	**Rawlins**	**37.18**	**87**	IAmb	IAmb	14 23 50.7
	comp=Z,252nm,1.5s					
JKA	**Kamikawa-asahi**	**37.31**	**278**	P	**P**	**14 23 36.9 -0.2**
ASAJ	**Asahikawa**	**37.31**	**278**	LR	LR	14 38 38.3
	comp=Z,6μm,19.9s,baz=70,slow=36					
ASAJ	**Asahikawa**	**37.31**	**278**	P	**P**	**14 23 36.9 -0.3**
ASAJ				pmax	pmax	
	comp=Z,625nm,1.3s					
ASAJ				MLR	MLR	
	comp=Z,6μm,20.0s					
ASAJ	**Asahikawa**	**37.31**	**278**	P	**P**	**14 23 36.9 -0.3**
BELC	**Belle Mtn. Jos**	**37.31**	**105**	P	**P**	**14 23 38.7 +1.2**
	baz=317,SNR=47					
BELC				S	**S**	**14 29 27.0 +2.7**
	baz=317					
PFO	**Pinyon Flats O**	**37.34**	**105**	P	**P**	**14 23 37.7 0.0**
PFO				IAmb	IAmb	14 23 50.9
	comp=Z,221nm,1.7s					
PFO	**Pinyon Flats O**	**37.34**	**105**	P	**P**	**14 23 38.9 +1.2**
	baz=318,SNR=25					
PFO				S	**S**	**14 29 28.2 +3.6**
	baz=318					
PFO	**Pinyon Flats O**	**37.34**	**105**	LR	LR	14 36 09.5
	comp=Z,17μm,19.7s,baz=310,slow=32					
PFO	**Pinyon Flats O**	**37.34**	**105**	*d i*P	**P**	**14 23 38.2 +0.5**
PFO				pmax	pmax	
	comp=Z,55nm,0.9s					
TPFO	**Pinon Flats**	**37.34**	**105**	P	**P**	**14 23 38.5 +0.8**
	baz=318,SNR=28					
TPFO				S	**S**	**14 29 28.3 +3.5**
	baz=318					
109C	**Camp Elliot, M**	**37.51**	**107**	IAmb	IAmb	14 23 52.9
	comp=Z,469nm,1.9s					
109C	**Camp Elliot, M**	**37.51**	**107**	P	**P**	**14 23 40.0 +1.0**
	baz=318					
109C				S	**S**	**14 29 32.1 +5.0**
	baz=318					
RSSD	**Black Hills**	**37.54**	**82**	P	**P**	**14 23 39.5 +0.1**
RSSD	**Black Hills**	**37.54**	**82**	IAMs_20	IAMs_20	14 37 15.2
	comp=Z,10μm,21.0s					
RSSD	**Black Hills**	**37.54**	**82**	P	**P**	**14 23 40.1 +0.7**
	baz=307					
RSSD				S	**S**	**14 29 27.7 0.0**
	baz=307					
RSSD	**Black Hills**	**37.54**	**82**	P	**P**	**14 23 39.5 +0.1**

RSSD pmax pmax
comp=Z,54nm,1.0s
NEE2 Needles Airpor 37.54 102 P **P 14 23 40.6 +1.3**
baz=316
NEE2 S **S 14 29 32.2 +4.7**
baz=316
O20A White River Ci 37.57 90 IAmb IAmb 14 23 53.2
comp=Z,260nm,1.1s
O20A IAMs_20 IAMs_20 14 37 14.1
comp=Z,10μm,20.0s
O20A White River Ci 37.57 90 P **P 14 23 40.3 +0.7**
baz=310,SNR=8.8
O20A S **S 14 29 27.8 -0.4**
baz=310
IRM Iron Mountain 37.68 104 P **P 14 23 42.2 +1.7**
baz=317,SNR=63
IRM S **S 14 29 33.8 +4.1**
baz=317
U15A North Rim 37.70 98 IAmb IAmb 14 23 54.9
comp=Z,137nm,1.2s
U15A IAMs_20 IAMs_20 14 36 49.7
comp=Z,13μm,20.0s
BC3 Big Chuckawall 37.87 104 P **P 14 23 42.2 0.0**
baz=317,SNR=16
BC3 S **S 14 29 35.4 +2.7**
baz=317
MONP2 Monument Peak 37.89 106 P **P 14 23 43.6 +1.2**
baz=318,SNR=31
MONP2 S **S 14 29 38.3 +5.1**
baz=318
MDND Maddock 37.92 74 IAmb IAmb 14 24 02.0
comp=Z,326nm,0.9s
MDND IAMs_20 IAMs_20 14 38 51.5
comp=Z,11μm,19.0s
MDND Maddock 37.92 74 P **P 14 23 42.9 +0.5**
baz=304,SNR=21
MDND S **S 14 29 34.2 +1.1**
baz=304
E28A Huff 38.02 76 IAmb IAmb 14 23 58.6
comp=Z,191nm,0.8s
E28A IAMs_20 IAMs_20 14 38 31.1
comp=Z,15μm,20.0s
TKX Tecate 38.03 107 IAMs_20 IAMs_20 14 35 16.5
comp=Z,8μm,21.0s
PDMCI Parker Dam,Lak 38.15 102 P **P 14 23 45.9 +1.6**
baz=317,SNR=16
PDMCI S **S 14 29 41.4 +4.7**
baz=317
SWSC Sam W. Stewart 38.20 106 P **P 14 23 46.6 +1.8**
baz=318,SNR=11
SWSC S **S 14 29 42.6 +5.1**
baz=318
JOHN Johnston Islan 38.24 193 IAMs_20 IAMs_20 14 35 55.0
comp=Z,10μm,20.0s
IKP In-Ko-Pah, Jac 38.25 106 P **P 14 23 47.0 +1.7**
baz=318,SNR=26
IKP S **S 14 29 42.6 +4.3**
baz=318
JEM Erimo 38.26 275 P **P 14 23 45.2 0.0**
ERM Erimo 38.27 275 P **P 14 23 45.2 0.0**
ERM Erimo 38.27 275 P **P 14 23 45.2 0.0**
ERM Erimo 38.27 275 *ce*P **P 14 23 44.8 -0.4**
ERM pmax pmax
comp=Z,864nm,1.3s
RMX La Rumorosa 38.30 106 IAMs_20 IAMs_20 14 35 42.4
comp=Z,9μm,21.0s
BLYC Blythe 38.33 103 IAmb IAmb 14 23 59.6
comp=Z,343nm,1.6s
TULEG Thule 38.35 22 P **P 14 23 44.8 -0.7**
TULEG PcP **PcP 14 25 59.3 +0.5**
TULEG IAMs_20 IAMs_20 14 42 21.4
comp=Z,10μm,20.0s
TULEG Thule 38.35 22 *i* P **P 14 23 45.0 -0.5**
TULEG IAmb IAmb 14 23 50.9
comp=Z,111nm,1.1s
YUH Yuha Desert 38.35 106 IAMs_20 IAMs_20 14 36 04.1
comp=Z,9μm,20.0s
N23A Red Feather La 38.42 87 P **P 14 23 46.9 -0.1**
baz=310,SNR=28
N23A S **S 14 29 42.0 +0.7**
baz=310
UABX UABC, Campus M 38.63 106 IAMs_20 IAMs_20 14 36 15.5
comp=Z,11μm,22.0s
GLA Glamis 38.67 104 P **P 14 23 50.4 +1.6**
baz=318,SNR=12
GLA S **S 14 29 49.2 +4.5**
baz=318
ULM Lac du Bonnet 38.68 69 P **P 14 23 48.7 0.0**
ULM IAmb IAmb 14 24 01.5
comp=Z,208nm,1.4s
ULM Lac du Bonnet 38.68 69 P **P 14 23 48.8 0.0**
comp=Z,50nm,0.7s,baz=304,slow=8.2,SNR=63
ULM S **S 14 29 43.8 -0.7**
comp=Z,12nm,1.1s,baz=270,slow=20,SNR=2.8
ULM LR LR 14 39 39.3
comp=Z,8μm,19.2s,baz=308,slow=36
comp=Z,50nm,0.7s
ULM Lac du Bonnet 38.68 69 *c i* P **P 14 23 49.2 +0.5**
ESJX Sierra Juarez 38.82 107 ScP **S 14 29 47.8 +0.5**
WUAZ Wupatki 38.87 98 P **P 14 23 52.0 +1.4**
WUAZ IAmb IAmb 14 24 04.4
comp=Z,302nm,1.4s
WUAZ IAMs_20 IAMs_20 14 37 37.6
comp=Z,13μm,20.0s
WUAZ Wupatki 38.87 98 P **P 14 23 52.5 +1.8**
baz=315,SNR=68
WUAZ S **S 14 29 52.7 +4.8**
baz=315
SMCO Snowmass 38.93 90 IAMs_20 IAMs_20 14 38 09.2
comp=Z,13μm,20.0s
ISCO Idaho Springs 39.32 89 P **P 14 23 54.5 0.0**
ISCO IAMs_20 IAMs_20 14 38 45.4
comp=Z,14μm,19.0s
ISCO Idaho Springs 39.32 89 P **P 14 23 56.0 +1.5**
baz=311,SNR=17
ISCO S **S 14 29 56.9 +2.0**
baz=311
ISCO Idaho Springs 39.32 89 P **P 14 23 54.5 0.0**
ISCO pmax pmax
comp=Z,126nm,1.8s
MVCO Mesa Verde 39.36 94 P **P 14 23 55.5 +0.7**
MVCO Mesa Verde 39.36 94 P **P 14 23 55.6 +0.7**
baz=313,SNR=37
MVCO S **S 14 29 57.8 +2.4**
baz=313
113A Mohawk Valley, 39.48 104 IAMs_20 IAMs_20 14 38 13.9
comp=Z,10μm,18.0s
JSH Shimam 39.68 278 P **P 14 23 56.3 -0.8**
AGMN Agassiz Nation 39.76 71 IAmb IAmb 14 24 10.4
comp=Z,205nm,1.1s
AGMN Agassiz Nation 39.76 71 P **P 14 23 58.2 +0.5**
baz=304,SNR=58
AGMN S **S 14 29 59.9 -0.8**
baz=304
JOT Ohata 39.89 275 P **P 14 23 58.0 -0.9**
S22A 4UR Ranch, Cre 39.97 92 IAmb IAmb 14 24 13.7
comp=Z,375nm,1.8s
W18A Petrified Fore 40.10 97 IAMs_20 IAMs_20 14 38 28.2
comp=Z,10μm,21.0s
W18A Petrified Fore 40.10 97 P **P 14 24 02.0 +1.1**
baz=315
W18A S **S 14 30 09.3 +2.9**
baz=315
Q24A Divide 40.14 89 IAMs_20 IAMs_20 14 39 02.1
comp=Z,10μm,20.0s
Q24A Divide 40.14 89 P **P 14 24 01.9 +0.5**
baz=312,SNR=7.3
Q24A S **S 14 30 08.4 +1.2**
baz=312
TEY Ternei 40.20 283⇑ *e*P **P 14 24 00.2 -1.2**
TEY *e* 14 30 02.4
TEY pmax pmax
comp=E,60nm,1.2s
TEY pmax pmax
comp=N,30nm,1.1s
TEY pmax pmax
comp=Z,110nm,1.3s
JTM Tenmabayashi 40.26 275 P **P 14 24 02.1 +0.2**
JTM Tenmabayashi 40.26 275 P **P 14 24 01.1 -0.8**
JTM IAmb IAmb 14 24 03.1
comp=Z,369nm,1.1s
SUSD Miller 40.26 78 IAmb IAmb 14 24 17.0
comp=Z,270nm,0.8s
SUSD IAMs_20 IAMs_20 14 39 28.4
comp=Z,11μm,20.0s
SUSD Miller 40.26 78 P **P 14 24 02.7 +0.7**
baz=307,SNR=12
SUSD S **S 14 30 06.2 -2.2**
baz=307
X18A Snowflake 40.39 98 IAmb IAmb 14 24 17.2
comp=Z,156nm,1.1s
ZEA Zeya 40.43 299 *e*P P 14 24 00.5 -2.7
ZEA *e*S **S 14 30 09.6 -0.9**
ZEA *e* 14 33 06.0
ZEA pmax pmax
comp=E,600nm,4.9s
ZEA pmax pmax
comp=Z,900nm,4.9s
ZEA pmax pmax
comp=E,70nm,1.0s
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=Z,230nm,1.1s
ZEA smax smax
comp=E,600nm,9.7s
ZEA MLR MLR
comp=N,3μm,14.0s
ZEA MLR MLR
comp=Z,6μm,16.0s
ZEA MLR MLR
comp=E,5μm,17.0s
KLR Kul'dur 40.48 291 LR LR 14 40 51.1
comp=E,7μm,21.7s,baz=63,slow=36
KLR Kul'dur 40.48 291 *ce*P **P 14 24 02.3 -1.4**
KLR pmax pmax
comp=Z,436nm,1.3s
KLR MLR MLR
comp=Z,7μm,22.0s
PIX Pinacate 40.55 105 IAmb IAmb 14 24 17.9
comp=Z,313nm,2.0s
214A Organ Pipe Nat 40.62 104 IAmb IAmb 14 24 18.7
comp=Z,396nm,1.9s
214A IAMs_20 IAMs_20 14 38 11.2
comp=Z,11μm,19.0s
214A Organ Pipe Nat 40.62 104 P **P 14 24 06.7 +1.6**
baz=318,SNR=46
214A S **S 14 30 17.9 +3.9**
baz=318
OGNE Ogallala 40.66 84 P **P 14 24 05.8 +0.4**
baz=310
OGNE S **S 14 30 15.4 +0.8**
baz=310
SDCO Great Sand Dun 40.75 91 P **P 14 24 07.7 +1.3**
baz=313,SNR=61
SDCO S **S 14 30 15.5 -0.7**
baz=313
K30B Basset 40.97 81 IAmb IAmb 14 24 52.9
comp=Z,212nm,0.9s
K30B IAMs_20 IAMs_20 14 39 35.1
comp=Z,9μm,20.0s
JOM Ohasama 40.98 273 P **P 14 24 07.5 -0.4**
NEEM North Greenlan 41.51 18 *i* P **P 14 24 11.7 -0.5**
NEEM IAmb IAmb 14 24 18.4
comp=Z,276nm,0.8s
TUC Tucson 41.52 101 P **P 14 24 14.0 +1.5**
TUC Tucson 41.52 101 P **P 14 24 14.2 +1.7**
baz=318
TUC S **S 14 30 32.2 +4.8**
baz=318
TUC Tucson 41.52 101 P **P 14 24 14.0 +1.5**
TUC pmax pmax
comp=Z,120nm,1.3s
KSCO Kaye Shedlock' 41.58 87 IAMs_20 IAMs_20 14 40 21.3
comp=Z,8μm,19.0s
KSCO Kaye Shedlock' 41.58 87 P **P 14 24 14.0 +1.0**
baz=312
KSCO S **S 14 30 29.7 +1.4**
baz=312
T25A Trinidad 41.80 91 IAmb IAmb 14 24 28.3
comp=Z,161nm,1.0s
T25A IAMs_20 IAMs_20 14 39 46.0
comp=Z,8μm,21.0s
T25A Trinidad 41.80 91 P **P 14 24 16.2 +1.3**
baz=313,SNR=36
T25A S **S 14 30 34.9 +3.2**
baz=313
KULLO Kullorsuaq 41.82 23 *i* P **P 14 24 14.6 +0.2**
KULLO IAmb IAmb 14 24 15.5
comp=Z,191nm,1.0s
KULLO *i* 14 26 09.9
ECSD EROS Data Cent 42.03 77 IAMs_20 IAMs_20 14 40 33.2
comp=Z,12μm,21.0s
ECSD EROS Data Cent 42.03 77 P **P 14 24 16.4 -0.2**
baz=308,SNR=19
ECSD S **S 14 30 32.5 -2.2**
baz=308
ANMO Albuquerque 42.12 95 P **P 14 24 17.7 +0.1**
ANMO Albuquerque 42.12 95 P **P 14 24 18.6 +1.1**
baz=315
ANMO S **S 14 30 38.3 +1.8**
baz=315
ANMO Albuquerque 42.12 95 LR LR 14 41 19.5
comp=Z,3μm,18.0s,baz=39,slow=35
ANMO Albuquerque 42.12 95 P **P 14 24 17.7 +0.1**
ANMO pmax pmax
comp=Z,75nm,1.1s
ANMO MLR MLR
comp=Z,3μm,18.0s
HEH HeiHe 42.24 295 *e*P P 14 24 15.5 -2.6
HEH PcP **PcP 14 26 10.9 -0.8**
HEH ScP **ScP 14 29 59.9 -1.4**
HEH S **S 14 30 40.3 +2.9**
HEH ScS **ScS 14 34 15.8 -3.1**
HEH pmax pmax
comp=Z,340nm,1.0s
HEH pmax pmax
comp=Z,1μm,11.1s
HEH LR LR
comp=Z,6μm,16.9s
HEH LR LR
comp=Z,7μm,18.8s
HEH LR LR
comp=Z,13μm,16.9s
DUN6 Lazy B Ranch 42.31 99 IAmb IAmb 14 24 32.8
comp=Z,360nm,1.1s
JMM Marumori 42.34 272 P **P 14 24 18.8 -0.3**
JMM Marumori 42.34 272 IAmb IAmb 14 24 20.6
comp=Z,388nm,1.2s
EYMN Ely 42.36 69 IAmb IAmb 14 24 31.7
comp=Z,195nm,0.9s
EYMN Ely 42.36 69 P **P 14 24 19.6 +0.5**
baz=306,SNR=89
EYMN S **S 14 30 37.3 -2.0**
baz=306
H11N2 WAKE ISLAND Hy 42.44 228 T T 15 09 41.6
baz=27,slow=76,SNR=6635
H11N3 WAKE ISLAND Hy 42.45 228 T T 15 09 38.6
baz=27,slow=76,SNR=5528
H11N1 WAKE ISLAND Hy 42.46 228 T T 15 09 39.4
baz=27,slow=76,SNR=7266
Y22D IRIS PASSCAL I 42.47 96 P **P 14 24 22.7 +2.4**
baz=316
JYA Atsumi 42.48 273 P **P 14 24 19.8 -0.4**
BGNE Belgrade 42.62 81 IAmb IAmb 14 24 51.9
comp=Z,206nm,0.9s
BGNE IAMs_20 IAMs_20 14 40 46.6
comp=Z,9μm,20.0s
BGNE Belgrade 42.62 81 P **P 14 24 21.7 +0.4**
baz=310
BGNE S **S 14 30 42.7 -0.7**
baz=310
NOR Nord 42.83 7 *i* P **P 14 24 22.0 -0.5**
NOR IAmb IAmb 14 24 23.9
comp=Z,444nm,1.4s
UPNV Upernavik 43.06 25 *i* P **P 14 24 23.0 -1.5**
UPNV *i* P **pP 14 24 24.6 -5.0**
UPNV IAmb IAmb 14 24 25.1
comp=Z,172nm,0.8s
121A Cookes Peak, D 43.08 98 IAmb IAmb 14 24 39.1
comp=Z,187nm,1.1s
121A Cookes Peak, D 43.08 98 P **P 14 24 26.9 +1.6**
baz=317,SNR=47
121A S **S 14 30 54.6 +4.0**
baz=317
E38A The Farm, Brul 43.12 71 IAmb IAmb 14 24 37.7
comp=Z,305nm,1.2s
SPMN Marine on St. 43.27 73 IAMs_20 IAMs_20 14 42 14.8
comp=Z,8μm,18.0s
SPMN Marine on St. 43.27 73 P **P 14 24 26.9 +0.5**
baz=308
SPMN S **S 14 30 51.5 -1.2**
baz=308
L34A Svendsen Farm, 43.28 79 IAmb IAmb 14 24 54.4
comp=Z,164nm,0.8s
L34A IAMs_20 IAMs_20 14 41 00.2
comp=Z,8μm,21.0s
USA0B Ussuriysk Arra 43.32 285 *c i* P P 14 24 25.1 -1.8
USRK Ussuriysk Ar. 43.32 285 P P 14 24 24.9 -2.0
USRK Ussuriysk Ar. 43.32 285 P **P 14 24 25.5 -1.4**
comp=Z,45nm,1.0s,baz=61,slow=7.3,SNR=67
USRK PcP **PcP 14 26 15.3 -0.1**
comp=Z,32nm,1.1s,baz=54,slow=3.3,SNR=5.7
USRK ScP **ScP 14 30 05.4 -0.3**
comp=Z,2.9nm,1.0s,baz=46,slow=5.5,SNR=5.0
USRK LR LR 14 42 49.1
comp=Z,13μm,20.8s,baz=59,slow=37
comp=Z,45nm,1.0s
CBKS Cedar Bluff 43.39 85 IAmb IAmb 14 24 49.8
comp=Z,183nm,1.3s
CBKS Cedar Bluff 43.39 85 P **P 14 24 28.5 +0.9**
baz=312
CBKS S **S 14 30 56.1 +1.3**
baz=312
H11S1 WAKE ISLAND Hy 43.61 227 T T 15 10 47.2
baz=26,slow=76,SNR=366
H11S2 WAKE ISLAND Hy 43.62 227 T T 15 10 48.6
baz=26,slow=76,SNR=1082
H11S3 WAKE ISLAND Hy 43.63 227 T T 15 10 22.8
baz=26,slow=76,SNR=258
I37A Lemond, Waseca 43.68 75 P **P 14 24 29.2 -0.6**
I37A IAmb IAmb 14 24 40.8
comp=Z,186nm,0.8s
JSD Sado 43.70 274 P **P 14 24 30.4 +0.3**
JSD Sado 43.70 274 IAmb IAmb 14 24 31.3
comp=Z,347nm,1.0s
JYT Yasato 43.81 270 P **P 14 24 30.8 -0.1**
VLA Vladivostok 44.06 284 *i* P **P 14 24 32.2 -0.7**
VLA pmax pmax
comp=Z,409nm,1.2s
FRB Frobisher Bay 44.24 40 LR LR 14 44 44.4
comp=Z,13μm,18.1s,baz=301,slow=38
EPT El Paso 44.37 98 IAmb IAmb 14 24 50.7
comp=Z,137nm,0.8s
MDJ Mudanjiang 44.41 287 P **P 14 24 34.8 -0.9**
MDJ Mudanjiang 44.41 287 P P 14 24 34.1 -1.6
MDJ pP pP 14 24 40.6 -0.2
MDJ S **S 14 31 05.8 -3.6**
MDJ sS sS 14 31 19.1 +1.2
MDJ ScS **SS 14 34 32.8 +4.7**
MDJ pmax pmax
comp=Z,140nm,1.2s
MDJ pmax pmax
comp=Z,1μm,4.1s
MDJ LR LR
comp=Z,4μm,17.9s
MDJ LR LR
comp=Z,5μm,17.9s
MDJ LR LR
comp=Z,12μm,17.4s
MDJ Mudanjiang 44.41 287 IAmb IAmb 14 24 35.7
comp=Z,122nm,1.0s
MDJ IAMs_20 IAMs_20 14 45 34.1
comp=Z,9μm,18.0s
N35A Tabor 44.41 80 IAmb IAmb 14 24 45.1
comp=Z,176nm,0.8s
N35A IAMs_20 IAMs_20 14 41 45.2
comp=Z,9μm,20.0s
D41A Chassel 44.48 68 IAmb IAmb 14 24 58.0
comp=Z,135nm,0.9s
D41A IAMs_20 IAMs_20 14 44 17.9
comp=Z,6μm,18.0s
NUUG Nuugaatsiaq 44.53 26 *i* P **P 14 24 36.4 +0.2**
NUUG IAmb IAmb 14 24 37.1
comp=Z,163nm,0.8s
BOD Bodaibo 44.55 311 *e*P P 14 24 35.0 -1.6
BOD pmax pmax
comp=Z,378nm,1.2s
G40A Rib Lake 44.69 71 IAmb IAmb 14 24 48.5
comp=Z,80nm,0.8s
JRY Ryogami san 44.71 271 P **P 14 24 38.5 +0.3**
MJAR Matsushiro Arr 44.75 272 P **P 14 24 37.9 -0.6**
comp=Z,179nm,1.1s,baz=35,slow=4.2,SNR=4.7
MJAR PcP **PcP 14 26 20.2 -0.3**
comp=Z,61nm,1.3s,baz=358,slow=1.9,SNR=4.5
MJAR ScP **ScP 14 30 10.4 -1.4**
comp=Z,20nm,1.2s,baz=28,slow=3.1,SNR=8.6
MJAR LR LR 14 42 03.6
comp=Z,3μm,21.4s,baz=62,slow=34
comp=Z,179nm,1.1s
MAJO Matsushiro 44.75 272 P **P 14 24 38.9 +0.4**
MAJO Matsushiro 44.75 272 P **P 14 24 38.6 0.0**
MAJO Matsushiro 44.75 272 IAMs_20 IAMs_20 14 42 24.0
comp=Z,4μm,19.0s
MAJO Matsushiro 44.75 272 *c i* P **P 14 24 38.4 -0.1**
MAJO pmax pmax
comp=Z,593nm,1.1s
MAT Matsushiro 44.75 272 P **P 14 24 38.5 0.0**
COWI Conover 44.76 70 IAmb IAmb 14 24 50.9
comp=Z,224nm,1.6s
MSHR Mys Shultsa 44.81 284 *ce*P **P 14 24 38.8 -0.1**
MSHR pmax pmax
comp=Z,1μm,1.3s
MSHR MLR MLR
comp=Z,4μm,19.0s
BNX BinXian 44.92 290 ⇑P **P 14 24 38.4 -1.3**
BNX pP **sP 14 24 48.3 +1.3**
BNX PP **PcP 14 26 21.5 +0.6**
BNX ScP **ScP 14 30 11.4 -0.9**
BNX S **S 14 31 13.9 -2.9**
BNX sS sS 14 31 29.9 +4.6
BNX pmax pmax
comp=Z,340nm,1.2s
BNX pmax pmax
comp=Z,1μm,5.7s
BNX LR LR
comp=Z,3μm,17.3s
BNX LR LR
comp=Z,8μm,20.6s
BNX LR LR
comp=Z,8μm,21.7s
AMTX Amarillo 44.95 91 IAmb IAmb 14 24 53.0
comp=Z,123nm,1.2s
AMTX IAMs_20 IAMs_20 14 41 46.6
comp=Z,8μm,20.0s
AMTX Amarillo 44.95 91 P **P 14 24 40.3 0.0**
baz=315
AMTX S **S 14 31 18.8 +1.2**
baz=315
MSTX Muleshoe 44.96 93 IAMs_20 IAMs_20 14 42 04.8
comp=Z,6μm,19.0s
MSTX Muleshoe 44.96 93 P **P 14 24 40.4 0.0**
baz=316
MSTX S **S 14 31 18.9 +1.1**
baz=316
PSTR Posyet 44.97 284 *c i* P **P 14 24 40.0 -0.1**
KSU1 Kansas State U 45.02 82 IAMs_20 IAMs_20 14 42 03.2
comp=Z,6μm,20.0s
KSU1 Kansas State U 45.02 82 P **P 14 24 40.1 -0.5**
baz=312
KSU1 S **S 14 31 16.8 -1.6**
baz=312
MNTX Cornudas Mount 45.08 97 P **P 14 24 42.2 +1.1**
baz=317,SNR=60
MNTX S **S 14 31 24.4 +5.0**
baz=317
SCIA State Center 45.12 77 IAmb IAmb 14 24 52.2
comp=Z,89nm,0.9s
SCIA IAMs_20 IAMs_20 14 42 41.0
comp=Z,11μm,20.0s
SCIA State Center 45.12 77 P **P 14 24 41.4 0.0**
baz=310
SCIA S **S 14 31 17.2 -2.7**
baz=310
JOD2 Odawara 2 45.12 270 P **P 14 24 41.3 -0.2**
I40A Norwalk 45.32 73 IAmb IAmb 14 24 53.5
comp=Z,92nm,0.6s
UMMG Uummannaq 45.34 26 *i* P **P 14 24 43.0 +0.3**
UMMG IAmb IAmb 14 24 44.3
comp=Z,571nm,1.1s
ELIS Ellis County 45.45 88 IAmb IAmb 14 24 58.5
comp=Z,134nm,1.2s
OK032 Salt Plains WL 45.64 86 IAMs_20 IAMs_20 14 43 18.8
comp=Z,6μm,19.0s
E43A Lone Tree Farm 45.75 68 IAmb IAmb 14 24 58.9
comp=Z,172nm,0.9s
KAN09 Caldwell North 45.76 85 IAmb IAmb 14 25 00.9
comp=Z,151nm,1.3s
N38A Joes South For 45.84 78 IAmb IAmb 14 25 01.5
comp=Z,156nm,1.1s
N38A IAMs_20 IAMs_20 14 42 52.9

comp=Z,9μm,20.0s
JGF Kuroka 45.90 272 P **P 14 24 48.2 +0.5**
KAN13 South Haven SW 45.93 85 IAmb IAmb 14 25 08.9
comp=Z,89nm,1.0s
VHRN Van Horn 45.98 98 IAmb IAmb 14 25 02.2
comp=Z,224nm,1.2s
JSG Sagara 46.06 270 P **P 14 24 49.7 +0.8**
JFWS Jewell Farm 46.15 74 IAmb IAmb 14 25 03.2
comp=Z,74nm,0.7s
JFWS Jewell Farm 46.15 74 P **P 14 24 49.0 -0.5**
baz=310,SNR=8.8
JFWS S **S 14 31 31.6 -3.0**
baz=310
L40A Anamosa 46.15 76 IAmb IAmb 14 25 06.1
comp=Z,86nm,0.9s
JHJ2 Mitsune 46.22 268 P **P 14 24 50.8 +0.6**
JHJ Hachijo jima 2 46.24 268 LR LR 14 45 16.0
comp=Z,2μm,18.5s,baz=47,slow=38
BLOK Blackwell 46.25 85 IAmb IAmb 14 25 04.9
comp=Z,98nm,1.2s
I42A Draeger Farm, 46.27 72 IAmb IAmb 14 25 00.9
comp=Z,94nm,0.7s
INU Inuyama 46.27 272 P **P 14 24 50.9 +0.3**
INU Inuyama 46.27 272 P **P 14 24 49.9 -0.6**
INU IAmb IAmb 14 24 52.8
comp=Z,175nm,1.1s
POST Post 46.35 92 IAmb IAmb 14 25 03.7
comp=Z,103nm,0.9s
ODSA Odessa 46.42 94 IAmb IAmb 14 25 04.5
comp=Z,119nm,1.1s
P38A Dawn 46.44 80 IAmb IAmb 14 25 09.8
comp=Z,96nm,0.8s
P38A IAMs_20 IAMs_20 14 42 58.9
comp=Z,8μm,20.0s
H43A Windswept, Lux 46.53 71 IAmb IAmb 14 25 04.8
comp=Z,193nm,0.9s
T35A Sooner Cattle 46.55 85 IAmb IAmb 14 24 55.1
comp=Z,175nm,1.0s
OK048 Pawnee Station 46.65 85 IAmb IAmb 14 25 07.8
comp=Z,95nm,1.2s
OK051 E0350 and S346 46.65 85 IAmb IAmb 14 25 07.8
comp=Z,94nm,1.2s
WMOK Wichita Mounta 46.75 89 IAmb IAmb 14 25 08.5
comp=Z,74nm,0.9s
WMOK Wichita Mounta 46.75 89 IAMs_20 IAMs_20 14 43 14.1
comp=Z,8μm,19.0s
WMOK Wichita Mounta 46.75 89 P **P 14 24 54.5 +0.2**
baz=315,SNR=29
WMOK S **S 14 31 43.7 +0.3**
baz=315
KBS Kingsbay 46.80 2 P **P 14 24 54.6 +0.4**
KBS Kingsbay 46.80 2 IAMs_20 IAMs_20 14 45 12.5
comp=Z,7μm,18.0s
KBS Kingsbay 46.80 2 *e*P **P 14 24 55.0 +0.9**
KBS IVmB_BB 14 24 55.5
comp=Z,5μm,1.3s
KBS *e*S **S 14 31 43.3 +0.2**
KBS *e*ScS **ScS 14 34 46.4 -0.7**
KBS Kingsbay 46.80 2*ce*P **P 14 24 54.6 +0.4**
KBS pmax pmax
comp=Z,655nm,1.3s
KBS Kingsbay 46.80 2 *i* P **P 14 24 54.2 0.0**
HIA Hailar 46.83 298 P **P 14 24 54.2 -0.6**
HIA Hailar 46.83 298 IAmb IAmb 14 24 56.5
comp=Z,87nm,1.0s
HIA Hailar 46.83 298 IAMs_20 IAMs_20 14 47 36.6
comp=Z,10μm,18.0s
MNHN Monahans 46.86 95 IAmb IAmb 14 25 10.7
comp=Z,154nm,1.6s
DAG Danmarks Havn 46.87 11 *i* P **P 14 24 54.5 -0.2**
DAG IAmb IAmb 14 24 55.6
comp=Z,827nm,1.6s
NRIK Noril'sk 46.92 333 P **P 14 24 55.1 -0.1**
NRIK Noril'sk 46.92 333 P **P 14 24 54.5 -0.7**
comp=Z,184nm,1.0s,baz=62,slow=7.2,SNR=148
NRIK LR LR 14 47 40.2
comp=Z,15μm,18.6s,baz=45,slow=40
comp=Z,184nm,1.0s
NRIK Noril'sk 46.92 333*ce*P **P 14 24 54.8 -0.4**
NRIK pmax pmax
comp=Z,278nm,1.0s
NRIK MLR MLR
comp=Z,13μm,17.0s
APMT Aspermont 46.97 91 IAmb IAmb 14 25 08.1
comp=Z,83nm,1.2s
OK052 Battle Ridge R 47.02 86 IAmb IAmb 14 25 17.5
comp=Z,126nm,1.1s
OK052 IAMs_20 IAMs_20 14 44 11.3
comp=Z,5μm,18.0s
OK031 S. Brethren Rd 47.03 86 IAmb IAmb 14 25 17.6
comp=Z,133nm,1.0s
OK031 IAMs_20 IAMs_20 14 44 20.5
comp=Z,5μm,18.0s
L42A Oliver, Polo 47.07 75 IAmb IAmb 14 25 06.3
comp=Z,65nm,0.9s
SUMG Summit 47.18 20 P **P 14 24 57.7 0.0**
SUMG Summit 47.18 20 P **P 14 24 57.7 0.0**
SUMG pmax pmax
comp=Z,380nm,1.1s
SUMG MLR MLR
comp=Z,12μm,20.0s
SUMG Summit 47.18 20 *i* P **P 14 24 57.9 +0.3**
SUMG IAmb IAmb 14 25 04.8
comp=Z,367nm,1.1s
SUMG *i* S **S 14 31 47.2 -2.2**
CN2 Changchun 47.23 289 ⇑P **P 14 24 57.6 -0.3**
CN2 *ep*P sP 14 25 06.0 +0.8
CN2 *e*S **S 14 31 46.0 -3.9**
CN2 pmax pmax
comp=Z,400nm,1.1s
CN2 pmax pmax
comp=Z,2μm,4.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,2μm,18.0s
N41A Harden Midland 47.25 77 IAmb IAmb 14 25 14.9
comp=Z,145nm,1.0s
JWT Wachi 47.26 273 P **P 14 24 58.6 +0.3**
DEOK Depew 47.30 86 IAmb IAmb 14 25 12.9
comp=Z,167nm,1.4s
G45A Suttons Bay 47.32 69 IAmb IAmb 14 25 09.1
comp=Z,118nm,1.0s
P40A Paris 47.36 79 IAmb IAmb 14 25 14.5
comp=Z,83nm,0.8s
P40A IAMs_20 IAMs_20 14 43 29.1
comp=Z,11μm,21.0s
SGCY Sterling City 47.40 93 IAmb IAmb 14 25 11.7
comp=Z,99nm,0.9s
W35A Tecumseh 47.57 87 IAmb IAmb 14 25 12.9
comp=Z,335nm,1.9s
SPA0 Spitsbergen Ar 47.61 1 *e*P **P 14 24 59.6 -0.9**
SPA0 IVmB_BB 14 25 00.3
comp=Z,3μm,1.6s
SPA0 *e*S **S 14 31 52.0 -2.7**
SPITS Spitsbergen Ar 47.61 1 P **P 14 24 59.8 -0.7**
comp=Z,246nm,1.1s,baz=44,slow=4.9,SNR=40
SPITS PcP **PcP 14 26 28.9 -1.0**
comp=Z,62nm,1.0s,baz=45,slow=8.4,SNR=1.7
SPITS ScP **ScP 14 30 21.1 -1.9**
comp=Z,11nm,0.9s,baz=335,slow=6.4,SNR=3.3
SPITS LR LR 14 45 14.8
comp=Z,3μm,19.3s,baz=326,slow=36
comp=Z,246nm,1.1s
SPB2 Spitsbergen Ar 47.62 1 P **P 14 25 00.3 -0.3**
TUL3 Leonard 47.67 85 IAmb IAmb 14 25 15.1
comp=Z,72nm,0.9s
TUL3 IAMs_20 IAMs_20 14 44 43.4
comp=Z,5μm,18.0s
TUL3 Leonard 47.67 85 P **P 14 25 01.4 -0.1**
baz=314
TUL3 S **S 14 31 55.2 -1.2**
baz=314
ABTX Abilene, Hawle 47.75 91 IAmb IAmb 14 25 14.6
comp=Z,110nm,1.1s
ABTX IAMs_20 IAMs_20 14 43 23.6
comp=Z,8μm,21.0s
ABTX Abilene, Hawle 47.75 91 P **P 14 25 02.5 +0.3**
baz=316,SNR=9.1
ABTX S **S 14 31 56.6 -1.0**
baz=316
TX31 Lajitas Ar. Si 47.82 98 IAmb IAmb 14 25 17.7
comp=Z,134nm,0.9s
TXAR Lajitas Array 47.82 98 P **P 14 25 03.7 +0.9**
comp=Z,22nm,0.8s,baz=303,slow=5.8,SNR=168
TXAR PcP **PcP 14 26 31.2 -0.3**
comp=Z,8.7nm,0.7s,baz=271,slow=0.8,SNR=1.0
TXAR ScP **ScP 14 30 23.1 -1.7**
comp=Z,4.4nm,1.0s,baz=288,slow=3.6,SNR=4.9
TXAR S **S 14 32 01.4 +2.5**
comp=Z,1.7nm,1.1s,baz=8.1,slow=2.7,SNR=1.5
TXAR LR LR 14 44 26.5
comp=Z,6μm,18.4s,baz=306,slow=35
TXAR P3KP 14 55 06.8
comp=Z,0.2nm,0.4s,baz=160,slow=12,SNR=3.8
comp=Z,22nm,0.8s
S39A Bolivar 47.87 81 IAMs_20 IAMs_20 14 43 51.7
comp=Z,6μm,20.0s
RLO Rose Lookout 47.94 84 IAmb IAmb 14 25 17.5
comp=Z,77nm,1.0s
L44A Lake County Fo 47.94 73 IAmb IAmb 14 25 09.2
comp=Z,151nm,1.1s
L44A Lake County Fo 47.94 73 P **P 14 25 03.2 -0.3**
baz=311
L44A S **S 14 31 57.0 -3.1**
baz=311
GLMI Grayling 48.03 68 P **P 14 25 03.9 -0.3**
baz=310
GLMI S **S 14 31 59.9 -1.4**
baz=310
LPIG La Paz 48.07 108 LR LR 14 42 44.2
comp=Z,4μm,18.3s,baz=320,slow=33
R40A Maddies Statio 48.07 80 IAmb IAmb 14 25 18.0
comp=Z,49nm,0.8s
R40A IAMs_20 IAMs_20 14 44 17.9
comp=Z,8μm,19.0s
U38A Gravette 48.12 83 IAmb IAmb 14 25 23.1
comp=Z,68nm,0.9s
OZNA Ozona 48.12 94 IAmb IAmb 14 25 17.5
comp=Z,314nm,1.9s
SFJD Kangerlussuaq 48.17 30 P **P 14 25 05.2 +0.4**
SFJD Kangerlussuaq 48.17 30 LR LR 14 48 28.4
comp=Z,5μm,18.7s,baz=313,slow=40
SFJD Kangerlussuaq 48.17 30 P **P 14 25 05.3 +0.4**
SFJD pmax pmax
comp=Z,426nm,1.0s
SFJD MLR MLR
comp=Z,4μm,18.0s
SFJD Kangerlussuaq 48.17 30 *i* P **P 14 25 05.4 +0.5**
SFJD IAmb IAmb 14 25 06.7
comp=Z,451nm,1.1s
CIT Chita 48.21 304 *e*P **P 14 25 04.9 -0.6**
CIT *e* 14 25 19.1
CIT *e* 14 26 31.5
CIT *e* 14 27 00.2
CIT *e* 14 27 52.3
CIT *e* 14 34 53.1
CIT pmax pmax
comp=Z,560nm,1.4s
JAD Aida 48.22 274 P **P 14 25 06.0 +0.2**
HDIL Hopedale 48.24 76 P **P 14 25 05.4 -0.4**
baz=312,SNR=21
HDIL S **S 14 32 01.4 -3.0**
baz=312
SAND Sanderson 48.25 96 IAmb IAmb 14 25 18.8
comp=Z,131nm,1.4s
FW03 Perrin-Whitt E 48.37 90 IAmb IAmb 14 25 20.7
comp=Z,59nm,0.8s
FW03 IAMs_20 IAMs_20 14 44 12.1
comp=Z,6μm,19.0s
PLPT Palo Pinto 48.39 90 IAmb IAmb 14 25 19.2
comp=Z,89nm,1.0s
HPIG 48.48 102 IAmb IAmb 14 25 21.4
comp=Z,181nm,1.5s
HPIG IAMs_20 IAMs_20 14 42 33.2
comp=Z,6μm,20.0s
SLBS Sierra La Lagu 48.60 108 IAMs_20 IAMs_20 14 42 49.5
comp=Z,6μm,18.0s
Z35A Perchaven, San 48.64 89 IAMs_20 IAMs_20 14 44 16.1
comp=Z,7μm,20.0s
FW06 Azle 48.72 89 IAMs_20 IAMs_20 14 44 16.2
comp=Z,8μm,20.0s
FW07 Weatherford 48.78 90 IAMs_20 IAMs_20 14 44 08.8
comp=Z,8μm,20.0s
HSPB Hornsund (broa 48.79 1 *e*P **P 14 25 09.0 -0.5**
JHS Saijyo 48.79 275 P **P 14 25 10.5 +0.3**
CCM Cathedral Cave 48.82 80 P **P 14 25 09.3 -1.0**
CCM IAmb IAmb 14 26 51.0
comp=Z,88nm,1.2s
CCM Cathedral Cave 48.82 80 IAMs_20 IAMs_20 14 44 22.8
comp=Z,8μm,20.0s
CCM Cathedral Cave 48.82 80 P **P 14 25 09.1 -1.2**
baz=313
CCM S **S 14 32 07.9 -4.7**
baz=313
CCM Cathedral Cave 48.82 80 P **P 14 25 09.3 -1.0**
CCM pmax pmax
comp=Z,88nm,1.3s
DBG Daneborg 48.84 13 *i* P **P 14 25 09.7 -0.3**
X37A Clayton 48.84 86 IAmb IAmb 14 25 24.6
comp=Z,93nm,1.1s
X37A IAMs_20 IAMs_20 14 46 16.5
comp=Z,5μm,18.0s
MGMO Mountain Grove 48.85 81 IAmb IAmb 14 25 23.3
comp=Z,71nm,0.9s
MGMO IAMs_20 IAMs_20 14 44 21.6
comp=Z,6μm,20.0s
L46A Eue Claire 48.95 72 IAmb IAmb 14 25 30.7
comp=Z,248nm,1.4s
L46A IAMs_20 IAMs_20 14 45 32.5
comp=Z,8μm,19.0s
J47A Sunmer 48.95 70 IAmb IAmb 14 25 21.7
comp=Z,84nm,0.8s
SLM Saint Louis 49.00 78 IAmb IAmb 14 25 26.3
comp=Z,103nm,0.8s
JCT Junction City 49.22 93 IAMs_20 IAMs_20 14 43 42.6
comp=Z,6μm,22.0s
JCT Junction City 49.22 93 P **P 14 25 13.8 +0.3**
baz=318,SNR=8.8
JCT S **S 14 32 17.4 -1.0**
baz=318
HOPEN Hopen 49.24 358 *e*P **P 14 25 12.6 -0.5**
HOPEN IVmB_BB 14 25 13.2
comp=Z,4μm,1.4s
HOPEN *e*S **S 14 32 15.4 -2.3**
HOPEN IVMs_BB IVMs_BB 14 50 52.2
comp=Z,2μm,16.8s
JMN Monobe 49.25 273 P **P 14 25 14.5 +0.8**
JMN Monobe 49.25 273 P **P 14 25 14.4 +0.8**
JCJ Chichijima 49.30 260 P **P 14 25 15.3 +1.2**
JCJ Chichijima 49.30 260 LR LR 14 43 43.8
comp=Z,2μm,21.7s,baz=43,slow=33
FVM French Village 49.34 79 IAmb IAmb 14 25 28.3
comp=Z,71nm,0.9s
FVM IAMs_20 IAMs_20 14 44 40.5
comp=Z,9μm,21.0s
WHTX Lake Whitney, 49.48 90 P **P 14 25 16.0 +0.5**
baz=317
WHTX S **S 14 32 22.4 +0.3**
baz=317
Q44A Meyer Farm, Va 49.51 77 IAmb IAmb 14 25 26.2
comp=Z,101nm,0.9s
DRIO Del Rio 49.52 95 IAmb IAmb 14 25 29.2
comp=Z,89nm,0.8s
ICESG Greenland Ices 49.54 24 *i* P **P 14 25 15.7 -0.1**
ICESG *i* S **S 14 32 19.4 -3.3**
SNY Shenyang 49.56 288 ⇑P **P 14 25 16.3 +0.4**
SNY S **S 14 32 23.1 +0.2**
SNY pmax pmax
comp=Z,580nm,1.3s
SNY pmax pmax
comp=Z,2μm,3.6s
SNY LR LR
comp=Z,6μm,23.0s
SNY LR LR
comp=Z,4μm,20.6s
SNY LR LR
comp=Z,8μm,22.1s
I49A Point Hope 49.58 68 IAmb IAmb 14 25 26.6
comp=Z,64nm,0.8s
SFIN Lafayette 49.60 74 IAmb IAmb 14 25 29.3
comp=Z,190nm,1.1s
SFIN Lafayette 49.60 74 P **P 14 25 16.1 -0.1**
baz=313,SNR=18
SFIN S **S 14 32 20.8 -2.6**
baz=313
T42A Van Buren 49.61 80 IAmb IAmb 14 26 52.1
comp=Z,86nm,1.1s
T42A IAMs_20 IAMs_20 14 45 23.2
comp=Z,6μm,19.0s
VLDQ Val d'Or 49.68 61 IAmb IAmb 14 25 30.1
comp=Z,162nm,1.0s
VLDQ IAMs_20 IAMs_20 14 46 50.9
comp=Z,8μm,20.0s
NUUK Nuuk 49.77 33 *i* P **P 14 25 18.3 +1.1**
DY2G Dye2 49.77 29 *i* P **P 14 25 17.1 -0.4**
DY2G *i* S **S 14 32 24.1 -1.7**
FCAR Ozark Folk Cen 49.81 82 IAmb IAmb 14 25 30.8
comp=Z,122nm,0.9s
FCAR IAMs_20 IAMs_20 14 44 49.6
comp=Z,7μm,21.0s
MIAR Mount Ida 49.91 85 P **P 14 25 18.5 -0.2**
MIAR IAmb IAmb 14 25 32.4
comp=Z,76nm,0.9s
MIAR Mount Ida 49.91 85 P **P 14 25 16.7 -2.0**
baz=315,SNR=32
MIAR S **S 14 32 25.9 -2.2**
baz=315
MIAR Mount Ida 49.91 85 P **P 14 25 18.5 -0.2**
MIAR pmax pmax
comp=Z,76nm,1.0s
MIAR MLR MLR
comp=Z,4μm,18.0s
Z38A Mt. Pleasant 50.01 87 IAMs_20 IAMs_20 14 45 58.1
comp=Z,6μm,19.0s
L48A N Adams 50.03 71 IAmb IAmb 14 25 35.0
comp=Z,120nm,0.9s
P46A Rosedale 50.05 75 IAmb IAmb 14 25 34.4
comp=Z,95nm,1.0s
KSRS Korea Array 50.08 281 P **P 14 25 20.1 +0.1**
comp=Z,207nm,1.1s,baz=53,slow=6.7,SNR=379
KSRS PcP **PcP 14 26 38.8 -0.6**
comp=Z,15nm,0.9s,baz=58,slow=5.9,SNR=1.0
KSRS ScP **ScP 14 30 33.2 -0.9**
comp=Z,18nm,1.4s,baz=53,slow=2.3,SNR=4.3
KSRS LR LR 14 45 40.6
comp=Z,2μm,21.2s,baz=60,slow=35
comp=Z,207nm,1.1s
KSAR Wonju Array Be 50.11 281 P **P 14 25 19.6 -0.6**
KSAR Wonju Array Be 50.11 281 P **P 14 25 19.6 -0.6**
WHAR Wooly Hollow 50.14 83 IAmb IAmb 14 25 31.3
comp=Z,222nm,2.0s
WHAR IAMs_20 IAMs_20 14 45 31.3
comp=Z,5μm,20.0s
PBMO Poplar Bluff 50.17 80 IAmb IAmb 14 25 34.7
comp=Z,72nm,0.9s
PBMO IAMs_20 IAMs_20 14 45 13.0
comp=Z,6μm,20.0s
S44A Carbondale 50.21 79 IAmb IAmb 14 25 34.8
comp=Z,104nm,0.8s
S44A IAMs_20 IAMs_20 14 45 17.9
comp=Z,10μm,21.0s
SUJ Sinuiju 50.21 286 P **P 14 25 20.3 -0.6**
SUJ S **S 14 32 30.1 -1.9**
SUJ AmB
comp=Z,1μm,1.9s
SUJ AMS AMS
comp=Z,6μm,18.1s
AAM Ann Arbor 50.22 70 IAMs_20 IAMs_20 14 46 58.8
comp=Z,5μm,18.0s
AAM Ann Arbor 50.22 70 P **P 14 25 20.6 -0.3**
baz=312
AAM S **S 14 32 29.8 -2.3**
baz=312
PYAG Pyongyang 50.22 284 P **P 14 25 20.4 -0.6**
PYAG S **S 14 32 31.2 -0.9**
PYAG AmB
comp=Z,2μm,1.5s
PYAG AMS AMS
comp=Z,6μm,18.6s
LCAR Lake Charles 50.24 81 IAMs_20 IAMs_20 14 45 15.0
comp=Z,6μm,20.0s
CGM3 Cape Girardeau 50.25 79 IAMs_20 IAMs_20 14 45 07.1
comp=Z,8μm,21.0s
435B Jarrell 50.29 91 P **P 14 25 22.0 +0.4**
baz=317
435B S **S 14 32 34.3 +0.9**
baz=317
SCHQ Schefferville 50.35 49 P **P 14 25 21.9 +0.1**
SCHQ IAmb IAmb 14 25 23.3
comp=Z,247nm,1.5s
SCHQ Schefferville 50.35 49 P **P 14 25 21.4 -0.4**
comp=Z,41nm,0.8s,baz=318,slow=8.0,SNR=24
SCHQ LR LR 14 47 38.2
comp=Z,9μm,20.5s,baz=320,slow=37
comp=Z,41nm,0.8s
237A Washetta, Mont 50.44 89 IAMs_20 IAMs_20 14 45 22.4
comp=Z,6μm,20.0s
K50A Casco 50.47 69 IAmb IAmb 14 25 42.1
comp=Z,124nm,1.2s
UALR University of 50.47 83 IAMs_20 IAMs_20 14 49 32.0
comp=Z,5μm,18.0s
PARMO Parma 50.64 80 IAMs_20 IAMs_20 14 46 14.3
comp=Z,6μm,19.0s
BLO Bloomington 50.74 75 IAmb IAmb 14 25 50.8
comp=Z,96nm,0.9s
O48B Farmland 50.77 73 IAmb IAmb 14 25 39.7
comp=Z,108nm,0.6s
O48B Farmland 50.77 73 P **P 14 25 23.8 -1.4**
baz=313,SNR=26
O48B S **S 14 32 36.4 -3.4**
baz=313
WLAR White Oak Lake 50.80 85 IAmb IAmb 14 25 39.9
comp=Z,248nm,1.3s
INCN Inchon 50.80 282 P **P 14 25 26.1 +0.7**
INCN Inchon 50.80 282 P **P 14 25 25.5 +0.1**
INCN Inchon 50.80 282 IAMs_20 IAMs_20 14 45 54.2
comp=Z,4μm,21.0s
INCN Inchon 50.80 282 P **P 14 25 25.5 +0.1**
INCN pmax pmax
comp=Z,621nm,1.3s
PVMO Portageville 50.84 80 IAMs_20 IAMs_20 14 46 11.8
comp=Z,6μm,19.0s
N49A Columbus Grove 50.86 72 IAMs_20 IAMs_20 14 46 40.8
comp=Z,7μm,20.0s
HBAR Harrisburg 50.89 82 IAMs_20 IAMs_20 14 45 36.2
comp=Z,6μm,20.0s
HJU Haeju 50.93 283 P **P 14 25 25.7 -0.6**
HJU S **S 14 32 39.1 -3.0**
HJU AmB
comp=Z,3μm,1.5s
HJU AMS AMS
comp=Z,4μm,15.8s
PEBM Pemiscott Bayo 50.96 80 IAMs_20 IAMs_20 14 45 15.9
comp=Z,6μm,22.0s
GNAR Gosnell 50.97 81 IAMs_20 IAMs_20 14 45 16.3
comp=Z,6μm,22.0s
SADO Sadowa 51.00 65 P **P 14 25 25.9 -0.9**
SADO IAMs_20 IAMs_20 14 47 27.4
comp=Z,5μm,18.0s
SADO Sadowa 51.00 65 LR LR 14 47 38.8
comp=Z,4μm,18.3s,baz=338,slow=37
HICK Hickman 51.02 80 IAMs_20 IAMs_20 14 45 40.6
comp=Z,7μm,20.0s
T45A Paducah 51.02 79 IAMs_20 IAMs_20 14 45 52.6
comp=Z,10μm,20.0s
833A Chaparral WMA, 51.05 95 IAmb IAmb 14 25 40.2
comp=Z,263nm,1.4s
833A IAMs_20 IAMs_20 14 45 06.1
comp=Z,6μm,21.0s
833A Chaparral WMA, 51.05 95 P **P 14 25 28.3 +0.9**
baz=319,SNR=18
833A S **S 14 32 43.9 -0.1**
baz=319
TJN Taejon 51.15 280 P **P 14 25 28.3 +0.3**
TJN Taejon 51.15 280 IAMs_20 IAMs_20 14 48 53.7
comp=Z,9μm,20.0s
TJN Taejon 51.15 280*ce*P **P 14 25 28.1 +0.1**
M50A Fremont 51.16 71 IAMs_20 IAMs_20 14 47 18.8
comp=Z,5μm,18.0s
P48A Milroy 51.16 74 IAmb IAmb 14 25 40.1
comp=Z,260nm,1.2s
GLAT Glass 51.18 80 IAMs_20 IAMs_20 14 46 04.7
comp=Z,7μm,19.0s
LNXT Lenox 51.18 80 IAMs_20 IAMs_20 14 46 03.8
comp=Z,6μm,19.0s
O49A Covington 51.27 73 IAmb IAmb 14 25 40.3
comp=Z,350nm,1.9s
NATX Nacogdoches 51.28 88 IAmb IAmb 14 25 43.3
comp=Z,116nm,1.0s
NATX Nacogdoches 51.28 88 P **P 14 25 29.4 +0.3**
baz=317
NATX S **S 14 32 46.4 -0.7**
baz=317
JTU Tsushima 51.29 277 P **P 14 25 29.7 +0.6**
BJO1 Bjornoya 51.32 0 *e*P **P 14 25 28.9 +0.2**
BJO1 IVmB_BB 14 25 29.3
comp=Z,4μm,1.4s
BJO1 IVMs_BB IVMs_BB 14 52 09.0

	comp=Z,2µm,15.7s							
HALT	**Halls**	**51.40**	**80**		IAMs_20	IAMs_20	14 46 22.6	
	comp=Z,5µm,19.0s							
CCAR	**Cane Creek**	**51.41**	**84**		IAmb	IAmb	14 25 44.1	
	comp=Z,200nm,0.8s							
JNU	**Nakatsue**	**51.43**	**275**		P	**P**	**14 25 30.7**	**+0.5**
JNU	**Nakatsue**	**51.43**	**275**		P	**P**	**14 25 30.4**	**+0.1**
JNU					IAmb	IAmb	14 25 45.2	
	comp=Z,179nm,1.0s							
JNU	**Nakatsue**	**51.43**	**275**		LR	LR	14 46 34.9	
	comp=Z,4µm,21.7s,baz=54,slow=35							
P49A	**Miami Univ. Ec**	**51.51**	**74**		IAmb	IAmb	14 25 42.4	
	comp=Z,133nm,1.1s							
P49A	**Miami Univ. Ec**	**51.51**	**74**		P	**P**	**14 25 29.6**	**-1.1**
	baz=314,SNR=17							
P49A					S	**S**	**14 32 47.0**	**-3.0**
	baz=314							
WCI	**Wyandotte Cave**	**51.52**	**76**		P	**P**	**14 25 29.9**	**-0.9**
WCI	**Wyandotte Cave**	**51.52**	**76**		P	**P**	**14 25 30.1**	**-0.7**
	baz=314							
WCI					S	**S**	**14 32 47.5**	**-2.8**
	baz=314							
WCI	**Wyandotte Cave**	**51.52**	**76**		P	**P**	**14 25 29.9**	**-0.9**
WCI					pmax	pmax		
	comp=Z,45nm,0.8s							
WCI					MLR	MLR		
	comp=Z,10µm,19.0s							
HNVL	**Huntsville, TX**	**51.54**	**90**		IAmb	IAmb	14 25 46.2	
	comp=Z,189nm,1.0s							
735A	**Kenedy**	**51.58**	**93**		IAMs_20	IAMs_20	14 45 56.9	
	comp=Z,5µm,20.0s							
MET	**Memphis--Engin**	**51.62**	**81**		IAMs_20	IAMs_20	14 45 57.4	
	comp=Z,6µm,21.0s							
N51A	**Ashland**	**51.86**	**71**		IAmb	IAmb	14 25 52.1	
	comp=Z,254nm,1.6s							
H06N1	**SOCORRO T-PHAS**	**51.92**	**113**		T	T	15 21 04.1	
	SNR=32							
HKT	**Hockley**	**51.92**	**90**		IAMs_20	IAMs_20	14 46 33.5	
	comp=Z,7µm,19.0s							
T47A	**Sharon Grove**	**51.93**	**78**		IAmb	IAmb	14 25 46.4	
	comp=Z,376nm,1.4s							
SCO	**Scoresbysund**	**51.93**	**16**		IAmb	IAmb	14 25 40.7	
	comp=Z,268nm,1.2s							
SCO					IAMs_20	IAMs_20	14 51 42.5	
	comp=Z,8µm,18.0s							
SCO	**Scoresbysund**	**51.93**	**16**	*i*	P	**P**	**14 25 33.8**	**+0.4**
DELO	**Deloro Mine**	**51.98**	**64**		IAmb	IAmb	14 25 48.7	
	comp=Z,268nm,1.5s							
M52A	**Chesterland**	**51.99**	**70**		IAmb	IAmb	14 25 53.3	
	comp=Z,354nm,1.8s							
ACSO	**Alum Creek Sta**	**52.00**	**72**		IAmb	IAmb	14 25 46.1	
	comp=Z,218nm,1.6s							
ACSO					IAMs_20	IAMs_20	14 47 35.9	
	comp=Z,7µm,19.0s							
ACSO	**Alum Creek Sta**	**52.00**	**72**		P	**P**	**14 25 33.7**	**-0.6**
	baz=314							
ACSO					S	**S**	**14 32 54.3**	**-2.4**
	baz=314							
SOEG	**Soedalen**	**52.10**	**21**	*i*	P	**P**	**14 25 34.9**	**+0.3**
WVT	**Waverly**	**52.12**	**79**		P	**P**	**14 25 34.6**	**-0.6**
WVT					IAmb	IAmb	14 25 48.8	
	comp=Z,161nm,0.7s							
WVT	**Waverly**	**52.12**	**79**		IAMs_20	IAMs_20	14 46 14.4	
	comp=Z,9µm,21.0s							
WVT	**Waverly**	**52.12**	**79**		P	**P**	**14 25 35.1**	**-0.2**
	baz=315							
WVT					S	**S**	**14 32 57.1**	**-1.4**
	baz=315							
WVT	**Waverly**	**52.12**	**79**		P	**P**	**14 25 34.6**	**-0.6**
WVT					pmax	pmax		
	comp=Z,161nm,0.7s							
XLT	**XiLinHaoTe**	**52.24**	**295⇑**	*i*	P	**P**	**14 25 35.5**	**-0.7**
XLT					pP	sP	14 25 46.0	+2.5
XLT					sP	pP	14 25 49.9	+8.5
XLT					PP	**PP**	**14 27 34.5**	**+0.2**
XLT					S	**S**	**14 32 58.6**	**-1.5**
XLT					sS	sS	14 33 11.3	+2.5
XLT					ScS	**ScS**	**14 35 20.3**	**-4.9**
XLT					SS	SS	14 36 27.4	-10
XLT					pmax	pmax		
	comp=Z,580nm,1.1s							
XLT					pmax	pmax		
	comp=Z,740nm,6.5s							
XLT					LR	LR		
	comp=Z,550nm,17.9s							
XLT					LR	LR		
	comp=Z,3µm,18.7s							
XLT					LR	LR		
	comp=Z,7µm,18.7s							
J54A	**Appleton**	**52.28**	**66**		IAmb	IAmb	14 25 46.9	
	comp=Z,131nm,0.8s							
XMAS	**Kiritimati**	**52.32**	**176**		IAMs_20	IAMs_20	14 42 46.8	
	comp=Z,7µm,20.0s							
ERPA	**Erie**	**52.34**	**68**		IAmb	IAmb	14 25 52.0	
	comp=Z,313nm,1.3s							
ERPA					IAMs_20	IAMs_20	14 49 36.0	
	comp=Z,6µm,18.0s							
ERPA	**Erie**	**52.34**	**68**		P	**P**	**14 25 36.3**	**-0.5**
	baz=313,SNR=9.3							
ERPA					S	**S**	**14 32 58.2**	**-3.3**
	baz=313							
OXF	**Oxford**	**52.35**	**82**		IAMs_20	IAMs_20	14 46 28.9	
	comp=Z,6µm,20.0s							
OXF	**Oxford**	**52.35**	**82**		P	**P**	**14 25 36.5**	**-0.6**
	baz=316,SNR=17							
OXF					S	**S**	**14 32 58.9**	**-2.8**
	baz=316							
IRK	**Irkutsk**	**52.40**	**309**	*e*	P	**P**	**14 25 36.1**	**-1.1**
IRK					pmax	pmax		
	comp=Z,610nm,1.2s							
TRQ	**Mont Tremblant**	**52.41**	**61**		IAMs_20	IAMs_20	14 48 42.6	
	comp=Z,7µm,20.0s							
HBVL	**Hebbronville**	**52.42**	**95**		IAmb	IAmb	14 27 02.7	
	comp=Z,127nm,1.4s							
M53A	**Wt Miller and**	**52.44**	**69**		IAmb	IAmb	14 25 39.9	
	comp=Z,100nm,0.8s							
M53A	**Wt Miller and**	**52.44**	**69**		P	**P**	**14 25 37.2**	**-0.3**
	baz=314,SNR=26							
M53A					S	**S**	**14 32 59.2**	**-3.6**
	baz=314							
ISOG	**Isortoq, Green**	**52.44**	**26**	*i*	P	**P**	**14 25 36.7**	**-0.5**
P51A	**Williamsport**	**52.47**	**73**		IAmb	IAmb	14 25 49.5	
	comp=Z,243nm,1.6s							
143A	**Socs Landing,**	**52.50**	**85**		IAmb	IAmb	14 25 52.9	
	comp=Z,184nm,0.9s							
ALLY	**Alegheny Colle**	**52.58**	**69**		IAMs_20	IAMs_20	14 49 45.3	
	comp=Z,5µm,20.0s							
R50A	**Paris**	**52.60**	**75**		IAmb	IAmb	14 26 04.5	
	comp=Z,100nm,1.0s							
DL2	**Dalian**	**52.64**	**287**		P	**P**	**14 25 38.5**	**-0.6**
DL2					PP	**PP**	**14 27 41.0**	**+3.0**
DL2					S	**S**	**14 33 03.3**	**-2.3**
DL2					pmax	pmax		
	comp=Z,310nm,1.1s							
DL2					pmax	pmax		
	comp=Z,1µm,5.3s							
DL2					LR	LR		
	comp=Z,6µm,20.2s							
DL2					LR	LR		
	comp=Z,5µm,22.2s							
DL2					LR	LR		
	comp=Z,7µm,17.9s							
O52A	**Adamsville**	**52.71**	**71**		IAmb	IAmb	14 25 58.5	
	comp=Z,376nm,1.7s							
J55A	**Hilton**	**52.72**	**66**		IAmb	IAmb	14 25 50.5	
	comp=Z,96nm,0.9s							
J55A					IAMs_20	IAMs_20	14 47 59.9	
	comp=Z,7µm,19.0s							
ANGG	**Ammassalik, Gr**	**52.73**	**26**		IAMs_20	IAMs_20	14 51 32.6	
	comp=Z,8µm,20.0s							
ANGG	**Ammassalik, Gr**	**52.73**	**26**	*i*	P	**P**	**14 25 38.7**	**-0.7**
Y45A	**Yeager Farm, C**	**52.74**	**82**		IAmb	IAmb	14 25 53.9	
	comp=Z,162nm,1.1s							
Y45A					IAMs_20	IAMs_20	14 47 00.1	
	comp=Z,6µm,20.0s							
N53A	**Lisbon**	**52.78**	**70**		IAmb	IAmb	14 25 59.5	
	comp=Z,116nm,1.1s							
N53A					IAMs_20	IAMs_20	14 51 42.7	
	comp=Z,5µm,18.0s							
PLAL	**Pickwick Lake**	**52.79**	**80**		P	**P**	**14 25 39.8**	**-0.5**
PLAL					IAmb	IAmb	14 25 56.9	
	comp=Z,139nm,1.1s							
PLAL					IAMs_20	IAMs_20	14 47 30.3	
	comp=Z,5µm,20.0s							
WBO	**Williamsburg**	**52.87**	**63**		IAmb	IAmb	14 25 55.5	
	comp=Z,137nm,0.9s							
WBO					IAMs_20	IAMs_20	14 48 46.7	
	comp=Z,7µm,20.0s							
P52A	**Corning**	**52.88**	**72**		IAmb	IAmb	14 25 57.9	
	comp=Z,220nm,1.6s							
P52A					IAMs_20	IAMs_20	14 48 03.4	
	comp=Z,7µm,20.0s							
P52A	**Corning**	**52.88**	**72**		P	**P**	**14 25 39.5**	**-1.4**
	baz=314							
P52A					S	**S**	**14 33 04.9**	**-4.0**
	baz=314							
LDAQ	**Lac Daran**	**52.89**	**57**		IAmb	IAmb	14 25 53.7	
	comp=Z,105nm,1.2s							
LDAQ					IAMs_20	IAMs_20	14 48 29.0	
	comp=Z,7µm,20.0s							
WVNY	**West Valley, N**	**52.89**	**67**		IAmb	IAmb	14 25 51.4	
	comp=Z,118nm,0.8s							
SSFO	**Shawnee State**	**52.94**	**73**		IAmb	IAmb	14 25 54.2	
	comp=Z,280nm,1.1s							
O53A	**New Philadelph**	**52.96**	**71**		IAMs_20	IAMs_20	14 48 16.5	
	comp=Z,5µm,19.0s							
O53A	**New Philadelph**	**52.96**	**71**		P	**P**	**14 25 40.6**	**-0.8**
	baz=314,SNR=12							
O53A					S	**S**	**14 33 06.2**	**-3.8**
	baz=314							
CLTN	**Cedars of Leba**	**53.00**	**78**		IAmb	IAmb	14 26 03.0	
	comp=Z,245nm,1.2s							
U49A	**Red Boiling Sp**	**53.02**	**77**		IAMs_20	IAMs_20	14 47 16.2	
	comp=Z,9µm,20.0s							
IVI	**Ivigtut**	**53.05**	**34**	*i*	P	**P**	**14 25 42.4**	**+0.6**
T50A	**Nancy**	**53.19**	**76**		IAmb	IAmb	14 26 09.1	
	comp=Z,78nm,0.9s							
J56A	**Wolcott**	**53.23**	**65**		IAmb	IAmb	14 25 58.5	
	comp=Z,118nm,1.0s							
J56A					IAMs_20	IAMs_20	14 48 45.2	
	comp=Z,5µm,19.0s							
Q52A	**Bidwell**	**53.27**	**72**		IAmb	IAmb	14 26 01.1	
	comp=Z,204nm,1.6s							
JMIC	**Jan Mayen**	**53.32**	**11**	*e*	P	**P**	**14 25 43.6**	**0.0**
JMIC					IVmBBB		14 25 45.7	
	comp=Z,2µm,1.5s							
JMIC				*e*	S	**S**	**14 33 15.8**	**+1.8**
JMIC	**Jan Mayen**	**53.32**	**11**		LR	LR	14 48 40.2	
	comp=Z,5µm,20.9s,baz=338,slow=36							
JMI	**Jan Mayen**	**53.35**	**11**	*e*	P	**P**	**14 25 44.6**	**+0.8**
VBMS	**Vicksburg**	**53.36**	**84**		IAMs_20	IAMs_20	14 49 58.7	
	comp=Z,4µm,18.0s							
VBMS	**Vicksburg**	**53.36**	**84**		P	**P**	**14 25 44.0**	**-0.5**
	baz=317							
VBMS					S	**S**	**14 33 14.9**	**-0.7**
	baz=317							
MNTQ	**Montreal, Queb**	**53.38**	**61**		IAmb	IAmb	14 25 58.5	
	comp=Z,107nm,1.2s							
MNTQ					IAMs_20	IAMs_20	14 49 11.1	
	comp=Z,7µm,20.0s							
P53A	**Whipple**	**53.40**	**71**		IAMs_20	IAMs_20	14 48 29.9	
	comp=Z,6µm,19.0s							
M55A	**Ridgway**	**53.45**	**68**		IAMs_20	IAMs_20	14 52 06.3	
	comp=Z,5µm,18.0s							
S51A	**Beattyville**	**53.46**	**75**		IAmb	IAmb	14 25 53.1	
	comp=Z,76nm,0.9s							
O54A	**Avella**	**53.47**	**70**		IAmb	IAmb	14 26 04.6	
	comp=Z,105nm,0.8s							
O54A					IAMs_20	IAMs_20	14 48 41.8	
	comp=Z,6µm,19.0s							
LONY	**Lake Ozonia**	**53.49**	**62**		IAmb	IAmb	14 25 60.0	
	comp=Z,103nm,1.1s							
LONY					IAMs_20	IAMs_20	14 49 05.1	
	comp=Z,7µm,19.0s							
LONY	**Lake Ozonia**	**53.49**	**62**		P	**P**	**14 25 44.7**	**-0.7**
	baz=314,SNR=20							
LONY					S	**S**	**14 33 14.2**	**-2.8**
	baz=314							
LMQ	**La Malbaie**	**53.62**	**57**		IAMs_20	IAMs_20	14 51 03.4	
	comp=Z,8µm,20.0s							
L56A	**Greenwood**	**53.64**	**67**		IAmb	IAmb	14 25 47.5	
	comp=Z,259nm,1.2s							
ICQ	**Pointe Anglais**	**53.73**	**54**		IAmb	IAmb	14 25 47.8	
	comp=Z,235nm,1.1s							
X48A	**Hartselle**	**53.76**	**80**		IAmb	IAmb	14 26 00.0	
	comp=Z,55nm,0.7s							
X48A					IAMs_20	IAMs_20	14 47 15.0	
	comp=Z,5µm,20.0s							
K57A	**Scipio Center**	**53.78**	**65**		IAmb	IAmb	14 26 02.7	
	comp=Z,97nm,0.9s							
K57A					IAMs_20	IAMs_20	14 48 33.0	
	comp=Z,5µm,20.0s							
SWET	**Sewanee**	**53.85**	**78**		IAmb	IAmb	14 26 00.7	
	comp=Z,49nm,0.7s							
146A	**Union**	**53.91**	**83**		IAMs_20	IAMs_20	14 52 54.0	
	comp=Z,6µm,18.0s							
NRS	**Narsarsuaq**	**53.97**	**33**		IAmb	IAmb	14 25 50.2	
	comp=Z,189nm,1.0s							
NRS	**Narsarsuaq**	**53.97**	**33**	*i*	P	**P**	**14 25 49.0**	**+0.4**
Q54A	**Coxs Mills**	**54.05**	**72**		IAMs_20	IAMs_20	14 48 50.4	
	comp=Z,6µm,19.0s							
Z47A	**Carrollton**	**54.07**	**82**		IAMs_20	IAMs_20	14 47 22.3	
	comp=Z,6µm,21.0s							
ULN	**Ulaanbaatar**	**54.10**	**304**		P	**P**	**14 25 50.0**	**0.0**
ULN	**Ulaanbaatar**	**54.10**	**304**	*ce*	P	**P**	**14 25 49.4**	**-0.6**
ULN					pmax	pmax		
	comp=Z,287nm,1.3s							
MCWV	**Mont Chateau**	**54.13**	**70**		IAmb	IAmb	14 26 01.7	
	comp=Z,187nm,1.2s							
MCWV					IAMs_20	IAMs_20	14 49 02.3	
	comp=Z,8µm,19.0s							
MCWV	**Mont Chateau**	**54.13**	**70**		P	**P**	**14 25 49.6**	**-0.4**
	baz=315,SNR=12							
MCWV					S	**S**	**14 33 22.1**	**-3.7**
	baz=315							
NCB	**Newcomb**	**54.13**	**63**		IAmb	IAmb	14 26 03.8	
	comp=Z,224nm,1.4s							
NCB					IAMs_20	IAMs_20	14 49 14.9	
	comp=Z,7µm,19.0s							
ZAK	**Zakamensk**	**54.13**	**308**	*e*	P	**P**	**14 25 49.6**	**-0.5**
ZAK				*e*			14 26 53.1	
ZAK					pmax	pmax		
	comp=Z,127nm,1.3s							
W50A	**Signal Mountai**	**54.22**	**78**		IAmb	IAmb	14 26 04.3	
	comp=Z,73nm,0.7s							
TZTN	**Tazewell**	**54.26**	**76**		IAmb	IAmb	14 26 03.7	
	comp=Z,261nm,1.4s							
TZTN	**Tazewell**	**54.26**	**76**		P	**P**	**14 25 50.4**	**-0.7**
	baz=316,SNR=19							
TZTN					S	**S**	**14 33 25.9**	**-1.8**
	baz=316							
J59A	**Piesco**	**54.33**	**63**		IAmb	IAmb	14 26 04.5	
	comp=Z,89nm,1.1s							
J59A					IAMs_20	IAMs_20	14 49 12.4	
	comp=Z,6µm,18.0s							
M57A	**Sunshine Farm,**	**54.43**	**67**		IAmb	IAmb	14 26 07.4	
	comp=Z,153nm,1.2s							
M57A					IAMs_20	IAMs_20	14 48 54.1	
	comp=Z,9µm,21.0s							
BINY	**Binghamton**	**54.44**	**65**		IAmb	IAmb	14 26 06.4	
	comp=Z,180nm,1.1s							
BINY					IAMs_20	IAMs_20	14 49 03.2	
	comp=Z,6µm,20.0s							
BINY	**Binghamton**	**54.44**	**65**		P	**P**	**14 25 51.7**	**-0.5**
	baz=314,SNR=19							
BINY					S	**S**	**14 33 29.9**	**0.0**
	baz=314							
SONM	**Songino Array**	**54.44**	**304**		P	**P**	**14 25 52.5**	**+0.1**
SONM					PcP	**PcP**	**14 26 56.5**	**+0.6**
SONM	**Songino Array**	**54.44**	**304**		P	**P**	**14 25 52.7**	**+0.3**
	comp=Z,173nm,1.0s,baz=48,slow=6.5,SNR=434							
SONM					PcP	**PcP**	**14 26 56.2**	**+0.3**
	comp=Z,59nm,0.9s,baz=28,slow=2.1,SNR=7.0							
SONM					ScP	**ScP**	**14 30 53.2**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=80,slow=11,SNR=3.0							
SONM					S	**S**	**14 33 29.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=59,slow=12,SNR=1.9							
SONM					LR	LR	14 51 43.3	
	comp=Z,15µm,18.4s,baz=40,slow=39							
	comp=Z,173nm,1.0s							
SSPA	**Standing Stone**	**54.51**	**68**		P	**P**	**14 25 51.4**	**-1.4**
SSPA					IAmb	IAmb	14 26 04.7	
	comp=Z,155nm,1.0s							
SSPA	**Standing Stone**	**54.51**	**68**		IAMs_20	IAMs_20	14 51 01.3	
	comp=Z,7µm,18.0s							
SSPA	**Standing Stone**	**54.51**	**68**		P	**P**	**14 25 52.4**	**-0.4**
	baz=315							
SSPA					S	**S**	**14 33 27.9**	**-3.0**
	baz=315							
FPAL	**Fort Paine**	**54.52**	**79**		IAmb	IAmb	14 26 06.3	
	comp=Z,160nm,1.1s							
FPAL					IAMs_20	IAMs_20	14 48 00.0	
	comp=Z,8µm,20.0s							
Y49A	**Blount Mountai**	**54.55**	**80**		IAmb	IAmb	14 26 05.8	
	comp=Z,82nm,0.8s							
Y49A					IAMs_20	IAMs_20	14 47 26.9	
	comp=Z,6µm,22.0s							
D62A	**Allapoint, All**	**54.57**	**57**		IAmb	IAmb	14 25 54.0	
	comp=Z,133nm,1.1s							
S54A	**Dingess, Beckl**	**54.62**	**73**		IAmb	IAmb	14 26 05.5	
	comp=Z,175nm,1.5s							
VT1	**Waterbury**	**54.63**	**62**		IAmb	IAmb	14 26 08.4	
	comp=Z,129nm,1.1s							
E62A	**Clayton Lake**	**54.66**	**58**		IAmb	IAmb	14 25 54.3	
	comp=Z,82nm,1.1s							
E62A					IAMs_20	IAMs_20	14 49 33.0	
	comp=Z,7µm,21.0s							
V52A	**Sevierville**	**54.73**	**76**		IAmb	IAmb	14 26 15.2	
	comp=Z,110nm,0.9s							
TKL	**Tuckaleechee C**	**54.76**	**76**		IAmb	IAmb	14 26 18.6	
	comp=Z,131nm,1.2s							
TKL	**Tuckaleechee C**	**54.76**	**76**		LR	LR	14 48 53.0	
	comp=Z,9µm,19.3s,baz=326,slow=36							
LRAL	**Lakeview Retre**	**54.81**	**81**		IAMs_20	IAMs_20	14 47 23.7	
	comp=Z,6µm,22.0s							
LRAL	**Lakeview Retre**	**54.81**	**81**		P	**P**	**14 25 53.5**	**-1.5**
	baz=317,SNR=10							
LRAL					S	**S**	**14 33 30.7**	**-4.4**
	baz=317							
BJI	**Beijing**	**54.86**	**291**		P	**P**	**14 25 55.0**	**-0.3**
BJI					sP	**sP**	**14 26 01.1**	**-1.5**
BJI					S	**S**	**14 33 36.0**	**+0.4**
BJI					ScS	**ScS**	**14 35 44.4**	**+0.9**
BJI					pmax	pmax		
	comp=Z,48nm,1.3s							
BJI					pmax	pmax		
	comp=Z,720nm,5.1s							
BJI					LR	LR		
	comp=Z,3µm,15.7s							
BJI					LR	LR		
	comp=Z,2µm,17.2s							
BJI					LR	LR		
	comp=Z,3µm,15.3s							
BJT	**Baijiatuau**	**54.88**	**291**		P	**P**	**14 25 56.4**	**+0.9**
BJT	**Baijiatuau**	**54.88**	**291**		IAmb	IAmb	14 25 56.8	
	comp=Z,189nm,1.4s							
BJT	**Baijiatuau**	**54.88**	**291**		IAMs_20	IAMs_20	14 52 47.0	
	comp=Z,7µm,18.0s							
Q56A	**Snyder Ridge,**	**54.92**	**70**		IAmb	IAmb	14 26 58.3	
	comp=Z,109nm,1.4s							
Q56A					IAMs_20	IAMs_20	14 49 35.4	
	comp=Z,7µm,19.0s							
X51A	**Calhoun**	**54.93**	**78**		IAmb	IAmb	14 26 16.4	
	comp=Z,94nm,0.9s							
L59A	**Walton**	**54.94**	**65**		IAmb	IAmb	14 26 11.9	
	comp=Z,140nm,1.0s							
L59A					IAMs_20	IAMs_20	14 49 47.6	
	comp=Z,4µm,19.0s							
R55A	**Marlinton**	**54.95**	**72**		IAmb	IAmb	14 26 13.9	
	comp=Z,104nm,1.1s							
R55A					IAMs_20	IAMs_20	14 49 27.0	
	comp=Z,7µm,19.0s							
F62A	**Pittston Farm,**	**54.95**	**59**		IAMs_20	IAMs_20	14 49 20.6	
	comp=Z,4µm,20.0s							
N58A	**Sunbury**	**55.00**	**67**		IAmb	IAmb	14 26 11.8	
	comp=Z,108nm,0.9s							
N58A					IAMs_20	IAMs_20	14 49 12.2	
	comp=Z,8µm,20.0s							
W52A	**Murphy**	**55.08**	**77**		IAmb	IAmb	14 26 08.5	
	comp=Z,178nm,1.6s							
LBNH	**Lisbon**	**55.12**	**61**		IAmb	IAmb	14 26 12.1	
	comp=Z,78nm,1.0s							
LBNH					IAMs_20	IAMs_20	14 50 15.3	
	comp=Z,8µm,20.0s							
LBNH	**Lisbon**	**55.12**	**61**		P	**P**	**14 25 56.3**	**-0.9**
	baz=315,SNR=9.7							
LBNH					S	**S**	**14 33 35.8**	**-3.2**
	baz=315							
G62A	**West of Eustis**	**55.14**	**59**		IAmb	IAmb	14 26 10.2	
	comp=Z,106nm,1.0s							
G62A					IAMs_20	IAMs_20	14 52 09.7	
	comp=Z,7µm,19.0s							
HAMF	**Hammerfest**	**55.16**	**358**	*e*	P	**P**	**14 25 55.8**	**-1.3**
HAMF					IVmB_BB		14 25 56.2	
	comp=Z,2µm,2.4s							
HAMF				*e*	S	**S**	**14 33 36.0**	**-2.8**
HAMF					IVMs_BB	IVMs_BB	14 52 53.6	
	comp=Z,1µm,17.8s							
U54A	**Nelsons Funny**	**55.25**	**74**		IAmb	IAmb	14 26 11.2	
	comp=Z,150nm,1.1s							
P57A	**Homestead Farm**	**55.25**	**69**		P	**P**	**14 25 57.6**	**-0.6**
P57A					IAmb	IAmb	14 25 58.9	
	comp=Z,154nm,1.1s							
P57A					IAMs_20	IAMs_20	14 49 14.0	
	comp=Z,4µm,21.0s							
H62A	**Milan**	**55.28**	**60**		IAmb	IAmb	14 26 13.1	
	comp=Z,150nm,1.1s							
H62A					IAMs_20	IAMs_20	14 49 28.4	
	comp=Z,6µm,19.0s							
HNH	**Hanover**	**55.31**	**62**		IAmb	IAmb	14 26 11.8	
	comp=Z,62nm,0.9s							
PQI	**Presque Isle**	**55.37**	**57**		IAMs_20	IAMs_20	14 51 54.5	
	comp=Z,8µm,20.0s							
J61A	**Chester**	**55.43**	**62**		IAmb	IAmb	14 26 14.8	
	comp=Z,77nm,1.0s							
VADS	**Vadso**	**55.50**	**356**	*e*	P	**P**	**14 25 58.5**	**-1.0**
VADS					IVmB_BB		14 25 59.4	
	comp=Z,3µm,1.4s							
VADS				*e*	S	**S**	**14 33 39.4**	**-4.0**
VADS					IVMs_BB	IVMs_BB	14 55 21.8	
	comp=Z,2µm,16.8s							
F63A	**Nahmakanta, Br**	**55.52**	**58**		IAmb	IAmb	14 26 21.0	
	comp=Z,60nm,0.8s							
F63A					IAMs_20	IAMs_20	14 50 48.5	
	comp=Z,4µm,18.0s							
BLA	**Blacksburg**	**55.54**	**73**		IAmb	IAmb	14 26 06.7	
	comp=Z,78nm,0.8s							
BLA	**Blacksburg**	**55.54**	**73**		P	**P**	**14 25 59.8**	**-0.5**
	baz=316,SNR=14							
BLA					S	**S**	**14 33 42.2**	**-2.8**
	baz=316							
I62A	**Tamworth**	**55.68**	**61**		IAMs_20	IAMs_20	14 50 32.1	
	comp=Z,8µm,20.0s							
BG3	**Lake Jocassee**	**55.72**	**76**		IAmb	IAmb	14 26 14.0	
	comp=Z,162nm,1.3s							
PKME	**Peaks-Kenny Pk**	**55.73**	**59**		IAmb	IAmb	14 26 14.2	
	comp=Z,122nm,1.2s							
PKME					IAMs_20	IAMs_20	14 49 45.3	
	com

comp=Z,81nm,1.0s
WVL IAMs_20 IAMs_20 14 52 47.5
comp=Z,7μm,19.0s
V55A Taylorsville 56.07 74 IAmb IAmb 14 26 16.7
comp=Z,142nm,1.2s
K62A Royalston 56.08 63 IAmb IAmb 14 26 14.6
comp=Z,88nm,0.8s
K62A IAMs_20 IAMs_20 14 50 34.6
comp=Z,7μm,19.0s
TRNY Table Rock, Ra 56.11 65 IAMs_20 IAMs_20 14 50 24.6
comp=Z,5μm,19.0s
BRAL Brewton 56.14 83 IAmb IAmb 14 26 18.2
comp=Z,175nm,0.9s
BRAL IAMs_20 IAMs_20 14 49 09.2
comp=Z,6μm,20.0s
BRAL Brewton 56.14 83 P **P** **14 26 04.3 -0.3**
baz=318
BRAL S **S** **14 33 51.1 -1.8**
baz=318
U56A King 56.18 73 IAmb IAmb 14 26 17.6
comp=Z,196nm,1.4s
TRO Tromso 56.22 0 *e*P **P** **14 26 04.1 -0.5**
TRO IVmB_BB 14 26 04.9
comp=Z,4μm,1.8s
TRO *e*S **S** **14 33 50.3 -2.5**
TRO IVMs_BB IVMs_BB 14 47 17.9
comp=Z,1μm,24.5s
ARCES ARCESS Array B 56.23 357 P P 14 26 03.0 -1.7
ARCES IAmb IAmb 14 26 05.2
comp=Z,157nm,1.0s
ARCES ARCESS Array B 56.23 357 P **P** **14 26 03.8 -0.9**
comp=Z,83nm,0.7s,baz=10,slow=7.4,SNR=189
ARCES PcP **PcP** **14 27 01.8 -0.3**
comp=Z,50nm,0.9s,baz=14,slow=6.2,SNR=4.2
ARCES LR LR 14 51 25.5
comp=Z,4μm,18.8s,baz=358,slow=37
comp=Z,83nm,0.7s
WUPA West Chester U 56.24 67 IAMs_20 IAMs_20 14 50 00.0
comp=Z,5μm,20.0s
BRNJ Basking Ridge 56.26 66 IAmb IAmb 14 26 08.5
comp=Z,106nm,0.8s
PAL Palisades 56.38 65 IAmb IAmb 14 26 20.9
comp=Z,136nm,1.3s
PAL IAMs_20 IAMs_20 14 49 34.7
comp=Z,5μm,20.0s
PAL Palisades 56.38 65 P **P** **14 26 06.2 0.0**
baz=316,SNR=6.0
PAL S **S** **14 33 55.4 -0.5**
baz=316
152A Waverly Hall 56.39 80 IAmb IAmb 14 26 18.4
comp=Z,47nm,0.7s
152A IAMs_20 IAMs_20 14 48 47.7
comp=Z,6μm,22.0s
R58B Mineral 56.41 70 IAmb IAmb 14 26 22.2
comp=Z,130nm,1.2s
PAULI Pauline 56.48 76 IAmb IAmb 14 26 18.3
comp=Z,92nm,1.2s
CPNY Central Park 56.51 65 IAmb IAmb 14 26 20.5
comp=Z,90nm,1.1s
CBN Corbin Frederi 56.52 70 IAmb IAmb 14 26 22.6
comp=Z,200nm,1.2s
CBN IAMs_20 IAMs_20 14 50 43.5
comp=Z,6μm,19.0s
CBN Corbin Frederi 56.52 70 P **P** **14 26 06.6 -0.6**
baz=316
CBN S **S** **14 33 54.8 -2.9**
baz=316
KMSC Kings Mountain 56.52 75 IAmb IAmb 14 26 19.5
comp=Z,234nm,1.4s
KMSC Kings Mountain 56.52 75 P **P** **14 26 06.5 -0.8**
baz=317,SNR=15
KMSC S **S** **14 33 53.9 -3.9**
baz=317
HRV Adam Dziewonsk 56.54 62 P **P** **14 26 06.3 -1.0**
HRV Adam Dziewonsk 56.54 62 P **P** **14 26 07.1 -0.3**
baz=316
HRV S **S** **14 33 56.5 -1.5**
baz=316
HRV Adam Dziewonsk 56.54 62 P **P** **14 26 06.3 -1.0**
HRV pmax pmax
comp=Z,62nm,1.1s
HRV MLR MLR
comp=Z,8μm,19.0s
GOGA Godfrey 56.56 78 P **P** **14 26 06.0 -1.6**
baz=317,SNR=9.6
GOGA S **S** **14 33 53.7 -4.8**
baz=317
JMZ Minamidaito 2 56.63 268 P **P** **14 26 09.0 +0.8**
G65A Princeton 56.63 58 IAmb IAmb 14 26 22.5
comp=Z,79nm,1.1s
G65A IAMs_20 IAMs_20 14 51 33.3
comp=Z,5μm,19.0s
HODGE Hodges 56.65 77 IAmb IAmb 14 26 16.2
comp=Z,69nm,1.0s
N62A Caumsett State 56.67 65 IAMs_20 IAMs_20 14 50 49.5
comp=Z,5μm,18.0s
UCCT U. Connecticut 56.70 63 IAmb IAmb 14 26 22.0
comp=Z,101nm,1.0s
UCCT IAMs_20 IAMs_20 14 50 43.1
comp=Z,4μm,19.0s
WES Weston 56.75 62 IAmb IAmb 14 26 19.7
comp=Z,132nm,1.1s
HHC Hu-ho-hao-te 56.76 295⇑ *i*P **P** **14 26 09.3 +0.2**
HHC sP sP 14 26 16.3 -0.1
HHC *e*S **S** **14 34 01.5 +0.4**
HHC sS sS 14 34 11.1 +1.2
HHC pmax pmax
comp=Z,210nm,1.3s
HHC pmax pmax
comp=Z,790nm,4.9s
HHC LR LR
comp=Z,5μm,16.3s
HHC LR LR
comp=Z,6μm,15.5s
HHC LR LR
comp=Z,10μm,17.1s
KTK1 Kautokeino 56.80 358 *e*P **P** **14 26 07.6 -1.3**
EMMW East Machias 57.04 58 IAmb IAmb 14 26 23.3
comp=Z,104nm,1.1s
EMMW IAMs_20 IAMs_20 14 53 01.1
comp=Z,6μm,20.0s
GGN Saint George 57.05 57 IAmb IAmb 14 26 23.3
comp=Z,79nm,1.0s
TIA Tai'an 57.07 287 P **P** **14 26 10.8 -0.4**
TIA sP **sP** **14 26 17.8 -0.8**
TIA S **S** **14 34 07.3 +2.1**
TIA pmax pmax
comp=Z,160nm,1.4s
TIA pmax pmax
comp=Z,2μm,8.8s
TIA LR LR
comp=Z,5μm,21.6s
TIA LR LR
comp=Z,4μm,24.5s
TIA LR LR
comp=Z,7μm,21.9s
M63A Gales Ferry 57.08 64 IAmb IAmb 14 26 21.6
comp=Z,139nm,0.8s
M63A IAMs_20 IAMs_20 14 50 46.2
comp=Z,4μm,19.0s
TARA Tarawa 57.11 212 P **P** **14 26 13.2 +1.6**
TARA Tarawa 57.11 212 IAMs_20 IAMs_20 14 45 12.2
comp=Z,7μm,21.0s
BORG Borgarnes 57.13 19 P **P** **14 26 11.6 +0.4**
BORG Borgarnes 57.13 19 P **P** **14 26 11.6 +0.4**
BORG pmax pmax
comp=Z,350nm,1.3s
BORG MLR MLR
comp=Z,4μm,21.0s
352A Blakely 57.14 81 IAmb IAmb 14 26 24.5
comp=Z,163nm,0.9s
352A IAMs_20 IAMs_20 14 49 18.7
comp=Z,4μm,20.0s
W57A Gilead 57.26 74 IAmb IAmb 14 26 24.7
comp=Z,92nm,1.2s
V58A Windy Hill, Pi 57.29 73 IAmb IAmb 14 26 25.4
comp=Z,165nm,1.1s
451A Vernon 57.30 82 IAMs_20 IAMs_20 14 49 55.1
comp=Z,5μm,20.0s
T59A Double "B" Far 57.30 71 IAmb IAmb 14 26 13.7
comp=Z,178nm,1.2s
T59A IAMs_20 IAMs_20 14 54 26.6
comp=Z,6μm,18.0s
154A Montrose 57.35 78 IAmb IAmb 14 26 33.2
comp=Z,126nm,1.0s
BIRD Birdtown, Kers 57.37 75 IAmb IAmb 14 26 24.8
comp=Z,97nm,1.2s
LVZ Lovozero 57.41 353 P **P** **14 26 12.2 -1.0**
LVZ IAMs_20 IAMs_20 14 52 26.8
comp=Z,7μm,19.0s
LVZ Lovozero 57.41 353 *ce*P **P** **14 26 11.9 -1.3**
LVZ pmax pmax
comp=Z,631nm,1.3s
LVZ MLR MLR
comp=Z,7μm,18.0s
LVZ Lovozero 57.41 353 P **P** **14 26 12.6 -0.6**
comp=Z,488nm,1.5s,comp=Z,5μm
LMN Caledonia Moun 57.51 55 IAmb IAmb 14 26 26.0
comp=Z,137nm,0.8s
R61A Willards 57.53 68 IAMs_20 IAMs_20 14 52 37.5
comp=Z,7μm,18.0s
HNS HongShan 57.55 290⇑ P **P** **14 26 15.1 +0.6**
HNS pmax pmax
comp=Z,470nm,1.3s
HNS pmax pmax
comp=Z,2μm,3.5s
HNS LR LR
comp=Z,5μm,18.4s
HNS LR LR
comp=Z,7μm,19.7s
HNS LR LR
comp=Z,8μm,21.8s
JOW Kunigami 57.59 272 P **P** **14 26 15.4 +0.4**
JOW Kunigami 57.59 272 LR LR 14 51 44.3
comp=Z,980nm,20.3s,baz=54,slow=37
LOF Lofoten 57.66 2 *e*P **P** **14 26 13.9 -0.9**
LOF IVmBBB 14 26 16.8
comp=Z,1μm,1.3s
LOF *e*S **S** **14 34 11.0 -0.9**
M65A Busby, Falmout 57.69 63 P **P** **14 26 14.6 -0.8**
baz=316
BTO Baotou 57.75 296⇑ *i*P **P** **14 26 15.8 -0.3**
BTO pP **sP** **14 26 25.8 +2.4**
BTO sP pP 14 26 30.0 +8.6
BTO PP **PP** **14 28 24.6 +0.8**
BTO S **S** **14 34 13.3 -0.9**
BTO sS sS 14 34 28.8 +5.9
BTO SS **SS** **14 38 05.9 +1.9**
BTO pmax pmax
comp=Z,490nm,1.4s
BTO pmax pmax
comp=Z,4μm,8.6s
BTO LR LR
comp=Z,13μm,14.5s
BTO LR LR
comp=Z,17μm,15.9s
BTO LR LR
comp=Z,23μm,16.1s
APA Apatity 57.82 354⇓ *i*P P 14 26 13.9 -2.1
APA *i* 14 27 17.2
APA *i* 14 28 22.0
APA *i* S S 14 34 09.0 -5.1
APA *i* PS **PnS** **14 34 22.0 -3.6**
APA *i* 14 35 59.0
APA pmax pmax
comp=Z,65nm,0.9s
APA MLR MLR
comp=Z,6μm,18.0s
S61A Accomac 57.82 69 IAMs_20 IAMs_20 14 53 16.2
comp=Z,6μm,18.0s
STEI Steigen 57.89 2 *e*P **P** **14 26 15.4 -1.1**
STEI IVmB_BB 14 26 16.4
comp=Z,2μm,2.5s
STEI *e*S **S** **14 34 13.8 -1.2**
TIGA Tifton 57.94 80 IAmb IAmb 14 26 37.0
comp=Z,180nm,1.4s
TIGA IAMs_20 IAMs_20 14 49 45.8
comp=Z,5μm,22.0s
TIGA Tifton 57.94 80 P **P** **14 26 17.6 +0.2**
baz=318
TIGA S S 14 34 10.2 -6.4
baz=318
X58A Rowland 58.07 74 IAmb IAmb 14 26 35.0
comp=Z,97nm,1.1s
UNM Universidad Na 58.12 102 IAMs_20 IAMs_20 14 48 54.7
comp=Z,6μm,20.0s
W59A Clinton 58.12 73 IAmb IAmb 14 26 34.0
comp=Z,66nm,0.8s
255A Hazlehurst 58.22 79 IAmb IAmb 14 26 29.9
comp=Z,322nm,1.8s
DRLN Deer Lake 58.36 48 IAmb IAmb 14 26 22.5
comp=Z,120nm,1.0s
CNNC Cliffs of the 58.38 73 P **P** **14 26 20.0 -0.4**
baz=317
553A Crawfordville 58.38 81 IAMs_20 IAMs_20 14 50 28.5
comp=Z,5μm,20.0s
FAUS Fauske 58.44 2 *e*P **P** **14 26 19.9 -0.4**
FAUS IVmB_BB 14 26 20.4
comp=Z,3μm,2.2s
FAUS *e*S **S** **14 34 20.8 -1.5**
SSE Sheshan 58.52 280 P **P** **14 26 21.4 0.0**
SSE S **S** **14 34 21.6 -2.5**
SSE pmax pmax
comp=Z,120nm,1.3s
SSE pmax pmax
comp=Z,830nm,6.3s
SSE LR LR
comp=Z,770nm,18.7s
SSE LR LR
comp=Z,520nm,19.0s
TIY Taiyuan 58.56 292⇑ P **P** **14 26 22.1 +0.3**
TIY sP sP 14 26 32.0 +2.9
TIY S **S** **14 34 28.0 +3.2**
TIY pmax pmax
comp=Z,190nm,1.4s
TIY pmax pmax
comp=Z,1μm,8.5s
TIY LR LR
comp=Z,5μm,17.9s
TIY LR LR
comp=Z,3μm,19.2s
TIY LR LR
comp=Z,4μm,22.7s
GUMO Guam 58.56 248 P **P** **14 26 23.3 +1.4**
GUMO Guam 58.56 248 LR LR 14 48 03.5
comp=Z,1μm,21.8s,baz=42,slow=32
NHSC New Hope 58.66 76 P **P** **14 26 21.9 -0.4**
baz=318
V61A Roper 58.70 71 IAMs_20 IAMs_20 14 55 18.8
comp=Z,4μm,19.0s
HAL Halifax 58.98 56 IAmb IAmb 14 26 59.9
comp=Z,87nm,1.3s
ZALV Zalesovo Beam 59.13 321 P P 14 26 23.9 -1.5
ZALV Zalesovo Beam 59.13 321 P **P** **14 26 25.0 -0.4**
comp=Z,167nm,1.0s,baz=54,slow=7.5,SNR=310
ZALV LR LR 14 54 22.3
comp=Z,25μm,18.4s,baz=38,slow=39
ZALV PKP2bc 14 56 10.2
comp=Z,0.7nm,0.8s,baz=197,slow=3.0,SNR=1.6
comp=Z,167nm,1.0s
ZALV Zalesovo Beam 59.13 321 P P 14 26 23.9 -1.5
NJ2 Nanjing 59.14 283⇑ *i*P **P** **14 26 25.1 -0.6**
NJ2 pP **pP** **14 26 30.3 -0.8**
NJ2 sP sP 14 26 36.4 +3.3
NJ2 PP **PP** **14 28 32.6 -3.5**
NJ2 ScP **ScP** **14 31 12.4 -1.4**
NJ2 S **S** **14 34 29.8 -2.4**
NJ2 pmax pmax
comp=Z,130nm,0.8s
NJ2 pmax pmax
comp=Z,970nm,4.3s
NJ2 LR LR
comp=Z,2μm,21.3s
NJ2 LR LR
comp=Z,3μm,24.8s
NJ2 LR LR
comp=Z,4μm,23.7s
KONS Konsvik 59.28 3 *e*P **P** **14 26 25.9 -0.3**
456A Hilliard 59.37 79 IAMs_20 IAMs_20 14 50 39.6
comp=Z,7μm,21.0s
GBN Guysborough 59.40 54 IAmb IAmb 14 26 28.5
comp=Z,142nm,1.2s
STOK Stokkvaagen 59.44 3 *e*P **P** **14 26 26.3 -1.1**
STOK IVmB_BB 14 26 27.6
comp=Z,3μm,1.2s
STOK *e*S **S** **14 34 35.1 -0.1**
TLIG Tlapa 59.87 102 IAMs_20 IAMs_20 14 47 12.6
comp=Z,5μm,22.0s
656A Willston 60.08 81 IAMs_20 IAMs_20 14 54 54.6
comp=Z,4μm,20.0s
LYN LuoYang 60.87 289⇑ P **P** **14 26 37.8 +0.2**
LYN pP sP 14 26 47.1 +2.2
LYN sP pP 14 26 51.9 +9.0
LYN S **S** **14 34 50.9 -3.5**
LYN sS sS 14 35 09.1 +5.9
LYN pmax pmax
comp=Z,300nm,1.1s
LYN pmax pmax
comp=Z,3μm,3.7s
LYN LR LR
comp=Z,6μm,23.1s
LYN LR LR
comp=Z,7μm,22.2s
LYN LR LR
comp=Z,14μm,22.7s
NSS Namsos 61.22 4 *e*P **P** **14 26 39.1 -0.3**
NSS IVmB_BB 14 26 39.8
comp=Z,3μm,1.1s
NSS *e*S **S** **14 34 54.9 -3.1**
DWPF Disney Wildern 61.66 81 P **P** **14 26 42.0 -1.0**
baz=319
TBLU Trondheim 62.42 4 *e*P **P** **14 26 46.1 -1.6**
TBLU IVmB_BB 14 26 47.0
comp=Z,4μm,1.0s
TBLU *e*S S 14 35 08.4 -4.9
YOJ Yonaguni jima 62.46 274 P **P** **14 26 49.1 +0.7**
JOF Joensuu 62.57 354 *e*P **P** **14 26 48.2 -0.4**
VAF Ylistaro 62.80 358 *e*P **P** **14 26 49.8 -0.3**
WHN Wuhan 62.82 285⇑ P **P** **14 26 50.4 -0.3**
WHN pP **sP** **14 26 58.6 +0.5**
WHN PP **PP** **14 29 09.8 +1.2**
WHN S **S** **14 35 18.8 -0.4**
WHN pmax pmax
comp=Z,300nm,0.8s
WHN pmax pmax
comp=Z,3μm,3.8s
WHN LR LR
comp=Z,7μm,15.0s
WHN LR LR
comp=Z,5μm,13.9s
WHN LR LR
comp=Z,12μm,20.1s
TATO Taipei 62.95 276 IAMs_20 IAMs_20 14 52 17.8
comp=Z,4μm,22.0s
MOL Molde 62.96 6 *e*P **P** **14 26 51.4 +0.2**
MOL IVmB_BB 14 26 51.8
comp=Z,3μm,1.3s
MOL *e*S **S** **14 35 19.6 -0.4**
060A Indiantown 63.10 81 IAMs_20 IAMs_20 14 57 24.1
comp=Z,5μm,18.0s
XAN Xi'an 63.19 292⇑ P **P** **14 26 53.1 -0.2**
XAN pP sP 14 27 02.8 +2.2
XAN PcP **PcP** **14 27 31.8 +1.2**
XAN PcS 14 31 33.6
XAN S **S** **14 35 24.3 +0.4**
XAN sS sS 14 35 37.8 +5.1
XAN ScS **ScS** **14 36 40.8 -4.6**
XAN pmax pmax
comp=Z,310nm,1.5s
XAN pmax pmax
comp=Z,3μm,5.3s
XAN LR LR
comp=Z,9μm,16.3s
XAN LR LR
comp=Z,3μm,19.0s
XAN LR LR
comp=Z,9μm,17.2s
YHNB Yeheng 63.25 275 P **P** **14 26 54.0 +0.2**
YHNB Yeheng 63.25 275 IAmb IAmb 14 26 55.1
comp=Z,82nm,0.9s
YHNB IAMs_20 IAMs_20 14 52 48.8
comp=Z,4μm,22.0s
NACB Ninganchiao 63.50 275 P **P** **14 26 55.2 -0.2**
DOMB Dombas 63.57 5 *e*P **P** **14 26 55.0 -0.4**
DOMB IVmB_BB 14 26 55.6
comp=Z,4μm,0.8s
DOMB *e*S **S** **14 35 29.0 +1.2**
DOMB IVMs_BB IVMs_BB 14 51 33.4
comp=Z,1μm,25.8s
KEF Keuruu 63.62 357 *e*P **P** **14 26 55.1 -0.5**
061Z Ochoppi 63.67 82 IAMs_20 IAMs_20 14 53 52.4
comp=Z,6μm,20.0s
TEIG Tepich 63.73 92 LR LR 14 56 50.4
comp=Z,2μm,18.5s,baz=330,slow=38
FOO Floro 63.76 7 *e*P **P** **14 26 56.5 +0.1**
GTA Gaotai 63.86 302⇑ P **P** **14 26 56.8 -0.9**
GTA sP sP 14 27 04.0 -1.1
GTA PP **PP** **14 29 18.0 +0.2**
GTA S **S** **14 35 30.8 -1.5**
GTA sS pS 14 35 39.1 +0.2
GTA pmax pmax
comp=Z,380nm,1.3s
GTA pmax pmax
comp=Z,2μm,5.6s
GTA LR LR
comp=Z,7μm,18.9s
GTA LR LR
comp=Z,7μm,17.8s
GTA LR LR
comp=Z,12μm,19.6s
KURK Kurchatov 63.99 322 P **P** **14 26 57.4 -0.8**
KURK Kurchatov 63.99 322 *ce*P **P** **14 26 58.0 -0.2**
KURK pmax pmax
comp=Z,585nm,1.3s
KURK MLR MLR
comp=Z,25μm,16.0s
SVE Sverdlovsk 64.03 336 *d i*P **P** **14 26 58.4 +0.1**
SVE *e*S **S** **14 35 30.6 -2.9**
SVE pmax pmax
comp=Z,577nm,1.3s
SVE MLR MLR
comp=Z,9μm,17.0s
KURBB Kurchatov Arra 64.10 322 P **P** **14 26 58.8 -0.1**
comp=Z,313nm,1.1s,baz=36,slow=6.7,SNR=548
KURBB S **S** **14 35 34.4 -0.2**
comp=Z,1.9nm,1.1s,baz=34,slow=9.1,SNR=5.0
KURBB PKPPKP P'P'df 14 55 49.5 -7.4
comp=Z,1.4nm,1.0s,baz=215,slow=2.4,SNR=4.6
KURBB LR LR 14 57 21.0
comp=Z,27μm,18.1s,baz=40,slow=38
comp=Z,313nm,1.1s
KURBB Kurchatov Arra 64.10 322 P **P** **14 26 57.9 -1.0**
VALR Valaam 64.15 354 *c i*P **P** **14 26 58.7 -0.3**
VALR pmax pmax
comp=Z,522nm,1.0s
VALR MLR MLR
comp=Z,2μm,16.0s
SSLB Suanglung 64.17 275 P **P** **14 27 00.1 +0.3**
SSLB Suanglung 64.17 275 IAMs_20 IAMs_20 14 52 35.3
comp=Z,4μm,22.0s
HYA Hoyanger 64.27 7 *e*P **P** **14 26 60.0 +0.1**
HYA *e*S **S** **14 35 36.9 +0.6**
SUE Sulen 64.27 8 *e*P **P** **14 26 59.6 -0.2**
SUE IVmB_BB 14 27 00.1
comp=Z,2μm,3.6s
SUE *e*S **S** **14 35 35.0 -1.4**
YULB Yu-li 64.28 275 P **P** **14 27 00.1 -0.4**
ZSN Zaisan 64.30 317 *e*P **P** **14 27 00.4 0.0**
comp=Z,164nm,0.9s,baz=317
ZSN Zaisan 64.30 317 *e*P **P** **14 27 00.3 0.0**
ZSN pmax pmax
comp=Z,164nm,0.9s
FINES FINESS Array B 64.31 356 P **P** **14 26 58.9 -1.2**
FINES FINESS Array B 64.31 356 P **P** **14 26 59.5 -0.7**
comp=Z,352nm,0.9s,baz=18,slow=6.6,SNR=524
FINES S **S** **14 35 34.1 -2.7**
comp=Z,3.5nm,0.8s,baz=358,slow=19,SNR=4.5
FINES PKPPKP P'P'df 14 55 49.3 -8.1
comp=Z,4.2nm,1.1s,baz=126,slow=7.1,SNR=7.5
FINES LR LR 14 59 08.5
comp=Z,2μm,18.2s,baz=10.0,slow=40
comp=Z,352nm,0.9s
FINES FINESS Array B 64.31 356 *ce*P **P** **14 26 58.7 -1.4**
FINES pmax pmax
comp=Z,351nm,0.9s
LZH Lanzhou 64.35 297⇑ *i*P **P** **14 27 01.3 +0.3**
LZH sP sP 14 27 09.5 +1.1
LZH S S 14 35 31.3 -7.1
LZH pmax pmax
comp=Z,540nm,1.3s
LZH pmax pmax
comp=Z,3μm,4.9s
LZH LR LR
comp=Z,9μm,16.8s
LZH LR LR
comp=Z,7μm,18.3s
LZH LR LR
comp=Z,11μm,16.8s
LRW Lerwick 64.61 11 *e*P **P** **14 27 02.0 -0.1**
LRW IAmb IAmb 14 27 04.0

comp=Z,503nm,0.9s
LRW IAMs_20 IAMs_20 14 55 31.6
comp=Z,5μm,21.4s
QZH Quanzhou 64.66 278⇑ *i*P **P 14 27 02.8 -0.1**
QZH pP **sP 14 27 12.0 +1.7**
QZH S **S 14 35 41.3 -0.8**
QZH sS sS 14 35 56.3 +5.4
QZH pmax pmax
comp=Z,260nm,1.3s
QZH pmax pmax
comp=Z,1μm,4.4s
QZH LR LR
comp=Z,2μm,17.9s
QZH LR LR
comp=Z,2μm,17.9s
QZH LR LR
comp=Z,3μm,28.9s
NB2 NORSAR Subarra 64.68 4 P **P 14 27 02.5 -0.1**
comp=Z,478nm,0.9s,baz=356,slow=6.5
NB2 NORSAR Subarra 64.68 4 P **P 14 27 02.5 -0.1**
baz=356,slow=6.5
NOA NORSAR Array B 64.68 4 P **P 14 27 02.2 -0.4**
comp=Z,317nm,0.9s,baz=355,slow=6.6,SNR=1054
NOA PKPPKP P'P'df 14 55 49.5 -7.5
comp=Z,2.8nm,1.2s,baz=180,slow=3.4,SNR=5.2
comp=Z,317nm,0.9s
KIRV Kirov 64.68 343 LR LR 15 01 28.0
comp=Z,4μm,18.3s,baz=20,slow=42
KIRV Kirov 64.68 343*c*e**P** **P 14 27 02.0 -0.6**
TPUB Ta-pu 64.74 275 P **P 14 27 04.1 +0.6**
BVAR Borovoye Array 64.75 329 P **P 14 27 02.7 -0.5**
comp=Z,277nm,0.8s,baz=45,slow=6.5,SNR=515
BVAR S **S 14 35 41.8 -0.8**
comp=Z,8.1nm,1.1s,baz=339,slow=7.9,SNR=4.3
BVAR PKPPKP P'P'df 14 55 44.5 -12
comp=Z,1.0nm,0.8s,baz=146,slow=0.5,SNR=3.5
BVAR PKP2bc 14 55 54.9
comp=Z,4.0nm,0.9s,baz=204,slow=3.3,SNR=11
BVAR LR LR 14 58 53.2
comp=Z,11μm,18.2s,baz=35,slow=39
BVAR P4KPbc 15 03 56.3
comp=Z,1.3nm,0.8s,baz=35,slow=5.4,SNR=6.8
comp=Z,277nm,0.8s
BRVK Borovoye 64.76 329 P **P 14 27 03.0 -0.2**
BRVK Borovoye 64.76 329*c*e**P** **P 14 27 03.2 0.0**
BRVK pmax pmax
comp=Z,653nm,1.2s
BRVK MLR MLR
comp=Z,10μm,17.0s
SOR Soroa 64.81 86 IAmb IAmb 14 27 15.5
comp=Z,188nm,1.8s
RAF Rauma 64.84 359 *e*P **P 14 27 03.2 -0.4**
TWGBT Beinan 64.85 274 P **P 14 27 04.8 +0.6**
TWG Pinlang 64.85 274 IAmb IAmb 14 27 13.0
comp=Z,138nm,1.2s
ARU Arti 64.87 337 P **P 14 27 02.6 -1.2**
ARU IAMs_20 IAMs_20 15 00 38.6
comp=Z,5μm,19.0s
ARU Arti 64.87 337 LR LR 15 00 51.9
comp=Z,4μm,18.9s,baz=22,slow=41
ARU Arti 64.87 337*d i*P **P 14 27 02.6 -1.2**
ARU 14 27 35.0
ARU 14 29 23.5
ARU PPP PPP 14 30 59.4
ARU S **S 14 35 43.7 -0.2**
ARU 14 36 52.6
ARU pmax pmax
comp=Z,575nm,1.1s
ARU Arti 64.87 337 P **P 14 27 03.4 -0.5**
comp=Z,482nm,1.1s,comp=Z,5μm
ASK Askoy 64.87 8 *e*P **P 14 27 04.1 +0.3**
BER Bergen 64.98 7 *e*P **P 14 27 03.7 -0.8**
BER IVmB_BB 14 27 05.1
comp=Z,3μm,1.3s
BER *e*S **S 14 35 44.6 -0.5**
NC602 NORSAR Array S 65.00 4 *e*P **P 14 27 03.6 -1.0**
NC602 IVmB_BB 14 27 04.9
comp=Z,3μm,1.4s
NC602 *e*S **S 14 35 46.4 +1.0**
KNMB Chin-men Tao 65.14 278 IAmb IAmb 14 27 08.0
comp=Z,102nm,1.0s
CNSH ChangSha 65.42 284 P **P 14 27 07.9 +0.1**
CNSH S **S 14 35 53.1 +1.7**
CNSH pmax pmax
comp=Z,280nm,1.0s
CNSH LR LR
comp=Z,4μm,19.6s
CNSH LR LR
comp=Z,2μm,17.8s
CNSH LR LR
comp=Z,3μm,20.8s
ODD1 Odda 65.54 7 *e*P **P 14 27 08.2 -0.1**
ODD1 IVmB_BB 14 27 09.0
comp=Z,3μm,1.1s
ODD1 *e*S **S 14 35 52.6 +0.4**
CAMR Camarioca 65.56 84 IAmb IAmb 14 27 20.6
comp=Z,262nm,1.5s
CAMR IAMs_20 IAMs_20 14 55 05.5
comp=Z,5μm,21.0s
MEF Metsahovi 65.59 357 *e*P **P 14 27 08.0 -0.4**
HFS Hagfors 65.67 3 P **P 14 27 07.9 -1.1**
comp=Z,535nm,0.8s,baz=27,slow=5.0,SNR=747
comp=Z,535nm,0.8s
AAL Aland 65.71 359 *e*P **P 14 27 08.8 -0.4**
ENH Enshi 65.75 288 P **P 14 27 09.9 -0.1**
ENH Enshi 65.75 288 IAMs_20 IAMs_20 14 54 17.6
comp=Z,4μm,21.0s
OSL Oslo 65.76 5 *e*P **P 14 27 08.5 -1.0**
OSL IVmB_BB 14 27 10.2
comp=Z,3μm,1.6s
OSL *e*S **S 14 35 54.9 +0.2**
PUL Pulkovo 65.76 354*c*e**P** **P 14 27 09.5 -0.1**
PUL pmax pmax
comp=Z,818nm,1.3s
PUL MLR MLR
comp=Z,4μm,20.0s
MK31 Makanchi Array 65.85 318*c*e**P** **P 14 27 09.6 -0.9**
MKAR Makanchi Array 65.85 318 P **P 14 27 09.3 -1.1**
comp=Z,115nm,0.8s,baz=48,slow=5.8,SNR=585
MKAR S **S 14 35 55.7 -0.6**
comp=Z,2.1nm,1.0s,baz=29,slow=2.8,SNR=3.0
MKAR PKPPKP P'P'df 14 55 45.5 -8.2
comp=Z,0.7nm,1.0s,baz=207,slow=4.1,SNR=4.6
MKAR PKP2ab 14 55 55.8
comp=Z,2.3nm,1.1s,baz=211,slow=1.7,SNR=5.5
MKAR LR LR 14 57 45.7
comp=Z,14μm,20.5s,baz=36,slow=38
MKAR P4KPbc 15 03 53.3
comp=Z,0.3nm,0.4s,baz=13,slow=14,SNR=5.4
comp=Z,115nm,0.8s
BIGH Upper Bighouse 65.88 13⇑ *e*P **P 14 27 10.2 -0.1**
BIGH IAMs_20 IAMs_20 14 58 31.5
comp=Z,5μm,18.1s
MAKZ Makanchi 65.96 318 P **P 14 27 10.2 -1.0**
MAKZ Makanchi 65.96 318 P **P 14 27 10.2 -1.0**
MAKZ pmax pmax
comp=Z,269nm,1.1s
MAKZ MLR MLR
comp=Z,13μm,20.0s
KONO Kongsberg 65.99 5 P **P 14 27 11.6 +0.5**
KONO Kongsberg 65.99 5 *e*P **P 14 27 10.8 -0.2**
KONO IVmB_BB 14 27 12.0
comp=Z,5μm,1.1s
KONO *e*S **S 14 35 58.6 +1.1**
KONO Kongsberg 65.99 5*c*e**P** **P 14 27 10.9 -0.1**
KONO pmax pmax
comp=Z,766nm,1.3s
BLS5 Blasjo 66.02 7 *e*P **P 14 27 10.7 -0.6**
BLS5 IVmB_BB 14 27 12.0
comp=Z,3μm,1.0s
BLS5 *e*S **S 14 35 59.6 +1.7**
UPP Uppsala 66.03 1 *e*P **P 14 27 11.1 -0.2**
WMQ Urumqi 66.04 312 ⇑P **P 14 27 12.0 +0.2**
WMQ pmax pmax
comp=Z,460nm,1.3s
WMQ pmax pmax
comp=Z,2μm,4.3s
WMQ LR LR
comp=Z,7μm,18.9s
WMQ LR LR
comp=Z,6μm,18.9s
WMQ LR LR
comp=Z,9μm,21.7s
KMY Karmoy 66.14 8 *e*P **P 14 27 11.2 -0.8**
KMY IVmB_BB 14 27 12.6
comp=Z,2μm,3.8s
KMY *e*S **S 14 35 57.3 -1.9**
ARBE Arbavere 66.32 356 *e*P **P 14 27 12.7 -0.4**
MCD Coleburn Disti 66.85 13 *e*P **P 14 27 16.4 -0.2**
MCD IAmb IAmb 14 27 20.1
comp=Z,602nm,1.0s
MTSE Matsula 67.11 357 *e*P **P 14 27 18.1 -0.1**
SNART Snartemo 67.15 7 *e*P **P 14 27 18.9 +0.5**
SNART *e*S **S 14 36 14.2 +2.6**
VSU Vasula 67.26 356*c*e**P** **P 14 27 19.1 -0.1**
VSU pmax pmax
comp=Z,705nm,0.8s
VSU MLR MLR
comp=Z,5μm,23.0s
HOMB Homborsund 67.30 6 *e*P **P 14 27 18.9 -0.5**
HOMB IVmB_BB 14 27 20.3
comp=Z,4μm,1.2s
HOMB *e*S **S 14 36 14.2 +0.8**
HOMB IVMs_BB IVMs_BB 14 59 49.0
comp=Z,992nm,18.0s
VIKU Vikbolandet 67.38 1 *e*P **P 14 27 19.9 0.0**
DRUM Mains of Drumt 67.60 13 *e*P **P 14 27 21.2 -0.2**
DRUM IAmb IAmb 14 27 22.6
comp=Z,742nm,0.7s
DRUM IAMs_20 IAMs_20 14 55 23.6
comp=Z,4μm,22.9s
MTO3 Montecristo 67.69 96 IAMs_20 IAMs_20 14 55 20.6
comp=Z,3μm,20.0s
BBSR BB Station 67.73 65 IAMs_20 IAMs_20 14 56 57.4
comp=Z,3μm,20.0s
INVG Invergeldie, C 67.87 14⇑ *e*P **P 14 27 22.7 -0.3**
INVG IAmb IAmb 14 27 24.2
comp=Z,97nm,0.9s
INVG IAMs_20 IAMs_20 14 55 58.6
comp=Z,3μm,22.4s
SLIT Slitere, Latvi 68.24 358 *e*P **P 14 27 25.2 -0.1**
SNET Serv Nac Est T 68.33 97 IAMs_20 IAMs_20 14 54 46.7
comp=Z,3μm,20.0s
CD2 Chengdu 68.38 293 P **P 14 27 27.0 +0.2**
CD2 pP pP 14 27 31.4 -0.8
CD2 sP sP 14 27 34.9 +0.8
CD2 S **S 14 36 25.4 -1.9**
CD2 SKS **SKiKP 14 37 20.6 +0.9**
CD2 pmax pmax
comp=Z,370nm,0.8s
CD2 pmax pmax
comp=Z,2μm,4.3s
CD2 LR LR
comp=Z,4μm,15.2s
CD2 LR LR
comp=Z,5μm,17.2s
CD2 LR LR
comp=Z,6μm,15.5s
PGBU Glenifferbraes 68.41 14⇑ *e*P **P 14 27 26.8 +0.3**
PGBU IAmb IAmb 14 27 27.7
comp=Z,316nm,1.0s
PGBU IAMs_20 IAMs_20 14 56 25.6
comp=Z,6μm,22.0s
EDI Edinburgh 68.48 13⇑ *e*P **P 14 27 26.6 -0.2**
EDI IAmb IAmb 14 27 28.1
comp=Z,262nm,1.0s
EDI IAMs_20 IAMs_20 14 56 04.7
comp=Z,4μm,21.9s
ESY Stoneypath 68.56 13⇑ *e*P **P 14 27 27.6 +0.2**
IDGL Inch Island, C 68.66 16 P **P 14 27 28.1 +0.1**
IDGL Inch Island, C 68.66 16⇑ *e*P **P 14 27 28.2 +0.2**
IDGL IAmb IAmb 14 27 29.5
comp=Z,219nm,0.9s
IDGL IAMs_20 IAMs_20 14 59 17.8
comp=Z,4μm,19.6s
AFI Afiamalu 68.72 191 IAMs_20 IAMs_20 14 50 09.6
comp=Z,5μm,22.0s
GOMU GeErMu 68.84 303 P **P 14 27 29.9 0.0**
GOMU PP **PP 14 29 58.1 -3.4**
GOMU S **S 14 36 33.0 -0.2**
GOMU pmax pmax
comp=Z,95nm,1.2s
GOMU LR LR
comp=Z,8μm,21.1s
GOMU LR LR
comp=Z,4μm,19.2s
GOMU LR LR
comp=Z,10μm,20.4s
TDK Taldyqorghan 68.85 319 *e*P **P 14 27 29.4 0.0**
comp=Z,154nm,0.9s,baz=319
TDK LR LR 14 58 04.8
comp=Z,6μm,20.9s,baz=319
TDK Taldyqorghan 68.85 319 *e*P **P 14 27 29.4 0.0**
TDK pmax pmax
comp=Z,154nm,0.9s
TDK MLR MLR
comp=Z,6μm,21.0s
CLGH Cloghs, Cushen 68.87 15⇑ *e*P **P 14 27 29.0 -0.4**
CLGH IAmb IAmb 14 27 32.1
comp=Z,211nm,1.0s
CLGH IAMs_20 IAMs_20 14 55 53.4
comp=Z,6μm,24.1s
EKA Eskdalemuir Ar 69.06 13 P **P 14 27 30.8 +0.3**
comp=Z,161nm,0.8s,baz=344,slow=4.9,SNR=357
EKA PKP2bc 14 55 36.6
comp=Z,2.5nm,0.9s,baz=134,slow=3.6,SNR=5.2
comp=Z,161nm,0.8s
ESK Eskdalemuir 69.06 13 P **P 14 27 31.0 +0.5**
ESK Eskdalemuir 69.06 13 IAMs_20 IAMs_20 14 57 56.4
comp=Z,5μm,21.0s
ESK Eskdalemuir 69.06 13 *e*P **P 14 27 30.1 -0.5**
ESK IAmb IAmb 14 27 31.9
comp=Z,227nm,0.9s
ESK IAMs_20 IAMs_20 14 56 32.8
comp=Z,5μm,23.2s
ESK Eskdalemuir 69.06 13 P **P 14 27 31.0 +0.5**
ESK pmax pmax
comp=Z,237nm,1.0s
ESK MLR MLR
comp=Z,5μm,21.0s
CBCY The Bluff, Cay 69.08 85 IAMs_20 IAMs_20 14 57 51.9
comp=Z,4μm,20.0s
GULI GuiLin 69.10 284 P **P 14 27 31.5 +0.3**
GULI S **S 14 36 36.8 +1.0**
GULI pmax pmax
comp=Z,390nm,1.2s
GULI LR LR
comp=Z,2μm,19.5s
GULI LR LR
comp=Z,3μm,18.4s
GULI LR LR
comp=Z,4μm,20.6s
MOS Moscow 69.12 349 *e*P P 14 27 27.6 -3.2
MOS *e* 14 27 36.7
MOS *e* 14 27 50.0
MOS *e*S S 14 36 30.6 -4.5
MOS pmax pmax
comp=Z,1μm,1.7s
MOS pmax pmax
comp=Z,675nm,1.3s
MOS pmax pmax
comp=N,500nm,1.2s
MOS pmax pmax
comp=N,478nm,1.2s
MOS MLR MLR
comp=Z,4μm,20.0s
NEWG New Galloway 69.12 14⇑ *e*P **P 14 27 31.1 +0.2**
NEWG IAmb IAmb 14 27 32.0
comp=Z,165nm,1.0s
NEWG IAMs_20 IAMs_20 14 59 35.9
comp=Z,6μm,18.8s
MUD Monsted U'grnd 69.15 6 *i* P **P 14 27 31.8 +0.8**
MUD IAmb IAmb 14 27 32.6
comp=Z,393nm,1.1s
HKPS Hong Kong Po S 69.29 279 P **P 14 27 33.0 +0.6**
HKPS Hong Kong Po S 69.29 279 P **P 14 27 33.4 +0.9**
HKPS IAmb IAmb 14 27 35.6
comp=Z,179nm,1.1s
GAL1 Galloway 69.29 14⇑ *e*P **P 14 27 32.2 +0.3**
GAL1 IAmb IAmb 14 27 33.1
comp=Z,281nm,0.9s
GAL1 IAMs_20 IAMs_20 14 59 50.2
comp=Z,7μm,18.8s
SZP Santa 69.32 271 P **P 14 27 33.1 +0.5**
DEL Delary 69.35 3 *e*P **P 14 27 32.3 +0.1**
EDMD Edmundbyers 69.70 13⇑ *e*P **P 14 27 34.7 +0.2**
EDMD IAmb IAmb 14 27 35.9
comp=Z,263nm,1.1s
EDMD IAMs_20 IAMs_20 14 58 00.2
comp=Z,4μm,21.4s
ARXS Arharly 69.74 319 *i* P **P 14 27 34.8 -0.2**
PDGK Podgornoye 69.84 317 P **P 14 27 35.8 +0.1**
OBN Obninsk 69.85 349 ⇑P **P 14 27 34.9 -0.5**
OBN Obninsk 69.85 349 P **P 14 27 34.4 -0.9**
OBN Obninsk 69.85 349 LR LR 15 04 08.2
comp=Z,5μm,18.4s,baz=22,slow=41
OBN Obninsk 69.85 349*c i*P **P 14 27 34.6 -0.7**
OBN *e* 14 27 54.4
OBN *e* 14 30 07.9
OBN pmax pmax
comp=Z,833nm,1.3s
OBN MLR MLR
comp=Z,6μm,19.0s
VSVD Vaisvydziai 69.85 357 *e*P **P 14 27 35.6 +0.3**
PBUR Paburge 69.85 358 *e*P **P 14 27 35.4 0.0**
ILTH Belurgan, Co L 69.86 16 P **P 14 27 35.4 0.0**
ILTH Belurgan, Co L 69.86 16 *e*P **P 14 27 35.6 +0.2**
IOMK Kirk Michael 69.90 15⇑ *e*P **P 14 27 35.3 -0.4**
IOMK IAmb IAmb 14 27 36.8
comp=Z,288nm,1.0s
IOMK IAMs_20 IAMs_20 15 00 18.3
comp=Z,14μm,18.3s
IGLA Glengowla, Co 69.93 18 P **P 14 27 35.6 -0.3**
IGLA Glengowla, Co 69.93 18⇑ *e*P **P 14 27 35.8 -0.1**
IGLA IAmb IAmb 14 27 37.2
comp=Z,366nm,1.0s
IGLA IAMs_20 IAMs_20 14 59 14.7
comp=Z,5μm,18.9s
SHLS Shalkode 69.99 317 *e*P **P 14 27 35.6 -1.1**
comp=Z,212nm,1.0s,baz=317
SHLS *e*S **S 14 36 45.0 -1.2**
baz=317
SHLS Shalkode 69.99 317 *e*P **P 14 27 35.5 -1.1**
SHLS *e*S **S 14 36 44.9 -1.2**
SHLS pmax pmax
comp=Z,212nm,1.0s
WIM Isle of Man 69.99 15⇑ *i*P **P 14 27 36.6 +0.3**
IZAR Zarasai 70.00 356 *e*P **P 14 27 38.3 +2.1**
KPKS Kokpek 70.04 318⇑ *i*P **P 14 27 37.0 +0.1**
comp=Z,172nm,0.9s,baz=318
KPKS *e*S **S 14 36 47.6 +1.0**
baz=318
KPKS Kokpek 70.04 318*c i*P **P 14 27 37.0 +0.1**
KPKS *e*S **S 14 36 47.6 +1.0**
KPKS pmax pmax
comp=Z,173nm,0.9s
FUTU Fugatoga 70.04 198 P **P 14 27 38.4 +1.5**
COP Copenhagen 70.08 4 *i* P **P 14 27 37.2 +0.4**
COP IAmb IAmb 14 27 38.1
comp=Z,832nm,1.1s
SSRD Sdr. Stenderup 70.15 6 *i* P **P 14 27 38.0 +0.8**
SSRD IAmb IAmb 14 27 38.9
comp=Z,524nm,1.0s
UZB Uzynbulak 70.17 318⇑ *i*P **P 14 27 37.6 -0.2**
comp=Z,208nm,1.2s,baz=318
UZB *e*S **S 14 36 49.0 +0.6**
baz=318
UZB Uzynbulak 70.17 318*c i*P **P 14 27 37.6 -0.2**
UZB *e*S **S 14 36 48.9 +0.6**
UZB pmax pmax
comp=Z,208nm,1.2s
ISAL Salakas 70.18 356 *e*P **P 14 27 39.0 +1.6**
GDLE Glaisdale, N Y 70.25 12⇑ *e*P **P 14 27 38.1 +0.2**
GDLE IAmb IAmb 14 27 39.1
comp=Z,272nm,1.0s
GDLE IAMs_20 IAMs_20 14 57 03.7
comp=Z,3μm,21.6s
GYA Guiyang 70.26 288 ⇑P **P 14 27 38.8 +0.2**
GYA S **S 14 36 48.8 -0.9**
GYA pmax pmax
comp=Z,400nm,1.0s
GYA pmax pmax
comp=Z,2μm,8.6s
GYA LR LR
comp=Z,1μm,21.1s
GYA LR LR
comp=Z,2μm,26.4s
GYA LR LR
comp=Z,2μm,25.8s
PABE Paberze 70.32 357 IAMs_20 IAMs_20 15 02 45.0
comp=Z,3μm,20.0s
PABE Paberze 70.32 357 *e*P **P 14 27 38.4 +0.1**
CHKK Chushkaly 70.36 319⇑ *i*P **P 14 27 38.3 -0.5**
baz=319
CHKK Chushkaly 70.36 319⇑ *i*P **P 14 27 38.2 -0.5**
CRIN San Cristobal 70.39 96 IAMs_20 IAMs_20 14 56 53.1
comp=Z,3μm,21.0s
BTLS Baital 70.43 322⇑ *i*P **P 14 27 39.2 0.0**
comp=Z,175nm,0.8s,baz=322
BTLS *e*S **S 14 36 51.9 +0.9**
baz=322
BTLS Baital 70.43 322*c i*P **P 14 27 39.1 0.0**
BTLS *e*S **S 14 36 51.8 +0.8**
BTLS pmax pmax
comp=Z,175nm,0.8s
SATY Saty 70.49 318 *e*P **P 14 27 39.5 -0.3**
comp=Z,162nm,1.0s,baz=318
SATY Saty 70.49 318 *e*P **P 14 27 39.4 -0.3**
SATY pmax pmax
comp=Z,162nm,1.0s
AKTO Aktyubinsk 70.51 335 LR LR 15 05 11.5
comp=Z,5μm,18.2s,baz=23,slow=42
HPK Haverah Park 70.60 13⇑ *e*P **P 14 27 40.5 +0.5**
HPK IAmb IAmb 14 27 42.2
comp=Z,542nm,1.5s
HPK IAMs_20 IAMs_20 14 58 38.0
comp=Z,4μm,21.2s
DSB Dublin 70.61 16 P **P 14 27 40.3 +0.2**
DSB Dublin 70.61 16 IAmb IAmb 14 27 41.7
comp=Z,121nm,1.1s
DSB IAMs_20 IAMs_20 14 59 15.1
comp=Z,4μm,20.0s
BSD Bornholm Skovb 70.74 3 *e*P **P 14 27 41.2 +0.4**
BSD Bornholm Skovb 70.74 3 *i* P **P 14 27 40.7 -0.1**
BSD IAmb IAmb 14 27 41.6
comp=Z,203nm,1.0s
WPS Cemaes, Angles 70.74 15⇑ *e*P **P 14 27 40.9 +0.1**
WPS IAmb IAmb 14 27 42.0
comp=Z,143nm,1.2s
WPS IAMs_20 IAMs_20 14 58 09.6
comp=Z,4μm,21.2s
CNGN Cerro Negro 70.75 95 IAMs_20 IAMs_20 14 58 51.7
comp=Z,3μm,21.0s
WME Myndd Eilian 70.78 15⇑ *i*P **P 14 27 41.2 +0.1**
CHIV Chivirico 70.83 82 IAmb IAmb 14 27 53.8
comp=Z,453nm,1.8s
CHIV IAMs_20 IAMs_20 14 58 55.2
comp=Z,3μm,20.0s
WLF1 Llynfaes 70.87 15⇑ *e*P **P 14 27 40.9 -0.7**
WLF1 IAmb IAmb 14 27 42.7
comp=Z,746nm,1.9s
BELG Belogornoye 70.90 342 LR LR 15 03 01.8
comp=Z,5μm,20.1s,baz=22,slow=40
BELG Belogornoye 70.90 342*c i*P **P 14 27 41.2 -0.6**
BELG pmax pmax
comp=Z,212nm,1.0s
MDOK Medeo 70.93 319 *e*P **P 14 27 42.4 -0.1**
baz=319
MDOK LR LR 14 59 20.7
comp=Z,5μm,18.9s,baz=319
MDOK Medeo 70.93 319 *e*P **P 14 27 42.3 -0.1**
MDOK MLR MLR
comp=Z,5μm,19.0s
AAA Alma-Ata 70.94 319 *e*P **P 14 27 42.4 0.0**
comp=Z,203nm,1.1s,baz=319
AAA Alma-Ata 70.94 319 *i* P **P 14 27 43.1 +0.7**
YLL Llanberis 71.05 15⇑ *e*P **P 14 27 42.3 -0.4**
TNSS Tian-Shan 71.07 319 *e*P **P 14 27 43.4 -0.3**
baz=319
TNSS Tian-Shan 71.07 319 *e*P **P 14 27 43.3 -0.3**
AB31 Akbulak array 71.09 333 *i* P **P 14 27 42.5 -0.6**
ABKAR Akbulak array 71.09 333 P **P 14 27 42.1 -1.0**
ABKAR Akbulak array 71.09 333 IAmb IAmb 14 27 44.7
comp=Z,588nm,1.1s
MNK Minsk 71.16 355 *i* P **P 14 27 43.6 +0.2**
MNK *i* 14 28 03.4
MNK *i* 14 30 21.1
MNK *i* PPP PPP 14 32 04.2
MNK *i* S **S 14 37 00.6 +1.5**
MNK *i* 14 37 47.2
MNK *i* SS **SS 14 41 35.1 +3.7**
MNK pmax pmax
comp=Z,913nm,0.9s
MNK pmax pmax
comp=N,502nm,1.0s
MNK pmax pmax
comp=E,92nm,0.9s

MNK					MLR	MLR		
	comp=N,3μm,22.0s							
MNK					MLR	MLR		
	comp=Z,4μm,22.0s							
MNK					MLR	MLR		
	comp=E,471nm,18.0s							
VAL	**Valentia**	**71.19**	**19**	P	**P**	**14 27 43.2**	**-0.4**	
NMDO	**Nuevo Mundo**	**71.20**	**81**	IAMs_20	IAMs_20	14 57 56.9		
	comp=Z,5μm,22.0s							
RGN	**Rugen**	**71.25**	**4**	IAmb	IAmb	14 27 46.2		
	comp=Z,725nm,1.0s							
RGN				IAMs_20	IAMs_20	14 58 13.4		
	comp=Z,2μm,21.0s							
RGN	**Rugen**	**71.25**	**4**	*e*P	**P**	**14 27 45.0**	**+1.0**	
LMK	**Market Rasen**	**71.25**	**12⇑**	*e*P	**P**	**14 27 44.5**	**+0.5**	
LMK				IAmb	IAmb	14 27 45.4		
	comp=Z,644nm,1.0s							
LMK				IAMs_20	IAMs_20	14 58 34.0		
	comp=Z,3μm,21.9s							
RGN	**Rugen**	**71.25**	**4**	*e*P		14 27 45.1		
	comp=Z,823nm,1.1s,baz=356,slow=5.8							
HLG	**Helgoland**	**71.33**	**7**	*e*P		14 27 45.2		
	comp=Z,624nm,1.2s,baz=356,slow=5.8							
STNC	**Stoke**	**71.37**	**13⇑**	*e*P	**P**	**14 27 45.5**	**+0.8**	
STNC				IAMs_20	IAMs_20	14 57 41.3		
	comp=Z,5μm,22.8s							
IWEX	**Carrickbyrne,**	**71.38**	**16**	P	**P**	**14 27 44.7**	**-0.1**	
IWEX	**Carrickbyrne,**	**71.38**	**16⇑**	*e*P	**P**	**14 27 44.6**	**-0.1**	
IWEX				IAmb	IAmb	14 27 46.2		
	comp=Z,271nm,1.1s							
IWEX				IAMs_20	IAMs_20	14 57 50.6		
	comp=Z,4μm,22.6s							
FOEL	**Foel Wylfa**	**71.43**	**14⇑**	*e*P	**P**	**14 27 45.1**	**0.0**	
FOEL				IAmb	IAmb	14 27 46.6		
	comp=Z,428nm,0.9s							
FOEL				IAMs_20	IAMs_20	15 01 04.8		
	comp=Z,6μm,19.7s							
SGDS	**Sogindy**	**71.59**	**321**	*e*P	**P**	**14 27 46.2**	**-0.1**	
	comp=Z,321nm,1.3s,baz=321							
SGDS	**Sogindy**	**71.59**	**321**	*e*P	**P**	**14 27 46.2**	**-0.1**	
SGDS				pmax	pmax			
	comp=Z,321nm,1.3s							
HNR	**Honiara**	**71.66**	**221**	LR	LR	14 55 59.0		
	comp=Z,28μm,19.2s,baz=3.5,slow=33							
TKM2	**Tokmak 2**	**71.69**	**320**	P	**P**	**14 27 47.6**	**+0.5**	
	SNR=618							
TKM2	**Tokmak 2**	**71.69**	**320**	*i* P	**P**	**14 27 47.4**	**+0.3**	
TKM2				pmax	pmax			
	comp=Z,725nm,1.2s							
BSEG	**Bad Segeberg**	**71.73**	**5**	*e*P		14 27 47.5		
	comp=Z,307nm,1.1s,baz=356,slow=5.8							
USP	**Ospenovka**	**71.80**	**321**	P	**P**	**14 27 48.1**	**+0.6**	
	SNR=238							
CWF	**Charnwood Fore**	**71.83**	**13⇑**	*e*P	**P**	**14 27 47.4**	**-0.1**	
CWF				IAmb	IAmb	14 27 48.9		
	comp=Z,208nm,1.1s							
CWF				IAMs_20	IAMs_20	14 57 53.9		
	comp=Z,4μm,22.7s							
HLM1	**Long Mynd**	**71.84**	**14⇑**	*e*P	**P**	**14 27 47.4**	**-0.2**	
HLM1				IAmb	IAmb	14 27 49.0		
	comp=Z,180nm,1.2s							
HLM1				IAMs_20	IAMs_20	14 58 07.2		
	comp=Z,6μm,22.3s							
SUW	**Suwalki**	**71.84**	**357**	*e*P	**P**	**14 27 47.0**	**-0.5**	
SUW	**Suwalki**	**71.84**	**357**	*e*P	**P**	**14 27 47.5**	**0.0**	
CHMS	**Chumysh**	**71.93**	**320**	P	**P**	**14 27 49.0**	**+0.7**	
	SNR=228							
ULHL	**Ulahoi**	**72.02**	**319**	P	**P**	**14 27 49.8**	**+0.7**	
	SNR=209							
LPSR	**Galich'ya Gora**	**72.04**	**347**	*e*P	**P**	**14 27 48.0**	**-0.7**	
LPSR				pmax	pmax			
	comp=Z,680nm,1.1s							
LPSR				pmax	pmax			
	comp=Z,480nm,1.0s							
WACR	**West Acre**	**72.09**	**12⇑**	*e*P	**P**	**14 27 49.2**	**+0.2**	
WACR				IAmb	IAmb	14 27 50.3		
	comp=Z,710nm,0.9s							
WACR				IAMs_20	IAMs_20	14 58 10.3		
	comp=Z,3μm,20.8s							
RSBS	**Rosebush, Pemb**	**72.11**	**15⇑**	*e*P	**P**	**14 27 49.7**	**+0.5**	
RSBS				IAmb	IAmb	14 27 50.6		
	comp=Z,278nm,1.0s							
RSBS				IAMs_20	IAMs_20	14 57 40.6		
	comp=Z,6μm,24.0s							
KBK	**Karagaybulak**	**72.16**	**320**	P	**P**	**14 27 50.6**	**+0.8**	
	SNR=221							
BULU	**Kimbe**	**72.22**	**232**	P	**P**	**14 27 51.7**	**+1.4**	
MCH1	**Michaelchurch**	**72.33**	**14⇑**	*e*P	**P**	**14 27 50.9**	**+0.4**	
MCH1				IAmb	IAmb	14 27 51.9		
	comp=Z,149nm,1.1s							
AAK	**Ala-Archa**	**72.34**	**320**	P	**P**	**14 27 51.8**	**+0.8**	
	SNR=152							
AAK	**Ala-Archa**	**72.34**	**320**	P	**P**	**14 27 51.5**	**+0.5**	
AAK	**Ala-Archa**	**72.34**	**320**	*i* P	**P**	**14 27 51.4**	**+0.5**	
	SNR=152							
AAK	**Ala-Archa**	**72.34**	**320**	LR	LR	15 02 44.3		
	comp=Z,19μm,18.5s,baz=34,slow=38							
AAK	**Ala-Archa**	**72.34**	**320**	*ce*P	**P**	**14 27 51.5**	**+0.5**	
AAK				pmax	pmax			
	comp=Z,769nm,1.3s							
PPT	**Papeete**	**72.39**	**169**	LR	LR	14 53 00.8		
	comp=Z,4μm,20.8s,baz=326,slow=30							
PPT2	**Papeete2**	**72.41**	**169**	*e*P	**P**	**14 27 54.1**	**+2.8**	
	comp=Z,530nm,27.2s							
PPT2	**Papeete2**	**72.41**	**169**	*e*PP	**PP**	**14 30 30.2**	**-2.5**	
PPT2				*e*S	S	14 37 09.0	-5.2	
	comp=Z,3μm,28.8s							
PPT2				*e*SS	**SS**	**14 41 51.7**	**-1.6**	
	comp=Z,767nm,23.0s							
PPT2				*e*LQ	LQ	14 46 33.3		
	comp=Z,3μm,28.0s							
PPT2				*e*LR	LR	14 49 51.9		
	comp=Z,10μm,23.5s							
PPT2				*e*LR	LR	14 49 58.9		
	comp=Z,8μm,25.0s							
EKS2	**Erkin-Say**	**72.59**	**321**	P	**P**	**14 27 53.3**	**+0.9**	
	SNR=339							
GKP	**Gorka Klasztor**	**72.63**	**1**	*e*P	**P**	**14 27 52.5**	**+0.3**	
GKP	**Gorka Klasztor**	**72.63**	**1**	*e*P	**P**	**14 27 52.8**	**+0.6**	
UCH	**Uchtor**	**72.69**	**320**	P	**P**	**14 27 54.2**	**+0.8**	
	SNR=159							
OLDB	**Oldbury-Upon-S**	**72.72**	**14⇑**	*e*P	**P**	**14 27 53.0**	**+0.2**	
OLDB				IAmb	IAmb	14 27 54.1		
	comp=Z,249nm,1.1s							
OLDB				IAMs_20	IAMs_20	15 01 54.6		
	comp=Z,6μm,20.1s							
GORT1	**Trebel**	**72.72**	**5**	*e*P		14 27 53.6		
	comp=Z,536nm,1.6s,baz=356,slow=5.8							
ELMS	**Elmsett, Ipswi**	**72.75**	**12⇑**	*e*P	**P**	**14 27 53.0**	**0.0**	
ELMS				IAmb	IAmb	14 27 53.9		
	comp=Z,256nm,1.0s							
ELMS				IAMs_20	IAMs_20	14 59 31.2		
	comp=Z,3μm,22.9s							
RETH	**Rethem/Aller,**	**72.87**	**6**	*e*P		14 27 54.3		
	comp=Z,254nm,1.3s,baz=356,slow=5.8							
VORR	**Voronezh**	**72.91**	**347**	*e*P	**P**	**14 27 52.9**	**-1.0**	
VORR				pmax	pmax			
	comp=Z,790nm,1.2s							
VORR				pmax	pmax			
	comp=Z,600nm,1.2s							
PZH	**PanZhiHua**	**72.93**	**292**	⇑P	**P**	**14 27 54.5**	**-0.1**	
PZH				sP	**sP**	**14 28 03.4**	**+1.3**	
PZH				S	**S**	**14 37 17.6**	**-2.9**	
PZH				SKS	**SKSac**	**14 37 56.4**	**-3.1**	
PZH				pmax	pmax			
	comp=Z,280nm,1.1s							
PZH				pmax	pmax			
	comp=Z,1μm,7.1s							
PZH				LR	LR			
	comp=Z,3μm,19.4s							
PZH				LR	LR			
	comp=Z,3μm,18.6s							
PZH				LR	LR			
	comp=Z,5μm,18.2s							
VRH	**Novokhopyorsk**	**73.02**	**345**	*e*P	**P**	**14 27 53.3**	**-1.3**	
VRH				pmax	pmax			
	comp=Z,600nm,1.1s							
VRH				pmax	pmax			
	comp=Z,250nm,0.7s							
AML	**Almayashu**	**73.08**	**321**	P	**P**	**14 27 56.8**	**+1.2**	
	SNR=46							
HTL	**Hartland**	**73.08**	**15⇑**	*e*P	**P**	**14 27 55.6**	**+0.6**	
HTL				IAmb	IAmb	14 27 56.5		
	comp=Z,252nm,1.0s							
HTL				IAMs_20	IAMs_20	14 58 08.1		
	comp=Z,7μm,24.5s							
NRDL	**Niedersach Rie**	**73.16**	**6**	*e*P		14 27 55.8		
	comp=Z,286nm,1.1s,baz=356,slow=5.8							
IBBN	**Ibbenburen**	**73.19**	**7**	*e*P		14 27 56.2		
	comp=Z,468nm,1.3s,baz=356,slow=5.8							
WOL	**Wolverton**	**73.24**	**13⇑**	*e*P	**P**	**14 27 56.4**	**+0.5**	
WOL				IAmb	IAmb	14 27 57.6		
	comp=Z,498nm,1.1s							
WOL				IAMs_20	IAMs_20	14 58 48.6		
	comp=Z,5μm,23.5s							
RUE	**Ruedersdorf**	**73.34**	**3**	*e*P	**P**	**14 27 57.1**	**+0.7**	
RUE	**Ruedersdorf**	**73.34**	**3**	*e*P		14 27 56.9		
	comp=Z,589nm,1.1s,baz=356,slow=5.8							
RUE				*ep*P		14 28 06.4		
VSR	**Storozhevoye**	**73.36**	**347**	*e*P	**P**	**14 27 55.9**	**-0.7**	
VSR				pmax	pmax			
	comp=Z,870nm,1.2s							
VSR				pmax	pmax			
	comp=Z,760nm,1.2s							
VSR				MLR	MLR			
	comp=Z,6μm,21.0s							
KK31	**Karatay Array**	**73.37**	**323**	*i* P	**P**	**14 27 56.5**	**-0.4**	
KKAR	**Karatay Array**	**73.37**	**323**	P	**P**	**14 27 56.7**	**-0.2**	
KKAR	**Karatay Array**	**73.37**	**323**	IAmb	IAmb	14 27 58.2		
	comp=Z,496nm,1.1s							
KKAR	**Karatay Array**	**73.37**	**323**	P	**P**	**14 27 56.7**	**-0.2**	
FLTG	**Flechtingen**	**73.38**	**5**	*e*P		14 27 56.6		
	comp=Z,235nm,1.1s,baz=356,slow=5.8							
KMI	**Kunming**	**73.48**	**290**	⇑P	**P**	**14 27 57.8**	**-0.2**	
KMI				S	**S**	**14 37 25.8**	**-1.2**	
KMI				pmax	pmax			
	comp=Z,99nm,1.3s							
KMI				pmax	pmax			
	comp=Z,1μm,5.8s							
KMI				LR	LR			
	comp=Z,2μm,21.7s							
KMI				LR	LR			
	comp=Z,3μm,14.7s							
KMI				LR	LR			
	comp=Z,4μm,25.9s							
JTS	**Las Juntas de**	**73.54**	**95**	LR	LR	15 01 05.3		
	comp=Z,2μm,20.4s,baz=318,slow=36							
VORD	**Divnogorie**	**73.59**	**347**	*e*P	**P**	**14 27 56.9**	**-1.1**	
VORD				pmax	pmax			
	comp=Z,540nm,0.8s							
VORD				pmax	pmax			
	comp=Z,790nm,1.0s							
BRLS	**Borolday**	**73.67**	**324⇑**	*i* P	**P**	**14 27 59.6**	**+0.9**	
	baz=324							
BRLS	**Borolday**	**73.67**	**324**	*c i* P	**P**	**14 27 59.5**	**+0.9**	
ELSH	**Elham, Standar**	**73.70**	**12⇑**	*e*P	**P**	**14 27 58.9**	**+0.4**	
ELSH				IAmb	IAmb	14 27 59.9		
	comp=Z,294nm,1.0s							
ELSH				IAMs_20	IAMs_20	15 01 13.0		
	comp=Z,3μm,21.2s							
DYA	**Yadsworthy**	**73.71**	**15⇑**	*e*P	**P**	**14 27 58.5**	**-0.2**	
DYA				IAmb	IAmb	14 27 59.9		
	comp=Z,235nm,1.0s							
DYA				IAMs_20	IAMs_20	14 58 29.4		
	comp=Z,2μm,22.4s							
CCA1	**Carnmenellis**	**73.75**	**16⇑**	*e*P	**P**	**14 27 59.5**	**+0.6**	
CCA1				IAmb	IAmb	14 28 00.4		
	comp=Z,311nm,1.0s							
CCA1				IAMs_20	IAMs_20	15 00 56.7		
	comp=Z,5μm,19.6s							
CLZ	**Clausthal**	**73.82**	**6**	*e*P		14 28 00.1		
	comp=Z,411nm,1.2s,baz=356,slow=5.8							
HMNX	**Herstmonceux**	**73.88**	**12⇑**	*e*P	**P**	**14 27 59.5**	**-0.1**	
HMNX				IAmb	IAmb	14 28 01.1		
	comp=Z,238nm,1.1s							
HMNX				IAMs_20	IAMs_20	15 01 28.8		
	comp=Z,4μm,19.8s							
BUG	**Bochum--Univer**	**74.01**	**8**	*e*P		14 28 00.6		
	comp=Z,241nm,0.9s,baz=356,slow=5.8							
ARSB	**Arslanbob**	**74.04**	**321**	IAmb	IAmb	14 28 02.8		
	comp=Z,108nm,1.1s							
BEL	**Belsk**	**74.06**	**359**	*e*P	**P**	**14 28 01.1**	**+0.4**	
GTTG	**Gottingen**	**74.09**	**6**	*e*P		14 28 01.6		
	comp=Z,433nm,1.1s,baz=356,slow=5.8							
MSVF	**Nonsavu**	**74.12**	**201**	P	**P**	**14 28 01.8**	**+0.4**	
MSVF	**Nonsavu**	**74.12**	**201**	IAMs_20	IAMs_20	14 53 38.1		
	comp=Z,4μm,21.0s							
HDC	**Heredia**	**74.25**	**95**	*e*P	**P**	**14 28 02.1**	**-0.4**	
JAY	**Jayapura**	**74.31**	**242**	P	**P**	**14 28 03.6**	**+0.9**	
	comp=Z,189nm,1.4s,comp=Z,2μm							
QIZ	**Qiongzhong**	**74.31**	**281**	P	**P**	**14 28 03.6**	**+1.0**	
QIZ	**Qiongzhong**	**74.31**	**281**	P	**P**	**14 28 02.8**	**+0.2**	
QIZ				S	**S**	**14 37 38.3**	**+2.3**	
QIZ				pmax	pmax			
	comp=Z,150nm,1.0s							
QIZ				pmax	pmax			
	comp=Z,1μm,3.2s							
QIZ				LR	LR			
	comp=Z,950nm,18.5s							
QIZ				LR	LR			
	comp=Z,2μm,21.9s							
QIZ				LR	LR			
	comp=Z,2μm,22.3s							
QIZ	**Qiongzhong**	**74.31**	**281**	IAmb	IAmb	14 28 06.6		
	comp=Z,184nm,1.1s							
QIZ	**Qiongzhong**	**74.31**	**281**	IAMs_20	IAMs_20	14 57 30.5		
	comp=Z,2μm,21.0s							
KASTN	**Kahler Asten**	**74.33**	**7**	*e*P		14 28 02.8		
	comp=Z,112nm,1.0s,baz=356,slow=5.8							
KASTN				*ep*P		14 28 12.4		
CHM	**Chimkent**	**74.38**	**324**	*e*P	**P**	**14 28 01.9**	**-0.9**	
	comp=Z,235nm,1.0s,baz=324							
CHM				LR	LR	15 01 27.1		
	comp=Z,4μm,16.6s,baz=324							
CHM	**Chimkent**	**74.38**	**324**	*e*P	**P**	**14 28 01.8**	**-0.9**	
CHM				pmax	pmax			
	comp=Z,235nm,1.0s							
CHM				MLR	MLR			
	comp=Z,4μm,17.0s							
IUG	**Iuzhnay**	**74.38**	**323**	*e*P	**P**	**14 28 02.8**	**-0.2**	
	comp=Z,282nm,0.9s,baz=323							
IUG	**Iuzhnay**	**74.38**	**323**	*e*P	**P**	**14 28 02.7**	**-0.2**	
IUG				pmax	pmax			
	comp=Z,282nm,0.9s							
RNPP2	**Kostyukhnivka**	**74.43**	**356**	P	**P**	**14 28 02.8**	**-0.1**	
KSH	**Kashi**	**74.47**	**318**	P	**P**	**14 28 06.8**	**+3.3**	
KSH				sP	sP	14 28 12.3	+1.4	
KSH				PcP	**PcP**	**14 28 20.0**	**+2.0**	
KSH				S	**S**	**14 37 41.8**	**+4.3**	
KSH				ScS	**SKSac**	**14 38 06.8**	**-3.9**	
KSH				pmax	pmax			
	comp=Z,1μm,1.3s							
KSH				LR	LR			
	comp=Z,15μm,22.0s							
KSH				LR	LR			
	comp=Z,12μm,19.9s							
KSH				LR	LR			
	comp=Z,26μm,21.6s							
CLL	**Collm**	**74.48**	**4**	IAmb	IAmb	14 28 04.5		
	comp=Z,197nm,1.0s							
CLL	**Collm**	**74.48**	**4⇑**	*i*P	**P**	**14 28 03.2**	**0.0**	
CLL				*i* S	**SKiKP**	**14 37 36.4**	**+8.3**	
CLL				pmax	pmax			
	comp=Z,239nm,1.1s							
CLL				MLR	MLR			
	comp=Z,2μm,19.2s							
CLL	**Collm**	**74.48**	**4**	*e*P		14 28 03.2		
	comp=Z,202nm,1.0s,baz=356,slow=5.8							
BEBN	**Eben Emael**	**74.52**	**9**	*d*P	**P**	**14 28 03.6**	**+0.2**	
NEUB	**Neuenburg**	**74.53**	**5**	*e*P		14 28 03.8		
	comp=Z,383nm,1.1s,baz=356,slow=5.8							
SDDR	**Presa de Saban**	**74.57**	**79**	IAmb	IAmb	14 28 17.2		
	comp=Z,79nm,0.8s							
SDDR				IAMs_20	IAMs_20	15 01 17.0		
	comp=Z,5μm,20.0s							
GENI	**Genyem**	**74.65**	**243**	P	**P**	**14 28 05.8**	**+1.1**	
GENI	**Genyem**	**74.65**	**243**	P	**P**	**14 28 05.7**	**+1.1**	
	comp=Z,365nm,1.9s,comp=Z,5μm							
DAV	**Davao City (W)**	**74.70**	**261**	IAMs_20	IAMs_20	14 58 34.7		
	comp=Z,3μm,20.0s							
DAV	**Davao City (W)**	**74.70**	**261**	LR	LR	14 58 13.6		
	comp=Z,2μm,20.9s,baz=54,slow=34							
BSTI	**Sart Tilman**	**74.72**	**9**	*d*P	**P**	**14 28 04.5**	**0.0**	
	comp=Z,34nm,0.9s							
MEM	**Membach**	**74.73**	**9**	*d*P	**P**	**14 28 04.9**	**+0.3**	
	comp=Z,115nm,1.0s							
MI28	**Mi28,Pidlybu**	**74.73**	**354**	P	**P**	**14 28 04.6**	**0.0**	
BTNL	**Ternell**	**74.76**	**9**	*d*P	**P**	**14 28 05.2**	**+0.4**	
	comp=Z,96nm,1.1s							
AK21	**Malin Array Si**	**74.80**	**353**	P	**P**	**14 28 04.9**	**-0.1**	
UBBA	**Unterbreizbach**	**74.82**	**6**	*e*P		14 28 05.6		
	comp=Z,172nm,1.4s,baz=356,slow=5.8							
BCLA	**Clavier**	**74.86**	**9**	*d*P	**P**	**14 28 05.6**	**+0.3**	
	comp=Z,54nm,1.2s							
AKASG	**Malin Array Be**	**74.87**	**353**	P	**P**	**14 28 04.1**	**-1.3**	
AKASG	**Malin Array Be**	**74.87**	**353**	P	**P**	**14 28 04.2**	**-1.3**	
	comp=Z,367nm,0.8s,baz=8.6,slow=5.5,SNR=1229							
AKASG				S	**SKiKP**	**14 37 38.2**	**+9.5**	
	comp=Z,0.5nm,0.3s,baz=7.2,slow=12,SNR=2.1							
	comp=Z,367nm,0.8s							
AKASG	**Malin Array Be**	**74.87**	**353**	P	**P**	**14 28 04.1**	**-1.3**	
AKASG				pmax	pmax			
	comp=Z,741nm,1.0s							
AKBB	**Malin Array Si**	**74.87**	**353**	*ce*P	**P**	**14 28 04.8**	**-0.6**	
AKBB				pmax	pmax			
	comp=Z,990nm,1.0s							
BGES	**Gesves**	**74.87**	**9**	*d*P	**P**	**14 28 05.7**	**+0.2**	
KIEV	**Kiev**	**74.87**	**353**	⇓P	**P**	**14 28 05.2**	**-0.2**	
KIEV	**Kiev**	**74.87**	**353**	P	**P**	**14 28 04.0**	**-1.5**	
KIEV	**Kiev**	**74.87**	**353**	*i* P	**P**	**14 28 04.8**	**-0.7**	
	SNR=7.0							
KIEV	**Kiev**	**74.87**	**353**	⇓P	**P**	**14 28 05.2**	**-0.2**	
MI30	**MI30,Zelenitsa**	**74.89**	**354**	P	**P**	**14 28 05.0**	**-0.5**	
AHRW	**Bad Neuenahr-A**	**74.89**	**8**	*e*P		14 28 06.2		
	comp=Z,135nm,1.0s,baz=356,slow=5.8							
KHAM	**Kharkiv**	**74.92**	**349**	P	**P**	**14 28 05.4**	**-0.4**	
BMRD	**Maredsous**	**74.92**	**9**	*d*P	**P**	**14 28 06.2**	**+0.5**	
	comp=Z,96nm,1.1s							
BRG	**Berggiesshubel**	**74.95**	**3⇑**	*i*P	**P**	**14 28 06.3**	**+0.4**	
BRG				Amp		14 28 07.6		
	comp=Z,217nm,1.0s							
BRG	**Berggiesshubel**	**74.95**	**3⇑**	*i*P	**P**	**14 28 06.3**	**+0.4**	
BRG						14 28 16.1		
BRG				S	**S**	**14 37 42.0**	**-0.3**	
BRG				S	**SKSac**	**14 38 09.0**	**-4.7**	
BRG				SS	**SS**	**14 42 29.0**	**-0.3**	
BRG				pmax	pmax			
	comp=Z,217nm,1.0s							
BRG	**Berggiesshubel**	**74.95**	**3**	*e*P		14 28 06.1		
	comp=Z,217nm,1.0s,baz=356,slow=5.8							
BHOU	**Houvegnez**	**74.98**	**9**	*d*P	**P**	**14 28 06.6**	**+0.5**	
	comp=Z,48nm,1.0s							
KSP	**Ksiaz**	**75.04**	**2**	*e*P	**P**	**14 28 06.8**	**+0.4**	
MOX	**Moxa**	**75.08**	**5**	*e*P		14 28 07.1		
	comp=Z,343nm,1.2s,baz=356,slow=5.8							
MOX				*e*L		15 11 12.2		
	comp=Z,2μm,18.8s							
DOU	**Dourbes**	**75.11**	**10**	*d*P	**P**	**14 28 07.1**	**+0.3**	
	comp=Z,68nm,1.1s							
RCHB	**Rochefort**	**75.11**	**9**	*d*P	**P**	**14 28 06.8**	**-0.1**	
	comp=Z,92nm,1.0s							
JLP	**Les Platons**	**75.14**	**14⇑**	*e*P	**P**	**14 28 07.2**	**+0.2**	
HSKC	**Hora Svate Kat**	**75.20**	**4**	*e*P	**P**	**14 28 07.8**	**+0.4**	
HSKC				*ex*	x	14 28 17.6		
HSKC				AMS	AMS	15 10 50.0		
	comp=Z,2μm,18.0s							
PLN	**Plauen**	**75.27**	**5**	*e*P		14 28 08.1		
	comp=Z,102nm,1.0s,baz=356,slow=5.8							
RICC	**Richard**	**75.28**	**3**	*e*P	**P**	**14 28 08.7**	**+0.9**	
RICC				*ex*	x	14 28 18.7		
RICC				AMS	AMS	15 08 00.0		
	comp=Z,3μm,19.3s							
CHVC	**Chvalec**	**75.29**	**2**	*e*P	**P**	**14 28 08.4**	**+0.5**	
CHVC				AMS	AMS	15 11 00.0		
	comp=Z,5μm,18.1s							
CHVC	**Chvalec**	**75.29**	**2**	*e*P	**P**	**14 28 08.4**	**+0.5**	
CHVC				MLR	MLR			
	comp=Z,5μm,18.1s							
TNS	**Taunus Mts**	**75.31**	**7**	*e*P		14 28 08.5		
	comp=Z,131nm,0.9s,baz=356,slow=5.8							
TNS				*ep*P		14 28 18.1		
PVCC	**Panska Ves**	**75.31**	**3**	*e*P	**P**	**14 28 08.7**	**+0.7**	
PVCC				AMS	AMS	15 08 20.0		
	comp=Z,4μm,19.5s							
PVCC	**Panska Ves**	**75.31**	**3**	*e*P	**P**	**14 28 08.7**	**+0.7**	
PVCC				MLR	MLR			
	comp=Z,4μm,19.5s							
OSTC	**Ostas**	**75.33**	**2**	*e*P	**P**	**14 28 08.7**	**+0.6**	
OSTC				AMS	AMS	15 10 50.0		
	comp=Z,5μm,17.8s							
OSTC	**Ostas**	**75.33**	**2**	*e*P	**P**	**14 28 08.7**	**+0.6**	
OSTC				MLR	MLR			
	comp=Z,5μm,17.8s							
TANN	**Tannenbergstha**	**75.35**	**4**	*e*P		14 28 08.8		
	comp=Z,490nm,1.9s,baz=356,slow=5.8							
RAR	**Rarotonga**	**75.37**	**179**	P	**P**	**14 28 09.8**	**+1.4**	
RAR	**Rarotonga**	**75.37**	**179**	LR	LR	14 55 17.5		
	comp=Z,2μm,19.4s,baz=356,slow=31							
UPC	**Upice**	**75.37**	**2**	*e*P	**P**	**14 28 08.8**	**+0.4**	
UPC				AMS	AMS	15 11 00.0		
	comp=Z,5μm,17.5s							
UPC	**Upice**	**75.37**	**2**	*e*P	**P**	**14 28 08.8**	**+0.4**	
UPC				MLR	MLR			
	comp=Z,5μm,17.5s							
LKP	**Lekhapani**	**75.41**	**297**	*e*P	**P**	**14 28 09.6**	**+0.6**	
PLTM	**Poltava**	**75.50**	**350**	P	**P**	**14 28 08.9**	**-0.1**	
DPC	**Dobruska-Polom**	**75.54**	**2**	*e*P	**P**	**14 28 10.1**	**+0.7**	
DPC				AMS	AMS	15 11 10.0		
	comp=Z,4μm,16.8s							
DPC	**Dobruska-Polom**	**75.54**	**2**	*e*P	**P**	**14 28 10.1**	**+0.7**	
DPC				MLR	MLR			
	comp=Z,4μm,16.8s							
WLF	**Walferdange**	**75.68**	**9**	IAMs_20	IAMs_20	15 03 14.4		
	comp=Z,3μm,22.0s							
WLF	**Walferdange**	**75.68**	**9**	*d*P	**P**	**14 28 11.0**	**+0.9**	
	comp=Z,115nm,1.1s							
WLF	**Walferdange**	**75.68**	**9**	*e*P		14 28 11.0		
	comp=Z,245nm,1.1s,baz=356,slow=5.8							
OJC	**Ojcow**	**75.69**	**360**	*e*P	**P**	**14 28 10.4**	**+0.3**	
OJC	**Ojcow**	**75.69**	**360**	IAmb	IAmb	14 28 23.5		

GOPC GO Pecny, Ondr 75.94 3 *eP* **P 14 28 12.0 +0.4**
GOPC MLR MLR
comp=Z,4µm,19.8s
ROTZ Rotzenmuhle 75.99 5 *eP* 14 28 12.5
comp=Z,51nm,1.2s,baz=356,slow=5.8
LVV L'vov 76.01 357 *eP* **P 14 28 12.0 0.0**
LVV *e* 14 28 22.2
LVV *eS* **S 14 37 50.9 -3.2**
LVV pmax pmax
comp=Z,800nm,1.3s
GRA1 Grafenberg Arr 76.01 5 IAmb IAmb 14 28 23.2
comp=Z,164nm,0.9s
GRF Grafenberg Arr 76.01 5 *eP* 14 28 12.8
comp=Z,154nm,0.9s,baz=356,slow=5.8
GRF *ep*P 14 28 22.5
GRF *eL* 15 11 06.7
comp=Z,2µm,18.7s
OKC Ostrava-Krasne 76.07 1 *eP* **P 14 28 12.8 +0.5**
OKC AMS AMS 15 13 40.0
comp=Z,2µm,16.4s
OKC Ostrava-Krasne 76.07 1 *eP* **P 14 28 12.8 +0.5**
OKC MLR MLR
comp=Z,2µm,16.4s
MORC Moravsky Berou 76.13 1 ⇓P **P 14 28 13.1 +0.4**
MORC Moravsky Berou 76.13 1 IAmb IAmb 14 28 14.3
comp=Z,188nm,1.0s
MORC Moravsky Berou 76.13 1 *eP* **P 14 28 12.8 +0.1**
MORC *eS* **S 14 37 52.5 -3.0**
MORC Moravsky Berou 76.13 1 ⇓P **P 14 28 13.1 +0.4**
KWP Kalwaria Pacla 76.24 358 *eP* **P 14 28 14.0 +0.7**
KWP Kalwaria Pacla 76.24 358 IAMs_20 IAMs_20 15 06 34.4
comp=Z,4µm,19.0s
ZIRO ZIRO 76.29 298 *eP* **P 14 28 14.6 +0.4**
TABU Tabubil 76.39 240 P **P 14 28 16.4 +1.7**
NIE Niedzica 76.49 359 *eP* **P 14 28 15.6 +0.8**
MAUC Maruska 76.54 1 *eP* **P 14 28 15.7 +0.6**
MAUC AMS AMS 15 11 40.0
comp=Z,4µm,16.0s
TREC Trest 76.57 2 *eP* **P 14 28 15.3 0.0**
TREC AMS AMS 15 12 00.0
comp=Z,5µm,18.2s
TREC Trest 76.57 2 *eP* **P 14 28 15.3 0.0**
TREC MLR MLR
comp=Z,5µm,18.2s
VRAC Vranov 76.58 2 ⇓P **P 14 28 15.9 +0.6**
VRAC Vranov 76.58 2 *eP* **P 14 28 15.9 +0.6**
VRAC *eS* **S 14 37 58.2 -2.2**
VRAC Vranov 76.58 2 ⇓P **P 14 28 15.9 +0.6**
WET Wettzell 76.64 4 *eP* 14 28 16.4
comp=Z,187nm,1.2s,baz=356,slow=5.8
KHC Kasperske Hory 76.68 4 IAMs_20 IAMs_20 15 08 29.9
comp=Z,3µm,20.0s
KHC Kasperske Hory 76.68 4 *eP* **P 14 28 16.5 +0.6**
KHC *ep*P **PcP 14 28 26.1 -1.1**
KHC AMS AMS 15 08 20.0
comp=Z,3µm,20.2s
KHC Kasperske Hory 76.68 4*ce*P **P 14 28 16.4 +0.6**
KHC pmax pmax
comp=Z,487nm,1.1s
LANS Liptovska Anna 76.76 360 *eP* **P 14 28 17.7 +1.4**
LANS pmax pmax
comp=Z,149nm,0.9s
LANS Liptovska Anna 76.76 360 *eP* **P 14 28 17.7 +1.4**
STU Stuttgart 76.80 7 IAmb IAmb 14 28 30.7
comp=Z,182nm,1.2s
STU IAMs_20 IAMs_20 15 08 06.2
comp=Z,2µm,19.0s
KRUC Moravsky 76.83 2 *eP* **P 14 28 16.9 +0.3**
KRUC *eS* **S 14 38 00.9 -2.1**
CLF Chambon-Foret 76.90 12 IAMs_20 IAMs_20 15 03 42.7
comp=Z,4µm,21.0s
KOLS Kolonicke sedl 76.94 358 *eP* **P 14 28 18.0 +0.7**
KOLS pmax pmax
comp=Z,158nm,0.9s
KOLS Kolonicke sedl 76.94 358 *eP* **P 14 28 18.0 +0.7**
GEC2 GERESS Array S 76.97 4 IAmb IAmb 14 28 19.2
comp=Z,151nm,1.1s
GERES GERESS Array B 76.97 4 P **P 14 28 17.9 +0.4**
comp=Z,53nm,0.8s,baz=353,slow=4.4,SNR=182
comp=Z,53nm,0.8s
GEC2 GERESS Array S 76.97 4 *eP* 14 28 17.9
comp=Z,159nm,1.1s,baz=356,slow=5.8
CRVS Cervenica-Dubn 76.99 358 *eP* **P 14 28 18.5 +0.9**
CRVS pmax pmax
comp=Z,1µm,2.0s
CRVS Cervenica-Dubn 76.99 358 *eP* **P 14 28 18.5 +0.9**
CKRC Cesky Krumlov 77.02 3 *eP* **P 14 28 18.0 +0.3**
CKRC AMS AMS 15 09 10.0
comp=Z,5µm,20.1s
CKRC Cesky Krumlov 77.02 3 *eP* **P 14 28 18.0 +0.3**
CKRC MLR MLR
comp=Z,5µm,20.1s
JAVC Velka Javorina 77.05 1 *eP* **P 14 28 19.5 +1.5**
PMG Port Moresby 77.09 233 P **P 14 28 19.7 +1.3**
PMG Port Moresby 77.09 233 P **P 14 28 19.5 +1.1**
PMG Port Moresby 77.09 233 IAMs_20 IAMs_20 14 56 22.5
comp=Z,3µm,20.0s
PMG Port Moresby 77.09 233 P **P 14 28 18.3 -0.2**
comp=Z,131nm,1.1s,baz=30,slow=6.1,SNR=14
PMG LR LR 14 56 56.7
comp=Z,3µm,21.5s,baz=64,slow=32
comp=Z,131nm,1.1s
PMG Port Moresby 77.09 233*ce*P **P 14 28 18.4 0.0**
PMG pmax pmax
comp=Z,158nm,1.2s
BFO Black Forest 77.18 7 P **P 14 28 18.5 -0.2**
BFO IAmb IAmb 14 28 32.9
comp=Z,230nm,1.3s
BFO Black Forest 77.18 7 P **P 14 28 18.5 -0.2**
BFO pmax pmax
comp=Z,230nm,1.3s
BFO Black Forest 77.18 7 *eP* 14 28 19.0
comp=Z,85nm,0.9s,baz=356,slow=5.8
ECH Echery 77.20 8 IAmb IAmb 14 28 20.4
comp=Z,199nm,1.0s
SMOL Smolenice 77.39 1 *eP* **P 14 28 21.0 +1.2**
SMOL pmax pmax
comp=Z,135nm,1.1s
VYHS Vyhne 77.42 0 *eP* **P 14 28 20.7 +0.7**
VYHS pmax pmax
comp=Z,280nm,1.1s
VYHS Vyhne 77.42 0 *eP* **P 14 28 20.7 +0.7**
KECS Kecovo 77.42 359 *eP* **P 14 28 20.9 +0.9**
KECS pmax pmax
comp=Z,228nm,1.0s
KECS Kecovo 77.42 359 *eP* **P 14 28 20.9 +0.9**
MODS Modra-Piesok 77.53 1 *eP* **P 14 28 21.8 +1.2**
MODS pmax pmax
comp=Z,789nm,1.2s
MODS Modra-Piesok 77.53 1 *eP* **P 14 28 21.8 +1.2**
KOHI KOHIMA 77.62 297 *eP* **P 14 28 21.8 +0.1**
AOPR Arecibo Observ 77.66 76 IAmb IAmb 14 28 42.1
comp=Z,106nm,0.8s
ZST Bratislava 77.70 1 *eP* **P 14 28 22.6 +1.0**
ZST pmax pmax
comp=Z,785nm,1.2s
ZST Bratislava 77.70 1 *eP* **P 14 28 22.6 +1.0**
UUPR Utuado, UPR, P 77.75 76 IAMs_20 IAMs_20 15 02 50.2
comp=Z,2µm,20.0s
SIMJ Simiganj 77.83 322 P **P 14 28 22.1 -0.5**
CONA Conrad Observa 77.95 2 *i* PcP **P 14 28 24.1 +1.0**
comp=Z,219nm,1.0s,SNR=176
UBR Ueberruh 77.95 6 *eP* 14 28 23.6
comp=Z,112nm,1.0s,baz=356,slow=5.8
CELP Cerrillos 77.98 76 IAmb IAmb 14 28 36.9
comp=Z,103nm,0.9s
CELP IAMs_20 IAMs_20 15 03 05.0
comp=Z,3µm,20.0s
SWI Sorong 77.98 251 P **P 14 28 23.6 +0.1**
comp=Z,330nm,1.3s,comp=Z,4µm
MOA Molln 77.98 3 *i* PcP **P 14 28 23.6 +0.4**
comp=Z,133nm,1.2s,SNR=79
MOA *e*SKS **S 14 38 19.9 +4.2**
comp=Z,2.2nm,0.7s
OBIP Obispado Ponce 77.99 76 IAmb IAmb 14 28 36.9
comp=Z,163nm,0.9s
OBIP IAMs_20 IAMs_20 15 03 06.3
comp=Z,3µm,20.0s
PSZ Piszkesteto 77.99 359 ⇑P **P 14 28 24.5 +1.2**
PSZ Piszkesteto 77.99 359 IAMs_20 IAMs_20 15 09 43.8
comp=Z,3µm,18.0s
PSZ Piszkesteto 77.99 359 ⇑P **P 14 28 24.5 +1.2**
RJOB Jochberg 78.04 4 *eP* 14 28 24.0
comp=Z,181nm,0.8s,baz=356,slow=5.8
SRO Srobarova 78.10 1 *eP* **P 14 28 25.2 +1.4**
SRO pmax pmax
comp=Z,280nm,1.5s
SRO Srobarova 78.10 1 *eP* **P 14 28 25.2 +1.4**
TBI Tubuai 78.11 169 *eP* **P 14 28 25.1 +1.2**
comp=Z,3µm,23.5s
TBI *e*S **S 14 38 16.4 -0.8**
comp=Z,5µm,25.5s
TBI *e*SS **SS 14 43 18.3 -1.4**
comp=Z,5µm,27.2s
TBI *e*LQ LQ 14 48 53.9
comp=Z,4µm,29.8s
TBI *e*LR LR 14 52 27.5
comp=Z,29µm,22.8s
TBI *e*LR LR 14 52 39.1
comp=Z,8µm,23.0s
BIOA Bad Ischl, Aus 78.12 4 *i* PcP **P 14 28 24.5 +0.5**
comp=Z,223nm,1.5s,SNR=69
BURAR Bucovina Array 78.17 356 ⇑P **P 14 28 24.8 +0.5**
BURAR Bucovina Array 78.17 356 P **P 14 28 23.8 -0.5**
BURAR IAmb IAmb 14 28 25.7
comp=Z,157nm,0.8s
BMR Baia Mare 78.17 357 ⇑P **P 14 28 25.0 +0.8**
BMR Baia Mare 78.17 357 ⇑P **P 14 28 25.0 +0.8**
RETA Reutte 78.18 6 *i* PcP **P 14 28 24.9 +0.5**
comp=Z,188nm,1.9s,SNR=54
RETA *i* SKS **S 14 38 20.7 +2.7**
comp=Z,12nm,1.3s
RONA Rosalia, Austr 78.19 2 *i* PcP **P 14 28 25.3 +1.0**
comp=Z,134nm,1.1s,SNR=68
SJG San Juan 78.19 76 P **P 14 28 25.3 +0.6**
SJG IAmb IAmb 14 28 38.0
comp=Z,312nm,1.6s
SJG San Juan 78.19 76 IAMs_20 IAMs_20 15 02 57.7
comp=Z,3µm,20.0s
SJG San Juan 78.19 76 LR LR 15 03 37.9
comp=Z,2µm,19.0s,baz=304,slow=36
SJG San Juan 78.19 76 P **P 14 28 25.3 +0.6**
SJG pmax pmax
comp=Z,312nm,1.7s
SJG MLR MLR
comp=Z,3µm,20.0s
DAVA Damuels 78.33 6 *i* PcP **P 14 28 25.7 +0.4**
comp=Z,50nm,0.9s,SNR=25
HUMP Col San Antoni 78.33 75 IAmb IAmb 14 28 39.4
HUMP IAMs_20 IAMs_20 15 03 56.5
comp=Z,4µm,20.0s
LESA Schwarzleotal 78.35 4 *i* PcP **P 14 28 25.6 +0.3**
comp=Z,185nm,1.5s
LESA *e*SKS **S 14 38 23.4 +3.6**
comp=Z,9.7nm,1.2s
PRAR RASCA 78.37 355 ⇑P **P 14 28 24.9 -0.4**
WATA Walderalm 78.38 5 *i* PcP **P 14 28 26.2 +0.7**
comp=Z,237nm,1.1s,SNR=76
WATA *i* SKS **S 14 38 23.4 +3.2**
comp=Z,1.1nm,0.4s
WTTA Wattenberg 78.45 5 *i* PcP **P 14 28 26.3 +0.3**
comp=Z,214nm,0.9s,SNR=106
WTTA *i* SKS **S 14 38 22.7 +1.6**
comp=Z,16nm,2.1s
IAS Iasi 78.47 354 ⇑P **P 14 28 25.9 +0.1**
IAS Iasi 78.47 354 ⇑P **P 14 28 25.9 +0.1**
SQTA Sankt Quirin 78.47 5 *i* PcP **P 14 28 26.9 +0.9**
comp=Z,261nm,0.9s,SNR=118
GUWA GUWAHATI 78.48 299 *eP* **P 14 28 25.4 -0.8**
ERBR Yeremizino-Bor 78.56 345 *eP* **P 14 28 26.5 +0.2**
ERBR *e* 14 31 23.5
ERBR *e*PPP PPP 14 33 08.8
ERBR *eS* **S 14 38 20.2 -1.6**
ERBR pmax pmax
comp=Z,821nm,1.0s
ERBR MLR MLR
comp=Z,5µm,20.0s
KIS Kishinev 78.58 353 ⇓P **P 14 28 25.6 -0.9**
KIS Kishinev 78.58 353 ⇑*i*P **P 14 28 25.0 -1.4**
comp=Z,520nm,1.2s
KIS *e*S **S 14 38 18.0 -4.0**
KIS *e*L L 14 58 37.0
KIS LQM 15 08 33.0
comp=Z,1µm,18.0s
KIS LRM MLR 15 11 08.0
comp=Z,2µm,16.0s
KIS Kishinev 78.58 353*c i*P **P 14 28 25.0 -1.4**
KIS *i* 14 28 35.0
KIS *e*S **S 14 38 18.0 -4.0**
KIS pmax pmax
comp=Z,500nm,1.2s
BSZH Besenyszg 78.61 359 ⇑P **P 14 28 28.1 +1.5**
ARSA Arzberg 78.62 2 *i* PcP **P 14 28 27.8 +1.0**
comp=Z,158nm,1.0s,SNR=83
FETA Feichten 78.65 6 *i* PcP **P 14 28 27.7 +0.6**
comp=Z,163nm,0.9s,SNR=124
FETA *i* SKS **S 14 38 27.5 +4.3**
comp=Z,18nm,1.6s
MILM Milestii Mici 78.66 353 ⇑P **P 14 28 26.4 -0.5**
MILM Milestii Mici 78.66 353 ⇑*i*P P 14 28 25.0 -1.9
comp=Z,1µm,1.3s
MILM *e*S **S 14 38 19.0 -3.9**
MILM *e*L L 14 58 45.0
MILM LQM 15 08 46.0
comp=Z,3µm,18.0s
MILM LRM MLR 15 11 11.0
comp=Z,5µm,16.5s
MILM Milestii Mici 78.66 353*ce*P P 14 28 25.0 -1.9
MILM *i* 14 28 35.0
MILM *e*S **S 14 38 19.0 -3.9**
MILM pmax pmax
comp=Z,1µm,1.3s
MESR Meseseni 78.71 357 ⇑P **P 14 28 27.8 +0.6**
KBA Koelnbreinsper 78.72 4 *i* PcP **P 14 28 28.7 +1.2**
comp=Z,335nm,1.1s,SNR=222
KBA *i* SKS **S 14 38 30.3 +6.4**
comp=Z,7.7nm,1.3s
ARCR ARCALIA 78.73 356 ⇑P **P 14 28 28.6 +1.3**
GOF Gofitskoye 78.78 343*c i*P **P 14 28 27.9 +0.3**
GOF *e*S **S 14 38 22.4 -1.9**
BORR Bors 78.80 358 ⇑P **P 14 28 28.9 +1.2**
TNTI Ternate 78.81 255 P **P 14 28 29.5 +1.4**
TNTI Ternate 78.81 255 P **P 14 28 28.5 +0.4**
NONG Nongkai 78.89 285 P **P 14 28 28.9 +0.4**
SHL Shillong 78.90 298 *eP* P 14 28 27.1 -1.6
SHL IAmb IAmb 14 28 29.0
comp=Z,156nm,0.9s
KMPI Kaimana, Papua 78.97 248 P **P 14 28 28.4 -0.6**
comp=Z,322nm,1.4s,comp=Z,4µm
HNLY HANLEY 79.01 312 *eP* **P 14 28 30.1 +0.4**
HNLY IAmb IAmb 14 28 32.6
comp=Z,64nm,0.7s
ABTA Abfaltersbach 79.01 5 *i* PcP **P 14 28 29.3 +0.4**
comp=Z,184nm,1.1s,SNR=78
FUORN Ofenpass-Fuorn 79.02 6 IAmb IAmb 14 28 44.0
comp=Z,275nm,1.4s
CBBR Cluj-Babes-Bol 79.08 357 ⇑P P 14 28 26.8 -2.4
DRGR 79.08 357 ⇑P **P 14 28 30.2 +0.9**
DRGR 79.08 357 ⇑P **P 14 28 30.2 +0.9**
TUE Stuetta 79.10 7 IAmb IAmb 14 28 51.7
comp=Z,133nm,1.2s
GTK Tadong 79.11 302 *eP* **P 14 28 30.5 +0.6**
CJR Cluj-Napoca 79.13 357 ⇑P **P 14 28 30.1 +0.6**
CJR Cluj-Napoca 79.13 357 ⇑P **P 14 28 30.1 +0.6**
FAKI Fak Fak 79.14 249 P **P 14 28 30.6 +0.7**
FAKI Fak Fak 79.14 249 P **P 14 28 30.1 +0.2**
comp=Z,284nm,1.5s,comp=Z,4µm
SOKA Soboth 79.18 3 *i* PcP **P 14 28 30.4 +0.6**
comp=Z,373nm,1.2s,SNR=300
SOKA *e*SKS **S 14 38 32.6 +3.9**
comp=Z,5.1nm,1.4s
MYKA Terra Mystica 79.18 4 *i* PcP **P 14 28 30.1 +0.3**
comp=Z,87nm,1.0s,SNR=50
MYKA *i* SKS **S 14 38 30.7 +2.0**
comp=Z,5.6nm,0.9s
MARR Marisel-Cluj 79.18 357 ⇑P **P 14 28 30.3 +0.4**
TESR Tescani 79.20 355 ⇑P **P 14 28 29.9 0.0**
PERS Pernice 79.22 3 *i* P **P 14 28 30.6 +0.6**
PERS *i* pP **PcP 14 28 40.0 +1.6**
PERS *eS* **S 14 38 27.8 -1.2**
TGMR Targu Mures 79.28 356 ⇑P **P 14 28 31.3 +1.0**
OBKA Obir 79.33 3 *i* PcP **P 14 28 30.8 +0.1**
comp=Z,396nm,0.8s,SNR=253
OBKA *e*SKS **S 14 38 31.6 +1.3**
comp=Z,12nm,1.5s
OBKA Obir 79.33 3 ⇑*i*P **P 14 28 31.2 +0.5**
PRED Cave del Predi 79.36 4 IAMs_20 IAMs_20 15 10 25.9
comp=Z,4µm,20.0s
BIR Birlad 79.39 354 ⇑P **P 14 28 32.2 +1.3**
BIR Birlad 79.39 354 ⇑P **P 14 28 32.2 +1.3**
ONER Baraj Valea Uz 79.39 355 ⇑P **P 14 28 31.7 +0.8**
STAL STALIGIAL 79.51 4 IAmb IAmb 14 28 45.1
comp=Z,140nm,1.4s
LABN Labinsk 79.57 344 *eP* **P 14 28 32.4 +0.5**
LABN *e* 14 31 28.6
LABN *eS* **S 14 38 31.9 -0.7**
LABN pmax pmax
comp=Z,325nm,1.4s
LABN MLR MLR
comp=Z,5µm,19.0s
GHRR 79.61 354 ⇑P **P 14 28 33.0 +0.9**
SIRR Siria 79.62 358 ⇑P **P 14 28 33.0 +0.7**
OZUR 79.66 355 ⇑P **P 14 28 33.1 +0.7**
CTI Castel Tesino 79.67 5 IAmb IAmb 14 28 46.9
comp=Z,219nm,1.2s
MDB Medias 79.67 356 ⇓P **P 14 28 33.5 +1.0**
MDB Medias 79.67 356 ⇓P **P 14 28 33.5 +1.0**
BOSR Bodos 79.68 355 ⇑P **P 14 28 33.8 +1.2**
TURR Turia 79.69 355 ⇑P **P 14 28 33.6 +1.1**
MORH Mrgy, Hungar 79.70 0 ⇑P **P 14 28 32.9 +0.4**
VARL Varlezi 79.74 354 ⇑P **P 14 28 33.9 +1.1**
LIFNC LIFOU 79.76 210 IAMs_20 IAMs_20 14 58 01.3
comp=Z,3µm,20.0s
KALN Kalnik 79.76 2 *i* P **P 14 28 33.4 +0.4**
VLDR Vladesti 79.78 354 ⇑P **P 14 28 33.4 +0.4**
LJU Ljubljana 79.80 3 *i* P **P 14 28 33.0 -0.1**
LJU *eS* **S 14 38 31.7 -3.4**
UBPT Khong Chiam 79.80 282 P **P 14 28 33.9 +0.4**
DOPR Dopca 79.80 356 ⇓P **P 14 28 34.1 +0.9**
PANC Panciu 79.81 354 ⇑P **P 14 28 34.0 +0.8**
COSR Cosmesti PH 79.81 354 ⇑P **P 14 28 34.8 +1.6**
SABO M.te Sabotino 79.83 4 IAmb IAmb 14 28 43.6
comp=Z,152nm,1.0s
SABO IAMs_20 IAMs_20 15 10 39.0
comp=Z,3µm,19.0s
VRI Vrincioaia 79.84 355 ⇑P **P 14 28 34.4 +1.0**
VRI Vrincioaia 79.84 355 ⇑P **P 14 28 34.4 +1.0**
PLOR Plostina 79.86 355 ⇑P **P 14 28 33.7 +0.2**
PLOR Plostina 79.86 355 ⇑P **P 14 28 33.7 +0.2**
SSB Saint Sauveur 79.87 10 IAmb IAmb 14 28 35.4
comp=Z,86nm,1.1s
SSB Saint Sauveur 79.87 10 IAMs_20 IAMs_20 15 04 15.2
comp=Z,3µm,22.0s
COVR Voineasa-Covas 79.89 355 ⇑P **P 14 28 35.2 +1.5**
ANN Anapa 79.89 347*c i*P **P 14 28 32.6 -1.0**
ANN *e* 14 31 32.9
ANN *eS* **S 14 38 32.9 -3.0**
ANN *e*SS **SS 14 43 50.5 +6.7**
ANN pmax pmax
comp=Z,183nm,1.0s
LBMI Labuha 79.89 255 P **P 14 28 33.4 -0.6**
comp=Z,219nm,1.2s,comp=Z,5µm
KVAR Kislovodsk Arr 79.91 343 LR LR 15 10 13.9
comp=Z,2µm,18.0s,slow=40
KIV Kislovodsk 79.91 343 ⇑P **P 14 28 34.6 +0.7**
KIV Kislovodsk 79.91 343 P **P 14 28 33.7 -0.2**
KIV IAMs_20 IAMs_20 15 10 41.2
comp=Z,3µm,19.0s
KIV Kislovodsk 79.91 343 *i* P **P 14 28 34.5 +0.5**
SNR=57
KIV Kislovodsk 79.91 343 *eP* **P 14 28 34.4 +0.5**
KIV *eS* **S 14 38 36.9 +0.4**
KIV pmax pmax
comp=Z,406nm,1.1s
KIV pmax pmax
comp=Z,378nm,4.2s
ODBI Odobesti 79.92 354 ⇑P **P 14 28 35.7 +1.9**
SCTR Scanteiesti 79.95 354 ⇑P **P 14 28 34.7 +0.7**
SPBR Spulber 79.95 355 ⇓P **P 14 28 34.9 +0.9**
MAK Makhachkala 79.96 339*c i*P P 14 28 31.0 -3.0
MAK *e* 14 31 39.5
MAK *e*PPP PPP 14 33 21.1
MAK *eS* S 14 38 31.8 -5.0
MAK *e*SS **SS 14 43 49.9 +4.9**
MAK *e*SSS SSS 14 47 15.4
MAK pmax pmax
comp=Z,929nm,1.1s
SMRT St. Maarten 79.97 73 IAmb IAmb 14 28 46.3
comp=Z,101nm,0.8s
SMRT IAMs_20 IAMs_20 15 08 28.7
comp=Z,2µm,19.0s
PTJ Puntijarka 79.97 2 *i* P **P 14 28 34.4 +0.2**
DEV Deva 79.98 357 ⇑P **P 14 28 35.5 +1.4**
TATR Tatarca 80.03 354 ⇑P **P 14 28 35.3 +1.0**
CRES Cresnjev 80.04 3 ⇑*i*P **P 14 28 34.3 -0.2**
SLCR Slobozia Conac 80.05 354 ⇑P **P 14 28 35.2 +0.7**
TUDR 80.05 354 ⇓P **P 14 28 35.3 +0.8**
KBZ Khabaz 80.10 343 P **P 14 28 35.6 +0.9**
comp=Z,234nm,0.9s,baz=15,slow=2.7,SNR=288
KBZ S **S 14 38 38.5 +0.3**
comp=Z,0.7nm,0.6s,baz=81,slow=23,SNR=6.1
KBZ LR LR 15 10 24.9
comp=Z,3µm,19.2s,baz=10,slow=40
comp=Z,234nm,0.9s
KBZ Khabaz 80.10 343*ce*P **P 14 28 35.4 +0.7**
KBZ pmax pmax
comp=Z,326nm,0.9s
NEGRR Negrea 80.10 354 ⇓P **P 14 28 35.5 +0.8**
CEY Cerknica 80.10 3 ⇑*i*P **P 14 28 34.7 -0.1**
IZVR Izvoarele 80.10 354 ⇑P **P 14 28 35.5 +0.8**
SHA1 Shidzhatmaz 80.13 343*ce*P **P 14 28 35.8 +0.5**
SURR Surduc 80.13 358 ⇑P **P 14 28 35.6 +0.7**
SCHL Schela 80.14 354 ⇓P **P 14 28 35.2 +0.2**
SIM Simferopol' 80.14 349*ce*P **P 14 28 35.1 +0.1**
SIM *e* 14 28 44.0
SIM *eS* S 14 38 34.0 -4.7
SIM pmax pmax
comp=Z,171nm,1.0s
BISRR Bisoca 80.16 355 ⇑P **P 14 28 35.8 +0.6**
TNR Turnu Rosu 80.17 356 ⇑P **P 14 28 36.3 +1.2**
TNR Turnu Rosu 80.17 356 ⇑P **P 14 28 36.3 +1.2**
SCHLR Schela 80.17 354 ⇑P **P 14 28 35.7 +0.6**
MLR Muntele Rosu 80.25 355 ⇑P **P 14 28 36.8 +1.0**
MLR Muntele Rosu 80.25 355 IAmb IAmb 14 28 49.3
comp=Z,531nm,1.6s
MLR IAMs_20 IAMs_20 15 09 45.7
comp=Z,5µm,18.0s
MLR Muntele Rosu 80.25 355 LR LR 15 09 12.7
comp=Z,4µm,18.1s,baz=22,slow=40
MLR Muntele Rosu 80.25 355 ⇑P **P 14 28 36.8 +1.0**
OZLJ Ozalj 80.25 3 *i* P **P 14 28 35.7 +0.1**
BZS Buzias 80.28 358 ⇑P **P 14 28 36.0 +0.3**
BZS Buzias 80.28 358 ⇑P **P 14 28 36.0 +0.3**
MOSL Moslavina 80.28 2 *i* P **P 14 28 36.2 +0.4**
NEHR Nehoiu 80.30 355 ⇑P **P 14 28 36.2 +0.3**
BNI Bardonecchia 80.30 9 IAmb IAmb 14 28 48.2
comp=Z,261nm,1.3s
BNI IAMs_20 IAMs_20 15 07 40.7
comp=Z,2µm,20.0s
MYLDM Lahad Datu 80.33 265 IAMs_20 IAMs_20 15 01 38.8
comp=Z,3µm,21.0s
VOIR 80.35 356 ⇑P **P 14 28 37.0 +0.8**
VOIR 80.35 356 ⇑P **P 14 28 37.0 +0.8**
BOJS Bojanci 80.36 3 *i* P **P 14 28 36.5 +0.3**
BOJS Bojanci 80.36 3 ⇑*i*P **P 14 28 36.5 +0.3**
TLCR 80.38 353 ⇓P **P 14 28 36.7 +0.4**
TLCR 80.38 353 ⇓P **P 14 28 36.7 +0.4**
KLP Kalpa 80.39 312 *eP* **P 14 28 36.9 -0.1**
LOT Lotru 80.39 357 ⇑P **P 14 28 36.2 -0.3**
ARR Arges 80.44 356 ⇑P **P 14 28 38.1 +1.4**
CFR Carcaliu 80.44 354 ⇑P **P 14 28 36.4 -0.1**
CFR Carcaliu 80.44 354 ⇑P **P 14 28 36.4 -0.1**
KOUNC Koumac, New Ca 80.44 213 P **P 14 28 38.2 +1.5**
CMLA Cha da Macela 80.47 34 IAMs_20 IAMs_20 15 01 57.2
comp=Z,3µm,20.0s
SEUS St. Eustatius 80.47 73 IAMs_20 IAMs_20 15 06 21.0
comp=Z,5µm,21.0s
GZR Gura Zlata 80.47 357 ⇓P **P 14 28 37.2 +0.3**
GZR Gura Zlata 80.47 357 ⇓P **P 14 28 37.2 +0.3**
BANR Banloc 80.52 359 ⇑P **P 14 28 38.5 +1.5**
MTUR Matau 80.56 356 ⇑P **P 14 28 39.1 +1.7**
MTUR Matau 80.56 356 ⇑P **P 14 28 39.1 +1.7**
ISR Istrita 80.59 355 ⇑P **P 14 28 37.7 +0.2**
ISR Istrita 80.59 355 ⇑P **P 14 28 37.7 +0.2**
DHRM DHARAMSHALA 80.60 314 *eP* **P 14 28 37.9 -0.1**
DHRM IAmb IAmb 14 28 42.6
comp=Z,332nm,0.9s
CHTO Chiang Mai 80.62 289 P **P 14 28 37.3 -0.7**
CHTO IAmb IAmb 14 28 40.3
comp=Z,176nm,1.1s
CHTO IAMs_20 IAMs_20 15 07 47.9
comp=Z,2µm,19.0s

CHTO Chiang Mai 80.62 289 P P 14 28 37.3 -0.7
CHTO pmax pmax
comp=Z,176nm,1.1s
CHTO MLR MLR
comp=Z,2µm,19.0s
NIL Nilore 80.64 317 P P 14 28 38.2 +0.3
NIL Nilore 80.64 317 P P 14 28 38.2 +0.3
NIL pmax pmax
comp=Z,577nm,1.0s
NIL MLR MLR
comp=Z,11µm,21.0s
THN Thein Dam 80.69 314 *eP* **P 14 28 38.0 -0.1**
DLV T Lat 80.73 277 P P 14 28 39.7 +0.9
DLV T Lat 80.73 277 IAmb IAmb 14 28 40.5
comp=Z,238nm,1.2s
DLV IAMs_20 IAMs_20 15 10 36.5
comp=Z,2µm,18.0s
TPGR Topolog 80.74 353 ⇑P P 14 28 38.5 +0.3
SOC Sochi 80.75 345 *eP* P 14 28 36.7 -1.6
SOC *e**PP pP 14 28 42.8 -1.0
SOC *e**SP sP 14 28 44.3 -1.5
SOC *e*PPP PPP 14 33 36.2
SOC *e*S **S 14 38 44.9 -0.2**
SOC *e*SS **SS 14 43 59.2 +2.3**
SOC *e*SSS SSS 14 47 25.0
SOC pmax pmax
comp=Z,269nm,0.8s
SOC MLR MLR
comp=Z,4µm,21.0s
FRGS Fruska Gora 80.76 359 ⇑P P 14 28 38.9 +0.5
FRGS Fruska Gora 80.76 359 ⇑P P 14 28 38.4 +0.1
PGOR Pogoanele 80.78 354 ⇓P P 14 28 39.4 +1.0
SMRN Sveta Marina 80.79 4 *i P* **P 14 28 38.1 -0.3**
JURR Jurilovca 80.80 353 ⇓P P 14 28 39.0 +0.6
SAIH SAIHA 80.85 296 *eP* **P 14 28 38.9 -0.4**
PRMA PARMA 80.87 6 IAmb IAmb 14 28 50.5
comp=Z,432nm,1.2s
KMSI Cibinong 80.90 258 P P 14 28 39.6 +0.2
BRJN Brijuni 80.91 4 *i P* **P 14 28 39.4 +0.4**
CMAR Chiang Mai Arr 80.91 289 P P 14 28 39.4 -0.1
CMAR Chiang Mai Arr 80.91 289 P P 14 28 39.5 0.0
comp=Z,219nm,1.0s,baz=15,slow=5.4,SNR=374
CMAR PKKPbc **PKKPbc 14 47 15.3 +1.0**
comp=Z,1.0nm,0.8s,baz=238,slow=5.1,SNR=2.4
CMAR LR LR 15 08 26.9
comp=Z,2µm,18.9s,baz=25,slow=39
comp=Z,219nm,1.0s
CMAR Chiang Mai Arr 80.91 289 *ce*P **P 14 28 39.5 0.0**
CMAR pmax pmax
comp=Z,214nm,1.0s
STFAR Stefanesti-Arg 80.93 356 ⇑P P 14 28 40.1 +0.8
HARR Harsova 80.94 354 ⇓P P 14 28 39.7 +0.5
HARR Harsova 80.94 354 ⇓P P 14 28 39.7 +0.5
KKM Kota Kinabalu 80.97 268 P P 14 28 41.1 +1.1
KKM Kota Kinabalu 80.97 268 IAmb IAmb 14 28 41.8
comp=Z,254nm,1.4s
HERR Herculane 80.99 358 ⇓P P 14 28 39.6 +0.1
PLIT Plitvice 80.99 2 *i P* **P 14 28 40.0 +0.3**
TLBR Topalu 81.08 354 ⇑P P 14 28 40.2 +0.2
RABC Rab 81.10 3 *i P* **P 14 28 40.0 -0.1**
MDVR Moldovita 81.11 358 ⇑P P 14 28 40.6 +0.3
BLY Banja Luka 81.15 1 ⇑*i P* **P 14 28 40.5 +0.1**
SRE Strehaia 81.19 357 ⇑P P 14 28 41.3 +0.7
SRE Strehaia 81.19 357 ⇑P P 14 28 41.3 +0.7
SMLA Simla 81.20 313 *eP* **P 14 28 40.6 -0.3**
DJES Djerdap 81.21 358 ⇑P P 14 28 41.7 +1.0
DZM Mont Dzumac 81.21 210 P P 14 28 42.1 +1.2
DZM Mont Dzumac 81.21 210 *eP* **P 14 28 41.5 +0.6**
comp=Z,333nm,1.2s
DZM Mont Dzumac 81.21 210 *e*S S 14 38 45.0 -5.3
comp=Z,1µm,25.7s
DZM *e*SS **SS 14 44 01.3 -5.1**
comp=Z,1µm,26.0s
DZM *e*LQ LQ 14 50 29.9
comp=Z,3µm,27.1s
DZM *e*LR LR 14 53 48.0
comp=Z,7µm,22.3s
DZM Mont Dzumac 81.21 210 IAmb IAmb 14 28 55.5
comp=Z,156nm,1.2s
DZM Mont Dzumac 81.21 210 LR LR 14 59 26.6
comp=Z,5µm,19.8s,baz=12,slow=32
PTH Pithoragarh 81.21 309 *eP* **P 14 28 40.8 -0.5**
PTH IAmb IAmb 14 28 43.0
comp=Z,431nm,1.4s
HUMR Humele 81.26 356 ⇓P P 14 28 40.4 -0.6
MSSA Maissana 81.26 7 IAmb IAmb 14 28 51.9
comp=Z,140nm,1.0s
BHK Bhakra 81.27 313 *eP* **P 14 28 41.8 +0.5**
NOUC Port Laguerre 81.28 211 P P 14 28 42.1 +0.9
LGTI Lohaghat 81.28 309 *eP* **P 14 28 41.4 0.0**
CVDA Cernavoda 81.28 354 ⇑P P 14 28 42.1 +1.0
NVLJ Novalja 81.29 3 *i P* **P 14 28 41.0 -0.1**
SHBG Sahibganj 81.32 301 *eP* **P 14 28 41.9 +0.3**
HATO Hato, Curacao 81.33 81 IAMs_20 IAMs_20 15 02 55.4
comp=Z,5µm,22.0s
UDBI Udbina 81.35 2 *i P* **P 14 28 41.5 -0.1**
TEKS Tekeris 81.36 360 ⇑*i P* **P 14 28 41.7 +0.1**
GTOI Gorontalo 81.40 259 P P 14 28 41.4 -0.7
A050A Klekovaca 81.41 2 ⇑*i P* **P 14 28 42.2 +0.3**
MFTR Murfatlar 81.41 353 ⇑P P 14 28 42.8 +1.0
VLK Valmikinagar 81.41 306 *eP* **P 14 28 42.4 +0.3**
PCAB Cabril 81.43 20 ⇑*i P* **P 14 28 42.9 +0.9**
comp=Z,249nm,1.4s
PCAB Cabril 81.43 20 *e*PP **PP 14 31 49.0 +1.8**
ONTNC Ouen Toro 81.43 210 P P 14 28 43.4 +1.4
PINNC Pines Island, 81.43 209 P P 14 28 43.5 +1.6
KBL Kabul 81.48 320 P P 14 28 41.5 -1.0
KBL Kabul 81.48 320 P P 14 28 41.6 -1.0
KBL pmax pmax
comp=Z,264nm,0.9s
MGRS Mrkonjic Grad 81.48 1 ⇑*i P* **P 14 28 43.1 +0.9**
EFOR EFORIE 81.50 353 ⇑P P 14 28 42.8 +0.5
DDI Dehra Dun 81.51 311 *eP* **P 14 28 43.0 +0.3**
ICOR Ion Corvin 81.52 354 ⇑P P 14 28 43.1 +0.8
SGRR Singureni 81.52 355 ⇑P P 14 28 42.7 +0.3
VIRC Vir 81.56 3 *i P* **P 14 28 43.2 +0.6**
PBRG Braganca 81.59 19 ⇑*i P* **P 14 28 43.4 +0.5**
comp=Z,192nm,1.5s
PBRG Braganca 81.59 19 *e*PP **PP 14 31 47.5 -1.0**
COPA Copaceanca 81.64 356 ⇑P P 14 28 43.2 +0.3
BNDI Bandanaira 81.76 250 P P 14 28 46.3 +2.3
BNDI Bandanaira 81.76 250 P P 14 28 42.7 -1.3
comp=Z,570nm,1.4s,comp=Z,8µm
POLO Lamas de Olo 81.80 20 ⇑*i P* **P 14 28 44.5 +0.5**
comp=Z,157nm,1.7s
POLO Lamas de Olo 81.80 20 *e*PP **PP 14 31 50.3 0.0**
POLO *e*S **S 14 38 57.3 +1.0**
POLO *e*SS **SS 14 44 22.2 +9.4**
DUGI Dugi Otok 81.86 3 *i P* **P 14 28 44.4 +0.2**
KIJV Kijevo 81.88 2 *i P* **P 14 28 44.6 +0.3**
SANI Sanana 81.90 255 P P 14 28 44.0 -0.8
SANI Sanana 81.90 255 P P 14 28 44.3 -0.5
comp=Z,206nm,1.3s,comp=Z,3µm
PVRL Vila Real 81.91 20 ⇑*eP* **P 14 28 45.7 +1.1**
comp=Z,442nm,1.5s
PVRL Vila Real 81.91 20 *e*PP **PP 14 31 52.0 +0.8**
MORI Morici 82.01 2 *i P* **P 14 28 44.9 -0.1**
BBLS Lazi&#263i 82.05 360 ⇑*i P* **P 14 28 46.1 +0.8**
CEST Esterri de Car 82.12 13 IAmb IAmb 14 28 47.9
comp=Z,156nm,1.2s
CEST IAMs_20 IAMs_20 15 07 53.9
comp=Z,6µm,20.0s
ABD La Joyeuse, An 82.12 73 IAMs_20 IAMs_20 15 06 44.8
comp=Z,4µm,21.0s
GDHS Morne Mazeau, 82.13 73 IAMs_20 IAMs_20 15 07 32.7
comp=Z,4µm,20.0s
MRSI Marisa 82.14 260 P P 14 28 45.6 -0.4
comp=Z,276nm,1.4s,comp=Z,3µm
VALD Valchedram 82.15 357 P P 14 28 45.6 -0.1
BOVS Bovan 82.25 358 ⇑P P 14 28 46.1 -0.2
NLAI Namlea 82.25 253 P P 14 28 46.3 -0.3
comp=Z,118nm,1.1s
RUDO Rudo 82.30 360 ⇑*i P* **P 14 28 46.7 +0.2**
TOLI2 Tolitoli 82.30 261 P P 14 28 46.1 -0.7
TOLI2 Tolitoli 82.30 261 IAmb IAmb 14 29 00.9
comp=Z,112nm,1.1s
CBE Ff, Capester 82.39 73 IAMs_20 IAMs_20 15 07 39.7
comp=Z,4µm,20.0s
NEF NEVSHA 82.40 354 P P 14 28 47.7 +0.7
RICI Ricice 82.41 1 *i P* **P 14 28 47.0 -0.1**
PVIS Viseu 82.41 20 ⇑*i P* **P 14 28 48.2 +1.0**
comp=Z,599nm,1.4s
MPEP Malo Peshtene 82.48 357 P P 14 28 47.3 -0.1
MPEP P **P 14 28 47.3 -0.1**

GDSD La Dsirade Is 82.49 73 IAmb IAmb 14 29 08.8
comp=Z,213nm,1.3s
GDSD IAMs_20 IAMs_20 15 06 36.5
comp=Z,3µm,20.0s
PRD Provadia 82.49 354 P P 14 28 48.3 +0.8
BCA Borcka 82.53 343 ⇑P P 14 28 48.5 +0.7
PLE Pljevlja 82.58 360 ⇑*i P* **P 14 28 47.3 -0.8**
MAKA Makarska 82.61 2 *i P* **P 14 28 47.5 -0.5**
SJES Sjenica 82.65 359 ⇑*i P* **P 14 28 49.4 +0.9**
PVL Pavlikeni 82.65 356 P P 14 28 48.6 +0.3
MAGL Barre de l'ile 82.67 73 IAMs_20 IAMs_20 15 08 09.1
comp=Z,3µm,20.0s
HVAR Hvar 82.71 2 *i P* **P 14 28 48.3 -0.3**
MTE Manteigas 82.79 20 IAMs_20 IAMs_20 15 05 55.3
comp=Z,3µm,20.0s
MTE Manteigas 82.79 20 ⇑*i P* **P 14 28 50.2 +1.0**
comp=Z,516nm,1.4s
MTE Manteigas 82.79 20 *e*S **S 14 39 05.3 -1.1**
MTE *e*SS **SS 14 44 36.1 +8.7**
MTE *e*LQ LQ 14 50 43.5
MTE *e*LR LR 14 55 14.1
comp=Z,3µm,22.0s
COI Coimbra 82.80 21 ⇑*eP* **P 14 28 50.4 +1.3**
comp=Z,1µm,1.4s
COI Coimbra 82.80 21 *e*S **S 14 39 05.0 -1.3**
ELND Elena 82.81 355 ⇑P P 14 28 49.0 -0.2
CASP Castiglione de 82.87 6 IAmb IAmb 14 28 51.1
comp=Z,124nm,1.1s
LUWI Luwuk 82.91 258 P P 14 28 49.3 -0.7
LUWI Luwuk 82.91 258 P P 14 28 48.7 -1.3
comp=Z,468nm,1.3s,comp=Z,5µm
COEN Coen 82.92 234 P P 14 28 50.2 +0.2
COEN Coen 82.92 234 IAmb IAmb 14 29 02.3
comp=Z,243nm,1.5s
PCAS Casmilo, Conde 82.93 21 ⇑*i P* **P 14 28 50.9 +1.1**
comp=Z,924nm,1.4s
PCAS Casmilo, Conde 82.93 21 *e*S **S 14 39 06.8 -0.9**
PCAS *e*SS **SS 14 44 30.8 +1.4**
NAYO Nakonayok 82.93 285 P P 14 28 50.4 +0.2
NRCA Norcia 82.95 4 IAmb IAmb 14 28 57.9
comp=Z,146nm,1.0s
SDV Santo Domingo 83.01 85 P P 14 28 50.5 -0.3
SDV IAmb IAmb 14 29 02.5
comp=Z,255nm,1.9s
SDV Santo Domingo 83.01 85 LR LR 15 06 05.9
comp=Z,2µm,22.0s,baz=331,slow=36
SDV Santo Domingo 83.01 85 *eP* P 14 28 48.6 -2.2
BRY Bratogost 83.01 0 ⇑*i P* **P 14 28 50.2 -0.2**
BRY Bratogost 83.01 0 ⇑*i P* **P 14 28 50.4 0.0**
STON Ston 83.04 1 *i P* **P 14 28 49.8 -0.5**
STON Ston 83.04 1 ⇑*i P* **P 14 28 49.9 -0.4**
IVA Berane 83.04 359 ⇑*i P* **P 14 28 49.0 -1.5**
KOME Kolasin 83.06 360 ⇑*i P* **P 14 28 50.2 -0.4**
BZK Bozkurt 83.11 349 ⇓P P 14 28 55.2 +4.5
CESX Cesi 83.14 5 IAmb IAmb 14 29 01.6
comp=Z,73nm,0.9s
NKME Niksic 83.15 0 ⇑*i P* **P 14 28 50.9 -0.1**
TREB Trebinje 83.20 1 ⇑*i P* **P 14 28 50.7 -0.5**
GNI Garni 83.22 340 P P 14 28 53.0 +1.4
GNI Garni 83.22 340 P P 14 28 52.7 +1.1
GNI Garni 83.22 340 LR LR 15 13 23.9
comp=Z,4µm,18.3s,baz=14,slow=41
GNI Garni 83.22 340 *ce*P **P 14 28 52.8 +1.2**
GNI pmax pmax
comp=Z,165nm,0.8s
VTS Vitosha 83.23 357 P P 14 28 51.5 -0.1
DBRK Dubrovnik 83.24 1 *i P* **P 14 28 50.8 -0.6**
CAMP Campotosto 83.26 4 IAmb IAmb 14 29 27.2
comp=Z,165nm,1.2s
CAMP IAMs_20 IAMs_20 15 11 55.0
comp=Z,2µm,19.0s
DIKM Dikmen 83.27 348 ⇑P P 14 28 53.0 +1.4
BISR Bishrakh 83.29 311 *eP* **P 14 28 51.4 -0.5**
NDI New Delhi 83.29 311 *eP* **P 14 28 51.2 -0.7**
PCBR Castelo Branco 83.34 20 ⇑*i P* **P 14 28 52.7 +0.7**
comp=Z,334nm,1.2s
NPLP NPLP New Delhi 83.35 311 *eP* **P 14 28 52.0 -0.2**
CEME Cevo 83.37 0 ⇑*i P* **P 14 28 51.9 -0.2**
PSBE So Bento 83.38 21 ⇑*i P* **P 14 28 53.1 +0.9**
comp=Z,767nm,1.4s
PSBE So Bento 83.38 21 *e*S **S 14 39 10.8 -1.6**
BOK Bokaro 83.39 302 *eP* **P 14 28 52.3 -0.2**
BOK IAmb IAmb 14 28 54.0
comp=Z,498nm,1.5s
MPSI Mapaga 83.44 261 P P 14 28 52.1 -0.6
comp=Z,114nm,1.2s,comp=Z,2µm
PDG Podgorica 83.48 360 ⇑P P 14 28 52.8 +0.2
PDG Podgorica 83.48 360 ⇑*i P* **P 14 28 52.6 -0.1**
PDG Podgorica 83.48 360 ⇑*i P* **P 14 28 52.5 -0.1**
BUM Brajici-Budva 83.61 0 ⇑*i P* **P 14 28 53.2 -0.2**
PLD Plovdiv 83.64 356 P P 14 28 54.2 +0.7
DIM Dimitrovgrad 83.71 355 P P 14 28 54.9 +1.1
SONA Sohna 83.72 311 *eP* **P 14 28 53.5 -0.5**
FDF Fort de France 83.72 74 IAMs_20 IAMs_20 15 08 08.2
comp=Z,3µm,21.0s
DRME Dracevica, Mon 83.73 360 ⇑*i P* **P 14 28 54.0 +0.1**
DRME Dracevica, Mon 83.73 360 ⇑*i P* **P 14 28 54.0 +0.1**
PMRV Marv??o 83.76 20 ⇑*i P* **P 14 28 54.3 +0.2**
comp=Z,443nm,1.4s
PMRV Marv??o 83.76 20 *e*S **S 14 39 17.1 +1.0**
PMRV Marv??o 83.76 20 *e*LQ LQ 14 51 06.6
PMRV *e*LR LR 14 56 17.9
comp=Z,2µm,22.0s
INTR Introdacqua 83.80 4 IAmb IAmb 14 28 56.9
comp=Z,72nm,0.9s
EDRB Edirne 83.84 354 P P 14 28 54.6 +0.1
ILAM Ilet Lapin Mar 83.84 73 IAMs_20 IAMs_20 15 08 31.4
comp=Z,3µm,20.0s
PUK Puka 83.87 359 IAMs_20 IAMs_20 15 12 23.3
comp=Z,3µm,21.0s
SAUI Saumlaki 83.88 247 P P 14 28 56.0 +1.1
SAUI Saumlaki 83.88 247 P P 14 28 55.8 +0.9
SKO Skopje 83.92 358 *i P* **P 14 28 55.8 +0.9**
PMTG Montargil 83.93 21 ⇑*i P* **P 14 28 55.1 +0.1**
comp=Z,335nm,1.3s
PMTG Montargil 83.93 21 *e*S **SKSac 14 39 15.3 -1.9**
PMTG *e*SS SS 14 44 59.8 +16
BIM Bigot 83.94 74 IAMs_20 IAMs_20 15 05 49.1
comp=Z,3µm,21.0s
KKB Krupnik 84.01 357 P P 14 28 56.1 +0.7
LIS Lisbon 84.07 22 ⇑*eP* **P 14 28 56.4 +0.7**
comp=Z,630nm,1.2s
LIS Lisbon 84.07 22 *eP* **P 14 28 56.2 +0.5**
LIS IAMs_20 IAMs_20 15 03 45.4
comp=N,8µm,30.6s
LIS Lisbon 84.07 22 *eP* **P 14 28 56.2 +0.5**
KUDL Kundal 84.08 312 *eP* **P 14 28 55.5 -0.4**
PEHC Pehcevo 84.08 357 *i P* **P 14 28 55.5 -0.3**
PACT Alcochete 84.09 22 ⇑*eP* **P 14 28 56.6 +0.8**
comp=N,1µm,1.3s
RZN Rozhen 84.10 356 P P 14 28 56.8 +0.7
ROSC El Rosal 84.11 90 P P 14 28 57.9 +1.2
comp=N,4.6nm,0.3s,baz=323,slow=3.6,SNR=4.9
ROSC LR LR 15 10 23.0
comp=N,1µm,18.6s,baz=358,slow=38
SGRT San Giovanni R 84.12 3 IAmb IAmb 14 28 57.6
comp=Z,111nm,1.1s
MPOM Morne Pois Mar 84.12 74 IAMs_20 IAMs_20 15 05 42.7
comp=Z,3µm,21.0s
SRDT SRDT 84.14 286 P P 14 28 56.8 +0.4
ESDC Sonseca Array 84.17 18 P P 14 28 56.7 +0.4
ESDC Sonseca Array 84.17 18 P P 14 28 56.8 +0.5
comp=Z,101nm,0.9s,baz=343,slow=4.8,SNR=411
ESDC PP **PP 14 32 07.6 -2.1**
comp=Z,8.9nm,1.0s,baz=347,slow=4.5,SNR=5.3
ESDC PKPPKP P'P'df 14 55 11.0 -11
comp=Z,1.4nm,1.0s,baz=101,slow=3.0,SNR=4.0
ESDC LR LR 15 08 22.8
comp=Z,3µm,19.6s,baz=350,slow=37
comp=Z,101nm,0.9s
PAB San Pablo 84.23 18 P P 14 28 57.1 +0.5
PAB IAmb IAmb 14 29 08.5
comp=Z,100nm,0.9s
PAB San Pablo 84.23 18 ⇑P P 14 28 57.4 +0.8
PESTR Estremoz 84.26 21 ⇑*i P* **P 14 28 57.0 +0.3**
comp=Z,534nm,1.4s
PESTR Estremoz 84.26 21 *e*S **SKSac 14 39 18.3 -1.1**
MMB Musomishta 84.28 356 P P 14 28 57.6 +0.8
KNTI KHUNTI 84.31 302 *ex* x 14 31 28.5
ISK Istanbul-Kandi 84.46 352 P P 14 28 57.6 -0.1
EVO Evora 84.49 21 ⇑*eP* **P 14 28 57.9 0.0**
comp=Z,332nm,1.3s
TIR Tirane 84.56 359 ⇑P P 14 28 59.6 +1.4
TIR Tirane 84.56 359 IAmb IAmb 14 29 26.0
comp=Z,156nm,0.9s
TIR IAMs_20 IAMs_20 15 08 29.7
comp=Z,3µm,22.0s
TIR Tirane 84.56 359 ⇑P P 14 28 59.6 +1.4
RDO Rodhopi 84.61 355 IAMs_20 IAMs_20 15 13 11.0
comp=Z,4µm,20.0s
RDO Rodhopi 84.61 355 P P 14 28 57.6 -0.8
RAO Raoul Island 84.65 195 LR LR 15 00 42.8
comp=Z,740nm,21.8s,baz=32,slow=31
KNT Kendrikon 84.69 357 P P 14 28 58.9 0.0
SRS Serrai 84.72 357 P P 14 28 58.1 -0.9
PNCL Nicolau / Gran 84.79 22 ⇑*i P* **P 14 28 59.9 +0.6**
comp=Z,597nm,1.4s
PNCL Nicolau / Gran 84.79 22 *e*S **S 14 39 26.9 +0.5**
OHR Ohrid 84.79 359 *i P* **P 14 29 00.4 +1.0**
KAVA Kavala 84.80 356 P P 14 28 59.7 +0.3
ALN Alexandroupoli 84.83 355 P P 14 28 58.5 -1.0
ENEZ Enez 84.98 355 P P 14 29 00.5 +0.2
KOKK Kokkinochori, 85.00 356 P P 14 29 00.0 -0.4
PBEJ Beja 85.01 21 ⇓*i P* **P 14 29 00.8 +0.3**
comp=Z,236nm,1.4s
SOH Sokhos 85.02 357 P P 14 29 00.2 -0.4
PBAR Barrancos 85.04 20 ⇑*i P* **P 14 29 00.9 +0.3**
comp=Z,514nm,1.4s
PBAR Barrancos 85.04 20 *e*PP **PP 14 32 17.3 +0.6**
PBAR *i* S **S 14 39 29.4 +0.5**
PBAR *e*SS **SS 14 45 09.8 +9.3**
FNA Florina 85.11 358 P P 14 29 00.0 -1.0
MESJ Messejana 85.11 21 IAMs_20 IAMs_20 15 04 40.8
comp=Z,4µm,22.0s
MESJ Messejana 85.11 21 ⇑*i P* **P 14 29 01.2 +0.2**
comp=Z,206nm,1.3s
MESJ Messejana 85.11 21 *eP* **P 14 29 01.2 +0.2**
MESJ IAMs_20 IAMs_20 15 03 47.5
comp=Z,5µm,27.2s
MESJ Messejana 85.11 21 *eP* **P 14 29 01.2 +0.2**
THAS Thassos island 85.18 356 P P 14 29 00.5 -0.8
THE Thessaloniki 85.22 357 P P 14 29 00.8 -0.7
MATE Matera 85.24 2 ⇑P P 14 29 02.3 +0.7
HORT Hortiatis 85.25 357 P P 14 29 01.0 -0.8
GURO Guroymak-BITLI 85.28 342 IAMs_20 IAMs_20 15 11 15.4
comp=Z,2µm,21.0s
KBN Korca 85.28 359 IAMs_20 IAMs_20 15 12 42.6
comp=Z,3µm,21.0s
KBN Korca 85.28 359 P P 14 29 02.0 +0.1
SMTH Samothraki Isl 85.28 355 P P 14 29 00.9 -0.9
PTEO Sao Teotonio 85.29 22 ⇑*i P* **P 14 29 02.3 +0.4**
comp=Z,558nm,1.5s
ANTO Ankara 85.31 349 ⇑P P 14 29 03.2 +1.1
ANTO Ankara 85.31 349 IAMs_20 IAMs_20 15 14 10.8
comp=Z,3µm,20.0s
ANTO Ankara 85.31 349 ⇑P P 14 29 03.2 +1.1
PCVE Castro Verde 85.35 21 ⇑*i P* **P 14 29 02.6 +0.4**
comp=Z,224nm,1.4s
PCVE Castro Verde 85.35 21 *e*S **S 14 39 31.8 -0.2**
BRTR Keskin Array B 85.36 349 P P 14 29 02.2 -0.2
BRTR Keskin Array B 85.36 349 P P 14 29 02.8 +0.4
comp=Z,93nm,0.9s,baz=38,slow=2.2,SNR=246
BRTR PKPPKP **P'P'df 14 55 16.9 -2.7**
comp=Z,0.8nm,0.4s,baz=193,slow=5.1,SNR=4.7
BRTR LR LR 15 12 35.3
comp=Z,2µm,18.7s,baz=21,slow=40
comp=Z,93nm,0.9s
BRTR Keskin Array B 85.36 349 *ce*P **P 14 29 02.7 +0.4**
BRTR pmax pmax
comp=Z,96nm,0.9s
PCRV Puerto La Cruz 85.44 79 LR LR 15 06 09.6
comp=Z,4µm,20.9s,slow=35
VLO Vlora 85.44 360 IAMs_20 IAMs_20 15 06 46.0
comp=Z,3µm,22.0s
PLG Polygyros 85.46 357 P P 14 29 02.4 -0.4
JHNI Jhansi 85.47 309 *eP* P 14 29 01.4 -1.6
KTI Kastanea 85.48 358 P P 14 29 03.3 +0.3
OUR Ouranopolis 85.48 356 P P 14 29 02.6 -0.2
MORF Marmelete 85.53 22 ⇑*i P* **P 14 29 03.5 +0.3**
comp=Z,482nm,1.4s
MORF Marmelete 85.53 22 *e*S **S 14 39 34.4 +0.5**
MORF Marmelete 85.53 22 *eP* **P 14 29 03.5 +0.3**
MORF *e*SKSac **SKSac 14 39 27.8 +0.2**
MORF IAMs_20 IAMs_20 15 04 58.2
comp=Z,6µm,22.9s
MORF Marmelete 85.53 22 *eP* **P 14 29 03.5 +0.3**
MORF *e* 14 39 27.8
GRGR Grenville 85.55 75 IAMs_20 IAMs_20 15 08 21.7
comp=Z,3µm,19.0s
BKNR BIKANER 85.56 314 *eP* **P 14 29 02.5 -0.9**
PVAQ Vaqueiros 85.64 21 IAMs_20 IAMs_20 15 08 41.7
comp=Z,3µm,20.0s
PVAQ Vaqueiros 85.64 21 *e*S **S 14 39 34.5 -0.4**
PVAQ *e*SS **SS 14 45 18.4 +9.0**
PVAQ *e*LQ LQ 14 51 46.3
PVAQ *e*LR LR 14 57 19.6
comp=Z,3µm,22.0s
PFVI Vila Bisbo 85.66 22 ⇑*i P* **P 14 29 04.1 +0.3**
comp=Z,442nm,1.4s
PFVI Vila Bisbo 85.66 22 *e*S **SKSac 14 39 26.4 -1.9**
PENT Pentalofos 85.70 358 P P 14 29 04.1 +0.1
PBDV Barranco-do-Ve 85.75 21 ⇑*i P* **P 14 29 04.9 +0.7**
comp=Z,311nm,1.3s
PBDV Barranco-do-Ve 85.75 21 *e*S **S 14 39 35.9 -0.1**
PBDV *e*SS SS 14 45 23.8 +13
LSK Leskovik 85.75 359 P P 14 29 04.9 +0.6
LIT Litokhoron 85.77 357 P P 14 29 03.2 -1.1
LIA Limnos Island 85.87 355 P P 14 29 04.1 -0.6
CUC Castrocucco 85.88 3 IAMs_20 IAMs_20 15 09 03.4
comp=Z,2µm,22.0s
EZN Ezine 85.88 354 P P 14 29 04.1 -0.7
PAIG Paliouri 85.90 356 P P 14 29 04.1 -0.8
TV1H Townsville Har 85.92 229 P P 14 29 06.1 +1.1
AUAYR Ayr State High 85.93 228 P P 14 29 06.2 +1.1
KPRO Kipourio 85.94 358 P P 14 29 04.6 -0.6
SRN Sarande 86.03 359 P P 14 29 05.2 -0.3
MTSU Mount Surprise 86.03 231 P P 14 29 06.4 +0.7
SBUM Sibu 86.19 269 IAmb IAmb 14 29 12.2
comp=Z,49nm,1.0s
JAN Janina 86.24 359 P P 14 29 09.0 +2.4
THL Klokotos Trika 86.31 358 P P 14 29 05.2 -1.7
AJM Ajmer 86.33 312 ⇑*i P* **P 14 29 06.2 -1.0**
AJM IAmb IAmb 14 29 08.8
comp=Z,151nm,1.1s
BWNR Bhubaneshwar 86.37 300 *eP* **P 14 29 07.1 -0.3**
PRK Paraskevi 86.46 354 P P 14 29 07.4 -0.2
BKB Balikpapan 86.47 263 P P 14 29 08.2 +0.2
BKB Balikpapan 86.47 263 P P 14 29 06.5 -1.5
comp=Z,364nm,1.1s
SIGR SIGRI 86.52 355 P P 14 29 07.5 -0.4
BBSI Bau Bau 86.65 256 P P 14 29 09.4 +0.6
comp=Z,167nm,1.5s,comp=Z,2µm
AOS Alonnisos 86.65 356 P P 14 29 07.9 -0.7
CART Cartagena 86.70 16 IAMs_20 IAMs_20 15 09 23.2
comp=Z,3µm,20.0s
TIP Timpagrande 86.71 2 IAMs_20 IAMs_20 15 14 12.6
comp=Z,2µm,19.0s
GUNA GUNA 86.72 309 *eP* **P 14 29 08.1 -1.1**
AGG Agios Georgios 86.85 357 IAMs_20 IAMs_20 15 11 53.2
comp=Z,3µm,21.0s
AGG Agios Georgios 86.85 357 P P 14 29 08.4 -1.2
MAKR Makrakomi, Fth 86.86 358 P P 14 29 09.6 -0.1
CTA Charters Tower 86.88 229 P P 14 29 09.8 0.0
comp=Z,4.4nm,1.0s,baz=19,slow=6.0,SNR=31
CTA LR LR 15 02 30.1
comp=Z,126nm,21.8s,baz=26,slow=32
CTAO Charters Tower 86.88 229 P P 14 29 10.1 +0.2
CTAO Charters Tower 86.88 229 P P 14 29 10.0 +0.2
CTAO Charters Tower 86.88 229 P P 14 29 10.0 +0.2
CTAO pmax pmax
comp=Z,247nm,1.3s
EVR Evrytania 86.96 358 P P 14 29 10.8 +0.5
KULA Kula-Manisa 87.03 352 P P 14 29 10.2 -0.4
AXAR Agios Charalam 87.09 357 P P 14 29 09.8 -1.0
LKD2 Lefkada island 87.11 359 P P 14 29 10.5 -0.4
KYMI Kymi, Euboea I 87.18 356 P P 14 29 10.1 -1.1
KYU Kakadu 87.19 244 P P 14 29 11.0 -0.4
PVO Paravola 87.27 358 P P 14 29 12.0 +0.4
EVGI Lefkada island 87.28 359 P P 14 29 11.6 -0.1
ANX Ano Chora 87.28 358 P P 14 29 11.8 0.0
CHOS Chios island 87.33 355 P P 14 29 11.6 -0.4
MTKI Muara Teweh, K 87.37 265 P P 14 29 12.0 -0.4
comp=Z,258nm,1.3s
FSK Fiskardo 87.44 359 P P 14 29 11.8 -0.6
EFP Efpalio 87.45 358 P P 14 29 12.5 0.0
KALE Kalithea 87.48 358 P P 14 29 12.0 -0.7
ISP Isparta 87.56 351 IAMs_20 IAMs_20 15 07 58.8
comp=Z,3µm,22.0s

ISP Isparta 87.56 351 *c*eP **P 14 29 13.4 +0.2**
ISP pmax pmax
comp=Z,209nm,1.3s
CEL Celeste 87.61 3 IAmb IAmb 14 29 27.9
comp=Z,111nm,1.1s
PMOZ Porto Moniz, M 87.61 30 *e*P **P 14 29 13.1 -0.4**
comp=Z,291nm,1.4s
PMOZ Porto Moniz, M 87.61 30 *e*S **S 14 39 56.3 +1.9**
PMOZ Porto Moniz, M 87.61 30 *e*LQ LQ 14 52 42.3
PMOZ *e*LR LR 14 59 37.7
comp=Z,2μm,18.0s
PMPST Porto Santo, M 87.62 29 *e*P **P 14 29 13.2 -0.2**
comp=Z,299nm,1.4s
PMPST Porto Santo, M 87.62 29 *e*S S 14 39 49.3 -5.0
PMPS Porto Santo 87.64 29 *e*P **P 14 29 14.0 +0.5**
comp=Z,341nm,1.4s
VILL Villia 87.67 357 P **P 14 29 12.2 -1.4**
VLS Valsamata 87.72 359 P **P 14 29 13.2 -0.6**
DION Dionisos Attik 87.74 356 P **P 14 29 13.8 -0.1**
PTL Penteli 87.77 356 P **P 14 29 12.8 -1.3**
PSDA Pessada-Kefalo 87.79 359 P **P 14 29 13.7 -0.4**
PMAR Madeira 87.79 30⇑ *e*P **P 14 29 15.3 +0.8**
comp=Z,421nm,1.2s
PMAR Madeira 87.79 30 *e*S **S 14 39 57.6 +1.4**
KLV Kalavryta, Ach 87.83 358 P **P 14 29 14.2 -0.2**
RLS Riolos of Patr 87.83 358 P **P 14 29 14.6 +0.3**
ATHU Athens Univers 87.85 356 P **P 14 29 13.4 -1.1**
FUL Funchal 87.86 30 *e*P **P 14 29 15.6 +1.0**
comp=Z,448nm,1.5s
KAPI Kappang 87.87 258 P **P 14 29 15.4 +0.7**
KAPI Kappang 87.87 258 IAms_20 IAms_20 15 03 27.9
comp=Z,2μm,22.0s
KAPI Kappang 87.87 258 LR LR 15 04 23.1
comp=Z,1μm,21.9s,baz=18,slow=33
BHPL Bhopal 87.90 308 *e*P **P 14 29 13.9 -1.0**
BKSI Bulukumba 87.91 258 P **P 14 29 14.5 -0.4**
comp=Z,123nm,1.4s,comp=Z,2μm
DRO Drossia 87.93 358 P **P 14 29 14.8 0.0**
GUR Goura 87.93 357 P **P 14 29 14.1 -0.8**
SMG Samos 87.96 354 P **P 14 29 13.9 -1.1**
VLY Voula,Athens 87.97 356 P **P 14 29 13.6 -1.4**
MTN Manton Dam 88.02 245 P **P 14 29 15.4 0.0**
RK1H Rockhampton Ha 88.03 224 P **P 14 29 16.3 +1.1**
SURA Surathani 88.06 283 P **P 14 29 16.4 +0.7**
GD1S Gladstone Soft 88.17 223 P **P 14 29 17.3 +1.5**
LTHK Lithakia 88.19 359 P **P 14 29 15.3 -0.7**
KRND KRANIDI 88.46 357 P **P 14 29 15.8 -1.5**
NRDN NARMADA NAGAR 88.47 308 *e*P **P 14 29 19.5 +1.9**
STKI Sintang 88.55 268 P **P 14 29 17.9 -0.1**
RAFF Raffo Rosso 88.59 4 IAmb IAmb 14 29 36.7
comp=Z,88nm,1.1s
ITM Ithomi 88.69 358 IAms_20 IAms_20 15 15 44.1
comp=Z,2μm,20.0s
ITM Ithomi 88.69 358 P **P 14 29 17.9 -0.6**
PYL PYLOS 88.98 358 P **P 14 29 18.4 -1.4**
VLI Veliai 89.13 357 P **P 14 29 19.1 -1.4**
SOEI Soe 89.19 252 P **P 14 29 23.0 +1.9**
SOEI Soe 89.19 252 IAmb IAmb 14 30 10.9
comp=Z,117nm,1.1s
SOEI Soe 89.19 252 P **P 14 29 19.9 -1.2**
comp=Z,110nm,1.2s,comp=Z,2μm
SANT Santorini 89.37 355 IAms_20 IAms_20 15 14 05.1
comp=Z,2μm,20.0s
MMRI Maumere 89.41 254 P **P 14 29 21.4 -0.6**
comp=Z,66nm,1.3s
EIDS Eidsvold 89.57 222 P **P 14 29 23.8 +1.4**
EIDS Eidsvold 89.57 222 IAmb IAmb 14 29 36.8
comp=Z,139nm,1.5s
KEST Kesra 89.78 8 IAmb IAmb 14 29 25.2
comp=Z,64nm,1.1s
KEST Kesra 89.78 8 P **P 14 29 23.9 +0.3**
comp=Z,39nm,1.0s,baz=267,slow=2.1,SNR=16
KEST LR LR 15 13 31.7
comp=Z,2μm,19.2s,baz=302,slow=38
comp=Z,39nm,1.0s
VIS Vishakhapatnam 89.78 301 *e*P **P 14 29 23.2 -0.6**
VIS IAmb IAmb 14 29 26.7
comp=Z,157nm,0.9s
EDFI Ende, Flores 89.81 255 P P 14 29 20.4 -3.6
comp=Z,41nm,0.9s
PBA Port Blair 89.88 290 IAms_20 IAms_20 15 16 44.2
comp=Z,2μm,20.0s
BATI Baumata 89.90 252 P **P 14 29 23.9 -0.4**
comp=Z,101nm,1.0s
WDD Wied Dalam 89.98 4 IAmb IAmb 14 29 27.8
comp=Z,116nm,1.0s
KARP Karpathos 90.09 353 IAms_20 IAms_20 15 16 27.1
comp=Z,3μm,20.0s
CSS Mathiatis 90.10 348 IAms_20 IAms_20 15 17 57.6
comp=Z,2μm,19.0s
AKL Akola 90.28 307 *e*P P 14 29 24.5 -1.6
QIS Mount Isa 90.32 234 P **P 14 29 26.0 -0.1**
IDI Anoyia 90.47 355 P P 14 29 24.3 -2.6
KULM Kulim 90.62 280 IAmb IAmb 14 29 32.1
comp=Z,61nm,1.0s
AUWSH Wavell State H 90.65 220 P **P 14 29 28.1 +0.7**
MDT Midelt 90.71 20 LR LR 15 13 07.3
comp=Z,667nm,20.6s,baz=1.5,slow=38
RMQ Roma 91.49 224 P **P 14 29 33.4 +2.0**
MYKOM Kota Tinggi 91.61 275 IAmb IAmb 14 29 33.9
comp=Z,92nm,1.4s
MMAI Mount Meron Ar 91.75 346 P **P 14 29 32.1 -0.8**
comp=Z,7.7nm,0.7s,baz=51,slow=6.6,SNR=6.3
MMAI PP **PP 14 33 10.0 -0.6**
comp=Z,8.8nm,0.7s,baz=340,slow=6.2,SNR=5.2
MMAI LR LR 15 17 07.6
comp=Z,1μm,18.4s,baz=326,slow=40
comp=Z,7.7nm,0.7s
TPRI Tanjung Pinang 91.92 274 P **P 14 29 33.3 -0.4**
OUZ Omahuta 91.98 201 IAms_20 IAms_20 15 02 51.7
comp=Z,3μm,21.0s
BTDF Bukit Timah Da 92.00 275 P **P 14 29 34.9 +0.8**
WB0 Warramunga Arr 92.17 238 IAmb IAmb 14 29 35.8
comp=Z,120nm,1.4s
WR0 Warramunga Arr 92.26 238 IAmb IAmb 14 29 35.5
comp=Z,70nm,1.1s
WRAB Tennant Creek 92.33 238 P **P 14 29 34.5 -0.9**
WRAB IAmb IAmb 14 29 35.9
comp=Z,90nm,1.2s
WRAB Tennant Creek 92.33 238 P **P 14 29 34.5 -0.9**
WRAB pmax pmax
comp=Z,90nm,1.2s
WB2 Warramunga Arr 92.34 238 IAmb IAmb 14 29 36.0
comp=Z,89nm,1.1s
WRA Warramunga Arr 92.34 238 P **P 14 29 34.8 -0.7**
WRA Warramunga Arr 92.34 238 P **P 14 29 34.6 -0.8**
comp=Z,46nm,1.1s,baz=41,slow=5.2,SNR=139
WRA PP PP 14 33 10.5 -6.1
comp=Z,0.5nm,0.7s,baz=32,slow=8.0,SNR=2.6
WRA LR LR 15 06 43.6
comp=Z,2μm,21.8s,baz=8.0,slow=33
comp=Z,46nm,1.1s
WRA Warramunga Arr 92.34 238 P **P 14 29 34.8 -0.7**
HYB Hyderabad 92.39 305 *e*P **P 14 29 35.0 -0.9**
HYB IVmB_BB 14 29 38.2
comp=Z,1μm,4.0s
HYB IVMs_BB IVMs_BB 15 14 05.2
comp=Z,2μm,15.8s
RPN Rapa Nui 92.57 136 LR LR 15 03 17.5
comp=Z,2μm,18.9s,baz=330,slow=30
BALJ Balqa 92.63 346 IAmb IAmb 14 29 47.4
comp=Z,63nm,1.0s
SRBI Singaraja 92.96 260 P **P 14 29 37.0 -1.5**
comp=Z,61nm,1.3s
TATN Tataouine 93.00 7 IAms_20 IAms_20 15 18 32.0
comp=Z,2μm,20.0s
KUZ Kuaotunu 93.04 199 P **P 14 29 39.6 +1.4**
MXZ Matakaoa Point 93.38 196 IAms_20 IAms_20 15 05 13.0
comp=Z,3μm,22.0s
GHAJ Ghor Haditha 93.41 346 IAmb IAmb 14 29 53.7
comp=Z,37nm,1.1s
GHAJ IAms_20 IAms_20 15 20 19.5
comp=Z,2μm,20.0s
QLP Quilpie 93.46 227 P **P 14 29 40.8 +0.4**
PPBI Pangkal Pinang 93.46 271 P **P 14 29 40.6 -0.3**
comp=Z,50nm,1.2s
POO Poona 93.62 309 *e*P P 14 29 39.0 -2.7
SHME Shamm 93.70 327 *i*P **P 14 29 40.7 -1.2**
SNR=11
ARMA Armidale 93.90 220 P **P 14 29 44.6 +2.1**
TBTG Tabatinga, AM 93.97 92 *e*P **P 14 29 42.6 -0.5**
TOZ Tahuroa Road 94.04 199 IAms_20 IAms_20 15 12 27.1
comp=Z,2μm,19.0s
BOAV Boa Vista 94.10 80 *e*P **P 14 29 43.1 -0.7**
URZ Urewera 94.27 197 LR LR 15 05 41.0
comp=Z,3μm,20.8s,baz=112,slow=31

MSFE Esma-Masafi 94.34 327 *i*P P 14 29 43.3 -1.5
SNR=6.4
MDH Madha 94.35 327 P P 14 29 42.9 -1.9
AULRC Lightning Ridg 94.42 223 P **P 14 29 45.9 +1.1**
BKNI Bangkinang 94.42 277 IAms_20 IAms_20 15 03 54.8
comp=Z,2μm,22.0s
RTZ Ruatahuna 94.64 197 IAms_20 IAms_20 15 05 39.8
comp=Z,3μm,21.0s
UOSS Minazif 94.71 327 P **P 14 29 45.8 -0.7**
UOSS IAmb IAmb 14 30 07.1
comp=Z,76nm,1.2s
UOSS Minazif 94.71 327 *i*P P 14 29 44.8 -1.8
SNR=12
AUPHS Peel High Scho 94.78 220 P **P 14 29 47.7 +1.2**
NAZ Nazwa, Dubai 94.84 327 *i*P **P 14 29 45.6 -1.5**
SNR=8.5
HATD Hatta, Dubai 94.84 327 *i*P P 14 29 45.6 -1.6
SNR=9.9
PWJI Pagerwojo 94.88 263 P P 14 29 45.7 -1.6
comp=Z,178nm,1.3s
SMRI Semarang 94.89 265 IAms_20 IAms_20 15 08 55.6
comp=Z,2μm,21.0s
HIZ Hauiti 94.92 199 IAms_20 IAms_20 15 02 20.4
comp=Z,2μm,21.0s
ASHO Ashiyiah 95.00 327 *i*P P 14 29 46.3 -1.6
SNR=14
FAQ Al Faqa, Dubai 95.09 327 *i*P **P 14 29 46.8 -1.5**
SNR=6.4
EIL Elat 95.10 346 LR LR 15 16 09.5
comp=Z,1μm,21.6s,baz=32,slow=38
CZSB Cruzeiro do Su 95.19 96 *e*P **P 14 29 48.2 -0.6**
BKZ Black Stump Fm 95.25 197 P **P 14 29 50.8 +2.4**
BKZ Black Stump Fm 95.25 197 IAms_20 IAms_20 15 09 17.3
comp=Z,3μm,20.0s
ASUD Al Ashush, Dub 95.28 327 *i*P **P 14 29 47.9 -1.2**
SNR=11
SOHO SOHO 95.36 326 *i*P P 14 29 47.7 -1.7
SNR=9.0
WSAR Wadi Sarin 95.48 324 LR LR 15 18 27.1
comp=Z,4μm,20.9s,baz=58,slow=39
GSI Gunungsitoli 95.63 280 P **P 14 29 51.1 +0.3**
GSI Gunungsitoli 95.63 280 IAmb IAmb 14 30 01.4
comp=Z,41nm,0.9s
GSI Gunungsitoli 95.63 280 P **P 14 29 50.1 -0.7**
comp=Z,39nm,0.7s
ALNE Al Ain 95.68 327 *i*P **P 14 29 50.4 -0.6**
SNR=6.0
ASAR Alice Springs 95.70 237 P **P 14 29 50.0 -0.8**
ASAR Alice Springs 95.70 237 P **P 14 29 50.4 -0.5**
comp=Z,23nm,1.0s,baz=36,slow=4.0,SNR=74
ASAR PKKPbc **PKKPbc 14 46 39.5 +0.2**
comp=Z,2.1nm,0.9s,baz=195,slow=1.6,SNR=8.6
ASAR LR LR 15 10 51.3
comp=Z,3μm,19.0s,baz=34,slow=34
comp=Z,23nm,1.0s
INKA Innaminka 95.98 229 P **P 14 29 52.7 +0.7**
MDP Montagnes des 96.36 72 LR LR 15 13 51.2
comp=Z,2μm,20.8s,baz=334,slow=36
TEFE Tefe 96.50 87 *e*P **P 14 29 54.0 -0.8**
AUDCS Dubbo College 96.65 221 P **P 14 29 55.8 +0.9**
BFZ Birch Farm 96.77 197 IAms_20 IAms_20 15 11 00.4
comp=Z,2μm,20.0s
MRZ Mangatainoka R 96.87 198 IAms_20 IAms_20 15 08 33.0
comp=Z,2μm,21.0s
CMSA Cobar Meteorol 97.20 224 P **P 14 29 58.3 +0.9**
MZR Muzera 97.38 328 *i*P **P 14 29 58.0 -0.7**
SNR=12
SNZO South Karori 97.66 198 IAms_20 IAms_20 15 08 39.8
comp=Z,3μm,21.0s
BHW Baring Head 97.72 198 IAms_20 IAms_20 15 11 36.6
comp=Z,2μm,19.0s
NNZ Nelson 97.82 199 IAms_20 IAms_20 15 06 24.1
comp=Z,4μm,22.0s
OOD Oodnadatta 98.33 233 P **P 14 30 05.4 +2.8**
CTZ Chatham Island 98.73 191 IAms_20 IAms_20 15 07 13.5
comp=Z,3μm,20.0s
KHZ Kahutara 98.94 199 IAms_20 IAms_20 15 07 22.0
comp=Z,3μm,19.0s
RAYN Ar Rayn 99.08 336 P **Pdif 14 30 06.0 -0.3**
RAYN Ar Rayn 99.08 336 *i*P **Pdif 14 30 06.3 0.0**
SNR=63
RAYN Ar Rayn 99.08 336 P **Pdif 14 30 06.0 -0.3**
RAYN pmax pmax
comp=Z,99nm,0.9s
STKA Stephens Creek 99.19 227 P **Pdif 14 30 06.2 -0.1**
comp=Z,6.3nm,1.0s,baz=6.4,slow=8.8,SNR=4.0
STKA PKKPbc **PKKPbc 14 46 29.1 -0.8**
comp=Z,1.3nm,0.5s,baz=180,slow=4.0,SNR=2.4
STKA LR LR 15 10 40.7
comp=Z,4μm,20.7s,baz=23,slow=33
comp=Z,6.3nm,1.0s
INZ Inchbonnie 99.65 200 IAms_20 IAms_20 15 10 31.7
comp=Z,3μm,20.0s
PALK Pallekele 99.97 298 IAms_20 IAms_20 15 23 47.0
comp=Z,3μm,20.0s
PALK Pallekele 99.97 298 LR LR 15 19 33.2
comp=Z,2μm,22.0s,baz=109,slow=38
RPZ Rata Peaks 100.68 200 IAms_20 IAms_20 15 13 25.0
comp=Z,3μm,21.0s
SAML Samuel 101.72 89 IAms_20 IAms_20 15 19 46.6
comp=Z,2μm,20.0s
TAM Tamanrasset 102.19 13 IAms_20 IAms_20 15 22 21.2
comp=Z,2μm,19.0s
LPAZ La Paz 104.69 97 PP **PP 14 34 52.9 +1.2**
comp=Z,0.7nm,0.5s,baz=293,slow=2.8,SNR=3.5
VILB Vilhena 106.66 89 IAms_20 IAms_20 15 20 34.8
comp=Z,2μm,20.0s
PTLB Pontes e Lacer 109.26 90 IAms_20 IAms_20 15 21 22.8
comp=Z,3μm,22.0s
GO02 Mina Guanaco 110.83 104 IAms_20 IAms_20 15 12 41.7
comp=Z,1μm,20.0s
AC01 Pan de Azucar 111.03 106 IAms_20 IAms_20 15 12 07.0
comp=Z,2μm,20.0s
TORD Torodi Ar. Bea 111.06 18 Pdiff **Pdif 14 30 57.9 -1.8**
comp=Z,0.2nm,0.4s,baz=326,slow=7.0,SNR=2.3
TORD PKiKP **PKiKP 14 34 57.7 -1.1**
comp=Z,3.2nm,0.9s,baz=19,slow=3.2,SNR=7.1
TORD PP **PP 14 35 35.2 -1.2**
comp=Z,6.5nm,1.3s,baz=32,slow=5.6,SNR=5.6
TORD PKKPbc **PKKPbc 14 45 52.1 -1.0**
comp=Z,1.1nm,0.8s,baz=188,slow=1.5,SNR=6.1
TORD PKKPab **PKKPab 14 46 05.2 -2.6**
comp=Z,3.3nm,0.8s,baz=130,slow=3.4,SNR=6.6
AC06 Mina Casimiro 112.10 106 IAms_20 IAms_20 15 11 29.4
comp=Z,2μm,21.0s
H03N2 Juan Fernandez 112.16 117 T T 16 36 31.3
baz=323,slow=77,SNR=106
H03N1 Juan Fernandez 112.17 117 T T 16 36 32.6
baz=323,slow=77,SNR=67
H03N3 Juan Fernandez 112.18 117 T T 16 36 41.5
baz=323,slow=77,SNR=61
GO03 Copiap 112.35 106 IAms_20 IAms_20 15 11 26.1
comp=Z,2μm,20.0s
AC04 Llanos de Chal 112.35 107 IAms_20 IAms_20 15 11 59.2
comp=Z,2μm,19.0s
AC05 El Transito 113.29 107 IAms_20 IAms_20 15 11 49.9
comp=Z,2μm,20.0s
RCBR Riachuelo 114.53 64 IAms_20 IAms_20 15 22 12.5
comp=Z,2μm,20.0s
DBIC Dimbokro 115.88 27 PKP **PKiKP 14 35 06.2 -1.8**
comp=Z,6.7nm,0.9s,baz=59,slow=3.6,SNR=3.9
BDFB Brasilia 115.88 81 PKP **PKPdf 14 35 09.3 +1.3**
comp=Z,4.3nm,0.3s,baz=22,slow=11,SNR=4.6
VA05 Santo Domingo 116.23 112 IAms_20 IAms_20 15 12 57.8
comp=Z,2μm,20.0s
MT01 Popeta 116.58 111 IAms_20 IAms_20 15 13 08.2
comp=Z,2μm,22.0s
MT09 Talagante 116.66 111 IAms_20 IAms_20 15 13 22.2
comp=Z,2μm,20.0s
BO04 La Punta 117.03 111 IAms_20 IAms_20 15 12 52.0
comp=Z,2μm,21.0s
BO01 Tunca 117.07 112 IAms_20 IAms_20 15 13 10.1
comp=Z,2μm,21.0s
GO05 Huala 117.08 113 IAms_20 IAms_20 15 13 16.4
comp=Z,2μm,21.0s
BO02 Sierra Bellavi 117.54 112 IAms_20 IAms_20 15 15 19.5
comp=Z,2μm,20.0s
ML02 Panimavida 117.92 113 IAms_20 IAms_20 15 13 59.7
comp=Z,2μm,21.0s
BI02 San Fabin de 118.67 114 IAms_20 IAms_20 15 15 11.5
comp=Z,2μm,19.0s
CPUP Villa Florida 118.77 96 PKP **PKPdf 14 35 14.3 +1.2**
comp=Z,0.7nm,0.3s,baz=240,slow=7.9,SNR=0.7
CPUP PKKPab **PKKPbc 14 45 28.2 +1.4**
comp=Z,5.5nm,0.8s,baz=110,slow=4.1,SNR=6.9
LR04 Corral 119.92 118 IAms_20 IAms_20 15 17 30.7
comp=Z,2μm,19.0s
GO06 Curarrehue 120.72 116 IAms_20 IAms_20 15 16 51.9
comp=Z,2μm,19.0s
LODK Lodwar 120.75 341 IAms_20 IAms_20 15 38 35.2
comp=Z,2μm,20.0s
LR05 Currie 120.92 117 IAms_20 IAms_20 15 17 37.1
comp=Z,2μm,19.0s
LL04 Puerto Octay 121.21 118 IAms_20 IAms_20 15 15 15.7
comp=Z,2μm,20.0s
LL03 Petrohue 121.38 118 IAms_20 IAms_20 15 16 45.2
comp=Z,2μm,20.0s
VAO Valinhos 122.27 85 IAms_20 IAms_20 15 28 51.2
comp=Z,1μm,21.0s
SPB Sao Paulo 122.45 86 IAms_20 IAms_20 15 28 44.2
comp=Z,2μm,22.0s
CPSB Cacapava Do Su 124.08 96 *e*P **PKPdf 14 35 22.6 -0.6**
DUB01 Friburgo-RJ 124.21 80 *e*P **PKPdf 14 35 23.0 -0.8**
KMBO Kilima Mbogo 124.78 338 *i*P **PKPdf 14 35 25.9 +0.4**
SNR=17
MBAR Mbarara 125.47 346 *c i*PKIKP **PKPdf 14 35 27.5 +0.8**
MBAR pmax pmax
comp=Z,29nm,1.7s
VNDA Vanda 133.73 190 PKP **PKPdf 14 35 37.6 -2.6**
comp=Z,3.1nm,1.1s,baz=348,slow=4.3,SNR=3.8
VNDA SKPbc **SKPbc 14 39 05.2 -2.6**
comp=Z,9.6nm,1.2s,baz=351,slow=4.2,SNR=11
PMSA Palmer Station 139.77 139 PKP **PKPdf 14 35 50.4 -1.2**
comp=Z,9.6nm,0.8s,baz=318,slow=8.3,SNR=2.2
QSPA South Pole Qui 144.24 180 IAms_20 IAms_20 15 31 14.9
comp=Z,2μm,21.0s
QSPA South Pole Qui 144.24 180 PKP **PKPab 14 35 57.0 -0.6**
comp=Z,58nm,0.7s,baz=25,slow=0.6,SNR=303
QSPA SKP 14 39 35.0
comp=Z,30nm,1.2s,baz=96,slow=2.4,SNR=6.9
TSUM Tsumeb 144.79 2 **PKPab 14 36 01.1 0.0**
TSUM Tsumeb 144.79 2 PKP **PKPab 14 36 00.6 -0.4**
comp=Z,118nm,0.8s,baz=4.0,slow=4.7,SNR=138
TSUM SKP 14 39 38.5
comp=Z,18nm,1.1s,baz=46,slow=3.0,SNR=4.4
MATP Matopo 145.27 344 PKPbc **PKPbc 14 36 03.5 +0.8**
comp=Z,110nm,0.8s,baz=1.5,slow=3.1,SNR=258
MATP PP **PP 14 39 18.6 -3.0**
comp=Z,9.7nm,1.0s,baz=359,slow=11,SNR=3.7
WIN Windhoek 148.12 3 **PKPdf 14 36 11.4 +3.6**
WIN Windhoek 148.12 3 PKP2 **PKPdf 14 36 11.4 +3.6**
LBTB Lobatse 150.19 348 **PKPdf 14 36 16.4 +5.4**
LBTB Lobatse 150.19 348 PKPbc **PKPdf 14 36 16.2 +5.2**
comp=Z,150nm,1.0s,baz=358,slow=1.6,SNR=38
LBTB Lobatse 150.19 348 PKIKP **PKPdf 14 36 16.4 +5.4**
POGA Pongola 151.37 336 **PKPbc 14 36 18.9 +0.3**
BOSA Boshof 153.79 348 PKP **PKPdf 14 36 15.3 -0.9**
comp=Z,25nm,1.1s,baz=15,slow=1.3,SNR=6.7
BOSA PKPbc **sPKPdf 14 36 23.3 -0.6**
comp=Z,25nm,0.8s,baz=30,slow=1.9,SNR=11
BOSA PP **PP 14 40 06.8 -4.1**
comp=Z,38nm,1.0s,baz=36,slow=5.7,SNR=6.8
MAW Mawson 155.70 220 PKP **PKPdf 14 36 16.3 -1.1**
comp=Z,2.9nm,0.8s,baz=76,slow=2.7,SNR=4.4
MAW PKPab **PKPab 14 36 43.5 -0.5**
comp=Z,55nm,1.1s,baz=75,slow=7.8,SNR=14
SUR Sutherland 157.90 356 PKP **PKPdf 14 36 20.1 -1.6**
comp=Z,8.2nm,1.2s,baz=23,slow=2.3,SNR=1.6
SUR PKPab **PKPab 14 36 52.5 -2.1**
comp=Z,29nm,1.0s,baz=336,slow=7.1,SNR=2.9
VNA3 Neumayer Olymp 159.03 154 ⇑PKPdf **PKPdf 14 36 18.2 -3.4**
comp=Z,5.3nm,0.8s
VNA1 Neumayer--Stat 159.77 154 ⇑PKPdf **PKPdf 14 36 24.7 +2.3**
comp=Z,2.9nm,0.8s
VNA2 Neumayer--Watz 159.81 155 ⇑PKPdf **PKPdf 14 36 23.7 +1.2**
comp=Z,7.2nm,0.7s,baz=233,slow=3.6
SNAA Sanae 160.31 159 ⇑PKPdf **PKPdf 14 36 20.3 -2.8**
comp=Z,67nm,1.0s
SNAA Sanae 160.31 159 PKP **PKPdf 14 36 20.2 -2.9**
comp=Z,5.2nm,1.2s,baz=191,slow=7.0,SNR=7.8
SNAA PKPab **PKPab 14 37 01.9 -2.1**
comp=Z,5.6nm,0.7s,baz=238,slow=3.8,SNR=8.9
TROLL Troll, Antarti 161.01 164 ⇑PKPdf **PKPdf 14 36 21.5 -2.5**
comp=Z,136nm,0.8s
ELIB Princess Elisa 162.35 184 *d*PKPdf **PKPdf 14 36 23.6 -1.7**
ELIB *dp*PKPdf **sPKPdf 14 36 32.4 -0.6**
ELIB *d*PKP **PKPab 14 37 12.8 -0.2**
ELIB *dp*PKP **sPKPab 14 37 22.1 +1.6**
NVL N'lazarevskaya 163.32 172 *e*PKP2 PKPab 14 37 26.9 +10
NVL *e*SS SS 15 02 20.7 +53

AEIC ***19*** *14:20:29.9±2.3, 54°.52N±0°.04×160°.80W±0°.03, h6km±6km, Error ellipse: s-maj=6.0km s-min=2.6km az=182.0*
NEIC 19 14:20:29.1±1.4, 54°.46N±0°.03×160°.80W±0°.05, h14km±4km, ML3.9/16, ML3.5(AEIC), Error ellipse: s-maj=5.2km s-min=3.3km az=146.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.79**	**62**		Pg	14 20 44.6	+0.1
CNBA					Sn	14 20 57.4	-0.2
SDPT	**Sand Point**	**0.92**	**12**		Pb	14 20 46.7	-0.1
SDPT	**Sand Point**	**0.92**	**12**		Sb	14 20 59.0	+0.2
SDPT	**Sand Point**	**0.92**	**12**	IAML		14 20 57.9	
	comp=E,1μm,1.1s						
HAG	**Hague Volcano**	**1.07**	**324**		Pb	14 20 49.3	-0.3
HAG					Sb	14 21 03.4	-0.1
PS4A	**Pavlof South-4**	**1.08**	**326**		Pb	14 20 49.3	-0.3
PVV	**Pavlof Volcano**	**1.08**	**329**		Pb	14 20 49.3	-0.4
PVV					Sb	14 21 03.8	+0.1
PS1A	**Pavlof South-1**	**1.11**	**331**		Pb	14 20 49.9	-0.2
PS1A					Sg	14 21 05.0	0.0
S12K	**Black Hills**	**1.45**	**330**		Pn	14 20 55.3	+0.4
S12K	**Black Hills**	**1.45**	**330**	IAML		14 21 17.0	
	comp=E,2μm,0.6s						
S12K				IAML		14 21 18.2	
	comp=N,880nm,0.7s						
FALS	**False Pass**	**1.57**	**286**		Pn	14 20 57.0	+0.4
FALS					Sb	14 21 17.3	-0.4
ISNN	**Isanotski Nort**	**1.77**	**284**		Pb	14 21 00.9	-0.5
VNKR	**Veniaminof 5**	**1.78**	**27**		Pn	14 21 00.3	+0.8
VNSG	**Veniaminof 6**	**1.94**	**30**		Pn	14 21 02.9	+1.1
CHIR	**Chirikof Islan**	**3.27**	**63**	Pn	Pn	14 21 19.6	-0.4
CHIR				IAML		14 22 18.9	
	comp=N,348nm,1.1s						
CHIR				IAML		14 22 29.8	
	comp=E,253nm,1.0s						
PLK4	**Peulik 4**	**4.04**	**36**	Pn	Pn	14 21 32.4	+1.8
SII	**Sitkinak Islan**	**4.31**	**58**	Pn	Pn	14 21 34.1	-0.2
SII				IAML		14 22 08.1	
	comp=E,236nm,1.1s						
SII				IAML		14 22 09.7	
	comp=N,325nm,1.0s						
O14K	**Tigyukauivet M**	**4.82**	**357**	Pn	Pn	14 21 42.5	+1.3
OHAK	**Old Harbor**	**5.06**	**54**	Pn	Pn	14 21 43.9	-0.6
OHAK				IAML		14 23 22.4	
	comp=N,60nm,1.0s						

IDC ***19*** *14:33:14.8±0.6, 54°.47N×161°.08W, h0km, mb4.5/24, mbtmp4.5/28, ML4.0/4, Error ellipse: s-maj=18.2km s-min=12.1km az=179.0*
NEIC ***19*** *14:33:17.0±3.0, 54°.38N±0°.04×160°.85W±0°.08, h10km±1km, mb4.5/52, ML4.4/26, ML4.3(AEIC), Error ellipse: s-maj=7.9km s-min=6.6km az=122.0*
AEIC ***19*** *14:33:20.1±2.6, 54°.42N±0°.05×160°.86W±0°.08, h12km±4km, Error ellipse: s-maj=7.5km s-min=5.7km az=144.0*
ISC 19 14:33:17.8±1.2, 54°.39N±0°.05×160°.84W±0°.03, h18km±6km, n364, σ1§60/360, mb4.6/58, 2D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.85**	**59**		**Pg**	**14 33 34.8**	**+0.5**
CNBA	**Chernabura Isl**	**0.85**	**59**		**Sg**	**14 33 45.8**	**+0.3**
CNBA	**Chernabura Isl**	**0.85**	**59**	IAML		14 33 54.8	
	comp=N,3μm,1.0s						
CNBA				IAML		14 33 56.1	
	comp=E,3μm,0.6s						
CHNA	**Chernabura Isl**	**0.85**	**58**	P	**Pg**	**14 33 34.8**	**+0.4**
CHNA				S	**Sg**	**14 33 46.5**	**+0.8**
	baz=242						
SDPT	**Sand Point**	**0.98**	**12**	P	**Pg**	**14 33 36.7**	**-0.2**
SDPT	**Sand Point**	**0.98**	**12**		**Pg**	**14 33 36.6**	**-0.2**
SDPT					**Sg**	**14 33 48.2**	**-1.7**
SDPT	**Sand Point**	**0.98**	**12**	IAML		14 33 51.5	
	comp=N,6μm,0.8s						
SDPT				IAML		14 33 56.7	
	comp=E,7μm,1.1s						
SDPT	**Sand Point**	**0.98**	**12**	P	**Pg**	**14 33 36.6**	**-0.2**
	baz=194						

SDPT S Sg 14 33 49.4 -0.4
baz=194
HAG Hague Volcano 1.11 327 Pb 14 33 38.7 +0.2
HAG Sb 14 33 51.9 -0.7
PS4A Pavlof South-4 1.12 329 Pb 14 33 38.7 +0.1
PVV Pavlof Volcano 1.13 331 Pb 14 33 38.7 0.0
PVV Sb 14 33 53.5 +0.5
PS1A Pavlof South-1 1.16 334 Pb 14 33 39.3 +0.1
PS1A Sb 14 33 54.7 +0.9
PN7A Pavlof North-7 1.24 328 Pn 14 33 40.8 +0.6
S12K Black Hills 1.49 332 Pn 14 33 44.7 +1.1
S12K Sn Sn 14 34 03.4 +0.7
S12K Black Hills 1.49 332 P **Pn 14 33 44.7 +1.1**
baz=152
FALS False Pass 1.57 288 P **Pn 14 33 45.8 +1.2**
FALS False Pass 1.57 288 Pn 14 33 45.5 +0.8
FALS Sn 14 34 06.1 +1.6
FALS False Pass 1.57 288 P **Pn 14 33 45.5 +0.8**
baz=106
FALS S **Sn 14 34 06.1 +1.6**
baz=106
ISLZ Isanotski Laza 1.70 283 Pn 14 33 47.5 +1.0
ISLZ Sn 14 34 09.4 +1.5
ISNN Isanotski Nort 1.76 286 Pn 14 33 49.1 +1.7
SSLS Shishaldin Sou 1.87 281 Pn 14 33 50.4 +1.6
SSLS Sn 14 34 14.4 +2.4
VNWF Veniaminof 8 1.91 22 Pn 14 33 51.5 +2.0
VNSS Veniaminof 8 2.00 23 Pn 14 33 52.9 +2.1
VNSG Veniaminof 6 2.01 29 Pn 14 33 52.6 +1.8
S14K Fog Glacier 2.04 21 P **Pn 14 33 53.6 +2.4**
baz=202
WESE West Dahl East 2.19 274 Pn 14 33 54.8 +1.5
CHGN Chignik 2.37 35 Pn **Pn 14 33 57.4 +1.8**
CHGN IAML 14 34 32.9
comp=E,2µm,0.8s
CHGN IAML 14 34 33.7
comp=N,1µm,0.6s
CHGN Chignik 2.37 35 P **Pn 14 33 57.7 +2.1**
baz=218
AKSA Akutan Strait 2.86 267 Pn 14 34 04.0 +1.6
AHB Akutan Harbor 2.93 267 Pn 14 34 04.8 +1.4
HSB Akutan Spr's B 2.98 268 Pn 14 34 05.3 +1.2
AKGG Akutan Green G 3.02 268 Pn 14 34 06.0 +1.3
LVA Lava Point 3.05 268 Pn 14 34 06.4 +1.3
LVA IAML 14 35 04.9
comp=E,1µm,0.6s
CHIR Chirikof Islan 3.33 62 Pn 14 34 09.8 +1.0
CHIR Chirikof Islan 3.33 62 IAML 14 35 09.8
comp=N,687nm,1.1s
CHIR IAML 14 35 18.7
comp=E,633nm,1.0s
CHIR Chirikof Islan 3.33 62 P **Pn 14 34 09.8 +1.0**
baz=247
UNV Unalaska Valle 3.38 263 P **Pn 14 34 10.2 +0.7**
UNV Unalaska Valle 3.38 263 Pn 14 34 10.4 +0.9
UNV Unalaska Valle 3.38 263 P **Pn 14 34 10.4 +0.9**
baz=78
MTBL Makushin Table 3.45 265 Pn 14 34 11.6 +0.9
MGOD Makushin Gods 3.60 263 Pn 14 34 13.7 +1.0
MAPS Pakushin South 3.64 263 Pn 14 34 14.0 +0.9
R17L Mt. Peulik Vol 4.11 36 P **Pn 14 34 21.9 +2.3**
baz=220
PLK4 Peulik 4 4.11 36 Pn 14 34 21.9 +2.2
PLK4 Peulik 4 4.11 36 IAML 14 35 40.0
comp=N,472nm,0.8s
PLK1 Peulik 1 4.16 33 Pn 14 34 22.2 +2.0
PLK3 Peulik 3 4.18 36 Pn 14 34 22.9 +2.2
OKFG Magazine Ridge 4.29 260 Pn 14 34 23.7 +1.6
SII Sitkinak Islan 4.37 57 P **Pn 14 34 24.1 +0.9**
SII Sitkinak Islan 4.37 57 Pn **Pn 14 34 23.9 +0.8**
SII IAML 14 35 57.9
comp=N,549nm,0.9s
SII IAML 14 36 01.4
comp=E,408nm,0.9s
SII Sitkinak Islan 4.37 57 P **Pn 14 34 24.1 +0.9**
baz=243
OKNC Okmok New Cone 4.40 261 Pn 14 34 24.7 +1.1
OKCE Okmok Cone E 4.43 260 Pn 14 34 25.3 +1.2
Q17K Contact Creek 4.76 33 P **Pn 14 34 30.1 +1.5**
baz=218
R18K Karluk 4.80 46 Pn 14 34 30.1 +1.1
R18K Karluk 4.80 46 IAML 14 35 50.1
comp=N,380nm,0.6s
R18K IAML 14 35 52.0
comp=E,303nm,0.6s
R18K Karluk 4.80 46 P **Pn 14 34 30.1 +1.1**
baz=232
O15K Ungalikthiuk R 4.83 6 Pn 14 34 30.6 +1.1
O15K Ungalikthiuk R 4.83 6 P **Pn 14 34 30.8 +1.3**
baz=187
O14K Tigyukauivet M 4.88 357 Pn **Pn 14 34 31.5 +1.4**
O14K IAML 14 36 02.4
comp=N,268nm,0.8s
O14K IAML 14 36 21.7
comp=E,178nm,1.0s
O14K Tigyukauivet M 4.88 357 P **Pn 14 34 31.6 +1.4**
baz=177
ACHA Angle Creek He 4.91 37 Pn **Pn 14 34 32.4 +1.8**
P16K Nushagak River 4.91 18 Pn 14 34 32.1 +1.5
P16K Nushagak River 4.91 18 P **Pn 14 34 32.5 +1.9**
baz=200
NIKH Nikolski High 4.97 257 P **Pn 14 34 32.0 +0.5**
NIKH Nikolski High 4.97 257 Pn 14 34 31.9 +0.5
NIKH Nikolski High 4.97 257 P **Pn 14 34 31.9 +0.5**
baz=70
KABU Katmai Buttres 4.97 36 Pn 14 34 33.5 +2.0
KVTA Katmai Vly 10 5.05 35 Pn 14 34 32.7 +0.1
OHAK Old Harbor 5.12 53 P **Pn 14 34 33.5 +0.1**
OHAK Old Harbor 5.12 53 Pn **Pn 14 34 33.7 +0.3**
OHAK Old Harbor 5.12 53 P **Pn 14 34 33.8 +0.3**
baz=240
Q18K Katmai Hardscr 5.35 35 P **Pn 14 34 38.5 +1.8**
baz=220
P17K Kvichak River 5.39 25 Pn 14 34 39.5 +2.3
P17K Kvichak River 5.39 25 P **Pn 14 34 39.5 +2.3**
baz=209
KAHG Katmai Hook Gl 5.40 38 Pn 14 34 38.6 +1.3
P08K Saint George I 5.42 298 Pn 14 34 38.8 +1.2
P08K Saint George I 5.42 298 P **Pn 14 34 39.0 +1.4**
baz=110
O16K Kokwok River B 5.43 15 Pn 14 34 39.8 +2.1
O16K Kokwok River B 5.43 15 P **Pn 14 34 39.8 +2.1**
baz=198
N14K Kuskokwak Cree 5.57 356 P **Pn 14 34 41.0 +1.4**
baz=175
KDAK Kodiak Island 5.74 50 Pn **Pn 14 34 42.0 +0.1**
KDAK Kodiak Island 5.74 50 Pn **Pn 14 34 42.1 +0.2**
comp=E,3.7nm,0.3s,baz=241,slow=7.2,SNR=60
KDAK Sn **Sn 14 35 43.9 -3.3**
baz=232,slow=18
comp=E,8.8nm,0.3s
O17K Koliganek Bris 5.77 19 Pn 14 34 43.5 +1.1
O17K Koliganek Bris 5.77 19 P **Pn 14 34 44.0 +1.7**
baz=203
N15K Kwethluk River 5.81 4 Pn 14 34 44.6 +1.7
N15K Kwethluk River 5.81 4 P **Pn 14 34 44.6 +1.7**
baz=185
P18K Big Mountain, 5.88 29 Pn 14 34 46.4 +2.4
P18K Big Mountain, 5.88 29 P **Pn 14 34 46.0 +2.0**
baz=214
SPIA Saint Paul Isl 6.00 302 P **Pn 14 34 47.3 +1.9**
SPIA Saint Paul Isl 6.00 302 Pn 14 34 47.1 +1.7
SPIA Saint Paul Isl 6.00 302 P **Pn 14 34 47.1 +1.7**
baz=114
Q19K Cape Douglas, 6.04 38 Pn 14 34 47.5 +1.5
Q19K Cape Douglas, 6.04 38 P **Pn 14 34 47.3 +1.3**
baz=224
M13K Dall Lake 6.19 348 Pn 14 34 50.1 +2.0
M13K Dall Lake 6.19 348 P **Pn 14 34 49.9 +1.9**
baz=166
N16K Nishlik Lake 6.20 10 P **Pn 14 34 50.3 +1.9**
baz=192
O18K Koktuh Hills 6.28 27 Pn 14 34 51.7 +2.3
O18K Koktuh Hills 6.28 27 P **Pn 14 34 51.1 +1.8**
baz=212
Q20K Shuyak Island 6.30 44 P **Pn 14 34 50.5 +0.8**
baz=232
SYI Shuyak Island 6.31 44 Pn 14 34 50.8 +1.1
M15K Kasigluk River 6.32 1 Pn 14 34 50.7 +0.8
M15K Kasigluk River 6.32 1 P **Pn 14 34 50.7 +0.8**
baz=181
M14K Bethel 6.41 355 Pn 14 34 52.1 +1.1
M14K Bethel 6.41 355 P **Pn 14 34 52.1 +1.1**
baz=174
N17K Nushagak Hills 6.46 16 Pn 14 34 53.5 +1.6
N17K Nushagak Hills 6.46 16 P **Pn 14 34 53.5 +1.6**
baz=200
M11K Mekoryuk 6.67 336 Pn 14 34 55.9 +1.2
M11K Mekoryuk 6.67 336 P **Pn 14 34 55.9 +1.2**
baz=152
M16K Timber Creek 6.73 8 Pn 14 34 57.0 +1.5
M16K Timber Creek 6.73 8 P **Pn 14 34 57.0 +1.5**
baz=190
L14K Kuka Creek 7.04 353 P **Pn 14 35 00.8 +1.1**
baz=171
IVE Iliamna Volcan 7.06 34 Pn 14 35 01.9 +1.7
M17K Holitna River 7.26 13 P **Pn 14 35 04.5 +1.7**
baz=196
N19K Bonanza Creek 7.29 25 Pn 14 35 05.4 +2.2
N19K Bonanza Creek 7.29 25 P **Pn 14 35 05.7 +2.4**
baz=211
L15K Ungalak Mounta 7.32 358 P **Pn 14 35 04.2 +0.6**
baz=177
CNPM China Poot 7.35 42 Pn 14 35 04.7 +0.6
L16K Owhat River 7.38 5 Pn 14 35 04.9 +0.5
L16K Owhat River 7.38 5 P **Pn 14 35 04.9 +0.5**
baz=186
RDWB Redoubt West 7.48 32 Pn 14 35 04.3 -1.6
M18K Stony River 7.60 19 Pn 14 35 09.1 +1.6
M18K Stony River 7.60 19 P **Pn 14 35 09.1 +1.6**
baz=203
BRSE Bradley Lake S 7.68 42 Pn 14 35 08.4 -0.2
BRSE Bradley Lake S 7.68 42 P **Pn 14 35 08.4 -0.2**
baz=230
K13K Kusilvak Mount 7.83 347 Pn 14 35 11.6 +1.0
K13K Kusilvak Mount 7.83 347 P **Pn 14 35 11.6 +1.0**
baz=164
L17K Donlin 7.88 9 P **Pn 14 35 12.0 +0.7**
baz=191
K15K Wolf Creek Mou 7.94 358 Pn 14 35 13.3 +1.2
K15K Wolf Creek Mou 7.94 358 P **Pn 14 35 13.4 +1.4**
baz=177
L18K Granite Mounta 8.15 14 P **Pn 14 35 16.5 +1.5**
baz=198
KOFP Korovin Flat P 8.21 260 Pn 14 35 17.0 +1.1
M19K Big River Lodg 8.27 22 Pn 14 35 18.1 +1.4
M19K Big River Lodg 8.27 22 P **Pn 14 35 18.1 +1.4**
baz=207
ATKA Atka Island 8.29 260 P **Pn 14 35 17.9 +0.9**
ATKA Atka Island 8.29 260 Pn 14 35 17.9 +0.9
SLKM Skilak Lake 8.38 39 Pn 14 35 19.8 +1.6
SEW Seward 8.42 43 Pn 14 35 18.7 +0.1
SEW Seward 8.42 43 P **Pn 14 35 18.7 +0.1**
baz=232
L19K White Mountain 8.42 20 Pn 14 35 19.9 +1.2
L19K White Mountain 8.42 20 P **Pn 14 35 20.1 +1.3**
baz=205
K17K Iditarod 8.46 8 P **Pn 14 35 19.9 +0.7**
baz=190
J14K Nanvaranak Lak 8.50 352 Pn 14 35 20.8 +1.1
J14K Nanvaranak Lak 8.50 352 P **Pn 14 35 21.0 +1.2**
baz=169
M20K Styx River 8.54 25 Pn 14 35 23.3 +2.8
M20K Styx River 8.54 25 P **Pn 14 35 23.3 +2.8**
baz=212
SUA Susitna One 8.89 33 Pn 14 35 25.3 +0.1
L20K Farewell, AK 8.89 21 Pn 14 35 27.2 +2.0
L20K Farewell, AK 8.89 21 P **Pn 14 35 27.2 +2.0**
baz=208
J16K Anvik River 8.92 1 Pn 14 35 26.3 +0.7
J16K Anvik River 8.92 1 P **Pn 14 35 26.3 +0.7**
baz=181
SKT Skwentna 9.05 29 Pn 14 35 28.7 +1.3
SKT Skwentna 9.05 29 P **Pn 14 35 28.7 +1.3**
baz=217
J17K VABM Dome 9.08 5 Pn 14 35 27.9 +0.2
J17K VABM Dome 9.08 5 P **Pn 14 35 27.9 +0.2**
baz=187
P23K Montague Islan 9.20 47 Pn 14 35 29.9 +0.5
P23K Montague Islan 9.20 47 P **Pn 14 35 29.9 +0.5**
baz=238
PWL Port Wells 9.32 41 Pn 14 35 30.9 -0.1
PWL Port Wells 9.32 41 P **Pn 14 35 32.1 +1.0**
baz=232
J18K Innoko River 9.35 11 Pn 14 35 32.2 +0.8
J18K Innoko River 9.35 11 P **Pn 14 35 32.2 +0.8**
baz=195
GSTR Great Sitkin T 9.41 262 Pn 14 35 32.7 +0.4
GSMY Great Sitkin M 9.43 262 Pn 14 35 32.8 +0.2
KNK Knik Glacier 9.63 38 P **Pn 14 35 35.2 -0.1**
baz=229
HIN Hinchinbrook I 9.79 46 Pn 14 35 37.2 -0.3
GLI Glacier Island 9.82 43 Pn 14 35 37.1 -0.8
ADK Adak 9.85 262 P **Pn 14 35 38.5 +0.3**
ADK Adak 9.85 262 Pn 14 35 38.5 +0.3
SML Sawmill 9.94 37 Pn 14 35 40.8 +1.2
FID Port Fidalgo 9.99 45 Pn 14 35 39.2 -1.1
J19K Poorman 9.99 13 Pn 14 35 41.8 +1.5
J19K Poorman 9.99 13 P **Pn 14 35 42.6 +2.4**
baz=198
KIWB Kanaga Island 10.13 262 Pn 14 35 43.4 +1.3
SCM Sheep Creek Mo 10.31 38 Pn 14 35 45.1 +0.4
H17K Granite Mounta 10.59 2 Pn 14 35 50.0 +1.6
N25K Chitina, Valde 11.22 43 Pn 14 35 57.9 +0.7
IMAR Indian Mountai 12.14 14 Pn 14 36 11.7 +2.1
I23K Minto, Yukon-K 12.21 23 Pn 14 36 09.6 -1.0
AMKA Amchitka 12.36 264 Pn 14 36 12.2 -0.4
ILAR Eielson Array 12.55 28 Pn Pn 14 36 12.4 -2.7
comp=E,0.4nm,0.3s,baz=217,slow=13,SNR=14
ILAR Sn Sn 14 38 26.9 -7.3
comp=E,0.1nm,0.3s,baz=219,slow=22,SNR=1.1
PNL Peninsula 12.79 57 P **Pn 14 36 20.3 +1.8**
L27K Beaver Creek, 13.10 41 Pn 14 36 22.7 -0.1
E24K Your Creek 14.91 18 Pn 14 36 47.5 +0.1
M30M Minto, Yukon 14.93 47 Pn **Pn 14 36 47.9 +0.2**
SHEM Shemya Is, Ala 14.96 274 Pn **Pn 14 36 46.4 -1.7**
comp=E,0.6nm,0.3s,baz=72,slow=16,SNR=3.2
comp=E,92nm,1.1s
S32K Killisnoo 15.00 67 Pn **Pn 14 36 47.9 -0.7**
S32K IAmb IAmb 14 37 03.0
comp=Z,17nm,1.3s
N31M Braeburn, Yuko 15.01 52 P **P 14 36 55.4 +1.3**
N31M IAmb IAmb 14 37 03.5
comp=Z,14nm,0.8s
D22K Ayikyak River 15.03 11 P **Pn 14 36 54.0 +5.2**
D22K IAmb IAmb 14 36 56.5
comp=Z,12nm,0.8s
R32K Eaglecrest 15.06 64 Pn **Pn 14 36 50.4 +1.0**
R32K IAmb IAmb 14 37 04.3
comp=Z,11nm,0.9s
JIS Juneau Island 15.13 64 Pn 14 36 49.6 -0.7
JIS IAmb IAmb 14 36 58.8
comp=Z,11nm,0.6s
I28M Miner Creek 15.16 35 P **Pn 14 36 56.1 +5.4**
I28M IAmb IAmb 14 36 58.0
comp=Z,14nm,0.6s
K29M Barlow Dome 15.17 42 P **P 14 36 59.1 +3.2**
K29M IAmb IAmb 14 37 02.0
comp=Z,34nm,1.0s
BMAR Burnt Mountain 15.20 24 Pn **Pn 14 36 51.8 +0.5**
TOLK Toolik Lake Re 15.23 16 Pn **Pn 14 36 52.4 +0.7**
TOLK IAmb IAmb 14 37 02.9
comp=Z,13nm,0.8s
G27K Doyon Strip 15.51 29 P **Pn 14 36 58.3 +3.0**
P32M Atlin 15.61 60 P **Pn 14 36 60.0 +3.4**
I29M Ogilvie Camp, 15.66 37 P **Pn 14 37 02.0 +4.8**
I29M IAmb IAmb 14 37 08.1
comp=Z,14nm,0.8s
J30M Hart River 15.97 41 P **Pn 14 37 03.4 +2.0**
J30M IAmb IAmb 14 37 09.0
comp=Z,29nm,0.7s
H29M Whitestone 16.14 34 P **Pn 14 37 07.3 +4.0**
P33M Teslin, Yukon 16.14 58 P **P 14 37 09.2 +2.5**
C23K Itkillik River 16.18 13 Pn **Pn 14 37 04.2 +0.3**
C23K IAmb IAmb 14 37 19.2
comp=Z,35nm,1.3s
N32M Quiet Lake 16.19 54 Pn **Pn 14 37 01.1 -2.9**
I30M Mount Dempster 16.27 39 P **P 14 37 10.7 +2.6**
I30M IAmb IAmb 14 37 12.0
comp=Z,41nm,0.9s
D25K Kavik River 16.38 18 Pn **Pn 14 37 06.4 -0.1**
E27K Coleen River 16.52 26 Pn **Pn 14 37 07.8 -0.4**
F28M Old Crow 16.57 29 Pn **Pn 14 37 07.4 -1.5**
G29M Pine Creek 16.67 32 Pn 14 37 11.3 +1.2
G29M IAmb IAmb 14 37 13.3
comp=Z,27nm,0.8s
EPYK Eagle Plains 16.77 35 Pn **Pn 14 37 11.2 -0.1**
EPYK IAmb IAmb 14 37 20.5
comp=Z,26nm,0.7s
R33M Jennings River 16.98 61 Pn **Pn 14 37 14.9 +0.7**
G30M tAoh Zraii Nji 17.28 33 Pn 14 37 18.5 +0.7
E28M Babbage River 17.35 27 Pn 14 37 19.1 +0.5
DLBC Dease Lake 17.43 64 P **Pn 14 37 21.7 +1.9**
comp=Z,0.2nm,0.3s,baz=301,slow=18,SNR=1.5
comp=Z,0.8nm,0.3s
E29M Blow River 17.65 28 Pn **Pn 14 37 21.5 -0.8**
G31M Satah River 17.89 35 Pn **Pn 14 37 24.1 -1.1**
INK Inuvik 18.88 32 P **P 14 37 36.2 -0.5**
comp=Z,0.9nm,0.3s,baz=244,slow=19,SNR=5.0
comp=Z,3.6nm,0.4s
C36M Paulatuk 22.39 34 P **P 14 38 13.2 -1.6**
C36M IAmb IAmb 14 38 41.7
comp=Z,34nm,1.4s
A36M Sachs Harbour 23.24 27 P **P 14 38 21.0 -2.5**
A36M IAmb IAmb 14 38 52.4
comp=Z,15nm,0.8s
PET Petropavlovsk 23.79 283 P **P 14 38 28.1 -0.9**
PET Petropavlovsk 23.79 283 pP pP 14 38 40.3 +5.9
comp=Z,16nm,0.9s
YKA Yellowknife Ar 25.01 52 P **P 14 38 40.9 +0.7**
comp=Z,1.3nm,0.6s,baz=272,slow=9.1,SNR=9.2
YKA PcP **PcP 14 42 14.0 -0.5**
comp=Z,0.2nm,0.4s,baz=277,slow=2.2,SNR=3.6
comp=Z,1.3nm,0.6s
MA2 Magadan 26.38 301 P **P 14 38 51.3 -1.3**
LYMT Lyon Mountain 31.11 83 P P 14 39 32.7 -2.4
DLMT Dillon 31.81 86 P P 14 39 37.9 -3.3
DLMT IAmb IAmb 14 40 11.4
comp=Z,6.2nm,1.1s
NVAR Mina Array Bea 32.80 101 P **P 14 39 51.7 +1.7**
comp=Z,1.0nm,0.7s,baz=306,slow=8.2,SNR=6.0
NVAR PcP **PcP 14 42 35.0 +0.2**
comp=Z,0.1nm,0.4s,baz=253,slow=2.7,SNR=1.9
comp=Z,1.0nm,0.7s
PDAR Pinedale Array 35.10 88 P **P 14 40 10.0 0.0**
comp=Z,0.1nm,0.4s,baz=311,slow=4.5,SNR=2.1
BSUT Blindstream Ca 35.79 92 P **P 14 40 17.1 +1.0**
BSUT IAmb IAmb 14 40 20.0
comp=Z,9.7nm,1.5s
JKA Kamikawa-asahi 37.36 278 P **P 14 40 28.0 -1.0**
JKA IAmb IAmb 14 40 33.5
comp=Z,9.4nm,1.1s
PV13 Radium Mtn., P 38.48 93 P **P 14 40 40.1 +1.3**
PV13 IAmb IAmb 14 40 41.4
comp=Z,9.2nm,0.7s
ULM Lac du Bonnet 38.67 69 P **P 14 40 39.7 -0.2**
ULM IAmb IAmb 14 40 55.3
comp=Z,18nm,1.4s
ULM Lac du Bonnet 38.67 69 P **P 14 40 40.5 +0.6**
comp=Z,4.5nm,0.6s,baz=316,slow=7.0,SNR=6.6
comp=Z,4.5nm,0.6s
HEH HeiHe 42.30 295 eP P 14 41 08.0 -2.0
HEH pmax pmax
comp=Z,11nm,1.0s
EYMN Ely 42.34 69 P **P 14 41 11.5 +1.2**
EYMN IAmb IAmb 14 41 12.0
comp=Z,7.7nm,0.8s
H11N2 WAKE ISLAND Hy 42.43 228 T T 15 26 33.2
baz=27,slow=76,SNR=37
H11N3 WAKE ISLAND Hy 42.44 228 T T 15 26 18.3
baz=27,slow=76,SNR=52
H11N1 WAKE ISLAND Hy 42.45 228 T T 15 26 17.6
baz=27,slow=76,SNR=29
H11S1 WAKE ISLAND Hy 43.59 228 T T 15 27 37.6
baz=27,slow=75,SNR=52
H11S2 WAKE ISLAND Hy 43.61 228 T T 15 27 38.6
baz=27,slow=75,SNR=20
H11S3 WAKE ISLAND Hy 43.61 228 T T 15 27 39.0
baz=27,slow=75,SNR=25
MJAR Matsushiro Arr 44.80 272 P P 14 41 28.6 -1.7
comp=Z,3.4nm,0.8s,baz=34,slow=6.8,SNR=9.4
comp=Z,3.4nm,0.8s
MAJO Matsushiro 44.80 272 P **P 14 41 29.7 -0.6**
MAJO IAmb IAmb 14 41 32.4
comp=Z,11nm,0.8s
BNX BinXian 44.99 290 ⇓P **P 14 41 30.5 -1.1**
BNX pmax pmax
comp=Z,10.0nm,0.9s
KBS Kingsbay 46.87 2 eP **P 14 41 46.6 +0.5**
NRIK Noril'sk 47.01 333 P **P 14 41 46.2 -1.0**
comp=Z,3.7nm,0.5s,baz=48,slow=6.7,SNR=4.4
comp=Z,3.7nm,0.5s
SPITS Spitsbergen Ar 47.68 1 P P 14 41 50.7 -1.8
comp=Z,12nm,1.1s,baz=1.7,slow=15,SNR=2.1
comp=Z,12nm,1.1s
TXAR Lajitas Array 47.77 98 P **P 14 41 54.4 +0.7**
TXAR Lajitas Array 47.77 98 P **P 14 41 55.2 +1.4**
comp=Z,0.3nm,0.4s,baz=288,slow=5.3,SNR=9.0
TXAR PcP **PcP 14 43 22.6 0.0**
comp=Z,0.4nm,0.5s,baz=234,slow=2.0,SNR=3.5
SFJD Kangerlussuaq 48.21 30 P **P 14 41 56.2 -0.3**
HDIL Hopedale 48.21 76 P **P 14 41 56.9 0.0**
KSRS Korea Array 50.14 281 P **P 14 42 11.4 -0.3**
comp=Z,2.0nm,0.4s,baz=57,slow=7.4,SNR=21
comp=Z,2.0nm,0.4s
WVT Waverly 52.09 79 P **P 14 42 26.6 +0.3**
WVT IAmb IAmb 14 42 27.5
comp=Z,11nm,0.8s
XLT XiLinHaoTe 52.30 295 eP **P 14 42 28.0 0.0**
XLT pP sP 14 42 42.1 +6.2
XLT sP pP 14 42 44.8 +11
XLT pmax pmax
comp=Z,16nm,0.9s
SSPA Standing Stone 54.49 68 P **P 14 42 43.5 -0.5**
SSPA IAmb IAmb 14 42 44.9
comp=Z,9.5nm,0.9s
SONM Songino Array 54.52 304 P **P 14 42 43.3 -1.0**
comp=Z,4.0nm,0.9s,baz=48,slow=7.2,SNR=10
SONM PcP **PcP 14 43 46.8 -0.6**
comp=Z,1.9nm,0.5s,baz=61,slow=2.1,SNR=4.6
comp=Z,4.0nm,0.9s
HAMF Hammerfest 55.23 358 eP **P 14 42 47.5 -1.4**
VADS Vadso 55.58 356 eP **P 14 42 50.5 -0.9**
KEV Kevo 56.03 357 P **P 14 42 53.2 -1.4**
TRO Tromso 56.28 0 eP **P 14 42 55.9 -0.6**
ARCES ARCESS Array B 56.30 357 P **P 14 42 55.1 -1.6**
ARCES IAmb IAmb 14 43 38.2
comp=Z,9.3nm,1.4s
ARCES ARCESS Array B 56.30 357 P P 14 42 54.9 -1.8
comp=Z,1.2nm,0.5s,baz=27,slow=7.8,SNR=16
comp=Z,1.2nm,0.5s
HHC Hu-ho-hao-te 56.83 295 eP P 14 42 58.8 -2.1
HHC pmax pmax
comp=Z,13nm,0.5s
KTK1 Kautokeino 56.87 358 eP **P 14 42 59.6 -1.1**
LMN Caledonia Moun 57.51 55 P **P 14 43 04.9 -0.7**
STEI Steigen 57.96 2 eP **P 14 43 07.2 -1.1**
FAUS Fauske 58.51 2 eP **P 14 43 11.4 -0.8**
ZALV Zalesovo Beam 59.22 321 P **P 14 43 16.2 -1.1**
comp=Z,2.7nm,0.6s,baz=31,slow=6.7,SNR=10
comp=Z,2.7nm,0.6s
LYN LuoYang 60.93 289 eP **P 14 43 28.0 -1.4**
LYN pmax pmax
comp=Z,19nm,0.4s
NSS Namsos 61.28 4 eP **P 14 43 30.6 -0.7**
TBLU Trondheim 62.49 5 eP **P 14 43 37.9 -1.5**
JOF Joensuu 62.64 354 eP **P 14 43 39.3 -1.1**
VAF Ylistaro 62.87 358 eP **P 14 43 41.0 -1.0**
MOL Molde 63.02 6 eP **P 14 43 42.8 -0.2**
XAN Xi'an 63.26 292 ⇓P **P 14 43 44.6 -0.5**
XAN pmax pmax
comp=Z,17nm,1.8s
DOMB Dombas 63.64 5 eP **P 14 43 46.4 -0.7**
KEF Keuruu 63.70 357 eP **P 14 43 46.5 -0.9**
GTA Gaotai 63.94 302 eP **P 14 43 48.5 -1.1**
GTA sP sP 14 44 00.6 +3.0
GTA pmax pmax
comp=Z,8.0nm,1.2s
KURK Kurchatov 64.07 322 P **P 14 43 49.2 -0.9**
KURBB Kurchatov Arra 64.18 322 P **P 14 43 49.6 -1.2**
comp=Z,4.6nm,0.9s,baz=26,slow=6.7,SNR=18
comp=Z,4.6nm,0.9s
FIA1 FINESS Array S 64.38 356 P **P 14 43 51.1 -0.8**
FINES FINESS Array B 64.38 356 P **P 14 43 50.9 -1.0**
FINES FINESS Array B 64.38 356 P **P 14 43 51.0 -1.0**
comp=Z,6.7nm,0.6s,baz=20,slow=7.7,SNR=68
comp=Z,6.7nm,0.6s
LZH Lanzhou 64.42 297 eP P 14 43 45.8 -7.0
LZH pP pP 14 43 53.3 -5.3
LZH pmax pmax
comp=Z,22nm,1.1s
NC303 NORSAR Array S 64.56 4 P **P 14 43 52.2 -0.9**
NBO00 NORSAR Array S 64.73 4 P **P 14 43 53.3 -1.0**
NB201 NORSAR Array S 64.74 4 P **P 14 43 54.2 -0.1**

NB2	NORSAR Subarra	64.74	4	P		P	14 43 53.8 -0.6
	comp=Z,9.0nm,0.8s,baz=356,slow=6.5						
NB2	NORSAR Subarra	64.74	4	P		P	14 43 53.8 -0.6
	baz=356,slow=6.5						
NOA	NORSAR Array B	64.74	4	P		P	14 43 54.0 -0.4
	comp=Z,7.8nm,0.8s,baz=356,slow=6.6,SNR=40						
	comp=Z,7.8nm,0.8s						
BVAR	Borovoye Array	64.83	329	P		P	14 43 54.5 -0.5
	comp=Z,8.9nm,0.8s,baz=38,slow=7.5,SNR=26						
	comp=Z,8.9nm,0.8s						
RAF	Rauma	64.91	359	*e*P		P	14 43 54.5 -0.9
ARU	Arti	64.95	337	P		P	14 43 54.7 -1.1
NC602	NORSAR Array S	65.06	4	P		P	14 43 54.6 -1.7
NC602	NORSAR Array S	65.06	4	*e*P		P	14 43 55.8 -0.6
MEF	Metsahovi	65.66	357	*e*P		P	14 43 59.8 -0.5
HFS	Hagfors	65.74	3	P		P	14 44 00.1 -0.7
	comp=Z,14nm,0.6s,baz=28,slow=3.8,SNR=83						
	comp=Z,14nm,0.6s						
AAL	Aland	65.78	360	*e*P		P	14 44 00.3 -0.7
MKAR	Makanchi Array	65.93	318	P		P	14 44 01.0 -1.3
	comp=Z,1.8nm,0.5s,baz=44,slow=5.9,SNR=32						
	comp=Z,1.8nm,0.5s						
KONO	Kongsberg	66.05	5	*e*P		P	14 44 02.6 -0.2
BLS5	Blasjo	66.08	7	*e*P		P	14 44 02.8 -0.3
UPP	Uppsala	66.09	1	*e*P		P	14 44 02.7 -0.3
MTSE	Matsula	67.19	357	*e*P		P	14 44 09.6 -0.4
VIKU	Vikbolandet	67.44	1	*e*P		P	14 44 11.5 -0.2
BORU	Boraas	68.21	4	*e*P		P	14 44 16.1 -0.4
SLIT	Slitere, Latvi	68.31	358	*e*P		P	14 44 16.5 -0.6
FABU	Falkenberg	68.84	4	*e*P		P	14 44 20.5 0.0
EKA	Eskdalemuir Ar	69.11	13	P		P	14 44 22.4 +0.2
	comp=Z,4.9nm,0.6s,baz=338,slow=4.8,SNR=25						
	comp=Z,4.9nm,0.6s						
DEL	Delary	69.42	3	*e*P		P	14 44 23.8 -0.3
DEL	Delary	69.42	3	*i* P		P	14 44 23.0 -1.0
BLEU	Blekinge	69.63	2	*e*P		P	14 44 24.6 -0.8
BJUU	Bjuv	69.78	4	*e*P		P	14 44 26.1 -0.2
IZAR	Zarasai	70.07	356	*e*P		P	14 44 27.0 -1.1
ISAL	Salakas	70.25	356	*e*P		P	14 44 30.0 +0.8
PABE	Paberze	70.39	357	*e*P		P	14 44 29.9 -0.2
ABKAR	Akbulak array	71.18	333	P		P	14 44 34.6 -0.4
TKM2	Tokmak 2	71.77	320	P		P	14 44 39.0 +0.1
	SNR=9.5						
CHMS	Chumysh	72.02	320	P		P	14 44 40.4 +0.2
	SNR=5.5						
KBK	Karagaybulak	72.24	320	P		P	14 44 41.9 +0.2
	SNR=6.4						
EKS2	Erkin-Say	72.67	321	P		P	14 44 44.1 -0.1
	SNR=6.2						
PZH	PanZhiHua	73.00	292	P		P	14 44 45.6 -0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
AML	Almayashu	73.16	321	P		P	14 44 48.3 +0.8
	SNR=6.1						
RNPP8	Varash	74.50	356	P		P	14 44 53.4 -1.2
KSH	Kashi	74.55	318	P		P	14 44 58.5 +3.2
KSH				pP	sP		14 45 07.3 +4.0
KSH				pmax	pmax		
	comp=Z,21nm,1.0s						
CLL	Collm	74.55	4	*i* P		P	14 44 54.8 -0.1
	comp=Z,7.0nm,1.1s						
CLL				*ex*	x		14 45 13.0
RNPP5	Staryi Chortor	74.60	356	P		P	14 44 53.8 -1.4
MI28	Mi28,Pidlybu	74.81	354	P		P	14 44 55.2 -1.2
AK21	Malin Array Si	74.88	354	P		P	14 44 55.6 -1.2
AK22	Malin Array Si	74.89	353	P		P	14 44 55.7 -1.2
AKASG	Malin Array Be	74.94	353	P		P	14 44 55.9 -1.2
	comp=Z,13nm,0.6s,baz=9.4,slow=5.6,SNR=50						
	comp=Z,13nm,0.6s						
AKBB	Malin Array Si	74.94	353	P		P	14 44 56.0 -1.2
BRG	Berggiesshubel	75.02	3	*e*P		P	14 44 57.9 +0.3
BRG				Amp			14 44 58.7
	comp=Z,7.7nm,1.1s						
AK13	Malin Array Si	75.04	353	P		P	14 44 56.4 -1.3
DPC	Dobruska-Polom	75.60	2	P		P	14 44 59.8 -1.3
MORC	Moravsky Berou	76.20	1	*e*P		P	14 45 04.2 -0.3
VRAC	Vranov	76.65	2	*e*P		P	14 45 07.1 +0.1
LANS	Liptovska Anna	76.83	360	*e*P		P	14 45 09.4 +1.3
KRUC	Moravsky	76.89	2	*e*P		P	14 45 08.0 -0.4
KOLS	Kolonicke sedl	77.02	358	*e*P		P	14 45 10.0 +0.9
GERES	GERESS Array B	77.03	4	P		P	14 45 09.2 -0.1
	comp=Z,0.8nm,0.3s,baz=12,slow=7.0,SNR=7.4						
	comp=Z,0.8nm,0.3s						
CRVS	Cervenica-Dubn	77.06	358	*e*P		P	14 45 11.8 +2.5
JAVC	Velka Javorina	77.12	1	*e*P		P	14 45 10.8 +1.1
VYHS	Vyhne	77.49	0	*e*P		P	14 45 12.0 +0.3
MODS	Modra-Piesok	77.60	1	*e*P		P	14 45 13.1 +0.7
MOA	Molln	78.05	3	*i* P		P	14 45 13.3 -1.6
	comp=Z,3.9nm,1.3s						
MOA				*i* SKS		SKSac	14 55 22.0 -5.9
	comp=Z,5.5nm,1.4s						
BIOA	Bad Ischl, Aus	78.19	4	*e*SKS		SKSac	14 55 21.8 -7.0
	comp=Z,1.3nm,0.5s						
RETA	Reutte	78.25	6	*i* SKS		SKSac	14 55 24.4 -5.1
	comp=Z,3.4nm,0.7s						
DAVA	Damuels	78.39	6	*e*SKS		SKSac	14 55 30.2 -0.4
	comp=Z,2.2nm,0.4s						
LESA	Schwarzleotal	78.41	4	*e*P		P	14 45 17.5 +0.5
	comp=Z,3.2nm,0.9s						
WATA	Walderalm	78.44	5	*i* P		P	14 45 17.4 +0.2
	comp=Z,3.2nm,0.5s						
WTTA	Wattenberg	78.52	5	*i* P		P	14 45 18.1 +0.4
	comp=Z,4.0nm,0.7s						
WTTA				*i* SKS		SKSac	14 55 24.6 -7.0
	comp=Z,8.3nm,1.5s						
SQTA	Sankt Quirin	78.54	6	*i* P		P	14 45 17.8 +0.1
	comp=Z,7.7nm,0.7s						
SQTA				*e*SKS		SKSac	14 55 25.8 -5.8
	comp=Z,2.5nm,0.7s						
ARSA	Arzberg	78.69	3	*e*SKS		SKSac	14 55 27.7 -4.8
	comp=Z,3.0nm,0.7s						
FETA	Feichten	78.71	6	*i* P		P	14 45 19.2 +0.5
	comp=Z,3.7nm,0.8s						
FETA				*e*S		S	14 55 08.9 -6.1
	comp=Z,3.5nm,1.2s						
KBA	Koelnbreinsper	78.79	4	*e*P		P	14 45 20.0 +0.8
	comp=Z,5.1nm,0.6s						
KBA				*i* SKS		SKSac	14 55 26.5 -6.9
	comp=Z,3.7nm,1.2s						
ABTA	Abfaltersbach	79.08	5	*i* P		P	14 45 20.7 0.0
	comp=Z,4.5nm,1.0s						
ABTA				*e*SKS		S	14 55 26.8 +8.0
	comp=Z,1.5nm,0.4s						
MYKA	Terra Mystica	79.25	4	*i* SKS		SKSac	14 55 33.6 -2.9
	comp=Z,6.1nm,1.1s						
SOKA	Soboth	79.25	3	*i* P		P	14 45 22.2 +0.7
	comp=Z,3.9nm,0.6s						
SOKA				*i* SKS		S	14 55 27.8 +7.2
	comp=Z,4.3nm,1.3s						
OBKA	Obir	79.40	3	*i* P		P	14 45 22.9 +0.5
	comp=Z,12nm,0.6s						
KBZ	Khabaz	80.17	343	P		P	14 45 25.9 -0.6
	comp=Z,6.1nm,0.8s,baz=342,slow=3.2,SNR=13						
	comp=Z,6.1nm,0.8s						
CMAR	Chiang Mai Arr	80.98	289	P		P	14 45 30.8 -0.4
	comp=Z,4.9nm,0.9s,baz=22,slow=5.5,SNR=24						
	comp=Z,4.9nm,0.9s						
ESDC	Sonseca Array	84.22	18	P		P	14 45 47.8 -0.1
	comp=Z,3.5nm,0.9s,baz=339,slow=4.9,SNR=17						
	comp=Z,3.5nm,0.9s						
BRTR	Keskin Array B	85.43	349	P		P	14 45 53.8 -0.3
	comp=Z,2.5nm,0.9s,baz=59,slow=5.9,SNR=7.3						
	comp=Z,2.5nm,0.9s						
WRA	Warramunga Arr	92.34	238	P		P	14 46 25.6 -1.2
	comp=Z,1.7nm,0.9s,baz=38,slow=5.4,SNR=9.2						
	comp=Z,1.7nm,0.9s						
QSPA	South Pole Qui	144.16	180	PKP		PKPab	14 52 48.5 -0.2
	comp=Z,3.9nm,0.6s,baz=82,slow=3.1,SNR=44						
BOSA	Boshof	153.86	348	PKPbc		PKPdf	14 53 14.5 +6.8
	comp=Z,2.7nm,1.0s,baz=61,slow=3.7,SNR=2.4						
MAW	Mawson	155.67	220	PKPab		PKPab	14 53 34.8 -0.5
	comp=Z,4.7nm,1.1s,baz=56,slow=8.9,SNR=4.4						

*HVO **19** 14:39:59.0±0.8, 19°.415N±0°.010×155°.276W±0°.007, h1km±2km, ML3.6/24, ML3.4/35(NEIC), Error ellipse: s-maj=1.6km s-min=0.8km az=197.0*
*NEIC **19** 14:39:59.7±0.9, 19°.40N±0°.01×155°.294W±0°.008, h1km±5km, Error ellipse: s-maj=1.6km s-min=1.0km az=179.0*
*IDC **19** 14:40:03.1±20.0, 19°.92N×155°.03W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=415.3km s-min=58.8km az=36.0*

ISC 19 14:39:59.6±1.0, 19°.44N±0°.03×155°.28W±0°.03, h2km±6km, n34, σ0°69/32, mb3.6/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLHI	Steaming Bluff	0.02	148		Pg	14 40 00.3	+0.1
UWB	Uwekahuna B	0.02	182		Pg	14 40 00.2	0.0
RSD	Rainshed	0.02	358		Pg	14 40 00.6	+0.3
RSD				IAML		14 40 01.4	
	comp=N,36μm,0.4s						
HATHI	Halema'uma'u T	0.02	139		Pg	14 39 59.8	-0.5
OBL	Observatory Le	0.02	195		Pg	14 40 00.2	0.0
UWE	Uwekahuna	0.03	217		Pg	14 39 59.9	-0.3
BYL	Byron's Ledge	0.03	150	Pg	Pg	14 39 60.0	-0.4
BYL	Byron's Ledge	0.03	150		Sg	14 40 00.5	-0.4
WRMHI	West Rim	0.04	212		Pg	14 40 01.1	+0.7
KKO	Keanakako`i	0.04	166		Pg	14 40 00.6	+0.1
RIM	Rim	0.05	176		Pg	14 40 00.6	0.0
PUH	Pauahi	0.09	139		Pg	14 40 01.4	+0.1
PUH	Pauahi	0.09	139	IAML		14 40 02.7	
	comp=E,31μm,0.8s						
PUH				IAML		14 40 02.8	
	comp=N,21μm,0.4s						
MLH	Mauna Loa	0.12	297		Pg	14 40 02.7	+0.8
MLH				IAML		14 40 05.3	
	comp=N,14μm,0.8s						
MLH				IAML		14 40 05.8	
	comp=E,20μm,0.6s						
KNHH	Kane Nui o Ham	0.12	121		Pg	14 40 02.1	+0.2
HLP	Hilina Pali	0.15	191		Pg	14 40 02.4	0.0
HLP				IAML		14 40 04.8	
	comp=E,8μm,0.8s						
HLP				IAML		14 40 05.2	
	comp=N,12μm,0.5s						
STCH	Steam Cracks	0.15	111		Pg	14 40 02.4	-0.2
STCH				IAML		14 40 06.1	
	comp=N,14μm,0.9s						
STCH				IAML		14 40 06.5	
	comp=E,13μm,0.6s						
NPOC	North of Pu'u	0.17	107		Pg	14 40 02.9	+0.1
HMH	Humu'ula Sheep	0.25	310		Pg	14 40 05.1	+0.6
HMH				IAML		14 40 12.1	
	comp=N,8μm,0.5s						
HMH				IAML		14 40 13.1	
	comp=E,6μm,0.8s						
JOKA	Jonika Flow	0.26	92		Pg	14 40 04.3	-0.3
JOKA				IAML		14 40 13.1	
	comp=E,6μm,1.2s						
MLOA	Mauna Loa Obse	0.30	289	Pg	Pg	14 40 05.7	+0.3
MLOA				IAML		14 40 13.6	
	comp=N,7μm,0.6s						
MWH	Moku'aweowe	0.30	278		Pg	14 40 05.8	+0.3
PAH	Pahoa	0.32	80		Sg	14 40 11.8	+2.0
KHU	Kahuku	0.37	239	Pg	Pg	14 40 06.4	-0.4
KHU				IAML		14 40 14.7	
	comp=N,4μm,0.7s						
POHA	Pohakuloa	0.40	323		Pg	14 40 07.3	+0.1
POHA	Pohakuloa	0.40	323		Sg	14 40 12.4	-0.1
POHA	Pohakuloa	0.40	323	IAML		14 40 17.8	
	comp=N,3μm,0.9s						
POHA				IAML		14 40 21.6	
	comp=N,4μm,1.1s						
HPO	Honuapo	0.44	217		Pg	14 40 07.7	-0.3
HUH	Hualalai	0.58	295		Pg	14 40 10.9	+0.2
HPAH	Hawaii Prepara	0.71	326	Pg	Pg	14 40 12.0	-1.1
MHA	Mahukona	0.95	322	Pg	Pg	14 40 15.7	-2.1
PDAR	Pinedale Array	44.84	48	P	P	14 48 15.3	-0.4
	comp=N,0.1nm,0.4s,baz=240,slow=7.2,SNR=1.9						
	comp=N,0.1nm,0.4s						
ILAR	Eielson Array	45.65	5	P	P	14 48 21.1	-0.3
	comp=N,0.6nm,0.8s,baz=202,slow=6.8,SNR=5.6						
	comp=N,0.6nm,0.8s						
TXAR	Lajitas Array	47.70	68	P	P	14 48 38.8	+0.6
	comp=N,0.8nm,0.8s,baz=264,slow=8.0,SNR=7.0						
	comp=N,0.8nm,0.8s						

*IDC **19** 14:47:27.0±1.0, 9°.36S×112°.94E, h0km, mb3.9/10, mbtmp3.9/10, Error ellipse: s-maj=44.6km s-min=16.8km az=56.0*
*DJA **19** 14:47:30.6±0.8, 10°.S±4°.×11°.3E±°., h16km±8km, M4.4/17, mb4.5/5, mB5.5/1, MLv4.4/17, Mw(mB)5.0/1*
ISC 19 14:47:34.1±1.5, 9°.58S±0°.10×112°.77E±0°.04, h57km±15km, n27, σ1°31/31, mb4.0/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.75	51	P	Pn	14 48 00.8	-1.4
JAGI				S	Sn	14 48 22.9	-0.5
PWJI	Pagerwojo	1.82	328	P	Pn	14 48 01.9	-1.1
PWJI				S	Sn	14 48 25.9	+0.9
ABJI	Asem Bagus	2.29	39	P	Pn	14 48 09.3	-0.1
ABJI				S	Sn	14 48 38.2	+1.7
DNP	Denpasar	2.57	70	P	Pn	14 48 12.0	-1.3
DNP				S	Sn	14 48 46.2	+2.8
GRJI	Gresik	2.66	354	P	Pn	14 48 14.0	-0.6
GRJI				S	Sn	14 48 47.7	+2.0
UGM	Wanagama	2.77	307	P	Pn	14 48 16.1	0.0
UGM				S	Sn	14 48 49.5	+1.1
SRBI	Singaraja	2.83	59	P	Pn	14 48 16.2	-0.7
SRBI				S	Sn	14 48 51.4	+1.6
YOGI	Yogyakarta	3.01	305	P	Pn	14 48 18.3	-1.0
SMRI	Semarang	3.41	317	P	Pn	14 48 23.1	-1.7
BWJI	Bawean	3.71	358	P	Pn	14 48 28.7	-0.2
TWSI	Taliwang, Sumb	4.14	79	P	Pn	14 48 33.6	-1.3
CMJI	Cimerak	4.63	292	P	Pn	14 48 40.6	-0.9
PLAI	Plampang	5.00	82	P	Pn	14 48 45.2	-1.4
	66nm,1.0s,0.4nm						
LEM	Lembang	5.79	298	P	Pn	14 48 57.0	-0.6
WRA	Warramunga Arr	23.23	119	P	P	14 52 35.5	-1.1
	1.0nm,0.5s,baz=290,slow=11,SNR=25						
	1.0nm,0.5s						
ASAR	Alice Springs	24.57	127	P	P	14 52 49.3	+0.4
	4.5nm,0.7s,baz=304,slow=9.1,SNR=40						
	4.5nm,0.7s						
CMAR	Chiang Mai Arr	31.02	334	P	P	14 53 47.5	+0.9
	0.6nm,0.5s,baz=173,slow=8.1,SNR=2.2						
	0.6nm,0.5s						
STKA	Stephens Creek	34.72	134	P	P	14 54 19.4	+0.7
	3.0nm,0.8s,baz=261,slow=5.3,SNR=3.4						
	3.0nm,0.8s						
H08S2	Diego Garcia H	39.85	270	T	T	15 38 06.6	
	baz=94						
H08S3	Diego Garcia H	39.87	270	T	T	15 38 16.1	
	baz=94						
H08S1	Diego Carcia H	39.87	270	T	T	15 38 07.1	
	baz=94						
MJAR	Matsushiro Arr	51.74	26	P	P	14 56 33.9	-2.0
	1.5nm,0.7s,baz=205,slow=5.0,SNR=3.3						
	1.5nm,0.7s						
SONM	Songino Array	57.44	355	P	P	14 57 16.6	-0.5
	1.1nm,0.5s,baz=171,slow=10,SNR=3.6						
	1.1nm,0.5s						
MKAR	Makanchi Array	62.37	337	P	P	14 57 50.3	-0.5
	0.4nm,0.4s,baz=153,slow=6.8,SNR=6.9						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	66.93	337	P	P	14 58 19.8	-0.6
	0.5nm,0.9s,baz=152,slow=4.8,SNR=4.1						
	0.5nm,0.9s						
ZALV	Zalesovo Beam	67.57	343	P	P	14 58 23.6	-0.8
	1.0nm,0.6s,baz=131,slow=4.5,SNR=4.0						
	1.0nm,0.6s						
SNAA	Sanae	88.74	197	P	P	15 00 23.3	+2.0
	0.9nm,0.5s,baz=170,slow=6.7,SNR=7.9						
	0.9nm,0.5s						

*IDC **19** 14:53:48.4±2.1, 35°.33N×8°.37E, h0km, mb2.9/1, mbtmp3.1/2, ML3.2/1, Error ellipse: s-maj=45.8km s-min=13.7km az=149.0*
*TUN **19** 14:53:48.6, 35°.44N×8°.31E, h7km±7km, MD3.4*
ISC 19 14:53:48.6±1.0, 35°.42N±0°.05×8°.40E±0°.08, h10km, n12, σ1°43/12, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEST	Kesra	0.84	68	Pg	Pg	14 54 05.0	+0.3
	20nm,0.3s,baz=182,slow=2.5,SNR=135						
KEST				Lg	Lg	14 54 18.4	
	29nm,0.3s,baz=180,slow=20,SNR=10						
TROT	Trozza	0.99	81	*i* P	Pg	14 54 08.6	+0.8
KRIT	Krib	1.07	31	*i* P	Pb	14 54 08.7	-0.7
GHAT	Ghardimaou	1.08	356	*i* P	Pb	14 54 08.3	-1.1
BERT	Berda	1.28	156	*i* P	Pg	14 54 13.7	+0.5
BLIT	Baltah	1.37	19	*i* P	Pn	14 54 12.7	-1.2
HANT	Hania	1.66	75	*i* P	Pg	14 54 22.1	+1.7
MEDT	Meda	1.81	136	*i* P	Pg	14 54 24.3	+0.9
SGNT	Sidi Gnaou	2.13	145	*i* P	Pn	14 54 24.6	+0.3
TATN	Tataouine	3.34	147	*i* P	Pn	14 54 38.1	-2.9
ESDC	Sonseca Array	10.69	297	Pn	Pn	14 56 23.3	+1.4
	baz=114,slow=14,SNR=1.6						
	0.3nm,0.3s						
TORD	Torodi Ar. Bea	22.98	197	P	P	14 58 53.9	+0.4
	0.2nm,0.4s,baz=359,slow=11,SNR=1.9						
	0.2nm,0.4s						

*IDC **19** 15:03:13.5±2.9, 1°.56N×92°.35E, h0km, mb3.6/5, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=90.0km s-min=31.9km az=59.0*
ISC 19 15:03:15.0±2.5, 1°.6N±0°.3×92°.4E±0°.4, h10km, n9, σ0°23/6, mb3.8/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.99	21	P	Pn	15 07 25.2	-0.1
	0.1nm,0.3s,baz=214,slow=12,SNR=4.9						
	1.3nm,0.9s						
H08S2	Diego Garcia H	21.83	245	T	T	15 30 47.0	
	baz=66						
H08S3	Diego Garcia H	21.83	245	T	T	15 30 53.5	
	baz=66						
H08S1	Diego Carcia H	21.85	245	T	T	15 30 47.6	
	baz=66						
MKAR	Makanchi Array	45.91	350	P	P	15 11 38.0	+0.2
	0.7nm,0.7s,baz=161,slow=7.7,SNR=7.3						
	0.7nm,0.7s						
WRA	Warramunga Arr	46.37	120	P	P	15 11 41.9	0.0
	0.6nm,1.0s,baz=294,slow=7.5,SNR=2.7						
	0.6nm,1.0s						
SONM	Songino Array	47.67	13	P	P	15 11 51.9	+0.1
	0.4nm,0.3s,baz=206,slow=9.6,SNR=2.3						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	50.28	349	P	P	15 12 11.2	-0.3
	0.6nm,0.9s,baz=168,slow=6.7,SNR=3.3						
	0.6nm,0.9s						
ZALV	Zalesovo Beam	52.59	354	P	P	15 12 28.8	0.0
	0.6nm,0.4s,baz=168,slow=8.8,SNR=2.3						
	0.6nm,0.4s						

*NOU **19** 15:20:09.8, 12°.11S×167°.53E, h158km, mb4.2/16, Santa Cruz Islands*
*NEIC **19** 15:20:16.7±1.4, 12°.9S±0°.1×167°.6E±0°.1, h183km±10km, mb4.4/23, Error ellipse: s-maj=20.9km s-min=18.8km az=134.0*
*IDC **19** 15:20:23.6±9.9, 13°.26S×167°.41E, h245km±75km, mb3.8/3, mbtmp4.3/4, Error ellipse: s-maj=141.0km s-min=60.4km az=69.0*
ISC 19 15:20:18.0±1.0, 12°.97S±0°.10×167°.6E±0°.1, h200km, n49, σ1°49/49, mb4.3/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	7.77	182	Pn	Pn	15 22 07.4	-0.8
KOUNC	Koumac, New Ca	8.17	202	P	Pn	15 22 16.0	+2.6
KOUNC	Koumac, New Ca	8.17	202	Pn	Pn	15 22 14.9	+1.5
YATNC	Mamie plateau,	9.06	184	P	Pn	15 22 27.8	+2.8
DZM	Mont Dzumac	9.11	187	P	Pn	15 22 29.4	+3.6
DZM	Mont Dzumac	9.11	187	Pn	Pn	15 22 25.3	-0.5
DZM	Mont Dzumac	9.11	187	P	Pn	15 22 27.5	+1.7
	3.3nm,0.4s,baz=289,slow=20,SNR=14						
DZM				S	Sn	15 24 06.4	-1.6
	5.9nm,0.8s,baz=289,slow=22,SNR=2.0						
NOUC	Port Laguerre	9.16	187	P	Pn	15 22 29.9	+3.6
ONTNC	Ouen Toro	9.35	186	Pn	Pn	15 22 28.2	-0.5
PINNC	Pines Island,	9.59	181	P	Pn	15 22 36.6	+4.7
PINNC	Pines Island,	9.59	181	Pn	Pn	15 22 30.2	-1.7
EIDS	Eidsvold	19.84	229	P	P	15 24 33.9	+0.2
EIDS	Eidsvold	19.84	229	P	P	15 24 33.6	-0.1
CTA	Charters Tower	21.61	248	P	P	15 24 53.2	+0.8
	0.3nm,0.6s,baz=73,slow=13,SNR=4.0						
NIUE	Niue	22.46	109	P	P	15 25 00.3	-0.2
ARMA	Armidale	22.77	218	P	P	15 25 04.9	+1.5
ARMA	Armidale	22.77	218	P	P	15 25 03.6	+0.2
ARMA				IAmb	IAmb	15 25 10.6	
	comp=Z,14nm,1.4s						
COEN	Coen	23.74	265	P	P	15 25 08.5	-3.8
COEN	Coen	23.74	265	P	P	15 25 13.6	+1.4
COEN				IAmb	IAmb	15 25 28.6	
	comp=Z,22nm,1.4s						
BKZ	Black Stump Fm	27.26	165	P	P	15 25 46.6	+2.9
MSWZ	Moikau Station	29.12	168	P	P	15 25 58.5	-1.7
LTZ	Lake Taylor	29.98	173	P	P	15 26 09.5	+1.7
STKA	Stephens Creek	30.37	227	P	P	15 26 11.8	+0.5
STKA	Stephens Creek	30.37	227	P	P	15 26 11.5	+0.2
STKA	Stephens Creek	30.37	227	P	P	15 26 10.6	-0.7
	comp=Z,4.4nm,0.4s,baz=42,slow=8.1,SNR=14						
	comp=Z,4.4nm,0.4s						
MQZ	McQueen's Vall	30.94	173	P	P	15 26 17.3	+1.3
MQZ				IAmb	IAmb	15 26 45.1	
	comp=Z,18nm,1.3s						
LBZ	Lake Benmore	31.39	176	P	P	15 26 20.1	+0.1
TOO	Toolangi	31.44	215	P	P	15 26 20.9	+0.3
TOO				IAmb	IAmb	15 26 28.4	
	comp=Z,16nm,1.1s						
LCRK	Leigh Creek	32.20	233	P	P	15 26 27.2	-0.1
WR0	Warramunga Arr	32.38	253	P	P	15 26 27.7	-1.4
WR0				IAmb	IAmb	15 27 07.9	
	comp=Z,10nm,1.4s						
WB0	Warramunga Arr	32.50	254	P	P	15 26 29.0	-1.0
WB2	Warramunga Arr	32.56	253	P	P	15 26 29.6	-1.0
WB2				IAmb	IAmb	15 26 50.9	
	comp=Z,7.6nm,1.3s						
WRA	Warramunga Arr	32.57	253	P	P	15 26 29.8	-0.9
	comp=Z,1.5nm,0.5s,baz=85,slow=8.7,SNR=28						
	comp=Z,1.5nm,0.5s						
OOD	Oodnadatta	33.20	239	P	P	15 26 35.6	-0.4
AS31	Alice Springs	33.60	247	P	P	15 26 38.

PKIN			*e*Sg	**Sg**	**15 31 28.5**	**0.0**
	745nm,0.3s					
KKN	**Kakani**	**1.89 257**	*e*Pg	**Pb**	**15 31 03.5**	**-0.1**
KKN			*e*Sg	**Sg**	**15 31 29.8**	**+0.2**
	863nm,0.2s					
DMN	**Daman**	**2.08 253**	*e*Pg	**Pb**	**15 31 06.9**	**-0.1**
GKN	**Gorkha**	**2.41 265**	*e*Pg	**Pb**	**15 31 12.4**	**0.0**
GKN			*e*Sg	**Sg**	**15 31 44.8**	**-1.5**
	939nm,0.3s					
MKAR	**Makanchi Array**	**18.94 349**	P	**Pn**	**15 34 50.2**	**-0.5**
	0.1nm,0.3s,baz=159,slow=10,SNR=4.9					
	0.6nm,0.8s					
KURBB	**Kurchatov Arra**	**23.33 346**	P	**P**	**15 35 37.5**	**+0.4**
	0.7nm,0.6s,baz=165,slow=10,SNR=4.6					
	0.7nm,0.6s					
HFS	**Hagfors**	**57.87 325**	P	**P**	**15 40 21.2**	**+0.6**
	0.9nm,0.6s,baz=105,slow=6.3,SNR=5.3					
	0.9nm,0.6s					
NB2	**NORSAR Subarra**	**59.06 327**	P	**P**	**15 40 30.0**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=86,slow=7.4					
NOA	**NORSAR Array B**	**59.06 327**	P	**P**	**15 40 29.9**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=86,slow=6.8,SNR=3.8					
	comp=Z,0.4nm,0.6s					
WRA	**Warramunga Arr**	**66.01 131**	P	**P**	**15 41 15.9**	**0.0**
	comp=Z,0.6nm,0.4s,baz=326,slow=6.6,SNR=35					
	comp=Z,0.6nm,0.4s					
ASAR	**Alice Springs**	**68.38 134**	P	**P**	**15 41 31.4**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=317,slow=5.9,SNR=24					
	comp=Z,0.9nm,0.6s					
TORD	**Torodi Ar. Bea**	**80.12 280**	P	**P**	**15 42 40.3**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=62,slow=6.4,SNR=3.1					
	comp=Z,0.4nm,0.6s					

*IDC **19** 16:24:42.9±5.7,23°.91S×179°.33E,h513^{km}±58^{km},mb3.2/5, mbtmp4.2/6,Error ellipse: s-maj=43.1km s-min=23.8km az=56.0*

*NEIC **19** 16:24:42.1±2.2,24°.0S±0°.1×179°.8E±0°.2,h530^{km}±11^{km}, mb4.5/24,Error ellipse: s-maj=20.5km s-min=17.7km az=111.0*

*NOU **19** 16:24:43.9,23°.80S×179°.75E,h577^{km},mb4.1/15,South of Fiji Islands*

ISC 19 16:24:43.1±0.7,23°.92S±0°.08×179°.7E±0°.1,h537^{km},n112, σ1^{s}37/109,mb4.3/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.33**	**346**	P	**P**	**16 26 26.4**	**+1.9**
MSVF	**Nonsavu**	**6.33**	**346**	P	**P**	**16 26 25.7**	**+1.2**
PINNC	**Pines Island,**	**11.30**	**274**	P	**P**	**16 27 15.4**	**+1.0**
PINNC	**Pines Island,**	**11.30**	**274**	P	**P**	**16 27 15.4**	**+1.0**
LIFNC	**LIFOU**	**11.91**	**283**	P	**P**	**16 27 20.7**	**-0.1**
DZM	**Mont Dzumac**	**12.31**	**276**	P	**P**	**16 27 25.5**	**+0.4**
	14nm,1.1s,baz=111,slow=17,SNR=2.9						
OUZ	**Omahuta**	**12.43**	**204**	P	**P**	**16 27 29.2**	**+3.2**
AFI	**Afiamalu**	**12.83**	**41**	P	**P**	**16 27 29.6**	**-0.9**
KUZ	**Kuaotunu**	**13.23**	**194**	P	**P**	**16 27 36.3**	**+2.1**
MXZ	**Matakaoa Point**	**13.65**	**185**	P	**P**	**16 27 41.2**	**+2.6**
HAZ	**Te Kaha**	**13.89**	**186**	P	**P**	**16 27 41.3**	**+0.2**
PKGZ	**Pakihiroa**	**13.97**	**185**	P	**P**	**16 27 42.3**	**+0.3**
RUGZ	**Raukumara Rang**	**14.11**	**186**	P	**P**	**16 27 44.9**	**+1.5**
PUZ	**Puketiti**	**14.16**	**185**	P	**P**	**16 27 46.0**	**+2.1**
TOZ	**Tahuroa Road**	**14.22**	**194**	P	P	16 27 50.0	+5.5
TWGZ	**Tauwhareparae**	**14.29**	**185**	P	**P**	**16 27 46.6**	**+1.3**
LIRZ	**Lichensteins R**	**14.32**	**191**	P	P	16 27 39.0	-6.5
URZ	**Urewera**	**14.46**	**188**	P	**P**	**16 27 46.6**	**-0.4**
URZ	**Urewera**	**14.46**	**188**	P	**P**	**16 27 46.1**	**-0.9**
	16nm,0.5s,baz=343,slow=3.2,SNR=28						
URZ				S	**S**	**16 30 16.1**	**-2.6**
	6.2nm,0.8s,baz=157,slow=22,SNR=7.5						
URZ	**Urewera**	**14.46**	**188**	P	**P**	**16 27 46.6**	**-0.4**
MWZ	**Matawai**	**14.49**	**187**	P	**P**	**16 27 47.7**	**+0.4**
CNGZ	**Carnagh Statio**	**14.57**	**185**	P	**P**	**16 27 50.9**	**+2.7**
HRRZ	**Handcock Road**	**14.71**	**190**	P	**P**	**16 27 52.5**	**+2.8**
MUGZ	**Murupara**	**14.72**	**189**	P	**P**	**16 27 49.6**	**-0.1**
TLZ	**Tolley Road**	**14.79**	**193**	P	**P**	**16 27 52.4**	**+1.8**
RTZ	**Ruatahuna**	**14.83**	**188**	P	**P**	**16 27 49.4**	**-1.6**
RTZ	**Ruatahuna**	**14.83**	**188**	P	**P**	**16 27 50.8**	**-0.2**
RIGZ	**Rimuhau**	**14.83**	**186**	P	**P**	**16 27 52.7**	**+1.8**
SNGZ	**Shannon Statio**	**14.95**	**187**	P	**P**	**16 27 52.4**	**+0.3**
MTHZ	**Maungataniwha**	**15.08**	**188**	P	**P**	**16 27 54.6**	**+1.1**
RAHZ	**Arahi**	**15.11**	**188**	P	**P**	**16 27 54.4**	**+0.6**
HIZ	**Hauiti**	**15.11**	**195**	P	**P**	**16 27 55.2**	**+1.4**
HIZ	**Hauiti**	**15.11**	**195**	P	**P**	**16 27 59.1**	**+5.3**
MRHZ	**Matea Rd**	**15.12**	**190**	P	**P**	**16 27 54.8**	**+0.8**
NMHZ	**Naumai**	**15.33**	**188**	P	**P**	**16 27 57.3**	**+1.2**
BKZ	**Black Stump Fm**	**15.44**	**189**	P	**P**	**16 27 57.0**	**-0.2**
BKZ	**Black Stump Fm**	**15.44**	**189**	P	**P**	**16 27 55.4**	**-1.8**
BKZ				IAmb	IAmb	16 27 59.4	
	comp=Z,6.3nm,0.8s						
BKZ	**Black Stump Fm**	**15.44**	**189**	P	**P**	**16 27 56.7**	**-0.6**
NTVZ	**North Tongarir**	**15.51**	**192**	P	**P**	**16 28 00.9**	**+2.8**
TMVZ	**Te Maari**	**15.52**	**192**	P	**P**	**16 27 59.6**	**+1.5**
ETVZ	**East Tongariro**	**15.54**	**192**	P	**P**	**16 27 57.6**	**-0.7**
OTVZ	**Oturere**	**15.57**	**192**	P	**P**	**16 27 58.6**	**-0.1**
NGZ	**Ngauruhoe**	**15.60**	**192**	P	**P**	**16 28 00.2**	**+1.2**
SNVZ	**South Ngauruho**	**15.60**	**192**	P	**P**	**16 28 00.3**	**+1.3**
TUVZ	**Tukino**	**15.68**	**192**	P	**P**	**16 28 00.4**	**+0.6**
WHVZ	**Whangaehu Hut**	**15.70**	**192**	P	**P**	**16 27 58.0**	**-2.1**
VRZ	**Vera Road**	**15.72**	**194**	P	**P**	**16 28 03.1**	**+3.1**
WNVZ	**Wahianoa**	**15.74**	**192**	P	**P**	**16 28 00.5**	**0.0**
PKVZ	**Pokaka**	**15.76**	**192**	P	**P**	**16 28 01.7**	**+1.2**
KRHZ	**Kereru**	**15.92**	**189**	P	**P**	**16 28 02.2**	**+0.1**
KAHZ	**Kahuranaki**	**16.00**	**188**	P	**P**	**16 28 03.1**	**+0.2**
PNHZ	**Pukenui**	**16.21**	**190**	P	**P**	**16 28 04.7**	**-0.3**
PXZ	**Pawanui**	**16.24**	**188**	P	**P**	**16 28 05.4**	**+0.3**
TSZ	**Takapari Road**	**16.39**	**190**	P	**P**	**16 28 06.1**	**-0.6**
BFZ	**Birch Farm**	**16.96**	**189**	P	**P**	**16 28 11.1**	**-0.8**
DUWZ	**D'Urville Isla**	**17.51**	**195**	P	**P**	**16 28 17.7**	**+0.6**
CAW	**Cannon Point**	**17.57**	**192**	P	**P**	**16 28 17.0**	**-0.5**
TCW	**Tory Channel**	**17.82**	**193**	P	**P**	**16 28 19.9**	**+0.1**
SNZO	**South Karori**	**17.83**	**192**	P	**P**	**16 28 20.6**	**+0.7**
MSWZ	**Moikau Station**	**17.84**	**191**	P	**P**	**16 28 19.5**	**-0.5**
MSWZ	**Moikau Station**	**17.84**	**191**	P	**P**	**16 28 19.7**	**-0.3**
QRZ	**Quartz Range**	**17.89**	**198**	P	**P**	**16 28 22.3**	**+1.8**
QRZ	**Quartz Range**	**17.89**	**198**	P	**P**	**16 28 22.1**	**+1.7**
BHW	**Baring Head**	**17.89**	**192**	P	**P**	**16 28 20.8**	**+0.3**
TKNZ	**Takaka Hill**	**17.97**	**197**	P	P	16 28 13.4	-7.8
NNZ	**Nelson**	**18.03**	**195**	P	**P**	**16 28 22.3**	**+0.5**
TUWZ	**Tuamarina**	**18.11**	**194**	P	**P**	**16 28 22.5**	**+0.1**
MRNZ	**Matariki Terra**	**18.36**	**197**	P	**P**	**16 28 25.7**	**+0.9**
THZ	**Tophouse**	**18.67**	**196**	P	**P**	**16 28 27.9**	**+0.3**
DSZ	**Denniston Nort**	**18.95**	**198**	P	**P**	**16 28 31.9**	**+1.7**
KHZ	**Kahutara**	**19.14**	**194**	P	**P**	**16 28 32.0**	**+0.2**
KHZ	**Kahutara**	**19.14**	**194**	P	P	16 28 23.7	-8.1
GVZ	**Greta Valley S**	**19.77**	**194**	P	**P**	**16 28 37.5**	**-0.2**
GVZ	**Greta Valley S**	**19.77**	**194**	P	**P**	**16 28 37.6**	**0.0**
LTZ	**Lake Taylor**	**19.78**	**196**	P	**P**	**16 28 37.2**	**-0.5**
LTZ	**Lake Taylor**	**19.78**	**196**	P	**P**	**16 28 37.5**	**-0.3**
INZ	**Inchbonnie**	**19.95**	**198**	P	**P**	**16 28 39.2**	**0.0**
OXZ	**Oxford**	**20.35**	**196**	P	**P**	**16 28 42.3**	**-0.6**
OXZ				IAmb	IAmb	16 28 47.3	
	comp=Z,14nm,0.6s						
OXZ	**Oxford**	**20.35**	**196**	P	**P**	**16 28 45.3**	**+2.4**
MQZ	**McQueen's Vall**	**20.56**	**195**	P	**P**	**16 28 45.0**	**+0.3**
RPZ	**Rata Peaks**	**20.98**	**198**	P	**P**	**16 28 46.6**	**-1.9**
RPZ	**Rata Peaks**	**20.98**	**198**	P	**P**	**16 28 46.5**	**-2.0**
RPZ				IAmb	IAmb	16 28 46.6	
	comp=Z,32nm,1.4s						
WHZ	**Wether Hill Ro**	**23.88**	**200**	P	**P**	**16 29 13.5**	**-1.0**
WHZ				IAmb	IAmb	16 29 47.8	
	comp=Z,27nm,1.3s						
ARMA	**Armidale**	**25.72**	**249**	P	**P**	**16 29 31.7**	**+0.5**
ARMA				IAmb	IAmb	16 29 59.9	
	comp=Z,12nm,1.2s						
EIDS	**Eidsvold**	**26.00**	**261**	P	**P**	**16 29 32.4**	**-1.0**
EIDS				IAmb	IAmb	16 29 34.1	
	comp=Z,9.1nm,1.2s						
CMSA	**Cobar Meteorol**	**30.92**	**248**	P	**P**	**16 30 15.7**	**-0.5**
CTAO	**Charters Tower**	**31.16**	**270**	P	**P**	**16 30 18.4**	**-0.1**
QLP	**Quilpie**	**32.09**	**258**	P	**P**	**16 30 26.0**	**-0.3**
TOO	**Toolangi**	**32.18**	**237**	P	**P**	**16 30 27.9**	**+1.0**
TOO				IAmb	IAmb	16 30 53.2	
	comp=Z,18nm,1.4s						
PMG	**Port Moresby**	**34.20**	**289**	P	**P**	**16 30 44.0**	**-0.3**
PMG				IAmb	IAmb	16 30 44.9	
	comp=Z,24nm,0.9s						
COEN	**Coen**	**35.81**	**279**	P	**P**	**16 30 56.7**	**-1.0**
COEN				IAmb	IAmb	16 31 06.5	
	comp=Z,11nm,1.2s						
BBOO	**Buckleboo**	**39.15**	**247**	P	**P**	**16 31 23.9**	**-0.9**
AS31	**Alice Springs**	**41.72**	**261**	P	**P**	**16 31 44.7**	**-0.8**
ASAR	**Alice Springs**	**41.72**	**261**	P	**P**	**16 31 44.3**	**-1.2**
ASAR	**Alice Springs**	**41.72**	**261**	P	**P**	**16 31 44.8**	**-0.8**
	comp=Z,2.2nm,0.5s,baz=96,slow=7.2,SNR=77						
ASAR				PcP	**PcP**	**16 33 29.3**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=96,slow=3.6,SNR=2.1						
	comp=Z,2.2nm,0.5s						
WR0	**Warramunga Arr**	**41.91**	**266**	P	**P**	**16 31 45.6**	**-1.3**
WB2	**Warramunga Arr**	**42.08**	**266**	P	**P**	**16 31 47.1**	**-1.3**
WB2				IAmb	IAmb	16 31 47.5	
	comp=Z,5.3nm,0.5s						
WRA	**Warramunga Arr**	**42.09**	**266**	P	**P**	**16 31 47.0**	**-1.5**
WRA	**Warramunga Arr**	**42.09**	**266**	P	**P**	**16 31 47.1**	**-1.3**
	comp=Z,4.1nm,0.5s,baz=107,slow=7.8,SNR=166						
WRA				PcP	**PcP**	**16 33 29.9**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=65,slow=1.6,SNR=2.4						
	comp=Z,4.1nm,0.5s						
FORT	**Forrest**	**46.01**	**250**	P	**P**	**16 32 17.3**	**-1.3**
MTN	**Manton Dam**	**47.14**	**275**	P	**P**	**16 32 25.9**	**-1.5**
MTN				IAmb	IAmb	16 32 28.7	
	comp=Z,18nm,1.4s						
KNRA	**Kununurra**	**48.37**	**270**	P	**P**	**16 32 35.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.52**	**266**	P	**P**	**16 32 51.2**	**-1.1**
QSPA	**South Pole Qui**	**66.17**	**180**	P	**P**	**16 34 39.6**	**+2.3**
QSPA	**South Pole Qui**	**66.17**	**180**	P	**P**	**16 34 39.5**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=231,slow=0.6,SNR=5.8						
	comp=Z,0.6nm,0.7s						
KKM	**Kota Kinabalu**	**68.61**	**287**	P	**P**	**16 34 53.1**	**0.0**
KKM				IAmb	IAmb	16 34 54.9	
	comp=Z,15nm,1.2s						
MJAR	**Matsushiro Arr**	**71.73**	**326**	P	**P**	**16 35 11.5**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=172,slow=6.3,SNR=4.6						
	comp=Z,1.3nm,0.8s						
KSRS	**Korea Array**	**78.06**	**320**	P	**P**	**16 35 47.3**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=140,slow=6.3,SNR=6.2						
	comp=Z,0.7nm,0.8s						
KLU	**Klutina**	**89.52**	**16**	P	**P**	**16 36 41.8**	**-1.0**
KLU				IAmb	IAmb	16 36 46.1	
	comp=Z,7.3nm,1.0s						
HFS	**Hagfors**	**142.50**	**348**	PKhKP	PKPpre	16 43 11.9	
	comp=Z,1.5nm,0.4s,baz=61,slow=3.7,SNR=26						
AKASG	**Malin Array Be**	**144.82**	**327**	PKP	PKPbc	16 43 19.3	+0.1
	comp=Z,0.9nm,0.5s,baz=47,slow=3.6,SNR=7.1						
BRTR	**Keskin Array B**	**147.34**	**307**	PKPbc	**PKiKP**	**16 43 29.3**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=92,slow=3.7,SNR=4.5						

*IDC **19** 16:34:50.3±3.2,9°.90S×112°.30E,h0^{km},mb3.3/4, mbtmp3.4/4,Error ellipse: s-maj=149.5km s-min=25.5km az=50.0*

*DJA **19** 16:34:59.7±0.5,9°.S±4°.×11°.3E±°,h10^{km},M4.1/10,mb5.0/1, MLv3.6/10*

ISC 19 16:34:58.5±1.2,9°.4S±0°.1×112°.91E±0°.05,h35^{km},n15, σ1^{s}46/16,mb3.4/4,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.54**	**53**	P		16 35 25.2	
JAGI				Pn	**Pn**	**16 35 24.1**	**+0.5**
JAGI				S	**Sn**	**16 35 43.0**	**+0.6**
PWJI	**Pagerwojo**	**1.76**	**322**	P	**Pn**	**16 35 27.7**	**+1.2**
PWJI				S	**Sn**	**16 35 48.6**	**+1.0**
ABJI	**Asem Bagus**	**2.07**	**39**	P	**Pn**	**16 35 30.5**	**-0.3**
ABJI				S	**Sn**	**16 35 55.4**	**0.0**
DNP	**Denpasar**	**2.39**	**72**	P	**Pn**	**16 35 38.0**	**+2.8**
GRJI	**Gresik**	**2.52**	**350**	P	**Pn**	**16 35 36.8**	**-0.1**
SRBI	**Singaraja**	**2.63**	**60**	P	**Pn**	**16 35 40.8**	**+2.3**
UGM	**Wanagama**	**2.79**	**302**	P		16 35 41.6	
UGM				Pn	**Pn**	**16 35 40.8**	**+0.1**
UGM				S	**Sn**	**16 36 15.8**	**+2.7**
TWSI	**Taliwang, Sumb**	**3.98**	**81**	Pn	**Pn**	**16 35 57.3**	**+0.2**
WRA	**Warramunga Arr**	**23.20**	**119**	P	**P**	**16 40 01.8**	**-0.7**
	0.2nm,0.6s,baz=291,slow=11,SNR=2.0						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**24.57**	**128**	P	**P**	**16 40 13.9**	**-1.5**
	0.4nm,0.7s,baz=298,slow=8.9,SNR=4.6						
	0.4nm,0.7s						
H08S2	**Diego Garcia H**	**39.99**	**269**	T	T	17 25 11.8	
	baz=95						
H08S3	**Diego Garcia H**	**40.00**	**269**	T	T	17 25 30.1	
	baz=95						
H08S1	**Diego Carcia H**	**40.01**	**269**	T	T	17 25 24.2	
	baz=95						
SONM	**Songino Array**	**57.28**	**355**	P	**P**	**16 44 42.4**	**-0.4**
	0.7nm,0.5s,baz=181,slow=5.8,SNR=2.5						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**62.26**	**337**	P	**P**	**16 45 15.9**	**-1.1**
	0.2nm,0.4s,baz=152,slow=8.3,SNR=5.2						
	0.2nm,0.4s						

NEIC 19 16:38:20.0±0.8,30°.95N±0°.02×103°.47W±0°.01,h8^{km}±1^{km}, mb_Lg2.4/31,ML2.5/26,Error ellipse: s-maj=2.3km s-min=1.5km az=180.0,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.54**	**321**		Pg	16 38 30.7	+0.2
PECS				Sg	Sg	16 38 37.8	+0.2
PECS				IAML		16 38 43.5	
	310nm,0.5s						
PECS				IAML		16 38 43.6	
	383nm,0.6s						
ALPN	**Alpine**	**0.59**	**195**	Pg	Pg	16 38 31.4	-0.2
ALPN				Sg	Sg	16 38 39.2	-0.2
MNHN	**Monahans**	**0.72**	**57**		Pg	16 38 33.6	-0.3
VHRN	**Van Horn**	**1.32**	**263**	Pg	Pn	16 38 44.7	-0.2
VHRN				Sg	Sb	16 38 59.9	-2.3
VHRN				IAML		16 39 02.5	
	72nm,0.3s						
VHRN				IAML		16 39 06.6	
	59nm,0.4s						
ODSA	**Odessa**	**1.40**	**34**		Pn	16 38 45.9	-0.1
ODSA				Sg	Sb	16 39 02.2	-2.4
SAND	**Sanderson**	**1.53**	**130**		Pb	16 38 48.5	-0.1
TX31	**Lajitas Ar. Si**	**1.62**	**186**		Pn	16 38 49.6	+0.6
TXAR	**Lajitas Array**	**1.62**	**186**		Pb	16 38 49.7	-0.6
OZNA	**Ozona**	**2.01**	**90**	Pn	Pb	16 38 56.5	-0.4
SGCY	**Sterling City**	**2.22**	**64**	Pn	Pb	16 38 59.1	-1.4
POST	**Post**	**2.69**	**38**	Pn	Pn	16 39 05.4	+1.7
DRIO	**Del Rio**	**2.90**	**121**	Pn	Pn	16 39 08.4	+1.9
DRIO				IAmb_Lg		16 39 59.1	
	comp=Z,13nm,0.8s						
SN05	**Snyder 5**	**2.92**	**48**	Pn	Pn	16 39 07.2	+0.3
SN05				IAmb_Lg		16 39 58.4	
	comp=Z,11nm,0.8s						
SN07	**Snyder 07**	**3.05**	**45**		Pn	16 39 10.3	+1.6
SN07				IAmb_Lg		16 39 54.9	
	comp=Z,14nm,0.8s						
MSTX	**Muleshoe**	**3.07**	**11**	Pn	Pn	16 39 08.8	-0.1
JCT	**Junction City**	**3.19**	**98**	Pn	Pn	16 39 11.9	+1.3
DKNS	**Dickens**	**3.46**	**38**		Pn	16 39 15.4	+1.1
ABTX	**Abilene, Hawle**	**3.66**	**62**		Pn	16 39 18.0	+1.1
APMT	**Aspermont**	**3.69**	**49**		Pn	16 39 18.3	+0.8
APMT				IAmb_Lg		16 40 25.2	
	comp=Z,12nm,1.0s						
BRDY	**Brady**	**3.84**	**84**		Pn	16 39 21.1	+1.6
HNDO	**Hondo**	**3.89**	**110**	Pn	Pn	16 39 21.6	+1.5
121A	**Cookes Peak, D**	**4.00**	**294**		Pn	16 39 21.1	-0.8
121A				IAML		16 40 30.9	
	comp=E,9.6nm,0.6s						
CRNM	**Carthage**	**4.07**	**318**	Pn	Pn	16 39 22.7	-0.1
BNM	**Barren Site**	**4.16**	**321**	Pn	Pn	16 39 22.9	-1.1
AMTX	**Amarillo**	**4.20**	**20**		Pn	16 39 24.1	-0.4
AMTX				IAmb_Lg		16 40 43.8	
	comp=Z,12nm,0.8s						
LENM	**Lemitar**	**4.36**	**318**	Pn	Pn	16 39 25.2	-1.6
833A	**Chaparral WMA,**	**4.41**	**125**	Pn	Pn	16 39 26.1	-1.1
ANMO	**Albuquerque**	**4.71**	**329**	Pn	Pn	16 39 32.0	+0.4
ANMO				IAML		16 40 50.6	
	comp=Z,4.8nm,0.8s						
PLPT	**Palo Pinto**	**4.76**	**66**	Pn	Pn	16 39 31.7	-0.4
PLPT				IAmb_Lg		16 40 52.5	
	comp=Z,7.4nm,0.8s						
FW03	**Perrin-Whitt E**	**5.04**	**64**	IAmb_Lg		16 41 11.6	
	comp=Z,7.1nm,0.8s						
WHTX	**Lake Whitney,**	**5.24**	**77**	IAmb_Lg		16 41 13.2	
	comp=Z,8.0nm,0.8s						
WMOK	**Wichita Mounta**	**5.46**	**45**	Pn	Pn	16 39 41.9	+0.2
WMOK				IAmb_Lg		16 41 22.3	
	comp=Z,4.6nm,0.9s						
RTBA	**Rita Blanca**	**5.50**	**6**	Pn	Pn	16 39 41.2	-1.2
X34A	**Smith Ranch, M**	**5.98**	**51**	Pn	Pn	16 39 47.2	-1.6
T25A	**Trinidad**	**6.22**	**353**	Pn	Pn	16 39 51.8	-0.5
T25A				IAmb_Lg		16 41 43.5	
	comp=Z,4.8nm,1.0s						

*NEIC **19** 16:50:51.7±0.8,34°.090N±0°.006×97°.43W±0°.03,h5^{km}±2^{km}, Error ellipse: s-maj=4.2km s-min=3.0km az=89.0*

TUL 19 16:50:52±1.1,34°.05N±0°.02×97°.40W±0°.03,h5^{km}±2^{km}, ML2.7,mb_Lg2.6/73(NEIC),ML2.7/20(NEIC),Error ellipse: s-maj=3.9km s-min=3.0km az=96.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOOK	**Love County**	**0.19**	**109**		Pg	16 50 57.0	+1.3
LOOK				IAML		16 51 02.4	
	comp=N,2μm,0.4s						
X34A	**Smith Ranch, M**	**0.65**	**327**	Pg	Pg	16 51 04.9	+0.3
X34A				IAML		16 51 20.9	
	comp=N,324nm,0.6s						
X34A				IAML		16 51 25.4	
	comp=E,350nm,0.4s						
Z35A	**Perchaven, San**	**0.73**	**170**		Pg	16 51 06.0	0.0
WTFS	**Witchita Falls**	**0.93**	**252**		Pg	16 51 09.2	-0.7
FW06	**Azle**	**1.09**	**187**		Pg	16 51 12.8	0.0
FW03	**Perrin-Whitt E**	**1.16**	**209**		Pg	16 51 13.5	-0.6
FW03				IAmb_Lg		16 51 28.2	
	comp=Z,30nm,0.9s						
FW03				IAML		16 51 36.7	
	comp=Z,172nm,0.4s						
W35A	**Tecumseh**	**1.18**	**21**	Pg	Pg	16 51 13.7	-0.9
W35A				IAML		16 51 35.6	
	comp=E,140nm,0.3s						
W35A				IAML		16 51 38.8	
	comp=N,158nm,0.4s						
FNO	**Franklin**	**1.20**	**360**	Pg	Pg	16 51 14.0	-1.0
FNO				IAML		16 51 32.3	
	comp=E,180nm,0.1s						
FNO				IAML		16 51 41.4	
	comp=N,173nm,0.2s						
WMOK	**Wichita Mounta**	**1.33**	**301**	Pg	Pn	16 51 14.9	-2.3
FW07	**Weatherford**	**1.39**	**194**		Pg	16 51 18.6	0.0
PLPT	**Palo Pinto**	**1.46**	**212**		Pn	16 51 19.2	+0.3
ADOK	**Arcadia Dam**	**1.59**	**1**		Pn	16 51 20.4	-0.5
FW16	**Waxahatchie**	**1.62**	**165**		Pb	16 51 22.2	-0.2
FW16				IAmb_Lg		16 51 46.0	
	comp=Z,25nm,0.7s						
FW14	**Alvarado**	**1.66**	**174**		Pb	16 51 22.9	-0.2
FW13	**Cleburne**	**1.70**	**181**		Pb	16 51 23.5	-0.2
TREL	**Terrell**	**1.72**	**140**		Pb	16 51 23.9	-0.1
OK029	**Liberty Lake**	**1.74**	**359**	Pn	Pn	16 51 22.9	0.0
X37A	**Clayton**	**1.76**	**72**	Pn	Pb	16 51 24.0	-0.8
CSTR	**Hydro, Custer**	**1.91**	**327**		Pn	16 51 25.7	+0.4
DEOK	**Depew**	**1.93**	**22**		Pn	16 51 26.0	+0.5
OK031	**S. Brethren Rd**	**1.95**	**13**		Pn	16 51 26.2	+0.4
OK052	**Battle Ridge R**	**2.00**	**14**		Pn	16 51 27.1	+0.7
WHTX	**Lake Whitney,**	**2.06**	**181**		Pn	16 51 28.3	+1.0
Z38A	**Mt. Pleasant**	**2.16**	**111**	Pn	Pn	16 51 29.7	+1.0
QUOK	**Quay**	**2.19**	**15**		Pn	16 51 28.4	-0.6
TUL3	**Leonard**	**2.27**	**35**		Pn	16 51 30.4	+0.1
TUL3				IAmb_Lg		16 52 08.5	
	comp=Z,19nm,0.8s						
ABTX	**Abilene, Hawle**	**2.36**	**233**		Pn	16 51 32.4	+1.0
ABTX				IAmb_Lg		16 52 12.9	
	comp=Z,33nm,0.9s						
APMT	**Aspermont**	**2.38**	**253**		Pn	16 51 32.9	+1.1
APMT				IAmb_Lg		16 52 12.6	
	comp=Z,16nm,0.7s						
OK048	**Pawnee Station**	**2.39**	**9**		Pn	16 51 31.6	-0.2
237A	**Washetta, Mont**	**2.44**	**146**	Pn	Pn	16 51 33.6	+1.1
237A				IAmb_Lg		16 52 15.5	
	comp=Z,17nm,0.8s						
OK051	**E0350 and S346**	**2.49**	**11**		Pn	16 51 34.1	+0.9
CROK	**Carrier**	**2.49**	**349**	Pn	Pn	16 51 33.6	+0.4
CROK				IAmb_Lg		16 52 12.6	
	comp=Z,24nm,0.7s			

VHRN Van Horn 7.19 245 Pn Pn 16 52 35.1 -2.9
VHRN IAmb_Lg 16 54 48.0
comp=Z,7.2nm,0.7s
ANMO Albuquerque 7.53 279 IAmb_Lg 16 54 53.6
comp=Z,7.3nm,1.0s
Q24A Divide 7.93 310 IAmb_Lg 16 55 13.7
comp=Z,8.3nm,0.8s
N23A Red Feather La 9.63 318 IAmb_Lg 16 56 25.1
comp=Z,3.9nm,0.7s

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*NEIC **19** 17:00:01.3±2.6, 47°.33N±0°.03×93°.10W±0°.05, h0km±2km, mb_Lg2.7/16, Error ellipse: s-maj=6.2km s-min=4.8km az=265.0*
*IDC **19** 17:00:03.0±4.2, 47°.52N×93°.00W, h0km, mbtmp2.2/1, ML0.7/1, Error ellipse: s-maj=67.3km s-min=28.8km az=57.0*
ISC 19 17:00:00.1±1.0, 47°.38N±0°.05×93°.06W±0°.04, h0km, n22, σ0§91/25, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**1.20**	**61**		**Pg**	**17 00 22.8**	**-0.3**
EYMN				Sg	**Sg**	**17 00 38.4**	**-0.3**
E38A	**The Farm, Brul**	**1.28**	**126**		**Pb**	**17 00 25.4**	**+0.3**
AGMN	**Agassiz Nation**	**2.10**	**297**		**Pn**	**17 00 36.3**	**-0.2**
SPMN	**Marine on St.**	**2.16**	**175**		**Pn**	**17 00 38.0**	**+0.7**
SPMN					**Sn**	**17 01 04.5**	**-0.2**
F33A	**5 Mile Ranch,**	**2.71**	**237**		**Pn**	**17 00 46.0**	**+1.1**
F33A				IAmb_Lg		17 01 29.3	
comp=Z,18nm,1.0s
G40A	**Rib Lake**	**2.89**	**136**		**Pn**	**17 00 47.8**	**+0.4**
G40A				IAmb_Lg		17 01 32.7	
comp=Z,15nm,0.7s
COWI	**Conover**	**2.98**	**114**		**Pn**	**17 00 50.4**	**+1.8**
COWI					**Sn**	**17 01 24.1**	**-0.9**
COWI				IAmb_Lg		17 01 34.2	
comp=Z,28nm,0.8s
D41A	**Chassel**	**3.08**	**94**		**Pn**	**17 00 50.6**	**+0.7**
I37A	**Lemond, Waseca**	**3.37**	**184**	Pn	**Pn**	**17 00 55.4**	**+1.4**
ULM	**Lac du Bonnet**	**3.43**	**328**	Pn	**Pn**	**17 00 54.3**	**-0.4**
ULM	**Lac du Bonnet**	**3.43**	**328**	Pn	**Pn**	**17 00 54.6**	**-0.1**
comp=Z,0.1nm,0.3s,baz=139,slow=11,SNR=1.5
ULM				Pg	**Pb**	**17 01 02.2**	**+0.6**
comp=Z,0.4nm,0.3s,baz=139,slow=12,SNR=6.7
ULM				Sn	**Sn**	**17 01 35.9**	**-0.2**
comp=Z,0.4nm,0.3s,baz=139,slow=14,SNR=4.0
ULM				Lg	Lg	17 01 45.0	
comp=Z,1.3nm,0.3s,baz=224,slow=21,SNR=10
comp=Z,0.4nm,0.3s
I10CA	**LAC DU BONNET**	**3.44**	**326**	I	I	17 19 50.0	
baz=144,slow=313,SNR=4.7
F42A	**Maple Grove Fa**	**3.76**	**114**	Pn	**Pn**	**17 01 00.0**	**+0.7**
F42A				IAmb_Lg		17 02 02.2	
comp=Z,14nm,0.8s
E43A	**Lone Tree Farm**	**4.28**	**101**	Pn	**Pn**	**17 01 06.6**	**+0.2**
MDND	**Maddock**	**4.45**	**279**	Pn	**Pn**	**17 01 09.0**	**+0.2**
MDND				IAmb_Lg		17 02 28.4	
comp=Z,21nm,0.8s
I42A	**Draeger Farm,**	**4.54**	**139**		**Pn**	**17 01 09.9**	**0.0**
I42A				IAmb_Lg		17 02 23.8	
comp=Z,18nm,0.8s
H43A	**Windswept, Lux**	**4.70**	**126**	Pn	**Pn**	**17 01 13.1**	**+1.0**
JFWS	**Jewell Farm**	**4.88**	**155**		**Pn**	**17 01 12.8**	**-2.0**
L40A	**Anamosa**	**5.47**	**166**	Pn	**Pn**	**17 01 20.9**	**-1.9**
L40A				IAmb_Lg		17 02 57.4	
comp=Z,11nm,0.9s
G45A	**Suttons Bay**	**5.64**	**112**	Pn	**Pn**	**17 01 25.4**	**+0.2**
L42A	**Oliver, Polo**	**5.89**	**155**	Pn	**Pn**	**17 01 28.7**	**+0.2**
L42A				IAmb_Lg		17 03 08.2	
comp=Z,18nm,0.8s
I56US	**NEWPORT INFRAST**	**16.18**	**282**	I	I	18 36 41.2	
baz=84,slow=315,SNR=3.4

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*UPP **19** 17:00:53.4±0.1, 67°.06N×20°.94E, h0km, ML2.2, Unknown*
*IDC **19** 17:00:54.5±0.9, 67°.03N×21°.23E, h0km, mbtmp2.7/4, ML1.9/4, Error ellipse: s-maj=14.7km s-min=7.7km az=113.0*
*HEL **19** 17:00:54.2±0.2, 67°.07N×20°.96E, h0km, ML2.0, Explosion*
ISC 19 17:00:53.5±0.8, 67°.08N±0°.02×20°.87E±0°.03, h0km, n46, σ1§16/73, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.13**	**290**	P	**Pg**	**17 00 56.7**	**+0.8**
MASU	**Masugnsbyn**	**0.58**	**49**	P	**Pg**	**17 01 04.5**	**-0.1**
ERTU	**Ertsjaerv**	**0.74**	**135**	P	**Pg**	**17 01 06.7**	**-1.0**
ERTU	**Ertsjaerv**	**0.74**	**135**	PG	**Pg**	**17 01 06.5**	**-1.3**
ERTU				SG	**Sg**	**17 01 16.3**	**-1.1**
RATU	**Laukkuluspa**	**0.90**	**327**	P	**Pg**	**17 01 10.7**	**0.0**
RATU				S	**Sb**	**17 01 23.5**	**-0.9**
KUA	**Kurravaara**	**0.90**	**347**	P	**Pg**	**17 01 10.5**	**-0.3**
HARU	**Harads**	**0.92**	**177**	P	**Pg**	**17 01 10.2**	**-0.9**
SALU	**Saltoluokta**	**0.97**	**289**	P	**Pg**	**17 01 12.1**	**0.0**
LANU	**Lannavaara**	**1.06**	**23**	P	**Pg**	**17 01 13.1**	**-0.8**
LANU	**Lannavaara**	**1.06**	**23**	PG	**Pg**	**17 01 13.1**	**-0.8**
LANU				SN	**Sb**	**17 01 29.5**	**+0.2**
KOVU	**Salmi**	**1.18**	**347**	P	**Pg**	**17 01 15.6**	**-0.6**
KLF	**Kolari**	**1.22**	**81**	PG	**Pg**	**17 01 15.4**	**-1.4**
KLF				MSG		17 01 30.2	
comp=Z,12nm,0.2s
KLF				SG	**Sg**	**17 01 33.1**	**+0.5**
KALU	**Kalix**	**1.58**	**140**	P	**Pn**	**17 01 21.7**	**-1.1**
KALU	**Kalix**	**1.58**	**140**	PG	**Pn**	**17 01 21.5**	**-1.2**
KALU				SN	**Sg**	**17 01 45.5**	**+1.3**
HEF	**Hetta**	**1.71**	**37**	*e*P	**Pn**	**17 01 24.4**	**-0.1**
HEF	**Hetta**	**1.71**	**37**	PG	**Pn**	**17 01 24.2**	**-0.3**
HEF				MSG		17 01 44.7	
comp=Z,16nm,0.2s
HEF				SG	**Sn**	**17 01 47.1**	**+0.1**
TOF	**Tornio**	**1.71**	**124**	PG	**Pn**	**17 01 23.8**	**-0.6**
baz=306
TOF				MSG		17 01 44.2	
comp=Z,18nm,0.2s
TOF				SN	**Sn**	**17 01 46.8**	**-0.1**
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*P	**Pb**	**17 01 29.7**	**+0.1**
RNF	**Rovaniemi**	**2.09**	**101**	PG	**Pn**	**17 01 30.0**	**+0.3**
RNF				SG	**Sb**	**17 01 59.4**	**+0.8**
KTK1	**Kautokeino**	**2.13**	**24**	PG	**Pb**	**17 01 32.0**	**-1.0**
KTK1				SG	**Sg**	**17 02 01.6**	**-0.5**
I37NO	**I37NO**	**2.18**	**338**	I	I	17 14 22.2	
baz=156,slow=326,SNR=1.2
SGF	**Sodankyl**	**2.23**	**78**	PB	**Pn**	**17 01 32.1**	**+0.4**
baz=258
SGF				SG	**Sb**	**17 02 03.2**	**+0.5**
BURU	**Burvik**	**2.52**	**175**	PB	**Pn**	**17 01 36.3**	**+0.7**
baz=356
BURU				SG	**Sb**	**17 02 10.9**	**-0.1**
RANF	**Ranua**	**2.60**	**112**	PN	**Pn**	**17 01 37.2**	**+0.5**
baz=295
RANF				SG	**Sb**	**17 02 13.1**	**-0.2**
TRO	**Tromso**	**2.67**	**345**	SG	**Sb**	**17 02 14.7**	**-0.5**
OBF4	**Vikkela, Lumij**	**2.86**	**141**	PN	**Pn**	**17 01 40.5**	**+0.2**
OBF4				MSG		17 02 17.6	
comp=Z,4.1nm,0.2s
OUL	**Oulu**	**2.86**	**132**	PB	**Pn**	**17 01 41.3**	**+1.0**
OUL				SG	**Sb**	**17 02 21.8**	**+0.9**
OBF0	**Syolatti, Pyha**	**2.94**	**150**	PN	**Pn**	**17 01 42.1**	**+0.7**
OBF0				SB	**Sn**	**17 02 19.1**	**+1.8**
OBF0				MSG		17 02 20.0	
comp=Z,3.4nm,0.2s
OBF8	**Ulkokalla**	**2.96**	**158**	PB	**Pn**	**17 01 43.1**	**+1.4**
OBF8				MSG		17 02 20.5	
comp=Z,7.1nm,0.2s
OBF8				SB	**Sn**	**17 02 21.7**	**+3.9**
ARCES	**ARCESS Array B**	**3.01**	**33**	Pn	**Pn**	**17 01 42.7**	**+0.3**
comp=Z,0.3nm,0.3s,baz=215,slow=14,SNR=30
ARCES				Sn	**Sn**	**17 02 20.4**	**+1.4**
comp=Z,0.5nm,0.3s,baz=212,slow=22,SNR=8.1
comp=Z,1.0nm,0.2s
RAJF	**Raja-Jooseppi**	**3.15**	**60**	PN	**Pn**	**17 01 44.8**	**+0.4**
RAJF				SB	**Sb**	**17 02 28.1**	**-1.2**
OUF	**Merijarvi**	**3.16**	**148**	PN	**Pn**	**17 01 45.1**	**+0.7**
OUF				MSG		17 02 26.2	
comp=Z,3.2nm,0.2s
OUF				SG	**Sb**	**17 02 31.1**	**+1.8**
UMAU	**Umeaa**	**3.21**	**182**	PN	**Pn**	**17 01 45.6**	**+0.4**
UMAU				SN	**Sn**	**17 02 24.8**	**+0.7**
VRF	**Varrio**	**3.44**	**75**	PN	**Pn**	**17 01 49.4**	**+1.2**
VRF				SG	**Sb**	**17 02 40.5**	**+3.0**
OLKF	**Oulanka, Finla**	**3.47**	**99**	PN	**Pn**	**17 01 49.2**	**+0.4**
MSF	**Maaselka**	**3.48**	**106**	PN	**Pn**	**17 01 49.8**	**+1.0**
MSF				SG	**Sb**	**17 02 40.5**	**+1.9**
KEV	**Kevo**	**3.52**	**37**	PN	**Pn**	**17 01 49.6**	**+0.3**
KEV				SN	**Sn**	**17 02 32.8**	**+1.3**
KU6	**Riekki**	**3.76**	**102**	PN	**Pn**	**17 01 53.3**	**+0.7**
baz=292
HUSU	**Husum**	**3.82**	**191**	PN	**Pn**	**17 01 54.4**	**+0.9**
HUSU				SN	**Sn**	**17 02 38.9**	**-0.1**
VAF	**Ylistaro**	**4.13**	**169**	PN	**Pn**	**17 01 58.7**	**+1.0**
HEMU	**Hemsoen**	**4.58**	**197**	PN	**Pn**	**17 02 04.1**	**+0.1**
HEMU				SN	**Sn**	**17 02 56.4**	**-1.5**
NIF	**Nilsia**	**4.71**	**139**	PN	**Pn**	**17 02 06.5**	**+0.8**
baz=328
NIF				SN	**Sn**	**17 03 01.1**	**0.0**
RMF	**Romuvaara**	**4.72**	**123**	PN	**Pn**	**17 02 07.7**	**+1.8**
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**17 02 25.0**	**+0.3**
comp=Z,0.1nm,0.3s,baz=341,slow=14,SNR=15
FINES				Sn	**Sn**	**17 03 33.2**	**-1.8**
comp=Z,0.2nm,0.3s,baz=344,slow=22,SNR=7.7
FINES				Lg	Lg	17 04 01.9	
comp=Z,0.2nm,0.3s,baz=340,slow=28,SNR=2.4
comp=Z,0.8nm,0.8s
NOA	**NORSAR Array B**	**7.39**	**219**	Pn	**Pn**	**17 02 42.6**	**+0.1**
baz=27,slow=13,SNR=5.1
NOA				Sn	**Sn**	**17 04 06.3**	**-0.6**
baz=17,slow=12,SNR=2.1
NOA				Lg	Lg	17 04 43.8	
baz=341,slow=14,SNR=1.6
comp=Z,0.1nm,0.5s
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**17 02 45.8**	**-0.5**
comp=Z,0.1nm,0.3s,baz=27,slow=14,SNR=9.3
HFS				Sn	**Sn**	**17 04 09.7**	**-4.0**
comp=Z,0.1nm,0.3s,baz=27,slow=26,SNR=1.7
HFS				Lg	Lg	17 04 50.4	
comp=Z,0.1nm,0.3s,baz=22,slow=28,SNR=1.9
comp=Z,0.3nm,0.3s

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*IDC **19** 17:01:42.9±2.0, 9°.65S×112°.68E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=89.0km s-min=15.3km az=45.0*
*DJA **19** 17:01:49.3±1.0, 10°S±6°×113°3E±°, h16km±11km, M4.1/12, MLv4.1/12*
ISC 19 17:01:49.8±1.0, 9°.57S±0°.09×112°.80E±0°.05, h35km, n21, σ1§43/23, mb4.1/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.72**	**51**	P	**Pn**	**17 02 16.6**	**-0.7**
JAGI				S	**Sn**	**17 02 40.3**	**+2.1**
PWJI	**Pagerwojo**	**1.83**	**327**	P	**Pn**	**17 02 20.0**	**+1.2**
PWJI				S	**Sn**	**17 02 42.3**	**+1.5**
ABJI	**Asem Bagus**	**2.26**	**39**	P	**Pn**	**17 02 25.6**	**+0.9**
ABJI				S	**Sn**	**17 02 53.3**	**+1.9**
DNP	**Denpasar**	**2.54**	**70**	P	**Pn**	**17 02 28.7**	**+0.2**
GRJI	**Gresik**	**2.66**	**353**	P	**Pn**	**17 02 29.5**	**-0.7**
GRJI				S	**Sn**	**17 03 02.3**	**+1.0**
UGM	**Wanagama**	**2.79**	**306**	P	**Pn**	**17 02 32.8**	**+0.7**
SRBI	**Singaraja**	**2.80**	**58**	P	**Pn**	**17 02 33.3**	**+1.1**
YOGI	**Yogyakarta**	**3.03**	**305**	P	**Pn**	**17 02 36.8**	**+1.4**
SMRI	**Semarang**	**3.43**	**317**	P	**Pn**	**17 02 41.4**	**+0.6**
BWJI	**Bawean**	**3.70**	**358**	P	**Pn**	**17 02 44.8**	**+0.3**
TWSI	**Taliwang, Sumb**	**4.11**	**79**	P	**Pn**	**17 02 51.1**	**+0.9**
CMJI	**Cimerak**	**4.66**	**292**	P	**Pn**	**17 02 58.8**	**+1.1**
WRA	**Warramunga Arr**	**23.21**	**119**	P	**P**	**17 06 52.8**	**-1.1**
0.3nm,0.5s,baz=291,slow=11,SNR=7.2
WRA				S	**S**	**17 11 06.6**	**+3.0**
0.3nm,0.7s,baz=291,slow=22,SNR=1.9
0.3nm,0.5s
ASAR	**Alice Springs**	**24.55**	**127**	P	**P**	**17 07 05.9**	**-0.6**
1.1nm,0.6s,baz=305,slow=8.9,SNR=22
1.1nm,0.6s
H08S2	**Diego Garcia H**	**39.89**	**270**	T	T	17 52 16.0	
baz=99
H08S3	**Diego Garcia H**	**39.90**	**270**	T	T	17 52 20.6	
baz=99
H08S1	**Diego Carcia H**	**39.91**	**270**	T	T	17 52 11.7	
baz=99
SONM	**Songino Array**	**57.44**	**355**	P	**P**	**17 11 34.1**	**-1.1**
2.3nm,0.7s,baz=182,slow=8.9,SNR=6.6
2.3nm,0.7s
MKAR	**Makanchi Array**	**62.37**	**337**	P	**P**	**17 12 08.0**	**-1.0**
1.0nm,0.5s,baz=150,slow=7.3,SNR=17
1.0nm,0.5s
KURBB	**Kurchatov Arra**	**66.94**	**337**	P	**P**	**17 12 36.4**	**-2.2**
0.5nm,0.4s,baz=155,slow=3.4,SNR=1.5
0.5nm,0.4s
ZALV	**Zalesovo Beam**	**67.57**	**343**	P	**P**	**17 12 41.2**	**-1.4**
1.4nm,0.4s,baz=142,slow=5.3,SNR=8.3
1.4nm,0.4s

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*IDC **19** 17:12:00.0±2.5, 1°.37N×122°.81E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=560.7km s-min=27.4km az=62.0*
*DJA **19** 17:12:10.2±0.5, 0°N±4°×112°1E±°, h73km±8km, M3.9/8, MLv3.9/8*
ISC 19 17:12:10.2±1.1, 0°.4N±0°.1×120°.63E±0°.05, h100km, n9, σ2§21/14, mb3.0/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.74**	**262**	P		17 12 27.2	
MPSI				Pn	**Pn**	**17 12 26.4**	**-1.6**
MPSI				S	**Sn**	**17 12 39.2**	**-2.1**
MRSI	**Marisa**	**1.31**	**88**	P	**Pn**	**17 12 33.3**	**-0.9**
MRSI				S	**Sn**	**17 12 50.1**	**-2.3**
GTOI	**Gorontalo**	**2.39**	**85**	P	**Pn**	**17 12 46.2**	**-1.7**
GTOI				S	**Sn**	**17 13 13.9**	**-2.9**
LUWI	**Luwuk**	**2.60**	**124**	P	**Pn**	**17 12 51.5**	**+0.9**
LUWI				S	**Sn**	**17 13 21.9**	**+0.2**
KMSI	**Cibinong**	**3.35**	**88**	P	**Pn**	**17 13 00.3**	**-0.5**
KMSI				S	**Sn**	**17 13 39.2**	**-0.6**
BKB	**Balikpapan**	**4.09**	**246**	P	**Pn**	**17 13 09.5**	**-1.2**
WRA	**Warramunga Arr**	**24.30**	**147**	P	**P**	**17 17 15.9**	**-2.7**
0.6nm,1.0s,baz=323,slow=11,SNR=1.3
0.6nm,1.0s
ASAR	**Alice Springs**	**27.21**	**153**	P	**P**	**17 17 45.8**	**+1.0**
0.2nm,0.7s,baz=331,slow=8.7,SNR=4.5
0.2nm,0.7s
MKAR	**Makanchi Array**	**57.02**	**329**	P	**P**	**17 21 50.0**	**+4.3**
0.2nm,0.3s,baz=122,slow=8.0,SNR=5.5
0.2nm,0.3s

IDC 19 17:24:25.1±2.7, 3°.86N×127°.48E, h0km, mb3.6/3, mbtmp3.6/3, MS3.7/1, Error ellipse: s-maj=210.0km s-min=28.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.59**	**164**	P	P	17 29 47.3	0.0
1.9nm,0.7s,baz=344,slow=9.8,SNR=11
1.9nm,0.7s
ASAR	**Alice Springs**	**28.07**	**167**	P	P	17 30 18.6	0.0
0.5nm,0.8s,baz=341,slow=8.4,SNR=8.3
0.5nm,0.8s
KLR	**Kul'dur**	**45.35**	**4**	LR	LR	17 56 00.9	
comp=Z,86nm,18.6s,baz=92,slow=42
MKAR	**Makanchi Array**	**57.88**	**325**	P	P	17 34 18.8	-0.1
0.2nm,0.4s,baz=132,slow=8.7,SNR=2.5
0.2nm,0.4s

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*IDC **19** 17:43:48.6±0.6, 9°.41S×112°.85E, h0km, mb4.2/17, mbtmp4.2/17, MS3.5/11, Error ellipse: s-maj=27.2km s-min=13.4km az=69.0*
*NEIC **19** 17:43:54.4±1.9, 9°.50S±0°.08×112°.80E±0°.05, h40km±7km, mb4.6/38, Error ellipse: s-maj=11.2km s-min=6.8km az=182.0*
*DJA **19** 17:43:54.8±0.2, 10°S±3°×113°3E±°, h41km±6km, M4.8/25, mB5.2/5, mb4.8/25, MLv5.0/19, Mw(mB)4.5/5*
ISC 19 17:43:53.9±0.4, 9°.60S±0°.05×112°.82E±0°.05, h36km, n126, σ1§79/122, mb4.5/38, MS3.5/10, 1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.73**	**50**	P	**Pn**	**17 44 24.7**	**+3.3**
JAGI	**Jajag, Banyuwa**	**1.73**	**50**	Pn	**Pn**	**17 44 21.5**	**0.0**
JAGI				Sn	**Sn**	**17 44 40.5**	**-1.7**
JAGI	**Jajag, Banyuwa**	**1.73**	**50**	P	**Pn**	**17 44 21.8**	**+0.4**
PWJI	**Pagerwojo**	**1.86**	**327**	P	**Pn**	**17 44 23.9**	**+0.6**
ABJI	**Asem Bagus**	**2.27**	**38**	P	**Pn**	**17 44 31.8**	**+2.9**
DNP	**Denpasar**	**2.53**	**69**	P	**Pn**	**17 44 34.4**	**+1.9**
GRJI	**Gresik**	**2.69**	**353**	P	**Pn**	**17 44 37.0**	**+2.3**
SRBI	**Singaraja**	**2.80**	**58**	P	**Pn**	**17 44 38.0**	**+1.8**
UGM	**Wanagama**	**2.82**	**306**	P	**Pn**	**17 44 38.6**	**+2.1**
UGM	**Wanagama**	**2.82**	**306**		**Pn**	**17 44 36.9**	**+0.4**
UGM				Sn	**Sn**	**17 45 08.2**	**-1.1**
UGM	**Wanagama**	**2.82**	**306**	P	**Pn**	**17 44 38.2**	**+1.7**
YOGI	**Yogyakarta**	**3.06**	**305**	P	**Pn**	**17 44 41.6**	**+1.8**
SMRI	**Semarang**	**3.46**	**317**	P	**Pn**	**17 44 48.4**	**+3.1**
SMRI	**Semarang**	**3.46**	**317**		**Pn**	**17 44 43.3**	**-1.9**
SMRI	**Semarang**	**3.46**	**317**	P	**Pn**	**17 44 47.9**	**+2.6**
BWJI	**Bawean**	**3.73**	**357**	P	**Pn**	**17 44 50.2**	**+1.2**
TWSI	**Taliwang, Sumb**	**4.10**	**78**	P	**Pn**	**17 44 55.8**	**+1.7**
CMJI	**Cimerak**	**4.69**	**292**	P	**Pn**	**17 45 03.9**	**+1.8**
PLAI	**Plampang**	**4.95**	**81**	P	**Pn**	**17 45 08.8**	**+3.0**
PLAI	**Plampang**	**4.95**	**81**	P	**Pn**	**17 45 08.0**	**+2.2**
BBJI	**Bungbulang**	**5.54**	**292**	P	**Pn**	**17 45 15.0**	**+1.1**
LEM	**Lembang**	**5.84**	**298**	P	**Pn**	**17 45 21.6**	**+3.4**
72nm,0.9s,0.6nm
CNJI	**Cibinong**	**6.07**	**292**	P	**Pn**	**17 45 23.4**	**+2.2**
53nm,0.7s
SKJI	**Sukabumi**	**6.71**	**292**	P	**Pn**	**17 45 32.2**	**+2.2**
XMI	**Christmas Isla**	**7.08**	**263**	P	**Pn**	**17 45 34.7**	**-0.3**
XMIS	**Christmas Isla**	**7.12**	**262**	P	**Pn**	**17 45 34.7**	**-0.9**
XMIS	**Christmas Isla**	**7.12**	**262**	Pn	**Pn**	**17 45 34.1**	**-1.4**
BASI	**Baing, Sumba**	**7.67**	**95**	P	**Pn**	**17 45 44.7**	**+1.6**
KAPI	**Kappang**	**8.24**	**57**	Pn	**Pn**	**17 45 50.2**	**-0.8**
KAPI	**Kappang**	**8.24**	**57**	Pn	**Pn**	**17 45 52.1**	**+1.0**
2.6nm,0.3s,baz=207,slow=4.4,SNR=5.2
KAPI				Sn	**Sn**	**17 47 21.7**	**-1.3**
0.5nm,0.3s,baz=32,slow=23,SNR=1.0
KAPI				LR	LR	17 49 36.5	
comp=Z,386nm,19.8s,baz=266,slow=43
BKSI	**Bulukumba**	**8.39**	**60**	P	**Pn**	**17 45 55.6**	**+2.5**
29nm,0.6s
EDFI	**Ende, Flores**	**8.80**	**85**	P	**Pn**	**17 45 57.9**	**-0.8**
21nm,0.4s
KASI	**Kota Agung**	**9.19**	**296**	P	**Pn**	**17 46 06.0**	**+2.0**
47nm,0.5s
MMRI	**Maumere**	**9.35**	**85**	P	**Pn**	**17 46 08.5**	**+2.3**
MMRI	**Maumere**	**9.35**	**85**	Pn	**Pn**	**17 46 06.0**	**-0.2**
MMRI	**Maumere**	**9.35**	**85**	P	**Pn**	**17 46 08.2**	**+2.0**
104nm,1.2s
LWLI	**Liwa**	**9.81**	**297**	P	**Pn**	**17 46 14.8**	**+2.2**
BATI	**Baumata**	**10.70**	**94**	P	**Pn**	**17 46 26.9**	**+2.2**
32nm,1.0s
SOEI	**Soe**	**11.29**	**92**	P	**Pn**	**17 46 33.9**	**+1.0**
SOEI	**Soe**	**11.29**	**92**	Pn	**Pn**	**17 46 33.5**	**+0.7**
SOEI	**Soe**	**11.29**	**92**	P	**Pn**	**17 46 34.4**	**+1.5**
49nm,0.9s
SBUM	**Sibu**	**11.98**	**357**		**Pn**	**17 46 44.0**	**+1.7**
TOLI2	**Tolitoli**	**13.27**	**37**	P	**Pn**	**17 47 03.9**	**+4.0**
TOLI2	**Tolitoli**	**13.27**	**37**	Pn	**Pn**	**17 46 59.7**	**-0.2**
MBWA	**Marble Bar**	**13.28**	**151**	P	**Pn**	**17 46 57.1**	**-2.9**
MBWA	**Marble Bar**	**13.28**	**151**	Pn	Pn	17 46 55.6	-4.4
PSA00	**Pilbara Seismi**	**13.69**	**151**	Pn	**Pn**	**17 47 02.4**	**-3.2**
FITZ	**Fitzroy Crossi**	**15.03**	**126**	P	**Pn**	**17 47 21.2**	**-2.6**
35nm,0.8s
FITZ	**Fitzroy Crossi**	**15.03**	**126**	Pn	**Pn**	**17 47 21.3**	**-2.5**
MTN	**Manton Dam**	**18.25**	**102**		**P**	**17 48 04.5**	**+0.1**
MTN				IAmb	IAmb	17 48 21.3	
comp=Z,14nm,0.6s
GSI	**Gunungsitoli**	**18.65**	**305**	P	**P**	**17 48 07.2**	**-1.6**
GSI	**Gunungsitoli**	**18.65**	**305**	P	**P**	**17 48 05.3**	**-3.6**
MORW	**Morawa**	**19.60**	**172**	P	**P**	**17 48 20.0**	**+0.8**
SWI	**Sorong**	**20.29**	**66**	P	Pn	17 48 28.4	-0.6
FAKI	**Fak Fak**	**20.41**	**72**	P	**P**	**17 48 27.3**	**-0.8**
FAKI	**Fak Fak**	**20.41**	**72**		**P**	**17 48 25.5**	**-2.5**
DAV	**Davao City (W)**	**20.88**	**38**	LR	LR	17 57 19.8	
comp=Z,143nm,20.9s,baz=250,slow=39
WB0	**Warramunga Arr**	**23.16**	**118**	P	**P**	**17 48 56.6**	**-0.8**
WRA	**Warramunga Arr**	**23.18**	**119**	P	**P**	**17 48 57.7**	**+0.1**
comp=Z,6.5nm,0.9s,baz=290,slow=11,SNR=37
WRA				S	**S**	**17 53 08.3**	**+1.3**
comp=Z,0.4nm,0.7s,baz=293,slow=25,SNR=2.1
comp=Z,6.5nm,0.9s
WRAB	**Tennant Creek**	**23.18**	**119**	P	**P**	**17 48 57.4**	**-0.3**
WRAB				IAmb	IAmb	17 49 13.8	
comp=Z,16nm,1.1s
WB2	**Warramunga Arr**	**23.19**	**119**	P	**P**	**17 48 57.6**	**-0.1**
WB2				IAmb	IAmb	17 48 59.6	
comp=Z,24nm,1.5s
WR0	**Warramunga Arr**	**23.36**	**119**	P	**P**	**17 48 59.1**	**-0.3**
WR0				IAmb	IAmb	17 49 15.7	
comp=Z,18nm,1.1s
NWAO	**Narrogin (SRO)**	**23.57**	**171**	LR	LR	17 59 18.3	
comp=Z,228nm,19.0s,baz=206,slow=39
AS31	**Alice Springs**	**24.52**	**127**	P	**P**	**17 49 10.9**	**+0.7**
ASAR	**Alice Springs**	**24.52**	**127**	P	**P**	**17 49 11.0**	**+0.8**
ASAR	**Alice Springs**	**24.52**	**127**	P	**P**	**17 49 11.2**	**+0.9**
comp=Z,9.8nm,0.7s,baz=304,slow=9.2,SNR=129
ASAR				S	**S**	**17 53 31.8**	**+3.2**
comp=Z,0.7nm,1.0s,baz=304,slow=24,SNR=1.6
ASAR				LR	LR	17 59 33.7	
comp=Z,98nm,18.4s,baz=304,slow=38
comp=Z,9.8nm,0.7s
FORT	**Forrest**	**25.41**	**148**	P	**P**	**17 49 18.9**	**+0.8**
COEN	**Coen**	**30.01**	**101**	P	**P**	**17 49 59.9**	**+0.2**
COEN				IAmb	IAmb	17 50 14.4	
comp=Z,17nm,1.1s
CMAR	**Chiang Mai Arr**	**31.06**	**334**	P	**P**	**17 50 07.5**	**-1.3**
comp=Z,0.9nm,0.7s,baz=168,slow=9.3,SNR=3.1
CMAR				LR	LR	18 03 50.3	
comp=Z,174nm,18.2s,baz=175,slow=39
comp=Z,0.9nm,0.7s
PMG	**Port Moresby**	**33.86**	**93**	LR	LR	18 06 17.8	
comp=Z,106nm,19.4s,baz=288,slow=40
CTA	**Charters Tower**	**33.89**	**112**	LR	LR	18 04 18.2	
comp=Z,15nm,20.3s,baz=312,slow=36
NACB	**Ninganchiao**	**34.64**	**14**	P	**P**	**17 50 38.9**	**-1.0**
STKA	**Stephens Creek**	**34.67**	**134**	P	**P**	**17 50 39.4**	**-0.8**
STKA	**Stephens Creek**	**34.67**	**134**	P	**P**	**17 50 41.1**	**+0.9**
comp=Z,6.2nm,0.7s,baz=312,slow=8.9,SNR=8.2
STKA				LR	LR	18 05 00.5	
comp=Z,178nm,21.7s,baz=319,slow=37
comp=Z,6.2nm,0.7s
YOJ	**Yonaguni jima**	**35.28**	**16**	P	**P**	**17 50 45.4**	**-0.1**
PZH	**PanZhiHua**	**37.47**	**344**	P	**P**	**17 51 06.6**	**+2.3**
PZH				pm

comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,70nm,4.3s
INU Inuyama 50.21 26 P **P 17 52 44.6 -1.8**
INU IAmb IAmb 17 52 48.1
comp=Z,9.4nm,1.1s
GTA Gaotai 50.23 347 *e*P **P 17 52 50.5 +3.9**
GTA pP pwP 17 52 59.0 -1.5
GTA pmax pmax
comp=Z,2.0nm,1.0s
JGF Kuroka 50.57 26 P **P 17 52 47.1 -2.0**
JGF IAmb IAmb 17 53 01.3
comp=Z,6.8nm,0.9s
MAJO Matsushiro 51.74 26 P **P 17 52 55.3 -2.5**
MAJO IAmb IAmb 17 53 13.2
comp=Z,5.7nm,0.8s
MJAR Matsushiro Arr 51.74 26 P **P 17 52 56.0 -1.8**
comp=Z,1.9nm,0.5s,baz=190,slow=9.6,SNR=5.2
comp=Z,1.9nm,0.5s
MJB9 Matsu-Tunnel 51.74 26 P **P 17 52 56.0 -1.9**
MJB9 IAmb IAmb 17 53 13.1
comp=Z,5.5nm,0.8s
XLT XiLinHaoTe 53.33 3 *e*P **P 17 53 09.5 -0.1**
XLT pP sP 17 53 24.6 +0.8
XLT sP pwP 17 53 36.1 +12
XLT pmax pmax
comp=Z,3.0nm,1.0s
USRK Ussuriysk Ar. 56.30 16 P **P 17 53 29.3 -1.6**
comp=Z,2.7nm,0.7s,baz=197,slow=5.8,SNR=4.6
comp=Z,2.7nm,0.7s
JTM Tenmabayashi 56.51 26 P **P 17 53 30.9 -1.6**
BNX BinXian 56.62 12 ⇓P **P 17 53 33.3 +0.1**
BNX pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 57.44 355 P **P 17 53 37.1 -2.1**
ULN IAmb IAmb 17 53 54.5
comp=Z,7.2nm,1.4s
SONM Songino Array 57.46 355 P **P 17 53 37.4 -2.0**
SONM Songino Array 57.46 355 P **P 17 53 37.5 -1.8**
comp=Z,2.0nm,0.6s,baz=174,slow=9.8,SNR=6.6
comp=Z,2.0nm,0.6s
ERM Erimo 58.41 26 P **P 17 53 45.5 -0.4**
KSH Kashi 59.64 327 P **P 17 53 54.9 +0.2**
KSH pP pP 17 54 06.1 +1.6
KSH pmax pmax
comp=Z,2.0nm,0.6s
JKA Kamikawa-asahi 59.90 24 P **P 17 53 55.1 -1.1**
HEH HeiHe 60.95 11 *e*P **P 17 54 03.0 -0.2**
HEH pP **pwP 17 54 15.8 -1.3**
HEH pmax pmax
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 62.40 337 P **P 17 54 12.6 -0.6**
MKAR Makanchi Array 62.40 337 P **P 17 54 11.8 -1.4**
MKAR Makanchi Array 62.40 337 P **P 17 54 12.2 -0.9**
comp=Z,1.4nm,0.4s,baz=151,slow=7.5,SNR=26
comp=Z,1.4nm,0.4s
RTZ Ruatahuna 63.91 128 P **P 17 54 23.8 +0.3**
KKAR Karatay Array 65.08 327 P **P 17 54 30.5 -0.4**
MAW Mawson 66.66 199 P **P 17 54 41.3 +0.7**
comp=Z,1.5nm,0.8s,baz=342,slow=3.2,SNR=2.4
comp=Z,1.5nm,0.8s
KURBB Kurchatov Arra 66.97 337 P **P 17 54 42.4 -0.4**
comp=Z,0.5nm,0.6s,baz=147,slow=5.5,SNR=4.7
comp=Z,0.5nm,0.6s
ZALV Zalesovo Beam 67.60 343 P **P 17 54 44.5 -2.2**
ZALV Zalesovo Beam 67.60 343 P **P 17 54 45.1 -1.7**
comp=Z,1.0nm,0.3s,baz=161,slow=4.0,SNR=7.8
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 72.08 335 P **P 17 55 13.9 -0.4**
comp=Z,0.5nm,0.3s,baz=152,slow=6.5,SNR=2.2
comp=Z,0.5nm,0.3s
VNDA Vanda 72.40 170 P **P 17 55 14.3 -1.6**
VNDA Vanda 72.40 170 P **P 17 55 17.2 +1.3**
comp=Z,1.5nm,0.8s,baz=295,slow=6.1,SNR=6.4
comp=Z,1.5nm,0.8s
ABKAR Akbulak array 74.64 327 P **P 17 55 28.2 -1.3**
QSPA South Pole Qui 80.40 180 P **P 17 56 02.9 +1.2**
QSPA IAmb IAmb 17 56 40.1
comp=Z,8.9nm,1.4s
QSPA South Pole Qui 80.40 180 P **P 17 56 02.6 +1.0**
comp=Z,2.1nm,1.0s,baz=320,slow=2.3,SNR=3.8
comp=Z,2.1nm,1.0s
BRTR Keskin Array B 87.86 311 P **P 17 56 40.6 +0.6**
comp=Z,1.0nm,0.7s,baz=150,slow=5.7,SNR=3.9
comp=Z,1.0nm,0.7s
SNAA Sanae 88.74 197 P **P 17 56 45.4 +1.9**
SNAA IAmb IAmb 17 56 46.3
comp=Z,3.2nm,0.8s
SNAA Sanae 88.74 197 P **P 17 56 45.3 +1.9**
comp=Z,2.8nm,0.7s,baz=156,slow=5.1,SNR=21
comp=Z,2.8nm,0.7s

*IDC **19** 17:50:52.4±2.9, 9°.56S×112°.43E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=174.2km s-min=22.5km az=47.0*
*DJA **19** 17:50:57.7±0.5, 10°.S±5°.×11°.3E±°, h10km, M4.5/12, mb4.9/1, MLv4.2/12*
ISC 19 17:51:00.9±1.8, 9°.6S±0°.1×112°.69E±0°.05, h67km±17km, n16, σ1°.22/21, mb3.6/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.83**	**331**	P	**Pn**	**17 51 29.8**	**-0.4**
PWJI				S	**Sn**	**17 51 50.9**	**-1.5**
JAGI	**Jajag, Banyuwa**	**1.85**	**51**	P	**Pn**	**17 51 28.8**	**-1.7**
ABJI	**Asem Bagus**	**2.38**	**40**	P	**Pn**	**17 51 38.1**	**+0.4**
ABJI				S	**Sn**	**17 52 07.5**	**+1.6**
DNP	**Denpasar**	**2.66**	**69**	P	**Pn**	**17 51 40.6**	**-0.9**
DNP				S	**Sn**	**17 52 13.5**	**+0.8**
GRJI	**Gresik**	**2.71**	**356**	P	**Pn**	**17 51 41.8**	**-0.4**
UGM	**Wanagama**	**2.74**	**308**	P	**Pn**	**17 51 41.9**	**-0.8**
UGM				S	**Sn**	**17 52 17.1**	**+2.4**
SRBI	**Singaraja**	**2.93**	**58**	P	**Pn**	**17 51 44.4**	**-0.8**
SRBI				S	**Sn**	**17 52 20.2**	**+0.9**
YOGI	**Yogyakarta**	**2.98**	**307**	P	**Pn**	**17 51 45.5**	**-0.4**
SMRI	**Semarang**	**3.40**	**319**	P	**Pn**	**17 51 51.2**	**-0.4**
BWJI	**Bawean**	**3.76**	**359**	P	**Pn**	**17 51 56.6**	**+0.1**
TWSI	**Taliwang, Sumb**	**4.23**	**78**	P	**Pn**	**17 52 02.0**	**-1.0**
WRA	**Warramunga Arr**	**23.27**	**119**	P	**P**	**17 56 04.2**	**+1.2**
	0.8nm,0.9s,baz=293,slow=11,SNR=3.2						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**24.60**	**127**	P	**P**	**17 56 16.9**	**+1.8**
	1.6nm,0.7s,baz=306,slow=9.4,SNR=8.8						
	1.6nm,0.7s						
MKAR	**Makanchi Array**	**62.39**	**337**	P	**P**	**18 01 16.6**	**-0.1**
	0.3nm,0.4s,baz=139,slow=7.8,SNR=8.0						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**67.60**	**343**	P	**P**	**18 01 49.5**	**-0.8**
	0.4nm,0.4s,baz=163,slow=7.5,SNR=1.8						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**72.06**	**335**	P	**P**	**18 02 16.9**	**-0.9**
	0.2nm,0.4s,baz=134,slow=4.2,SNR=2.3						
	0.2nm,0.4s						

*NEIC **19** 17:52:49.8±1.2, 19°.5N±0°.1×67°.17W±0°.06, h34km±17km, ML2.4/24, Md3.1/6(RSPR), Error ellipse: s-maj=16.6km s-min=6.1km az=204.0*
*OSPL **19** 17:52:50.9±2.1, 19°.46N×67°.16W, h50km±25km, ML2.3*
*RSPR **19** 17:52:52.2, 19°.40N×67°.28W, h63km±12km, MD3.1/6*
ISC 19 17:52:49.2±2.3, 19°.5N±0°.1×67°.18W±0°.06, h29km±14km, n34, σ0°.80/40, 8C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.02**	**176**	⇑*e*P	**Pb**	**17 53 08.3**	**-0.1**
AGPR	**Aguadilla, PR**	**1.02**	**176**		**Pb**	**17 53 08.3**	**-0.1**
AGPR					**Sn**	**17 53 20.2**	**-0.7**
AGPR	**Aguadilla, PR**	**1.02**	**176**	IAML		17 53 23.0	
	comp=E,96nm,0.2s						
AGPR				IAML		17 53 40.5	
	comp=N,89nm,2.3s						
AGPR	**Aguadilla, PR**	**1.02**	**176**	*i* P	**Pn**	**17 53 06.5**	**-1.1**
AGPR				*e*S	**Sn**	**17 53 20.8**	**-0.2**
AGPR				IAML		17 53 21.7	
	comp=Z,66nm,0.5s						
EMPR	**Esperanza - Ma**	**1.18**	**149**	Pn	**Pn**	**17 53 09.4**	**-0.3**
EMPR				IAML		17 53 40.4	
	comp=E,110nm,1.1s						
AOPR	**Arecibo Observ**	**1.21**	**161**	⇑*e*P	**Pb**	**17 53 12.0**	**+0.5**
AOPR	**Arecibo Observ**	**1.21**	**161**	*e*S	**Sb**	**17 53 27.0**	**+0.3**
AOPR	**Arecibo Observ**	**1.21**	**161**		**Pn**	**17 53 09.5**	**-0.6**
AOPR	**Arecibo Observ**	**1.21**	**161**		**Sb**	**17 53 27.0**	**+0.3**
AOPR	**Arecibo Observ**	**1.21**	**161**	IAML		17 53 27.9	
	comp=N,55nm,0.6s						
AOPR				IAML		17 53 31.3	
	comp=E,90nm,0.4s						
PRSN	**Puerto Rico Se**	**1.27**	**179**	Pn	**Pn**	**17 53 09.0**	**-2.0**
PRSN				Sn	**Sn**	**17 53 27.3**	**+0.3**
PRSN				IAML		17 53 27.6	
	comp=E,82nm,0.4s						
LSP	**Las Mesas**	**1.31**	**176**	⇑*e*P	**Pn**	**17 53 12.4**	**+0.8**
LSP	**Las Mesas**	**1.31**	**176**	*e*S	**Sn**	**17 53 29.0**	**+0.8**
LSP	**Las Mesas**	**1.31**	**176**		**Pn**	**17 53 12.4**	**+0.8**
LSP					**Sn**	**17 53 29.0**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.48**	**178**	⇑*e*P	**Pn**	**17 53 14.9**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.48**	**178**	*e*S	**Sn**	**17 53 32.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.48**	**178**		**Pn**	**17 53 14.9**	**+1.1**
CRPR					**Sn**	**17 53 32.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.48**	**178**	⇑*i* P	**Pn**	**17 53 15.0**	**+1.1**
CRPR				*e*S	**Sn**	**17 53 30.1**	**-2.1**
CRPR				IAML		17 53 36.0	
	comp=Z,42nm,1.6s						
PCDR	**Punta Cana, DR**	**1.50**	**230**	⇑*e*P	**Pn**	**17 53 14.4**	**+0.3**
PCDR	**Punta Cana, DR**	**1.50**	**230**	*e*S	**Sn**	**17 53 31.8**	**-0.8**
PCDR	**Punta Cana, DR**	**1.50**	**230**		**Pn**	**17 53 14.4**	**+0.3**
PCDR					**Sn**	**17 53 31.8**	**-0.8**
PCDR	**Punta Cana, DR**	**1.50**	**230**	*i* P	**Pn**	**17 53 14.4**	**+0.3**
PCDR				IAML		17 53 40.9	
	comp=Z,97nm,1.5s						
CELP	**Cerrillos**	**1.52**	**158**	⇑*e*P	**Pb**	**17 53 16.6**	**-0.1**
CELP	**Cerrillos**	**1.52**	**158**	*e*S	**Sn**	**17 53 33.7**	**+0.5**
CELP	**Cerrillos**	**1.52**	**158**		**Pn**	**17 53 15.2**	**+0.8**
CELP				IAML		17 53 36.4	
	comp=E,35nm,0.6s						
CELP				IAML		17 53 36.7	
	comp=N,39nm,0.8s						
CELP	**Cerrillos**	**1.52**	**158**		**Sn**	**17 53 33.7**	**+0.5**
MLPR	**Magueyes Islan**	**1.52**	**175**	⇑*e*P	**Pn**	**17 53 15.0**	**+0.6**
MLPR	**Magueyes Islan**	**1.52**	**175**	*e*S	**Sn**	**17 53 33.4**	**+0.1**
MLPR	**Magueyes Islan**	**1.52**	**175**		**Pn**	**17 53 15.0**	**+0.6**
MLPR					**Sn**	**17 53 33.4**	**+0.1**
MLPR	**Magueyes Islan**	**1.52**	**175**	IAML		17 53 38.6	
	comp=N,34nm,2.1s						
OBIP	**Obispado Ponce**	**1.54**	**159**	Pn	**Pn**	**17 53 14.0**	**-0.7**
OBIP					**Sb**	**17 53 35.2**	**-1.0**
OBIP				IAML		17 53 37.0	
	comp=N,37nm,0.7s						
OBIP				IAML		17 53 38.2	
	comp=E,42nm,1.3s						
GCPR	**Guaynabo City**	**1.57**	**138**	Pn	**Pn**	**17 53 15.3**	**+0.3**
GCPR				IAML		17 53 55.5	
	comp=E,33nm,3.0s						
HUMP	**Col San Antoni**	**1.84**	**137**	Pn	**Pn**	**17 53 18.3**	**-0.5**
SDDR	**Presa de Saban**	**3.92**	**263**	Pn	**Pn**	**17 53 47.8**	**+0.3**

*NEIC **19** 18:01:36.7±0.7, 35°.09N±0°.02×97°.60W±0°.02, h5km±1km, Error ellipse: s-maj=3.2km s-min=3.0km az=303.0*
TUL 19 18:01:37.3±0.8, 35°.094N±0°.007×97°.58W±0°.02, h6km±5km, ML2.3, mb_Lg2.4/49(NEIC), ML2.5/24(NEIC), Error ellipse: s-maj=2.5km s-min=1.0km az=83.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.22**	**41**	Pg	Pg	18 01 42.2	+0.6
FNO				IAML		18 01 49.3	
	comp=E,1μm,0.7s						
FNO				IAML		18 01 49.3	
	comp=N,665nm,0.3s						
X34A	**Smith Ranch, M**	**0.54**	**203**	Pg	Pg	18 01 47.8	+0.2
X34A				IAML		18 01 56.7	
	comp=E,176nm,0.4s						
X34A				IAML		18 01 56.7	
	comp=N,287nm,0.5s						
W35A	**Tecumseh**	**0.58**	**84**	Pg	Pg	18 01 48.2	-0.2
W35A				IAML		18 02 04.3	
	comp=E,121nm,0.5s						
ADOK	**Arcadia Dam**	**0.58**	**17**	Pg	Pg	18 01 48.7	+0.2
OK031	**S. Brethren Rd**	**1.05**	**35**	Pg	Pg	18 01 56.5	-0.9
WMOK	**Wichita Mounta**	**1.05**	**251**	Pg	Pg	18 01 56.1	-1.4
CSTR	**Hydro, Custer**	**1.06**	**301**	Pg	Pg	18 01 55.6	-2.1
OK052	**Battle Ridge R**	**1.10**	**35**	Pg	Pg	18 01 57.9	-0.4
LOOK	**Love County**	**1.15**	**163**	Pg	Pg	18 01 58.8	-0.5
LOOK				IAML		18 02 19.9	
	comp=E,156nm,0.2s						
LOOK				IAML		18 02 20.6	
	comp=N,132nm,0.2s						
DEOK	**Depew**	**1.15**	**49**	Pg	Pg	18 01 58.5	-1.0
DEOK				IAML		18 02 23.4	
	comp=N,105nm,0.4s						
DEOK				IAML		18 02 23.9	
	comp=E,97nm,0.4s						
QUOK	**Quay**	**1.29**	**33**		Pn	18 02 01.2	-0.6
OK048	**Pawnee Station**	**1.42**	**21**		Pn	18 02 03.0	-0.7
CROK	**Carrier**	**1.45**	**347**		Pn	18 02 03.4	-0.6
WTFS	**Witchita Falls**	**1.52**	**209**		Pn	18 02 04.6	-0.4
OK051	**E0350 and S346**	**1.53**	**23**		Pn	18 02 05.1	-0.1
TUL3	**Leonard**	**1.67**	**60**		Pn	18 02 07.2	+0.1
BLOK	**Blackwell**	**1.69**	**10**		Pn	18 02 06.7	-0.7
GC02	**Grant County #**	**1.77**	**353**	Pn	Pn	18 02 09.1	+0.6
Z35A	**Perchaven, San**	**1.78**	**171**	Pn	Pn	18 02 08.9	+0.3
OK032	**Salt Plains WL**	**1.78**	**343**	Pn	Pn	18 02 09.1	+0.4
OK032				IAmb_Lg		18 02 37.8	
	comp=Z,16nm,0.7s						
X37A	**Clayton**	**1.88**	**105**	Pn	Pn	18 02 10.8	+0.8
X37A				IAmb_Lg		18 02 38.3	
	comp=Z,28nm,0.8s						
KAN13	**South Haven SW**	**1.92**	**2**	Pn	Pn	18 02 11.1	+0.6
KAN13				IAmb_Lg		18 02 38.8	
	comp=Z,23nm,0.7s						
KAN17	**Caldwell West**	**1.95**	**356**	Pn	Pn	18 02 11.6	+0.6
T35A	**Sooner Cattle**	**2.01**	**25**	Pn	Pn	18 02 12.1	+0.2
KAN09	**Caldwell North**	**2.04**	**359**	IAmb_Lg		18 02 43.2	
	comp=Z,14nm,0.8s						
KAN01	**Argonia South**	**2.06**	**356**	Pn	Pn	18 02 12.7	+0.1
KAN01				IAmb_Lg		18 02 45.2	
	comp=Z,26nm,0.8s						
FW03	**Perrin-Whitt E**	**2.09**	**191**	Pn	Pn	18 02 13.4	+0.5
FW03				IAmb_Lg		18 02 43.5	
	comp=Z,21nm,0.7s						
FW06	**Azle**	**2.12**	**180**	Pn	Pn	18 02 13.7	+0.5
SMWD	**Samnorwood**	**2.19**	**271**	IAmb_Lg		18 02 50.6	
	comp=Z,25nm,1.0s						
RLO	**Rose Lookout**	**2.34**	**62**	Pn	Pn	18 02 17.4	+1.1
RLO				IAmb_Lg		18 02 54.8	
	comp=Z,30nm,0.9s						
PLPT	**Palo Pinto**	**2.36**	**195**	Pn	Pn	18 02 16.9	+0.3
FW07	**Weatherford**	**2.39**	**184**	Pn	Pn	18 02 16.1	-1.0
APMT	**Aspermont**	**2.75**	**231**	Pn	Pn	18 02 20.0	-2.0
U38A	**Gravette**	**2.92**	**62**	Pn	Pn	18 02 23.1	-1.2
ABTX	**Abilene, Hawle**	**3.00**	**216**	IAmb_Lg		18 03 11.2	
	comp=Z,9.8nm,1.0s						
WHTX	**Lake Whitney,**	**3.10**	**178**	Pn	Pn	18 02 26.2	-0.5
DKNS	**Dickens**	**3.11**	**244**	Pn	Pn	18 02 25.0	-2.0
DKNS				IAmb_Lg		18 03 19.8	
	comp=Z,15nm,0.8s						
HHAR	**Hobbs**	**3.19**	**67**	Pn	Pn	18 02 28.6	+0.6
MIAR	**Mount Ida**	**3.33**	**98**	Pn	Pn	18 02 31.4	+1.3
SN07	**Snyder 07**	**3.40**	**235**	Pn	Pn	18 02 31.1	+0.1
SN07				IAmb_Lg		18 03 28.3	
	comp=Z,9.6nm,0.8s						
POST	**Post**	**3.83**	**239**	Pn	Pn	18 02 35.7	-1.3
POST				IAmb_Lg		18 03 43.3	
	comp=Z,10nm,0.8s						
X40A	**Basin Creek Fa**	**3.95**	**97**	Pn	Pn	18 02 37.3	-1.2
X40A				IAmb_Lg		18 03 48.7	
	comp=Z,7.5nm,0.8s						
BRDY	**Brady**	**3.98**	**198**	Pn	Pn	18 02 38.4	-0.5
BRDY				IAmb_Lg		18 03 48.5	
	comp=Z,7.6nm,0.9s						
CBKS	**Cedar Bluff**	**4.10**	**336**	IAmb_Lg		18 03 55.8	
	comp=Z,7.6nm,0.7s						
WHAR	**Wooly Hollow**	**4.33**	**86**	Pn	Pn	18 02 41.6	-2.1
WHAR				IAmb_Lg		18 03 58.8	
	comp=Z,10nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.52**	**78**	IAmb_Lg		18 04 01.3	
	comp=Z,6.4nm,0.8s						
MGMO	**Mountain Grove**	**4.76**	**63**	Pn	Pn	18 02 49.4	-0.3
MGMO				IAmb_Lg		18 04 12.1	
	comp=Z,7.9nm,0.7s						
OZNA	**Ozona**	**5.12**	**217**	Pn	Pn	18 02 53.9	-0.8
OZNA				IAmb_Lg		18 04 33.8	
	comp=Z,6.9nm,0.8s						
LCAR	**Lake Charles**	**5.32**	**78**	Pn	Pn	18 02 56.1	-1.2
R40A	**Maddies Statio**	**5.33**	**52**	IAmb_Lg		18 04 28.2	
	comp=Z,6.8nm,0.7s						
MNHN	**Monahans**	**5.74**	**231**	IAmb_Lg		18 04 53.8	
	comp=Z,5.8nm,0.9s						
CCM	**Cathedral Cave**	**5.89**	**58**	IAmb_Lg		18 04 45.3	
	comp=Z,9.1nm,0.8s						
T25A	**Trinidad**	**5.90**	**292**	IAmb_Lg		18 04 58.9	
	comp=Z,7.0nm,1.0s						
FVM	**French Village**	**6.44**	**61**	IAmb_Lg		18 05 09.8	
	comp=Z,7.4nm,0.9s						
ALPN	**Alpine**	**6.95**	**229**	IAmb_Lg		18 05 27.2	
	comp=Z,5.8nm,1.1s						
VHRN	**Van Horn**	**7.56**	**237**	IAmb_Lg		18 05 45.5	
	comp=Z,4.2nm,1.0s						

NNC 19 18:11:58.8±10.0, 37°.57N×71°.33E, h0km, mb3.6, mpv3.2, 5C-1D, Error ellipse: s-maj=83.4km s-min=64.3km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.56**	**354**	⇓P	Pn	18 13 24.7	+1.8
	0.4nm,0.3s,baz=181,slow=15						
KK31				⇑S	Sn	18 14 28.2	+0.6
	6.4nm,0.5s,baz=170,slow=24						
AAK	**Ala-Archa**	**5.62**	**25**	⇑P	Pn	18 13 23.6	-0.1
	4.1nm,0.5s						
AAK				⇑S	Sn	18 14 28.2	-0.9
	3.4nm,0.6s						
TKM2	**Tokmak 2**	**6.27**	**30**	⇑P	Pn	18 13 30.4	-2.3
	0.8nm,0.5s						
TKM2				⇑S	Sn	18 14 49.6	+4.5
	1.7nm,1.0s						

*TAP **19** 18:26:17.9, 24°.89N×122°.41E, h5km±1km, ML2.8, C*
*JMA **19** 18:26:18.1±0.2, 24°.8N±0°.8×122°.4E±0°.3, h2km±2km, MV2.3/7, NW OFF ISHIGAKIJIMA IS*
ISC 19 18:26:18.2±1.1, 24°.87N±0°.03×122°.44E±0°.03, h7km±12km, n61, σ0°.57/85, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.43**	**289**	*i* P	**Pg**	**18 26 27.0**	**+0.5**
	baz=287						
TWB1				*i* S	**Sb**	**18 26 33.3**	**-1.5**
	baz=287						
EGS		**0.46**	**267**	*i* P	**Pb**	**18 26 27.6**	**-0.9**
	baz=263						
EGS				S	**Sb**	**18 26 35.3**	**-0.3**
	baz=263						
EOS2	**EOS2**	**0.49**	**203**	P	**Pb**	**18 26 28.9**	**-0.1**
	baz=199						
EOS2				S	**Sb**	**18 26 36.8**	**+0.6**
	baz=199						
TIPB	**Shuangxi**	**0.57**	**280**	P	**Pg**	**18 26 29.2**	**+0.1**
	baz=278						
TIPB				S	**Sb**	**18 26 37.9**	**-0.8**
	baz=278						
EOS3	**EOS3**	**0.59**	**191**	P	**Pb**	**18 26 30.9**	**+0.2**
	baz=187						
EOS3				*i* S	**Sb**	**18 26 40.8**	**+1.6**
	baz=187						
TWC	**Suao**	**0.60**	**244**	*i* P	**Pg**	**18 26 29.8**	**+0.1**
	baz=240						
TWC				S	**Sb**	**18 26 39.4**	**-0.1**
	baz=240						
ESAO	**Su ao**	**0.61**	**242**	P	**Pb**	**18 26 30.4**	**-0.9**
	baz=238						
ESAO				*e*S	**Sb**	**18 26 39.9**	**-0.1**
	baz=238						
JYNG	**Yonagunijimaku**	**0.62**	**132**	P	**Pg**	**18 26 29.9**	**-0.2**
JYNG				*e*S	**Sg**	**18 26 38.1**	**-0.1**
NWF	**Wu-fen Shan**	**0.63**	**289**	P	**Pg**	**18 26 30.6**	**+0.2**
	baz=287						
NWF				S	**Sb**	**18 26 39.7**	**-0.9**
	baz=287						
WFSB	**Wu-fen Shan**	**0.63**	**289**	P	**Pb**	**18 26 31.0**	**-0.5**
	baz=287						
YOJ	**Yonaguni jima**	**0.66**	**128**	P	**Pg**	**18 26 30.9**	**0.0**
	baz=127						
YOJ	**Yonaguni jima**	**0.66**	**128**	P	**Pg**	**18 26 30.6**	**-0.3**
YOJ				*e*S	**Sg**	**18 26 39.0**	**-0.5**
TNOU	**National Taiwa**	**0.67**	**295**	*e*P	**Pb**	**18 26 31.6**	**-0.5**
	baz=294						
NDS	**Dongshan**	**0.70**	**250**	P	**Pb**	**18 26 32.2**	**-0.5**
	baz=248						
NDS				S	**Sb**	**18 26 43.1**	**+0.7**
	baz=248						
TWE	**Neicheng**	**0.72**	**258**	*i* P	**Pb**	**18 26 32.4**	**-0.5**
	baz=255						
TWE				S	**Sb**	**18 26 42.3**	**-0.6**
	baz=255						
EWUT	**Wuta**	**0.73**	**235**	*e*P	**Pb**	**18 26 33.3**	**+0.1**
	baz=232						
EWUT				*e*S	**Sb**	**18 26 43.0**	**-0.4**
	baz=232						
EOS4	**EOS4**	**0.75**	**188**	P	**Pb**	**18 26 33.5**	**+0.2**
	baz=186						
EOS4				*e*S	**Sn**	**18 26 45.4**	**-0.9**
	baz=186						
ENA	**Nanau**	**0.77**	**235**	P	**Pb**	**18 26 33.4**	**-0.5**
	baz=232						
ENA				S	**Sb**	**18 26 45.4**	**+0.8**
	baz=232						
FUSB	**Fushanzhiwuyua**	**0.78**	**262**	P	**Pb**	**18 26 33.7**	**-0.4**
	baz=260						
TWA	**Mucha**	**0.78**	**278**	*e*P	**Pb**	**18 26 34.2**	**+0.1**
	baz=276						
TWA				*e*S	**Sb**	**18 26 45.4**	**+0.4**
	baz=276						
ENTT	**Nioudou**	**0.83**	**254**	P	**Pg**	**18 26 34.0**	**0.0**
	baz=251						
ENTT				*e*S	**Sb**	**18 26 47.3**	**+1.1**
	baz=251						
PCYT	**Pengchaiyu**	**0.83**	**336**	*i* P	**Pb**	**18 26 34.2**	**+0.1**
	baz=337						
PCYT				S	**Sg**	**18 26 44.9**	**+0.1**
	baz=337						
YM08	**YM08**	**0.83**	**293**	P	**Pb**	**18 26 34.5**	**-0.5**
	baz=291						
EAHA	**Aohua**	**0.83**	**230**	*e*P	**Pb**	**18 26 34.6**	**-0.3**
	baz=227						
NHDH	**Xindian Distri**	**0.83**	**277**	*e*P	**Pb**	**18 26 35.0**	**0.0**
	baz=275						
YM01	**YM01**	**0.83**	**289**	P	**Pb**	**18 26 35.2**	**+0.2**
	baz=288						
NWLT	**Wulai**	**0.86**	**264**	*e*P	**Pb**	**18 26 34.8**	**-0.6**
	baz=262						
TWY	**Chenhua**	**0.86**	**298**	P	**Pb**	**18 26 35.4**	**0.0**
	baz=297						
TWY				S	**Sb**	**18 26 47.5**	**+0.3**
	baz=297						
TAP	**Taipei**	**0.86**	**281**	*e*P	**Pb**	**18 26 35.6**	**+0.1**
	baz=280						
NDT	**Datong Townshi**	**0.88**	**253**	*e*P	**Pb**	**18 26 35.3**	**-0.5**
	baz=250						
NDT				*e*S	**Sb**	**18 26 48.6**	**+0.8**
	baz=250						
ANP	**Anpu**	**0.89**	**291**	*e*P	**Pb**	**18 26 35.7**	**-0.3**
	baz=290						
LATG	**Datong**	**0.89**	**248**	P	**Pb**	**18 26 36.0**	**-0.1**
	baz=246						
LATG				S	**Sb**	**18 26 48.6**	**+0

baz=226
IRIF Iriomote-Funau 1.29 114 *e*P Pg 18 26 42.4 -0.5
WHF Hehuan Shan 1.29 236 P Pb 18 26 42.9 -0.1
baz=234
TWT Tachien 1.30 242 *e*P Pn 18 26 44.2 +1.3
baz=240
LIOB Emei 1.31 261 *e*P Pb 18 26 44.2 +1.0
baz=259
TDCB Techi 1.32 242 *e*P Pg 18 26 42.5 -0.9
baz=240
NSTT Nanjuang 1.33 260 *e*P Pb 18 26 44.5 +1.1
baz=258
ESL Shilin 1.40 221 *e*P Pg 18 26 45.6 +0.7
baz=219
CHGB Renai 1.41 235 *e*P Pb 18 26 45.1 +0.2
baz=233
OWD Renai 1.47 232 *e*P Pb 18 26 45.7 -0.1
baz=230
WUSB Renai 1.49 234 *e*P Pb 18 26 46.1 -0.1
baz=232
WARBT Fenglin Townsh 1.50 220 *e*P Pg 18 26 46.5 -0.4
baz=218
EGFH Guangfu 1.51 218 *e*P Pg 18 26 47.4 +0.3
baz=216
VWDT VWDT 1.62 227 *e*P Pg 18 26 49.1 -0.2
baz=225
HGSD Ruisui 1.66 214 *e*P Pg 18 26 49.2 -0.7
baz=212
EHY Hungye 1.70 217 *e*P Pg 18 26 50.1 -0.6
baz=215
SMLT Sun Moon Lake 1.71 235 *e*P Pg 18 26 50.4 -0.7
baz=233
SSLB Suanglung 1.73 232 *e*P Pb 18 26 50.0 -0.3
baz=230
TYC Yuchr 1.73 237 *e*P Pg 18 26 50.6 -0.9
baz=235
YULB Yu-li 1.80 216 *e*P Pg 18 26 52.0 -0.8
baz=214

BJI ***19*** *18:30:30.8±0.0, 6°.17S×148°.67E, h40km, mb5.2/83, mB5.6/80, Ms5.7/99, Ms7 5.8/97*
NEIC ***19*** *18:30:32.7±1.5, 6°.11S±0°.07×148°.73E±0°.08, h30km±2km, mb5.5/210, Ms_20 5.8/567, Mwb5.9/62, Mww6.0/39, Error ellipse: s-maj=11.7km s-min=9.8km az=133.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr8.65; Mθθ-5.91; Mφφ-2.74; Mrθ2.65; Mrφ-0.40; Mθφ3.31; Fault plane solution: M0 8.76000×10^17 NP1: φs267.25000°, δ33.48000°, λ109.66000°. NP2: φs64.06000°, δ58.71000°, λ77.45000°. Principal axes: T 9.9268, Plg73.0000°, Azm302.0000°; N -3.2665, Plg11.0000°, Azm71.0000°; P -6.6603, Plg13.0000°, Azm163.0000°;*
NEIC ***19*** *18:30:33, 6°.15S×148°.70E, h31km*
NEIC ***19*** *18:30:34.6, 6°.27S×148°.68E, h36km, Moment Tensor Solution. Duration: 4s7 Moment tensor: Scale 10^18Nm; Mrr1.00; Mθθ-0.95; Mφφ-0.05; Mrθ0.38; Mrφ-0.39; Mθφ0.21; Fault plane solution: M0 1.13000×10^18 NP1: φs65.81000°, δ56.30000°, λ85.94000°. NP2: φs253.10000°, δ33.91000°, λ96.06000°. Principal axes: T 1.0890, Plg78.0000°, Azm322.0000°; N 0.0900, Plg3.0000°, Azm68.0000°; P -1.1790, Plg11.0000°, Azm159.0000°;*
IPGP ***19*** *18:30:34.0, 6°.16S×148°.70E, h40km, Mw6.0, Fault plane solution: NP1: φs48.00000°, δ56.00000°, λ87.00000°. NP2: φs234.00000°, δ34.00000°, λ95.00000°.*
MOS ***19*** *18:30:34.1±1.0, 6°.12S×148°.43E, h57km, mb5.5/35, MS5.7/29, Error ellipse: s-maj=9.6km s-min=4.8km az=102.3*
NEIC ***19*** *18:30:34.6, 6°.17S×148°.68E, h36km*
GCMT ***19*** *18:30:37.7±0.1, 6°.44S×148°.80E, h37km, MW6.0/164, Moment Tensor Solution. s164,c378; s162,c546; Duration: 2s4 Moment tensor: Scale 10^18Nm; Mrr1.03±.01; Mθθ-1.02±.01; Mφφ0.00±.01; Mrθ0.27±.01; Mθφ-0.46±.01; Mrφ0.46±.01; Best double couple: M0 1.24100×10^18 NP1: φs52.00000°, δ58.00000°, λ70.00000°. NP2: φs266.00000°, δ37.00000°, λ118.00000°. Principal axes: T 1.2060, Plg70.0000°, Azm278.0000°; N 0.0700, Plg16.0000°, Azm63.0000°; P -1.2760, Plg11.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
IDC ***19*** *18:30:38.3±1.7, 6°.16S×148°.56E, h85km±14km, mb4.8/23, mbtmp5.2/27, MS5.5/55 Error ellipse: s-maj=18.0km s-min=9.6km az=85.0*
DJA ***19*** *18:30:39.3±0.5, 6°S±3°×14°9E±°, h79km±4km, M5.9/67, mB6.2/49, mb6.0/67, MLv6.5/3, Mw(mB)5.9/49, MwMwp5.8/43, Mwp5.9/43*
ISC 19 18:30:34.2±0.2, 6°.22S±0°.03×148°.73E±0°.03, h50km±1km, h50km:pP-P, n1471, σ1°93/1236, mb5.5/224, MS5.8/404, 34C-16D, New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BULU	**Kimbe**	**1.71**	**67**	P	**Pn**	**18 31 04.8**	**+3.2**
PMG	**Port Moresby**	**3.53**	**206**	P	**Pn**	**18 31 29.8**	**+3.2**
PMG	**Port Moresby**	**3.53**	**206**	P	**Pn**	**18 31 29.9**	**+3.3**
PMG	**Port Moresby**	**3.53**	**206**		**Pn**	**18 31 28.8**	**+2.2**
PMG				Sn	**Sn**	**18 32 09.2**	**+2.0**
PMG	**Port Moresby**	**3.53**	**206**	P	**Pn**	**18 31 28.8**	**+2.2**
	6μm,0.6s,baz=41,slow=5.7,SNR=715						
PMG	**Port Moresby**	**3.53**	**206**	*de*P	**Pn**	**18 31 28.3**	**+1.7**
PMG				pmax	pmax		
	comp=Z,7μm,0.7s						
I40PG	**Keravat**	**3.78**	**60**	P	**Pn**	**18 31 32.8**	**+2.8**
	baz=203,slow=18,SNR=0.2						
I40PG				I	I	18 52 20.0	
	baz=246,slow=318,SNR=3.7						
KRVT	**Keravat (AS076**	**3.79**	**60**	LR	LR	18 33 04.7	
	comp=Z,18μm,20.3s,baz=11,slow=38						
KAVG	**Kavieng**	**4.16**	**30**	P	**Pn**	**18 31 39.1**	**+3.9**
TABU	**Tabubil**	**7.53**	**277**	P	**Pn**	**18 32 25.5**	**+3.9**
MMPI	**Merauke**	**8.58**	**254**	P	**Pn**	**18 32 40.4**	**+4.6**
	comp=Z,1μm,0.7s,comp=Z,14μmcomp=Z,44μmcomp=Z,10nm						
JAY	**Jayapura**	**8.81**	**294**	P	Pn	18 32 44.8	+5.7
	comp=Z,380nm,1.1s,comp=Z,61μmcomp=Z,3.2nm						
GENI	**Genyem**	**9.27**	**292**	P	**Pn**	**18 32 48.9**	**+3.6**
GENI	**Genyem**	**9.27**	**292**	P	**Pn**	**18 32 49.8**	**+4.5**
	comp=Z,712nm,1.1s,comp=Z,13μmcomp=Z,63μm						
COEN	**Coen**	**9.44**	**215**	P	**Pn**	**18 32 49.9**	**+2.3**
COEN	**Coen**	**9.44**	**215**		**Pn**	**18 32 48.0**	**+0.3**
COEN	**Coen**	**9.44**	**215**	P	**Pn**	**18 32 49.5**	**+1.9**
	comp=Z,127nm,0.8s,SNR=12						
COEN				S	**Sn**	**18 34 30.3**	**-2.1**
HNR	**Honiara**	**11.56**	**107**	P	**Pn**	**18 33 20.2**	**+3.6**
HNR	**Honiara**	**11.56**	**107**		**Pn**	**18 33 15.7**	**-1.0**
HNR	**Honiara**	**11.56**	**107**	LR	LR	18 37 17.4	
	comp=Z,383μm,21.1s,baz=280,slow=34						
HNR	**Honiara**	**11.56**	**107**	P	**Pn**	**18 33 15.7**	**-1.0**
MTSU	**Mount Surprise**	**12.61**	**200**	P	**Pn**	**18 33 33.2**	**+2.3**
MTSU	**Mount Surprise**	**12.61**	**200**	P	**Pn**	**18 33 32.2**	**+1.3**
	comp=Z,221nm,0.7s,SNR=118						
TV1H	**Townsville Har**	**13.10**	**188**	P	**Pn**	**18 33 40.1**	**+2.4**
AUAYR	**Ayr State High**	**13.35**	**185**	P	**Pn**	**18 33 42.2**	**+1.2**
CTA	**Charters Tower**	**14.00**	**190**	P	**Pn**	**18 33 51.7**	**+1.8**
	comp=Z,5.5nm,0.6s,baz=14,slow=13,SNR=44						
CTA				LR	LR	18 39 24.4	
	comp=Z,2μm,18.7s,baz=9.5,slow=38						
CTAO	**Charters Tower**	**14.00**	**190**	P	**Pn**	**18 33 52.5**	**+2.6**
CTAO	**Charters Tower**	**14.00**	**190**		**Pn**	**18 33 50.1**	**+0.2**
CTAO	**Charters Tower**	**14.00**	**190**	P	**Pn**	**18 33 50.1**	**+0.2**
KMPI	**Kaimana, Papua**	**15.19**	**279**	P	P	18 34 24.6	+15
FAKI	**Fak Fak**	**16.75**	**280**	P	**P**	**18 34 29.5**	**+2.3**
FAKI	**Fak Fak**	**16.75**	**281**	P	**Pn**	**18 34 23.8**	**-1.8**
FAKI	**Fak Fak**	**16.75**	**281**	P	**P**	**18 34 32.2**	**+5.0**
QIS	**Mount Isa**	**16.78**	**211**	P	**Pn**	**18 34 26.4**	**+0.5**
QIS	**Mount Isa**	**16.78**	**211**	P	**Pn**	**18 34 25.7**	**-0.2**
	comp=Z,603nm,1.3s,SNR=104						
RK1H	**Rockhampton Ha**	**17.16**	**175**	P	**P**	**18 34 32.9**	**+1.4**
KDU	**Kakadu**	**17.27**	**247**	P	**Pn**	**18 34 31.7**	**-0.3**
KDU	**Kakadu**	**17.27**	**247**	P	**Pn**	**18 34 30.8**	**-1.2**
	comp=Z,301nm,0.7s,SNR=34						
SAUI	**Saumlaki**	**17.39**	**263**	P	**P**	**18 34 36.1**	**+1.9**
SAUI	**Saumlaki**	**17.39**	**263**	P	**Pn**	**18 34 30.9**	**-2.6**
SAUI	**Saumlaki**	**17.39**	**263**	P	**P**	**18 34 37.4**	**+3.2**
	comp=Z,2μm,1.3s,comp=Z,23μm						
GD1S	**Gladstone Soft**	**17.68**	**173**	P	**P**	**18 34 40.1**	**+2.8**
SWI	**Sorong**	**18.23**	**286**	P	**Pn**	**18 34 46.2**	**+2.4**
	comp=Z,354nm,1.0s						
MTN	**Manton Dam**	**18.56**	**248**	P	**Pn**	**18 34 49.0**	**+1.3**
MTN	**Manton Dam**	**18.56**	**248**	P	**P**	**18 34 46.8**	**-0.2**
MTN				IAmb	IAmb	18 34 52.4	
	comp=Z,231nm,0.8s						
MTN	**Manton Dam**	**18.56**	**248**	P	**P**	**18 34 46.8**	**-0.2**
	comp=Z,275nm,0.6s,SNR=29						
DRS	**Darwin Rock St**	**18.64**	**249**	P	**Pn**	**18 34 50.0**	**+1.2**
BNDI	**Bandanaira**	**18.82**	**274**	P	**Pn**	**18 34 53.1**	**+2.2**
BNDI	**Bandanaira**	**18.82**	**274**	P	**Pn**	**18 34 55.8**	**+4.9**
	comp=Z,1μm,0.8s,comp=Z,28μm						
EIDS	**Eidsvold**	**19.18**	**174**	P	**Pn**	**18 34 55.5**	**+0.4**
EIDS	**Eidsvold**	**19.18**	**174**	P	**P**	**18 34 54.2**	**+0.5**
EIDS				IAmb	IAmb	18 34 59.5	
	comp=Z,310nm,1.1s						
EIDS	**Eidsvold**	**19.18**	**174**	P	**Pn**	**18 34 54.8**	**-0.3**
	comp=Z,340nm,1.9s,SNR=54						
WB0	**Warramunga Arr**	**19.38**	**225**	P	**P**	**18 34 55.7**	**-0.5**
WR0	**Warramunga Arr**	**19.41**	**224**	P	**P**	**18 34 55.8**	**-0.6**
WR0				IAmb	IAmb	18 35 01.5	
	comp=Z,213nm,0.6s						
WRAB	**Tennant Creek**	**19.52**	**224**	P	**P**	**18 34 57.4**	**-0.2**
WRAB				IAmb	IAmb	18 35 00.6	
	comp=Z,202nm,0.8s						
WRAB	**Tennant Creek**	**19.52**	**224**	*d*iP	**P**	**18 34 58.0**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,185nm,0.6s						
WB2	**Warramunga Arr**	**19.53**	**224**	P	**P**	**18 34 57.6**	**-0.2**
WB2				IAmb	IAmb	18 35 00.3	
	comp=Z,197nm,0.7s						
WRA	**Warramunga Arr**	**19.54**	**224**	P	**P**	**18 34 56.6**	**-1.2**
WRA	**Warramunga Arr**	**19.54**	**224**	P	**P**	**18 34 57.5**	**-0.3**
	comp=Z,195nm,0.5s,baz=51,slow=11,SNR=806						
WRA				S	**S**	**18 38 26.6**	**-9.4**
	comp=Z,145nm,1.1s,baz=52,slow=23,SNR=7.5						
WRA				LR	LR	18 43 23.0	
	comp=Z,22μm,18.6s,baz=46,slow=39						
WRA	**Warramunga Arr**	**19.54**	**224**	P	**P**	**18 34 56.6**	**-1.2**
WRA				pmax	pmax		
	comp=Z,28nm,0.6s						
GUMO	**Guam**	**20.05**	**349**	P	**P**	**18 35 04.7**	**+1.4**
GUMO	**Guam**	**20.05**	**349**	P	**P**	**18 35 01.4**	**-1.9**
GUMO	**Guam**	**20.05**	**349**	P	**P**	**18 35 04.0**	**+0.7**
	comp=Z,148nm,0.5s,baz=182,slow=8.7,SNR=21						
GUMO				LR	LR	18 41 55.0	
	comp=Z,14μm,19.9s,baz=148,slow=34						
GUMO	**Guam**	**20.05**	**349**	P	**P**	**18 35 01.4**	**-1.9**
GUMO				pmax	pmax		
	comp=Z,1μm,1.8s						
RMQ	**Roma**	**20.16**	**180**	P	Pn	18 35 06.7	0.0
RMQ	**Roma**	**20.16**	**180**	P	**P**	**18 34 59.2**	**-5.3**
QLP	**Quilpie**	**20.70**	**191**	P	Pn	18 35 12.3	-0.8
QLP	**Quilpie**	**20.70**	**191**	P	**P**	**18 35 11.3**	**+0.9**
	comp=Z,1μm,1.3s,SNR=132						
KOUNC	**Koumac, New Ca**	**20.75**	**135**	P	Pn	18 35 13.3	-0.5
KOUNC	**Koumac, New Ca**	**20.75**	**135**	P	Pn	18 35 12.6	-1.2
KOUNC				IAmb	IAmb	18 35 23.4	
	comp=Z,410nm,1.5s						
AUWSH	**Wavell State H**	**21.46**	**169**	P	**P**	**18 35 20.0**	**+1.5**
KNRA	**Kununurra**	**21.73**	**243**	P	**P**	**18 35 21.4**	**0.0**
	comp=Z,389nm,0.9s,SNR=53						
NLAI	**Namlea**	**21.76**	**277**	P	**P**	**18 35 26.4**	**+4.6**
LBMI	**Labuha**	**21.90**	**284**	P	P	18 35 43.3	+20
GC1S	**Gold Coast 1 S**	**22.29**	**169**	P	**P**	**18 35 29.6**	**+2.2**
TNTI	**Ternate**	**22.43**	**287**	P	**P**	**18 35 31.2**	**+2.1**
TNTI	**Ternate**	**22.43**	**287**	P	**P**	**18 35 27.1**	**-2.0**
TNTI	**Ternate**	**22.43**	**287**	P	P	18 35 44.7	+16
AS31	**Alice Springs**	**22.46**	**218**	P	**P**	**18 35 29.4**	**+0.1**
AS31				IAmb	IAmb	18 35 47.5	
	comp=Z,143nm,0.6s						
ASAR	**Alice Springs**	**22.46**	**218**	P	**P**	**18 35 29.8**	**+0.4**
	comp=Z,160nm,0.7s,baz=56,slow=9.6,SNR=1061						
ASAR				S	**S**	**18 39 29.4**	**-3.5**
	comp=Z,70nm,1.0s,baz=35,slow=23,SNR=6.1						
ASAR				LR	LR	18 44 42.7	
	comp=Z,17μm,20.3s,baz=38,slow=38						
ASAR				P3KP		19 09 59.5	
	comp=Z,1.5nm,1.0s,baz=138,slow=3.5,SNR=4.4						
	comp=Z,160nm,0.7s						
INKA	**Innaminka**	**22.71**	**199**	P	**P**	**18 35 34.2**	**+2.3**
LIFNC	**LIFOU**	**23.05**	**131**	P	**P**	**18 35 37.9**	**+2.5**
LIFNC	**LIFOU**	**23.05**	**131**	P	**P**	**18 35 35.7**	**+0.3**
SANI	**Sanana**	**23.06**	**279**	P	**P**	**18 35 38.1**	**+2.5**
SANI	**Sanana**	**23.06**	**279**	P	**P**	**18 35 37.1**	**+1.5**
	comp=Z,306nm,0.9s,comp=Z,6μmcomp=Z,25μm						
AULRC	**Lightning Ridg**	**23.10**	**182**	P	**P**	**18 35 36.2**	**+0.3**
NOUC	**Port Laguerre**	**23.18**	**135**	P	**P**	**18 35 39.2**	**+2.4**
DZM	**Mont Dzumac**	**23.26**	**134**	P	**P**	**18 35 39.0**	**+1.3**
DZM	**Mont Dzumac**	**23.26**	**134**	*e*P	**P**	**18 35 36.9**	**-0.8**
	comp=Z,475nm,1.1s						
DZM				*e*S	**S**	**18 39 40.6**	**-5.8**
	comp=Z,26μm,24.6s						
DZM				*e*LR	LR	18 41 21.0	
	comp=Z,72μm,22.4s						
DZM	**Mont Dzumac**	**23.26**	**134**	P	**P**	**18 35 37.5**	**-0.1**
DZM	**Mont Dzumac**	**23.26**	**134**	LR	LR	18 43 37.3	
	comp=Z,47μm,21.3s,baz=307,slow=33						
ONTNC	**Ouen Toro**	**23.42**	**135**	P	**P**	**18 35 41.2**	**+2.1**
ONTNC	**Ouen Toro**	**23.42**	**135**	P	**P**	**18 35 39.1**	**0.0**
YATNC	**Mamie plateau,**	**23.58**	**134**	P	**P**	**18 35 42.1**	**+1.6**
MARNC	**Mare, Loyalty**	**24.06**	**131**	P	**P**	**18 35 47.8**	**+2.8**
MARNC	**Mare, Loyalty**	**24.06**	**131**	P	**P**	**18 35 45.1**	**+0.1**
ARMA	**Armidale**	**24.23**	**174**	P	**P**	**18 35 47.6**	**+1.0**
ARMA	**Armidale**	**24.23**	**174**	P	**P**	**18 35 46.7**	**+0.1**
ARMA	**Armidale**	**24.23**	**174**	P	**P**	**18 35 47.2**	**+0.7**
	comp=Z,275nm,1.4s,SNR=22						
PINNC	**Pines Island,**	**24.32**	**134**	P	**P**	**18 35 50.0**	**+2.6**
PINNC	**Pines Island,**	**24.32**	**134**	P	**P**	**18 35 46.7**	**-0.6**
SOEI	**Soe**	**24.48**	**260**	P	**P**	**18 35 51.4**	**+2.4**
SOEI	**Soe**	**24.48**	**260**	P	**P**	**18 35 49.4**	**+0.3**
SOEI	**Soe**	**24.48**	**260**	P	**P**	**18 35 51.0**	**+2.0**
	comp=Z,1μm,0.7s,comp=Z,17μm						
OOD	**Oodnadatta**	**24.78**	**208**	P	**P**	**18 35 52.5**	**+1.0**
AUPHS	**Peel High Scho**	**24.84**	**176**	P	**P**	**18 35 54.0**	**+2.0**
BATI	**Baumata**	**25.12**	**259**	P	**P**	**18 35 56.6**	**+1.8**
CMSA	**Cobar Meteorol**	**25.35**	**186**	P	**P**	**18 35 57.9**	**+1.3**
CMSA	**Cobar Meteorol**	**25.35**	**186**	P	**P**	**18 35 57.2**	**+0.6**
	comp=Z,325nm,1.3s,SNR=33						
FITZ	**Fitzroy Crossi**	**25.44**	**240**	P	**P**	**18 35 59.0**	**+1.4**
FITZ	**Fitzroy Crossi**	**25.44**	**240**	P	**P**	**18 35 58.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**25.44**	**240**	P	**P**	**18 35 58.3**	**+0.8**
	comp=Z,24μm,1.1s,SNR=281						
KMSI	**Cibinong**	**25.61**	**284**	P	**P**	**18 36 04.2**	**+5.0**
	comp=Z,815nm,1.1s,comp=Z,13μmcomp=Z,20μm						
AUDCS	**Dubbo College**	**25.88**	**180**	P	**P**	**18 36 03.5**	**+2.1**
BBSI	**Bau Bau**	**26.04**	**270**	P	**P**	**18 36 06.2**	**+3.1**
	comp=Z,599nm,1.0s,comp=Z,9μmcomp=Z,21μm						
LCRK	**Leigh Creek**	**26.05**	**201**	P	**P**	**18 36 03.9**	**+0.9**
MMRI	**Maumere**	**26.38**	**263**	P	**P**	**18 36 05.8**	**-0.4**
MMRI	**Maumere**	**26.38**	**263**	P	**P**	**18 36 05.2**	**-1.0**
MMRI	**Maumere**	**26.38**	**263**	P	**P**	**18 36 05.2**	**-1.0**
STKA	**Stephens Creek**	**26.39**	**194**	P	**P**	**18 36 07.7**	**+1.7**
STKA	**Stephens Creek**	**26.39**	**194**	P	**P**	**18 36 06.1**	**+0.1**
STKA				IAmb	IAmb	18 36 22.0	
	comp=Z,124nm,1.5s						
STKA	**Stephens Creek**	**26.39**	**194**	P	**P**	**18 36 06.6**	**+0.6**
	comp=Z,44nm,0.9s,SNR=15						
STKA	**Stephens Creek**	**26.39**	**194**	P	**P**	**18 36 07.3**	**+1.3**
	comp=Z,48nm,0.8s,baz=353,slow=8.5,SNR=33						
STKA				LR	LR	18 47 27.5	
	comp=Z,20μm,18.9s,baz=2.7,slow=38						
	comp=Z,48nm,0.8s						
STKA	**Stephens Creek**	**26.39**	**194**	P	**P**	**18 36 06.1**	**+0.1**
STKA				pmax	pmax		
	comp=Z,124nm,1.5s						
LUWI	**Luwuk**	**26.41**	**280**	P	**P**	**18 36 08.7**	**+2.3**
LUWI	**Luwuk**	**26.41**	**280**	P	**P**	**18 36 07.3**	**+0.9**
LUWI	**Luwuk**	**26.41**	**280**	P	**P**	**18 36 10.6**	**+4.2**
	comp=Z,365nm,0.8s,comp=Z,9μmcomp=Z,19μm						
GTOI	**Gorontalo**	**26.57**	**284**	P	**P**	**18 36 11.5**	**+3.7**
	comp=Z,143nm,0.9s,comp=Z,3μm						
DAV	**Davao City (W)**	**26.61**	**299**	*e*P	**P**	**18 36 07.0**	**-1.2**
NTLH	**Newcastle Hard**	**26.69**	**174**	P	**P**	**18 36 11.1**	**+2.4**
EDFI	**Ende, Flores**	**26.93**	**263**	P	**P**	**18 36 09.7**	**-1.5**
	comp=Z,861nm,0.7s,comp=Z,10μmcomp=Z,13μm						
WRKA	**Warakurna**	**27.08**	**224**	P	**P**	**18 36 12.5**	**+0.1**
WRKA	**Warakurna**	**27.08**	**224**	P	**P**	**18 36 12.7**	**+0.2**
	comp=Z,426nm,1.1s,SNR=42						
SYDH	**Sydney Hard Ro**	**27.47**	**176**	P	**P**	**18 36 19.0**	**+3.3**
MRSI	**Marisa**	**27.56**	**283**	P	**P**	**18 36 21.3**	**+4.5**
RIV	**Riverview**	**27.57**	**176**	P	**P**	**18 36 19.2**	**+2.6**
RIV	**Riverview**	**27.57**	**176**	P	**P**	**18 36 18.7**	**+2.1**
	comp=Z,312nm,1.1s,SNR=9.9						
MULG	**Mulgathing**	**27.64**	**208**	P	**P**	**18 36 17.7**	**+0.5**
YNG	**Young**	**27.95**	**181**	P	**P**	**18 36 22.3**	**+2.3**
YNG	**Young**	**27.95**	**181**	P	**P**	**18 36 21.3**	**+1.3**
	comp=Z,614nm,1.2s,SNR=12						
WOLH	**Wollongong Har**	**28.12**	**176**	P	**P**	**18 36 23.8**	**+2.3**
BASI	**Baing, Sumba**	**28.14**	**260**	P	**P**	**18 36 23.6**	**+1.6**
BKSI	**Bulukumba**	**28.48**	**270**	P	**P**	**18 36 25.5**	**+0.5**
	comp=Z,218nm,1.1s,comp=Z,3μmcomp=Z,13μm						
HTT	**Hallett**	**28.57**	**197**	P	**P**	**18 36 26.7**	**+1.1**
HTT	**Hallett**	**28.57**	**197**	P	**P**	**18 36 25.9**	**+0.3**
	comp=Z,158nm,1.0s,SNR=7.1						
WHYH	**Whyalla**	**28.63**	**200**	P	**P**	**18 36 27.7**	**+1.6**
TOLI2	**Tolitoli**	**28.84**	**284**	P	**P**	**18 36 30.3**	**+2.1**
TOLI2	**Tolitoli**	**28.84**	**284**	P	**P**	**18 36 26.9**	**-1.2**
TOLI2				IAmb	IAmb	18 37 17.6	
	comp=Z,152nm,1.1s						
KAPI	**Kappang**	**28.87**	**271**	P	**P**	**18 36 29.2**	**+0.8**
KAPI	**Kappang**	**28.87**	**271**	P	**P**	**18 36 28.0**	**-0.4**
KAPI	**Kappang**	**28.87**	**271**	P	**P**	**18 36 28.6**	**+0.2**
	comp=Z,23nm,0.5s,baz=79,slow=4.7,SNR=15						
KAPI				LR	LR	18 51 18.6	
	comp=Z,8μm,18.5s,baz=84,slow=43						
	comp=Z,23nm,0.5s						
KAPI	**Kappang**	**28.87**	**271**	*i* P	**P**	**18 36 26.7**	**-1.7**
KAPI				pmax	pmax		
	comp=Z,139nm,1.1s						
CNB	**Canberra Magne**	**28.96**	**179**	P	**P**	**18 36 31.1**	**+2.0**
CNB	**Canberra Magne**	**28.96**	**179**	P	**P**	**18 36 30.6**	**+1.5**
	comp=Z,60nm,1.2s,SNR=4.0						
CAN	**Canberra**	**28.96**	**180**	P	**P**	**18 36 31.3**	**+2.2**
CAN	**Canberra**	**28.96**	**180**	P	**P**	**18 36 30.1**	**+1.0**
CAN				IAmb	IAmb	18 36 50.3	
	comp=Z,74nm,1.1s						
CAN				IAMs_20	IAMs_20	18 50 09.4	
	comp=Z,23μm,18.0s						
CAN	**Canberra**	**28.96**	**180**	P	**P**	**18 36 30.1**	**+1.0**
CAN				pmax	pmax		
	comp=Z,74nm,1.1s						
CAN				MLR	MLR		
	comp=Z,23μm,18.0s						
BBOO	**Buckleboo**	**28.97**	**202**	P	**P**	**18 36 31.2**	**+2.1**
BBOO	**Buckleboo**	**28.97**	**202**	P	**P**	**18 36 29.4**	**+0.3**
BBOO				IAmb	IAmb	18 37 19.0	
	comp=Z,92nm,0.9s						
BBOO	**Buckleboo**	**28.97**	**202**	P	**P**	**18 36 28.4**	**-0.7**
	comp=Z,99nm,1.7s,SNR=3.3						
AUUHS	**Ulladulla High**	**29.05**	**177**	P	**P**	**18 36 32.0**	**+2.3**
MPSI	**Mapaga**	**29.51**	**282**	P	**P**	**18 36 37.7**	**+3.6**
PLAI	**Plampang**	**30.80**	**263**	P	**P**	**18 36 44.8**	**-0.7**
PLAI	**Plampang**	**30.80**	**263**	P	**P**	**18 36 44.0**	**-1.5**
	comp=Z,357nm,0.7s						
MSVF	**Nonsavu**	**30.82**	**114**	P	**P**	**18 36 48.3**	**+2.5**
MSVF	**Nonsavu**	**30.82**	**114**	P	**P**	**18 36 46.1**	**+0.4**
MSVF				IAmb	IAmb	18 37 05.6	
	comp=Z,100nm,1.0s						
MSVF	**Nonsavu**	**30.82**	**114**	*i* P	**P**	**18 36 46.5**	**+0.7**
MSVF				pmax	pmax		
	comp=Z,54nm,1.1s						
MSVF	**Nonsavu**	**30.82**	**114**	P	**P**	**18 36 46.0**	**+0.2**
MSVF				pP	**pP**	**18 36 57.4**	**-0.2**
MSVF				sP	**sP**	**18 37 03.2**	**+0.2**
ARPS	**Mount Arapiles**	**31.06**	**191**	P	**P**	**18 36 49.5**	**+2.0**
ARPS	**Mount Arapiles**	**31.06**	**191**	P	**P**	**18 36 50.2**	**+2.7**
	comp=Z,100nm,1.2s,SNR=5.9						
FORT	**Forrest**	**31.20**	**216**	P	**P**	**18 36 50.3**	**+1.4**
FORT	**Forrest**	**31.20**	**216**	P	**P**	**18 36 49.0**	**+0.2**
	comp=Z,322nm,0.6s,SNR=11						
TOO	**Toolangi**	**31.35**	**185**	P	**P**	**18 36 52.1**	**+2.0**
TOO	**Toolangi**	**31.35**	**185**	P	**P**	**18 36 50.6**	**+0.5**
TOO				IAmb	IAmb	18 37 11.5	
	comp=Z,108nm,1.1s						
TOO	**Toolangi**	**31.35**	**185**	P	**P**	**18 36 50.6**	**+0.5**
TOO				pmax	pmax		
	comp=Z,108nm,1.2s						
TOO				MLR	MLR		
	comp=Z,12μm,19.0s						
BRAT	**Ballarat**	**31.50**	**187**	P	**P**	**18 36 54.5**	**+3.2**
TWSI	**Taliwang, Sumb**	**31.67**	**263**	P	**P**	**18 36 53.2**	**0.0**
	comp=Z,161nm,0.8s,comp=Z,8μm						
MBWA	**Marble Bar**	**31.77**	**239**	P	**P**	**18 36 54.5**	**+0.5**
MBWA	**Marble Bar**	**31.77**	**239**	P	**P**	**18 36 54.4**	**+0.5**
MBWA	**Marble Bar**	**31.77**	**239**	P	**P**	**18 36 54.0**	**+0.1**
	comp=Z,190nm,0.8s,SNR=18						
MBWA	**Marble Bar**	**31.77**	**239**	P	**P**	**18 36 54.4**	**+0.4**
MBWA				sP	**pwP**	**18 37 12.0**	**+0.7**
PSA00	**Pilbara Seismi**	**31.84**	**238**	P	**P**	**18 36 54.0**	**-0.5**
GEXS	**Deakin Univers**	**32.09**	**187**	P	**P**	**18 36 58.6**	**+2.0**
SRBI	**Singaraja**	**33.31**	**265**	P	**P**	**18 37 09.3**	**+1.8**
	comp=Z,148nm,1.5s,comp=Z,3μmcomp=

comp=Z,14μm,20.0s
NWAO Narrogin (SRO) 39.55 224 LR LR 18 55 45.2
comp=Z,14μm,18.3s,baz=46,slow=38
NWAO Narrogin (SRO) 39.55 224 P **P** **18 38 00.7 +0.3**
NWAO pmax pmax
comp=Z,75nm,0.9s
NWAO MLR MLR
comp=Z,14μm,20.0s
NWAO Narrogin (SRO) 39.55 224 P **P** **18 38 00.8 +0.3**
TWG Pinlang 39.56 318 IAmb IAmb 18 39 24.0
comp=Z,214nm,1.9s
AFI Afiamalu 39.58 104 P **P** **18 38 00.5 -0.6**
AFI Afiamalu 39.58 104 P **P** **18 38 00.5 -0.6**
AFI pmax pmax
comp=Z,153nm,1.0s
AFI MLR MLR
comp=Z,10μm,21.0s
TOZ Tahuroa Road 39.70 146 P **P** **18 38 01.9 +0.1**
TOZ IAms_20 IAms_20 18 52 50.4
comp=Z,12μm,20.0s
MUN Mundaring 39.73 226 P **P** **18 38 02.6 +0.5**
MUN Mundaring 39.73 226 P **P** **18 38 02.3 +0.2**
comp=Z,180nm,0.8s,SNR=7.6
YULB Yu-li 39.80 319 P **P** **18 38 02.6 -0.2**
YULB Yu-li 39.80 319 IAms_20 IAms_20 18 51 40.0
comp=Z,12μm,20.0s
HIZ Hauiti 39.91 147 IAms_20 IAms_20 18 52 13.0
comp=Z,15μm,21.0s
CMJI Cimerak 40.01 265 P **P** **18 38 05.8 +1.2**
MTKN Mount Kenneth 40.01 226 P **P** **18 38 06.7 +2.3**
MTKN Mount Kenneth 40.01 226 P **P** **18 38 06.3 +1.9**
comp=Z,377nm,0.7s,SNR=6.2
JHJ2 Mitsune 40.02 348 P **P** **18 38 04.0 -0.4**
JHJ Hachijo jima 2 40.03 348 LR LR 18 54 55.9
comp=Z,5μm,18.3s,baz=175,slow=36
NACB Ninganchiao 40.16 320 P **P** **18 38 08.4 +2.7**
NACB Ninganchiao 40.16 320 P **P** **18 38 04.8 -0.9**
NACB IAms_20 IAms_20 18 51 33.4
comp=Z,12μm,20.0s
TPUB Ta-pu 40.18 318 P **P** **18 38 07.1 +1.2**
TPUB Ta-pu 40.18 318 P **P** **18 38 03.9 -2.0**
TPUB IAmb IAmb 18 38 24.7
comp=Z,62nm,0.8s
TPUB IAms_20 IAms_20 18 53 52.0
comp=Z,12μm,20.0s
JCJI Jatiwangi 40.21 267 P **P** **18 38 09.8 +3.5**
SSLB Suanglung 40.30 319 P **P** **18 38 09.1 +2.2**
SSLB Suanglung 40.30 319 P **P** **18 38 04.8 -2.1**
SSLB IAmb IAmb 18 38 29.1
comp=Z,58nm,0.8s
SSLB IAms_20 IAms_20 18 51 56.2
comp=Z,17μm,20.0s
AUALB St Joseph's Co 40.34 221 P **P** **18 38 09.9 +2.9**
QRZ Quartz Range 40.50 152 P **P** **18 38 09.1 +0.7**
QRZ IAmb IAmb 18 39 03.0
comp=Z,143nm,1.4s
YHNB Yeheng 40.65 320 P **P** **18 38 12.4 +2.6**
YHNB Yeheng 40.65 320 P **P** **18 38 09.2 -0.6**
YHNB IAmb IAmb 18 38 32.5
comp=Z,104nm,0.9s
YHNB IAms_20 IAms_20 18 52 10.4
comp=Z,13μm,21.0s
RKGY Rocky Gully 40.70 222 P **P** **18 38 11.6 +1.5**
RKGY Rocky Gully 40.70 222 P **P** **18 38 09.9 -0.2**
comp=Z,326nm,0.7s,SNR=10.0
NNVZ North Ngauruho 40.77 147 P **P** **18 38 14.1 +3.3**
TATO Taipei 40.80 321 P **P** **18 38 13.2 +2.3**
TATO Taipei 40.80 321 P **P** **18 38 10.5 -0.4**
TATO IAmb IAmb 18 39 30.4
comp=Z,190nm,1.2s
TATO Taipei 40.80 321 IAms_20 IAms_20 18 52 28.1
comp=Z,15μm,20.0s
TATO Taipei 40.80 321 P **P** **18 38 10.5 -0.4**
BBJI Bungbulang 40.80 266 P **P** **18 38 10.6 -0.7**
ETVZ East Tongariro 40.83 147 P **P** **18 38 14.8 +3.6**
TKNZ Takaka Hill 40.87 152 P **P** **18 38 12.7 +1.3**
DSZ Denniston Nort 40.90 153 IAms_20 IAms_20 18 53 31.0
comp=Z,15μm,20.0s
URZ Urewera 40.98 145 LR LR 18 53 00.1
comp=Z,13μm,20.9s,baz=30,slow=33
URZ Urewera 40.98 145 P **P** **18 38 13.8 +1.5**
HAZ Te Kaha 41.02 144 P **P** **18 38 14.9 +2.2**
MRNZ Matariki Terra 41.06 152 P **P** **18 38 13.4 +0.5**
RTZ Ruatahuna 41.15 146 P **P** **18 38 14.4 +0.6**
RTZ IAmb IAmb 18 38 37.4
comp=Z,141nm,1.3s
RTZ IAms_20 IAms_20 18 52 45.7
comp=Z,13μm,22.0s
RTZ Ruatahuna 41.15 146 P **P** **18 38 14.5 +0.7**
MTHZ Maungataniwha 41.24 146 P **P** **18 38 16.4 +1.9**
MWZ Matawai 41.27 145 P **P** **18 38 16.6 +1.8**
BKZ Black Stump Fm 41.27 147 P **P** **18 38 16.8 +2.0**
BKZ Black Stump Fm 41.27 147 IAms_20 IAms_20 18 53 10.9
comp=Z,12μm,20.0s
RAGZ Rawiri 41.31 145 P **P** **18 38 17.0 +1.8**
CNJI Cibinong 41.32 266 P **P** **18 38 15.3 -0.1**
THZ Tophouse 41.41 152 P **P** **18 38 15.6 -0.3**
THZ IAmb IAmb 18 38 33.0
comp=Z,62nm,0.8s
TWGZ Tauwhareparae 41.42 144 P **P** **18 38 16.0 0.0**
WMGZ Waiomatatini S 41.43 144 P **P** **18 38 16.6 +0.6**
INZ Inchbonnie 41.54 155 IAms_20 IAms_20 18 54 52.7
comp=Z,16μm,19.0s
KRHZ Kereru 41.55 147 P **P** **18 38 17.8 +0.9**
TSZ Takapari Road 41.63 148 P **P** **18 38 18.7 +1.0**
PNHZ Pukenui 41.65 148 P **P** **18 38 17.3 -0.5**
RIGZ Rimuhau 41.66 145 P **P** **18 38 19.6 +1.7**
KIW Kapiti Island 41.68 150 P **P** **18 38 19.1 +1.0**
DBJI Dramaga 41.72 267 P **P** **18 38 19.1 +0.4**
comp=Z,336nm,0.8s,comp=Z,5μmcomp=Z,8μm
MRZ Mangatainoka R 41.87 149 P **P** **18 38 19.0 -0.5**
JSG Sagara 41.87 347 P **P** **18 38 21.6 +2.0**
JSG Sagara 41.87 347 P **P** **18 38 19.0 -0.6**
SKJI Sukabumi 41.90 266 P **P** **18 38 20.1 -0.1**
LTZ Lake Taylor 41.94 154 IAmb IAmb 18 38 31.9
comp=Z,180nm,1.5s
JMN Monobe 42.15 341 P **P** **18 38 23.5 +1.6**
RPZ Rata Peaks 42.19 156 P **P** **18 38 21.9 -0.2**
RPZ IAmb IAmb 18 38 53.6
comp=Z,68nm,1.0s
RPZ IAms_20 IAms_20 18 54 37.9
comp=Z,13μm,20.0s
RPZ Rata Peaks 42.19 156 LR LR 18 54 38.6
comp=Z,13μm,20.4s,baz=329,slow=34
NIUE Niue 42.19 112 P **P** **18 38 24.7 +2.2**
KHZ Kahutara 42.22 152 IAmb IAmb 18 38 42.8
comp=Z,220nm,1.7s
KHZ IAms_20 IAms_20 18 55 22.8
comp=Z,15μm,20.0s
BFZ Birch Farm 42.23 148 P **P** **18 38 25.3 +2.8**
BFZ Birch Farm 42.23 148 IAmb IAmb 18 38 36.0
comp=Z,195nm,1.5s
JOD2 Odawara 2 42.25 348 P **P** **18 38 24.0 +1.3**
DCZ Deep Cove 42.25 161 P **P** **18 38 23.2 +0.7**
DCZ IAmb IAmb 18 38 43.5
comp=Z,191nm,1.4s
OXZ Oxford 42.28 155 IAmb IAmb 18 38 39.2
comp=Z,58nm,0.7s
OXZ IAms_20 IAms_20 18 55 35.4
comp=Z,14μm,19.0s
PLWZ Palliser 42.39 150 P **P** **18 38 25.6 +1.8**
LBZ Lake Benmore 42.40 157 IAms_20 IAms_20 18 54 45.6
comp=Z,9μm,20.0s
GVZ Greta Valley S 42.42 153 IAms_20 IAms_20 18 54 38.3
comp=Z,14μm,20.0s
KNMB Chin-men Tao 42.48 317 IAms_20 IAms_20 18 53 51.8
comp=Z,10μm,21.0s
MLZ Mavora Lakes 42.49 160 P **P** **18 38 25.3 +0.7**
MLZ IAmb IAmb 18 39 24.9
comp=Z,116nm,1.3s
JNU Nakatsue 42.64 338 P **P** **18 38 26.3 +0.4**
JNU Nakatsue 42.64 338 LR LR 18 55 08.9
comp=Z,5μm,19.6s,baz=138,slow=35
JNU Nakatsue 42.64 338 P **P** **18 38 25.5 -0.4**
QZH Quanzhou 42.66 318 P **P** **18 38 24.8 -1.4**
QZH pP **pP** **18 38 37.9 -1.5**
QZH sP **sP** **18 38 42.5 -2.8**
QZH S **S** **18 44 46.6 +0.5**
QZH sS **sS** **18 45 02.8 -5.2**
QZH pmax pmax
comp=Z,2μm,9.6s
QZH LR LR
comp=Z,5μm,19.6s
QZH LR LR
comp=Z,6μm,19.9s
QZH LR LR
comp=Z,11μm,24.7s
PPBI Pangkal Pinang 42.66 274 P **P** **18 38 29.5 +3.1**
comp=Z,162nm,0.8s,comp=Z,4μmcomp=Z,11μm
H01W1 Cape Leeuwin H 42.77 223 P **P** **18 38 28.6 +1.9**
baz=72,slow=6.9,SNR=3.6
XMI Christmas Isla 42.77 261 P **P** **18 38 28.3 +1.0**
H01W3 Cape Leeuwin H 42.77 223 P **P** **18 38 29.5 +2.7**
baz=72,slow=6.9,SNR=2.8
H01W2 Cape Leeuwin H 42.78 223 P **P** **18 38 28.7 +1.9**
baz=72,slow=6.9,SNR=2.3
INU Inuyama 42.79 346 P **P** **18 38 28.8 +1.7**
INU Inuyama 42.79 346 P **P** **18 38 27.4 +0.4**
INU pP **pP** **18 38 40.3 -0.1**
XMIS Christmas Isla 42.81 261 P **P** **18 38 29.8 +2.2**
XMIS Christmas Isla 42.81 261 P **P** **18 38 27.9 +0.3**
MQZ McQueen's Vall 42.85 154 IAmb IAmb 18 38 44.6
comp=Z,174nm,1.4s
MQZ IAms_20 IAms_20 18 56 12.5
comp=Z,11μm,19.0s
WHZ Wether Hill Ro 42.89 160 P **P** **18 38 27.6 -0.2**
WHZ IAmb IAmb 18 38 39.4
comp=Z,203nm,1.7s
JGF Kuroka 42.95 346 P **P** **18 38 30.2 +1.8**
ODZ Otahua Downs 43.13 157 IAms_20 IAms_20 18 55 07.9
comp=Z,9μm,19.0s
JAD Aida 43.18 342 P **P** **18 38 30.2 0.0**
JGN Niukaw 43.55 347 P **P** **18 38 32.8 -0.5**
MJAR Matsushiro Arr 43.66 348 P **P** **18 38 33.8 -0.3**
comp=Z,25nm,0.7s,baz=168,slow=8.1,SNR=43
MJAR LR LR 18 56 35.2
comp=Z,9μm,18.0s,baz=172,slow=36
comp=Z,25nm,0.7s
MAJO Matsushiro 43.66 348 P **P** **18 38 34.9 +0.8**
MAJO Matsushiro 43.66 348 P **P** **18 38 33.3 -0.8**
MAJO Matsushiro 43.66 348 IAms_20 IAms_20 18 56 15.4
comp=Z,9μm,18.0s
MAJO Matsushiro 43.66 348 *i* P **P** **18 38 33.8 -0.3**
MAJO pmax pmax
comp=Z,113nm,2.0s
MAJO Matsushiro 43.66 348 P **P** **18 38 33.3 -0.8**
MAJO pP **pP** **18 38 46.3 -1.2**
KASI Kota Agung 44.00 268 P **P** **18 38 39.3 +2.1**
comp=Z,263nm,1.0s
JTU Tsushima 44.45 337 P **P** **18 38 41.0 +0.6**
LWLI Liwa 44.47 269 P **P** **18 38 43.5 +2.4**
comp=Z,505nm,0.9s,comp=Z,4μmcomp=Z,7μm
JMM Marumori 44.48 351 P **P** **18 38 43.0 +2.4**
JMM Marumori 44.48 351 IAmb IAmb 18 38 55.1
comp=Z,98nm,1.2s
JMM Marumori 44.48 351 P **P** **18 38 40.7 +0.1**
TPRI Tanjung Pinang 44.70 278 P **P** **18 38 46.6 +3.8**
comp=Z,175nm,1.0s,comp=Z,2μmcomp=Z,9μm
JSD Sado 45.09 348 P **P** **18 38 48.1 +2.6**
JYA Atsumi 45.36 350 P **P** **18 38 48.3 +0.7**
SSE Sheshan 45.50 326 P **P** **18 38 50.0 +1.2**
SSE S **S** **18 45 29.1 +1.8**
SSE pmax pmax
comp=Z,30nm,0.8s
SSE pmax pmax
comp=Z,440nm,10.0s
SSE LR LR
comp=Z,4μm,21.2s
SSE LR LR
comp=Z,4μm,20.1s
BTDF Bukit Timah Da 45.51 278 P **P** **18 38 52.2 +2.9**
MYKOM Kota Tinggi 45.51 279 P **P** **18 38 49.6 +0.4**
MYKOM IAmb IAmb 18 39 22.6
comp=Z,86nm,0.9s
QIZ Qiongzhong 45.80 304 P **P** **18 38 51.5 +0.1**
QIZ sP **pP** **18 39 06.4 +1.6**
QIZ S **S** **18 45 30.8 -1.2**
QIZ sS **sS** **18 45 48.9 -5.2**
QIZ pmax pmax
comp=Z,1μm,12.0s
QIZ LR LR
comp=Z,2μm,20.2s
QIZ LR LR
comp=Z,3μm,18.5s
QIZ LR LR
comp=Z,6μm,20.2s
JOM Ohasama 45.98 352 P **P** **18 38 52.6 +0.1**
TJN Taejon 46.87 336 P **P** **18 39 01.8 +2.3**
TJN Taejon 46.87 336*ce*P **P** **18 38 59.1 -0.4**
JOHN Johnston Islan 47.15 60 IAms_20 IAms_20 18 55 18.1
comp=Z,11μm,22.0s
JTM Tenmabayashi 47.30 352 P **P** **18 39 03.8 +1.0**
NJ2 Nanjing 47.53 325⇑ *i* P **P** **18 39 05.1 +0.4**
NJ2 pP **pP** **18 39 13.1 -5.1**
NJ2 sP **sP** **18 39 19.1 -4.9**
NJ2 S **S** **18 45 57.9 +1.6**
NJ2 pmax pmax
comp=Z,34nm,0.8s
NJ2 pmax pmax
comp=Z,1μm,8.1s
NJ2 LR LR
comp=Z,9μm,20.4s
NJ2 LR LR
comp=Z,6μm,18.9s
NJ2 LR LR
comp=Z,12μm,19.9s
KSRS Korea Array 47.59 337 P **P** **18 39 05.0 -0.1**
comp=Z,38nm,0.9s,baz=153,slow=8.5,SNR=138
KSRS LR LR 18 57 25.9
comp=Z,10μm,21.5s,baz=145,slow=34
KSRS PKPPKP **P'P'df** **19 10 12.8 -4.6**
comp=Z,1.1nm,0.8s,baz=11,slow=3.2,SNR=5.6
comp=Z,38nm,0.9s
KSRS Korea Array 47.59 337 P **P** **18 39 05.0 -0.1**
KSAR Wonju Array Be 47.59 337 P **P** **18 39 05.0 -0.2**
KSAR Wonju Array Be 47.59 337 P **P** **18 39 05.0 -0.2**
KS19 Wonju Array Si 47.65 337 IAmb IAmb 18 39 08.0
comp=Z,65nm,1.1s
INCN Inchon 48.12 336 P **P** **18 39 10.2 +1.0**
INCN Inchon 48.12 336 P **P** **18 39 09.8 +0.6**
INCN Inchon 48.12 336 P **P** **18 39 09.8 +0.6**
INCN pmax pmax
comp=Z,67nm,0.8s
INCN MLR MLR
comp=Z,7μm,22.0s
INCN Inchon 48.12 336 P **P** **18 39 10.2 +1.0**
INCN pP **pP** **18 39 23.5 +0.8**
CTZ Chatham Island 48.17 146 P **P** **18 39 12.2 +2.7**
ERM Erimo 48.27 354 P **P** **18 39 14.1 +3.9**
ERM Erimo 48.27 354 P **P** **18 39 11.2 +1.0**
ERM IAmb IAmb 18 39 51.8
comp=Z,72nm,1.1s
ERM Erimo 48.27 354 *i* P **P** **18 39 10.0 -0.2**
ERM pmax pmax
comp=Z,24nm,0.9s
ERM Erimo 48.27 354 P **P** **18 39 12.7 +2.5**
ERM pP **pP** **18 39 25.9 +2.1**
ERM sP **sP** **18 39 31.5 +1.9**
JEM Erimo 48.27 354 P **P** **18 39 12.7 +2.4**
CNSH ChangSha 48.60 316 P **P** **18 39 12.6 -0.5**
CNSH S **S** **18 46 09.5 -2.1**
CNSH LR LR
comp=Z,4μm,19.4s
CNSH LR LR
comp=Z,6μm,21.0s
CNSH LR LR
comp=Z,8μm,20.8s
GULI GuiLin 48.71 312 P **P** **18 39 14.4 +0.4**
GULI LR LR
comp=Z,3μm,21.7s
GULI LR LR
comp=Z,2μm,21.7s
GULI LR LR
comp=Z,4μm,19.5s
HJU Haeju 48.97 336 P **P** **18 39 14.9 -0.8**
HJU S **S** **18 46 17.4 +1.0**
HJU AmB
comp=Z,320nm,1.5s
HJU AMS AMS
comp=Z,12μm,21.8s
WHN Wuhan 49.20 320 P **P** **18 39 19.8 +2.2**
WHN pP **pP** **18 39 32.1 +1.0**
WHN PP **PP** **18 41 12.3 +0.4**
WHN S **S** **18 46 20.3 +0.4**
WHN LR LR
comp=Z,5μm,15.4s
WHN LR LR
comp=Z,10μm,20.7s
WHN LR LR
comp=Z,22μm,27.1s
PYAG Pyongyang 49.82 337 P **P** **18 39 22.1 0.0**
PYAG S **S** **18 46 30.1 +1.9**
PYAG AmB
comp=Z,171nm,1.7s
PYAG AMS AMS
comp=Z,7μm,23.1s
YUK Yuzh-Kuril'sk 50.09 357 *e*P **P** **18 39 21.6 -2.5**
YUK *e* 18 41 20.4
YUK *e*PPP PPP 18 42 15.5
YUK *e*S **S** **18 46 29.3 -2.5**
YUK *e*SS **SS** **18 50 05.0 -0.8**
YUK *e*SSS SSS 18 51 33.4
YUK pmax pmax
comp=Z,179nm,1.0s
YUK pmax pmax
comp=N,174nm,0.9s
YUK pmax pmax
comp=E,240nm,0.8s
YUK pmax pmax
comp=Z,234nm,1.6s
YUK MLR MLR
comp=N,3μm,20.0s
YUK MLR MLR
comp=Z,5μm,20.0s
YUK MLR MLR
comp=E,884nm,16.0s
ASAJ Asahikawa 50.41 354 LR LR 18 59 28.3
comp=E,7μm,22.0s,baz=193,slow=34
JKA Kamikawa-asahi 50.41 354 IAmb IAmb 18 39 57.9
comp=Z,55nm,1.1s
MSHR Mys Shultsa 51.13 343*c i*P **P** **18 39 32.1 +0.1**
MSHR pmax pmax
comp=Z,21nm,1.5s
KUR Kuril'sk 51.22 359 P **P** **18 39 33.4 +0.8**
KUR 18 41 28.9
KUR *i* S **S** **18 46 52.7 +5.2**
KUR SSS SSS 18 51 55.0
KUR pmax pmax
comp=Z,2μm,8.7s
KUR pmax pmax
comp=Z,832nm,1.3s
KUR MLR MLR
comp=N,3μm,20.0s
KUR MLR MLR
comp=E,3μm,20.0s
KUR MLR MLR
comp=Z,5μm,20.0s
SUJ Sinuiju 51.22 336 P **P** **18 39 32.2 -0.5**
SUJ S **S** **18 46 49.2 +1.5**
SUJ AmB
comp=Z,644nm,2.4s
SUJ AMS AMS
comp=Z,9μm,19.1s
PSTR Posyet 51.30 343 *i* P **P** **18 39 33.8 +0.5**
VLA Vladivostok 51.43 344 *i* P **P** **18 39 34.8 +0.5**
VLA pmax pmax
comp=Z,20nm,1.0s
DL2 Dalian 51.45 333 P **P** **18 39 34.5 0.0**
DL2 S **S** **18 46 55.8 +4.9**
DL2 pmax pmax
comp=Z,50nm,0.8s
DL2 pmax pmax
comp=Z,1μm,10.6s
DL2 LR LR
comp=Z,10μm,19.6s
DL2 LR LR
comp=Z,8μm,19.8s
DL2 LR LR
comp=Z,14μm,20.0s
COCO West Island 51.51 259 P **P** **18 39 38.1 +2.7**
TIA Tai'an 51.58 327 P **P** **18 39 34.9 -0.6**
TIA sP **pP** **18 39 49.8 +0.7**
TIA S **S** **18 46 51.3 -1.5**
TIA sS **sS** **18 47 07.3 -6.2**
TIA pmax pmax
comp=Z,28nm,0.7s
TIA pmax pmax
comp=Z,980nm,12.0s
TIA LR LR
comp=Z,12μm,22.2s
TIA LR LR
comp=Z,8μm,21.8s
TIA LR LR
comp=Z,22μm,22.2s
GSI Gunungsitoli 51.62 277 P **P** **18 39 37.0 +0.8**
GSI Gunungsitoli 51.62 277 P **P** **18 39 34.2 -2.0**
GSI Gunungsitoli 51.62 277 P **P** **18 39 37.7 +1.5**
comp=Z,98nm,0.8s
KCSI Kotacane, Aceh 51.80 279 P **P** **18 39 37.7 +0.1**
RAR Rarotonga 51.96 112 LR LR 18 57 53.9
comp=Z,1μm,20.4s,baz=279,slow=31
GYA Guiyang 52.13 310⇓ P **P** **18 39 41.1 +1.2**
GYA PcP **PcP** **18 40 53.8 +2.4**
GYA PP **PP** **18 41 38.3 -0.4**
GYA S **S** **18 47 01.5 +0.5**
GYA sS sS 18 47 15.9 -7.8
GYA pmax pmax
comp=Z,19nm,1.5s
GYA pmax pmax
comp=Z,860nm,12.1s
GYA LR LR
comp=Z,2μm,19.6s
GYA LR LR
comp=Z,2μm,20.3s
GYA LR LR
comp=Z,2μm,18.8s
TEY Ternei 52.17 349 *e*P **P** **18 39 35.2 -4.5**
TEY *e* 18 46 53.9
ENH Enshi 52.26 316 P **P** **18 39 42.5 +1.8**
ENH Enshi 52.26 316 IAmb IAmb 18 40 55.4
comp=Z,101nm,1.4s
ENH IAms_20 IAms_20 18 59 21.7
comp=Z,11μm,21.0s
USA0B Ussuriysk Arra 52.41 345 IAmb IAmb 18 39 45.8
comp=Z,38nm,0.7s
USA0B Ussuriysk Arra 52.41 345*c i*P **P** **18 39 41.1 -0.4**
USRK Ussuriysk Ar. 52.41 345 P **P** **18 39 41.7 +0.2**
USRK Ussuriysk Ar. 52.41 345 P **P** **18 39 42.1 +0.6**
comp=Z,35nm,0.6s,baz=177,slow=6.9,SNR=41
USRK LR LR 18 59 43.1
comp=Z,6μm,21.5s,baz=151,slow=33
comp=Z,35nm,0.6s
SNY Shenyang 53.05 337⇓ P **P** **18 39 46.3 0.0**
SNY S **S** **18 47 13.4 +0.6**
SNY pmax pmax
comp=Z,8.0nm,0.8s
SNY pmax pmax
comp=Z,900nm,11.0s
SNY LR LR
comp=Z,2μm,19.1s
SNY LR LR
comp=Z,4μm,17.6s
SNY LR LR
comp=Z,6μm,20.6s
LYN LuoYang 53.06 322 P **P** **18 39 44.3 -2.3**
LYN pP pP 18 40 00.4 +0.2
LYN S **S** **18 47 10.3 -2.9**
LYN pmax pmax
comp=Z,23nm,0.8s
LYN pmax pmax
comp=Z,1μm,10.6s
LYN LR LR
comp=Z,15μm,20.8s
LYN LR LR
comp=Z,8μm,20.6s
LYN LR LR
comp=Z,18μm,22.3s
YSS Yuzh-Sakhalins 53.20 355 P **P** **18 39 50.6 +3.3**
YSS Yuzh-Sakhalins 53.20 355 P **P** **18 39 46.7 -0.6**
YSS IAms_20 IAms_20 18 59 48.9
comp=Z,8μm,21.0s
YSS Yuzh-Sakhalins 53.20 355*ce*P **P** **18 39 46.7 -0.6**
YSS *e**PP **pP** **18 40 01.8 +0.8**
YSS *e* 18 41 49.0
YSS *e*S **S** **18 47 15.2 +0.6**
YSS *e*PS **PKiKP** **18 47 33.5 +1.2**
YSS *e*SSS SSS 18 52 43.1
YSS pmax pmax
comp=Z,20nm,1.3s
YSS pmax pmax
comp=N,400nm,5.6s
YSS pmax pmax
comp=Z,900nm,5.6s
YSS smax smax
comp=E,400nm,10.6s
YSS MLR MLR

	comp=Z,3μm,21.0s				
YSS			MLR	MLR	
	comp=N,2μm,22.0s				
YSS			MLR	MLR	
	comp=E,2μm,20.0s				
MDJ	**Mudanjiang**	**53.45 343**	P	**P**	**18 39 51.2 +2.0**
MDJ	**Mudanjiang**	**53.45 343**	P	**P**	**18 39 50.6 +1.4**
MDJ			pP	pP	18 40 04.0 +1.1
MDJ			S	**S**	**18 47 24.5 +6.3**
MDJ			pmax	pmax	
	comp=E,40nm,1.0s				
MDJ			pmax	pmax	
	comp=E,1μm,7.7s				
MDJ			LR	LR	
	comp=E,3μm,22.3s				
MDJ			LR	LR	
	comp=E,2μm,19.2s				
MDJ			LR	LR	
	comp=E,8μm,21.2s				
MDJ	**Mudanjiang**	**53.45 343**	IAmb	IAmb	18 40 04.6
	comp=Z,42nm,0.8s				
MDJ	**Mudanjiang**	**53.45 343**	P	**P**	**18 39 50.2 +0.9**
MDJ			pP	**pP**	**18 40 03.1 +0.2**
HNS	**HongShan**	**53.76 326**	⇑P	**P**	**18 39 51.0 -0.6**
HNS			S	**S**	**18 47 18.3 -4.3**
HNS			SS	**SKiKP**	**18 51 00.4 -1.3**
HNS			pmax	pmax	
	comp=Z,39nm,1.0s				
HNS			pmax	pmax	
	comp=Z,1μm,9.4s				
HNS			LR	LR	
	comp=Z,6μm,22.4s				
HNS			LR	LR	
	comp=Z,8μm,21.0s				
HNS			LR	LR	
	comp=Z,15μm,21.6s				
CN2	**Changchun**	**54.05 339**	*e*P	**P**	**18 39 56.0 +2.4**
CN2			*e*S	**S**	**18 47 27.5 +1.2**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.6s				
CN2			pmax	pmax	
	comp=Z,900nm,5.0s				
CN2			LR	LR	
	comp=Z,2μm,18.0s				
CN2			LR	LR	
	comp=Z,2μm,18.0s				
CN2			LR	LR	
	comp=Z,4μm,19.0s				
XMAS	**Kiritimati**	**54.36 83**	P	**P**	**18 39 58.6 +2.2**
KMI	**Kunming**	**54.50 307**	⇑P	**P**	**18 39 56.8 -0.7**
KMI			sP	pP	18 40 13.0 +1.8
KMI			PP	**PP**	**18 41 59.5 -0.8**
KMI			S	**S**	**18 47 35.0 +1.5**
KMI			pmax	pmax	
	comp=Z,18nm,0.9s				
KMI			pmax	pmax	
	comp=Z,690nm,12.5s				
KMI			LR	LR	
	comp=Z,3μm,20.9s				
KMI			LR	LR	
	comp=Z,2μm,22.3s				
KMI			LR	LR	
	comp=Z,5μm,24.6s				
CMAR	**Chiang Mai Arr**	**54.88 298**	P	**P**	**18 39 59.9 -0.2**
CMAR	**Chiang Mai Arr**	**54.88 298**	P	**P**	**18 39 59.2 -0.8**
	comp=Z,2.3nm,0.6s,baz=121,slow=5.8,SNR=10.0				
CMAR			LR	LR	19 04 44.0
	comp=Z,1μm,20.0s,baz=105,slow=37				
CMAR			PKP2bc		19 10 20.6
	comp=Z,1.2nm,0.9s,baz=299,slow=4.6,SNR=5.4				
	comp=Z,2.3nm,0.6s				
CMAR	**Chiang Mai Arr**	**54.88 298**	*ce*P	**P**	**18 40 00.5 +0.4**
CMAR			pmax	pmax	
	comp=Z,6.0nm,0.6s				
BJT	**Baijiatuau**	**54.93 330**	P	**P**	**18 39 59.5 -0.6**
BJT	**Baijiatuau**	**54.93 330**	IAms_20	IAms_20	19 02 56.4
	comp=Z,11μm,20.0s				
BJI	**Beijing**	**54.94 330**	P	**P**	**18 39 58.9 -1.3**
BJI			S	**S**	**18 47 36.8 -1.6**
BJI			pmax	pmax	
	comp=Z,7.0nm,0.9s				
BJI			pmax	pmax	
	comp=Z,450nm,6.0s				
BJI			LR	LR	
	comp=Z,4μm,19.6s				
BJI			LR	LR	
	comp=Z,3μm,19.2s				
BJI			LR	LR	
	comp=Z,6μm,19.6s				
XAN	**Xi'an**	**54.95 320**	⇓P	**P**	**18 39 59.8 -0.7**
XAN			pP	pP	18 40 13.8 -0.4
XAN			PP	**PP**	**18 42 01.9 -2.1**
XAN			S	**S**	**18 47 36.5 -2.4**
XAN			ScS	**ScS**	**18 49 40.9 -4.8**
XAN			pmax	pmax	
	comp=Z,34nm,1.5s				
XAN			pmax	pmax	
	comp=Z,1μm,10.2s				
XAN			LR	LR	
	comp=Z,7μm,20.8s				
XAN			LR	LR	
	comp=Z,4μm,20.6s				
XAN			LR	LR	
	comp=Z,6μm,20.6s				
CHTO	**Chiang Mai**	**55.01 298**	P	**P**	**18 40 00.6 -0.5**
CHTO	**Chiang Mai**	**55.01 298**	P	**P**	**18 40 00.6 -0.5**
CHTO			pmax	pmax	
	comp=Z,37nm,1.2s				
CHTO			MLR	MLR	
	comp=Z,2μm,21.0s				
BNX	**BinXian**	**55.12 342**	⇓P	**P**	**18 40 01.8 +0.4**
BNX			pP	**sP**	**18 40 18.3 -2.5**
BNX			PP	**PP**	**18 42 09.8 +4.5**
BNX			S	**S**	**18 47 42.1 +1.4**
BNX			pmax	pmax	
	comp=Z,31nm,1.0s				
BNX			pmax	pmax	
	comp=Z,1μm,7.3s				
BNX			LR	LR	
	comp=Z,2μm,19.0s				
BNX			LR	LR	
	comp=Z,2μm,23.3s				
BNX			LR	LR	
	comp=Z,4μm,19.5s				
TIY	**Taiyuan**	**55.26 325**	*e*P	**P**	**18 40 02.8 +0.2**
TIY			S	**S**	**18 47 36.9 -6.0**
TIY			pmax	pmax	
	comp=Z,1μm,10.5s				
TIY			LR	LR	
	comp=Z,5μm,22.0s				
TIY			LR	LR	
	comp=Z,6μm,20.6s				
TIY			LR	LR	
	comp=Z,9μm,22.0s				
UGL	**Uglegorsk**	**55.37 355**	*d i*P	**P**	**18 40 05.4 +2.4**
UGL			*e*S	**S**	**18 47 46.3 +2.5**
UGL			pmax	pmax	
	comp=Z,1μm,6.0s				
UGL			smax	smax	
	comp=N,2μm,15.0s				
UGL			smax	smax	
	comp=E,1μm,15.0s				
UGL			MLR	MLR	
	comp=E,1μm,17.0s				
UGL			MLR	MLR	
	comp=N,2μm,20.0s				
UGL			MLR	MLR	
	comp=Z,3μm,18.0s				
PZH	**PanZhiHua**	**55.95 308**	P	**P**	**18 40 08.8 +1.0**
PZH			sP	**pP**	**18 40 23.3 +1.7**
PZH			S	**S**	**18 47 51.0 -1.6**
PZH			pmax	pmax	
	comp=Z,120nm,1.6s				
PZH			pmax	pmax	
	comp=Z,330nm,7.3s				
PZH			LR	LR	
	comp=Z,3μm,19.8s				
PZH			LR	LR	
	comp=Z,2μm,18.8s				
PZH			LR	LR	
	comp=Z,3μm,19.2s				
CD2	**Chengdu**	**56.67 313**	P	**P**	**18 40 10.4 -2.4**
CD2			pP	pP	18 40 23.5 -3.0
CD2			sP	sP	18 40 25.8 -6.4
CD2			PP	**PP**	**18 42 21.5 +2.1**
CD2			S	**S**	**18 48 00.4 -1.4**
CD2			sS	pS	18 48 19.4 +1.6
CD2			pmax	pmax	
	comp=Z,20nm,0.6s				
CD2			pmax	pmax	
	comp=Z,1μm,9.4s				
CD2			LR	LR	
	comp=Z,5μm,21.2s				
CD2			LR	LR	
	comp=Z,5μm,21.4s				
CD2			LR	LR	
	comp=Z,5μm,19.8s				
SKR	**Severo-Kuril's**	**57.03 6**	*e*P	**P**	**18 40 15.1 +0.3**
SKR			*e*S	**S**	**18 48 06.9 +1.2**
SKR			*e*SSS	SSS	18 54 12.6
SKR			pmax	pmax	
	comp=Z,30nm,1.1s				
SKR			pmax	pmax	
	comp=Z,1.0nm,7.4s				
SKR			MLR	MLR	
	comp=Z,4μm,19.0s				
TYV	**Tymovskoe**	**57.09 355**	*e*P	**P**	**18 40 16.0 +0.7**
TYV			*e*S	**S**	**18 48 09.3 +2.7**
TYV			pmax	pmax	
	comp=Z,26nm,1.0s				
TYV			pmax	pmax	
	comp=Z,500nm,3.9s				
TYV			smax	smax	
	comp=N,400nm,6.9s				
TYV			smax	smax	
	comp=E,300nm,6.9s				
TYV			MLR	MLR	
	comp=N,4μm,21.0s				
KLR	**Kul'dur**	**57.17 347**	P	**P**	**18 40 16.2 +0.2**
	comp=N,17nm,0.6s,baz=186,slow=3.4,SNR=43				
KLR			LR	LR	19 02 58.2
	comp=N,5μm,21.2s,baz=160,slow=34				
	comp=N,17nm,0.6s				
KLR	**Kul'dur**	**57.17 347**	*ce*P	**P**	**18 40 15.7 -0.2**
KLR			pmax	pmax	
	comp=Z,80nm,1.7s				
GRNR	**Gornyy**	**57.74 351**	⇓*i*P	**P**	**18 40 21.1 +1.2**
GRNR			pmax	pmax	
	comp=Z,10.0nm,0.8s				
GRNR			MLR	MLR	
	comp=E,2μm,20.0s				
TNCH	**TengChong**	**57.87 305**	P	**P**	**18 40 20.3 -1.2**
TNCH			pP	pP	18 40 29.8 -5.4
TNCH			sP	sP	18 40 33.6 -7.3
TNCH			PP	**PP**	**18 42 30.4 +0.1**
TNCH			ScP	**ScP**	**18 45 08.8 -0.9**
TNCH			S	**S**	**18 48 15.9 -2.2**
TNCH			sS	pS	18 48 32.0 -2.2
TNCH			pmax	pmax	
	comp=E,9.0nm,0.8s				
TNCH			pmax	pmax	
	comp=E,460nm,8.0s				
TNCH			LR	LR	
	comp=E,1μm,16.9s				
TNCH			LR	LR	
	comp=E,960nm,18.5s				
TNCH			LR	LR	
	comp=E,3μm,20.2s				
HHC	**Hu-ho-hao-te**	**57.93 327**	*e*P	**P**	**18 40 21.0 -0.6**
HHC			sP	pP	18 40 37.3 +1.9
HHC			S	**S**	**18 48 22.0 +3.7**
HHC			sS	sS	18 48 38.8 -2.3
HHC			pmax	pmax	
	comp=E,14nm,0.6s				
HHC			pmax	pmax	
	comp=E,510nm,6.3s				
HHC			LR	LR	
	comp=E,5μm,22.2s				
HHC			LR	LR	
	comp=E,7μm,21.4s				
HHC			LR	LR	
	comp=E,12μm,22.2s				
XLT	**XiLinHaoTe**	**57.94 333**	*e*P	**P**	**18 40 20.4 -1.2**
XLT			PcP	**PcP**	**18 41 16.0 +2.7**
XLT			PP	**PP**	**18 42 33.3 +2.8**
XLT			S	**S**	**18 48 13.0 -5.2**
XLT			sS	sS	18 48 38.8 -2.8
XLT			ScS	**ScS**	**18 50 01.5 -5.5**
XLT			pmax	pmax	
	comp=E,17nm,0.7s				
XLT			pmax	pmax	
	comp=E,560nm,5.4s				
XLT			LR	LR	
	comp=E,550nm,21.3s				
XLT			LR	LR	
	comp=E,3μm,26.4s				
XLT			LR	LR	
	comp=E,9μm,23.4s				
BTO	**Baotou**	**58.61 326**	*e*P	**P**	**18 40 28.6 +2.3**
BTO			PP	**PP**	**18 42 39.8 +3.3**
BTO			S	**S**	**18 48 29.0 +1.9**
BTO			SS	**SS**	**18 52 23.0 +2.3**
BTO			pmax	pmax	
	comp=E,25nm,0.9s				
BTO			pmax	pmax	
	comp=E,2μm,11.6s				
BTO			LR	LR	
	comp=E,19μm,22.2s				
BTO			LR	LR	
	comp=E,12μm,23.1s				
BTO			LR	LR	
	comp=E,29μm,21.3s				
KIP	**Kipapa**	**58.99 61**	IAms_20	IAms_20	19 01 01.9
	comp=Z,6μm,21.0s				
HEH	**HeiHe**	**59.20 344**	*e*P	**P**	**18 40 28.9 -1.2**
HEH			sP	**pP**	**18 40 43.6 -0.3**
HEH			S	**S**	**18 48 33.3 -0.8**
HEH			pmax	pmax	
	comp=Z,31nm,0.8s				
HEH			pmax	pmax	
	comp=Z,1μm,11.1s				
HEH			LR	LR	
	comp=Z,3μm,21.6s				
HEH			LR	LR	
	comp=Z,3μm,19.1s				
HEH			LR	LR	
	comp=Z,6μm,19.6s				
LZH	**Lanzhou**	**59.51 318**	*e*P	**P**	**18 40 32.9 +0.2**
LZH			pP	pP	18 40 45.3 -1.2
LZH			S	**S**	**18 48 35.5 -3.5**
LZH			sS	pS	18 48 54.3 -1.0
LZH			SS	**SS**	**18 52 34.9 -0.2**
LZH			pmax	pmax	
	comp=Z,30nm,1.0s				
LZH			pmax	pmax	
	comp=Z,1μm,6.0s				
LZH			LR	LR	
	comp=Z,3μm,18.6s				
LZH			LR	LR	
	comp=Z,5μm,19.2s				
LZH			LR	LR	
	comp=Z,11μm,18.2s				
NKL	**Nikolayevsk**	**59.53 354**	*e*P	**P**	**18 40 29.5 -2.8**
NKL			*e*S	**S**	**18 48 43.5 +5.2**
NKL			pmax	pmax	
	comp=N,104nm,1.2s				
NKL			pmax	pmax	
	comp=E,60nm,1.1s				
NKL			pmax	pmax	
	comp=Z,147nm,1.1s				
NKL			smax	smax	
	comp=E,131nm,2.3s				
NKL			smax	smax	
	comp=N,170nm,4.5s				
NKL			MLR	MLR	
	comp=E,5μm,19.0s				
PET	**Petropavlovsk**	**59.61 7**	P	**P**	**18 40 35.1 +2.3**
PET	**Petropavlovsk**	**59.61 7**	P	**P**	**18 40 33.6 +0.8**
PET			IAmb	IAmb	18 40 48.2
	comp=Z,63nm,1.0s				
PET	**Petropavlovsk**	**59.61 7**	*c i*P	**P**	**18 40 32.8 0.0**
PET			*e*PP	**sP**	**18 40 50.9 -1.5**
PET			*e*		18 41 16.6
PET			*e*		18 42 52.6
PET			*e*S	**S**	**18 48 40.1 +0.8**
PET			*e*SS	**SS**	**18 52 33.6 -2.2**
PET			pmax	pmax	
	comp=Z,700nm,6.7s				
PET			pmax	pmax	
	comp=Z,67nm,1.0s				
PET			pmax	pmax	
	comp=Z,1μm,16.2s				
PET			pmax	pmax	
	comp=Z,500nm,15.0s				
PET			MLR	MLR	
	comp=Z,4μm,18.0s				
PET			MLR	MLR	
	comp=Z,3μm,20.0s				
PET	**Petropavlovsk**	**59.61 7**	P	**P**	**18 40 33.5 +0.7**
PET			pP	**pP**	**18 40 46.4 -0.3**
POHA	**Pohakuloa**	**60.59 63**	IAms_20	IAms_20	19 02 01.3
	comp=Z,9μm,22.0s				
DRV	**Dumont d'Urvil**	**60.65 184**	P	**P**	**18 40 40.5 +0.8**
HIA	**Hailar**	**60.77 339**	IAmb	IAmb	18 40 55.8
	comp=Z,49nm,0.8s				
HIA	**Hailar**	**60.77 339**	P	**P**	**18 40 41.2 +0.3**
HIA			pP	**pP**	**18 40 54.4 -0.4**
HIA			sP	**sP**	**18 41 00.8 +0.3**
PAE	**Paea**	**61.18 107**	*e*S	**S**	**18 48 54.7 -6.0**
	comp=Z,311nm,26.1s				
PAE			*e*LQ	LQ	18 56 11.5
	comp=Z,733nm,24.7s				
PAE			*e*LR	LR	18 58 44.9
	comp=Z,1μm,25.2s				
PPT	**Papeete**	**61.18 107**	LR	LR	19 03 12.9
	comp=Z,2μm,20.3s,baz=263,slow=32				
PPT2	**Papeete2**	**61.18 107**	*e*P	**P**	**18 40 44.8 +0.4**
	comp=Z,1μm,25.5s				
PPT2	**Papeete2**	**61.18 107**	*e*PP	**PP**	**18 43 00.6 +1.0**
	comp=Z,690nm,25.8s				
PPT2			*e*S	**S**	**18 48 56.9 -4.0**
	comp=Z,523nm,26.6s				
PPT2			*e*S	S	18 48 58.9 -2.0
	comp=Z,4μm,40.8s				
PPT2			*e*LQ	LQ	18 56 17.5
	comp=Z,1μm,24.8s				
PPT2			*e*LQ	LQ	18 56 18.3
	comp=Z,6μm,29.2s				
PPT2			*e*LR	LR	18 58 48.7
	comp=Z,8μm,26.5s				
PPT2			*e*LR	LR	18 58 52.2
	comp=Z,2μm,24.7s				
PPT2			*e*LR	LR	18 58 57.2
	comp=Z,5μm,27.2s				
SAIH	**SAIHA**	**61.53 300**	*e*P	**P**	**18 40 45.3 -1.5**
SAIH			IAmb	IAmb	18 40 51.8
	comp=Z,37nm,0.9s				
TBI	**Tubuai**	**61.70 113**	*e*P	**P**	**18 40 50.4 +2.7**
	comp=Z,4μm,27.8s				
TBI	**Tubuai**	**61.70 113**	*e*PP	**PP**	**18 43 02.5 -1.5**
	comp=Z,3μm,28.0s				
TBI			*e*S	**S**	**18 49 04.9 -2.2**
	comp=Z,7μm,26.8s				
TBI			*e*SS	**SS**	**18 53 10.9 +1.4**
	comp=Z,10μm,30.8s				
TBI			*e*LQ	LQ	18 56 23.4
	comp=Z,3μm,23.6s				
TBI			*e*LQ	LQ	18 56 26.6
	comp=Z,24μm,35.2s				
TBI			*e*LR	LR	18 59 05.5
	comp=Z,9μm,36.8s				
TBI			*e*LR	LR	18 59 06.7
	comp=Z,50μm,35.8s				
TBI			*e*LR	LR	18 59 15.3
	comp=Z,3μm,23.4s				
KOHI	**KOHIMA**	**61.79 303**	*e*P	**P**	**18 40 45.5 -3.0**
KOHI			IAmb	IAmb	18 40 51.2
	comp=Z,32nm,0.4s				
KOHI			*i* S	S	18 49 17.5 +9.1
ZEA	**Zeya**	**62.42 346**	*e*P	**P**	**18 40 52.7 +0.8**
ZEA			*e*		18 41 11.4
ZEA			*e*		18 43 13.0
ZEA			*e*S	**S**	**18 49 19.3 +4.3**
ZEA			*e*PS	**PnS**	**18 49 49.7 +13**
ZEA			pmax	pmax	
	comp=N,300nm,5.9s				
ZEA			pmax	pmax	
	comp=Z,600nm,6.1s				
ZEA			pmax	pmax	
	comp=N,30nm,0.9s				
ZEA			pmax	pmax	
	comp=Z,60nm,1.0s				
ZEA			smax	smax	
	comp=E,400nm,8.4s				
ZEA			smax	smax	
	comp=N,800nm,10.8s				
ZEA			MLR	MLR	
	comp=N,2μm,18.0s				
ZEA			MLR	MLR	
	comp=E,1μm,18.0s				
ZEA			MLR	MLR	
	comp=Z,2μm,17.0s				
SHEM	**Shemya Is, Ala**	**62.55 17**	LR	LR	19 04 12.2
	comp=Z,3μm,21.9s,baz=206,slow=32				
PMOR	**Pomariorio Ree**	**62.72 104**	*e*P	**P**	**18 40 55.8 +1.1**
	comp=Z,316nm,1.2s				
PMOR	**Pomariorio Ree**	**62.72 104**	*e*LQ	LQ	18 56 44.0
	comp=Z,4μm,25.0s				
PMOR			*e*LR	LR	18 59 35.7
	comp=Z,6μm,25.1s				
VAH	**Vaihoa**	**62.98 104**	*e*LR	LR	18 59 41.8
	comp=Z,5μm,22.0s				
SHL	**Shillong**	**63.59 302**	IAmb	IAmb	18 42 28.9
	comp=Z,57nm,1.1s				
SHL	**Shillong**	**63.59 302**	*e*P	**P**	**18 40 58.5 -2.0**
GTA	**Gaotai**	**64.02 319**	P	**P**	**18 41 02.4 -0.6**
GTA			pP	pP	18 41 11.8 -5.1
GTA			sP	sP	18 41 16.1 -6.5
GTA			PP	**PP**	**18 43 19.8 -4.6**
GTA			S	**S**	**18 49 34.8 -1.1**
GTA			sS	pS	18 49 54.0 +1.4
GTA			pmax	pmax	
	comp=Z,9.0nm,1.0s				
GTA			pmax	pmax	
	comp=Z,710nm,7.1s				
GTA			LR	LR	
	comp=Z,2μm,21.1s				
GTA			LR	LR	
	comp=Z,3μm,20.0s				
GTA			LR	LR	
	comp=Z,3μm,21.4s				
TAWA	**Tawang**	**64.36 304**	IAmb	IAmb	18 42 06.2
	comp=Z,29nm,0.6s				
TAWA			*i* x	x	18 51 09.6
ADK	**Adak**	**64.98 23**	P	**P**	**18 41 10.1 +1.3**
ADK	**Adak**	**64.98 23**	P	**P**	**18 41 09.0 +0.2**
ADK	**Adak**	**64.98 23**	IAms_20	IAms_20	19 04 57.3
	comp=Z,5μm,21.0s				
ADK	**Adak**	**64.98 23**	P	**P**	**18 41 09.0 +0.2**
ADK			pmax	pmax	
	comp=Z,94nm,1.1s				
ADK			MLR	MLR	
	comp=Z,5μm,21.0s				
ADK	**Adak**	**64.98 23**	P	**P**	**18 41 10.2 +1.5**
ADK			sP	**sP**	**18 41 29.4 +0.9**
ULN	**Ulaanbaatar**	**65.14 330**	P	**P**	**18 41 10.0 -0.1**
ULN	**Ulaanbaatar**	**65.14 330**	IAms_20	IAms_20	19 08 33.5
	comp=Z,8μm,21.0s				
ULN	**Ulaanbaatar**	**65.14 330**	*ce*P	**P**	**18 41 10.7 +0.6**
ULN			pmax	pmax	
	comp=Z,32nm,1.7s				
ULN	**Ulaanbaatar**	**65.14 330**	P	**P**	**18 41 10.0 -0.1**
ULN			pP	**pP**	**18 41 23.3 -0.9**
ULN			sP	**sP**	**18 41 29.1 -0.6**
CIT	**Chita**	**65.32 337**	*e*P	**P**	**18 41 11.3 +0.2**
CIT			*e*		18 41 23.1
CIT			*e*		18 41 33.3
CIT			*e*		18 41 41.1
CIT			*e*		18 43 40.8
CIT			*e*		18 50 15.6
SONM	**Songino Array**	**65.44 330**	P	**P**	**18 41 12.3 +0.2**
SONM			IAmb	IAmb	18 41 49.3
	comp=Z,33nm,1.2s				
SONM	**Songino Array**	**65.44 330**	P	**P**	**18 41 11.1 -1.0**
	comp=Z,7.8nm,0.5s,baz=134,slow=6.5,SNR=21				
SONM			LR	LR	19 08 45.8
	comp=Z,10μm,20.8s,baz=131,slow=35				
SONM			PKP2bc		19 09 55.2
	comp=Z,7.3nm,1.1s,baz=242,slow=1.9,SNR=12				
	comp=Z,7.8nm,0.5s				
SONM	**Songino Array**	**65.44 330**	P	**P**	**18 41 12.3 +0.2**
SONM			pmax	pmax	
	comp=Z,33nm,1.2s				
CASY	**Casey**	**65.52 196**	P	**P**	**18 41 12.1 0.0**
CASY			IAmb	IAmb	18 41 13.8
	comp=Z,48nm,0.8s				
CASY	**Casey**	**65.52 196**	P	**P**	**18 41 12.2 +0.2**
CASY			pP	**pP**	**18 41 25.6 +0.7**

MA2	**Magadan**	**65.60**	**1**	P	**P**	**18 41 14.8**	**+2.1**
MA2	**Magadan**	**65.60**	**1**	P	**P**	**18 41 13.2**	**+0.6**
MA2				IAmb	IAmb	18 41 17.8	
	comp=Z,58nm,0.9s						
MA2	**Magadan**	**65.60**	**1**	LR	LR	19 12 16.7	
	comp=Z,3μm,18.1s,baz=188,slow=38						
MA2	**Magadan**	**65.60**	**1**	*ce*P	**P**	**18 41 12.0**	**-0.7**
MA2				pmax	pmax		
	comp=Z,87nm,1.3s						
MA2	**Magadan**	**65.60**	**1**	P	**P**	**18 41 12.2**	**-0.4**
LSA	**Lhasa**	**65.75**	**306**	P	**P**	**18 41 14.8**	**-0.1**
LSA				S	**S**	**18 50 00.4**	**+2.2**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s						
LSA				LR	LR		
	comp=Z,980nm,25.9s						
LSA				LR	LR		
	comp=Z,1μm,25.2s						
LSA				LR	LR		
	comp=Z,3μm,26.6s						
LSA	**Lhasa**	**65.75**	**306**	IAmb	IAmb	18 41 19.5	
	comp=Z,29nm,0.6s						
GOMU	**GeErMu**	**65.77**	**314**	P	**P**	**18 41 16.8**	**+2.0**
GOMU				pP	pP	18 41 21.0	-7.8
GOMU				sP	sP	18 41 27.8	-6.6
GOMU				PcP	**PcP**	**18 41 49.3**	**+3.7**
GOMU				S	**S**	**18 49 58.9**	**+0.8**
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GOMU				LR	LR		
	comp=Z,2μm,18.9s						
GOMU				LR	LR		
	comp=Z,4μm,21.4s						
GOMU				LR	LR		
	comp=Z,5μm,20.2s						
ATKA	**Atka Island**	**66.21**	**24**	P	**P**	**18 41 20.1**	**+3.4**
GTK	**Tadong**	**66.96**	**303**	*e*P	**P**	**18 41 21.6**	**-0.6**
GTK				IAmb	IAmb	18 41 22.1	
	comp=Z,14nm,1.0s						
ZAK	**Zakamensk**	**68.66**	**331**	*e*P	**P**	**18 41 31.5**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,34nm,1.2s						
NIKH	**Nikolski High**	**69.01**	**26**	P	**P**	**18 41 34.5**	**+0.1**
	baz=226						
SEY	**Seymchan**	**69.01**	**2**	LR	LR	19 13 12.5	
	comp=Z,4μm,18.7s,baz=178,slow=37						
SEY	**Seymchan**	**69.01**	**2**	*e*P	**P**	**18 41 35.0**	**+0.8**
SEY				pmax	pmax		
	comp=Z,30nm,1.3s						
PALK	**Pallekele**	**69.18**	**280**	LR	LR	19 14 49.1	
	comp=Z,2μm,20.9s,baz=214,slow=38						
IRK	**Irkutsk**	**69.42**	**333**	*e*P	**P**	**18 41 35.9**	**-1.1**
IRK				pmax	pmax		
	comp=Z,81nm,2.2s						
YAK	**Yakutsk**	**69.62**	**351**	P	**P**	**18 41 38.2**	**+0.2**
YAK				IAmb	IAmb	18 41 58.3	
	comp=Z,77nm,1.2s						
YAK				IAMs_20	IAMs_20	19 08 55.1	
	comp=Z,5μm,22.0s						
YAK	**Yakutsk**	**69.62**	**351**	LR	LR	19 14 30.0	
	comp=Z,2μm,18.0s,baz=156,slow=38						
YAK	**Yakutsk**	**69.62**	**351**	*ce*P	**P**	**18 41 36.8**	**-1.2**
YAK				pmax	pmax		
	comp=Z,59nm,1.7s						
BOD	**Bodaibo**	**69.73**	**341**	*e*P	**P**	**18 41 39.4**	**+0.7**
BOD				pmax	pmax		
	comp=Z,30nm,1.9s						
CCD	**Concordia, Ant**	**70.36**	**187**	P	**P**	**18 41 43.4**	**+0.6**
MOY	**Mondy**	**70.60**	**331**	*e*P	**P**	**18 41 44.7**	**+0.4**
MOY				pmax	pmax		
	comp=Z,71nm,2.3s						
UNV	**Unalaska Valle**	**70.63**	**26**	P	**P**	**18 41 47.2**	**+2.9**
UNV	**Unalaska Valle**	**70.63**	**26**	P	**P**	**18 41 43.7**	**-0.6**
	baz=228						
P08K	**Saint George I**	**71.29**	**23**	P	**P**	**18 41 47.9**	**-0.3**
	baz=224						
SPIA	**Saint Paul Isl**	**71.44**	**22**	P	**P**	**18 41 50.2**	**+1.1**
	baz=224						
VNDA	**Vanda**	**71.60**	**177**	P	**P**	**18 41 50.6**	**+0.7**
VNDA				IAmb	IAmb	18 42 05.6	
	comp=Z,43nm,0.8s						
VNDA	**Vanda**	**71.60**	**177**	P	**P**	**18 41 50.8**	**+0.9**
	comp=Z,24nm,0.8s,baz=333,slow=7.3,SNR=44						
VNDA				LR	LR	19 09 25.3	
	comp=Z,3μm,20.7s,baz=356,slow=32						
	comp=Z,24nm,0.8s						
VNDA	**Vanda**	**71.60**	**177**	P	**P**	**18 41 50.6**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,43nm,0.9s						
VNDA	**Vanda**	**71.60**	**177**	P	**P**	**18 41 50.5**	**+0.6**
VNDA				pP	**pP**	**18 42 04.8**	**+2.1**
SBA	**Scott Base**	**72.22**	**176**	P	**P**	**18 41 55.0**	**+1.4**
SBA				IAmb	IAmb	18 42 10.5	
	comp=Z,93nm,1.2s						
SBA	**Scott Base**	**72.22**	**176**	P	**P**	**18 41 55.0**	**+1.4**
SBA				pmax	pmax		
	comp=Z,93nm,1.3s						
SALM	**Salem**	**72.36**	**284**	*e*P	**P**	**18 41 58.0**	**+2.5**
FALS	**False Pass**	**72.66**	**27**	P	**P**	**18 41 57.8**	**+1.3**
	baz=230						
HYB	**Hyderabad**	**73.15**	**290**	*e*P	**P**	**18 42 01.2**	**+0.9**
S12K	**Black Hills**	**73.80**	**27**	IAMs_20	IAMs_20	19 08 09.8	
	comp=Z,4μm,22.0s						
S12K	**Black Hills**	**73.80**	**27**	P	**P**	**18 42 02.5**	**-0.7**
	baz=232,SNR=6.2						
WMQ	**Urumqi**	**74.08**	**319**	⇑P	**P**	**18 42 04.3**	**-1.0**
WMQ				S	**SKiKP**	**18 51 31.8**	**+2.5**
WMQ				sS	pS	18 51 53.6	+1.5
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,700nm,5.9s						
WMQ				LR	LR		
	comp=Z,2μm,15.5s						
WMQ				LR	LR		
	comp=Z,2μm,22.5s						
WMQ				LR	LR		
	comp=Z,2μm,19.5s						
SDPT	**Sand Point**	**74.30**	**27**	P	**P**	**18 42 05.0**	**-1.1**
	baz=233						
CHNA	**Chernabura Isl**	**74.40**	**28**	P	**P**	**18 42 07.4**	**+0.7**
	baz=234						
LGTI	**Lohaghat**	**74.61**	**303**	*e*P	**P**	**18 42 07.2**	**-1.3**
PTH	**Pithoragarh**	**74.67**	**303**	*e*P	**P**	**18 42 07.5**	**-1.6**
JHNI	**Jhansi**	**75.02**	**298**	*e*P	**P**	**18 42 07.8**	**-3.2**
BILL	**Bilibino**	**75.11**	**7**	P	**P**	**18 42 12.3**	**+1.7**
BILL				IAmb	IAmb	18 42 14.8	
	comp=Z,26nm,0.7s						
BILL	**Bilibino**	**75.11**	**7**	*ce*P	**P**	**18 42 10.3**	**-0.3**
BILL				*e*		18 45 03.3	
BILL				*e*PPP	PPP	18 46 48.4	
BILL				pmax	pmax		
	comp=Z,35nm,1.0s						
M11K	**Mekoryuk**	**75.20**	**21**	P	**P**	**18 42 11.7**	**+0.4**
	baz=227						
S14K	**Fog Glacier**	**75.27**	**27**	P	**P**	**18 42 12.6**	**+0.8**
	baz=234						
AKL	**Akola**	**75.28**	**293**	*e*P	**P**	**18 42 14.4**	**+1.9**
H08S2	**Diego Garcia H**	**75.61**	**264**	P	**P**	**18 42 15.5**	**+1.3**
	baz=54,slow=7.7,SNR=6.1						
H08S3	**Diego Garcia H**	**75.62**	**264**	P	**P**	**18 42 15.6**	**+1.3**
	baz=54,slow=7.7,SNR=6.3						
H08S1	**Diego Garcia H**	**75.62**	**264**	P	**P**	**18 42 15.4**	**+1.0**
	baz=54,slow=7.7,SNR=7.1						
CHGN	**Chignik**	**75.80**	**27**	P	**P**	**18 42 14.8**	**+0.1**
	baz=235						
M13K	**Dall Lake**	**76.27**	**22**	P	**P**	**18 42 18.2**	**+0.9**
	baz=229,SNR=18						
O14K	**Tigyukauivet M**	**76.35**	**24**	IAMs_20	IAMs_20	19 11 33.0	
	comp=Z,6μm,21.0s						
O14K	**Tigyukauivet M**	**76.35**	**24**	P	**P**	**18 42 16.5**	**-1.3**
	baz=232,SNR=22						
N14K	**Kuskokwak Cree**	**76.60**	**23**	P	**P**	**18 42 18.2**	**-1.0**
	baz=231						
CHIR	**Chirikof Islan**	**76.83**	**29**	IAMs_20	IAMs_20	19 19 58.0	
	comp=Z,4μm,20.0s						
CHIR	**Chirikof Islan**	**76.83**	**29**	P	**P**	**18 42 19.2**	**-1.4**
	baz=237						
O15K	**Ungalikthiuk R**	**76.89**	**24**	P	**P**	**18 42 20.2**	**-0.7**
	baz=233,SNR=21						
M14K	**Bethel**	**77.02**	**22**	P	**P**	**18 42 20.9**	**-0.6**
	baz=231,SNR=28						
L14K	**Kuka Creek**	**77.13**	**22**	P	**P**	**18 42 21.5**	**-0.6**
	baz=230,SNR=36						
N15K	**Kwethluk River**	**77.38**	**24**	IAMs_20	IAMs_20	19 12 37.2	
	comp=Z,6μm,21.0s						
N15K	**Kwethluk River**	**77.38**	**24**	P	**P**	**18 42 22.3**	**-1.3**
	baz=232,SNR=23						
ZSN	**Zaisan**	**77.40**	**321**	*e*P	**P**	**18 42 24.0**	**0.0**
	baz=321						
ZSN	**Zaisan**	**77.40**	**321**	*e*P	**P**	**18 42 24.0**	**0.0**
M15K	**Kasigluk River**	**77.47**	**23**	P	**P**	**18 42 22.6**	**-1.5**
	baz=232,SNR=18						
R17L	**Mt. Peulik Vol**	**77.48**	**27**	P	**P**	**18 42 22.2**	**-2.0**
	baz=236,SNR=11						
PLK4	**Peulik 4**	**77.48**	**27**	IAMs_20	IAMs_20	19 12 05.9	
	comp=Z,4μm,21.0s						
P16K	**Nushagak River**	**77.56**	**25**	P	**P**	**18 42 24.1**	**-0.5**
	baz=235						
SMLA	**Simla**	**77.63**	**304**	*e*P	**P**	**18 42 25.1**	**-0.6**
J14K	**Nanvaranak Lak**	**77.73**	**20**	IAMs_20	IAMs_20	19 12 11.4	
	comp=Z,7μm,21.0s						
J14K	**Nanvaranak Lak**	**77.73**	**20**	P	**P**	**18 42 24.7**	**-0.8**
	baz=229,SNR=6.5						
L15K	**Ungalak Mounta**	**77.78**	**22**	P	**P**	**18 42 23.9**	**-1.9**
	baz=231,SNR=6.1						
O16K	**Kokwok River B**	**77.85**	**25**	P	**P**	**18 42 24.5**	**-1.7**
	baz=234,SNR=11						
SII	**Sitkinak Islan**	**77.90**	**28**	P	**P**	**18 42 24.2**	**-2.5**
	baz=239						
Q16K	**King Salmon**	**77.93**	**26**	P	**P**	**18 42 24.9**	**-1.7**
	baz=236						
Q17K	**Contact Creek**	**78.04**	**26**	P	**P**	**18 42 24.9**	**-2.5**
	baz=237,SNR=25						
N16K	**Nishlik Lake**	**78.09**	**24**	P	**P**	**18 42 26.2**	**-1.4**
	baz=234,SNR=22						
K15K	**Wolf Creek Mou**	**78.16**	**21**	IAMs_20	IAMs_20	19 11 30.6	
	comp=Z,4μm,21.0s						
K15K	**Wolf Creek Mou**	**78.16**	**21**	P	**P**	**18 42 27.2**	**-0.7**
	baz=231,SNR=22						
TNA	**Tin City**	**78.29**	**17**	P	**P**	**18 42 27.5**	**-1.0**
	baz=224						
P17K	**Kvichak River**	**78.32**	**25**	P	**P**	**18 42 28.1**	**-0.7**
	baz=236						
M16K	**Timber Creek**	**78.34**	**23**	IAMs_20	IAMs_20	19 13 04.6	
	comp=Z,5μm,21.0s						
M16K	**Timber Creek**	**78.34**	**23**	P	**P**	**18 42 28.6**	**-0.3**
	baz=233,SNR=35						
ANM	**Nome**	**78.36**	**18**	IAMs_20	IAMs_20	19 13 04.8	
	comp=Z,6μm,21.0s						
ANM	**Nome**	**78.36**	**18**	P	**P**	**18 42 27.3**	**-1.7**
	baz=227						
O17K	**Koliganek Bris**	**78.37**	**25**	P	**P**	**18 42 26.9**	**-2.2**
	baz=235,SNR=20						
L16K	**Owhat River**	**78.56**	**22**	P	**P**	**18 42 29.2**	**-0.9**
	baz=233,SNR=15						
DHRM	**DHARAMSHALA**	**78.63**	**305**	*e*P	**P**	**18 42 29.5**	**-2.0**
Q18K	**Katmai Hardscr**	**78.64**	**26**	P	**P**	**18 42 28.8**	**-2.0**
	baz=238,SNR=23						
OHAK	**Old Harbor**	**78.67**	**28**	P	**P**	**18 42 32.2**	**+1.4**
OHAK	**Old Harbor**	**78.67**	**28**	P	**P**	**18 42 29.2**	**-1.6**
	baz=239						
N17K	**Nushagak Hills**	**78.76**	**24**	IAMs_20	IAMs_20	19 13 07.7	
	comp=Z,5μm,21.0s						
N17K	**Nushagak Hills**	**78.76**	**24**	P	**P**	**18 42 30.9**	**-0.3**
	baz=235,SNR=15						
MK31	**Makanchi Array**	**78.77**	**320**	*ce*P	**P**	**18 42 29.9**	**-1.8**
MKAR	**Makanchi Array**	**78.77**	**320**	P	**P**	**18 42 29.9**	**-1.7**
MKAR	**Makanchi Array**	**78.77**	**320**	P	**P**	**18 42 29.6**	**-2.0**
	comp=Z,13nm,0.7s,baz=102,slow=7.1,SNR=45						
MKAR				PKP2bc		19 09 23.0	
	comp=Z,0.3nm,0.8s,baz=318,slow=1.9,SNR=2.1						
MKAR				LR	LR	19 15 47.3	
	comp=Z,2μm,21.6s,baz=100,slow=34						
	comp=Z,13nm,0.7s						
MKAR	**Makanchi Array**	**78.77**	**320**	P	**P**	**18 42 29.9**	**-1.7**
TIXI	**Tiksi**	**78.81**	**354**	LR	LR	19 14 24.1	
	comp=Z,2μm,22.0s,baz=174,slow=33						
TIXI	**Tiksi**	**78.81**	**354**	*i* P	**P**	**18 42 32.4**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,15nm,1.0s						
P18K	**Big Mountain,**	**78.94**	**26**	IAMs_20	IAMs_20	19 11 58.6	
	comp=Z,6μm,21.0s						
P18K	**Big Mountain,**	**78.94**	**26**	P	**P**	**18 42 30.1**	**-2.3**
	baz=237						
MAKZ	**Makanchi**	**78.97**	**320**	P	**P**	**18 42 30.4**	**-2.4**
MAKZ	**Makanchi**	**78.97**	**320**	P	**P**	**18 42 30.4**	**-2.4**
MAKZ				pmax	pmax		
	comp=Z,20nm,1.0s						
MAKZ				MLR	MLR		
	comp=Z,3μm,21.0s						
G15K	**Niukluk**	**79.07**	**19**	P	**P**	**18 42 31.4**	**-1.5**
	baz=228						
J16K	**Anvik River**	**79.11**	**21**	IAMs_20	IAMs_20	19 13 24.9	
	comp=Z,6μm,21.0s						
J16K	**Anvik River**	**79.11**	**21**	P	**P**	**18 42 31.8**	**-1.3**
	baz=232,SNR=7.3						
THN	**Thein Dam**	**79.16**	**305**	*e*P	**P**	**18 42 32.8**	**-1.2**
M17K	**Holitna River**	**79.16**	**23**	IAMs_20	IAMs_20	19 13 42.3	
	comp=Z,5μm,21.0s						
M17K	**Holitna River**	**79.16**	**23**	P	**P**	**18 42 33.5**	**+0.1**
	baz=235,SNR=18						
O18K	**Koktuh Hills**	**79.20**	**25**	P	**P**	**18 42 31.3**	**-2.5**
	baz=237,SNR=5.9						
L17K	**Donlin**	**79.26**	**22**	P	**P**	**18 42 31.8**	**-2.2**
	baz=234,SNR=20						
KDAK	**Kodiak Island**	**79.28**	**28**	P	**P**	**18 42 34.4**	**+0.2**
KDAK	**Kodiak Island**	**79.28**	**28**	P	**P**	**18 42 32.7**	**-1.4**
	baz=240						
KDAK	**Kodiak Island**	**79.28**	**28**	LR	LR	19 12 09.4	
	comp=Z,3μm,21.8s,baz=269,slow=31						
KDAK	**Kodiak Island**	**79.28**	**28**	*i* P	**P**	**18 42 32.5**	**-1.6**
KDAK				pmax	pmax		
	comp=Z,27nm,1.0s						
F15K	**North Star Dit**	**79.36**	**18**	IAMs_20	IAMs_20	19 13 35.4	
	comp=Z,4μm,21.0s						
F15K	**North Star Dit**	**79.36**	**18**	P	**P**	**18 42 32.4**	**-2.1**
	baz=227						
N18K	**Kilae Creek**	**79.37**	**24**	IAMs_20	IAMs_20	19 11 42.0	
	comp=Z,6μm,22.0s						
N18K	**Kilae Creek**	**79.37**	**24**	P	**P**	**18 42 34.1**	**-0.6**
	baz=236,SNR=6.4						
SHLS	**Shalkode**	**79.39**	**316**	*e*P	**P**	**18 42 33.2**	**-2.1**
	baz=316						
SHLS	**Shalkode**	**79.39**	**316**	*e*P	**P**	**18 42 33.2**	**-2.1**
Q19K	**Cape Douglas,**	**79.39**	**26**	IAmb	IAmb	18 42 48.2	
	comp=Z,76nm,1.0s						
Q19K				IAMs_20	IAMs_20	19 13 57.5	
	comp=Z,4μm,20.0s						
Q19K	**Cape Douglas,**	**79.39**	**26**	P	**P**	**18 42 32.9**	**-1.9**
	baz=239,SNR=7.4						
H16K	**Elim**	**79.42**	**19**	P	**P**	**18 42 33.3**	**-1.5**
	baz=230,SNR=6.3						
PDGK	**Podgornoye**	**79.42**	**316**	P	**P**	**18 42 33.3**	**-2.2**
I17K	**Unalakleet**	**79.46**	**20**	P	**P**	**18 42 33.3**	**-1.7**
	baz=231						
K17K	**Iditarod**	**79.60**	**22**	IAMs_20	IAMs_20	19 12 23.9	
	comp=Z,5μm,22.0s						
K17K	**Iditarod**	**79.60**	**22**	P	**P**	**18 42 34.1**	**-1.8**
	baz=234,SNR=30						
UZB	**Uzynbulak**	**79.69**	**316**	*e*P	**P**	**18 42 36.4**	**-0.5**
	baz=316						
UZB	**Uzynbulak**	**79.69**	**316**	*e*P	**P**	**18 42 36.4**	**-0.5**
J17K	**VABM Dome**	**79.72**	**21**	IAMs_20	IAMs_20	19 12 20.1	
	comp=Z,5μm,22.0s						
J17K	**VABM Dome**	**79.72**	**21**	P	**P**	**18 42 35.7**	**-0.7**
	baz=233,SNR=11						
Q20K	**Shuyak Island**	**79.78**	**27**	P	**P**	**18 42 34.2**	**-2.6**
	baz=240						
SYI	**Shuyak Island**	**79.79**	**27**	IAMs_20	IAMs_20	19 11 23.0	
	comp=Z,4μm,22.0s						
M18K	**Stony River**	**79.85**	**24**	P	**P**	**18 42 36.4**	**-0.8**
	baz=236,SNR=19						
G16K	**Koyuk River**	**79.87**	**19**	P	**P**	**18 42 35.7**	**-1.5**
	baz=230,SNR=6.9						
PRZ	**Przheval'sk**	**79.92**	**315**	IAmb	IAmb	18 43 43.5	
	comp=Z,35nm,1.0s						
L18K	**Granite Mounta**	**79.92**	**23**	P	**P**	**18 42 37.0**	**-0.6**
	baz=235,SNR=31						
P19K	**Oil Pt**	**79.94**	**26**	P	**P**	**18 42 35.9**	**-1.9**
	baz=239,SNR=5.6						
KPKS	**Kokpek**	**80.02**	**316**	*e*P	**P**	**18 42 38.3**	**-0.4**
	baz=316						
KPKS	**Kokpek**	**80.02**	**316**	*e*P	**P**	**18 42 38.2**	**-0.4**
N19K	**Bonanza Creek**	**80.03**	**25**	IAMs_20	IAMs_20	19 12 24.2	
	comp=Z,6μm,21.0s						
N19K	**Bonanza Creek**	**80.03**	**25**	P	**P**	**18 42 36.7**	**-1.5**
	baz=238,SNR=7.6						
SATY	**Saty**	**80.09**	**316**	*e*P	**P**	**18 42 38.6**	**-0.5**
	baz=316						
SATY	**Saty**	**80.09**	**316**	*e*P	**P**	**18 42 38.5**	**-0.5**
ZALV	**Zalesovo Beam**	**80.12**	**327**	P	**P**	**18 42 35.6**	**-3.2**
ZALV	**Zalesovo Beam**	**80.12**	**327**	P	**P**	**18 42 36.6**	**-2.2**
	comp=Z,12nm,0.5s,baz=117,slow=5.8,SNR=32						
ZALV				PKKPbc	**PKKPbc**	**19 01 22.0**	**-3.3**
	comp=Z,2.6nm,0.9s,baz=330,slow=2.4,SNR=4.8						
ZALV				PKPPKP	**P'P'df**	**19 09 24.7**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=333,slow=1.7,SNR=3.6						
ZALV				LR	LR	19 16 41.5	
	comp=Z,9μm,21.9s,baz=129,slow=35						
	comp=Z,12nm,0.5s						
ZALV	**Zalesovo Beam**	**80.12**	**327**	*i* P	**P**	**18 42 36.0**	**-2.8**
ZALV				pmax	pmax		
	comp=Z,12nm,0.5s						
H17K	**Granite Mounta**	**80.38**	**20**	P	**P**	**18 42 38.8**	**-1.1**
	baz=232,SNR=9.0						
G17K	**Kiwalik Mounta**	**80.49**	**19**	P	**P**	**18 42 40.2**	**-0.3**
	baz=231,SNR=9.7						
TTA	**Tatalina**	**80.58**	**22**	P	**P**	**18 42 43.0**	**+1.8**
TTA	**Tatalina**	**80.58**	**22**	P	**P**	**18 42 39.7**	**-1.5**
	baz=236,SNR=12						
L19K	**White Mountain**	**80.62**	**23**	IAmb	IAmb	18 43 09.5	
	comp=Z,41nm,0.9s						
L19K				IAMs_20	IAMs_20	19 14 57.8	
	comp=Z,6μm,20.0s						
L19K	**White Mountain**	**80.62**	**23**	P	**P**	**18 42 39.5**	**-1.9**
	baz=237,SNR=37						
J18K	**Innoko River**	**80.63**	**22**	IAMs_20	IAMs_20	19 12 54.9	
	comp=Z,4μm,22.0s						
J18K	**Innoko River**	**80.63**	**22**	P	**P**	**18 42 40.8**	**-0.6**
	baz=235,SNR=14						
HOM	**Homer**	**80.64**	**26**	P	**P**	**18 42 39.0**	**-2.5**
	baz=240						
M19K	**Big River Lodg**	**80.65**	**24**	IAMs_20	IAMs_20	19 14 37.8	
	comp=Z,6μm,21.0s						
M19K	**Big River Lodg**	**80.65**	**24**	P	**P**	**18 42 39.9**	**-1.6**
	baz=238,SNR=17						
TDK	**Taldyqorghan**	**80.70**	**317**	*e*P	**P**	**18 42 41.4**	**-0.8**
	baz=317						
TDK	**Taldyqorghan**	**80.70**	**317**	*e*P	**P**	**18 42 41.4**	**-0.8**
CNPM	**China Poot**	**80.76**	**27**	IAMs_20	IAMs_20	19 14 49.7	
	comp=Z,4μm,21.0s						
KSH	**Kashi**	**80.81**	**312**	P	**P**	**18 42 44.4**	**+1.4**
KSH				pP	pP	18 42 54.1	-3.3
KSH				sP	sP	18 43 02.4	-0.6
KSH				S	**S**	**18 52 46.5**	**-1.2**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,890nm,10.5s						
KSH				LR	LR		
	comp=Z,1μm,17.2s						
KSH				LR	LR		
	comp=Z,3μm,19.6s						
KSH				LR	LR		
	comp=Z,4μm,20.3s						
ARXS	**Arharly**	**80.85**	**317**	P	**P**	**18 42 42.1**	**-1.0**
F17K	**Baldwin Pennin**	**80.89**	**18**	IAMs_20	IAMs_20	19 15 03.8	
	comp=Z,5μm,20.0s						
F17K	**Baldwin Pennin**	**80.89**	**18**	P	**P**	**18 42 41.2**	**-1.5**
	baz=230						
C16K	**Lisburne Hills**	**80.93**	**16**	IAMs_20	IAMs_20	19 13 09.6	
	comp=Z,4μm,22.0s						
C16K	**Lisburne Hills**	**80.93**	**16**	P	**P**	**18 42 41.8**	**-1.1**
	baz=226						
H18K	**Honhosa River**	**81.03**	**20**	P	**P**	**18 42 41.1**	**-2.4**
	baz=233						
MDOK	**Medeo**	**81.07**	**315**	*e*P	**P**	**18 42 43.9**	**-0.5**
	baz=315						
MDOK	**Medeo**	**81.07**	**315**	*e*P	**P**	**18 42 43.8**	**-0.5**
BRSE	**Bradley Lake S**	**81.08**	**27**	P	**P**	**18 42 42.2**	**-1.7**
	baz=241						
TNSS	**Tian-Shan**	**81.10**	**315**	*e*P	**P**	**18 42 44.2**	**-0.7**
	baz=315						
TNSS	**Tian-Shan**	**81.10**	**315**	*e*P	**P**	**18 42 44.1**	**-0.7**
E17K	**Hotham Inlet**	**81.13**	**18**	P	**P**	**18 42 42.0**	**-1.9**
	baz=230,SNR=10						
M20K	**Styx River**	**81.15**	**24**	IAmb	IAmb	18 43 13.9	
	comp=Z,43nm,1.0s						
M20K				IAMs_20	IAMs_20	19 14 54.9	
	comp=Z,5μm,22.0s						
M20K	**Styx River**	**81.15**	**24**	P	**P**	**18 42 42.7**	**-1.6**
	baz=239						
L20K	**Farewell, AK**	**81.16**	**23**	P	**P**	**18 42 43.2**	**-1.1**
	baz=238,SNR=26						
D17K	**Noatak River**	**81.17**	**17**	P	**P**	**18 42 43.7**	**-0.4**
	baz=229						
N20K	**Mount Spurr**	**81.17**	**25**	P	**P**	**18 42 42.4**	**-2.0**
	baz=240						
GCSA	**Galena City Sc**	**81.31**	**21**	P	**P**	**18 42 43.5**	**-1.3**
	baz=235						
CHKK	**Chushkaly**	**81.31**	**316**	*e*P	**P**	**18 42 45.0**	**-0.5**
	baz=316						
CHKK	**Chushkaly**	**81.31**	**316**	*e*P	**P**	**18 42 45.0**	**-0.5**
J19K	**Poorman**	**81.33**	**22**	IAMs_20	IAMs_20	19 13 51.5	
	comp=Z,5μm,22.0s						
J19K	**Poorman**	**81.33**	**22**	P	**P**	**18 42 43.3**	**-1.8**
	baz=236,SNR=14						
ULHL	**Ulahol**	**81.37**	**314**	P	**P**	**18 42 46.9**	**+0.8**
	SNR=6.0						
G18K	**Tagagawik**	**81.38**	**19**	P	**P**	**18 42 42.9**	**-2.4**
	baz=233,SNR=17						
CAPN	**Captain Cook N**	**81.41**	**25**	IAMs_20	IAMs_20	19 13 25.7	
	comp=Z,5μm,22.0s						
CAPN	**Captain Cook N**	**81.41**	**25**	P	**P**	**18 42 43.7**	**-1.8**
	baz=241						
RDOG	**Red Dog Mine**	**81.45**	**17**	IAmb	IAmb	18 43 08.9	
	comp=Z,28nm,0.8s						
RDOG				IAMs_20	IAMs_20	19 14 10.4	
	comp=Z,5μm,21.0s						
RDOG	**Red Dog Mine**	**81.45**	**17**	P	**P**	**18 42 44.3**	**-1.3**
	baz=229						
NIL	**Nilore**	**81.46**	**305**	P	**P**	**18 42 45.7**	**-0.8**
NIL				IAmb	IAmb	18 44 01.2	
	comp=Z,65nm,1.1s						
NIL	**Nilore**	**81.46**	**305**	P	**P**	**18 42 45.7**	**-0.8**
NIL				pmax	pmax		
	comp=Z,65nm,1.1s						
NIL				MLR	MLR		
	com

M22K Willow 82.32 25 P P 18 42 47.6 -2.7
baz=242,SNR=5.4
C18K Utukok River 82.32 16 IAMs_20 IAMs_20 19 14 59.5
comp=Z,5µm,21.0s
C18K Utukok River 82.32 16 P P 18 42 49.9 -0.4
baz=230
KURK Kurchatov 82.42 323 P P 18 42 50.8 -0.2
KURK Kurchatov 82.42 323 IAMs_20 IAMs_20 19 19 12.8
comp=Z,4µm,20.0s
KURK Kurchatov 82.42 323*ce*P P 18 42 50.0 -1.1
KURK pmax pmax
comp=Z,28nm,1.7s
H20K Anotleneega Mo 82.42 21 P P 18 42 47.4 -3.5
baz=237,SNR=10
KURBB Kurchatov Arra 82.44 323 P P 18 42 49.6 -1.6
comp=Z,5.7nm,0.8s,baz=107,slow=4.0,SNR=48
KURBB PKKPbc **PKKPbc** 19 01 19.1 -0.7
comp=Z,0.6nm,0.6s,baz=277,slow=2.7,SNR=4.4
KURBB PKPPKP **P'P'df** 19 09 22.0 +0.1
comp=Z,0.7nm,0.6s,baz=294,slow=2.5,SNR=7.5
KURBB LR LR 19 18 48.2
comp=Z,4µm,20.5s,baz=116,slow=35
comp=Z,5.7nm,0.8s
KURBB Kurchatov Arra 82.44 323 P P 18 42 50.3 -0.9
CUT Chulitna 82.57 24 IAmb IAmb 18 43 16.8
comp=Z,64nm,1.0s
CUT IAMs_20 IAMs_20 19 15 40.6
comp=Z,6µm,21.0s
CUT Chulitna 82.57 24 P P 18 42 49.3 -2.3
baz=241,SNR=5.2
UCH Uchtor 82.60 314 P P 18 42 53.7 +0.9
SNR=11
B18K Kokolik River 82.62 16 P P 18 42 50.2 -1.5
baz=230
PMR Palmer 82.66 25 P P 18 42 53.8 +1.7
PMR Palmer 82.66 25 P P 18 42 50.2 -1.9
baz=242
PWL Port Wells 82.67 26 IAMs_20 IAMs_20 19 13 10.3
comp=Z,5µm,22.0s
PWL Port Wells 82.67 26 P P 18 42 49.6 -2.6
baz=243,SNR=26
P23K Montague Islan 82.70 27 P P 18 42 51.2 -1.1
baz=244
MAW Mawson 82.71 203 P P 18 42 52.5 +0.2
comp=Z,20nm,0.8s,baz=95,slow=6.5,SNR=30
MAW LR LR 19 17 15.3
comp=Z,4µm,21.9s,baz=77,slow=34
comp=Z,20nm,0.8s
AAK Ala-Archa 82.72 314 P P 18 42 52.6 -0.4
AAK Ala-Archa 82.72 314 P P 18 42 53.1 0.0
comp=Z,10.0nm,0.6s,baz=109,slow=3.7,SNR=6.9
AAK LR LR 19 19 12.1
comp=Z,2µm,21.0s,baz=94,slow=35
comp=Z,10.0nm,0.6s
AAK Ala-Archa 82.72 314*ce*P P 18 42 53.2 +0.1
AAK pmax pmax
comp=Z,11nm,0.7s
E19K Redstone River 82.77 18 P P 18 42 49.9 -2.6
baz=234,SNR=23
GHO Glory Hole Cre 82.83 25 IAmb IAmb 18 43 18.4
comp=Z,42nm,1.1s
GHO IAMs_20 IAMs_20 19 15 16.4
comp=Z,5µm,21.0s
SGDS Sogindy 82.84 315 *e*P P 18 42 53.5 -0.1
baz=315
SGDS Sogindy 82.84 315 *e*P P 18 42 53.4 -0.1
KNK Knik Glacier 82.86 26 IAmb IAmb 18 43 19.6
comp=Z,35nm,0.9s
KNK IAMs_20 IAMs_20 19 13 31.3
comp=Z,6µm,22.0s
KNK Knik Glacier 82.86 26 P P 18 42 50.8 -2.4
baz=243,SNR=7.3
USP Ospenovka 82.89 315 P P 18 42 54.4 +0.7
SNR=5.4
Q23K Middleton Isla 82.94 28 P P 18 42 51.8 -1.7
baz=245
F20K Avaraart Lake 83.01 19 P P 18 42 51.8 -2.0
baz=236,SNR=17
C19K Lookout Ridge 83.06 16 IAMs_20 IAMs_20 19 14 30.1
comp=Z,6µm,22.0s
C19K Lookout Ridge 83.06 16 P P 18 42 53.9 -0.2
baz=232
IMAR Indian Mountai 83.09 20 P P 18 42 54.9 +0.7
SML Sawmill 83.10 25 IAMs_20 IAMs_20 19 14 32.5
comp=Z,4µm,22.0s
SML Sawmill 83.10 25 P P 18 42 52.6 -1.8
baz=243,SNR=29
D19K Kuna River 83.12 17 IAMs_20 IAMs_20 19 15 04.5
comp=Z,6µm,22.0s
D19K Kuna River 83.12 17 P P 18 42 52.3 -2.1
baz=233,SNR=8.7
BPAW Bear Paw Mtn. 83.12 23 P P 18 42 52.5 -1.9
baz=240,SNR=20
AML Almayashu 83.17 314 P P 18 42 56.8 +1.1
SNR=8.4
GLI Glacier Island 83.22 26 IAmb IAmb 18 43 22.2
comp=Z,40nm,0.8s
GLI Glacier Island 83.22 26 P P 18 42 52.9 -2.2
baz=244
EKS2 Erkin-Say 83.24 314 P P 18 42 56.4 +0.7
SNR=12
H21K Melozitna Rive 83.24 21 IAMs_20 IAMs_20 19 13 43.0
comp=Z,6µm,22.0s
H21K Melozitna Rive 83.24 21 P P 18 42 54.2 -0.9
baz=239,SNR=12
M23K Glacier View 83.35 25 P P 18 42 54.7 -1.0
baz=244,SNR=7.0
FID Port Fidalgo 83.44 27 IAmb IAmb 18 43 22.1
comp=Z,35nm,0.9s
G21K Allakaket 83.45 20 P P 18 42 55.1 -1.1
baz=238,SNR=15
WAT1 Susitna Watana 83.47 24 P P 18 42 54.6 -1.8
baz=243
SCM Sheep Creek Mo 83.54 25 IAmb IAmb 18 43 00.0
comp=Z,54nm,1.0s
SCM IAMs_20 IAMs_20 19 14 25.0
comp=Z,5µm,21.0s
SCM Sheep Creek Mo 83.54 25 P P 18 42 55.9 -0.8
baz=244,SNR=21
E20K Nigu River 83.56 18 P P 18 42 54.8 -1.9
baz=235,SNR=19
BTLS Baital 83.67 317 *e*P P 18 42 57.5 -0.3
baz=316
BTLS Baital 83.67 317 *e*P P 18 42 57.4 -0.3
MLY Manley 83.67 22 IAmb IAmb 18 43 19.9
comp=Z,29nm,0.8s
MLY Manley 83.67 22 P P 18 42 55.4 -2.0
baz=241,SNR=11
EYAK Cordova Ski Ar 83.68 27 P P 18 42 58.9 +1.6
EYAK Cordova Ski Ar 83.68 27 P P 18 42 55.4 -1.9
baz=246
D20K Etivluk River 83.69 17 P P 18 42 54.7 -2.7
baz=235,SNR=7.7
WAT6 Susitna Watana 83.69 25 P P 18 42 55.1 -2.6
baz=244,SNR=30
MCK McKinley 83.74 23 P P 18 42 55.9 -1.8
baz=242,SNR=40
QSPA South Pole Qui 83.75 180 P P 18 42 58.1 +0.2
QSPA South Pole Qui 83.75 180 IAMs_20 IAMs_20 19 18 58.1
comp=Z,5µm,20.0s
QSPA South Pole Qui 83.75 180 P P 18 42 58.1 +0.2
comp=Z,43nm,0.6s,baz=353,slow=2.1,SNR=174
QSPA PKKPbc **PKKPbc** 19 01 13.7 -4.0
comp=Z,1.3nm,0.9s,baz=310,slow=1.5,SNR=7.0
QSPA LR LR 19 19 09.3
comp=Z,5µm,20.1s,baz=12,slow=35
comp=Z,43nm,0.6s
F21K Alatna River 83.84 19 P P 18 42 56.4 -1.7
baz=238,SNR=8.8
H22K Ishtalitna Cre 83.87 21 P P 18 42 57.0 -1.3
baz=240,SNR=14
KAIM Kayak Island 84.03 28 IAMs_20 IAMs_20 19 21 29.4
comp=Z,3µm,20.0s
DHY Denali Highway 84.06 24 IAmb IAmb 18 43 23.5
comp=Z,36nm,0.8s
DHY Denali Highway 84.06 24 P P 18 42 57.4 -2.2
baz=244,SNR=33
NEA2 Nenana 84.09 23 IAmb IAmb 18 43 25.3
comp=Z,38nm,1.1s
NEA2 Nenana 84.09 23 P P 18 42 57.3 -2.1
baz=242,SNR=16
RAGM Ragged Mountai 84.10 27 IAmb IAmb 18 43 26.2
comp=Z,51nm,1.2s
RAGM IAMs_20 IAMs_20 19 15 25.2
comp=Z,3µm,21.0s
M24K Tolsona, Glenn 84.15 25 IAMs_20 IAMs_20 19 14 22.2
comp=Z,5µm,22.0s
M24K Tolsona, Glenn 84.15 25 P P 18 42 58.6 -1.2
baz=245,SNR=14
I23K Minto, Yukon-K 84.24 22 IAMs_20 IAMs_20 19 16 37.4
comp=Z,4µm,21.0s
I23K Minto, Yukon-K 84.24 22 P P 18 42 57.8 -2.3
baz=242,SNR=6.3
HMT Hamilton 84.27 27 IAmb IAmb 18 43 42.8
comp=Z,32nm,1.0s
HMT IAMs_20 IAMs_20 19 15 06.7
comp=Z,4µm,22.0s
B20K Meade River 84.29 16 IAMs_20 IAMs_20 19 15 43.5
comp=Z,4µm,22.0s
B20K Meade River 84.29 16 P P 18 42 58.7 -1.6
baz=234
E21K Killik River 84.34 18 IAMs_20 IAMs_20 19 17 12.9
comp=Z,5µm,21.0s
E21K Killik River 84.34 18 P P 18 42 58.7 -1.9
baz=237,SNR=22
BMRM Bremner River 84.36 27 P P 18 42 57.4 -3.5
baz=247,SNR=11
WRH Wood River Hil 84.41 23 IAmb IAmb 18 43 03.3
comp=Z,37nm,1.0s
F22K John River 84.42 19 P P 18 42 58.9 -2.1
baz=239,SNR=18
C21K Knifeblade Rid 84.49 17 P P 18 43 00.3 -1.0
baz=236
H23K Yukon River 84.50 21 IAmb IAmb 18 43 23.8
comp=Z,17nm,0.8s
H23K IAMs_20 IAMs_20 19 17 03.2
comp=Z,4µm,20.0s
H23K Yukon River 84.50 21 P P 18 42 59.7 -1.7
baz=242,SNR=16
CCB Clear Creek Bu 84.60 23 IAmb IAmb 18 43 23.3
comp=Z,25nm,0.8s
N25K Chitina, Valde 84.62 26 P P 18 43 00.6 -1.7
baz=246,SNR=10
BGLC Bering Glacier 84.64 28 P P 18 42 59.6 -2.6
baz=248
COLA College 84.68 23 P P 18 43 02.9 +0.6
COLA College 84.68 23 IAMs_20 IAMs_20 19 22 57.1
comp=Z,3µm,19.0s
COLA College 84.68 23 P P 18 42 59.4 -2.9
baz=243
COLA College 84.68 23*c i*P P 18 42 59.4 -2.9
COLA pmax pmax
comp=Z,23nm,0.9s
HARP HAARP 84.70 25 P P 18 43 01.6 -1.0
baz=246
G23K Bananza Creek 84.75 20 P P 18 43 00.4 -2.4
baz=241,SNR=32
B21K Ikpikpuk River 84.80 17 IAMs_20 IAMs_20 19 15 14.9
comp=Z,5µm,22.0s
B21K Ikpikpuk River 84.80 17 P P 18 43 00.4 -2.4
baz=236
PAX Paxson 84.81 25 P P 18 43 00.7 -2.5
baz=246,SNR=14
HDA Harding Lake 84.82 23 IAmb IAmb 18 43 29.1
comp=Z,19nm,0.7s
HDA Harding Lake 84.82 23 P P 18 43 00.1 -3.0
baz=244,SNR=6.4
SNH Sunshine Point 84.86 28 IAmb IAmb 18 43 09.5
comp=Z,40nm,1.0s
GLB Gilahina Butte 84.90 26 IAmb IAmb 18 43 30.1
comp=Z,40nm,1.3s
COLD Coldfoot 84.94 20 P P 18 43 02.1 -1.5
baz=241,SNR=14
CRQM Cirque 84.94 27 IAmb IAmb 18 43 30.6
comp=Z,32nm,0.9s
POKR Poker Plat Res 84.95 22 P P 18 43 00.6 -3.2
baz=244
WAX Waxell Ridge 84.96 28 IAmb IAmb 18 43 47.1
comp=Z,20nm,0.9s
WAX IAMs_20 IAMs_20 19 21 49.8
comp=Z,3µm,20.0s
CRQE Cirque 84.96 27 P P 18 43 02.9 -1.2
baz=248,SNR=12
D22K Ayikyak River 84.98 18 IAMs_20 IAMs_20 19 15 50.7
comp=Z,5µm,22.0s
D22K Ayikyak River 84.98 18 P P 18 43 02.1 -1.7
baz=238,SNR=11
IL31 85.01 23 IAmb IAmb 18 43 25.1
comp=Z,31nm,0.8s
ILAR Eielson Array 85.01 23 P P 18 43 03.0 -1.0
comp=Z,19nm,0.9s,baz=251,slow=5.1,SNR=80
ILAR PKKPbc **PKKPdf** 19 01 09.5 +3.0
comp=Z,1.4nm,0.8s,baz=247,slow=0.5,SNR=11
ILAR LR LR 19 18 01.3
comp=Z,2µm,21.0s,baz=245,slow=33
comp=Z,19nm,0.9s
K24K Donnelly Dome 85.03 24 P P 18 43 01.0 -3.3
baz=245,SNR=9.1
TGL Tana Glacier 85.08 27 IAmb IAmb 18 44 19.3
comp=Z,37nm,1.3s
H24K Noodor Dome 85.11 22 IAMs_20 IAMs_20 19 16 51.4
comp=Z,5µm,21.0s
H24K Noodor Dome 85.11 22 P P 18 43 03.0 -1.6
baz=243,SNR=14
MCARA McCarthy VSAT 85.23 27 IAmb IAmb 18 43 37.1
comp=Z,30nm,1.0s
MCARA McCarthy VSAT 85.23 27 P P 18 43 04.0 -1.2
baz=248,SNR=5.5
ISLE Juniper Island 85.25 28 IAmb IAmb 18 44 20.5
comp=Z,31nm,1.2s
MESA MESA 85.28 28 P P 18 43 05.4 -0.3
baz=249
A22K Sinclair Lake 85.47 16 P P 18 43 04.8 -1.4
baz=236
MENT Mentasta 85.53 25 P P 18 43 09.3 +2.6
J25K Salcha River, 85.53 23 IAmb IAmb 18 43 32.4
comp=Z,47nm,0.9s
J25K IAMs_20 IAMs_20 19 15 29.6
comp=Z,3µm,22.0s
J25K Salcha River, 85.53 23 P P 18 43 03.8 -2.9
baz=246,SNR=73
B22K Teshekpuk Lake 85.53 17 IAMs_20 IAMs_20 19 16 23.4
comp=Z,5µm,22.0s
B22K Teshekpuk Lake 85.53 17 P P 18 43 04.3 -2.2
baz=238
E23K Chandalar 85.54 19 P P 18 43 04.3 -2.4
baz=241,SNR=30
M26K Nabesna, AK 85.63 26 P P 18 43 07.2 -0.1
M26K IAMs_20 IAMs_20 19 16 04.4
comp=Z,4µm,22.0s
M26K Nabesna, AK 85.63 26 P P 18 43 03.3 -3.9
baz=248,SNR=7.0
D23K Nanushuk River 85.64 18 P P 18 43 04.4 -2.7
baz=240,SNR=43
G24K Hadweenzic Riv 85.64 21 IAMs_20 IAMs_20 19 16 04.5
comp=Z,4µm,22.0s
G24K Hadweenzic Riv 85.64 21 P P 18 43 05.0 -2.2
baz=244,SNR=8.5
KK31 Karatay Array 85.68 314 P P 18 43 05.7 -2.2
KK31 IAmb IAmb 18 43 52.8
comp=Z,30nm,1.2s
KK31 Karatay Array 85.68 314 P P 18 43 05.7 -2.2
KK31 pmax pmax
comp=Z,30nm,1.2s
KKAR Karatay Array 85.68 314 P P 18 43 06.5 -1.4
KKAR Karatay Array 85.68 314 IAmb IAmb 18 43 52.8
comp=Z,30nm,1.2s
KKAR Karatay Array 85.68 314 P P 18 43 06.5 -1.4
L26K Log Cabin Wild 85.72 25 IAmb IAmb 18 43 33.5
comp=Z,32nm,1.1s
L26K Log Cabin Wild 85.72 25 P P 18 43 06.0 -1.7
baz=248
TABL Table Mountain 85.75 28 IAmb IAmb 18 43 35.2
comp=Z,33nm,1.1s
CHGR Chuyangaron 85.76 309 IAmb IAmb 18 44 42.8
comp=Z,50nm,1.0s
IUG Iuzhnay 85.82 313 *e*P P 18 43 08.6 -0.2
comp=Z,15nm,0.9s,baz=313
IUG Iuzhnay 85.82 313 *e*P P 18 43 08.5 -0.2
IUG pmax pmax
comp=Z,15nm,0.9s
SCRK Sand Creek 85.82 24 IAMs_20 IAMs_20 19 17 53.4
comp=Z,5µm,20.0s
SCRK Sand Creek 85.82 24 P P 18 43 06.1 -2.2
baz=247,SNR=22
TOLK Toolik Lake Re 85.84 19 IAmb IAmb 18 43 37.8
comp=Z,24nm,0.9s
TOLK Toolik Lake Re 85.84 19 P P 18 43 06.8 -1.4
baz=241,SNR=13
CTG Chitna Glacier 85.84 27 P P 18 43 06.4 -2.0
baz=249,SNR=13
CTGM Chitina Glacie 85.84 27 IAmb IAmb 18 43 35.2
comp=Z,46nm,1.1s
PRP Porcupine Dome 85.85 22 P P 18 43 05.2 -3.2
baz=245
F24K Squaw Lake 85.87 20 P P 18 43 06.5 -1.8
baz=243,SNR=27
E24K Your Creek 85.92 20 IAMs_20 IAMs_20 19 17 21.8
comp=Z,6µm,21.0s
E24K Your Creek 85.92 20 P P 18 43 06.8 -1.8
baz=242,SNR=8.1
LOGN Logan Glacier 85.94 28 IAmb IAmb 18 43 35.6
comp=Z,21nm,0.9s
NRIK Noril'sk 86.01 342 IAmb IAmb 18 44 05.6
comp=Z,23nm,0.9s
NRIK Noril'sk 86.01 342 P P 18 43 07.9 -1.0
comp=Z,11nm,0.6s,baz=106,slow=4.7,SNR=15
NRIK LR LR 19 21 55.5
comp=Z,3µm,19.0s,baz=121,slow=36
comp=Z,11nm,0.6s
NRIK Noril'sk 86.01 342*ce*P P 18 43 09.2 +0.3
NRIK pmax pmax
comp=Z,15nm,0.9s
PINM Pinnacle 86.04 28 P P 18 43 07.6 -1.8
baz=250
M27K Edge Creek, AK 86.10 26 IAMs_20 IAMs_20 19 16 19.8
comp=Z,5µm,22.0s
M27K Edge Creek, AK 86.10 26 P P 18 43 07.4 -2.2
baz=249,SNR=48
C23K Itkillik River 86.10 18 P P 18 43 07.9 -1.5
baz=240,SNR=13
BRLS Borolday 86.14 314 *e*P P 18 43 10.0 -0.2
baz=314
BRLS Borolday 86.14 314 *e*P P 18 43 10.0 -0.2
G25K Bearman Lake 86.16 21 P P 18 43 07.8 -1.9
baz=245
CHM Chimkent 86.17 313 *e*P P 18 43 09.9 -0.5
baz=313
CHM Chimkent 86.17 313 *e*P P 18 43 09.8 -0.5
J26L Joseph Creek 86.20 24 P P 18 43 07.7 -2.3
baz=247,SNR=9.3
O28M Mount Upton 86.30 28 P P 18 43 09.5 -1.4
baz=250,SNR=11
PNL Peninsula 86.31 29 P P 18 43 13.5 +2.9
PNL Peninsula 86.31 29 P P 18 43 08.9 -1.8
baz=251
D24K Happy Valley 86.32 19 P P 18 43 09.3 -1.1
baz=242,SNR=14
L27K Beaver Creek, 86.37 25 IAmb IAmb 18 43 38.9
comp=Z,43nm,1.1s
L27K IAMs_20 IAMs_20 19 15 52.0
comp=Z,5µm,22.0s
L27K Beaver Creek, 86.37 25 P P 18 43 09.2 -1.7
baz=249,SNR=33
BCAR Beaver Creek A 86.39 25 P P 18 43 11.9 +0.9
FYU Fort Yukon 86.39 21 IAMs_20 IAMs_20 19 18 02.4
comp=Z,4µm,21.0s
YUK3 Moose Creek 86.52 27 P P 18 43 08.9 -3.0
baz=250,SNR=28
YUK8 Steele Glacier 86.67 27 P P 18 43 11.6 -1.0
baz=251
I26K Coal Creek Min 86.67 23 IAmb IAmb 18 43 37.6
comp=Z,17nm,0.8s
I26K Coal Creek Min 86.67 23 P P 18 43 10.0 -2.2
baz=248,SNR=17
F25K Christian Rive 86.68 20 P P 18 43 11.1 -1.2
baz=245,SNR=7.1
O29M Mount Kennedy 86.90 28 P P 18 43 12.6 -1.1
baz=252,SNR=14
BMAR Burnt Mountain 86.98 21 P P 18 43 14.6 +0.8
G26K Porcupine Rive 87.07 21 P P 18 43 13.0 -1.2
baz=247,SNR=16
P29M Windy Craggy 87.10 29 P P 18 43 14.6 0.0
baz=253,SNR=7.1
D25K Kavik River 87.17 19 IAMs_20 IAMs_20 19 18 33.8
comp=Z,5µm,21.0s
D25K Kavik River 87.17 19 P P 18 43 13.7 -1.0
baz=244,SNR=30
YUK4 Talbot Arm 87.20 27 P P 18 43 15.2 0.0
baz=252,SNR=15
YUK6 Outpost Mounta 87.20 28 P P 18 43 13.4 -1.8
baz=252,SNR=7.8
F26K Sheenjek River 87.24 21 P P 18 43 14.0 -1.0
baz=246,SNR=21
EGAK Eagle 87.26 24 IAmb IAmb 18 43 42.1
comp=Z,39nm,0.9s
EGAK IAMs_20 IAMs_20 19 16 41.5
comp=Z,5µm,22.0s
EGAK Eagle 87.26 24 P P 18 43 12.7 -2.4
baz=249,SNR=29
S31K Pelican 87.37 31 IAMs_20 IAMs_20 19 24 00.9
comp=Z,3µm,18.0s
S31K Pelican 87.37 31 P P 18 43 13.6 -2.1
baz=254
I27K Kandik River 87.38 23 P P 18 43 15.5 -0.3
baz=249,SNR=37
SIT Sitka 87.60 32 P P 18 43 15.9 -0.9
baz=255
M29M Somme Creek 87.62 26 P P 18 43 16.0 -1.0
baz=252,SNR=34
H27K Steamboat Moun 87.64 22 P P 18 43 15.1 -1.9
baz=249,SNR=35
PLBC Pleasant Camp 87.72 30 P P 18 43 16.3 -1.2
baz=254,SNR=12
DAWY Dawson 87.74 25 P P 18 43 16.0 -1.6
baz=251,SNR=28
R31K City Hall, Gus 87.75 31 P P 18 43 17.0 -0.5
baz=254
G27K Doyon Strip 87.80 22 IAMs_20 IAMs_20 19 18 34.5
comp=Z,5µm,22.0s
G27K Doyon Strip 87.80 22 P P 18 43 16.9 -0.9
baz=249,SNR=7.7
C26K Camden Bay 87.89 18 P P 18 43 17.9 -0.1
baz=246
N30M Aishikik Lake 87.95 28 P P 18 43 17.1 -1.4
baz=253,SNR=29
BVA0 Borovoye Array 87.96 324 *i*P P 18 43 17.3 -1.5
BVAR Borovoye Array 87.96 324 P P 18 43 16.9 -1.9
comp=Z,8.3nm,0.6s,baz=108,slow=5.2,SNR=51
BVAR PKPPKP **P'P'df** 19 09 13.3 +1.6
comp=Z,0.4nm,0.5s,baz=292,slow=4.0,SNR=4.6
BVAR LR LR 19 23 33.9
comp=Z,2µm,20.6s,baz=86,slow=36
comp=Z,8.3nm,0.6s
L29M L29M 87.97 26 IAMs_20 IAMs_20 19 16 20.4
comp=Z,4µm,22.0s
L29M L29M 87.97 26 P P 18 43 17.3 -1.4
baz=252,SNR=48
I28M Miner Creek 87.98 23 IAMs_20 IAMs_20 19 17 26.4
comp=Z,5µm,22.0s
I28M Miner Creek 87.98 23 P P 18 43 17.1 -1.6
baz=250,SNR=22
BRVK Borovoye 88.03 324 P P 18 43 17.8 -1.3
BRVK Borovoye 88.03 324 IAMs_20 IAMs_20 19 23 33.3
comp=Z,4µm,21.0s
BRVK Borovoye 88.03 324*ce*P P 18 43 14.0 -5.1
BRVK pmax pmax
comp=Z,9.0nm,1.0s
S32K Killisnoo 88.10 32 IAMs_20 IAMs_20 19 19 09.2
comp=Z,3µm,19.0s
S32K Killisnoo 88.10 32 P P 18 43 18.9 -0.4
baz=256
C27K Jago River 88.16 19 P P 18 43 17.1 -2.2
baz=247,SNR=40
O30N Mendenhall 88.22 28 P P 18 43 17.2 -2.7
baz=254,SNR=25
SKAG Skagway 88.23 30 P P 18 43 22.0 +2.2
SKAG Skagway 88.23 30 IAmb IAmb 18 43 46.3
comp=Z,37nm,1.0s
SKAG Skagway 88.23 30 P P 18 43 17.5 -2.4
baz=255
E27K Coleen River 88.32 21 P P 18 43 18.1 -2.1
baz=249,SNR=41
R32K Eaglecrest 88.33 31 P P 18 43 19.8 -0.6
baz=256
J29N Klondike Camp 88.35 25 P P 18 43 19.7 -0.8
baz=252
CRAG Craig 88.40 34 P P 18 43 19.7 -1.0
baz=257
M30M Minto, Yukon 88.40 27 IAmb IAmb 18 43 49.9
comp=Z,19nm,1.0s
K29M Barlow Dome 88.46 25 IAMs_20 IAMs_20 19 18 45.2
comp=Z,3µm,21.0s
K29M Barlow Dome 88.46 25 P P 18 43 20.0 -1.1
baz=253,SNR=53
U33K Whale Pass 88.55 33 IAMs_20 IAMs_20 19 14 37.2
comp=Z,6µm,22.0s
U33K Whale Pass 88.55 33 P P 18 43 20.6 -0.8
baz=257
N31M Braeburn, Yuko 88.56 28 P P 18 43 20.6 -0.8
baz=254,SNR=21
I29M Ogilvie Camp, 88.60 24 IAmb IAmb 18 44 15.3
comp=Z,23nm,1.1s
I29M IAMs_20 IAMs_20 19 21 15.8

comp=Z,3µm,20.0s
I29M Ogilvie Camp, 88.60 24 P **P 18 43 21.0 -0.5**
baz=252,SNR=21
F28M Old Crow 88.73 21 IAMs_20 IAMs_20 19 20 14.2
comp=Z,3µm,20.0s
F28M Old Crow 88.73 21 P **P 18 43 20.8 -1.3**
baz=250,SNR=5.3
T33K Petersburg 88.80 33 P **P 18 43 22.0 -0.6**
baz=257
H29M Whitestone 88.84 23 IAMs_20 IAMs_20 19 18 36.1
comp=Z,4µm,21.0s
H29M Whitestone 88.84 23 P **P 18 43 20.3 -2.3**
baz=252
D27M Malcolm River 88.91 20 P **P 18 43 22.1 -0.9**
baz=249,SNR=7.6
WRAK Wrangell Islan 89.04 33 IAMs_20 IAMs_20 19 14 52.2
comp=Z,5µm,22.0s
WRAK Wrangell Islan 89.04 33 IAmb IAmb 18 43 50.7
comp=Z,28nm,1.2s
WRAK Wrangell Islan 89.04 33 P **P 18 43 22.5 -1.2**
baz=257
MAYO Mayo, Yukon 89.08 26 P **P 18 43 23.1 -0.7**
baz=254
J30M Hart River 89.17 25 P **P 18 43 23.1 -1.3**
baz=254,SNR=28
E28M Babbage River 89.18 20 IAMs_20 IAMs_20 19 20 10.0
comp=Z,5µm,22.0s
E28M Babbage River 89.18 20 P **P 18 43 23.3 -0.9**
baz=251,SNR=7.3
G29M Pine Creek 89.19 22 IAMs_20 IAMs_20 19 22 40.3
comp=Z,3µm,20.0s
G29M Pine Creek 89.19 22 P **P 18 43 23.1 -1.1**
baz=252,SNR=8.8
V35K Ketchikan 89.21 34 IAMs_20 IAMs_20 19 17 19.0
comp=Z,5µm,20.0s
V35K Ketchikan 89.21 34 P **P 18 43 23.5 -1.1**
baz=258
I30M Mount Dempster 89.33 24 P **P 18 43 23.4 -1.7**
baz=254,SNR=15
M31M Drury Creek, Y 89.38 27 IAMs_20 IAMs_20 19 19 24.7
comp=Z,4µm,21.0s
M31M Drury Creek, Y 89.38 27 P **P 18 43 24.5 -0.8**
baz=256
EPYK Eagle Plains 89.52 23 IAmb IAmb 18 43 48.0
EPYK comp=Z,28nm,0.8s IAMs_20 IAMs_20 19 19 29.2
comp=Z,4µm,22.0s
EPYK Eagle Plains 89.52 23 P **P 18 43 24.1 -1.8**
baz=253,SNR=16
Q32M Nakina River 89.64 31 P **P 18 43 26.7 -0.1**
baz=257
P33M Teslin, Yukon 89.64 29 P **P 18 43 24.7 -1.9**
baz=257
E29M Blow River 89.69 21 IAMs_20 IAMs_20 19 18 40.3
comp=Z,4µm,21.0s
E29M Blow River 89.69 21 P **P 18 43 25.7 -0.9**
baz=252
D28M Stokes Point 89.69 20 P **P 18 43 25.9 -0.6**
baz=252
N32M Quiet Lake 89.73 28 IAMs_20 IAMs_20 19 20 43.3
comp=Z,3µm,21.0s
FARO Faro, Yukon 89.86 27 P **P 18 43 26.3 -1.2**
baz=256,SNR=10
G30M tAoh Zraii Nji 89.89 22 IAMs_20 IAMs_20 19 19 40.7
comp=Z,4µm,22.0s
G30M tAoh Zraii Nji 89.89 22 P **P 18 43 28.4 +0.9**
baz=254,SNR=8.3
S34M Telegraph Cree 90.00 32 IAMs_20 IAMs_20 19 24 19.7
comp=Z,3µm,19.0s
F30M Barrier River 90.22 22 P **P 18 43 26.9 -2.1**
baz=254,SNR=14
CRZF Crozet Islands 90.26 223 IAMs_20 IAMs_20 19 19 22.7
comp=Z,4µm,21.0s
T35M Bob Quinn 90.29 33 P **P 18 43 29.5 -0.1**
baz=259
R33M Jennings River 90.38 30 P **P 18 43 29.1 -1.0**
baz=259
G31M Satah River 90.61 23 IAMs_20 IAMs_20 19 20 22.9
comp=Z,4µm,21.0s
G31M Satah River 90.61 23 P **P 18 43 29.7 -1.1**
baz=256,SNR=21
BBB Bella Bella 90.67 38 LR LR 19 19 13.1
comp=Z,3µm,19.3s,baz=267,slow=32
DLBC Dease Lake 90.68 31 P **P 18 43 30.3 -1.2**
baz=259
DLBC Dease Lake 90.68 31 LR LR 19 21 11.5
comp=Z,3µm,18.4s,baz=276,slow=33
MMPY Sheldon Lake, 90.89 27 P **P 18 43 31.1 -1.3**
baz=258,SNR=6.6
F31M Tsiigehtchic 90.94 22 IAMs_20 IAMs_20 19 23 32.6
comp=Z,3µm,20.0s
F31M Tsiigehtchic 90.94 22 P **P 18 43 29.8 -2.5**
baz=256
INK Inuvik 91.22 21 IAmb IAmb 18 43 37.0
comp=Z,20nm,1.1s
INK Inuvik 91.22 21 P **P 18 43 32.0 -1.7**
baz=256,SNR=11
INK Inuvik 91.22 21 LR LR 19 20 50.8
comp=Z,2µm,21.4s,baz=240,slow=33
WTLY Watson Lake, Y 91.60 30 P **P 18 43 34.1 -1.5**
baz=260
TGTN Hyland Airport 92.08 28 P **P 18 43 37.7 -0.1**
baz=261
HOPS Hopland Field 92.46 51 IAMs_20 IAMs_20 19 17 28.5
comp=Z,5µm,21.0s
WSAR Wadi Sarin 92.51 293 LR LR 19 30 49.0
comp=Z,449nm,18.8s,baz=119,slow=39
LIRD Liard River Hi 92.84 31 P **P 18 43 40.6 -0.8**
baz=263
YBH Yreka Blue Hor 93.01 49 LR LR 19 18 31.5
comp=Z,6µm,21.7s,baz=272,slow=31
TOAD Toad River Com 93.22 31 P **P 18 43 41.9 -1.2**
baz=263
ORV Oroville 93.73 51 IAMs_20 IAMs_20 19 18 08.2
comp=Z,4µm,22.0s
HATC Hat Creek Radi 93.87 50 IAMs_20 IAMs_20 19 20 39.7
comp=Z,3µm,21.0s
AB31 Akbulak array 93.87 319 *i* P **P 18 43 44.4 -1.9**
ABKAR Akbulak array 93.87 319 P **P 18 43 43.5 -2.8**
ABKAR Akbulak array 93.87 319 IAmb IAmb 18 44 50.6
comp=Z,27nm,1.7s
KOTAN Kotaneelee Air 93.95 30 P **P 18 43 46.3 -0.2**
baz=264
SVE Sverdlovsk 94.11 327 *e*P **P 18 43 44.9 -2.4**
SVE *e* 18 47 35.0
SVE *e*S **SKSac 18 54 16.0 -2.0**
SVE MLR MLR
comp=Z,7µm,22.0s
SVE MLR MLR
comp=E,6µm,23.0s
ELIB Princess Elisa 94.43 195 *d*P **P 18 43 48.5 -0.2**
comp=Z,21nm,0.9s
WRGLY Wrigley 94.51 27 P **P 18 43 47.8 -1.1**
baz=265
SMMC Simmler 94.58 55 P **P 18 43 49.2 -0.8**
baz=266
A36M Sachs Harbour 94.63 18 IAmb IAmb 18 43 53.9
comp=Z,18nm,0.7s
A36M IAMs_20 IAMs_20 19 22 22.9
comp=Z,5µm,22.0s
A36M Sachs Harbour 94.63 18 P **P 18 43 48.1 -1.2**
baz=264,SNR=8.2
PKM Mcpherson Peak 94.70 56 P **P 18 43 49.0 -1.8**
baz=266
SCZ2 Santa Cruz Isl 94.78 56 P **P 18 43 51.7 +0.8**
baz=266
AKTO Aktyubinsk 95.20 320 P **P 18 43 51.4 -1.0**
comp=Z,1.2nm,0.3s,baz=100,slow=4.4,SNR=6.3
AKTO LR LR 19 26 44.0
comp=Z,5µm,21.8s,baz=69,slow=35
comp=Z,1.2nm,0.3s
ARU Arti 95.23 326 P **P 18 43 51.2 -1.2**
comp=Z,1.2nm,0.3s,baz=87,slow=6.8,SNR=5.3
ARU LR LR 19 28 31.0
comp=Z,4µm,19.2s,baz=89,slow=36
comp=Z,1.2nm,0.3s
ARU Arti 95.23 326 P **P 18 43 52.4 0.0**
ARU 18 47 43.7
ARU PPP PPP 18 49 45.9
ARU S **SKSac 18 54 23.7 -0.3**
ARU SP **SP 18 56 22.1 +1.4**
ARU PS PS 18 56 56.4 +29
ARU SS **SS 19 01 34.6 +3.4**
ARU SSS SSS 19 05 09.8
ARU MLR MLR
comp=Z,5µm,22.0s
HAWA Hanford 95.65 44 IAMs_20 IAMs_20 19 18 58.3
comp=Z,4µm,22.0s

LHV Little Huntoon 95.97 52 IAmb IAmb 18 44 34.5
comp=Z,16nm,1.3s
PASC Pasadena Art C 96.00 56 IAMs_20 IAMs_20 19 17 59.7
comp=Z,4µm,22.0s
NVAR Mina Array Bea 96.14 52 P **P 18 43 57.1 -0.2**
comp=Z,2.1nm,0.8s,baz=188,slow=30,SNR=9.5
NVAR PKKPbc **PKKPbc 19 00 46.0 +0.6**
comp=Z,0.6nm,0.6s,baz=87,slow=5.1,SNR=4.4
NVAR LR LR 19 20 20.7
comp=Z,5µm,21.7s,baz=272,slow=31
comp=Z,2.1nm,0.8s
EDW2 Edwards Air Fo 96.19 56 P **P 18 43 57.9 +0.6**
baz=267
CWC Cottonwood Cre 96.21 54 P **P 18 43 58.8 +1.3**
baz=267
BFSC Mount Baldy Ra 96.43 56 P **P 18 43 59.4 +0.8**
baz=267
LRMC Laurel Mtn Rad 96.48 55 P **P 18 43 59.6 +0.8**
baz=267
MPMC Manual Prospec 96.67 54 P **P 18 43 59.7 0.0**
baz=267
MURC Murrieta 96.78 57 P **P 18 43 59.6 -0.4**
baz=267
109C Camp Elliot, M 96.82 58 IAMs_20 IAMs_20 19 18 24.8
comp=Z,4µm,22.0s
109C Camp Elliot, M 96.82 58 P **P 18 44 00.0 -0.2**
baz=267
BMO Blue Mountains 97.15 46 IAMs_20 IAMs_20 19 19 20.1
comp=Z,3µm,21.0s
NEW Newport 97.36 42 P **P 18 44 02.3 0.0**
baz=269
NEW Newport 97.36 42 LR LR 19 22 57.4
comp=Z,2µm,19.8s,baz=268,slow=32
MONP2 Monument Peak 97.40 58 P Pdif 18 44 03.7 +0.5
baz=268
PFO Pinyon Flats O 97.40 57 P Pdif 18 44 03.3 +0.3
baz=268
PFO Pinyon Flats O 97.40 57 LR LR 19 19 03.8
comp=Z,4µm,21.8s,baz=278,slow=30
TPFO Pinon Flats 97.40 57 P **P 18 44 02.6 -0.4**
baz=268
HEC Hector,Ludlow 97.55 56 P **P 18 44 03.6 +0.1**
baz=268
SHOC Shoshone, Teco 97.64 55 P **P 18 44 03.7 -0.2**
baz=268
IKP In-Ko-Pah, Jac 97.65 58 P **P 18 44 03.7 -0.3**
baz=268
TPNV Topopah Spring 97.70 54 P Pdif 18 44 04.7 +0.3
baz=268
RPN Rapa Nui 97.72 118 LR LR 19 20 13.0
comp=Z,2µm,21.7s,baz=266,slow=30
BELC Belle Mtn. Jos 97.80 57 P **P 18 44 04.7 -0.1**
baz=268
TUQ Turquoise Moun 97.91 55 P Pdif 18 44 05.6 +0.3
baz=268
SWSC Sam W. Stewart 97.92 58 P Pdif 18 44 05.7 +0.5
baz=268
FOMA Nahampoana Res 97.97 244 IAMs_20 IAMs_20 19 34 02.7
comp=Z,3µm,18.0s
NVL N'lazarevskaya 98.00 193 *e*P **P 18 44 03.6 -1.1**
NVL *e*SS SS 19 02 10.4 +1.5
NVL *e*SSS SSS 19 05 55.5
NVL pmax pmax
comp=Z,5.0nm,1.0s
GMRC Granite Mounta 98.11 56 P **P 18 44 05.3 -0.8**
baz=268
MFID Camas Ranch 98.18 47 IAMs_20 IAMs_20 19 20 32.6
comp=Z,5µm,22.0s
BC3 Big Chuckawall 98.24 57 P **P 18 44 06.3 -0.4**
baz=268
R11B Troy Canyon, C 98.27 52 P **P 18 44 07.0 +0.1**
baz=269
IRM Iron Mountain 98.51 56 P **P 18 44 07.9 0.0**
baz=268
YKA Yellowknife Ar 98.56 28 P Pdif 18 44 07.8 +0.5
YKA Yellowknife Ar 98.56 28 P Pdif 18 44 08.0 +0.7
comp=Z,4.6nm,1.1s,baz=273,slow=4.4,SNR=15
YKA PKKPbc **PKKPbc 19 00 35.1 -4.1**
comp=Z,1.7nm,0.8s,baz=93,slow=2.9,SNR=11
YKA LR LR 19 25 36.2
comp=Z,4µm,20.8s,baz=286,slow=33
comp=Z,4.6nm,1.1s
YKA Yellowknife Ar 98.56 28 *i* P Pdif 18 44 08.3 +1.0
YKA pmax pmax
comp=Z,5.0nm,1.1s
ELK Elko 98.58 50 IAMs_20 IAMs_20 19 25 23.5
comp=Z,3µm,20.0s
ELK Elko 98.58 50 LR LR 19 21 48.2
comp=Z,3µm,21.9s,baz=278,slow=31
GLA Glamis 98.74 58 P Pdif 18 44 09.3 +0.4
baz=268
ABPO Ambohimpanom 98.79 250 IAMs_20 IAMs_20 19 24 38.2
comp=Z,3µm,20.0s
TROLL Troll, Antarti 98.89 190 ⇑P **P 18 44 08.4 -0.4**
comp=Z,405nm,0.6s
OPO Ambohidratompo 98.90 250 LR LR 19 23 49.3
comp=Z,344nm,21.9s,baz=249,slow=32
HLID Hailey 99.21 47 P **Pdif 18 44 11.0 0.0**
baz=270
MSO Missoula 99.51 44 IAMs_20 IAMs_20 19 21 28.4
comp=Z,3µm,21.0s
MSO Missoula 99.51 44 P **Pdif 18 44 12.3 +0.2**
baz=271
SNAA Sanae 100.05 189 ⇑P **Pdif 18 44 13.3 -0.7**
comp=Z,101nm,0.8s
SNAA Sanae 100.05 189 P **Pdif 18 44 13.3 -0.7**
comp=Z,4.0nm,0.8s,baz=157,slow=4.1,SNR=14
SNAA PKiKP **PKiKP 18 48 40.7 -0.7**
comp=Z,3.8nm,1.1s,baz=169,slow=10,SNR=4.5
SNAA Sanae 100.05 189 *c*eP **Pdif 18 44 12.8 -1.2**
SNAA pmax pmax
comp=Z,15nm,1.7s
214A Organ Pipe Nat 100.42 59 P **Pdif 18 44 15.7 -0.8**
baz=269
DUG Dugway, Tooele 100.43 50 IAMs_20 IAMs_20 19 22 22.5
comp=Z,3µm,22.0s
DUG Dugway, Tooele 100.43 50 P **Pdif 18 44 16.4 0.0**
baz=271
DLMT Dillon 100.48 45 IAMs_20 IAMs_20 19 21 37.2
comp=Z,4µm,22.0s
BOZ Bozeman (W) 101.15 45 IAMs_20 IAMs_20 19 22 09.0
comp=Z,4µm,22.0s
BOZ Bozeman (W) 101.15 45 P **Pdif 18 44 19.3 -0.2**
baz=273
HWUT Hardware Ranch 101.35 49 IAMs_20 IAMs_20 19 25 48.6
comp=Z,3µm,20.0s
VNA3 Neumayer Olymp 101.38 187 ⇑P **Pdif 18 44 14.2 -5.6**
comp=Z,1.6nm,0.5s
VNA2 Neumayer--Watz 101.38 188 ⇑P **Pdif 18 44 14.9 -4.9**
comp=Z,0.6nm,0.2s,baz=175,slow=4.1
WUAZ Wupatki 101.63 55 IAMs_20 IAMs_20 19 21 31.7
comp=Z,3µm,22.0s
WUAZ Wupatki 101.63 55 P **Pdif 18 44 19.9 -2.0**
baz=271
FXWY Fox Creek 101.67 47 IAMs_20 IAMs_20 19 28 30.9
comp=Z,3µm,20.0s
BELG Belogornoye 101.68 322 *i* P **Pdif 18 44 20.0 -1.4**
BELG pmax pmax
comp=Z,1.0nm,1.0s
IMW Indian Meadow 101.72 47 IAMs_20 IAMs_20 19 29 46.1
comp=Z,3µm,19.0s
VNA1 Neumayer--Stat 101.75 188 ⇑P **Pdif 18 44 14.9 -6.5**
comp=Z,1.9nm,0.9s
MOOW Moose Ponds 101.87 47 IAMs_20 IAMs_20 19 28 48.1
comp=Z,3µm,19.0s
SNOW Snow King Moun 101.88 47 IAMs_20 IAMs_20 19 26 51.3
comp=Z,4µm,20.0s
FLWY Flagg Ranch 101.89 46 IAMs_20 IAMs_20 19 31 04.5
comp=Z,3µm,18.0s
LOHW Long Hollow 101.98 47 IAMs_20 IAMs_20 19 25 25.0
comp=Z,4µm,21.0s
TUC Tucson 102.14 58 IAMs_20 IAMs_20 19 21 15.7
comp=Z,4µm,22.0s
TUC Tucson 102.14 58 P **Pdif 18 44 23.0 -1.1**
baz=270
EGMT Eagleton 102.29 42 IAMs_20 IAMs_20 19 26 08.8
comp=Z,3µm,20.0s
EGMT Eagleton 102.29 42 P **Pdif 18 44 24.5 +0.1**
baz=274
MAK Makhachkala 102.43 312 *i* P **Pdif 18 44 25.9 +0.9**
MAK *e* 18 48 38.2
MAK *e*PPP PPP 18 50 46.6
MAK *e* 18 55 01.6
MAK *e*PS **PS 18 57 45.3 -0.4**
MAK *e*SS SS 19 03 07.2 -5.5
MAK *e*SSS SSS 19 07 03.3
MAK pmax pmax
comp=Z,131nm,1.1s

BW06 Boulder Array 102.79 48 P **Pdif 18 44 26.0 -0.9**
baz=274
PDAR Pinedale Array 102.79 48 P **Pdif 18 44 26.7 -0.2**
comp=Z,0.3nm,0.5s,baz=215,slow=1.8,SNR=3.9
PDAR PKiKP **PKiKP 18 48 47.5 0.0**
comp=Z,1.2nm,0.9s,baz=225,slow=0.6,SNR=4.0
PDAR PKKPbc **PKKPbc 19 00 25.4 -1.4**
comp=Z,0.4nm,0.5s,baz=88,slow=6.2,SNR=4.5
RLMT Red Lodge 102.84 45 IAMs_20 IAMs_20 19 23 03.7
comp=Z,3µm,21.0s
RLMT Red Lodge 102.84 45 P **Pdif 18 44 26.9 -0.2**
baz=274
W18A Petrified Fore 102.97 56 P **Pdif 18 44 26.9 -1.0**
baz=272
MVCO Mesa Verde 103.90 53 IAMs_20 IAMs_20 19 26 59.7
comp=Z,3µm,20.0s
MVCO Mesa Verde 103.90 53 P **Pdif 18 44 31.0 -1.1**
baz=273
O20A White River Ci 103.94 50 P **Pdif 18 44 31.8 -0.3**
baz=274
RWWY Rawlins 104.60 49 IAMs_20 IAMs_20 19 32 01.7
comp=Z,3µm,19.0s
121A Cookes Peak, D 104.68 58 P **Pdif 18 44 35.0 -0.5**
baz=272
LAO LASA Array 104.81 43 IAMs_20 IAMs_20 19 27 49.6
comp=Z,3µm,20.0s
K22A Casper 105.03 48 P **PKiKP 18 48 50.8 -0.7**
baz=276
Y22D IRIS PASSCAL I 105.33 56 IAMs_20 IAMs_20 19 26 10.0
comp=Z,3µm,21.0s
ANMO Albuquerque 105.67 56 IAMs_20 IAMs_20 19 26 07.8
comp=Z,3µm,21.0s
ANMO Albuquerque 105.67 56 P **PKiKP 18 48 51.8 -1.1**
baz=274
EPT El Paso 105.79 59 IAMs_20 IAMs_20 19 26 19.3
comp=Z,2µm,20.0s
KIV Kislovodsk 105.84 314 IAMs_20 IAMs_20 19 36 27.0
comp=Z,2µm,20.0s
KIV Kislovodsk 105.84 314 *i* P **Pdif 18 44 39.2 -1.1**
KIV *e* 18 49 03.3
KIV *e*PPP PPP 18 51 17.2
KIV *e*PS **PS 18 58 21.3 -0.3**
KIV *e*SS SS 19 04 00.5 +0.8
KIV pmax pmax
comp=Z,3.0nm,1.1s
DGMT Dagmar 105.93 41 IAMs_20 IAMs_20 19 35 52.0
comp=Z,2µm,20.0s
PHWY Pilot Hill 105.95 49 IAMs_20 IAMs_20 19 25 09.4
comp=Z,4µm,22.0s
ISCO Idaho Springs 105.98 50 IAMs_20 IAMs_20 19 26 09.3
comp=Z,3µm,22.0s
ISCO Idaho Springs 105.98 50 P **PKiKP 18 48 53.5 0.0**
baz=275
SDCO Great Sand Dun 106.24 53 P **PKiKP 18 48 54.5 +0.6**
baz=275
Q24A Divide 106.41 51 P **PKiKP 18 48 54.5 +0.2**
baz=275
KEV Kevo 106.43 342 IAMs_20 IAMs_20 19 37 36.3
comp=Z,3µm,19.0s
RSSD Black Hills 106.66 46 IAMs_20 IAMs_20 19 27 00.8
comp=Z,3µm,20.0s
MNTX Cornudas Mount 106.75 59 P **PKiKP 18 48 54.7 0.0**
baz=273
TULEG Thule 106.81 9 IAMs_20 IAMs_20 19 29 58.0
comp=Z,3µm,22.0s
BRIGG Briggsdale 106.88 50 IAMs_20 IAMs_20 19 26 03.2
comp=Z,3µm,22.0s
ARCES ARCESS Array B 107.00 342 Pdiff **Pdif 18 44 44.5 -0.3**
comp=Z,1.1nm,0.6s,baz=81,slow=7.5,SNR=11
ARCES PKiKP **PKiKP 18 48 53.1 -0.9**
comp=Z,1.7nm,0.7s,baz=70,slow=4.0,SNR=7.1
ARCES PKKPbc **PKKPbc 19 00 10.3 -4.2**
comp=Z,2.9nm,0.8s,baz=263,slow=2.1,SNR=11
T25A Trinidad 107.16 53 P **PKiKP 18 48 54.9 -0.7**
baz=275
TXAR Lajitas Array 108.36 61 PKiKP **PKiKP 18 48 57.7 -0.2**
comp=Z,2.4nm,1.0s,baz=317,slow=1.5,SNR=10
TXAR PKKPbc **PKKPbc 19 00 08.0 -1.1**
comp=Z,0.8nm,0.7s,baz=115,slow=5.4,SNR=6.0
TXAR PKPPKP **P'P'df 19 08 32.9 -2.4**
comp=Z,0.1nm,0.4s,baz=165,slow=3.7,SNR=4.1
OGNE Ogallala 108.56 49 IAMs_20 IAMs_20 19 30 50.5
comp=Z,3µm,20.0s
AMTX Amarillo 109.59 55 IAMs_20 IAMs_20 19 26 48.4
comp=Z,3µm,22.0s
FINES FINESS Array B 110.62 334 Pdiff **Pdif 18 45 00.5 -0.5**
comp=Z,0.8nm,0.6s,baz=98,slow=7.9,SNR=6.0
FINES PKiKP **PKiKP 18 49 00.5 -0.5**
comp=Z,1.3nm,0.6s,baz=126,slow=4.7,SNR=8.1
FINES PKKPbc **PKKPbc 18 59 58.9 -3.8**
comp=Z,1.0nm,0.7s,baz=267,slow=3.8,SNR=5.8
ULM Lac du Bonnet 110.86 38 PKiKP **PKiKP 18 49 01.9 +0.1**
comp=Z,2.1nm,0.5s,baz=257,slow=4.6,SNR=4.8
AGMN Agassiz Nation 111.40 40 IAMs_20 IAMs_20 19 40 01.5
comp=Z,2µm,20.0s
JCT Junction City 111.61 60 P **PKiKP 18 49 04.1 +0.1**
baz=276
OK035 E0210 Rd and N 111.75 53 IAMs_20 IAMs_20 19 28 09.3
comp=Z,2µm,22.0s
OK038 West end E0370 111.75 53 IAMs_20 IAMs_20 19 33 19.6
comp=Z,3µm,20.0s
WMOK Wichita Mounta 111.97 55 IAMs_20 IAMs_20 19 27 49.6
comp=Z,3µm,22.0s
WMOK Wichita Mounta 111.97 55 P **PKiKP 18 49 04.9 +0.4**
baz=278
ECSD EROS Data Cent 112.00 45 IAMs_20 IAMs_20 19 29 34.2
comp=Z,3µm,22.0s
ECSD EROS Data Cent 112.00 45 P **PKiKP 18 49 05.3 +1.1**
baz=283
OK032 Salt Plains WL 112.13 53 IAMs_20 IAMs_20 19 32 25.4
comp=Z,3µm,20.0s
MNK Minsk 112.63 327 *i* P **Pdif 18 45 07.6 -2.5**
MNK *i* 18 49 50.1
MNK *i* PPP PPP 18 52 12.7
MNK *i* 18 56 10.5
MNK *i* PS **PS 18 59 25.2 -2.2**
MNK *i* SS SS 19 05 29.3 -0.6
MNK *i* SSS SSS 19 09 41.0
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.7s
MNK pmax pmax
comp=E,5.0nm,1.0s
MNK MLR MLR
comp=E,2µm,23.0s
MNK MLR MLR
comp=N,2µm,19.0s
MNK MLR MLR
comp=Z,6µm,22.0s
UNM Universidad Na 112.86 72 IAMs_20 IAMs_20 19 31 14.9
comp=Z,2µm,20.0s
KSU1 Kansas State U 112.97 50 IAMs_20 IAMs_20 19 30 43.4
comp=Z,3µm,21.0s
BRTR Keskin Array B 113.18 311 PKKPbc PKKPbc 18 59 51.9 -1.8
comp=Z,1.4nm,0.8s,baz=224,slow=3.4,SNR=4.6
AKASG Malin Array Be 113.23 323 PKiKP **PKiKP 18 49 05.5 -0.8**
comp=Z,0.3nm,0.3s,baz=61,slow=2.2,SNR=7.2
AKASG PKKPbc **PKKPbc 18 59 51.3 -2.4**
comp=Z,0.6nm,0.4s,baz=267,slow=3.8,SNR=4.3
AKBB Malin Array Si 113.23 323 *c i* PKiKP **PKiKP 18 49 05.4 -0.9**
OK051 E0350 and S346 113.27 53 IAMs_20 IAMs_20 19 29 33.6
comp=Z,4µm,22.0s
OK031 S. Brethren Rd 113.36 54 IAMs_20 IAMs_20 19 30 45.0
comp=Z,3µm,21.0s
OK052 Battle Ridge R 113.38 54 IAMs_20 IAMs_20 19 30 59.6
comp=Z,3µm,21.0s
WHTX Lake Whitney, 113.44 58 P **PKiKP 18 49 08.5 +1.2**
baz=278
SUMG Summit 113.56 2 IAMs_20 IAMs_20 19 33 26.1
comp=Z,3µm,22.0s
TUL3 Leonard 114.20 53 IAMs_20 IAMs_20 19 44 51.4
comp=Z,2µm,20.0s
EYMN Ely 114.30 40 IAMs_20 IAMs_20 19 38 19.2
comp=Z,3µm,20.0s
EYMN Ely 114.30 40 P **PKiKP 18 49 08.9 +0.4**
baz=289
MILM Milestii Mici 114.72 319 *e*P **Pdif 18 45 13.0 -6.6**
MILM Milestii Mici 114.72 319 *i* PP PP 18 49 57.0 -10
MILM Milestii Mici 114.72 319 *e*PS PS 18 59 33.0 -14
MILM *e*L L 19 31 23.0
MILM LRM MLR 19 41 30.0
comp=Z,1µm,18.0s
MILM Milestii Mici 114.72 319 *e*P **Pdif 18 45 13.0 -6.6**
MILM *e*PS **PS 18 59 33.0 -14**
SCIA State Center 114.87 47 IAMs_20 IAMs_20 19 38 39.1
comp=Z,2µm,20.0s

BOSA Boshof 115.53 234 PKP **PKiKP 18 49 11.4 -0.2**
comp=Z,5.0nm,0.7s,baz=44,slow=0.1,SNR=12
NATX Nacogdoches 115.82 58 IAMs_20 IAMs_20 19 49 51.9
comp=Z,2μm,18.0s
NATX Nacogdoches 115.82 58 P **PKiKP 18 49 12.8 +1.0**
baz=279
MIAR Mount Ida 116.23 55 P **PKiKP 18 49 13.8 +1.2**
baz=281
COWI Conover 116.43 41 IAMs_20 IAMs_20 19 40 26.8
comp=Z,3μm,20.0s
HFS Hagfors 116.44 337 PKP **PKPdf 18 49 12.3 0.0**
comp=Z,1.2nm,0.7s,baz=108,slow=4.8,SNR=5.0
HFS PKKPbc **PKKPbc 18 59 40.1 -2.8**
comp=Z,1.4nm,0.9s,baz=214,slow=5.0,SNR=5.2
LBTB Lobatse 116.61 238 **PKPdf 18 49 13.4 -0.4**
LBTB Lobatse 116.61 238 PKIKP **PKPdf 18 49 13.4 -0.4**
LVV L'vov 116.65 323 *e*PKIKP **PKiKP 18 49 16.6 +3.7**
LVV MLR MLR
comp=E,2μm,18.0s
LVV MLR MLR
comp=N,600nm,19.0s
LVV MLR MLR
comp=Z,2μm,19.0s
JFWS Jewell Farm 116.70 45 P **PKiKP 18 49 13.5 +0.2**
baz=288
MGMO Mountain Grove 116.73 51 **PKPdf 18 49 13.1 -0.4**
NB2 NORSAR Subarra116.80 338 PKPdf **PKPdf 18 49 12.0 -0.9**
comp=Z,1.0nm,0.8s,baz=44,slow=1.9
NB2 PKKP **PKKPbc 18 59 39.4 -2.4**
comp=Z,4.1nm,1.0s,baz=226,slow=3.6
NOA NORSAR Array B116.80 338 PKP **PKPdf 18 49 12.1 -0.8**
comp=Z,0.8nm,0.6s,baz=48,slow=2.0,SNR=7.7
MLR Muntele Rosu 117.08 318 IAMs_20 IAMs_20 19 42 12.0
comp=Z,2μm,20.0s
CCM Cathedral Cave 117.30 50 **PKPdf 18 49 13.8 -0.8**
CCM Cathedral Cave 117.30 50 P **PKPdf 18 49 14.7 +0.1**
baz=284
CCM Cathedral Cave 117.30 50 PKIKP **PKPdf 18 49 13.8 -0.8**
CCM MLR MLR
comp=Z,5μm,21.0s
LSZ Lusaka 117.35 249 IAMs_20 IAMs_20 19 43 20.1
comp=Z,2μm,21.0s
SUR Sutherland 117.37 229 IAMs_20 IAMs_20 19 36 36.2
comp=Z,3μm,20.0s
KWP Kalwaria Pacla 117.51 324 IAMs_20 IAMs_20 19 38 56.3
comp=Z,3μm,22.0s
BLEU Blekinge 117.82 333 *e*P **PKPdf 18 49 13.4 -1.6**
SFJD Kangerlussuaq 117.88 8 IAMs_20 IAMs_20 19 36 21.4
comp=Z,2μm,22.0s
EFI East Falkland 117.93 161 IAMs_20 IAMs_20 19 31 03.1
comp=Z,3μm,22.0s
KOLS Kolonicke sedl 118.07 323 *e*PKIKP **PKiKP 18 49 16.4 +0.7**
KOLS Kolonicke sedl 118.07 323 *e*PKP **PKiKP 18 49 16.4 +0.7**
HDIL Hopedale 118.08 47 IAMs_20 IAMs_20 19 35 24.3
comp=Z,2μm,21.0s
HDIL Hopedale 118.08 47 P **PKPdf 18 49 16.2 +0.2**
baz=287
KONO Kongsberg 118.33 338 IAMs_20 IAMs_20 19 44 46.5
comp=Z,2μm,20.0s
BORU Boraas 118.37 335 *e*P **PKPdf 18 49 15.9 -0.1**
CRVS Cervenica-Dubn 118.56 323 *e*PKIKP **PKiKP 18 49 17.4 +0.7**
CRVS Cervenica-Dubn 118.56 323 *e*PKP **PKiKP 18 49 17.4 +0.7**
L44A Lake County Fo 118.57 45 IAMs_20 IAMs_20 19 35 12.9
comp=Z,3μm,21.0s
DEL Delary 118.60 333 *e*P **PKPdf 18 49 16.4 -0.1**
HQIL Hanson Quary C 118.74 45 IAMs_20 IAMs_20 19 37 51.3
comp=Z,2μm,20.0s
FABU Falkenberg 118.78 334 *e*P **PKPdf 18 49 15.8 -1.0**
LL01 San Ignacio de 118.85 146 IAMs_20 IAMs_20 19 33 19.9
comp=Z,2μm,20.0s
ONAU Onsala 118.88 335 *e*P **PKPdf 18 49 16.4 -0.6**
VBMS Vicksburg 119.20 57 IAMs_20 IAMs_20 19 40 09.3
comp=Z,3μm,20.0s
BJUU Bjuv 119.22 333 *e*P **PKPdf 18 49 17.4 -0.2**
E46A Sault Ste Mari 119.44 39 **PKPdf 18 49 17.3 -1.1**
OXF Oxford 119.60 54 IAMs_20 IAMs_20 19 35 00.4
comp=Z,3μm,20.0s
OXF Oxford 119.60 54 P **PKiKP 18 49 19.5 +0.3**
baz=284
LANS Liptovska Anna 119.62 324 *e*PKIKP **PKiKP 18 49 19.3 +0.5**
LANS Liptovska Anna 119.62 324 *e*PKP **PKiKP 18 49 19.3 +0.5**
LL03 Petrohue 119.67 145 IAMs_20 IAMs_20 19 32 57.8
comp=Z,3μm,20.0s
SFIN Lafayette 119.73 47 P **PKPdf 18 49 19.3 +0.2**
baz=289
LL04 Puerto Octay 119.82 145 IAMs_20 IAMs_20 19 33 21.8
comp=Z,3μm,20.0s
GLMI Grayling 119.86 41 IAMs_20 IAMs_20 19 38 13.4
comp=Z,3μm,21.0s
LR04 Corral 119.89 143 IAMs_20 IAMs_20 19 32 05.9
comp=Z,2μm,21.0s
RGN Rugen 120.00 332 IAMs_20 IAMs_20 19 44 01.0
comp=Z,3μm,20.0s
OKC Ostrava-Krasne 120.05 325 AMS AMS 19 41 30.0
comp=Z,4μm,20.4s
VYHS Vyhne 120.30 324 *e*PKIKP **PKPdf 18 49 19.5 -0.5**
VYHS Vyhne 120.30 324 *e*PKP **PKPdf 18 49 19.5 -0.5**
MORC Moravsky Berou 120.42 326 *e*PKP **PKiKP 18 49 20.7 +0.3**
WVT Waverly 120.44 52 **PKPdf 18 49 19.6 -1.0**
WVT Waverly 120.44 52 P **PKPdf 18 49 20.1 -0.5**
baz=286
WVT Waverly 120.44 52 PKIKP **PKPdf 18 49 19.7 -1.0**
WVT MLR MLR
comp=Z,5μm,21.0s
LR05 Currie 120.50 145 IAMs_20 IAMs_20 19 32 53.8
comp=Z,2μm,21.0s
ANGG Ammassalik, Gr 120.53 3 IAMs_20 IAMs_20 19 38 11.3
comp=Z,2μm,22.0s
PLAL Pickwick Lake 120.55 53 IAMs_20 IAMs_20 19 33 59.4
comp=Z,3μm,22.0s
LR03 Panguipulli 120.69 144 IAMs_20 IAMs_20 19 32 39.9
comp=Z,3μm,20.0s
KRLC Kraliky 120.70 326 *e*PKP **PKPdf 18 49 21.0 +0.2**
KRLC AMS AMS 19 43 30.0
comp=Z,4μm,18.9s
KRLC Kraliky 120.70 326 *e*PKIKP **PKPdf 18 49 21.0 +0.2**
KRLC MLR MLR
comp=Z,4μm,18.9s
OSTC Ostas 120.76 327 *e*PKP **PKPdf 18 49 21.1 +0.2**
OSTC AMS AMS 19 40 30.0
comp=Z,5μm,23.6s
OSTC Ostas 120.76 327 *e*PKIKP **PKPdf 18 49 21.1 +0.2**
OSTC MLR MLR
comp=Z,5μm,23.6s
JAVC Velka Javorina 120.80 325 *e*PKP **PKiKP 18 49 21.7 +0.5**
DPC Dobruska-Polom 120.81 327 *e*PKP **PKPdf 18 49 20.0 -1.0**
DPC AMS AMS 19 43 20.0
comp=Z,4μm,19.7s
DPC Dobruska-Polom 120.81 327 *e*PKIKP **PKPdf 18 49 20.0 -1.0**
DPC MLR MLR
comp=Z,4μm,19.7s
CHVC Chvalec 120.83 327 AMS AMS 19 40 40.0
comp=Z,4μm,23.0s
UPC Upice 120.90 327 AMS AMS 19 40 50.0
comp=Z,5μm,22.6s
SRO Srobarova 120.93 323 *e*PKIKP **PKiKP 18 49 22.8 +1.5**
SRO Srobarova 120.93 323 *e*PKP **PKiKP 18 49 22.8 +1.5**
PLCA Paso Flores 120.99 146 **PKPdf 18 49 21.8 +0.1**
PLCA Paso Flores 120.99 146 PKP **PKiKP 18 49 22.0 +0.2**
comp=Z,6.0nm,0.6s,baz=237,slow=3.7,SNR=20
PLCA Paso Flores 120.99 146 PKIKP **PKPdf 18 49 21.8 +0.1**
WCI Wyandotte Cave 121.00 49 P **PKiKP 18 49 22.1 +0.3**
baz=288
O48B Farmland 121.17 46 IAMs_20 IAMs_20 19 42 41.9
comp=Z,2μm,20.0s
O48B Farmland 121.17 46 P **PKPdf 18 49 21.9 -0.1**
baz=290
VRAC Vranov 121.19 325 *e*PKP **PKPdf 18 49 21.5 -0.2**
GO06 Curarrehue 121.23 144 IAMs_20 IAMs_20 19 33 56.2
comp=Z,2μm,20.0s
MODS Modra-Piesok 121.27 324 *e*PKIKP **PKiKP 18 49 22.7 +0.7**
MODS Modra-Piesok 121.27 324 *e*PKP **PKiKP 18 49 22.7 +0.7**
KRUC Moravsky 121.43 325 *e*PKP **PKPdf 18 49 22.3 +0.1**
PVCC Panska Ves 121.66 327 AMS AMS 19 42 20.0
comp=Z,3μm,21.8s
P49A Miami Univ. Ec 121.74 47 P **PKPdf 18 49 23.3 +0.3**
baz=290
BRG Berggiesshubel 121.80 328 *e*PKP **PKPdf 18 49 22.7 -0.2**
BRG Amp 18 49 24.2
comp=Z,6.7nm,0.9s
BRG Berggiesshubel 121.80 328 P PKiKP 18 49 33.2 +10
BRG Amp 18 49 34.8
comp=Z,4.5nm,0.9s
BRG Berggiesshubel 121.80 328 PP PP 18 50 55.0 -1.1
BRG Berggiesshubel 121.80 328 *e*PKIKP **PKPdf 18 49 22.6 -0.2**
BRG 18 50 55.0
BRG 18 53 37.0
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,0.9s
TREC Trest 121.82 326 AMS AMS 19 44 00.0
comp=Z,5μm,20.1s
FNA Florina 121.88 315 **PKPdf 18 49 22.0 -1.4**
FNA Florina 121.88 315 PKIKP **PKPdf 18 49 22.0 -1.4**
GOPC GO Pecny, Ondr 121.88 327 AMS AMS 19 43 10.0
comp=Z,4μm,20.6s
RICC Richard 121.91 328 AMS AMS 19 46 20.0
comp=Z,4μm,18.4s
LRAL Lakeview Retre 121.91 55 IAMs_20 IAMs_20 19 36 50.6
comp=Z,3μm,21.0s
LRAL Lakeview Retre 121.91 55 P **PKiKP 18 49 24.1 +0.4**
baz=285
PRU Pruhonice 121.97 327 *e*PKP **PKPdf 18 49 21.1 -2.1**
PRU *e*SP SP 19 00 46.2 +1.1
PRU AMS AMS 19 41 30.0
comp=Z,4μm,23.8s
PRU Pruhonice 121.97 327 *e*PKIKP **PKPdf 18 49 21.1 -2.1**
PRU *e*PS **PS 19 00 46.2 -5.9**
PRU MLR MLR
comp=Z,4μm,23.8s
PRA Prague 121.98 327 AMS AMS 19 43 00.0
comp=Z,4μm,20.3s
CLL Collm 122.05 329 *e*P **Pdif 18 45 52.0 -0.1**
CLL *i* 18 49 22.3
CLL *i* 18 49 41.3
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL MLR MLR
comp=Z,7μm,19.6s
RONA Rosalia, Austr 122.17 324 *i* PKP **PKPdf 18 49 23.3 -0.4**
comp=Z,6.6nm,1.0s
RONA *e*PKKP **PKKPab 18 59 21.1 +0.5**
comp=Z,2.0nm,0.8s
RONA *e*SKKP 19 03 05.7
comp=Z,1.5nm,0.6s
HSKC Hora Svate Kat 122.22 328 AMS AMS 19 44 40.0
comp=Z,4μm,19.0s
CONA Conrad Observa 122.31 324 *i* PKP **PKPdf 18 49 23.3 -0.7**
comp=Z,1.9nm,0.6s
CONA *e*PKKP **PKKPab 18 59 20.0 0.0**
comp=Z,4.9nm,1.7s
CONA *e*SKKP 19 03 05.2
comp=Z,4.9nm,1.8s
BRAL Brewton 122.32 57 IAMs_20 IAMs_20 19 36 12.7
comp=Z,2μm,22.0s
BRAL Brewton 122.32 57 P **PKiKP 18 49 24.9 +0.3**
baz=284
PUK Puka 122.43 317 IAMs_20 IAMs_20 19 44 43.8
comp=Z,3μm,22.0s
TIR Tirane 122.72 316 IAMs_20 IAMs_20 19 45 58.7
comp=Z,2μm,22.0s
CKRC Cesky Krumlov 122.73 326 *e*PS PS 19 00 57.6 -1.3
CKRC AMS AMS 19 41 10.0
comp=Z,5μm,23.3s
ACSO Alum Creek Sta 122.74 46 IAMs_20 IAMs_20 19 35 53.2
comp=Z,3μm,22.0s
ACSO Alum Creek Sta 122.74 46 P **PKiKP 18 49 26.3 +1.2**
baz=292
ARSA Arzberg 122.85 324 *i* PKP **PKPdf 18 49 24.4 -0.6**
comp=Z,1.1nm,0.5s
ARSA *e*PKKP **PKKPbc 18 59 18.9 -0.1**
comp=Z,3.3nm,1.1s
KHC Kasperske Hory 122.97 326 *e*PKP **PKPdf 18 49 25.0 -0.2**
KHC *e*SP SP 19 00 57.0 +3.0
KHC AMS AMS 19 43 30.0
comp=Z,5μm,20.4s
KHC Kasperske Hory 122.97 326*c* *i*PKIKP **PKPdf 18 49 23.4 -1.8**
KHC pmax pmax
comp=Z,17nm,1.0s
TEIG Tepich 123.05 70 IAMs_20 IAMs_20 19 38 05.7
comp=Z,2μm,21.0s
GERES GERESS Array B 123.05 326 **PKPdf 18 49 24.2 -1.2**
GERES GERESS Array B 123.05 326 PKP **PKPdf 18 49 25.1 -0.3**
comp=Z,3.3nm,0.6s,baz=45,slow=2.1,SNR=20
GERES PKKPbc **PKKPbc 18 59 17.9 -0.4**
comp=Z,0.5nm,0.5s,baz=107,slow=1.4,SNR=4.2
GERES GERESS Array B 123.05 326 PKIKP **PKPdf 18 49 24.2 -1.2**
BI02 San Fabin de 123.25 142 IAMs_20 IAMs_20 19 34 19.0
comp=Z,2μm,20.0s
MOA Molln 123.27 325 *i* PKP **PKPdf 18 49 24.8 -0.9**
comp=Z,2.5nm,1.0s
MOA *e*PKKP **PKKPab 18 59 16.7 +0.9**
comp=Z,4.3nm,1.5s
MOA *e*SKKP 19 03 01.3
comp=Z,4.1nm,1.3s
SADO Sadowa 123.40 39 **PKPdf 18 49 25.3 -0.7**
PERS Pernice 123.40 323 *i* PKPdf **PKPdf 18 49 25.1 -1.0**
SOKA Soboth 123.43 323 *i* PKP **PKPdf 18 49 25.3 -0.9**
comp=Z,5.1nm,0.9s,SNR=6.0
SOKA *e*PKKP **PKKPbc 18 59 16.5 -0.3**
comp=Z,1.6nm,0.9s
SOKA *e*SKKP 19 03 26.4
comp=Z,4.0nm,1.2s
P52A Corning 123.57 46 IAMs_20 IAMs_20 19 47 57.2
comp=Z,3μm,20.0s
P52A Corning 123.57 46 P **PKiKP 18 49 27.2 +0.4**
baz=292
TZTN Tazewell 123.61 50 P **PKiKP 18 49 27.3 +0.3**
baz=289
BIOA Bad Ischl, Aus 123.71 325 *i* PKP **PKPdf 18 49 26.5 -0.2**
comp=Z,1.6nm,0.6s
BIOA *e*PKKP **PKKPbc 18 59 15.0 -0.6**
comp=Z,5.7nm,1.1s
BIOA *e*SKKP 19 03 26.9
comp=Z,7.3nm,1.5s
SCHQ Schefferville 123.75 24 PKP **PKPdf 18 49 26.4 0.0**
comp=Z,6.0nm,0.9s,baz=263,slow=8.1,SNR=4.9
OBKA Obir 123.81 323 *e*PKP **PKPdf 18 49 26.2 -0.8**
comp=Z,3.4nm,1.1s
OBKA *e*PKKP **PKKPab 18 59 12.4 -1.3**
comp=Z,4.2nm,1.6s
OBKA *e*SKKP 19 03 00.6
comp=Z,6.4nm,1.2s
M53A WI Miller and 123.87 43 P **PKiKP 18 49 27.5 +0.2**
baz=295
BOJS Bojanci 123.89 322 *i* PKPdf **PKPdf 18 49 26.6 -0.3**
O53A New Philadelph 123.98 45 IAMs_20 IAMs_20 19 43 42.0
comp=Z,3μm,20.0s
O53A New Philadelph 123.98 45 P **PKiKP 18 49 28.1 +0.5**
baz=294
NRS Narsrsuaq 124.16 8 IAMs_20 IAMs_20 19 43 10.4
comp=Z,3μm,20.0s
KBA Koelnbreinsper 124.21 325 *i* PKP **PKPdf 18 49 27.4 -0.4**
comp=Z,3.6nm,0.9s
KBA *i* SKKP 19 03 23.6
comp=Z,7.7nm,1.5s
CEY Cerknica 124.27 323 *i* PKPdf **PKPdf 18 49 27.3 -0.5**
MYKA Terra Mystica 124.28 324 *e*PKP **PKPdf 18 49 26.7 -1.1**
comp=Z,4.8nm,0.7s
MYKA *e*SKKP 19 03 00.7
comp=Z,1.5nm,0.5s
LESA Schwarzleotal 124.41 325 *i* PKP **PKPdf 18 49 27.3 -0.8**
comp=Z,5.7nm,0.9s
LESA *e*PKKP **PKKPab 18 59 12.0 +1.0**
comp=Z,1.6nm,0.5s
LESA *e*SKKP 19 02 59.3
comp=Z,3.6nm,1.1s
TGUH Tegucigalpa,Un 124.43 77 IAMs_20 IAMs_20 19 33 45.9
comp=Z,2μm,22.0s
SABO M.te Sabotino 124.64 323 **PKPdf 18 49 28.1 -0.4**
SABO IAMs_20 IAMs_20 19 45 26.1
comp=Z,4μm,21.0s
GOGA Godfrey 124.66 53 IAMs_20 IAMs_20 19 37 06.1
comp=Z,3μm,22.0s
GOGA Godfrey 124.66 53 P **PKiKP 18 49 29.5 +0.3**
baz=287
BO02 Sierra Bellavi 124.76 140 IAMs_20 IAMs_20 19 33 46.0
comp=Z,2μm,21.0s
BO01 Tunca 124.82 140 IAMs_20 IAMs_20 19 32 55.7
comp=Z,2μm,22.0s
ABTA Abfaltersbach 124.87 325 *i* PKP **PKPdf 18 49 28.1 -0.9**
comp=Z,8.5nm,0.9s,SNR=6.6
ABTA *e*PKKP **PKKPab 18 59 09.1 0.0**
comp=Z,5.1nm,1.1s
ABTA *e*SKKP 19 02 57.1
comp=Z,7.2nm,1.3s
VA05 Santo Domingo 124.94 139 IAMs_20 IAMs_20 19 34 16.9
comp=Z,2μm,20.0s
MT01 Popeta 125.04 139 IAMs_20 IAMs_20 19 33 59.7
comp=Z,2μm,22.0s
WATA Walderalm 125.08 326 *i* PKP **PKPdf 18 49 29.2 -0.2**
comp=Z,5.2nm,0.8s
WATA *e*SKKP 19 02 57.6
comp=Z,1.4nm,0.5s
WTTA Wattenberg 125.08 325 *i* PKP **PKPdf 18 49 29.7 +0.3**
comp=Z,14nm,0.9s,SNR=7.2
WTTA *e*SKKP 19 02 57.3
comp=Z,5.9nm,1.4s
TIGA Tifton 125.11 56 P **PKiKP 18 49 30.2 +0.1**
baz=286
MCWV Mont Chateau 125.18 45 P **PKiKP 18 49 30.2 +0.2**
baz=294
MT09 Talagante 125.27 139 IAMs_20 IAMs_20 19 35 19.6
comp=Z,2μm,20.0s
SQTA Sankt Quirin 125.35 326 *i* PKP **PKPdf 18 49 29.9 0.0**
comp=Z,12nm,1.0s,SNR=6.5
SQTA *e*SKKP 19 02 57.8
comp=Z,3.4nm,1.1s
SGRT San Giovanni R 125.35 318 **PKPdf 18 49 29.1 -0.9**
BO04 La Punta 125.38 140 IAMs_20 IAMs_20 19 33 24.5
comp=Z,2μm,22.0s
RETA Reutte 125.44 326 *i* PKiKP **PKiKP 18 49 30.7 +0.3**
comp=Z,5.3nm,1.0s
MT02 Curacav 125.49 139 IAMs_20 IAMs_20 19 34 33.7
comp=Z,2μm,21.0s
TSUM Tsumeb 125.67 241 IAMs_20 IAMs_20 19 43 42.8
comp=Z,2μm,20.0s
BLA Blacksburg 125.72 48 P **PKiKP 18 49 31.7 +0.4**
baz=292
FETA Feichten 125.73 326 *i* PKP **PKPdf 18 49 30.6 -0.1**
comp=Z,11nm,0.9s,SNR=9.2
FETA *e*SKKP 19 02 54.4
comp=Z,4.1nm,1.3s
MT13 San Alfonso 125.74 140 IAMs_20 IAMs_20 19 33 58.1
comp=Z,2μm,22.0s
CTI Castel Tesino 125.75 324 IAMs_20 IAMs_20 19 44 52.0
comp=Z,3μm,22.0s
MT03 Universidad Ad 125.76 139 IAMs_20 IAMs_20 19 35 24.5
comp=Z,2μm,20.0s
KMSC Kings Mountain 125.78 51 P **PKiKP 18 49 31.8 +0.4**
baz=290
PEL Peldehue 125.86 139 IAMs_20 IAMs_20 19 35 05.6
comp=Z,2μm,21.0s
BTNL Ternell 125.90 331 *d*PKPdf **PKPdf 18 49 31.1 +0.4**
MEM Membach 125.94 332 *d*PKP **PKPdf 18 49 30.9 +0.1**
BOAB BOACO BROADBAND 126.04 79 IAMs_20 IAMs_20 19 35 02.8
comp=Z,3μm,22.0s
DAVA Damuels 126.05 326 *i* PKP **PKPdf 18 49 31.2 -0.1**
comp=Z,8.3nm,0.7s,SNR=5.5
DAVA *e*SKKP 19 02 53.5
comp=Z,3.0nm,0.8s
MT08 Bocatoma Ro 126.11 140 IAMs_20 IAMs_20 19 34 10.7
comp=Z,2μm,22.0s
EKA Eskdalemuir Ar 126.11 341 PKP **PKPdf 18 49 30.9 -0.1**
comp=Z,4.1nm,0.5s,baz=18,slow=2.8,SNR=22
SSPA Standing Stone 126.12 43 **PKPdf 18 49 31.4 0.0**
SSPA Standing Stone 126.12 43 P **PKiKP 18 49 32.0 +0.1**
baz=297
ESK Eskdalemuir 126.14 341 IAMs_20 IAMs_20 19 46 28.3
comp=Z,3μm,21.0s
FUORN Ofenpass-Fuorn 126.22 325 **PKPdf 18 49 31.5 -0.3**
LONY Lake Ozonia 126.29 37 IAMs_20 IAMs_20 19 44 00.1
comp=Z,3μm,19.0s
LONY Lake Ozonia 126.29 37 P **PKPdf 18 49 31.7 +0.1**
baz=302
BCLA Clavier 126.40 332 *d*PKPdf **PKPdf 18 49 31.7 +0.1**
PAOL Paolisi 126.47 318 IAMs_20 IAMs_20 19 48 27.7
comp=Z,2μm,20.0s
CAMP Campotosto 126.51 320 IAMs_20 IAMs_20 19 48 02.5
comp=Z,2μm,22.0s
BGES Gesves 126.53 332 *d*PKPdf **PKiKP 18 49 32.7 +0.4**
RCHB Rochefort 126.62 332 *d*PKPdf **PKiKP 18 49 32.6 +0.1**
BINY Binghamton 126.65 41 P **PKPdf 18 49 32.8 +0.4**
baz=300
BMRD Maredsous 126.73 332 *d*PKPdf **PKPdf 18 49 32.1 -0.2**
JTS Las Juntas de 126.76 82 **PKPdf 18 49 32.9 -0.5**
JTS Las Juntas de 126.76 82 PKIKP **PKPdf 18 49 32.9 -0.5**
CO02 Combarbal 126.85 137 IAMs_20 IAMs_20 19 35 11.7
comp=Z,2μm,22.0s
DOU Dourbes 126.96 332 *d*PKP **PKiKP 18 49 33.9 +0.7**
CESX Cesi 127.01 320 IAMs_20 IAMs_20 19 48 02.4
comp=Z,2μm,22.0s
OSSC Osservatorio P 127.37 322 IAMs_20 IAMs_20 19 47 34.9
comp=Z,2μm,20.0s
CBN Corbin Frederi 127.54 46 IAMs_20 IAMs_20 19 45 34.3
comp=Z,3μm,19.0s
HDC Heredia 127.59 82 IAMs_20 IAMs_20 19 35 11.1
comp=Z,3μm,22.0s
DWPF Disney Wildern 127.80 59 IAMs_20 IAMs_20 19 44 12.4
comp=Z,2μm,20.0s
DWPF Disney Wildern 127.80 59 P **PKiKP 18 49 35.9 +0.3**
baz=285
MSSA Maissana 127.97 324 IAMs_20 IAMs_20 19 54 18.7
comp=Z,2μm,19.0s
D62A Allapoint, All 127.99 32 **PKPdf 18 49 34.3 -0.5**
LBNH Lisbon 128.09 37 P **PKiKP 18 49 36.4 +0.8**
baz=305
HNH Hanover 128.17 37 IAMs_20 IAMs_20 19 44 05.9
comp=Z,3μm,20.0s
ZON Zonda 128.19 139 **PKPdf 18 49 35.6 -0.1**
ZON IAMs_20 IAMs_20 19 35 12.8
comp=Z,2μm,22.0s
ZON Zonda 128.19 139 PKIKP **PKPdf 18 49 35.6 -0.1**
ZON MLR MLR
comp=Z,2μm,22.0s
LCO Las Campanas 128.37 135 **PKPdf 18 49 36.5 0.0**
LCO Las Campanas 128.37 135 PKIKP **PKPdf 18 49 36.5 0.0**
LCO MLR MLR
comp=Z,2μm,22.0s
PAL Palisades 128.59 41 P **PKiKP 18 49 37.2 +0.5**
baz=301
L61B Northampton 128.62 39 P **PKiKP 18 49 37.3 +0.5**
baz=303
PKME Peaks-Kenny Pk 128.99 34 P **PKiKP 18 49 37.6 +0.1**
baz=308
HRV Adam Dziewonsk 129.28 38 IAMs_20 IAMs_20 19 44 02.4
comp=Z,3μm,20.0s
HRV Adam Dziewonsk 129.28 38 P **PKPdf 18 49 37.2 -0.2**
baz=304
ATAH Atahualpa 131.15 105 PKP **PKiKP 18 49 43.5 +0.3**
comp=Z,27nm,0.9s,baz=302,slow=0.3,SNR=12
ATAH SKP 18 53 09.0
comp=Z,18nm,0.8s,baz=146,slow=6.1,SNR=7.1
NNA Nana 131.20 112*c* *i*PKIKP **PKiKP 18 49 42.6 -0.2**
NNA pmax pmax
comp=Z,50nm,1.3s
BCIP Isla Barro Col 131.80 83 IAMs_20 IAMs_20 19 46 03.8
comp=Z,2μm,20.0s
KEST Kesra 132.58 314 PKP **PKPdf 18 49 44.1 +0.2**
comp=Z,3.6nm,0.8s,baz=203,slow=3.0,SNR=4.5
TATN Tataouine 133.11 310 IAMs_20 IAMs_20 19 55 39.5
comp=Z,1μm,21.0s
LVC Limon Verde 133.34 129 PKP **PKiKP 18 49 47.0 -0.3**
comp=Z,6.1nm,0.6s,baz=210,slow=2.5,SNR=6.1
LVC SKPbc **SKPbc 18 53 04.9 -5.6**
comp=Z,5.6nm,1.0s,baz=90,slow=22,SNR=6.7
CEST Esterri de Car 133.75 327 IAMs_20 IAMs_20 19 51 56.3
comp=Z,2μm,21.0s
GTBY Guantanamo Bay 135.32 68 IAMs_20 IAMs_20 19 40 50.7
comp=Z,2μm,22.0s
CZSB Cruzeiro do Su 136.41 108 **PKPdf 18 49 51.3 -0.3**
ITQB Itaqui 136.79 147 IAMs_20 IAMs_20 19 43 07.0
comp=Z,2μm,21.0s
ROSC El Rosal 137.13 90 **PKPdf 18 49 53.2 -0.3**
ROSC El Rosal 137.13 90 PKP **PKPdf 18 49 53.8 +0.4**
comp=Z,61nm,0.8s,baz=110,slow=8.7,SNR=13
ROSC El Rosal 137.13 90 PKIKP **PKPdf 18 49 53.2 -0.3**
LPAZ La Paz 137.22 122 PKhKP PKPpre 18 49 44.0
comp=Z,3.6nm,0.7s,baz=242,slow=3.0,SNR=6.5
LPAZ PKP **PKPdf 18 49 54.5 +0.7**
comp=Z,38nm,1.1s,baz=354,slow=3.2,SNR=15
LPAZ SKPab **SKPbc 18 53 25.6 +2.5**
comp=Z,4.5nm,0.9s,baz=23,slow=5.0,SNR=3.7
CART Cartagena 138.37 323 IAMs_20 IAMs_20 19 54 03.1
comp=Z,1μm,20.0s
PBRG Braganca 138.39 332 *e*PKPdf PKPdf 18 49 46.1 -8.5
PBRG Braganca 138.39 332 *e*PP **PP 18 52 43.5 -0.3**
GRTK Grand Turk 138.57 64 IAMs_20 IAMs_20 19 45 08.3
comp=Z,2μm,21.0s
ESDC Sonseca Array 138.61 328 PKhKP PKPpre 18 49 47.5
comp=Z,0.5nm,0.8s,baz=11,slow=2.1,SNR=5.1
ESDC SKPbc **SKPbc 18 53 17.7 -8.1**
comp=Z,1.6nm,1.1s,baz=25,slow=6.9,SNR=4.4
ESDC SKPab **SKiKP 18 53 25.5 -3.9**
comp=Z,1.9nm,1.1s,baz=28,slow=2.8,SNR=4.1
CPUP Villa Florida 138.94 143 PKhKP PKPpre 18 49 48.4
comp=Z,4.8nm,0.8s,baz=225,slow=4.7,SNR=6.5

CPUP PKP **PKPdf** **18 49 55.6** **-0.4**
comp=Z,17nm,0.9s,baz=230,slow=3.8,SNR=12
CPUP SKPab **SKiKP** **18 53 29.6** **-0.9**
comp=Z,7.2nm,1.0s,baz=98,slow=1.8,SNR=4.2
SDDR **Presa de Saban** **139.05 68** IAMs_20 IAMs_20 19 44 04.4
comp=Z,2μm,21.0s
POLO **Lamas de Olo** **139.22 333** *e*PKPdf **PKPdf** **18 49 51.4** **-4.8**
POLO **Lamas de Olo** **139.22 333** *e*PP **PP** **18 52 51.6** **+2.7**
PVRL **Vila Real** **139.26 333** *e*PKPdf PKPdf 18 49 41.2 -15
PVIS **Viseu** **139.78 332** *e*PKPdf **PKPdf** **18 49 50.9** **-6.3**
PVIS **Viseu** **139.78 332** *e*PP **PP** **18 52 55.3** **+2.9**
MTE **Manteigas** **139.87 332** *e*PKPdf **PKPdf** **18 49 50.9** **-6.4**
MTE **Manteigas** **139.87 332** *e*PP **PP** **18 52 56.5** **+3.6**
MTE **Manteigas** **139.87 332** *e*SS SS 19 11 58.8 +49
MTE **Manteigas** **139.87 332** *e*LQ LQ 19 33 00.6
MTE *e*LR LR 19 42 58.0
comp=Z,4μm,22.2s
PCBR **Castelo Branco** **140.27 331** *e*PKPdf **PKPdf** **18 49 55.0** **-3.0**
PCBR **Castelo Branco** **140.27 331** *e*PP **PP** **18 52 57.7** **+2.4**
COI **Coimbra** **140.43 332** *e*PKPdf **PKPdf** **18 49 53.2** **-5.0**
COI **Coimbra** **140.43 332** *e*PP **PP** **18 52 59.7** **+3.5**
PMRV **Marv??o** **140.55 330** *e*PKPdf **PKPdf** **18 49 53.6** **-4.9**
PMRV **Marv??o** **140.55 330** *e*PP **PP** **18 53 01.4** **+4.3**
PMRV **Marv??o** **140.55 330** *e*SS SS 19 12 03.8 +46
PMRV **Marv??o** **140.55 330** *e*LQ LQ 19 38 17.9
PMRV *e*LR LR 19 43 46.1
comp=Z,2μm,22.2s
PCAS **Casmilo, Conde** **140.59 332** *e*PKPdf **PKPdf** **18 49 53.4** **-5.2**
PCAS **Casmilo, Conde** **140.59 332** *e*PP **PP** **18 52 58.2** **+1.0**
SDV **Santo Domingo** **140.90 84** IAMs_20 IAMs_20 19 43 49.8
comp=Z,2μm,22.0s
SDV **Santo Domingo** **140.90 84** SKPab **SKiKP** **18 53 36.9** **+2.0**
comp=Z,23nm,0.8s,baz=290,slow=1.5,SNR=5.5
PESTR **Estremoz** **141.08 330** *e*PKPdf **PKPdf** **18 49 55.5** **-4.0**
PESTR **Estremoz** **141.08 330** *e*PP **PP** **18 53 02.8** **+2.5**
PSBE **So Bento** **141.16 332** *e*PKPdf **PKPdf** **18 49 55.9** **-3.7**
PMTG **Montargil** **141.24 331** *e*PKPdf **PKPdf** **18 49 55.6** **-4.1**
PMTG **Montargil** **141.24 331** *e*PP **PP** **18 52 62.6** **+1.4**
PBAR **Barrancos** **141.33 329** *e*PKPdf **PKPdf** **18 49 55.4** **-4.5**
PBAR **Barrancos** **141.33 329** *e*PP **PP** **18 53 03.3** **+1.4**
EVO **Evora** **141.55 330** *e*PKPdf **PKPdf** **18 49 56.2** **-4.1**
EVO **Evora** **141.55 330** *e*PP **PP** **18 53 04.9** **+1.7**
PBEJ **Beja** **141.87 329** *e*PKPdf **PKPdf** **18 49 59.3** **-1.6**
PBEJ **Beja** **141.87 329** *e*PP **PP** **18 53 10.0** **+4.9**
PNCL **Nicolau / Gran** **142.13 330** *e*PKPdf **PKPdf** **18 49 59.1** **-2.3**
PNCL **Nicolau / Gran** **142.13 330** *e*PP **PP** **18 53 09.2** **+2.5**
MESJ **Messejana** **142.19 330** *e*PKPdf **PKPdf** **18 49 59.8** **-1.7**
MESJ **Messejana** **142.19 330** *e*PKPdf **PKPdf** **18 50 00.6** **-0.9**
MESJ *e*PP **PP** **18 53 07.1** **+0.1**
MESJ IAMs_20 IAMs_20 19 56 40.0
comp=Z,3μm,24.4s
MESJ **Messejana** **142.19 330** *e*PKIKP **PKPdf** **18 50 00.6** **-0.9**
MESJ *e* 18 53 07.1
PCVE **Castro Verde** **142.26 329** *e*PKPdf **PKPdf** **18 49 59.8** **-1.8**
PVAQ **Vaqueiros** **142.26 329** *e*PKPdf **PKPdf** **18 49 59.1** **-2.5**
PVAQ **Vaqueiros** **142.26 329** *e*PP **PP** **18 53 08.3** **+0.7**
PVAQ **Vaqueiros** **142.26 329** *e*SS SS 19 12 05.1 +27
PVAQ **Vaqueiros** **142.26 329** *e*LQ LQ 19 42 08.2
PVAQ *e*LR LR 19 46 06.6
comp=Z,3μm,24.9s
HATO **Hato, Curacao** **142.35 78** IAMs_20 IAMs_20 19 43 25.2
comp=Z,1μm,22.0s
PBDV **Barranco-do-Ve** **142.50 329** *e*PKPdf **PKPdf** **18 49 58.8** **-3.3**
PBDV **Barranco-do-Ve** **142.50 329** *e*PP **PP** **18 53 12.4** **+3.4**
MORF **Marmelete** **142.82 330** *e*PKPdf **PKPdf** **18 50 00.0** **-2.7**
MORF **Marmelete** **142.82 330** *e*PP **PP** **18 53 12.5** **+1.6**
MORF **Marmelete** **142.82 330** *e*PKPdf **PKPdf** **18 50 01.9** **-0.8**
MORF *e*PP **PP** **18 53 11.0** **+0.1**
MORF IAMs_20 IAMs_20 19 55 00.0
comp=Z,4μm,28.9s
MORF **Marmelete** **142.82 330** *e*PKIKP **PKPdf** **18 50 01.9** **-0.8**
MORF *e* 18 53 11.0
PFVI **Vila Bisbo** **143.04 330** *e*PKPdf **PKPdf** **18 50 02.5** **-0.5**
PFVI **Vila Bisbo** **143.04 330** *e*PP **PP** **18 53 16.4** **+4.2**
SIV **San Ignacio** **143.16 127** PKhKP PKPpre 18 50 00.2
comp=Z,31nm,0.8s,baz=237,slow=2.6,SNR=53
AOPR **Arecibo Observ** **143.37 68** *e*P PKPab 18 49 54.1 -6.2
BAUV **El Baul** **143.46 83** PKPpre 18 49 59.7
BAUV **El Baul** **143.46 83** *e*P PKPab 18 49 59.4 -1.2
SJG **San Juan** **143.99 68** IAMs_20 IAMs_20 19 48 32.3
comp=Z,2μm,22.0s
AQDB **Aquidauana** **144.22 138** **PKPab** **18 50 03.4** **0.0**
PTLB **Pontes e Lacer** **144.99 128** **PKPab** **18 50 06.0** **-0.3**
AVE **Averroes** **145.12 324** IAMs_20 IAMs_20 19 59 14.5
comp=Z,1μm,21.0s
VILB **Vilhena** **145.52 124** PKPbc **PKPdf** **18 50 08.1** **+0.1**
SPB **Sao Paulo** **146.43 152** IAMs_20 IAMs_20 20 02 41.5
comp=Z,1μm,18.0s
PCRV **Puerto La Cruz** **146.75 81** PKPbc **PKPdf** **18 50 10.5** **+0.5**
comp=Z,34nm,0.6s,baz=304,slow=3.6,SNR=19
PCRV **Puerto La Cruz** **146.75 81** *e*P **PKPdf** **18 50 10.6** **+0.5**
SABA **Saba** **146.79 67** IAMs_20 IAMs_20 19 49 37.3
comp=Z,1μm,20.0s
TORD **Torodi Ar. Bea** **146.81 284** PKPbc **PKPdf** **18 50 10.2** **+0.1**
comp=Z,40nm,0.8s,baz=73,slow=5.6,SNR=107
SMRT **St. Maarten** **146.82 66** IAMs_20 IAMs_20 19 49 27.1
comp=Z,2μm,21.0s
VAO **Valinhos** **147.15 153** IAMs_20 IAMs_20 20 01 24.6
comp=Z,1μm,19.0s
MBFL **Flemmings, Mon** **147.97 68** *e*P **PKPdf** **18 50 12.0** **0.0**
GDHS **Morne Mazeau,** **148.51 69** IAMs_20 IAMs_20 19 49 18.1
comp=Z,2μm,22.0s
CBE **Ff, Capester** **148.71 69** **PKPdf** **18 50 12.0** **-1.2**
CBE IAMs_20 IAMs_20 19 47 16.4
comp=Z,2μm,22.0s
ABD **La Joyeuse, An** **148.71 68** *e*P **PKPdf** **18 50 13.9** **+0.8**
TBG **Guadaloupe-3** **148.72 70** *e*P **PKPbc** **18 50 16.6** **-0.4**
GDSD **La Dsirade Is** **149.14 69** **PKPbc** **18 50 17.5** **-0.6**
H05N1 **Guadeloupe/Mar** **149.15 68** PKPbc **PKPbc** **18 50 17.5** **-0.7**
SNR=36
MACA **Manacapuru-AM** **149.18 107** **PKPbc** **18 50 17.6** **-0.8**
GRFF **Grenada Fort F** **149.38 77** *e*P **PKPdf** **18 50 14.7** **+0.3**
SVN **Savane Anatole** **149.41 71** IAMs_20 IAMs_20 19 49 27.6
comp=Z,2μm,20.0s
SVN **Savane Anatole** **149.41 71** *e*P **PKPdf** **18 50 15.6** **+1.2**
GRW **Mount Saint Ca** **149.44 77** *e*P PKPdf 18 50 06.4 -8.1
GRHS **Sauteurs** **149.45 77** *e*P **PKPdf** **18 50 13.4** **-1.1**
GRGR **Grenville** **149.45 77** *e*P **PKPdf** **18 50 14.3** **-0.2**
FDF **Fort de France** **149.45 72** IAMs_20 IAMs_20 19 49 26.6
comp=Z,2μm,22.0s
GRSS **Sisters** **149.46 76** *e*P **PKPdf** **18 50 13.8** **-0.6**
TCE **Chacachacare** **149.53 80** *e*P **PKPdf** **18 50 15.7** **+1.0**
BIM **Bigot** **149.57 72** PKPbc **PKPbc** **18 50 18.8** **-0.5**
BIM IAMs_20 IAMs_20 20 03 06.0
comp=Z,2μm,20.0s
BIM **Bigot** **149.57 72** *e*P **PKPbc** **18 50 18.1** **-1.2**
SVB **Belmont** **149.65 74** *e*P **PKPbc** **18 50 17.5** **-2.0**
SVT **Saint Vincent** **149.68 75** *e*P **PKPdf** **18 50 17.2** **+2.4**
SVOC **Richmond Hill,** **149.70 75** *e*P **PKPdf** **18 50 13.8** **-1.0**
ILAM **Ilet Lapin Mar** **149.70 71** IAMs_20 IAMs_20 19 59 02.2
comp=Z,2μm,20.0s
SLBI **Saint Lucia, B** **149.77 73** *e*P **PKPbc** **18 50 18.4** **-1.3**
MPOM **Morne Pois Mar** **149.79 72** IAMs_20 IAMs_20 20 03 18.6
comp=Z,1μm,21.0s
TPP **Pointe-a-Pierr** **149.86 80** *e*P **PKPbc** **18 50 17.9** **-2.1**
TRN **Trinidad (W)** **149.88 80** *e*P **PKPdf** **18 50 15.1** **0.0**
PMPST **Porto Santo, M** **149.88 334** *e*PKPdf **PKPdf** **18 50 16.7** **+2.0**
TBH **Brigand Hill** **150.22 80** *e*P **PKPbc** **18 50 20.8** **-0.1**
TPR **Prospect** **150.43 78** *e*P **PKPbc** **18 50 20.3** **-1.1**
PMAR **Madeira** **150.43 335** *e*PKPdf **PKPdf** **18 50 17.1** **+1.3**
PMOZ **Porto Moniz, M** **150.46 335** *e*PKPdf **PKPdf** **18 50 17.3** **+1.6**
PMOZ **Porto Moniz, M** **150.46 335** *e*SS SS 19 13 31.8 +21
PMOZ **Porto Moniz, M** **150.46 335** *e*LQ LQ 19 39 54.3
PMOZ *e*LR LR 19 47 01.5
comp=Z,2μm,24.9s
BDFB **Brasilia** **152.67 143** PKP **PKPdf** **18 50 20.3** **+0.8**
comp=Z,31nm,0.9s,baz=175,slow=2.0,SNR=25
BDFB PKPbc **PKPbc** **18 50 26.4** **-0.1**
comp=Z,47nm,0.7s,baz=192,slow=4.7,SNR=20
KIC **Kosan Boka** **153.63 272** ⇑*i*PKIKP **PKiKP** **18 50 31.8** **+3.0**
comp=Z,93nm,0.8s
DBIC **Dimbokro** **153.75 272** PKP **PKPdf** **18 50 21.0** **0.0**
comp=Z,6.7nm,0.9s,baz=304,slow=5.0,SNR=4.3
DBIC PKPbc **PKPbc** **18 50 28.6** **-0.2**
comp=Z,20nm,0.6s,baz=74,slow=1.7,SNR=21
DBIC **Dimbokro** **153.75 272** PKIKP **PKPdf** **18 50 21.0** **0.0**
LIC **Lamto** **153.92 271** ⇑*i*PKIKP **PKiKP** **18 50 31.6** **+2.3**
comp=Z,29nm,0.5s
TIC **Toumodi** **153.92 272** ⇑*i*PKIKP **PKiKP** **18 50 31.6** **+2.2**
comp=Z,13nm,0.4s
MDP **Montagnes des** **158.70 92** PKP **PKPdf** **18 50 27.5** **-0.1**
comp=Z,33nm,1.1s,baz=299,slow=2.9,SNR=5.6
MDP PKPab **PKPab** **18 51 02.0** **-1.2**
comp=Z,26nm,0.9s,baz=270,slow=7.9,SNR=4.8

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*IDC **19** 18:44:55.0±1.2,4°.56S×149°.40E,h0km,mb4.2/6,*
mbtmp4.2/7,ML2.1/1,Error ellipse: s-maj=56.8km
s-min=22.2km az=109.0
*NEIC **19** 18:44:57.3±0.6,5°.4S±0°.1×150°.39E±0°.09,h10km±2km,*
mb4.6/11,Error ellipse: s-maj=25.5km s-min=12.1km
az=334.0
ISC 19 18:44:58.5±1.1,5°.2S±0°.1×150°.4E±0°.1,h35km,n24,
σ1§40/24,mb4.5/13,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.23**	**218**	Pn	**Pn**	**18 46 13.5**	**-0.8**
PMG				Sn	**Sn**	**18 47 12.1**	**-1.4**
PMG	**Port Moresby**	**5.23**	**218**	Pn	**Pn**	**18 46 17.5**	**+3.2**
	4.7nm,0.3s,baz=16,slow=10.0,SNR=8.0						
PMG				Sn	**Sn**	**18 47 14.0**	**+0.6**
	10.0nm,0.3s,baz=112,slow=20,SNR=7.4						
	18nm,0.4s						
HNR	**Honiara**	**10.35**	**114**	Pn	**Pn**	**18 47 24.5**	**-0.1**
COEN	**Coen**	**11.20**	**219**	Pn	**Pn**	**18 47 35.2**	**-1.1**
MTN	**Manton Dam**	**20.45**	**247**	P	**P**	**18 49 33.4**	**+0.1**
WB0	**Warramunga Arr**	**21.23**	**226**	P	**P**	**18 49 41.6**	**0.0**
WB0				IAmb	IAmb	18 49 45.0	
	comp=Z,47nm,1.3s						
WR0	**Warramunga Arr**	**21.26**	**225**	P	**P**	**18 49 41.0**	**-0.9**
WR0				IAmb	IAmb	18 49 44.5	
	comp=Z,54nm,1.4s						
WRAB	**Tennant Creek**	**21.37**	**226**	P	**P**	**18 49 43.0**	**-0.1**
WRAB				IAmb	IAmb	18 49 49.7	
	comp=Z,18nm,0.8s						
WB2	**Warramunga Arr**	**21.38**	**225**	P	**P**	**18 49 42.9**	**-0.3**
WB2				IAmb	IAmb	18 49 50.4	
	comp=Z,18nm,0.9s						
WRA	**Warramunga Arr**	**21.39**	**226**	P	**P**	**18 49 43.2**	**-0.1**
	comp=Z,6.7nm,0.5s,baz=54,slow=10,SNR=45						
	comp=Z,6.7nm,0.5s						
DZM	**Mont Dzumac**	**22.83**	**139**	P	**P**	**18 49 58.2**	**-0.6**
DZM				IAmb	IAmb	18 50 10.4	
	comp=Z,22nm,1.3s						
AS31	**Alice Springs**	**24.24**	**219**	P	**P**	**18 50 11.0**	**-1.4**
AS31				IAmb	IAmb	18 50 24.6	
	comp=Z,10.0nm,0.8s						
ASAR	**Alice Springs**	**24.25**	**219**	P	**P**	**18 50 11.3**	**-1.2**
ASAR	**Alice Springs**	**24.25**	**219**	P	**P**	**18 50 11.5**	**-1.0**
	comp=Z,9.9nm,0.7s,baz=57,slow=8.7,SNR=51						
	comp=Z,9.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.35**	**240**	P	**P**	**18 50 41.1**	**+0.6**
STKA	**Stephens Creek**	**27.75**	**196**	P	**P**	**18 50 42.4**	**-1.6**
STKA	**Stephens Creek**	**27.75**	**196**	P	**P**	**18 50 48.1**	**+4.1**
	comp=Z,1.8nm,0.7s,baz=9.5,slow=12,SNR=1.2						
	comp=Z,1.8nm,0.7s						
FORT	**Forrest**	**32.96**	**217**		**P**	**18 51 29.3**	**-0.8**
MORW	**Morawa**	**40.21**	**230**	P	**P**	**18 52 32.4**	**+0.5**
MORW				IAmb	IAmb	18 52 37.5	
	comp=Z,56nm,1.5s						
AMCZ	**Amberley**	**42.60**	**156**	P	**P**	**18 52 51.5**	**+0.2**
MKAR	**Makanchi Array**	**79.09**	**320**	P	P	18 56 55.1	-4.4
	comp=Z,0.8nm,1.0s,baz=111,slow=7.9,SNR=3.0						
	comp=Z,0.8nm,1.0s						
ILAR	**Eielson Array**	**83.48**	**23**	P	**P**	**18 57 22.6**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=250,slow=5.3,SNR=8.7						
	comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	**84.72**	**180**	P	P	18 57 35.1	+6.2
	comp=Z,4.1nm,0.9s,baz=332,slow=2.9,SNR=7.9						
	comp=Z,4.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**148.15**	**286**	PKPbc	**PKPbc**	**19 04 40.8**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=72,slow=2.1,SNR=9.6						

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*IDC **19** 18:49:35.6±0.6,3°.42N×126°.52E,h0km,mb4.4/20,*
mbtmp4.4/20,Error ellipse: s-maj=35.3km s-min=12.3km
az=68.0
*DJA **19** 18:49:40.6±0.3,3°N±2°×12°7E±°,h10km,M4.7/12,mb4.9/7,*
MLv4.6/12
*BJI **19** 18:49:41.6±0.0,3°.08N×126°.69E,h82km,mb4.7/23,*
mB5.5/3,Ms5.4/3,Ms7 5.2/3
*NEIC **19** 18:49:41.8±1.9,3°.56N±0°.06×126°.80E±0°.08,h45km±7km,*
mb4.8/65,Error ellipse: s-maj=12.4km s-min=6.7km
az=59.0
ISC 19 18:49:42.5±0.3,3°.51N±0°.05×126°.75E±0°.07,h53km,n152,
σ1§22/156,mb4.7/60,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.79**	**167**	P	**Pn**	**18 50 25.6**	**+0.9**
TNTI	**Ternate**	**2.79**	**167**		**Pn**	**18 50 24.7**	**0.0**
TNTI	**Ternate**	**2.79**	**167**	P	**Pn**	**18 50 24.2**	**-0.5**
DAV	**Davao City (W)**	**3.72**	**342**	Pn	**Pn**	**18 50 35.8**	**-1.8**
DAV	**Davao City (W)**	**3.72**	**342**	Sn	**Sn**	**18 51 19.4**	**-0.8**
	41nm,0.3s,baz=83,slow=7.9,SNR=1.8						
KMSI	**Cibinong**	**4.02**	**224**	P	**Pn**	**18 50 43.1**	**+1.6**
GTOI	**Gorontalo**	**4.70**	**233**	P	**Pn**	**18 50 51.8**	**+0.9**
SANI	**Sanana**	**5.57**	**188**	P	**Pn**	**18 51 03.3**	**+0.4**
SANI	**Sanana**	**5.57**	**188**	P	**Pn**	**18 50 59.8**	**-3.1**
MRSI	**Marisa**	**5.67**	**238**	P	**Pn**	**18 51 05.3**	**+1.1**
	117nm,0.9s,0.5nm						
LUWI	**Luwuk**	**6.02**	**221**	P	Pn	18 51 15.0	+6.0
LUWI	**Luwuk**	**6.02**	**221**	Pn	**Pn**	**18 51 09.0**	**0.0**
LUWI	**Luwuk**	**6.02**	**221**	P	**Pn**	**18 51 11.6**	**+2.6**
	206nm,0.8s						
SWI	**Sorong**	**6.26**	**134**	P	**Pn**	**18 51 12.5**	**+0.2**
	148nm,0.8s,0.5nm						
TOLI2	**Tolitoli**	**6.42**	**248**	Pn	**Pn**	**18 51 13.7**	**-0.8**
MPSI	**Mapaga**	**7.54**	**245**	P	**Pn**	**18 51 30.6**	**+0.8**
MYLDM	**Lahad Datu**	**8.39**	**282**		**Pn**	**18 51 41.6**	**+0.1**
FAKI	**Fak Fak**	**8.43**	**139**	Pn	**Pn**	**18 51 40.6**	**-1.4**
KKM	**Kota Kinabalu**	**10.79**	**284**	Pn	**Pn**	**18 52 14.3**	**-0.3**
SOEI	**Soe**	**13.41**	**191**	P	**Pn**	**18 52 52.7**	**+2.4**
SBUM	**Sibu**	**14.55**	**266**	P	**P**	**18 53 09.6**	**-1.2**
GENI	**Genyem**	**14.72**	**114**	P	**P**	**18 53 10.6**	**-2.0**
DRS	**Darwin Rock St**	**16.36**	**165**	P	**P**	**18 53 29.4**	**-1.5**
MTN	**Manton Dam**	**16.82**	**165**	P	**Pn**	**18 53 33.9**	**-0.6**
MTN	**Manton Dam**	**16.82**	**165**	Pn	**Pn**	**18 53 33.0**	**-1.5**
TWG	**Pinlang**	**19.97**	**344**	P	**P**	**18 54 08.8**	**-1.6**
TWG				IAmb	IAmb	18 54 08.9	
	comp=Z,25nm,0.4s						
YULB	**Yu-li**	**20.46**	**346**	P	**P**	**18 54 16.2**	**+0.4**
YULB	**Yu-li**	**20.46**	**346**	P	**P**	**18 54 12.3**	**-3.5**
TPUB	**Ta-pu**	**20.55**	**344**	P	**P**	**18 54 18.3**	**+1.5**
TPUB	**Ta-pu**	**20.55**	**344**	P	**P**	**18 54 13.7**	**-3.1**
TPUB				IAmb	IAmb	18 54 17.4	
	comp=Z,37nm,0.8s						
SSLB	**Suanglung**	**20.92**	**345**	P	**P**	**18 54 22.5**	**+1.7**
SSLB	**Suanglung**	**20.92**	**345**	P	**P**	**18 54 17.5**	**-3.3**
SSLB				IAmb	IAmb	18 54 23.9	
	comp=Z,100nm,1.6s						
FITZ	**Fitzroy Crossi**	**21.50**	**183**	P	**P**	**18 54 25.8**	**-1.1**
YHNB	**Yeheng**	**21.67**	**347**	P	**P**	**18 54 29.8**	**+1.0**
YHNB	**Yeheng**	**21.67**	**347**	P	**P**	**18 54 26.0**	**-2.8**
COEN	**Coen**	**23.80**	**137**	P	**P**	**18 54 52.1**	**+1.4**
COEN	**Coen**	**23.80**	**137**	P	**P**	**18 54 51.3**	**+0.6**
COEN				IAmb	IAmb	18 55 15.4	
	comp=Z,58nm,1.9s						
UBPT	**Khong Chiam**	**24.00**	**301**	P	**P**	**18 54 52.7**	**+0.3**
UBPT				IAmb	IAmb	18 54 54.0	
	comp=Z,33nm,1.1s						
WB0	**Warramunga Arr**	**24.32**	**162**	P	**P**	**18 54 54.5**	**-0.8**
WRAB	**Tennant Creek**	**24.46**	**163**	P	**P**	**18 54 55.5**	**-1.2**
WRAB				IAmb	IAmb	18 54 57.9	
	comp=Z,41nm,0.8s						
WRA	**Warramunga Arr**	**24.47**	**163**	P	**P**	**18 54 55.1**	**-1.7**
WRA	**Warramunga Arr**	**24.47**	**163**	P	**P**	**18 54 55.9**	**-0.8**
	comp=Z,41nm,1.0s,baz=342,slow=10,SNR=70						
WRA				S	**S**	**18 59 14.8**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=335,slow=20,SNR=4.1						
	comp=Z,41nm,1.0s						
WB2	**Warramunga Arr**	**24.47**	**163**	P	**P**	**18 54 55.6**	**-1.2**
WR0	**Warramunga Arr**	**24.55**	**162**	P	**P**	**18 54 56.0**	**-1.4**
WR0				IAmb	IAmb	18 54 58.7	
	comp=Z,33nm,0.9s						
AS31	**Alice Springs**	**27.90**	**166**	P	**P**	**18 55 27.2**	**-0.5**
ASAR	**Alice Springs**	**27.90**	**166**	P	**P**	**18 55 26.6**	**-1.0**
ASAR	**Alice Springs**	**27.90**	**166**	P	**P**	**18 55 27.4**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=348,slow=7.2,SNR=32						
	comp=Z,1.9nm,0.6s						
PHRA	**Phrae**	**29.92**	**302**	P	**P**	**18 55 46.9**	**+1.2**
CTA	**Charters Tower**	**30.28**	**142**	P	**P**	**18 55 49.5**	**+0.7**
	comp=Z,0.3nm,1.0s,baz=291,slow=8.6,SNR=2.3						
CM31	**Chiang Mai Arr**	**31.00**	**301**	P	**P**	**18 55 55.3**	**+0.1**
CM31				IAmb	IAmb	18 56 39.0	
	comp=Z,18nm,1.4s						
CMAR	**Chiang Mai Arr**	**31.00**	**301**	P	**P**	**18 55 53.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**31.00**	**301**	P	**P**	**18 55 55.3**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=108,slow=7.2,SNR=15						
	comp=Z,2.4nm,0.8s						
CHTO	**Chiang Mai**	**31.15**	**301**	P	**P**	**18 55 57.1**	**+0.6**
CHTO				IAmb	IAmb	18 56 25.8	
	comp=Z,32nm,1.9s						
ENH	**Enshi**	**31.23**	**330**	P	**P**	**18 55 56.2**	**-0.9**
ENH				IAmb	IAmb	18 55 58.8	
	comp=Z,14nm,0.9s						
KSRS	**Korea Array**	**33.80**	**2**	P	**P**	**18 56 20.6**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=178,slow=9.9,SNR=13						
	comp=Z,1.6nm,0.7s						
KS19	**Wonju Array Si**	**33.85**	**2**	P	**P**	**18 56 20.6**	**+0.7**
KS19				IAmb	IAmb	18 56 23.9	
	comp=Z,35nm,2.0s						
XAN	**Xi'an**	**34.62**	**333**	⇑P	**P**	**18 56 26.4**	**-0.3**
XAN				pmax	pmax		
	comp=Z,14nm,0.7s						
EIDS	**Eidsvold**	**37.17**	**142**	P	**P**	**18 56 47.9**	**-0.7**
EIDS				IAmb	IAmb	18 56 49.1	
	comp=Z,6.8nm,0.8s						
BJT	**Baijiatuau**	**37.59**	**347**	P	**P**	**18 56 52.9**	**+1.1**
BJT				IAmb	IAmb	18 56 54.2	
	comp=Z,15nm,0.9s						
BJT	**Baijiatuau**	**37.59**	**347**	P	**P**	**18 56 53.0**	**+1.1**
STKA	**Stephens Creek**	**37.92**	**159**		**P**	**18 56 54.3**	**-0.5**
STKA	**Stephens Creek**	**37.92**	**159**	P	**P**	**18 56 55.3**	**+0.5**
	comp=Z,12nm,0.7s,baz=335,slow=9.5,SNR=22						
	comp=Z,12nm,0.7s						
BTO	**Baotou**	**39.90**	**340**	*e*P	**P**	**18 57 14.4**	**+3.0**
BTO				pP	**sP**	**18 57 32.9**	**+2.4**
BTO				sP	pwP	18 57 41.9	+14
BTO				pmax	pmax		
	comp=Z,13nm,0.8s						
BTO				pmax	pmax		
	comp=Z,2μm,10.6s						
SHL	**Shillong**	**40.02**	**307**	P	**P**	**18 57 12.2**	**-0.6**
CN2	**Changchun**	**40.14**	**359**	*e*P	**P**	**18 57 17.1**	**+3.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USA0B	**Ussuriysk Arra**	**40.79**	**6**	P	**P**	**18 57 16.1**	**-2.5**
USRK	**Ussuriysk Ar.**	**40.79**	**6**	P	**P**	**18 57 19.9**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=188,slow=7.2,SNR=5.9						
	comp=Z,2.9nm,0.8s						
MDJ	**Mudanjiang**	**41.02**	**3**	P	**P**	**18 57 21.2**	**+0.7**
ARMA	**Armidale**	**41.27**	**147**		**P**	**18 57 23.7**	**+0.8**
ARMA				IAmb	IAmb	18 57 24.9	
	comp=Z,21nm,1.1s						
XLT	**XiLinHaoTe**	**41.32**	**348**	*e*P	**P**	**18 57 24.0**	**+0.9**
XLT				pP	sP	18 57 44.3	+1.4
XLT				sP	pwP	18 57 53.0	+16
XLT				pmax	pmax		
	comp=Z,22nm,0.9s						
LSA	**Lhasa**	**42.60**	**312**	P	**P**	**18 57 33.8**	**-0.5**
GTA	**Gaotai**	**43.30**	**329**	*e*P	**P**	**18 57 40.3**	**+1.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CAN	**Canberra**	**43.91**	**153**	P	**P**	**18 57 45.3**	**+1.1**
CAN				sP	**sP**	**18 58 03.8**	**+0.2**
DZM	**Mont Dzumac**	**46.39**	**125**	P	**P**	**18 58 02.8**	**-1.4**
DZM				IAmb	IAmb	18 58 06.6	
	comp=Z,14nm,0.9s						
DZM	**Mont Dzumac**	**46.39**	**125**	P	**P**	**18 58 06.0**	**+1.9**
DZM				pP	**pwP**	**18 58 19.4**	**+1.6**
HEH	**HeiHe**	**46.58**	**1**	*e*P	**P**	**18 58 06.8**	**+1.8**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ULN	**Ulaanbaatar**	**47.33**	**342**	P	**P**	**18 58 11.2**	**0.0**
ULN	**Ulaanbaatar**	**47.33**	**342**	P	**P**	**18 58 12.8**	**+1.6**
SONM	**Songino Array**	**47.51**	**341**	P	**P**	**18 58 12.4**	**-0.1**
SONM	**Songino Array**	**47.51**	**341**	P	**P**	**18 58 12.3**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=157,slow=8.0,SNR=6.8						
	comp=Z,1.2nm,0.5s						
ZSN	**Zaisan**	**56.70**	**327**	*e*P	**P**	**18 59 21.4**	**+0.7**
	baz=327						
SHLS	**Shalkode**	**57.53**	**320**	*e*P	**P**	**18 59 25.1**	**-1.6**
	baz=320						
MK31	**Makanchi Array**	**57.75**	**325**	P	**P**	**18 59 27.8**	**-0.3**
MK31				IAmb	IAmb	18 59 30.2	
	comp=Z,5.2nm,0.9s						
MKAR	**Makanchi Array**	**57.75**	**325**	P	**P**	**18 59 27.5**	**-0.6**
MKAR	**Makanchi Array**	**57.75**	**325**	P	**P**	**18 59 28.0**	**-0.1**
	comp=Z,3.7nm,0

comp=Z,8.0nm,0.8s,baz=126,slow=9.3,SNR=35
comp=Z,8.0nm,0.8s
BRVK Borovoye 67.59 327 P **P 19 00 33.1 -0.4**
BRVK IAmb IAmb 19 00 36.0
comp=Z,11nm,0.8s
BRVK Borovoye 67.59 327 P **P 19 00 33.6 +0.1**
NRIK Noril'sk 70.65 346 P **P 19 00 51.1 -1.1**
NRIK Noril'sk 70.65 346 P **P 19 00 54.0 +1.8**
comp=Z,4.8nm,0.7s,baz=114,slow=8.5,SNR=3.6
comp=Z,4.8nm,0.7s
DRV Dumont d'Urvil 70.66 174 P **P 19 00 53.3 +1.1**
ARU Arti 75.13 328 P **P 19 01 17.5 -1.5**
ARU IAmb IAmb 19 01 21.5
comp=Z,5.0nm,0.6s
RAYN Ar Rayn 80.59 293 P **P 19 01 49.3 -0.8**
K20K Telida 82.03 27 P **P 19 01 57.9 +1.1**
KDAK Kodiak Island 82.06 32 P **P 19 01 56.1 -0.9**
KDAK IAmb IAmb 19 04 50.7
comp=Z,18nm,1.4s
SYI Shuyak Island 82.25 31 P **P 19 01 56.9 -1.1**
IMAR Indian Mountai 82.54 24 P **P 19 01 58.6 -0.8**
E21K Killik River 82.81 21 P **P 19 02 00.5 -0.3**
E21K IAmb IAmb 19 02 25.6
comp=Z,28nm,1.9s
CNPM China Poot 82.94 31 P **P 19 02 00.8 -0.8**
KBZ Khabaz 83.14 313 P **P 19 02 02.9 -0.1**
comp=Z,1.6nm,0.7s,baz=117,slow=4.7,SNR=2.5
comp=Z,1.6nm,0.7s
VNDA Vanda 83.21 173 P **P 19 02 02.7 +0.1**
comp=Z,1.3nm,0.9s,baz=313,slow=5.0,SNR=4.5
comp=Z,1.3nm,0.9s
SUA Susitna One 83.35 29 P **P 19 02 04.0 +0.2**
SUA IAmb IAmb 19 02 35.1
comp=Z,5.8nm,0.9s
G23K Bananza Creek 84.11 23 P **P 19 02 07.4 -0.2**
ILAR Eielson Array 85.29 25 P **P 19 02 15.2 +1.7**
comp=Z,1.2nm,1.1s,baz=242,slow=4.7,SNR=4.4
comp=Z,1.2nm,1.1s
BMAR Burnt Mountain 86.27 23 P **P 19 02 18.9 +0.5**
BR131 Keskin Array S 90.17 310 P **P 19 02 37.0 -0.7**
BR131 IAmb IAmb 19 02 39.0
comp=Z,3.8nm,0.9s
BRTR Keskin Array B 90.17 310 P **P 19 02 37.1 -0.6**
BRTR Keskin Array B 90.17 310 P **P 19 02 37.5 -0.2**
comp=Z,2.1nm,0.9s,baz=99,slow=6.4,SNR=6.3
comp=Z,2.1nm,0.9s
ARCES ARCESS Array B 90.66 340 P **P 19 02 37.9 -1.2**
ARCES ARCESS Array B 90.66 340 P **P 19 02 39.4 +0.3**
comp=Z,2.2nm,0.8s,baz=90,slow=4.9,SNR=5.4
comp=Z,2.2nm,0.8s
FINES FINESS Array B 92.03 332 P **P 19 02 46.3 +0.8**
comp=Z,0.9nm,0.6s,baz=65,slow=7.8,SNR=2.5
comp=Z,0.9nm,0.6s
AKASG Malin Array Be 92.08 321 P **P 19 02 46.1 +0.1**
comp=Z,0.5nm,0.4s,baz=71,slow=4.7,SNR=2.8
comp=Z,0.5nm,0.4s
NB2 NORSAR Subarra 98.99 334 P **Pdif 19 03 18.6 +1.3**
comp=Z,1.3nm,0.9s,baz=69,slow=4.4
NOA NORSAR Array B 98.99 334 P **Pdif 19 03 16.1 -1.2**
comp=Z,0.7nm,0.8s,baz=67,slow=4.5,SNR=4.0
comp=Z,0.7nm,0.8s
TORD Torodi Ar. Bea 123.00 288 PKP **PKiKP 19 08 34.3 +0.1**
comp=Z,0.4nm,0.7s,baz=116,slow=4.5,SNR=2.4

HEL 19 18:59:00.3±0.2, 63°.65N×26°.08E, h0km, ML0.9, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia**	**0.82**	**108**	PG	Pg	18 59 14.8	-1.2
NIF				SG	Sg	18 59 26.0	-0.6
SUF	**Sumiainen**	**0.93**	**178**	PB	Pg	18 59 17.8	-0.4
SUF				MSG		18 59 29.1	
	comp=Z,0.4nm,0.2s						
SUF				SB	Sg	18 59 30.0	-0.2
OUF	**Merijarvi**	**0.93**	**321**	PB	Pg	18 59 18.1	-0.1
OUF				MSG	Sb	18 59 29.1	-3.2
	comp=Z,0.8nm,0.2s						
OUF				SB	Sb	18 59 29.1	-3.2
OBF0	**Syolatti, Pyha**	**1.18**	**317**	MSG		18 59 36.1	
	comp=Z,0.8nm,0.2s						
OBF0				SB	Sg	18 59 38.2	+0.2
OBF4	**Vikkela, Lumij**	**1.25**	**340**	MSG		18 59 37.9	
	comp=Z,0.7nm,0.2s						
OBF4				SB	Sg	18 59 39.0	-1.3
OUL	**Oulu**	**1.45**	**357**	SG	Sg	18 59 44.1	-2.6
KAF	**Kangasniemi**	**1.54**	**176**	MSG		18 59 46.7	
	comp=Z,1.3nm,0.2s						
KAF				SN	Sn	18 59 48.8	-0.9
VAF	**Ylistaro**	**1.65**	**250**	PG	Pn	18 59 29.9	-0.6
VAF				MSG		18 59 49.8	
	comp=Z,0.4nm,0.2s						
VAF				SN	Sn	18 59 52.2	-0.2
FIA0	**FINESS Array S**	**2.21**	**180**	MSG		19 00 05.9	
	comp=Z,0.5nm,0.2s						
FIA0				SG	Sb	19 00 09.3	+0.3
BURU	**Burvik**	**2.27**	**297**	SG	Sb	19 00 09.9	-0.6
RANF	**Ranua**	**2.40**	**7**	SG	Sb	19 00 13.2	-1.1
UMAU	**Umeaa**	**2.41**	**278**	SG	Sb	19 00 13.9	-0.8
JOF	**Joensuu**	**2.48**	**105**	SN	Sn	19 00 08.9	-3.8

DJA 19 19:00:26.4±2.3, 9°S±8°×11°3E±°, h15km±22km, M3.8/9, mb4.2/1, MLv3.7/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.48**	**59**	P	Pn	19 00 52.6	+0.1
JAGI				S	Sb	19 01 12.0	-0.3
PWJI	**Pagerwojo**	**1.60**	**319**	P	Pn	19 00 53.7	-0.5
PWJI				S	Sn	19 01 15.0	+0.3
ABJI	**Asem Bagus**	**1.97**	**43**	P	Pn	19 01 00.2	+0.9
DNP	**Denpasar**	**2.38**	**77**	P	Pn	19 01 06.0	+1.1
SRBI	**Singaraja**	**2.58**	**64**	P	Pn	19 01 06.6	-1.1
UGM	**Wanagama**	**2.67**	**299**	P	Pn	19 01 09.5	+0.6
TWSI	**Taliwang, Sumb**	**4.00**	**83**	P	Pn	19 01 25.7	-1.4
CNJI	**Cibinong**	**6.00**	**288**	P	Pn	19 01 54.5	-0.2

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*IDC **19** 19:15:37.4±1.1, 6°.04S×147°.44E, h42km±7km, mb3.4/5, mbtmp3.6/7, ML1.7/1, Error ellipse: s-maj=47.9km s-min=13.4km az=92.0*

ISC 19 19:15:36.8±1.0, 6°.00S±0°.09×147°.4E±0°.3, h35km, n8, σ1§26/13, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.40**	**185**	P	**Pn**	**19 16 28.8**	**+1.5**
	6.5nm,0.3s,baz=1.6,slow=5.8,SNR=19						
PMG				S	**Sn**	**19 17 07.1**	**+0.7**
	44nm,0.6s,baz=6.4,slow=18,SNR=1.9						
	22nm,0.4s						
WRA	**Warramunga Arr**	**18.82**	**221**	P	**P**	**19 19 52.1**	**-1.6**
	0.6nm,0.8s,baz=40,slow=12,SNR=2.2						
WRA				PcP	**PcP**	**19 24 19.4**	**-0.6**
	0.8nm,0.9s,baz=31,slow=1.9,SNR=4.8						
WRA				pPcP		19 24 32.6	
	0.2nm,0.7s,baz=35,slow=1.7,SNR=5.2						
ASAR	**Alice Springs**	**21.87**	**215**	P	**P**	**19 20 25.4**	**-1.3**
	0.6nm,0.6s,baz=51,slow=8.5,SNR=12						
	0.6nm,0.6s						
STKA	**Stephens Creek**	**26.32**	**191**	P	**P**	**19 21 09.5**	**+0.1**
	3.8nm,1.0s,baz=27,slow=14,SNR=2.2						
	3.8nm,1.0s						
MKAR	**Makanchi Array**	**77.77**	**320**	P	**P**	**19 27 31.4**	**+0.9**
	0.1nm,0.4s,baz=98,slow=8.0,SNR=1.6						
MKAR				pP	**pP**	**19 27 43.6**	**+2.1**
	0.3nm,0.8s,baz=108,slow=3.2,SNR=2.3						
	0.1nm,0.4s						
QSPA	**South Pole Qui**	**83.97**	**180**	P	**P**	**19 28 01.9**	**-1.4**
	0.6nm,0.8s,baz=315,slow=1.4,SNR=1.6						
QSPA				pP	**pP**	**19 28 14.7**	**-0.3**
	1.2nm,0.8s,baz=24,slow=1.3,SNR=2.6						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**85.31**	**23**	P	**P**	**19 28 09.6**	**-0.3**
	0.4nm,0.8s,baz=264,slow=4.6,SNR=4.3						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**145.51**	**284**	PKPbc	**PKPdf**	**19 35 11.4**	**-0.9**
	0.4nm,0.7s,baz=73,slow=3.9,SNR=2.7						
TORD				pPKPbc	**pPKPdf**	**19 35 24.4**	**+0.6**
	0.5nm,0.8s,baz=81,slow=5.3,SNR=3.0						

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*HVO **19** 19:15:39.9±1.4, 19°.40N±0°.01×155°.279W±0°.009, h0km±4km, ML3.3/45, ML3.2/29(NEIC), Error ellipse:*
s-maj=1.6km s-min=1.2km az=199.0
*NEIC **19** 19:15:40.4±0.8, 19°.42N±0°.01×155°.306W±0°.009, h4km±2km, Error ellipse: s-maj=2.0km s-min=0.8km az=210.0*
*IDC **19** 19:15:42.1±2.2, 19°.64N×155°.32W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=74.0km s-min=15.3km az=166.0*

ISC 19 19:15:40.6±1.1, 19°.43N±0°.03×155°.32W±0°.03, h3km±6km, n40, σ0§83/32, mb3.5/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UWE	**Uwekahuna**	**0.02**	**106**		**Pg**	**19 15 40.8**	**-0.7**
WRMHI	**West Rim**	**0.03**	**144**		**Pg**	**19 15 41.6**	**+0.1**
OBL	**Observatory Le**	**0.03**	**108**		**Pg**	**19 15 41.4**	**-0.1**
UWB	**Uwekahuna B**	**0.04**	**94**		**Pg**	**19 15 41.9**	**+0.3**
SDHHI	**Sand Hill**	**0.04**	**151**		**Pg**	**19 15 41.3**	**-0.4**
SBLHI	**Steaming Bluff**	**0.04**	**91**		**Pg**	**19 15 41.8**	**+0.1**
RSD	**Rainshed**	**0.05**	**45**		**Pg**	**19 15 41.8**	**0.0**
RSD				IAML		19 15 42.6	
	comp=N,7μm,0.6s						
RIM	**Rim**	**0.05**	**129**		**Pg**	**19 15 41.0**	**-0.8**
HATHI	**Halema'uma'u T**	**0.05**	**95**		**Pg**	**19 15 41.3**	**-0.6**
BYL	**Byron's Ledge**	**0.06**	**106**		**Pg**	**19 15 41.8**	**-0.1**
KKO	**Keanakako'i**	**0.06**	**122**		**Pg**	**19 15 41.1**	**-0.8**
MLH	**Mauna Loa**	**0.09**	**315**		**Pg**	**19 15 43.8**	**+1.2**
MLH	**Mauna Loa**	**0.09**	**315**	IAML		19 15 47.2	
	comp=N,10μm,1.1s						
MLH				IAML		19 15 47.8	
	comp=E,14μm,0.7s						
PUH	**Pauahi**	**0.11**	**119**		**Pg**	**19 15 41.7**	**-1.1**
PUH				IAML		19 15 43.0	
	comp=E,21μm,0.8s						
HLP	**Hilina Pali**	**0.13**	**177**		**Pg**	**19 15 43.1**	**-0.1**
HLP	**Hilina Pali**	**0.13**	**177**	IAML		19 15 45.5	
	comp=E,13μm,1.3s						
HLP				IAML		19 15 45.9	
	comp=N,20μm,0.7s						
KNHH	**Kane Nui o Ham**	**0.15**	**109**		**Pg**	**19 15 43.1**	**-0.4**
STCH	**Steam Cracks**	**0.18**	**103**		**Pg**	**19 15 43.7**	**-0.5**
STCH	**Steam Cracks**	**0.18**	**103**	IAML		19 15 47.3	
	comp=N,12μm,0.9s						
STCH				IAML		19 15 47.6	
	comp=E,9μm,0.9s						
NPOC	**North of Pu'u**	**0.20**	**100**		**Pg**	**19 15 44.0**	**-0.5**
HTC	**Hot Caves**	**0.20**	**202**		**Pg**	**19 15 44.9**	**+0.3**
JCUZ	**Jacuzzi**	**0.21**	**102**		**Pg**	**19 15 44.2**	**-0.4**
HMH	**Humu'ula Sheep**	**0.23**	**318**	Pg	**Pg**	**19 15 44.8**	**-0.4**
HMH				IAML		19 15 51.7	
	comp=E,4μm,1.0s						
HMH				IAML		19 15 51.7	
	comp=N,2μm,1.0s						
MLOA	**Mauna Loa Obse**	**0.27**	**294**	Pg	**Pg**	**19 15 45.6**	**-0.2**
MLOA				IAML		19 15 52.8	
	comp=N,3μm,1.0s						
MLOA				IAML		19 15 54.3	
	comp=E,3μm,1.1s						
MWH	**Moku'aweowe**	**0.27**	**282**	Pg	**Pg**	**19 15 46.1**	**+0.2**
MWH				IAML		19 15 53.7	
	comp=N,5μm,0.7s						
KHU	**Kahuku**	**0.34**	**237**	IAML		19 15 56.6	
	comp=N,2μm,1.1s						
KHU				IAML		19 15 59.6	
	comp=E,3μm,0.7s						
POHA	**Pohakuloa**	**0.39**	**328**	Pg	**Pg**	**19 15 48.0**	**-0.1**
POHA				IAML		19 15 59.1	
	comp=E,3μm,0.8s						
HPO	**Honuapo**	**0.41**	**214**	Pg	**Pg**	**19 15 47.5**	**-0.8**
HUH	**Hualalai**	**0.55**	**298**		**Pg**	**19 15 50.1**	**-1.2**
I59US	**HAWAII INFRASO**	**0.57**	**287**	Pg	**Pb**	**19 15 52.5**	**-0.7**
	baz=120,slow=58						
HPAH	**Hawaii Prepara**	**0.70**	**329**		**Pg**	**19 15 52.0**	**-2.0**
MHA	**Mahukona**	**0.94**	**324**	Pg	**Pg**	**19 15 57.6**	**-1.0**
KHLH	**Kahului Airpor**	**1.80**	**325**	Pn	**Pn**	**19 16 11.3**	**-1.1**
H11N3	**WAKE ISLAND Hy**	**35.55**	**277**	T	T	20 00 07.0	
	baz=84						
H11N2	**WAKE ISLAND Hy**	**35.56**	**277**	T	T	20 00 08.8	
	baz=84						
H11N1	**WAKE ISLAND Hy**	**35.56**	**277**	T	T	20 00 09.3	
	baz=84						
H02S1	**DAWSON INLET T**	**38.06**	**22**	T	T	20 03 41.8	
	SNR=5.6						
PDAR	**Pinedale Array**	**44.88**	**48**	P	**P**	**19 23 58.4**	**+1.7**
	comp=E,0.1nm,0.3s,baz=256,slow=7.3,SNR=1.9						
	comp=E,0.1nm,0.3s						
ILAR	**Eielson Array**	**45.67**	**5**	P	**P**	**19 24 02.3**	**0.0**
	comp=E,0.5nm,0.8s,baz=195,slow=8.1,SNR=5.8						
	comp=E,0.5nm,0.8s						
TXAR	**Lajitas Array**	**47.74**	**68**	P	**P**	**19 24 20.2**	**+1.0**
	comp=E,0.9nm,0.7s,baz=261,slow=8.2,SNR=9.6						
	comp=E,0.9nm,0.7s						

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*IDC **19** 19:33:24.3±0.7, 30°.34N×66°.35E, h0km, mb3.9/22, mbtmp4.0/24, ML4.2/2, MS4.3/1, Error ellipse: s-maj=17.7km s-min=14.7km az=129.0*
*NEIC **19** 19:33:26.5±2.2, 30°.36N±0°.07×66°.45E±0°.06, h10km±1km, mb4.2/27, Error ellipse: s-maj=12.7km s-min=8.1km az=197.0*
*BJI **19** 19:33:28.5±0.0, 30°.66N×66°.48E, h17km, mb4.4/17, Ms4.3/3, Ms7 4.0/2*
*MOS **19** 19:33:28.8±1.5, 30°.51N×66°.51E, h36km, mb4.3/16, Error ellipse: s-maj=9.4km s-min=5.2km az=76.1*

ISC 19 19:33:27.2±0.4, 30°.40N±0°.05×66°.42E±0°.04, h12km, n309, σ1§84/317, mb4.1/41, MS4.2/4, 11C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**4.69**	**28**	Pn	**Pn**	**19 34 39.1**	**+1.1**
KBL	**Kabul**	**4.69**	**28**	P	**Pn**	**19 34 39.1**	**+1.1**
JASL	**Jaisalmer**	**5.24**	**130**	*e*P	**Pn**	**19 34 48.1**	**+2.8**
JASL				*e*S	**Sn**	**19 35 44.9**	**-0.8**
JASL				IAML		19 35 51.4	
	comp=N,327nm,0.7s						
JASL				IAML		19 35 52.7	
	comp=E,266nm,0.7s						
HRA	**Herat**	**5.32**	**319**	Pn	**Pn**	**19 34 47.0**	**+0.4**
NIL	**Nilore**	**6.64**	**59**	Pn	**Pn**	**19 35 04.2**	**-0.5**
NIL	**Nilore**	**6.64**	**59**	P	**Pn**	**19 35 04.2**	**-0.5**
JMU	**Jammu**	**7.59**	**70**	*e*P	**Pn**	**19 35 18.5**	**+0.8**
JMU				*e*S	**Sn**	**19 36 42.5**	**-1.2**
BHUJ	**Bhuj**	**7.68**	**157**	*e*S	**Sn**	**19 36 46.9**	**+1.2**
BHUJ				IAML		19 36 48.8	
	comp=N,54nm,0.7s						
BHUJ				IAML		19 36 54.0	
	comp=N,54nm,0.4s						
THN	**Thein Dam**	**8.20**	**73**	*e*P	**Pn**	**19 35 26.1**	**+0.1**
THN				*e*S	**Sn**	**19 36 56.6**	**-1.9**
THN				IAML		19 37 03.6	
	comp=N,77nm,0.2s						
THN				IAML		19 37 04.3	
	comp=E,97nm,0.3s						
AJM	**Ajmer**	**8.22**	**116**	*ex*	x	19 35 37.1	
AJM				*e*S	**Sn**	**19 36 59.0**	**-0.3**
AJM				IAML		19 37 18.7	
	comp=E,33nm,0.7s						
IGR	**Igron**	**8.23**	**16**	P	**Pn**	**19 35 25.0**	**-1.4**
SIMJ	**Simiganj**	**8.51**	**14**	Pn	**Pn**	**19 35 31.4**	**+0.9**
CHGR	**Chuyangaron**	**8.54**	**15**	Pn	**Pn**	**19 35 31.5**	**+0.7**
CHGR	**Chuyangaron**	**8.54**	**15**	P	**Pn**	**19 35 31.5**	**+0.7**
BHK	**Bhakra**	**8.65**	**81**	*e*P	**Pn**	**19 35 31.4**	**-0.8**
BHK				*e*S	**Sn**	**19 37 05.5**	**-4.2**
BHK				IAML		19 37 09.2	
	comp=E,140nm,0.7s						
BHK				IAML		19 37 13.1	
	comp=E,144nm,0.5s						
DHRM	**DHARAMSHALA**	**8.65**	**75**	*e*P	**Pn**	**19 35 32.4**	**0.0**
DHRM				*e*S	**Sn**	**19 37 06.0**	**-4.0**
DHRM				IAML		19 37 14.6	
	comp=N,173nm,0.8s						
DHRM				IAML		19 37 19.7	
	comp=E,172nm,0.6s						
KUDL	**Kundal**	**9.07**	**102**	*e*P	**Pn**	**19 35 41.7**	**+3.7**
KUDL				*e*S	**Sn**	**19 37 15.2**	**-4.9**
KUDL				IAML		19 37 16.8	
	comp=E,25nm,0.8s						
GAR	**Garm**	**9.16**	**19**	Pn	**Pn**	**19 35 39.0**	**-0.3**
SMLA	**Simla**	**9.27**	**83**	*e*P	**Pn**	**19 35 41.3**	**+0.6**
SMLA				*e*S	**Sn**	**19 37 21.8**	**-3.2**
SMLA				IAML		19 37 28.4	
	comp=N,80nm,0.6s						
SMLA				IAML		19 37 31.8	
	comp=E,79nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**9.96**	**226**	Pn	**Pn**	**19 35 49.2**	**-0.9**
	comp=E,1.6nm,0.3s,baz=77,slow=9.7,SNR=23						
WSAR				Sn	Sn	19 37 30.9	-11
	comp=E,0.1nm,0.3s,baz=137,slow=11,SNR=1.2						
	comp=E,9.1nm,0.5s						
KLP	**Kalpa**	**10.22**	**81**	*e*P	**Pn**	**19 35 53.1**	**-0.9**
KLP				*e*S	**Sn**	**19 37 45.0**	**-3.6**
BTK	**Batken**	**10.29**	**19**	Pn	**Pn**	**19 35 55.3**	**+0.7**
BTK	**Batken**	**10.29**	**19**	P	**Pn**	**19 35 55.3**	**+0.7**
UOSS	**Minazif**	**10.56**	**242**	Pn	**Pn**	**19 35 57.5**	**-0.9**
KSH	**Kashi**	**12.00**	**38**	P	Pn	19 36 12.3	-5.8
KSH				pP		19 36 20.1	
KSH				S	Sn	19 38 17.9	-14
KSH				pmax	pmax		
	comp=E,58nm,0.8s						
KSH				LR	LR		
	comp=E,1μm,13.4s						
KSH				LR	LR		
	comp=E,960nm,10.0s						
KSH				LR	LR		
	comp=E,640nm,13.1s						
ARSB	**Arslanbob**	**12.13**	**24**		**Pn**	**19 36 19.4**	**-0.5**
ARSB	**Arslanbob**	**12.13**	**24**	P	**Pn**	**19 36 19.4**	**-0.5**
AML	**Almayashu**	**13.09**	**25**	P	**Pn**	**19 36 32.9**	**-0.4**
	SNR=18						
KK31	**Karatay Array**	**13.10**	**13**	Pn	**Pn**	**19 36 32.1**	**-0.9**
KK31	**Karatay Array**	**13.10**	**13**	P	**Pn**	**19 36 32.1**	**-0.9**
KKAR	**Karatay Array**	**13.10**	**13**	Pn	**Pn**	**19 36 30.9**	**-2.0**
KKAR	**Karatay Array**	**13.10**	**13**		**Pn**	**19 36 31.5**	**-1.5**
KKAR	**Karatay Array**	**13.10**	**13**	P	**Pn**	**19 36 31.0**	**-2.0**
NRN	**Naryn**	**13.46**	**33**	Pn	**Pn**	**19 36 35.4**	**-2.9**
NRN	**Naryn**	**13.46**	**33**	P	**Pn**	**19 36 35.4**	**-2.9**
UCH	**Uchtor**	**13.48**	**27**	P	**Pn**	**19 36 36.5**	**-2.2**
	SNR=23						
EKS2	**Erkin-Say**	**13.59**	**24**	P	**Pn**	**19 36 41.3**	**+1.5**
	SNR=6.6						
AAK	**Ala-Archa**	**13.82**	**26**	Pn	**Pn**	**19 36 39.8**	**-3.3**
AAK	**Ala-Archa**	**13.82**	**26**	Pn	**Pn**	**19 36 42.4**	**-0.7**
	comp=E,1.3nm,0.3s,baz=211,slow=13,SNR=5.4						
	comp=E,7.0nm,0.6s						
AAK	**Ala-Archa**	**13.82**	**26**	*ce*P	**Pn**	**19 36 43.0**	**-0.1**
AAK				pmax	pmax		
	comp=Z,18nm,1.7s						
CHMS	**Chumysh**	**14.23**	**26**	P	**Pn**	**19 36 49.8**	**+1.3**
	SNR=5.8						
BOOM	**Boomskoye usch**	**14.28**	**30**	Pn	**Pn**	**19 36 46.4**	**-3.0**
BOOM	**Boomskoye usch**	**14.28**	**30**	P	**Pn**	**19 36 46.4**	**-3.0**
TKM2	**Tokmak 2**	**14.49**	**28**	P	**Pn**	**19 36 51.7**	**-0.6**
	SNR=30						
TARG	**Taragay, Kyrgy**	**14.56**	**36**	Pn	Pn	19 36 48.5	-5.0
TARG	**Taragay, Kyrgy**	**14.56**	**36**	P	Pn	19 36 48.5	-5.0
PRZ	**Przheval'sk**	**15.42**	**35**	Pn	**Pn**	**19 37 03.9**	**-0.8**
PRZ				IAmb	IAmb	19 37 06.3	
	comp=Z,17nm,0.7s						
PRZ	**Przheval'sk**	**15.42**	**35**	P	**Pn**	**19 37 03.9**	**-0.8**
PRZ				pmax	pmax		
	comp=Z,17nm,0.7s						
ABKAR	**Akbulak array**	**19.47**	**347**	P	**P**	**19 37 52.7**	**-1.0**
RAYN	**Ar Rayn**	**19.85**	**255**	P	**P**	**19 37 56.0**	**-2.1**
RAYN				IAmb	IAmb	19 38 00.2	
	comp=Z,9.9nm,1.1s						
RAYN	**Ar Rayn**	**19.85**	**255**	P	**P**	**19 37 56.0**	**-2.1**
RAYN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GNI	**Garni**	**20.16**	**305**	P	**P**	**19 37 59.0**	**-2.5**
GNI				IAmb	IAmb	19 38 29.9	
	comp=Z,9.2nm,0.9s						
GNI	**Garni**	**20.16**	**305**	*i* P	Pn	19 38 04.9	+1.5
GNI				pmax	pmax		
	comp=Z,12nm,1.2s						
MAKZ	**Makanchi**	**20.34**	**32**	P	**P**	**19 38 02.8**	**-0.5**
MAKZ				IAmb	IAmb	19 38 06.4	
	comp=Z,7.0nm,0.7s						
MAKZ	**Makanchi**	**20.34**	**32**	P	**P**	**19 38 02.8**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MK31	**Makanchi Array**	**20.48**	**32**	P	**P**	**19 38 03.3**	**-1.5**
MK31	**Makanchi Array**	**20.48**	**32**	*ce*P	**P**	**19 38 04.9**	**+0.1**
MKAR	**Makanchi Array**	**20.48**	**32**	P	**P**	**19 38 03.6**	**-1.1**
MKAR	**Makanchi Array**	**20.48**	**32**	P	**P**	**19 38 04.5**	**-0.3**
	comp=Z,4.8nm,0.6s,baz=210,slow=8.8,SNR=40						
	comp=Z,4.8nm,0.6s						
AKTO	**Aktyubinsk**	**20.99**	**345**	P	**P**	**19 38 09.5**	**-0.7**
	comp=Z,4.5nm,0.7s,baz=183,slow=5.3,SNR=14						
	comp=Z,4.5nm,0.7s						
LSA	**Lhasa**	**21.41**	**86**	P	**P**	**19 38 12.9**	**-2.6**
LSA				IAmb	IAmb	19 38 40.2	
	comp=Z,6.1nm,0.9s						
LSA	**Lhasa**	**21.41**	**86**	P	**P**	**19 38 12.9**	**-2.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KARS	**Kars**	**21.51**	**305**	P	**P**	**19 38 14.1**	**-2.0**
KARS	**Kars**	**21.51**	**305**	P	**P**	**19 38 14.1**	**-2.0**
KARS				pmax	pmax		
	comp=Z,33nm,1.1s						
WMQ	**Urumqi**	**21.54**	**46**	*e*P	**P**	**19 38 17.1**	**+0.8**
WMQ				PP	**PnPn**	**19 38 44.8**	**+8.1**
WMQ				pmax	pmax		
	comp=Z,11nm,1.1s						
GURO	**Guroymak-BITLI**	**21.65**	**299**	P	**P**	**19 38 17.0**	**-0.6**
KURBB	**Kurchatov Arra**	**22.15**	**21**	P	**P**	**19 38 21.7**	**-0.9**
	comp=Z,8.1nm,0.8s,baz=210,slow=10,SNR=30						
KURBB				LR	LR	19 47 38.3	
	comp=Z,669nm,18.9s,baz=121,slow=38						
	comp=Z,8.1nm,0.8s						
KURK	**Kurchatov**	**22.26**	**21**	P	**P**	**19 38 22.5**	**-1.3**
KURK				IAmb	IAmb	19 38 30.1	
	comp=Z,14nm,1.1s						
KURK	**Kurchatov**	**22.26**	**21**	*ce*P	**P**	**19 38 25.3**	**+1.5**
KURK				pmax	pmax		
	comp=Z,14nm,1.0s						
BVAR	**Borovoye Array**	**22.80**	**6**	P	**P**	**19 38 29.2**	**-0.4**
	comp=Z,5.4nm,0.6s,baz=180,slow=9.6,SNR=46						
	comp=Z,5.4nm,0.6s						
BRVK	**Borovoye**	**22.82**	**6**	P	**P**	**19 38 28.6**	**-1.2**
BRVK	**Borovoye**	**22.82**	**6**	*ce*P	**P**	**19 38 28.6**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,25nm,1.3s						
KBZ	**Khabaz**	**22.91**	**312**	P	**P**	**19 38 30.8**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=114,slow=13,SNR=2.3		

ELL pmax pmax
comp=Z,32nm,0.8s
CMAR Chiang Mai Arr 31.79 104 *ce*P **P 19 39 54.0 +2.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
OBN Obninsk 32.58 328⇑ *e*P **P 19 40 01.8 +3.6**
OBN *e* 19 41 09.8
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,361nm,18.0s
AKASG Malin Array Be 34.29 317 P **P 19 40 11.6 -1.5**
comp=Z,0.1nm,0.2s,baz=101,slow=7.1,SNR=2.5
comp=Z,0.1nm,0.2s
AKBB Malin Array Si 34.29 317 P **P 19 40 12.1 -1.1**
AKBB IAmb IAmb 19 40 20.5
comp=Z,2.3nm,0.8s
AKBB Malin Array Si 34.29 317 P **P 19 40 12.1 -1.1**
AKBB pmax pmax
comp=Z,2.0nm,0.8s
MLR Muntele Rosu 34.90 307 P **P 19 40 19.4 +0.8**
MLR IAmb IAmb 19 40 59.2
comp=Z,5.0nm,1.2s
MLR Muntele Rosu 34.90 307 P **P 19 40 19.5 +0.8**
MLR pmax pmax
comp=Z,5.0nm,1.2s
SONM Songino Array 35.10 49 P **P 19 40 20.5 +0.1**
SONM Songino Array 35.10 49 P **P 19 40 19.4 -0.9**
comp=Z,1.1nm,0.8s,baz=231,slow=9.1,SNR=3.7
comp=Z,1.1nm,0.8s
SONM Songino Array 35.10 49 P **P 19 40 20.5 +0.1**
SONM pmax pmax
comp=Z,2.0nm,1.3s
BURAR Bucovina Array 35.85 310 P **P 19 40 26.1 -0.7**
BUR08 Bucovina Ar. S 35.87 310 P **P 19 40 30.1 +3.1**
XAN Xi'an 35.95 73 ⇑P **P 19 40 29.8 +2.0**
XAN pmax pmax
comp=Z,14nm,1.0s
XAN LR LR
comp=Z,470nm,15.8s
XAN LR LR
comp=Z,560nm,16.5s
XAN LR LR
comp=Z,270nm,16.5s
VSU Vasula 38.94 328 *i* P **P 19 40 54.7 +2.0**
VSU pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 40.72 332 P **P 19 41 06.6 -0.8**
FINES FINESS Array B 40.72 332 P **P 19 41 05.7 -1.7**
comp=Z,0.7nm,0.7s,baz=136,slow=8.7,SNR=2.0
comp=Z,0.7nm,0.7s
FINES FINESS Array B 40.72 332 P **P 19 41 06.6 -0.8**
CUC Castrocucco 41.97 297 P **P 19 41 16.7 -1.4**
CAMP Campotosto 43.67 301 P **P 19 41 31.4 -0.6**
CAMP IAmb IAmb 19 41 36.6
comp=Z,2.3nm,0.8s
CLL Collm 44.35 314 *e*P **P 19 41 37.0 -0.1**
comp=Z,3.0nm,0.8s
CLL *e*PP **PcP 19 43 22.0 +1.0**
CLL Collm 44.35 314 *e*P **P 19 41 37.0 -0.1**
CLL pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 45.50 341 P **P 19 41 45.1 -0.9**
comp=Z,0.8nm,0.5s,baz=120,slow=7.2,SNR=5.6
comp=Z,0.8nm,0.5s
HFS Hagfors 45.75 326 P **P 19 41 48.0 -0.2**
comp=Z,1.0nm,0.7s,baz=108,slow=7.7,SNR=2.3
comp=Z,1.0nm,0.7s
HFS Hagfors 45.75 326 P **P 19 41 48.0 -0.2**
NB2 NORSAR Subarra 47.18 327 P **P 19 41 58.3 -1.1**
comp=Z,0.9nm,0.8s,baz=107,slow=7.9
NOA NORSAR Array B 47.18 327 P **P 19 41 58.3 -1.1**
comp=Z,0.6nm,0.7s,baz=107,slow=7.5,SNR=6.5
comp=Z,0.6nm,0.7s
KEST Kesra 47.56 292 P **P 19 42 02.2 -0.6**
comp=Z,3.8nm,0.9s,baz=0.5,slow=9.9,SNR=4.1
comp=Z,3.8nm,0.9s
ROCAM Rodrigues Isla 49.95 184 P **P 19 42 21.0 0.0**
KSAR Wonju Array Be 50.70 65 P **P 19 42 25.7 -1.0**
KSAR Wonju Array Be 50.70 65 P **P 19 42 25.7 -1.0**
KSRS Korea Array 50.73 65 P **P 19 42 26.6 -0.3**
comp=Z,1.0nm,0.8s,baz=277,slow=7.6,SNR=6.7
comp=Z,1.0nm,0.8s
YAK Yakutsk 51.15 33 P **P 19 42 28.7 -1.0**
YAK Yakutsk 51.15 33 *ce*P **P 19 42 29.8 +0.1**
YAK pmax pmax
comp=Z,10.0nm,0.8s
EKA Eskdalemuir Ar 54.17 319 P **P 19 42 51.9 -0.3**
comp=Z,1.3nm,0.9s,baz=111,slow=8.1,SNR=3.7
comp=Z,1.3nm,0.9s
TORD Torodi Ar. Bea 61.76 269 P **P 19 43 43.9 -2.1**
comp=Z,1.3nm,0.9s,baz=63,slow=9.4,SNR=7.1
comp=Z,1.3nm,0.9s
MATP Matopo 62.32 221 P **P 19 43 46.8 -2.9**
comp=Z,1.0nm,1.1s,baz=21,slow=9.7,SNR=1.7
comp=Z,1.0nm,1.1s
BILL Bilibino 65.74 24⇑ *e*P **P 19 44 11.6 +0.2**
BILL *e* 19 46 35.4
BILL *e*S S 19 53 16.9 +20
BILL pmax pmax
comp=Z,7.0nm,1.7s
BILL MLR MLR
comp=Z,184nm,19.0s
BOSA Boshof 70.61 218 P **P 19 44 41.1 -1.5**
comp=Z,2.0nm,0.8s,baz=56,slow=5.4,SNR=3.8
comp=Z,2.0nm,0.8s
C16K Lisburne Hills 74.44 18 P **P 19 45 06.1 +1.3**
baz=315
C17K DeLong Mountai 74.86 17 P **P 19 45 09.0 +1.7**
baz=317
B20K Meade River 75.08 14 P **P 19 45 09.7 +1.3**
baz=322
C18K Utukok River 75.22 16 P **P 19 45 10.6 +1.2**
baz=319
C19K Lookout Ridge 75.25 15 P **P 19 45 11.1 +1.5**
baz=320
D17K Noatak River 75.45 17 P **P 19 45 11.9 +1.3**
baz=317
TNA Tin City 75.62 20 P **P 19 45 13.1 +1.4**
baz=314
B21K Ikpikpuk River 75.92 14 P **P 19 45 14.6 +1.3**
baz=324
D19K Kuna River 76.06 15 P **P 19 45 15.6 +1.4**
baz=321
D20K Etivluk River 76.23 15 P **P 19 45 16.5 +1.4**
baz=323
E17K Hotham Inlet 76.24 18 P **P 19 45 16.4 +1.2**
baz=318
C21K Knifeblade Rid 76.26 14 P **P 19 45 16.9 +1.6**
baz=324
E18K Tukpahlearik C 76.29 17 P **P 19 45 16.8 +1.3**
baz=319,SNR=6.5
F15K North Star Dit 76.48 19 P **P 19 45 18.3 +1.7**
baz=316
C23K Itkillik River 76.52 12 P **P 19 45 18.8 +2.1**
baz=328
E20K Nigu River 76.69 15 P **P 19 45 19.0 +1.3**
baz=323
F17K Baldwin Pennin 76.87 18 P **P 19 45 20.2 +1.5**
baz=319
D22K Ayikyak River 76.92 14 P **P 19 45 20.6 +1.6**
baz=326
C24K Franklin Bluff 76.97 12 P **P 19 45 20.8 +1.6**
baz=329
E21K Killik River 77.02 14 P **P 19 45 20.6 +1.0**
baz=325
E19K Redstone River 77.09 16 P **P 19 45 21.1 +1.1**
baz=322,SNR=6.0
F18K Selawik 77.16 17 P **P 19 45 21.8 +1.4**
baz=320
D23K Nanushuk River 77.25 13 P **P 19 45 22.5 +1.6**
baz=328
G16K Koyuk River 77.36 19 P **P 19 45 23.1 +1.6**
baz=318
F19K Shaleruckik Mo 77.45 16 P **P 19 45 23.7 +1.7**
baz=322
D25K Kavik River 77.72 11 P **P 19 45 25.3 +1.8**
baz=331
TOLK Toolik Lake Re 77.74 13 P **P 19 45 25.3 +1.7**
baz=329
G17K Kiwalik Mounta 77.75 18 P **P 19 45 25.2 +1.5**
baz=320
F20K Avaraart Lake 77.77 16 P **P 19 45 25.4 +1.6**
baz=324
C27K Jago River 77.89 10 P **P 19 45 26.3 +1.9**
baz=334
H16K Elim 77.96 19 P **P 19 45 26.6 +1.7**
baz=318
G18K Tagagawik 77.97 17 P **P 19 45 26.6 +1.6**
baz=321
F21K Alatna River 78.13 15 P **P 19 45 27.2 +1.4**
baz=326,SNR=5.4
G19K Purcell Mounta 78.17 17 P **P 19 45 27.2 +1.2**
baz=323,SNR=5.8
F22K John River 78.18 14 P **P 19 45 27.9 +1.8**
baz=327,SNR=12
E23K Chandalar 78.23 13 P **P 19 45 28.0 +1.5**
baz=329
H17K Granite Mounta 78.38 18 P **P 19 45 28.5 +1.3**
baz=320
E24K Your Creek 78.43 13 P **P 19 45 29.4 +1.9**
baz=330,SNR=5.9
H18K Honhosa River 78.63 18 P **P 19 45 29.8 +1.2**
baz=322
D27M Malcolm River 78.64 10 P **P 19 45 30.5 +1.8**
baz=336
G21K Allakaket 78.71 15 P **P 19 45 30.2 +1.1**
baz=326
G22K Bettles 78.81 14 P **P 19 45 30.8 +1.3**
baz=327
H19K Roundabout Mou 78.82 17 P **P 19 45 31.1 +1.5**
baz=323
COLD Coldfoot 78.83 14 P **P 19 45 31.4 +1.8**
baz=328
J14K Nanvaranak Lak 78.98 21 P **P 19 45 32.4 +1.9**
baz=318
F24K Squaw Lake 79.03 13 P **P 19 45 32.6 +1.8**
baz=330
H20K Anotleneega Mo 79.23 16 P **P 19 45 33.3 +1.4**
baz=324
G23K Bananza Creek 79.30 14 P **P 19 45 34.3 +2.0**
baz=328
F25K Christian Rive 79.38 12 P **P 19 45 35.0 +2.3**
baz=332
E28M Babbage River 79.44 9 P **P 19 45 35.0 +2.0**
baz=337
J16K Anvik River 79.46 20 P **P 19 45 35.1 +1.9**
baz=320
E27K Coleen River 79.52 10 P **P 19 45 35.4 +1.9**
baz=336
F26K Sheenjek River 79.55 11 P **P 19 45 35.9 +2.2**
baz=333
H21K Melozitna Rive 79.59 15 P **P 19 45 35.4 +1.5**
baz=326,SNR=5.5
H22K Ishtalitna Cre 79.71 15 P **P 19 45 36.5 +2.0**
baz=327
J17K VABM Dome 79.81 19 P **P 19 45 36.7 +1.6**
baz=321
G24K Hadweenzic Riv 79.83 13 P **P 19 45 37.4 +2.3**
baz=331
M11K Mekoryuk 79.84 24 P **P 19 45 37.1 +1.9**
baz=316
E29M Blow River 79.86 9 P **P 19 45 37.2 +1.9**
baz=339
I20K Naaghedeneel 79.90 17 P **P 19 45 37.5 +2.0**
baz=325
K15K Wolf Creek Mou 79.94 21 P **P 19 45 37.9 +2.1**
baz=319
G25K Bearman Lake 80.03 13 P **P 19 45 38.1 +1.9**
baz=332
H23K Yukon River 80.17 14 P **P 19 45 39.2 +2.2**
baz=329
J19K Poorman 80.27 17 P **P 19 45 39.3 +1.8**
baz=324
L14K Kuka Creek 80.31 22 P **P 19 45 39.7 +2.0**
baz=318
F28M Old Crow 80.31 10 P **P 19 45 40.0 +2.3**
baz=337
J18K Innoko River 80.41 18 P **P 19 45 39.8 +1.5**
baz=323
L15K Unglalak Mounta 80.43 21 P **P 19 45 40.0 +1.6**
baz=319
INK Inuvik 80.48 7 P **P 19 45 41.0 +2.4**
baz=343
J20K Nowinta River 80.49 17 P **P 19 45 40.2 +1.5**
baz=325,SNR=8.9
H24K Noodor Dome 80.50 14 P **P 19 45 40.7 +1.8**
baz=330
K17K Iditarod 80.57 19 P **P 19 45 41.2 +2.1**
baz=322
SPIA Saint Paul Isl 80.58 27 P **P 19 45 42.0 +2.7**
baz=313
MLY Manley 80.58 15 P **P 19 45 40.8 +1.5**
baz=328
G27K Doyon Strip 80.77 11 P **P 19 45 42.5 +2.3**
baz=336,SNR=5.3
M13K Dall Lake 80.78 23 P **P 19 45 43.1 +2.8**
baz=318
I23K Minto, Yukon-K 80.79 14 P **P 19 45 42.6 +2.4**
baz=329
F30M Barrier River 80.87 8 P **P 19 45 43.2 +2.5**
baz=341
M14K Bethel 80.98 22 P **P 19 45 43.4 +2.0**
baz=319
L16K Owhat River 81.01 20 P **P 19 45 43.5 +2.0**
baz=321
L17K Donlin 81.03 20 P **P 19 45 43.5 +1.8**
baz=322
TTA Tatalina 81.03 18 P **P 19 45 43.1 +1.4**
baz=324
K20K Telida 81.19 17 P **P 19 45 44.2 +1.6**
baz=325,SNR=6.6
POKR Poker Plat Res 81.22 14 P **P 19 45 44.3 +1.7**
baz=331
BPAW Bear Paw Mtn. 81.32 16 P **P 19 45 44.7 +1.5**
baz=328
H27K Steamboat Moun 81.32 11 P **P 19 45 45.1 +1.9**
baz=336
NEA2 Nenana 81.33 15 P **P 19 45 44.4 +1.2**
baz=330,SNR=6.7
G30M tAoh Zraii Nji 81.41 9 P **P 19 45 46.0 +2.3**
baz=340
L18K Granite Mounta 81.42 19 P **P 19 45 45.7 +2.0**
baz=323
M15K Kasigluk River 81.43 21 P **P 19 45 45.8 +2.0**
baz=320
ILAR Eielson Array 81.64 14 P **P 19 45 44.4 -0.4**
comp=Z,2.2nm,1.0s,baz=321,slow=4.1,SNR=19
comp=Z,2.2nm,1.0s
M16K Timber Creek 81.71 21 P **P 19 45 47.5 +2.2**
baz=322
H29M Whitestone 81.83 10 P **P 19 45 47.8 +2.0**
baz=338
M17K Holitna River 81.86 20 P **P 19 45 48.2 +2.2**
baz=323
I26K Coal Creek Min 81.88 12 P **P 19 45 48.0 +1.9**
baz=334
I27K Kandik River 81.88 11 P **P 19 45 48.2 +2.1**
baz=336,SNR=6.1
EPYK Eagle Plains 81.92 9 P **P 19 45 48.6 +2.2**
baz=340
L19K White Mountain 81.95 18 P **P 19 45 48.0 +1.5**
baz=325
L20K Farewell, AK 81.97 18 P **P 19 45 48.3 +1.7**
baz=326
N15K Kwethluk River 82.03 21 P **P 19 45 49.0 +2.0**
baz=321
J25K Salcha River, 82.09 13 P **P 19 45 48.6 +1.3**
baz=333
MCK McKinley 82.11 15 P **P 19 45 48.9 +1.6**
baz=330
N16K Nishlik Lake 82.20 21 P **P 19 45 49.3 +1.4**
baz=322
WRA Warramunga Arr 82.25 118 P **P 19 45 47.7 -1.0**
comp=Z,1.1nm,1.1s,baz=320,slow=4.8,SNR=3.3
comp=Z,1.1nm,1.1s
M18K Stony River 82.25 19 P **P 19 45 49.7 +1.6**
baz=324
I28M Miner Creek 82.30 11 P **P 19 45 49.7 +1.3**
baz=337,SNR=6.2
M19K Big River Lodg 82.31 18 P **P 19 45 50.1 +1.7**
baz=325
O14K Tigyukauivet M 82.35 23 P **P 19 45 50.4 +1.8**
baz=320
J26L Joseph Creek 82.53 13 P **P 19 45 51.3 +1.6**
baz=334
N17K Nushagak Hills 82.63 20 P **P 19 45 52.0 +1.9**
baz=323
I29M Ogilvie Camp, 82.64 10 P **P 19 45 52.2 +2.1**
baz=339
M20K Styx River 82.66 18 P **P 19 45 51.8 +1.4**
baz=326
EGAK Eagle 82.72 12 P **P 19 45 52.4 +1.9**
baz=336
K24K Donnelly Dome 82.72 14 P **P 19 45 52.4 +1.8**
baz=332
O15K Ungalikthiuk R 82.88 22 P **P 19 45 53.1 +1.6**
baz=321
N18K Kilae Creek 82.89 20 P **P 19 45 53.3 +1.8**
baz=324
SCRK Sand Creek 82.93 13 P **P 19 45 53.5 +1.7**
baz=334,SNR=9.6
WAT1 Susitna Watana 82.98 15 P **P 19 45 52.9 +1.0**
baz=330
SKT Skwentna 82.99 17 P **P 19 45 52.9 +0.9**
baz=328,SNR=5.0
DHY Denali Highway 83.03 15 P **P 19 45 54.1 +1.8**
baz=331,SNR=7.4
I30M Mount Dempster 83.06 9 P **P 19 45 53.7 +1.2**
baz=340
O16K Kokwok River B 83.10 21 P **P 19 45 54.2 +1.7**
baz=322
N19K Bonanza Creek 83.18 19 P **P 19 45 54.6 +1.5**
baz=325
O17K Koliganek Bris 83.27 21 P **P 19 45 54.9 +1.5**
baz=323
WAT6 Susitna Watana 83.38 15 P **P 19 45 55.5 +1.3**
baz=331
PAX Paxson 83.53 14 P **P 19 45 56.0 +1.2**
baz=333,SNR=7.3
P16K Nushagak River 83.58 21 P **P 19 45 56.7 +1.7**
baz=322
J30M Hart River 83.67 10 P **P 19 45 57.6 +2.0**
baz=340
DAWY Dawson 83.68 11 P **P 19 45 57.5 +2.0**
baz=338
O18K Koktuh Hills 83.76 20 P **P 19 45 57.7 +1.7**
baz=325
L26K Log Cabin Wild 83.91 13 P **P 19 45 58.5 +1.8**
baz=334
SML Sawmill 83.92 16 P **P 19 45 58.2 +1.4**
baz=330
P17K Kvichak River 83.93 21 P **P 19 45 58.8 +2.0**
baz=324
M23K Glacier View 84.07 16 P **P 19 45 59.1 +1.6**
baz=331
HARP HAARP 84.11 14 P **P 19 45 59.8 +2.1**
baz=333
ASAR Alice Springs 84.12 122 P **P 19 45 58.6 +0.3**
comp=Z,0.7nm,0.7s,baz=308,slow=5.3,SNR=6.9
comp=Z,0.7nm,0.7s
SCM Sheep Creek Mo 84.13 15 P **P 19 45 59.8 +1.9**
baz=331
P18K Big Mountain, 84.13 20 P **P 19 46 00.0 +2.1**
baz=325
M24K Tolsona, Glenn 84.15 15 P **P 19 46 00.2 +2.2**
baz=332
L27K Beaver Creek, 84.17 13 P **P 19 46 00.0 +1.9**
baz=336,SNR=6.1
K29M Barlow Dome 84.19 10 P **P 19 45 59.6 +1.4**
baz=339,SNR=6.8
RC01 Rabbit Creek A 84.20 17 P **P 19 45 59.8 +1.6**
baz=329
KNK Knik Glacier 84.23 16 P **P 19 45 59.6 +1.2**
baz=330
M26K Nabesna, AK 84.55 13 P **P 19 46 02.0 +2.0**
baz=335
PWL Port Wells 84.75 16 P **P 19 46 02.5 +1.6**
baz=330
L29M L29M 84.78 11 P **P 19 46 03.1 +2.0**
baz=339,SNR=5.1
M27K Edge Creek, AK 84.81 13 P **P 19 46 03.4 +1.9**
baz=336,SNR=8.7
Q17K Contact Creek 84.86 21 P **P 19 46 03.6 +1.9**
baz=324
HOM Homer 84.93 18 P **P 19 46 04.0 +2.1**
baz=328
N25K Chitina, Valde 84.94 14 P **P 19 46 03.9 +1.9**
baz=333
Q19K Cape Douglas, 84.98 20 P **P 19 46 03.5 +1.3**
baz=326
GLI Glacier Island 85.02 16 P **P 19 46 04.1 +1.7**
baz=331
SEW Seward 85.12 17 P **P 19 46 04.8 +2.0**
baz=330
R17L Mt. Peulik Vol 85.22 22 P **P 19 46 05.1 +1.7**
baz=324
M29M Somme Creek 85.34 11 P **P 19 46 05.8 +1.7**
baz=339,SNR=7.1
MCARA McCarthy VSAT 85.47 14 P **P 19 46 06.4 +1.8**
baz=335
M30M Minto, Yukon 85.49 11 P **P 19 46 06.5 +1.8**
baz=340
BMRM Bremner River 85.51 15 P **P 19 46 06.5 +1.7**
baz=334
YUK3 Moose Creek 85.61 12 P **P 19 46 07.1 +1.5**
baz=337
CHGN Chignik 85.61 23 P **P 19 46 07.6 +2.2**
baz=322
EYAK Cordova Ski Ar 85.63 15 P **P 19 46 07.6 +2.2**
baz=332
CRQE Cirque 86.03 14 P **P 19 46 09.4 +1.9**
baz=335
CTG Chitna Glacier 86.19 13 P **P 19 46 10.2 +1.9**
baz=336
M31M Drury Creek, Y 86.21 10 P **P 19 46 10.4 +2.1**
baz=342
MMPY Sheldon Lake, 86.23 8 P **P 19 46 10.6 +2.2**
baz=345
KDAK Kodiak Island 86.25 20 P **P 19 46 10.3 +1.8**
baz=327
YUK4 Talbot Arm 86.34 12 P **P 19 46 10.3 +1.2**
baz=339
KAIM Kayak Island 86.48 15 P **P 19 46 10.8 +1.2**
baz=334
N30M Aishikik Lake 86.50 11 P **P 19 46 11.6 +1.8**
baz=340
N31M Braeburn, Yuko 86.68 10 P **P 19 46 13.0 +2.4**
baz=341
YUK6 Outpost Mounta 86.76 12 P **P 19 46 13.2 +2.0**
baz=339
MESA MESA 86.78 14 P **P 19 46 13.1 +1.8**
baz=336
SII Sitkinak Islan 86.78 21 P **P 19 46 13.3 +2.1**
baz=326
YKA Yellowknife Ar 87.43 0 P **P 19 46 13.4 -0.7**
comp=Z,1.4nm,0.8s,baz=353,slow=4.9,SNR=8.2
comp=Z,1.4nm,0.8s
YKA Yellowknife Ar 87.43 0 *ce*P **P 19 46 15.3 +1.1**
YKA pmax pmax
comp=Z,1.0nm,0.7s
PNL Peninsula 87.76 13 P **P 19 46 17.8 +1.9**
baz=338
P29M Windy Craggy 88.11 12 P **P 19 46 19.3 +1.8**
baz=339
P33M Teslin, Yukon 88.34 9 P **P 19 46 20.4 +1.7**
baz=343
PLBC Pleasant Camp 88.51 11 P **P 19 46 21.1 +1.8**
baz=340
P32M Atlin 88.81 10 P **P 19 46 22.6 +1.7**
baz=343
R33M Jennings River 89.39 9 P **P 19 46 25.2 +1.6**
baz=345
EYMN Ely 99.53 345 P **Pdif 19 47 14.5 +4.3**
baz=19

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*IDC **19** 19:41:12.7±2.5, 9˚01S×113˚22E, h0km, mb3.6/5, mbtmp3.7/5, Error ellipse: s-maj=127.9km s-min=22.4km az=50.0*
*DJA **19** 19:41:15.4±0.5, 10˚S±5˚×11˚3E± ˚, h10km, M3.9/12, MLv3.9/12*
ISC 19 19:41:16.5±1.2, **9˚7S**±0˚1×**112˚80E**±0˚05, **h36**km, **n15, σ19˚51/18, mb4.0/5, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.78**	**49**	P		**Pn**		**19 41 44.3**	**-0.4**
JAGI				S		**Sn**		**19 42 06.0**	**-0.1**
PWJI	**Pagerwojo**	**1.90**	**329**	P		**Pn**		**19 41 47.0**	**+0.6**
PWJI				S		**Sn**		**19 42 11.0**	**+1.9**
ABJI	**Asem Bagus**	**2.33**	**38**	P		**Pn**		**19 41 53.7**	**+1.4**
DNP	**Denpasar**	**2.57**	**68**	P		**Pn**		**19 41 56.4**	**+0.8**
GRJI	**Gresik**	**2.75**	**353**	P		**Pn**		**19 41 59.4**	**+1.4**
UGM	**Wanagama**	**2.84**	**307**	P		**Pn**		**19 42 00.4**	**+1.0**
UGM				S		**Sn**		**19 42 34.4**	**+2.0**
SRBI	**Singaraja**	**2.85**	**57**	P		**Pn**		**19 42 00.9**	**+1.5**
TWSI	**Taliwang, Sumb**	**4.13**	**78**	P		**Pn**		**19 42 18.3**	**+1.2**
CMJI	**Cimerak**	**4.69**	**293**	P		**Pn**		**19 42 24.2**	**-0.5**
PLAI	**Plampang**	**4.98**	**81**	P		**Pn**		**19 42 30.4**	**+1.7**
WRA	**Warramunga Arr**	**23.17**	**119**	P		**P**		**19 46 21.3**	**+1.2**
	0.3nm,0.7s,baz=296,slow=11,SNR=1.8								
	0.3nm,0.7s								
ASAR	**Alice Springs**	**24.50**	**127**	P		**P**		**19 46 34.0**	**+1.4**

0.5nm,0.6s,baz=304,slow=8.8,SNR=6.0
0.5nm,0.6s
SONM Songino Array 57.52 355 P **P 19 50 59.7 -2.6**
0.7nm,0.5s,baz=191,slow=7.0,SNR=4.8
0.7nm,0.5s
MKAR Makanchi Array 62.45 337 P **P 19 51 35.1 -0.9**
0.9nm,0.4s,baz=150,slow=7.5,SNR=18
0.9nm,0.4s
ZALV Zalesovo Beam 67.65 343 P **P 19 52 08.0 -1.6**
0.8nm,0.4s,baz=151,slow=5.9,SNR=4.9
0.8nm,0.4s

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*NEIC **19** 19:49:52.5±1.7, 9°.84S±0°.09×112°.91E±0°.06, h35km±2km, mb4.6/44, Error ellipse: s-maj=14.5km s-min=10.5km az=177.0*
*DJA **19** 19:49:55.7±0.2, 10°.5±3°.3×11°.3E±°, h51km±5km, M4.6/17, mb4.6/15, mB5.6/1, MLv4.6/17, Mw(mB)5.0/1*
*IDC **19** 19:50:00.6±5.3, 9°.40S×113°.01E, h87km±47km, mb4.0/15, mbtmp4.3/16, ML4.0/1, MS4.3/3, Error ellipse: s-maj=35.8km s-min=13.9km az=62.0*
ISC 19 19:49:54.3±0.5, 9°.59S±0°.07×112°.84E±0°.04, h36km, n108, σ2s14/104, mb4.6/35, MS4.3/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.71**	**49**	P	**Pn**	**19 50 23.3**	**+1.8**
JAGI	**Jajag, Banyuwa**	**1.71**	**49**		**Pn**	**19 50 22.5**	**+1.0**
JAGI	**Jajag, Banyuwa**	**1.71**	**49**	P	**Pn**	**19 50 22.3**	**+0.8**
JAGI				S	**Sn**	**19 50 43.5**	**+1.4**
PWJI	**Pagerwojo**	**1.86**	**327**	P	**Pn**	**19 50 25.6**	**+2.0**
PWJI				S	**Sn**	**19 50 46.6**	**+0.7**
ABJI	**Asem Bagus**	**2.25**	**38**	P	**Pn**	**19 50 32.2**	**+3.2**
ABJI				S	**Sn**	**19 51 00.9**	**+5.4**
DNP	**Denpasar**	**2.51**	**69**	P	**Pn**	**19 50 34.7**	**+2.2**
GRJI	**Gresik**	**2.68**	**352**	P	**Pn**	**19 50 37.3**	**+2.4**
SRBI	**Singaraja**	**2.78**	**58**	P	**Pn**	**19 50 38.4**	**+2.2**
UGM	**Wanagama**	**2.83**	**306**	P	**Pn**	**19 50 39.9**	**+2.9**
UGM	**Wanagama**	**2.83**	**306**		**Pn**	**19 50 39.6**	**+2.5**
UGM	**Wanagama**	**2.83**	**306**	P	**Pn**	**19 50 39.5**	**+2.5**
UGM				S	**Sn**	**19 51 14.6**	**+4.7**
YOGI	**Yogyakarta**	**3.07**	**305**	P	**Pn**	**19 50 44.5**	**+4.2**
SMRI	**Semarang**	**3.46**	**317**	P	**Pn**	**19 50 49.3**	**+3.6**
SMRI	**Semarang**	**3.46**	**317**		**Pn**	**19 50 47.2**	**+1.5**
SMRI	**Semarang**	**3.46**	**317**	P	**Pn**	**19 50 47.8**	**+2.1**
BWJI	**Bawean**	**3.72**	**357**	P	**Pn**	**19 50 48.3**	**-0.9**
TWSI	**Taliwang, Sumb**	**4.08**	**78**	P	**Pn**	**19 50 56.2**	**+2.1**
TWSI				S	**Sn**	**19 51 43.6**	**+2.9**
CMJI	**Cimerak**	**4.70**	**292**	P	**Pn**	**19 51 04.5**	**+1.9**
CMJI				S	**Sn**	**19 51 54.6**	**-1.3**
PLAI	**Plampang**	**4.93**	**82**	P	Pn	19 51 11.0	+5.1
PLAI	**Plampang**	**4.93**	**82**	P	**Pn**	**19 51 09.1**	**+3.2**
PLAI				S	**Sn**	**19 52 06.3**	**+4.6**
BBJI	**Bungbulang**	**5.55**	**292**	P	**Pn**	**19 51 19.1**	**+4.7**
LEM	**Lembang**	**5.85**	**298**	P	Pn	19 51 24.2	+5.5
52nm,1.1s,0.3nm
CNJI Cibinong 6.09 291 P **Pn 19 51 25.1 +3.4**
39nm,1.2s,0.2nm
XMIS Christmas Isla 7.13 262 Pn **Pn 19 51 35.6 -0.5**
KAPI Kappang 8.22 57 Pn **Pn 19 51 52.8 +1.7**
KAPI Kappang 8.22 57 P **Pn 19 51 54.1 +3.0**
2.1nm,0.3s,baz=215,slow=5.7,SNR=9.0
KAPI S **Sn 19 53 16.9 -6.0**
3.0nm,0.5s,baz=259,slow=22,SNR=1.5
4.1nm,0.3s
BKSI Bulukumba 8.37 60 P **Pn 19 51 54.6 +1.5**
19nm,0.7s
EDFI Ende, Flores 8.78 85 P **Pn 19 52 01.0 +2.2**
20nm,0.6s
MTKI Muara Teweh, K 8.83 14 P Pn 19 52 04.5 +5.1
MMRI Maumere 9.33 85 Pn **Pn 19 52 04.0 -2.2**
BATI Baumata 10.68 94 P **Pn 19 52 27.7 +2.9**
36nm,1.5s
SOEI Soe 11.27 92 P Pn 19 52 38.7 +5.8
SOEI Soe 11.27 92 P **Pn 19 52 35.7 +2.8**
34nm,1.3s
SBUM Sibu 11.97 357 Pn **Pn 19 52 46.1 +3.6**
MBWA Marble Bar 13.28 151 Pn Pn 19 52 57.4 -2.9
PSA00 Pilbara Seismi 13.69 151 Pn Pn 19 53 01.9 -4.0
FITZ Fitzroy Crossi 15.03 126 **Pn 19 53 22.8 -1.2**
MTN Manton Dam 18.23 102 P **P 19 54 01.1 -3.5**
FAKI Fak Fak 20.39 72 P **P 19 54 26.5 -1.7**
FAKI IAmb IAmb 19 54 49.5
comp=Z,29nm,1.0s
WB0 Warramunga Arr 23.15 118 P **P 19 54 53.5 -4.1**
WRA Warramunga Arr 23.17 119 P **P 19 54 58.2 +0.3**
WRA Warramunga Arr 23.17 119 P **P 19 54 58.5 +0.6**
comp=Z,1.6nm,0.5s,baz=291,slow=11,SNR=36
comp=Z,1.6nm,0.5s
WRAB Tennant Creek 23.17 119 P **P 19 54 54.0 -3.9**
WB2 Warramunga Arr 23.18 119 P **P 19 54 58.7 +0.7**
NWAO Narrogin (SRO) 23.58 171 LR LR 20 05 39.6
comp=Z,294nm,18.2s,baz=222,slow=40
AS31 Alice Springs 24.51 127 P **P 19 55 11.4 +0.9**
ASAR Alice Springs 24.51 127 P **P 19 55 10.8 +0.3**
ASAR Alice Springs 24.51 127 P **P 19 55 12.0 +1.5**
comp=Z,6.2nm,0.8s,baz=304,slow=8.6,SNR=69
comp=Z,6.2nm,0.8s
PBA Port Blair 29.06 316 P **P 19 55 53.4 +2.0**
CM31 Chiang Mai Arr 31.06 334 P **P 19 56 08.5 -0.5**
CMAR Chiang Mai Arr 31.06 334 P **P 19 56 09.3 +0.2**
CMAR Chiang Mai Arr 31.06 334 P **P 19 56 10.0 +0.9**
comp=Z,3.8nm,0.8s,baz=167,slow=8.2,SNR=18
comp=Z,3.8nm,0.8s
PMG Port Moresby 33.84 93 LR LR 20 12 35.3
comp=Z,636nm,20.8s,baz=63,slow=40
STKA Stephens Creek 34.66 134 P **P 19 56 42.4 +1.9**
comp=Z,1.5nm,0.6s,baz=297,slow=12,SNR=4.2
comp=Z,1.5nm,0.6s
H08S2 Diego Garcia H 39.92 270 T T 20 40 32.9
baz=92,slow=74,SNR=5.5
H08S3 Diego Garcia H 39.93 270 T T 20 40 32.3
baz=92,slow=74,SNR=5.6
H08S1 Diego Carcia H 39.94 270 T T 20 40 34.6
baz=92
SHL Shillong 40.47 330 P **P 19 57 29.4 -0.4**
LSA Lhasa 44.30 333 P **P 19 58 01.8 +0.5**
LSA IAmb IAmb 19 58 03.0
comp=Z,8.4nm,0.9s
LZH Lanzhou 46.21 350 *eP* **P 19 58 16.6 +0.6**
LZH sP pwP 19 58 30.4 +0.7
LZH pmax pmax
comp=Z,18nm,1.3s
KSAR Wonju Array Be 48.86 16 P **P 19 58 35.8 -0.6**
KSRS Korea Array 48.88 16 P **P 19 58 36.9 +0.4**
comp=Z,1.1nm,0.7s,baz=203,slow=7.8,SNR=8.3
comp=Z,1.1nm,0.7s
BJT Baijiatuau 49.45 3 P **P 19 58 39.8 -1.0**
BJT IAmb IAmb 19 58 41.5
comp=Z,8.0nm,1.0s
INU Inuyama 50.20 26 P **P 19 58 45.2 -1.4**
INU IAmb IAmb 19 58 46.5
comp=Z,8.2nm,0.9s
GTA Gaotai 50.23 347 *eP* **P 19 58 47.6 +0.7**
GTA sP pwP 19 59 00.0 -0.9
GTA pmax pmax
comp=Z,3.0nm,1.0s
JGF Kuroka 50.56 26 P **P 19 58 47.4 -2.0**
JGF IAmb IAmb 19 58 48.6
comp=Z,7.0nm,0.7s
MAJO Matsushiro 51.72 26 P **P 19 58 55.1 -3.0**
MAJO IAmb IAmb 19 58 57.0
comp=Z,7.4nm,1.1s
MJAR Matsushiro Arr 51.72 26 P **P 19 58 56.2 -1.9**
comp=Z,4.5nm,0.8s,baz=200,slow=7.2,SNR=11
comp=Z,4.5nm,0.8s
MJB9 Matsu-Tunnel 51.72 26 P **P 19 58 54.9 -3.2**
MJB9 IAmb IAmb 19 58 57.0
comp=Z,7.5nm,1.1s
XLT XiLinHaoTe 53.31 3 *eP* **P 19 59 09.5 -0.3**
XLT pP pP 19 59 14.6 -5.1
XLT sP pwP 19 59 18.9 -4.7
XLT pmax pmax
comp=Z,8.0nm,1.0s
USRK Ussuriysk Ar. 56.28 16 P **P 19 59 29.8 -1.4**
USRK Ussuriysk Ar. 56.28 16 P **P 19 59 30.9 -0.3**
comp=Z,4.8nm,0.8s,baz=225,slow=7.8,SNR=6.9
comp=Z,4.8nm,0.8s
NIL Nilore 57.13 321 P **P 19 59 35.4 -2.1**
ULN Ulaanbaatar 57.43 355 P **P 19 59 37.1 -2.3**
SONM Songino Array 57.45 355 P **P 19 59 38.8 -0.8**
SONM IAmb IAmb 19 59 40.5
comp=Z,6.5nm,0.8s
SONM Songino Array 57.45 355 P **P 19 59 39.6 0.0**
comp=Z,6.8nm,0.7s,baz=175,slow=8.8,SNR=31
comp=Z,6.8nm,0.7s
KBL Kabul 60.38 319 P **P 19 59 58.4 -2.0**
KBL IAmb IAmb 20 00 00.1
comp=Z,4.9nm,1.0s
PRZ Przheval'sk 60.64 331 P **P 20 00 01.7 -0.1**
HEH HeiHe 60.93 11 *eP* **P 20 00 02.3 -1.1**
HEH pmax pmax
comp=Z,6.0nm,0.6s
NRN Naryn 61.03 329 P **P 20 00 02.4 -2.3**
NRN IAmb IAmb 20 00 05.7
comp=Z,4.4nm,0.9s
BOOM Boomskoye usch 61.84 330 **P 20 00 09.5 -0.5**
BOOM IAmb IAmb 20 00 10.8
comp=Z,4.7nm,0.8s
MK31 Makanchi Array 62.40 337 P **P 20 00 12.7 -0.8**
MK31 IAmb IAmb 20 00 14.0
comp=Z,4.1nm,0.6s
MKAR Makanchi Array 62.40 337 P **P 20 00 12.5 -1.0**
MKAR Makanchi Array 62.40 337 P **P 20 00 13.2 -0.2**
comp=Z,5.9nm,0.5s,baz=149,slow=7.6,SNR=106
comp=Z,5.9nm,0.5s
ARSB Arslanbob 62.53 327 P **P 20 00 14.1 -0.5**
MAKZ Makanchi 62.53 337 P **P 20 00 13.9 -0.4**
MAKZ IAmb IAmb 20 00 15.2
comp=Z,5.3nm,1.2s
AAK Ala-Archa 62.67 329 P **P 20 00 15.3 -0.3**
AAK IAmb IAmb 20 00 17.4
comp=Z,6.3nm,0.9s
BTK Batken 62.86 325 P **P 20 00 15.5 -1.2**
BTK IAmb IAmb 20 00 17.6
comp=Z,4.0nm,1.1s
SIMJ Simiganj 63.00 323 P **P 20 00 15.5 -2.3**
SIMJ IAmb IAmb 20 00 18.9
comp=Z,2.8nm,0.8s
KK31 Karatay Array 65.08 327 P **P 20 00 29.9 -1.3**
KKAR Karatay Array 65.08 327 P **P 20 00 29.5 -1.7**
KKAR Karatay Array 65.08 327 P **P 20 00 29.7 -1.5**
KKAR IAmb IAmb 20 00 35.4
comp=Z,2.3nm,0.8s
KURBB Kurchatov Arra 66.96 337 P **P 20 00 42.7 -0.4**
comp=Z,2.9nm,0.8s,baz=151,slow=5.2,SNR=23
comp=Z,2.9nm,0.8s
KURK Kurchatov 67.00 337 P **P 20 00 42.7 -0.6**
KURK IAmb IAmb 20 00 43.9
comp=Z,4.8nm,0.8s
ZAA0 Zalesovo Array 67.60 343 P **P 20 00 45.9 -1.2**
ZALV Zalesovo Beam 67.60 343 P **P 20 00 45.9 -1.2**
ZALV Zalesovo Beam 67.60 343 P **P 20 00 46.3 -0.8**
comp=Z,6.8nm,0.6s,baz=148,slow=4.7,SNR=33
comp=Z,6.8nm,0.6s
BVAR Borovoye Array 72.08 335 P **P 20 01 14.6 -0.1**
comp=Z,1.8nm,0.7s,baz=140,slow=9.4,SNR=12
comp=Z,1.8nm,0.7s
BRVK Borovoye 72.15 335 P **P 20 01 14.7 -0.3**
YAK Yakutsk 72.60 8 P **P 20 01 16.0 -1.5**
ABKAR Abkulak array 74.65 327 P **P 20 01 29.8 -0.1**
ABKAR Abkulak array 74.65 327 P **P 20 01 29.6 -0.2**
ABKAR IAmb IAmb 20 01 30.9
comp=Z,14nm,0.8s
ARU Arti 79.50 333 **P 20 01 56.5 -0.5**
ARU IAmb IAmb 20 01 57.9
comp=Z,6.9nm,1.0s
QSPA South Pole Qui 80.41 180 P **P 20 02 04.3 +2.3**
comp=Z,0.5nm,0.9s,baz=293,slow=2.2,SNR=2.7
comp=Z,0.5nm,0.9s
NRIK Noril'sk 80.69 351 **P 20 02 03.5 +0.4**
NRIK IAmb IAmb 20 02 03.8
comp=Z,7.9nm,1.2s
NRIK Noril'sk 80.69 351 P **P 20 02 03.0 -0.1**
comp=Z,2.7nm,0.4s,baz=159,slow=4.7,SNR=4.8
comp=Z,2.7nm,0.4s
EIL Elat 84.34 301 LR LR 20 41 58.5
comp=Z,232nm,20.7s,baz=252,slow=37
BRTR Keskin Array B 87.87 311 P **P 20 02 41.0 +0.5**
comp=Z,1.2nm,0.7s,baz=127,slow=3.8,SNR=4.6
comp=Z,1.2nm,0.7s

IDC 19 20:04:40.8±2.6, 0°.79S×136°.81E, h0km, mb3.6/2, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=117.5km s-min=28.5km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.18**	**187**	P	P	20 09 05.5	-0.8
0.3nm,0.3s,baz=9.0,slow=12,SNR=13
0.9nm,0.5s
ASAR Alice Springs 22.91 187 P P 20 09 47.2 +0.7
0.7nm,0.5s,baz=17,slow=10,SNR=13
0.7nm,0.5s
SONM Songino Array 55.19 335 P P 20 14 15.3 -0.3
0.4nm,0.4s,baz=147,slow=8.2,SNR=2.0
0.4nm,0.4s

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*IDC **19** 20:07:41.8±2.4, 40°.34N×142°.12E, h69km±19km, mb3.4/10, mbtmp3.7/13, MS4.3/1, Error ellipse: s-maj=27.2km s-min=15.7km az=110.0*
*JMA **19** 20:07:41.1±0.1, 40°.4N±0°.3×142°.1E±0°.6, h50km, MV3.8/38, NE OFF IWATE PREF*
JMA Felt II J1 at NE OFF IWATE PREF .
ISC 19 20:07:40.7±1.0, 40°.36N±0°.04×142°.06E±0°.08, h53km±8km, n31, σ0s83/33, mb3.6/10, 13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.31**	**240**	*i* P	**Pn**	**20 07 50.5**	**+0.3**
JKEN S **Sn** **20 07 57.0 -0.1**
JANG Nango 0.42 272 ⇓*i* P **Pn** **20 07 51.6 +0.3**
JANG ⇓S **Sn** **20 07 59.0 +0.1**
JTH Tanohata 0.45 200 *i* P **Pn** **20 07 51.7 +0.1**
JTH S **Sn** **20 07 59.5 0.0**
JKZ Kuzumaki 0.68 236 ⇓*i* P **Pn** **20 07 54.9 +0.6**
JKZ ⇓S **Sn** **20 08 04.3 +0.1**
JARK Aomorirokkasho 0.83 321 ⇓*i* P **Pn** **20 07 56.4 +0.1**
JARK ⇓S **Sn** **20 08 07.3 -0.4**
JTM Tenmabayashi 0.87 300 ⇓*i* P **Pn** **20 07 56.9 +0.2**
JTM ⇓S **Sn** **20 08 08.5 -0.1**
JOM Ohasama 1.07 214 *i* P **Pn** **20 08 00.1 +0.7**
JOM S **Sn** **20 08 13.9 +0.6**
JAH Hinai 1.11 261 ⇓*i* P **Pn** **20 08 00.6 +0.7**
JAH ⇓S **Sn** **20 08 14.9 +0.7**
JOT Ohata 1.28 323 ⇓*i* P **Pn** **20 08 02.3 +0.1**
JOT ⇓*e*S **Sn** **20 08 18.2 -0.1**
JRG Rokugo 1.46 229 ⇓*i* P **Pn** **20 08 05.7 +0.9**
ASAJ Asahikawa 3.77 6 P **Pn** **20 08 36.6 +0.3**
11nm,0.4s,baz=218,slow=10,SNR=49
ASAJ S **Sn** **20 09 21.9 +2.5**
8.1nm,0.5s,baz=245,slow=19,SNR=6.2
MJAR Matsushiro Arr 4.87 220 P **Pn** **20 08 53.2 +1.8**
2.2nm,0.7s,baz=27,slow=12,SNR=12
USRK Ussuriysk Ar. 8.39 300 P **Pn** **20 09 41.6 +2.0**
3.1nm,0.6s,baz=114,slow=14,SNR=6.9
KSRS Korea Array 11.39 260 P Pn 20 10 32.0 +11
0.6nm,0.6s,baz=66,slow=13,SNR=4.8
SONM Songino Array 26.50 298 P **P 20 13 13.9 +0.8**
0.5nm,0.4s,baz=90,slow=1.4,SNR=2.0
0.5nm,0.4s
H11N2 WAKE ISLAND Hy 29.57 127 T T 20 44 29.1
H11N1 WAKE ISLAND Hy 29.58 127 T T 20 44 39.7
baz=318,slow=76,SNR=48
H11N3 WAKE ISLAND Hy 29.59 127 T T 20 44 33.2
baz=318,slow=76,SNR=48
H11S1 WAKE ISLAND Hy 30.39 129 T T 20 45 44.6
baz=322,SNR=24
H11S3 WAKE ISLAND Hy 30.39 129 T T 20 45 39.2
baz=322,slow=74,SNR=19
H11S2 WAKE ISLAND Hy 30.41 129 T T 20 45 49.8
baz=322,slow=74,SNR=15
ZALV Zalesovo Beam 40.12 310 P **P 20 15 11.1 +0.1**
1.0nm,0.4s,baz=101,slow=8.5,SNR=5.5
1.0nm,0.4s
MKAR Makanchi Array 42.86 299 P **P 20 15 32.8 -0.7**
0.4nm,0.5s,baz=88,slow=13,SNR=7.9
0.4nm,0.5s
KURBB Kurchatov Arra 44.42 305 P **P 20 15 45.8 -0.2**
1.2nm,0.2s,baz=81,slow=8.8,SNR=7.6
1.2nm,0.2s
BVAR Borovoye Array 48.76 310 P **P 20 16 19.4 -0.6**
0.6nm,0.4s,baz=65,slow=9.2,SNR=7.2
0.6nm,0.4s
RES Resolute Bay 59.26 15 LR LR 20 45 27.4
comp=Z,268nm,21.9s,baz=106,slow=38
ASAR Alice Springs 64.15 188 P **P 20 18 08.7 -0.9**
0.2nm,0.7s,baz=8.5,slow=8.8,SNR=1.6
0.2nm,0.7s
FINES FINESS Array B 66.12 332 P **P 20 18 21.8 -0.2**
0.7nm,0.7s,baz=23,slow=11,SNR=5.2
0.7nm,0.7s
HFS Hagfors 71.27 336 P **P 20 18 53.4 -0.6**
0.5nm,0.6s,baz=357,slow=7.7,SNR=1.2
0.5nm,0.6s
NOA NORSAR Array B 71.32 337 P **P 20 18 54.4 0.0**
0.6nm,0.8s,baz=48,slow=5.4,SNR=2.6
0.6nm,0.8s
PDAR Pinedale Array 74.99 46 P **P 20 19 16.2 -0.4**
0.1nm,0.3s,baz=321,slow=7.0,SNR=1.7
0.1nm,0.3s

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*NEIC **19** 20:25:56.4±1.9, 9°.74S±0°.08×112°.81E±0°.07, h35km±2km, mb4.3/9, Error ellipse: s-maj=14.7km s-min=11.2km az=202.0*
*DJA **19** 20:25:58.6±1.1, 10°.5±4°.4×11°.3E±°, h31km±18km, M4.2/13, mb4.2/4, mB4.9/1, MLv4.1/13, Mw(mB)4.2/1*
*IDC **19** 20:26:03.9±15.0, 9°.68S×112°.72E, h102km±146km, mb3.6/8, mbtmp3.9/8, Error ellipse: s-maj=125.3km s-min=25.6km az=50.0*
ISC 19 20:25:57.5±0.8, 9°.63S±0°.10×112°.85E±0°.04, h36km, n38, σ1s77/41, mb4.3/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.72**	**48**	Pn	**Pn**	**20 26 25.9**	**+1.0**
JAGI Sn **Sn** **20 26 46.8 +1.1**
JAGI Jajag, Banyuwa 1.72 48 P **Pn** **20 26 26.0 +1.1**
JAGI S **Sn** **20 26 48.1 +2.4**
PWJI Pagerwojo 1.90 327 P **Pn** **20 26 28.9 +1.5**
PWJI S **Sn** **20 26 51.2 +1.1**
ABJI Asem Bagus 2.27 37 P **Pn** **20 26 35.6 +3.1**
GRJI Gresik 2.72 352 P **Pn** **20 26 38.8 +0.2**
SRBI Singaraja 2.79 57 P **Pn** **20 26 40.9 +1.3**
UGM Wanagama 2.86 306 **Pn** **20 26 42.3 +1.7**
UGM Wanagama 2.86 306 P **Pn** **20 26 42.1 +1.4**
UGM S **Sn** **20 27 16.9 +3.0**
YOGI Yogyakarta 3.10 305 P **Pn** **20 26 48.2 +4.3**
SMRI Semarang 3.50 317 Pn **Pn** **20 26 50.2 +0.8**
SMRI Semarang 3.50 317 P **Pn** **20 26 49.6 +0.2**
TWSI Taliwang, Sumb 4.07 78 P **Pn** **20 26 59.6 +2.3**
PLAI Plampang 4.92 81 P **Pn** **20 27 11.1 +2.1**
CNJI Cibinong 6.11 292 P **Pn** **20 27 27.4 +2.1**
34nm,1.1s
SKJI Sukabumi 6.75 292 P **Pn** **20 27 37.6 +3.5**
178nm,0.6s
SOEI Soe 11.25 92 Pn **Pn** **20 28 37.2 +1.2**
PSA00 Pilbara Seismi 13.65 151 Pn Pn 20 29 06.0 -2.6
FITZ Fitzroy Crossi 14.99 126 Pn **Pn** **20 29 25.5 -1.3**
GSI Gunungsitoli 18.69 305 P **P** **20 30 09.5 -3.4**
WRA Warramunga Arr 23.14 119 P **P** **20 31 01.5 +0.7**
0.4nm,0.8s,baz=292,slow=11,SNR=2.4
0.4nm,0.8s
WB2 Warramunga Arr 23.15 119 P **P** **20 31 01.3 +0.4**
ASAR Alice Springs 24.48 127 P **P** **20 31 14.8 +1.4**
1.0nm,0.8s,baz=304,slow=8.7,SNR=13
1.0nm,0.8s
CMAR Chiang Mai Arr 31.10 334 P **P** **20 32 12.6 0.0**
1.1nm,0.9s,baz=159,slow=8.6,SNR=4.6
1.1nm,0.9s
SONM Songino Array 57.49 355 P **P** **20 35 41.5 -1.6**
SONM IAmb IAmb 20 35 43.9
comp=Z,1.9nm,0.8s
SONM Songino Array 57.49 355 P **P** **20 35 43.0 -0.1**
comp=Z,1.7nm,0.6s,baz=182,slow=7.6,SNR=10
comp=Z,1.7nm,0.6s
YSS Yuzh-Sakhalins 62.32 23 P **P** **20 36 15.2 -0.8**
MK31 Makanchi Array 62.44 337 P **P** **20 36 16.0 -0.9**
MKAR Makanchi Array 62.44 337 P **P** **20 36 16.3 -0.6**
MKAR Makanchi Array 62.44 337 P **P** **20 36 16.1 -0.8**
comp=Z,1.2nm,0.5s,baz=150,slow=7.7,SNR=23
comp=Z,1.2nm,0.5s
MAKZ Makanchi 62.57 337 P **P** **20 36 16.2 -1.6**
MAKZ IAmb IAmb 20 36 21.8
comp=Z,2.9nm,1.4s
KURBB Kurchatov Arra 67.00 337 P **P** **20 36 45.5 -1.1**
comp=Z,0.8nm,0.2s,baz=150,slow=5.0,SNR=5.3
comp=Z,0.8nm,0.2s
ZAA0 Zalesovo Array 67.63 343 P **P** **20 36 49.3 -1.2**
ZAA0 IAmb IAmb 20 36 50.5
comp=Z,2.1nm,0.6s
ZALV Zalesovo Beam 67.63 343 P **P** **20 36 48.7 -1.8**
ZALV Zalesovo Beam 67.63 343 P **P** **20 36 49.3 -1.2**
comp=Z,1.5nm,0.4s,baz=142,slow=5.1,SNR=9.1
comp=Z,1.5nm,0.4s
BVAR Borovoye Array 72.12 335 P **P** **20 37 17.4 -0.7**
comp=Z,0.5nm,0.5s,baz=146,slow=8.2,SNR=3.9
comp=Z,0.5nm,0.5s
ABKAR Abkulak array 74.68 327 P **P** **20 37 33.1 -0.2**
ABKAR Abkulak array 74.68 327 P **P** **20 37 32.0 -1.3**
ABKAR IAmb IAmb 20 37 34.2
comp=Z,3.8nm,1.0s
ARU Arti 79.53 333 P **P** **20 37 59.3 -1.1**
ARU IAmb IAmb 20 38 39.5
comp=Z,5.0nm,1.4s

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*IDC **19** 20:27:48.8±0.6, 7°.80S×158°.90E, h0km, mb4.4/18, mbtmp4.3/19, ML3.0/2, MS3.8/3, Error ellipse: s-maj=22.7km s-min=15.3km az=103.0*
*NEIC **19** 20:27:55.8±1.5, 7°.85S±0°.06×158°.8E±0°.1, h44km±8km, mb4.7/66, Error ellipse: s-maj=16.6km s-min=5.6km az=67.0*
ISC 19 20:27:56.4±0.4, 7°.89S±0°.07×158°.80E±0°.09, h55km, n108, σ0s84/91, mb4.6/54, MS3.8/3, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.91**	**144**		**Pn**	**20 28 26.4**	**-0.2**
HNR Honiara 1.91 144 LR LR 20 29 20.8
comp=Z,7μm,20.2s,baz=300,slow=48
LIFNC LIFOU 15.19 148 Pn **Pn** **20 31 26.4 -1.3**
DZM Mont Dzumac 15.91 153 P **Pn** **20 31 38.4 +1.5**
DZM Mont Dzumac 15.91 153 Pn **Pn** **20 31 36.6 -0.4**
0.4nm,0.3s,baz=356,slow=18,SNR=2.5
9.7nm,1.0s
CTA Charters Tower 17.17 224 P **Pn** **20 31 51.1 -1.5**
baz=79,slow=4.2,SNR=2.3
CTAO Charters Tower 17.17 224 Pn **Pn** **20 31 51.9 -0.7**
EIDS Eidsvold 18.88 202 **P** **20 32 11.2 -1.2**
ARMA Armidale 23.40 196 P **P** **20 33 00.9 +0.2**
ARMA IAmb IAmb 20 33 04.1
comp=Z,18nm,1.1s
GUMO Guam 25.43 327 LR LR 20 42 49.2
comp=Z,76nm,18.3s,baz=79,slow=35
WR0 Warramunga Arr 26.38 240 P **P** **20 33 28.2 +0.4**
WR0 IAmb IAmb 20 33 43.1
comp=Z,18nm,1.0s
WB0 Warramunga Arr 26.43 241 P **P** **20 33 28.7 +0.4**
WB0 IAmb IAmb 20 33 43.0
comp=Z,13nm,1.0s
WRAB Tennant Creek 26.54 241 P **P** **20 33 29.4 +0.2**
WRAB IAmb IAmb 20 33 44.9
comp=Z,23nm,1.4s
WB2 Warramunga Arr 26.54 241 P **P** **20 33 29.9 +0.6**
WB2 IAmb IAmb 20 33 44.0
comp=Z,15nm,1.1s
WRA Warramunga Arr 26.55 241 P **P** **20 33 29.9 +0.5**
comp=Z,1.6nm,0.3s,baz=66,slow=9.4,SNR=20
comp=Z,1.6nm,0.3s
H11S3 WAKE ISLAND Hy 27.35 16 T T 21 02 06.7
baz=198,slow=76,SNR=277
H11S2 WAKE ISLAND Hy 27.35 17 T T 21 02 05.3
baz=198,slow=76,SNR=258
H11S1 WAKE ISLAND Hy 27.36 16 T T 21 02 13.0
baz=198,slow=76,SNR=305
AS31 Alice Springs 28.56 234 P **P** **20 33 47.2 -0.1**
ASAR Alice Springs 28.56 234 P **P** **20 33 47.1 -0.2**
comp=Z,1.2nm,0.6s,baz=61,slow=9.6,SNR=21
comp=Z,1.2nm,0.6s
H11N1 WAKE ISLAND Hy 28.56 16 T T 21 03 44.0
baz=196,slow=76,SNR=244
H11N3 WAKE ISLAND Hy 28.57 16 T T 21 03 39.8
baz=196,slow=76,SNR=373
H11N2 WAKE ISLAND Hy 28.58 16 T T 21 03 47.2
baz=196,slow=76,SNR=300
CAN Canberra 28.75 197 P **P** **20 33 50.0 +1.1**
CAN IAmb IAmb 20 33 50.9
comp=Z,44nm,1.5s

STKA	**Stephens Creek**	**28.75**	**212**	P	**P**	**20 33 48.5**	**-0.3**
STKA	**Stephens Creek**	**28.75**	**212**	P	**P**	**20 33 49.3**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=47,slow=15,SNR=12						
STKA				LR	LR	20 45 24.6	
	comp=Z,239nm,18.8s,baz=16,slow=37						
	comp=Z,2.9nm,0.8s						
TOO	**Toolangi**	**31.92**	**200**	P	**P**	**20 34 18.9**	**+2.0**
TOO				IAmb	IAmb	20 34 19.7	
	comp=Z,16nm,1.1s						
BBOO	**Buckleboo**	**32.55**	**217**	P	**P**	**20 34 22.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**33.81**	**249**	P	**P**	**20 34 32.5**	**-1.1**
URZ	**Urewera**	**34.47**	**154**	LR	LR	20 48 19.1	
	comp=Z,300nm,18.2s,baz=29,slow=36						
BKZ	**Black Stump Fm**	**34.97**	**156**	P	**P**	**20 34 43.5**	**+0.1**
BKZ				IAmb	IAmb	20 35 01.3	
	comp=Z,7.1nm,0.9s						
TUWZ	**Tuamarina**	**36.01**	**160**	P	**P**	**20 34 52.1**	**-0.1**
LTZ	**Lake Taylor**	**36.72**	**163**	P	**P**	**20 34 58.0**	**-0.4**
KHZ	**Kahutara**	**36.77**	**162**	P	**P**	**20 34 58.2**	**-0.5**
GVZ	**Greta Valley S**	**37.12**	**163**	P	**P**	**20 35 02.0**	**+0.3**
OXZ	**Oxford**	**37.16**	**164**	P	**P**	**20 35 01.9**	**-0.1**
RPZ	**Rata Peaks**	**37.27**	**165**	P	**P**	**20 35 02.7**	**-0.3**
RPZ				IAmb	IAmb	20 35 19.2	
	comp=Z,10nm,0.8s						
MQZ	**McQueen's Vall**	**37.68**	**163**	P	**P**	**20 35 04.5**	**-1.9**
MQZ				IAmb	IAmb	20 35 04.7	
	comp=Z,13nm,1.2s						
KKM	**Kota Kinabalu**	**44.67**	**287**	P	**P**	**20 36 04.1**	**-0.3**
KKM				IAmb	IAmb	20 36 23.8	
	comp=Z,10nm,1.0s						
YOJ	**Yonaguni jima**	**47.45**	**314**	P	**P**	**20 36 25.5**	**-0.5**
MJAR	**Matsushiro Arr**	**48.24**	**338**	P	**P**	**20 36 30.8**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=169,slow=8.3,SNR=6.9						
	comp=Z,1.5nm,0.6s						
MJB9	**Matsu-Tunnel**	**48.24**	**338**	P	**P**	**20 36 30.8**	**-1.1**
MJB9				IAmb	IAmb	20 36 44.2	
	comp=Z,13nm,1.4s						
KSRS	**Korea Array**	**53.55**	**329**	P	**P**	**20 37 12.2**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=148,slow=8.2,SNR=16						
	comp=Z,2.9nm,0.8s						
USA0B	**Ussuriysk Arra**	**57.23**	**337**	P	**P**	**20 37 37.6**	**-0.5**
USA0B				IAmb	IAmb	20 37 54.2	
	comp=Z,8.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**57.23**	**337**	P	**P**	**20 37 37.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**57.23**	**337**	P	**P**	**20 37 38.3**	**+0.2**
	comp=Z,6.1nm,0.8s,baz=142,slow=6.6,SNR=11						
	comp=Z,6.1nm,0.8s						
BNX	**BinXian**	**60.34**	**335**	⇓P	**P**	**20 37 59.3**	**-0.3**
BNX				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KIWB	**Kanaga Island**	**62.99**	**16**	P	**P**	**20 38 15.6**	**-1.7**
HEH	**HeiHe**	**64.00**	**338**	*e*P	**P**	**20 38 24.1**	**0.0**
HEH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**64.58**	**295**	P	**P**	**20 38 30.2**	**+1.8**
	comp=Z,1.2nm,0.4s,baz=120,slow=5.6,SNR=9.5						
	comp=Z,1.2nm,0.4s						
VNDA	**Vanda**	**69.62**	**179**	P	**P**	**20 39 01.1**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=317,slow=2.9,SNR=4.8						
	comp=Z,0.5nm,0.5s						
ULN	**Ulaanbaatar**	**71.81**	**326**	P	**P**	**20 39 14.7**	**+1.3**
ULN				IAmb	IAmb	20 39 15.7	
	comp=Z,8.0nm,0.9s						
GTA	**Gaotai**	**71.98**	**316**	*e*P	**P**	**20 39 16.3**	**+1.7**
GTA				sP	PcP	20 39 32.3	-0.7
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**72.15**	**326**	P	**P**	**20 39 15.9**	**+0.5**
SONM				IAmb	IAmb	20 39 17.5	
	comp=Z,9.3nm,0.8s						
SONM	**Songino Array**	**72.15**	**326**	P	**P**	**20 39 16.6**	**+1.1**
	comp=Z,10.0nm,0.8s,baz=136,slow=6.0,SNR=32						
	comp=Z,10.0nm,0.8s						
SHL	**Shillong**	**73.00**	**300**	P	**P**	**20 39 21.6**	**+0.6**
BILL	**Bilibino**	**75.93**	**3**	P	**P**	**20 39 37.3**	**+0.4**
K15K	**Wolf Creek Mou**	**76.36**	**18**	P	**P**	**20 39 40.5**	**+1.0**
K15K				IAmb	IAmb	20 39 41.5	
	comp=Z,7.6nm,0.9s						
L16K	**Owhat River**	**76.56**	**19**	P	**P**	**20 39 41.0**	**+0.5**
L18K	**Granite Mounta**	**77.84**	**20**	P	**P**	**20 39 48.5**	**+0.7**
BRLK	**Bradley Lake**	**78.31**	**23**	P	**P**	**20 39 50.1**	**-0.4**
M19K	**Big River Lodg**	**78.41**	**21**	P	**P**	**20 39 49.8**	**-1.2**
M19K				IAmb	IAmb	20 39 52.8	
	comp=Z,5.2nm,0.9s						
L19K	**White Mountain**	**78.44**	**20**	P	**P**	**20 39 51.6**	**+0.4**
L19K				IAmb	IAmb	20 39 52.7	
	comp=Z,3.8nm,0.8s						
TTA	**Tatalina**	**78.57**	**19**	P	**P**	**20 39 52.3**	**+0.4**
K20K	**Telida**	**79.50**	**20**	P	**P**	**20 39 57.6**	**+0.7**
J20K	**Nowinta River**	**80.03**	**19**	P	**P**	**20 40 00.8**	**+1.0**
E19K	**Redstone River**	**81.42**	**16**	P	**P**	**20 40 07.7**	**+0.6**
E19K				IAmb	IAmb	20 40 08.7	
	comp=Z,6.1nm,0.8s						
MLY	**Manley**	**81.71**	**19**	P	**P**	**20 40 08.3**	**-0.4**
NEA2	**Nenana**	**81.99**	**20**	P	**P**	**20 40 09.3**	**-0.8**
NEA2				IAmb	IAmb	20 40 10.2	
	comp=Z,5.9nm,1.0s						
QSPA	**South Pole Qui**	**82.09**	**180**	P	**P**	**20 40 11.9**	**+1.0**
	comp=Z,1.7nm,1.1s,baz=12,slow=5.4,SNR=2.4						
	comp=Z,1.7nm,1.1s						
MDM	**Murphy Dome**	**82.50**	**20**	P	**P**	**20 40 12.2**	**-0.7**
ILAR	**Eielson Array**	**82.85**	**21**	P	**P**	**20 40 14.0**	**-0.6**
ILAR	**Eielson Array**	**82.85**	**21**	P	**P**	**20 40 13.4**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=269,slow=3.8,SNR=6.7						
	comp=Z,0.8nm,0.7s						
J25K	**Salcha River,**	**83.29**	**21**	P	**P**	**20 40 16.5**	**-0.5**
M27K	**Edge Creek, AK**	**83.39**	**24**	P	**P**	**20 40 17.2**	**-0.4**
M27K				IAmb	IAmb	20 40 19.4	
	comp=Z,9.7nm,1.3s						
SCRK	**Sand Creek**	**83.44**	**22**	P	**P**	**20 40 17.5**	**-0.3**
BCAR	**Beaver Creek A**	**83.79**	**23**	P	**P**	**20 40 19.7**	**+0.1**
H02S1	**DAWSON INLET T**	**83.84**	**34**	T	T	22 12 46.5	
	SNR=157						
EGAK	**Eagle**	**84.91**	**22**	P	**P**	**20 40 25.2**	**+0.1**
E27K	**Coleen River**	**86.51**	**19**	P	**P**	**20 40 34.2**	**+1.2**
E27K				IAmb	IAmb	20 40 35.5	
	comp=Z,7.5nm,1.2s						
MK31	**Makanchi Array**	**86.57**	**318**	P	**P**	**20 40 34.1**	**+0.2**
MK31				IAmb	IAmb	20 40 35.1	
	comp=Z,3.1nm,0.8s						
MKAR	**Makanchi Array**	**86.57**	**318**	P	**P**	**20 40 33.5**	**-0.4**
MKAR	**Makanchi Array**	**86.57**	**318**	P	**P**	**20 40 33.6**	**-0.2**
	comp=Z,4.3nm,0.7s,baz=97,slow=5.8,SNR=30						
	comp=Z,4.3nm,0.7s						
MAKZ	**Makanchi**	**86.79**	**318**	P	**P**	**20 40 34.5**	**-0.4**
MAKZ				IAmb	IAmb	20 40 36.2	
	comp=Z,3.8nm,0.9s						
ZALV	**Zalesovo Beam**	**87.04**	**325**	P	**P**	**20 40 34.3**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=99,slow=6.5,SNR=4.8						
	comp=Z,0.8nm,0.6s						
D27M	**Malcolm River**	**87.25**	**18**	P	**P**	**20 40 37.8**	**+1.1**
D27M				IAmb	IAmb	20 40 39.2	
	comp=Z,5.3nm,0.9s						
NVAR	**Mina Array Bea**	**89.32**	**51**	P	**P**	**20 40 48.4**	**+1.0**
NVAR	**Mina Array Bea**	**89.32**	**51**	P	**P**	**20 40 48.2**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=242,slow=7.5,SNR=16						
	comp=Z,2.5nm,0.8s						
NV11	**Mina Array Sit**	**89.44**	**51**	IAmb	IAmb	20 40 49.8	
	comp=Z,2.6nm,0.9s						
I07A	**Izee**	**89.51**	**45**	P	**P**	**20 40 47.4**	**-0.6**
I07A				IAmb	IAmb	20 40 50.0	
	comp=Z,2.0nm,0.8s						
KVN	**Kaiserville**	**89.59**	**51**	P	**P**	**20 40 49.7**	**+1.1**
KVN				IAmb	IAmb	20 40 50.9	
	comp=Z,2.4nm,0.8s						
KURBB	**Kurchatov Arra**	**89.91**	**321**	P	**P**	**20 40 48.7**	**-0.9**
	comp=Z,1.6nm,0.2s,baz=105,slow=3.9,SNR=4.9						
	comp=Z,1.6nm,0.2s						
J08A	**Circle Bar Ran**	**90.10**	**46**	IAmb	IAmb	20 40 53.0	
	comp=Z,3.6nm,0.9s						
R11B	**Troy Canyon, C**	**91.42**	**52**	IAmb	IAmb	20 40 59.6	
	comp=Z,2.3nm,0.9s						
W13A	**Hualapai Mount**	**92.29**	**55**	IAmb	IAmb	20 41 04.0	
	comp=Z,3.1nm,0.8s						
CCUT	**Cedar City**	**93.04**	**53**	IAmb	IAmb	20 41 07.8	
	comp=Z,4.2nm,0.9s						
HLID	**Hailey**	**93.05**	**47**	IAmb	IAmb	20 41 07.3	
	comp=Z,1.8nm,0.8s						
KNB	**Kanab**	**93.40**	**53**	IAmb	IAmb	20 41 09.5	
	comp=Z,5.8nm,1.2s						
BVAR	**Borovoye Array**	**95.28**	**323**	P	**P**	**20 41 12.8**	**-1.6**
	comp=Z,3.0nm,0.7s,baz=94,slow=5.0,SNR=18						
	comp=Z,3.0nm,0.7s						
YKA	**Yellowknife Ar**	**95.36**	**28**	P	**P**	**20 41 14.1**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=247,slow=4.0,SNR=6.6						
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**96.50**	**48**	P	**P**	**20 41 19.5**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=299,slow=1.5,SNR=4.7						
	comp=Z,0.4nm,0.6s						
FINES	**FINESS Array B**	**116.26**	**337**	PKP	**PKPdf**	**20 46 33.2**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=108,slow=6.2,SNR=3.4						
HFS	**Hagfors**	**121.65**	**340**	PKP	**PKPdf**	**20 46 43.4**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=38,slow=7.3,SNR=1.8						
NOA	**NORSAR Array B**	**121.74**	**342**	PKP	**PKPdf**	**20 46 44.1**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=85,slow=5.4,SNR=1.7						
GERES	**GERESS Array B**	**129.72**	**331**	PKP	**PKPdf**	**20 46 60.0**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=335,slow=4.3,SNR=5.0						
BDFB	**Brasilia**	**144.62**	**131**	PKP	**PKPab**	**20 47 26.5**	**-0.2**
	comp=Z,4.3nm,0.7s,baz=234,slow=3.1,SNR=6.0						
ESDC	**Sonseca Array**	**144.78**	**337**	PKP	**PKPab**	**20 47 26.6**	**0.0**
	comp=Z,1.3nm,1.1s,baz=358,slow=4.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**156.90**	**285**	PKPab	**PKPab**	**20 48 17.0**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=82,slow=6.8,SNR=8.3						

*IDC **19** 20:34:32.7±0.9, 17°.95S×179°.77E, h0km, mb4.0/11, mbtmp4.0/11, MS4.1/4, Error ellipse: s-maj=28.2km s-min=19.9km az=133.0*
*NEIC **19** 20:34:36.6±1.5, 17°.7S±0°.1×179°.68E±0°.09, h22km±6km, mb4.7/34, Error ellipse: s-maj=19.8km s-min=12.5km az=176.0*

ISC 19 20:34:38.2±0.5, 17°.9S±0°.1×179°.67E±0°.07, h35km, n78, σ1§79/70, mb4.5/21, MS3.9/4, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.54**	**275**		**Pn**	**20 35 01.9**	**-1.4**
MSVF				Sn	**Sn**	**20 35 22.0**	**-0.3**
DZM	**Mont Dzumac**	**13.12**	**249**	*e*LR	LR	20 40 40.3	
	1μm,24.2s						
RAR	**Rarotonga**	**19.66**	**103**	LR	LR	20 44 38.6	
	comp=Z,229nm,21.8s,baz=267,slow=31						
TOZ	**Tahuroa Road**	**20.13**	**190**	P	**P**	**20 39 09.5**	**+0.4**
URZ	**Urewera**	**20.44**	**186**	P	**P**	**20 39 11.0**	**-1.6**
	5.4nm,0.7s,baz=19,slow=15,SNR=4.0						
	5.4nm,0.7s						
RTZ	**Ruatahuna**	**20.81**	**186**	P	**P**	**20 39 16.6**	**-0.1**
RTZ				IAmb	IAmb	20 39 41.2	
	comp=Z,62nm,1.5s						
HNR	**Honiara**	**20.90**	**291**	LR	LR	20 46 33.1	
	comp=Z,2μm,18.1s,baz=126,slow=34						
QRZ	**Quartz Range**	**23.70**	**194**		**P**	**20 39 48.1**	**+1.3**
TCW	**Tory Channel**	**23.73**	**190**	P	**P**	**20 39 49.1**	**+2.0**
TKNZ	**Takaka Hill**	**23.80**	**193**	P	**P**	**20 39 48.9**	**+1.1**
NNZ	**Nelson**	**23.89**	**192**	P	**P**	**20 39 47.7**	**-0.9**
TUWZ	**Tuamarina**	**24.00**	**191**	P	**P**	**20 39 48.8**	**-0.8**
THZ	**Tophouse**	**24.51**	**192**	P	**P**	**20 39 55.2**	**+0.8**
KHZ	**Kahutara**	**25.02**	**191**	P	**P**	**20 39 58.0**	**-0.9**
LTZ	**Lake Taylor**	**25.62**	**193**	P	**P**	**20 40 04.4**	**0.0**
GVZ	**Greta Valley S**	**25.65**	**191**	P	**P**	**20 40 03.2**	**-1.4**
RPZ	**Rata Peaks**	**26.78**	**194**	P	**P**	**20 40 15.4**	**+0.5**
FOZ	**Fox Glacier**	**26.91**	**196**	P	**P**	**20 40 16.5**	**+0.5**
LBZ	**Lake Benmore**	**27.62**	**195**	P	**P**	**20 40 20.6**	**-1.8**
MLZ	**Mavora Lakes**	**29.07**	**197**	P	**P**	**20 40 35.7**	**+0.4**
PPT2	**Papeete2**	**29.28**	**94**	*e*S	**S**	**20 45 29.8**	**+1.2**
	comp=Z,182nm,24.8s						
PPT2				*e*LR	LR	20 48 09.8	
	comp=Z,652nm,27.0s						
PPT2				*e*LR	LR	20 48 12.0	
	comp=Z,497nm,27.2s						
PPT	**Papeete**	**29.29**	**94**	LR	LR	20 49 03.4	
	comp=Z,263nm,21.4s,baz=308,slow=30						
TBI	**Tubuai**	**29.37**	**106**	*e*S	**S**	**20 45 27.2**	**-2.6**
	comp=Z,773nm,25.8s						
TBI				*e*LR	LR	20 47 59.6	
	comp=Z,649nm,23.2s						
TBI				*e*LR	LR	20 48 11.5	
	comp=Z,1μm,27.2s						
WHZ	**Wether Hill Ro**	**29.60**	**197**	P	**P**	**20 40 40.6**	**+0.7**
CTA	**Charters Tower**	**31.64**	**261**	P	**P**	**20 40 59.4**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=90,slow=11,SNR=13						
CTA				LR	LR	20 52 50.5	
	comp=Z,17nm,18.3s,baz=86,slow=35						
	comp=Z,0.8nm,0.8s						
CTAO	**Charters Tower**	**31.64**	**261**	P	**P**	**20 40 59.1**	**+0.7**
CTAO				IAmb	IAmb	20 41 00.6	
	comp=Z,11nm,0.8s						
PMG	**Port Moresby**	**32.65**	**281**	LR	LR	20 52 31.0	
	comp=Z,265nm,18.8s,baz=122,slow=33						
TOO	**Toolangi**	**35.79**	**230**	P	**P**	**20 41 35.9**	**+1.6**
STKA	**Stephens Creek**	**37.05**	**241**	P	**P**	**20 41 46.1**	**+1.1**
STKA	**Stephens Creek**	**37.05**	**241**	P	**P**	**20 41 45.7**	**+0.7**
	comp=Z,6.8nm,1.0s,baz=84,slow=13,SNR=6.4						
	comp=Z,6.8nm,1.0s						
BBOO	**Buckleboo**	**41.83**	**241**	P	**P**	**20 42 24.1**	**-0.8**
WB0	**Warramunga Arr**	**42.80**	**260**		**P**	**20 42 32.0**	**-1.0**
WB0				IAmb	IAmb	20 42 33.2	
	comp=Z,17nm,0.9s						
WB2	**Warramunga Arr**	**42.83**	**260**	P	**P**	**20 42 32.3**	**-0.8**
WB2				IAmb	IAmb	20 42 34.1	
	comp=Z,19nm,1.1s						
WRAB	**Tennant Creek**	**42.83**	**260**	P	**P**	**20 42 32.4**	**-0.8**
WRAB				IAmb	IAmb	20 42 34.0	
	comp=Z,19nm,1.1s						
WRA	**Warramunga Arr**	**42.84**	**260**	P	**P**	**20 42 31.9**	**-1.3**
WRA	**Warramunga Arr**	**42.84**	**260**	P	**P**	**20 42 32.0**	**-1.3**
	comp=Z,12nm,1.0s,baz=91,slow=7.7,SNR=44						
	comp=Z,12nm,1.0s						
AS31	**Alice Springs**	**43.04**	**254**	P	**P**	**20 42 34.5**	**-0.3**
ASAR	**Alice Springs**	**43.04**	**254**	P	**P**	**20 42 34.8**	**-0.1**
ASAR	**Alice Springs**	**43.04**	**254**	P	**P**	**20 42 34.6**	**-0.3**
	comp=Z,33nm,0.9s,baz=85,slow=8.5,SNR=154						
MTN	**Manton Dam**	**46.97**	**269**	P	**P**	**20 43 05.6**	**-0.6**
MTN				IAmb	IAmb	20 43 46.2	
	comp=Z,11nm,1.1s						
FORT	**Forrest**	**48.37**	**244**	P	**P**	**20 43 15.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**51.23**	**261**		pwP	20 43 53.1	+1.6
TNTI	**Ternate**	**54.67**	**284**	P	**P**	**20 44 03.4**	**-0.8**
SBA	**Scott Base**	**60.36**	**183**	P	**P**	**20 44 44.7**	**+1.4**
SBA				IAmb	IAmb	20 44 46.5	
	comp=Z,6.3nm,1.1s						
MJAR	**Matsushiro Arr**	**66.79**	**325**	P	**P**	**20 45 27.1**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=158,slow=5.9,SNR=4.5						
	comp=Z,1.7nm,0.8s						
MAJO	**Matsushiro**	**66.79**	**325**	P	**P**	**20 45 24.9**	**-1.5**
MAJO				IAmb	IAmb	20 45 27.7	
	comp=Z,4.4nm,0.9s						
MJB9	**Matsu-Tunnel**	**66.80**	**325**	P	**P**	**20 45 24.9**	**-1.5**
SBUM	**Sibu**	**69.39**	**280**	P	**P**	**20 45 42.7**	**-0.4**
QSPA	**South Pole Qui**	**72.19**	**180**		**P**	**20 45 58.5**	**-0.9**
QSPA				IAmb	IAmb	20 46 17.7	
	comp=Z,11nm,1.3s						
QSPA	**South Pole Qui**	**72.19**	**180**	P	**P**	**20 45 58.9**	**-0.5**
	comp=Z,2.3nm,1.1s,baz=39,slow=1.9,SNR=5.1						
	comp=Z,2.3nm,1.1s						
KSRS	**Korea Array**	**73.46**	**319**	P	**P**	**20 46 08.1**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=148,slow=6.0,SNR=6.6						
	comp=Z,0.6nm,0.6s						
KSAR	**Wonju Array Be**	**73.48**	**319**	P	**P**	**20 46 08.7**	**+1.5**
NVAR	**Mina Array Bea**	**80.67**	**45**	P	**P**	**20 46 49.7**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=230,slow=7.7,SNR=1.3						
	comp=Z,0.2nm,0.3s						
M26K	**Nabesna, AK**	**85.25**	**16**	P	**P**	**20 47 09.5**	**-1.4**
M26K				IAmb	IAmb	20 47 31.6	
	comp=Z,3.6nm,0.8s						
WRH	**Wood River Hil**	**85.74**	**13**	P	**P**	**20 47 11.6**	**-1.6**
WRH				IAmb	IAmb	20 47 19.8	
	comp=Z,4.5nm,0.6s						
CCB	**Clear Creek Bu**	**85.95**	**13**		pwP	20 47 26.1	-1.9
ILAR	**Eielson Array**	**86.27**	**14**		pwP	20 47 27.1	-2.5
ILAR	**Eielson Array**	**86.27**	**14**	P	**P**	**20 47 15.9**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=238,slow=5.8,SNR=9.9						
	comp=Z,1.0nm,0.9s						
CM31	**Chiang Mai Arr**	**87.15**	**290**	P	**P**	**20 47 20.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**87.15**	**290**	P	**P**	**20 47 21.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**87.15**	**290**	P	**P**	**20 47 22.6**	**+1.4**
	comp=Z,2.3nm,0.9s,baz=104,slow=3.2,SNR=9.2						
	comp=Z,2.3nm,0.9s						
TX31	**Lajitas Ar. Si**	**87.53**	**58**	P	**P**	**20 47 19.6**	**-3.4**
TX31				IAmb	IAmb	20 47 37.1	
	comp=Z,6.6nm,1.2s						
TXAR	**Lajitas Array**	**87.53**	**58**	P	**P**	**20 47 19.4**	**-3.6**
TXAR	**Lajitas Array**	**87.53**	**58**	P	**P**	**20 47 25.8**	**+2.9**
	comp=Z,0.7nm,1.0s,baz=208,slow=5.0,SNR=4.3						
PDAR	**Pinedale Array**	**88.59**	**44**	P	**P**	**20 47 26.2**	**-1.7**
	comp=Z,0.1nm,0.5s,baz=306,slow=3.0,SNR=1.6						
	comp=Z,0.1nm,0.5s						
GERES	**GERESS Array B**	**147.06**	**343**	PKPbc	**PKPdf**	**20 54 16.0**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=39,slow=8.6,SNR=4.9						
CONA	**Conrad Observa**	**147.22**	**340**	*e*PKP	**PKPab**	**20 54 19.7**	**0.0**
	comp=Z,2.0nm,1.0s						
RONA	**Rosalia, Austr**	**147.27**	**339**	*e*PKP	**PKPab**	**20 54 19.7**	**-0.1**
	comp=Z,4.2nm,1.8s						
BIOA	**Bad Ischl, Aus**	**148.12**	**342**	*e*PKP	**PKiKP**	**20 54 22.2**	**+0.1**
	comp=Z,0.8nm,0.6s						
SOKA	**Soboth**	**148.58**	**340**	*e*PKP	**PKPab**	**20 54 32.6**	**+7.4**
	comp=Z,3.2nm,1.5s						
LESA	**Schwarzleotal**	**148.64**	**343**	*i* PKP	**PKiKP**	**20 54 23.1**	**-0.1**
	comp=Z,3.0nm,1.0s						
WATA	**Walderalm**	**149.02**	**344**	*e*PKiKP	**PKPab**	**20 54 30.7**	**+3.8**
	comp=Z,2.4nm,0.8s						
WTTA	**Wattenberg**	**149.07**	**344**	*e*PKP	**PKPbc**	**20 54 22.9**	**-0.1**
	comp=Z,1.8nm,0.9s						
RETA	**Reutte**	**149.08**	**345**	*e*PKP	**PKPab**	**20 54 27.4**	**+0.3**
	comp=Z,1.1nm,0.6s						
SQTA	**Sankt Quirin**	**149.22**	**345**	*e*PKP	**PKPab**	**20 54 32.0**	**+4.3**
	comp=Z,3.8nm,1.2s						
ABTA	**Abfaltersbach**	**149.30**	**343**	*i* PKP	**PKPab**	**20 54 33.2**	**+5.2**
	comp=Z,3.0nm,1.1s						
DAVA	**Damuels**	**149.48**	**346**	*i* PKP	**PKiKP**	**20 54 25.6**	**+0.5**
	comp=Z,3.5nm,1.1s						
FETA	**Feichten**	**149.52**	**345**	*e*PKP	PKPab	20 54 37.2	+8.2
	comp=Z,2.9nm,1.0s						

*IDC **19** 20:36:59.1±2.7, 10°.00S×112°.23E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=119.7km s-min=24.1km az=50.0*
*DJA **19** 20:37:06.8±0.5, 9°.S±4°.×11°.3E±°, h10km, M4.0/12, mb4.0/3, MLv4.0/12*

ISC 19 20:37:07.0±1.2, 9°.7S±0°.1×112°.80E±0°.06, h35km, n16, σ1§56/20, mb3.5/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.78**	**49**	P	**Pn**	**20 37 34.9**	**-0.5**
JAGI				S	**Sn**	**20 37 55.8**	**-1.0**
PWJI	**Pagerwojo**	**1.90**	**329**	P	**Pn**	**20 37 37.1**	**+0.2**
PWJI				S	**Sn**	**20 37 58.5**	**-1.1**
ABJI	**Asem Bagus**	**2.33**	**38**	P	**Pn**	**20 37 44.2**	**+1.3**
ABJI				S	**Sn**	**20 38 13.6**	**+3.3**
GRJI	**Gresik**	**2.74**	**353**	P	**Pn**	**20 37 48.5**	**-0.1**
UGM	**Wanagama**	**2.84**	**307**	P	**Pn**	**20 37 52.4**	**+2.5**
UGM				S	**Sn**	**20 38 25.0**	**+2.1**
SRBI	**Singaraja**	**2.85**	**57**	P	**Pn**	**20 37 50.5**	**+0.4**
BWJI	**Bawean**	**3.78**	**358**	P	**Pn**	**20 38 02.8**	**-0.1**
TWSI	**Taliwang, Sumb**	**4.13**	**78**	P	**Pn**	**20 38 08.3**	**+0.6**
PLAI	**Plampang**	**4.98**	**81**	P	**Pn**	**20 38 20.6**	**+1.2**
CNJI	**Cibinong**	**6.07**	**292**	P	**Pn**	**20 38 36.8**	**+2.5**
	42nm,1.5s						
BKSI	**Bulukumba**	**8.44**	**60**	P	**Pn**	**20 39 07.3**	**+0.4**
	9.2nm,1.7s						
EDFI	**Ende, Flores**	**8.83**	**85**	P	**Pn**	**20 39 14.2**	**+1.9**
WRA	**Warramunga Arr**	**23.17**	**119**	P	**P**	**20 42 10.3**	**-0.5**
	0.7nm,0.8s,baz=290,slow=11,SNR=7.3						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**24.50**	**127**	P	**P**	**20 42 23.4**	**+0.1**
	0.7nm,0.5s,baz=302,slow=9.2,SNR=9.7						
	0.7nm,0.5s						
SONM	**Songino Array**	**57.52**	**355**	P	**P**	**20 46 51.7**	**-1.2**
	0.3nm,0.4s,baz=177,slow=6.9,SNR=1.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**62.45**	**337**	P	**P**	**20 47 25.1**	**-1.5**
	0.2nm,0.5s,baz=165,slow=6.0,SNR=4.6						
	0.2nm,0.5s						

*SOF **19** 20:46:13.6, 42°.02N±0°.01×23°.51E±0°.01, h11km±2km, MD2.8/6*
*ISK **19** 20:46:13.5, 42°.04N×23°.51E, h9km, ML2.9/17*
*B

comp=E,985nm,0.6s
KAVA Kavala 1.27 143 P **Pb 20 46 37.2 -0.4**
KAVA S **Sb 20 46 54.0 -0.3**
MPEP Malo Peshtene 1.35 8 P **Pb 20 46 39.7 +0.7**
ZAPS Zavoj 1.41 334 *e*Pg **Pg 20 46 40.9 +0.8**
ZAPS *e*Sg **Sn 20 46 59.7 +1.1**
KDZ Kurdzhali 1.43 105 Pn **Pg 20 46 40.2 -0.3**
KDZ Sn **Sn 20 46 59.8 +0.7**
THE Thessaloniki 1.44 196 P **Pg 20 46 40.6 0.0**
THE Thessaloniki 1.44 196 *i* Pg **Pg 20 46 41.1 +0.5**
THE *i* Sg **Sn 20 47 00.2 +1.1**
THE Thessaloniki 1.44 196 P **Pg 20 46 40.4 -0.2**
THE AML AML 20 47 02.5
comp=E,341μm,0.4s
THE AML AML 20 47 03.1
comp=N,267μm,0.3s
HORT Hortiatis 1.45 192 Pn **Pg 20 46 40.8 0.0**
HORT Sn **Sn 20 46 59.9 +0.3**
HORT Hortiatis 1.45 192 P **Pg 20 46 41.2 +0.4**
HORT S **Sn 20 47 00.8 +1.2**
comp=N,140nm,0.4s
HORT Hortiatis 1.45 192 P **Pg 20 46 40.6 -0.2**
HORT S **Sb 20 46 57.5 -1.9**
HORT AML AML 20 47 01.1
comp=N,276μm,0.6s
HORT AML AML 20 47 02.4
comp=E,292μm,0.3s
PLG Polygyros 1.64 181 P **Pb 20 46 43.8 -0.1**
PLG S **Sb 20 47 04.8 -0.1**
PLG Polygyros 1.64 181 P **Pb 20 46 43.7 -0.1**
PLG S **Sn 20 47 02.5 -1.8**
PLG AML AML 20 47 08.3
comp=N,366μm,0.4s
PLG AML AML 20 47 09.9
comp=E,310μm,0.5s
VALD Valchedram 1.67 359 P **Pg 20 46 45.0 -0.1**
VALD S **Sg 20 47 09.4 +2.5**
THAS Thassos island 1.68 146 P **Pb 20 46 43.7 -0.9**
THAS S **Sg 20 47 06.7 -0.5**
comp=E,295nm,0.3s
THAS Thassos island 1.68 146 P **Pn 20 46 43.5 +0.2**
THAS S **Sn 20 47 04.8 -0.4**
THAS AML AML 20 47 10.1
comp=E,538μm,0.3s
THAS AML AML 20 47 10.8
comp=N,641μm,0.4s
BLKB Belogradchik 1.71 340 ⇓S **Sg 20 47 10.4 +2.2**
BLKB Belogradchik 1.71 340 *e*Pn **Pb 20 46 44.9 -0.3**
BLKB *e*Sn **Sg 20 47 07.5 -0.7**
OUR Ouranopolis 1.72 167 Pn **Pb 20 46 44.7 -0.5**
OUR Sn **Sg 20 47 07.7 -0.6**
OUR Ouranopolis 1.72 167 P **Pb 20 46 44.3 -0.9**
OUR S **Sb 20 47 06.6 -0.5**
OUR Ouranopolis 1.72 167 P **Pn 20 46 44.2 +0.5**
OUR AML AML 20 47 10.3
comp=N,1425μm,0.3s
OUR AML AML 20 47 10.8
comp=E,1235μm,0.3s
RDO Rodhopi 1.76 119 Pn **Pb 20 46 45.2 -0.8**
RDO Rodhopi 1.76 119 P **Pb 20 46 45.2 -0.8**
RDO S **Sb 20 47 08.3 -0.1**
comp=E,310nm,0.2s
RDO Rodhopi 1.76 119 P **Pb 20 46 45.1 -0.8**
RDO S **Sn 20 47 07.3 +0.1**
RDO AML AML 20 47 13.8
comp=N,738μm,0.2s
RDO AML AML 20 47 15.9
comp=E,543μm,0.3s
ELND Elena 1.98 62 ⇓P **Pb 20 46 48.6 -1.2**
FNA Florina 2.01 233 P **Pb 20 46 49.5 -0.7**
FNA S **Sn 20 47 13.8 +0.3**
FNA Florina 2.01 233 *i* Pn **Pb 20 46 49.4 -0.8**
FNA Florina 2.01 233 P **Pn 20 46 48.3 +0.4**
FNA AML AML 20 47 26.0
comp=N,55μm,0.5s
FNA AML AML 20 47 27.4
comp=E,46μm,0.6s
ZAGS Zajecar 2.02 333 *e*Pn **Pn 20 46 48.5 +0.6**
ZAGS *e*Sn **Sb 20 47 14.7 -1.1**
LIT Litokhoron 2.06 202 *i* Pn **Pb 20 46 50.7 -0.3**
BOVS Bovan 2.08 322 ⇓P **Pn 20 46 49.8 +1.0**
BOVS Bovan 2.08 322 *e*Pn **Pn 20 46 49.4 +0.6**
BOVS *e*Sn **Sb 20 47 16.5 -1.2**
PAIG Paliouri 2.09 176 Pn **Pn 20 46 49.9 +1.0**
SELS Selova 2.12 305 *e*Pn **Pb 20 46 50.6 -1.5**
SELS *e*Sn **Sn 20 47 16.6 +0.4**
ALN Alexandroupoli 2.22 119 Pn **Pb 20 46 51.8 +1.2**
ALN Alexandroupoli 2.22 119 P **Pn 20 46 51.6 +1.0**
ALN S **Sb 20 47 20.4 -1.2**
comp=E,50nm,0.5s
ALN Alexandroupoli 2.22 119 P **Pn 20 46 51.4 +0.7**
PUNG Punghina 2.30 350 ⇑S **Sg 20 47 26.9 0.0**
ENEZ Enez 2.38 122 Pn **Pn 20 46 53.9 +1.1**
EDRB Edirne 2.43 93 Pn **Pn 20 46 54.5 +0.9**
EDRB Edirne 2.43 93 P **Pn 20 46 54.2 +0.6**
EDRB S **Sb 20 47 25.6 -2.1**
COPA Copaceanca 2.47 30 ⇑S **Sg 20 47 31.9 -0.3**
LIA Limnos Island 2.47 148 P **Pn 20 46 54.4 +0.3**
LIA AML AML 20 47 35.1
comp=N,614μm,0.5s
LIA AML AML 20 47 36.9
comp=E,403μm,0.5s
UKOP Uzunkopru-Edir 2.52 110 Pn **Pn 20 46 55.7 +1.0**
GADA Gvkgeada 2.58 134 Pn **Pn 20 46 56.6 +1.1**
ERIK Erikli-Kesan 2.64 120 Pn **Pn 20 46 57.6 +1.2**
SRE Strehaia 2.65 356 ⇑P **Pb 20 46 58.7 -2.4**
KUBS Kucevo 2.74 332 *e*Pn **Pn 20 46 57.6 -0.2**
KUBS *e*Sn **Sn 20 47 32.2 +0.8**
GRUS Gruza 2.77 314 *e*Pn **Pn 20 46 59.1 +0.9**
GRUS *e*Sn **Sn 20 47 32.4 +0.4**
GELI Tayfur-Gelibol 2.77 125 Pn **Pn 20 46 59.3 +1.1**
SGRR Singureni 2.86 39 ⇑P **Pb 20 47 01.7 -2.9**
IVAS Ivanjica 2.91 304 *e*Pn **Pn 20 47 00.5 +0.3**
COMU Canakkale 2.96 129 Pn **Pn 20 47 01.9 +1.1**
LPK Lapseki 2.96 123 Pn **Pn 20 47 02.1 +1.3**
HERR Herculane 2.97 345 ⇓P **Pn 20 47 01.3 +0.3**
MDVR Moldovita 3.05 335 ⇓P **Pn 20 47 02.6 +0.4**
RKY Sarkoy-Tekirda 3.08 114 Pn **Pn 20 47 03.6 +1.1**
TRUS Trudelj 3.16 315 *e*Pn **Pn 20 47 04.3 +0.8**
KRBG Karabiga-Canak 3.30 118 Pn **Pn 20 47 07.1 +1.7**
DIVS Divibare 3.30 310 *e*Pn **Pn 20 47 06.6 +1.0**
DIVS *e*Sn **Sn 20 47 44.1 -1.3**
GZR Gura Zlata 3.42 352 ⇓P **Pn 20 47 08.4 +1.2**
LOT Lotru 3.44 3 ⇓P **Pn 20 47 08.6 +1.1**
ARR Arges 3.45 13 ⇓P **Pn 20 47 08.9 +1.2**
VOIR 3.60 18 ⇓P **Pn 20 47 11.6 +1.9**
BZS Buzias 3.85 340 ⇓P **Pn 20 47 13.9 +0.9**
DEV Deva 3.89 354 ⇓P **Pn 20 47 15.4 +1.9**
MLR Muntele Rosu 3.90 26 ⇑P **Pn 20 47 16.5 +2.6**
DOPR Dopca 4.18 18 ⇓P **Pn 20 47 20.0 +2.4**
HARR Harsova 4.20 49 ⇓P **Pn 20 47 19.8 +2.0**
TURR Turia 4.43 23 ⇓P **Pn 20 47 23.8 +2.8**
SIRR Siria 4.45 343 ⇓P **Pn 20 47 22.5 +1.2**
PLOR Plostina 4.46 30 ⇑P **Pn 20 47 24.5 +3.0**
VRI Vrincioaia 4.50 30 ⇑P **Pn 20 47 22.3 +2.3**
DRGR 4.81 354 ⇑P **Pn 20 47 27.0 +0.7**
MORH Mrgy, Hungar 5.46 322 ⇑P **Pn 20 47 35.7 +0.5**

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*IDC **19** 20:47:16.3±2.7, 9°.97S×112°.28E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=130.7km s-min=29.1km az=47.0*
*DJA **19** 20:47:23.8±0.7, 9°S±6°×11°3E±°, h10km, M3.7/9, MLv3.7/9*
ISC 19 20:47:23.8±1.4, 9.6S±0°.1×112.72E±0°.06, h35km, n10, σ1§88/13, mb3.5/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.81**	**51**	P	**Pn**	**20 47 52.9**	**+0.3**
JAGI				S	**Sn**	**20 48 12.9**	**-1.5**
PWJI	**Pagerwojo**	**1.83**	**330**	P	**Pn**	**20 47 53.8**	**+1.1**
PWJI				S	**Sn**	**20 48 14.7**	**0.0**
ABJI	**Asem Bagus**	**2.35**	**40**	P	**Pn**	**20 48 01.7**	**+1.8**
ABJI				S	**Sn**	**20 48 31.0**	**+3.5**
GRJI	**Gresik**	**2.70**	**355**	P	**Pn**	**20 48 02.3**	**-2.4**
UGM	**Wanagama**	**2.76**	**308**	P	**Pn**	**20 48 07.9**	**+2.3**
SRBI	**Singaraja**	**2.89**	**58**	P	**Pn**	**20 48 08.8**	**+1.4**
TWSI	**Taliwang, Sumb**	**4.20**	**78**	P	**Pn**	**20 48 26.1**	**+0.7**
WRA	**Warramunga Arr**	**23.26**	**119**	P	**P**	**20 52 27.2**	**-1.2**
	0.7nm,0.9s,baz=290,slow=11,SNR=6.5						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**24.59**	**127**	P	**P**	**20 52 40.1**	**-0.7**
	1.1nm,0.7s,baz=306,slow=9.1,SNR=15						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**62.38**	**337**	P	**P**	**20 57 42.0**	**-1.0**
	0.2nm,0.5s,baz=145,slow=7.1,SNR=1.7						
	0.2nm,0.5s						

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*SOME **19** 21:05:34.9, 40°.83N×78°.90E, h15km*
*NNC **19** 21:05:36.2±1.3, 40°.94N×78°.93E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=8.8km s-min=8.4km az=110.0*
*KRNET **19** 21:05:38.6±0.1, 41°.07N×78°.94E, h17km, mb2.1*
ISC 19 21:05:37.0±2.6, 40.92N±0°.09×78.81E±0°.06, h5km±13km, n27, σ1§11/43, 8C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.11**	**317**	⇑*i*P	**Pn**	**21 05 59.2**	**-0.3**
	baz=8.0						
TARG				⇑*i*S	**Sb**	**21 06 14.3**	**+0.5**
	baz=8.0						
PRZ	**Przheval'sk**	**1.59**	**349**	⇓*e*P	**Pb**	**21 06 06.5**	**-0.5**
	baz=44						
PRZ				⇓*i*S	**Sn**	**21 06 26.9**	**-0.1**
	baz=44						
KDJ	**Kajisay**	**1.72**	**315**	⇓*i*P	**Pg**	**21 06 10.0**	**0.0**
	baz=10.0						
KDJ				⇓*i*S	**Sg**	**21 06 32.8**	**+0.5**
	baz=10.0						
SATY	**Saty**	**2.16**	**352**	*e*P	**Pb**	**21 06 16.4**	**-0.2**
	1.0nm,0.1s						
SATY				*e*S	**Sg**	**21 06 46.3**	**0.0**
	7.6nm,0.2s						
SATY	**Saty**	**2.16**	**352**	Pg	**Pb**	**21 06 16.4**	**-0.2**
	1.0nm,0.3s						
SATY				Lg	Lg	21 06 46.3	
	4.9nm,0.2s						
NRN	**Naryn**	**2.19**	**285**	⇓*i*P	**Pg**	**21 06 19.2**	**+0.3**
	baz=80						
NRN				⇓*i*S	**Sg**	**21 06 49.0**	**+1.8**
	baz=80						
UZB	**Uzynbulak**	**2.23**	**4**	*e*P	**Pb**	**21 06 16.9**	**-1.0**
	1.4nm,0.3s						
UZB				*e*S	**Sb**	**21 06 47.1**	**+1.2**
	9.0nm,0.3s						
UZB	**Uzynbulak**	**2.23**	**4**	Pg	**Pb**	**21 06 16.9**	**-1.0**
	1.4nm,0.3s						
UZB				Lg	Lg	21 06 47.1	
	9.0nm,0.3s						
SHLS	**Shalkode**	**2.29**	**12**	*e*P	**Pb**	**21 06 19.4**	**+0.6**
	1.2nm,0.1s						
SHLS				*e*S	**Sg**	**21 06 51.3**	**+0.8**
	13nm,0.6s						
ULHL	**Ulahol**	**2.34**	**305**	⇑*i*P	**Pb**	**21 06 20.1**	**+0.4**
	baz=1.0						
ULHL				⇑*i*S	**Sb**	**21 06 50.6**	**+1.6**
	baz=1.0						
PDGK	**Podgornoye**	**2.46**	**12**	Pg	**Pb**	**21 06 20.5**	**-1.2**
	1.4nm,0.5s						
PDGK				Lg	Lg	21 06 53.4	
	2.5nm,0.5s						
TNSS	**Tian-Shan**	**2.53**	**327**	*e*P	**Pb**	**21 06 23.0**	**-0.1**
	2.2nm,0.3s						
TNSS				*e*S	**Sg**	**21 06 57.7**	**-0.7**
	2.4nm,0.5s						
TNSS	**Tian-Shan**	**2.53**	**327**	Pg	**Pb**	**21 06 23.0**	**-0.1**
	2.2nm,0.3s						
TNSS				Lg	Lg	21 06 57.7	
	2.4nm,0.5s						
KPKS	**Kokpek**	**2.55**	**358**	*e*P	**Pb**	**21 06 21.9**	**-1.2**
	1.5nm,0.2s						
KPKS				*e*S	**Sb**	**21 06 56.0**	**+1.2**
	6.6nm,0.3s						
KPKS	**Kokpek**	**2.55**	**358**	Pg	**Pb**	**21 06 21.9**	**-1.2**
	1.5nm,0.2s						
KPKS				Lg	Lg	21 06 56.1	
	6.6nm,0.3s						
KOTS	**Kotyrbulak**	**2.64**	**332**	*e*P	**Pb**	**21 06 25.1**	**+0.3**
	3.1nm,0.2s						
KOTS				*e*S	**Sg**	**21 07 01.2**	**-0.5**
	8.6nm,0.3s						
KOTS	**Kotyrbulak**	**2.64**	**332**	Pg	**Pb**	**21 06 25.0**	**+0.3**
	3.1nm,0.2s						
KOTS				Lg	Lg	21 07 01.2	
	8.6nm,0.3s						
BOOM	**Boomskoye usch**	**2.66**	**307**	⇑*i*P	**Pb**	**21 06 24.5**	**-0.7**
	baz=3.0						
BOOM				⇑*e*S	**Sb**	**21 06 58.2**	**-0.1**
	baz=3.0						
TKM2	**Tokmak 2**	**3.12**	**311**	⇑*e*P	**Pb**	**21 06 30.7**	**-2.4**
	baz=8.0						
TKM2				⇑*i*S	**Sb**	**21 07 08.9**	**-2.7**
	baz=8.0						
BLB	**Baldybastay**	**3.19**	**356**	Pg	**Pb**	**21 06 33.7**	**-0.3**
	2.9nm,0.6s						
BLB				Lg	Lg	21 07 16.3	
	1.8nm,0.3s						
KTBS	**Karatobe**	**3.21**	**331**	*e*P	**Pb**	**21 06 35.4**	**+1.0**
	0.9nm,0.7s						
KTBS				*e*S	**Sg**	**21 07 19.0**	**-1.0**
	2.5nm,0.7s						
KTBS	**Karatobe**	**3.21**	**331**	Pg	**Pb**	**21 06 35.4**	**+1.0**
	0.9nm,0.7s						
KTBS				Lg	Lg	21 07 19.0	
	2.5nm,0.7s						
CHKK	**Chushkaly**	**3.23**	**336**	*e*P	**Pb**	**21 06 35.6**	**+0.8**
	0.7nm,0.1s						
CHKK				*e*S	**Sg**	**21 07 19.1**	**-1.5**
	2.8nm,0.2s						
CHKK	**Chushkaly**	**3.23**	**336**	Pg	**Pb**	**21 06 35.6**	**+0.8**
	0.7nm,0.1s						
CHKK				Lg	Lg	21 07 19.1	
	2.8nm,0.2s						
ARXS	**Arharly**	**3.37**	**348**	*e*P	**Pb**	**21 06 36.8**	**-0.4**
	0.4nm,0.3s						
ARXS				*e*S	**Sb**	**21 07 21.4**	**+2.9**
	3.1nm,0.4s						
ARXS	**Arharly**	**3.37**	**348**	Pg	**Pb**	**21 06 36.3**	**-0.9**
	0.6nm,0.3s						
ARXS				Lg	Lg	21 07 21.4	
	3.1nm,0.4s						
KNOS	**Konyrlen**	**3.45**	**4**	Pg	**Pb**	**21 06 37.8**	**-0.8**
	1.3nm,0.7s						
KNOS				Lg	Lg	21 07 23.6	
	1.6nm,0.3s						

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*IDC **19** 21:08:54.5±0.9, 51°.98N×173°.91W, h0km, mb3.7/7, mbtmp3.7/9, ML3.6/2, MS3.8/1, Error ellipse: s-maj=32.7km s-min=19.5km az=161.0*
*NEIC **19** 21:09:03.0±1.6, 51°.84N±0°.09×173°.84W±0°.08, h51km±9km, ML3.6(AEIC), Error ellipse: s-maj=12.8km s-min=6.9km az=170.0*
*AEIC **19** 21:09:02.4±1.8, 51°.9N±0°.1×173°.88W±0°.08, h59km±5km, Error ellipse: s-maj=17.2km s-min=6.8km az=170.0*
ISC 19 21:09:01.4±0.7, 51.78N±0°.07×173.82W±0°.04, h50km, n51, σ1§48/46, mb3.7/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.48**	**331**		**Pn**	**21 09 12.9**	**+0.5**
ATKA					**Sn**	**21 09 21.3**	**+0.9**
KOFP	**Korovin Flat P**	**0.52**	**341**		**Pn**	**21 09 14.0**	**+1.0**
KOKL	**Mount Kliuchef**	**0.59**	**337**		**Pn**	**21 09 14.8**	**+1.0**
GSMY	**Great Sitkin M**	**1.41**	**282**		**Pn**	**21 09 25.3**	**+0.6**
GSTR	**Great Sitkin T**	**1.42**	**284**		**Pn**	**21 09 25.6**	**+0.8**
GSTD	**Great Sitkin T**	**1.47**	**282**		**Sn**	**21 09 44.5**	**+1.0**
GSCK	**Great Sitkin C**	**1.47**	**280**		**Pn**	**21 09 26.2**	**+0.7**
ADK	**Adak**	**1.78**	**274**		**Pn**	**21 09 30.6**	**+0.9**
ADK	**Adak**	**1.78**	**274**		**Sn**	**21 09 51.3**	**+0.2**
KIRH	**Kanaga Island**	**2.03**	**275**		**Pn**	**21 09 35.0**	**+1.8**
KINC	**Kanaga Island**	**2.06**	**276**		**Pn**	**21 09 35.3**	**+1.8**
KIWB	**Kanaga Island**	**2.07**	**273**		**Pn**	**21 09 35.3**	**+1.6**
KICM	**Kanaga Island**	**2.10**	**275**		**Pn**	**21 09 36.0**	**+1.9**
TAFP	**Tanaga Falls P**	**2.58**	**274**		**Pn**	**21 09 42.5**	**+1.8**
TASE	**Tanaga Southea**	**2.62**	**273**		**Pn**	**21 09 43.4**	**+2.2**
CLES	**Cleveland East**	**2.63**	**65**		**Sn**	**21 10 12.1**	**+0.2**
CLCO	**Concord Point,**	**2.71**	**67**		**Pn**	**21 09 44.2**	**+1.8**
GAEA	**Gareloi East**	**3.06**	**272**		**Pn**	**21 09 49.6**	**+2.4**
NIKH	**Nikolski High**	**3.27**	**67**		**Pn**	**21 09 50.9**	**+0.8**
NIKH					**Sn**	**21 10 28.8**	**+1.1**
OKWE	**Okmok W'ng Wal**	**3.80**	**61**		**Pn**	**21 09 58.8**	**+1.4**
OKNC	**Okmok New Cone**	**3.86**	**62**		**Pn**	**21 09 60.0**	**+1.8**
OKTU	**Okmok Mt. Tuli**	**3.87**	**63**		**Pn**	**21 10 00.1**	**+1.6**
AMKA	**Amchitka**	**4.31**	**267**		**Pn**	**21 10 05.4**	**+1.0**
AMKA					**Sn**	**21 10 54.5**	**+1.2**
MAPS	**Pakushin South**	**4.64**	**61**		**Pn**	**21 10 10.3**	**+1.4**
MREP	**Makushin Rep't**	**4.75**	**62**		**Pn**	**21 10 11.8**	**+1.3**
UNV	**Unalaska Valle**	**4.90**	**62**		**Pn**	**21 10 13.5**	**+1.1**
P08K	**Saint George I**	**5.44**	**26**		**Pn**	**21 10 21.2**	**+1.4**
P08K					**Sn**	**21 11 21.1**	**+0.1**
SPIA	**Saint Paul Isl**	**5.79**	**20**		**Pn**	**21 10 26.4**	**+1.7**
SPIA					**Sn**	**21 11 32.1**	**+2.4**
N15K	**Kwethluk River**	**11.37**	**37**		**Pn**	**21 11 43.5**	**+2.6**
L16K	**Owhat River**	**12.65**	**33**		**Pn**	**21 12 00.0**	**+1.6**
KDAK	**Kodiak Island**	**13.62**	**56**	Pn	**Pn**	**21 12 08.2**	**-3.3**
	0.2nm,0.3s,baz=234,slow=4.6,SNR=12						
	1.8nm,0.7s						
ILAR	**Eielson Array**	**19.03**	**37**	P	**P**	**21 13 16.1**	**-2.7**
	0.4nm,0.3s,baz=226,slow=9.4,SNR=17						
	0.5nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**35.38**	**212**	T	T	21 53 30.3	
	baz=20,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy**	**35.38**	**212**	T	T	21 53 40.8	
	baz=20,slow=76,SNR=61						
H11N1	**WAKE ISLAND Hy**	**35.40**	**212**	T	T	21 53 28.6	
	baz=20,slow=76,SNR=75						
H11S1	**WAKE ISLAND Hy**	**36.58**	**212**	T	T	21 55 01.8	
	baz=20,slow=76,SNR=120						
H11S2	**WAKE ISLAND Hy**	**36.59**	**212**	T	T	21 55 04.7	
	baz=20,slow=76,SNR=108						
H11S3	**WAKE ISLAND Hy**	**36.60**	**212**	T	T	21 55 03.5	
	baz=20,slow=76,SNR=86						
MJAR	**Matsushiro Arr**	**36.92**	**265**	LR	LR	21 29 23.7	
	comp=Z,146nm,20.5s,baz=20,slow=33						
NVAR	**Mina Array Bea**	**40.42**	**87**	P	**P**	**21 16 35.5**	**+0.7**
	0.8nm,0.6s,baz=317,slow=7.8,SNR=4.6						
	0.8nm,0.6s						
PDAR	**Pinedale Array**	**43.21**	**76**	P	**P**	**21 16 57.4**	**-0.2**
	0.8nm,0.5s,baz=301,slow=4.2,SNR=15						
	0.8nm,0.5s						
TXAR	**Lajitas Array**	**55.52**	**85**	P	**P**	**21 18 31.9**	**+0.5**
	1.8nm,0.7s,baz=299,slow=5.0,SNR=22						
	1.8nm,0.7s						
MKAR	**Makanchi Array**	**62.17**	**311**	P	**P**	**21 19 16.3**	**-0.9**
	0.5nm,0.8s,baz=58,slow=7.6,SNR=2.4						
	0.5nm,0.8s						
HFS	**Hagfors**	**68.28**	**356**	P	**P**	**21 19 55.9**	**-0.6**
	0.3nm,0.4s,baz=46,slow=4.3,SNR=5.6						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**84.53**	**228**	P	**P**	**21 21 28.5**	**-0.4**
	0.2nm,0.6s,baz=31,slow=5.3,SNR=1.7						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**87.95**	**227**	P	**P**	**21 21 46.2**	**+0.6**
	0.6nm,0.7s,baz=34,slow=4.0,SNR=6.7						
	0.6nm,0.7s						
H03N2	**Juan Fernandez**	**118.30**	**109**	T	T	23 37 35.9	
	baz=317,slow=78,SNR=9.3						
H03N1	**Juan Fernandez**	**118.31**	**109**	T	T	23 37 35.9	
	baz=317,slow=78,SNR=9.6						
H03N3	**Juan Fernandez**	**118.31**	**109**	T	T	23 37 35.9	
	baz=317,slow=78,SNR=7.5						
MAW	**Mawson**	**148.71**	**218**	PKPbc	**PKiKP**	**21 28 42.2**	**-0.7**
	1.2nm,0.6s,baz=90,slow=7.1,SNR=1.6						
BOSA	**Boshof**	**152.82**	**321**	PKPbc	**PKiKP**	**21 28 52.7**	**-0.2**
	1.2nm,0.7s,baz=10.0,slow=3.2,SNR=3.6						

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*AEIC **19** 21:16:14.7±1.5, 54°.44N±0°.06×160°.76W±0°.06, h17km±4km, Error ellipse: s-maj=9.2km s-min=5.0km az=179.0*
NEIC 19 21:16:12.4±0.6, 54°.45N±0°.05×160°.85W±0°.04, h6km±3km, mb3.5/2, ML3.2/16, ML3.1(AEIC), Error ellipse: s-maj=6.8km s-min=3.4km az=190.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.82**	**62**		Pg	21 16 27.8	-0.3
CNBA					Sg	21 16 39.4	+0.6
CNBA				IAML		21 16 41.8	
	comp=N,643nm,0.6s						
SDPT	**Sand Point**	**0.93**	**13**		Pg	21 16 30.2	0.0
SDPT				IAML		21 16 49.6	
	comp=N,523nm,0.5s						
HAG	**Hague Volcano**	**1.06**	**325**		Pg	21 16 32.9	+0.1
HAG					Sg	21 16 46.9	+0.2
PS4A	**Pavlof South-4**	**1.07**	**327**		Pg	21 16 32.9	-0.1
PVV	**Pavlof Volcano**	**1.08**	**330**		Pg	21 16 33.0	-0.1
PVV					Sb	21 16 47.6	-0.2
PS1A	**Pavlof South-1**	**1.10**	**332**		Pg	21 16 33.6	0.0
PS1A					Sb	21 16 49.1	+0.5
PN7A	**Pavlof North-7**	**1.19**	**326**		Pg	21 16 35.1	-0.1
S12K	**Black Hills**	**1.44**	**331**		Pn	21 16 39.0	-0.1
S12K	**Black Hills**	**1.44**	**331**		Sn	21 16 58.4	+0.1
FALS	**False Pass**	**1.55**	**286**		Pn	21 16 40.8	+0.3
FALS					Sg	21 17 01.9	-0.3
ISLZ	**Isanotski Laza**	**1.69**	**281**		Pn	21 16 42.7	+0.1
ISLZ					Sn	21 17 04.8	+0.3
ISNN	**Isanotski Nort**	**1.75**	**284**		Pn	21 16 43.9	+0.6
VNKR	**Veniaminof 5**	**1.80**	**27**		Pn	21 16 43.7	-0.3
SSLS	**Shishaldin Sou**	**1.85**	**280**		Pn	21 16 45.1	+0.3
VNWF	**Veniaminof 8**	**1.86**	**23**		Pn	21 16 45.0	+0.1
VNFG	**Fog Glacier, M**	**1.98**	**21**		Pn	21 16 46.3	-0.3
CHGN	**Chignik**	**2.32**	**36**		Pn	21 16 50.8	-0.3
CHGN				IAML		21 17 23.5	
	comp=E,227nm,0.4s						
CHGN				IAML		21 17 23.9	
	comp=N,166nm,0.5s						
CHGN	**Chignik**	**2.32**	**36**		Sn	21 17 19.5	-0.4
AKSA	**Akutan Strait**	**2.86**	**266**		Pn	21 16 58.5	-0.1
AKBBA	**Akutan Broad B**	**3.00**	**265**		Pn	21 17 00.5	0.0
ZRO	**Akutan Zero**	**3.03**	**265**		Pn	21 17 00.8	-0.1
MTBL	**Makushin Table**	**3.46**	**264**		Pn	21 17 06.5	-0.3
MSW	**Makushin Switc**	**3.53**	**264**		Pn	21 17 07.1	-0.6
MAPS	**Pakushin South**	**3.64**	**262**		Pn	21 17 08.6	-0.7
PLK4	**Peulik 4**	**4.07**	**36**		Pn	21 17 15.2	+0.1
PLK4	**Peulik 4**	**4.07**	**36**	IAML		21 18 10.2	
	comp=E,56nm,0.9s						
PLK4				IAML		21 18 25.5	
	comp=N,41nm,0.9s						
CNTC	**Contact Creek**	**4.72**	**34**		Pn	21 17 23.5	-0.6
O15K	**Ungalikthiuk R**	**4.78**	**6**		Pn	21 17 24.8	-0.1
ANCK	**Angle Creek**	**4.80**	**36**		Pn	21 17 24.8	-0.4
O14K	**Tigyukauivet M**	**4.83**	**357**		Pn	21 17 25.5	+0.1
O14K	**Tigyukauivet M**	**4.83**	**357**	IAML		21 19 05.7	
	comp=N,14nm,0.8s						
P16K	**Nushagak River**	**4.86**	**18**		Pn	21 17 26.2	+0.3
KAHC	**Katmai Hardscr**	**5.30**	**35**		Pn	21 17 31.6	-0.6
P17K	**Kvichak River**	**5.34**	**25**		Pn	21 17 32.3	-0.2
O16K	**Kokwok River B**	**5.37**	**15**		Pn	21 17 33.0	-0.1
O16K	**Kokwok River B**	**5.37**	**15**	IAML		21 19 15.2	
	comp=E,8.7nm,0.9s						
N14K	**Kuskokwak Cree**	**5.51**	**356**		Pn	21 17 35.0	+0.1
KDAK	**Kodiak Island**	**5.70**	**51**		Pn	21 17 36.3	-1.2
N15K	**Kwethluk River**	**5.75**	**4**		Pn	21 17 38.3	0.0
P18K	**Big Mountain,**	**5.83**	**30**		Pn	21 17 39.2	-0.2
**Q

PWJI Pagerwojo 1.90 329 P Pn 21 27 26.4 +1.0
PWJI S Sn 21 27 47.9 -0.1
ABJI Asem Bagus 2.33 38 P Pn 21 27 34.2 +2.9
ABJI S Sn 21 28 00.8 +2.1
DNP Denpasar 2.57 68 S Sn 21 28 08.0 +3.3
GRJI Gresik 2.74 353 P Pn 21 27 38.8 +1.8
UGM Wanagama 2.84 307 P Pn 21 27 40.8 +2.4
UGM S Sn 21 28 14.6 +3.2
SRBI Singaraja 2.85 57 P Pn 21 27 40.5 +2.0
YOGI Yogyakarta 3.08 306 P Pn 21 27 44.8 +3.2
BWJI Bawean 3.78 358 P Pn 21 27 53.9 +2.6
TWSI Taliwang, Sumb 4.13 78 P Pn 21 27 57.8 +1.7
PLAI Plampang 4.98 81 P Pn 21 28 08.4 +0.6
CNJI Cibinong 6.07 292 P Pn 21 28 25.4 +2.6
30nm,1.3s,0.2nm
EDFI Ende, Flores 8.82 85 P Pn 21 29 02.8 +2.1
WRA Warramunga Arr 23.17 119 P P 21 31 58.7 -0.4
1.0nm,0.5s,baz=290,slow=11,SNR=14
1.0nm,0.5s
ASAR Alice Springs 24.50 127 P P 21 32 12.2 +0.5
2.7nm,0.6s,baz=303,slow=8.8,SNR=32
2.7nm,0.6s
CMAR Chiang Mai Arr 31.10 334 P P 21 33 08.5 -2.2
0.5nm,0.3s,baz=168,slow=9.2,SNR=1.7
0.5nm,0.3s
SONM Songino Array 57.52 355 P P 21 36 39.3 -2.0
1.3nm,0.8s,baz=172,slow=8.9,SNR=8.6
1.3nm,0.8s
MKAR Makanchi Array 62.45 337 P P 21 37 13.8 -1.2
0.7nm,0.4s,baz=150,slow=7.4,SNR=14
0.7nm,0.4s
KURBB Kurchatov Arra 67.01 337 P P 21 37 43.6 -1.1
0.7nm,0.2s,baz=142,slow=4.7,SNR=2.3
0.7nm,0.2s
ZALV Zalesovo Beam 67.65 343 P P 21 37 47.0 -1.6
0.7nm,0.4s,baz=134,slow=4.0,SNR=5.4
0.7nm,0.4s

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*IDC **19** 21:29:14.3±0.7, 3°.45S×145°.78E, h0km, mb4.3/16, mbtmp4.3/17, ML2.4/2, MS4.0/23, Error ellipse: s-maj=27.4km s-min=13.0km az=85.0*
*NEIC **19** 21:29:18.6±1.6, 3°.41S±0°.10×145°.5E±0°.1, h14km±4km, mb4.7/60, Error ellipse: s-maj=15.7km s-min=13.7km az=120.0*
*GCMT **19** 21:29:20.6±0.3, 3°.33S±0°.01×145°.51E±0°.02, h17km±1km, MW4.9/89, Moment Tensor Solution. s24,c27; s89,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.42±.14; $M_{\theta\theta}$-0.12±.12; $M_{\phi\phi}$0.53±.11; $M_{r\theta}$-1.26±.35; $M_{\theta\phi}$2.55±.08; $M_{\phi r}$0.95±.29; Best double couple: $M_0$3.01200×10^{16} NP1:ϕ_s83.00000°, δ72.00000°, λ-23.00000°. NP2: ϕ_s180.00000°, δ68.00000°, λ-160.00000°. Principal axes: T 2.7840, Plg3.0000°, Azm132.0000°; N 0.4550, Plg61.0000°, Azm227.0000°; P -3.2400, Plg29.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **19** 21:29:27.0±1.4, 4°.S±8°×14°.5E±°, h33km±10km, M4.7/18, mB5.4/6, mb4.9/18, MLv4.5/3, Mw(mB)4.8/6*
ISC 19 21:29:18.7±0.4, 3°.45S±0°.05×145°.66E±0°.07, h23km, n139, σ1§**55**/124, **mb4.7**/53, **MS4.1**/23, **2C-1D, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**4.78**	**248**	P	**Pn**	**21 30 30.9**	**+1.5**
JAY	**Jayapura**	**5.03**	**280**	P	**Pn**	**21 30 31.0**	**-1.9**
GENI	**Genyem**	**5.55**	**279**	P	Pn	21 30 42.5	+2.5
GENI	**Genyem**	**5.55**	**279**	P	**Pn**	**21 30 39.8**	**-0.2**
146nm,0.9s,6μm1.0nm							
PMG	**Port Moresby**	**6.11**	**166**	P	**Pn**	**21 30 50.3**	**+2.6**
PMG	**Port Moresby**	**6.11**	**166**	Pn	**Pn**	**21 30 49.4**	**+1.7**
PMG	**Port Moresby**	**6.11**	**166**	Pn	**Pn**	**21 30 46.6**	**-1.1**
8.0nm,0.3s,baz=346,slow=6.3,SNR=16							
PMG				Sn	**Sn**	**21 31 56.2**	**-0.7**
0.9nm,0.3s,baz=330,slow=20,SNR=0.9							
PMG				LR	LR	21 32 43.5	
comp=Z,378nm,19.4s,baz=5.5,slow=34							
38nm,0.6s							
COEN	**Coen**	**10.73**	**193**	P	**Pn**	**21 31 53.8**	**+2.7**
COEN	**Coen**	**10.73**	**193**	Pn	**Pn**	**21 31 51.4**	**+0.3**
SWI	**Sorong**	**14.61**	**280**	P	**P**	**21 32 46.8**	**-3.6**
24nm,0.8s							
MTSU	**Mount Surprise**	**14.66**	**185**	P	**Pn**	**21 32 48.0**	**+3.1**
HNR	**Honiara**	**15.39**	**113**		**Pn**	**21 32 55.6**	**+0.9**
HNR	**Honiara**	**15.39**	**113**	LR	LR	21 37 58.3	
comp=Z,6μm,21.1s,baz=293,slow=34							
TV1H	**Townsville Har**	**15.76**	**176**	P	**P**	**21 33 03.0**	**-0.1**
CTA	**Charters Tower**	**16.55**	**178**	Pn	**Pn**	**21 33 07.7**	**-1.9**
baz=353,slow=18,SNR=1.8							
CTAO	**Charters Tower**	**16.55**	**178**		**Pn**	**21 33 09.7**	**+0.2**
DRS	**Darwin Rock St**	**17.11**	**238**	P	**P**	**21 33 16.9**	**-1.3**
MTN	**Manton Dam**	**17.13**	**236**	P	**Pn**	**21 33 16.5**	**-0.4**
MTN	**Manton Dam**	**17.13**	**236**		**Pn**	**21 33 14.8**	**-2.1**
MTN				IAmb	IAmb	21 33 17.3	
comp=Z,70nm,0.8s							
QIS	**Mount Isa**	**18.00**	**199**	P	**P**	**21 33 30.2**	**+2.2**
NLAI	**Namlea**	**18.53**	**270**	P	**P**	**21 33 37.6**	**+3.8**
comp=Z,23nm,0.9s							
WB0	**Warramunga Arr**	**19.60**	**213**	P	**P**	**21 33 44.6**	**-0.9**
WR0	**Warramunga Arr**	**19.67**	**213**	P	**P**	**21 33 45.6**	**-0.7**
WRAB	**Tennant Creek**	**19.75**	**213**	P	**P**	**21 33 46.5**	**-0.7**
WB2	**Warramunga Arr**	**19.76**	**213**	P	**P**	**21 33 46.6**	**-0.7**
WRA	**Warramunga Arr**	**19.77**	**213**	P	**P**	**21 33 45.8**	**-1.7**
WRA	**Warramunga Arr**	**19.77**	**213**	P	**P**	**21 33 45.7**	**-1.7**
comp=Z,28nm,0.5s,baz=31,slow=11,SNR=107							
WRA				S	**Sn**	**21 37 34.9**	**+4.2**
comp=Z,1.0nm,0.7s,baz=39,slow=22,SNR=5.0							
KMSI	**Cibinong**	**22.03**	**280**	P	**P**	**21 34 15.6**	**+3.7**
comp=Z,153nm,1.0s							
SOEI	**Soe**	**22.14**	**253**	P	**P**	**21 34 13.3**	**0.0**
SOEI	**Soe**	**22.14**	**253**	P	**P**	**21 34 12.9**	**-0.3**
SOEI	**Soe**	**22.14**	**253**	P	**P**	**21 34 12.3**	**-1.0**
comp=Z,152nm,0.8s							
BATI	**Baumata**	**22.84**	**252**	P	**P**	**21 34 18.2**	**-2.3**
comp=Z,112nm,1.0s							
GTOI	**Gorontalo**	**23.00**	**280**	P	**P**	**21 34 24.9**	**+2.7**
comp=Z,13nm,0.7s							
QLP	**Quilpie**	**23.05**	**183**	P	**P**	**21 34 25.4**	**+2.9**
AS31	**Alice Springs**	**23.09**	**208**	P	**P**	**21 34 22.4**	**-0.6**
ASAR	**Alice Springs**	**23.09**	**208**	P	**P**	**21 34 22.3**	**-0.8**
ASAR					**S**	**21 38 32.2**	**-0.9**
ASAR	**Alice Springs**	**23.09**	**208**	P	**P**	**21 34 22.5**	**-0.6**
comp=Z,33nm,0.8s,baz=34,slow=9.9,SNR=155							
ASAR				S	**S**	**21 38 31.2**	**-1.9**
comp=Z,0.4nm,0.7s,baz=83,slow=21,SNR=2.7							
comp=Z,33nm,0.8s							
MRSI	**Marisa**	**24.02**	**279**	P	**P**	**21 34 36.1**	**+3.9**
TOLI2	**Tolitoli**	**25.27**	**280**	P	**P**	**21 34 45.5**	**+1.9**
TOLI2	**Tolitoli**	**25.27**	**280**	P	**P**	**21 34 43.1**	**-0.6**
BASI	**Baing, Sumba**	**25.78**	**254**	P	**P**	**21 34 48.7**	**+0.5**
KAPI	**Kappang**	**25.88**	**266**	P	**P**	**21 34 48.3**	**-0.8**
KAPI				IAmb	IAmb	21 34 56.4	
comp=Z,23nm,0.8s							
KAPI	**Kappang**	**25.88**	**266**	P	**P**	**21 34 50.1**	**+0.9**
comp=Z,15nm,0.8s,baz=139,slow=7.3,SNR=7.3							
KAPI				LR	LR	21 46 36.8	
comp=Z,209nm,18.8s,baz=88,slow=40							
comp=Z,15nm,0.8s							
OOD	**Oodnadatta**	**26.02**	**200**	P	**P**	**21 34 50.8**	**+0.6**
DZM	**Mont Dzumac**	**27.38**	**134**	eLR	LR	21 41 55.4	
comp=Z,801nm,30.1s							
DZM	**Mont Dzumac**	**27.38**	**134**	LR	LR	21 44 52.7	
comp=Z,485nm,19.4s,baz=286,slow=34							
STKA	**Stephens Creek**	**28.54**	**187**	P	**P**	**21 35 11.3**	**-1.5**
comp=Z,4.3nm,0.9s,baz=348,slow=11,SNR=4.7							
comp=Z,4.3nm,0.9s							
PSA00	**Pilbara Seismi**	**30.88**	**232**	P	**P**	**21 35 33.4**	**-0.3**
JOW	**Kunigami**	**34.47**	**332**	LR	LR	21 47 10.7	
comp=Z,400nm,20.8s,baz=160,slow=31							
MORW	**Morawa**	**37.95**	**225**	P	**P**	**21 36 34.7**	**-0.1**
JNU	**Nakatsue**	**38.97**	**340**	LR	LR	21 49 58.0	
comp=Z,177nm,20.2s,baz=154,slow=32							
NWAO	**Narrogin (SRO)**	**39.59**	**219**	LR	LR	21 54 14.0	
comp=Z,713nm,20.2s,baz=78,slow=38							
MJAR	**Matsushiro Arr**	**40.38**	**351**	P	**P**	**21 36 54.4**	**-0.7**
comp=Z,1.0nm,0.7s,baz=152,slow=11,SNR=1.5							
comp=Z,1.0nm,0.7s							
KSRS	**Korea Array**	**43.91**	**340**	P	**P**	**21 37 22.8**	**-1.0**
comp=Z,2.7nm,0.7s,baz=161,slow=9.0,SNR=16							
KSRS				LR	LR	21 53 09.4	
comp=Z,164nm,20.5s,baz=160,slow=33							
comp=Z,2.7nm,0.7s							
URZ	**Urewera**	**44.99**	**144**	LR	LR	21 54 17.8	
comp=Z,244nm,19.0s,baz=36,slow=34							
SLVN	**Son La**	**47.72**	**303**	P	**P**	**21 37 54.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**48.99**	**347**	P	**P**	**21 38 03.8**	**+0.3**
comp=Z,3.8nm,0.7s,baz=93,slow=8.9,SNR=5.8							
comp=Z,3.8nm,0.7s							
KMI	**Kunming**	**50.40**	**307**	⇑P	**P**	**21 38 15.0**	**+0.1**
KMI				pP	pP	21 38 19.8	-1.6
KMI				pmax	pmax		
comp=Z,14nm,1.0s							
KMI				LR	LR		
comp=Z,210nm,20.1s							
XAN	**Xi'an**	**50.87**	**320**	⇑P	**P**	**21 38 18.8**	**+0.7**
XAN				pmax	pmax		
comp=Z,7.0nm,0.9s							
XAN				LR	LR		
comp=N,350nm,13.7s							
XAN				LR	LR		
comp=Z,350nm,21.3s							
CMAR	**Chiang Mai Arr**	**50.89**	**297**	P	**P**	**21 38 18.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**50.89**	**297**	P	**P**	**21 38 19.1**	**+0.6**
comp=Z,2.7nm,0.7s,baz=118,slow=5.8,SNR=14							
CMAR				LR	LR	22 01 40.2	
comp=Z,43nm,18.5s,baz=95,slow=38							
comp=Z,2.7nm,0.7s							
CHTO	**Chiang Mai**	**51.01**	**297**	P	**P**	**21 38 19.3**	**-0.1**
CHTO				IAmb	IAmb	21 38 26.8	
comp=Z,13nm,1.2s							
BNX	**BinXian**	**51.59**	**344**	⇓P	**P**	**21 38 23.5**	**+0.3**
BNX				pmax	pmax		
comp=Z,9.0nm,0.9s							
KLR	**Kul'dur**	**53.84**	**349**	LR	LR	21 58 29.4	
comp=Z,58nm,20.8s,baz=162,slow=33							
XLT	**XiLinHaoTe**	**54.10**	**334**	*e*P	**P**	**21 38 45.0**	**+3.0**
XLT				pP	sP	21 38 49.9	-1.2
XLT				sP	pwP	21 38 57.6	+6.3
XLT				pmax	pmax		
comp=Z,2.0nm,0.8s							
LZH	**Lanzhou**	**55.41**	**319**	*e*P	**P**	**21 38 52.5**	**+0.8**
LZH				pP	pwP	21 39 04.3	+3.3
LZH				pmax	pmax		
comp=Z,21nm,1.6s							
HEH	**HeiHe**	**55.75**	**346**	*e*P	**P**	**21 38 54.0**	**+0.4**
SHL	**Shillong**	**59.52**	**302**	P	**P**	**21 39 20.2**	**-0.7**
GTA	**Gaotai**	**59.94**	**320**	*e*P	**P**	**21 39 24.3**	**+0.9**
GTA				pP	pP	21 39 29.5	-0.6
GTA				pmax	pmax		
comp=Z,4.0nm,0.7s							
SHEM	**Shemya Is, Ala**	**60.90**	**19**	LR	LR	22 03 13.9	
comp=Z,81nm,19.4s,baz=166,slow=34							
SONM	**Songino Array**	**61.54**	**331**	P	**P**	**21 39 34.5**	**+0.3**
comp=Z,0.7nm,0.7s,baz=148,slow=7.3,SNR=4.9							
comp=Z,0.7nm,0.7s							
KHU	**Kahuku**	**61.97**	**66**	P	**P**	**21 39 38.3**	**+0.6**
ALEP	**Alea Permanent**	**62.01**	**66**	P	**P**	**21 39 39.8**	**+1.6**
MWH	**Moku'aweowe**	**62.04**	**66**	P	**P**	**21 39 37.8**	**-0.8**
PPT2	**Papeete2**	**64.92**	**108**	*e*LR	LR	21 59 22.6	
comp=Z,160nm,24.5s							
PPT2				*e*LR	LR	21 59 27.2	
comp=Z,176nm,22.2s							
YAK	**Yakutsk**	**66.44**	**352**	LR	LR	22 07 10.7	
comp=Z,108nm,20.9s,baz=154,slow=34							
VNDA	**Vanda**	**74.53**	**176**	P	**P**	**21 40 54.6**	**-0.5**
comp=Z,0.8nm,0.7s,baz=306,slow=4.2,SNR=6.0							
VNDA				LR	LR	22 11 15.6	
comp=Z,129nm,18.8s,baz=346,slow=34							
comp=Z,0.8nm,0.7s							
MK31	**Makanchi Array**	**74.69**	**320**	P	**P**	**21 40 56.3**	**-0.4**
MKAR	**Makanchi Array**	**74.69**	**320**	P	**P**	**21 40 56.6**	**0.0**
MKAR	**Makanchi Array**	**74.69**	**320**	P	**P**	**21 40 56.8**	**+0.2**
comp=Z,1.1nm,0.9s,baz=104,slow=7.6,SNR=5.7							
MKAR				LR	LR	22 12 13.3	
comp=Z,45nm,20.5s,baz=76,slow=34							
comp=Z,1.1nm,0.9s							
MAKZ	**Makanchi**	**74.89**	**320**	P	**P**	**21 40 57.5**	**-0.3**
ZALV	**Zalesovo Beam**	**76.15**	**328**	P	**P**	**21 41 03.2**	**-1.7**
comp=Z,1.6nm,0.8s,baz=60,slow=3.6,SNR=5.5							
comp=Z,1.6nm,0.8s							
KSH	**Kashi**	**76.69**	**312**	P	**P**	**21 41 10.5**	**+2.1**
KSH				sP	PcP	21 41 19.5	-0.2
KSH				pmax	pmax		
comp=Z,1.0nm,0.8s							
NIL	**Nilore**	**77.36**	**305**	P	**P**	**21 41 11.8**	**-0.4**
KDAK	**Kodiak Island**	**78.31**	**29**	LR	LR	22 11 06.9	
comp=Z,76nm,20.3s,baz=247,slow=32							
KURK	**Kurchatov**	**78.38**	**323**	P	**P**	**21 41 17.3**	**-0.1**
KURK				IAmb	IAmb	21 41 28.7	
comp=Z,5.9nm,1.0s							
KURBB	**Kurchatov Arra**	**78.40**	**323**	P	**P**	**21 41 15.5**	**-2.0**
comp=Z,1.3nm,0.2s,baz=111,slow=5.6,SNR=5.6							
comp=Z,1.3nm,0.2s							
L19K	**White Mountain**	**79.34**	**24**	P	**P**	**21 41 23.6**	**+1.1**
M19K	**Big River Lodg**	**79.39**	**25**	P	**P**	**21 41 23.5**	**+0.7**
M20K	**Styx River**	**79.91**	**25**	P	**P**	**21 41 27.3**	**+1.6**
H19K	**Roundabout Mou**	**80.40**	**21**	P	**P**	**21 41 30.4**	**+2.4**
H19K				IAmb	IAmb	21 41 38.1	
comp=Z,10nm,1.3s							
J20K	**Nowinta River**	**80.58**	**23**	P	**P**	**21 41 30.9**	**+1.8**
E19K	**Redstone River**	**81.15**	**19**	P	**P**	**21 41 33.0**	**+0.9**
E19K				IAmb	IAmb	21 41 41.5	
comp=Z,8.5nm,0.8s							
F20K	**Avaraart Lake**	**81.44**	**20**	P	**P**	**21 41 35.1**	**+1.5**
IMAR	**Indian Mountai**	**81.60**	**21**	P	**P**	**21 41 36.1**	**+1.6**
MLY	**Manley**	**82.28**	**23**	P	**P**	**21 41 39.9**	**+1.7**
RND	**Reindeer**	**82.35**	**24**	P	**P**	**21 41 39.2**	**+0.6**
RND				IAmb	IAmb	21 41 46.1	
comp=Z,7.3nm,0.9s							
NRIK	**Noril'sk**	**82.45**	**342**	P	**P**	**21 41 39.5**	**+0.6**
NRIK				IAmb	IAmb	21 41 45.9	
comp=Z,8.1nm,0.8s							
E21K	**Killik River**	**82.71**	**19**	P	**P**	**21 41 42.2**	**+1.9**
E21K				IAmb	IAmb	21 41 49.1	
comp=Z,6.7nm,0.9s							
DHY	**Denali Highway**	**82.84**	**25**	P	**P**	**21 41 43.4**	**+2.1**
DHY				IAmb	IAmb	21 41 49.2	
comp=Z,4.0nm,0.8s							
WRH	**Wood River Hil**	**83.09**	**24**	P	**P**	**21 41 44.1**	**+1.8**
WRH				IAmb	IAmb	21 41 50.3	
comp=Z,6.7nm,1.0s							
CCB	**Clear Creek Bu**	**83.27**	**23**	IAmb	IAmb	21 41 50.1	
comp=Z,5.6nm,0.9s							
G23K	**Bananza Creek**	**83.27**	**21**	P	**P**	**21 41 46.0**	**+2.7**
G23K				IAmb	IAmb	21 41 52.1	
comp=Z,4.2nm,0.9s							
HDA	**Harding Lake**	**83.52**	**24**	P	**P**	**21 41 44.9**	**+0.3**
HDA				IAmb	IAmb	21 41 51.6	
comp=Z,3.3nm,0.7s							
IL31		**83.68**	**23**	IAmb	IAmb	21 41 48.9	
comp=Z,5.6nm,0.8s							
ILAR	**Eielson Array**	**83.68**	**23**	P	**P**	**21 41 45.8**	**+0.4**
ILAR	**Eielson Array**	**83.68**	**23**	P	**P**	**21 41 44.9**	**-0.4**
comp=Z,4.6nm,0.8s,baz=253,slow=4.7,SNR=32							
ILAR				LR	LR	22 17 05.1	
comp=Z,52nm,18.6s,baz=212,slow=34							
comp=Z,4.6nm,0.8s							
H24K	**Noodor Dome**	**83.70**	**22**	P	**P**	**21 41 46.7**	**+1.1**
H24K				IAmb	IAmb	21 41 55.1	
comp=Z,4.5nm,1.1s							
BVAR	**Borovoye Array**	**83.93**	**324**	P	**P**	**21 41 46.5**	**-0.4**
comp=Z,4.0nm,0.7s,baz=108,slow=6.6,SNR=32							
comp=Z,4.0nm,0.7s							
BRVK	**Borovoye**	**84.00**	**324**		**P**	**21 41 47.2**	**0.0**
BRVK				IAmb	IAmb	21 41 52.0	
comp=Z,3.7nm,0.8s							
MAW	**Mawson**	**84.08**	**202**	LR	LR	22 18 37.9	
comp=Z,78nm,18.3s,baz=84,slow=35							
G24K	**Hadweenzic Riv**	**84.19**	**22**	P	**P**	**21 41 49.4**	**+1.5**
G24K				IAmb	IAmb	21 41 56.3	
comp=Z,5.7nm,0.9s							
J25K	**Salcha River,**	**84.23**	**24**	P	**P**	**21 41 49.2**	**+0.9**
F24K	**Squaw Lake**	**84.36**	**21**	P	**P**	**21 41 49.6**	**+0.7**
F24K				IAmb	IAmb	21 41 57.6	
comp=Z,4.7nm,0.9s							
J26L	**Joseph Creek**	**84.93**	**24**	P	**P**	**21 41 52.5**	**+0.6**
M27K	**Edge Creek, AK**	**84.98**	**27**	P	**P**	**21 41 53.9**	**+1.7**
M27K				IAmb	IAmb	21 41 57.8	
comp=Z,4.5nm,0.8s							
L27K	**Beaver Creek,**	**85.21**	**26**	P	**P**	**21 41 54.9**	**+1.7**
D25K	**Kavik River**	**85.57**	**19**	P	**P**	**21 41 56.6**	**+1.7**
D25K				IAmb	IAmb	21 42 03.5	
comp=Z,4.7nm,0.9s							
EGAK	**Eagle**	**86.00**	**24**	P	**P**	**21 41 58.6**	**+1.6**
EGAK				IAmb	IAmb	21 42 05.1	
comp=Z,5.0nm,0.9s							
QSPA	**South Pole Qui**	**86.50**	**180**	P	**P**	**21 42 01.0**	**+1.3**
QSPA				IAmb	IAmb	21 42 07.1	
comp=Z,5.3nm,0.9s							
QSPA	**South Pole Qui**	**86.50**	**180**	P	**P**	**21 41 59.1**	**-0.6**
comp=Z,1.5nm,0.7s,baz=342,slow=1.7,SNR=8.6							
QSPA				LR	LR	22 21 02.7	
comp=Z,141nm,19.1s,baz=12,slow=36							
comp=Z,1.5nm,0.7s							
M29M	**Somme Creek**	**86.54**	**27**	P	**P**	**21 42 01.5**	**+1.6**
M29M				IAmb	IAmb	21 42 12.3	
comp=Z,3.6nm,0.8s							
DAWY	**Dawson**	**86.54**	**25**	P	**P**	**21 42 01.3**	**+1.5**
DAWY				IAmb	IAmb	21 42 05.4	
comp=Z,6.7nm,1.0s							
I28M	**Miner Creek**	**86.68**	**24**	P	**P**	**21 42 02.1**	**+1.6**
I28M				IAmb	IAmb	21 42 09.4	
comp=Z,3.7nm,0.8s							
E27K	**Coleen River**	**86.83**	**21**	P	**P**	**21 42 02.4**	**+1.3**
E27K				IAmb	IAmb	21 42 09.4	
comp=Z,3.4nm,0.8s							
L29M	**L29M**	**86.85**	**26**	P	**P**	**21 42 03.5**	**+2.2**
K29M	**Barlow Dome**	**87.29**	**26**	P	**P**	**21 42 04.7**	**+1.1**
F28M	**Old Crow**	**87.29**	**22**	P	**P**	**21 42 04.7**	**+1.3**
F28M				IAmb	IAmb	21 42 15.3	
comp=Z,3.1nm,0.8s							
J30M	**Hart River**	**87.96**	**25**	P	**P**	**21 42 08.6**	**+1.9**
J30M				IAmb	IAmb	21 42 15.7	
comp=Z,3.9nm,0.8s							
FARO	**Faro, Yukon**	**88.83**	**28**	P	**P**	**21 42 11.1**	**+0.3**
INK	**Inuvik**	**89.78**	**22**	LR	LR	22 19 49.7	
comp=Z,75nm,18.9s,baz=187,slow=34							
ABKAR	**Akbulak array**	**89.78**	**319**	P	**P**	**21 42 14.4**	**-1.1**
ABKAR	**Akbulak array**	**89.78**	**319**	P	**P**	**21 42 14.1**	**-1.4**
BBB	**Bella Bella**	**90.38**	**38**	LR	LR	22 17 25.5	
comp=Z,67nm,19.2s,baz=204,slow=32							
YBH	**Yreka Blue Hor**	**93.49**	**49**	LR	LR	22 16 24.9	
comp=Z,158nm,21.8s,baz=319,slow=30							
YKA	**Yellowknife Ar**	**97.54**	**27**	P	**P**	**21 42 48.6**	**-2.2**
comp=Z,0.5nm,0.8s,baz=281,slow=3.7,SNR=1.9							
YKA				LR	LR	22 27 08.9	
comp=Z,43nm,18.3s,baz=304,slow=36							
comp=Z,0.5nm,0.8s							
PLCA	**Paso Flores**	**124.98**	**147**	PKP	**PKPdf**	**21 48 17.8**	**+0.1**
comp=Z,2.2nm,1.0s,baz=202,slow=8.2,SNR=3.1							
TORD	**Torodi Ar. Bea**	**143.11**	**287**	PKP	**PKPdf**	**21 48 49.8**	**-2.2**
comp=Z,0.3nm,0.8s,baz=85,slow=5.7,SNR=1.3							
DBIC	**Dimbokro**	**150.46**	**277**	PKPbc	**PKiKP**	**21 49 10.3**	**-0.1**
comp=Z,4.1nm,0.9s,baz=76,slow=4.2,SNR=2.1							

IDC 19 21:35:35.0±2.2, 4°.47N×127°.00E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=221.0km s-min=22.0km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.31**	**164**	P	P	21 41 04.7	+1.0
0.4nm,0.9s,baz=343,slow=9.9,SNR=1.1							
0.4nm,0.9s							
ASAR	**Alice Springs**	**28.77**	**167**	P	P	21 41 33.6	-1.1
0.3nm,0.8s,baz=357,slow=8.6,SNR=1.9							
0.3nm,0.8s							
MKAR	**Makanchi Array**	**57.10**	**325**	P	P	21 45 23.0	-0.4
1.0nm,0.6s,baz=126,slow=8.3,SNR=11							
1.0nm,0.6s							
KURBB	**Kurchatov Arra**	**61.26**	**327**	P	P	21 45 52.6	+0.5
1.3nm,0.5s,baz=126,slow=6.8,SNR=8.8							
1.3nm,0.5s							
BVAR	**Borovoye Array**	**66.85**	**327**	P	P	21 46 28.6	-0.2
1.1nm,0.6s,baz=109,slow=6.9,SNR=9.2							
1.1nm,0.6s							

RSNC 19 21:47:32.2±0.0, 7°.N±1°×7°.3W±°, h139km±4km, M2.5, mb3.2, mB5.6, ML2.5, Mw(mB)5.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.69**	**39**	P	Pn	21 47 53.2	-0.9
PAMC				S	Sn	21 48 10.3	-0.3
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	P	Pn	21 47 56.8	-2.4
PTBC				S	Sn	21 48 18.0	-1.7
TAMC	**Tame, Arauca**	**1.39**	**105**	P	Pn	21 47 58.7	-1.1
TAMC				S	Sn	21 48 20.8	0.0
OCAC	**Ocana**	**1.44**	**353**	P	Pn	21 47 58.8	-1.7
OCAC				S	Sn	21 48 21.1	-1.0
SPBC	**San Pablo de B**	**1.47**	**219**	P	Pn	21 47 59.2	-1.5
SPBC				S	Sn	21 48 21.9	-0.6
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	P	Pn	21 48 02.7	-2.1
ZARC				S	Sn	21 48 28.4	-1.3
NORC	**Norcasia**	**2.11**	**235**	P	Pn	21 48 06.4	-1.7
NORC				S	Sn	21 48 35.1	-0.5
CHIC	**Chingaza**	**2.23**	**195**	P	Pn	21 48 08.6	-1.4
CHIC				S	Sn	21 48 39.0	+0.1
ROSC	**El Rosal**	**2.27**	**211**	P	Pn	21 48 10.1	-0.3
ROSC				S	Sn	21 48 41.9	+2.2
CVER	**Cruz Verde, Cu**	**2.45**	**202**	P	Pn	21 48 11.7	-0.9
CVER				S	Sn	21 48 43.7	0.0
UREC	**San Jos de Ur**	**2.56**	**292**	P	Pn	21 48 10.0	-3.5
UREC				S	Sn	21 48 41.4	-3.9
GUY2C	**Guyana, Caldas**	**2.71**	**235**	P

*NEIC **19** 21:59:08.9±0.5, 3°.44N±0°.08×126°.8E±0°.1, h36km±10km, mb4.5/12, Error ellipse: s-maj=17.7km s-min=11.2km az=73.0*
*DJA **19** 21:59:09.4±0.4, 4°N±4°×12°7E±°, h10km, M4.3/7, mb4.5/6, mB5.0/3, MLv4.2/7, Mw(mB)4.4/3*
ISC 19 21:59:08.6±0.6, 3°.57N±0°.07×126°.80E±0°.10, h35km, n34, σ1§65/34, mb4.3/17, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.84**	**168**		**P**	**Pn**	**21 59 49.7**	**-1.8**
TNTI	**Ternate**	**2.84**	**168**		**P**	**Pn**	**21 59 53.7**	**+2.2**
DAV	**Davao City (W)**	**3.68**	**341**		Pn	**Pn**	**22 00 03.9**	**+0.9**
	40nm,0.3s,baz=180,slow=2.0,SNR=1.8							
DAV					Lg	Lg	22 01 00.0	
	19nm,0.3s,baz=195,slow=20,SNR=4.0							
	92nm,0.4s							
GTOI	**Gorontalo**	**4.78**	**232**		P	**Pn**	**22 00 20.6**	**+2.5**
MRSI	**Marisa**	**5.75**	**238**		P	**Pn**	**22 00 34.8**	**+3.4**
	41nm,0.6s,624nm0.2nm							
SWI	**Sorong**	**6.27**	**135**		P	**Pn**	**22 00 41.0**	**+2.3**
	61nm,0.8s,2μm0.2nm							
TOLI2	**Tolitoli**	**6.49**	**248**		Pn	**Pn**	**22 00 41.1**	**-0.6**
FAKI	**Fak Fak**	**8.44**	**140**		P	**Pn**	**22 01 11.8**	**+3.3**
MTN	**Manton Dam**	**16.87**	**165**			**Pn**	**22 03 00.2**	**-2.0**
WB0	**Warramunga Arr**	**24.37**	**162**		P	**P**	**22 04 21.8**	**-1.8**
WRAB	**Tennant Creek**	**24.51**	**163**		P	**P**	**22 04 22.9**	**-2.1**
WRAB					IAmb	IAmb	22 04 26.3	
	comp=Z,13nm,0.8s							
WRA	**Warramunga Arr**	**24.52**	**163**		P	**P**	**22 04 22.9**	**-2.0**
WRA	**Warramunga Arr**	**24.52**	**163**		P	**P**	**22 04 23.7**	**-1.3**
	comp=Z,11nm,0.8s,baz=338,slow=10,SNR=64							
WRA					PcP	**PcP**	**22 08 03.9**	**+0.9**
	comp=Z,0.2nm,0.8s,baz=337,slow=2.2,SNR=1.5							
	comp=Z,11nm,0.8s							
WB2	**Warramunga Arr**	**24.52**	**163**		P	**P**	**22 04 23.5**	**-1.5**
WB2					IAmb	IAmb	22 04 26.3	
	comp=Z,16nm,0.7s							
WR0	**Warramunga Arr**	**24.59**	**162**		P	**P**	**22 04 23.7**	**-2.0**
WR0					IAmb	IAmb	22 04 27.1	
	comp=Z,11nm,0.9s							
ASAR	**Alice Springs**	**27.95**	**166**		P	**P**	**22 04 54.5**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=348,slow=6.9,SNR=16							
ASAR					PcP	**PcP**	**22 08 11.9**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=323,slow=2.9,SNR=1.8							
	comp=Z,0.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**31.01**	**301**		P	**P**	**22 05 21.5**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=116,slow=8.2,SNR=5.2							
	comp=Z,1.0nm,0.7s							
KSRS	**Korea Array**	**33.73**	**2**		P	**P**	**22 05 47.6**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=178,slow=9.7,SNR=4.9							
	comp=Z,0.7nm,0.5s							
HNR	**Honiara**	**35.47**	**112**		LR	LR	22 19 59.8	
	comp=Z,1μm,20.0s,baz=270,slow=35							
STKA	**Stephens Creek**	**37.96**	**159**		P	**P**	**22 06 21.7**	**-1.4**
	comp=Z,5.5nm,0.6s,baz=332,slow=8.6,SNR=14							
	comp=Z,5.5nm,0.6s							
SHL	**Shillong**	**40.02**	**307**		P	**P**	**22 06 40.5**	**-0.2**
SHL					IAmb	IAmb	22 06 41.8	
	comp=Z,7.4nm,0.6s							
DZM	**Mont Dzumac**	**46.39**	**125**		LR	LR	22 26 57.7	
	comp=Z,172nm,18.0s,baz=333,slow=36							
SONM	**Songino Array**	**47.47**	**341**		P	**P**	**22 07 41.9**	**+1.8**
	comp=Z,0.3nm,0.4s,baz=158,slow=9.2,SNR=2.3							
	comp=Z,0.3nm,0.4s							
MK31	**Makanchi Array**	**57.72**	**325**			**P**	**22 08 56.8**	**+0.8**
MKAR	**Makanchi Array**	**57.72**	**325**			**P**	**22 08 56.4**	**+0.5**
MKAR	**Makanchi Array**	**57.72**	**325**		P	**P**	**22 08 56.1**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=120,slow=8.0,SNR=14							
	comp=Z,0.8nm,0.4s							
MAKZ	**Makanchi**	**57.91**	**325**		P	**P**	**22 08 57.7**	**+0.4**
MAKZ					IAmb	IAmb	22 08 59.8	
	comp=Z,2.8nm,1.0s							
ZALV	**Zalesovo Beam**	**60.76**	**333**		P	**P**	**22 09 15.5**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=96,slow=4.3,SNR=2.4							
	comp=Z,0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**61.91**	**327**		P	**P**	**22 09 24.8**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=125,slow=6.2,SNR=23							
	comp=Z,4.0nm,0.8s							
KURK	**Kurchatov**	**61.91**	**328**			**P**	**22 09 26.0**	**+1.4**
BVAR	**Borovoye Array**	**67.49**	**327**		P	**P**	**22 10 00.6**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=127,slow=9.8,SNR=11							
	comp=Z,2.1nm,0.8s							
BRVK	**Borovoye**	**67.56**	**327**		P	**P**	**22 10 02.0**	**+0.6**
BRVK					IAmb	IAmb	22 10 04.8	
	comp=Z,3.7nm,0.8s							
PWL	**Port Wells**	**84.39**	**29**		P	**P**	**22 11 37.1**	**-0.2**
BRTR	**Keskin Array B**	**90.17**	**310**		P	**P**	**22 12 06.2**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=52,slow=5.7,SNR=3.6							
	comp=Z,0.5nm,0.4s							

*NEIC **19** 21:59:27.0±1.2, 20°N±7°×15°5W±1°1, h5km±2km, Error ellipse: s-maj=2087.8km s-min=3.0km az=125.0*
HVO 19 21:59:46.8±1.1, 19°.41N±0°.07×155°.27W±0°.04, h1km±10km, ML2.8/10, ML1.7/15(NEIC), Error ellipse: s-maj=11.4km s-min=0.8km az=208.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**73**			Pg	21 59 47.6	+0.3
KKO	**Keanakako'i**	**0.01**	**152**			Pg	21 59 48.2	+1.0
RIM	**Rim**	**0.01**	**188**			Pg	21 59 48.2	+0.9
OBL	**Observatory Le**	**0.01**	**308**			Pg	21 59 48.4	+1.1
UWB	**Uwekahuna B**	**0.02**	**341**			Pg	21 59 48.5	+1.2
HATHI	**Halema'uma'u T**	**0.02**	**36**			Pg	21 59 47.4	+0.1
HATHI					IAML		21 59 47.5	
	comp=N,2μm,0.3s							
HATHI					IAML		21 59 47.6	
	comp=E,1μm,0.3s							
SBLHI	**Steaming Bluff**	**0.02**	**12**			Pg	21 59 48.5	+1.1
UWE	**Uwekahuna**	**0.02**	**302**			Pg	21 59 47.4	0.0
UWE					IAML		21 59 47.7	
	comp=E,2μm,0.5s							
UWE					IAML		21 59 48.0	
	comp=N,2μm,0.4s							
WRMHI	**West Rim**	**0.03**	**266**			Pg	21 59 48.9	+1.5
SDHHI	**Sand Hill**	**0.03**	**228**			Pg	21 59 48.9	+1.5
RSD	**Rainshed**	**0.06**	**354**		IAML		21 59 48.1	
	comp=N,442nm,0.8s							
RSD					Pg		21 59 48.8	+0.8
PUH	**Pauahi**	**0.06**	**123**			Pg	21 59 48.4	+0.3
PUH					IAML		21 59 49.8	
	comp=E,608nm,0.2s							
PUH					IAML		21 59 50.2	
	comp=N,821nm,0.6s							
KNHH	**Kane Nui o Ham**	**0.10**	**107**			Pg	21 59 49.7	+0.9
STCH	**Steam Cracks**	**0.14**	**99**			Pg	21 59 49.6	+0.1

*IDC **19** 21:59:45.6±39.0, 10°.76S×113°.40E, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=888.5km s-min=194.2km az=152.0*
*DJA **19** 21:59:59.1±1.5, 10°S±9°×11°3E±°, h18km±17km, M4.1/10, mb4.4/1, MLv4.0/10*
ISC 19 21:59:59.2±1.8, 9°.8S±0°.2×112°.80E±0°.06, h35km, n12, σ1§66/15, mb4.2/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.86**	**46**		P	**Pn**	**22 00 28.2**	**-0.5**
JAGI					S	**Sn**	**22 00 50.2**	**-0.8**
PWJI	**Pagerwojo**	**2.01**	**331**		P	**Pn**	**22 00 31.4**	**+0.8**
PWJI					S	**Sn**	**22 00 53.4**	**-1.1**
ABJI	**Asem Bagus**	**2.43**	**36**		P	**Pn**	**22 00 37.8**	**+1.4**
ABJI					S	**Sn**	**22 01 07.4**	**+2.5**
GRJI	**Gresik**	**2.87**	**354**		P	**Pn**	**22 00 43.1**	**+0.7**
SRBI	**Singaraja**	**2.92**	**55**		P	**Pn**	**22 00 45.1**	**+1.9**
UGM	**Wanagama**	**2.92**	**309**		P	**Pn**	**22 00 45.0**	**+1.8**
TWSI	**Taliwang, Sumb**	**4.16**	**76**		P	**Pn**	**22 01 01.8**	**+1.6**
CNJI	**Cibinong**	**6.12**	**293**		P	**Pn**	**22 01 30.1**	**+2.9**
SONM	**Songino Array**	**57.64**	**355**		P	**P**	**22 09 44.9**	**-1.1**
	0.9nm,0.6s,baz=170,slow=7.4,SNR=4.6							
	0.9nm,0.6s							
MKAR	**Makanchi Array**	**62.56**	**337**		P	**P**	**22 10 18.8**	**-0.8**
	1.1nm,0.4s,baz=148,slow=7.1,SNR=8.6							
	1.1nm,0.4s							
KURBB	**Kurchatov Arra**	**67.13**	**337**		P	**P**	**22 10 48.5**	**-0.7**
	0.5nm,0.3s,baz=142,slow=4.6,SNR=1.3							
	0.5nm,0.3s							
ZALV	**Zalesovo Beam**	**67.77**	**343**		P	**P**	**22 10 51.8**	**-1.4**
	0.9nm,0.4s,baz=134,slow=4.3,SNR=4.8							
	0.9nm,0.4s							

*BJI **19** 22:08:32.1±0.0, 6°.65S×142°.61E, h10km, mb4.6/46, mB5.1/13, Ms4.2/1, Ms7 3.9/1*
*IDC **19** 22:08:33.8±0.7, 5°.86S×142°.49E, h0km, mb4.2/13, mbtmp4.3/15, ML2.7/2, MS3.8/24, Error ellipse: s-maj=33.1km s-min=13.7km az=79.0*
*NEIC **19** 22:08:36.6±1.6, 6°.07S±0°.09×142°.39E±0°.09, h10km±1km, mb4.7/90, Error ellipse: s-maj=17.4km s-min=13.2km az=45.0*
*DJA **19** 22:08:39.5±0.4, 6°S±4°×14°2E±°, h10km, M5.1/19, mB5.2/5, mb4.8/19, MLv5.4/6, Mw(mB)4.6/5*
ISC 19 22:08:38.9±0.4, 6°.16S±0°.05×142°.39E±0°.06, h28km, n164, σ1§75/147, mb4.7/72, MS3.8/21, 3C-2D, New Guinea

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**3.03**	**221**		P	**Pn**	**22 09 29.2**	**+4.2**
JAY	**Jayapura**	**3.99**	**335**		P	**Pn**	**22 09 39.7**	**+1.3**
JAY					S	**Sn**	**22 10 24.1**	**-0.2**
GENI	**Genyem**	**4.18**	**328**		P	**Pn**	**22 09 41.1**	**+0.2**
GENI					S	**Sb**	**22 10 35.3**	**-6.6**
PMG	**Port Moresby**	**5.72**	**125**		Pn	**Pn**	**22 10 03.3**	**+1.2**
PMG	**Port Moresby**	**5.72**	**125**		Pn	**Pn**	**22 10 02.6**	**+0.5**
	13nm,0.3s,baz=327,slow=4.8,SNR=18							
PMG					Sn	**Sn**	**22 11 00.9**	**-5.9**
	2.6nm,0.3s,baz=227,slow=22,SNR=3.5							
	67nm,0.5s							
COEN	**Coen**	**7.78**	**174**		Pn	**Pn**	**22 10 32.6**	**+2.1**
FAKI	**Fak Fak**	**10.61**	**287**		Pn	**Pn**	**22 11 08.0**	**-1.1**
FAKI	**Fak Fak**	**10.61**	**287**		P	**Pn**	**22 11 08.7**	**-0.4**
SAUI	**Saumlaki**	**11.15**	**260**		Pn	**Pn**	**22 11 15.3**	**-1.3**
SWI	**Sorong**	**12.29**	**295**		P	**Pn**	**22 11 30.7**	**-1.4**
	120nm,0.9s							
MTN	**Manton Dam**	**12.93**	**238**		Pn	**Pn**	**22 11 40.0**	**-0.9**
CTA	**Charters Tower**	**14.34**	**165**		Pn	**Pn**	**22 12 01.4**	**+1.2**
	baz=47,slow=12,SNR=1.4							
CTA					Lg	Lg	22 16 17.3	
	baz=253,slow=18,SNR=3.3							
CTA					LR	LR	22 17 51.3	
	comp=Z,23nm,20.9s,baz=352,slow=38							
CTAO	**Charters Tower**	**14.34**	**165**		P	**Pn**	**22 12 01.6**	**+1.4**
WB0	**Warramunga Arr**	**15.60**	**209**			**Pn**	**22 12 16.6**	**-0.3**
WR0	**Warramunga Arr**	**15.69**	**208**		P	**Pn**	**22 12 17.1**	**-1.1**
WR0					IAmb	IAmb	22 12 33.5	
	comp=Z,33nm,0.7s							
WRAB	**Tennant Creek**	**15.76**	**209**			**Pn**	**22 12 19.1**	**+0.1**
WB2	**Warramunga Arr**	**15.77**	**209**			**Pn**	**22 12 18.8**	**-0.4**
WRA	**Warramunga Arr**	**15.77**	**209**			**Pn**	**22 12 18.6**	**-0.6**
WRA	**Warramunga Arr**	**15.77**	**209**		Pn	**Pn**	**22 12 18.8**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=32,slow=13,SNR=59							
WRA					Sn	**Sn**	**22 15 07.0**	**-6.3**
	comp=Z,0.7nm,0.3s,baz=20,slow=25,SNR=6.8							
WRA					Lg	Lg	22 17 04.0	
	comp=Z,0.8nm,0.3s,baz=36,slow=28,SNR=4.9							
WRA					LR	LR	22 19 13.4	
	comp=Z,1μm,20.2s,baz=92,slow=40							
SANI	**Sanana**	**16.86**	**283**		P	**Pn**	**22 12 30.7**	**-2.4**
	comp=Z,27nm,1.0s							
SOEI	**Soe**	**18.29**	**258**		P	**P**	**22 12 50.4**	**-0.5**
SOEI	**Soe**	**18.29**	**258**		P	**Pn**	**22 12 53.9**	**+2.9**
AS31	**Alice Springs**	**19.22**	**204**			**P**	**22 13 02.4**	**+1.5**
ASAR	**Alice Springs**	**19.22**	**204**		P	**Pn**	**22 13 02.7**	**+0.6**
ASAR						**PcP**	**22 17 23.8**	**-0.1**
ASAR	**Alice Springs**	**19.22**	**204**		P	**Pn**	**22 13 02.8**	**+0.8**
	comp=Z,19nm,0.7s,baz=29,slow=10,SNR=55							
ASAR					Sn	**S**	**22 16 31.2**	**-6.1**
	comp=Z,0.2nm,0.3s,baz=340,slow=41,SNR=2.5							
ASAR					Lg	Lg	22 18 53.5	
	comp=Z,0.2nm,0.3s,baz=15,slow=31,SNR=4.2							
ASAR					LR	LR	22 21 43.0	
	comp=Z,323nm,20.9s,baz=30,slow=40							
GUMO	**Guam**	**19.78**	**7**	LR	LR		22 19 58.8	
	comp=Z,109nm,18.8s,baz=188,slow=35							
FITZ	**Fitzroy Crossi**	**20.19**	**233**		P	**P**	**22 13 11.7**	**+0.1**
LUWI	**Luwuk**	**20.22**	**284**		P	**P**	**22 13 11.3**	**-0.7**
LUWI					IAmb	IAmb	22 13 27.3	
	comp=Z,62nm,1.1s							
GTOI	**Gorontalo**	**20.49**	**289**		P	Pn	22 13 19.3	+2.2
	comp=Z,25nm,0.8s							
EDFI	**Ende, Flores**	**20.68**	**262**		P	Pn	22 13 19.4	-0.1
	comp=Z,22nm,1.0s							
EIDS	**Eidsvold**	**20.83**	**157**		P	**P**	**22 13 19.1**	**+0.6**
EIDS					IAmb	IAmb	22 13 30.4	
	comp=Z,30nm,1.0s							
MRSI	**Marisa**	**21.45**	**287**		P	**P**	**22 13 28.1**	**+2.9**
	comp=Z,24nm,0.8s							
BKSI	**Bulukumba**	**22.17**	**271**		P	**P**	**22 13 34.7**	**+1.8**
	comp=Z,94nm,1.0s,comp=Z,731nm							
KAPI	**Kappang**	**22.55**	**272**		P	**P**	**22 13 36.8**	**-0.3**
KAPI	**Kappang**	**22.55**	**272**	LR	LR		22 23 43.0	
	comp=Z,147nm,18.8s,baz=100,slow=40							
TOLI2	**Tolitoli**	**22.75**	**288**		P	**P**	**22 13 37.4**	**-1.7**
TOLI2					IAmb	IAmb	22 13 43.8	
	comp=Z,20nm,0.9s							
STKA	**Stephens Creek**	**25.59**	**182**		P	**P**	**22 14 07.9**	**+2.1**
	comp=Z,4.6nm,0.9s,baz=350,slow=8.2,SNR=5.6							
STKA					LR	LR	22 25 25.9	
	comp=Z,485nm,22.0s,baz=1.2,slow=39							
	comp=Z,4.6nm,0.9s							
DZM	**Mont Dzumac**	**28.11**	**127**	eLR		LR	22 21 35.1	
	comp=Z,256nm,24.1s							
JCJ	**Chichijima**	**33.06**	**360**	LR		LR	22 26 40.8	
	comp=Z,116nm,20.8s,baz=108,slow=33							
NWAO	**Narrogin (SRO)**	**35.45**	**218**	LR		LR	22 29 35.1	
	comp=Z,177nm,21.6s,baz=326,slow=35							
JHJ	**Hachijo jima 2**	**39.15**	**357**	LR		LR	22 29 08.4	
	comp=Z,183nm,21.1s,baz=104,slow=32							
JNU	**Nakatsue**	**40.57**	**345**	LR		LR	22 32 27.1	
	comp=Z,56nm,19.0s,baz=206,slow=36							
JGF	**Kuroka**	**41.81**	**354**		P	**P**	**22 16 24.1**	**-2.3**
MJAR	**Matsushiro Arr**	**42.66**	**355**		P	**P**	**22 16 28.7**	**-4.4**
	comp=Z,1.7nm,0.7s,baz=158,slow=7.5,SNR=3.2							
MJAR					LR	LR	22 33 29.9	
	comp=Z,88nm,19.6s,baz=150,slow=35							
	comp=Z,1.7nm,0.7s							
NJ2	**Nanjing**	**44.13**	**331**		eP	**P**	**22 16 45.6**	**+0.5**
NJ2					sP	**sP**	**22 16 54.9**	**-2.1**
NJ2					pmax	pmax		
	comp=Z,7.0nm,0.8s							
NJ2					pmax	pmax		
	comp=Z,260nm,5.7s							
WHN	**Wuhan**	**45.31**	**325**		⇑P	P	22 17 00.5	+5.9
KSRS	**Korea Array**	**45.45**	**344**		P	**P**	**22 16 52.0**	**-3.5**
	comp=Z,2.7nm,1.0s,baz=165,slow=9.2,SNR=12							
	comp=Z,2.7nm,1.0s							
JTM	**Tenmabayashi**	**46.74**	**359**		P	**P**	**22 17 03.8**	**-1.7**
GYA	**Guiyang**	**47.44**	**315**		⇓P	**P**	**22 17 14.6**	**+3.1**
GYA					pmax	pmax		
	comp=Z,19nm,0.7s							
CMAR	**Chiang Mai Arr**	**49.33**	**301**		P	**P**	**22 17 24.8**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=138,slow=31,SNR=4.8							
	comp=Z,1.0nm,0.5s							
KMI	**Kunming**	**49.53**	**311**		⇑P	**P**	**22 17 29.8**	**+2.0**
KMI					pmax	pmax		
	comp=Z,7.0nm,0.5s							
ASAJ	**Asahikawa**	**50.05**	**0**	LR		LR	22 39 29.6	
	comp=Z,32nm,20.0s,baz=182,slow=37							
XAN	**Xi'an**	**51.00**	**324**		⇑P	P	22 17 42.9	+4.4
XAN					pmax	pmax		
	comp=Z,13nm,1.1s							
USA0B	**Ussuriysk Arra**	**51.00**	**350**		P	**P**	**22 17 38.0**	**-0.2**
USA0B					IAmb	IAmb	22 17 46.4	
	comp=Z,8.8nm,0.7s							
USRK	**Ussuriysk Ar.**	**51.00**	**350**		P	**P**	**22 17 37.8**	**-0.5**
USRK	**Ussuriysk Ar.**	**51.00**	**350**		P	**P**	**22 17 36.3**	**-1.9**
	comp=Z,1.5nm,0.6s,baz=172,slow=7.1,SNR=4.3							
	comp=Z,1.5nm,0.6s							
PZH	**PanZhiHua**	**51.04**	**311**		P	**P**	**22 17 41.5**	**+2.4**
PZH					pmax	pmax		
	comp=Z,7.0nm,1.0s							
PZH					pmax	pmax		
	comp=Z,110nm,5.1s							
MDJ	**Mudanjiang**	**51.84**	**348**		P	**P**	**22 17 44.9**	**+0.3**
MDJ					pmax	pmax		
	comp=Z,7.0nm,0.8s							
CD2	**Chengdu**	**52.19**	**317**		P	**P**	**22 17 48.5**	**+1.0**
CD2					pmax	pmax		
	comp=Z,30nm,0.8s							
BNX	**BinXian**	**53.38**	**347**		⇓P	**P**	**22 17 54.8**	**-1.1**
BNX					pmax	pmax		
	comp=Z,5.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**54.67**	**332**		eP	**P**	**22 18 09.0**	**+3.4**
HHC					pP	pP	22 18 14.3	-0.1
HHC					sP	sP	22 18 16.5	-1.2
HHC					pmax	pmax		
	comp=Z,13nm,0.5s							
HHC					pmax	pmax		
	comp=Z,90nm,4.7s							
XLT	**XiLinHaoTe**	**55.21**	**337**		eP	P	22 18 16.3	+6.9
XLT					pmax	pmax		
	comp=Z,5.0nm,0.7s							
BTO	**Baotou**	**55.23**	**330**		eP	**P**	**22 18 12.8**	**+3.1**
BTO					pP	**sP**	**22 18 23.0**	**+1.2**
BTO					sP	pP	22 18 26.3	+7.9
BTO					PP	**PP**	**22 20 18.3**	**+4.8**
BTO					pmax	pmax		
	comp=Z,13nm,0.7s							
BTO					pmax	pmax		
	comp=Z,180nm,5.5s							
LZH	**Lanzhou**	**55.43**	**322**		eP	**P**	**22 18 14.1**	**+2.8**
LZH					sP	pP	22 18 19.4	-0.6
LZH					pmax	pmax		
	comp=Z,10.0nm,1.0s							
KLR	**Kul'dur**	**55.94**	**352**		LR	LR	22 38 42.9	
	comp=Z,73nm,20.6s,baz=186,slow=32							
HEH	**HeiHe**	**57.67**	**349**		eP	P	22 18 30.9	+4.2
RAR	**Rarotonga**	**57.85**	**111**		LR	LR	22 41 18.0	
	comp=Z,94nm,18.5s,baz=44,slow=34							
GTA	**Gaotai**	**60.01**	**323**		eP	**P**	**22 18 46.4**	**+3.0**
GTA					pP	pP	22 18 51.4	-0.8
GTA					sP	sP	22 18 54.1	-1.4
GTA					pmax	pmax		
	comp=Z,2.0nm,1.4s							
LSA	**Lhasa**	**60.72**	**309**		P	**P**	**22 18 50.8**	**+2.0**
LSA					pmax	pmax		
	comp=Z,3.0nm,0.8s							
LSA	**Lhasa**	**60.72**	**309**		P	**P**	**22 18 48.0**	**-0.8**
SONM	**Songino Array**	**62.41**	**333**		P	**P**	**22 18 57.9**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=162,slow=6.6,SNR=3.6							
SONM					LR	LR	22 45 46.0	
	comp=Z,97nm,19.7s,baz=105,slow=36							
	comp=Z,0.7nm,0.8s							
SHEM	**Shemya Is, Ala**	**64.55**	**21**	LR	LR		22 43 51.2	
	comp=Z,61nm,19.4s,baz=196,slow=33							
TBI	**Tubuai**	**67.54**	**113**	eLR	LR		22 39 53.8	
	comp=Z,548nm,24.8s							
YAK	**Yakutsk**	**68.70**	**354**	LR	LR		22 46 11.9	
	comp=Z,73nm,21.7s,baz=169,slow=33							
VNDA	**Vanda**	**72.06**	**176**		P	**P**	**22 20 02.3**	**+2.3**
VNDA	**Vanda**	**72.06**	**176**		P	**P**	**22 20 01.6**	**+1.5**
	comp=Z,1.2nm,0.9s,baz=332,slow=5.3,SNR=3.9							
VNDA					LR	LR	22 50 04.2	
	comp=Z,102nm,20.3s,baz=339,slow=34							
	comp=Z,1.2nm,0.9s							
MK31	**Makanchi Array**	**74.75**	**322**		P	**P**	**22 20 16.4**	**0.0**
MKAR	**Makanchi Array**	**74.75**	**322**		P	**P**	**22 20 16.5**	**+0.1**
MKAR	**Makanchi Array**	**74.75**	**322**		P	**P**	**22 20 15.2**	**-1.2**
	comp=Z,3.8nm,1.0s,baz=107,slow=7.4,SNR=13							
	comp=Z,3.8nm,1.0s							
MAKZ	**Makanchi**	**74.95**	**322**		P	**P**	**22 20 17.4**	**-0.1**
KSH	**Kashi**	**76.10**	**313**		P	**P**	**22 20 26.6**	**+2.1**
KSH					pmax	pmax		
	comp=Z,4.0nm,0.6s							
NIL	**Nilore**	**76.31**	**307**		P	**P**	**22 20 26.3**	**+0.6**
ZALV	**Zalesovo Beam**	**76.75**	**329**		P	**P**	**22 20 24.7**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=78,slow=11,SNR=4.7							
ZALV					LR	LR	22 56 01.4	
	comp=Z,40nm,19.3s,baz=123,slow=37							
	comp=Z,0.5nm,0.3s							
BOOM	**Boomskoye usch**	**77.17**	**316**		P	**P**	**22 20 30.9**	**+0.4**
KURK	**Kurchatov**	**78.63**	**324**		P	**P**	**22 20 37.5**	**-0.7**
KURBB	**Kurchatov Arra**	**78.65**	**324**		P	**P**	**22 20 37.1**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=118,slow=4.9,SNR=7.0							
	comp=Z,0.5nm,0.3s							
L14K	**Kuka Creek**	**79.52**	**24**		P	**P**	**22 20 42.1**	**-0.7**
L14K					IAmb	IAmb	22 20 45.3	
	comp=Z,10nm,1.1s							
KBL	**Kabul**	**79.92**	**307**			**P**	**22 20 45.3**	**-0.6**
KBL					IAmb	IAmb	22 20 52.9	
	comp=Z,3.9nm,0.5s							
GAR	**Garm**	**80.11**	**311**		P	**P**	**22 20 46.1**	**-0.7**
GAR					IAmb	IAmb	22 20 59.3	
	comp=Z,8.0nm,0.8s							
MAW	**Mawson**	**80.34**	**202**	LR	LR		22 53 45.4	
	comp=Z,102nm,19.5s,baz=56,slow=34							
O16K	**Kokwok River B**	**80.52**	**26**		P	**P**	**22 20 47.8**	**-0.4**
M16K	**Timber Creek**	**80.87**	**25**		P	**P**	**22 20 50.0**	**-0.2**
M16K					IAmb	IAmb	22 20 51.8	
	comp=Z,13nm,1.1s							
CHGR	**Chuyangaron**	**80.89**	**311**		P	**P**	**22 20 50.9**	**0.0**
SIMJ	**Simiganj**	**81.01**	**311**		P	**P**	**22 20 49.8**	**-1.8

comp=Z,7.3nm,1.0s
D22K Ayikyak River 86.95 19 P P 22 21 21.7 +0.6
D22K IAmb IAmb 22 21 28.1
comp=Z,6.0nm,0.8s
G23K Bananza Creek 86.97 22 P P 22 21 21.4 +0.1
MDM Murphy Dome 86.99 24 P P 22 21 21.7 +0.3
MDM IAmb IAmb 22 21 27.6
comp=Z,7.3nm,1.4s
CCB Clear Creek Bu 87.05 24 IAmb IAmb 22 21 28.3
comp=Z,5.4nm,1.0s
IL31 87.46 24 P P 22 21 22.6 -0.9
IL31 IAmb IAmb 22 21 30.0
comp=Z,3.6nm,0.8s
ILAR Eielson Array 87.46 24 P P 22 21 21.6 -2.0
ILAR Eielson Array 87.46 24 P P 22 21 21.0 -2.6
comp=Z,2.2nm,0.8s,baz=259,slow=5.0,SNR=17
ILAR LR LR 23 03 05.0
comp=Z,24nm,18.1s,baz=216,slow=38
comp=Z,2.2nm,0.8s
IL03 Eielson Array 87.48 24 P P 22 21 22.4 -1.2
TOLK Toolik Lake Re 87.88 20 P P 22 21 26.1 +0.6
TOLK IAmb IAmb 22 21 31.1
comp=Z,5.6nm,1.1s
J25K Salcha River, 88.03 24 IAmb IAmb 22 21 26.1
comp=Z,4.5nm,1.1s
F24K Squaw Lake 88.05 21 P P 22 21 27.0 +0.6
F24K IAmb IAmb 22 21 28.9
comp=Z,3.1nm,0.8s
D24K Happy Valley 88.33 20 P P 22 21 28.2 +0.6
J26L Joseph Creek 88.73 25 P P 22 21 29.6 -0.2
J26L IAmb IAmb 22 21 38.1
comp=Z,3.8nm,0.9s
CTGM Chitina Glacie 88.74 28 P P 22 21 30.0 +0.1
M27K Edge Creek, AK 88.86 27 P P 22 21 29.8 -0.7
M27K IAmb IAmb 22 21 39.1
comp=Z,6.5nm,1.1s
LOGN Logan Glacier 88.86 28 P P 22 21 30.3 -0.2
LOGN IAmb IAmb 22 21 31.3
comp=Z,5.7nm,1.0s
L27K Beaver Creek, 89.07 26 P P 22 21 30.6 -0.7
L27K IAmb IAmb 22 21 33.2
comp=Z,4.2nm,1.1s
BCAR Beaver Creek A 89.09 26 P P 22 21 31.0 -0.4
D25K Kavik River 89.20 20 P P 22 21 31.8 -0.1
BMAR Burnt Mountain 89.22 22 P P 22 21 32.1 +0.2
ABKAR Abkulak array 89.71 319 P P 22 21 33.1 -1.4
ABKAR Abkulak array 89.71 319 P P 22 21 33.6 -0.9
EGAK Eagle 89.81 25 P P 22 21 34.9 +0.3
EGAK IAmb IAmb 22 21 50.3
comp=Z,4.5nm,0.9s
M29M Somme Creek 90.42 27 P P 22 21 37.8 0.0
I28M Miner Creek 90.47 24 P P 22 21 38.7 +0.8
L29M L29M 90.72 27 P P 22 21 39.6 +0.5
L29M IAmb IAmb 22 21 45.1
comp=Z,3.8nm,0.8s
I29M Ogilvie Camp, 91.12 24 P P 22 21 39.8 -1.1
I29M IAmb IAmb 22 21 42.5
comp=Z,5.3nm,1.3s
K29M Barlow Dome 91.14 26 P P 22 21 41.2 +0.1
K29M IAmb IAmb 22 21 46.7
comp=Z,2.6nm,0.7s
M30M Minto, Yukon 91.21 27 P P 22 21 39.7 -1.6
ARU Arti 91.68 326 P P 22 21 42.5 -1.0
ARU IAmb IAmb 22 21 48.5
comp=Z,2.4nm,0.8s
J30M Hart River 91.79 25 P P 22 21 42.6 -1.5
J30M IAmb IAmb 22 21 50.5
comp=Z,7.1nm,1.4s
INK Inuvik 93.50 22 LR LR 23 03 59.7
comp=Z,28nm,19.2s,baz=147,slow=36
BBB Bella Bella 94.52 38 LR LR 22 56 50.4
comp=Z,44nm,19.8s,baz=182,slow=31

*TEH **19** 22:24:14.9, 33.°08N×46.°57E, h12km±36km, ML3.0*
*ISN **19** 22:24:15.4±0.7, 33.°11N×46.°81E, h25km±7km, ML3.0*
ISC 19 22:24:16.6±0.9, 33.°10N±0.°04×46.°56E±0.°04, h13km, n21,
σ1§27/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.53**	**271**	*e*Pg	**Pn**	**22 24 29.0**	**-0.8**
IBDR	baz=90			*e*Sg	**Sn**	**22 24 40.0**	**+1.4**
IBDR	comp=N,1μm,0.3s			AML	AML	22 24 42.2	
IBDR	comp=E,908nm,0.3s			AML	AML	22 24 51.0	
ILBA	**Ilam Banvizeh**	**0.60**	**331**	Pg	**Pb**	**22 24 27.9**	**-1.0**
GLG1	**Gilan-e-Gharb**	**1.15**	**332**	Pg	**Pg**	**22 24 38.8**	**+0.1**
IKFM	**Kafar-mosalman**	**1.16**	**68**	Pg	**Pg**	**22 24 37.8**	**-1.0**
IGHG	**Ghaleghazi**	**1.22**	**0**	Pg	**Pg**	**22 24 39.8**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.24**	**19**	Pg	**Pg**	**22 24 40.1**	**-0.3**
RAFI	**Al-Rafai**	**1.43**	**195**	*e*Pn	**Pg**	**22 24 43.0**	**-1.0**
RAFI				*e*Sn	**Sg**	**22 25 03.0**	**+0.5**
RAFI	comp=N,23nm,0.8s			AML	AML	22 25 14.7	
RAFI	comp=E,27nm,0.7s			AML	AML	22 25 15.1	
IDHR	**Dehrash**	**1.60**	**355**	Pg	**Pg**	**22 24 46.4**	**-0.9**
KGS1	**Ghasr-e-Shirin**	**1.62**	**330**	Pg	**Pg**	**22 24 47.5**	**-0.1**
KGS1				Sg	**Sg**	**22 25 09.4**	**+0.8**
IBZA	**Bozab**	**1.74**	**38**	Pg	**Pg**	**22 24 48.5**	**-1.5**
ILIN	**Lien**	**1.84**	**10**	Pn	**Pg**	**22 24 50.2**	**-1.8**
SNQR	**Sonqor, Kerman**	**1.96**	**27**	Pn	**Pg**	**22 24 52.1**	**-2.1**
HSAM	**Samen**	**2.03**	**56**	Pn	**Pb**	**22 24 52.3**	**-1.2**
JHBN	**Jahan bin**	**3.57**	**103**	Pn	**Pn**	**22 25 13.4**	**+1.4**
QABG	**Abgarm-Qazvin**	**3.61**	**43**	Pn	**Pn**	**22 25 14.1**	**+1.7**
IPIR	**Pirpir**	**3.67**	**95**	Pn	**Pn**	**22 25 14.8**	**+1.5**
QAMS	**Qamsar**	**4.09**	**80**	Pn	**Pn**	**22 25 20.3**	**+1.2**
IKLH	**Kolahrood**	**4.21**	**86**	Pn	**Pn**	**22 25 22.2**	**+1.5**
KRSH	**Karshahi**	**4.74**	**78**	Pn	**Pn**	**22 25 29.0**	**+1.1**
KLNJ	**Kolanjah**	**4.76**	**115**	Pn	**Pn**	**22 25 29.1**	**+0.8**
IZEF	**Zefreh**	**4.85**	**91**	Pn	**Pn**	**22 25 31.0**	**+1.5**

*IDC **19** 22:28:55.7±0.6, 31.°02S×59.°20E, h0km, mb4.1/15, mbtmp4.1/16, ML3.6/1, MS3.6/7, Error ellipse: s-maj=23.4km s-min=17.2km az=79.0*
ISC 19 22:28:57.4±0.6, 31.°1S±0.°1×59.°2E±0.°2, h10km, n51,
σ1§34/34, mb4.3/30, MS3.7/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**16.15**	**199**	T	T	22 49 25.5	
	baz=23,slow=75,SNR=288						
H04N1	**CROZET ISLANDS**	**16.15**	**199**	T	T	22 49 26.5	
	baz=23,slow=75,SNR=329						
H04N3	**CROZET ISLANDS**	**16.16**	**199**	T	T	22 49 29.8	
	baz=23,slow=75,SNR=253						
OPO	**Ambohidratompo**	**16.52**	**316**	Pn	**Pn**	**22 32 47.8**	**-1.6**
	baz=195,slow=20,SNR=1.3						
OPO				Sn	Sn	22 35 40.0	-13
	baz=108,slow=20,SNR=2.8						
	2.1nm,0.6s						
H08S1	**Diego Garcia H**	**26.39**	**31**	T	T	23 00 41.2	
	baz=226,slow=74,SNR=27						
H08S2	**Diego Garcia H**	**26.40**	**31**	T	T	23 00 44.6	
	baz=226,slow=74,SNR=30						
H08S3	**Diego Garcia H**	**26.41**	**31**	T	T	23 00 40.3	
	baz=226,slow=74,SNR=24						
LBTB	**Lobatse**	**30.19**	**273**	LR	LR	22 46 28.5	
	comp=Z,80nm,18.0s,baz=146,slow=35						
MAW	**Mawson**	**36.65**	**178**	P	**P**	**22 36 02.0**	**-1.7**
	0.5nm,0.3s,baz=320,slow=19,SNR=1.9						
	0.5nm,0.3s						
H01W2	**Cape Leeuwin H**	**45.76**	**110**	T	T	23 26 24.7	
	baz=259,slow=75,SNR=17						
H01W3	**Cape Leeuwin H**	**45.77**	**110**	T	T	23 26 24.7	
	baz=259,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**45.78**	**110**	T	T	23 26 25.8	
	baz=259,slow=75,SNR=19						
SNAA	**Sanae**	**52.10**	**201**	P	**P**	**22 38 08.5**	**+1.2**
	1.9nm,0.9s,baz=103,slow=10,SNR=9.4						
	1.9nm,0.9s						
QSPA	**South Pole Qui**	**59.11**	**180**	P	**P**	**22 38 58.8**	**+1.0**
	3.7nm,0.8s,baz=250,slow=1.6,SNR=25						
	3.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**62.30**	**43**	P	**P**	**22 39 20.9**	**+0.9**
	3.7nm,0.8s,baz=229,slow=7.6,SNR=20						
	3.7nm,0.8s						
VNDA	**Vanda**	**62.61**	**166**	LR	LR	23 06 12.2	
	comp=Z,53nm,18.8s,baz=314,slow=36						
ASAR	**Alice Springs**	**65.64**	**104**	P	**P**	**22 39 41.6**	**-0.5**
	0.9nm,0.7s,baz=236,slow=6.1,SNR=8.2						
	0.9nm,0.7s						
MMAI	**Mount Meron Ar**	**67.58**	**338**	P	**P**	**22 39 55.8**	**+1.6**
	5.8nm,0.8s,baz=134,slow=9.6,SNR=3.5						
	5.8nm,0.8s						
WRA	**Warramunga Arr**	**67.60**	**100**	P	**P**	**22 39 55.2**	**+0.6**
	3.3nm,1.1s,baz=242,slow=5.8,SNR=15						
	3.3nm,1.1s						
TORD	**Torodi Ar. Bea**	**70.54**	**299**	P	**P**	**22 40 12.3**	**-0.5**
	0.4nm,0.7s,baz=116,slow=10,SNR=2.3						
	0.4nm,0.7s						
DBIC	**Dimbokro**	**71.72**	**290**	LR	LR	23 11 04.0	
	comp=Z,40nm,18.2s,baz=150,slow=35						
GNI	**Garni**	**72.10**	**348**	LR	LR	23 10 06.0	
	comp=Z,34nm,21.2s,baz=120,slow=34						
BRTR	**Keskin Array B**	**74.31**	**340**	P	**P**	**22 40 35.8**	**+0.9**
	0.9nm,0.5s,baz=150,slow=6.0,SNR=2.1						
	0.9nm,0.5s						
KBZ	**Khabaz**	**75.90**	**348**	LR	LR	23 12 15.5	
	comp=Z,44nm,20.9s,baz=116,slow=34						
KEST	**Kesra**	**81.27**	**321**	LR	LR	23 17 13.7	
	comp=Z,43nm,19.9s,baz=282,slow=36						
KURBB	**Kurchatov Arra**	**83.10**	**12**	P	**P**	**22 41 22.0**	**-0.8**
	0.5nm,0.2s,baz=185,slow=2.3,SNR=2.5						
	0.5nm,0.2s						
BVAR	**Borovoye Array**	**84.29**	**7**	P	**P**	**22 41 29.1**	**+0.2**
	0.7nm,0.5s,baz=160,slow=8.8,SNR=3.3						
	0.7nm,0.5s						
AKASG	**Malin Array Be**	**85.61**	**341**	P	**P**	**22 41 34.5**	**-1.0**
	0.8nm,0.7s,baz=90,slow=1.3,SNR=1.9						
	0.8nm,0.7s						
SOKA	**Soboth**	**87.04**	**331**	*i* P	**P**	**22 41 44.9**	**+2.0**
	1.4nm,1.0s						
OBKA	**Obir**	**87.11**	**331**	*i* P	**P**	**22 41 46.0**	**+2.7**
	2.7nm,1.4s						
RONA	**Rosalia, Austr**	**87.35**	**333**	*e*P	**P**	**22 41 46.2**	**+1.9**
	2.0nm,1.0s						
ZALV	**Zalesovo Beam**	**87.51**	**15**	P	**P**	**22 41 43.6**	**-1.2**
	0.6nm,0.7s,baz=213,slow=5.0,SNR=4.1						
	0.6nm,0.7s						
CONA	**Conrad Observa**	**87.71**	**332**	*e*P	**P**	**22 41 46.9**	**+0.8**
	2.4nm,1.2s						
KBA	**Koelnbreinsper**	**88.06**	**331**	*i* P	**P**	**22 41 49.0**	**+1.1**
	0.5nm,0.5s						
ABTA	**Abfaltersbach**	**88.16**	**330**	*i* P	**P**	**22 41 49.9**	**+1.7**
	2.8nm,1.1s						
MOA	**Molln**	**88.29**	**332**	*i* P	**P**	**22 41 49.6**	**+0.9**
	3.9nm,1.3s						
BIOA	**Bad Ischl, Aus**	**88.42**	**331**	*e*P	P	22 41 54.5	+5.1
	1.5nm,0.7s						
LESA	**Schwarzleotal**	**88.61**	**330**	*e*P	**P**	**22 41 50.7**	**+0.3**
	2.2nm,0.6s						
WTTA	**Wattenberg**	**88.94**	**330**	*e*P	**P**	**22 41 52.6**	**+0.6**
	2.4nm,0.8s						
WATA	**Walderalm**	**89.02**	**330**	*i* P	**P**	**22 41 51.4**	**-1.0**
	2.2nm,0.7s						
SQTA	**Sankt Quirin**	**89.09**	**330**	*i* P	**P**	**22 41 53.6**	**+0.9**
	2.2nm,0.7s						
FETA	**Feichten**	**89.14**	**329**	*e*P	**P**	**22 41 53.5**	**+0.5**
	2.4nm,1.0s						
SONM	**Songino Array**	**89.22**	**30**	P	**P**	**22 41 52.0**	**-1.2**
	0.4nm,0.6s,baz=204,slow=3.2,SNR=2.9						
	0.4nm,0.6s						
DAVOX	**Davos/Dischmat**	**89.34**	**329**	LR	LR	23 22 05.6	
	comp=Z,46nm,21.2s,baz=52,slow=36						
RETA	**Reutte**	**89.49**	**330**	*i* P	**P**	**22 41 55.0**	**+0.5**
	1.2nm,0.6s						
DAVA	**Damuels**	**89.72**	**329**	*i* P	**P**	**22 41 56.5**	**+0.8**
	2.9nm,1.0s						
ESDC	**Sonseca Array**	**91.57**	**316**	P	**P**	**22 42 05.5**	**+1.2**
	1.0nm,1.0s,baz=128,slow=3.6,SNR=5.7						
	1.0nm,1.0s						
ILAR	**Eielson Array**	**142.57**	**18**	PKP	**PKPdf**	**22 48 28.0**	**-1.8**
	0.3nm,0.6s,baz=306,slow=3.1,SNR=1.3						
SADO	**Sadowa**	**144.78**	**305**	PKP	**PKPab**	**22 48 32.1**	**-1.1**
	1.1nm,0.5s,baz=168,slow=2.7,SNR=4.3						
YKA	**Yellowknife Ar**	**148.29**	**355**	PKPbc	**PKPdf**	**22 48 41.7**	**+2.1**
	1.7nm,0.7s,baz=3.8,slow=2.8,SNR=9.0						
ULM	**Lac du Bonnet**	**153.28**	**323**	PKPbc	**PKPbc**	**22 48 53.2**	**-2.0**
	2.5nm,0.7s,baz=70,slow=6.5,SNR=4.3						

*NEIC **19** 22:38:58.9±1.1, 19.°424N±0.°006×155.°284W±0.°009, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.3km az=54.0*
*HVO **19** 22:38:58.3±0.8, 19.°416N±0.°008×155.°275W±0.°008, h0km±2km, ML3.6/42, ML3.4/41(NEIC), Error ellipse: s-maj=1.3km s-min=0.9km az=221.0*
*IDC **19** 22:39:00.5±1.6, 19.°77N×155.°38W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=58.1km s-min=14.7km az=153.0*
ISC 19 22:38:59.0±1.1, 19.°43N±0.°03×155.°27W±0.°03, h1km±7km,
n37, σ0§69/32, mb3.7/4, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLHI	**Steaming Bluff**	**0.01**	**168**		**Pg**	**22 38 59.5**	**+0.1**
UWB	**Uwekahuna B**	**0.01**	**222**		**Pg**	**22 38 59.3**	**-0.2**
HATHI	**Halema'uma'u T**	**0.01**	**143**	Pg	**Pg**	**22 38 59.4**	**-0.1**
OBL	**Observatory Le**	**0.02**	**221**		**Pg**	**22 38 59.2**	**-0.3**
BYL	**Byron's Ledge**	**0.02**	**157**	Pg	**Pg**	**22 38 59.3**	**-0.3**
UWE	**Uwekahuna**	**0.03**	**241**	Pg	**Pg**	**22 38 59.5**	**-0.1**
RSD	**Rainshed**	**0.03**	**345**	Pg	**Pg**	**22 39 00.1**	**+0.5**
RSD				IAML		22 39 00.2	
	comp=N,22μm,0.7s						
KKO	**Keanakako'i**	**0.04**	**175**		**Pg**	**22 38 60.0**	**+0.2**
RIM	**Rim**	**0.04**	**186**		**Pg**	**22 39 00.1**	**+0.3**
WRMHI	**West Rim**	**0.04**	**227**		**Pg**	**22 39 00.4**	**+0.6**
SDHHI	**Sand Hill**	**0.05**	**208**		**Pg**	**22 38 59.8**	**-0.2**
PUH	**Pauahi**	**0.08**	**140**	Pg	**Pg**	**22 39 00.7**	**+0.1**
PUH				IAML		22 39 01.8	
	comp=E,17μm,0.9s						
KNHH	**Kane Nui o Ham**	**0.11**	**120**		**Pg**	**22 39 01.5**	**+0.4**
MLH	**Mauna Loa**	**0.12**	**299**		**Pg**	**22 39 02.1**	**+0.6**
MLH	**Mauna Loa**	**0.12**	**299**		**Sg**	**22 39 05.0**	**+1.9**
MLH	**Mauna Loa**	**0.12**	**299**	IAML		22 39 03.5	
	comp=N,14μm,0.6s						
MLH				IAML		22 39 04.9	
	comp=E,17μm,0.4s						
HLP	**Hilina Pali**	**0.14**	**195**		**Pg**	**22 39 01.9**	**+0.1**
HLP				IAML		22 39 04.2	
	comp=N,8μm,0.8s						
HLP				IAML		22 39 04.5	
	comp=E,11μm,0.5s						
STCH	**Steam Cracks**	**0.14**	**109**		**Pg**	**22 39 01.9**	**+0.1**
STCH				IAML		22 39 05.5	
	comp=E,24μm,0.8s						
JOKA	**Jonika Flow**	**0.25**	**90**		**Pg**	**22 39 04.0**	**+0.2**
JOKA				IAML		22 39 11.4	
	comp=E,9μm,0.8s						
JOKA				IAML		22 39 11.5	
	comp=N,13μm,0.9s						
HMH	**Humu'ula Sheep**	**0.26**	**310**		**Pg**	**22 39 04.1**	**+0.1**
HMH				IAML		22 39 11.2	
	comp=N,12μm,0.6s						
HMH				IAML		22 39 12.8	
	comp=E,9μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.31**	**289**	Pg	**Pg**	**22 39 05.3**	**+0.3**
MLOA				IAML		22 39 12.8	
	comp=N,10μm,0.7s						
MLOA				IAML		22 39 14.0	
	comp=E,10μm,0.9s						
PAH	**Pahoa**	**0.31**	**79**		**Pb**	**22 39 06.5**	**-0.9**
MWH	**Moku'aweowe**	**0.31**	**279**		**Pg**	**22 39 05.3**	**+0.3**
KHU	**Kahuku**	**0.38**	**240**	Pg	**Pg**	**22 39 06.3**	**+0.1**
KHU				IAML		22 39 14.3	
	comp=E,5μm,1.0s						
KHU				IAML		22 39 17.4	
	comp=N,5μm,0.7s						
POHA	**Pohakuloa**	**0.41**	**322**		**Pg**	**22 39 06.6**	**-0.2**
POHA	**Pohakuloa**	**0.41**	**322**	IAML		22 39 15.9	
	comp=N,10μm,0.6s						
POHA				IAML		22 39 18.3	
	comp=N,11μm,0.7s						
HPO	**Honuapo**	**0.44**	**218**		**Pg**	**22 39 06.7**	**-0.7**
HUH	**Hualalai**	**0.59**	**295**		**Pg**	**22 39 09.8**	**-0.5**
I59US	**HAWAII INFRASO**	**0.61**	**285**	Pg	**Pg**	**22 39 10.4**	**-0.3**
	baz=118,slow=66						
HPAH	**Hawaii Prepara**	**0.72**	**326**	Pg	**Pg**	**22 39 11.2**	**-1.6**
H11N3	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	23 23 03.7	
	baz=84,slow=74,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**35.60**	**277**	T	T	23 23 00.7	
	baz=84,slow=74,SNR=10						
H11N1	**WAKE ISLAND Hy**	**35.61**	**277**	T	T	23 23 01.2	
	baz=84,slow=74,SNR=9.0						
PDAR	**Pinedale Array**	**44.84**	**48**	P	**P**	**22 47 15.9**	**+0.7**
	comp=N,0.4nm,0.7s,baz=258,slow=4.2,SNR=3.8						
	comp=N,0.4nm,0.7s						
ILAR	**Eielson Array**	**45.66**	**5**	P	**P**	**22 47 20.2**	**-0.8**
	comp=N,1.3nm,0.9s,baz=198,slow=7.2,SNR=10						
	comp=N,1.3nm,0.9s						
TXAR	**Lajitas Array**	**47.70**	**68**	P	**P**	**22 47 39.0**	**+1.3**
	comp=N,1.1nm,0.7s,baz=263,slow=7.9,SNR=11						
	comp=N,1.1nm,0.7s						
YKA	**Yellowknife Ar**	**51.30**	**23**	P	**P**	**22 48 03.5**	**-1.0**
	comp=N,0.6nm,0.9s,baz=234,slow=6.6,SNR=2.8						
	comp=N,0.6nm,0.9s						

*IDC **19** 22:46:08.1±1.2, 0.°02N×125.°62E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=144.1km s-min=20.6km az=66.0*
*DJA **19** 22:46:12.4±3.1, 0.°S±6.°×12.°5E±.°, h14km±29km, M4.2/12, mb4.2/4, MLv4.1/12*
ISC 19 22:46:14.4±0.9, 0.°0S±0.°1×125.°4E±0.°1, h49km, n15,
σ1§84/15, mb3.6/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.57**	**292**	P	**Pn**	**22 46 37.4**	**-2.5**
SANI	**Sanana**	**2.08**	**165**	P	**Pn**	**22 46 47.3**	**+0.4**
GTOI	**Gorontalo**	**2.51**	**285**	P	**Pn**	**22 46 54.4**	**+1.6**
LUWI	**Luwuk**	**2.85**	**249**	P	**Pn**	**22 47 00.0**	**+2.6**
MRSI	**Marisa**	**3.53**	**278**	P	**Pn**	**22 47 04.2**	**-2.6**
NLAI	**Namlea**	**3.60**	**153**	P	**Pn**	**22 47 06.6**	**-1.1**
MPSI	**Mapaga**	**5.55**	**274**	P	**Pn**	**22 47 36.6**	**+2.1**
	14nm,0.5s,0.1nm						
FAKI	**Fak Fak**	**7.39**	**113**	P	**Pn**	**22 47 59.3**	**-0.5**
BKSI	**Bulukumba**	**7.47**	**225**	P	**Pn**	**22 47 58.8**	**-2.1**
	11nm,0.9s,0.1nm						
WRA	**Warramunga Arr**	**21.63**	**157**	P	**P**	**22 50 58.7**	**-2.0**
	0.6nm,0.6s,baz=335,slow=11,SNR=6.9						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**24.90**	**161**	P	**P**	**22 51 33.8**	**+0.8**
	0.9nm,0.8s,baz=347,slow=7.6,SNR=4.6						
	0.9nm,0.8s						
SONM	**Songino Array**	**50.46**	**343**	P	**P**	**22 55 08.0**	**+0.5**
	0.4nm,0.5s,baz=150,slow=7.0,SNR=2.8						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.94**	**327**	P	**P**	**22 56 17.3**	**+1.7**
	0.8nm,0.4s,baz=125,slow=8.2,SNR=14						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**64.22**	**329**	P	**P**	**22 56 44.8**	**+0.6**
	0.7nm,0.6s,baz=131,slow=5.9,SNR=7.5						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**69.78**	**328**	P	**P**	**22 57 19.7**	**+0.2**
	0.3nm,0.5s,baz=114,slow=6.0,SNR=1.7						
	0.3nm,0.5s						

*IDC **19** 22:58:20.2±1.5, 4.°35S×145.°03E, h0km, mb3.8/2, mbtmp4.1/4, ML3.5/2, Error ellipse: s-maj=62.1km s-min=26.2km az=110.0*
*NEIC **19** 22:58:31.6±2.5, 4.°77S±0.°09×145.°5E±0.°2, h97km±8km, mb4.3/18, Error ellipse: s-maj=21.8km s-min=12.6km az=91.0*
ISC 19 22:58:31.9±0.8, 4.°86S±0.°08×145.°5E±0.°1, h100km, n24,
σ1§02/26, mb4.2/11, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.82**	**160**		**Pn**	**22 59 42.9**	**+0.8**
PMG				Sn	**Sn**	**23 00 36.1**	**-0.7**
PMG	**Port Moresby**	**4.82**	**160**	Pn	**Pn**	**22 59 43.2**	**+1.1**
	14nm,0.3s,baz=337,slow=7.7,SNR=14						
PMG				Sn	**Sn**	**23 00 35.8**	**-1.0**
	16nm,0.3s,baz=323,slow=20,SNR=16						
	33nm,0.3s						
COEN	**Coen**	**9.33**	**194**	Pn	**Pn**	**23 00 43.9**	**+0.4**
HNR	**Honiara**	**15.05**	**108**	Pn	**Pn**	**23 01 57.9**	**-1.4**
WB0	**Warramunga Arr**	**18.34**	**215**	P	**P**	**23 02 37.9**	**-0.8**
WR0	**Warramunga Arr**	**18.41**	**214**		**P**	**23 02 38.8**	**-0.7**
WB2	**Warramunga Arr**	**18.51**	**215**	P	**P**	**23 02 39.9**	**-0.5**
WB2				IAmb	IAmb	23 02 42.1	
	comp=Z,8.5nm,0.6s						
WRA	**Warramunga Arr**	**18.51**	**215**	P	**P**	**23 02 40.7**	**+0.1**
WRA	**Warramunga Arr**	**18.51**	**215**	P	**P**	**23 02 39.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=40,slow=12,SNR=51						
	comp=Z,6.4nm,0.8s						
ASAR	**Alice Springs**	**21.79**	**210**	P	**P**	**23 03 16.2**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=38,slow=10,SNR=15						
	comp=Z,1.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.45**	**234**	P	**P**	**23 03 32.0**	**-0.5**
USA0B	**Ussuriysk Arra**	**50.32**	**347**	P	**P**	**23 07 16.6**	**-1.8**
USA0B				IAmb	IAmb	23 07 19.2	
	comp=Z,8.1nm,0.8s						
CASY	**Casey**	**65.97**	**195**	P	**P**	**23 09 07.6**	**+0.4**
CASY				IAmb	IAmb	23 09 11.2	
	comp=Z,12nm,1.1s						
VNDA	**Vanda**	**73.14**	**176**	P	**P**	**23 09 52.2**	**+1.1**
S12K	**Black Hills**	**74.07**	**28**	P	**P**	**23 09 57.0**	**+0.1**
M13K	**Dall Lake**	**76.28**	**23**	P	**P**	**23 10 10.9**	**+1.5**
O16K	**Kokwok River B**	**78.00**	**26**	P	**P**	**23 10 20.8**	**+1.7**
O16K				IAmb	IAmb	23 10 35.5	
	comp=Z,6.8nm,1.4s						
M16K	**Timber Creek**	**78.40**	**24**	P	**P**	**23 10 22.9**	**+1.6**
M16K				IAmb	IAmb	23 10 37.9	
	comp=Z,3.1nm,1.1s						
N17K	**Nushagak Hills**	**78.87**	**25**	P	**P**	**23 10 24.9**	**+1.1**
N17K				IAmb	IAmb	23 10 40.7	
	comp=Z,7.0nm,1.4s						
M17K	**Holitna River**	**79.23**	**24**	P	**P**	**23 10 27.3**	**+1.5**
M17K				IAmb	IAmb	23 10 33.9	
	comp=Z,9.5nm,1.5s						
IL31		**85.03**	**23**	P	**P**	**23 10 56.3**	**+0.3**
IL31				IAmb	IAmb	23 10 57.0	
	comp=Z,1.5nm,0.7s						
ILAR	**Eielson Array**	**85.03**	**23**	P	**P**	**23 10 56.0**	**0.0**
	comp=Z,1.4nm,0.7s,baz=251,slow=5.1,SNR=20						
	comp=Z,1.4nm,0.7s						
QSPA	**South Pole Qui**	**85.11**	**180**	P	**P**	**23 10 56.0**	**-0.6**
QSPA				IAmb	IAmb	23 10 56.5	
	comp=Z,3.7nm,1.4s						
J25K	**Salcha River,**	**85.58**	**24**	P	**P**	**23 10 59.3**	**+0.4**
J25K				IAmb	IAmb	23 11 01.1	
	comp=Z,2.0nm,0.8s						

**IDC 19 22:59:18.3±2.0, 3.°14N

ISC 19 23:18:03.9±1.4, 9°62N±0°03×72°79W±0°03, h17km±12km, n13, σ1§22/27, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.50**	**30**	*e*P	**Pn**	**23 18 15.6**	**-0.7**
MCQV				*e*S	**Sn**	**23 18 24.6**	**+0.1**
CRJC	**Cerrejon, Guaj**	**1.40**	**356**	P	**Pb**	**23 18 29.7**	**+0.1**
CRJC				S	**Sg**	**23 18 49.0**	**-0.1**
CRJC				S	**Sb**	**23 18 49.3**	**+2.1**
ARGC	**Ariguani, Magd**	**1.46**	**280**	P	**Pn**	**23 18 29.8**	**+0.3**
ARGC				S	**Sn**	**23 18 48.8**	**+0.6**
OCAC	**Ocana**	**1.47**	**201**	P	**Pn**	**23 18 29.1**	**-0.7**
OCAC				S	**Sn**	**23 18 47.8**	**-0.9**
CAPV	**Capacho**	**1.81**	**165**	*e*P	**Pb**	**23 18 36.3**	**-0.4**
CAPV				*e*S	**Sn**	**23 18 58.7**	**+1.6**
SMRC	**Santa Marta, M**	**2.08**	**318**	P	**Pb**	**23 18 40.7**	**-0.6**
SMRC				S	**Sn**	**23 19 01.3**	**-2.5**
URIC	**Uribia, Colomb**	**2.21**	**21**	P	**Pb**	**23 18 42.4**	**-1.1**
URIC				S	**Sb**	**23 19 12.1**	**+1.4**
SDV	**Santo Domingo**	**2.25**	**109**	P	**Pn**	**23 18 41.3**	**+0.7**
SDV				S	**Sn**	**23 19 08.9**	**+0.8**
PAMC	**Pamplona, Colo**	**2.27**	**178**	P	**Pg**	**23 18 47.5**	**0.0**
PAMC				S	**Sb**	**23 19 12.0**	**-0.7**
SOCV	**Socops**	**2.33**	**125**	*e*P	**Pn**	**23 18 42.5**	**+1.1**
SOCV				*e*S	**Sn**	**23 19 10.5**	**+0.8**
SJCC	**San Jacinto, C**	**2.37**	**277**	P	**Pn**	**23 18 43.7**	**+1.6**
SJCC				S	**Sb**	**23 19 15.2**	**-0.1**
BAUV	**El Baul**	**4.74**	**98**	*e*P	**Pn**	**23 19 14.7**	**+0.1**
BAUV				*e*S	**Sn**	**23 20 07.4**	**-1.8**
BENV	**Beln**	**5.13**	**86**	*e*P	**Pn**	**23 19 20.9**	**+0.8**
BENV				*e*S	**Sn**	**23 20 16.6**	**-2.4**

NAO ***19*** *23:24:39.6, 39°21N×24°42E, h33km, mb3.2*
IDC ***19*** *23:24:45.2±1.2, 39°74N×20°85E, h0km, mb3.4/7, mbtmp3.4/11, ML2.9/3, MS3.1/2, Error ellipse: s-maj=22.7km s-min=17.8km az=64.0*
TIR ***19*** *23:24:49.9, 39°79N×20°69E, h15km±1km, Md3.7, Ml3.4*
THE ***19*** *23:24:50.8, 39°79N×20°70E, h0km±2km, ML2.9/10, Error ellipse: s-maj=2.2km s-min=0.6km az=300.0*
ATH ***19*** *23:24:51.6, 39°83N×20°70E, h16km±1km, ML2.9/22, Error ellipse: s-maj=2.0km s-min=0.8km az=289.0*
BEO ***19*** *23:24:53.2±0.8, 39°92N×20°62E, h11km±3km, ML3.1/9*

ISC 19 23:24:50.9±0.8, 39°81N±0°02×20°67E±0°02, h24km±6km, n141, σ1§65/184, mb3.4/6, 8C-6D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.20**	**138**	P	**Pb**	**23 24 57.1**	**+0.5**
JAN	**Janina**	**0.20**	**138**	P	**Pb**	**23 24 57.0**	**+0.4**
JAN				S	**Sb**	**23 25 00.5**	**+0.2**
JAN				AML	AML	23 25 01.9	
	comp=E,23961μm,0.3s						
JAN				AML	AML	23 25 02.3	
	comp=N,18037μm,0.1s						
LSK	**Leskovik**	**0.35**	**351**	P	**Pb**	**23 24 57.8**	**-0.9**
	baz=349						
LSK				S	**Sb**	**23 25 03.7**	**-0.2**
	baz=349						
LSK				AMP			
	comp=N,19nm,0.4s,baz=349						
LSK	**Leskovik**	**0.35**	**351**	P	**Pb**	**23 24 58.0**	**-0.7**
LSK				S	**Sb**	**23 25 03.6**	**-0.4**
	comp=N,7μm,0.6s						
SRN	**Sarande**	**0.52**	**278**	P	**Pb**	**23 25 00.7**	**-0.8**
	baz=281						
SRN				S	**Sb**	**23 25 09.3**	**+0.6**
	baz=281						
SRN				AMP			
	comp=N,7.8nm,0.2s,baz=281						
SRN	**Sarande**	**0.52**	**278**	P	**Pb**	**23 25 00.7**	**-0.8**
SRN				S	**Sb**	**23 25 09.7**	**+1.0**
	comp=N,3μm,0.5s						
PENT	**Pentalofos**	**0.53**	**42**	P	**Pb**	**23 25 01.0**	**-0.7**
PENT				S	**Sb**	**23 25 09.3**	**+0.4**
PENT	**Pentalofos**	**0.53**	**42**	P	**Pb**	**23 25 00.9**	**-0.8**
PENT				S	**Sb**	**23 25 08.4**	**-0.5**
KPRO	**Kipourio**	**0.55**	**74**	P	**Pb**	**23 25 01.0**	**-1.0**
KPRO				S	**Sb**	**23 25 08.9**	**-0.6**
	comp=N,3μm,0.6s						
KPRO	**Kipourio**	**0.55**	**74**	P	**Pb**	**23 25 00.7**	**-1.3**
KPRO				S	**Sb**	**23 25 09.0**	**-0.6**
KPRO				AML	AML	23 25 12.3	
	comp=N,5695μm,0.6s						
KPRO				AML	AML	23 25 14.4	
	comp=E,6411μm,0.5s						
NEST	**Nestorio**	**0.67**	**25**	P	**Pb**	**23 25 03.9**	**-0.2**
NEST				S	**Sn**	**23 25 14.2**	**-0.7**
	comp=E,820nm,0.8s						
NEST	**Nestorio**	**0.67**	**25**	P	**Pb**	**23 25 03.6**	**-0.5**
NEST				S	**Sb**	**23 25 13.3**	**+0.2**
NEST				AML	AML	23 25 17.6	
	comp=N,1768μm,0.4s						
NEST				AML	AML	23 25 18.2	
	comp=E,2348μm,0.4s						
KBN	**Korca**	**0.82**	**6**	P	**Pb**	**23 25 06.1**	**-0.6**
	baz=4.0						
KBN				S	**Sn**	**23 25 19.1**	**+0.6**
	baz=4.0						
KBN				AMP			
	comp=N,3.1nm,0.5s,baz=4.0						
KBN	**Korca**	**0.82**	**6**	P	**Pb**	**23 25 06.0**	**-0.6**
KBN				S	**Sn**	**23 25 18.9**	**+0.4**
	comp=N,750nm,0.6s						
TSLK	**Tsoukalades, L**	**0.98**	**181**	P	**Pn**	**23 25 08.6**	**-0.6**
TSLK				S	**Sn**	**23 25 22.3**	**0.0**
	comp=N,705nm,0.9s						
TSLK	**Tsoukalades, L**	**0.98**	**181**	P	**Pb**	**23 25 09.5**	**+0.3**
TSLK				S	**Sn**	**23 25 23.0**	**+0.7**
TSLK				AML	AML	23 25 28.7	
	comp=E,938μm,0.5s						
TSLK				AML	AML	23 25 34.0	
	comp=N,1624μm,0.7s						
LKD2	**Lefkada island**	**1.02**	**181**	P	**Pn**	**23 25 09.6**	**-0.2**
	baz=182						
LKD2				S	**Sn**	**23 25 23.9**	**+0.6**
	baz=182						
LKD2				AMP			
	comp=E,1.1nm,0.6s,baz=182						
LKD2	**Lefkada island**	**1.02**	**181**	P	**Pn**	**23 25 09.5**	**-0.2**
LKD2				S	**Sn**	**23 25 24.3**	**+1.1**
	comp=E,452nm,0.7s						
LKD2	**Lefkada island**	**1.02**	**181**	P	**Pb**	**23 25 10.5**	**+0.6**
LKD2				S	**Sn**	**23 25 24.3**	**+1.1**
LKD2				AML	AML	23 25 35.2	
	comp=E,933μm,0.7s						
LKD2				AML	AML	23 25 40.8	
	comp=N,871μm,0.7s						
THL	**Klokotos Trika**	**1.06**	**103**	P	**Pn**	**23 25 09.3**	**-1.0**
THL				S	**Sb**	**23 25 26.6**	**+2.5**
	comp=N,405nm,0.9s						
THL	**Klokotos Trika**	**1.06**	**103**	P	**Pn**	**23 25 09.9**	**-0.4**
THL				S	**Sb**	**23 25 24.6**	**+0.5**
THL				AML	AML	23 25 29.9	
	comp=E,788μm,0.7s						
THL				AML	AML	23 25 34.6	
	comp=N,834μm,0.8s						
NYDR	**Nydri-Lefkada**	**1.09**	**179**	P	**Pn**	**23 25 10.2**	**-0.5**
NYDR				S	**Sb**	**23 25 26.9**	**+2.0**
	comp=N,405nm,0.8s						
NYDR	**Nydri-Lefkada**	**1.09**	**179**	P	**Pb**	**23 25 11.3**	**+0.1**
FNA	**Florina**	**1.11**	**29**	P	**Pb**	**23 25 11.8**	**+0.3**
	baz=27						
FNA				S	**Sb**	**23 25 27.2**	**+1.6**
	baz=27						
FNA				AMP			
	comp=E,4.7nm,0.5s,baz=27						
FNA	**Florina**	**1.11**	**29**	P	**Pn**	**23 25 11.1**	**0.0**
FNA				S	**Sb**	**23 25 27.0**	**+1.3**
	comp=E,3μm,0.6s						
FNA	**Florina**	**1.11**	**29**	*e*Pg	**Pn**	**23 25 11.3**	**+0.2**
FNA				*e*Sg	**Sb**	**23 25 27.0**	**+1.3**
FNA	**Florina**	**1.11**	**29**	P	**Pn**	**23 25 11.2**	**0.0**
FNA				S	**Sb**	**23 25 25.9**	**+0.2**
FNA				AML	AML	23 25 31.5	
	comp=N,4775μm,0.6s						
FNA				AML	AML	23 25 31.9	
	comp=E,6064μm,0.6s						
VLO	**Vlora**	**1.12**	**307**	P	**Pb**	**23 25 13.4**	**+1.8**
	baz=307						
VLO				S	**Sb**	**23 25 28.7**	**+3.0**
	baz=307						
VLO				AMP			
	comp=N,14nm,0.3s,baz=307						
VLO	**Vlora**	**1.12**	**307**	P	**Pb**	**23 25 13.3**	**+1.7**
VLO				S	**Sb**	**23 25 29.3**	**+3.6**
EVGI	**Lefkada island**	**1.19**	**181**	P	**Pn**	**23 25 12.0**	**0.0**
EVGI	**Lefkada island**	**1.19**	**181**	P	**Pb**	**23 25 12.4**	**-0.3**
TYRN	**Tyrnavos**	**1.21**	**94**	P	**Pn**	**23 25 12.3**	**+0.1**
TYRN				S	**Sb**	**23 25 28.5**	**+0.3**
EVR	**Evrytania**	**1.25**	**135**	P	**Pb**	**23 25 14.5**	**+0.6**
EVR	**Evrytania**	**1.25**	**135**	P	**Pb**	**23 25 14.7**	**+0.8**
EVR				S	**Sb**	**23 25 30.6**	**+1.0**
EVR				AML	AML	23 25 41.0	
	comp=E,646μm,0.8s						
EVR				AML	AML	23 25 41.3	
	comp=N,840μm,0.7s						
KTI	**Kastanea**	**1.25**	**62**	P	**Pb**	**23 25 14.0**	**+0.1**
LRSO	**Larissa Observ**	**1.33**	**95**	P	**Pn**	**23 25 14.0**	**+0.1**
LRSO				AML	AML	23 25 44.1	
	comp=E,1632μm,0.8s						
LRSO				AML	AML	23 25 45.9	
	comp=N,3094μm,0.8s						
FSK	**Fiskardo**	**1.35**	**184**	P	**Pb**	**23 25 15.8**	**+0.3**
FSK				S	**Sb**	**23 25 32.4**	**+0.1**
FSK				AML	AML	23 25 40.7	
	comp=N,612μm,0.6s						
FSK				AML	AML	23 25 42.5	
	comp=E,604μm,0.5s						
PVO	**Paravola**	**1.36**	**151**	P	**Pb**	**23 25 16.0**	**+0.3**
PVO				S	**Sb**	**23 25 35.4**	**+2.7**
PVO	**Paravola**	**1.36**	**151**	P	**Pb**	**23 25 15.4**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.38**	**125**	P	**Pb**	**23 25 16.0**	**-0.1**
MAKR				S	**Sb**	**23 25 34.5**	**+1.2**
LIT	**Litokhoron**	**1.43**	**78**	P	**Pb**	**23 25 16.7**	**-0.1**
LIT				S	**Sb**	**23 25 38.1**	**+3.5**
AGG	**Agios Georgios**	**1.50**	**121**	P	**Pb**	**23 25 17.8**	**-0.3**
AGG				AML	AML	23 25 45.1	
	comp=E,1174μm,1.0s						
AGG				AML	AML	23 25 47.4	
	comp=N,908μm,0.8s						
ANX	**Ano Chora**	**1.55**	**141**	P	**Pb**	**23 25 19.4**	**+0.4**
ANX				S	**Sb**	**23 25 42.1**	**+3.8**
ANX	**Ano Chora**	**1.55**	**141**	P	**Pb**	**23 25 18.6**	**-0.4**
ANX				AML	AML	23 25 53.2	
	comp=N,1007μm,1.0s						
ANX				AML	AML	23 25 54.3	
	comp=E,609μm,1.0s						
VLS	**Valsamata**	**1.63**	**182**	P	**Pb**	**23 25 20.0**	**-0.3**
VLS				S	**Sb**	**23 25 40.4**	**0.0**
VLS				AML	AML	23 25 51.8	
	comp=N,538μm,0.5s						
VLS				AML	AML	23 25 53.4	
	comp=E,477μm,0.6s						
TIR	**Tirane**	**1.66**	**338**	⇑P	**Pb**	**23 25 21.8**	**+1.0**
TIR	**Tirane**	**1.66**	**338**	P	**Pb**	**23 25 21.7**	**+1.0**
	baz=339						
TIR				S	**Sb**	**23 25 45.0**	**+3.8**
	baz=339						
TIR				AMP			
	comp=E,0.9nm,0.6s,baz=339						
TIR	**Tirane**	**1.66**	**338**	*e*Pg	**Pb**	**23 25 21.6**	**+0.8**
TIR				*e*Sg	**Sb**	**23 25 40.7**	**-0.5**
EFP	**Efpalio**	**1.68**	**145**	P	**Pb**	**23 25 20.8**	**-0.3**
EFP				S	**Sb**	**23 25 42.7**	**+0.9**
EFP	**Efpalio**	**1.68**	**145**	P	**Pb**	**23 25 20.2**	**-0.9**
EFP				S	**Sn**	**23 25 39.6**	**+0.1**
EFP				AML	AML	23 25 53.9	
	comp=N,579μm,1.0s						
EFP				AML	AML	23 26 00.4	
	comp=E,672μm,0.7s						
KALE	**Kalithea**	**1.82**	**141**	P	**Pn**	**23 25 21.4**	**+0.6**
KALE				S	**Sn**	**23 25 43.3**	**+0.2**
KALE				AML	AML	23 25 59.4	
	comp=E,443μm,0.9s						
KALE				AML	AML	23 26 05.7	
	comp=N,502μm,0.8s						
AXAR	**Agios Charalam**	**1.86**	**123**	P	**Pn**	**23 25 22.7**	**+1.4**
AXAR				AML	AML	23 25 59.5	
	comp=E,703μm,0.9s						
AXAR				AML	AML	23 26 03.4	
	comp=N,624μm,1.0s						
HORT	**Hortiatis**	**2.02**	**66**	P	**Pn**	**23 25 24.7**	**+1.2**
HORT				AML	AML	23 25 58.7	
	comp=N,161μm,0.5s						
HORT				AML	AML	23 26 03.5	
	comp=E,163μm,0.8s						
DRO	**Drossia**	**2.02**	**156**	P	**Pn**	**23 25 25.2**	**+1.6**
DRO				AML	AML	23 26 13.3	
	comp=N,392μm,0.7s						
DRO				AML	AML	23 26 16.7	
	comp=E,410μm,0.7s						
NEO	**Neokhori**	**2.03**	**103**	P	**Pn**	**23 25 24.4**	**+0.7**
KLV	**Kalavryta, Ach**	**2.10**	**146**	P	**Pn**	**23 25 25.3**	**+0.6**
KLV				AML	AML	23 26 09.6	
	comp=E,197μm,1.0s						
KLV				AML	AML	23 26 09.8	
	comp=N,216μm,0.9s						
PLG	**Polygyros**	**2.20**	**74**	P	**Pn**	**23 25 27.3**	**+1.3**
PLG				AML	AML	23 25 59.3	
	comp=E,214μm,0.5s						
PLG				AML	AML	23 25 59.5	
	comp=N,260μm,0.7s						
SOH	**Sokhos**	**2.29**	**63**	P	**Pn**	**23 25 28.3**	**+1.1**
SOH				AML	AML	23 26 00.2	
	comp=N,284μm,0.6s						
SOH				AML	AML	23 26 09.0	
	comp=E,325μm,0.9s						
PUK	**Puka**	**2.31**	**345**	P	**Pb**	**23 25 30.1**	**-1.9**
	baz=346						
PUK				AMP			
	comp=N,0.7nm,0.8s,baz=346						
VIL2	**Platees**	**2.57**	**127**	P	**Pn**	**23 25 33.3**	**+2.2**
VIL2				AML	AML	23 26 29.5	
	comp=N,212μm,1.1s						
VIL2				AML	AML	23 26 29.7	
	comp=E,306μm,1.0s						
SRS	**Serrai**	**2.58**	**59**	*e*Pn	**Pn**	**23 25 34.0**	**+2.8**
SRS				*e*Sn	**Sn**	**23 26 04.2**	**+2.3**
SRS	**Serrai**	**2.58**	**59**	P	**Pn**	**23 25 32.9**	**+1.7**
BCI	**Bajram Curri**	**2.60**	**350**	P	**Pb**	**23 25 35.4**	**-1.4**
	baz=350						
BCI				AMP			
	comp=E,0.9nm,0.7s,baz=350						
PDG	**Podgorica**	**2.83**	**338**	⇓P	**Pn**	**23 25 37.6**	**+3.0**
PRVS	**Prvonek**	**2.90**	**21**	*e*Pn	**Pn**	**23 25 38.2**	**+2.6**
PRVS				*e*Sn	**Sn**	**23 26 12.2**	**+2.5**
BOSS	**Bosilegrad**	**3.01**	**26**	*e*Pn	**Pn**	**23 25 40.1**	**+2.9**
BOSS				*e*Sn	**Sn**	**23 26 15.1**	**+2.6**
TIP	**Timpagrande**	**3.09**	**260**	⇑P	**Pn**	**23 25 38.8**	**+0.5**
MATE	**Matera**	**3.15**	**287**	⇑P	**Pn**	**23 25 41.8**	**+2.8**
TREB	**Trebinje**	**3.39**	**330**	*e*Pn	**Pn**	**23 25 43.0**	**+0.6**
VTS	**Vitosha**	**3.41**	**34**	*e*Pn	**Pn**	**23 25 45.0**	**+2.3**
SELS	**Selova**	**3.43**	**5**	*e*Pn	**Pn**	**23 25 45.7**	**+2.9**
DBRK	**Dubrovnik**	**3.44**	**327**	*e*Pn	**Pn**	**23 25 43.3**	**+0.4**
DBRK				Sn	**Sn**	**23 26 22.6**	**-0.3**
SJES	**Sjenica**	**3.49**	**352**	*e*Pn	**Pn**	**23 25 46.5**	**+2.7**
ZAPS	**Zavoj**	**3.76**	**22**	*e*Pn	**Pn**	**23 25 50.5**	**+3.0**
ZAPS				*e*Sn	**Sn**	**23 26 32.6**	**+1.6**
IVAS	**Ivanjica**	**3.79**	**354**	*e*Pn	**Pn**	**23 25 50.1**	**+2.3**
STON	**Ston**	**3.79**	**325**	*e*Pn	**Pn**	**23 25 48.0**	**+0.2**
STON				Sn	**Sn**	**23 26 29.2**	**-2.4**
STON	**Ston**	**3.79**	**325**	*e*Pn	**Pn**	**23 25 47.4**	**-0.4**
BOVS	**Bovan**	**3.90**	**11**	⇓P	**Pn**	**23 25 52.0**	**+2.7**
BOVS	**Bovan**	**3.90**	**11**	*e*Pn	**Pn**	**23 25 52.2**	**+2.9**
RUDO	**Rudo**	**3.93**	**346**	*e*Pn	**Pn**	**23 25 51.4**	**+1.6**
GRUS	**Gruza**	**4.08**	**0**	*e*Pn	**Pn**	**23 25 54.2**	**+2.4**
BBLS	**Lazi&#263i**	**4.17**	**347**	*e*Pn	**Pn**	**23 25 54.5**	**+1.5**
ZAGS	**Zajecar**	**4.17**	**16**	*e*Pn	**Pn**	**23 25 56.0**	**+3.0**
DIVS	**Divibare**	**4.32**	**353**	*e*Pn	**Pn**	**23 25 56.6**	**+1.4**
DIVS				*e*Sn	**Sn**	**23 26 44.6**	**-0.2**
TRUS	**Trudelj**	**4.42**	**357**	*e*Pn	**Pn**	**23 25 57.9**	**+1.5**
RICI	**Ricice**	**4.54**	**325**	*e*Pn	**Pn**	**23 25 58.8**	**+0.7**
HVAR	**Hvar**	**4.63**	**318**	*e*Pn	**Pn**	**23 25 59.4**	**+0.1**
KUBS	**Kucevo**	**4.66**	**9**	*e*Pn	**Pn**	**23 26 01.5**	**+1.7**
TEKS	**Tekeris**	**4.81**	**350**	*e*Pn	**Pn**	**23 26 03.1**	**+1.2**
ELND	**Elena**	**5.00**	**50**	⇑P	**Pn**	**23 26 07.3**	**+2.8**
MDVR	**Moldovita**	**5.03**	**8**	⇑P	**Pn**	**23 26 08.7**	**+3.8**
HERR	**Herculane**	**5.23**	**14**	⇓P	**Pn**	**23 26 10.9**	**+3.3**
KJIV	**Kijevo**	**5.27**	**324**	*e*Pn	**Pn**	**23 26 08.8**	**+0.7**
MGRS	**Mrkonjic Grad**	**5.32**	**331**	*e*Pn	**Pn**	**23 26 07.6**	**-1.3**
FRGS	**Fruska Gora**	**5.38**	**353**	*e*Pn	**Pn**	**23 26 11.0**	**+1.2**
MORI	**Morici**	**5.50**	**319**	*e*Pn	**Pn**	**23 26 11.6**	**+0.4**
BLY	**Banja Luka**	**5.58**	**333**	*e*Pn	**Pn**	**23 26 08.3**	**-4.0**
A050A	**Klekovaca**	**5.59**	**328**	*e*Pn	**Pn**	**23 26 13.9**	**+1.2**
IDI	**Anoyia**	**5.62**	**142**	Pn	Pn	23 26 06.4	-6.6
	comp=E,3.4nm,0.8s,baz=323,slow=17,SNR=2.1						
IDI				Sn	**Sn**	**23 27 14.1**	**-2.7**
	comp=E,0.3nm,0.3s,baz=316,slow=19,SNR=1.6						
BZS	**Buzias**	**5.85**	**7**	⇑Pn	**Pn**	**23 26 19.5**	**+3.4**
DUGI	**Dugi Otok**	**5.92**	**317**	*e*Pn	**Pn**	**23 26 17.7**	**+0.7**
UDBI	**Udbina**	**5.96**	**324**	*e*Pn	**Pn**	**23 26 19.4**	**+1.7**
VIRC	**Vir**	**6.13**	**319**	*e*Pn	**Pn**	**23 26 20.5**	**+0.6**
PLIT	**Plitvice**	**6.30**	**325**	*e*Pn	**Pn**	**23 26 23.1**	**+0.8**
NVLJ	**Novalja**	**6.42**	**320**	*e*Pn	**Pn**	**23 26 24.4**	**+0.5**
MOSL	**Moslavina**	**6.48**	**335**	*e*Pn	**Pn**	**23 26 24.9**	**+0.1**
VOIR		**6.49**	**28**	⇓P	**Pn**	**23 26 28.4**	**+3.5**
MORH	**Mrgy, Hungar**	**6.58**	**348**	⇑P	**Pn**	**23 26 30.0**	**+4.0**
RABC	**Rab**	**6.59**	**320**	*e*Pn	**Pn**	**23 26 26.5**	**+0.2**
MLR	**Muntele Rosu**	**6.88**	**33**	⇑P	**Pn**	**23 26 34.1**	**+3.7**
MLR	**Muntele Rosu**	**6.88**	**33**	Pn	**Pn**	**23 26 27.1**	**-3.3**
	baz=158,slow=22,SNR=1.6						
	comp=E,0.8nm,0.7s						
BOJS	**Bojanci**	**6.96**	**327**	*e*Pn	**Pn**	**23 26 31.2**	**-0.1**
OZLJ	**Ozalj**	**6.96**	**328**	*e*Pn	**Pn**	**23 26 31.1**	**-0.2**
CRES	**Cresnjev**	**7.13**	**329**	*e*Pn	**Pn**	**23 26 33.5**	**-0.2**
BRJN	**Brijuni**	**7.23**	**317**	*e*Pn	**Pn**	**23 26 34.7**	**-0.2**
BISRR	**Bisoca**	**7.26**	**36**	⇓P	**Pn**	**23 26 39.1**	**+3.6**
CEY	**Cerknica**	**7.50**	**324**	*e*Pn	**Pn**	**23 26 39.0**	**+0.2**
VRI	**Vrincioaia**	**7.51**	**34**	⇓P	**Pn**	**23 26 42.9**	**+4.0**
SOKA	**Soboth**	**8.01**	**331**	*i* Pn	**Pn**	**23 26 46.6**	**+0.8**
	comp=E,0.7nm,0.3s						
OBKA	**Obir**	**8.05**	**328**	*e*Pn	**Pn**	**23 26 48.0**	**+1.5**
	comp=E,0.5nm,0.3s						
ARSA	**Arzberg**	**8.33**	**335**	*e*Pn	**Pn**	**23 26 51.1**	**+1.0**
	comp=E,0.4nm,0.2s						
RONA	**Rosalia, Austr**	**8.50**	**340**	*e*Pn	**Pn**	**23 26 54.8**	**+2.3**
	comp=E,0.3nm,0.3s						
MYKA	**Terra Mystica**	**8.53**	**325**	*e*Pn	**Pn**	**23 26 56.0**	**+3.0**
	comp=E,1.8nm,0.3s						
VYHS	**Vyhne**	**8.78**	**352**	*e*PN	Pn	23 27 01.6	+5.2
VYHS				*e*		23 56 50.8	
KBA	**Koelnbreinsper**	**9.01**	**326**	*e*Pn	**Pn**	**23 27 00.6**	**+0.9**
	comp=E,0.4nm,0.3s						
CRVS	**Cervenica-Dubn**	**9.11**	**3**	*e*PN	Pn	23 27 12.4	+12
ABTA	**Abfaltersbach**	**9.14**	**322**	*e*Pn	**Pn**	**23 27 02.2**	**+0.9**
	comp=E,0.4nm,0.3s						
BIOA	**Bad Ischl, Aus**	**9.38**	**329**	*e*Pn	**Pn**	**23 27 05.1**	**+0.5**
	comp=E,0.7nm,0.3s						
WTTA	**Wattenberg**	**9.93**	**322**	*e*Pn	**Pn**	**23 27 13.6**	**+1.4**
	comp=E,0.4nm,0.2s						
GERES	**GERESS Array B**	**10.32**	**333**	Pn	**Pn**	**23 27 15.6**	**-1.9**
	comp=E,0.1nm,0.3s,baz=144,slow=12,SNR=2.1						
	comp=E,0.4nm,0.7s						
DAVOX	**Davos/Dischmat**	**10.50**	**315**	Pn	**Pn**	**23 27 19.4**	**-0.7**
	comp=E,0.2nm,0.3s,baz=153,slow=21,SNR=2.9						
	comp=E,1.0nm,0.6s						
HFS	**Hagfors**	**20.82**	**350**	P	**P**	**23 29 29.6**	**-0.7**
	comp=E,1.2nm,0.6s,baz=163,slow=11,SNR=12						
	comp=E,1.2nm,0.6s						
FINES	**FINESS Array B**	**21.92**	**7**	P	**P**	**23 29 41.4**	**-0.7**
	comp=E,2.3nm,0.9s,baz=172,slow=12,SNR=13						
	comp=E,2.3nm,0.9s						
NB2	**NORSAR Subarra**	**22.05**	**348**	P	**P**	**23 29 43.9**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=153,slow=10						
NOA	**NORSAR Array B**	**22.05**	**348**	P	**P**	**23 29 42.9**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=165,slow=11,SNR=5.9						
	comp=Z,1.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**22.19**	**322**	P	**P**	**23 29 45.0**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=116,slow=9.4,SNR=3.6						
	comp=Z,0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**31.38**	**217**	P	**P**	**23 31 07.7**	**-2.2**
	comp=Z,0.3nm,0.8s,baz=46,slow=9.1,SNR=2.3						
	comp=Z,0.3nm,0.8s						
JMIC	**Jan Mayen**	**34.63**	**344**	LR	LR	23 46 21.3	
	comp=Z,28nm,20.0s,baz=188,slow=37						
BORG	**Borgarnes**	**34.76**	**330**	LR	LR	23 46 44.1	
	comp=Z,38nm,20.5s,baz=307,slow=38						
MKAR	**Makanchi Array**	**44.36**	**60**	P	**P**	**23 32 56.9**	**-2.3**
	comp=Z,0.7nm,0.6s,baz=274,slow=8.8,SNR=7.3						
	comp=Z,0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**44.53**	**49**	P	**P**	**23 32 58.8**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=254,slow=8.3,SNR=2.1						
	comp=Z,0.4nm,0.5s						

IDC ***19*** *23:30:05.2±0.5, 60°43S×28°07W, h0km, mb4.4/11, mbtmp4.4/13, ML4.5/2, MS4.1/34, Error ellipse: s-maj=22.9km s-min=16.9km az=63.0*
NEIC ***19*** *23:30:09.5±2.3, 60°54S±0°09×27°4W±0°2, h10km±1km, mb4.8/42, Error ellipse: s-maj=18.6km s-min=14.4km az=235.0*
GCMT ***19*** *23:30:13.5±0.2, 60°67S±0°02×27°68W±0°03, h12km, MW5.0/99, Moment Tensor Solution. s27,c31; s99,c145; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.44±.10; $M_{\theta\theta}$0.82±.10; $M_{\phi\phi}$1.61±.08; $M_{r\theta}$-1.01±.34; $M_{\theta\phi}$-2.41±.07; $M_{r\phi}$2.56±.30; Best double couple: $M_0$4.16000×10^{16} NP1:ϕ_s156.00000°, δ67.00000°, λ-72.00000°. NP2: ϕ_s296.00000°, δ28.00000°, λ-127.00000°. Principal axes: T 4.6360, Plg21.0000°, Azm233.0000°; N -0.9570,

comp=Z,2.0nm,1.0s
PLTB Pedras Altas 33.60 317 P **P 23 36 48.9 -0.2**
PLTB Pedras Altas 33.60 317 *eP* **P 23 36 48.7 -0.4**
TBOT Tacuaremb 34.48 314 *eP* **P 23 36 56.7 0.0**
CPSB Cacapava Do Su 34.80 318 *eP* **P 23 36 59.2 -0.3**
CNLB Canela 35.00 323 *eP* **P 23 37 01.1 -0.2**
RODS Rosario do Sul 35.44 316 *eP* **P 23 37 04.5 -0.5**
ALGR Alto Alegre (B 36.15 320 *eP* **P 23 37 11.1 -0.1**
ITQB Itaqui 36.55 315 P **P 23 37 16.1 +1.6**
ITQB Itaqui 36.55 315 *eP* **P 23 37 14.8 +0.3**
MAW Mawson 36.64 140 P **P 23 37 15.6 +0.8**
comp=Z,4.3nm,0.8s,baz=227,slow=9.6,SNR=7.7
MAW LR LR 23 51 25.3
comp=Z,292nm,19.1s,baz=256,slow=35
comp=Z,4.3nm,0.8s
ITAB Concordia 37.33 322 *eP* **P 23 37 21.0 -0.2**
CRSM Crissiumal (Br 37.69 319 *eP* P 23 37 20.5 -3.7
BO04 La Punta 38.47 294 P **P 23 37 31.2 +0.4**
MT08 Bocatoma Ro 38.66 295 P **P 23 37 32.9 +0.3**
PET01 Itanhaem-SP 38.80 330 *eP* **P 23 37 32.8 -0.8**
MT09 Talagante 38.81 294 P **P 23 37 33.4 -0.4**
MT03 Universidad Ad 38.84 294 P **P 23 37 34.0 +0.1**
MT03 IAmb IAmb 23 37 45.0
comp=Z,17nm,0.8s
MT01 Popeta 38.86 293 P **P 23 37 34.2 +0.2**
MT01 IAmb IAmb 23 37 51.2
comp=Z,16nm,1.0s
MT16 CCHEN 38.90 295 P **P 23 37 35.5 +1.1**
MT16 IAmb IAmb 23 37 41.1
comp=Z,30nm,0.9s
PEL Peldehue 39.21 295 P **P 23 37 37.1 +0.1**
PEL IAmb IAmb 23 37 47.6
comp=Z,34nm,1.0s
SLP01 Ubatuba-SP 39.24 334 *eP* **P 23 37 36.7 -0.7**
MT02 Curacav 39.32 294 P **P 23 37 37.1 -0.7**
MT02 IAmb IAmb 23 37 48.6
comp=Z,33nm,1.1s
PARB Paraibuna 39.33 333 *eP* **P 23 37 37.6 -0.5**
MAN01 Angra dos Reis 39.43 336 *eP* **P 23 37 38.6 -0.3**
SPB Sao Paulo 39.51 330 P **P 23 37 40.1 +0.6**
SPB Sao Paulo 39.51 330 *eP* **P 23 37 39.8 +0.3**
PTGB Pitanga 39.68 324 *eP* **P 23 37 40.1 -0.9**
ZON Zonda 39.68 298 P **P 23 37 41.2 +0.3**
ZON IAmb IAmb 23 37 52.5
comp=Z,26nm,1.2s
CPUP Villa Florida 39.86 316 P **P 23 37 43.1 +0.7**
CPUP IAmb IAmb 23 37 51.8
comp=Z,20nm,1.1s
CPUP Villa Florida 39.86 316 P **P 23 37 40.5 -1.9**
comp=Z,5.5nm,0.8s,baz=154,slow=7.2,SNR=4.3
CPUP LR LR 23 52 29.1
comp=Z,190nm,21.7s,baz=166,slow=34
CPUP Villa Florida 39.86 316 *eP* **P 23 37 42.6 +0.2**
DUB01 Friburgo-RJ 39.89 338 *eP* **P 23 37 42.4 -0.3**
VAS01 Vassouras-RJ 39.90 337 *eP* **P 23 37 42.7 -0.1**
VAO Valinhos 39.96 331 P **P 23 37 43.2 -0.1**
VAO IAmb IAmb 23 37 58.7
comp=Z,25nm,1.1s
VAO Valinhos 39.96 331 *eP* **P 23 37 43.0 -0.4**
CAM01 Campos-RJ 40.01 339 *eP* **P 23 37 43.6 0.0**
FRTB Fartura 40.29 328 *eP* **P 23 37 45.8 -0.2**
LDASE Londrina, Braz 40.66 325 *eP* **P 23 37 52.7 +3.6**
SJPY San Joaquin 40.68 318 *eP* **P 23 37 47.4 -1.8**
BSCB Bom Sucesso 41.41 335 *eP* **P 23 37 52.8 -2.6**
SBA Scott Base 41.52 184 P **P 23 37 56.7 +1.1**
CO01 Juntas del Tor 41.65 298 IAmb IAmb 23 38 10.2
comp=Z,14nm,0.9s
TRCB Terra Rica 41.66 324 P **P 23 37 58.9 +1.5**
TRCB IAmb IAmb 23 38 08.4
comp=Z,35nm,1.1s
TRCB Terra Rica 41.66 324 *eP* **P 23 38 00.6 +3.3**
VNDA Vanda 42.01 183 P **P 23 38 02.3 +2.7**
VNDA Vanda 42.01 183 P **P 23 38 01.7 +2.1**
comp=Z,2.5nm,0.8s,baz=188,slow=7.0,SNR=13
VNDA LR LR 23 53 35.4
comp=Z,155nm,21.8s,baz=174,slow=33
SUR Sutherland 42.13 70 LR LR 23 50 59.4
comp=Z,254nm,19.3s,baz=196,slow=30
BB19B Bebedouro 42.20 330 *eP* **P 23 38 00.3 -1.5**
AMBA Amambai (Brazi 42.25 321 *eP* **P 23 38 01.4 -0.8**
PCMB Pacaembu 42.40 326 *eP* **P 23 38 03.1 -0.3**
BSFB Barra de Sao F 42.80 341 *eP* **P 23 38 07.1 +0.5**
ITRB Iturama 43.97 328 *eP* **P 23 38 19.9 +3.8**
MURT Porto Murtinho 44.27 318 *eP* **P 23 38 17.9 -0.6**
AQDB Aquidauana 44.77 321 P **P 23 38 23.1 +0.7**
AQDB IAmb IAmb 23 38 33.5
comp=Z,11nm,1.1s
AQDB Aquidauana 44.77 321 *eP* **P 23 38 21.6 -0.8**
IPMB Ipameri, GO 45.09 332 *eP* **P 23 38 22.0 -3.0**
GO02 Mina Guanaco 45.63 302 P **P 23 38 29.4 -0.2**
H04S2 CROZET ISLANDS 45.95 110 T T 00 28 41.9
baz=223,slow=74,SNR=446
H04S3 CROZET ISLANDS 45.96 110 T T 00 28 37.1
baz=223,slow=74,SNR=336
H04S1 CROZET ISLANDS 45.97 110 T T 00 28 43.0
baz=223,slow=74,SNR=329
JANB Januaria 47.10 337 *eP* **P 23 38 42.3 +1.4**
BDFB Brasilia 47.30 333 P **P 23 38 42.3 -0.3**
BDFB Brasilia 47.30 333 P P 23 38 38.1 -4.5
comp=Z,6.1nm,1.0s,baz=113,slow=6.7,SNR=6.0
BDFB LR LR 23 59 19.9
comp=Z,241nm,18.1s,baz=148,slow=37
comp=Z,6.1nm,1.0s
BOSA Boshof 47.36 72 P **P 23 38 42.9 -0.1**
comp=Z,3.8nm,0.8s,baz=206,slow=7.1,SNR=9.6
BOSA LR LR 23 53 56.5
comp=Z,252nm,21.1s,baz=204,slow=30
comp=Z,3.8nm,0.8s
LVC Limon Verde 47.62 304 LR LR 23 59 20.0
comp=Z,116nm,20.1s,baz=166,slow=37
ARAG Araguaiana, MT 48.17 328 *eP* **P 23 38 47.2 -1.9**
WIN Windhoek 48.93 59 P **P 23 38 56.1 +0.9**
WIN IAmb IAmb 23 58 59.0
comp=Z,11nm,1.1s
SALV Santo Antonio 49.08 323 *eP* **P 23 38 56.4 +0.3**
BBSD Serra de San D 49.44 316 *eP* **P 23 38 58.0 -0.9**
GO01 Chusmiza 50.37 305 P **P 23 39 05.7 -0.9**
GO01 IAmb IAmb 23 39 16.6
comp=Z,19nm,1.1s
PTLB Pontes e Lacer 50.57 319 P **P 23 39 07.0 -0.4**
PTLB IAmb IAmb 23 39 20.6
comp=Z,11nm,0.8s
PTLB Pontes e Lacer 50.57 319 *eP* **P 23 39 07.8 +0.3**
LBTB Lobatse 50.58 70 P **P 23 39 06.1 -1.5**
LBTB IAmb IAmb 23 39 14.2
comp=Z,9.6nm,0.9s
LBTB Lobatse 50.58 70 LR LR 23 55 48.0
comp=Z,306nm,21.4s,baz=192,slow=30
SIV San Ignacio 50.71 316 LR LR 00 01 13.7
comp=Z,141nm,19.1s,baz=124,slow=37
SNDB Serra Nova Dou 51.62 330 *eP* **P 23 39 14.2 -1.1**
TSUM Tsumeb 52.12 58 P **P 23 39 18.3 -0.9**
TSUM Tsumeb 52.12 58 LR LR 23 56 32.2
comp=Z,449nm,21.6s,baz=210,slow=30
H10S2 ASCENSION HYDR 52.41 16 T T 00 36 14.9
baz=188,slow=74,SNR=40
H10S3 ASCENSION HYDR 52.41 16 T T 00 36 15.2
baz=32,slow=74,SNR=41
LPAZ La Paz 53.01 308 P **P 23 39 25.1 -1.3**
LPAZ La Paz 53.01 308 P P 23 39 21.9 -4.5
comp=Z,1.7nm,0.7s,baz=181,slow=4.8,SNR=6.1
LPAZ LR LR 00 03 23.5
comp=Z,115nm,19.5s,baz=173,slow=38
comp=Z,1.7nm,0.7s
VILB Vilhena 53.26 319 P **P 23 39 26.6 -0.9**
VILB IAmb IAmb 23 39 39.7
comp=Z,16nm,0.8s
H10N1 ASCENSION HYDR 53.53 16 T T 00 37 10.9
baz=68,slow=21,SNR=5.7
H10N3 ASCENSION HYDR 53.53 16 T T 00 37 10.3
baz=68,slow=21,SNR=20
H10N2 ASCENSION HYDR 53.55 16 T T 00 37 10.7
baz=68,slow=21,SNR=6.0
RCBR Riachuelo 55.02 350 LR LR 00 01 02.3
comp=Z,66nm,18.3s,baz=332,slow=34
MATP Matopo 55.87 70 LR LR 00 00 28.9
comp=Z,164nm,20.5s,baz=238,slow=32
SAML Samuel 57.99 317 P **P 23 40 01.6 +0.1**
ETMB Extrema 58.23 313 P **P 23 40 01.9 -1.3**
ETMB IAmb IAmb 23 40 17.6
comp=Z,8.1nm,0.9s
ROSB Rosrio 58.95 340 P **P 23 40 09.8 +1.6**
LSZ Lusaka 60.22 67 P **P 23 40 17.2 +0.1**
LSZ IAmb IAmb 23 40 32.8
comp=Z,12nm,1.0s

RPN Rapa Nui 62.84 263 LR LR 00 02 45.9
comp=Z,105nm,21.0s,baz=310,slow=31
ATAH Atahualpa 65.43 302 LR LR 00 08 00.1
comp=Z,107nm,20.8s,baz=156,slow=35
OPO Ambohidratompo 66.45 86 LR LR 00 02 27.3
comp=Z,216nm,21.4s,baz=348,slow=29
MDP Montagnes des 68.41 333 LR LR 00 10 34.9
comp=Z,76nm,19.8s,baz=146,slow=36
DBIC Dimbokro 69.37 24 P **P 23 41 16.3 -0.2**
comp=Z,3.3nm,0.8s,baz=198,slow=3.2,SNR=2.3
DBIC LR LR 00 04 18.1
comp=Z,348nm,22.0s,baz=162,slow=30
comp=Z,3.3nm,0.8s
ROSC El Rosal 74.74 311 LR LR 00 16 42.3
comp=Z,122nm,19.4s,baz=80,slow=38
BBTS Babate 75.51 11 LR LR 00 07 42.3
comp=Z,111nm,18.7s,baz=81,slow=30
PCRV Puerto La Cruz 76.45 322 LR LR 00 17 37.4
comp=Z,132nm,18.9s,slow=38
TOA0 Torodi Ar. Sit 77.09 29 P **P 23 42 01.0 -1.1**
TOA0 IAmb IAmb 23 42 16.2
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 77.09 29 P **P 23 42 00.3 -1.8**
comp=Z,4.3nm,0.7s,baz=183,slow=6.0,SNR=42
TORD LR LR 00 08 27.7
comp=Z,303nm,21.5s,baz=154,slow=30
comp=Z,4.3nm,0.7s
SDV Santo Domingo 77.17 316 LR LR 00 18 53.1
comp=Z,156nm,18.9s,baz=123,slow=38
URZ Urewera 79.46 199 LR LR 00 14 15.2
comp=Z,66nm,19.8s,baz=202,slow=33
JTS Las Juntas de 83.89 303 LR LR 00 20 06.2
comp=Z,39nm,20.1s,baz=171,slow=36
TBI Tubuai 84.13 232 *e*LR LR 00 09 07.1
comp=Z,443nm,21.0s
SJG San Juan 84.41 323 LR LR 00 19 52.6
comp=Z,43nm,21.0s,baz=160,slow=36
FURI Furi 86.34 65 LR LR 00 18 23.2
comp=Z,277nm,19.2s,baz=213,slow=34
STKA Stephens Creek 87.42 171 P **P 23 42 54.7 -1.5**
comp=Z,3.8nm,0.8s,baz=180,slow=9.1,SNR=1.6
comp=Z,3.8nm,0.8s
PPT2 Papeete2 89.38 234 *e*LR LR 00 11 32.6
comp=Z,326nm,23.5s
PPT2 *e*LR LR 00 11 36.0
comp=Z,303nm,26.2s
PPT Papeete 89.40 234 LR LR 00 15 43.6
comp=Z,252nm,20.1s,baz=138,slow=31
ATD Arta Tunnel 90.55 67 LR LR 00 21 00.6
comp=Z,8.6nm,20.3s,baz=178,slow=34
TEIG Tepich 94.19 305 LR LR 00 29 13.6
comp=Z,35nm,19.6s,baz=202,slow=38
ASAR Alice Springs 94.67 163 P **P 23 43 29.8 -0.3**
comp=Z,1.2nm,0.8s,baz=177,slow=3.9,SNR=11
comp=Z,1.2nm,0.8s
MDT Midelt 94.94 19 LR LR 00 20 01.2
comp=Z,198nm,21.8s,baz=186,slow=32
WRA Warramunga Arr 98.40 163 P **P 23 43 45.6 -1.4**
comp=Z,0.7nm,0.8s,baz=194,slow=4.1,SNR=3.4
comp=Z,0.7nm,0.8s
PVAQ Vaqueiros 98.98 16 *e*LR LR 00 17 15.8
comp=Z,82nm,20.0s
PMRV Marv??o 101.02 16 *e*LR LR 00 18 18.2
comp=Z,150nm,20.0s
MTE Manteigas 101.95 15 *e*LQ LQ 00 13 09.3
MTE *e*LR LR 00 18 28.2
comp=Z,133nm,20.0s
HFS Hagfors 124.54 24 PKP **PKPdf 23 49 04.3 -2.5**
comp=Z,1.7nm,0.8s,baz=260,slow=6.9,SNR=2.5
NB2 NORSAR Subarra 124.91 22 PKPdf **PKPdf 23 49 08.1 +0.6**
comp=Z,2.0nm,1.4s,baz=202,slow=1.9
NOA NORSAR Array B 124.91 22 PKP **PKPdf 23 49 06.2 -1.3**
comp=Z,0.3nm,0.9s,baz=133,slow=12,SNR=1.6
FINES FINESS Array B 128.44 30 PKP **PKPdf 23 49 11.1 -3.0**
comp=Z,1.3nm,0.8s,baz=288,slow=1.8,SNR=6.3
KSH Kashi 129.77 78 PKP **PKiKP 23 49 25.1 +6.7**
PZH PanZhiHua 131.71 111 PKP **PKPdf 23 49 22.3 +0.6**
ARCES ARCESS Array B 135.20 23 PKP **PKPdf 23 49 23.5 -3.3**
comp=Z,3.0nm,1.0s,baz=188,slow=1.3,SNR=3.3
BVAR Borovoye Array 137.20 62 PKP **PKPdf 23 49 27.1 -3.9**
comp=Z,0.6nm,0.6s,baz=224,slow=10,SNR=5.2
MKAR Makanchi Array 138.28 76 PKP **PKPdf 23 49 29.0 -4.1**
comp=Z,0.9nm,1.1s,baz=252,slow=3.8,SNR=2.6
KURBB Kurchatov Arra 139.19 70 PKP **PKPdf 23 49 31.3 -3.4**
comp=Z,0.4nm,0.7s,baz=237,slow=3.7,SNR=2.6
NJ2 Nanjing 143.89 127 *eP* **PKPdf 23 49 45.3 +1.6**
NJ2 pmax pmax
comp=Z,16nm,1.2s
ZALV Zalesovo Beam 144.29 70 PKP **PKPab 23 49 39.6 -2.1**
comp=Z,1.8nm,0.5s,baz=243,slow=4.3,SNR=6.8
HNS HongShan 146.75 117 ⇑PKPbc **PKPbc 23 49 51.5 +1.3**
TIA Tai'an 146.79 121 PKPbc **PKPdf 23 49 51.6 +3.0**
BTO Baotou 147.21 108 *e*PKPbc **PKPdf 23 49 52.3 +3.0**
BTO pmax pmax
comp=Z,26nm,1.1s
BTO pmax pmax
comp=Z,220nm,6.7s
HHC Hu-ho-hao-te 148.12 110 *eP* **PKPab 23 49 59.0 +2.0**
BJI Beijing 149.57 116 PKPbc **PKPbc 23 49 58.8 +1.2**
SONM Songino Array 150.80 95 PKPbc **PKPdf 23 49 59.4 +4.5**
comp=Z,1.6nm,0.6s,baz=236,slow=2.7,SNR=8.6
KSRS Korea Array 152.08 135 PKPbc **PKPbc 23 50 02.4 -1.1**
comp=Z,0.5nm,0.3s,baz=205,slow=3.0,SNR=6.8
KSRS PKPab **sPKPbc 23 50 10.6 +4.0**
comp=Z,1.1nm,0.6s,baz=186,slow=1.6,SNR=6.5
ILAR Eielson Array 152.85 305 PKPbc **PKPdf 23 49 59.2 +2.0**
comp=Z,0.1nm,0.5s,baz=150,slow=2.1,SNR=4.7
ILAR PKPab **sPKPbc 23 50 11.8 +4.4**
comp=Z,2.7nm,1.0s,baz=153,slow=1.9,SNR=14

*NDI **19** 23:49:19.0±5.9, 26°.15N×90°.89E, h12km±38km, ML3.7, MW3.6*

ISC 19 23:49:20.5±1.4, 26°.18N±0°.06×90°.95E±0°.07, h35km, n5, σ2s51/9, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**2.39**	**299**	*e*S	**Sn**	**23 50 27.6**	**+2.3**
GTK				IAML		23 50 32.3	
comp=N,153nm,0.3s							
GTK				IAML		23 50 32.8	
comp=E,158nm,0.3s							
KOHI	**KOHIMA**	**2.88**	**99**	*e*P	**Pn**	**23 50 00.6**	**-3.5**
KOHI				*e*S	**Sn**	**23 50 40.1**	**+2.5**
KOHI				IAML		23 50 52.4	
comp=E,188nm,0.4s							
KOHI				IAML		23 50 58.1	
comp=E,191nm,0.5s							
ZIRO	**ZIRO**	**2.92**	**62**	*e*P	**Pn**	**23 50 06.8**	**+2.2**
ZIRO				*e*S	**Sn**	**23 50 39.9**	**+1.4**
ZIRO				IAML		23 50 52.4	
comp=E,720nm,0.4s							
ZIRO				IAML		23 50 54.2	
comp=E,2μm,0.6s							
LSA	**Lhasa**	**3.51**	**3**	Pn	**Pn**	**23 50 12.1**	**-0.9**
LSA				Sn	**Sn**	**23 50 51.0**	**-2.5**
LSA				smax	smax		
comp=N,22nm,0.8s							
LSA				smax	smax		
comp=E,27nm,0.6s							
SAIH	**SAIHA**	**4.12**	**153**	*e*P	**Pn**	**23 50 21.2**	**+0.1**
SAIH				*e*S	**Sn**	**23 51 07.7**	**-0.5**

IDC 20 00:08:06.2±1.8, 19°.50S×175°.40W, h0km, mb3.9/5, mbtmp3.9/5, MS2.8/1, Error ellipse: s-maj=50.8km s-min=39.3km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.03**	**262**	LR	LR	00 29 34.0	
comp=Z,13nm,18.3s,baz=224,slow=36							
STKA	**Stephens Creek**	**40.42**	**243**	P	P	00 15 45.2	-1.2
1.2nm,0.4s,baz=91,slow=12,SNR=3.0							
1.2nm,0.4s							
H11N3	**WAKE ISLAND Hy**	**42.66**	**335**	T	T	01 00 55.6	
baz=152,slow=76,SNR=5.6							
H11N1	**WAKE ISLAND Hy**	**42.66**	**335**	T	T	01 00 55.7	
baz=152,slow=76,SNR=11							
H11N2	**WAKE ISLAND Hy**	**42.68**	**335**	T	T	01 00 56.8	
baz=152,slow=76,SNR=7.9							
ASAR	**Alice Springs**	**47.13**	**255**	P	P	00 16 41.1	+0.5
2.4nm,0.8s,baz=86,slow=8.6,SNR=21							
2.4nm,0.8s							
WRA	**Warramunga Arr**	**47.17**	**261**	P	P	00 16 40.8	-0.1
0.6nm,0.4s,baz=98,slow=7.0,SNR=6.6							
0.6nm,0.4s							
QSPA	**South Pole Qui**	**70.57**	**180**	P	P	00 19 23.2	+0.1
1.3nm,0.9s,baz=212,slow=2.4,SNR=3.0							
1.3nm,0.9s							
H03S2	**Juan Fernandez**	**84.53**	**124**	T	T	01 53 03.5	
baz=250,slow=75,SNR=22							
H03S1	**Juan Fernandez**	**84.54**	**124**	T	T	01 53 02.9	
baz=250,slow=75,SNR=20							
H03S3	**Juan Fernandez**	**84.54**	**124**	T	T	01 53 01.6	
baz=250,slow=75,SNR=20							
ILAR	**Eielson Array**	**86.82**	**12**	P	P	00 20 52.0	-0.1
0.2nm,0.6s,baz=220,slow=5.5,SNR=2.2							
0.2nm,0.6s							

*IDC **20** 00:24:53.5±0.5, 60°.39S×27°.41W, h0km, mb4.3/12, mbtmp4.5/14, ML5.0/2, MS4.6/39, Error ellipse: s-maj=21.2km s-min=15.2km az=68.0*
*NEIC **20** 00:24:58.7±2.2, 60°.56S±0°.09×27°.4W±0°.2, h10km, mb5.2/88, Mww5.2/13, Error ellipse: s-maj=16.9km s-min=13.0km az=47.0*
*NEIC **20** 00:24:58.8, 60°.55S×27°.37W, h16km*
*NEIC **20** 00:24:58.8, 60°.45S×27°.37W, h16km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.02; $M_{\theta\theta}$1.53; $M_{\phi\phi}$-0.51; $M_{r\theta}$-2.32; $M_{\theta\phi}$-6.78; $M_{\phi r}$2.07; Fault plane solution: $M_0$7.37000×10^{16} NP1: ϕ_s357.17000°, δ77.70000°, λ13.67000°. NP2: ϕ_s264.20000°, δ76.65000°, λ167.36000°. Principal axes: T 8.3951, Plg18.0000°, Azm221.0000°; N -2.0468, Plg72.0000°, Azm38.0000°; P -6.3483, Plg1.0000°, Azm131.0000°;*
*GCMT **20** 00:24:59.7±0.1, 60°.68S±0°.01×27°.52W±0°.02, h12km, MW5.2/146, Moment Tensor Solution. s72, c95; s146, c243; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}-1.62±.12; $M_{\theta\theta}$1.82±.12; $M_{\phi\phi}$-0.20±.11; $M_{r\theta}$-3.33±.31; $M_{\theta\phi}$-6.59±.09; $M_{\phi r}$-0.33±.30; Best double couple: $M_0$7.53700×10^{16} NP1: ϕ_s88.00000°, δ82.00000°, λ-151.00000°. NP2: ϕ_s354.00000°, δ62.00000°, λ-9.00000°. Principal axes: T 8.0550, Plg14.0000°, Azm218.0000°; N -1.0380, Plg60.0000°, Azm102.0000°; P -7.0190, Plg26.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 00:24:57.4±0.3, 60°.72S±0°.05×27°.13W±0°.06, h10km, n254, σ1s95/219, mb5.1/69, MS4.6/40, 9C-5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.18**	**318**	Pn	**Pn**	**00 26 53.1**	**-2.9**
VNA1	**Neumayer--Stat**	**12.55**	**150**	⇑P	**Pn**	**00 27 56.5**	**+0.7**
comp=Z,67nm,0.3s							
VNA1				⇑S	**Sn**	**00 30 11.8**	**-3.6**
comp=Z,16nm,0.9s							
VNA3	**Neumayer Olymp**	**12.65**	**154**	⇑P	**Pn**	**00 27 56.9**	**-0.2**
comp=Z,137nm,0.5s							
VNA3				⇑S	**Sn**	**00 30 10.1**	**-7.9**
comp=Z,13nm,0.8s							
VNA2	**Neumayer--Watz**	**12.95**	**150**	⇑P	**Pn**	**00 28 01.1**	**-0.2**
baz=307,slow=16							
VNA2				⇓S	**Sn**	**00 30 20.6**	**-4.6**
comp=Z,6.9nm,0.6s,baz=173,slow=5.9							
SNAA	**Sanae**	**14.56**	**149**	Pn	**Pn**	**00 28 24.8**	**+1.5**
SNAA	**Sanae**	**14.56**	**149**	*e*P	**Pn**	**00 28 24.8**	**+1.5**
SNAA	**Sanae**	**14.56**	**149**	⇑P	**Pn**	**00 28 23.7**	**+0.4**
comp=Z,1μm,0.4s							
SNAA				⇑S	**Sn**	**00 30 57.9**	**-6.7**
comp=Z,115nm,0.6s							
SNAA	**Sanae**	**14.56**	**149**	Pn	**Pn**	**00 28 23.7**	**+0.4**
comp=Z,14nm,0.3s,baz=309,slow=14,SNR=389							
SNAA				Sn	**Sn**	**00 31 02.6**	**-1.9**
comp=Z,0.4nm,0.3s,baz=278,slow=17,SNR=2.7							
SNAA				LR	LR	00 33 05.1	
comp=Z,3μm,18.9s,baz=308,slow=33							
comp=Z,36nm,0.4s							
TROLL	**Troll, Antarti**	**16.16**	**146**	⇑P	**Pn**	**00 28 46.0**	**+1.6**
comp=Z,2μm,0.9s							
TROLL				⇓S	**Sn**	**00 31 38.1**	**-5.4**
comp=Z,152nm,0.6s							
PMSA	**Palmer Station**	**17.21**	**240**		**Pn**	**00 28 56.9**	**-0.5**
PMSA				IAmb	IAmb	00 29 04.1	
comp=Z,145nm,1.3s							
PMSA	**Palmer Station**	**17.21**	**240**	P	**Pn**	**00 28 55.3**	**-2.2**
comp=Z,1.9nm,0.3s,baz=73,slow=8.7,SNR=6.3							
PMSA				LR	LR	00 34 30.4	
comp=Z,4μm,19.0s,baz=74,slow=33							
comp=Z,44nm,1.1s							
PMSA	**Palmer Station**	**17.21**	**240**	*e*P	**Pn**	**00 28 56.6**	**-0.9**
BELA	**Belgrano 2**	**17.41**	**185**	P	**P**	**00 29 02.3**	**+1.1**
BELA				IAmb	IAmb	00 29 08.7	
comp=Z,155nm,1.4s							
SMAI	**San Martin Ant**	**18.46**	**229**	P	**Pn**	**00 29 14.0**	**+1.1**
EFI	**East Falkland**	**19.27**	**284**	P	**P**	**00 29 17.8**	**-4.0**
MG01	**Puerto William**	**22.04**	**267**	P	**P**	**00 29 52.1**	**+0.3**
MG01				IAmb	IAmb	00 29 55.6	
comp=Z,95nm,0.8s							
ELIB	**Princess Elisa**	**22.34**	**141**	*d*P	**P**	**00 29 56.6**	**+1.6**
comp=Z,20nm,1.2s							
ELIB				*d*S	Sn	00 34 09.3	-2.9
GO10	**Punta Arenas**	**24.71**	**268**	P	**P**	**00 30 15.4**	**-3.0**
MG05	**Puerto Natales**	**26.30**	**270**	P	**P**	**00 30 32.3**	**-0.5**
MG05				IAmb	IAmb	00 30 36.6	
comp=Z,124nm,1.6s							
GO09	**Cerro Castillo**	**26.48**	**270**	P	**P**	**00 30 34.8**	**+0.4**
GO08	**Villa O'Higgin**	**28.41**	**275**	P	**P**	**00 30 50.8**	**-0.9**
GO08				IAmb	IAmb	00 31 42.8	
comp=Z,39nm,1.4s							
QSPA	**South Pole Qui**	**29.52**	**180**	P	**P**	**00 31 03.7**	**+2.1**
QSPA	**South Pole Qui**	**29.52**	**180**	P	**P**	**00 31 02.0**	**+0.4**
comp=Z,3.0nm,1.0s,baz=173,slow=4.6,SNR=34							
QSPA				LR	LR	00 43 13.1	
comp=Z,900nm,18.4s,baz=191,slow=37							
comp=Z,3.0nm,1.0s							
TRQA	**Tornquist**	**31.46**	**300**	P	**P**	**00 31 18.3**	**-0.5**
LL01	**San Ignacio de**	**32.74**	**283**	P	**P**	**00 31 29.3**	**-0.7**
PLCA	**Paso Flores**	**33.14**	**287**	P	P	00 31 28.4	-5.2
comp=Z,4.0nm,1.1s,baz=125,slow=6.2,SNR=3.4							
PLCA				LR	LR	00 43 58.8	
comp=Z,1μm,19.1s,baz=138,slow=35							
comp=Z,4.0nm,1.1s							
PLTB	**Pedras Altas**	**33.80**	**317**	P	**P**	**00 31 37.3**	**-2.1**
LR05	**Currie**	**34.22**	**286**	P	**P**	**00 31 40.7**	**-2.1**
LR05				IAmb	IAmb	00 31 52.4	
comp=Z,32nm,1.2s							
TBOT	**Tacuaremb**	**34.68**	**314**	*e*P	**P**	**00 31 47.8**	**+0.9**
CPSB	**Cacapava Do Su**	**34.99**	**318**	*e*P	**P**	**00 31 47.8**	**-1.9**
CNLB	**Canela**	**35.19**	**322**	*e*P	**P**	**00 31 52.2**	**+0.8**
RODS	**Rosario do Sul**	**35.63**	**316**	*e*P	**P**	**00 31 56.6**	**+1.4**
PSAL	**Palomas, Salto**	**35.82**	**312**	*e*P	**P**	**00 31 57.6**	**+0.8**
MAW	**Mawson**	**36.45**	**140**	P	**P**	**00 32 01.1**	**-0.6**
comp=Z,6.2nm,0.9s,baz=237,slow=9.8,SNR=9.9							
MAW				LR	LR	00 46 09.7	
comp=Z,981nm,18.8s,baz=242,slow=35							
comp=Z,6.2nm,0.9s							
ITQB	**Itaqui**	**36.75**	**314**	P	**P**	**00 32 04.5**	**-0.2**
ITQB	**Itaqui**	**36.75**	**314**	*e*P	**P**	**00 32 06.2**	**+1.5**
ITAB	**Concordia**	**37.53**	**322**	P	**P**	**00 32 11.0**	**-0.3**
ITAB				IAmb	IAmb	00 32 17.3	
comp=Z,47nm,1.2s							
ITAB	**Concordia**	**37.53**	**322**	*e*P	**P**	**00 32 11.4**	**+0.1**
BO02	**Sierra Bellavi**	**38.06**	**293**	P	**P**	**00 32 15.3**	**-0.5**
GO05	**Huala**	**38.40**	**291**	P	**P**	**00 32 17.9**	**-0.8**
BO01	**Tunca**	**38.53**	**293**	P	**P**	**00 32 20.3**	**+0.5**
LMEL	**Las Melosas**	**38.59**	**294**	P	**P**	**00 32 20.0**	**-0.5**
BO04	**La Punta**	**38.65**	**294**	P	**P**	**00 32 19.9**	**-0.9**
MT08	**Bocatoma Ro**	**38.84**	**295**	P	**P**	**00 32 21.4**	**-1.3**
PET01	**Itanhaem-SP**	**38.98**	**330**	*e*P	**P**	**00 32 25.6**	**+2.0**
MT09	**Talagante**	**39.00**	**294**	P	**P**	**00 32 22.3**	**-1.6**
MT09				IAmb	IAmb	00 32 26.1	
comp=Z,54nm,1.1s							
MT03	**Universidad Ad**	**39.02**	**294**	P	**P**	**00 32 22.6**	**-1.4**
MT03				IAmb	IAmb	00 32 33.7	
comp=Z,35nm,0.9s							
MT01	**Popeta**	**39.05**	**293**	P	**P**	**00 32 23.9**	**-0.2**
MT16	**CCHEN**	**39.09**	**294**	P	**P**	**00 32 22.7**	**-1.8**
MT16				IAmb	IAmb	00 32 28.0	
comp=Z,87nm,1.3s							
MT05	**Renca**	**39.21**

PEL	Peldehue	39.40	294	P	P	00 32 24.9	-2.2
PEL				IAmb	IAmb	00 32 40.4	
comp=Z,59nm,1.1s							
MT02	Curacav	39.50	294	P	P	00 32 27.0	-0.9
MT02				IAmb	IAmb	00 32 30.4	
comp=Z,49nm,1.1s							
PARB	Paraibuna	39.51	333	eP	P	00 32 29.1	+1.0
VA03	San Esteban	39.66	295	P	P	00 32 28.3	-1.0
VA03				IAmb	IAmb	00 32 32.6	
comp=Z,77nm,1.1s							
SPB	Sao Paulo	39.69	330	P	P	00 32 29.1	-0.4
SPB				IAmb	IAmb	00 32 36.3	
comp=Z,63nm,1.2s							
SPB	Sao Paulo	39.69	330	eP	P	00 32 31.1	+1.6
ZON	Zonda	39.87	298	P	P	00 32 29.7	-1.4
CPUP	Villa Florida	40.05	315	P	P	00 32 32.5	0.0
CPUP	Villa Florida	40.05	315	P	P	00 32 26.8	-5.7
comp=Z,1.3nm,0.5s,baz=161,slow=6.1,SNR=11							
CPUP				LR	LR	00 47 07.4	
comp=Z,1μm,21.8s,baz=162,slow=34							
comp=Z,1.3nm,0.5s							
VAO	Valinhos	40.14	331	P	P	00 32 33.7	+0.3
VAO				IAmb	IAmb	00 32 40.2	
comp=Z,71nm,1.2s							
VAO	Valinhos	40.14	331	eP	P	00 32 35.6	+2.2
FRTB	Fartura	40.47	327	eP	P	00 32 38.7	+2.6
LDASE	Londrina, Braz	40.85	325	eP	P	00 32 40.2	+1.0
CO02	Combarbal	41.18	296	P	P	00 32 40.3	-1.7
CO02				IAmb	IAmb	00 32 44.9	
comp=Z,37nm,1.1s							
MATJ	Matjiesfontein	41.19	70	eP	P	00 32 38.6	-3.4
CO03	El Pedregal	41.36	296	P	P	00 32 43.4	0.0
SBA	Scott Base	41.41	184	P	P	00 32 46.5	+3.3
BSCB	Bom Sucesso	41.59	335	eP	P	00 32 48.7	+3.3
CO01	Juntas del Tor	41.84	298	P	P	00 32 45.9	-1.6
CO01				IAmb	IAmb	00 32 51.6	
comp=Z,29nm,1.1s							
TRCB	Terra Rica	41.85	323	P	P	00 32 45.6	-1.8
TRCB				IAmb	IAmb	00 32 52.9	
comp=Z,89nm,1.6s							
TRCB	Terra Rica	41.85	323	eP	P	00 32 48.4	+1.0
VNDA	Vanda	41.90	183	P	P	00 32 50.0	+2.8
VNDA	Vanda	41.90	183	P	P	00 32 48.7	+1.5
comp=Z,2.2nm,0.9s,baz=192,slow=6.9,SNR=20							
VNDA				LR	LR	00 48 42.2	
comp=Z,300nm,19.7s,baz=176,slow=34							
comp=Z,2.2nm,0.9s							
SUR	Sutherland	42.03	70	LR	LR	00 47 01.0	
comp=Z,886nm,18.4s,baz=206,slow=32							
CVNA	Calvinia	42.31	68	eP	P	00 32 55.6	+4.4
CVNA				IAmb	IAmb	00 33 03.5	
comp=Z,22nm,1.1s							
CO05	La Serena	42.39	296	P	P	00 32 51.7	0.0
CO05				IAmb	IAmb	00 32 57.3	
comp=Z,68nm,1.1s							
PAPY	Pozo Azul	42.43	316	eP	P	00 32 52.0	-0.1
PCMB	Pacaembu	42.59	326	eP	P	00 32 55.1	+1.7
FRAZ	Fraserburg	42.69	70	eP	P	00 32 52.2	-2.1
FRAZ				IAmb	IAmb	00 33 02.7	
comp=Z,78nm,1.8s							
KOMG	Komaggas	42.72	64	eP	P	00 32 51.1	-3.3
KOMG				IAmb	IAmb	00 33 05.0	
comp=Z,148nm,2.2s							
GRAN	Grantham	42.73	71	eP	P	00 32 54.5	-0.1
GRAN				IAmb	IAmb	00 33 19.0	
comp=Z,7.2nm,0.9s							
AC05	El Transito	42.90	298	P	P	00 32 56.5	+0.4
AC05				IAmb	IAmb	00 33 03.1	
comp=Z,64nm,1.0s							
SJMB	Sao Joao De Ma	43.15	340	eP	P	00 32 59.7	+1.7
AC04	Llanos de Chal	43.80	298	P	P	00 33 01.9	-1.3
AC04				IAmb	IAmb	00 33 10.0	
comp=Z,43nm,1.0s							
GRAF	Camdeboo Natio	43.83	73	eP	P	00 33 04.4	+0.9
DIAM	Diamantina, MG	43.99	337	eP	P	00 33 06.2	+1.2
ITRB	Iturama	44.16	328	eP	P	00 33 07.6	+1.5
AC06	Mina Casimiro	44.22	299	P	P	00 33 06.8	+0.2
AC06				IAmb	IAmb	00 33 21.0	
comp=Z,27nm,1.1s							
PMNB	Patos De Minas	44.33	333	eP	P	00 33 09.4	+1.9
MURT	Porto Murtinho	44.47	318	eP	P	00 33 09.8	+1.2
AQDB	Aquidauana	44.96	321	P	P	00 33 12.0	-0.5
AQDB	Aquidauana	44.96	321	eP	P	00 33 13.3	+0.8
AUGR	Augrabies	45.02	66	eP	P	00 33 13.2	+0.2
AUGR				IAmb	IAmb	00 33 38.8	
comp=Z,25nm,1.4s							
KEIM	Keimoes	45.21	67	eP	P	00 33 17.1	+2.6
KEIM				IAmb	IAmb	00 33 26.6	
comp=Z,45nm,1.6s							
IPMB	Ipameri, GO	45.27	331	eP	P	00 33 16.3	+1.3
H04S2	CROZET ISLANDS	45.76	110	T	T	01 23 24.1	
baz=223,slow=75,SNR=1188							
H04S3	CROZET ISLANDS	45.77	110	T	T	01 23 19.7	
baz=223,slow=75,SNR=628							
H04S1	CROZET ISLANDS	45.78	110	T	T	01 23 25.4	
baz=223,slow=75,SNR=713							
GO02	Mina Guanaco	45.82	301	P	P	00 33 19.4	-0.2
RVDE	Rio Verde (Bra	46.09	322	eP	P	00 33 22.1	+0.6
AF01	San Pedro de A	47.21	304	P	P	00 33 30.6	+0.1
BOSA	Boshof	47.26	71	P	P	00 33 32.5	+1.8
BOSA				IAmb	IAmb	00 33 39.2	
comp=Z,19nm,1.2s							
BOSA	Boshof	47.26	71	eP	P	00 33 27.2	-3.5
BOSA				IAmb	IAmb	00 33 45.8	
comp=Z,17nm,1.1s							
BOSA	Boshof	47.26	71	P	P	00 33 28.1	-2.5
comp=Z,5.1nm,1.0s,baz=223,slow=4.6,SNR=7.1							
BOSA				LR	LR	00 50 03.6	
comp=Z,782nm,19.3s,baz=216,slow=32							
comp=Z,5.1nm,1.0s							
JANB	Januaria	47.27	337	eP	P	00 33 33.1	+2.3
BDFB	Brasilia	47.48	332	P	P	00 33 32.6	+0.1
BDFB	Brasilia	47.48	332	P	P	00 33 27.7	-4.8
comp=Z,3.4nm,0.9s,baz=193,slow=3.9,SNR=4.1							
BDFB				LR	LR	00 54 16.0	
comp=Z,462nm,18.1s,baz=154,slow=37							
comp=Z,3.4nm,0.9s							
PB15	IPOC Station P	47.51	303	P	P	00 33 32.4	-0.3
PB15				IAmb	IAmb	00 33 38.5	
comp=Z,38nm,1.3s							
PB10	IPOC Station P	47.69	301		P	00 33 32.8	-1.1
LVC	Limon Verde	47.81	304	P	P	00 33 32.9	-2.4
LVC				IAmb	IAmb	00 33 45.1	
comp=Z,13nm,0.9s							
LVC	Limon Verde	47.81	304	LR	LR	00 54 06.8	
comp=Z,338nm,20.2s,baz=180,slow=37							
PB06	IPOC Station P	47.99	303	P	P	00 33 36.1	-0.4
PB06				IAmb	IAmb	00 33 39.3	
comp=Z,32nm,1.1s							
PB05	IPOC Station P	48.12	302	P	P	00 33 37.1	-0.4
PB04	IPOC Station P	48.56	303	P	P	00 33 39.4	-1.5
PB09	IPOC Station P	48.67	304	P	P	00 33 40.7	-1.0
WIN	Windhoek	48.86	59	P	P	00 33 42.7	-0.5
SDBA	SAO DESIDERIO	49.97	337	eP	P	00 33 52.9	+1.4
NWCL	Newcastle	50.18	75	eP	P	00 33 52.9	-0.3
NWCL				IAmb	IAmb	00 34 04.0	
comp=Z,126nm,2.4s							
TA02	Huaiquique	50.40	304	P	P	00 33 54.6	-0.1
TA02				IAmb	IAmb	00 34 52.3	
comp=Z,40nm,1.2s							
LBTB	Lobatse	50.48	69	P	P	00 33 55.6	+0.2
LBTB				IAmb	IAmb	00 34 06.7	
comp=Z,16nm,1.0s							
LBTB	Lobatse	50.48	69	eP	P	00 33 53.2	-2.2
LBTB				IAmb	IAmb	00 34 06.4	
comp=Z,20nm,1.1s							
LBTB	Lobatse	50.48	69	LR	LR	00 52 01.6	
comp=Z,908nm,18.0s,baz=206,slow=32							
GO01	Chusmiza	50.56	305	P	P	00 33 55.8	-0.7
GO01				IAmb	IAmb	00 34 02.4	
comp=Z,29nm,1.1s							
HRAO	HartRAO	50.70	72	eP	P	00 33 55.4	-1.8
PTLB	Pontes e Lacer	50.77	319	P	P	00 33 56.0	-1.5
PTLB				IAmb	IAmb	00 34 19.7	
comp=Z,25nm,1.1s							
PTLB	Pontes e Lacer	50.77	319	eP	P	00 33 56.9	-0.6
SIV	San Ignacio	50.90	316	LR	LR	00 53 56.5	
comp=Z,756nm,21.8s,baz=171,slow=34							
NYAT	Nyati, Northwe	51.09	72	eP	P	00 33 57.5	-2.6
TSWA	Tswaing Meteor	51.29	72	eP	P	00 33 59.5	-2.0
TSWA				IAmb	IAmb	00 34 12.6	
comp=Z,20nm,1.1s							
NHAM	Northam, North	51.36	71	eP	P	00 33 59.5	-2.5
NHAM				IAmb	IAmb	00 34 13.6	
comp=Z,117nm,2.5s							
POGA	Pongola	51.38	77	P	P	00 34 04.5	+2.5
POGA				IAmb	IAmb	00 34 07.2	
comp=Z,92nm,2.0s							
RUST	Rust De Winter	51.65	72	eP	P	00 34 01.6	-2.6
RUST				IAmb	IAmb	00 34 21.6	
comp=Z,17nm,1.2s							
PAF	Port-aux-Franc	51.85	124	P	P	00 34 08.3	+3.0
TSUM	Tsumeb	52.06	57	P	P	00 34 08.1	+0.7
TSUM	Tsumeb	52.06	57	eP	P	00 34 05.8	-1.6
TSUM				IAmb	IAmb	00 34 29.4	
comp=Z,16nm,1.1s							
TSUM	Tsumeb	52.06	57	LR	LR	00 51 19.3	
comp=Z,915nm,21.5s,baz=211,slow=30							
MTLB	Matlabas, Limp	52.19	70	eP	P	00 34 06.4	-1.8
MTLB				IAmb	IAmb	00 34 12.8	
comp=Z,9.9nm,0.8s							
LEPH	Lephalale, Lim	52.49	71	eP	P	00 34 10.9	+0.4
LEPH				IAmb	IAmb	00 34 31.0	
comp=Z,68nm,1.8s							
LPAZ	La Paz	53.20	308	P	P	00 34 15.1	-1.3
LPAZ	La Paz	53.20	308	P	P	00 34 10.8	-5.5
comp=Z,1.2nm,0.5s,baz=88,slow=6.1,SNR=4.8							
LPAZ				LR	LR	00 58 12.8	
comp=Z,447nm,19.6s,baz=146,slow=38							
comp=Z,1.2nm,0.5s							
VILB	Vilhena	53.45	319	P	P	00 34 17.0	-0.5
VILB				IAmb	IAmb	00 34 23.1	
comp=Z,36nm,1.0s							
VILB	Vilhena	53.45	319	eP	P	00 34 18.1	+0.6
CRAIL	Swartwater, Li	53.61	71	eP	P	00 34 16.7	-2.0
H10N1	ASCENSION HYDR	53.61	16	T	T	01 32 24.9	
baz=193							
H10N3	ASCENSION HYDR	53.61	16	T	T	01 32 24.3	
baz=193							
H10N2	ASCENSION HYDR	53.63	16	T	T	01 32 24.1	
baz=193							
MPHEP	Siloam, Limpop	54.42	73	eP	P	00 34 23.3	-1.4
MPHEP				IAmb	IAmb	00 34 35.8	
comp=Z,15nm,1.1s							
MOPA	Mopani	54.47	74	eP	P	00 34 23.8	-1.1
MOPA				IAmb	IAmb	00 34 35.8	
comp=Z,41nm,1.1s							
RCBR	Riachuelo	55.17	349	LR	LR	00 53 33.9	
comp=Z,164nm,19.0s,baz=196,slow=31							
MATP	Matopo	55.78	69	LR	LR	00 55 05.3	
comp=Z,442nm,18.2s,baz=230,slow=32							
NBCL	Cascavel-CE	57.00	347	eP	P	00 34 44.1	+1.1
NPGB	Novo Progresso	57.59	326	eP	P	00 34 47.8	+0.5
SAML	Samuel	58.18	317	P	P	00 34 48.5	-2.9
ETMB	Extrema	58.43	313	P	P	00 34 52.4	-0.7
LSZ	Lusaka	60.13	66	P	P	00 35 05.6	+0.5
LSZ				IAmb	IAmb	00 35 10.4	
comp=Z,16nm,0.8s							
ITTB	Itaituba	60.25	327	eP	P	00 35 06.6	+0.9
TMAB	Tom-Au,PA,Br	60.37	336	eP	P	00 35 07.8	+1.3
NNA	Nana	60.61	301	LR	LR	00 58 43.3	
comp=Z,304nm,21.7s,baz=139,slow=34							
CZSB	Cruzeiro do Su	62.78	307	eP	P	00 35 23.0	+0.2
MACA	Manacapuru-AM	62.82	322	P	P	00 35 23.3	+0.2
MACA				IAmb	IAmb	00 35 32.5	
comp=Z,24nm,1.3s							
MACA	Manacapuru-AM	62.82	322	eP	P	00 35 23.9	+0.9
RPN	Rapa Nui	62.98	262	LR	LR	00 57 20.3	
comp=Z,118nm,19.7s,baz=152,slow=31							
MCPB	Macapa, AP	63.18	332	eP	P	00 35 26.8	+1.4
TEFE	Tefe	63.76	317	eP	P	00 35 28.5	-0.8
ATAH	Atahualpa	65.63	302	LR	LR	01 02 58.8	
comp=Z,226nm,21.7s,baz=159,slow=35							
BOAV	Boa Vista	68.04	324	P	P	00 35 56.8	-0.1
BOAV				IAmb	IAmb	00 36 06.8	
comp=Z,23nm,1.5s							
MDP	Montagnes des	68.59	333	LR	LR	01 04 50.3	
comp=Z,357nm,19.8s,baz=147,slow=35							
DBIC	Dimbokro	69.43	24	P	P	00 36 02.4	-3.1
comp=Z,2.7nm,0.8s,baz=291,slow=17,SNR=1.8							
DBIC				LR	LR	00 59 15.9	
comp=Z,575nm,21.9s,baz=174,slow=30							
comp=Z,2.7nm,0.8s							
ARNL	Arenillas	69.56	302	P	P	00 36 06.9	+0.5
ARNL				IAmb	IAmb	00 36 13.1	
comp=Z,30nm,1.3s							
OTAV	Otavalo	72.33	305	eP	P	00 36 23.9	+0.2
TULM	Tulcn-Chalpat	72.50	306	P	P	00 36 24.7	0.0
TULM				IAmb	IAmb	00 36 37.8	
comp=Z,16nm,0.9s							
ODZ	Otahua Downs	73.60	193	P	P	00 36 33.5	+3.1
MQZ	McQueen's Vall	74.68	195	P	P	00 36 39.8	+3.1
MQZ				IAmb	IAmb	00 36 42.5	
comp=Z,32nm,1.4s							
RPZ	Rata Peaks	74.87	194	P	P	00 36 40.8	+3.0
ROSC	El Rosal	74.94	311	LR	LR	01 10 02.3	
comp=Z,563nm,21.4s,baz=130,slow=36							
GVZ	Greta Valley S	75.36	195	P	P	00 36 43.0	+2.3
BBTS	Babate	75.61	11	LR	LR	01 03 30.9	
comp=Z,240nm,21.7s,baz=142,slow=31							
LTZ	Lake Taylor	75.64	195		P	00 36 44.4	+2.1
KIBK	Kibwezi	76.02	69	P	P	00 36 46.9	+2.0
KIBK				IAmb	IAmb	00 37 05.7	
comp=Z,30nm,1.5s							
PCRV	Puerto La Cruz	76.64	322	LR	LR	01 12 15.7	
comp=Z,404nm,19.0s,slow=37							
MRNZ	Matariki Terra	76.94	195	P	P	00 36 51.2	+1.6
TOA0	Torodi Ar. Sit	77.13	29	P	P	00 36 49.1	-1.7
TOA0				IAmb	IAmb	00 37 02.9	
comp=Z,43nm,1.6s							
TORD	Torodi Ar. Bea	77.13	29	P	P	00 36 48.0	-2.9
comp=Z,3.9nm,0.5s,baz=215,slow=6.3,SNR=30							
TORD				LR	LR	01 03 47.7	
comp=Z,562nm,21.9s,baz=168,slow=30							
comp=Z,3.9nm,0.5s							
BFZ	Birch Farm	77.15	198	P	P	00 36 53.1	+2.3
SDV	Santo Domingo	77.37	316	P	P	00 36 52.6	+0.1
SDV	Santo Domingo	77.37	316	LR	LR	01 12 34.6	
comp=Z,567nm,18.7s,baz=132,slow=37							
BKZ	Black Stump Fm	78.60	199	P	P	00 36 59.5	+0.5
BKZ				IAmb	IAmb	00 37 01.1	
comp=Z,64nm,1.9s							
RTZ	Ruatahuna	79.06	199	P	P	00 37 02.8	+1.2
RTZ				IAmb	IAmb	00 37 17.8	
comp=Z,30nm,1.2s							
URZ	Urewera	79.39	199	LR	LR	01 08 39.5	
comp=Z,323nm,20.2s,baz=230,slow=33							
TOZ	Tahuroa Road	80.16	198	P	P	00 37 09.2	+1.8
NWAO	Narrogin (SRO)	82.23	150	LR	LR	01 12 20.0	
comp=Z,188nm,18.3s,baz=214,slow=34							
JTS	Las Juntas de	84.08	303	LR	LR	01 17 30.7	
comp=Z,108nm,18.4s,baz=131,slow=38							
TBI	Tubual	84.17	231	eLR	LR	01 03 54.0	
comp=Z,2μm,32.2s							
SJG	San Juan	84.60	323	LR	LR	01 16 08.4	
comp=Z,282nm,19.2s,baz=160,slow=36							
STKA	Stephens Creek	87.28	170	P	P	00 37 45.1	+1.1
comp=Z,5.4nm,0.9s,baz=188,slow=3.5,SNR=5.1							
comp=Z,5.4nm,0.9s							
TAM	Tamanrasset	87.33	30	P	P	00 37 45.6	+1.4
PPT2	Papeete2	89.43	234	eLR	LR	01 06 19.2	
comp=Z,826nm,23.2s							
PPT2				eLR	LR	01 06 28.3	
comp=Z,728nm,24.5s							
PPT	Papeete	89.44	234	LR	LR	01 10 28.2	
comp=Z,628nm,18.1s,baz=166,slow=31							
RAR	Rarotonga	89.85	223	LR	LR	01 11 05.0	
comp=Z,133nm,19.1s,baz=174,slow=31							
ATD	Arta Tunnel	90.46	67	LR	LR	01 15 47.0	
comp=Z,21nm,20.2s,baz=189,slow=34							
PMOZ	Porto Moniz, M	93.56	8	eLR	LR	01 08 22.2	
comp=Z,113nm,20.0s							
TEIG	Tepich	94.39	304	LR	LR	01 25 07.8	
comp=Z,116nm,18.5s,baz=77,slow=38							
ASAR	Alice Springs	94.51	163	P	P	00 38 17.3	-0.6
ASAR	Alice Springs	94.51	163	P	P	00 38 17.1	-0.8
comp=Z,1.8nm,0.8s,baz=184,slow=4.5,SNR=9.5							
ASAR				LR	LR	01 18 34.8	
comp=Z,836nm,19.7s,baz=183,slow=34							
comp=Z,1.8nm,0.8s							
MDT	Midelt	95.01	19	LR	LR	01 14 47.5	
comp=Z,502nm,21.9s,baz=192,slow=32							
DZM	Mont Dzumac	96.77	193	eLR	LR	01 09 49.6	
comp=Z,588nm,24.4s							
DZM	Mont Dzumac	96.77	193	LR	LR	01 20 16.2	
comp=Z,265nm,19.4s,baz=233,slow=34							
WRA	Warramunga Arr	98.23	162	LR	LR	01 20 19.5	
comp=Z,650nm,19.9s,baz=245,slow=34							
PVAQ	Vaqueiros	99.06	16	eLR	LR	01 11 32.9	
comp=Z,178nm,20.0s							
CTA	Charters Tower	99.30	174	LR	LR	01 23 24.6	
comp=Z,27nm,19.4s,baz=173,slow=35							
PMRV	Marv??o	101.10	15	eLR	LR	01 12 32.4	
comp=Z,300nm,22.0s							
MTE	Manteigas	102.04	15	eLQ	LQ	01 07 27.4	
MTE				eLR	LR	01 13 05.1	
comp=Z,351nm,22.0s							
AKASG	Malin Array Be	119.93	38	PKP	PKPdf	00 43 44.8	-1.8
comp=Z,0.2nm,0.3s,baz=264,slow=1.9,SNR=1.3							
SPR3	Spring Creek 3	121.81	294		PKPdf	00 43 50.9	-0.3
HFS	Hagfors	124.59	23	PKP	PKPdf	00 43 52.0	-3.3
comp=Z,1.2nm,0.8s,baz=250,slow=4.2,SNR=2.1							
NB2	NORSAR Subarra	124.97	22	PKPdf	PKiKP	00 44 00.6	+4.1
comp=Z,0.4nm,0.8s,baz=202,slow=1.9							
NOA	NORSAR Array B	124.97	22	PKP	PKPdf	00 43 53.1	-3.0
comp=Z,0.2nm,0.7s,baz=193,slow=1.5,SNR=1.9							
MSO	Missoula	127.90	300	PKPdf	PKiKP	00 44 04.0	+1.1
FINES	FINESS Array B	128.48	29	PKP	PKPdf	00 44 00.0	-2.7
comp=Z,3.0nm,0.9s,baz=211,slow=2.2,SNR=7.1							
KSH	Kashi	129.65	78	PKP	PKiKP	00 44 10.8	+4.1
ABKAR	Akbulak array	129.90	59		PKPdf	00 44 05.4	-0.5
ABKAR	Akbulak array	129.90	59	PKPdf	PKPdf	00 44 05.0	-0.9
ARCES	ARCESS Array B	135.26	23	PKP	PKPdf	00 44 14.1	-1.2
comp=Z,2.6nm,0.9s,baz=222,slow=1.6,SNR=5.0							
BVAR	Borovoye Array	137.13	62	PKhKP	PKPpre	00 44 09.9	
comp=Z,1.0nm,0.8s,baz=198,slow=3.9,SNR=5.5							
BVAR				PKP	PKPdf	00 44 17.2	-2.1
comp=Z,0.8nm,0.6s,baz=232,slow=3.5,SNR=5.4							
BVAR				SKPbc	SKPbc	00 47 48.8	-3.3
comp=Z,1.2nm,0.8s,baz=267,slow=3.0,SNR=4.7							
MKAR	Makanchi Array	138.16	76	PKP	PKPdf	00 44 18.9	-2.5
comp=Z,1.0nm,0.8s,baz=187,slow=2.3,SNR=1.4							
WMQ	Urumqi	138.61	84	ePKP	PKiKP	00 44 25.8	+1.2
WMQ				LR	LR		
comp=Z,250nm,20.3s							
WMQ				LR	LR		
comp=Z,140nm,20.3s							
KURBB	Kurchatov Arra	139.10	70	PKP	PKPdf	00 44 20.1	-2.9
comp=Z,1.4nm,0.2s,baz=226,slow=3.7,SNR=4.9							
YKA	Yellowknife Ar	139.57	314		PKPdf	00 44 24.6	+1.1
YKA	Yellowknife Ar	139.57	314	PKP	PKPdf	00 44 19.7	-3.8
comp=Z,0.7nm,0.9s,baz=134,slow=3.1,SNR=2.3							
XAN	Xi'an	141.18	113	⇑PKP	PKPdf	00 44 27.3	-0.1
GTA	Gaotai	141.22	99	ePKP	PKPdf	00 44 29.3	+1.9
NJ2	Nanjing	143.70	127	ePKP	PKiKP	00 44 34.8	-0.5
ZALV	Zalesovo Beam	144.20	70	PKP	PKPab	00 44 29.2	-0.7
comp=Z,2.1nm,0.4s,baz=221,slow=3.6,SNR=5.4							
HNS	HongShan	146.56	117	⇓PKPbc	PKPab	00 44 40.9	+1.7
TIA	Tai'an	146.60	121	ePKPbc	PKPbc	00 44 39.6	+1.2
O30N	Mendenhall	146.84	302		PKPbc	00 44 39.5	+1.1
M31M	Drury Creek, Y	146.89	305		PKPdf	00 44 37.9	+1.4
BTO	Baotou	147.03	108	ePKPbc	PKPdf	00 44 38.6	+1.1
BTO				PKPab	pPKPab	00 44 44.3	+0.9
BTO				PP	PP	00 48 07.4	+2.6
BTO				SS	SS	01 07 11.5	+6.1
BTO				LR	LR		
comp=Z,570nm,6.7s							
BTO				LR	LR		
comp=Z,690nm,8.8s							
N30M	Aishikik Lake	147.61	303		PKPdf	00 44 39.8	+2.1
HHC	Hu-ho-hao-te	147.94	109	ePKPbc	PKPdf	00 44 36.1	-2.9
HHC				sPKP		00 44 50.4	
J30M	Hart River	148.79	308		PKPdf	00 44 41.9	+2.2
G31M	Satah River	149.03	313		PKPdf	00 44 42.3	+2.5
I30M	Mount Dempster	149.10	309		PKPdf	00 44 42.6	+2.5
BJI	Beijing	149.39	116	PKPbc	PKPbc	00 44 44.8	-0.8
BJI				LR	LR		
comp=Z,120nm,15.0s							
BJI				LR	LR		
comp=Z,160nm,23.9s							
BJI				LR	LR		
comp=Z,120nm,18.7s							
BCAR	Beaver Creek A	150.31	303	PKPdf	PKPdf	00 44 44.0	+2.0
SONM	Songino Array	150.65	95		PKPbc	00 44 48.4	-0.2
SONM	Songino Array	150.65	95	PKPbc	PKPdf	00 44 46.4	+3.3
comp=Z,2.7nm,0.4s,baz=214,slow=4.2,SNR=13							
KSRS	Korea Array	151.89	135	PKPbc	PKPbc	00 44 49.3	-2.3
comp=Z,0.7nm,0.4s,baz=213,slow=1.9,SNR=4.3							
BMAR	Burnt Mountain	152.98	311		PKiKP	00 44 54.6	+1.2
ILAR	Eielson Array	153.05	305	PKPbc	PKPbc	00 44 50.8	-2.6
comp=Z,6.2nm,1.2s,baz=137,slow=1.3,SNR=17							
MJAR	Matsushiro Arr	154.06	152	PKPbc	PKPbc	00 44 54.2	-2.3
comp=Z,1.1nm,0.3s,baz=197,slow=1.3,SNR=1.5							
MDJ	Mudanjiang	158.75	129	PKP	PKPdf	00 44 53.8	-0.4
HEH	HeiHe	162.30	115	eP	PKPab	00 45 44.8	-0.5

*IDC **20** 00:26:14.7±2.5, 9°.78S×112°.32E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=115.7km s-min=22.1km az=50.0*
*DJA **20** 00:26:21.2±0.7, 10°.5±6°.×11°.3E±°, h10km, M4.0/8, MLv4.0/8*
ISC 20 00:26:21.6±1.2, 9.7S±0°.1×112°.78E±0°.05, h35km, n13, σ1§80/17, mb3.7/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.81	49	P	Pn	00 26 48.9	-1.4
JAGI			

KAPI Kappang 8.20 57 Pn **Pn 00 35 14.1 -1.9**
0.9nm,0.3s,baz=178,slow=15,SNR=1.1
KAPI Sn **Sn 00 36 47.1 -0.4**
2.6nm,0.3s,baz=112,slow=17,SNR=1.3
KAPI LR LR 00 38 54.6
comp=Z,201nm,21.4s,baz=258,slow=42
6.4nm,0.3s
BKSI Bulukumba 8.35 60 P **Pn 00 35 20.4 +2.3**
EDFI Ende, Flores 8.74 85 P **Pn 00 35 24.7 +1.1**
30nm,1.1s
KASI Kota Agung 9.24 295 P **Pn 00 35 30.6 +0.3**
39nm,0.6s
MBWA Marble Bar 13.25 151 P **Pn 00 36 22.8 -2.4**
MBWA Marble Bar 13.25 151 **Pn 00 36 22.4 -2.7**
PSA00 Pilbara Seismi 13.66 151 **Pn 00 36 29.1 -1.6**
FITZ Fitzroy Crossi 14.99 126 P **Pn 00 36 47.7 -1.1**
FITZ Fitzroy Crossi 14.99 126 **Pn 00 36 47.6 -1.2**
MEEK Meekatharra 17.80 163 P **P 00 37 24.8 -0.1**
MTN Manton Dam 18.20 102 P **P 00 37 29.4 0.0**
MTN IAmb IAmb 00 37 47.3
comp=Z,18nm,0.7s
DAV Davao City (W) 20.84 38 LR LR 00 45 34.1
comp=Z,114nm,21.5s,baz=209,slow=36
BLDU Ballidu 21.21 171 P **P 00 38 04.1 +1.9**
WB0 Warramunga Arr 23.11 118 P **P 00 38 22.5 0.0**
WB0 IAmb IAmb 00 38 51.2
comp=Z,13nm,1.1s
WRA Warramunga Arr 23.13 119 P **P 00 38 22.1 -0.7**
WRA Warramunga Arr 23.13 119 P **P 00 38 22.9 +0.1**
comp=Z,5.6nm,0.9s,baz=290,slow=11,SNR=27
WRA LR LR 00 49 06.2
comp=Z,153nm,18.2s,baz=356,slow=41
comp=Z,5.6nm,0.9s
WB2 Warramunga Arr 23.14 119 P **P 00 38 21.7 -1.1**
WB2 IAmb IAmb 00 38 54.8
comp=Z,7.4nm,0.7s
WR0 Warramunga Arr 23.31 119 P **P 00 38 24.2 -0.3**
WR0 IAmb IAmb 00 38 43.1
comp=Z,9.2nm,0.8s
NWAO Narrogin (SRO) 23.56 171 LR LR 00 47 46.9
comp=Z,253nm,19.4s,baz=2.5,slow=37
AS31 Alice Springs 24.48 127 P **P 00 38 33.7 -1.8**
ASAR Alice Springs 24.48 127 P **P 00 38 37.0 +1.6**
comp=Z,11nm,0.7s,baz=304,slow=9.1,SNR=92
ASAR LR LR 00 48 16.6
comp=Z,112nm,20.0s,baz=276,slow=37
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 31.09 334 P **P 00 39 34.9 +0.3**
comp=Z,1.7nm,0.5s,baz=166,slow=8.7,SNR=9.7
CMAR LR LR 00 54 20.2
comp=Z,114nm,18.4s,baz=155,slow=41
comp=Z,1.7nm,0.5s
STKA Stephens Creek 34.63 134 P **P 00 40 06.2 +0.8**
comp=Z,5.0nm,0.7s,baz=306,slow=7.7,SNR=6.0
comp=Z,5.0nm,0.7s
H08S2 Diego Garcia H 39.96 270 T T 01 23 34.0
baz=95,slow=75,SNR=9.8
H08S3 Diego Garcia H 39.97 270 T T 01 23 51.0
baz=95,slow=75,SNR=6.9
H08S1 Diego Garcia H 39.98 270 T T 01 23 59.5
baz=95,slow=75,SNR=8.2
KSRS Korea Array 48.89 16 P **P 00 42 00.1 -1.6**
comp=Z,0.4nm,0.3s,baz=203,slow=8.8,SNR=5.0
comp=Z,0.4nm,0.3s
MJAR Matsushiro Arr 51.71 26 P **P 00 42 20.5 -2.8**
comp=Z,1.1nm,0.3s,baz=197,slow=6.9,SNR=5.5
comp=Z,1.1nm,0.3s
USRK Ussuriysk Ar. 56.28 16 P **P 00 42 54.8 -1.7**
comp=Z,2.8nm,0.7s,baz=187,slow=9.6,SNR=4.5
comp=Z,2.8nm,0.7s
SONM Songino Array 57.47 355 P **P 00 43 04.7 -0.2**
SONM Songino Array 57.47 355 P **P 00 43 04.7 -0.2**
comp=Z,2.9nm,0.6s,baz=178,slow=7.6,SNR=20
comp=Z,2.9nm,0.6s
BOOM Boomskoye usch 61.87 330 P **P 00 43 34.8 -0.6**
MK31 Makanchi Array 62.42 337 P **P 00 43 38.3 -0.6**
MK31 IAmb IAmb 00 43 38.8
comp=Z,1.9nm,0.7s
MKAR Makanchi Array 62.42 337 P **P 00 43 38.1 -0.8**
MKAR Makanchi Array 62.42 337 P **P 00 43 38.4 -0.5**
comp=Z,2.7nm,0.6s,baz=150,slow=7.4,SNR=23
comp=Z,2.7nm,0.6s
KURBB Kurchatov Arra 66.99 337 P **P 00 44 06.8 -1.7**
comp=Z,1.5nm,0.8s,baz=146,slow=5.1,SNR=11
comp=Z,1.5nm,0.8s
KURK Kurchatov 67.03 337 P **P 00 44 07.7 -1.1**
KURK IAmb IAmb 00 44 41.1
comp=Z,3.8nm,1.1s
ZALV Zalesovo Beam 67.62 343 P **P 00 44 11.3 -1.1**
comp=Z,2.8nm,0.5s,baz=154,slow=3.7,SNR=16
comp=Z,2.8nm,0.5s
BVAR Borovoye Array 72.11 335 P **P 00 44 40.5 +0.4**
comp=Z,1.5nm,0.8s,baz=160,slow=6.2,SNR=2.5
comp=Z,1.5nm,0.8s
VNDA Vanda 72.39 170 P **P 00 44 42.1 +0.7**
comp=Z,1.1nm,0.8s,baz=309,slow=7.2,SNR=6.9
comp=Z,1.1nm,0.8s
QSPA South Pole Qui 80.40 180 P **P 00 45 28.4 +1.2**
comp=Z,1.7nm,1.0s,baz=270,slow=8.4,SNR=2.2
comp=Z,1.7nm,1.0s
EIL Elat 84.38 301 LR LR 01 23 42.9
comp=Z,256nm,18.9s,baz=245,slow=36
MMAI Mount Meron Ar 84.84 305 LR LR 01 26 38.3
comp=Z,249nm,18.7s,baz=157,slow=38
BRTR Keskin Array B 87.91 311 P **P 00 46 06.6 +0.7**
comp=Z,0.5nm,0.5s,baz=126,slow=7.3,SNR=1.9
BRTR LR LR 01 28 45.7
comp=Z,166nm,20.5s,baz=218,slow=38
comp=Z,0.5nm,0.5s
SNAA Sanae 88.75 197 P **P 00 46 11.2 +2.0**
comp=Z,3.3nm,0.7s,baz=109,slow=3.7,SNR=3.9
comp=Z,3.3nm,0.7s
AKASG Malin Array Be 93.36 321 LR LR 01 33 02.7
comp=Z,81nm,21.6s,baz=234,slow=38
FINES FINESS Array B 96.83 331 LR LR 01 35 09.0
comp=Z,234nm,22.0s,baz=224,slow=38
TKL Tuckaleechee C 149.95 28 PKPbc **PKiKP 00 53 07.6 +0.1**
comp=Z,4.8nm,0.7s,baz=279,slow=4.8,SNR=7.8

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*NEIC **20** 00:37:42.6±1.0, 19°.371N±0°.010×155°.294W±0°.009, h3km±3km, Error ellipse: s-maj=1.5km s-min=0.9km az=214.0*

HVO 20 00:37:42.5±0.7, 19°.397N±0°.010×155°.275W±0°.007, h1km±3km, ML3.5/35, ML3.0/35(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=195.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.00**	**159**		Pg	00 37 42.9	+0.1
KKO	**Keanakako`i**	**0.01**	**84**		Pg	00 37 43.0	+0.1
BYL	**Byron's Ledge**	**0.02**	**43**		Pg	00 37 43.0	-0.1
SDHHI	**Sand Hill**	**0.02**	**248**		Pg	00 37 43.3	+0.3
OBL	**Observatory Le**	**0.02**	**337**		Pg	00 37 43.5	+0.4
WRMHI	**West Rim**	**0.03**	**292**		Pg	00 37 43.5	+0.4
UWB	**Uwekahuna B**	**0.03**	**354**		Pg	00 37 43.7	+0.6
HATHI	**Halema'uma'u T**	**0.03**	**27**		Pg	00 37 43.5	+0.4
UWE	**Uwekahuna**	**0.03**	**324**		Pg	00 37 43.5	+0.3
SBLHI	**Steaming Bluff**	**0.03**	**12**		Pg	00 37 43.6	+0.5
PUH	**Pauahi**	**0.06**	**112**		Pg	00 37 44.3	+0.6
PUH				IAML		00 37 45.2	
	comp=N,8μm,0.2s						
PUH				IAML		00 37 45.5	
	comp=E,8μm,0.2s						
RSD	**Rainshed**	**0.07**	**357**		Pg	00 37 44.5	+0.6
RSD				IAML		00 37 45.6	
	comp=N,10μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.10**	**100**		Pg	00 37 45.1	+0.6
HLP	**Hilina Pali**	**0.10**	**197**	Pg	Pg	00 37 45.2	+0.6
HLP				IAML		00 37 47.6	
	comp=N,5μm,1.2s						
HLP				IAML		00 37 47.9	
	comp=E,7μm,0.5s						
STCH	**Steam Cracks**	**0.14**	**95**		Pg	00 37 45.6	+0.3
STCH				IAML		00 37 49.4	
	comp=E,6μm,0.6s						
MLH	**Mauna Loa**	**0.14**	**313**		Pg	00 37 46.0	+0.7
MLH				IAML		00 37 49.7	
	comp=N,4μm,0.8s						
MLH				IAML		00 37 49.8	
	comp=E,7μm,1.2s						
JOKA	**Jonika Flow**	**0.26**	**82**		Pg	00 37 47.8	+0.3
JOKA				IAML		00 37 56.0	
	comp=N,4μm,1.0s						
JOKA				IAML		00 37 56.1	
	comp=E,3μm,1.5s						
HMH	**Humu'ula Sheep**	**0.28**	**316**		Pg	00 37 47.1	-0.8
HMH					Sg	00 37 52.7	+1.0
HMH				IAML		00 37 57.4	
	comp=E,3μm,1.3s						
HMH				IAML		00 37 57.6	
	comp=N,2μm,0.8s						
MLOA	**Mauna Loa Obse**	**0.32**	**296**		Pg	00 37 48.5	-0.1
MLOA				IAML		00 37 58.7	
	comp=N,2μm,1.0s						
MLOA				IAML		00 37 58.9	
	comp=E,3μm,0.9s						
MWH	**Moku'aweowe**	**0.32**	**286**		Pg	00 37 49.2	+0.6
MWH					Sg	00 37 52.3	-0.4
PAH	**Pahoa**	**0.32**	**72**	Pg	Pg	00 37 48.8	0.0
KHU	**Kahuku**	**0.35**	**245**	Pg	Pg	00 37 49.9	+0.6
KHU				IAML		00 37 59.6	
	comp=N,1μm,1.4s						
KHU				IAML		00 37 59.8	
	comp=E,2μm,1.0s						
HPO	**Honuapo**	**0.40**	**221**		Pg	00 37 50.9	+0.6
POHA	**Pohakuloa**	**0.43**	**326**		Pg	00 37 51.0	+0.1
POHA	**Pohakuloa**	**0.43**	**326**		Sg	00 37 51.6	-4.9
POHA				IAML		00 37 59.8	
	comp=E,2μm,0.8s						
POHA				IAML		00 38 06.1	
	comp=E,2μm,1.3s						
HUH	**Hualalai**	**0.60**	**299**		Pg	00 37 54.4	+0.3
HPAH	**Hawaii Prepara**	**0.74**	**328**	Pg	Pg	00 37 56.7	-0.1
HPAH					Sg	00 38 05.8	-0.7

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*IDC **20** 00:38:10.2±19.0, 19°.17N×155°.58W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=409.7km s-min=20.3km az=34.0*

*NEIC **20** 00:38:12.9±0.7, 19°.409N±0°.006×155°.284W±0°.008, h1km±4km, ML3.4/28, Error ellipse: s-maj=1.2km s-min=0.8km az=121.0*

ISC 20 00:38:12.7±1.2, 19°.41N±0°.04×155°.33W±0°.03, h1km±9km, n17, σ1§27/20, mb3.8/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.03**	**71**	Pg	**Pg**	**00 38 13.2**	**-0.2**
UWE				Sg	**Sg**	**00 38 14.2**	**+0.3**
BYL	**Byron's Ledge**	**0.06**	**88**	Pg	**Pg**	**00 38 13.4**	**-0.6**
BYL				IAML		00 38 14.0	
	comp=N,79μm,0.7s						
HATHI	**Halema'uma'u T**	**0.06**	**78**	Pg	**Pg**	**00 38 13.5**	**-0.5**
RSD	**Rainshed**	**0.07**	**40**	Pg	**Pg**	**00 38 14.0**	**-0.2**
MLH	**Mauna Loa**	**0.10**	**325**	Pg	**Pg**	**00 38 16.0**	**+1.2**
MLH				IAML		00 38 19.4	
	comp=N,17μm,1.1s						
MLH				IAML		00 38 19.4	
	comp=E,14μm,1.0s						
PUH	**Pauahi**	**0.11**	**109**	Pg	**Pg**	**00 38 14.3**	**-0.6**
HLP	**Hilina Pali**	**0.12**	**172**	Pg	**Pg**	**00 38 15.2**	**+0.2**
HLP				Sg	**Sg**	**00 38 18.6**	**+2.1**
KNHH	**Kane Nui o Ham**	**0.15**	**102**	Pg	**Pg**	**00 38 15.1**	**-0.6**
STCH	**Steam Cracks**	**0.19**	**97**	Pg	**Pg**	**00 38 15.4**	**-1.1**
STCH				IAML		00 38 19.2	
	comp=E,14μm,0.9s						
HMH	**Humu'ula Sheep**	**0.24**	**322**	Pg	**Pg**	**00 38 18.6**	**+1.1**
HMH				IAML		00 38 18.7	
	comp=N,6μm,0.9s						
HMH				IAML		00 38 23.7	
	comp=E,6μm,1.1s						
JOKA	**Jonika Flow**	**0.30**	**86**	Pg	**Pg**	**00 38 19.3**	**+0.7**
JOKA				Sg	**Sg**	**00 38 21.7**	**-0.8**
JOKA				IAML		00 38 26.4	
	comp=E,9μm,1.0s						
KHU	**Kahuku**	**0.32**	**239**	Pg	**Pg**	**00 38 19.3**	**+0.4**
KHU				IAML		00 38 27.5	
	comp=N,5μm,1.5s						
KHU				IAML		00 38 29.8	
	comp=E,5μm,1.2s						
PAH	**Pahoa**	**0.37**	**77**	Pg	**Pg**	**00 38 21.0**	**+1.2**
I59US	**HAWAII INFRASO**	**0.57**	**289**	Pg	**Pg**	**00 38 20.0**	**-3.6**
	baz=117,slow=65						
PDAR	**Pinedale Array**	**44.90**	**48**	P	**P**	**00 46 29.7**	**+0.4**
	comp=E,0.1nm,0.3s,baz=259,slow=7.8,SNR=1.9						
	comp=E,0.1nm,0.3s						
ILAR	**Eielson Array**	**45.68**	**5**	P	**P**	**00 46 34.6**	**-0.2**
	comp=E,1.1nm,1.0s,baz=194,slow=7.3,SNR=2.2						
	comp=E,1.1nm,1.0s						
TXAR	**Laubs Array**	**47.76**	**68**	P	**P**	**00 46 51.5**	**-0.3**
	comp=E,0.8nm,0.8s,baz=263,slow=8.3,SNR=8.6						
	comp=E,0.8nm,0.8s						

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*IDC **20** 00:43:19.0±0.5, 15°.13S×173°.50W, h0km, mb4.2/16, mbtmp4.2/17, ML3.7/1, MS4.0/11, Error ellipse: s-maj=21.8km s-min=15.9km az=134.0*

*NEIC **20** 00:43:22.7±2.6, 15°.14S±0°.06×172°.84W±0°.09, h10km±1km, mb4.8/51, Error ellipse: s-maj=15.6km s-min=8.9km az=118.0*

ISC 20 00:43:23.9±0.4, 15°.10S±0°.06×172°.86W±0°.06, h29km, n382, σ1§06/353, mb4.7/49, MS4.1/10, 19C-7D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.58**	**42**	Pn	**Pb**	**00 43 51.5**	**-1.0**
AFI				Sn	**Sb**	**00 44 11.4**	**-0.6**
NIUE	**Niue**	**4.85**	**145**		**Pn**	**00 44 36.7**	**+1.8**
NIUE				Sn	**Sn**	**00 45 29.0**	**-1.2**
MSVF	**Nonsavu**	**9.11**	**252**	Pn	**Pn**	**00 45 35.1**	**+1.5**
RAR	**Rarotonga**	**13.84**	**118**	Pn	**Pn**	**00 46 41.0**	**+2.9**
RAR	**Rarotonga**	**13.84**	**118**	Pn	**P**	**00 46 43.2**	**-3.0**
	3.5nm,0.3s,baz=302,slow=5.2,SNR=6.4						
RAR				Sn	**Sn**	**00 49 10.8**	**-0.1**
	0.8nm,0.3s,baz=48,slow=5.9,SNR=2.0						
RAR				LR	LR	00 51 02.1	
	comp=Z,142nm,18.2s,baz=296,slow=32						
	13nm,0.4s						
DZM	**Mont Dzumac**	**20.80**	**247**	*e*P	**P**	**00 48 03.7**	**+0.6**
	41nm,1.4s						
DZM				*e*S	**S**	**00 51 51.6**	**-2.4**
	196nm,22.4s						
DZM				*e*LR	LR	00 53 02.7	
	608nm,24.4s						
DZM	**Mont Dzumac**	**20.80**	**247**	P	P	00 47 55.0	-8.1
	2.1nm,0.8s,baz=126,slow=19,SNR=1.2						
DZM				LR	LR	00 54 16.0	
	comp=Z,360nm,20.6s,baz=136,slow=32						
	2.1nm,0.8s						
PPT	**Papeete**	**22.47**	**99**	LR	LR	00 56 55.6	
	comp=Z,149nm,18.3s,baz=288,slow=35						
PPT2	**Papeete2**	**22.47**	**100**	*e*LR	LR	00 53 42.9	
	462nm,26.2s						
PPT2				*e*LR	LR	00 53 49.0	
	278nm,27.0s						
TBI	**Tubuai**	**23.54**	**114**	*e*LR	LR	00 54 15.6	
	2μm,26.8s						
TBI				*e*LR	LR	00 54 17.6	
	874nm,26.5s						
HNR	**Honiara**	**27.15**	**279**	LR	LR	00 58 02.7	
	comp=Z,1μm,19.6s,baz=95,slow=33						
H11S2	**WAKE ISLAND Hy**	**38.98**	**328**	T	T	01 31 44.9	
	baz=148,slow=76,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**38.99**	**328**	T	T	01 31 44.1	
	baz=148,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**39.00**	**328**	T	T	01 31 30.6	
	baz=148,slow=76,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**39.91**	**329**	T	T	01 33 14.5	
	baz=152,slow=80						
H11N1	**WAKE ISLAND Hy**	**39.92**	**329**	T	T	01 32 59.5	
	baz=152,slow=80						
H11N2	**WAKE ISLAND Hy**	**39.93**	**329**	T	T	01 33 11.8	
	baz=152,slow=80						
STKA	**Stephens Creek**	**44.64**	**240**	P	P	00 51 28.6	-5.6
	1.7nm,0.6s,baz=141,slow=21,SNR=1.6						
	1.7nm,0.6s						
WRA	**Warramunga Arr**	**50.42**	**256**	P	P	00 52 13.3	-6.0
	1.6nm,0.7s,baz=90,slow=7.5,SNR=18						
	1.6nm,0.7s						
GUMO	**Guam**	**50.62**	**302**	LR	LR	01 11 29.1	
	comp=Z,33nm,18.6s,baz=104,slow=34						
ASAR	**Alice Springs**	**50.70**	**252**	P	P	00 52 15.2	-6.2
	7.2nm,0.7s,baz=86,slow=8.2,SNR=58						
	7.2nm,0.7s						
VNDA	**Vanda**	**63.73**	**186**	P	**P**	**00 53 52.3**	**-0.2**
	1.1nm,0.9s,baz=349,slow=5.9,SNR=5.9						
	1.1nm,0.9s						
KAPI	**Kappang**	**66.90**	**271**	LR	LR	01 21 48.9	
	comp=Z,162nm,20.0s,baz=186,slow=35						
MJAR	**Matsushiro Arr**	**69.05**	**319**	P	**P**	**00 54 23.6**	**-3.6**
	0.9nm,0.3s,baz=159,slow=6.8,SNR=8.0						
MJAR				LR	LR	01 19 05.5	
	comp=Z,105nm,21.0s,baz=160,slow=31						
	0.9nm,0.3s						
MONP2	**Monument Peak**	**71.97**	**47**	P	**P**	**00 54 45.1**	**-0.2**
	baz=238						
S14K	**Fog Glacier**	**71.98**	**8**	P	**P**	**00 54 45.9**	**+1.2**
	baz=194						
SPIA	**Saint Paul Isl**	**72.03**	**1**	P	**P**	**00 54 45.3**	**+0.4**
	baz=183						
IKP	**In-Ko-Pah, Jac**	**72.07**	**48**	P	**P**	**00 54 45.4**	**-0.4**
	baz=238						
ISA	**Isabella, Lake**	**72.07**	**44**	P	**P**	**00 54 45.4**	**-0.3**
	baz=236						
CHIR	**Chirikof Islan**	**72.12**	**10**	P	**P**	**00 54 45.9**	**+0.6**
	baz=197						
CHGN	**Chignik**	**72.15**	**8**	P	**P**	**00 54 46.4**	**+0.8**
	baz=195						
PFO	**Pinyon Flats O**	**72.33**	**47**	P	**P**	**00 54 47.5**	**+0.2**
	baz=237						
TPFO	**Pinon Flats**	**72.33**	**47**	P	**P**	**00 54 48.2**	**+0.9**
	baz=237						
LPIG	**La Paz**	**72.43**	**58**	LR	LR	01 21 19.4	
	comp=Z,195nm,18.4s,baz=192,slow=31						
SWSC	**Sam W. Stewart**	**72.45**	**48**	P	**P**	**00 54 48.0**	**+0.1**
	baz=236						
CWC	**Cottonwood Cre**	**72.77**	**44**	P	**P**	**00 54 51.3**	**+1.3**
	baz=236						
BELC	**Belle Mtn. Jos**	**72.86**	**47**	P	**P**	**00 54 51.7**	**+1.2**
	baz=238						
MPMC	**Manual Prospec**	**72.95**	**44**	P	**P**	**00 54 53.0**	**+1.9**
	baz=236						
GSC	**Goldstone, Bar**	**73.00**	**45**		**P**	**00 54 54.2**	**+2.9**
GSC	**Goldstone, Bar**	**73.00**	**45**	P	**P**	**00 54 52.5**	**+1.2**
	baz=237						
R17L	**Mt. Peulik Vol**	**73.74**	**9**	P	**P**	**00 54 56.2**	**+1.2**
	baz=197						
NVAR	**Mina Array Bea**	**73.75**	**42**	P	**P**	**00 54 58.1**	**+2.4**
	1.7nm,0.7s,baz=226,slow=9.3,SNR=11						
	1.7nm,0.7s						
OHAK	**Old Harbor**	**73.87**	**11**	P	**P**	**00 54 56.9**	**+1.2**
	baz=200						
R18K	**Karluk**	**73.99**	**10**	P	**P**	**00 54 57.2**	**+0.9**
	baz=198						
TPNV	**Topopah Spring**	**74.28**	**44**	P	**P**	**00 54 58.4**	**-0.4**
	baz=237						
Q17K	**Contact Creek**	**74.42**	**9**	P	**P**	**00 54 59.8**	**+0.7**
	baz=197						
KDAK	**Kodiak Island**	**74.52**	**11**	P	**P**	**00 55 00.5**	**+1.0**
	baz=200						
O14K	**Tigyukauivet M**	**74.69**	**6**	P	**P**	**00 55 01.3**	**+0.9**
	baz=192						
O15K	**Ungalikthiuk R**	**74.77**	**7**	P	**P**	**00 55 01.6**	**+0.7**
	baz=193						
P16K	**Nushagak River**	**74.86**	**8**	P	**P**	**00 55 02.2**	**+0.8**
	baz=195						
J05D	**Fort Rock, OR**	**74.86**	**36**	P	**P**	**00 55 05.3**	**+3.3**
J05D				IAmb	IAmb	00 55 05.9	
	comp=Z,10nm,0.9s						
Q18K	**Katmai Hardscr**	**74.92**	**10**	P	**P**	**00 55 02.2**	**+0.2**
	baz=198						
QSPA	**South Pole Qui**	**74.94**	**180**	P	**P**	**00 55 02.2**	**0.0**
	comp=Z,1.7nm,0.7s,baz=105,slow=0.4,SNR=11						
	comp=Z,1.7nm,0.7s						
P17K	**Kvichak River**	**75.23**	**9**	P	**P**	**00 55 03.8**	**+0.2**
	baz=196						
N14K	**Kuskokwak Cree**	**75.30**	**6**	P	**P**	**00 55 04.2**	**+0.3**
	baz=191						
Q20K	**Shuyak Island**	**75.34**	**11**	P	**P**	**00 55 04.0**	**-0.2**
	baz=200						
O16K	**Kokwok River B**	**75.39**	**8**	P	**P**	**00 55 04.9**	**+0.4**
	baz=195						
M11K	**Mekoryuk**	**75.41**	**3**	P	**P**	**00 55 03.7**	**-0.9**
	baz=187						
Q19K	**Cape Douglas,**	**75.42**	**10**	P	**P**	**00 55 04.6**	**-0.1**
	baz=199						
R11B	**Troy Canyon, C**	**75.48**	**43**	P	**P**	**00 55 08.4**	**+2.7**
R11B	**Troy Canyon, C**	**75.48**	**43**	P	**P**	**00 55 04.8**	**-1.0**
	baz=237						
BMN	**Battle Mountai**	**75.58**	**41**	P	**P**	**00 55 09.2**	**+2.9**
BMN				IAmb	IAmb	00 55 09.8	
	comp=Z,5.5nm,0.8s						
P18K	**Big Mountain,**	**75.60**	**9**	P	**P**	**00 55 06.2**	**+0.4**
P18K	**Big Mountain,**	**75.60**	**9**	P	**P**	**00 55 05.5**	**-0.2**
	baz=198						
M13K	**Dall Lake**	**75.64**	**5**	P	**P**	**00 55 05.8**	**-0.1**
	baz=189						
O17K	**Koliganek Bris**	**75.70**	**8**	P	**P**	**00 55 05.8**	**-0.4**
	baz=196						
N15K	**Kwethluk River**	**75.71**	**7**	P	**P**	**00 55 06.2**	**-0.2**
	baz=193						
O18K	**Koktuh Hills**	**76.05**	**9**	P	**P**	**00 55 08.9**	**+0.6**
	baz=198						
M14K	**Bethel**	**76.09**	**5**	P	**P**	**00 55 09.9**	**+1.5**
M14K	**Bethel**	**76.09**	**5**	P	**P**	**00 55 09.3**	**+0.8**
	baz=191,SNR=9.7						
N16K	**Nishlik Lake**	**76.16**	**7**	P	**P**	**00 55 09.4**	**+0.5**
	baz=194						
M15K	**Kasigluk River**	**76.16**	**6**	P	**P**	**00 55 10.1**	**+1.2**
	baz=192						
KSRS	**Korea Array**	**76.31**	**315**	P	**P**	**00 55 08.8**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=136,slow=6.2,SNR=9.2						
	comp=Z,0.6nm,0.3s						
KSAR	**Wonju Array Be**	**76.33**	**315**	P	**P**	**00 55 09.9**	**-0.5**
I07A	**Izee**	**76.34**	**37**	P	**P**	**00 55 12.8**	**+2.4**
I07A				IAmb	IAmb	00 55 14.0	
	comp=Z,7.0nm,1.0s						
N17K	**Nushagak Hills**	**76.41**	**8**	P	**P**	**00 55 11.7**	**+1.4**
	baz=196						
ILSW	**Iliamna Southw**	**76.50**	**10**	P	**P**	**00 55 11.5**	**+0.5**
L14K	**Kuka Creek**	**76.61**	**5**	P	**P**	**00 55 12.5**	**+1.2**
	baz=190,SNR=5.9						
M16K	**Timber Creek**	**76.67**	**7**	P	**P**	**00 55 12.6**	**+0.8**
	baz=194						
O20K	**Slope Mountain**	**76.68**	**10**	P	**P**	**00 55 13.4**	**+1.5**
	baz=200						
BRSE	**Bradley Lake S**	**76.70**	**11**	P	**P**	**00 55 12.9**	**+0.9**
	baz=202						
N18K	**Kilae Creek**	**76.74**	**8**	P	**P**	**00 55 12.2**	**0.0**
	baz=197						
K13K	**Kusilvak Mount**	**77.05**	**4**	P	**P**	**00 55 14.6**	**+0.8**
	baz=188						
L15K	**Ungalak Mounta**	**77.05**	**6**	P	**P**	**00 55 14.6**	**+0.8**
	baz=191,SNR=7.9						
N19K	**Bonanza Creek**	**77.07**	**9**	P	**P**	**00 55 14.2**	**0.0**
	baz=198						
M17K	**Holitna River**	**77.22**	**8**	P	**P**	**00 55 15.5**	**+0.6**
	baz=195						
L16K	**Owhat River**	**77.28**	**6**	P	**P**	**00 55 15.9**	**+0.8**
	baz=193						
SEW	**Seward**	**77.29**	**12**	P	**P**	**00 55 16.3**	**+1.0**
	baz=203						
USRK	**Ussuriysk Ar.**	**77.46**	**323**	P	**P**	**00 55 15.2**	**-1.4**
	comp=Z,2.5nm,0.8s,baz=132,slow=2.8,SNR=5.6						
	comp=Z,2.5nm,0.8s						
M18K	**Stony River**	**77.53**	**8**	P	**P**	**00 55 17.3**	**+0.7**
	baz=197						
P23K	**Montague Islan**	**77.61**	**13**	P	**P**	**00 55 17.7**	**+0.6**
	baz=205						
K15K	**Wolf Creek Mou**	**77.65**	**5**	P	**P**	**00 55 19.3**	**+2.0**
K15K	**Wolf Creek Mou**	**77.65**	**5**	P	**P**	**00 55 18.1**	**+0.9**
	baz=191,SNR=8.9						
L17K	**Donlin**	**77.83**	**7**	P	**P**	**00 55 20.1**	**+1.9**
	baz=194,SNR=5.8						
CRAG	**Craig**	**77.86**	**22**	P	**P**	**00 55 19.8**	**+1.2**
	baz=219						
J14K	**Nanvaranak Lak**	**77.94**	**4**	P	**P**	**00 55 20.2**	**+1.5**
	baz=189						
BMO	**Blue Mountains**	**78.07**	**37**	P	**P**	**00 55 22.3**	**+2.2**
L18K	**Granite Mounta**	**78.11**	**8**	P

	baz=239						
M20K	Styx River	78.30	9	P	P	00 55 22.1	+1.1
	baz=199						
SUA	Susitna One	78.31	11	P	P	00 55 21.9	+0.8
	baz=202						
L19K	White Mountain	78.32	9	P	P	00 55 22.1	+1.1
	baz=198						
SIT	Sitka	78.36	20	P	P	00 55 21.9	+0.6
	baz=217						
U33K	Whale Pass	78.37	21	P	P	00 55 22.0	+0.7
	baz=219						
K17K	Iditarod	78.40	7	P	P	00 55 23.2	+1.8
K17K				IAmb	IAmb	00 55 24.1	
	comp=Z,8.9nm,1.0s						
K17K	Iditarod	78.40	7	P	P	00 55 23.0	+1.6
	baz=194,SNR=5.1						
EYAK	Cordova Ski Ar	78.47	13	P	P	00 55 22.3	+0.5
	baz=207						
GLI	Glacier Island	78.48	13	P	P	00 55 22.7	+0.8
	baz=205						
SKT	Skwentna	78.65	10	P	P	00 55 23.0	+0.2
SKT	Skwentna	78.65	10	P	P	00 55 22.8	-0.1
	baz=201						
KNK	Knik Glacier	78.69	12	P	P	00 55 23.6	+0.6
	baz=204						
M22K	Willow	78.69	11	P	P	00 55 23.9	+0.9
	baz=202						
J16K	Anvik River	78.71	6	P	P	00 55 24.9	+1.9
J16K	Anvik River	78.71	6	P	P	00 55 24.3	+1.2
	baz=192,SNR=6.2						
L20K	Farewell, AK	78.75	9	P	P	00 55 23.4	0.0
	baz=199						
S31K	Pelican	78.80	19	P	P	00 55 23.9	+0.3
	baz=216						
TTA	Tatalina	78.88	8	P	P	00 55 24.3	+0.1
	baz=196,SNR=8.1						
J17K	VABM Dome	78.97	6	P	P	00 55 24.9	+0.4
	baz=194						
MESA	MESA	79.04	15	P	P	00 55 25.5	+0.3
	baz=210						
HLID	Hailey	79.06	39	P	P	00 55 28.8	+3.0
HLID				IAmb	IAmb	00 55 29.4	
	comp=Z,8.9nm,0.9s						
HLID	Hailey	79.06	39	P	P	00 55 25.3	-0.4
	baz=237						
BMRM	Bremner River	79.10	14	P	P	00 55 26.0	+0.6
	baz=208						
HVU	Hansel Valley	79.13	41	P	P	00 55 28.2	+2.0
HVU				IAmb	IAmb	00 55 29.5	
	comp=Z,6.8nm,0.9s						
M23K	Glacier View	79.18	12	P	P	00 55 27.2	+1.5
	baz=205						
CRQE	Cirque	79.26	14	P	P	00 55 26.8	+0.5
	baz=209						
KLU	Klutina	79.28	13	P	P	00 55 26.6	+0.2
	baz=206						
PNL	Peninsula	79.28	17	P	P	00 55 26.9	+0.6
	baz=213						
SCM	Sheep Creek Mo	79.30	12	IAmb	IAmb	00 55 27.9	
	comp=Z,8.2nm,0.7s						
SCM	Sheep Creek Mo	79.30	12	P	P	00 55 27.7	+1.3
	baz=205						
J18K	Innoko River	79.31	7	P	P	00 55 28.0	+1.6
J18K				IAmb	IAmb	00 55 28.8	
	comp=Z,9.9nm,0.9s						
J18K	Innoko River	79.31	7	P	P	00 55 27.5	+1.1
	baz=196,SNR=10						
K20K	Telida	79.56	8	P	P	00 55 28.3	+0.5
	baz=198,SNR=5.3						
VRDI	Verde Repeater	79.59	14	P	P	00 55 28.4	+0.2
VRDI				IAmb	IAmb	00 55 30.1	
	comp=Z,12nm,1.1s						
R32K	Eaglecrest	79.60	19	P	P	00 55 28.6	+0.5
	baz=217						
ANM	Nome	79.62	3	P	P	00 55 29.0	+0.9
	baz=187						
N25K	Chitina, Valde	79.67	13	IAmb	IAmb	00 55 30.3	
	comp=Z,7.4nm,0.8s						
N25K	Chitina, Valde	79.67	13	P	P	00 55 28.9	+0.4
	baz=208,SNR=6.1						
TCUT	Toone Canyon	79.67	42	P	P	00 55 32.2	+3.0
P29M	Windy Craggy	79.72	17	P	P	00 55 29.6	+0.9
	baz=214						
M24K	Tolsona, Glenn	79.78	12	P	P	00 55 29.4	+0.4
	baz=206						
CTG	Chitna Glacier	79.88	15	P	P	00 55 30.3	+0.6
	baz=211						
WAT6	Susitna Watana	79.89	12	P	P	00 55 30.6	+0.8
	baz=205,SNR=6.6						
H16K	Elim	79.90	5	P	P	00 55 30.0	+0.5
	baz=190						
J19K	Poorman	79.96	8	P	P	00 55 31.0	+1.1
	baz=197						
WAT1	Susitna Watana	79.97	11	P	P	00 55 30.1	+0.1
	baz=204						
PLBC	Pleasant Camp	79.97	18	P	P	00 55 31.3	+1.2
	baz=216						
O28M	Mount Upton	80.00	16	P	P	00 55 31.0	+0.5
	baz=212						
TXAR	Lajitas Array	80.01	56	P	P	00 55 33.1	+2.0
	comp=Z,2.3nm,1.0s,baz=223,slow=6.4,SNR=11						
TXAR				LR	LR	01 23 37.6	
	comp=Z,82nm,20.6s,baz=196,slow=30						
	comp=Z,2.3nm,1.0s						
O29M	Mount Kennedy	80.04	17	P	P	00 55 31.6	+1.0
	baz=214						
T35M	Bob Quinn	80.06	22	P	P	00 55 31.1	+0.5
	baz=222						
G15K	Niukluk	80.13	4	P	P	00 55 31.8	+1.0
	baz=189						
NEW	Newport	80.16	34	P	P	00 55 33.2	+1.8
	baz=234						
HARP	HAARP	80.25	13	P	P	00 55 32.6	+1.1
	baz=207						
J20K	Nowinta River	80.33	8	IAmb	IAmb	00 55 33.9	
	comp=Z,11nm,1.0s						
J20K	Nowinta River	80.33	8	P	P	00 55 32.4	+0.5
	baz=198,SNR=11						
P30M	Million Dollar	80.34	17	P	P	00 55 33.2	+1.1
	baz=215						
NJ2	Nanjing	80.40	307	eP	P	00 55 36.0	+3.0
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,150nm,4.7s						
DHY	Denali Highway	80.42	11	P	P	00 55 33.1	+0.5
	baz=205						
S34M	Telegraph Cree	80.45	21	P	P	00 55 34.1	+1.5
	baz=221						
F14K	Arctic Creek	80.48	3	P	P	00 55 33.6	+0.9
	baz=186						
TNA	Tin City	80.50	2	P	P	00 55 33.9	+1.2
	baz=185						
YUK6	Outpost Mounta	80.63	16	P	P	00 55 34.6	+0.7
	baz=214						
G16K	Koyuk River	80.64	4	P	P	00 55 34.2	+0.7
	baz=190						
PAX	Paxson	80.70	12	P	P	00 55 34.1	+0.1
	baz=207						
BPAW	Bear Paw Mtn.	80.73	10	P	P	00 55 33.4	-0.7
	baz=201						
M26K	Nabesna, AK	80.73	14	P	P	00 55 34.6	+0.4
	baz=209,SNR=13						
MCK	McKinley	80.73	11	P	P	00 55 33.9	-0.1
	baz=203,SNR=7.9						
H18K	Honhosa River	80.76	6	P	P	00 55 33.3	-0.9
	baz=194						
YUK3	Moose Creek	80.79	15	P	P	00 55 34.8	+0.1
	baz=212,SNR=7.4						
F15K	North Star Dit	80.80	3	P	P	00 55 35.6	+1.2
	baz=188						
Q32M	Nakina River	80.87	20	P	P	00 55 35.0	-0.1
	baz=219						
G17K	Kiwalik Mounta	80.89	5	P	P	00 55 35.4	+0.5
	baz=192						
P32M	Atlin	80.89	19	P	P	00 55 35.2	+0.1
	baz=218						
YUK4	Talbot Arm	80.89	16	P	P	00 55 36.7	+1.4
	baz=213						
M27K	Edge Creek, AK	80.95	14	IAmb	IAmb	00 55 38.5	
	comp=Z,15nm,1.1s						
M27K	Edge Creek, AK	80.95	14	P	P	00 55 35.6	+0.2
	baz=210,SNR=12						
BNX	BinXian	81.02	322	⇑P	P	00 55 35.0	-1.0
BNX				pmax	pmax		
	comp=Z,9.0nm,0.8s						
O30N	Mendenhall	81.12	17	IAmb	IAmb	00 55 38.8	
	comp=Z,8.0nm,0.9s						
O30N	Mendenhall	81.12	17	P	P	00 55 37.3	+1.0
	baz=216,SNR=7.4						
DLMT	Dillon	81.13	38	P	P	00 55 38.5	+1.7
MSO	Missoula	81.13	37	P	P	00 55 36.7	0.0
	baz=237						
TPAW	Teton Pass	81.17	41	P	P	00 55 39.2	+2.0
TPAW				IAmb	IAmb	00 55 40.7	
	comp=Z,8.9nm,0.8s						
S22A	4UR Ranch, Cre	81.18	47	P	P	00 55 36.9	-0.6
	baz=243						
L26K	Log Cabin Wild	81.20	13	P	P	00 55 37.7	+1.0
	baz=209						
DLBC	Dease Lake	81.23	21	P	P	00 55 37.3	+0.3
	baz=222						
O20A	White River Ci	81.30	44	P	P	00 55 36.4	-1.5
	baz=242						
H19K	Roundabout Mou	81.33	7	IAmb	IAmb	00 55 39.6	
	comp=Z,6.8nm,1.0s						
H19K	Roundabout Mou	81.33	7	P	P	00 55 38.1	+0.9
	baz=196						
IMW	Indian Meadow	81.38	40	P	P	00 55 40.2	+1.8
IMW				IAmb	IAmb	00 55 41.9	
	comp=Z,7.5nm,0.8s						
K24K	Donnelly Dome	81.39	12	P	P	00 55 38.4	+0.8
	baz=206						
WHY	Whitehorse	81.39	18	P	P	00 55 37.7	-0.1
	baz=217						
N30M	Aishikik Lake	81.41	16	P	P	00 55 38.4	+0.6
	baz=215						
G18K	Tagagawik	81.45	6	P	P	00 55 38.5	+0.6
	baz=194						
H20K	Anotleneega Mo	81.49	7	P	P	00 55 38.7	+0.6
	baz=198						
NEA2	Nenana	81.50	10	P	P	00 55 37.6	-0.6
	baz=203						
L27K	Beaver Creek,	81.57	14	P	P	00 55 38.9	+0.3
	baz=210						
R33M	Jennings River	81.63	20	P	P	00 55 39.6	+0.5
	baz=221						
MLY	Manley	81.64	9	P	P	00 55 38.7	-0.2
	baz=202						
BW06	Boulder Array	81.69	42	P	P	00 55 38.8	-1.2
	baz=241						
PD31	Pinedale Array	81.69	42	P	P	00 55 41.2	+1.3
PDAR	Pinedale Array	81.69	42	P	P	00 55 42.0	+2.1
PDAR	Pinedale Array	81.69	42	P	P	00 55 42.0	+2.1
	comp=Z,3.1nm,0.8s,baz=213,slow=3.5,SNR=24						
	comp=Z,3.1nm,0.8s						
HDA	Harding Lake	81.71	11	P	P	00 55 39.8	+0.5
	baz=205,SNR=8.5						
YHL	Hebgen Lake	81.72	39	P	P	00 55 42.8	+2.6
F17K	Baldwin Pennin	81.76	5	P	P	00 55 40.8	+1.4
F17K	Baldwin Pennin	81.76	5	P	P	00 55 39.9	+0.4
	baz=191						
CCB	Clear Creek Bu	81.77	11	IAmb	IAmb	00 55 40.8	
	comp=Z,11nm,1.0s						
N31M	Braeburn, Yuko	81.80	17	P	P	00 55 40.3	+0.5
	baz=216						
BOZ	Bozeman (W)	81.83	38	P	P	00 55 40.0	-0.5
	baz=239						
G19K	Purcell Mounta	81.86	6	IAmb	IAmb	00 55 42.2	
	comp=Z,5.9nm,1.0s						
G19K	Purcell Mounta	81.86	6	P	P	00 55 41.0	+1.1
	baz=195						
M29M	Somme Creek	81.86	15	P	P	00 55 40.8	+0.5
	baz=213						
SCRK	Sand Creek	81.90	12	P	P	00 55 40.7	+0.2
	baz=208,SNR=7.3						
H21K	Melozitna Rive	81.92	8	P	P	00 55 41.4	+1.0
	baz=200,SNR=7.6						
I23K	Minto, Yukon-K	81.97	10	P	P	00 55 41.4	+0.8
	baz=203						
COLA	College	81.97	11	P	P	00 55 40.3	-0.2
	baz=204						
ILAR	Eielson Array	82.05	11	P	P	00 55 41.6	+0.5
ILAR	Eielson Array	82.05	11	P	P	00 55 41.1	+0.1
	comp=Z,1.9nm,0.9s,baz=212,slow=5.3,SNR=14						
	comp=Z,1.9nm,0.9s						
F18K	Selawik	82.05	5	P	P	00 55 41.5	+0.6
	baz=193						
IMAR	Indian Mountai	82.10	8	P	P	00 55 42.8	+1.5
SDCO	Great Sand Dun	82.12	48	P	P	00 55 40.4	-2.0
	baz=244						
J25K	Salcha River,	82.19	12	IAmb	IAmb	00 55 43.6	
	comp=Z,7.5nm,1.0s						
J25K	Salcha River,	82.19	12	P	P	00 55 42.1	+0.2
	baz=207,SNR=9.3						
POKR	Poker Flat Res	82.27	11	P	P	00 55 41.8	-0.4
	baz=205,SNR=5.1						
H22K	Ishtalitna Cre	82.35	9	P	P	00 55 42.5	0.0
	baz=201,SNR=6.8						
E17K	Hotham Inlet	82.35	4	P	P	00 55 43.2	+0.6
	baz=191						
M30M	Minto, Yukon	82.41	16	P	P	00 55 43.8	+0.8
	baz=215						
J26L	Joseph Creek	82.45	12	P	P	00 55 44.2	+0.9
	baz=208,SNR=6.1						
F19K	Shaleruckik Mo	82.46	6	P	P	00 55 43.7	+0.6
	baz=195						
L29M	L29M	82.50	15	P	P	00 55 44.1	+0.6
	baz=214,SNR=12						
MSTX	Muleshoe	82.56	52	P	P	00 55 44.5	0.0
	baz=246						
H23K	Yukon River	82.56	9	P	P	00 55 43.5	-0.2
	baz=203						
G21K	Allakaket	82.64	8	P	P	00 55 45.1	+1.0
	baz=199						
T25A	Trinidad	82.65	49	P	P	00 55 44.8	-0.2
	baz=245						
RWWY	Rawlins	82.71	43	P	P	00 55 45.3	-0.1
M31M	Drury Creek, Y	82.77	17	P	P	00 55 45.5	+0.7
	baz=217						
E18K	Tukpahlearik C	82.78	5	P	P	00 55 45.7	+0.9
	baz=192						
H24K	Noodor Dome	82.85	10	P	P	00 55 46.1	+0.9
	baz=204						
D17K	Noatak River	82.87	4	P	P	00 55 46.1	+0.9
	baz=190						
F20K	Avaraart Lake	82.88	7	P	P	00 55 46.0	+0.7
	baz=197						
Q24A	Divide	82.90	47	P	P	00 55 46.5	+0.1
	baz=244						
ISCO	Idaho Springs	82.94	46	P	P	00 55 46.8	+0.1
	baz=244						
PRP	Porcupine Dome	82.97	11	P	P	00 55 46.6	+0.5
	baz=206						
DAWY	Dawson	83.00	14	P	P	00 55 47.1	+1.0
	baz=212						
RLMT	Red Lodge	83.03	40	P	P	00 55 46.9	0.0
	baz=240						
E19K	Redstone River	83.12	6	P	P	00 55 48.0	+1.4
E19K				IAmb	IAmb	00 55 48.8	
	comp=Z,9.1nm,1.1s						
E19K	Redstone River	83.12	6	P	P	00 55 47.0	+0.4
	baz=195						
N23A	Red Feather La	83.20	45	P	P	00 55 48.0	+0.1
	baz=243						
EGAK	Eagle	83.21	13	P	P	00 55 47.6	+0.6
	baz=211						
I26K	Coal Creek Min	83.25	12	P	P	00 55 48.0	+0.7
	baz=209						
TOAD	Toad River Com	83.26	23	P	P	00 55 47.7	+0.2
	baz=226						
K29M	Barlow Dome	83.27	15	IAmb	IAmb	00 55 49.9	
	comp=Z,5.4nm,0.9s						
K29M	Barlow Dome	83.27	15	P	P	00 55 48.3	+0.7
	baz=214,SNR=8.0						
G22K	Bettles	83.29	8	P	P	00 55 48.3	+0.9
	baz=201						
G23K	Bananza Creek	83.31	9	P	P	00 55 48.2	+0.6
	baz=202						
F21K	Alatna River	83.31	7	P	P	00 55 48.4	+0.8
	baz=199						
C16K	Lisburne Hills	83.32	3	P	P	00 55 48.5	+1.0
	baz=187						
JCT	Junction City	83.55	56	P	P	00 55 49.2	-0.5
	baz=248						
K22A	Casper	83.61	43	P	P	00 55 50.2	+0.4
	baz=243						
C17K	DeLong Mountai	83.64	4	P	P	00 55 50.2	+1.0
	baz=189						
AMTX	Amarillo	83.75	52	P	P	00 55 51.0	+0.4
	baz=247						
F22K	John River	83.75	8	P	P	00 55 50.9	+1.1
	baz=200						
COLD	Coldfoot	83.77	9	P	P	00 55 50.9	+1.1
	baz=202						
I27K	Kandik River	83.82	13	P	P	00 55 50.9	+0.6
	baz=210						
C18K	Utukok River	83.94	4	P	P	00 55 50.9	+0.1
	baz=191						
E20K	Nigu River	84.00	6	P	P	00 55 51.8	+0.7
	baz=196						
MMPY	Sheldon Lake,	84.00	18	IAmb	IAmb	00 55 53.7	
	comp=Z,4.6nm,0.9s						
MMPY	Sheldon Lake,	84.00	18	P	P	00 55 51.8	+0.6
	baz=220,SNR=5.7						
D19K	Kuna River	84.04	5	P	P	00 55 53.1	+1.8
D19K				IAmb	IAmb	00 55 53.1	
	comp=Z,5.0nm,1.1s						
D19K	Kuna River	84.04	5	P	P	00 55 52.0	+0.7
	baz=194						
I28M	Miner Creek	84.05	13	P	P	00 55 52.5	+1.0
	baz=212						
TGTN	Hyland Airport	84.12	20	P	P	00 55 53.0	+1.1
	baz=223						
J30M	Hart River	84.17	15	P	P	00 55 53.0	+0.9
	baz=215						
PMSA	Palmer Station	84.24	156	LR	LR	01 31 44.2	
	comp=Z,116nm,18.0s,baz=220,slow=34						
I29M	Ogilvie Camp,	84.35	14	P	P	00 55 54.3	+1.4
	baz=213						
F24K	Squaw Lake	84.39	9	P	P	00 55 54.2	+1.1
	baz=204						
H27K	Steamboat Moun	84.39	12	P	P	00 55 54.6	+1.5
	baz=210						
E22K	Anaktuvuk Pass	84.39	8	P	P	00 55 53.8	+0.7
	baz=200						
D20K	Etivluk River	84.39	6	P	P	00 55 53.9	+0.8
	baz=196						
E21K	Killik River	84.42	7	IAmb	IAmb	00 55 55.0	
	comp=Z,9.8nm,1.1s						
E21K	Killik River	84.42	7	P	P	00 55 54.0	+0.8
	baz=198						
ABTX	Abilene, Hawle	84.46	54	P	P	00 55 54.3	+0.1
	baz=248						
C19K	Lookout Ridge	84.51	5	P	P	00 55 54.6	+0.9
	baz=193						
G26K	Porcupine Rive	84.58	11	P	P	00 55 55.0	+1.0
	baz=208						
B18K	Kokolik River	84.60	4	P	P	00 55 55.3	+1.2
	baz=191						
E23K	Chandalar	84.62	9	P	P	00 55 55.4	+1.0
	baz=202						
I30M	Mount Dempster	84.69	15	P	P	00 55 55.4	+0.7
	baz=215						
KSCO	Kaye Shedlock'	84.70	47	P	P	00 55 55.7	+0.2
	baz=246						
E24K	Your Creek	84.80	9	P	P	00 55 56.6	+1.4
	baz=204						
F25K	Christian Rive	84.82	10	P	P	00 55 56.4	+1.1
	baz=206						
BMAR	Burnt Mountain	84.86	11	P	P	00 55 57.1	+1.6
G27K	Doyon Strip	84.86	12	P	P	00 55 56.4	+0.9
	baz=210						
D22K	Ayikyak River	84.99	7	P	P	00 55 57.2	+1.1
	baz=200						
C21K	Knifeblade Rid	85.01	6	P	P	00 55 57.1	+0.9
	baz=198						
H29M	Whitestone	85.05	13	IAmb	IAmb	00 56 01.3	
	comp=Z,4.8nm,1.1s						
H29M	Whitestone	85.05	13	P	P	00 55 56.9	+0.5
	baz=213						
TOLK	Toolik Lake Re	85.17	8	P	P	00 55 57.9	+0.9
	baz=202						
F26K	Sheenjek River	85.17	11	P	P	00 55 58.0	+0.9
	baz=208						
D23K	Nanushuk River	85.32	8	P	P	00 55 59.2	+1.5
	baz=201						
EPYK	Eagle Plains	85.55	14	P	P	00 55 59.6	+0.6
	baz=215						
B20K	Meade River	85.60	5	P	P	00 56 00.2	+1.2
	baz=195						
LAO	LASA Array	85.64	39	P	P	00 55 59.9	+0.1
	baz=243						
RSSD	Black Hills	85.88	42	P	P	00 56 01.3	0.0
	baz=244						
WMOK	Wichita Mounta	85.90	53	P	P	00 56 01.1	-0.3
	baz=248						
F28M	Old Crow	85.91	12	P	P	00 56 01.5	+0.8
	baz=212						
E27K	Coleen River	86.07	11	P	P	00 56 02.6	+1.1
	baz=210						
C23K	Itkillik River	86.14	8	P	P	00 56 02.6	+0.8
	baz=202						
G30M	tAoh Zraii Nji	86.17	14	P	P	00 56 02.5	+0.5
	baz=215						
LYN	LuoYang	86.30	307	P	P	00 56 06.5	+3.2
LYN				pmax	pmax		
	comp=Z,28nm,0.6s						
G31M	Satah River	86.57	14	P	P	00 56 04.7	+0.8
	baz=217						
XLT	XiLinHaoTe	87.26	317	eP	P	00 56 06.8	-1.2
XLT				pP	PcP	00 56 11.8	+1.8
XLT				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MAW	Mawson	88.25	198	P	P	00 56 10.8	-1.3
	comp=Z,1.7nm,0.7s,baz=256,slow=8.3,SNR=2.5						
	comp=Z,1.7nm,0.7s						
PLCA	Paso Flores	89.32	132	LR	LR	01 29 04.7	
	comp=Z,63nm,19.3s,baz=208,slow=31						
YKA	Yellowknife Ar	89.61	23	P	P	00 56 19.0	+0.5
	comp=Z,1.0nm,0.8s,baz=238,slow=4.3,SNR=6.8						
	comp=Z,1.0nm,0.8s						
ELIB	Princess Elisa	92.48	185	dP	P	00 56 30.8	-1.2
	comp=Z,2.8nm,1.3s						
PZH	PanZhiHua	92.61	297	P	P	00 56 35.5	+2.0
PZH				pmax	pmax		
	comp=Z,88nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
LZH	Lanzhou	93.47	306	eP	P	00 56 35.3	-2.0
LZH				pP	PcP	00 56 40.4	+2.6
LZH				pmax	pmax		
	comp=Z,11nm,0.9s						
SONM	Songino Array	94.97	318	P	P	00 56 42.4	-1.4
	comp=Z,0.3nm,0.5s,baz=127,slow=4.3,SNR=2.5						
	comp=Z,0.3nm,0.5s						
BVAR	Borovoye Array	117.97	322	PKP	PKPdf	01 02 06.2	-1.5
	comp=Z,0.9nm,0.6s,baz=24,slow=5.5,SNR=5.9						
ARCES	ARCESS Array B	124.38	352	PKP	PKPdf	01 02 17.9	-1.6
	comp=Z,2.9nm,0.8s,baz=54,slow=2.1,SNR=6.7						
FINES	FINESS Array B	131.76	348	PKP	PKPdf	01 02 32.1	-1.7
	comp=Z,1.3nm,0.9s,baz=37,slow=3.5,SNR=4.8						
HFS	Hagfors	134.78	355	PKP	PKPdf	01 02 38.4	-1.1
	comp=Z,2.6nm,1.1s,baz=90,slow=2.9,SNR=2.0						
MORC	Moravsky Berou	144.39	348	ePKP	PKPbc	01 02 55.7	-0.1
BSTI	Sart Tilman	144.58	2	dPKPdf	PKPdf	01 02 57.0	-0.7
BCLA	Clavier	144.74	2	dPKPdf	PKPab	01 02 55.6	-1.1
VRAC	Vranov	145.02	349	ePKP	PKPab	01 02 57.9	+0.1
CFR	Carcaliu	145.17	334	⇑P	PKPdf	01 02 58.8	0.0
PLOR	Plostina	145.23	336	⇑P	PKPbc	01 02 58.5	-0.2
JAVC	Velka Javorina	145.24	348	ePKP	PKPdf	01 02 59.8	+0.9
SPBR	Spulber	145.28	336	⇑P	PKPbc	01 02 58.5	-0.3
KRUC	Moravsky	145.29	349	ePKP	PKPab	01 02 58.7	-0.1
TPGR	Topolog	145.30	333	⇑P	PKPbc	01 02 58.7	-0.1
TURR	Turia	145.31	337	⇓P	PKPdf	01 02 59.5	+0.4
VYHS	Vyhne	145.33	346	ePKP	PKPab	01 02 59.2	+0.2
WLF	Walferdange	145.52	1	dPKP	PKPdf	01 02 59.0	-0.2
PSZ	Piszkesteto	145.61	345	⇑P	PKPab	01 03 00.8	+0.7
DOPR	Dopca	145.62	337	⇓P	PKPab	01 03 00.5	+0.4
HARR	Harsova	145.64	333	⇑P	PKPdf	01 02 59.4	-0.2
MODS	Modra-Piesok	145.78	348	ePKP	PKPab	01 03 01.1	+0.4
MARR	Marisel-Cluj	145.80	340	⇑P	PKPbc	01 03 00.3	-0.2
MLR	Muntele Rosu	145.81	336	⇑P	PKPdf	01 03 00.2	+0.1
DRGR		145.83	341	⇑P	PKPbc	01 03 00.3	-0.2
ISR	Istrita	145.88	335	⇑P	PKPbc	01 03 00.5	-0.2
GERES	GERESS Array B	145.92	352	PKPbc	PKPbc	01 03 00.9	+0.1
	comp=Z,2.1nm,0.8s,baz=28,slow=3,2,SNR=15						
VOIR		146.20	337	⇑P	PKPab	01 03 02.1	-0.3
BRTR	Keskin Array B	146.25	322	PKPbc	PKPbc	01 03 01.6	-0.5
	comp=Z,8.7nm,0.8s,baz=90,slow=2.9,SNR=36						
CONA	Conrad Observa	146.48	349	i PKP	PKPbc	01 03 02.6	+0.1
	comp=Z,7.7nm,1.1s,SNR=7.9						
RONA

	comp=Z,4.3nm,0.9s						
BZS	Buzias	147.22 341	⇑P		PKPbc	01 03 04.3	-0.2
LESA	Schwarzleotal	147.44 353	*i* PKP		PKPbc	01 03 05.3	+0.1
	comp=Z,2.3nm,1.0s						
MORH	Mrgy, Hungar	147.51 345	⇑P		PKPbc	01 03 05.1	-0.2
RETA	Reutte	147.57 355	*i* PKP		PKPbc	01 03 05.8	+0.2
	comp=Z,6.0nm,1.1s,SNR=6.4						
WATA	Walderalm	147.65 354	*i* PKP		PKPbc	01 03 06.1	+0.2
	comp=Z,12nm,1.8s						
KBA	Koelnbreinsper	147.70 352	*i* PKP		PKPbc	01 03 05.5	-0.5
	comp=Z,2.7nm,0.7s						
WTTA	Wattenberg	147.71 354	*i* PKP		PKPbc	01 03 06.4	+0.3
	comp=Z,6.3nm,0.7s						
SQTA	Sankt Quirin	147.79 355	*i* PKP		PKPbc	01 03 06.4	+0.2
	comp=Z,5.1nm,0.8s						
DAVA	Damuels	147.82 357	*i* PKP		PKPbc	01 03 06.7	+0.4
	comp=Z,7.7nm,1.0s						
SOKA	Soboth	147.83 350	*i* PKP		PKPbc	01 03 06.0	-0.3
	comp=Z,7.2nm,0.9s,SNR=6.9						
MDVR	Moldovita	147.94 340	⇓P		PKPbc	01 03 06.1	-0.5
ELND	Elena	147.94 334	⇑P		PKPbc	01 03 06.6	0.0
FETA	Feichten	148.03 355	*i* PKP		PKPbc	01 03 07.3	+0.4
	comp=Z,6.7nm,1.2s						
OBKA	Obir	148.08 350	*i* PKP		PKPbc	01 03 06.5	-0.5
	comp=Z,2.9nm,0.9s						
MYKA	Terra Mystica	148.10 352	*i* PKP		PKPbc	01 03 06.4	-0.7
	comp=Z,5.5nm,1.0s						
ABTA	Abfaltersbach	148.13 353	*i* PKP		PKPbc	01 03 06.7	-0.4
	comp=Z,9.3nm,1.0s,SNR=6.7						
VNDS	Vrh nad Dolski	148.45 350	*i* PKPbc		PKPbc	01 03 07.1	-0.7
CRNS	Crni Vrh	148.54 350	*e*PKPbc		PKPbc	01 03 07.4	-0.8
GBRS	Gornja Briga	148.98 350	*e*PKPbc		PKPbc	01 03 09.0	-0.3
ESDC	Sonseca Array	153.65 20	PKPab		PKPab	01 03 32.2	-0.7
	comp=Z,0.5nm,0.8s,baz=334,slow=4.2,SNR=3.1						

KRNET ***20*** *01:01:11.4±0.1, 42°.42N×78°.02E, h29km, mb2.4*
SOME ***20*** *01:01:11.9, 42°.47N×77°.95E, h10km*
NNC ***20*** *01:01:12.1±0.6, 42°.50N×77°.99E, h0km, mb3.0, mpv3.0,*
Error ellipse: s-maj=4.4km s-min=1.7km az=176.0
ISC 20 01:01:11.8±1.0, 42°.47N±0°.03×77°.91E±0°.02, h8km±9km, n45, σ1§48/87, 6C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.36	88	⇑*i*P	Pg	01 01 18.5	-0.5
	baz=75						
PRZ				⇑*i*S	Sg	01 01 23.9	+0.1
	baz=75						
KDJ	Kajisay	0.64	238	⇓*i*P	Pg	01 01 24.5	+0.3
	baz=44						
KDJ				⇓*i*S	Sb	01 01 34.2	-0.2
	baz=44						
SATY	Saty	0.69	32	*e*P	Pg	01 01 24.7	-0.4
	1.9nm,0.1s						
SATY				*e*S	Sg	01 01 34.2	+0.1
	60nm,0.1s						
SATY	Saty	0.69	32	P	Pg	01 01 24.7	-0.4
	1.9nm,0.1s						
SATY				S	Sg	01 01 33.8	-0.4
	60nm,0.1s						
TARG	Taragay, Kyrgy	0.75	186	⇓*i*P	Pg	01 01 25.1	-1.1
	baz=93						
TARG				⇓*i*S	Sg	01 01 35.2	-0.8
	baz=93						
TNSS	Tian-Shan	0.90	309	*e*P	Pb	01 01 29.7	-0.3
	6.2nm,0.2s						
TNSS				*e*S	Sb	01 01 42.7	+0.4
	8.5nm,0.2s						
TNSS	Tian-Shan	0.90	309	P	Pb	01 01 29.7	-0.3
	6.2nm,0.2s						
TNSS				S	Sb	01 01 42.6	+0.4
	11nm,0.4s						
MDOK	Medeo	0.94	318	*e*P	Pb	01 01 30.2	-0.1
	3.7nm,0.1s						
MDOK				*e*S	Sb	01 01 43.1	+0.2
	8.1nm,0.3s						
MDOK	Medeo	0.94	318	⇓P	Pg	01 01 30.0	+0.3
	2.5nm,0.4s						
MDOK				Pg	Pb	01 01 30.2	-0.1
	3.7nm,0.1s						
MDOK				Lg	Lg	01 01 43.4	
	8.1nm,0.3s						
MDOK				⇑S	Sn	01 01 44.4	-0.6
	4.4nm,0.4s						
KOTS	Kotyrbulak	0.96	323	*e*P	Pb	01 01 30.7	0.0
	7.3nm,0.1s						
KOTS				*e*S	Sb	01 01 44.0	+0.4
	20nm,0.2s						
KOTS	Kotyrbulak	0.96	323	P	Pb	01 01 30.7	0.0
	7.3nm,0.2s						
KOTS				S	Sb	01 01 44.0	+0.4
	20nm,0.2s						
KURS	Kuram	1.03	11	*e*P	Pg	01 01 31.0	-0.6
	2.3nm,0.1s						
KURS				*e*S	Sg	01 01 44.7	-0.3
	7.6nm,0.1s						
KURS	Kuram	1.03	11	P	Pg	01 01 31.0	-0.6
	2.1nm,0.1s						
KURS				S	Sg	01 01 44.7	-0.3
	7.6nm,0.4s						
UZB	Uzynbulak	1.06	50	*e*P	Pg	01 01 30.9	-1.2
	0.9nm,0.3s						
UZB				*e*S	Sg	01 01 44.6	-1.3
	13nm,0.1s						
UZB	Uzynbulak	1.06	50	P	Pg	01 01 30.9	-1.2
	0.7nm,0.0s						
UZB				S	Sg	01 01 44.6	-1.3
	13nm,0.1s						
KPKS	Kokpek	1.14	30	*e*P	Pb	01 01 32.9	-0.9
	3.2nm,0.1s						
KPKS				*e*S	Sg	01 01 47.8	-0.8
	14nm,0.1s						
KPKS	Kokpek	1.14	30	P	Pb	01 01 32.9	-0.9
	3.2nm,0.1s						
KPKS				S	Sg	01 01 47.8	-0.8
	16nm,0.2s						
ULHL	Ulahol	1.26	260	⇓*i*P	Pn	01 01 35.6	-0.2
	baz=63						
ULHL				⇓*i*S	Sn	01 01 53.3	+0.3
	baz=63						
MTBS	Maitube	1.27	302	*e*P	Pg	01 01 36.5	+0.3
	5.8nm,0.1s						
MTBS				*e*S	Sn	01 01 54.2	+1.0
	24nm,0.3s						
MTBS	Maitube	1.27	302	P	Pg	01 01 36.5	+0.3
	5.8nm,0.2s						
MTBS				S	Sn	01 01 54.2	+1.0
	24nm,0.3s						
SHLS	Shalkode	1.33	59	*e*P	Pg	01 01 41.2	+3.9
	19nm,0.1s						
SHLS				*e*S	Sg	01 02 02.2	+7.6
	41nm,0.3s						
SHLS	Shalkode	1.33	59	P	Pg	01 01 41.2	+3.9
	19nm,0.3s						
SHLS				S	Sg	01 02 02.2	+7.6
	43nm,0.6s						
PDGK	Podgornoye	1.44	53	P	Pn	01 01 37.6	-0.7
	1.5nm,0.2s						
PDGK				S	Sn	01 01 56.0	-1.5
	4.0nm,0.3s						
PDGK	Podgornoye	1.44	53	⇓P	Pn	01 01 38.2	0.0
	0.5nm,0.2s						
PDGK				⇓S	Sn	01 01 55.5	-2.0
	3.8nm,0.5s						
BOOM	Boomskoye usch	1.46	271	⇑*i*P	Pb	01 01 39.1	-0.1
	baz=73						
BOOM				⇑*i*S	Sg	01 01 59.1	+0.5
	baz=73						
KTBS	Karatobe	1.53	324	*e*P	Pg	01 01 41.0	0.0
	3.4nm,0.1s						
KTBS				*e*S	Sg	01 02 01.8	+0.9
	10nm,0.1s						
KTBS	Karatobe	1.53	324	P	Pg	01 01 41.1	0.0
	3.4nm,0.1s						
KTBS				S	Sg	01 02 01.8	+0.9
	10nm,0.3s						
CHKK	Chushkaly	1.54	334	*e*P	Pg	01 01 41.0	-0.2
	4.7nm,0.1s						
CHKK				*e*S	Sg	01 02 01.6	+0.5
	14nm,0.1s						
CHKK	Chushkaly	1.54	334	P	Pg	01 01 41.0	-0.2
	4.8nm,0.2s						
CHKK				S	Sg	01 02 01.6	+0.5
	14nm,0.3s						
KST	Kastek	1.54	292	*e*P	Pg	01 01 41.2	-0.2
	5.5nm,0.3s						
KST				*e*S	Sg	01 02 02.0	+0.7
	16nm,0.5s						
KST	Kastek	1.54	292	P	Pg	01 01 41.2	-0.2
	5.5nm,0.3s						
KST				S	Sg	01 02 02.0	+0.7
	16nm,0.5s						
BLB	Baldybastay	1.68	14	P	Pb	01 01 42.9	0.0
	26nm,0.3s						
BLB				S	Sg	01 02 04.9	-0.8
	26nm,0.2s						
ARXS	Arharly	1.74	358	*e*P	Pb	01 01 44.1	+0.1
	2.7nm,0.1s						
ARXS				*e*S	Sg	01 02 06.9	-0.8
	6.4nm,0.2s						
ARXS	Arharly	1.74	358	P	Pb	01 01 44.1	+0.1
	3.3nm,0.2s						
ARXS				S	Sg	01 02 06.9	-0.8
	6.4nm,0.2s						
DGS	Degeres	1.75	297	*e*P	Pg	01 01 45.2	-0.1
	4.5nm,0.1s						
DGS				*e*S	Sg	01 02 08.8	+0.9
	11nm,0.1s						
DGS	Degeres	1.75	297	P	Pg	01 01 45.2	-0.1
	4.8nm,0.3s						
DGS				S	Sg	01 02 08.8	+0.9
	8.9nm,0.2s						
TKM2	Tokmak 2	1.76	285	⇑P	Pg	01 01 45.1	-0.5
	1.6nm,0.4s						
TKM2				⇓S	Sg	01 02 08.8	+0.4
	8.6nm,0.4s						
TKM2	Tokmak 2	1.76	285	⇓*i*P	Pb	01 01 43.6	-0.8
	baz=86						
TKM2				⇓*i*S	Sb	01 02 07.0	+0.2
	baz=86						
KTMS	Ketmen	2.04	61	*e*P	Pg	01 01 49.9	-1.0
	0.4nm,0.0s						
KTMS				*e*S	Sg	01 02 16.9	-0.5
	8.0nm,0.1s						
KTMS	Ketmen	2.04	61	Pg	Pg	01 01 49.9	-1.0
	0.4nm,0.1s						
KTMS				Lg	Lg	01 02 16.9	
	4.4nm,0.3s						
KRBS	Karabastau	2.04	308	*e*P	Pb	01 01 49.9	+0.7
	4.4nm,0.1s						
KRBS				*e*S	Sg	01 02 16.9	-0.5
	9.2nm,0.2s						
KRBS	Karabastau	2.04	308	Pg	Pb	01 01 49.9	+0.7
	4.4nm,0.3s						
KRBS				Lg	Lg	01 02 16.9	
	7.7nm,0.3s						
KNOS	Konyrlen	2.10	26	Pg	Pb	01 01 50.0	-0.1
	1.3nm,0.3s						
KNOS				Lg	Lg	01 02 17.1	
	7.3nm,0.3s						
DJR	Jarkent	2.31	36	*e*P	Pb	01 01 53.4	-0.3
	1.0nm,0.1s						
DJR				*e*S	Sb	01 02 22.9	+0.5
	17nm,0.2s						
DJR	Jarkent	2.31	36	Pg	Pb	01 01 53.4	-0.3
	1.2nm,0.2s						
DJR				Lg	Lg	01 02 22.9	
	17nm,0.4s						

SOME ***20*** *01:27:21.9, 38°.95N×73°.18E, h15km*
IDC ***20*** *01:27:26.4±0.8, 38°.69N×73°.31E, h0km, mb3.9/18,*
mbtmp3.9/25, ML3.6/7, MS3.6/4, Error ellipse:
s-maj=15.1km s-min=12.0km az=153.0
NNC ***20*** *01:27:26.9±1.6, 38°.61N×73°.01E, h0km, mb4.8, mpv4.6,*
Error ellipse: s-maj=12.9km s-min=10.0km az=8.0
BJI ***20*** *01:27:28.5±0.0, 38°.83N×73°.23E, h5km, mb4.2/8, ML4.2/5,*
Ms3.9/6, Ms7 3.5/6
MOS ***20*** *01:27:32.8±1.6, 38°.88N×73°.26E, h31km, mb4.3/19, Error*
ellipse: s-maj=6.2km s-min=3.9km az=88.9
NEIC ***20*** *01:27:33.3, 38°.75N×73°.28E, h35km*
NEIC ***20*** *01:27:34.1±1.1, 38°.78N±0°.05×73°.21E±0°.08, h35km±2km,*
mb4.2/7, Mwr4.2/22, Error ellipse: s-maj=10.0km
s-min=8.6km az=102.0, Moment Tensor Solution.
Moment tensor: Scale 10^{15}Nm; M_{rr}=0.12; $M_{\theta\theta}$=1.90;
$M_{\phi\phi}$=2.01; $M_{r\theta}$=0.88; $M_{\theta\phi}$=-1.28; $M_{\phi r}$=0.23; Fault plane solution:
M_o=2.51000×10^{15} NP1:ϕ_s=300.19000°, δ=76.48000°,
λ=-165.08000°. NP2:ϕ_s=206.62000°, δ=75.50000°,
λ=-13.98000°. Principal axes: T 2.3918, Plg1.0000°,
Azm73.0000°; N 0.2144, Plg70.0000°, Azm341.0000°; P
-2.6062, Plg20.0000°, Azm164.0000°;
ISC 20 01:27:31.4±0.3, 38°.80N±0°.02×73°.24E±0°.02, h10km, n209,
σ2§39/197, mb4.0/45, MS3.6/7, 38C-25D,
Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	Osh	1.75	349	PN	Pn	01 28 00.5	-1.5
KSH	Kashi	2.24	71	Pn	Pn	01 28 02.3	-6.4
KSH				Sn	Sn	01 28 28.4	-8.1
KSH				smax	smax		
	comp=N,5μm,0.6s						
KSH				smax	smax		
	comp=E,2μm,0.8s						
BTK	Batken	2.26	305		Pn	01 28 08.8	-0.1
BTK	Batken	2.26	305	PN	Pn	01 28 08.8	-0.1
GAR	Garm	2.29	276	Pn	Pn	01 28 09.3	-0.1
IGR	Igron	3.13	262	PN	Pn	01 28 21.7	+0.9
ARK	Arkit	3.15	342	PN	Pn	01 28 21.3	+0.1
TRKS	Terek-Say	3.16	330	PN	Pn	01 28 20.7	-0.8
ARLS	Aral	3.17	15	PN	Pn	01 28 21.7	+0.2
CHGR	Chuyangaron	3.20	269	Pn	Pn	01 28 21.8	0.0
CHGR	Chuyangaron	3.20	269	PN	Pn	01 28 21.8	0.0
SIMJ	Simiganj	3.31	269	Pn	Pn	01 28 23.3	-0.2
AML	Almayashu	3.34	6	P	Pn	01 28 24.6	+0.5
	SNR=140						
NRN	Naryn	3.37	38	Pn	Pn	01 28 23.8	-0.7
NRN	Naryn	3.37	38	PN	Pn	01 28 23.8	-0.7
DZET	Dzherino	3.45	271	PN	Pn	01 28 25.5	+0.2
EKS2	Erkin-Say	3.88	6	P	Pn	01 28 32.2	+1.0
	SNR=53						
MRKS	Merke	3.94	360	*e*P	Pn	01 28 32.4	+0.3
	43nm,0.2s						
MRKS				*e*S	Sn	01 29 23.4	+5.0
	144nm,0.2s						
AAK	Ala-Archa	3.95	14	P	Pn	01 28 33.5	+1.3
	SNR=48						
AAK	Ala-Archa	3.95	14	Pn	Pn	01 28 33.2	+0.9
AAK	Ala-Archa	3.95	14	Pn	Pn	01 28 33.6	+1.3
	17nm,0.3s,baz=199,slow=8.9,SNR=33						
AAK				Sn	Sn	01 29 23.7	+5.0
	12nm,0.3s,baz=178,slow=16,SNR=1.4						
AAK				LR	LR	01 30 20.1	
	comp=Z,262nm,21.3s,baz=206,slow=43						
	94nm,0.5s						
AAK	Ala-Archa	3.95	14	Pn	Pn	01 28 33.1	+0.8
	159nm,0.7s						
AAK				⇓Sn	Sb	01 29 24.2	-4.9
	306nm,0.8s						
KBK	Karagaybulak	4.06	18	P	Pn	01 28 35.9	+2.1
	SNR=15						
ULHL	Ulahol	4.13	33	P	Pn	01 28 39.5	+4.7
	SNR=24						
FRU1	Bishkek	4.14	14		Pn	01 28 35.6	+0.8
FRU1	Bishkek	4.14	14	PN	Pn	01 28 35.6	+0.8
IUG	Iuzhnay	4.14	325	*e*P	Pn	01 28 35.4	+0.5
	121nm,0.2s						
IUG				*e*S	Sn	01 29 28.8	+5.4
	1μm,0.3s						
IUG	Iuzhnay	4.14	325	PN	Pn	01 28 35.5	+0.7
BOOM	Boomskoye usch	4.22	28	Pn	Pn	01 28 36.4	+0.5
BOOM	Boomskoye usch	4.22	28	PN	Pn	01 28 36.4	+0.5
CHMS	Chumysh	4.34	15	P	Pn	01 28 38.5	+0.9
	SNR=29						
CHMS	Chumysh	4.34	15	⇓Pn	Pn	01 28 38.0	+0.4
	67nm,0.6s						
CHMS				⇑Lg	Lg	01 29 51.6	
	248nm,1.1s						
CHM	Chimkent	4.47	323	PN	Pn	01 28 37.9	-1.4
TKM2	Tokmak 2	4.49	23	P	Pn	01 28 42.8	+3.2
	SNR=5.6						
TKM2	Tokmak 2	4.49	23	⇓Pn	Pn	01 28 40.6	+0.9
	14nm,0.6s						
TKM2				⇓Pg	Pb	01 28 53.3	+2.9
	92nm,0.8s						
TKM2				⇑Lg	Lg	01 29 56.1	
	131nm,0.7s						
TKM2	Tokmak 2	4.49	23	*i* PN	Pn	01 28 40.9	+1.2
TKM2				pmax	pmax		
	comp=Z,15nm,0.5s						
TARG	Taragay, Kyrgy	4.55	49		Pn	01 28 41.2	+0.4
TARG	Taragay, Kyrgy	4.55	49	PN	Pn	01 28 41.2	+0.4
USP	Ospenovka	4.56	12	P	Pn	01 28 41.2	+0.6
	SNR=33						
KST	Kastek	4.71	25	*e*P	Pn	01 28 44.5	+1.8
	comp=Z,12nm,0.2s						
KST				*e*S	Sn	01 29 44.4	+6.9
	comp=Z,69nm,0.4s						
KK31	Karatay Array	4.77	335	Pn	Pn	01 28 43.3	-0.1
KK31	Karatay Array	4.77	335	⇑Pn	Pn	01 28 43.1	-0.2
	comp=Z,68nm,0.5s,baz=138,slow=12,SNR=656						
KK31				⇓Sn	Sn	01 29 38.7	+0.1
	comp=Z,89nm,0.5s,baz=162,slow=19,SNR=6.3						
KK31				⇓Lg	Lg	01 30 01.9	
	comp=Z,46nm,0.5s						
KK31	Karatay Array	4.77	335	PN	Pn	01 28 43.3	-0.1
KKAR	Karatay Array	4.77	335	Pn	Pn	01 28 43.0	-0.3
KKAR	Karatay Array	4.77	335		Pn	01 28 43.6	+0.2
KKAR	Karatay Array	4.77	335	PN	Pn	01 28 43.6	+0.2
DGS	Degeres	4.83	23	*e*P	Pn	01 28 46.5	+2.1
	comp=Z,26nm,0.4s						
DGS				*e*S	Sb	01 29 47.9	-6.5
	comp=Z,46nm,0.3s						
BRLS	Borolday	4.95	330	*e*P	Pn	01 28 46.0	+0.2
	comp=Z,25nm,0.1s						
BRLS				*e*S	Sn	01 29 47.0	+3.9
	comp=Z,110nm,0.3s						
BRLS	Borolday	4.95	330	PN	Pn	01 28 43.7	-2.1
NIL	Nilore	5.14	180	Pn	Pn	01 28 49.0	+0.5
NIL	Nilore	5.14	180	PN	Pn	01 28 49.1	+0.5
KRBS	Karabastau	5.22	20	*e*P	Pn	01 28 55.5	+5.9
	comp=Z,11nm,0.3s						
KRBS				*e*S	Sb	01 30 03.5	-2.1
	comp=Z,26nm,0.4s						
MDOK	Medeo	5.22	32	⇓Pg	Pb	01 29 04.2	+1.3
	comp=Z,59nm,0.7s						
MDOK				⇑Lg	Lg	01 30 18.3	
	comp=Z,171nm,0.8s						
MDOK	Medeo	5.22	32	PN	Pn	01 28 51.4	+1.7
KNDC	Almaty	5.23	31	⇓Pg	Pb	01 29 04.8	+1.8
	comp=Z,108nm,0.5s						
KNDC				⇓Lg	Lg	01 30 21.1	
	comp=Z,685nm,0.9s						
PRZ	Przheval'sk	5.38	45		Pn	01 28 52.8	+0.9
PRZ	Przheval'sk	5.38	45	PN	Pn	01 28 52.8	+0.9
KBL	Kabul	5.43	220	Pn	Pn	01 28 52.0	-0.6
KBL	Kabul	5.43	220	PN	Pn	01 28 52.0	-0.6
KPKS	Kokpek	6.21	40	PN	Pn	01 29 03.0	-0.3
JMU	Jammu	6.22	167	*e*P	Pn	01 29 03.2	0.0
JMU				*e*S	Sn	01 30 17.4	+2.9
SHLS	Shalkode	6.41	45	PN	Pn	01 29 09.8	+3.8
PDGK	Podgornoye	6.54	44	⇓Pn	Pn	01 29 07.2	-0.6
	comp=Z,12nm,0.6s						
PDGK				⇓Pg	Pb	01 29 27.8	+2.5
	comp=Z,39nm,0.6s						
PDGK				⇓Lg	Lg	01 31 01.6	
	comp=Z,117nm,0.8s						
PDGK	Podgornoye	6.54	44	PN	Pn	01 29 07.2	-0.6
THN	Thein Dam	6.67	162	*e*P	Pn	01 29 09.1	-0.3
THN				*e*S	Sn	01 30 25.5	+0.1
THN				IAML		01 31 16.2	
	comp=N,86nm,1.3s						
THN				IAML		01 31 17.0	
	comp=E,87nm,2.0s						
HNLY	HANLEY	7.60	141	*e*P	Pn	01 29 21.4	-1.4
BHK	Bhakra	7.81	160	*e*S	Sn	01 30 50.3	-3.4
KLP	Kalpa	8.33	149	*e*P	Pn	01 29 29.6	-3.0
KLP				*ex*	x	01 31 11.8	
KLP				IAML		01 31 15.5	
	comp=N,77nm,0.7s						
KLP				IAML		01 31 16.5	
	comp=E,76nm,1.0s						
OTUK	Ortayu	9.46	356	⇓Pn	Pn	01 29 46.3	-1.5
	comp=E,7.7nm,0.8s						
OTUK				⇓Lg	Lg	01 32 33.3	
	comp=E,89nm,1.1s						
OTUK	Ortayu	9.46	356	P	Pn	01 29 46.3	-1.5
HRA	Herat	9.88	247	Pn	Pn	01 29 52.1	-1.6
MAKZ	Makanchi	10.25	36		Pn	01 29 59.0	+0.4
MAKZ	Makanchi	10.25	36	⇑Pn	Pn	01 29 59.1	+0.4
	comp=E,8.2nm,1.4s						
MAKZ				⇑Lg	Lg	01 33 03.5	
	comp=E,32nm,1.4s						
MAKZ	Makanchi	10.25	36	P	Pn	01 29 59.0	+0.4
MK31	Makanchi Array	10.38	37	Pn	Pn	01 30 01.1	+0.6
MK31	Makanchi Array	10.38	37	Pn	Pn	01 30 01.2	+0.8
	comp=E,4.3nm,0.7s,baz=212,slow=11,SNR=33						
MK31				⇓Lg	Lg	01 33 07.5	
	comp=E,9.3nm,0.8s						
MK31	Makanchi Array	10.38	37	*i* P	Pn	01 30 01.2	+0.8
MKAR	Makanchi Array	10.38	37	Pn	Pn	01 30 00.9	+0.5
MKAR	Makanchi Array	10.38	37	Pn	Pn	01 30 00.6	+0.2
	comp=E,0.2nm,0.3s,baz=216,slow=12,SNR=34						
MKAR				Lg	Lg	01 32 56.4	
	comp=E,0.2nm,0.3s,baz=263,slow=30,SNR=2.4						
	comp=E,5.5nm,0.8s						
MKAR	Makanchi Array	10.38	37	*e*P	Pn	01 30 01.3	+0.9
WMQ	Urumqi	11.97	61	*e*P	Pn	01 30 25.3	+3.2
AJM	Ajmer	12.35	174	*e*P	Pn	01 30 26.5	-0.8
AJM				*e*S	Sn	01 32 35.2	-10
AJM				IAML		01 32 36.9	
	comp=E,18nm,0.8s						
AJM				IAML		01 32 40.3	
	comp=N,15nm,0.8s						
KURBB	Kurchatov Arra	12.40	16	Pn	Pn	01 30 24.1	-3.7
	comp=N,0.1nm,0.3s,baz=203,slow=12,SNR=11						
KURBB				Lg	Lg	01 33 58.8	
	baz=202,slow=32						
	comp=N,1.4nm,0.6s						
KURBB	Kurchatov Arra	12.40	16	⇓Pn	Pn	01 30 26.8	-1.1
	comp=N,3.5nm,0.6s						
KURBB				⇑Lg	Lg	01 34 06.8	
	comp=N,90nm,1.1s						
KURK	Kurchatov	12.51	16	⇑Lg	Lg	01 34 10.2	
	comp=N,104nm,1.4s						
KURK	Kurchatov	12.51	16	*i* P	Pn	01 30 29.2	-0.1
AB31	Akbulak array	14.14	322	⇑Pn	Pn	01 30 46.7	-5.0
	comp=N,3.6nm,0.3s,baz=130,slow=14,SNR=152						
AB31				⇑Sn	Sn	01 33 26.4	-2.2
	comp=N,8.0nm,0.7s,baz=134,slow=24,SNR=6.3						
AB31	Akbulak array	14.14	322	*e*P	Pn	01 30 46.6	-5.1
AB31				*e*S	Sn	01 33 19.8	-8.8
ABKAR	Akbulak array	14.14	322	Pn	Pn	01 30 47.2	-4.5
ABKAR	Akbulak array	14.14	322	Pn	Pn	01 30 47.1	-4.6
BVA0	Borovoye Array	14.36	353	⇑Pn	Pn	01 30 52.4	-2.3
	comp=N,14nm,0.6s,baz=180,slow=21,SNR=112						
BVA0	Borovoye Array	14.36	353	P	Pn	01 30 52.4	-2.3
BVAR	Borovoye Array	14.36	353	Pn	Pn	01 30 50.0	-4.7
	comp=N,0.1nm,0.3s,baz=160,slow=12,SNR=19						
BVAR				Lg	Lg	01 35 01.7	
	baz=175,slow=22,SNR=2.9						
	comp=N,3.0nm,0.6s						
BVAR	Borovoye Array	14.36	353	P	Pn	01 30 50.0	-4.7
BRVK	Borovoye	14.40	353	Pn	Pn	01 30 53.9	-1.4
B

ARU	**Arti**	**20.14 336**	P	**P**	**01 32 04.2 -1.4**
	comp=Z,3.7nm,0.7s,baz=154,slow=8.6,SNR=6.9				
ARU			Lg	Lg	01 38 10.2
	baz=221,slow=20,SNR=1.7				
	comp=Z,3.7nm,0.7s				
ARU	**Arti**	**20.14 336**	*d iP*	**P**	**01 32 06.0 +0.5**
ARU					01 32 20.9
ARU			PPP	PPP	01 32 29.5
ARU			S	**S**	**01 35 48.4 -3.1**
ARU			SS	**SnSn**	**01 36 05.3 -3.1**
ARU			pmax	pmax	
	comp=Z,6.0nm,0.9s				
GTA	**Gaotai**	**20.61 80**	*e*P	**P**	**01 32 09.8 -1.1**
GTA			sP	sP	01 32 19.4 +2.6
GTA			pmax	pmax	
	comp=Z,9.0nm,1.2s				
GTA			LR	LR	
	comp=Z,160nm,17.1s				
GTA			LR	LR	
	comp=Z,130nm,17.8s				
GTA			LR	LR	
	comp=Z,140nm,19.3s				
GNI	**Garni**	**22.00 283**	*i* P	**P**	**01 32 26.6 +0.6**
GNI			pmax	pmax	
	comp=Z,26nm,1.0s				
BELG	**Belogornoye**	**22.34 316**	*i* P	**P**	**01 32 29.7 +0.5**
BELG			pmax	pmax	
	comp=Z,6.0nm,0.9s				
MOY	**Mondy**	**23.23 47**	*e*P	**P**	**01 32 37.8 -0.9**
KBZ	**Khabaz**	**23.26 292**	P	**P**	**01 32 37.9 -1.0**
	comp=Z,0.8nm,0.5s,baz=146,slow=3.6,SNR=1.8				
	comp=Z,0.8nm,0.5s				
KBZ	**Khabaz**	**23.26 292**	*i* P	**P**	**01 32 39.2 +0.3**
KBZ			pmax	pmax	
	comp=Z,5.0nm,0.9s				
KIV	**Kislovodsk**	**23.42 293**	*e*P	**P**	**01 32 40.9 +0.2**
KIV			*e*S	**S**	**01 36 54.7 +0.8**
KIV			pmax	pmax	
	comp=Z,6.0nm,1.0s				
SHA1	**Shidzhatmaz**	**23.43 292**	*i* P	**P**	**01 32 42.1 +1.1**
ZAK	**Zakamensk**	**24.15 52**	*e*P	**P**	**01 32 44.6 -3.1**
ZAK			pmax	pmax	
	comp=Z,4.0nm,0.9s				
KIRV	**Kirov**	**25.04 330**	*i* P	**P**	**01 32 55.3 -0.2**
SONM	**Songino Array**	**25.59 59**	P	**P**	**01 32 58.8 -2.0**
SONM	**Songino Array**	**25.59 59**	P	**P**	**01 32 58.7 -2.0**
	comp=Z,7.3nm,0.8s,baz=272,slow=8.2,SNR=33				
	comp=Z,7.3nm,0.8s				
SONM	**Songino Array**	**25.59 59**	P	**P**	**01 32 58.8 -2.0**
SONM			pmax	pmax	
	comp=Z,10.0nm,1.0s				
ULN	**Ulaanbaatar**	**26.03 59**	*i* P	**P**	**01 33 04.5 -0.3**
ULN			pmax	pmax	
	comp=Z,5.0nm,0.7s				
VORD	**Divnogorie**	**26.70 308**	*e*P	**P**	**01 33 10.9 +0.3**
VORD			pmax	pmax	
	comp=Z,5.0nm,0.8s				
VSR	**Storozhevoye**	**26.84 309**	*e*P	**P**	**01 33 11.7 -0.2**
VSR			pmax	pmax	
	comp=Z,6.0nm,0.9s				
OBN	**Obninsk**	**29.44 316**	*e*P	**P**	**01 33 35.6 +0.6**
OBN			*e*		01 34 27.9
OBN			pmax	pmax	
	comp=Z,3.0nm,0.9s				
OBN			MLR	MLR	
	comp=Z,95nm,19.0s				
BRTR	**Keskin Array B**	**30.51 284**	P	**P**	**01 33 43.6 -1.2**
	comp=Z,1.3nm,0.8s,baz=54,slow=17,SNR=4.4				
	comp=Z,1.3nm,0.8s				
BRTR	**Keskin Array B**	**30.51 284**	*i* P	**P**	**01 33 47.5 +2.7**
BRTR			pmax	pmax	
	comp=Z,1.0nm,0.8s				
AKASG	**Malin Array Be**	**32.97 306**	P	**P**	**01 34 03.3 -2.9**
	comp=Z,0.4nm,0.4s,baz=78,slow=8.6,SNR=4.8				
	comp=Z,0.4nm,0.4s				
AKASG	**Malin Array Be**	**32.97 306**	*e*P	**P**	**01 34 09.2 +3.0**
AKASG			pmax	pmax	
	comp=Z,2.0nm,0.5s				
AKBB	**Malin Array Si**	**32.97 306**	*i* P	**P**	**01 34 06.6 +0.4**
AKBB			pmax	pmax	
	comp=Z,2.0nm,0.9s				
TPGR	**Topolog**	**33.60 295**	⇓P	**P**	**01 34 14.9 +3.1**
CFR	**Carcaliu**	**33.77 296**	⇑P	**P**	**01 34 16.3 +3.1**
CFR	**Carcaliu**	**33.77 296**	⇑P	**P**	**01 34 16.3 +3.1**
SPBR	**Spulber**	**34.69 297**	⇑P	P	01 34 25.4 +4.1
VRI	**Vrincioaia**	**34.70 297**	⇑P	P	01 34 25.9 +4.6
VRI	**Vrincioaia**	**34.70 297**	⇑P	P	01 34 25.9 +4.6
TESR	**Tescani**	**34.70 298**	⇑P	**P**	**01 34 24.3 +3.1**
PLOR	**Plostina**	**34.75 297**	⇑P	P	01 34 25.8 +4.0
PLOR	**Plostina**	**34.75 297**	⇑P	P	01 34 25.8 +4.0
JOF	**Joensuu**	**34.82 328**	*e*P	**P**	**01 34 19.9 -2.2**
COVR	**Voineasa-Covas**	**35.06 297**	⇑P	P	01 34 28.4 +3.9
TURR	**Turia**	**35.17 297**	⇑P	**P**	**01 34 28.9 +3.4**
MLR	**Muntele Rosu**	**35.28 296**	⇑P	P	01 34 31.0 +4.6
MLR	**Muntele Rosu**	**35.28 296**	⇑P	P	01 34 31.0 +4.6
BURAR	**Bucovina Array**	**35.60 300**	⇑P	**P**	**01 34 31.6 +2.5**
DOPR	**Dopca**	**35.62 297**	⇓P	P	01 34 32.9 +3.7
ELND	**Elena**	**35.69 292**	⇓P	**P**	**01 34 32.9 +3.1**
VOIR		**35.91 297**	⇑P	**P**	**01 34 34.8 +3.0**
VOIR		**35.91 297**	⇑P	**P**	**01 34 34.8 +3.0**
LVZ	**Lovozero**	**36.02 336**	*i* P	**P**	**01 34 33.1 +0.7**
LVZ			pmax	pmax	
	comp=Z,10.0nm,1.2s				
ARR	**Arges**	**36.21 296**	⇑P	P	01 34 38.0 +3.6
ARCR	**ARCALIA**	**36.22 299**	⇑P	P	01 34 38.7 +4.3
FINES	**FINESS Array B**	**36.62 324**	P	**P**	**01 34 34.9 -2.7**
	comp=Z,1.7nm,0.4s,baz=115,slow=9.3,SNR=27				
	comp=Z,1.7nm,0.4s				
LOT	**Lotru**	**36.80 297**	⇓P	P	01 34 43.1 +3.6
MTSE	**Matsula**	**37.10 319**	*e*P	**P**	**01 34 39.3 -2.4**
MARR	**Marisel-Cluj**	**37.11 299**	⇑P	**P**	**01 34 44.1 +2.1**
DRGR		**37.37 299**	⇑P	**P**	**01 34 47.8 +3.5**
DRGR		**37.37 299**	⇑P	**P**	**01 34 47.8 +3.5**
KEF	**Keuruu**	**37.37 325**	*e*P	**P**	**01 34 41.6 -2.3**
GZR	**Gura Zlata**	**37.51 297**	⇓P	P	01 34 49.2 +3.8
GZR	**Gura Zlata**	**37.51 297**	⇓P	P	01 34 49.2 +3.8
HERR	**Herculane**	**37.83 296**	⇑P	P	01 34 51.8 +3.7
SURR	**Surduc**	**37.91 297**	⇑P	P	01 34 52.8 +4.1
BZS	**Buzias**	**38.28 297**	⇑P	**P**	**01 34 54.6 +2.8**
BZS	**Buzias**	**38.28 297**	⇑P	**P**	**01 34 54.6 +2.8**
MDVR	**Moldovita**	**38.34 296**	⇓P	**P**	**01 34 55.9 +3.5**
BOVS	**Bovan**	**38.55 294**	⇑P	**P**	**01 34 57.3 +3.1**
VAF	**Ylistaro**	**38.59 326**	*e*P	**P**	**01 34 51.8 -2.4**
AAL	**Aland**	**39.27 321**	*e*P	**P**	**01 34 56.6 -3.2**
HEH	**HeiHe**	**39.45 55**	*e*P	**P**	**01 34 59.8 -1.8**
ARCES	**ARCESS Array B**	**39.73 336**	P	**P**	**01 35 00.9 -2.8**
	comp=Z,2.1nm,0.6s,baz=110,slow=7.9,SNR=19				
	comp=Z,2.1nm,0.6s				
MORH	**Mrgy. Hungar**	**40.23 299**	⇑P	P	01 35 12.0 +3.9
VIKU	**Vikbolandet**	**40.77 318**	*e*P	**P**	**01 35 09.5 -2.9**
YAK	**Yakutsk**	**41.06 37**	*i* P	**P**	**01 35 16.3 +1.6**
YAK			pmax	pmax	
	comp=Z,10.0nm,0.8s				
RONA	**Rosalia, Austr**	**41.58 301**	*e*P	**P**	**01 35 19.9 +0.6**
	comp=Z,2.2nm,1.2s				
CONA	**Conrad Observa**	**41.83 302**	*e*P	**P**	**01 35 20.9 -0.5**
	comp=Z,2.7nm,1.1s				
DEL	**Delary**	**42.26 315**	*e*P	**P**	**01 35 22.0 -2.7**
KLR	**Kul'dur**	**42.37 56**	*i* P	**P**	**01 35 28.1 +2.5**
KLR			pmax	pmax	
	comp=Z,6.0nm,2.0s				
HFS	**Hagfors**	**42.40 320**	P	**P**	**01 35 22.9 -2.8**
	comp=Z,2.6nm,0.5s,baz=98,slow=11,SNR=27				
HFS			LR	LR	01 55 10.2
	comp=Z,78nm,18.5s,baz=174,slow=39				
	comp=Z,2.6nm,0.5s				
KSRS	**Korea Array**	**42.49 74**	P	**P**	**01 35 22.4 -4.4**
	comp=Z,0.4nm,0.3s,baz=278,slow=9.7,SNR=2.0				
	comp=Z,0.4nm,0.3s				
SOKA	**Soboth**	**42.61 300**	*i* P	**P**	**01 35 26.8 -1.0**
	comp=Z,2.2nm,1.0s				
BRG	**Berggiesshubel**	**42.64 306**	*e*P	P	01 35 34.5 +6.6
BRG			Amp		01 35 39.0
	comp=Z,2.5nm,0.7s				
BRG	**Berggiesshubel**	**42.64 306**	*e*P	P	01 35 34.4 +6.5
BRG			pmax	pmax	
	comp=Z,3.0nm,0.7s				
MOA	**Molln**	**42.90 302**	*e*P	**P**	**01 35 30.3 +0.3**
	comp=Z,1.4nm,0.7s				
OBKA	**Obir**	**42.97 300**	*i* pP	pP	01 35 33.1 -2.0
	comp=Z,1.8nm,0.9s				
GERES	**GERESS Array B**	**43.10 304**	P	**P**	**01 35 29.5 -2.2**
	comp=Z,0.3nm,0.4s,baz=72,slow=9.4,SNR=2.9				
	comp=Z,0.3nm,0.4s				
KHC	**Kasperske Hory**	**43.13 304**	*i* P	**P**	**01 35 33.0 +1.1**
KHC			pmax	pmax	
	comp=Z,2.0nm,0.9s				
CLL	**Collm**	**43.17 307**	*e*Px	Px	01 35 34.0
CLL			*e*PP	**PP**	**01 37 15.0 +2.8**
CLL			*e*PPP	PPP	01 37 47.0
CLL			AMS	AMS	01 55 00.0
	comp=Z,100nm,19.3s				
CLL	**Collm**	**43.17 307**	*e*P	**P**	**01 35 34.0 +1.8**
BIOA	**Bad Ischl, Aus**	**43.35 302**	*e*pP	pP	01 35 36.4 -1.7
	comp=Z,2.0nm,0.7s				
USRK	**Ussurisk Ar.**	**43.52 63**	P	**P**	**01 35 31.3 -3.7**
	comp=Z,0.8nm,0.4s,baz=267,slow=6.2,SNR=1.8				
	comp=Z,0.8nm,0.4s				
NC303	**NORSAR Array S**	**43.58 322**	P	**P**	**01 35 32.3 -3.0**
NC303			IAmb	IAmb	01 35 40.5
	comp=Z,4.7nm,0.8s				
NB2	**NORSAR Subarra**	**43.65 321**	P	**P**	**01 35 32.3 -3.6**
	comp=Z,1.5nm,0.6s,baz=92,slow=7.9				
NOA	**NORSAR Array B**	**43.65 321**	P	**P**	**01 35 32.8 -3.1**
	comp=Z,1.6nm,0.6s,baz=92,slow=7.9,SNR=15				
NOA			LR	LR	01 54 20.0
	comp=Z,67nm,20.2s,baz=100,slow=37				
	comp=Z,1.6nm,0.6s				
NC204	**NORSAR Array S**	**43.88 322**	P	**P**	**01 35 34.5 -3.2**
NC204			IAmb	IAmb	01 35 40.9
	comp=Z,3.9nm,0.8s				
LESA	**Schwarzleotal**	**44.04 302**	*e*pP	**P**	**01 35 41.2 +1.9**
	comp=Z,1.3nm,0.6s				
ABTA	**Abfaltersbach**	**44.29 301**	*e*P	**P**	**01 35 42.7 +1.4**
	comp=Z,1.5nm,0.7s				
WTTA	**Wattenberg**	**44.76 302**	*e*pP	**P**	**01 35 46.8 +1.6**
	comp=Z,3.3nm,1.3s				
WATA	**Walderalm**	**44.79 302**	*e*pP	**P**	**01 35 47.5 +2.1**
	comp=Z,0.7nm,0.5s				
SQTA	**Sankt Quirin**	**45.06 302**	*e*P	**P**	**01 35 46.5 -1.0**
	comp=Z,2.5nm,1.0s				
RETA	**Reutte**	**45.29 302**	*e*pP	**P**	**01 35 51.1 +1.8**
	comp=Z,1.4nm,1.0s				
EKA	**Eskdalemuir Ar**	**51.89 315**	P	**P**	**01 36 36.4 -3.5**
	comp=Z,0.4nm,0.5s,baz=79,slow=7.4,SNR=1.9				
	comp=Z,0.4nm,0.5s				
BILL	**Bilibino**	**55.76 27**	*i* P	**P**	**01 37 09.1 +1.2**
BILL			*i*		01 38 05.3
BILL			pmax	pmax	
	comp=Z,3.0nm,1.4s				
BILL			MLR	MLR	
	comp=Z,177nm,18.0s				
ESDC	**Sonseca Array**	**57.97 297**	P	**P**	**01 37 21.4 -2.7**
	comp=Z,0.5nm,0.7s,baz=71,slow=7.8,SNR=3.9				
	comp=Z,0.5nm,0.7s				
TORD	**Torodi Ar. Bea**	**67.54 269**	P	**P**	**01 38 24.8 -3.5**
	comp=Z,0.8nm,0.5s,baz=40,slow=5.0,SNR=14				
	comp=Z,0.8nm,0.5s				
ILAR	**Eielson Array**	**72.07 17**	P	**P**	**01 38 50.9 -4.4**
	comp=Z,0.3nm,0.8s,baz=330,slow=5.2,SNR=2.8				
	comp=Z,0.3nm,0.8s				
ILAR	**Eielson Array**	**72.07 17**	*e*P	**P**	**01 38 56.8 +1.4**
YKA	**Yellowknife Ar**	**78.85 4**	P	**P**	**01 39 30.8 -3.5**
	comp=Z,0.7nm,0.6s,baz=350,slow=5.8,SNR=6.7				
	comp=Z,0.7nm,0.6s				
WRA	**Warramunga Arr**	**81.74 124**	P	**P**	**01 39 46.8 -3.6**
	comp=Z,0.5nm,0.6s,baz=324,slow=4.9,SNR=4.8				
	comp=Z,0.5nm,0.6s				
WRA	**Warramunga Arr**	**81.74 124**	*i* P	**P**	**01 39 50.4 0.0**
NWAO	**Narrogin (SRO)**	**82.23 144**	LR	LR	02 15 31.8
	comp=Z,77nm,20.3s,baz=238,slow=35				

BGR ***20*** *01:39:07.5,20.°48N×122.°52E,h33km,mb5.1,Ms4.1, Hypocentre not reviewed by the ISC*

ASIES ***20*** *01:39:15.6,20.°78N×121.°51E,h100km,ML5.7,Mw5.0, Moment Tensor Solution. Moment tensor: Scale 10^{23}Nm; M_{rr}0.06; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$0.01; $M_{r\theta}$0.63; $M_{\theta\phi}$-1.02; $M_{\phi r}$3.32; Fault plane solution: $M_0$3.55019×10^{23} NP1:ϕ_s11.22000°, δ88.06000°, λ72.74000°. NP2:ϕ_s274.99000°, δ17.37000°, λ173.48000°. Principal axes: T Plg44.3330°, Azm264.1540°; N Plg17.2540°, Azm11.8190°; P Plg40.6090°, Azm117.2620°;*

JMA ***20*** *01:39:15.5±0.5,21.°N×12°.°2E±.°,h16km,MV5.1/15, PHILIPPINE ISL REGION*

TAP ***20*** *01:39:15.6,20.°78N×121.°51E,h100km±1km,ML5.7,D*

NEIC ***20*** *01:39:15.3±1.7,20.°71N±0.°02×121.°67E±0.°08,h73km±6km, mb4.9/221, Error ellipse: s-maj=11.2km s-min=0.8km az=75.0*

BJI ***20*** *01:39:16.6±0.0,20.°90N×121.°56E,h80km,mb4.9/65, mB5.0/27,Ms4.3/56,Ms7 4.0/53*

GCMT ***20*** *01:39:16.4±0.2,20.°76N±0.°02×121.°67E±0.°01,h72km±3km, MW5.0/124,Moment Tensor Solution. s56,c68; s124,c183; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.73±.14; $M_{\theta\theta}$0.12±.13; $M_{\phi\phi}$-0.85±.14; $M_{r\theta}$0.79±.07; $M_{\theta\phi}$-2.04±.10; $M_{\phi r}$3.42±.07; Best double couple: $M_0$4.06000×10^{16} NP1:ϕ_s8.00000°, δ83.00000°, λ64.00000°. NP2:ϕ_s263.00000°, δ27.00000°, λ163.00000°. Principal axes: T 3.5990, Plg46.0000°, Azm251.0000°; N 0.9220, Plg26.0000°, Azm11.0000°; P -4.5200, Plg33.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***20*** *01:39:16.7±1.3,20.°71N×121.°84E,h95km±10km,mb4.4/31, mbtmp4.7/34,MS3.9/33 Error ellipse: s-maj=14.9km s-min=10.6km az=66.0*

ISC 20 01:39:15.5±0.4,20.°71N±0.°04×121.°62E±0.°03,h83km±3km, h84km:pP-P,n679,σ1°69/737,mb4.9/192,53C-70D, Philippine Islands region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**1.29 359**	⇓*i*P	**Pn**	**01 39 38.6**	**+0.4**
	baz=3.0					
LYUB			*i* S	**Sn**	**01 39 56.1**	**+0.8**
	baz=3.0					
LAY	**Lan-yu**	**1.33 357**	⇓*i*P	**Pn**	**01 39 38.7**	**-0.1**
	baz=2.0					
LAY			*e*S	**Sn**	**01 39 56.2**	**0.0**
	baz=2.0					
TWKBT	**Hengchun**	**1.44 329**	⇓*i*P	**Pn**	**01 39 40.3**	**+0.2**
	baz=330					
TWKBT			*i* S	**Sn**	**01 39 58.0**	**-0.8**
	baz=330					
TWK1	**Hengchun**	**1.45 328**	⇓*i*P	**Pn**	**01 39 40.4**	**+0.2**
	baz=330					
TWK1			*i* S	**Sn**	**01 39 58.2**	**-0.7**
	baz=330					
SMST	**Manzhou Townsh**	**1.50 331**	⇓P	**Pn**	**01 39 40.9**	**0.0**
	baz=333					
SMST			S	**Sn**	**01 39 58.7**	**-1.4**
	baz=333					
HEN	**Hengchun**	**1.53 328**	⇓*i*P	**Pn**	**01 39 41.8**	**+0.4**
	baz=329					
HEN			*e*S	**Sn**	**01 40 00.3**	**-0.6**
	baz=329					
SLIU	**Shizi**	**1.69 333**	⇓*i*P	**Pn**	**01 39 43.2**	**-0.1**
	baz=335					
SLIU			*e*S	**Sn**	**01 40 02.6**	**-1.8**
	baz=335					
TAWH	**Dawu Township**	**1.76 337**	⇓*i*P	**Pn**	**01 39 43.7**	**-0.6**
	baz=339					
TAWH			*e*S	**Sn**	**01 40 03.6**	**-2.7**
	baz=339					
TAW	**Tawu**	**1.78 338**	⇓*i*P	**Pn**	**01 39 43.8**	**-0.7**
	baz=340					
TAW			*e*S	**Sn**	**01 40 04.1**	**-2.4**
	baz=340					
EAST	**Anshuo**	**1.82 337**	⇓*i*P	**Pn**	**01 39 44.5**	**-0.6**
	baz=339					
EAST			*i* S	**Sn**	**01 40 05.4**	**-2.1**
	baz=339					
SCZT	**Fangliau**	**1.90 331**	⇓*i*P	**Pn**	**01 39 45.9**	**-0.2**
	baz=332					
SCZT			S	**Sn**	**01 40 07.2**	**-2.3**
	baz=332					
LDUT	**Ludao**	**1.96 356**	⇓*e*P	**Pn**	**01 39 45.6**	**-1.3**
	baz=358					
LDUT			*e*S	**Sn**	**01 40 08.6**	**-2.3**
	baz=358					
ECL	**Taimali**	**1.98 342**	⇓*e*P	**Pn**	**01 39 45.9**	**-1.3**
	baz=344					
ECL			*e*S	**Sn**	**01 40 07.9**	**-3.5**
	baz=344					
TWP	**Hsiaoliuchiu**	**2.01 325**	⇓*e*P	**Pn**	**01 39 48.2**	**+0.6**
	baz=325					
TWP			*e*S	**Sn**	**01 40 12.1**	**0.0**
	baz=325					
TTN	**Taitung**	**2.08 348**	*e*P	**Pn**	**01 39 48.0**	**-0.5**
	baz=350					
MASBT	**Mashibuluo**	**2.11 334**	⇓*i*P	**Pn**	**01 39 48.5**	**-0.4**
	baz=335					
MASBT			*i* S	**Sn**	**01 40 12.1**	**-2.3**
	baz=335					
TWGBT	**Beinan**	**2.16 347**	*e*P	**Pn**	**01 39 48.1**	**-1.5**
	baz=348					
TWGBT			*e*S	**Sn**	**01 40 11.8**	**-3.9**
	baz=348					
TWG	**Pinlang**	**2.17 346**		**Pn**	**01 39 48.3**	**-1.3**
TWG			Sn	**Sn**	**01 40 12.3**	**-3.5**
TWG	**Pinlang**	**2.17 346**	*e*P	**Pn**	**01 39 48.4**	**-1.3**
	baz=348					
TWG			*e*S	**Sn**	**01 40 12.5**	**-3.3**
	baz=348					
TSMG	**Majia**	**2.19 336**	⇓P	**Pn**	**01 39 49.8**	**-0.2**
	baz=337					
KAU	**Kaohsiung**	**2.22 327**	*e*P	**Pn**	**01 39 51.1**	**+0.7**
	baz=328					
KAU			*e*S	**Sn**	**01 40 17.6**	**+0.6**
	baz=328					
LONT	**Longtian**	**2.24 348**	*e*P	**Pn**	**01 39 49.5**	**-1.1**
	baz=350					
SGLT	**Jiouru**	**2.27 333**	*e*P	**Pn**	**01 39 51.9**	**+0.9**
	baz=334					
SGLT			*e*S	**Sn**	**01 40 18.6**	**+0.4**
	baz=334					
SNJT	**Kaohsiung City**	**2.36 330**	*e*P	**Pn**	**01 39 52.5**	**+0.2**
	baz=330					
SNJT			*e*S	**Sn**	**01 40 20.3**	**-0.2**
	baz=330					
TWM1	**Shoushan**	**2.38 332**	⇓*e*P	**Pn**	**01 39 53.3**	**+0.7**
	baz=333					
TWM1			*e*S	**Sn**	**01 40 21.6**	**+0.6**
	baz=333					
CHKT	**Chengkung**	**2.39 354**	*e*P	**Pn**	**01 39 51.2**	**-1.6**
	baz=356					
CHKT			*e*S	**Sn**	**01 40 18.3**	**-2.9**
	baz=356					
ECS	**Chishang**	**2.41 351**	*e*P	**Pn**	**01 39 52.2**	**-0.8**
	baz=353					
SCST	**Cishan**	**2.41 334**	⇓*e*P	**Pn**	**01 39 53.2**	**+0.3**
	baz=335					
SCST			*e*S	**Sn**	**01 40 20.6**	**-1.0**
	baz=335					
SLGT	**Liugui**	**2.45 338**	*e*P	**Pn**	**01 39 53.5**	**0.0**
	baz=340					
EHD	**Haiduan**	**2.46 351**	*e*P	**Pn**	**01 39 52.8**	**-0.8**
	baz=353					
CHKH	**Chenggong**	**2.48 355**	*e*P	**Pn**	**01 39 53.1**	**-0.8**
	baz=357					
FULB	**Fuli**	**2.50 353**	⇓P	**Pn**	**01 39 53.6**	**-0.6**
	baz=355					
ELDTW	**Lidau**	**2.53 347**	*e*P	**Pn**	**01 39 53.8**	**-1.0**
	baz=349					
ELDTW			*e*S	**Sn**	**01 40 23.5**	**-1.3**
	baz=349					
SGST	**Jiashian**	**2.55 338**	⇓*e*P	**Pn**	**01 39 53.8**	**-1.0**
	baz=339					
SGST			*e*S	**Sn**	**01 40 21.3**	**-3.8**
	baz=339					
STYH	**Taoyuan**	**2.57 342**	⇓*e*P	**Pn**	**01 39 55.2**	**0.0**
	baz=344					
STYH			*e*S	**Sn**	**01 40 22.5**	**-3.1**
	baz=344					
SHHT	**Tainan City**	**2.59 333**	P	**Pn**	**01 39 56.0**	**+0.6**
	baz=334					
SHHT			*e*S	**Sn**	**01 40 24.7**	**-1.3**
	baz=334					
ECBN	**Changbin**	**2.60 357**	*e*P	**Pn**	**01 39 55.4**	**-0.2**
	baz=358					
CHN3	**Shinhua**	**2.63 334**	P	**Pn**	**01 39 56.1**	**+0.2**
	baz=335					
CHN3			*e*S	**Sn**	**01 40 25.9**	**-1.0**
	baz=335					
EYUL	**Yuli**	**2.64 354**	*e*P	**Pn**	**01 39 56.2**	**+0.1**
	baz=356					
CHN1	**Nanshi**	**2.67 338**	⇓P	**Pn**	**01 39 56.1**	**-0.3**
	baz=339					
CHN1			*e*S	**Sn**	**01 40 25.3**	**-2.6**
	baz=339					
YULB	**Yu-li**	**2.69 354**		**Pn**	**01 39 54.1**	**-2.7**
YULB	**Yu-li**	**2.69 354**	*e*P	**Pn**	**01 39 56.4**	**-0.3**
	baz=355					
YULB			*e*S	**Sn**	**01 40 24.1**	**-4.3**
	baz=355					
WTP	**Ta-pu**	**2.69 340**	⇓*i*P	**Pn**	**01 39 56.5**	**-0.3**
	baz=341					
WTP			*e*S	**Sn**	**01 40 25.0**	**-3.5**
	baz=341					
SNST	**Tainan City**	**2.71 338**	*e*P	**Pn**	**01 39 56.4**	**-0.6**
	baz=338					
SNST			*e*S	**Sn**	**01 40 24.9**	**-4.0**
	baz=338					
SSHA	**Shanhua**	**2.72 333**	*e*P	**Pn**	**01 39 57.1**	**+0.1**
	baz=334					
TPUB	**Ta-pu**	**2.74 341**		**Pn**	**01 39 56.9**	**-0.5**
TPUB	**Ta-pu**	**2.74 341**	⇓*i*P	**Pn**	**01 39 56.9**	**-0.5**
	baz=342					
TPUB			*e*S	**Sn**	**01 40 26.3**	**-3.3**
	baz=342					
TWK	**Hsinying**	**2.76 338**	⇓*i*P	**Pn**	**01 39 57.0**	**-0.6**
	baz=339					
TWK			*e*S	**Sn**	**01 40 26.3**	**-3.8**
	baz=339					
HGSD	**Ruisui**	**2.78 356**	⇓*e*P	**Pn**	**01 39 57.1**	**-0.8**
	baz=358					
HGSD			*e*S	**Sn**	**01 40 27.2**	**-3.3**
	baz=358					
EHYH	**Wanrong**	**2.79 355**	*e*P	**Pn**	**01 39 58.3**	**+0.2**
	baz=356					
SCLT	**Jiali**	**2.79 332**	*e*P	**Pn**	**01 39 57.9**	**-0.2**
	baz=333					
SCLT			*e*S	**Sn**	**01 40 27.9**	**-2.8**
	baz=333					
EHY	**Hungye**	**2.80 354**	*e*P	**Pn**	**01 39 57.4**	**-0.8**
	baz=356					
TSCK	**Chigu Township**	**2.82 330**	⇓*e*P	**Pn**	**01 39 59.3**	**+0.9**
	baz=330					
TSCK			*e*S	**Sn**	**01 40 29.5**	**-1.9**
	baz=330					
WCKO	**Fanlu**	**2.88 341**	*e*P	**Pn**	**01 39 59.1**	**-0.2**
	baz=342					
WCKO			*e*S	**Sn**	**01 40 30.3**	**-2.6**
	baz=342					
ICHU	**Yijhu**	**2.92 335**	*e*P	**Pn**	**01 39 59.4**	**-0.4**
	baz=336					
ICHU			*e*S	**Sn**	**01 40 31.8**	**-2.1**
	baz=336					
CHN8	**Yiju**	**2.93 334**	*e*P	**Pn**	**01 39 59.5**	**-0.5**
	baz=334					
CHN8			*e*S	**Sn**	**01 40 31.6**	**-2.6**
	baz=334					
CHY	**Chiayi**	**2.99 338**	*e*P	**Pn**	**01 40 00.1**	**-0.7**
	baz=339					
CHY			*e*S	**Sn**	**01 40 33.3**	**-2.3**
	baz=339					
WARBT	**Fenglin Townsh**	**3.00 356**	P	**Pn**	**01 40 00.6**	**-0.4**
	baz=357					
WARBT			*e*S	**Sn**	**01 40 34.1**	**-2.0**
	baz=357					
CHN2	**Minshiung**	**3.01 340**	*e*P	**Pn**	**01 40 00.5**	**-0.5**
	baz=340					
CHN2			*e*S	**Sn**	**01 40 33.2**	**-2.8**
	baz=340					
**

WDGT	**Dungji**	**3.12 325**	⇓*i*P	**Pn**	**01 40 01.5**	**-1.1**
	baz=325					
WDGT			*e*S	**Sn**	**01 40 34.2**	**-4.6**
	baz=325					
SSLB	**Suanglung**	**3.13 349**		**Pn**	**01 40 02.4**	**-0.3**
SSLB	**Suanglung**	**3.13 349**	⇓P	**Pn**	**01 40 02.6**	**-0.1**
	baz=350					
SSLB			S	**Sn**	**01 40 36.9**	**-2.1**
	baz=350					
WDLH	**Douliu**	**3.13 342**	*e*P	**Pn**	**01 40 01.9**	**-0.8**
	baz=342					
WDLH			*e*S	**Sn**	**01 40 36.9**	**-2.2**
	baz=342					
TEYL	**Yanliau Villag**	**3.15 360**	*e*P	**Pn**	**01 40 01.8**	**-1.1**
	baz=1.0					
TEYL			*e*S	**Sn**	**01 40 38.1**	**-1.3**
	baz=1.0					
WTK	**Tuku**	**3.18 339**	*e*P	**Pn**	**01 40 01.8**	**-1.5**
	baz=340					
WTK			*e*S	**Sn**	**01 40 37.3**	**-2.9**
	baz=340					
WSF	**Szhu**	**3.19 336**	*e*P	**Pn**	**01 40 02.5**	**-1.0**
	baz=337					
WSF			*e*S	**Sn**	**01 40 36.9**	**-3.6**
	baz=337					
WJS	**Zhushan**	**3.21 345**	*e*P	**Pn**	**01 40 03.8**	**+0.1**
	baz=346					
WJS			*e*S	**Sn**	**01 40 38.3**	**-2.7**
	baz=346					
VCHM	**Qimei**	**3.21 321**	*i* P	**Pn**	**01 40 02.5**	**-1.3**
	baz=321					
VCHM			*e*S	**Sn**	**01 40 36.4**	**-4.6**
	baz=321					
SMLT	**Sun Moon Lake**	**3.23 348**	*e*P	**Pn**	**01 40 04.0**	**-0.1**
	baz=349					
SMLT			*e*S	**Sn**	**01 40 39.5**	**-2.1**
	baz=349					
ETM	**Tongmen**	**3.25 358**	*e*P	**Pn**	**01 40 04.0**	**-0.3**
	baz=359					
ETM			*e*S	**Sn**	**01 40 38.4**	**-3.5**
	baz=359					
HWA	**Hwalien**	**3.25 360**	*e*P	**Pn**	**01 40 03.6**	**-0.8**
	baz=1.0					
HWA			*e*S	**Sn**	**01 40 41.7**	**-0.3**
	baz=1.0					
OWD	**Renai**	**3.26 353**	*e*P	**Pn**	**01 40 05.1**	**+0.5**
	baz=354					
TYC	**Yuchr**	**3.26 348**	⇓P	**Pn**	**01 40 04.3**	**-0.1**
	baz=349					
TYC			*e*S	**Sn**	**01 40 40.6**	**-1.6**
	baz=349					
WNT	**Mingjian**	**3.27 345**	*e*P	**Pn**	**01 40 04.2**	**-0.4**
	baz=346					
WNT			*e*S	**Sn**	**01 40 40.8**	**-1.7**
	baz=346					
WUSB	**Renai**	**3.30 352**	⇓P	**Pn**	**01 40 05.4**	**+0.2**
	baz=353					
WUSB			*e*S	**Sn**	**01 40 41.8**	**-1.6**
	baz=353					
LXIB	**Xiulin Townshi**	**3.30 357**	P	**Pn**	**01 40 05.1**	**-0.1**
	baz=358					
LXIB			S	**Sn**	**01 40 40.6**	**-2.9**
	baz=358					
TWD	**Chiawan**	**3.36 360**	*e*P	**Pn**	**01 40 05.2**	**-0.5**
	baz=1.0					
TWD			S	**Sn**	**01 40 42.3**	**-2.2**
	baz=1.0					
CHGB	**Renai**	**3.36 353**	*e*P	**Pn**	**01 40 06.5**	**+0.5**
	baz=354					
CHGB			*e*S	**Sn**	**01 40 43.0**	**-2.0**
	baz=354					
PHUB	**P'eng-hu**	**3.38 326**	⇓P	**Pn**	**01 40 04.6**	**-1.4**
	baz=326					
PHUB			*e*S	**Sn**	**01 40 38.6**	**-6.4**
	baz=326					
WRL	**Guolierlin Hig**	**3.38 340**	*e*P	**Pn**	**01 40 04.7**	**-1.4**
	baz=341					
WRL			*e*S	**Sn**	**01 40 41.5**	**-3.6**
	baz=341					
WCS	**Beigang Elemen**	**3.40 349**	*e*P	**Pn**	**01 40 06.2**	**-0.1**
	baz=350					
WCS			*e*S	**Sn**	**01 40 44.0**	**-1.5**
	baz=350					
PNG	**Penghu**	**3.43 326**	⇓*i*P	**Pn**	**01 40 05.4**	**-1.4**
	baz=326					
PNG			*e*S	**Sn**	**01 40 41.9**	**-4.4**
	baz=326					
ETL	**Fush Village**	**3.44 0**	*e*P	**Pn**	**01 40 06.5**	**-0.4**
	baz=1.0					
ETL			*e*S	**Sn**	**01 40 43.3**	**-3.2**
	baz=1.0					
WHF	**Hehuan Shan**	**3.44 355**	*e*P	**Pn**	**01 40 07.7**	**+0.5**
	baz=356					
WHF			*e*S	**Sn**	**01 40 46.1**	**-1.0**
	baz=356					
NACB	**Ninganchiao**	**3.45 360**		**Pn**	**01 40 06.8**	**-0.2**
NACB	**Ninganchiao**	**3.45 360**	⇓*i*P	**Pn**	**01 40 06.7**	**-0.4**
	baz=1.0					
NACB			*e*S	**Sn**	**01 40 43.1**	**-3.7**
	baz=1.0					
EOS4	**EOS4**	**3.46 11**	*e*P	**Pn**	**01 40 07.3**	**+0.5**
	baz=12					
EOS4			*e*S	**Sn**	**01 40 44.0**	**-2.4**
	baz=12					
FUSS	**Fushou**	**3.54 354**	*e*P	**Pn**	**01 40 09.5**	**+1.1**
	baz=355					
TWT	**Tachien**	**3.55 353**	*e*P	**Pn**	**01 40 10.0**	**+1.4**
	baz=354					
TWT			*e*S	**Sn**	**01 40 47.9**	**-1.6**
	baz=354					
TDCB	**Techi**	**3.56 353**	*e*P	**Pn**	**01 40 09.3**	**+0.7**
	baz=354					
EAHA	**Aohua**	**3.61 2**	*e*P	**Pn**	**01 40 08.7**	**-0.5**
	baz=3.0					
EAHA			*e*S	**Sn**	**01 40 48.5**	**-2.1**
	baz=3.0					
WHP	**Taichung City**	**3.61 350**	*e*P	**Pn**	**01 40 09.3**	**+0.1**
	baz=351					
WHP			*e*S	**Sn**	**01 40 49.5**	**-1.3**
	baz=351					
EOS3	**EOS3**	**3.62 10**	*e*P	**Pn**	**01 40 09.8**	**+0.6**
	baz=12					
EOS3			*e*S	**Sn**	**01 40 49.6**	**-1.1**
	baz=12					
ENA	**Nanau**	**3.71 2**	*e*P	**Pn**	**01 40 10.4**	**-0.1**
	baz=3.0					
ENA			*e*S	**Sn**	**01 40 50.8**	**-2.2**
	baz=3.0					
TWQ1	**Liyutan**	**3.71 348**	*e*P	**Pn**	**01 40 10.3**	**-0.2**
	baz=349					
TWQ1			*e*S	**Sn**	**01 40 50.9**	**-2.2**
	baz=349					
NNSB	**Datong**	**3.71 357**	P	**Pn**	**01 40 11.0**	**+0.4**
	baz=358					
NNSB			*e*S	**Sn**	**01 40 51.1**	**-2.2**
	baz=358					
NNS	**Nan Shan**	**3.72 357**	*e*P	**Pn**	**01 40 11.9**	**+1.1**
	baz=358					
NNS			*e*S	**Sn**	**01 40 51.8**	**-1.8**
	baz=358					
EWUT	**Wuta**	**3.72 2**	*e*P	**Pn**	**01 40 10.9**	**+0.2**
	baz=3.0					
EWUT			*e*S	**Sn**	**01 40 51.1**	**-2.4**
	baz=3.0					
EOS2	**EOS2**	**3.74 9**	*e*P	**Pn**	**01 40 11.7**	**+0.9**
	baz=10.0					
NSY	**Sanyi**	**3.78 348**	*e*P	**Pn**	**01 40 11.5**	**+0.1**
	baz=349					
NSY			*e*S	**Sn**	**01 40 52.4**	**-2.4**
	baz=349					
LATG	**Datong**	**3.81 359**	P	**Pn**	**01 40 12.0**	**-0.1**
LATG			*e*S	**Sn**	**01 40 53.6**	**-2.1**
ESAO	**Su ao**	**3.86 3**	*e*P	**Pn**	**01 40 12.6**	**0.0**
	baz=4.0					
NDT	**Datong Townshi**	**3.88 359**	*e*P	**Pn**	**01 40 13.8**	**+0.9**
NDT			*e*S	**Sn**	**01 40 56.6**	**-0.7**
NMLH	**Miaoli**	**3.89 349**	*e*P	**Pn**	**01 40 12.9**	**-0.1**
	baz=349					
TWC	**Suao**	**3.89 3**	P	**Pn**	**01 40 13.4**	**+0.4**
	baz=4.0					
TWC			*e*S	**Sn**	**01 40 56.1**	**-1.4**
	baz=4.0					
HATJ	**Hateruma jima**	**3.90 31**	P	**Pn**	**01 40 13.2**	**+0.1**
HATJ			S	**Sn**	**01 40 55.8**	**-1.9**
NDS	**Dongshan**	**3.91 1**	*e*P	**Pn**	**01 40 15.9**	**+2.7**
	baz=2.0					
ENTT	**Nioudou**	**3.92 359**	*e*P	**Pn**	**01 40 13.5**	**+0.1**
ENTT			*e*S	**Sn**	**01 40 56.4**	**-1.8**
JYNG	**Yonagunijimaku**	**3.92 18**	*e*P	**Pn**	**01 40 13.7**	**+0.3**
JYNG			*e*S	**Sn**	**01 40 55.9**	**-2.4**
NFF	**Wufeng Townshi**	**3.93 353**	*e*P	**Pn**	**01 40 13.8**	**+0.1**
	baz=354					
NSTT	**Nanjuang**	**3.95 352**	*e*P	**Pn**	**01 40 13.6**	**-0.1**
	baz=353					
NSTT			*e*S	**Sn**	**01 40 55.6**	**-3.3**
	baz=353					
YHNB	**Yeheng**	**3.95 357**		**Pn**	**01 40 15.0**	**+1.1**
YHNB	**Yeheng**	**3.95 357**	*e*P	**Pn**	**01 40 14.7**	**+0.9**
	baz=358					
YHNB			S	**Sn**	**01 40 57.3**	**-1.8**
	baz=358					
YOJ	**Yonaguni jima**	**3.95 19**		**Pn**	**01 40 14.8**	**+1.0**
YOJ	**Yonaguni jima**	**3.95 19**	*e*P	**Pn**	**01 40 14.8**	**+1.0**
	baz=20					
YOJ			*e*S	**Sn**	**01 40 55.5**	**-3.5**
	baz=20					
YOJ	**Yonaguni jima**	**3.95 19**	P	**Pn**	**01 40 14.8**	**+1.0**
YOJ			*e*S	**Sn**	**01 40 58.3**	**-0.7**
NSK	**Sanguang**	**3.96 357**	*e*P	**Pn**	**01 40 15.1**	**+1.2**
	baz=358					
NSK			*e*S	**Sn**	**01 40 57.5**	**-1.7**
	baz=358					
LIOB	**Emei**	**3.96 352**	*e*P	**Pn**	**01 40 13.4**	**-0.6**
	baz=353					
TWE	**Neicheng**	**4.00 1**	*e*P	**Pn**	**01 40 15.3**	**+0.9**
	baz=2.0					
FUSB	**Fushanzhiwuyua**	**4.03 360**	⇓P	**Pn**	**01 40 14.8**	**-0.2**
	baz=1.0					
FUSB			*e*S	**Sn**	**01 40 59.4**	**-1.8**
	baz=1.0					
NWLT	**Wulai**	**4.05 358**	*e*P	**Pn**	**01 40 16.5**	**+1.3**
	baz=359					
IRIF	**Iriomote-Funau**	**4.10 28**	P	**Pn**	**01 40 16.2**	**+0.3**
IRIF			S	**Sn**	**01 41 01.9**	**-0.8**
EGS		**4.13 4**	*e*P	**Pn**	**01 40 16.8**	**+0.6**
	baz=5.0					
JKRS	**Kuro-shima**	**4.15 32**	P	**Pn**	**01 40 16.9**	**+0.4**
TIPB	**Shuangxi**	**4.25 3**	*e*P	**Pn**	**01 40 19.2**	**+1.3**
	baz=4.0					
TATO	**Taipei**	**4.25 358**		**Pn**	**01 40 19.1**	**+1.3**
TATO	**Taipei**	**4.25 358**	*e*P	**Pn**	**01 40 19.9**	**+2.0**
	baz=359					
TATO			*e*S	**Sn**	**01 41 01.3**	**-4.9**
	baz=359					
TWA	**Mucha**	**4.25 360**	*e*P	**Pn**	**01 40 19.2**	**+1.2**
	baz=1.0					
TWA			*e*S	**Sn**	**01 41 05.2**	**-1.2**
	baz=1.0					
TWB1	**Santiao Chiao**	**4.29 4**	*e*P	**Pn**	**01 40 19.5**	**+1.0**
	baz=6.0					
JIJ	**Ishigaki jima**	**4.32 32**	*e*P	**Pn**	**01 40 18.1**	**-0.7**
JIJ			S	**Sn**	**01 41 04.7**	**-3.3**
NWF	**Wu-fen Shan**	**4.35 2**	⇑*e*P	**Pn**	**01 40 21.4**	**+2.1**
	baz=3.0					
WFSB	**Wu-fen Shan**	**4.35 2**	⇓*e*P	**Pn**	**01 40 20.6**	**+1.4**
	baz=3.0					
TWS1	**Kuangyinshan**	**4.38 358**	*e*P	**Pn**	**01 40 21.2**	**+1.6**
	baz=359					
YM01	**YM01**	**4.42 359**	*e*P	**Pn**	**01 40 21.8**	**+1.6**
TNOU	**National Taiwa**	**4.42 2**	*e*P	**Pn**	**01 40 21.6**	**+1.3**
	baz=3.0					
YM08	**YM08**	**4.46 360**	*e*P	**Pn**	**01 40 21.2**	**+0.4**
TWY	**Chenhua**	**4.55 360**	*e*P	**Pn**	**01 40 24.3**	**+2.4**
	baz=1.0					
VDOS	**Pratas Island**	**4.58 271**	*e*P	**Pn**	**01 40 23.0**	**+0.7**
	baz=268					
VDOS			S	**Sn**	**01 41 10.8**	**-3.5**
	baz=268					
JISG	**Ishigakijimahi**	**4.59 32**	*e*P	**Pn**	**01 40 21.8**	**-0.8**
JISG			*e*S	**Sn**	**01 41 12.3**	**-2.3**
VWUC	**VWUC**	**4.71 335**	⇓P	**Pn**	**01 40 22.4**	**-1.7**
	baz=335					
VWUC			*e*S	**Sn**	**01 41 11.0**	**-6.5**
	baz=335					
KNM	**Kinmen**	**4.72 322**	⇓*i*P	**Pn**	**01 40 24.5**	**+0.2**
	baz=320					
KNM			S	**Sn**	**01 41 14.6**	**-3.2**
	baz=320					
KNMB	**Chin-men Tao**	**4.79 322**		**Pn**	**01 40 24.6**	**-0.5**
KNMB	**Chin-men Tao**	**4.79 322**	⇓*i*P	**Pn**	**01 40 24.1**	**-1.0**
	baz=321					
KNMB			S	**Sn**	**01 41 14.1**	**-5.2**
	baz=321					
JTJ	**Tarama**	**4.84 35**	*e*P	**Pn**	**01 40 26.2**	**+0.3**
JTJ			S	**Sn**	**01 41 18.9**	**-1.8**
PCYT	**Pengchaiyu**	**4.92 5**	*e*P	**Pn**	**01 40 28.0**	**+1.0**
	baz=6.0					
QZH	**Quanzhou**	**5.06 327**	⇓*i*P	**Pn**	**01 40 27.8**	**-1.1**
QZH			S	**Sn**	**01 41 20.1**	**-5.9**
QZH			smax	smax		
	comp=N,2μm,0.8s					
QZH			smax	smax		
	comp=E,3μm,0.7s					
JMJ	**Miyako jima 2**	**5.31 39**	*e*P	**Pn**	**01 40 31.4**	**-0.9**
	baz=40					
MATB	**Ma-tsu**	**5.63 344**	*e*P	**Pn**	**01 40 34.6**	**-2.1**
	baz=344					
MATB			*e*S	**Sn**	**01 41 32.6**	**-7.4**
	baz=344					
MSUT	**Lienchiang**	**5.66 344**	*e*P	**Pn**	**01 40 35.7**	**-1.3**
	baz=344					
HKPS	**Hong Kong Po S**	**7.14 284**		**Pn**	**01 40 57.4**	**+0.1**
HKPS	**Hong Kong Po S**	**7.14 284**	*e*P	**Pn**	**01 40 57.4**	**+0.1**
	baz=282					
JOW	**Kunigami**	**8.62 44**	Pn	**Pn**	**01 41 16.4**	**-1.0**
JOW	**Kunigami**	**8.62 44**	P	**Pn**	**01 41 15.6**	**-1.9**
	33nm,0.6s,baz=206,slow=19,SNR=6.9					
JOW			S	**Sn**	**01 42 45.7**	**-7.4**
	23nm,0.8s,baz=288,slow=29,SNR=1.4					
JOW	**Kunigami**	**8.62 44**	*e*P	**Pn**	**01 41 16.1**	**-1.4**
	baz=45					
CNSH	**ChangSha**	**10.86 315**	P	**Pn**	**01 41 47.1**	**-0.9**
CNSH			S	**Sn**	**01 43 41.1**	**-6.6**
QIZ	**Qiongzhong**	**11.21 263**	P	**Pn**	**01 41 52.1**	**-0.7**
QIZ			S	**Sn**	**01 43 52.3**	**-4.0**
QIZ			pmax	pmax		
	comp=Z,25nm,2.1s					
QIZ			LR	LR		
	comp=N,770nm,9.3s					
QIZ			LR	LR		
	comp=E,570nm,11.8s					
QIZ			LR	LR		
	comp=Z,570nm,12.6s					
QIZ	**Qiongzhong**	**11.21 263**		**Pn**	**01 41 52.8**	**0.0**
GULI	**GuiLin**	**11.32 296**	P	**Pn**	**01 41 55.8**	**+1.5**
GULI			pmax	pmax		
	comp=Z,30nm,1.1s					
GULI			LR	LR		
	comp=N,800nm,11.7s					
GULI			LR	LR		
	comp=E,800nm,13.7s					
GULI			LR	LR		
	comp=Z,1μm,14.5s					
NJ2	**Nanjing**	**11.57 348**	*e*P	**Pn**	**01 41 57.3**	**-0.3**
NJ2			pmax	pmax		
	comp=Z,13nm,0.6s					
NJ2			LR	LR		
	comp=N,800nm,10.7s					
NJ2			LR	LR		
	comp=E,750nm,10.9s					
NJ2			LR	LR		
	comp=Z,630nm,11.4s					
WHN	**Wuhan**	**11.78 328**	⇑*i*P	**Pn**	**01 41 59.8**	**-0.7**
WHN			S	**Sn**	**01 44 12.9**	**+2.8**
WHN			LR	LR		
	comp=N,1μm,6.4s					
WHN			LR	LR		
	comp=E,2μm,7.4s					
WHN			LR	LR		
	comp=Z,2μm,15.7s					
DAV	**Davao City (W)**	**14.09 164**	LR	LR	01 47 58.8	
	comp=Z,546nm,21.8s,baz=356,slow=37					
ENH	**Enshi**	**14.51 313**	Pn	**Pn**	**01 42 37.2**	**+0.5**
GYA	**Guiyang**	**14.86 296**	⇓P	**P**	**01 42 48.8**	**+3.8**
GYA			S	**Sn**	**01 45 29.0**	**+4.0**
GYA			pmax	pmax		
	comp=Z,78nm,1.0s					
GYA			pmax	pmax		
	comp=Z,70nm,3.1s					
GYA			LR	LR		
	comp=N,380nm,9.2s					
GYA			LR	LR		
	comp=E,910nm,10.2s					
GYA			LR	LR		
	comp=Z,880nm,17.4s					
JNU	**Nakatsue**	**14.86 32**		**Pn**	**01 42 40.3**	**-0.9**
JNU	**Nakatsue**	**14.86 32**	P	**Pn**	**01 42 39.5**	**-1.7**
	comp=Z,11nm,1.0s,baz=233,slow=4.1,SNR=5.1					
DLV	**T Lat**	**15.31 237**	P	**P**	**01 42 49.9**	**-0.4**
TIA	**Tai'an**	**15.94 347**	*e*P	**Pn**	**01 42 55.6**	**+0.7**
TIA			pmax	pmax		
	comp=Z,27nm,0.8s					
TIA			LR	LR		
	comp=Z,660nm,22.1s					
TIA			LR	LR		
	comp=Z,350nm,17.7s					
TIA			LR	LR		
	comp=Z,500nm,13.2s					
LYN	**LuoYang**	**15.99 332**	P	**P**	**01 42 57.5**	**+0.1**
LYN			pP	pP	01 43 09.8	-3.0
LYN			PP	**pwP**	**01 43 12.8**	**-3.1**
LYN			pmax	pmax		
	comp=Z,270nm,0.9s					
LYN			pmax	pmax		
	comp=Z,300nm,4.2s					
LYN			LR	LR		
	comp=Z,600nm,10.6s					
LYN			LR	LR		
	comp=Z,630nm,11.0s					
LYN			LR	LR		
	comp=Z,740nm,16.5s					
UBPT	**Khong Chiam**	**16.28 253**	P	**P**	**01 43 02.3**	**+1.5**
TJN	**Taejon**	**16.40 17**	P	**Pn**	**01 42 59.9**	**-0.7**
SLVN	**Son La**	**16.55 275**	P	**P**	**01 43 03.5**	**-0.4**
XAN	**Xi'an**	**17.40 322**	⇓P	**P**	**01 43 15.4**	**+2.3**
XAN			pP	pP	01 43 27.0	-1.8
XAN			PP	**pwP**	**01 43 32.8**	**+4.0**
XAN			sP	sP	01 43 39.5	+0.4
XAN			pmax	pmax		
	comp=Z,42nm,1.2s					
XAN			pmax	pmax		
	comp=Z,490nm,3.8s					
XAN			LR	LR		
	comp=Z,1μm,14.4s					
XAN			LR	LR		
	comp=Z,1μm,14.1s					
XAN			LR	LR		
	comp=Z,830nm,22.7s					
KSAR	**Wonju Array Be**	**17.54 17**	P	**P**	**01 43 12.8**	**-1.8**
KSRS	**Korea Array**	**17.57 17**	P	**P**	**01 43 14.6**	**-0.2**
	comp=Z,10nm,0.6s,baz=200,slow=12,SNR=56					
KSRS			LR	LR	01 50 30.2	
	comp=Z,198nm,18.6s,baz=200,slow=38					
KSRS			ScP	**ScP**	**01 51 15.4**	**-2.7**
	comp=Z,2.0nm,0.7s,baz=202,slow=2.6,SNR=11					
KS19	**Wonju Array Si**	**17.59 17**	P	**P**	**01 43 13.5**	**-1.6**
HNS	**HongShan**	**17.69 342**	⇑P	**Pn**	**01 43 17.6**	**+1.2**
HNS			S	**Sn**	**01 46 30.9**	**-2.2**
HNS			pmax	pmax		
	comp=Z,110nm,0.9s					
HNS			LR	LR		
	comp=Z,500nm,16.8s					
HNS			LR	LR		
	comp=Z,680nm,17.1s					
HNS			LR	LR		
	comp=Z,530nm,15.3s					
KMI	**Kunming**	**17.94 288**	⇑P	**Pn**	**01 43 23.3**	**+3.5**
KMI			pP	pP	01 43 38.0	+2.9
KMI			PP	**sP**	**01 43 39.8**	**-5.6**
KMI			pmax	pmax		
	comp=Z,55nm,1.0s					
KMI			pmax	pmax		
	comp=Z,440nm,6.0s					
KMI			LR	LR		
	comp=Z,440nm,16.4s					
KMI			LR	LR		
	comp=Z,420nm,16.3s					
KMI			LR	LR		
	comp=Z,680nm,33.5s					
TIY	**Taiyuan**	**18.73 337**	*e*P	**Pn**	**01 43 29.8**	**+0.8**
TIY			PP	**pwP**	**01 43 48.6**	**+2.3**
TIY			S	**S**	**01 46 56.6**	**+0.2**
TIY			SS	**SnSn**	**01 47 11.3**	**-2.7**
TIY			pmax	pmax		
	comp=Z,170nm,0.8s					
TIY			pmax	pmax		
	comp=Z,220nm,3.5s					
TIY			LR	LR		
	comp=Z,650nm,14.8s					
TIY			LR	LR		
	comp=Z,740nm,16.5s					
TIY			LR	LR		
	comp=Z,460nm,13.7s					
CD2	**Chengdu**	**19.00 306**	P	**Pn**	**01 43 32.6**	**+0.3**
CD2			S	**Sn**	**01 47 04.9**	**0.0**
CD2			sS	sS	01 47 25.9	-2.0
CD2			pmax	pmax		
	comp=Z,110nm,1.1s					
CD2			pmax	pmax		
	comp=Z,310nm,7.5s					
TOLI2	**Tolitoli**	**19.49 183**	P	**P**	**01 43 36.5**	**+0.4**
BJT	**Baijiatuau**	**19.81 348**	P	**P**	**01 43 38.4**	**-0.9**
BJI	**Beijing**	**19.83 348**	P	**P**	**01 43 39.8**	**+0.3**
BJI			S	**S**	**01 47 16.9**	**-1.4**
BJI			pmax	pmax		
	comp=Z,15nm,0.7s					
BJI			LR	LR		
	comp=Z,100nm,12.9s					
BJI			LR	LR		
	comp=Z,150nm,17.0s					
BJI			LR	LR		
	comp=Z,130nm,12.9s					
JCJ	**Chichijima**	**19.84 67**	LR	LR	01 49 40.6	
	comp=Z,275nm,21.2s,baz=105,slow=32					
INU	**Inuyama**	**19.90 40**	P	**P**	**01 43 41.1**	**+0.7**
GTOI	**Gorontalo**	**19.99 176**	P	**P**	**01 43 39.5**	**-2.0**
KMSI	**Cibinong**	**20.14 173**	P	**P**	**01 43 43.4**	**+0.3**
PHRA	**Phrae**	**20.27 267**	P	Pn	01 43 47.0	-0.2
JGF	**Kuroka**	**20.27 40**	P	**P**	**01 43 43.8**	**-0.7**
SBUM	**Sibu**	**20.33 208**	P	**P**	**01 43 46.3**	**+1.1**
JHJ	**Hachijo jima 2**	**20.34 49**	LR	LR	01 50 33.2	
	comp=Z,254nm,21.2s,baz=196,slow=34					
MJAR	**Matsushiro Arr**	**21.42 39**	P	**P**	**01 43 56.1**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=235,slow=10,SNR=1.7					
	comp=Z,1.1nm,0.3s					
CHTO	**Chiang Mai**	**21.42 269**	P	**P**	**01 43 58.6**	**+1.7**
CM31	**Chiang Mai Arr**	**21.48 268**	P	**P**	**01 43 59.8**	**+2.2**
CM31			IAmb	IAmb	01 44 03.4	
	comp=Z,101nm,1.0s					
CMAR	**Chiang Mai Arr**	**21.48 268**	P	**P**	**01 43 59.8**	**+2.2**
CMAR	**Chiang Mai Arr**	**21.48 268**	P	**P**	**01 44 00.6**	**+3.0**
	comp=Z,44nm,1.0s,baz=72,slow=7.6,SNR=85					
CMAR			PcP	**PcP**	**01 47 59.3**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=99,slow=1.5,SNR=4.2					
CMAR			ScP	**ScP**	**01 51 26.9**	**-0.6**
	comp=Z,5.2nm,0.7s,baz=80,slow=0.7,SNR=22					
CMAR			LR	LR	01 52 22.0	
	comp=Z,353nm,21.1s,baz=80,slow=36					
	comp=Z,44nm,1.0s					
LUWI	**Luwuk**	**21.64 177**	P	**P**	**01 43 59.3**	**0.0**
LUWI	**Luwuk**	**21.64 177**	P	**P**	**01 44 00.2**	**+1.0**
	comp=Z,204nm,1.1s					
TNCH	**TengChong**	**21.71 286**	⇑P	**P**	**01 44 03.1**	**+3.0**
TNCH			pP	pP	01 44 17.6	+1.1
TNCH			sP	sP	01 44 28.1	+1.5
TNCH			S	**S**	**01 47 46.3**	**-10**
TNCH			pmax	pmax		
	comp=Z,100nm,1.0s					
TNCH			pmax	pmax		
	comp=Z,560nm,2.6s					
TNCH			LR	LR		
	comp=Z,320nm,8.1s					
TNCH			LR	LR		
	comp=Z,250nm,6.1s					
TNCH			LR	LR		
	comp=Z,380nm,9.9s					
HHC	**Hu-ho-hao-te**	**21.83 339**	*e*P	**P**	**01 44 01.9**	**+0.7**
HHC			sP	sP	01 44 24.9	-2.3
HHC			S	**S**	**01 47 55.4**	**-2.5**
HHC			sS	sS	01 48 23.3	-1.3
HHC			pmax	pmax		
	comp=Z,99nm,1.2s					
HHC			pmax	pmax		
	comp=Z,290nm,4.6s					
HHC			LR	LR		
	comp=Z,440nm,13.4s					
HHC			LR	LR		
	comp=Z,310nm,14.9s					
HHC			LR	LR		
	comp=Z,380nm,15.6s					

LZH Lanzhou 21.84 318 P **P** **01 44 03.0 +1.6**
LZH S **S** **01 47 58.4 +0.1**
LZH pmax pmax
comp=Z,71nm,1.4s
LZH pmax pmax
comp=Z,400nm,6.6s
LZH LR LR
comp=Z,680nm,15.0s
LZH LR LR
comp=Z,500nm,15.8s
LZH LR LR
comp=Z,720nm,19.3s
BTO Baotou 22.16 336 *e*P **P** **01 44 06.8 +2.0**
BTO pP **pwP** **01 44 23.8 -0.1**
BTO sP **sP** **01 44 33.3 +2.5**
BTO sS **sS** **01 48 29.4 -1.9**
BTO pmax pmax
comp=Z,120nm,0.9s
BTO pmax pmax
comp=Z,640nm,4.7s
BTO LR LR
comp=Z,600nm,12.1s
BTO LR LR
comp=Z,1µm,18.5s
BTO LR LR
comp=Z,850nm,22.6s
SANI Sanana 23.02 169 P P 01 44 02.3 -11
GUMO Guam 23.30 104 P **P** **01 44 15.0 -1.4**
GUMO Guam 23.30 104 LR LR 01 52 42.7
comp=Z,180nm,20.4s,baz=278,slow=35
XLT XiLinHaoTe 23.59 350 ⇑*i*P **P** **01 44 18.6 -0.3**
XLT pP pP 01 44 35.5 -0.6
XLT sP sP 01 44 42.8 -3.5
XLT S **S** **01 48 19.8 -7.1**
XLT sS Sn 01 48 52.5 -2.0
XLT pmax pmax
comp=Z,37nm,1.3s
XLT pmax pmax
comp=Z,120nm,8.7s
XLT LR LR
comp=Z,300nm,18.3s
XLT LR LR
comp=Z,230nm,23.0s
NLAI Namlea 24.40 167 P **P** **01 44 27.7 +1.5**
MDJ Mudanjiang 24.74 14 P **P** **01 44 31.3 +2.1**
MDJ pmax pmax
comp=Z,11nm,1.2s
MDJ LR LR
comp=Z,240nm,17.2s
MDJ LR LR
comp=Z,630nm,19.9s
MDJ LR LR
comp=Z,460nm,19.2s
USRK Ussuriysk Ar. 24.96 18 P **P** **01 44 30.3 -0.9**
USRK Ussuriysk Ar. 24.96 18 P **P** **01 44 31.8 +0.5**
comp=Z,3.0nm,0.5s,baz=201,slow=9.2,SNR=8.3
comp=Z,3.0nm,0.5s
BNX BinXian 25.42 9 ⇑P **P** **01 44 38.3 +3.0**
BNX sP **sP** **01 45 05.4 +2.4**
BNX S **S** **01 49 03.1 +7.1**
BNX sS **sS** **01 49 26.0 -1.8**
BNX pmax pmax
comp=Z,5.0nm,0.7s
BNX LR LR
comp=Z,220nm,12.5s
BNX LR LR
comp=Z,190nm,11.4s
BNX LR LR
comp=Z,300nm,16.3s
KULM Kulim 25.48 236 P **P** **01 44 36.6 +0.4**
KULM IAmb IAmb 01 44 40.4
comp=Z,89nm,1.5s
KAPI Kappang 25.63 184 P **P** **01 44 37.4 0.0**
KAPI IAmb IAmb 01 45 09.9
comp=Z,56nm,1.6s
KAPI Kappang 25.63 184 LR LR 01 54 45.6
comp=Z,129nm,19.7s,baz=356,slow=36
JTM Tenmabayashi 25.97 35 P **P** **01 44 39.8 -0.5**
JTM IAmb IAmb 01 44 58.8
comp=Z,62nm,1.3s
GTA Gaotai 26.41 320 *e*P **P** **01 44 45.4 +0.9**
GTA pP pP 01 45 02.4 +0.1
GTA sP sP 01 45 11.1 -0.5
GTA S **S** **01 49 17.8 +5.7**
GTA pmax pmax
comp=Z,14nm,1.3s
GTA LR LR
comp=Z,220nm,18.2s
GTA LR LR
comp=Z,250nm,18.5s
GTA LR LR
comp=Z,310nm,18.5s
GOMU GeErMu 28.05 309 P **P** **01 45 01.6 +2.1**
GOMU pmax pmax
comp=Z,31nm,0.8s
GOMU LR LR
comp=Z,1µm,15.0s
GOMU LR LR
comp=Z,530nm,16.8s
GOMU LR LR
comp=Z,840nm,15.3s
LSA Lhasa 28.92 294 P **P** **01 45 10.8 +3.4**
LSA pmax pmax
comp=Z,71nm,0.8s
LSA Lhasa 28.92 294 P **P** **01 45 09.7 +2.2**
LSA Lhasa 28.92 294 *i*P **P** **01 45 10.5 +3.1**
SNR=8.7
ULN Ulaanbaatar 29.54 340 P **P** **01 45 12.9 +0.5**
ULN IAmb IAmb 01 45 14.8
comp=Z,40nm,0.9s
KLR Kul'dur 29.59 14 P **P** **01 45 12.8 +0.3**
comp=Z,2.7nm,0.6s,baz=232,slow=4.1,SNR=12
KLR PcP **PcP** **01 48 15.5 0.0**
comp=Z,1.2nm,0.5s,baz=186,slow=5.9,SNR=4.5
KLR ScP **ScP** **01 51 47.1 -3.0**
comp=Z,2.7nm,0.9s,baz=274,slow=5.0,SNR=6.4
comp=Z,2.7nm,0.6s
SONM Songino Array 29.73 339 P **P** **01 45 13.6 -0.4**
SONM IAmb IAmb 01 45 15.7
comp=Z,22nm,1.0s
SONM Songino Array 29.73 339 P **P** **01 45 14.5 +0.5**
comp=Z,13nm,0.8s,baz=161,slow=9.2,SNR=59
SONM ScP **ScP** **01 51 48.7 -2.1**
comp=Z,1.7nm,0.8s,baz=172,slow=3.0,SNR=6.6
SONM LR LR 01 59 01.1
comp=Z,275nm,19.1s,baz=150,slow=40
comp=Z,13nm,0.8s
HEH HeiHe 29.84 7 *e*P **P** **01 45 15.8 +1.0**
HEH pmax pmax
comp=Z,6.0nm,0.9s
HEH pmax pmax
comp=Z,57nm,5.7s
HEH LR LR
comp=Z,250nm,15.5s
HEH LR LR
comp=Z,330nm,14.1s
HEH LR LR
comp=Z,440nm,14.1s
MTN Manton Dam 34.63 164 P **P** **01 45 55.4 -1.6**
MTN IAmb IAmb 01 45 56.3
comp=Z,21nm,1.1s
WMQ Urumqi 36.41 317 *e*P **P** **01 46 14.3 +2.2**
WMQ pmax pmax
comp=Z,17nm,0.9s
FITZ Fitzroy Crossi 38.77 174 P **P** **01 46 31.7 -0.3**
PMG Port Moresby 39.06 138 LR LR 02 02 52.0
comp=Z,61nm,19.6s,baz=275,slow=36
ZSN Zaisan 39.89 321 *e*P **P** **01 46 41.6 +0.3**
comp=Z,14nm,1.0s,baz=321
MK31 Makanchi Array 41.15 319 P **P** **01 46 53.1 +1.4**
MK31 IAmb IAmb 01 46 54.3
comp=Z,31nm,0.9s
MKAR Makanchi Array 41.15 319 P **P** **01 46 53.2 +1.5**
MKAR Makanchi Array 41.15 319 P **P** **01 46 53.3 +1.6**
comp=Z,30nm,0.9s,baz=111,slow=9.7,SNR=139
MKAR PcP **PcP** **01 48 48.4 -1.1**
comp=Z,3.9nm,0.9s,baz=100,slow=4.1,SNR=2.9
MKAR ScP **ScP** **01 52 30.4 -1.8**
comp=Z,4.9nm,1.0s,baz=98,slow=5.4,SNR=11
MKAR LR LR 02 05 44.3
comp=Z,130nm,19.8s,baz=104,slow=38
comp=Z,30nm,0.9s
WUS Wushi 41.21 309 P **P** **01 46 54.6 +2.2**
MAKZ Makanchi 41.35 318 P **P** **01 46 54.8 +1.5**
MAKZ IAmb IAmb 01 46 56.0
comp=Z,39nm,1.0s
MAKZ Makanchi 41.35 318 P **P** **01 46 54.7 +1.3**
MAKZ pP **pP** **01 47 13.0 +1.0**
MAKZ sP **sP** **01 47 21.7 +0.6**
MAKZ PcP **PcP** **01 48 50.3 +0.1**
MAKZ ScP **ScP** **01 52 31.3 -1.6**
SHLS Shalkode 41.63 312 *e*P **P** **01 46 54.4 -1.4**
comp=Z,13nm,1.0s,baz=312
PALK Pallekele 41.75 257 LR LR 02 06 25.6
comp=Z,133nm,18.0s,baz=169,slow=39
UZB Uzynbulak 41.94 312 *e*P **P** **01 46 59.1 +0.9**
comp=Z,18nm,1.0s,baz=312
WB0 Warramunga Arr 42.12 162 P **P** **01 46 58.3 -1.5**
WB0 IAmb IAmb 01 46 59.6
comp=Z,21nm,0.9s
KPKS Kokpek 42.27 312 *e*P **P** **01 47 01.7 +0.8**
comp=Z,14nm,0.9s,baz=312
WRA Warramunga Arr 42.27 162 P **P** **01 46 59.6 -1.4**
WRA Warramunga Arr 42.27 162 P **P** **01 46 59.6 -1.4**
comp=Z,7.2nm,0.6s,baz=344,slow=9.0,SNR=58
WRA ScP **ScP** **01 52 35.1 -1.7**
comp=Z,4.1nm,1.0s,baz=342,slow=4.0,SNR=12
comp=Z,7.2nm,0.6s
WB2 Warramunga Arr 42.28 162 P **P** **01 46 59.7 -1.3**
SATY Saty 42.34 312 *e*P **P** **01 47 02.5 +1.0**
comp=Z,18nm,1.1s,baz=312
WR0 Warramunga Arr 42.35 162 P **P** **01 47 00.3 -1.3**
WR0 IAmb IAmb 01 47 01.5
comp=Z,51nm,1.5s
TARG Taragay, Kyrgy 42.38 310 P **P** **01 47 03.3 +1.1**
TARG IAmb IAmb 01 47 06.3
comp=Z,35nm,1.3s
H11N1 WAKE ISLAND Hy 42.39 83 T T 02 32 11.3
baz=279,slow=72
H11N2 WAKE ISLAND Hy 42.39 83 T T 02 32 17.3
baz=279,slow=72
H11N3 WAKE ISLAND Hy 42.41 83 T T 02 32 12.7
baz=279,slow=72
H11S3 WAKE ISLAND Hy 42.41 85 T T 02 32 10.0
baz=281,slow=74,SNR=61
H11S1 WAKE ISLAND Hy 42.42 85 T T 02 32 10.9
baz=281,slow=74,SNR=61
H11S2 WAKE ISLAND Hy 42.43 85 T T 02 32 11.9
baz=281,slow=74,SNR=50
TDK Taldyqorghan 42.96 315 *e*P **P** **01 47 07.3 +0.9**
comp=Z,15nm,0.8s,baz=315
KSH Kashi 43.20 306 P **P** **01 47 13.3 +4.8**
KSH pP pwP 01 47 30.8 -1.2
KSH sP sP 01 47 37.8 +1.5
KSH pmax pmax
comp=Z,35nm,1.1s
KSH pmax pmax
comp=Z,210nm,5.8s
KSH LR LR
comp=Z,250nm,16.5s
KSH LR LR
comp=Z,210nm,13.4s
KSH LR LR
comp=Z,380nm,17.9s
MDOK Medeo 43.32 312 *e*P **P** **01 47 10.2 +0.8**
baz=312
TNSS Tian-Shan 43.35 311 *e*P **P** **01 47 10.6 +0.5**
baz=311
ZAA0 Zalesovo Array 43.40 329 P **P** **01 47 10.3 +0.6**
ZAA0 IAmb IAmb 01 47 11.3
comp=Z,30nm,0.8s
ZALV Zalesovo Beam 43.40 329 P **P** **01 47 10.2 +0.5**
comp=Z,24nm,0.6s,baz=118,slow=7.5,SNR=104
ZALV ScP **ScP** **01 52 37.8 -3.1**
comp=Z,0.6nm,0.3s,baz=96,slow=4.5,SNR=4.7
ZALV LR LR 02 06 28.6
comp=Z,134nm,20.3s,baz=116,slow=38
comp=Z,24nm,0.6s
AAA Alma-Ata 43.42 312 *e*P **P** **01 47 10.9 +0.7**
comp=Z,8.4nm,0.4s,baz=312
BOOM Boomskoye usch 43.92 310 P **P** **01 47 16.2 +1.9**
TKM2 Tokmak 2 44.27 311 P **P** **01 47 19.2 +2.0**
SNR=24
NIL Nilore 44.55 297 P **P** **01 47 20.2 +0.9**
NIL Nilore 44.55 297 P **P** **01 47 21.0 +1.6**
KBK Karagaybulak 44.67 310 P **P** **01 47 22.9 +2.6**
SNR=7.8
UCH Uchtor 44.88 310 P **P** **01 47 25.3 +2.9**
SNR=33
CHMS Chumysh 44.89 311 P **P** **01 47 24.4 +2.4**
SNR=8.5
AAK Ala-Archa 44.99 310 P **P** **01 47 24.4 +1.6**
AAK Ala-Archa 44.99 310 P **P** **01 47 25.6 +2.8**
AAK Ala-Archa 44.99 310 P **P** **01 47 23.2 +0.4**
comp=Z,2.2nm,0.4s,baz=54,slow=17,SNR=8.7
AAK LR LR 02 09 06.1
comp=Z,177nm,18.9s,baz=106,slow=40
comp=Z,2.2nm,0.4s
KURK Kurchatov 45.04 322 P **P** **01 47 23.6 +0.7**
KURK IAmb IAmb 01 47 25.1
comp=Z,30nm,0.9s
KURBB Kurchatov Arra 45.05 322 P **P** **01 47 24.1 +1.2**
comp=Z,31nm,0.9s,baz=120,slow=7.8,SNR=70
KURBB PcP **PcP** **01 49 02.5 0.0**
comp=Z,1.4nm,0.5s,baz=120,slow=3.8,SNR=0.9
KURBB ScP **ScP** **01 52 45.8 -1.9**
comp=Z,2.8nm,0.8s,baz=108,slow=4.1,SNR=16
KURBB LR LR 02 07 28.1
comp=Z,133nm,21.8s,baz=187,slow=37
comp=Z,31nm,0.9s
SGDS Sogindy 45.09 311 *e*P **P** **01 47 24.6 +1.1**
baz=311
USP Ospenovka 45.14 311 P **P** **01 47 25.8 +1.9**
SNR=8.8
AML Almayashu 45.45 309 P **P** **01 47 29.4 +2.6**
SNR=22
EKS2 Erkin-Say 45.51 310 P **P** **01 47 29.2 +2.3**
SNR=11
AS31 Alice Springs 45.70 164 P **P** **01 47 28.0 -0.5**
ASAR Alice Springs 45.70 164 P **P** **01 47 27.6 -0.9**
ASAR Alice Springs 45.70 164 P **P** **01 47 28.0 -0.4**
comp=Z,2.7nm,0.4s,baz=344,slow=6.7,SNR=24
ASAR ScP **ScP** **01 52 49.4 -1.5**
comp=Z,3.5nm,0.9s,baz=353,slow=4.3,SNR=14
ASAR LR LR 02 09 12.9
comp=Z,103nm,18.2s,baz=31,slow=39
comp=Z,2.7nm,0.4s
BTLS Baital 45.92 313 *e*P **P** **01 47 30.8 +0.8**
comp=Z,7.2nm,0.9s,baz=313
CTA Charters Tower 47.17 148 LR LR 02 06 05.1
comp=Z,14nm,21.8s,baz=294,slow=34
CTAO Charters Tower 47.17 148 P **P** **01 47 39.5 -0.5**
CTAO Charters Tower 47.17 148 P **P** **01 47 40.5 +0.5**
CTAO pP **pP** **01 47 58.6 -1.4**
CTAO ScP **ScP** **01 52 55.3 -1.7**
BTK Batken 47.20 306 P **P** **01 47 41.2 +1.0**
GAR Garm 47.44 304 P **P** **01 47 42.6 +0.5**
KK31 Karatay Array 47.95 310 P **P** **01 47 46.8 +1.0**
KK31 IAmb IAmb 01 47 48.6
comp=Z,18nm,0.9s
KK31 PcP **PcP** **01 49 13.3 +0.4**
KKAR Karatay Array 47.95 310 P **P** **01 47 46.9 +1.1**
KKAR IAmb IAmb 01 47 48.6
comp=Z,18nm,0.9s
KKAR PcP **PcP** **01 49 13.5 +0.5**
KKAR Karatay Array 47.95 310 P **P** **01 47 46.0 +0.2**
KKAR PcP **PcP** **01 49 13.5 +0.5**
KBL Kabul 48.09 298 P **P** **01 47 48.5 +1.2**
IUG Iuzhnay 48.12 308 *e*P **P** **01 47 48.1 +0.8**
comp=Z,15nm,1.0s,baz=308
HNR Honiara 48.13 125 LR LR 02 07 51.9
comp=Z,887nm,18.6s,baz=310,slow=36
SIMJ Simiganj 48.41 304 P **P** **01 47 49.5 -0.1**
SIMJ IAmb IAmb 01 47 52.3
comp=Z,15nm,1.1s
SIMJ Simiganj 48.41 304 P **P** **01 47 50.8 +1.1**
BRLS Borolday 48.42 310 *e*P **P** **01 47 50.5 +1.0**
comp=Z,11nm,1.2s,baz=309
BVAR Borovoye Array 50.64 322 P **P** **01 48 07.5 +1.4**
comp=Z,5.8nm,0.6s,baz=108,slow=10,SNR=50
BVAR PcP **PcP** **01 49 22.7 +0.2**
comp=Z,7.4nm,0.7s,baz=102,slow=3.5,SNR=8.7
BVAR ScP **ScP** **01 53 09.5 -1.8**
comp=Z,8.4nm,0.8s,baz=108,slow=4.8,SNR=19
comp=Z,5.8nm,0.6s
BRVK Borovoye 50.71 322 P **P** **01 48 07.4 +0.8**
BRVK Borovoye 50.71 322 P **P** **01 48 07.8 +1.2**
BRVK PcP **PcP** **01 49 22.8 0.0**
BRVK ScP **ScP** **01 53 10.0 -1.6**
NRIK Noril'sk 52.85 346 P **P** **01 48 22.7 +0.4**
NRIK Noril'sk 52.85 346 P **P** **01 48 22.3 -0.1**
comp=Z,16nm,0.8s,baz=122,slow=8.3,SNR=18
NRIK LR LR 02 13 58.5
comp=Z,155nm,18.3s,baz=140,slow=39
comp=Z,16nm,0.8s
HRA Herat 53.70 298 IAmb IAmb 01 48 32.2
comp=Z,28nm,1.4s
STKA Stephens Creek 55.68 159 P **P** **01 48 42.4 -0.9**
comp=Z,14nm,0.9s,baz=340,slow=7.3,SNR=14
comp=Z,14nm,0.9s
ABKAR Akbulak array 56.18 316 P **P** **01 48 48.0 +1.3**
ABKAR Akbulak array 56.18 316 P **P** **01 48 47.9 +1.1**
ABKAR IAmb IAmb 01 48 49.2
comp=Z,30nm,1.3s
AKTO Aktyubinsk 57.56 317 P **P** **01 48 57.0 +0.5**
comp=Z,4.9nm,0.9s,baz=85,slow=6.1,SNR=13
AKTO LR LR 02 14 22.0
comp=Z,141nm,20.8s,baz=152,slow=36
comp=Z,4.9nm,0.9s
ATKA Atka Island 58.13 41 P **P** **01 49 00.7 +0.2**
ARU Arti 58.13 324 P **P** **01 49 00.7 +0.3**
ARU Arti 58.13 324 P **P** **01 49 00.3 -0.1**
comp=Z,7.6nm,0.4s,baz=91,slow=3.1,SNR=30
comp=Z,7.6nm,0.4s
ARU Arti 58.13 324 P **P** **01 49 00.5 +0.1**
comp=Z,33nm,1.2s,comp=Z,377nm
ARU Arti 58.13 324 P **P** **01 49 00.8 +0.4**
SOHO SOHO 59.79 286 P **P** **01 49 14.1 +1.7**
MSFE Esma-Masafi 59.90 288 P **P** **01 49 16.6 +3.4**
UOSS Minazif 59.93 287 P **P** **01 49 14.7 +1.3**
HATD Hatta, Dubai 60.02 287 *i*P **P** **01 49 16.2 +2.2**
SNR=5.7
ASHO Ashiyiah 60.11 287 P **P** **01 49 16.4 +1.7**
NAZ Nazwa, Dubai 60.41 288 P **P** **01 49 18.4 +1.8**
FAQ Al Faqa, Dubai 60.52 287 P **P** **01 49 18.7 +1.3**
ASUD Al Ashush, Dub 60.77 287 P **P** **01 49 21.2 +2.1**
DZM Mont Dzumac 61.01 132 LR LR 02 11 40.2
comp=Z,137nm,21.7s,baz=356,slow=32
MZR Muzera 62.76 286 P **P** **01 49 33.8 +1.3**
KIRV Kirov 63.30 326 P **P** **01 49 35.8 +0.3**
comp=Z,22nm,0.8s,baz=86,slow=4.8,SNR=14
KIRV LR LR 02 19 36.9
comp=Z,153nm,18.1s,baz=89,slow=38
comp=Z,22nm,0.8s
K13K Kusilvak Mount 64.29 30 IAmb IAmb 01 49 44.9
comp=Z,28nm,1.5s
J14K Nanvaranak Lak 64.86 29 P **P** **01 49 46.5 +0.9**
J14K IAmb IAmb 01 49 47.8
comp=Z,14nm,1.1s
L14K Kuka Creek 65.20 31 IAmb IAmb 01 49 50.8
comp=Z,27nm,0.9s
M14K Bethel 65.53 32 IAmb IAmb 01 49 52.5
comp=Z,16nm,0.8s
K15K Wolf Creek Mou 65.78 30 IAmb IAmb 01 49 54.0
comp=Z,10nm,0.9s
F17K Baldwin Pennin 66.07 25 IAmb IAmb 01 49 55.5
comp=Z,7.3nm,0.7s
N15K Kwethluk River 66.46 32 IAmb IAmb 01 49 58.1
comp=Z,18nm,0.8s
H17K Granite Mounta 66.56 27 IAmb IAmb 01 50 01.5
comp=Z,9.2nm,1.0s
L16K Owhat River 66.74 31 IAmb IAmb 01 49 59.7
comp=Z,9.1nm,0.8s
J17K VABM Dome 66.91 29 IAmb IAmb 01 50 01.3
comp=Z,15nm,1.0s
M16K Timber Creek 67.00 31 IAmb IAmb 01 50 01.4
comp=Z,12nm,0.8s
GNI Garni 67.13 306 P **P** **01 50 02.8 +2.0**
GNI IAmb IAmb 01 50 09.5
comp=Z,24nm,0.9s
GNI Garni 67.13 306 P **P** **01 50 03.0 +2.2**
GNI Garni 67.13 306 LR LR 02 24 01.9
comp=Z,69nm,21.8s,baz=78,slow=40
GNI Garni 67.13 306 P **P** **01 50 02.9 +2.2**
comp=Z,27nm,1.0s,comp=Z,446nm
GNI Garni 67.13 306 P **P** **01 50 03.0 +2.2**
H18K Honhosa River 67.22 27 IAmb IAmb 01 50 53.7
comp=Z,17nm,1.4s
K17K Iditarod 67.28 29 P **P** **01 50 02.1 +1.0**
K17K IAmb IAmb 01 50 03.6
comp=Z,16nm,0.9s
D19K Kuna River 67.35 23 IAmb IAmb 01 50 05.8
comp=Z,12nm,0.8s
O16K Kokwok River B 67.48 33 IAmb IAmb 01 50 24.2
comp=Z,14nm,1.2s
E19K Redstone River 67.67 24 IAmb IAmb 01 50 07.7
comp=Z,10.0nm,0.9s
M17K Holitna River 67.72 31 IAmb IAmb 01 50 06.6
comp=Z,15nm,1.0s
N17K Nushagak Hills 67.89 32 IAmb IAmb 01 50 07.5
comp=Z,18nm,1.1s
KBZ Khabaz 67.98 310 P **P** **01 50 07.4 +1.5**
comp=Z,23nm,0.9s,baz=105,slow=2.6,SNR=33
KBZ LR LR 02 22 27.3
comp=Z,83nm,20.2s,baz=50,slow=38
comp=Z,23nm,0.9s
H19K Roundabout Mou 68.02 26 IAmb IAmb 01 50 10.1
comp=Z,25nm,1.1s
KVAR Kislovodsk Arr 68.10 310 LR LR 02 21 26.5
comp=Z,72nm,21.9s,baz=276,slow=37
KIV Kislovodsk 68.11 310 ⇓P **P** **01 50 08.6 +1.9**
KIV Kislovodsk 68.11 310 P **P** **01 50 07.3 +0.5**
KIV Kislovodsk 68.11 310 *i*P **P** **01 50 08.4 +1.6**
SNR=20
KIV Kislovodsk 68.11 310 P **P** **01 50 07.8 +1.0**
comp=Z,54nm,0.9s,comp=Z,473nm
KIV Kislovodsk 68.11 310 P **P** **01 50 08.4 +1.6**
E21K Killik River 68.88 23 IAmb IAmb 01 50 16.3
comp=Z,8.6nm,0.8s
I20K Naaghedeneel 68.89 27 IAmb IAmb 01 50 14.3
comp=Z,26nm,1.1s
L19K White Mountain 68.90 30 IAmb IAmb 01 50 13.7
comp=Z,13nm,1.1s
O18K Koktuh Hills 68.92 32 P **P** **01 50 12.6 +1.1**
P18K Big Mountain, 68.95 33 IAmb IAmb 01 50 13.2
comp=Z,10.0nm,0.8s
ACHA Angle Creek He 69.01 34 IAmb IAmb 01 50 13.7
comp=Z,28nm,1.7s
J20K Nowinta River 69.07 28 IAmb IAmb 01 50 14.7
comp=Z,10nm,1.1s
IMAR Indian Mountai 69.11 26 P **P** **01 50 12.9 +0.4**
K20K Telida 69.17 29 IAmb IAmb 01 50 17.0
comp=Z,13nm,1.2s
D22K Ayikyak River 69.33 23 IAmb IAmb 01 50 44.9
comp=Z,24nm,1.4s
GURO Guroymak-BITLI 69.46 305 IAmb IAmb 01 50 18.7
comp=Z,28nm,1.1s
H21K Melozitna Rive 69.52 26 IAmb IAmb 01 50 19.5
comp=Z,11nm,1.1s
E22K Anaktuvuk Pass 69.70 23 IAmb IAmb 01 50 20.3
comp=Z,11nm,1.1s
RAYN Ar Rayn 69.78 288 P **P** **01 50 17.6 +0.2**
RAYN IAmb IAmb 01 50 19.6
comp=Z,33nm,1.1s
RAYN Ar Rayn 69.78 288 *i*P **P** **01 50 18.4 +1.0**
SNR=23
RAYN Ar Rayn 69.78 288 P **P** **01 50 18.2 +0.8**
MLY Manley 70.45 27 IAmb IAmb 01 50 25.0
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 70.46 28 IAmb IAmb 01 50 24.2
comp=Z,31nm,1.5s
TOLK Toolik Lake Re 70.48 23 IAmb IAmb 01 51 01.1
comp=Z,8.3nm,0.8s
SKT Skwentna 70.48 30 IAmb IAmb 01 50 44.1
comp=Z,24nm,1.7s
KDAK Kodiak Island 70.51 35 P **P** **01 50 21.1 -0.2**
KDAK IAmb IAmb 01 50 22.4
comp=Z,12nm,0.8s
KDAK Kodiak Island 70.51 35 P **P** **01 50 21.0 -0.2**
KDAK sP **sP** **01 50 48.9 -2.0**
D24K Happy Valley 70.68 22 IAmb IAmb 01 50 56.5
comp=Z,11nm,0.7s
H23K Yukon River 70.84 26 IAmb IAmb 01 50 27.8
comp=Z,12nm,1.0s
I23K Minto, Yukon-K 71.01 27 IAmb IAmb 01 50 28.1
comp=Z,17nm,1.4s
NEA2 Nenana 71.22 27 IAmb IAmb 01 50 29.1
comp=Z,14nm,1.2s
VADS Vadso 71.48 339 *e*P **P** **01 50 27.3 +0.5**
RND Reindeer 71.50 28 IAmb IAmb 01 50 30.5
comp=Z,15nm,0.9s
MDM Murphy Dome 71.52 27 IAmb IAmb 01 50 31.7
comp=Z,14nm,1.0s
D25K Kavik River 71.52 22 IAmb IAmb 01 50 59.0
comp=Z,10nm,0.8s
POKR Poker Plat Res 71.82 26 IAmb IAmb 01 50 32.9
comp=Z,9.0nm,0.9s
JOF Joensuu 71.93 331 *e*P **P** **01 50 30.6 +1.0**
SML Sawmill 72.00 30 IAmb IAmb 01 50 31.3

comp=Z,22nm,1.3s
KNK Knik Glacier 72.01 30 IAmb IAmb 01 50 31.4
comp=Z,18nm,1.2s
ILAR Eielson Array 72.11 27 P **P 01 50 29.5 -1.3**
comp=Z,1.1nm,0.6s,baz=271,slow=5.2,SNR=12
comp=Z,1.1nm,0.6s
SCM Sheep Creek Mo 72.47 30 IAmb IAmb 01 50 34.3
comp=Z,30nm,1.3s
BMAR Burnt Mountain 72.52 24 P **P 01 50 34.2 +1.0**
ARCES ARCESS Array B 72.90 339 P **P 01 50 35.2 -0.1**
comp=Z,2.3nm,0.6s,baz=64,slow=8.4,SNR=11
ARCES LR LR 02 26 31.5
comp=Z,72nm,19.3s,baz=28,slow=39
comp=Z,2.3nm,0.6s
SPITS Spitsbergen Ar 72.95 348 P **P 01 50 35.2 -0.4**
comp=Z,10nm,0.9s,baz=122,slow=11,SNR=1.9
SPITS LR LR 02 28 11.9
comp=Z,80nm,18.7s,baz=31,slow=40
comp=Z,10nm,0.9s
KLU Klutina 73.19 30 IAmb IAmb 01 50 38.7
comp=Z,14nm,1.2s
E27K Coleen River 73.46 23 P **P 01 50 39.4 +0.6**
E27K IAmb IAmb 01 50 42.1
comp=Z,20nm,1.7s
KTK1 Kautokeino 73.82 338 *e*P **P 01 50 41.4 +0.7**
E28M Babbage River 74.09 22 IAmb IAmb 01 51 04.5
comp=Z,15nm,1.6s
GLB Gilahina Butte 74.19 30 IAmb IAmb 01 50 46.0
comp=Z,17nm,1.4s
F28M Old Crow 74.24 23 IAmb IAmb 01 50 48.9
comp=Z,17nm,1.4s
FINES FINESS Array B 74.64 330 P **P 01 50 46.1 +0.5**
comp=Z,16nm,0.8s,baz=94,slow=7.6,SNR=58
FINES LR LR 02 26 51.7
comp=Z,99nm,19.5s,baz=78,slow=38
comp=Z,16nm,0.8s
BCAR Beaver Creek A 74.69 28 P **P 01 50 46.5 +0.5**
KEF Keuruu 75.00 331 *e*P **P 01 50 48.0 +0.3**
TRO Tromso 75.09 339 *e*P **P 01 50 48.4 +0.3**
G29M Pine Creek 75.13 24 IAmb IAmb 01 50 52.6
comp=Z,13nm,1.0s
H29M Whitestone 75.21 24 IAmb IAmb 01 51 11.8
comp=Z,15nm,1.2s
ARBE Arbavere 75.22 328 *e*P **P 01 50 50.3 +1.3**
CTGM Chitina Glacie 75.47 30 IAmb IAmb 01 50 52.4
comp=Z,9.7nm,0.6s
BR131 Keskin Array S 75.57 307 IAmb IAmb 01 50 53.8
comp=Z,20nm,1.0s
BRTR Keskin Array B 75.57 307 P **P 01 50 52.2 +0.5**
BRTR Keskin Array B 75.57 307 P **P 01 50 52.8 +1.1**
comp=Z,11nm,1.0s,baz=111,slow=7.0,SNR=30
comp=Z,11nm,1.0s
LOGN Logan Glacier 75.67 30 IAmb IAmb 01 51 39.6
comp=Z,12nm,1.2s
AK09 Malin Array Si 75.72 319 P **P 01 50 51.6 -0.5**
VAF Yilstaro 75.73 332 *e*P **P 01 50 52.8 +0.9**
AK08 Malin Array Si 75.73 319 P **P 01 50 51.8 -0.3**
AKASG Malin Array Be 75.74 319 P **P 01 50 52.1 0.0**
AKASG IAmb IAmb 01 50 53.5
comp=Z,29nm,1.5s
AKASG Malin Array Be 75.74 319 P **P 01 50 52.0 -0.1**
comp=Z,6.8nm,0.7s,baz=63,slow=5.5,SNR=25
AKASG LR LR 02 27 14.9
comp=Z,94nm,21.6s,baz=74,slow=38
comp=Z,6.8nm,0.7s
AKBB Malin Array Si 75.74 319 IAmb IAmb 01 50 53.1
comp=Z,16nm,0.9s
AKBB Malin Array Si 75.74 319 P **P 01 50 51.3 -0.8**
AK10 Malin Array Si 75.75 319 P **P 01 50 52.0 -0.2**
KIEV Kiev 75.75 319 P **P 01 50 51.7 -0.5**
KIEV IAmb IAmb 01 50 53.1
comp=Z,14nm,0.9s
KIEV Kiev 75.75 319 *i* P **P 01 50 51.9 -0.3**
SNR=10
KIEV Kiev 75.75 319 P **P 01 50 51.5 -0.7**
comp=Z,79nm,1.3s
AK02 Malin Array Si 75.76 319 P **P 01 50 52.1 -0.2**
AK04 Malin Array Si 75.77 319 P **P 01 50 51.7 -0.6**
AK05 Malin Array Si 75.77 319 P **P 01 50 51.8 -0.5**
MEF Metsahovi 75.77 329 *e*P **P 01 50 53.3 +1.1**
AK11 Malin Array Si 75.78 319 P **P 01 50 52.0 -0.4**
EPYK Eagle Plains 75.79 24 IAmb IAmb 01 50 56.5
comp=Z,9.8nm,0.8s
MMAI Mount Meron Ar 75.97 300 P **P 01 50 53.8 -0.1**
comp=Z,6.7nm,0.7s,baz=169,slow=1.5,SNR=4.7
comp=Z,6.7nm,0.7s
ANTO Ankara 76.16 308 ⇓P **P 01 50 55.3 +0.4**
ANTO Ankara 76.16 308 P **P 01 50 55.2 +0.4**
ANTO Ankara 76.16 308 P **P 01 50 55.8 +0.9**
comp=Z,22nm,1.0s,comp=Z,215nm
BR231 Keskin MP Arra 76.18 308 IAmb IAmb 01 50 57.2
comp=Z,30nm,1.0s
ISAL Salakas 76.21 324 *e*P **P 01 50 57.2 +2.5**
BAL3X Bal3x, Balta 76.23 316 P **P 01 50 54.5 -0.5**
L29M L29M 76.27 27 IAmb IAmb 01 50 59.6
comp=Z,9.3nm,0.9s
GHAJ Ghor Haditha 76.30 298 IAmb IAmb 01 50 58.6
comp=Z,25nm,0.9s
MI30 MI30,Zelenitsa 76.36 319 P **P 01 50 55.0 -0.7**
PURM Purcari 76.43 315 ⇑P **P 01 50 57.4 +1.3**
MTSE Matsula 76.50 328 *e*P **P 01 50 57.2 +1.0**
MI28 Mi28,Pidlybu 76.62 320 P **P 01 50 56.8 -0.4**
MI29 MI29, Kamyanyy 76.66 319 P **P 01 50 57.0 -0.4**
RAF Rauma 76.76 330 *e*P **P 01 50 58.5 +0.7**
STEI Steigen 76.96 338 *e*P **P 01 50 58.8 +0.1**
CSS Mathiatis 77.09 303 P **P 01 00 5.5 +0.4**
comp=Z,105nm,0.8s,comp=Z,879nm
FAUS Fauske 77.16 338 *e*P **P 01 50 59.9 +0.1**
EIL Elat 77.26 297 LR LR 02 29 11.0
comp=Z,78nm,18.1s,baz=69,slow=39
VSVD Vaisvydziai 77.27 325 *e*P **P 01 01 5.5 +0.8**
PABE Paberze 77.40 325 *e*P **P 01 01 02.7 +1.3**
LOF Lofoten 77.46 339 *e*P **P 01 01 0.3 -0.2**
TLCR 77.52 314 ⇑P **P 01 01 03.2 +0.9**
RNPP9 Sopachiv 77.56 320 P **P 01 01 8 -0.6**
RNPP8 Varash 77.60 320 P **P 01 01 02.6 0.0**
RNPP5 Staryi Chortor 77.61 320 P **P 01 01 02.3 -0.4**
N31M Braeburn, Yuko 77.85 29 IAmb IAmb 01 01 08.7
comp=Z,11nm,1.0s
AAL Aland 77.87 330 *e*P **P 01 01 04.3 +0.4**
TPGR Topolog 77.88 313 ⇑P **P 01 01 05.6 +1.2**
CFR Carcaliu 77.98 314 ⇑P **P 01 01 05.4 +0.6**
KMPD K-Podol'skiy 78.06 317 P **P 01 01 04.8 -0.5**
TLBR Topalu 78.23 313 ⇓P **P 01 01 07.8 +1.6**
HARR Harsova 78.26 313 ⇑P **P 01 01 08.0 +1.6**
SUW Suwalki 78.31 323 *e*P **P 01 01 06.9 +0.4**
SUW Suwalki 78.31 323 *e*P **P 01 01 07.4 +0.9**
PBUR Paburge 78.32 326 *e*P **P 01 01 07.6 +1.1**
STOK Stokkvaagen 78.40 337 *e*P **P 01 01 06.3 -0.4**
RPZ Rata Peaks 78.50 146 P **P 01 01 08.0 +0.4**
ICOR Ion Corvin 78.53 313 ⇓P **P 01 01 09.7 +1.8**
ODBI Odobesti 78.53 315 ⇑P **P 01 01 09.2 +1.3**
WHY Whitehorse 78.56 29 IAmb IAmb 01 51 11.2
comp=Z,23nm,1.8s
TESR Tescani 78.57 315 ⇓P **P 01 01 08.8 +0.6**
TESR Tescani 78.57 315 P **P 01 01 08.6 +0.5**
comp=Z,43nm,1.4s,comp=Z,464nm
PRAR RASCA 78.58 316 ⇓P **P 01 01 09.1 +0.9**
FARO Faro, Yukon 78.65 27 IAmb IAmb 01 51 12.5
comp=Z,9.1nm,1.0s
VRI Vrincioaia 78.72 315 ⇓P **P 01 01 10.6 +1.7**
PLOR5 Plostina Array 78.77 315 P **P 01 01 10.5 +1.2**
comp=Z,29nm,1.5s
PLOR Plostina 78.77 315 ⇑P **P 01 01 10.4 +1.1**
ONER Baraj Valea Uz 78.79 315 ⇓P **P 01 01 11.2 +1.8**
BISRR Bisoca 78.83 314 ⇑P **P 01 01 11.3 +1.7**
PGOR Pogoanele 78.84 314 ⇓P **P 01 01 10.5 +0.9**
COVR Voineasa-Covas 79.07 315 ⇑P **P 01 01 12.3 +1.4**
ISR Istrita 79.07 314 ⇑P **P 01 01 11.7 +0.8**
PRD Provadia 79.09 312 ⇑*i*P **P 01 01 12.2 +1.2**
UPP Uppsala 79.09 330 *e*P **P 01 01 11.3 +0.7**
BURAR Bucovina Array 79.15 317 ⇑P **P 01 01 12.5 +1.1**
BURAR Bucovina Array 79.15 317 P **P 01 01 12.1 +0.7**
BURAR IAmb IAmb 01 51 13.7
comp=Z,19nm,0.8s
BUR08 Bucovina Ar. S 79.15 317 IAmb IAmb 01 51 13.4
comp=Z,17nm,0.9s
OZUR 79.27 315 ⇑P **P 01 01 13.2 +1.2**
MLR Muntele Rosu 79.36 315 IAmb IAmb 01 51 17.7
comp=Z,26nm,1.0s
BOSR Bodos 79.36 315 ⇓P **P 01 01 14.3 +1.9**
DOPR Dopca 79.57 315 ⇑P **P 01 01 14.9 +1.3**
NSS Namsos 79.58 336 *e*P **P 01 01 12.9 -0.4**
ARCR ARCALIA 79.88 316 ⇓P **P 01 01 17.1 +1.9**
JMB Yambol 79.91 312 ⇑*i*P **P 01 01 16.5 +1.0**

VOIR 79.97 315 ⇓P **P 01 01 16.6 +0.7**
SZH Strazhitsa 80.05 312 ⇑*i*P **P 01 01 17.2 +1.0**
KWP Kalwaria Pacla 80.05 319 *e*P **P 01 01 17.2 +1.0**
KWP Kalwaria Pacla 80.05 319 P **P 01 01 16.4 +0.3**
comp=Z,72nm,1.0s,comp=Z,804nm
VIKU Vikbolandet 80.06 329 *e*P **P 01 01 16.7 +0.7**
ELND Elena 80.23 312 ⇑P **P 01 01 18.2 +1.0**
ARR Arges 80.27 315 ⇓P **P 01 01 18.8 +1.3**
COPA Copaceanca 80.28 313 ⇓P **P 01 01 18.6 +1.1**
HUMR Humele 80.31 314 ⇓P **P 01 01 18.6 +1.0**
TNR Turnu Rosu 80.41 315 ⇑P **P 01 01 19.8 +1.6**
BEL Belsk 80.42 322 *e*P **P 01 01 19.4 +1.3**
CJR Cluj-Napoca 80.49 316 ⇑P **P 01 01 20.3 +1.7**
KOLS Kolonicke sedl 80.56 319 *e*P **P 01 01 19.8 +0.9**
HFS Hagfors 80.79 331 P **P 01 01 19.8 0.0**
comp=Z,5.7nm,0.8s,baz=81,slow=4.8,SNR=18
HFS LR LR 02 29 56.2
comp=Z,183nm,21.3s,baz=64,slow=38
comp=Z,5.7nm,0.8s
LOT Lotru 80.81 315 ⇓P **P 01 01 21.8 +1.3**
MARR Marisel-Cluj 80.82 316 ⇓P **P 01 01 22.1 +1.7**
TBLU Trondheim 80.84 335 *e*P **P 01 01 19.7 -0.3**
VLAD Vladila 80.88 314 ⇑P **P 01 01 21.6 +0.9**
KDZ Kurdzhali 81.03 311 ⇑*i*P **P 01 01 22.0 +0.5**
DRGR 81.04 317 ⇓P **P 01 01 22.9 +1.3**
RDO Rodhopi 81.06 311 IAmb IAmb 01 51 23.2
comp=Z,22nm,0.9s
CRVS Cervenica-Dubn 81.07 319 *e*P **P 01 01 23.0 +1.4**
NC405 NORSAR Array S 81.23 332 IAmb IAmb 01 51 23.1
comp=Z,19nm,0.9s
DEV Deva 81.23 316 ⇓P **P 01 01 24.1 +1.6**
NC303 NORSAR Array S 81.33 333 IAmb IAmb 01 51 23.6
comp=Z,11nm,1.0s
RZN Rozhen 81.44 311 ⇑*i*P **P 01 01 24.7 +0.8**
NB201 NORSAR Array S 81.44 333 IAmb IAmb 01 51 24.0
comp=Z,9.1nm,0.9s
NB2 NORSAR Subarra 81.48 333 P **P 01 01 23.0 -0.5**
comp=Z,12nm,1.1s,baz=63,slow=5.6
NB2 NORSAR Subarra 81.48 333 P **P 01 01 23.0 -0.5**
baz=63,slow=5.6
NOA NORSAR Array B 81.48 333 P **P 01 01 23.1 -0.5**
comp=Z,5.1nm,0.9s,baz=61,slow=5.3,SNR=24
NOA LR LR 02 31 29.7
comp=Z,102nm,19.0s,baz=65,slow=38
comp=Z,5.1nm,0.9s
GZR Gura Zlata 81.49 315 ⇓P **P 01 01 25.3 +1.3**
PGB Panagyurishte 81.55 312 ⇑*i*P **P 01 01 25.5 +1.2**
MPEP Malo Peshtene 81.56 313 ⇑*i*P **P 01 01 25.5 +1.2**
NIE Niedzica 81.59 320 *e*P **P 01 01 26.2 +1.8**
NIE Niedzica 81.59 320 P **P 01 01 25.3 +0.9**
comp=Z,16nm,1.0s
OJC Ojcow 81.59 321 *e*P **P 01 01 25.4 +1.1**
OJC Ojcow 81.59 321 P **P 01 01 24.7 +0.4**
comp=Z,74nm,0.9s,comp=Z,587nm
VALD Valchedram 81.65 313 *i* P **P 01 01 25.7 +1.0**
PUNG Punghina 81.78 314 ⇑P **P 01 01 27.0 +1.6**
SURR Surduc 81.79 316 ⇓P **P 01 01 26.6 +1.2**
SIRR Siria 81.90 316 ⇑P **P 01 01 27.1 +1.4**
DOMB Dombas 81.91 334 *e*P **P 01 01 26.1 +0.3**
HERR Herculane 81.91 315 ⇑P **P 01 01 27.1 +1.1**
NEEM North Greenlan 81.96 358 *i* P **P 01 01 23.5 -2.6**
NEEM IAmb IAmb 01 51 27.1
comp=Z,17nm,0.8s
DBG Daneborg 82.07 350 *i* P **P 01 01 25.1 -1.3**
DBG IAmb IAmb 01 51 26.0
comp=Z,23nm,1.4s
VTS Vitosha 82.16 313 ⇑*i*P **P 01 01 28.8 +1.1**
BZS Buzias 82.17 316 ⇓P **P 01 01 28.1 +0.6**
MMB Musomishta 82.18 311 ⇑*i*P **P 01 01 27.8 +0.1**
LANS Liptovska Anna 82.20 320 *e*P **P 01 01 29.3 +1.7**
OSL Oslo 82.21 332 *e*P **P 01 01 27.9 +0.5**
MOL Molde 82.26 335 *e*P **P 01 01 28.1 +0.6**
JMIC Jan Mayen 82.28 345 LR LR 02 32 58.2
comp=Z,45nm,19.6s,baz=51,slow=39
PSZ Piszkesteto 82.41 318 IAmb IAmb 01 51 30.8
comp=Z,25nm,1.4s
BSZH Besenyszg 82.41 318 ⇓P **P 01 01 29.4 +0.8**
MDVR Moldovita 82.41 315 ⇑P **P 01 01 29.4 +0.6**
KKB Krupnik 82.51 312 ⇑*i*P **P 01 01 29.9 +0.6**
PEHC Pehcevo 82.69 312 *i* P **P 01 01 30.1 -0.3**
BOVS Bovan 82.84 314 ⇓P **P 01 01 31.6 +0.6**
VYHS Vyhne 82.84 319 *e*P **P 01 01 32.2 +1.3**
VAY Valandovo 83.09 311 *i* P **P 01 01 32.7 +0.4**
MAUC Maruska 83.10 320 *e*P **P 01 01 33.8 +1.5**
MORC Moravsky Berou 83.11 321 ⇓P **P 01 01 33.6 +1.3**
MORC Moravsky Berou 83.11 321 IAmb IAmb 01 51 34.4
comp=Z,17nm,1.0s
MORC Moravsky Berou 83.11 321 *e*P **P 01 01 33.0 +0.7**
KSP Ksiaz 83.40 322 *e*P **P 01 01 34.7 +1.0**
KSP Ksiaz 83.40 322 P **P 01 01 34.1 +0.4**
comp=Z,50nm,1.1s,comp=Z,428nm
JAVC Velka Javorina 83.40 320 *e*P **P 01 01 35.7 +1.9**
SRO Srobarova 83.43 319 *e*P **P 01 01 35.4 +1.5**
KRLC Kraliky 83.43 321 *e*P **P 01 01 34.9 +0.9**
FRGS Fruska Gora 83.52 316 ⇑P **P 01 01 35.3 +0.8**
FRGS Fruska Gora 83.52 316 P **P 01 01 34.7 +0.2**
comp=Z,41nm,1.2s,comp=Z,418nm
HYA Hoyanger 83.54 334 *e*P **P 01 01 34.6 +0.5**
OSTC Ostas 83.56 322 *e*P **P 01 01 35.8 +1.2**
DPC Dobruska-Polom 83.59 322 *e*P **P 01 01 36.2 +1.4**
DPC Dobruska-Polom 83.59 322 P **P 01 01 35.3 +0.5**
comp=Z,23nm,1.1s,comp=Z,239nm
SKO Skopje 83.64 312 *i* P **P 01 01 35.9 +0.8**
FOO Floro 83.77 335 *e*P **P 01 01 35.4 0.0**
MODS Modra-Piesok 83.84 319 *e*P **P 01 01 37.1 +1.1**
MORH Mrgy, Hungar 83.86 317 ⇓P **P 01 01 37.0 +0.9**
MORH Mrgy, Hungar 83.86 317 ⇑*i*P **P 01 01 36.5 +0.4**
MORH Mrgy, Hungar 83.86 317 P **P 01 01 36.3 +0.2**
comp=Z,20nm,1.3s,comp=Z,294nm
VRAC Vranov 83.86 321 ⇑P **P 01 01 37.7 +1.5**
VRAC Vranov 83.86 321 *e*P **P 01 01 37.3 +1.2**
ZST Bratislava 84.02 319 *e*P **P 01 01 38.3 +1.4**
KRUC Moravsky 84.08 320 *e*P **P 01 01 38.2 +1.0**
RUE Ruedersdorf 84.11 324 *e*P **P 01 01 38.6 +1.4**
RUE Ruedersdorf 84.11 324 *e*P 01 01 38.3
comp=Z,45nm,0.8s,baz=61,slow=4.8
MPLH Magyarpolny 84.17 318 P **P 01 01 37.8 +0.1**
comp=Z,108nm,1.2s,comp=Z,1μm
SUE Sulen 84.18 334 *e*P **P 01 01 37.6 +0.2**
BER Bergen 84.31 333 *e*P **P 01 01 38.7 +0.6**
ASK Askoy 84.31 334 *e*P **P 01 01 38.6 +0.5**
BLS5 Blasjo 84.34 332 *e*P **P 01 01 38.9 +0.5**
OHR Ohrid 84.41 312 *i* P **P 01 01 38.9 -0.2**
RUDO Rudo 84.41 315 ⇑*i*P **P 01 01 39.3 +0.3**
HAPS Han Pijesak,Bl 84.51 315 ⇑*i*P **P 01 01 40.4 +0.8**
PVCC Panska Ves 84.53 322 *e*P **P 01 01 41.0 +1.6**
TREC Trest 84.53 321 *e*P **P 01 01 40.5 +1.0**
SNART Snartemo 84.57 331 *e*P **P 01 01 40.0 +0.5**
GOPC GO Pecny, Ondr 84.67 322 *e*P **P 01 01 41.4 +1.2**
RONA Rosalia, Austr 84.72 319 *i* P **P 01 01 41.4 +0.9**
comp=Z,17nm,1.2s,SNR=12
BRG Berggiesshubel 84.73 323 *i* P **P 01 01 41.2 +0.8**
BRG Amp 01 51 42.3
comp=Z,15nm,0.9s
BRG Berggiesshubel 84.73 323 *e*P 01 01 41.2
comp=Z,15nm,0.9s,baz=61,slow=4.8
PRU Pruhonice 84.78 322 *e*P **P 01 01 41.8 +1.1**
PRU AMS AMS 02 29 20.0
comp=Z,100nm,21.2s
RICC Richard 84.79 322 *e*P **P 01 01 41.9 +1.1**
PRA Prague 84.81 322 *e*P **P 01 01 42.4 +1.6**
KIBK Kibwezi 84.81 266 P **P 01 01 41.2 -0.4**
KIBK IAmb IAmb 01 51 44.7
comp=Z,23nm,1.3s
SSRD Sdr. Stenderup 84.87 328 *i* P **P 01 01 42.4 +1.4**
SSRD IAmb IAmb 01 51 43.2
comp=Z,35nm,0.8s
CONA Conrad Observa 84.89 319 *e*PcP **P 01 01 42.6 +1.2**
comp=Z,28nm,1.1s,SNR=22
BEHE Becsehely 84.94 318 ⇑*i*P **P 01 01 42.1 +0.5**
PDG Podgorica 84.96 313 ⇓P **P 01 01 42.5 +0.7**
PDG Podgorica 84.96 313 IAmb IAmb 01 51 43.3
comp=Z,22nm,0.9s
TIR Tirane 84.97 312 ⇑P **P 01 01 42.4 +0.5**
TIR Tirane 84.97 312 P **P 01 01 42.3 +0.5**
comp=Z,60nm,1.3s
CLL Collm 85.06 323 IAmb IAmb 01 51 43.6
comp=Z,19nm,0.8s
CLL Collm 85.06 323 ⇑*i*P **P 01 01 42.3 +0.2**
comp=Z,25nm,1.0s
CLL *e*PP **PP 01 55 01.0 +1.3**
CLL Collm 85.06 323 P **P 01 01 42.3 +0.2**
comp=Z,25nm,1.0s,comp=Z,229nm

CLL Collm 85.07 323 *e*P 01 51 42.4
comp=Z,21nm,0.9s,baz=61,slow=4.8
CLL *e*L 02 34 08.7
comp=Z,102nm,20.1s
KMBO Kilima Mbogo 85.12 267 P **P 01 51 43.2 -0.2**
KMBO IAmb IAmb 01 51 46.5
comp=Z,16nm,1.1s
KMBO Kilima Mbogo 85.12 267 *i* P **P 01 51 45.5 +2.0**
SNR=6.5
HSKC Hora Svate Kat 85.14 323 *e*P **P 01 51 43.3 +0.7**
GORT1 Trebel 85.21 325 *e*P 01 51 43.6
comp=Z,50nm,1.2s,baz=61,slow=4.8
KOGS Kog 85.28 318 *e*P **P 01 51 43.6 +0.3**
BSEG Bad Segeberg 85.28 326 *e*P 01 51 43.8
comp=Z,24nm,0.9s,baz=61,slow=4.8
BSEG *e*L 02 36 16.2
comp=Z,88nm,19.8s
KALN Kalnik 85.28 318 *i* P **P 01 51 43.9 +0.5**
MOSL Moslavina 85.31 317 *i* P **P 01 51 44.1 +0.6**
ARSA Arzberg 85.38 319 *e*PcP **P 01 51 44.9 +1.1**
comp=Z,11nm,0.9s,SNR=7.5
BLY Banja Luka 85.39 316 ⇑*i*P **P 01 51 44.6 +0.7**
CKRC Cesky Krumlov 85.43 321 *e*P **P 01 51 45.4 +1.4**
TREB Trebinje 85.46 314 *e*P **P 01 51 41.9 -2.4**
FLTG Flechtingen 85.56 325 *e*P 01 51 44.6
comp=Z,16nm,0.9s,baz=61,slow=4.8
MGRS Mrkonjic Grad 85.60 316 ⇑*i*P **P 01 51 46.1 +1.1**
DBRK Dubrovnik 85.61 314 *i* P **P 01 51 44.8 -0.3**
PTJ Puntijarka 85.68 318 P **P 01 51 45.9 +0.4**
KHC Kasperske Hory 85.72 321 IAmb IAmb 01 51 47.4
comp=Z,10.0nm,1.1s
KHC Kasperske Hory 85.72 321 *e*P **P 01 51 47.0 +1.5**
KHC AMS AMS 02 34 30.0
comp=Z,100nm,21.5s
KHC Kasperske Hory 85.72 321 P **P 01 51 45.8 +0.3**
comp=Z,9.1nm,1.3s
GROS Grobnik 85.74 318 *i* P **P 01 51 45.7 0.0**
GEC2 GERESS Array S 85.78 321 IAmb IAmb 01 51 47.6
comp=Z,12nm,1.0s
GERES GERESS Array B 85.78 321 P **P 01 51 45.8 -0.1**
GERES GERESS Array B 85.78 321 P **P 01 51 46.8 +0.9**
comp=Z,4.7nm,0.8s,baz=57,slow=5.1,SNR=31
comp=Z,4.7nm,0.8s
GEC2 GERESS Array S 85.78 321 *e*P 01 51 46.4
comp=Z,13nm,1.0s,baz=61,slow=4.8
TANN Tannenbergstha 85.78 323 *e*P 01 51 46.1
comp=Z,9.6nm,1.3s,baz=61,slow=4.8
NEUB Neuenburg 85.80 324 *e*P 01 51 46.3
comp=Z,20nm,1.0s,baz=61,slow=4.8
STON Ston 85.83 314 *i* P **P 01 51 45.6 -0.5**
STON Ston 85.83 314 ⇑*i*P **P 01 51 45.6 -0.5**
MOA Molln 85.89 320 *i* PcP **PcP 01 51 48.3 -0.7**
comp=Z,20nm,1.3s,SNR=11
PLN Plauen 85.92 323 *e*P 01 51 47.2
comp=Z,18nm,1.4s,baz=61,slow=4.8
A050A Klekovaca 85.93 316 ⇑*i*P **P 01 51 47.1 +0.4**
SOKA Soboth 85.94 319 *e*P **P 01 51 47.3 +0.6**
comp=Z,16nm,1.1s,SNR=6.5
RICI Ricice 85.95 315 *i* P **P 01 51 46.4 -0.3**
SUMG Summit 85.98 354 P **P 01 51 46.9 +0.1**
SUMG IAmb IAmb 01 51 47.7
comp=Z,6.4nm,0.8s
SUMG Summit 85.98 354 *i* P **P 01 51 46.0 -0.8**
SUMG IAmb IAmb 01 51 47.9
comp=Z,5.9nm,0.8s
YKA Yellowknife Ar 86.00 23 P **P 01 51 46.1 -0.5**
YKA Yellowknife Ar 86.00 23 P **P 01 51 46.3 -0.3**
comp=Z,2.4nm,0.6s,baz=313,slow=4.8,SNR=21
comp=Z,2.4nm,0.6s
CRES Cresnjev 86.04 318 ⇑*i*P **P 01 51 47.9 +0.8**
NRDL Niedersach Rie 86.09 325 *e*P 01 51 47.9
comp=Z,29nm,1.1s,baz=61,slow=4.8
OZLJ Ozalj 86.12 317 *i* P **P 01 51 48.0 +0.5**
WET Wettzell 86.13 321 *e*P 01 51 48.2
comp=Z,16nm,1.6s,baz=61,slow=4.8
WET *e*L 02 33 22.5
comp=Z,95nm,20.2s
MOX Moxa 86.15 323 *e*P 01 51 47.8
comp=Z,16nm,1.4s,baz=61,slow=4.8
MOX *e*L 02 28 58.7
comp=Z,64nm,21.4s
MANZ Manzenberg 86.18 322 *e*P 01 51 48.1
comp=Z,2.1nm,1.2s,baz=61,slow=4.8
KIJV Kijevo 86.21 316 *i* P **P 01 51 48.3 +0.3**
ROTZ Rotzenmuhle 86.23 322 *e*P 01 51 48.8
comp=Z,2.2nm,1.0s,baz=61,slow=4.8
CLZ Clausthal 86.26 325 *e*P 01 51 48.7
comp=Z,27nm,1.2s,baz=61,slow=4.8
OBKA Obir 86.31 319 *i* P **P 01 51 48.9 +0.3**
comp=Z,8.5nm,1.0s,SNR=6.2
BOJS Bojanci 86.31 317 ⇑*i*P **P 01 51 49.2 +0.8**
BIOA Bad Ischl, Aus 86.34 320 *i* PcP **P 01 51 49.4 +0.9**
comp=Z,5.0nm,1.1s
PLIT Plitvice 86.34 317 *i* P **P 01 51 48.6 -0.1**
RETH Rethem/Aller, 86.36 326 *e*P 01 51 48.8
comp=Z,17nm,1.1s,baz=61,slow=4.8
UDBI Udbina 86.41 316 *i* P **P 01 51 49.5 +0.5**
CEY Cerknica 86.73 318 ⇑*i*P **P 01 51 50.7 +0.2**
MORI Morici 86.73 316 *i* P **P 01 51 50.2 -0.3**
KBA Koelnbreinsper 86.79 319 *i* P **P 01 51 51.0 0.0**
comp=Z,2.5nm,0.6s
GRF Grafenberg Arr 86.83 322 *e*L 02 35 25.5
comp=Z,77nm,21.7s
VIRC Vir 86.97 316 *i* P **P 01 51 51.5 -0.1**
LESA Schwarzleotal 87.04 320 *i* P **P 01 51 52.1 0.0**
comp=Z,3.6nm,0.8s
DUGI Dugi Otok 87.09 316 *i* P **P 01 51 52.0 -0.3**
ABTA Abfaltersbach 87.45 319 *i* P **P 01 51 53.4 -0.7**
comp=Z,4.7nm,0.9s
FUR Furstenfeldbru 87.52 321 *e*L 02 34 16.1
comp=Z,74nm,18.6s
STAL STALIGIAL 87.56 319 IAmb IAmb 01 51 56.8
comp=Z,7.6nm,1.1s
KASTN Kahler Asten 87.64 325 *e*P 01 51 55.1
comp=Z,15nm,1.6s,baz=61,slow=4.8
WTTA Wattenberg 87.74 320 *i* P **P 01 51 55.5 -0.1**
comp=Z,7.7nm,0.8s,SNR=5.8
WATA Walderalm 87.74 320 *e*P **P 01 51 54.8 -0.7**
comp=Z,4.5nm,0.9s
SQTA Sankt Quirin 88.02 320 *i* P **P 01 51 56.6 -0.1**
comp=Z,6.2nm,0.9s
TNS Taunus Mts 88.12 324 *e*L 02 35 40.7
comp=Z,93nm,19.8s
RETA Reutte 88.15 321 *e*P **P 01 51 57.4 +0.1**
comp=Z,2.7nm,0.8s
FETA Feichten 88.40 320 *i* PcP **P 01 51 58.9 +0.2**
comp=Z,6.5nm,1.0s,SNR=5.3
GUMA Gualdo di Mace 88.63 316 IAmb IAmb 01 52 01.9
comp=Z,19nm,1.1s
DAVA Damuels 88.77 321 *i* P **P 01 51 58.0 -2.4**
comp=Z,5.1nm,1.0s
CAMP Campotosto 88.82 315 IAmb IAmb 01 52 02.4
comp=Z,10nm,1.0s
FUORN Ofenpass-Fuorn 88.87 320 P **P 01 52 01.5 +0.5**
FUORN IAmb IAmb 01 52 02.6
comp=Z,6.1nm,0.9s
DAVOX Davos/Dischmat 89.02 320 LR LR 02 36 31.2
comp=Z,76nm,21.4s,baz=46,slow=38
CEL Celeste 89.03 311 P **P 01 52 02.1 +0.5**
comp=Z,34nm,1.5s,comp=Z,375nm
BFO Black Forest 89.16 322 *e*L 02 33 47.8
comp=Z,77nm,21.6s
ICESG Greenland Ices 89.44 353 *i* P **P 01 52 02.4 -0.9**
TUE Stuetta 89.50 320 IAmb IAmb 01 52 06.1
comp=Z,18nm,1.4s
TUE Stuetta 89.50 320 P **P 01 52 04.0 +0.1**
comp=Z,31nm,1.3s
WLF Walferdange 89.68 324 *e*P 01 52 04.9
comp=Z,18nm,0.9s,baz=61,slow=4.8
VAE Valguarnera 90.42 311 LR LR 02 40 42.8
comp=Z,91nm,18.0s,baz=132,slow=41
EKA Eskdalemuir Ar 90.95 332 P **P 01 52 09.8 -0.4**
comp=Z,0.9nm,0.6s,baz=59,slow=2.6,SNR=5.9
comp=Z,0.9nm,0.6s
BNI Bardonecchia 91.83 320 P **P 01 52 14.7 0.0**
BNI IAmb IAmb 01 52 17.5
comp=Z,12nm,1.5s
DY2G Dye2 92.61 355 *i* P **P 01 52 17.6 -0.3**
PPT2 Papeete2 94.99 107 *e*LR LR 02 23 11.0
comp=Z,179nm,36.8s
PPT2 *e*LR LR 02 23 17.8
comp=Z,338nm,33.2s
TBI Tubuai 97.02 112 *e*LR LR 02 24 12.9
comp=Z,872nm,31.5s
NVAR Mina Array Bea 98.68 43 P **P 01 52 44.7 -1.4**
comp=Z,0.4nm,0.7s,baz=280,slow=12,SNR=3.6
comp=Z,0.4nm,0.7s

TORD Torodi Ar. Bea 112.06 294 PKKPbc PKKPbc 02 08 32.4 -1.0
comp=Z,0.9nm,1.1s,baz=243,slow=6.3,SNR=3.2
TORD PKKPab **PKKPab 02 08 42.7 -1.2**
comp=Z,0.3nm,0.6s,baz=225,slow=4.0,SNR=3.7
TXAR Lajitas Array 113.82 43 PKiKP **PKiKP 01 57 45.2 -0.2**
comp=Z,0.2nm,0.5s,baz=23,slow=1.6,SNR=4.9

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*NEIC **20** 02:18:35.1±0.2, 18°.1N±0°.2×68°.00W±0°.09, h78km±10km, ML2.1/8, Md2.9/4(RSPR), Error ellipse: s-maj=30.6km s-min=5.8km az=202.0*
*RSPR **20** 02:18:36.3, 18°.06N×68°.00W, h69km±2km, MD2.9/4*
*SDD **20** 02:18:46.4±1.9, 18°.36N×67°.56W, h23km±33km, MD2.6, ML1.8, MW2.1*
ISC 20 02:18:32.7±2.1, 18°.0N±0°.2×68°.08W±0°.10, h94km, n21, σ1§76/25, 4C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.56**	**329**	⇓*eP*	**Pn**	**02 18 48.8**	**+0.5**
PCDR	**Punta Cana, DR**	**0.56**	**329**	*eS*	**Sn**	**02 18 59.4**	**-0.6**
PCDR	**Punta Cana, DR**	**0.56**	**329**		**Pn**	**02 18 48.8**	**+0.5**
PCDR					**Sn**	**02 18 59.4**	**-0.6**
CRPR	**Cabo Rojo, PR**	**0.92**	**91**	⇑*eP*	**Pn**	**02 18 52.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**0.92**	**91**	*eS*	**Sn**	**02 19 04.9**	**-1.2**
CRPR	**Cabo Rojo, PR**	**0.92**	**91**		**Pn**	**02 18 52.3**	**+0.5**
CRPR					**Sn**	**02 19 04.9**	**-1.2**
CRPR	**Cabo Rojo, PR**	**0.92**	**91**	⇑*e*Pg	Pn	02 18 56.7	+5.0
CRPR				⇓*e*Sg	**Sn**	**02 19 04.7**	**-1.4**
CRPR				IAML		02 19 17.6	
	comp=N,36nm,2.4s						
LSP	**Las Mesas**	**0.95**	**81**	*eS*	**Sn**	**02 19 05.3**	**-1.5**
LSP	**Las Mesas**	**0.95**	**81**		**Sn**	**02 19 05.3**	**-1.5**
MLPR	**Magueyes Islan**	**0.98**	**93**	*eS*	**Sn**	**02 19 05.8**	**-1.6**
MLPR	**Magueyes Islan**	**0.98**	**93**		**Sn**	**02 19 05.8**	**-1.6**
AOPR	**Arecibo Observ**	**1.30**	**76**	⇑*eP*	**Pn**	**02 18 57.5**	**+1.3**
AOPR	**Arecibo Observ**	**1.30**	**76**	*eS*	**Sn**	**02 19 12.6**	**-1.3**
AOPR	**Arecibo Observ**	**1.30**	**76**		**Pn**	**02 18 57.5**	**+1.3**
AOPR					**Sn**	**02 19 12.6**	**-1.3**
AOPR	**Arecibo Observ**	**1.30**	**76**	IAML		02 19 20.9	
	comp=N,41nm,1.7s						
AOPR				IAML		02 19 21.3	
	comp=E,32nm,2.4s						
AOPR	**Arecibo Observ**	**1.30**	**76**	⇑*e*Pg	**Pn**	**02 18 60.0**	**+3.8**
AOPR				⇓*e*Sg	**Sn**	**02 19 10.4**	**-3.5**
AOPR				IAML		02 19 20.4	
	comp=N,38nm,1.8s						
AOPR				IAML		02 19 23.9	
	comp=E,28nm,1.5s						
CELP	**Cerrillos**	**1.43**	**88**	⇓*eP*	**Pn**	**02 18 58.4**	**+0.7**
CELP	**Cerrillos**	**1.43**	**88**	*eS*	**Sn**	**02 19 15.4**	**-1.2**
CELP	**Cerrillos**	**1.43**	**88**		**Pn**	**02 18 58.4**	**+0.7**
CELP					**Sn**	**02 19 15.4**	**-1.2**
CELP	**Cerrillos**	**1.43**	**88**	IAML		02 19 37.7	
	comp=E,17nm,2.4s						
CELP				IAML		02 19 55.9	
	comp=N,25nm,2.5s						
CELP	**Cerrillos**	**1.43**	**88**	⇓*e*Pg	**Pn**	**02 19 01.5**	**+3.8**
CELP				⇓*e*Sg	**Sn**	**02 19 15.9**	**-0.7**
CELP				IAML		02 19 55.4	
	comp=N,24nm,2.6s						

IDC 20 02:19:06.6±3.5, 10°.28S×111°.83E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=188.5km s-min=28.3km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.73**	**116**	P	P	02 24 19.9	-0.8
	0.3nm,0.6s,baz=288,slow=11,SNR=2.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**24.91**	**125**	P	P	02 24 32.1	+0.6
	0.6nm,0.5s,baz=306,slow=8.6,SNR=6.9						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**62.65**	**338**	P	P	02 29 32.9	-0.1
	0.3nm,0.4s,baz=147,slow=7.9,SNR=4.9						
	0.3nm,0.4s						

IDC 20 02:23:59.3±5.2, 29°.92S×178°.40W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=298.1km s-min=74.8km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.79**	**267**	P	P	02 31 58.1	-1.0
	0.3nm,0.3s,baz=98,slow=6.6,SNR=2.6						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**43.74**	**272**	P	P	02 32 07.3	+0.6
	0.4nm,0.4s,baz=112,slow=7.9,SNR=4.1						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**144.58**	**340**	PKP	PKPbc	02 43 36.4	+0.6
	0.5nm,0.4s,baz=64,slow=4.4,SNR=8.9						

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*BJI **20** 02:33:01.0±0.0, 19°.40N×155°.30W, h5km, mb5.0/16, mB5.7/20, Ms5.2/26, Ms7 5.0/24*
*HVO **20** 02:33:01.7±0.8, 19°.411N±0°.004×155°.282W±0°.008, h1km±3km, ML4.1/42, mb4.8/19(NEIC), ML3.7/39(NEIC), Mww5.3/16(NEIC), Error ellipse: s-maj=1.0km s-min=0.7km az=104.0*
*NEIC **20** 02:33:01.7, 19°.41N×155°.28W, h12km*
*NEIC **20** 02:33:01.7, 19°.51N×155°.28W, h12km, Moment Tensor Solution. Duration: 2§4 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.97; $M_{\theta\theta}$=0.52; $M_{\phi\phi}$=0.46; $M_{r\theta}$=-0.45; $M_{\theta\phi}$=0.44; $M_{r\phi}$=0.14; Fault plane solution: M_0=1.05000×10^{17} NP1:ϕ_s=66.24000°, δ55.18000°, λ-67.59000°. NP2:ϕ_s=210.40000°, δ40.63000°, λ-118.73000°. Principal axes: T 0.9578, Plg8.0000°, Azm140.0000°; N 0.1831, Plg18.0000°, Azm233.0000°; P -1.1409, Plg70.0000°, Azm29.0000°;*
*NEIC **20** 02:33:02.7±1.1, 19°.40N±0°.01×155°.285W±0°.007, h5km±1km Error ellipse: s-maj=2.0km s-min=1.6km az=170.0*
*IDC **20** 02:33:04.0±0.8, 19°.44N×155°.32W, h0km, mb4.1/9, mbtmp4.1/9, MS4.4/75, Error ellipse: s-maj=14.6km s-min=11.0km az=142.0*
*GCMT **20** 02:33:08.7±0.1, 19°.32N±0°.01×155°.17W±0°.01, h12km, MW5.2/159, Moment Tensor Solution. s95,c141; s159,c277; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}=1.00±.01; $M_{\theta\theta}$=0.51±.01; $M_{\phi\phi}$=0.48±.01; $M_{r\theta}$=0.21±.03; $M_{\theta\phi}$=0.35±.01; $M_{\phi r}$=0.17±.03; Best double couple: M_0=0.95700×10^{17} NP1:ϕ_s=238.00000°, δ47.00000°, λ-73.00000°. NP2:ϕ_s=34.00000°, δ45.00000°, λ-107.00000°. Principal axes: T 0.8550, Plg1.0000°, Azm316.0000°; N 0.2050, Plg12.0000°, Azm47.0000°; P -1.0580, Plg78.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 02:33:02.3±0.6, 19°.43N±0°.03×155°.28W±0°.03, h9km±2km, n563, σ1§35/496, mb4.7/28, MS4.6/96, 1C-1D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.00**	**171**		**Pg**	**02 33 03.3**	**-0.7**
SBLHI	**Steaming Bluff**	**0.01**	**101**		**Pg**	**02 33 03.5**	**-0.5**
OBL	**Observatory Le**	**0.01**	**204**		**Pg**	**02 33 03.1**	**-0.9**
UWE	**Uwekahuna**	**0.02**	**240**	Pg	**Pg**	**02 33 02.5**	**-1.5**
HATHI	**Halema'uma'u T**	**0.02**	**109**		**Pg**	**02 33 02.8**	**-1.2**
BYL	**Byron's Ledge**	**0.02**	**134**		**Pg**	**02 33 02.9**	**-1.1**
WRMHI	**West Rim**	**0.03**	**222**		**Pg**	**02 33 03.6**	**-0.5**
KKO	**Keanakako`i**	**0.03**	**159**		**Pg**	**02 33 03.6**	**-0.5**
RIM	**Rim**	**0.03**	**172**		**Pg**	**02 33 03.4**	**-0.7**
RSD	**Rainshed**	**0.03**	**1**		**Pg**	**02 33 03.5**	**-0.6**
RSD				IAML		02 33 04.1	
	comp=E,1μm,0.4s						
RSD				IAML		02 33 04.2	
	comp=N,2μm,0.4s						
SDHHI	**Sand Hill**	**0.04**	**200**		**Pg**	**02 33 03.7**	**-0.5**
PUH	**Pauahi**	**0.08**	**133**		**Pg**	**02 33 04.1**	**-0.4**
KNHH	**Kane Nui o Ham**	**0.11**	**115**		**Pg**	**02 33 04.9**	**-0.1**
MLH	**Mauna Loa**	**0.12**	**303**		**Pg**	**02 33 05.4**	**+0.2**
MLH				IAML		02 33 08.4	
	comp=N,20μm,0.5s						
MLH				IAML		02 33 08.7	
	comp=E,42μm,0.8s						
HLP	**Hilina Pali**	**0.14**	**192**		**Pg**	**02 33 05.2**	**-0.1**
HLP				IAML		02 33 07.0	
	comp=N,10μm,2.4s						
HLP				IAML		02 33 07.5	
	comp=E,11μm,1.0s						
STCH	**Steam Cracks**	**0.15**	**107**		**Pg**	**02 33 06.2**	**+0.7**
STCH				IAML		02 33 09.2	
	comp=N,14μm,0.7s						
STCH				IAML		02 33 09.5	
	comp=E,33μm,0.6s						
NPOC	**North of Pu'u**	**0.16**	**103**		**Pg**	**02 33 06.3**	**+0.6**
NPOC					**Sg**	**02 33 08.5**	**+0.3**
HMH	**Humu'ula Sheep**	**0.26**	**312**		**Pg**	**02 33 08.4**	**+0.8**
HMH				IAML		02 33 14.1	
	comp=N,33μm,0.6s						
HMH				IAML		02 33 14.5	
	comp=E,25μm,0.7s						
JOKA	**Jonika Flow**	**0.26**	**89**		**Pg**	**02 33 08.3**	**+0.9**
JOKA				IAML		02 33 12.8	
	comp=N,24μm,0.8s						
JOKA				IAML		02 33 14.3	
	comp=E,26μm,2.5s						
MLOA	**Mauna Loa Obse**	**0.30**	**291**	Pg	**Pg**	**02 33 08.5**	**+0.1**
MLOA				IAML		02 33 18.0	
	comp=N,28μm,1.3s						
MWH	**Moku'aweowe**	**0.30**	**281**		**Pg**	**02 33 09.2**	**+0.6**
PAH	**Pahoa**	**0.32**	**78**	Pg	**Pg**	**02 33 09.4**	**+0.8**
KHU	**Kahuku**	**0.37**	**240**	Pg	**Pg**	**02 33 10.1**	**+0.5**
KHU				IAML		02 33 17.4	
	comp=E,17μm,1.8s						
KHU				IAML		02 33 18.0	
	comp=N,9μm,1.4s						
POHA	**Pohakuloa**	**0.41**	**324**		**Pg**	**02 33 10.7**	**+0.4**
POHA				IAML		02 33 21.1	
	comp=N,17μm,3.0s						
POHA				IAML		02 33 22.7	
	comp=N,17μm,2.0s						
HPO	**Honuapo**	**0.43**	**218**		**Pg**	**02 33 10.6**	**0.0**
HUH	**Hualalai**	**0.58**	**296**		**Pg**	**02 33 14.5**	**+0.9**
I59US	**HAWAII INFRASO**	**0.60**	**286**	Pg	**Pb**	**02 33 15.1**	**0.0**
I59US				I	I	02 36 16.8	
	baz=112,slow=30						
HPAH	**Hawaii Prepara**	**0.72**	**327**	Pg	**Pg**	**02 33 15.6**	**-0.5**
MHA	**Mahukona**	**0.96**	**322**	Pg	**Pg**	**02 33 18.9**	**-1.8**
HLK	**Haleakala**	**1.61**	**326**		**Pn**	**02 33 30.6**	**-0.6**
KHLH	**Kahului Airpor**	**1.82**	**324**	Pn	**Pn**	**02 33 32.2**	**-1.5**
KPA	**Kalaupapa**	**2.37**	**318**		**Pn**	**02 33 40.7**	**-0.7**
SNCC	**San Nicolas Is**	**34.69**	**59**	P	**P**	**02 39 52.0**	**-0.6**
	baz=256						
SCZ2	**Santa Cruz Isl**	**34.79**	**58**	P	**P**	**02 39 53.2**	**-0.3**
	baz=254						
SBC	**Santa Barbara**	**34.85**	**57**	P	**P**	**02 39 54.8**	**+0.8**
	baz=254						
SMMC	**Simmler**	**34.88**	**56**	P	**P**	**02 39 54.3**	**0.0**
	baz=252						
PKM	**Mcpherson Peak**	**34.90**	**56**	P	**P**	**02 39 55.7**	**+1.2**
	baz=253						
NIKH	**Nikolski High**	**35.10**	**346**	P	**P**	**02 39 56.7**	**+0.9**
	baz=157						
SCI2	**San Clemente I**	**35.42**	**60**	P	**P**	**02 39 58.3**	**-0.6**
	baz=257						
UNV	**Unalaska Valle**	**35.42**	**349**	P	**P**	**02 39 59.6**	**+1.0**
	baz=162						
YBH	**Yreka Blue Hor**	**35.45**	**44**	LR	LR	02 50 21.3	
	comp=N,463nm,21.7s,baz=254,slow=29						
CHNA	**Chernabura Isl**	**35.49**	**356**	P	**P**	**02 40 00.7**	**+1.6**
	baz=173						
H11N3	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	03 17 12.1	
	baz=85,slow=73,SNR=52						
H11N2	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	03 17 13.3	
	baz=85,slow=73,SNR=44						
H11N1	**WAKE ISLAND Hy**	**35.60**	**277**	T	T	03 17 13.4	
	baz=85,slow=73,SNR=39						
CIS	**Catalina Islan**	**35.63**	**59**	P	**P**	**02 40 00.1**	**-0.6**
	baz=256						
VOG	**Valley Oaks Go**	**35.67**	**54**	P	**P**	**02 40 00.2**	**-0.7**
	baz=252						
OSI	**Osito Audit: C**	**35.69**	**57**	P	**P**	**02 40 00.6**	**-0.6**
	baz=254						
ARVC	**Arvin**	**35.74**	**56**	P	**P**	**02 40 01.9**	**+0.3**
	baz=254						
VES	**Vestal, Richgr**	**35.75**	**55**	P	**P**	**02 40 01.7**	**+0.1**
	baz=252						
FMP	**Fort Macarthur**	**35.80**	**59**	P	**P**	**02 40 02.1**	**0.0**
	baz=256						
DECC	**Green Verdugo**	**35.90**	**58**	P	**P**	**02 40 03.0**	**-0.1**
	baz=255						
FALS	**False Pass**	**35.91**	**352**	P	**P**	**02 40 03.7**	**+1.0**
	baz=167						
H11S2	**WAKE ISLAND Hy**	**35.92**	**275**	T	T	03 17 34.3	
	baz=83,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**35.92**	**275**	T	T	03 17 35.3	
	baz=83,slow=74,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**35.94**	**275**	T	T	03 17 36.4	
	baz=83,slow=74,SNR=11						
SDPT	**Sand Point**	**36.08**	**355**	P	**P**	**02 40 05.4**	**+1.3**
	baz=172						
ISA	**Isabella, Lake**	**36.17**	**56**	P	**P**	**02 40 05.6**	**+0.2**
	baz=253						
EDW2	**Edwards Air Fo**	**36.34**	**57**	P	**P**	**02 40 06.9**	**+0.2**
	baz=255						
BFSC	**Mount Baldy Ra**	**36.44**	**58**	P	**P**	**02 40 08.6**	**+0.9**
	baz=256						
MLAC	**Mammoth, Mammo**	**36.51**	**52**	P	**P**	**02 40 09.3**	**+0.9**
	baz=250						
S12K	**Black Hills**	**36.58**	**354**	P	**P**	**02 40 10.5**	**+2.0**
	baz=169						
109C	**Camp Elliot, M**	**36.59**	**61**	P	**P**	**02 40 10.4**	**+1.5**
	baz=258						
MURC	**Murrieta**	**36.67**	**60**	P	**P**	**02 40 10.5**	**+1.0**
	baz=257						
CWC	**Cottonwood Cre**	**36.70**	**55**	P	**P**	**02 40 09.6**	**-0.4**
	baz=253						
LRMC	**Laurel Mtn Rad**	**36.74**	**56**	P	**P**	**02 40 10.4**	**+0.1**
	baz=254						
TIN	**Tinemaha, Big**	**36.78**	**54**	P	**P**	**02 40 11.3**	**+0.7**
	baz=252						
CHGN	**Chignik**	**36.89**	**357**	P	**P**	**02 40 11.5**	**+0.5**
	baz=175						
S14K	**Fog Glacier**	**36.94**	**356**	P	**P**	**02 40 13.0**	**+1.4**
	baz=173						
BBRC	**Big Bear Solar**	**37.04**	**59**	P	**P**	**02 40 12.4**	**-0.6**
	baz=256						
MPMC	**Manual Prospec**	**37.05**	**55**	P	**P**	**02 40 13.6**	**+0.6**
	baz=254						
SII	**Sitkinak Islan**	**37.08**	**1**	P	**P**	**02 40 13.5**	**+0.7**
	baz=182						
RRX	**Edison Barstow**	**37.13**	**58**	P	**P**	**02 40 14.5**	**+1.0**
	baz=256						
MONP2	**Monument Peak**	**37.15**	**61**	P	**P**	**02 40 13.8**	**-0.1**
	baz=259						
NVAR	**Mina Array Bea**	**37.17**	**51**	P	**P**	**02 40 17.4**	**+3.3**
	comp=N,0.7nm,0.8s,baz=241,slow=12,SNR=4.9						
NVAR				LR	LR	02 51 30.0	
	comp=N,300nm,21.5s,baz=271,slow=30						
	comp=N,0.7nm,0.8s						
PPT	**Papeete**	**37.19**	**171**	LR	LR	02 51 46.6	
	comp=N,1μm,19.3s,baz=342,slow=30						
PPT2	**Papeete2**	**37.21**	**171**	*eP*	P	02 40 09.1	-5.2
	comp=N,123nm,27.8s						
PPT2				*eS*	**S**	**02 46 03.8**	**+2.3**
	comp=N,380nm,25.0s						
PPT2				*e*LQ	LQ	02 48 31.5	
	comp=N,921nm,25.5s						
PPT2				*e*LR	LR	02 50 10.9	
	comp=N,4μm,25.2s						
PPT2				*e*LR	LR	02 50 11.0	
	comp=N,3μm,27.0s						
PFO	**Pinyon Flats O**	**37.27**	**60**	P	**P**	**02 40 13.8**	**-1.1**
	baz=258						
PFO	**Pinyon Flats O**	**37.27**	**60**	LR	LR	02 51 19.6	
	comp=N,252nm,18.5s,baz=264,slow=29						
TPFO	**Pinon Flats**	**37.27**	**60**	P	**P**	**02 40 13.0**	**-1.8**
	baz=258						
IKP	**In-Ko-Pah, Jac**	**37.36**	**61**	P	**P**	**02 40 14.2**	**-1.3**
	baz=259						
GSC	**Goldstone, Bar**	**37.38**	**57**	P	**P**	**02 40 14.0**	**-1.8**
	baz=255						
GRAC	**Grapevine Rang**	**37.42**	**54**	P	**P**	**02 40 15.4**	**-0.6**
	baz=252						
HEC	**Hector,Ludlow**	**37.64**	**58**	P	**P**	**02 40 17.5**	**-0.4**
	baz=256						
FURC	**Furnace Creek,**	**37.65**	**55**	P	**P**	**02 40 17.1**	**-0.8**
	baz=254						
SWSC	**Sam W. Stewart**	**37.67**	**61**	P	**P**	**02 40 17.2**	**-0.9**
	baz=259						
BELC	**Belle Mtn. Jos**	**37.73**	**59**	P	**P**	**02 40 18.2**	**-0.5**
	baz=258						
OHAK	**Old Harbor**	**37.77**	**2**	P	**P**	**02 40 19.8**	**+1.3**
	baz=183						
SHOC	**Shoshone, Teco**	**37.96**	**56**	P	**P**	**02 40 20.7**	**+0.2**
	baz=255						
H02S1	**DAWSON INLET T**	**38.05**	**22**	T	T	03 20 19.6	
	SNR=78						
R18K	**Karluk**	**38.09**	**1**	P	**P**	**02 40 22.5**	**+1.3**
	baz=181						
BC3	**Big Chuckawall**	**38.10**	**60**	P	**P**	**02 40 21.0**	**-0.8**
	baz=258						
TUQ	**Turquoise Moun**	**38.12**	**57**	P	**P**	**02 40 21.2**	**-0.8**
	baz=256						
R17L	**Mt. Peulik Vol**	**38.16**	**359**	P	**P**	**02 40 21.7**	**-0.1**
	baz=178						
GMRC	**Granite Mounta**	**38.17**	**58**	P	**P**	**02 40 21.7**	**-0.8**
	baz=257						
TPNV	**Topopah Spring**	**38.26**	**55**	P	**P**	**02 40 23.5**	**+0.3**
	baz=254						
KDAK	**Kodiak Island**	**38.35**	**2**	P	**P**	**02 40 24.7**	**+1.3**
	baz=184						
KDAK	**Kodiak Island**	**38.35**	**2**	LR	LR	02 52 30.9	
	comp=N,1μm,21.6s,baz=206,slow=30						
IRM	**Iron Mountain**	**38.45**	**59**	P	**P**	**02 40 24.8**	**+0.1**
	baz=258						
GLA	**Glamis**	**38.50**	**61**	P	**P**	**02 40 25.2**	**+0.1**
	baz=260						
Q17K	**Contact Creek**	**38.78**	**359**	P	**P**	**02 40 27.5**	**+0.3**
	baz=179						
BBB	**Bella Bella**	**38.97**	**27**	LR	LR	02 52 37.0	
	comp=N,311nm,20.2s,baz=213,slow=30						
NEE2	**Needles Airpor**	**39.01**	**58**	P	**P**	**02 40 29.0**	**-0.3**
	baz=258						
Q18K	**Katmai Hardscr**	**39.17**	**0**	P	**P**	**02 40 31.8**	**+1.3**
	baz=180						
R11B	**Troy Canyon, C**	**39.17**	**53**	P	**P**	**02 40 30.9**	**+0.1**
	baz=252						
Q20K	**Shuyak Island**	**39.19**	**2**	P	**P**	**02 40 31.0**	**+0.5**
	baz=184						
Q16K	**King Salmon**	**39.21**	**359**	P	**P**	**02 40 32.1**	**+1.5**
	baz=178						
PDMCI	**Parker Dam,Lak**	**39.30**	**59**	P	**P**	**02 40 31.9**	**+0.2**
	baz=258						
Q19K	**Cape Douglas,**	**39.47**	**1**	P	**P**	**02 40 33.5**	**+0.6**
	baz=182						
P16K	**Nushagak River**	**39.60**	**358**	P	**P**	**02 40 34.6**	**+0.8**
	baz=176						
CRAG	**Craig**	**39.69**	**20**	P	**P**	**02 40 36.0**	**+1.3**
	baz=214						
P17K	**Kvichak River**	**39.73**	**359**	P	**P**	**02 40 36.4**	**+1.5**
	baz=178						
O15K	**Ungalikthiuk R**	**39.84**	**356**	P	**P**	**02 40 37.0**	**+1.2**
	baz=173						
P18K	**Big Mountain,**	**39.91**	**0**	P	**P**	**02 40 37.2**	**+0.6**
	baz=180						
214A	**Organ Pipe Nat**	**40.01**	**63**	P	**P**	**02 40 38.0**	**+0.3**
	baz=262						
O14K	**Tigyukauivet M**	**40.01**	**355**	P	**P**	**02 40 38.8**	**+1.5**
	baz=171						
V35K	**Ketchikan**	**40.06**	**21**	P	**P**	**02 40 38.8**	**+1.0**
	baz=216						
O16K	**Kokwok River B**	**40.17**	**358**	P	**P**	**02 40 39.5**	**+0.9**
	baz=176						
P19K	**Oil Pt**	**40.20**	**2**	P	**P**	**02 40 39.8**	**+0.9**
	baz=183						
U33K	**Whale Pass**	**40.23**	**19**	P	**P**	**02 40 39.6**	**+0.5**
	baz=213						
HOM	**Homer**	**40.27**	**3**	P	**P**	**02 40 40.3**	**+0.9**
	baz=185						
O17K	**Koliganek Bris**	**40.32**	**359**	P	**P**	**02 40 40.3**	**+0.5**
	baz=177						
O18K	**Koktuh Hills**	**40.38**	**0**	P	**P**	**02 40 40.8**	**+0.4**
	baz=180						
SIT	**Sitka**	**40.39**	**17**	P	**P**	**02 40 41.6**	**+1.1**
	baz=210						
BRSE	**Bradley Lake S**	**40.40**	**4**	P	**P**	**02 40 40.9**	**+0.3**
	baz=187						
Q23K	**Middleton Isla**	**40.47**	**7**	P	**P**	**02 40 42.0**	**+1.0**
	baz=193						
RAR	**Rarotonga**	**40.63**	**186**	LR	LR	02 53 46.3	
	comp=N,842nm,18.2s,baz=360,slow=31						
O20K	**Slope Mountain**	**40.65**	**2**	P	**P**	**02 40 43.6**	**+0.9**
	baz=184						
N14K	**Kuskokwak Cree**	**40.71**	**355**	P	**P**	**02 40 44.0**	**+1.0**
	baz=171						
WRAK	**Wrangell Islan**	**40.72**	**19**	P	**P**	**02 40 43.4**	**+0.2**
	baz=214						
N15K	**Kwethluk River**	**40.84**	**356**	P	**P**	**02 40 44.5**	**+0.3**
	baz=173						
SEW	**Seward**	**40.84**	**4**	P	**P**	**02 40 44.6**	**+0.4**
	baz=188						
SHEM	**Shemya Is, Ala**	**40.85**	**332**	LR	LR	02 54 17.2	
	comp=N,1μm,21.6s,baz=127,slow=31						
T33K	**Petersburg**	**40.87**	**19**	P	**P**	**02 40 42.7**	**-1.6**
	baz=213						
P23K	**Montague Islan**	**40.91**	**6**	P	**P**	**02 40 43.3**	**-1.5**
	baz=191						
S31K	**Pelican**	**40.95**	**15**	P	**P**	**02 40 44.6**	**-0.5**
	baz=208						
S32K	**Killisnoo**	**40.95**	**17**	P	**P**	**02 40 45.1**	**0.0**
	baz=211						
N16K	**Nishlik Lake**	**41.08**	**357**	P	**P**	**02 40 47.3**	**+1.1**
	baz=175						
N17K	**Nushagak Hills**	**41.08**	**359**	P	**P**	**02 40 47.5**	**+1.4**
	baz=177						
U35K	**Hyder**	**41.08**	**21**	P	**P**	**02 40 46.1**	**-0.1**
	baz=218						
KAIM	**Kayak Island**	**41.20**	**8**	P	**P**	**02 40 48.0**	**+0.9**
	baz=196						
O22K	**Cooper Landing**	**41.20**	**4**	P	**P**	**02 40 48.5**	**+1.5**
	baz=188						
N18K	**Kilae Creek**	**41.21**	**360**	P	**P**	**02 40 48.4**	**+1.1**
	baz=179						
M13K	**Dall Lake**	**41.34**	**354**	P	**P**	**02 40 47.3**	**-1.0**
	baz=168						
N19K	**Bonanza Creek**	**41.34**	**1**	P	**P**	**02 40 47.0**	**-1.5**
N19K				IAmb	IAmb	02 40 56.4	
	comp=Z,32nm,1.2s						
N19K	**Bonanza Creek**	**41.34**	**1**	P	**P**	**02 40 48.8**	**+0.4**
	baz=181,SNR=8.6						
CAPN	**Captain Cook N**	**41.40**	**3**	P	**P**	**02 40 49.7**	**+0.9**
	baz=186						
M15K	**Kasigluk River**	**41.40**	**356**	P	**P**	**02 40 48.7**	**0.0**
	baz=172						
R31K	**City Hall, Gus**	**41.47**	**15**	P	**P**	**02 40 50.7**	**+1.4**
	baz=208						
BGLC	**Bering Glacier**	**41.55**	**9**	P	**P**	**02 40 51.1**	**+1.2**
	baz=197						
M14K	**Bethel**	**41.55**	**355**	P	**P**	**02 40 50.9**	**+0.9**
	baz=170						
M16K	**Timber Creek**	**41.63**	**357**	P	**P**	**02 40 51.3**	**+0.6**
	baz=175						
EYAK	**Cordova Ski Ar**	**41.63**	**7**	P	**P**	**02 40 51.3**	**+0.6**
	baz=194						
M11K	**Mekoryuk**	**41.65**	**352**	P	**P**	**02 40 51.1**	**+0.4**

P29M	Windy Craggy	42.10	13	P	P	02 40 55.8 +1.3
	baz=205					
NEW	Newport	42.11	38	P	P	02 40 56.2 +1.3
	baz=240					
NEW	Newport	42.11	38	LR	LR	02 54 18.0
	comp=Z,190nm,20.8s,baz=237,slow=30					
SUA	Susitna One	42.12	3	P	P	02 40 54.9 +0.2
	baz=186					
CRQE	Cirque	42.18	9	P	P	02 40 56.3 +1.0
	baz=197					
BMRM	Bremner River	42.18	8	P	P	02 40 55.7 +0.5
	baz=195					
L14K	Kuka Creek	42.20	355	P	P	02 40 55.9 +0.6
	baz=170					
KNK	Knik Glacier	42.22	5	P	P	02 40 56.3 +0.8
	baz=190					
PLBC	Pleasant Camp	42.25	14	P	P	02 40 56.8 +1.1
	baz=207					
S34M	Telegraph Cree	42.33	19	P	P	02 40 57.4 +1.0
	baz=215					
L16K	Owhat River	42.34	357	P	P	02 40 55.8 -0.6
L16K				IAmb	IAmb	02 41 04.1
	comp=Z,26nm,1.9s					
L16K	Owhat River	42.34	357	P	P	02 40 57.3 +0.9
	baz=174					
PMR	Palmer	42.34	4	P	P	02 40 57.3 +0.9
	baz=189					
L15K	Ungalak Mounta	42.43	356	P	P	02 40 58.9 +1.7
	baz=171					
M22K	Willow	42.44	4	P	P	02 40 58.9 +1.7
	baz=187					
M19K	Big River Lodg	42.44	1	P	P	02 40 58.9 +1.7
	baz=181					
M20K	Styx River	42.44	2	P	P	02 40 57.9 +0.5
	baz=183					
SKAG	Skagway	42.50	15	P	P	02 40 59.6 +1.9
	baz=208					
KLU	Klutina	42.53	7	P	P	02 41 00.5 +2.4
	baz=193					
O29M	Mount Kennedy	42.54	12	P	P	02 40 59.9 +1.7
	baz=204					
SKT	Skwentna	42.59	3	P	P	02 40 59.9 +1.4
	baz=185					
SML	Sawmill	42.62	5	P	P	02 40 59.8 +1.1
	baz=190					
CTG	Chitna Glacier	42.65	10	P	P	02 41 00.6 +1.5
	baz=200					
M23K	Glacier View	42.65	5	P	P	02 41 00.7 +1.6
	baz=190					
O28M	Mount Upton	42.67	11	P	P	02 41 00.2 +0.7
	baz=201					
P30M	Million Dollar	42.71	13	P	P	02 41 01.1 +1.5
	baz=206					
L19K	White Mountain	42.72	0	P	P	02 40 59.9 +0.4
	baz=181,SNR=5.6					
L17K	Donlin	42.72	358	P	P	02 40 58.8 -0.8
	baz=176					
SCM	Sheep Creek Mo	42.73	6	P	P	02 40 59.6 -0.1
	baz=191					
L18K	Granite Mounta	42.76	359	P	P	02 40 59.9 +0.1
	baz=178					
MCARA	McCarthy VSAT	42.79	9	P	P	02 41 00.4 +0.3
	baz=197					
N25K	Chitina, Valde	42.80	7	P	P	02 40 59.9 -0.4
N25K				IAmb	IAmb	02 41 09.7
	comp=Z,21nm,1.7s					
N25K	Chitina, Valde	42.80	7	P	P	02 41 00.6 +0.3
	baz=195					
Q32M	Nakina River	42.87	17	P	P	02 41 00.7 -0.3
	baz=213					
TBI	Tubuai	42.90	172	*e*P	P	02 41 00.3 -1.0
	comp=Z,696nm,39.5s					
TBI				*e*S	S	02 47 25.9 -0.4
	comp=Z,2μm,27.2s					
TBI				*e*LQ	LQ	02 50 59.7
	comp=Z,4μm,26.5s					
TBI				*e*LR	LR	02 52 47.5
	comp=Z,13μm,28.5s					
TBI				*e*LR	LR	02 52 49.0
	comp=Z,3μm,32.0s					
K13K	Kusilvak Mount	42.97	354	P	P	02 41 02.6 +1.1
	baz=167					
W18A	Petrified Fore	43.01	59	P	P	02 41 01.6 -1.0
	baz=261					
P32M	Atlin	43.02	16	P	P	02 41 00.8 -1.2
	baz=210					
L20K	Farewell, AK	43.02	1	P	P	02 41 01.0 -1.1
	baz=182,SNR=7.9					
K15K	Wolf Creek Mou	43.05	356	P	P	02 41 01.7 -0.5
	baz=171					
CUT	Chulitna	43.08	3	P	P	02 41 03.3 +0.9
	baz=187					
DLBC	Dease Lake	43.10	19	P	P	02 41 03.3 +0.6
	baz=216					
DLBC	Dease Lake	43.10	19	LR	LR	02 55 02.7
	comp=Z,637nm,20.4s,baz=240,slow=31					
M24K	Tolsona, Glenn	43.11	6	P	P	02 41 03.0 +0.2
	baz=193					
YUK6	Outpost Mounta	43.17	12	P	P	02 41 04.2 +0.8
	baz=204					
YUK8	Steele Glacier	43.22	11	P	P	02 41 04.1 +0.2
	baz=202					
K17K	Iditarod	43.30	358	P	P	02 41 04.8 +0.6
	baz=176					
MSO	Missoula	43.37	41	P	P	02 41 05.5 +0.3
	baz=245					
WAT6	Susitna Watana	43.43	5	P	P	02 41 06.1 +0.6
	baz=190					
TTA	Tatalina	43.47	360	P	P	02 41 05.6 -0.1
	baz=179					
YUK4	Talbot Arm	43.48	12	P	P	02 41 07.6 +1.6
	baz=203					
O30N	Mendenhall	43.48	14	P	P	02 41 06.5 +0.7
	baz=207					
HARP	HAARP	43.50	7	P	P	02 41 04.5 -1.4
	baz=194					
YUK3	Moose Creek	43.56	10	P	P	02 41 05.8 -0.8
	baz=200,SNR=5.8					
R33M	Jennings River	43.60	18	P	P	02 41 07.7 +0.8
	baz=214					
WAT1	Susitna Watana	43.61	4	P	P	02 41 07.3 +0.5
	baz=189					
J14K	Nanvaranak Lak	43.66	354	P	P	02 41 08.0 +0.9
	baz=169					
WHY	Whitehorse	43.66	14	P	P	02 41 07.5 +0.2
	baz=208					
M26K	Nabesna, AK	43.77	8	P	P	02 41 08.9 +0.7
M26K				IAmb	IAmb	02 41 15.9
	comp=Z,11nm,0.9s					
M26K	Nabesna, AK	43.77	8	P	P	02 41 08.9 +0.7
	baz=197,SNR=8.4					
P33M	Teslin, Yukon	43.78	16	P	P	02 41 09.1 +0.9
	baz=211					
M27K	Edge Creek, AK	43.89	9	P	P	02 41 10.2 +1.1
	baz=198,SNR=8.2					
N30M	Aishikik Lake	43.89	12	P	P	02 41 09.5 +0.4
	baz=205					
K20K	Telida	43.90	1	P	P	02 41 08.2 -0.8
	baz=182					
DHY	Denali Highway	43.95	5	P	P	02 41 07.6 -2.1
DHY				IAmb	IAmb	02 41 17.3
	comp=Z,39nm,1.7s					
DHY	Denali Highway	43.95	5	P	P	02 41 08.1 -1.5
	baz=191,SNR=8.2					
J16K	Anvik River	43.97	357	P	P	02 41 08.3 -1.3
	baz=173					
J17K	VABM Dome	44.01	358	P	P	02 41 11.0 +1.1
	baz=175					
J18K	Innoko River	44.01	359	P	P	02 41 11.2 +1.3
	baz=178,SNR=8.3					
PAX	Paxson	44.03	6	P	P	02 41 10.5 +0.3
	baz=193,SNR=9.1					
N31M	Braeburn, Yuko	44.19	13	P	P	02 41 11.6 +0.2
	baz=207					
121A	Cookes Peak, D	44.31	63	P	P	02 41 10.6 -2.4
	baz=265					
L26K	Log Cabin Wild	44.33	8	P	P	02 41 12.8 +0.2
	baz=196					
MVCO	Mesa Verde	44.35	56	P	P	02 41 12.4 -1.0
	baz=260					
BOZ	Bozeman (W)	44.37	44	P	P	02 41 11.8 -1.4
	baz=249					
CHUM	Lake Minchumin	44.47	2	P	P	02 41 10.1 -3.5
	baz=184					
MCK	McKinley	44.48	4	P	P	02 41 14.8 +1.0
	baz=189					
N32M	Quiet Lake	44.52	15	P	P	02 41 14.8 +0.7
	baz=210					
M29M	Somme Creek	44.53	11	P	P	02 41 14.1 -0.1
M29M	Somme Creek	44.53	11	P	P	02 41 15.3 +1.1
	baz=203,SNR=10					
J19K	Poorman	44.53	360	P	P	02 41 15.5 +1.4
	baz=180					
L27K	Beaver Creek,	44.57	9	P	P	02 41 14.5 +0.1
L27K	Beaver Creek,	44.57	9	P	P	02 41 13.8 -0.7
	baz=198,SNR=6.5					
I17K	Unalakleet	44.58	357	P	P	02 41 14.2 -0.2
	baz=173					
H17A	Grant Village	44.65	46	P	P	02 41 13.5 -2.1
	baz=251					
J20K	Nowinta River	44.72	1	P	P	02 41 12.4 -3.2
	baz=182					
BPAW	Bear Paw Mtn.	44.73	3	P	P	02 41 13.6 -2.2
	baz=186,SNR=7.2					
K24K	Donnelly Dome	44.81	6	P	P	02 41 16.1 -0.3
	baz=193					
WTLY	Watson Lake, Y	44.83	18	P	P	02 41 16.6 +0.1
	baz=217					
BW06	Boulder Array	44.85	48	P	P	02 41 17.3 0.0
	baz=253					
PDAR	Pinedale Array	44.85	48	P	P	02 41 19.6 +2.3
	comp=Z,4.5nm,1.2s,baz=262,slow=5.5,SNR=16					
PDAR				LR	LR	02 57 53.7
	comp=Z,32nm,21.0s,baz=261,slow=33					
	comp=Z,4.5nm,1.2s					
M30M	Minto, Yukon	44.97	12	P	P	02 41 17.8 +0.2
	baz=205					
TOAD	Toad River Com	45.00	22	P	P	02 41 17.7 -0.2
	baz=222					
LIRD	Liard River Hi	45.13	21	P	P	02 41 19.5 +0.6
	baz=220					
M31M	Drury Creek, Y	45.14	14	P	P	02 41 19.1 +0.2
	baz=208					
O20A	White River Ci	45.14	52	P	P	02 41 17.9 -1.7
	baz=257					
SCRK	Sand Creek	45.17	7	P	P	02 41 19.7 +0.4
	baz=195					
Y22D	IRIS PASSCAL I	45.18	61	P	P	02 41 17.6 -2.3
	baz=264					
L29M	L29M	45.21	11	P	P	02 41 18.6 -0.9
	baz=203					
WRH	Wood River Hil	45.27	4	P	P	02 41 20.8 +0.9
HDA	Harding Lake	45.30	5	P	P	02 41 20.2 0.0
	baz=191					
GCSA	Galena City Sc	45.30	359	P	P	02 41 19.9 -0.2
	baz=178					
NEA2	Nenana	45.33	4	P	P	02 41 20.4 -0.1
	baz=188,SNR=6.8					
I20K	Naaghedeneel	45.34	0	P	P	02 41 20.5 0.0
	baz=181					
FARO	Faro, Yukon	45.40	14	P	P	02 41 20.9 -0.1
	baz=210					
H16K	Elim	45.42	356	P	P	02 41 20.1 -1.1
	baz=171					
CCB	Clear Creek Bu	45.47	5	P	P	02 41 23.1 +1.5
H17K	Granite Mounta	45.59	357	P	P	02 41 22.2 -0.3
	baz=174					
ANM	Nome	45.62	354	P	P	02 41 22.4 -0.3
	baz=167					
J25K	Salcha River,	45.64	6	P	P	02 41 23.6 +0.6
J25K	Salcha River,	45.64	6	P	P	02 41 22.9 -0.1
	baz=193,SNR=11					
ANMO	Albuquerque	45.65	60	P	P	02 41 23.0 -0.8
	baz=263					
ANMO	Albuquerque	45.65	60	LR	LR	02 57 44.2
	comp=Z,180nm,19.1s,baz=343,slow=32					
ILAR	Eielson Array	45.66	5	P	P	02 41 23.8 +0.7
ILAR	Eielson Array	45.66	5	P	P	02 41 25.4 +2.3
	comp=Z,2.9nm,0.8s,baz=196,slow=6.8,SNR=26					
ILAR				LR	LR	02 57 26.4
	comp=Z,506nm,19.5s,baz=196,slow=32					
	comp=Z,2.9nm,0.8s					
MLY	Manley	45.67	3	P	P	02 41 22.3 -1.0
	baz=186,SNR=5.8					
COLA	College	45.69	4	P	P	02 41 19.5 -3.7
	baz=190					
J26L	Joseph Creek	45.73	7	P	P	02 41 22.8 -1.0
	baz=196,SNR=7.5					
H18K	Honhosa River	45.74	358	P	P	02 41 22.9 -0.8
	baz=176					
MDM	Murphy Dome	45.75	4	P	P	02 41 25.1 +1.4
S22A	4UR Ranch, Cre	45.75	56	P	P	02 41 22.4 -2.2
	baz=260					
RLMT	Red Lodge	45.77	45	P	P	02 41 22.4 -2.1
	baz=251					
I23K	Minto, Yukon-K	45.86	3	P	P	02 41 23.8 -0.8
	baz=188					
DAWY	Dawson	45.88	10	P	P	02 41 23.9 -1.0
	baz=201,SNR=6.3					
G15K	Niukluk	45.91	355	P	P	02 41 23.7 -1.4
	baz=168					
POKR	Poker Plat Res	45.96	5	P	P	02 41 24.3 -1.1
	baz=190					
K29M	Barlow Dome	45.99	11	P	P	02 41 25.6 -0.2
	baz=204					
H20K	Anotleneega Mo	46.04	0	P	P	02 41 26.0 -0.1
	baz=180,SNR=6.3					
MAYO	Mayo, Yukon	46.07	12	P	P	02 41 26.2 -0.1
	baz=206					
H19K	Roundabout Mou	46.08	359	P	P	02 41 26.1 -0.2
	baz=178					
TGTN	Hyland Airport	46.12	18	P	P	02 41 26.6 -0.2
	baz=216					
G16K	Koyuk River	46.18	356	P	P	02 41 27.7 +0.5
	baz=171					
G17K	Kiwalik Mounta	46.19	357	P	P	02 41 28.0 +0.8
	baz=173					
MMPY	Sheldon Lake,	46.23	15	P	P	02 41 28.0 +0.3
	baz=212					
H21K	Melozitna Rive	46.23	1	P	P	02 41 27.3 -0.3
	baz=183					
MNTX	Cornudas Mount	46.28	64	P	P	02 41 27.3 -1.2
	baz=267					
EGAK	Eagle	46.30	8	P	P	02 41 29.3 +1.2
	baz=199,SNR=6.4					
KOTAN	Kotaneelee Air	46.35	21	P	P	02 41 28.4 -0.2
	baz=222					
J29N	Klondike Camp	46.44	10	P	P	02 41 28.3 -1.0
	baz=202					
EGMT	Eagleton	46.45	41	P	P	02 41 28.4 -1.3
	baz=248					
G18K	Tagagawik	46.50	358	P	P	02 41 28.8 -0.8
	baz=176					
H22K	Ishtalitna Cre	46.51	2	P	P	02 41 30.3 +0.5
	baz=185					
PRP	Porcupine Dome	46.51	6	P	P	02 41 30.0 +0.1
	baz=193					
H23K	Yukon River	46.53	3	P	P	02 41 30.1 +0.2
	baz=188					
I26K	Coal Creek Min	46.55	7	P	P	02 41 30.0 0.0
	baz=196					
F14K	Arctic Creek	46.60	354	P	P	02 41 30.1 -0.3
	baz=166					
H24K	Noodor Dome	46.64	4	P	P	02 41 29.8 -1.0
	baz=190,SNR=7.1					
F15K	North Star Dit	46.67	355	P	P	02 41 30.1 -0.9
	baz=168					
G19K	Purcell Mounta	46.71	359	P	P	02 41 31.8 +0.5
	baz=178					
SDCO	Great Sand Dun	46.79	56	P	P	02 41 31.7 -1.1
	baz=261					
TNA	Tin City	46.86	353	P	P	02 41 30.5 -1.9
	baz=164					
J30M	Hart River	46.88	11	P	P	02 41 32.5 -0.2
	baz=205					
K22A	Casper	46.98	49	P	P	02 41 33.2 -0.8
	baz=256					
N23A	Red Feather La	47.01	52	P	P	02 41 34.5 +0.1
	baz=258					
I27K	Kandik River	47.02	8	P	P	02 41 33.2 -0.7
	baz=198					
ISCO	Idaho Springs	47.05	53	P	P	02 41 33.7 -1.1
	baz=259					
G21K	Allakaket	47.08	1	P	P	02 41 33.6 -0.6
	baz=182					
I28M	Miner Creek	47.10	9	P	P	02 41 34.1 -0.5
	baz=200					
F17K	Baldwin Pennin	47.15	357	P	P	02 41 34.7 0.0
	baz=172					
H25L	Birch Creek	47.22	5	P	P	02 41 34.2 -1.1
	baz=192					
F18K	Selawik	47.24	358	P	P	02 41 35.6 +0.3
	baz=174					
Q24A	Divide	47.26	55	P	P	02 41 33.9 -2.4
	baz=260					
I29M	Ogilvie Camp,	47.27	10	P	P	02 41 35.8 +0.2
	baz=202					
G23K	Bananza Creek	47.38	3	P	P	02 41 36.0 -0.6
	baz=187					
F19K	Shaleruckik Mo	47.41	359	P	P	02 41 37.5 +0.8
	baz=177					
I30M	Mount Dempster	47.46	11	P	P	02 41 39.4 +2.1
I30M				IAmb	IAmb	02 41 44.7
	comp=Z,11nm,1.1s					
I30M	Mount Dempster	47.46	11	P	P	02 41 37.5 +0.1
	baz=204,SNR=7.7					
G24K	Hadweenzic Riv	47.52	4	P	P	02 41 38.1 +0.5
G24K				IAmb	IAmb	02 41 44.3
	comp=Z,30nm,1.6s					
G24K	Hadweenzic Riv	47.52	4	P	P	02 41 38.9 +1.3
	baz=190					
G22K	Bettles	47.54	2	P	P	02 41 38.5 +0.8
	baz=185					
T25A	Trinidad	47.57	57	P	P	02 41 38.5 -0.2
	baz=263					
F20K	Avaraart Lake	47.60	360	P	P	02 41 38.8 +0.5
	baz=179					
H27K	Steamboat Moun	47.64	7	P	P	02 41 38.2 -0.4
	baz=198,SNR=8.6					
G25K	Bearman Lake	47.69	5	P	P	02 41 40.0 +1.1
	baz=192					
TXAR	Lajitas Array	47.71	68	P	P	02 41 43.8 +4.0
	comp=Z,5.0nm,0.8s,baz=256,slow=8.2,SNR=40					
TXAR				LR	LR	02 57 42.3
	comp=Z,98nm,21.2s,baz=240,slow=31					
	comp=Z,5.0nm,0.8s					
F21K	Alatna River	47.79	1	P	P	02 41 40.5 +0.7
	baz=182,SNR=6.6					
E17K	Hotham Inlet	47.82	357	P	P	02 41 41.5 +1.6
	baz=172					
COLD	Coldfoot	47.89	3	P	P	02 41 42.1 +1.6
	baz=186					
E19K	Redstone River	48.03	359	P	P	02 41 43.1 +1.6
	baz=178					
H29M	Whitestone	48.06	9	P	P	02 41 42.0 +0.2
	baz=202					
G26K	Porcupine Rive	48.08	6	P	P	02 41 41.8 -0.2
	baz=195,SNR=5.6					
E18K	Tukpahlearik C	48.10	357	P	P	02 41 43.6 +1.6
	baz=173					
F22K	John River	48.10	2	P	P	02 41 43.7 +1.5
	baz=184					
G27K	Doyon Strip	48.17	7	P	P	02 41 44.8 +2.0
	baz=197					
LAO	LASA Array	48.27	44	P	P	02 41 43.1 -0.7
	baz=253					
F24K	Squaw Lake	48.31	4	P	P	02 41 45.5 +1.8
	baz=189					
EPYK	Eagle Plains	48.45	10	P	P	02 41 46.6 +1.7
	baz=204					
D17K	Noatak River	48.51	356	P	P	02 41 46.3 +1.0
	baz=170					
F25K	Christian Rive	48.54	5	P	P	02 41 46.5 +0.9
	baz=192					
MSTX	Muleshoe	48.60	62	P	P	02 41 46.2 -0.5
	baz=267					
E22K	Anaktuvuk Pass	48.74	2	P	P	02 41 48.1 +0.9
	baz=184					
E23K	Chandalar	48.75	3	P	P	02 41 48.6 +1.4
	baz=187					
G29M	Pine Creek	48.75	9	P	P	02 41 48.7 +1.5
	baz=202					
F26K	Sheenjek River	48.77	6	P	P	02 41 47.6 +0.3
	baz=194,SNR=6.0					
E20K	Nigu River	48.82	360	P	P	02 41 48.7 +0.9
	baz=179					
RDOG	Red Dog Mine	48.85	356	P	P	02 41 48.9 +1.0
	baz=170					
WRGLY	Wrigley	48.86	18	P	P	02 41 48.9 +0.9
	baz=221					
E21K	Killik River	49.01	1	P	P	02 41 49.6 +0.5
	baz=182					
D19K	Kuna River	49.09	359	P	P	02 41 49.9 +0.1
	baz=176					
RSSD	Black Hills	49.09	48	P	P	02 41 49.5 -0.9
	baz=257					
G30M	tAoh Zraii Nji	49.09	10	P	P	02 41 49.9 +0.1
	baz=204					
F28M	Old Crow	49.16	8	P	P	02 41 51.2 +0.9
	baz=199					
KSCO	Kaye Shedlock'	49.20	55	P	P	02 41 50.3 -0.9
	baz=262					
C16K	Lisburne Hills	49.24	355	P	P	02 41 51.9 +1.0
	baz=167					
D20K	Etivluk River	49.28	359	P	P	02 41 52.2 +1.0
	baz=178					
C17K	DeLong Mountai	49.28	356	P	P	02 41 52.2 +1.0
	baz=170					
TOLK	Toolik Lake Re	49.33	3	P	P	02 41 52.6 +0.9
	baz=187					
C18K	Utukok River	49.35	357	P	P	02 41 52.7 +0.9
	baz=173					
G31M	Satah River	49.37	11	P	P	02 41 49.9 -2.0
	baz=206					
D22K	Ayikyak River	49.47	1	P	P	02 41 52.5 -0.1
	baz=183					
E27K	Coleen River	49.50	7	P	P	02 41 54.5 +1.5
	baz=197,SNR=5.5					
AMTX	Amarillo	49.56	60	P	P	02 41 53.0 -1.0
	baz=266					
D23K	Nanushuk River	49.61	2	P	P	02 41 54.4 +0.7
	baz=186					
C21K	Knifeblade Rid	49.72	0	P	P	02 41 54.7 +0.2
	baz=181					
C19K	Lookout Ridge	49.74	358	P	P	02 41 53.5 -1.2
	baz=179					
F30M	Barrier River	49.74	10	P	P	02 41 54.8 +0.1
	baz=204					
D24K	Happy Valley	49.88	3	P	P	02 41 56.2 +0.5
	baz=188					
F31M	Tsiigehtchic	49.93	11	P	P	02 41 56.2 +0.2
	baz=207					
OGNE	Ogallala	49.94	52	P	P	02 41 57.3 +0.5
	baz=261					
B18K	Kokolik River	50.09	357	P	P	02 41 57.5 +0.2
	baz=172					
DGMT	Dagmar	50.11	42	P	P	02 41 57.9 0.0
	baz=253					
E28M	Babbage River	50.14	7	P	P	02 41 58.7 +0.9
	baz=200					
E29M	Blow River	50.15	8	P	P	02 41 58.9 +1.1
	baz=202,SNR=5.2					
B21K	Ikpikpuk River	50.19	0	P	P	02 41 59.3 +1.3
	baz=181					
D25K	Kavik River	50.19	4	P	P	02 41 59.0 +0.9
	baz=191					
C24K	Franklin Bluff	50.45	3	P	P	02 42 01.8 +1.8
	baz=188					
C23K	Itkillik River	50.48	2	P	P	02 42 00.6 +0.3
	baz=186					
D27M	Malcolm River	50.59	7	P	P	02 42 02.0 +0.9
	baz=198					
B20K	Meade River	50.59	359	P	P	02 42 01.8 +0.8
	baz=178					
C27K	Jago River	50.69	5	P	P	02 42 03.1 +1.2
	baz=194					
INK	Inuvik	50.74	10	P	P	02 42 03.5 +1.2
	baz=207					
INK	Inuvik	50.74	10	LR	LR	03 01 38.5
	comp=Z,566nm,18.8s,baz=183,slow=34					
C26K	Camden Bay	50.88	5	P	P	02 42 04.5 +1.3
	baz=193					
B22K	Teshekpuk Lake	50.92	1	P	P	02 42 04.6 +1.0
	baz=182					
D28M	Stokes Point	50.92	7	P	P	02 42 04.6 +1.0
	baz=200					
JCT	Junction City	51.05	66	P	P	02 42 05.1 -0.2
	baz=271					
ABTX	Abilene, Hawle	51.17	63	P	P	02 42 06.0 -0.1
	baz=270					
YKA	Yellowknife Ar	51.30	23	P	P	02 42 09.3 +2.7
	comp=Z,1.8nm,1.0s,baz=233,slow=7.4,SNR=10					
YKA				LR	LR	03 00 52.5
	comp=Z,247nm,20.1s,baz=221,slow=32					
	comp=Z,1.8nm,1.0s					
CBKS	Cedar Bluff	51.42	55	P	P	02 42 07.6 -0.3
	baz=264					
833A	Chaparral WMA,	51.49	69	P	P	02 42 08.9 +0.4
	baz=273					
A22K	Sinclair Lake	51.58	0	P	P	02 42 09.2 +0.7
	baz=180					
BRDY	Brady	51.73	65	P	P	02 42 09.7 -0.6
WMOK	Wichita Mounta	51.93	61	P	P	02 42 10.9 -0.9
	baz=268					

HNR	Honiara	52.61	241	LR	LR	03 01 13.9		
	comp=Z,2μm,21.6s,baz=46,slow=32							
SUSD	Miller	52.73	49	P	P	02 42 16.7	-0.8	
	baz=261							
BGNE	Belgrade	52.90	52	P	P	02 42 18.5	-0.4	
	baz=264							
MDND	Maddock	52.93	44	P	P	02 42 20.0	+1.0	
	baz=258							
435B	Jarrell	52.95	66	P	P	02 42 18.2	-1.2	
	baz=272							
WHTX	Lake Whitney,	53.03	64	P	P	02 42 19.3	-0.7	
	baz=271							
RAO	Raoul Island	53.10	205	LR	LR	03 00 60.0		
	comp=Z,140nm,20.9s,baz=151,slow=32							
C36M	Paulatuk	53.45	13	P	P	02 42 20.0	-2.3	
	baz=218							
KSU1	Kansas State U	53.88	55	P	P	02 42 25.0	-1.1	
	baz=266							
ECSD	EROS Data Cent	54.30	50	P	P	02 42 28.9	-0.2	
ECSD				IAmb	IAmb	02 42 36.4		
	comp=Z,6.0nm,1.1s							
ECSD	EROS Data Cent	54.30	50	P	P	02 42 27.3	-1.8	
	baz=263							
TUL3	Leonard	54.40	59	P	P	02 42 29.3	-0.6	
	baz=269							
A36M	Sachs Harbour	55.36	11	P	P	02 42 36.0	-0.2	
	baz=215							
NATX	Nacogdoches	55.41	64	P	P	02 42 35.3	-2.0	
	baz=273							
MA2	Magadan	55.44	330	LR	LR	03 02 04.5		
	comp=Z,991nm,21.8s,baz=110,slow=31							
AGMN	Agassiz Nation	55.48	44	P	P	02 42 37.2	-0.3	
	baz=260							
DZM	Mont Dzumac	55.69	224	eLR	LR	02 58 50.6		
	comp=Z,581nm,30.0s							
DZM	Mont Dzumac	55.69	224	LR	LR	03 02 52.8		
	comp=Z,197nm,20.9s,baz=23,slow=32							
ULM	Lac du Bonnet	55.81	42	P	P	02 42 44.7	+4.8	
	comp=Z,4.4nm,1.0s,baz=292,slow=4.8,SNR=4.7							
ULM				LR	LR	03 02 41.4		
	comp=Z,134nm,21.5s,baz=246,slow=32							
	comp=Z,4.4nm,1.0s							
SEY	Seymchan	56.10	334	LR	LR	03 06 16.1		
	comp=Z,206nm,18.8s,baz=148,slow=36							
MIAR	Mount Ida	56.22	61	P	P	02 42 42.2	-0.9	
	baz=271							
SCIA	State Center	56.63	52	P	P	02 42 44.5	-1.3	
	baz=267							
ASAJ	Asahikawa	56.83	310	LR	LR	03 01 54.2		
	comp=Z,1μm,21.7s,baz=148,slow=30							
CMIG	Matias Romero	57.15	82	LR	LR	03 01 29.6		
	comp=Z,290nm,21.8s,baz=289,slow=30							
SPMN	Marine on St.	57.17	48	P	P	02 42 49.2	-0.4	
	baz=265							
GUMO	Guam	57.45	274	LR	LR	03 02 18.1		
	comp=Z,364nm,21.7s,baz=68,slow=31							
JCJ	Chichijima	57.47	290	LR	LR	03 02 07.1		
	comp=Z,413nm,21.4s,baz=102,slow=30							
CCM	Cathedral Cave	58.05	57	P	P	02 42 54.3	-1.7	
	baz=270							
EYMN	Ely	58.33	45	P	P	02 42 56.5	-1.2	
	baz=264							
JFWS	Jewell Farm	58.87	51	P	P	02 43 00.8	-0.8	
	baz=268							
VBMS	Vicksburg	58.90	64	P	P	02 43 01.0	-0.9	
	baz=274							
JHJ	Hachijo jima 2	58.98	297	LR	LR	03 05 00.5		
	comp=Z,382nm,20.0s,baz=88,slow=32							
G40A	Rib Lake	59.01	48	P	P	02 43 02.2	-0.3	
G40A				IAmb	IAmb	02 43 08.0		
	comp=Z,12nm,0.9s							
HDIL	Hopedale	59.55	54	P	P	02 43 06.1	-0.3	
	baz=270							
OXF	Oxford	59.66	61	P	P	02 43 06.8	-0.4	
	baz=274							
MJAR	Matsushiro Arr	60.07	302	P	P	02 43 12.5	+2.5	
	comp=Z,1.0nm,0.3s,baz=106,slow=4.4,SNR=1.6							
MJAR				LR	LR	03 04 52.2		
	comp=Z,299nm,21.4s,baz=74,slow=32							
	comp=Z,1.0nm,0.3s							
L44A	Lake County Fo	60.58	52	P	P	02 43 12.9	-0.5	
	baz=270							
WVT	Waverly	60.85	59	P	P	02 43 13.3	-2.0	
	baz=274							
SFIN	Lafayette	61.23	54	P	P	02 43 17.0	-0.8	
	baz=272							
APG	El Apazote	61.76	83	LR	LR	03 04 01.6		
	comp=Z,28nm,21.9s,baz=4.0,slow=30							
LRAL	Lakeview Retre	61.79	62	P	P	02 43 21.3	-0.4	
	baz=276							
BRAL	Brewton	61.94	64	P	P	02 43 22.7	-0.1	
	baz=277							
WCI	Wyandotte Cave	61.95	56	P	P	02 43 22.1	-0.6	
	baz=273							
TEIG	Tepich	62.62	77	LR	LR	03 06 59.8		
	comp=Z,163nm,20.3s,baz=238,slow=32							
O48B	Farmland	62.72	54	P	P	02 43 27.0	-0.9	
	baz=273							
GLMI	Grayling	62.95	49	P	P	02 43 28.9	-0.5	
	baz=271							
URZ	Urewera	62.97	204	LR	LR	03 06 26.6		
	comp=Z,313nm,20.3s,baz=78,slow=32							
P49A	Miami Univ. Ec	63.09	55	P	P	02 43 29.5	-0.9	
	baz=274							
E46A	Sault Ste Mari	63.15	47	P	P	02 43 30.4	-0.2	
E46A				IAmb	IAmb	02 43 36.6		
	comp=Z,12nm,0.8s							
PMG	Port Moresby	63.52	248	LR	LR	03 06 35.5		
	comp=Z,202nm,20.4s,baz=84,slow=32							
RES	Resolute Bay	63.72	15	LR	LR	03 07 19.6		
	comp=Z,510nm,21.7s,baz=220,slow=32							
AAM	Ann Arbor	63.74	52	P	P	02 43 33.8	-0.8	
	baz=273							
TKL	Tuckaleechee C	64.17	59	LR	LR	03 07 03.3		
	comp=Z,94nm,20.7s,baz=266,slow=32							
RPN	Rapa Nui	64.22	135	LR	LR	03 05 15.9		
	comp=Z,522nm,19.0s,baz=305,slow=30							
TZTN	Tazewell	64.26	58	P	P	02 43 38.3	+0.1	
	baz=276							
ACSO	Alum Creek Sta	64.38	54	P	P	02 43 38.0	-0.9	
	baz=274							
KLR	Kul'dur	64.48	316	LR	LR	03 06 59.9		
	comp=Z,433nm,20.8s,baz=120,slow=32							
GOGA	Godfrey	64.68	62	P	P	02 43 40.3	-0.7	
	baz=277							
TIGA	Tifton	64.85	64	P	P	02 43 41.9	-0.2	
	baz=278							
P52A	Corning	65.08	55	P	P	02 43 43.1	-0.3	
	baz=275							
O53A	New Philadelph	65.73	54	P	P	02 43 47.8	+0.2	
	baz=275							
YAK	Yakutsk	66.02	330	LR	LR	03 08 42.2		
	comp=Z,968nm,21.8s,baz=94,slow=32							
M53A	WI Miller and	66.02	52	P	P	02 43 49.2	-0.3	
	baz=275							
KMSC	Kings Mountain	66.21	59	P	P	02 43 50.4	-0.4	
	baz=278							
JNU	Nakatsue	66.41	298	LR	LR	03 12 02.2		
	comp=Z,382nm,18.3s,baz=90,slow=35							
ERPA	Erie	66.47	52	P	P	02 43 50.7	-1.7	
	baz=275							
BLA	Blacksburg	66.68	57	P	P	02 43 52.3	-1.5	
	baz=277							
MCWV	Mont Chateau	66.83	54	P	P	02 43 52.8	-2.0	
	baz=276							
SADO	Sadowa	66.85	49	LR	LR	03 11 43.6		
	comp=Z,67nm,18.7s,baz=257,slow=35							
DWPF	Disney Wildern	67.24	67	P	P	02 43 55.7	-1.8	
	baz=281							
TIXI	Tiksi	67.25	341	LR	LR	03 12 51.8		
	comp=Z,398nm,19.6s,baz=132,slow=36							
KSRS	Korea Array	68.18	303	LR	LR	03 12 26.8		
	comp=Z,292nm,18.8s,baz=75,slow=35							
JTS	Las Juntas de	68.20	86	LR	LR	03 06 29.1		
	comp=Z,364nm,21.4s,baz=284,slow=29							
SSPA	Standing Stone	68.20	53	P	P	02 44 00.3	-3.0	
	baz=277							
CBN	Corbin Frederi	68.94	56	P	P	02 44 05.4	-2.5	
	baz=279							
CNNC	Cliffs of the	68.99	59	P	P	02 44 06.6	-1.7	
	baz=279							
CN2	Changchun	69.19	310	eP	P	02 44 10.6	+1.1	
CN2				eS	S	02 53 13.5	-2.2	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				pmax	pmax			
	comp=Z,100nm,3.0s							
CN2				LR	LR			
	comp=Z,1μm,21.0s							
CN2				LR	LR			
	comp=Z,900nm,21.0s							
CN2				LR	LR			
	comp=Z,1μm,22.0s							
BINY	Binghamton	69.42	51	P	P	02 44 09.0	-2.0	
	baz=278							
CTA	Charters Tower	69.45	239	LR	LR	03 10 40.1		
	comp=Z,15nm,19.3s,baz=86,slow=32							
JOW	Kunigami	69.75	292	LR	LR	03 08 19.8		
	comp=Z,177nm,21.8s,baz=235,slow=30							
LONY	Lake Ozonia	70.10	49	P	P	02 44 13.9	-1.1	
	baz=278							
PAL	Palisades	71.14	52	P	P	02 44 20.3	-1.1	
	baz=280							
FRB	Frobisher Bay	71.33	28	LR	LR	03 12 05.4		
	comp=Z,113nm,21.9s,baz=318,slow=33							
L61B	Northampton	71.80	51	P	P	02 44 23.5	-2.0	
	baz=280							
LBNH	Lisbon	72.04	49	P	P	02 44 25.4	-1.4	
	baz=280							
HRV	Adam Dziewonsk	72.61	50	P	P	02 44 28.8	-1.4	
	baz=281							
M65A	Busby, Falmout	73.45	51	P	P	02 44 33.3	-2.0	
	baz=281							
SCHQ	Schefferville	73.47	37	LR	LR	03 16 35.6		
	comp=Z,79nm,18.1s,baz=254,slow=36							
PKME	Peaks-Kenny Pk	73.69	47	P	P	02 44 35.5	-1.1	
	baz=281							
SSE	Sheshan	74.86	298	P	P	02 44 46.4	+2.7	
SSE				S	S	02 54 28.1	+6.8	
SSE				pmax	pmax			
	comp=Z,13nm,0.7s							
SSE				LR	LR			
	comp=Z,230nm,20.0s							
XLT	XiLinHaoTe	75.84	312	eP	P	02 44 48.5	-0.7	
XLT				sP	sP	02 44 55.5	+1.8	
XLT				PP	PP	02 47 40.9	+1.8	
XLT				SS	SS	02 59 28.9	+5.4	
XLT				pmax	pmax			
	comp=Z,3.0nm,0.9s							
XLT				pmax	pmax			
	comp=Z,390nm,7.7s							
XLT				LR	LR			
	comp=Z,480nm,20.8s							
XLT				LR	LR			
	comp=Z,760nm,25.5s							
DAV	Davao City (W)	77.47	273	LR	LR	03 12 25.3		
	comp=Z,294nm,20.9s,baz=52,slow=30							
SFJD	Kangerlussuaq	77.87	23	LR	LR	03 15 21.3		
	comp=Z,322nm,21.9s,baz=300,slow=33							
HNS	HongShan	78.47	306	⇑P	P	02 45 09.8	+5.8	
HNS				S	S	02 55 08.3	+7.7	
HNS				pmax	pmax			
	comp=Z,640nm,7.9s							
HNS				LR	LR			
	comp=Z,390nm,21.2s							
HNS				LR	LR			
	comp=Z,480nm,24.3s							
QZH	Quanzhou	78.67	293	P	P	02 45 01.4	-3.9	
STKA	Stephens Creek	79.10	231	LR	LR	03 14 22.0		
	comp=Z,228nm,20.4s,baz=30,slow=31							
WRA	Warramunga Arr	79.28	244	LR	LR	03 15 07.9		
	comp=Z,310nm,22.0s,baz=74,slow=32							
HHC	Hu-ho-hao-te	79.86	310	eP	P	02 45 11.0	-0.7	
HHC				sP	PcP	02 45 18.0	-1.3	
HHC				S	S	02 55 13.8	-1.7	
HHC				ScS	ScS	02 55 35.9	-0.9	
HHC				SS	SS	03 00 23.9	-0.4	
HHC				pmax	pmax			
	comp=Z,7.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,380nm,5.6s							
HHC				LR	LR			
	comp=Z,320nm,16.0s							
HHC				LR	LR			
	comp=Z,440nm,16.8s							
HHC				LR	LR			
	comp=Z,590nm,17.8s							
ROSC	El Rosal	79.89	88	LR	LR	03 12 25.8		
	comp=Z,185nm,20.8s,baz=276,slow=30							
ATAH	Atahualpa	80.11	101	LR	LR	03 12 44.0		
	comp=Z,351nm,21.2s,baz=298,slow=30							
TIY	Taiyuan	80.12	306	eP	P	02 45 13.9	+0.8	
TIY				pmax	pmax			
	comp=Z,360nm,7.5s							
NRIK	Noril'sk	81.01	341	LR	LR	03 19 33.5		
	comp=Z,335nm,21.7s,baz=65,slow=34							
LYN	LuoYang	81.02	303	P	P	02 45 20.5	+2.6	
LYN				SKS	S	02 55 32.6	+5.0	
LYN				pmax	pmax			
	comp=Z,680nm,7.2s							
LYN				LR	LR			
	comp=Z,540nm,16.1s							
LYN				LR	LR			
	comp=Z,400nm,17.5s							
LYN				LR	LR			
	comp=Z,900nm,21.3s							
BTO	Baotou	81.06	310	eP	P	02 45 17.9	-0.2	
BTO				pP	sP	02 45 23.5	+0.9	
BTO				sP	PcP	02 45 25.8	+1.3	
BTO				S	S	02 55 28.8	+0.8	
BTO				SS	SS	03 00 45.0	+2.9	
BTO				pmax	pmax			
	comp=Z,23nm,0.6s							
BTO				pmax	pmax			
	comp=Z,350nm,5.2s							
BTO				LR	LR			
	comp=Z,410nm,14.3s							
BTO				LR	LR			
	comp=Z,630nm,19.0s							
BTO				LR	LR			
	comp=Z,600nm,16.1s							
ASAR	Alice Springs	81.24	241	P	P	02 45 21.0	+1.8	
	comp=Z,0.6nm,0.8s,baz=57,slow=6.8,SNR=3.6							
ASAR				LR	LR	03 20 29.9		
	comp=Z,242nm,18.3s,baz=61,slow=35							
	comp=Z,0.6nm,0.8s							
SONM	Songino Array	81.24	318	P	P	02 45 22.0	+3.0	
	comp=Z,1.2nm,0.9s,baz=92,slow=3.3,SNR=4.6							
SONM				LR	LR	03 19 18.0		
	comp=Z,519nm,20.8s,baz=62,slow=34							
	comp=Z,1.2nm,0.9s							
SDV	Santo Domingo	82.08	83	LR	LR	03 16 42.5		
	comp=Z,144nm,21.6s,baz=260,slow=32							
SPITS	Spitsbergen Ar	82.47	2	LR	LR	03 18 31.9		
	comp=Z,214nm,21.6s,baz=326,slow=33							
NNA	Nana	83.29	105	LR	LR	03 13 27.0		
	comp=Z,345nm,21.4s,baz=287,slow=29							
SJG	San Juan	83.35	73	LR	LR	03 19 47.3		
	comp=Z,48nm,20.8s,baz=284,slow=34							
XAN	Xi'an	83.97	304	⇓P	P	02 45 34.8	+1.4	
XAN				pmax	pmax			
	comp=Z,10.0nm,0.9s							
XAN				pmax	pmax			
	comp=Z,680nm,7.3s							
XAN				LR	LR			
	comp=Z,350nm,17.2s							
XAN				LR	LR			
	comp=Z,630nm,17.9s							
XAN				LR	LR			
	comp=Z,820nm,20.6s							
KAPI	Kappang	86.92	264	LR	LR	03 20 54.1		
	comp=Z,107nm,19.6s,baz=79,slow=33							
JMIC	Jan Mayen	86.92	10	LR	LR	03 21 29.9		
	comp=Z,151nm,21.5s,baz=310,slow=33							
LZH	Lanzhou	87.15	307	eP	P	02 45 56.3	+6.9	
LZH				PP	PP	02 49 11.0	-1.7	
LZH	Lanzhou	87.15	307	S	S	02 56 27.1	-2.4	
LZH	Lanzhou	87.15	307	SS	SS	03 02 22.5	+10	
LZH				pmax	pmax			
	comp=Z,480nm,5.8s							
LZH				LR	LR			
	comp=N,330nm,17.2s							
LZH				LR	LR			
	comp=E,380nm,19.6s							
LZH				LR	LR			
	comp=Z,640nm,19.6s							
PCRV	Puerto La Cruz	87.27	80	LR	LR	03 21 42.4		
	comp=Z,132nm,19.9s,slow=33							
QIZ	Qiongzhong	88.21	289	P	P	02 45 52.1	-2.4	
QIZ				S	S	02 56 37.8	-2.0	
QIZ				SS	SS	03 02 31.8	+3.3	
QIZ				pmax	pmax			
	comp=Z,33nm,1.9s							
QIZ				LR	LR			
	comp=Z,260nm,15.2s							
QIZ				LR	LR			
	comp=Z,400nm,15.2s							
QIZ				LR	LR			
	comp=Z,380nm,21.9s							
GTA	Gaotai	88.80	312	eP	P	02 45 58.0	+0.9	
GTA				S	S	02 56 36.8	-8.2	
GTA				sS	ScS	02 56 51.8	+1.4	
GTA				pmax	pmax			
	comp=Z,350nm,7.3s							
GTA				LR	LR			
	comp=Z,290nm,20.7s							
GTA				LR	LR			
	comp=Z,390nm,21.1s							
GTA				LR	LR			
	comp=Z,590nm,22.9s							
BORG	Borgarnes	88.98	18	LR	LR	03 22 20.6		
	comp=Z,151nm,21.7s,baz=327,slow=33							
CD2	Chengdu	89.16	302	P	P	02 45 58.3	-0.6	
CD2				S	S	02 56 47.8	-0.7	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CD2				pmax	pmax			
	comp=Z,280nm,9.4s							
CD2				LR	LR			
	comp=Z,220nm,15.0s							
CD2				LR	LR			
	comp=Z,240nm,12.1s							
CD2				LR	LR			
	comp=Z,490nm,16.8s							
H03N2	Juan Fernandez	89.72	126	T	T	04 25 10.6		
	baz=298,slow=76,SNR=7.4							
H03N3	Juan Fernandez	89.73	126	T	T	04 25 10.0		
	baz=298,slow=76,SNR=9.0							
H03N1	Juan Fernandez	89.73	126	T	T	04 25 11.6		
	baz=298,slow=76,SNR=11							
ZALV	Zalesovo Beam	90.65	329	LR	LR	03 24 47.4		
	comp=Z,561nm,20.5s,baz=66,slow=34							
ARCES	ARCESS Array B	91.28	360	LR	LR	03 28 25.1		
	comp=Z,150nm,18.7s,baz=6.5,slow=36							
PZH	PanZhiHua	92.47	299	P	P	02 46 13.9	-0.6	
PZH				sP	sP	02 46 20.8	+1.8	
PZH				S	S	02 57 13.3	-5.9	
PZH				pmax	pmax			
	comp=Z,10.0nm,1.0s							
PZH				pmax	pmax			
	comp=Z,150nm,6.5s							
PZH				LR	LR			
	comp=Z,210nm,21.6s							
PZH				LR	LR			
	comp=Z,270nm,21.0s							
PZH				LR	LR			
	comp=Z,350nm,22.2s							
LPAZ	La Paz	92.70	106	LR	LR	03 20 20.4		
	comp=Z,168nm,20.0s,baz=300,slow=31							
LVC	Limon Verde	94.08	112	LR	LR	03 19 36.5		
	comp=Z,410nm,20.0s,baz=282,slow=30							
WMQ	Urumqi	94.72	320	eP	P	02 46 26.3	+1.9	
WMQ				LR	LR			
	comp=Z,760nm,22.9s							
WMQ				LR	LR			
	comp=Z,390nm,21.9s							
WMQ				LR	LR			
	comp=Z,640nm,21.9s							
KURBB	Kurchatov Arra	95.74	329	LR	LR	03 27 28.4		
	comp=Z,522nm,21.9s,baz=54,slow=34							
MKAR	Makanchi Array	96.17	324	LR	LR	03 27 13.0		
	comp=Z,401nm,21.6s,baz=62,slow=34							
BVAR	Borovoye Array	97.75	334	LR	LR	03 31 26.5		
	comp=Z,184nm,20.1s,baz=49,slow=36							
CMAR	Chiang Mai Arr	98.02	293	LR	LR	03 30 25.3		
	comp=Z,171nm,19.2s,baz=55,slow=35							
PLCA	Paso Flores	98.57	130	LR	LR	03 21 04.5		
	comp=Z,427nm,20.9s,baz=250,slow=29							
SIV	San Ignacio	99.04	104	LR	LR	03 24 40.5		
	comp=Z,439nm,19.8s,baz=7.0,slow=31							
NOA	NORSAR Array B	99.08	7	LR	LR	03 29 03.3		
	comp=Z,130nm,20.8s,baz=350,slow=34							
ARU	Arti	99.24	342	LR	LR	03 32 08.2		
	comp=Z,484nm,21.4s,baz=43,slow=36							
KIRV	Kirov	99.64	347	LR	LR	03 34 27.4		
	comp=Z,378nm,19.9s,baz=26,slow=37							
VNDA	Vanda	99.92	189	LR	LR	03 26 16.4		
	comp=Z,180nm,18.0s,baz=18,slow=32							
HSKC	Hora Svate Kat	109.56	8	ePS	PS	03 01 34.6	+3.6	
PVCC	Panska Ves	109.78	7	ePP	PP	02 52 01.5	-2.9	
DPC	Dobruska-Polom	110.13	6	ePP	PP	02 52 15.9	+8.8	
DPC				AMS	AMS	03 44 10.0		
	comp=Z,100nm,17.2s							
PRU	Pruhonice	110.31	7	ePS	PS	03 01 40.2	+2.0	
PRU				AMS	AMS	03 44 30.0		
	comp=Z,200nm,18.5s							
KRLC	Kraliky	110.45	5	AMS	AMS	03 45 30.0		
	comp=Z,100nm,15.8s							
KHC	Kasperske Hory	111.03	8	ePP	PP	02 52 12.0	-1.6	
KHC				ePS	PS	03 01 48.8	+3.7	
KHC				AMS	AMS	03 44 00.0		
	comp=Z,200nm,20.5s							
CKRC	Cesky Krumlov	111.43	7	ePP	PP	02 52 14.2	-2.2	
TORD	Torodi Ar. Bea	140.47	37	PKP	PKiKP	02 52 36.4	+0.8	
	comp=Z,0.7nm,0.9s,baz=19,slow=5.2,SNR=3.7							

NEIC ***20*** *02:41:10.7±1.6, 46°.64S±0°.08×166°.1E±0°.1, h16km±6km, mb4.2/10, Error ellipse: s-maj=17.6km s-min=3.2km az=128.0*

NOU ***20*** *02:41:12.2, 46°.49S×166°.12E, h11km, MLv4.6/13, Off W. Coast of S. Island, N.Z.*

WEL ***20*** *02:41:13.5±1.4, 46°.5S±8°×16°.6E±°, h13km±4km, M4.3/9, ML4.5/9, MLv4.3/9, Error ellipse: s-maj=0.0km s-min=0.0km az=18.6, confirmed*

WEL ***20*** *02:41:13.3, 46°.26S×166°.10E, h21km, ML4.3, Mw4.1, Moment Tensor Solution. s5 Moment tensor: Mrr59.44; Mθθ30.15; Mφφ-89.59; Mrθ61.65; Mrφ22.59; Mθφ132.82; Fault plane solution: NP1:φs42.00000°, δ23.00000°, λ150.00000°. NP2:φs159.00000°, δ79.00000°, λ70.00000°. Principal axes: T 167.6700, Plg52.0000°, Azm46.0000°; N 0.4400, Plg20.0000°, Azm163.0000°; P -168.1100, Plg31.0000°, Azm266.0000°; S. OF S. ISLAND*

IDC ***20*** *02:41:20.4±4.7, 45°.89S×166°.64E, h95km±48km, mb3.8/3, mbtmp4.1/4, MS3.3/1 Error ellipse: s-maj=54.8km s-min=25.5km az=42.0*

ISC 20 02:41:13.7±1.4, 46°.32S±0°.06×166°.11E±0°.05, h26km±10km, n83, σ1$15/92, mb4.2/6, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.43	69	P	Pb	02 41 22.8	0.0
PYZ	Puysegur Point	0.43	69	Pg	Pb	02 41 22.8	0.0
PYZ	Puysegur Point	0.43	69	P	Pb	02 41 22.8	0.0
PYZ				S	Sb	02 41 29.2	+0.3
DCZ	Deep Cove	1.13	41	Pn	Pn	02 41 32.1	-1.6
DCZ	Deep Cove	1.13	41	P	Pn	02 41 32.0	-1.7
DCZ				S	Sb	02 41 45.8	-2.9
WHZ	Wether Hill Ro	1.35	72		Pn	02 41 37.0	+0.2
WHZ	Wether Hill Ro	1.35	72	P	Pn	02 41 37.1	+0.2
WHZ				S	Sb	02 41 54.6	-0.5
APZ	The Paps	1.39	112	P	Pn	02 41 37.2	-0.2
MLZ	Mavora Lakes	1.70	57	Pn	Pn	02 41 42.6	+1.0
MLZ	Mavora Lakes	1.70	57	P	Pn	02 41 42.7	+1.0
MSZ	Milford Sound	2.09	38	P	Pn	02 41 47.3	+0.4
SYZ	Scrubby Hill	2.11	97	P	Pn	02 41 47.4	+0.2
SYZ	Scrubby Hill	2.11	97	P	Pn	02 41 47.6	+0.4
SYZ				S	Sn	02 42 13.2	+0.7
TUZ	Tuapeka	2.48	83	P	Pn	02 41 53.2	+0.9
TUZ				S	Sn	02 42 23.0	+1.4
EAZ	Earnscleugh	2.49	65	P	Pn	02 41 54.3	+1.8
WKZ	Wanaka	2.53	55		Pn	02 41 55.1	+2.1
WKZ	Wanaka	2.53	55	P	Pn	02 41 55.2	+2.1
WKZ				S	Sn	02 42 25.6	+2.5
JCZ	Jackson Bay	2.94	41	P	Pn	02 42 00.6	+1.8
JCZ	Jackson Bay	2.94	41	P	Pn	02 42 00.5	+1.8
HHSZ	Highcliff Hill	3.15	84	P	Pn	02 42 02.1	+0.4
ODZ	Otahua Downs	3.43	70	P	Pn	02 42 05.0	-0.4
ODZ	Otahua Downs	3.43	70		Pn	02 42 04.6	-0.7
ODZ	Otahua Downs	3.43	70	P	Pn	02 42 04.6	-0.7
LBZ	Lake Benmore	3

ARCZ				S	Sn	02 43 06.3	-0.4
RPZ	Rata Peaks	4.37	55	P	Pn	02 42 18.4	+0.1
RPZ	Rata Peaks	4.37	55	Pn	Pn	02 42 17.3	-1.1
RPZ	Rata Peaks	4.37	55	P	Pn	02 42 17.4	-1.0
20nm,0.5s,baz=212,slow=7.5,SNR=17							
RPZ				S	Sn	02 43 07.7	-0.7
52nm,0.4s,baz=68,slow=20,SNR=5.6							
RPZ				LR	LR	02 43 38.6	
comp=Z,371nm,19.6s,baz=314,slow=36							
RPZ	Rata Peaks	4.37	55	P	Pn	02 42 17.5	-0.8
WVZ	Waitaha Valley	4.63	47	P	Pn	02 42 22.9	+1.1
WACZ	Wakanui South	4.70	62	P	Pn	02 42 22.2	-0.6
WACZ				S	Sn	02 43 14.8	-1.7
OXZ	Oxford	5.17	57		Pn	02 42 29.1	-0.3
OXZ	Oxford	5.17	57	P	Pn	02 42 29.3	-0.1
OXZ				S	Sn	02 43 29.9	+1.7
INZ	Inchbonnie	5.24	49	Pn	Pn	02 42 30.0	-0.3
INZ	Inchbonnie	5.24	49	P	Pn	02 42 30.0	-0.3
MQZ	McQueen's Vall	5.33	63		Pn	02 42 31.3	-0.1
MQZ	McQueen's Vall	5.33	63	P	Pn	02 42 30.0	-1.4
AMCZ	Amberley	5.62	58	Pn	Pn	02 42 35.1	-0.4
LTZ	Lake Taylor	5.65	53	Pn	Pn	02 42 36.4	+0.4
LTZ	Lake Taylor	5.65	53	P	Pn	02 42 37.2	+1.3
GVZ	Greta Valley S	5.97	58	Pn	Pn	02 42 40.4	0.0
GVZ	Greta Valley S	5.97	58	P	Pn	02 42 40.2	-0.2
DSZ	Denniston Nort	6.15	44	Pn	Pn	02 42 42.6	-0.1
DSZ	Denniston Nort	6.15	44	P	Pn	02 42 42.8	0.0
KHZ	Kahutara	6.60	56	P	Pn	02 42 50.0	+1.0
KHZ	Kahutara	6.60	56	Pn	Pn	02 42 50.0	+1.0
KHZ	Kahutara	6.60	56	P	Pn	02 42 49.8	+0.8
THZ	Tophouse	6.69	49		Pn	02 42 49.0	-1.2
THZ	Tophouse	6.69	49	P	Pn	02 42 50.6	+0.4
MRNZ	Matariki Terra	6.88	47	Pn	Pn	02 42 51.7	-1.0
MRNZ	Matariki Terra	6.88	47	P	Pn	02 42 52.6	-0.1
QRZ	Quartz Range	7.20	43	P	Pn	02 42 59.7	+2.5
QRZ	Quartz Range	7.20	43	P	Pn	02 42 58.4	+1.2
BSWZ	Blackbirch Sta	7.25	53	P	Pn	02 42 59.5	+1.6
TCW	Tory Channel	7.81	52	Pn	Pn	02 43 06.2	+0.6
KHEZ	Kahui Hut	9.11	42	P	Pn	02 43 26.1	+2.6
BFZ	Birch Farm	9.27	56	P	Pn	02 43 27.8	+2.2
HIZ	Hauiti	10.13	43	P	Pn	02 43 38.4	+1.1
MOO	Moorlands	14.07 279		P	Pn	02 44 31.9	+0.7
MILA	Mila	15.66 300		P	Pn	02 44 52.6	+0.1
TOO	Toolangi	17.61 292		P	P	02 45 19.0	+1.0
TOO	Toolangi	17.61 292			Pn	02 45 17.0	-0.2
TOO				IAmb	IAmb	02 45 20.5	
comp=Z,9.7nm,0.9s							
EIDS	Eidsvold	24.12 325		P	P	02 46 28.5	+1.2
EIDS				IAmb	IAmb	02 46 32.3	
comp=Z,5.6nm,1.1s							
SBA	Scott Base	31.64 180		P	P	02 47 29.0	-5.1
AS31	Alice Springs	34.37 300		P	P	02 47 57.9	-0.6
ASAR	Alice Springs	34.37 300		P	P	02 47 57.4	-1.1
ASAR	Alice Springs	34.37 300		P	P	02 47 58.8	+0.3
comp=Z,1.6nm,0.6s,baz=132,slow=8.3,SNR=22							
comp=Z,1.6nm,0.6s							
WB2	Warramunga Arr	36.98 305		P	P	02 48 20.8	-0.1
WB2				IAmb	IAmb	02 48 21.2	
comp=Z,3.1nm,0.7s							
WRA	Warramunga Arr	36.99 305		P	P	02 48 21.0	+0.1
comp=Z,3.1nm,0.8s,baz=140,slow=8.0,SNR=25							
comp=Z,3.1nm,0.8s							
WB0	Warramunga Arr	37.10 305		P	P	02 48 21.5	-0.4
WB0				IAmb	IAmb	02 48 26.2	
comp=Z,7.4nm,1.4s							
NWAO	Narrogin (SRO)	39.34 272		P	P	02 48 39.4	-1.3
FITZ	Fitzroy Crossi	43.61 296		P	P	02 49 16.7	+0.9
PSA00	Pilbara Seismi	44.81 287		P	P	02 49 24.4	-1.0
SNAA	Sanae	62.05 184		P	P	02 51 29.4	-1.9
SNAA				IAmb	IAmb	02 51 36.3	
comp=Z,4.8nm,1.3s							
SNAA	Sanae	62.05 184		P	P	02 51 32.7	+1.4
comp=Z,1.3nm,0.8s,baz=184,slow=16,SNR=4.2							
comp=Z,1.3nm,0.8s							
TORD	Torodi Ar. Bea	144.41 207		PKP	PKPdf	03 00 47.2	-0.5
comp=Z,0.8nm,0.8s,baz=183,slow=2.0,SNR=6.3							
BRTR	Keskin Array B	145.06 277		PKPbc	PKPdf	03 00 48.4	+0.1
comp=Z,1.3nm,0.8s,baz=159,slow=4.3,SNR=5.0							
ARCES	ARCESS Array B	149.68 334		PKPbc	PKPdf	03 00 54.4	-0.5
comp=Z,1.3nm,0.9s,baz=64,slow=2.1,SNR=1.6							

*NEIC **20** 02:49:25.8±0.8, 18°.6N±0°.3×64°.09W±0°.05, h35km±2km, ML2.7/22, Md3.5/13(RSPR), Error ellipse: s-maj=44.6km s-min=3.1km az=169.0*
*RSPR **20** 02:49:26.4, 18°.77N×64°.13W, h37km±25km, MD3.5/13*
ISC 20 02:49:27.3±2.2, 18°.7N±0°.2×64°.22W±0°.06, h54km, n50, σ0s75/49, 6C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	Col San Antoni	1.65 249		⇑eP	Pn	02 49 53.0	-0.9
HUMP	Col San Antoni	1.65 249		eS	Sn	02 50 14.2	+0.2
HUMP	Col San Antoni	1.65 249			Pn	02 49 53.0	-0.9
HUMP					Sn	02 50 14.2	+0.2
HUMP	Col San Antoni	1.65 249		IAML		02 50 15.2	
comp=E,58nm,0.2s							
GCPR	Guaynabo City	1.81 257		⇑eP	Pn	02 49 54.9	-1.3
GCPR	Guaynabo City	1.81 257		eS	Sn	02 50 17.7	-0.3
GCPR	Guaynabo City	1.81 257			Sn	02 50 17.7	-0.3
GCPR	Guaynabo City	1.81 257			Pn	02 49 54.8	-1.3
SJG	San Juan	1.93 252		⇓eP	Pn	02 49 57.3	-0.4
SJG	San Juan	1.93 252		eS	Sn	02 50 21.1	+0.3
SJG	San Juan	1.93 252			Pn	02 49 57.3	-0.4
SJG	San Juan	1.93 252		IAML		02 50 29.2	
comp=E,42nm,0.4s							
IGPR	InterUniversit	1.94 247		⇑eP	Pn	02 49 57.5	-0.4
IGPR	InterUniversit	1.94 247		eS	Sn	02 50 22.3	+1.1
IGPR	InterUniversit	1.94 247			Sn	02 50 22.3	+1.1
IGPR	InterUniversit	1.94 247			Pn	02 49 57.1	-0.8
IGPR	InterUniversit	1.94 247		IAML		02 50 29.9	
comp=N,47nm,0.3s							
IGPR				IAML		02 50 31.9	
comp=E,80nm,0.3s							
CELP	Cerrillos	2.33 254		⇓eP	Pn	02 50 02.8	-0.4
CELP	Cerrillos	2.33 254		eS	Sn	02 50 31.2	+0.5
CELP	Cerrillos	2.33 254			Pn	02 50 02.8	-0.4
CELP					Sn	02 50 31.2	+0.5
CELP	Cerrillos	2.33 254		IAML		02 50 35.7	
comp=N,27nm,0.4s							
OBIP	Obispado Ponce	2.36 254		⇑eP	Pn	02 50 03.5	-0.1
OBIP	Obispado Ponce	2.36 254		eS	Sn	02 50 31.2	-0.3
OBIP	Obispado Ponce	2.36 254			Pn	02 50 03.5	-0.1
OBIP					Sn	02 50 31.2	-0.3
OBIP	Obispado Ponce	2.36 254		IAML		02 50 33.8	
comp=E,28nm,0.7s							
OBIP				IAML		02 50 57.9	
comp=N,28nm,3.5s							
UUPR	Utuado, UPR, P	2.42 259		⇑eP	Pn	02 50 03.8	-0.6
UUPR	Utuado, UPR, P	2.42 259		eS	Sn	02 50 32.9	+0.1
UUPR	Utuado, UPR, P	2.42 259			Pn	02 50 03.8	-0.6
UUPR					Sn	02 50 32.9	+0.1
AOPR	Arecibo Observ	2.43 261		⇓eP	Pn	02 50 04.6	0.0
AOPR	Arecibo Observ	2.43 261		eS	Sn	02 50 34.9	+1.7
AOPR	Arecibo Observ	2.43 261			Pn	02 50 04.6	0.0
AOPR					Sn	02 50 34.9	+1.7
AOPR	Arecibo Observ	2.43 261		IAML		02 50 40.6	
comp=N,50nm,0.4s							
AGPR	Aguadilla, PR	2.75 265		⇑eP	Pn	02 50 08.1	-0.8
AGPR	Aguadilla, PR	2.75 265		eS	Sn	02 50 42.3	+1.3
AGPR	Aguadilla, PR	2.75 265			Pn	02 50 08.1	-0.8
AGPR	Aguadilla, PR	2.75 265			Sn	02 50 42.3	+1.3
AGPR	Aguadilla, PR	2.75 265		IAML		02 50 35.2	
comp=N,101nm,2.7s							
LSP	Las Mesas	2.77 259		⇓eP	Pn	02 50 09.1	-0.1
LSP	Las Mesas	2.77 259		eS	Sn	02 50 42.4	+0.8
LSP	Las Mesas	2.77 259			Pn	02 50 09.1	-0.1
LSP					Sn	02 50 42.4	+0.8
MLPR	Magueyes Islan	2.78 255		⇓eP	Pn	02 50 08.6	-0.8
MLPR	Magueyes Islan	2.78 255		eS	Sn	02 50 42.3	+0.5
MLPR	Magueyes Islan	2.78 255			Pn	02 50 08.6	-0.8
MLPR					Sn	02 50 42.3	+0.5
MLPR	Magueyes Islan	2.78 255		IAML		02 50 58.5	
comp=N,25nm,2.5s							
MLPR				IAML		02 51 04.2	
comp=E,24nm,2.3s							
CRPR	Cabo Rojo, PR	2.83 256		⇓eP	Pn	02 50 10.4	+0.3
CRPR	Cabo Rojo, PR	2.83 256		eS	Sn	02 50 43.4	+0.3
CRPR	Cabo Rojo, PR	2.83 256			Pn	02 50 10.4	+0.3
CRPR				IAML		02 50 49.0	
comp=E,31nm,2.5s							
CRPR	Cabo Rojo, PR	2.83 256			Sn	02 50 43.4	+0.3
CRPR	Cabo Rojo, PR	2.83 256		IAML		02 50 41.1	
comp=N,29nm,2.0s							
ANBD	Bethesda, Anti	2.88 125		eP	Pn	02 50 10.1	-0.6
ANBD				eS	Sn	02 50 45.2	+1.0

*IDC **20** 02:54:25.5±1.2, 58°.69S×25°.70W, h0km, mb3.7/2, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=78.6km s-min=30.0km az=91.0*
ISC 20 02:54:30.7±1.3, 58°.8S±0°.2×25°.1W±0°.4, h35km, n10, σ1s12/10, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.82	156	⇑P	Pn	02 57 43.0	-0.7
comp=Z,1.5nm,0.4s							
VNA3	Neumayer Olymp	14.02	159	⇑P	Pn	02 57 46.3	-0.2
comp=Z,1.0nm,0.2s							
VNA2	Neumayer--Watz	14.22	156	⇑P	Pn	02 57 47.6	-1.5
comp=Z,0.6nm,0.2s,baz=326,slow=13							
SNAA	Sanae	15.77	154	⇑P	Pn	02 58 10.0	+0.2
comp=Z,17nm,0.3s							
SNAA	Sanae	15.77	154	Pn	Pn	02 58 09.9	+0.2
comp=Z,0.1nm,0.3s,baz=320,slow=16,SNR=12							
comp=Z,0.5nm,0.3s							
TROLL	Troll, Antarti	17.28	151	⇑P	Pn	02 58 29.0	0.0
comp=Z,8.7nm,0.3s							
QSPA	South Pole Qui	31.45	180	P	P	03 00 49.8	+1.4
comp=Z,1.4nm,1.1s,baz=177,slow=3.1,SNR=7.9							
comp=Z,1.4nm,1.1s							
TORD	Torodi Ar. Bea	74.94	27	P	P	03 06 08.6	+0.8
comp=Z,0.3nm,0.6s,baz=197,slow=6.5,SNR=6.5							
comp=Z,0.3nm,0.6s							
YKA	Yellowknife Ar	138.95	315	PKP	PKPdf	03 13 49.9	-1.7
comp=Z,0.5nm,0.7s,baz=115,slow=3.2,SNR=3.7							
ILAR	Eielson Array	152.74	307	PKPbc	PKPbc	03 14 21.5	-0.5
comp=Z,0.7nm,0.8s,baz=146,slow=4.0,SNR=11							

*TEH **20** 03:00:04.8, 33°.47N×46°.89E, h12km±52km, ML2.5*
*ISN **20** 03:00:05.3±1.1, 33°.48N×46°.87E, h18km±9km, ML2.3*
ISC 20 03:00:05.6±1.0, 33°.47N±0°.05×46°.87E±0°.04, h17km, n10, σ0s92/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.57	286	Pg	Pg	03 00 16.6	-0.3
KCHF	Cheshme Sefid,	0.81	10	Sg	Sg	03 00 32.3	-0.1
IKFM	Kafar-mosalman	0.82	86	Pg	Pb	03 00 20.2	-1.2
IBDR	Badra	0.86	245	ePg	Pb	03 00 21.0	-1.1
IBDR	baz=65			eSg	Sg	03 00 34.0	+0.2
IBDR				AML	AML	03 00 40.2	
comp=N,138nm,0.4s							
IBDR				AML	AML	03 00 41.5	
comp=E,83nm,0.4s							
IGHG	Ghaleghazi	0.89	344	Pg	Pg	03 00 22.6	-0.4
GLG1	Gilan-e-Gharb	1.02	309	Pg	Pb	03 00 24.6	-0.3
IBZA	Bozab	1.29	39	Pg	Pg	03 00 30.0	-0.6
HSAM	Samen	1.62	62	Pg	Pb	03 00 34.9	-0.4
RAFI	Al-Rafai	1.86	200	ePn	Pb	03 00 38.0	-1.1
RAFI				eSn	Sb	03 01 03.0	+1.0
IPIR	Pirpir	3.47	102	Pn	Pn	03 01 00.5	+1.4

*KRNET **20** 03:19:33.3±0.1, 43°.14N×73°.16E, h30km, mb3.3*
*NNC **20** 03:19:33.4±0.3, 43°.17N×73°.22E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=3.7km s-min=1.8km az=12.0*
*KNET **20** 03:19:34.5±0.7, 43°.08N×73°.24E, h28km±5km, ml2.9, Error ellipse: s-maj=5.1km s-min=2.9km az=127.0*
*SOME **20** 03:19:34.2, 43°.08N×73°.20E, h20km*
ISC 20 03:19:34.2±1.0, 43°.10N±0°.02×73°.21E±0°.02, h13km±8km, n78, σ1s59/135, 50C-33D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	Merke	0.35	178	eP	Pg	03 19 41.8	+0.4
MRKS	331nm,0.1s			eS	Sb	03 19 47.1	-0.8
EKS2	Erkin-Say	0.60	136	P	Pb	03 19 46.7	0.0
EKS2	111nm,0.1s,SNR=179			⇑S	Sb	03 19 55.9	+0.8
EKS2	Erkin-Say	0.60	136	⇑iP	Pb	03 19 46.2	-0.5
EKS2	252nm,0.1s			⇑iS	Sb	03 19 55.4	+0.3
MNAS	Manas	0.80	221	⇓iP	Pg	03 19 48.7	-1.1
MNAS	baz=17			⇓iS	Sg	03 19 59.6	-0.7
USP	Ospenovka	0.96	79	⇑P	Pb	03 19 52.1	-0.6
USP	46nm,0.1s,SNR=44			⇓S	Sb	03 20 05.3	0.0
USP	Ospenovka	0.96	79	⇓iP	Pb	03 19 51.8	-0.9
USP	176nm,0.2s			⇓iS	Sb	03 20 05.1	-0.2
AML	Almayashu	1.03	160	⇑P	Pb	03 19 53.7	-0.4
AML	34nm,0.1s,SNR=21			⇓S	Sg	03 20 07.7	+0.1
AML	Almayashu	1.03	160	⇓iP	Pb	03 19 53.5	-0.6
AML	baz=59			⇓iS	Sg	03 20 07.9	+0.3
AAK	Ala-Archa	1.05	116	P	Pn	03 19 54.4	-0.4
AAK	85nm,0.1s,SNR=33			⇑S	Sn	03 20 09.1	-0.3
AAK	Ala-Archa	1.05	116	P	Pn	03 19 54.4	-0.4
AAK	126nm,0.2s			⇓S	Sn	03 20 08.9	-0.4
AAK	Ala-Archa	1.05	116	⇓iP	Pb	03 19 53.6	-0.7
AAK	66nm,0.4s			⇓iS	Sg	03 20 08.4	+0.2
FRU1	Bishkek	1.08	105	⇓iP	Pb	03 19 53.7	-1.1
FRU1	baz=6.0			⇓iS	Sb	03 20 08.6	-0.2
SGDS	Sogindy	1.09	71	P	Pb	03 19 54.2	-0.8
SGDS	16nm,0.1s			S	Sb	03 20 08.1	-1.1
CHMS	Chumysh	1.13	95	⇑P	Pb	03 19 55.2	-0.5
CHMS	100nm,0.2s,SNR=118			⇑S	Sn	03 20 10.7	-0.5
CHMS	Chumysh	1.13	95	⇑P	Pb	03 19 55.0	-0.6
CHMS	15nm,0.2s			⇓S	Sg	03 20 10.5	-0.3
CHMS	Chumysh	1.13	95	⇓iP	Pb	03 19 54.8	-0.9
CHMS	52nm,0.2s			⇓iS	Sg	03 20 10.3	-0.5
UCH	Uchtor	1.30	132	P	Pg	03 19 58.9	-0.3
UCH	baz=96			⇑S	Sg	03 20 17.2	+1.1
UCH	Uchtor	1.30	132	⇓iP	Pn	03 19 58.1	-0.3
UCH	51nm,0.1s,SNR=282			⇓iS	Sg	03 20 16.0	-1.1
KBK	Karagaybulak	1.35	109	P	Pg	03 19 59.6	-0.6
KBK	247nm,0.3s			⇑S	Sg	03 20 18.6	+0.8
KBK	Karagaybulak	1.35	109	⇑iP	Pn	03 19 58.9	0.0
KBK	120nm,0.1s,SNR=204			⇑iS	Sg	03 20 17.4	-0.4
ARLS	Aral	1.49	146	⇓iP	Pb	03 20 01.3	-0.4
ARLS	baz=10.0			⇓iS	Sg	03 20 21.3	-0.8
ARK	Arkit	1.59	216	⇑iP	Pn	03 20 02.4	+0.2
ARK	baz=46			⇑iS	Sn	03 20 23.1	+0.4
TKM2	Tokmak 2	1.76	95	⇑P	Pb	03 20 05.9	-0.5
TKM2	38nm,0.1s,SNR=49			⇓S	Sg	03 20 30.0	-0.8
TKM2	306nm,0.1s			⇓P	Pb	03 20 05.7	-0.7
TKM2	Tokmak 2	1.76	95	⇑S	Sg	03 20 29.7	-1.1
TKM2	37nm,0.5s			⇓iP	Pn	03 20 04.9	+0.4
TKM2	132nm,0.3s			⇓iS	Sb	03 20 28.0	-0.5
ARSB	Tokmak 2	1.76	95	⇑iP	Pn	03 20 05.4	+0.6
ARSB	baz=96			⇑iS	Sb	03 20 28.3	-0.8
DGS	Arslanbob	1.78	186	eP	Pb	03 20 08.3	-0.1
DGS	baz=84			eS	Sb	03 20 32.4	+0.6
KRBS	Degeres	1.88	85	eP	Pb	03 20 08.6	0.0
KRBS	73nm,0.2s			eS	Sg	03 20 33.3	-1.7
KK31	Karabastau	1.89	71	eP	Pb	03 20 08.1	-0.9
KK31	31nm,0.2s			Sn	Sb	03 20 34.4	-0.1
KKAR	Karatay Array	1.98	271	⇑iP	Pn	03 20 06.8	-0.6
KKAR	194nm,0.1s			⇑iS	Sn	03 20 31.2	-0.8
KST	Kastek	2.02	91	eP	Pb	03 20 11.3	+0.6
KST	baz=70			eS	Sg	03 20 38.0	-1.1
KST	Kastek	2.02	91	Pg	Pb	03 20 11.3	+0.6
KST	55nm,0.1s			Lg	Lg	03 20 37.9	
BTLS	Baital	2.03	17	eP	Pb	03 20 10.4	-0.6
BTLS	321nm,0.2s			eS	Sb	03 20 36.1	-0.1
BTLS	Baital	2.03	17	Pg	Pb	03 20 10.4	-0.6
BTLS	8.7nm,0.1s			Lg	Lg	03 20 36.1	
BOOM	Boomskoye usch	2.10	106	⇑iP	Pn	03 20 09.6	+0.4
BOOM	326nm,0.2s			⇑iS	Sb	03 20 36.4	-1.8
TRKS	Terek-Say	2.19	225	⇑iP	Pn	03 20 10.9	+0.4
TRKS	baz=7.0			⇑iS	Sn	03 20 38.4	+0.8
MTBS	Maitube	2.36	88	eP	Pb	03 20 16.4	-0.1
MTBS	13nm,0.1s			eS	Sb	03 20 46.9	+1.3
MTBS	Maitube	2.36	88	Pg	Pb	03 20 16.4	-0.1
MTBS	151nm,0.3s			Lg	Lg	03 20 46.9	
ULHL	Ulahol	2.39	110	⇑iP	Pn	03 20 14.0	+0.7
ULHL	13nm,0.3s			⇑iS	Sn	03 20 43.5	+1.0
BRLS	Borolday	2.47	270	eP	Pg	03 20 23.0	+1.4
BRLS	baz=10.0			eS	Sg	03 20 58.1	+4.4
BRLS	Borolday	2.47	270	Pg	Pg	03 20 20.8	-0.8
BRLS	7.5nm,0.1s			Lg	Lg	03 20 54.1	
IUG	luzhnay	2.53	249	eP	Pb	03 20 20.7	+1.1
IUG	76nm,0.1s			eS	Sg	03 20 53.4	-2.1
KTBS	Karatobe	2.60	75	eP	Pb	03 20 21.2	+0.5
KTBS	23nm,0.1s			eS	Sb	03 20 54.5	+1.9
KTBS	Karatobe	2.60	75	Pg	Pb	03 20 21.2	+0.5
KTBS	150nm,0.2s			Lg	Lg	03 20 54.5	
NRN	Naryn	2.66	128	⇑iP	Pn	03 20 17.6	+0.6
NRN	9.6nm,0.4s			⇑iS	Sn	03 20 49.6	+0.4
TNSS	Tian-Shan	2.74	90	eP	Pb	03 20 24.0	+0.7
TNSS	129nm,0.3s			eS	Sg	03 20 59.3	-2.9
TNSS	Tian-Shan	2.74	90	Pg	Pb	03 20 24.0	+0.7
TNSS	17nm,0.1s			Lg	Lg	03 20 59.3	
KNDC	Almaty	2.75	86	⇑Pg	Pg	03 20 26.1	-0.8
KNDC	97nm,0.2s			⇓Lg	Lg	03 21 00.6	
MDOK	Medeo	2.81	87	eP	Pb	03 20 24.8	+0.5
MDOK	32nm,0.4s			eS	Sb	03 21 00.7	+2.0
MDOK	Medeo	2.81	87	⇑Pg	Pb	03 20 24.1	-0.2
MDOK	24nm,0.5s			Pg	Pb	03 20 24.8	+0.5
MDOK	154nm,0.6s			Lg	Lg	03 21 00.7	
MDOK	Medeo	2.81	87	⇑Pg	Pb	03 20 24.1	-0.2
MDOK	148nm,0.4s			Pg	Pb	03 20 24.8	+0.5
MDOK	18nm,0.6s			Lg	Lg	03 21 00.7	
CHKK	Chushkaly	2.85	73	eP	Pb	03 20 24.9	0.0
CHKK	148nm,0.7s			⇑Lg	Lg	03 21 01.8	
CHKK	Chushkaly	2.85	73	eP	Pb	03 20 24.9	0.0
CHKK	6.7nm,0.2s			eS	Sb	03 21 00.9	+1.2
CHKK	Chushkaly	2.85	73	Pg	Pb	03 20 24.9	0.0
CHKK	106nm,0.1s			Lg	Lg	03 21 00.9	
KDJ	Kajisay	3.08	107	⇑iP	Pn	03 20 23.8	+1.0
KDJ	10nm,0.4s			⇑iS	Sn	03 21 00.4	+0.8
SFK	Sufi-Kurgan	3.09	176	⇑eP	Pn	03 20 23.4	+0.5
SFK	61nm,0.3s			⇑eS	Sn	03 20 59.7	-0.1
BTK	Batken	3.53	211	⇑eP	Pn	03 20 29.4	+0.6
BTK	baz=75			⇑eS	Sn	03 21 09.9	-0.5
ARXS	Arharly	3.53	70	eP	Pb	03 20 38.0	+1.5
ARXS	baz=11			eS	Sg	03 21 23.6	-3.9
KURS	Kuram	3.64	82	eP	Pb	03 20 39.4	+1.0
KURS	4.9nm,0.1s			eS	Sb	03 21 25.6	+3.1
KURS	Kuram	3.64	82	Pg	Pb	03 20 39.4	+1.0
KURS	3.8nm,0.2s			Lg	Lg	03 21 25.6	
DRK	Karamyk	3.77	197	⇓eP	Pn	03 20 32.8	+0.5
DRK	19nm,0.2s			⇓eS	Sn	03 21 16.2	-0.4
SATY	Saty	3.81	89	eP	Pb	03 20 43.8	+2.5
SATY	19nm,0.6s			eS	Sg	03 21 33.2	-3.2
SATY	Saty	3.81	89	Pg	Pb	03 20 43.8	+2.5
SATY	5.5nm,0.1s			Lg	Lg	03 21 33.2	
PRZ	Przheval'sk	3.87	97	⇑eP	Pn	03 20 33.9	+0.4
PRZ	44nm,0.2s			⇑eS	Sn	03 21 18.5	-0.4
BLB	Baldybastay	3.95	74	Pg	Pb	03 20 44.9	+1.1
BLB	baz=98			Lg	Lg	03 21 35.4	
KPKS	Kokpek	4.01	83	eP	Pb	03 20 46.7	+1.9
KPKS	38nm,0.5s						
KPKS	66nm,0.4s						
KPKS	9.4nm,0.2s						

KPKS *eS* **Sg** **03 21 38.2 -4.9**
56nm,0.4s
KPKS Kokpek 4.01 83 Pg **Pb** **03 20 46.7 +1.9**
9.4nm,0.6s
KPKS Lg Lg 03 21 38.2
56nm,0.4s
UZB Uzynbulak 4.25 87 *eP* **Pb** **03 20 50.8 +1.9**
1.9nm,0.1s
UZB *eS* **Sb** **03 21 44.9 +4.7**
16nm,0.2s
UZB Uzynbulak 4.25 87 Pg **Pb** **03 20 50.8 +1.9**
UZB Lg Lg 03 21 45.1
SHLS Shalkode 4.58 87 *eP* **Pg** **03 21 04.3 +2.5**
10nm,0.1s
SHLS *eS* **Sg** **03 22 08.3 +7.2**
38nm,0.6s
PDGK Podgornoye 4.59 85 Pg **Pb** **03 20 56.6 +1.9**
1.5nm,0.3s
PDGK Lg Lg 03 21 55.1
14nm,0.8s
PDGK Podgornoye 4.59 85 ⇓Pg **Pb** **03 20 57.9 +3.2**
3.4nm,0.4s
PDGK ⇓Lg Lg 03 21 57.6
27nm,0.7s
DJR Jarkent 4.92 73 *eP* **Pb** **03 21 02.8 +2.4**
2.7nm,0.0s
DJR *eS* **Sg** **03 22 06.1 -6.2**
10.0nm,0.2s
OTUK Ortayu 5.18 354 ⇑Pg **Pb** **03 21 07.5 +2.9**
1.5nm,0.3s
OTUK ⇓Lg Lg 03 22 13.6
44nm,0.8s
MAKZ Makanchi 7.24 56 ⇑Pn **Pn** **03 21 19.2 -0.4**
0.8nm,0.5s
MAKZ ⇑Lg Lg 03 23 18.6
6.7nm,1.0s
MK31 Makanchi Array 7.42 57 Pn **Pn** **03 21 23.1 +0.9**
0.4nm,0.3s,baz=101,slow=58,SNR=15
MK31 ⇓Sn **Sn** **03 22 46.3 +0.1**
0.8nm,0.5s
MK31 ⇑Lg Lg 03 23 26.3
2.8nm,0.6s,baz=236,slow=27,SNR=4.0
KURBB Kurchatov Arra 8.36 24 ⇓Lg Lg 03 23 57.9
15nm,0.7s
BVA0 Borovoye Array 10.11 350 Sn **Sn** **03 23 52.3 +0.2**
1.2nm,0.4s,baz=254,slow=34,SNR=7.2
BVA0 ⇑Lg Lg 03 24 50.1
7.4nm,0.9s,baz=160,slow=27,SNR=5.0
BRVK Borovoye 10.15 350 ⇑Sn **Sn** **03 23 52.8 -0.4**
1.5nm,0.5s
BRVK ⇑Lg Lg 03 24 52.4
5.1nm,0.8s
AB31 Akbulak array 11.06 308 ⇑Pn **Pn** **03 22 09.9 -2.1**
1.0nm,0.8s,baz=113,slow=15,SNR=12
AB31 ⇑Sn **Sn** **03 24 15.1 -0.4**
0.7nm,0.5s,baz=111,slow=24,SNR=4.9
AB31 ⇑Lg Lg 03 25 22.4
0.6nm,0.5s

BGS ***20*** *03:31:27.8±1.9, 51°.79N×16°.25E, h10km, mb4.9(NEIC)*
BJI ***20*** *03:31:28.4±0.0, 51°.68N×15°.75E, h12km, mb4.8/48, mB5.1/18, Ms4.7/6, Ms7 4.4/5*
IPEC ***20*** *03:31:28.3±0.2, 51°.58N×16°.18E, h1km, ML4.6/4, Error ellipse: s-maj=2.8km s-min=1.3km az=57.0*
NAO ***20*** *03:31:29.0, 51°.59N×16°.11E, h10km, mb3.3*
MOS ***20*** *03:31:29.4±1.2, 51°.54N×16°.18E, h16km, mb5.1/47, Error ellipse: s-maj=4.9km s-min=3.2km az=90.7*
BNS ***20*** *03:31:29.9±0.4, 51°.47N×16°.20E, h1km, ML4.5*
DNK ***20*** *03:31:29.8±2.1, 51°.72N×16°.58E, h0km±109km*
IDC ***20*** *03:31:30.1±0.3, 51°.49N×16°.06E, h0km, mb4.6/23, mbtmp4.5/35, ML3.6/12, MS3.2/2, Error ellipse: s-maj=7.5km s-min=5.3km az=109.0*
VIE ***20*** *03:31:30.0±0.5, 51°.44N×16°.14E, h0km, mb3.9/22, ml4.2/17, ms4.8/4, Error ellipse: s-maj=4.1km s-min=3.0km az=13.0, Suspected Mining induced.*
MCSM ***20*** *03:31:30.6±0.2, 52°N±3°×1°6E±°, h10km, mb4.6, mB4.8, Mw(mB)4.1*
BGR ***20*** *03:31:30.6±0.3, 51°.47N×16°.15E, h1km, ML4.6/15, Error ellipse: s-maj=3.3km s-min=2.2km az=18.0*
NEIC ***20*** *03:31:30.7±2.0, 51°.57N±0°.05×16°.18E±0°.08, h10km±1km, mb4.9/145, Error ellipse: s-maj=8.9km s-min=8.6km az=224.0*
LDG ***20*** *03:31:31.0±0.3, 51°.47N×16°.14E, h5km, Ml5.3/14, Error ellipse: s-maj=6.5km s-min=4.1km az=8.0*
BER ***20*** *03:31:31.1±3.6, 51°.85N×15°.90E, h5km, mb5.0(USGS)*
BUG ***20*** *03:31:34.3±0.7, 51°.41N×16°.00E, h24km±5km, MD4.6/1, ML5.2/13*

ISC 20 03:31:28.6±0.2, 51°.54N±0°.02×16°.16E±0°.02, h0km, n952, σ1°.75/1076, mb4.9/135, MS4.0/5, 39C-42D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.71**	**173**	*i* Pg	**Pg**	**03 31 42.5**	**+0.4**
KSP				*eSg*	**Sg**	**03 31 51.3**	**0.0**
KSP	**Ksiaz**	**0.71**	**173**	*ePg*	**Pg**	**03 31 42.6**	**+0.4**
KSP				*eSg*	**Sg**	**03 31 51.6**	**+0.3**
CHVC	**Chvalec**	**0.96**	**184**	*ePG*	**Pg**	**03 31 47.7**	**+0.7**
CHVC				*eSG*	**Sg**	**03 31 59.9**	**+0.5**
CHVC	**Chvalec**	**0.96**	**184**	*eP*	**Pg**	**03 31 47.7**	**+0.7**
CHVC				*e*		03 31 59.9	
OSTC	**Ostas**	**0.99**	**178**	*ePG*	**Pg**	**03 31 48.3**	**+0.7**
OSTC				*eSG*	**Sg**	**03 32 00.5**	**+0.1**
OSTC	**Ostas**	**0.99**	**178**	*eP*	**Pg**	**03 31 48.3**	**+0.7**
OSTC				*e*		03 32 00.5	
DPC	**Dobruska-Polom**	**1.20**	**175**	*ePG*	**Pg**	**03 31 51.6**	**0.0**
DPC				*eSG*	**Sg**	**03 32 06.9**	**-0.2**
DPC				AMS	AMS	03 32 10.0	
	comp=Z,15μm,4.1s						
DPC	**Dobruska-Polom**	**1.20**	**175**	*ePg*	**Pg**	**03 31 51.4**	**-0.2**
DPC				*eSg*	**Sg**	**03 32 06.8**	**-0.4**
DPC	**Dobruska-Polom**	**1.20**	**175**	*eP*	**Pg**	**03 31 51.6**	**0.0**
DPC				*e*		03 32 06.9	
DPC				MLR	MLR		
	comp=Z,15μm,4.1s						
PVCC	**Panska Ves**	**1.43**	**225**	*ePG*	**Pn**	**03 31 55.9**	**+0.1**
PVCC				*eSG*	**Sg**	**03 32 14.9**	**+0.4**
	comp=Z,9μm,1.0s						
PVCC	**Panska Ves**	**1.43**	**225**	*eP*	**Pn**	**03 31 55.9**	**+0.1**
PVCC				*e*		03 32 14.9	
PVCC				smax	smax		
	comp=N,9μm,1.0s						
KRLC	**Kraliky**	**1.52**	**165**	*ePG*	**Pn**	**03 31 57.2**	**+0.1**
KRLC				*eSG*	**Sg**	**03 32 15.2**	**-2.3**
	comp=N,10μm,1.4s						
KRLC	**Kraliky**	**1.52**	**165**	*eP*	**Pn**	**03 31 57.2**	**+0.1**
KRLC				*e*		03 32 15.2	
KRLC				smax	smax		
	comp=N,10μm,1.4s						
BRG	**Berggiesshubel**	**1.55**	**245**	Pn	**Pn**	**03 31 57.1**	**-0.3**
BRG				Pg	**Pg**	**03 31 59.2**	**+0.9**
BRG				Sg	**Sg**	**03 32 19.1**	**+0.8**
BRG				Amp		03 32 21.7	
	comp=Z,1μm,0.5s						
BRG	**Berggiesshubel**	**1.55**	**245**	*ePn*	**Pn**	**03 31 57.1**	**-0.3**
BRG				*ePg*	**Pg**	**03 31 59.2**	**+0.9**
BRG				*eSg*	**Sg**	**03 32 18.8**	**+0.5**
BRG	**Berggiesshubel**	**1.55**	**245**	P	**Pg**	**03 31 59.2**	**+0.9**
BRG						03 32 19.1	
BRG				smax	smax		
	comp=Z,1μm,0.5s						
RICC	**Richard**	**1.64**	**233**	*ePG*	**Pn**	**03 31 59.3**	**+0.6**
RICC				*eSG*	**Sg**	**03 32 21.9**	**+0.6**
	comp=Z,7μm,0.9s						
RUE	**Ruedersdorf**	**1.74**	**303**	*eP*	**Pn**	**03 32 00.3**	**+0.1**
GKP	**Gorka Klasztor**	**1.85**	**20**	*ePn*	**Pg**	**03 32 04.3**	**+0.3**
GKP				*ePg*	**Pb**	03 32 11.4	+8.1
GKP				*eSg*	**Sg**	**03 32 33.3**	**+5.3**
GKP	**Gorka Klasztor**	**1.85**	**20**	*eP*	**Pg**	**03 32 04.0**	**-0.1**
GOPC	**GO Pecny, Ondr**	**1.85**	**209**	*ePN*	**Pn**	**03 32 01.5**	**-0.1**
GOPC				*ePG*	**Pb**	**03 32 03.2**	**-0.1**
GOPC				*eSG*	**Sb**	**03 32 27.4**	**+0.4**
GOPC				AMS	AMS	03 32 40.0	
	comp=Z,10μm,4.4s						
GOPC	**GO Pecny, Ondr**	**1.85**	**209**	*eP*	**Pn**	**03 32 01.5**	**-0.1**
GOPC				*e*		03 32 27.4	
GOPC				MLR	MLR		
	comp=Z,10μm,4.4s						
PRU	**Pruhonice**	**1.87**	**214**	*ePN*	**Pn**	**03 32 01.4**	**-0.4**
PRU				*ePG*	**Pb**	**03 32 03.4**	**-0.2**
PRU				*eSG*	**Sb**	**03 32 28.4**	**+1.0**
PRU				AMS	AMS	03 32 40.0	
	comp=Z,13μm,4.1s						
PRU	**Pruhonice**	**1.87**	**214**	*eP*	**Pn**	**03 32 01.4**	**-0.4**
PRU				*e*		03 32 28.4	
PRU				MLR	MLR		
	comp=Z,13μm,4.1s						
FBE	**Freiberg**	**1.87**	**252**	*ePn*	**Pn**	**03 32 01.8**	**-0.1**
FBE				*ePg*	**Pg**	**03 32 04.6**	**+0.2**
FBE				*eSg*	**Sg**	**03 32 28.7**	**0.0**
RAC	**Raciborz**	**1.95**	**138**	*ePN*	**Pn**	**03 32 02.5**	**-0.5**
RAC				*ePG*	**Pg**	**03 32 06.4**	**+0.4**
RAC				*eSG*	**Sg**	**03 32 33.2**	**+2.0**
RAC	**Raciborz**	**1.95**	**138**	*eP*	**Pn**	**03 32 02.5**	**-0.5**
RAC				*e*		03 32 33.2	
HSKC	**Hora Svate Kat**	**1.96**	**242**	*ePG*	**Pb**	**03 32 04.9**	**-0.3**
HSKC				*eSG*	**Sb**	**03 32 30.3**	**+0.1**
	comp=Z,5μm,1.2s						
HSKC				AMS	AMS	03 32 40.0	
	comp=Z,7μm,5.4s						
MORC	**Moravsky Berou**	**1.98**	**153**	⇑P	**Pn**	**03 32 04.0**	**+0.6**
MORC				⇑S	**Sb**	**03 32 31.0**	**+0.4**
MORC	**Moravsky Berou**	**1.98**	**153**	Pn	**Pn**	**03 32 02.8**	**-0.5**
MORC	**Moravsky Berou**	**1.98**	**153**	*ePn*	**Pn**	**03 32 03.2**	**-0.2**
	baz=335						
MORC				*eSg*	**Sb**	**03 32 31.0**	**+0.4**
	baz=335						
MORC	**Moravsky Berou**	**1.98**	**153**	*ePN*	**Pn**	**03 32 03.3**	**-0.2**
MORC				*eSG*	**Sb**	**03 32 31.1**	**+0.4**
MORC	**Moravsky Berou**	**1.98**	**153**	*ePn*	**Pn**	**03 32 03.2**	**-0.2**
MORC				*eSg*	**Sb**	**03 32 31.7**	**+1.1**
MORC	**Moravsky Berou**	**1.98**	**153**	P	**Pn**	**03 32 04.0**	**+0.6**
CLL	**Collm**	**1.99**	**264**	Pn	**Pn**	**03 32 02.7**	**-0.8**
CLL	**Collm**	**1.99**	**264**	*i* Pn	**Pn**	**03 32 03.4**	**-0.1**
CLL				*i* Pg	**Pg**	**03 32 07.4**	**+0.6**
CLL				*i* x	x	03 32 09.5	
CLL				*ex*	x	03 32 11.0	
CLL				*i* x	x	03 32 21.4	
CLL				*i* Sn	**Sn**	**03 32 23.4**	**-5.7**
CLL				*i* Sg	**Sg**	**03 32 32.7**	**+0.2**
	comp=Z,2μm,0.9s						
CLL				*ex*	x	03 32 41.0	
CLL				AMS	AMS	03 33 00.0	
CLL	**Collm**	**1.99**	**264**	*ePn*	**Pn**	**03 32 03.1**	**-0.5**
CLL				*ePg*	**Pg**	**03 32 07.3**	**+0.5**
CLL				*eSg*	**Sg**	**03 32 33.5**	**+0.9**
CLL	**Collm**	**1.99**	**264**	*i* P	**Pn**	**03 32 03.4**	**-0.1**
CLL				*i*		03 32 32.7	
OKC	**Ostrava-Krasne**	**2.12**	**143**	*ePn*	**Pn**	**03 32 04.9**	**-0.5**
OKC				*ePg*	**Pg**	**03 32 09.4**	**+0.1**
OKC				*eSg*	**Sb**	**03 32 36.0**	**+1.1**
VRAC	**Vranov**	**2.25**	**173**	⇑P	**Pn**	**03 32 07.7**	**+0.4**
VRAC				⇓S	**Sb**	**03 32 39.2**	**+0.5**
VRAC	**Vranov**	**2.25**	**173**	*ePn*	**Pn**	**03 32 07.1**	**-0.1**
	baz=353						
VRAC				*eSg*	**Sb**	**03 32 39.9**	**+1.2**
	comp=Z,2μm,1.3s,baz=353						
VRAC	**Vranov**	**2.25**	**173**	Pn	**Pn**	**03 32 07.1**	**-0.1**
	comp=Z,9.8nm,0.3s,baz=351,slow=14,SNR=108						
VRAC				Lg	Lg	03 32 39.2	
	comp=Z,18nm,0.3s,baz=74,slow=20,SNR=4.8						
	comp=Z,498nm,0.9s						
VRAC	**Vranov**	**2.25**	**173**	P	**Pn**	**03 32 07.6**	**+0.4**
TREC	**Trest**	**2.29**	**191**	*ePG*	**Pb**	**03 32 11.7**	**+0.8**
TREC				*eSG*	**Sb**	**03 32 40.0**	**+1.0**
TREC	**Trest**	**2.29**	**191**	*eP*	**Pb**	**03 32 11.7**	**+0.8**
TREC				*e*		03 32 40.7	
KRUC	**Moravsky**	**2.49**	**176**	*ePn*	**Pn**	**03 32 10.3**	**-0.1**
	baz=357						
KRUC				*eSg*	**Sb**	**03 32 47.5**	**+2.1**
	comp=Z,3μm,1.6s,baz=357						
KRUC	**Moravsky**	**2.49**	**176**	P	**Pn**	**03 32 10.6**	**+0.2**
TANN	**Tannenbergstha**	**2.60**	**246**	*ePn*	**Pn**	**03 32 12.2**	**+0.2**
TANN				*ePg*	**Pg**	**03 32 19.3**	**+0.9**
TANN				*eSg*	**Sg**	**03 32 51.1**	**-0.9**
OJC	**Ojcow**	**2.66**	**118**	*ePn*	**Pn**	**03 32 11.3**	**-1.5**
OJC				*i* Pg	**Pg**	**03 32 19.1**	**-0.4**
OJC				*eSg*	**Sg**	**03 32 55.0**	**+1.1**
OJC	**Ojcow**	**2.66**	**118**	Pn	**Pn**	**03 32 11.5**	**-1.2**
OJC	**Ojcow**	**2.66**	**118**	*ePn*	**Pn**	**03 32 11.7**	**-1.0**
OJC				*ePg*	**Pg**	**03 32 20.8**	**+1.2**
OJC	**Ojcow**	**2.66**	**118**	P	**Pn**	**03 32 11.5**	**-1.2**
WERD	**Werda**	**2.67**	**247**	*ePn*	**Pn**	**03 32 13.2**	**+0.3**
WERD				*ePg*	**Pg**	**03 32 20.5**	**+0.8**
WERD				*eSg*	**Sg**	**03 32 53.4**	**-0.9**
JAVC	**Velka Javorina**	**2.86**	**160**	*ePn*	**Pn**	**03 32 15.6**	**+0.1**
	baz=341						
JAVC				*eSg*	**Sb**	**03 32 58.7**	**+2.7**
	comp=Z,2μm,1.1s,baz=341						
BEL	**Belsk**	**2.90**	**82**	*ePn*	**Pn**	**03 32 18.3**	**+2.3**
BEL				*ePg*	Pg	03 32 33.8	+10
BEL				*eSg*	Sg	03 33 15.3	+14
KHC	**Kasperske Hory**	**2.93**	**215**	Pn	**Pn**	**03 32 16.0**	**-0.5**
KHC	**Kasperske Hory**	**2.93**	**215**	*ePN*	**Pn**	**03 32 16.6**	**+0.1**
KHC				*ePG*	**Pb**	**03 32 22.8**	**+1.1**
KHC				*eSN*	**Sn**	**03 32 51.1**	**-1.2**
KHC				*eSG*	**Sb**	**03 33 00.7**	**+2.7**
	comp=Z,1μm,0.8s						
KHC				AMS	AMS	03 33 20.0	
	comp=Z,5μm,4.9s						
KHC	**Kasperske Hory**	**2.93**	**215**	*eP*	**Pn**	**03 32 16.6**	**+0.1**
KHC				*e*		03 32 51.1	
KHC				smax	smax		
	comp=N,1μm,0.8s						
KHC				MLR	MLR		
	comp=Z,5μm,4.9s						
CKRC	**Cesky Krumlov**	**2.98**	**204**	*ePN*	**Pn**	**03 32 17.4**	**+0.3**
CKRC				*ePG*	**Pb**	**03 32 23.3**	**+0.8**
CKRC				*eSG*	**Sb**	**03 33 01.7**	**+2.3**
	comp=Z,2μm,1.0s						
CKRC				AMS	AMS	03 33 20.0	
	comp=Z,6μm,5.1s						
CKRC	**Cesky Krumlov**	**2.98**	**204**	*eP*	**Pn**	**03 32 17.4**	**+0.3**
CKRC				*e*		03 33 01.7	
CKRC				smax	smax		
	comp=N,2μm,1.0s						
CKRC				MLR	MLR		
	comp=Z,6μm,5.1s						
MOX	**Moxa**	**3.00**	**254**	*ePn*	**Pn**	**03 32 17.7**	**+0.2**
MOX				*ePg*	**Pg**	**03 32 26.4**	**+0.3**
MOX				*eSg*	**Sg**	**03 33 06.0**	**+0.9**
MANZ	**Manzenberg**	**3.01**	**240**	*ePn*	**Pn**	**03 32 18.0**	**+0.5**
MANZ				*ePg*	**Pg**	**03 32 26.9**	**+0.7**
MANZ				*eSg*	**Sg**	**03 33 05.4**	**+0.1**
ROTZ	**Rotzenmuhle**	**3.08**	**236**	*ePn*	**Pn**	**03 32 18.4**	**-0.1**
ROTZ				*ePg*	**Pg**	**03 32 27.8**	**+0.1**
ROTZ				*eSg*	**Sb**	**03 33 05.5**	**+3.1**
GEC2	**GERESS Array S**	**3.13**	**211**	Pn	**Pn**	**03 32 19.1**	**-0.1**
GEC2	**GERESS Array S**	**3.13**	**211**	*ePn*	**Pn**	**03 32 19.0**	**-0.3**
GEC2				*ePg*	**Pg**	**03 32 28.2**	**-0.4**
GEC2				*eSg*	**Sg**	**03 33 07.5**	**-1.6**
GERES	**GERESS Array B**	**3.13**	**211**		**Pn**	**03 32 18.7**	**-0.6**
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**03 32 19.3**	**0.0**
	comp=Z,7.2nm,0.3s,baz=30,slow=12,SNR=105						
GERES				Pg	**Pb**	**03 32 26.9**	**+1.8**
	comp=Z,25nm,0.3s,baz=24,slow=17,SNR=98						
GERES				Lg	Lg	03 33 05.2	
	comp=Z,54nm,0.3s,baz=36,slow=26,SNR=12						
	comp=Z,20nm,0.5s						
SMOL	**Smolenice**	**3.14**	**164**	*eP*	**Pn**	**03 32 21.3**	**+1.9**
WET	**Wettzell**	**3.19**	**222**	*ePn*	**Pn**	**03 32 20.2**	**+0.1**
WET				*ePg*	**Pg**	**03 32 29.8**	**+0.1**
WET				Sn	**Sn**	**03 32 56.9**	**-1.9**
WET				*eSg*	**Sg**	**03 33 09.8**	**-1.3**
LANS	**Liptovska Anna**	**3.20**	**137**	*eP*	**Pn**	**03 32 20.8**	**+0.6**
LANS	**Liptovska Anna**	**3.20**	**137**	*ePN*	**Pn**	**03 32 20.8**	**+0.6**
LANS				*ePG*	**Pg**	**03 32 29.0**	**-0.9**
LANS				*eSG*	**Sg**	**03 33 12.7**	**+1.4**
MODS	**Modra-Piesok**	**3.25**	**167**	*eP*	**Pn**	**03 32 22.5**	**+1.6**
MODS	**Modra-Piesok**	**3.25**	**167**	*ePN*	**Pn**	**03 32 22.5**	**+1.6**
MODS				*ePG*	**Pg**	**03 32 30.9**	**-0.1**
MODS				*eSG*	**Sg**	**03 33 14.1**	**+1.0**
NIE	**Niedzica**	**3.39**	**127**	*ePn*	**Pn**	**03 32 25.9**	**+3.0**
NIE				*i* Pg	**Pg**	**03 32 34.2**	**+0.6**
NIE				*eSg*	**Sg**	**03 33 18.7**	**+1.1**
ZST	**Bratislava**	**3.41**	**169**	*eP*	**Pn**	**03 32 24.1**	**+1.1**
ZST	**Bratislava**	**3.41**	**169**	*ePN*	**Pn**	**03 32 24.1**	**+1.1**
ZST				*ePG*	**Pg**	**03 32 33.4**	**-0.5**
ZST				*eSG*	**Sg**	**03 33 17.4**	**-0.6**
RGN	**Rugen**	**3.46**	**331**	Pn	**Pn**	**03 32 22.8**	**-0.9**
RGN	**Rugen**	**3.46**	**331**	*eS*	**Sn**	**03 33 04.6**	**-0.7**
VYHS	**Vyhne**	**3.51**	**149**	*eP*	**Pn**	**03 32 24.5**	**+0.1**
VYHS	**Vyhne**	**3.51**	**149**	*ePN*	**Pn**	**03 32 24.4**	**+0.1**
VYHS				*ePG*	**Pg**	**03 32 37.4**	**+1.6**
CLZ	**Clausthal**	**3.61**	**277**	*ePn*	**Pn**	**03 32 27.0**	**+1.1**
CLZ				*ePg*	**Pg**	**03 32 39.2**	**+1.4**
CLZ				*eSg*	**Sg**	**03 33 25.9**	**+1.2**
CONA	**Conrad Observa**	**3.62**	**183**	*ePn*	**Pn**	**03 32 26.5**	**+0.4**
	comp=Z,31nm,0.5s,SNR=172						
CONA				*eSg*	**Sg**	**03 33 24.8**	**-0.2**
	comp=Z,803nm,1.1s						
GRA1	**Grafenberg Arr**	**3.65**	**241**	Pn	**Pn**	**03 32 26.8**	**+0.5**
GRF	**Grafenberg Arr**	**3.65**	**241**	*ePn*	**Pn**	**03 32 27.2**	**+0.9**
GRF				*eSg*	**Sg**	**03 33 24.6**	**-1.2**
GRF	**Grafenberg Arr**	**3.65**	**241**	P	**Pn**	**03 32 26.8**	**+0.5**
GRFO	**Grafenberg**	**3.65**	**241**		**Pn**	**03 32 27.1**	**+0.7**
GRFO	**Grafenberg**	**3.65**	**241**	P	**Pn**	**03 32 27.1**	**+0.7**
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P	**Pn**	**03 32 26.3**	**-0.1**
BSD				*eS*	**Sn**	**03 33 06.9**	**-3.2**
RONA	**Rosalia, Austr**	**3.85**	**179**	*i* Pn	**Pn**	**03 32 29.1**	**0.0**
	comp=Z,75nm,1.0s,SNR=48						
RONA				Sg	**Sg**	**03 33 34.5**	**+2.2**
	comp=Z,253nm,0.5s						
SOP	**Sopron**	**3.87**	**176**	P	**Pn**	**03 32 30.2**	**+0.8**
MOA	**Molln**	**3.90**	**199**	*ePn*	**Pn**	**03 32 30.0**	**+0.2**
	comp=Z,26nm,0.5s,SNR=212						
MOA				*eSg*	**Sg**	**03 33 32.6**	**-1.1**
	comp=Z,0.1nm,0.0s						
UBBA	**Unterbreizbach**	**3.94**	**262**	Pn	**Pn**	**03 32 30.8**	**+0.5**
UBBA				Pg	**Pg**	**03 32 45.8**	**+1.6**
UBBA				Sg	**Sg**	**03 33 36.7**	**+1.5**
SRO	**Srobarova**	**3.99**	**159**	*eSG*	**Sg**	**03 33 38.3**	**+1.6**
KECS	**Kecovo**	**4.14**	**136**	*eP*	**Pn**	**03 32 32.9**	**-0.2**
KECS	**Kecovo**	**4.14**	**136**	*ePN*	**Pn**	**03 32 32.9**	**-0.2**
KECS				*ePG*	**Pg**	**03 32 50.0**	**+2.0**
BIOA	**Bad Ischl, Aus**	**4.19**	**204**	*i* Pn	**Pn**	**03 32 34.0**	**+0.2**
	comp=Z,38nm,0.6s,SNR=67						
BIOA				Sg	**Sg**	**03 33 46.0**	**+2.8**
	comp=Z,267nm,0.4s						
BSEG	**Bad Segeberg**	**4.28**	**306**	Pn	**Pn**	**03 32 34.4**	**-0.6**
CRVS	**Cervenica-Dubn**	**4.31**	**126**	*eP*	**Pn**	**03 32 36.3**	**+0.9**
CRVS	**Cervenica-Dubn**	**4.31**	**126**	*ePN*	**Pn**	**03 32 36.3**	**+0.9**
CRVS				*ePG*	**Pg**	**03 32 52.6**	**+1.4**
CRVS				*e*		04 04 32.5	
ARSA	**Arzberg**	**4.32**	**186**	*ePn*	**Pn**	**03 32 36.4**	**+0.9**
	comp=Z,22nm,0.8s,SNR=39						
ARSA				Sg	**Sg**	**03 33 48.9**	**+1.7**
	comp=Z,520nm,0.9s						
PSZ	**Piszkesteto**	**4.36**	**145**	⇑P	**Pn**	**03 32 38.0**	**+1.8**
PSZ	**Piszkesteto**	**4.36**	**145**	Pn	**Pn**	**03 32 36.7**	**+0.5**
PSZ	**Piszkesteto**	**4.36**	**145**	P	**Pn**	**03 32 38.0**	**+1.8**
LUNU	**Lund**	**4.40**	**340**	*i* P	**Pn**	**03 32 36.5**	**-0.1**
LUNU				*eS*	**Sn**	**03 33 27.8**	**-0.8**
KWP	**Kalwaria Pacla**	**4.59**	**112**	Pn	**Pn**	**03 32 39.6**	**+0.3**
KWP				*ePg*	**Pg**	**03 32 53.8**	**-2.7**
KWP				*eSg*	**Sg**	**03 33 58.9**	**+2.9**
KWP	**Kalwaria Pacla**	**4.59**	**112**		**Pn**	**03 32 39.6**	**+0.3**
KWP	**Kalwaria Pacla**	**4.59**	**112**	P	**Pn**	**03 32 39.6**	**+0.3**
LESA	**Schwarzleotal**	**4.71**	**210**	*i* Pn	**Pn**	**03 32 41.3**	**+0.4**
	comp=Z,25nm,0.9s						
LESA				Sg	**Sg**	**03 34 04.1**	**+4.4**
	comp=Z,689nm,1.3s						
KOLS	**Kolonicke sedl**	**4.71**	**121**	*eP*	**Pn**	**03 32 41.3**	**+0.3**
KOLS	**Kolonicke sedl**	**4.71**	**121**	*ePN*	**Pn**	**03 32 41.3**	**+0.3**
KOLS				*ePG*	**Pg**	**03 33 02.3**	**+3.4**
BLEU	**Blekinge**	**4.77**	**358**	*i* P	**Pn**	**03 32 42.2**	**+0.5**
BLEU				*i*		03 33 04.3	
KBA	**Koelnbreinsper**	**4.83**	**203**	*i* Pn	**Pn**	**03 32 43.6**	**+0.9**
	comp=Z,26nm,0.5s,SNR=59						
KBA				*eSg*	**Sg**	**03 34 06.4**	**+2.6**
	comp=Z,461nm,0.6s						
KBA	**Koelnbreinsper**	**4.83**	**203**	P	**Pn**	**03 32 43.8**	**+1.0**
KASTN	**Kahler Asten**	**4.86**	**269**	Pn	**Pn**	**03 32 43.4**	**+0.3**
KASTN				Pg	**Pg**	**03 33 05.0**	**+3.2**
KASTN				Sg	**Sg**	**03 34 05.5**	**+0.8**
BJUU	**Bjuv**	**4.90**	**339**	*i* P	**Pn**	**03 32 43.0**	**-0.5**
SOKA	**Soboth**	**4.93**	**189**	*i* Pn	**Pn**	**03 32 44.2**	**+0.2**
	comp=Z,5.5nm,0.4s,SNR=19						
SOKA				*eSg*	**Sg**	**03 34 09.4**	**+2.6**
	comp=Z,414nm,1.5s						
SUW	**Suwalki**	**4.93**	**57**		**Pn**	**03 32 44.5**	**+0.7**
SUW	**Suwalki**	**4.93**	**57**	*eP*	**Pn**	**03 32 45.5**	**+1.6**
SUW	**Suwalki**	**4.93**	**57**	P	**Pn**	**03 32 44.5**	**+0.7**
PERS	**Pernice**	**4.96**	**188**	*i* Pn	**Pn**	**03 32 44.5**	**+0.1**
BSZH	**Besenyszg**	**5.02**	**146**	⇓P	**Pn**	**03 32 46.4**	**+1.2**
TNS	**Taunus Mts**	**5.06**	**258**	Pn	**Pn**	**03 32 46.2**	**+0.4**
TNS				Pg	**Pg**	**03 33 06.7**	**+1.2**
TNS				Sg	**Sg**	**03 34 11.2**	**+0.1**
BEHE	**Becsehely**	**5.09**	**175**	*ePn*	**Pn**	**03 32 47.4**	**+1.2**
DEL	**Delary**	**5.12**	**346**	*eP*	**Pn**	**03 32 46.8**	**+0.3**
DEL	**Delary**	**5.12**	**346**	*i* P	**Pn**	**03 32 46.0**	**-0.5**
OBKA	**Obir**	**5.15**	**192**	*ePn*	**Pn**	**03 32 47.8**	**+0.8**
	comp=Z,14nm,0.9s,SNR=35						
OBKA				Sg	**Sg**	**03 34 16.0**	**+2.1**
	comp=Z,777nm,1.0s						
WATA	**Walderalm**	**5.17**	**217**	*ePn*	**Pn**	**03 32 47.7**	**+0.4**
	comp=Z,58nm,0.6s,SNR=63			

AHRW Bad Neuenahr-A 5.82 264 Pn **Pn 03 32 56.7 +0.6**
SABO M.te Sabotino 5.82 198 Pn **Pn 03 32 55.5 -0.7**
FABU Falkenberg 5.83 341 *i* P **Pn** 03 32 55.7 -0.5
FABU *e* 03 33 21.6
DAVA Damuels 5.91 226 *i* Pn **Pn 03 32 57.3 -0.2**
comp=Z,9.9nm,0.5s,SNR=28
DAVA Sg **Sg 03 34 43.8 +5.4**
comp=Z,182nm,0.8s
CEY Cerknica 5.92 192 *e*Pn **Pn 03 32 57.9 +0.3**
MOSL Moslavina 5.95 176 *e*Pn **Pn 03 32 57.5 -0.4**
OZLJ Ozalj 5.95 185 *e*Pn **Pn 03 32 59.2 +1.3**
BFO Black Forest 5.99 241 Pn **Pn 03 32 57.1 -1.4**
BFO Black Forest 5.99 241 Pn **Pn 03 32 57.5 -1.1**
BFO Pg **Pg 03 33 23.5 +0.2**
BFO Sg **Sg 03 34 43.1 +2.1**
comp=Z,90nm,1.4s
BFO Black Forest 5.99 241 P **Pn 03 32 57.1 -1.4**
BOJS Bojanci 6.08 186 *e*Pn **Pn 03 32 60.0 +0.3**
BOJS Bojanci 6.08 186 *e*Pn **Pn 03 33 00.2 +0.6**
PABE Paberze 6.12 47 Pn **Pn 03 33 01.7 +1.6**
PABE Paberze 6.12 47 *e*P **Pn 03 33 01.9 +1.8**
HILG Hillesheim 6.13 262 *e*Pn **Pn 03 33 01.0 +0.6**
BMR Baia Mare 6.14 126 ⇓P **Pn 03 33 01.3 +0.7**
BMR Baia Mare 6.14 126 P **Pn 03 33 01.2 +0.7**
MESR Meseseni 6.25 132 ⇓P **Pn 03 33 03.5 +1.5**
SLE Schleitheim 6.25 236 P **Pn 03 33 01.7 -0.4**
CTI Castel Tesino 6.25 210 Pn **Pn 03 33 03.2 +1.0**
CTI Castel Tesino 6.25 210 P **Pn 03 33 03.2 +1.0**
FUORN Ofenpass-Fuorn 6.27 220 Pn **Pn 03 33 03.2 +0.7**
KLL Kalltalsperre 6.27 266 *e*Pn **Pn 03 33 02.4 +0.1**
DAVOX Davos/Dischmat 6.30 223 Pn **Pn 03 33 03.3 +0.4**
comp=Z,1.5nm,0.3s,baz=43,slow=13,SNR=40
DAVOX Sn **Sn 03 34 15.1 -0.5**
comp=Z,2.2nm,0.3s,baz=64,slow=12,SNR=3.1
DAVOX Lg Lg 03 34 47.1
comp=Z,3.6nm,0.3s,baz=0.6,slow=15,SNR=4.7
comp=Z,13nm,0.5s
DREG Dreilaegerbach 6.32 266 *e*Pn **Pn 03 33 02.7 -0.2**
ONAU Onsala 6.36 339 *i* P **Pn 03 33 03.5 -0.1**
BTNL Ternell 6.40 265 *d*P **Pn 03 33 04.9 +0.8**
BTNL *d*S **Sg 03 34 55.0 +1.1**
SIRR Siria 6.40 143 ⇓P **Pn 03 33 05.1 +0.9**
DRGR 6.41 135 ⇓P **Pn 03 33 05.1 +0.8**
DRGR 6.41 135 P **Pn 03 33 05.1 +0.8**
BORU Boraas 6.41 343 *i* P **Pn 03 33 04.2 -0.1**
MUD Monsted U'grnd 6.42 323 *i* P **Pn 03 33 07.0 +2.8**
MEM Membach 6.47 266 *d*P **Pn 03 33 05.3 +0.3**
HGN Heimansgroeve 6.48 267 Pn **Pn 03 33 05.8 +0.6**
HGN Sg **Sg 03 34 56.9 +0.2**
comp=Z,49nm,1.7s
BHOU Houvegnez 6.53 263 *d*P **Pn 03 33 06.4 +0.6**
BHOU *d*S **Sb 03 34 41.1 -0.4**
CDF Champ du Feu 6.53 245 *e*Pn **Pn 03 33 04.3 -1.7**
CDF Champ du Feu 6.53 245 *e*Pg **Pg 03 33 31.1 -2.6**
CDF *e*Sn **Sn 03 34 14.6 -6.6**
CDF *e*Sg **Sg 03 34 54.7 -3.6**
comp=Z,2µm,1.2s
BEBN Eben Emael 6.64 268 *d*P **Pn 03 33 08.1 +0.8**
BEBN *d*S **Sg 03 35 03.3 +1.7**
WLF Walferdange 6.64 257 Pn **Pn 03 33 07.3 -0.2**
WLF Walferdange 6.64 257 *d*P **Pn 03 33 07.2 -0.2**
WLF *d*S **Sg 03 35 02.8 +1.0**
WLF Walferdange 6.64 257 Pn **Pn 03 33 07.9 +0.4**
WLF Sg **Sg 03 35 06.6 +4.7**
comp=Z,64nm,1.1s
WLF Walferdange 6.64 257 P **Pn 03 33 07.3 -0.2**
SMRN Sveta Marina 6.65 192 *i* Pn **Pn 03 33 08.0 +0.5**
MARR Marisel-Cluj 6.68 134 ⇓P **Pn 03 33 09.0 +1.0**
ECH Echery 6.70 244 **Pn 03 33 06.7 -1.6**
ECH Echery 6.70 244 P **Pn 03 33 06.7 -1.6**
BSTI Sart Tilman 6.75 266 *d*P **Pn 03 33 10.2 +1.4**
BSTI *d*S **Sg 03 35 07.2 +2.0**
TUE Stuetta 6.77 224 Pn **Pn 03 33 10.0 +0.6**
BLY Banja Luka 6.83 174 *e*Pn **Pn 03 33 10.2 +0.1**
BRJN Brijuni 6.83 195 *e*Pn **Pn 03 33 10.2 +0.2**
FRGS Fruska Gora 6.84 158 ⇓P **Pn 03 33 11.2 +1.1**
RABC Rab 6.86 188 *e*Pn **Pn 03 33 11.5 +1.1**
CJR Cluj-Napoca 6.87 132 ⇑P **Pn 03 33 11.8 +1.2**
CJR Cluj-Napoca 6.87 132 P **Pn 03 33 11.7 +1.2**
TEOL Teolo 6.87 207 **Pn 03 33 11.4 +0.9**
BZS Buzias 6.95 147 ⇓P **Pn 03 33 12.0 +0.4**
BZS Buzias 6.95 147 P **Pn 03 33 12.4 +0.8**
BCLA Clavier 6.95 265 *d*P **Pn 03 33 12.4 +0.8**
BCLA *d*PP **PnPn 03 33 20.2 +1.4**
BCLA *d*S **Sb 03 34 53.3 -0.2**
VIKU Vikbolandet 6.98 2 *e*P **Pn 03 33 13.0 +1.0**
SURR Surduc 7.01 143 ⇑P **Pn 03 33 13.1 +0.6**
NVLJ Novalja 7.04 188 *e*Pn **Pn 03 33 13.4 +0.5**
BUR08 Bucovina Ar. S 7.05 120 Pn **Pn 03 33 14.1 +0.9**
RCHB Rochefort 7.06 263 *d*P **Pn 03 33 13.9 +0.8**
RCHB *d*PP **PnPn 03 33 22.0 +1.6**
A050A Klekovaca 7.07 178 *e*Pn **Pn 03 33 14.1 +0.7**
BURAR Bucovina Array 7.08 120 ⇑P **Pn 03 33 14.8 +1.2**
BURAR Bucovina Array 7.08 120 Pn **Pn 03 33 14.6 +1.1**
BURAR Bucovina Array 7.08 120 P **Pn 03 33 14.7 +1.2**
BGES Gesves 7.09 265 *d*P **Pn 03 33 14.6 +1.0**
BGES *d*PP **PnPn 03 33 22.5 +1.7**
HINF Hinteralfeld 7.10 242 *e*Pn **Pn 03 33 11.6 -2.1**
HINF Hinteralfeld 7.10 242 *e*Pg **Pg 03 33 41.3 -3.2**
HINF *e*Sg **Sg 03 35 12.3 -4.1**
comp=Z,1µm,1.3s
IIGN Ignalina 7.12 54 *e*P **Pn 03 33 14.8 +0.9**
MGRS Mrkonjic Grad 7.16 175 *e*Pn **Pn 03 33 15.3 +0.8**
ISAL Salakas 7.17 52 *e*P **Pn 03 33 16.6 +1.9**
DEV Deva 7.21 139 ⇑P **Pn 03 33 16.6 +1.4**
DEV Deva 7.21 139 P **Pn 03 33 16.6 +1.4**
HAU Haudompre 7.27 245 *e*Pn **Pn 03 33 14.2 -1.9**
HAU Haudompre 7.27 245 *e*Pg **Pg 03 33 44.7 -3.2**
HAU *e*Sg **Sg 03 35 17.7 -4.3**
comp=Z,1µm,1.4s
VIRC Vir 7.29 186 *e*Pn **Pn 03 33 17.1 +0.7**
BMRD Maredsous 7.31 265 *d*P **Pn 03 33 17.5 +1.0**
BMRD *d*S **Sb 03 35 04.3 +0.4**
IZAR Zarasai 7.33 51 *e*P **Pn 03 33 19.7 +3.0**
GIVF Givet 7.33 263 *e*Pn **Pn 03 33 15.4 -1.4**
GIVF *e*Sn **Sn 03 34 32.8 -7.8**
GIVF *e*Sg **Sg 03 35 18.5 -5.2**
comp=Z,901nm,1.1s
PAGF Fort de Pagny 7.35 250 *e*Pn **Pn 03 33 15.3 -1.9**
PAGF *e*Sg **Sg 03 35 19.9 -4.7**
comp=Z,2µm,1.4s
DOU Dourbes 7.47 263 *d*P **Pn 03 33 19.6 +0.9**
DOU *d*S **Sb 03 35 06.1 -2.4**
GZR Gura Zlata 7.56 142 ⇑P **Pn 03 33 21.3 +1.1**
GZR Gura Zlata 7.56 142 P **Pn 03 33 21.2 +1.1**
DUGI Dugi Otok 7.59 186 *e*Pn **Pn 03 33 21.0 +0.5**
MNK Minsk 7.67 63 *i* P **Pn 03 33 19.9 -1.5**
comp=E,6.0nm,0.9s
MNK *i* P **Pn 03 33 19.9 -1.5**
comp=N,7.0nm,0.9s
MNK *i* P **Pn 03 33 19.9 -1.5**
comp=Z,17nm,0.8s,baz=252
MNK *i* PP **PnPn 03 33 29.1 +0.4**
MNK *i* S **Sn 03 34 47.9 -1.0**
MNK *i* SS **SnSn 03 35 00.3 +0.5**
MNK *i* LQ LQ 03 35 38.6
MNK *i* LR LR 03 36 02.7
MNK *i* LRM MLR 03 36 17.5
comp=N,56nm,12.8s
MNK *i* LRM MLR 03 36 36.2
comp=Z,92nm,12.0s
MNK *i* LRM MLR 03 36 41.1
comp=E,29nm,11.7s
MNK Minsk 7.67 63 *i* P **Pn 03 33 19.9 -1.5**
MNK *i* S **Sn 03 34 47.8 -1.0**
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=Z,17nm,0.8s
MNK MLR MLR
comp=N,56nm,13.0s
MNK MLR MLR
comp=Z,92nm,12.0s
MNK MLR MLR
comp=E,29nm,12.0s
HAPS Han Pijesak,BI 7.69 165 *e*Pn **Pn 03 33 23.3 +1.3**
MDVR Moldovita 7.72 149 ⇓P **Pn 03 33 22.9 +0.7**
BAIF Baives 7.72 264 *e*Pn **Pn 03 33 21.9 -0.3**
BAIF *e*Sn **Sn 03 34 42.1 -8.1**
MEZF Maizieres J'vi 7.78 251 *e*Pn **Pn 03 33 23.6 +0.6**

MEZF *e*Sg **Sg 03 35 32.7 -5.4**
comp=E,1µm,1.3s
PRAR RASCA 7.78 119 ⇓P **Pn 03 33 24.6 +1.5**
SENIN Lac Senin/Sane 7.80 232 Pn **Pn 03 33 23.1 -0.4**
PRMA PARMA 7.83 212 Pn **Pn 03 33 24.7 +1.1**
LOT Lotru 7.92 137 ⇓P **Pn 03 33 25.1 0.0**
SFTF Sexfontaines 7.92 249 *e*Pn **Pn 03 33 22.8 -2.2**
SFTF *e*Sn **Sn 03 34 47.2 -8.1**
SFTF *e*Sg **Sg 03 35 37.4 -5.5**
comp=E,2µm,1.5s
ZCCA Zocca 7.99 208 **Pn 03 33 26.5 +0.5**
RUDO Rudo 8.22 163 *e*Pn **Pn 03 33 27.6 -1.5**
CABF La Chapelle 8.25 237 *e*Pn **Pn 03 33 27.2 -2.4**
CABF La Chapelle 8.25 237 *e*Pg **Pg 03 34 02.7 -3.9**
CABF *e*Sg **Sg 03 35 48.7 -4.7**
comp=E,2µm,1.2s
KIEV Kiev 8.26 91 ⇓P **Pn 03 33 29.6 +0.1**
KIEV Kiev 8.26 91 Pn **Pn 03 33 29.1 -0.5**
KIEV Kiev 8.26 91 P **Pn 03 33 29.6 +0.1**
DOPR Dopca 8.26 129 ⇑P **Pn 03 33 29.9 +0.2**
AKASG Malin Array Be 8.27 91 Pn **Pn 03 33 28.4 -1.2**
comp=E,4.3nm,0.3s,baz=277,slow=13,SNR=30
AKASG Sn **Sn 03 34 59.5 -4.1**
comp=E,6.1nm,0.3s,baz=277,slow=23,SNR=7.8
AKASG Lg Lg 03 35 54.6
comp=E,1.4nm,0.3s,baz=278,slow=27,SNR=3.6
comp=E,28nm,0.6s
AKBB Malin Array Si 8.27 91 Pn **Pn 03 33 29.1 -0.6**
AKBB Malin Array Si 8.27 91 *i* P **Pn 03 33 27.3 -2.4**
ARR Arges 8.36 134 ⇑P **Pn 03 33 31.5 +0.5**
OZUR 8.37 127 ⇓P **Pn 03 33 31.6 +0.5**
UPP Uppsala 8.37 5 *e*P **Pn 03 33 32.0 +0.9**
MTSE Matsula 8.41 28 *e*P **Pn 03 33 32.8 +1.1**
MSSA Maissana 8.49 214 Pn **Pn 03 33 33.4 +0.5**
VOIR 8.49 133 ⇑P **Pn 03 33 34.1 +1.1**
VOIR 8.49 133 P **Pn 03 33 34.0 +1.1**
TURR Turia 8.51 126 ⇑P **Pn 03 33 33.3 +0.2**
ONER Baraj Valea Uz 8.51 124 ⇑P **Pn 03 33 34.8 +1.7**
SNART Snartemo 8.53 326 *e*P **Pn 03 33 29.7 -3.5**
TESR Tescani 8.53 122 ⇑P **Pn 03 33 35.6 +2.2**
TESR Tescani 8.53 122 P **Pn 03 33 33.7 +0.3**
comp=E,56nm,1.5s,comp=E,694nm
OSSC Osservatorio P 8.68 204 **Pn 03 33 35.2 -0.2**
LPL La Plagne 8.69 230 *e*Pn **Pn 03 33 35.5 -0.2**
LPL La Plagne 8.69 230 P **Pn 03 33 35.8 +0.1**
LPG La Plagne 8.69 230 *e*Pn **Pn 03 33 35.9 +0.2**
LPG La Plagne 8.69 230 P **Pn 03 33 36.0 +0.2**
GUMA Gualdo di Mace 8.70 194 **Pn 03 33 35.1 -0.6**
HFS Hagfors 8.72 352 Pn **Pn 03 33 35.6 -0.3**
comp=E,1.1nm,0.3s,baz=167,slow=14,SNR=50
HFS Sn **Sn 03 35 11.3 -3.5**
comp=E,1.8nm,0.3s,baz=179,slow=26,SNR=5.7
HFS Lg Lg 03 36 12.2
comp=E,1.1nm,0.3s,baz=174,slow=29,SNR=2.4
comp=E,11nm,0.8s
STON Ston 8.74 173 *e*Pn **Pn 03 33 35.8 -0.4**
COVR Voineasa-Covas 8.75 127 ⇓P **Pn 03 33 38.3 +1.9**
MLR Muntele Rosu 8.88 129 ⇑P **Pn 03 33 39.2 +1.0**
MLR Muntele Rosu 8.88 129 **Pn 03 33 39.0 +0.8**
MLR Muntele Rosu 8.88 129 Pn **Pn 03 33 39.8 +1.6**
comp=E,0.2nm,0.3s,baz=170,slow=12,SNR=1.9
comp=E,1.6nm,0.6s
MLR Muntele Rosu 8.88 129 P **Pn 03 33 38.4 +0.2**
comp=E,17nm,1.5s,comp=E,338nm
AAL Aland 8.92 12 *e*P **Pn 03 33 39.3 +0.8**
KONO Kongsberg 8.93 338 *e*P **Pn 03 33 36.6 -2.1**
KONO Kongsberg 8.93 338 *i* P **Pn 03 33 38.0 -0.7**
NRCA Norcia 8.96 195 **Pn 03 33 38.8 -0.4**
PLOR3 Plostina Array 8.97 125 P **Pn 03 33 39.8 +0.4**
comp=E,18nm,1.2s
PLOR Plostina 8.97 125 ⇑P **Pn 03 33 40.6 +1.1**
PLOR Plostina 8.97 125 P **Pn 03 33 40.5 +1.1**
PLOR5 Plostina Array 8.98 125 P **Pn 03 33 40.0 +0.4**
comp=E,22nm,1.1s
VRI Vrincioaia 9.00 125 ⇓P **Pn 03 33 41.5 +1.7**
VRI Vrincioaia 9.00 125 P **Pn 03 33 41.5 +1.7**
VRI Vrincioaia 9.00 125 P **Pn 03 33 40.3 +0.5**
comp=E,9.9nm,1.1s,comp=E,192nm
LOR Lormes 9.09 247 *e*Pn **Pn 03 33 39.3 -1.7**
LOR *e*Sg Sn 03 36 14.4 +50
comp=E,717nm,1.3s
VSU Vasula 9.21 37 *ce*P **Pn 03 33 43.4 +0.9**
VSU pmax pmax
comp=Z,225nm,1.3s
MBDF Montbardon 9.26 226 *e*Pn **Pn 03 33 43.0 -0.5**
SSF Saint Saulge 9.40 246 *e*Pn **Pn 03 33 42.7 -2.6**
SSF *e*Sg Sn 03 36 24.1 +52
comp=Z,505nm,1.3s
SMF Signal de Mont 9.45 244 *e*Pn **Pn 03 33 44.0 -1.9**
SMF *e*Sg Sn 03 36 25.8 +53
comp=Z,499nm,1.2s
MILM Milestii Mici 9.48 114 *e*P **Pn 03 33 47.0 +0.7**
MILM *e*L L 03 37 40.0
MILM LRM MLR 03 38 12.0
comp=Z,450nm,10.0s
MILM Milestii Mici 9.48 114 *e*P **Pn 03 33 47.0 +0.7**
MILM MLR MLR
comp=Z,450nm,10.0s
ORIF Oris-en-Rattie 9.53 230 *e*Pn **Pn 03 33 46.7 -0.5**
NC602 NORSAR Array S 9.56 346 Pn **Pn 03 33 46.5 -1.0**
NC602 NORSAR Array S 9.56 346 *e*P **Pn 03 33 46.2 -1.2**
NC602 *e* 03 35 36.3
BLS5 Blasjo 9.62 329 *e*P **Pn 03 33 45.8 -2.4**
AVF Avril sur Loir 9.64 245 *e*Pn **Pn 03 33 46.2 -2.3**
AVF Avril sur Loir 9.64 245 *e*Pg Pn 03 34 27.8 +39
AVF *e*Sn Sn 03 35 28.0 -9.4
AVF *e*Sg 03 36 31.2
comp=Z,388nm,1.3s
CLF Chambon-Foret 9.65 254 Pn **Pn 03 33 48.4 -0.3**
INTR Introdacqua 9.66 190 Pn **Pn 03 33 47.3 -1.6**
ARBE Arbavere 9.67 31 *e*P **Pn 03 33 49.8 +1.0**
SBF Sospel 9.67 221 *e*Pn **Pn 03 33 49.0 0.0**
MEF Metsahovi 9.84 25 *e*P **Pn 03 33 52.4 +1.3**
KMY Karmoy 9.87 325 *e*P **Pn 03 33 50.1 -1.4**
NB2 NORSAR Subarra 9.90 346 Pn **Pn 03 33 50.3 -1.8**
comp=Z,3.8nm,0.8s,baz=162,slow=14
NB2 NORSAR Subarra 9.90 346 Pn **Pn 03 33 50.3 -1.8**
baz=162,slow=14
NOA NORSAR Array B 9.90 346 Pn **Pn 03 33 50.7 -1.5**
comp=Z,0.1nm,0.3s,baz=129,slow=16,SNR=22
NOA Sn Sn 03 35 34.2 -10
comp=Z,0.1nm,0.3s,baz=263,slow=19,SNR=3.8
NOA Lg Lg 03 36 42.0
baz=49,slow=16,SNR=4.4
NOA LR LR 03 38 26.0
comp=Z,72nm,21.3s,baz=25,slow=42
comp=Z,2.5nm,0.8s
ODD1 Odda 9.95 331 *e*P **Pn 03 33 51.6 -1.1**
RAF Rauma 9.99 16 *e*P **Pn 03 33 53.1 -0.2**
BGF Bois d'Agland 10.06 245 *e*Pn **Pn 03 33 51.8 -2.5**
BGF *e*Sg Sn 03 36 44.5 +57
comp=Z,785nm,1.4s
NC303 NORSAR Array S 10.06 347 **Pn 03 33 53.1 -1.1**
PURM Purcari 10.30 114 P **Pn 03 33 57.1 -0.5**
comp=Z,114nm,0.9s,comp=Z,2µm
SMRF Simiane la Rot 10.39 227 *e*Pn **Pn 03 33 56.9 -1.9**
LMR La Mourre 10.49 222 *e*Pn **Pn 03 33 59.4 -0.7**
PAOL Paolisi 10.57 187 Pn **Pn 03 34 00.8 -0.5**
TCF Toulx Ste Croi 10.57 246 *e*Pn **Pn 03 33 59.0 -2.4**
TCF *e*Sg 03 37 01.2
comp=Z,271nm,1.2s
CWF Charnwood Fore 10.80 283 *e*P **Pn 03 34 02.9 -1.6**
CWF IAmb IAmb 03 34 04.7
comp=Z,37nm,1.1s
LDF La Druitiere 10.87 261 *e*Pn **Pn 03 34 03.6 -1.8**
LBWR Ladybower, Pea 11.07 287 *e*P **Pn 03 34 05.6 -2.4**
LASF Ste Croix 11.14 233 *e*Pn **Pn 03 34 07.2 -1.8**
DOMB Dombas 11.21 343 *e*P **Pn 03 34 09.3 -0.7**
FINES FINESS Array B 11.32 25 Pn **Pn 03 34 09.6 -1.8**
FINES FINESS Array B 11.32 25 Pn **Pn 03 34 10.2 -1.2**
comp=Z,0.9nm,0.3s,baz=190,slow=9.7,SNR=45
FINES Sn **Sn 03 36 09.8 -8.6**
comp=Z,1.2nm,0.3s,baz=209,slow=17,SNR=3.3
comp=Z,23nm,0.8s
FIA1 FINESS Array S 11.32 25 Pn **Pn 03 34 09.8 -1.6**
EDMD Edmundbyers 11.36 294 *e*P **Pn 03 34 09.5 -2.5**
EDMD IAmb IAmb 03 34 10.7
comp=Z,80nm,1.2s
SUE Sulen 11.43 331 *e*P **Pn 03 34 09.1 -3.7**
PUL Pulkovo 11.46 39 *i* P **Pn 03 34 11.8 -1.6**
CAF Calviac 11.49 240 *e*Pn **Pn 03 34 12.3 -1.5**
CUC Castrocucco 11.55 181 Pn **Pn 03 34 14.5 -0.3**
KEF Keuruu 11.65 21 *e*P **Pn 03 34 16.0 +0.1**
HLM1 Long Mynd 11.77 282 *e*P **Pn 03 34 17.9 +0.2**

FOO Floro 11.77 333 *e*P Pn 03 34 12.1 -5.5
MFF Saint Martin d 11.78 252 *e*Pn **Pn 03 34 15.1 -2.6**
FOEL Foel Wylfa 11.95 284 *e*P **Pn 03 34 18.3 -1.8**
KESW Keswick, Cumbr 11.98 292 *e*P **Pn 03 34 17.8 -2.6**
KESW IAmb IAmb 03 34 18.9
comp=Z,34nm,0.9s
VAF Ylistaro 12.04 14 *e*P **Pn 03 34 22.4 +1.1**
EKA Eskdalemuir Ar 12.12 296 Pn **Pn 03 34 19.0 -3.4**
baz=98,slow=14
ESK Eskdalemuir 12.14 296 Pn **Pn 03 34 19.6 -3.1**
ESK Eskdalemuir 12.14 296 *e*P **Pn 03 34 19.9 -2.7**
ESK IAmb IAmb 03 34 20.7
comp=Z,26nm,1.3s
ESK Eskdalemuir 12.14 296 P **Pn 03 34 19.6 -3.1**
DRUM Mains of Drumt 12.15 304 *e*P **Pn 03 34 19.7 -3.0**
DRUM IAmb IAmb 03 34 21.3
comp=Z,238nm,1.3s
TBLU Trondheim 12.15 347 *e*P **Pn 03 34 18.3 -4.6**
LFF La Frestale 12.21 243 *e*Pn **Pn 03 34 21.7 -1.9**
EDI Edinburgh 12.25 299 *e*P **Pn 03 34 21.5 -2.7**
EDI IAmb IAmb 03 34 22.6
comp=Z,32nm,0.7s
TIP Timpagrande 12.37 178 P **Pn 03 34 26.4 +0.4**
comp=Z,14nm,1.4s
SGMF Saint Gilles 12.51 262 *e*Pn **Pn 03 34 25.0 -2.7**
NEWG New Galloway 12.69 294 *e*P **Pn 03 34 27.2 -3.0**
NEWG IAmb IAmb 03 34 27.9
comp=Z,31nm,0.9s
OBN Obninsk 12.70 66 ⇑P **Pn 03 34 27.7 -2.6**
OBN Obninsk 12.70 66 Pn **Pn 03 34 26.5 -3.8**
comp=Z,2.9nm,0.3s,baz=255,slow=7.4,SNR=13
OBN Sn **Sn 03 36 45.8 -6.5**
comp=Z,2.3nm,0.3s,baz=46,slow=23,SNR=3.9
OBN Lg Lg 03 38 16.4
comp=Z,1.5nm,0.3s,baz=102,slow=20,SNR=2.3
comp=Z,34nm,0.8s
OBN Obninsk 12.70 66 *d* *i*P **Pn 03 34 26.1 -4.2**
OBN *e*S **Sn 03 36 48.9 -3.4**
OBN pmax pmax
comp=Z,67nm,1.1s
OBN MLR MLR
comp=Z,149nm,14.0s
OBN Obninsk 12.70 66 P **Pn 03 34 27.6 -2.7**
comp=Z,65nm,1.3s,comp=Z,642nm
OBN Pn Pn 03 34 30.3 0.0
comp=Z,65nm,1.3s,comp=Z,642nm
VALR Valaam 12.73 34 P **Pn 03 34 29.0 -1.7**
INVG Invergeldie, C 12.84 300 *e*P **Pn 03 34 28.7 -3.5**
GAL1 Galloway 12.94 293 *e*P **Pn 03 34 30.6 -2.9**
GAL1 IAmb IAmb 03 34 31.2
comp=Z,29nm,0.9s
PGBU Glenifferbraes 12.95 297 *e*P **Pn 03 34 31.0 -2.7**
NSS Namsos 13.21 352 *e*P **Pn 03 34 34.6 -2.6**
NSS *e* 03 36 59.5
MOS Moscow 13.39 63 *e*P **Pn 03 34 35.3 -4.4**
MOS *e*S **Sn 03 37 01.9 -7.2**
MOS pmax pmax
comp=Z,131nm,1.2s
MOS pmax pmax
comp=E,117nm,1.1s
MOS pmax pmax
comp=Z,100nm,1.2s
MOS pmax pmax
comp=E,100nm,1.0s
SIM Simferopol' 13.64 112 *e*P **Pn 03 34 45.4 +2.1**
SIM *e*S **Sn 03 37 17.0 +1.5**
SIM pmax pmax
comp=Z,21nm,0.5s
SIM MLR MLR
comp=Z,310nm,21.2s
DSB Dublin 13.86 286 Pn **Pn 03 34 43.9 -2.2**
LPSR Galich'ya Gora 14.04 77 *e*P Pn 03 34 42.9 -5.6
LPSR *e*S **Sn 03 37 16.9 -8.0**
LPSR pmax pmax
comp=Z,90nm,0.8s
LPSR smax smax
comp=E,100nm,1.1s
VORR Voronezh 14.31 80 ⇑ *i*P Pn 03 34 47.7 -4.7
VORR S **Sn 03 37 25.1 -6.6**
VORR pmax pmax
comp=Z,93nm,1.2s
VSR Storozhevoye 14.36 82 *e*P Pn 03 34 45.2 -7.8
VSR pmax pmax
comp=Z,50nm,1.3s
VORD Divnogorie 14.49 83 *e*P Pn 03 34 48.0 -6.7
VORD pmax pmax
comp=Z,10.0nm,0.9s
STOK Stokkvaagen 14.92 355 *e*P **Pn 03 34 58.8 -1.7**
KONS Konsvik 15.08 355 *e*P **Pn 03 35 00.8 -1.9**
FAUS Fauske 15.89 359 *e*P **Pn 03 35 11.7 -1.6**
FAUS *e* 03 38 04.6
FAUS *i* 03 39 51.0
VRH Novokhopyorsk 15.95 81 *c* *i*P **Pn 03 35 08.3 -5.8**
VRH S **Sn 03 38 01.5 -10**
VRH pmax pmax
comp=Z,126nm,1.0s
STEI Steigen 16.45 359 *e*P **Pn 03 35 21.8 +1.4**
STEI *e*S **Sn 03 38 18.9 -4.4**
KEST Kesra 16.55 200 Pn **Pn 03 35 22.8 +0.8**
KEST Kesra 16.55 200 Pn **P 03 35 24.9 +0.2**
comp=Z,0.1nm,0.3s,baz=178,slow=0.7,SNR=13
SANT Santorini 16.56 153 Pn **Pn 03 35 23.4 +1.3**
SANT IAmb IAmb 03 35 28.8
comp=Z,110nm,1.5s
LOF Lofoten 16.69 357 *e*P **Pn 03 35 19.5 -4.0**
LOF *i* 03 40 15.8
BR131 Keskin Array S 16.95 127 Pn **Pn 03 35 25.9 -1.3**
BR131 Keskin Array S 16.95 127 P **Pn 03 35 25.9 -1.3**
BR131 pmax pmax
comp=Z,11nm,1.2s
BRTR Keskin Array B 16.95 127 Pn **Pn 03 35 25.6 -1.6**
BRTR Keskin Array B 16.95 127 Pn **Pn 03 35 27.1 0.0**
baz=324,slow=7.1
BRTR Keskin Array B 16.95 127 P **Pn 03 35 25.6 -1.6**
ADZR Andozero 17.01 35 *e*P **Pn 03 35 21.6 -5.9**
ADZR pmax pmax
comp=Z,46nm,1.1s
SOC Sochi 17.72 107 *e*P **Pn 03 35 33.1 -3.6**
SOC *e* 03 38 51.6
SOC pmax pmax
comp=Z,5.0nm,0.5s
SOC MLR MLR
comp=Z,297nm,16.0s
KTK1 Kautokeino 17.85 8 *e*P **Pn 03 35 35.8 -2.2**
KTK1 IAmb IAmb 03 35 36.8
comp=Z,108nm,1.5s
KTK1 *e*S **Sn 03 38 52.2 -5.2**
KTK1 *i* 03 40 57.5
APA Apatity 18.17 21 ⇓ *i*P **Pn 03 35 38.1 -3.9**
APA *i* 03 38 58.9
APA pmax pmax
comp=Z,27nm,1.2s
TRO Tromso 18.20 3 *e*P **Pn 03 35 39.5 -2.8**
TRO IAmb IAmb 03 35 43.9
comp=Z,106nm,1.3s
TRO *e*S **Sn 03 39 03.6 -2.1**
TRO *i* 03 40 45.0
ESDC Sonseca Array 18.34 238 Pn **P 03 35 45.4 +0.8**
baz=47,slow=10,SNR=28
comp=Z,7.9nm,1.1s
ARCES ARCESS Array B 18.58 10 P **P 03 35 43.6 -3.4**
ARCES ARCESS Array B 18.58 10 Pn **P 03 35 43.5 -3.4**
comp=Z,0.6nm,0.3s,baz=193,slow=12,SNR=31
ARCES Sn Sn 03 38 59.3 -16
comp=Z,0.1nm,0.3s,baz=194,slow=18,SNR=1.3
ARCES Lg Lg 03 41 20.7
comp=Z,0.1nm,0.3s,baz=199,slow=30,SNR=4.0
comp=Z,13nm,0.7s
ARCES ARCESS Array B 18.58 10 P **P 03 35 43.6 -3.4**
ARCES pmax pmax
comp=Z,25nm,0.9s
PAB San Pablo 18.64 238 P **P 03 35 47.7 -0.1**
PAB San Pablo 18.64 238 P **P 03 35 47.7 -0.1**
PAB pmax pmax
comp=Z,15nm,1.3s
LVZ Lovozero 18.72 22 P **P 03 35 45.4 -3.1**
LVZ Lovozero 18.72 22 *i* P **P 03 35 47.5 -1.0**
LVZ pmax pmax
comp=Z,27nm,1.2s
LVZ Lovozero 18.72 22 P **P 03 35 45.8 -2.7**
comp=Z,36nm,1.6s,comp=Z,440nm
LVZ pP **Pn 03 35 49.4 +0.6**
comp=Z,36nm,1.6s,comp=Z,440nm
BNN Bunyan 18.73 125 **P 03 35 48.4 -0.5**
GOF Gofitskoye 18.96 99 *ce*P **Pn 03 35 52.4 +0.6**

KEV	**Kevo**	**18.97**	**12**	P	**P**	**03 35 48.6**	**-2.5**
KEV	**Kevo**	**18.97**	**12**	P	**P**	**03 35 48.6**	**-2.5**
KEV				pmax	pmax		
	comp=Z,32nm,0.8s						
POLO	**Lamas de Olo**	**19.30**	**248**	*eP*	**Pn**	**03 35 58.5**	**+2.5**
	comp=Z,2.4nm,0.7s						
KIV	**Kislovodsk**	**19.31**	**103**		**P**	**03 35 55.4**	**+0.2**
KIV	**Kislovodsk**	**19.31**	**103**	*eP*	**P**	**03 35 52.0**	**-3.1**
KIV				*eS*	**Sn**	**03 39 29.7**	**-3.4**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KVAR	**Kislovodsk Arr**	**19.31**	**103**	Lg	Lg	03 41 50.3	
	baz=165,slow=20						
BELG	**Belogornoye**	**19.33**	**75**	P	**P**	**03 35 51.9**	**-3.3**
	comp=Z,26nm,0.8s,baz=89,slow=5.3,SNR=16						
BELG				Lg	Lg	03 41 49.4	
	comp=Z,0.3nm,0.3s,baz=15,slow=19,SNR=2.4						
BELG	**Belogornoye**	**19.33**	**75**	*i* P	**P**	**03 35 50.9**	**-4.3**
BELG				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TATN	**Tataouine**	**19.40**	**194**	P	**P**	**03 35 54.2**	**-1.9**
SHA1	**Shidzhatmaz**	**19.41**	**103**	*ce*P	**P**	**03 35 53.3**	**-3.1**
HAMF	**Hammerfest**	**19.48**	**8**	*eP*	**P**	**03 35 56.1**	**-0.5**
HAMF				*eS*	**Sn**	**03 39 33.1**	**-3.4**
KBZ	**Khabaz**	**19.56**	**103**	P	**P**	**03 35 58.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=271,slow=16,SNR=7.7						
KBZ				S	**Sn**	**03 39 31.8**	**-7.2**
	comp=Z,2.6nm,0.8s,baz=180,slow=19,SNR=2.4						
KBZ				Lg	Lg	03 42 01.6	
	comp=Z,0.1nm,0.3s,baz=254,slow=17,SNR=3.4						
	comp=Z,9.3nm,1.1s						
KBZ	**Khabaz**	**19.56**	**103**	*ce*P	**P**	**03 35 56.6**	**-1.1**
KBZ				pmax	pmax		
	comp=Z,13nm,1.2s						
VADS	**Vadso**	**19.63**	**13**	*eP*	**P**	**03 35 57.8**	**-0.5**
VADS				IAmb	IAmb	03 35 59.0	
	comp=Z,122nm,1.2s						
VADS				*e*		03 39 28.7	
MTE	**Manteigas**	**19.80**	**245**	*eP*	**Pn**	**03 36 02.1**	**+0.2**
	comp=Z,5.3nm,0.9s						
PCBR	**Castelo Branco**	**20.14**	**244**	*eP*	Pn	03 36 08.0	+2.1
KIRV	**Kirov**	**20.14**	**57**	P	Pn	03 36 05.3	-0.4
	comp=Z,36nm,0.8s,baz=282,slow=9.8,SNR=11						
KIRV				Lg	Lg	03 42 12.3	
	comp=Z,0.1nm,0.3s,baz=319,slow=20,SNR=1.4						
	comp=Z,36nm,0.8s						
PMRV	**Marv??o**	**20.38**	**243**	*eP*	Pn	03 36 11.3	+2.6
	comp=Z,5.5nm,1.2s						
PCAS	**Casmilo, Conde**	**20.57**	**246**	*eP*	Pn	03 36 12.6	+1.6
	comp=Z,5.6nm,1.0s						
CSS	**Mathiatis**	**20.68**	**137**		**P**	**03 36 08.3**	**-1.7**
CSS	**Mathiatis**	**20.68**	**137**	P	**P**	**03 36 10.3**	**+0.3**
	comp=Z,21nm,1.2s						
GAZ	**Gaziantep**	**20.70**	**126**	P	**P**	**03 36 09.6**	**-0.8**
PESTR	**Estremoz**	**20.88**	**242**	P	**P**	**03 36 10.9**	**-1.2**
PESTR	**Estremoz**	**20.88**	**242**	*eP*	**P**	**03 36 11.7**	**-0.5**
	comp=Z,5.4nm,1.0s						
PBAR	**Barrancos**	**21.07**	**240**	*eP*	**P**	**03 36 15.9**	**+1.6**
	comp=Z,5.4nm,0.8s						
PMTG	**Montargil**	**21.09**	**243**	*eP*	**P**	**03 36 18.2**	**+3.8**
	comp=Z,5.1nm,1.2s						
PSBE	**So Bento**	**21.10**	**245**	*eP*	**P**	**03 36 16.9**	**+2.3**
	comp=Z,8.5nm,0.9s						
EVO	**Evora**	**21.35**	**242**	*eP*	**P**	**03 36 19.6**	**+2.4**
	comp=Z,6.2nm,0.9s						
KARS	**Kars**	**21.50**	**110**	P	**P**	**03 36 19.9**	**+0.9**
KARS	**Kars**	**21.50**	**110**	P	**P**	**03 36 19.9**	**+0.9**
KARS				pmax	pmax		
	comp=Z,259nm,1.4s						
PNCL	**Nicolau / Gran**	**21.93**	**242**	*eP*	**P**	**03 36 26.7**	**+3.2**
	comp=Z,5.3nm,0.7s						
MESJ	**Messejana**	**21.96**	**241**	*eP*	**P**	**03 36 26.5**	**+2.7**
	comp=Z,5.1nm,0.9s						
PVAQ	**Vaqueiros**	**22.00**	**239**	P	**P**	**03 36 23.7**	**-0.6**
PVAQ				IAmb	IAmb	03 36 27.1	
	comp=Z,47nm,1.3s						
PVAQ	**Vaqueiros**	**22.00**	**239**	*eP*	**P**	**03 36 25.6**	**+1.3**
	comp=Z,16nm,1.3s						
PCVE	**Castro Verde**	**22.01**	**240**	*eP*	**P**	**03 36 26.1**	**+1.8**
	comp=Z,6.2nm,1.3s						
PBDV	**Barranco-do-Ve**	**22.24**	**239**	*eP*	**P**	**03 36 28.4**	**+1.6**
	comp=Z,14nm,0.9s						
GURO	**Guroymak-BITLI**	**22.28**	**116**	P	**P**	**03 36 27.1**	**-0.4**
GNI	**Garni**	**22.79**	**109**	P	**P**	**03 36 32.2**	**-0.6**
GNI				IAmb	IAmb	03 36 38.3	
	comp=Z,72nm,1.3s						
GNI	**Garni**	**22.79**	**109**	*ce*P	**P**	**03 36 32.9**	**+0.1**
GNI				pmax	pmax		
	comp=Z,86nm,1.7s						
MAK	**Makhachkala**	**22.80**	**100**	*eP*	**P**	**03 36 29.1**	**-3.6**
MAK				*eS*	**S**	**03 40 35.8**	**-6.8**
MAK				pmax	pmax		
	comp=Z,202nm,1.3s						
MAK				MLR	MLR		
	comp=Z,542nm,18.0s						
BALJ	**Balqa**	**24.13**	**136**	P	**P**	**03 36 45.9**	**-0.1**
BALJ				IAmb	IAmb	03 36 49.3	
	comp=Z,80nm,1.5s						
GHAJ	**Ghor Haditha**	**24.77**	**137**	P	**P**	**03 36 51.8**	**-0.1**
ARU	**Arti**	**25.09**	**62**	P	**P**	**03 36 54.7**	**+0.1**
ARU	**Arti**	**25.09**	**62**	*ce*P	**P**	**03 36 52.7**	**-1.9**
ARU				pmax	pmax		
	comp=Z,53nm,1.0s						
ARU	**Arti**	**25.09**	**62**	P	**P**	**03 36 54.5**	**-0.1**
	comp=Z,48nm,1.1s						
SVE	**Sverdlovsk**	**26.18**	**61**	*eP*	**P**	**03 37 06.3**	**+1.8**
SVE				pmax	pmax		
	comp=Z,74nm,1.4s						
SPB2	**Spitsbergen Ar**	**26.74**	**0**	P	**P**	**03 37 07.8**	**-1.6**
SPB2				IAmb	IAmb	03 37 19.8	
	comp=Z,33nm,1.2s						
ABKAR	**Akbulak array**	**27.69**	**77**	P	**P**	**03 37 18.0**	**-0.2**
ABKAR				IAmb	IAmb	03 37 39.9	
	comp=Z,16nm,1.0s						
TAM	**Tamanrasset**	**29.86**	**200**	P	**P**	**03 37 37.0**	**-0.8**
TAM	**Tamanrasset**	**29.86**	**200**	P	**P**	**03 37 37.0**	**-0.8**
TAM				pmax	pmax		
	comp=Z,14nm,1.3s						
SUMG	**Summit**	**31.38**	**332**	*i* P	**P**	**03 37 52.0**	**+0.9**
BRVK	**Borovoye**	**32.48**	**66**	P	**P**	**03 38 01.2**	**+0.8**
BRVK				IAmb	IAmb	03 38 03.7	
	comp=Z,20nm,0.9s						
BRVK	**Borovoye**	**32.48**	**66**	*ce*P	**P**	**03 37 59.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,29nm,1.3s						
BVAR	**Borovoye Array**	**32.55**	**66**	P	**P**	**03 38 03.7**	**+2.6**
	comp=Z,9.2nm,0.8s,baz=293,slow=7.7,SNR=48						
BVAR				PP	**PnPn**	**03 39 01.3**	**-6.7**
	comp=Z,2.2nm,0.7s,baz=280,slow=8.6,SNR=2.5						
	comp=Z,9.2nm,0.8s						
RAYN	**Ar Rayn**	**35.94**	**130**	P	**P**	**03 38 30.2**	**-0.6**
RAYN				IAmb	IAmb	03 38 33.5	
	comp=Z,21nm,1.5s						
RAYN	**Ar Rayn**	**35.94**	**130**	P	**P**	**03 38 30.2**	**-0.6**
RAYN				pmax	pmax		
	comp=Z,21nm,1.5s						
BRLS	**Borolday**	**36.65**	**82**	*eP*	**P**	**03 38 38.1**	**+1.4**
NRIK	**Noril'sk**	**36.78**	**34**	P	**P**	**03 38 38.6**	**+1.1**
NRIK				IAmb	IAmb	03 38 41.8	
	comp=Z,27nm,1.4s						
NRIK	**Noril'sk**	**36.78**	**34**	P	**P**	**03 38 40.3**	**+2.8**
	comp=Z,5.3nm,0.7s,baz=249,slow=6.5,SNR=9.7						
	comp=Z,5.3nm,0.7s						
NRIK	**Noril'sk**	**36.78**	**34**	*ce*P	**P**	**03 38 37.0**	**-0.5**
NRIK				pmax	pmax		
	comp=Z,23nm,1.4s						
KK31	**Karatay Array**	**37.03**	**81**	P	**P**	**03 38 40.6**	**+0.7**
KK31				IAmb	IAmb	03 38 44.0	
	comp=Z,32nm,1.4s						
KK31	**Karatay Array**	**37.03**	**81**	P	**P**	**03 38 40.6**	**+0.7**
KK31				pmax	pmax		
	comp=Z,32nm,1.4s						
HRA	**Herat**	**37.13**	**99**	P	**P**	**03 38 41.9**	**+0.9**
KURBB	**Kurchatov Arra**	**38.13**	**66**	P	**P**	**03 38 50.8**	**+1.7**
	comp=Z,8.7nm,0.9s,baz=298,slow=8.8,SNR=48						
KURBB				PP	**PP**	**03 40 08.7**	**-7.2**
	comp=Z,2.2nm,1.0s,baz=296,slow=11,SNR=5.1						
	comp=Z,8.7nm,0.9s						
KURK	**Kurchatov**	**38.14**	**66**	P	**P**	**03 38 49.1**	**-0.1**
KURK				IAmb	IAmb	03 38 51.6	
	comp=Z,16nm,1.0s						
KURK	**Kurchatov**	**38.14**	**66**	*ce*P	**P**	**03 38 49.4**	**+0.2**
KURK				pmax	pmax		
	comp=Z,24nm,1.3s						
BTLS	**Baital**	**38.17**	**76**	*eP*	P	03 38 41.6	-7.9
SIMJ	**Simiganj**	**38.63**	**88**	P	**P**	**03 38 54.3**	**+0.6**
CHGR	**Chuyangaron**	**38.73**	**88**	P	**P**	**03 38 54.5**	**+0.1**
CHGR				IAmb	IAmb	03 38 58.3	
	comp=Z,54nm,1.2s						
CHGR	**Chuyangaron**	**38.73**	**88**	P	**P**	**03 38 54.5**	**+0.1**
CHGR				pmax	pmax		
	comp=Z,54nm,1.2s						
BTK	**Batken**	**38.93**	**85**	P	**P**	**03 38 56.2**	**+0.1**
BTK				IAmb	IAmb	03 38 60.0	
	comp=Z,44nm,1.4s						
BTK	**Batken**	**38.93**	**85**	P	**P**	**03 38 56.2**	**+0.1**
BTK				pmax	pmax		
	comp=Z,44nm,1.4s						
EKS2	**Erkin-Say**	**39.28**	**80**	P	**P**	**03 39 02.0**	**+3.0**
	SNR=11						
USP	**Ospenovka**	**39.39**	**78**	P	**P**	**03 39 01.8**	**+2.0**
	SNR=9.9						
AML	**Almayashu**	**39.52**	**80**	P	**P**	**03 39 04.5**	**+3.1**
	SNR=6.7						
ARSB	**Arslanbob**	**39.54**	**82**	P	**P**	**03 39 00.9**	**-0.3**
ARSB	**Arslanbob**	**39.54**	**82**	P	**P**	**03 39 00.9**	**-0.3**
ARSB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AAK	**Ala-Archa**	**39.73**	**79**	P	**P**	**03 39 06.1**	**+3.2**
	SNR=6.5						
AAK	**Ala-Archa**	**39.73**	**79**	P	**P**	**03 39 02.9**	**0.0**
AAK				IAmb	IAmb	03 39 07.5	
	comp=Z,48nm,1.4s						
AAK	**Ala-Archa**	**39.73**	**79**	P	**P**	**03 39 02.9**	**0.0**
AAK				pmax	pmax		
	comp=Z,48nm,1.4s						
UCH	**Uchtor**	**39.97**	**80**	P	**P**	**03 39 08.6**	**+3.4**
	SNR=6.5						
TOA0	**Torodi Ar. Sit**	**40.04**	**202**	P	**P**	**03 39 05.8**	**+0.4**
TOA0				IAmb	IAmb	03 39 07.5	
	comp=Z,40nm,1.4s						
TORD	**Torodi Ar. Bea**	**40.04**	**202**	P	**P**	**03 39 05.1**	**-0.3**
TORD				IAmb	IAmb	03 39 07.5	
	comp=Z,27nm,1.3s						
TORD	**Torodi Ar. Bea**	**40.04**	**202**	P	**P**	**03 39 06.0**	**+0.6**
	comp=Z,15nm,1.1s,baz=26,slow=8.2,SNR=48						
	comp=Z,15nm,1.1s						
ZAA0	**Zalesovo Array**	**40.15**	**59**	P	**P**	**03 39 07.1**	**+1.1**
ZALV	**Zalesovo Beam**	**40.15**	**59**	P	**P**	**03 39 06.9**	**+0.9**
ZALV	**Zalesovo Beam**	**40.15**	**59**	P	**P**	**03 39 08.1**	**+2.1**
	comp=Z,10nm,1.0s,baz=302,slow=8.5,SNR=24						
ZALV				PP	**PP**	**03 40 37.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=316,slow=10,SNR=4.7						
	comp=Z,10nm,1.0s						
ZALV	**Zalesovo Beam**	**40.15**	**59**	P	**P**	**03 39 06.9**	**+0.9**
BOOM	**Boomskoye usch**	**40.70**	**79**	P	**P**	**03 39 12.1**	**+1.2**
BOOM	**Boomskoye usch**	**40.70**	**79**	P	**P**	**03 39 12.1**	**+1.2**
BOOM				pmax	pmax		
	comp=Z,19nm,1.2s						
ARXS	**Arharly**	**40.90**	**75**	*eP*	**P**	**03 39 14.1**	**+1.7**
MAKZ	**Makanchi**	**41.98**	**70**	P	**P**	**03 39 22.0**	**+0.8**
MAKZ	**Makanchi**	**41.98**	**70**	P	**P**	**03 39 22.0**	**+0.8**
MAKZ				pmax	pmax		
	comp=Z,14nm,1.3s						
MK31	**Makanchi Array**	**42.17**	**69**	*ce*P	**P**	**03 39 21.0**	**-1.7**
MKAR	**Makanchi Array**	**42.17**	**69**	P	**P**	**03 39 24.0**	**+1.2**
MKAR	**Makanchi Array**	**42.17**	**69**	P	**P**	**03 39 24.7**	**+2.0**
	comp=Z,3.2nm,0.8s,baz=308,slow=6.0,SNR=29						
MKAR				PP	**PP**	**03 40 58.2**	**-1.8**
	comp=Z,2.2nm,1.0s,baz=294,slow=7.7,SNR=6.1						
	comp=Z,3.2nm,0.8s						
UZB	**Uzynbulak**	**42.21**	**76**	*eP*	**P**	**03 39 24.4**	**+1.2**
UZB				pmax	pmax		
	comp=Z,13nm,1.4s						
TARG	**Taragay, Kyrgy**	**42.27**	**78**	P	**P**	**03 39 24.7**	**+0.6**
TARG	**Taragay, Kyrgy**	**42.27**	**78**	P	**P**	**03 39 24.7**	**+0.6**
TARG				pmax	pmax		
	comp=Z,20nm,1.3s						
KSH	**Kashi**	**42.45**	**82**	P	**P**	**03 39 28.3**	**+3.1**
KSH				PP	**PP**	**03 41 08.4**	**+5.2**
KSH				pmax	pmax		
	comp=Z,25nm,1.3s						
SHLS	**Shalkode**	**42.47**	**76**	*eP*	**P**	**03 39 29.0**	**+3.7**
SHLS				pmax	pmax		
	comp=Z,25nm,1.1s						
NIL	**Nilore**	**44.46**	**91**	P	**P**	**03 39 41.8**	**+0.5**
NIL				IAmb	IAmb	03 39 44.4	
	comp=Z,16nm,1.2s						
NIL	**Nilore**	**44.46**	**91**	P	**P**	**03 39 41.8**	**+0.5**
NIL				pmax	pmax		
	comp=Z,16nm,1.3s						
WMQ	**Urumqi**	**46.99**	**70**	*eP*	**P**	**03 40 05.1**	**+3.8**
WMQ				pmax	pmax		
	comp=Z,30nm,1.1s						
SCHQ	**Schefferville**	**47.07**	**308**	P	**P**	**03 40 01.8**	**+0.1**
SCHQ	**Schefferville**	**47.07**	**308**	P	**P**	**03 40 02.5**	**+0.8**
	comp=Z,9.8nm,1.0s,baz=62,slow=4.7,SNR=7.3						
	comp=Z,9.8nm,1.0s						
MOY	**Mondy**	**49.75**	**54**	*eP*	**P**	**03 40 25.8**	**+3.3**
MOY				pmax	pmax		
	comp=Z,26nm,1.6s						
LODK	**Lodwar**	**50.58**	**155**	P	**P**	**03 40 28.8**	**-0.3**
LODK				IAmb	IAmb	03 40 32.0	
	comp=Z,16nm,1.2s						
BATG	**Bathurst New B**	**50.98**	**300**	P	**P**	**03 40 32.0**	**+0.2**
ZAK	**Zakamensk**	**51.68**	**55**	*eP*	**P**	**03 40 39.4**	**+2.3**
ZAK				pmax	pmax		
	comp=Z,13nm,1.5s						
SONM	**Songino Array**	**54.87**	**55**	P	**P**	**03 41 01.9**	**+1.3**
SONM				IAmb	IAmb	03 41 05.6	
	comp=Z,25nm,1.4s						
SONM	**Songino Array**	**54.87**	**55**	P	**P**	**03 41 03.2**	**+2.5**
	comp=Z,6.4nm,1.0s,baz=290,slow=7.7,SNR=30						
SONM				PcP	**PcP**	**03 42 04.2**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=284,slow=3.5,SNR=2.0						
	comp=Z,6.4nm,1.0s						
SONM	**Songino Array**	**54.87**	**55**	P	**P**	**03 41 01.9**	**+1.3**
SONM				pmax	pmax		
	comp=Z,25nm,1.4s						
YAK	**Yakutsk**	**55.16**	**32**	P	**P**	**03 41 03.1**	**+0.8**
YAK	**Yakutsk**	**55.16**	**32**	P	**P**	**03 41 04.2**	**+1.9**
	comp=Z,16nm,0.5s,baz=100,slow=1.6,SNR=6.8						
	comp=Z,16nm,0.5s						
YAK	**Yakutsk**	**55.16**	**32**	*ce*P	**P**	**03 41 02.8**	**+0.5**
YAK				pmax	pmax		
	comp=Z,24nm,0.7s						
ULN	**Ulaanbaatar**	**55.19**	**55**	P	**P**	**03 41 03.3**	**+0.3**
ULN	**Ulaanbaatar**	**55.19**	**55**	P	**P**	**03 41 03.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
LBNH	**Lisbon**	**56.08**	**300**	P	**P**	**03 41 09.4**	**+0.2**
	baz=49						
GTA	**Gaotai**	**56.81**	**67**	*eP*	**P**	**03 41 17.6**	**+2.9**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GTA				LR	LR		
	comp=Z,72nm,18.5s						
GTA				LR	LR		
	comp=Z,100nm,18.5s						
GTA				LR	LR		
	comp=Z,77nm,18.9s						
HRV	**Adam Dziewonsk**	**57.03**	**298**	P	**P**	**03 41 16.3**	**+0.3**
	baz=48						
LONY	**Lake Ozonia**	**57.25**	**302**	P	**P**	**03 41 18.3**	**+0.8**
	baz=48						
L61B	**Northampton**	**57.68**	**299**	P	**P**	**03 41 20.4**	**-0.2**
	baz=48						
C27K	**Jago River**	**58.25**	**352**	P	**P**	**03 41 23.1**	**-1.1**
	baz=15						
LSA	**Lhasa**	**58.28**	**81**	P	**P**	**03 41 26.1**	**+0.5**
LSA	**Lhasa**	**58.28**	**81**	P	**P**	**03 41 26.1**	**+0.5**
LSA				pmax	pmax		
	comp=Z,30nm,1.3s						
INK	**Inuvik**	**58.36**	**347**	P	**P**	**03 41 23.9**	**-1.0**
	baz=22						
D27M	**Malcolm River**	**58.36**	**351**	P	**P**	**03 41 23.9**	**-1.2**
	baz=17						
C24K	**Franklin Bluff**	**58.54**	**354**	P	**P**	**03 41 25.9**	**-0.3**
	baz=11						
C23K	**Itkillik River**	**58.55**	**355**	P	**P**	**03 41 26.2**	**-0.1**
	baz=9.7						
B20K	**Meade River**	**58.66**	**357**	P	**P**	**03 41 27.4**	**+0.4**
	baz=4.9						
BILL	**Bilibino**	**58.66**	**13**	*ce*P	**P**	**03 41 29.5**	**+2.4**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.3s						
D25K	**Kavik River**	**58.77**	**353**	IAmb	IAmb	03 41 31.6	
	comp=Z,11nm,1.2s						
D25K	**Kavik River**	**58.77**	**353**	P	**P**	**03 41 28.2**	**+0.3**
	baz=13						
E28M	**Babbage River**	**58.82**	**350**	P	**P**	**03 41 28.5**	**+0.3**
	baz=18,SNR=6.5						
E29M	**Blow River**	**58.84**	**349**	P	**P**	**03 41 29.7**	**+1.4**
E29M	**Blow River**	**58.84**	**349**	P	**P**	**03 41 28.9**	**+0.6**
	baz=19,SNR=20						
D24K	**Happy Valley**	**59.11**	**354**	P	**P**	**03 41 31.6**	**+1.4**
	baz=11						
F31M	**Tsiigehtchic**	**59.20**	**347**	P	**P**	**03 41 31.6**	**+0.9**
	baz=21						
F30M	**Barrier River**	**59.31**	**348**	P	**P**	**03 41 31.0**	**-0.6**
	baz=20						
D23K	**Nanushuk River**	**59.41**	**355**	P	**P**	**03 41 32.4**	**+0.1**
	baz=9.6						
C21K	**Knifeblade Rid**	**59.43**	**356**	P	**P**	**03 41 32.6**	**+0.1**
	baz=6.6						
E27K	**Coleen River**	**59.44**	**351**	P	**P**	**03 41 32.6**	**+0.1**
	baz=16						
D22K	**Ayikyak River**	**59.61**	**355**	P	**P**	**03 41 33.8**	**+0.1**
	baz=8.1						
BINY	**Binghamton**	**59.65**	**301**	P	**P**	**03 41 34.6**	**+0.2**
	baz=46						
TOLK	**Toolik Lake Re**	**59.67**	**354**	P	**P**	**03 41 34.7**	**+0.6**
	baz=10						
G31M	**Satah River**	**59.76**	**347**	P	**P**	**03 41 34.8**	**+0.1**
	baz=21						
F28M	**Old Crow**	**59.81**	**350**	P	**P**	**03 41 35.6**	**+0.6**
	baz=17						
YKA	**Yellowknife Ar**	**59.84**	**336**	P	**P**	**03 41 36.1**	**+0.8**
YKA	**Yellowknife Ar**	**59.84**	**336**	P	**P**	**03 41 37.2**	**+2.0**
	comp=Z,6.9nm,0.9s,baz=32,slow=6.7,SNR=48						
	comp=Z,6.9nm,0.9s						
YKA	**Yellowknife Ar**	**59.84**	**336**	*ce*P	**P**	**03 41 37.0**	**+1.7**
YKA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
D20K	**Etivluk River**	**59.94**	**357**	P	**P**	**03 41 35.6**	**-0.4**
	baz=5.2						
G30M	**tAoh Zraii Nji**	**59.97**	**348**	P	**P**	**03 41 36.5**	**+0.3**
	baz=20,SNR=5.5						
E21K	**Killik River**	**60.11**	**356**	P	**P**	**03 41 38.0**	**+0.9**
	baz=7.1						
C18K	**Utukok River**	**60.11**	**359**	P	**P**	**03 41 37.2**	**0.0**
	baz=1.9						
F26K	**Sheenjek River**	**60.17**	**351**	P	**P**	**03 41 38.1**	**+0.5**
	baz=14,SNR=12						
D19K	**Kuna River**	**60.20**	**358**	P	**P**	**03 41 36.7**	**-1.1**
	baz=4.2						
E23K	**Chandalar**	**60.24**	**354**	P	**P**	**03 41 37.7**	**-0.5**
	baz=10,SNR=7.6						
G29M	**Pine Creek**	**60.26**	**349**	P	**P**	**03 41 38.7**	**+0.5**
	baz=18						
C17K	**DeLong Mountai**	**60.30**	**360**	P	**P**	**03 41 38.5**	**+0.1**
	baz=0.5						
E22K	**Anaktuvuk Pass**	**60.30**	**355**	P	**P**	**03 41 39.4**	**+0.9**
	baz=8.7						
ZEA	**Zeya**	**60.34**	**40**	*eP*	**P**	**03 41 40.7**	**+1.8**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
HIA	**Hailar**	**60.39**	**47**	P	**P**	**03 41 40.8**	**+1.4**
HIA				IAmb	IAmb	03 41 43.2	
	comp=Z,12nm,1.1s						
HIA	**Hailar**	**60.39**	**47**	P	**P**	**03 41 40.8**	**+1.4**
HIA				pmax	pmax		
	comp=Z,12nm,1.1s						
F25K	**Christian Rive**	**60.40**	**352**	P	**P**	**03 41 39.9**	**+0.8**
	baz=13,SNR=5.5						
BMAR	**Burnt Mountain**	**60.47**	**352**	P	**P**	**03 41 41.2**	**+1.6**
C16K	**Lisburne Hills**	**60.50**	**1**	P	**P**	**03 41 40.1**	**+0.4**
	baz=359						
EPYK	**Eagle Plains**	**60.61**	**348**	P	**P**	**03 41 40.6**	**0.0**
	baz=19						
F24K	**Squaw Lake**	**60.66**	**353**	P	**P**	**03 41 41.4**	**+0.5**
	baz=11,SNR=6.3						
SEY	**Seymchan**	**60.77**	**21**	*ce*P	**P**	**03 41 40.3**	**-1.4**
SEY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
G27K	**Doyon Strip**	**60.78**	**350**	P	**P**	**03 41 42.3**	**+0.5**
	baz=16,SNR=10						
G26K	**Porcupine Rive**	**60.86**	**351**	P	**P**	**03 41 42.1**	**-0.1**
	baz=14,SNR=10						
F22K	**John River**	**60.95**	**355**	P	**P**	**03 41 43.2**	**+0.3**
	baz=8.3						
H29M	**Whitestone**	**60.97**	**348**	P	**P**	**03 41 44.0**	**+1.0**
	baz=18						
D17K	**Noatak River**	**61.08**	**360**	P	**P**	**03 41 44.1**	**+0.4**
	baz=0.6						
COLD	**Coldfoot**	**61.11**	**354**	P	**P**	**03 41 44.5**	**+0.6**
	baz=9.7						
E19K	**Redstone River**	**61.22**	**357**	P	**P**	**03 41 46.0**	**+1.3**
	baz=4.7,SNR=5.3						
G25K	**Bearman Lake**	**61.25**	**352**	P	**P**	**03 41 45.5**	**+0.6**
	baz=13						
WRGLY	**Wrigley**	**61.25**	**340**	P	**P**	**03 41 45.5**	**+0.6**
	baz=28						
F21K	**Alatna River**	**61.30**	**355**	P	**P**	**03 41 45.1**	**-0.2**
	baz=7.4						
H27K	**Steamboat Moun**	**61.33**	**350**	P	**P**	**03 41 47.2**	**+1.7**
	baz=16,SNR=8.5						
E18K	**Tukpahlearik C**	**61.33**	**359**	P	**P**	**03 41 46.1**	**+0.6**
	baz=2.4						
LZH	**Lanzhou**	**61.41**	**67**	*eP*	**P**	**03 41 49.4**	**+2.7**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				LR	LR		
	comp=Z,170nm,15.5s						
LZH				LR	LR		
	comp=Z,180nm,18.5s						
LZH				LR	LR		
	comp=Z,160nm,16.9s						
G24K	**Hadweenzic Riv**	**61.43**	**353**	P	**P**	**03 41 46.4**	**+0.3**
	baz=12						
G22K	**Bettles**	**61.49**	**355**	P	**P**	**03 41 48.4**	**+1.9**
	baz=8.8						
F20K	**Avaraart Lake**	**61.57**	**356**	P	**P**	**03 41 47.7**	**+0.6**
	baz=5.8						
G23K	**Bananza Creek**	**61.61**	**354**	P	**P**	**03 41 48

XLT pmax pmax
comp=Z,130nm,5.3s
H22K Ishtalitna Cre 62.50 354 P **P 03 41 54.2 +0.8**
baz=8.8,SNR=6.7
G19K Purcell Mounta 62.53 357 IAmb IAmb 03 41 56.8
comp=Z,13nm,1.2s
G19K Purcell Mounta 62.53 357 P **P 03 41 54.1 +0.6**
baz=4.8,SNR=6.2
IMAR Indian Mountai 62.55 355 P **P 03 41 55.2 +1.6**
M53A WI Miller and 62.67 303 P **P 03 41 55.1 +0.3**
baz=44
EGAK Eagle 62.69 349 IAmb IAmb 03 41 58.5
comp=Z,8.7nm,1.2s
EGAK Eagle 62.69 349 P **P 03 41 54.9 +0.3**
baz=16,SNR=5.3
H21K Melozitna Rive 62.82 355 P **P 03 41 55.8 +0.3**
baz=7.8,SNR=13
G18K Tagagawik 62.83 358 P **P 03 41 56.1 +0.6**
baz=3.7
POKR Poker Plat Res 62.98 352 IAmb IAmb 03 42 01.3
comp=Z,12nm,1.4s
POKR Poker Plat Res 62.98 352 P **P 03 41 56.6 +0.1**
baz=11,SNR=7.7
HEH HeiHe 63.03 42 *e*P **P 03 41 58.8 +1.8**
HEH pmax pmax
comp=Z,18nm,1.4s
F15K North Star Dit 63.08 0 P **P 03 41 56.6 -0.6**
baz=360
H20K Anotleneega Mo 63.09 356 P **P 03 41 58.1 +0.8**
baz=6.3
I23K Minto, Yukon-K 63.11 353 P **P 03 41 57.9 +0.6**
baz=10
H19K Roundabout Mou 63.12 357 P **P 03 41 58.3 +0.9**
baz=5.2
K29M Barlow Dome 63.12 347 IAmb IAmb 03 42 01.6
comp=Z,15nm,1.3s
K29M Barlow Dome 63.12 347 P **P 03 41 58.5 +0.9**
baz=18,SNR=10.0
DAWY Dawson 63.16 348 P **P 03 41 57.3 -0.5**
baz=17,SNR=16
EYMN Ely 63.20 314 P **P 03 41 58.0 -0.3**
baz=42
MDM Murphy Dome 63.20 353 IAmb IAmb 03 42 02.4
comp=Z,13nm,1.3s
CBN Corbin Frederi 63.21 298 P **P 03 41 58.1 -0.4**
baz=44
J26L Joseph Creek 63.22 350 IAmb IAmb 03 42 01.9
comp=Z,8.9nm,1.1s
J26L Joseph Creek 63.22 350 P **P 03 41 58.4 +0.2**
baz=14,SNR=13
I21K Tanana 63.25 354 P **P 03 41 57.4 -0.8**
baz=8.3
ILAR Eielson Array 63.28 352 P **P 03 41 59.2 +0.7**
ILAR Eielson Array 63.28 352 P **P 03 42 00.1 +1.6**
comp=Z,2.1nm,1.1s,baz=5.1,slow=4.5,SNR=17
comp=Z,2.1nm,1.1s
ILAR Eielson Array 63.28 352 P **P 03 41 59.2 +0.7**
J25K Salcha River, 63.29 351 P **P 03 42 00.4 +1.8**
baz=13
F14K Arctic Creek 63.30 1 P **P 03 41 60.0 +1.4**
baz=358
MMPY Sheldon Lake, 63.30 344 P **P 03 41 59.9 +1.2**
baz=22,SNR=5.2
MLY Manley 63.32 354 IAmb IAmb 03 42 03.0
comp=Z,8.4nm,1.2s
MLY Manley 63.32 354 P **P 03 41 59.3 +0.5**
baz=9.2,SNR=6.4
ULM Lac du Bonnet 63.36 318 P **P 03 41 59.7 +0.5**
ULM IAmb IAmb 03 42 01.9
comp=Z,18nm,1.4s
ULM Lac du Bonnet 63.36 318 P **P 03 42 00.4 +1.2**
comp=Z,5.5nm,1.1s,baz=40,slow=6.8,SNR=6.7
comp=Z,5.5nm,1.1s
ULM Lac du Bonnet 63.36 318 P **P 03 41 59.7 +0.5**
ULM pmax pmax
comp=Z,18nm,1.4s
G16K Koyuk River 63.39 359 P **P 03 41 59.8 +0.6**
baz=1.1
CCB Clear Creek Bu 63.48 352 IAmb IAmb 03 42 03.9
comp=Z,9.3nm,1.4s
H18K Honhosa River 63.56 357 P **P 03 42 01.4 +1.1**
baz=3.9
NEA2 Nenana 63.63 353 IAmb IAmb 03 42 04.2
comp=Z,7.5nm,1.2s
NEA2 Nenana 63.63 353 P **P 03 41 60.0 -0.9**
baz=10
HDA Harding Lake 63.64 352 IAmb IAmb 03 42 04.7
comp=Z,8.3nm,1.2s
HDA Harding Lake 63.64 352 P **P 03 42 01.0 +0.1**
baz=12,SNR=5.8
TGTN Hyland Airport 63.76 342 P **P 03 42 01.8 0.0**
baz=24
I20K Naaghedeneel 63.77 356 P **P 03 42 02.3 +0.6**
baz=6.5
SCRK Sand Creek 63.78 350 P **P 03 42 02.6 +0.6**
baz=14
G15K Niukluk 63.80 0 P **P 03 42 02.8 +0.9**
baz=360
H17K Granite Mounta 63.81 358 P **P 03 42 03.4 +1.4**
baz=2.8
L29M L29M 63.91 347 P **P 03 42 03.5 +0.7**
baz=18
FARO Faro, Yukon 64.02 345 P **P 03 42 05.0 +1.5**
baz=21
H16K Elim 64.15 359 P **P 03 42 06.0 +1.8**
baz=1.1
M31M Drury Creek, Y 64.22 345 P **P 03 42 05.5 +0.7**
baz=20
M30M Minto, Yukon 64.23 346 P **P 03 42 05.3 +0.5**
baz=18
BPAW Bear Paw Mtn. 64.26 354 IAmb IAmb 03 42 08.4
comp=Z,16nm,1.4s
BPAW Bear Paw Mtn. 64.26 354 P **P 03 42 05.3 +0.3**
baz=8.9,SNR=6.7
J20K Nowinta River 64.37 355 P **P 03 42 07.2 +1.5**
baz=6.7
BCAR Beaver Creek A 64.42 349 P **P 03 42 07.3 +1.2**
L27K Beaver Creek, 64.43 349 IAmb IAmb 03 42 09.7
comp=Z,9.8nm,1.2s
L27K Beaver Creek, 64.43 349 P **P 03 42 06.6 +0.5**
baz=15,SNR=10
MCK McKinley 64.47 353 P **P 03 42 06.5 0.0**
baz=10
CHUM Lake Minchumin 64.56 354 P **P 03 42 08.5 +1.6**
baz=8.0
M29M Somme Creek 64.59 347 P **P 03 42 08.2 +0.9**
baz=17,SNR=7.1
J19K Poorman 64.62 356 IAmb IAmb 03 42 10.9
comp=Z,9.0nm,1.4s
J19K Poorman 64.62 356 P **P 03 42 07.4 +0.1**
baz=5.7
L26K Log Cabin Wild 64.64 350 P **P 03 42 08.0 +0.5**
baz=14,SNR=8.4
AGMN Agassiz Nation 64.85 317 P **P 03 42 09.1 0.0**
baz=40
I17K Unalakleet 64.88 358 P **P 03 42 10.7 +1.7**
baz=2.2
PAX Paxson 64.91 351 P **P 03 42 10.1 +0.7**
baz=13
DHY Denali Highway 64.99 352 P **P 03 42 10.1 +0.1**
baz=11,SNR=18
CD2 Chengdu 65.06 71 P **P 03 42 11.6 +0.8**
CD2 pmax pmax
comp=Z,30nm,1.2s
N31M Braeburn, Yuko 65.11 346 P **P 03 42 11.8 +1.2**
baz=19,SNR=5.8
M27K Edge Creek, AK 65.12 349 P **P 03 42 10.9 +0.1**
baz=15,SNR=7.5
K20K Telida 65.18 355 P **P 03 42 09.4 -1.6**
baz=6.7
J18K Innoko River 65.20 356 IAmb IAmb 03 42 14.7
comp=Z,8.2nm,1.1s
J18K Innoko River 65.20 356 P **P 03 42 10.0 -1.1**
baz=4.9,SNR=9.6
M26K Nabesna, AK 65.20 349 P **P 03 42 12.4 +1.2**
baz=14,SNR=7.4
N30M Aishikik Lake 65.34 346 P **P 03 42 12.6 +0.4**
baz=18,SNR=5.3
J17K VABM Dome 65.34 358 P **P 03 42 11.9 -0.1**
baz=3.3
BJI Beijing 65.35 56 P **P 03 42 14.9 +2.5**
BJI pmax pmax
comp=Z,4.0nm,1.3s
BJI pmax pmax
comp=Z,73nm,5.6s
HARP HAARP 65.44 351 P **P 03 42 11.3 -1.4**
baz=13
J16K Anvik River 65.49 358 P **P 03 42 12.3 -0.6**
baz=2.3
YUK3 Moose Creek 65.50 348 P **P 03 42 14.4 +1.0**
baz=16,SNR=9.5
WAT6 Susitna Watana 65.51 352 P **P 03 42 11.8 -1.6**
baz=11
TOAD Toad River Com 65.57 339 P **P 03 42 14.4 +0.8**
baz=25
BLA Blacksburg 65.59 299 P **P 03 42 15.0 +0.9**
baz=43
KLR Kul'dur 65.61 40 P **P 03 42 15.6 +1.7**
comp=Z,5.8nm,1.0s,baz=329,slow=6.3,SNR=10
comp=Z,5.8nm,1.0s
KLR Kul'dur 65.61 40*ce*P **P 03 42 11.7 -2.3**
KLR pmax pmax
comp=Z,21nm,1.7s
TTA Tatalina 65.70 356 P **P 03 42 14.5 0.0**
baz=5.4
WHY Whitehorse 65.75 345 IAmb IAmb 03 42 17.8
comp=Z,12nm,1.4s
WHY Whitehorse 65.75 345 P **P 03 42 15.6 +0.7**
baz=19
XAN Xi'an 65.78 65 ⇑P **P 03 42 17.4 +2.0**
XAN pmax pmax
comp=Z,31nm,1.3s
XAN LR LR
comp=Z,310nm,15.8s
P33M Teslin, Yukon 65.83 344 P **P 03 42 15.0 -0.3**
baz=21,SNR=7.2
M24K Tolsona, Glenn 65.83 351 P **P 03 42 17.0 +1.7**
baz=12
O30N Mendenhall 65.84 345 IAmb IAmb 03 42 18.8
comp=Z,6.9nm,1.1s
O30N Mendenhall 65.84 345 P **P 03 42 16.6 +1.2**
baz=19,SNR=5.3
O48B Farmland 65.86 305 P **P 03 42 17.1 +1.3**
baz=42
K17K Iditarod 66.00 357 P **P 03 42 17.1 +0.8**
baz=3.8
YUK6 Outpost Mounta 66.02 347 P **P 03 42 17.2 +0.5**
baz=17,SNR=6.3
L20K Farewell, AK 66.05 355 P **P 03 42 18.6 +2.0**
baz=6.8
J14K Nanvaranak Lak 66.05 360 P **P 03 42 17.7 +1.1**
baz=0.2
N25K Chitina, Valde 66.16 350 P **P 03 42 18.6 +1.2**
baz=13
MCARA McCarthy VSAT 66.20 349 P **P 03 42 17.6 0.0**
baz=14
SCM Sheep Creek Mo 66.21 352 P **P 03 42 17.2 -0.5**
baz=11,SNR=8.9
R33M Jennings River 66.25 342 P **P 03 42 18.2 +0.1**
baz=22,SNR=5.9
SML Sawmill 66.32 352 IAmb IAmb 03 42 22.5
comp=Z,5.2nm,0.8s
SML Sawmill 66.32 352 P **P 03 42 19.9 +1.4**
baz=10
L19K White Mountain 66.40 355 IAmb IAmb 03 42 23.6
comp=Z,16nm,1.2s
L19K White Mountain 66.40 355 P **P 03 42 19.4 +0.5**
baz=6.2,SNR=8.8
CTG Chitna Glacier 66.40 348 P **P 03 42 18.5 -0.6**
baz=15
SKT Skwentna 66.40 354 P **P 03 42 18.5 -0.4**
baz=8.4
KLU Klutina 66.41 351 P **P 03 42 19.2 +0.2**
baz=12
L18K Granite Mounta 66.44 356 P **P 03 42 19.7 +0.6**
baz=4.9
K15K Wolf Creek Mou 66.49 359 P **P 03 42 20.0 +0.6**
baz=1.6
P32M Atlin 66.57 344 P **P 03 42 20.3 +0.2**
baz=20
L17K Donlin 66.58 357 P **P 03 42 21.1 +1.1**
baz=3.8
P30M Million Dollar 66.59 346 P **P 03 42 19.9 -0.3**
baz=18
M20K Styx River 66.60 354 IAmb IAmb 03 42 23.9
comp=Z,7.8nm,1.1s
M20K Styx River 66.60 354 P **P 03 42 20.2 0.0**
baz=7.3
PMR Palmer 66.60 352 P **P 03 42 20.7 +0.6**
baz=10.0
M19K Big River Lodg 66.65 355 P **P 03 42 20.5 +0.1**
baz=6.5
GRNC Granite Creek 66.68 348 IAmb IAmb 03 42 25.4
comp=Z,14nm,1.2s
KNK Knik Glacier 66.72 352 P **P 03 42 21.7 +0.7**
baz=10
SFIN Lafayette 66.76 306 P **P 03 42 21.6 +0.1**
baz=41
CRQE Cirque 66.82 349 P **P 03 42 22.8 +1.1**
baz=14
SUA Susitna One 66.86 353 P **P 03 42 22.2 +0.2**
SUA Susitna One 66.86 353 P **P 03 42 22.3 +0.4**
baz=8.9,SNR=8.5
Q32M Nakina River 66.90 343 P **P 03 42 22.4 0.0**
baz=21
DLBC Dease Lake 66.96 341 P **P 03 42 23.0 +0.4**
baz=22
L16K Owhat River 67.04 358 P **P 03 42 23.5 +0.6**
baz=3.0
PZH PanZhiHua 67.06 76 P **P 03 42 26.8 +3.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.4s
L15K Ungalak Mounta 67.11 359 P **P 03 42 23.7 +0.4**
baz=1.6
M18K Stony River 67.13 356 P **P 03 42 22.9 -0.6**
baz=5.5
RC01 Rabbit Creek A 67.15 353 P **P 03 42 22.8 -0.9**
baz=9.5,SNR=5.9
P29M Windy Craggy 67.18 346 P **P 03 42 23.2 -0.7**
baz=17
PWL Port Wells 67.26 352 P **P 03 42 25.2 +0.8**
baz=10
M17K Holitna River 67.29 357 P **P 03 42 23.9 -0.6**
baz=4.4
LSZ Lusaka 67.36 167 P **P 03 42 26.5 +0.9**
LSZ IAmb IAmb 03 42 28.9
comp=Z,12nm,1.2s
LSZ Lusaka 67.36 167 P **P 03 42 26.5 +0.9**
LSZ pmax pmax
comp=Z,12nm,1.2s
LYN LuoYang 67.40 63 P **P 03 42 27.4 +1.7**
LYN pmax pmax
comp=Z,19nm,0.7s
LYN pmax pmax
comp=Z,180nm,6.3s
L14K Kuka Creek 67.46 359 P **P 03 42 26.2 +0.6**
baz=0.8
S34M Telegraph Cree 67.67 342 P **P 03 42 26.8 -0.2**
baz=21
M16K Timber Creek 67.72 357 P **P 03 42 26.8 -0.5**
baz=3.3
HDIL Hopedale 67.72 307 P **P 03 42 26.5 -1.1**
baz=40
N19K Bonanza Creek 67.74 355 P **P 03 42 27.0 -0.5**
baz=6.3
TZTN Tazewell 67.78 301 P **P 03 42 26.7 -1.4**
baz=42
BRLDA Berland Lookou 67.81 333 P **P 03 42 28.7 +0.6**
N18K Kilae Creek 67.95 356 P **P 03 42 27.8 -0.9**
baz=5.4
R32K Eaglecrest 67.95 344 P **P 03 42 27.4 -1.4**
baz=19
P23K Montague Islan 68.02 351 P **P 03 42 29.0 -0.2**
baz=11
M14K Bethel 68.05 359 P **P 03 42 28.5 -0.8**
baz=1.3
M15K Kasigluk River 68.08 358 P **P 03 42 28.9 -0.6**
baz=2.2
DGMT Dagmar 68.10 322 P **P 03 42 28.9 -1.0**
baz=36
N17K Nushagak Hills 68.15 356 P **P 03 42 29.4 -0.6**
baz=4.5
MDJ Mudanjiang 68.33 45 P **P 03 42 32.8 +1.5**
MDJ pmax pmax
comp=Z,6.0nm,0.9s
N15K Kwethluk River 68.60 358 P **P 03 42 33.1 +0.2**
baz=2.5
ECSD EROS Data Cent 68.73 314 P **P 03 42 33.9 0.0**
baz=38,SNR=11
O18K Koktuh Hills 68.74 355 P **P 03 42 33.5 -0.2**
baz=5.8
P19K Oil Pt 68.83 354 P **P 03 42 34.0 -0.2**
baz=7.1
N14K Kuskokwak Cree 68.87 359 P **P 03 42 33.9 -0.6**
baz=1.5
O17K Koliganek Bris 68.90 356 P **P 03 42 33.7 -0.9**
baz=4.5
SUSD Miller 69.20 316 P **P 03 42 36.1 -0.7**
baz=37
P17K Kvichak River 69.45 356 P **P 03 42 39.2 +1.1**
baz=5.0
Q19K Cape Douglas, 69.57 354 P **P 03 42 37.4 -1.5**
baz=6.8
O15K Ungalikthiuk R 69.59 358 P **P 03 42 37.1 -1.8**
baz=2.7
USRK Ussuriysk Ar. 69.70 44 P **P 03 42 41.0 +1.2**
USRK Ussuriysk Ar. 69.70 44 P **P 03 42 41.9 +2.0**
comp=Z,8.3nm,1.1s,baz=328,slow=6.8,SNR=12
comp=Z,8.3nm,1.1s
USRK Ussuriysk Ar. 69.70 44 P **P 03 42 41.1 +1.2**
U33K Whale Pass 69.74 342 P **P 03 42 39.5 -0.4**
baz=20
Q20K Shuyak Island 69.81 354 P **P 03 42 38.7 -1.6**
baz=7.6
Q18K Katmai Hardscr 69.93 355 P **P 03 42 40.2 -1.0**
baz=5.9
GYA Guiyang 70.05 72 ⇓P **P 03 42 44.9 +2.4**
GYA S **S 03 51 58.3 +4.0**
GYA pmax pmax
comp=Z,32nm,0.7s
GYA pmax pmax
comp=Z,280nm,4.2s
GYA LR LR
comp=Z,170nm,3.8s
GYA LR LR
comp=Z,79nm,3.8s
GYA LR LR
comp=Z,120nm,4.1s
GOGA Godfrey 70.08 299 P **P 03 42 41.4 -1.0**
baz=41
V35K Ketchikan 70.18 341 P **P 03 42 42.7 0.0**
baz=21
CRAG Craig 70.35 342 P **P 03 42 45.2 +1.6**
baz=20
LAO LASA Array 70.35 322 P **P 03 42 45.1 +1.2**
baz=34
WVT Waverly 70.35 303 P **P 03 42 45.2 +1.2**
baz=40
Q17K Contact Creek 70.36 356 P **P 03 42 43.3 -0.6**
baz=5.3
P38A Dawn 70.51 310 IAmb IAmb 03 42 47.5
comp=Z,19nm,1.4s
EGMT Eagleton 70.55 325 P **P 03 42 46.5 +1.3**
EGMT Eagleton 70.55 325 P **P 03 42 44.6 -0.6**
baz=32,SNR=24
CCM Cathedral Cave 70.61 307 P **P 03 42 45.2 -0.4**
CCM Cathedral Cave 70.61 307 P **P 03 42 46.7 +1.1**
baz=39
CCM Cathedral Cave 70.61 307 P **P 03 42 45.2 -0.4**
CCM pmax pmax
comp=Z,5.0nm,1.1s
MSHR Mys Shultsa 70.63 45*ce*P **P 03 42 44.6 -1.0**
MSHR pmax pmax
comp=Z,8.0nm,1.3s
KDAK Kodiak Island 70.64 354 P **P 03 42 46.1 +0.7**
KDAK Kodiak Island 70.64 354 P **P 03 42 46.0 +0.6**
baz=7.5
KDAK Kodiak Island 70.64 354 P **P 03 42 46.1 +0.7**
KDAK pmax pmax
comp=Z,31nm,1.3s
R40A Maddies Statio 70.94 308 IAmb IAmb 03 42 53.0
comp=Z,11nm,1.4s
R18K Karluk 70.98 355 P **P 03 42 47.1 -0.4**
baz=6.2
CHTO Chiang Mai 71.05 83 P **P 03 42 48.8 +0.3**
CHTO Chiang Mai 71.05 83 P **P 03 42 48.8 +0.3**
CHTO pmax pmax
comp=Z,20nm,1.2s
OHAK Old Harbor 71.25 354 P **P 03 42 50.9 +1.8**
baz=7.0
CMAR Chiang Mai Arr 71.32 84 P **P 03 42 50.8 +0.6**
CMAR Chiang Mai Arr 71.32 84 P **P 03 42 52.0 +1.8**
comp=Z,3.9nm,0.8s,baz=311,slow=6.9,SNR=17
comp=Z,3.9nm,0.8s
CMAR Chiang Mai Arr 71.32 84 P **P 03 42 50.8 +0.6**
RSSD Black Hills 71.60 319 P **P 03 42 51.5 -0.3**
baz=35
S39A Bolivar 71.92 308 IAmb IAmb 03 42 56.3
comp=Z,11nm,1.2s
LRAL Lakeview Retre 72.28 301 IAmb IAmb 03 42 58.2
comp=Z,20nm,1.4s
LRAL Lakeview Retre 72.28 301 P **P 03 42 55.4 -0.3**
baz=40
KSU1 Kansas State U 72.39 311 P **P 03 42 56.4 0.0**
baz=37
NJ2 Nanjing 72.78 60 *e*P **P 03 43 01.3 +2.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,170nm,3.8s
RLMT Red Lodge 72.82 323 P **P 03 42 59.3 +0.2**
baz=32,SNR=8.4
NEW Newport 72.84 329 P **P 03 42 59.8 +0.9**
NEW IAmb IAmb 03 43 02.4
comp=Z,22nm,1.4s
NEW Newport 72.84 329 P **P 03 42 59.6 +0.7**
baz=28,SNR=9.1
NEW Newport 72.84 329 P **P 03 42 59.8 +0.9**
NEW pmax pmax
comp=Z,22nm,1.4s
MSO Missoula 73.04 327 P **P 03 43 01.0 +0.8**
baz=30,SNR=13
KSAR Wonju Array Be 73.21 51 P **P 03 43 01.6 +0.4**
KSAR Wonju Array Be 73.21 51 P **P 03 43 01.6 +0.4**
KSRS Korea Array 73.22 51 P **P 03 43 02.6 +1.4**
comp=Z,8.2nm,1.2s,baz=324,slow=5.1,SNR=19
KSRS LR LR 04 18 15.7
comp=Z,28nm,19.0s,baz=210,slow=38
comp=Z,8.2nm,1.2s
WHAR Wooly Hollow 73.29 306 IAmb IAmb 03 43 03.9
comp=Z,20nm,1.5s
BOZ Bozeman (W) 73.29 325 P **P 03 43 03.3 +1.6**
BOZ Bozeman (W) 73.29 325 P **P 03 43 02.5 +0.8**
baz=31,SNR=28
BOZ Bozeman (W) 73.29 325 P **P 03 43 03.3 +1.6**
BOZ pmax pmax
comp=Z,29nm,1.3s
OGNE Ogallala 73.36 316 P **P 03 43 03.1 +0.9**
OGNE IAmb IAmb 03 43 05.3
comp=Z,16nm,1.1s
OGNE Ogallala 73.36 316 P **P 03 43 03.0 +0.9**
baz=35
YHL Hebgen Lake 73.77 324 P **P 03 43 05.4 +0.7**
YHL IAmb IAmb 03 43 09.1
comp=Z,18nm,1.3s
TJN Taejon 73.80 52⇑*e*P **P 03 43 07.8 +3.1**
K22A Casper 73.83 320 P **P 03 43 05.4 +0.4**
K22A IAmb IAmb 03 43 07.1
comp=Z,16nm,1.0s
K22A Casper 73.83 320 P **P 03 43 06.3 +1.3**
baz=33
H17A Grant Village 73.93 323 P **P 03 43 09.0 +3.3**
baz=31
CBKS Cedar Bluff 74.07 313 P **P 03 43 07.0 +0.7**
baz=36
PHWY Pilot Hill 74.52 318 P **P 03 43 09.9 +0.7**
MIAR Mount Ida 74.53 306 P **P 03 43 10.1 +1.1**
baz=38,SNR=5.8
TUL3 Leonard 74.54 309 P **P 03 43 09.6 +0.6**
baz=37,SNR=6.3
BW06 Boulder Array 74.93 322 P **P 03 43 12.2 +0.7**
baz=32,SNR=9.7
PD31 Pinedale Array 74.93 322 P **P 03 43 12.3 +0.8**
PD31 IAmb IAmb 03 43 14.7
comp=Z,15nm,1.3s
PDAR Pinedale Array 74.93 322 P **P 03 43 12.2 +0.7**
PDAR Pinedale Array 74.93 322 P **P 03 43 13.1 +1.6**
comp=Z,2.4nm,0.7s,baz=49,slow=4.5,SNR=24
comp=Z,2.4nm,0.7s
OK052 Battle Ridge R 74.96 309 P **P 03 43 11.7 +0.2**
OK052 IAmb IAmb 03 43 14.8
comp=Z,20nm,1.2s
E08A Dider Farm, El 75.02 330 P **P 03 43 11.8 +0.1**
N23A Red Feather La 75.06 318 P **P 03 43 12.5 +0.2**
baz=33,SNR=8.2
KSCO Kaye Shedlock' 75.20 315 P **P 03 43 14.3 +1.3**
baz=34,SNR=7.6
HAWA Hanford 75.26 330 P **P 03 43 13.7 +0.7**
HAWA IAmb IAmb 03 43 17.2
comp=Z,22nm,1.2s
AHID Auburn Hatcher 75.52 323 P **P 03 43 14.6 -0.2**

ISCO	Idaho Springs	75.84 318	P	P	03 43 17.2 +0.3
ISCO			IAmb	IAmb	03 43 21.0
	comp=Z,10nm,1.3s				
ISCO	Idaho Springs	75.84 318	P	P	03 43 18.3 +1.4
	baz=33				
ISCO	Idaho Springs	75.84 318	P	P	03 43 17.2 +0.3
ISCO			pmax	pmax	
	comp=Z,10.0nm,1.3s				
BMO	Blue Mountains	75.91 328	P	P	03 43 17.4 +0.5
BMO	Blue Mountains	75.91 328	P	P	03 43 17.4 +0.5
BMO			pmax	pmax	
	comp=Z,40nm,1.2s				
HLID	Hailey	76.05 325	P	P	03 43 19.1 +1.3
HLID			IAmb	IAmb	03 43 22.5
	comp=Z,12nm,1.0s				
HLID	Hailey	76.05 325	P	P	03 43 18.6 +0.8
	baz=29,SNR=27				
JTM	Tenmabayashi	76.30 40	P	P	03 43 19.4 +0.3
Q24A	Divide	76.34 317	P	P	03 43 19.9 +0.1
	baz=33				
O20A	White River Ci	76.64 319	P	P	03 43 22.5 +1.2
	baz=32,SNR=7.7				
LBTB	Lobatse	76.68 171	P	P	03 43 22.5 +1.2
LBTB	Lobatse	76.68 171	P	P	03 43 22.5 +1.2
LBTB			pmax	pmax	
	comp=Z,35nm,1.5s				
WMOK	Wichita Mounta	76.93 310	P	P	03 43 23.1 +0.3
	baz=36,SNR=7.1				
NATX	Nacogdoches	77.29 305	P	P	03 43 26.2 +1.5
	baz=37				
SDCO	Great Sand Dun	77.51 316	P	P	03 43 26.7 +0.4
SDCO			IAmb	IAmb	03 43 30.1
	comp=Z,13nm,1.3s				
SDCO	Great Sand Dun	77.51 316	P	P	03 43 26.5 +0.2
	baz=33,SNR=11				
T25A	Trinidad	77.54 315	P	P	03 43 26.7 +0.3
	baz=33,SNR=8.6				
S22A	4UR Ranch, Cre	78.08 317	P	P	03 43 29.2 -0.3
	baz=32,SNR=14				
AMTX	Amarillo	78.18 312	P	P	03 43 28.8 -1.0
	baz=34				
DUG	Dugway, Tooele	78.39 323	P	P	03 43 31.8 +0.8
	baz=30,SNR=22				
MJAR	Matsushiro Arr	78.69 44	P	P	03 43 34.2 +1.7
	comp=Z,1.8nm,0.5s,baz=329,slow=5.4,SNR=13				
	comp=Z,1.8nm,0.5s				
ELK	Elko	78.81 324	P	P	03 43 34.0 +0.6
ELK	Elko	78.81 324	P	P	03 43 34.0 +0.6
ELK			pmax	pmax	
	comp=Z,28nm,1.4s				
ABTX	Abilene, Hawle	79.06 309	P	P	03 43 35.8 +1.1
	baz=35				
MVCO	Mesa Verde	79.23 318	P	P	03 43 36.3 +0.5
	baz=32,SNR=6.0				
MSTX	Muleshoe	79.44 312	P	P	03 43 38.2 +1.4
	baz=34				
MSU	Marysvale	79.60 321	P	P	03 43 37.7 -0.1
MSU	Marysvale	79.60 321	P	P	03 43 37.7 -0.1
MTPU	Mount Pierson	80.01 321	P	P	03 43 39.9 -0.2
MTPU			IAmb	IAmb	03 43 44.7
	comp=Z,18nm,1.4s				
BOSA	Boshof	80.21 172	P	P	03 43 41.8 +1.0
BOSA			IAmb	IAmb	03 43 43.5
	comp=Z,18nm,1.2s				
BOSA	Boshof	80.21 172	P	P	03 43 42.7 +2.0
	comp=Z,5.0nm,0.8s,baz=26,slow=4.2,SNR=6.6				
	comp=Z,5.0nm,0.8s				
BOSA	Boshof	80.21 172	P	P	03 43 41.8 +1.0
BOSA			pmax	pmax	
	comp=Z,18nm,1.2s				
ANMO	Albuquerque	80.28 315	P	P	03 43 41.1 -0.4
	baz=32				
JCT	Junction City	80.90 308	P	P	03 43 45.7 +1.1
	baz=35				
R11B	Troy Canyon, C	81.04 324	P	P	03 43 45.5 +0.1
	baz=28,SNR=15				
SDV	Santo Domingo	81.12 273	P	P	03 43 46.4 +0.2
SDV			IAmb	IAmb	03 43 48.9
	comp=Z,19nm,1.4s				
SDV	Santo Domingo	81.12 273	eP	P	03 43 47.4 +1.3
WUAZ	Wupatki	81.87 319	P	P	03 43 50.4 +0.5
WUAZ	Wupatki	81.87 319	P	P	03 43 49.8 -0.1
	baz=30				
TPH	Tonopah	81.89 325	P	P	03 43 50.7 +0.8
TPH	Tonopah	81.89 325	P	P	03 43 50.7 +0.8
TPH			pmax	pmax	
	comp=Z,63nm,1.3s				
NVAR	Mina Array Bea	81.96 326	P	P	03 43 50.9 +0.6
NVAR	Mina Array Bea	81.96 326	P	P	03 43 52.5 +2.1
	comp=Z,3.1nm,1.0s,baz=40,slow=4.4,SNR=14				
	comp=Z,3.1nm,1.0s				
MZP	Montezuma Peak	82.28 325	P	P	03 43 53.1 +1.0
833A	Chaparral WMA,	82.46 307	P	P	03 43 56.0 +3.1
	baz=34				
TPNV	Topopah Spring	82.53 323	P	P	03 43 55.8 +2.5
	baz=28,SNR=9.3				
MNTX	Cornudas Mount	82.53 313	P	P	03 43 54.8 +1.6
	baz=32,SNR=7.6				
121A	Cookes Peak, D	82.91 315	P	P	03 43 55.6 +0.2
121A			IAmb	IAmb	03 43 58.9
	comp=Z,10nm,1.2s				
121A	Cookes Peak, D	82.91 315	P	P	03 43 56.0 +0.6
	baz=31				
CWC	Cottonwood Cre	83.65 324	P	P	03 44 00.9 +1.8
	baz=27				
TX31	Lajitas Ar. Si	83.72 310	P	P	03 44 00.5 +1.0
TX31			IAmb	IAmb	03 44 02.7
	comp=Z,14nm,1.4s				
TXAR	Lajitas Array	83.72 310	P	P	03 44 00.9 +1.5
	comp=Z,1.8nm,0.8s,baz=57,slow=4.6,SNR=27				
	comp=Z,1.8nm,0.8s				
TUQ	Turquoise Moun	83.74 322	P	P	03 44 00.7 +1.1
	baz=28				
MPMC	Manual Prospec	83.78 324	P	P	03 44 03.2 +3.4
	baz=27,SNR=16				
NEE2	Needles Airpor	83.82 321	P	P	03 44 00.6 +0.8
	baz=28				
PDMCI	Parker Dam,Lak	84.04 321	P	P	03 44 01.5 +0.6
	baz=29				
GSC	Goldstone, Bar	84.19 323	IAmb	IAmb	03 44 05.8
	comp=Z,12nm,1.3s				
GSC	Goldstone, Bar	84.19 323	P	P	03 44 03.0 +1.2
	baz=27,SNR=6.0				
GMRC	Granite Mounta	84.21 322	P	P	03 44 03.3 +1.4
	baz=28,SNR=7.9				
VOG	Valley Oaks Go	84.22 325	P	P	03 44 03.2 +1.4
	baz=26				
LRMC	Laurel Mtn Rad	84.36 324	P	P	03 44 03.1 +0.4
	baz=27				
TUC	Tucson	84.40 317	P	P	03 44 03.9 +1.0
	baz=30				
HEC	Hector,Ludlow	84.43 322	P	P	03 44 04.4 +1.4
	baz=28				
ISA	Isabella, Lake	84.49 324	P	P	03 44 04.2 +0.9
ISA	Isabella, Lake	84.49 324	P	P	03 44 04.2 +0.9
	baz=26,SNR=12				
ISA	Isabella, Lake	84.49 324	P	P	03 44 04.2 +0.9
ISA			pmax	pmax	
	comp=Z,43nm,1.4s				
VES	Vestal, Richgr	84.55 325	P	P	03 44 05.0 +1.5
	baz=26				
IRM	Iron Mountain	84.57 321	P	P	03 44 04.2 +0.5
	baz=28				
EDW2	Edwards Air Fo	85.01 324	P	P	03 44 06.6 +0.7
	baz=27,SNR=9.2				
BELC	Belle Mtn. Jos	85.03 322	P	P	03 44 05.8 -0.3
	baz=28				
ARVC	Arvin	85.09 324	P	P	03 44 06.8 +0.6
	baz=26				
BC3	Big Chuckawall	85.13 321	P	P	03 44 06.8 +0.2
	baz=28,SNR=6.2				
113A	Mohawk Valley,	85.24 320	IAmb	IAmb	03 44 11.2
	comp=Z,13nm,1.4s				
SMMC	Simmler	85.35 325	P	P	03 44 09.3 +1.8
	baz=26				
GLA	Glamis	85.41 321	P	P	03 44 09.4 +1.5
	baz=28				
BFSC	Mount Baldy Ra	85.45 323	P	P	03 44 09.4 +1.1
	baz=27				
BCW	Bitter Crk WRg	85.47 325	P	P	03 44 08.0 -0.3
214A	Organ Pipe Nat	85.55 318	P	P	03 44 10.2 +1.5
	baz=29				
PFO	Pinyon Flats O	85.56 322	P	P	03 44 09.4 +0.7
	baz=27,SNR=7.9				
TPFO	Pinon Flats	85.56 322	P	P	03 44 09.7 +0.9
	baz=27,SNR=7.8				
PKM	Mcpherson Peak	85.66 325	P	P	03 44 10.9 +1.5
	baz=26,SNR=8.2				
MURC	Murrieta	85.85 323	P	P	03 44 10.4 +0.3
	baz=27				
SWSC	Sam W. Stewart	85.89 321	P	P	03 44 11.8 +1.6
	baz=28				
MONP2	Monument Peak	86.18 322	P	P	03 44 12.0 +0.1
	baz=27				
IKP	In-Ko-Pah, Jac	86.27 321	P	P	03 44 13.2 +1.0
	baz=28				
SCZ2	Santa Cruz Isl	86.40 325	P	P	03 44 13.3 +0.5
	baz=26				
BDFB	Brasilia	86.97 240	P	P	03 44 17.2 +1.5
	comp=Z,4.8nm,1.0s,baz=83,slow=2.8,SNR=4.9				
	comp=Z,4.8nm,1.0s				
PDRB	Porto dos Gac	88.64 250	eP	P	03 44 25.5 +1.9
IPMB	Ipameri, GO	89.00 239	eP	P	03 44 26.7 +1.4
WRA	Warramunga Arr	122.84 81	PKP	PKiKP	03 50 27.5 +0.7
	comp=Z,1.1nm,1.1s,baz=316,slow=0.8,SNR=3.9				
ELIB	Princess Elisa	123.29 177	dPKPdf	PKiKP	03 50 27.2 +1.0
ASAR	Alice Springs	125.33 84	PKP	PKiKP	03 50 31.8 +0.1
	comp=Z,0.8nm,0.7s,baz=321,slow=2.0,SNR=7.7				
PPT2	Papeete2	144.28 336	eLR	LR	04 38 19.8
	comp=Z,122nm,25.8s				
PPT2			eLR	LR	04 38 21.5
	comp=Z,117nm,23.0s				
TBI	Tubuai	149.74 333	eLR	LR	04 40 56.4
	comp=Z,607nm,25.2s				
VNDA	Vanda	150.99 165	PKPbc	PKiKP	03 51 22.4 +0.2
	comp=Z,2.1nm,0.9s,baz=265,slow=4.2,SNR=5.8				

DJA ***20*** *04:04:40.1±0.3,2°N±3°×12°6E±°, h10km, M4.0/7, mb4.0/1, MLv4.0/7*
NEIC ***20*** *04:04:40.8±2.0, 1°.98N±0°.10×126°.38E±0°.08, h46km±7km, mb4.6/36, Error ellipse: s-maj=15.6km s-min=9.4km az=214.0*
IDC ***20*** *04:04:43.7±8.8, 1°.94N×126°.42E, h75km±83km, mb4.0/14, mbtmp4.3/14, MS3.5/4, Error ellipse: s-maj=49.8km s-min=15.5km az=73.0*

ISC 20 04:04:40.7±0.5, 1°.93N±0°.07×126°.44E±0°.08, h47km, n70, σ1ŝ14/67, mb4.5/31, MS3.7/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.48	141		Pn	04 05 05.4	+0.4
TNTI	Ternate	1.48	141	P	Pn	04 05 05.3	+0.4
TNTI				S	Sn	04 05 22.5	-0.7
KMSI	Cibinong	2.80	241	P	Pn	04 05 23.4	+0.3
GTOI	Gorontalo	3.66	249	P	Pn	04 05 39.5	+4.6
SANI	Sanana	3.98	187	P	Pn	04 05 38.7	-0.6
LUWI	Luwuk	4.71	231		Pn	04 05 50.8	+1.5
LUWI	Luwuk	4.71	231	P	Pn	04 05 51.6	+2.3
DAV	Davao City (W)	5.17	350	LR	LR	04 08 14.0	
	comp=Z,144nm,21.4s,baz=178,slow=41						
NLAI	Namlea	5.18	173	P	Pn	04 05 56.1	+0.3
TOLI2	Tolitoli	5.71	262	Pn	Pn	04 06 01.5	-1.6
MYLDM	Lahad Datu	8.55	292	Pn	Pn	04 06 43.7	+1.6
SBUM	Sibu	14.22	272	P	Pn	04 08 00.7	+1.2
KNRA	Kununurra	17.65	173		P	04 08 44.6	+0.9
FITZ	Fitzroy Crossi	19.92	182	P	P	04 09 08.6	-0.1
COEN	Coen	22.90	134	P	P	04 09 41.4	+0.6
WB0	Warramunga Arr	22.94	160	P	P	04 09 40.7	-0.4
WB0				IAmb	IAmb	04 09 42.5	
	comp=Z,33nm,1.2s						
WRAB	Tennant Creek	23.08	161	P	P	04 09 42.8	+0.3
WRAB				IAmb	IAmb	04 09 45.7	
	comp=Z,16nm,0.9s						
WRA	Warramunga Arr	23.08	161	P	P	04 09 41.5	-1.0
WRA	Warramunga Arr	23.08	161	P	P	04 09 42.2	-0.3
	comp=Z,12nm,0.7s,baz=338,slow=10,SNR=65						
	comp=Z,12nm,0.7s						
WB2	Warramunga Arr	23.09	161	P	P	04 09 42.1	-0.4
WB2				IAmb	IAmb	04 09 45.8	
	comp=Z,17nm,0.9s						
WR0	Warramunga Arr	23.16	160	P	P	04 09 43.0	-0.4
WR0				IAmb	IAmb	04 09 43.9	
	comp=Z,10nm,0.7s						
PMG	Port Moresby	23.52	119	LR	LR	04 21 05.8	
	comp=Z,138nm,21.1s,baz=150,slow=42						
MBWA	Marble Bar	23.87	196	P	P	04 09 49.5	-0.5
PSA00	Pilbara Seismi	24.24	195	P	P	04 09 52.8	-0.6
PSA00				IAmb	IAmb	04 10 25.0	
	comp=Z,17nm,1.4s						
AS31	Alice Springs	26.46	164	P	P	04 10 13.5	-0.2
ASAR	Alice Springs	26.46	164	P	P	04 10 14.1	+0.4
ASAR	Alice Springs	26.46	164	P	P	04 10 14.6	+0.9
	comp=Z,5.6nm,0.8s,baz=346,slow=7.9,SNR=28						
	comp=Z,5.6nm,0.8s						
FORT	Forrest	32.57	177	P	P	04 11 08.2	+0.6
BBOO	Buckleboo	35.73	166	P	P	04 11 35.2	+0.1
MJAR	Matsushiro Arr	36.12	16	P	P	04 11 39.3	+1.0
	comp=Z,1.1nm,0.3s,baz=180,slow=10,SNR=2.7						
	comp=Z,1.1nm,0.3s						
STKA	Stephens Creek	36.57	158	P	P	04 11 42.8	+0.5
	comp=Z,3.4nm,0.6s,baz=327,slow=11,SNR=7.5						
	comp=Z,3.4nm,0.6s						
SONM	Songino Array	48.90	342	P	P	04 13 22.7	+0.5
	comp=Z,1.2nm,0.7s,baz=163,slow=8.7,SNR=6.5						
SONM				LR	LR	04 36 08.6	
	comp=Z,68nm,18.5s,baz=214,slow=39						
	comp=Z,1.2nm,0.7s						
MK31	Makanchi Array	58.86	326	P	P	04 14 34.5	-0.4
MK31				IAmb	IAmb	04 14 35.8	
	comp=Z,2.2nm,0.6s						
MKAR	Makanchi Array	58.86	326	P	P	04 14 33.9	-0.9
MKAR	Makanchi Array	58.86	326	P	P	04 14 34.2	-0.6
	comp=Z,2.7nm,0.5s,baz=122,slow=8.3,SNR=40						
	comp=Z,2.7nm,0.5s						
MAKZ	Makanchi	59.05	326	P	P	04 14 33.7	-2.3
MAKZ				IAmb	IAmb	04 14 37.1	
	comp=Z,3.7nm,0.5s						
LBZ	Lake Benmore	60.38	145	P	P	04 14 46.2	+1.0
RTZ	Ruatahuna	61.53	137	P	P	04 14 54.3	+1.1
ZALV	Zalesovo Beam	62.05	334	P	P	04 14 55.3	-1.0
	comp=Z,0.7nm,0.3s,baz=123,slow=5.3,SNR=2.4						
	comp=Z,0.7nm,0.3s						
KURBB	Kurchatov Arra	63.09	328	P	P	04 15 03.4	+0.1
	comp=Z,3.7nm,0.4s,baz=126,slow=6.5,SNR=29						
	comp=Z,3.7nm,0.4s						
KURK	Kurchatov	63.09	328	P	P	04 15 03.4	0.0
BVAR	Borovoye Array	68.66	327	P	P	04 15 38.8	-0.4
	comp=Z,1.9nm,0.7s,baz=122,slow=5.6,SNR=8.2						
	comp=Z,1.9nm,0.7s						
NRIK	Noril'sk	72.09	346	P	P	04 15 59.6	-0.2
NRIK				IAmb	IAmb	04 16 04.7	
	comp=Z,3.4nm,0.6s						
NRIK	Noril'sk	72.09	346	P	P	04 16 00.6	+0.8
	comp=Z,3.1nm,0.6s,baz=119,slow=9.5,SNR=3.6						
	comp=Z,3.1nm,0.6s						
ABKAR	Akbulak array	73.35	321	P	P	04 16 06.2	-1.4
ABKAR	Akbulak array	73.35	321	P	P	04 16 06.3	-1.4
L14K	Kuka Creek	79.21	28	P	P	04 16 39.4	-1.2
L16K	Owhat River	80.79	28	P	P	04 16 49.2	0.0
L16K				IAmb	IAmb	04 16 53.3	
	comp=Z,4.1nm,0.8s						
M17K	Holitna River	81.68	28	P	P	04 16 52.2	-1.7
M17K				IAmb	IAmb	04 17 02.5	
	comp=Z,8.5nm,1.3s						
VNDA	Vanda	81.69	173	P	P	04 16 53.8	+0.2
VNDA	Vanda	81.69	173	P	P	04 16 54.1	+0.5
	comp=Z,0.6nm,0.5s,baz=310,slow=7.1,SNR=6.2						
	comp=Z,0.6nm,0.5s						
L18K	Granite Mounta	82.19	27	P	P	04 16 56.0	-0.5
C19K	Lookout Ridge	82.51	20	P	P	04 17 00.2	+1.9
C19K				IAmb	IAmb	04 17 06.1	
	comp=Z,11nm,1.1s						
G19K	Purcell Mounta	82.78	23	P	P	04 16 59.3	-0.3
G19K				IAmb	IAmb	04 17 04.3	
	comp=Z,4.7nm,0.9s						
D19K	Kuna River	82.89	21	P	P	04 17 02.4	+2.2
D19K				IAmb	IAmb	04 17 04.3	
	comp=Z,8.9nm,1.2s						
H19K	Roundabout Mou	82.92	24	P	P	04 17 00.0	-0.2
H19K				IAmb	IAmb	04 17 04.8	
	comp=Z,5.6nm,0.8s						
J19K	Poorman	82.98	26	P	P	04 16 59.1	-1.6
J19K				IAmb	IAmb	04 17 05.0	
	comp=Z,3.9nm,0.8s						
E19K	Redstone River	82.99	22	P	P	04 17 00.7	0.0
E19K				IAmb	IAmb	04 17 05.1	
	comp=Z,5.6nm,0.9s						
L19K	White Mountain	83.03	28	P	P	04 17 00.2	-0.8
L19K				IAmb	IAmb	04 17 10.7	
	comp=Z,10nm,1.4s						
IMAR	Indian Mountai	84.09	24	P	P	04 17 09.2	+2.9
SUA	Susitna One	84.87	29	P	P	04 17 12.6	+2.1
FIS	Fire Island	85.09	29	P	P	04 17 10.3	-1.1
G23K	Bananza Creek	85.67	23	P	P	04 17 13.7	-0.6
G23K				IAmb	IAmb	04 17 42.1	
	comp=Z,3.5nm,1.3s						
ILAR	Eielson Array	86.84	25	P	P	04 17 18.3	-1.8
	comp=Z,0.2nm,0.6s,baz=229,slow=4.8,SNR=4.2						
	comp=Z,0.2nm,0.6s						
BMAR	Burnt Mountain	87.83	23	P	P	04 17 26.9	+2.1
OBN	Obninsk	88.35	325	LR	LR	04 57 45.1	
	comp=Z,80nm,21.7s,baz=191,slow=36						
BCAR	Beaver Creek A	89.10	27	P	P	04 17 33.1	+2.2
QSPA	South Pole Qui	91.85	180	P	P	04 17 42.1	-1.6
ARCES	ARCESS Array B	92.02	340	P	P	04 17 44.1	-0.2
	comp=Z,1.1nm,0.8s,baz=80,slow=5.6,SNR=2.0						
	comp=Z,1.1nm,0.8s						
FINES	FINESS Array B	93.27	332	P	P	04 17 48.9	-1.3
	comp=Z,3.8nm,1.2s,baz=53,slow=7.4,SNR=3.5						
	comp=Z,3.8nm,1.2s						

IDC 20 04:21:45.3±1.6, 0°.50N×122°.57E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=174.4km s-min=27.1km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.36	151	P	P	04 26 55.8	+0.1
	0.6nm,0.5s,baz=330,slow=11,SNR=10						
	0.6nm,0.5s						
SONM	Songino Array	49.20	346	P	P	04 30 36.1	+0.6
	0.4nm,0.4s,baz=168,slow=8.8,SNR=2.9						
	0.4nm,0.4s						
MKAR	Makanchi Array	57.97	328	P	P	04 31 39.0	-0.8
	0.4nm,0.5s,baz=124,slow=8.1,SNR=3.8						
	0.4nm,0.5s						

IDC ***20*** *04:24:34.2±0.6, 60°.34S×27°.70W, h0km, mb4.3/10, mbtmp4.3/11, MLA.6/1, MS4.7/40, Error ellipse: s-maj=27.1km s-min=16.5km az=67.0*
NEIC ***20*** *04:24:36.5±1.8, 60°.55±0°.1×27°.5W±0°.2, h10km±1km, mb4.7/25, Error ellipse: s-maj=21.9km s-min=13.9km az=231.0*
GCMT ***20*** *04:24:40.5±0.1, 60°.74S±0°.01×27°.69W±0°.01, h12km, MW5.2/144, Moment Tensor Solution. s51,c67; s144,c244; Duration: 1ŝ0 Moment tensor: Scale 10^16 Nm; Mrr-0.42±.13; Mθθ-1.37±.14; Mφφ 1.79±.12; Mrθ-4.83±.34; Mθφ-7.19±.10; Mφr1.44±.33; Best double couple: M0 8.88100×10^16 NP1:φs 277.00000°, δ89.00000°, λ146.00000°. NP2:φs 7.00000°, δ56.00000°, λ1.00000°. Principal axes: T 9.4150, Plg24.0000°, Azm227.0000°; N -1.0650, Plg56.0000°, Azm96.0000°; P -8.3470, Plg23.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 04:24:36.0±0.4, 60°.52S±0°.07×27°.36W±0°.08, h10km, n99, σ1ŝ81/63, mb4.7/26, MS4.7/39, 7C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.96	318	Pn	Pn	04 26 32.6	+1.1
VNA1	Neumayer--Stat	12.78	150	⇑P	Pn	04 27 37.6	+0.1
	comp=Z,33nm,0.4s						
VNA1				⇓S	Sn	04 29 55.9	-3.7
	comp=Z,14nm,1.1s						
VNA3	Neumayer Olymp	12.88	154	⇑P	Pn	04 27 38.4	-0.5
	comp=Z,149nm,1.0s						
VNA3				⇑S	Sn	04 29 52.5	-10
	comp=Z,14nm,0.6s						
VNA2	Neumayer--Watz	13.18	151	⇑P	Pn	04 27 43.0	+0.1
	comp=Z,17nm,0.7s,baz=298,slow=16						
VNA2				⇓S	Sn	04 30 01.9	-7.5
	comp=Z,4.1nm,0.6s,baz=292,slow=17						
SNAA	Sanae	14.79	149		Pn	04 28 05.7	+0.7
SNAA	Sanae	14.79	149	eP	Pn	04 28 06.7	+1.7
SNAA	Sanae	14.79	149	⇑P	Pn	04 28 06.1	+1.1
	comp=Z,686nm,0.4s						
SNAA				⇓S	Sn	04 30 42.0	-6.6
	comp=Z,150nm,0.5s						
SNAA	Sanae	14.79	149	Pn	Pn	04 28 06.1	+1.1
	comp=Z,2.8nm,0.3s,baz=314,slow=14,SNR=78						
SNAA				Sn	Sn	04 30 44.3	-4.4
	comp=Z,0.8nm,0.3s,baz=235,slow=18,SNR=5.2						
SNAA				LR	LR	04 32 46.1	
	comp=Z,5μm,19.2s,baz=316,slow=33						
	comp=Z,14nm,0.4s						
TROLL	Troll, Antarti	16.39	147	⇑P	Pn	04 28 27.6	+1.7
	comp=Z,1μm,1.0s						
TROLL				⇑S	Sn	04 31 20.6	-7.0
	comp=Z,90nm,0.5s						
PMSA	Palmer Station	17.21	240		P	04 28 36.7	-1.0
PMSA				IAmb	IAmb	04 28 38.7	
	comp=Z,42nm,1.1s						
PMSA	Palmer Station	17.21	240	LR	LR	04 34 09.3	
	comp=Z,4μm,19.9s,baz=90,slow=34						
BELA	Belgrano 2	17.60	185	P	Pn	04 28 41.5	+0.6
SMAI	San Martin Ant	18.51	229		P	04 28 54.9	+3.0
EFI	East Falkland	19.12	284	P	P	04 28 57.3	-1.4
EFI				IAmb	IAmb	04 29 02.9	
	comp=Z,39nm,1.1s						
QSPA	South Pole Qui	29.71	180	P	P	04 30 44.2	+2.2
QSPA	South Pole Qui	29.71	180	P	P	04 30 43.6	+1.7
	comp=Z,2.2nm,0.7s,baz=189,slow=0.5,SNR=11						
QSPA				LR	LR	04 42 13.9	
	comp=Z,1μm,19.2s,baz=190,slow=35						
	comp=Z,2.2nm,0.7s						
LL02	Futaleuf	31.71	283	P	P	04 30 58.4	-1.1
LL02				IAmb	IAmb	04 31 14.1	
	comp=Z,12nm,1.3s						
PLCA	Paso Flores	32.97	287	LR	LR	04 44 40.5	
	comp=Z,1μm,18.2s,baz=137,slow=37						
MAW	Mawson	36.67	140	P	P	04 31 45.6	+3.3
	comp=Z,4.0nm,0.9s,baz=250,slow=13,SNR=6.5						
MAW				LR	LR	04 45 41.0	
	comp=Z,1μm,19.5s,baz=248,slow=34						
	comp=Z,4.0nm,0.9s						
SPB	Sao Paulo	39.46	330	P	P	04 32 05.4	-0.7
SPB				IAmb	IAmb	04 32 12.1	
	comp=Z,27nm,1.5s						
CPUP	Villa Florida	39.83	316	P	P	04 32 08.9	-0.3
CPUP	Villa Florida	39.83	316	P	P	04 32 06.9	-2.4
	comp=Z,1.6nm,0.5s,baz=162,slow=6.2,SNR=6.8						
CPUP				LR	LR	04 46 45.8	
	comp=Z,2μm,21.8s,baz=162,slow=34						
	comp=Z,1.6nm,0.5s						
VAO	Valinhos	39.91	331	P	P	04 32 09.5	-0.5
VAO				IAmb	IAmb	04 32 17.5	
	comp=Z,20nm,1.1s						
SBA	Scott Base	41.60	184	P	P	04 32 25.3	+2.0
SUR	Sutherland	42.07	70	P	P	04 32 28.3	+0.4
SUR	Sutherland	42.07	70	LR	LR	04 46 41.7	
	comp=Z,975nm,18.5s,baz=201,slow=32						
VNDA	Vanda	42.09	183	P	P	04 32 27.9	+0.7
VNDA	Vanda	42.09	183	P	P	04 32 27.9	+0.6
	comp=Z,1.1nm,0.9s,baz=178,slow=5.7,SNR=8.3						
VNDA				LR	LR	04 49 20.3	
	comp=Z,366nm,19.3s,baz=174,slow=35						
	comp=Z,1.1nm,0.9s						
GO02	Mina Guanaco	45.62	302	P	P	04 32 56.0	-0.7
UP

comp=Z,36nm,1.7s
CASY Casey 49.73 159 P **P 04 33 27.8 +0.2**
LBTB Lobatse 50.52 70 P **P 04 33 35.1 +0.9**
LBTB IAmb IAmb 04 33 42.9
comp=Z,10nm,1.1s
LBTB Lobatse 50.52 70 LR LR 04 51 33.1
comp=Z,888nm,18.4s,baz=201,slow=32
PTLB Pontes e Lacer 50.54 319 P **P 04 33 34.6 +0.3**
PTLB IAmb IAmb 04 33 48.5
comp=Z,5.2nm,0.8s
SIV San Ignacio 50.68 316 LR LR 04 54 54.4
comp=Z,917nm,19.3s,baz=180,slow=36
HRAO HartRAO 50.75 72 *eP* **P 04 33 37.8 +1.8**
TSWA Tswaing Meteor 51.33 73 *eP* **P 04 33 40.7 +0.3**
TSWA IAmb IAmb 04 33 58.7
comp=Z,7.5nm,0.9s
TSUM Tsumeb 52.05 58 P **P 04 33 47.5 +1.7**
TSUM IAmb IAmb 04 34 02.4
comp=Z,8.2nm,1.2s
TSUM Tsumeb 52.05 58 *eP* **P 04 33 46.0 +0.2**
TSUM Tsumeb 52.05 58 LR LR 04 51 00.9
comp=Z,1μm,21.8s,baz=197,slow=30
MTLB Matlabas, Limp 52.22 70 *eP* **P 04 33 48.8 +1.8**
MTLB IAmb IAmb 04 34 03.1
comp=Z,186nm,3.0s
H10S2 ASCENSION HYDR 53.33 16 T T 05 30 41.2
baz=32,slow=74,SNR=40
H10S3 ASCENSION HYDR 53.33 16 T T 05 30 40.5
baz=188,slow=74,SNR=47
DULL Dullstroom, Mp 52.38 75 *eP* **P 04 33 47.4 -0.9**
DULL IAmb IAmb 04 33 58.1
comp=Z,18nm,1.4s
LPAZ La Paz 52.99 308 P **P 04 33 52.5 -0.9**
LPAZ IAmb IAmb 04 34 07.1
comp=Z,14nm,1.5s
LPAZ La Paz 52.99 308 P **P 04 33 52.4 -0.9**
comp=Z,1.6nm,0.5s,baz=139,slow=4.5,SNR=11
LPAZ LR LR 04 57 51.5
comp=Z,558nm,19.6s,baz=140,slow=38
comp=Z,1.6nm,0.5s
H10N1 ASCENSION HYDR 53.45 16 T T 05 32 04.4
baz=181,slow=73,SNR=4.6
H10N3 ASCENSION HYDR 53.45 16 T T 05 32 08.5
baz=181,slow=73,SNR=11
H10N2 ASCENSION HYDR 53.46 16 T T 05 32 05.6
baz=181,slow=73,SNR=12
CRAIL Swartwater, Li 53.65 71 *eP* **P 04 33 58.2 +0.7**
MPHEP Siloam, Limpop 54.47 73 *eP* **P 04 34 04.1 +0.6**
MPHEP IAmb IAmb 04 34 30.7
comp=Z,104nm,2.5s
MOPA Mopani 54.52 75 *eP* **P 04 34 08.0 +4.2**
MOPA IAmb IAmb 04 34 21.6
comp=Z,169nm,2.0s
MATP Matopo 55.81 70 LR LR 04 54 46.4
comp=Z,466nm,18.1s,baz=234,slow=32
ETMB Extrema 58.21 313 P **P 04 34 30.4 +0.2**
ETMB IAmb IAmb 04 34 40.6
comp=Z,6.0nm,1.1s
KRI Karoi 59.45 69 *eP* **P 04 34 40.3 +1.3**
LSZ Lusaka 60.16 67 P **P 04 34 43.8 0.0**
LSZ IAmb IAmb 04 34 51.4
comp=Z,6.7nm,0.7s
NNA Nana 60.41 301 P **P 04 34 45.0 -0.5**
MAL2 Monte Alegre, 61.87 329 P **P 04 34 56.2 +1.0**
MAL2 IAmb IAmb 04 35 02.9
comp=Z,6.3nm,0.9s
RPN Rapa Nui 62.89 262 LR LR 04 57 50.0
comp=Z,198nm,19.1s,baz=125,slow=32
ATAH Atahualpa 65.43 302 LR LR 05 02 48.7
comp=Z,280nm,21.7s,baz=153,slow=35
BOAV Boa Vista 67.82 324 P **P 04 35 34.1 +0.1**
BOAV IAmb IAmb 04 35 43.3
comp=Z,10.0nm,1.2s
MDP Montagnes des 68.36 333 LR LR 05 04 28.7
comp=Z,418nm,20.3s,baz=142,slow=35
DBIC Dimbokro 69.29 24 LR LR 04 59 06.4
comp=Z,312nm,21.2s,baz=170,slow=30
ROSC El Rosal 74.72 311 LR LR 05 09 19.1
comp=Z,741nm,21.7s,baz=214,slow=36
RPZ Rata Peaks 75.03 194 LR LR 05 05 12.8
comp=Z,324nm,20.9s,baz=147,slow=32
BBTS Babate 75.43 11 LR LR 05 05 27.9
comp=Z,200nm,18.1s,baz=143,slow=33
PCRV Puerto La Cruz 76.42 322 LR LR 05 10 49.4
comp=Z,529nm,19.8s,slow=36
TORD Torodi Ar. Bea 77.01 29 P **P 04 36 27.7 -1.0**
comp=Z,3.9nm,0.5s,baz=206,slow=6.0,SNR=30
TORD LR LR 05 03 28.1
comp=Z,487nm,21.7s,baz=179,slow=30
comp=Z,3.9nm,0.5s
SDV Santo Domingo 77.15 316 LR LR 05 11 55.1
comp=Z,964nm,19.2s,baz=133,slow=37
URZ Urewera 79.54 199 LR LR 05 08 20.3
comp=Z,233nm,19.9s,baz=220,slow=33
NWAO Narrogin (SRO) 82.46 151 LR LR 05 11 09.5
comp=Z,336nm,18.3s,baz=234,slow=34
JTS Las Juntas de 83.88 303 LR LR 05 14 02.4
comp=Z,211nm,21.7s,baz=124,slow=36
SJG San Juan 84.37 323 LR LR 05 14 48.6
comp=Z,400nm,19.8s,baz=166,slow=36
FURI Furi 86.27 65 LR LR 05 12 42.0
comp=Z,748nm,19.7s,baz=202,slow=33
STKA Stephens Creek 87.49 171 LR LR 05 14 19.7
comp=Z,687nm,20.6s,baz=185,slow=34
PPT Papeete 89.47 234 LR LR 05 10 07.1
comp=Z,698nm,18.1s,baz=128,slow=31
RAR Rarotonga 89.92 224 LR LR 05 10 23.6
comp=Z,112nm,20.3s,baz=166,slow=31
ATD Arta Tunnel 90.48 67 LR LR 05 15 18.1
comp=Z,25nm,20.5s,baz=190,slow=34
TEIG Tepich 94.19 305 LR LR 05 24 18.1
comp=Z,166nm,18.9s,baz=78,slow=38
ASAR Alice Springs 94.73 163 P **P 04 37 57.9 +0.4**
comp=Z,1.3nm,0.8s,baz=191,slow=4.1,SNR=9.0
ASAR LR LR 05 18 25.0
comp=Z,1μm,19.4s,baz=194,slow=34
comp=Z,1.3nm,0.8s
MDT Midelt 94.86 19 LR LR 05 17 06.8
comp=Z,405nm,18.3s,baz=190,slow=33
DZM Mont Dzumac 96.94 193 LR LR 05 19 16.4
comp=Z,256nm,19.4s,baz=187,slow=34
WRA Warramunga Arr 98.46 163 P Pdif 04 38 15.1 +0.8
comp=Z,0.4nm,0.8s,baz=191,slow=3.7,SNR=2.6
WRA LR LR 05 19 59.7
comp=Z,1μm,20.4s,baz=177,slow=34
comp=Z,0.4nm,0.8s
CTA Charters Tower 99.51 174 LR LR 05 23 06.2
comp=Z,51nm,19.0s,baz=188,slow=35
FINES FINESS Array B 128.36 29 PKP **PKPdf 04 43 40.9 -0.1**
comp=Z,2.9nm,0.9s,baz=131,slow=4.0,SNR=1.9
ARCES ARCESS Array B 135.12 23 PKP **PKPdf 04 43 51.0 -2.7**
comp=Z,1.0nm,0.7s,baz=274,slow=2.4,SNR=3.9
MKAR Makanchi Array 138.22 76 PKP **PKPdf 04 44 00.4 +0.2**
comp=Z,0.9nm,1.0s,baz=256,slow=0.5,SNR=3.6
ZALV Zalesovo Beam 144.23 69 PKP **PKPab 04 44 08.3 -0.2**
comp=Z,1.9nm,0.5s,baz=277,slow=3.8,SNR=4.7
SONM Songino Array 150.77 95 PKPbc **PKPbc 04 44 27.4 -0.1**
comp=Z,1.7nm,0.6s,baz=234,slow=3.1,SNR=9.4
KSRS Korea Array 152.11 135 PKPbc **PKPbc 04 44 31.2 +0.6**
comp=Z,1.3nm,0.8s,baz=201,slow=2.3,SNR=5.4
ILAR Eielson Array 152.84 305 PKPbc **PKPbc 04 44 29.1 -2.3**
comp=Z,0.3nm,0.6s,baz=261,slow=0.8,SNR=6.3

JMA ***20*** *04:42:53.6±0.2,25°N±1°×122°4E±0°5,h0km,MV2.7/7, TAIWAN REGION*
TAP ***20*** *04:42:53.6,24°92N×122°41E,h19km±1km,ML2.9,C*
ISC 20 04:42:53.8±1.0,24°87N±0°03×122°40E±0°03,h14km±9km, n42,σ0°46/67,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.40**	**290**	*i* P	**Pg**	**04 43 01.9**	**+0.2**
	baz=283						
TWB1				*i* S	**Sg**	**04 43 07.1**	**0.0**
	baz=283						
EGS		**0.43**	**266**	P	**Pb**	**04 43 03.3**	**+0.2**
	baz=250						
EGS				S	**Sb**	**04 43 10.3**	**+1.0**
	baz=250						
EOS2	**EOS2**	**0.48**	**199**	P	**Pb**	**04 43 04.0**	**+0.1**
	baz=207						
EOS2				*i* S	**Sb**	**04 43 11.8**	**+1.1**
	baz=207						
SXI1	**Grass Mountain**	**0.52**	**295**	*i* P	**Pb**	**04 43 04.5**	**-0.2**
	baz=289						
SXI1				*i* S	**Sb**	**04 43 12.6**	**+0.4**
	baz=289						
TIPB	**Shuangxi**	**0.53**	**281**	P	**Pb**	**04 43 04.5**	**-0.3**
	baz=275						
TIPB				*i* S	**Sb**	**04 43 12.3**	**-0.1**
	baz=275						
TWC	**Suao**	**0.56**	**242**	*i* P	**Pg**	**04 43 04.7**	**-0.2**
	baz=238						
TWC				*i* S	**Sb**	**04 43 12.9**	**-0.4**
	baz=238						
ESAO	**Su ao**	**0.59**	**240**	*eS*	**Sb**	**04 43 14.7**	**+0.8**
	baz=236						
EOS3	**EOS3**	**0.59**	**187**	*eP*	**Pb**	**04 43 06.2**	**+0.4**
	baz=187						
EOS3				*i* S	**Sn**	**04 43 15.9**	**-1.0**
	baz=187						
NWF	**Wu-fen Shan**	**0.59**	**289**	*eP*	**Pb**	**04 43 06.1**	**+0.1**
	baz=284						
NWF				*i* S	**Sb**	**04 43 14.0**	**-0.2**
	baz=284						
WFSB	**Wu-fen Shan**	**0.59**	**289**	*i* P	**Pb**	**04 43 06.1**	**+0.2**
	baz=284						
WFSB				*i* S	**Sb**	**04 43 14.5**	**+0.3**
	baz=284						
TNOU	**National Taiwa**	**0.63**	**296**	P	**Pb**	**04 43 06.6**	**+0.1**
	baz=291						
TNOU				S	**Sb**	**04 43 15.0**	**-0.2**
	baz=291						
JYNG	**Yonagunijimaku**	**0.65**	**130**	P	**Pg**	**04 43 06.4**	**-0.1**
JYNG				*eS*	**Sg**	**04 43 15.0**	**-0.1**
NDS	**Dongshan**	**0.67**	**249**	P	**Pb**	**04 43 07.5**	**+0.3**
	baz=245						
NDS				*eS*	**Sn**	**04 43 18.2**	**-0.8**
	baz=245						
TWE	**Neicheng**	**0.68**	**257**	*eP*	**Pb**	**04 43 07.5**	**0.0**
	baz=253						
TWE				S	**Sb**	**04 43 17.8**	**+1.1**
	baz=253						
YOJ	**Yonaguni jima**	**0.69**	**126**	⇑*iP*	**Pg**	**04 43 07.2**	**-0.1**
	baz=121						
YOJ				*i* S	**Sg**	**04 43 16.4**	**0.0**
	baz=121						
YOJ	**Yonaguni jima**	**0.69**	**126**	P	**Pg**	**04 43 06.7**	**-0.5**
YOJ				S	**Sg**	**04 43 16.1**	**-0.3**
EWUT	**Wuta**	**0.71**	**233**	*eP*	**Pb**	**04 43 08.1**	**+0.2**
	baz=230						
EWUT				*eS*	**Sb**	**04 43 18.6**	**+1.2**
	baz=230						
ENA	**Nanau**	**0.74**	**234**	P	**Pb**	**04 43 08.7**	**+0.2**
	baz=230						
ENA				*eS*	**Sb**	**04 43 18.4**	**-0.1**
	baz=230						
FUSB	**Fushanzhiwuyua**	**0.75**	**261**	*eP*	**Pb**	**04 43 08.6**	**0.0**
	baz=257						
FUSB				*i* S	**Sb**	**04 43 19.5**	**+0.9**
	baz=257						
TWA	**Mucha**	**0.75**	**278**	*eP*	**Pg**	**04 43 08.3**	**0.0**
	baz=274						
EOS4	**EOS4**	**0.75**	**186**	*eP*	**Pb**	**04 43 09.2**	**+0.8**
	baz=186						
YM08	**YM08**	**0.80**	**293**	*eP*	**Pg**	**04 43 09.0**	**-0.3**
	baz=289						
YM08				S	**Sb**	**04 43 20.1**	**0.0**
	baz=289						
YM01	**YM01**	**0.80**	**290**	*eP*	**Pg**	**04 43 09.4**	**0.0**
	baz=286						
YM01				*eS*	**Sb**	**04 43 20.8**	**+0.7**
	baz=286						
EAHA	**Aohua**	**0.81**	**228**	*eP*	**Pg**	**04 43 08.8**	**-0.7**
	baz=226						
EAHA				*eS*	**Sb**	**04 43 20.2**	**-0.1**
	baz=226						
PCYT	**Pengchaiyu**	**0.81**	**339**	P	**Pg**	**04 43 09.6**	**+0.1**
	baz=321						
NWLT	**Wulai**	**0.82**	**264**	*eP*	**Pb**	**04 43 10.0**	**+0.2**
	baz=260						
NWLT				*eS*	**Sg**	**04 43 20.6**	**+0.1**
	baz=260						
TWY	**Chenhua**	**0.83**	**299**	P	**Pb**	**04 43 10.4**	**+0.5**
	baz=295						
TWY				*eS*	**Sn**	**04 43 22.8**	**-0.2**
	baz=295						
NDT	**Datong Townshi**	**0.85**	**252**	*eP*	**Pb**	**04 43 10.8**	**+0.5**
	baz=237						
NDT				*eS*	**Sb**	**04 43 22.3**	**+0.8**
	baz=237						
LATG	**Datong**	**0.86**	**247**	*eP*	**Pb**	**04 43 10.7**	**+0.2**
	baz=244						
YHNB	**Yeheng**	**0.95**	**258**	*eP*	**Pb**	**04 43 12.2**	**+0.2**
	baz=264						
NSK	**Sanguang**	**0.97**	**259**	*eP*	**Pb**	**04 43 12.4**	**+0.1**
	baz=264						
NACB	**Ninganchiao**	**1.01**	**227**	P	**Pb**	**04 43 13.3**	**+0.3**
	baz=234						
NACB				S	**Sg**	**04 43 26.0**	**-0.5**
	baz=234						
NNSB	**Datong**	**1.03**	**245**	*eP*	**Pg**	**04 43 13.3**	**-0.3**
	baz=242						
NNS	**Nan Shan**	**1.03**	**245**	*eP*	**Pn**	**04 43 14.0**	**+0.2**
	baz=242						
ETLH	**Xiulin Townshi**	**1.07**	**232**	P	**Pg**	**04 43 14.0**	**-0.4**
	baz=229						
NFF	**Wufeng Townshi**	**1.19**	**259**	P	**Pb**	**04 43 15.9**	**-0.2**
	baz=255						
LXIB	**Xiulin Townshi**	**1.24**	**227**	*eP*	**Pg**	**04 43 17.2**	**-0.4**
	baz=225						
WHF	**Hehuan Shan**	**1.26**	**235**	P	**Pg**	**04 43 17.9**	**-0.2**
	baz=233						
IRIF	**Iriomote-Funau**	**1.32**	**114**	*eP*	**Pg**	**04 43 18.9**	**-0.3**
CHGB	**Renai**	**1.38**	**234**	*eP*	**Pg**	**04 43 20.3**	**-0.1**
	baz=232						
WUSB	**Renai**	**1.46**	**233**	*eP*	**Pb**	**04 43 21.2**	**+0.4**
	baz=231						
VWDT	**VWDT**	**1.60**	**226**	P	**Pb**	**04 43 23.4**	**+0.3**
	baz=208						

SJA ***20*** *04:53:57.7±0.7,32°00S×71°86W,h41km±999km,ML3.3, MW3.5*
GUC ***20*** *04:54:00.3±0.8,32°00S×71°67W,h50km±8km,ML3.6*
ISC 20 04:53:58.2±1.4,32°02S±0°02×71°89W±0°06,h21km±4km, n47,σ1°48/82,3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.74**	**138**	*eP*	**Pb**	**04 54 13.2**	**+0.8**
VA06				*eS*	**Sb**	**04 54 22.9**	**+0.9**
VA06				IAML		04 54 23.6	
	comp=N,7μm,0.4s						
VA01	**Torpederas**	**1.02**	**169**	*eP*	**Pb**	**04 54 18.0**	**+0.8**
VA01	**Torpederas**	**1.02**	**169**	*eP*	**Pb**	**04 54 18.1**	**+0.9**
VA01				*eS*	**Sb**	**04 54 31.2**	**+0.9**
VA01				IAML		04 54 32.3	
	comp=E,2μm,0.1s						
CO02	**Combarbal**	**1.11**	**43**	*eP*	**Pn**	**04 54 17.6**	**-1.0**
CO02				*eS*	**Sb**	**04 54 30.9**	**-1.9**
CO02				IAML		04 54 31.4	
	comp=Z,2μm,0.3s						
CO02	**Combarbal**	**1.11**	**43**	*eP*	**Pn**	**04 54 17.6**	**-1.0**
CO02				*eS*	**Sb**	**04 54 30.4**	**-2.4**
ROCH	**El Roble**	**1.21**	**142**	*i* P	**Pn**	**04 54 19.7**	**-0.3**
ROCH				⇓*iP*	**Pn**	**04 54 19.8**	**-0.3**
ROCH				*eS*	**Sb**	**04 54 34.4**	**-1.4**
ROCH				*eS*	**Sb**	**04 54 34.4**	**-1.4**
ROCH				IAML		04 54 35.7	
	comp=N,2μm,0.3s						
ROC1	**El Roble**	**1.21**	**143**	*eP*	**Pn**	**04 54 19.7**	**-0.4**
ROC1				*eS*	**Sb**	**04 54 33.9**	**-1.9**
CO06	**Fray Jorge**	**1.35**	**9**	*i* P	**Pn**	**04 54 21.5**	**-0.4**
CO06				*eS*	**Sn**	**04 54 36.7**	**-2.5**
CO06				IAML		04 54 38.9	
	comp=N,1μm,0.1s						
VA03	**San Esteban**	**1.35**	**124**	*eP*	**Pn**	**04 54 21.2**	**-0.7**
VA03				*eS*	**Sn**	**04 54 37.5**	**-1.8**
VA03				IAML		04 54 38.6	
	comp=Z,868nm,0.3s						
VA03	**San Esteban**	**1.35**	**124**	⇓*iP*	**Pn**	**04 54 21.2**	**-0.7**
VA03				*eS*	**Sn**	**04 54 36.7**	**-2.7**
VA03				IAML		04 54 38.6	
	comp=E,2μm,0.1s						
MT02	**Curacav**	**1.39**	**153**	*eP*	**Pn**	**04 54 22.1**	**-0.4**
MT02				*eS*	**Sn**	**04 54 36.7**	**-3.5**
MT02				IAML		04 54 42.2	
	comp=Z,197nm,0.3s						
MT02	**Curacav**	**1.39**	**153**	⇓*iP*	**Pn**	**04 54 22.2**	**-0.2**
MT02				*eS*	**Sn**	**04 54 39.0**	**-1.2**
PEL	**Peldehue**	**1.51**	**138**	*eP*	**Pn**	**04 54 23.7**	**-0.4**
PEL				*eS*	**Sn**	**04 54 41.6**	**-1.6**
PEL	**Peldehue**	**1.51**	**138**	*eP*	**Pn**	**04 54 23.7**	**-0.4**
PEL				*eS*	**Sn**	**04 54 41.0**	**-2.3**
PEL				IAML		04 54 43.5	
	comp=N,1μm,0.2s						
CO03	**El Pedregal**	**1.56**	**41**	*eP*	**Pn**	**04 54 24.1**	**-0.6**
CO03				*eS*	**Sn**	**04 54 42.4**	**-1.9**
CO03				IAML		04 54 43.9	
	comp=Z,420nm,0.1s						
CO03	**El Pedregal**	**1.56**	**41**	*eP*	**Pn**	**04 54 23.9**	**-0.8**
CO03				*eS*	**Sn**	**04 54 41.8**	**-2.6**
CO03				IAML		04 54 44.1	
	comp=E,1μm,0.2s						
VA05	**Santo Domingo**	**1.65**	**172**	*eP*	**Pn**	**04 54 26.5**	**+0.5**
VA05				*eS*	**Sn**	**04 54 46.1**	**-0.4**
VA05				IAML		04 54 53.5	
	comp=E,796nm,0.4s						
MT05	**Renca**	**1.68**	**145**	*eP*	**Pn**	**04 54 28.1**	**+1.7**
MT05				*eS*	**Sn**	**04 54 47.6**	**+0.3**
MT05				IAML		04 54 48.4	
	comp=Z,548nm,0.4s						
MT05	**Renca**	**1.68**	**145**	*eP*	**Pn**	**04 54 27.6**	**+1.2**
MT05				*eS*	**Sn**	**04 54 45.6**	**-1.7**
MT05				IAML		04 54 49.0	
	comp=E,1μm,0.3s						
MT10	**Hacienda Santa**	**1.69**	**138**	*eP*	**Pn**	**04 54 26.6**	**-0.1**
MT10				*eS*	**Sn**	**04 54 46.1**	**-1.7**
MT10				IAML		04 54 47.6	
	comp=N,2μm,0.2s						
MT14	**Cerro Calı́n**	**1.79**	**141**	*eP*	**Pn**	**04 54 27.9**	**0.0**
MT14				*eS*	**Sn**	**04 54 48.1**	**-1.9**
MT14				IAML		04 54 50.4	
	comp=E,1μm,0.2s						
MT16	**CCHEN**	**1.82**	**141**	*eP*	**Pn**	**04 54 28.3**	**0.0**
MT16				*eS*	**Sn**	**04 54 48.9**	**-1.8**
MT16				IAML		04 54 50.8	
	comp=N,494nm,0.3s						
MT03	**Universidad Ad**	**1.88**	**142**	*eP*	**Pn**	**04 54 29.4**	**+0.2**
MT03				*eS*	**Sn**	**04 54 51.8**	**-0.5**
MT03				IAML		04 54 53.7	
	comp=Z,770nm,0.2s						
MT03	**Universidad Ad**	**1.88**	**142**	*eP*	**Pn**	**04 54 29.2**	**+0.1**
MT03				*eS*	**Sn**	**04 54 50.5**	**-1.7**
MT03				IAML		04 54 52.8	
	comp=N,2μm,0.2s						
FCH	**Farellones**	**1.88**	**135**	*eP*	**Pn**	**04 54 29.1**	**-0.3**
FCH				*eS*	**Sn**	**04 54 50.6**	**-2.0**
FCH				IAML		04 54 52.2	
	comp=E,473nm,0.3s						
MT01	**Popeta**	**1.92**	**164**	*eP*	**Pn**	**04 54 30.1**	**+0.5**
MT01				*eS*	**Sn**	**04 54 52.6**	**-0.6**
MT01				IAML		04 54 58.7	
	comp=Z,224nm,0.3s						
GO04	**Tololo Observa**	**2.06**	**27**	*eP*	**Pn**	**04 54 31.2**	**-0.6**
GO04				*eS*	**Sn**	**04 54 54.8**	**-2.2**
MT13	**San Alfonso**	**2.19**	**142**	*eP*	**Pn**	**04 54 33.3**	**-0.2**
MT13				IAML		04 55 01.4	
	comp=Z,234nm,0.2s						
RTLS	**Leoncito**	**2.21**	**85**	*eP*	**Pn**	**04 54 34.7**	**+0.7**
RTLS				IAML		04 55 05.0	
	comp=Z,234nm,0.2s						
LMEL	**Las Melosas**	**2.31**	**143**	*eP*	**Pn**	**04 54 35.2**	**0.0**
LMEL	**Las Melosas**	**2.31**	**143**	*eP*	**Pn**	**04 54 35.7**	**+0.5**
LMEL				*eS*	**Sn**	**04 55 01.1**	**-1.9**
LMEL				IAML		04 55 04.8	
	comp=N,784nm,0.1s						
BO01	**Tunca**	**2.46**	**164**	*eP*	**Pn**	**04 54 37.6**	**+0.4**
BO01				*eS*	**Sn**	**04 55 06.8**	**+0.2**
BO01				IAML		04 55 20.5	
	comp=Z,63nm,0.2s						
CO01	**Juntas del Tor**	**2.55**	**38**	*eP*	Pn	04 54 34.4	-4.2
CO01				*eS*	**Sn**	**04 55 10.8**	**+1.8**
CO01				IAML		04 55 12.4	
	comp=Z,83nm,0.1s						
DOCA	**Reserva Natura**	**2.62**	**67**	*eP*	**Pn**	**04 54 40.0**	**+0.4**
DOCA				*eS*	**Sn**	**04 55 12.2**	**+1.2**
DOCA				IAML		04 55 28.8	
	comp=Z,245nm,1.1s						
ARCO	**CERRO ARCO**	**2.63**	**109**	*eP*	**Pn**	**04 54 42.2**	**+2.6**
ARCO				*eS*	**Sn**	**04 55 08.9**	**-2.1**
ARCO				IAML		04 55 18.3	
	comp=Z,137nm,0.6s						
ASAL	**Salagasta**	**2.65**	**103**	*eP*	**Pn**	**04 54 41.1**	**+1.4**
ASAL				IAML		04 55 18.1	
	comp=Z,70nm,0.8s						
AROD	**Rodeo**	**2.77**	**49**	*eP*	**Pn**	**04 54 42.8**	**+1.1**
AROD				*eS*	**Sb**	**04 55 24.6**	**+3.7**
ZON	**Zonda**	**2.77**	**81**	*eP*	**Pn**	**04 54 40.0**	**-1.5**
ZON				*eS*	Sn	04 55 00.1	-14
ZON				IAML		04 55 00.3	
	comp=Z,108nm,0.4s						
AAGR	**Agrelo**	**2.79**	**113**	*eP*	**Pn**	**04 54 44.4**	**+2.7**
AAGR				*eS*	Sn	04 55 00.0	-15
AAGR				IAML		04 55 00.5	
	comp=Z,146nm,0.4s						
ACCO	**Cerro Coronel**	**2.80**	**60**	*eP*	**Pn**	**04 54 43.4**	**+1.3**
ACCO				*eS*	Sn	04 54 59.4	-16
ACCO				IAML		04 54 59.7	
	comp=Z,108nm,0.4s						
RTCV	**Cerro Valdivia**	**2.85**	**88**	*eP*	**Pn**	**04 54 44.5**	**+2.0**
RTCV				*eS*	**Sn**	**04 55 17.5**	**+1.3**
BO02	**Sierra Bellavi**	**2.92**	**162**	*eP*	**Pn**	**04 54 44.7**	**+1.3**
BO02				*eS*	**Sn**	**04 55 19.1**	**+1.2**
BO02				IAML		04 55 20.0	
	comp=Z,171nm,0.2s						
GO05	**Huala**	**2.99**	**181**	*eP*	**Pn**	**04 54 44.8**	**+0.4**
ACDV	**Cuesta del Vie**	**3.00**	**53**	*eP*	**Pn**	**04 54 45.9**	**+1.2**
ACDV				*eS*	Sn	04 55 02.4	-18
ACDV				IAML		04 55 02.7	
	comp=Z,49nm,0.3s						
LCO	**Las Campanas**	**3.16**	**19**	*eP*	**Pn**	**04 54 46.5**	**-0.6**
LCO				*eS*	**Sn**	**04 55 26.6**	**+2.4**
AC05	**El Transito**	**3.46**	**24**	IAML		04 55 45.3	
	comp=Z,36nm,0.8s						
VCA	**Vinchina**	**4.56**	**45**	*eP*	**Pn**	**04 55 07.4**	**+1.3**

IDC ***20*** *05:26:19.4±3.9,4°69S×145°41E,h62km±36km,mb3.7/8, mbtmp4.1/10,ML4.3/1,MS3.9/4,Error ellipse: s-maj=35.3km s-min=21.0km az=86.0*
NEIC ***20*** *05:26:20.6±1.6,4°71S±0°05×145°3E±0°1,h64km±9km, mb4.4/23,Error ellipse: s-maj=19.8km s-min=2.8km az=109.0*
ISC 20 05:26:18.8±0.7,4°70S±0°08×145°33E±0°09,h50km,n50, σ1°03/47,mb4.3/18,MS4.0/4,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**4.13**	**262**	P	**Pn**	**05 27 22.1**	**+2.7**
PMG	**Port Moresby**	**5.02**	**159**	P	**Pn**	**05 27 33.1**	**+1.5**
PMG	**Port Moresby**	**5.02**	**159**		**Pn**	**05 27 32.3**	**+0.7**
PMG	**Port Moresby**	**5.02**	**159**	P	**Pn**	**05 27 33.0**	**+1.5**
	84nm,0.5s,baz=86,slow=3.8,SNR=17						
PMG				S	**Sn**	**05 28 28.4**	**+0.1**
	31nm,0.3s,baz=346,slow=20,SNR=4.1						
COEN	**Coen**	**9.44**	**193**		**Pn**	**05 28 33.5**	**+1.2**
CTA	**Charters Tower**	**15.32**	**177**	P	**P**	**05 29 56.5**	**+0.6**
	0.3nm,0.4s,baz=7.8,slow=13,SNR=9.3						
MTN	**Manton Dam**	**16.19**	**239**	Pn	**Pn**	**05 30 02.7**	**-0.3**
WR0	**Warramunga Arr**	**18.45**	**214**	P	**P**	**05 30 29.6**	**-0.9**
WR0				IAmb	IAmb	05 30 32.6	
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**18.55**	**214**	P	**Pn**	**05 30 31.7**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=41,slow=11,SNR=53						
	comp=Z,13nm,0.8s						
KNRA	**Kununurra**	**19.60**	**235**	P	**P**	**05 30 41.7**	**-1.3**
KNRA				IAmb	IAmb	05 30 47.5	
	comp=Z,17nm,0.8s						
AS31	**Alice Springs**	**21.84**	**209**	P	**P**	**05 31 07.3**	**+0.1**
ASAR	**Alice Springs**	**21.84**	**209**	P	**P**	**05 31 06.8**	**-0.4**
	comp=Z,6.7nm,0.9s,baz=39,slow=9.1,SNR=40						
	comp=Z,6.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**23.41**	**234**	P	**P**	**05 31 21.5**	**-2.0**
FITZ	**Fitzroy Crossi**	**23.41**	**234**	P	**P**	**05 31 21.3**	**-2.2**
OOD	**Oodnadatta**	**24.74**	**201**	P	**P**	**05 31 35.6**	**0.0**
WRKA	**Warakurna**	**26.01**	**217**	P	**P**	**05 31 46

STKA	Stephens Creek	27.27	187	P	P	05 31 58.4	0.0
	comp=Z,8.3nm,0.7s,baz=6.5,slow=11,SNR=10						
	comp=Z,8.3nm,0.7s						
MULG	Mulgathing	27.58	201	P	P	05 32 00.9	-0.4
HTT	Hallett	29.20	191	P	P	05 32 16.7	+0.9
BBOO	Buckleboo	29.28	196	P	P	05 32 15.9	-0.5
MBWA	Marble Bar	29.75	234	P	P	05 32 19.2	-1.6
FORT	Forrest	30.62	210	P	P	05 32 28.4	+0.1
FORT	Forrest	30.62	210	P	P	05 32 28.1	-0.3
NWAO	Narrogin (SRO)	38.42	220	LR	LR	05 51 17.8	
	comp=Z,129nm,20.1s,baz=220,slow=39						
RTZ	Ruatahuna	44.34	144	P	P	05 34 25.1	+0.9
SONM	Songino Array	62.47	331	P	P	05 36 37.0	-0.1
	comp=Z,0.2nm,0.4s,baz=154,slow=7.9,SNR=1.5						
	comp=Z,0.2nm,0.5s						
VNDA	Vanda	73.31	176	P	P	05 37 44.1	-0.5
VNDA	Vanda	73.31	176	P	P	05 37 44.4	-0.1
	comp=Z,0.5nm,0.6s,baz=336,slow=6.7,SNR=5.8						
	comp=Z,0.5nm,0.6s						
MKAR	Makanchi Array	75.44	321	P	P	05 37 57.6	0.0
	comp=Z,0.2nm,0.4s,baz=111,slow=6.5,SNR=2.1						
	comp=Z,0.2nm,0.4s						
ZALV	Zalesovo Beam	77.03	328	P	P	05 38 05.5	-0.9
	comp=Z,0.6nm,0.4s,baz=140,slow=7.5,SNR=1.7						
	comp=Z,0.6nm,0.4s						
H19K	Roundabout Mou	81.68	21	P	P	05 38 31.6	+0.1
H19K				IAmb	IAmb	05 38 48.3	
	comp=Z,5.5nm,1.4s						
G19K	Purcell Mounta	81.78	20	P	P	05 38 32.8	+0.8
G19K				IAmb	IAmb	05 38 55.8	
	comp=Z,5.1nm,1.4s						
E19K	Redstone River	82.43	19	P	P	05 38 36.0	+0.6
E19K				IAmb	IAmb	05 38 58.0	
	comp=Z,5.2nm,1.2s						
CCB	Clear Creek Bu	84.54	23	P	P	05 38 45.1	-1.1
D22K	Ayikyak River	84.62	19	P	P	05 38 48.2	+1.6
D22K				IAmb	IAmb	05 39 25.6	
	comp=Z,7.9nm,1.4s						
BVAR	Borovoye Array	84.74	324	LR	LR	06 17 14.9	
	comp=Z,64nm,21.9s,baz=38,slow=36						
IL31		84.95	23	P	P	05 38 47.6	-0.7
IL31				IAmb	IAmb	05 38 48.1	
	comp=Z,2.1nm,0.8s						
ILAR	Eielson Array	84.95	23	P	P	05 38 47.0	-1.4
	comp=Z,1.5nm,0.7s,baz=255,slow=5.0,SNR=15						
	comp=Z,1.5nm,0.7s						
QSPA	South Pole Qui	85.26	180	P	P	05 38 49.0	-1.0
QSPA				IAmb	IAmb	05 39 15.1	
	comp=Z,3.8nm,1.1s						
QSPA	South Pole Qui	85.26	180	P	P	05 38 49.1	-0.9
	comp=Z,1.1nm,0.8s,baz=111,slow=1.8,SNR=7.3						
	comp=Z,1.1nm,0.8s						
J25K	Salcha River,	85.50	24	P	P	05 38 50.9	-0.3
J25K				IAmb	IAmb	05 38 51.5	
	comp=Z,2.4nm,0.8s						
K27K	Chicken	86.66	25	P	P	05 38 57.0	+0.2
K27K				IAmb	IAmb	05 39 34.1	
	comp=Z,2.7nm,1.2s						
EGAK	Eagle	87.27	24	P	P	05 38 59.5	-0.2
EGAK				IAmb	IAmb	05 39 20.4	
	comp=Z,3.5nm,1.3s						
K29M	Barlow Dome	88.55	26	P	P	05 39 06.6	+0.6
K29M				IAmb	IAmb	05 39 07.5	
	comp=Z,1.8nm,0.8s						
ARU	Arti	92.09	326	LR	LR	06 21 49.9	
	comp=Z,52nm,21.0s,baz=98,slow=36						
BELG	Belogornoye	98.41	322	LR	LR	06 25 19.0	
	comp=Z,71nm,22.0s,baz=329,slow=36						

*IDC **20** 05:37:32.3±1.6, 5°.82N×126°.42E, h0km, mb4.0/5, mbtmp4.0/5, MS3.9/1, Error ellipse: s-maj=164.6km s-min=25.4km az=67.0*

ISC 20 05:37:41.3±1.9, 5°.8N±0°.6×12°.7E±°, h71km, n7, σ0°56/6, mb4.0/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	26.73	163	P	P	05 43 14.7	+0.3
	0.4nm,0.5s,baz=342,slow=10.0,SNR=9.2						
	0.4nm,0.5s						
MKAR	Makanchi Array	55.74	325	P	P	05 47 10.8	0.0
	0.6nm,0.4s,baz=126,slow=7.9,SNR=5.4						
	0.6nm,0.4s						
ZALV	Zalesovo Beam	58.65	333	LR	LR	06 16 26.1	
	comp=Z,98nm,20.0s,baz=34,slow=40						
KURBB	Kurchatov Arra	59.88	327	P	P	05 47 40.0	+0.3
	1.5nm,0.2s,baz=124,slow=7.5,SNR=4.7						
	1.5nm,0.2s						
BVAR	Borovoye Array	65.47	327	P	P	05 48 17.3	+0.4
	0.6nm,0.5s,baz=125,slow=7.2,SNR=2.0						
	0.6nm,0.5s						
ARCES	ARCESS Array B	88.43	340	P	P	05 50 25.3	-0.1
	0.8nm,0.7s,baz=70,slow=5.3,SNR=4.6						
	0.8nm,0.7s						
TORD	Torodi Ar. Bea	122.06	289	PKP	PKPdf	05 56 28.1	-0.8
	0.2nm,0.3s,baz=63,slow=1.5,SNR=7.0						

*INMG **20** 05:39:39.2±1.4, 41°.98N×7°.66W, h3km±4km, ML2.1, Error ellipse: s-maj=2.6km s-min=1.8km az=94.0*
*MDD **20** 05:39:39.2±0.5, 41°.97N×7°.69W, h10km, mb_Lg2.6/10, Error ellipse: s-maj=3.8km s-min=3.1km az=166.0*

ISC 20 05:39:37.8±1.2, 41°.97N±0°.02×7°.71W±0°.04, h11km±12km, n17, σ0°70/31, 1D, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELOB	Lobios	0.28	248	Pg	Pb	05 39 45.1	+0.2
ELOB				Sg	Sb	05 39 49.6	0.0
ELOB				*i* Vmb_Lg		05 39 49.9	
PCAB	Cabril	0.35	222	*e*Pg	Pb	05 39 46.2	+0.1
PCAB				*e*Sg	Sb	05 39 51.5	-0.1
PCAB				A	A	05 39 51.8	
	104nm,0.2s						
POLO	Lamas de Olo	0.60	186	*e*P	Pb	05 39 50.3	0.0
POLO				*e*S	Sb	05 39 58.4	-0.5
POLO				A	A	05 40 00.8	
	48nm,0.1s						
PVRL	Vila Real	0.70	180	⇓*e*P	Pb	05 39 52.1	+0.2
PVRL				*e*S	Sb	05 40 01.6	+0.1
PVRL				A	A	05 40 03.2	
	51nm,0.1s						
ECAL	Calabor	0.73	92	Pg	Pg	05 39 52.0	+0.1
ECAL				Sg	Sg	05 40 01.9	+0.4
ECAL				*i* Vmb_Lg		05 40 03.8	
PBRG	Braganca	0.74	103	*e*P	Pg	05 39 52.0	-0.2
PBRG				*e*S	Sg	05 40 01.8	-0.2
PBRG				A	A	05 40 03.3	
	29nm,0.2s						
EZAM	Zamans	0.75	284	Pg	Pn	05 39 53.7	-0.7
EZAM				Sg	Sn	05 40 04.7	-1.0
EZAM				*i* Vmb_Lg		05 40 05.7	
EAGO	Agolada(Pontev	0.88	342	Pg	Pb	05 39 55.0	0.0
EAGO				Sg	Sb	05 40 07.3	+0.6
EAGO				*i* Vmb_Lg		05 40 08.8	
PVIS	Viseu	1.26	186	*e*P	Pn	05 40 02.5	+1.1
PVIS				*e*S	Sn	05 40 18.8	+0.4
PVIS				A	A	05 40 19.5	
	29nm,0.4s						
EMAZ	Mazaricos	1.35	317	Sg	Sn	05 40 22.1	+1.6
EMAZ				*i* Vmb_Lg		05 40 24.0	
EPON	Pontenova	1.42	17	Pg	Pg	05 40 04.5	-0.5
EPON				Sg	Sg	05 40 23.6	+0.2
EPON				*i* Vmb_Lg		05 40 23.8	
MTE	Manteigas	1.58	175	*e*Pn	Pg	05 40 07.4	-0.6
MTE				*e*Sn	Sg	05 40 27.9	-0.6
MTE				A	A	05 40 29.3	
	12nm,0.4s						
PCBR	Castelo Branco	2.14	175	*e*Pg	Pg	05 40 20.3	+1.5
PCBR				*e*Sn	Sn	05 40 38.3	-1.5
PCBR				*e*Sg	Sg	05 40 46.1	-0.4
PCBR				A	A	05 40 48.2	
	4.9nm,0.4s						
EARI	Arriondas	2.27	53	Pg	Pg	05 40 21.0	-0.4
EARI				Sg	Sg	05 40 51.5	+0.6
PMRV	Marv??o	2.55	174	*e*Pn	Pn	05 40 18.9	-0.2
PMRV				A	A	05 41 01.7	
	6.9nm,0.3s						
PMTG	Montargil	2.93	188	*e*Sg	Sg	05 41 11.7	-0.1
PMTG				A	A	05 41 15.2	
	2.9nm,0.7s						
ELAN	Lanestosa	3.40	67	Sg	Sg	05 41 26.4	-0.6

IDC 20 05:53:36.9±3.4, 54°.29N×86°.97E, h0km, mbtmp3.0/2, ML2.4/2, Error ellipse: s-maj=31.6km s-min=18.3km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.31	256	I	I	06 01 44.5	
	baz=74,slow=315,SNR=6.2						
ZALV	Zalesovo Beam	1.31	256	Pg	Pg	05 53 59.9	-2.2
	3.8nm,0.3s,baz=74,slow=17,SNR=11						
ZALV				Lg	Lg	05 54 19.0	
	3.2nm,0.3s,baz=79,slow=30,SNR=1.5						
KURBB	Kurchatov Arra	6.33	238	Pn	Pn	05 55 13.1	+1.7
	0.2nm,0.3s,baz=54,slow=15,SNR=2.9						
	1.1nm,0.3s						
MKAR	Makanchi Array	8.07	204	Pn	Pn	05 55 36.6	+1.2
	baz=25,slow=13,SNR=5.6						
	0.1nm,0.3s						

*IDC **20** 05:57:44.1±2.9, 9°.61S×112°.60E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=153.3km s-min=29.2km az=47.0*
*DJA **20** 05:57:54.3±1.5, 9°.S±9°.×11°.3E±°, h29km±21km, M4.2/8, mb4.5/1, mB6.1/1, MLv4.0/8, Mw(mB)5.7/1, MwMwp6.8/1, Mwp6.7/1*

ISC 20 05:57:51.6±1.3, 9°.6S±0°.1×112°.74E±0°.06, h35km, n10, σ2°44/13, mb3.5/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	Jajag, Banyuwa	1.78	52	P	Pn	05 58 18.7	-1.2
JAGI				S	Sn	05 58 39.5	-1.8
PWJI	Pagerwojo	1.80	329	P	Pn	05 58 21.2	+1.0
PWJI				S	Sn	05 58 43.2	+1.4
ABJI	Asem Bagus	2.31	40	P	Pn	05 58 28.4	+1.3
ABJI				S	Sn	05 58 57.5	+3.2
UGM	Wanagama	2.75	307	P	Pn	05 58 35.4	+2.2
SRBI	Singaraja	2.86	59	P	Pn	05 58 35.7	+1.0
TWSI	Taliwang, Sumb	4.18	79	P	Pn	05 58 55.7	+2.9
PLAI	Plampang	5.03	82	P	Pn	05 59 08.6	+4.0
WRA	Warramunga Arr	23.26	119	P	P	06 02 54.5	-1.7
	0.3nm,0.6s,baz=292,slow=11,SNR=5.9						
	0.3nm,0.6s						
ASAR	Alice Springs	24.60	127	P	P	06 03 07.2	-1.5
	0.9nm,0.6s,baz=303,slow=9.3,SNR=12						
	0.9nm,0.6s						
MKAR	Makanchi Array	62.35	337	P	P	06 08 08.3	-2.3
	0.3nm,0.4s,baz=151,slow=8.0,SNR=3.0						
	0.3nm,0.4s						

IDC 20 06:00:24.1±2.9, 54°.13N×86°.50E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=23.9km s-min=14.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.01	260	I	I	06 06 50.0	
	baz=81,slow=310,SNR=1.7						
ZALV	Zalesovo Beam	1.01	260	Pg	Pg	06 00 42.0	-1.4
	0.6nm,0.3s,baz=79,slow=17,SNR=3.5						
ZALV				Lg	Lg	06 00 57.9	
	1.7nm,0.3s,baz=78,slow=28,SNR=7.0						
KURBB	Kurchatov Arra	6.01	237	Pn	Pn	06 01 55.0	+0.8
	0.1nm,0.3s,baz=56,slow=14,SNR=5.7						
	0.7nm,0.5s						
MKAR	Makanchi Array	7.82	202	Pn	Pn	06 02 20.1	+1.1
	0.2nm,0.3s,baz=26,slow=14,SNR=5.3						
	0.3nm,0.3s						

*GII **20** 06:07:15.2±0.4, 33°.44N±0°.04×35°.61E±0°.02, h0km, confirmed*
*GRAL **20** 06:07:15.0±0.3, 33°.34N×35°.52E, h0km±16km, MD2.7*

ISC 20 06:07:16.7±1.1, 33°.44N±0°.02×35°.60E±0°.05, h0km, n19, σ1°01/21, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QRWL	Qaraoun	0.13	32	*e*P	Pg	06 07 19.5	+0.3
QRWL				*e*S	Sg	06 07 22.7	+1.7
NATI	Neve Ativ	0.21	146	P	Pg	06 07 19.9	-0.8
NATI	Neve Ativ	0.21	146	S	Sg	06 07 24.8	+1.5
RCY	Rachaya	0.21	73	*e*P	Pg	06 07 20.5	-0.2
RCY				*e*S	Sg	06 07 24.7	+1.3
GEM	Giv'at Ha'Em	0.23	166	P	Pg	06 07 20.6	-0.5
GEM	Giv'at Ha'Em	0.23	166	S	Sg	06 07 25.4	+1.3
DQRL	Deir Qamar	0.27	355	*e*P	Pg	06 07 21.6	-0.2
MMC7	Mount Meron ar	0.45	203	P	Pg	06 07 25.6	+0.4
MMA0B	Mount Meron ar	0.45	201	P	Pg	06 07 25.5	+0.2
MMA0B	Mount Meron ar	0.45	201	S	Sg	06 07 32.5	+1.4
BHL	Bhannes	0.47	6	*e*P	Pg	06 07 25.2	-0.5
KSHT	Keshet	0.49	158	P	Pg	06 07 25.7	-0.3
KSHT	Keshet	0.49	158	S	Sg	06 07 33.4	+1.1
HWQ	Hawqa	0.89	19	*e*P	Pg	06 07 32.9	-0.8
MMLI	Mount Malkishu	1.01	189	P	Pg	06 07 35.3	-0.6
HMDT	Nahal Hemdat	1.18	183	P	Pg	06 07 38.2	-1.1
HMDT	Nahal Hemdat	1.18	183	S	Sn	06 07 56.4	-0.8
BEIL	Beino	1.21	24	*e*P	Pg	06 07 38.5	-1.3
YTIR	Yattir	2.11	191	P	Pn	06 07 52.8	-0.5

*IDC **20** 06:29:38.2±1.9, 7°.32S×127°.40E, h0km, mb3.5/2, mbtmp3.8/4, ML4.4/2, Error ellipse: s-maj=279.8km s-min=29.7km az=64.0*
*DJA **20** 06:29:53.9±0.4, 7°.S±3°.×12°.9E±°, h114km±18km, M4.6/11, mb4.4/7, mB5.2/4, MLv4.6/11, Mw(mB)4.6/4*

ISC 20 06:29:53.1±0.9, 6°.78S±0°.06×129°.33E±0°.06, h150km, n13, σ1°32/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	Saumlaki	2.29	122	P	Pn	06 30 33.6	+2.0
SAUI				S	Sn	06 30 59.6	-1.7
BNDI	Bandanaira	2.32	14	P	Pn	06 30 31.5	-0.5
FAKI	Fak Fak	4.81	37	P	Pn	06 31 05.1	+1.0
FAKI				S	Sn	06 31 58.7	-0.8
KMPI	Kaimana, Papua	5.34	55	P	Pn	06 31 13.0	+1.9
KMPI				S	Sn	06 32 11.0	-1.0
SANI	Sanana	5.77	325	P	Pn	06 31 16.8	+0.1
	14nm,0.6s						
SOEI	Soe	5.82	239	P	Pn	06 31 18.6	+1.1
	53nm,0.7s,0.7nm						
SOEI				S	Sn	06 32 22.9	-0.6
	53nm,0.7s,0.7nm						
SWI	Sorong	6.19	18	P	Pn	06 31 24.1	+1.7
	29nm,0.5s,2μm0.3nm						
SWI				S	Sn	06 32 32.9	+0.7
	29nm,0.5s,2μm0.3nm						
BATI	Baumata	6.56	238	P	Pn	06 31 28.0	+0.7
	76nm,0.9s,0.6nm						
EDFI	Ende, Flores	7.82	255	P	Pn	06 31 45.2	+0.9
WRA	Warramunga Arr	13.95	160	Pn	Pn	06 33 00.0	-4.5
	1.7nm,0.3s,baz=330,slow=14,SNR=34						
WRA				Sn	Sn	06 35 24.5	-15
	3.7nm,0.3s,baz=333,slow=22,SNR=11						
	2.8nm,0.5s						
ASAR	Alice Springs	17.35	166	P	P	06 33 43.6	-1.8
	1.4nm,0.3s,baz=337,slow=9.4,SNR=78						
ASAR				S	S	06 36 44.5	-14
	0.9nm,0.3s,baz=338,slow=17,SNR=5.2						
	5.0nm,0.7s						
MKAR	Makanchi Array	67.69	327	P	P	06 40 33.1	-1.0
	0.2nm,0.3s,baz=118,slow=8.2,SNR=5.2						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	71.98	329	P	P	06 41 01.1	+0.8
	0.2nm,0.5s,baz=131,slow=4.9,SNR=4.5						
	0.2nm,0.5s						

IDC 20 07:02:01.4±2.6, 54°.17N×86°.39E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=20.0km s-min=12.3km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.95	257	I	I	07 08 06.1	
	baz=75,slow=313,SNR=5.1						
ZALV	Zalesovo Beam	0.95	257	Pg	Pg	07 02 18.3	-1.3
	2.0nm,0.3s,baz=74,slow=17,SNR=18						
ZALV				Lg	Lg	07 02 33.5	
	4.0nm,0.3s,baz=78,slow=31,SNR=20						
KURBB	Kurchatov Arra	5.98	237	Pn	Pn	07 03 32.6	+1.6
	0.1nm,0.3s,baz=54,slow=13,SNR=2.7						
KURBB				Lg	Lg	07 05 10.4	
	baz=49,slow=31,SNR=0.8						
	0.5nm,0.2s						
MKAR	Makanchi Array	7.83	201	Pn	Pn	07 03 57.5	+1.0
	0.2nm,0.3s,baz=24,slow=13,SNR=8.3						
MKAR				Lg	Lg	07 06 09.4	
	baz=24,slow=28,SNR=2.6						
	0.3nm,0.3s						

*DJA **20** 07:06:05.7±0.6, 10°.S±11°.×11°.3E±°, h70km±41km, M4.4/12, mb4.7/1, MLv4.2/12*
*IDC **20** 07:06:14.2±6.8, 9°.32S×113°.16E, h108km±58km, mb3.8/9, mbtmp4.1/10, Error ellipse: s-maj=59.9km s-min=17.3km az=54.0*

ISC 20 07:06:06.7±0.9, 9°.72S±0°.10×112°.71E±0°.04, h50km, n22, σ2°10/27, mb4.2/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	Jajag, Banyuwa	1.89	49	P	Pn	07 06 34.8	-1.7
JAGI				S	Sn	07 06 57.5	-1.7
PWJI	Pagerwojo	1.91	332	P	Pn	07 06 37.7	+0.9
ABJI	Asem Bagus	2.43	38	P	Pn	07 06 44.9	+0.9
ABJI				S	Sn	07 07 15.0	+2.5
IGBI	Denpasar	2.56	70	P	Pn	07 06 47.8	+2.0
DNP	Denpasar	2.68	68	S	Sn	07 07 20.2	+1.6
GRJI	Gresik	2.79	355	P	Pn	07 06 50.0	+1.1
UGM	Wanagama	2.81	309	P	Pn	07 06 51.6	+2.4
UGM				S	Sn	07 07 22.5	+0.7
SRBI	Singaraja	2.96	57	P	Pn	07 06 51.8	+0.6
TWSI	Taliwang, Sumb	4.23	77	P	Pn	07 07 07.5	-1.2
TWSI				S	Sn	07 07 53.6	-3.3
KPJI	Karang Pucung	4.42	302	P	Pn	07 07 07.2	-4.1
CMJI	Cimerak	4.63	294	S	Sn	07 08 05.7	-0.9
PLAI	Plampang	5.08	80	P	Pn	07 07 20.7	+0.4
KAPI	Kappang	8.40	57	P	Pn	07 08 04.6	-1.3
	2.8nm,0.4s,baz=57,slow=18,SNR=2.2						
WRA	Warramunga Arr	23.22	118	P	P	07 11 09.8	+0.1
	0.5nm,0.6s,baz=290,slow=12,SNR=10						
WRA				S	S	07 15 23.7	+5.5
	0.4nm,0.8s,baz=286,slow=25,SNR=2.7						
	0.5nm,0.6s						
ASAR	Alice Springs	24.54	127	P	P	07 11 23.4	+1.5
	1.8nm,0.6s,baz=305,slow=8.9,SNR=29						
	1.8nm,0.6s						
CMAR	Chiang Mai Arr	31.12	334	P	P	07 12 21.9	+1.2
	1.8nm,0.3s,baz=170,slow=7.6,SNR=6.4						
	1.8nm,0.3s						
MJAR	Matsushiro Arr	51.89	26	P	P	07 15 07.2	-3.1
	0.8nm,0.2s,baz=207,slow=7.8,SNR=4.1						
	0.8nm,0.2s						
SONM	Songino Array	57.57	355	P	P	07 15 51.3	-0.1
	2.8nm,0.7s,baz=175,slow=9.3,SNR=13						
	2.8nm,0.7s						
MKAR	Makanchi Array	62.47	337	P	P	07 16 24.6	-0.3
	3.1nm,0.4s,baz=149,slow=7.6,SNR=47						
	3.1nm,0.4s						
KURBB	Kurchatov Arra	67.03	337	P	P	07 16 53.5	-0.9
	0.4nm,0.3s,baz=154,slow=5.0,SNR=6.8						
	0.4nm,0.3s						
ZALV	Zalesovo Beam	67.68	343	P	P	07 16 57.5	-1.0
	2.4nm,0.4s,baz=151,slow=3.6,SNR=7.8						
	2.4nm,0.4s						
AKTO	Aktyubinsk	76.38	328	P	P	07 17 51.1	+0.4
	1.7nm,0.7s,baz=150,slow=2.7,SNR=5.7						
	1.7nm,0.7s						

IDC 20 07:10:19.5±3.0, 54°.18N×87°.22E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.2km s-min=16.9km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.44	262	I	I	07 19 10.0	
	baz=79,slow=314,SNR=7.8						
ZALV	Zalesovo Beam	1.44	261	Pg	Pn	07 10 44.4	-2.4
	0.9nm,0.3s,baz=83,slow=16,SNR=8.7						
ZALV				Lg	Lg	07 11 05.1	
	0.8nm,0.3s,baz=82,slow=29,SNR=3.5						
KURBB	Kurchatov Arra	6.40	240	Pn	Pn	07 11 56.1	+1.1
	0.1nm,0.3s,baz=56,slow=14,SNR=4.5						
KURBB				Lg	Lg	07 13 44.8	
	baz=60,slow=34,SNR=3.5						
	0.5nm,0.4s						
MKAR	Makanchi Array	8.04	205	Pn	Pn	07 12 19.0	+1.5
	0.1nm,0.3s,baz=24,slow=13,SNR=5.6						
MKAR				Sn	Sn	07 13 47.6	-1.4
	0.1nm,0.3s,baz=22,slow=25,SNR=3.9						
MKAR				Lg	Lg	07 14 36.0	
	0.3nm,0.3s,baz=30,slow=26,SNR=8.0						
	0.2nm,0.4s						

IDC 20 07:16:05.1±4.2, 47°.75N×80°.74E, h0km, Error ellipse: s-maj=35.7km s-min=30.5km az=133.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	1.43	132	Pg	Pn	07 16 31.6	-0.6
	0.4nm,0.3s,baz=313,slow=13,SNR=11						
MKAR				Lg	Lg	07 16 50.4	
	0.1nm,0.3s,baz=314,slow=28,SNR=1.7						
I46RU	ZALESOVO INFRA	6.72	21	I	I	08 01 16.9	
	baz=210,slow=310,SNR=3.7						
I31KZ	AKTYUBINSK INF	15.10	289	I	I	08 47 30.0	
	baz=92,slow=310,SNR=1.0						

IDC 20 07:25:35.1±3.3, 54°.00N×86°.81E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=27.8km s-min=16.3km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.18	268	I	I	07 32 30.0	
	baz=84,slow=312,SNR=3.3						
ZALV	Zalesovo Beam	1.18	268	Pg	Pg	07 25 57.8	+0.1
	1.2nm,0.3s,baz=88,slow=17,SNR=7.3						
ZALV				Lg	Lg	07 26 13.2	
	2.2nm,0.3s,baz=89,slow=28,SNR=8.7						
KURBB	Kurchatov Arra	6.10	240	Pn	Pn	07 27 07.5	+1.0
	0.1nm,0.3s,baz=58,slow=13,SNR=2.2						
	0.3nm,0.3s						
MKAR	Makanchi Array	7.77	204	Pn	Pn	07 27 30.2	+0.8
	0.1nm,0.3s,baz=27,slow=14,SNR=1.7						
	0.1nm,0.2s						

*CATAC **20** 07:25:45.9±0.4, 11°.12N×86°.65W, h35km±8km, ML4.3*
*IDC **20** 07:25:46.8±4.8, 11°.73N×86°.01W, h33km±42km, mb3.5/7, mbtmp3.8/8, ML4.1/1, MS3.1/4, Error ellipse: s-maj=48.0km s-min=23.5km az=49.0*
*UCR **20** 07:25:46.0±2.1, 11°.26N×86°.57W, h17km±9km, MW4.2*
*NEIC **20** 07:25:48.0±1.5, 11°.29N±0°.07×86°.50W±0°.07, h46km±20km, mb4.1/13, Error ellipse: s-maj=12.4km s-min=7.6km az=46.0*

**ISC 20 07:25:45.3±1.2, 11°.15N±0°.03×86°.65W±0°.03, h31km±9km, n124, σ1°18/151, mb4.1/14, MS3.0/3, 6C-17D, Near coast of Nicarag

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LCRUZ                                   eS          Sn   07 26 17.3 +1.1
JAPN  Al SSO del Vol      1.02  68 ⇓iP              Pb   07 26 04.0 -0.4
JAPN                                IAML             07 26 07.6
          comp=Z,4µm,1.0s
ABCN  Banco Central       1.02  19  i P              Pb   07 26 04.1 -0.4
ABCN                                i S              Sn   07 26 19.1 +2.3
ABCN                                IAML             07 26 25.7
          comp=Z,11µm,1.0s
MAFN  Magfor              1.02  23  i P              Pb   07 26 04.1 -0.4
MAFN                                IAML             07 26 07.2
          comp=Z,8µm,1.0s
COPN  Copaltepe           1.03   3 ⇓iP              Pb   07 26 04.1 -0.5
COPN                                IAML             07 26 04.6
          comp=Z,5µm,1.0s
USIM  UNAN                1.03  21  i P              Pb   07 26 04.1 -0.5
USIM                                IAML             07 26 10.1
          comp=Z,9µm,1.0s
ENAN  Enatrel Managu      1.03  21 ⇑iP              Pb   07 26 04.5 -0.2
ENAN                                IAML             07 26 05.1
          comp=Z,16µm,1.0s
ENAN                                i S              Sn   07 26 18.8 +1.8
RE6B4 Centro civico       1.03  19  i P              Pb   07 26 04.2 -0.5
RE6B4                               IAML             07 26 24.6
          comp=Z,6µm,1.0s
RB28C Hialeah             1.03  20 ⇓iP              Pb   07 26 04.3 -0.4
RB28C                               IAML             07 26 06.7
          comp=Z,6µm,1.0s
SAPS  Ciudad Sandino      1.04  13 ⇓iP              Pb   07 26 04.3 -0.5
SAPS                                IAML             07 26 29.5
          comp=Z,6µm,1.0s
R0529 La Mascota          1.05  22  i P              Pb   07 26 04.5 -0.5
R0529                               IAML             07 26 05.1
          comp=Z,19µm,1.0s
TISN  Laguna Tiscapa      1.06  20 ⇓iP              Pn   07 26 03.6 -0.4
TISN                                IAML             07 26 04.1
          comp=Z,820nm,1.0s
OMEN  Al SSO del Vol      1.06  70  i P              Pn   07 26 04.0  0.0
OMEN                                IAML             07 26 11.7
          comp=Z,5µm,1.0s
ALLN  Telcor Managua      1.07  20  i P              Pb   07 26 04.7 -0.5
ALLN                                i S              Sn   07 26 19.7 +1.9
ALLN                                IAML             07 26 26.3
          comp=Z,9µm,1.0s
R4DEC Barrio San Lui      1.07  21 ⇑iP              Pb   07 26 04.8 -0.5
R4DEC                               IAML             07 26 05.4
          comp=Z,8µm,1.0s
R4DEC                               i S              Sn   07 26 20.0 +2.1
MGA1  Managua             1.07  21  i P              Pb   07 26 04.9 -0.4
MGA1                                IAML             07 26 05.4
          comp=Z,8µm,1.0s
APQ2  Apoyeque            1.09  17 ⇓iP              Pb   07 26 05.0 -0.6
APQ2                                i S              Sn   07 26 20.6 +2.2
APQ2                                IAML             07 26 22.7
          comp=Z,6µm,1.0s
AERN  Aeropuerto Man      1.10  25  i P              Pb   07 26 05.1 -0.6
AERN                                IAML             07 26 22.0
          comp=Z,8µm,1.0s
AMTN  Mateare             1.10  11  i P              Pb   07 26 05.1 -0.7
AMTN                                i S              Sn   07 26 20.8 +2.1
AMTN                                IAML             07 26 31.6
          comp=Z,11µm,1.0s
WILN  Americas 2          1.10  24 ⇑iP              Pb   07 26 05.2 -0.6
WILN                                i S              Sn   07 26 20.6 +1.9
WILN                                IAML             07 26 30.2
          comp=Z,4µm,1.0s
BC86  Nagarote            1.11   4  i P              Pn   07 26 04.8 +0.1
BC86                                IAML             07 26 24.2
          comp=Z,5µm,1.0s
APYN  Apoyeque            1.12  15  i P              Pb   07 26 05.7 -0.4
APYN                                IAML             07 26 23.8
          comp=Z,130nm,1.0s
LEVN  Ruinas Leon Vi      1.25   1 ⇓iP              Pn   07 26 07.0 +0.4
LEVN                                IAML             07 26 07.7
          comp=Z,7µm,1.0s
LEVN                                i S              Sb   07 26 23.7 -0.3
HUEN                      1.27  21 ⇓iP              Pb   07 26 07.5 -1.2
HUEN                                i S              Sb   07 26 24.9 +0.2
HUEN                                IAML             07 26 27.8
          comp=Z,3µm,1.0s
DELF  Filadelfia          1.28 123  eP              Pb   07 26 08.8  0.0
ERIA  Liberia             1.29 113  eP              Pb   07 26 07.7 -1.2
SBEN  San Benito          1.29  27  i P              Pb   07 26 07.9 -1.1
SBEN                                IAML             07 26 09.1
          comp=Z,5µm,1.0s
SBEN                                i S              Sb   07 26 25.7 +0.5
MOM2  El Cardon           1.29   7 ⇓iP              Pn   07 26 07.6 +0.4
MOM2                                i S              Sb   07 26 24.9 -0.4
MOM2                                IAML             07 26 29.2
          comp=Z,3µm,1.0s
VRLE  La Escondida,       1.31 106  eP              Pn   07 26 07.7 +0.3
MACN  El Madrono          1.31 359 ⇓iP              Pn   07 26 08.0 +0.5
MACN                                IAML             07 26 08.8
          comp=Z,2µm,1.0s
GPS3  Bodega del ICE      1.32 107  eP4                  07 26 09.2
GPS2  Hotel Rincn d       1.33 107  eP              Pn   07 26 08.0 +0.3
CNGA  Al SSO del Vol      1.34 358 ⇓iP              Pn   07 26 07.2 -0.7
CNGA                                IAML             07 26 07.8
          comp=Z,11µm,1.0s
CNGN  Cerro Negro         1.35 358                  Pn   07 26 08.4 +0.5
CNGN  Cerro Negro         1.35 358 ⇓iP              Pn   07 26 08.4 +0.5
CNGN                                IAML             07 26 12.0
          comp=Z,3µm,1.0s
CNGN  Cerro Negro         1.35 358  eP              Pn   07 26 08.5 +0.5
PACN  Al O del Volca      1.35 354 ⇓iP              Pb   07 26 08.8 -1.3
PACN                                IAML             07 26 09.6
          comp=Z,4µm,1.0s
QUEN  Al S del Volca      1.45 352  i P              Pb   07 26 10.6 -1.1
QUEN                                IAML             07 26 34.9
          comp=Z,4µm,1.0s
BAGA  Bagaces             1.49 114  eP              Pb   07 26 10.8 -1.7
COLC  Colonia             1.50 109  eP              Pn   07 26 10.6 +0.6
CUI   Cuipilapa           1.53 108  eP              Pn   07 26 11.2 +0.6
BRAN  Las Pilas           1.59  10  i P              Pn   07 26 04.5 -6.8
BRAN                                IAML             07 26 05.1
          comp=Z,7µm,1.0s
CRIN  San Cristobal       1.59 346                  Pn   07 26 11.9 +0.5
CRIN  San Cristobal       1.59 346  i P              Pn   07 26 12.1 +0.7
CRIN                                i S              Sb   07 26 32.9 -1.1
CRIN                                IAML             07 26 40.2
          comp=Z,5µm,1.0s
CRIN  San Cristobal       1.59 346  eP              Pn   07 26 12.1 +0.7
BOAB  BOACO BROADBAN.61   36                        Pn   07 26 11.6  0.0
BOAB  BOACO BROADBAN.61   36  i P              Pn   07 26 11.9 +0.3
BOAB                                i S              Sb   07 26 33.4 -1.0
BOAB                                IAML             07 26 37.4
          comp=Z,1µm,1.0s
ACON  Acoyapa             1.66  60                  Pn   07 26 12.1 -0.1
ACON  Acoyapa             1.66  60  i P              Pn   07 26 12.1 -0.1
ACON                                i S              Sn   07 26 33.2 +0.8
ACON                                IAML             07 26 38.7
          comp=Z,1µm,1.0s
ACON  Acoyapa             1.66  60  eP              Pn   07 26 12.1 -0.1
ACON                                eS              Sn   07 26 33.3 +0.8
CNAS  Canas               1.68 115  eP4                  07 26 15.8
VERA  Finca Concepci      1.77  99  eP              Pn   07 26 14.8 +1.0
NYURE Nandayure           1.78 130  eP              Pb   07 26 16.9 -0.5
JUNT  Juntas              1.87 117  eP4                  07 26 17.7
JTS   Las Juntas de       1.87 117                  Pn   07 26 15.3 +0.1
JTS   Las Juntas de       1.87 117  Pn              Pn   07 26 15.1  0.0
          comp=Z,28nm,0.3s,baz=287,slow=23,SNR=97
JTS                                 Sn              Sb   07 26 42.1 +0.3
          comp=Z,92nm,0.3s,baz=222,slow=19,SNR=17
JTS                                 LR              LR   07 27 07.7
          comp=Z,169nm,18.5s,baz=332,slow=46
JTS   Las Juntas de       1.87 117  eP4                  07 26 15.5
LCHIL Los Chiles          1.90  93  eP4                  07 26 15.5
LIMN  Finca el Limon      1.92   8 ⇑iP              Pn   07 26 16.6 +0.6
LIMN                                IAML             07 26 43.1
          comp=Z,950nm,1.0s
ARE1  Arenal 1            2.01 110  eP4                  07 26 20.1
CEDE  Laguna Cedeo        2.02 109  eP              Pb   07 26 19.5 -1.9
SOCE  Pocosol             2.13 111                  Pn   07 26 19.7 +0.9
SOCE  Pocosol             2.13 111  i P              Pn   07 26 20.2 +1.4
SOCE                                IAML             07 26 59.5
          comp=Z,390nm,1.0s
COVE  Coope Vega, Sa      2.24 101  i P              Pn   07 26 20.5 +0.2
COVE                                IAML             07 27 00.6
          comp=Z,390nm,1.0s
CNCH  Conchagua           2.41 331  i P              Pn   07 26 23.9 +1.2
CNCH                                i S              Sn   07 26 53.1 +1.8
CNCH                                IAML             07 27 05.6
          comp=Z,1µm,1.0s
ESPN  Las Esperanzas      2.52  65  i P              Pn   07 26 24.9 +0.8
ESPN                                IAML             07 27 18.8
          comp=Z,470nm,1.0s
HDC   Heredia             2.74 114                  Pn   07 26 28.5 +1.3
RANC  El Ranchito         2.78 325  i P              Pn   07 26 28.9 +1.1
RANC                                i S              Sn   07 27 02.3 +1.8
RANC                                IAML             07 27 09.0
          comp=Z,570nm,1.0s
ACOS  Acosta              2.79 119  eP4                  07 26 30.3
YUSH  Yuscaran            2.80 356 ⇑iP              Pn   07 26 29.6 +1.6
PACA  Pacayal             2.83 325  i P              Pn   07 26 30.2 +1.7
PACA                                i S              Sn   07 27 03.6 +2.0
PACA                                IAML             07 27 14.6
          comp=Z,3µm,1.0s
ABE2  San Pablo           2.92 119  eP              Pn   07 26 31.6 +1.7
LCR2  La Lucha 2          2.95 118                  Pn   07 26 32.5 +2.4
TGUH  Tegucigalpa,Un      2.96 348                  Pn   07 26 31.4 +1.2
TGUH  Tegucigalpa,Un      2.96 348 ⇑iP              Pn   07 26 31.5 +1.2
TGUH                                IAML             07 26 55.9
          comp=Z,320nm,1.0s
TGUH                                i S              Sn   07 27 07.1 +2.4
PQSS  Presa 15 de Se      3.09 323  i P              Pn   07 26 33.5 +1.5
PQSS                                i S              Sn   07 27 09.1 +1.2
PQSS                                IAML             07 27 12.7
          comp=Z,240nm,1.0s
TECO  Alcaldia de Te      3.16 319  i P              Pn   07 26 33.7 +0.8
TECO                                i S              Sn   07 27 09.4 -0.2
TECO                                IAML             07 27 13.0
          comp=Z,180nm,1.0s
UESV  Universidad de      3.24 320  i P              Pn   07 26 36.1 +2.1
UESV                                i S              Sn   07 27 11.5 -0.1
UESV                                IAML             07 29 04.8
          comp=Z,620nm,1.0s
SCLA  Alcaldia de Sa      3.25 322  i P              Pn   07 26 35.9 +1.7
SCLA                                i S              Sn   07 27 12.3 +0.4
SCLA                                IAML             07 27 15.3
          comp=Z,140nm,1.0s
MARCA Marcala la Paz      3.29 336  i P              Pn   07 26 36.2 +1.5
MARCA                               i S              Sn   07 27 15.0 +2.2
COEG  Centro de Oper      3.29 319  i P              Pn   07 26 35.5 +0.8
COEG                                i S              Sn   07 27 13.5 +0.7
COEG                                IAML             07 27 21.1
          comp=Z,260nm,1.0s
LOMA  Loma Larga          3.50 315  i P              Pn   07 26 39.0 +1.3
LOMA                                i S              Sn   07 27 18.3 +0.2
LOMA                                IAML             07 27 22.7
          comp=Z,270nm,1.0s
UDBS  Universidad Do      3.54 316  i P              Pn   07 26 39.2 +1.0
UDBS                                i S              Sn   07 27 19.2 +0.2
UDBS                                IAML             07 27 23.0
          comp=Z,320nm,1.0s
UEES  Universidad Ev      3.60 315  i P              Pn   07 26 39.5 +0.5
UEES                                i S              Sn   07 27 21.2 +0.7
UEES                                IAML             07 27 24.2
          comp=Z,160nm,1.0s
PMON  Piamonte            3.65 315  i P              Pn   07 26 41.1 +1.4
PMON                                i S              Sn   07 27 23.0 +1.3
PMON                                IAML             07 27 33.0
          comp=Z,370nm,1.0s
JAYA  Jayaque - finc      3.70 313  i P              Pn   07 26 41.7 +1.2
JAYA                                i S              Sn   07 27 22.4 -0.8
JAYA                                IAML             07 27 28.4
          comp=Z,700nm,1.0s
DRK0  Durika              3.83 119  i P              Pn   07 26 43.3 +1.0
DRK0                                i S              Sn   07 27 27.2 +0.7
DRK0                                IAML             07 27 54.5
          comp=Z,490nm,1.0s
UNIC  Universidad Ca      4.00 315  i P              Pn   07 26 45.7 +1.2
UNIC                                IAML             07 26 53.7
          comp=Z,170nm,1.0s
UNIC                                i S              Sn   07 27 31.2 +0.9
NUBE  Las Nubes           4.11 312  i P              Pn   07 26 47.8 +1.7
NUBE                                i S              Sn   07 27 33.1  0.0
NUBE                                IAML             07 27 36.6
          comp=Z,190nm,1.0s
MTO3  Montecristo         4.18 321                  Pn   07 26 48.8 +1.7
MTO3  Montecristo         4.18 321  i P              Pn   07 26 48.4 +1.3
MTO3                                IAML             07 28 05.7
          comp=Z,38nm,1.0s
BRU2  Volcan              4.54 121  Pn              Pn   07 26 54.6 +2.5
TEIG  Tepich              9.16 350  LR              LR   07 31 42.8
          comp=Z,88nm,20.4s,baz=199,slow=41
CMIG  Matias Romero       9.94 307  Pn              Pn   07 28 08.7 +2.7
          comp=Z,1.5nm,0.3s,baz=150,slow=12,SNR=26
          comp=Z,2.7nm,0.3s
TLIG  Tlapa              13.19 300  Pn              Pn   07 28 53.4 +2.7
833A  Chaparral WMA,      20.85 327  P               P   07 30 24.8 +0.2
PCRV  Puerto La Cruz      21.65  90  LR              LR   07 41 40.6
          comp=Z,56nm,18.6s,slow=45
LRAL  Lakeview Retre      21.79 359  P               P   07 30 35.6 +1.0
GOGA  Godfrey             22.35   7  P               P   07 30 41.4 +0.7
Y49A  Blount Mountai      22.61   1  P               P   07 30 43.3 -0.1
Y49A                                IAmb            IAmb  07 30 45.5
          comp=Z,5.0nm,0.6s
BRDY  Brady               23.07 332  P               P   07 30 47.8 -0.6
FPAL  Fort Paine          23.31   2  P               P   07 30 50.0 -0.7
FPAL                                IAmb            IAmb  07 31 05.8
          comp=Z,14nm,1.4s
Y58A  Scranton            23.54  15  P               P   07 30 52.4 -0.4
TXAR  Lajitas Array       24.08 321  P               P   07 30 58.8 +0.7
          comp=Z,1.4nm,0.7s,baz=138,slow=9.3,SNR=24
          comp=Z,1.4nm,0.7s
MIAR  Mount Ida           24.14 346  P               P   07 30 57.6 -0.9
MIAR                                IAmb            IAmb  07 30 58.4
          comp=Z,4.4nm,0.8s
CPCT  Cooper Cave         24.27   4  P               P   07 30 59.7 -0.1
CPCT                                IAmb            IAmb  07 31 01.4
          comp=Z,4.4nm,0.7s
TKL   Tuckaleechee C      24.54   6  LR              LR   07 40 31.3
          comp=Z,39nm,20.5s,baz=160,slow=37
WHAR  Wooly Hollow        24.58 349  P               P   07 31 00.9 -1.6
X37A  Clayton             24.66 343  P               P   07 31 02.6 -0.7
X37A                                IAmb            IAmb  07 31 05.7
          comp=Z,9.6nm,1.2s
FCAR  Ozark Folk Cen      25.13 349  P               P   07 31 06.2 -1.2
FCAR                                IAmb            IAmb  07 31 07.1
          comp=Z,4.4nm,0.6s
HHAR  Hobbs               25.88 346  P               P   07 31 12.9 -1.5
HHAR                                IAmb            IAmb  07 31 13.6
          comp=Z,4.3nm,0.8s
PDAR  Pinedale Array      37.29 332  P               P   07 32 54.5 -0.3
          comp=Z,0.3nm,0.6s,baz=127,slow=9.5,SNR=5.3
PDAR                                PcP             PcP  07 35 13.8 -0.1
          comp=Z,0.2nm,0.5s,baz=129,slow=4.7,SNR=3.7
PDAR                                LR              LR   07 52 04.8
          comp=Z,26nm,18.8s,baz=254,slow=43
          comp=Z,0.3nm,0.6s
NVAR  Mina Array Bea      39.20 319  P               P   07 33 13.2 +2.4
          comp=Z,0.5nm,0.6s,baz=126,slow=9.0,SNR=5.0
NVAR                                PcP             PcP  07 35 21.4 +1.5
          comp=Z,0.7nm,0.7s,baz=129,slow=5.3,SNR=5.2
          comp=Z,0.5nm,0.6s
ULM   Lac du Bonnet       39.72 351  P               P   07 33 11.9 -2.9
          comp=Z,2.2nm,0.5s,baz=169,slow=9.1,SNR=8.7
          comp=Z,2.2nm,0.5s
SCHQ  Schefferville       46.30  16  P               P   07 34 03.8 -4.2
          comp=Z,1.8nm,0.7s,baz=251,slow=7.0,SNR=5.4
          comp=Z,1.8nm,0.7s
YKA   Yellowknife Ar      55.07 345  P               P   07 35 11.7 -2.2
          comp=Z,0.5nm,0.7s,baz=185,slow=5.7,SNR=6.6
          comp=Z,0.5nm,0.7s
ILAR  Eielson Array       67.52 336  P               P   07 36 36.7 -1.5
          comp=Z,0.5nm,0.6s,baz=131,slow=4.1,SNR=15
          comp=Z,0.5nm,0.6s
WRA   Warramunga Arr     139.65 252  PKP             PKPdf 07 45 10.5 -0.4
          comp=Z,0.3nm,0.5s,baz=90,slow=2.7,SNR=6.0
```

NAM 20 08:05:20.6±6.4, 19°.59S×14°.38E, h5km±167km, ML0.6, 5C-5D, Namibia

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op      ISC       h m s     ISC
ST8N  ST8                 0.12 213  i Pn            Pg  08 05 29.2 +6.1
ST8N                                i Sg            Pg  08 05 29.2 +6.1
ST8N                                i S             Sg  08 05 33.9 +9.1
ST8N  ST8                 0.12 213 ⇑iP              Pg  08 05 30.4 +7.3
ST8N                                i S             Sg  08 05 34.2 +9.4
ST8N                                IAML            08 05 34.7
          comp=Z,0.5nm,0.1s
ST3N  ST3                 0.18 145 ⇓iP              Pg  08 05 27.0 +2.7
ST3N                                i S             Sg  08 05 28.2 +1.4
ST3N                                IAML            08 05 29.1
          comp=Z,2.9nm,0.0s
ST3N  ST3                 0.18 145 ⇑iP              Pg  08 05 27.0 +2.7
ST3N                                i S             Sg  08 05 28.6 +1.8
ST3N                                IAML            08 05 28.7
          comp=Z,3.3nm,0.1s
ST6N  ST6                 0.21 176  eP              Pg  08 05 28.3 +3.5
ST6N                                ⇓iP             08 05 28.3
ST6N                                i S             Sg  08 05 30.4 +2.8
ST6N                                IAML            08 05 30.8
          comp=Z,5.1nm,0.0s
ST6N  ST6                 0.21 176  i S             Sg  08 05 30.5 +2.9
ST6N                                i S             08 05 30.6
ST9N  ST9                 0.26 144 ⇓iP              Pg  08 05 25.9 +0.3
ST9N                                i S             Sg  08 05 26.4 -2.7
ST9N                                IAML            08 05 26.9
          comp=Z,194nm,0.1s
ST9N  ST9                 0.26 144 ⇑iP              Pg  08 05 26.0 +0.3
ST9N                                i S             Sg  08 05 26.5 -2.6
ST9N                                IAML            08 05 26.9
          comp=Z,287nm,0.1s
ST1N  ST1                 0.26 124  i S             Sg  08 05 28.0 -1.2
ST1N  ST1                 0.26 124  i S             Sg  08 05 28.2 -0.9
ST2N  ST2                 0.39 149 ⇑iP              Pg  08 05 27.2 -1.0
ST2N                                i S             Sg  08 05 30.2 -3.2
ST2N                                IAML            08 05 33.0
          comp=Z,3.1nm,0.0s
ST2N  ST2                 0.39 149 ⇓iP              Pg  08 05 28.3  0.0
ST2N                                i S             Sg  08 05 30.0 -3.4
ST2N                                IAML            08 05 31.0
          comp=Z,2.2nm,0.1s
ST10N ST10                0.40 180 ⇓iP              Pg  08 05 27.4 -1.0
ST10N                               i S             Sg  08 05 33.5 -0.3
ST10N                               i S             Sb  08 05 34.0 -2.9
ST10N ST10                0.40 180 ⇑iP              Pg  08 05 28.1 -0.4
ST10N                               i S             Sg  08 05 33.7 -0.1
ST10N                               IAML            08 05 34.4
          comp=Z,1.8nm,0.1s
ST5N  ST5                 0.40 120  eP              Pg  08 05 29.1 +0.6
ST5N                                IAML            08 05 31.8
          comp=Z,0.8nm,0.1s
```

*NNC **20** 08:08:24.6±2.5, 41°.65N×78°.38E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=18.6km s-min=7.6km az=163.0, Suspected Mining explosion.*
*KRNET **20** 08:08:29.5±0.1, 41°.82N×78°.26E, h13km, mb2.3*
ISC 20 08:08:24.3±2.2, 41°.7N±0°.1×78°.49E±0°.07, h0km, n16, σ0°74/23, 8C-6D, Kyrgyzstan-Xinjiang border region

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op      ISC       h m s     ISC
TARG  Taragay, Kyrgy      0.51 275 ⇓iP              Pb  08 08 36.5  0.0
          baz=56
TARG                                ⇓iS             Sg  08 08 41.8 +1.0
          baz=56
PRZ   Przheval'sk         0.80 355 ⇑eP              Pn  08 08 42.9 -0.2
          baz=9.0
PRZ                                 ⇑eS             Sb  08 08 52.5 -0.3
          baz=9.0
KDJ   Kajisay             1.07 295 ⇑iP              Pb  08 08 45.7 -0.2
          baz=92
KDJ                                 ⇑iS             Sg  08 08 57.7 -1.1
          baz=92
ULHL  Ulahol              1.77 289 ⇑iP              Pg  08 08 58.6 +0.4
          baz=87
ULHL                                ⇑iS             Sb  08 09 20.3 -0.2
          baz=87
PDGK  Podgornoye          1.81  24 ⇓P               Pn  08 08 55.5 -1.3
          0.7nm,0.4s
PDGK                                ⇓S              Sg  08 09 23.0 +0.7
          5.5nm,0.7s
MDOK  Medeo               1.82 325  Pg              Pg  08 08 59.6 +0.3
          4.2nm,0.6s
MDOK                                Lg              Lg  08 09 22.9
          5.0nm,0.7s
BOOM  Boomskoye usch      2.06 294 ⇑iP              Pg  08 09 03.8  0.0
          baz=92
BOOM                                ⇑iS             Sb  08 09 29.0 +0.1
          baz=92
KST   Kastek              2.31 307  Pg              Pb  08 09 07.2 +0.2
          4.0nm,0.5s
KST                                 Lg              Lg  08 09 36.3
          8.5nm,0.7s
BLB   Baldybastay         2.41 360  Pg              Pg  08 09 11.3 +0.7
          24nm,0.7s
BLB                                 Lg              Lg  08 09 43.2
          9.7nm,0.5s
KTBS  Karatobe            2.43 327  Pg              Pb  08 09 09.8 +0.9
          7.7nm,0.4s
KTBS                                Lg              Lg  08 09 40.6
          15nm,0.6s
TKM2  Tokmak 2            2.48 301 ⇓Pn              Pn  08 09 07.1 +0.9
          2.5nm,0.3s
TKM2                                ⇓Sn             Sn  08 09 35.6 -1.6
          4.5nm,0.6s
DGS   Degeres             2.54 309  Pg              Pb  08 09 11.8 +0.9
          4.7nm,0.6s
DGS                                 Lg              Lg  08 09 44.3
          7.3nm,0.7s
ARXS  Arharly             2.58 349  Pg              Pg  08 09 13.5 -0.1
          9.4nm,0.5s
ARXS                                Lg              Lg  08 09 47.0
          5.6nm,0.4s
KNOS  Konyrlen            2.72  10  Pg              Pg  08 09 17.0 +0.5
KNOS                                Lg              Lg  08 09 53.0
DJR   Jarkent             2.81  19  Pg              Pg  08 09 18.8 +0.5
          2.5nm,0.3s
DJR                                 Lg              Lg  08 09 56.2
          7.1nm,0.6s
KRBS  Karabastau          2.89 315  Pg              Pb  08 09 16.8  0.0
          3.6nm,0.5s
KRBS                                Lg              Lg  08 09 52.4
          4.0nm,0.5s
```

*IDC **20** 08:22:07.8±13.0, 85°.89N×97°.90E, h0km, mb3.5/1, mbtmp3.7/3, ML3.3/2, MS3.2/6, Error ellipse: s-maj=243.3km s-min=54.7km az=45.0*
ISC 20 08:22:22.1±3.2, 84°.4N±0°.3×87°.2E±0°.1, h10km, n11, σ1°47/9, MS3.2/6, North of Severnaya Zemlya

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op      ISC       h m s     ISC
SVZ   Severnaya Zeml      5.49 151  eP              Pn  08 23 42.5 -1.2
SVZ                                 eS              Sn  08 24 45.8 -1.0
          27nm,0.4s
ZFI2  Zemlya Franca-      6.07 256  eP              Pn  08 23 50.7 -0.9
ZFI2                                eS              Sn  08 25 01.4 +0.4
OMEGA Omega               6.08 256  eP              Pn  08 23 50.8 -1.0
OMEGA                               eS              Sn  08 25 00.9 -0.3
          35nm,2.0s
NRIK  Noril'sk           15.13 180  Pn              P   08 26 03.2 +2.7
          0.2nm,0.3s,baz=22,slow=12,SNR=7.9
          4.4nm,0.7s
ARCES ARCESS Array B     18.56 257  P               P   08 26 38.3 -0.2
          baz=22,slow=10,SNR=3.9
          1.4nm,0.9s
SFJD  Kangerlussuaq      27.59 325  LR              LR  08 38 00.8
          comp=Z,33nm,19.7s,baz=357,slow=36
BVAR  Borovoye Array     31.78 199  LR              LR  08 42 39.8
          comp=Z,56nm,18.8s,baz=150,slow=37
AKTO  Aktyubinsk         34.91 213  LR              LR  08 44 06.7
          comp=Z,29nm,19.4s,baz=98,slow=36
MKAR  Makanchi Array     37.76 186  P               P   08 29 38.8 +1.1
          0.5nm,0.6s,baz=12,slow=7.8,SNR=4.1
MKAR                                LR              LR  08 46 30.5
          comp=Z,38nm,18.4s,baz=144,slow=37
          0.5nm,0.6s
USRK  Ussuriysk Ar.      42.12 131  LR              LR  08 47 38.2
          comp=Z,40nm,18.6s,baz=182,slow=36
BBB   Bella Bella        42.73  32  LR              LR  08 47 23.0
          comp=Z,29nm,19.2s,baz=254,slow=37
```

IDC 20 08:55:07.2±2.6, 54°.22N×86°.17E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=20.2km s-min=12.4km az=57.0, Southwestern Siberia

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op      ISC       h m s     ISC
I46RU ZALESOVO INFRA      0.84 252  I               I   09 00 40.0
          baz=69,slow=318,SNR=0.9
ZALV  Zalesovo Beam       0.84 252  Pg              Pg  08 55 21.6 -1.7
          1.8nm,0.3s,baz=74,slow=16,SNR=13
ZALV                                Lg              Lg  08 55 35.5
          5.4nm,0.3s,baz=72,slow=30,SNR=16
KURBB Kurchatov Arra      5.90 235  Pn              Pn  08 56 37.3 +1.6
          0.2nm,0.3s,baz=53,slow=13,SNR=13
          0.6nm,0.3s
MKAR  Makanchi Array      7.83 200  Pn              Pn  08 57 02.5 +0.2
```

0.2nm,0.3s,baz=25,slow=13,SNR=3.3
0.3nm,0.4s

RSNC 20 08:59:07.0±0.0, 9°92N×73°08W, h4km±2km, M2.9, mb4.3, mB4.5, ML2.8, Mw(mB)3.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL8C	**La Loma 8 Chim**	**0.91**	**231**	P	Pg	08 59 23.6	-0.9
LL8C				S	Sb	08 59 37.7	-0.2
CRJC	**Cerrejon, Guaj**	**1.11**	**10**	P	Pg	08 59 27.1	-1.2
CRJC				S	Sg	08 59 42.5	-0.3
ARGC	**Ariguani, Magd**	**1.15**	**267**	P	Pg	08 59 27.8	-1.3
ARGC				S	Sg	08 59 43.5	-0.5
AGCC	**Aguachica**	**1.48**	**200**	P	Pn	08 59 32.2	-2.4
AGCC				S	Sn	08 59 52.1	-2.3
SMRC	**Santa Marta, M**	**1.67**	**318**	P	Pn	08 59 34.0	-3.1
SMRC				S	Sb	08 59 59.8	0.0
OCAC	**Ocana**	**1.69**	**188**	P	Pn	08 59 35.3	-2.1
OCAC				S	Sn	08 59 58.0	-1.6
VMM05	**San Martn**	**2.06**	**193**	P	Pn	08 59 41.6	-0.8
VMM05				S	Sn	09 00 08.6	+0.1
URIC	**Uribia, Colomb**	**2.07**	**31**	P	Pn	08 59 41.5	-1.0
URIC				S	Sb	09 00 10.7	-0.5
SJCC	**San Jacinto, C**	**2.07**	**270**	P	Pn	08 59 42.5	-0.1
SJCC				S	Sn	09 00 09.9	+1.0
EZNC	**La Esperanza**	**2.29**	**186**	P	Pn	08 59 44.1	-1.6
EZNC				S	Sn	09 00 12.9	-1.5
PAMC	**Pamplona, Colo**	**2.59**	**172**	P	Pn	08 59 49.2	-1.0
PAMC				S	Sn	09 00 20.7	-1.7
SDV	**Santo Domingo**	**2.62**	**113**	P	Pn	08 59 49.7	-0.7
SDV				S	Sn	09 00 22.2	-0.6
VMM07	**Puerto Wilches**	**2.66**	**197**	P	Pn	08 59 49.2	-1.4
VMM07				S	Sn	09 00 22.6	-0.7
VMM09	**Lebrija**	**2.78**	**184**	P	Pn	08 59 51.4	-1.1
VMM09				S	Sn	09 00 26.0	-0.6
ZARC	**Zaragoza, Cauc**	**2.98**	**216**	P	Pn	08 59 52.7	-2.5
ZARC				S	Sn	09 00 31.3	-0.1
UREC	**San Jos de Ur**	**3.24**	**229**	P	Pn	08 59 58.4	-0.3
LCBC	**Los crdobas,**	**3.41**	**252**	P	Pn	09 00 00.8	-0.2
LCBC				S	Sn	09 00 41.2	-0.8
PTBC	**PUERTO BERRIO,**	**3.62**	**202**	P	Pn	09 00 02.2	-1.8
PTBC				S	Sn	09 00 44.7	-2.6
SPBC	**San Pablo de B**	**4.35**	**193**	P	Pn	09 00 13.1	-1.0
SPBC				S	Sn	09 01 04.8	-0.5
CAPC	**Capurgana**	**4.41**	**254**	P	Pn	09 00 12.3	-2.4
CAPC				S	Sn	09 01 00.8	-5.7
NORC	**Norcasia**	**4.68**	**202**	P	Pn	09 00 18.2	-0.3
NORC				S	Sn	09 01 12.8	-0.5
GUY2C	**Guyana, Caldas**	**5.19**	**206**	P	Pn	09 00 26.0	+0.1
	16nm,0.6s						
GUY2C				S	Sn	09 01 28.7	+2.3
	16nm,0.6s						
PTGC	**Puerto Gaitan,**	**5.76**	**171**	P	Pn	09 00 30.8	-2.6
VILC	**Villavicencio,**	**5.80**	**186**	P	Pn	09 00 33.5	-0.5
PRAC	**Prado**	**6.42**	**196**	P	Pn	09 00 43.1	+0.6
PRAC				S	Sn	09 01 54.3	-2.0

*IDC **20** 09:10:47.4±2.8, 10°03S×112°17E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=138.5km s-min=29.2km az=46.0*
*DJA **20** 09:10:57.0±1.1, 10°S±21°×11°3E±°, h47km±143km, M3.8/7, MLv3.8/7*

ISC 20 09:10:54.8±1.5, 9°6S±0°1×112°73E±0°08, h35km, n8, σ0°75/9, mb3.5/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.82**	**51**	P	**Pn**	**09 11 24.0**	**+0.4**
JAGI				S	**Sn**	**09 11 45.5**	**0.0**
PWJI	**Pagerwojo**	**1.84**	**330**	P	**Pn**	**09 11 24.8**	**+0.8**
PWJI				S	**Sn**	**09 11 46.6**	**+0.5**
ABJI	**Asem Bagus**	**2.35**	**39**	P	**Pn**	**09 11 31.0**	**0.0**
UGM	**Wanagama**	**2.77**	**308**	P	Pn	09 11 38.2	+1.4
TWSI	**Taliwang, Sumb**	**4.19**	**78**	P	**Pn**	**09 11 57.4**	**+1.1**
WRA	**Warramunga Arr**	**23.24**	**119**	P	**P**	**09 15 59.0**	**-0.2**
	0.5nm,0.9s,baz=290,slow=11,SNR=6.1						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**24.57**	**127**	P	**P**	**09 16 11.8**	**0.0**
	1.0nm,0.7s,baz=304,slow=9.1,SNR=14						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**62.40**	**337**	P	**P**	**09 21 13.1**	**-1.1**
	0.3nm,0.4s,baz=152,slow=7.5,SNR=3.0						
	0.3nm,0.4s						

IDC 20 09:13:25.8±3.0, 53°55N×87°59E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=26.9km s-min=17.4km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.69**	**285**	I	I	09 24 30.0	
	0.1nm,0.8s,baz=102,slow=318,SNR=15						
ZALV	**Zalesovo Beam**	**1.69**	**285**	Pn	Pn	09 13 55.6	-1.0
	0.7nm,0.3s,baz=105,slow=16,SNR=6.9						
ZALV				Lg	Lg	09 14 19.9	
	1.3nm,0.3s,baz=101,slow=27,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.30**	**246**	Pn	Pn	09 15 00.3	+0.4
	0.1nm,0.3s,baz=64,slow=15,SNR=4.6						
KURBB				Lg	Lg	09 16 44.1	
	0.1nm,0.3s,baz=64,slow=31,SNR=3.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.57**	**209**	Pn	Pn	09 15 19.2	+1.9
	0.1nm,0.3s,baz=27,slow=15,SNR=3.0						
MKAR				Lg	Lg	09 17 25.1	
	0.1nm,0.3s,baz=28,slow=28,SNR=2.7						
	0.2nm,0.3s						

*IDC **20** 09:17:34.5±2.4, 9°56S×112°67E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=121.2km s-min=21.1km az=49.0*
*DJA **20** 09:17:38.0±2.4, 10°S±13°×11°3E±°, h17km±18km, M3.9/9, MLv3.9/9*

ISC 20 09:17:39.6±1.2, 9°7S±0°1×112°82E±0°06, h35km, n13, σ1°31/16, mb3.9/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.81**	**46**	P	**Pn**	**09 18 08.1**	**-0.3**
JAGI				S	**Sn**	**09 18 30.1**	**0.0**
PWJI	**Pagerwojo**	**1.97**	**329**	P	**Pn**	**09 18 11.4**	**+0.9**
PWJI				S	**Sn**	**09 18 33.4**	**-0.7**
ABJI	**Asem Bagus**	**2.37**	**36**	P	**Pn**	**09 18 18.2**	**+2.1**
SRBI	**Singaraja**	**2.87**	**56**	P	**Pn**	**09 18 23.4**	**+0.5**
UGM	**Wanagama**	**2.90**	**308**	P	**Pn**	**09 18 23.3**	**-0.1**
UGM				S	**Sn**	**09 18 59.1**	**+2.0**
TWSI	**Taliwang, Sumb**	**4.13**	**77**	P	**Pn**	**09 18 40.7**	**+0.5**
PLAI	**Plampang**	**4.97**	**80**	P	**Pn**	**09 18 51.5**	**-0.3**
WRA	**Warramunga Arr**	**23.12**	**118**	P	**P**	**09 22 43.8**	**+1.0**
	0.4nm,0.8s,baz=293,slow=10,SNR=3.2						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**24.44**	**127**	P	**P**	**09 22 57.5**	**+2.1**
	0.7nm,0.6s,baz=304,slow=9.0,SNR=13						
	0.7nm,0.6s						
SONM	**Songino Array**	**57.59**	**355**	P	**P**	**09 27 25.1**	**-0.9**
	1.1nm,0.7s,baz=176,slow=8.0,SNR=5.6						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**62.52**	**337**	P	**P**	**09 27 59.1**	**-0.7**
	1.0nm,0.4s,baz=155,slow=7.8,SNR=11						
	1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**67.09**	**337**	P	**P**	**09 28 28.0**	**-1.3**
	0.4nm,0.6s,baz=148,slow=5.5,SNR=1.4						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**67.72**	**343**	P	**P**	**09 28 31.6**	**-1.8**
	0.8nm,0.4s,baz=151,slow=3.3,SNR=3.9						
	0.8nm,0.4s						

*SNET **20** 09:26:17.9±0.7, 13°65N×90°58W, h28km, ML5.0*
*CATAC **20** 09:26:17.3±0.5, 13°57N×90°61W, h26km±5km, MB5.2, ML5.0*
*NEIC **20** 09:26:20.5±2.1, 13°72N±0°06×90°45W±0°05, h78km±7km, mb4.3/122, Error ellipse: s-maj=9.9km s-min=6.1km az=208.0*
*GCG **20** 09:26:21.6±0.6, 13°96N×90°70W, h56km±12km, MD4.3*
*IDC **20** 09:26:22.1±1.2, 13°98N×90°06W, h96km±7km, mb3.6/9, mbtmp3.9/12, MS3.4/24, Error ellipse: s-maj=30.8km s-min=10.6km az=48.0*

ISC 20 09:26:18.1±0.8, 13°64N±0°05×90°60W±0°04, h68km±7km, n258, σ1°06/280, mb4.3/48, 6C-38D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.75**	**359**	⇓*iP*	**Pn**	**09 26 33.4**	**-0.3**
NUBE	**Las Nubes**	**0.83**	**72**	⇓*iP*	**Pn**	**09 26 33.4**	**-1.2**
NUBE				*i* S	**Sn**	**09 26 45.3**	**-1.5**
NUBE				IAML		09 26 48.2	
	comp=Z,14μm,1.0s						
FUG	**Fuego 3**	**0.84**	**343**	*eP*	**Pn**	**09 26 34.0**	**-0.7**
LOAL	**Lomas de Alarc**	**0.87**	**66**	⇓*iP*	**Pn**	**09 26 34.3**	**-0.6**
LOAL				*i* S	**Sn**	**09 26 47.4**	**0.0**
LOAL				IAML		09 26 49.9	
	comp=Z,60μm,1.0s						
GCG4	**OSOP**	**0.94**	**4**	⇓*iP*	**Pn**	**09 26 35.6**	**-0.4**
GCG4				*i* S	**Sn**	**09 26 50.0**	**+0.8**
GCG4				IAML		09 27 00.7	
	comp=Z,21μm,1.0s						
CEVE	**Cerro Verde**	**0.96**	**79**	*eP*	**Pn**	**09 26 35.6**	**-0.6**
CEVE				*eS*	**Sn**	**09 26 49.6**	**-0.1**
CEVE	**Cerro Verde**	**0.96**	**79**	⇓*iP*	**Pn**	**09 26 35.5**	**-0.8**
CEVE				*i* S	**Sn**	**09 26 49.1**	**-0.6**
CEVE				IAML		09 26 52.9	
	comp=Z,41μm,1.0s						
NBG	**Las Nubes**	**0.97**	**14**	⇓*iP*	**Pn**	**09 26 37.6**	**+1.1**
GUMI	**Mixco**	**0.98**	**359**	⇑*iP*	**Pn**	**09 26 36.2**	**-0.3**
GUMI				*i* S	**Sn**	**09 26 50.4**	**+0.2**
GUMI				IAML		09 26 54.5	
	comp=Z,59μm,1.0s						
UNIC	**Universidad Ca**	**1.07**	**71**	⇓*iP*	**Pn**	**09 26 36.9**	**-0.6**
UNIC				IAML		09 26 37.5	
	comp=Z,7μm,1.0s						
UNIC				*i* S	**Sn**	**09 26 52.0**	**+0.1**
JAYA	**Jayaque - finc**	**1.11**	**89**	*eP*	**Pn**	**09 26 37.2**	**-0.9**
JAYA				*eS*	**Sn**	**09 26 52.1**	**-0.9**
JAYA	**Jayaque - finc**	**1.11**	**89**	⇓*iP*	**Pn**	**09 26 37.1**	**-1.0**
JAYA				*i* S	**Sn**	**09 26 51.9**	**-1.1**
JAYA				IAML		09 26 53.1	
	comp=Z,59μm,1.0s						
SULM	**Suchitepequez,**	**1.15**	**305**	*i* P	**Pn**	**09 26 38.4**	**0.0**
CHTG	**Tecpan**	**1.18**	**341**	⇑*iP*	**Pn**	**09 26 38.7**	**-0.3**
CHTG				*i* S	**Sn**	**09 26 54.7**	**+0.1**
CHTG				IAML		09 26 55.9	
	comp=Z,53μm,1.0s						
CEDA	**San Andres**	**1.18**	**82**	*eP*	**Pn**	**09 26 38.4**	**-0.4**
CEDA				*eS*	**Sn**	**09 26 54.4**	**0.0**
CEDA	**San Andres**	**1.18**	**82**	⇓*iP*	**Pn**	**09 26 38.3**	**-0.5**
CEDA				*i* S	**Sn**	**09 26 54.3**	**0.0**
CEDA				IAML		09 27 04.0	
	comp=Z,52μm,1.0s						
PMON	**Piamonte**	**1.25**	**87**	⇓*iP*	**Pn**	**09 26 39.5**	**-0.3**
PMON				*i* S	**Sn**	**09 26 55.7**	**-0.3**
PMON				IAML		09 26 57.8	
	comp=Z,28μm,1.0s						
LALI	**Alcalda de L**	**1.25**	**97**	*eP*	**Pn**	**09 26 39.0**	**-0.6**
LALI				*eS*	**Sn**	**09 26 55.7**	**-0.2**
LALI	**Alcalda de L**	**1.25**	**97**	⇑*iP*	**Pn**	**09 26 39.0**	**-0.6**
LALI				*i* S	**Sn**	**09 26 55.4**	**-0.4**
LALI				IAML		09 26 58.3	
	comp=Z,4μm,1.0s						
ITCA	**Escuela Especi**	**1.28**	**88**	*i* P	**Pn**	**09 26 39.8**	**-0.4**
ITCA				*i* S	**Sn**	**09 26 56.3**	**-0.5**
ITCA				IAML		09 27 00.7	
	comp=Z,34μm,1.0s						
BOQS	**Boqueron**	**1.28**	**86**	*eP*	**Pn**	**09 26 40.3**	**-0.1**
QUEZ	**Alcaldia de Qu**	**1.30**	**81**	⇓*iP*	**Pn**	**09 26 40.4**	**0.0**
QUEZ				*i* S	**Sn**	**09 26 57.7**	**+0.6**
QUEZ				IAML		09 27 01.0	
	comp=Z,33μm,1.0s						
UEES	**Universidad Ev**	**1.32**	**87**	⇓*iP*	**Pn**	**09 26 40.3**	**-0.4**
UEES				*i* S	**Sn**	**09 26 57.9**	**+0.2**
UEES				IAML		09 27 04.4	
	comp=Z,12μm,1.0s						
SNET	**Serv Nac Est T**	**1.33**	**88**	Pn	**Pn**	**09 26 40.6**	**-0.2**
SNET				Sn	**Sn**	**09 26 58.1**	**+0.3**
SNET	**Serv Nac Est T**	**1.33**	**88**	⇓*iP*	**Pn**	**09 26 40.3**	**-0.5**
SNET				*i* S	**Sn**	**09 26 57.9**	**+0.1**
SNET				IAML		09 26 58.7	
	comp=Z,30μm,1.0s						
APG	**El Apazote**	**1.36**	**5**	P	**Pn**	**09 26 41.7**	**+0.3**
	comp=Z,85nm,0.3s,baz=90,slow=24,SNR=602						
APG				S	**Sn**	**09 26 59.8**	**+0.9**
	comp=Z,181nm,0.3s,baz=88,slow=23,SNR=16						
PANCS	**Alcalda de**	**1.38**	**91**	⇓*iP*	**Pn**	**09 26 40.9**	**-0.5**
PANCS				*i* S	**Sn**	**09 26 58.4**	**-0.6**
PANCS				IAML		09 27 01.7	
	comp=Z,39μm,1.0s						
RTAL	**Retalhuleu**	**1.38**	**310**	Pn	**Pn**	**09 26 40.1**	**-1.4**
RTAL				Sn	**Sn**	**09 26 56.6**	**-2.4**
LOMA	**Loma Larga**	**1.38**	**90**	*eP*	**Pn**	**09 26 41.4**	**-0.2**
LOMA				*eS*	**Sn**	**09 26 59.6**	**+0.3**
LOMA	**Loma Larga**	**1.38**	**90**	⇓*iP*	**Pn**	**09 26 41.3**	**-0.2**
LOMA				*i* S	**Sn**	**09 26 59.3**	**+0.1**
LOMA				IAML		09 27 02.1	
	comp=Z,21μm,1.0s						
IGN	**Direccin Gen**	**1.39**	**87**	*eP*	**Pn**	**09 26 41.8**	**+0.3**
IGN				*eS*	**Sn**	**09 27 00.3**	**+1.1**
UDBS	**Universidad Do**	**1.40**	**87**	*i* P	**Pn**	**09 26 41.6**	**-0.2**
UDBS				*i* S	**Sn**	**09 27 00.3**	**+0.7**
UDBS				IAML		09 27 04.6	
	comp=Z,18μm,1.0s						
SOKI	**Kika Raxquin**	**1.41**	**326**	*i* P	**Pn**	**09 26 41.9**	**-0.3**
SOKI				*i* S	**Sn**	**09 26 59.5**	**-0.8**
SOKI				IAML		09 27 01.4	
	comp=Z,11μm,1.0s						
MTO3	**Montecristo**	**1.42**	**58**	Pn	**Pn**	**09 26 41.9**	**-0.2**
MTO3				Sn	**Sn**	**09 27 00.7**	**+0.6**
MTO3	**Montecristo**	**1.42**	**58**	⇓*iP*	**Pn**	**09 26 41.7**	**-0.4**
MTO3				*i* S	**Sn**	**09 27 02.6**	**+2.5**
MTO3				IAML		09 27 04.4	
	comp=Z,5μm,1.0s						
STG3	**Santiaguito 3,**	**1.42**	**318**	*eP*	**Pn**	**09 26 41.9**	**-0.3**
COEG	**Centro de Oper**	**1.67**	**91**	⇓*iP*	**Pn**	**09 26 45.1**	**-0.2**
COEG				*i* S	**Sn**	**09 27 07.2**	**+1.3**
COEG				IAML		09 27 14.5	
	comp=Z,6μm,1.0s						
MRL	**Marmol**	**1.68**	**32**	⇓*iP*	**Pn**	**09 26 46.8**	**+1.2**
LLGN	**La Laguna**	**1.68**	**72**	⇓*iP*	**Pn**	**09 26 45.1**	**-0.5**
LLGN				IAML		09 27 02.7	
	comp=Z,2μm,1.0s						
QUIS	**Sacapulas**	**1.71**	**344**	⇑*iP*	**Pn**	**09 26 46.5**	**+0.6**
QUIS				*i* S	**Sn**	**09 27 09.3**	**+2.3**
QUIS				IAML		09 27 11.8	
	comp=Z,6μm,1.0s						
UESV	**Universidad de**	**1.76**	**90**	*i* P	**Pn**	**09 26 46.6**	**+0.1**
UESV				*i* S	**Sn**	**09 27 09.6**	**+1.6**
UESV				IAML		09 27 18.7	
	comp=Z,4μm,1.0s						
TECO	**Alcaldia de Te**	**1.77**	**93**	⇓*iP*	**Pn**	**09 26 46.4**	**-0.2**
TECO				IAML		09 27 16.8	
	comp=Z,4μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.81**	**88**	⇓*iP*	**Pn**	**09 26 47.3**	**0.0**
SCLA				IAML		09 27 20.4	
	comp=Z,2μm,1.0s						
PQSS	**Presa 15 de Se**	**1.98**	**90**	⇓*iP*	**Pn**	**09 26 49.2**	**-0.2**
PQSS				IAML		09 27 19.9	
	comp=Z,2μm,1.0s						
PACA	**Pacayal**	**2.22**	**94**	*i* P	**Pn**	**09 26 54.4**	**+1.7**
PACA				IAML		09 27 41.8	
	comp=Z,23μm,1.0s						
RANC	**El Ranchito**	**2.25**	**95**	⇑*iP*	**Pn**	**09 26 53.2**	**-0.1**
RANC				IAML		09 27 31.6	
	comp=Z,3μm,1.0s						
CAHU	**Cacacuatique**	**2.32**	**87**	*eP*	**Pn**	**09 26 54.4**	**+0.2**
CNRM	**Centro Naciona**	**2.36**	**94**	*i* P	**Pn**	**09 26 54.4**	**-0.2**
CNRM				IAML		09 27 41.2	
	comp=Z,10μm,1.0s						
INTHN	**La Esperanza I**	**2.51**	**74**	*i* P	**Pn**	**09 26 56.8**	**0.0**
MARCA	**Marcala la Paz**	**2.54**	**78**	⇓*iP*	**Pn**	**09 26 56.8**	**-0.3**
LCND	**La Caada**	**2.65**	**97**	⇓*iP*	**Pn**	**09 26 58.4**	**-0.1**
LCND				*i* S	**Sn**	**09 27 31.6**	**+2.0**
LCND				IAML		09 27 41.7	
	comp=Z,4μm,1.0s						
CNCH	**Conchagua**	**2.71**	**97**	⇓*iP*	**Pn**	**09 26 59.4**	**-0.1**
CNCH				IAML		09 27 42.4	
	comp=Z,8μm,1.0s						
CCIG	**Comitan**	**3.02**	**331**	Pn	**Pn**	**09 27 05.3**	**+1.5**
CCIG	**Comitan**	**3.02**	**331**	⇓*iP*	**Pn**	**09 27 05.2**	**+1.5**
CCIG				IAML		09 27 56.3	
	comp=Z,820nm,1.0s						
COMHN	**El Horno**	**3.05**	**75**	⇓*iP*	**Pn**	**09 27 03.4**	**-0.8**
TGUH	**Tegucigalpa,Un**	**3.25**	**82**	Pn	**Pn**	**09 27 06.6**	**-0.2**
TGUH	**Tegucigalpa,Un**	**3.25**	**82**	⇓*iP*	**Pn**	**09 27 06.6**	**-0.2**
TGUH				IAML		09 28 16.7	
	comp=Z,790nm,1.0s						
PETF	**Flores**	**3.33**	**12**	Pn	**Pn**	**09 27 08.2**	**+0.4**
CRIN	**San Cristobal**	**3.58**	**105**	Pn	**Pn**	**09 27 12.6**	**+1.3**
CRIN	**San Cristobal**	**3.58**	**105**	⇓*iP*	**Pn**	**09 27 12.4**	**+1.2**
CRIN				IAML		09 28 09.7	
	comp=Z,5μm,1.0s						
YUSH	**Yuscaran**	**3.66**	**85**	⇓*iP*	**Pn**	**09 27 12.1**	**-0.3**
PACN	**Al O del Volca**	**3.88**	**107**	⇓*iP*	**Pn**	**09 27 14.4**	**-0.8**
PACN				IAML		09 28 15.0	
	comp=Z,2μm,1.0s						
CNGA	**Al SSO del Vol**	**3.96**	**106**	⇓*iP*	**Pn**	**09 27 14.9**	**-1.6**
CNGA				IAML		09 28 15.0	
	comp=Z,1μm,1.0s						
CNGN	**Cerro Negro**	**3.96**	**106**		**Pn**	**09 27 15.1**	**-1.4**
CNGN	**Cerro Negro**	**3.96**	**106**	⇓*iP*	**Pn**	**09 27 14.7**	**-1.8**
CNGN				IAML		09 28 15.9	
	comp=Z,2μm,1.0s						
MACN	**El Madrono**	**4.00**	**107**	⇑*iP*	**Pn**	**09 27 16.0**	**-0.9**
MACN				*i* S	**Sn**	**09 28 01.6**	**-1.0**
MACN				IAML		09 28 19.3	
	comp=Z,610nm,1.0s						
LIMN	**Finca el Limon**	**4.16**	**97**	⇓*iP*	**Pn**	**09 27 19.1**	**-0.1**
LIMN				IAML		09 28 25.0	
	comp=Z,440nm,1.0s						
COPN	**Copaltepe**	**4.17**	**110**	*i* P	**Pn**	**09 27 19.1**	**-0.1**
COPN				IAML		09 28 24.2	
	comp=Z,830nm,1.0s						
MOM2	**El Cardon**	**4.18**	**106**	⇓*iP*	**Pn**	**09 27 18.9**	**-0.5**
MOM2				*i* S	**Sn**	**09 28 07.7**	**+0.7**
MOM2				IAML		09 28 26.7	
	comp=Z,1μm,1.0s						
BRAN	**Las Pilas**	**4.24**	**102**	⇓*iP*	**Pn**	**09 27 22.9**	**+2.8**
BRAN				IAML		09 28 07.0	
	comp=Z,1μm,1.0s						
SAPS	**Ciudad Sandino**	**4.34**	**109**	*i* P	**Pn**	**09 27 22.2**	**+0.6**
SAPS				*i* S	**Sn**	**09 28 11.0**	**0.0**
SAPS				IAML		09 28 25.9	
	comp=Z,2μm,1.0s						
JUTIH	**Juticalpa Olan**	**4.37**	**76**	⇓*iP*	**Pn**	**09 27 22.2**	**+0.2**
APYN	**Apoyeque**	**4.37**	**108**	*i* P	**Pn**	**09 27 22.8**	**+0.8**
APYN				IAML		09 28 30.0	
	comp=Z,25nm,1.0s						
APQ2	**Apoyeque**	**4.40**	**109**	*i* P	**Pn**	**09 27 22.4**	**-0.1**
APQ2				IAML		09 28 25.5	
	comp=Z,1μm,1.0s						
RE6B4	**Centro civico**	**4.45**	**109**	*i* P	**Pn**	**09 27 23.5**	**+0.3**
RE6B4				IAML		09 28 33.1	
	comp=Z,2μm,1.0s						
RB28C	**Hialeah**	**4.47**	**109**	*i* P	**Pn**	**09 27 23.9**	**+0.5**
RB28C				IAML		09 28 32.8	
	comp=Z,1μm,1.0s						
TISN	**Laguna Tiscapa**	**4.47**	**109**	⇓*iP*	**Pn**	**09 27 22.6**	**-0.8**
TISN				IAML		09 28 30.2	
	comp=Z,110nm,1.0s						
RA5A7	**El Crucero**	**4.49**	**111**	*i* P	**Pn**	**09 27 24.4**	**+0.7**
RA5A7				IAML		09 28 39.4	
	comp=Z,6μm,1.0s						
R4DEC	**Barrio San Lui**	**4.49**	**109**	*i* P	**Pn**	**09 27 24.2**	**+0.6**
R4DEC				IAML		09 28 31.8	
	comp=Z,1μm,1.0s						
HUEN		**4.50**	**106**	*i* P	**Pn**	**09 27 23.7**	**-0.1**
HUEN				IAML		09 28 34.5	
	comp=Z,350nm,1.0s						
R0529	**La Mascota**	**4.51**	**109**	*i* P	**Pn**	**09 27 24.4**	**+0.5**
R0529				IAML		09 28 32.7	
	comp=Z,770nm,1.0s						
RB213	**Mirador 2 Volc**	**4.62**	**110**	*i* P	**Pn**	**09 27 23.5**	**-2.0**
RB213				IAML		09 28 29.4	
	comp=Z,1μm,1.0s						
BOAB	**BOACO BROADBAN**	**4.95**	**103**	Pn	**Pn**	**09 27 28.7**	**-1.2**
BOAB	**BOACO BROADBAN**	**4.95**	**103**	*i* P	**Pn**	**09 27 29.0**	**-0.9**
BOAB				IAML		09 28 56.5	
	comp=Z,150nm,1.0s						
CMIG	**Matias Romero**	**5.37**	**310**	P	**Pn**	**09 27 36.3**	**+0.6**
	comp=Z,41nm,0.5s,baz=114,slow=8.8,SNR=113						
CMIG				S	**Sn**	**09 28 35.8**	**-0.5**
	comp=Z,32nm,0.4s,baz=122,slow=22,SNR=5.7						
CMIG				LR	LR	09 30 14.9	
	comp=Z,274nm,20.4s,baz=125,slow=42						
ACON	**Acoyapa**	**5.54**	**107**		**Pn**	**09 27 37.5**	**-0.6**
INDI	**Punta indio, G**	**6.24**	**126**	*i* P	**Pn**	**09 27 48.9**	**+1.3**
INDI				IVmB_BB		09 28 02.8	
	comp=Z,2μm,1.0s						
INDI				IAML		09 29 37.4	
	comp=Z,840nm,1.0s						
ESPN	**Las Esperanzas**	**6.30**	**102**		**Pn**	**09 27 49.1**	**+0.6**
JTS	**Las Juntas de**	**6.45**	**120**	P	**Pn**	**09 27 51.6**	**+1.1**
	comp=Z,16nm,0.3s,baz=314,slow=22,SNR=34						
JTS				S	**Sn**	**09 29 01.5**	**-1.2**
	comp=Z,14nm,0.4s,baz=279,slow=18,SNR=1.0						
SOCE	**Pocosol**	**6.68**	**118**	Pn	**Pn**	**09 27 55.3**	**+1.6**
TEIG	**Tepich**	**6.91**	**18**	Pn	**Pn**	**09 27 57.9**	**+1.1**
TEIG	**Tepich**	**6.91**	**18**	P	**Pn**	**09 27 58.3**	**+1.5**
	comp=Z,118nm,0.5s,baz=132,slow=0.8,SNR=215						
TEIG				LR	LR	09 31 03.3	
	comp=Z,421nm,18.4s,baz=225,slow=44						
HDC	**Heredia**	**7.30**	**119**		**Pn**	**09 28 04.3**	**+2.0**
LCR2	**La Lucha 2**	**7.53**	**120**	Pn	**Pn**	**09 28 08.0**	**+2.6**
TLIG	**Tlapa**	**8.61**	**298**	Pn	**Pn**	**09 28 23.2**	**+3.0**
BRU2	**Volcan**	**9.13**	**121**	Pn	**Pn**	**09 28 29.2**	**+2.0**
SOR	**Soroa**	**11.61**	**37**	Pn	**Pn**	**09 29 03.1**	**+2.2**
061Z	**Ochoppi**	**15.19**	**35**	Pn	**Pn**	**09 29 47.5**	**-1.1**
DWPF	**Disney Wildern**	**16.74**	**29**	Pn	**Pn**	**09 30 07

154A	Montrose	20.09	19	P	P	09 30 46.1	0.0
WLAR	White Oak Lake	20.09	354	P	P	09 30 47.6	+1.5
SDV	Santo Domingo	20.13	101	P	P	09 30 45.7	-1.3
SDV	Santo Domingo	20.13	101	P	P	09 30 45.3	-1.7
	comp=Z,3.6nm,0.6s,baz=315,slow=8.8,SNR=5.4						
SDV				LR	LR	09 37 56.0	
	comp=Z,114nm,22.0s,baz=260,slow=35						
Y45A	Yeager Farm, C	20.16	3	P	P	09 30 45.8	-1.0
Y45A				IAmb	IAmb	09 30 53.1	
	comp=Z,22nm,0.9s						
FW06	Azle	20.27	343	P	P	09 30 48.6	+0.6
FW06				IAmb	IAmb	09 30 49.8	
	comp=Z,11nm,0.6s						
PLPT	Palo Pinto	20.34	341		P	09 30 50.0	+1.1
PLPT				IAmb	IAmb	09 30 50.8	
	comp=Z,16nm,0.8s						
FW03	Perrin-Whitt E	20.48	342	P	P	09 30 51.1	+0.8
FW03				IAmb	IAmb	09 30 52.2	
	comp=Z,15nm,0.8s						
Y49A	Blount Mountai	20.48	10	P	P	09 30 52.0	+1.6
Z35A	Perchaven, San	20.52	344	P	P	09 30 51.7	+0.9
Z35A				IAmb	IAmb	09 30 52.7	
	comp=Z,18nm,0.9s						
ALPN	Alpine	20.55	326		Pn	09 30 53.6	-0.5
ALPN				IAmb	IAmb	09 30 54.8	
	comp=Z,6.2nm,0.6s						
GOGA	Godfrey	20.72	17	P	P	09 30 53.4	+0.4
OXF	Oxford	20.81	3	P	P	09 30 53.6	-0.2
OXF				IAmb	IAmb	09 31 19.9	
	comp=Z,28nm,1.1s						
X40A	Basin Creek Fa	20.85	355	P	P	09 30 54.8	+0.4
MNHN	Monahans	20.86	330	P	P	09 30 55.7	+1.0
MNHN				IAmb	IAmb	09 31 19.9	
	comp=Z,8.9nm,0.8s						
X48A	Hartselle	20.97	8	P	P	09 30 56.7	+1.1
X48A				IAmb	IAmb	09 30 58.4	
	comp=Z,12nm,0.8s						
MIAR	Mount Ida	20.99	353	P	P	09 30 55.2	-0.7
MIAR				IAmb	IAmb	09 31 20.9	
	comp=Z,6.6nm,0.7s						
Y52A	Lilburn	20.99	15	P	P	09 30 57.2	+1.4
Y52A				IAmb	IAmb	09 30 59.0	
	comp=Z,16nm,0.7s						
WTFS	Witchita Falls	21.27	342	P	P	09 30 58.7	-0.2
WTFS				IAmb	IAmb	09 31 00.9	
	comp=Z,9.5nm,0.9s						
FPAL	Fort Paine	21.29	11		P	09 30 59.8	+0.7
FPAL				IAmb	IAmb	09 31 02.3	
	comp=Z,16nm,0.8s						
X37A	Clayton	21.30	349		P	09 30 59.3	+0.2
X37A				IAmb	IAmb	09 31 08.2	
	comp=Z,10nm,0.7s						
PLAL	Pickwick Lake	21.37	6	P	P	09 31 01.3	+1.4
PLAL				IAmb	IAmb	09 31 19.2	
	comp=Z,27nm,1.4s						
VHRN	Van Horn	21.61	324	P	P	09 31 04.2	+1.6
VHRN				IAmb	IAmb	09 31 05.1	
	comp=Z,8.5nm,0.7s						
POST	Post	21.75	335	P	P	09 31 05.3	+1.3
POST				IAmb	IAmb	09 31 22.9	
	comp=Z,14nm,0.9s						
SWET	Sewanee	21.89	10	P	P	09 31 05.6	+0.1
W50A	Signal Mountai	21.99	12	P	P	09 31 06.0	-0.5
W50A				IAmb	IAmb	09 31 25.4	
	comp=Z,9.0nm,0.9s						
DKNS	Dickens	22.04	337	P	P	09 31 07.9	+0.7
DKNS				IAmb	IAmb	09 31 34.4	
	comp=Z,14nm,1.2s						
W35A	Tecumseh	22.16	346		P	09 31 07.5	-0.8
FCAR	Ozark Folk Cen	22.20	357	P	P	09 31 09.1	+0.4
FCAR				IAmb	IAmb	09 31 29.7	
	comp=Z,5.5nm,0.7s						
HTMS	Hat Mesa	22.21	330	P	P	09 31 10.3	+1.1
JSC	Jenkinsville	22.22	21	P	P	09 31 08.8	-0.2
V48A	Smith Brothers	22.27	8	P	P	09 31 08.9	-0.6
V48A				IAmb	IAmb	09 31 11.5	
	comp=Z,9.5nm,0.7s						
WMOK	Wichita Mounta	22.27	342	P	P	09 31 08.9	-0.7
LCAR	Lake Charles	22.34	359	P	P	09 31 09.7	-0.6
LCAR				IAmb	IAmb	09 31 29.9	
	comp=Z,14nm,0.7s						
BG3	Lake Jocassee	22.36	17	P	P	09 31 10.9	+0.3
BG3				IAmb	IAmb	09 31 28.7	
	comp=Z,11nm,0.9s						
FNO	Franklin	22.38	345		P	09 31 10.3	-0.5
CPCT	Cooper Cave	22.39	13	P	P	09 31 11.7	+0.8
CPCT				IAmb	IAmb	09 31 14.4	
	comp=Z,9.1nm,0.8s						
WVT	Waverly	22.53	6	P	P	09 31 12.5	+0.2
WVT				IAmb	IAmb	09 31 34.0	
	comp=Z,13nm,1.1s						
CLTN	Cedars of Leba	22.68	9	P	P	09 31 14.1	+0.2
CLTN				IAmb	IAmb	09 31 14.8	
	comp=Z,8.7nm,0.7s						
HHAR	Hobbs	22.74	353	P	P	09 31 14.9	+0.3
TKL	Tuckaleechee C	22.77	14	LR	LR	09 40 47.2	
	comp=Z,116nm,21.9s,baz=187,slow=39						
U38A	Gravette	22.95	352		P	09 31 15.8	-1.0
V53A	Saluda	23.03	16	P	P	09 31 18.2	+0.6
U49A	Red Boiling Sp	23.18	10	P	P	09 31 18.4	-0.6
AMTX	Amarillo	23.40	337	P	P	09 31 21.9	+0.7
AMTX				IAmb	IAmb	09 32 01.9	
	comp=Z,8.0nm,0.9s						
T47A	Sharon Grove	23.46	7	P	P	09 31 21.0	-0.6
MGMO	Mountain Grove	23.46	357	P	P	09 31 22.1	+0.5
MGMO				IAmb	IAmb	09 31 45.1	
	comp=Z,30nm,1.5s						
SJG	San Juan	23.92	76	LR	LR	09 40 55.9	
	comp=Z,31nm,21.2s,baz=221,slow=37						
U54A	Nelsons Funny	24.10	18	P	P	09 31 26.4	-1.1
V58A	Windy Hill, Pi	24.36	23	P	P	09 31 28.8	-0.9
V58A				IAmb	IAmb	09 31 30.4	
	comp=Z,11nm,0.8s						
121A	Cookes Peak, D	24.50	323	P	P	09 31 33.7	+2.4
121A				IAmb	IAmb	09 31 35.7	
	comp=Z,13nm,0.9s						
WCI	Wyandotte Cave	24.79	8	P	P	09 31 33.3	-0.3
WCI				IAmb	IAmb	09 31 35.6	
	comp=Z,20nm,0.9s						
R49A	Shelbyville	25.02	10	P	P	09 31 34.9	-0.8
R49A				IAmb	IAmb	09 31 37.4	
	comp=Z,12nm,0.8s						
Q51A	Peebles	26.08	13	P	P	09 31 44.1	-1.3
Q51A				IAmb	IAmb	09 32 03.1	
	comp=Z,12nm,0.7s						
TUC	Tucson	26.20	319	P	P	09 31 48.5	+1.9
X16A	Lo Mia Camp, P	28.00	321	P	P	09 32 04.1	+1.2
NNA	Nana	28.89	151	LR	LR	09 41 46.6	
	comp=Z,48nm,20.3s,baz=286,slow=32						
PFO	Pinyon Flats O	30.78	315	LR	LR	09 45 26.9	
	comp=Z,63nm,20.2s,baz=173,slow=37						
V12A	Nelson	30.97	319	P	P	09 32 29.5	+0.4
V12A				IAmb	IAmb	09 32 48.0	
	comp=Z,4.0nm,1.0s						
SADO	Sadowa	32.52	15	LR	LR	09 46 28.2	
	comp=Z,113nm,20.8s,baz=220,slow=38						
SPR3	Spring Creek 3	32.83	325	P	P	09 32 46.7	+1.1
SPR3					PcP	09 35 29.9	+0.8
PDAR	Pinedale Array	33.32	334	P	P	09 32 50.1	+0.4
	comp=Z,0.3nm,0.6s,baz=136,slow=9.3,SNR=4.3						
PDAR				PcP	PcP	09 35 30.1	-0.2
	comp=Z,0.5nm,0.5s,baz=136,slow=5.5,SNR=6.3						
PDAR				LR	LR	09 48 13.3	
	comp=Z,29nm,21.3s,baz=151,slow=39						
	comp=Z,0.3nm,0.6s						
MACA	Manacapuru-AM	34.05	117	P	P	09 32 55.9	-0.2
ELK	Elko	34.54	326	P	P	09 33 01.9	+1.6
NV11	Mina Array Sit	34.72	320	P	P	09 33 04.0	+2.2
NV11				IAmb	IAmb	09 33 05.1	
	comp=Z,3.6nm,0.7s						
NVAR	Mina Array Bea	34.81	320	P	P	09 33 04.4	+1.7
NVAR	Mina Array Bea	34.81	320	P	P	09 33 05.8	+3.1
	comp=Z,5.4nm,0.7s,baz=132,slow=8.5,SNR=67						
NVAR				PcP	PcP	09 35 36.5	+1.8
	comp=Z,2.0nm,0.7s,baz=137,slow=3.4,SNR=12						
	comp=Z,5.4nm,0.7s						
IMW	Indian Meadow	34.83	334	P	P	09 33 03.8	+1.0
CMB	Columbia Colle	35.91	318	P	P	09 33 13.8	+1.9
CMB				IAmb	IAmb	09 33 15.1	
	comp=Z,3.0nm,0.8s						
SAO	San Andreas Ge	35.92	315	P	P	09 33 13.3	+1.4
SAO				IAmb	IAmb	09 33 24.9	
	comp=Z,4.3nm,0.9s						
PNTR	Pine Nut	36.02	320	P	P	09 33 14.8	+1.7
PNTR				IAmb	IAmb	09 33 16.6	
	comp=Z,3.5nm,0.7s						
HLID	Hailey	36.15	330	P	P	09 33 15.2	+1.2
ULM	Lac du Bonnet	36.76	354	P	P	09 33 16.4	-2.4
	comp=Z,3.8nm,0.7s,baz=160,slow=8.5,SNR=8.4						
	comp=Z,3.8nm,0.7s						
LPAZ	La Paz	37.11	143	P	P	09 33 23.5	+0.5
	comp=Z,1.0nm,0.7s,baz=335,slow=10,SNR=4.2						
	comp=Z,1.0nm,0.7s						
LYMT	Lyon Mountain	37.87	336	P	P	09 33 29.5	+0.8
LYMT					PcP	09 35 44.7	+1.0
BPMT	Black Pine Rid	37.92	334	P	P	09 33 29.1	0.0
J08A	Circle Bar Ran	38.09	326	P	P	09 33 31.3	+1.0
J08A				IAmb	IAmb	09 33 32.5	
	comp=Z,4.4nm,0.8s						
YBH	Yreka Blue Hor	39.49	321	LR	LR	09 51 31.8	
	comp=Z,63nm,18.4s,baz=170,slow=38						
VILB	Vilhena	40.07	130	P	P	09 33 46.8	-0.3
NEW	Newport	40.93	333	LR	LR	09 56 03.3	
	comp=Z,46nm,18.4s,baz=156,slow=44						
H04A	Detroit Lake	40.98	325	P	P	09 33 55.1	+0.8
HOOD	Mount Hood Mea	41.09	326	P	P	09 33 57.7	+2.3
C09A	Chrisman Ranch	41.11	332	P	P	09 33 56.3	+1.0
C09A				IAmb	IAmb	09 34 23.8	
	comp=Z,5.1nm,1.1s						
LVC	Limon Verde	41.83	149	LR	LR	09 51 37.0	
	comp=Z,49nm,18.1s,baz=230,slow=36						
FFC	Flin Flon	41.95	350	P	P	09 34 01.7	-0.3
FFC				IAmb	IAmb	09 34 02.8	
	comp=Z,3.0nm,0.8s						
SCHQ	Schefferville	45.10	19	P	P	09 34 25.1	-2.3
	comp=Z,3.4nm,0.5s,baz=214,slow=5.2,SNR=12						
SCHQ				LR	LR	09 53 55.6	
	comp=Z,64nm,19.6s,baz=251,slow=37						
	comp=Z,3.4nm,0.5s						
H03N2	Juan Fernandez	48.12	167	T	T	10 26 04.1	
	baz=346,slow=76,SNR=3.5						
H03N1	Juan Fernandez	48.13	167	T	T	10 26 05.0	
	baz=346,slow=76,SNR=4.1						
H03N3	Juan Fernandez	48.14	167	T	T	10 26 02.8	
	baz=346,slow=76,SNR=4.0						
BBB	Bella Bella	48.74	330	LR	LR	09 58 04.0	
	comp=Z,47nm,18.4s,baz=181,slow=39						
ZON	Zonda	49.61	155	P	P	09 35 01.1	-1.6
VA03	San Esteban	49.97	158	P	P	09 35 06.5	+1.1
YKA	Yellowknife Ar	51.69	346	P	P	09 35 18.4	+0.4
	comp=Z,0.2nm,0.4s,baz=119,slow=8.6,SNR=5.1						
YKA				LR	LR	09 58 51.6	
	comp=Z,39nm,20.5s,baz=26,slow=38						
	comp=Z,0.2nm,0.4s						
FRB	Frobisher Bay	52.36	12	LR	LR	09 57 58.5	
	comp=Z,81nm,20.9s,baz=213,slow=36						
M29M	Somme Creek	59.28	336	P	P	09 36 12.6	0.0
M29M				IAmb	IAmb	09 36 14.1	
	comp=Z,2.2nm,0.7s						
SFJD	Kangerlussuaq	59.45	17	LR	LR	10 02 37.3	
	comp=Z,40nm,18.4s,baz=214,slow=37						
RES	Resolute Bay	61.08	359	LR	LR	10 04 24.8	
	comp=Z,46nm,21.0s,baz=358,slow=38						
F28M	Old Crow	62.65	341	P	P	09 36 35.2	0.0
J25K	Salcha River,	63.05	337	P	P	09 36 37.2	-0.8
J25K				IAmb	IAmb	09 37 15.6	
	comp=Z,1.5nm,0.7s						
ILAR	Eielson Array	63.71	337	P	P	09 36 41.5	-0.8
	comp=Z,0.4nm,0.6s,baz=174,slow=5.2,SNR=11						
	comp=Z,0.4nm,0.6s						
MLY	Manley	65.32	336	P	P	09 36 51.8	-1.0
MLY				IAmb	IAmb	09 36 52.7	
	comp=Z,2.5nm,0.6s						
G23K	Bananza Creek	65.69	338	P	P	09 36 56.1	+0.9
G23K				IAmb	IAmb	09 37 37.1	
	comp=Z,4.2nm,1.4s						
PPT	Papeete	65.95	244	LR	LR	09 57 23.8	
	comp=Z,95nm,18.2s,baz=150,slow=28						
L19K	White Mountain	66.11	332	P	P	09 36 57.5	-0.4
L19K				IAmb	IAmb	09 37 31.4	
	comp=Z,3.8nm,1.2s						
TOLK	Toolik Lake Re	66.32	340	P	P	09 36 58.7	-0.5
TOLK				IAmb	IAmb	09 37 00.2	
	comp=Z,2.3nm,0.6s						
J20K	Nowinta River	66.40	335	P	P	09 36 59.0	-0.6
G21K	Allakaket	66.91	337	P	P	09 37 01.9	-1.0
J19K	Poorman	66.97	334	P	P	09 37 02.4	-0.9
J19K				IAmb	IAmb	09 37 14.6	
	comp=Z,4.4nm,1.4s						
O16K	Kokwok River B	66.98	329	P	P	09 37 03.3	-0.1
F20K	Avaraart Lake	67.92	337	P	P	09 37 09.5	+0.3
E19K	Redstone River	68.60	338	P	P	09 37 12.2	-1.3
E19K				IAmb	IAmb	09 37 28.8	
	comp=Z,4.1nm,1.4s						
F19K	Shaleruckik Mo	68.63	337	P	P	09 37 13.0	-0.7
F19K				IAmb	IAmb	09 37 34.3	
	comp=Z,3.7nm,1.4s						
M14K	Bethel	69.10	330	P	P	09 37 17.0	+0.3
JMIC	Jan Mayen	74.62	20	LR	LR	10 09 45.1	
	comp=Z,24nm,20.4s,baz=234,slow=35						
RAR	Rarotonga	76.22	244	LR	LR	10 03 31.7	
	comp=Z,46nm,20.2s,baz=304,slow=29						
EKA	Eskdalemuir Ar	77.46	36	P	P	09 38 02.5	-3.5
	comp=Z,0.5nm,0.5s,baz=266,slow=6.9,SNR=3.5						
	comp=Z,0.5nm,0.5s						
ESDC	Sonseca Array	78.87	52	P	P	09 38 12.5	-1.7
	comp=Z,0.4nm,0.5s,baz=290,slow=4.5,SNR=2.5						
	comp=Z,0.4nm,0.5s						
SPITS	Spitsbergen Ar	80.16	12	LR	LR	10 15 34.1	
	comp=Z,40nm,18.0s,baz=314,slow=37						
NOA	NORSAR Array B	83.81	29	LR	LR	10 17 04.6	
	comp=Z,7.6nm,19.0s,baz=90,slow=36						
ARCES	ARCESS Array B	86.05	18	LR	LR	10 15 31.5	
	comp=Z,28nm,21.9s,baz=291,slow=34						
KURBB	Kurhatov Arra	115.31	8	PKP	PKiKP	09 44 50.6	-1.3
	comp=Z,0.2nm,0.3s,baz=2.1,slow=1.6,SNR=5.3						
SONM	Songino Array	116.95	347	PKP	PKPdf	09 44 55.0	-0.4
	comp=Z,0.4nm,0.4s,baz=22,slow=1.6,SNR=1.3						
BOSA	Boshof	118.97	115	PKP	PKPdf	09 44 59.5	-0.2
	comp=Z,1.6nm,0.8s,baz=272,slow=2.4,SNR=4.1						
MKAR	Makanchi Array	119.50	6	PKP	PKPdf	09 44 59.3	-0.9
	comp=Z,0.3nm,0.5s,baz=0.0,slow=2.9,SNR=3.3						
WRA	Warramunga Arr	136.63	255	PKP	PKPdf	09 45 33.3	-0.1
	comp=Z,0.8nm,0.7s,baz=86,slow=1.8,SNR=10						
ASAR	Alice Springs	136.83	250	PKhKP	PKPpre	09 45 26.8	
	comp=Z,0.2nm,0.5s,baz=90,slow=2.1,SNR=2.1						
ASAR				PKP	PKPdf	09 45 34.6	+0.9
	comp=Z,0.5nm,0.8s,baz=70,slow=2.7,SNR=4.8						
CMAR	Chiang Mai Arr	146.75	343	PKPbc	PKPdf	09 45 53.5	+2.0
	comp=Z,6.7nm,0.7s,baz=342,slow=3.4,SNR=20						

NEIC 20 09:26:37.9±0.5, 40°.440N±0°.008×104°.627W±0°.007, h5km±1km, ML1.7/32, Error ellipse: s-maj=2.0km s-min=1.4km az=40.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRIGG	Briggsdale	0.27	59	Pg	Pg	09 26 43.7	+0.4
BRIGG				Sg	Sg	09 26 48.0	+1.0
BRIGG				IAML		09 26 51.3	
	comp=E,177nm,0.3s						
ISCO	Idaho Springs	0.99	230	Pg	Pg	09 26 56.4	-0.5
PHWY	Pilot Hill	1.07	324	Pg	Pg	09 26 57.9	-0.5
PHWY				IAML		09 27 12.1	
	comp=E,11nm,0.4s						
PHWY				IAML		09 27 19.4	
	comp=E,10nm,0.3s						
N23A	Red Feather La	1.10	295	Pg	Pg	09 26 58.7	-0.4
N23A				IAML		09 27 14.3	
	comp=N,13nm,0.2s						
N23A				IAML		09 27 14.5	
	comp=E,13nm,0.1s						
Q24A	Divide	1.53	195		Pn	09 27 05.9	-0.3
OGNE	Ogallala	2.04	75	Pn	Pn	09 27 11.8	-1.1
KSCO	Kaye Shedlock'	2.10	132	Pn	Pn	09 27 12.4	-1.5
SMCO	Snowmass	2.20	236	Pn	Pn	09 27 14.8	-0.8
RWWY	Rawlins	2.32	303	Pn	Pn	09 27 15.4	-1.6
K22A	Casper	2.63	328	Pn	Pn	09 27 20.8	-0.4
SDCO	Great Sand Dun	2.77	194	Pn	Pn	09 27 23.3	0.0
S22A	4UR Ranch, Cre	3.19	213	Pn	Pn	09 27 29.9	+0.9

*CRAAG **20** 09:32:58.8, 36°.53N×5°.25E, Ml3.7, Algerie 05km NW Kherrata*
*NEIC **20** 09:32:59.9±1.2, 36°.38N±0°.09×5°.32E±0°.05, h10km±1km, mb4.2/7, Error ellipse: s-maj=14.5km s-min=6.9km az=177.0*
*IDC **20** 09:32:59.6±1.3, 36°.54N×5°.28E, h0km, mb3.5/3, mbtmp3.5/6, ML3.4/3, MS3.0/1, Error ellipse: s-maj=26.8km s-min=20.5km az=167.0*
*MDD **20** 09:33:00.3±0.8, 36°.39N×5°.28E, h0km, Mb4.4/14, M_mb3.8/14, Error ellipse: s-maj=8.2km s-min=6.1km az=119.0*
*LDG **20** 09:33:03.3±0.3, 36°.61N×5°.35E, h10km, Ml3.6/17, Error ellipse: s-maj=5.2km s-min=4.4km az=178.0*

ISC 20 09:32:59.8±0.6, 36°.59N±0°.04×5°.28E±0°.03, h10km, n73, σ2.51/91, mb4.0/7, 9C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	Setif	0.40	165	P	Pg	09 33 05.0	-2.7
CAZD	Ain Tagrout	0.42	193	P	Pg	09 33 07.2	-0.9
DFRA	Djebel Bou Aff	0.49	95	P	Pg	09 33 10.3	+1.0
CTCHA	Tamokra	0.53	253	P	Pg	09 33 10.0	-0.1
CKHR	Kef el Ahmar	0.60	161	P	Pg	09 33 11.9	+0.4
COAT	Oued Athmania	0.89	113	P	Pg	09 33 17.1	+0.2
CASM	Ain Smara	1.03	108	P	Pg	09 33 19.7	0.0
CTEI	Djebel Teioual	1.05	119	P	Pg	09 33 20.3	+0.3
CKFL	Kef-Lekhel	1.18	99	P	Pb	09 33 23.3	+1.0
AKET	Djebel Ketaf	1.25	245	P	Pn	09 33 23.8	+0.4
CAEH	'Ain El Ouahch	1.28	81	P	Pn	09 33 24.4	+0.6
CMAH	Djebel Manchou	1.73	88	P	Pn	09 33 30.3	+0.3
ABSA	Djebel Ababsia	1.80	99	P	Pg	09 33 37.2	+2.8
KEST	Kesra	3.40	103	Pn	Pn	09 33 52.0	-1.0
KEST	Kesra	3.40	103	Pn	Pn	09 33 55.7	+2.7
	6.5nm,0.3s,baz=250,slow=4.0,SNR=55						
KEST				Sn	Sn	09 34 35.9	+2.4
	baz=190,slow=18						
	67nm,0.8s						
EANR	'Ain N'Sour	3.43	261	P	Pg	09 34 06.7	+1.1
ETOS	Mallorca	3.72	329	Pn	Pn	09 33 58.9	+1.6
ETOS				Sn	Sn	09 34 42.1	+0.9
ETOS	Mallorca	3.72	329	P	Pn	09 33 59.1	+1.8
ETOS				⇑iVmb_V		09 34 06.3	
	805nm,SNR=12						
ETOS				S	Sn	09 34 42.2	+0.9
EIBI	Ibiza	3.95	309	Pn	Pn	09 34 02.6	+2.1
EIBI				Sn	Sn	09 34 46.8	-0.1
EIBI	Ibiza	3.95	309	P	Pn	09 34 01.4	+0.9
EIBI				⇑iVmb_V		09 34 04.0	
	485nm,SNR=3.9						
EIBI				S	Sn	09 34 47.7	+0.7
EBEN2	Beniarda presa	4.81	297	P	Pn	09 34 14.3	+2.0
ECOL	Islas Columbre	4.90	314	P	Pn	09 34 15.4	+1.9
CART	Cartagena	5.12	283	Pn	Pn	09 34 17.1	+0.7
CART	Cartagena	5.12	283	Pn	Pn	09 34 17.4	+0.9
EMUR	La Murta	5.35	286	P	Pn	09 34 23.6	+3.8
EMUR				⇑iVmb_V		09 34 30.4	
	168nm,SNR=3.2						
EZAR	Zarzadilla de	5.71	285	P	Pn	09 34 26.7	+2.0
EZAR				⇑iVmb_V		09 34 34.6	
	249nm,SNR=2.5						
EVIV	Cofrentes, Val	5.72	300	P	Pn	09 34 27.6	+2.8
EVIV				⇑iVmb_V		09 34 28.7	
	310nm,SNR=5.3						
ECHE	Chera	5.77	303	Pn	Pn	09 34 27.9	+2.4
ECHE	Chera	5.77	303	P	Pn	09 34 28.1	+2.6
ECHE				⇑iVmb_V		09 34 30.2	
	253nm,SNR=3.8						
EPOB	Poblet	5.78	327	P	Pn	09 34 27.1	+1.5
EPOB				S	Sn	09 35 28.6	-3.3
ETOB	Tobarra	5.79	293	Pn	Pn	09 34 28.3	+2.4
ETOB	Tobarra	5.79	293	P	Pn	09 34 28.2	+2.3
ETOB				⇑iVmb_V		09 34 34.6	
	164nm,SNR=3.3						
ERTA	Horta de San J	5.83	320	P	Pn	09 34 28.3	+2.0
ERTA				⇑iVmb_V		09 34 37.0	
	153nm,SNR=2.3						
EMOS	Mosqueruela	5.88	312	P	Pn	09 34 29.0	+1.8
TATN	Tataouine	5.89	131	Pn	Pn	09 34 24.1	-3.1
EMIR	Miracle	6.07	332	P	Pn	09 34 31.3	+1.7
EMIR				S	Sn	09 35 40.5	+1.5
CLTB	Caltabellotta	6.42	79	Pn	Pn	09 34 35.7	+1.1
PGF	Pioggiola	6.61	25	ePn	Pn	09 34 38.6	+1.5
PGF				eSn	Sn	09 35 49.0	-3.6
	9.6nm,0.6s						
CEST	Esterri de Car	6.76	334	Pn	Pn	09 34 41.8	+2.6
ESAC	San Caprasio	6.80	321	P	Pn	09 34 37.0	-2.7
ESAC				S	Sn	09 35 53.4	-3.7
LMR	La Mourre	6.81	8	ePn	Pn	09 34 40.2	+0.5
LMR				eSn	Sn	09 35 52.9	-4.3
	7.0nm,0.4s						
MTLF	Montolieu	7.14	342	ePn	Pn	09 34 44.9	+0.6
MTLF				eSn	Sn	09 36 01.7	-3.9
	3.1nm,0.4s						
RAFF	Raffo Rosso	7.31	82	Pn	Pn	09 34 46.1	-0.6
SMRF	Simiane la Rot	7.39	2	ePn	Pn	09 34 48.7	+1.0
SMRF				eSn	Sn	09 36 09.1	-2.5
	4.0nm,0.4s						
SBF	Sospel	7.45	12	ePn	Pn	09 34 48.9	+0.2
SBF				eSn	Sn	09 36 08.8	-4.5
	11nm,0.4s						
EPF	Esparros	7.47	331	ePn	Pn	09 34 50.7	+1.8
EPF				eSn	Sn	09 36 09.3	-4.4
	6.2nm,0.4s						
LASF	Ste Croix	7.56	352	eSn	Sn	09 36 10.5	-5.3
	3.3nm,0.5s						
ETSF	Etsaut	7.74	326	ePn	Pn	09 34 55.5	+2.9
ETSF				eSn	Sn	09 36 16.2	-4.2
	4.5nm,0.5s						
ESBB	Sonseca Array	7.91	296	Pn	Pn	09 34 56.2	+1.3
ESDC	Sonseca Array	7.91	296	Pn	Pn	09 34 56.9	+2.1
ESDC	Sonseca Array	7.91	296	Pn	Pn	09 34 57.0	+2.2
	0.2nm,0.3s,baz=105,slow=14,SNR=12						
ESDC				Sn	Sn	09 36 27.0	+2.6
	baz=108,slow=29						
ESDC				LR	LR	09 37 54.1	
	comp=Z,114nm,19.2s,baz=149,slow=37		

IDC 20 09:50:35.8±2.9, 53°74N×86°91E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=27.8km s-min=15.8km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.25	280	I	I	09 58 30.0	
	baz=100,slow=319,SNR=0.5						
ZALV	Zalesovo Beam	1.25	280	Pg	Pg	09 50 59.0	-0.8
	1.2nm,0.3s,baz=96,slow=17,SNR=9.3						
ZALV				Lg	Lg	09 51 16.6	
	1.1nm,0.3s,baz=98,slow=29,SNR=5.3						
KURBB	Kurchatov Arra	6.03	242	Pn	Pn	09 52 06.8	+0.7
	0.1nm,0.3s,baz=56,slow=13,SNR=4.0						
	0.5nm,0.5s						
MKAR	Makanchi Array	7.56	205	Pn	Pn	09 52 28.5	+1.3
	0.1nm,0.3s,baz=23,slow=13,SNR=5.9						
	0.2nm,0.4s						

STR 20 09:57:36.8±0.5, 49°N±3°×°±°, h0km, MLv2.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=53.3, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	Walferdange	0.45	304	Pg	Pg	09 57 45.8	+0.3
WLF	Walferdange	0.45	304	Sg	Sg	09 57 51.6	+0.2
VOEL	Voellerdingen	0.52	150	Pg	Pg	09 57 47.0	+0.4
VOEL				Sg	Sg	09 57 53.2	-0.1
ABH	Alteburg	0.71	48	Sg	Sg	09 57 59.9	+0.3
ABH	Alteburg	0.71	48	Pg	Pg	09 57 49.9	-0.4
CIEL	Dossenheim-sur	0.71	144	Pg	Pg	09 57 50.3	-0.2
CIEL				Sg	Sg	09 58 00.6	+0.9
LEMB	Lembach	0.77	119	Pg	Pg	09 57 50.8	-0.9
LEMB				Sg	Sg	09 58 02.1	+0.5
KTD	Kalmit	0.89	96	Pg	Pg	09 57 53.7	-0.1
KTD	Kalmit	0.89	96	Sg	Sg	09 58 06.2	+0.9
WLS	Welschbruch	1.08	157	Pg	Pg	09 57 57.4	-0.1
ECH	Echery	1.23	167	Pg	Pg	09 58 00.1	-0.3
ECH				Sg	Sb	09 58 16.9	-0.5
MOF	Molkenrain	1.59	170	Pn	Pn	09 58 05.3	-0.9
MOF				Pg	Pb	09 58 07.0	0.0
MOF				Sn	Sn	09 58 26.6	-0.9

*NNC **20** 10:14:08.9±2.8, 59°84N×60°21E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=23.0km s-min=17.1km az=168.0*
*MIRAS **20** 10:14:08.6, 60°21N×59°98E, h1km, ML2.8/4*

ISC 20 10:14:04.9±1.4, 60°20N±0°07×60°07E±0°07, h10km, n7, σ1§00/14, 3C-4D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVUR	Severouralsk	0.05	272	*i* P	Pg	10 14 06.3	-0.5
	189nm,0.2s,baz=189						
SVUR				*i* S	Sg	10 14 07.7	-0.5
	278nm,0.2s,baz=189						
SVUR				*i* AML	AML	10 14 08.0	
	2μm,0.6s,baz=189						
PR7R	Sarany	1.78	203	*i* P	Pg	10 14 38.8	-0.1
	144nm,0.5s,baz=201						
PR7R				*i* S	Sg	10 15 01.4	-0.6
	baz=201						
PR7R				*i* AML	AML	10 15 06.4	
	195nm,0.3s						
PR1R	Pomanovo	1.97	240	*i* P	Pg	10 14 42.4	-0.2
	24nm,0.2s,baz=239						
PR1R				*i* S	Sg	10 15 08.9	+0.9
	62nm,0.2s,baz=239						
PR1R				*i* AML	AML	10 15 11.5	
	120nm,0.2s,baz=239						
ARU	Arti	3.86	193	*i* P	Pb	10 15 12.8	-0.2
	2.9nm,0.6s,baz=192						
ARU				*i* S	Sb	10 15 60.0	+0.3
	8.3nm,0.3s,baz=192						
ARU				*i* AML	AML	10 16 09.5	
	23nm,0.4s,baz=192						
BRVK	Borovoye	9.09	137	⇑Pn	Pn	10 16 16.5	+0.5
	1.6nm,0.7s						
BRVK				⇑Sn	Sn	10 17 58.6	+0.2
	1.4nm,0.7s						
BVA0	Borovoye Array	9.16	137	⇓Pn	Pn	10 16 17.5	+0.6
	3.7nm,0.8s,baz=328,slow=14,SNR=20						
BVA0				⇑Sn	Sn	10 17 59.7	-0.2
	1.8nm,0.7s,baz=327,slow=26,SNR=12						
AB31	Akbulak array	10.96	180	⇓Pn	Pn	10 16 43.2	+1.6
	0.6nm,0.6s,baz=13,slow=11,SNR=6.7						
AB31				⇓Sn	Sn	10 18 41.8	-2.4
	0.5nm,0.7s						
AB31				⇓Lg	Lg	10 19 44.5	
	1.6nm,0.7s						

*SJA **20** 10:24:49.5±0.7, 28°16S×63°24W, h629km±8km, ML5.6, MW5.3*
*IDC **20** 10:24:56.8±0.3, 27°96S×63°15W, h589km±2km, mb4.7/23, mbtmp5.7/27, Error ellipse: s-maj=9.9km s-min=6.5km az=75.0.*
*VAO **20** 10:24:56.8±0.2, 27°98S×63°14W, h591km±2km, mb5.5*
*MOS **20** 10:24:56.5±0.8, 27°98S×63°24W, h593km, mb5.4/17, Error ellipse: s-maj=11.2km s-min=7.9km az=95.5*
*NEIC **20** 10:24:56.4±1.9, 28°03S±0°08×63°2W±0°1, h579km±2km, mb5.4/150, Mwb5.7/27, Mww5.6/55, Error ellipse: s-maj=16.1km s-min=13.8km az=267.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=2.67; $M_{\theta\theta}$=2.54; $M_{\phi\phi}$=0.13; $M_{r\theta}$=-1.52; $M_{\theta\phi}$=0.69; $M_{r\phi}$=2.39; Fault plane solution: M_0=3.91000×10^{17} NP1:ϕ_s=235.80000°, δ=38.93000°, λ=-138.14000°. NP2:ϕ_s=110.93000°, δ=65.21000°, λ=-58.97000°. Principal axes: T 2.9513, Plg15.0000°, Azm179.0000°; N 1.4866, Plg28.0000°, Azm277.0000°; P -4.4380, Plg58.0000°, Azm64.0000°;*
*NEIC **20** 10:24:57.1, 28°07S×63°25W, h600km*
*BJI **20** 10:24:57.0±0.0, 28°10S×63°20W, h595km, mB5.3/35*
*NEIC **20** 10:24:57.2, 28°09S×63°23W, h597km*
*NEIC **20** 10:24:57.1, 28°07S×63°25W, h600km, Moment Tensor Solution. Duration: 3s3 Moment tensor: Scale 10^{17}Nm; M_{rr}=2.65; $M_{\theta\theta}$=2.47; $M_{\phi\phi}$=0.18; $M_{r\theta}$=-0.96; $M_{\theta\phi}$=0.26; $M_{r\phi}$=2.21; Fault plane solution: M_0=3.33000×10^{17} NP1: ϕ_s=116.52000°, δ=62.27000°, λ=-59.94000°. NP2: ϕ_s=245.32000°, δ=39.99000°, λ=-133.61000°. Principal axes: T 2.6531, Plg12.0000°, Azm185.0000°; N 1.3486, Plg26.0000°, Azm281.0000°; P -4.0017, Plg61.0000°, Azm73.0000°;*
*GCMT **20** 10:24:58.4±0.2, 27°96S±0°01×62°99W±0°02, h602km±1km, MW5.6/140, Moment Tensor Solution. s140,c242; Duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}=2.72±.05; $M_{\theta\theta}$=2.47±.07; $M_{\phi\phi}$=0.24±.08; $M_{r\theta}$=-0.69±.07; $M_{\theta\phi}$=0.26±.07; $M_{r\phi}$=1.94±.07; Best double couple: M_0=3.16200×10^{17} NP1:ϕ_s=111.00000°, δ=57.00000°, λ=-59.00000°. NP2:ϕ_s=243.00000°, δ=44.00000°, λ=-129.00000°. Principal axes: T 2.5590, Plg7.0000°, Azm180.0000°; N 1.2010, Plg26.0000°, Azm273.0000°; P -3.7650, Plg63.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 20 10:24:56.6±0.2, 27°99S±0°03×63°20W±0°04, h591km±2km, h592km:pP-P, n1115, σ1§18/1326, mb5.4/148, 28C-90D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUSE	Guasayan	1.46	273	*e*P	P	10 26 08.7	+0.5
AHML	Horco Molle	2.25	302	*e*P	P	10 26 11.7	+0.4
AHML				*e*S	S	10 27 10.0	-2.0
AHML	Horco Molle	2.25	302	*i* P	P	10 26 11.8	+0.4
CYA	Choya	2.34	258	*e*P	P	10 26 10.2	-1.4
CYA				*e*S	S	10 27 08.8	-4.1
CYA	Choya	2.34	258	⇓*i*P	P	10 26 10.4	-1.2
FSA	Cafayete	3.10	306	*e*P	P	10 26 15.3	-0.7
TCA	Tanti	3.56	200	*e*P	P	10 26 16.6	-1.8
TCA				*e*S	S	10 27 21.5	-3.9
TCA	Tanti	3.56	200	⇓*i*P	P	10 26 16.9	-1.5
ACLC	CERRO LA CRUZ	3.60	246	*e*P	P	10 26 17.4	-1.4
ACLC				*e*S	S	10 27 23.2	-2.8
ACLC				IAML		10 27 24.9	
	comp=Z,3μm,0.5s						
PIL	Pilar	3.72	189	*e*P	P	10 26 20.1	+0.6
PIL				IAML		10 27 47.9	
	comp=Z,884nm,1.7s						
SLA	San Lorenzo	3.85	327	*e*P	P	10 26 20.7	0.0
SLA				IAML		10 27 33.4	
	comp=Z,980nm,1.2s						
AZAP	Zapla	4.11	335	*e*P	P	10 26 22.5	-0.1
AZAP				IAML		10 27 48.7	
	comp=Z,871nm,1.7s						
ASTB	Santa Barbara	4.18	344	*e*P	P	10 26 24.5	+1.4
ALOL	LOMAS DE OLMED	4.21	350	*e*P	P	10 26 24.5	+1.3
ACHE	Chepes	4.37	223	*e*P	P	10 26 21.2	-3.0
VCA	Vinchina	4.48	259	*e*P	P	10 26 25.3	+0.2
VCA				*e*S	S	10 27 36.6	-0.7
VCA	Vinchina	4.48	259	⇓*i*P	P	10 26 25.2	+0.2
AVFE	Valle Fertil	4.58	233	*e*P	P	10 26 23.8	-1.8
AVFE				*e*S	S	10 27 36.7	-1.8
AVFE				IAML		10 27 38.7	
	comp=Z,2μm,1.1s						
MRA	San Martin	4.93	206	*e*P	P	10 26 26.9	-1.4
MRA				*e*S	S	10 27 39.6	-3.9
MRA				IAML		10 28 01.0	
	comp=Z,387nm,0.7s						
CPUP	Villa Florida	5.48	74	P	P	10 26 33.6	+0.7
	comp=Z,356nm,0.3s,baz=253,slow=12,SNR=1084						
CPUP				S	S	10 27 51.1	-0.4
	comp=Z,23nm,0.3s,baz=252,slow=20,SNR=0.9						
CPUP				ScP	ScP	10 34 57.5	+0.5
	comp=Z,21nm,1.0s,baz=264,slow=1.6,SNR=3.0						
CPUP	Villa Florida	5.48	74	*e*P	P	10 26 33.6	+0.7
PSAL	Palomas, Salto	5.76	124	*e*P	P	10 26 35.8	+0.6
PSAL				*e*S	S	10 27 55.4	-0.5
PAPY	Pozo Azul	5.92	50	*e*P	P	10 26 38.1	+1.5
ZON	Zonda	5.94	232	P	P	10 26 36.3	-0.5
ZON				S	S	10 27 57.1	-1.6
ZON	Zonda	5.94	232	P	P	10 26 36.3	-0.5
ZON				S	S	10 27 57.1	-1.6
ITQB	Itaqui	6.01	108	P	P	10 26 37.9	+0.6
ITQB	Itaqui	6.01	108	*e*P	P	10 26 37.9	+0.6
ITQB				*e*S	S	10 27 59.9	+0.3
GO03	Copiap	6.25	272	P	P	10 26 39.4	-0.2
GO03	Copiap	6.25	272	⇓*i*P	P	10 26 39.4	-0.2
AC05	El Transito	6.29	261	P	P	10 26 40.4	+0.4
AC05	El Transito	6.29	261	⇓*i*P	P	10 26 40.4	+0.4
CO01	Juntas del Tor	6.36	250	P	P	10 26 41.7	+1.1
CO01	Juntas del Tor	6.36	250	⇓*i*P	P	10 26 41.8	+1.1
GO02	Mina Guanaco	6.38	295	P	P	10 26 41.7	+0.6
GO02	Mina Guanaco	6.38	295	⇓*i*P	P	10 26 41.7	+0.6
AC06	Mina Casimiro	6.38	274	P	P	10 26 40.3	-0.4
AC06	Mina Casimiro	6.38	274	⇓*i*P	P	10 26 40.4	-0.2
LCO	Las Campanas	6.68	259	P	P	10 26 43.2	-0.4
LCO	Las Campanas	6.68	259	⇓*i*P	P	10 26 43.2	-0.4
LCO	Las Campanas	6.68	259	P	P	10 26 43.2	-0.4
AF01	San Pedro de A	6.74	317	P	P	10 26 44.5	+0.2
AC01	Pan de Azucar	6.85	284	P	P	10 26 44.9	0.0
AC01	Pan de Azucar	6.85	284	⇓*i*P	P	10 26 44.8	0.0
AC04	Llanos de Chal	6.96	266	P	P	10 26 45.4	-0.5
AC04	Llanos de Chal	6.96	266	*e*P	P	10 26 45.6	-0.3
GO04	Tololo Observa	7.00	250	P	P	10 26 46.1	-0.4
GO04	Tololo Observa	7.00	250	⇓*i*P	P	10 26 46.1	-0.4
CO03	El Pedregal	7.13	245	P	P	10 26 47.0	-0.4
CO03	El Pedregal	7.13	245	⇓*i*P	P	10 26 47.0	-0.4
PB14	IPOC Station P	7.28	296	P	P	10 26 49.0	-0.3
TBOT	Tacuaremb	7.30	122	*e*P	P	10 26 49.4	+0.4
TBOT				*e*S	S	10 28 21.4	+0.4
CO05	La Serena	7.30	253	P	P	10 26 48.1	-1.0
CO05	La Serena	7.30	253	⇓*i*P	P	10 26 48.0	-1.0
RODS	Rosario do Sul	7.38	111	*e*P	P	10 26 50.1	+0.4
RODS				*e*S	S	10 28 22.3	-0.1
PB15	IPOC Station P	7.39	309	P	P	10 26 50.7	+0.4
LVC	Limon Verde	7.44	315	P	P	10 26 51.0	+0.2
LVC	Limon Verde	7.44	315	P	P	10 26 50.9	+0.1
	comp=Z,3μm,0.3s,baz=135,slow=4.9,SNR=3742						
LVC				S	S	10 28 21.1	-3.1
	comp=Z,2μm,0.5s,baz=197,slow=19,SNR=41						
LVC	Limon Verde	7.44	315	*e*P	P	10 26 51.1	+0.3
LVC				*e*S	S	10 28 21.6	-2.7
CO02	Combarbal	7.51	243	P	P	10 26 50.4	-0.6
CO02	Combarbal	7.51	243	⇓*i*P	P	10 26 50.5	-0.6
PB06	IPOC Station P	7.80	311	P	P	10 26 54.2	+0.2
CO06	Fray Jorge	7.84	248	P	P	10 26 52.7	-1.3
CO06	Fray Jorge	7.84	248	⇓*i*P	P	10 26 52.7	-1.3
VA03	San Esteban	7.94	231	P	P	10 26 54.9	-0.1
VA03	San Esteban	7.94	231	⇓*i*P	P	10 26 54.9	-0.1
PB10	IPOC Station P	7.99	302	P	P	10 26 55.7	+0.1
MURT	Porto Murtinho	8.09	40	*e*P	P	10 26 57.3	+0.7
MURT				*e*S	S	10 28 35.6	+0.8
CRSM	Crissiumal (Br	8.13	89	*e*P	P	10 26 57.6	+0.7
CRSM				*e*S	S	10 28 35.3	-0.1
PEL	Peldehue	8.25	230	P	P	10 26 57.3	-0.7
PEL	Peldehue	8.25	230	P	P	10 26 57.3	-0.7
MT16	CCHEN	8.32	227	P	P	10 26 58.5	-0.2
MT03	Universidad Ad	8.35	227	P	P	10 26 58.7	-0.3
VA06	Catapilco	8.36	235	P	P	10 26 57.5	-1.5
MT13	San Alfonso	8.37	225	P	P	10 26 59.1	0.0
LMEL	Las Melosas	8.39	224	P	P	10 26 59.4	0.0
MT05	Renca	8.44	228	P	P	10 27 00.5	+0.7
PB04	IPOC Station P	8.44	310	P	P	10 27 00.1	-0.1
MT02	Curacav	8.63	231	P	P	10 27 00.2	-1.3
BO04	La Punta	8.73	225	P	P	10 27 02.0	-0.6
MT09	Talagante	8.84	227	P	P	10 27 02.6	-1.2
VA01	Torpederas	8.85	233	P	P	10 27 01.7	-2.0
CPSB	Cacapava Do Su	8.86	108	*e*P	P	10 27 03.6	-0.3
CPSB				*e*S	S	10 28 47.1	-1.3
ALGR	Alto Alegre (B	8.99	98	*e*P	P	10 27 05.7	+0.4
ALGR				*e*S	S	10 28 50.3	-0.6
MT01	Popeta	9.06	228	P	P	10 27 04.3	-1.5
PLTB	Pedras Altas	9.14	117	P	P	10 27 06.1	-0.5
PLTB	Pedras Altas	9.14	117	*e*P	P	10 27 06.2	-0.5
PLTB				*e*S	S	10 28 52.2	-1.1
PATCX	Punta Patache	9.54	317	P	P	10 27 10.6	-0.2
ITAB	Concordia	9.84	88	P	P	10 27 13.4	-0.3
ITAB	Concordia	9.84	88	*e*P	P	10 27 13.2	-0.4
ITAB				*e*S	S	10 29 04.5	-1.6
GO01	Chusmiza	9.93	325	P	P	10 27 15.5	+0.3
TA02	Huaiquique	9.95	319	P	P	10 27 14.7	-0.1
AQDB	Aquidauana	10.13	44	P	P	10 27 17.2	+0.6
AQDB	Aquidauana	10.13	44	*e*P	P	10 27 17.3	+0.6
AQDB				*e*S	S	10 29 11.5	0.0
PTGB	Pitanga	10.50	74	*e*P	P	10 27 20.3	-0.1
PTGB				*e*S	S	10 29 17.8	-0.5
TRCB	Terra Rica	10.86	64	*e*P	P	10 27 23.9	0.0
TRCB				*e*S	S	10 29 24.6	-0.2
CNLB	Canela	10.93	100	*e*P	P	10 27 24.1	-0.4
CNLB				*e*S	S	10 29 25.1	-1.0
BBSD	Serra de San D	11.01	13	*e*P	P	10 27 25.6	+0.1
BBSD				*e*S	S	10 29 27.7	0.0
BI02	San Fabin de	11.02	216	P	P	10 27 24.1	-1.2
RVDE	Rio Verde (Bra	11.69	42	*e*P	P	10 27 32.9	+0.5
RVDE				*e*S	S	10 29 39.6	-0.8
LDASE	Londrina, Braz	11.81	70	*e*P	P	10 27 32.9	-0.7
PB18	Visviri	11.86	329	P	P	10 27 36.1	+1.6
SIV	San Ignacio	12.10	10	P	P	10 27 36.1	-0.4
	comp=Z,547nm,0.9s,baz=191,slow=9.3,SNR=1219						
SIV				S	S	10 29 45.4	-2.6
	comp=Z,71nm,0.9s,baz=169,slow=15,SNR=2.3						
SIV				ScP	ScP	10 35 05.4	+0.9
	comp=Z,14nm,0.7s,baz=222,slow=3.5,SNR=4.0						
LPAZ	La Paz	12.50	338	P	P	10 27 40.7	-0.5
	comp=Z,548nm,0.4s,baz=150,slow=9.0,SNR=2013						
LPAZ				S	S	10 29 54.1	-2.4
	comp=Z,35nm,0.7s,baz=221,slow=20,SNR=1.7						
LPAZ				ScP	ScP	10 35 06.8	+0.9
	comp=Z,19nm,0.9s,baz=153,slow=2.3,SNR=6.0						
LPAZ				ScS	ScS	10 38 42.6	-0.6
	comp=Z,8.5nm,1.0s,baz=239,slow=5.9,SNR=8.2						
LPAZ				PKiKP	PKiKP	10 40 25.0	-0.4
	comp=Z,1.1nm,0.5s,baz=180,slow=1.0,SNR=4.7						
LPAZ	La Paz	12.50	338	*e*P	P	10 27 40.9	-0.3
PCMB	Pacaembu	12.56	62	*e*P	P	10 27 41.3	+0.2
I08BO	LAS PENAS INFR	12.68	336	P	P	10 27 43.7	+0.7
	baz=179,slow=6.3,SNR=2.1						
PTLB	Pontes e Lacer	13.03	18	P	P	10 27 45.6	-0.3
PTLB	Pontes e Lacer	13.03	18	*e*P	P	10 27 45.6	-0.3
FRTB	Fartura	13.13	72	*e*P	P	10 27 46.6	-0.4
GO06	Curarrehue	13.45	209	P	P	10 27 47.9	-2.2
LR03	Panguipulli	13.87	211	P	P	10 27 51.5	-2.7
SALV	Santo Antonio	13.89	32	*e*P	P	10 27 53.9	-0.7
LR05	Currie	14.22	209	P	P	10 27 55.5	-2.0
ITRB	Iturama	14.34	58	*e*P	P	10 27 58.8	-0.3
VA04	Juan Fernndez	14.56	243	P	P	10 28 00.1	-0.8
H03N1	Juan Fernandez	14.57	244	P	P	10 28 00.8	+0.2
	baz=130,slow=18,SNR=56						
LR04	Corral	14.58	213	P	P	10 27 58.5	-2.3
H03N3	Juan Fernandez	14.58	244	P	P	10 28 00.8	0.0
	baz=130,slow=18,SNR=63						
H03N2	Juan Fernandez	14.58	244	P	P	10 28 00.8	0.0
	baz=130,slow=18,SNR=43						
H03S3	Juan Fernandez	14.69	243	P	P	10 28 01.1	-0.6
	baz=34,slow=15,SNR=68						
H03S1	Juan Fernandez	14.69	243	P	P	10 28 01.4	-0.3
	baz=34,slow=15,SNR=35						
H03S2	Juan Fernandez	14.70	243	P	P	10 28 01.7	-0.2
	baz=34,slow=15,SNR=40						
PET01	Itanhaem-SP	14.76	79	*e*P	P	10 28 02.1	-0.8
SPB	Sao Paulo	14.86	76	P	P	10 28 03.3	-0.5
SPB	Sao Paulo	14.86	76	*e*P	P	10 28 03.5	-0.2
LL04	Puerto Octay	14.95	208	P	P	10 28 01.7	-2.7
BB19B	Bebedouro	15.02	66	*e*P	P	10 28 04.9	-0.4
LL03	Petrohue	15.14	208	P	P	10 28 03.8	-2.4
VILB	Vilhena	15.22	11	P	P	10 28 06.0	-1.3
VILB	Vilhena	15.22	11	*e*P	P	10 28 05.9	-1.3
VAO	Valinhos	15.47	75	P	P	10 28 09.8	+0.2
VAO	Valinhos	15.47	75	*e*P	P	10 28 09.8	+0.2
LL05	Los Muermos	15.81	210	P	P	10 28 09.8	-2.6
ARAG	Araguaiana, MT	16.14	43	*e*P	P	10 28 15.7	-0.1
LL01	San Ignacio de	16.20	205	P	P	10 28 13.7	-2.2
PARB	Paraibuna	16.50	78	*e*P	P	10 28 18.8	-0.3
LL02	Futaleuf	16.71	202	P	P	10 28 19.0	-1.6
IPMB	Ipameri, GO	17.00	57	*e*P	P	10 28 23.3	-0.4
LL07	Hotel Espejo d	17.00	207	P	P	10 28 21.1	-2.1
GO07	Milladeo Hill,	17.31	207	P	P	10 28 23.7	-2.3
PDRB	Porto dos Gac	17.38	22	*e*P	P	10 28 27.4	+0.3
PMNB	Patos De Minas	18.02	62	*e*P	P	10 28 33.6	+0.5
BSCB	Bom Sucesso	18.14	72	*e*P	P	10 28 34.1	0.0
ETMB	Extrema	18.30	350	P	P	10 28 35.8	+0.4
ETMB	Extrema	18.30	350	*e*P	P	10 28 35.6	+0.2
CLDB	Colider	18.39	24	*e*P	P	10 28 36.6	+0.3
BDFB	Brasilia	18.67	52	P	P	10 28 39.2	+0.2
	comp=Z,355nm,0.7s,baz=224,slow=8.1,SNR=359						
BDFB				S	S	10 31 37.5	-1.9
	comp=Z,44nm,1.0s,baz=230,slow=17,SNR=2.2						
VAS01	Vassouras-RJ	18.76	77	*e*P	P	10 28 40.3	+0.7
COYC	Coyhaique	18.92	200	P	P	10 28 39.8	-0.9
SAML	Samuel	18.94	0	*e*P	P	10 28 41.8	+0.5
SNDB	Serra Nova Dou	19.44	37	*e*P	P	10 28 45.9	0.0
DUB01	Friburgo-RJ	19.75	77	*e*P	P	10 28 49.1	+0.4
AY02	Valle Explorad	20.08	200	P	P	10 28 49.1	-2.0
DIAM	Diamantina, MG	20.36	66	*e*P	P	10 28 54.1	-0.1
NNA	Nana	20.41	319	P	P	10 28 54.9	+0.2
NNA	Nana	20.41	319	P	P	10 28 54.5	-0.2
	comp=Z,89nm,0.9s,baz=158,slow=7.7,SNR=12						
NNA				ScP	ScP	10 35 21.6	+0.5
	comp=Z,22nm,1.0s,baz=180,slow=1.0,SNR=5.2						
	comp=Z,89nm,0.9s						
NNA	Nana	20.41	319	*c i*P	P	10 28 54.7	+0.1
NNA				pmax	pmax		
	comp=Z,260nm,1.1s						
AY03	Cochrane	20.59	198	P	P	10 28 55.0	-0.8
GO08	Villa O'Higgin	21.70	197	P	P	10 29 06.2	+0.6
ALF01	Guarapari-ES	21.73	75	*e*P	P	10 29 06.6	+0.2
JANB	Januaria	21.73	58	*e*P	P	10 29 06.4	-0.1
CZSB	Cruzeiro do Su	22.06	334	P	P	10 29 08.6	-0.8
CZSB	Cruzeiro do Su	22.06	334	*e*P	P	10 29 08.5	-0.8
NPGB	Novo Progresso	22.11	21	*e*P	P	10 29 09.2	-0.6
SJMB	Sao Joao De Ma	22.19	70	*e*P	P	10 29 10.6	+0.1
RIB01	Linhares ES	22.57	72	*e*P	P	10 29 14.1	+0.2
SDBA	SAO DESIDERIO	23.08	51	*e*P	P	10 29 18.5	+0.1
EFI	East Falkland	23.98	172	P	P	10 29 24.7	-1.1
EFI	East Falkland	23.98	172	*c i*P	P	10 29 24.6	-1.2
EFI				pmax	pmax		
	comp=Z,39nm,0.6s						
SMTB	Santa Maria do	24.05	41	*e*P	P	10 29 27.5	+0.4
GO09	Cerro Castillo	24.26	194	P	P	10 29 27.9	-0.5
TEFE	Tefe	24.38	357	*e*P	P	10 29 29.8	-0.1
GUA01	Guaratinga, BA	24.39	67	*e*P	P	10 29 30.4	+0.4
TBTG	Tabatinga, AM	24.52	344	*e*P	P	10 29 31.4	+0.3
ITTB	Itaituba	24.54	18	*e*P	P	10 29 31.4	0.0
ABR01	Abrolhos, BA	24.62	71	*e*P	P	10 29 31.6	-0.4
MACA	Manacapuru-AM	24.80	6	P	P	10 29 33.7	0.0
MACA	Manacapuru-AM	24.80	6	*e*P	P	10 29 33.2	-0.5
PRPB	Parauapebas	25.14	33	*e*P	P	10 29 35.9	-0.7
ATAH	Atahualpa	25.24	322	P	P	10 29 40.0	+2.0
	comp=Z,16nm,0.5s,baz=144,slow=7.8,SNR=24						
ATAH				PcP	PcP	10 32 51.0	+0.4
	comp=Z,15nm,0.6s,baz=150,slow=5.3,SNR=4.4						
ATAH				ScP	ScP	10 35 35.7	+1.2
	comp=Z,16nm,0.9s,baz=146,slow=3.6,SNR=4.3						
	comp=Z,16nm,0.5s						
GO10	Punta Arenas	25.81	191	P	P	10 29 42.3	+0.2
MG01	Puerto William	27.12	186	P	P	10 29 53.3	-0.1
NBLA	Lagarto - SE	29.21	60	*e*P	P	10 30 11.9	-0.3
TMAB	Tom-Au,PA,Br	29.27

SLBI	Saint Lucia, B	41.81	3	eP		P	10 31 55.0	-1.0
H05S1	Guadeloupe/Mar	42.22	3	P		P	10 31 57.6	-1.6
	SNR=9.3							
MPOM	Morne Pois Mar	42.24	3	P		P	10 31 58.9	-0.5
MPOM				IAmb		IAmb	10 32 00.0	
	comp=Z,93nm,0.7s							
BIM	Bigot	42.30	3	P		P	10 31 59.6	-0.2
BIM	Bigot	42.30	3	eP		P	10 31 58.6	-1.2
FDF	Fort de France	42.51	3	P		P	10 32 01.8	+0.2
FDF	Fort de France	42.51	3	P		P	10 32 01.8	+0.2
FDF				pmax		pmax		
	comp=Z,161nm,0.7s							
FDF	Fort de France	42.51	3	P		P	10 32 01.6	+0.1
FDF				pP		PcP	10 33 40.8	+0.6
LCR2	La Lucha 2	42.57	329	P		P	10 32 04.2	+2.0
LCR2				IAmb		IAmb	10 32 05.3	
	comp=Z,111nm,1.3s							
SVN	Savane Anatole	42.62	3	eP		P	10 32 01.4	-1.0
HDC	Heredia	42.85	329	P		P	10 32 06.8	+2.4
HDC	Heredia	42.85	329	eP		P	10 32 04.7	+0.4
TRIS	Tristan da Cun	43.41	115	P		P	10 32 09.5	+1.2
JTS	Las Juntas de	43.49	328	P		P	10 32 11.1	+1.9
JTS				PcP		PcP	10 33 43.8	+0.1
JTS				pP		pP	10 33 55.2	+0.9
JTS				ScP		ScP	10 36 40.4	+1.1
MAGL	Barre de l'ile	43.71	3	P		P	10 32 10.7	-0.1
GDSD	La Dsirade Is	44.08	3	P		P	10 32 12.8	-0.9
H05N1	Guadeloupe/Mar	44.09	3	P		P	10 32 13.0	-0.7
	SNR=48							
ANBD	Bethesda, Anti	44.79	2	eP		P	10 32 16.8	-2.2
ESPN	Las Esperanzas	44.87	330	P		P	10 32 20.2	+0.5
MLPR	Magueyes Islan	45.83	355	P		P	10 32 25.1	-1.9
OBIP	Obispado Ponce	45.87	355	P		P	10 32 26.3	-1.0
OBIP				IAmb		IAmb	10 32 29.0	
	comp=Z,91nm,1.2s							
CRPR	Cabo Rojo, PR	45.88	355	P		P	10 32 26.6	-0.7
CRPR				IAmb		IAmb	10 32 27.6	
	comp=Z,157nm,1.4s							
CELP	Cerrillos	45.90	356	P		P	10 32 26.5	-1.0
CELP				IAmb		IAmb	10 32 27.8	
	comp=Z,70nm,0.6s							
HUMP	Col San Antoni	45.93	356	P		P	10 32 26.7	-1.0
UUPR	Utuado, UPR, P	46.09	355	P		P	10 32 27.8	-1.1
AOPR	Arecibo Observ	46.19	355	eP		P	10 32 28.3	-1.4
PAPH	Port-au-Prince	47.06	348	P		P	10 32 36.5	+0.2
SDDR	Presa de Saban	47.34	350	P		P	10 32 39.1	+0.7
MTDJ	Mount Denham	47.99	342	P		P	10 32 43.9	+0.6
MTDJ				IAmb		IAmb	10 32 45.0	
	comp=Z,113nm,1.0s							
H10N3	ASCENSION HYDR	50.09	76	P		P	10 32 59.3	+0.9
	baz=228,slow=6.5,SNR=3.6							
H10N1	ASCENSION HYDR	50.10	76	P		P	10 32 59.4	+0.8
	baz=228,slow=6.5,SNR=7.6							
H10N2	ASCENSION HYDR	50.11	76	P		P	10 32 59.4	+0.8
	baz=228,slow=6.5,SNR=7.3							
ASCN	Ascension	50.16	76	P		P	10 32 59.9	+0.6
BELA	Belgrano 2	51.65	173	P		P	10 33 09.3	+0.2
VNA3	Neumayer Olymp	52.28	161	⇑P		P	10 33 14.0	+0.2
	comp=Z,174nm,0.7s							
VNA3				⇑pP		pP	10 35 04.1	+0.6
	comp=Z,85nm,0.8s							
VNA3				⇑ScP		ScP	10 37 16.5	+0.7
	comp=Z,35nm,0.8s							
VNA3				⇓S		S	10 39 55.8	+0.6
	comp=Z,3.8nm,1.0s							
VNA1	Neumayer--Stat	52.45	160	⇑P		P	10 33 15.7	+0.8
	comp=Z,219nm,0.8s							
VNA1				⇑pP		pP	10 35 05.3	+0.5
	comp=Z,62nm,1.0s							
VNA1				⇑ScP		ScP	10 37 17.8	+1.4
	comp=Z,44nm,1.0s							
VNA1				⇑S		S	10 39 58.0	+0.7
	comp=Z,2.7nm,0.2s							
VNA2	Neumayer--Watz	52.83	160	⇑P		P	10 33 18.0	+0.4
	comp=Z,283nm,0.6s,baz=291,slow=9.1							
VNA2				⇑pP		pP	10 35 08.4	+0.7
	comp=Z,31nm,0.7s,baz=298,slow=9.4							
VNA2				⇑ScP		ScP	10 37 18.2	+0.1
	comp=Z,19nm,0.6s,baz=308,slow=5.5							
VNA2				⇓S		S	10 40 01.0	-1.3
	comp=Z,4.7nm,1.2s,baz=309,slow=4.8							
TEIG	Tepich	53.72	330	P		P	10 33 24.5	-0.1
TEIG				IAmb		IAmb	10 33 25.1	
	comp=Z,79nm,0.8s							
TEIG	Tepich	53.72	330	P		P	10 33 24.5	-0.1
TEIG				PcP		PcP	10 34 21.5	+0.5
TEIG				ScP		ScP	10 37 23.5	+0.7
SOR	Soroa	53.98	337	P		P	10 33 26.7	+0.3
SOR	Soroa	53.98	337	P		P	10 33 26.7	+0.3
SOR				pmax		pmax		
	comp=Z,62nm,0.9s							
SHEL	Horse Pasture	54.18	90	P		P	10 33 29.1	+1.0
SHEL				IAmb		IAmb	10 33 29.9	
	comp=Z,137nm,1.0s							
SHEL	Horse Pasture	54.18	90	P		P	10 33 29.1	+1.0
SHEL				pmax		pmax		
	comp=Z,137nm,1.0s							
SHEL	Horse Pasture	54.18	90	P		P	10 33 29.0	+1.0
SNAA	Sanae	54.47	160	P		P	10 33 29.1	0.0
SNAA				IAmb		IAmb	10 33 30.2	
	comp=Z,125nm,0.8s							
SNAA	Sanae	54.47	160	⇑P		P	10 33 29.3	+0.2
	comp=Z,2μm,0.7s							
SNAA				⇑pP		pP	10 35 20.3	0.0
	comp=Z,463nm,0.7s							
SNAA				⇑ScP		ScP	10 37 26.0	+0.6
	comp=Z,542nm,0.7s							
SNAA				⇑S		S	10 40 23.4	-0.6
	comp=Z,58nm,0.9s							
SNAA	Sanae	54.47	160	P		P	10 33 29.2	0.0
	comp=Z,125nm,0.8s,baz=286,slow=6.9,SNR=594							
SNAA				PcP		PcP	10 34 23.8	+0.5
	comp=Z,33nm,0.9s,baz=259,slow=5.2,SNR=4.9							
SNAA				pP		pP	10 35 21.1	+0.8
	comp=Z,29nm,1.0s,baz=288,slow=11,SNR=4.1							
SNAA				ScP		ScP	10 37 25.8	+0.4
	comp=Z,21nm,0.8s,baz=282,slow=6.1,SNR=8.8							
SNAA				S		S	10 40 23.3	-0.6
	comp=Z,5.4nm,1.1s,baz=300,slow=20,SNR=16							
	comp=Z,125nm,0.8s							
TROLL	Troll, Antarti	56.17	160	⇑P		P	10 33 41.5	+0.4
	comp=Z,13μm,0.8s							
TROLL				⇑pP		pP	10 35 31.7	-1.7
	comp=Z,2μm,1.0s							
TROLL				⇑ScP		ScP	10 37 34.0	+1.0
	comp=Z,3μm,0.7s							
TROLL				⇓S		S	10 40 46.0	-0.2
	comp=Z,328nm,1.1s							
SACV	Santiago Islan	57.39	47	P		P	10 33 50.0	-0.1
SACV				IAmb		IAmb	10 33 50.9	
	comp=Z,140nm,0.9s							
SACV	Santiago Islan	57.39	47	P		P	10 33 50.0	-0.1
DWPF	Disney Wildern	58.45	341	P		P	10 33 57.8	+0.8
DWPF	Disney Wildern	58.45	341	P		P	10 33 57.2	+0.3
	baz=161							
DWPF	Disney Wildern	58.45	341	P		P	10 33 57.5	+0.6
DWPF				PcP		PcP	10 34 40.0	+0.5
NVL	N'lazarevskaya	58.93	158	⇓iP		P	10 33 58.1	-1.4
NVL				e*PP		pP	10 35 54.1	+0.7
NVL				i S		S	10 41 14.5	-6.3
NVL				pmax		pmax		
	comp=Z,280nm,0.7s							
656A	Willston	59.96	340	P		P	10 34 07.2	+0.3
BBSR	BB Station	60.04	359	P		P	10 34 08.5	+1.1
BBSR	BB Station	60.04	359	P		P	10 34 08.3	+0.9
456A	Hilliard	61.09	341	P		P	10 34 15.1	+0.8
456A				IAmb		IAmb	10 34 16.0	
	comp=Z,134nm,0.7s							
553A	Crawfordville	61.30	339	P		P	10 34 16.6	+0.8
553A				IAmb		IAmb	10 34 16.9	
	comp=Z,98nm,0.6s							
MBO	M'Bour	61.48	53	P		P	10 34 18.0	+0.8
TIGA	Tifton	62.21	340	P		P	10 34 21.7	+0.1
	baz=160							
QSPA	South Pole Qui	62.24	180	P		P	10 34 22.2	+0.6
	comp=Z,185nm,0.7s,baz=162,slow=2.1,SNR=827							
QSPA				pP		pP	10 36 17.6	+0.3
	comp=Z,10nm,0.9s,baz=146,slow=7.3,SNR=2.5							
QSPA				S		S	10 42 02.5	+0.3
	comp=Z,13nm,1.0s,baz=122,slow=19,SNR=27							
QSPA				PKPPKP		P'P'df	11 03 15.4	-4.7
	comp=Z,3.9nm,0.7s,baz=306,slow=4.3,SNR=7.2							
	comp=Z,185nm,0.7s							
QSPA	South Pole Qui	62.24	180	⇑P		P	10 34 22.2	+0.6
QSPA				pP		pP	10 36 17.6	+0.3
QSPA				sP		sP	10 37 20.0	0.0
255A	Hazlehurst	62.34	342	P		P	10 34 22.6	+0.2
255A				IAmb		IAmb	10 34 23.3	
	comp=Z,55nm,0.5s							
ELIB	Princess Elisa	62.60	159	dP		P	10 34 24.2	+0.4
	comp=Z,160nm,0.6s							
ELIB				dPcP		PcP	10 34 56.2	+0.2
ELIB				dpP		pP	10 36 18.6	-1.2
NHSC	New Hope	62.86	344	P		P	10 34 26.9	+1.2
	baz=163,SNR=6.5							
BRAL	Brewton	63.07	337	P		P	10 34 27.4	+0.2
	baz=156,SNR=12							
ZAIG	Zacatecas	63.17	319	P		P	10 34 29.6	+1.2
Y58A	Scranton	63.50	345	P		P	10 34 30.5	+0.6
250A	Grady	63.55	338	P		P	10 34 30.2	0.0
250A				IAmb		IAmb	10 34 31.0	
	comp=Z,72nm,0.6s							
250A				PcP		PcP	10 35 00.6	+0.4
GOGA	Godfrey	64.02	341	P		P	10 34 33.3	+0.2
GOGA				PcP		PcP	10 35 02.5	+0.4
GOGA	Godfrey	64.02	341	P		P	10 34 33.2	0.0
	baz=160,SNR=14							
GOGA	Godfrey	64.02	341	P		P	10 34 33.3	+0.2
GOGA							10 35 02.5	
GOGA				pmax		pmax		
	comp=Z,22nm,0.7s							
346A	Big Creek Wild	64.13	335	P		P	10 34 33.5	-0.4
346A				IAmb		IAmb	10 34 34.5	
	comp=Z,68nm,0.6s							
JSC	Jenkinsville	64.25	343	P		P	10 34 35.5	+1.0
JSC				IAmb		IAmb	10 34 36.3	
	comp=Z,82nm,0.8s							
JSC	Jenkinsville	64.25	343	P		P	10 34 35.6	+1.0
JSC				pmax		pmax		
	comp=Z,82nm,0.8s							
CNNC	Cliffs of the	64.40	347	P		P	10 34 36.1	+0.6
	baz=166							
HBVL	Hebbronville	64.47	325	P		P	10 34 37.5	+1.3
HBVL				IAmb		IAmb	10 34 37.8	
	comp=Z,43nm,0.6s							
KVTX	Kingsville	64.48	326	P		P	10 34 37.8	+1.6
KVTX				IAmb		IAmb	10 34 39.0	
	comp=Z,132nm,0.8s							
Y52A	Lilburn	64.61	341	P		P	10 34 37.0	0.0
Y52A				IAmb		IAmb	10 34 37.5	
	comp=Z,48nm,0.6s							
LRAL	Lakeview Retre	64.76	338	P		P	10 34 37.8	0.0
	baz=157,SNR=42							
KMSC	Kings Mountain	65.08	344	P		P	10 34 40.6	+0.8
	baz=162,SNR=41							
V58A	Windy Hill, Pi	65.19	346	P		P	10 34 41.0	+0.5
Z47A	Carrollton	65.27	337	P		P	10 34 40.9	-0.1
VBMS	Vicksburg	65.27	335	P		P	10 34 41.7	+0.7
	baz=154,SNR=7.6							
HKT	Hockley	65.51	329	diP		P	10 34 43.8	+1.2
HKT				pmax		pmax		
	comp=Z,18nm,0.6s							
HKT	Hockley	65.51	329	P		P	10 34 43.7	+1.2
HKT				PcP		PcP	10 35 09.1	+0.7
LIC	Lamto	65.58	68	⇓iP		P	10 34 43.4	0.0
	comp=Z,233nm,0.5s							
TIC	Toumodi	65.82	68	⇓iP		P	10 34 44.9	0.0
	comp=Z,34nm,0.2s							
833A	Chaparral WMA,	65.87	325	P		P	10 34 46.1	+1.2
	baz=145,SNR=102							
KIC	Kosan Boka	65.89	68	⇓iP		P	10 34 45.5	+0.1
	comp=Z,335nm,0.6s							
V53A	Saluda	65.96	343	P		P	10 34 45.5	+0.2
V53A				IAmb		IAmb	10 34 46.7	
	comp=Z,88nm,0.8s							
DBIC	Dimbokro	65.97	68	P		P	10 34 46.0	+0.2
	comp=Z,174nm,0.4s,baz=228,slow=7.1,SNR=285							
DBIC				S		S	10 42 47.2	-1.1
	comp=Z,9.3nm,0.9s,baz=282,slow=17,SNR=7.9							
	comp=Z,174nm,0.4s							
DBIC	Dimbokro	65.97	68	P		P	10 34 46.0	+0.2
DBIC	Dimbokro	65.97	68	⇓P		P	10 34 46.0	+0.2
U56A	King	66.00	345	P		P	10 34 46.5	+0.9
U56A				IAmb		IAmb	10 34 47.3	
	comp=Z,84nm,0.7s							
X48A	Hartselle	66.07	339	P		P	10 34 46.2	+0.2
V52A	Sevierville	66.34	342	P		P	10 34 47.6	-0.1
V52A				IAmb		IAmb	10 34 48.4	
	comp=Z,51nm,0.7s							
SWET	Sewanee	66.43	340	P		P	10 34 48.4	+0.1
NATX	Nacogdoches	66.54	331	P		P	10 34 50.4	+1.5
	baz=150,SNR=17							
HNDO	Hondo	66.80	326	P		P	10 34 51.4	+0.8
HNDO				IAmb		IAmb	10 34 52.5	
	comp=Z,122nm,0.7s							
BLA	Blacksburg	66.84	345	P		P	10 34 51.8	+1.1
	baz=164,SNR=22							
OXF	Oxford	66.92	337	P		P	10 34 51.0	-0.2
	baz=155,SNR=16							
TZTN	Tazewell	66.98	342	P		P	10 34 51.0	-0.6
TZTN	Tazewell	66.98	342	P		P	10 34 51.6	0.0
	baz=161,SNR=16							
435B	Jarrell	67.02	328	P		P	10 34 52.4	+0.4
435B				IAmb		IAmb	10 34 53.8	
	comp=Z,86nm,0.7s							
435B	Jarrell	67.02	328	P		P	10 34 52.8	+0.8
	baz=147							
CBN	Corbin Frederi	67.17	348	P		P	10 34 53.8	+1.2
	baz=166							
237A	Washetta, Mont	67.25	330	P		P	10 34 53.9	+0.6
DRIO	Del Rio	67.38	325	P		P	10 34 54.1	0.0
DRIO				IAmb		IAmb	10 34 55.4	
	comp=Z,62nm,0.7s							
WLAR	White Oak Lake	67.58	333	P		P	10 34 56.5	+1.3
JCT	Junction City	67.83	326	P		P	10 34 57.6	+0.7
	baz=146,SNR=37							
WVT	Waverly	67.86	339	P		P	10 34 56.6	-0.4
	baz=157							
WVT	Waverly	67.86	339	⇓P		P	10 34 56.5	-0.4
WVT				PcP		PcP	10 35 17.4	-0.8
WVT				pP		pP	10 36 55.3	-0.8
Z38A	Mt. Pleasant	67.97	332	P		P	10 34 57.8	+0.1
Z38A				IAmb		IAmb	10 34 59.2	
	comp=Z,71nm,0.6s							
WHTX	Lake Whitney,	67.98	329	P		P	10 34 58.2	+0.5
	baz=148,SNR=30							
TREL	Terrell	67.99	330	P		P	10 34 58.7	+0.9
TREL				IAmb		IAmb	10 34 59.6	
	comp=Z,62nm,1.0s							
S51A	Beattyville	68.03	343	P		P	10 34 57.8	-0.1
S51A				IAmb		IAmb	10 34 58.5	
	comp=Z,49nm,0.5s							
FW16	Waxahatchie	68.14	330	P		P	10 34 59.3	+0.6
FW16				IAmb		IAmb	10 35 00.4	
	comp=Z,112nm,0.7s							
HPIG		68.16	320	P		P	10 35 00.2	+1.0
HPIG				IAmb		IAmb	10 35 00.9	
	comp=Z,45nm,0.7s							
HALT	Halls	68.17	337	P		P	10 34 58.6	-0.2
UALR	University of	68.23	334	P		P	10 34 59.4	+0.2
UALR				IAmb		IAmb	10 35 00.3	
	comp=Z,94nm,0.6s							
Q56A	Snyder Ridge,	68.33	347	P		P	10 35 01.1	+1.4
Q56A				IAmb		IAmb	10 35 01.8	
	comp=Z,51nm,0.6s							
SLBS	Sierra La Lagu	68.34	314	P		P	10 35 01.5	+1.3
T47A	Sharon Grove	68.42	340	P		P	10 34 59.8	-0.6
T47A				IAmb		IAmb	10 35 00.7	
	comp=Z,99nm,0.6s							
GLAT	Glass	68.47	338	P		P	10 35 00.8	+0.2
GLAT				IAmb		IAmb	10 35 01.2	
	comp=Z,124nm,0.6s							
MIAR	Mount Ida	68.51	333	P		P	10 35 01.1	+0.2
MIAR	Mount Ida	68.51	333	P		P	10 35 01.3	+0.4
	baz=152,SNR=41							
MIAR	Mount Ida	68.51	333	P		P	10 35 01.1	+0.2
MIAR				pmax		pmax		
	comp=Z,34nm,0.6s							
P57A	Homestead Farm	68.53	348	P		P	10 35 01.9	+1.0
TXAR	Lajitas Array	68.90	323	P		P	10 35 03.9	+0.4
TXAR	Lajitas Array	68.90	323	P		P	10 35 04.1	+0.6
	comp=Z,18nm,0.5s,baz=150,slow=7.7,SNR=486							
TXAR				S		S	10 43 21.3	-0.7
	comp=Z,0.3nm,0.9s,baz=146,slow=12,SNR=1.8							
	comp=Z,18nm,0.5s							
TX31	Lajitas Ar. Si	68.90	323	P		P	10 35 03.9	+0.4
MCWV	Mont Chateau	69.06	346	P		P	10 35 05.2	+1.1
	baz=164,SNR=5.0							
X37A	Clayton	69.28	332			P	10 35 06.5	+1.0
X37A				IAmb		IAmb	10 35 08.0	
	comp=Z,43nm,0.6s							
PBMO	Poplar Bluff	69.33	337	P		P	10 35 05.3	-0.4
PBMO				IAmb		IAmb	10 35 06.1	
	comp=Z,102nm,0.6s							
WCI	Wyandotte Cave	69.33	341	P		P	10 35 05.3	-0.4
WCI				IAmb		IAmb	10 35 05.7	
	comp=Z,67nm,0.6s							
WCI				PcP		PcP	10 35 24.5	+0.1
WCI	Wyandotte Cave	69.33	341	P		P	10 35 05.3	-0.4
	baz=158							
WCI	Wyandotte Cave	69.33	341	P		P	10 35 05.2	-0.4
WCI				PcP		PcP	10 35 24.3	-0.1
PAL	Palisades	69.36	351	P		P	10 35 06.5	+0.8
	baz=170							
ABTX	Abilene, Hawle	69.52	328	P		P	10 35 07.2	+0.2
ABTX	Abilene, Hawle	69.52	328	P		P	10 35 07.4	+0.4
	baz=146,SNR=20							
P52A	Corning	69.55	344	P		P	10 35 07.3	+0.4
P52A				IAmb		IAmb	10 35 08.0	
	comp=Z,112nm,0.7s							
P52A						pP	10 37 07.0	+0.2
P52A	Corning	69.55	344	P		P	10 35 07.2	+0.2
	baz=162,SNR=14							
SSPA	Standing Stone	69.62	348	P		P	10 35 08.5	+1.1
SSPA				IAmb		IAmb	10 35 09.0	
	comp=Z,40nm,0.6s							
SSPA						pP	10 37 08.5	+1.3
SSPA	Standing Stone	69.62	348	P		P	10 35 08.5	+1.1
	baz=166							
SSPA	Standing Stone	69.62	348	⇓P		P	10 35 08.6	+1.1
SSPA				pP		pP	10 37 08.0	+0.8
T42A	Van Buren	69.78	336	P		P	10 35 07.7	-0.7
O53A	New Philadelph	69.92	345	P		P	10 35 09.6	+0.3
	baz=163,SNR=9.8							
L64A	Middleborough	69.93	354	P		P	10 35 10.0	+0.9
UCCT	U. Connecticut	69.93	353	P		P	10 35 09.9	+0.7
O52A	Adamsville	69.94	345	P		P	10 35 09.3	+0.1
O52A				IAmb		IAmb	10 35 10.5	
	comp=Z,66nm,0.7s							
MNHN	Monahans	70.02	325	P		P	10 35 10.5	+0.5
P49A	Miami Univ. Ec	70.11	342	P		P	10 35 09.8	-0.5
P49A				IAmb		IAmb	10 35 10.5	
	comp=Z,63nm,0.6s							
P49A	Miami Univ. Ec	70.11	342	P		P	10 35 10.0	-0.3
	baz=160,SNR=16							
BLO	Bloomington	70.27	341	P		P	10 35 10.9	-0.4
BLO	Bloomington	70.27	341	P		P	10 35 10.9	-0.4
BLO				pmax		pmax		
	comp=Z,140nm,0.6s							
ACSO	Alum Creek Sta	70.32	344	P		P	10 35 11.7	+0.2
	baz=162,SNR=14							
APMT	Aspermont	70.33	328	P		P	10 35 12.1	+0.3
X34A	Smith Ranch, M	70.34	330			P	10 35 12.4	+0.5
X34A				IAmb		IAmb	10 35 13.3	
	comp=Z,106nm,0.6s							
SBA	Scott Base	70.39	190	P		P	10 35 12.7	+1.2
SBA	Scott Base	70.39	190	P		P	10 35 12.7	+1.2
SBA				pmax		pmax		
	comp=Z,22nm,1.0s							
SBA	Scott Base	70.39	190	P		P	10 35 12.9	+1.5
W35A	Tecumseh	70.40	331			P	10 35 11.7	-0.4
W35A				IAmb		IAmb	10 35 12.7	
	comp=Z,78nm,0.5s							
U38A	Gravette	70.49	334	P		P	10 35 12.6	-0.1
U38A				IAmb		IAmb	10 35 13.8	
	comp=Z,46nm,0.6s							
SN07	Snyder 07	70.50	327	P		P	10 35 13.0	+0.2
SN07				IAmb		IAmb	10 35 13.8	
	comp=Z,69nm,0.6s							
HRV	Adam Dziewonsk	70.56	353	P		P	10 35 14.2	+1.3
	baz=172							
HRV	Adam Dziewonsk	70.56	353	⇓P		P	10 35 14.2	+1.3
TUL3	Leonard	70.59	332	P		P	10 35 13.7	+0.4
	baz=150,SNR=34							
PECS	Pecos	70.61	324	P		P	10 35 14.2	+0.6
L61B	Northampton	70.63	353	P		P	10 35 14.4	+1.1
	baz=171,SNR=14							
FNO	Franklin	70.71	331			P	10 35 14.1	+0.1
FNO				IAmb		IAmb	10 35 15.4	
	comp=Z,88nm,0.7s							
VHRN	Van Horn	70.75	323	P		P	10 35 14.4	0.0
CCM	Cathedral Cave	70.75	337	P		P	10 35 13.6	-0.6
CCM				IAmb		IAmb	10 35 14.8	
	comp=Z,94nm,0.6s							
CCM	Cathedral Cave	70.75	337	P		P	10 35 14.0	-0.1
	baz=154							
CCM	Cathedral Cave	70.75	337	P		P	10 35 13.6	-0.6
CCM				pmax		pmax		
	comp=Z,94nm,0.6s							
CCM	Cathedral Cave	70.75	337	P		P	10 35 14.0	-0.1
BINY	Binghamton	70.83	350	P		P	10 35 15.6	+1.1
	baz=168,SNR=15							
WMOK	Wichita Mounta	70.88	330			P	10 35 14.8	-0.2
WMOK	Wichita Mounta	70.88	330	P		P	10 35 15.1	0.0
	baz=147,SNR=67							
WMOK	Wichita Mounta	70.88	330	P		P	10 35 14.8	-0.2
WMOK				pmax		pmax		
	comp=Z,24nm,0.7s							
O48B	Farmland	70.90	342	P		P	10 35 14.8	-0.1
	baz=160,SNR=60							
SUR	Sutherland	70.92	117	P		P	10 35 16.7	+1.0
SUR				IAmb		IAmb	10 35 18.0	
	comp=Z,112nm,0.8s							
SUR	Sutherland	70.92	117	P		P	10 35 16.7	+1.0
SUR	Sutherland	70.92	117	P		P	10 35 16.8	+1.0
M53A	WI Miller and	70.95	346	P		P	10 35 15.8	+0.6
	baz=164,SNR=10.0							
OK031	S. Brethren Rd	71.06	332			P	10 35 16.2	+0.2
OK031				IAmb		IAmb	10 35 16.9	
	comp=Z,94nm,0.5s							
S39A	Bolivar	71.18	335	P		P	10 35 16.6	0.0
S39A				IAmb		IAmb	10 35 17.9	
	comp=Z,89nm,0.9s							
OK029	Liberty Lake	71.19	331			P	10 35 17.1	+0.3
OK029				IAmb		IAmb	10 35 18.6	
	comp=Z,71nm,0.6s							
VNDA	Vanda	71.36	189	P		P	10 35 18.1	+0.9
VNDA	Vanda	71.36	189	P		P

KAN17 **Caldwell West** 72.38 332 P **P** 10 35 24.6 +0.9
AAM **Ann Arbor** 72.44 344 P **P** 10 35 23.8 0.0
baz=161
G65A **Princeton** 72.94 357 P **P** 10 35 27.2 +0.6
G65A IAmb IAmb 10 35 29.3
comp=Z,45nm,0.7s
P38A **Dawn** 72.96 336 P **P** 10 35 26.6 -0.3
LONY **Lake Ozonia** 73.00 352 P **P** 10 35 28.2 +1.2
baz=170,SNR=39
PKME **Peaks-Kenny Pk** 73.11 356 P **P** 10 35 29.1 +1.5
baz=174,SNR=19
DELO **Deloro Mine** 73.35 349 P **P** 10 35 29.8 +0.8
DELO IAmb IAmb 10 35 30.8
comp=Z,90nm,1.3s
H07S1 **FLORES T-PHASE** 73.36 25 *e*P **P** 10 35 30.3 +1.1
comp=Z,216nm,1.6s
L44A **Lake County Fo** 73.45 341 P **P** 10 35 29.5 -0.1
baz=158
121A **Cookes Peak, D** 73.61 322 P **P** 10 35 32.4 +1.5
baz=140,SNR=30
CALA **Caldeira** 73.66 28 *e*P **P** 10 35 32.4 +1.4
KSU1 **Kansas State U** 73.67 333 P **P** 10 35 31.2 +0.3
baz=150,SNR=8.3
PICO **Pico** 73.70 28 *e*P **P** 10 35 33.1 +1.9
PPNO **Prainha do Nor** 73.75 28 *e*P **P** 10 35 33.1 +1.7
comp=Z,202nm,1.8s
PID **Ribeirinha** 73.78 28 *e*P **P** 10 35 33.0 +1.4
comp=Z,236nm,1.2s
SADO **Sadowa** 73.85 348 P **P** 10 35 32.5 +0.6
SADO IAmb IAmb 10 35 32.8
comp=Z,70nm,0.6s
PSMN **Pico do Norte,** 73.91 31 *e*P **P** 10 35 32.8 +0.5
comp=Z,337nm,1.6s
PMAN **Manadas** 73.95 28 *e*P **P** 10 35 33.8 +1.3
comp=Z,370nm,1.1s
ROSA **Rosais** 73.97 28 *e*P **P** 10 35 33.2 +0.6
comp=Z,332nm,1.4s
Y22D **IRIS PASSCAL I** 74.33 323 P **P** 10 35 36.5 +1.5
baz=141
PSBA **Serra de Santa** 74.39 28 *e*P **P** 10 35 36.5 +1.5
comp=Z,250nm,1.6s
PGRON **Lagoa das Cont** 74.40 30 *e*P **P** 10 35 35.9 +0.8
comp=Z,413nm,1.7s
PAGU **Agualva, Azore** 74.45 28 *e*P **P** 10 35 37.6 +2.3
BART **Pico Bartolome** 74.50 30 *e*P **P** 10 35 36.8 +1.1
PMOZ **Porto Moniz, M** 74.61 39 *e*P **P** 10 35 39.3 +2.8
comp=Z,102nm,2.2s
PMAR **Madeira** 74.69 39⇓ *i*P **P** 10 35 37.6 +0.6
comp=Z,216nm,1.3s
CBKS **Cedar Bluff** 74.71 331 P **P** 10 35 38.2 +1.3
baz=147,SNR=62
ANMO **Albuquerque** 74.76 324 P **P** 10 35 38.8 +1.4
baz=141
ANMO **Albuquerque** 74.76 324 *d i*P **P** 10 35 38.5 +1.1
JFWS **Jewell Farm** 74.81 340 P **P** 10 35 37.6 +0.4
baz=156,SNR=56
SCIA **State Center** 74.87 337 P **P** 10 35 37.7 +0.1
baz=153
TORD **Torodi Ar. Bea** 74.93 66 P **P** 10 35 38.4 -0.1
comp=Z,226nm,0.8s,baz=253,slow=1.5,SNR=1114
TORD pP **pP** 10 37 41.6 +1.0
comp=Z,17nm,1.1s,baz=238,slow=3.6,SNR=3.6
TORD PKiKP **PKiKP** 10 41 21.9 -0.4
comp=Z,0.6nm,0.5s,baz=264,slow=1.4,SNR=1.3
TORD S **S** 10 44 27.7 -1.6
comp=Z,6.4nm,1.1s,baz=252,slow=8.6,SNR=8.0
comp=Z,226nm,0.8s
GLMI **Grayling** 75.05 344 P **P** 10 35 39.2 +0.6
baz=161,SNR=14
TUC **Tucson** 75.12 320 P **P** 10 35 40.3 +0.9
baz=138
PMPS **Porto Santo** 75.26 39 *e*P **P** 10 35 41.2 +1.2
comp=Z,191nm,1.5s
PMPST **Porto Santo, M** 75.28 39⇓ *i*P **P** 10 35 40.9 +0.8
comp=Z,207nm,1.6s
T25A **Trinidad** 75.46 327 P **P** 10 35 42.9 +1.6
baz=143,SNR=84
BOSA **Boshof** 75.91 115 P **P** 10 35 44.0 -0.1
comp=Z,168nm,0.9s,baz=245,slow=6.5,SNR=176
BOSA pP **pP** 10 37 46.1 -0.4
comp=Z,14nm,1.0s,baz=248,slow=6.8,SNR=3.4
BOSA S **S** 10 44 37.7 -2.3
comp=Z,2.7nm,0.9s,baz=217,slow=18,SNR=2.5
comp=Z,168nm,0.9s
214A **Organ Pipe Nat** 76.04 318 P **P** 10 35 45.8 +1.4
baz=136,SNR=54
KSCO **Kaye Shedlock'** 76.14 329 P **P** 10 35 46.4 +1.5
baz=145,SNR=24
BGNE **Belgrade** 76.25 334 P **P** 10 35 45.7 +0.4
baz=149,SNR=41
TBI **Tubuai** 76.30 251 *e*S **S** 10 44 42.8 -1.0
comp=Z,1μm,41.0s
TBI *es*S sS 10 48 25.3 +2.8
comp=Z,4μm,30.0s
TBI **Tubuai** 76.30 251 *e*LR LR 11 00 11.7
comp=Z,2μm,25.0s
SDCO **Great Sand Dun** 76.47 327 P **P** 10 35 48.4 +1.5
baz=142,SNR=66
MAW **Mawson** 76.61 161 P **P** 10 35 47.3 +0.5
comp=Z,78nm,0.9s,baz=227,slow=8.4,SNR=147
MAW pP **pP** 10 37 49.6 0.0
comp=Z,19nm,1.0s,baz=226,slow=9.7,SNR=6.7
MAW S **S** 10 44 44.6 -1.0
comp=Z,2.6nm,1.0s,baz=229,slow=19,SNR=2.6
comp=Z,78nm,0.9s
W18A **Petrified Fore** 76.62 322 P **P** 10 35 49.1 +1.4
baz=139,SNR=5.6
I37A **Lemond, Waseca** 76.81 338 P **P** 10 35 48.7 +0.5
DRLN **Deer Lake** 77.06 4 P **P** 10 35 50.8 +1.4
DRLN IAmb IAmb 10 35 51.1
comp=Z,145nm,0.7s
S22A **4UR Ranch, Cre** 77.12 326 P **P** 10 35 51.9 +1.4
baz=141,SNR=52
Q24A **Divide** 77.27 328 P **P** 10 35 52.6 +1.4
baz=143,SNR=15
OGNE **Ogallala** 77.46 331 P **P** 10 35 53.1 +1.1
baz=146,SNR=7.9
MVCO **Mesa Verde** 77.55 324 P **P** 10 35 54.2 +1.4
baz=140,SNR=51
ECSD **EROS Data Cent** 77.67 336 P **P** 10 35 53.1 +0.2
baz=150,SNR=86
SPMN **Marine on St.** 77.69 339 P **P** 10 35 53.0 +0.1
baz=154,SNR=30
WUAZ **Wupatki** 77.81 322 P **P** 10 35 55.7 +1.6
baz=138,SNR=33
GLA **Glamis** 78.02 318 P **P** 10 35 56.3 +1.2
baz=135,SNR=6.2
ISCO **Idaho Springs** 78.15 328 P **P** 10 35 57.5 +1.5
ISCO IAmb IAmb 10 35 58.3
comp=Z,142nm,1.6s
ISCO **Idaho Springs** 78.15 328 P **P** 10 35 57.4 +1.4
baz=143,SNR=48
ISCO **Idaho Springs** 78.15 328 P **P** 10 35 57.5 +1.5
ISCO pmax pmax
comp=Z,142nm,1.7s
PDMCI **Parker Dam,Lak** 78.50 319 P **P** 10 35 58.6 +1.0
baz=136,SNR=8.6
IKP **In-Ko-Pah, Jac** 78.51 317 P **P** 10 35 59.0 +1.2
baz=134,SNR=11
SWSC **Sam W. Stewart** 78.52 317 P **P** 10 35 58.8 +1.1
baz=134,SNR=6.0
BC3 **Big Chuckawall** 78.81 318 P **P** 10 36 00.5 +1.1
baz=135,SNR=41
PPT2 **Papeete2** 78.84 256 *e*pP **pP** 10 37 57.9 -6.0
comp=Z,122nm,23.8s
PPT2 *e*S **S** 10 45 14.5 +3.6
comp=Z,238nm,26.5s
PPT2 *es*S sS 10 48 49.9 -1.6
comp=Z,695nm,25.8s
MONP2 **Monument Peak** 78.86 317 P **P** 10 36 01.0 +1.2
baz=134,SNR=18
IRM **Iron Mountain** 78.98 318 P **P** 10 36 01.4 +1.2
baz=135,SNR=35
NEE2 **Needles Airpor** 79.10 319 P **P** 10 36 01.7 +0.9
baz=136
SUSD **Miller** 79.14 335 P **P** 10 36 01.1 +0.3
baz=148,SNR=13
N23A **Red Feather La** 79.17 328 P **P** 10 36 02.6 +1.3
baz=142,SNR=36
109C **Camp Elliot, M** 79.28 316 P **P** 10 36 02.6 +0.9
baz=134
TPFO **Pinon Flats** 79.38 317 P **P** 10 36 03.8 +1.4
baz=134,SNR=34
BELC **Belle Mtn. Jos** 79.38 318 P **P** 10 36 03.7 +1.3
baz=134,SNR=49
PFO **Pinyon Flats O** 79.38 317 P **P** 10 36 03.7 +1.3
baz=134,SNR=35
PFO **Pinyon Flats O** 79.38 317 *d i*P **P** 10 36 03.5 +1.1
PFO pmax pmax
comp=Z,39nm,0.7s
GMRC **Granite Mounta** 79.72 318 P **P** 10 36 05.5 +1.3
baz=135,SNR=65
EYMN **Ely** 79.75 341 P **P** 10 36 04.1 +0.2
baz=155,SNR=19
MURC **Murrieta** 79.82 317 P **P** 10 36 05.9 +1.3
baz=134,SNR=14
ELS **Elsinore Mount** 79.99 317 P **P** 10 36 06.9 +1.4
ELS **pP** 10 38 11.2 +0.7
BBRC **Big Bear Solar** 80.11 317 P **P** 10 36 07.8 +1.5
baz=134,SNR=16
HEC **Hector,Ludlow** 80.15 318 P **P** 10 36 07.8 +1.5
baz=134,SNR=18
SCI2 **San Clemente I** 80.23 315 P **P** 10 36 07.7 +1.0
baz=133
SZCU **Shurtz Canyon** 80.27 322 P **P** 10 36 08.5 +1.4
SZCU **pP** 10 38 13.9 +1.7
P18A **Preston Nutter** 80.28 325 P **P** 10 36 08.8 +1.6
P18A IAmb IAmb 10 36 09.6
comp=Z,62nm,0.7s
TUQ **Turquoise Moun** 80.33 319 P **P** 10 36 08.6 +1.3
baz=135,SNR=12
CIS **Catalina Islan** 80.43 316 P **P** 10 36 08.8 +1.1
baz=133,SNR=6.7
BFSC **Mount Baldy Ra** 80.54 317 P **P** 10 36 09.4 +1.0
baz=133,SNR=15
FMP **Fort Macarthur** 80.56 316 P **P** 10 36 09.4 +1.0
baz=133
RRX **Edison Barstow** 80.58 318 P **P** 10 36 09.8 +1.4
baz=134
GSC **Goldstone, Bar** 80.76 318 P **P** 10 36 10.6 +1.1
baz=134,SNR=17
K22A **Casper** 80.82 329 P **P** 10 36 10.8 +1.0
baz=142,SNR=26
RSSD **Black Hills** 80.91 332 P **P** 10 36 10.7 +0.5
baz=144
DECC **Green Verdugo** 80.96 317 P **P** 10 36 11.6 +1.1
baz=133,SNR=7.4
SNCC **San Nicolas Is** 81.02 315 P **P** 10 36 11.6 +0.8
baz=132,SNR=7.2
EDW2 **Edwards Air Fo** 81.18 317 P **P** 10 36 12.4 +0.8
baz=133,SNR=19
AGMN **Agassiz Nation** 81.39 339 P **P** 10 36 12.8 +0.5
baz=151,SNR=60
LRMC **Laurel Mtn Rad** 81.40 318 P **P** 10 36 13.9 +1.1
baz=134,SNR=12
TPNV **Topopah Spring** 81.58 320 P **P** 10 36 15.3 +1.6
baz=135,SNR=42
SCZ2 **Santa Cruz Isl** 81.58 316 P **P** 10 36 14.6 +0.9
baz=132,SNR=12
FURC **Furnace Creek,** 81.60 319 P **P** 10 36 15.0 +1.4
baz=134,SNR=26
MPMC **Manual Prospec** 81.68 318 P **P** 10 36 15.2 +0.9
baz=134,SNR=24
SBC **Santa Barbara** 81.93 316 P **P** 10 36 16.2 +0.9
baz=132
SPR3 **Spring Creek 3** 81.96 322 P **P** 10 36 16.7 +0.9
ISA **Isabella, Lake** 82.00 317 P **P** 10 36 17.0 +1.2
baz=133,SNR=29
DUG **Dugway, Tooele** 82.02 324 P **P** 10 36 17.1 +1.2
baz=137,SNR=34
R11B **Vila Bisbo** 82.19 321 P **P** 10 36 18.1 +1.3
R11B **pP** 10 38 23.3 +0.9
R11B **Troy Canyon, C** 82.19 321 P **P** 10 36 18.3 +1.5
baz=135,SNR=62
GRAC **Grapevine Rang** 82.25 319 P **P** 10 36 18.4 +1.3
baz=134,SNR=15
MDND **Maddock** 82.28 336 P **P** 10 36 17.8 +1.0
baz=148,SNR=12
PKM **Mcpherson Peak** 82.28 316 P **P** 10 36 18.6 +1.2
baz=132,SNR=53
CWC **Cottonwood Cre** 82.29 318 P **P** 10 36 18.6 +1.2
baz=133
BW06 **Boulder Array** 82.32 327 P **P** 10 36 18.1 +0.6
baz=140,SNR=52
PDAR **Pinedale Array** 82.32 327 P **P** 10 36 17.9 +0.4
comp=Z,27nm,0.6s,baz=134,slow=7.8,SNR=340
PDAR pP **pP** 10 38 23.4 +0.3
comp=Z,20nm,1.2s,baz=145,slow=3.3,SNR=6.6
PDAR S **SKSac** 10 45 39.2 -3.2
comp=Z,0.1nm,0.3s,baz=162,slow=4.4,SNR=1.5
PDAR PKKPbc **PKKPbc** 10 54 39.1 -1.9
comp=Z,0.4nm,0.5s,baz=248,slow=1.0,SNR=4.5
comp=Z,27nm,0.6s
PFVI **Vila Bisbo** 82.46 41⇓ *i*P **P** 10 36 18.3 +0.3
comp=Z,154nm,1.6s
VES **Vestal, Richgr** 82.48 317 P **P** 10 36 19.1 +1.0
baz=133,SNR=46
SCHQ **Schefferville** 82.54 358 P **P** 10 36 18.1 +0.1
comp=Z,69nm,0.8s,baz=172,slow=4.9,SNR=99
SCHQ S **SKSac** 10 45 38.4 -4.3
comp=Z,1.5nm,0.6s,baz=133,slow=19,SNR=2.1
comp=Z,69nm,0.8s
SMMC **Simmler** 82.68 316 P **P** 10 36 20.7 +1.5
baz=132,SNR=12
MORF **Marmelete** 82.68 41⇓ *i*P **P** 10 36 19.8 +0.7
comp=Z,106nm,1.4s
MORF **Marmelete** 82.68 41 *e*P **P** 10 36 19.8 +0.7
MORF IAmb IAmb 10 36 21.7
comp=Z,204nm,1.7s
MORF **Marmelete** 82.68 41 *e*P **P** 10 36 19.8 +0.7
TIN **Tinemaha, Big** 82.80 319 P **P** 10 36 21.2 +1.3
baz=133
PTEO **Sao Teotonio** 82.81 41⇓ *e*P **P** 10 36 20.8 +1.1
comp=Z,242nm,1.4s
PBDV **Barranco-do-Ve** 83.06 41⇓ *i*P **P** 10 36 22.1 +1.1
comp=Z,235nm,1.3s
ULM **Lac du Bonnet** 83.11 340 P **P** 10 36 21.0 +0.1
comp=Z,43nm,0.7s,baz=149,slow=5.6,SNR=62
ULM pP **pP** 10 38 26.9 +0.2
comp=Z,7.7nm,0.8s,baz=141,slow=5.4,SNR=2.9
ULM S **SKSac** 10 45 43.9 -2.7
comp=Z,1.6nm,0.8s,baz=143,slow=20,SNR=1.6
comp=Z,43nm,0.7s
PCVE **Castro Verde** 83.26 41⇓ *i*P **P** 10 36 22.9 +0.9
comp=Z,126nm,1.7s
PVAQ **Vaqueiros** 83.29 41⇓ *i*P **P** 10 36 23.0 +0.9
comp=Z,200nm,1.4s
MESJ **Messejana** 83.30 41⇓ *i*P **P** 10 36 23.0 +0.8
comp=Z,141nm,1.4s
MESJ **Messejana** 83.30 41 *e*P **P** 10 36 23.0 +0.8
MESJ IAmb IAmb 10 36 24.0
comp=Z,137nm,1.1s
MESJ **Messejana** 83.30 41 *e*P **P** 10 36 23.0 +0.8
PNCL **Nicolau / Gran** 83.31 40⇓ *i*P **P** 10 36 22.9 +0.7
comp=Z,136nm,1.5s
LIS **Lisbon** 83.37 40 *e*P **P** 10 36 23.3 +0.8
LIS IAmb IAmb 10 36 24.3
comp=Z,170nm,1.2s
LIS **Lisbon** 83.37 40 *e*P **P** 10 36 23.3 +0.8
REDW **Red Top Meadow** 83.39 327 P **P** 10 36 23.8 +1.0
TPAW **Teton Pass** 83.53 327 P **P** 10 36 24.7 +1.1
MLAC **Mammoth, Mammo** 83.54 319 P **P** 10 36 25.0 +1.3
baz=133,SNR=20
PBEJ **Beja** 83.63 41⇓ *i*P **P** 10 36 24.7 +0.9
comp=Z,167nm,1.5s
FXWY **Fox Creek** 83.68 327 P **P** 10 36 25.1 +0.8
NVAR **Mina Array Bea** 83.78 320 P **P** 10 36 25.6 +0.8
comp=Z,11nm,0.6s,baz=140,slow=4.4,SNR=100
NVAR pP **pP** 10 38 32.1 +1.1
comp=Z,5.3nm,1.1s,baz=141,slow=5.8,SNR=4.2
NVAR PKKPbc **PKKPbc** 10 54 37.4 0.0
comp=Z,1.4nm,0.9s,baz=298,slow=1.9,SNR=6.5
NVAR PKPPKP **P'P'df** 11 02 38.8 -2.1
comp=Z,0.4nm,0.8s,baz=339,slow=3.8,SNR=3.9
comp=Z,11nm,0.6s
LAO **LASA Array** 83.89 332 P **P** 10 36 25.4 +0.4
baz=143
RLMT **Red Lodge** 83.99 329 P **P** 10 36 26.4 +0.8
baz=140,SNR=30
RYN **Ryan** 84.04 320 P **P** 10 36 27.2 +1.2
H17A **Grant Village** 84.04 328 P **P** 10 36 27.6 +1.6
baz=139,SNR=11
KVN **Kaiserville** 84.09 320 P **P** 10 36 27.2 +0.9
KVN IAmb IAmb 10 36 27.9
comp=Z,45nm,0.7s
KVN **Kaiserville** 84.09 320 P **P** 10 36 27.2 +0.9
KVN pmax pmax
comp=Z,45nm,0.7s
PSBE **So Bento** 84.12 39⇓ *i*P **P** 10 36 27.1 +0.9
comp=Z,296nm,1.9s
PMTG **Montargil** 84.14 40⇓ *i*P **P** 10 36 27.0 +0.7
comp=Z,270nm,1.4s
LSZ **Lusaka** 84.17 104 P **P** 10 36 29.1 +1.9
PBAR **Barrancos** 84.21 41⇓ *i*P **P** 10 36 27.3 +0.7
comp=Z,146nm,1.6s
PESTR **Estremoz** 84.36 40⇓ *i*P **P** 10 36 28.2 +0.8
comp=Z,194nm,2.0s
WAKR **Walker** 84.48 319 P **P** 10 36 29.5 +1.3
WAKR **pP** 10 38 35.7 +1.0
DGMT **Dagmar** 84.50 334 P **P** 10 36 28.9 +1.0
DGMT IAmb IAmb 10 36 29.5
comp=Z,84nm,0.6s
DGMT **pP** 10 38 35.6 +1.3
DGMT **Dagmar** 84.50 334 P **P** 10 36 29.1 +1.2
baz=144,SNR=38
PCAS **Casmilo, Conde** 84.66 39⇓ *i*P **P** 10 36 29.4 +0.6
comp=Z,220nm,1.5s
COI **Coimbra** 84.81 39 *e*P **P** 10 36 30.6 +1.1
comp=Z,314nm,1.9s
PMRV **Marv??o** 84.86 40⇓ *i*P **P** 10 36 30.0 +0.2
comp=Z,120nm,1.5s
PCBR **Castelo Branco** 85.09 40⇓ *i*P **P** 10 36 31.0 +0.1
comp=Z,158nm,1.3s
HLID **Hailey** 85.29 325 P **P** 10 36 33.6 +1.6
baz=136,SNR=210
MTE **Manteigas** 85.43 39⇓ *i*P **P** 10 36 32.9 +0.3
comp=Z,184nm,1.3s
BOZ **Bozeman (W)** 85.44 328 P **P** 10 36 33.2 +0.6
baz=139,SNR=24
PVIS **Viseu** 85.45 39⇓ *i*P **P** 10 36 32.8 +0.1
comp=Z,83nm,1.8s
PVRL **Vila Real** 85.93 39 *e*P **P** 10 36 35.5 +0.6
comp=Z,190nm,1.3s
POLO **Lamas de Olo** 85.95 38 *e*P **P** 10 36 35.3 +0.2
comp=Z,70nm,1.4s
PCAB **Cabril** 86.06 38⇓ *e*P **P** 10 36 35.7 +0.2
comp=Z,126nm,1.9s
EGMT **Eagleton** 86.43 331 P **P** 10 36 37.4 +0.2
baz=140,SNR=18
PAB **San Pablo** 86.69 42 P **P** 10 36 39.4 +0.8
PAB IAmb IAmb 10 36 40.5
comp=Z,127nm,1.6s
PAB **San Pablo** 86.69 42 P **P** 10 36 39.4 +0.8
PAB pmax pmax
comp=Z,127nm,1.7s
LYMT **Lyon Mountain** 86.76 329 P **P** 10 36 40.4 +1.4
PBRG **Braganca** 86.83 39⇓ *i*P **P** 10 36 39.5 +0.4
comp=Z,90nm,1.6s
ESDC **Sonseca Array** 87.00 42 P **P** 10 36 40.7 +0.6
ESDC **Sonseca Array** 87.00 42 P **P** 10 36 40.5 +0.5
comp=Z,19nm,0.7s,baz=247,slow=4.2,SNR=88
ESDC pP **pP** 10 38 46.5 -0.8
comp=Z,2.1nm,0.8s,baz=223,slow=5.1,SNR=3.6
comp=Z,19nm,0.7s
ESBB **Sonseca Array** 87.00 42 P **P** 10 36 41.0 +0.9
MSO **Missoula** 87.43 328 P **P** 10 36 42.8 +0.8
baz=137,SNR=13
IVI **Ivigtut** 89.71 7 *i* P **P** 10 36 52.4 +0.4
IVI IAmb IAmb 10 36 54.0
comp=Z,78nm,0.9s
NEW **Newport** 89.96 327 P **P** 10 36 53.1 -0.5
baz=135,SNR=7.4
NRS **Narsarsuaq** 90.00 9 *i* P **P** 10 36 53.0 -0.3
NRS IAmb IAmb 10 36 54.5
comp=Z,38nm,0.6s
COR **Corvallis** 90.67 322 P **P** 10 36 58.0 +1.2
COR **Corvallis** 90.67 322 P **P** 10 36 58.0 +1.2
COR pmax pmax
comp=Z,49nm,0.6s
LTY **Liberty** 91.02 325 P **P** 10 36 59.1 +0.5
LTY pP **pP** 10 39 08.4 +1.4
F04A **Amboy** 91.06 323 P **P** 10 36 59.1 +0.5
B08A **Colville Reser** 91.10 326 P **P** 10 36 58.4 -0.4
NUUK **Nuuk** 92.30 5 *i* P **P** 10 37 04.5 +0.7
KEST **Kesra** 93.18 51 P **P** 10 37 08.9 +0.2
comp=Z,8.6nm,0.7s,baz=225,slow=7.3,SNR=7.3
KEST pP **pP** 10 39 17.5 +0.3
comp=Z,3.2nm,0.7s,baz=206,slow=13,SNR=2.8
comp=Z,8.6nm,0.7s
MBAR **Mbarara** 93.20 92⇑ *e*P **P** 10 37 10.9 +1.4
MBAR pmax pmax
comp=Z,10.0nm,1.4s
URZ **Urewera** 93.27 223 S **SKSac** 10 46 47.0 -0.2
comp=Z,6.0nm,0.7s,baz=184,slow=20,SNR=7.4
DY2G **Dye2** 95.04 7 *i* P **P** 10 37 16.9 +0.3
ISOG **Isortoq, Green** 95.09 10 *i* P **P** 10 37 16.4 -0.1
ANGG **Ammassalik, Gr** 95.36 10 *i* P **P** 10 37 17.6 -0.1
EKA **Eskdalemuir Ar** 97.51 30 P Pdif 10 37 27.1 -0.5
comp=Z,5.1nm,0.6s,baz=230,slow=5.7,SNR=25
comp=Z,5.1nm,0.6s
DOU **Dourbes** 98.15 37 *d*Pdif Pdif 10 37 30.7 +0.1
ICESG **Greenland Ices** 98.31 8 *i* P Pdif 10 37 30.9 -0.5
BMRD **Maredsous** 98.36 37 *d*Pdif **P** 10 37 32.1 +0.5
BMRD *d*PP **PP** 10 41 47.9 +5.8
RCHB **Rochefort** 98.52 37 *d*Pdif **P** 10 37 32.4 +0.1
BGES **Gesves** 98.58 37 *d*Pdif **P** 10 37 32.6 +0.1
BCLA **Clavier** 98.71 37 *d*Pdif Pdif 10 37 33.1 0.0
WLF **Walferdange** 98.75 38 *e*Pdiff 10 37 34.2
WLF **Walferdange** 98.75 38 *d*Pdif **P** 10 37 34.1 +0.8
TUE **Stuetta** 98.86 42 P **P** 10 37 34.5 +0.3
comp=Z,84nm,1.7s,comp=Z,1μm
BSTI **Sart Tilman** 98.94 37 *d*Pdif **P** 10 37 34.7 +0.5
YKA **Yellowknife Ar** 99.05 338 P **Pdif** 10 37 34.3 0.0
comp=Z,4.8nm,0.6s,baz=131,slow=4.7,SNR=64
YKA pP **pP** 10 39 43.4 -0.1
comp=Z,7.2nm,1.1s,baz=131,slow=4.7,SNR=9.5
YKA PKiKP **PKiKP** 10 42 01.1 +0.4
comp=Z,0.6nm,0.6s,baz=135,slow=1.9,SNR=5.7
YKA PKKPbc **PKKPbc** 10 53 57.1 -2.0
comp=Z,0.5nm,0.8s,baz=316,slow=2.6,SNR=4.1
comp=Z,4.8nm,0.6s
MEM **Membach** 99.19 37 *d*Pdif **Pdif** 10 37 35.9 +0.7
BFO **Black Forest** 99.24 40 *e*Pdiff 10 37 36.1
BTNL **Ternell** 99.24 37 *d*Pdif **Pdif** 10 37 35.5 -0.1
DAVOX **Davos/Dischmat** 99.33 42 P **Pdif** 10 37 36.7 +0.4
comp=Z,8.5nm,0.7s,baz=248,slow=5.9,SNR=18
comp=Z,8.5nm,0.7s
DAVA **Damuels** 99.59 41 *i* Pdiff **Pdif** 10 37 38.3 +0.9
comp=Z,13nm,0.8s
DAVA *e*PP **PP** 10 41 57.4 +5.8
comp=Z,4.2nm,1.1s
AHRW **Bad Neuenahr-A** 99.72 38 *e*Pdiff 10 37 38.6
UBR **Ueberruh** 99.93 41 *e*Pdiff 10 37 39.4
FETA **Feichten** 99.96 42 *i* Pdiff **Pdif** 10 37 39.3 +0.3
comp=Z,14nm,1.1s
FETA *i* PP **PP** 10 41 58.0 +3.7
comp=Z,9.6nm,1.6s
STU **Stuttgart** 99.96 40 *e*Pdiff 10 37 39.3
RETA **Reutte** 100.21 41 *i* Pdiff **Pdif** 10 37 40.6 +0.6
comp=Z,9.1nm,1.0s
RETA *e*PP **PP** 10 41 57.4 +1.2
comp=Z,0.3nm,0.3s
TNS **Taunus Mts** 100.30 38 *e*Pdiff 10 37 40.9
SQTA **Sankt Quirin** 100.34 42 *i* Pdiff **Pdif** 10 37 41.0 +0.4
comp=Z,24nm,1.3s
SQTA *i* PKiKP **PKiKP** 10 42 03.8 0.0
comp=Z,8.1nm,1.0s
TOAD **Toad River Com** 100.56 332 P **Pdif** 10 37 41.5 +0.3
baz=128,SNR=7.8
WATA **Walderalm** 100.61 42 *i* Pdiff **Pdif** 10 37 42.6 +0.7
comp=Z,4.1nm,0.5s
WATA *e*PKiKP **PKiKP** 10 42 04.6 +0.4
comp=Z,7.9nm,1.1s
WTTA **Wattenberg** 100.61 42 *i* Pdiff **Pdif** 10 37 42.9 +0.9
comp=Z,17nm,1.3s
WTTA *e*PKiKP **PKiKP** 10 42 04.7 +0.5
comp=Z,7.1nm,1.0s
KASTN **Kahler Asten** 100.80 37 *e*Pdiff 10 37 42.8
KOTAN **Kotaneelee Air** 100.87 334 P **Pdif** 10 37 43.6 +1.1
baz=126
ABTA **Abfaltersbach** 100.88 43 *i* Pdiff **Pdif** 10 37 44.0 +0.9
comp=Z,8.5nm,1.0s
ABTA *i* PP **PP** 10 42 02.0 +0.9
comp=Z,2.5nm,0.5s
IBBN **Ibbenburen** 101.02 36 *e*Pdiff 10 37 43.6
LESA **Schwarzleotal** 101.31 42 *i* Pdiff **Pdif** 10 37 45.4 +0.5
comp=Z,8.0nm,1.0s
LESA *e*PP **PP** 10 42 00.2 -4.1
comp=Z,4.4nm,0.8s
V35K **Ketchikan** 101.37 327 P **Pdif** 10 37 46.3 +1.5
baz=123
MYKA **Terra Mystica** 101.51 43 *e*Pdiff **Pdif** 10 37 47.1 +1.4
comp=Z,7.3nm,1.0s
MYKA *e*PKiKP **PKiKP** 10 42 04.2 -1.6
comp=Z,0.1nm,0.2s
KBA **Koelnbreinsper** 101.54 43 *e*Pdiff **Pdif** 10 37 46.1 +0.1
comp=Z,4.6nm,1.3s
KBA *e*PKiKP **PKiKP** 10 42 04.6 -1.4
comp=Z,2.1nm,0.5s
GRF **Grafenberg Arr** 101.58 40 *e*Pdiff 10 37 46.8
GRF *e*PP 10 42 02.4

T35M	Bob Quinn	101.64	329	P		Pdif	10 37 47.3 +1.3
	baz=124						
OBKA	Obir	102.00	44	ePdiff		Pdif	10 37 48.8 +0.8
	comp=Z,6.2nm,1.0s						
OBKA				i PKiKP		PKiKP	10 42 07.0 +0.3
	comp=Z,7.0nm,1.0s						
BIOA	Bad Ischl, Aus	102.01	42	ePKiKP		PKiKP	10 42 08.3 +1.7
	comp=Z,1.5nm,0.6s						
RETH	Rethem/Aller,	102.09	36	ePdiff			10 37 49.3
RETH				ePP			10 42 05.7
ROTZ	Rotzenmuhle	102.17	40	ePdiff			10 37 49.3
ROTZ				ePP			10 42 06.4
CRAG	Craig	102.17	327	P		Pdif	10 37 50.1 +1.8
	baz=122						
CLZ	Clausthal	102.17	38	ePdiff			10 37 49.3
CLZ				ePP			10 42 06.6
MANZ	Manzenberg	102.22	40	ePdiff			10 37 49.4
MANZ				ePP			10 42 06.2
WET	Wettzell	102.25	41	ePP			10 42 06.9
MOX	Moxa	102.26	39	ePdiff			10 37 49.6
WRAK	Wrangell Islan	102.31	328	P		Pdif	10 37 50.7 +1.8
	baz=122						
DLBC	Dease Lake	102.36	330	P		Pdif	10 37 50.2 +1.0
	baz=124						
NRDL	Niedersach Rie	102.36	37	ePdiff			10 37 50.1
NRDL				ePP			10 42 08.6
SOKA	Soboth	102.37	44	i Pdiff		Pdif	10 37 50.5 +0.8
	comp=Z,3.7nm,1.1s						
SOKA				i PKiKP		PKiKP	10 42 08.1 +0.7
	comp=Z,5.9nm,1.1s						
MOA	Molln	102.46	42	i Pdiff		Pdif	10 37 50.5 +0.6
	comp=Z,6.5nm,1.3s						
PLN	Plauen	102.49	39	ePdiff			10 37 51.0
PLN				ePP			10 42 08.5
S34M	Telegraph Cree	102.56	330	P		Pdif	10 37 51.0 +1.0
	baz=123						
GERES	GERESS Array B	102.59	41	P		Pdif	10 37 50.6 0.0
	comp=Z,0.5nm,0.6s,baz=250,slow=5.1,SNR=3.6						
GERES				PKiKP		PKiKP	10 42 07.8 +0.1
	comp=Z,0.4nm,0.4s,baz=246,slow=1.9,SNR=4.0						
TANN	Tannenbergstha	102.63	39	ePdiff			10 37 51.9
TANN				ePP			10 42 09.6
KHC	Kasperske Hory	102.65	41⇑	eP		Pdif	10 37 51.4 +0.6
KHC				pmax		pmax	
	comp=Z,13nm,1.8s						
WTLY	Watson Lake, Y	102.77	332	P		Pdif	10 37 52.4 +1.4
	baz=124						
FLTG	Flechtingen	102.88	37	ePdiff			10 37 52.2
FLTG				ePP			10 42 11.3
R33M	Jennings River	103.29	331	P		Pdif	10 37 54.5 +1.1
	baz=123						
CLL	Collm	103.35	39⇓	i Pdif		Pdif	10 37 54.6 +0.9
	comp=Z,17nm,1.4s						
CLL	Collm	103.35	39⇓	iP		Pdif	10 37 54.6 +0.9
CLL				pmax		pmax	
	comp=Z,17nm,1.4s						
TGTN	Hyland Airport	103.36	333	P		Pdif	10 37 55.1 +1.5
	baz=125						
CONA	Conrad Observa	103.45	43	i Pdiff		Pdif	10 37 56.1 +1.7
	comp=Z,6.5nm,1.8s						
CONA				ePKiKP		PP	10 42 15.5 -4.5
	comp=Z,13nm,2.1s						
RONA	Rosalia, Austr	103.61	43	ePdiff		Pdif	10 37 56.0 +0.9
	comp=Z,3.6nm,0.9s						
RONA				i PP		PP	10 42 17.9 -3.2
	comp=Z,16nm,1.6s						
Q32M	Nakina River	103.62	330	P		Pdif	10 37 56.2 +1.2
	baz=122						
BRG	Berggiesshubel	103.67	39	ePP			10 42 17.2
BRG	Berggiesshubel	103.67	39⇓	ePif		Pdif	10 37 55.9 +0.7
BRG				Amp			10 37 58.2
	comp=Z,4.3nm,1.2s						
BRG				PP		PP	10 42 17.8 -3.7
BRG				Amp			10 42 19.5
	comp=Z,12nm,1.4s						
BRG	Berggiesshubel	103.67	39	eP		Pdif	10 37 55.9 +0.7
BRG							10 42 17.8
BRG				S		Sdif	10 48 55.0 +1.9
BRG				SP		SP	10 50 34.0 -1.2
BRG				PS		PS	10 51 47.0 -1.4
BRG				pmax		pmax	
	comp=Z,4.0nm,1.2s						
BRG				pmax		pmax	
	comp=Z,13nm,1.4s						
S32K	Killisnoo	103.90	328	P		Pdif	10 37 56.9 +1.0
	baz=120						
SIT	Sitka	104.04	328	P		Pdif	10 37 57.6 +1.0
	baz=120						
KRUC	Moravsky	104.27	42	ePKIKP		PKiKP	10 42 20.9 +10
R32K	Eaglecrest	104.28	329	P		Pdif	10 37 58.8 +1.1
	baz=120						
P33M	Teslin, Yukon	104.52	331	P		Pdif	10 37 59.6 +0.8
	baz=121						
P32M	Atlin	104.59	330	P		Pdif	10 37 59.9 +0.8
	baz=121						
S31K	Pelican	104.92	328	P		PKiKP	10 42 12.1 +0.7
	baz=119						
N32M	Quiet Lake	105.11	332	P		PKiKP	10 42 12.6 +0.7
	baz=121						
SKAG	Skagway	105.23	330	P		PKiKP	10 42 12.9 +0.8
	baz=119						
WHY	Whitehorse	105.63	331	P		PKiKP	10 42 13.2 +0.2
	baz=120						
PLBC	Pleasant Camp	105.70	329	P		PKiKP	10 42 14.0 +1.1
	baz=119						
P29M	Windy Craggy	106.40	329	P		PKiKP	10 42 15.3 +1.0
	baz=117						
N31M	Braeburn, Yuko	106.41	331	P		PKiKP	10 42 15.4 +1.1
	baz=118						
C36M	Paulatuk	106.48	341	P		PKiKP	10 42 15.4 +1.3
	baz=126						
N30M	Aishikik Lake	106.95	331	P		PKiKP	10 42 16.2 +0.9
	baz=118						
NB2	NORSAR Subarra	106.98	29	PKiK		PKiKP	10 42 15.4 0.0
	comp=Z,6.7nm,1.4s,baz=243,slow=1.9						
NB2	NORSAR Subarra	106.98	29	PKiK		PKiKP	10 42 15.4 0.0
	baz=243,slow=1.9						
NOA	NORSAR Array B	106.98	29	Pdiff		Pdif	10 38 10.1 +0.4
	comp=Z,0.2nm,0.6s,baz=243,slow=4.8,SNR=1.9						
NOA				PKiKP		PKiKP	10 42 14.9 -0.4
	comp=Z,0.6nm,0.6s,baz=246,slow=2.3,SNR=3.8						
NOA				PP		PP	10 42 42.6 -2.7
	comp=Z,0.7nm,0.9s,baz=237,slow=7.4,SNR=3.0						
O29M	Mount Kennedy	107.08	330	P		PKiKP	10 42 16.3 +0.6
	baz=117						
PNL	Peninsula	107.17	329	P		PKiKP	10 42 16.7 +0.9
	baz=116						
YUK6	Outpost Mounta	107.27	330	P		PKiKP	10 42 16.4 +0.3
	baz=117						
M30M	Minto, Yukon	107.34	332	P		PKiKP	10 42 16.1 +0.1
	baz=117						
MAYO	Mayo, Yukon	107.45	333	P		PKiKP	10 42 16.6 +0.4
	baz=118						
YUK4	Talbot Arm	107.57	331	P		PKiKP	10 42 16.7 0.0
	baz=116						
HFS	Hagfors	107.68	31	PKiKP		PKiKP	10 42 15.8 -0.8
	comp=Z,1.7nm,0.5s,baz=222,slow=1.9,SNR=11						
HFS				PP		PP	10 42 47.3 -3.0
	comp=Z,1.9nm,0.8s,baz=249,slow=6.0,SNR=2.6						
HFS				PKKP		PKKPab	10 53 47.3 +0.1
	comp=Z,1.2nm,0.5s,baz=64,slow=3.4,SNR=7.3						
PINM	Pinnacle	107.74	329	P		PKiKP	10 42 17.4 +0.5
	baz=115						
M29M	Somme Creek	107.98	332	P		PKiKP	10 42 17.3 +0.1
	baz=116						
O28M	Mount Upton	108.00	330	P		PKiKP	10 42 18.1 +0.5
	baz=115						
YUK8	Steele Glacier	108.03	330	P		PKiKP	10 42 17.9 +0.3
	baz=115						
J30M	Hart River	108.08	334	P		PKiKP	10 42 18.2 +0.7
	baz=117						
L29M	L29M	108.13	332	P		PKiKP	10 42 17.9 +0.5
	baz=116						
K29M	Barlow Dome	108.21	333	P		PKiKP	10 42 18.3 +0.6
	baz=116						
I30M	Mount Dempster	108.39	335	P		PKiKP	10 42 18.1 +0.1
	baz=117						
VIKU	Vikbolandet	108.41	33	eP		PKiKP	10 42 17.7 -0.3
G31M	Satah River	108.42	337	P		PKiKP	10 42 18.2 +0.5
	baz=116						
F31M	Tsiigehtchic	108.48	337	P		PKiKP	10 42 18.3 +0.5
	baz=119						
MESA	MESA	108.55	329	P		PKiKP	10 42 18.1 -0.4
	baz=114						
MLR	Muntele Rosu	108.81	48	PKiKP		PKiKP	10 42 20.2 +0.8
	comp=Z,2.6nm,0.4s,baz=180,slow=6.1,SNR=6.2						
INK	Inuvik	108.82	338	P		PKiKP	10 42 18.9 +0.4
	baz=118						
EPYK	Eagle Plains	109.03	336	P		PKiKP	10 42 19.4 +0.3
	baz=116						
DAWY	Dawson	109.05	333	P		PKiKP	10 42 19.4 +0.2
	baz=115						
G30M	tAoh Zraii Nji	109.12	337	P		PKiKP	10 42 19.6 +0.4
	baz=117						
F30M	Barrier River	109.26	337	P		PKiKP	10 42 19.8 +0.4
	baz=117						
CRQE	Cirque	109.30	329	P		PKiKP	10 42 20.0 +0.2
	baz=113						
M27K	Edge Creek, AK	109.39	331	P		PKiKP	10 42 20.5 +0.6
	baz=113						
MCARA	McCarthy VSAT	109.51	330	P		PKiKP	10 42 20.9 +0.8
	baz=113						
H29M	Whitestone	109.57	335	P		PKiKP	10 42 21.0 +1.0
	baz=115						
L27K	Beaver Creek,	109.64	332	P		PKiKP	10 42 21.0 +0.7
	baz=113						
G29M	Pine Creek	109.73	336	P		PKiKP	10 42 21.2 +0.9
	baz=115						
I28M	Miner Creek	109.84	334	P		PKiKP	10 42 20.9 +0.2
	baz=114						
M26K	Nabesna, AK	109.89	331	P		PKiKP	10 42 21.2 +0.4
	baz=112						
EGAK	Eagle	110.04	334	P		PKiKP	10 42 21.9 +0.9
	baz=113						
BMRM	Bremner River	110.06	329	P		PKiKP	10 42 21.7 +0.5
	baz=112						
SUW	Suwalki	110.11	39	eP		PKiKP	10 42 21.6 +0.2
K27K	Chicken	110.12	333	P		PKiKP	10 42 21.8 +0.7
	baz=113						
L26K	Log Cabin Wild	110.27	331	P		PKiKP	10 42 22.6 +1.1
	baz=112						
N25K	Chitina, Valde	110.29	330	P		PKiKP	10 42 22.3 +0.7
	baz=111						
E29M	Blow River	110.31	338	P		PKiKP	10 42 22.1 +0.8
	baz=115						
Q23K	Middleton Isla	110.32	327	P		PKiKP	10 42 22.1 +0.5
	baz=111						
EYAK	Cordova Ski Ar	110.44	328	P		PKiKP	10 42 22.4 +0.6
	baz=111						
I27K	Kandik River	110.54	334	P		PKiKP	10 42 22.3 +0.3
	baz=112						
F28M	Old Crow	110.68	337	P		PKiKP	10 42 22.4 +0.3
	baz=113,SNR=5.9						
H27K	Steamboat Moun	110.75	335	P		PKiKP	10 42 22.4 +0.1
	baz=112,SNR=8.1						
KLU	Klutina	110.84	329	P		PKiKP	10 42 22.7 0.0
	baz=110						
SCRK	Sand Creek	110.88	332	P		PKiKP	10 42 22.9 +0.2
	baz=111						
J26L	Joseph Creek	110.90	333	P		PKiKP	10 42 22.6 -0.1
	baz=111						
E28M	Babbage River	110.95	338	P		PKiKP	10 42 23.2 +0.6
	baz=113						
D28M	Stokes Point	110.97	338	P		PKiKP	10 42 23.3 +0.8
	baz=114						
G27K	Doyon Strip	111.01	335	P		PKiKP	10 42 23.2 +0.4
	baz=112						
P23K	Montague Islan	111.02	328	P		PKiKP	10 42 23.2 +0.3
	baz=110						
I26K	Coal Creek Min	111.03	334	P		PKiKP	10 42 23.3 +0.5
	baz=111						
PAX	Paxson	111.16	331	P		PKiKP	10 42 23.2 -0.1
	baz=110						
M24K	Tolsona, Glenn	111.17	330	P		PKiKP	10 42 23.3 +0.1
	baz=110						
MILM	Milestii Mici	111.17	47	ePKP		PKiKP	10 42 23.0 -0.6
	comp=Z,90nm,3.5s						
MILM	Milestii Mici	111.17	47	ePKIKP		PKiKP	10 42 23.0 -0.6
MILM				pmax		pmax	
	comp=Z,90nm,3.5s						
GLI	Glacier Island	111.17	329	P		PKiKP	10 42 23.2 0.0
	baz=110						
MMAI	Mount Meron Ar	111.36	63	PKiKP		PKiKP	10 42 24.6 0.0
	comp=Z,1.9nm,0.4s,baz=240,slow=2.8,SNR=5.6						
E27K	Coleen River	111.50	337	P		PKiKP	10 42 23.9 +0.2
	baz=112						
SCM	Sheep Creek Mo	111.59	329	P		PKiKP	10 42 24.3 +0.2
	baz=109						
J25K	Salcha River,	111.67	333	P		PKiKP	10 42 24.0 -0.1
	baz=110,SNR=7.6						
D27M	Malcolm River	111.67	338	P		PKiKP	10 42 24.4 +0.4
	baz=112,SNR=6.0						
RAF	Rauma	111.71	31	eP		PKiKP	10 42 23.7 -0.4
PWL	Port Wells	111.74	328	P		PKiKP	10 42 24.5 +0.2
	baz=109						
M23K	Glacier View	111.76	329	P		PKiKP	10 42 24.3 -0.1
	baz=109						
G26K	Porcupine Rive	111.85	335	P		PKiKP	10 42 24.8 +0.5
	baz=110						
KNK	Knik Glacier	111.97	329	P		PKiKP	10 42 25.0 +0.3
	baz=108						
DHY	Denali Highway	112.01	331	P		PKiKP	10 42 25.2 +0.2
	baz=108						
WAT6	Susitna Watana	112.01	330	P		PKiKP	10 42 25.3 +0.3
	baz=108,SNR=8.7						
SEW	Seward	112.03	327	P		PKiKP	10 42 25.6 +0.8
	baz=108						
PRP	Porcupine Dome	112.03	334	P		PKiKP	10 42 25.1 +0.1
	baz=109						
SML	Sawmill	112.03	329	P		PKiKP	10 42 25.3 +0.4
	baz=108						
BRTR	Keskin Array B	112.23	56	PKiKP		PKiKP	10 42 25.6 -0.5
	comp=Z,3.4nm,0.8s,baz=250,slow=2.9,SNR=11						
BRTR				PP		PP	10 43 21.3 -1.9
	comp=Z,2.4nm,1.0s,baz=242,slow=6.1,SNR=3.6						
BRTR	Keskin Array B	112.23	56	c i PKIKP		PKiKP	10 42 26.2 +0.1
BRTR				pmax		pmax	
	comp=Z,3.0nm,0.8s						
F26K	Sheenjek River	112.23	336	P		PKiKP	10 42 25.5 +0.4
	baz=110,SNR=5.5						
HDA	Harding Lake	112.25	332	P		PKiKP	10 42 25.5 +0.3
	baz=108						
O22K	Cooper Landing	112.27	328	P		PKiKP	10 42 25.7 +0.5
	baz=108						
PMR	Palmer	112.33	329	P		PKiKP	10 42 25.9 +0.6
	baz=108						
ILAR	Eielson Array	112.34	333	PKiKP		PKiKP	10 42 25.2 -0.2
	comp=Z,1.8nm,0.5s,baz=121,slow=0.9,SNR=26						
ILAR				PP		PP	10 43 22.4 -0.7
	comp=Z,2.3nm,0.8s,baz=117,slow=5.3,SNR=7.9						
ILAR				PKKPbc		PKKPbc	10 53 16.6 -2.2
	comp=Z,1.0nm,0.9s,baz=292,slow=2.8,SNR=6.0						
H25L	Birch Creek	112.39	334	P		PKiKP	10 42 26.3 +1.0
	baz=109						
WAT1	Susitna Watana	112.45	330	P		PKiKP	10 42 25.5 -0.1
	baz=108						
RC01	Rabbit Creek A	112.46	328	P		PKiKP	10 42 25.5 -0.2
	baz=107						
BRSE	Bradley Lake S	112.54	327	P		PKiKP	10 42 25.9 +0.1
	baz=107						
KIEV	Kiev	112.57	43	i PKPdf		PKiKP	10 42 25.4 -0.7
	SNR=7.5						
AKASG	Malin Array Be	112.58	43	PKiKP		PKiKP	10 42 25.4 -0.8
	comp=Z,3.5nm,0.5s,baz=265,slow=2.8,SNR=19						
AKBB	Malin Array Si	112.58	43	d i PKIKP		PKiKP	10 42 25.1 -1.1
G25K	Bearman Lake	112.65	335	P		PKiKP	10 42 26.5 +0.7
	baz=108						
POKR	Poker Plat Res	112.67	333	P		PKiKP	10 42 26.4 +0.5
	baz=108						
MEF	Metsahovi	112.70	33	eP		PKiKP	10 42 25.9 -0.2
C27K	Jago River	112.72	338	P		PKiKP	10 42 26.2 +0.3
	baz=109						
VAF	Ylistaro	112.73	30	eP		PKiKP	10 42 26.0 -0.1
F25K	Christian Rive	112.74	336	P		PKiKP	10 42 26.5 +0.4
	baz=108,SNR=6.8						
COLA	College	112.76	333	P		PKiKP	10 42 26.8 +0.8
	baz=107						
COLA	College	112.76	333	c i PKIKP		PKiKP	10 42 25.9 -0.2
M22K	Willow	112.83	329	P		PKiKP	10 42 26.4 +0.1
	baz=107						
MCK	McKinley	112.88	331	P		PKiKP	10 42 26.7 +0.2
	baz=107,SNR=5.2						
MNK	Minsk	112.89	39	i PKP		PKiKP	10 42 25.6 -1.1
	comp=E,2.0nm,0.8s						
MNK				i PKP		PKiKP	10 42 25.6 -1.1
	comp=N,14nm,0.9s						
MNK				i PKP		PKiKP	10 42 25.6 -1.1
	comp=Z,29nm,0.8s,baz=254						
MNK				i PP		PP	10 43 26.3 -0.9
MNK				i pPKP			10 44 27.0
MNK				i SKP			10 45 20.5
MNK				i PKS		PKSdf	10 45 44.5 -19
MNK				i PPP		PPP	10 46 13.4
MNK				i SKS		SKSac	10 47 57.4 -19
MNK				i SKKS			10 51 30.1
MNK				i PS		SP	10 51 48.9 -14
MNK				i SS		SS	10 58 26.5 -0.1
MNK				i LQ		LQ	11 23 02.9
MNK				i LR		LR	11 27 35.5
MNK				i LRM		MLR	11 34 29.7
	comp=Z,73nm,18.6s						
MNK				i LRM		MLR	11 35 34.8
	comp=E,51nm,18.8s						
MNK				i LRM		MLR	11 35 44.9
	comp=N,156nm,18.7s						
MNK	Minsk	112.89	39	i PKIKP		PKiKP	10 42 25.5 -1.1
MNK				i			10 43 26.3
MNK				i SS		SS	10 58 26.4 -0.1
MNK				pmax		pmax	
	comp=E,2.0nm,0.9s						
MNK				pmax		pmax	
	comp=Z,29nm,0.9s						
MNK				pmax		pmax	
	comp=N,14nm,0.9s						
KDAK	Kodiak Island	112.90	324	P		PKiKP	10 42 26.6 +0.1
	baz=106						
Q20K	Shuyak Island	113.03	325	P		PKiKP	10 42 27.2 +0.4
	baz=106						
SUA	Susitna One	113.03	329	P		PKiKP	10 42 27.1 +0.2
	baz=106						
H24K	Noodor Dome	113.06	334	P		PKiKP	10 42 26.9 +0.2
	baz=107						
CUT	Chulitna	113.08	330	P		PKiKP	10 42 27.2 +0.4
	baz=106						
OHAK	Old Harbor	113.11	324	P		PKiKP	10 42 26.6 -0.4
	baz=106						
G24K	Hadweenzic Riv	113.15	335	P		PKiKP	10 42 27.6 +0.7
	baz=107						
NEA2	Nenana	113.18	332	P		PKiKP	10 42 26.6 -0.3
	baz=106,SNR=5.2						
C26K	Camden Bay	113.21	338	P		PKiKP	10 42 27.4 +0.6
	baz=108						
ARBE	Arbavere	113.25	34	eP		PKiKP	10 42 27.3 +0.1
TRO	Tromso	113.25	22	ePKPdf		PKiKP	10 42 27.4 +0.5
VSU	Vasula	113.36	35	d i PKIKP		PKiKP	10 42 27.1 -0.3
VSU				pmax		pmax	
	comp=Z,45nm,2.5s						
I23K	Minto, Yukon-K	113.46	333	P		PKiKP	10 42 27.2 -0.2
	baz=106						
KEF	Keuruu	113.46	31	eP		PKiKP	10 42 27.2 -0.3
D25K	Kavik River	113.52	337	P		PKiKP	10 42 27.5 0.0
	baz=107,SNR=6.3						
SKT	Skwentna	113.54	329	P		PKiKP	10 42 27.6 -0.1
	baz=106,SNR=11						
F24K	Squaw Lake	113.54	335	P		PKiKP	10 42 28.2 +0.6
	baz=106,SNR=7.5						
O20K	Slope Mountain	113.55	327	P		PKiKP	10 42 27.7 -0.1
	baz=105						
H23K	Yukon River	113.71	333	P		PKiKP	10 42 28.3 +0.3
	baz=106						
P19K	Oil Pt	113.73	326	P		PKiKP	10 42 28.1 0.0
	baz=105						
Q19K	Cape Douglas,	113.75	325	P		PKiKP	10 42 28.0 -0.3
	baz=105						
R18K	Karluk	113.81	324	P		PKiKP	10 42 27.9 -0.4
	baz=105						
FINES	FINESS Array B	113.83	32	PKiKP		PKiKP	10 42 28.0 -0.3
	comp=Z,2.7nm,0.6s,baz=204,slow=1.4,SNR=16						
FINES				pPKiKP		pPKiKP	10 44 46.6 +1.5
	comp=Z,1.3nm,0.7s,baz=228,slow=3.5,SNR=2.2						
FINES				PKKPbc		PKKPbc	10 53 12.0 -1.7
	comp=Z,1.0nm,0.5s,baz=72,slow=4.5,SNR=10						
FINES	FINESS Array B	113.83	32	c i PKIKP		PKiKP	10 42 28.2 0.0
FINES				pmax		pmax	
	comp=Z,3.0nm,0.6s						
BPAW	Bear Paw Mtn.	113.85	331	P		PKiKP	10 42 28.1 -0.1
	baz=105,SNR=19						
E24K	Your Creek	113.91	336	P		PKiKP	10 42 28.8 +0.4
	baz=106,SNR=6.4						
CHIR	Chirikof Islan	113.98	322	P		PKiKP	10 42 29.0 +0.3
	baz=105						
MLY	Manley	113.99	332	P		PKiKP	10 42 28.8 +0.3
	baz=105						
PPLA	Purkeypile	114.07	330	P		PKPdf	10 42 28.7 -0.1
	baz=104						
G23K	Bananza Creek	114.13	334	P		PKiKP	10 42 29.4 +0.7
	baz=105,SNR=9.8						
M20K	Styx River	114.24	329	P		PKPdf	10 42 28.8 -0.4
	baz=104,SNR=8.2						
D24K	Happy Valley	114.31	337	P		PKPdf	10 42 29.0 0.0
	baz=105						
E23K	Chandalar	114.32	336	P		PKiKP	10 42 29.3 +0.1
	baz=104,SNR=6.4						
COLD	Coldfoot	114.33	335	P		PKiKP	10 42 29.4 +0.3
	baz=104,SNR=8.0						
Q18K	Katmai Hardscr	114.36	325	P		PKPdf	10 42 29.4 -0.1
	baz=104						
O19K	Port Alsworth	114.39	327	P		PKPdf	10 42 29.1 -0.2
	baz=104						
C24K	Franklin Bluff	114.41	338	P		PKiKP	10 42 29.4 +0.2
	baz=105						
TOLK	Toolik Lake Re	114.45	336	P		PKiKP	10 42 29.7 +0.4
	baz=104,SNR=18						
H22K	Ishtalitna Cre	114.46	333	P		PKiKP	10 42 29.9 +0.5
	baz=104,SNR=7.7						
KBS	Kingsbay	114.46	12	ePKPdf		PKiKP	10 42 30.6 +1.5
I21K	Tanana	114.53	332	P		PKPdf	10 42 29.4 -0.1
	baz=104						
KTK1	Kautokeino	114.56	23	ePKPdf		PKPdf	10 42 29.3 -0.2
N19K	Bonanza Creek	114.62	327	P		PKPdf	10 42 29.3 -0.6
	baz=104						
P18K	Big Mountain,	114.65	326	P		PKPdf	10 42 29.3 -0.6
	baz=104						
BJO1	Bjornoya	114.66	17	ePKPdf		PKiKP	10 42 29.6 +0.1
Q17K	Contact Creek	114.72	324	P		PKPdf	10 42 29.9 -0.3
	baz=104						
L20K	Farewell, AK	114.72	329	P		PKPdf	10 42 29.9 -0.1
	baz=103						
O18K	Koktuh Hills	114.75	326	P		PKPdf	10 42 29.9 -0.2
	baz=103						
G22K	Bettles	114.75	334	P		PKiKP	10 42 30.2 +0.3
	baz=103						
R17L	Mt. Peulik Vol	114.82	324	P		PKPdf	10 42 30.3 0.0
	baz=104						
M19K	Big River Lodg	114.83	329	P		PKiKP	10 42 30.6 +0.4
	baz=103						
D23K	Nanushuk River	114.92	337	P		PKiKP	10 42 31.1 +0.9
	baz=103						
H21K	Melozitna Rive	114.98	333	P		PKiKP	10 42 31.0 +0.6
	baz=103,SNR=15						
K20K	Telida	115.01	330	P		PKiKP	10 42 30.9 +0.4
	baz=103						
SPA0	Spitsbergen Ar	115.07	13	ePKPdf		PKiKP	10 42 31.8 +1.5
SPITS	Spitsbergen Ar	115.07	13	PKP		PKiKP	10 42 30.4 +0.1
	comp=Z,12nm,0.9s,baz=276,slow=2.8,SNR=2.2						
C23K	Itkillik River	115.09	338	P		PKiKP	10 42 30.9 +0.5
	baz=103,SNR=6.6						
HAMF	Hammerfest	115.09	22	ePKPdf		PKPdf	10 42 30.4 0.0
L19K	White Mountain	115.10	329	P		PKPdf	10 42 30.7 0.0
	baz=103						
F22K	John River	115.14	335	P		PKiKP	10 42 31.5 +0.8
	baz=102						
P17K	Kvichak River	115.21	325	P		PKPd

N17K Nushagak Hills 115.86 327 P **PKiKP** 10 42 32.9 +0.7
baz=102
L18K Granite Mounta 115.95 329 P **PKiKP** 10 42 33.6 +1.2
baz=101,SNR=15
CHNA Chernabura Isl 115.96 320 P **PKiKP** 10 42 33.4 +0.9
baz=102
P16K Nushagak River 115.96 325 P **PKiKP** 10 42 33.3 +0.9
baz=102
STKA Stephens Creek 115.96 203 PKP **PKPdf** 10 42 32.2 -1.3
comp=Z,4.3nm,1.0s,baz=135,slow=1.4,SNR=3.5
STKA PKKPbc **PKKPbc** 10 53 05.5 -1.3
comp=Z,3.6nm,0.8s,baz=356,slow=4.3,SNR=5.2
STKA PKKPab **PKKPab** 10 53 12.4 -3.0
comp=Z,5.6nm,0.8s,baz=358,slow=4.8,SNR=6.2
E21K Killik River 115.99 336 P **PKiKP** 10 42 32.9 +0.6
baz=100
O16K Kokwok River B 116.12 326 P **PKiKP** 10 42 33.8 +1.1
baz=101
M17K Holitna River 116.15 328 P **PKiKP** 10 42 33.8 +1.1
baz=101
J18K Innoko River 116.19 330 P **PKiKP** 10 42 33.6 +0.8
baz=100,SNR=8.8
S14K Fog Glacier 116.24 322 P **PKiKP** 10 42 33.6 +0.4
baz=102
C21K Knifeblade Rid 116.40 336 P **PKiKP** 10 42 33.9 +0.9
baz=99
F20K Avaraart Lake 116.40 334 P **PKiKP** 10 42 33.6 +0.5
baz=100
B21K Ikpikpuk River 116.42 337 P **PKiKP** 10 42 33.9 +0.9
baz=99,SNR=5.7
H19K Roundabout Mou 116.44 332 P **PKiKP** 10 42 33.9 +0.7
baz=100,SNR=6.8
RAYN Ar Rayn 116.45 76 P **PKiKP** 10 42 34.8 +0.2
GCSA Galena City Sc 116.49 331 P **PKiKP** 10 42 33.9 +0.7
baz=100
JOF Joensuu 116.54 31 *e*P **PKPdf** 10 42 33.5 0.0
HOPEN Hopen 116.57 15 *e*PKPdf **PKiKP** 10 42 34.6 +1.5
N16K Nishlik Lake 116.62 327 P **PKiKP** 10 42 34.8 +1.1
baz=100
L17K Donlin 116.68 328 P **PKiKP** 10 42 34.9 +1.2
baz=100
A22K Sinclair Lake 116.75 338 P **PKiKP** 10 42 34.9 +1.3
baz=98
E20K Nigu River 116.77 335 P **PKiKP** 10 42 34.9 +1.0
baz=98
K17K Iditarod 116.78 329 P **PKiKP** 10 42 34.7 +0.8
baz=100,SNR=7.6
G19K Purcell Mounta 116.80 333 P **PKiKP** 10 42 34.7 +0.8
baz=99,SNR=17
M16K Timber Creek 116.80 327 P **PKiKP** 10 42 35.1 +1.0
baz=100,SNR=5.8
VADS Vadso 116.88 23 *e*PKPdf **PKiKP** 10 42 34.7 +0.8
O15K Ungalikthiuk R 116.92 325 P **PKiKP** 10 42 34.9 +0.6
baz=100
D20K Etivluk River 116.99 336 P **PKiKP** 10 42 36.0 +1.7
baz=98
E19K Redstone River 117.05 334 P **PKiKP** 10 42 35.1 +0.8
baz=98
L16K Owhat River 117.16 328 P **PKiKP** 10 42 35.5 +0.8
baz=99,SNR=6.4
F19K Shaleruckik Mo 117.17 334 P **PKiKP** 10 42 35.1 +0.6
baz=98,SNR=8.1
H18K Honhosa River 117.18 332 P **PKiKP** 10 42 35.7 +1.1
baz=98,SNR=7.5
N15K Kwethluk River 117.22 326 P **PKiKP** 10 42 35.6 +0.7
baz=99
J17K VABM Dome 117.23 330 P **PKiKP** 10 42 35.9 +1.1
baz=98,SNR=9.5
A21K Barrow 117.32 339 P **PKiKP** 10 42 35.8 +1.1
baz=97
B20K Meade River 117.34 337 P **PKiKP** 10 42 36.0 +1.2
baz=97
G18K Tagagawik 117.40 333 P **PKiKP** 10 42 35.5 +0.5
baz=98
D19K Kuna River 117.51 336 P **PKiKP** 10 42 36.4 +1.1
baz=97
S12K Black Hills 117.51 321 P **PKiKP** 10 42 35.7 +0.1
baz=100
M15K Kasigluk River 117.59 327 P **PKiKP** 10 42 36.2 +0.7
baz=98
O14K Tigyukauivet M 117.66 325 P **PKiKP** 10 42 36.4 +0.7
baz=99
SOC Sochi 117.66 53 *i* PKIKP **PKPdf** 10 42 35.2 -1.0
SOC *e*PPP PPP 10 46 38.1
SOC *e*PS **PS** 10 53 56.6 +1.2
SOC pmax pmax
comp=Z,18nm,0.5s
H17K Granite Mounta 117.80 331 P **PKiKP** 10 42 36.3 +0.4
baz=97,SNR=13
F18K Selawik 117.88 333 P **PKiKP** 10 42 36.6 +0.7
baz=96,SNR=5.0
J16K Anvik River 117.90 330 P **PKiKP** 10 42 37.1 +1.0
baz=97
OBN Obninsk 117.92 40*d* *i*PKIKP **PKPdf** 10 42 35.8 -0.5
OBN *e*SS SS 10 59 27.8 -3.5
OBN pmax pmax
comp=Z,75nm,1.7s
N14K Kuskokwak Cree 117.97 326 P **PKiKP** 10 42 36.7 +0.5
baz=98
I17K Unalakleet 118.01 330 P **PKiKP** 10 42 37.1 +0.9
baz=97
APA Apatity 118.04 26⇑ *i*PKIKP **PKPdf** 10 42 34.3 -1.9
APA pmax pmax
comp=Z,7.0nm,0.6s
C19K Lookout Ridge 118.10 336 P **PKiKP** 10 42 37.3 +0.9
baz=95,SNR=9.5
L15K Ungalak Mounta 118.11 328 P **PKiKP** 10 42 37.0 +0.5
baz=97,SNR=8.2
FALS False Pass 118.14 320 P **PKiKP** 10 42 37.0 +0.3
baz=99
G17K Kiwalik Mounta 118.17 332 P **PKiKP** 10 42 37.3 +0.7
baz=96,SNR=6.5
K15K Wolf Creek Mou 118.20 328 P **PKiKP** 10 42 37.9 +1.2
baz=97,SNR=9.5
M14K Bethel 118.22 327 P **PKiKP** 10 42 37.2 +0.5
baz=97
E18K Tukpahlearik C 118.33 334 P **PKiKP** 10 42 37.6 +0.8
baz=95,SNR=22
F17K Baldwin Pennin 118.50 333 P **PKiKP** 10 42 37.8 +0.7
baz=95
LVZ Lovozero 118.54 25*d* *i*PKIKP **PKPdf** 10 42 36.7 -0.5
LVZ pmax pmax
comp=Z,20nm,1.3s
L14K Kuka Creek 118.64 327 P **PKiKP** 10 42 37.7 +0.1
baz=96,SNR=8.3
C18K Utukok River 118.65 336 P **PKiKP** 10 42 37.8 +0.3
baz=94
A19K Wainwright 118.69 337 P **PKiKP** 10 42 38.4 +1.0
baz=93
H16K Elim 118.76 331 P **PKiKP** 10 42 38.2 +0.5
baz=95
E17K Hotham Inlet 118.78 334 P **PKiKP** 10 42 38.0 +0.3
baz=94
VSR Storozhevoye 118.81 45 *e*PKIKP **PKPdf** 10 42 36.2 -1.9
VSR pmax pmax
comp=Z,50nm,1.2s
VORD Divnogorie 118.85 45 *e*PKIKP **PKPdf** 10 42 36.1 -2.1
VORD pmax pmax
comp=Z,30nm,0.5s
M13K Dall Lake 118.86 326 P **PKiKP** 10 42 38.7 +0.8
baz=96
G16K Koyuk River 118.87 332 P **PKiKP** 10 42 38.7 +0.8
baz=94,SNR=5.4
LPSR Galich'ya Gora 118.89 43 *e*PKIKP **PKPdf** 10 42 37.4 -0.8
LPSR pmax pmax
comp=Z,70nm,0.8s
B18K Kokolik River 118.91 336 P **PKiKP** 10 42 38.9 +1.0
baz=93
VORR Voronezh 118.92 44 *e*PKIKP **PKiKP** 10 42 38.7 +0.3
VORR pmax pmax
comp=Z,31nm,0.7s
J14K Nanvaranak Lak 119.18 329 P **PKiKP** 10 42 39.3 +0.7
baz=95,SNR=7.3
RDOG Red Dog Mine 119.25 335 P **PKiKP** 10 42 38.9 +0.3
baz=92
D17K Noatak River 119.30 334 P **PKiKP** 10 42 39.4 +0.7
baz=93,SNR=5.2
C17K DeLong Mountai 119.37 335 P **PKiKP** 10 42 39.2 +0.4
baz=92
G15K Niukluk 119.55 331 P **PKiKP** 10 42 39.8 +0.6
baz=93
K13K Kusilvak Mount 119.63 328 P **PKiKP** 10 42 40.3 +0.8
baz=94,SNR=5.9
UNV Unalaska Valle 119.78 318 P **PKiKP** 10 42 40.7 +0.7
baz=98
SHA1 Shidzhatmaz 119.78 53*d* *i*PKIKP **PKPdf** 10 42 40.5 -0.1
F15K North Star Dit 119.84 332 P **PKiKP** 10 42 40.5 +0.7
baz=92

KIV Kislovodsk 119.84 53 PKiKP **PKiKP** 10 42 40.9 +0.2
KIV Kislovodsk 119.84 53 P **PKiKP** 10 42 40.8 +0.2
KIV Kislovodsk 119.84 53 *e*PKIKP **PKPdf** 10 42 40.2 -0.3
KIV pmax pmax
comp=Z,39nm,1.1s
KBZ Khabaz 119.95 54 PKP **PKPdf** 10 42 39.9 -0.7
comp=Z,16nm,1.0s,baz=221,slow=3.1,SNR=20
KBZ Khabaz 119.95 54*d* *i*PKIKP **PKiKP** 10 42 40.7 0.0
ANM Nome 120.10 331 P **PKiKP** 10 42 40.8 +0.4
baz=92
KBD Kabd 120.14 71 P **PKiKP** 10 42 41.7 +0.2
C16K Lisburne Hills 120.17 335 P **PKPdf** 10 42 40.3 0.0
baz=90,SNR=10
M11K Mekoryuk 120.26 326 P **PKiKP** 10 42 41.5 +0.7
baz=94
VRH Novokhopyorsk 120.40 45 *e*PKIKP **PKPdf** 10 42 41.0 -0.2
VRH pmax pmax
comp=Z,38nm,0.9s
F14K Arctic Creek 120.53 332 P **PKiKP** 10 42 42.0 +0.8
baz=91
GNI Garni 120.57 58 PKiKP **PKiKP** 10 42 42.5 +0.3
GNI Garni 120.57 58*d* *i*PKIKP **PKiKP** 10 42 42.4 +0.1
GNI pmax pmax
comp=Z,41nm,1.7s
NAX Nakhchivan 120.93 59 PKIKP **PKiKP** 10 42 43.2 +0.3
NIKH Nikolski High 121.07 317 P **PKiKP** 10 42 42.6 0.0
baz=96
TNA Tin City 121.20 332 P **PKiKP** 10 42 43.1 +0.7
baz=89
SMRA Abu-Samra 121.44 77 P **PKPdf** 10 42 43.5 -0.5
SNR=5.9
WHFO Wadi Hawf 121.64 85 P **PKPdf** 10 42 44.2 -0.4
SNR=12
TRNA Turayna 121.77 77 P **PKPdf** 10 42 44.7 0.0
SNR=6.5
P08K Saint George I 121.78 321 P **PKiKP** 10 42 44.2 +0.3
baz=94
GANJ Ganja 121.85 58 PKIKP **PKPdf** 10 42 44.1 -0.3
SPIA Saint Paul Isl 122.19 322 P **PKiKP** 10 42 45.2 +0.6
baz=93
DOK Doka 122.22 85 P **PKPdf** 10 42 45.4 -0.2
SNR=13
MNGR Mingechevir, A 122.44 58 PKIKP **PKiKP** 10 42 45.7 0.0
DMTO DMTO 122.60 86 P **PKPdf** 10 42 45.4 -1.1
SNR=8.3
SEKA Sheki 122.61 57 PKIKP **PKiKP** 10 42 46.1 0.0
MAK Makhachkala 123.12 55 *i* P **Pdif** 10 39 23.0 +1.1
MAK *i* 10 42 45.1
MAK *e* 10 44 36.0
MAK *e*PPP PPP 10 47 17.6
MAK *e* 10 48 56.3
MAK *e*PS **PS** 10 54 35.7 -7.6
MAK *e*SS SS 11 00 36.5 -1.2
MAK *e*SSS SSS 11 05 20.8
MAK pmax pmax
comp=Z,118nm,1.1s
MZR Muzera 123.18 80 *i* PKiKP **PKiKP** 10 42 47.8 +0.1
SNR=13
MZR Muzera 123.18 80 P **PKiKP** 10 42 47.8 +0.1
SHAO Shalim 123.31 86 P **PKPdf** 10 42 46.8 -1.0
LKRN Lenkeran, Azer 123.34 60 PKIKP **PKPdf** 10 42 46.9 -0.3
BELG Belogornoye 124.16 44 PKP **PKPdf** 10 42 47.9 -0.4
comp=Z,87nm,0.7s,baz=270,slow=2.0,SNR=30
BELG Belogornoye 124.16 44*d* *i*PKIKP **PKPdf** 10 42 48.0 -0.4
CTA Charters Tower 124.36 214 PKP **PKPdf** 10 42 49.8 -0.1
comp=Z,0.6nm,0.6s,baz=150,slow=2.1,SNR=22
CTA pPKP **pPKPdf** 10 45 06.2 -0.5
comp=Z,0.3nm,0.7s,baz=138,slow=1.3,SNR=4.8
CTA SKP 10 45 30.5
comp=Z,0.8nm,1.0s,baz=170,slow=1.9,SNR=6.8
UMZA Um Al Zommool 124.55 81 P **PKPdf** 10 42 50.1 0.0
AJN Ajban 124.98 78 PKiKP **PKPdf** 10 42 51.0 +0.2
KIRV Kirov 125.15 36 PKP **PKiKP** 10 42 50.3 -0.1
comp=Z,40nm,0.7s,baz=298,slow=3.1,SNR=17
KIRV Kirov 125.15 36*d* *i*PKIKP **PKPdf** 10 42 50.1 +0.1
ASUD Al Ashush, Dub 125.30 78 PKiKP **PKiKP** 10 42 51.9 0.0
ASUD Al Ashush, Dub 125.30 78 P **PKiKP** 10 42 52.1 +0.2
SNR=5.6
ALNE Al Ain 125.49 79 *i* PKiKP **PKPdf** 10 42 52.1 +0.3
SNR=7.2
ALNE Al Ain 125.49 79 P **PKPdf** 10 42 52.1 +0.3
FAQ Al Faqa, Dubai 125.56 78 *i* PKiKP **PKPdf** 10 42 52.0 0.0
SNR=22
FAQ Al Faqa, Dubai 125.56 78 P **PKPdf** 10 42 52.0 0.0
SNR=22
DQM DQM 125.69 85 P **PKPdf** 10 42 52.3 0.0
NAZ Nazwa, Dubai 125.69 78 PKiKP **PKPdf** 10 42 52.2 -0.1
NAZ Nazwa, Dubai 125.69 78 P **PKPdf** 10 42 52.1 -0.1
SNR=5.7
ARQ Araqi 125.93 80 P **PKPdf** 10 42 52.4 -0.4
SNR=10.0
ASHO Ashiyiah 125.94 79 *i* PKiKP **PKPdf** 10 42 52.2 -0.6
SNR=7.7
ASHO Ashiyiah 125.94 79 P **PKPdf** 10 42 52.2 -0.6
HATD Hatta, Dubai 126.05 78 *i* PKiKP **PKPdf** 10 42 52.4 -0.5
SNR=12
HATD Hatta, Dubai 126.05 78 P **PKPdf** 10 42 52.4 -0.5
ASAR Alice Springs 126.06 199 PKP **PKPdf** 10 42 52.5 -0.6
comp=Z,24nm,0.7s,baz=144,slow=2.2,SNR=114
ASAR pPKP **pPKPdf** 10 45 08.4 -1.5
comp=Z,2.4nm,0.4s,baz=145,slow=3.2,SNR=7.1
ASAR SKP 10 45 33.1
comp=Z,2.3nm,0.5s,baz=163,slow=2.6,SNR=5.6
ASAR PKKPbc **PKKPbc** 10 52 29.1 -0.6
comp=Z,3.9nm,0.6s,baz=344,slow=3.4,SNR=40
ASAR PKKP **PKKPdf** 10 53 09.1 -0.4
comp=Z,0.8nm,0.4s,baz=351,slow=1.9,SNR=10
UOSS Minazif 126.15 78 *i* PKPdf **PKPdf** 10 42 52.0 -1.1
SNR=6.7
UOSS Minazif 126.15 78 P **PKPdf** 10 42 51.7 -1.3
SOHO SOHO 126.19 79 *i* PKiKP **PKPdf** 10 42 52.6 -0.6
SNR=38
SOHO SOHO 126.19 79 P **PKPdf** 10 42 52.7 -0.4
MSFE Esma-Masafi 126.23 78 *i* PKiKP **PKPdf** 10 42 52.9 -0.4
SNR=7.0
MASF Masafi 126.24 78 P **PKPdf** 10 42 52.9 -0.4
BSY Bisya 126.34 81 P **PKPdf** 10 42 53.2 -0.3
MDH Madha 126.34 78 PKiKP **PKPdf** 10 42 52.5 -0.9
MDH Madha 126.34 78 P **PKPdf** 10 42 52.5 -0.9
SHME Shamm 126.42 77 *i* PKiKP **PKPdf** 10 42 53.6 +0.1
SNR=16
SHME Shamm 126.42 77 P **PKPdf** 10 42 53.8 +0.2
SNR=5.2
MHTO MHTO 126.43 84 P **PKPdf** 10 42 53.6 -0.1
SNR=9.0
HOQ Hoqain 126.70 80 P **PKPdf** 10 42 53.3 -0.9
JMDO Jabal Madar 127.01 82 P **PKPdf** 10 42 53.7 -1.1
SMDO Samad 127.18 81 P **PKPdf** 10 42 54.7 -0.5
BIDO Bidbid 127.39 81 P **PKPdf** 10 42 54.5 -1.0
WBK Wadi Bani Khal 127.84 82 P **PKPdf** 10 42 56.3 -0.1
JLN Jalan Bani Buh 128.08 83 P **PKPdf** 10 42 57.1 +0.3
WRA Warramunga Arr 129.42 202 PKP **PKPdf** 10 42 59.3 -0.3
comp=Z,12nm,0.4s,baz=168,slow=1.6,SNR=8.5
WRA pPKP **pPKPdf** 10 45 15.5 -0.9
comp=Z,6.3nm,0.8s,baz=167,slow=1.6,SNR=11
WRA SKPbc SKPab 10 45 25.6 -1.1
comp=Z,85nm,0.7s,baz=159,slow=3.6,SNR=158
WRA PKKPbc PKKPdf 10 52 15.4 -48
comp=Z,1.2nm,0.5s,baz=339,slow=3.9,SNR=20
WRA PKKP 10 53 02.3
comp=Z,0.4nm,0.5s,baz=335,slow=1.9,SNR=4.8
WRA SKKP 10 55 43.5
comp=Z,0.7nm,0.8s,baz=349,slow=6.1,SNR=4.7
WRAB Tennant Creek 129.43 202*d* *i*PKIKP **PKPdf** 10 42 59.1 -0.5
ARU Arti 130.29 38 PKP **PKiKP** 10 43 00.6 -0.3
comp=Z,28nm,0.5s,baz=276,slow=2.7,SNR=3.5
ARU pPKP **pPKPdf** 10 45 16.5 -0.4
comp=Z,5.3nm,0.5s,baz=245,slow=5.1,SNR=2.8
ARU SKPbc **SKPbc** 10 45 27.9 -0.9
comp=Z,32nm,0.7s,baz=264,slow=3.9,SNR=21
ARU Arti 130.29 38*d* *i*PKIKP **PKiKP** 10 43 00.5 -0.4
ARU pmax pmax
comp=Z,84nm,1.3s
BILL Bilibino 130.44 338 *i* PKIKP **PKPdf** 10 43 00.2 +0.3
BILL *i* 10 45 28.1
BILL pmax pmax
comp=Z,23nm,1.1s
AKTO Aktyubinsk 130.69 46 PKP **PKPdf** 10 43 01.1 +0.2
comp=Z,24nm,1.0s,baz=293,slow=2.8,SNR=45
AKTO pPKP **pPKPdf** 10 45 16.6 -1.3
comp=Z,3.4nm,0.8s,baz=292,slow=5.4,SNR=3.3
AKTO SKPbc **SKPbc** 10 45 29.4 -1.0
comp=Z,47nm,0.9s,baz=280,slow=2.3,SNR=34
SVE Sverdlovsk 131.35 37 *e*PKIKP **PKiKP** 10 43 02.8 -0.2
SVE pmax pmax
comp=Z,57nm,1.5s

SHEM Shemya Is, Ala 131.39 317 SKPbc **SKPbc** 10 45 31.9 -0.8
comp=Z,78nm,0.8s,baz=93,slow=1.3,SNR=4.3
PMG Port Moresby 132.63 223 SKPbc **SKPbc** 10 45 38.4 +0.1
comp=Z,51nm,0.8s,baz=115,slow=1.2,SNR=9.4
NRIK Noril'sk 135.25 14 PKP **PKPdf** 10 43 09.0 0.0
comp=Z,5.1nm,0.4s,baz=345,slow=1.5,SNR=13
NRIK pPKP **pPKPdf** 10 45 26.7 +0.8
comp=Z,1.6nm,0.5s,baz=250,slow=3.6,SNR=1.4
NRIK SKKPbc SKKPbc 10 54 48.9 -4.1
comp=Z,4.5nm,0.5s,baz=135,slow=1.4,SNR=7.4
NRIK Noril'sk 135.25 14*d* *i*PKIKP **PKPdf** 10 43 09.6 +0.7
TIXI Tiksi 135.78 355 SKKPbc SKKPbc 10 54 46.4 -4.6
comp=Z,1.0nm,0.4s,baz=276,slow=7.2,SNR=3.5
TIXI Tiksi 135.78 355⇑ *i*PKIKP **PKiKP** 10 43 13.5 +1.9
BRVK Borovoye 137.69 41 P **PKiKP** 10 43 15.3 -0.8
BRVK Borovoye 137.69 41*d* *i*PKIKP **PKPdf** 10 43 14.9 +1.0
BRVK pmax pmax
comp=Z,68nm,1.7s
BVAR Borovoye Array 137.76 41 PKhKP PKPpre 10 43 04.5
comp=Z,4.1nm,0.6s,baz=288,slow=3.2,SNR=17
BVAR PKP **PKPdf** 10 43 15.0 +1.0
comp=Z,29nm,0.7s,baz=292,slow=2.6,SNR=35
BVAR pPKP pPKPdf 10 45 30.9 -0.1
comp=Z,6.2nm,0.9s,baz=318,slow=1.9,SNR=4.7
BVAR SKPbc **SKPbc** 10 45 53.9 +1.0
comp=Z,17nm,0.6s,baz=301,slow=2.8,SNR=19
BVAR SKKPbc **SKKPbc** 10 54 42.1 -0.7
comp=Z,3.5nm,0.8s,baz=113,slow=3.7,SNR=6.4
SEY Seymchan 138.08 337 pPKP **pPKPdf** 10 45 32.9 +1.6
comp=Z,2.0nm,0.6s,baz=76,slow=2.3,SNR=3.6
SEY SKPbc **SKPbc** 10 45 54.4 +1.0
comp=Z,17nm,0.6s,baz=101,slow=2.5,SNR=13
SEY SKKPbc **SKKPbc** 10 54 42.3 +0.3
comp=Z,3.0nm,0.9s,baz=225,slow=4.3,SNR=6.9
SEY Seymchan 138.08 337*d* *i*PKIKP **PKPdf** 10 43 15.2 +0.9
SEY pmax pmax
comp=Z,59nm,1.3s
CHM Chimkent 139.35 57 *e*PKP **PKPdf** 10 43 18.0 +0.7
baz=57
CHM Chimkent 139.35 57 *e*PKIKP **PKPdf** 10 43 18.0 +0.7
BRLS Borolday 139.46 56 *e*PKP **PKPdf** 10 43 17.5 -0.1
baz=56
BRLS Borolday 139.46 56 *e*PKIKP **PKPdf** 10 43 17.4 -0.1
IUG Iuzhnay 139.69 57 *e*PKP **PKPdf** 10 43 18.5 +0.4
baz=57
IUG *e*PP **PP** 10 46 22.6 +0.4
baz=57
IUG Iuzhnay 139.69 57 *e*PKIKP **PKPdf** 10 43 18.4 +0.4
IUG *e* 10 46 22.6
PALK Pallekele 140.14 114 P **PKPdf** 10 43 20.2 +0.6
MA2 Magadan 140.81 333 PKhKP PKPpre 10 43 14.5
comp=Z,15nm,0.6s,baz=173,slow=18,SNR=5.6
EKS2 Erkin-Say 142.38 56 P **PKPdf** 10 43 20.3 -2.5
SNR=49
AML Almayashu 142.39 56 P **PKPdf** 10 43 21.1 -2.2
SNR=12
SKR Severo-Kuril's 142.70 318 *e*PKIKP **PKPdf** 10 43 20.8 -2.1
SKR pmax pmax
comp=Z,450nm,0.6s
USP Ospenovka 142.80 54 P **PKPdf** 10 43 21.4 -2.1
SNR=60
SGDS Sogindy 142.86 54 *e*PKIKP **PKPdf** 10 43 21.6 -2.0
AAK Ala-Archa 142.91 55 P **PKPdf** 10 43 22.4 -1.5
SNR=65
AAK Ala-Archa 142.91 55 *i* PKPdf **PKPdf** 10 43 22.4 -1.5
SNR=67
AAK Ala-Archa 142.91 55 P **PKPdf** 10 43 22.8 -1.1
AAK Ala-Archa 142.91 55*d* *i*PKIKP **PKPdf** 10 43 22.4 -1.5
UCH Uchtor 142.98 56 P **PKPdf** 10 43 23.2 -1.2
SNR=33
CHMS Chumysh 143.03 55 P PKPbc 10 43 22.6 +0.4
SNR=54
KBK Karagaybulak 143.23 55 P **PKPdf** 10 43 23.8 -0.6
SNR=170
HYB Hyderabad 143.31 98 *e*PKPab PKPbc 10 43 23.8 +0.1
KURBB Kurchatov Arra 143.33 41 PKP PKPbc 10 43 23.4 +0.7
comp=Z,205nm,0.6s,baz=295,slow=3.6,SNR=1275
KURBB pPKP pPKPdf 10 45 40.8 -0.5
comp=Z,5.1nm,0.6s,baz=282,slow=2.3,SNR=3.1
KURBB SKPbc **SKiKP** 10 46 08.1 -0.1
comp=Z,8.0nm,0.7s,baz=293,slow=3.6,SNR=5.8
KURBB SKKPbc **SKKPab** 10 54 17.8 -2.0
comp=Z,1.2nm,0.3s,baz=109,slow=3.8,SNR=9.3
KURK Kurchatov 143.34 41 P **PKPdf** 10 43 23.7 -0.5
KURK Kurchatov 143.34 41*d* *i*PKIKP **PKPdf** 10 43 23.6 -0.5
TKM2 Tokmak 2 143.66 55 P **PKPdf** 10 43 25.1 -0.1
SNR=47
ULHL Ulahol 144.25 56 P **PKPab** 10 43 27.4 +0.8
SNR=65
KSH Kashi 144.43 60 PKP PKPbc 10 43 26.8 +0.1
KSH pPKP pPKPdf 10 45 44.8 +1.1
KSH PP **PP** 10 46 49.0 -1.6
CHKK Chushkaly 144.46 53 *e*PKP PKPbc 10 43 26.6 +0.1
baz=53
CHKK Chushkaly 144.46 53 *e*PKIKP PKPbc 10 43 26.6 +0.1
AAA Alma-Ata 144.55 54 *e*PKP PKPbc 10 43 27.0 +0.1
baz=54
AAA Alma-Ata 144.55 54 *e*PKIKP PKPbc 10 43 26.9 0.0
TNSS Tian-Shan 144.60 54 *e*PKP **PKPdf** 10 43 26.9 -0.3
baz=54
TNSS Tian-Shan 144.60 54 *e*PKIKP **PKPdf** 10 43 26.8 -0.3
MDOK Medeo 144.65 54 *e*PKP **PKPdf** 10 43 27.1 +0.2
baz=54
MDOK *e*PP **PP** 10 46 52.8 +1.1
baz=54
MDOK Medeo 144.65 54 *e*PKIKP **PKPdf** 10 43 27.1 +0.2
MDOK *e* 10 46 52.8
YAK Yakutsk 144.90 349 *e*PKIKP **PKPdf** 10 43 26.8 +0.4
YAK *e* 10 45 41.5
YAK *e* 10 46 48.6
YAK pmax pmax
comp=Z,251nm,0.9s
YAK pmax pmax
comp=N,34nm,1.4s
YAK pmax pmax
comp=E,7.0nm,0.7s
YAK pmax pmax
comp=Z,5.0nm,0.4s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,11nm,1.1s
ARXS Arharly 144.96 52 *e*PKIKP PKPbc 10 43 28.0 -0.1
ZALV Zalesovo Beam 145.07 33 PKPbc **PKPbc** 10 43 28.1 +0.1
comp=E,194nm,0.7s,baz=302,slow=3.7,SNR=487
ZALV pPKP pPKPbc 10 45 42.4 -0.2
comp=E,35nm,0.8s,baz=294,slow=3.1,SNR=10
ZALV SKPbc **SKiKP** 10 46 11.9 +0.2
comp=E,30nm,0.6s,baz=307,slow=2.9,SNR=10
ZALV SKKPbc **SKKPab** 10 54 06.7 -5.3
comp=E,3.1nm,0.5s,baz=127,slow=3.4,SNR=9.8
TDK Taldyqorghan 145.15 50 *e*PKP **PKPbc** 10 43 28.1 -0.5
baz=50
TDK Taldyqorghan 145.15 50 *e*PKIKP **PKPbc** 10 43 28.1 -0.5
SATY Saty 145.64 54 *e*PKP **PKPdf** 10 43 29.1 +0.5
baz=54
SATY Saty 145.64 54 *e*PKIKP **PKPdf** 10 43 29.0 +0.5
KPKS Kokpek 145.75 53 *e*PKP **PKPdf** 10 43 28.9 +0.3
baz=53
KPKS *e*PP **PP** 10 46 59.0 +0.9
baz=53
KPKS Kokpek 145.75 53 *e*PKIKP **PKPdf** 10 43 28.9 +0.3
KPKS *e* 10 46 58.9
UZB Uzynbulak 146.06 53 *e*PKP **PKPdf** 10 43 29.6 +0.4
baz=54
UZB *e*PP **PP** 10 47 00.9 +0.9
baz=54
UZB Uzynbulak 146.06 53 *e*PKIKP **PKPdf** 10 43 29.6 +0.4
UZB *e* 10 47 00.8
SHLS Shalkode 146.37 53 *e*PKP **PKPdf** 10 43 30.8 +1.0
baz=53
SHLS *e*PP **PP** 10 47 04.5 +2.8
baz=53
SHLS Shalkode 146.37 53 *e*PKIKP **PKPdf** 10 43 30.7 +1.0
SHLS *e* 10 47 04.5
KAPI Kappang 147.07 185 PKPbc **PKPbc** 10 43 35.2 +0.5
comp=E,59nm,0.8s,baz=178,slow=4.9,SNR=12
KAPI pPKPbc **pPKPdf** 10 45 48.0 -0.8
comp=E,123nm,1.1s,baz=206,slow=5.0,SNR=13
MK31 Makanchi Array 147.12 46*de*PKIKP **PKPdf** 10 43 31.3 +0.6
MKAR Makanchi Array 147.12 46 PKPbc **PKPbc** 10 43 34.1 +0.2
comp=E,136nm,0.7s,baz=292,slow=3.0,SNR=163
MKAR pPKPbc **pPKPdf** 10 45 48.3 +0.3
comp=E,37nm,1.0s,baz=289,slow=3.1,SNR=11
MKAR SKPbc **SKPbc** 10 46 16.3 +0.1
comp=E,5.4nm,0.7s,baz=270,slow=2.8,SNR=2.0

```
MKAR                                SKKPbc                  10 53 59.4
      comp=E,4.1nm,0.8s,baz=112,slow=3.1,SNR=14
ZSN   Zaisan          148.45  43 ePKP    PKPdf   10 43 33.6 +0.8
      baz=43
ZSN   Zaisan          148.45  43 ePKHKP  PKPpre  10 43 33.6
SBSI  Sibolga         148.62 144 PKP     PKPbc   10 43 38.8 +0.1
BOD   Bodaibo         150.12   3 ePKIKP  PKPdf   10 43 35.2 +0.1
BOD                               pmax    pmax
      comp=Z,132nm,1.1s
GUMO  Guam            150.20 247 PKPbc   PKPbc   10 43 40.2 -2.1
      comp=Z,106nm,0.6s,baz=165,slow=12,SNR=16
TPRI  Tanjung Pinang  150.63 154 PKP     PKiKP   10 43 43.8 -0.1
WMQ   Urumqi          151.81  48 ePKPbc  PKPdf   10 43 38.5 +0.3
WMQ                               PKPab   PKPab   10 43 58.6 +1.3
WMQ                               pPKP    pPKPbc  10 46 02.0 +0.5
WMQ                               PP      PP      10 47 32.6 +0.1
WMQ                               AMB     AMB
      comp=Z,250nm,3.7s
YSS   Yuzh-Sakhalins  152.23 320 ePKIKP  PKiKP   10 43 46.4 +0.3
YSS                               e       11 06 14.7
ZEA   Zeya            153.15 346 ePKIKP  PKPdf   10 43 39.6 -0.1
ZEA                               pmax    pmax
      comp=Z,40nm,0.9s
ASAJ  Asahikawa       153.81 315 PKP     PKPdf   10 43 40.9 -0.1
      comp=Z,7.6nm,0.8s,baz=101,slow=5.2,SNR=4.8
ASAJ                              PKPbc   PKiKP   10 43 49.5  0.0
      comp=Z,20nm,0.8s,baz=45,slow=2.9,SNR=12
ASAJ                              pPKPbc  pPKPbc  10 46 04.9 -1.0
      comp=Z,11nm,0.9s,baz=101,slow=5.2,SNR=3.9
ZAK   Zakamensk       155.38  21 ePKIKP  PKPdf   10 43 43.7 +0.6
ZAK                               pmax    pmax
      comp=Z,11nm,1.3s
KLR   Kul'dur         155.87 336 PKP     PKPdf   10 43 43.5 -0.1
      comp=Z,9.0nm,0.8s,baz=30,slow=3.7,SNR=23
KLR                               PKPab   PKPab   10 44 14.5 +0.1
      comp=Z,8.5nm,0.6s,baz=54,slow=4.5,SNR=7.0
KLR                               pPKP    pPKPdf  10 46 01.7 +0.3
      comp=Z,9.9nm,1.1s,baz=54,slow=2.7,SNR=5.3
KLR                               PP      PP      10 47 54.3 +0.2
      comp=Z,6.1nm,1.1s,baz=37,slow=4.4,SNR=3.7
HEH   HeiHe           156.34 343 PKP     PKPdf   10 43 43.3 -0.9
HEH                               PKPab   PKPab   10 44 16.3  0.0
SONM  Songino Array   158.59  19 PKP     PKPdf   10 43 47.8 +0.6
      comp=Z,19nm,0.8s,baz=276,slow=1.2,SNR=91
SONM                              PKPab   PKPab   10 44 26.7 +0.4
      comp=Z,17nm,1.0s,baz=321,slow=3.7,SNR=14
SONM                              pPKP    pPKPdf  10 46 05.1  0.0
      comp=Z,4.2nm,1.1s,baz=333,slow=1.6,SNR=2.7
ULN   Ulaanbaatar     158.75  18 P       PKPdf   10 43 48.6 +1.2
GOMU  GeErMu          159.68  61 PKP     PKPdf   10 43 50.5 +1.4
USRK  Ussuriysk Ar.   159.75 327 PKP     PKPdf   10 43 47.6 -0.8
      comp=Z,2.8nm,0.8s,baz=333,slow=1.6,SNR=8.2
USRK                              PKPab   PKPab   10 44 31.9 +0.5
      comp=Z,6.5nm,0.6s,baz=40,slow=4.9,SNR=9.4
MJAR  Matsushiro Arr  160.02 301 PKP     PKPdf   10 43 48.2 -0.9
      comp=Z,4.0nm,1.0s,baz=87,slow=0.7,SNR=8.6
MJAR                              PKPab   PKPab   10 44 32.8 -0.1
      comp=Z,4.1nm,0.5s,baz=85,slow=5.0,SNR=11
MJAR                              pPKP    pPKPdf  10 46 06.6 -0.5
      comp=Z,3.4nm,1.1s,baz=58,slow=1.1,SNR=3.4
MJAR                              pPKPab  pPKPab  10 46 42.6 -0.1
      comp=Z,15nm,1.2s,baz=61,slow=3.0,SNR=9.2
BNX   BinXian         160.39 337 ⇓PKP    PKPdf   10 43 47.8 -1.3
MDJ   Mudanjiang      160.50 332 PKP     PKPdf   10 43 48.8 -0.5
MDJ                               pPKP    pPKPdf  10 46 06.8 -0.5
MDJ                               PP      PP      10 48 22.4 +3.3
MDJ                               SS      SS      11 07 43.5 +0.7
MDJ                               AMB     AMB
      comp=Z,130nm,4.8s
CMAR  Chiang Mai Arr  161.06 116 PKP     PKPdf   10 43 51.0 +0.4
      comp=Z,7.0nm,1.0s,baz=247,slow=1.9,SNR=29
CMAR                              PKPab   PKPab   10 44 37.8 -0.2
      comp=Z,2.9nm,0.3s,baz=243,slow=4.8,SNR=9.8
CMAR                              pPKP    pPKPdf  10 46 08.4 -0.2
      comp=Z,1.3nm,0.8s,baz=245,slow=1.9,SNR=1.7
CMAR                              pPKPab  pPKPab  10 46 47.3 -0.1
      comp=Z,0.8nm,0.3s,baz=248,slow=4.8,SNR=1.9
CMAR                              PP      PP      10 48 23.1  0.0
      comp=Z,7.7nm,1.1s,baz=250,slow=5.8,SNR=8.9
GTA   Gaotai          161.88  47 PKP     PKPdf   10 43 51.8 +0.8
GTA                               PP      PP      10 48 28.3 +1.2
GTA                               SKKS    10 54 15.3
GTA                               AMB     AMB
      comp=Z,180nm,4.4s
CN2   Changchun       162.75 338 ePKP    PKPdf   10 43 51.1 -0.5
CN2                               PP      PP      10 48 31.1 +0.4
CN2                               AMB     AMB
      comp=Z,200nm,6.0s
TNCH  TengChong       163.37  96 PKP     PKPdf   10 43 50.9 -2.1
TNCH                              PKPab   PKPab   10 44 48.6 +0.3
TNCH                              PP      PP      10 48 34.3 -1.5
TNCH                              AMB     AMB
      comp=Z,300nm,4.0s
XLT   XiLinHaoTe      164.11   2 ePKP    PKPdf   10 43 53.3 +0.4
XLT                               PKPab   PKPab   10 44 51.6 +1.0
XLT                               pPKP    pPKPdf  10 46 11.3 +0.2
XLT                               sPKP    10 47 02.0
XLT                               PP      PP      10 48 38.8 +1.3
XLT                               SS      SS      11 08 21.4 +2.4
XLT                               AMB     AMB
      comp=Z,170nm,5.9s
BTO   Baotou          166.23  22 ePKP    PKPdf   10 43 55.3 +0.5
BTO                               PKPab   PKPab   10 44 59.8 -0.3
BTO                               pPKP    pPKPdf  10 46 14.0 +0.9
BTO                               sPKP    10 47 11.0
LZH   Lanzhou         166.37  50 ⇓PKP    PKPdf   10 43 56.1 +0.9
LZH                               PP      PP      10 48 48.6 -1.8
LZH                               SS      SS      11 08 44.0 -0.1
LZH                               AMB     AMB
      comp=Z,430nm,7.5s
HHC   Hu-ho-hao-te    166.46  17 ePKP    PKPdf   10 43 54.9 -0.1
HHC                               pPKP    pPKPdf  10 46 14.0 +0.7
HHC                               SS      SS      11 08 40.8 -2.2
HHC                               AMB     AMB
      comp=Z,170nm,6.4s
PZH   PanZhiHua       166.52  93 PKP     PKPdf   10 43 55.3 -0.2
KSRS  Korea Array     166.72 318 PKP     PKPdf   10 43 55.1 -0.1
      comp=Z,3.7nm,0.8s,baz=103,slow=0.5,SNR=29
KSRS                              PKPab   PKPab   10 45 02.9 +0.6
      comp=Z,6.7nm,0.6s,baz=49,slow=4.6,SNR=34
KSRS                              pPKP    pPKPdf  10 46 13.8 +0.4
      comp=Z,2.2nm,0.9s,baz=56,slow=0.9,SNR=3.7
JNU   Nakatsue        166.84 296 PKPab   PKPab   10 45 03.1 -0.1
      comp=Z,7.7nm,0.7s,baz=34,slow=4.6,SNR=8.4
KMI   Kunming         167.09 100 ⇑PKP    PKPdf   10 43 56.8 +0.7
BJI   Beijing         167.96   2 PKP     PKPdf   10 43 56.4 +0.5
BJI                               pPKP    pPKPdf  10 46 14.8 +0.5
BJI                               PP      PP      10 48 56.0 -0.9
BJI                               SS      SS      11 08 57.4 +0.1
BJI                               AMB     AMB
      comp=Z,93nm,4.5s
CD2   Chengdu         168.26  72 PKP     PKPdf   10 43 57.4 +0.9
CD2                               SKS     SKSdf   10 50 05.0 -0.2
CD2                               SKKS    SKKSac  10 54 47.4 -2.0
CD2                               AMB     AMB
      comp=Z,350nm,5.4s
QIZ   Qiongzhong      169.04 143 PKP     PKPdf   10 43 56.5 -0.7
QIZ                               PP      PP      10 49 06.8 +3.8
QIZ                               SS      SS      11 09 12.9 +3.9
TIY   Taiyuan         169.63  20 PKP     PKPdf   10 43 57.5 +0.3
TIY                               PP      PP      10 49 03.9 -1.7
TIY                               SS      SS      11 09 20.3 +6.1
TIY                               AMB     AMB
      comp=Z,290nm,5.9s
HNS   HongShan        170.45  10 ⇓PKP    PKPdf   10 43 58.4 +0.9
HNS                               PKPab   PKPab   10 45 19.6 +0.9
HNS                               pPKP    pPKPdf  10 46 16.4 +0.5
HNS                               PP      PP      10 49 08.3 -1.0
HNS                               SS      SS      11 09 21.1 -0.6
GYA   Guiyang         170.85  97 ⇓PKP    PKPdf   10 43 58.1 -0.1
GYA                               PKPab   PKPab   10 45 21.3  0.0
GYA                               pPKP    pPKPdf  10 46 17.0 +0.3
GYA                               PP      PP      10 49 08.8 -4.6
GYA                               AMB     AMB
      comp=Z,420nm,8.2s
XAN   Xi'an           170.94  46 ⇓PKP    PKPdf   10 43 58.5 +0.5
XAN                               PKPab   PKPab   10 45 21.8 +0.5
XAN                               pPKP    pPKPdf  10 46 16.9 +0.5
XAN                               PP      PP      10 49 16.6 +3.7
LYN   LuoYang         172.48  28 PKP     PKPdf   10 43 59.1 +0.5
LYN                               PKPab   PKPab   10 45 28.6 +0.7
LYN                               pPKP    pPKPdf  10 46 17.6 +0.5
LYN                               PP      PP      10 49 17.3 -2.3
LYN                               SS      SS      11 09 45.4 +3.3
LYN                               AMB     AMB
      comp=Z,290nm,5.0s
NJ2   Nanjing         175.57 337 ePKP    PKPdf   10 44 00.3 +0.6
WHN   Wuhan           176.67  39 PKP     PKPdf   10 44 00.1 +0.1
WHN                               PKPab   PKPab   10 45 46.3 -0.3
WHN                               PP      PP      10 49 47.3 +7.5
```

NEIC 20 10:42:15.8±0.6, 29°.07N±0°.03×97°.89W±0°.02, h5km±2km, mb_Lg2.5/29, Error ellipse: s-maj=5.5km s-min=3.6km az=160.0, Central Texas

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Code  Station Name    Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC  h m s     ISC
735A  Kenedy          0.23 161  Pg    Pg   10 42 20.0 -0.3
735A                            Sg    Sg   10 42 24.0 +0.7
HNDO  Hondo           1.29 291  Pn    Pn   10 42 39.2 -1.4
HNDO                            IAmb_Lg    10 42 57.2
      comp=Z,32nm,0.8s
833A  Chaparral WMA,  1.51 241  Pn    Pn   10 42 42.5 -1.1
435B  Jarrell         1.73   9  Pn    Pn   10 42 46.2 -0.4
HBVL  Hebbronville    2.11 199  Pn    Pn   10 42 51.2 -0.6
JCT   Junction City   2.17 311  Pn    Pn   10 42 51.8 -0.9
BRDY  Brady           2.41 337  Pn    Pn   10 42 55.5 -0.4
BRDY                            IAmb_Lg    10 43 35.7
      comp=Z,12nm,0.9s
DRIO  Del Rio         2.41 279  Pn    Pn   10 42 55.5 -0.4
WHTX  Lake Whitney,   2.94   7  Pn    Pn   10 43 03.3 +0.1
OZNA  Ozona           3.36 304  Pn    Pn   10 43 09.1 +0.1
OZNA                            IAmb_Lg    10 44 06.3
      comp=Z,10nm,0.8s
PLPT  Palo Pinto      3.75 355  Pn    Pn   10 43 14.8 +0.4
ABTX  Abilene, Hawle  3.85 337  Pn    Pn   10 43 15.9 +0.2
FW06  Azle            3.90   4  Pn    Pn   10 43 16.7 +0.3
FW06                            IAmb_Lg    10 44 29.4
      comp=Z,11nm,0.9s
Z35A  Perchaven, San  4.28   7  IAmb_Lg    10 44 40.9
      comp=Z,12nm,1.1s
APMT  Aspermont       4.65 336  Pn    Pn   10 43 26.9 +0.1
APMT                            IAmb_Lg    10 44 55.2
      comp=Z,11nm,0.9s
SN07  Snyder 07       4.76 328  Pn    Pn   10 43 29.2 +0.9
MNHN  Monahans        4.78 299  Pn    Pn   10 43 29.4 +0.8
ODSA  Odessa          5.03 308  IAmb_Lg    10 45 04.8
      comp=Z,8.3nm,0.9s
POST  Post            5.04 323  Pn    Pn   10 43 32.8 +0.6
POST                            IAmb_Lg    10 45 03.3
      comp=Z,6.7nm,0.8s
TX31  Lajitas Ar. Si  5.05 274  Pn    Pn   10 43 32.1 -0.3
ALPN  Alpine          5.16 286  IAmb_Lg    10 45 04.3
      comp=Z,7.3nm,0.9s
DKNS  Dickens         5.26 331  Pn    Pn   10 43 35.6 +0.3
PECS  Pecos           5.66 295  IAmb_Lg    10 45 29.7
      comp=Z,7.2nm,1.0s
WMOK  Wichita Mounta  5.70 353  Pn    Pn   10 43 40.9 -0.3
WMOK                            IAmb_Lg    10 45 31.8
      comp=Z,9.0nm,1.0s
SMWD  Samnorwood      6.34 342  IAmb_Lg    10 45 53.1
      comp=Z,7.9nm,0.7s
MSTX  Muleshoe        6.42 321  IAmb_Lg    10 45 56.7
      comp=Z,6.1nm,0.8s
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*MOS **20** 10:47:39.9±1.1, 43°.31N×147°.04E, h50km, mb4.9/1, Error ellipse: s-maj=17.2km s-min=10.4km az=87.7*
*NEIC **20** 10:47:41.4±1.3, 43°.21N±0°.09×147°.1E±0°.1, h35km±2km, mb4.3/33, Error ellipse: s-maj=17.0km s-min=14.0km az=142.0*
*JMA **20** 10:47:41.0±0.2, 43°.4N±0°.7×147°.7E±°, h37km±2km, MV4.0/40, E OFF HOKKAIDO*
*NIED **20** 10:47:41.0, 43°.38N×146°.94E, h37km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.43; $M_{\theta\theta}$1.22; $M_{\phi\phi}$=-0.79; $M_{r\theta}$=0.06; $M_{\theta\phi}$=0.12; $M_{\phi r}$=0.75; Fault plane solution: M_0=1.31000×10^{15} NP1: ϕ_s=132.00000°, δ=67.00000°, λ_s=32.00000°. NP2: ϕ_s=235.00000°, δ=61.00000°, λ_s=154.00000°.*
*SKHL **20** 10:47:42.0±0.4, 43°.40N×147°.00E, h57km±3km, mb5.1/4*
*IDC **20** 10:47:43.6±3.3, 43°.33N×146°.81E, h64km±32km, mb3.5/9, mbtmp3.9/12, ML3.2/2, MS3.3/2, Error ellipse: s-maj=29.4km s-min=18.3km az=104.0*

ISC 20 10:47:41.0±1.2, 43°.38N±0°.05×147°.01E±0°.05, h34km±3km, n86, σ1°.08/94, mb4.2/26, 1C-2D, Kuril Islands

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Code  Station Name    Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC  h m s     ISC
SHO   Shikotan        0.51 345  i P       Pn   10 47 52.1 +0.2
SHO                             AMB       AMB  10 47 52.6
      4μm,0.4s
SHO                             eS        Sb   10 47 59.3 +0.2
SHO                             A         A    10 48 00.3
      42μm,0.4s
SHO                             A         A    10 48 00.3
      34μm,0.4s
SHO   Shikotan        0.51 345  ↑iPN      Pb   10 47 51.9 +0.2
SHO                             eS        Sb   10 47 58.6 -0.5
SHO                             pmax      pmax
      comp=N,1μm,0.4s
SHO                             pmax      pmax
      comp=E,659nm,0.4s
SHO                             pmax      pmax
      comp=Z,4μm,0.4s
SHO                             smax      smax
      comp=N,31μm,0.4s
SHO                             smax      smax
      comp=E,31μm,0.4s
NEM2  Nemuro 2        0.92 270  P         Pn   10 47 57.0 -0.5
NEM2                            eS        Sn   10 48 08.6 -1.0
NEM2  Nemuro 2        0.92 270  A         A    10 47 57.0
      comp=E,3.0nm,5.3s,comp=N,2.0nm,3.5s
YUK   Yuzh-Kuril'sk   1.06 309  i P       Pn   10 47 59.0 -0.4
YUK                             AMB       AMB  10 48 00.4
      comp=N,830nm,0.2s
YUK                             eS        Sn   10 48 12.0 -1.0
YUK                             A         A    10 48 12.8
      comp=N,12μm,0.5s
YUK                             A         A    10 48 12.8
      comp=N,20μm,0.5s
YUK   Yuzh-Kuril'sk   1.06 309  d iPN     Pn   10 47 59.0 -0.4
YUK                             eS        Sn   10 48 11.8 -1.2
YUK                             pmax      pmax
      comp=N,240nm,0.1s
YUK                             pmax      pmax
      comp=E,482nm,0.1s
YUK                             pmax      pmax
      comp=Z,785nm,0.1s
YUK                             smax      smax
      comp=N,6μm,0.4s
YUK                             smax      smax
      comp=E,14μm,0.4s
JKHN  Kushirohamanak  1.38 258  P         Pn   10 48 03.9  0.0
JKHN                            eS        Sn   10 48 20.9 -0.1
JRA   Rausu           1.48 293  eP        Pn   10 48 05.2  0.0
JRA                             eS        Sn   10 48 22.5 -0.9
JNSB  Nemuroshibetsu  1.51 286  P         Pn   10 48 05.6 -0.1
JNSB                            eS        Sn   10 48 23.2 -1.0
JNK   Nakash          1.68 278  i P       Pn   10 48 07.5 -0.4
JNK                             eS        Sn   10 48 27.3 -1.1
JAK   Akkeshi         1.73 258  P         Pn   10 48 08.8 +0.1
JAK                             eS        Sn   10 48 29.3 -0.3
KUR   Kuril'sk        1.95  18  i P       Pn   10 48 12.4 +0.7
KUR                             AMB       AMB  10 48 13.6
      comp=E,280nm,0.3s
KUR                             eS        Sn   10 48 33.8 -1.3
KUR                             A         A    10 48 37.2
      comp=E,1μm,0.3s
KUR                             A         A    10 48 37.2
      comp=E,1μm,0.3s
KUR   Kuril'sk        1.95  18 dePN      Pn   10 48 12.7 +1.0
KUR                             eS        Sn   10 48 36.0 +0.9
KUR                             eS        10 48 36.2
KUR                             pmax      pmax
      comp=N,175nm,0.3s
KUR                             pmax      pmax
      comp=Z,232nm,0.3s
KUR                             pmax      pmax
      comp=E,99nm,0.1s
KUR                             smax      smax
      comp=N,2μm,0.4s
KUR                             smax      smax
      comp=E,641nm,0.3s
JTKR  Abashiri--Toko  2.33 286  i P       Pn   10 48 17.8 +1.0
JTKR                            eS        Sn   10 48 46.5 +2.2
JAR   Ashorobuto      2.37 269  i P       Pn   10 48 17.9 +0.5
JAR                             eS        Sn   10 48 46.2 +0.9
JOB   Onbets          2.37 260  P         Pn   10 48 17.9 +0.4
JOB                             eS        Sn   10 48 45.9 +0.5
JMP   Maruseppu       2.72 285  P         Pn   10 48 23.5 +1.2
JCH   Churui          2.78 255  P         Pn   10 48 25.2 +2.0
JCH                             eS        Sn   10 48 57.2 +1.7
ERM   Erimo           3.15 246              Pn   10 48 30.4 +2.3
ERM   Erimo           3.15 246  PN        Pn   10 48 30.5 +2.3
JKA   Kamikawa-asahi  3.28 284              Pn   10 48 32.1 +2.1
JKA   Kamikawa-asahi  3.28 284  eP        Pn   10 48 31.6 +1.6
ASAJ  Asahikawa       3.28 284  P         Pn   10 48 31.6 +1.6
      comp=E,3.0nm,0.3s,baz=92,slow=12,SNR=21
ASAJ                            LR        LR   10 50 01.6
      comp=E,200nm,19.3s,baz=92,slow=44
      comp=E,17nm,0.5s
YSS   Yuzh-Sakhalins  4.67 321  Pn        Pn   10 48 52.0 +2.9
YSS   Yuzh-Sakhalins  4.67 321  eP        Pn   10 48 50.3 +1.2
YSS                             eS        Sn   10 49 41.5 -0.6
YSS   Yuzh-Sakhalins  4.67 321  ePN       Pn   10 48 51.8 +2.7
YSS                             pmax      pmax
      comp=Z,10.0nm,0.8s
JTM   Tenmabayashi    5.12 242              Pn   10 48 55.6 +0.2
UGL   Uglegorsk       6.65 331  eP        Pn   10 49 18.7 +2.5
UGL                             AMB       AMB  10 49 20.2
      comp=Z,60nm,0.6s
JMM   Marumori        7.26 223  Pn        Pn   10 49 23.1 -1.5
SKR   Severo-Kuril's  9.59  37  ePN       Pn   10 49 51.9 -4.6
SKR                             pmax      pmax
      comp=Z,500nm,4.5s
SKR                             MLR       MLR
      comp=Z,500nm,12.0s
MJAR  Matsushiro Arr  9.60 228  P         Pn   10 49 56.1 -0.7
      comp=Z,0.1nm,0.3s,baz=32,slow=15,SNR=4.5
      comp=Z,0.8nm,0.5s
JCJ   Chichijima      16.71 195 P         Pn   10 51 32.4 -0.1
      comp=Z,79nm,0.8s,baz=30,slow=17,SNR=2.3
H11N2 WAKE ISLAND Hy 28.89 138  T         T    11 24 21.9
      baz=330,slow=76,SNR=698
H11N1 WAKE ISLAND Hy 28.90 138  T         T    11 24 17.5
      baz=330,slow=76,SNR=535
H11N3 WAKE ISLAND Hy 28.91 138  T         T    11 24 23.3
      baz=330,slow=76,SNR=582
H11S1 WAKE ISLAND Hy 29.85 140  T         T    11 25 26.9
      baz=331,slow=76,SNR=1168
H11S3 WAKE ISLAND Hy 29.85 140  T         T    11 25 29.6
      baz=331,slow=76,SNR=1072
H11S2 WAKE ISLAND Hy 29.86 140  T         T    11 25 26.9
      baz=331,slow=76,SNR=696
J14K  Nanvaranak Lak  34.33  38  P         P    10 54 24.7 +0.7
N15K  Kwethluk River  35.65  43  P         P    10 54 36.4 +1.0
L16K  Owhat River     36.07  41  P         P    10 54 38.8 -0.3
L16K                            IAmb      IAmb 10 55 20.9
      comp=Z,6.7nm,1.4s
F17K  Baldwin Pennin  36.09  32  P         P    10 54 39.8 +0.7
M16K  Timber Creek    36.27  42  P         P    10 54 41.4 +0.7
H17K  Granite Mounta  36.32  35  P         P    10 54 41.8 +0.7
H17K                            IAmb      IAmb 10 54 42.5
      comp=Z,6.8nm,1.5s
J17K  VABM Dome       36.44  38  P         P    10 54 43.6 +1.4
J17K                            IAmb      IAmb 10 54 44.9
      comp=Z,3.7nm,0.9s
E18K  Tukpahlearik C  36.57  31  P         P    10 54 44.5 +1.2
E18K                            IAmb      IAmb 10 54 54.9
      comp=Z,3.2nm,1.1s
C18K  Utukok River    36.68  29  P         P    10 54 43.9 -0.3
H18K  Honhosa River   37.00  35  P         P    10 54 47.7 +0.8
G18K  Tagagawik       37.01  34  P         P    10 54 47.6 +0.6
J18K  Innoko River    37.51  38  P         P    10 54 52.3 +1.1
F19K  Shaleruckik Mo  37.52  32  P         P    10 54 51.4 +0.1
F19K                            IAmb      IAmb 10 54 52.1
      comp=Z,2.7nm,0.8s
N18K  Kilae Creek     37.75  42  P         P    10 54 54.5 +1.1
N18K                            IAmb      IAmb 10 55 22.9
      comp=Z,4.8nm,1.1s
H19K  Roundabout Mou  37.85  34  P         P    10 54 54.6 +0.5
J19K  Poorman         38.04  37  P         P    10 54 56.4 +0.7
J19K                            IAmb      IAmb 10 54 57.7
      comp=Z,3.2nm,0.8s
F20K  Avaraart Lake   38.35  32  P         P    10 54 58.2 -0.1
F20K                            IAmb      IAmb 10 55 34.5
      comp=Z,6.2nm,1.5s
J20K  Nowinta River   38.70  37  P         P    10 55 01.9 +0.7
IMAR  Indian Mountai  39.01  34  P         P    10 55 03.5 -0.4
G21K  Allakaket       39.16  33  P         P    10 55 05.3 +0.1
G21K                            IAmb      IAmb 10 55 06.8
      comp=Z,5.1nm,0.8s
F21K  Alatna River    39.25  32  P         P    10 55 06.9 +1.1
BPAW  Bear Paw Mtn.   40.08  37  P         P    10 55 14.3 +1.5
BPAW                            IAmb      IAmb 10 55 40.7
      comp=Z,8.0nm,1.4s
MLY   Manley          40.20  36  P         P    10 55 14.8 +0.9
G23K  Bananza Creek   40.56  33  P         P    10 55 16.9 +0.1
NEA2  Nenana          40.91  36  P         P    10 55 19.8 +0.2
NEA2                            IAmb      IAmb 10 55 30.8
      comp=Z,5.9nm,1.3s
E24K  Your Creek      41.22  31  P         P    10 55 22.5 +0.3
WRH   Wood River Hil  41.34  36  P         P    10 55 23.3 +0.2
WRH                             IAmb      IAmb 10 55 36.2
      comp=Z,7.5nm,1.4s
G24K  Hadweenzic Riv  41.57  33  P         P    10 55 26.0 +0.9
G24K                            IAmb      IAmb 10 55 26.7
      comp=Z,2.9nm,0.6s
DHY   Denali Highway  41.72  39  P         P    10 55 26.8 +0.3
ILAR  Eielson Array   41.85  36  P         P    10 55 27.3 -0.1
      comp=Z,0.5nm,0.7s,baz=271,slow=7.3,SNR=9.5
      comp=Z,0.5nm,0.7s
PRP   Porcupine Dome  42.39  35  P         P    10 55 32.2 +0.3
BMAR  Burnt Mountain  42.70  32  P         P    10 55 35.6 +1.4
L27K  Beaver Creek,   44.23  38  P         P    10 55 47.3 +0.6
L27K                            IAmb      IAmb 10 56 06.2
      comp=Z,3.4nm,0.8s
F28M  Old Crow        44.50  32  P         P    10 55 50.3 +1.6
F28M                            IAmb      IAmb 10 55 51.1
      comp=Z,3.1nm,0.8s
I28M  Miner Creek     44.72  35  P         P    10 55 51.2 +0.6
I28M                            IAmb      IAmb 10 56 09.2
      comp=Z,3.8nm,0.7s
I29M  Ogilvie Camp,   45.41  35  P         P    10 55 56.5 +0.5
I29M                            IAmb      IAmb 10 56 14.8
      comp=Z,3.7nm,0.8s
RES   Resolute Bay    55.35  17  LR        LR   11 22 18.6
      comp=Z,52nm,18.9s,baz=89,slow=37
YKA   Yellowknife Ar  56.17  34  P         P    10 57 17.2 +0.2
      comp=Z,0.9nm,0.8s,baz=299,slow=6.8,SNR=5.8
      comp=Z,0.9nm,0.8s
ABKAR Akbulak array   57.22 309  P         P    10 57 24.1 -0.5
WRA   Warramunga Arr  64.08 193  P         P    10 58 11.1 -0.4
      comp=Z,1.4nm,1.1s,baz=6.7,slow=6.8,SNR=3.9
      comp=Z,1.4nm,1.1s
FINES FINESS Array B  65.16 333  P         P    10 58 17.6 -0.6
      comp=Z,0.9nm,0.6s,baz=34,slow=10,SNR=4.3
      comp=Z,0.9nm,0.6s
LYMT  Lyon Mountain   66.05  47  P         P    10 58 24.9 +0.5
ASAR  Alice Springs   67.79 193  P         P    10 58 33.5 -1.9
      comp=Z,1.3nm,1.0s,baz=8.8,slow=6.7,SNR=4.9
      comp=Z,1.3nm,1.0s
NVAR  Mina Array Bea  67.86  58  P         P    10 58 36.7 +0.5
      comp=Z,0.5nm,0.6s,baz=300,slow=7.2,SNR=6.0
      comp=Z,0.5nm,0.6s
NB2   NORSAR Subarra  69.91 339  P         P    10 58 47.6 -0.7
      comp=Z,2.4nm,1.0s,baz=32,slow=6.5
NOA   NORSAR Array B  69.91 339  P         P    10 58 47.8 -0.5
      comp=Z,0.5nm,0.7s,baz=32,slow=6.3,SNR=4.5
      comp=Z,0.5nm,0.7s
HFS   Hagfors         69.99 337  P         P    10 58 47.1 -1.6
      comp=Z,0.6nm,0.4s,baz=45,slow=9.0,SNR=6.4
      comp=Z,0.6nm,0.4s
PDAR  Pinedale Array  70.23  50  P         P    10 58 51.1 +0.3
      comp=Z,0.3nm,0.6s,baz=293,slow=7.5,SNR=2.9
      comp=Z,0.3nm,0.6s
```

*SOME **20** 10:53:29.3, 43°.68N×69°.68E*
*NNC **20** 10:53:30.6±1.1, 43°.59N×69°.70E, h0km, mb3.6, mpv2.9, Error ellipse: s-maj=5.5km s-min=3.8km az=115.0, Suspected Mining explosion.*
*KRNET **20** 10:53:31.4±0.1, 43°.69N×69°.90E, mb2.8*

ISC 20 10:53:35.3±2.6, 43°.66N±0°.07×70°.1E±0°.1, h0km, n13, σ1°.68/21, 15C-1D, Central Kazakhstan

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Code  Station Name    Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC  h m s     ISC
KK31  Karatay Array   0.61 154  ⇓P        Pg   10 53 45.3 -1.8
      0.7nm,0.3s,baz=311,slow=14,SNR=17
KK31                            ⇑S        Sg   10 53 56.3 +1.3
```

24nm,0.6s,baz=310,slow=30,SNR=56
KKAR Karatay Array 0.61 154⇑iP Pg 10 53 45.5 -1.6
baz=43
KKAR ⇑iS Sg 10 53 55.7 +0.7
baz=43
MNAS Manas 2.09 123⇑iP Pn 10 54 11.5 -0.2
baz=21
MNAS ⇑iS Sb 10 54 41.0 +0.3
baz=21
TRKS Terek-Say 2.25 161⇑iP Pn 10 54 13.8 -0.2
baz=57
TRKS ⇑iS Sn 10 54 44.8 +2.3
baz=57
ARK Arkit 2.29 144⇑iP Pn 10 54 14.1 -0.4
baz=40
ARK ⇑iS Sn 10 54 45.3 +1.9
baz=40
MRKS Merke 2.43 111 Pg **Pb 10 54 19.8 -0.2**
5.0nm,0.5s
MRKS Lg Lg 10 54 57.2
9.3nm,0.8s
EKS2 Erkin-Say 2.84 109⇑iP Pn 10 54 22.2 +0.2
baz=9.0
EKS2 ⇑iS Sn 10 54 59.3 +2.3
baz=9.0
BTLS Baital 3.12 62 Pg **Pg 10 54 35.5 +0.3**
8.6nm,0.6s
BTLS Lg Lg 10 55 23.4
ARSB Arslanbob 3.14 137⇑iP Pn 10 54 25.8 -0.4
baz=35
ARSB ⇑iS Sn 10 55 05.7 +1.3
baz=35
USP Ospenovka 3.19 96⇑iP Pn 10 54 27.1 +0.2
baz=96
USP ⇑iS Sn 10 55 07.7 +2.0
baz=96
KRBS Karabastau 4.01 88 Pg **Pg 10 54 49.4 -2.8**
2.7nm,0.6s
KRBS Lg Lg 10 55 47.1
2.4nm,0.9s
KST Kastek 4.29 96 Pg **Pg 10 54 54.9 -2.6**
2.1nm,1.1s
KST Lg Lg 10 55 56.5
4.3nm,0.8s
KTBS Karatobe 4.74 87 Pg **Pg 10 55 03.5 -2.7**
2.6nm,0.7s
KTBS Lg Lg 10 56 11.1
4.1nm,0.6s

IDC 20 10:58:41.1±6.1, 6.79S×154.59E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=184.4km s-min=40.8km az=112.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.60**	**234**	P	P	11 03 53.8	-0.2
	0.8nm,0.8s,baz=59,slow=9.6,SNR=4.9 0.8nm,0.8s						
ASAR	**Alice Springs**	**26.00**	**228**	P	P	11 04 16.0	-0.1
	0.3nm,0.7s,baz=59,slow=9.2,SNR=5.5 0.3nm,0.7s						
MKAR	**Makanchi Array**	**82.99**	**319**	P	P	11 11 08.5	+0.2
	0.8nm,0.7s,baz=108,slow=4.7,SNR=5.0 0.8nm,0.7s						

*NEIC **20** 11:04:04.2±2.0, 43.86N±0.08×128.2W±0.1, h10km±2km, mb3.9/30, ML3.2/62, Error ellipse: s-maj=18.3km s-min=12.8km az=252.0*
*IDC **20** 11:04:05.1±2.3, 43.86N×127.85W, h0km, mb3.2/4, mbtmp3.3/9, ML3.1/5, MS3.4/12, Error ellipse: s-maj=39.1km s-min=15.4km az=55.0*
ISC 20 11:04:04.7±1.2, 43.84N±0.08×128.1W±0.1, h10km, n112, σ1°32/97, mb3.9/8, MS3.3/6, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	**Myrtle Point**	**3.07**	**101**	Pn	**Pn**	**11 04 52.2**	**-1.0**
J01E				IAML		11 05 41.2	
	comp=E,55nm,2.6s						
HEBO	**Mount Hebo**	**3.37**	**64**	Pn	**Pn**	**11 04 57.0**	**-0.3**
K02D	**Willamette Mer**	**3.40**	**108**	Pn	**Pn**	**11 04 56.8**	**-1.1**
I03D	**Drain, OR**	**3.41**	**91**		**Pn**	**11 04 58.2**	**+0.3**
COR	**Corvallis**	**3.49**	**76**	Pn	**Pn**	**11 04 59.1**	**0.0**
COR				IAML		11 06 25.1	
	comp=E,37nm,2.5s						
COR				IAML		11 06 57.5	
	comp=E,36nm,3.5s						
DBO	**Dodson Butte**	**3.57**	**100**		**Pn**	**11 04 59.9**	**-0.3**
DBO				IAML		11 06 12.8	
	comp=E,29nm,4.1s						
DBO				IAML		11 06 34.7	
	comp=N,28nm,3.5s						
BUCK	**Buck Mountain**	**3.67**	**83**	Pn	**Pn**	**11 05 01.9**	**+0.3**
BUCK				IAML		11 05 49.8	
	comp=N,37nm,3.7s						
BUCK				IAML		11 06 54.1	
	comp=E,41nm,4.0s						
G03D	**McMinnville, O**	**3.69**	**67**		**Pn**	**11 05 01.9**	**+0.2**
G03D				IAML		11 05 42.1	
	comp=E,37nm,2.6s						
L02F	**Cave Junction**	**3.71**	**116**	Pn	**Pn**	**11 05 00.4**	**-1.7**
L02F				IAML		11 06 14.6	
	comp=E,29nm,3.6s						
F03A	**Seaside**	**3.81**	**55**		**Pn**	**11 05 03.6**	**+0.2**
KRMB	**Red Mountain**	**3.83**	**126**	Pn	**Pn**	**11 05 03.6**	**-0.2**
KRMB				IAML		11 05 51.5	
	comp=N,39nm,3.4s						
KRMB				IAML		11 06 16.1	
	comp=E,40nm,3.6s						
H04D	**Lebanon**	**3.88**	**78**		**Pn**	**11 05 03.8**	**-0.6**
H04D				IAML		11 05 56.8	
	comp=N,32nm,2.7s						
H04D				IAML		11 06 42.5	
	comp=E,28nm,3.6s						
HUMO	**Hull Mountain**	**3.92**	**107**		**Pn**	**11 05 04.4**	**-0.6**
RADR	**Rader Ridge**	**3.96**	**48**	Pn	**Pn**	**11 05 05.4**	**-0.1**
RADR				IAML		11 06 19.7	
	comp=E,38nm,3.1s						
RADR				IAML		11 06 50.6	
	comp=N,44nm,2.9s						
I04A	**Tendick Farm,**	**4.08**	**89**		**Pn**	**11 05 07.8**	**+0.6**
I04A				IAML		11 06 03.9	
	comp=E,19nm,1.6s						
E03A	**Lebam**	**4.17**	**48**	Pn	**Pn**	**11 05 08.4**	**+0.1**
E03A				IAML		11 05 42.0	
	comp=E,30nm,2.9s						
E03A				IAML		11 06 16.2	
	comp=N,23nm,2.2s						
H04A	**Detroit Lake**	**4.30**	**77**		**Pn**	**11 05 10.9**	**+0.8**
KHMM	**Horse Mountain**	**4.36**	**131**	Pn	**Pn**	**11 05 11.7**	**+0.6**
WISH	**Wishkah**	**4.45**	**41**	Pn	**Pn**	**11 05 13.0**	**+0.9**
YBH	**Yreka Blue Hor**	**4.46**	**116**	Pn	**Pn**	**11 05 12.9**	**+0.5**
YBH				IAML		11 07 31.9	
	comp=E,16nm,4.0s						
YBH	**Yreka Blue Hor**	**4.46**	**116**	Pn	**Pn**	**11 05 12.9**	**+0.5**
	comp=E,0.6nm,0.3s,baz=302,slow=11,SNR=17						
YBH				Sn	**Sn**	**11 06 01.7**	**-2.7**
	baz=305,slow=17 comp=E,1.2nm,0.3s						
L04D	**Klamath Falls**	**4.51**	**109**	Pn	**Pn**	**11 05 14.8**	**+1.6**
L04D				IAML		11 06 02.7	
	comp=E,27nm,3.5s						
L04D				IAML		11 06 42.0	
	comp=N,24nm,4.0s						
F04A	**Amboy**	**4.52**	**60**		**Pn**	**11 05 13.9**	**+0.8**
F04A				IAML		11 06 11.2	
	comp=N,19nm,2.1s						
NLWA	**Neilton Lookou**	**4.61**	**38**	Pn	**Pn**	**11 05 13.8**	**-0.6**
NLWA				IAML		11 06 25.2	
	comp=N,21nm,3.2s						
NLWA				IAML		11 07 35.0	
	comp=N,18nm,3.0s						
HOOD	**Mount Hood Mea**	**4.80**	**70**		**Pn**	**11 05 18.3**	**+1.1**
I05D	**Terrebonne, OR**	**4.86**	**82**		**Pn**	**11 05 18.5**	**+0.6**
I05D				IAML		11 06 54.3	
	comp=E,21nm,3.2s						
J05D	**Fort Rock, OR**	**4.99**	**94**		**Pn**	**11 05 19.3**	**-0.4**
J05D				IAML		11 07 13.7	
	comp=E,19nm,3.3s						
J05D				IAML		11 07 45.4	
	comp=N,17nm,3.7s						
G05A	**Wamic**	**5.01**	**71**		**Pn**	**11 05 20.8**	**+0.8**
PINE	**Pine Mountain**	**5.15**	**88**		**Pn**	**11 05 22.9**	**+1.0**
PINE				IAML		11 06 57.1	
	comp=E,12nm,3.9s						
PINE				IAML		11 08 08.7	
	comp=N,16nm,3.8s						
GNW	**Green Mountain**	**5.22**	**43**		**Pn**	**11 05 22.7**	**-0.1**
GNW				IAML		11 08 31.4	
	comp=E,11nm,3.2s						
LON	**Longmire**	**5.28**	**54**		**Pn**	**11 05 23.7**	**+0.1**
D05A	**Enumclaw**	**5.42**	**50**		**Pn**	**11 05 25.2**	**-0.2**
G06A	**Carlson Farm,**	**5.48**	**73**	Pn	**Pn**	**11 05 24.0**	**-2.4**
MXC	**Moxie City**	**6.12**	**61**		**Pn**	**11 05 37.0**	**+1.8**
I07A	**Izee**	**6.17**	**85**		**Pn**	**11 05 36.9**	**+0.9**
LTY	**Liberty**	**6.21**	**54**	Pn	**Pn**	**11 05 35.9**	**-0.5**
G08A	**Pilot Rock**	**6.65**	**74**		**Pn**	**11 05 43.1**	**+0.6**
J08A	**Circle Bar Ran**	**6.97**	**91**	Pn	**Pn**	**11 05 44.9**	**-2.0**
WVOR	**Wild Horse Val**	**7.03**	**98**	Pn	**Pn**	**11 05 47.6**	**-0.1**
D08A	**Wollman Farm,**	**7.18**	**60**		**Pn**	**11 05 49.8**	**+0.1**
AFDM	**Forest Hills D**	**7.22**	**130**	Pn	**Pn**	**11 05 51.2**	**+0.8**
EMB	**Emerald Bay**	**7.70**	**126**	Pn	**Pn**	**11 05 57.7**	**+0.7**
PNTR	**Pine Nut**	**7.92**	**124**	Pn	**Pn**	**11 06 02.5**	**+2.4**
CMB	**Columbia Colle**	**8.20**	**132**		**Pn**	**11 06 05.9**	**+2.1**
YERR	**Yerington**	**8.21**	**123**	Pn	**Pn**	**11 06 04.3**	**+0.4**
BBB	**Bella Bella**	**8.35**	**360**	Pn	**Pn**	**11 06 05.9**	**+0.3**
	comp=E,0.1nm,0.3s,baz=173,slow=3.8,SNR=5.5 comp=E,9.3nm,1.1s						
NEW	**Newport**	**8.79**	**56**	Pn	**Pn**	**11 06 13.5**	**+1.7**
	comp=E,0.1nm,0.3s,baz=21,slow=19,SNR=1.4						
NEW				LR	LR	11 09 36.7	
	comp=E,168nm,20.7s,baz=216,slow=38 comp=E,0.5nm,0.4s						
NVAR	**Mina Array Bea**	**9.12**	**123**	Pn	**Pn**	**11 06 19.1**	**+2.6**
	comp=E,0.1nm,0.3s,baz=291,slow=14,SNR=7.3						
NVAR				LR	LR	11 09 55.9	
	comp=E,265nm,20.0s,baz=286,slow=38 comp=E,0.7nm,0.7s						
MDPB	**Devils Postpil**	**9.21**	**129**		**Pn**	**11 06 18.8**	**+1.1**
ELK	**Elko**	**9.98**	**104**	Pn	**Pn**	**11 06 27.2**	**-1.1**
ELK	**Elko**	**9.98**	**104**	LR	LR	11 10 35.1	
	comp=E,201nm,19.6s,baz=324,slow=40						
TPH	**Tonopah**	**10.01**	**121**	Pn	**Pn**	**11 06 29.7**	**+1.1**
ISA	**Isabella, Lake**	**10.99**	**135**	Pn	**Pn**	**11 06 44.6**	**+2.5**
CCAC	**Calif City Air**	**11.63**	**135**	Pn	**Pn**	**11 06 49.7**	**-0.9**
GSC	**Goldstone, Bar**	**12.15**	**131**	Pn	**Pn**	**11 07 00.5**	**+2.6**
SHPR	**Sheep Range**	**12.27**	**122**		**Pn**	**11 07 00.5**	**+0.8**
ELS	**Elsinore Mount**	**13.12**	**137**	Pn	**Pn**	**11 07 12.3**	**+1.3**
MTPU	**Mount Pierson**	**13.31**	**110**	Pn	**Pn**	**11 07 13.6**	**-0.4**
KNB	**Kanab**	**13.45**	**115**	Pn	**Pn**	**11 07 14.2**	**-1.5**
PDAR	**Pinedale Array**	**13.52**	**88**	Pn	**Pn**	**11 07 20.4**	**+3.8**
	baz=269,slow=14,SNR=1.4						
PDAR				LR	LR	11 12 51.0	
	comp=E,140nm,19.6s,baz=244,slow=39 comp=E,0.4nm,0.9s						
PFO	**Pinyon Flats O**	**13.63**	**135**	Pn	**Pn**	**11 07 20.8**	**+2.6**
PFO	**Pinyon Flats O**	**13.63**	**135**	LR	LR	11 12 10.0	
	comp=E,153nm,20.0s,baz=349,slow=36						
W13A	**Hualapai Mount**	**13.98**	**124**	Pn	**Pn**	**11 07 23.6**	**+0.6**
U15A	**North Rim**	**14.13**	**116**	Pn	**Pn**	**11 07 26.2**	**+1.1**
TKX	**Tecate**	**14.39**	**138**	Pn	**Pn**	**11 07 29.5**	**+1.1**
RMX	**La Rumorosa**	**14.62**	**136**	Pn	**Pn**	**11 07 33.3**	**+1.5**
YUH	**Yuha Desert**	**14.67**	**136**	Pn	**Pn**	**11 07 33.7**	**+1.5**
GLA	**Glamis**	**14.93**	**132**	Pn	**Pn**	**11 07 37.5**	**+1.7**
ESJX	**Sierra Juarez**	**15.17**	**137**	Pn	**Pn**	**11 07 40.9**	**+1.7**
WUAZ	**Wupatki**	**15.28**	**117**	Pn	**Pn**	**11 07 40.3**	**-0.2**
WUAZ				IAmb	IAmb	11 07 56.6	
	comp=Z,14nm,1.3s						
PV21	**Cone Mtn., Par**	**15.29**	**104**	Pn	**Pn**	**11 07 41.2**	**+0.5**
PV21				IAmb	IAmb	11 08 05.4	
	comp=Z,4.5nm,0.9s						
Y14A	**Wickenburg**	**15.31**	**125**	Pn	**Pn**	**11 07 40.3**	**-0.5**
Y14A				IAmb	IAmb	11 07 55.6	
	comp=Z,9.7nm,1.3s						
PV23	**Carpenter Ridg**	**15.31**	**104**	Pn	**Pn**	**11 07 40.8**	**-0.2**
PV20	**West Nyswonger**	**15.39**	**104**	Pn	**Pn**	**11 07 40.8**	**-1.3**
PV20				IAmb	IAmb	11 07 58.2	
	comp=Z,8.5nm,1.2s						
X16A	**Lo Mia Camp, P**	**15.93**	**121**		**P**	**11 07 51.4**	**-1.3**
X16A				IAmb	IAmb	11 08 03.8	
	comp=Z,7.7nm,1.1s						
N23A	**Red Feather La**	**16.59**	**93**	Pn	**Pn**	**11 07 58.5**	**+0.9**
N23A				IAmb	IAmb	11 08 10.8	
	comp=Z,20nm,1.5s						
PIX	**Pinacate**	**16.81**	**132**		**P**	**11 08 02.7**	**+0.5**
214A	**Organ Pipe Nat**	**16.86**	**130**		**P**	**11 08 03.6**	**+0.8**
S22A	**4UR Ranch, Cre**	**17.16**	**104**	Pn	**Pn**	**11 08 04.6**	**-0.2**
ISCO	**Idaho Springs**	**17.19**	**96**	Pn	**Pn**	**11 08 05.4**	**+0.2**
RSSD	**Black Hills**	**17.28**	**81**	Pn	**Pn**	**11 08 04.1**	**-2.1**
SDCO	**Great Sand Dun**	**18.10**	**102**	P	**P**	**11 08 18.8**	**+1.9**
SDCO				IAmb	IAmb	11 08 34.0	
	comp=Z,9.0nm,1.4s						
ANMO	**Albuquerque**	**18.86**	**111**	P	**P**	**11 08 24.8**	**-0.4**
ANMO	**Albuquerque**	**18.86**	**111**	LR	LR	11 15 39.7	
	comp=Z,161nm,21.5s,baz=50,slow=37						
T25A	**Trinidad**	**19.15**	**102**	P	**P**	**11 08 28.3**	**0.0**
T25A				IAmb	IAmb	11 08 40.9	
	comp=Z,10nm,1.2s						
319A	**Douglas**	**19.34**	**124**	P	**P**	**11 08 31.0**	**+0.7**
319A				IAmb	IAmb	11 08 42.5	
	comp=Z,10nm,1.2s						
FFC	**Flin Flon**	**20.07**	**48**	P	Pn	11 08 39.0	-0.7
FFC				IAmb	IAmb	11 08 45.7	
	comp=Z,5.5nm,1.1s						
YKA	**Yellowknife Ar**	**20.27**	**18**	P	Pn	11 08 41.6	-0.4
	comp=Z,1.0nm,0.8s,baz=207,slow=11,SNR=5.6 comp=Z,1.0nm,0.8s						
KDAK	**Kodiak Island**	**20.70**	**321**	LR	LR	11 14 42.3	
	comp=Z,146nm,19.8s,baz=157,slow=31						
ECSD	**EROS Data Cent**	**22.63**	**79**	P	**P**	**11 09 06.1**	**+0.4**
ECSD				IAmb	IAmb	11 09 15.2	
	comp=Z,5.3nm,1.0s						
P18K	**Big Mountain,**	**22.72**	**323**	P	**P**	**11 09 04.0**	**-2.4**
P18K				IAmb	IAmb	11 09 04.4	
	comp=Z,6.7nm,1.0s						
ULM	**Lac du Bonnet**	**22.72**	**62**	P	**P**	**11 09 07.5**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=269,slow=9.0,SNR=2.1 comp=Z,1.3nm,0.4s						
ILAR	**Eielson Array**	**23.49**	**340**	P	**P**	**11 09 16.1**	**+1.8**
	comp=Z,0.5nm,1.0s,baz=164,slow=8.0,SNR=5.3 comp=Z,0.5nm,1.0s						
TX31	**Lajitas Ar. Si**	**24.23**	**119**	P	**P**	**11 09 19.5**	**-2.2**
TXAR	**Lajitas Array**	**24.23**	**119**	P	**P**	**11 09 21.9**	**+0.1**
TXAR	**Lajitas Array**	**24.23**	**119**	P	**P**	**11 09 22.5**	**+0.7**
	comp=Z,0.2nm,0.8s,baz=292,slow=6.6,SNR=4.0						
TXAR				LR	LR	11 20 05.5	
	comp=Z,34nm,18.0s,baz=237,slow=40 comp=Z,0.2nm,0.8s						
LPIG	**La Paz**	**24.48**	**138**	LR	LR	11 17 51.1	
	comp=Z,124nm,19.5s,baz=220,slow=34						
HPIG		**24.73**	**126**	P	**P**	**11 09 25.5**	**-0.9**
SAND	**Sanderson**	**24.81**	**115**	P	**P**	**11 09 26.8**	**-0.2**
QUOK	**Quay**	**25.09**	**97**	P	**P**	**11 09 31.3**	**+1.9**
L16K	**Owhat River**	**25.71**	**325**	P	**P**	**11 09 32.2**	**-2.5**
L16K				IAmb	IAmb	11 09 41.1	
	comp=Z,4.3nm,0.9s						
H21K	**Melozitna Rive**	**25.77**	**336**	P	**P**	**11 09 32.8**	**-2.5**
H21K				IAmb	IAmb	11 09 42.2	
	comp=Z,3.9nm,1.4s						
H19K	**Roundabout Mou**	**26.79**	**334**	P	**P**	**11 09 44.9**	**+0.4**
H19K				IAmb	IAmb	11 09 49.1	
	comp=Z,5.5nm,1.2s						
SADO	**Sadowa**	**34.59**	**71**	LR	LR	11 25 24.5	
	comp=Z,63nm,21.6s,baz=242,slow=37						
TKL	**Tuckaleechee C**	**34.67**	**88**	LR	LR	11 25 48.5	
	comp=Z,154nm,19.5s,baz=304,slow=38						
TEIG	**Tepich**	**40.58**	**113**	LR	LR	11 30 42.8	
	comp=Z,37nm,18.1s,baz=1.0,slow=40						
H11N3	**WAKE ISLAND Hy**	**58.72**	**268**	T	T	12 17 12.3	
	baz=49,slow=75,SNR=81						
H11N2	**WAKE ISLAND Hy**	**58.73**	**268**	T	T	12 17 11.4	
	baz=49,slow=75,SNR=51						
H11N1	**WAKE ISLAND Hy**	**58.74**	**268**	T	T	12 17 09.8	
	baz=49,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy**	**59.65**	**267**	T	T	12 18 17.8	
	baz=53						
H11S2	**WAKE ISLAND Hy**	**59.66**	**267**	T	T	12 18 20.6	
	baz=53						
H11S3	**WAKE ISLAND Hy**	**59.67**	**267**	T	T	12 18 16.7	
	baz=53						

*IDC **20** 11:18:54.4±2.9, 5.65S×154.10E, h0km, mb3.7/7, mbtmp3.8/8, ML1.8/1, MS3.4/1, Error ellipse: s-maj=86.9km s-min=29.1km az=115.0*
ISC 20 11:19:00.4±2.1, 5.7S±0.3×153.9E±0.3, h35km, n13, σ0°45/10, mb3.9/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.67**	**241**	Pn	**Pn**	**11 20 50.1**	**+0.3**
	0.7nm,0.3s,baz=237,slow=21,SNR=1.4						
PMG				Sn	**Sn**	**11 22 15.0**	**-0.5**
	1.2nm,0.3s,baz=49,slow=9.9,SNR=2.1 4.9nm,0.6s						
WRA	**Warramunga Arr**	**23.75**	**232**	P	**P**	**11 24 10.2**	**+0.3**
	0.1nm,0.5s,baz=55,slow=10,SNR=1.5 0.1nm,0.5s						
ASAR	**Alice Springs**	**26.30**	**225**	P	**P**	**11 24 32.7**	**-0.3**
	0.3nm,1.0s,baz=57,slow=10.0,SNR=1.9 0.3nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**27.11**	**27**	T	T	11 52 60.0	
	baz=208,slow=73,SNR=7.8						
H11S2	**WAKE ISLAND Hy**	**27.11**	**27**	T	T	11 52 59.7	
	baz=208,slow=73,SNR=8.3						
H11S1	**WAKE ISLAND Hy**	**27.13**	**27**	T	T	11 53 00.3	
	baz=208,slow=73,SNR=6.1						
PPT	**Papeete**	**56.39**	**107**	LR	LR	11 49 01.4	
	comp=Z,39nm,21.1s,baz=7.0,slow=32						
CMAR	**Chiang Mai Arr**	**59.27**	**295**	P	**P**	**11 28 59.4**	**+0.4**
	1.1nm,0.6s,baz=120,slow=5.5,SNR=5.6 1.1nm,0.6s						
MKAR	**Makanchi Array**	**81.72**	**319**	P	**P**	**11 31 15.8**	**+0.2**
	0.9nm,0.7s,baz=101,slow=7.0,SNR=6.8 0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**82.50**	**326**	P	**P**	**11 31 18.9**	**-0.5**
	0.5nm,0.3s,baz=107,slow=3.7,SNR=2.1 0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**85.18**	**322**	P	**P**	**11 31 32.7**	**-0.4**
	0.7nm,0.8s,baz=107,slow=4.0,SNR=5.1 0.7nm,0.8s						
BVAR	**Borovoye Array**	**90.61**	**323**	P	**P**	**11 31 58.8**	**-0.4**
	1.1nm,0.7s,baz=115,slow=5.2,SNR=5.6 1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.65**	**287**	PKPbc	**PKiKP**	**11 38 52.8**	**+0.1**
	0.6nm,0.7s,baz=55,slow=3.3,SNR=5.2						

*IDC **20** 11:27:21.0±1.1, 34.79N×138.06E, h0km, mb3.6/4, mbtmp3.6/5, ML3.2/1, MS2.8/1, Error ellipse: s-maj=34.3km s-min=15.9km az=71.0*
*JMA **20** 11:27:22.9±0.2, 35.7N±0.6×140.0E±0.7, h69km±1km, MV3.2/40, CENTRAL CHIBA PREF*
JMA Felt I J1 at CENTRAL CHIBA PREF .
ISC 20 11:27:23.3±0.9, 35.56N±0.04×140.04E±0.05, h75km±7km, n27, σ0°86/33, mb3.7/4, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.19**	**137**	*i* P	**Pn**	**11 27 34.4**	**0.0**
JCN				S	**Sn**	**11 27 43.4**	**+0.8**
TOK	**Tokyo**	**0.27**	**299**	S	**Sn**	**11 27 43.6**	**+0.4**
JSMT	**Sammumatsuo**	**0.34**	**76**	P	**Pn**	**11 27 34.7**	**-0.5**
JSMT				*e*S	**Sn**	**11 27 43.6**	**-0.5**
JOD2	**Odawara 2**	**0.83**	**250**	⇓*i*P	**Pn**	**11 27 39.6**	**-0.4**
JOD2				⇓S	**Sn**	**11 27 51.6**	**-1.0**
BSO3	**Boso 3**	**0.85**	**153**	*i* P	**Pn**	**11 27 39.8**	**-0.1**
BSO3				S	**Sn**	**11 27 53.0**	**+0.7**
JIM2	**Oshima 3**	**0.98**	**211**	P	**Pn**	**11 27 41.3**	**-0.5**
JIM2				S	**Sn**	**11 27 54.8**	**-0.7**
JAG	**Ashikaga**	**0.99**	**331**	⇓*i*P	**Pn**	**11 27 40.7**	**-1.2**
JRY	**Ryogami san**	**1.03**	**297**	⇓*i*P	**Pn**	**11 27 42.3**	**-0.2**
JRY				⇓S	**Sn**	**11 27 56.5**	**-0.4**
JFNN	**Fujinakano**	**1.17**	**252**	P	**Pn**	**11 27 44.1**	**0.0**
JFNN				S	**Sn**	**11 27 59.4**	**-0.3**
BSO1	**Boso 1**	**1.18**	**139**	P	**Pn**	**11 27 43.4**	**-0.4**
BSO1				S	**Sn**	**11 27 59.1**	**-0.1**
JYN	**Shimob**	**1.22**	**268**	⇓*i*P	**Pn**	**11 27 44.7**	**-0.2**
JYN				⇓S	**Sn**	**11 28 00.3**	**-0.8**
JIZS	**Izushimoda**	**1.27**	**229**	P	**Pn**	**11 27 45.4**	**0.0**
JIZS				S	**Sn**	**11 28 01.8**	**-0.2**
JKT	**Katashina**	**1.37**	**332**	P	**Pn**	**11 27 45.7**	**-1.1**
JKT				S	**Sn**	**11 28 02.4**	**-2.1**
MJAR	**Matsushiro Arr**	**1.78**	**304**	Pn	**Pn**	**11 27 52.4**	**+0.3**
	2.8nm,0.3s,baz=136,slow=15,SNR=116						
MJAR				Sn	**Sn**	**11 28 15.3**	**+1.3**
	2.2nm,0.3s,baz=288,slow=22,SNR=4.6						
MAJO	**Matsushiro**	**1.78**	**304**	P	**Pn**	**11 27 52.1**	**0.0**
JHJ	**Hachijo jima 2**	**2.44**	**185**	Pn	**Pn**	**11 27 59.9**	**-1.1**
	15nm,0.3s,baz=345,slow=20,SNR=19						
JHJ				Sn	**Sn**	**11 28 27.6**	**-2.3**
	42nm,0.3s,baz=245,slow=23,SNR=9.3 32nm,0.4s						
JNU	**Nakatsue**	**7.96**	**255**	LR	LR	11 31 04.3	
	comp=Z,87nm,19.6s,baz=114,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.41**	**117**	T	T	12 03 01.2	
	baz=309,slow=75,SNR=7.2						
H11N1	**WAKE ISLAND Hy**	**28.42**	**117**	T	T	12 02 59.4	
	baz=309,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**28.43**	**117**	T	T	12 03 00.3	
	baz=309,slow=75,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**29.05**	**119**	T	T	12 03 25.8	
	baz=312,slow=76,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**29.06**	**119**	T	T	12 03 23.2	
	baz=312,slow=76,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**29.07**	**119**	T	T	12 03 21.3	
	baz=312,slow=76,SNR=4.9						
MKAR	**Makanchi Array**	**43.98**	**303**	P	**P**	**11 35 23.6**	**+0.6**
	0.5nm,0.7s,baz=93,slow=8.7,SNR=2.4 0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**46.05**	**309**	P	**P**	**11 35 39.6**	**+0.3**
	0.7nm,0.6s,baz=87,slow=8.0,SNR=9.4 0.7nm,0.6s						
WRA	**Warramunga Arr**	**55.46**	**187**	P	**P**	**11 36 50.3**	**+0.1**
	0.5nm,0.5s,baz=1.0,slow=7.6,SNR=15 0.5nm,0.5s						
ASAR	**Alice Springs**	**59.19**	**187**	P	**P**	**11 37 17.4**	**+1.0**
	0.4nm,0.9s,baz=18,slow=11,SNR=5.2 0.4nm,0.9s						

*NEIC **20** 11:29:42.7±2.5, 27.54S±0.06×70.41W±0.08, h97km±6km, mb4.4/4, ML4.0(GUC), Error ellipse: s-maj=10.8km s-min=8.0km az=104.0*
*SJA **20** 11:29:43.8±0.5, 27.64S×70.26W, h156km±9km, ML3.3, MW3.5*
*GUC **20** 11:29:43.3±0.7, 27.59S×70.30W, h95km±3km, ML4.2*
*IDC **20** 11:30:19.6±1.2, 22.50S×69.31W, h288km±7km, mb3.6/1, mbtmp3.5/3, Error ellipse: s-maj=55.7km s-min=34.6km az=119.0*
ISC 20 11:29:42.9±0.7, 27.51S±0.04×70.37W±0.05, h95km±6km, n85, σ1°89/94, mb4.3/3, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.15**	**124**		**Pn**	**11 29 56.8**	**+0.4**

comp=E,1μm,0.7s
CO01 Juntas del Tor 2.47 174 Pn 11 30 22.2 +0.5
CO05 La Serena 2.52 197 Pn 11 30 21.7 -0.4
CO05 La Serena 2.52 197 *eP* **Pn 11 30 21.3 -0.8**
GO04 Tololo Observa 2.68 188 Pn 11 30 24.6 +0.1
GO04 Tololo Observa 2.68 188 *eP* **Pn 11 30 24.9 +0.5**
GO04 IAML 11 31 33.0
comp=E,794nm,0.5s
AROD Rodeo 2.76 164 *eP* **Pn 11 30 23.0 -2.6**
ACDV Cuesta del Vie 2.87 158 *eP* **Pn 11 30 29.0 +2.1**
ACDV IAML 11 31 40.1
comp=Z,42nm,0.5s
PB14 IPOC Station P 2.87 359 Pn 11 30 28.2 +1.1
PB14 IPOC Station P 2.87 359 *eP* **Pn 11 30 28.3 +1.1**
ACCO Cerro Coronel 3.27 160 *eP* **Pn 11 30 29.0 -3.5**
ACCO *eP* 11 30 34.5
ACCO *eS* **Sn 11 31 02.2 -8.5**
ACCO IAML 11 31 16.7
comp=Z,50nm,0.4s
CO03 El Pedregal 3.33 185 Pn 11 30 32.8 -0.2
CO03 El Pedregal 3.33 185 *eP* **Pn 11 30 32.8 -0.2**
CO06 Fray Jorge 3.34 199 Pn 11 30 31.6 -1.4
CO06 Fray Jorge 3.34 199 *eP* **Pn 11 30 31.5 -1.6**
ACLC CERRO LA CRUZ 3.56 123 *eP* **Pn 11 30 38.0 +1.7**
ACLC IAML 11 31 20.5
comp=Z,34nm,0.6s
CO02 Combarbal 3.72 188 Pn 11 30 37.6 -0.7
CO02 Combarbal 3.72 188 *eP* **Pn 11 30 37.2 -1.1**
PB10 IPOC Station P 3.98 358 Pn **Pn 11 30 42.0 +0.2**
AVFE Valle Fertil 4.04 142 *eP* **Pn 11 30 43.4 +0.7**
AVFE *eS* **Sn 11 31 29.0 0.0**
AVFE IAML 11 31 33.0
comp=Z,67nm,0.4s
CYA Choya 4.15 104 *eP* **Pn 11 30 45.4 +1.3**
CYA *eS* **Sn 11 31 30.9 -0.6**
CYA IAML 11 31 31.2
comp=Z,39nm,0.5s
FSA Cafayete 4.17 71 *eP* Pn 11 30 49.3 +4.9
ZON Zonda 4.28 160 Pn **Pn 11 30 44.5 -1.4**
PB15 IPOC Station P 4.36 11 Pn 11 30 48.1 +0.9
PB15 IPOC Station P 4.36 11 *eP* **Pn 11 30 48.0 +0.9**
RTLS Leoncito 4.37 168 *eP* **Pn 11 30 48.9 +1.6**
RTLS *eS* **Sn 11 31 38.7 +1.4**
RTLS IAML 11 32 15.6
comp=Z,118nm,0.9s
APLL PUNTA DE LOS L 4.43 131 *eP* **Pn 11 30 43.8 -4.0**
AHML Horco Molle 4.55 82 *eP* **Pn 11 30 51.5 +2.0**
AHML IAML 11 31 47.2
comp=Z,13nm,0.9s
PB05 IPOC Station P 4.64 2 Pn **Pn 11 30 50.2 -0.6**
AUSP Uspallata 4.77 170 *eP* **Pn 11 30 49.0 -3.7**
PB06 IPOC Station P 4.84 9 Pn **Pn 11 30 53.3 -0.3**
ACHE Chepes 4.87 139 *eP* **Pn 11 30 55.1 +1.2**
ACHE *eS* **Sn 11 31 46.9 -2.2**
AF01 San Pedro de A 4.96 24 Pn **Pn 11 30 55.3 0.0**
LVC Limon Verde 5.06 16 Pn 11 30 57.2 +0.4
LVC Limon Verde 5.06 16 P **Pn 11 30 57.1 +0.4**
comp=Z,5.3nm,0.3s,baz=165,slow=8.1,SNR=25
VA06 Catapilco 5.10 189 Pn **Pn 11 30 55.5 -1.3**
PB04 IPOC Station P 5.16 2 Pn **Pn 11 30 57.0 -1.0**
VA03 San Esteban 5.24 182 Pn 11 30 58.7 -0.2
VA01 Torpederas 5.60 191 Pn **Pn 11 31 01.1 -2.6**
PEL Peldehue 5.62 183 *eP* Pn 11 30 52.3 -12
MT02 Curacav 5.77 186 Pn **Pn 11 31 04.0 -2.0**
PB09 IPOC Station P 5.78 10 Pn **Pn 11 31 07.1 +0.7**
AZAP Zapla 5.79 57 *eP* **Pn 11 31 08.7 +2.1**
AZAP IAML 11 32 18.9
comp=Z,14nm,1.0s
MT08 Bocatoma Ro 5.92 177 Pn **Pn 11 31 06.9 -1.4**
MT13 San Alfonso 6.21 179 Pn 11 31 10.2 -1.9
MT09 Talagante 6.27 185 Pn **Pn 11 31 11.0 -1.9**
LMEL Las Melosas 6.32 179 Pn 11 31 12.9 -0.7
MT01 Popeta 6.38 187 Pn 11 31 12.0 -2.2
BO04 La Punta 6.46 182 Pn **Pn 11 31 12.9 -2.5**
BO01 Tunca 6.88 185 Pn **Pn 11 31 19.2 -2.0**
HMBC Humberstone 7.21 4 Pn **Pn 11 31 25.4 -0.4**
BO02 Sierra Bellavi 7.27 183 Pn **Pn 11 31 23.9 -2.6**
GO05 Huala 7.59 190 Pn **Pn 11 31 27.5 -3.3**
GO01 Chusmiza 7.88 8 Pn **Pn 11 31 34.3 -1.0**
AP01 Chacalluta 9.10 0 Pn **Pn 11 31 50.4 -1.0**
BI02 San Fabin de 9.16 185 Pn **Pn 11 31 50.1 -2.0**
PB16 IPOC Station P 9.17 5 Pn **Pn 11 31 52.5 -0.4**
VA04 Juan Fernndez 9.51 228 Pn **Pn 11 31 55.6 -1.3**
PB18 Visviri 9.91 5 Pn **Pn 11 32 02.0 -0.9**
LPAZ La Paz 11.36 11 Pn **Pn 11 32 22.2 -0.5**
LPAZ La Paz 11.36 11 P Pn 11 31 52.5 -30
comp=Z,0.8nm,0.9s,baz=190,slow=19,SNR=1.9
SIV San Ignacio 14.35 39 P Pn 11 32 40.0 -22
comp=Z,0.6nm,0.6s,baz=254,slow=18,SNR=1.3
VAO Valinhos 21.63 83 P **P 11 34 25.9 +0.2**
BELA Belgrano 2 53.02 171 P **P 11 38 50.7 +1.1**
SNAA Sanae 57.09 160 P **P 11 39 20.5 +1.5**
SNAA IAmb IAmb 11 39 24.6
comp=Z,6.8nm,1.5s
QSPA South Pole Qui 62.70 180 P **P 11 39 59.7 +2.1**
QSPA IAmb IAmb 11 40 06.3
comp=Z,4.7nm,1.4s
TORD Torodi Ar. Bea 80.65 70 P **P 11 41 47.1 +1.3**
comp=Z,2.1nm,0.8s,baz=275,slow=2.6,SNR=10
comp=Z,2.1nm,0.8s
WRA Warramunga Arr 127.10 210 PKP PKiKP 11 48 59.6 +22
comp=Z,0.5nm,0.9s,baz=169,slow=2.0,SNR=2.4
KURBB Kurchatov Arra 147.00 37 PKP **PKiKP 11 49 16.6 -0.1**
comp=Z,0.4nm,0.5s,baz=295,slow=2.9,SNR=4.3
ZALV Zalesovo Beam 147.91 28 PKP **PKiKP 11 49 18.8 +0.4**
comp=Z,1.1nm,0.4s,baz=289,slow=3.4,SNR=5.3
MKAR Makanchi Array 151.16 41 PKPbc **PKiKP 11 49 26.9 +1.5**
comp=Z,0.5nm,0.7s,baz=293,slow=3.2,SNR=5.4

*HEL **20** 11:30:18.7±0.1, 63°.98N×28°.12E, h0km, ML1.6, Explosion*
*IDC **20** 11:30:20.1±1.9, 63°.79N×28°.31E, h0km, mbtmp2.5/2, ML1.8/2, Error ellipse: s-maj=42.2km s-min=10.5km az=104.0*
*UPP **20** 11:30:20.7±2.9, 63°.88N×27°.74E, h0km, ML1.6*
ISC 20 11:30:18.3±0.7, 63°.93N±0°.02×28°.07E±0°.02, h0km, n44, σ1§13/68, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.56**	**192**	PG	**Pb**	**11 30 29.8**	**-1.1**
NIF				SG	**Sb**	**11 30 37.5**	**-1.9**
RMF	**Romuvaara**	**0.87**	**70**	PB	**Pg**	**11 30 34.5**	**-0.4**
RMF				MSG		11 30 44.4	
comp=Z,7.8nm,0.2s							
RMF				SB	**Sg**	**11 30 45.2**	**-0.9**
OUL	**Oulu**	**1.49**	**322**	PN	**Pn**	**11 30 46.0**	**-0.2**
OUL				SN	**Sg**	**11 31 06.1**	**0.0**
SUF	**Sumiainen**	**1.50**	**216**	PG	**Pg**	**11 30 46.8**	**-0.1**
SUF				MSG		11 31 05.1	
comp=Z,2.4nm,0.2s							
SUF				SN	**Sn**	**11 31 07.6**	**+1.1**
OUF	**Merijarvi**	**1.52**	**288**	PG	**Pn**	**11 30 46.4**	**-0.4**
OUF				MSG		11 31 04.8	
comp=Z,5.4nm,0.2s							
OUF				SN	**Sb**	**11 31 07.2**	**0.0**
OBF4	**Vikkela, Lumij**	**1.56**	**306**	PG	**Pn**	**11 30 47.2**	**-0.1**
OBF4				MSG		11 31 05.4	
comp=Z,4.7nm,0.2s							
OBF4				SN	**Sn**	**11 31 08.3**	**+0.1**
OBF0	**Syolatti, Pyha**	**1.77**	**290**	PG	**Pn**	**11 30 50.8**	**+0.7**
OBF0				MSG		11 31 11.6	
comp=Z,4.2nm,0.2s							
OBF0				SN	**Sb**	**11 31 14.1**	**-0.1**
JOF	**Joensuu**	**1.78**	**123**	*eP*	**Pb**	**11 30 51.4**	**-0.4**
JOF	**Joensuu**	**1.78**	**123**	PG	**Pb**	**11 30 51.0**	**-0.7**
baz=304							
JOF				SN	**Sb**	**11 31 14.3**	**-0.3**
KAF	**Kangasniemi**	**2.00**	**204**	PG	**Pb**	**11 30 55.4**	**-0.1**
baz=18							
KAF				MSG		11 31 19.6	
comp=Z,5.3nm,0.2s							
KAF				SG	**Sg**	**11 31 22.0**	**-0.4**
MSF	**Maaselka**	**2.03**	**11**	PG	**Pn**	**11 30 54.2**	**+0.5**
baz=194							
MSF				SG	**Sn**	**11 31 20.8**	**+1.1**
OBF8	**Ulkokalla**	**2.06**	**283**	PG	**Pb**	**11 30 56.0**	**-0.6**
baz=99							
OBF8				MSG		11 31 20.4	
comp=Z,2.9nm,0.2s							
OBF8				SG	**Sg**	**11 31 24.2**	**-0.4**
RANF	**Ranua**	**2.16**	**346**	PG	**Pn**	**11 30 56.7**	**+1.2**
baz=166							
RANF				SG	**Sn**	**11 31 23.8**	**+0.9**
KU6	**Riekki**	**2.24**	**19**	PG	**Pn**	**11 30 58.0**	**+1.4**
KU6				MSG		11 31 23.5	
comp=Z,1.5nm,0.2s							
KU6				SG	**Sn**	**11 31 25.8**	**+0.9**
KEF	**Keuruu**	**2.29**	**221**	*eP*	**Pb**	**11 31 00.5**	**0.0**
KEF	**Keuruu**	**2.29**	**221**	PG	**Pb**	**11 31 00.4**	**-0.1**
KEF				MSG		11 31 28.1	
comp=Z,3.9nm,0.2s							
KEF				SG	**Sb**	**11 31 30.0**	**+0.7**
OLKF	**Oulanka, Finla**	**2.46**	**13**	PG	**Pb**	**11 31 01.8**	**-1.6**
OLKF				MSG		11 31 30.0	
comp=Z,1.4nm,0.2s							
OLKF				SG	**Sn**	**11 31 32.3**	**+1.9**
RUF	**Ruokolahti**	**2.55**	**170**	PG	**Pb**	**11 31 04.4**	**-0.5**
baz=350							
RUF				MSG		11 31 35.1	
comp=Z,2.6nm,0.2s							
RUF				SG	**Sb**	**11 31 37.9**	**+1.1**
VAF	**Ylistaro**	**2.58**	**252**	*eP*	**Pb**	**11 31 04.3**	**-1.0**
VAF	**Ylistaro**	**2.58**	**252**	PB	**Pb**	**11 31 04.4**	**-1.0**
VAF				MSG		11 31 35.9	
comp=Z,2.0nm,0.2s							
VAF				SG	**Sb**	**11 31 38.0**	**+0.4**
FIA0	**FINESS Array S**	**2.66**	**201**	PB	**Pb**	**11 31 05.9**	**-0.9**
baz=18							
FIA0				MSG		11 31 38.8	
comp=Z,1.6nm,0.2s							
FIA0				SB	**Sb**	**11 31 40.2**	**+0.2**
FINES	**FINESS Array B**	**2.66**	**201**	Pn	**Pb**	**11 31 05.5**	**-1.3**
comp=Z,0.3nm,0.3s,baz=22,slow=16,SNR=14							
FINES				Lg	Lg	11 31 40.5	
comp=Z,1.2nm,0.3s,baz=26,slow=26,SNR=21							
comp=Z,1.5nm,0.5s							
TOF	**Tornio**	**2.68**	**325**	PB	**Pn**	**11 31 03.7**	**+1.1**
TOF				MSG		11 31 36.7	
comp=Z,0.8nm,0.2s							
TOF				SG	**Sb**	**11 31 40.0**	**-0.4**
KALU	**Kalix**	**2.79**	**316**	P	**Pn**	**11 31 05.5**	**+1.4**
KALU				S	**Sn**	**11 31 39.1**	**+0.7**
KALU	**Kalix**	**2.79**	**316**	PB	**Pn**	**11 31 05.8**	**+1.7**
KALU				SB	**Sn**	**11 31 39.6**	**+1.2**
RNF	**Rovaniemi**	**2.82**	**343**	PG	**Pb**	**11 31 08.0**	**-1.5**
baz=161							
RNF				SG	**Sb**	**11 31 43.2**	**-1.3**
BURU	**Burvik**	**2.99**	**286**	P	**Pn**	**11 31 08.0**	**+1.1**
BURU	**Burvik**	**2.99**	**286**	PG	**Pb**	**11 31 12.5**	**+0.1**
BURU				SG	**Sb**	**11 31 50.9**	**+1.5**
SJUU	**Sjulsmark**	**3.19**	**303**	P	**Pn**	**11 31 10.9**	**+1.3**
ODEU	**Stanfors**	**3.25**	**282**	P	**Pn**	**11 31 10.7**	**+0.2**
UMAU	**Umeaa**	**3.27**	**272**	PN	**Pn**	**11 31 11.2**	**+0.6**
baz=86							
VJF	**Virojoki**	**3.42**	**184**	SB	**Sb**	**11 32 02.4**	**+0.8**
SGF	**Sodankyl**	**3.58**	**350**	PB	**Pn**	**11 31 17.1**	**+2.1**
ERTU	**Ertsjaerv**	**3.61**	**319**	P	**Pn**	**11 31 16.7**	**+1.3**
ERTU	**Ertsjaerv**	**3.61**	**319**	PN	**Pn**	**11 31 16.9**	**+1.5**
KLF	**Kolari**	**3.73**	**335**	PN	**Pn**	**11 31 18.1**	**+1.1**
KLF				SN	**Sn**	**11 32 00.9**	**-0.6**
HARU	**Harads**	**3.75**	**310**	P	**Pn**	**11 31 18.8**	**+1.6**
LILU	**Liiltraesk**	**3.79**	**295**	P	**Pn**	**11 31 18.6**	**+0.7**
RAF	**Rauma**	**4.13**	**228**	SG	**Sg**	**11 32 29.1**	**-1.8**
DUNU	**Dundret**	**4.47**	**319**	P	**Pn**	**11 31 28.8**	**+1.6**
HEMU	**Hemsoen**	**4.70**	**259**	PN	**Pn**	**11 32 1.1**	**+1.8**
HEMU				SG	**Sg**	**11 32 46.0**	**-3.0**
LVZ	**Lovozero**	**4.81**	**31**	PN	**Pn**	**11 32 0.0**	**+0.1**
ARCES	**ARCESS Array B**	**5.72**	**351**	Pn	**Pn**	**11 31 46.6**	**+2.3**
comp=Z,0.1nm,0.3s,baz=166,slow=13,SNR=2.1							
comp=Z,0.8nm,0.8s							
I37NO	**I37NO**	**6.39**	**328**	I	I	12 06 30.0	
baz=140,slow=318,SNR=4.8							

*HEL **20** 11:31:03.1±0.3, 68°.27N×33°.11E, h0km, Explosion*
KOLA 20 11:31:05.3, 68°.03N×33°.06E, h0km, ML1.8, Error ellipse: s-maj=3.1km s-min=2.8km az=60.0, Murmansk region, Monchegorsk district, Murmansk region, Olenegorsk district, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.43**	**184**	P	Pg	11 31 12.5	-0.9
APA0				S	Sg	11 31 18.9	0.0
APA	**Apatity**	**0.48**	**164**	P	Pg	11 31 12.8	-1.7
APA				S	Sg	11 31 19.5	-1.2
LVZ	**Lovozero**	**0.61**	**102**	P	Pg	11 31 15.4	-1.6
LVZ				S	Sg	11 31 24.6	-0.4
LVZ	**Lovozero**	**0.61**	**102**	*eP*	Pg	11 31 15.5	-1.6
LVZ				*eS*	Sg	11 31 24.0	-1.0
VRF	**Varrio**	**1.34**	**259**	PG	Pg	11 31 28.2	-2.7
VRF	**Varrio**	**1.34**	**259**	*eP*	Pg	11 31 28.5	-2.3
VRF				*eS*	Sg	11 31 45.7	-2.5
RAJF	**Raja-Jooseppi**	**1.83**	**286**	PB	Pn	11 31 36.0	-1.8
RAJF	**Raja-Jooseppi**	**1.83**	**286**	*e*PG	Pn	11 31 36.1	-1.8
RAJF				*eS*	Sn	11 31 58.2	-3.5
VADS	**Vadso**	**2.48**	**329**	P	Pn	11 31 46.8	-0.1
VADS				S	Sn	11 32 18.7	+0.8
KEV	**Kevo**	**2.79**	**311**	*e*PG	Pn	11 31 50.3	-0.9
KEV				*e*SB	Sn	11 32 22.6	-2.9
FAUS	**Fauske**	**6.79**	**273**	S	Sn	11 33 57.8	-6.1

NEIC 20 11:38:45.9±2.0, 30°.923N±0°.005×103°.47W±0°.02, h5km±1km, mb_Lg2.4/31, ML2.5/24, Error ellipse: s-maj=3.0km s-min=2.0km az=104.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.56**	**322**	Pg	Pg	11 38 56.5	-0.3
PECS				Sg	Sg	11 39 04.4	+0.3
ALPN	**Alpine**	**0.57**	**195**	Pg	Pg	11 38 57.0	+0.2
ALPN				IAML		11 39 07.9	
202nm,0.5s							
MNHN	**Monahans**	**0.73**	**55**	Pg	Pn	11 39 02.5	-0.5
VHRN	**Van Horn**	**1.31**	**264**	Pg	Pn	11 39 10.4	-0.6
VHRN					Sg	11 39 27.9	-0.2
VHRN				IAML		11 39 28.2	
78nm,0.3s							
VHRN				IAML		11 39 32.2	
71nm,0.4s							
ODSA	**Odessa**	**1.43**	**33**		Pn	11 39 11.8	-0.8
SAND	**Sanderson**	**1.51**	**129**		Pb	11 39 14.2	-0.3
TX31	**Lajitas Ar. Si**	**1.59**	**186**	Pg	Pb	11 39 15.6	-0.3
TXAR	**Lajitas Array**	**1.59**	**186**	Pg	Pb	11 39 15.7	-0.2
OZNA	**Ozona**	**2.01**	**89**	Pn	Pn	11 39 19.8	-0.8
SGCY	**Sterling City**	**2.23**	**63**		Pn	11 39 22.2	-1.4
SGCY				IAmb_Lg		11 39 57.5	
comp=Z,14nm,1.0s							
POST	**Post**	**2.71**	**37**	Pn	Pn	11 39 29.1	-1.1
DRIO	**Del Rio**	**2.88**	**121**	Pn	Pn	11 39 32.0	-0.5
DRIO				IAmb_Lg		11 40 22.4	
comp=Z,11nm,0.8s							
SN05	**Snyder 5**	**2.94**	**48**	IAmb_Lg		11 40 24.5	
comp=Z,13nm,0.8s							
SN07	**Snyder 07**	**3.08**	**45**	Pn	Pn	11 39 34.6	-0.6
SN07				IAmb_Lg		11 40 20.9	
comp=Z,15nm,0.7s							
MSTX	**Muleshoe**	**3.09**	**11**	Pn	Pn	11 39 34.6	-0.9
JCT	**Junction City**	**3.19**	**97**	Pn	Pn	11 39 36.7	-0.1
ABTX	**Abilene, Hawle**	**3.67**	**61**	Pn	Pn	11 39 41.5	-1.9
APMT	**Aspermont**	**3.71**	**49**	Pn	Pn	11 39 42.5	-1.5
APMT				IAmb_Lg		11 40 51.6	
comp=Z,12nm,1.0s							
BRDY	**Brady**	**3.85**	**83**	Pn	Pn	11 39 44.2	-1.6
HNDO	**Hondo**	**3.88**	**110**	Pn	Pn	11 39 45.5	-0.7
121A	**Cookes Peak, D**	**4.01**	**295**	Pn	Pn	11 39 48.4	+0.1
121A				IAML		11 41 06.5	
comp=E,8.3nm,0.5s							
AMTX	**Amarillo**	**4.22**	**20**	IAmb_Lg		11 41 08.9	
comp=Z,8.4nm,0.8s							
PLPT	**Palo Pinto**	**4.77**	**65**	IAmb_Lg		11 41 17.8	
comp=Z,7.4nm,0.7s							
SMWD	**Samnorwood**	**4.97**	**32**	IAmb_Lg		11 41 22.3	
comp=Z,7.7nm,0.8s							
FW03	**Perrin-Whitt E**	**5.05**	**64**	IAmb_Lg		11 41 39.7	
comp=Z,8.1nm,0.8s							
WHTX	**Lake Whitney,**	**5.24**	**77**	IAmb_Lg		11 41 39.7	
comp=Z,8.2nm,0.8s							
WMOK	**Wichita Mounta**	**5.48**	**45**	IAmb_Lg		11 41 45.5	
comp=Z,4.8nm,0.7s							
TUC	**Tucson**	**6.39**	**284**	IAmb_Lg		11 42 17.9	
comp=Z,1.2nm,0.8s							
X37A	**Clayton**	**7.74**	**60**	IAmb_Lg		11 43 11.9	
comp=Z,4.3nm,0.7s							
Q24A	**Divide**	**8.14**	**351**	IAmb_Lg		11 43 02.5	
comp=Z,5.1nm,0.8s							

IDC 20 11:47:05.0±2.9, 7°.54S×157°.94E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=132.4km s-min=31.6km az=130.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.99**	**239**	P	P	11 52 40.0	+0.2
0.6nm,0.8s,baz=65,slow=9.4,SNR=4.7							
0.6nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**27.27**	**18**	T	T	12 21 17.5	
baz=200,slow=76							
H11S2	**WAKE ISLAND Hy**	**27.27**	**18**	T	T	12 21 04.9	
baz=200,slow=76							
H11S1	**WAKE ISLAND Hy**	**27.28**	**18**	T	T	12 21 17.8	
baz=200,slow=76							
ASAR	**Alice Springs**	**28.09**	**232**	P	P	11 52 58.2	-0.5
0.2nm,0.7s,baz=60,slow=9.6,SNR=1.7							
0.2nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**28.48**	**18**	T	T	12 22 48.2	
baz=198,slow=76,SNR=32							
H11N3	**WAKE ISLAND Hy**	**28.48**	**18**	T	T	12 22 37.2	
baz=198,slow=76,SNR=36							
H11N2	**WAKE ISLAND Hy**	**28.49**	**18**	T	T	12 22 40.2	
baz=198,slow=76,SNR=27							
ILAR	**Eielson Array**	**82.82**	**21**	P	P	11 59 30.6	-0.3
0.6nm,0.9s,baz=261,slow=5.4,SNR=5.1							
0.6nm,0.9s							
MKAR	**Makanchi Array**	**85.75**	**318**	P	P	11 59 46.9	+0.6
0.3nm,0.6s,baz=111,slow=6.8,SNR=2.0							
0.3nm,0.6s							

JMA 20 11:53:11.4±0.3, 26°N±2°×14°1E±°, h42km, MV4.2/18, IOTO ISLANDS REGION, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.29**	**53**	P	Pn	11 53 33.4	+0.4
JHH2				*eS*	Sn	11 53 50.5	+1.4
CBIJ	**Chichi jima**	**1.62**	**40**	P	Pn	11 53 38.5	+1.0
CBIJ				*eS*	Sn	11 53 56.7	-0.4
BSO3	**Boso 3**	**8.94**	**357**	*eP*	Pn	11 55 23.2	+5.5
BSO3				*eS*	Sn	11 57 00.7	+3.9
BSO4	**Boso 4**	**9.13**	**356**	*eP*	Pn	11 55 27.0	+6.5
BSO4				*eS*	Sn	11 57 05.9	+4.0
JHU	**Hanno**	**10.08**	**352**	*eP*	Pn	11 55 39.4	+5.8
JHU				*eS*	Sn	11 57 30.8	+5.4
JAG	**Ashikaga**	**10.63**	**353**	*eP*	Pn	11 55 45.1	+4.0
JAG				*eS*	Sn	11 57 43.3	+4.5
JHO	**Hitachi**	**10.74**	**358**	P	Pn	11 55 45.2	+2.6

*BJI **20** 12:03:16.9±0.0, 2°.48N×128°.63E, h85km, mb4.5/33, mB4.9/16, Ms4.1/2, Ms7 3.9/2*
*DJA **20** 12:03:16.6±0.9, 3°N±4°×12°8E±°, h25km±8km, M4.6/12, mb4.9/7, mB4.9/7, MLv4.7/12, Mw(mB)4.2/7*
*IDC **20** 12:03:17.8±2.7, 2°.56N×128°.41E, h77km±24km, mb3.9/16, mbtmp4.3/17, MS3.3/14, Error ellipse: s-maj=27.1km s-min=11.1km az=78.0*
*NEIC **20** 12:03:19.5±2.0, 2°.44N±0°.08×128°.25E±0°.08, h85km±7km, mb4.6/90, Error ellipse: s-maj=12.8km s-min=11.0km az=56.0*
ISC 20 12:03:15.4±0.3, 2°.59N±0°.05×128°.33E±0°.06, h50km, n160, σ1§36/147, mb4.5/69, MS3.2/12, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.04**	**208**	Pn	**Pn**	**12 03 49.0**	**+1.7**
TNTI	**Ternate**	**2.04**	**208**	P	**Pn**	**12 03 48.4**	**+1.0**
SWI	**Sorong**	**4.51**	**139**	P	**Pn**	**12 04 24.3**	**+3.1**
SWI				S	**Sn**	**12 05 15.8**	**+3.4**
KMSI	**Cibinong**	**4.78**	**245**	P	**Pn**	**12 04 27.0**	**+2.0**
SANI	**Sanana**	**5.16**	**207**	P	**Pn**	**12 04 31.5**	**+1.3**
73nm,0.8s,890nm							
SANI				S	**Sn**	**12 05 31.3**	**+2.8**
73nm,0.8s,890nm							
GTOI	**Gorontalo**	**5.65**	**250**	P	**Pn**	**12 04 39.1**	**+2.1**
51nm,0.6s,0.2nm							
LUWI	**Luwuk**	**6.62**	**237**	Pn	**Pn**	**12 04 52.2**	**+2.1**
LUWI	**Luwuk**	**6.62**	**237**	P	**Pn**	**12 04 51.6**	**+1.4**
82nm,0.7s,1μm0.6nm							
MRSI	**Marisa**	**6.72**	**252**	P	**Pn**	**12 04 53.6**	**+2.1**
FAKI	**Fak Fak**	**6.73**	**144**		**Pn**	**12 04 54.3**	**+2.6**
FAKI	**Fak Fak**	**6.73**	**144**	P	**Pn**	**12 04 54.5**	**+2.8**
72nm,1.0s,0.2nm							
TOLI2	**Tolitoli**	**7.68**	**259**		**Pn**	**12 05 05.9**	**+1.1**
MPSI	**Mapaga**	**8.71**	**255**	P	**Pn**	**12 05 20.7**	**+1.7**
BBSI	**Bau Bau**	**9.87**	**216**	P	**Pn**	**12 05 36.4**	**+1.7**
MYLDM	**Lahad Datu**	**10.14**	**285**		Pn	12 05 43.0	+4.6
KAPI	**Kappang**	**11.42**	**229**	Pn	**Pn**	**12 05 57.5**	**+1.6**
KAPI	**Kappang**	**11.42**	**229**	P	**Pn**	**12 05 58.1**	**+2.1**
8.1nm,0.4s,baz=23,slow=7.7,SNR=6.8							
KAPI				LR	LR	12 10 59.1	
comp=Z,164nm,18.4s,baz=26,slow=40							
KKM	**Kota Kinabalu**	**12.55**	**286**	Pn	**Pn**	**12 06 13.3**	**+1.7**
MTN	**Manton Dam**	**15.58**	**170**	Pn	**Pn**	**12 06 50.8**	**-1.1**
SBUM	**Sibu**	**16.09**	**270**	Pn	**P**	**12 06 59.5**	**-1.6**
JAGI	**Jajag, Banyuwa**	**17.90**	**232**	P	**Pn**	**12 07 19.2**	**-1.7**
JAGI				IAmb	IAmb	12 07 28.7	
comp=Z,41nm,0.8s							
GUMO	**Guam**	**19.67**	**55**	LR	LR	12 13 59.7	
comp=Z,113nm,21.8s,baz=228,slow=33							
FITZ	**Fitzroy Crossi**	**20.72**	**187**	P	**P**	**12 07 51.6**	**-0.2**
DLV	**T Lat**	**21.75**	**296**	P	**P**	**12 08 03.8**	**+0.7**
DLV				IAmb	IAmb	12 08 07.2	
comp=Z,21nm,0.8s							
YULB	**Yu-li**	**21.78**	**342**	P	**P**	**12 08 05.6**	**+2.4**
YULB				IAmb	IAmb	12 08 44.3	
comp=Z,51nm,1.5s							
PMG	**Port Moresby**	**22.23**	**123**	LR	LR	12 17 00.3	
comp=Z,130nm,20.9s,baz=273,slow=37							
YHNB	**Yeheng**	**22.96**	**344**	P	**P**	**12 08 17.6**	**+1.8**
YHNB				IAmb	IAmb	12 08 30.6	
comp=Z,20nm,1.0s							
WB0	**Warramunga Arr**	**23.00**	**165**	P	**P**	**12 08 16.0**	**-0.1**
WB0				IAmb	IAmb	12 08 31.0	
comp=Z,25nm,1.1s							
WRAB	**Tennant Creek**	**23.15**	**165**	P

ENH Enshi 32.82 329 P P 12 09 45.6 +1.3
CMAR Chiang Mai Arr 32.82 301 P P 12 09 45.2 +0.7
CMAR Chiang Mai Arr 32.82 301 P P 12 09 45.8 +1.3
comp=Z,1.6nm,0.9s,baz=119,slow=7.5,SNR=7.0
comp=Z,1.6nm,0.9s
CHTO Chiang Mai 32.97 301 P **P** 12 09 47.0 +1.2
CHTO IAmb IAmb 12 09 48.0
comp=Z,8.7nm,1.2s
FORT Forrest 33.18 180 P P 12 09 47.1 -0.3
INU Inuyama 33.58 13 P P 12 09 49.8 -1.1
INU IAmb IAmb 12 09 52.0
comp=Z,8.9nm,0.7s
MORW Morawa 33.61 200 P P 12 09 49.6 -1.5
TJN Taejon 33.64 359 P P 12 09 52.6 +1.3
KSAR Wonju Array Be 34.69 359 P P 12 10 02.1 +1.7
KSRS Korea Array 34.70 359 P P 12 10 01.4 +0.8
comp=Z,7.4nm,0.7s,baz=176,slow=9.8,SNR=49
KSRS LR LR 12 23 23.6
comp=Z,35nm,20.6s,baz=200,slow=35
comp=Z,7.4nm,0.7s
KS19 Wonju Array Si 34.75 359 P P 12 10 01.3 +0.3
KS19 IAmb IAmb 12 10 02.5
comp=Z,9.3nm,0.8s
PZH PanZhiHua 34.87 315 P P 12 10 07.3 +5.0
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.1s
MJAR Matsushiro Arr 35.00 14 P P 12 10 01.9 -1.2
comp=Z,3.6nm,0.6s,baz=183,slow=9.7,SNR=13
MJAR LR LR 12 21 23.0
comp=Z,48nm,22.0s,baz=182,slow=31
comp=Z,3.6nm,0.6s
MAJO Matsushiro 35.00 14 P P 12 10 02.6 -0.6
MAJO IAmb IAmb 12 10 03.6
comp=Z,6.0nm,0.8s
MJB9 Matsu-Tunnel 35.00 14 P P 12 10 02.4 -0.9
MJB9 IAmb IAmb 12 10 03.6
comp=Z,5.6nm,0.8s
XAN Xi'an 36.16 332 ⇑P **P 12 10 14.6 +1.4**
XAN pmax pmax
comp=Z,19nm,0.7s
JSD Sado 36.44 13 P P 12 10 15.3 -0.1
STKA Stephens Creek 36.52 161 P P 12 10 15.7 -0.5
STKA Stephens Creek 36.52 161 P P 12 10 14.8 -1.4
comp=Z,6.1nm,0.6s,baz=338,slow=8.3,SNR=12
STKA LR LR 12 26 07.6
comp=Z,136nm,18.6s,baz=216,slow=38
comp=Z,6.1nm,0.6s
JMM Marumori 36.93 17 P P 12 10 20.4 +0.8
BJT Baijiatuau 38.86 345 P P 12 10 36.2 +0.4
BJT IAmb IAmb 12 10 39.4
comp=Z,5.1nm,0.6s
BJI Beijing 38.88 345 P P 12 10 35.4 -0.6
BJI ScP **S 12 16 27.8 -2.9**
BJI pmax pmax
comp=Z,4.0nm,0.8s
BJI pmax pmax
comp=Z,27nm,4.8s
JTM Tenmabayashi 39.73 15 P P 12 10 44.3 +1.2
LZH Lanzhou 40.30 329 *e*P **P 12 10 50.0 +1.9**
LZH pP sP 12 11 08.4 +2.4
LZH pmax pmax
comp=Z,17nm,1.0s
H11S3 WAKE ISLAND Hy 40.76 64 T T 12 54 10.6
baz=252,slow=75,SNR=50
H11S2 WAKE ISLAND Hy 40.77 64 T T 12 54 16.0
baz=252,slow=75,SNR=32
H11S1 WAKE ISLAND Hy 40.77 64 T T 12 54 13.4
baz=252,slow=75,SNR=32
HHC Hu-ho-hao-te 40.99 341 *e*P P 12 10 57.5 +3.8
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,130nm,4.4s
H11N1 WAKE ISLAND Hy 41.33 63 T T 12 54 51.2
baz=250,slow=75,SNR=161
H11N2 WAKE ISLAND Hy 41.34 63 T T 12 54 52.1
baz=250,slow=75,SNR=78
H11N3 WAKE ISLAND Hy 41.35 63 T T 12 54 52.5
baz=250,slow=75,SNR=138
ERM Erimo 41.45 17 P P 12 10 57.7 +0.4
USA0B Ussuriysk Arra 41.57 4 P P 12 10 58.5 +0.3
USA0B IAmb IAmb 12 11 22.9
comp=Z,4.4nm,0.8s
USRK Ussuriysk Ar. 41.57 4 P P 12 10 58.2 0.0
comp=Z,3.7nm,0.7s,baz=189,slow=8.5,SNR=7.9
comp=Z,3.7nm,0.7s
SHL Shillong 41.83 306 P P 12 11 01.8 +0.9
MDJ Mudanjiang 41.87 1 P P 12 11 01.0 +0.3
MDJ pmax pmax
comp=Z,6.0nm,1.2s
MDJ Mudanjiang 41.87 1 P P 12 11 01.4 +0.7
MDJ IAmb IAmb 12 11 05.3
comp=Z,4.4nm,0.7s
XLT XiLinHaoTe 42.55 347 *e*P **P 12 11 08.5 +2.1**
XLT pmax pmax
comp=Z,4.0nm,0.8s
XLT pmax pmax
comp=Z,79nm,6.8s
ASAJ Asahikawa 43.25 15 LR LR 12 27 51.7
comp=Z,23nm,20.7s,baz=207,slow=34
JKA Kamikawa-asahi 43.25 15 P P 12 11 12.7 +0.8
GTA Gaotai 44.90 328 *e*P **P 12 11 26.3 +0.9**
GTA pmax pmax
comp=Z,5.0nm,1.0s
KLR Kul'dur 46.56 3 LR LR 12 27 48.2
comp=Z,27nm,21.1s,baz=202,slow=32
ULN Ulaanbaatar 48.70 341 P P 12 11 55.5 +0.4
ULN IAmb IAmb 12 11 56.1
comp=Z,5.4nm,0.7s
SONM Songino Array 48.89 340 P P 12 11 56.9 +0.4
SONM Songino Array 48.89 340 P P 12 11 56.3 -0.1
comp=Z,2.8nm,0.8s,baz=154,slow=9.0,SNR=9.3
comp=Z,2.8nm,0.8s
PET Petropavlovsk 56.18 22 P P 12 12 50.9 +0.8
YAK Yakutsk 59.31 1 P P 12 13 11.8 -0.1
MK31 Makanchi Array 59.40 325 P P 12 13 13.1 +0.2
MK31 IAmb IAmb 12 13 36.2
comp=Z,2.7nm,0.7s
MKAR Makanchi Array 59.40 325 P P 12 13 12.5 -0.4
MKAR Makanchi Array 59.40 325 P P 12 13 12.9 0.0
comp=Z,1.8nm,0.5s,baz=115,slow=8.1,SNR=7.7
comp=Z,1.8nm,0.5s
MAKZ Makanchi 59.59 325 P P 12 13 13.9 -0.3
MAKZ IAmb IAmb 12 13 37.9
comp=Z,4.5nm,0.9s
PRZ Przheval'sk 59.61 319 P P 12 13 12.4 -2.2
TARG Taragay, Kyrgy 59.66 318 P P 12 13 13.6 -1.6
TARG IAmb IAmb 12 13 46.8
comp=Z,3.4nm,0.9s
KSH Kashi 59.97 315 P P 12 13 21.3 +4.2
KSH pP sP 12 13 37.3 +1.6
KSH pmax pmax
comp=Z,5.0nm,0.6s
OXZ Oxford 60.24 144 P P 12 13 19.7 +1.0
RAO Raoul Island 60.37 126 P P 12 13 20.8 +1.0
MRZ Mangatainoka R 60.87 140 P P 12 13 21.2 -1.8
ZALV Zalesovo Beam 62.33 333 P P 12 13 31.3 -1.3
ZALV Zalesovo Beam 62.33 333 P P 12 13 31.1 -1.5
comp=Z,0.7nm,0.5s,baz=118,slow=5.7,SNR=2.3
ZALV LR LR 12 41 34.3
comp=Z,30nm,20.3s,baz=116,slow=37
comp=Z,0.7nm,0.5s
ARSB Arslanbob 62.78 316 P P 12 13 35.4 -0.7
KBL Kabul 63.48 308 P P 12 13 39.3 -1.6
KBL IAmb IAmb 12 14 03.0
comp=Z,8.4nm,1.4s
KURBB Kurchatov Arra 63.56 327 P P 12 13 40.6 -0.1
comp=Z,2.4nm,0.6s,baz=126,slow=6.3,SNR=14
comp=Z,2.4nm,0.6s
KURK Kurchatov 63.56 327 P P 12 13 40.5 -0.3
KURK IAmb IAmb 12 13 50.0
comp=Z,5.2nm,0.8s
KK31 Karatay Array 65.15 317 P P 12 13 51.4 0.0
KKAR Karatay Array 65.15 317 P P 12 13 51.4 0.0
KKAR Karatay Array 65.15 317 P P 12 13 51.3 -0.2
KKAR IAmb IAmb 12 14 21.8
comp=Z,2.4nm,0.9s
KIWB Kanaga Island 66.75 33 P P 12 14 02.1 +0.6
ADK Adak 67.02 33 P P 12 14 03.9 +0.7
ATKA Atka Island 68.54 34 P P 12 14 12.7 0.0
TIXI Tiksi 68.97 0 P P 12 14 14.6 -0.4
TIXI IAmb IAmb 12 14 15.1
comp=Z,3.4nm,0.8s
TIXI Tiksi 68.97 0 LR LR 12 46 12.2
comp=Z,33nm,18.4s,baz=164,slow=37
BVAR Borovoye Array 69.14 327 P **P 12 14 15.5 -1.1**
comp=Z,2.4nm,0.8s,baz=116,slow=6.8,SNR=6.9
comp=Z,2.4nm,0.8s
BRVK Borovoye 69.22 327 P P 12 14 15.8 -1.1
NRIK Noril'sk 71.92 346 P P 12 14 32.6 -0.4
comp=Z,1.9nm,0.5s,baz=146,slow=3.6,SNR=2.2
comp=Z,1.9nm,0.5s
LVA Lava Point 73.83 34 P P 12 14 45.4 +0.7
ABKAR Akbulak array 74.04 321 P P 12 14 45.3 -0.8
K13K Kusilvak Mount 77.06 27 P P 12 15 04.3 +1.2
K13K IAmb IAmb 12 15 05.9
comp=Z,6.6nm,0.8s
L14K Kuka Creek 77.77 27 P P 12 15 08.6 +1.6
L14K IAmb IAmb 12 15 09.4
comp=Z,13nm,1.0s
M14K Bethel 77.93 28 P P 12 15 09.6 +1.6
M14K IAmb IAmb 12 15 10.6
comp=Z,7.1nm,0.7s
K15K Wolf Creek Mou 78.57 27 P P 12 15 12.7 +1.2
K15K IAmb IAmb 12 15 14.5
comp=Z,5.8nm,0.9s
N15K Kwethluk River 78.66 29 P P 12 15 12.9 +0.8
N15K IAmb IAmb 12 15 14.2
comp=Z,11nm,1.1s
L16K Owhat River 79.35 27 P P 12 15 15.7 -0.1
L16K IAmb IAmb 12 15 17.9
comp=Z,5.4nm,1.1s
O16K Kokwok River B 79.50 30 P P 12 15 17.6 +1.0
O16K IAmb IAmb 12 15 18.5
comp=Z,5.9nm,1.0s
J17K VABM Dome 79.95 26 P P 12 15 20.3 +1.3
J17K IAmb IAmb 12 15 39.9
comp=Z,4.9nm,1.1s
G19K Purcell Mounta 81.44 23 P P 12 15 27.9 +1.0
G19K IAmb IAmb 12 15 29.0
comp=Z,3.8nm,0.7s
N19K Bonanza Creek 81.51 29 P P 12 15 27.9 +0.3
N19K IAmb IAmb 12 15 34.6
comp=Z,4.3nm,0.8s
OHAK Old Harbor 81.55 33 P P 12 15 28.9 +1.3
OHAK IAmb IAmb 12 15 46.7
comp=Z,11nm,1.1s
H19K Roundabout Mou 81.56 24 P P 12 15 29.1 +1.6
H19K IAmb IAmb 12 15 29.4
comp=Z,4.2nm,0.8s
VNDA Vanda 82.10 173 P P 12 15 29.1 -1.0
comp=Z,0.8nm,0.7s,baz=324,slow=6.2,SNR=3.0
comp=Z,0.8nm,0.7s
F20K Avaraart Lake 82.17 23 P P 12 15 32.0 +1.3
J20K Nowinta River 82.25 26 P P 12 15 30.9 -0.4
IMAR Indian Mountai 82.74 24 P P 12 15 34.2 +0.5
H21K Melozitna Rive 83.07 24 P P 12 15 36.6 +1.1
B21K Ikpikpuk River 83.09 20 P P 12 15 36.4 +1.0
B21K IAmb IAmb 12 15 38.3
comp=Z,7.1nm,0.8s
G23K Bananza Creek 84.33 23 P P 12 15 43.5 +1.6
G23K IAmb IAmb 12 15 44.3
comp=Z,2.9nm,0.8s
H23K Yukon River 84.42 24 P P 12 15 42.6 +0.2
I23K Minto, Yukon-K 84.43 25 P P 12 15 43.9 +1.5
I23K IAmb IAmb 12 16 00.6
comp=Z,5.5nm,1.2s
RND Reindeer 84.48 27 P P 12 15 43.0 +0.2
RND IAmb IAmb 12 16 16.5
comp=Z,4.7nm,1.2s
C23K Itkillik River 84.50 20 P P 12 15 44.1 +1.5
PWL Port Wells 84.50 29 P P 12 15 43.0 0.0
PWL IAmb IAmb 12 15 44.2
comp=Z,14nm,1.1s
D24K Happy Valley 85.05 21 P P 12 15 46.8 +1.4
D24K IAmb IAmb 12 15 48.0
comp=Z,5.3nm,0.7s
E24K Your Creek 85.06 22 P P 12 15 46.7 +1.1
F24K Squaw Lake 85.24 23 P P 12 15 47.3 +0.8
G24K Hadweenzic Riv 85.34 23 P P 12 15 48.1 +1.1
ILAR Eielson Array 85.45 25 P P 12 15 46.9 -0.7
comp=Z,0.4nm,0.5s,baz=250,slow=5.5,SNR=10
comp=Z,0.4nm,0.5s
BMAR Burnt Mountain 86.51 23 P P 12 15 54.2 +1.5
J26L Joseph Creek 86.87 26 P P 12 15 55.0 +0.4
L27K Beaver Creek, 87.64 27 P P 12 15 58.6 +0.3
E27K Coleen River 87.65 22 P P 12 15 57.8 -0.4
EGAK Eagle 87.90 25 P P 12 15 57.7 -1.8
F28M Old Crow 88.32 23 P P 12 16 01.7 +0.2
I28M Miner Creek 88.39 25 P P 12 16 01.6 -0.3
I28M IAmb IAmb 12 16 03.1
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 92.06 340 P P 12 16 15.2 -3.7
comp=Z,1.0nm,0.7s,baz=79,slow=6.8,SNR=2.3
QSPA South Pole Qui 92.50 180 P P 12 16 19.8 -1.3
comp=Z,0.8nm,0.7s,baz=303,slow=2.8,SNR=8.8
comp=Z,0.8nm,0.7s
TXAR Lajitas Array 121.02 53 PKP **PKiKP 12 22 02.3 -1.2**
comp=Z,0.2nm,0.7s,baz=245,slow=3.9,SNR=2.8
TORD Torodi Ar. Bea 124.79 288 PKP **PKPdf 12 22 09.3 -1.5**
comp=Z,0.7nm,0.8s,baz=51,slow=3.5,SNR=4.3

IDC 20 12:13:37.8±2.0, 3°.55N×124°.18E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=217.4km s-min=26.7km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.39**	**157**	P	P	12 19 07.2	+0.1
	0.3nm,0.5s,baz=336,slow=10,SNR=6.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**28.66**	**161**	P	P	12 19 36.4	-0.1
	0.2nm,0.8s,baz=338,slow=8.2,SNR=4.5						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**56.28**	**327**	P	P	12 23 20.2	0.0
	0.3nm,0.4s,baz=115,slow=9.0,SNR=5.9						
	0.3nm,0.4s						

*NEIC **20** 12:29:19.2±1.9, 40°.38N±0°.01×125°.36W±0°.05, h10km±2km, Error ellipse: s-maj=6.5km s-min=3.1km az=284.0*

NCEDC 20 12:29:22.2±2.3, 40°.41N±0°.05×125°.27W±0°.08, h24km±8km, ML3.1/13, ML2.9/76(NEIC), Error ellipse: s-maj=8.6km s-min=6.6km az=61.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.72**	**84**		Pb	12 29 35.4	-0.7
FER	**Ferndale**	**0.79**	**77**		Pb	12 29 36.4	-0.8
KSMM	**Slide Mountain**	**0.87**	**104**		Pb	12 29 36.8	-1.8
KMPM	**Mount Pierce**	**0.88**	**89**		Pb	12 29 37.5	-1.3
JCC	**Jacoby Creek,**	**1.03**	**66**	Pn	Pn	12 29 39.0	-2.1
KCRM	**Chalk Rock**	**1.11**	**88**		Pn	12 29 41.0	-1.3
KMRM	**Mail Ridge**	**1.21**	**98**		Pn	12 29 42.7	-0.9
KRPM	**Rodgers**	**1.21**	**51**		Pn	12 29 41.7	-1.9
KRPM				IAML		12 29 57.7	
	comp=N,240nm,0.6s						
KRPM				IAML		12 29 57.7	
	comp=E,237nm,0.7s						
KHMM	**Horse Mountain**	**1.26**	**68**		Pn	12 29 43.1	-1.3
KHMM				IAML		12 29 59.4	
	comp=N,303nm,0.6s						
KHMM				IAML		12 30 01.6	
	comp=E,204nm,0.5s						
KCPM	**Cahto Peak**	**1.48**	**118**		Pn	12 29 46.2	-1.2
KCPM				IAML		12 30 18.3	
	comp=N,252nm,0.5s						
KIPM	**Iron Peak**	**1.50**	**113**		Pn	12 29 46.5	-1.2
KRMB	**Red Mountain**	**1.52**	**42**		Pn	12 29 45.8	-2.2
KHBM	**Hayfork Bally**	**1.58**	**80**		Pn	12 29 47.6	-1.3
GTC	**Three Chop Rid**	**1.66**	**127**		Pn	12 29 47.9	-1.9
KBNM	**Bluenose Ridge**	**1.67**	**107**		Pn	12 29 49.4	-0.7
DCMP	**DeCamp, Califo**	**1.76**	**122**		Pn	12 29 49.5	-1.7
KSXB	**Camp Six Broad**	**1.77**	**36**		Pn	12 29 49.3	-2.1
KSXB				IAML		12 30 10.9	
	comp=E,84nm,0.7s						
LBPM	**Beegum Peak**	**1.83**	**92**		Pn	12 29 51.1	-1.1
O02D	**Mt. Diablo Mer**	**1.91**	**96**	Pn	Pn	12 29 52.1	-1.3
LGPM	**Granite Peak**	**1.93**	**74**		Pn	12 29 52.3	-1.2
GWRM	**Wonder Ranch**	**1.93**	**128**		Pn	12 29 52.3	-1.3
KBO	**Bosley Butte**	**1.97**	**23**		Pn	12 29 52.5	-1.7
KBO				IAML		12 30 14.8	
	comp=E,135nm,0.4s						
GHMM	**Hull Mountain**	**2.02**	**116**		Pn	12 29 53.7	-1.1
N02D	**Trinity Center**	**2.03**	**73**		Pn	12 29 53.7	-1.3
GROM	**Round Mountain**	**2.05**	**103**		Pn	12 29 54.8	-0.5
GGUM	**Gualala**	**2.07**	**138**		Pn	12 29 52.6	-2.8
M02C	**Callahan**	**2.08**	**61**		Pn	12 29 54.0	-1.7
GVV	**Valley View**	**2.09**	**107**		Pn	12 29 55.2	-0.7
LBKM	**Bonanza King**	**2.09**	**70**		Pn	12 29 54.7	-1.2
L02F	**Cave Junction**	**2.14**	**36**	Pn	Pn	12 29 54.8	-1.7
HOPS	**Hopland Field**	**2.21**	**129**		Pn	12 29 56.2	-1.1
HOPS	**Hopland Field**	**2.21**	**129**	IAML		12 30 34.5	
	comp=E,62nm,3.4s						
HOPS				IAML		12 30 45.8	
	comp=N,75nm,2.8s						
GHLM	**Highland Sprin**	**2.21**	**127**		Pn	12 29 56.0	-1.4
GTSM	**Trough Springs**	**2.33**	**117**		Pn	12 29 58.4	-0.6
GCK	**Clark Valley**	**2.34**	**111**		Pn	12 29 59.1	-0.1
YBH	**Yreka Blue Hor**	**2.35**	**55**		Pn	12 29 58.5	-0.8
LTCM	**Tuscan Springs**	**2.42**	**94**		Pn	12 29 59.7	-0.5
LSHM	**Sage Hen Hill**	**2.49**	**80**		Pn	12 30 00.7	-0.6
GFC	**Funks Creek**	**2.54**	**114**		Pn	12 30 01.8	0.0
M03C	**McCloud**	**2.54**	**69**		Pn	12 30 01.8	-0.2
O03E	**Paynes Creek**	**2.65**	**91**		Pn	12 30 02.4	-1.1
LDBM	**Digger Butte**	**2.66**	**88**		Pn	12 30 02.5	-1.2
LBFM	**Black Fox Moun**	**2.73**	**69**		Pn	12 30 04.6	-0.1
OSUM	**Sutter Buttes**	**2.87**	**112**		Pn	12 30 05.5	-0.9
LRDM	**Redding Peak**	**2.91**	**88**		Pn	12 30 07.1	+0.1
MCCM	**Marconi Confer**	**2.92**	**140**	Pn	Pn	12 30 06.5	-0.6
HATC	**Hat Creek Radi**	**2.93**	**81**	Pn	Pn	12 30 07.3	0.0
HATC				IAML		12 30 44.6	
	comp=N,61nm,2.6s						
HATC				IAML		12 31 23.9	
	comp=E,45nm,3.6s						
J01E	**Myrtle Point**	**2.93**	**20**	Pn	Pn	12 30 06.0	-1.2
J01E				IAML		12 30 49.0	
	comp=N,38nm,2.2s						
J01E				IAML		12 31 12.6	
	comp=E,38nm,2.2s						
LBCM	**Butte Creek Ri**	**3.02**	**81**		Pn	12 30 08.8	+0.2
ORV	**Oroville**	**3.02**	**105**	Pn	Pn	12 30 07.4	-1.1
DBO	**Dodson Butte**	**3.11**	**29**	Pn	Pn	12 30 09.2	-0.5
DBO				IAML		12 30 46.5	
	comp=E,38nm,3.2s						
DBO				IAML		12 30 55.6	
	comp=N,31nm,3.4s						
K04D	**Chiloquin, OR**	**3.45**	**49**		Pn	12 30 15.7	+1.1
K04D				IAML		12 30 59.8	
	comp=N,38nm,1.1s						
I03D	**Drain, OR**	**3.59**	**23**	Pn	Pn	12 30 16.8	+0.5
I03D				IAML		12 32 20.7	
	comp=E,26nm,3.2s						
I03D				IAML		12 32 34.9	
	comp=N,25nm,3.1s						
AFDM	**Forest Hills D**	**3.62**	**112**	Pn	Pn	12 30 16.9	+0.1
I04A	**Tendick Farm,**	**4.00**	**31**		Pn	12 30 23.4	+1.4
I04A				IAML		12 31 23.7	
	comp=E,17nm,3.2s						
I04A				IAML		12 31 47.6	
	comp=N,18nm,3.6s						
BUCK	**Buck Mountain**	**4.15**	**23**	Pn	Pn	12 30 25.0	+0.9
J05D	**Fort Rock, OR**	**4.17**	**45**	Pn	Pn	12 30 26.0	+1.6
J05D				IAML		12 30 53.6	
	comp=N,18nm,3.6s						
J05D				IAML		12 32 03.5	
	comp=E,16nm,3.2s						
MPK	**Martis Peak**	**4.18**	**104**	Pn	Pn	12 30 25.3	+0.6
MPK				IAML		12 31 32.4	
	comp=E,19nm,1.9s						
EMB	**Emerald Bay**	**4.24**	**108**		Pn	12 30 25.9	+0.5
EMB				IAML		12 31 18.1	
	comp=N,16nm,2.7s						
EMB				IAML		12 31 20.5	
	comp=E,12nm,0.6s						
CMB	**Columbia Colle**	**4.47**	**120**	Pn	Pn	12 30 28.8	+0.3
H04D	**Lebanon**	**4.52**	**24**	Pn	Pn	12 30 29.9	+0.8
PNTR	**Pine Nut**	**4.56**	**105**	Pn	Pn	12 30 27.9	-2.1
PNTR				IAML		12 31 36.2	
	comp=E,13nm,2.3s						
PNTR				IAML		12 31 39.4	
	comp=N,12nm,0.9s						
PAHR	**Pah Rah Range**	**4.57**	**97**	Pn	Pn	12 30 28.4	-1.6
PINE	**Pine Mountain**	**4.67**	**42**	Pn	Pn	12 30 32.6	+1.3
PINE				IAML		12 32 53.8	
	comp=N,10nm,3.6s						
PINE				IAML		12 33 29.5	
	comp=E,12nm,3.5s						
SAO	**San Andreas Ge**	**4.71**	**139**	Pn	Pn	12 30 30.3	-1.4
H04A	**Detroit Lake**	**4.84**	**27**	Pn	Pn	12 30 32.1	-1.5
H04A				IAML		12 31 31.8	
	comp=N,14nm,0.4s						
YERR	**Yerington**	**4.86**	**105**	Pn	Pn	12 30 32.5	-1.5
YERR				IAML		12 31 43.4	
	comp=E,7.2nm,1.4s						
YERR				IAML		12 32 33.0	
	comp=N,9.0nm,4.3s						
I05D	**Terrebonne, OR**	**4.89**	**35**	Pn	Pn	12 30 32.9	-1.3
WAKR	**Walker**	**4.90**	**111**	Pn	Pn	12 30 34.5	0.0
WAKR				IAML		12 32 24.7	
	comp=N,7.3nm,4.0s						
WAKR				IAML		12 33 50.6	
	comp=E,9.5nm,4.5s						
WVOR	**Wild Horse Val**	**5.38**	**66**	Pn	Pn	12 30 38.2	-2.9
WVOR				IAML		12 31 31.5	
	comp=E,4.8nm,4.3s						
WVOR				IAML		12 32 18.1	
	comp=E,6.0nm,3.9s						
PMPB	**Monarch Peak**	**5.46**	**139**	Pn	Pn	12 30 42.2	+0.1
RYH	**Ryan**	**5.51**	**107**	Pn	Pn	12 30 43.4	+0.5
MDPB	**Devils Postpil**	**5.56**	**118**		Pn	12 30 45.8	+2.2
I07A	**Izee**	**5.64**	**47**	Pn	Pn	12 30 46.7	+2.1
G05A	**Wamic**	**5.64**	**30**	Pn	Pn	12 30 42.6	-1.9
LHV	**Little Huntoon**	**5.67**	**110**	Pn	Pn	12 30 43.6	-1.3
KVN	**Kaiserville**	**5.69**	**101**	Pn	Pn	12 30 46.2	+0.8
J08A	**Circle Bar Ran**	**5.87**	**58**		Pn	12 30 48.5	+0.7
DSP	**Deep Springs**	**6.45**	**116**	Pn	Pn	12 30 52.8	-2.8
MZP	**Montezuma Peak**	**6.71**	**111**	Pn	Pn	12 30 56.7	-2.7
G08A	**Pilot Rock**	**6.73**	**41**	Pn	Pn	12 30 58.5	-1.1
HAWA	**Hanford**	**7.30**	**33**	Pn	Pn	12 31 07.5	+0.3
E07A	**Sunnyside**	**7.30**	**31**	Pn	Pn	12 31 05.1	-2.2
BMO	**Blue Mountains**	**7.36**	**50**	Pn	Pn	12 31 10.6	+2.4
GSC	**Goldstone, Bar**	**8.41**	**125**	Pn	Pn	12 31 24.9	+2.3
HLID	**Hailey**	**8.68**	**65**		Pn	12 31 28.5	+2.1
B08A	**Colville Reser**	**9.01**	**26**	Pn	Pn	12 31 31.4	+0.6

*MOS **20** 12:31:59.4±0.8, 10°.32S×161°.14E, h92km, mb5.1/24, MS4.1/4, Error ellipse: s-maj=10.4km s-min=8.1km az=109.0*

*IDC **20** 12:32:00.1±0.5, 10°.34S×161°.25E, h87km±3km, mb4.4/22, mbtmp4.7/25, MS3.7/45, Error ellipse: s-maj=14.2km s-min=10.8km az=104.0*

*GCMT **20** 12:32:00.3±0.2, 10°.37S±0°.01×161°.24E±0°.01, h85km±2km, MW5.0/114, Moment Tensor Solution. s60,c75; s114,c181; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}2.34±.14; $M_{\theta\theta}$-2.19±.12; $M_{\phi\phi}$-0.15±.11; $M_{r\theta}$-3.36±.07; $M_{\theta\phi}$0.95±.14; $M_{\phi r}$-1.04±.07; Best double couple: $M_0$4.26900×10^16 NP1:ϕ_s262.00000°, δ74.00000°, λ72.00000°. NP2:ϕ_s132.00000°, δ24.00000°, λ137.00000°. Principal axes: T 4.5270, Plg57.0000°, Azm149.0000°; N -0.5170, Plg17.0000°, Azm267.0000°; P -4.0110, Plg27.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **20** 12:32:01.3±1.1, 10°.35S±0°.05×161°.23E±0°.07, h90km±6km, mb5.1/109 Error ellipse: s-maj=9.8km s-min=7.0km az=101.0*

*BJI **20** 12:32:03.0±0.0, 9°.61S×161°.33E, h100km, mb4.8/45, mB5.1/21*

ISC 20 12:32:00.7±0.3, 10°.35S±0°.04×161°.28E±0°.05, h90km±2km, h90km:pP-P, n604, σ0.97/622, mb5.0/108, 8C-22D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.60**	**305**	P	**Pn**	**12 32 27.5**	**-0.2**
HNR	**Honiara**	**1.60**	**305**	Pn	**Pn**	**12 32 27.5**	**-0.2**
HNR				Sn	**Sn**	**12 32 47.7**	**-0.6**
HNR	**Honiara**	**1.60**	**305**	P	**Pn**	**12 32 27.5**	**-0.2**
HNR						12 32 47.7	
KOUNC	**Koumac, New Ca**	**10.54**	**164**	P	**Pn**	**12 34 29.6**	**+0.7**
KOUNC	**Koumac, New Ca**	**10.54**	**164**	Pn	**Pn**	**12 34 29.8**	**+0.9**
LIFNC	**LIFOU**	**11.85**	**152**	P	**Pn**	**12 34 45.9**	**-0.6**
LIFNC	**LIFOU**	**11.85**	**152**	Pn	**Pn**	**12 34 46.3**	**-0.2**
NOUC	**Port Laguerre**	**12.63**	**158**	P	**Pn**	**12 34 58.4**	**+1.3**
DZM	**Mont Dzumac**	**12.66**	**158**	P	**Pn**	**12 34 58.7**	**+1.2**
DZM	**Mont Dzumac**	**12.66**	**158**	*e*Pn	**Pn**	**12 34 57.9**	**+0.4**

144nm,1.1s
DZM *e*Sn **Sn** **12 37 12.5 -4.2**
106nm,1.2s
DZM *e*LR LR 12 37 54.0
2µm,27.6s
DZM Mont Dzumac 12.66 158 Pn **Pn** **12 34 59.3 +1.8**
DZM Mont Dzumac 12.66 158 P **Pn** **12 34 59.2 +1.7**
16nm,0.3s,baz=350,slow=12,SNR=222
DZM S **Sn** **12 37 15.5 -1.2**
13nm,0.4s,baz=311,slow=22,SNR=9.5
DZM LR LR 12 38 53.4
comp=Z,642nm,21.1s,baz=335,slow=33
YATNC Mamie plateau, 12.82 156 P **Pn** **12 34 59.8 +0.2**
MARNC Mare, Loyalty 12.82 150 P **Pn** **12 34 56.7 -2.9**
ONTNC Ouen Toro 12.88 158 P **Pn** **12 35 00.7 +0.4**
ONTNC Ouen Toro 12.88 158 **Pn** **12 35 02.4 +2.1**
PINNC Pines Island, 13.54 155 P **Pn** **12 35 09.9 +0.8**
PINNC Pines Island, 13.54 155 Pn **Pn** **12 35 10.7 +1.7**
PMG Port Moresby 13.95 273 P **P** **12 35 18.7 -0.8**
PMG Port Moresby 13.95 273 P **Pn** **12 35 15.4 +1.0**
6.9nm,0.7s,baz=79,slow=3.7,SNR=2.3
PMG LR LR 12 40 27.2
comp=Z,395nm,19.3s,baz=123,slow=36
PMG Port Moresby 13.95 273 P **P** **12 35 18.7 -0.8**
TARA Tarawa 16.42 46 P **P** **12 35 46.7 -0.2**
RK1H Rockhampton Ha 16.55 217 P **P** **12 35 48.7 +0.3**
CTA Charters Tower 17.42 234 P **P** **12 36 00.4 +2.5**
CTA Charters Tower 17.42 234 P **P** **12 35 58.9 +0.9**
2.5nm,0.7s,baz=58,slow=11,SNR=44
CTA LR LR 12 41 51.6
comp=Z,18nm,18.8s,baz=62,slow=34
CTAO Charters Tower 17.42 234 P **P** **12 36 00.5 +2.5**
CTAO Charters Tower 17.42 234 **P** **12 36 00.0 +2.0**
CTAO Charters Tower 17.42 234 P **P** **12 36 00.0 +2.0**
EIDS Eidsvold 17.80 212 P **Pn** **12 36 03.7 +1.2**
MSVF Nonsavu 17.84 116 **Pn** **12 36 05.1 +2.0**
MSVF Nonsavu 17.84 116⇓ *e*P **Pn** **12 36 04.6 +1.4**
MSVF pmax pmax
comp=Z,92nm,1.9s
COEN Coen 18.06 257 P **Pn** **12 36 06.7 +0.9**
COEN Coen 18.06 257 **P** **12 36 03.9 -1.2**
ARMA Armidale 21.89 203 P **P** **12 36 46.7 +0.2**
ARMA Armidale 21.89 203 P **P** **12 36 46.8 +0.2**
QLP Quilpie 22.80 223 P **P** **12 36 55.7 -0.3**
QIS Mount Isa 23.20 241 P **P** **12 36 59.2 -0.7**
AFI Afiamalu 26.57 100 P **P** **12 37 31.1 +0.5**
AFI IAmb IAmb 12 38 06.1
comp=Z,53nm,1.1s
AFI Afiamalu 26.57 100 P **P** **12 37 31.1 +0.5**
AFI pmax pmax
comp=Z,53nm,1.2s
RAO Raoul Island 27.05 137 LR LR 12 47 07.7
comp=Z,112nm,21.0s,baz=134,slow=34
CAN Canberra 27.26 202 P **P** **12 37 37.5 +1.0**
CAN IAmb IAmb 12 38 03.6
comp=Z,43nm,1.1s
CAN Canberra 27.26 202 P **P** **12 37 37.5 +1.0**
CAN pmax pmax
comp=Z,43nm,1.1s
WR0 Warramunga Arr 27.48 247 P **P** **12 37 38.0 -0.7**
WB0 Warramunga Arr 27.56 247 P **P** **12 37 38.7 -0.7**
WB0 IAmb IAmb 12 37 40.0
comp=Z,36nm,0.8s
WRAB Tennant Creek 27.65 247 P **P** **12 37 39.7 -0.4**
WRAB Tennant Creek 27.65 247 *c i*P **P** **12 37 39.4 -0.7**
WRAB pmax pmax
comp=Z,63nm,1.8s
WB2 Warramunga Arr 27.65 247 P **P** **12 37 39.7 -0.4**
WRA Warramunga Arr 27.66 247 P **P** **12 37 39.3 -1.0**
WRA Warramunga Arr 27.66 247 P **P** **12 37 39.7 -0.6**
comp=Z,18nm,0.7s,baz=76,slow=9.0,SNR=116
WRA pP **pP** **12 38 01.6 +2.4**
comp=Z,9.0nm,0.7s,baz=75,slow=9.4,SNR=5.8
WRA PcP **PcP** **12 40 54.3 -1.3**
comp=Z,2.3nm,0.9s,baz=87,slow=3.5,SNR=4.1
WRA ScP **ScP** **12 44 27.3 -0.9**
comp=Z,2.5nm,1.1s,baz=74,slow=3.0,SNR=6.8
WRA LR LR 12 47 39.2
comp=Z,147nm,18.9s,baz=18,slow=34
comp=Z,18nm,0.7s
WRA Warramunga Arr 27.66 247 P **P** **12 37 39.3 -1.0**
WRA pmax pmax
comp=Z,1.0nm,1.0s
STKA Stephens Creek 28.11 217 P **P** **12 37 43.9 -0.3**
STKA Stephens Creek 28.11 217 P **P** **12 37 43.6 -0.5**
comp=Z,3.4nm,0.8s,baz=46,slow=13,SNR=7.4
STKA LR LR 12 48 05.7
comp=Z,466nm,19.0s,baz=34,slow=34
comp=Z,3.4nm,0.8s
STKA Stephens Creek 28.11 217⇑ *i*P **P** **12 37 43.7 -0.4**
GUMO Guam 28.83 325 LR LR 12 48 38.6
comp=Z,272nm,21.5s,baz=146,slow=35
AS31 Alice Springs 29.26 240 P **P** **12 37 53.1 -1.4**
ASAR Alice Springs 29.26 240 P **P** **12 37 53.5 -0.9**
ASAR Alice Springs 29.26 240 P **P** **12 37 53.1 -1.4**
comp=Z,11nm,0.9s,baz=70,slow=9.5,SNR=72
ASAR pP **pP** **12 38 15.6 +2.1**
comp=Z,2.7nm,0.7s,baz=63,slow=10.0,SNR=2.8
ASAR ScP **ScP** **12 44 32.5 -0.7**
comp=Z,1.3nm,0.9s,baz=52,slow=2.4,SNR=5.1
ASAR LR LR 12 48 15.6
comp=Z,304nm,20.2s,baz=68,slow=33
comp=Z,11nm,0.9s
ASAR Alice Springs 29.26 240 P **P** **12 37 53.6 -0.9**
MTN Manton Dam 29.63 262 P **P** **12 37 57.7 0.0**
TOZ Tahuroa Road 30.11 157 P **P** **12 38 02.6 +0.8**
TOZ IAmb IAmb 12 38 28.8
comp=Z,40nm,1.3s
TOO Toolangi 30.60 205 P **P** **12 38 06.1 -0.1**
TOO IAmb IAmb 12 38 07.8
comp=Z,28nm,1.0s
TOO Toolangi 30.60 205 P **P** **12 38 06.1 -0.1**
TOO pmax pmax
comp=Z,28nm,1.0s
URZ Urewera 31.21 156 LR LR 12 49 02.3
comp=Z,193nm,21.4s,baz=32,slow=33
RTZ Ruatahuna 31.46 156 P **P** **12 38 13.2 -0.6**
BKZ Black Stump Fm 31.74 157 P **P** **12 38 15.2 -1.0**
KNRA Kununurra 32.10 257 P **P** **12 38 18.8 -0.7**
KNRA IAmb IAmb 12 38 20.3
comp=Z,43nm,0.9s
TKNZ Takaka Hill 32.25 163 P **P** **12 38 20.7 +0.2**
TCW Tory Channel 32.80 162 P **P** **12 38 25.1 -0.2**
TUWZ Tuamarina 32.90 162 P **P** **12 38 26.3 +0.1**
RPZ Rata Peaks 34.30 167 P **P** **12 38 38.6 +0.3**
MQZ McQueen's Vall 34.67 165 P **P** **12 38 41.1 -0.3**
FITZ Fitzroy Crossi 35.34 253 P **P** **12 38 46.7 -1.0**
DCZ Deep Cove 35.35 173 P **P** **12 38 47.1 -0.2**
WHZ Wether Hill Ro 35.87 172 P **P** **12 38 50.8 -1.0**
SANI Sanana 36.01 281 P **P** **12 38 55.0 +1.6**
comp=Z,33nm,1.0s
FORT Forrest 36.93 232 P **P** **12 39 01.1 0.0**
FORT IAmb IAmb 12 39 02.8
comp=Z,47nm,1.1s
MMRI Maumere 38.53 269 P **P** **12 39 13.2 -1.5**
RAR Rarotonga 38.90 111 LR LR 12 52 30.2
comp=Z,95nm,20.3s,baz=150,slow=32
EDFI Ende, Flores 39.06 269 P **P** **12 39 19.6 +0.3**
comp=Z,21nm,1.0s
LUWI Luwuk 39.37 281 P **P** **12 39 20.6 -1.2**
DAV Davao City (W) 39.54 295 LR LR 12 55 46.3
comp=Z,48nm,18.3s,baz=170,slow=36
PSA00 Pilbara Seismi 41.25 249 P **P** **12 39 36.5 -0.7**
PSA00 IAmb IAmb 12 39 37.8
comp=Z,50nm,1.2s
MBWA Marble Bar 41.29 250 P **P** **12 39 37.0 -0.5**
MBWA IAmb IAmb 12 39 38.0
comp=Z,35nm,1.1s
MBWA Marble Bar 41.29 250 P **P** **12 39 36.8 -0.7**
MBWA pP **pP** **12 39 58.7 +1.3**
KAPI Kappang 41.47 274 P **P** **12 39 38.9 -0.1**
KAPI IAmb IAmb 12 40 05.5
comp=Z,61nm,1.4s
KAPI Kappang 41.47 274 LR LR 12 59 01.1
comp=Z,141nm,18.0s,baz=86,slow=39
KAPI Kappang 41.47 274 *d i*P **P** **12 39 39.0 -0.1**
KAPI pmax pmax
comp=Z,22nm,0.9s
JCJ Chichijima 41.58 334 LR LR 12 54 46.3
comp=Z,181nm,20.6s,baz=100,slow=33
TOLI2 Tolitoli 41.87 283 P **P** **12 39 40.5 -1.9**
MPSI Mapaga 42.51 282 P **P** **12 39 46.2 -1.3**
MORW Morawa 46.15 240 P **P** **12 40 16.2 -0.2**
MORW IAmb IAmb 12 40 17.1
comp=Z,38nm,1.2s

NWAO Narrogin (SRO) 46.26 234 LR LR 12 59 18.0
comp=Z,210nm,18.9s,baz=347,slow=35
JAGI Jajag, Banyuwa 46.50 268 P **P** **12 40 17.6 -1.8**
JAGI Jajag, Banyuwa 46.50 268 P **P** **12 40 19.2 -0.2**
KKM Kota Kinabalu 47.74 288 P **P** **12 40 28.5 -0.6**
KKM IAmb IAmb 12 40 50.0
comp=Z,64nm,1.5s
JHJ2 Mitsune 47.82 336 P **P** **12 40 28.6 -0.6**
JHJ Hachijo jima 2 47.84 335 LR LR 13 00 09.1
comp=Z,32nm,20.1s,baz=136,slow=35
PPT Papeete 48.12 104 LR LR 12 57 43.3
comp=Z,48nm,21.1s,baz=319,slow=32
PPT2 Papeete2 48.12 104 *e*LR LR 12 54 20.4
comp=Z,198nm,33.5s
PPT2 *e*LR LR 12 54 22.5
comp=Z,360nm,31.5s
TBI Tubuai 48.66 112 *e*LR LR 12 54 32.6
comp=Z,1µm,31.8s
TBI *e*LR LR 12 54 32.8
comp=Z,2µm,33.2s
INU Inuyama 50.92 334 P **P** **12 40 52.3 -0.5**
INU Inuyama 50.92 334 P **P** **12 40 52.5 -0.3**
JGF Kuroka 50.99 335 P **P** **12 40 53.4 +0.1**
JMN Monobe 51.00 330 P **P** **12 40 53.2 -0.3**
MJAR Matsushiro Arr 51.45 336 P **P** **12 40 55.5 -1.3**
comp=Z,20nm,0.8s,baz=169,slow=8.5,SNR=50
MJAR pP **pP** **12 41 16.0 -2.3**
comp=Z,2.4nm,0.6s,baz=294,slow=9.1,SNR=2.3
MJAR LR LR 13 00 57.4
comp=Z,22nm,20.8s,baz=147,slow=34
comp=Z,20nm,0.8s
MAJO Matsushiro 51.45 336 P **P** **12 40 55.4 -1.4**
MAJO Matsushiro 51.45 336 *d i*P **P** **12 40 55.7 -1.1**
MAJO pmax pmax
comp=Z,26nm,0.9s
MAJO Matsushiro 51.45 336 P **P** **12 40 55.8 -1.0**
MAJO pP **pP** **12 41 18.1 -0.2**
MJB9 Matsu-Tunnel 51.46 336 P **P** **12 40 56.0 -0.8**
JMM Marumori 51.66 339 P **P** **12 40 57.9 -0.3**
JNU Nakatsue 52.04 327 P **P** **12 41 00.8 -0.5**
JTM Tenmabayashi 54.20 341 P **P** **12 41 16.2 -0.7**
TJN Taejon 56.39 327 P **P** **12 41 31.9 -0.8**
TJN Taejon 56.39 327 *d i*P **P** **12 41 32.3 -0.4**
JKA Kamikawa-asahi 56.80 344 P **P** **12 41 35.7 +0.2**
ASAJ Asahikawa 56.81 344 LR LR 13 03 30.1
comp=Z,201nm,21.8s,baz=160,slow=33
ASAJ Asahikawa 56.81 344 P **P** **12 41 35.7 +0.2**
ASAJ pmax pmax
comp=Z,46nm,0.8s
KSRS Korea Array 56.91 329 P **P** **12 41 36.4 0.0**
comp=Z,17nm,1.0s,baz=141,slow=7.3,SNR=63
KSRS pP **pP** **12 41 56.5 -2.1**
comp=Z,8.4nm,1.0s,baz=142,slow=6.5,SNR=4.3
KSRS LR LR 13 04 00.7
comp=Z,58nm,21.2s,baz=135,slow=34
comp=Z,17nm,1.0s
KSAR Wonju Array Be 56.92 328 P **P** **12 41 36.0 -0.5**
KSAR Wonju Array Be 56.92 328 P **P** **12 41 36.0 -0.5**
KS19 Wonju Array Si 56.98 329 P **P** **12 41 36.8 -0.1**
KS19 IAmb IAmb 12 41 37.5
comp=Z,20nm,0.9s
INCN Inchon 57.61 328 P **P** **12 41 41.9 +0.5**
INCN Inchon 57.61 328 P **P** **12 41 41.9 +0.5**
INCN pmax pmax
comp=Z,54nm,1.2s
INCN Inchon 57.61 328 P **P** **12 41 41.8 +0.5**
DRV Dumont d'Urvil 58.06 190 P **P** **12 41 43.4 -0.6**
NJ2 Nanjing 58.50 318 *e*P **P** **12 41 48.0 +0.3**
NJ2 pP **pwP** **12 42 13.5 +3.7**
NJ2 pmax pmax
comp=Z,16nm,0.5s
NJ2 pmax pmax
comp=Z,160nm,4.0s
YSS Yuzh-Sakhalins 59.40 345 P **P** **12 41 52.8 -0.8**
YSS Yuzh-Sakhalins 59.40 345 *e*P **P** **12 41 52.7 -0.8**
YSS *e* 12 42 17.5
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,200nm,18.0s
YSS Yuzh-Sakhalins 59.40 345 P **P** **12 41 54.1 +0.5**
YSS pP **pP** **12 42 16.7 +1.1**
MSHR Mys Shultsa 59.46 335⇓ *e*P **P** **12 41 53.6 -0.4**
MSHR pmax pmax
comp=Z,12nm,0.8s
VLA Vladivostok 59.60 335 *e*P **P** **12 41 55.1 +0.1**
VLA pmax pmax
comp=Z,25nm,1.0s
PSTR Posyet 59.66 334 *ce*P **P** **12 41 55.8 +0.3**
USA0B Ussuriysk Arra 60.45 336 P **P** **12 42 01.2 +0.4**
USA0B Ussuriysk Arra 60.45 336 *d i*P **P** **12 42 00.9 +0.1**
USRK Ussuriysk Ar. 60.45 336 P **P** **12 42 00.7 -0.1**
USRK Ussuriysk Ar. 60.45 336 P **P** **12 42 01.2 +0.3**
comp=Z,52nm,0.8s,baz=148,slow=6.8,SNR=77
USRK pP **pP** **12 42 21.5 -1.5**
comp=Z,22nm,1.0s,baz=146,slow=6.7,SNR=3.6
USRK LR LR 13 06 19.0
comp=Z,29nm,21.9s,baz=158,slow=34
comp=Z,52nm,0.8s
USRK Ussuriysk Ar. 60.45 336 P **P** **12 42 00.7 -0.1**
DL2 Dalian 61.35 325 P **P** **12 42 05.6 -1.5**
DL2 pmax pmax
comp=Z,43nm,0.9s
MDJ Mudanjiang 61.77 335 P **P** **12 42 10.0 +0.2**
MDJ pP pP 12 42 31.0 -1.1
MDJ pmax pmax
comp=Z,40nm,1.1s
MDJ pmax pmax
comp=Z,160nm,8.2s
MDJ Mudanjiang 61.77 335 P **P** **12 42 10.0 +0.2**
MDJ pP **pP** **12 42 33.2 +1.2**
CN2 Changchun 62.97 332 *e*P **P** **12 42 17.3 -0.5**
CN2 *ep*P pP 12 42 41.8 +1.7
CN2 *es*P PcP 12 42 52.4 -2.6
CN2 *e*S **S** **12 50 39.3 -1.7**
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
PET Petropavlovsk 63.16 358 *e*P **P** **12 42 18.5 -0.4**
PET *e**PP **pwP** **12 42 43.2 -0.4**
PET *e**SP **PcP** **12 42 56.2 +0.7**
PET *e*S **S** **12 50 43.6 +0.6**
PET pmax pmax
comp=Z,29nm,1.0s
PET MLR MLR
comp=Z,200nm,19.0s
PET MLR MLR
comp=Z,100nm,20.0s
PET Petropavlovsk 63.16 358 P **P** **12 42 18.4 -0.4**
comp=Z,29nm,1.3s
PET Petropavlovsk 63.16 358 P **P** **12 42 18.4 -0.4**
PET pP **pwP** **12 42 42.3 -1.3**
BNX BinXian 63.60 334 ⇓P **P** **12 42 21.5 -0.4**
BNX pmax pmax
comp=Z,46nm,0.7s
SHEM Shemya Is, Ala 63.79 9 LR LR 13 06 33.3
comp=Z,59nm,19.1s,baz=148,slow=32
HNS HongShan 64.49 320 ⇑P **P** **12 42 28.1 +0.2**
HNS pmax pmax
comp=Z,11nm,1.0s
GRNR Gornyy 64.60 343⇓ *i*P **P** **12 42 28.9 +0.6**
GRNR pmax pmax
comp=Z,5.0nm,1.2s
KIWB Kanaga Island 64.69 15 P **P** **12 42 29.8 +0.9**
KLR Kul'dur 64.76 339 LR LR 13 07 55.2
comp=Z,70nm,21.9s,baz=153,slow=33
KLR Kul'dur 64.76 339 *d i*P **P** **12 42 29.3 -0.1**
KLR pmax pmax
comp=Z,34nm,1.3s
ADK Adak 64.84 15 P **P** **12 42 30.7 +0.9**
ADK pP **pwP** **12 42 54.7 0.0**
XAN Xi'an 66.45 314 ⇑P **P** **12 42 42.3 +1.6**
XAN pP pP 12 43 05.3 +1.9
XAN PcP **PcP** **12 43 10.6 +0.9**
XAN sP sP 12 43 18.0 +4.8
XAN pmax pmax
comp=Z,14nm,1.0s
VNDA Vanda 67.15 180 P **P** **12 42 44.7 +0.3**
VNDA IAmb IAmb 12 42 45.8
comp=Z,21nm,1.0s
VNDA Vanda 67.15 180 P **P** **12 42 44.2 -0.1**
comp=Z,12nm,0.8s,baz=339,slow=6.5,SNR=43
VNDA LR LR 13 08 11.6
comp=Z,57nm,18.2s,baz=354,slow=32

comp=Z,12nm,0.8s
VNDA Vanda 67.15 180 P **P** **12 42 44.7 +0.3**
VNDA pmax pmax
comp=Z,21nm,1.0s
VNDA Vanda 67.15 180 P **P** **12 42 44.3 -0.1**
VNDA PcP **pwP** **12 43 12.2 +0.6**
VNDA sP **sP** **12 43 18.2 +2.6**
HEH HeiHe 67.20 337 *e*P **P** **12 42 44.6 -0.4**
HEH pmax pmax
comp=Z,45nm,0.8s
SBA Scott Base 67.54 179 P **P** **12 42 47.9 +1.1**
SBA IAmb IAmb 12 42 49.4
comp=Z,38nm,1.2s
SBA Scott Base 67.54 179 P **P** **12 42 47.9 +1.1**
SBA pmax pmax
comp=Z,38nm,1.2s
SBA Scott Base 67.54 179 P **P** **12 42 48.1 +1.3**
XLT XiLinHaoTe 67.80 326⇓ *i*P **P** **12 42 49.1 0.0**
XLT pP pP 12 43 10.6 -1.0
XLT PcP **PcP** **12 43 14.5 -0.7**
XLT sP sP 12 43 24.5 +3.2
XLT ScP 12 47 05.1
XLT S **S** **12 51 39.3 -0.9**
XLT sS sS 12 52 19.9 +0.7
XLT pmax pmax
comp=Z,50nm,0.9s
XLT pmax pmax
comp=Z,99nm,3.2s
CMAR Chiang Mai Arr 67.83 295 P **P** **12 42 49.1 -0.5**
CMAR Chiang Mai Arr 67.83 295 P **P** **12 42 49.6 0.0**
comp=Z,1.1nm,0.3s,baz=111,slow=5.2,SNR=9.8
CMAR pP **pP** **12 43 10.3 -1.7**
comp=Z,6.4nm,0.9s,baz=116,slow=4.5,SNR=5.7
CMAR LR LR 13 14 55.6
comp=Z,15nm,18.1s,baz=120,slow=38
comp=Z,1.1nm,0.3s
CMAR Chiang Mai Arr 67.83 295 P **P** **12 42 49.1 -0.5**
NIKH Nikolski High 68.05 19 P **P** **12 42 50.3 +0.1**
baz=212
CCD Concordia, Ant 68.09 190 P **P** **12 42 50.8 -0.1**
PZH PanZhiHua 68.42 304 P **P** **12 42 55.5 +2.1**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,4.6s
HHC Hu-ho-hao-te 68.52 322 *e*P **P** **12 42 54.0 +0.4**
HHC pP pwP 12 43 17.9 -0.4
HHC sP sP 12 43 29.3 +3.3
HHC S **S** **12 51 47.5 -1.3**
HHC sS SKiKP 12 52 33.1 -5.4
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,67nm,5.7s
CD2 Chengdu 68.73 309 P **P** **12 42 55.4 +0.3**
CD2 pP PcP 12 43 18.8 -0.5
CD2 sP sP 12 43 30.6 +3.2
CD2 S **S** **12 51 52.4 +0.8**
CD2 pmax pmax
comp=Z,140nm,6.1s
BTO Baotou 69.33 321 *e*P **P** **12 43 02.8 +4.1**
BTO pP **pwP** **12 43 24.8 +3.4**
BTO sP sP 12 43 38.8 +7.7
BTO pmax pmax
comp=Z,20nm,0.6s
BTO pmax pmax
comp=Z,150nm,4.7s
BTO LR LR
comp=Z,270nm,6.5s
BTO LR LR
comp=Z,160nm,6.1s
BTO LR LR
comp=Z,220nm,7.1s
UNV Unalaska Valle 69.55 20 P **P** **12 43 00.0 +0.5**
baz=214
HIA Hailar 69.66 332 P **P** **12 43 00.9 +0.4**
HIA pP **pwP** **12 43 24.9 -0.5**
ZEA Zeya 70.08 339 *e*P **P** **12 43 03.1 +0.3**
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,40nm,0.7s
MA2 Magadan 70.20 354 LR LR 13 10 08.6
comp=Z,70nm,21.7s,baz=176,slow=33
MA2 Magadan 70.20 354 *de*P **P** **12 43 02.6 -0.9**
MA2 pmax pmax
comp=Z,23nm,1.7s
MA2 Magadan 70.20 354 P **P** **12 43 02.9 -0.6**
MA2 pP **pP** **12 43 26.6 +0.4**
P08K Saint George I 70.95 17 P **P** **12 43 08.5 +0.4**
baz=210
LZH Lanzhou 71.08 314 *e*P **P** **12 43 12.3 +2.7**
LZH pP pwP 12 43 34.3 -0.8
LZH pmax pmax
comp=Z,12nm,1.0s
SPIA Saint Paul Isl 71.26 16 P **P** **12 43 10.1 +0.2**
baz=210
FALS False Pass 71.42 21 P **P** **12 43 10.9 0.0**
baz=217
S12K Black Hills 72.57 21 P **P** **12 43 18.1 +0.2**
baz=218
CHNA Chernabura Isl 72.78 22 P **P** **12 43 19.5 +0.4**
baz=221
SDPT Sand Point 72.85 22 P **P** **12 43 19.3 -0.1**
baz=220
SEY Seymchan 73.39 356⇓ *e*P **P** **12 43 22.5 0.0**
SEY pmax pmax
comp=Z,8.0nm,0.6s
S14K Fog Glacier 73.91 22 P **P** **12 43 26.1 +0.3**
baz=220
CHGN Chignik 74.33 22 P **P** **12 43 28.3 +0.1**
baz=221
CHIR Chirikof Islan 75.05 24 P **P** **12 43 32.3 +0.1**
baz=224
M11K Mekoryuk 75.10 16 P **P** **12 43 32.8 +0.3**
baz=213
ULN Ulaanbaatar 75.21 326 P **P** **12 43 34.1 +0.5**
ULN Ulaanbaatar 75.21 326 *de*P **P** **12 43 33.9 +0.3**
ULN pmax pmax
comp=Z,19nm,1.0s
GTA Gaotai 75.45 315 *e*P **P** **12 43 35.8 +0.6**
GTA pP pwP 12 44 00.8 -0.2
SONM Songino Array 75.56 325 P **P** **12 43 35.9 +0.3**
SONM Songino Array 75.56 325 P **P** **12 43 36.1 +0.5**
comp=Z,12nm,0.8s,baz=142,slow=6.1,SNR=21
SONM pP **pP** **12 43 57.5 -1.1**
comp=Z,11nm,0.6s,baz=137,slow=4.4,SNR=5.0
SONM LR LR 13 15 55.9
comp=Z,55nm,20.9s,baz=197,slow=35
comp=Z,12nm,0.8s
SONM Songino Array 75.56 325 P **P** **12 43 35.9 +0.3**
SONM pmax pmax
comp=Z,13nm,0.8s
O14K Tigyukauivet M 75.63 19 P **P** **12 43 36.4 +0.8**
O14K IAmb IAmb 12 44 03.0
comp=Z,30nm,1.1s
O14K Tigyukauivet M 75.63 19 P **P** **12 43 36.1 +0.6**
baz=218,SNR=6.3
M13K Dall Lake 75.93 17 P **P** **12 43 38.0 +0.8**
M13K IAmb IAmb 12 44 05.2
comp=Z,31nm,1.1s
M13K Dall Lake 75.93 17 P **P** **12 43 38.0 +0.8**
baz=216
N14K Kuskokwak Cree 76.03 18 P **P** **12 43 38.3 +0.5**
baz=218
O15K Ungalikthiuk R 76.04 19 P **P** **12 43 38.0 +0.1**
baz=220
R17L Mt. Peulik Vol 76.08 22 P **P** **12 43 38.2 0.0**
baz=223
SII Sitkinak Islan 76.14 24 P **P** **12 43 38.9 +0.4**
baz=225
YAK Yakutsk 76.25 345 P **P** **12 43 38.8 -0.2**
YAK Yakutsk 76.25 345 LR LR 13 14 44.4
comp=Z,97nm,21.9s,baz=147,slow=34
YAK Yakutsk 76.25 345 *e*P **P** **12 43 38.9 -0.1**
YAK *e* 12 43 59.6
YAK *e* 12 46 31.5
YAK *e*S **S** **12 53 15.7 -0.3**
YAK *e* 12 53 41.8
YAK *e**SS sS 12 54 02.8 +7.2
YAK pmax pmax
comp=Z,78nm,0.8s
YAK pmax pmax

comp=E,4.0nm,0.8s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=Z,4.0nm,0.4s
YAK smax smax
comp=E,5.0nm,1.2s
YAK smax smax
comp=N,37nm,2.3s
P16K Nushagak River 76.54 20 P **P** 12 43 41.2 +0.5
baz=221
M14K Bethel 76.61 18 P **P** 12 43 41.6 +0.6
baz=217,SNR=10
Q17K Contact Creek 76.71 22 P **P** 12 43 42.2 +0.4
baz=223
N15K Kwethluk River 76.72 19 P **P** 12 43 42.2 +0.5
baz=219,SNR=8.7
R18K Karluk 76.75 23 P **P** 12 43 42.1 +0.2
baz=225
K13K Kusilvak Mount 76.81 16 P **P** 12 43 43.3 +1.1
baz=214
L14K Kuka Creek 76.87 17 P **P** 12 43 43.6 +1.1
baz=216,SNR=5.5
O16K Kokwok River B 76.93 20 P **P** 12 43 43.0 +0.1
baz=221
M15K Kasigluk River 76.95 18 P **P** 12 43 43.2 +0.2
baz=218,SNR=6.4
OHAK Old Harbor 76.95 23 P **P** 12 43 44.0 +0.9
OHAK IAmb IAmb 12 43 45.0
comp=Z,16nm,0.9s
OHAK Old Harbor 76.95 23 P **P** 12 43 43.3 +0.3
baz=226
P17K Kvichak River 77.20 21 P **P** 12 43 44.0 -0.4
baz=223
Q18K Katmai Hardscr 77.31 22 P **P** 12 43 45.3 0.0
baz=224,SNR=19
N16K Nishlik Lake 77.38 19 P **P** 12 43 45.8 +0.4
baz=220,SNR=6.8
O17K Koliganek Bris 77.40 20 P **P** 12 43 45.5 0.0
baz=222,SNR=7.9
L15K Ungalak Mounta 77.49 17 P **P** 12 43 46.1 +0.1
baz=218
KDAK Kodiak Island 77.62 23 P **P** 12 43 47.4 +0.6
baz=227
KDAK Kodiak Island 77.62 23 LR LR 13 15 04.4
comp=Z,86nm,18.8s,baz=236,slow=33
KDAK Kodiak Island 77.62 23 *d iP* **P** 12 43 47.2 +0.4
KDAK pmax pmax
comp=Z,26nm,0.7s
M16K Timber Creek 77.74 19 P **P** 12 43 47.9 +0.5
M16K IAmb IAmb 12 44 15.5
comp=Z,25nm,0.9s
M16K Timber Creek 77.74 19 P **P** 12 43 48.3 +0.9
baz=220,SNR=8.8
P18K Big Mountain, 77.77 21 P **P** 12 43 47.5 -0.2
baz=224
J14K Nanvaranak Lak 77.78 16 P **P** 12 43 48.2 +0.7
J14K IAmb IAmb 12 44 15.1
comp=Z,25nm,1.0s
J14K Nanvaranak Lak 77.78 16 P **P** 12 43 48.3 +0.7
baz=216,SNR=6.3
N17K Nushagak Hills 77.93 20 P **P** 12 43 49.0 +0.5
N17K IAmb IAmb 12 44 16.1
comp=Z,23nm,1.1s
N17K Nushagak Hills 77.93 20 P **P** 12 43 49.4 +0.9
baz=222,SNR=7.8
K15K Wolf Creek Mou 77.97 17 P **P** 12 43 49.6 +0.9
K15K IAmb IAmb 12 44 16.7
comp=Z,38nm,1.0s
K15K Wolf Creek Mou 77.97 17 P **P** 12 43 49.3 +0.7
baz=218,SNR=12
Q19K Cape Douglas, 78.01 22 P **P** 12 43 49.2 +0.2
Q19K Cape Douglas, 78.01 22 P **P** 12 43 49.0 -0.1
baz=225,SNR=8.2
L16K Owhat River 78.11 18 P **P** 12 43 50.0 +0.6
baz=220,SNR=6.2
O18K Koktuh Hills 78.11 21 P **P** 12 43 49.0 -0.5
baz=224
Q20K Shuyak Island 78.26 23 P **P** 12 43 50.9 +0.6
baz=227
BILL Bilibino 78.27 2 P **P** 12 43 50.5 +0.3
BILL IAmb IAmb 12 44 17.6
comp=Z,38nm,1.1s
BILL Bilibino 78.27 2 *d iP* **P** 12 43 50.3 +0.1
BILL *i*
BILL *i* *PP **pP** 12 44 12.0 -1.3
BILL pmax pmax
comp=Z,27nm,0.9s
N18K Kilae Creek 78.48 20 P **P** 12 43 52.2 +0.6
N18K IAmb IAmb 12 44 19.7
comp=Z,27nm,1.2s
N18K Kilae Creek 78.48 20 P **P** 12 43 52.3 +0.7
baz=223
M17K Holitna River 78.51 19 P **P** 12 43 52.5 +0.8
M17K Holitna River 78.51 19 P **P** 12 43 53.1 +1.4
baz=222
ZAK Zakamensk 78.66 326 *eP* **P** 12 43 51.9 -1.0
ZAK *e* 12 44 14.0
ZAK pmax pmax
comp=Z,8.0nm,1.1s
ZAK pmax pmax
comp=Z,7.0nm,1.0s
O19K Port Alsworth 78.67 21 P **P** 12 43 52.8 +0.3
baz=225
P19K Oil Pt 78.67 22 P **P** 12 43 52.8 +0.2
baz=226
L17K Donlin 78.80 18 P **P** 12 43 54.4 +1.2
baz=221,SNR=8.2
ANM Nome 78.82 14 P **P** 12 43 53.8 +0.5
baz=214
J16K Anvik River 79.01 17 P **P** 12 43 55.6 +1.2
J16K IAmb IAmb 12 44 22.2
comp=Z,23nm,1.0s
J16K Anvik River 79.01 17 P **P** 12 43 55.4 +1.0
baz=218,SNR=10
N19K Bonanza Creek 79.05 20 P **P** 12 43 55.2 +0.4
baz=224,SNR=5.3
TNA Tin City 79.09 13 P **P** 12 43 55.6 +0.8
baz=211
M18K Stony River 79.09 19 P **P** 12 43 56.1 +1.2
baz=223,SNR=13
O20K Slope Mountain 79.19 22 P **P** 12 43 56.4 +0.9
baz=226
K17K Iditarod 79.24 18 P **P** 12 43 56.7 +1.1
K17K IAmb IAmb 12 44 23.9
comp=Z,23nm,1.1s
K17K Iditarod 79.24 18 P **P** 12 43 56.6 +0.9
baz=220,SNR=8.7
HOM Homer 79.26 22 P **P** 12 43 56.4 +0.6
baz=227
CNPM China Poot 79.32 22 P **P** 12 43 56.6 +0.5
CNPM IAmb IAmb 12 44 24.0
comp=Z,30nm,1.0s
L18K Granite Mounta 79.36 19 P **P** 12 43 57.4 +1.2
baz=222,SNR=31
F14K Arctic Creek 79.36 13 P **P** 12 43 57.4 +1.1
baz=212
I17K Unalakleet 79.46 16 P **P** 12 43 57.9 +1.1
baz=218
G15K Niukluk 79.50 14 P **P** 12 43 57.9 +0.9
baz=215
J17K VABM Dome 79.53 17 P **P** 12 43 57.6 +0.4
J17K VABM Dome 79.53 17 P **P** 12 43 58.3 +1.1
baz=220,SNR=14
QSPA South Pole Qui 79.64 180 P **P** 12 43 57.4 -0.7
comp=Z,36nm,1.0s,baz=1.5,slow=1.3,SNR=84
comp=Z,36nm,1.0s
BRSE Bradley Lake S 79.65 22 P **P** 12 43 58.5 +0.5
baz=228
H16K Elim 79.65 15 P **P** 12 43 59.1 +1.2
baz=216
M19K Big River Lodg 79.87 20 P **P** 12 44 00.4 +1.3
baz=224
L19K White Mountain 79.92 19 P **P** 12 44 00.3 +0.9
baz=224,SNR=18
F15K North Star Dit 79.94 14 P **P** 12 44 00.5 +1.1
baz=214
TTA Tatalina 80.09 18 P **P** 12 44 00.9 +0.6
baz=223,SNR=11
G16K Koyuk River 80.24 15 P **P** 12 44 01.5 +0.6
baz=216,SNR=5.2
M20K Styx River 80.27 20 P **P** 12 44 02.5 +1.1
M20K Styx River 80.27 20 P **P** 12 44 02.0 +0.7
baz=226,SNR=6.7
J18K Innoko River 80.28 18 P **P** 12 44 01.6 +0.4
J18K Innoko River 80.28 18 P **P** 12 44 02.1 +0.9
baz=222,SNR=14

SEW Seward 80.38 23 P **P** 12 44 02.2 +0.4
baz=229
L20K Farewell, AK 80.45 19 P **P** 12 44 03.1 +0.9
baz=225,SNR=20
H17K Granite Mounta 80.50 16 P **P** 12 44 02.8 +0.4
baz=219,SNR=8.2
O22K Cooper Landing 80.53 22 P **P** 12 44 03.0 +0.4
baz=229
G17K Kiwalik Mounta 80.75 15 P **P** 12 44 04.3 +0.6
baz=218
SUA Susitna One 80.81 21 P **P** 12 44 04.4 +0.1
baz=228
SKT Skwentna 80.89 21 P **P** 12 44 04.3 -0.2
baz=227
RC01 Rabbit Creek A 80.92 22 P **P** 12 44 05.0 +0.2
baz=229
J19K Poorman 81.00 18 P **P** 12 44 05.6 +0.6
J19K Poorman 81.00 18 P **P** 12 44 05.7 +0.6
baz=223,SNR=7.4
K20K Telida 81.01 19 P **P** 12 44 06.4 +1.2
baz=224
H18K Honhosa River 81.08 16 P **P** 12 44 05.8 +0.2
baz=220
P23K Montague Islan 81.10 23 P **P** 12 44 06.0 +0.3
baz=231
Q23K Middleton Isla 81.17 24 P **P** 12 44 06.9 +0.9
baz=232
M22K Willow 81.23 21 P **P** 12 44 07.2 +0.9
baz=228
PWL Port Wells 81.29 22 P **P** 12 44 08.0 +1.3
PWL IAmb IAmb 12 44 34.4
comp=Z,24nm,1.0s
PWL Port Wells 81.29 22 P **P** 12 44 07.2 +0.4
baz=230,SNR=6.4
F17K Baldwin Pennin 81.35 14 P **P** 12 44 07.7 +0.9
F17K Baldwin Pennin 81.35 14 P **P** 12 44 07.5 +0.7
baz=217
PMR Palmer 81.48 22 P **P** 12 44 07.8 +0.2
baz=229,SNR=6.4
G18K Tagagawik 81.58 16 P **P** 12 44 08.5 +0.4
baz=220
J20K Nowinta River 81.58 18 P **P** 12 44 09.0 +0.8
J20K IAmb IAmb 12 44 35.8
comp=Z,27nm,1.2s
J20K Nowinta River 81.58 18 P **P** 12 44 08.9 +0.8
baz=224,SNR=9.5
KNK Knik Glacier 81.61 22 P **P** 12 44 09.2 +0.8
baz=230
CUT Chulitna 81.61 21 P **P** 12 44 08.7 +0.4
baz=228
GHO Glory Hole Cre 81.67 22 P **P** 12 44 09.5 +0.7
E17K Hotham Inlet 81.73 14 P **P** 12 44 09.4 +0.5
baz=217,SNR=8.2
GLI Glacier Island 81.78 23 P **P** 12 44 09.3 0.0
baz=231
F18K Selawik 81.87 15 P **P** 12 44 09.9 +0.3
baz=219,SNR=8.3
H19K Roundabout Mou 81.90 16 P **P** 12 44 10.3 +0.6
baz=222,SNR=7.5
SML Sawmill 81.91 22 P **P** 12 44 10.5 +0.5
baz=230
I20K Naaghedeneel 81.92 18 P **P** 12 44 10.7 +0.8
baz=224
C16K Lisburne Hills 81.94 12 P **P** 12 44 10.8 +0.9
baz=213
D17K Noatak River 81.94 13 P **P** 12 44 10.7 +0.8
baz=215
EYAK Cordova Ski Ar 82.09 23 P **P** 12 44 11.1 +0.3
baz=232
M23K Glacier View 82.12 22 P **P** 12 44 11.5 +0.4
baz=230
G19K Purcell Mounta 82.18 16 P **P** 12 44 11.8 +0.6
G19K Purcell Mounta 82.18 16 P **P** 12 44 11.9 +0.6
baz=221,SNR=9.9
KAIM Kayak Island 82.25 24 P **P** 12 44 12.1 +0.4
baz=234
RDOG Red Dog Mine 82.27 13 P **P** 12 44 12.3 +0.6
baz=216
E18K Tukpahlearik C 82.29 14 P **P** 12 44 12.8 +1.0
baz=218
SCM Sheep Creek Mo 82.29 22 P **P** 12 44 12.5 +0.5
baz=231
H20K Anotleneega Mo 82.31 17 P **P** 12 44 12.5 +0.5
baz=224,SNR=8.0
WAT1 Susitna Watana 82.49 21 P **P** 12 44 13.1 +0.1
baz=230
BPAW Bear Paw Mtn. 82.52 19 P **P** 12 44 12.6 -0.5
baz=227,SNR=6.9
F19K Shaleruckik Mo 82.53 15 P **P** 12 44 13.2 +0.2
F19K Shaleruckik Mo 82.53 15 P **P** 12 44 13.3 +0.2
baz=221,SNR=9.6
C17K DeLong Mountai 82.56 12 P **P** 12 44 13.7 +0.5
baz=215
KLU Klutina 82.60 23 P **P** 12 44 14.1 +0.5
baz=232
WAT6 Susitna Watana 82.62 21 P **P** 12 44 14.0 +0.2
baz=230
BMRM Bremner River 82.79 23 P **P** 12 44 15.2 +0.5
baz=234
M24K Tolsona, Glenn 82.89 22 P **P** 12 44 15.6 +0.5
baz=232,SNR=6.9
I21K Tanana 82.95 18 P **P** 12 44 16.3 +1.1
baz=226
MCK McKinley 82.95 20 P **P** 12 44 15.6 +0.3
baz=229,SNR=15
IMAR Indian Mountai 82.99 17 P **P** 12 44 16.3 +0.8
H21K Melozitna Rive 83.04 17 P **P** 12 44 16.4 +0.7
baz=225,SNR=6.5
DHY Denali Highway 83.06 21 P **P** 12 44 16.2 +0.1
baz=231
C18K Utukok River 83.13 13 P **P** 12 44 16.1 -0.1
baz=217
E19K Redstone River 83.14 15 P **P** 12 44 17.1 +0.9
baz=221
N25K Chitina, Valde 83.18 23 P **P** 12 44 17.3 +0.7
N25K IAmb IAmb 12 44 42.6
comp=Z,26nm,1.4s
N25K Chitina, Valde 83.18 23 P **P** 12 44 17.0 +0.4
baz=233,SNR=7.9
F20K Avaraart Lake 83.22 16 P **P** 12 44 17.1 +0.5
baz=222,SNR=6.1
MLY Manley 83.23 19 P **P** 12 44 16.7 -0.1
MLY IAmb IAmb 12 44 44.3
comp=Z,18nm,1.0s
MLY Manley 83.23 19 P **P** 12 44 17.0 +0.2
baz=227,SNR=12
CRQE Cirque 83.27 24 P **P** 12 44 17.3 +0.1
baz=235
GLB Gilahina Butte 83.38 23 P **P** 12 44 18.0 +0.3
GLB IAmb IAmb 12 44 44.9
comp=Z,58nm,1.8s
MESA MESA 83.41 25 P **P** 12 44 18.1 +0.1
baz=236
G21K Allakaket 83.44 17 P **P** 12 44 18.6 +0.8
baz=225
HARP HAARP 83.44 22 P **P** 12 44 18.3 +0.4
baz=233
NEA2 Nenana 83.47 19 P **P** 12 44 18.0 0.0
NEA2 IAmb IAmb 12 44 44.8
comp=Z,24nm,1.0s
NEA2 Nenana 83.47 19 P **P** 12 44 17.6 -0.3
baz=229,SNR=12
B18K Kokolik River 83.57 12 P **P** 12 44 18.8 +0.4
baz=216
H22K Ishtalitna Cre 83.62 18 P **P** 12 44 19.4 +0.7
baz=227,SNR=10
MCARA McCarthy VSAT 83.66 24 P **P** 12 44 19.5 +0.5
MCARA McCarthy VSAT 83.66 24 P **P** 12 44 19.2 +0.2
baz=235
PAX Paxson 83.68 22 P **P** 12 44 19.6 +0.4
baz=232
MAW Mawson 83.70 202 P **P** 12 44 18.9 -0.2
comp=Z,23nm,1.0s,baz=100,slow=5.7,SNR=31
MAW LR LR 13 17 05.0
comp=Z,95nm,19.1s,baz=78,slow=32
comp=Z,23nm,1.0s
WRH Wood River Hil 83.71 20 P **P** 12 44 18.5 -0.7
WRH IAmb IAmb 12 44 46.1
comp=Z,18nm,1.0s
D19K Kuna River 83.72 14 P **P** 12 44 20.1 +0.9
baz=220
I23K Minto, Yukon-K 83.74 19 P **P** 12 44 19.4 +0.1
baz=229,SNR=6.8
GRNC Granite Creek 83.80 24 P **P** 12 44 20.2 +0.2
C19K Lookout Ridge 83.85 13 P **P** 12 44 20.8 +0.9
baz=219
F21K Alatna River 83.95 16 P **P** 12 44 21.0 +0.5
baz=225,SNR=7.2

MDM Murphy Dome 83.98 19 P **P** 12 44 20.0 -0.6
MDM IAmb IAmb 12 44 47.4
comp=Z,20nm,1.0s
E20K Nigu River 84.00 15 P **P** 12 44 21.5 +0.8
baz=222
COLA College 84.05 19 P **P** 12 44 20.8 0.0
COLA IAmb IAmb 12 44 47.6
comp=Z,28nm,0.8s
COLA College 84.05 19 P **P** 12 44 20.4 -0.4
baz=230
COLA College 84.05 19 *c iP* **P** 12 44 20.5 -0.4
COLA pmax pmax
comp=Z,14nm,0.8s
HDA Harding Lake 84.05 20 P **P** 12 44 20.8 -0.1
baz=231,SNR=12
PINM Pinnacle 84.07 25 P **P** 12 44 21.7 +0.5
baz=238
K24K Donnelly Dome 84.08 21 P **P** 12 44 21.5 +0.3
baz=232
CTG Chitna Glacier 84.09 24 P **P** 12 44 21.7 +0.2
baz=236
CTGM Chitina Glacie 84.10 24 P **P** 12 44 22.8 +1.4
CTGM IAmb IAmb 12 44 50.9
comp=Z,16nm,0.8s
H23K Yukon River 84.14 18 P **P** 12 44 21.8 +0.4
H23K IAmb IAmb 12 44 49.3
comp=Z,23nm,1.1s
H23K Yukon River 84.14 18 P **P** 12 44 21.9 +0.6
baz=228,SNR=11
D20K Etivluk River 84.24 14 P **P** 12 44 22.3 +0.5
baz=222
M26K Nabesna, AK 84.26 23 P **P** 12 44 23.1 +1.0
M26K Nabesna, AK 84.26 23 P **P** 12 44 22.6 +0.5
baz=235,SNR=11
G22K Bettles 84.30 17 P **P** 12 44 22.7 +0.6
baz=227
IL31 84.30 20 P **P** 12 44 21.5 -0.6
IL31 IAmb IAmb 12 44 49.2
comp=Z,23nm,1.4s
ILAR Eielson Array 84.30 20 P **P** 12 44 21.6 -0.6
ILAR Eielson Array 84.30 20 P **P** 12 44 21.8 -0.5
comp=Z,2.4nm,0.6s,baz=249,slow=5.0,SNR=34
ILAR pP **pP** 12 44 43.4 -2.1
comp=Z,3.2nm,0.6s,baz=243,slow=6.3,SNR=5.9
ILAR LR LR 13 20 38.7
comp=Z,60nm,18.2s,baz=246,slow=35
comp=Z,2.4nm,0.6s
ILAR Eielson Array 84.30 20 P **P** 12 44 21.6 -0.6
POKR Poker Plat Res 84.34 19 P **P** 12 44 23.2 +0.7
baz=230
A19K Wainwright 84.40 12 P **P** 12 44 22.9 +0.3
baz=217
O28M Mount Upton 84.46 25 P **P** 12 44 24.5 +1.0
baz=238,SNR=7.1
L26K Log Cabin Wild 84.49 22 P **P** 12 44 23.9 +0.6
L26K Log Cabin Wild 84.49 22 P **P** 12 44 23.9 +0.6
baz=234,SNR=7.7
F22K John River 84.52 16 P **P** 12 44 24.0 +0.8
baz=226
G23K Bananza Creek 84.58 17 P **P** 12 44 24.5 +0.8
baz=228
TIXI Tiksi 84.62 350 P **P** 12 44 23.5 -0.1
TIXI Tiksi 84.62 350 LR LR 13 24 15.4
comp=Z,46nm,18.5s,baz=182,slow=37
TIXI Tiksi 84.62 350 || *eP* **P** 12 44 23.8 +0.2
TIXI pmax pmax
comp=Z,4.0nm,0.8s
M27K Edge Creek, AK 84.66 23 P **P** 12 44 25.3 +1.0
M27K IAmb IAmb 12 44 52.3
comp=Z,23nm,0.9s
M27K Edge Creek, AK 84.66 23 P **P** 12 44 25.0 +0.8
baz=236,SNR=9.6
H24K Noodor Dome 84.66 19 P **P** 12 44 24.9 +0.8
baz=230
E21K Killik River 84.70 15 P **P** 12 44 24.9 +0.8
baz=224
J25K Salcha River, 84.72 20 P **P** 12 44 24.7 +0.3
baz=232,SNR=14
S31K Pelican 84.77 28 P **P** 12 44 25.4 +0.8
baz=241
SIT Sitka 84.77 29 P **P** 12 44 25.3 +0.7
baz=242
SCRK Sand Creek 84.82 21 P **P** 12 44 25.6 +0.6
baz=234,SNR=12
COLD Coldfoot 84.88 17 P **P** 12 44 25.8 +0.8
baz=228
O29M Mount Kennedy 84.89 26 P **P** 12 44 25.7 +0.3
baz=239
YUK3 Moose Creek 84.89 24 P **P** 12 44 26.3 +0.8
baz=237,SNR=5.4
P29M Windy Craggy 84.91 26 P **P** 12 44 26.9 +1.5
baz=240
YUK8 Steele Glacier 84.91 25 P **P** 12 44 26.8 +1.1
baz=238,SNR=9.6
C21K Knifeblade Rid 85.02 14 P **P** 12 44 27.0 +1.3
baz=223,SNR=8.3
L27K Beaver Creek, 85.08 23 P **P** 12 44 26.8 +0.6
L27K Beaver Creek, 85.08 23 P **P** 12 44 27.5 +1.3
baz=236,SNR=6.8
BCAR Beaver Creek A 85.09 23 P **P** 12 44 27.2 +0.9
CRAG Craig 85.14 31 P **P** 12 44 27.9 +1.4
baz=244
PRP Porcupine Dome 85.22 20 P **P** 12 44 28.3 +1.3
baz=232
J26L Joseph Creek 85.28 21 P **P** 12 44 28.1 +0.9
J26L IAmb IAmb 12 46 51.9
comp=Z,11nm,0.5s
J26L Joseph Creek 85.28 21 P **P** 12 44 28.5 +1.3
baz=234
YUK6 Outpost Mounta 85.31 25 P **P** 12 44 28.7 +1.1
baz=239
G24K Hadweenzic Riv 85.34 18 P **P** 12 44 27.6 +0.2
baz=230,SNR=12
D22K Ayikyak River 85.35 15 P **P** 12 44 27.9 +0.5
baz=225,SNR=8.1
B21K Ikpikpuk River 85.40 14 P **P** 12 44 28.4 +0.8
baz=223
YUK4 Talbot Arm 85.40 25 P **P** 12 44 29.8 +1.7
baz=239,SNR=11
U33K Whale Pass 85.42 31 P **P** 12 44 28.8 +0.9
baz=244
PLBC Pleasant Camp 85.43 27 P **P** 12 44 28.8 +0.8
baz=241
P30M Million Dollar 85.50 26 P **P** 12 44 29.7 +1.3
baz=240
WMQ Urumqi 85.52 316 *eP* **P** 12 44 30.9 +2.0
WMQ LR LR
comp=Z,83nm,23.3s
K27K Chicken 85.53 22 P **P** 12 44 30.1 +1.7
baz=236
H25L Birch Creek 85.59 19 P **P** 12 44 30.4 +1.9
baz=232
E23K Chandalar 85.61 17 P **P** 12 44 29.8 +1.1
baz=228
F24K Squaw Lake 85.75 17 P **P** 12 44 29.8 +0.4
F24K IAmb IAmb 12 44 57.4
comp=Z,30nm,1.7s
F24K Squaw Lake 85.75 17 P **P** 12 44 30.7 +1.3
baz=230
G25K Bearman Lake 85.81 18 P **P** 12 44 31.1 +1.5
baz=232
V35K Ketchikan 85.86 32 P **P** 12 44 31.1 +1.0
baz=245
I26K Coal Creek Min 85.89 20 P **P** 12 44 30.9 +0.8
baz=234,SNR=5.2
SKAG Skagway 85.90 27 P **P** 12 44 31.3 +1.0
baz=242
D23K Nanushuk River 85.93 16 P **P** 12 44 31.5 +1.2
baz=227
E24K Your Creek 85.94 17 P **P** 12 44 31.6 +1.2
baz=229
WRAK Wrangell Islan 85.95 31 P **P** 12 44 31.9 +1.3
baz=245
TOLK Toolik Lake Re 86.01 16 P **P** 12 44 32.3 +1.6
baz=228
M29M Somme Creek 86.05 24 P **P** 12 44 32.2 +1.1
baz=239
N30M Aishikik Lake 86.11 25 P **P** 12 44 32.2 +0.9
baz=240
O30N Mendenhall 86.19 26 P **P** 12 44 32.4 +0.6
baz=241
B22K Teshekpuk Lake 86.20 14 P **P** 12 44 32.3 +0.7
baz=224
EGAK Eagle 86.28 21 P **P** 12 44 32.4 +0.3
EGAK IAmb IAmb 12 45 00.7
comp=Z,22nm,1.2s
EGAK Eagle 86.28 21 P **P** 12 44 33.0 +0.9

baz=236,SNR=11
F25K Christian Rive 86.46 18 P P 12 44 33.9 +1.0
baz=232
L29M L29M 86.52 23 P P 12 44 34.1 +0.7
L29M L29M 86.52 23 P P 12 44 34.4 +1.0
baz=239,SNR=10
C23K Itkillik River 86.54 15 P P 12 44 34.4 +1.2
baz=227
DAWY Dawson 86.54 22 P P 12 44 34.5 +1.1
baz=238,SNR=9.2
D24K Happy Valley 86.55 16 P P 12 44 34.3 +1.0
baz=229
YBH Yreka Blue Hor 86.58 47 P P 12 44 35.1 +0.9
comp=Z,2.2nm,0.6s,baz=150,slow=5.5,SNR=7.8
YBH LR LR 13 20 42.8
comp=Z,26nm,19.1s,baz=261,slow=34
comp=Z,2.2nm,0.6s
I27K Kandik River 86.59 20 P P 12 44 34.5 +0.9
baz=236,SNR=8.5
G26K Porcupine Rive 86.65 19 P P 12 44 34.9 +1.2
baz=234,SNR=12
N31M Braeburn, Yuko 86.67 25 P P 12 44 35.2 +1.2
N31M IAmb IAmb 12 45 29.3
comp=Z,13nm,1.0s
N31M Braeburn, Yuko 86.67 25 P P 12 44 35.4 +1.3
baz=241
BMAR Burnt Mountain 86.69 18 P P 12 44 35.3 +1.2
P32M Atlin 86.69 28 P P 12 44 35.5 +1.3
baz=243
SNCC San Nicolas Is 86.72 56 P P 12 44 35.6 +0.7
baz=256
M30M Minto, Yukon 86.78 24 P P 12 44 35.8 +1.2
baz=240,SNR=5.9
SCZ2 Santa Cruz Isl 86.82 55 P P 12 44 36.0 +0.6
baz=255
PKM Mcpherson Peak 86.91 54 P P 12 44 36.5 +0.4
baz=255
C24K Franklin Bluff 86.96 16 P P 12 44 36.4 +1.2
baz=229
H27K Steamboat Moun 86.97 20 P P 12 44 36.7 +1.2
baz=236,SNR=5.7
F26K Sheenjek River 86.98 18 P P 12 44 36.7 +1.2
baz=233
Q32M Nakina River 87.08 28 P P 12 44 37.2 +0.9
baz=245
I28M Miner Creek 87.09 21 P P 12 44 36.7 +0.6
baz=237,SNR=5.3
K29M Barlow Dome 87.13 23 P P 12 44 37.9 +1.5
K29M IAmb IAmb 12 45 05.3
comp=Z,49nm,1.5s
K29M Barlow Dome 87.13 23 P P 12 44 37.7 +1.3
baz=240
S34M Telegraph Cree 87.18 30 P P 12 44 37.8 +1.3
baz=246
J29N Klondike Camp 87.18 22 P P 12 44 37.9 +1.3
baz=239
T35M Bob Quinn 87.23 31 P P 12 44 38.0 +1.1
baz=246
G27K Doyon Strip 87.25 19 P P 12 44 37.9 +1.1
baz=236
D25K Kavik River 87.33 16 P P 12 44 37.8 +0.7
baz=231
P33M Teslin, Yukon 87.37 27 P P 12 44 38.6 +1.1
baz=244
SCI2 San Clemente I 87.45 56 P P 12 44 39.0 +0.5
baz=256
M31M Drury Creek, Y 87.59 25 P P 12 44 39.4 +1.0
baz=243
I29M Ogilvie Camp, 87.62 21 P P 12 44 40.0 +1.5
baz=239,SNR=5.5
MAYO Mayo, Yukon 87.64 23 P P 12 44 40.0 +1.3
baz=241
FMP Fort Macarthur 87.83 55 P P 12 44 41.0 +0.7
baz=256
R33M Jennings River 87.87 28 P P 12 44 41.1 +1.1
baz=246
DLBC Dease Lake 87.93 29 P P 12 44 41.3 +1.1
baz=247
DLBC Dease Lake 87.93 29 LR LR 13 20 57.0
comp=Z,52nm,18.2s,baz=283,slow=33
J30M Hart River 87.95 23 P P 12 44 40.9 +0.6
baz=241
FARO Faro, Yukon 88.03 25 P P 12 44 42.0 +1.4
baz=244
H29M Whitestone 88.04 21 P P 12 44 42.0 +1.5
baz=239
E27K Coleen River 88.05 18 P P 12 44 42.0 +1.4
baz=236,SNR=7.8
C26K Camden Bay 88.10 16 P P 12 44 41.9 +1.2
baz=233
ISA Isabella, Lake 88.16 53 P P 12 44 42.1 +0.3
baz=256
I30M Mount Dempster 88.25 22 P P 12 44 42.2 +0.5
baz=241,SNR=6.1
C27K Jago River 88.26 17 P P 12 44 42.7 +1.3
baz=234,SNR=5.3
F28M Old Crow 88.28 19 P P 12 44 43.1 +1.4
baz=237
EDW2 Edwards Air Fo 88.35 54 P P 12 44 43.4 +0.6
baz=256
BFSC Mount Baldy Ra 88.47 55 P P 12 44 43.8 +0.4
baz=256
G29M Pine Creek 88.52 20 P P 12 44 44.1 +1.3
baz=239
CWC Cottonwood Cre 88.66 53 P P 12 44 44.8 +0.5
baz=256
EPYK Eagle Plains 88.69 21 P P 12 44 45.0 +1.4
EPYK IAmb IAmb 12 45 13.4
comp=Z,14nm,0.9s
EPYK Eagle Plains 88.69 21 P P 12 44 45.2 +1.6
baz=240,SNR=5.9
LRMC Laurel Mtn Rad 88.74 54 P P 12 44 45.3 +0.6
baz=256
D27M Malcolm River 88.83 18 P P 12 44 45.7 +1.4
baz=236
E28M Babbage River 88.92 18 P P 12 44 46.2 +1.5
baz=238
NVAR Mina Array Bea 88.96 51 P P 12 44 46.5 +0.7
comp=Z,2.0nm,0.7s,baz=238,slow=6.6,SNR=16
NVAR pP **pP 12 45 08.8 -1.1**
comp=Z,1.8nm,0.7s,baz=237,slow=6.7,SNR=5.8
NVAR LR LR 13 23 43.7
comp=Z,21nm,18.6s,baz=277,slow=35
comp=Z,2.0nm,0.7s
DSP Deep Springs 88.96 52 P P 12 44 45.8 +0.3
DSP IAmb IAmb 12 45 09.9
comp=Z,19nm,1.7s
MPMC Manual Prospec 89.03 53 P P 12 44 46.6 +0.5
baz=257,SNR=9.0
BBRC Big Bear Solar 89.07 55 P P 12 44 47.1 +0.7
baz=257
WTLY Watson Lake, Y 89.16 28 P P 12 44 47.5 +1.5
baz=248
G30M tAoh Zraii Nji 89.17 20 P P 12 44 47.6 +1.8
baz=241
MONP2 Monument Peak 89.17 56 P P 12 44 47.8 +0.9
baz=257
PFO Pinyon Flats O 89.30 56 P P 12 44 48.2 +0.8
baz=257
PFO Pinyon Flats O 89.30 56 LR LR 13 19 46.1
comp=Z,34nm,18.1s,baz=265,slow=32
PFO Pinyon Flats O 89.30 56⇑ *eP* **P 12 44 47.5 +0.1**
PFO pmax pmax
comp=Z,6.0nm,1.3s
TPFO Pinon Flats 89.30 56 P P 12 44 48.3 +0.9
baz=257
E29M Blow River 89.32 19 P P 12 44 48.3 +1.9
baz=239
GRAC Grapevine Rang 89.34 52 P P 12 44 48.5 +1.1
baz=257
IKP In-Ko-Pah, Jac 89.38 57 P P 12 44 48.4 +0.7
baz=257
GSC Goldstone, Bar 89.40 54 P P 12 44 48.4 +0.7
baz=257
I07A Izee 89.49 45 P P 12 44 48.6 +0.6
I07A IAmb IAmb 12 45 16.6
comp=Z,27nm,1.9s
D28M Stokes Point 89.55 18 P P 12 44 49.4 +1.9
baz=238
FURC Furnace Creek, 89.62 53 P P 12 44 49.7 +1.1
baz=257,SNR=6.8
F30M Barrier River 89.62 20 P P 12 44 49.7 +1.8
baz=241
HEC Hector,Ludlow 89.67 55 P P 12 44 50.0 +1.0
baz=257
WVOR Wild Horse Val 89.69 47 P P 12 44 50.2 +1.3
WVOR IAmb IAmb 12 45 19.5
comp=Z,32nm,1.7s
WVOR Wild Horse Val 89.69 47 P P 12 44 50.3 +1.3
WVOR pmax pmax
comp=Z,33nm,1.7s
SWSC Sam W. Stewart 89.69 57 P P 12 44 50.1 +1.1
baz=258
BELC Belle Mtn. Jos 89.76 55 P P 12 44 50.6 +1.1
baz=257,SNR=8.3
SHOC Shoshone, Teco 89.95 54 P P 12 44 51.4 +1.2
baz=257,SNR=6.0
J08A Circle Bar Ran 90.03 46 P P 12 44 51.6 +1.1
J08A IAmb IAmb 12 45 14.8
comp=Z,13nm,1.4s
MK31 Makanchi Array 90.04 318 P P 12 44 50.2 -0.1
MK31 IAmb IAmb 12 45 17.0
comp=Z,9.6nm,1.0s
MK31 Makanchi Array 90.04 318⇓ *eP* **P 12 44 50.0 -0.4**
MKAR Makanchi Array 90.04 318 P **P 12 44 50.0 -0.4**
comp=Z,1.7nm,0.5s,baz=93,slow=6.0,SNR=11
MKAR pP **pwP 12 45 14.9 -1.4**
comp=Z,11nm,0.9s,baz=100,slow=6.3,SNR=15
MKAR LR LR 13 28 08.0
comp=Z,20nm,18.7s,baz=138,slow=37
comp=Z,1.7nm,0.5s
BC3 Big Chuckawall 90.13 56 P P 12 44 52.3 +1.0
baz=258
TUQ Turquoise Moun 90.13 54 P P 12 44 52.5 +1.3
baz=258
GMRC Granite Mounta 90.20 55 P P 12 44 52.8 +1.3
baz=258,SNR=5.7
TPNV Topopah Spring 90.20 53 P P 12 44 52.8 +1.3
baz=257,SNR=7.1
ZALV Zalesovo Beam 90.45 325 P P 12 44 51.4 -0.7
comp=Z,0.9nm,0.5s,baz=117,slow=5.2,SNR=4.0
ZALV pP **pP 12 45 14.2 -1.3**
comp=Z,3.8nm,0.9s,baz=120,slow=5.3,SNR=5.3
comp=Z,0.9nm,0.5s
ZALV Zalesovo Beam 90.45 325 *i* P **P 12 44 52.0 -0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
IRM Iron Mountain 90.49 55 P P 12 44 54.0 +1.2
baz=258
INK Inuvik 90.70 20 LR LR 13 22 27.1
comp=Z,85nm,18.8s,baz=186,slow=33
R11B Troy Canyon, C 91.02 51 P P 12 44 56.6 +1.2
baz=258,SNR=6.6
PDMCI Parker Dam,Lak 91.33 56 P P 12 44 58.3 +1.6
baz=258
BELA Belgrano 2 91.46 177 P P 12 44 54.5 -1.9
ELK Elko 91.79 49 P P 12 44 59.7 +0.8
ELK IAmb IAmb 12 45 27.5
comp=Z,17nm,1.7s
ELK Elko 91.79 49 P P 12 44 59.2 +0.2
comp=Z,1.7nm,0.8s,baz=284,slow=4.2,SNR=6.9
ELK pP **pP 12 45 22.4 -0.8**
comp=Z,2.7nm,1.0s,baz=220,slow=5.2,SNR=4.2
comp=Z,1.7nm,0.8s
ELK Elko 91.79 49 P P 12 44 59.7 +0.8
ELK pmax pmax
comp=Z,17nm,1.7s
NEW Newport 92.11 41 P P 12 45 00.2 +0.2
NEW IAmb IAmb 12 45 23.2
comp=Z,8.5nm,1.2s
NEW Newport 92.11 41 P P 12 45 01.6 +1.7
baz=257
NEW Newport 92.11 41 LR LR 13 24 27.9
comp=Z,31nm,18.1s,baz=252,slow=34
NEW Newport 92.11 41 P P 12 45 00.2 +0.2
NEW pmax pmax
comp=Z,8.0nm,1.2s
LPIG La Paz 92.73 66 LR LR 13 21 12.2
comp=Z,26nm,18.1s,baz=220,slow=32
HLID Hailey 92.96 46 P P 12 45 05.8 +1.6
baz=259,SNR=9.2
KURK Kurchatov 93.32 321 P P 12 45 05.0 -0.4
KURK AP **pP 12 45 28.9 0.0**
ELIB Princess Elisa 93.33 192 *dP* **P 12 45 05.7 +0.3**
KURBB Kurchatov Arra 93.36 321 P P 12 45 05.0 -0.6
comp=Z,0.5nm,0.5s,baz=108,slow=3.4,SNR=5.2
KURBB pP **pP 12 45 28.9 -0.2**
comp=Z,5.1nm,0.9s,baz=108,slow=3.4,SNR=9.3
KURBB LR LR 13 27 35.6
comp=Z,52nm,21.0s,baz=173,slow=36
comp=Z,0.5nm,0.5s
DUG Dugway, Tooele 93.50 50 P P 12 45 08.0 +1.3
baz=260
TUC Tucson 93.72 58 P P 12 45 09.0 +1.2
baz=260
WUAZ Wupatki 93.79 55 P P 12 45 09.0 +0.8
baz=260
MSO Missoula 93.92 43 P P 12 45 09.6 +1.1
baz=259
NRIK Noril'sk 93.96 340 LR LR 13 26 40.0
comp=Z,89nm,21.2s,baz=130,slow=35
C36M Paulatuk 94.27 20 P P 12 45 11.2 +1.8
baz=252
BOZ Bozeman (W) 95.28 45 P P 12 45 15.7 +0.9
baz=261
H17A Grant Village 95.83 46 P P 12 45 18.4 +0.9
baz=261
121A Cookes Peak, D 96.26 58 P P 12 45 20.3 +0.7
baz=262
BW06 Boulder Array 96.33 48 P P 12 45 21.0 +1.3
baz=262
PDAR Pinedale Array 96.33 48 P P 12 45 20.1 +0.4
comp=Z,0.4nm,0.6s,baz=270,slow=1.8,SNR=3.9
PDAR LR LR 13 23 51.3
comp=Z,14nm,20.4s,baz=258,slow=32
comp=Z,0.4nm,0.6s
YKA Yellowknife Ar 96.39 28 P P 12 45 18.5 -0.6
comp=Z,0.8nm,0.6s,baz=260,slow=4.4,SNR=8.1
YKA pP **pP 12 45 41.1 -2.0**
comp=Z,1.4nm,0.8s,baz=258,slow=4.6,SNR=6.0
YKA LR LR 13 28 52.1
comp=Z,32nm,18.0s,baz=330,slow=35
comp=Z,0.8nm,0.6s
TROLL Troll, Antarti 96.62 187⇓ P **P 12 45 19.4 -0.9**
comp=Z,219nm,1.1s
SNAA Sanae 97.47 185⇓ P **P 12 45 23.8 -0.3**
comp=Z,46nm,0.9s
SNAA Sanae 97.47 185 P **P 12 45 23.3 -0.8**
comp=Z,1.8nm,0.8s,baz=180,slow=1.7,SNR=7.3
comp=Z,1.8nm,0.8s
SNAA Sanae 97.47 185⇑ *eP* **P 12 45 21.6 -2.5**
SNAA pmax pmax
comp=Z,12nm,2.5s
ANMO Albuquerque 97.69 56 P Pdif 12 45 26.8 +0.8
baz=263
ANMO Albuquerque 97.69 56 LR LR 13 26 16.9
comp=Z,22nm,18.3s,baz=347,slow=33
S22A 4UR Ranch, Cre 97.73 53 P Pdif 12 45 26.8 +0.5
baz=263
VNA3 Neumayer Olymp 98.36 183⇓ P **P 12 45 27.3 -0.8**
comp=Z,1.4nm,0.7s
VNA2 Neumayer--Watz 98.54 184⇓ P **P 12 45 27.6 -1.3**
comp=Z,1.5nm,0.7s,baz=186,slow=4.4
BVAR Borovoye Array 98.72 322 pP **pP 12 45 53.2 -0.3**
comp=Z,5.0nm,0.9s,baz=90,slow=5.9,SNR=7.2
BVAR LR LR 13 31 56.5
comp=Z,27nm,18.4s,baz=89,slow=36
TXAR Lajitas Array 99.36 62 P **Pdif 12 45 34.7 +1.2**
comp=Z,0.2nm,0.6s,baz=258,slow=4.5,SNR=2.9
TXAR LR LR 13 24 00.4
comp=Z,31nm,19.3s,baz=232,slow=31
comp=Z,0.2nm,0.6s
T25A Trinidad 99.58 54 P Pdif 12 45 34.6 +0.2
baz=264
JCT Junction City 102.81 61 P Pdif 12 45 49.3 +0.5
baz=266
833A Chaparral WMA, 102.99 63 P Pdif 12 45 50.3 +0.8
baz=265
ABTX Abilene, Hawle 103.11 59 P Pdif 12 45 50.8 +0.8
baz=266
CCM Cathedral Cave 110.05 53 P PKiKP 12 50 23.0 +0.9
baz=272
WVT Waverly 112.88 55 P PKiKP 12 50 27.5 -0.1
baz=274
SFIN Lafayette 113.09 51 P PKiKP 12 50 28.0 +0.2
baz=276
LRAL Lakeview Retre 113.75 58 P PKiKP 12 50 29.6 +0.3
baz=273
KIV Kislovodsk 117.62 314 *i* PKIKP **PKiKP 12 50 36.2 -0.3**
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,37nm,22.0s
OBN Obninsk 117.91 328 *i e* PKIKP **PKPdf 12 50 35.8 -0.7**
OBN 12 51 49.9
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,47nm,18.0s
LONY Lake Ozonia 121.28 44 P PKiKP 12 50 44.0 +0.4
baz=288
PAL Palisades 122.81 48 P PKiKP 12 50 46.9 +0.3
baz=286
L61B Northampton 123.27 46 P PKiKP 12 50 47.6 0.0
baz=288
AKASG Malin Array Be 123.84 325 PKP **PKPdf 12 50 46.3 -1.8**
comp=Z,0.2nm,0.3s,baz=37,slow=2.3,SNR=1.7
HRV Adam Dziewonsk 124.03 45 P PKiKP 12 50 49.0 0.0
baz=289
PKME Peaks-Kenny Pk 124.59 42 P PKiKP 12 50 50.1 0.0
baz=293
NB2 NORSAR Subarra 124.82 343 PKPdf PKiKP 12 51 12.8 +23
comp=Z,1.0nm,0.8s,baz=31,slow=1.9
NOA NORSAR Array B 124.82 343 PKP **PKPdf 12 50 48.5 -1.3**
comp=Z,0.7nm,1.0s,baz=40,slow=2.1,SNR=3.0
NOA pPKP **pPKPdf 12 51 13.9 -0.4**
comp=Z,1.0nm,0.8s,baz=34,slow=2.1,SNR=3.8
CLL Collm 131.63 334 *i* SKPbc **SKPab 12 54 21.8 +0.6**
comp=Z,11nm,1.4s
CLL *i* SKPab **SKPbc 12 54 23.5 +3.0**
comp=Z,11nm,1.3s
CLL AMS AMS 13 48 00.0
comp=Z,100nm,21.3s
POLO Lamas de Olo 147.64 345 *e*PKPdf **PKPab 12 51 38.2 +0.7**
PVRL Vila Real 147.71 344 *e*PKPdf **PKPbc 12 51 34.9 -0.3**
ESDC Sonseca Array 147.98 338 PKPbc **PKPdf 12 51 33.0 +0.1**
comp=Z,1.3nm,1.0s,baz=24,slow=3.0,SNR=8.3
ESDC pPKPbc **pPKPab 12 52 01.1 -1.7**
comp=Z,2.5nm,0.8s,baz=16,slow=3.0,SNR=5.4
PVIS Viseu 148.28 344 *e*PKPdf **PKPbc 12 51 36.1 -0.7**
MTE Manteigas 148.48 344 *e*PKPdf **PKPab 12 51 39.9 -0.9**
COI Coimbra 148.89 345 *e*PKPdf **PKPdf 12 51 35.0 +0.7**
PMRV Marv??o 149.34 343 *e*PKPdf **PKPbc 12 51 39.2 -0.3**
PMTG Montargil 149.91 344 *e*PKPdf **PKPbc 12 51 40.8 0.0**
PESTR Estremoz 149.91 343 *e*PKPdf **PKiKP 12 51 42.3 +0.5**
EVO Evora 150.35 343 *e*PKPdf **PKPdf 12 51 36.8 +0.2**
PBAR Barrancos 150.38 341 *e*PKPdf **PKPbc 12 51 41.2 -0.8**
PNCL Nicolau / Gran 150.88 343 *e*PKPdf **PKPbc 12 51 41.9 -1.3**
MESJ Messejana 151.05 343 *e*PKPdf **PKPbc 12 51 42.9 -0.7**
TORD Torodi Ar. Bea 159.82 280 PKP **PKPdf 12 51 47.9 -2.2**
comp=Z,1.0nm,0.9s,baz=67,slow=3.7,SNR=4.1

GEN ***20*** *12:41:39.8, 43.°81N×7.°61E, h-4km±1km, Ml0.5*
STR 20 12:41:39.9±0.9, 44.°N±4.°×.°±., h0km, MLv1.1/10, Error ellipse: s-maj=0.0km s-min=0.0km az=120.9, preliminary, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BURY	**Giardini Botan**	**0.06**	**236**	Pg	Pg	12 41 41.4	+0.4
BURY				Sg	Sg	12 41 42.3	+0.4
BURY	**Giardini Botan**	**0.06**	**236**	P	Pg	12 41 41.5	+0.4
BURY				S	Sg	12 41 42.4	+0.5
BURY	**Giardini Botan**	**0.06**	**236**	P	Pg	12 41 41.5	+0.4
BURY				S	Sg	12 41 42.4	+0.5
MENA	**Menton**	**0.11**	**252**	P	Pg	12 41 42.8	+0.8
MENA				S	Sg	12 41 44.5	+1.2
MON	**Monaco**	**0.17**	**240**	Pg	Pg	12 41 43.7	+0.6
ESCA	**l'Escarene**	**0.19**	**274**	Pg	Pg	12 41 43.7	+0.3
ESCA				Sg	Sg	12 41 46.7	+0.8
ESCA	**l'Escarene**	**0.19**	**274**	P	Pg	12 41 44.2	+0.8
ESCA	**l'Escarene**	**0.19**	**274**	P	Pg	12 41 44.2	+0.8
ESCA				S	Sg	12 41 47.8	+1.9
IMI	**Imperia**	**0.21**	**64**	P	Pg	12 41 46.2	+2.3
IMI				S	Sg	12 41 49.8	+3.1
IMI	**Imperia**	**0.21**	**64**	P	Pg	12 41 46.2	+2.3
IMI				S	Sg	12 41 49.8	+3.1
TURF	**col de Turini**	**0.23**	**312**	Pg	Pg	12 41 44.5	+0.2
TURF	**col de Turini**	**0.23**	**312**	P	Pg	12 41 45.1	+0.7
TURF	**col de Turini**	**0.23**	**312**	P	Pg	12 41 45.1	+0.7
PIAF	**les Granges de**	**0.30**	**358**	Pg	Pg	12 41 46.4	+0.8
SPIF	**crte de Spivo**	**0.37**	**310**	Pg	Pg	12 41 47.6	+0.6
STV	**Sant Anna di V**	**0.48**	**333**	Pg	Pg	12 41 49.2	+0.1
STV				Sg	Sg	12 41 56.1	+0.8
ISO	**Isola**	**0.56**	**311**	Pg	Pg	12 41 50.7	+0.2
ENAUX	**Enaux**	**0.68**	**296**	Pg	Pg	12 41 53.3	+0.3
ENAUX				Sg	Sg	12 42 02.1	+0.4
TRIGF	**Trigance**	**0.89**	**266**	Pg	Pg	12 41 57.2	+0.3
TRIGF				Sn	Sn	12 42 12.3	-1.1
PCP	**Piancastagn**	**0.98**	**42**	Pn	Pn	12 42 00.7	-0.2
A205A	**Foret Domanial**	**1.19**	**239**	Pg	Pg	12 42 02.4	-0.3
A205A				Sg	Sg	12 42 18.4	+0.3

NNC ***20*** *13:07:19.3±1.3, 49.°91N×78.°46E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=27.9km s-min=5.4km az=85.0, Suspected Mining explosion.*
IDC ***20*** *13:07:22.4±1.1, 50.°05N×78.°76E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=18.8km s-min=6.5km az=67.0*
ISC 20 13:07:21.6±1.1, 50.°04N±0.°06×78.°6E±0.°1, h0km, n17, σ0±49/28, 10C-14D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.55**	**353**	⇓P	**Pg**	**13 07 32.4**	**+0.3**
KUR07				⇓S	**Sb**	**13 07 42.3**	**-0.2**
KUR06	**Kurchatov Arra**	**0.57**	**353**	⇑P	**Pg**	**13 07 32.6**	**+0.1**
KUR06				⇓S	**Sb**	**13 07 42.6**	**-0.4**
KUR14	**Kurchatov Arra**	**0.57**	**358**	⇓P	**Pg**	**13 07 32.6**	**0.0**
KUR14				⇑S	**Sb**	**13 07 42.5**	**-0.8**
KUR15	**Kurchatov Arra**	**0.58**	**356**	⇓P	**Pg**	**13 07 32.8**	**+0.1**
KUR15				⇓S	**Sb**	**13 07 42.7**	**-0.7**
KURBB	**Kurchatov Arra**	**0.59**	**354**	Pg	**Pg**	**13 07 32.8**	**0.0**
	1.3nm,0.3s,baz=164,slow=19,SNR=53						
KURBB				Lg	Lg	13 07 43.7	
	1.1nm,0.3s,baz=190,slow=21,SNR=22						
KURBB	**Kurchatov Arra**	**0.59**	**354**	⇓P	**Pg**	**13 07 33.0**	**+0.1**
	14nm,0.5s						
KURBB				⇓S	**Sb**	**13 07 44.3**	**+0.8**
	40nm,0.5s						
KUR16	**Kurchatov Arra**	**0.59**	**352**	⇓P	**Pg**	**13 07 33.2**	**+0.3**
KUR16				⇑S	**Sb**	**13 07 42.9**	**-0.8**
KUR17	**Kurchatov Arra**	**0.60**	**350**	⇓P	**Pg**	**13 07 33.6**	**+0.5**
KUR17				⇑S	**Sb**	**13 07 43.3**	**-0.7**
KUR05	**Kurchatov Arra**	**0.60**	**355**	⇓P	**Pg**	**13 07 33.1**	**0.0**
KUR05				⇑S	**Sb**	**13 07 43.5**	**-0.6**
KUR04	**Kurchatov Arra**	**0.62**	**355**	⇓P	**Pg**	**13 07 33.6**	**0.0**
KUR04				⇓S	**Sb**	**13 07 44.1**	**-0.6**
KURK	**Kurchatov**	**0.68**	**360**	⇓P	**Pg**	**13 07 34.5**	**-0.1**
	4.9nm,0.4s						
KURK				⇑S	**Sb**	**13 07 45.3**	**-0.9**
	33nm,0.9s						
MAKZ	**Makanchi**	**3.93**	**144**	⇑Pg	**Pb**	**13 08 32.2**	**+0.5**
	3.1nm,0.8s						
MAKZ				⇑Lg	Lg	13 09 22.6	
	9.3nm,0.7s						
MK31	**Makanchi Array**	**4.06**	**142**	⇑Pn	**Pn**	**13 08 25.0**	**0.0**
	0.1nm,0.2s,baz=318,slow=10,SNR=9.7						
MK31				Pg	**Pb**	**13 08 33.5**	**-0.4**
	0.9nm,0.6s,baz=322,slow=15,SNR=11						
MK31				⇑Lg	Lg	13 09 27.1	
	12nm,0.8s,baz=335,slow=35,SNR=22						
MKAR	**Makanchi Array**	**4.06**	**142**	Pn	**Pn**	**13 08 25.0**	**0.0**
	0.2nm,0.3s,baz=325,slow=11,SNR=12						
MKAR				Pg	**Pb**	**13 08 33.9**	**-0.1**
	0.3nm,0.3s,baz=324,slow=15,SNR=12						
MKAR				Lg	Lg	13 09 28.4	
	0.8nm,0.3s,baz=327,slow=26,SNR=21						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**5.47**	**42**	Pn	**Pn**	**13 08 45.0**	**+0.7**
	0.4nm,0.3s,baz=233,slow=15,SNR=5.8						
ZALV				Lg	Lg	13 10 12.6	
	0.2nm,0.3s,baz=224,slow=22,SNR=2.2						
	0.8nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.47**	**42**	I	I	13 47 10.0	
	baz=227,slow=313,SNR=2.6						
BVAR	**Borovoye Array**	**5.95**	**303**	Sn	**Sn**	**13 09 59.6**	**+0.1**
	baz=232,slow=42,SNR=2.1						
BVAR				Lg	Lg	13 10 30.1	
	baz=124,slow=24,SNR=4.1						

IDC ***20*** *13:23:41.1±1.4, 23.°02S×66.°77W, h213km±27km, mb3.1/1, mbtmp3.8/5, Error ellipse: s-maj=36.0km s-min=23.9km az=117.0*
GUC ***20*** *13:23:42.4±0.7, 23.°17S×67.°08W, h225km±11km, ML3.6*
NEIC ***20*** *13:23:42.0±1.1, 23.°12S±0.°02×66.°7W±0.°2, h207km±10km,*

mb4.2/5, Error ellipse: s-maj=23.5km s-min=2.8km az=93.0.

ISC 20 13:23:41.6±0.9, 23°08S±0°06×66°8W±0°1, h212km±12km, n32, σ1°03/42, mb4.0/3, 2C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.31 275**		Pn	**Pn**	**13 24 15.7**	**+0.5**
LVC	**Limon Verde**	**2.04 283**		Pn	**Pn**	**13 24 22.7**	**+0.9**
LVC	**Limon Verde**	**2.04 283**		P	**P**	**13 24 22.5**	**+0.7**
	69nm,0.5s,baz=94,slow=6.7,SNR=117						
LVC				S	**S**	**13 24 52.4**	**-0.3**
	20nm,0.4s,baz=269,slow=21,SNR=11						
LVC	**Limon Verde**	**2.04 283**		*e*P	**Pn**	**13 24 22.5**	**+0.7**
LVC				*e*S	**S**	**13 24 52.6**	**-0.1**
LVC				IAML		13 24 55.0	
	181nm,0.6s						
PB15	**IPOC Station P**	**2.50 266**		Pn	**Pn**	**13 24 27.0**	**+0.5**
PB15	**IPOC Station P**	**2.50 266**		↑*i*P	**Pn**	**13 24 26.9**	**+0.5**
PB15				*e*S	**S**	**13 25 00.7**	**-0.3**
PB06	**IPOC Station P**	**2.62 278**		P	**Pn**	**13 24 28.3**	**+0.5**
PB06	**IPOC Station P**	**2.62 278**		*e*P	**Pn**	**13 24 28.3**	**+0.5**
PB06				*e*S	**S**	**13 25 02.7**	**-0.7**
PB06				IAML		13 25 03.5	
	comp=N,203nm,0.4s						
PB09	**IPOC Station P**	**2.63 299**		*e*P	**Pn**	**13 24 29.1**	**+1.2**
PB09				*e*S	**S**	**13 25 05.6**	**+2.1**
PB09				IAML		13 25 06.0	
	comp=N,110nm,0.3s						
PB05	**IPOC Station P**	**3.18 273**		*e*P	**Pn**	**13 24 34.2**	**+0.1**
PB05				*e*S	**S**	**13 25 12.9**	**-1.9**
PB05				IAML		13 25 20.4	
	comp=E,72nm,0.4s						
PB04	**IPOC Station P**	**3.22 283**		*e*P	**Pn**	**13 24 34.8**	**+0.2**
PB04				*e*S	**S**	**13 25 14.8**	**-0.8**
PB04				IAML		13 25 18.1	
	comp=N,156nm,0.4s						
GO02	**Mina Guanaco**	**3.32 231**			**Pn**	**13 24 35.9**	**0.0**
GO02	**Mina Guanaco**	**3.32 231**		*e*P	**Pn**	**13 24 35.8**	**-0.1**
GO02				*e*S	**S**	**13 25 17.2**	**-0.8**
PB10	**IPOC Station P**	**3.52 262**		↑*i*P	**Pn**	**13 24 38.0**	**+0.1**
PATCX	**Punta Patache**	**3.87 305**			**Pn**	**13 24 41.9**	**-0.5**
PATCX	**Punta Patache**	**3.87 305**		*e*P	**Pn**	**13 24 42.1**	**-0.3**
HMBC	**Humberstone**	**4.03 313**		Pn	**Pn**	**13 24 45.0**	**+0.7**
HMBC	**Humberstone**	**4.03 313**		*e*P	**Pn**	**13 24 44.7**	**+0.3**
HMBC				*e*S	**S**	**13 25 31.1**	**-2.2**
TA01	**Diego Aracena**	**4.04 308**			**Pn**	**13 24 44.9**	**+0.5**
GO01	**Chusmiza**	**4.08 326**		Pn	**Pn**	**13 24 46.6**	**+1.2**
GO01	**Chusmiza**	**4.08 326**		*e*P	**Pn**	**13 24 46.4**	**+1.0**
AC01	**Pan de Azucar**	**4.64 228**		Pn	**Pn**	**13 24 50.4**	**-1.4**
AC01	**Pan de Azucar**	**4.64 228**		*e*P	**Pn**	**13 24 50.2**	**-1.6**
LPAZ	**La Paz**	**6.88 349**		P	**Pn**	**13 25 21.4**	**+0.4**
	comp=N,1.4nm,0.3s,baz=170,slow=8.8,SNR=4.5						
LPAZ				S	**S**	**13 26 38.3**	**-1.5**
	comp=N,0.5nm,0.3s,baz=117,slow=23,SNR=1.3						
SIV	**San Ignacio**	**8.85 38**		P	**Pn**	**13 25 44.1**	**-1.9**
	comp=N,1.2nm,0.3s,baz=232,slow=18,SNR=4.2						
VAO	**Valinhos**	**18.22 94**		P	**P**	**13 27 38.6**	**-0.5**
BDFB	**Brasilia**	**19.16 71**		P	**P**	**13 27 49.3**	**-0.1**
BDFB				IAmb	IAmb	13 28 06.0	
	comp=Z,17nm,1.5s						
BDFB	**Brasilia**	**19.16 71**		P	**P**	**13 27 48.8**	**-0.6**
	comp=Z,5.7nm,0.6s,baz=251,slow=11,SNR=6.7						
SNAA	**Sanae**	**60.14 161**		P	**P**	**13 33 28.2**	**+1.7**
SNAA				IAmb	IAmb	13 34 03.6	
	comp=Z,4.7nm,1.4s						
QSPA	**South Pole Qui**	**67.12 180**		P	**P**	**13 34 13.6**	**+1.3**
QSPA				IAmb	IAmb	13 34 27.4	
	comp=Z,8.1nm,1.4s						
TOA0	**Torodi Ar. Sit**	**76.03 69**		P	**P**	**13 35 05.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.03 69**		P	**P**	**13 35 05.1**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=255,slow=4.3,SNR=5.6						
	comp=Z,0.3nm,0.4s						

JMA 20 13:29:10.7±0.1, 38°3N±0°6×142°2E±0°8, h33km±2km, MV1.2/11, E OFF MIYAGI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibku**	**0.55 275**		P	Pb	13 29 21.7	-0.4
JIKH				S	Sb	13 29 29.4	-0.5
JIO	**Ouri**	**0.67 287**		P	Pn	13 29 23.6	-0.3
JIO				*e*S	Sb	13 29 32.8	-0.2

*IDC **20** 13:29:22.9±1.8, 38°18N×142°00E, h44km±17km, mb3.5/11, mbtmp3.8/15, ML3.7/3, MS2.5/2, Error ellipse: s-maj=17.8km s-min=10.6km az=110.0*

*NIED **20** 13:29:24.1, 38°16N×141°78E, h54km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}6.23; $M_{\theta\theta}$-0.22; $M_{\phi\phi}$-6.01; $M_{r\theta}$1.21; $M_{\theta\phi}$-4.01; $M_{\phi r}$-0.84; Fault plane solution: $M_0$7.37000×10^{14} NP1: ϕ_s191.00000°, δ48.00000°, λ67.00000°. NP2:ϕ_s43.00000°, δ47.00000°, λ113.00000°*

*NEIC **20** 13:29:24.3±1.8, 38°19N±0°08×141°9E±0°1, h53km±9km, mb4.2/20 Error ellipse: s-maj=14.4km s-min=8.1km az=132.0*

*JMA **20** 13:29:24.1±0.1, 38°2N±0°3×141°8E±0°5, h54km, MD3.8/40, MV4.0/40, E OFF MIYAGI PREF*

JMA Felt II J1 at E OFF MIYAGI PREF .

ISC 20 13:29:23.4±1.0, 38°17N±0°04×141°87E±0°07, h47km±9km, n87, σ1°38/87, mb4.1/21, 15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibku**	**0.35 295**		*i*P	**Pn**	**13 29 33.6**	**+0.9**
JIKH				S	**Sn**	**13 29 40.2**	**+0.8**
JIKH	**Ishinomakibku**	**0.35 295**		A	A	13 29 33.6	
	comp=E,26nm,0.3s,comp=N,18nm,0.3s						
JIO	**Ouri**	**0.50 305**		↓*i*P	**Pn**	**13 29 35.1**	**+0.7**
JIO				↓S	**Sn**	**13 29 42.9**	**+0.5**
JKMT	**Kesennumamotoy**	**0.71 334**		↓*i*P	**Pn**	**13 29 37.9**	**+0.7**
JKMT				↓*e*S	**Sn**	**13 29 47.7**	**+0.5**
JOFO	**Osakifurukawao**	**0.87 300**		A	A	13 29 39.6	
	comp=E,12nm,1.1s,comp=N,14nm,1.7s						
JMST	**Minamisoumatoc**	**0.89 241**		A	A	13 29 39.8	
	comp=E,15nm,0.6s,comp=N,12nm,0.6s						
JMM	**Marumori**	**0.90 251**		P	**Pn**	**13 29 39.9**	**+0.2**
JMM	**Marumori**	**0.90 251**			**Pn**	**13 29 39.6**	**-0.1**
JMM				Sn	**Sn**	**13 29 49.7**	**-2.0**
JMM	**Marumori**	**0.90 251**		*i*P	**Pn**	**13 29 39.5**	**-0.2**
JMM				S	**Sn**	**13 29 51.0**	**-0.6**
JMK	**Ichinoseki**	**0.94 327**		↓*i*P	**Pn**	**13 29 40.9**	**+0.7**
JMK				↓S	**Sn**	**13 29 53.1**	**+0.6**
JMK	**Ichinoseki**	**0.94 327**		A	A	13 29 40.9	
	comp=E,3.0nm,0.2s,comp=N,4.0nm,0.4s						
JOU	**Okura**	**0.97 282**		↓*i*P	**Pn**	**13 29 40.9**	**+0.3**
JOU				↓S	**Sn**	**13 29 53.3**	**0.0**
JOU	**Okura**	**0.97 282**		A	A	13 29 40.9	
	comp=E,7.0nm,0.9s,comp=N,6.0nm,1.4s						
JFK	**Kawauchi**	**1.12 225**		*i*P	**Pn**	**13 29 42.7**	**-0.1**
JFK				S	**Sn**	**13 29 56.6**	**-0.4**
JFK	**Kawauchi**	**1.12 225**		A	A	13 29 42.7	
	comp=E,3.0nm,0.5s,comp=N,1.0nm,0.3s						
JOTO	**OTAMA OYAMA**	**1.36 244**		*i*P	**Pn**	**13 29 46.5**	**+0.6**
JOTO				*e*S	**Sn**	**13 30 02.5**	**-0.3**
JOM	**Ohasama**	**1.38 341**		↓*i*P	**Pn**	**13 29 47.2**	**+1.0**
JOM				↓S	**Sn**	**13 30 04.5**	**+1.1**
JOM	**Ohasama**	**1.38 341**		A	A	13 29 47.2	
	comp=E,5.0nm,0.6s,comp=N,2.0nm,0.3s						
JYK	**Kaneyama**	**1.40 303**		↓*i*P	**Pn**	**13 29 46.9**	**+0.4**
JYS	**Shiratake**	**1.42 273**		↓*i*P	**Pn**	**13 29 47.1**	**+0.3**
JYS				↓S	**Sn**	**13 30 04.6**	**+0.3**
JRG	**Rokugo**	**1.56 322**		↓*i*P	**Pn**	**13 29 49.7**	**+1.0**
JYA	**Atsumi**	**1.75 285**		↓*i*P	**Pn**	**13 29 51.6**	**+0.4**
JTM	**Tenmabayashi**	**2.69 347**		P	**Pn**	**13 30 05.1**	**+0.9**
JTM	**Tenmabayashi**	**2.69 347**			**Pn**	**13 30 05.2**	**+1.1**
MJAR	**Matsushiro Ar**	**3.33 242**		P	**Pn**	**13 30 14.5**	**+1.4**
	comp=N,7.8nm,0.6s,baz=62,slow=11,SNR=28						
MJAR				S	**Sn**	**13 30 56.0**	**+4.5**
	comp=N,8.6nm,0.5s,baz=71,slow=8.6,SNR=6.9						
MJAR				LR	LR	13 31 49.6	
	comp=N,87nm,21.6s,baz=1.5,slow=43						
MAJO	**Matsushiro**	**3.34 242**		P	**Pn**	**13 30 15.6**	**+2.5**
MAJO	**Matsushiro**	**3.34 242**			**Pn**	**13 30 16.2**	**+3.1**
MJB9	**Matsu-Tunnel**	**3.34 242**			**Pn**	**13 30 16.2**	**+3.1**
ERM	**Erimo**	**3.97 14**		P	**Pn**	**13 30 22.1**	**+0.4**
ERM	**Erimo**	**3.97 14**		Pn	**Pn**	**13 30 22.3**	**+0.6**
JEM	**Erimo**	**3.97 14**		P	**Pn**	**13 30 22.2**	**+0.5**
JGF	**Kuroka**	**4.43 236**		P	**Pn**	**13 30 31.6**	**+3.5**
JGF	**Kuroka**	**4.43 236**			**Pn**	**13 30 31.2**	**+3.0**
INU	**Inuyama**	**4.80 236**		P	**Pn**	**13 30 36.9**	**+3.7**
INU	**Inuyama**	**4.80 236**			**Pn**	**13 30 35.5**	**+2.3**
JHJ2	**Mitsune**	**5.31 199**		P	**Pn**	**13 30 42.9**	**+2.7**
JHJ	**Hachijo jima 2**	**5.31 199**		P	**Pn**	**13 30 40.5**	**+0.2**
	comp=N,8.8nm,0.3s,baz=303,slow=23,SNR=15						
JHJ				S	**Sn**	**13 31 36.9**	**-3.3**
	comp=N,52nm,0.3s,baz=252,slow=23,SNR=1.5						
	comp=N,27nm,0.3s						
ASAJ	**Asahikawa**	**5.97 5**		P	**Pn**	**13 30 48.9**	**-0.3**
	comp=N,2.4nm,0.3s,baz=214,slow=12,SNR=31						
ASAJ				S	**Sn**	**13 31 52.4**	**-3.9**
	comp=N,2.5nm,0.3s,baz=166,slow=30,SNR=1.0						
	comp=N,4.4nm,0.3s						
JKA	**Kamikawa-asahi**	**5.97 5**		Pn	**Pn**	**13 30 48.7**	**-0.5**
YSS	**Yuzh-Sakhalins**	**8.81 4**		Pn	**Pn**	**13 31 27.9**	**-0.1**
USA0B	**Ussuriysk Arra**	**9.58 312**		Pn	**Pn**	**13 31 37.8**	**-0.8**
USRK	**Ussuriysk Ar.**	**9.58 312**		P	**Pn**	**13 31 39.9**	**+1.3**
	comp=N,0.4nm,0.3s,baz=118,slow=14,SNR=9.8						
	comp=N,3.4nm,0.6s						
JCJ	**Chichijima**	**11.04 179**		Pn	**Pn**	**13 31 58.5**	**-0.2**
KSRS	**Korea Array**	**11.06 271**		LR	LR	13 35 47.8	
	comp=N,25nm,20.4s,baz=245,slow=34						
H11N2	**WAKE ISLAND Hy**	**28.44 123**		T	T	14 05 24.8	
	baz=316,slow=76,SNR=124						
H11N1	**WAKE ISLAND Hy**	**28.45 123**		T	T	14 05 35.3	
	baz=316,slow=76,SNR=104						
H11N3	**WAKE ISLAND Hy**	**28.46 123**		T	T	14 05 36.0	
	baz=316,slow=76,SNR=91						
H11S1	**WAKE ISLAND Hy**	**29.19 125**		T	T	14 06 27.7	
	baz=317,slow=76,SNR=84						
H11S3	**WAKE ISLAND Hy**	**29.20 125**		T	T	14 06 27.8	
	baz=317,slow=76,SNR=117						
H11S2	**WAKE ISLAND Hy**	**29.21 125**		T	T	14 06 29.0	
	baz=317,slow=76,SNR=34						
ZALV	**Zalesovo Beam**	**41.43 311**		P	**P**	**13 37 04.4**	**-0.7**
	comp=N,0.4nm,0.3s,baz=76,slow=6.1,SNR=2.6						
	comp=N,0.4nm,0.3s						
O14K	**Tigyukauivet M**	**41.47 41**		P	**P**	**13 37 05.8**	**+0.4**
M16K	**Timber Creek**	**42.76 38**		P	**P**	**13 37 15.2**	**-0.7**
M16K				IAmb	IAmb	13 37 17.9	
	comp=Z,9.0nm,1.2s						
H18K	**Honhosa River**	**43.50 32**		P	**P**	**13 37 21.2**	**-0.6**
MK31	**Makanchi Array**	**43.83 301**		P	**P**	**13 37 24.8**	**0.0**
MKAR	**Makanchi Array**	**43.83 301**		P	**P**	**13 37 25.0**	**+0.3**
MKAR	**Makanchi Array**	**43.83 301**		P	**P**	**13 37 24.1**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=85,slow=9.1,SNR=9.9						
	comp=Z,0.9nm,0.6s						
L18K	**Granite Mounta**	**43.93 36**		P	**P**	**13 37 25.6**	**+0.3**
L18K				IAmb	IAmb	13 37 56.2	
	comp=Z,6.5nm,1.5s						
D19K	**Kuna River**	**44.17 27**		P	**P**	**13 37 27.5**	**+0.3**
D19K				IAmb	IAmb	13 37 52.9	
	comp=Z,9.5nm,1.5s						
E19K	**Redstone River**	**44.31 29**		P	**P**	**13 37 29.0**	**+0.7**
E19K				IAmb	IAmb	13 38 07.9	
	comp=Z,6.2nm,1.4s						
H19K	**Roundabout Mou**	**44.34 32**		P	**P**	**13 37 28.8**	**+0.3**
J19K	**Poorman**	**44.54 34**		P	**P**	**13 37 29.4**	**-0.7**
IMAR	**Indian Mountai**	**45.50 31**		P	**P**	**13 37 36.0**	**-1.7**
KURK	**Kurchatov**	**45.53 307**		P	**P**	**13 37 38.4**	**+0.3**
KURK				IAmb	IAmb	13 37 40.9	
	comp=Z,2.8nm,0.7s						
KURBB	**Kurchatov Arra**	**45.60 307**		P	**P**	**13 37 38.0**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=84,slow=8.5,SNR=19						
	comp=Z,1.3nm,0.5s						
B21K	**Ikpikpuk River**	**45.61 26**		P	**P**	**13 37 38.0**	**-0.6**
KDAK	**Kodiak Island**	**46.02 43**		P	**P**	**13 37 40.3**	**-1.6**
D22K	**Ayikyak River**	**46.19 27**		P	**P**	**13 37 43.4**	**+0.2**
D22K				IAmb	IAmb	13 37 45.4	
	comp=Z,2.8nm,0.7s						
C23K	**Itkillik River**	**47.02 26**		P	**P**	**13 37 49.0**	**-0.6**
C23K				IAmb	IAmb	13 37 51.7	
	comp=Z,3.9nm,0.9s						
E24K	**Your Creek**	**47.68 28**		P	**P**	**13 37 54.9**	**+0.1**
E24K				IAmb	IAmb	13 38 00.1	
	comp=Z,2.3nm,1.2s						
ILAR	**Eielson Array**	**48.35 33**		P	**P**	**13 37 59.9**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=273,slow=6.2,SNR=10						
	comp=Z,0.6nm,0.7s						
BMAR	**Burnt Mountain**	**49.17 29**		P	**P**	**13 38 06.0**	**-0.4**
BVAR	**Borovoye Array**	**50.08 312**		P	**P**	**13 38 12.8**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=82,slow=10,SNR=2.1						
	comp=Z,0.3nm,0.4s						
BCAR	**Beaver Creek A**	**50.76 35**		P	**P**	**13 38 17.0**	**-1.4**
E29M	**Blow River**	**51.60 28**		P	**P**	**13 38 25.5**	**+0.9**
E29M				IAmb	IAmb	13 38 26.9	
	comp=Z,1.6nm,0.8s						
M29M	**Somme Creek**	**52.37 35**		P	**P**	**13 38 30.4**	**-0.2**
G30M	**tAoh Zraii Nji**	**52.45 29**		P	**P**	**13 38 31.8**	**-0.7**
I30M	**Mount Dempster**	**52.72 32**		P	**P**	**13 38 33.2**	**+0.1**
I30M				IAmb	IAmb	13 38 35.1	
	comp=Z,2.4nm,0.8s						
WB0	**Warramunga Arr**	**58.05 188**		P	**P**	**13 39 10.7**	**-1.0**
WRA	**Warramunga Arr**	**58.23 188**		P	**P**	**13 39 11.7**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=5.0,slow=7.2,SNR=6.6						
	comp=Z,0.3nm,0.4s						
ASAR	**Alice Springs**	**61.96 188**		P	**P**	**13 39 37.7**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=16,slow=10,SNR=1.9						
	comp=Z,0.2nm,0.7s						
ARCES	**ARCESS Array B**	**63.07 339**		P	**P**	**13 39 45.1**	**-0.2**
	comp=Z,1.8nm,1.0s,baz=54,slow=6.8,SNR=4.7						
	comp=Z,1.8nm,1.0s						
NVAR	**Mina Array Bea**	**74.03 54**		P	**P**	**13 40 55.3**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=256,slow=4.4,SNR=4.4						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**76.62 46**		P	**P**	**13 41 09.1**	**-0.3**
PDAR	**Pinedale Array**	**76.62 46**		P	**P**	**13 41 09.5**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=274,slow=3.1,SNR=7.2						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**89.15 53**		P	**P**	**13 42 14.8**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=294,slow=3.4,SNR=6.9						
	comp=Z,0.4nm,0.5s						
LPAZ	**La Paz**	**145.80 59**		PKPbc	**PKPdf**	**13 48 58.2**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=358,slow=4.5,SNR=5.5						

*IDC **20** 14:46:28.5±1.7, 10°71S×123°68E, h0km, mb3.8/5, mbtmp3.8/7, ML3.5/2, MS3.3/1, Error ellipse: s-maj=161.8km s-min=29.2km az=51.0*

*DJA **20** 14:46:33.6±0.3, 10°S±3°×12°4E±°, h10km, M4.2/11, mb4.6/7, mB5.4/1, MLv4.0/11, Mw(mB)4.8/1, MwMwp5.4/1, Mwp5.6/1*

*NEIC **20** 14:46:33.4±2.4, 10°32S±0°05×124°12E±0°07, h26km±7km, mb4.4/10, Error ellipse: s-maj=12.0km s-min=2.5km az=54.0*

ISC 20 14:46:32.7±0.6, 10°47S±0°05×124°10E±0°05, h27km, n38, σ2°31/41, mb4.2/10, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.51 302**		P	**Pn**	**14 46 44.5**	**+0.3**
BATI				S	**Sn**	**14 46 54.8**	**+2.8**
SOEI	**Soe**	**0.73 13**		Pn	**Pb**	**14 46 45.0**	**-2.0**
SOEI	**Soe**	**0.73 13**		P	**Pb**	**14 46 44.3**	**-2.6**
MMRI	**Maumere**	**2.59 315**			**Pn**	**14 47 14.6**	**+1.7**
MMRI	**Maumere**	**2.59 315**		P	**Pb**	**14 47 16.4**	**-2.0**
MMRI				S	**Sb**	**14 47 47.9**	**-2.0**
EDFI	**Ende, Flores**	**2.93 306**		P	**Pb**	**14 47 20.8**	**-3.5**
BASI	**Baing, Sumba**	**3.48 274**		P	**Pb**	**14 47 29.7**	**-3.8**
BASI				S	**Sb**	**14 48 12.7**	**-2.6**
BBSI	**Bau Bau**	**5.18 343**		P	**Pn**	**14 47 50.0**	**+1.5**
	44nm,1.0s,0.2nm						
PLAI	**Plampang**	**6.45 284**		P	Pn	14 48 10.3	+4.4
	36nm,0.8s,20μm						
PLAI				S	**Sn**	**14 49 25.2**	**+6.6**
	36nm,0.8s,20μm						
BKSI	**Bulukumba**	**6.46 322**		P	Pn	14 48 10.4	+4.4
KNRA	**Kununurra**	**6.88 139**		Pn	**Pn**	**14 48 15.3**	**+3.4**
KAPI	**Kappang**	**6.93 321**		LR	LR	14 51 16.6	
	comp=Z,221nm,18.2s,baz=124,slow=42						
MTN	**Manton Dam**	**7.28 110**			**Pn**	**14 48 20.0**	**+2.6**
FITZ	**Fitzroy Crossi**	**7.73 169**		Pn	**Pn**	**14 48 26.6**	**+3.2**
BNDI	**Bandanaira**	**8.25 45**		P	**Pn**	**14 48 31.6**	**+1.0**
	162nm,1.1s						
WB0	**Warramunga Arr**	**13.56 134**		Pn	**Pn**	**14 49 45.4**	**+1.9**
WRA	**Warramunga Arr**	**13.64 135**		Pn	**Pn**	**14 49 44.2**	**-0.3**
WRA	**Warramunga Arr**	**13.64 135**		Pn	**Pn**	**14 49 45.2**	**+0.8**
	0.2nm,0.3s,baz=306,slow=14,SNR=10						
WRA				Sn	**Sn**	**14 52 11.9**	**-3.4**
	0.5nm,0.3s,baz=218,slow=33,SNR=7.3						
	0.5nm,0.6s						
WB2	**Warramunga Arr**	**13.65 135**		Pn	**Pn**	**14 49 45.5**	**+0.9**
WR0	**Warramunga Arr**	**13.79 134**		Pn	**Pn**	**14 49 47.1**	**+0.5**
AS31	**Alice Springs**	**16.11 146**			**Pn**	**14 50 19.2**	**+1.8**
ASAR	**Alice Springs**	**16.11 146**			**Pn**	**14 50 19.4**	**+2.0**
ASAR	**Alice Springs**	**16.11 146**		Pn	**Pn**	**14 50 18.1**	**+0.6**
	0.3nm,0.3s,baz=317,slow=12,SNR=23						
ASAR				Sn	**Sn**	**14 53 11.5**	**-3.9**
	0.2nm,0.3s,baz=318,slow=22,SNR=3.4						
	2.2nm,0.7s						
MORW	**Morawa**	**19.98 201**		P	**Pn**	**14 51 04.5**	**-0.4**
FORT	**Forrest**	**20.54 170**		P	**P**	**14 51 09.6**	**+0.5**
FORT				IAmb	IAmb	14 51 20.9	
	comp=Z,44nm,1.3s						
DLV	**T Lat**	**27.14 325**		P	**P**	**14 52 10.4**	**-3.7**
CMAR	**Chiang Mai Arr**	**37.98 319**		P	**P**	**14 53 49.2**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=143,slow=9.1,SNR=2.2						
	comp=Z,0.4nm,0.4s						
MK31	**Makanchi Array**	**68.13 330**		P	**P**	**14 57 30.2**	**-0.1**
MK31				IAmb	IAmb	14 57 38.5	
	comp=Z,1.8nm,0.9s						
MKAR	**Makanchi Array**	**68.13 330**		P	**P**	**14 57 30.5**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=134,slow=7.3,SNR=13						
	comp=Z,0.9nm,0.5s						
GAR	**Garm**	**70.15 318**		P	**P**	**14 57 41.9**	**-1.2**
GAR				IAmb	IAmb	14 58 12.0	
	comp=Z,5.5nm,1.0s						
KK31	**Karatay Array**	**72.26 322**		P	**P**	**14 57 56.4**	**+0.7**
KK31				IAmb	IAmb	14 58 10.2	
	comp=Z,3.3nm,1.4s						
KKAR	**Karatay Array**	**72.26 322**		P	**P**	**14 57 56.8**	**+1.1**
ZALV	**Zalesovo Beam**	**72.28 337**		P	**P**	**14 57 54.6**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=132,slow=2.1,SNR=3.5						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**72.58 332**		P	**P**	**14 57 57.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=142,slow=5.1,SNR=6.1						
	comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**72.60 332**		P	**P**	**14 57 57.2**	**-0.3**
KURK				IAmb	IAmb	14 58 06.3	
	comp=Z,1.7nm,0.8s						
BVAR	**Borovoye Array**	**78.01 330**		P	**P**	**14 58 29.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=101,slow=7.5,SNR=3.5						
	comp=Z,0.3nm,0.3s						
QSPA	**South Pole Qui**	**79.53 180**		P	**P**	**14 58 38.9**	**+1.9**
QSPA				IAmb	IAmb	14 58 41.1	
	comp=Z,7.7nm,1.5s						
SNAA	**Sanae**	**90.90 195**		P	**P**	**14 59 34.4**	**+0.7**

WEL 20 14:46:56.0±0.8, 35°S±8°×17°9E±°, h268km±7km, M4.0/60, mB4.7/13, ML4.5/66, MLv4.2/60, Mw(mB)4.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=65.5, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.34 191**		P	Pn	14 47 42.8	-0.2
MXZ				S	S	14 48 18.9	-1.3
WMGZ	**Waiomatatini S**	**2.58 188**		P	Pn	14 47 45.8	+0.6
WMGZ				S	S	14 48 25.6	+1.2
WIZ	**White Island**	**2.64 211**		P	Pn	14 47 46.6	+0.8
HAZ	**Te Kaha**	**2.64 199**		P	Pn	14 47 45.3	-0.5
HAZ				S	S	14 48 26.7	+1.2
PKGZ	**Pakihiroa**	**2.70 194**		P	Pn	14 47 46.5	0.0
PKGZ				S	S	14 48 26.2	-0.5
PUZ	**Puketiti**	**2.85 190**		P	Pn	14 47 47.9	-0.1
PUZ				S	S	14 48 29.1	-0.2
RUGZ	**Raukumara Rang**	**2.87 199**		P	Pn	14 47 47.7	-0.5
RUGZ				S	S	14 48 28.2	-1.7
TWGZ	**Tauwhareparae**	**3.00 194**		P	Pn	14 47 49.9	+0.4
TWGZ				S	S	14 48 32.7	+0.6
WHRZ	**Whale Island**	**3.01 210**		P	Pn	14 47 50.6	+1.0
WHRZ				S	S	14 48 34.6	+2.3
OPRZ	**Ohinepanea**	**3.19 215**		P	Pn	14 47 52.4	+0.9
TGRZ	**Tauranga**	**3.25 220**		P	Pn	14 47 52.8	+0.7
MARZ	**Manawahe**	**3.25 212**		P	Pn	14 47 51.6	-0.5
MWZ	**Matawai**	**3.25 199**		P	Pn	14 47 52.2	0.0
MWZ				S	S	14 48 36.7	-0.3
CNGZ	**Carnagh Statio**

HOWZ	**Holdsworth Sta**	**6.22 204**	P	Pn	14 48 25.3	-1.8
TMWZ	**Te Maipa**	**6.29 201**	P	Pn	14 48 26.6	-1.4
GLKZ	**Green Lake**	**6.56 25**	P	Pn	14 48 15.0	-17
TRWZ	**Traveller**	**6.62 201**	P	Pn	14 48 31.0	-1.1
CTZ	**Chatham Island**	**9.15 159**	P	P	14 49 12.6	+2.9

*IDC **20** 15:40:21.5±1.2,5°.69S×130°.83E, h0km, mb3.9/3, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=67.3km s-min=21.7km az=59.0*
*DJA **20** 15:40:34.9±1.7,6°.S±2°.×13°.1E±°, h27km±15km, M4.4/9, mb4.3/7, MLv4.4/9*
ISC 20 15:40:33.8±0.7,5°.80S±0°.05×131°.01E±0°.06, h100km, n29, σ1§49/32, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.68 319**		P	**Pn**	**15 41 04.6**	**+2.3**
BNDI	**Bandanaira**	**1.68 319**		P	**Pn**	**15 41 02.5**	**+0.2**
BNDI				S	**Sn**	**15 41 27.3**	**+3.3**
SAUI	**Saumlaki**	**2.19 172**		P	**Pn**	**15 41 11.0**	**+2.2**
SAUI	**Saumlaki**	**2.19 172**		P	**Pn**	**15 41 11.1**	**+2.2**
SAUI				S	**Sn**	**15 41 38.2**	**+2.6**
FAKI	**Fak Fak**	**3.12 23**		P	**Pn**	**15 41 22.8**	**+1.6**
FAKI	**Fak Fak**	**3.12 23**		P	**Pn**	**15 41 22.6**	**+1.4**
FAKI				S	**Sn**	**15 41 59.2**	**+1.5**
KMPI	**Kaimana, Papua**	**3.42 52**		P	**Pn**	**15 41 26.5**	**+1.3**
KMPI				S	**Sn**	**15 42 06.6**	**+1.6**
NLAI	**Namlea**	**4.66 303**		P	**Pn**	**15 41 43.5**	**+1.6**
SWI	**Sorong**	**4.91 3**		P	**Pn**	**15 41 45.8**	**+0.4**
SANI	**Sanana**	**6.25 306**		P	**Pn**	**15 42 04.8**	**+1.3**
SANI	**Sanana**	**6.25 306**		P	**Pn**	**15 42 04.1**	**+0.6**
	25nm,0.8s,0.2nm						
DRS	**Darwin Rock St**	**6.59 181**		P	**Pn**	**15 42 08.1**	**0.0**
KDU	**Kakadu**	**6.99 168**		P	**Pn**	**15 42 12.6**	**-1.0**
MTN	**Manton Dam**	**7.00 179**		P	**Pn**	**15 42 13.8**	**+0.1**
SOEI	**Soe**	**7.75 239**		P	**Pn**	**15 42 24.2**	**+0.1**
SOEI	**Soe**	**7.75 239**		P	**Pn**	**15 42 24.0**	**-0.1**
	17nm,0.8s,0.2nm						
BATI	**Baumata**	**8.49 239**		P	**Pn**	**15 42 34.6**	**+0.6**
	25nm,1.2s						
LUWI	**Luwuk**	**9.49 300**		P	**Pn**	**15 42 48.9**	**+1.3**
EDFI	**Ende, Flores**	**9.70 252**		P	**Pn**	**15 42 52.1**	**+1.5**
WRA	**Warramunga Arr**	**14.42 167**		Pn	Pn	15 43 47.9	-5.4
	0.4nm,0.3s,baz=348,slow=13,SNR=29						
WRA				Sn	Sn	15 46 19.8	-13
	2.0nm,0.3s,baz=346,slow=24,SNR=10.0						
	0.6nm,0.3s						
COEN	**Coen**	**14.46 125**		P	**Pn**	**15 43 53.3**	**-0.4**
QIS	**Mount Isa**	**16.87 151**		P	**P**	**15 44 24.9**	**+0.5**
ASAR	**Alice Springs**	**17.98 171**		P	**P**	**15 44 35.7**	**-0.9**
	0.6nm,0.3s,baz=348,slow=9.2,SNR=34						
ASAR				S	S	15 47 45.1	-13
	1.4nm,0.6s,baz=355,slow=28,SNR=7.9						
	1.6nm,0.5s						
WRKA	**Warakurna**	**19.30 187**		P	**P**	**15 44 50.6**	**-0.4**
CTA	**Charters Tower**	**20.52 135**		P	**P**	**15 45 03.7**	**-0.5**
	0.3nm,0.9s,baz=314,slow=9.4,SNR=4.4						
OOD	**Oodnadatta**	**22.32 169**		P	**P**	**15 45 22.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**39.76 308**		P	**P**	**15 47 55.3**	**-1.8**
	1.1nm,0.6s,baz=130,slow=7.5,SNR=7.2						
	1.1nm,0.6s						
SONM	**Songino Array**	**57.64 341**		P	**P**	**15 50 12.6**	**-1.1**
	0.3nm,0.4s,baz=144,slow=5.4,SNR=2.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**67.79 326**		P	**P**	**15 51 19.6**	**-1.4**
	1.8nm,0.7s,baz=121,slow=8.1,SNR=18						
	1.8nm,0.7s						

*NEIC **20** 17:02:06.3±1.8, 41°.683N±0°.008×110°.61W±0°.06, h0km±1km, ML2.4/82, Error ellipse: s-maj=7.8km s-min=2.6km az=95.0*
*IDC **20** 17:02:09.8±1.4, 41°.93N×110°.75W, h0km, mbtmp2.4/2, ML2.1/2, Error ellipse: s-maj=41.1km s-min=5.9km az=147.0*
ISC 20 17:02:07.4±1.0, 41°.68N±0°.03×110°.60W±0°.03, h0km, n47, σ1§09/47, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWUT	**Hardware Ranch**	**0.73 265**			**Pg**	**17 02 21.8**	**+0.4**
HWUT				IAML		17 02 40.0	
	116nm,0.9s						
HWUT				IAML		17 02 40.5	
	154nm,1.1s						
TCUT	**Toone Canyon**	**0.83 228**			**Pb**	**17 02 24.5**	**-0.3**
BSUT	**Blindstream Ca**	**1.15 186**			**Pb**	**17 02 30.3**	**-0.1**
AHID	**Auburn Hatcher**	**1.15 341**			**Pg**	**17 02 29.4**	**0.0**
AHID				IAML		17 02 51.5	
	92nm,0.6s						
AHID				IAML		17 02 57.5	
	96nm,0.6s						
JLU	**Jordanelle**	**1.25 211**			**Pg**	**17 02 31.4**	**0.0**
JLU				IAML		17 02 56.0	
	comp=E,47nm,0.5s						
CTU	**Camp Tracy**	**1.32 222**			**Pg**	**17 02 31.8**	**-0.8**
CTU				IAML		17 03 00.4	
	comp=N,44nm,0.8s						
CTU				IAML		17 03 01.6	
	comp=E,46nm,0.9s						
PD31	**Pinedale Array**	**1.33 35**			**Pg**	**17 02 33.2**	**+0.3**
PDAR	**Pinedale Array**	**1.33 35**			**Pg**	**17 02 33.0**	**+0.1**
PDAR	**Pinedale Array**	**1.33 35**		Pg	**Pg**	**17 02 32.6**	**-0.3**
	comp=E,1.8nm,0.3s,baz=218,slow=16,SNR=42						
PDAR				Lg	Lg	17 02 49.9	
	comp=E,4.7nm,0.3s,baz=197,slow=30,SNR=6.2						
RDMU	**Red Mountain**	**1.35 145**			**Pb**	**17 02 34.2**	**+0.5**
SPUT	**South Promonto**	**1.44 256**			**Pg**	**17 02 35.1**	**+0.1**
SPUT				IAML		17 03 00.2	
	comp=E,46nm,0.8s						
HVU	**Hansel Valley**	**1.64 274**		Pg	**Pn**	**17 02 37.6**	**0.0**
REDW	**Red Top Meadow**	**1.69 354**			**Pn**	**17 02 38.9**	**+0.4**
SNOW	**Snow King Moun**	**1.79 356**			**Pb**	**17 02 40.8**	**-0.4**
SNOW				IAML		17 03 18.9	
	comp=E,43nm,1.0s						
TPAW	**Teton Pass**	**1.83 352**			**Pn**	**17 02 40.6**	**+0.3**
TPAW				IAML		17 03 14.8	
	comp=E,56nm,1.1s						
TPAW				IAML		17 03 18.0	
	comp=E,33nm,1.6s						
MPU	**Maple Canyon**	**1.84 206**		Pn	**Pn**	**17 02 40.5**	**0.0**
MPU				IAML		17 03 13.9	
	comp=E,24nm,1.1s						
LOHW	**Long Hollow**	**1.93 360**			**Pn**	**17 02 42.2**	**+0.4**
LOHW				IAML		17 03 15.2	
	comp=E,32nm,0.8s						
BGU	**Big Grassy Mou**	**1.98 249**			**Pn**	**17 02 42.2**	**-0.1**
BGU				IAML		17 03 24.3	
	comp=E,20nm,1.0s						
FXWY	**Fox Creek**	**1.98 351**			**Pn**	**17 02 41.9**	**-0.6**
FXWY				IAML		17 03 17.4	
	comp=E,21nm,1.2s						
FXWY				IAML		17 03 19.1	
	comp=E,19nm,1.3s						
NLU	**North Lily Min**	**2.06 214**			**Pn**	**17 02 42.0**	**-1.5**
P18A	**Preston Nutter**	**2.07 172**			**Pn**	**17 02 43.8**	**+0.2**
P18A				IAML		17 03 28.0	
	comp=N,17nm,0.7s						
P18A				IAML		17 03 30.1	
	comp=E,22nm,1.2s						
MOOW	**Moose Ponds**	**2.07 357**			**Pn**	**17 02 43.6**	**-0.1**
P17A	**Butcher Ranch,**	**2.21 183**			**Pn**	**17 02 44.4**	**-1.1**
P17A				IAML		17 03 25.3	
	comp=N,32nm,1.3s						
P17A				IAML		17 03 29.8	
	comp=E,24nm,1.0s						
IMW	**Indian Meadow**	**2.23 354**			**Pn**	**17 02 44.8**	**-1.1**
IMW				IAML		17 03 23.1	
	comp=E,29nm,0.6s						
DUG	**Dugway, Tooele**	**2.24 229**			**Pn**	**17 02 44.2**	**-1.7**
DUG				IAML		17 03 28.2	
	comp=E,16nm,1.2s						
O20A	**White River Ci**	**2.36 130**			**Pn**	**17 02 47.0**	**-0.5**
FLWY	**Flagg Ranch**	**2.40 358**			**Pn**	**17 02 46.5**	**-1.8**
FLWY				IAML		17 03 48.0	
	comp=E,24nm,1.6s						
FLWY				IAML		17 03 51.5	
	comp=E,30nm,1.4s						
TMUT	**Trail Mountain**	**2.42 191**			**Pn**	**17 02 47.4**	**-1.1**
TMUT				IAML		17 03 29.6	
	comp=N,26nm,0.9s						
TMUT				IAML		17 03 29.6	
	comp=E,26nm,1.2s						

SRU	**San Rafael Swe**	**2.56 179**			**Pn**	**17 02 49.6**	**-0.8**
SRU				IAML		17 03 36.2	
	comp=N,27nm,0.8s						
YPP	**Pitchstone Pla**	**2.60 357**			**Pn**	**17 02 49.2**	**-1.8**
YPP				IAML		17 03 39.3	
	comp=E,13nm,1.3s						
Q16A	**Castle Valley**	**2.79 189**			**Pn**	**17 02 53.1**	**-0.4**
Q16A				IAML		17 03 42.2	
	comp=E,14nm,1.2s						
Q16A				IAML		17 04 00.2	
	comp=N,12nm,1.1s						
YHB	**Horse Butte**	**3.10 352**		Pn	**Pn**	**17 02 58.5**	**+0.7**
YHB				IAML		17 03 23.5	
	comp=N,6.6nm,1.9s						
YHB				IAML		17 03 54.7	
	comp=E,7.6nm,1.3s						
K22A	**Casper**	**3.18 71**			**Pn**	**17 02 59.2**	**+0.4**
K22A				IAML		17 03 51.2	
	comp=N,16nm,0.8s						
YHL	**Hebgen Lake**	**3.20 352**			**Pn**	**17 02 59.8**	**+0.6**
YHL				IAML		17 04 24.1	
	comp=N,6.5nm,1.9s						
YHL				IAML		17 04 35.5	
	comp=E,6.5nm,2.7s						
MVU	**Marysvale**	**3.41 202**			**Pn**	**17 03 02.1**	**+0.1**
N23A	**Red Feather La**	**3.59 101**		Pn	**Pn**	**17 03 05.2**	**+0.6**
ELK	**Elko**	**3.62 257**			**Pn**	**17 03 04.9**	**-0.2**
ELK	**Elko**	**3.62 257**		Pn	**Pn**	**17 03 07.3**	**+2.3**
	comp=E,0.1nm,0.3s,baz=52,slow=15,SNR=1.5						
ELK				Pg	**Pg**	**17 03 15.0**	**-1.9**
	comp=E,0.1nm,0.3s,baz=62,slow=15,SNR=8.5						
ELK				Lg	Lg	17 04 01.2	
	comp=E,0.3nm,0.3s,baz=37,slow=20,SNR=2.5						
	comp=E,0.2nm,0.3s						
SMCO	**Snowmass**	**3.73 131**			**Pn**	**17 03 06.1**	**-0.4**
HMU	**Henry Mountain**	**3.74 182**			**Pn**	**17 03 06.9**	**+0.3**
MTPU	**Mount Pierson**	**3.83 199**			**Pn**	**17 03 08.8**	**+0.8**
MTPU				IAML		17 04 08.0	
	comp=E,4.8nm,4.5s						
MTPU				IAML		17 05 33.4	
	comp=N,5.5nm,4.7s						
DLMT	**Dillon**	**3.96 339**			**Pn**	**17 03 10.5**	**+1.0**
DLMT				IAML		17 04 30.2	
	comp=N,7.6nm,2.4s						
DLMT				IAML		17 04 30.6	
	comp=N,8.9nm,3.0s						
PSUT	**Pine Spring**	**4.01 220**			**Pn**	**17 03 11.2**	**+0.8**
PSUT				IAML		17 04 40.4	
	comp=N,3.7nm,3.7s						
PSUT				IAML		17 04 42.7	
	comp=E,4.6nm,4.0s						
MVCO	**Mesa Verde**	**4.75 159**			**Pn**	**17 03 22.0**	**+1.5**
U15A	**North Rim**	**5.41 195**			**Pn**	**17 03 30.8**	**+1.3**
NVAR	**Mina Array Bea**	**6.74 244**		Pn	**Pn**	**17 03 52.0**	**+4.1**
	comp=E,0.1nm,0.3s,baz=68,slow=13,SNR=1.5						
	comp=E,0.6nm,0.7s						
I56US	**NEWPORT INFRAS**	**8.05 327**		I	I	17 47 10.0	
	baz=145,slow=318,SNR=2.1						

IDC 20 17:21:29.3±2.5, 6°.60S×129°.88E, h0km, mb3.4/1, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=145.8km s-min=33.3km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.95 162**		Pn	Pn	17 24 48.5	+0.1
	0.2nm,0.3s,baz=346,slow=13,SNR=13						
WRA				Sn	Sn	17 27 10.7	-13
	0.6nm,0.3s,baz=336,slow=22,SNR=9.2						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**17.40 168**		P	Pn	17 25 33.7	0.0
	0.1nm,0.3s,baz=342,slow=9.2,SNR=8.3						
ASAR				S	Sn	17 28 33.1	-15
	0.5nm,0.7s,baz=356,slow=25,SNR=2.9						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**67.83 327**		P	P	17 32 29.4	0.0
	0.2nm,0.6s,baz=115,slow=6.5,SNR=2.3						
	0.2nm,0.6s						

IDC 20 17:31:49.6±1.5, 13°.22N×121°.06E, h0km, mb3.3/5, mbtmp3.3/5, Error ellipse: s-maj=76.8km s-min=21.4km az=57.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.90 287**		P	P	17 36 44.0	-0.4
	0.6nm,0.8s,baz=102,slow=8.5,SNR=4.2						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**35.45 158**		P	P	17 38 47.3	-0.5
	0.4nm,0.9s,baz=340,slow=9.4,SNR=1.8						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**38.75 161**		P	P	17 39 16.1	+0.2
	0.3nm,0.8s,baz=339,slow=7.0,SNR=8.6						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**46.63 324**		P	P	17 40 19.9	+0.2
	0.1nm,0.3s,baz=118,slow=8.3,SNR=4.2						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**50.78 326**		P	P	17 40 51.4	-0.2
	0.4nm,0.4s,baz=134,slow=7.9,SNR=4.8						
	0.4nm,0.4s						

*IDC **20** 17:33:15.6±1.2, 42°.52N×139°.55E, h0km, mb3.7/3, mbtmp3.6/6, ML2.1/2, Error ellipse: s-maj=29.3km s-min=16.7km az=137.0*
*NIED **20** 17:33:18.1, 42°.47N×139°.36E, h19km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.06; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-2.17; $M_{r\theta}$-0.43; $M_{\theta\phi}$-0.17; $M_{\phi r}$0.59; Fault plane solution: $M_0$2.24000×10^{14} NP1: ϕ_s352.00000°, δ54.00000°, λ75.00000°. NP2: ϕ_s197.00000°, δ39.00000°, λ110.00000°.*
*JMA **20** 17:33:18.1±0.1, 42°.5N±0°.3×139°.4E±0°.6, h19km±1km, MD3.7/40, MV4.0/40, SW OFF HOKKAIDO*
JMA Felt I J1 at SW OFF HOKKAIDO .
ISC 20 17:33:18.6±1.1, 42°.48N±0°.04×139°.43E±0°.04, h19km±3km, n18, σ0§93/24, mb3.8/3, 6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHST	**Hiyamasetana**	**0.34**	**99**	⇓*iP*	**Pg**	**17 33 26.0**	**+0.2**
JHST				⇓*eS*	**Sg**	**17 33 30.6**	**-0.1**
JOSM	**Okushiri--Mats**	**0.39**	**175**	*i P*	**Pg**	**17 33 26.1**	**-0.7**
JOSM				*eS*	**Sg**	**17 33 31.7**	**-0.7**
JSH	**Shimam**	**0.49**	**70**	⇓*iP*	**Pb**	**17 33 28.4**	**-0.2**
JSH				⇓*eS*	**Sb**	**17 33 35.1**	**-0.2**
JSH	**Shimam**	**0.49**	**70**	A	A	17 33 28.4	
	comp=E,11nm,0.2s,comp=N,6.0nm,0.2s						
JYM2	**Yakumo 2**	**0.79**	**117**	⇓*iP*	**Pb**	**17 33 33.8**	**+0.2**
JYM2				⇓S	**Sb**	**17 33 44.6**	**+0.8**
JYM2	**Yakumo 2**	**0.79**	**117**	A	A	17 33 33.8	
	comp=E,4.0nm,0.3s,comp=N,6.0nm,0.3s						
JOMM	**Oshimamatsumae**	**1.04**	**155**	*i P**	**Pb**	**17 33 36.7**	**-1.3**
JOMM				*eS*	**Sb**	**17 33 49.9**	**-1.3**
JSK	**Shakotan**	**1.17**	**41**	P	**Pn**	**17 33 39.0**	**-0.9**
JNB	**Noboribetsu**	**1.19**	**90**	*eP*	**Pn**	**17 33 39.3**	**-0.9**
JNB				*eS*	**Sb**	**17 33 55.0**	**-0.6**
JSR	**Shiriuchi**	**1.20**	**142**	P	**Pb**	**17 33 40.5**	**-0.2**
JSR				S	**Sn**	**17 33 56.6**	**+0.6**
JKB	**Kayabe**	**1.33**	**116**	*eP*	**Pn**	**17 33 42.0**	**0.0**
ASAJ	**Asahikawa**	**2.84**	**54**	Pn	**Pn**	**17 34 02.4**	**-0.5**
	comp=N,0.3nm,0.3s,baz=284,slow=15,SNR=1.9						
ASAJ				Lg	Lg	17 34 41.7	
	comp=N,1.6nm,0.3s,baz=283,slow=31,SNR=4.6						
USRK	**Ussuriysk Ar.**	**5.69**	**290**	Pn	**Pn**	**17 34 41.5**	**-0.5**
	comp=N,4.4nm,0.3s,baz=99,slow=13,SNR=42						
USRK				Sn	**Sn**	**17 35 45.9**	**-0.9**
	comp=N,0.9nm,0.3s,baz=101,slow=26,SNR=5.7						
MJAR	**Matsushiro Arr**	**6.00**	**189**	Pn	**Pn**	**17 34 47.7**	**+1.4**
	baz=22,slow=12,SNR=1.9						
	comp=N,0.6nm,0.5s						
KSRS	**Korea Array**	**10.15**	**244**	Pn	**Pn**	**17 35 45.8**	**+2.6**
	comp=N,0.6nm,0.3s,baz=60,slow=14,SNR=5.5						
WRA	**Warramunga Arr**	**62.28**	**185**	P	**P**	**17 43 39.4**	**+0.1**
	comp=N,0.6nm,0.8s,baz=2.6,slow=7.2,SNR=3.1						
	comp=N,0.6nm,0.8s						
FINES	**FINESS Array B**	**63.31**	**330**	P	**P**	**17 43 46.0**	**+0.3**
	comp=N,1.7nm,1.0s,baz=76,slow=5.9,SNR=2.8						
	comp=N,1.7nm,1.0s						
ASAR	**Alice Springs**	**66.01**	**186**	P	**P**	**17 44 03.8**	**+0.1**
	comp=N,0.3nm,0.7s,baz=4.6,slow=7.0,SNR=2.5						
	comp=N,0.3nm,0.7s						

*NEIC **20** 17:42:04.4±1.9, 17°.83N±0°.09×95°.47W±0°.08, h96km±9km, mb4.6/275, Error ellipse: s-maj=14.5km s-min=8.5km az=212.0*
*IDC **20** 17:42:05.7±0.5, 17°.72N×95°.32W, h107km±4km, mb3.9/16, mbtmp4.2/19, MS3.2/4, Error ellipse: s-maj=15.1km s-min=9.0km az=61.0*
*MEX **20** 17:42:05.9±1.1, 17°.74N×95°.56W, h115km±7km, MD4.9*
ISC 20 17:42:04.7±0.5, 17°.71N±0°.03×95°.53W±0°.03, h109km±4km, n603, σ1§43/577, mb4.6/105, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEUV	**Arroyo Zacate**	**0.26 270**		*eP*	**Pn**	**17 42 20.6**	**+0.4**
NEUV				*eS*	**Sn**	**17 42 31.6**	**-0.2**
CMIG	**Matias Romero**	**0.87 135**		P	**Pn**	**17 42 25.2**	**+0.6**
	6μm,0.3s,baz=304,slow=7.4						
CMIG				S	**Sn**	**17 42 39.1**	**-0.4**
	8μm,0.3s,baz=297,slow=18,SNR=104						
PMUV	**Sontecomapan**	**0.92 25**		*eP*	**Pn**	**17 42 25.8**	**+0.7**
PMUV				*eS*	**Sn**	**17 42 41.0**	**+0.5**
TUIG	**Tuzandepetl**	**1.10 73**		*eP*	**Pn**	**17 42 28.4**	**+1.5**
TUIG				*eS*	**Sn**	**17 42 42.4**	**-1.3**
OXLC	**Oaxaca**	**1.29 240**		*eP*	**Pn**	**17 42 29.2**	**0.0**
OXLC				*eS*	**Sn**	**17 42 48.0**	**+0.2**
OXBJ	**Oaxaca**	**1.30 241**		*eP*	**Pn**	**17 42 30.4**	**+1.0**
OXBJ				*eS*	**Sn**	**17 42 49.2**	**+1.2**
VHO	**Vista Hermosa**	**1.31 241**		*eP*	**Pn**	**17 42 29.6**	**+0.1**
VHO				*eS*	**Sn**	**17 42 47.7**	**-0.5**
UXUV	**UXUV**	**1.38 106**		*eP*	**Pn**	**17 42 31.2**	**+1.2**
UXUV				*eS*	**Sn**	**17 42 49.4**	**+0.1**
TOIG	**Toxpalan**	**1.51 285**		*eP*	**Pn**	**17 42 32.3**	**+0.6**
TOIG				*eS*	**Sn**	**17 42 51.7**	**-0.4**
TPIG	**Tehuac#an**	**1.88 292**		*eP*	**Pn**	**17 42 37.4**	**+1.2**
TPIG				*eS*	**Sn**	**17 42 60.0**	**-0.4**
HUIG	**Huatulco**	**2.01 196**		*eP*	**Pn**	**17 42 36.5**	**-1.2**
HUIG				*eS*	**Sn**	**17 43 01.3**	**-1.8**
JAUV	**Jalcomulco**	**2.04 324**		*eP*	**Pn**	**17 42 37.9**	**-0.3**
JAUV				*eS*	**Sn**	**17 43 02.3**	**-1.5**
YOIG	**Yosondua**	**2.10 246**		*eP*	**Pn**	**17 42 38.6**	**-0.6**
YOIG				*eS*	**Sn**	**17 43 04.6**	**-1.0**
HLIG	**Huajuapan de L**	**2.17 273**		*eP*	**Pn**	**17 42 40.3**	**+0.3**
HLIG				*eS*	**Sn**	**17 43 05.5**	**-1.4**
LVIG	**Laguna Verde**	**2.17 337**		*eP*	**Pn**	**17 42 38.9**	**-0.9**
LVIG				*eS*	**Sn**	**17 43 03.9**	**-2.8**
TXIG	**Tlaxiaco**	**2.18 258**		*eP*	**Pn**	**17 42 40.0**	**-0.3**
TXIG				*eS*	**Sn**	**17 43 06.0**	**-1.3**
PANG	**Puerto Angel**	**2.22 204**		*eP*	**Pn**	**17 42 38.4**	**-2.1**
PANG				*eS*	**Sn**	**17 43 04.3**	**-3.7**
PEIG	**Puerto Escondi**	**2.30 222**		*eP*	**Pn**	**17 42 39.5**	**-2.0**
PEIG				*eS*	**Sn**	**17 43 06.1**	**-3.7**
TGIG		**2.48 112**		*eP*	**Pn**	**17 42 45.2**	**+1.3**
TGIG				*eS*	**Sn**	**17 43 14.1**	**0.0**
FTIG	**Fresnillo de T**	**2.48 275**		*eP*	**Pn**	**17 42 44.5**	**+0.5**
FTIG				*eS*	**Sn**	**17 43 12.1**	**-2.0**
TGBT	**Tuxtla Gutierr**	**2.51 111**		*eP*	**Pn**	**17 42 45.4**	**+1.2**
TGBT				*eS*	**Sn**	**17 43 14.5**	**-0.1**
PNIG	**Pinotepa**	**2.81 243**		*eP*	**Pn**	**17 42 45.6**	**-2.5**
PNIG				*eS*	**Sn**	**17 43 17.1**	**-4.5**
TLIG	**Tlapa**	**2.90 268**		Pn	**Pn**	**17 42 49.3**	**-0.1**
TLIG	**Tlapa**	**2.90 268**		*eP*	**Pn**	**17 42 49.5**	**+0.1**
TLIG				*eS*	**Sn**	**17 43 20.3**	**-3.5**
PCIG		**2.98 132**		*eP*	**Pn**	**17 42 51.7**	**+1.3**
PCIG				*eS*	**Sn**	**17 43 26.2**	**+0.5**
MGIG	**Malinaltepec**	**3.00 261**		*eP*	**Pn**	**17 42 50.0**	**-0.8**
MGIG				*eS*	**Sn**	**17 43 32.0**	**-5.7**
CXUV	**Coxquihui**	**3.13 322**		*eP*	**Pn**	**17 42 53.0**	**+0.6**
CXUV				*eS*	**Sn**	**17 43 20.6**	**-8.6**
PPM	**Popocatepetl**	**3.23 295**		*eP*	**Pn**	**17 42 56.9**	**+2.7**
PPM				*eS*	**Sn**	**17 43 26.4**	**-6.0**
CCIG	**Comitan**	**3.55 113**			**Pn**	**17 42 59.6**	**+1.5**
CCIG	**Comitan**	**3.55 113**		*eP*	**Pn**	**17 42 59.9**	**+1.8**
CCIG				*eS*	Sn	17 43 30.7	-8.7
YAIG	**Yautepec**	**3.55 289**		*eP*	**Pn**	**17 42 59.5**	**+1.4**
YAIG				*eS*	Sn	17 43 30.4	-9.0
CRIG	**Cruz Grande**	**3.57 255**		*eP*	**Pn**	**17 42 56.0**	**-2.3**
CRIG				*eS*	**Sn**	**17 43 35.0**	**-4.8**
VTVM	**Tizayuca**	**3.69 304**		*eS*	Sn	17 43 28.3	-15
XCVM	**Xochimilco**	**3.73 295**		*eS*	Sn	17 43 34.5	-9.4
TLVM	**San Miguel Top**	**3.75 294**		*eP*	**Pn**	**17 43 03.6**	**+2.7**
TLVM				*eS*	Sn	17 43 33.9	-10
TLVM				*eS*		17 43 36.6	
PBVM	**Pinon**	**3.78 298**		*eP*	**Pn**	**17 43 02.8**	**+1.7**
MZVM		**3.81 293**		*eP*	**Pn**	**17 43 04.2**	**+2.8**
MZVM				*eS*	**Sn**	**17 43 39.5**	**-5.8**
UNM	**Universidad Na**	**3.81 296**		Pn	**Pn**	**17 43 00.9**	**-0.9**
PLIG	**Platanillo**	**3.84 281**		*eP*	**Pn**	**17 43 02.8**	**+0.9**
PLIG				*eS*	**Sn**	**17 43 38.9**	**-7.3**
MEIG	**Mezcala**	**3.90 274**		*eP*	**Pn**	**17 43 03.1**	**+0.3**
MEIG				*eS*	**Sn**	**17 43 44.0**	**-3.7**
AOVM	**Tlapan**	**3.92 294**		*eP*	**Pn**	**17 43 05.5**	**+2.2**
AOVM				*eS*	Sn	17 43 37.7	-11
MAVM	**Malinalco, Edo**	**3.96 289**		*eP*	**Pn**	**17 43 05.7**	**+2.0**
MAVM				*eS*	Sn	17 43 37.7	-12
INVM	**La Marquesa**	**3.98 294**		*eP*	**Pn**	**17 43 06.1**	**+2.1**
INVM				*eS*	Sn	17 43 37.5	-12
DAIG	**Los Arroyos**	**3.99 261**		*i*	**

JCT	Junction City	13.29	344			Pn	17 45 06.8 -2.3
JCT	Junction City	13.29	344	P		Pn	17 45 08.5 -0.6
baz=162,SNR=7.2							
SAND	Sanderson	13.59	335			Pn	17 45 11.2 -1.9
TX31	Lajitas Ar. Si	13.76	329	Pn		Pn	17 45 12.8 -2.4
TXAR	Lajitas Array	13.76	329	Pn		Pn	17 45 12.3 -2.9
TXAR	Lajitas Array	13.76	329	P		P	17 45 18.4 -1.7
2.3nm,0.8s,baz=155,slow=13,SNR=26							
BRDY	Brady	13.88	348			Pn	17 45 12.7 -4.0
OZNA	Ozona	14.10	340			Pn	17 45 17.0 -2.6
WHTX	Lake Whitney,	14.32	353			Pn	17 45 18.8 -3.6
WHTX	Lake Whitney,	14.32	353	P		Pn	17 45 22.2 -0.2
baz=172,SNR=5.9							
ALPN	Alpine	14.61	331			Pn	17 45 24.4 -1.8
FW13	Cleburne	14.68	354			Pn	17 45 23.1 -3.8
346A	Big Creek Wild	14.69	21			Pn	17 45 24.6 -2.4
SGCY	Sterling City	15.02	341			Pn	17 45 28.4 -2.8
MNHN	Monahans	15.07	336			Pn	17 45 30.9 -1.0
VBMS	Vicksburg	15.14	16	P		Pn	17 45 32.6 -0.1
baz=198							
PLPT	Palo Pinto	15.25	351			Pn	17 45 32.6 -1.4
PLPT				IAmb		IAmb	17 45 39.9
comp=Z,32nm,0.8s							
ABTX	Abilene, Hawle	15.30	347			Pn	17 45 32.7 -2.1
ABTX				IAmb		IAmb	17 45 40.6
comp=Z,40nm,0.9s							
ABTX	Abilene, Hawle	15.30	347	P		P	17 45 35.3 -1.8
baz=165,SNR=11							
FW06	Azle	15.31	354			Pn	17 45 32.2 -2.6
FW03	Perrin-Whitt E	15.43	352			Pn	17 45 34.2 -2.2
Z38A	Mt. Pleasant	15.49	2			Pn	17 45 34.9 -2.2
Z38A				IAmb		IAmb	17 45 42.3
comp=Z,46nm,0.8s							
PECS	Pecos	15.56	332			P	17 45 40.4 +0.3
VHRN	Van Horn	15.60	328	P		P	17 45 40.6 0.0
Z41A	Richland Creek	15.68	8	Pn		Pn	17 45 37.8 -1.6
SN05	Snyder 5	15.85	343			Pn	17 45 40.4 -1.3
SN05				IAmb		IAmb	17 45 48.2
comp=Z,22nm,0.7s							
SN07	Snyder 07	16.06	344	P		P	17 45 44.3 -1.1
WLAR	White Oak Lake	16.06	7			Pn	17 45 42.0 -2.1
WLAR				IAmb		IAmb	17 45 53.0
comp=Z,61nm,0.9s							
APMT	Aspermont	16.09	346	P		Pn	17 45 43.7 -0.8
WTFS	Witchita Falls	16.20	351			P	17 45 46.3 -0.7
WTFS				IAmb		IAmb	17 45 54.8
comp=Z,23nm,0.7s							
LOOK	Love County	16.28	355			Pn	17 45 43.7 -3.2
LOOK				IAmb		IAmb	17 46 10.4
comp=Z,38nm,0.7s							
250A	Grady	16.49	29	P		P	17 45 49.6 -0.7
MNTX	Cornudas Mount	16.54	329	P		P	17 45 51.5 +0.7
baz=145,SNR=10							
DWPF	Disney Wildern	16.59	49	P		P	17 45 50.8 -0.5
baz=234							
DKNS	Dickens	16.61	344			P	17 45 51.2 -0.4
DKNS				IAmb		IAmb	17 45 54.6
comp=Z,30nm,0.6s							
352A	Blakely	16.74	33	P		Pn	17 45 51.3 -1.3
X37A	Clayton	16.81	0	P		P	17 45 52.8 -1.0
X37A				IAmb		IAmb	17 46 13.1
comp=Z,27nm,1.1s							
Z47A	Carrollton	16.82	22	P		Pn	17 45 51.1 -2.4
Z47A				IAmb		IAmb	17 46 00.6
comp=Z,31nm,0.9s							
MIAR	Mount Ida	16.86	6			Pn	17 45 53.0 -0.9
MIAR				IAmb		IAmb	17 46 01.2
comp=Z,35nm,0.9s							
MIAR	Mount Ida	16.86	6	P		P	17 45 54.2 -0.1
baz=186,SNR=21							
X40A	Basin Creek Fa	16.88	8	P		Pn	17 45 51.9 -2.3
X34A	Smith Ranch, M	16.95	353	P		Pn	17 45 53.3 -1.8
LRAL	Lakeview Retre	17.08	25	P		Pn	17 45 54.4 -2.3
LRAL				IAmb		IAmb	17 46 02.3
comp=Z,21nm,0.7s							
LRAL	Lakeview Retre	17.08	25	P		P	17 45 57.4 +0.6
baz=209,SNR=12							
WMOK	Wichita Mounta	17.20	351			Pn	17 45 57.0 -1.2
WMOK	Wichita Mounta	17.20	351	P		P	17 45 58.7 +0.6
baz=169,SNR=7.5							
UALR	University of	17.23	9	P		Pn	17 45 57.0 -1.5
UALR				IAmb		IAmb	17 46 07.1
comp=Z,21nm,0.8s							
W35A	Tecumseh	17.41	356	P		P	17 45 59.6 -0.8
W35A				IAmb		IAmb	17 46 03.0
comp=Z,28nm,0.6s							
TIGA	Tifton	17.44	36	P		Pn	17 46 01.6 +0.6
baz=221							
MSTX	Muleshoe	17.44	340	P		Pn	17 46 01.9 +0.7
MSTX	Muleshoe	17.44	340	P		Pn	17 46 01.5 +0.3
baz=156,SNR=5.3							
OXF	Oxford	17.60	17	P		P	17 46 00.1 -2.4
OXF	Oxford	17.60	17	P		Pn	17 46 03.3 +0.3
baz=200							
WHAR	Wooly Hollow	17.75	9			P	17 46 02.7 -1.3
WHAR				IAmb		IAmb	17 46 14.5
comp=Z,36nm,0.9s							
SMWD	Samnorwood	17.82	347	P		Pn	17 46 05.2 -0.6
SMWD				IAmb		IAmb	17 46 08.2
comp=Z,36nm,0.6s							
AMTX	Amarillo	17.96	343	P		Pn	17 46 07.5 +0.1
AMTX	Amarillo	17.96	343	P		Pn	17 46 07.1 -0.3
baz=160							
Y49A	Blount Mountai	18.04	25			Pn	17 46 07.3 -0.9
Y49A				IAmb		IAmb	17 46 16.9
comp=Z,20nm,0.5s							
DEOK	Depew	18.08	357			Pn	17 46 07.7 -1.0
CSTR	Hydro, Custer	18.08	352			Pn	17 46 07.8 -1.0
TUL3	Leonard	18.13	359	P		Pn	17 46 08.2 -1.1
TUL3				IAmb		IAmb	17 46 10.3
comp=Z,20nm,0.7s							
TUL3	Leonard	18.13	359	P		Pn	17 46 09.0 -0.3
baz=179							
OK031	S. Brethren Rd	18.21	357			Pn	17 46 09.8 -0.5
OK031				IAmb		IAmb	17 46 11.3
comp=Z,45nm,0.7s							
OK052	Battle Ridge R	18.25	357	P		Pn	17 46 09.2 -1.5
X48A	Hartselle	18.32	23	P		P	17 46 08.5 -1.8
X48A				IAmb		IAmb	17 46 12.6
comp=Z,14nm,0.5s							
FCAR	Ozark Folk Cen	18.36	9	P		P	17 46 10.2 -0.6
FCAR				IAmb		IAmb	17 46 13.3
comp=Z,26nm,0.6s							
RLO	Rose Lookout	18.39	1	P		P	17 46 10.7 -0.4
RLO				IAmb		IAmb	17 46 14.6
comp=Z,13nm,0.6s							
QUOK	Quay	18.42	357			P	17 46 10.8 -0.5
121A	Cookes Peak, D	18.44	325	P		Pn	17 46 13.8 +0.6
121A	Cookes Peak, D	18.44	325	P		Pn	17 46 13.5 +0.3
baz=140,SNR=15							
PLAL	Pickwick Lake	18.44	20	P		P	17 46 09.5 -2.2
PLAL				IAmb		IAmb	17 46 15.1
comp=Z,14nm,0.5s							
319A	Douglas	18.45	320	P		Pn	17 46 12.8 -0.5
HHAR	Hobbs	18.55	4			P	17 46 12.0 -0.9
HHAR				IAmb		IAmb	17 46 16.8
comp=Z,17nm,0.7s							
ELIS	Ellis County	18.60	350			Pn	17 46 13.6 -1.5
OK048	Pawnee Station	18.68	356	P		P	17 46 13.7 -0.5
U38A	Gravette	18.68	3	P		P	17 46 13.3 -1.0
U38A				IAmb		IAmb	17 46 16.6
comp=Z,17nm,0.8s							
LCAR	Lake Charles	18.69	11	P		Pn	17 46 14.5 -1.5
LCAR				IAmb		IAmb	17 46 16.2
comp=Z,19nm,0.5s							
OK051	E0350 and S346	18.76	357			Pn	17 46 15.4 -1.4
CROK	Carrier	18.85	354			Pn	17 46 16.9 -1.0
CROK				IAmb		IAmb	17 46 18.1
comp=Z,31nm,0.6s							
U32A	Winter Ranch,	18.85	351			Pn	17 46 17.0 -0.9
U32A				IAmb		IAmb	17 46 19.0
comp=Z,40nm,0.7s							
OK038	West end E0370	18.91	352	P		P	17 46 15.4 -1.4
OK038				IAmb		IAmb	17 46 19.2
comp=Z,26nm,0.6s							
FPAL	Fort Paine	18.96	26	P		P	17 46 15.6 -1.8
GOGA	Godfrey	19.02	32	P		P	17 46 16.6 -1.4
GOGA	Godfrey	19.02	32	P		Pn	17 46 18.8 -1.1
baz=218,SNR=6.8							
BLOK	Blackwell	19.04	356	P		P	17 46 17.7 -0.4
BLOK				IAmb		IAmb	17 46 20.5
comp=Z,35nm,0.6s							
DUN6	Lazy B Ranch	19.18	323	P		Pn	17 46 20.5 -1.5
DUN6				IAmb		IAmb	17 46 23.5
comp=Z,22nm,0.6s							
Y22D	IRIS PASSCAL I	19.22	330	P		Pn	17 46 21.3 -1.2
baz=145							
KAN13	South Haven SW	19.30	355	IAmb		IAmb	17 46 39.1
comp=Z,19nm,0.7s							
X51A	Calhoun	19.30	28	IAmb		IAmb	17 46 35.4
comp=Z,20nm,0.7s							
SWET	Sewanee	19.42	24	P		P	17 46 20.2 -2.1
SWET				IAmb		IAmb	17 46 23.8
comp=Z,22nm,0.4s							
PBMO	Poplar Bluff	19.52	12	P		P	17 46 22.4 -0.9
PBMO				IAmb		IAmb	17 46 26.4
comp=Z,19nm,0.5s							
V48A	Smith Brothers	19.55	22	IAmb		IAmb	17 46 29.0
comp=Z,20nm,0.7s							
WVT	Waverly	19.57	19	P		P	17 46 22.8 -1.1
WVT				IAmb		IAmb	17 46 28.7
comp=Z,14nm,0.6s							
WVT	Waverly	19.57	19	P		Pn	17 46 24.5 -1.8
baz=202							
MGMO	Mountain Grove	19.58	8	P		P	17 46 23.5 -0.5
MGMO				IAmb		IAmb	17 46 40.3
comp=Z,21nm,0.8s							
W50A	Signal Mountai	19.65	26	IAmb		IAmb	17 46 40.1
comp=Z,20nm,0.8s							
RTBA	Rita Blanca	19.71	343	P		Pn	17 46 26.0 -2.2
RTBA				IAmb		IAmb	17 46 29.5
comp=Z,24nm,0.6s							
ANMO	Albuquerque	19.73	333	P		P	17 46 25.8 -0.2
ANMO	Albuquerque	19.73	333	P		P	17 46 26.0 +0.1
baz=147							
ANMO	Albuquerque	19.73	333	P		Pn	17 46 28.2 -0.3
comp=Z,4.7nm,0.5s,baz=233,slow=12,SNR=15							
S39A	Bolivar	20.00	5	IAmb		IAmb	17 46 56.9
comp=Z,22nm,0.8s							
TUC	Tucson	20.02	319	P		Pn	17 46 29.7 -2.0
TUC	Tucson	20.02	319	P		P	17 46 29.5 +0.5
baz=133							
CLTN	Cedars of Leba	20.04	22	IAmb		IAmb	17 46 33.5
comp=Z,17nm,0.5s							
CPCT	Cooper Cave	20.20	27	IAmb		IAmb	17 46 46.7
comp=Z,27nm,1.1s							
HODGE	Hodges	20.29	33	IAmb		IAmb	17 46 45.9
comp=Z,52nm,0.9s							
CCM	Cathedral Cave	20.61	10	P		P	17 46 34.1 -1.1
CCM				IAmb		IAmb	17 47 06.7
comp=Z,16nm,0.8s							
CCM	Cathedral Cave	20.61	10	P		P	17 46 35.6 +0.5
baz=192							
U49A	Red Boiling Sp	20.62	23	P		P	17 46 34.4 -0.9
S44A	Carbondale	20.66	14	IAmb		IAmb	17 46 38.7
comp=Z,28nm,0.5s							
R40A	Maddies Statio	20.70	7	IAmb		IAmb	17 46 40.4
comp=Z,14nm,0.7s							
TKL	Tuckaleechee C	20.70	28	IAmb		IAmb	17 46 52.9
comp=Z,27nm,1.0s							
TKL	Tuckaleechee C	20.70	28	P		P	17 46 36.2 0.0
comp=Z,15nm,0.6s,baz=188,slow=11,SNR=33							
comp=Z,15nm,0.6s							
T25A	Trinidad	20.88	340	P		P	17 46 38.8 +0.6
baz=155							
V52A	Sevierville	20.93	28	IAmb		IAmb	17 46 57.5
comp=Z,20nm,0.6s							
PAULI	Pauline	20.98	33	P		P	17 46 38.4 -0.7
PAULI				IAmb		IAmb	17 46 55.0
comp=Z,32nm,0.8s							
214A	Organ Pipe Nat	21.10	315	P		P	17 46 41.3 +0.8
214A	Organ Pipe Nat	21.10	315	P		P	17 46 41.3 +0.8
baz=128							
V53A	Saluda	21.15	30	IAmb		IAmb	17 46 59.4
comp=Z,16nm,0.6s							
T50A	Nancy	21.42	24	IAmb		IAmb	17 47 01.0
comp=Z,20nm,0.8s							
W18A	Petrified Fore	21.46	327	P		P	17 46 44.9 +0.4
baz=140							
KMSC	Kings Mountain	21.48	33	IAmb		IAmb	17 47 02.2
comp=Z,56nm,1.3s							
KMSC	Kings Mountain	21.48	33	P		P	17 46 44.4 -0.1
baz=220							
TZTN	Tazewell	21.54	27	P		P	17 46 43.9 -1.3
TZTN				IAmb		IAmb	17 47 03.4
comp=Z,68nm,1.3s							
TZTN	Tazewell	21.54	27	P		P	17 46 45.6 +0.4
baz=212,SNR=7.4							
SDCO	Great Sand Dun	21.79	338	P		P	17 46 49.2 +1.0
baz=153,SNR=11							
Q44A	Meyer Farm, Va	21.87	14	P		P	17 46 47.5 -1.1
P38A	Dawn	21.91	4	P		P	17 46 47.8 -1.2
P38A				IAmb		IAmb	17 47 10.6
comp=Z,29nm,1.0s							
P40A	Paris	21.95	7	IAmb		IAmb	17 47 10.3
comp=Z,24nm,0.7s							
WCI	Wyandotte Cave	21.98	20	P		P	17 46 47.8 -2.0
WCI				IAmb		IAmb	17 46 51.7
comp=Z,33nm,0.9s							
WCI	Wyandotte Cave	21.98	20	P		P	17 46 50.0 +0.3
baz=204							
V55A	Taylorsville	22.09	32	IAmb		IAmb	17 46 52.0
comp=Z,22nm,0.6s							
KSCO	Kaye Shedlock'	22.11	345	P		P	17 46 52.1 +0.9
baz=162							
W57A	Gilead	22.21	36	IAmb		IAmb	17 47 14.0
comp=Z,28nm,0.8s							
S22A	4UR Ranch, Cre	22.29	336	P		P	17 46 54.3 +1.0
baz=150							
U54A	Nelsons Funny	22.31	30	P		P	17 46 51.1 -2.2
R49A	Shelbyville	22.42	22	P		P	17 46 53.1 -1.2
R49A				IAmb		IAmb	17 46 55.8
comp=Z,23nm,0.6s							
S51A	Beattyville	22.45	25	IAmb		IAmb	17 47 16.9
comp=Z,17nm,0.7s							
P43A	Skaggs, Pawnee	22.47	12	IAmb		IAmb	17 47 23.5
comp=Z,21nm,0.8s							
Y14A	Wickenburg	22.49	319	P		P	17 46 54.7 -0.5
MVCO	Mesa Verde	22.53	332	P		P	17 46 56.5 +0.8
baz=146							
WUAZ	Wupatki	22.64	325	P		P	17 46 57.6 +0.9
baz=137,SNR=10							
R50A	Paris	22.72	23	P		P	17 46 55.5 -1.8
R50A				IAmb		IAmb	17 46 58.4
comp=Z,17nm,0.7s							
Q24A	Divide	22.77	340	P		P	17 46 59.1 +0.8
baz=156							
U56A	King	22.89	33	P		P	17 46 57.7 -1.4
U56A				IAmb		IAmb	17 47 22.1
comp=Z,36nm,0.8s							
GLA	Glamis	23.12	315	P		P	17 47 02.7 +1.4
GLA	Glamis	23.12	315	P		P	17 47 02.4 +1.1
baz=126							
HDIL	Hopedale	23.39	12	P		P	17 47 04.7 +1.0
baz=195							
PDMCI	Parker Dam,Lak	23.45	318	P		P	17 47 04.9 +0.7
baz=130							
ISCO	Idaho Springs	23.68	340	P		P	17 47 06.1 -0.6
ISCO	Idaho Springs	23.68	340	P		P	17 47 07.3 +0.6
baz=155,SNR=6.6							
P49A	Miami Univ. Ec	23.69	21	P		P	17 47 06.7 +0.3
baz=206							
SFIN	Lafayette	23.74	16	P		P	17 47 07.0 +0.3
baz=200,SNR=11							
IKP	In-Ko-Pah, Jac	23.77	313	P		P	17 47 08.9 +1.6
baz=124							
OGNE	Ogallala	23.82	348	IAmb		IAmb	17 47 11.4
comp=Z,26nm,0.8s							
OGNE	Ogallala	23.82	348	P		P	17 47 09.3 +1.6
baz=164,SNR=5.7							
BC3	Big Chuckawall	23.90	315	P		P	17 47 09.7 +1.2
baz=126,SNR=5.7							
IRM	Iron Mountain	24.00	317	P		P	17 47 11.1 +1.8
baz=128,SNR=11							
MONP2	Monument Peak	24.12	313	P		P	17 47 11.1 +0.4
baz=124,SNR=6.4							
Q52A	Bidwell	24.12	26	P		P	17 47 08.9 -1.4
Q48B	Farmland	24.19	20	P		P	17 47 11.7 +0.7
baz=205,SNR=22							
SCIA	State Center	24.20	4	P		P	17 47 12.4 +1.5
baz=185							
P51A	Williamsport	24.25	24	P		P	17 47 10.3 -1.1
O49A	Covington	24.40	21	P		P	17 47 12.1 -0.7
BELC	Belle Mtn. Jos	24.47	315	P		P	17 47 14.4 +0.8
baz=126							
R55A	Marlinton	24.53	30	IAmb		IAmb	17 47 45.1
comp=Z,16nm,0.8s							
TPFO	Pinon Flats	24.55	314	P		P	17 47 15.1 +0.8
baz=125							
PFO	Pinyon Flats O	24.55	314	P		P	17 47 14.9 +0.5
PFO	Pinyon Flats O	24.55	314	P		P	17 47 15.2 +0.8
baz=125							
S57A	Dark Hollow, R	24.71	33	IAmb		IAmb	17 47 47.1
comp=Z,16nm,0.7s							
GMRC	Granite Mounta	24.72	317	P		P	17 47 17.5 +1.6
baz=128							
P52A	Corning	24.75	25	P		P	17 47 15.8 -0.2
baz=212,SNR=5.6							
Q54A	Coxs Mills	24.76	28	IAmb		IAmb	17 47 17.3
comp=Z,17nm,0.6s							
N23A	Red Feather La	24.78	341	P		P	17 47 17.1 +0.5
baz=156							
V12A	Nelson	24.81	320	P		P	17 47 18.1 +1.4
O20A	White River Ci	24.91	336	P		P	17 47 18.8 +1.1
baz=150							
ACSO	Alum Creek Sta	24.93	23	P		P	17 47 16.4 -1.3
ACSO	Alum Creek Sta	24.93	23	P		P	17 47 17.8 +0.1
baz=209							
P53A	Whipple	24.93	27	IAmb		IAmb	17 47 49.0
comp=Z,36nm,1.1s							
MURC	Murrieta	25.05	313	P		P	17 47 20.3 +1.4
baz=124							
N49A	Columbus Grove	25.11	21	IAmb		IAmb	17 47 50.3
comp=Z,25nm,1.1s							
HEC	Hector,Ludlow	25.19	317	P		P	17 47 22.1 +2.0
baz=127							
BBRC	Big Bear Solar	25.24	315	P		P	17 47 22.6 +1.8
baz=125							
L44A	Lake County Fo	25.24	13	P		P	17 47 22.3 +1.9
baz=197							
O52A	Adamsville	25.28	25	IAmb		IAmb	17 47 52.6
comp=Z,20nm,0.7s							
TUQ	Turquoise Moun	25.29	318	P		P	17 47 21.9 +0.8
baz=129							
JFWS	Jewell Farm	25.52	9	IAmb		IAmb	17 47 52.9
comp=Z,19nm,0.8s							
JFWS	Jewell Farm	25.52	9	P		P	17 47 23.4 +0.4
baz=192,SNR=6.7							
Q56A	Snyder Ridge,	25.58	31	P		P	17 47 22.3 -1.3
Q56A				IAmb		IAmb	17 47 24.3
comp=Z,15nm,0.6s							
O53A	New Philadelph	25.65	26	P		P	17 47 24.1 -0.1
baz=213,SNR=9.2							
BFSC	Mount Baldy Ra	25.73	314	P		P	17 47 26.3 +1.2
baz=124							
FMP	Fort Macarthur	25.88	312	P		P	17 47 26.9 +0.6
baz=122							
RWWY	Rawlins	25.91	340	IAmb		IAmb	17 47 30.8
comp=Z,14nm,0.8s							
O54A	Avella	25.95	27	P		P	17 47 25.5 -1.4
O54A				IAmb		IAmb	17 48 07.3
comp=Z,29nm,1.4s							
ECSD	EROS Data Cent	25.96	358	P		P	17 47 28.5 +1.6
baz=178							
N53A	Lisbon	26.27	26	P		P	17 47 28.9 -0.9
EDW2	Edwards Air Fo	26.32	315	P		P	17 47 32.0 +1.6
baz=125							
TPNV	Topopah Spring	26.46	321	P		P	17 47 32.6 +0.9
baz=131							
SNCC	San Nicolas Is	26.52	310	P		P	17 47 33.6 +1.5
baz=120							
K22A	Casper	26.56	342	P		P	17 47 33.2 +0.7
baz=156							
MPMC	Manual Prospec	26.68	318	P		P	17 47 34.3 +0.6
baz=127							
M53A	Wt Miller and	26.87	25	P		P	17 47 34.9 -0.2
baz=213							
R11B	Troy Canyon, C	27.02	324	P		P	17 47 37.0 +0.3
baz=134							
SSPA	Standing Stone	27.45	30	P		P	17 47 39.3 -1.0
SSPA				IAmb		IAmb	17 48 22.5
comp=Z,12nm,1.0s							
SSPA	Standing Stone	27.45	30	P		P	17 47 39.7 -0.6
baz=219							
SPMN	Marine on St.	27.53	4	P		P	17 47 41.4 +0.5
baz=186							
PKM	Mcpherson Peak	27.57	313	P		P	17 47 42.3 +0.6
baz=122							
BGU	Big Grassy Mou	27.61	331	P		P	17 47 42.3 +0.4
BW06	Boulder Array	27.68	337	P		P	17 47 43.5 +0.9
baz=150							
PDAR	Pinedale Array	27.68	337	P		P	17 47 44.1 +1.5
comp=Z,1.3nm,0.6s,baz=140,slow=9.5,SNR=11							
PDAR				PcP		PcP	17 50 57.4 +0.4
comp=Z,0.3nm,0.6s,baz=134,slow=3.9,SNR=2.5							
comp=Z,1.3nm,0.6s							
M55A	Ridgway	27.70	28	P		P	17 47 41.6 -1.0
M55A				IAmb		IAmb	17 48 25.1
comp=Z,13nm,0.7s							
ELK	Elko	28.55	328	P		P	17 47 51.4 +0.9
NVAR	Mina Array Bea	28.66	321	P		P	17 47 54.3 +2.9
comp=Z,2.7nm,0.7s,baz=136,slow=9.0,SNR=18							
NVAR				PcP		PcP	17 51 01.5 +1.9
comp=Z,1.1nm,1.0s,baz=111,slow=4.9,SNR=2.4							
comp=Z,2.7nm,0.7s							
L56A	Greenwood	28.78	28	IAmb		IAmb	17 47 52.0
comp=Z,13nm,0.5s							
LOHW	Long Hollow	28.80	337	IAmb		IAmb	17 47 55.5
comp=Z,8.5nm,0.8s							
TPAW	Teton Pass	28.82	336	IAmb		IAmb	17 47 56.5
comp=Z,7.5nm,0.7s							
E38A	The Farm, Brul	29.00	6	P		P	17 47 53.7 -0.3
E38A				IAmb		IAmb	17 47 55.1
comp=Z,21nm,0.9s							
MMNY	Mt. Morris Dam	29.10	27	P		P	17 47 54.4 -0.5
E43A	Lone Tree Farm	29.45	12	P		P	17 47 57.2 -0.8
RLMT	Red Lodge	29.65	340	P		P	17 48 00.8 +0.7
baz=153							
PAL	Palisades	29.74	34	P		P	17 48 00.6 -0.1
baz=225							
L59A	Walton	30.02	31	IAmb		IAmb	17 48 03.3
comp=Z,9.1nm,0.6s							
YHL	Hebgen Lake	30.07	337	P		P	17 48 05.7 +1.9
YHL				IAmb		IAmb	17 48 07.6
comp=Z,4.4nm,0.6s							
MDND	Maddock	30.24	355	P		P	17 48 05.9 +0.9
baz=172							
HLID	Hailey	30.32	332	P		P	17 48 07.1 +1.2
baz=142,SNR=6.0							
EYMN	Ely	30.34	5	P		P	17 48 06.4 +0.6
baz=188							
AGMN	Agassiz Nation	30.51	360	P		P	17 48 08.3 +1.0
baz=179							
DELO	Deloro Mine	30.67	26	P		P	17 48 07.6 -1.2
BOZ	Bozeman (W)	30.87	338	P		P	17 48 12.1 +1.3
BOZ	Bozeman (W)	30.87	338	P		P	17 48 11.4 +0.7
baz=149,SNR=5.0							
DLMT	Dillon	31.03	336	IAmb		IAmb	17 48 15.8
comp=Z,14nm,0.8s							
L61B	Northampton	31.41	33	P		P	17 48 14.7 -0.7
baz=225							
NCB	Newcomb	31.75	30	IAmb		IAmb	17 48 18.5
comp=Z,8.6nm,0.5s							
WBO	Williamsburg	32.06	28	IAmb		IAmb	17 48 21.5
comp=Z,12nm,0.6s							
LONY	Lake Ozonia	32.07	29	P		P	17

LDAQ	Lac Daran	36.12	28	IAmb	IAmb	17 48 56.1
	comp=Z,10nm,1.1s					
GGN	Saint George	36.34	35	P	P	17 48 56.8 -1.1
PQI	Presque Isle	36.74	32	IAmb	IAmb	17 49 01.4
	comp=Z,7.6nm,0.6s					
FFC	Flin Flon	37.28	354	P	P	17 49 06.1 +0.4
FFC				IAmb	IAmb	17 49 07.5
	comp=Z,4.8nm,0.6s					
LMN	Caledonia Moun	37.91	36	IAmb	IAmb	17 49 11.2
	comp=Z,7.2nm,0.5s					
SCHQ	Schefferville	43.08	24	P	P	17 49 53.3 -0.4
	comp=Z,5.9nm,0.7s,baz=245,slow=5.6,SNR=12					
SCHQ				LR	LR	18 08 58.8
	comp=Z,29nm,19.7s,baz=256,slow=38					
	comp=Z,5.9nm,0.7s					
LPAZ	La Paz	43.24	140	P	P	17 49 56.2 +0.1
LPAZ	La Paz	43.24	140	P	P	17 49 56.2 +0.1
	comp=Z,2.0nm,0.6s,baz=318,slow=8.6,SNR=7.5					
LPAZ				pP	pP	17 50 21.8 +0.4
	comp=Z,1.6nm,0.7s,baz=311,slow=7.5,SNR=3.2					
	comp=Z,2.0nm,0.6s					
TOAD	Toad River Com	46.47	339	P	P	17 50 21.1 +0.5
	baz=139					
V35K	Ketchikan	46.50	332	P	P	17 50 21.2 +0.5
	baz=129					
YKA	Yellowknife Ar	46.68	348	P	P	17 50 22.7 +0.7
	comp=Z,1.9nm,0.5s,baz=153,slow=7.6,SNR=16					
	comp=Z,1.9nm,0.5s					
KOTAN	Kotaneelee Air	47.08	341	P	P	17 50 25.7 +0.5
	baz=142					
CRAG	Craig	47.26	332	P	P	17 50 27.1 +0.5
	baz=128					
DLBC	Dease Lake	47.90	336	P	P	17 50 32.9 +1.1
	baz=133					
R33M	Jennings River	48.92	337	P	P	17 50 40.4 +0.8
	baz=133					
Q32M	Nakina River	49.12	336	P	P	17 50 41.7 +0.5
	baz=131					
S32K	Killisnoo	49.12	333	P	P	17 50 41.9 +1.0
	baz=127					
FRB	Frobisher Bay	49.57	15	LR	LR	18 14 21.2
	comp=Z,31nm,19.6s,baz=207,slow=39					
R32K	Eaglecrest	49.59	334	P	P	17 50 45.4 +0.9
	baz=128					
P32M	Atlin	50.10	336	P	P	17 50 48.4 0.0
	baz=130					
P33M	Teslin, Yukon	50.16	337	P	P	17 50 49.1 +0.2
	baz=131					
N32M	Quiet Lake	50.88	338	IAmb	IAmb	17 50 57.7
	comp=Z,7.0nm,0.8s					
PLBC	Pleasant Camp	51.08	335	P	P	17 50 56.1 +0.4
	baz=127					
MMPY	Sheldon Lake,	51.26	340	P	P	17 50 58.9 +1.9
MMPY				IAmb	IAmb	17 51 00.9
	comp=Z,8.8nm,1.3s					
MMPY	Sheldon Lake,	51.26	340	P	P	17 50 57.1 0.0
	baz=134					
P30M	Million Dollar	51.72	335	P	P	17 51 00.8 +0.3
	baz=126					
P29M	Windy Craggy	51.74	334	P	P	17 51 02.1 +1.4
	baz=125					
O30N	Mendenhall	51.77	336	P	P	17 51 01.8 +0.9
	baz=128					
N31M	Braeburn, Yuko	52.09	337	P	P	17 51 04.1 +0.8
	baz=129					
PNL	Peninsula	52.46	334	P	P	17 51 06.8 +0.8
	baz=124					
O29M	Mount Kennedy	52.48	335	P	P	17 51 06.8 +0.6
	baz=125					
N30M	Aishikik Lake	52.57	336	P	P	17 51 07.5 +0.7
	baz=127					
YUK6	Outpost Mounta	52.76	335	P	P	17 51 08.1 -0.4
	baz=125					
PINM	Pinnacle	53.06	334	P	P	17 51 11.3 +0.9
	baz=123					
YUK4	Talbot Arm	53.11	336	P	P	17 51 11.5 +0.6
	baz=126					
M30M	Minto, Yukon	53.15	338	P	P	17 51 11.7 +0.7
	baz=128					
O28M	Mount Upton	53.40	335	P	P	17 51 13.7 +0.5
	baz=123					
YUK8	Steele Glacier	53.52	335	P	P	17 51 14.0 -0.1
	baz=124					
M29M	Somme Creek	53.68	337	P	P	17 51 16.6 +1.5
M29M				IAmb	IAmb	17 51 18.6
	comp=Z,5.7nm,0.8s					
M29M	Somme Creek	53.68	337	P	P	17 51 15.1 0.0
	baz=126,SNR=7.4					
MESA	MESA	53.82	333	P	P	17 51 16.9 +0.7
	baz=121					
L29M	L29M	53.96	338	IAmb	IAmb	17 51 20.1
	comp=Z,5.9nm,0.9s					
L29M	L29M	53.96	338	P	P	17 51 17.4 +0.4
	baz=127,SNR=6.6					
CTG	Chitna Glacier	53.98	334	P	P	17 51 17.8 +0.5
	baz=122					
YUK3	Moose Creek	54.07	336	P	P	17 51 18.2 +0.2
	baz=124					
K29M	Barlow Dome	54.19	339	P	P	17 51 19.4 +0.7
	baz=128					
J30M	Hart River	54.25	340	IAmb	IAmb	17 51 23.2
	comp=Z,2.7nm,0.7s					
J30M	Hart River	54.25	340	P	P	17 51 20.0 +0.8
	baz=130					
I30M	Mount Dempster	54.68	340	P	P	17 51 22.8 +0.5
	baz=130					
MCARA	McCarthy VSAT	54.89	334	P	P	17 51 23.9 +0.2
	baz=121					
M27K	Edge Creek, AK	54.95	336	P	P	17 51 24.5 +0.3
	baz=122					
DAWY	Dawson	54.98	338	P	P	17 51 24.7 +0.3
	baz=126					
G31M	Satah River	55.18	343	P	P	17 51 26.6 +1.0
G31M				IAmb	IAmb	17 51 27.8
	comp=Z,7.5nm,0.7s					
G31M	Satah River	55.18	343	P	P	17 51 26.1 +0.5
	baz=133					
BCAR	Beaver Creek A	55.30	336	P	P	17 51 27.6 +0.9
L27K	Beaver Creek,	55.31	336	IAmb	IAmb	17 51 29.8
	comp=Z,7.8nm,1.4s					
L27K	Beaver Creek,	55.31	336	P	P	17 51 27.6 +0.9
	baz=123					
BMRM	Bremner River	55.35	333	P	P	17 51 27.5 +0.5
	baz=119					
F31M	Tsiigehtchic	55.39	343	P	P	17 51 27.7 +0.6
	baz=134					
I29M	Ogilvie Camp,	55.40	340	P	P	17 51 28.0 +0.7
	baz=128					
M26K	Nabesna, AK	55.41	335	P	P	17 51 28.2 +0.7
	baz=121					
EPYK	Eagle Plains	55.54	341	P	P	17 51 29.1 +0.8
	baz=130					
EYAK	Cordova Ski Ar	55.65	333	P	P	17 51 30.0 +1.0
	baz=117					
N25K	Chitina, Valde	55.66	334	IAmb	IAmb	17 51 33.0
	comp=Z,3.3nm,0.8s					
N25K	Chitina, Valde	55.66	334	P	P	17 51 29.4 +0.1
	baz=119					
G30M	tAoh Zraii Nji	55.79	342	P	P	17 51 30.3 +0.3
	baz=131					
K27K	Chicken	55.93	337	IAmb	IAmb	17 51 34.2
	comp=Z,4.7nm,0.9s					
K27K	Chicken	55.93	337	P	P	17 51 31.8 +0.7
	baz=123					
INK	Inuvik	55.95	344	P	P	17 51 31.7 +0.6
	baz=135					
H29M	Whitestone	55.96	341	P	P	17 51 31.5 +0.3
	baz=128					
I28M	Miner Creek	56.00	339	P	P	17 51 32.3 +0.6
	baz=126					
EGAK	Eagle	56.02	338	P	P	17 51 32.3 +0.6
	baz=125					
F30M	Barrier River	56.08	343	P	P	17 51 33.0 +0.9
	baz=132					
P23K	Montague Islan	56.14	332	P	P	17 51 33.9 +1.3
	baz=115					
KLU	Klutina	56.16	334	P	P	17 51 34.0 +1.2
	baz=118					
HARP	HAARP	56.28	335	P	P	17 51 34.4 +0.8
	baz=119					
G29M	Pine Creek	56.28	341	P	P	17 51 34.5 +1.0
	baz=129					
GLI	Glacier Island	56.39	333	P	P	17 51 34.8 +0.4
	baz=116					
M24K	Tolsona, Glenn	56.56	334	P	P	17 51 35.8 +0.2
	baz=118					
SCRK	Sand Creek	56.62	337	P	P	17 51 36.9 +0.8
	baz=121					
I27K	Kandik River	56.66	339	P	P	17 51 36.5 +0.2
	baz=125					
PAX	Paxson	56.68	335	P	P	17 51 37.1 +0.6
	baz=119,SNR=6.8					
J26L	Joseph Creek	56.74	337	IAmb	IAmb	17 51 40.0
	comp=Z,5.2nm,1.0s					
J26L	Joseph Creek	56.74	337	P	P	17 51 37.5 +0.6
	baz=122,SNR=6.9					
SCM	Sheep Creek Mo	56.91	334	P	P	17 51 39.1 +0.9
	baz=116					
PWL	Port Wells	56.93	332	P	P	17 51 39.3 +1.1
	baz=115					
H27K	Steamboat Moun	56.99	340	P	P	17 51 39.5 +0.9
	baz=125					
I26K	Coal Creek Min	57.02	338	IAmb	IAmb	17 51 40.7
	comp=Z,2.2nm,0.6s					
I26K	Coal Creek Min	57.02	338	P	P	17 51 39.5 +0.7
	baz=123					
M23K	Glacier View	57.07	333	P	P	17 51 39.9 +0.8
	baz=116					
SFJD	Kangerlussuaq	57.09	19	LR	LR	18 19 53.0
	comp=Z,26nm,18.1s,baz=252,slow=40					
SEW	Seward	57.12	331	P	P	17 51 40.2 +0.7
	baz=113					
E29M	Blow River	57.20	343	IAmb	IAmb	17 51 42.6
	comp=Z,6.0nm,1.1s					
E29M	Blow River	57.20	343	P	P	17 51 41.1 +1.1
	baz=130					
K24K	Donnelly Dome	57.21	336	P	P	17 51 41.0 +0.8
	baz=119					
F28M	Old Crow	57.29	341	IAmb	IAmb	17 51 43.2
	comp=Z,7.3nm,0.8s					
F28M	Old Crow	57.29	341	P	P	17 51 41.0 +0.4
	baz=128,SNR=7.5					
SML	Sawmill	57.33	333	P	P	17 51 41.6 +0.5
	baz=116					
G27K	Doyon Strip	57.36	340	P	P	17 51 41.2 0.0
	baz=125					
BDFB	Brasilia	57.37	122	P	P	17 51 42.8 +0.7
	comp=Z,2.1nm,0.6s,baz=292,slow=5.7,SNR=4.7					
	comp=Z,2.1nm,0.6s					
WAT6	Susitna Watana	57.42	334	P	P	17 51 42.1 +0.2
	baz=116					
J25K	Salcha River,	57.46	337	P	P	17 51 43.0 +1.0
J25K	Salcha River,	57.46	337	P	P	17 51 42.3 +0.3
	baz=120					
DHY	Denali Highway	57.50	335	P	P	17 51 42.3 -0.1
	baz=117					
BRSE	Bradley Lake S	57.58	330	P	P	17 51 42.9 +0.1
	baz=112					
PMR	Palmer	57.58	333	P	P	17 51 43.1 +0.4
	baz=114					
RC01	Rabbit Creek A	57.64	332	P	P	17 51 43.2 0.0
	baz=114					
KDAK	Kodiak Island	57.79	328	P	P	17 51 44.6 +0.3
	baz=109					
E28M	Babbage River	57.80	342	P	P	17 51 44.8 +0.6
	baz=128					
WAT1	Susitna Watana	57.87	334	P	P	17 51 45.2 +0.4
	baz=116					
HDA	Harding Lake	57.96	336	IAmb	IAmb	17 51 47.5
	comp=Z,3.9nm,0.8s					
HDA	Harding Lake	57.96	336	P	P	17 51 45.8 +0.5
	baz=118					
Q20K	Shuyak Island	57.97	329	P	P	17 51 45.8 +0.3
	baz=110					
OHAK	Old Harbor	57.97	327	P	P	17 51 45.9 +0.4
	baz=108					
PRP	Porcupine Dome	57.98	338	IAmb	IAmb	17 51 48.1
	comp=Z,5.0nm,1.0s					
PRP	Porcupine Dome	57.98	338	P	P	17 51 46.2 +0.5
	baz=120					
D28M	Stokes Point	58.04	343	P	P	17 51 47.2 +1.4
	baz=130					
IL31		58.11	337	IAmb	IAmb	17 51 48.7
	comp=Z,7.6nm,1.4s					
ILAR	Eielson Array	58.11	337	P	P	17 51 46.9 +0.5
ILAR	Eielson Array	58.11	337	P	P	17 51 47.8 +1.3
	comp=Z,1.6nm,0.8s,baz=138,slow=4.4,SNR=18					
	comp=Z,1.6nm,0.8s					
G26K	Porcupine Rive	58.14	340	P	P	17 51 47.3 +0.8
	baz=123					
E27K	Coleen River	58.15	342	IAmb	IAmb	17 51 49.3
	comp=Z,5.7nm,0.9s					
E27K	Coleen River	58.15	342	P	P	17 51 47.7 +1.0
	baz=126,SNR=5.6					
CAPN	Captain Cook N	58.16	332	P	P	17 51 47.8 +1.0
	baz=112					
DY2G	Dye2	58.22	21	*i* P	P	17 51 48.0 +0.5
DY2G				IAmb	IAmb	17 51 50.1
	comp=Z,9.2nm,0.6s					
SUA	Susitna One	58.24	332	P	P	17 51 48.4 +0.9
	baz=113					
RND	Reindeer	58.25	335	IAmb	IAmb	17 51 50.4
	comp=Z,7.5nm,0.7s					
MCK	McKinley	58.42	335	P	P	17 51 49.4 +0.8
	baz=116					
H25L	Birch Creek	58.47	339	P	P	17 51 49.6 +0.8
	baz=120					
POKR	Poker Plat Res	58.48	337	P	P	17 51 50.6 +1.6
	baz=118					
O20K	Slope Mountain	58.59	330	P	P	17 51 50.7 +0.8
	baz=110					
D27M	Malcolm River	58.60	343	IAmb	IAmb	17 51 51.8
	comp=Z,2.9nm,0.8s					
D27M	Malcolm River	58.60	343	P	P	17 51 51.4 +1.6
	baz=127					
BMAR	Burnt Mountain	58.66	340	P	P	17 51 51.2 +1.0
F26K	Sheenjek River	58.67	340	P	P	17 51 51.0 +0.7
	baz=123					
SPU	Mount Spurr	58.72	332	IAmb	IAmb	17 51 53.4
	comp=Z,4.4nm,0.8s					
P19K	Oil Pt	58.73	330	P	P	17 51 51.8 +0.9
	baz=109					
SKT	Skwentna	58.78	333	IAmb	IAmb	17 51 53.8
	comp=Z,4.6nm,0.8s					
SKT	Skwentna	58.78	333	P	P	17 51 52.0 +0.9
	baz=112					
N20K	Mount Spurr	58.79	332	P	P	17 51 51.9 +0.6
	baz=111					
G25K	Bearman Lake	58.82	339	P	P	17 51 51.8 +0.5
	baz=120					
NEA2	Nenana	58.86	336	P	P	17 51 52.8 +1.1
	baz=116					
H24K	Noodor Dome	58.99	338	P	P	17 51 53.2 +0.7
H24K				IAmb	IAmb	17 51 54.9
	comp=Z,4.2nm,0.7s					
H24K	Noodor Dome	58.99	338	P	P	17 51 53.3 +0.7
	baz=118,SNR=6.5					
F25K	Christian Rive	59.09	340	P	P	17 51 54.3 +1.0
	baz=121,SNR=6.6					
I23K	Minto, Yukon-K	59.22	337	P	P	17 51 54.8 +0.7
	baz=116					
G24K	Hadweenzic Riv	59.26	339	IAmb	IAmb	17 51 56.9
	comp=Z,2.8nm,0.8s					
G24K	Hadweenzic Riv	59.26	339	P	P	17 51 55.1 +0.7
	baz=119,SNR=5.2					
Q18K	Katmai Hardscr	59.28	328	P	P	17 51 54.8 0.0
	baz=107					
BPAW	Bear Paw Mtn.	59.40	335	P	P	17 51 55.8 +0.4
	baz=114,SNR=7.1					
M20K	Styx River	59.45	332	IAmb	IAmb	17 51 58.3
	comp=Z,3.9nm,0.8s					
M20K	Styx River	59.45	332	P	P	17 51 56.6 +0.8
	baz=111,SNR=5.3					
CAST	Castle Rocks	59.58	334	P	P	17 51 57.1 +0.5
	baz=113					
H23K	Yukon River	59.59	337	P	P	17 51 57.3 +0.7
	baz=116					
P18K	Big Mountain,	59.61	329	P	P	17 51 57.3 +0.3
	baz=107					
Q17K	Contact Creek	59.61	328	P	P	17 51 57.0 0.0
	baz=106					
C27K	Jago River	59.62	342	P	P	17 51 57.3 +0.5
	baz=124					
R17L	Mt. Peulik Vol	59.68	327	P	P	17 51 57.6 +0.2
	baz=105					
MLY	Manley	59.69	336	P	P	17 51 57.9 +0.5
MLY				IAmb	IAmb	17 51 59.8
	comp=Z,6.2nm,0.7s					
MLY	Manley	59.69	336	P	P	17 51 58.0 +0.6
	baz=115,SNR=12					
N19K	Bonanza Creek	59.70	331	IAmb	IAmb	17 51 59.9
	comp=Z,8.7nm,1.0s					
N19K	Bonanza Creek	59.70	331	P	P	17 51 58.1 +0.5
	baz=109					
O18K	Koktuh Hills	59.74	330	P	P	17 51 58.6 +0.8
	baz=108					
F24K	Squaw Lake	59.80	339	P	P	17 51 59.1 +1.0
	baz=119					
L20K	Farewell, AK	59.99	333	P	P	17 51 60.0 +0.5
	baz=110,SNR=9.2					
M19K	Big River Lodg	60.02	332	IAmb	IAmb	17 52 02.2
	comp=Z,7.9nm,1.1s					
M19K	Big River Lodg	60.02	332	P	P	17 52 00.2 +0.5
	baz=110					
P17K	Kvichak River	60.15	329	P	P	17 52 01.2 +0.7
	baz=106					
G23K	Bananza Creek	60.16	338	IAmb	IAmb	17 52 03.0
	comp=Z,2.9nm,0.8s					
G23K	Bananza Creek	60.16	338	P	P	17 52 01.6 +1.0
	baz=116,SNR=5.1					
I21K	Tanana	60.23	336	P	P	17 52 01.7 +0.7
	baz=114					
D25K	Kavik River	60.23	342	IAmb	IAmb	17 52 03.6
	comp=Z,4.2nm,0.8s					
D25K	Kavik River	60.23	342	P	P	17 52 01.7 +0.7
	baz=122,SNR=5.7					
E24K	Your Creek	60.27	340	P	P	17 52 02.1 +0.7
	baz=119					
H22K	Ishtalitna Cre	60.30	337	P	P	17 52 02.4 +0.9
	baz=115					
N18K	Kilae Creek	60.31	331	P	P	17 52 01.9 +0.3
	baz=107					
L19K	White Mountain	60.32	332	P	P	17 52 02.5 +0.8
	baz=109					
K20K	Telida	60.38	334	P	P	17 52 02.9 +0.8
K20K				IAmb	IAmb	17 52 03.7
	comp=Z,4.4nm,0.8s					
K20K	Telida	60.38	334	P	P	17 52 02.9 +0.8
	baz=111					
ISOG	Isortoq, Green	60.42	24	*i* P	P	17 52 02.9 +0.7
ISOG				IAmb	IAmb	17 52 03.7
	comp=Z,9.9nm,0.5s					
CHGN	Chignik	60.45	325	P	P	17 52 03.4 +0.9
	baz=103					
COLD	Coldfoot	60.45	339	P	P	17 52 03.3 +0.8
	baz=116					
M18K	Stony River	60.53	331	P	P	17 52 04.3 +1.2
	baz=108					
O17K	Koliganek Bris	60.63	329	P	P	17 52 04.4 +0.6
	baz=106					
E23K	Chandalar	60.64	340	P	P	17 52 04.1 +0.2
	baz=118					
J20K	Nowinta River	60.71	335	IAmb	IAmb	17 52 06.2
	comp=Z,5.4nm,1.0s					
J20K	Nowinta River	60.71	335	P	P	17 52 04.6 +0.3
	baz=111,SNR=5.1					
H21K	Melozitna Rive	60.74	336	P	P	17 52 04.7 +0.2
	baz=113					
G22K	Bettles	60.78	338	P	P	17 52 05.2 +0.5
	baz=115					
N17K	Nushagak Hills	60.88	330	P	P	17 52 05.8 +0.3
	baz=106					
TOLK	Toolik Lake Re	60.90	340	P	P	17 52 05.3 -0.3
	baz=118					
D24K	Happy Valley	60.90	341	P	P	17 52 06.2 +0.7
	baz=119					
ANGG	Ammassalik, Gr	60.96	24	*i* P	P	17 52 06.3 +0.4
ANGG				IAmb	IAmb	17 52 07.1
	comp=Z,7.6nm,0.5s					
S14K	Fog Glacier	61.06	325	P	P	17 52 07.3 +0.3
	baz=102					
I20K	Naaghedeneel	61.07	335	P	P	17 52 07.3 +0.6
	baz=111					
O16K	Kokwok River B	61.07	329	P	P	17 52 06.8 +0.1
	baz=105					
TTA	Tatalina	61.07	333	P	P	17 52 07.3 +0.4
	baz=108					
L18K	Granite Mounta	61.15	332	P	P	17 52 07.5 +0.2
	baz=108					
M17K	Holitna River	61.25	331	P	P	17 52 07.3 -0.6
	baz=106					
J19K	Poorman	61.25	334	IAmb	IAmb	17 52 09.7
	comp=Z,5.9nm,0.8s					
J19K	Poorman	61.25	334	P	P	17 52 07.7 -0.3
	baz=109,SNR=8.8					
F22K	John River	61.27	338	P	P	17 52 08.5 +0.4
	baz=115,SNR=5.1					
G21K	Allakaket	61.34	337	P	P	17 52 09.0 +0.4
	baz=113					
D23K	Nanushuk River	61.40	340	P	P	17 52 08.9 0.0
	baz=117					
H20K	Anotleneega Mo	61.48	336	P	P	17 52 09.8 +0.3
	baz=111					
J18K	Innoko River	61.54	333	P	P	17 52 09.8 -0.2
J18K				IAmb	IAmb	17 52 12.6
	comp=Z,5.8nm,1.4s					
J18K	Innoko River	61.54	333	P	P	17 52 09.7 -0.3
	baz=108					
F21K	Alatna River	61.61	338	IAmb	IAmb	17 52 13.3
	comp=Z,7.0nm,0.8s					
F21K	Alatna River	61.61	338	P	P	17 52 10.3 0.0
	baz=113,SNR=8.5					
N16K	Nishlik Lake	61.62	330	P	P	17 52 09.9 -0.7
	baz=105					
ICESG	Greenland Ices	61.70	20	*i* P	P	17 52 12.3 +1.0
ICESG				IAmb	IAmb	17 52 13.2
	comp=Z,13nm,0.8s					
C23K	Itkillik River	61.78	341	P	P	17 52 11.0 -0.4
	baz=117,SNR=9.8					
O15K	Ungalikthiuk R	61.83	328	P	P	17 52 11.6 -0.3
	baz=103					
L17K	Donlin	61.84	332	P	P	17 52 11.8 -0.2
	baz=106					
M16K	Timber Creek	61.85	330	P	P	17 52 12.6 +0.5
	baz=105					
K17K	Iditarod	62.01	332	P	P	17 52 13.7 +0.6
	baz=106					
D22K	Ayikyak River	62.02	340	IAmb	IAmb	17 52 19.7
	comp=Z,5.5nm,0.8s					
D22K	Ayikyak River	62.02	340	P	P	17 52 13.8 +0.8
	baz=115					
H19K	Roundabout Mou	62.10	336	P	P	17 52 14.3 +0.7
	baz=109					
E21K	Killik River	62.27	339	P	P	17 52 15.4 +0.6
	baz=113					
L16K	Owhat River	62.27	331	P	P	17 52 15.5 +0.8
	baz=104					
F20K	Avaraart Lake	62.36	337	P	P	17 52 16.6 +1.3
F20K	Avaraart Lake	62.36	337	P	P	17 52 16.0 +0.7
	baz=111					
J17K	VABM Dome	62.54	333	P	P	17 52 17.3 +0.8
	baz=106					
G19K	Purcell Mounta	62.55	336	IAmb	IAmb	17 52 18.7
	comp=Z,4.1nm,0.9s					
G19K	Purcell Mounta	62.55	336	P	P	17 52 17.4 +0.8
	baz=109					
O14K	Tigyukauivet M	62.57	328	P	P	17 52 17.8 +1.0
	baz=102					
PLCA	Paso Flores	62.61	159	P	P	17 52 19.0 +1.6
	comp=Z,3.1nm,0.8s,baz=359,slow=8.9,SNR=5.7					
	comp=Z,3.1nm,0.8s					
H18K	Honhosa River	62.74	335	P	P	17 52 18.6 +0.6
	baz=107					
C21K	Knifeblade Rid	62.82	340	P	P	17 52 18.7 +0.3
	baz=113					
B21K	Ikpikpuk River	62.95	340	P	P	17 52 20.1 +1.0
	baz=113					
E20K	Nigu River	62.96	339	P	P	17 52 19.7 +0.4
	baz=111					
F19K	Shaleruckik Mo	63.04	337	P	P	17 52 19.8 0.0
	baz=109					
E19K	Redstone River	63.05	338	P	P	17 52 20.7 +0.8
	baz=110					
G18K	Tagagawik	63.09	336	P	P	17 52 20.8 +0.6
	baz=107					
J16K	Anvik River	63.17	333	P	P	17 52 21.6 +0.9
	baz=104					
L15K	Ungalak Mounta	63.19	331	P	P	17 52 21.8 +0.9
	baz=103					
M14K	Bethel	63.22	330	P	P	17 52 21.0 0.0
M14K				IAmb	IAmb	17 52 23.7
	comp=Z,7.1nm,0.8s					
M14K	Bethel	63.22	330	P	P	17 52 21.6 +0.5
	baz=102					
D20K	Etivluk River	63.27	339	P	P	17 52 21.8 +0.4
	baz=111					
H17K	Granite Mounta	63.31	335	P	P	17 52 21.6 0.0
	baz=106					
K15K	Wolf Creek Mou	63.35	331	P	P	17 52 22.7 +0.7
	baz=103					
I17K	Unalakleet	63.36	333	P	P	17 52 22.9 +0.9
	baz=104					
SUMG	Summit	63.62	16	*i* P	P	17 52 26.0 +1.9
F18K	Selawik	63.68	336	P	P	17 52 25.0 +0.9

baz=107
D19K Kuna River 63.71 339 P P 17 52 24.9 +0.6
baz=109
G17K Kiwalik Mounta 63.77 335 P P 17 52 25.4 +0.8
baz=105
M13K Dall Lake 63.83 329 P P 17 52 26.3 +1.2
baz=100
B20K Meade River 63.91 340 P P 17 52 26.4 +0.8
baz=111
H16K Elim 64.20 334 P P 17 52 27.6 +0.1
baz=103
A21K Barrow 64.23 342 P P 17 52 27.7 +0.2
baz=112
F17K Baldwin Pennin 64.25 336 P P 17 52 28.1 +0.4
baz=105
E18K Tukpahlearik C 64.27 337 P P 17 52 29.1 +1.1
baz=106
J14K Nanvaranak Lak 64.36 332 P P 17 52 29.3 +0.8
baz=101
C19K Lookout Ridge 64.42 339 P P 17 52 29.6 +0.7
baz=108
G16K Koyuk River 64.43 335 P P 17 52 29.3 +0.3
baz=104
E17K Hotham Inlet 64.64 337 P P 17 52 31.1 +0.8
baz=105
K13K Kusilvak Mount 64.72 331 P P 17 52 31.1 +0.2
baz=100
C18K Utukok River 64.83 338 P P 17 52 31.8 +0.1
baz=106
G15K Niukluk 65.03 334 P P 17 52 33.8 +0.9
baz=102
M11K Mekoryuk 65.22 329 P P 17 52 34.2 +0.1
baz=98
A19K Wainwright 65.25 340 P P 17 52 34.5 +0.4
baz=107
F15K North Star Dit 65.43 335 P P 17 52 35.5 +0.1
baz=102
NIKH Nikolski High 66.03 321 P P 17 52 39.7 +0.2
baz=92
DAG Danmarks Havn 69.88 14 *i* P **P 17 53 03.0 -0.2**
DAG IAmb IAmb 17 53 04.5
comp=Z,4.4nm,0.7s
NOR Nord 70.96 9 *i* P **P 17 53 10.3 +0.6**
NOR IAmb IAmb 17 53 11.3
comp=Z,2.6nm,0.6s
EKA Eskdalemuir Ar 76.96 36 P P 17 53 45.9 +0.7
comp=Z,1.6nm,0.4s,baz=274,slow=5.8,SNR=34
EKA pP **pP 17 54 13.2 +0.2**
comp=Z,2.4nm,0.8s,baz=284,slow=6.7,SNR=4.5
comp=Z,1.6nm,0.4s
ESDC Sonseca Array 80.09 52 P P 17 54 03.7 +1.0
comp=Z,0.8nm,1.0s,baz=260,slow=7.7,SNR=2.6
comp=Z,0.8nm,1.0s
NB2 NORSAR Subarra 82.50 28 P P 17 54 17.1 +2.1
comp=Z,1.2nm,0.8s,baz=297,slow=5.6
NOA NORSAR Array B 82.50 28 P P 17 54 16.7 +1.7
comp=Z,0.8nm,0.7s,baz=300,slow=5.4,SNR=7.0
NOA pP **pP 17 54 44.4 +1.2**
comp=Z,1.7nm,0.8s,baz=291,slow=5.2,SNR=7.2
comp=Z,0.8nm,0.7s
ARCES ARCESS Array B 83.67 18 P P 17 54 22.2 +1.4
comp=Z,1.2nm,0.4s,baz=284,slow=4.9,SNR=21
ARCES pP **pP 17 54 50.6 +1.6**
comp=Z,3.0nm,0.7s,baz=316,slow=3.3,SNR=5.2
comp=Z,1.2nm,0.4s
HFS Hagfors 83.99 28 P P 17 54 23.2 +0.6
comp=Z,1.1nm,0.7s,baz=240,slow=4.8,SNR=2.4
comp=Z,1.1nm,0.7s
FINES FINESS Array B 88.56 24 P P 17 54 45.5 +0.6
comp=Z,0.5nm,0.6s,baz=320,slow=4.1,SNR=4.0
comp=Z,0.5nm,0.6s
MKAR Makanchi Array 115.77 2 PKP PKiKP 18 00 34.1 -0.4
comp=Z,0.3nm,0.8s,baz=318,slow=1.9,SNR=2.4
WRA Warramunga Arr 132.88 259 PKP PKPdf 18 01 08.8 +0.9
comp=Z,1.2nm,0.5s,baz=84,slow=2.6,SNR=25
ASAR Alice Springs 133.55 254 PKP PKPdf 18 01 09.8 +0.7
comp=Z,1.0nm,0.7s,baz=84,slow=1.8,SNR=14

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*SJA **20** 18:03:35.3±0.7,24.°01S×66.°73W,h230km±5km,ML3.8, MW3.6*
*GUC **20** 18:03:37.5±0.7,23.°99S×67.°07W,h222km±10km,ML4.1*
ISC 20 18:03:34.6±2.0,23.°98S±0.°05×66.°73W±0.°05,
h228km±16km,n31,σ1°60/53,1C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.34**	**124**	*e*P	**Pn**	**18 04 10.9**	**+1.2**
SLA				*e*S	**S**	**18 04 37.0**	**-0.1**
AZAP	**Zapla**	**1.54**	**99**	*e*P	**Pn**	**18 04 13.3**	**+2.0**
AF01	**San Pedro de A**	**1.68**	**307**	*e*P	**Pn**	**18 04 14.5**	**+1.8**
AF01	**San Pedro de A**	**1.68**	**307**	*e*P	**Pn**	**18 04 14.2**	**+1.5**
YJA	**Yavi**	**2.11**	**32**	*e*P	**Pn**	**18 04 18.9**	**+2.0**
YJA				*e*S	**S**	**18 04 44.2**	**-5.6**
FSA	**Cafayete**	**2.23**	**162**	*e*P	**Pn**	**18 04 17.2**	**-0.5**
LVC	**Limon Verde**	**2.43**	**304**	*e*P	**Pn**	**18 04 21.6**	**+1.6**
LVC				*e*S	**S**	**18 04 55.6**	**+0.3**
LVC	**Limon Verde**	**2.43**	**304**	*i* P	**Pn**	**18 04 21.3**	**+1.4**
LVC				*e*S	**S**	**18 04 54.6**	**-0.7**
LVC				IAML		18 04 56.2	
comp=Z,552nm,0.3s							
PB15	**IPOC Station P**	**2.63**	**286**	*e*P	**Pn**	**18 04 23.4**	**+1.4**
PB15				*e*S	**S**	**18 04 58.1**	**-0.8**
PB15	**IPOC Station P**	**2.63**	**286**	*e*P	**Pn**	**18 04 23.4**	**+1.4**
PB15				*e*S	**S**	**18 04 57.7**	**-1.2**
GO02	**Mina Guanaco**	**2.86**	**245**	*e*P	**Pn**	**18 04 25.9**	**+1.3**
GO02				*e*S	**S**	**18 05 03.0**	**-0.6**
GO02	**Mina Guanaco**	**2.86**	**245**	*e*P	**Pn**	**18 04 25.3**	**+0.8**
GO02				*e*S	**S**	**18 05 02.8**	**-0.8**
GO02				IAML		18 05 06.6	
comp=E,396nm,0.1s							
PB06	**IPOC Station P**	**2.91**	**295**	*e*P	**Pn**	**18 04 26.2**	**+1.3**
PB06				*e*S	**S**	**18 05 03.3**	**-0.9**
PB06				IAML		18 05 05.0	
comp=Z,280nm,0.1s							
PB06	**IPOC Station P**	**2.91**	**295**	*i* P	**Pn**	**18 04 26.4**	**+1.5**
PB06				*e*S	**S**	**18 05 02.7**	**-1.5**
PB06				IAML		18 05 04.3	
comp=N,427nm,0.1s							
PB09	**IPOC Station P**	**3.18**	**313**	*e*P	**Pn**	**18 04 29.5**	**+1.5**
PB09				*e*S	**S**	**18 05 09.9**	**+0.1**
PB09				IAML		18 05 10.3	
comp=Z,108nm,1.3s							
PB09				*e*S	S	18 05 10.9	+1.1
PB09	**IPOC Station P**	**3.18**	**313**	*e*P	**Pn**	**18 04 30.1**	**+2.1**
PB09				*e*S	**S**	**18 05 09.7**	**-0.1**
PB09				IAML		18 05 11.9	
comp=N,154nm,0.1s							
PB05	**IPOC Station P**	**3.38**	**289**	*e*P	**Pn**	**18 04 31.4**	**+1.1**
PB05				*e*S	**S**	**18 05 13.6**	**-0.4**
PB05				IAML		18 05 14.4	
comp=Z,75nm,0.1s							
PB05	**IPOC Station P**	**3.38**	**289**	*e*P	**Pn**	**18 04 31.4**	**+1.1**
PB05				*e*S	**S**	**18 05 11.3**	**-2.7**
PB14	**IPOC Station P**	**3.42**	**258**	*e*P	**Pn**	**18 04 32.1**	**+1.3**
PB14				*e*S	**S**	**18 05 13.1**	**-1.8**
PB14				IAML		18 05 15.8	
comp=Z,126nm,0.3s							
PB14	**IPOC Station P**	**3.42**	**258**	*e*P	**Pn**	**18 04 31.6**	**+0.8**
PB10	**IPOC Station P**	**3.54**	**277**	*e*P	**Pn**	**18 04 33.2**	**+1.3**
PB10				*e*S	**S**	**18 05 15.5**	**-1.5**
PB10				IAML		18 05 18.5	
comp=Z,120nm,0.3s							
PB10	**IPOC Station P**	**3.54**	**277**	*e*P	**Pn**	**18 04 33.3**	**+1.3**
PB10				*e*S	**S**	**18 05 14.9**	**-2.0**
PB04	**IPOC Station P**	**3.55**	**297**	*e*P	**Pn**	**18 04 33.7**	**+1.4**
PB04				*e*S	**S**	**18 05 16.1**	**-1.5**
PB04				IAML		18 05 17.3	
comp=Z,195nm,0.2s							
PB04	**IPOC Station P**	**3.55**	**297**	*e*P	**Pn**	**18 04 33.7**	**+1.4**
PB04				*e*S	**S**	**18 05 15.3**	**-2.3**
PB01	**IPOC Station P**	**3.88**	**318**	*e*P	**Pn**	**18 04 37.4**	**+1.3**
PB01				*e*S	**S**	**18 05 23.7**	**-0.9**
PB01				IAML		18 05 24.4	
comp=Z,72nm,0.2s							
PB01	**IPOC Station P**	**3.88**	**318**	*i* P	**Pn**	**18 04 37.5**	**+1.3**
PB01				*e*S	**S**	**18 05 22.9**	**-1.7**
PATCX	**Punta Patache**	**4.47**	**314**	*e*P	**Pn**	**18 04 43.9**	**+0.7**
PATCX				*e*S	**S**	**18 05 36.0**	**-1.4**
PATCX	**Punta Patache**	**4.47**	**314**	*e*P	**Pn**	**18 04 43.5**	**+0.3**
CYA	**Choya**	**4.52**	**170**	*e*P	**Pn**	**18 04 45.8**	**+2.0**
CYA				*e*P		18 04 47.0	
CYA				*e*S	S	18 05 52.2	+14
TA01	**Diego Aracena**	**4.67**	**316**	*e*P	**Pn**	**18 04 47.0**	**+1.4**
AC06	**Mina Casimiro**	**4.69**	**223**	*e*P	**Pn**	**18 04 46.1**	**+0.1**

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*NEIC **20** 18:12:49.4±2.0,53.°8N±0.°1×169.°7W±0.°1,h225km±8km, mb4.0/35,ML3.6/10,ML3.3(AEIC),Error ellipse: s-maj=20.6km s-min=7.9km az=160.0*
*AEIC **20** 18:12:50.6±1.2,53.°60N±0.°10×169.°6W±0.°2,h229km±4km, Error ellipse: s-maj=18.5km s-min=4.8km az=137.0*
*IDC **20** 18:12:57.0±11.0,54.°02N×168.°48W,h221km±81km, mb2.9/3,mbtmp3.7/5,Error ellipse: s-maj=91.3km s-min=74.2km az=51.0*
ISC 20 18:12:49.6±0.7,53.°73N±0.°10×169.°67W±0.°06,
h222km±7km,n143,σ1°23/157,mb3.2/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKWE	**Okmok W'ng Wal**	**0.89**	**107**		**Pn**	**18 13 21.2**	**+0.2**
NIKH	**Nikolski High**	**0.91**	**147**		**Pn**	**18 13 21.3**	**+0.2**
NIKH					**S**	**18 13 45.3**	**-0.3**
CLES	**Cleveland East**	**0.92**	**189**	Pn	**Pn**	**18 13 21.7**	**+0.5**
CLES				Sn	**S**	**18 13 44.5**	**-1.2**
CLES				IAML		18 13 47.8	
comp=N,760nm,0.8s							
CLES				IAML		18 14 00.1	
comp=E,530nm,0.2s							
OKCE	**Okmok Cone E**	**0.95**	**108**		**Pn**	**18 13 22.1**	**+0.7**
CLCO	**Concord Point,**	**0.95**	**182**		**Pn**	**18 13 21.8**	**+0.5**
CLCO					**S**	**18 13 47.2**	**+1.2**
OKNC	**Okmok New Cone**	**0.96**	**106**		**Pn**	**18 13 22.0**	**+0.6**
OKFG	**Magazine Ridge**	**1.10**	**106**		**Pn**	**18 13 22.6**	**+0.4**
OKFG					**S**	**18 13 48.6**	**+1.0**
MAPS	**Pakushin South**	**1.62**	**86**		**Pn**	**18 13 26.7**	**+0.5**
MAPS					**S**	**18 13 55.0**	**+0.3**
MGOD	**Makushin Gods**	**1.66**	**87**		**Pn**	**18 13 27.0**	**+0.3**
MGOD					**S**	**18 13 55.9**	**+0.5**
MSW	**Makushin Switc**	**1.72**	**83**		**Pn**	**18 13 27.4**	**+0.2**
MSW					**S**	**18 13 57.8**	**+1.5**
MREP	**Makushin Rep't**	**1.74**	**86**		**Pn**	**18 13 28.1**	**+0.7**
MTBL	**Makushin Table**	**1.79**	**81**		**Pn**	**18 13 28.4**	**+0.6**
AKRB	**Akutan Reef Bi**	**2.16**	**78**		**S**	**18 14 05.0**	**+1.1**
LVA	**Lava Point**	**2.19**	**77**		**Pn**	**18 13 32.4**	**+0.8**
LVA				Sn	**S**	**18 14 04.4**	**+0.1**
LVA				IAML		18 14 07.9	
comp=N,163nm,0.7s							
LVA				IAML		18 14 15.2	
comp=E,111nm,0.7s							
ZRO	**Akutan Zero**	**2.21**	**79**		**Pn**	**18 13 32.8**	**+0.9**
AKGG	**Akutan Green G**	**2.22**	**76**		**Pn**	**18 13 32.6**	**+0.7**
AKGG					**S**	**18 14 05.5**	**+0.6**
AKLV	**Akutan Long Va**	**2.23**	**77**		**S**	**18 14 06.0**	**+0.8**
WEBT	**Westdahl Beart**	**3.01**	**71**		**Pn**	**18 13 41.4**	**+0.9**
WEBT					**S**	**18 14 21.6**	**+1.3**
KOFP	**Korovin Flat P**	**3.05**	**243**		**Pn**	**18 13 42.0**	**+1.0**
WESE	**West Dahl East**	**3.08**	**74**		**Pn**	**18 13 41.9**	**+0.6**
ATKA	**Atka Island**	**3.14**	**243**	Pn	**Pn**	**18 13 42.6**	**+0.6**
ATKA				Sn	**S**	**18 14 21.6**	**-1.1**
GSTR	**Great Sitkin T**	**4.20**	**250**	Pn	**Pn**	**18 13 55.7**	**+1.0**
GSMY	**Great Sitkin M**	**4.22**	**249**		**Pn**	**18 13 55.6**	**+0.7**
GSCK	**Great Sitkin C**	**4.30**	**249**		**Pn**	**18 13 56.5**	**+0.7**
ADAG	**Mount Adagdak**	**4.55**	**250**		**Pn**	**18 13 59.8**	**+0.9**
ADK	**Adak**	**4.64**	**249**	Pn	**Pn**	**18 14 00.4**	**+0.4**
ADK					**S**	**18 14 53.0**	**-2.5**
S12K	**Black Hills**	**4.83**	**63**	Pn	**Pn**	**18 14 02.6**	**+0.3**
S12K				Sn	**S**	**18 14 58.5**	**-1.3**
S12K				IAML		18 15 30.1	
comp=E,32nm,2.2s							
S12K				IAML		18 15 33.9	
comp=N,33nm,1.9s							
KINC	**Kanaga Island**	**4.87**	**251**		**Pn**	**18 14 03.4**	**+0.5**
PS1A	**Pavlof South-1**	**4.91**	**67**		**Pn**	**18 14 04.5**	**+1.2**
KIWB	**Kanaga Island**	**4.92**	**250**	Pn	**Pn**	**18 14 03.8**	**+0.4**
TAFP	**Tanaga Falls P**	**5.37**	**253**		**Pn**	**18 14 10.6**	**+1.4**
GANE	**Gareloi Northe**	**5.85**	**255**		**Pn**	**18 14 16.2**	**+1.0**
CNBA	**Chernabura Isl**	**6.00**	**76**	Pn	**Pn**	**18 14 15.8**	**-1.4**
CNBA				Sn	**S**	**18 15 19.5**	**-7.1**
CHGN	**Chignik**	**6.96**	**64**	Pn	**Pn**	**18 14 28.9**	**-0.4**
AMKA	**Amchitka**	**7.13**	**255**	Pn	**Pn**	**18 14 31.2**	**-0.3**
O14K	**Tigyukauivet M**	**7.22**	**37**	Pn	**Pn**	**18 14 32.7**	**0.0**
M13K	**Dall Lake**	**7.53**	**25**	Pn	**Pn**	**18 14 37.2**	**+0.7**
O15K	**Ungalikthiuk R**	**7.71**	**41**		**Pn**	**18 14 40.0**	**+1.1**
M14K	**Bethel**	**8.18**	**28**		**Pn**	**18 14 44.8**	**-0.1**
N15K	**Kwethluk River**	**8.30**	**35**	Pn	**Pn**	**18 14 46.8**	**+0.3**
L14K	**Kuka Creek**	**8.50**	**23**	Pn	**Pn**	**18 14 46.8**	**-2.2**
K13K	**Kusilvak Mount**	**8.64**	**16**	Pn	**Pn**	**18 14 50.3**	**-0.6**
O16K	**Kokwok River B**	**8.66**	**43**	Pn	**Pn**	**18 14 50.5**	**-0.6**
M16K	**Timber Creek**	**9.31**	**34**	Pn	**Pn**	**18 14 58.4**	**-1.0**
J14K	**Nanvaranak Lak**	**9.59**	**17**	Pn	**Pn**	**18 15 03.2**	**+0.2**
K15K	**Wolf Creek Mou**	**9.60**	**23**	Pn	**Pn**	**18 15 02.6**	**-0.6**
N17K	**Nushagak Hills**	**9.60**	**40**	Pn	**Pn**	**18 15 03.0**	**-0.2**
L16K	**Owhat River**	**9.67**	**30**	Pn	**Pn**	**18 15 03.1**	**-0.9**
O18K	**Koktuh Hills**	**10.01**	**46**	Pn	**Pn**	**18 15 09.3**	**+0.8**
M17K	**Holitna River**	**10.09**	**36**	Pn	**Pn**	**18 15 09.1**	**-0.4**
N18K	**Kilae Creek**	**10.20**	**41**	Pn	**Pn**	**18 15 11.3**	**+0.5**
Q19K	**Cape Douglas,**	**10.29**	**53**	Pn	**Pn**	**18 15 11.4**	**-0.8**
KDAK	**Kodiak Island**	**10.44**	**60**	P	**Pn**	**18 15 11.6**	**-2.3**
comp=N,3.8nm,0.3s,baz=283,slow=8.5,SNR=32							
KDAK				S	S	18 17 00.1	-11
comp=N,3.1nm,0.8s,baz=252,slow=20,SNR=2.1							
J16K	**Anvik River**	**10.67**	**23**	Pn	**Pn**	**18 15 16.1**	**-0.7**
SYI	**Shuyak Island**	**10.79**	**56**	Pn	**Pn**	**18 15 16.0**	**-2.3**
P19K	**Oil Pt**	**10.79**	**50**	Pn	**Pn**	**18 15 17.9**	**-0.5**
K17K	**Iditarod**	**10.80**	**29**	Pn	**Pn**	**18 15 18.4**	**-0.1**
N19K	**Bonanza Creek**	**10.84**	**43**	Pn	**Pn**	**18 15 18.3**	**-0.8**
L18K	**Granite Mounta**	**10.93**	**34**	Pn	**Pn**	**18 15 19.1**	**-1.0**
J17K	**VABM Dome**	**11.14**	**25**	Pn	**Pn**	**18 15 23.3**	**+0.6**
I17K	**Unalakleet**	**11.18**	**21**	Pn	**Pn**	**18 15 20.6**	**-2.6**
M19K	**Big River Lodg**	**11.52**	**39**		**Pn**	**18 15 28.1**	**+0.5**
L19K	**White Mountain**	**11.53**	**37**	Pn	**Pn**	**18 15 27.3**	**-0.5**
TTA	**Tatalina**	**11.65**	**32**	Pn	**Pn**	**18 15 27.9**	**-1.5**
CNPM	**China Poot**	**11.67**	**53**	Pn	**Pn**	**18 15 27.9**	**-1.6**
J18K	**Innoko River**	**11.84**	**29**	Pn	**Pn**	**18 15 30.3**	**-1.2**
BRLK	**Bradley Lake**	**11.92**	**52**		**Pn**	**18 15 31.4**	**-1.3**
SPU	**Mount Spurr**	**12.04**	**45**	Pn	**Pn**	**18 15 32.3**	**-1.8**
G16K	**Koyuk River**	**12.26**	**15**	Pn	**Pn**	**18 15 35.3**	**-1.5**
H17K	**Granite Mounta**	**12.27**	**20**	Pn	**Pn**	**18 15 36.3**	**-0.7**
F15K	**North Star Dit**	**12.27**	**10**	Pn	**Pn**	**18 15 36.6**	**-0.3**
J19K	**Poorman**	**12.56**	**29**		**Pn**	**18 15 41.0**	**+0.4**
SKT	**Skwentna**	**12.67**	**42**		**Pn**	**18 15 41.6**	**-0.4**
SUA	**Susitna One**	**12.72**	**45**	P	**Pn**	**18 15 43.2**	**+0.4**
O22K	**Cooper Landing**	**12.74**	**50**	P	**Pn**	**18 15 43.3**	**+0.4**
H18K	**Honhosa River**	**12.79**	**22**		**Pn**	**18 15 43.4**	**-0.1**
J20K	**Nowinta River**	**13.13**	**31**	P	**Pn**	**18 15 48.2**	**+0.5**
G18K	**Tagagawik**	**13.37**	**20**		**Pn**	**18 15 51.6**	**+1.0**
PWL	**Port Wells**	**13.52**	**50**	P	**Pn**	**18 15 50.7**	**-1.8**
H19K	**Roundabout Mou**	**13.54**	**24**	P	**Pn**	**18 15 53.3**	**+0.5**
GHO	**Glory Hole Cre**	**13.64**	**46**	P	**Pn**	**18 15 53.8**	**-0.3**
KNK	**Knik Glacier**	**13.68**	**47**	P	**Pn**	**18 15 54.4**	**-0.2**
SML	**Sawmill**	**13.90**	**46**	P	**Pn**	**18 15 56.8**	**-0.5**
GLI	**Glacier Island**	**14.09**	**50**	P	**Pn**	**18 15 57.2**	**-2.3**
BPAW	**Bear Paw Mtn.**	**14.11**	**35**	P	**P**	**18 16 01.5**	**+0.5**
HIN	**Hinchinbrook I**	**14.21**	**53**	P	**Pn**	**18 15 59.1**	**-1.9**
FID	**Port Fidalgo**	**14.33**	**51**	P	**Pn**	**18 15 59.8**	**-2.7**
SCM	**Sheep Creek Mo**	**14.35**	**47**	P	**Pn**	**18 16 01.1**	**-1.7**
F19K	**Shaleruckik Mo**	**14.36**	**19**	P	**Pn**	**18 16 02.0**	**-0.8**
E18K	**Tukpahlearik C**	**14.41**	**14**	P	**Pn**	**18 16 02.5**	**-0.9**
RND	**Reindeer**	**14.48**	**40**	P	**Pn**	**18 16 02.5**	**-1.8**
IMAR	**Indian Mountai**	**14.59**	**26**	P	**Pn**	**18 16 04.2**	**-1.4**
H21K	**Melozitna Rive**	**14.60**	**28**	P	**Pn**	**18 16 04.4**	**-1.4**
BWN	**Browne**	**14.69**	**37**	P	**Pn**	**18 16 06.4**	**-0.4**
MLY	**Manley**	**14.79**	**33**		**Pn**	**18 16 07.3**	**-0.8**
KLU	**Klutina**	**14.84**	**49**	P	**Pn**	**18 16 07.0**	**-1.7**
DHY	**Denali Highway**	**14.88**	**42**	P	**Pn**	**18 16 07.7**	**-1.7**
M24K	**Tolsona, Glenn**	**14.96**	**47**	P	**Pn**	**18 16 10.0**	**-0.2**
F20K	**Avaraart Lake**	**14.97**	**21**	P	**Pn**	**18 16 10.1**	**-0.1**
E19K	**Redstone River**	**15.01**	**19**	P	**P**	**18 16 11.3**	**+0.4**
G21K	**Allakaket**	**15.06**	**25**	P	**Pn**	**18 16 11.5**	**+0.2**
G21K				IAmb	IAmb	18 16 14.0	
comp=Z,3.8nm,0.8s							
RAGM	**Ragged Mountai**	**15.07**	**54**	P	**Pn**	**18 16 09.6**	**-1.9**
HMT	**Hamilton**	**15.26**	**54**	P	**P**	**18 16 12.9**	**-0.8**
I23K	**Minto, Yukon-K**	**15.31**	**34**	P	**P**	**18 16 13.6**	**-0.6**
I23K				IAmb	IAmb	18 16 17.7	
comp=Z,5.4nm,0.7s							
WRH	**Wood River Hil**	**15.35**	**37**	P	**P**	**18 16 13.9**	**-0.7**
SUCK	**Suckling Hills**	**15.43**	**55**	P	**Pn**	**18 16 16.5**	**+0.6**
N25K	**Chitina, Valde**	**15.47**	**49**	P	**P**	**18 16 15.0**	**-1.1**
N25K				IAmb	IAmb	18 16 17.7	
comp=Z,4.8nm,0.5s							
CCB	**Clear Creek Bu**	**15.55**	**37**	P	**P**	**18 16 15.6**	**-1.2**
CCB				IAmb	IAmb	18 16 23.5	
comp=Z,5.7nm,1.4s							
MDM	**Murphy Dome**	**15.58**	**35**	P	**P**	**18 16 16.6**	**-0.6**
F21K	**Alatna River**	**15.62**	**24**	P	**Pn**	**18 16 18.4**	**+0.4**
H23K	**Yukon River**	**15.69**	**32**	P	**P**	**18 16 18.8**	**+0.4**
VRDI	**Verde Repeater**	**15.88**	**51**	P	**P**	**18 16 20.3**	**-0.4**
VRDI				IAmb	IAmb	18 16 35.8	
comp=Z,9.4nm,1.4s							
CRQM	**Cirque**	**15.90**	**53**	P	**P**	**18 16 19.4**	**-1.6**
CRQM				IAmb	IAmb	18 16 52.5	
comp=Z,6.3nm,0.8s							
IL31		**15.95**	**37**	P	**P**	**18 16 20.5**	**-0.6**
ILAR	**Eielson Array**	**15.95**	**37**	P	**P**	**18 16 21.6**	**+0.3**
comp=Z,1.5nm,0.3s,baz=229,slow=9.5,SNR=54							
C19K	**Lookout Ridge**	**16.12**	**13**	P	**P**	**18 16 22.0**	**-1.1**
C19K				IAmb	IAmb	18 16 47.5	
comp=Z,12nm,1.4s							
G23K	**Bananza Creek**	**16.15**	**29**	P	**P**	**18 16 23.7**	**+0.3**
G23K				IAmb	IAmb	18 16 27.5	
comp=Z,5.0nm,0.8s							
H24K	**Noodor Dome**	**16.23**	**33**	P	**P**	**18 16 23.0**	**-1.3**
H24K				IAmb	IAmb	18 16 28.2	
comp=Z,5.2nm,0.7s							
J25K	**Salcha River,**	**16.42**	**39**	P	**P**	**18 16 25.8**	**-0.7**
M26K	**Nabesna, AK**	**16.45**	**48**	P	**P**	**18 16 26.4**	**-0.4**
E21K	**Killik River**	**16.50**	**21**	P	**P**	**18 16 26.6**	**-0.7**
L26K	**Log Cabin Wild**	**16.52**	**45**	P	**P**	**18 16 27.6**	**0.0**
SCRK	**Sand Creek**	**16.65**	**42**	P	**P**	**18 16 27.3**	**-1.8**
SCRK				IAmb	IAmb	18 16 29.9	
comp=Z,3.2nm,0.8s							
CTGM	**Chitina Glacie**	**16.81**	**53**	P	**P**	**18 16 28.3**	**-2.6**
CTGM				IAmb	IAmb	18 16 33.9	
comp=Z,5.8nm,0.6s							
G24K	**Hadweenzic Riv**	**16.90**	**31**	P	**P**	**18 16 30.5**	**-1.1**
M27K	**Edge Creek, AK**	**16.93**	**48**	P	**P**	**18 16 30.6**	**-1.5**
M27K				IAmb	IAmb	18 16 35.8	
comp=Z,3.4nm,0.6s							
J26L	**Joseph Creek**	**17.05**	**41**	P	**P**	**18 16 31.8**	**-1.6**
L27K	**Beaver Creek,**	**17.18**	**46**	P	**P**	**18 16 32.3**	**-2.5**
B21K	**Ikpikpuk River**	**17.37**	**18**	P	**P**	**18 16 35.3**	**-1.4**
B21K				IAmb	IAmb	18 17 18.4	
comp=Z,8.4nm,1.4s							
E24K	**Your Creek**	**17.53**	**27**	P	**P**	**18 16 39.5**	**+0.9**
E24K				IAmb	IAmb	18 16 44.4	
comp=Z,3.6nm,0.7s							
TOLK	**Toolik Lake Re**	**17.66**	**25**	P	**P**	**18 16 40.6**	**+0.6**
TOLK				IAmb	IAmb	18 16 42.4	
comp=Z,4.8nm,0.6s							
EGAK	**Eagle**	**18.10**	**41**	P	**P**	**18 16 44.8**	**+0.1**
EGAK				IAmb	IAmb	18 16 48.4	
comp=Z,3.1nm,0.7s							
BMAR	**Burnt Mountain**	**18.24**	**32**	P	**P**	**18 16 46.9**	**+0.7**
C23K	**Itkillik River**	**18.34**	**21**	P	**P**	**18 16 48.2**	**+0.9**
I28M	**Miner Creek**	**18.85**	**40**	P	**P**	**18 16 52.4**	**-0.5**
I28M				IAmb	IAmb	18 16 57.7	
comp=Z,2.6nm,0.5s							
I30M	**Mount Dempster**	**20.16**	**42**	P	**P**	**18 17 06.1**	**-0.8**
I30M				IAmb	IAmb	18 17 08.3	
comp=Z,2.8nm,1.1s							
G29M	**Pine Creek**	**20.17**	**37**	P	**P**	**18 17 06.3**	**-0.6**
G29M				IAmb	IAmb	18 17 32.8	
comp=Z,8.7nm,1.4s							
NVAR	**Mina Array Bea**	**37.88**	**92**	P	**P**	**18 19 47.4**	**+2.0**
comp=Z,0.4nm,0.6s,baz=295,slow=8.6,SNR=1.9							
comp=Z,0.4nm,0.6s							
PDAR	**Pinedale Array**	**40.34**	**81**	P	**P**	**18 20 06.6**	**+0.9**
PDAR	**Pinedale Array**	**40.34**	**81**	P	**P**	**18 20 07.3**	**+1.6**
comp=Z,0.5nm,0.6s,baz=316,slow=4.1,SNR=5.0							
comp=Z,0.5nm,0.6s							
HHC	**Hu-ho-hao-te**	**52.27**	**290**	*e*P	**P**	**18 21 35.9**	**-2.3**
HHC				pmax	pmax		
comp=Z,8.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,130nm,6.0s							
TXAR	**Lajitas Array**	**52.91**	**90**	P	**P**	**18 21 44.6**	**+1.6**
comp=Z,0.3nm,0.4s,baz=303,slow=5.7,SNR=7.9							
comp=Z,0.3nm,0.4s							
PZH	**PanZhiHua**	**68.28**	**285**	P	**P**	**18 23 26.8**	**+0.1**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,100nm,4.6s							

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*DJA **20** 18:14:47.9±0.4,8.°S±5.°×12.°8E±.°,h174km±8km,M4.4/8, mb4.2/6,MLv4.5/8*
*NEIC **20** 18:14:48.1±1.9,7.°70S±0.°09×127.°60E±0.°06,h135km±7km, mb4.2/11,Error ellipse: s-maj=12.9km s-min=8.7km az=174.0*
*IDC **20** 18:14:49.4±7.5,7.°63S×127.°61E,h151km±72km,mb3.4/10, mbtmp3.9/11,Error ellipse: s-maj=40.2km s-min=14.7km az=72.0*
**ISC 20 18:14:48.7±0.5,7.°83S±0.°06×127.°58E±0.°04,

comp=Z,0.2nm,0.5s,baz=134,slow=8.3,SNR=2.2
comp=Z,0.2nm,0.5s
MKAR Makanchi Array 67.63 328 P **P 18 25 28.1 -1.3**
MKAR Makanchi Array 67.63 328 P **P 18 25 29.0 -0.4**
comp=Z,0.4nm,0.5s,baz=130,slow=8.3,SNR=6.6
comp=Z,0.4nm,0.5s
ZALV Zalesovo Beam 71.29 335 P **P 18 25 51.3 -0.3**
comp=Z,0.7nm,0.4s,baz=124,slow=6.0,SNR=4.4
comp=Z,0.7nm,0.4s
VNDA Vanda 71.93 173 P **P 18 25 57.2 +2.0**
VNDA Vanda 71.93 173 P **P 18 25 57.1 +2.0**
comp=Z,0.3nm,0.6s,baz=308,slow=5.9,SNR=1.6
comp=Z,0.3nm,0.6s
KURBB Kurchatov Arra 71.98 330 P **P 18 25 55.0 -0.8**
comp=Z,0.5nm,0.5s,baz=126,slow=5.5,SNR=9.1
comp=Z,0.5nm,0.5s
BVAR Borovoye Array 77.50 329 P **P 18 26 27.7 +0.2**
comp=Z,0.3nm,0.4s,baz=111,slow=7.9,SNR=2.9
comp=Z,0.3nm,0.4s
QSPA South Pole Qui 82.15 180 P **P 18 26 53.5 +0.9**
QSPA IAmb IAmb 18 27 11.8
comp=Z,6.7nm,1.4s
QSPA South Pole Qui 82.15 180 P **P 18 26 54.4 +1.8**
comp=Z,1.3nm,0.8s,baz=242,slow=2.3,SNR=7.2
comp=Z,1.3nm,0.8s
SNAA Sanae 94.29 194 P **P 18 27 51.9 +1.2**
comp=Z,1.0nm,1.1s,baz=209,slow=6.0,SNR=1.8
comp=Z,1.0nm,1.1s

IDC 20 18:16:01.1±5.4, 5°.31S×133°.04E, h0km, mb3.4/1, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=324.7km s-min=34.0km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.22**	**284**	P	Pb	18 17 00.7	+1.6
WRA	**Warramunga Arr**	**14.60**	**175**	Pn	Pn	18 19 27.8	-1.3
	0.4nm,0.3s,baz=352,slow=14.5,SNR=4.8						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**18.27**	**177**	P	P	18 20 16.7	+0.2
	0.2nm,0.3s,baz=5.7,slow=10,SNR=5.3						
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**68.53**	**325**	P	P	18 27 05.6	0.0
	0.1nm,0.4s,baz=106,slow=6.8,SNR=1.9						
	0.1nm,0.4s						

NEIC 20 18:20:12.7±0.5, 36°.754N±0°.009×98°.04W±0°.01, h5km±1km, mb_Lg2.5/50, ML2.9/58, Error ellipse: s-maj=1.6km s-min=1.2km az=118.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.14**	**290**		Pg	18 20 16.0	+0.3
OK032				Sg	Sg	18 20 18.3	+0.7
GC02	**Grant County #**	**0.18**	**56**	Pg	Pg	18 20 17.0	+0.8
GC02				Sg	Sg	18 20 19.9	+1.2
KAN14	**Manchester OK**	**0.21**	**18**		Pg	18 20 17.6	+0.7
KAN14				Sg	Sg	18 20 20.9	+1.1
KAN14				IAML		18 20 21.0	
	comp=E,3μm,0.1s						
KAN14				IAML		18 20 21.0	
	comp=N,3μm,0.2s						
CROK	**Carrier**	**0.25**	**169**		Pg	18 20 18.2	+0.5
CROK				Sg	Sg	18 20 22.0	+1.0
CROK				IAML		18 20 24.1	
	comp=E,2μm,0.2s						
CROK				IAML		18 20 24.2	
	comp=N,2μm,0.3s						
KAN17	**Caldwell West**	**0.36**	**38**		Pg	18 20 20.4	+0.5
KAN17				Sg	Sg	18 20 25.6	+0.9
KAN17				IAML		18 20 26.6	
	comp=N,1μm,0.3s						
KAN05	**Bluff City Nor**	**0.38**	**21**	Pg	Pg	18 20 20.0	-0.1
KAN05				Sg	Sg	18 20 26.0	+0.9
KAN05				IAML		18 20 26.6	
	comp=N,1μm,0.1s						
KAN05				IAML		18 20 26.7	
	comp=E,840nm,0.2s						
KAN01	**Argonia South**	**0.46**	**30**	Pg	Pg	18 20 22.0	+0.4
KAN01				Sg	Sg	18 20 28.4	+0.8
KAN08	**Anthony NE Sta**	**0.47**	**7**	Pg	Pg	18 20 22.4	+0.5
KAN08				Sg	Sg	18 20 29.0	+0.9
KAN09	**Caldwell North**	**0.51**	**42**	Pg	Pg	18 20 22.9	+0.3
KAN09				IAML		18 20 30.7	
	comp=N,1μm,0.2s						
KAN09				Sg	Sg	18 20 30.0	+0.7
KAN13	**South Haven SW**	**0.52**	**60**	Pg	Pg	18 20 23.2	+0.4
KAN13				Sg	Sg	18 20 30.3	+0.7
KAN13				IAML		18 20 30.8	
	comp=N,885nm,0.3s						
KAN13				IAML		18 20 32.4	
	comp=E,617nm,0.2s						
KAN12	**Harper NE Stat**	**0.54**	**4**		Pg	18 20 23.6	+0.4
KAN12					Sg	18 20 31.1	+0.8
KAN12				IAML		18 20 34.9	
	comp=N,816nm,0.3s						
KAN12				IAML		18 20 36.9	
	comp=E,996nm,0.4s						
KS21	**Milan North St**	**0.61**	**30**	IAML		18 20 36.7	
	comp=E,507nm,0.1s						
KS21				IAML		18 20 38.2	
	comp=E,604nm,0.1s						
KS21	**Milan North St**	**0.61**	**30**		Pg	18 20 23.6	-1.0
KS21				Sg	Sg	18 20 33.3	+0.8
OK038	**West end E0370**	**0.63**	**244**		Pg	18 20 24.6	-0.1
OK038				Sg	Sg	18 20 33.5	+0.6
OK038				IAML		18 20 37.2	
	comp=E,899nm,0.3s						
OK038				IAML		18 20 42.5	
	comp=E,969nm,0.3s						
BLOK	**Blackwell**	**0.67**	**89**	Pg	Pg	18 20 25.6	+0.1
BLOK				Sg	Sg	18 20 34.3	+0.2
BLOK				IAML		18 20 35.3	
	comp=E,577nm,0.2s						
NOKA	**Waynoka**	**0.72**	**261**	Pg	Pg	18 20 26.5	-0.2
NOKA				Sg	Sg	18 20 36.3	+0.3
NOKA				IAML		18 20 40.9	
	comp=E,386nm,0.2s						
U32A	**Winter Ranch,**	**0.86**	**244**	Pg	Pg	18 20 28.9	-0.3
U32A				Sg	Sg	18 20 40.2	-0.1
OK048	**Pawnee Station**	**0.95**	**111**	Pg	Pg	18 20 30.8	-0.1
OK048				Sg	Sg	18 20 43.1	-0.1
OK051	**E0350 and S346**	**1.00**	**104**	Pg	Pg	18 20 31.7	-0.2
OK051				Sg	Sg	18 20 44.9	-0.1
OK029	**Liberty Lake**	**1.07**	**153**	Pg	Pg	18 20 32.9	-0.3
OK029				IAML		18 20 48.7	
	comp=E,282nm,0.2s						
OK029				IAML		18 20 50.4	
	comp=E,260nm,0.2s						
CSTR	**Hydro, Custer**	**1.22**	**205**		Pg	18 20 35.7	-0.5
QUOK	**Quay**	**1.22**	**118**	Pg	Pg	18 20 35.8	-0.4
ADOK	**Arcadia Dam**	**1.23**	**154**	Pg	Pg	18 20 35.8	-0.5
T35A	**Sooner Cattle**	**1.24**	**82**	Pg	Pg	18 20 36.1	-0.4
T35A				IAML		18 20 56.3	
	comp=E,170nm,0.1s						
T35A				IAML		18 20 56.4	
	comp=N,259nm,0.2s						
OK052	**Battle Ridge R**	**1.26**	**127**		Pg	18 20 36.2	-0.7
OK031	**S. Brethren Rd**	**1.26**	**129**		Pg	18 20 36.3	-0.5
ELIS	**Ellis County**	**1.30**	**239**		Pn	18 20 37.0	-0.6
ELIS				IAML		18 21 05.1	
	comp=E,291nm,0.3s						
ELIS				IAML		18 21 05.1	
	comp=N,273nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**1.43**	**160**		Pn	18 20 39.0	-0.3
DEOK	**Depew**	**1.54**	**126**		Pn	18 20 40.1	-0.8
FNO	**Franklin**	**1.58**	**161**		Pn	18 20 40.1	-1.3
R32A	**Long Quarter,**	**1.75**	**343**		Pn	18 20 43.1	-0.6
W35A	**Tecumseh**	**1.86**	**149**	Pn	Pn	18 20 44.9	-0.3
TUL3	**Leonard**	**2.00**	**114**	Pn	Pn	18 20 46.8	-0.4
WMOK	**Wichita Mounta**	**2.10**	**197**	Pn	Pn	18 20 48.5	-0.1
WMOK				IAmb_Lg		18 21 17.7	
	comp=Z,18nm,0.8s						
X34A	**Smith Ranch, M**	**2.15**	**175**		Pn	18 20 49.5	+0.2
SMWD	**Samnorwood**	**2.43**	**228**	Pn	Pn	18 20 53.2	+0.1
CBKS	**Cedar Bluff**	**2.46**	**327**	Pn	Pn	18 20 54.0	+0.5
CBKS				IAmb_Lg		18 21 36.5	
	comp=Z,22nm,0.7s						
RLO	**Rose Lookout**	**2.50**	**103**		Pn	18 20 54.1	0.0
KSU1	**Kansas State U**	**2.60**	**25**	Pn	Pn	18 20 55.5	+0.1
LOOK	**Love County**	**2.84**	**165**		Pn	18 20 58.5	-0.2
LOOK				IAmb_Lg		18 21 50.1	
	comp=Z,14nm,0.8s						
U38A	**Gravette**	**2.96**	**95**		Pn	18 21 00.3	0.0
WTFS	**Witchita Falls**	**3.00**	**187**		Pn	18 21 01.4	+0.5
X37A	**Clayton**	**3.06**	**134**	Pn	Pn	18 21 02.2	+0.4
X37A				IAmb_Lg		18 21 52.5	
	comp=Z,17nm,1.0s						
HHAR	**Hobbs**	**3.34**	**97**		Pn	18 21 05.5	-0.1
Z35A	**Perchaven, San**	**3.48**	**169**	Pn	Pn	18 21 07.9	+0.4
AMTX	**Amarillo**	**3.50**	**239**	Pn	Pn	18 21 08.1	+0.3
AMTX				IAmb_Lg		18 22 04.8	
	comp=Z,13nm,0.8s						
FW03	**Perrin-Whitt E**	**3.71**	**180**	Pn	Pn	18 21 10.8	+0.2
RTBA	**Rita Blanca**	**3.79**	**267**	Pn	Pn	18 21 12.2	+0.4
FW06	**Azle**	**3.79**	**174**	Pn	Pn	18 21 10.6	-1.2
APMT	**Aspermont**	**3.82**	**207**	Pn	Pn	18 21 10.2	-2.0
DKNS	**Dickens**	**3.88**	**218**	Pn	Pn	18 21 11.8	-1.3
DKNS				IAmb_Lg		18 22 25.7	
	comp=Z,8.7nm,0.8s						
S39A	**Bolivar**	**3.88**	**75**		Pn	18 21 12.9	-0.1
PLPT	**Palo Pinto**	**3.94**	**183**	Pn	Pn	18 21 12.4	-1.4
MIAR	**Mount Ida**	**4.25**	**120**	Pn	Pn	18 21 14.8	-3.3
MIAR				IAmb_Lg		18 22 30.8	
	comp=Z,14nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.27**	**303**	Pn	Pn	18 21 16.1	-2.4
KSCO				IAmb_Lg		18 22 30.2	
	comp=Z,13nm,0.7s						
Z38A	**Mt. Pleasant**	**4.29**	**143**	Pn	Pn	18 21 15.5	-3.2
ABTX	**Abilene, Hawle**	**4.33**	**198**	Pn	Pn	18 21 16.4	-2.7
SN07	**Snyder 07**	**4.34**	**213**	Pn	Pn	18 21 17.0	-2.4
SN07				IAmb_Lg		18 22 32.3	
	comp=Z,8.9nm,0.8s						
N35A	**Tabor**	**4.51**	**24**	Pn	Pn	18 21 16.3	-5.4
SN05	**Snyder 5**	**4.52**	**212**	Pn	Pn	18 21 18.0	-3.8
SN05				IAmb_Lg		18 22 38.6	
	comp=Z,9.2nm,0.8s						
P38A	**Dawn**	**4.56**	**50**	Pn	Pn	18 21 16.8	-5.6
P38A				IAmb_Lg		18 22 38.4	
	comp=Z,9.3nm,0.8s						
MGMO	**Mountain Grove**	**4.64**	**83**	Pn	Pn	18 21 19.6	-3.9
MGMO				IAmb_Lg		18 22 43.0	
	comp=Z,8.5nm,0.8s						
POST	**Post**	**4.65**	**219**	Pn	Pn	18 21 19.6	-4.0
POST				IAmb_Lg		18 22 47.2	
	comp=Z,10nm,0.9s						
BGNE	**Belgrade**	**4.65**	**359**	Pn	Pn	18 21 19.0	-4.5
X40A	**Basin Creek Fa**	**4.81**	**117**	Pn	Pn	18 21 21.3	-4.4
X40A				IAmb_Lg		18 22 47.6	
	comp=Z,11nm,0.7s						
R40A	**Maddies Statio**	**4.84**	**70**	Pn	Pn	18 21 20.4	-5.8
R40A				IAmb_Lg		18 22 54.8	
	comp=Z,8.0nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.86**	**98**	Pn	Pn	18 21 22.9	-3.5
WHAR	**Wooly Hollow**	**4.89**	**106**	Pn	Pn	18 21 23.2	-3.6
WHAR				IAmb_Lg		18 22 58.3	
	comp=Z,10.0nm,0.8s						
UALR	**University of**	**5.04**	**111**	Pn	Pn	18 21 25.8	-3.1
WLAR	**White Oak Lake**	**5.06**	**126**	Pn	Pn	18 21 27.2	-2.0
T25A	**Trinidad**	**5.12**	**276**		Pn	18 21 28.2	-2.0
T25A				IAmb_Lg		18 22 56.3	
	comp=Z,11nm,0.8s						
OGNE	**Ogallala**	**5.22**	**325**	Pn	Pn	18 21 29.0	-2.4
L34A	**Svendsen Farm,**	**5.36**	**13**	Pn	Pn	18 21 30.8	-2.6
SGCY	**Sterling City**	**5.46**	**209**	IAmb_Lg		18 23 15.0	
	comp=Z,7.0nm,0.9s						
P40A	**Paris**	**5.48**	**58**	Pn	Pn	18 21 32.5	-2.4
P40A				IAmb_Lg		18 23 12.7	
	comp=Z,7.6nm,0.7s						
BRDY	**Brady**	**5.51**	**189**	Pn	Pn	18 21 32.6	-2.8
CCM	**Cathedral Cave**	**5.57**	**74**	Pn	Pn	18 21 35.3	-0.8
CCM				IAmb_Lg		18 23 13.2	
	comp=Z,6.0nm,0.8s						
T42A	**Van Buren**	**5.58**	**85**	Pn	Pn	18 21 34.9	-1.4
LCAR	**Lake Charles**	**5.60**	**95**	Pn	Pn	18 21 34.5	-2.0
SDCO	**Great Sand Dun**	**6.03**	**282**	Pn	Pn	18 21 41.9	-1.0
SDCO				IAmb_Lg		18 23 29.7	
	comp=Z,5.1nm,1.2s						
Q24A	**Divide**	**6.04**	**294**	Pn	Pn	18 21 40.9	-2.1
Q24A				IAmb_Lg		18 23 33.1	
	comp=Z,6.7nm,0.8s						
PBMO	**Poplar Bluff**	**6.11**	**88**	Pn	Pn	18 21 41.4	-2.3
PBMO				IAmb_Lg		18 23 29.3	
	comp=Z,8.7nm,0.8s						
FVM	**French Village**	**6.19**	**76**	Pn	Pn	18 21 42.5	-2.2
OZNA	**Ozona**	**6.36**	**205**	Pn	Pn	18 21 46.6	-0.5
PARMO	**Parma**	**6.66**	**88**	Pn	Pn	18 21 50.1	-1.1
ISCO	**Idaho Springs**	**6.69**	**299**	Pn	Pn	18 21 50.1	-1.7
CGM3	**Cape Girardeau**	**6.73**	**83**	IAmb_Lg		18 23 51.5	
	comp=Z,8.6nm,1.0s						
S44A	**Carbondale**	**7.07**	**80**		Pn	18 21 54.7	-2.2
PHWY	**Pilot Hill**	**7.34**	**310**	IAmb_Lg		18 24 04.9	
	comp=Z,4.4nm,0.7s						

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*OSPL **20** 18:26:27.2±2.9, 19°.45N×77°.92W, h0km±999km, ML3.0*
*SSNC **20** 18:26:28.4±1.4, 19°.50N×77°.79W, h5km, MD3.4, ML3.2, MW3.0*
*JSN **20** 18:26:28.3±0.7, 19°.45N×77°.92W, h78km±22km, MD4.2*
ISC 20 18:26:24.1±3.2, 19°.57N±0°.08×77°.9W±0°.2, h11km±26km, n16, σ1°.954/29, 1C-2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.96**	**59**	*e*P	**Pn**	**18 26 44.3**	**+0.8**
LMGC				*e*S	**Sn**	**18 26 56.6**	**-0.5**
MTDJ	**Mount Denham**	**1.38**	**166**	‖*i*P	**Pb**	**18 26 50.1**	**+0.1**
MTDJ				*i* S	**Sn**	**18 27 05.9**	**-1.8**
MTDJ	**Mount Denham**	**1.38**	**166**	*e*P	**Pb**	**18 26 50.0**	**+0.1**
MTDJ				*e*S	**Sn**	**18 27 05.8**	**-1.9**
MTDJ				IAML		18 27 08.0	
	comp=Z,287nm,0.3s						
MTDJ				IAML		18 27 08.0	
	472nm,0.3s						
MTDJ	**Mount Denham**	**1.38**	**166**	*i* P	**Pb**	**18 26 50.1**	**+0.1**
MTDJ				*e*S	**Sn**	**18 27 06.3**	**-1.4**
MTDJ				IAML		18 27 13.0	
	comp=Z,303nm,0.6s						
CHIV	**Chivirico**	**1.44**	**74**	*e*P	**Pb**	**18 26 50.6**	**-0.3**
CHIV				*e*S	**Sn**	**18 27 07.7**	**-1.4**
CHIV				IAML		18 27 09.8	
	comp=E,75nm,0.2s						
CHIV				IAML		18 27 09.8	
	comp=N,69nm,0.1s						
STH	**Stony Hill**	**1.80**	**145**	‖*i*P	**Pn**	**18 26 56.0**	**+0.8**
STH	**Stony Hill**	**1.80**	**145**	*e*P	**Pb**	**18 26 56.5**	**-0.7**
STH				*e*S	**Sn**	**18 27 16.6**	**-1.5**
STH				IAML		18 27 18.7	
	comp=E,41μm,0.1s						
STH				IAML		18 27 18.8	
	comp=N,31μm,0.1s						
MARVS	**Santiago de Cu**	**1.92**	**77**	*e*P	**Pn**	**18 26 57.5**	**+0.9**
MARVS				*e*S	**Sn**	**18 27 19.1**	**-1.7**
MARVS				IAML		18 27 21.7	
	comp=N,96nm,0.1s						
MARVS				IAML		18 27 21.7	
	comp=E,138nm,0.1s						
RCC	**Rio Carpintero**	**2.10**	**78**	*e*P	**Pn**	**18 27 00.2**	**+0.9**
RCC				*e*S	**Sn**	**18 27 24.6**	**-0.7**
RCC				IAML		18 27 26.4	
	comp=E,38nm,0.1s						
RCC				IAML		18 27 27.2	
	comp=N,60nm,0.2s						
HLGC	**Holguin**	**2.16**	**52**	*e*P	**Pb**	**18 27 02.1**	**-1.1**
GTBY	**Guantanamo Bay**	**2.64**	**82**	‖*i*P	**Pn**	**18 27 08.5**	**+1.9**
GTBY	**Guantanamo Bay**	**2.64**	**82**	*e*P	**Pn**	**18 27 08.2**	**+1.6**
GTBY				*e*S	**Sn**	**18 27 37.9**	**-0.7**
GTBY				IAML		18 27 40.4	
	comp=N,57nm,0.2s						
GTBY				IAML		18 27 40.9	
	comp=N,63nm,0.3s						
GTBY	**Guantanamo Bay**	**2.64**	**82**	*i* P	**Pn**	**18 27 08.5**	**+1.9**
GTBY				*e*S	**Sn**	**18 27 39.3**	**+0.8**
GTBY				IAML		18 27 39.9	
	comp=Z,29nm,0.5s						
QMBU	**Quimbuelo**	**2.96**	**77**	*e*P	**Pn**	**18 27 11.8**	**+0.8**
QMBU				*e*S	**Sn**	**18 27 45.9**	**-0.7**
QMBU				IAML		18 27 50.5	
	comp=E,40nm,0.2s						
QMBU				IAML		18 27 52.1	
	comp=N,52nm,0.2s						
MASC	**Masc**	**3.49**	**80**	*i* P	**Pb**	**18 27 22.9**	**-3.0**
MASC				*e*S	**Sn**	**18 28 02.6**	**+3.0**
MASC				IAML		18 28 06.4	
	comp=Z,26nm,1.0s						
SDDR	**Presa de Saban**	**6.26**	**94**	*i* P	**Pn**	**18 27 59.3**	**+2.8**
SDDR				*e*S	**Sn**	**18 29 08.0**	**0.0**
SDDR				IAML		18 29 13.0	
	comp=Z,14nm,4.3s						

YARS 20 18:29:05.0, 73°.98N×123°.61E, h18km, mb3.1/2, ML4.6/2, Near coast of northern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**2.82**	**144**	*i* P	Pn	18 29 49.7	+0.7
	111nm,0.9s						
TIXI				*e*S	Sn	18 30 24.7	+2.2
	600nm,0.8s						
DEPR	**Deputatskiy**	**6.88**	**124**	*i* P	Pn	18 30 46.6	+1.9
	74nm,0.9s						
DEPR				*e*S	Sn	18 32 04.2	+1.9
	542nm,0.9s						
BTGS	**Batagay**	**7.31**	**145**	*i* P	Pn	18 30 50.1	-0.5
	3.3nm,1.5s						
BTGS				*e*S	Sn	18 32 14.5	+1.5
	6.9nm,0.9s						
BTGS				*e*Lg	Lg	18 32 58.1	
BTGS				*e*Lg	Lg	18 32 58.1	
YBGR	**Belaya Gora**	**9.04**	**116**	*i* P	Pn	18 31 16.2	+1.9
	17nm,0.2s						
YBGR				*e*S	Sn	18 32 57.5	+2.2
	94nm,0.9s						

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*IDC **20** 18:32:48.5±0.7, 3°.42S×146°.30E, h0km, mb4.1/20, mbtmp4.1/22, ML2.7/2, MS3.9/37, Error ellipse: s-maj=31.5km s-min=12.8km az=88.0*
*NEIC **20** 18:32:53.5±1.9, 3°.44S±0°.08×146°.34E±0°.09, h35km±5km, mb4.8/85, Error ellipse: s-maj=12.9km s-min=11.6km az=71.0*
*GCMT **20** 18:32:53.5±0.2, 3°.41S±0°.01×146°.08E±0°.02, h14km±1km, MW4.8/88, Moment Tensor Solution. s20,c21; s88,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.51±.11; $M_{\theta\theta}$0.75±.08; $M_{\phi\phi}$-0.24±.08; $M_{r\theta}$0.38±.17; $M_{\theta\phi}$1.70±.06; $M_{\phi r}$0.56±.19; Best double couple: $M_0$1.87400×10^{16} NP1:ϕ_s9.00000°, δ90.00000°, λ161.00000°. NP2: ϕ_s99.00000°, δ71.00000°, λ0.00000°. Principal axes: T 2.1770, Plg14.0000°, Azm322.0000°; N -0.6070, Plg71.0000°, Azm188.0000°; P -1.5700, Plg13.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **20** 18:32:54.7±1.2, 3°.S±4°×14°.6E±°, h33km±11km, M4.9/19, mB5.3/6, mb4.8/19, MLv5.0/3, Mw(mB)4.7/6*
ISC 20 18:32:51.3±0.3, 3°.42S±0°.05×146°.37E±0°.06, h20km, n170, σ1°.958/147, mb4.7/68, MS4.0/38, 1C, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.00**	**173**	Pn	**Pn**	**18 34 18.2**	**-0.7**
PMG	**Port Moresby**	**6.00**	**173**	Pn	**Pn**	**18 34 19.8**	**+0.9**
	5.8nm,0.3s,baz=352,slow=6.2,SNR=22						
PMG				Sn	**Sn**	**18 35 24.0**	**-3.0**
	baz=328,slow=19						
PMG				LR	LR	18 36 49.7	
	comp=Z,2μm,18.4s,baz=359,slow=40						
	58nm,0.6s						
GENI	**Genyem**	**6.25**	**277**	P	**Pn**	**18 34 24.3**	**+1.9**
	78nm,1.1s,0.3nm						
MMPI	**Merauke**	**7.78**	**230**	P	**Pn**	**18 34 47.4**	**+4.0**
COEN	**Coen**	**10.93**	**197**	Pn	**Pn**	**18 35 25.7**	**-1.0**
KMPI	**Kaimana, Papua**	**12.64**	**269**	P	**Pn**	**18 35 54.2**	**+4.1**
FAKI	**Fak Fak**	**14.11**	**272**	Pn	**Pn**	**18 36 10.4**	**+0.3**
HNR	**Honiara**	**14.75**	**115**	Pn	**Pn**	**18 36 18.0**	**-1.0**
HNR	**Honiara**	**14.75**	**115**	LR	LR	18 42 02.6	
	comp=Z,5μm,18.4s,baz=264,slow=37						
SWI	**Sorong**	**15.31**	**279**	P	**P**	**18 36 30.3**	**-0.8**
	29nm,0.8s,495nm						
SAUI	**Saumlaki**	**15.66**	**253**	P	**P**	**18 36 35.1**	**+0.1**
CTA	**Charters Tower**	**16.56**	**180**	Pn	**Pn**	**18 36 44.0**	**+1.5**
	baz=358,slow=14,SNR=11						
CTA				LR	LR	18 43 00.5	
	comp=Z,17nm,20.3s,baz=0.0,slow=37						
	0.9nm,1.0s						
CTAO	**Charters Tower**	**16.56**	**180**	P	**Pn**	**18 36 44.4**	**+1.8**
GUMO	**Guam**	**16.97**	**355**	LR	LR	18 42 30.9	
	comp=Z,287nm,18.1s,baz=176,slow=34						
MTN	**Manton Dam**	**17.74**	**237**		**Pn**	**18 36 57.5**	**+0.2**
NLAI	**Namlea**	**19.24**	**270**	P	**Pn**	**18 37 17.7**	**+2.1**
TNTI	**Ternate**	**19.44**	**282**	P	**P**	**18 37 16.1**	**-0.7**
TNTI				IAmb	IAmb	18 37 22.8	
	comp=Z,63nm,1.6s						
WB0	**Warramunga Arr**	**20.01**	**215**		**P**	**18 37 22.7**	**-0.3**
WB0				IAmb	IAmb	18 37 30.9	
	comp=Z,73nm,0.9s						
WR0	**Warramunga Arr**	**20.08**	**214**	P	**P**	**18 37 22.7**	**-1.0**
WR0				IAmb	IAmb	18 37 32.2	
	comp=Z,54nm,0.8s						
WRAB	**Tennant Creek**	**20.17**	**215**	P	**P**	**18 37 24.3**	**-0.3**
WRAB				IAmb	IAmb	18 37 33.2	
	comp=Z,61nm,0.8s						
WB2	**Warramunga Arr**	**20.18**	**215**	P	**P**	**18 37 24.6**	**-0.1**
WB2				IAmb	IAmb	18 37 31.7	
	comp=Z,82nm,1.1s						
WRA	**Warramunga Arr**	**20.18**	**215**		**P**	**18 37 24.7**	**-0.1**
WRA	**Warramunga Arr**	**20.18**	**215**	P	**P**	**18 37 24.7**	**-0.1**
	comp=Z,20nm,1.0s,baz=28,slow=9.5,SNR=44						
WRA				PcP	**PcP**	**18 41 39.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=27,slow=1.5,SNR=2.3						
WRA				LR	LR	18 45 57.5	
	comp=Z,287nm,19.7s,baz=11,slow=39						
	comp=Z,20nm,1.0s						
EIDS	**Eidsvold**	**22.29**	**169**	P	**P**	**18 37 47.9**	**+0.4**
EIDS				IAmb	IAmb	18 38 00.6	
	comp=Z,25nm,1.1s						
KMSI	**Cibinong**	**22.73**	**280**	P	**P**	**18 37 55.0**	**+2.7**
	comp=Z,78nm,0.9s						
SOEI	**Soe**	**22.83**	**253**	P	**P**	**18 37 54.6**	**+1.1**
SOEI	**Soe**	**22.83**	**253**	P	P	18 38 10.5	+17
DAV	**Davao City (W)**	**23.22**	**297**	LR	LR	18 46 42.1	
	comp=Z,92nm,19.1s,baz=101,slow=36						
AS31	**Alice Springs**	**23.45**	**210**		**P**	**18 37 58.7**	**-0.9**
ASAR	**Alice Springs**	**23.45**	**210**		**P**	**18 37 59.1**	**-0.6**
ASAR	**Alice Springs**	**23.45**	**210**	P	**P**	**18 37 59.5**	**-0.2**
	comp=Z,9.6nm,0.8s,baz=41,slow=7.8,SNR=77						
ASAR				PcP	**PcP**	**18 41 45.8**	**+

STKA LR LR 18 50 31.7
comp=Z,271nm,18.6s,baz=9.7,slow=37
comp=Z,1.7nm,0.9s
JCJ Chichijima 30.61 353 LR LR 18 47 58.4
comp=Z,81nm,20.7s,baz=126,slow=30
BBOO Buckleboo 30.79 197 P **P** **18 39 04.9 -0.8**
FORT Forrest 32.24 210 **P** **18 39 18.3 -0.2**
JOW Kunigami 34.79 331 LR LR 18 50 34.9
comp=Z,543nm,19.9s,baz=147,slow=31
JHJ Hachijo jima 2 36.88 351 LR LR 18 53 58.1
comp=Z,155nm,19.8s,baz=118,slow=34
JNU Nakatsue 39.19 339 P **P** **18 40 19.3 +1.1**
JNU Nakatsue 39.19 339 LR LR 18 55 47.3
comp=Z,142nm,18.6s,baz=166,slow=35
INU Inuyama 39.55 348 P **P** **18 40 21.9 +0.8**
INU IAmb IAmb 18 40 55.3
comp=Z,37nm,1.8s
JGF Kuroka 39.73 348 P **P** **18 40 23.0 +0.4**
NWAO Narrogin (SRO) 40.06 220 P P 18 40 21.9 -3.4
NWAO Narrogin (SRO) 40.06 220 LR LR 18 57 02.5
comp=Z,268nm,21.9s,baz=54,slow=36
MJAR Matsushiro Arr 40.48 350 P **P** **18 40 28.6 -0.2**
comp=Z,4.0nm,1.1s,baz=170,slow=7.8,SNR=6.8
comp=Z,4.0nm,1.1s
MAJO Matsushiro 40.48 350 P **P** **18 40 27.1 -1.7**
MAJO IAmb IAmb 18 40 33.1
comp=Z,29nm,1.8s
MJB9 Matsu-Tunnel 40.49 350 P **P** **18 40 27.0 -1.9**
MJB9 IAmb IAmb 18 40 33.1
comp=Z,28nm,1.8s
XMIS Christmas Isla 40.98 258 P **P** **18 40 30.6 -2.7**
JMM Marumori 41.41 353 P **P** **18 40 34.7 -1.6**
JMM IAmb IAmb 18 41 51.6
comp=Z,56nm,1.6s
QIZ Qiongzhong 42.30 303 P **P** **18 40 44.8 +0.8**
QIZ S **S** **18 47 05.3 +1.2**
QIZ pmax pmax
comp=Z,17nm,2.0s
QIZ LR LR
comp=N,210nm,10.8s
QIZ LR LR
comp=E,190nm,15.6s
QIZ LR LR
comp=Z,230nm,24.4s
NJ2 Nanjing 43.91 326 *e*P **P** **18 40 58.6 +1.8**
NJ2 pmax pmax
comp=Z,11nm,0.5s
KSRS Korea Array 44.14 339 P **P** **18 40 59.0 +0.5**
comp=Z,4.2nm,1.0s,baz=158,slow=9.8,SNR=21
KSRS LR LR 18 56 22.0
comp=Z,164nm,21.8s,baz=145,slow=32
comp=Z,4.2nm,1.0s
KSAR Wonju Array Be 44.14 339 P **P** **18 40 57.7 -0.8**
KS19 Wonju Array Si 44.20 339 P **P** **18 40 57.4 -1.7**
KS19 IAmb IAmb 18 41 36.5
comp=Z,31nm,1.8s
URZ Urewera 44.60 145 LR LR 18 57 24.8
comp=Z,142nm,20.9s,baz=33,slow=33
RTZ Ruatahuna 44.77 146 P **P** **18 41 04.6 +0.8**
RTZ IAmb IAmb 18 41 22.9
comp=Z,13nm,0.9s
BKZ Black Stump Fm 44.88 146 P **P** **18 41 06.1 +1.5**
INZ Inchbonnie 45.06 154 P **P** **18 41 05.8 -0.1**
TUWZ Tuamarina 45.21 151 P **P** **18 41 07.9 +0.8**
MRZ Mangatainoka R 45.47 149 P **P** **18 41 09.7 +0.6**
MRZ IAmb IAmb 18 41 37.9
comp=Z,36nm,1.3s
MQZ McQueen's Vall 46.38 154 P **P** **18 41 14.4 -1.9**
KULM Kulim 46.48 281 P **P** **18 41 17.2 -0.3**
JKA Kamikawa-asahi 47.45 356 P **P** **18 41 25.9 +1.4**
ASAJ Asahikawa 47.45 356 LR LR 19 00 23.0
comp=Z,56nm,20.8s,baz=189,slow=35
JOHN Johnston Islan 47.94 64 P **P** **18 41 27.4 -1.5**
SLVN Son La 48.31 303 P **P** **18 41 30.1 -1.7**
GSI Gunungsitoli 49.00 275 P **P** **18 41 35.1 -2.0**
USRK Ussuriysk Ar. 49.14 346 P **P** **18 41 37.1 -0.5**
USRK Ussuriysk Ar. 49.14 346 P **P** **18 41 37.5 -0.1**
comp=Z,4.3nm,0.8s,baz=149,slow=5.7,SNR=7.0
comp=Z,4.3nm,0.8s
MDJ Mudanjiang 50.13 344 P **P** **18 41 46.6 +1.4**
MDJ PP PP 18 43 50.0 +9.4
MDJ S S 18 49 11.4 +16
MDJ Mudanjiang 50.13 344 P **P** **18 41 45.3 +0.1**
MDJ IAmb IAmb 18 42 23.4
comp=Z,17nm,1.8s
YSS Yuzh-Sakhalins 50.26 357 P **P** **18 41 46.2 +0.1**
PHRA Phrae 50.38 297 P **P** **18 41 46.8 -0.7**
BJT Baijiatuau 51.35 330 P **P** **18 41 53.7 -0.8**
CM31 Chiang Mai Arr 51.51 297 P **P** **18 41 55.4 -0.6**
CM31 IAmb IAmb 18 42 18.3
comp=Z,11nm,1.1s
CMAR Chiang Mai Arr 51.51 297 P **P** **18 41 55.6 -0.5**
CMAR Chiang Mai Arr 51.51 297 P **P** **18 41 56.5 +0.4**
comp=Z,1.1nm,0.8s,baz=118,slow=5.3,SNR=6.1
CMAR LR LR 19 05 30.0
comp=Z,42nm,18.6s,baz=65,slow=38
comp=Z,1.1nm,0.8s
CHTO Chiang Mai 51.63 297 P **P** **18 41 57.4 +0.5**
CHTO IAmb IAmb 18 41 58.7
comp=Z,22nm,1.8s
BNX BinXian 51.77 343 ⇑P **P** **18 41 59.0 +1.5**
BNX pmax pmax
comp=Z,9.0nm,0.6s
PZH PanZhiHua 52.39 307 P **P** **18 42 04.4 +1.8**
PZH pmax pmax
comp=Z,8.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,4.1s
CD2 Chengdu 53.05 313 P **P** **18 42 07.0 -0.4**
KLR Kul'dur 53.96 348 P **P** **18 42 14.8 +1.1**
comp=Z,2.0nm,0.8s,baz=185,slow=3.2,SNR=4.7
comp=Z,2.0nm,0.8s
HHC Hu-ho-hao-te 54.33 328 *e*P **P** **18 42 17.5 +0.9**
HHC pmax pmax
comp=Z,8.0nm,0.8s
HHC pmax pmax
comp=Z,87nm,5.5s
HHC LR LR
comp=N,180nm,18.3s
HHC LR LR
comp=E,200nm,18.3s
HHC LR LR
comp=Z,210nm,17.6s
TNCH TengChong 54.35 304 P **P** **18 42 15.6 -1.6**
TNCH pP sP 18 42 26.6 +1.5
TNCH sP pwP 18 42 32.8 +7.0
TNCH PP **PP** **18 44 18.3 -1.1**
TNCH S S 18 49 44.3 -10
TNCH sS sS 18 50 07.3 +3.1
TNCH SS **ScS** **18 51 57.3 -8.9**
TNCH pmax pmax
comp=Z,9.0nm,2.4s
TNCH pmax pmax
comp=Z,80nm,3.4s
TNCH LR LR
comp=N,120nm,5.5s
TNCH LR LR
comp=E,180nm,5.0s
TNCH LR LR
comp=Z,150nm,7.5s
XLT XiLinHaoTe 54.40 333 *e*P **P** **18 42 21.1 +4.0**
XLT pP pwP 18 42 30.4 +4.8
XLT sP sP 18 42 34.3 +9.3
XLT pmax pmax
comp=Z,2.0nm,0.9s
PBA Port Blair 55.38 287 P **P** **18 42 23.8 -0.8**
LZH Lanzhou 55.87 319 *e*P **P** **18 42 29.3 +1.4**
LZH pP pwP 18 42 39.3 +2.8
LZH pmax pmax
comp=Z,6.0nm,1.1s
HEH HeiHe 55.91 345 *e*P **P** **18 42 28.3 +0.6**
HEH pmax pmax
comp=Z,4.0nm,1.2s
HEH pmax pmax
comp=Z,91nm,4.6s
PET Petropavlovsk 57.19 9 P **P** **18 42 36.2 -0.5**
PET IAmb IAmb 18 44 31.5
comp=Z,16nm,1.0s
HIA Hailar 57.34 340 P **P** **18 42 37.1 -0.8**
HIA IAmb IAmb 18 42 55.9
comp=Z,7.2nm,0.6s
GTA Gaotai 60.38 320 *e*P **P** **18 43 00.0 +0.6**
GTA pP pP 18 43 04.5 -0.7
GTA pmax pmax
comp=Z,3.0nm,1.3s
ULN Ulaanbaatar 61.56 331 P **P** **18 43 07.2 -0.1**
ULN IAmb IAmb 18 43 10.0
comp=Z,14nm,1.6s
SONM Songino Array 61.86 331 P **P** **18 43 08.2 -1.1**
SONM Songino Array 61.86 331 P **P** **18 43 10.6 +1.2**
comp=Z,1.4nm,0.7s,baz=131,slow=5.1,SNR=10
SONM LR LR 19 09 05.7
comp=Z,187nm,20.0s,baz=124,slow=35
comp=Z,1.4nm,0.7s
MA2 Magadan 62.91 3 LR LR 19 13 15.2
comp=Z,26nm,18.0s,baz=180,slow=39
PPT Papeete 64.25 108 LR LR 19 09 07.6
comp=Z,66nm,18.1s,baz=343,slow=34
PPT2 Papeete2 64.25 108 *e*LR LR 19 02 35.2
comp=Z,127nm,29.5s
TBI Tubuai 64.97 114 *e*LR LR 19 03 00.9
comp=Z,1μm,34.2s
YAK Yakutsk 66.52 352 P **P** **18 43 39.2 -0.1**
YAK IAmb IAmb 18 45 14.4
comp=Z,7.8nm,0.5s
WMQ Urumqi 70.44 319 *e*P **P** **18 44 06.1 +1.6**
WMQ LR LR
comp=E,290nm,12.5s
WMQ LR LR
comp=Z,120nm,20.1s
VNDA Vanda 74.50 177 P **P** **18 44 28.4 +0.4**
VNDA IAmb IAmb 18 44 35.9
comp=Z,14nm,1.9s
VNDA Vanda 74.50 177 P **P** **18 44 29.1 +1.1**
comp=Z,0.9nm,0.7s,baz=302,slow=9.0,SNR=4.5
VNDA LR LR 19 17 34.8
comp=Z,77nm,18.3s,baz=290,slow=36
comp=Z,0.9nm,0.7s
MK31 Makanchi Array 75.12 320 P **P** **18 44 31.3 -0.8**
MKAR Makanchi Array 75.12 320 P **P** **18 44 30.8 -1.3**
MKAR Makanchi Array 75.12 320 P **P** **18 44 32.3 +0.1**
comp=Z,1.0nm,1.0s,baz=116,slow=5.5,SNR=6.5
MKAR LR LR 19 15 45.1
comp=Z,61nm,21.2s,baz=87,slow=34
comp=Z,1.0nm,1.0s
MAKZ Makanchi 75.33 320 P **P** **18 44 32.4 -1.0**
M14K Bethel 75.38 23 P **P** **18 44 33.2 0.0**
M14K IAmb IAmb 18 44 58.8
comp=Z,20nm,1.6s
K15K Wolf Creek Mou 76.46 22 P **P** **18 44 38.0 -1.4**
K15K IAmb IAmb 18 45 19.6
comp=Z,19nm,1.6s
ANM Nome 76.50 19 P **P** **18 44 37.6 -2.0**
ANM IAmb IAmb 18 46 26.5
comp=Z,13nm,1.0s
ZAA0 Zalesovo Array 76.51 328 P **P** **18 44 38.0 -1.8**
ZALV Zalesovo Beam 76.51 328 P **P** **18 44 37.9 -1.9**
ZALV Zalesovo Beam 76.51 328 P **P** **18 44 39.6 -0.2**
comp=Z,1.0nm,0.8s,baz=118,slow=8.9,SNR=6.9
ZALV LR LR 19 16 50.3
comp=Z,137nm,21.7s,baz=104,slow=34
comp=Z,1.0nm,0.8s
KDAK Kodiak Island 77.95 29 LR LR 19 11 24.9
comp=Z,55nm,22.0s,baz=245,slow=30
KURK Kurchatov 78.78 323 **P** **18 44 52.3 -0.3**
KURK IAmb IAmb 18 45 02.9
comp=Z,15nm,1.4s
KURBB Kurchatov Arra 78.81 323 P **P** **18 44 52.9 +0.1**
comp=Z,0.6nm,0.9s,baz=119,slow=4.7,SNR=6.1
KURBB LR LR 19 18 37.4
comp=Z,82nm,21.7s,baz=162,slow=35
comp=Z,0.6nm,0.9s
L19K White Mountain 79.03 24 P **P** **18 44 54.3 +0.6**
AAK Ala-Archa 79.10 314 LR LR 19 19 19.5
comp=Z,71nm,21.6s,baz=107,slow=35
M20K Styx River 79.59 25 P **P** **18 44 56.9 0.0**
M20K IAmb IAmb 18 45 21.2
comp=Z,12nm,1.4s
J20K Nowinta River 80.29 23 P **P** **18 45 01.2 +0.7**
J20K IAmb IAmb 18 45 17.1
comp=Z,23nm,1.8s
SUA Susitna One 80.42 26 P **P** **18 44 59.0 -2.5**
SUA IAmb IAmb 18 45 02.7
comp=Z,13nm,1.2s
E19K Redstone River 80.89 19 P **P** **18 45 04.5 +0.8**
SML Sawmill 81.61 26 P **P** **18 45 08.2 +0.5**
SML IAmb IAmb 18 45 20.3
comp=Z,5.3nm,0.8s
MLY Manley 81.99 22 P **P** **18 45 09.6 0.0**
MLY IAmb IAmb 18 45 21.8
comp=Z,15nm,2.0s
E21K Killik River 82.46 19 P **P** **18 45 12.9 +0.9**
DHY Denali Highway 82.52 25 P **P** **18 45 13.1 +0.5**
NRIK Noril'sk 82.65 342 P **P** **18 45 13.7 +0.8**
NRIK IAmb IAmb 18 45 21.1
comp=Z,5.5nm,0.8s
NRIK Noril'sk 82.65 342 P **P** **18 45 13.1 +0.2**
comp=Z,4.0nm,0.8s,baz=130,slow=9.2,SNR=2.7
comp=Z,4.0nm,0.8s
CCB Clear Creek Bu 82.97 23 P **P** **18 45 13.8 -0.8**
ILAR Eielson Array 83.38 23 P **P** **18 45 17.1 +0.2**
comp=Z,1.2nm,0.9s,baz=256,slow=5.5,SNR=9.9
comp=Z,1.2nm,0.9s
GLB Gilahina Butte 83.49 27 P **P** **18 45 14.9 -2.5**
GLB IAmb IAmb 18 45 27.6
comp=Z,4.2nm,0.6s
TGL Tana Glacier 83.71 28 P **P** **18 45 16.1 -2.6**
MCARA McCarthy VSAT 83.83 27 P **P** **18 45 19.6 +0.4**
MCARA IAmb IAmb 18 45 34.4
comp=Z,12nm,0.8s
J25K Salcha River, 83.92 24 P **P** **18 45 19.6 -0.1**
BVAR Borovoye Array 84.33 324 P **P** **18 45 22.1 +0.2**
comp=Z,1.0nm,0.6s,baz=108,slow=4.8,SNR=11
comp=Z,1.0nm,0.6s
MAW Mawson 84.37 202 P **P** **18 45 21.5 -0.3**
comp=Z,2.1nm,0.8s,baz=122,slow=7.9,SNR=3.6
comp=Z,2.1nm,0.8s
BRVK Borovoye 84.40 324 P **P** **18 45 22.2 0.0**
BRVK IAmb IAmb 18 45 36.1
comp=Z,4.1nm,0.9s
M27K Edge Creek, AK 84.65 26 P **P** **18 45 23.6 +0.1**
M27K IAmb IAmb 18 45 35.2
comp=Z,4.5nm,1.0s
EGAK Eagle 85.69 24 P **P** **18 45 29.1 +0.6**
QSPA South Pole Qui 86.53 180 P **P** **18 45 32.5 -0.3**
comp=Z,0.7nm,0.8s,baz=319,slow=4.8,SNR=4.0
QSPA LR LR 19 22 33.0
comp=Z,100nm,20.0s,baz=29,slow=34
comp=Z,0.7nm,0.8s
E27K Coleen River 86.56 21 P **P** **18 45 34.0 +1.2**
E27K IAmb IAmb 18 45 39.0
comp=Z,15nm,1.6s
K29M Barlow Dome 86.96 26 P **P** **18 45 35.0 +0.1**
K29M IAmb IAmb 18 45 41.5
comp=Z,15nm,1.6s
INK Inuvik 89.50 21 LR LR 19 23 46.9
comp=Z,38nm,18.8s,baz=216,slow=34
BBB Bella Bella 89.93 38 LR LR 19 17 40.0
comp=Z,61nm,21.8s,baz=228,slow=30
AKTO Aktyubinsk 91.56 320 LR LR 19 26 19.9
comp=Z,92nm,21.8s,baz=82,slow=35
ARU Arti 91.61 326 LR LR 19 26 22.7
comp=Z,86nm,21.9s,baz=106,slow=35
YBH Yreka Blue Hor 92.94 49 LR LR 19 19 13.9
comp=Z,86nm,20.9s,baz=281,slow=30
NVAR Mina Array Bea 96.29 52 P **P** **18 46 20.7 +1.7**
comp=Z,0.1nm,0.3s,baz=285,slow=7.4,SNR=1.5
NVAR LR LR 19 20 42.2
comp=Z,81nm,21.7s,baz=270,slow=30
comp=Z,0.1nm,0.3s
KIRV Kirov 96.54 328 LR LR 19 30 13.7
comp=Z,246nm,20.7s,baz=89,slow=36
YKA Yellowknife Ar 97.20 28 P **P** **18 46 23.0 +0.7**
comp=Z,0.5nm,0.8s,baz=284,slow=2.5,SNR=1.9
YKA LR LR 19 24 43.8
comp=Z,30nm,21.1s,baz=327,slow=32
comp=Z,0.5nm,0.8s
PFO Pinyon Flats O 97.86 57 LR LR 19 23 08.9
comp=Z,50nm,19.9s,baz=241,slow=31
BELG Belogornoye 98.04 322 LR LR 19 31 10.7
comp=Z,62nm,20.4s,baz=86,slow=36
TORD Torodi Ar. Bea 143.78 288 PKP PKPbc 18 52 25.6 +1.9
comp=Z,1.3nm,0.7s,baz=79,slow=5.8,SNR=4.7
DBIC Dimbokro 151.16 278 PKPbc **PKPbc** **18 52 43.7 -0.6**
comp=Z,3.9nm,1.0s,baz=110,slow=1.9,SNR=2.5

*TRN **20** 18:33:29.1, 10°.87N×62°.41W, h70km, MD3.3, North of the Paria peninsula.*
*FUNV **20** 18:33:29.7, 10°.76N×62°.20W, h53km, MW3.8*
ISC 20 18:33:27.2±1.4, **10°.80N**±0°.04×**62°.30W**±0°.05,
h105km±14km, **n19**, σ1°.73/36, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.55**	**101**	*e*P	**Pn**	**18 33 44.6**	**+0.7**
TCE				*e*S	**Sn**	**18 33 55.1**	**-1.4**
TRN	**Trinidad (W)**	**0.90**	**100**	*e*P	**Pn**	**18 33 47.5**	**+0.5**
TRN				*e*S	**Sn**	**18 33 59.9**	**-2.0**
TPP	**Pointe-a-Pierr**	**0.96**	**120**	*e*P	**Pn**	**18 33 48.6**	**+1.0**
TPP				*e*S	**Sn**	**18 34 03.2**	**+0.1**
TBH	**Brigand Hill**	**1.25**	**104**	*e*P	**Pn**	**18 33 53.0**	**+2.2**
TBH				*e*S	**Sn**	**18 34 10.4**	**+1.6**
GRFF	**Grenada Fort F**	**1.36**	**24**	*e*P	**Pn**	**18 33 51.7**	**-0.4**
GRFF				*e*S	**Sn**	**18 34 08.6**	**-2.4**
GRGR	**Grenville**	**1.47**	**26**	*e*P	**Pn**	**18 33 53.2**	**-0.1**
GRGR				*e*S	**Sn**	**18 34 11.6**	**-1.7**
GRW	**Mount Saint Ca**	**1.49**	**25**	*e*P	**Pn**	**18 33 54.5**	**+0.8**
GRW				*e*S	**Sn**	**18 34 12.8**	**-1.1**
TPR	**Prospect**	**1.55**	**75**	*e*P	**Pn**	**18 33 56.0**	**+1.7**
TPR				*e*S	**Sn**	**18 34 16.2**	**+1.3**
GRSS	**Sisters**	**1.64**	**24**	*e*P	**Pn**	**18 33 55.6**	**+0.2**
GRSS				*e*S	**Sn**	**18 34 16.0**	**-0.9**
GCMP	**Grenada, Carri**	**1.88**	**27**	*e*P	**Pn**	**18 33 58.8**	**+0.3**
GCMP				*e*S	**Sn**	**18 34 20.8**	**-1.6**
PCRV	**Puerto La Cruz**	**2.38**	**255**	*e*P	**Pn**	**18 34 07.2**	**+2.3**
PCRV				*e*S	**Sn**	**18 34 32.9**	**-0.9**
SVB	**Belmont**	**2.66**	**23**	*e*P	**Pn**	**18 34 10.2**	**+1.6**
SVB				*e*S	**Sn**	**18 34 40.1**	**-0.4**
MERV	**Las Mercedes**	**4.22**	**249**	*e*P	**Pn**	**18 34 31.5**	**+2.0**
MERV				*e*S	**Sn**	**18 35 17.0**	**-0.9**
TACV	**Tcata**	**4.69**	**262**	*e*P	**Pn**	**18 34 37.5**	**+1.6**
TACV				*e*S	**Sn**	**18 35 28.0**	**-1.2**
LUEV	**Luepa**	**4.99**	**170**	*e*P	**Pn**	**18 34 40.2**	**+0.1**
LUEV				*e*S	**Sn**	**18 35 31.8**	**-4.9**
CACV	**CAICARA DEL OR**	**5.28**	**233**	*e*P	Pn	18 34 39.9	-3.8
CACV				*e*S	Sn	18 35 32.2	-11
BENV	**Beln**	**5.28**	**261**	*e*P	**Pn**	**18 34 45.6**	**+1.9**
BENV				*e*S	**Sn**	**18 35 41.8**	**-1.7**
TURV	**Turiamo**	**5.45**	**267**	*e*P	**Pn**	**18 34 48.0**	**+1.9**
TURV				*e*S	**Sn**	**18 35 46.1**	**-1.6**
BAUV	**El Baul**	**5.95**	**252**	*e*P	**Pn**	**18 34 54.4**	**+1.6**
BAUV				*e*S	**Sn**	**18 35 57.2**	**-2.4**

*TIR **20** 18:58:53.2, 41°.50N×19°.61E, h16km, Md2.5, Ml2.1*
*PDG **20** 18:58:53.6±0.1, 41°.46N×19°.53E, h7km, ML2.5/10, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*BEO **20** 18:58:53.8±1.3, 41°.45N×19°.89E, h25km±1km, ML2.0/8*
ISC 20 18:58:53.8±0.9, **41°.45N**±0°.02×**19°.60E**±0°.03, **h17**km±8km, **n33**, σ0°.97/56, **2C-7D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.23**	**118**	P	**Pg**	**18 58 58.9**	**-0.1**
	baz=128						
TIR				S	**Sb**	**18 59 03.4**	**+0.1**
	baz=128						
TIR				AMP			
	comp=N,3.7nm,0.1s,baz=128						
TIR	**Tirane**	**0.23**	**118**	*e*Pg	**Pg**	**18 58 58.9**	**-0.1**
TIR				*e*Sg	**Sb**	**18 59 03.4**	**+0.1**
PUK	**Puka**	**0.63**	**20**	P	**Pg**	**18 59 04.8**	**-1.4**
	baz=21						
PUK				S	**Sg**	**18 59 13.8**	**-0.8**
	baz=21						
PUK				AMP			
	comp=E,0.6nm,0.1s,baz=21						
DRME	**Dracevica, Mon**	**0.80**	**337**	*e*Pg	**Pb**	**18 59 08.9**	**-0.3**
DRME				*e*Sg	**Sn**	**18 59 22.8**	**+1.0**
DRME	**Dracevica, Mon**	**0.80**	**337**	⇓*i*Pg	**Pb**	**18 59 07.5**	**-1.7**
DRME				*i* Sg	**Sb**	**18 59 19.9**	**+0.2**
BCI	**Bajram Curri**	**0.98**	**21**	P	**Pb**	**18 59 10.6**	**-1.8**
	baz=21						
BCI				S	**Sg**	**18 59 25.2**	**-0.4**
	baz=21						
BCI				AMP			
	comp=E,0.2nm,0.3s,baz=21						
BUM	**Brajici-Budva**	**1.00**	**328**	⇓*i*Pg	**Pb**	**18 59 11.7**	**-1.0**
BUM				*i* Sg	**Sn**	**18 59 26.5**	**-0.4**
PDG	**Podgorica**	**1.01**	**345**	*e*Pg	**Pg**	**18 59 13.1**	**-0.3**
PDG				*e*Sg	**Sn**	**18 59 28.2**	**+1.2**
PDG	**Podgorica**	**1.01**	**345**	⇑*i*Pg	**Pb**	**18 59 11.7**	**-1.2**
PDG				*i* Sg	**Sn**	**18 59 27.5**	**+0.5**
PVY	**Plav**	**1.17**	**13**	⇓*i*Pg	**Pb**	**18 59 15.4**	**-0.3**
PVY				*i* Sg	**Sg**	**18 59 33.7**	**+1.9**
CEME	**Cevo**	**1.21**	**335**	⇓*i*Pg	**Pn**	**18 59 15.5**	**-0.5**
CEME				*i* Sg	**Sg**	**18 59 34.1**	**+1.2**
KOME	**Kolasin**	**1.40**	**357**	*e*Pg	**Pg**	**18 59 20.5**	**-0.3**
KOME				*e*Sg	**Sg**	**18 59 39.8**	**+0.8**
KOME	**Kolasin**	**1.40**	**357**	⇓*i*Pg	**Pb**	**18 59 19.4**	**-0.1**
KOME				*i* Sg	**Sg**	**18 59 41.1**	**+2.1**
NKME	**Niksic**	**1.40**	**340**	⇓*i*Pg	**Pb**	**18 59 19.1**	**-0.4**
NKME				*i* Sg	**Sg**	**18 59 40.2**	**+1.2**
IVA	**Berane**	**1.44**	**9**	⇓*i*Pg	**Pb**	**18 59 20.2**	**0.0**
IVA				*i* Sg	**Sg**	**18 59 42.6**	**+2.4**
FNA	**Florina**	**1.50**	**116**	P	**Pg**	**18 59 21.9**	**-0.7**
	baz=117						
FNA				S	**Sg**	**18 59 43.5**	**+1.3**
	baz=117						
LSK	**Leskovik**	**1.51**	**149**	P	**Pg**	**18 59 23.1**	**+0.3**
	baz=150						
SCTE	**Santa Cesarea**	**1.62**	**212**	P	**Pg**	**18 59 24.4**	**-0.6**
	baz=212						
SCTE				S	**Sg**	**18 59 45.5**	**-0.7**
	baz=212						
DBRK	**Dubrovnik**	**1.63**	**319**	*e*Pn	**Pb**	**18 59 23.1**	**-0.2**
BRY	**Bratogost**	**1.65**	**332**	⇑*i*Pn	**Pb**	**18 59 23.4**	**-0.4**
BRY				*i* Sn	**Sg**	**18 59 46.9**	**-0.1**
SJES	**Sjenica**	**1.83**	**9**	*e*Pg	**Pb**	**18 59 27.2**	**+0.3**
SJES				*e*Sg	**Sg**	**18 59 53.3**	**+0.6**
PLE	**Pljevlja**	**1.88**	**355**	*e*Pn	**Pb**	**18 59 26.9**	**-0.9**
PLE				*i* Sn	**Sg**	**18 59 53.2**	**-1.2**
STON	**Ston**	**2.00**	**316**	*e*Pn	**Pn**	**18 59 27.1**	**+0.3**
NOCI	**Noci**	**2.03**	**252**	P	**Pb**	**18 59 30.7**	**+0.5**
	baz=251						
SELS	**Selova**	**2.10**	**32**	*e*Pg	**Pn**	**18 59 28.7**	**+0.5**
SELS				*e*Sg	**Sb**	**18 59 56.6**	**-0.5**
IVAS	**Ivanjica**	**2.16**	**11**	*e*Pg	**Pb**	**18 59 33.4**	**+0.9**
IVAS				*e*Sg	**Sb**	**19 00 00.2**	**+1.1**
BOSS	**Bosilegrad**	**2.39**	**63**	*e*Pg	**Pb**	**18 59 34.3**	**-2.1**
BOSS				*e*Sg	**Sn**	**19 00 02.2**	**+1.1**
MAKA	**Makarska**	**2.65**	**315**	Sn	**Sn**	**19 00 06.2**	**-1.2**
RICI	**Ricice**	**2.74**	**319**	*e*Pn	**Pn**	**18 59 36.6**	**-0.4**
KIJV	**Kijevo**	**3.47**	**318**	*e*Pn	**Pn**	**18 59 46.9**	**-0.2**
ZIRJ	**Zirje**	**3.66**	**308**	*e*Pn	**Pn**	**18 59 49.6**	**0.0**
MORI	**Morici**	**3.75**	**311**	*e*Pn	**Pn**	**18 59 51.4**	**+0.5**
DUGI	**Dugi Otok**	**4.20**	**309**	*e*Pn	**Pn**	**18 59 57.0**	**-0.1**

HEL 20 19:13:56.4±0.2, **67°.56N×33°.99E, h0**km, **ML1.2, Explosion, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.43**	**36**	PG	Pg	19 14 04.2	-0.4
LVZ				SG	Sg	19 14 09.4	-0.7
VRF	**Varrio**	**1.69**	**279**	PB	Pn	19 14 26.0	-1.1
VRF				MSG		19 14 46.7	
	comp=Z,1.6nm,0.2s						
OLKF	**Oulanka, Finla**	**2.19**	**238**	PG	Pb	19 14 35.7	-1.2
OLKF				MSG		19 15 01.4	
	comp=Z,0.9nm,0.2s						
OLKF				SG	Sb	19 15 04.4	-0.1
KU6	**Riekki**	**2.24**	**228**	PG	Pn	19 14 35.6	+1.0
KU6				MSG		19 15 02.5	
	comp=Z,0.7nm,0.2s						
KU6				SG	Sb	19 15 05.3	-0.5
RAJF	**Raja-Jooseppi**	**2.33**	**296**	PN	Pn	19 14 35.4	-0.5
MSF	**Maaselka**	**2.57**	**232**	PG	Pb	19 14 42.1	-1.1
MSF				SG	Sb	19 15 15.7	+0.4
ARA0	**ARCESS Array S**	**3.69**	**306**	PN	Pn	19 14 56.9	+2.2
	baz=120						

IDC 20 19:17:04.6±1.7, **2°.03N×124°.70E, h0**km, **mb3.5**/4, **mbtmp3.5**/4, **Error ellipse: s-maj=202.7km s-min=22.7km az=64.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.80**	**157**	P	P	19 22 18.3	-0.9
	1.1nm,0.9s,baz=335,slow=11,SNR=9.2						
	1.1nm,0.9s						

ASAR Alice Springs 27.07 161 P P 19 22 50.6 +1.5
0.4nm,0.9s,baz=356,slow=11,SNR=2.3
0.4nm,0.9s
MKAR Makanchi Array 57.82 327 P P 19 26 58.0 0.0
0.3nm,0.5s,baz=110,slow=6.6,SNR=6.2
0.3nm,0.5s
KURBB Kurchatov Arra 62.10 329 P P 19 27 26.8 -0.4
0.5nm,0.4s,baz=133,slow=7.2,SNR=1.6
0.5nm,0.4s

*NEIC **20** 19:46:55.8±0.4,35.°898N±0.°007×97.°276W±0.°008, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=62.0*
TUL 20 19:46:56.3±0.5,35.°896N±0.°009×97.°28W±0.°01,h7km±2km, ML3.0,mb_Lg2.5/49(NEIC),**ML2.7**/60(NEIC),**Error ellipse: s-maj=1.3km s-min=1.2km az=144.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.18**	**236**	Pg	Pg	19 47 00.1	+0.2
OK029				Sg	Sg	19 47 02.9	+0.5
OK029				IAML		19 47 03.1	
	3μm,0.4s						
OK029				IAML		19 47 03.1	
	4μm,0.4s						
ADOK	**Arcadia Dam**	**0.26**	**198**		Pg	19 47 01.6	+0.2
ADOK				Sg	Sg	19 47 05.4	+0.6
OK031	**S. Brethren Rd**	**0.36**	**81**	Pg	Pg	19 47 03.4	+0.1
OK031				Sg	Sg	19 47 08.8	+0.8
OK031				IAML		19 47 09.1	
	2μm,0.4s						
OK052	**Battle Ridge R**	**0.40**	**76**	Pg	Pg	19 47 04.0	0.0
OK052				Sg	Sg	19 47 09.9	+0.7
OK052				IAML		19 47 10.2	
	1μm,0.3s						
OK052				IAML		19 47 10.2	
	576nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.51**	**195**	Pg	Pg	19 47 05.5	-0.6
OKCSW				Sg	Sg	19 47 13.4	+0.7
OKCSW				IAML		19 47 13.7	
	comp=N,718nm,0.3s						
QUOK	**Quay**	**0.54**	**59**	Pg	Pg	19 47 06.8	+0.1
QUOK				Sg	Sg	19 47 13.9	+0.3
QUOK				IAML		19 47 14.4	
	comp=N,350nm,0.3s						
QUOK				IAML		19 47 15.5	
	comp=E,340nm,0.2s						
OK048	**Pawnee Station**	**0.58**	**27**	Pg	Pg	19 47 07.6	0.0
OK048				Sg	Sg	19 47 15.4	+0.2
DEOK	**Depew**	**0.63**	**95**	Pg	Pg	19 47 08.2	-0.3
DEOK				Sg	Sg	19 47 17.1	+0.4
DEOK				IAML		19 47 17.8	
	comp=N,457nm,0.5s						
FNO	**Franklin**	**0.65**	**189**	Pg	Pg	19 47 08.6	-0.2
FNO				Sg	Sg	19 47 17.6	+0.5
FNO				IAML		19 47 20.6	
	comp=N,239nm,0.1s						
FNO				IAML		19 47 20.8	
	comp=E,637nm,0.1s						
OK051	**E0350 and S346**	**0.70**	**30**	Pg	Pg	19 47 09.8	-0.1
OK051				IAML		19 47 27.8	
	comp=E,360nm,0.2s						
OK051				IAML		19 47 29.1	
	comp=E,324nm,0.2s						
W35A	**Tecumseh**	**0.81**	**156**	Pg	Pg	19 47 11.1	-0.7
W35A				IAML		19 47 25.3	
	comp=E,276nm,0.4s						
W35A				IAML		19 47 25.3	
	comp=N,292nm,0.4s						
CROK	**Carrier**	**0.84**	**317**	Pg	Pg	19 47 12.0	-0.4
CROK				IAML		19 47 26.1	
	comp=E,397nm,0.3s						
CROK				IAML		19 47 27.8	
	comp=N,408nm,0.2s						
BLOK	**Blackwell**	**0.86**	**3**		Pg	19 47 12.5	-0.5
BLOK				IAML		19 47 25.7	
	comp=E,507nm,0.2s						
GC02	**Grant County #**	**1.06**	**334**		Pg	19 47 16.1	-0.6
KAN13	**South Haven SW**	**1.13**	**352**	Pg	Pg	19 47 17.3	-0.7
CSTR	**Hydro, Custer**	**1.18**	**258**	Pg	Pg	19 47 18.1	-0.8
OK032	**Salt Plains WL**	**1.18**	**320**	Pg	Pg	19 47 18.1	-0.9
T35A	**Sooner Cattle**	**1.19**	**31**	Pg	Pg	19 47 18.1	-1.0
T35A				IAML		19 47 35.9	
	comp=N,96nm,0.2s						
KAN14	**Manchester OK**	**1.20**	**333**		Pg	19 47 18.4	-0.9
TUL3	**Leonard**	**1.20**	**89**		Pg	19 47 17.9	-1.5
TUL3				IAML		19 47 35.3	
	comp=N,182nm,0.3s						
KAN17	**Caldwell West**	**1.21**	**341**		Pb	19 47 18.1	-1.5
KAN09	**Caldwell North**	**1.27**	**347**		Pn	19 47 19.8	-0.7
KAN05	**Bluff City Nor**	**1.30**	**338**		Pn	19 47 20.2	-0.7
KAN01	**Argonia South**	**1.31**	**343**		Pn	19 47 20.4	-0.7
OK038	**West end E0370**	**1.32**	**297**		Pn	19 47 20.6	-0.6
X34A	**Smith Ranch, M**	**1.37**	**200**	Pg	Pn	19 47 21.1	-0.7
KS21	**Milan North St**	**1.42**	**347**		Pn	19 47 22.1	-0.5
KAN08	**Anthony NE Sta**	**1.44**	**337**		Pn	19 47 22.8	0.0
U32A	**Winter Ranch,**	**1.48**	**290**		Pn	19 47 23.0	-0.3
KAN12	**Harper NE Stat**	**1.52**	**338**		Pn	19 47 23.4	-0.4
NOKA	**Waynoka**	**1.53**	**299**	Pg	Pn	19 47 23.8	-0.2
WMOK	**Wichita Mounta**	**1.69**	**227**		Pn	19 47 26.3	+0.1
WMOK				IAmb_Lg		19 47 54.4	
	comp=Z,20nm,0.8s						
ELIS	**Ellis County**	**1.75**	**276**	Pn	Pn	19 47 26.9	-0.1
RLO	**Rose Lookout**	**1.84**	**81**		Pn	19 47 27.8	-0.6
LOOK	**Love County**	**1.90**	**178**		Pn	19 47 29.9	+0.8
X37A	**Clayton**	**2.03**	**129**		Pn	19 47 30.7	-0.2
X37A				IAmb_Lg		19 48 02.2	
	comp=Z,17nm,1.0s						
WTFS	**Witchita Falls**	**2.34**	**205**		Pn	19 47 36.5	+1.4
U38A	**Gravette**	**2.40**	**76**		Pn	19 47 34.0	-1.9
SMWD	**Samnorwood**	**2.55**	**253**	Pn	Pn	19 47 37.4	-0.7
Z35A	**Perchaven, San**	**2.56**	**180**	Pn	Pn	19 47 35.4	-2.8
Z35A				IAmb_Lg		19 48 18.9	
	comp=Z,14nm,0.8s						
HHAR	**Hobbs**	**2.73**	**81**	Pn	Pn	19 47 38.2	-2.3
R32A	**Long Quarter,**	**2.77**	**336**		Pn	19 47 39.2	-2.0
R32A				IAmb_Lg		19 48 24.5	
	comp=Z,14nm,0.9s						
FW03	**Perrin-Whitt E**	**2.92**	**193**	Pn	Pn	19 47 40.9	-2.3
MIAR	**Mount Ida**	**3.31**	**113**		Pn	19 47 46.6	-2.0
MIAR				IAmb_Lg		19 48 49.6	
	comp=Z,9.1nm,0.8s						
APMT	**Aspermont**	**3.48**	**223**		Pn	19 47 48.8	-2.0
CBKS	**Cedar Bluff**	**3.51**	**327**		Pn	19 47 50.5	-0.8
CBKS				IAmb_Lg		19 48 56.4	
	comp=Z,12nm,0.8s						
S39A	**Bolivar**	**3.64**	**59**		Pn	19 47 50.2	-2.9
S39A				IAmb_Lg		19 48 50.6	
	comp=Z,8.4nm,0.8s						
DKNS	**Dickens**	**3.74**	**235**		Pn	19 47 53.1	-1.3
AMTX	**Amarillo**	**3.74**	**256**	Pn	Pn	19 47 53.9	-0.6
ABTX	**Abilene, Hawle**	**3.81**	**212**		Pn	19 47 54.7	-0.7
X40A	**Basin Creek Fa**	**3.90**	**110**		Pn	19 47 56.2	-0.4
SN07	**Snyder 07**	**4.09**	**228**		Pn	19 47 57.6	-1.7
SN07				IAmb_Lg		19 49 12.0	
	comp=Z,14nm,1.1s						
FCAR	**Ozark Folk Cen**	**4.18**	**89**	IAmb_Lg		19 49 07.3	
	comp=Z,8.5nm,0.8s						
MGMO	**Mountain Grove**	**4.22**	**71**	IAmb_Lg		19 49 13.0	
	comp=Z,9.2nm,0.7s						
SN05	**Snyder 5**	**4.24**	**226**	Pn	Pn	19 48 01.3	0.0
SN05				IAmb_Lg		19 49 13.1	
	comp=Z,11nm,0.8s						
RTBA	**Rita Blanca**	**4.45**	**279**		Pn	19 48 03.0	-1.3
RTBA				IAmb_Lg		19 49 24.0	
	comp=Z,7.9nm,0.8s						
POST	**Post**	**4.49**	**232**	Pn	Pn	19 48 03.1	-1.6
POST				IAmb_Lg		19 49 27.0	
	comp=Z,8.7nm,0.7s						
R40A	**Maddies Statio**	**4.66**	**58**	IAmb_Lg		19 49 26.2	
	comp=Z,7.9nm,0.8s						
P38A	**Dawn**	**4.76**	**37**		Pn	19 48 06.2	-2.2
P38A				IAmb_Lg		19 49 27.3	
	comp=Z,7.6nm,0.7s						
BRDY	**Brady**	**4.82**	**198**		Pn	19 48 06.4	-2.8
BRDY				IAmb_Lg		19 49 29.4	
	comp=Z,8.2nm,0.8s						
LCAR	**Lake Charles**	**4.97**	**86**	IAmb_Lg		19 49 36.4	
	comp=Z,9.9nm,0.7s						
SGCY	**Sterling City**	**5.10**	**220**	IAmb_Lg		19 49 49.0	
	comp=Z,8.4nm,0.9s						
T42A	**Van Buren**	**5.11**	**75**	IAmb_Lg		19 49 44.0	
	comp=Z,10nm,0.7s						
CCM	**Cathedral Cave**	**5.29**	**64**	IAmb_Lg		19 49 42.2	
	comp=Z,7.0nm,0.8s						
P40A	**Paris**	**5.51**	**47**	IAmb_Lg		19 49 58.3	
	comp=Z,8.8nm,0.8s						
JCT	**Junction City**	**5.80**	**202**	IAmb_Lg		19 50 13.7	
	comp=Z,7.6nm,0.7s						
CGM3	**Cape Girardeau**	**6.29**	**75**	IAmb_Lg		19 50 23.0	
	comp=Z,7.3nm,0.7s						
WVT	**Waverly**	**7.66**	**85**	IAmb_Lg		19 51 14.1	
	comp=Z,5.0nm,0.7s						

*IDC **20** 19:46:57.8±0.8,8.°99S×109.°40W,h0km,mb4.0/11, mbtmp4.0/11,MS4.0/33,Error ellipse: s-maj=38.3km s-min=17.0km az=69.0*
*NEIC **20** 19:46:58.8±1.8,9.°1S±0.°1×109.°6W±0.°2,h10km±1km, mb4.6/70,Error ellipse: s-maj=29.3km s-min=19.4km az=255.0*
*GCMT **20** 19:47:00.8±0.3,9.°16S±0.°02×109.°53W±0.°02,h20km±1km, MW4.9/99,Moment Tensor Solution. s15,c17; s99,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.29±.17; $M_{\theta\theta}$1.21±.12; $M_{\phi\phi}$0.08±.12; $M_{r\theta}$0.36±.19; $M_{\theta\phi}$2.60±.09; $M_{r\phi}$-1.24±.24; Best double couple: $M_0$3.13800×10^{16} NP1:ϕ_s13.00000°,δ70.00000°,λ-147.00000°. NP2: ϕ_s270.00000°,δ60.00000°,λ-24.00000°. Principal axes: T 3.3650, Plg6.0000°, Azm140.0000°; N -0.4460, Plg52.0000°, Azm41.0000°; P -2.9100, Plg37.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 19:47:00.5±0.7,8.°99S±0.°09×109.°4W±0.°1,h20km,n126, $_{\sigma}$0^{s}85/88,mb4.7/48,**MS4.0**/32,**4C,Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**18.04**	**180**	LR	LR	19 56 12.4	
	comp=Z,650nm,20.4s,baz=8.0,slow=31						
TLIG	**Tlapa**	**28.47**	**22**	P	**P**	**19 52 54.3**	**-0.3**
TLIG				IAmb	IAmb	19 53 02.8	
	comp=Z,22nm,1.5s						
CMIG	**Matias Romero**	**29.62**	**29**	LR	LR	20 01 50.0	
	comp=Z,61nm,20.8s,baz=196,slow=30						
APG	**El Apazote**	**30.34**	**38**	LR	LR	20 02 52.3	
	comp=Z,42nm,21.1s,baz=290,slow=32						
CCIG	**Comitan**	**30.37**	**34**	P	**P**	**19 53 11.2**	**-0.4**
CCIG				IAmb	IAmb	19 53 21.6	
	comp=Z,12nm,1.3s						
MTO3	**Montecristo**	**30.57**	**41**	P	**P**	**19 53 12.1**	**-1.4**
MTO3				IAmb	IAmb	19 53 14.3	
	comp=Z,4.7nm,0.8s						
ATAH	**Atahualpa**	**30.74**	**89**	LR	LR	20 02 21.3	
	comp=Z,201nm,21.0s,baz=257,slow=30						
JTS	**Las Juntas de**	**30.96**	**52**	P	**P**	**19 53 16.5**	**-0.1**
JTS				IAmb	IAmb	19 53 18.4	
	comp=Z,19nm,1.3s						
JTS	**Las Juntas de**	**30.96**	**52**	LR	LR	20 02 35.2	
	comp=Z,438nm,21.1s,baz=230,slow=30						
LCR2	**La Lucha 2**	**31.38**	**54**	P	**P**	**19 53 19.4**	**-1.2**
LCR2				IAmb	IAmb	19 53 50.8	
	comp=Z,9.8nm,0.9s						
TGUH	**Tegucigalpa,Un**	**31.72**	**44**	P	**P**	**19 53 23.4**	**0.0**
ACON	**Acoyapa**	**31.83**	**50**	P	**P**	**19 53 25.0**	**+0.7**
NNA	**Nana**	**32.13**	**98**	P	**P**	**19 53 27.4**	**+0.4**
NNA	**Nana**	**32.13**	**98**	LR	LR	20 02 45.0	
	comp=Z,134nm,18.3s,baz=256,slow=30						
ZAIG	**Zacatecas**	**32.26**	**12**	P	**P**	**19 53 27.9**	**-0.4**
LPIG	**La Paz**	**32.90**	**358**	LR	LR	20 03 31.8	
	comp=Z,422nm,21.8s,baz=188,slow=30						
TULM	**Tulcn-Chalpat**	**32.93**	**75**	P	**P**	**19 53 32.5**	**-2.0**
TEIG	**Tepich**	**35.70**	**35**	P	**P**	**19 53 59.0**	**+1.1**
TEIG				IAmb	IAmb	19 54 03.1	
	comp=Z,12nm,1.1s						
TEIG	**Tepich**	**35.70**	**35**	LR	LR	20 06 37.1	
	comp=Z,214nm,18.7s,baz=230,slow=33						
H03N2	**Juan Fernandez**	**37.14**	**135**	T	T	20 33 26.5	
	baz=307,slow=77,SNR=144						
H03N1	**Juan Fernandez**	**37.16**	**135**	T	T	20 33 25.9	
	baz=307,slow=77,SNR=212						
H03N3	**Juan Fernandez**	**37.16**	**135**	T	T	20 33 28.5	
	baz=307,slow=77,SNR=174						
833A	**Chaparral WMA,**	**38.33**	**14**	P	**P**	**19 54 20.9**	**+0.7**
833A				IAmb	IAmb	19 54 30.6	
	comp=Z,9.1nm,0.8s						
TXAR	**Lajitas Array**	**38.50**	**8**	P	**P**	**19 54 20.4**	**-1.2**
TXAR	**Lajitas Array**	**38.50**	**8**	P	**P**	**19 54 22.2**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=192,slow=11,SNR=5.2						
TXAR				PcP	**PcP**	**19 56 35.9**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=182,slow=4.4,SNR=3.3						
TXAR				LR	LR	20 07 11.7	
	comp=Z,148nm,20.3s,baz=220,slow=32						
	comp=Z,0.8nm,0.9s						
TX31	**Lajitas Ar. Si**	**38.50**	**8**	P	**P**	**19 54 20.9**	**-0.8**
DRIO	**Del Rio**	**39.11**	**12**	P	**P**	**19 54 26.2**	**-0.5**
DRIO				IAmb	IAmb	19 54 33.2	
	comp=Z,14nm,1.5s						
SAND	**Sanderson**	**39.34**	**10**	P	**P**	**19 54 28.9**	**+0.2**
SAND				IAmb	IAmb	19 54 36.3	
	comp=Z,9.9nm,1.1s						
ALPN	**Alpine**	**39.52**	**8**	P	**P**	**19 54 30.6**	**+0.2**
VHRN	**Van Horn**	**39.77**	**6**		**P**	**19 54 32.3**	**0.0**
PPT	**Papeete**	**39.96**	**253**	LR	LR	20 06 18.2	
	comp=Z,238nm,20.9s,baz=58,slow=29						
PPT2	**Papeete2**	**39.96**	**253**	*e*SS	SS	20 03 38.4	+2.5
	comp=Z,598nm,28.5s						
PPT2				*e*LR	LR	20 05 24.6	
	comp=Z,381nm,25.5s						
PPT2				*e*LR	LR	20 05 25.0	
	comp=Z,346nm,27.8s						
LPAZ	**La Paz**	**40.85**	**104**	P	**P**	**19 54 42.0**	**-0.1**
LPAZ	**La Paz**	**40.85**	**104**	P	**P**	**19 54 41.9**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=293,slow=4.3,SNR=5.1						
LPAZ				LR	LR	20 07 48.6	
	comp=Z,157nm,19.1s,baz=250,slow=31						
	comp=Z,1.9nm,0.8s						
TBI	**Tubuai**	**40.89**	**245**	*e*SS	SS	20 03 47.8	-6.4
	comp=Z,2μm,28.2s						
TBI				*e*LR	LR	20 05 43.1	
	comp=Z,2μm,27.2s						
LVC	**Limon Verde**	**41.09**	**114**	LR	LR	20 07 13.1	
	comp=Z,224nm,20.0s,baz=280,slow=30						
BRDY	**Brady**	**41.26**	**14**		**P**	**19 54 44.8**	**+0.2**
BRDY				IAmb	IAmb	19 54 51.5	
	comp=Z,19nm,1.2s						
SN07	**Snyder 07**	**42.62**	**11**	P	**P**	**19 54 55.5**	**-0.1**
PLPT	**Palo Pinto**	**42.89**	**14**	P	**P**	**19 54 58.8**	**+1.0**
PLPT				IAmb	IAmb	19 55 05.0	
	comp=Z,25nm,1.3s						
PFO	**Pinyon Flats O**	**42.89**	**351**	LR	LR	20 08 24.9	
	comp=Z,375nm,20.6s,baz=175,slow=30						
GO05	**Huala**	**42.92**	**133**	P	**P**	**19 54 58.0**	**-0.2**
GO05				IAmb	IAmb	19 55 00.3	
	comp=Z,17nm,1.0s						
DKNS	**Dickens**	**43.18**	**10**	P	**P**	**19 55 00.3**	**+0.1**
BO01	**Tunca**	**43.25**	**132**	P	**P**	**19 55 00.5**	**-0.3**
BO01				IAmb	IAmb	19 55 03.8	
	comp=Z,22nm,1.1s						
MT13	**San Alfonso**	**43.57**	**130**	P	**P**	**19 55 04.2**	**+0.7**
MT08	**Bocatoma Ro**	**43.65**	**130**	P	**P**	**19 55 05.0**	**+0.7**
MT08				IAmb	IAmb	19 55 07.1	
	comp=Z,13nm,1.1s						
BO02	**Sierra Bellavi**	**43.66**	**132**	P	**P**	**19 55 05.2**	**+1.0**
BO02				IAmb	IAmb	19 55 06.2	
	comp=Z,15nm,0.9s						
LMEL	**Las Melosas**	**43.67**	**130**	P	**P**	**19 55 05.2**	**+0.8**
WTFS	**Witchita Falls**	**43.77**	**13**	P	**P**	**19 55 05.0**	**+0.2**
WTFS				IAmb	IAmb	19 55 12.0	
	comp=Z,15nm,1.0s						
ANMO	**Albuquerque**	**43.78**	**3**	LR	LR	20 10 21.6	
	comp=Z,246nm,18.9s,baz=282,slow=32						
BI02	**San Fabin de**	**44.18**	**135**	P	**P**	**19 55 08.4**	**+0.2**
GO06	**Curarrehue**	**45.51**	**138**	P	**P**	**19 55 19.6**	**+0.6**
MIAR	**Mount Ida**	**45.82**	**18**	P	**P**	**19 55 22.8**	**+1.6**
MIAR				IAmb	IAmb	19 55 27.3	
	comp=Z,13nm,1.4s						
LL01	**San Ignacio de**	**46.45**	**142**	P	**P**	**19 55 26.5**	**+0.4**
PRN	**Pahroc Range**	**46.45**	**354**	P	**P**	**19 55 26.7**	**+0.4**
PRN				IAmb	IAmb	19 55 44.8	
	comp=Z,6.6nm,1.1s						
S22A	**4UR Ranch, Cre**	**46.55**	**3**	P	**P**	**19 55 26.8**	**-0.5**
SDCO	**Great Sand Dun**	**46.63**	**4**	P	**P**	**19 55 29.0**	**+1.1**
SDCO				IAmb	IAmb	19 55 51.5	
	comp=Z,5.4nm,1.2s						
OK048	**Pawnee Station**	**46.66**	**14**	P	**P**	**19 55 28.2**	**+0.4**
PLCA	**Paso Flores**	**46.72**	**139**	P	**P**	**19 55 28.7**	**+0.3**
	comp=Z,11nm,1.0s,baz=311,slow=9.0,SNR=12						
PLCA				LR	LR	20 10 24.5	
	comp=Z,346nm,18.3s,baz=278,slow=30						
	comp=Z,11nm,1.0s						
LL02	**Futaleuf**	**47.26**	**143**	P	**P**	**19 55 33.5**	**+1.0**
HHAR	**Hobbs**	**47.32**	**17**	P	**P**	**19 55 33.3**	**+0.3**
HHAR				IAmb	IAmb	19 55 37.4	
	comp=Z,8.7nm,1.1s						
TPH	**Tonopah**	**47.39**	**352**	P	**P**	**19 55 33.8**	**+0.1**
SIV	**San Ignacio**	**47.60**	**103**	LR	LR	20 12 30.5	
	comp=Z,117nm,18.1s,baz=298,slow=32						
NVAR	**Mina Array Bea**	**47.90**	**351**	P	**P**	**19 55 38.7**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=177,slow=9.0,SNR=8.1						
NVAR				PcP	**PcP**	**19 57 07.6**	**+1.6**
	comp=Z,1.4nm,1.0s,baz=198,slow=5.7,SNR=2.5						
NVAR				LR	LR	20 11 10.7	
	comp=Z,348nm,21.1s,baz=156,slow=30						
	comp=Z,1.3nm,0.7s						
LCAR	**Lake Charles**	**48.00**	**20**	P	**P**	**19 55 38.2**	**0.0**
LCAR				IAmb	IAmb	19 55 44.8	
	comp=Z,7.6nm,0.8s						
PCRV	**Puerto La Cruz**	**48.44**	**68**	LR	LR	20 12 45.6	
	comp=Z,114nm,20.6s,slow=32						
MGMO	**Mountain Grove**	**48.63**	**18**	P	**P**	**19 55 44.1**	**+1.0**
MGMO				IAmb	IAmb	19 55 49.6	
	comp=Z,6.2nm,0.9s						
ISCO	**Idaho Springs**	**48.67**	**4**	P	**P**	**19 55 43.7**	**0.0**
ISCO				IAmb	IAmb	19 55 56.5	
	comp=Z,4.8nm,1.1s						
FPAL	**Fort Paine**	**48.80**	**26**	P	**P**	**19 55 45.6**	**+1.1**
FPAL				IAmb	IAmb	19 55 51.0	
	comp=Z,9.4nm,1.0s						
S39A	**Bolivar**	**48.81**	**17**	P	**P**	**19 55 45.4**	**+0.9**
S39A				IAmb	IAmb	19 55 51.0	
	comp=Z,7.0nm,0.9s						
CCM	**Cathedral Cave**	**49.78**	**19**	P	**P**	**19 55 53.3**	**+1.4**
ELK	**Elko**	**49.78**	**354**	P	**P**	**19 55 52.5**	**+0.4**
ELK	**Elko**	**49.78**	**354**	LR	LR	20 13 10.7	
	comp=Z,273nm,18.1s,baz=176,slow=32						
SJG	**San Juan**	**50.47**	**58**	LR	LR	20 14 24.3	
	comp=Z,102nm,21.2s,baz=203,slow=33						
PDAR	**Pinedale Array**	**51.50**	**360**	P	**P**	**19 56 05.1**	**0.0**
	comp=Z,0.2nm,0.4s,baz=164,slow=10,SNR=2.8						
PDAR				LR	LR	20 15 08.2	
	comp=Z,216nm,18.4s,baz=177,slow=33						
	comp=Z,0.2nm,0.4s						
YBH	**Yreka Blue Hor**	**51.93**	**347**	LR	LR	20 13 12.4	
	comp=Z,256nm,19.9s,baz=172,slow=30						
W57A	**Gilead**	**51.95**	**31**	P	**P**	**19 56 09.0**	**+0.8**
CPUP	**Villa Florida**	**52.16**	**116**	P	**P**	**19 56 10.5**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=262,slow=6.9,SNR=4.3						
CPUP				LR	LR	20 13 58.8	
	comp=Z,205nm,21.6s,baz=282,slow=31						
	comp=Z,2.7nm,0.9s						
HLID	**Hailey**	**52.50**	**355**	P	**P**	**19 56 12.7**	**+0.3**
NEW	**Newport**	**57.41**	**354**	LR	LR	20 17 50.1	
	comp=Z,176nm,18.2s,baz=186,slow=32						
MDP	**Montagnes des**	**58.28**	**78**	LR	LR	20 19 35.5	
	comp=Z,75nm,19.9s,baz=299,slow=34						
SADO	**Sadowa**	**60.07**	**24**	LR	LR	20 22 18.9	
	comp=Z,101nm,19.0s,baz=322,slow=35						
ULM	**Lac du Bonnet**	**60.16**	**10**	P	**P**	**19 57 08.2**	**+1.5**
	comp=Z,3.6nm,0.8s,baz=193,slow=8.3,SNR=3.4						
ULM				LR	LR	20 20 14.4	
	comp=Z,69nm,20.8s,baz=240,slow=33						
	comp=Z,3.6nm,0.8s						
BBB	**Bella Bella**	**63.02**	**347**	LR	LR	20 18 08.4	
	comp=Z,74nm,20.4s,baz=152,slow=30						
BRLDA	**Berland Lookou**	**63.20**	**355**	P	**P**	**19 57 26.0**	**-1.3**
PMSA	**Palmer Station**	**64.04**	**160**	LR	LR	20 19 01.3	
	comp=Z,549nm,20.1s,baz=262,slow=30						
YKA	**Yellowknife Ar**	**71.38**	**357**	P	**P**	**19 58 17.4**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=163,slow=6.5,SNR=1.8						
YKA				LR	LR	20 26 47.1	
	comp=Z,100nm,18.1s,baz=134,slow=34						
	comp=Z,0.4nm,0.8s						
SCHQ	**Schefferville**	**72.88**	**24**	LR	LR	20 29 39.1	
	comp=Z,90nm,19.6s,baz=252,slow=35						
KDAK	**Kodiak Island**	**75.24**	**338**	LR	LR	20 24 42.6	
	comp=Z,285nm,19.0s,baz=175,slow=30						
K29M	**Barlow Dome**	**75.70**	**348**	P	**P**	**19 58 44.0**	**-0.4**
K29M				IAmb	IAmb	19 58 51.4	
	comp=Z,4.3nm,0.9s						
BCAR	**Beaver Creek A**	**76.01**	**345**	P	**P**	**19 58 45.9**	**-0.2**
L27K	**Beaver Creek,**	**76.02**	**345**	P	**P**	**19 58 45.7**	**-0.4**
SCM	**Sheep Creek Mo**	**76.52**	**343**	P	**P**	**19 58 48.5**	**-0.5**
EGAK	**Eagle**	**77.31**	**347**	P	**P**	**19 58 52.1**	**-1.3**
SCRK	**Sand Creek**	**77.32**	**345**	P	**P**	**19 58 52.8**	**-0.8**
I28M	**Miner Creek**	**77.61**	**347**	P	**P**	**19 58 54.5**	**-0.6**
I28M				IAmb	IAmb	19 59 09.4	
	comp=Z,6.6nm,1.3s						
SKT	**Skwentna**	**77.93**	**341**	P	**P**	**19 58 55.1**	**-1.7**
SKT				IAmb	IAmb	19 59 11.6	
	comp=Z,5.7nm,1.2s						
H29M	**Whitestone**	**77.96**	**348**	P	**P**	**19 58 55.9**	**-1.1**
H29M				IAmb	IAmb	19 59 15.2	
	comp=Z,9.7nm,1.3s						
ILAR	**Eielson Array**	**78.72**	**345**	P	**P**	**19 59 01.2**	**0.0**
	comp=Z,0.4nm,0.7s,baz=164,slow=5.0,SNR=6.7						
	comp=Z,0.4nm,0.7s						
WRH	**Wood River Hil**	**78.80**	**344**	P	**P**	**19 59 01.0**	**-0.6**
WRH				IAmb	IAmb	19 59 08.4	
	comp=Z,5.3nm,0.9s						
L19K	**White Mountain**	**79.17**	**340**	P	**P**	**19

MOS ***20*** *19:58:04.7±0.9, 1.62S×99.88E, h14km, mb5.5/88, MS4.6/14, Error ellipse: s-maj=7.3km s-min=3.8km az=114.9*
BJI ***20*** *19:58:04.4±0.0, 2.18S×99.89E, h40km, mb5.0/83, mB5.1/43, Ms5.3/80, Ms7 5.1/78*
IDC ***20*** *19:58:04.2±0.4, 1.67S×99.86E, h0km, mb5.0/33, mbtmp5.0/33, MS4.4/56, Error ellipse: s-maj=15.3km s-min=10.6km az=65.0*
GCMT ***20*** *19:58:07.2±0.1, 1.71S±0.01×99.70E±0.01, h13km, MW5.1/117, Moment Tensor Solution. s80,c128; s117,c218; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr5.01±.14; Mθθ-5.90±.10; Mφφ0.89±.10; Mrθ-2.61±.24; Mθφ-0.29±.07; Mφr1.74±.28; Best double couple: M0 6.34100×10^16^ NP1:φs286.00000°, δ60.00000°, λ111.00000°. NP2:φs69.00000°, δ36.00000°, λ58.00000°. Principal axes: T 6.1880, Plg68.0000°, Azm237.0000°; N 0.3080, Plg18.0000°, Azm95.0000°; P -6.4940, Plg13.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***20*** *19:58:07.8±0.5, 2.3S±2.3×10.0E±., h20km±4km, M5.2/76, mb5.2/76, mB5.6/31, MLv5.6/19, Mw(mB)5.1/31, MwMwp5.0/6, Mwp5.2/6*
NEIC ***20*** *19:58:07.2±1.5, 1.70S±0.07×99.84E±0.07, h16km±2km, mb5.4/235, Mww5.2/26, Error ellipse: s-maj=11.1km s-min=8.2km az=47.0*
NEIC ***20*** *19:58:09.1, 1.80S×99.32E, h20km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16^Nm; Mrr5.89; Mθθ-6.98; Mφφ1.09; Mrθ-2.69; Mθφ0.47; Mφr-2.51; Fault plane solution: M0 7.49000×10^16^ NP1: φs252.05000°, δ59.75000°, λ65.08000°. NP2: φs114.74000°, δ38.43000°, λ125.85000°. Principal axes: T 7.4517, Plg66.0000°, Azm116.0000°; N 0.0668, Plg21.0000°, Azm265.0000°; P -7.5185, Plg11.0000°, Azm360.0000°;*
NEIC ***20*** *19:58:09.1, 1.70S×99.82E, h20km*
ISC 20 19:58:07.8±0.4, 1.75S±0.03×99.80E±0.03, h25km±2km, h25km:pP-P, n1231, o1926/1218, mb5.3/300, MS4.6/103, 70C-40D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.82**	**301**	P	**Pb**	**19 58 22.0**	**-1.5**
SISI				S	**Sb**	**19 58 34.0**	**-0.2**
PPSI	**Pulau Pagai**	**1.03**	**168**	P	**Pn**	**19 58 27.1**	**+0.5**
PPSI				S	**Sn**	**19 58 42.5**	**+2.3**
PDSI	**Padang**	**1.07**	**38**	P	**Pn**	**19 58 26.9**	**-0.3**
PDSI				S	**Sn**	**19 58 42.0**	**+0.7**
PBSI	**Pulau Batu**	**2.27**	**318**	P	**Pn**	**19 58 44.0**	**+0.3**
BKNI	**Bangkinang**	**2.41**	**31**	P	**Pn**	**19 58 47.8**	**+2.1**
BKNI	**Bangkinang**	**2.41**	**31**		**Pn**	**19 58 47.2**	**+1.5**
BKNI	**Bangkinang**	**2.41**	**31**	P	**Pn**	**19 58 47.0**	**+1.3**
GSI	**Gunungsitoli**	**3.76**	**324**	P	**Pn**	**19 59 05.1**	**+0.8**
GSI	**Gunungsitoli**	**3.76**	**324**	Pn	**Pn**	**19 59 04.3**	**0.0**
GSI	**Gunungsitoli**	**3.76**	**324**	P	**Pn**	**19 59 04.1**	**-0.2**
MNAI	**Manna**	**4.08**	**129**	P	**Pn**	**19 59 10.8**	**+2.1**
MNAI	**Manna**	**4.08**	**129**		**Pn**	**19 59 10.2**	**+1.5**
MNAI	**Manna**	**4.08**	**129**	P	**Pn**	**19 59 10.2**	**+1.5**
BTDF	**Bukit Timah Da**	**5.04**	**52**	P	**Pn**	**19 59 23.0**	**+1.2**
PMBI	**Palembang**	**5.11**	**103**	P	**Pn**	**19 59 24.6**	**+1.8**
PMBI	**Palembang**	**5.11**	**103**		**Pn**	**19 59 22.9**	**+0.2**
PMBI	**Palembang**	**5.11**	**103**	P	**Pn**	**19 59 23.0**	**+0.2**
	291nm,1.2s,8μm4.6nm						
LWLI	**Liwa**	**5.35**	**127**	P	**Pn**	**19 59 28.0**	**+1.8**
MYKOM	**Kota Tinggi**	**5.37**	**49**		**Pn**	**19 59 27.9**	**+1.6**
SNSI	**Sinabang, Aceh**	**5.40**	**320**	P	**Pn**	**19 59 27.4**	**+0.6**
	326nm,0.7s,3.5nm						
TPRI	**Tanjung Pinang**	**5.42**	**61**	P	**Pn**	**19 59 27.9**	**+0.8**
KCSI	**Kotacane, Aceh**	**5.62**	**339**	P	**Pn**	**19 59 30.0**	**+0.2**
	446nm,0.8s,7μm5.0nm						
KASI	**Kota Agung**	**6.00**	**129**	P	**Pn**	**19 59 36.0**	**+0.9**
PPBI	**Pangkal Pinang**	**6.35**	**94**	P	**Pn**	**19 59 42.3**	**+2.5**
	69nm,0.9s,5μm						
BLSI	**Bandar Lampung**	**6.51**	**124**	P	**Pn**	**19 59 42.4**	**+0.2**
	282nm,0.8s,1.2nm						
MLSI	**Meulaboh, Aceh**	**6.87**	**330**	P	**Pn**	**19 59 45.9**	**-1.2**
	232nm,1.0s,4μm1.2nm						
KULM	**Kulim**	**7.05**	**7**	Pn	**Pn**	**19 59 51.0**	**+1.5**
LHMI	**Lhok Sumawe**	**7.50**	**338**	Pn	**Pn**	**19 59 56.0**	**+0.3**
SBJI	**Serang**	**7.66**	**125**	P	**Pn**	**19 59 59.7**	**+1.8**
	234nm,1.3s,6μm1.5nm						
DBJI	**Dramaga**	**8.41**	**125**	P	**Pn**	**20 00 09.7**	**+1.4**
	301nm,0.8s,4μm						
SKJI	**Sukabumi**	**8.52**	**128**	P	**Pn**	**20 00 10.8**	**+1.1**
CNJI	**Cibinong**	**9.16**	**127**	P	**Pn**	**20 00 17.3**	**-1.1**
	141nm,1.1s,2μm						
BBJI	**Bungbulang**	**9.66**	**126**	P	**Pn**	**20 00 25.7**	**+0.2**
XMIS	**Christmas Isla**	**10.44**	**146**	Pn	Pn	20 00 29.2	-6.9
CMJI	**Cimerak**	**10.49**	**125**	P	**Pn**	**20 00 39.4**	**+2.6**
	243nm,1.0s,4μm						
SURA	**Surathani**	**10.85**	**359**	P	**Pn**	**20 00 43.6**	**+2.0**
STKI	**Sintang**	**11.82**	**81**	P	**Pn**	**20 00 56.0**	**+1.1**
	59nm,1.2s						
SMRI	**Semarang**	**11.84**	**117**	P	**Pn**	**20 00 58.2**	**+3.0**
SMRI	**Semarang**	**11.84**	**117**		**Pn**	**20 00 54.6**	**-0.6**
SMRI	**Semarang**	**11.84**	**117**	P	**Pn**	**20 00 57.7**	**+2.5**
	270nm,1.1s						
UGM	**Wanagama**	**12.31**	**120**	Pn	**Pn**	**20 01 00.1**	**-1.6**
UGM	**Wanagama**	**12.31**	**120**	P	**Pn**	**20 01 01.4**	**-0.3**
	210nm,0.9s						
SBUM	**Sibu**	**13.10**	**71**		**Pn**	**20 01 12.3**	**-0.2**
PWJI	**Pagerwojo**	**13.48**	**118**	P	**Pn**	**20 01 17.0**	**-0.6**
	112nm,1.3s						
PBA	**Port Blair**	**15.05**	**332**	Pn	**Pn**	**20 01 39.2**	**+0.1**
PBA				IAmb	IAmb	20 01 46.0	
	comp=Z,143nm,1.1s						
MTKI	**Muara Teweh, K**	**15.12**	**87**	P	**P**	**20 01 42.8**	**-2.1**
	comp=Z,110nm,1.9s,comp=Z,3μm						
ABJI	**Asem Bagus**	**15.58**	**113**	P	**Pn**	**20 01 46.5**	**+0.5**
	comp=Z,148nm,0.8s						
JAGI	**Jajag, Banyuwa**	**15.77**	**116**	P	**Pn**	**20 01 48.1**	**-0.3**
JAGI	**Jajag, Banyuwa**	**15.77**	**116**	Pn	**Pn**	**20 01 45.8**	**-2.6**
JAGI	**Jajag, Banyuwa**	**15.77**	**116**	P	**Pn**	**20 01 46.7**	**-1.7**
	comp=Z,68nm,0.8s						
SRDT	**SRDT**	**16.01**	**358**	P	**P**	**20 01 53.9**	**-0.9**
NAYO	**Nakonayok**	**16.04**	**5**	P	**P**	**20 01 55.6**	**+0.6**
DLV	**T Lat**	**16.11**	**32**	P	**P**	**20 01 57.3**	**+1.2**
DLV	**T Lat**	**16.11**	**32**	Pn	**Pn**	**20 01 53.0**	**0.0**
SRBI	**Singaraja**	**16.59**	**113**	P	**P**	**20 02 00.7**	**-0.5**
	comp=Z,111nm,0.9s						
BKB	**Balikpapan**	**17.10**	**89**	Pn	**Pn**	**20 02 03.2**	**-2.1**
BKB				IAmb	IAmb	20 02 11.8	
	comp=Z,178nm,0.9s						
UBPT	**Khong Chiam**	**17.83**	**18**	P	**P**	**20 02 15.0**	**+0.1**
UBPT	**Khong Chiam**	**17.83**	**18**		**Pn**	**20 02 13.6**	**-0.8**
KKM	**Kota Kinabalu**	**18.13**	**65**	P	**P**	**20 02 20.4**	**+2.0**
KKM	**Kota Kinabalu**	**18.13**	**65**		**Pn**	**20 02 18.3**	**+0.1**
TWSI	**Taliwang, Sumb**	**18.36**	**113**	P	**P**	**20 02 20.8**	**-0.1**
	comp=Z,47nm,0.8s						
PLAI	**Plampang**	**19.22**	**112**	P	**P**	**20 02 30.9**	**+0.6**
	comp=Z,77nm,0.9s						
MYLDM	**Lahad Datu**	**19.91**	**70**	P	**P**	**20 02 36.5**	**-1.3**
CM31	**Chiang Mai Arr**	**20.10**	**358**	P	**P**	**20 02 38.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**20.10**	**358**	P	**P**	**20 02 37.6**	**-2.2**
CMAR	**Chiang Mai Arr**	**20.10**	**358**	P	**P**	**20 02 39.0**	**-0.8**
	comp=Z,10.0nm,0.7s,baz=187,slow=9.9,SNR=44						
CMAR				S	Sn	20 06 29.2	+1.8
	comp=Z,1.4nm,1.0s,baz=181,slow=21,SNR=1.1						
CMAR				LR	LR	20 10 04.6	
	comp=Z,1μm,21.9s,baz=175,slow=36						
	comp=Z,10.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**20.10**	**358**	P	**P**	**20 02 37.6**	**-2.2**
PHRA	**Phrae**	**20.13**	**1**	P	**P**	**20 02 39.3**	**-0.8**
PHRA				IAmb	IAmb	20 02 55.8	
	comp=Z,266nm,1.0s						
KAPI	**Kappang**	**20.18**	**100**	P	Pn	20 02 43.1	+0.4
KAPI	**Kappang**	**20.18**	**100**	P	**P**	**20 02 40.0**	**-0.8**
KAPI	**Kappang**	**20.18**	**100**	P	**P**	**20 02 41.2**	**+0.5**
	comp=Z,58nm,1.0s,baz=267,slow=11,SNR=12						
	comp=Z,58nm,1.0s						
KAPI	**Kappang**	**20.18**	**100**	*de*P	**P**	**20 02 42.1**	**+1.4**
KAPI				pmax	pmax		
	comp=Z,75nm,1.0s						
MPSI	**Mapaga**	**20.20**	**84**	P	Pn	20 02 42.5	-0.5
	comp=Z,63nm,1.0s						
CHTO	**Chiang Mai**	**20.45**	**358**	P	**P**	**20 02 43.5**	**-0.1**
CHTO	**Chiang Mai**	**20.45**	**358**	P	**P**	**20 02 43.6**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,31nm,1.0s						
PALK	**Pallekele**	**21.06**	**295**		**P**	**20 02 51.1**	**+0.8**
PALK	**Pallekele**	**21.06**	**295**	P	**P**	**20 02 51.9**	**+1.6**
	comp=Z,47nm,0.9s,baz=137,slow=19,SNR=14						
PALK				S	**S**	**20 06 40.9**	**-2.9**
	comp=Z,6.3nm,0.8s,baz=139,slow=20,SNR=1.5						
PALK				LR	LR	20 10 44.3	
	comp=Z,1μm,18.5s,baz=222,slow=36						
	comp=Z,47nm,0.9s						
PALK	**Pallekele**	**21.06**	**295**	*ce*P	**P**	**20 02 51.7**	**+1.4**
PALK				pmax	pmax		
	comp=Z,70nm,0.9s						
TOLI2	**Tolitoli**	**21.17**	**82**	P	**P**	**20 02 51.8**	**+0.3**
TOLI2	**Tolitoli**	**21.17**	**82**	P	**P**	**20 02 51.3**	**-0.2**
TOLI2				IAmb	IAmb	20 02 53.4	
	comp=Z,119nm,0.9s						
MRSI	**Marisa**	**22.25**	**84**	P	**P**	**20 03 03.9**	**+0.8**
	comp=Z,87nm,0.9s,comp=Z,1μm						
BASI	**Baing, Sumba**	**22.30**	**113**	P	**P**	**20 03 05.0**	**+1.4**
EDFI	**Ende, Flores**	**22.87**	**108**	P	**P**	**20 03 05.9**	**-3.9**
QIZ	**Qiongzhong**	**22.89**	**25**	P	**P**	**20 03 09.0**	**-0.8**
QIZ	**Qiongzhong**	**22.89**	**25**	P	**P**	**20 03 08.3**	**-1.5**
QIZ				S	**S**	**20 07 20.6**	**+2.3**
QIZ				sS	Sn	20 07 32.4	-2.0
QIZ				pmax	pmax		
	comp=Z,46nm,1.0s						
QIZ				pmax	pmax		
	comp=Z,310nm,4.4s						
QIZ				LR	LR		
	comp=Z,3μm,10.1s						
QIZ				LR	LR		
	comp=Z,3μm,10.9s						
QIZ				LR	LR		
	comp=Z,5μm,9.3s						
QIZ	**Qiongzhong**	**22.89**	**25**	P	**P**	**20 03 09.0**	**-0.8**
LUWI	**Luwuk**	**22.98**	**89**	P	**P**	**20 03 11.6**	**+0.8**
LUWI	**Luwuk**	**22.98**	**89**	P	**P**	**20 03 10.4**	**-0.4**
LUWI	**Luwuk**	**22.98**	**89**	P	**P**	**20 03 11.2**	**+0.4**
	comp=Z,179nm,1.0s,comp=Z,2μm						
BBSI	**Bau Bau**	**23.02**	**100**	P	**P**	**20 03 12.5**	**+1.2**
	comp=Z,106nm,1.0s,comp=Z,1μm						
GTOI	**Gorontalo**	**23.33**	**84**	P	**P**	**20 03 13.5**	**-0.9**
	comp=Z,50nm,1.0s						
KMSI	**Cibinong**	**24.29**	**85**	P	**P**	**20 03 23.3**	**-0.2**
BATI	**Baumata**	**25.16**	**110**	P	**P**	**20 03 29.9**	**-1.5**
	comp=Z,64nm,1.2s						
SOEI	**Soe**	**25.59**	**109**	P	**P**	**20 03 36.2**	**+0.7**
SOEI	**Soe**	**25.59**	**109**	P	**P**	**20 03 31.8**	**-3.7**
SOEI				IAmb	IAmb	20 03 41.8	
	comp=Z,56nm,0.8s						
SOEI	**Soe**	**25.59**	**109**	P	**P**	**20 03 32.4**	**-3.1**
	comp=Z,78nm,0.9s						
TNCH	**TengChong**	**26.65**	**357**	⇑P	**P**	**20 03 44.5**	**-0.5**
TNCH				pP	sP	20 03 52.8	-1.8
TNCH				PP	**PnPn**	**20 04 28.5**	**+2.2**
TNCH				S	**S**	**20 08 15.3**	**-3.7**
TNCH				SS	**SnSn**	**20 09 30.6**	**+7.7**
TNCH				pmax	pmax		
	comp=Z,18nm,1.5s						
TNCH				LR	LR		
	comp=Z,4μm,11.4s						
TNCH				LR	LR		
	comp=Z,3μm,10.7s						
TNCH				LR	LR		
	comp=Z,5μm,11.5s						
KMI	**Kunming**	**26.87**	**6**	⇑P	**P**	**20 03 47.0**	**0.0**
KMI				pP	pwP	20 03 57.3	+1.2
KMI				S	**S**	**20 08 21.4**	**-1.1**
KMI				pmax	pmax		
	comp=Z,17nm,0.6s						
KMI				LR	LR		
	comp=Z,2μm,11.6s						
KMI				LR	LR		
	comp=Z,3μm,14.4s						
DAV	**Davao City (W)**	**27.18**	**71**	LR	LR	20 15 58.1	
	comp=Z,779nm,19.1s,baz=229,slow=40						
NLAI	**Namlea**	**27.32**	**94**	P	**P**	**20 03 52.1**	**+1.2**
	comp=Z,26nm,0.9s						
MBWA	**Marble Bar**	**27.38**	**136**	P	**P**	**20 03 52.1**	**+0.7**
MBWA	**Marble Bar**	**27.38**	**136**	P	**P**	**20 03 49.8**	**-1.6**
PSA00	**Pilbara Seismi**	**27.74**	**137**	P	**P**	**20 03 53.1**	**-1.5**
H08S2	**Diego Garcia H**	**27.82**	**257**	T	T	20 32 39.7	
	baz=80,slow=75,SNR=381						
H08S3	**Diego Garcia H**	**27.83**	**257**	T	T	20 32 15.4	
	baz=80,slow=75,SNR=496						
H08S1	**Diego Garcia H**	**27.84**	**257**	T	T	20 32 37.9	
	baz=80,slow=75,SNR=362						
PZH	**PanZhiHua**	**28.15**	**4**	P	**P**	**20 04 01.6**	**+3.2**
PZH				pmax	pmax		
	comp=Z,20nm,1.5s						
PZH				pmax	pmax		
	comp=Z,160nm,4.5s						
PZH				LR	LR		
	comp=Z,2μm,13.5s						
PZH				LR	LR		
	comp=Z,2μm,15.5s						
PZH				LR	LR		
	comp=Z,3μm,15.3s						
SHL	**Shillong**	**28.22**	**345**	P	**P**	**20 03 58.3**	**-0.7**
SHL				IAmb	IAmb	20 04 08.2	
	comp=Z,68nm,0.9s						
SHL	**Shillong**	**28.22**	**345**	P	**P**	**20 03 58.3**	**-0.7**
SHL				pmax	pmax		
	comp=Z,68nm,0.9s						
HYB	**Hyderabad**	**28.31**	**313**	*e*P	**P**	**20 04 00.5**	**+0.7**
GULI	**GuiLin**	**28.77**	**20**	P	**P**	**20 04 03.8**	**+0.1**
GULI				S	**S**	**20 08 56.6**	**+4.6**
GULI				LR	LR		
	comp=Z,3μm,11.5s						
GULI				LR	LR		
	comp=Z,2μm,11.3s						
GULI				LR	LR		
	comp=Z,4μm,12.2s						
GYA	**Guiyang**	**28.82**	**13**	⇓P	P	20 04 09.5	+5.2
GYA				S	**S**	**20 08 58.5**	**+5.5**
GYA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,200nm,6.1s						
GYA				LR	LR		
	comp=Z,1μm,19.0s						
GYA				LR	LR		
	comp=Z,1μm,18.6s						
GYA				LR	LR		
	comp=Z,1μm,21.6s						
FITZ	**Fitzroy Crossi**	**30.12**	**124**	P	**P**	**20 04 14.9**	**-0.9**
MEEK	**Meekatharra**	**30.64**	**145**	P	**P**	**20 04 21.3**	**+0.9**
SWI	**Sorong**	**31.46**	**89**	P	**P**	**20 04 27.1**	**-0.7**
TPUB	**Ta-pu**	**32.12**	**38**	P	**P**	**20 04 34.2**	**+0.8**
TPUB	**Ta-pu**	**32.12**	**38**	P	**P**	**20 04 32.3**	**-1.1**
TPUB				IAmb	IAmb	20 04 35.2	
	comp=Z,61nm,0.9s						
LSA	**Lhasa**	**32.35**	**346**	P	**P**	**20 04 37.0**	**+1.1**
LSA				pmax	pmax		
	comp=Z,26nm,1.1s						
LSA	**Lhasa**	**32.35**	**346**	P	**P**	**20 04 35.2**	**-0.7**
LSA				IAmb	IAmb	20 04 47.0	
	comp=Z,49nm,0.9s						
LSA	**Lhasa**	**32.35**	**346**	*i*P	**P**	**20 04 35.2**	**-0.7**
	SNR=22						
LSA	**Lhasa**	**32.35**	**346**	P	**P**	**20 04 35.2**	**-0.7**
LSA				pmax	pmax		
	comp=Z,49nm,0.9s						
FAKI	**Fak Fak**	**32.44**	**93**	P	**P**	**20 04 34.4**	**-2.0**
FAKI				IAmb	IAmb	20 04 36.6	
	comp=Z,49nm,0.9s						
FAKI	**Fak Fak**	**32.44**	**93**	P	**P**	**20 04 35.4**	**-1.0**
	comp=Z,67nm,1.2s						
YULB	**Yu-li**	**32.60**	**39**	P	**P**	**20 04 39.0**	**+1.4**
YULB	**Yu-li**	**32.60**	**39**	P	**P**	**20 04 37.3**	**-0.3**
YULB				IAmb	IAmb	20 04 50.7	
	comp=Z,28nm,0.8s						
SSLB	**Suanglung**	**32.68**	**38**	P	**P**	**20 04 39.5**	**+1.2**
SSLB	**Suanglung**	**32.68**	**38**	P	**P**	**20 04 37.8**	**-0.5**
SSLB				IAmb	IAmb	20 04 48.7	
	comp=Z,24nm,0.9s						
CD2	**Chengdu**	**32.70**	**6**	P	**P**	**20 04 39.3**	**+0.9**
CD2				pP	pwP	20 04 46.9	-0.7
CD2				sP	sP	20 04 50.3	+2.2
CD2				S	**S**	**20 09 57.3**	**+3.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CD2				pmax	pmax		
	comp=Z,200nm,6.9s						
CD2				LR	LR		
	comp=Z,2μm,12.2s						
CD2				LR	LR		
	comp=Z,4μm,11.0s						
CD2				LR	LR		
	comp=Z,3μm,12.8s						
MTN	**Manton Dam**	**32.93**	**111**	P	**P**	**20 04 38.2**	**-2.4**
ENH	**Enshi**	**33.16**	**15**	P	**P**	**20 04 40.9**	**-1.5**
ENH	**Enshi**	**33.16**	**15**	P	**P**	**20 04 40.6**	**-1.8**
ENH				IAmb	IAmb	20 04 43.4	
	comp=Z,79nm,1.5s						
NACB	**Ninganchiao**	**33.36**	**38**	P	**P**	**20 04 45.9**	**+1.7**
NACB	**Ninganchiao**	**33.36**	**38**	P	**P**	**20 04 44.5**	**+0.3**
NACB				IAmb	IAmb	20 04 50.9	
	comp=Z,31nm,1.0s						
YHNB	**Yeheng**	**33.59**	**37**	P	**P**	**20 04 47.0**	**+0.7**
YOJ	**Yonaguni jima**	**34.45**	**39**	P	**P**	**20 04 53.0**	**-0.7**
YOJ	**Yonaguni jima**	**34.45**	**39**	P	**P**	**20 04 53.0**	**-0.7**
YOJ				pmax	pmax		
	comp=Z,154nm,1.3s						
WHN	**Wuhan**	**34.98**	**22**	P	**P**	**20 04 57.8**	**-0.4**
WHN				sP	**pwP**	**20 05 09.9**	**+2.5**
WHN				S	**S**	**20 10 37.1**	**+8.3**
WHN				LR	LR		
	comp=Z,5μm,10.1s						
WHN				LR	LR		
	comp=Z,6μm,11.9s						
WHN				LR	LR		
	comp=Z,8μm,10.6s						
NWAO	**Narrogin (SRO)**	**35.07**	**154**	P	**P**	**20 04 59.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**35.07**	**154**	P	**P**	**20 04 59.1**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,162nm,2.0s						
WRKA	**Warakurna**	**35.94**	**132**	P	**P**	**20 05 08.1**	**+1.5**
XAN	**Xi'an**	**36.62**	**13**	⇑P	**P**	**20 05 10.9**	**-1.4**
XAN				pP	pwP	20 05 24.0	+2.5
XAN				sP	sP	20 05 30.9	+8.9
XAN				S	**S**	**20 10 49.6**	**-4.4**
XAN				pmax	pmax		
	comp=Z,57nm,1.1s						
XAN				LR	LR		
	comp=Z,8μm,11.6s						
XAN				LR	LR		
	comp=Z,2μm,11.8s						
XAN				LR	LR		
	comp=Z,10μm,12.9s						
LZH	**Lanzhou**	**37.83**	**5**	*e*P	**P**	**20 05 22.1**	**-0.6**
LZH				pP	pwP	20 05 34.3	+2.4
LZH				PcP	**PcP**	**20 07 40.3**	**+1.3**
LZH				SS	SS	20 13 52.9	-6.4
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
LZH				LR	LR		
	comp=Z,3μm,13.1s						
LZH				LR	LR		
	comp=Z,2μm,11.7s						
LZH				LR	LR		
	comp=Z,3μm,12.4s						
LYN	**LuoYang**	**38.02**	**17**	⇑P	**P**	**20 05 23.8**	**-0.3**
LYN				sS	sS	20 11 34.8	+8.3
LYN				pmax	pmax		
	comp=Z,150nm,0.9s						
LYN				pmax	pmax		
	comp=Z,250nm,4.0s						
LYN				LR	LR		
	comp=Z,3μm,13.7s						
LYN				LR	LR		
	comp=Z,2μm,12.0s						
LYN				LR	LR		
	comp=Z,4μm,12.7s						
GOMU	**GeErMu**	**38.04**	**353**	P	**P**	**20 05 25.3**	**+0.6**
GOMU				pP	pP	20 05 31.6	0.0
GOMU				sP	pwP	20 05 37.0	+3.1
GOMU				S	**S**	**20 11 10.5**	**-5.6**
GOMU				pmax	pmax		
	comp=Z,25nm,0.7s						
GOMU				LR	LR		
	comp=Z,2μm,11.9s						
GOMU				LR	LR		
	comp=Z,1μm,11.4s						
GOMU				LR	LR		
	comp=Z,1μm,11.2s						
NJ2	**Nanjing**	**38.17**	**27**	*e*P	**P**	**20 05 28.1**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,160nm,6.5s						
NJ2				LR	LR		
	comp=Z,1μm,12.0s						
NJ2				LR	LR		
	comp=Z,3μm,13.0s						
NJ2				LR	LR		
	comp=Z,2μm,11.6s						
WB0	**Warramunga Arr**	**38.27**	**120**	P	**P**	**20 05 25.3**	**-1.2**
WB0				IAmb	IAmb	20 05 27.7	
	comp=Z,32nm,0.7s						
WRA	**Warramunga Arr**	**38.29**	**121**	P	**P**	**20 05 26.0**	**-0.7**
WRA	**Warramunga Arr**	**38.29**	**121**	P	**P**	**20 05 26.2**	**-0.4**
	comp=Z,22nm,0.7s,baz=303,slow=9.1,SNR=157						
WRA				PcP	**PcP**	**20 07 39.5**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=304,slow=8.8,SNR=2.1						
WRA				S	**S**	**20 11 15.6**	**-4.1**
	comp=Z,7.7nm,1.1s,baz=295,slow=16,SNR=6.7						
WRA				LR	LR	20 23 47.1	
	comp=Z,855nm,21.2s,baz=306,slow=40						
	comp=Z,22nm,0.7s						
WRAB	**Tennant Creek**	**38.30**	**121**	*de*P	**P**	**20 05 26.2**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,65nm,1.2s						
WB2	**Warramunga Arr**	**38.30**	**121**	P	**P**	**20 05 25.8**	**-0.9**
WB2				IAmb	IAmb	20 05 27.1	
	comp=Z,77nm,1.3s						
WR0	**Warramunga Arr**	**38.47**	**120**	P	**P**	**20 05 26.2**	**-1.9**
WR0				IAmb	IAmb	20 05 29.3	
	comp=Z,36nm,0.8s						
SSE	**Sheshan**	**38.48**	**30**	P	**P**	**20 05 28.9**	**+0.9**
SSE				pmax	pmax		
	comp=Z,14nm,0.9s						
SSE				pmax	pmax		
	comp=Z,120nm,5.0s						
SSE				LR	LR		
	comp=Z,1μm,12.0s						
SSE				LR	LR		
	comp=Z,660nm,11.6s						
FORT	**Forrest**	**39.36**	**140**	P	**P**	**20 05 35.0**	**-0.5**
FORT				IAmb	IAmb	20 06 04.4	
	comp=Z,50nm,0.8s						
JOW	**Kunigami**	**39.52**	**42**	P	**P**	**20 05 36.0**	**-0.7**
JOW	**Kunigami**	**39.52**	**42**	LR	LR	20 20 10.1	
	comp=Z,552nm,21.5s,baz=158,slow=34						
AS31	**Alice Springs**	**39.56**	**126**	P	**P**	**20 05 37.6**	**+0.3**
ASAR	**Alice Springs**	**39.56**	**126**	P	**P**	**20 05 37.3**	**0.0**
	comp=Z,23nm,0.9s,baz=301,slow=7.9,SNR=121						
ASAR				PcP	**PcP**	**20 07 44.4**	**-0.2**
	comp=Z,6.7nm,0.8s,baz=308,slow=1.9,SNR=8.6						
ASAR				S	**S**	**

comp=Z,1μm,12.6s
HNS LR LR
comp=Z,1μm,12.2s
HNS LR LR
comp=Z,1μm,13.8s
TABU Tabubil 41.48 96 P **P** **20 05 55.4 +2.0**
comp=Z,2μm,0.8s
OOD Oodnadatta 42.99 130 P **P** **20 06 05.7 +0.4**
QIS Mount Isa 43.10 119 P **P** **20 06 06.0 -0.4**
BTO Baotou 43.18 11 *e*P **P** **20 06 07.9 +1.1**
BTO pP **pwP** **20 06 15.3 -0.8**
BTO sP **sP** **20 06 22.9 +6.4**
BTO S **S** **20 12 32.4 +0.3**
BTO pmax pmax
comp=Z,17nm,0.7s
BTO LR LR
comp=Z,990nm,17.5s
BTO LR LR
comp=Z,4μm,18.2s
BTO LR LR
comp=Z,1μm,19.4s
NIL Nilore 43.19 327 P **P** **20 06 06.2 -0.7**
NIL Nilore 43.19 327 P **P** **20 06 06.2 -0.7**
NIL pmax pmax
comp=Z,89nm,0.8s
HHC Hu-ho-hao-te 43.74 13 *e*P **P** **20 06 07.3 -4.0**
HHC Hu-ho-hao-te 43.74 13 *e*P **P** **20 06 14.8 +3.5**
HHC pP pwP 20 06 21.0 +0.4
HHC S **S** **20 12 40.8 +0.5**
HHC sS sS 20 13 00.3 +8.5
HHC SS **SS** **20 15 55.8 -0.7**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,120nm,5.1s
HHC LR LR
comp=Z,3μm,13.8s
HHC LR LR
comp=Z,960nm,14.5s
HHC LR LR
comp=Z,3μm,14.5s
BJT Baijiatuau 44.19 18 P **P** **20 06 15.0 +0.2**
BJT Baijiatuau 44.19 18 P **P** **20 06 13.9 -0.8**
BJT Baijiatuau 44.19 18 P **P** **20 06 14.0 -0.8**
BJT pmax pmax
comp=Z,19nm,0.9s
BJI Beijing 44.21 18 P **P** **20 06 14.8 -0.1**
BJI S **S** **20 12 49.3 +2.4**
BJI pmax pmax
comp=Z,11nm,1.1s
BJI pmax pmax
comp=Z,64nm,5.3s
BJI LR LR
comp=Z,390nm,16.8s
BJI LR LR
comp=Z,460nm,12.7s
BJI LR LR
comp=Z,510nm,13.2s
DL2 Dalian 45.17 24 P **P** **20 06 21.8 -0.8**
DL2 S **S** **20 13 00.6 -0.4**
DL2 pmax pmax
comp=Z,50nm,1.0s
DL2 pmax pmax
comp=Z,300nm,8.0s
DL2 LR LR
comp=Z,1μm,14.2s
DL2 LR LR
comp=Z,2μm,15.2s
DL2 LR LR
comp=Z,2μm,12.4s
JNU Nakatsue 45.42 37 P **P** **20 06 25.1 +0.3**
JNU Nakatsue 45.42 37 P **P** **20 06 24.1 -0.7**
JNU IAmb IAmb 20 06 26.0
comp=Z,51nm,1.1s
JNU Nakatsue 45.42 37 LR LR 20 27 29.6
comp=Z,368nm,18.2s,baz=236,slow=39
TJN Taejon 45.80 31 P **P** **20 06 29.9 +2.2**
TJN Taejon 45.80 31 P **P** **20 06 26.8 -0.9**
TJN Taejon 45.80 31 *de*P **P** **20 06 27.7 0.0**
KBL Kabul 46.22 324 P **P** **20 06 30.4 -0.8**
KBL Kabul 46.22 324 P **P** **20 06 30.4 -0.8**
KBL pmax pmax
comp=Z,20nm,1.2s
LCRK Leigh Creek 46.24 132 P **P** **20 06 32.5 +1.2**
HJU Haeju 46.28 29 P **P** **20 06 30.4 -1.0**
HJU AmB
comp=Z,109nm,1.6s
HJU AMS AMS
comp=Z,1μm,13.7s
KSH Kashi 46.52 334 P **P** **20 06 32.4 -1.1**
KSH pP pwP 20 06 41.3 -1.6
KSH PP **PP** **20 08 26.9 +3.7**
KSH S **S** **20 13 16.8 -3.9**
KSH pmax pmax
comp=Z,11nm,0.6s
KSH LR LR
comp=Z,410nm,22.0s
KSH LR LR
comp=Z,540nm,17.9s
KSH LR LR
comp=Z,560nm,18.2s
MTSU Mount Surprise 46.60 113 P **P** **20 06 33.4 -0.9**
WMQ Urumqi 46.65 348 *e*P **P** **20 06 35.8 +1.5**
WMQ pP pwP 20 06 45.3 +1.6
WMQ S **S** **20 13 24.0 +1.8**
WMQ pmax pmax
comp=Z,140nm,1.3s
WMQ pmax pmax
comp=Z,340nm,3.9s
WMQ LR LR
comp=Z,790nm,12.3s
WMQ LR LR
comp=Z,630nm,11.5s
WMQ LR LR
comp=Z,370nm,15.5s
KSAR Wonju Array Be 46.88 31 P **P** **20 06 35.7 -0.5**
KSAR Wonju Array Be 46.88 31 P **P** **20 06 35.7 -0.5**
INKA Innaminka 46.90 127 P **P** **20 06 36.9 +0.4**
KSRS Korea Array 46.91 31 P **P** **20 06 36.2 -0.1**
comp=Z,10nm,0.7s,baz=226,slow=8.0,SNR=49
KSRS LR LR 20 29 20.1
comp=Z,187nm,18.2s,baz=205,slow=40
comp=Z,10nm,0.7s
KS19 Wonju Array Si 46.92 31 P **P** **20 06 35.9 -0.6**
KS19 IAmb IAmb 20 06 37.4
comp=Z,71nm,1.6s
PYAG Pyongyang 47.10 28 P **P** **20 06 36.9 -0.9**
PYAG S **S** **20 13 28.4 -0.3**
PYAG AmB
comp=Z,138nm,1.7s
PYAG AMS AMS
comp=Z,2μm,13.4s
WSAR Wadi Sarin 47.14 304 LR LR 20 24 24.9
comp=Z,236nm,20.3s,baz=136,slow=34
SUJ Sinuiju 47.39 26 P **P** **20 06 38.3 -1.7**
SUJ S **S** **20 13 31.9 -0.8**
SUJ AmB
comp=Z,102nm,2.2s
SUJ AMS AMS
comp=Z,1μm,10.2s
TARG Taragay, Kyrgy 47.66 338 IAmb IAmb 20 07 16.2
comp=Z,26nm,0.9s
JMN Monobe 47.69 39 P **P** **20 06 42.5 -0.1**
JMN IAmb IAmb 20 06 45.9
comp=Z,65nm,1.4s
JMN PcP **PcP** **20 08 11.6 -0.2**
XLT XiLinHaoTe 47.73 16 *e*P **P** **20 06 42.1 -0.7**
XLT pP pwP 20 06 51.3 -0.9
XLT sP sP 20 07 00.8 +8.2
XLT PcP **PcP** **20 08 12.0 +0.2**
XLT ScP **ScP** **20 12 00.0 -4.7**
XLT S **S** **20 13 37.8 +0.1**
XLT sS sS 20 13 59.1 +10
XLT SS **SS** **20 16 58.6 -7.8**
XLT pmax pmax
comp=Z,11nm,0.9s
XLT pmax pmax
comp=Z,62nm,5.5s
XLT LR LR
comp=Z,110nm,13.2s
XLT LR LR
comp=Z,580nm,12.3s
XLT LR LR
comp=Z,1μm,13.2s
PRZ Przheval'sk 48.09 339 IAmb IAmb 20 07 05.5
comp=Z,44nm,0.9s
NRN Naryn 48.11 336 P **P** **20 06 46.2 +0.1**
NRN IAmb IAmb 20 06 58.9
comp=Z,53nm,1.0s
NRN Naryn 48.11 336 P **P** **20 06 46.2 +0.1**
NRN pmax pmax
comp=Z,53nm,1.0s
SHLS Shalkode 48.31 340 *e*P **P** **20 06 46.6 -0.7**
comp=Z,20nm,0.8s,baz=340
SHLS *e*S **S** **20 13 46.7 +0.7**
baz=340
SHLS Shalkode 48.31 340 *e*P **P** **20 06 46.6 -0.7**
SHLS *e*S **S** **20 13 46.6 +0.7**
SHLS pmax pmax
comp=Z,20nm,0.8s
HTT Hallett 48.31 135 P **P** **20 06 48.9 +1.5**
DRK Karamyk 48.41 331 P **P** **20 06 48.7 +0.3**
DRK Karamyk 48.41 331 P **P** **20 06 48.7 +0.3**
DRK pmax pmax
comp=Z,81nm,1.0s
SNY Shenyang 48.44 24 ⇓P **P** **20 06 47.3 -0.8**
SNY S **S** **20 13 44.8 -2.7**
SNY pmax pmax
comp=Z,9.0nm,0.8s
SNY pmax pmax
comp=Z,78nm,3.5s
SNY LR LR
comp=Z,730nm,12.6s
SNY LR LR
comp=Z,1μm,13.5s
SNY LR LR
comp=Z,950nm,15.0s
UZB Uzynbulak 48.45 340 *e*P **P** **20 06 48.9 +0.5**
comp=Z,18nm,1.0s,baz=340
UZB Uzynbulak 48.45 340 *e*P **P** **20 06 48.9 +0.5**
UZB pmax pmax
comp=Z,18nm,1.0s
SATY Saty 48.59 339 *e*P **P** **20 06 50.0 +0.5**
comp=Z,19nm,1.0s,baz=339
SATY *e*S **S** **20 13 52.5 +2.6**
baz=339
SATY Saty 48.59 339 *e*P **P** **20 06 49.9 +0.5**
SATY *e*S **S** **20 13 52.5 +2.6**
SATY pmax pmax
comp=Z,19nm,1.0s
GAR Garm 48.78 329 P **P** **20 06 50.3 -0.7**
KPKS Kokpek 48.85 340 *e*P **P** **20 06 51.7 +0.3**
comp=Z,14nm,1.2s,baz=340
KPKS *e*S **S** **20 13 55.8 +2.3**
baz=340
KPKS Kokpek 48.85 340 *e*P **P** **20 06 51.7 +0.3**
KPKS *e*S **S** **20 13 55.8 +2.3**
KPKS pmax pmax
comp=Z,14nm,1.2s
CTA Charters Tower 48.88 115 P **P** **20 06 51.7 -0.3**
CTA Charters Tower 48.88 115 LR LR 20 30 51.6
comp=Z,52nm,19.1s,baz=282,slow=40
CTAO Charters Tower 48.88 115 P **P** **20 06 51.7 -0.3**
CTAO Charters Tower 48.88 115 P **P** **20 06 51.4 -0.6**
CTAO IAmb IAmb 20 06 52.7
comp=Z,34nm,1.1s
CTAO Charters Tower 48.88 115 P **P** **20 06 51.4 -0.6**
CTAO pmax pmax
comp=Z,34nm,1.1s
BOOM Boomskoye usch 49.03 337 P **P** **20 06 53.1 +0.2**
BOOM IAmb IAmb 20 07 03.5
comp=Z,25nm,0.9s
BOOM Boomskoye usch 49.03 337 P **P** **20 06 53.1 +0.2**
BOOM pmax pmax
comp=Z,25nm,0.9s
TNSS Tian-Shan 49.10 338 *e*P **P** **20 06 54.0 +0.2**
baz=338
TNSS Tian-Shan 49.10 338 *e*P **P** **20 06 53.9 +0.2**
CHGR Chuyangaron 49.12 328 P **P** **20 06 52.6 -1.0**
CHGR Chuyangaron 49.12 328 P **P** **20 06 52.6 -1.0**
CHGR pmax pmax
comp=Z,65nm,0.8s
MDOK Medeo 49.17 338 *e*P **P** **20 06 54.4 +0.4**
baz=338
MDOK Medeo 49.17 338 *e*P **P** **20 06 54.4 +0.4**
QLP Quilpie 49.26 124 P **P** **20 06 55.3 +0.5**
SOHO SOHO 49.26 304 P **P** **20 06 54.8 +0.1**
AAA Alma-Ata 49.26 338 *e*P **P** **20 06 55.1 +0.5**
comp=Z,14nm,0.6s,baz=338
AAA Alma-Ata 49.26 338 *e*P **P** **20 06 55.1 +0.5**
AAA pmax pmax
comp=Z,14nm,0.6s
BTK Batken 49.34 331 IAmb IAmb 20 07 13.6
comp=Z,24nm,0.8s
STKA Stephens Creek 49.46 132 P **P** **20 06 57.1 +0.8**
STKA Stephens Creek 49.46 132 P **P** **20 06 56.8 +0.5**
STKA Stephens Creek 49.46 132 P **P** **20 06 56.9 +0.7**
comp=Z,18nm,0.8s,baz=314,slow=8.2,SNR=23
STKA LR LR 20 30 35.7
comp=Z,793nm,20.4s,baz=288,slow=39
comp=Z,18nm,0.8s
STKA Stephens Creek 49.46 132⇓*e*P **P** **20 06 57.4 +1.1**
SONM Songino Array 49.72 6 P **P** **20 06 58.3 +0.2**
SONM IAmb IAmb 20 07 08.3
comp=Z,29nm,0.9s
SONM PcP **PcP** **20 08 19.0 +0.1**
SONM Songino Array 49.72 6 P **P** **20 06 58.3 +0.2**
comp=Z,27nm,0.8s,baz=188,slow=9.0,SNR=141
SONM PcP **PcP** **20 08 18.9 -0.1**
comp=Z,18nm,0.8s,baz=189,slow=4.4,SNR=9.3
SONM ScP **ScP** **20 12 16.4 +3.3**
comp=Z,1.4nm,1.0s,baz=163,slow=1.5,SNR=4.0
SONM LR LR 20 28 54.0
comp=Z,173nm,19.9s,baz=189,slow=37
comp=Z,27nm,0.8s
AAK Ala-Archa 49.74 336 P **P** **20 06 58.9 +0.6**
AAK Ala-Archa 49.74 336 S **S** **20 14 08.0 +1.9**
comp=Z,2.0nm,0.4s,baz=52,slow=20,SNR=1.5
AAK LR LR 20 30 24.3
comp=Z,572nm,20.6s,baz=160,slow=39
AAK Ala-Archa 49.74 336⇓*e*P **P** **20 06 59.7 +1.4**
AAK pmax pmax
comp=Z,34nm,2.3s
ULN Ulaanbaatar 49.82 6 P **P** **20 06 58.0 -0.8**
ULN PcP **PcP** **20 08 19.9 +0.6**
ULN Ulaanbaatar 49.82 6*c i*P **P** **20 06 58.8 0.0**
ULN pmax pmax
comp=Z,23nm,1.0s
ALNE Al Ain 49.88 304 *i* P **P** **20 07 00.2 +0.7**
SNR=18
UOSS Minazif 49.88 305 P **P** **20 06 59.5 0.0**
UOSS PcP **PcP** **20 08 19.9 +0.1**
UOSS Minazif 49.88 305 P **P** **20 06 59.5 0.0**
ASHO Ashiyiah 49.89 305 *i* P **P** **20 07 00.5 +0.9**
SNR=7.4
HATD Hatta, Dubai 49.89 305 P **P** **20 06 59.9 +0.3**
MDH Madha 49.95 306 P **P** **20 06 59.5 -0.6**
MSFE Esma-Masafi 50.09 306 *i* P **P** **20 07 02.2 +1.0**
SNR=5.8
TDK Taldyqorghan 50.29 340 *e*P **P** **20 07 02.5 +0.2**
comp=Z,20nm,1.0s,baz=340
TDK Taldyqorghan 50.29 340 *e*P **P** **20 07 02.5 +0.2**
TDK pmax pmax
comp=Z,20nm,1.0s
FAQ Al Faqa, Dubai 50.30 305 *i* P **P** **20 07 03.2 +0.5**
SNR=15
HRA Herat 50.34 319 P **P** **20 07 02.3 -0.8**
HRA PcP **PcP** **20 08 21.8 +0.1**
ASUD Al Ashush, Dub 50.46 304 *i* P **P** **20 07 04.8 +0.9**
SNR=12
ZSN Zaisan 50.72 347 *e*P **P** **20 07 05.9 +0.4**
comp=Z,28nm,0.7s,baz=347
ZSN *e*S **S** **20 14 21.8 +2.5**
baz=347
ZSN Zaisan 50.72 347 *e*P **P** **20 07 05.8 +0.4**
ZSN *e*S **S** **20 14 21.8 +2.5**
ZSN pmax pmax
comp=Z,28nm,0.7s
MK31 Makanchi Array 50.74 345 P **P** **20 07 06.1 +0.4**
MK31 IAmb IAmb 20 07 07.1
comp=Z,37nm,0.8s
MK31 Makanchi Array 50.74 345*c i*P **P** **20 07 06.1 +0.4**
MKAR Makanchi Array 50.74 345 P **P** **20 07 06.2 +0.6**
MKAR Makanchi Array 50.74 345 P **P** **20 07 06.1 +0.4**
comp=Z,42nm,0.6s,baz=148,slow=8.1,SNR=366
MKAR S **S** **20 14 19.9 +0.2**
comp=Z,2.6nm,1.0s,baz=149,slow=17,SNR=7.6
MKAR LR LR 20 31 36.0
comp=Z,267nm,21.2s,baz=162,slow=40
comp=Z,42nm,0.6s
MKAR Makanchi Array 50.74 345 P **P** **20 07 06.2 +0.6**
MAKZ Makanchi 50.84 344 P **P** **20 07 06.8 +0.4**
MAKZ IAmb IAmb 20 07 07.8
comp=Z,27nm,0.8s
MAKZ PcP **PcP** **20 08 22.5 -0.5**
MAKZ Makanchi 50.84 344 P **P** **20 07 06.8 +0.4**
MAKZ 20 08 22.5
MAKZ pmax pmax
comp=Z,27nm,0.9s
CN2 Changchun 50.84 24 *e*P **P** **20 07 05.5 -0.9**
CN2 *e*S **S** **20 14 18.4 -2.8**
CN2 SS **SS** **20 17 49.6 -6.6**
CN2 pmax pmax
comp=Z,20nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,700nm,15.0s
CN2 LR LR
comp=Z,700nm,15.0s
CN2 LR LR
comp=Z,1μm,14.0s
JGF Kuroka 51.09 40 P **P** **20 07 08.1 -0.4**
IUG Iuzhnay 51.32 332 *e*P **P** **20 07 10.0 -0.2**
comp=Z,16nm,0.9s,baz=332
IUG *e*S **S** **20 14 30.8 +2.6**
baz=332
IUG Iuzhnay 51.32 332 *e*P **P** **20 07 10.0 -0.2**
IUG *e*S **S** **20 14 30.7 +2.6**
IUG pmax pmax
comp=Z,16nm,0.9s
MZR Muzera 51.37 301 *i* P **P** **20 07 11.7 +0.9**
SNR=12
KKAR Karatay Array 51.84 333 P **P** **20 07 13.9 -0.1**
KKAR Karatay Array 51.84 333 P **P** **20 07 13.9 -0.1**
BTLS Baital 51.91 337 *e*P **P** **20 07 14.1 -0.4**
baz=337
BTLS *e*S **S** **20 14 37.7 +1.8**
baz=337
BTLS Baital 51.91 337 *e*P **P** **20 07 14.1 -0.4**
BTLS *e*S **S** **20 14 37.7 +1.8**
ZAK Zakamensk 52.02 3 *e*P **P** **20 07 13.9 -1.4**
ZAK pmax pmax
comp=Z,5.0nm,1.7s
BRLS Borolday 52.10 332 *e*P **P** **20 07 14.4 -1.5**
baz=332
BRLS Borolday 52.10 332 *e*P **P** **20 07 14.4 -1.5**
MAJO Matsushiro 52.21 39 P **P** **20 07 16.8 -0.1**
MAJO Matsushiro 52.21 39 P **P** **20 07 16.2 -0.7**
MAJO Matsushiro 52.21 39*de*P **P** **20 07 16.2 -0.7**
MAJO pmax pmax
comp=Z,17nm,1.3s
MJAR Matsushiro Arr 52.21 39 P **P** **20 07 16.1 -0.8**
comp=Z,5.8nm,0.8s,baz=222,slow=7.1,SNR=16
MJAR PcP **PcP** **20 08 27.5 -0.8**
comp=Z,4.3nm,1.0s,baz=220,slow=4.8,SNR=4.3
MJAR LR LR 20 31 24.6
comp=Z,230nm,18.6s,baz=236,slow=38
comp=Z,5.8nm,0.8s
PSTR Posyet 52.30 29⇓*e*P **P** **20 07 17.2 -0.1**
MSHR Mys Shultsa 52.41 29⇑*e*P **P** **20 07 15.8 -2.4**
MSHR pmax pmax
comp=Z,23nm,1.7s
CMSA Cobar Meteorol 52.42 129 P **P** **20 07 19.5 +1.0**
VLA Vladivostok 53.17 29 *e*P **P** **20 07 24.6 +0.8**
VLA pmax pmax
comp=Z,4.0nm,2.0s
BNX BinXian 53.23 24 ⇑P **P** **20 07 23.8 -0.4**
BNX pmax pmax
comp=Z,34nm,0.6s
MOY Mondy 53.23 1 *e*P **P** **20 07 24.2 0.0**
MOY pmax pmax
comp=Z,28nm,2.7s
MDJ Mudanjiang 53.26 26 P **P** **20 07 25.0 +0.6**
MDJ PP **PP** **20 09 25.5 +0.7**
MDJ S **S** **20 14 56.8 +2.5**
MDJ pmax pmax
comp=Z,11nm,1.0s
MDJ pmax pmax
comp=Z,220nm,7.6s
MDJ LR LR
comp=Z,1μm,13.7s
MDJ LR LR
comp=Z,1μm,13.1s
MDJ LR LR
comp=Z,2μm,12.4s
AULRC Lightning Ridg 53.40 126 P **P** **20 07 26.6 +0.8**
USA0B Ussuriysk Arra 54.03 28 P **P** **20 07 30.1 0.0**
USA0B IAmb IAmb 20 07 32.0
comp=Z,38nm,0.8s
USA0B Ussuriysk Arra 54.03 28*c i*P **P** **20 07 30.1 0.0**
USRK Ussuriysk Ar. 54.03 28 P **P** **20 07 30.2 +0.1**
comp=Z,34nm,0.7s,baz=227,slow=8.9,SNR=46
USRK LR LR 20 34 26.8
comp=Z,507nm,18.3s,baz=220,slow=40
comp=Z,34nm,0.7s
OPO Ambohidratompo 54.17 248 LR LR 20 27 52.3
comp=Z,130nm,18.7s,baz=140,slow=33
EIDS Eidsvold 54.65 120 P **P** **20 07 34.2 -0.8**
EIDS Eidsvold 54.65 120 P **P** **20 07 34.1 -0.9**
EIDS IAmb IAmb 20 07 37.0
comp=Z,54nm,1.2s
JMM Marumori 54.65 40 P **P** **20 07 34.2 -0.6**
JMM IAmb IAmb 20 07 36.0
comp=Z,46nm,1.3s
CIT Chita 54.83 10 *e*P **P** **20 07 35.4 -0.4**
CIT *e* 20 07 45.2
CIT *e* 20 08 37.1
CIT *e* 20 09 44.2
AUDCS Dubbo College 54.99 129 P **P** **20 07 38.0 +0.7**
KURBB Kurchatov Arra 55.26 344 P **P** **20 07 39.2 +0.3**
comp=Z,37nm,0.8s,baz=161,slow=7.1,SNR=158
KURBB S **S** **20 15 20.2 -0.8**
comp=Z,1.1nm,0.2s,baz=161,slow=13,SNR=8.5
KURBB LR LR 20 34 13.2
comp=Z,435nm,21.9s,baz=162,slow=39
comp=Z,37nm,0.8s
KURK Kurchatov 55.31 344 P **P** **20 07 39.6 +0.3**
KURK Kurchatov 55.31 344*c i*P **P** **20 07 39.6 +0.3**
KURK pmax pmax
comp=Z,63nm,0.8s
YNG Young 55.65 131 P **P** **20 07 43.5 +1.4**
CAN Canberra 56.52 132 P **P** **20 07 48.5 +0.1**
CAN Canberra 56.52 132 P **P** **20 07 48.5 +0.1**
CAN pmax pmax
comp=Z,119nm,1.9s
JTM Tenmabayashi 56.59 37 P **P** **20 07 49.0 +0.4**
JTM Tenmabayashi 56.59 37 IAmb IAmb 20 07 49.6
comp=Z,42nm,1.0s
ARMA Armidale 56.71 126 P **P** **20 07 50.5 +0.6**
ZAA0 Zalesovo Array 56.89 349 P **P** **20 07 50.7 +0.2**
ZALV Zalesovo Beam 56.89 349 P **P** **20 07 50.8 +0.3**
ZALV Zalesovo Beam 56.89 349 P **P** **20 07 50.7 +0.2**
comp=Z,129nm,0.8s,baz=174,slow=5.7,SNR=450
ZALV PP **PP** **20 09 58.7 +1.6**
comp=Z,5.0nm,0.9s,baz=174,slow=5.9,SNR=1.4
ZALV S **S** **20 15 40.8 -1.8**
comp=Z,7.4nm,1.0s,baz=158,slow=13,SNR=11
ZALV LR LR 20 37 51.7
comp=Z,115nm,18.9s,baz=158,slow=42
comp=Z,129nm,0.8s
ZALV Zalesovo Beam 56.89 349 P **P** **20 07 50.8 +0.3**
HEH HeiHe 56.96 21 *e*P **P** **20 07 50.6 -0.4**
HEH pmax pmax
comp=Z,8.0nm,1.2s
HEH LR LR
comp=Z,1μm,16.9s
HEH LR LR
comp=Z,580nm,18.4s
HEH LR LR
comp=Z,2μm,17.0s
KLR Kul'dur 57.79 24 LR LR 20 35 13.5
comp=Z,597nm,18.3s,baz=217,slow=39
KLR Kul'dur 57.79 24*c i*P **P** **20 07 56.8 -0.1**
KLR pmax pmax
comp=Z,24nm,1.3s
ATD Arta Tunnel 58.12 285 LR LR 20 28 54.7
comp=Z,10.0nm,20.4s,baz=70,slow=32
RAYN Ar Rayn 58.44 299 P **P** **20 08 01.5 -0.6**
RAYN Ar Rayn 58.44 299 *i* P **P** **20 08 01.9 -0.2**
SNR=9.1
RAYN Ar Rayn 58.44 299 P **P** **20 08 01.5 -0.6**
RAYN pmax pmax
comp=Z,12nm,0.9s
ASAJ Asahikawa 59.52 35 LR LR 20 36 19.8
comp=Z,114nm,18.0s,baz=226,slow=39
ASAJ Asahikawa 59.52 35 P **P** **20 08 09.2 +0.1**

ASAJ pmax pmax
comp=Z,22nm,0.9s
JKA Kamikawa-asahi 59.53 35 P **P 20 08 09.2 0.0**
JKA IAmb IAmb 20 08 28.1
comp=Z,22nm,0.9s
ZEA Zeya 59.84 18 *e*P **P 20 08 11.3 +0.2**
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA MLR MLR
comp=N,500nm,12.0s
ZEA MLR MLR
comp=Z,500nm,13.0s
BVAR Borovoye Array 59.88 340 P **P 20 08 11.0 -0.4**
comp=Z,24nm,0.5s,baz=144,slow=8.9,SNR=136
BVAR S **S 20 16 22.4 +0.6**
comp=Z,1.2nm,0.8s,baz=126,slow=15,SNR=4.6
BVAR LR LR 20 37 05.0
comp=Z,198nm,20.2s,baz=159,slow=39
BVAR PKP2bc 20 37 47.8
comp=Z,1.0nm,0.9s,baz=270,slow=5.8,SNR=4.2
comp=Z,24nm,0.5s
BRVK Borovoye 59.95 340 P **P 20 08 11.3 -0.5**
BRVK IAmb IAmb 20 08 12.0
comp=Z,21nm,0.6s
BRVK Borovoye 59.95 340*c i*P **P 20 08 11.3 -0.5**
BRVK pmax pmax
comp=Z,19nm,1.1s
H04N2 CROZET ISLANDS 60.88 216 T T 21 13 57.7
baz=58,slow=75,SNR=7452
H04N1 CROZET ISLANDS 60.89 216 T T 21 13 58.2
baz=58,slow=75,SNR=5479
H04N3 CROZET ISLANDS 60.89 216 T T 21 13 56.8
baz=58,slow=75,SNR=5482
H04S1 CROZET ISLANDS 61.17 216 T T 21 14 10.5
baz=56,slow=76,SNR=675
H04S3 CROZET ISLANDS 61.18 216 T T 21 14 11.9
baz=56,slow=76,SNR=928
H04S2 CROZET ISLANDS 61.19 216 T T 21 14 11.4
baz=56,slow=76,SNR=654
ABKAR Akbulak array 61.33 331 P **P 20 08 21.2 -0.1**
ABKAR Akbulak array 61.33 331 IAmb IAmb 20 08 21.9
comp=Z,43nm,0.8s
YSS Yuzh-Sakhalins 61.38 32 P **P 20 08 22.1 +0.4**
YSS Yuzh-Sakhalins 61.38 32 P **P 20 08 21.3 -0.4**
YSS Yuzh-Sakhalins 61.38 32 *e*P **P 20 08 20.3 -1.4**
YSS *e*S **S 20 16 37.8 -3.3**
YSS *e*SS **SS 20 20 43.3 +1.2**
YSS pmax pmax
comp=Z,50nm,0.8s
YSS pmax pmax
comp=Z,100nm,3.8s
YSS smax smax
comp=N,300nm,3.7s
YSS MLR MLR
comp=Z,400nm,19.0s
KIBK Kibwezi 61.71 268 P **P 20 08 25.6 +0.8**
LKRN Lenkeran, Azer 61.77 316 P **P 20 08 25.5 +1.0**
FURI Furi 61.81 281 LR LR 20 33 08.4
comp=Z,262nm,18.1s,baz=116,slow=34
KMBO Kilima Mbogo 62.53 270 P **P 20 08 30.8 +0.4**
KMBO Kilima Mbogo 62.53 270 *i* P **P 20 08 31.9 +1.5**
SNR=8.9
KMBO Kilima Mbogo 62.53 270 P **P 20 08 30.8 +0.4**
KMBO pmax pmax
comp=Z,10.0nm,0.8s
AKTO Aktyubinsk 63.05 331 LR LR 20 38 14.1
comp=Z,172nm,19.0s,baz=64,slow=38
TYV Tymovskoe 63.84 29 *e*P **P 20 08 39.6 +1.5**
TYV *e*S **S 20 17 18.4 +6.5**
TYV pmax pmax
comp=Z,100nm,2.6s
TYV pmax pmax
comp=Z,7.0nm,1.0s
TYV smax smax
comp=E,200nm,6.8s
MNGR Mingechevir, A 63.89 318 P **P 20 08 39.6 +1.0**
SEKA Sheki 64.02 318 P **P 20 08 40.0 +0.4**
NAX Nakhchivan 64.26 316 P **P 20 08 42.0 +0.8**
GANJ Ganja 64.35 317 P **P 20 08 42.6 +0.9**
LODK Lodwar 64.61 275 P **P 20 08 44.5 +0.5**
MAK Makhachkala 64.65 320 *e*P **P 20 08 41.5 -2.0**
MAK *e* 20 11 07.2
MAK *e*PPP PPP 20 12 36.8
MAK *e*S **S 20 17 20.0 -2.1**
MAK *e*SS **SS 20 21 35.6 +2.2**
MAK pmax pmax
comp=Z,149nm,1.7s
GNI Garni 65.21 316 P **P 20 08 47.8 +0.3**
GNI Garni 65.21 316*c i*P **P 20 08 47.8 +0.3**
GNI pmax pmax
comp=Z,16nm,1.2s
GNI Garni 65.21 316 P **P 20 08 48.0 +0.5**
comp=Z,22nm,1.1s,comp=Z,391nm
KOUNC Koumac, New Ca 65.54 112 P **P 20 08 50.7 +0.9**
KOUNC Koumac, New Ca 65.54 112 P **P 20 08 49.9 +0.1**
KOUNC IAmb IAmb 20 08 51.6
comp=Z,42nm,1.0s
GROC Groznyy 65.87 320 *e*P **P 20 08 52.8 +1.4**
GROC pmax pmax
comp=Z,1.0nm,0.7s
AGRT Agri 66.21 315 P **P 20 08 54.7 +0.8**
TRLG Trialeti 66.25 317 P **P 20 08 54.7 +0.6**
SVE Sverdlovsk 66.38 338*d i*P **P 20 08 54.6 +0.1**
SVE *e*S **S 20 17 41.3 -1.5**
SVE pmax pmax
comp=Z,72nm,1.1s
SVE MLR MLR
comp=Z,619nm,24.0s
GUDG Gudauri 66.40 318 P **P 20 08 54.4 -0.8**
GURO Guroymak-BITLI 66.47 314 IAmb IAmb 20 08 56.9
comp=Z,14nm,0.8s
ARU Arti 66.90 337 P **P 20 08 57.3 -0.5**
ARU IAmb IAmb 20 09 07.4
comp=Z,27nm,0.9s
ARU Arti 66.90 337 LR LR 20 40 40.4
comp=Z,372nm,20.5s,baz=120,slow=38
ARU Arti 66.90 337*c i*P **P 20 08 57.3 -0.5**
ARU 20 09 28.0
ARU S **S 20 17 49.9 +0.7**
ARU 20 18 51.5
ARU pmax pmax
comp=Z,25nm,0.7s
ARU MLR MLR
comp=Z,398nm,20.0s
ARU Arti 66.90 337 P **P 20 08 57.2 -0.5**
comp=Z,41nm,1.1s,comp=Z,489nm
YAK Yakutsk 67.56 15 P **P 20 09 00.5 -1.3**
YAK Yakutsk 67.56 15 LR LR 20 42 20.9
comp=Z,799nm,18.1s,baz=205,slow=39
YAK Yakutsk 67.56 15*c i*P **P 20 09 00.7 -1.1**
YAK *e**PP **sP 20 09 09.3 -2.5**
YAK *e* 20 09 30.0
YAK *e* 20 11 29.0
YAK *e*S **S 20 17 51.3 -5.5**
YAK *e* 20 18 52.6
YAK *e*SS **SS 20 22 16.7 -1.1**
YAK *e*SSS SSS 20 25 18.1
YAK pmax pmax
comp=Z,67nm,0.9s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=Z,6.0nm,0.8s
YAK pmax pmax
comp=N,13nm,1.7s
YAK pmax pmax
comp=E,22nm,1.9s
YAK smax smax
comp=E,29nm,1.9s
YAK smax smax
comp=N,74nm,3.2s
YAK MLR MLR
comp=Z,864nm,16.0s
YAK MLR MLR
comp=N,398nm,16.0s
YAK MLR MLR
comp=E,536nm,15.0s
DZM Mont Dzumac 67.73 113 *e*LR LR 20 29 29.8
comp=E,767nm,22.7s
DZM Mont Dzumac 67.73 113 P **P 20 09 03.3 -0.6**
DZM Mont Dzumac 67.73 113 LR LR 20 40 55.3
comp=E,386nm,19.9s,baz=298,slow=38

ONTNC Ouen Toro 67.78 113 P **P 20 09 04.0 0.0**
BCA Borcka 67.90 316 ⇑P **P 20 09 04.6 +0.1**
KBZ Khabaz 67.99 319 P **P 20 09 05.4 +0.5**
comp=E,33nm,0.9s,baz=121,slow=4.5,SNR=52
KBZ PKP2ab 20 37 26.6
comp=E,1.0nm,0.6s,baz=315,slow=1.4,SNR=3.6
KBZ LR LR 20 42 55.0
comp=E,121nm,19.1s,baz=106,slow=40
comp=E,33nm,0.9s
KBZ Khabaz 67.99 319*ce*P **P 20 09 05.3 +0.4**
KBZ pmax pmax
comp=Z,35nm,0.9s
SHA1 Shidzhatmaz 68.15 319*ce*P **P 20 09 06.7 +0.4**
KIV Kislovodsk 68.22 319 ⇑P **P 20 09 06.8 +0.3**
KIV Kislovodsk 68.22 319 P **P 20 09 06.4 -0.2**
KIV Kislovodsk 68.22 319 *i* P **P 20 09 06.7 +0.1**
SNR=18
KIV Kislovodsk 68.22 319 *e*P **P 20 09 06.7 +0.1**
KIV *e*S **S 20 18 07.3 +1.5**
KIV *e*SS **SS 20 22 33.0 +3.9**
KIV pmax pmax
comp=Z,39nm,1.0s
KIV pmax pmax
comp=Z,32nm,3.6s
KIV Kislovodsk 68.22 319 P **P 20 09 06.6 +0.1**
comp=Z,42nm,1.1s,comp=Z,421nm
GOF Gofitskoye 68.47 320*ce*P **P 20 09 08.6 +0.6**
PINNC Pines Island, 68.72 113 P **P 20 09 09.3 -0.7**
WAKE Wake Island 68.83 69 P **P 20 09 09.9 -0.8**
MBAR Mbarara 69.05 270 P **P 20 09 13.2 +0.7**
MBAR Mbarara 69.05 270*de*P **P 20 09 13.1 +0.7**
MBAR pmax pmax
comp=Z,9.0nm,1.1s
GHAJ Ghor Haditha 69.13 304 P **P 20 09 12.7 +0.4**
GHAJ IAmb IAmb 20 09 14.2
comp=Z,32nm,0.8s
EIL Elat 69.22 303 LR LR 20 40 08.7
comp=Z,733nm,18.1s,baz=76,slow=36
ARPR Arapgir-MALATY 69.36 313 IAmb IAmb 20 09 27.7
comp=Z,40nm,1.3s
BELG Belogornoye 69.41 329 LR LR 20 44 00.6
comp=Z,253nm,20.6s,baz=105,slow=40
BELG Belogornoye 69.41 329*c i*P **P 20 09 12.7 -0.9**
BELG pmax pmax
comp=Z,10.0nm,1.0s
GAZ Gaziantep 69.56 311 P **P 20 09 15.2 +0.3**
GAZ IAmb IAmb 20 09 16.8
comp=Z,40nm,1.1s
MMAI Mount Meron Ar 69.73 306 P **P 20 09 17.1 +1.0**
comp=Z,7.3nm,0.6s,baz=97,slow=11,SNR=6.1
MMAI LR LR 20 41 51.3
comp=Z,457nm,18.1s,baz=50,slow=38
comp=Z,7.3nm,0.6s
VSLR Vesyoloye 69.78 318*c i*P **P 20 09 15.8 -0.3**
VSLR pmax pmax
comp=Z,58nm,1.1s
POGA Pongola 69.78 242 P **P 20 09 16.3 -0.1**
POGA IAmb IAmb 20 09 21.0
comp=Z,32nm,1.3s
LABN Labinsk 69.79 319 *e*P **P 20 09 15.4 -0.8**
LABN *e**PP **pP 20 09 20.8 -2.7**
LABN *e*S **S 20 18 24.6 +0.5**
LABN pmax pmax
comp=Z,45nm,0.6s
SOC Sochi 70.04 318 *e*P **P 20 09 15.9 -1.8**
SOC *e* 20 11 50.2
SOC *e*PPP PPP 20 13 32.4
SOC *e*S **S 20 18 27.9 +0.9**
SOC *e*SS **SS 20 23 01.8 +4.9**
SOC pmax pmax
comp=Z,40nm,0.9s
ERBR Yeremizino-Bor 70.38 320 *e*P **P 20 09 19.8 0.0**
ERBR *e**PP **pP 20 09 23.0 -4.1**
ERBR *e*S **S 20 18 31.4 +0.4**
ERBR pmax pmax
comp=Z,75nm,1.1s
MAW Mawson 70.47 194 P **P 20 09 21.7 +1.9**
comp=Z,14nm,0.9s,baz=13,slow=6.2,SNR=22
MAW LR LR 20 34 31.5
comp=Z,303nm,20.2s,baz=26,slow=31
comp=Z,14nm,0.9s
SKR Severo-Kuril's 70.78 34⇓*e*P **P 20 09 22.9 +0.9**
BNN Bunyan 71.11 312 IAmb IAmb 20 09 34.8
comp=Z,41nm,1.0s
NRIK Noril'sk 71.44 355 IAmb IAmb 20 09 46.4
comp=Z,22nm,0.8s
NRIK Noril'sk 71.44 355 P **P 20 09 25.1 -0.6**
comp=Z,8.0nm,0.5s,baz=178,slow=4.8,SNR=15
comp=Z,8.0nm,0.5s
NRIK Noril'sk 71.44 355*c i*P **P 20 09 24.9 -0.8**
NRIK pmax pmax
comp=Z,19nm,1.0s
LSZ Lusaka 71.80 255 P **P 20 09 29.4 +0.3**
LSZ Lusaka 71.80 255 P **P 20 09 29.4 +0.3**
LSZ pmax pmax
comp=Z,9.0nm,0.9s
MATP Matopo 71.87 249 LR LR 20 36 43.3
comp=Z,161nm,20.6s,baz=61,slow=32
CSS Mathiatis 71.91 308 P **P 20 09 28.4 -0.9**
CSS IAmb IAmb 20 09 30.9
comp=Z,43nm,1.2s
CSS Mathiatis 71.91 308 P **P 20 09 28.5 -0.9**
comp=Z,31nm,1.2s
VRH Novokhopyorsk 72.01 326 *e*P **P 20 09 29.1 -0.3**
VRH pmax pmax
comp=Z,64nm,0.9s
KIRV Kirov 72.06 335 LR LR 20 44 14.9
comp=Z,261nm,19.4s,baz=99,slow=38
KIRV Kirov 72.06 335*c i*P **P 20 09 29.5 -0.1**
MA2 Magadan 72.89 24 P **P 20 09 35.3 +0.7**
MA2 Magadan 72.89 24 P **P 20 09 34.2 -0.4**
MA2 Magadan 72.89 24 LR LR 20 44 31.8
comp=Z,228nm,18.1s,baz=242,slow=38
MA2 Magadan 72.89 24*c i*P **P 20 09 34.9 +0.3**
MA2 pmax pmax
comp=Z,43nm,0.9s
MA2 Magadan 72.89 24 P **P 20 09 34.9 +0.3**
comp=Z,82nm,1.0s,comp=Z,671nm
BR131 Keskin Array S 73.01 312*c i*P **P 20 09 35.0 -0.8**
BRTR Keskin Array B 73.01 312 P **P 20 09 35.3 -0.6**
BRTR Keskin Array B 73.01 312 P **P 20 09 35.1 -0.8**
comp=Z,8.8nm,0.9s,baz=124,slow=6.7,SNR=30
BRTR LR LR 20 44 01.9
comp=Z,187nm,19.8s,baz=118,slow=38
comp=Z,8.8nm,0.9s
PET Petropavlovsk 73.26 33 P **P 20 09 37.6 +0.8**
PET Petropavlovsk 73.26 33 P **P 20 09 36.6 -0.3**
PET IAmb IAmb 20 09 38.0
comp=Z,60nm,1.1s
PET Petropavlovsk 73.26 33 *e*P **P 20 09 36.9 +0.1**
PET *e* 20 09 52.1
PET *e* 20 12 21.6
PET *e*S **S 20 19 03.1 -0.6**
PET pmax pmax
comp=Z,57nm,1.2s
PET pmax pmax
comp=Z,100nm,8.9s
PET Petropavlovsk 73.26 33 P **P 20 09 36.8 0.0**
comp=Z,56nm,1.0s
VORD Divnogorie 73.28 325 *e*P **P 20 09 35.8 -1.2**
VORD pmax pmax
comp=Z,40nm,0.9s
BZK Bozkurt 73.42 315 ⇑P **P 20 09 38.4 +0.4**
BZK Bozkurt 73.42 315 P **P 20 09 37.0 -1.0**
BZK Bozkurt 73.42 315 P **P 20 09 37.5 -0.5**
comp=Z,71nm,0.9s
VSR Storozhevoye 73.46 325 *e*P **P 20 09 36.6 -1.5**
VSR pmax pmax
comp=Z,60nm,0.8s
VORR Voronezh 73.63 326 *e*P **P 20 09 37.6 -1.5**
VORR pmax pmax
comp=Z,120nm,1.3s
ANTO Ankara 73.67 312 P **P 20 09 39.3 -0.4**
ANTO IAmb IAmb 20 09 40.5
comp=Z,32nm,1.1s
ANTO Ankara 73.67 312 P **P 20 09 39.3 -0.4**
ANTO pmax pmax
comp=Z,33nm,1.2s
ANTO Ankara 73.67 312 P **P 20 09 39.5 -0.2**
comp=Z,16nm,1.1s,comp=Z,176nm
LPSR Galich'ya Gora 74.17 326 *e*P **P 20 09 41.0 -1.2**
LPSR pmax pmax
comp=Z,70nm,0.9s
SIM Simferopol' 74.28 318 *e*P **P 20 09 39.7 -3.4**
SIM *e* 20 09 53.0

SIM pmax pmax
comp=Z,43nm,0.9s
KHAM Kharkiv 74.69 323 P **P 20 09 45.3 -0.1**
LBTB Lobatse 74.95 245 P **P 20 09 47.6 +0.1**
LBTB Lobatse 74.95 245 LR LR 20 40 13.4
comp=Z,423nm,18.1s,baz=90,slow=34
LBTB Lobatse 74.95 245 P **P 20 09 47.6 +0.1**
LBTB pmax pmax
comp=Z,12nm,0.9s
ELL Elmali 75.05 309 P **P 20 09 47.6 -0.3**
ELL Elmali 75.05 309 P **P 20 09 47.6 -0.3**
ELL pmax pmax
comp=Z,89nm,1.1s
RPZ Rata Peaks 75.30 135 LR LR 20 43 26.1
comp=Z,422nm,20.2s,baz=316,slow=36
SEY Seymchan 75.47 22*c i*P **P 20 09 49.9 +0.3**
SEY pmax pmax
comp=Z,66nm,1.0s
BOSA Boshof 75.60 241 P **P 20 09 51.8 +0.6**
BOSA Boshof 75.60 241 P **P 20 09 52.0 +0.8**
comp=Z,9.7nm,0.8s,baz=77,slow=5.1,SNR=20
comp=Z,9.7nm,0.8s
BOSA Boshof 75.60 241 P **P 20 09 51.8 +0.6**
BOSA pmax pmax
comp=Z,11nm,0.8s
TIXI Tiksi 75.65 9 P **P 20 09 49.6 -0.8**
TIXI Tiksi 75.65 9 LR LR 20 47 03.2
comp=Z,803nm,18.0s,baz=232,slow=39
TIXI Tiksi 75.65 9*de*P **P 20 09 49.8 -0.6**
TIXI pmax pmax
comp=Z,41nm,0.9s
SOE Somerset East 75.80 237 P **P 20 09 52.9 +0.7**
SOE IAmb IAmb 20 12 32.5
comp=Z,88nm,1.9s
LTZ Lake Taylor 75.98 134 P **P 20 09 53.2 +0.2**
MOS Moscow 76.18 329 *e*P **P 20 09 51.8 -1.9**
MOS *e* 20 10 02.5
MOS *e*S **S 20 19 31.9 -4.4**
MOS *e* 20 20 06.8
MOS pmax pmax
comp=Z,70nm,0.8s
MOS pmax pmax
comp=Z,200nm,1.6s
ARG Arkhangelos 76.33 308 P **P 20 09 54.6 -0.5**
ARG IAmb IAmb 20 09 59.1
comp=Z,44nm,1.0s
ARG Arkhangelos 76.33 308 P **P 20 09 54.6 -0.5**
ARG pmax pmax
comp=Z,44nm,1.0s
OBN Obninsk 76.48 328 ⇑P **P 20 09 55.3 -0.1**
OBN Obninsk 76.48 328 P **P 20 09 54.3 -1.1**
OBN IAmb IAmb 20 09 56.7
comp=Z,47nm,1.0s
OBN Obninsk 76.48 328*c i*P **P 20 09 55.4 -0.1**
OBN *i* 20 10 04.7
OBN *e* 20 12 43.0
OBN *e*S **S 20 19 39.0 -0.5**
OBN *e*SS **SS 20 24 29.5 -5.1**
OBN pmax pmax
comp=Z,48nm,1.1s
OBN MLR MLR
comp=Z,195nm,19.0s
OBN Obninsk 76.48 328 P **P 20 09 55.6 +0.2**
comp=Z,45nm,1.6s,comp=Z,761nm
GVZ Greta Valley S 76.57 134 P **P 20 09 55.4 -0.9**
ISK Istanbul-Kandi 76.74 313 P **P 20 09 57.1 -0.1**
KLYT Kilyos 76.80 313 P **P 20 09 57.3 -0.2**
NE56 Odesa 76.95 319 P **P 20 09 57.8 -0.5**
KARP Karpathos 76.96 307 P **P 20 09 57.9 -0.8**
KARP Karpathos 76.96 307 P **P 20 09 59.3 +0.6**
comp=Z,133nm,1.0s
CTYL Yalikoy Yolu 77.40 313 P **P 20 10 00.8 -0.1**
comp=Z,37nm,1.2s
JURR Jurilovca 77.80 316 ⇑P **P 20 10 03.5 +0.5**
TLCR 77.94 317 ⇓P **P 20 10 04.4 +0.4**
TLCR 77.94 317 P **P 20 10 04.3 +0.4**
MFTR Murfatlar 77.96 316 ⇓P **P 20 10 04.6 +0.6**
PSN Preselentsi 78.03 315 P **P 20 10 04.0 -0.4**
MRZ Mangataïnoka R 78.08 131 P **P 20 10 04.4 -0.4**
TPGR Topolog 78.13 316 ⇑P **P 20 10 04.8 -0.2**
TLBR Topalu 78.31 316 ⇑P **P 20 10 05.7 -0.2**
ICOR Ion Corvin 78.38 316 ⇓P **P 20 10 06.5 +0.2**
MILM Milestii Mici 78.40 319 ⇑P **P 20 10 06.4 +0.1**
MILM Milestii Mici 78.40 319 P **P 20 10 06.4 +0.1**
CFR Carcaliu 78.41 317 ⇓P **P 20 10 06.1 -0.4**
CFR Carcaliu 78.41 317 P **P 20 10 06.0 -0.4**
HARR Harsova 78.43 316 ⇓P **P 20 10 06.5 -0.1**
HARR Harsova 78.43 316 P **P 20 10 06.5 -0.1**
PRD Provadia 78.43 315 P **P 20 10 07.0 +0.4**
SANT Santorini 78.47 308 P **P 20 10 06.3 -0.8**
SANT IAmb IAmb 20 10 10.6
comp=Z,49nm,1.2s
EZN Ezine 78.49 311 P **P 20 10 07.1 +0.1**
EZN Ezine 78.49 311 P **P 20 10 07.1 +0.1**
comp=Z,23nm,1.0s
BKZ Black Stump Fm 78.58 129 P **P 20 10 08.7 +1.0**
BKZ Black Stump Fm 78.58 129 P **P 20 10 07.8 +0.1**
BKZ IAmb IAmb 20 10 09.2
comp=Z,49nm,1.0s
IDI Anoyia 78.73 306 IAmb IAmb 20 10 10.0
comp=Z,26nm,0.8s
VARL Varlezi 78.78 317 ⇓P **P 20 10 08.6 +0.1**
RTZ Ruatahuna 78.90 129 P **P 20 10 09.5 0.0**
RTZ IAmb IAmb 20 10 10.6
comp=Z,50nm,1.0s
URZ Urewera 78.96 129 LR LR 20 46 23.7
comp=Z,380nm,21.1s,baz=30,slow=37
SORM Soroca 79.02 320 ⇑P **P 20 10 09.8 0.0**
SORM Soroca 79.02 320 P **P 20 10 09.7 0.0**
SORM Soroca 79.02 320 P **P 20 10 09.7 0.0**
comp=Z,70nm,1.0s,comp=Z,817nm
AK09 Malin Array Si 79.11 322 P **P 20 10 09.8 -0.4**
GHRR 79.12 317 ⇓P **P 20 10 11.3 +0.9**
GHRR 79.12 317 P **P 20 10 11.0 +0.6**
AK10 Malin Array Si 79.12 322 P **P 20 10 09.9 -0.4**
AK08 Malin Array Si 79.13 322 P **P 20 10 09.9 -0.4**
AK07 Malin Array Si 79.14 322 P **P 20 10 10.1 -0.3**
AK05 Malin Array Si 79.16 322 P **P 20 10 10.0 -0.5**
AK02 Malin Array Si 79.17 322 P **P 20 10 10.1 -0.4**
AKASG Malin Array Be 79.17 322 P **P 20 10 09.8 -0.7**
AKASG Malin Array Be 79.17 322 P **P 20 10 09.5 -1.0**
comp=Z,2.7nm,0.7s,baz=89,slow=4.6,SNR=24
AKASG PP **PP 20 13 04.1 -6.0**
comp=Z,2.5nm,0.9s,baz=98,slow=7.1,SNR=1.8
AKASG S **S 20 20 06.0 -2.7**
comp=Z,0.2nm,0.3s,baz=90,slow=3.5,SNR=4.0
AKASG LR LR 20 49 51.3
comp=Z,158nm,19.9s,baz=106,slow=39
comp=Z,2.7nm,0.7s
AKASG Malin Array Be 79.17 322 P **P 20 10 09.8 -0.7**
AKASG pmax pmax
comp=Z,11nm,1.1s
AKBB Malin Array Si 79.17 322*ce*P **P 20 10 09.8 -0.7**
AKBB Malin Array Si 79.17 322 P **P 20 10 09.9 -0.6**
AK01 Malin Array Si 79.17 322 P **P 20 10 10.0 -0.5**
KIEV Kiev 79.17 322 ⇑P **P 20 10 10.0 -0.5**
KIEV Kiev 79.17 322 P **P 20 10 09.1 -1.5**
KIEV Kiev 79.17 322 *i* P **P 20 10 09.5 -1.1**
SNR=5.9
KIEV Kiev 79.17 322 P **P 20 10 10.0 -0.5**
KIEV Kiev 79.17 322 P **P 20 10 09.9 -0.7**
comp=Z,52nm,1.2s
AK03 Malin Array Si 79.17 322 P **P 20 10 10.0 -0.6**
AK12 Malin Array Si 79.19 322 P **P 20 10 10.1 -0.6**
AK11 Malin Array Si 79.19 322 P **P 20 10 10.1 -0.6**
AK04 Malin Array Si 79.21 322 P **P 20 10 10.2 -0.5**
AK14 Malin Array Si 79.22 322 P **P 20 10 10.2 -0.6**
AK15 Malin Array Si 79.23 322 P **P 20 10 10.3 -0.5**
AK13 Malin Array Si 79.24 322 P **P 20 10 10.4 -0.5**
AK23 Malin Array Si 79.24 322 P **P 20 10 10.4 -0.5**
AK18 Malin Array Si 79.27 322 P **P 20 10 10.5 -0.6**
AK19 Malin Array Si 79.30 322 P **P 20 10 10.7 -0.6**
AK20 Malin Array Si 79.31 322 P **P 20 10 10.7 -0.6**
ADZR Andozero 79.43 337 *e*P **P 20 10 10.1 -1.6**
ADZR pmax pmax
comp=Z,46nm,1.0s
BISRR Bisoca 79.47 317 ⇑P **P 20 10 12.5 +0.1**
BISRR Bisoca 79.47 317 P **P 20 10 11.8 -0.6**
comp=Z,72nm,1.4s,comp=Z,2μm
ELND Elena 79.47 314 ⇑P **P 20 10 12.7 +0.3**
ISR Istrita 79.49 316 ⇑P **P 20 10 13.1 +0.5**
ISR Istrita 79.49 316 P **P 20 10 13.0 +0.5**
ISR Istrita 79.49 316 P **P 20 10 13.6 +1.1**
comp=Z,25nm,1.0s

VRI Vrincioaia 79.53 317 ⇓P **P 20 10 13.8 +1.1**
VRI Vrincioaia 79.53 317 P **P 20 10 13.7 +1.1**
VRI Vrincioaia 79.53 317 P **P 20 10 13.2 +0.5**
comp=Z,35nm,0.9s,comp=Z,324nm
PLOR5 Plostina Array 79.57 317 P **P 20 10 13.7 +0.8**
comp=Z,42nm,1.1s
PLOR Plostina 79.58 317 ⇓P **P 20 10 14.0 +1.0**
PLOR Plostina 79.58 317 P **P 20 10 14.0 +1.0**
PLOR3 Plostina Array 79.59 317 P **P 20 10 13.6 +0.6**
comp=Z,32nm,1.2s,comp=Z,445nm
TESR Tescani 79.74 318 ⇑P **P 20 10 14.2 +0.5**
TESR Tescani 79.74 318 P **P 20 10 14.1 +0.3**
comp=Z,80nm,1.1s,comp=Z,904nm
SUR Sutherland 79.76 238 P **P 20 10 14.6 +0.1**
SUR IAmb IAmb 20 10 17.3
comp=Z,18nm,0.8s
SUR Sutherland 79.76 238 LR LR 20 38 56.9
comp=Z,208nm,19.6s,baz=130,slow=31
MI30 MI30,Zelenitsa 79.81 322 P **P 20 10 13.6 -0.4**
LUBAR Lubar, Ukraine 79.86 321 P **P 20 10 14.0 -0.3**
ONER Baraj Valea Uz 79.87 318 ⇑P **P 20 10 15.4 +0.9**
COVR Voineasa-Covas 79.89 317 ⇑P **P 20 10 14.8 +0.2**
MI29 MI29, Kamyanyy 79.93 322 P **P 20 10 14.7 0.0**
MLR Muntele Rosu 79.98 317 ⇓P **P 20 10 16.3 +1.0**
MLR Muntele Rosu 79.98 317 IAmb IAmb 20 10 17.1
comp=Z,53nm,1.0s
MLR Muntele Rosu 79.98 317 LR LR 20 51 39.3
comp=Z,155nm,18.4s,baz=106,slow=40
MLR Muntele Rosu 79.98 317 P **P 20 10 16.2 +1.0**
MLR Muntele Rosu 79.98 317 P **P 20 10 15.6 +0.3**
comp=Z,53nm,1.2s,comp=Z,488nm
RZN Rozhen 80.05 313 P **P 20 10 15.0 -0.8**
TURR Turia 80.06 317 ⇓P **P 20 10 16.2 +0.7**
PRAR RASCA 80.22 319 ⇑P **P 20 10 16.7 +0.3**
OZUR 80.23 317 ⇓P **P 20 10 16.6 +0.2**
BOSR Bodos 80.31 317 ⇓P **P 20 10 17.3 +0.4**
KMPD K-Podol'skiy 80.35 320 P **P 20 10 16.8 -0.2**
DOPR Dopca 80.47 317 ⇓P **P 20 10 18.1 +0.4**
VOIR 80.59 316 ⇓P **P 20 10 18.3 -0.2**
VOIR 80.59 316 P **P 20 10 18.3 -0.2**
VOIR 80.59 316 P **P 20 10 18.0 -0.5**
comp=Z,9.5nm,1.1s
MMB Musomishta 80.75 312 P **P 20 10 18.0 -1.4**
ARR Arges 80.86 316 ⇑P **P 20 10 20.1 +0.2**
BURAR Bucovina Array 80.94 319 ⇑P **P 20 10 21.5 +1.2**
BURAR Bucovina Array 80.94 319 P **P 20 10 20.9 +0.5**
BURAR IAmb IAmb 20 10 22.4
comp=Z,29nm,0.8s
BURAR Bucovina Array 80.94 319 P **P 20 10 21.5 +1.2**
BUR08 Bucovina Ar. S 80.96 319 IAmb IAmb 20 10 31.9
comp=Z,27nm,0.8s
MNK Minsk 81.01 326 *i* P **P 20 10 20.6 +0.2**
MNK *i* 20 10 29.4
MNK *i* S **S 20 20 30.5 +2.5**
MNK *i* SS **SS 20 25 45.8 +3.1**
MNK *i* SSS SSS 20 29 05.6
MNK pmax pmax
comp=Z,39nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK MLR MLR
comp=Z,106nm,17.0s
MNK MLR MLR
comp=N,193nm,20.0s
MNK MLR MLR
comp=E,29nm,16.0s
MPEP Malo Peshtene 81.09 314 P **P 20 10 21.0 -0.1**
PLNA Plana 81.15 313 P **P 20 10 21.0 -0.6**
KKB Krupnik 81.26 313 P **P 20 10 21.0 -1.0**
VTS Vitosha 81.32 313 P **P 20 10 22.0 -0.5**
RNPP5 Staryi Chortor 81.34 322 P **P 20 10 21.8 -0.4**
VALD Valchedram 81.37 315 P **P 20 10 22.0 -0.5**
RNPP9 Sopachiv 81.38 323 P **P 20 10 22.2 -0.2**
RNPP8 Varash 81.39 322 P **P 20 10 22.3 -0.2**
ARCR ARCALIA 81.40 318 ⇑P **P 20 10 23.2 +0.5**
ITM Ithomi 81.41 308 IAmb IAmb 20 10 23.8
comp=Z,52nm,1.3s
PEHC Pehcevo 81.41 313 *i* P **P 20 10 23.0 0.0**
LIT Litokhoron 81.43 311 IAmb IAmb 20 10 23.3
comp=Z,56nm,1.2s
LOT Lotru 81.47 316 ⇓P **P 20 10 23.3 +0.1**
VAY Valandovo 81.58 312 *i* P **P 20 10 23.6 -0.1**
JOF Joensuu 81.91 335 *e*P **P 20 10 25.9 +0.9**
STIP Stip 81.92 312 *i* P **P 20 10 24.3 -1.2**
TSUM Tsumeb 82.07 251 P **P 20 10 27.5 +0.5**
BMR Baia Mare 82.09 318 ⇑P **P 20 10 27.1 +0.8**
BMR Baia Mare 82.09 318 P **P 20 10 27.1 +0.8**
GZR Gura Zlata 82.15 316 ⇓P **P 20 10 27.4 +0.7**
GZR Gura Zlata 82.15 316 P **P 20 10 27.4 +0.7**
DEV Deva 82.15 317 ⇓P **P 20 10 27.7 +1.0**
DEV Deva 82.15 317 P **P 20 10 27.6 +1.0**
MARR Marisel-Cluj 82.15 317 ⇑P **P 20 10 27.6 +0.9**
LVV L'vov 82.18 321 *e*P **P 20 10 25.5 -1.2**
LVV *e* 20 13 30.2
LVV *e*S **S 20 20 36.7 -3.7**
LVV pmax pmax
comp=Z,60nm,1.4s
ISAL Salakas 82.27 327 *e*P **P 20 10 29.1 +2.1**
HERR Herculane 82.31 316 ⇑P **P 20 10 27.9 +0.4**
MESR Meseseni 82.36 318 ⇑P **P 20 10 28.8 +1.1**
VNDA Vanda 82.44 169 P **P 20 10 27.8 +0.2**
VNDA Vanda 82.44 169 P **P 20 10 28.3 +0.8**
comp=Z,5.2nm,1.0s,baz=295,slow=4.6,SNR=18
VNDA LR LR 20 46 31.2
comp=Z,163nm,18.9s,baz=308,slow=35
comp=Z,5.2nm,1.0s
VNDA Vanda 82.44 169 P **P 20 10 27.8 +0.2**
VNDA pmax pmax
comp=Z,11nm,1.2s
DRGR 82.45 318 ⇓P **P 20 10 28.8 +0.4**
DRGR 82.45 318 P **P 20 10 28.7 +0.4**
LVZ Lovozero 82.48 340 P **P 20 10 27.3 -0.7**
LVZ IAmb IAmb 20 10 28.6
comp=Z,28nm,0.7s
LVZ Lovozero 82.48 340 *ce*P **P 20 10 27.9 0.0**
LVZ pmax pmax
comp=Z,34nm,0.8s
LVZ Lovozero 82.48 340 P **P 20 10 27.8 -0.1**
comp=Z,49nm,0.8s
SKO Skopje 82.52 313 *i* P **P 20 10 28.1 -0.5**
BOVS Bovan 82.60 314 ⇓P **P 20 10 29.0 0.0**
SURR Surduc 82.66 316 ⇑P **P 20 10 30.1 +0.8**
VSU Vasula 82.69 330 *c i* P **P 20 10 29.2 +0.1**
VSU pmax pmax
comp=Z,28nm,0.9s
MDVR Moldovita 82.78 315 ⇓P **P 20 10 30.1 +0.1**
APA Apatity 82.79 339 ⇓*i* P **P 20 10 26.8 -2.7**
APA *i* 20 10 35.2
APA *i* 20 13 44.0
APA *i* S **S 20 20 45.0 -0.9**
APA pmax pmax
comp=Z,20nm,0.9s
APA MLR MLR
comp=Z,400nm,24.0s
KBN Korca 82.80 311 IAmb IAmb 20 10 30.5
comp=Z,32nm,1.4s
OHR Ohrid 82.86 312 *i* P **P 20 10 30.2 -0.4**
KWP Kalwaria Pacla 82.98 320 *e*P **P 20 10 31.8 +0.9**
KWP Kalwaria Pacla 82.98 320 P **P 20 10 31.5 +0.6**
comp=Z,22nm,0.7s
BZS Buzias 82.99 316 ⇑P **P 20 10 31.6 +0.6**
BZS Buzias 82.99 316 P **P 20 10 31.6 +0.6**
BILL Bilibino 83.00 20 *d i* P **P 20 10 30.6 0.0**
BILL *i* 20 10 34.6
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,415nm,17.0s
SIRR Siria 83.07 317 ⇓P **P 20 10 32.2 +0.8**
KOLS Kolonicke sedl 83.13 320 *e*P **P 20 10 33.0 +1.3**
KOLS pmax pmax
comp=Z,50nm,0.9s
KOLS Kolonicke sedl 83.13 320 *e*P **P 20 10 33.0 +1.3**
ARBE Arbavere 83.32 330 *e*P **P 20 10 33.3 +1.0**
PABE Paberze 83.44 326 *e*P **P 20 10 33.7 +0.6**
SBA Scott Base 83.54 169 P **P 20 10 35.4 +2.2**
SBA Scott Base 83.54 169 P **P 20 10 35.4 +2.2**
SBA pmax pmax
comp=Z,13nm,1.0s
VSVD Vaisvydziai 83.57 327 *e*P **P 20 10 34.3 +0.6**
SUW Suwalki 83.57 325 *e*P **P 20 10 34.1 +0.4**

SUW Suwalki 83.57 325 *e*P **P 20 10 34.4 +0.6**
CRVS Cervenica-Dubn 83.66 319 *e*P **P 20 10 35.3 +0.9**
CRVS pmax pmax
comp=Z,25nm,1.2s
CRVS Cervenica-Dubn 83.66 319 *e*P **P 20 10 35.3 +0.9**
PUK Puka 83.67 312 IAmb IAmb 20 10 35.5
comp=Z,32nm,1.4s
FINES FINESS Array B 83.80 332 P **P 20 10 35.0 +0.2**
FINES FINESS Array B 83.80 332 P **P 20 10 35.3 +0.5**
comp=Z,20nm,0.6s,baz=104,slow=5.8,SNR=209
FINES LR LR 20 54 13.1
comp=Z,138nm,18.1s,baz=108,slow=40
comp=Z,20nm,0.6s
FINES FINESS Array B 83.80 332 P **P 20 10 35.0 +0.2**
ELIB Princess Elisa 84.15 198 *d*P **P 20 10 38.8 +2.1**
comp=Z,13nm,1.1s
FRGS Fruska Gora 84.17 316 P **P 20 10 37.6 +0.4**
comp=Z,8.1nm,1.6s
MTSE Matsula 84.24 329 *e*P **P 20 10 37.7 +0.7**
MEF Metsahovi 84.29 331 *e*P **P 20 10 37.9 +0.6**
NIE Niedzica 84.49 320 *e*P **P 20 10 40.1 +1.4**
NIE Niedzica 84.49 320 P **P 20 10 39.4 +0.7**
comp=Z,8.8nm,1.2s
PSZ Piszkesteto 84.53 318 ⇑P **P 20 10 39.6 +0.6**
PSZ Piszkesteto 84.53 318 IAmb IAmb 20 10 40.0
comp=Z,12nm,0.9s
PSZ Piszkesteto 84.53 318 P **P 20 10 39.5 +0.6**
KEF Keuruu 84.54 333 *e*P **P 20 10 39.2 +0.6**
PBUR Paburge 84.68 327 *e*P **P 20 10 40.3 +0.9**
OJC Ojcow 84.94 321 *e*P **P 20 10 41.2 +0.3**
OJC Ojcow 84.94 321 IAmb IAmb 20 10 51.8
comp=Z,20nm,1.1s
OJC Ojcow 84.94 321 P **P 20 10 41.1 +0.2**
comp=Z,18nm,1.4s,comp=Z,236nm
LANS Liptovska Anna 84.99 319 *e*P **P 20 10 42.0 +0.8**
LANS pmax pmax
comp=Z,4.0nm,1.2s
LANS Liptovska Anna 84.99 319 *e*P **P 20 10 42.0 +0.8**
VADS Vadso 85.07 341 *e*P **P 20 10 41.8 +0.7**
VADS IAmb IAmb 20 10 42.4
comp=Z,56nm,1.0s
MORH Mrgy, Hungar 85.13 316 ⇓P **P 20 10 42.2 +0.3**
MORH Mrgy, Hungar 85.13 316 P **P 20 10 41.9 0.0**
comp=Z,10nm,1.4s,comp=Z,211nm
VYHS Vyhne 85.31 319 *e*P **P 20 10 43.3 +0.5**
VYHS pmax pmax
comp=Z,19nm,1.4s
VYHS Vyhne 85.31 319 *e*P **P 20 10 43.2 +0.5**
SRO Srobarova 85.57 318 *e*P **P 20 10 45.3 +1.3**
SRO pmax pmax
comp=Z,24nm,1.3s
SRO Srobarova 85.57 318 *e*P **P 20 10 45.3 +1.3**
TIP Timpagrande 85.70 309 ⇓P **P 20 10 45.6 +0.6**
TIP Timpagrande 85.70 309 IAmb IAmb 20 10 47.3
comp=Z,27nm,1.3s
TIP Timpagrande 85.70 309 P **P 20 10 45.5 +0.5**
comp=Z,14nm,1.2s
KEV Kevo 85.73 341 P **P 20 10 44.1 -0.3**
KEV IAmb IAmb 20 10 46.0
comp=Z,27nm,0.8s
KEV Kevo 85.73 341 P **P 20 10 44.1 -0.3**
KEV pmax pmax
comp=Z,27nm,0.8s
VAF Ylistaro 85.73 334 *e*P **P 20 10 45.5 +1.0**
RAF Rauma 85.73 331 *e*P **P 20 10 45.3 +0.7**
MATE Matera 85.89 311 ⇑P **P 20 10 46.6 +0.8**
MPLH Magyarpolny 86.01 317 P **P 20 10 46.8 +0.5**
comp=Z,86nm,1.6s,comp=Z,1μm
MAUC Maruska 86.08 320 *e*P **P 20 10 47.4 +0.8**
JAVC Velka Javorina 86.12 319 *e*P **P 20 10 47.8 +0.9**
ARCES ARCESS Array B 86.17 340 P **P 20 10 46.4 -0.2**
ARCES ARCESS Array B 86.17 340 P **P 20 10 47.3 +0.7**
comp=Z,32nm,0.8s,baz=93,slow=5.2,SNR=82
ARCES LR LR 20 53 23.7
comp=Z,286nm,21.1s,baz=106,slow=38
comp=Z,32nm,0.8s
ARCES ARCESS Array B 86.17 340 P **P 20 10 46.4 -0.2**
ARCES pmax pmax
comp=Z,47nm,1.0s
CEL Celeste 86.28 308 IAmb IAmb 20 10 50.3
comp=Z,36nm,1.0s
CEL Celeste 86.28 308 P **P 20 10 48.6 +0.7**
comp=Z,40nm,1.1s,comp=Z,440nm
MORC Moravsky Berou 86.32 320 ⇑P **P 20 10 48.8 +1.0**
MORC Moravsky Berou 86.32 320 P **P 20 10 48.1 +0.2**
MORC Moravsky Berou 86.32 320 *e*P **P 20 10 48.0 +0.2**
MORC Moravsky Berou 86.32 320 P **P 20 10 48.1 +0.2**
MORC pmax pmax
comp=Z,10.0nm,0.8s
MODS Modra-Piesok 86.32 319 *e*P **P 20 10 48.6 +0.8**
MODS pmax pmax
comp=Z,49nm,1.3s
MODS Modra-Piesok 86.32 319 *e*P **P 20 10 48.6 +0.8**
ZST Bratislava 86.42 318 *e*P **P 20 10 49.1 +0.8**
ZST pmax pmax
comp=Z,65nm,1.2s
ZST Bratislava 86.42 318 *e*P **P 20 10 49.0 +0.8**
AAL Aland 86.44 330 *e*P **P 20 10 48.5 +0.5**
CUC Castrocucco 86.50 310 IAmb IAmb 20 10 50.1
comp=Z,16nm,1.1s
KOGS Kog 86.81 317 *e*P **P 20 10 50.8 +0.6**
KTK1 Kautokeino 86.83 339 *e*P **P 20 10 50.5 +0.6**
KTK1 IAmb IAmb 20 10 51.0
comp=Z,40nm,0.9s
KRLC Kraliky 86.84 320 *e*P **P 20 10 51.4 +1.0**
KRLC *ep*P **pP 20 10 57.3 -0.5**
KRLC *e*SKS **S 20 21 25.0 -2.0**
KRLC Kraliky 86.84 320 *e*P **P 20 10 51.4 +1.0**
KRLC *e* 20 10 57.3
KRLC *e* 20 21 25.0
VRAC Vranov 86.88 319 *e*P **P 20 10 50.4 -0.1**
VRAC Vranov 86.88 319 LR LR 20 55 12.6
comp=Z,86nm,19.4s,baz=80,slow=40
RONA Rosalia, Austr 86.90 318 *i* P **P 20 10 51.0 +0.3**
comp=Z,2.7nm,0.7s
KRUC Moravsky 86.98 319 *e*P **P 20 10 51.1 +0.1**
HAMF Hammerfest 87.06 341 *e*P **P 20 10 51.4 +0.5**
HAMF IAmb IAmb 20 10 51.7
comp=Z,29nm,0.9s
DPC Dobruska-Polom 87.17 320 *e*P **P 20 10 53.0 +1.1**
DPC *ep*P **pP 20 10 59.0 -0.4**
DPC *e*SKS **S 20 21 27.3 -2.8**
DPC AMS AMS 20 59 40.0
comp=Z,200nm,16.1s
DPC Dobruska-Polom 87.17 320 *e*P **P 20 10 53.0 +1.1**
DPC *e* 20 10 59.0
DPC *e* 20 21 27.3
DPC MLR MLR
comp=Z,200nm,16.1s
DPC Dobruska-Polom 87.17 320 P **P 20 10 53.2 +1.3**
comp=Z,16nm,1.2s,comp=Z,272nm
CONA Conrad Observa 87.22 318 *i* P **P 20 10 52.5 +0.2**
comp=Z,4.4nm,1.1s
KSP Ksiaz 87.24 321 *e*P **P 20 10 52.8 +0.6**
KSP Ksiaz 87.24 321 P **P 20 10 53.1 +0.9**
comp=Z,18nm,1.5s,comp=Z,267nm
OSTC Ostas 87.26 321 *e*P **P 20 10 53.6 +1.3**
OSTC AMS AMS 21 00 00.0
comp=Z,200nm,14.0s
OSTC Ostas 87.26 321 *e*P **P 20 10 53.6 +1.3**
OSTC MLR MLR
comp=Z,200nm,14.0s
GROS Grobnik 87.32 316 *i* P **P 20 10 53.3 +0.5**
ARSA Arzberg 87.38 317 *i* P **P 20 10 53.6 +0.6**
comp=Z,10nm,1.1s
VAE Valguarnera 87.39 307 LR LR 20 57 02.5
comp=Z,83nm,18.1s,baz=138,slow=40
UPP Uppsala 87.57 330 *e*P **P 20 10 54.1 +0.6**
TREC Trest 87.60 319 *e*P **P 20 10 57.8 +3.8**
TREC Trest 87.60 319 *e*P **P 20 10 57.8 +3.8**
PERS Pernice 87.60 317 *i* P **P 20 10 54.8 +0.6**
SOKA Soboth 87.66 317 *e*P **P 20 10 55.1 +0.7**
comp=Z,16nm,1.0s,SNR=10
NVL N'lazarevskaya 87.68 199 *e*P **P 20 10 55.6 +1.7**
NVL pmax pmax
comp=Z,13nm,1.2s
VIKU Vikbolandet 87.87 329 *e*P **P 20 10 55.8 +0.7**
LJU Ljubljana 87.96 316 *e*P **P 20 10 56.6 +0.8**
OBKA Obir 87.98 316 *i* P **P 20 10 56.8 +0.8**
comp=Z,12nm,1.3s
INTR Introdacqua 88.10 312 IAmb IAmb 20 11 10.3
comp=Z,23nm,1.4s
GOPC GO Pecny, Ondr 88.11 320 *e*P **P 20 10 57.8 +1.4**
GOPC GO Pecny, Ondr 88.11 320 *e*P **P 20 10 57.8 +1.4**

QSPA South Pole Qui 88.21 180 P **P 20 10 57.8 +1.1**
QSPA IAmb IAmb 20 10 58.8
comp=Z,24nm,1.1s
QSPA South Pole Qui 88.21 180 P **P 20 10 57.9 +1.2**
comp=Z,13nm,0.9s,baz=286,slow=1.3,SNR=49
QSPA LR LR 20 48 45.1
comp=Z,382nm,19.0s,baz=310,slow=34
comp=Z,13nm,0.9s
PRU Pruhonice 88.27 320 *e*P **P 20 10 58.1 +0.9**
PRU *e*SKS **SKSac 20 21 26.4 +1.9**
PRU AMS AMS 21 00 20.0
comp=Z,200nm,15.0s
PRU Pruhonice 88.27 320 *e*P **P 20 10 58.1 +0.9**
PRU *e* 20 21 26.4
PRU MLR MLR
comp=Z,200nm,15.0s
MOA Molln 88.28 318 *i* P **P 20 10 57.5 +0.2**
comp=Z,4.5nm,0.9s
CKRC Cesky Krumlov 88.33 319 *e*P **P 20 10 58.3 +0.8**
CKRC *e*SKS **SKSac 20 21 25.1 +0.2**
CKRC AMS AMS 20 56 20.0
comp=Z,100nm,18.0s
CKRC Cesky Krumlov 88.33 319 *e*P **P 20 10 58.3 +0.8**
CKRC *e* 20 21 25.1
CKRC MLR MLR
comp=Z,100nm,18.0s
PRA Prague 88.35 320 AMS AMS 21 00 30.0
comp=Z,200nm,21.6s
TRO Tromso 88.45 340 *e*P **P 20 10 57.7 +0.2**
TRO IAmb IAmb 20 10 57.7
comp=Z,19nm,0.9s
BSD Bornholm Skovb 88.49 325 *e*P **P 20 10 58.7 +0.7**
BSD Bornholm Skovb 88.49 325 *i* P **P 20 10 57.6 -0.4**
BSD IAmb IAmb 20 10 59.1
comp=Z,14nm,0.7s
MYKA Terra Mystica 88.62 317 *i* P **P 20 10 59.4 +0.4**
comp=Z,7.6nm,1.0s
PRED Cave del Predi 88.66 316 IAmb IAmb 20 11 00.8
comp=Z,20nm,1.0s
BIOA Bad Ischl, Aus 88.69 318 *i* P **P 20 10 59.4 +0.1**
comp=Z,5.3nm,0.6s,SNR=6.4
BRG Berggiesshubel 88.72 321 *i* P **P 20 11 00.4 +1.1**
BRG Amp 20 11 01.7
comp=Z,13nm,0.9s
BRG Berggiesshubel 88.72 321 P P 20 11 10.0 +11
BRG Amp 20 11 10.8
comp=Z,13nm,1.0s
BRG Berggiesshubel 88.72 321 *i* P **P 20 11 00.3 +1.1**
BRG 20 11 10.0
BRG S **S 20 21 43.0 -1.8**
BRG pmax pmax
comp=Z,13nm,0.9s
BRG pmax pmax
comp=Z,13nm,1.0s
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG smax smax
comp=E,110nm,16.3s
BRG MLR MLR
comp=Z,168nm,16.3s
BRG MLR MLR
comp=N,92nm,17.9s
BRG Berggiesshubel 88.72 321 *e*P 20 11 00.3
comp=N,13nm,0.9s,baz=93,slow=4.6
GEC2 GERESS Array S 88.73 319 IAmb IAmb 20 11 01.6
comp=Z,37nm,1.4s
GEC2 GERESS Array S 88.73 319 *e*P 20 11 00.2
comp=Z,33nm,1.4s,baz=93,slow=4.6
GERES GERESS Array B 88.73 319 P **P 20 10 59.7 +0.2**
GERES GERESS Array B 88.73 319 P **P 20 11 00.2 +0.7**
comp=Z,5.0nm,0.8s,baz=90,slow=4.0,SNR=34
comp=Z,5.0nm,0.8s
NRCA Norcia 88.74 313 IAmb IAmb 20 11 01.3
comp=Z,23nm,1.0s
KHC Kasperske Hory 88.83 319 *e*P **P 20 11 00.8 +0.9**
KHC *ep*P **pP 20 11 07.0 -0.4**
KHC *e*SKS **SKSac 20 21 29.0 +1.0**
KHC AMS AMS 20 56 40.0
comp=Z,200nm,21.9s
KHC Kasperske Hory 88.83 319 *ce*P **P 20 11 00.4 +0.5**
KHC pmax pmax
comp=Z,33nm,2.5s
KHC Kasperske Hory 88.83 319 P **P 20 11 00.3 +0.4**
comp=Z,7.4nm,2.2s,comp=Z,242nm
KBA Koelnbreinsper 88.85 317 *i* P **P 20 11 00.0 -0.2**
comp=Z,8.3nm,1.3s
RUE Ruedersdorf 88.94 322 *e*P **P 20 11 01.8 +1.6**
RUE Ruedersdorf 88.94 322 *e*P 20 11 01.4
comp=Z,107nm,1.2s,baz=93,slow=4.6
HSKC Hora Svate Kat 89.03 321 *e*P **P 20 11 01.8 +1.0**
HSKC AMS AMS 20 57 50.0
comp=Z,200nm,16.5s
DEL Delary 89.19 326 *e*P **P 20 11 02.2 +0.9**
STAL STALIGIAL 89.23 316 P **P 20 11 01.8 0.0**
STAL IAmb IAmb 20 11 03.5
comp=Z,24nm,0.9s
RJOB Jochberg 89.26 318 *e*P 20 11 01.9
comp=Z,6.9nm,0.9s,baz=93,slow=4.6
WET Wettzell 89.29 319 *e*P 20 11 03.0
comp=Z,12nm,0.9s,baz=93,slow=4.6
LESA Schwarzleotal 89.33 317 *i* P **P 20 11 02.1 -0.2**
comp=Z,6.9nm,0.5s
CLL Collm 89.34 321 IAmb IAmb 20 11 04.0
comp=Z,16nm,1.1s
CLL Collm 89.34 321 ⇑*i* P **P 20 11 02.6 +0.4**
comp=Z,17nm,1.1s
CLL *i* sP **pwP 20 11 11.1 -1.0**
comp=Z,14nm,1.1s
CLL *i* PP **PP 20 14 34.1 +0.9**
CLL *e*S **S 20 21 48.0 -2.6**
CLL *e*PS **PS 20 23 00.0 +1.5**
CLL *ex* x 20 28 42.0
CLL *ex* x 20 32 36.0
CLL Collm 89.34 321 ⇑*i* P **P 20 11 02.6 +0.4**
CLL *i* *PP **pwP 20 11 12.1 0.0**
CLL *e*S **S 20 21 48.0 -2.6**
CLL pmax pmax
comp=Z,17nm,1.1s
CLL Collm 89.34 321 P **P 20 11 02.7 +0.5**
comp=Z,15nm,1.2s,comp=Z,237nm
CLL Collm 89.34 321 *e*P 20 11 02.8
comp=Z,15nm,1.1s,baz=93,slow=4.6
ABTA Abfaltersbach 89.40 317 *i* P **P 20 11 02.6 -0.1**
comp=Z,7.0nm,0.9s
FAUS Fauske 89.49 337 *e*P **P 20 11 02.9 +0.5**
FAUS IAmb IAmb 20 11 03.9
comp=Z,46nm,1.2s
STEI Steigen 89.56 338 *e*P **P 20 11 03.5 +0.7**
STEI IAmb IAmb 20 11 04.3
comp=Z,68nm,1.0s
HFS Hagfors 89.56 330 P **P 20 11 03.5 +0.5**
comp=Z,4.0nm,0.4s,baz=145,slow=3.6,SNR=50
HFS LR LR 20 55 48.3
comp=Z,181nm,20.0s,baz=78,slow=39
comp=Z,4.0nm,0.4s
TANN Tannenbergstha 89.64 320 *e*P 20 11 04.5
comp=Z,8.4nm,1.1s,baz=93,slow=4.6
MOR8 Moi Rana 89.71 336 *e*P **P 20 11 03.6 0.0**
MOR8 IAmb IAmb 20 11 04.3
comp=Z,40nm,1.4s
ROTZ Rotzenmuhle 89.76 320 *e*P 20 11 05.5
comp=Z,2.8nm,0.9s,baz=93,slow=4.6
PLN Plauen 89.83 320 *e*P 20 11 05.5
comp=Z,9.6nm,1.0s,baz=93,slow=4.6
MANZ Manzenberg 89.84 320 *e*P 20 11 06.0
comp=Z,4.9nm,1.0s,baz=93,slow=4.6
WTTA Wattenberg 90.02 317 *i* P **P 20 11 05.6 -0.1**
comp=Z,19nm,1.0s,SNR=6.6
WATA Walderalm 90.07 317 *i* P **P 20 11 05.5 -0.3**
comp=Z,5.8nm,0.6s,SNR=6.4
NEUB Neuenburg 90.11 321 *e*P 20 11 06.6
comp=Z,22nm,0.7s,baz=93,slow=4.6
MOX Moxa 90.19 320 *e*P 20 11 07.0
comp=Z,19nm,1.4s,baz=93,slow=4.6
MOX *e*L 21 01 34.5
comp=Z,169nm,18.0s
LOF Lofoten 90.21 338 *e*P **P 20 11 06.5 +0.6**
KONS Konsvik 90.26 336 *e*P **P 20 11 06.9 +0.8**
KONS IAmb IAmb 20 11 14.4
comp=Z,43nm,1.6s
STOK Stokkvaagen 90.29 336 *e*P **P 20 11 07.0 +0.8**
SQTA Sankt Quirin 90.31 317 *i* P **P 20 11 07.1 +0.1**
comp=Z,11nm,0.6s,SNR=8.7
TATN Tataouine 90.32 302 IAmb IAmb 20 11 10.6
comp=Z,30nm,0.9s
SPA0 Spitsbergen Ar 90.35 348 *e*P **P 20 11 06.3 -0.1**

SPA0 IAmb IAmb 20 11 07.0
comp=Z,75nm,1.1s
SPITS Spitsbergen Ar 90.35 348 P **P 20 11 06.3 -0.1**
comp=Z,30nm,0.7s,baz=102,slow=7.8,SNR=22
SPITS LR LR 20 58 33.0
comp=Z,226nm,19.3s,baz=56,slow=40
comp=Z,30nm,0.7s
SPITS Spitsbergen Ar 90.35 348 P **P 20 11 05.9 -0.5**
SPITS pmax pmax
comp=Z,66nm,1.1s
ZCCA Zocca 90.37 314 IAmb IAmb 20 11 14.4
comp=Z,22nm,0.9s
GRF Grafenberg Arr 90.40 320 *e*P 20 11 08.6
comp=Z,18nm,0.9s,baz=93,slow=4.6
GRF *e*L 21 02 26.4
comp=Z,159nm,18.0s
GRA1 Grafenberg Arr 90.40 320 IAmb IAmb 20 11 18.8
comp=Z,21nm,1.0s
GRFO Grafenberg 90.40 320 P **P 20 11 07.1 -0.1**
GRFO IAmb IAmb 20 11 18.8
comp=Z,18nm,1.0s
GRFO Grafenberg 90.40 320 P **P 20 11 07.1 -0.1**
GRFO pmax pmax
comp=Z,18nm,1.0s
TROLL Troll, Antarti 90.60 198 ⇑P **P 20 11 09.7 +1.9**
comp=Z,426nm,1.1s
RETA Reutte 90.62 317 *i* P **P 20 11 08.7 +0.4**
comp=Z,17nm,0.8s,SNR=12
NSS Namsos 90.63 334 *e*P **P 20 11 08.6 +0.8**
NSS IAmb IAmb 20 11 18.1
comp=Z,79nm,1.9s
FETA Feichten 90.63 317 *i* P **P 20 11 09.0 +0.5**
comp=Z,13nm,1.1s,SNR=8.5
NC602 NORSAR Array S 90.66 331 *e*P **P 20 11 08.4 +0.3**
NC602 IAmb IAmb 20 11 09.0
comp=Z,4.8nm,0.7s
NB2 NORSAR Subarra 90.83 331 P **P 20 11 08.9 -0.1**
comp=Z,79nm,3.3s,baz=93,slow=4.6
NB2 NORSAR Subarra 90.83 331 P **P 20 11 08.9 -0.1**
baz=93,slow=4.6
NOA NORSAR Array B 90.83 331 P **P 20 11 09.0 +0.1**
comp=Z,2.2nm,0.7s,baz=96,slow=4.9,SNR=16
NOA LR LR 20 56 52.4
comp=Z,163nm,20.4s,baz=75,slow=39
comp=Z,2.2nm,0.7s
FUORN Ofenpass-Fuorn 90.94 316 IAmb IAmb 20 11 12.2
comp=Z,32nm,1.2s
CLZ Clausthal 91.01 322 *e*P 20 11 10.8
comp=Z,14nm,1.1s,baz=93,slow=4.6
UBR Ueberruh 91.07 317 *e*P 20 11 10.8
comp=Z,9.8nm,0.8s,baz=93,slow=4.6
BSEG Bad Segeberg 91.10 324 *e*P 20 11 11.2
comp=Z,13nm,1.2s,baz=93,slow=4.6
NRDL Niedersach Rie 91.19 322 *e*P 20 11 11.9
comp=Z,18nm,1.2s,baz=93,slow=4.6
DAVOX Davos/Dischmat 91.21 317 LR LR 20 57 27.5
comp=Z,74nm,20.3s,baz=71,slow=39
DAVA Damuels 91.22 317 *i* P **P 20 11 11.8 +0.5**
comp=Z,34nm,1.1s,SNR=11
GTTG Gottingen 91.25 321 *e*P 20 11 12.0
comp=Z,20nm,1.2s,baz=93,slow=4.6
KBS Kingsbay 91.29 349 *e*P P 20 11 20.5 +10
KBS IAmb IAmb 20 11 21.1
comp=Z,12nm,0.9s
KEST Kesra 91.38 306 P **P 20 11 13.8 +1.6**
comp=Z,25nm,0.9s,baz=19,slow=1.3,SNR=10
comp=Z,25nm,0.9s
SPIA Saint Paul Isl 91.44 33 P **P 20 11 12.5 +0.7**
baz=269
TUE Stuetta 91.57 316 P **P 20 11 13.0 +0.1**
comp=Z,34nm,1.2s
KONO Kongsberg 91.60 329 *e*P **P 20 11 13.2 +0.7**
KONO IAmb IAmb 20 11 13.8
comp=Z,8.3nm,0.8s
KONO Kongsberg 91.60 329⇑*e*P **P 20 11 12.9 +0.4**
KONO pmax pmax
comp=Z,8.0nm,0.9s
P08K Saint George I 91.81 34 P **P 20 11 13.7 +0.2**
baz=270
DOMB Dombas 91.88 332 *e*P **P 20 11 14.0 +0.2**
DOMB IAmb IAmb 20 11 15.1
comp=Z,6.0nm,0.8s
NIKH Nikolski High 92.20 37 P **P 20 11 15.6 +0.2**
baz=270
TNS Taunus Mts 92.20 320 *e*P 20 11 16.7
comp=Z,18nm,1.1s,baz=93,slow=4.6
KASTN Kahler Asten 92.22 321 *e*P 20 11 16.4
comp=Z,9.8nm,1.1s,baz=93,slow=4.6
BFO Black Forest 92.28 318 P **P 20 11 15.7 -0.2**
BFO IAmb IAmb 20 11 17.4
comp=Z,12nm,1.1s
BFO Black Forest 92.28 318 P **P 20 11 15.7 -0.2**
BFO pmax pmax
comp=Z,12nm,1.1s
BFO Black Forest 92.28 318 *e*P 20 11 16.1
comp=Z,11nm,1.1s,baz=93,slow=4.6
SNAA Sanae 92.31 198 P **P 20 11 17.3 +1.6**
comp=Z,3.3nm,0.9s,baz=133,slow=5.5,SNR=13
SNAA LR LR 20 49 55.9
comp=Z,200nm,18.5s,baz=110,slow=34
comp=Z,3.3nm,0.9s
SNAA Sanae 92.31 198*ce*P **P 20 11 17.6 +1.9**
SNAA pmax pmax
comp=Z,7.0nm,1.1s
TNA Tin City 92.53 25 P **P 20 11 16.9 +0.2**
baz=271
F14K Arctic Creek 93.20 25 P **P 20 11 19.9 +0.2**
baz=273
BLS5 Blasjo 93.20 329 *e*P **P 20 11 21.1 +1.2**
BLS5 IAmb IAmb 20 11 21.7
comp=Z,25nm,1.3s
C16K Lisburne Hills 93.42 22 IAmb IAmb 20 11 30.9
comp=Z,25nm,1.1s
C16K Lisburne Hills 93.42 22 P **P 20 11 21.1 +0.4**
baz=274
M11K Mekoryuk 93.50 30 P **P 20 11 21.8 +0.6**
baz=273
UNV Unalaska Valle 93.59 36 P **P 20 11 21.8 0.0**
baz=272
ANM Nome 93.65 26 P **P 20 11 22.7 +0.8**
baz=274
KMY Karmoy 93.83 329 *e*P **P 20 11 23.4 +0.6**
F15K North Star Dit 93.88 24 P **P 20 11 23.6 +0.7**
baz=274
VNA2 Neumayer--Watz 93.92 198 ⇑P **P 20 11 24.5 +1.5**
comp=Z,3.3nm,0.7s,baz=84,slow=3.2
K13K Kusilvak Mount 94.16 28 P **P 20 11 24.9 +0.7**
baz=274
G15K Niukluk 94.19 25 P **P 20 11 24.9 +0.6**
baz=275
C17K DeLong Mountai 94.21 22 P **P 20 11 24.9 +0.5**
baz=276
VNA1 Neumayer--Stat 94.28 199 ⇑P **P 20 11 27.0 +2.3**
comp=Z,5.7nm,0.9s
D17K Noatak River 94.32 22 P **P 20 11 25.6 +0.7**
baz=276
RDOG Red Dog Mine 94.35 22 IAmb IAmb 20 11 34.5
comp=Z,11nm,1.1s
RDOG Red Dog Mine 94.35 22 P **P 20 11 25.6 +0.6**
baz=276
VNA3 Neumayer Olymp 94.53 198 ⇑P **P 20 11 27.0 +1.1**
comp=Z,1.8nm,0.8s
B18K Kokolik River 94.60 21 P **P 20 11 26.8 +0.6**
baz=277
J14K Nanvaranak Lak 94.60 27 P **P 20 11 26.4 +0.2**
J14K IAmb IAmb 20 11 36.9
comp=Z,23nm,1.1s
J14K Nanvaranak Lak 94.60 27 P **P 20 11 26.7 +0.5**
baz=275
A19K Wainwright 94.74 20 P **P 20 11 27.6 +0.9**
baz=278
G16K Koyuk River 94.86 25 P **P 20 11 27.8 +0.5**
baz=276
E17K Hotham Inlet 94.87 23 P **P 20 11 28.1 +0.7**
baz=277
M13K Dall Lake 94.91 30 P **P 20 11 28.4 +0.7**
baz=275
C18K Utukok River 94.91 21 IAmb IAmb 20 11 37.9
comp=Z,12nm,0.9s
C18K Utukok River 94.91 21 P **P 20 11 27.9 +0.3**
baz=278
H16K Elim 94.99 25 P **P 20 11 27.9 -0.1**
baz=276
L14K Kuka Creek 95.14 29 IAmb IAmb 20 11 40.0
comp=Z,20nm,1.1s
L14K Kuka Creek 95.14 29 P **P 20 11 29.4 +0.6**
baz=276
F17K Baldwin Pennin 95.18 23 P **P 20 11 29.3 +0.5**
baz=278
E18K Tukpahlearik C 95.30 22 IAmb IAmb 20 11 39.8
comp=Z,16nm,1.1s
E18K Tukpahlearik C 95.30 22 P **P 20 11 29.8 +0.4**
baz=278
C19K Lookout Ridge 95.42 21 P **P 20 11 30.7 +0.7**
baz=279
NOR Nord 95.48 352 *i* P **P 20 11 30.4 +0.4**
G17K Kiwalik Mounta 95.55 24 P **P 20 11 31.0 +0.4**
baz=278,SNR=9.5
M14K Bethel 95.56 29 P **P 20 11 31.0 +0.4**
M14K IAmb IAmb 20 11 42.1
comp=Z,12nm,1.1s
M14K Bethel 95.56 29 P **P 20 11 30.9 +0.3**
baz=276
K15K Wolf Creek Mou 95.58 28 IAmb IAmb 20 11 42.2
comp=Z,16nm,1.1s
K15K Wolf Creek Mou 95.58 28 P **P 20 11 30.9 +0.1**
baz=277,SNR=6.0
L15K Ungalak Mounta 95.68 28 P **P 20 11 31.5 +0.3**
baz=277,SNR=5.9
I17K Unalakleet 95.76 26 IAmb IAmb 20 11 42.5
comp=Z,23nm,1.1s
I17K Unalakleet 95.76 26 P **P 20 11 31.8 +0.3**
baz=278
N14K Kuskokwak Cree 95.78 30 P **P 20 11 31.7 0.0**
baz=276
F18K Selawik 95.79 23 P **P 20 11 31.8 +0.2**
baz=279,SNR=10
J16K Anvik River 95.88 27 P **P 20 11 32.8 +0.7**
baz=278,SNR=27
H17K Granite Mounta 95.94 25 IAmb IAmb 20 11 43.0
comp=Z,18nm,1.1s
H17K Granite Mounta 95.94 25 P **P 20 11 33.1 +0.7**
baz=279,SNR=8.8
A21K Barrow 95.99 18 P **P 20 11 32.8 +0.4**
baz=282
S12K Black Hills 96.04 34 P **P 20 11 33.2 +0.2**
baz=276
D19K Kuna River 96.05 21 P **P 20 11 33.1 +0.2**
baz=281,SNR=8.5
O14K Tigyukauivet M 96.08 31 P **P 20 11 33.5 +0.4**
baz=277
B20K Meade River 96.09 20 P **P 20 11 33.4 +0.5**
baz=282
M15K Kasigluk River 96.18 29 P **P 20 11 33.5 0.0**
baz=277
G18K Tagagawik 96.31 24 P **P 20 11 33.7 -0.3**
baz=280
F19K Shaleruckik Mo 96.49 23 P **P 20 11 34.6 -0.1**
F19K IAmb IAmb 20 11 44.8
comp=Z,15nm,1.1s
F19K Shaleruckik Mo 96.49 23 P **P 20 11 34.9 +0.1**
baz=281,SNR=8.9
J17K VABM Dome 96.54 26 IAmb IAmb 20 11 45.9
comp=Z,12nm,0.9s
J17K VABM Dome 96.54 26 P **P 20 11 35.8 +0.6**
baz=279,SNR=8.5
N15K Kwethluk River 96.55 30 P **P 20 11 35.5 +0.2**
baz=278
D20K Etivluk River 96.55 21 P **P 20 11 35.5 +0.5**
baz=282,SNR=9.6
H18K Honhosa River 96.56 25 IAmb IAmb 20 11 45.4
comp=Z,15nm,1.1s
H18K Honhosa River 96.56 25 P **P 20 11 35.4 +0.2**
baz=280
E19K Redstone River 96.58 22 IAmb IAmb 20 11 45.5
comp=Z,14nm,1.1s
E19K Redstone River 96.58 22 P **P 20 11 35.6 +0.4**
baz=281,SNR=7.9
A22K Sinclair Lake 96.58 19 P **P 20 11 36.0 +0.9**
baz=284
L16K Owhat River 96.62 28 IAmb IAmb 20 11 46.1
comp=Z,14nm,1.2s
L16K Owhat River 96.62 28 P **P 20 11 36.0 +0.5**
baz=279
E20K Nigu River 96.80 21 P **P 20 11 36.6 +0.3**
baz=282
O15K Ungalikthiuk R 96.82 31 P **P 20 11 36.8 +0.3**
baz=278
G19K Purcell Mounta 96.89 24 IAmb IAmb 20 11 47.0
comp=Z,11nm,1.0s
G19K Purcell Mounta 96.89 24 P **P 20 11 37.0 +0.3**
baz=281,SNR=13
SDPT Sand Point 96.97 35 P **P 20 11 37.3 +0.1**
baz=277
M16K Timber Creek 96.97 29 P **P 20 11 37.2 +0.1**
baz=279
K17K Iditarod 97.00 27 P **P 20 11 37.4 +0.1**
K17K Iditarod 97.00 27 P Pdif 20 11 38.0 +0.7
baz=280,SNR=15
B21K Ikpikpuk River 97.04 20 P **P 20 11 37.6 +0.4**
baz=284,SNR=5.7
C21K Knifeblade Rid 97.09 20 P Pdif 20 11 38.2 +0.6
baz=284,SNR=6.1
L17K Donlin 97.11 28 P Pdif 20 11 38.3 +0.5
baz=280
N16K Nishlik Lake 97.15 29 P Pdif 20 11 38.5 +0.4
baz=279
F20K Avaraart Lake 97.23 23 IAmb IAmb 20 11 48.5
comp=Z,18nm,1.1s
F20K Avaraart Lake 97.23 23 P Pdif 20 11 38.6 +0.4
baz=283,SNR=16
GCSA Galena City Sc 97.25 25 P Pdif 20 11 38.9 +0.6
baz=281
H19K Roundabout Mou 97.27 24 P Pdif 20 11 39.1 +0.7
baz=282,SNR=19
S14K Fog Glacier 97.37 34 P **P 20 11 38.9 -0.2**
baz=278
CHNA Chernabura Isl 97.54 35 P Pdif 20 11 40.3 +0.4
baz=278
E21K Killik River 97.56 21 P **P 20 11 39.7 0.0**
baz=284,SNR=19
JMIC Jan Mayen 97.56 342 LR LR 21 04 10.8
comp=Z,65nm,18.7s,baz=62,slow=41
J18K Innoko River 97.58 26 IAmb IAmb 20 11 50.2
comp=Z,14nm,1.0s
J18K Innoko River 97.58 26 P **P 20 11 40.1 +0.3**
baz=281,SNR=11
O16K Kokwok River B 97.63 30 P **P 20 11 40.2 +0.1**
baz=280
M17K Holitna River 97.64 28 P **P 20 11 40.4 +0.3**
baz=280
L18K Granite Mounta 97.83 27 P **P 20 11 41.3 +0.4**
L18K IAmb IAmb 20 11 51.7
comp=Z,14nm,1.1s
L18K Granite Mounta 97.83 27 P **P 20 11 41.2 +0.2**
baz=281,SNR=5.6
D22K Ayikyak River 97.89 20 IAmb IAmb 20 11 52.0
comp=Z,6.5nm,0.9s
D22K Ayikyak River 97.89 20 P Pdif 20 11 41.6 +0.4
baz=286
N17K Nushagak Hills 97.92 29 P **P 20 11 41.8 +0.4**
baz=280
H20K Anotleneega Mo 97.92 24 P Pdif 20 11 41.9 +0.5
baz=283,SNR=17
J19K Poorman 97.94 26 P Pdif 20 11 42.1 +0.7
baz=282,SNR=12
TTA Tatalina 98.00 27 IAmb IAmb 20 11 52.4
comp=Z,13nm,1.2s
TTA Tatalina 98.00 27 P **P 20 11 42.1 +0.3**
baz=282
DAG Danmarks Havn 98.00 348 *i* P **P 20 11 40.0 -1.4**
DAG IAmb IAmb 20 11 41.4
comp=Z,5.3nm,0.7s
F21K Alatna River 98.04 22 IAmb IAmb 20 11 52.6
comp=Z,15nm,1.2s
F21K Alatna River 98.04 22 P **P 20 11 42.0 +0.1**
baz=285,SNR=8.3
O17K Koliganek Bris 98.10 30 P **P 20 11 42.3 +0.1**
baz=280
G21K Allakaket 98.22 23 P **P 20 11 42.7 +0.1**
baz=285,SNR=20
I20K Naaghedeneel 98.25 25 P Pdif 20 11 43.7 +0.9
baz=284,SNR=5.6
IMAR Indian Mountai 98.25 23 P **P 20 11 42.4 -0.4**
TORD Torodi Ar. Bea 98.29 283 P Pdif 20 11 44.3 +0.2
comp=Z,1.2nm,0.9s,baz=83,slow=4.5,SNR=5.2
TORD LR LR 20 54 12.9
comp=Z,92nm,19.2s,baz=94,slow=34
comp=Z,1.2nm,0.9s
C23K Itkillik River 98.32 19 P **P 20 11 42.3 -0.7**
C23K IAmb IAmb 20 11 54.3
comp=Z,10nm,1.1s
C23K Itkillik River 98.32 19 P Pdif 20 11 43.5 +0.5
baz=288
M18K Stony River 98.38 28 P Pdif 20 11 44.1 +0.6
baz=282
F22K John River 98.45 22 P Pdif 20 11 44.6 +0.9
baz=286,SNR=7.6
N18K Kilae Creek 98.51 29 P **P 20 11 44.0 -0.1**
baz=282
J20K Nowinta River 98.53 25 IAmb IAmb 20 11 54.9
comp=Z,15nm,1.2s
J20K Nowinta River 98.53 25 P **P 20 11 44.4 +0.3**
baz=284,SNR=9.5
P17K Kvichak River 98.53 30 P **P 20 11 44.2 0.0**
baz=281
D23K Nanushuk River 98.56 20 P Pdif 20 11 44.7 +0.6
baz=288
L19K White Mountain 98.68 27 IAmb IAmb 20 11 55.5
comp=Z,11nm,1.2s
L19K White Mountain 98.68 27 P **P 20 11 45.2 +0.3**
baz=283
H21K Melozitna Rive 98.72 24 IAmb IAmb 20 11 55.7
comp=Z,18nm,1.2s
H21K Melozitna Rive 98.72 24 P **P 20 11 45.1 +0.2**
baz=285,SNR=12
K20K Telida 98.76 26 IAmb IAmb 20 11 56.0
comp=Z,14nm,1.1s
K20K Telida 98.76 26 P **P 20 11 45.4 +0.2**
baz=284,SNR=9.8
EKA Eskdalemuir Ar 98.80 326 P **P 20 11 45.6 +0.1**
comp=Z,0.6nm,0.5s,baz=96,slow=5.1,SNR=7.2
comp=Z,0.6nm,0.5s
G22K Bettles 98.87 22 P **P 20 11 45.5 0.0**
baz=287
R17L Mt. Peulik Vol 98.87 32 P **P 20 11 45.9 +0.1**
baz=281
Q17K Contact Creek 99.00 31 P **Pdif 20 11 46.8 +0.3**
baz=281
O18K Koktuh Hills 99.02 30 P **Pdif 20 11 46.4 0.0**
baz=282
TOLK Toolik Lake Re 99.05 20 IAmb IAmb 20 11 57.8
comp=Z,11nm,1.1s
TOLK Toolik Lake Re 99.05 20 P **Pdif 20 11 46.7 +0.4**
baz=289
L20K Farewell, AK 99.06 27 P **Pdif 20 11 46.8 +0.3**
baz=284
RAR Rarotonga 99.08 112 LR LR 20 57 50.4
comp=Z,61nm,20.1s,baz=289,slow=36
P18K Big Mountain, 99.10 30 P **Pdif 20 11 46.4 -0.4**
baz=282
D24K Happy Valley 99.14 20 P **Pdif 20 11 47.1 +0.4**
baz=290
N19K Bonanza Creek 99.16 29 IAmb IAmb 20 11 48.5
comp=Z,5.7nm,0.8s
N19K Bonanza Creek 99.16 29 P **Pdif 20 11 47.3 +0.2**
baz=283
I21K Tanana 99.17 24 P **Pdif 20 11 47.4 +0.5**
baz=286
H22K Ishtalitna Cre 99.22 23 P **Pdif 20 11 47.6 +0.5**
baz=287,SNR=7.3
E23K Chandalar 99.22 21 P **Pdif 20 11 47.7 +0.5**
baz=289,SNR=5.1
COLD Coldfoot 99.27 22 P **Pdif 20 11 47.8 +0.5**
baz=288
Q18K Katmai Hardscr 99.37 31 P **Pdif 20 11 48.1 0.0**
baz=282
G23K Bananza Creek 99.50 22 **Pdif 20 11 47.8 -0.6**
G23K IAmb IAmb 20 11 59.2
comp=Z,14nm,1.3s
G23K Bananza Creek 99.50 22 P **Pdif 20 11 48.5 +0.1**
baz=288
M20K Styx River 99.54 27 P **Pdif 20 11 49.1 +0.3**
baz=284
E24K Your Creek 99.62 21 IAmb IAmb 20 12 15.0
comp=Z,16nm,1.8s
E24K Your Creek 99.62 21 P **Pdif 20 11 49.1 +0.2**
baz=290
MLY Manley 99.72 24 IAmb IAmb 20 12 00.6
comp=Z,12nm,1.6s
MLY Manley 99.72 24 P **Pdif 20 11 49.5 0.0**
baz=287
BPAW Bear Paw Mtn. 99.89 25 P **Pdif 20 11 50.5 +0.3**
baz=287
R18K Karluk 99.89 32 P **Pdif 20 11 50.4 +0.2**
baz=282
D25K Kavik River 99.89 19 P **Pdif 20 11 50.1 0.0**
baz=292,SNR=6.0
H23K Yukon River 99.96 23 P **Pdif 20 11 50.9 +0.4**
baz=288
Q19K Cape Douglas, 100.00 30 P **Pdif 20 11 51.2 +0.4**
baz=283
F24K Squaw Lake 100.02 21 IAmb IAmb 20 12 02.3
comp=Z,6.7nm,1.0s
F24K Squaw Lake 100.02 21 P **Pdif 20 11 51.0 +0.3**
baz=290
P19K Oil Pt 100.04 30 P **Pdif 20 11 51.4 +0.4**
baz=284
C26K Camden Bay 100.14 18 P **Pdif 20 11 51.4 +0.3**
baz=293
O20K Slope Mountain 100.23 29 P **Pdif 20 11 51.5 -0.3**
baz=284
I23K Minto, Yukon-K 100.24 24 P **Pdif 20 11 51.8 +0.1**
baz=288
SKT Skwentna 100.25 27 P **Pdif 20 11 51.2 -0.7**
baz=286
SII Sitkinak Islan 100.25 33 P **Pdif 20 11 51.8 -0.2**
baz=282
G24K Hadweenzic Riv 100.46 22 P **Pdif 20 11 52.7 +0.1**
baz=290
OHAK Old Harbor 100.58 32 P **Pdif 20 11 53.0 -0.3**
baz=283
H24K Noodor Dome 100.60 23 P **Pdif 20 11 53.4 0.0**
baz=290
C27K Jago River 100.64 19 P **Pdif 20 11 54.1 +0.7**
baz=294
Q20K Shuyak Island 100.71 30 P **Pdif 20 11 53.5 -0.4**
baz=284
SUA Susitna One 100.75 27 P **Pdif 20 11 53.6 -0.6**
baz=286
CAPN Captain Cook N 100.75 28 P **Pdif 20 11 54.1 +0.1**
baz=286
F25K Christian Rive 100.80 21 P **Pdif 20 11 54.1 -0.1**
baz=292
KDAK Kodiak Island 100.82 31 P **Pdif 20 11 54.3 -0.1**
baz=284
MCK McKinley 100.87 25 P **Pdif 20 11 54.3 -0.2**
baz=288
G25K Bearman Lake 100.94 22 P **Pdif 20 11 54.8 +0.1**
baz=292
POKR Poker Plat Res 101.02 23 P **Pdif 20 11 55.4 +0.2**
baz=290
H25L Birch Creek 101.23 22 P **Pdif 20 11 55.9 -0.1**
baz=292
BRSE Bradley Lake S 101.23 29 P **Pdif 20 11 56.0 -0.3**
baz=286
F26K Sheenjek River 101.28 20 P **Pdif 20 11 56.9 +0.6**
baz=294
ILAR Eielson Array 101.36 24 P **Pdif 20 11 56.2 -0.5**
comp=Z,0.5nm,0.9s,baz=280,slow=3.7,SNR=4.4
ILAR PKKPbc **PKKPbc 20 28 06.2 -2.1**
comp=Z,1.2nm,0.9s,baz=127,slow=2.3,SNR=8.1
PRP Porcupine Dome 101.63 23 P **Pdif 20 11 57.7 -0.4**
baz=292
D27M Malcolm River 101.68 19 P **Pdif 20 11 58.1 0.0**
baz=297
G26K Porcupine Rive 101.71 21 P **Pdif 20 11 58.5 +0.3**
baz=294
DHY Denali Highway 101.75 25 P **Pdif 20 11 58.9 +0.2**
baz=290
SML Sawmill 101.75 27 P **Pdif 20 11 58.9 +0.4**
baz=289
SEW Seward 101.75 29 P **Pdif 20 11 59.0 +0.6**
baz=287
WAT6 Susitna Watana 101.75 26 P **Pdif 20 11 59.0 +0.3**
baz=289
KNK Knik Glacier 101.81 27 P **Pdif 20 11 59.1 +0.3**
baz=288
E27K Coleen River 101.95 20 P **Pdif 20 11 59.5 +0.2**
baz=296
M23K Glacier View 102.02 27 P **Pdif 20 11 59.9 +0.2**
baz=289
J25K Salcha River, 102.03 24 P **Pdif 20 12 00.0 +0.3**
baz=292
PWL Port Wells 102.05 28 P **Pdif 20 11 59.9 +0.1**
baz=288
K24K Donnelly Dome 102.16 24 P **Pdif 20 12 00.5 +0.2**
baz=291
SCM Sheep Creek Mo 102.19 27 P **Pdif 20 12 00.6 +0.1**
baz=290
D28M Stokes Point 102.34 18 P **Pdif 20 12 01.2 +0.3**
baz=299
E28M Babbage River 102.43 19 P **Pdif 20 12 01.7 +0.3**
baz=298

G27K	Doyon Strip	102.54	21	P		Pdif	20 12 02.1	+0.2
	baz=296							
PAX	Paxson	102.60	25	P		Pdif	20 12 02.4	+0.1
	baz=292							
M24K	Tolsona, Glenn	102.60	26	P		Pdif	20 12 02.4	0.0
	baz=291							
GLI	Glacier Island	102.61	27	P		Pdif	20 12 02.3	0.0
	baz=290							
NEEM	North Greenlan	102.75	354	*i* P		Pdif	20 12 11.5	+8.5
P23K	Montague Islan	102.76	28	P		Pdif	20 12 03.5	+0.5
	baz=289							
J26L	Joseph Creek	102.79	23	P		Pdif	20 12 03.3	+0.1
	baz=294							
F28M	Old Crow	102.79	20	P		Pdif	20 12 03.3	+0.2
	baz=298							
SCRK	Sand Creek	102.83	24	P		Pdif	20 12 03.3	-0.1
	baz=293							
H27K	Steamboat Moun	102.84	21	P		Pdif	20 12 03.5	+0.2
	baz=296							
KLU	Klutina	102.93	27	P		Pdif	20 12 04.2	+0.3
	baz=291							
HARP	HAARP	102.94	26	P		Pdif	20 12 04.2	+0.4
	baz=292							
E29M	Blow River	103.07	19	P		Pdif	20 12 04.9	+0.7
	baz=300							
I27K	Kandik River	103.08	22	P		Pdif	20 12 04.9	+0.6
	baz=296							
EYAK	Cordova Ski Ar	103.35	28	P		Pdif	20 12 06.1	+0.5
	baz=291							
Q23K	Middleton Isla	103.46	29	P		Pdif	20 12 06.3	+0.2
	baz=290							
N25K	Chitina, Valde	103.48	26	P		Pdif	20 12 05.9	-0.4
	baz=292							
K27K	Chicken	103.58	24	P		Pdif	20 12 06.5	-0.1
	baz=295							
EGAK	Eagle	103.61	23	P		Pdif	20 12 06.3	-0.3
	baz=296							
BMRM	Bremner River	103.72	27	P		Pdif	20 12 06.9	-0.4
	baz=292							
G29M	Pine Creek	103.76	20	P		Pdif	20 12 07.0	-0.4
	baz=299							
I28M	Miner Creek	103.77	22	P		Pdif	20 12 07.3	-0.3
	baz=297							
M26K	Nabesna, AK	103.87	25	P		Pdif	20 12 07.7	-0.3
	baz=294							
H29M	Whitestone	103.98	21	P		Pdif	20 12 07.8	-0.5
	baz=299							
L27K	Beaver Creek,	104.09	24	P		Pdif	20 12 08.7	-0.2
	baz=295							
F30M	Barrier River	104.15	19	P		Pdif	20 12 09.0	0.0
	baz=302							
MCARA	McCarthy VSAT	104.27	26	P		Pdif	20 12 09.8	+0.1
	baz=293							
G30M	tAoh Zraii Nji	104.34	20	P		Pdif	20 12 10.1	+0.1
	baz=301							
EPYK	Eagle Plains	104.48	20	P		Pdif	20 12 10.6	0.0
	baz=301							
CRQE	Cirque	104.49	27	P		Pdif	20 12 10.9	+0.1
	baz=293							
INK	Inuvik	104.49	18	P		Pdif	20 12 11.0	+0.5
	baz=304							
DAWY	Dawson	104.62	23	P		Pdif	20 12 12.1	+0.9
	baz=298							
J29N	Klondike Camp	104.89	22	P		Pdif	20 12 12.9	+0.4
	baz=299							
F31M	Tsiigehtchic	104.90	19	P		Pdif	20 12 12.6	+0.2
	baz=304							
G31M	Satah River	105.02	19	P		Pdif	20 12 13.3	+0.5
	baz=303							
CTG	Chitna Glacier	105.18	26	P		PKiKP	20 16 29.1	+0.9
	baz=295							
I30M	Mount Dempster	105.19	21	P		PKiKP	20 16 28.8	+0.8
	baz=301							
YUK3	Moose Creek	105.22	25	P		PKiKP	20 16 28.7	+0.4
	baz=296							
MESA	MESA	105.23	27	P		PKiKP	20 16 28.9	+0.6
	baz=294							
K29M	Barlow Dome	105.45	23	P		PKiKP	20 16 29.3	+0.7
	baz=299							
J30M	Hart River	105.54	22	P		PKiKP	20 16 29.7	+1.0
	baz=300							
L29M	L29M	105.57	24	P		PKiKP	20 16 29.4	+0.7
	baz=298							
M29M	Somme Creek	105.75	24	P		PKiKP	20 16 29.8	+0.7
	baz=298							
O28M	Mount Upton	105.77	26	P		PKiKP	20 16 29.7	+0.2
	baz=296							
PINM	Pinnacle	106.04	27	P		PKiKP	20 16 30.2	+0.5
	baz=296							
YUK4	Talbot Arm	106.19	25	P		PKiKP	20 16 30.7	+0.6
	baz=298							
M30M	Minto, Yukon	106.36	24	P		PKiKP	20 16 30.8	+0.6
	baz=300							
YUK6	Outpost Mounta	106.49	26	P		PKiKP	20 16 31.0	+0.3
	baz=298							
C36M	Paulatuk	106.50	15	P		PKiKP	20 16 31.2	+1.1
	baz=314							
PNL	Peninsula	106.62	27	P		PKiKP	20 16 31.5	+0.8
	baz=296							
N30M	Aishikik Lake	106.79	25	P		PKiKP	20 16 31.7	+0.7
	baz=299							
P29M	Windy Craggy	107.38	27	P		PKiKP	20 16 32.8	+0.7
	baz=298							
O30N	Mendenhall	107.55	25	P		PKiKP	20 16 32.9	+0.4
	baz=300							
FARO	Faro, Yukon	107.92	23	P		PKiKP	20 16 33.4	+0.4
	baz=303							
PLBC	Pleasant Camp	108.08	27	P		PKiKP	20 16 33.6	+0.3
	baz=299							
TBI	Tubuai	108.26	115	*e*LR		LR	20 48 12.4	
	comp=Z,2μm,30.2s							
S31K	Pelican	108.87	28	P		PKiKP	20 16 35.1	+0.3
	baz=299							
PPT2	Papeete2	109.07	109	*e*S		Sdif	20 24 20.7	-21
	comp=Z,117nm,26.8s							
PPT2				*e*SS		SS	20 32 26.8	+3.3
	comp=Z,359nm,25.2s							
PPT2	Papeete2	109.07	109	*e*LR		LR	20 48 34.4	
	comp=Z,213nm,26.5s							
PPT2				*e*LR		LR	20 48 39.9	
	comp=Z,261nm,24.8s							
P32M	Atlin	109.18	26	P		PKiKP	20 16 35.9	+0.4
	baz=302							
P33M	Teslin, Yukon	109.23	25	P		PKiKP	20 16 36.0	+0.4
	baz=303							
R32K	Eaglecrest	109.50	27	P		PKiKP	20 16 37.1	+1.0
	baz=301							
SIT	Sitka	109.74	28	P		PKiKP	20 16 37.4	+0.9
	baz=299							
S32K	Killisnoo	109.89	28	P		PKiKP	20 16 37.4	+0.6
	baz=300							
Q32M	Nakina River	110.14	26	P		PKiKP	20 16 38.2	+0.6
	baz=303							
R33M	Jennings River	110.46	25	P		PKiKP	20 16 39.0	+1.0
	baz=304							
U33K	Whale Pass	111.27	29	P		PKiKP	20 16 40.0	+0.5
	baz=301							
DLBC	Dease Lake	111.41	26	P		PKiKP	20 16 40.2	+0.4
	baz=305							
CRAG	Craig	111.60	29	P		PKiKP	20 16 40.9	+0.9
	baz=301							
V35K	Ketchikan	112.41	29	P		PKiKP	20 16 42.6	+1.0
	baz=302							
U35K	Hyder	112.84	28	P		PKiKP	20 16 43.3	+0.9
	baz=304							
TOAD	Toad River Com	113.15	24	P		PKiKP	20 16 43.8	+0.8
	baz=310							
YKA	Yellowknife Ar	114.19	17	PKiKP		PKiKP	20 16 43.2	-1.7
	comp=Z,0.8nm,0.7s,baz=313,slow=1.5,SNR=5.9							
NEW	Newport	123.82	29	P		PKPdf	20 17 04.2	+0.3
	baz=314							
HAWA	Hanford	123.85	32	PKPdf		PKPdf	20 17 03.8	-0.2
FFC	Flin Flon	124.28	15	PKPdf		PKPdf	20 17 04.2	-0.3
FFC	Flin Flon	124.28	15	PKIKP		PKPdf	20 17 04.2	-0.3
SCHQ	Schefferville	125.97	350	PKP		PKPdf	20 17 08.2	+0.4
	comp=Z,4.3nm,0.7s,baz=21,slow=2.6,SNR=8.2							
MSO	Missoula	126.36	28	P		PKPdf	20 17 08.9	0.0
	baz=316							
BPMT	Black Pine Rid	126.87	28	PKPdf		PKPdf	20 17 07.0	-3.1
LYMT	Lyon Mountain	127.02	27			PKPdf	20 17 07.9	-2.4
EGMT	Eagleton	127.32	25	P		PKPdf	20 17 11.0	+0.4
	baz=322							
BOZ	Bozeman (W)	128.35	28	P		PKPdf	20 17 13.1	+0.4
	baz=318							
HLID	Hailey	128.44	31	PKPdf		PKPdf	20 17 12.2	-0.9
HLID	Hailey	128.44	31	P		PKPdf	20 17 13.6	+0.5
	baz=314							
NVAR	Mina Array Bea	129.54	39			PKPdf	20 17 15.0	-0.3
NVAR	Mina Array Bea	129.54	39	PKP		PKPdf	20 17 15.3	0.0
	comp=Z,1.9nm,0.6s,baz=282,slow=1.9,SNR=12							
RLMT	Red Lodge	129.79	27	P		PKPdf	20 17 15.9	+0.3
	baz=321							
LAO	LASA Array	129.82	23	P		PKiKP	20 17 16.4	+0.2
	baz=325							
ULM	Lac du Bonnet	129.88	13	PKP		PKPdf	20 17 15.2	-0.2
	comp=Z,8.7nm,0.8s,baz=318,slow=1.7,SNR=7.7							
TPAW	Teton Pass	130.24	29			PKPdf	20 17 15.0	-1.6
PKM	Mcpherson Peak	130.56	44	P		PKPdf	20 17 17.9	+0.5
	baz=303							
CWC	Cottonwood Cre	130.86	41	P		PKPdf	20 17 18.5	+0.7
	baz=306							
SBC	Santa Barbara	130.88	44	P		PKPdf	20 17 18.2	+0.5
	baz=303							
GRAC	Grapevine Rang	130.99	40	P		PKPdf	20 17 18.1	+0.1
	baz=307							
ARVC	Arvin	131.11	43	P		PKPdf	20 17 18.5	+0.4
	baz=304							
MDND	Maddock	131.11	17	P		PKPdf	20 17 18.0	+0.3
	baz=334							
SCZ2	Santa Cruz Isl	131.17	45	P		PKPdf	20 17 18.5	+0.2
	baz=303							
R11B	Troy Canyon, C	131.26	37	P		PKPdf	20 17 19.0	+0.4
	baz=310							
BW06	Boulder Array	131.46	29	P		PKPdf	20 17 19.4	+0.6
	baz=319							
PDAR	Pinedale Array	131.46	29			PKPdf	20 17 17.4	-1.5
PDAR	Pinedale Array	131.46	29	PKP		PKPdf	20 17 18.8	-0.1
	comp=Z,0.9nm,0.6s,baz=256,slow=0.6,SNR=11							
OSI	Osito Audit: C	131.46	43	P		PKPdf	20 17 19.3	+0.4
	baz=304							
MPMC	Manual Prospec	131.47	41	P		PKPdf	20 17 19.9	+0.8
	baz=306							
DUG	Dugway, Tooele	131.64	34	P		PKiKP	20 17 20.1	0.0
	baz=314							
LRMC	Laurel Mtn Rad	131.68	42	P		PKiKP	20 17 20.6	+0.2
	baz=306							
AGMN	Agassiz Nation	131.70	14	P		PKiKP	20 17 20.2	+0.3
	baz=339							
TPNV	Topopah Spring	131.73	39	P		PKiKP	20 17 20.7	+0.2
	baz=308							
EDW2	Edwards Air Fo	131.81	43	P		PKiKP	20 17 20.6	+0.1
	baz=305							
GWY	Greenwater Val	131.92	40			PKPdf	20 17 19.5	-0.3
GSC	Goldstone, Bar	132.36	41	P		PKiKP	20 17 21.5	-0.1
	baz=306							
SCI2	San Clemente I	132.48	45	P		PKiKP	20 17 21.9	0.0
	baz=303							
RSSD	Black Hills	132.81	23	PKPdf		PKPdf	20 17 20.7	-0.7
RSSD	Black Hills	132.81	23	P		PKPdf	20 17 21.8	+0.5
	baz=327							
RSSD	Black Hills	132.81	23	PKIKP		PKPdf	20 17 20.7	-0.7
TUQ	Turquoise Moun	132.86	41	P		PKPdf	20 17 22.1	+0.5
	baz=307							
HEC	Hector,Ludlow	132.95	42	P		PKPdf	20 17 22.3	+0.6
	baz=306							
K22A	Casper	132.96	27	P		PKPdf	20 17 22.6	+0.9
	baz=323							
EYMN	Ely	132.96	10	P		PKiKP	20 17 22.4	0.0
	baz=344							
MURC	Murrieta	133.08	43	P		PKPdf	20 17 22.6	+0.6
	baz=305							
RWWY	Rawlins	133.40	28			PKPdf	20 17 21.7	-0.9
GMRC	Granite Mounta	133.42	41	P		PKiKP	20 17 23.8	-0.2
	baz=307							
PFO	Pinyon Flats O	133.58	43	P		PKPdf	20 17 23.6	+0.6
	baz=305							
TPFO	Pinon Flats	133.59	43	P		PKPdf	20 17 23.7	+0.7
	baz=305							
BELC	Belle Mtn. Jos	133.66	42	P		PKPdf	20 17 24.0	+0.8
	baz=306							
MONP2	Monument Peak	134.02	44	P		PKPdf	20 17 24.6	+0.7
	baz=305							
O20A	White River Ci	134.10	30	P		PKPdf	20 17 24.6	+0.7
	baz=319							
IRM	Iron Mountain	134.14	41	P		PKPdf	20 17 24.5	+0.5
	baz=307							
BC3	Big Chuckawall	134.23	42	P		PKPdf	20 17 24.5	+0.3
	baz=306							
SUSD	Miller	134.36	19	P		PKPdf	20 17 25.0	+1.0
	baz=333							
IKP	In-Ko-Pah, Jac	134.37	44	P		PKPdf	20 17 25.2	+0.7
	baz=305							
SWSC	Sam W. Stewart	134.41	43	P		PKPdf	20 17 25.3	+0.9
	baz=306							
N23A	Red Feather La	134.62	28	P		PKPdf	20 17 25.4	+0.5
	baz=322							
GLA	Glamis	135.01	42	P		PKPdf	20 17 26.3	+0.7
	baz=307							
TRQ	Mont Tremblant	135.44	354			PKPdf	20 17 25.1	-0.9
LL01	San Ignacio de	135.51	188			PKPdf	20 17 25.3	-0.9
PKME	Peaks-Kenny Pk	135.61	349	P		PKPdf	20 17 27.1	+0.9
	baz=16							
ISCO	Idaho Springs	135.63	28	P		PKPdf	20 17 27.4	+0.5
	baz=322							
WUAZ	Wupatki	135.66	37	P		PKPdf	20 17 27.8	+0.9
	baz=312							
ECSD	EROS Data Cent	135.72	17	P		PKPdf	20 17 27.4	+0.9
	baz=336							
MVCO	Mesa Verde	136.13	33	P		PKPdf	20 17 28.4	+0.6
	baz=317							
OGNE	Ogallala	136.28	24	P		PKPdf	20 17 28.7	+0.9
	baz=326							
S22A	4UR Ranch, Cre	136.62	31	P		PKPdf	20 17 29.6	+0.8
	baz=319							
W18A	Petrified Fore	136.91	36	P		PKPdf	20 17 30.3	+1.0
	baz=314							
LONY	Lake Ozonia	137.02	354	P		PKPdf	20 17 30.1	+1.2
	baz=8.2							
214A	Organ Pipe Nat	137.03	42	P		PKPdf	20 17 30.3	+0.9
	baz=308							
LBNH	Lisbon	137.06	351	P		PKPdf	20 17 30.2	+1.1
	baz=12							
SDCO	Great Sand Dun	137.30	30	P		PKPdf	20 17 30.8	+0.8
	baz=321							
JFWS	Jewell Farm	138.04	11	P		PKPdf	20 17 32.0	+1.1
	baz=345							
TUC	Tucson	138.14	40	P		PKPdf	20 17 32.5	+1.0
	baz=310							
T25A	Trinidad	138.31	30	PKPpre		PKPpre	20 17 23.0	
T25A				PKPdf		PKPdf	20 17 31.3	-0.5
T25A	Trinidad	138.31	30	P		PKPdf	20 17 32.4	+0.6
	baz=322							
HRV	Adam Dziewonsk	138.69	350	P		PKPdf	20 17 33.3	+1.3
	baz=13							
ANMO	Albuquerque	138.91	34			PKPpre	20 17 24.7	
ANMO	Albuquerque	138.91	34	P		PKPdf	20 17 34.0	+1.1
	baz=318							
ANMO	Albuquerque	138.91	34	PKHKP		PKPpre	20 17 24.7	
ERPA	Erie	139.81	360	P		PKPdf	20 17 35.6	+1.5
	baz=0.2							
121A	Cookes Peak, D	139.87	37	P		PKPdf	20 17 36.3	+1.5
	baz=314							
M53A	WI Miller and	140.49	1	P		PKPdf	20 17 36.1	+0.8
	baz=359							
PAL	Palisades	140.51	353	P		PKPdf	20 17 36.3	+0.9
	baz=9.8							
SSPA	Standing Stone	141.24	357	P		PKPdf	20 17 37.8	+1.1
	baz=3.6							
O48B	Farmland	141.41	6	P		PKPdf	20 17 38.8	+1.7
	baz=352							
AMTX	Amarillo	141.44	29	P		PKPdf	20 17 38.8	+1.4
	baz=324							
ACSO	Alum Creek Sta	141.62	3	P		PKiKP	20 17 39.9	-0.3
	baz=356							
O53A	New Philadelph	141.67	1	P		PKPdf	20 17 39.1	+1.6
	baz=358							
MNTX	Cornudas Mount	141.90	36	P		PKPdf	20 17 39.9	+1.7
	baz=317							
P52A	Corning	142.25	2	P		PKPdf	20 17 40.3	+1.7
	baz=357							
CCM	Cathedral Cave	142.47	14	P		PKiKP	20 17 41.3	-0.8
	baz=342							
WMOK	Wichita Mounta	142.89	26			PKPpre	20 17 34.6	
WMOK	Wichita Mounta	142.89	26	PKHKP		PKPpre	20 17 34.6	
TUL3	Leonard	143.06	21	P		PKiKP	20 17 42.7	-0.6
	baz=334							
WCI	Wyandotte Cave	143.27	8	P		PKiKP	20 17 42.6	-1.1
	baz=350							
SN07	Snyder 07	143.27	30			PKPbc	20 17 38.8	+1.2
R49A	Shelbyville	143.35	7			PKPpre	20 17 35.5	
PCMB	Pacaembu	143.41	229	*e*P		PKPdf	20 17 40.7	-0.4
MT01	Popeta	143.58	193			PKPbc	20 17 38.9	+0.5
AAGR	Agrelo	143.72	196	*e*P		PKPdf	20 17 42.0	+0.4
ITRB	Iturama	143.77	232	*e*P		PKPdf	20 17 41.8	-0.1
BDFB	Brasilia	143.79	240	PKPdf		PKPbc	20 17 39.6	-0.1
BDFB	Brasilia	143.79	240	PKP		PKPbc	20 17 39.9	+0.3
	comp=Z,3.4nm,0.4s,baz=81,slow=7.1,SNR=7.1							
ARCO	CERRO ARCO	143.98	196	*e*P		PKPdf	20 17 41.7	-0.4
S57A	Dark Hollow, R	144.15	358			PKPab	20 17 39.8	+0.2
ASAL	Salagasta	144.19	197	*e*P		PKPdf	20 17 42.8	+0.5
ABTX	Abilene, Hawle	144.26	29	PKPdf		PKPab	20 17 40.5	+0.3
ABTX	Abilene, Hawle	144.26	29	P		PKiKP	20 17 45.1	-0.9
	baz=325							
FCAR	Ozark Folk Cen	144.28	17			PKPab	20 17 40.0	-0.1
CPUP	Villa Florida	144.40	217	PKP		PKPbc	20 17 41.9	+0.8
	comp=Z,52nm,0.9s,baz=124,slow=2.6,SNR=69							
VA03	San Esteban	144.48	194			PKPbc	20 17 41.8	+0.4
TXAR	Lajitas Array	144.63	37	PKP		PKPbc	20 17 42.6	+0.7
	comp=Z,23nm,0.7s,baz=261,slow=1.1,SNR=232							
TXAR				PKKP		PKKPdf	20 26 51.1	-0.1
	comp=Z,0.2nm,0.3s,baz=178,slow=6.3,SNR=4.2							
AUSP	Uspallata	144.69	196	*e*P		PKPdf	20 17 44.5	+0.9
BLA	Blacksburg	144.71	0	P		PKPdf	20 17 43.2	+0.1
	baz=360							
ACHE	Chepes	144.83	200	*e*P		PKPdf	20 17 44.5	+0.9
VA06	Catapilco	144.85	193	PKPdf		PKPbc	20 17 42.6	+0.3
T59A	Double "B" Far	144.87	356	PKPdf		PKPab	20 17 41.9	-0.3
RTLS	Leoncito	145.06	196	*e*P		PKPdf	20 17 45.3	+1.1
MIAR	Mount Ida	145.07	19	P		PKPdf	20 17 43.8	+0.1
	baz=336,SNR=88							
WVT	Waverly	145.07	11			PKPbc	20 17 42.5	-0.5
WVT	Waverly	145.07	11	P		PKPbc	20 17 43.0	0.0
	baz=347							
WVT	Waverly	145.07	11	PKIKP		PKPbc	20 17 42.5	-0.5
TZTN	Tazewell	145.24	5	P		PKPbc	20 17 43.6	0.0
	baz=354,SNR=45							
FW13	Cleburne	145.51	26			PKPdf	20 17 43.8	-0.7
AVFE	Valle Fertil	145.56	200	*e*P		PKPab	20 17 46.6	+1.6
WHTX	Lake Whitney,	145.80	27	P		PKPdf	20 17 45.3	+0.3
	baz=328,SNR=6.5							
SMTB	Santa Maria do	145.83	251	*e*P		PKPdf	20 17 45.1	-0.5
JCT	Junction City	145.92	31	P		PKPbc	20 17 46.5	+0.6
	baz=323,SNR=49							
V52A	Sevierville	145.94	5			PKPdf	20 17 44.9	-0.2
ACCO	Cerro Coronel	146.13	197	*e*P		PKPab	20 17 48.3	+0.7
CPCT	Cooper Cave	146.23	6	PKPdf		PKPdf	20 17 45.2	-0.5
OXF	Oxford	146.29	14	P		PKPdf	20 17 46.4	+0.6
	baz=343,SNR=8.4							
ACDV	Cuesta del Vie	146.54	198	*e*P		PKPab	20 17 49.4	+0.5
CNNC	Cliffs of the	146.61	357	P		PKPbc	20 17 48.2	+0.4
	baz=4.1							
AROD	Rodeo	146.65	197	*e*P		PKPab	20 17 49.9	+0.4
435B	Jarrell	146.76	28	P		PKPbc	20 17 48.7	+0.4
	baz=327							
KMSC	Kings Mountain	146.76	2	P		PKPbc	20 17 47.9	-0.3
	baz=358,SNR=15							
BG3	Lake Jocassee	146.83	4			PKPbc	20 17 48.1	-0.3
ARAG	Araguaiana, MT	147.01	237	*e*P		PKPdf	20 17 47.2	-0.2
NATX	Nacogdoches	147.18	23	P		PKPbc	20 17 50.0	+0.5
	baz=333							
AQDB	Aquidauana	147.37	226			PKPbc	20 17 50.4	0.0
AQDB	Aquidauana	147.37	226	*e*P		PKPdf	20 17 45.4	-2.6
833A	Chaparral WMA,	147.84	33			PKPdf	20 17 48.0	-0.6
833A						PKPbc	20 17 52.1	+0.6
833A	Chaparral WMA,	147.84	33	P		PKPbc	20 17 52.2	+0.8
	baz=322,SNR=7.5							
LCO	Las Campanas	148.09	196	PKPdf		PKPdf	20 17 46.2	-3.1
LCO						PKPbc	20 17 53.1	+0.7
LCO	Las Campanas	148.09	196	PKHKP		PKPpre	20 17 46.2	
LCO							20 17 53.1	
VBMS	Vicksburg	148.18	17	P		PKPbc	20 17 52.5	+0.3
	baz=340							
LRAL	Lakeview Retre	148.23	11	P		PKPbc	20 17 52.1	-0.2
	baz=347,SNR=8.5							
HKT	Hockley	148.27	26			PKPdf	20 17 51.1	+2.0
HKT	Hockley	148.27	26	PKP2		PKPdf	20 17 51.1	+2.0
GOGA	Godfrey	148.36	5	P		PKPbc	20 17 52.9	+0.3
	baz=354,SNR=14							
PRPB	Paraúapebas	148.66	255	*e*P		PKPdf	20 17 49.7	-0.6
NHSC	New Hope	148.81	360	P		PKPbc	20 17 54.7	+0.9
	baz=360							
BRAL	Brewton	150.03	12	P		PKiKP	20 17 57.8	0.0
	baz=346							
SALV	Santo Antonio	150.09	233	*e*P		PKPdf	20 17 50.7	-1.8
TIGA	Tifton	150.30	6	P		PKPbc	20 17 58.0	+0.5
	baz=353							
MCPB	Macapa, AP	151.78	266	*e*P		PKPdf	20 17 54.5	-0.7
BBSD	Serra de San D	153.03	225	*e*P		PKPdf	20 17 53.7	-3.2
PTLB	Pontes e Lacer	153.05	230	PKPdf		PKPdf	20 17 54.9	-2.0
PTLB						pPKPdf	20 18 03.2	-1.5
PTLB				PKPab		sPKPbc	20 18 12.4	-2.3
PDRB	Porto dos Gac	153.16	240	*e*P		PKPdf	20 17 57.2	0.0
NPGB	Novo Progresso	153.71	250	*e*P		PKPdf	20 17 57.0	-1.0
ITTB	Itaituba	154.81	256	*e*P		PKPdf	20 17 57.9	-1.7
LPAZ	La Paz	158.47	213	PKP		PKPdf	20 18 05.4	+0.4
	comp=Z,3.0nm,0.8s,baz=56,slow=6.4,SNR=6.6							
LPAZ				PKPab		PKPab	20 18 40.1	+0.7
	comp=Z,4.3nm,1.0s,baz=101,slow=6.9,SNR=6.3							
SAML	Samuel	159.98	238	PKPdf		PKPdf	20 18 02.8	-3.2
SAML						PKPab	20 18 44.8	-0.7
SAML	Samuel	159.98	238	PKIKP		PKPdf	20 18 02.8	-3.2
SAML							20 18 44.8	
ETMB	Extrema	161.94	230	PKPdf		PKPdf	20 18 07.7	-0.4
ETMB						PKPab	20 18 53.6	-0.4
ETMB	Extrema	161.94	230	*e*P		PKPdf	20 18 07.9	-0.2

IDC ***20*** *20:13:35.1±4.5, 1°.38S×100°.37E, h0km, mb3.4/3, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=193.0km s-min=25.5km az=57.0*

DJA ***20*** *20:13:36.0±0.6, 2°.S±3°×10°0E±°, h13km±6km, M4.1/7, mb4.4/1, MLv4.0/7*

0.3nm,0.6s
ASAR Alice Springs 34.93 168 P P 20 31 28.5 -0.1
0.2nm,0.3s,baz=349,slow=7.0,SNR=14
0.2nm,0.3s
H11S3 WAKE ISLAND Hy 39.63 74 T T 21 15 07.6
baz=261,slow=74,SNR=16
H11S1 WAKE ISLAND Hy 39.64 74 T T 21 15 09.8
baz=261,slow=74,SNR=12
H11S2 WAKE ISLAND Hy 39.64 74 T T 21 15 10.2
baz=261,slow=74,SNR=11
H11N1 WAKE ISLAND Hy 39.95 72 T T 21 15 34.6
baz=265,slow=74,SNR=24
H11N2 WAKE ISLAND Hy 39.96 72 T T 21 15 35.2
baz=265,slow=74,SNR=15
H11N3 WAKE ISLAND Hy 39.97 72 T T 21 15 36.3
baz=265,slow=74,SNR=20
MKAR Makanchi Array 51.80 322 P P 20 33 45.7 +1.2
0.2nm,0.6s,baz=123,slow=8.4,SNR=2.1
0.2nm,0.6s
FINES FINESS Array B 85.60 332 P P 20 37 14.4 -0.6
0.6nm,0.8s,baz=69,slow=6.3,SNR=6.0
0.6nm,0.8s

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*NEIC **20** 20:29:34.5±1.0, 19°.439N±0°.004×155°.268W±0°.009, h4km±2km, Error ellipse: s-maj=1.1km s-min=0.6km az=76.0*

HVO 20 20:29:34.4±1.1, 19°.414N±0°.008×155°.259W±0°.008, h0km±3km, ML3.5/33, ML2.8/34(NEIC), Error ellipse: s-maj=1.2km s-min=1.0km az=200.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.00**	**212**		Pg	20 29 34.1	-0.5
HATHI	**Halema'uma'u T**	**0.01**	**349**		Pg	20 29 34.4	-0.3
SBLHI	**Steaming Bluff**	**0.02**	**328**		Pg	20 29 35.1	+0.3
KKO	**Keanakako'i**	**0.02**	**203**		Pg	20 29 35.3	+0.5
UWB	**Uwekahuna B**	**0.02**	**302**		Pg	20 29 35.2	+0.4
RIM	**Rim**	**0.02**	**218**		Pg	20 29 35.9	+1.0
OBL	**Observatory Le**	**0.02**	**280**		Pg	20 29 35.2	+0.3
UWE	**Uwekahuna**	**0.03**	**283**		Pg	20 29 35.0	0.0
WRMHI	**West Rim**	**0.04**	**260**		Pg	20 29 36.0	+0.8
SDHHI	**Sand Hill**	**0.04**	**234**		Pg	20 29 36.3	+1.1
RSD	**Rainshed**	**0.05**	**340**		Pg	20 29 35.6	+0.1
RSD				IAML		20 29 36.6	
	comp=N,6μm,0.3s						
PUH	**Pauahi**	**0.06**	**134**		Pg	20 29 35.3	-0.2
KNHH	**Kane Nui o Ham**	**0.09**	**112**		Pg	20 29 36.7	+0.5
HLP	**Hilina Pali**	**0.13**	**202**		Pg	20 29 37.5	+0.6
HLP				IAML		20 29 40.5	
	comp=N,3μm,1.0s						
HLP				IAML		20 29 40.6	
	comp=E,4μm,1.4s						
STCH	**Steam Cracks**	**0.13**	**102**		Pg	20 29 37.6	+0.7
STCH				IAML		20 29 40.8	
	comp=N,4μm,0.3s						
NPOC	**North of Pu'u**	**0.14**	**98**		Pg	20 29 38.0	+0.9
MLH	**Mauna Loa**	**0.14**	**304**		Pg	20 29 37.9	+0.7
MLH				IAML		20 29 41.4	
	comp=N,3μm,0.7s						
MLH				IAML		20 29 42.2	
	comp=E,3μm,0.4s						
JCUZ	**Jacuzzi**	**0.15**	**101**		Pg	20 29 38.2	+0.8
HTC	**Hot Caves**	**0.22**	**217**		Pg	20 29 40.1	+1.5
JOKA	**Jonika Flow**	**0.24**	**85**		Pg	20 29 39.4	+0.4
JOKA				IAML		20 29 46.5	
	comp=E,1μm,1.6s						
JOKA				IAML		20 29 46.9	
	comp=N,2μm,0.6s						
HMH	**Humu'ula Sheep**	**0.28**	**312**	Pg	Pg	20 29 40.4	+0.5
HMH				IAML		20 29 48.4	
	comp=E,2μm,1.3s						
HMH				IAML		20 29 49.5	
	comp=N,2μm,0.7s						
PAH	**Pahoa**	**0.30**	**75**	Pg	Pg	20 29 40.2	-0.1
MLOA	**Mauna Loa Obse**	**0.32**	**292**	Pg	Pg	20 29 40.5	-0.1
MLOA				IAML		20 29 49.9	
	comp=N,2μm,1.2s						
MLOA				IAML		20 29 51.4	
	comp=E,2μm,1.0s						
MWH	**Moku'aweowe**	**0.33**	**283**	Pg	Pg	20 29 40.5	-0.2
KHU	**Kahuku**	**0.38**	**244**		Pg	20 29 41.4	-0.2
KHU				IAML		20 29 49.8	
	comp=N,926nm,1.8s						
HPO	**Honuapo**	**0.43**	**221**		Pg	20 29 42.5	-0.1
POHA	**Pohakuloa**	**0.43**	**323**	Pg	Pg	20 29 42.8	+0.2
POHA				IAML		20 29 57.3	
	comp=N,1μm,1.0s						
HUH	**Hualalai**	**0.61**	**296**	Pg	Pg	20 29 45.9	-0.2
HPAH	**Hawaii Prepara**	**0.74**	**326**	Pg	Pg	20 29 47.7	-0.9
KKH	**Kailua Kona**	**0.76**	**289**	Pg	Pg	20 29 47.5	-1.5
MHA	**Mahukona**	**0.98**	**322**	Pg	Pg	20 29 51.0	-2.3
HLK	**Haleakala**	**1.63**	**325**		Pn	20 30 02.9	-1.8

SJA 20 20:30:36.3±0.5, 23°.04S×66°.59W, h245km±6km, ML3.2, MW3.5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.31**	**50**	*e*P	Pn	20 31 14.1	+0.7
AZAP	**Zapla**	**1.83**	**131**	*e*P	Pn	20 31 17.6	+0.5
LVC	**Limon Verde**	**2.18**	**281**	*e*P	Pn	20 31 20.9	+0.4
ALOL	**LOMAS DE OLMED**	**2.52**	**108**	*e*P	Pn	20 31 28.4	+5.0
PB15	**IPOC Station P**	**2.66**	**266**	*e*P	Pn	20 31 25.3	+0.2
PB15				*e*S	S	20 32 02.1	-1.4
PB15				IAML		20 32 05.9	
	comp=Z,47nm,0.3s						
PB09	**IPOC Station P**	**2.75**	**296**	*e*P	Pn	20 31 26.9	+0.9
PB09				IAML		20 32 20.8	
	comp=Z,44nm,3.4s						
PB06	**IPOC Station P**	**2.77**	**276**	*e*P	Pn	20 31 26.8	+0.6
PB06				*e*S	S	20 32 03.6	-1.9
PB06				IAML		20 32 44.2	
	comp=Z,28nm,4.4s						
PB05	**IPOC Station P**	**3.33**	**272**	*e*P	Pn	20 31 32.5	+0.1
PB05				*e*S	S	20 32 13.7	-2.9
PB05				IAML		20 32 40.5	
	comp=Z,37nm,2.4s						
PB01	**IPOC Station P**	**3.34**	**306**	*e*P	Pn	20 31 33.0	+0.6
PB01				IAML		20 32 17.6	
	comp=Z,24nm,1.2s						
PB04	**IPOC Station P**	**3.36**	**281**	*e*P	Pn	20 31 33.1	+0.4
PB04				*e*S	S	20 32 14.2	-3.0
PB04				IAML		20 32 15.8	
	comp=Z,41nm,1.1s						
GO02	**Mina Guanaco**	**3.46**	**232**	*e*P	Pn	20 31 34.9	+0.9
GO02				*e*S	S	20 32 17.4	-2.1
PB10	**IPOC Station P**	**3.68**	**262**	*e*P	Pn	20 31 36.5	+0.4
PB10				*e*S	S	20 32 21.0	-2.4
PB10				IAML		20 32 34.0	
	comp=Z,45nm,1.7s						
PB11	**IPOC Station P**	**4.33**	**318**	*e*P	Pn	20 31 44.4	+0.3
PB11				IAML		20 32 37.8	
	comp=Z,16nm,0.9s						

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*SDD **20** 20:41:06.5±2.6, 18°.91N×69°.64W, h86km±11km, MD3.2, ML3.3, MW3.5*
*OSPL **20** 20:41:07.4±3.0, 18°.91N×69°.69W, h80km±11km, ML3.1*

ISC 20 20:41:04.3±1.3, 18°.92N±0°.04×69°.68W±0°.03, h93km±8km, n29, σ1°.60/48, 18C-7D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADR	**Nagua**	**0.46**	**339**	⇑*e*Pg	**Pn**	**20 41 19.4**	**+0.3**
NADR				⇑*e*Sg	**Sn**	**20 41 31.2**	**+1.2**
NADR				IAML		20 41 31.7	
	comp=N,10μm,0.2s						
NADR				IAML		20 41 33.6	
	comp=E,5μm,0.7s						
LONA1	**Toro Cenizo, N**	**0.49**	**339**	*i* P	**Pn**	**20 41 19.6**	**+0.3**
LONA1				*e*S	**Sn**	**20 41 31.6**	**+1.1**
LONA1				IAML		20 41 32.6	
	comp=Z,2μm,1.2s						
SDD	**Santo Domingo**	**0.51**	**206**	⇑*e*Pg	**Pn**	**20 41 18.5**	**-0.9**
SDD				⇓*e*Sg	**Sn**	**20 41 28.5**	**-2.3**
SDD				IAML		20 41 28.8	
	comp=N,300nm,0.2s						
SDD				IAML		20 41 29.1	
	comp=E,206nm,0.1s						
SDD	**Santo Domingo**	**0.51**	**206**	*i* P	**Pn**	**20 41 18.6**	**-0.9**
SDD				*e*S	**Sn**	**20 41 28.4**	**-2.3**
MIDR	**Miches**	**0.60**	**84**	⇑*e*Pg	**Pn**	**20 41 19.5**	**-0.6**
MIDR				⇑*e*Sg	**Sn**	**20 41 30.4**	**-1.6**
MIDR				IAML		20 41 31.0	
	comp=N,659nm,0.3s						
CADR	**Cabrera**	**0.78**	**342**	*e*Pg	**Pn**	**20 41 24.9**	**+2.9**
CADR				⇑*e*Sg	**Sn**	**20 41 35.7**	**+0.7**
CADR				IAML		20 41 36.8	
	comp=N,1μm,0.5s						
CADR				IAML		20 41 37.8	
	comp=E,1μm,0.2s						
BANI	**BANI**	**0.83**	**231**	⇑*e*Pg	**Pn**	**20 41 22.7**	**+0.1**
BANI				⇑*e*Sg	**Sn**	**20 41 36.6**	**+0.4**
BANI				IAML		20 41 38.0	
	comp=E,716nm,0.1s						
BANI				IAML		20 41 38.3	
	comp=N,887nm,0.1s						
ABDR	**Alto Bandera**	**0.90**	**263**	⇓*e*Pg	**Pn**	**20 41 23.8**	**+0.2**
ABDR				*e*Sg	**Sn**	**20 41 37.6**	**-0.3**
ABDR				IAML		20 41 38.8	
	comp=N,2μm,0.5s						
HIDR	**Higuey Centro**	**0.97**	**110**	⇑*e*Sg	**Sn**	**20 41 37.4**	**-1.2**
HIDR				IAML		20 41 39.6	
	comp=N,5μm,0.3s						
HIDR				IAML		20 41 39.8	
	comp=E,3μm,0.2s						
SC01	**Santiago de lo**	**1.11**	**297**	⇑*e*Pg	**Pn**	**20 41 27.1**	**+1.6**
SC01				IAML		20 41 47.2	
	comp=E,900nm,0.3s						
SC01				IAML		20 42 17.8	
	comp=N,3.2nm,3.2s						
SC01	**Santiago de lo**	**1.11**	**297**	*i* P	**Pn**	**20 41 27.5**	**+2.0**
SC01				*e*S	**Sn**	**20 41 42.7**	**+1.2**
SC01				IAML		20 41 49.5	
	comp=Z,349nm,0.2s						
SADR	**Isla Saona**	**1.12**	**130**	⇓*e*Pg	**Pn**	**20 41 25.4**	**-0.2**
SADR				⇓*e*Pg		20 41 25.4	
SADR				⇑*e*Sg	**Sn**	**20 41 41.4**	**-0.3**
SADR				⇑*e*Sg		20 41 41.8	
SADR				IAML		20 41 45.8	
	comp=E,293nm,0.6s						
SADR				IAML		20 41 50.0	
	comp=N,242nm,0.6s						
SADR				IAML		20 41 51.8	
	comp=N,386nm,0.4s						
PCDR	**Punta Cana, DR**	**1.30**	**108**	⇓*e*Pg	**Pn**	**20 41 28.0**	**+0.3**
PCDR				IAML		20 41 48.1	
	comp=N,544nm,0.5s						
PCDR				IAML		20 41 50.1	
	comp=E,211nm,0.2s						
PCDR	**Punta Cana, DR**	**1.30**	**108**	*i* P	**Pn**	**20 41 28.1**	**+0.3**
PCDR				*e*S	**Sn**	**20 41 46.3**	**+1.0**
PCDR				IAML		20 41 49.6	
	comp=Z,291nm,0.2s						
SDDR	**Presa de Saban**	**1.52**	**272**	⇑*e*Pg	**Pn**	**20 41 32.6**	**+2.0**
SDDR				IAML		20 41 58.3	
	comp=E,267nm,0.5s						
SDDR				IAML		20 41 58.9	
	comp=N,167nm,1.2s						
SDDR	**Presa de Saban**	**1.52**	**272**	*e*P	**Pn**	**20 41 32.5**	**+2.0**
SDDR				*e*S	**Sn**	**20 41 53.6**	**+3.2**
SDDR	**Presa de Saban**	**1.52**	**272**	*i* P	**Pn**	**20 41 32.6**	**+2.0**
SDDR				IAML		20 41 58.0	
	comp=Z,125nm,0.3s						
LOBA2	**Hotel Casa Bon**	**1.58**	**238**	⇑*e*Pg	**Pn**	**20 41 32.1**	**+0.9**
LOBA2				⇓*e*Sg	**Sn**	**20 41 51.9**	**+0.3**
LOBA2				IAML		20 41 52.8	
	comp=N,53nm,0.2s						
LOBA2				IAML		20 41 54.1	
	comp=E,47nm,0.4s						
REDR	**Restauracion**	**1.64**	**279**	⇑*e*Pg	Pn	20 41 36.8	+4.8
REDR				IAML		20 42 08.8	
	comp=E,241nm,0.1s						
REDR				IAML		20 42 12.8	
	comp=N,215nm,0.1s						
PODR	**Polo**	**1.69**	**244**	*e*Pg	**Pn**	**20 41 34.6**	**+1.7**
PODR				⇓*e*Sg	**Sn**	**20 41 55.9**	**+1.4**
PODR				IAML		20 41 59.8	
	comp=N,223nm,0.3s						
PODR				IAML		20 42 01.8	
	comp=E,270nm,0.3s						
MCDR	**Montecristi**	**2.10**	**298**	⇑*e*Pg	**Pn**	**20 41 37.9**	**-0.1**
MCDR				IAML		20 42 15.8	
	comp=N,259nm,1.1s						
MCDR				IAML		20 42 20.0	
	comp=Z,148nm,0.2s						
AGPR	**Aguadilla, PR**	**2.48**	**100**	*i* P	**Pn**	**20 41 45.2**	**+2.2**
AGPR				IAML		20 42 23.1	
	comp=Z,139nm,0.3s						
CRPR	**Cabo Rojo, PR**	**2.60**	**110**	*i* P	**Pn**	**20 41 46.3**	**+1.7**
CRPR				*e*S	**Sn**	**20 42 16.5**	**+0.9**
CRPR				IAML		20 42 23.6	
	comp=Z,100nm,0.8s						
MLPR	**Magueyes Islan**	**2.67**	**110**	*e*Pg	**Pn**	**20 41 45.9**	**+0.4**
MLPR				IAML		20 42 24.9	
	comp=E,58nm,0.3s						
MLPR				IAML		20 42 26.1	
	comp=N,45nm,0.3s						
GRTK	**Grand Turk**	**2.92**	**332**	*e*Pg	**Pn**	**20 41 48.6**	**-0.2**
GRTK				⇑*e*Sg	**Sn**	**20 42 21.5**	**-1.5**
GRTK				IAML		20 42 24.4	
	comp=E,264nm,0.2s						
GRTK				IAML		20 42 25.1	
	comp=N,139nm,0.6s						
GRTK	**Grand Turk**	**2.92**	**332**	*e*P	**Pn**	**20 41 48.4**	**-0.4**
GRTK				*e*S	**Sn**	**20 42 20.5**	**-2.5**
GRTK				IAML		20 42 24.3	
	comp=N,262nm,0.2s						
GRTK				IAML		20 42 24.6	
	comp=N,139nm,0.2s						
GRTK	**Grand Turk**	**2.92**	**332**	*i* P	**Pn**	**20 41 48.6**	**-0.2**
GRTK				*e*S	**Sn**	**20 42 21.0**	**-2.0**
GRTK				IAML		20 42 24.2	
	comp=Z,92nm,0.2s						
MASC	**Masc**	**4.47**	**287**	*e*P	**Pn**	**20 42 10.6**	**+0.8**
MASC				*e*S	**Sn**	**20 42 58.9**	**-1.7**
QMBU	**Quimbuelo**	**5.00**	**286**	*e*P	**Pn**	**20 42 15.6**	**-1.5**
QMBU				*e*S	**Sn**	**20 43 09.2**	**-4.5**
QMBU				IAML		20 43 16.3	
	comp=E,6.8nm,0.2s						
QMBU				IAML		20 43 17.3	
	comp=N,4.1nm,0.2s						

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*IDC **20** 20:46:23.9±1.4, 56°.38N×148°.47W, h0km, mb3.6/5, mbtmp3.7/10, ML3.6/5, MS3.8/3, Error ellipse: s-maj=26.6km s-min=20.1km az=168.0*
*NEIC **20** 20:46:23.9±1.3, 56°.40N±0°.07×148°.61W±0°.09, h10km±2km, ML3.8/78, ML3.6(AEIC), Error ellipse: s-maj=11.8km s-min=8.2km az=167.0*
*AEIC **20** 20:46:28.9±1.3, 56°.41N±0°.07×148°.60W±0°.09, h12km±7km, Error ellipse: s-maj=10.8km s-min=6.9km az=173.0*

ISC 20 20:46:25.0±0.8, 56°.52N±0°.07×148°.63W±0°.05, h10km, n299, σ0°.95/294, mb3.8/5, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.50**	**302**		**Pn**	**20 47 05.3**	**-0.3**
KDAK					**Sn**	**20 47 32.9**	**-3.2**
KDAK	**Kodiak Island**	**2.50**	**302**	S	**Sn**	**20 47 33.1**	**-3.0**
	baz=121						
KDAK	**Kodiak Island**	**2.50**	**302**	Pn	**Pn**	**20 47 05.5**	**-0.2**
	6.0nm,0.3s,baz=145,slow=4.8,SNR=81						
KDAK				Sn	**Sn**	**20 47 33.5**	**-2.6**
	6.4nm,0.3s,baz=90,slow=20,SNR=6.6						
KDAK				LR	LR	20 48 20.1	
	comp=Z,222nm,19.4s,baz=70,slow=44						
	12nm,0.3s						
OHAK	**Old Harbor**	**2.65**	**287**		**Pn**	**20 47 06.8**	**-0.9**
OHAK					**Sn**	**20 47 35.9**	**-4.0**
OHAK	**Old Harbor**	**2.65**	**287**	P	**Pn**	**20 47 07.0**	**-0.7**
	baz=106						
OHAK				S	**Sn**	**20 47 36.4**	**-3.5**
	baz=106						
SYI	**Shuyak Island**	**2.92**	**318**	Pn	**Pn**	**20 47 11.7**	**+0.4**
SYI					**Sn**	**20 47 44.6**	**-1.8**
Q20K	**Shuyak Island**	**2.92**	**318**	P	**Pn**	**20 47 11.9**	**+0.5**
	baz=136						
Q20K				S	**Sn**	**20 47 45.2**	**-1.2**
	baz=136						
SII	**Sitkinak Islan**	**3.08**	**273**	P	**Pn**	**20 47 14.3**	**+0.7**
SII	**Sitkinak Islan**	**3.08**	**273**	Pn	**Pn**	**20 47 13.6**	**0.0**
SII					**Sn**	**20 47 47.1**	**-3.3**
SII				IAML		20 48 00.7	
	comp=N,158nm,0.7s						
SII				IAML		20 48 03.5	
	comp=E,151nm,0.7s						
SII	**Sitkinak Islan**	**3.08**	**273**	P	**Pn**	**20 47 13.1**	**-0.5**
	baz=90						
SII				S	**Sn**	**20 47 47.2**	**-3.2**
	baz=90						
Q23K	**Middleton Isla**	**3.16**	**22**		**Pn**	**20 47 14.2**	**-0.5**
Q23K				IAML		20 47 51.4	
	comp=E,138nm,0.6s						
Q23K				IAML		20 48 08.7	
	comp=N,131nm,0.7s						
Q23K	**Middleton Isla**	**3.16**	**22**	P	**Pn**	**20 47 14.5**	**-0.3**
	baz=203						
MID	**Middleton Isla**	**3.16**	**22**	P	**Pn**	**20 47 14.7**	**0.0**
MID	**Middleton Isla**	**3.16**	**22**		**Pn**	**20 47 14.4**	**-0.3**
MID	**Middleton Isla**	**3.16**	**22**		**Sn**	**20 47 49.6**	**-2.9**
MID	**Middleton Isla**	**3.16**	**22**	IAML		20 47 51.3	
	comp=E,138nm,1.0s						
MID				IAML		20 48 08.6	
	comp=N,125nm,0.7s						
CNPM	**China Poot**	**3.32**	**336**		**Sn**	**20 47 55.8**	**-0.6**
CNPM	**China Poot**	**3.32**	**336**		**Pn**	**20 47 17.2**	**+0.3**
CNPM	**China Poot**	**3.32**	**336**	IAML		20 48 00.6	
	comp=N,95nm,0.5s						
CNPM				IAML		20 48 02.4	
	comp=E,79nm,0.5s						
R18K	**Karluk**	**3.35**	**291**		**Pn**	**20 47 17.3**	**0.0**
R18K	**Karluk**	**3.35**	**291**	IAML		20 48 10.6	
	comp=N,287nm,0.5s						
R18K	**Karluk**	**3.35**	**291**	P	**Pn**	**20 47 17.3**	**0.0**
	baz=108						
BRSE	**Bradley Lake S**	**3.42**	**342**		**Pn**	**20 47 18.5**	**+0.1**
BRSE	**Bradley Lake S**	**3.42**	**342**	P	**Pn**	**20 47 18.5**	**+0.1**
	baz=160						
BRLK	**Bradley Lake**	**3.47**	**341**		**Pn**	**20 47 18.8**	**-0.2**
BRLK				IAML		20 48 05.9	
	comp=N,111nm,0.7s						
HOM	**Homer**	**3.53**	**334**	Pn	**Pn**	**20 47 19.4**	**-0.4**
HOM				IAML		20 48 09.5	
	comp=N,268nm,0.5s						
HOM				IAML		20 48 29.9	
	comp=E,264nm,0.9s						
P23K	**Montague Islan**	**3.55**	**10**		**Pn**	**20 47 20.1**	**0.0**
P23K					**Sn**	**20 47 60.0**	**-2.1**
P23K	**Montague Islan**	**3.55**	**10**	P	**Pn**	**20 47 20.1**	**0.0**
	baz=190						
P23K				S	**Sn**	**20 47 60.0**	**-2.1**
	baz=190						
Q19K	**Cape Douglas,**	**3.62**	**314**		**Pn**	**20 47 21.5**	**+0.5**
Q19K				IAML		20 48 10.5	
	comp=N,214nm,0.8s						
Q19K				IAML		20 48 12.9	
	comp=E,244nm,0.9s						
Q19K	**Cape Douglas,**	**3.62**	**314**	P	**Pn**	**20 47 21.9**	**+0.9**
	baz=131						
SEW	**Seward**	**3.62**	**353**		**Pn**	**20 47 20.9**	**-0.1**
SEW					**Sn**	**20 48 01.8**	**-2.0**
SEW	**Seward**	**3.62**	**353**	P	**Pn**	**20 47 20.9**	**-0.1**
	baz=173						
SEW				S	**Sn**	**20 48 01.8**	**-2.0**
	baz=173						
KAHG	**Katmai Hook Gl**	**3.76**	**304**		**Pn**	**20 47 23.8**	**+0.8**
AU22	**Augustine Moun**	**3.81**	**321**		**Pn**	**20 47 25.0**	**+1.3**
CHIR	**Chirikof Islan**	**3.97**	**263**	Pn	**Pn**	**20 47 24.9**	**-0.9**
CHIR				IAML		20 47 52.7	
	comp=E,117nm,1.7s						
CHIR				IAML		20 48 14.4	
	comp=N,120nm,1.8s						
P19K	**Oil Pt**	**3.98**	**324**		**Pn**	**20 47 26.4**	**+0.4**
P19K	**Oil Pt**	**3.98**	**324**	P	**Pn**	**20 47 26.7**	**+0.7**
	baz=141						
ACHA	**Angle Creek He**	**4.00**	**298**	Pn	**Pn**	**20 47 27.6**	**+1.2**
O22K	**Cooper Landing**	**4.02**	**352**	Pn	**Pn**	**20 47 26.7**	**+0.3**
O22K	**Cooper Landing**	**4.02**	**352**	P	**Pn**	**20 47 27.8**	**+1.3**
	baz=171						
KAHC	**Katmai Hardscr**	**4.04**	**305**		**Pn**	**20 47 26.8**	**-0.2**
KAHC	**Katmai Hardscr**	**4.04**	**305**		**Pn**	**20 47 27.4**	**+0.5**
KAHC	**Katmai Hardscr**	**4.04**	**305**	P	**Pn**	**20 47 26.8**	**-0.2**
	baz=120						
Q18K	**Katmai Hardscr**	**4.04**	**305**	P	**Pn**	**20 47 27.4**	**+0.5**
	baz=120						
HIN	**Hinchinbrook I**	**4.05**	**15**		**Pn**	**20 47 27.1**	**+0.1**
HIN				IAML		20 48 14.6	
	comp=E,146nm,0.8s						
KAIM	**Kayak Island**	**4.08**	**31**		**Pn**	**20 47 27.5**	**+0.2**
KAIM				IAML		20 48 23.2	
	comp=E,157nm,0.5s						
KAIM	**Kayak Island**	**4.08**	**31**	P	**Pn**	**20 47 27.6**	**+0.2**
	baz=214						
ANCK	**Angle Creek**	**4.08**	**297**		**Pn**	**20 47 28.7**	**+1.3**
SLKM	**Skilak Lake**	**4.09**	**349**		**Pn**	**20 47 27.8**	**+0.3**
O20K	**Slope Mountain**	**4.15**	**331**		**Pn**	**20 47 28.7**	**+0.3**
O20K	**Slope Mountain**	**4.15**	**331**	P	**Pn**	**20 47 28.7**	**+0.3**
	baz=148						
IVE	**Iliamna Volcan**	**4.20**	**328**		**Pn**	**20 47 29.3**	**+0.1**
CNTC	**Contact Creek**	**4.30**	**297**		**Pn**	**20 47 30.9**	**+0.5**
Q17K	**Contact Creek**	**4.30**	**297**	P	**Pn**	**20 47 30.9**	**+0.5**
	baz=112						
EYAK	**Cordova Ski Ar**	**4.32**	**19**	P	**Pn**	**20 47 31.4**	**+0.8**
EYAK	**Cordova Ski Ar**	**4.32**	**19**		**Pn**	**20 47 31.1**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.32**	**19**	P	**Pn**	**20 47 31.0**	**+0.5**
	baz=201						
PWL	**Port Wells**	**4.36**	**2**		**Pn**	**20 47 30.8**	**-0.4**
PWL				IAML		20 48 21.6	
	comp=N,85nm,0.6s						
PWL				IAML		20 48 25.5	
	comp=E,108nm,0.6s						
PWL	**Port Wells**	**4.36**	**2**	P	**Pn**	**20 47 31.1**	**-0.1**
	baz=182						
SUCK	**Suckling Hills**	**4.39**	**34**		**Pn**	**20 47 31.5**	**-0.1**
SUCK				IAML		20 48 24.8	
	comp=N,100nm,0.5s						
SUCK				IAML		20 48 38.9	
	comp=E,75nm,0.8s						
FID	**Port Fidalgo**	**4.39**	**14**		**Pn**	**20 47 31.2**	**-0.4**
FID				IAML		20 48 23.2	
	comp=N,70nm,0.3s						
FID				IAML		20 48 24.1	
	comp=E,96nm,0.6s						
RAGM	**Ragged Mountai**	**4.40**	**27**		**Pn**	**20 47 31.9**	**+0.1**
GLI	**Glacier Island**	**4.45**	**10**		**Pn**	**20 47 32.2**	**-0.2**
GLI				IAML		20 48 23.9	
	comp=N,64nm,0.5s						
GLI				IAML		20 48 26.6	
	comp=E,101nm,0.5s						
GLI	**Glacier Island**	**4.45**	**10**	P	**Pn**	**20 47 32.7**	**+0.3**
	baz=191						
NICHA	**Nichawak Mount**	**4.46**	**31**		**Pn**	**20 47 33.2**	**+0.5**
HMT	**Hamilton**	**4.47**	**29**		**Pn**	**20 47 32.8**	**+0.1**
RED	**Redoubt Volcan**	**4.48**	**333**		**Pn**	**20 47 32.6**	**-0.3**
RDSO	**Redoubt South**	**4.50**	**333**		**Pn**	**20 47 33.1**	**-0.1**
RSO	**Redoubt South**	**4.51**	**333**	Pn	**Pn**	**20 47 33.2**	**-0.2**
RDT	**Redoubt**	**4.52**	**336**		**Pn**	**20 47 33.3**	**-0.2**
P18K	**Big Mountain,**	**4.54**	**312**		**Pn**	**20 47 33.7**	**-0.1**
P18K	**Big Mountain,**	**4.54**	**312**	P	**Pn**	**20 47 33.7**	**-0.1**
	baz=127						
RDWB	**Redoubt West**	**4.55**	**333**		**Pn**	**20 47 33.7**	**-0.3**
GOAT	**Goat Mountain**	**4.56**	**25**		**Pn**	**20 47 34.4**	**+0.4**
BGLC	**Bering

comp=E,59nm,0.7s
KNK Knik Glacier 4.91 1 P Pn 20 47 38.9 +0.2
baz=181
BMRM Bremner River 4.93 23 Pn 20 47 39.5 +0.4
BMRM Bremner River 4.93 23 P Pn 20 47 39.5 +0.4
baz=206
P17K Kvichak River 4.96 306 Pn 20 47 40.0 +0.6
P17K Kvichak River 4.96 306 P Pn 20 47 40.0 +0.6
baz=120
WAX Waxell Ridge 4.97 35 Pn 20 47 39.8 +0.1
BARK Barkley Ridge 5.06 37 Pn 20 47 41.1 +0.3
SUA Susitna One 5.08 348 Pn 20 47 40.4 -0.8
SUA IAML 20 48 41.6
comp=E,37nm,0.6s
SUA Susitna One 5.08 348 P Pn 20 47 41.5 +0.3
baz=167
MESA MESA 5.08 41 Pn 20 47 40.3 -1.0
MESA MESA 5.08 41 P Pn 20 47 41.4 +0.1
baz=226
PMR Palmer 5.10 357 Pn 20 47 39.6 -1.6
PMR IAML 20 48 44.5
comp=E,36nm,0.6s
PMR IAML 20 48 44.9
comp=N,42nm,0.6s
SPCG Spurr Capps Gl 5.10 341 Pn 20 47 42.3 +0.8
CRQM Cirque 5.13 32 Pn 20 47 41.6 -0.3
CRQM IAML 20 48 43.9
comp=N,62nm,0.9s
CRQM IAML 20 48 44.8
comp=E,50nm,0.7s
CRQE Cirque 5.14 32 P Pn 20 47 42.2 +0.2
baz=216
KLU Klutina 5.18 15 Pn 20 47 42.4 -0.2
KLU IAML 20 48 41.4
comp=N,65nm,0.4s
KLU IAML 20 48 50.6
comp=E,52nm,0.8s
KLU Klutina 5.18 15 P Pn 20 47 43.2 +0.7
baz=196
TGL Tana Glacier 5.22 33 Pn 20 47 42.4 -0.7
TGL IAML 20 48 44.5
comp=N,38nm,0.5s
TGL IAML 20 48 53.2
comp=E,45nm,0.6s
ISLE Juniper Island 5.25 36 Pn 20 47 43.3 -0.3
ISLE IAML 20 48 49.6
comp=N,39nm,0.8s
ISLE IAML 20 48 56.1
comp=E,37nm,0.8s
BAGL Bagley Icefiel 5.26 38 Pn 20 47 43.8 +0.3
STLK Strandline Lak 5.26 343 Pn 20 47 43.9 +0.2
GHO Glory Hole Cre 5.27 358 Pn 20 47 43.6 -0.2
N19K Bonanza Creek 5.28 327 Pn Pn 20 47 43.8 -0.1
N19K Bonanza Creek 5.28 327 P Pn 20 47 43.9 -0.1
baz=143
M22K Willow 5.31 352 Pn Pn 20 47 44.5 +0.3
SML Sawmill 5.31 2 Pn 20 47 44.5 +0.2
SML Sawmill 5.31 2 P Pn 20 47 45.0 +0.7
baz=182
SCM Sheep Creek Mo 5.38 7 Pn 20 47 44.8 -0.4
SCM Sheep Creek Mo 5.38 7 P Pn 20 47 46.0 +0.8
baz=187
VRDI Verde Repeater 5.43 27 Pn Pn 20 47 46.1 0.0
CHGN Chignik 5.44 272 Pn Pn 20 47 46.0 0.0
KIAG Kiagna River 5.50 34 Pn 20 47 47.1 +0.2
SAMH Samovar Hills 5.50 46 Pn 20 47 47.1 +0.2
N25K Chitina, Valde 5.51 20 Pn Pn 20 47 47.8 +0.7
N25K Chitina, Valde 5.51 20 P Pn 20 47 47.7 +0.7
baz=203
GLB Gilahina Butte 5.53 25 Pn Pn 20 47 47.1 -0.2
O17K Koliganek Bris 5.54 310 Pn 20 47 47.7 +0.3
O17K Koliganek Bris 5.54 310 P Pn 20 47 47.7 +0.3
baz=123
GRNC Granite Creek 5.55 38 Pn 20 47 47.5 -0.2
TABL Table Mountain 5.56 42 Pn 20 47 47.8 -0.1
BALM Baldy 5.59 33 Pn 20 47 48.1 -0.1
N18K Kilae Creek 5.64 321 Pn Pn 20 47 49.1 +0.3
N18K Kilae Creek 5.64 321 P Pn 20 47 48.8 +0.1
baz=135
PTPK Patty Peak 5.67 32 Pn 20 47 49.4 +0.1
MCARA McCarthy VSAT 5.68 28 Pn 20 47 49.1 -0.2
MCARA McCarthy VSAT 5.68 28 P Pn 20 47 49.5 +0.3
baz=212
SKT Skwentna 5.68 346 Pn Pn 20 47 49.6 +0.3
PCA Pinnacle 5.69 47 Pn 20 47 49.3 -0.2
PINM Pinnacle 5.69 47 P Pn 20 47 49.3 -0.2
baz=234
M24K Tolsona, Glenn 5.75 12 Pn Pn 20 47 51.0 +0.7
M24K Tolsona, Glenn 5.75 12 P Pn 20 47 51.6 +1.3
baz=193
PNL Peninsula 5.83 53 P Pn 20 47 51.4 0.0
PNL Peninsula 5.83 53 Pn 20 47 51.3 0.0
PNL Peninsula 5.83 53 P Pn 20 47 51.3 0.0
baz=240
CTG Chitna Glacier 5.86 37 P Pn 20 47 52.1 +0.3
baz=223
M20K Styx River 5.86 339 Pn 20 47 51.6 -0.2
M20K Styx River 5.86 339 P Pn 20 47 52.4 +0.6
baz=155
CTGM Chitina Glacie 5.86 37 Pn 20 47 51.4 -0.5
BCPM Bancas Point 5.87 50 Pn 20 47 53.5 +1.6
LOGN Logan Glacier 5.87 39 Pn 20 47 51.7 -0.4
WASW Wrangell South 5.89 21 Pn 20 47 53.1 +0.7
O16K Kokwok River B 5.89 305 Pn Pn 20 47 52.4 +0.2
O16K Kokwok River B 5.89 305 P Pn 20 47 53.2 +1.0
baz=118
CUT Chulitna 5.96 353 Pn 20 47 52.3 -0.9
N17K Nushagak Hills 6.02 315 Pn 20 47 53.9 0.0
N17K Nushagak Hills 6.02 315 P Pn 20 47 54.6 +0.6
baz=129
WAZA Wrangell Mount 6.03 20 Pn 20 47 55.5 +1.1
WAT6 Susitna Watana 6.10 4 Pn 20 47 56.1 +0.9
WAT6 Susitna Watana 6.10 4 P Pn 20 47 56.1 +0.9
baz=184
O28M Mount Upton 6.13 42 Pn 20 47 55.9 +0.1
O28M Mount Upton 6.13 42 P Pn 20 47 55.9 +0.1
baz=229
HARP HAARP 6.16 15 Pn 20 47 56.9 +1.0
HARP HAARP 6.16 15 P Pn 20 47 56.9 +1.0
baz=198
M18K Stony River 6.22 326 Pn 20 47 56.6 -0.1
M18K Stony River 6.22 326 P Pn 20 47 56.6 -0.1
baz=141
WAT7 Susitna Watana 6.34 359 Pn 20 47 59.2 +0.8
CHNA Chernabura Isl 6.43 259 P Pn 20 47 58.6 -0.9
baz=71
CNBA Chernabura Isl 6.43 259 Pn 20 47 58.6 -1.0
O29M Mount Kennedy 6.50 50 Pn 20 48 00.7 0.0
O29M Mount Kennedy 6.50 50 P Pn 20 48 01.2 +0.4
baz=238
L19K White Mountain 6.51 333 Pn 20 48 01.0 +0.2
L19K White Mountain 6.51 333 P Pn 20 48 00.5 -0.2
baz=148
O15K Ungalikthiuk R 6.54 299 Pn 20 48 02.0 +0.9
O15K Ungalikthiuk R 6.54 299 P Pn 20 48 02.0 +0.9
baz=110
M26K Nabesna, AK 6.56 24 Pn Pn 20 48 01.6 +0.2
P29M Windy Craggy 6.57 57 Pn Pn 20 48 01.3 -0.2
P29M Windy Craggy 6.57 57 P Pn 20 48 01.2 -0.2
baz=245
DHY Denali Highway 6.61 5 Pn Pn 20 48 02.6 +0.4
DHY Denali Highway 6.61 5 P Pn 20 48 03.1 +0.9
baz=186
YUK8 Steele Glacier 6.63 40 Pn 20 48 03.5 +0.9
YUK8 Steele Glacier 6.63 40 P Pn 20 48 03.5 +0.9
baz=227
N16K Nishlik Lake 6.63 311 Pn 20 48 02.9 +0.5
N16K Nishlik Lake 6.63 311 P Pn 20 48 02.9 +0.5
baz=123
YUK2 White River 6.63 34 Pn 20 48 03.6 +1.1
PAX Paxson 6.67 13 Pn 20 48 03.8 +0.8
PAX Paxson 6.67 13 P Pn 20 48 03.8 +0.8
baz=195
M17K Holitna River 6.68 321 Pn Pn 20 48 02.8 -0.2
M17K Holitna River 6.68 321 P Pn 20 48 03.6 +0.5
baz=134
YUK3 Moose Creek 6.74 35 Pn 20 48 05.2 +1.1
YUK3 Moose Creek 6.74 35 P Pn 20 48 05.2 +1.1
baz=222
M27K Edge Creek, AK 6.79 28 Pn Pn 20 48 04.0 -0.8
YUK7 Dusty Glacier 6.81 49 Pn 20 48 05.2 +0.2
S31K Pelican 6.88 73 Pn Pn 20 48 04.0 -1.8
S31K Pelican 6.88 73 P Pn 20 48 03.1 -2.7
baz=262
MENT Mentasta 6.90 19 Pn 20 48 06.3 +0.2

RND Reindeer 6.91 359 Pn 20 48 06.3 0.0
YUK6 Outpost Mounta 6.94 46 Pn 20 48 08.0 +1.1
YUK6 Outpost Mounta 6.94 46 P Pn 20 48 08.0 +1.1
baz=234
M16K Timber Creek 7.01 314 Pn 20 48 07.9 +0.3
M16K Timber Creek 7.01 314 P Pn 20 48 08.2 +0.6
baz=126
L18K Granite Mounta 7.04 328 Pn Pn 20 48 09.6 +1.6
L26K Log Cabin Wild 7.05 20 Pn 20 48 08.9 +0.8
N15K Kwethluk River 7.05 306 Pn Pn 20 48 08.9 +0.8
N15K Kwethluk River 7.05 306 P Pn 20 48 09.1 +1.0
baz=117
YUK4 Talbot Arm 7.08 43 P Pn 20 48 11.1 +2.4
baz=230
O14K Tigyukauivet M 7.27 297 Pn Pn 20 48 12.4 +1.3
SIT Sitka 7.33 80 P Pn 20 48 08.6 -3.3
SIT Sitka 7.33 80 Pn Pn 20 48 08.1 -3.8
K20K Telida 7.38 341 Pn 20 48 11.6 -1.1
L27K Beaver Creek, 7.40 25 Pn 20 48 12.6 -0.4
BCAR Beaver Creek A 7.42 25 Pn **Pn 20 48 12.6 -0.6**
TTA Tatalina 7.43 333 Pn **Pn 20 48 13.1 -0.3**
DOT Dot Lake 7.51 16 Pn 20 48 16.5 +2.1
S12K Black Hills 7.55 269 Pn **Pn 20 48 14.8 -0.3**
PN7A Pavlof North-7 7.58 267 Pn 20 48 16.5 +1.0
L16K Owhat River 7.63 318 Pn **Pn 20 48 15.7 -0.3**
SKAG Skagway 7.66 62 P **Pn 20 48 16.8 +0.4**
SKAG Skagway 7.66 62 Pn 20 48 16.1 -0.4
SKAG **Sn 20 49 41.5 -1.6**
BWN Browne 7.69 357 Pn **Pn 20 48 16.0 -0.9**
BESE Bessie Mountai 7.70 69 Pn 20 48 16.6 -0.5
BPAW Bear Paw Mtn. 7.70 352 Pn 20 48 17.6 +0.7
S32K Killisnoo 7.74 77 Pn **Pn 20 48 15.2 -2.3**
N30M Aishikik Lake 7.75 45 Pn 20 48 18.5 +0.8
O30N Mendenhall 7.80 52 Pn 20 48 19.1 +0.6
R32K Eaglecrest 7.83 71 Pn **Pn 20 48 18.2 -0.5**
SCRK Sand Creek 7.83 15 Pn **Pn 20 48 19.2 +0.3**
M29M Somme Creek 7.87 37 Pn **Pn 20 48 20.0 +0.5**
JIS Juneau Island 7.90 71 P **Pn 20 48 19.6 -0.1**
JIS Juneau Island 7.90 71 Pn **Pn 20 48 18.6 -1.1**
K17K Iditarod 7.91 326 Pn **Pn 20 48 19.6 -0.3**
HDA Harding Lake 7.96 5 Pn 20 48 21.3 +0.7
WRH Wood River Hil 7.99 2 Pn 20 48 21.5 +0.6
J18K Innoko River 8.05 333 Pn **Pn 20 48 22.3 +0.4**
NEA2 Nenana 8.11 359 Pn 20 48 22.6 +0.1
M14K Bethel 8.14 307 Pn **Pn 20 48 23.6 +0.6**
J20K Nowinta River 8.15 343 Pn **Pn 20 48 24.5 +1.3**
CCB Clear Creek Bu 8.17 3 Pn 20 48 23.7 +0.3
J19K Poorman 8.26 338 Pn **Pn 20 48 25.1 +0.4**
J25K Salcha River, 8.28 10 Pn **Pn 20 48 24.9 -0.1**
N31M Braeburn, Yuko 8.29 48 Pn **Pn 20 48 25.9 +0.7**
IL31 8.33 5 Pn 20 48 26.1 +0.6
ILAR Eielson Array 8.33 5 Pn **Pn 20 48 26.3 +0.7**
ILAR Eielson Array 8.33 5 Pn Pn **Pn 20 48 25.3 -0.3**
comp=E,0.4nm,0.3s,baz=188,slow=13,SNR=11
ILAR Sn **Sn 20 49 56.6 -2.9**
comp=E,0.7nm,0.3s,baz=188,slow=23,SNR=11
comp=E,0.8nm,0.4s
IL03 Eielson Array 8.33 5 Pn **Pn 20 48 26.4 +0.8**
J26L Joseph Creek 8.39 15 Pn 20 48 26.9 +0.3
L29M L29M 8.46 34 Pn **Pn 20 48 28.1 +0.7**
MDM Murphy Dome 8.47 1 Pn 20 48 28.3 +0.6
P32M Atlin 8.49 63 Pn **Pn 20 48 27.8 -0.1**
MLY Manley 8.60 354 Pn **Pn 20 48 29.7 +0.2**
U33K Whale Pass 8.63 86 Pn Pn 20 48 26.4 -3.4
M13K Dall Lake 8.64 303 Pn **Pn 20 48 30.7 +0.8**
POKR Poker Plat Res 8.65 3 Pn **Pn 20 48 30.9 +0.9**
J17K VABM Dome 8.65 327 Pn **Pn 20 48 29.9 -0.2**
L14K Kuka Creek 8.72 309 Pn **Pn 20 48 32.5 +1.5**
CRAG Craig 8.76 90 P Pn 20 48 28.2 -3.3
CRAG Craig 8.76 90 Pn Pn 20 48 28.1 -3.4
EGAK Eagle 9.05 21 Pn 20 48 35.4 -0.2
Q32M Nakina River 9.09 68 Pn 20 48 35.9 -0.3
P33M Teslin, Yukon 9.09 59 Pn **Pn 20 48 36.0 -0.1**
K29M Barlow Dome 9.19 32 Pn **Pn 20 48 38.1 +0.7**
H23K Yukon River 9.35 358 Pn **Pn 20 48 40.8 +1.1**
H24K Noodor Dome 9.36 2 Pn **Pn 20 48 39.9 +0.1**
H21K Melozitna Rive 9.39 349 Pn **Pn 20 48 40.2 +0.1**
IMAR Indian Mountai 9.81 348 Pn 20 48 46.0 +0.1
R33M Jennings River 9.82 66 Pn **Pn 20 48 45.8 -0.3**
DIB Dawson Inlet, 9.88 103 Pn Pn 20 48 42.8 -4.1
I28M Miner Creek 9.89 22 Pn **Pn 20 48 48.2 +1.1**
H17K Granite Mounta 10.07 332 Pn **Pn 20 48 49.1 -0.4**
J30M Hart River 10.08 32 Pn **Pn 20 48 50.1 +0.4**
I29M Ogilvie Camp, 10.18 25 Pn 20 48 51.0 0.0
LVA Lava Point 10.19 264 Pn **Pn 20 48 50.9 -0.2**
DLBC Dease Lake 10.20 71 Pn **Pn 20 48 51.7 +0.4**
DLBC Dease Lake 10.20 71 Pn **Pn 20 48 51.2 -0.1**
comp=E,1.0nm,0.3s,baz=268,slow=8.5,SNR=12
DLBC Sn **Sn 20 50 41.6 -4.0**
comp=E,0.7nm,0.3s,baz=4.4,slow=26,SNR=2.3
comp=E,2.4nm,0.3s
G24K Hadweenzic Riv 10.23 3 Pn 20 48 51.6 -0.1
G23K Bananza Creek 10.25 357 Pn **Pn 20 48 52.4 +0.4**
G21K Allakaket 10.29 349 Pn **Pn 20 48 51.8 -0.8**
I30M Mount Dempster 10.56 29 Pn 20 48 56.7 +0.5
UNV Unalaska Valle 10.56 263 P **Pn 20 48 56.0 -0.2**
MMPY Sheldon Lake, 10.70 48 Pn 20 48 59.4 +1.2
HG4B Hotspring 11.00 105 Pn **Pn 20 49 00.9 -1.2**
F20K Avaraart Lake 11.08 345 Pn **Pn 20 49 03.8 +0.6**
E21K Killik River 12.21 351 Pn 20 49 20.3 +1.5
G31M Satah River 12.42 27 Pn **Pn 20 49 22.8 +1.3**
BBB Bella Bella 12.71 101 Sn Sn 20 51 33.6 -13
comp=E,0.3nm,0.3s,baz=242,slow=23,SNR=0.9
INK Inuvik 13.68 24 Pn **Pn 20 49 40.3 +1.6**
comp=E,0.3nm,0.3s,baz=186,slow=9.2,SNR=2.1
comp=E,2.0nm,0.3s
C16K Lisburne Hills 14.04 334 P Pn 20 49 49.4 +5.8
YKA Yellowknife Ar 18.11 57 P **Pn 20 50 36.9 +0.6**
comp=E,0.1nm,0.3s,baz=265,slow=11,SNR=9.5
comp=E,1.7nm,0.8s
H11N2 WAKE ISLAND Hy 49.31 240 T T 21 48 55.0
baz=30,slow=76,SNR=15
H11N3 WAKE ISLAND Hy 49.32 240 T T 21 48 42.5
baz=30,slow=76,SNR=14
H11N1 WAKE ISLAND Hy 49.33 240 T T 21 49 03.9
baz=30,slow=76,SNR=13
H11S1 WAKE ISLAND Hy 50.45 240 T T 21 50 45.4
baz=29,slow=76,SNR=26
H11S2 WAKE ISLAND Hy 50.47 240 T T 21 50 22.1
baz=29,slow=76,SNR=6.4
H11S3 WAKE ISLAND Hy 50.47 240 T T 21 50 46.7
baz=29,slow=76,SNR=16
SONM Songino Array 58.76 310 P **P 20 56 25.4 +2.5**
comp=E,0.6nm,0.8s,baz=46,slow=6.4,SNR=4.2
comp=E,0.6nm,0.8s
ZALV Zalesovo Beam 61.56 327 P **P 20 56 43.7 +2.0**
comp=E,0.4nm,0.4s,baz=32,slow=5.8,SNR=2.7
comp=E,0.4nm,0.4s
FINES FINESS Array B 62.30 3 P **P 20 56 48.2 +1.6**
comp=E,0.5nm,0.7s,baz=12,slow=9.8,SNR=5.4
comp=E,0.5nm,0.7s
KURBB Kurchatov Arra 66.32 329 P **P 20 57 13.4 +0.3**
comp=E,0.4nm,0.3s,baz=13,slow=5.0,SNR=1.6
comp=E,0.4nm,0.3s
MKAR Makanchi Array 68.61 325 P **P 20 57 28.7 +0.9**
comp=E,0.2nm,0.6s,baz=38,slow=5.8,SNR=1.9
comp=E,0.2nm,0.6s
SJG San Juan 70.96 86 LR LR 21 27 56.7
comp=E,95nm,20.9s,baz=96,slow=35
ROSC El Rosal 77.34 101 LR LR 21 35 38.0
comp=E,328nm,18.9s,baz=104,slow=38
QSPA South Pole Qui 146.31 180 PKPbc **PKPdf 21 06 04.0 +0.9**
comp=E,2.4nm,1.0s,baz=155,slow=15,SNR=5.4

*SOME **20** 20:48:10.0, 47°.43N×82°.07E, h0km*
*NNC **20** 20:48:12.7±4.9, 47°.39N×81°.92E, h0km, mb3.5, mpv3.0,*
Error ellipse: s-maj=29.1km s-min=25.0km az=79.0
ISC 20 20:48:09.3±0.9, 47°.43N±0°.03×82°.27E±0°.06, h10km, n13, σ2s04/21, 1C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**0.64**	**179**	⇓P	**Pb**	**20 48 23.7**	**+1.1**
	1.5nm,0.2s,baz=202,slow=13,SNR=2461						
MK31				⇑S	**Sb**	**20 48 32.6**	**+1.0**
	6.5nm,0.2s,baz=307,slow=23,SNR=5.8						
MAKZ	**Makanchi**	**0.66**	**198**	⇓P	**Pn**	**20 48 25.1**	**+0.4**
	0.8nm,0.2s						
MAKZ				⇓S	**Sb**	**20 48 33.9**	**+1.8**
	14nm,0.2s						
ZSN	**Zaisan**	**1.76**	**89**	*e*P	**Pn**	**20 48 40.2**	**+0.2**
	9.7nm,0.3s						
ZSN				*e*S	**Sn**	**20 49 02.8**	**+0.4**
	6.8nm,0.1s						
SEM	**Semipalatinsk**	**3.26**	**337**	*e*P	**Pb**	**20 49 09.3**	**+1.9**
	5.3nm,0.3s						
SEM				*e*S	**Sg**	**20 49 52.8**	**-1.2**
	11nm,0.2s						
SEM	**Semipalatinsk**	**3.26**	**337**	Pg	**Pg**	**20 49 09.7**	**-2.0**
	5.3nm,0.3s						
SEM				Lg	Lg	20 49 53.5	
	11nm,0.2s						
DJR	**Jarkent**	**3.55**	**210**	*e*P	**Pg**	**20 49 15.5**	**-1.9**
	0.4nm,0.1s						
DJR				*e*S	**Sg**	**20 50 03.0**	**-0.4**
	2.4nm,0.2s						
BLB	**Baldybastay**	**4.26**	**220**	Pg	**Pg**	**20 49 29.4**	**-1.5**
	2.9nm,0.2s						
BLB				Lg	Lg	20 50 27.6	
	6.5nm,0.7s						
ARXS	**Arharly**	**4.47**	**226**	*e*P	**Pg**	**20 49 33.1**	**-1.8**
	0.5nm,0.1s						
ARXS				*e*S	**Sg**	**20 50 33.9**	**+1.0**
	7.9nm,0.3s						
PDGK	**Podgornoye**	**4.55**	**206**	Pg	**Pg**	**20 49 33.4**	**-3.0**
	0.3nm,0.2s						
PDGK				Lg	Lg	20 50 34.8	
	2.5nm,0.5s						
KPKS	**Kokpek**	**4.70**	**214**	*e*P	**Pg**	**20 49 36.9**	**-2.5**
	1.2nm,0.1s						
KPKS				*e*S	**Sg**	**20 50 40.3**	**+0.1**
	6.1nm,0.2s						
KPKS	**Kokpek**	**4.70**	**214**	Pg	**Pg**	**20 49 36.7**	**-2.6**
	1.4nm,0.1s						
KPKS				Lg	Lg	20 50 40.3	
	6.1nm,0.5s						
SHLS	**Shalkode**	**4.71**	**206**	*e*P	**Pb**	**20 49 34.6**	**+2.5**
	1.5nm,0.1s						
SHLS				*e*S	**Sg**	**20 50 36.7**	**-3.9**
	4.7nm,0.1s						
SHLS	**Shalkode**	**4.71**	**206**	Pg	**Pb**	**20 49 34.6**	**+2.5**
	1.5nm,0.3s						
SHLS				Lg	Lg	20 50 36.7	
	6.1nm,0.6s						

*SNET **20** 20:53:47.8±0.6, 13°.09N×87°.82W, h162km±3km, ML3.7*
*CATAC **20** 20:53:47.7±0.5, 13°.19N×87°.79W, h166km±4km, ML3.4*
*IDC **20** 20:53:48.4±1.8, 12°.83N×88°.03W, h168km±24km, mb2.1/1,*
mbtmp2.9/4, MS2.6/1, Error ellipse: s-maj=97.9km
s-min=22.2km az=42.0
ISC 20 20:53:48.3±1.0, 13°.15N±0°.07×87°.80W±0°.05, h167km±6km, n47, σ1s28/69, 1C-3D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.13**	**344**	⇓*i*P	**Pn**	**20 54 09.7**	**-1.1**
CNCH	**Conchagua**	**0.13**	**344**	*i* P	**Pn**	**20 54 09.6**	**-1.1**
CNCH				IAML		20 54 10.3	
	comp=Z,2μm,1.0s						
CNCH				*i* S	**Sn**	**20 54 27.3**	**-0.6**
LCND	**La Caada**	**0.18**	**330**	⇓*i*P	**Pn**	**20 54 09.7**	**-0.9**
LCND				IAML		20 54 10.3	
	comp=Z,632nm,0.4s						
LCND	**La Caada**	**0.18**	**330**	*i* P	**Pn**	**20 54 09.7**	**-0.9**
LCND				IAML		20 54 10.0	
	comp=Z,610nm,1.0s						
LCND				*i* S	**Sn**	**20 54 27.1**	**-0.6**
INTP	**Intipuca**	**0.26**	**281**	⇓*i*P	**Pn**	**20 54 10.0**	**-0.7**
INTP				*e*S	**Sn**	**20 54 26.7**	**-1.1**
JUCU	**Jucuarın**	**0.45**	**283**	*e*P	**Pn**	**20 54 10.4**	**-1.0**
JUCU				*e*S	**Sn**	**20 54 28.4**	**-0.7**
JUCU				IAML		20 54 36.4	
	comp=Z,1μm,0.2s						
JUCU	**Jucuarın**	**0.45**	**283**	*i* P	**Pn**	**20 54 10.4**	**-1.0**
JUCU				*i* S	**Sn**	**20 54 28.6**	**-0.5**
JUCU				IAML		20 54 32.0	
	comp=Z,1μm,1.0s						
CNRM	**Centro Naciona**	**0.49**	**312**	*i* P	**Pn**	**20 54 10.8**	**-0.7**
CNRM				IAML		20 54 11.1	
	comp=Z,5μm,1.0s						
CNRM				*i* S	**Sn**	**20 54 29.4**	**+0.1**
BLLM	**Bellamira**	**0.52**	**304**	⇑*i*P	**Pn**	**20 54 11.2**	**-0.5**
LCY	**Lacayo**	**0.56**	**299**	*e*P	**Pn**	**20 54 11.5**	**-0.5**
PACA	**Pacayal**	**0.60**	**302**	*i* P	**Pn**	**20 54 11.9**	**-0.3**
PACA				IAML		20 54 40.9	
	comp=Z,5μm,1.0s						
TECA	**Tecapa**	**0.77**	**297**	*e*P	**Pn**	**20 54 13.0**	**-0.3**
CRIN	**San Cristobal**	**0.85**	**121**	*e*P	**Pn**	**20 54 13.2**	**-0.5**
CRIN	**San Cristobal**	**0.85**	**121**	*i* P	**Pn**	**20 54 13.3**	**-0.4**
CRIN				IAML		20 54 13.5	
	comp=Z,2μm,1.0s						
CRIN				*i* S	**Sn**	**20 54 33.6**	**+0.5**
PQSS	**Presa 15 de Se**	**0.88**	**302**	*i* P	**Pn**	**20 54 13.4**	**-0.4**
PQSS				IAML		20 54 53.0	
	comp=Z,650nm,1.0s						
MARCA	**Marcala la Paz**	**1.03**	**347**	*i* P	**Pn**	**20 54 14.7**	**-0.4**
MARCA				*i* S	**Sn**	**20 54 34.8**	**-1.0**
TECO	**Alcaldia de Te**	**1.03**	**292**	*e*P	**Pn**	**20 54 14.6**	**-0.4**
TECO	**Alcaldia de Te**	**1.03**	**292**	*i* P	**Pn**	**20 54 14.5**	**-0.4**
TECO				*i* S	**Sn**	**20 54 35.3**	**-0.2**
TECO				IAML		20 54 46.5	
	comp=Z,540nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.04**	**29**	*i* P	**Pn**	**20 54 14.7**	**-0.4**
TGUH				IAML		20 54 15.1	
	comp=Z,2μm,1.0s						
TGUH				*i* S	**Sn**	**20 54 34.5**	**-1.3**
SCLA	**Alcaldia de Sa**	**1.06**	**301**	*e*P	**Pn**	**20 54 15.0**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.06**	**301**	*i* P	**Pn**	**20 54 14.8**	**-0.4**
SCLA				*i* S	**Sn**	**20 54 36.0**	**+0.1**
SCLA				IAML		20 54 49.0	
	comp=Z,240nm,1.0s						
QUEN	**Al S del Volca**	**1.07**	**121**	*i* P	**Pn**	**20 54 14.7**	**-0.7**
QUEN				*i* S	**Sn**	**20 54 38.2**	**+2.1**
QUEN				IAML		20 54 40.9	
	comp=Z,1μm,1.0s						
UESV	**Universidad de**	**1.08**	**297**	*i* P	**Pn**	**20 54 14.8**	**-0.6**
UESV				IAML		20 54 46.2	
	comp=Z,960nm,1.0s						
COEG	**Centro de Oper**	**1.16**	**294**	*e*P	**Pn**	**20 54 16.0**	**-0.1**
COEG	**Centro de Oper**	**1.16**	**294**	*i* P	**Pn**	**20 54 15.8**	**-0.2**
COEG				*i* S	**Sn**	**20 54 38.0**	**+0.6**
COEG				IAML		20 54 46.6	
	comp=Z,580nm,1.0s						
PACN	**Al O del Volca**	**1.17**	**123**	*i* P	**Pn**	**20 54 15.3**	**-0.8**
PACN				*i* S	**Sn**	**20 54 38.5**	**+1.0**
PACN				IAML		20 54 51.6	
	comp=Z,980nm,1.0s						
SOMN	**Somoto**	**1.18**	**77**	*i* P	**Pn**	**20 54 16.2**	**-0.2**
SOMN				IAML		20 54 16.6	
	comp=Z,490nm,1.0s						
INTHN	**La Esperanza I**	**1.20**	**346**	*i* P	**Pn**	**20 54 16.3**	**-0.3**
YUSH	**Yuscaran**	**1.22**	**49**	*i* P	**Pn**	**20 54 16.1**	**-0.6**
YUSH				*i* S	**Sn**	**20 54 37.7**	**-0.9**
CNGA	**Al SSO del Vol**	**1.25**	**121**	*i* P	**Pn**	**20 54 15.1**	**-1.8**
CNGA				*i* S	**Sn**	**20 54 39.4**	**+0.6**
CNGA				IAML		20 54 45.5	
	comp=Z,850nm,1.0s						
CNGN	**Cerro Negro**	**1.25**	**121**	*e*P	**Pn**	**20 54 16.0**	**-0.9**
LFRS	**El Faro**	**1.32**	**291**	*e*P	**Pn**	**20 54 17.1**	**-0.4**
LFRS				*e*S	**Sn**	**20 54 40.3**	**+0.2**
LIMN	**Finca el Limon**	**1.40**	**93**	*i* P	**Pn**	**20 54 17.4**	**-0.9**
LIMN				IAML		20 54 17.8	
	comp=Z,510nm,1.0s						
LOMA	**Loma Larga**	**1.43**	**290**	*e*P	**Pn**	**20 54 18.3**	**-0.3**
COPN	**Copaltepe**	**1.52**	**129**	*i* P	**Pn**	**20 54 19.2**	**-0.2**
COPN				IAML		20 54 53.8	
	comp=Z,280nm,1.0s						
JAYA	**Jayaque - finc**	**1.69**	**288**	*e*P	**Pn**	**20 54 20.7**	**-0.6**
JAYA	**Jayaque - finc**	**1.69**	**288**	*i* P	**Pn**	**20 54 20.5**	**-0.7**
JAYA				*i* S	**Sn**	**20 54 47.1**	**+0.5**
JAYA				IAML		20 54 52.4	
	comp=Z,4μm,1.0s						
SNJE	**San Jose**	**1.90**	**292**	*e*P	**Pn**	**20 54 23.4**	**-0.2**
CEVE	**Cerro Verde**	**1.90**	**291**	*e*P	**Pn**	**20 54 23.4**	**-0.2**
BOAB	**BOACO BROADBAN**	**2.19**	**108**	*i* P	**Pn**	**20 54 26.3**	**-0.4**
BOAB				*i* S	**Sn**	**20 54 56.7**	**+0.4**
BOAB				IAML		20 55 04.2	
	comp=Z,48nm,1.0s						
APG	**El Apazote**	**3.18**	**306**	P	**Pn**	**20 54 39.5**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=127,slow=11,SNR=11						
APG				S	**Sn**	**20 55 18.2**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=108,slow=13,SNR=6.2						
JTS	**Las Juntas de**	**3.98**	**135**	P	**Pn**	**20 54 48.2**	**-0.6**
	comp=Z,4.8nm,0.3s,baz=305,slow=17,SNR=4.0						
JTS				S	**Sn**	**20 55 31.8**	**-4.2**
	comp=Z,12nm,0.3s,baz=314,slow=21,SNR=5.4						

TEIG	**Tepich**	**7.05 356**	LR	LR	20 58 15.3	
	comp=Z,37nm,18.3s,baz=318,slow=36					
CMIG	**Matias Romero**	**7.89 301**	P	**Pn**	**20 55 39.4**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=100,slow=9.6,SNR=2.2					
CMIG			S	**Sn**	**20 57 02.0**	**-6.4**
	comp=Z,1.6nm,0.3s,baz=41,slow=21,SNR=2.4					
TXAR	**Lajitas Array**	**21.82 320**	P	**P**	**20 58 28.5**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=142,slow=10,SNR=1.7					
TXAR			pP	**pP**	**20 59 01.0**	**+3.6**
	comp=Z,0.4nm,0.8s,baz=138,slow=8.4,SNR=3.9					
	comp=Z,0.1nm,0.5s					
WRA	**Warramunga Arr**	**139.13 255**	PKP	**PKPdf**	**21 12 55.3**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=90,slow=2.7,SNR=6.4					
ASAR	**Alice Springs**	**139.21 249**	PKP	**PKPdf**	**21 12 55.1**	**-1.2**
	comp=Z,0.4nm,0.9s,baz=82,slow=2.0,SNR=1.9					

*NEIC **20** 20:57:46.6±0.5, 35°.894N±0°.010×97°.289W±0°.006, h9km±7km, Error ellipse: s-maj=1.5km s-min=0.4km az=159.0*

TUL 20 20:57:46.9±0.7, 35°.897N±0°.010×97°.27W±0°.01, h7km±3km, ML2.6, mb_Lg2.3/18(NEIC), ML2.4/50(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=145.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.18**	**236**	Pg	Pg	20 57 50.7	+0.1
OK029				Sg	Sg	20 57 53.4	+0.4
OK029				IAML		20 57 53.6	
	678nm,0.2s						
OK029				IAML		20 57 53.7	
	873nm,0.1s						
ADOK	**Arcadia Dam**	**0.26**	**198**	Pg	Pg	20 57 52.2	+0.2
ADOK				Sg	Sg	20 57 56.0	+0.6
OK031	**S. Brethren Rd**	**0.36**	**81**	Pg	Pg	20 57 54.2	+0.3
OK031				Sg	Sg	20 57 59.5	+0.9
OK031				IAML		20 57 59.7	
	330nm,0.3s						
OK052	**Battle Ridge R**	**0.39**	**76**	Pg	Pg	20 57 54.9	+0.3
OK052				Sg	Sg	20 58 00.5	+0.8
OK052				IAML		20 58 00.9	
	544nm,0.3s						
OK052				IAML		20 58 01.0	
	387nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.51**	**195**	Pg	Pg	20 57 56.6	-0.1
OKCSW				Sg	Sg	20 58 02.9	-0.5
OKCSW				IAML		20 58 04.3	
	comp=N,408nm,0.3s						
QUOK	**Quay**	**0.53**	**59**	Pg	Pg	20 57 57.4	+0.2
QUOK				Sg	Sg	20 58 04.6	+0.4
OK048	**Pawnee Station**	**0.58**	**27**	Pg	Pg	20 57 58.1	0.0
OK048				Sg	Sg	20 58 06.0	+0.2
OK048				IAML		20 58 06.3	
	comp=N,180nm,0.2s						
OK048				IAML		20 58 06.5	
	comp=N,248nm,0.2s						
DEOK	**Depew**	**0.63**	**95**	Pg	Pg	20 57 58.9	-0.2
DEOK				Sg	Sg	20 58 07.8	+0.5
DEOK				IAML		20 58 08.5	
	comp=E,197nm,0.1s						
DEOK				IAML		20 58 08.5	
	comp=N,286nm,0.3s						
FNO	**Franklin**	**0.65**	**189**	Pg	Pg	20 57 59.0	-0.4
FNO				Sg	Sg	20 58 08.1	+0.3
OK051	**E0350 and S346**	**0.70**	**30**	Pg	Pg	20 58 00.3	-0.1
OK051				IAML		20 58 11.2	
	comp=N,201nm,0.2s						
OK051				IAML		20 58 20.0	
	comp=N,174nm,0.2s						
W35A	**Tecumseh**	**0.81**	**156**	Pg	Pg	20 58 01.8	-0.7
W35A				IAML		20 58 16.0	
	comp=N,107nm,0.4s						
CROK	**Carrier**	**0.83**	**317**	Pg	Pg	20 58 02.5	-0.5
CROK				IAML		20 58 20.9	
	comp=N,181nm,0.2s						
CROK				IAML		20 58 26.5	
	comp=E,148nm,0.2s						
BLOK	**Blackwell**	**0.86**	**3**	Pg	Pg	20 58 03.0	-0.5
GC02	**Grant County #**	**1.06**	**334**	Pg	Pg	20 58 06.3	-1.0
KAN13	**South Haven SW**	**1.12**	**352**	Pg	Pg	20 58 07.7	-0.8
CSTR	**Hydro, Custer**	**1.18**	**258**	Pg	Pg	20 58 08.2	-1.4
OK032	**Salt Plains WL**	**1.18**	**320**		Pg	20 58 08.7	-0.8
T35A	**Sooner Cattle**	**1.19**	**31**	Pg	Pg	20 58 08.7	-1.0
T35A				IAML		20 58 25.5	
	comp=N,96nm,0.1s						
T35A				IAML		20 58 25.6	
	comp=E,95nm,0.1s						
KAN14	**Manchester OK**	**1.20**	**332**		Pg	20 58 08.9	-0.9
KAN09	**Caldwell North**	**1.27**	**347**		Pn	20 58 10.2	-0.9
KAN01	**Argonia South**	**1.31**	**343**		Pn	20 58 11.0	-0.7
OK038	**West end E0370**	**1.32**	**296**		Pn	20 58 11.1	-0.7
X34A	**Smith Ranch, M**	**1.37**	**200**		Pn	20 58 12.3	-0.1
NOKA	**Waynoka**	**1.53**	**299**		Pn	20 58 14.2	-0.4
WMOK	**Wichita Mounta**	**1.69**	**227**		Pn	20 58 17.3	+0.4
WMOK				IAmb_Lg		20 58 42.0	
	comp=Z,14nm,0.8s						
ELIS	**Ellis County**	**1.75**	**276**	Pn	Pn	20 58 17.1	-0.5
RLO	**Rose Lookout**	**1.84**	**81**	Pn	Pn	20 58 18.7	-0.2
X37A	**Clayton**	**2.03**	**129**	Pn	Pn	20 58 21.7	+0.1
MIAR	**Mount Ida**	**3.31**	**113**	Pn	Pn	20 58 40.3	+1.1
DKNS	**Dickens**	**3.74**	**235**	IAmb_Lg		20 59 52.6	
	comp=Z,4.3nm,1.0s						
X40A	**Basin Creek Fa**	**3.90**	**110**	IAmb_Lg		20 59 53.2	
	comp=Z,6.6nm,0.7s						
WHAR	**Wooly Hollow**	**4.11**	**97**	Pn	Pn	20 58 47.9	-2.1
FCAR	**Ozark Folk Cen**	**4.18**	**89**	IAmb_Lg		21 00 01.6	
	comp=Z,8.5nm,0.7s						
MGMO	**Mountain Grove**	**4.22**	**71**	IAmb_Lg		21 00 08.3	
	comp=Z,6.4nm,0.9s						
R40A	**Maddies Statio**	**4.66**	**58**	Pn	Pn	20 58 57.6	0.0
R40A				IAmb_Lg		21 00 17.6	
	comp=Z,8.7nm,0.8s						
P38A	**Dawn**	**4.76**	**37**	IAmb_Lg		21 00 22.3	
	comp=Z,5.2nm,0.7s						
BRDY	**Brady**	**4.82**	**198**	IAmb_Lg		21 00 18.8	
	comp=Z,4.8nm,0.9s						
LCAR	**Lake Charles**	**4.96**	**86**	IAmb_Lg		21 00 26.8	
	comp=Z,5.5nm,0.8s						
T42A	**Van Buren**	**5.11**	**75**	Pn	Pn	20 59 04.3	+0.5
T42A				IAmb_Lg		21 00 29.4	
	comp=Z,5.0nm,0.8s						

IDC 20 21:01:23.0±2.7, 5°.57S×130°.86E, h0km, mb3.3/1, mbtmp3.2/3, ML3.1/2, MS3.3/1, Error ellipse: s-maj=150.7km s-min=33.8km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.68**	**167**	Pn	Pn	21 04 52.4	+0.2
	0.1nm,0.3s,baz=350,slow=14,SNR=7.9						
WRA				Sn	Sn	21 07 26.8	-8.9
	baz=350,slow=22,SNR=1.5						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**18.23**	**171**	P	Pn	21 05 37.4	-0.3
	0.1nm,0.3s,baz=357,slow=11,SNR=2.2						
	0.3nm,0.6s						
KLR	**Kul'dur**	**54.58**	**1**	LR	LR	21 34 53.0	
	comp=Z,29nm,19.5s,baz=194,slow=37						
MKAR	**Makanchi Array**	**67.52**	**326**	P	P	21 12 21.1	0.0
	0.3nm,0.7s,baz=130,slow=4.5,SNR=2.3						
	0.3nm,0.7s						

*NEIC **20** 21:01:54.5±0.9, 35°.896N±0°.009×97°.28W±0°.01, h6km±3km, Error ellipse: s-maj=1.5km s-min=1.0km az=220.0*

TUL 20 21:01:54.6±1.0, 35°.897N±0°.009×97°.28W±0°.01, h7km±4km, ML3.1, mb_Lg2.6/71(NEIC), ML2.9/62(NEIC), Error ellipse: s-maj=1.4km s-min=0.9km az=219.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.18**	**235**	Pg	Pg	21 01 58.5	+0.3
OK029				Sg	Sg	21 02 01.1	+0.5
OK029				IAML		21 02 01.4	
	3μm,0.4s						
OK029				IAML		21 02 01.4	
	3μm,0.3s						
ADOK	**Arcadia Dam**	**0.26**	**198**	Pg	Pg	21 02 00.0	+0.4
ADOK				Sg	Sg	21 02 03.8	+0.7
OK031	**S. Brethren Rd**	**0.36**	**81**	Pg	Pg	21 02 02.0	+0.4
OK031				Sg	Sg	21 02 07.3	+1.0
OK052	**Battle Ridge R**	**0.40**	**76**	Pg	Pg	21 02 02.8	+0.5
OK052				Sg	Sg	21 02 08.4	+0.9
OK052				IAML		21 02 08.8	
	2μm,0.3s						
OK052				IAML		21 02 08.8	
	1μm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.51**	**195**	Pg	Pg	21 02 04.5	+0.1
OKCSW				Sg	Sg	21 02 11.8	+0.8
OKCSW				IAML		21 02 12.1	
	comp=N,984nm,0.3s						
QUOK	**Quay**	**0.54**	**59**	Pg	Pg	21 02 05.3	+0.4
QUOK				Sg	Sg	21 02 12.6	+0.7
QUOK				IAML		21 02 14.0	
	comp=E,628nm,0.2s						
OK048	**Pawnee Station**	**0.58**	**27**	Pg	Pg	21 02 06.1	+0.2
OK048				Sg	Sg	21 02 14.0	+0.5
OK048				IAML		21 02 14.2	
	comp=E,483nm,0.3s						
OK048				IAML		21 02 14.3	
	comp=E,592nm,0.2s						
DEOK	**Depew**	**0.63**	**95**	Pg	Pg	21 02 06.8	0.0
DEOK				Sg	Sg	21 02 15.8	+0.7
DEOK				IAML		21 02 16.3	
	comp=E,465nm,0.1s						
DEOK				IAML		21 02 16.4	
	comp=N,736nm,0.3s						
FNO	**Franklin**	**0.65**	**189**	Pg	Pg	21 02 06.7	-0.3
FNO				Sg	Sg	21 02 16.1	+0.6
FNO				IAML		21 02 19.1	
	comp=E,1μm,0.4s						
OK051	**E0350 and S346**	**0.70**	**30**	Pg	Pg	21 02 08.3	+0.2
OK051				Sg	Sg	21 02 17.8	+0.4
OK051				IAML		21 02 24.5	
	comp=E,453nm,0.2s						
OK051				IAML		21 02 25.7	
	comp=E,420nm,0.2s						
W35A	**Tecumseh**	**0.81**	**156**		Pg	21 02 09.7	-0.5
W35A				IAML		21 02 23.8	
	comp=N,423nm,0.4s						
W35A				IAML		21 02 23.9	
	comp=E,391nm,0.5s						
CROK	**Carrier**	**0.83**	**317**	Pg	Pg	21 02 10.5	-0.1
CROK				IAML		21 02 26.2	
	comp=E,519nm,0.3s						
CROK				IAML		21 02 28.7	
	comp=N,570nm,0.2s						
BLOK	**Blackwell**	**0.86**	**3**	IAML		21 02 25.0	
	comp=E,812nm,0.2s						
GC02	**Grant County #**	**1.06**	**334**		Pg	21 02 14.5	-0.5
KAN13	**South Haven SW**	**1.12**	**352**	Pg	Pg	21 02 16.1	-0.2
CSTR	**Hydro, Custer**	**1.18**	**258**		Pg	21 02 17.1	0.0
OK032	**Salt Plains WL**	**1.18**	**320**	Pg	Pg	21 02 16.5	-0.7
T35A	**Sooner Cattle**	**1.19**	**31**		Pg	21 02 16.7	-0.7
T35A				IAML		21 02 33.3	
	comp=N,212nm,0.1s						
T35A				IAML		21 02 33.7	
	comp=E,245nm,0.3s						
TUL3	**Leonard**	**1.21**	**89**		Pg	21 02 17.7	0.0
TUL3				IAML		21 02 33.9	
	comp=N,362nm,0.2s						
KAN09	**Caldwell North**	**1.27**	**348**		Pg	21 02 19.0	+0.1
KAN05	**Bluff City Nor**	**1.30**	**339**		Pb	21 02 19.4	-0.1
KAN01	**Argonia South**	**1.31**	**343**		Pn	21 02 19.5	+0.1
KS21	**Milan North St**	**1.42**	**347**	Pg	Pg	21 02 22.3	+0.4
KAN08	**Anthony NE Sta**	**1.44**	**337**	Pg	Pg	21 02 22.7	+0.4
U32A	**Winter Ranch,**	**1.48**	**290**		Pn	21 02 21.7	0.0
KAN12	**Harper NE Stat**	**1.51**	**338**		Pn	21 02 22.3	+0.1
WMOK	**Wichita Mounta**	**1.69**	**227**		Pn	21 02 25.1	+0.5
WMOK				IAmb_Lg		21 02 50.5	
	comp=Z,45nm,0.8s						
ELIS	**Ellis County**	**1.75**	**276**		Pb	21 02 26.3	-0.8
RLO	**Rose Lookout**	**1.85**	**81**		Pn	21 02 27.1	+0.4
LOOK	**Love County**	**1.90**	**178**	Pn	Pn	21 02 27.5	0.0
LOOK				IAmb_Lg		21 02 54.8	
	comp=Z,39nm,0.9s						
X37A	**Clayton**	**2.03**	**129**		Pn	21 02 30.0	+0.7
X37A				IAmb_Lg		21 03 02.2	
	comp=Z,23nm,1.0s						
WTFS	**Witchita Falls**	**2.34**	**205**		Pn	21 02 33.6	0.0
U38A	**Gravette**	**2.40**	**76**		Pn	21 02 34.6	+0.2
SMWD	**Samnorwood**	**2.55**	**253**		Pn	21 02 36.6	+0.2
Z35A	**Perchaven, San**	**2.56**	**180**	Pn	Pn	21 02 35.9	-0.7
HHAR	**Hobbs**	**2.73**	**81**		Pn	21 02 39.7	+0.8
R32A	**Long Quarter,**	**2.77**	**336**		Pn	21 02 39.6	+0.1
R32A				Pg	Pg	21 02 46.4	-1.3
R32A				IAmb_Lg		21 03 28.3	
	comp=Z,18nm,0.7s						
FW06	**Azle**	**2.93**	**185**	Pn	Pn	21 02 42.0	+0.4
FW07	**Weatherford**	**3.21**	**188**		Pn	21 02 45.8	+0.2
FW07				IAmb_Lg		21 03 41.5	
	comp=Z,15nm,0.7s						
Z38A	**Mt. Pleasant**	**3.24**	**144**		Pn	21 02 45.8	-0.1
KSU1	**Kansas State U**	**3.24**	**9**	IAmb_Lg		21 03 39.8	
	comp=Z,20nm,0.7s						
MIAR	**Mount Ida**	**3.31**	**113**	Pn	Pn	21 02 46.0	-1.0
MIAR				IAmb_Lg		21 03 48.1	
	comp=Z,16nm,0.8s						
APMT	**Aspermont**	**3.48**	**223**		Pn	21 02 48.0	-1.3
S39A	**Bolivar**	**3.64**	**59**	IAmb_Lg		21 03 55.9	
	comp=Z,12nm,0.7s						
DKNS	**Dickens**	**3.74**	**235**	Pn	Pn	21 02 53.9	+1.1
ABTX	**Abilene, Hawle**	**3.81**	**212**		Pn	21 02 54.5	+0.8
WHTX	**Lake Whitney,**	**3.90**	**182**		Pn	21 02 54.7	-0.2
WHTX				IAmb_Lg		21 04 02.0	
	comp=Z,10nm,0.9s						
X40A	**Basin Creek Fa**	**3.90**	**110**		Pn	21 02 54.4	-0.6
X40A				IAmb_Lg		21 03 58.1	
	comp=Z,17nm,0.7s						
237A	**Washetta, Mont**	**4.07**	**162**	IAmb_Lg		21 04 13.3	
	comp=Z,16nm,0.8s						
SN07	**Snyder 07**	**4.09**	**228**	IAmb_Lg		21 04 09.7	
	comp=Z,14nm,0.9s						
WHAR	**Wooly Hollow**	**4.11**	**97**	IAmb_Lg		21 04 10.5	
	comp=Z,13nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.18**	**89**	IAmb_Lg		21 04 05.8	
	comp=Z,17nm,0.8s						
MGMO	**Mountain Grove**	**4.22**	**71**	IAmb_Lg		21 04 10.8	
	comp=Z,14nm,0.8s						
SN05	**Snyder 5**	**4.24**	**226**	IAmb_Lg		21 04 16.7	
	comp=Z,19nm,0.9s						
RTBA	**Rita Blanca**	**4.45**	**279**	IAmb_Lg		21 04 22.3	
	comp=Z,11nm,0.7s						
POST	**Post**	**4.49**	**232**	IAmb_Lg		21 04 26.5	
	comp=Z,11nm,0.7s						
R40A	**Maddies Statio**	**4.66**	**58**	IAmb_Lg		21 04 30.2	
	comp=Z,13nm,0.9s						
P38A	**Dawn**	**4.76**	**37**	IAmb_Lg		21 04 35.9	
	comp=Z,11nm,0.7s						
BRDY	**Brady**	**4.82**	**198**	IAmb_Lg		21 04 33.6	
	comp=Z,13nm,0.8s						
LCAR	**Lake Charles**	**4.97**	**86**	IAmb_Lg		21 04 31.7	
	comp=Z,14nm,0.7s						
SGCY	**Sterling City**	**5.10**	**220**	IAmb_Lg		21 04 48.8	
	comp=Z,8.5nm,0.8s						
T42A	**Van Buren**	**5.11**	**75**	IAmb_Lg		21 04 41.2	
	comp=Z,15nm,0.8s						
CCM	**Cathedral Cave**	**5.29**	**64**	IAmb_Lg		21 04 47.3	
	comp=Z,13nm,0.8s						
P40A	**Paris**	**5.51**	**47**	IAmb_Lg		21 04 56.8	
	comp=Z,11nm,0.7s						
FVM	**French Village**	**5.87**	**67**	IAmb_Lg		21 05 03.9	
	comp=Z,11nm,0.8s						
OZNA	**Ozona**	**5.92**	**214**	IAmb_Lg		21 05 10.2	
	comp=Z,7.2nm,0.9s						
CGM3	**Cape Girardeau**	**6.29**	**75**	IAmb_Lg		21 05 17.5	
	comp=Z,12nm,1.0s						
HNDO	**Hondo**	**6.57**	**195**	IAmb_Lg		21 05 24.9	
	comp=Z,7.9nm,0.8s						
SAND	**Sanderson**	**7.19**	**216**	IAmb_Lg		21 05 46.9	
	comp=Z,5.7nm,0.9s						
WVT	**Waverly**	**7.66**	**86**	IAmb_Lg		21 06 12.6	
	comp=Z,5.6nm,0.8s						
PHWY	**Pilot Hill**	**8.37**	**313**	IAmb_Lg		21 06 22.5	
	comp=Z,3.9nm,0.8s						
N23A	**Red Feather La**	**8.44**	**309**	IAmb_Lg		21 06 43.8	
	comp=Z,5.1nm,0.8s						
RSSD	**Black Hills**	**9.71**	**330**	IAmb_Lg		21 07 26.2	
	comp=Z,3.2nm,0.8s						
F33A	**5 Mile Ranch,**	**9.96**	**4**	IAmb_Lg		21 07 18.6	
	comp=Z,3.7nm,0.8s						

*CATAC **20** 21:13:35.2±0.5, 13°.58N×91°.54W, h15km, ML3.9*
*GCG **20** 21:13:35.7±1.1, 13°.58N×91°.64W, h25km, MD3.8*

ISC 20 21:13:34.7±2.4, 13°.57N±0°.08×91°.53W±0°.07, h12km±11km, n28, σ0°82/45, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.73**	**358**	*e*P	Pn	**21 13 51.0**	**+0.1**
SULM				*e*S	Sg	**21 13 57.4**	**-1.1**
RTAL	**Retalhuleu**	**0.96**	**351**	*i* P	Pb	**21 13 53.5**	**+0.1**
RTAL				*i* S	Sb	**21 14 05.4**	**-0.7**
RTAL				IAML		21 14 06.4	
	comp=Z,1μm,1.0s						
FUG	**Fuego 3**	**1.10**	**37**	*e*P	Pb	**21 13 56.0**	**+0.2**
STG3	**Santiaguito 3,**	**1.14**	**358**	*e*P	Pb	**21 13 56.1**	**-0.3**
STG3				*e*S	Sn	**21 14 13.2**	**+0.9**
PCG	**Pacaya**	**1.22**	**48**	*e*P	Pg	**21 13 58.6**	**+0.4**
PCG				*e*S	Sg	**21 14 14.6**	**+0.6**
SOKI	**Kika Raxquin**	**1.25**	**6**	*i* P	Pn	**21 13 56.6**	**-1.8**
SOKI				*i* S	Sb	**21 14 13.7**	**-1.0**
SOKI				IAML		21 14 19.2	
	comp=Z,1μm,1.0s						
CHTG	**Tecpan**	**1.30**	**24**	*i* P	Pn	**21 13 58.4**	**-0.6**
CHTG				*i* S	Sb	**21 14 15.2**	**-0.8**
CHTG				IAML		21 14 24.4	
	comp=Z,5μm,1.0s						
GUMI	**Mixco**	**1.38**	**40**	*i* P	Pn	**21 14 00.4**	**+0.4**
GUMI				IAML		21 14 42.6	
	comp=Z,2μm,1.0s						
GCG4	**OSOP**	**1.40**	**44**	*i* S	Sb	**21 14 18.9**	**0.0**
NBG	**Las Nubes**	**1.53**	**49**	*e*P	Pb	**21 14 03.6**	**+0.4**
NUBE	**Las Nubes**	**1.74**	**79**	*i* P	Pn	**21 14 04.1**	**-0.7**
NUBE				IAML		21 14 07.5	
	comp=Z,420nm,1.0s						
NUBE				*i* S	Sn	**21 14 25.6**	**-1.4**
LOAL	**Lomas de Alarc**	**1.75**	**76**	*i* P	Pn	**21 14 04.5**	**-0.5**
LOAL				*i* S	Sn	**21 14 27.6**	**+0.3**
LOAL				IAML		21 14 34.3	
	comp=Z,2μm,1.0s						
QUIS	**Sacapulas**	**1.77**	**14**	*i* P	Pn	**21 14 05.8**	**+0.6**
QUIS				*i* S	Sb	**21 14 29.1**	**-0.2**
QUIS				IAML		21 14 37.0	
	comp=Z,780nm,1.0s						
CEVE	**Cerro Verde**	**1.87**	**82**	*i* P	Pn	**21 14 06.3**	**-0.5**
CEVE				*i* S	Sn	**21 14 31.5**	**+1.0**
CEVE				IAML		21 14 38.5	
	comp=Z,1μm,1.0s						
UNIC	**Universidad Ca**	**1.97**	**78**	*i* P	Pn	**21 14 08.0**	**0.0**
UNIC				IAML		21 14 09.3	
	comp=Z,350nm,1.0s						
UNIC				*i* S	Sb	**21 14 34.0**	**-1.2**
JAYA	**Jayaque - finc**	**2.03**	**87**	*i* P	Pn	**21 14 08.9**	**0.0**
JAYA				*i* S	Sn	**21 14 34.0**	**-0.2**
JAYA				IAML		21 14 37.1	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	**2.16**	**86**	*i* P	Pn	**21 14 10.1**	**-0.5**
PMON				*i* S	Sb	**21 14 39.4**	**-1.3**
PMON				IAML		21 14 51.0	
	comp=Z,1μm,1.0s						
QUEZ	**Alcaldia de Qu**	**2.21**	**83**	*i* S	Sn	**21 14 39.5**	**+0.9**
MTO3	**Montecristo**	**2.27**	**68**	*i* P	Pn	**21 14 12.3**	**+0.1**
MTO3				*i* S	Sb	**21 14 42.1**	**-1.7**
MTO3				IAML		21 14 44.8	
	comp=Z,230nm,1.0s						
LOMA	**Loma Larga**	**2.30**	**88**	*i* S	Sn	**21 14 41.2**	**+0.4**
MRL	**Marmol**	**2.34**	**50**	*e*P	Pn	**21 14 14.9**	**+1.7**
COEG	**Centro de Oper**	**2.58**	**89**	*i* P	Pn	**21 14 17.3**	**+0.9**
COEG				*i* S	Sn	**21 14 47.2**	**-0.5**
COEG				IAML		21 15 05.2	
	comp=Z,200nm,1.0s						
LLGN	**La Laguna**	**2.58**	**76**	*i* P	Pn	**21 14 16.9**	**+0.5**
LLGN				*i* S	Sn	**21 14 48.4**	**+0.6**
LLGN				IAML		21 15 51.3	
	comp=Z,280nm,1.0s						
TECO	**Alcaldia de Te**	**2.68**	**90**	*i* S	Sn	**21 14 51.0**	**+0.9**
CCIG	**Comitan**	**2.76**	**348**	*i* P	Pn	**21 14 20.0**	**+1.0**
CCIG				IAML		21 15 07.4	
	comp=Z,120nm,1.0s						
LCND	**La Caada**	**3.55**	**94**	*i* P	Pn	**21 14 30.0**	**+0.3**
LCND				IAML		21 15 26.5	
	comp=Z,120nm,1.0s						
CNCH	**Conchagua**	**3.61**	**94**	*i* P	Pn	**21 14 31.2**	**+0.6**
CNCH				*i* S	Sn	**21 15 13.9**	**+0.6**
CNCH				IAML		21 15 26.6	
	comp=Z,220nm,1.0s						
YUSH	**Yuscaran**	**4.57**	**85**	*i* P	Pn	**21 14 43.7**	**-0.1**

IDC 20 21:21:20.6±4.2, 6°.11S×125°.62E, h564km±58km, mb2.8/2, mbtmp4.0/5, Error ellipse: s-maj=135.0km s-min=18.9km az=56.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.94**	**280**	P	P	21 22 59.6	+0.2
	25nm,0.4s,baz=101,slow=6.4,SNR=12						
WRA	**Warramunga Arr**	**16.15**	**149**	P	P	21 24 39.9	-1.2
	1.9nm,0.4s,baz=325,slow=11,SNR=127						
WRA				S	S	21 27 24.4	-0.1
	0.4nm,0.9s,baz=329,slow=14,SNR=2.0						
ASAR	**Alice Springs**	**19.19**	**156**	P	P	21 25 08.9	+0.2
	1.3nm,0.3s,baz=344,slow=15,SNR=58						
STKA	**Stephens Creek**	**29.67**	**152**	P	P	21 26 41.2	-0.2
	1.2nm,0.4s,baz=325,slow=9.8,SNR=4.1						
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**65.16**	**329**	P	P	21 31 06.5	-0.1
	0.1nm,0.4s,baz=129,slow=6.1,SNR=2.6						
	0.1nm,0.4s						

*IDC **20** 21:37:18.7±1.0, 31°.74S×58°.31E, h0km, mb3.7/9, mbtmp3.7/9, Error ellipse: s-maj=43.9km s-min=21.8km az=102.0*

ISC 20 21:37:20.8±1.0, 31°.8S±0°.2×58°.4E±0°.3, h10km, n19, σ19°51/10, mb3.8/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**15.22**	**198**	T	T	21 56 42.5	
	baz=23,slow=74,SNR=665						
H04N1	**CROZET ISLANDS**	**15.22**	**198**	T	T	21 56 43.7	
	baz=23,slow=74,SNR=856						
H04N3	**CROZET ISLANDS**	**15.24**	**198**	T	T	21 56 42.4	
	baz=23,slow=74,SNR=753						
H08S1	**Diego Garcia H**	**27.39**	**32**	T	T	22 11 19.4	
	baz=206,slow=75,SNR=24						
H08S2	**Diego Garcia H**	**27.39**	**32**	T	T	22 11 24.2	
	baz=206,slow=75,SNR=27						
H08S3	**Diego Garcia H**	**27.41**	**32**	T	T

ISC 20 21:40:10.3±1.9, 22.4S±0.2×170.4E±0.2, h35km, n13, σ1°35/11, mb3.5/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.41**	**293**	P	**Pn**	**21 40 47.2**	**0.0**
PINNC	**Pines Island,**	**2.75**	**266**	P	**Pn**	**21 40 52.1**	**+0.3**
YATNC	**Mamie plateau,**	**3.28**	**276**	P	**Pn**	**21 40 59.9**	**+0.7**
LIFNC	**LIFOU**	**3.38**	**299**	P	**Pn**	**21 41 00.8**	**+0.2**
ONTNC	**Ouen Toro**	**3.67**	**271**	P	**Pn**	**21 41 06.2**	**+1.7**
NOUC	**Port Laguerre**	**3.82**	**274**	P	**Pn**	**21 41 07.2**	**+0.6**
URZ	**Urewera**	**16.78**	**161**	LR	LR	21 49 27.4	
	comp=Z,143nm,19.2s,baz=31,slow=34						
ASAR	**Alice Springs**	**33.56**	**261**	P	**P**	**21 46 45.0**	**-2.2**
	0.5nm,0.8s,baz=84,slow=9.4,SNR=1.8 0.5nm,0.8s						
WRA	**Warramunga Arr**	**33.67**	**267**	P	**P**	**21 46 46.4**	**-1.7**
	0.4nm,0.9s,baz=95,slow=8.3,SNR=1.3 0.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**80.81**	**294**	P	**P**	**21 52 22.6**	**+1.7**
	0.4nm,0.7s,baz=130,slow=4.9,SNR=2.1 0.4nm,0.7s						
MA2	**Magadan**	**83.30**	**350**	LR	LR	22 24 08.9	
	comp=Z,28nm,19.2s,baz=122,slow=32						
SONM	**Songino Array**	**90.42**	**323**	P	**P**	**21 53 08.2**	**+0.1**
	0.4nm,0.9s,baz=134,slow=6.2,SNR=2.5 0.4nm,0.9s						
EKA	**Eskdalemuir Ar**	**146.80**	**353**	PKPbc	**PKPdf**	**21 59 46.5**	**-0.1**
	1.1nm,0.7s,baz=356,slow=2.9,SNR=6.6						

*DJA **20** 21:46:24.6±0.9, 2°S±3°×10°E±°, h68km±11km, M3.9/6, MLv3.9/6*
*IDC **20** 21:46:25.5±6.4, 1°01S×100°73E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=339.6km s-min=23.9km az=54.0*

ISC 20 21:46:27.1±1.0, 1°67S±0°05×99°70E±0°06, h35km, n19, σ1°15/13, mb3.4/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.70**	**299**	P	**Pn**	**21 46 39.7**	**-0.8**
SISI				S	**Sn**	**21 46 50.4**	**+0.3**
PDSI	**Padang**	**1.06**	**45**	P	**Pn**	**21 46 44.9**	**-0.7**
PDSI				S	**Sn**	**21 47 00.6**	**+1.4**
PPSI	**Pulau Pagai**	**1.13**	**164**	P	**Pn**	**21 46 45.6**	**-0.9**
PPSI				S	**Sn**	**21 47 02.4**	**+1.6**
BKNI	**Bangkinang**	**2.39**	**34**	P	**Pn**	**21 47 02.3**	**-1.4**
MNAI	**Manna**	**4.21**	**130**	P	**Pn**	**21 47 27.7**	**-1.1**
H08S2	**Diego Garcia H**	**27.75**	**257**	T	T	22 20 53.0	
	baz=80,slow=75,SNR=10						
H08S3	**Diego Garcia H**	**27.76**	**257**	T	T	22 20 53.5	
	baz=80,slow=75,SNR=12						
H08S1	**Diego Garcia H**	**27.77**	**257**	T	T	22 20 54.1	
	baz=80,slow=75,SNR=3.2						
WRA	**Warramunga Arr**	**38.42**	**121**	P	**P**	**21 53 44.7**	**-1.0**
	0.3nm,0.7s,baz=301,slow=9.0,SNR=1.7 0.3nm,0.7s						
ASAR	**Alice Springs**	**39.69**	**126**	P	**P**	**21 53 55.9**	**-0.3**
	0.2nm,0.7s,baz=301,slow=7.2,SNR=1.9 0.2nm,0.7s						
MKAR	**Makanchi Array**	**50.63**	**345**	P	**P**	**21 55 23.7**	**+1.0**
	0.5nm,0.6s,baz=161,slow=7.9,SNR=6.0 0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**55.15**	**344**	P	**P**	**21 55 56.4**	**+0.5**
	0.3nm,0.7s,baz=156,slow=9.2,SNR=2.5 0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**56.79**	**350**	P	**P**	**21 56 08.7**	**+1.1**
	1.0nm,0.6s,baz=153,slow=9.7,SNR=4.6 1.0nm,0.6s						
H04N2	**CROZET ISLANDS**	**60.89**	**216**	T	T	23 02 11.0	
	baz=58,slow=75,SNR=67						
H04N1	**CROZET ISLANDS**	**60.90**	**216**	T	T	23 02 11.5	
	baz=58,slow=75,SNR=60						
H04N3	**CROZET ISLANDS**	**60.91**	**216**	T	T	23 02 10.3	
	baz=58,slow=75,SNR=56						
H04S1	**CROZET ISLANDS**	**61.19**	**215**	T	T	23 02 33.4	
	baz=56,slow=75,SNR=4.6						
H04S3	**CROZET ISLANDS**	**61.20**	**215**	T	T	23 02 33.2	
	baz=56,slow=75,SNR=7.6						
H04S2	**CROZET ISLANDS**	**61.20**	**215**	T	T	23 02 34.5	
	baz=56,slow=75,SNR=6.2						

*IDC **20** 22:02:44.9±0.6, 37°13S×95°40W, h0km, mb4.1/8, mbtmp4.0/9, ML3.8/1, MS3.8/23, Error ellipse: s-maj=29.8km s-min=17.2km az=83.0*

ISC 20 22:02:47.1±0.6, 37°15S±0°1×95°4W±0°2, h14km, n53, σ0°76/23, mb4.2/11, MS3.9/22, 5C, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**13.78**	**81**	T	T	22 20 13.5	
	baz=250,slow=74,SNR=533						
H03S1	**Juan Fernandez**	**13.79**	**81**	T	T	22 20 02.3	
	baz=250,slow=74,SNR=692						
H03S3	**Juan Fernandez**	**13.79**	**81**	T	T	22 20 18.8	
	baz=250,slow=74,SNR=852						
H03N2	**Juan Fernandez**	**13.90**	**80**	T	T	22 20 22.1	
	baz=249,slow=71,SNR=331						
H03N3	**Juan Fernandez**	**13.90**	**80**	T	T	22 20 14.9	
	baz=249,slow=71,SNR=252						
H03N1	**Juan Fernandez**	**13.92**	**80**	T	T	22 20 17.7	
	baz=249,slow=71,SNR=232						
RPN	**Rapa Nui**	**15.47**	**306**	LR	LR	22 10 43.7	
	comp=Z,295nm,21.7s,baz=118,slow=31						
PLCA	**Paso Flores**	**19.60**	**108**	P	**Pn**	**22 07 15.9**	**-0.4**
	0.1nm,0.3s,baz=271,slow=9.2,SNR=5.7						
PLCA				LR	LR	22 12 53.1	
	comp=Z,373nm,19.0s,baz=281,slow=31 2.7nm,0.8s						
LVC	**Limon Verde**	**26.99**	**65**	LR	LR	22 16 16.5	
	comp=Z,330nm,21.3s,baz=224,slow=30						
NNA	**Nana**	**30.04**	**38**	LR	LR	22 17 45.1	
	comp=Z,204nm,19.7s,baz=216,slow=30						
LPAZ	**La Paz**	**31.77**	**57**	P	**P**	**22 09 12.5**	**+0.8**
	2.5nm,0.8s,baz=212,slow=6.8,SNR=7.5						
LPAZ				LR	LR	22 19 47.9	
	comp=Z,82nm,18.0s,baz=223,slow=32 2.5nm,0.8s						
ATAH	**Atahualpa**	**33.61**	**32**	LR	LR	22 19 45.5	
	comp=Z,199nm,21.3s,baz=227,slow=30						
CPUP	**Villa Florida**	**33.88**	**83**	LR	LR	22 21 14.0	
	comp=Z,204nm,19.9s,baz=254,slow=33						
SIV	**San Ignacio**	**36.89**	**64**	LR	LR	22 22 51.5	
	comp=Z,142nm,21.9s,baz=299,slow=33						
ROSC	**El Rosal**	**46.13**	**30**	LR	LR	22 28 42.1	
	comp=Z,142nm,18.6s,baz=244,slow=34						
BDFB	**Brasilia**	**46.93**	**76**	LR	LR	22 29 52.9	
	comp=Z,220nm,18.9s,baz=199,slow=35						
JTS	**Las Juntas de**	**48.16**	**14**	LR	LR	22 26 34.8	
	comp=Z,88nm,20.3s,baz=188,slow=30						
SDV	**Santo Domingo**	**51.30**	**32**	LR	LR	22 31 14.5	
	comp=Z,112nm,21.2s,baz=250,slow=33						
QSPA	**South Pole Qui**	**53.09**	**180**	P	**P**	**22 12 04.0**	**+0.2**
	2.0nm,0.7s,baz=129,slow=1.8,SNR=18 2.0nm,0.7s						
VNA3	**Neumayer Olymp**	**53.97**	**156**	⇑P	**P**	**22 12 10.0**	**0.0**
	comp=Z,5.9nm,0.7s						
VNA1	**Neumayer--Stat**	**54.54**	**156**	⇑P	**P**	**22 12 14.7**	**+0.7**
	comp=Z,6.2nm,0.8s						
VNA2	**Neumayer--Watz**	**54.76**	**156**	⇑P	**P**	**22 12 14.9**	**-0.9**
	comp=Z,3.4nm,0.9s,baz=257,slow=5.3						
PCRV	**Puerto La Cruz**	**55.18**	**38**	LR	LR	22 33 41.7	
	comp=Z,149nm,20.7s,slow=34						
SNAA	**Sanae**	**56.01**	**158**	⇑P	**P**	**22 12 24.3**	**-0.5**
	comp=Z,47nm,0.9s						
SNAA	**Sanae**	**56.01**	**158**	P	**P**	**22 12 24.5**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=286,slow=8.7,SNR=6.6 comp=Z,2.1nm,0.9s						
VNDA	**Vanda**	**56.77**	**195**	P	**P**	**22 12 30.1**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=91,slow=4.9,SNR=4.1 comp=Z,0.9nm,0.9s						
TEIG	**Tepich**	**57.43**	**8**	LR	LR	22 31 28.9	
	comp=Z,48nm,20.7s,baz=204,slow=30						
RAR	**Rarotonga**	**57.45**	**267**	LR	LR	22 30 08.2	
	comp=Z,89nm,21.9s,baz=120,slow=29						
TROLL	**Troll, Antarti**	**57.51**	**159**	⇑P	**P**	**22 12 35.6**	**+0.1**
	comp=Z,382nm,0.7s						
MDP	**Montagnes des**	**57.86**	**53**	LR	LR	22 34 44.4	
	comp=Z,135nm,20.8s,baz=198,slow=33						
SJG	**San Juan**	**61.45**	**32**	LR	LR	22 38 42.6	
	comp=Z,29nm,18.2s,baz=185,slow=35						
TXAR	**Lajitas Array**	**66.57**	**352**	P	**P**	**22 13 37.3**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=174,slow=9.6,SNR=11 comp=Z,1.2nm,0.8s						
URZ	**Urewera**	**66.57**	**239**	LR	LR	22 35 02.7	
	comp=Z,174nm,21.6s,baz=40,slow=29						
MAW	**Mawson**	**74.29**	**172**	P	**P**	**22 14 24.4**	**+1.0**
	comp=Z,1.4nm,1.0s,baz=160,slow=14,SNR=1.8 comp=Z,1.4nm,1.0s						
NVAR	**Mina Array Bea**	**78.11**	**342**	P	**P**	**22 14 46.3**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=180,slow=6.3,SNR=8.9 comp=Z,2.1nm,0.9s						
PDAR	**Pinedale Array**	**80.56**	**349**	P	**P**	**22 14 59.3**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=163,slow=6.3,SNR=17 comp=Z,1.9nm,0.8s						
DZM	**Mont Dzumac**	**83.19**	**248**	LR	LR	22 44 34.1	
	comp=Z,101nm,19.2s,baz=16,slow=30						
SUR	**Sutherland**	**88.73**	**131**	LR	LR	22 52 19.3	
	comp=Z,64nm,19.7s,baz=126,slow=34						
BBTS	**Babate**	**90.06**	**72**	LR	LR	22 54 16.7	
	comp=Z,42nm,18.7s,baz=146,slow=34						
DBIC	**Dimbokro**	**94.37**	**85**	LR	LR	22 57 18.9	
	comp=Z,59nm,18.2s,baz=199,slow=35						
HNR	**Honiara**	**95.88**	**254**	LR	LR	22 51 56.1	
	comp=Z,642nm,18.9s,baz=84,slow=31						
CTA	**Charters Tower**	**98.75**	**237**	LR	LR	22 56 22.1	
	comp=Z,6.1nm,18.2s,baz=92,slow=33						
H01W1	**Cape Leeuwin H**	**103.27**	**205**	T	T	00 12 37.4	
	baz=154,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**103.28**	**205**	T	T	00 12 38.0	
	baz=154,slow=75,SNR=14						
H01W3	**Cape Leeuwin H**	**103.29**	**205**	T	T	00 12 40.2	
	baz=154,slow=75,SNR=13						
USRK	**Ussuriysk Ar.**	**143.82**	**296**	PKP	PKPbc	22 22 19.3	+0.1
	comp=Z,1.4nm,0.6s,baz=75,slow=4.7,SNR=4.0						
KSRS	**Korea Array**	**145.80**	**284**	PKPbc	**PKPbc**	**22 22 25.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=101,slow=2.3,SNR=4.0						
NRIK	**Noril'sk**	**147.69**	**358**	PKPbc	**PKPbc**	**22 22 29.5**	**-0.6**
	comp=Z,4.7nm,1.0s,baz=14,slow=5.5,SNR=3.9						
KBZ	**Khabaz**	**147.80**	**65**	PKPbc	**PKPbc**	**22 22 30.7**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=257,slow=3.6,SNR=5.1						
SONM	**Songino Array**	**160.79**	**311**	PKPab	**PKPab**	**22 23 28.4**	**-0.2**
	comp=Z,0.9nm,1.0s,baz=163,slow=1.5,SNR=5.5						
ZALV	**Zalesovo Beam**	**163.18**	**360**	PKP	**PKPdf**	**22 22 47.2**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=336,slow=3.2,SNR=3.6						
KURBB	**Kurchatov Arra**	**165.81**	**16**	PKP	**PKPdf**	**22 22 49.0**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=47,slow=1.4,SNR=4.1						
KURBB				PKPab	**PKPab**	**22 23 49.1**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=328,slow=4.7,SNR=4.3						
MKAR	**Makanchi Array**	**170.18**	**10**	PKP	**PKPdf**	**22 22 53.6**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=70,slow=1.7,SNR=2.6						
MKAR				PKPab	**PKPab**	**22 24 09.8**	**0.0**
	comp=Z,0.3nm,0.8s,baz=36,slow=5.9,SNR=2.6						

OMAN 20 22:05:26.0±1.5, 14°38N×51°75E, h10km, mb4.2/1, ml3.6/2, Error ellipse: s-maj=22.7km s-min=14.6km az=110.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.31**	**26**	P	Pn	22 06 18.4	+0.4
ABTO				S	Sn	22 06 58.6	+1.2
	SNR=5.7						
RBK	**Rabkut**	**3.90**	**37**	P	Pn	22 06 27.3	+1.2
	SNR=11						
WHFO	**Wadi Hawf**	**4.02**	**29**	P	Pn	22 06 28.3	+0.6
	SNR=20						
WHFO				S	Sn	22 07 16.5	+1.6
DMTO	**DMTO**	**4.52**	**42**	P	Pn	22 06 35.1	+0.5
	SNR=27						
DMTO				S	Sn	22 07 30.0	+2.8
DOK	**Doka**	**4.79**	**28**	P	Pn	22 06 39.0	+0.7
DOK				S	Sn	22 07 35.0	+1.0
MZR	**Muzera**	**8.73**	**11**	P	Pn	22 07 32.4	-0.1
MZR				S	Sn	22 09 12.3	+1.3
MHTO	**MHTO**	**8.85**	**41**	P	Pn	22 07 34.7	+0.7
	SNR=15						
MHTO				S	Sn	22 09 13.6	-0.2
UMZA	**Um Al Zommool**	**8.90**	**21**	P	Pn	22 07 34.9	+0.2
BSY	**Bisya**	**9.79**	**31**	P	Pn	22 07 47.7	+0.6
BSY				S	Sn	22 09 36.2	-0.9
SMDO	**Samad**	**10.49**	**34**	P	Pn	22 07 56.1	-0.6
HOQ	**Hoqain**	**10.55**	**29**	P	Pn	22 07 58.2	+0.8
WBK	**Wadi Bani Khal**	**10.67**	**39**	P	Pn	22 07 58.9	-0.2
ASUD	**Al Ashush, Dub**	**10.74**	**18**	P	Pn	22 08 01.0	+1.1
	SNR=17						

*IDC **20** 22:14:50.0±4.4, 12°17N×140°83E, h66km±42km, mb3.5/10, mbtmp3.8/10, ML4.6/1, MS2.6/1, Error ellipse: s-maj=34.3km s-min=20.4km az=101.0*

ISC 20 22:14:47.0±0.9, 12°2N±0°2×140°6E±0°2, h35km, n11, σ0°93/11, mb4.0/10, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.36**	**71**	P	**Pn**	**22 15 51.2**	**+0.5**
	37nm,0.3s,baz=193,slow=13,SNR=6.1						
GUMO				LR	LR	22 17 15.4	
	comp=Z,77nm,21.9s,baz=147,slow=35						
WRA	**Warramunga Arr**	**32.55**	**191**	P	**P**	**22 21 15.3**	**+0.3**
	0.5nm,1.0s,baz=8.6,slow=9.7,SNR=1.2 0.5nm,1.0s						
ASAR	**Alice Springs**	**36.26**	**190**	P	**P**	**22 21 46.8**	**-0.3**
	0.2nm,0.5s,baz=22,slow=12,SNR=5.8 0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.65**	**317**	P	**P**	**22 24 48.7**	**+1.0**
	0.3nm,0.6s,baz=98,slow=6.1,SNR=2.4 0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**60.38**	**326**	P	**P**	**22 24 53.0**	**+0.5**
	0.6nm,0.5s,baz=97,slow=4.5,SNR=2.7 0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**63.03**	**321**	P	**P**	**22 25 11.4**	**+0.9**
	0.8nm,0.6s,baz=103,slow=7.0,SNR=7.9 0.8nm,0.6s						
BVAR	**Borovoye Array**	**68.46**	**322**	P	**P**	**22 25 46.7**	**+1.2**
	1.4nm,0.5s,baz=105,slow=8.3,SNR=9.2 1.4nm,0.5s						
ILAR	**Eielson Array**	**71.58**	**26**	P	**P**	**22 26 03.5**	**-0.9**
	0.9nm,0.6s,baz=246,slow=6.3,SNR=17 0.9nm,0.6s						
YKA	**Yellowknife Ar**	**85.96**	**27**	P	**P**	**22 27 23.7**	**+0.3**
	0.7nm,0.5s,baz=291,slow=5.1,SNR=7.2 0.7nm,0.5s						
ARCES	**ARCESS Array B**	**87.09**	**341**	P	**P**	**22 27 27.8**	**-1.1**
	0.2nm,0.4s,baz=77,slow=8.4,SNR=5.4 0.2nm,0.4s						
FINES	**FINESS Array B**	**90.62**	**334**	P	**P**	**22 27 44.6**	**-0.9**
	1.3nm,0.5s,baz=58,slow=5.2,SNR=26 1.3nm,0.5s						

*SKHL **20** 22:41:08.9±0.2, 43°80N×147°20E, h90km±2km, mb4.7/3, msha5.6/3*
*JMA **20** 22:41:08.4±0.3, 44°N±1°×14°7E±°, h95km±4km, MV3.8/29, E OFF HOKKAIDO*

ISC 20 22:41:07.2±1.6, 43°8N±0°1×147°2E±0°1, h97km±9km, n16, σ0°83/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.28**	**282**	*i* P	**Pn**	**22 41 21.9**	**+0.6**
SHO				AMB	AMB	22 41 22.1	
	80nm,0.2s						
SHO				*e*S	**Sn**	**22 41 31.6**	**-0.2**
SHO				A	A	22 41 32.5	
	2μm,0.3s						
SHO				A	A	22 41 32.5	
	2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.00**	**283**	*i* P	**Pn**	**22 41 27.4**	**+0.1**
YUK				AMB	AMB	22 41 27.6	
	1μm,0.2s						
YUK				*e*S	**Sn**	**22 41 41.1**	**-1.4**
YUK				A	A	22 41 42.8	
	1μm,0.3s						
YUK				A	A	22 41 42.8	
	740nm,0.3s						
NEM2	**Nemuro 2**	**1.16**	**248**	P	**Pn**	**22 41 29.6**	**+0.4**
NEM2				S	**Sn**	**22 41 45.2**	**-0.4**
KUR	**Kuril'sk**	**1.50**	**18**	*e*P	**Pn**	**22 41 33.9**	**+0.7**
KUR				AMB	AMB	22 41 34.2	
	80nm,0.4s						
KUR				*e*S	**Sn**	**22 41 52.8**	**-0.1**
KUR				A	A	22 41 53.2	
	370nm,0.3s						
KUR				A	A	22 41 53.2	
	490nm,0.3s						
JRA	**Rausu**	**1.51**	**275**	P	**Pn**	**22 41 34.1**	**+0.6**
JRA				S	**Sn**	**22 41 53.2**	**-0.1**
JNSB	**Nemuroshibetsu**	**1.60**	**269**	*i* P	**Pn**	**22 41 35.4**	**+0.9**
JNSB				S	**Sn**	**22 41 55.8**	**+0.6**
JKHN	**Kushirohamanak**	**1.66**	**245**	*i* P	**Pn**	**22 41 36.2**	**+0.9**
JNK	**Nakash**	**1.82**	**264**	*i* P	**Pn**	**22 41 37.7**	**+0.4**
JAK	**Akkeshi**	**2.00**	**247**	*i* P	**Pn**	**22 41 40.2**	**+0.6**
JAK				S	**Sn**	**22 42 03.8**	**-0.7**
JAR	**Ashorobuto**	**2.55**	**260**	P	**Pn**	**22 41 48.1**	**+1.2**
JOB	**Onbets**	**2.62**	**251**	*e*P	**Pn**	**22 41 48.9**	**+1.1**
JOB				*e*S	**Sn**	**22 42 18.4**	**-0.7**
JMP	**Maruseppu**	**2.79**	**275**	P	**Pn**	**22 41 50.7**	**+0.6**
JCH	**Churui**	**3.06**	**248**	P	**Pn**	**22 41 54.2**	**+0.6**
JCH				S	**Sn**	**22 42 28.6**	**-0.8**
JFR	**Furan**	**3.42**	**261**	P	**Pn**	**22 42 00.2**	**+1.7**
JNBK	**Urakawa-nobuka**	**3.61**	**246**	P	**Pn**	**22 42 01.4**	**+0.4**
NB2	**NORSAR Subarra**	**69.56**	**339**	P	**P**	**22 52 04.6**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=32,slow=6.5						

*IDC **20** 22:45:37.8±1.2, 35°89N×71°12E, h0km, mb3.9/10, mbtmp3.9/14, ML3.4/4, MS3.4/2, Error ellipse: s-maj=26.2km s-min=18.3km az=121.0*
*NEIC **20** 22:45:53.0±1.4, 36°44N±0°05×71°10E±0°07, h110km±8km, mb4.0/5, Error ellipse: s-maj=9.6km s-min=4.9km az=130.0*
*NNC **20** 22:45:54.1±3.5, 36°93N×70°99E, h0km, mb4.9, mpv4.6, Error ellipse: s-maj=28.9km s-min=23.2km az=153.0*

ISC 20 22:45:51.1±0.6, 36°35N±0°05×71°22E±0°05, h100km, n62, σ1°67/74, mb4.0/12, 5C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.54**	**225**	Pn	**Pn**	**22 46 33.0**	**+2.1**
KBL				Sn	**Sn**	**22 47 03.6**	**+2.3**
GAR	**Garm**	**2.74**	**345**	Pn	**Pn**	**22 46 34.6**	**+1.2**
GAR				Sn	**Sn**	**22 47 05.0**	**-0.9**
CHGR	**Chuyangaron**	**2.82**	**325**	Pn	**Pn**	**22 46 34.9**	**+0.3**
CHGR				Sn	**Sn**	**22 47 05.8**	**-2.2**
SIMJ	**Simiganj**	**2.90**	**323**	Pn	**Pn**	**22 46 35.8**	**+0.2**
DRK	**Karamyk**	**3.15**	**8**		**Pn**	**22 46 41.5**	**+2.4**
NIL	**Nilore**	**3.17**	**148**		**Pn**	**22 46 42.5**	**+3.4**
BTK	**Batken**	**3.71**	**355**		**Pn**	**22 46 48.6**	**+2.2**
JMU	**Jammu**	**4.73**	**139**	*e*P	**Pn**	**22 47 01.9**	**+1.8**
JMU				*e*S	**Sn**	**22 47 53.7**	**-0.1**
JMU				IAML		22 47 57.2	
	comp=E,330nm,0.5s						
JMU				IAML		22 47 57.2	
	comp=E,259nm,0.7s						
KSH	**Kashi**	**4.91**	**49**	Pn	**Pn**	**22 47 00.8**	**-1.8**
KSH				Sn	Sn	22 47 49.9	-8.4
KSH				smax	smax		
	comp=N,420nm,0.7s						
KSH				smax	smax		
	comp=E,200nm,0.8s						
ARSB	**Arslanbob**	**5.15**	**15**		**Pn**	**22 47 06.8**	**+0.9**
THN	**Thein Dam**	**5.39**	**135**	*e*P	**Pn**	**22 47 11.6**	**+2.4**
THN				*e*S	**Sn**	**22 48 10.0**	**+0.1**
THN				IAML		22 48 12.5	
	comp=E,134nm,0.5s						
THN				IAML		22 48 12.6	
	comp=E,190nm,0.4s						
AML	**Almayashu**	**6.08**	**18**	P	**Pn**	**22 47 20.2**	**+1.4**
	SNR=122						
NRN	**Naryn**	**6.29**	**35**	Pn	**Pn**	**22 47 22.5**	**+0.9**
UCH	**Uchtor**	**6.40**	**23**	P	**Pn**	**22 47 24.7**	**+1.6**
	SNR=63						
BHK	**Bhakra**	**6.55**	**137**	*e*P	**Pn**	**22 47 26.0**	**+1.2**
BHK				*e*S	**Sn**	**22 48 37.0**	**-1.1**
BHK				IAML		22 48 39.5	
	comp=E,73nm,0.4s						
BHK				IAML		22 48 40.7	
	comp=E,78nm,0.2s						
EKS2	**Erkin-Say**	**6.60**	**17**	P	**Pn**	**22 47 27.2**	**+1.6**
	SNR=31						
KK31	**Karatay Array**	**6.76**	**356**	Pn	**Pn**	**22 47 28.3**	**+0.6**
KK31	**Karatay Array**	**6.76**	**356**	⇓P	**Pn**	**22 47 28.1**	**+0.4**
	comp=E,20nm,0.3s,baz=173,slow=11,SNR=584						
KK31				⇓S	**Sn**	**22 48 40.5**	**-2.7**
	comp=E,13nm,0.4s,baz=186,slow=23,SNR=7.3						
KKAR	**Karatay Array**	**6.76**	**356**	Pn	**Pn**	**22 47 28.3**	**+0.6**
AAK	**Ala-Archa**	**6.77**	**21**	P	**Pn**	**22 47 29.9**	**+2.0**
	SNR=27						
AAK	**Ala-Archa**	**6.77**	**21**		**Pn**	**22 47 29.8**	**+2.0**
AAK	**Ala-Archa**	**6.77**	**21**	Pn	**Pn**	**22 47 28.0**	**+0.1**
	comp=E,20nm,0.3s,baz=194,slow=7.6,SNR=39						
AAK				Sn	**Sn**	**22 48 43.0**	**-0.4**
	comp=E,3.1nm,0.3s,baz=6.7,slow=22,SNR=6.4						
AAK	**Ala-Archa**	**6.77**	**21**	⇑P	**Pn**	**22 47 29.4**	**+1.5**
	comp=E,26nm,0.4s						
AAK				⇑S	**Sn**	**22 48 42.4**	**-1.1**
	comp=E,25nm,0.7s						
KBK	**Karagaybulak**	**6.92**	**23**	P	**Pn**	**22 47 31.9**	**+1.9**
	SNR=9.2						
FRU1	**Bishkek**	**6.96**	**21**		**Pn**	**22 47 32.5**	**+2.1**
ULHL	**Ulahol**	**7.05**	**32**	P	**Pn**	**22 47 33.3**	**+1.4**
	SNR=10						
BOOM	**Boomskoye usch**	**7.13**	**29**		**Pn**	**22 47 34.2**	**+1.3**
CHMS	**Chumysh**	**7.17**	**21**	P	**Pn**	**22 47 34.8**	**+1.5**
	SNR=56						
CHMS	**Chumysh**	**7.17**	**21**	⇓P	**Pn**	**22 47 34.3**	**+1.0**
	comp=E,20nm,0.3s						
CHMS				⇑S	**Sn**	**22 48 51.7**	**-1.4**
	comp=E,15nm,0.6s						
SMLA	**Simla**	**7.19**	**135**	*e*P	**Pn**	**22 47 33.4**	**-0.1**
SMLA				*e*S	**Sn**	**22 48 50.6**	**-3.0**
SMLA				IAML		22 48 56.6	
	comp=E,132nm,0.3s						
SMLA				IAML		22 48 59.0	
	comp=N,93nm,0.2s						
HNLY	**HANLEY**	**7.32**	**117**	*e*P	**Pn**	**22 47 35.7**	**-0.1**
HNLY				*e*S	**Sn**	**22 48 55.5**	**-2.1**
HNLY				IAML		22 48 56.9	
	comp=E,8.8nm,0.9s						
HNLY				IAML		22 48 58.8	
	comp=N,8.1nm,0.4s						
USP	**Ospenovka**	**7.35**	**19**	P	**Pn**	**22 47 36.9**	**+1.2**
	SNR=41						
TKM2	**Tokmak 2**	**7.38**	**26**	P	**Pn**	**22 47 37.7**	**+1.5**
	SNR=38						
TKM2	**Tokmak 2**	**7.38**	**26**	⇓P	**Pn**	**22 47 36.9**	**+0.7**
	comp=N,13nm,0.5s						

comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,93nm,4.7s
AKASG Malin Array Be 33.18 309 P **P 22 52 18.7 +0.8**
comp=Z,0.2nm,0.3s,baz=83,slow=7.6,SNR=3.5
comp=Z,0.2nm,0.3s
NRIK Noril'sk 34.24 10 P **P 22 52 29.8 +2.9**
comp=Z,2.0nm,0.7s,baz=207,slow=6.8,SNR=4.7
comp=Z,2.0nm,0.7s
FINES FINESS Array B 37.70 326 P **P 22 52 57.8 +1.3**
comp=Z,1.1nm,0.7s,baz=122,slow=10,SNR=7.6
comp=Z,1.1nm,0.7s
FURI Furi 40.26 235 LR LR 23 12 45.0
comp=Z,44nm,18.1s,baz=174,slow=41
ARCES ARCESS Array B 41.35 338 P **P 22 53 28.4 +1.7**
comp=Z,4.4nm,1.1s,baz=115,slow=8.1,SNR=7.5
comp=Z,4.4nm,1.1s
HFS Hagfors 43.29 322 P **P 22 53 43.2 +0.7**
comp=Z,1.0nm,0.4s,baz=100,slow=10,SNR=18
comp=Z,1.0nm,0.4s
NB2 NORSAR Subarra 44.60 323 P **P 22 53 53.7 +0.7**
comp=Z,1.2nm,0.8s,baz=98,slow=7.9
NOA NORSAR Array B 44.60 323 P **P 22 53 53.8 +0.7**
comp=Z,0.8nm,0.5s,baz=97,slow=7.7,SNR=11
comp=Z,0.8nm,0.5s
KLR Kul'dur 45.09 54 LR LR 23 15 57.8
comp=Z,42nm,18.4s,baz=131,slow=40
TORD Torodi Ar. Bea 65.89 269 P **P 22 56 24.6 -1.9**
comp=Z,0.6nm,0.4s,baz=70,slow=10.0,SNR=12
comp=Z,0.6nm,0.4s
BOSA Boshof 77.75 220 P **P 22 57 35.2 -2.0**
comp=Z,2.4nm,0.9s,baz=351,slow=2.5,SNR=3.7
comp=Z,2.4nm,0.9s
WRA Warramunga Arr 81.76 122 P **P 22 57 57.5 -1.5**
comp=Z,0.4nm,0.7s,baz=329,slow=5.0,SNR=2.5
comp=Z,0.4nm,0.7s

NEIC 20 22:46:48.8±1.4, 39°.77N±0°.02×94°.87W±0°.01, h5km±2km, mb_Lg2.6/56, Error ellipse: s-maj=4.3km s-min=3.0km az=158.0, Missouri-Kansas border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P38A	**Dawn**	**1.04**	**98**	Pg	Pg	22 47 07.6	-1.1
P38A				Sg	Sg	22 47 21.3	-0.9
N35A	**Tabor**	**1.24**	**332**	Pg	Pg	22 47 11.1	-1.4
N35A				Sg	Sg	22 47 27.3	-1.3
KSU1	**Kansas State U**	**1.51**	**244**		Pn	22 47 15.5	-0.9
KSU1					Sn	22 47 35.7	-0.8
N38A	**Joes South For**	**1.61**	**50**	Pg	Pn	22 47 17.4	-0.6
N38A				Sg	Sn	22 47 38.7	-0.4
P40A	**Paris**	**2.19**	**95**		Pn	22 47 27.0	+1.2
S39A	**Bolivar**	**2.40**	**149**		Pn	22 47 29.1	+0.4
L34A	**Svendsen Farm,**	**2.47**	**333**		Pn	22 47 29.5	-0.3
SCIA	**State Center**	**2.47**	**30**	IAmb_Lg		22 48 12.5
comp=Z,27nm,0.8s							
R40A	**Maddies Statio**	**2.51**	**125**		Pn	22 47 30.2	0.0
BGNE	**Belgrade**	**2.99**	**304**		Pn	22 47 38.4	+1.6
BGNE				IAmb_Lg		22 48 25.2	
comp=Z,25nm,0.7s							
T35A	**Sooner Cattle**	**3.13**	**205**	Pn	Pn	22 47 38.3	-0.5
R32A	**Long Quarter,**	**3.28**	**247**	Pn	Pn	22 47 39.4	-1.5
CCM	**Cathedral Cave**	**3.31**	**120**		Pn	22 47 40.0	-1.2
MGMO	**Mountain Grove**	**3.32**	**141**		Pn	22 47 41.5	+0.1
U38A	**Gravette**	**3.35**	**173**		Pn	22 47 41.6	-0.2
U38A				IAmb_Lg		22 48 35.3	
comp=Z,18nm,0.8s							
KAN09	**Caldwell North**	**3.41**	**220**	Pn	Pn	22 47 42.5	-0.1
KAN09				IAmb_Lg		22 48 45.3	
comp=Z,20nm,0.8s							
KAN13	**South Haven SW**	**3.44**	**217**	Pn	Pn	22 47 43.1	+0.1
KAN12	**Harper NE Stat**	**3.48**	**226**	Pn	Pn	22 47 42.3	-1.4
HHAR	**Hobbs**	**3.56**	**168**		Pn	22 47 43.6	-1.1
L40A	**Anamosa**	**3.59**	**49**	Pn	Pn	22 47 44.0	-1.0
L40A				IAmb_Lg		22 48 47.8	
comp=Z,15nm,0.7s							
RLO	**Rose Lookout**	**3.60**	**182**		Pn	22 47 44.2	-1.1
RLO				IAmb_Lg		22 48 41.6	
comp=Z,25nm,0.9s							
OK051	**E0350 and S346**	**3.61**	**206**	IAmb_Lg		22 48 49.6	
comp=Z,15nm,0.7s							
OK048	**Pawnee Station**	**3.73**	**207**	Pn	Pn	22 47 44.8	-2.2
OK048				IAmb_Lg		22 48 53.4	
comp=Z,14nm,0.8s							
GC02	**Grant County #**	**3.75**	**220**	Pn	Pn	22 47 46.6	-0.6
QUOK	**Quay**	**3.88**	**203**	Pn	Pn	22 47 47.4	-1.7
FVM	**French Village**	**3.90**	**116**	Pn	Pn	22 47 47.9	-1.5
TUL3	**Leonard**	**3.92**	**191**	Pn	Pn	22 47 47.1	-2.6
OK032	**Salt Plains WL**	**3.96**	**223**	IAmb_Lg		22 49 02.1
comp=Z,21nm,1.0s							
T42A	**Van Buren**	**4.04**	**132**	IAmb_Lg		22 49 00.2
comp=Z,19nm,0.9s							
OK052	**Battle Ridge R**	**4.07**	**203**	IAmb_Lg		22 49 07.6
comp=Z,16nm,1.0s							
OK031	**S. Brethren Rd**	**4.12**	**203**	IAmb_Lg		22 49 10.8
comp=Z,10.0nm,0.8s							
HDIL	**Hopedale**	**4.34**	**78**	IAmb_Lg		22 49 17.8
comp=Z,14nm,0.8s							
I37A	**Lemond, Waseca**	**4.38**	**14**	IAmb_Lg		22 49 15.1
comp=Z,14nm,0.8s							
OK038	**West end E0370**	**4.49**	**224**	IAmb_Lg		22 49 09.7
comp=Z,11nm,0.8s							
L42A	**Oliver, Polo**	**4.53**	**59**	IAmb_Lg		22 49 13.1
comp=Z,10nm,0.7s							
PBMO	**Poplar Bluff**	**4.60**	**129**	IAmb_Lg		22 49 11.5
comp=Z,12nm,0.7s							
JFWS	**Jewell Farm**	**4.68**	**46**	IAmb_Lg		22 49 16.7
comp=Z,10nm,0.8s							
S44A	**Carbondale**	**4.85**	**114**	IAmb_Lg		22 49 22.4
comp=Z,12nm,0.8s							
WHAR	**Wooly Hollow**	**4.92**	**155**	IAmb_Lg		22 49 29.7
comp=Z,17nm,1.0s							
UALR	**University of**	**5.38**	**157**	IAmb_Lg		22 49 40.9
comp=Z,11nm,0.7s							
X40A	**Basin Creek Fa**	**5.52**	**162**	IAmb_Lg		22 49 45.0
comp=Z,8.0nm,0.7s							
LOOK	**Love County**	**6.06**	**199**	IAmb_Lg		22 50 09.7
comp=Z,13nm,0.9s							
KSCO	**Kaye Shedlock'**	**6.06**	**265**	IAmb_Lg		22 50 16.2
comp=Z,6.9nm,1.1s							
T25A	**Trinidad**	**7.94**	**254**	IAmb_Lg		22 51 01.2
comp=Z,9.0nm,0.7s							
LRAL	**Lakeview Retre**	**9.24**	**134**	IAmb_Lg		22 51 36.8
comp=Z,4.8nm,1.2s							

IDC 20 22:55:14.9±2.9, 34°.53N×85°.92E, h0km, mb3.4/2, mbtmp3.5/5, ML2.7/2, MS3.3/2, Error ellipse: s-maj=183.8km s-min=23.4km az=61.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.55**	**348**	Pn	Pn	22 58 15.2	+0.4
0.1nm,0.3s,baz=161,slow=14,SNR=3.6							
0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**16.96**	**344**	Pn	Pn	22 59 12.6	-0.8
baz=156,slow=12,SNR=3.6							
0.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**19.77**	**141**	P	P	22 59 46.5	0.0
1.2nm,0.3s,baz=328,slow=11,SNR=3.2							
BVAR	**Borovoye Array**	**21.54**	**334**	P	P	23 00 04.7	-0.8
1.0nm,0.6s,baz=137,slow=11,SNR=7.8							
1.0nm,0.6s							
KSRS	**Korea Array**	**33.91**	**73**	LR	LR	23 16 29.0	
comp=Z,35nm,18.1s,baz=215,slow=38							
DAVOX	**Davos/Dischmat**	**56.86**	**307**	LR	LR	23 30 53.4	
comp=Z,25nm,18.2s,baz=89,slow=38							
WRA	**Warramunga Arr**	**71.08**	**132**	P	P	23 06 35.2	+0.1
0.4nm,0.7s,baz=324,slow=6.5,SNR=2.0							
0.4nm,0.7s							

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*NEIC **20** 22:58:39.7±0.3, 35°.893N±0°.010×97°.29W±0°.02, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.6km az=231.0*

TUL 20 22:58:40±0.5, 35°.90N±0°.01×97°.28W±0°.01, h7km±6km, ML2.5, mb_Lg2.1/10(NEIC), ML2.3/38(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=209.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.17**	**235**	Pg	Pg	22 58 43.7	+0.2
OK029				IAML		22 58 46.6	
768nm,0.4s							
OK029				IAML		22 58 46.6	
917nm,0.1s							
ADOK	**Arcadia Dam**	**0.26**	**197**	Pg	Pg	22 58 45.3	+0.2
OK031	**S. Brethren Rd**	**0.36**	**81**		Pg	22 58 47.4	+0.3
OK052	**Battle Ridge R**	**0.40**	**76**	Pg	Pg	22 58 48.0	+0.2
OK052				IAML		22 58 54.1	
398nm,0.3s							
OK052				IAML		22 58 54.3	
232nm,0.2s							
QUOK	**Quay**	**0.54**	**59**	Pg	Pg	22 58 50.6	+0.2
QUOK				IAML		22 58 59.4	
comp=E,195nm,0.2s							
OK048	**Pawnee Station**	**0.58**	**28**	Pg	Pg	22 58 51.5	+0.1
OK048				IAML		22 58 59.5	
comp=E,158nm,0.2s							
OK048				IAML		22 58 59.6	
comp=E,134nm,0.2s							
OK051	**E0350 and S346**	**0.70**	**31**	Pg	Pg	22 58 53.6	0.0
OK051				IAML		22 59 03.2	
comp=E,123nm,0.2s							
OK051				IAML		22 59 16.2	
comp=E,126nm,0.2s							
W35A	**Tecumseh**	**0.81**	**156**		Pg	22 58 55.0	-0.6
W35A				IAML		22 59 09.1	
comp=N,103nm,0.4s							
CROK	**Carrier**	**0.83**	**317**	Pg	Pg	22 58 55.7	-0.3
GC02	**Grant County #**	**1.06**	**334**	Pg	Pg	22 58 59.9	-0.5
OK038	**West end E0370**	**1.32**	**297**		Pn	22 59 04.1	-0.7
X34A	**Smith Ranch, M**	**1.37**	**199**		Pn	22 59 05.4	-0.2
U32A	**Winter Ranch,**	**1.47**	**290**		Pn	22 59 06.7	-0.3
NOKA	**Waynoka**	**1.52**	**299**		Pn	22 59 07.8	+0.1
WMOK	**Wichita Mounta**	**1.69**	**227**		Pn	22 59 10.1	+0.2
WMOK				IAmb_Lg		22 59 35.0	
comp=Z,9.3nm,0.8s							
ELIS	**Ellis County**	**1.74**	**276**	Pn	Pn	22 59 10.5	-0.2
RLO	**Rose Lookout**	**1.85**	**81**		Pn	22 59 12.4	+0.3
X37A	**Clayton**	**2.04**	**129**	Pn	Pn	22 59 15.4	+0.7
U38A	**Gravette**	**2.40**	**76**		Pn	22 59 19.4	-0.3
R32A	**Long Quarter,**	**2.77**	**336**	IAmb_Lg		23 00 06.0	
comp=Z,8.6nm,1.0s							
MIAR	**Mount Ida**	**3.32**	**113**	Pn	Pn	22 59 32.5	+0.2
X40A	**Basin Creek Fa**	**3.90**	**110**	IAmb_Lg		23 00 43.1	
comp=Z,3.7nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.19**	**89**	IAmb_Lg		23 00 51.9	
comp=Z,3.3nm,0.7s							
MGMO	**Mountain Grove**	**4.23**	**71**	IAmb_Lg		23 00 57.9	
comp=Z,5.5nm,0.9s							
LCAR	**Lake Charles**	**4.97**	**86**	IAmb_Lg		23 01 20.3	
comp=Z,3.4nm,0.7s							

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*MEX **20** 23:33:42.4±1.0, 15°.85N×95°.16W, h29km±23km, MD4.5*
*NEIC **20** 23:33:44.6±1.1, 16°.10N±0°.10×94°.95W±0°.08, h28km±8km, mb4.0/51, Error ellipse: s-maj=16.2km s-min=9.1km az=213.0*
*CATAC **20** 23:33:44.9±0.4, 15°.93N×94°.90W, h10km, MB5.7, mb4.7, ML4.7*

ISC 20 23:33:38.4±1.2, 15°.95N±0°.03×95°.17W±0°.02, h1km±9km, n118, σ2°.43/168, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.81**	**41**	*e*P	**Pg**	**23 33 54.1**	**+0.1**
NILT				*e*S	**Sg**	**23 34 04.9**	**+0.4**
HUIG	**Huatulco**	**0.92**	**259**	*e*P	**Pg**	**23 33 56.6**	**+0.6**
HUIG				*e*S	**Sg**	**23 34 08.7**	**+0.7**
CMIG	**Matias Romero**	**1.17**	**13**	*e*P	**Pg**	**23 33 59.9**	**-1.0**
CMIG				*e*S	**Sg**	**23 34 14.2**	**-1.8**
PANG	**Puerto Angel**	**1.29**	**258**	*e*P	**Pg**	**23 34 03.3**	**+0.2**
PANG				*e*S	**Sg**	**23 34 19.8**	**+0.1**
UXUV	**UXUV**	**1.68**	**36**	*e*P	**Pn**	**23 34 08.6**	**-0.3**
UXUV				*e*S	**Sn**	**23 34 30.2**	**-0.9**
OXLC	**Oaxaca**	**1.84**	**307**	*e*P	**Pn**	**23 34 11.8**	**+0.4**
OXLC				*e*S	**Sn**	**23 34 34.2**	**-1.2**
NEUV	**Arroyo Zacate**	**1.86**	**341**	*e*P	**Pn**	**23 34 09.9**	**-1.5**
NEUV				*e*S	**Sn**	**23 34 33.6**	**-1.9**
OXBJ	**Oaxaca**	**1.86**	**307**	*e*P	**Pn**	**23 34 11.9**	**+0.3**
OXBJ				*e*S	**Sn**	**23 34 35.5**	**-0.4**
VHO	**Vista Hermosa**	**1.87**	**307**	*e*P	**Pn**	**23 34 11.5**	**-0.2**
VHO				*e*S	**Sn**	**23 34 34.4**	**-1.8**
PCIG		**1.89**	**97**	*e*P	**Pn**	**23 34 10.7**	**-1.1**
PCIG				*e*S	**Sn**	**23 34 34.2**	**-2.2**
PEIG	**Puerto Escondi**	**1.90**	**272**	*e*P	**Pn**	**23 34 10.4**	**-1.6**
PEIG				*e*S	**Sn**	**23 34 36.2**	**-0.5**
TGIG		**2.13**	**67**	*e*P	**Pn**	**23 34 15.9**	**+0.7**
TGIG				*e*S	**Sn**	**23 34 40.5**	**-1.9**
TGBT	**Tuxtla Gutierr**	**2.16**	**67**	*e*P	**Pb**	**23 34 18.6**	**+0.3**
TGBT				*e*S	**Sn**	**23 34 42.3**	**-0.7**
TUIG	**Tuzandepetl**	**2.19**	**19**	*e*P	**Pn**	**23 34 16.1**	**+0.1**
TUIG				*e*S	**Sn**	**23 34 43.4**	**-0.4**
YOIG	**Yosondua**	**2.45**	**292**	*e*P	**Pn**	**23 34 20.0**	**+0.2**
YOIG				*e*S	**Sn**	**23 34 50.1**	**-0.5**
PMUV	**Sontecomapan**	**2.58**	**1**	*e*P	**Pn**	**23 34 19.8**	**-1.6**
PMUV				*e*S	**Sn**	**23 34 50.4**	**-3.2**
TOIG	**Toxpalan**	**2.80**	**320**	*e*P	**Pn**	**23 34 27.2**	**+2.7**
TOIG				*e*S	**Sn**	**23 34 59.8**	**+0.8**
TXIG	**Tlaxiaco**	**2.81**	**298**	*e*P	**Pb**	**23 34 27.9**	**-1.6**
TXIG				*e*S	**Sn**	**23 35 01.7**	**+2.3**
PNIG	**Pinotepa**	**2.88**	**279**	*e*P	**Pn**	**23 34 25.0**	**-0.4**
PNIG				*e*S	**Sn**	**23 34 57.2**	**-3.4**
CCIG	**Comitan**	**2.93**	**83**		**Pn**	**23 34 25.9**	**-0.4**
CCIG	**Comitan**	**2.93**	**83**	*e*P	**Pn**	**23 34 26.8**	**+0.5**
CCIG				*e*S	**Sn**	**23 34 59.9**	**-2.4**
CCIG	**Comitan**	**2.93**	**83**	*i*P	**Pn**	**23 34 27.7**	**+1.4**
CCIG				*i*S	**Sn**	**23 35 01.8**	**-0.5**
CCIG				IAML		23 35 16.2	
comp=Z,1μm,1.0s							
PAVE	**Pavencul**	**2.98**	**104**	*e*P	**Pn**	**23 34 27.4**	**+0.4**
PAVE				*e*S	**Sn**	**23 35 00.9**	**-2.6**
THIG		**2.98**	**110**	*e*P	**Pn**	**23 34 26.1**	**-0.8**
THIG				*e*S	**Sn**	**23 35 01.3**	**-2.0**
CHUJ	**Union Juarez**	**3.07**	**106**	*e*P	**Pn**	**23 34 28.3**	**+0.1**
CHUJ				*e*S	**Sn**	**23 35 03.2**	**-2.5**
HLIG	**Huajuapan de L**	**3.14**	**307**	*e*P	**Pb**	**23 34 33.7**	**-1.5**
HLIG				*e*S	**Sb**	**23 35 12.6**	**-1.5**
TPIG	**Tehuac#an**	**3.23**	**320**	*e*P	**Pn**	**23 34 37.2**	**+0.9**
TPIG				*e*S	**Sn**	**23 35 13.2**	**+3.6**
OZST	**Orizaba**	**3.43**	**328**	*e*S	**Sn**	**23 35 16.7**	**+2.2**
FTIG	**Fresnillo de T**	**3.44**	**305**	*e*P	**Pb**	**23 34 37.9**	**-2.3**
FTIG				*e*S	**Sn**	**23 35 13.4**	**-1.4**
MGIG	**Malinaltepec**	**3.56**	**292**	*e*P	**Pn**	**23 34 36.9**	**+2.0**
MGIG				*e*S	**Sn**	**23 35 19.5**	**+1.8**
HUEH	**Huehuetenango**	**3.59**	**100**	Pn	**Pn**	**23 34 35.7**	**+0.4**
HUEH	**Huehuetenango**	**3.59**	**100**	*e*P	**Pn**	**23 34 37.2**	**+1.9**
HUEH				*e*S	**Sn**	**23 35 21.7**	**+3.2**
TLIG	**Tlapa**	**3.63**	**297**	Pn	**Pb**	**23 34 40.3**	**-3.1**
TLIG	**Tlapa**	**3.63**	**297**	*e*P	**Pn**	**23 34 39.1**	**+3.3**
TLIG				*e*S	**Sb**	**23 35 25.5**	**-2.6**
TLIG	**Tlapa**	**3.63**	**297**	*i*P	**Pb**	**23 34 45.0**	**+1.6**
TLIG				*i*S	**Sb**	**23 35 30.8**	**+2.7**
TLIG				IAML		23 35 40.9	
comp=Z,990nm,1.0s							
RTAL	**Retalhuleu**	**3.64**	**112**		**Pn**	**23 34 36.4**	**+0.5**
RTAL	**Retalhuleu**	**3.64**	**112**	*e*P	**Pn**	**23 34 35.5**	**-0.4**
RTAL				*e*S	**Sn**	**23 35 17.2**	**-2.3**
RTAL	**Retalhuleu**	**3.64**	**112**	*i*P	**Pn**	**23 34 37.2**	**+1.3**
RTAL				*i*S	**Sn**	**23 35 20.3**	**+0.8**
RTAL				IAML		23 35 48.1	
comp=Z,560nm,1.0s							
HMTT	**Tlapaneco**	**3.73**	**300**	*e*P	**Pb**	**23 34 44.2**	**-1.0**
HMTT				*e*S	**Sb**	**23 35 27.1**	**-3.8**
JAUV	**Jalcomulco**	**3.74**	**336**	*e*P	**Pn**	**23 34 35.0**	**-2.3**
JAUV				*e*S	**Sb**	**23 35 28.0**	**-3.1**
SOKI	**Kika Raxquin**	**3.80**	**107**	*i*P	**Pn**	**23 34 41.2**	**+2.7**
SOKI				IAML		23 35 57.7	
comp=Z,850nm,1.0s							
CRIG	**Cruz Grande**	**3.88**	**282**	*e*P	**Pn**	**23 34 38.3**	**-1.0**
CRIG				*e*S	**Sn**	**23 35 19.0**	**-6.5**
LVIG	**Laguna Verde**	**3.94**	**343**	*e*P	**Pn**	**23 34 41.4**	**+1.4**
LVIG				*e*S	**Sn**	**23 35 24.9**	**-2.0**
PHPU	**Puebla**	**4.20**	**318**	*e*S	**Sn**	**23 35 38.6**	**+4.8**
DAIG	**Los Arroyos**	**4.43**	**285**	*e*P	**Pn**	**23 34 44.8**	**-1.9**
DAIG				*e*S	**Sn**	**23 35 33.5**	**-5.5**
PPM	**Popocatepetl**	**4.53**	**314**	*e*P	Pn	23 34 54.1	+5.5
PPM				*e*S	**Sn**	**23 35 43.5**	**+1.4**
MEIG	**Mezcala**	**4.69**	**295**	*e*P	**Pn**	**23 34 54.1**	**+3.7**
MEIG				*e*S	**Sn**	**23 35 51.5**	**+5.9**
YAIG	**Yautepec**	**4.72**	**308**	*e*P	**Pn**	**23 34 54.0**	**+3.1**
YAIG				*e*S	**Sn**	**23 35 47.5**	**+1.2**
CXUV	**Coxquihui**	**4.79**	**332**	*e*P	**Pn**	**23 34 50.9**	**-0.9**
CXUV				*e*S	**Sn**	**23 35 46.2**	**-1.8**
PLIG	**Platanillo**	**4.80**	**301**	*e*P	**Pn**	**23 34 55.4**	**+3.5**
PLIG				*e*S	**Sn**	**23 35 46.6**	**-1.7**
SCIG	**Sabancuy**	**4.84**	**51**	*e*P	**Pn**	**23 34 52.4**	**-0.1**
SCIG				*e*S	**Sn**	**23 35 43.5**	**-5.7**
TXVM	**Universitario**	**4.98**	**315**	*e*S	**Sn**	**23 35 57.4**	**+4.4**
TLVM	**San Miguel Top**	**5.00**	**311**	*e*P	**Pn**	**23 34 55.4**	**+0.5**
TLVM				*e*S	**Sn**	**23 35 45.1**	**-8.4**
XCVM	**Xochimilco**	**5.00**	**312**	*e*P	**Pn**	**23 34 53.5**	**-1.3**
XCVM				*e*S	**Sn**	**23 35 56.3**	**+2.9**
CAIG	**El Cayaco**	**5.01**	**283**	*e*P	**Pn**	**23 34 54.4**	**-0.3**
CAIG				*e*S	**Sn**	**23 35 46.6**	**-6.7**
COVM	**Coyoacan**	**5.09**	**312**	*e*S	**Sn**	**23 35 53.5**	**-2.2**
MAVM	**Malinalco, Edo**	**5.10**	**307**	*e*P	**Pn**	**23 34 55.4**	**-0.8**
MAVM				*e*S	**Sn**	**23 35 54.9**	**-0.9**
PBVM	**Pinon**	**5.10**	**314**	*e*P	**Pn**	**23 34 56.3**	**+0.3**
PBVM				*e*S	**Sn**	**23 35 56.7**	**+1.3**
BJVM	**Benito Juarez**	**5.12**	**312**	*e*S	**Sn**	**23 36 02.4**	**+6.1**
VTVM	**Tizayuca**	**5.12**	**318**	*e*P	Pb	23 35 04.9	-4.1
VTVM				*e*S	**Sn**	**23 36 02.3**	**+5.8**
AOVM	**Tlapan**	**5.16**	**310**	*e*P	Pb	23 35 04.1	-5.6
AOVM				*e*S	**Sn**	**23 36 02.9**	**+5.3**
PETF	**Flores**	**5.18**	**79**	Pn	**Pn**	**23 34 57.3**	**+0.2**
CJVM	**Cuajimalpa**	**5.19**	**311**	*e*S	**Sn**	**23 35 58.5**	**+0.4**
INVM	**La Marquesa**	**5.21**	**310**	*e*P	**Pn**	**23 35 00.5**	**+2.6**
INVM				*e*S	**Sn**	**23 35 56.4**	**-2.6**
APVM	**Azcapotzalco**	**5.22**	**313**	*e*S	**Sn**	**23 36 02.8**	**+4.0**
TOVM	**TOLUCA**	**5.43**	**308**	*e*P	Pn	23 35 06.9	+6.1
TOVM				*e*S	**Sn**	**23 36 02.3**	**-1.8**
NUBE	**Las Nubes**	**5.59**	**111**	*i*P	**Pn**	**23 35 04.4**	**+1.5**
NUBE				IAML		23 35 07.6	
comp=Z,340nm,1.0s							
NUBE				IVmB_BB		23 35 07.6	
comp=Z,47μm,1.0s							
NUBE				IAmb	IAmb	23 35 16.7	
comp=Z,110nm,1.2s							
NUBE				*i*S	**Sn**	**23 36 07.6**	**-0.3**
DEIG	**Demacu**	**5.68**	**320**	*e*P	Pn	23 35 09.9	+5.7
DEIG				*e*S	**Sn**	**23 36 11.0**	**+0.8**
CEVE	**Cerro Verde**	**5.76**	**111**	*i*P	**Pn**	**23 35 07.5**	**+2.2**
CEVE				IAmb	IAmb	23 35 24.5	
comp=Z,110nm,0.6s							
CEVE				IAML		23 36 36.2	
comp=Z,180nm,1.0s							
MTO3	**Montecristo**	**5.82**	**105**	Pn	**Pn**	**23 35 07.1**	**+1.1**
MTO3	**Montecristo**	**5.82**	**105**	*i*P	**Pn**	**23 35 07.4**	**+1.4**
MTO3				IVmB_BB		23 35 27.3	
comp=Z,700nm,1.0s							
MTO3				IAmb	IAmb	23 35 35.0	
comp=Z,33nm,0.9s							
MTO3				IAML		23 37 12.2	
comp=Z,78nm,1.0s							
JAYA	**Jayaque - finc**	**5.98**	**112**	*i*P	**Pn**	**23 35 09.4**	**+1.1**
JAYA				IVmB_BB		23 35 14.4	
comp=Z,9μm,1.0s							
JAYA				IAmb	IAmb	23 35 24.2	
comp=Z,74nm,1.0s							
JAYA				*i*S	**Sn**	**23 36 17.0**	**-0.6**
JAYA				IAML		23 36 45.6	
comp=Z,490nm,1.0s							
ACIG	**Acambay**	**6.01**	**313**	*e*P	Pn	23 35 02.3	-6.4
ACIG				*e*S	**Sn**	**23 36 12.1**	**-6.3**
SNET	**Serv Nac Est T**	**6.17**	**111**	Pn	**Pn**	**23 35 11.4**	**+0.7**
ZIIG	**Zihuatanejo**	**6.25**	**286**	*e*P	**Pn**	**23 35 13.0**	**+1.2**
ZIIG				*e*S	**Sn**	**23 36 15.6**	**-8.4**
CTUV	**Llano Grande**	**6.27**	**332**	*e*P	Pn	23 35 06.5	-5.5
CTUV				*e*S	**Sn**	**23 36 29.3**	**+4.9**
JRQG	**Juriquilla Cam**	**6.89**	**314**	Pn	**Pn**	**23 35 24.4**	**+3.6**
MYIG	**Mrida**	**7.17**	**45**	*e*S	**Sn**	**23 36 41.3**	**-5.2**
TEIG	**Tepich**	**7.81**	**56**		**Pn**	**23 35 32.2**	**-1.1**
TGUH	**Tegucigalpa,Un**	**7.86**	**103**	Pn	**Pn**	**23 35 34.9**	**+0.9**
BRDY	**Brady**	**15.66**	**348**		**Pn**	**23 37 22.4**	**+2.0**
BRDY				IAmb	IAmb	23 37 44.2	
comp=Z,7.6nm,1.1s							
OZNA	**Ozona**	**15.87**	**341**	P	**P**	**23 37 29.4**	**+2.4**
ALPN	**Alpine**	**16.32**	**333**		**Pn**	**23 37 30.6**	**+1.6**
FW13	**Cleburne**	**16.46**	**353**	Pn	**Pn**	**23 37 31.6**	**+0.9**
FW13				IAmb	IAmb	23 38 00.0	
comp=Z,19nm,1.2s							
ABTX	**Abilene, Hawle**	**17.09**	**347**		**Pn**	**23 37 40.0**	**+1.3**
ABTX				IAmb	IAmb	23 37 43.5	
comp=Z,7.6nm,0.8s							
FW03	**Perrin-Whitt E**	**17.22**	**352**	Pn	**Pn**	**23 37 41.2**	**+0.9**
FW03				IAmb	IAmb	23 37 48.1	
comp=Z,18nm,1.2s							
Z38A	**Mt. Pleasant**	**17.24**	**1**	Pn	**Pn**	**23 37 40.5**	**0.0**
VHRN	**Van Horn**	**17.29**	**330**		**P**	**23 37 43.4**	**+0.6**
Z41A	**Richland Creek**	**17.37**	**7**	Pn	**Pn**	**23 37 42.3**	**+0.2**
Z41A				IAmb	IAmb	23 37 52.8	
comp=Z,21nm,1.1s							
ODSA	**Odessa

	baz=31								
ETM					*e*S		Sg	23 51 06.9	-0.2
	baz=31								
HWA	**Hwalien**	0.11	67	⇓	*i*P		Pg	23 51 05.8	+0.6
	baz=76								
HWA					S		Sg	23 51 09.1	+1.3
	baz=76								
TEYL	**Yanliau Villag**	0.11	126	⇓	*i*P		Pg	23 51 05.6	+0.3
	baz=110								
TEYL					*i* S		Sg	23 51 08.8	+0.8
	baz=110								
LXIB	**Xiulin Townshi**	0.12	318	⇑	*i*P		Pg	23 51 05.1	-0.4
	baz=322								
LXIB					*i* S		Sg	23 51 07.6	-0.8
	baz=322								
ESL	**Shilin**	0.13	206	⇑	*i*P		Pg	23 51 05.4	-0.1
	baz=194								
ESL					S		Sg	23 51 08.2	-0.2
	baz=194								
SHUL	**Shoufeng**	0.16	158	⇓	*i*P		Pg	23 51 06.4	+0.6
	baz=154								
SHUL					*e*S		Sg	23 51 09.8	+0.9
	baz=154								
TWD	**Chiawan**	0.17	32	⇓	*i*P		Pg	23 51 06.0	0.0
	baz=40								
TWD					S		Sg	23 51 09.2	0.0
	baz=40								
WARBT	**Fenglin Townsh**	0.24	205	⇓	*i*P		Pg	23 51 06.6	-0.4
	baz=200								
WARBT					S		Sb	23 51 10.1	-0.3
	baz=200								
ETL	**Fush Village**	0.25	27		*e*P		Pg	23 51 07.0	-0.2
	baz=32								
ETL					S		Sb	23 51 10.6	-0.3
	baz=32								
NACB	**Ninganchiao**	0.25	20		P		Pg	23 51 06.8	-0.3
NACB	**Ninganchiao**	0.25	20	⇑	*i*P		Pg	23 51 06.9	-0.3
	baz=25								
NACB					*i* S		Sg	23 51 10.7	-0.6
	baz=25								
ETLH	**Xiulin Townshi**	0.27	357	⇓	*i*P		Pg	23 51 07.2	-0.3
	baz=1.0								
ETLH					S		Sg	23 51 10.8	-1.0
	baz=1.0								
EGFH	**Guangfu**	0.27	194		*i* P		Pg	23 51 07.1	-0.4
	baz=190								
EGFH					*i* S		Sg	23 51 11.5	-0.2
	baz=190								
OWD	**Renai**	0.29	274	⇑	*i*P		Pb	23 51 07.8	-0.2
	baz=277								
OWD					S		Sb	23 51 12.0	-0.4
	baz=277								
WHF	**Hehuan Shan**	0.30	315	⇓	*i*P		Pb	23 51 07.8	-0.2
	baz=312								
WHF					*i* S		Sg	23 51 12.2	-0.7
	baz=312								
CHGB	**Renai**	0.32	293	⇓	*i*P		Pb	23 51 08.3	-0.1
	baz=297								
CHGB					S		Sb	23 51 12.8	-0.5
	baz=297								
WUSB	**Renai**	0.35	279	⇑	*i*P		Pb	23 51 08.8	-0.2
	baz=282								
WUSB					S		Sg	23 51 13.6	-0.5
	baz=282								
VWDT	**VWDT**	0.37	241	⇑	*i*P		Pb	23 51 09.3	0.0
	baz=234								
VWDT					S		Sb	23 51 14.6	-0.2
	baz=234								
FUSS	**Fushou**	0.39	323	⇓	*i*P		Pb	23 51 09.5	-0.2
	baz=325								
FUSS					*i* S		Sg	23 51 14.6	-0.6
	baz=325								
TWT	**Tachien**	0.43	317	⇓	*i*P		Pb	23 51 10.4	0.0
	baz=310								
TWT					*e*S		Sb	23 51 16.2	-0.4
	baz=310								
EHP	**Heping Village**	0.43	31		*e*P		Pb	23 51 10.7	+0.4
	baz=34								
EHP					*e*S		Sb	23 51 16.5	0.0
	baz=34								
TDCB	**Techi**	0.44	316	⇓	*i*P		Pb	23 51 10.4	-0.2
	baz=310								
TDCB					S		Sg	23 51 16.1	-0.6
	baz=310								
HGSD	**Ruisui**	0.45	189		*e*P		Pg	23 51 10.2	-0.2
	baz=192								
HGSD					*e*S		Sg	23 51 16.4	-0.3
	baz=192								
EAHA	**Aohua**	0.45	29		P		Pg	23 51 10.3	-0.3
	baz=32								
EAHA					*i* S		Sg	23 51 16.4	-0.4
	baz=32								
EHY	**Hungye**	0.46	201	⇑	P		Pg	23 51 09.7	-0.9
	baz=191								
EHY					*e*S		Sg	23 51 16.1	-0.8
	baz=191								
EHYH	**Wanrong**	0.46	198	⇓	P		Pg	23 51 09.7	-1.0
	baz=189								
EHYH					*e*S		Sg	23 51 16.9	-0.1
	baz=189								
NNSB	**Datong**	0.50	348	⇓	*i*P		Pg	23 51 11.3	-0.2
	baz=350								
NNSB					S		Sg	23 51 17.9	-0.5
	baz=350								
NNS	**Nan Shan**	0.52	347	⇓	*i*P		Pb	23 51 11.6	-0.2
	baz=358								
NNS					S		Sg	23 51 18.3	-0.6
	baz=358								
SSLB	**Suanglung**	0.52	254		P		Pb	23 51 11.8	+0.1
SSLB	**Suanglung**	0.52	254	⇑	*i*P		Pg	23 51 11.4	-0.4
	baz=260								
SSLB					S		Sg	23 51 17.9	-0.9
	baz=260								
ENA	**Nanau**	0.54	24		*e*P		Pg	23 51 11.5	-0.7
	baz=27								
ENA					*e*S		Sg	23 51 19.0	-0.4
	baz=27								
SMLT	**Sun Moon Lake**	0.55	265		*e*P		Pb	23 51 12.2	-0.1
	baz=263								
SMLT					S		Sg	23 51 19.3	-0.5
	baz=263								
WCS	**Beigang Elemen**	0.55	283	⇓	P		Pb	23 51 12.1	-0.1
	baz=282								
WCS					*e*S		Sg	23 51 19.1	-0.7
	baz=282								
EWUT	**Wuta**	0.57	27	⇑	*e*P		Pb	23 51 12.0	-0.5
	baz=29								
EWUT					*e*S		Sg	23 51 19.6	-0.8
	baz=29								
YULB	**Yu-li**	0.57	199		P		Pb	23 51 11.7	-0.9
YULB	**Yu-li**	0.57	199		*i* P		Pb	23 51 11.1	-1.4
	baz=189								
YULB					*e*S		Sg	23 51 19.6	-0.8
	baz=189								
LATG	**Datong**	0.60	2	⇑	*i*P		Pb	23 51 12.7	-0.4
	baz=357								
LATG					S		Sg	23 51 20.4	-1.0
	baz=357								
EYUL	**Yuli**	0.61	196		*e*P		Pb	23 51 12.9	-0.2
	baz=198								
EYUL					*e*S		Sb	23 51 21.2	-0.1
	baz=198								
TWF1	**Yuli**	0.61	198	⇓	P		Pb	23 51 11.7	-1.5
	baz=195								
TWF1					*e*S		Sg	23 51 21.7	+0.1
	baz=195								
WHP	**Taichung City**	0.61	304	⇓	*i*P		Pg	23 51 13.3	-0.2
	baz=299								
WHP					*e*S		Sb	23 51 21.6	+0.2
	baz=299								
ECBN	**Changbin**	0.62	184		*e*P		Pb	23 51 12.8	-0.6
	baz=182								
ECBN					*e*S		Sg	23 51 22.6	+0.7
	baz=182								
WHYT	**Xinyi Township**	0.64	248		*e*P		Pg	23 51 13.9	-0.1
	baz=252								
WHYT					*e*S		Sg	23 51 22.4	-0.1
	baz=252								
NDT	**Datong Townshi**	0.67	1		*e*P		Pb	23 51 14.2	0.0
	baz=3.0								
NDT					*e*S		Sb	23 51 23.0	0.0
	baz=3.0								
ENTT	**Nioudou**	0.70	5		*e*P		Pb	23 51 14.4	-0.5
	baz=7.0								
ENTT					*e*S		Sb	23 51 23.9	-0.3
	baz=7.0								
ESAO	**Su ao**	0.71	26		*e*P		Pb	23 51 14.8	-0.2
	baz=28								
ESAO					*e*S		Sb	23 51 23.6	-0.8
	baz=28								
WJS	**Zhushan**	0.71	261		*e*P		Pn	23 51 16.0	-0.3
	baz=262								
WJS					*e*S		Sn	23 51 26.5	-0.2
	baz=262								
NDS	**Dongshan**	0.72	16		*e*P		Pb	23 51 14.7	-0.5
	baz=18								
NDS					S		Sb	23 51 24.9	+0.2
	baz=18								
YHNB	**Yeheng**	0.74	351		P		Pg	23 51 15.7	-0.2
YHNB	**Yeheng**	0.74	351		*e*P		Pb	23 51 15.3	-0.3
	baz=345								
YHNB					S		Sb	23 51 25.1	-0.3
	baz=345								
TWC	**Suao**	0.74	25		*e*P		Pb	23 51 15.0	-0.6
	baz=28								
TWC					*i* S		Sb	23 51 25.4	0.0
	baz=28								
CHKH	**Chenggong**	0.75	187		*e*P		Pb	23 51 14.5	-1.1
	baz=185								
CHKH					*e*S		Sg	23 51 26.1	+0.2
	baz=185								
WNT	**Mingjian**	0.75	266		*e*P		Pn	23 51 16.6	-0.1
	baz=265								
WNT					*i* S		Sn	23 51 27.6	+0.1
	baz=265								
NSK	**Sanguang**	0.75	350		*e*P		Pb	23 51 15.5	-0.2
	baz=344								
NSK					*i* S		Sb	23 51 24.7	-0.8
	baz=344								
FULB	**Fuli**	0.76	194		*e*P		Pb	23 51 15.3	-0.5
	baz=202								
FULB					*e*S		Sn	23 51 27.7	-0.1
	baz=202								
EOS4	**EOS4**	0.77	76		*e*P		Pb	23 51 16.1	+0.3
	baz=93								
EOS4					*e*S		Sg	23 51 27.2	+0.6
	baz=93								
NFF	**Wufeng Townshi**	0.78	334		*e*P		Pg	23 51 16.2	-0.3
	baz=335								
NFF					*e*S		Sg	23 51 26.6	-0.3
	baz=335								
TWQ1	**Liyutan**	0.78	302		*e*P		Pn	23 51 17.0	-0.2
	baz=303								
TWE	**Neicheng**	0.80	11		*i* P		Pb	23 51 16.6	+0.1
	baz=14								
TWE					*i* S		Sg	23 51 27.3	-0.3
	baz=14								
CHN5	**Tsauling**	0.82	246		P		Pn	23 51 17.9	+0.1
	baz=245								
CHN5					*e*S		Sn	23 51 30.1	+0.5
	baz=245								
EOS2	**EOS2**	0.82	54		*e*P		Pn	23 51 18.3	+0.6
	baz=67								
FUSB	**Fushanzhiwuyua**	0.82	6		*e*P		Pb	23 51 16.6	-0.5
	baz=356								
FUSB					*e*S		Sb	23 51 27.0	-0.7
	baz=356								
EOS3	**EOS3**	0.83	65		*e*P		Pn	23 51 17.9	+0.3
	baz=64								
NSY	**Sanyi**	0.83	306	⇓	P		Pn	23 51 18.2	+0.3
	baz=316								
NSY					*e*S		Sn	23 51 29.2	-0.3
	baz=316								
EHD	**Haiduan**	0.83	199		*e*P		Pb	23 51 15.9	-1.1
	baz=197								
EHD					*e*S		Sb	23 51 28.2	+0.5
	baz=197								
NSTT	**Nanjuang**	0.83	327	⇓	*i*P		Pg	23 51 17.3	-0.2
	baz=319								
NSTT					*e*S		Sg	23 51 27.9	-0.6
	baz=319								
LIOB	**Emei**	0.83	328	⇓	P		Pn	23 51 17.6	-0.4
	baz=320								
LIOB					*e*S		Sb	23 51 27.6	-0.3
	baz=320								
NWLT	**Wulai**	0.84	0		*e*P		Pb	23 51 17.3	+0.1
	baz=2.0								
NWLT					*e*S		Sb	23 51 27.4	-0.7
	baz=2.0								
CHKT	**Chengkung**	0.84	188		*e*P		Pb	23 51 16.1	-1.1
	baz=186								
CHKT					*i* S		Sb	23 51 28.3	+0.3
	baz=186								
ELDTW	**Lidau**	0.86	211		*e*P		Pb	23 51 16.1	-1.5
	baz=215								
ELDTW					*e*S		Sb	23 51 28.9	0.0
	baz=215								
ECS	**Chishang**	0.87	197		*e*P		Pg	23 51 18.2	-0.2
	baz=195								
ECS					*e*S		Sn	23 51 31.6	+0.9
	baz=195								
NMLH	**Miaoli**	0.88	313		*i* P		Pn	23 51 19.3	+0.7
	baz=322								
NMLH					*i* S		Sn	23 51 31.0	+0.2
	baz=322								
WDJ	**Dajia District**	0.89	298		*e*P		Pn	23 51 19.0	+0.3
	baz=298								
WDJ					*e*S		Sn	23 51 31.8	+0.9
	baz=298								
WGK	**Gukeng**	0.89	254		*e*P		Pn	23 51 19.3	+0.6
	baz=253								
WGK					*e*S		Sn	23 51 32.6	+1.5
	baz=253								
WDLH	**Douliu**	0.91	255		*e*P		Pn	23 51 19.5	+0.5
	baz=254								
WDLH					*i* S		Sn	23 51 32.6	+1.0
	baz=254								
WCKO	**Fau**	0.96	239		*e*P		Pg	23 51 20.2	+0.3
	baz=238								
WCKO					*e*S		Sn	23 51 33.7	+1.0
	baz=238								
SBCB	**Hsinchu**	0.97	331		*e*P		Pg	23 51 19.9	-0.3
	baz=325								
SBCB					*e*S		Sn	23 51 34.4	+1.3
	baz=325								
EDH	**Donghe**	0.97	191		*i* P		Pb	23 51 18.9	-0.6
	baz=188								
EDH					S		Sb	23 51 32.0	+0.1
	baz=188								
EGS		0.99	23		*e*P		Pn	23 51 20.1	+0.1
	baz=32								
EGS					*e*S		Sn	23 51 34.8	+1.3
	baz=32								
HSN	**Hsinchu**	0.99	331		*e*P		Pg	23 51 21.7	+1.2
	baz=341								
HSN					*e*S		Sn	23 51 33.8	+0.3
	baz=341								
STYH	**Taoyuan**	1.01	221		*e*P		Pn	23 51 20.5	+0.1
	baz=216								
STYH					*i* S		Sg	23 51 33.7	-0.5
	baz=216								
TPUB	**Ta-pu**	1.02	232		P		Pg	23 51 21.4	+0.4
TPUB	**Ta-pu**	1.02	232	⇑	*i*P		Pg	23 51 21.1	+0.1
	baz=220								
TPUB					*e*S		Sn	23 51 35.0	+0.8
	baz=220								
NHDH	**Xindian Distri**	1.02	1		*e*P		Pg	23 51 21.0	-0.2
	baz=13								
WRL	**Guolierlin Hig**	1.03	268		*i* P		Pg	23 51 21.2	0.0
	baz=268								
WRL					*e*S		Sn	23 51 36.1	+1.7
	baz=268								
TATO	**Taipei**	1.04	359		P		Pn	23 51 20.8	+0.1
TWA	**Mucha**	1.04	4		*e*P		Pg	23 51 21.2	-0.3
	baz=360								
TWA					*e*S		Sb	23 51 34.4	+0.4
	baz=360								
WTP	**Ta-pu**	1.06	230		*e*P		Pg	23 51 22.0	0.0
	baz=218								
WTP					*e*S		Sg	23 51 35.6	-0.3
	baz=218								
NCUH	**Zhongli**	1.07	345		*e*P		Pg	23 51 22.2	+0.1
	baz=346								
NCUH					*i* S		Sg	23 51 37.8	+1.7
	baz=346								
TIPB	**Shuangxi**	1.07	16		*e*P		Pb	23 51 21.3	+0.1
	baz=17								
TIPB					S		Sb	23 51 35.0	+0.1
	baz=17								
LONT	**Longtian**	1.08	198		*e*P		Pb	23 51 21.1	-0.1
	baz=182								
TAP	**Taipei**	1.10	0		*e*P		Pn	23 51 21.9	+0.4
	baz=2.0								
TAP					*e*S		Sb	23 51 35.5	0.0
	baz=2.0								
WTCT	**Ta-ch'eng**	1.12	267		*e*P		Pg	23 51 22.3	-0.6
	baz=266								
WTCT					*e*S		Sg	23 51 38.0	+0.4
	baz=266								
TWK	**Hsinying**	1.14	235		*e*P		Pg	23 51 23.5	+0.1
	baz=233								
TWK					*e*S		Sg	23 51 39.2	+0.8
	baz=233								
TWB1	**Santiao Chiao**	1.16	23		*e*P		Pn	23 51 22.1	-0.3
	baz=16								
NWF	**Wu-fen Shan**	1.16	13		*e*P		Pb	23 51 23.1	+0.3
	baz=14								
NWF					S		Sg	23 51 38.7	-0.3
	baz=14								
WFSB	**Wu-fen Shan**	1.16	13		*e*P		Pb	23 51 22.6	0.0
	baz=22								
WFSB					*e*S		Sn	23 51 37.9	+0.1
	baz=22								
CHN1	**Nanshi**	1.16	230		*e*P		Pg	23 51 23.6	-0.2
	baz=219								
CHN1					*e*S		Sg	23 51 39.5	+0.4
	baz=219								
SNST	**Tainan City**	1.16	232		*e*P		Pg	23 51 24.1	+0.3
	baz=231								
SNST					*e*S		Sg	23 51 39.7	+0.7
	baz=231								
TWS1	**Kuangyinshan**	1.16	356		*e*P		Pn	23 51 22.1	-0.3
	baz=9.0								
TWS1					S		Sg	23 51 40.0	+0.9
	baz=9.0								
TWG	**Pinlang**	1.18	200		*e*P		Pb	23 51 23.2	+0.3
	baz=183								
TWGBT	**Beinan**	1.18	199		P		Pb	23 51 23.4	+0.5
TWGBT	**Beinan**	1.18	199		*e*P		Pb	23 51 23.5	+0.5
	baz=183								
SGST	**Jiashian**	1.19	225		*e*P		Pb	23 51 23.1	-0.1
	baz=223								
SGST					*e*S		Sg	23 51 40.1	+0.1
	baz=223								
SXI1	**Grass Mountain**	1.20	17		*e*P		Pn	23 51 22.8	-0.4
	baz=19								
WSF	**Szhu**	1.21	256		*e*P		Pb	23 51 23.6	+0.2
	baz=255								
WSF					S		Sg	23 51 40.3	-0.1
	baz=255								
YM01	**YM01**	1.21	3		*e*P		Pn	23 51 23.2	+0.1
	baz=6.0								
SLGT	**Liugui**	1.22	220		*e*P		Pb	23 51 23.9	+0.1
	baz=213								
SLGT					*e*S		Sg	23 51 40.1	-0.9
	baz=213								
NTST	**Danshui**	1.23	358		*i* P		Pg	23 51 25.0	0.0
	baz=11								
NTST					S		Sg	23 51 41.6	+0.5
	baz=11								
WSL	**Shuilin Townsh**	1.23	251		*e*P		Pg	23 51 25.6	+0.4
	baz=261								
WSL					*e*S		Sg	23 51 41.7	+0.3
	baz=261								
TNOU	**National Taiwa**	1.23	12		*e*P		Pb	23 51 23.9	-0.1
	baz=23								
ANP	**Anpu**	1.25	1		P		Pb	23 51 24.2	0.0
	baz=24								
YM08	**YM08**	1.25	4		*e*P		Pb	23 51 24.4	+0.2
	baz=7.0								
ICHU	**Yijhu**	1.25	243		*e*P		Pg	23 51 25.0	-0.5
	baz=242								
ICHU					S		Sg	23 51 42.9	+0.9
	baz=242								
LDUT	**Ludao**	1.26	181		*e*P		Pn	23 51 21.4	-2.3
	baz=178								
TWY	**Chenhua**	1.34	4		*e*P		Pb	23 51 26.2	+0.5
	baz=5.0								
TWY					*e*S		Sb	23 51 42.4	0.0
	baz=5.0								
SCST	**Cishan**	1.39	222		*e*P		Pg	23 51 28.2	0.0
	baz=220								
SCST					*e*S		Sg	23 51 46.9	+0.5
	baz=220								
SHHT	**Tainan City**	1.39	230		*e*P		Pg	23 51 29.2	+1.0
	baz=244								
SHHT					*e*S		Sg	23 51 48.2	+1.8
	baz=244								
SCLT	**Jiali**	1.42	238		*e*P		Pg	23 51 28.7	+0.1
	baz=236								
SCLT					*e*S		Sg	23 51 46.5	-0.6
	baz=236								
ECL	**Taimali**	1.42	201		*e*P		Pn	23 51 25.0	-1.0
	baz=185								
ECL					S		Sn	23 51 43.2	-1.0
	baz=185								
TSMG	**Majia**	1.45	213		*e*P		Pb	23 51 28.2	+0.5
	baz=221								
YOJ	**Yonaguni jima**	1.48	69		P		Pn	23 51 26.8	0.0
YOJ	**Yonaguni jima**	1.48	69		*e*P		Pn	23 51 26.8	0.0
	baz=83								
YOJ					S		Sn	23 51 46.1	+0.6
	baz=83								
YOJ	**Yonaguni jima**	1.48	69		*e*P		Pn	23 51 26.6	-0.2
YOJ					*e*S		Sn	23 51 45.8	+0.3
TSCK	**Chigu Township**	1.52	239		*e*P		Pg	23 51 30.2	-0.3
	baz=234								
MASBT	**Mashibuluo**	1.54	211		*e*P		Pn	23 51 27.4	-0.2
	baz=198								
EAST	**Anshuo**	1.66	201		*e*P		Pn	23 51 30.0	+0.7
	baz=186								
TAWH	**Dawu Township**	1.68	200		*e*P		Pb	23 51 31.0	-0.6
	baz=186								
SCZT	**Fangliau**	1.75	208		*e*P		Pb	23 51 32.1	-0.7
	baz=198								
PHUB	**P'eng-hu**	1.81	257		*i* P		Pn	23 51 32.3	+0.9
	baz=256								
PHUB					*e*S		Sb	23 51 55.2	-0.9
	baz=256								
WDGT	**Dungji**	1.81	249		*e*P		Pn	23 51 31.9	+0.5
	baz=243								
PNG	**Penghu**	1.82	259		*e*P		Pn	23 51 32.1	+0.6
	baz=258								
PNG					*e*S		Sb	23 51 55.3	-0.9
	baz=258								
VCHM	**Qimei**	2.03	250		*e*P		Pn	23 51 35.4	+1.0
	baz=231								
VCHM					*e*S		Sn	23 52 00.5	+1.3
	baz=231								
IRIF	**Iriomote-Funau**	2.08	78		P		Pn	23 51 35.3	+0.3
IRIF					*e*S		Sn	23 52 00.4	+0.1
VWUC	**VWUC**	2.14	300		*e*P		Pn	23 51 34.5	-1.4
	baz=302								
JKRS	**Kuro-shima**	2.31	82		*e*P		Pn	23 51 39.1	+0.8
JKRS					*e*S		Sn	23 52 07.3	+1.1
PTMZ	**Houxiangcun**	2.43	297		*e*P		Pn	23 51 39.4	-0.5
	baz=299								
JIJ	**Ishigaki jima**	2.45	79		P		Pn	23 51 40.1	-0.1
JIJ					S		Sn	23 52 08.8	-0.9
MATB	**Ma-tsu**	2.62	328		*e*P		Pn	23 51 41.6	-0.8
	baz=335								
JISG	**Ishigakijimahi**	2.65	75		P		Pn	23 51 42.7	-0.2
JISG					S		Sn	23 52 13.2	-1.3
KNM	**Kinmen**	2.84	280		*e*P		Pn	23 51 46.7	+1.1
	baz=278								
KNMB	**Chin-men Tao**	2.89	281		*e*P		Pn	23 51 45.8	-0.4
	baz=280								
MHZQ	**Yeshan**	3.11	314		*e*P		Pn	23 51 49.1	-0.1
	baz=320								
DSXP	**Dongshan**	3.74	267		*e*P		Pn	23 51 58.3	+0.4
	baz=263								
SXFK	**Yanhouchang**	4.27	306		*e*P		Pn	23 52 04.7	-0.4
	baz=310								

*NEIC **20** 23:56:00.4, 18°.47N×145°.99E, h140km*
*NEIC **20** 23:56:00.5±1.9, 18°.45N±0°.06×145°.99E±0°.08, h121km±1km, mb6.1/715, Mwb5.6/61, Mww5.6/42, Error ellipse: s-maj=13.2km s-min=9.6km az=258.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.59; $M_{\theta\theta}$0.65; $M_{\phi\phi}$-0.06; $M_{r\theta}$0.11; $M_{\theta\phi}$0.75; $M_{\phi r}$3.32; Fault plane solution: $M_0$3.

Solution. Duration: 3s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.09; $M_{\theta\theta}$0.09; $M_{\phi\phi}$1.00; $M_{r\theta}$0.18; $M_{\theta\phi}$1.31; $M_{\phi r}$3.17; Fault plane solution: $M_0$3.59000×10^{17} NP1: ϕ_s185.43000°, δ80.06000°, λ-109.59000°. NP2: ϕ_s69.55000°, δ21.88000°, λ-27.60000°. Principal axes: T 3.6758, Plg32.0000°, Azm292.0000°; N -0.1761, Plg19.0000°, Azm189.0000°; P -3.4997, Plg51.0000°, Azm73.0000°;

NEIC ***20*** *23:56:01.3, 18˚.44N×145˚.97E, h129km*

IDC ***20*** *23:56:01.6±0.3, 18˚.39N×145˚.84E, h146km±2km, mb5.6/30, mbtmp6.0/34, MS4.4/41, Error ellipse: s-maj=9.3km s-min=4.8km az=76.0*

MOS ***20*** *23:56:01.6±1.0, 18˚.42N×145˚.86E, h157km, mb6.0/87, MS4.6/10, Error ellipse: s-maj=7.3km s-min=3.5km az=117.4*

GCMT ***20*** *23:56:02.5±0.1, 18˚.46N±0˚.01×146˚.31E±0˚.01, h137km, MW5.7/166, Moment Tensor Solution. s161,c327; s166,c350; Duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.11±.04; $M_{\theta\theta}$0.34±.04; $M_{\phi\phi}$0.77±.04; $M_{r\theta}$-0.13±.03; $M_{\theta\phi}$1.60±.04; $M_{\phi r}$3.86±.03; Best double couple: $M_0$4.29100×10^{17} NP1:ϕ_s183.00000°, δ82.00000°, λ-112.00000°. NP2:ϕ_s75.00000°, δ23.00000°, λ-20.00000°. Principal axes: T 4.1800, Plg34.0000°, Azm291.0000°; N 0.2230, Plg22.0000°, Azm186.0000°; P -4.4010, Plg48.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***20*** *23:56:04.9±0.0, 18˚.83N×145˚.90E, h168km, mb5.8/87, mB5.6/58*

DJA ***20*** *23:56:05.6±0.8, 18˚N±4˚×14˚6E±˚, h141km±8km, M5.6/19, mB6.0/19, mb5.8/19, MLv6.0/1, Mw(mB)5.6/19, MwMwp5.4/10, Mwp5.6/10*

ISC 20 23:56:02.0±0.2, 18˚.39N±0˚.02×145˚.96E±0˚.03, h149km±1km, h149km:pP-P, n1826, σ1§68/2255, mb6.0/499, 119C-103D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.89**	**193**	P	**Pn**	**23 57 13.9**	**-0.1**
GUMO	**Guam**	**4.89**	**193**	Pn	**Pn**	**23 57 12.9**	**-1.0**
GUMO	**Guam**	**4.89**	**193**	P	**Pn**	**23 57 13.5**	**-0.5**
	810nm,0.3s,baz=111,slow=3.1,SNR=26						
GUMO				LR	LR	23 58 01.4	
	comp=Z,1μm,18.4s,baz=8.5,slow=25						
GUMO				S	**Sn**	**23 58 09.0**	**-1.1**
	3μm,0.3s,baz=185,slow=23,SNR=9.2						
JCJ	**Chichijima**	**9.34**	**339**	Pn	**Pn**	**23 58 10.2**	**-3.0**
JCJ	**Chichijima**	**9.34**	**339**	P	Pn	23 58 05.8	-7.4
	1μm,0.5s,baz=243,slow=7.8,SNR=67						
JCJ				S	Sn	23 59 44.8	-12
	1μm,0.5s,baz=281,slow=23,SNR=8.0						
JMZ	**Minamidaito 2**	**15.52**	**301**		**Pn**	**23 59 33.0**	**0.0**
JHJ2	**Mitsune**	**15.66**	**341**	P	**P**	**23 59 36.3**	**+0.7**
JHJ2	**Mitsune**	**15.66**	**341**	Pn	**Pn**	**23 59 32.7**	**-2.0**
JHJ	**Hachijo jima 2**	**15.68**	**340**	P	**Pn**	**23 59 32.6**	**-2.3**
	2μm,1.0s,baz=172,slow=10,SNR=28						
JHJ				S	**Sn**	**00 02 28.0**	**-1.4**
	153nm,0.6s,baz=50,slow=24,SNR=1.4						
JSG	**Sagara**	**17.63**	**338**	P	**Pn**	**23 59 59.6**	**+1.1**
JSG	**Sagara**	**17.63**	**338**	P	**P**	**23 59 57.1**	**-0.2**
JOW	**Kunigami**	**18.34**	**300**	P	**Pn**	**00 00 09.0**	**+2.0**
JOW	**Kunigami**	**18.34**	**300**	Pn	**Pn**	**00 00 08.7**	**+1.7**
JOW	**Kunigami**	**18.34**	**300**	P	**Pn**	**00 00 09.0**	**+2.0**
	3μm,0.5s,baz=134,slow=11,SNR=153						
INU	**Inuyama**	**18.66**	**337**	P	**P**	**00 00 08.9**	**+0.4**
INU	**Inuyama**	**18.66**	**337**	P	**P**	**00 00 08.4**	**-0.1**
JMN	**Monobe**	**18.71**	**327**	P	**Pn**	**00 00 11.0**	**-0.3**
JMN	**Monobe**	**18.71**	**327**	P	**P**	**00 00 09.8**	**+0.7**
JGF	**Kuroka**	**18.76**	**338**	P	**P**	**00 00 10.7**	**+1.0**
JGF	**Kuroka**	**18.76**	**338**	P	**P**	**00 00 10.1**	**+0.4**
MJAR	**Matsushiro Arr**	**19.33**	**341**	P	**P**	**00 00 15.8**	**0.0**
	2μm,0.8s,baz=167,slow=9.4,SNR=1199						
MJAR				S	**S**	**00 03 46.1**	**-0.5**
	79nm,0.8s,baz=284,slow=27,SNR=6.6						
MJAR				ScP	**ScP**	**00 07 51.8**	**-2.1**
	55nm,1.1s,baz=180,slow=2.1,SNR=14						
MAJO	**Matsushiro**	**19.33**	**341**	P	**P**	**00 00 16.9**	**+1.1**
MAJO	**Matsushiro**	**19.33**	**341**	P	**P**	**00 00 16.0**	**+0.2**
MAJO	**Matsushiro**	**19.33**	**341**	*c iP*	**P**	**00 00 15.7**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,1μm,0.8s						
MJB9	**Matsu-Tunnel**	**19.34**	**341**	P	**P**	**00 00 15.6**	**-0.3**
WAKE	**Wake Island**	**19.61**	**84**	P	**P**	**00 00 19.6**	**+0.6**
H11S3	**WAKE ISLAND Hy**	**19.67**	**86**	P	**P**	**00 00 19.3**	**-0.1**
	baz=262,slow=4.8,SNR=18						
H11S3				T	T	00 21 16.1	
	baz=274,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**19.68**	**86**	P	**P**	**00 00 19.9**	**+0.4**
	baz=262,slow=4.8,SNR=16						
H11S1				T	T	00 21 18.6	
	baz=274,slow=75,SNR=41						
H11S2	**WAKE ISLAND Hy**	**19.69**	**86**	P	**P**	**00 00 18.9**	**-0.7**
	baz=262,slow=4.8,SNR=29						
H11S2				T	T	00 21 18.0	
	baz=274,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**19.83**	**83**	P	**P**	**00 00 21.8**	**+0.6**
	baz=260,slow=13,SNR=38						
H11N1				T	T	00 21 38.0	
	baz=267,slow=74,SNR=20						
H11N2	**WAKE ISLAND Hy**	**19.84**	**83**	P	**P**	**00 00 21.8**	**+0.6**
	baz=260,slow=13,SNR=36						
H11N2				T	T	00 21 40.2	
	baz=267,slow=74,SNR=31						
H11N3	**WAKE ISLAND Hy**	**19.85**	**83**	P	**P**	**00 00 22.0**	**+0.6**
	baz=260,slow=13,SNR=34						
H11N3				T	T	00 21 32.1	
	baz=267,slow=74,SNR=22						
JMM	**Marumori**	**19.93**	**348**	P	**Pn**	**00 00 24.4**	**-1.0**
JMM	**Marumori**	**19.93**	**348**		**P**	**00 00 22.5**	**+0.3**
JNU	**Nakatsue**	**19.95**	**320**	P	**Pn**	**00 00 24.3**	**-1.6**
JNU	**Nakatsue**	**19.95**	**320**	P	**P**	**00 00 22.2**	**-0.4**
JNU	**Nakatsue**	**19.95**	**320**	P	**P**	**00 00 22.7**	**+0.1**
	comp=Z,133nm,0.7s,baz=120,slow=3.9,SNR=63						
JNU				LR	LR	00 07 40.8	
	comp=Z,368nm,18.6s,baz=116,slow=35						
JNU				ScP	**ScP**	**00 07 53.0**	**-2.5**
	comp=Z,33nm,0.9s,baz=79,slow=1.5,SNR=7.7						
JSD	**Sado**	**20.70**	**343**	P	**P**	**00 00 31.8**	**+1.3**
JSD	**Sado**	**20.70**	**343**	P	**P**	**00 00 30.3**	**-0.1**
JAY	**Jayapura**	**21.41**	**195**	P	**P**	**00 00 38.6**	**+0.3**
	comp=Z,212nm,1.1s						
GENI	**Genyem**	**21.61**	**196**	P	**P**	**00 00 41.0**	**+0.5**
	comp=Z,476nm,1.2s,comp=Z,7μm						
JTU	**Tsushima**	**21.81**	**321**	P	**P**	**00 00 44.4**	**+2.0**
YOJ	**Yonaguni jima**	**22.18**	**290**	P	**P**	**00 00 48.2**	**+2.0**
YOJ	**Yonaguni jima**	**22.18**	**290**	P	**P**	**00 00 47.0**	**+0.7**
YOJ	**Yonaguni jima**	**22.18**	**290**	P	**P**	**00 00 47.0**	**+0.7**
JTM	**Tenmabayashi**	**22.71**	**350**	P	**P**	**00 00 52.6**	**+1.5**
JTM	**Tenmabayashi**	**22.71**	**350**	P	**P**	**00 00 51.2**	**+0.1**
DAV	**Davao City (W)**	**22.81**	**243**	P	**P**	**00 00 53.0**	**+0.7**
DAV	**Davao City (W)**	**22.81**	**243**	LR	LR	00 08 36.8	
	comp=Z,982nm,20.6s,baz=88,slow=33						
DAV	**Davao City (W)**	**22.81**	**243**	P	**P**	**00 00 55.1**	**+2.8**
NACB	**Ninganchiao**	**23.40**	**288**	P	**P**	**00 00 59.8**	**+2.1**
NACB	**Ninganchiao**	**23.40**	**288**	P	**P**	**00 00 58.1**	**+0.4**
YULB	**Yu-li**	**23.56**	**286**	P	**P**	**00 01 00.9**	**+1.8**
TATO	**Taipei**	**23.64**	**290**	P	**P**	**00 01 03.1**	**+3.3**
TATO	**Taipei**	**23.64**	**290**	P	**P**	**00 01 01.0**	**+1.1**
TATO	**Taipei**	**23.64**	**290**	P	**P**	**00 01 03.2**	**+3.4**
ERM	**Erimo**	**23.67**	**355**	P	**P**	**00 01 00.4**	**+0.5**
ERM	**Erimo**	**23.67**	**355**	P	**P**	**00 01 01.2**	**+1.4**
ERM	**Erimo**	**23.67**	**355**	*c iP*	**P**	**00 01 00.9**	**+1.0**
ERM				pmax	pmax		
	comp=Z,266nm,0.8s						
JEM	**Erimo**	**23.67**	**355**	P	**P**	**00 01 01.1**	**+1.2**
YHNB	**Yeheng**	**23.69**	**290**	P	**P**	**00 01 01.9**	**+1.6**
YHNB	**Yeheng**	**23.69**	**290**	P	**P**	**00 01 01.6**	**+1.3**
TWGBT	**Beinan**	**23.69**	**285**	P	**P**	**00 01 02.1**	**+1.8**
TWG	**Pinlang**	**23.70**	**285**	P	**P**	**00 01 01.0**	**+0.6**
SSLB	**Suanglung**	**23.92**	**287**	P	**P**	**00 01 04.2**	**+1.8**
TABU	**Tabubil**	**23.97**	**192**	P	**P**	**00 01 03.2**	**+0.3**
SWI	**Sorong**	**23.98**	**219**	P	**P**	**00 01 05.0**	**+2.1**
	comp=Z,436nm,1.1s,comp=Z,6μmcomp=Z,4μm						
TPUB	**Ta-pu**	**24.15**	**286**	P	**P**	**00 01 05.9**	**+1.4**
TPUB	**Ta-pu**	**24.15**	**286**	P	**P**	**00 01 05.1**	**+0.5**
TJN	**Taejon**	**24.29**	**321**	P	**P**	**00 01 06.4**	**+0.9**
TJN	**Taejon**	**24.29**	**321**	*c iP*	**P**	**00 01 04.7**	**-0.8**
KSRS	**Korea Array**	**24.71**	**324**	P	**P**	**00 01 09.2**	**-0.2**
	comp=Z,382nm,0.7s,baz=145,slow=9.2,SNR=704						
KSRS				PcP	**PcP**	**00 04 43.1**	**+0.6**
	comp=Z,17nm,1.0s,baz=136,slow=1.5,SNR=4.8						
KSRS				ScP	**ScP**	**00 08 06.2**	**-1.3**
	comp=Z,20nm,0.8s,baz=134,slow=3.2,SNR=13						
KSRS				LR	LR	00 10 46.0	
	comp=Z,522nm,18.6s,baz=135,slow=36						
	comp=Z,382nm,0.7s						
KSAR	**Wonju Array Be**	**24.72**	**324**	P	**P**	**00 01 09.6**	**+0.1**
KSAR	**Wonju Array Be**	**24.72**	**324**	P	**P**	**00 01 09.6**	**+0.1**
KS19	**Wonju Array Si**	**24.78**	**324**	IAmb	IAmb	00 01 11.3	
	comp=Z,754nm,0.9s						
FAKI	**Fak Fak**	**25.11**	**214**	P	**P**	**00 01 14.0**	**+0.7**
FAKI	**Fak Fak**	**25.11**	**214**	P	**P**	**00 01 14.5**	**+1.3**
FAKI				IAmb	IAmb	00 01 51.0	
	comp=Z,631nm,0.9s						
FAKI	**Fak Fak**	**25.11**	**214**	P	**P**	**00 01 14.4**	**+1.1**
	comp=Z,353nm,0.7s,comp=Z,7μmcomp=Z,3μm						
TNTI	**Ternate**	**25.29**	**228**	P	**P**	**00 01 16.3**	**+1.4**
TNTI	**Ternate**	**25.29**	**228**	P	**P**	**00 01 17.6**	**+2.7**
INCN	**Inchon**	**25.47**	**322**	P	**P**	**00 01 16.2**	**-0.1**
INCN	**Inchon**	**25.47**	**322**	P	**P**	**00 01 16.1**	**-0.1**
INCN				P	**P**	**00 01 16.1**	**-0.1**
INCN				S	**S**	**00 05 37.6**	**+5.3**
INCN				S	**S**	**00 05 37.6**	**+5.3**
INCN	**Inchon**	**25.47**	**322**	P	**P**	**00 01 16.2**	**-0.1**
INCN				pmax	pmax		
	comp=Z,1μm,1.4s						
YUK	**Yuzh-Kuril'sk**	**25.57**	**360**	⇓*eP*	**P**	**00 01 17.6**	**+0.6**
SSE	**Sheshan**	**25.74**	**304**	P	**P**	**00 01 18.6**	**-0.2**
SSE				S	**S**	**00 05 31.5**	**-5.2**
SSE				pmax	pmax		
	comp=Z,480nm,0.9s						
SSE				pmax	pmax		
	comp=Z,500nm,3.6s						
SSE				LR	LR		
	comp=Z,700nm,14.1s						
SSE				LR	LR		
	comp=Z,390nm,14.1s						
JKA	**Kamikawa-asahi**	**25.80**	**354**	P	**P**	**00 01 20.2**	**+1.0**
JKA				IAmb	IAmb	00 01 27.9	
	comp=Z,409nm,0.8s						
ASAJ	**Asahikawa**	**25.80**	**354**	P	**P**	**00 01 20.2**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,409nm,0.8s						
KNMB	**Chin-men Tao**	**26.34**	**288**	P	**P**	**00 01 25.0**	**+0.8**
KUR	**Kuril'sk**	**26.81**	**3**	*deP*	**P**	**00 01 28.6**	**+0.4**
KUR				pmax	pmax		
	comp=Z,373nm,0.7s						
MSHR	**Mys Shultsa**	**27.19**	**336**	*c iP*	**P**	**00 01 32.2**	**+0.5**
MSHR				pmax	pmax		
	comp=Z,160nm,0.8s						
VLA	**Vladivostok**	**27.38**	**337**	*i P*	**P**	**00 01 34.7**	**+1.4**
VLA				pmax	pmax		
	comp=Z,584nm,0.9s						
PSTR	**Posyet**	**27.39**	**335**	*c iP*	**P**	**00 01 34.1**	**+0.7**
PMG	**Port Moresby**	**27.64**	**177**	P	**P**	**00 01 35.6**	**-0.3**
PMG	**Port Moresby**	**27.64**	**177**	P	**P**	**00 01 35.5**	**-0.4**
PMG	**Port Moresby**	**27.64**	**177**	S	**S**	**00 06 05.6**	**-1.4**
	comp=Z,17nm,0.8s,baz=129,slow=19,SNR=6.0						
PMG				ScP	**ScP**	**00 08 15.3**	**-1.1**
	comp=Z,43nm,0.8s,baz=311,slow=4.3,SNR=2.9						
PMG	**Port Moresby**	**27.64**	**177**	*c iP*	**P**	**00 01 35.3**	**-0.6**
PMG				pmax	pmax		
	comp=Z,842nm,1.2s						
TEY	**Ternei**	**27.69**	**346**	⇑*eP*	**P**	**00 01 37.0**	**+0.9**
TEY				*e*		00 06 07.0	
TEY				pmax	pmax		
	comp=Z,400nm,2.3s						
TEY				pmax	pmax		
	comp=E,100nm,2.0s						
TEY				pmax	pmax		
	comp=N,200nm,3.5s						
TEY				pmax	pmax		
	comp=N,230nm,0.8s						
TEY				pmax	pmax		
	comp=E,120nm,0.8s						
TEY				pmax	pmax		
	comp=Z,400nm,0.8s						
KMSI	**Cibinong**	**27.91**	**233**	P	**P**	**00 01 39.3**	**+0.9**
NJ2	**Nanjing**	**27.95**	**304**	⇓P	**P**	**00 01 40.5**	**+2.0**
NJ2				PP	**PnPn**	**00 02 30.1**	**-4.0**
NJ2				S	**S**	**00 06 11.8**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,88nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,480nm,5.2s						
NJ2				LR	LR		
	comp=Z,1μm,15.6s						
NJ2				LR	LR		
	comp=Z,2μm,11.8s						
NJ2				LR	LR		
	comp=Z,2μm,12.3s						
SANI	**Sanana**	**28.26**	**226**	P	**P**	**00 01 43.3**	**+1.8**
USRK	**Ussuriysk Ar.**	**28.28**	**339**	P	**P**	**00 01 41.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**28.28**	**339**	P	**P**	**00 01 42.0**	**+0.7**
	comp=Z,402nm,0.7s,baz=150,slow=8.9,SNR=529						
USRK				PcP	**PcP**	**00 04 51.3**	**+0.6**
	comp=Z,13nm,0.7s,baz=176,slow=3.7,SNR=1.5						
USRK				ScP	**ScP**	**00 08 17.6**	**-0.4**
	comp=Z,16nm,0.8s,baz=118,slow=3.2,SNR=6.5						
	comp=Z,402nm,0.7s						
USA0B	**Ussuriysk Arra**	**28.28**	**339**	IAmb	IAmb	00 01 44.0	
	comp=Z,422nm,0.8s						
USA0B	**Ussuriysk Arra**	**28.28**	**339**	*c iP*	**P**	**00 01 41.9**	**+0.6**
YSS	**Yuzh-Sakhalins**	**28.61**	**355**	P	**P**	**00 01 44.4**	**+0.2**
YSS				IAmb	IAmb	00 02 34.8	
	comp=Z,238nm,0.8s						
YSS	**Yuzh-Sakhalins**	**28.61**	**355**	*oeP*	**P**	**00 01 45.2**	**+1.0**
YSS				*e*SP*	**sP**	**00 02 35.6**	**+3.7**
YSS				*eS*	**S**	**00 06 20.2**	**-1.3**
YSS				pmax	pmax		
	comp=Z,240nm,1.2s						
YSS				pmax	pmax		
	comp=Z,600nm,2.9s						
YSS				pmax	pmax		
	comp=N,600nm,2.3s						
YSS				smax	smax		
	comp=E,2μm,7.4s						
YSS				MLR	MLR		
	comp=Z,700nm,16.0s						
YSS				MLR	MLR		
	comp=N,700nm,15.0s						
GTOI	**Gorontalo**	**28.62**	**234**	P	**P**	**00 01 47.0**	**+2.4**
DL2	**Dalian**	**29.40**	**319**	P	**P**	**00 01 51.3**	**0.0**
DL2				PcP	**PcP**	**00 04 54.0**	**+0.3**
DL2				S	**S**	**00 06 34.8**	**+0.6**
DL2				ScP	**ScP**	**00 08 19.8**	**-1.8**
DL2				ScS	**ScS**	**00 12 13.3**	**-3.0**
DL2				pmax	pmax		
	comp=N,230nm,0.7s						
DL2				pmax	pmax		
	comp=N,720nm,6.5s						
MDJ	**Mudanjiang**	**29.52**	**336**	P	**P**	**00 01 53.1**	**+0.8**
MDJ	**Mudanjiang**	**29.52**	**336**	P	**P**	**00 01 52.8**	**+0.5**
MDJ				PP	**PnPn**	**00 02 55.3**	**+1.0**
MDJ				pmax	pmax		
	comp=N,240nm,0.6s						
MDJ				pmax	pmax		
	comp=N,1μm,4.4s						
MRSI	**Marisa**	**29.55**	**236**	P	**P**	**00 01 54.9**	**+2.0**
	comp=N,257nm,1.0s,comp=N,2μm						
MYLDM	**Lahad Datu**	**29.85**	**247**	P	**P**	**00 01 58.0**	**+2.4**
LUWI	**Luwuk**	**29.88**	**232**	IAmb	IAmb	00 01 58.0	
	comp=Z,223nm,0.8s						
LUWI	**Luwuk**	**29.88**	**232**	P	**P**	**00 01 56.6**	**+0.8**
HKPS	**Hong Kong Po S**	**30.05**	**283**	P	**P**	**00 01 58.0**	**+0.7**
TOLI2	**Tolitoli**	**30.09**	**238**	P	**P**	**00 02 00.0**	**+2.3**
TOLI2	**Tolitoli**	**30.09**	**238**	P	**P**	**00 01 58.7**	**+1.0**
SNY	**Shenyang**	**30.17**	**326**	⇑P	**P**	**00 01 57.3**	**-0.7**
SNY				S	S	00 06 35.6	-11
SNY				pmax	pmax		
	comp=Z,200nm,1.0s						
SNY				pmax	pmax		
	comp=Z,390nm,3.7s						
SNY				LR	LR		
	comp=Z,420nm,11.0s						
SNY				LR	LR		
	comp=Z,250nm,10.8s						
SNY				LR	LR		
	comp=Z,550nm,15.6s						
CN2	**Changchun**	**30.66**	**330**	*eP*	**P**	**00 02 02.1**	**-0.2**
CN2				PP	**PnPn**	**00 03 10.6**	**+1.9**
CN2				*eS*	**S**	**00 06 46.3**	**-7.4**
CN2				pmax	pmax		
	comp=Z,40nm,1.2s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
CN2				LR	LR		
	comp=Z,900nm,15.0s						
CN2				LR	LR		
	comp=Z,700nm,15.0s						
CN2				LR	LR		
	comp=Z,800nm,13.1s						
UGL	**Uglegorsk**	**30.77**	**355**	*eP*	**P**	**00 02 05.1**	**+1.8**
UGL				*eS*	**S**	**00 06 55.5**	**+0.1**
UGL				pmax	pmax		
	comp=Z,2μm,2.9s						
UGL				pmax	pmax		
	comp=Z,500nm,1.0s						
UGL				smax	smax		
	comp=E,3μm,5.6s						
UGL				smax	smax		
	comp=N,2μm,3.5s						
HNR	**Honiara**	**30.90**	**152**	LR	LR	00 15 50.9	
	comp=N,6μm,18.2s,baz=330,slow=38						
TIA	**Tai'an**	**31.00**	**311**	P	**P**	**00 02 05.4**	**-0.1**
TIA				S	**S**	**00 06 59.1**	**-0.2**
TIA				ScP	**ScP**	**00 08 25.3**	**-1.7**
TIA				ScS	**ScS**	**00 12 21.5**	**-2.8**
TIA				pmax	pmax		
	comp=N,150nm,1.1s						
TIA				pmax	pmax		
	comp=N,560nm,3.5s						
WHN	**Wuhan**	**31.10**	**299**	⇓*iP*	**P**	**00 02 07.5**	**+1.1**
WHN				PP	**PnPn**	**00 03 14.1**	**-0.4**
WHN				PcP	**PcP**	**00 04 59.1**	**+0.8**
WHN				S	**S**	**00 07 06.3**	**+5.3**
WHN				ScP	**ScP**	**00 08 27.1**	**-0.3**
WHN				pmax	pmax		
	comp=N,200nm,1.2s						
WHN				pmax	pmax		
	comp=N,2μm,4.7s						
WHN				LR	LR		
	comp=N,4μm,14.4s						
WHN				LR	LR		
	comp=N,8μm,15.3s						
WHN				LR	LR		
	comp=N,9μm,15.4s						
BNX	**BinXian**	**31.32**	**335**	⇑P	**P**	**00 02 08.1**	**0.0**
BNX				S	**S**	**00 07 01.6**	**-2.5**
BNX				pmax	pmax		
	comp=N,620nm,0.6s						
TARA	**Tarawa**	**31.41**	**120**	P	**P**	**00 02 08.2**	**-1.1**
TARA				IAmb	IAmb	00 02 09.2	
	comp=Z,280nm,0.9s						
KKM	**Kota Kinabalu**	**31.49**	**251**	P	**P**	**00 02 12.9**	**+2.8**
KKM	**Kota Kinabalu**	**31.49**	**251**	P	**P**	**00 02 11.8**	**+1.7**
KKM				IAmb	IAmb	00 02 14.2	
	comp=Z,205nm,0.8s						
CNSH	**ChangSha**	**31.77**	**294**	P	**P**	**00 02 14.3**	**+1.9**
CNSH				LR	LR		
	comp=Z,2μm,12.7s						
CNSH				LR	LR		
	comp=Z,650nm,8.2s						
CNSH				LR	LR		
	comp=Z,2μm,42.7s						
COEN	**Coen**	**32.26**	**185**	P	**P**	**00 02 16.3**	**-0.3**
COEN	**Coen**	**32.26**	**185**	P	**P**	**00 02 16.5**	**-0.1**
TYV	**Tymovskoe**	**32.51**	**356**	*eP*	**P**	**00 02 19.9**	**+0.6**
TYV				*eS*	**S**	**00 07 25.2**	**+2.9**
TYV				pmax	pmax		
	comp=Z,125nm,1.2s						
TYV				pmax	pmax		
	comp=Z,900nm,3.1s						
TYV				smax	smax		
	comp=N,1μm,5.7s						
TYV				smax	smax		
	comp=E,2μm,5.7s						
KLR	**Kul'dur**	**32.84**	**343**	PcP	**PcP**	**00 05 01.0**	**-1.7**
	comp=E,125nm,1.1s,baz=158,slow=5.2,SNR=3.9						
KLR				ScP	**ScP**	**00 08 31.2**	**-1.7**
	comp=E,21nm,0.8s,baz=166,slow=5.8,SNR=6.9						
KLR	**Kul'dur**	**32.84**	**343**	*c iP*	**P**	**00 02 21.1**	**-0.2**
KLR				pmax	pmax		
	comp=Z,1μm,0.8s						
GRNR	**Gornyy**	**33.19**	**349**	⇑*iP*	**P**	**00 02 26.1**	**+1.7**
GRNR				pmax	pmax		
	comp=E,220nm,0.8s						
GRNR				pmax	pmax		
	comp=N,480nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,950nm,0.8s						
SKR	**Severo-Kuril's**	**33.22**	**12**	*eP*	P	00 02 19.0	-5.6
SKR				*e*PPP	PPP	00 03 40.0	
SKR				pmax	pmax		
	comp=Z,100nm,7.5s						
SKR				pmax	pmax		
	comp=Z,217nm,1.1s						
SKR				MLR	MLR		
	comp=Z,600nm,18.0s						
HNS	**HongShan**	**33.26**	**311**	⇑P	**P**	**00 02 25.8**	**+0.6**
HNS				pP	**pP**	**00 02 56.9**	**+1.0**
HNS				PP	**PP**	**00 03 43.3**	**-0.1**
HNS				S	**S**	**00 07 33.9**	**-0.5**
HNS				SS	**SnSn**	**00 09 37.8**	**-15**
HNS				pmax	pmax		
	comp=Z,600nm,1.0s						
HNS				LR	LR		
	comp=Z,790nm,16.3s						
HNS				LR	LR		
	comp=Z,770nm,15.7s						
HNS				LR	LR		
	comp=Z,750nm,17.9s						
BJT	**Baijiatuau**	**33.52**	**316**	P	**P**	**00 02 27.6**	**+0.2**
BJT	**Baijiatuau**	**33.52**	**316**	IAmb	IAmb	00 02 30.3	
	comp=Z,666nm,1.7s						
BJT	**Baijiatuau**	**33.52**	**316**	P	**P**	**00 02 27.4**	**0.0**
BJT				pP	**pP**	**00 02 58.2**	**+0.1**
BJT				sP	**sP**	**00 03 14.5**	**-0.3**
BJT				ScP	**ScP**	**00 08 35.9**	**+0.4**
BJI	**Beijing**	**33.52**	**316**	P	**P**	**00 02 27.3**	**-0.1**
BJI				S	**S**	**00 07 37.8**	**-0.6**
BJI				ScP	**ScP**	**00 08 38.3**	**+2.8**
BJI				pmax	pmax		
	comp=Z,100nm,1.3s						
KDU	**Kakadu**	**33.62**	**204**	P	**P**	**00 02 28.3**	**-0.2**
GULI	**GuiLin**	**33.67**	**288**	P	**P**	**00 02 31.9**	**+3.0**
GULI				S	**S**	**00 07 45.6**	**+4.6**
GULI				pmax	pmax		
	comp=Z,220nm,1.0s						
GULI				pmax	pmax		
	comp=Z,1μm,3.0s						
GULI				LR	LR		
	comp=Z,890nm,16.2s						
GULI				LR	LR		
	comp=Z,560nm,16.4s						
GULI				LR	LR		
	comp=Z,960nm,15.9s						
LYN	**LuoYang**	**33.83**	**305**	P	**P**	**00 02 29.

KAPI	**Kappang**	**34.76 230**	P	**P**	**00 02 39.9 +1.5**
KAPI	**Kappang**	**34.76 230**	S	**S**	**00 07 58.2 +0.3**
	comp=Z,10nm,0.3s,baz=84,slow=18,SNR=2.0				
KAPI			ScP	**ScP**	**00 08 40.6 +0.3**
	comp=Z,8.3nm,0.4s,baz=56,slow=0.6,SNR=5.0				
KAPI	**Kappang**	**34.76 230**	P	**P**	**00 02 40.1 +1.7**
KAPI			S	**S**	**00 08 01.2 +3.2**
KAPI	**Kappang**	**34.76 230**	P	**P**	**00 02 39.9 +1.5**
KAPI			pmax	pmax	
	comp=Z,91nm,0.7s				
NKL	**Nikolayevsk**	**34.93 354**	*e*P	**P**	**00 02 37.8 -1.6**
NKL			*e*S	**S**	**00 08 01.0 +1.3**
NKL			pmax	pmax	
	comp=N,1μm,0.9s				
NKL			pmax	pmax	
	comp=E,1μm,1.0s				
NKL			pmax	pmax	
	comp=Z,4μm,1.0s				
NKL			smax	smax	
	comp=N,2μm,3.0s				
NKL			smax	smax	
	comp=E,1μm,3.0s				
MIDW	**Midway**	**34.96 67**	P	**P**	**00 02 39.8 -0.1**
MIDW	**Midway**	**34.96 67**	P	**P**	**00 02 40.0 +0.1**
MIDW			ScP	**ScP**	**00 08 42.0 +1.2**
TIY	**Taiyuan**	**35.03 310**	*e*P	**P**	**00 02 40.9 +0.3**
TIY			PP	**PP**	**00 04 04.3 +1.2**
TIY			S	**S**	**00 08 02.8 +0.9**
TIY			pmax	pmax	
	comp=E,610nm,5.4s				
TIY			LR	LR	
	comp=E,880nm,11.8s				
TIY			LR	LR	
	comp=E,760nm,14.1s				
TIY			LR	LR	
	comp=E,690nm,17.2s				
HEH	**HeiHe**	**35.08 339**	*e*P	**P**	**00 02 40.4 -0.3**
HEH			pP	**pP**	**00 03 12.0 -0.2**
HEH			PcP	**PcP**	**00 05 09.4 +0.3**
HEH			S	**S**	**00 08 01.4 -0.7**
HEH			ScP	**ScP**	**00 08 38.5 -2.4**
HEH			pmax	pmax	
	comp=E,2μm,1.0s				
SOEI	**Soe**	**35.22 219**	P	**P**	**00 02 42.6 +0.2**
SOEI	**Soe**	**35.22 219**	IAmb	IAmb	00 02 58.6
	comp=Z,311nm,0.9s				
MMRI	**Maumere**	**35.62 223**	IAmb	IAmb	00 03 20.9
	comp=Z,256nm,0.8s				
XLT	**XiLinHaoTe**	**35.72 322** ⇑	*i*P	**P**	**00 02 46.3 -0.1**
XLT			PP	**PP**	**00 04 09.5 -1.1**
XLT			PcP	**PcP**	**00 05 09.8 -1.4**
XLT			S	**S**	**00 08 11.4 -0.9**
XLT			pmax	pmax	
	comp=Z,770nm,1.1s				
XLT			pmax	pmax	
	comp=Z,620nm,3.5s				
XLT			LR	LR	
	comp=Z,79nm,16.6s				
XLT			LR	LR	
	comp=Z,620nm,16.2s				
XLT			LR	LR	
	comp=Z,1μm,30.2s				
PET	**Petropavlovsk**	**35.96 13**	P	**P**	**00 02 48.7 +0.7**
PET				**PcP**	**00 05 12.0 +0.5**
PET	**Petropavlovsk**	**35.96 13**	*e*P	**P**	**00 02 48.8 +0.7**
PET			*e*S	**S**	**00 08 11.9 -3.4**
PET			pmax	pmax	
	comp=Z,132nm,0.9s				
PET			MLR	MLR	
	comp=Z,500nm,16.0s				
PET			MLR	MLR	
	comp=Z,500nm,14.0s				
PET	**Petropavlovsk**	**35.96 13**	P	**P**	**00 02 49.4 +1.3**
PET			PcP	**PcP**	**00 05 12.1 +0.5**
PET			ScP	**ScP**	**00 08 43.8 -0.2**
MTSU	**Mount Surprise**	**36.33 183**	P	**P**	**00 02 52.7 +1.0**
XAN	**Xi'an**	**36.47 303** ⇑	P	**P**	**00 02 52.8 -0.1**
XAN			PP	**PnPn**	**00 04 24.3 +3.7**
XAN			PcP	**PcP**	**00 05 14.5 +0.9**
XAN			S	**S**	**00 08 21.8 -2.1**
XAN			SS	SS	00 10 53.3 -16
XAN			ScS	**ScS**	**00 12 52.3 -1.0**
XAN			pmax	pmax	
	comp=Z,150nm,0.6s				
XAN			pmax	pmax	
	comp=Z,1μm,4.6s				
XAN			LR	LR	
	comp=Z,2μm,13.2s				
XAN			LR	LR	
	comp=Z,1μm,12.9s				
XAN			LR	LR	
	comp=Z,2μm,17.7s				
SBUM	**Sibu**	**36.65 248**	P	**P**	**00 02 56.1 +1.5**
DLV	**T Lat**	**36.68 265**	P	**P**	**00 02 58.0 +3.0**
DLV	**T Lat**	**36.68 265**	P	**P**	**00 02 56.1 +1.1**
DLV			IAmb	IAmb	00 02 59.7
	comp=Z,253nm,0.9s				
GYA	**Guiyang**	**37.09 290** ⇑	P	**P**	**00 03 00.6 +2.4**
GYA			PP	**PnPn**	**00 04 29.5 +1.4**
GYA			S	**S**	**00 08 37.6 +4.1**
GYA			pmax	pmax	
	comp=Z,97nm,0.9s				
GYA			pmax	pmax	
	comp=Z,640nm,3.1s				
GYA			LR	LR	
	comp=Z,340nm,22.2s				
GYA			LR	LR	
	comp=Z,530nm,17.0s				
GYA			LR	LR	
	comp=Z,690nm,17.7s				
HIA	**Hailar**	**37.35 332**	P	**P**	**00 03 00.7 +0.7**
HIA	**Hailar**	**37.35 332**	P	**P**	**00 03 00.2 +0.2**
HIA			pP	**pP**	**00 03 31.9 +0.3**
HIA			sP	**sP**	**00 03 48.3 0.0**
HIA			PcP	**PcP**	**00 05 16.4 +0.5**
TV1H	**Townsville Har**	**37.42 179**	P	**P**	**00 03 01.1 +0.2**
BTO	**Baotou**	**37.94 313**	*e*P	**P**	**00 03 06.9 +1.7**
BTO			pP	**pwP**	**00 03 41.1 -0.2**
BTO			PP	**PP**	**00 04 40.4 +5.4**
BTO			S	**S**	**00 08 46.6 +0.6**
BTO			pmax	pmax	
	comp=Z,160nm,0.7s				
BTO			pmax	pmax	
	comp=Z,630nm,5.6s				
BTO			LR	LR	
	comp=Z,900nm,11.0s				
BTO			LR	LR	
	comp=Z,1μm,12.2s				
BTO			LR	LR	
	comp=Z,1μm,12.0s				
ZEA	**Zeya**	**38.14 342**	*e*P	**P**	**00 03 06.8 +0.3**
ZEA			*e*		00 04 37.1
ZEA			*e*S	**S**	**00 08 47.2 -1.2**
ZEA			*e*		00 11 40.0
ZEA			pmax	pmax	
	comp=E,100nm,1.1s				
ZEA			pmax	pmax	
	comp=N,500nm,1.3s				
ZEA			pmax	pmax	
	comp=Z,900nm,1.4s				
ZEA			pmax	pmax	
	comp=E,160nm,1.2s				
ZEA			pmax	pmax	
	comp=N,390nm,1.1s				
ZEA			pmax	pmax	
	comp=Z,560nm,0.8s				
ZEA			smax	smax	
	comp=E,300nm,14.3s				
ZEA			smax	smax	
	comp=N,500nm,10.8s				
CTA	**Charters Tower**	**38.24 180**	P	**P**	**00 03 08.2 +0.4**
	comp=N,8.3nm,1.0s,baz=0.3,slow=8.3,SNR=47				
CTA			S	**S**	**00 08 52.2 +1.6**
	comp=N,0.9nm,1.0s,baz=195,slow=15,SNR=3.7				
CTA			LR	LR	00 19 18.0
	comp=N,18nm,18.3s,baz=5.0,slow=36				
CTAO	**Charters Tower**	**38.24 180**	P	**P**	**00 03 07.7 -0.1**
CTAO	**Charters Tower**	**38.24 180**	P	**P**	**00 03 08.1 +0.4**
CTAO			IAmb	IAmb	00 03 09.6
	comp=Z,260nm,1.2s				
CTAO	**Charters Tower**	**38.24 180**	P	**P**	**00 03 08.1 +0.4**
CTAO			pmax	pmax	
	comp=Z,260nm,1.3s				
CTAO	**Charters Tower**	**38.24 180**	P	**P**	**00 03 07.7 -0.1**
CTAO			sP	**sP**	**00 03 54.4 -1.9**

PLAI	**Plampang**	**38.79 228**	P	**P**	**00 03 13.4 +0.9**
UBPT	**Khong Chiam**	**38.82 272**	P	**P**	**00 03 14.7 +2.0**
UBPT			IAmb	IAmb	00 03 53.7
	comp=Z,275nm,1.1s				
QIS	**Mount Isa**	**39.20 189**	P	**P**	**00 03 15.5 -0.3**
SLVN	**Son La**	**39.58 281**	IAmb	IAmb	00 03 57.5
	comp=Z,210nm,0.9s				
WB0	**Warramunga Arr**	**39.58 197**	IAmb	IAmb	00 03 21.2
	comp=Z,309nm,1.4s				
WRAB	**Tennant Creek**	**39.75 197**	*ce*P	**P**	**00 03 16.2 -4.1**
WRAB			pmax	pmax	
	comp=Z,65nm,0.9s				
WRA	**Warramunga Arr**	**39.76 197**	P	**P**	**00 03 20.5 0.0**
WRA	**Warramunga Arr**	**39.76 197**	P	**P**	**00 03 19.4 -1.0**
	comp=Z,78nm,0.7s,baz=18,slow=8.9,SNR=82				
WRA			ScP	**ScP**	**00 08 58.5 -0.5**
	comp=Z,24nm,0.8s,baz=10,slow=3.9,SNR=9.8				
WRA			S	**S**	**00 09 12.8 -0.6**
	comp=Z,20nm,1.2s,baz=20,slow=15,SNR=7.6				
WRA			LR	LR	00 19 29.2
	comp=Z,356nm,21.5s,baz=24,slow=35				
WRA			P3KPbc		00 33 07.9
	comp=Z,0.4nm,0.5s,baz=197,slow=3.7,SNR=1.7				
WRA			PKPPKP		00 35 36.8
	comp=Z,1.7nm,0.7s,baz=150,slow=2.3,SNR=5.9				
	comp=Z,78nm,0.7s				
WRA	**Warramunga Arr**	**39.76 197**	*ce*P	**P**	**00 03 19.5 -1.0**
WRA			pmax	pmax	
	comp=Z,85nm,0.7s				
CD2	**Chengdu**	**40.10 296**	P	**P**	**00 03 23.9 +0.6**
CD2			PP	**PP**	**00 04 56.6 -2.0**
CD2			S	**S**	**00 09 18.1 -0.5**
CD2			pmax	pmax	
	comp=Z,90nm,0.6s				
CD2			pmax	pmax	
	comp=Z,510nm,5.5s				
CD2			LR	LR	
	comp=Z,1μm,14.3s				
CD2			LR	LR	
	comp=Z,1μm,11.7s				
CD2			LR	LR	
	comp=Z,2μm,11.3s				
KMI	**Kunming**	**40.56 287** ⇑	P	**P**	**00 03 29.6 +2.3**
KMI			pP	pP	00 04 00.6 +1.7
KMI			PP	**PnPn**	**00 05 10.3 +1.1**
KMI			ScP	**ScP**	**00 09 02.3 -0.1**
KMI			S	**S**	**00 09 28.3 +2.4**
KMI			pmax	pmax	
	comp=Z,120nm,0.7s				
KMI			pmax	pmax	
	comp=Z,620nm,5.2s				
KMI			LR	LR	
	comp=Z,600nm,14.4s				
KMI			LR	LR	
	comp=Z,470nm,18.2s				
KMI			LR	LR	
	comp=Z,1μm,33.1s				
NONG	**Nongkai**	**40.59 277**	P	**P**	**00 03 29.6 +2.2**
SHEM	**Shemya Is, Ala**	**40.70 26**	LR	LR	00 17 52.1
	comp=Z,486nm,21.3s,baz=220,slow=32				
LZH	**Lanzhou**	**41.02 304** ⇑	P	**P**	**00 03 31.8 +0.9**
LZH			PP	**PnPn**	**00 05 12.5 -1.9**
LZH			PcP	**PcP**	**00 05 29.8 +1.7**
LZH			ScP	**ScP**	**00 09 04.1 +0.1**
LZH			S	**S**	**00 09 33.0 +0.7**
LZH			pmax	pmax	
	comp=Z,520nm,0.9s				
LZH			pmax	pmax	
	comp=Z,910nm,6.6s				
LZH			LR	LR	
	comp=Z,1μm,18.6s				
LZH			LR	LR	
	comp=Z,1μm,15.5s				
LZH			LR	LR	
	comp=Z,1μm,18.2s				
JAGI	**Jajag, Banyuwa**	**41.20 232**	P	**P**	**00 03 33.4 +1.0**
JAGI	**Jajag, Banyuwa**	**41.20 232**	P	**P**	**00 03 33.0 +0.6**
MA2	**Magadan**	**41.28 4**	P	**P**	**00 03 33.1 +0.6**
MA2	**Magadan**	**41.28 4**	P	**P**	**00 03 33.2 +0.8**
MA2			IAmb	IAmb	00 03 35.3
	comp=Z,302nm,1.0s				
MA2	**Magadan**	**41.28 4**	*de*P	**P**	**00 03 32.6 +0.2**
MA2			pmax	pmax	
	comp=Z,304nm,1.0s				
MA2	**Magadan**	**41.28 4**	P	**P**	**00 03 33.0 +0.6**
MA2			pP	**pP**	**00 04 04.3 0.0**
MA2			PcP	**PcP**	**00 05 29.4 +1.3**
MA2			ScP	**ScP**	**00 09 02.5 -1.8**
FITZ	**Fitzroy Crossi**	**41.40 210**	P	**P**	**00 03 34.5 +0.7**
PZH	**PanZhiHua**	**41.49 289**	P	**P**	**00 03 36.5 +1.7**
PZH			pP	**pP**	**00 04 07.5 +1.0**
PZH			S	**S**	**00 09 41.3 +1.9**
PZH			sS	**sS**	**00 10 36.8 +1.6**
PZH			pmax	pmax	
	comp=Z,350nm,0.7s				
PZH			pmax	pmax	
	comp=Z,1μm,3.8s				
RK1H	**Rockhampton Ha**	**41.76 174**	P	**P**	**00 03 36.1 -0.6**
CIT	**Chita**	**42.10 330**	*e*P	**P**	**00 03 39.7 +0.4**
CIT			*e*		00 04 12.7
CIT			*e*		00 04 34.0
CIT			*e*		00 05 33.8
CIT			pmax	pmax	
	comp=Z,1μm,1.2s				
FUNA	**Funafuti**	**42.32 126**	P	**P**	**00 03 41.9 +0.4**
FUNA			IAmb	IAmb	00 03 44.0
	comp=Z,564nm,1.5s				
JOHN	**Johnston Islan**	**42.39 85**	P	**P**	**00 03 41.5 -0.6**
JOHN			IAmb	IAmb	00 03 44.0
	comp=Z,390nm,1.0s				
KOUNC	**Koumac, New Ca**	**42.67 154**	P	**P**	**00 03 44.7 +0.6**
KOUNC	**Koumac, New Ca**	**42.67 154**	IAmb	IAmb	00 03 46.5
	comp=Z,600nm,1.1s				
ULN	**Ulaanbaatar**	**43.16 322**	P	**P**	**00 03 47.5 -0.6**
ULN			IAmb	IAmb	00 03 51.0
	comp=Z,153nm,0.6s				
ULN	**Ulaanbaatar**	**43.16 322**	P	**P**	**00 03 48.0 0.0**
ULN			S	**S**	**00 10 02.8 -0.7**
ULN	**Ulaanbaatar**	**43.16 322**	*c i*P	**P**	**00 03 47.9 -0.2**
ULN			pmax	pmax	
	comp=Z,114nm,0.6s				
ULN	**Ulaanbaatar**	**43.16 322**	P	**P**	**00 03 48.5 +0.4**
ULN			ScP	**ScP**	**00 09 10.9 -1.4**
SMRI	**Semarang**	**43.20 237**	P	**P**	**00 03 49.7 +1.1**
SMRI			IAmb	IAmb	00 05 12.6
	comp=Z,488nm,1.4s				
PHRA	**Phrae**	**43.29 278**	P	**P**	**00 03 50.9 +1.7**
ASAR	**Alice Springs**	**43.42 196**	P	**P**	**00 03 49.8 -0.4**
ASAR	**Alice Springs**	**43.42 196**	P	**P**	**00 03 50.1 -0.1**
	comp=Z,25nm,0.6s,baz=16,slow=12,SNR=118				
ASAR			ScP	**ScP**	**00 09 13.3 -0.2**
	comp=Z,13nm,0.8s,baz=16,slow=4.0,SNR=5.6				
ASAR			S	**S**	**00 10 07.2 -0.1**
	comp=Z,35nm,1.0s,baz=18,slow=21,SNR=25				
	comp=Z,25nm,0.6s				
SONM	**Songino Array**	**43.54 321**	P	**P**	**00 03 50.7 -0.4**
SONM			IAmb	IAmb	00 03 53.7
	comp=Z,148nm,0.6s				
SONM	**Songino Array**	**43.54 321**	P	**P**	**00 03 50.6 -0.4**
	comp=Z,155nm,0.6s,baz=136,slow=9.4,SNR=759				
SONM			PcP	**PP**	**00 05 35.5 +0.2**
	comp=Z,31nm,0.8s,baz=131,slow=2.6,SNR=2.2				
SONM			ScP	**ScP**	**00 09 12.2 -1.6**
	comp=Z,27nm,1.0s,baz=110,slow=4.1,SNR=6.6				
SONM			S	**S**	**00 10 08.6 -0.2**
	comp=Z,1.1nm,0.8s,baz=236,slow=42,SNR=1.4				
SONM			LR	LR	00 22 49.7
	comp=Z,531nm,18.2s,baz=122,slow=37				
SONM			PKPPKP		00 35 38.0
	comp=Z,0.8nm,1.0s,baz=222,slow=1.9,SNR=2.2				
SONM			PKP2ab		00 36 50.4
	comp=Z,2.0nm,1.0s,baz=306,slow=5.0,SNR=5.9				
	comp=Z,155nm,0.6s				
SONM	**Songino Array**	**43.54 321**	P	**P**	**00 03 50.7 -0.4**
SONM			pmax	pmax	
	comp=Z,148nm,0.6s				
UGM	**Wanagama**	**43.65 236**	P	**P**	**00 03 53.5 +1.3**
UGM	**Wanagama**	**43.65 236**	P	**P**	**00 03 53.1 +0.9**
EIDS	**Eidsvold**	**43.78 173**	P	**P**	**00 03 52.5 -0.5**
EIDS	**Eidsvold**	**43.78 173**	P	**P**	**00 03 52.4 -0.5**
LIFNC	**LIFOU**	**44.16 151**	P	**P**	**00 03 56.1 0.0**
LIFNC	**LIFOU**	**44.16 151**	P	**P**	**00 03 56.3 +0.3**
KIWB	**Kanaga Island**	**44.19 32**	P	**P**	**00 03 56.5 +0.4**
TNCH	**TengChong**	**44.39 287** ⇑	P	**P**	**00 03 59.6 +1.4**
TNCH			pP	pP	00 04 31.3 +1.0

TNCH			PP	**PcP**	**00 05 42.1 +2.5**
TNCH			S	**S**	**00 10 19.8 -2.1**
TNCH			pmax	pmax	
	comp=Z,240nm,0.7s				
TNCH			pmax	pmax	
	comp=Z,650nm,2.8s				
ADK	**Adak**	**44.45 32**	P	**P**	**00 03 57.9 -0.1**
ADK	**Adak**	**44.45 32**	P	**P**	**00 03 58.3 +0.3**
ADK	**Adak**	**44.45 32**	P	**P**	**00 03 58.3 +0.3**
ADK			pmax	pmax	
	comp=Z,1μm,1.5s				
ADK	**Adak**	**44.45 32**	P	**P**	**00 03 58.3 +0.3**
ADK			ScP	**ScP**	**00 09 18.0 +0.8**
CHTO	**Chiang Mai**	**44.45 278**	P	**P**	**00 04 00.5 +1.9**
CHTO	**Chiang Mai**	**44.45 278**	P	**P**	**00 04 00.5 +1.9**
CHTO			pmax	pmax	
	comp=Z,95nm,0.9s				
CMAR	**Chiang Mai Arr**	**44.50 278**	P	**P**	**00 04 00.5 +1.5**
CMAR	**Chiang Mai Arr**	**44.50 278**	P	**P**	**00 04 01.1 +2.2**
	comp=Z,46nm,0.8s,baz=67,slow=6.9,SNR=160				
CMAR			PcP	**PcP**	**00 05 41.4 +1.6**
	comp=Z,28nm,0.9s,baz=87,slow=1.7,SNR=5.4				
CMAR			ScP	**ScP**	**00 09 17.9 -0.3**
	comp=Z,7.4nm,0.7s,baz=65,slow=3.5,SNR=6.5				
CMAR			LR	LR	00 22 09.4
	comp=Z,405nm,19.6s,baz=80,slow=35				
CMAR	**Chiang Mai Arr**	**44.50 278**	P	**P**	**00 04 00.5 +1.5**
SEY	**Seymchan**	**44.73 4**	*c i*P	**P**	**00 04 00.9 +0.9**
SEY			pmax	pmax	
	comp=Z,201nm,1.0s				
QLP	**Quilpie**	**44.73 182**	P	**P**	**00 03 59.8 -0.8**
GSTR	**Great Sitkin T**	**44.89 33**	P	**P**	**00 04 01.8 +0.2**
NOUC	**Port Laguerre**	**44.90 153**	P	**P**	**00 04 02.7 +0.8**
NOUC	**Port Laguerre**	**44.90 153**	P	**P**	**00 04 02.1 +0.2**
NOUC			PcP	**PcP**	**00 05 43.2 +2.3**
NOUC			ScP	**ScP**	**00 09 22.0 +2.5**
GTA	**Gaotai**	**44.93 308** ⇑	P	**P**	**00 04 02.9 +0.7**
GTA			PcP	**PcP**	**00 05 42.8 +1.7**
GTA			PP	**PP**	**00 05 51.8 +1.7**
GTA			ScP	**ScP**	**00 09 19.9 +0.2**
GTA			PcS	**PcS**	**00 09 34.4 -0.7**
GTA			S	**S**	**00 10 28.6 -0.6**
GTA			SS	**ScS**	**00 13 41.3 -2.9**
GTA			ScS	SS	00 13 43.0 -11
GTA			pmax	pmax	
	comp=Z,55nm,1.1s				
GTA			pmax	pmax	
	comp=Z,660nm,6.4s				
GTA			LR	LR	
	comp=Z,1μm,18.2s				
GTA			LR	LR	
	comp=Z,670nm,18.2s				
GTA			LR	LR	
	comp=Z,1μm,17.1s				
DZM	**Mont Dzumac**	**44.93 153**	P	**P**	**00 04 02.7 +0.4**
DZM	**Mont Dzumac**	**44.93 153**	*e*P	**P**	**00 04 00.7 -1.6**
	comp=Z,2μm,1.2s				
DZM	**Mont Dzumac**	**44.93 153**	*e*PP	**PP**	**00 05 49.7 -0.8**
DZM					
	comp=Z,261nm,25.4s				
DZM			*e*S	**S**	**00 10 28.1 -1.3**
	comp=Z,384nm,25.9s				
DZM			*e*SS	**SS**	**00 13 59.0 +4.5**
	comp=Z,3μm,29.4s				
DZM			*e*LR	LR	00 16 47.9
	comp=Z,3μm,26.3s				
DZM	**Mont Dzumac**	**44.93 153**	P	**P**	**00 04 03.0 +0.7**
	comp=Z,607nm,0.9s,baz=4.3,slow=7.9,SNR=172				
DZM			PcP	**PcP**	**00 05 42.8 +1.6**
	comp=Z,164nm,0.8s,baz=65,slow=5.6,SNR=6.1				
DZM			ScP	**ScP**	**00 09 20.4 +0.7**
	comp=Z,22nm,0.7s,baz=16,slow=4.5,SNR=7.6				
DZM			S	**S**	**00 10 30.0 +0.7**
	comp=Z,5.9nm,0.8s,baz=33,slow=8.5,SNR=1.4				
DZM			LR	LR	00 20 48.8
	comp=Z,1μm,19.1s,baz=350,slow=33				
	comp=Z,607nm,0.9s				
DZM	**Mont Dzumac**	**44.93 153**	P	**P**	**00 04 03.0 +0.7**
DZM			pP	**pP**	**00 04 35.9 +1.2**
DZM			PcP	**PcP**	**00 05 43.6 +2.4**
DZM			ScP	**ScP**	**00 09 22.4 +2.7**
SRDT	**SRDT**	**45.02 272**	P	**P**	**00 04 05.7 +2.6**
YAK	**Yakutsk**	**45.07 349**	P	**P**	**00 04 02.7 0.0**
YAK	**Yakutsk**	**45.07 349**	*c i*P	**P**	**00 04 02.8 0.0**
YAK			*e**PP	**pP**	**00 04 34.1 -1.3**
YAK			*e*		00 05 41.1
YAK			*e*		00 05 50.8
YAK			*e*S	**S**	**00 10 29.4 -0.8**
YAK			*e*		00 13 39.4
YAK			pmax	pmax	
	comp=Z,3μm,0.9s				
YAK			pmax	pmax	
	comp=N,696nm,0.9s				
YAK			pmax	pmax	
	comp=E,209nm,0.8s				
YAK			pmax	pmax	
	comp=Z,251nm,1.4s				
YAK			pmax	pmax	
	comp=N,205nm,1.3s				
YAK			pmax	pmax	
	comp=E,88nm,1.4s				
YAK			smax	smax	
	comp=N,1μm,1.9s				
YAK			smax	smax	
	comp=E,562nm,1.5s				
YAK	**Yakutsk**	**45.07 349**	P	**P**	**00 04 03.5 +0.7**
YAK			pP	**pP**	**00 04 35.0 -0.4**
YAK			ScP	**ScP**	**00 09 17.8 -1.7**
YATNC	**Mamie plateau,**	**45.12 152**	P	**P**	**00 04 04.9 +1.2**
BBJI	**Bungbulang**	**45.70 239**	P	**P**	**00 04 08.0 -0.5**
PINNC	**Pines Island,**	**45.85 152**	IAmb	IAmb	00 04 15.5
	comp=Z,404nm,1.0s				
BOD	**Bodaibo**	**45.89 337** ⇓	*i*P	**P**	**00 04 08.9 -0.4**
BOD			pmax	pmax	
	comp=Z,302nm,1.1s				
ATKA	**Atka Island**	**45.91 33**	P	**P**	**00 04 09.3 -0.2**
KULM	**Kulim**	**46.07 259**	IAmb	IAmb	00 04 16.2
	comp=Z,401nm,1.0s				
INKA	**Innaminka**	**46.13 186**	P	**P**	**00 04 10.8 -0.7**
WRKA	**Warakurna**	**46.47 202**	P	**P**	**00 04 14.6 +0.3**
ZAK	**Zakamensk**	**46.54 323**	*e*P	**P**	**00 04 14.1 -0.6**
ZAK			*e*		00 05 12.1
ZAK			pmax	pmax	
	comp=Z,116nm,1.3s				
ZAK			pmax	pmax	
	comp=Z,88nm,1.1s				
IRK	**Irkutsk**	**46.90 326**	*e*P	**P**	**00 04 16.6 -0.7**
IRK			pmax	pmax	
	comp=Z,444nm,2.0s				
MBWA	**Marble Bar**	**46.96 214**	P	**P**	**00 04 19.0 +1.0**
MBWA	**Marble Bar**	**46.96 214**	P	**P**	**00 04 19.1 +1.0**
MBWA	**Marble Bar**	**46.96 214**	P	**P**	**00 04 19.1 +1.0**
MBWA			S	**S**	**00 10 55.4 -2.8**
MBWA	**Marble Bar**	**46.96 214**	P	**P**	**00 04 19.0 +1.0**
MBWA			ScP	**ScP**	**00 09 28.6 +0.5**
OOD	**Oodnadatta**	**46.98 192**	P	**P**	**00 04 18.2 +0.1**
MSVF	**Nonsavu**	**47.80 137**	P	**P**	**00 04 25.4 +0.7**
MSVF	**Nonsavu**	**47.80 137**	P	**P**	**00 04 25.9 +1.1**
MSVF	**Nonsavu**	**47.80 137**	*d i*P	**P**	**00 04 25.7 +1.0**
MSVF			pmax	pmax	
	comp=Z,177nm,1.0s				
MSVF	**Nonsavu**	**47.80 137**	P	**P**	**00 04 25.8 +1.1**
MSVF			pP	**pP**	**00 04 57.7 +0.4**
MSVF			PcP	**PcP**	**00 05 52.9 +1.6**
MSVF			ScP	**ScP**	**00 09 35.5 +3.6**
FUTU	**Fugatoga**	**48.05 130**	P	**P**	**00 04 27.9 +1.3**
GOMU	**GeErMu**	**48.22 302**	P	**P**	**00 04 30.8 +2.6**
GOMU			S	**S**	**00 11 14.3 -2.4**
GOMU			pmax	pmax	
	comp=Z,490nm,0.7s				
GOMU			LR	LR	
	comp=Z,650nm,14.3s				
GOMU			LR	LR	
	comp=Z,790nm,14.7s				
GOMU			LR	LR	
	comp=Z,1μm,14.6s				
MOY	**Mondy**	**48.41 324**	*e*P	**P**	**00 04 29.3 +0.2**
MOY			pmax	pmax	
	comp=Z,46nm,1.4s				
ARMA	**Armidale**	**48.83 173**	P	**P**	**00 04 32.4 -0.1**
XMIS	**Christmas Isla**	**49.04 237**	P	**P**	**00 04 34.3 +0.1**
XMIS	**Christmas Isla**	**49.04 237**	IAmb	IAmb	00 04 35.8
	comp=Z,322nm,0.9s				
NIKH	**Nikolski High**	**49.12 35**	P	**P**	**00 04 34.0 -0.3**
NIKH	**Nikolski High**	**49.12 35**	P	**P**	**00 04 34.3 -0.1**

baz=243,SNR=20
NIKH S **S** **00 11 27.3 -0.6**
baz=243
LCRK Leigh Creek 49.12 189 P **P** **00 04 34.2 -0.4**
LHMI Lhok Sumawe 49.56 261 P **P** **00 04 39.7 +1.5**
CMSA Cobar Meteorol 49.64 180 P **P** **00 04 38.1 -0.4**
MULG Mulgathing 49.73 194 P **P** **00 04 39.3 +0.1**
STKA Stephens Creek 50.15 185 P **P** **00 04 42.2 -0.1**
STKA Stephens Creek 50.15 185 P **P** **00 04 42.0 -0.3**
STKA Stephens Creek 50.15 185 P **P** **00 04 41.9 -0.5**
comp=Z,46nm,0.7s,baz=1.7,slow=7.6,SNR=78
STKA pP **pP** **00 05 15.6 -0.2**
comp=Z,42nm,0.7s,baz=336,slow=4.2,SNR=4.3
STKA S **S** **00 11 42.3 -0.4**
comp=Z,6.4nm,1.0s,baz=347,slow=18,SNR=2.1
STKA LR LR 00 28 39.8
comp=Z,255nm,18.3s,baz=358,slow=39
comp=Z,46nm,0.7s
STKA Stephens Creek 50.15 185 P **P** **00 04 42.1 -0.3**
STKA pmax pmax
comp=Z,18nm,1.1s
SHL Shillong 50.37 288 IAmb IAmb 00 04 48.5
comp=Z,145nm,0.6s
SHL Shillong 50.37 288 P **P** **00 04 45.4 +0.9**
SNR=19
GSI Gunungsitoli 50.39 256 P **P** **00 04 46.3 +1.8**
SPIA Saint Paul Isl 50.49 29 P **P** **00 04 45.9 +1.4**
SPIA Saint Paul Isl 50.49 29 P **P** **00 04 45.3 +0.7**
baz=238,SNR=7.2
SPIA S **S** **00 11 48.6 +1.8**
baz=238
P08K Saint George I 50.52 30 P **P** **00 04 45.8 +1.0**
baz=240,SNR=13
UNV Unalaska Valle 50.77 34 P **P** **00 04 46.6 -0.1**
baz=245,SNR=42
UNV S **S** **00 11 49.6 -1.2**
baz=245
LSA Lhasa 50.90 294 IAmb IAmb 00 04 53.2
comp=Z,166nm,0.7s
LSA Lhasa 50.90 294 P **P** **00 04 50.9 +2.2**
LSA Lhasa 50.90 294 P **P** **00 04 50.8 +2.2**
LSA P **P** **00 04 50.8 +2.2**
LSA Lhasa 50.90 294 P **P** **00 04 51.2 +2.5**
LSA pP **pP** **00 05 23.2 +1.7**
KEKH Kekaha 50.91 76 **P** **00 04 48.6 +0.3**
BILL Bilibino 51.28 10 P **P** **00 04 51.1 +0.7**
BILL IAmb IAmb 00 04 53.2
comp=Z,467nm,1.2s
BILL Bilibino 51.28 10*c* *i*P **P** **00 04 50.9 +0.5**
BILL *i* *PP **pP** **00 05 22.6 -0.9**
BILL *e* 00 06 04.6
BILL *i* S **S** **00 11 58.3 +0.8**
BILL *i* 00 14 25.5
BILL *e*SS **SS** **00 15 35.9 +1.2**
BILL pmax pmax
comp=Z,354nm,1.0s
BILL MLR MLR
comp=Z,253nm,17.0s
BILL Bilibino 51.28 10 P **P** **00 04 51.5 +1.2**
BILL pP **pP** **00 05 24.3 +0.8**
BILL sP **sP** **00 05 41.1 +1.4**
BBOO Buckleboo 51.78 191 P **P** **00 04 54.4 -0.1**
FORT Forrest 51.83 200 P **P** **00 04 56.2 +1.3**
FORT Forrest 51.83 200 IAmb IAmb 00 04 58.7
comp=Z,191nm,1.1s
HTT Hallett 51.96 187 P **P** **00 04 56.3 +0.4**
MEEK Meekatharra 52.04 211 P **P** **00 04 57.3 +0.7**
YNG Young 52.45 177 P **P** **00 04 59.8 +0.4**
KIP Kipapa 52.54 77 **P** **00 05 00.8 +0.4**
KIP Kipapa 52.54 77*d* *i*P **P** **00 05 00.8 +0.4**
KIP pmax pmax
comp=Z,147nm,0.8s
KIP Kipapa 52.54 77 P **P** **00 05 00.8 +0.4**
HON Honolulu 52.56 77 **P** **00 05 00.9 +0.4**
HON Honolulu 52.56 77 P **P** **00 05 00.9 +0.4**
HON pmax pmax
comp=Z,421nm,0.8s
AFI Afiamalu 52.59 125 P **P** **00 05 01.2 +0.4**
AFI IAmb IAmb 00 05 02.4
comp=Z,240nm,1.3s
AFI Afiamalu 52.59 125 P **P** **00 05 01.3 +0.4**
AFI pmax pmax
comp=Z,240nm,1.3s
FALS False Pass 52.83 34 P **P** **00 05 01.9 -0.1**
baz=247
FALS S **S** **00 12 17.8 -1.1**
baz=247
CAN Canberra 53.49 177 P **P** **00 05 07.7 +0.6**
CAN Canberra 53.49 177 IAmb IAmb 00 05 09.5
comp=Z,337nm,1.4s
CAN Canberra 53.49 177 P **P** **00 05 07.6 +0.5**
CAN pP **pP** **00 05 40.6 -0.2**
CNB Canberra Magne 53.51 177 P **P** **00 05 07.7 +0.5**
S12K Black Hills 53.88 34 P **P** **00 05 09.4 -0.2**
baz=248,SNR=37
S12K S **S** **00 12 31.9 -1.2**
baz=248
M11K Mekoryuk 53.94 27 P **P** **00 05 10.4 +0.5**
baz=240,SNR=7.0
M11K S **S** **00 12 37.3 +3.7**
baz=240
KHLH Kahului Airpor 54.08 77 **P** **00 05 12.1 +0.5**
KHLH IAmb IAmb 00 05 14.1
comp=Z,361nm,1.1s
TIXI Tiksi 54.20 353 P **P** **00 05 11.7 0.0**
TIXI IAmb IAmb 00 05 14.1
comp=Z,221nm,0.9s
TIXI Tiksi 54.20 353*c* *i*P **P** **00 05 11.7 0.0**
TIXI pmax pmax
comp=Z,220nm,0.8s
TIXI Tiksi 54.20 353 P **P** **00 05 11.8 0.0**
TIXI pP **pP** **00 05 45.4 +0.1**
HLK Haleakala 54.26 77 **P** **00 05 13.5 +0.2**
SDPT Sand Point 54.59 34 P **P** **00 05 14.8 +0.1**
SDPT Sand Point 54.59 34 P **P** **00 05 14.8 +0.1**
baz=250,SNR=29
SDPT S **S** **00 12 42.7 +0.2**
baz=250
KMBL Kambalda 54.61 205 P **P** **00 05 15.8 +0.6**
MHA Mahukona 54.66 78 **P** **00 05 16.9 +1.0**
MHA Mahukona 54.66 78 P **P** **00 05 16.9 +1.0**
WMQ Urumqi 54.70 311 ⇑P **P** **00 05 16.9 +1.0**
WMQ S **S** **00 12 45.9 +1.3**
WMQ ScS **ScS** **00 14 49.9 -0.5**
WMQ pmax pmax
comp=Z,460nm,1.1s
WMQ pmax pmax
comp=Z,1μm,3.9s
WMQ LR LR
comp=Z,840nm,18.5s
WMQ LR LR
comp=Z,490nm,15.5s
WMQ LR LR
comp=Z,640nm,23.7s
HUH Hualalai 54.80 79 P **P** **00 05 17.2 0.0**
HUH IAmb IAmb 00 05 18.9
comp=Z,283nm,0.9s
CNBA Chernabura Isl 54.89 35 IAmb IAmb 00 05 18.4
comp=Z,156nm,0.9s
CHNA Chernabura Isl 54.89 35 P **P** **00 05 17.2 +0.3**
baz=251,SNR=21
CHNA S **S** **00 12 47.5 +0.9**
baz=251
ARPS Mount Arapiles 55.00 184 P **P** **00 05 17.9 0.0**
MWH Moku'aweowe 55.06 79 P **P** **00 05 18.6 -0.7**
POHA Pohakuloa 55.07 78 **P** **00 05 19.5 +0.3**
POHA Pohakuloa 55.07 78 P **P** **00 05 19.6 +0.5**
KHU Kahuku 55.08 79 **P** **00 05 19.4 +0.2**
KHU Kahuku 55.08 79 P **P** **00 05 19.4 +0.2**
KHU pmax pmax
comp=Z,769nm,1.0s
M13K Dall Lake 55.20 28 P **P** **00 05 20.1 +1.0**
baz=243,SNR=86
M13K S **S** **00 12 54.9 +4.4**
baz=243
MILA Mila 55.23 177 P **P** **00 05 19.6 0.0**
MLH Mauna Loa 55.25 79 P **P** **00 05 20.5 0.0**
MORW Morawa 55.32 212 P **P** **00 05 20.5 +0.1**
MORW Morawa 55.32 212 IAmb IAmb 00 05 22.4
comp=Z,147nm,0.9s
K13K Kusilvak Mount 55.35 26 P **P** **00 05 20.6 +0.6**
baz=241
K13K S **S** **00 12 56.5 +4.0**
baz=241
RSD Rainshed 55.36 79 P **P** **00 05 21.9 +0.8**

S14K Fog Glacier 55.40 33 P **P** **00 05 21.0 +0.3**
baz=250,SNR=49
S14K S **S** **00 12 52.5 -1.2**
baz=250
PUH Pauahi 55.43 79 P **P** **00 05 21.1 -0.4**
O14K Tigyukauivet M 55.66 30 IAmb IAmb 00 05 24.6
comp=Z,220nm,1.0s
O14K Tigyukauivet M 55.66 30 P **P** **00 05 23.0 +0.6**
baz=246,SNR=23
O14K S **S** **00 12 58.7 +2.0**
baz=246
PAH Pahoa 55.66 79 P **P** **00 05 23.3 +0.2**
TOO Toolangi 55.66 180 P **P** **00 05 23.2 +0.5**
BRAT Ballarat 55.67 182 P **P** **00 05 23.5 +0.9**
N14K Kuskokwak Cree 55.74 29 P **P** **00 05 23.7 +0.8**
baz=245,SNR=85
N14K S **S** **00 12 59.6 +1.8**
baz=245
L14K Kuka Creek 55.91 27 IAmb IAmb 00 05 26.8
comp=Z,400nm,1.2s
L14K Kuka Creek 55.91 27 P **P** **00 05 24.7 +0.6**
baz=244
L14K S **S** **00 13 03.1 +3.2**
baz=244
M14K Bethel 55.96 28 P **P** **00 05 25.4 +0.9**
baz=245,SNR=146
M14K S **S** **00 13 03.8 +3.1**
baz=245
CHGN Chignik 56.00 34 P **P** **00 05 24.9 +0.1**
baz=251,SNR=23
CHGN S **S** **00 12 59.9 -1.5**
baz=251
TNA Tin City 56.02 21 P **P** **00 05 25.8 +1.1**
baz=236,SNR=10
TNA S **S** **00 13 03.4 +2.1**
baz=236
J14K Nanvaranak Lak 56.19 25 P **P** **00 05 26.4 +0.3**
J14K IAmb IAmb 00 05 28.9
comp=Z,334nm,1.1s
J14K Nanvaranak Lak 56.19 25 P **P** **00 05 26.8 +0.7**
baz=242,SNR=93
J14K S **S** **00 13 07.2 +3.6**
baz=242
BLDU Ballidu 56.26 210 P **P** **00 05 27.3 +0.2**
O15K Ungalikthiuk R 56.31 30 P **P** **00 05 27.4 +0.4**
baz=248,SNR=146
O15K S **S** **00 13 07.5 +2.1**
baz=248
ANM Nome 56.38 23 IAmb IAmb 00 05 30.1
comp=Z,231nm,1.1s
ANM Nome 56.38 23 P **P** **00 05 28.1 +0.6**
baz=239,SNR=49
ANM S **S** **00 13 09.4 +3.2**
baz=239
M15K Kasigluk River 56.51 28 P **P** **00 05 28.9 +0.5**
baz=246,SNR=78
M15K S **S** **00 13 09.7 +1.8**
baz=246
F14K Arctic Creek 56.52 22 P **P** **00 05 29.1 +0.7**
baz=237,SNR=51
F14K S **S** **00 13 11.1 +3.1**
baz=237
N15K Kwethluk River 56.57 29 P **P** **00 05 29.5 +0.6**
baz=247,SNR=137
N15K S **S** **00 13 10.6 +1.8**
baz=247
L15K Ungalak Mounta 56.57 27 P **P** **00 05 29.0 +0.2**
baz=245,SNR=102
L15K S **S** **00 13 09.9 +1.2**
baz=245
KLBR Kellerberrin 56.59 209 P **P** **00 05 30.3 +1.0**
K15K Wolf Creek Mou 56.82 26 P **P** **00 05 31.1 +0.5**
baz=244,SNR=137
K15K S **S** **00 13 14.5 +2.5**
baz=244
G15K Niukluk 57.09 23 P **P** **00 05 32.9 +0.4**
baz=240,SNR=61
G15K S **S** **00 13 18.3 +2.7**
baz=240
P16K Nushagak River 57.14 31 P **P** **00 05 33.4 +0.5**
baz=250,SNR=47
P16K S **S** **00 13 17.5 +1.2**
baz=250
ZSN Zaisan 57.19 315 *e*P **P** **00 05 33.5 0.0**
comp=Z,131nm,0.7s,baz=315
ZSN *e*S **S** **00 13 19.6 +2.1**
baz=315
ZSN Zaisan 57.19 315 *e*P **P** **00 05 33.5 0.0**
ZSN *e*S **S** **00 13 19.5 +2.1**
ZSN pmax pmax
comp=Z,131nm,0.7s
F15K North Star Dit 57.24 22 IAmb IAmb 00 05 36.1
comp=Z,271nm,1.2s
F15K North Star Dit 57.24 22 P **P** **00 05 34.0 +0.5**
baz=239,SNR=74
F15K S **S** **00 13 20.6 +3.1**
baz=239
O16K Kokwok River B 57.29 30 P **P** **00 05 34.4 +0.5**
baz=249,SNR=136
O16K S **S** **00 13 19.8 +1.6**
baz=249
N16K Nishlik Lake 57.29 29 P **P** **00 05 34.5 +0.5**
baz=248
N16K S **S** **00 13 20.1 +1.8**
baz=248
CHIR Chirikof Islan 57.35 35 P **P** **00 05 34.8 +0.4**
baz=254,SNR=7.7
M16K Timber Creek 57.41 28 IAmb IAmb 00 05 37.2
comp=Z,195nm,0.8s
M16K Timber Creek 57.41 28 P **P** **00 05 35.3 +0.5**
baz=248,SNR=111
M16K S **S** **00 13 21.5 +1.6**
baz=248
L16K Owhat River 57.46 27 IAmb IAmb 00 05 37.1
comp=Z,316nm,1.4s
L16K Owhat River 57.46 27 P **P** **00 05 35.3 +0.3**
baz=247,SNR=93
L16K S **S** **00 13 22.1 +1.7**
baz=247
R17L Mt. Peulik Vol 57.49 33 P **P** **00 05 35.6 +0.2**
baz=252,SNR=22
R17L S **S** **00 13 19.7 -1.3**
baz=252
H16K Elim 57.60 24 P **P** **00 05 36.6 +0.6**
baz=242,SNR=33
H16K S **S** **00 13 24.4 +2.3**
baz=242
MUN Mundaring 57.63 210 P **P** **00 05 37.0 +0.3**
J16K Anvik River 57.63 25 IAmb IAmb 00 05 39.2
comp=Z,280nm,1.1s
J16K Anvik River 57.63 25 P **P** **00 05 37.0 +0.8**
baz=244,SNR=148
J16K S **S** **00 13 26.4 +3.8**
baz=244
Q16K King Salmon 57.67 31 P **P** **00 05 36.2 -0.3**
baz=251
Q16K S **S** **00 13 21.5 -1.7**
baz=251
XMAS Kiritimati 57.76 99 P **P** **00 05 38.7 +0.8**
XMAS Kiritimati 57.76 99 P **P** **00 05 38.5 +0.6**
XMAS pP **pP** **00 06 12.8 +1.2**
XMAS PcP **PcP** **00 06 30.9 +1.8**
O17K Koliganek Bris 57.83 30 P **P** **00 05 38.2 +0.5**
baz=250,SNR=262
O17K S **S** **00 13 27.2 +2.0**
baz=250
I17K Unalakleet 57.86 25 P **P** **00 05 38.6 +0.8**
baz=244,SNR=109
I17K S **S** **00 13 29.0 +3.5**
baz=244
G16K Koyuk River 57.91 23 P **P** **00 05 38.7 +0.5**
baz=242,SNR=18
G16K S **S** **00 13 28.4 +2.2**
baz=242
Q17K Contact Creek 57.93 32 P **P** **00 05 37.9 -0.7**
baz=252,SNR=33
Q17K S **S** **00 13 23.2 -3.6**
baz=252
NWAO Narrogin (SRO) 57.95 208 P **P** **00 05 40.4 +1.6**
NWAO Narrogin (SRO) 57.95 208 P **P** **00 05 40.3 +1.5**
NWAO Narrogin (SRO) 57.95 208 P **P** **00 05 39.7 +0.9**
NWAO Narrogin (SRO) 57.95 208 P **P** **00 05 40.4 +1.5**
NWAO Narrogin (SRO) 57.95 208 P **P** **00 05 39.7 +0.9**
NWAO pmax pmax
comp=Z,120nm,1.0s
NWAO Narrogin (SRO) 57.95 208 P **P** **00 05 40.2 +1.3**
NWAO pP **pP** **00 06 12.6 -0.1**

P17K Kvichak River 57.95 31 P **P** **00 05 38.4 -0.1**
baz=251,SNR=25
P17K S **S** **00 13 25.7 -1.1**
baz=251
N17K Nushagak Hills 58.04 29 P **P** **00 05 39.8 +0.6**
baz=250,SNR=153
N17K S **S** **00 13 31.8 +3.8**
baz=250
L17K Donlin 58.13 27 P **P** **00 05 40.2 +0.4**
baz=248,SNR=156
L17K S **S** **00 13 32.0 +2.8**
baz=248
M17K Holitna River 58.24 28 P **P** **00 05 41.0 +0.5**
baz=249,SNR=137
M17K S **S** **00 13 33.2 +2.6**
baz=249
J17K VABM Dome 58.30 26 P **P** **00 05 41.4 +0.5**
baz=246,SNR=274
J17K S **S** **00 13 34.7 +3.4**
baz=246
SII Sitkinak Islan 58.33 34 P **P** **00 05 42.0 +0.8**
SII Sitkinak Islan 58.33 34 P **P** **00 05 41.6 +0.3**
baz=255,SNR=35
SII S **S** **00 13 33.5 +1.6**
baz=255
K17K Iditarod 58.36 27 P **P** **00 05 42.1 +0.8**
baz=247,SNR=265
K17K S **S** **00 13 35.6 +3.5**
baz=247
C16K Lisburne Hills 58.38 19 IAmb IAmb 00 05 43.5
comp=Z,239nm,0.8s
C16K Lisburne Hills 58.38 19 P **P** **00 05 42.4 +1.0**
baz=237,SNR=38
C16K S **S** **00 13 34.7 +2.6**
baz=237
ZAA0 Zalesovo Array 58.41 323 P **P** **00 05 40.7 -1.1**
ZAA0 IAmb IAmb 00 05 43.0
comp=Z,165nm,0.8s
ZALV Zalesovo Beam 58.41 323 P **P** **00 05 40.9 -0.9**
ZALV Zalesovo Beam 58.41 323 P **P** **00 05 41.0 -0.9**
comp=Z,160nm,0.4s,baz=108,slow=8.0,SNR=491
ZALV ScP **ScP** **00 10 15.6 -1.8**
comp=Z,5.2nm,0.5s,baz=120,slow=4.4,SNR=5.3
ZALV S **S** **00 13 31.9 -1.0**
comp=Z,10.0nm,0.9s,baz=100,slow=8.3,SNR=6.7
ZALV LR LR 00 31 35.0
comp=Z,354nm,18.5s,baz=102,slow=37
ZALV PKPPKP **P'P'df** **00 35 16.0 -4.5**
comp=Z,2.6nm,0.9s,baz=306,slow=3.5,SNR=5.3
ZALV PKP2bc 00 35 27.9
comp=Z,7.0nm,0.9s,baz=316,slow=4.1,SNR=8.7
comp=Z,160nm,0.4s
R18K Karluk 58.46 33 P **P** **00 05 42.1 0.0**
baz=254
R18K S **S** **00 13 32.1 -1.3**
baz=254
Q18K Katmai Hardscr 58.48 32 P **P** **00 05 41.9 -0.5**
baz=253,SNR=114
Q18K S **S** **00 13 31.3 -2.8**
baz=253
G17K Kiwalik Mounta 58.59 23 P **P** **00 05 43.4 +0.5**
baz=243,SNR=201
G17K S **S** **00 13 38.3 +3.2**
baz=243
P18K Big Mountain, 58.60 31 IAmb IAmb 00 05 44.8
comp=Z,172nm,1.0s
P18K Big Mountain, 58.60 31 P **P** **00 05 43.1 0.0**
baz=252,SNR=42
P18K S **S** **00 13 33.9 -1.5**
baz=252
H17K Granite Mounta 58.62 24 P **P** **00 05 43.8 +0.6**
baz=244,SNR=271
H17K S **S** **00 13 38.2 +2.8**
baz=244
N18K Kilae Creek 58.70 29 P **P** **00 05 44.4 +0.7**
baz=251,SNR=132
N18K S **S** **00 13 38.4 +1.9**
baz=251
O18K Koktuh Hills 58.75 30 P **P** **00 05 44.6 +0.4**
O18K Koktuh Hills 58.75 30 P **P** **00 05 44.6 +0.4**
baz=252,SNR=171
O18K S **S** **00 13 38.6 +1.2**
baz=252
D17K Noatak River 58.80 20 P **P** **00 05 44.8 +0.6**
baz=240,SNR=101
D17K S **S** **00 13 38.9 +1.4**
baz=240
F17K Baldwin Pennin 58.81 22 P **P** **00 05 45.0 +0.7**
baz=242,SNR=141
F17K S **S** **00 13 40.8 +3.1**
baz=242
RAO Raoul Island 58.81 143 P **P** **00 05 45.7 +0.8**
RAO Raoul Island 58.81 143 P **P** **00 05 44.3 -0.6**
comp=Z,137nm,0.3s,baz=98,slow=19,SNR=3.9
RAO pP **pP** **00 06 19.4 +0.6**
comp=Z,127nm,0.3s,baz=270,slow=23,SNR=2.2
RAO LR LR 00 26 25.3
comp=Z,658nm,21.3s,baz=160,slow=31
comp=Z,137nm,0.3s
RAO Raoul Island 58.81 143 P **P** **00 05 45.7 +0.8**
RAO pmax pmax
comp=Z,363nm,0.8s
MK31 Makanchi Array 58.85 314 IAmb IAmb 00 05 48.0
comp=Z,178nm,0.8s
MK31 Makanchi Array 58.85 314*ce*P **P** **00 05 45.1 0.0**
MKAR Makanchi Array 58.85 314 P **P** **00 05 44.4 -0.7**
MKAR Makanchi Array 58.85 314 P **P** **00 05 44.8 -0.3**
comp=Z,211nm,0.7s,baz=89,slow=8.3,SNR=732
MKAR pP **pP** **00 06 18.8 -0.2**
comp=Z,55nm,0.8s,baz=84,slow=9.3,SNR=2.9
MKAR PcP **PcP** **00 06 32.5 -0.4**
comp=Z,65nm,0.7s,baz=81,slow=4.8,SNR=5.7
MKAR ScP **ScP** **00 10 18.4 -1.2**
comp=Z,15nm,0.8s,baz=95,slow=5.2,SNR=3.5
MKAR S **S** **00 13 39.5 +0.4**
comp=Z,7.6nm,1.0s,baz=95,slow=14,SNR=6.6
MKAR PKPPKP **P'P'df** **00 35 12.8 -7.4**
comp=Z,1.1nm,0.9s,baz=90,slow=1.4,SNR=4.7
MKAR PKP2bc 00 35 28.8
comp=Z,38nm,1.2s,baz=298,slow=2.6,SNR=24
comp=Z,211nm,0.7s
L18K Granite Mounta 58.87 27 IAmb IAmb 00 05 47.8
comp=Z,388nm,1.4s
L18K Granite Mounta 58.87 27 P **P** **00 05 45.5 +0.7**
baz=249,SNR=150
L18K S **S** **00 13 41.7 +3.0**
baz=249
E17K Hotham Inlet 58.91 21 P **P** **00 05 45.7 +0.6**
baz=241,SNR=147
E17K S **S** **00 13 41.5 +2.4**
baz=241
OHAK Old Harbor 58.97 34 P **P** **00 05 46.3 +0.7**
OHAK Old Harbor 58.97 34 P **P** **00 05 46.1 +0.5**
baz=255,SNR=68
OHAK S **S** **00 13 41.1 +1.0**
baz=255
SVW2 Sparrevohn 58.98 29 P **P** **00 05 46.9 +1.2**
SVW2 Sparrevohn 58.98 29 P **P** **00 05 46.2 +0.6**
SVW2 IAmb IAmb 00 05 48.3
comp=Z,230nm,1.3s
M18K Stony River 59.00 28 P **P** **00 05 46.3 +0.6**
baz=250,SNR=180
M18K S **S** **00 13 43.9 +3.5**
baz=250
RDOG Red Dog Mine 59.03 20 P **P** **00 05 46.6 +0.8**
RDOG IAmb IAmb 00 05 58.0
comp=Z,208nm,1.1s
RDOG Red Dog Mine 59.03 20 P **P** **00 05 46.7 +0.8**
baz=240,SNR=24
RDOG S **S** **00 13 42.6 +2.0**
baz=240
MAKZ Makanchi 59.07 314 P **P** **00 05 46.1 -0.5**
MAKZ Makanchi 59.07 314 P **P** **00 05 46.1 -0.5**
MAKZ pmax pmax
comp=Z,322nm,0.9s
MAKZ Makanchi 59.07 314 P **P** **00 05 47.1 +0.5**
MAKZ pP **pP** **00 06 20.4 -0.1**
GLAD Gladstone 59.10 178 P **P** **00 05 48.1 +1.5**
C17K DeLong Mountai 59.16 19 P **P** **00 05 47.6 +0.8**
baz=239,SNR=73
C17K S **S** **00 13 44.3 +1.9**
baz=239
Q19K Cape Douglas, 59.24 32 P **P** **00 05 47.0 -0.6**
baz=254,SNR=42
Q19K S **S** **00 13 40.9 -2.8**
baz=254
H18K Honhosa River 59.31 24 IAmb IAmb 00 05 50.0
comp=Z,241nm,0.9s

H18K	**Honhosa River**	**59.31**	**24**	P	**P**	**00 05 48.5**	**+0.6**
	baz=246,SNR=201						
H18K				S	**S**	**00 13 46.0**	**+1.7**
	baz=246						
J18K	**Innoko River**	**59.31**	**26**	P	**P**	**00 05 48.8**	**+0.9**
	baz=248,SNR=71						
J18K				S	**S**	**00 13 46.0**	**+1.7**
	baz=248						
N19K	**Bonanza Creek**	**59.39**	**29**	P	**P**	**00 05 49.2**	**+0.6**
	baz=252,SNR=197						
N19K				S	**S**	**00 13 48.2**	**+2.4**
	baz=252						
TTA	**Tatalina**	**59.41**	**27**	IAmb	IAmb	00 05 51.0	
	comp=Z,289nm,1.3s						
TTA	**Tatalina**	**59.41**	**27**	P	**P**	**00 05 49.0**	**+0.3**
	baz=249,SNR=167						
TTA				S	**S**	**00 13 48.3**	**+2.4**
	baz=249						
OUZ	**Omahuta**	**59.42**	**154**	P	**P**	**00 05 51.2**	**+2.2**
F18K	**Selawik**	**59.45**	**22**	P	**P**	**00 05 49.3**	**+0.5**
	baz=244,SNR=83						
F18K				S	**S**	**00 13 47.8**	**+1.8**
	baz=244						
RKGY	**Rocky Gully**	**59.48**	**208**	P	**P**	**00 05 51.9**	**+2.5**
KDAK	**Kodiak Island**	**59.48**	**33**	P	**P**	**00 05 49.3**	**+0.2**
KDAK	**Kodiak Island**	**59.48**	**33**	P	**P**	**00 05 49.8**	**+0.7**
	baz=256						
KDAK				S	**S**	**00 13 48.0**	**+1.3**
	baz=256						
KDAK	**Kodiak Island**	**59.48**	**33**	LR	LR	00 27 50.8	
	comp=Z,300nm,21.8s,baz=266,slow=32						
KDAK	**Kodiak Island**	**59.48**	**33**	*d iP*	**P**	**00 05 49.5**	**+0.3**
KDAK				pmax	pmax		
	comp=Z,455nm,0.9s						
KDAK	**Kodiak Island**	**59.48**	**33**	P	**P**	**00 05 49.5**	**+0.3**
KDAK				pP	**pP**	**00 06 24.1**	**+1.0**
KDAK				PcP	**PcP**	**00 06 35.0**	**-0.2**
KDAK				ScP	**ScP**	**00 10 25.8**	**+3.8**
E18K	**Tukpahlearik C**	**59.49**	**21**	IAmb	IAmb	00 05 51.8	
	comp=Z,186nm,0.8s						
E18K	**Tukpahlearik C**	**59.49**	**21**	P	**P**	**00 05 49.8**	**+0.8**
	baz=242,SNR=157						
E18K				S	**S**	**00 13 48.6**	**+2.1**
	baz=242						
G18K	**Tagagawik**	**59.51**	**23**	P	**P**	**00 05 49.7**	**+0.4**
	baz=245,SNR=264						
G18K				S	**S**	**00 13 49.2**	**+2.4**
	baz=245						
P19K	**Oil Pt**	**59.65**	**31**	P	**P**	**00 05 50.6**	**+0.3**
	baz=254,SNR=123						
P19K				S	**S**	**00 13 47.0**	**-1.8**
	baz=254						
L19K	**White Mountain**	**59.66**	**28**	IAmb	IAmb	00 05 52.9	
	comp=Z,278nm,1.2s						
L19K	**White Mountain**	**59.66**	**28**	P	**P**	**00 05 50.9**	**+0.5**
	baz=251,SNR=130						
L19K				S	**S**	**00 13 51.3**	**+2.3**
	baz=251						
GCSA	**Galena City Sc**	**59.73**	**25**	P	**P**	**00 05 51.4**	**+0.7**
	baz=248,SNR=11						
GCSA				S	**S**	**00 13 50.7**	**+1.1**
	baz=248						
M19K	**Big River Lodg**	**59.78**	**28**	IAmb	IAmb	00 05 53.9	
	comp=Z,208nm,1.2s						
M19K	**Big River Lodg**	**59.78**	**28**	P	**P**	**00 05 51.7**	**+0.5**
	baz=252						
M19K				S	**S**	**00 13 52.3**	**+1.9**
	baz=252						
ILSW	**Iliamna Southw**	**59.79**	**31**	IAmb	IAmb	00 05 52.4	
	comp=Z,358nm,1.4s						
Q20K	**Shuyak Island**	**59.79**	**32**	P	**P**	**00 05 51.4**	**+0.2**
	baz=255,SNR=81						
Q20K				S	**S**	**00 13 49.3**	**-1.3**
	baz=255						
SYI	**Shuyak Island**	**59.79**	**32**	P	**P**	**00 05 51.3**	**0.0**
C18K	**Utukok River**	**59.88**	**20**	IAmb	IAmb	00 05 53.8	
	comp=Z,148nm,0.8s						
C18K	**Utukok River**	**59.88**	**20**	P	**P**	**00 05 52.5**	**+0.7**
	baz=241,SNR=63						
C18K				S	**S**	**00 13 52.0**	**+0.4**
	baz=241						
J19K	**Poorman**	**59.96**	**26**	P	**P**	**00 05 53.0**	**+0.7**
	baz=249,SNR=293						
J19K				S	**S**	**00 13 53.8**	**+1.2**
	baz=249						
B18K	**Kokolik River**	**60.04**	**19**	P	**P**	**00 05 53.5**	**+0.7**
	baz=240,SNR=55						
B18K				S	**S**	**00 13 55.2**	**+1.7**
	baz=240						
O20K	**Slope Mountain**	**60.06**	**31**	P	**P**	**00 05 53.4**	**+0.2**
	baz=254,SNR=42						
O20K				S	**S**	**00 13 52.5**	**-1.8**
	baz=254						
L20K	**Farewell, AK**	**60.19**	**28**	P	**P**	**00 05 54.6**	**+0.6**
	baz=252,SNR=84						
L20K				S	**S**	**00 13 58.2**	**+2.5**
	baz=252						
G19K	**Purcell Mounta**	**60.20**	**23**	IAmb	IAmb	00 05 56.2	
	comp=Z,235nm,0.9s						
G19K	**Purcell Mounta**	**60.20**	**23**	P	**P**	**00 05 54.0**	**+0.1**
	baz=246,SNR=271						
G19K				S	**S**	**00 13 56.8**	**+1.2**
	baz=246						
H19K	**Roundabout Mou**	**60.20**	**24**	IAmb	IAmb	00 05 56.5	
	comp=Z,226nm,0.9s						
H19K	**Roundabout Mou**	**60.20**	**24**	P	**P**	**00 05 54.4**	**+0.6**
	baz=248,SNR=326						
H19K				S	**S**	**00 13 58.6**	**+3.0**
	baz=248						
F19K	**Shaleruckik Mo**	**60.23**	**22**	P	**P**	**00 05 54.2**	**+0.1**
	baz=245,SNR=65						
F19K				S	**S**	**00 13 56.2**	**+0.3**
	baz=245						
M20K	**Styx River**	**60.34**	**28**	P	**P**	**00 05 54.9**	**-0.2**
	baz=253,SNR=205						
M20K				S	**S**	**00 14 00.8**	**+3.1**
	baz=253						
WCZ	**Waipu Caves**	**60.35**	**154**	P	**P**	**00 05 56.8**	**+1.5**
K20K	**Telida**	**60.39**	**27**	P	**P**	**00 05 55.2**	**-0.1**
	baz=251,SNR=300						
K20K				S	**S**	**00 14 01.9**	**+3.7**
	baz=251						
HOM	**Homer**	**60.43**	**31**	P	**P**	**00 05 55.6**	**+0.1**
	baz=255,SNR=9.0						
HOM				S	**S**	**00 13 57.5**	**-1.2**
	baz=255						
MOO	**Moorlands**	**60.53**	**179**	P	**P**	**00 05 57.1**	**+0.7**
N20K	**Mount Spurr**	**60.57**	**29**	P	**P**	**00 05 57.0**	**+0.3**
	baz=254,SNR=19						
N20K				S	**S**	**00 14 00.5**	**-0.1**
	baz=254						
SPCR	**Spurr Chakacha**	**60.57**	**29**	P	P	00 05 48.1	-8.5
	baz=254,SNR=16						
SPCR				S	**S**	**00 13 52.8**	**-7.9**
	baz=254						
PDGK	**Podgornoye**	**60.59**	**310**	P	**P**	**00 05 57.5**	**+0.3**
CNPM	**China Poot**	**60.60**	**31**	P	**P**	**00 05 56.2**	**-0.6**
SHLS	**Shalkode**	**60.60**	**310**	*eP*	**P**	**00 05 55.0**	**-2.2**
	comp=Z,100nm,1.3s,baz=310						
SHLS				*eS*	**S**	**00 13 60.0**	**-1.9**
	baz=310						
SHLS	**Shalkode**	**60.60**	**310**	*eP*	**P**	**00 05 55.0**	**-2.2**
SHLS				*eS*	**S**	**00 13 59.9**	**-1.9**
SHLS				pmax	pmax		
	comp=Z,100nm,1.3s						
C19K	**Lookout Ridge**	**60.61**	**20**	P	**P**	**00 05 57.3**	**+0.5**
C19K	**Lookout Ridge**	**60.61**	**20**	P	**P**	**00 05 57.5**	**+0.8**
	baz=242,SNR=210						
C19K				S	**S**	**00 14 02.2**	**+1.3**
	baz=242						
J20K	**Nowinta River**	**60.63**	**26**	P	**P**	**00 05 57.6**	**+0.7**
	baz=250,SNR=420						
J20K				S	**S**	**00 14 05.1**	**+4.0**
	baz=250						
E19K	**Redstone River**	**60.68**	**22**	IAmb	IAmb	00 05 59.7	
	comp=Z,204nm,1.1s						
E19K	**Redstone River**	**60.68**	**22**	P	**P**	**00 05 57.4**	**+0.2**
	baz=246,SNR=191						
E19K				S	**S**	**00 14 02.6**	**+0.9**
	baz=246						
A19K	**Wainwright**	**60.68**	**18**	P	**P**	**00 05 57.5**	**+0.4**
	baz=240,SNR=15						
A19K				S	**S**	**00 14 04.0**	**+2.4**
	baz=240						
I20K	**Naaghedeneel**	**60.70**	**25**	P	**P**	**00 05 57.7**	**+0.4**
	baz=250,SNR=122						
I20K				S	**S**	**00 14 05.6**	**+3.6**
	baz=250						
H20K	**Anotleneega Mo**	**60.79**	**24**	P	**P**	**00 05 57.9**	**0.0**
	baz=249,SNR=240						
H20K				S	**S**	**00 14 06.2**	**+3.0**
	baz=249						
D19K	**Kuna River**	**60.81**	**20**	IAmb	IAmb	00 06 00.4	
	comp=Z,202nm,0.8s						
D19K	**Kuna River**	**60.81**	**20**	P	**P**	**00 05 58.0**	**-0.1**
	baz=244,SNR=142						
D19K				S	**S**	**00 14 03.8**	**+0.3**
	baz=244						
BRSE	**Bradley Lake S**	**60.89**	**31**	P	**P**	**00 05 58.5**	**-0.3**
	baz=256,SNR=103						
BRSE				S	**S**	**00 14 03.8**	**-0.9**
	baz=256						
UZB	**Uzynbulak**	**60.92**	**310**	*eP*	**P**	**00 05 59.2**	**-0.2**
	baz=310						
UZB				*eS*	**S**	**00 14 08.0**	**+2.0**
	baz=310						
UZB	**Uzynbulak**	**60.92**	**310**	*eP*	**P**	**00 05 59.2**	**-0.2**
UZB				*eS*	**S**	**00 14 07.9**	**+2.0**
CAPN	**Captain Cook N**	**60.95**	**30**	P	**P**	**00 05 59.6**	**+0.5**
	baz=255						
CAPN				S	**S**	**00 14 04.9**	**-0.3**
	baz=255						
H01W1	**Cape Leeuwin H**	**61.00**	**210**	P	**P**	**00 05 59.4**	**-0.1**
	baz=180,slow=76,SNR=1.8						
H01W3	**Cape Leeuwin H**	**61.00**	**210**	P	**P**	**00 05 59.4**	**-0.1**
	baz=180,slow=76,SNR=4.0						
TAU	**Tasmania Unive**	**61.01**	**179**	P	**P**	**00 05 59.7**	**+0.1**
TAU	**Tasmania Unive**	**61.01**	**179**	P	**P**	**00 06 00.1**	**+0.5**
TAU	**Tasmania Unive**	**61.01**	**179**	P	**P**	**00 06 00.1**	**+0.5**
TAU				pmax	pmax		
	comp=Z,128nm,1.0s						
TAU	**Tasmania Unive**	**61.01**	**179**	P	**P**	**00 05 59.6**	**0.0**
TAU				pP	**pP**	**00 06 33.4**	**-0.7**
TAU				sP	**sP**	**00 06 48.8**	**-1.3**
H01W2	**Cape Leeuwin H**	**61.01**	**210**	P	**P**	**00 05 59.5**	**-0.1**
	baz=180,slow=76,SNR=3.4						
F20K	**Avaraart Lake**	**61.05**	**22**	IAmb	IAmb	00 06 02.3	
	comp=Z,163nm,0.9s						
F20K	**Avaraart Lake**	**61.05**	**22**	P	**P**	**00 05 59.7**	**+0.1**
	baz=247,SNR=207						
F20K				S	**S**	**00 14 08.5**	**+2.1**
	baz=247						
GRZ	**Great Barrier**	**61.09**	**153**	P	**P**	**00 06 01.4**	**+1.1**
SKT	**Skwentna**	**61.09**	**29**	IAmb	IAmb	00 06 01.4	
	comp=Z,282nm,1.1s						
SKT	**Skwentna**	**61.09**	**29**	P	**P**	**00 05 59.6**	**-0.5**
	baz=254,SNR=240						
SKT				S	**S**	**00 14 06.4**	**-0.8**
	baz=254						
ABAZ	**Army Bay**	**61.12**	**154**	P	**P**	**00 06 02.2**	**+1.7**
KPKS	**Kokpek**	**61.18**	**310**	*eP*	**P**	**00 06 00.9**	**-0.3**
	baz=310						
KPKS				*eS*	**S**	**00 14 10.8**	**+1.7**
	baz=310						
KPKS	**Kokpek**	**61.18**	**310**	*eP*	**P**	**00 06 00.8**	**-0.3**
KPKS				*eS*	**S**	**00 14 10.8**	**+1.7**
MBAZ	**Motutapu North**	**61.29**	**154**	P	**P**	**00 06 02.6**	**+1.0**
WTAZ	**Waiatarua**	**61.29**	**154**	P	**P**	**00 06 04.0**	**+2.3**
SUA	**Susitna One**	**61.32**	**29**	P	**P**	**00 06 01.6**	**-0.2**
	baz=255,SNR=73						
SUA				S	**S**	**00 14 08.5**	**-1.8**
	baz=255						
E20K	**Nigu River**	**61.37**	**21**	P	**P**	**00 06 02.2**	**+0.4**
	baz=246,SNR=457						
E20K				S	**S**	**00 14 11.9**	**+1.4**
	baz=246						
PRZ	**Przheval'sk**	**61.37**	**309**	P	**P**	**00 06 04.3**	**+1.8**
SATY	**Saty**	**61.37**	**309**	*eP*	**P**	**00 06 02.5**	**+0.1**
	comp=Z,74nm,0.9s,baz=309						
SATY	**Saty**	**61.37**	**309**	*eP*	**P**	**00 06 02.5**	**+0.1**
SATY				pmax	pmax		
	comp=Z,74nm,0.9s						
IMAR	**Indian Mountai**	**61.40**	**24**	P	**P**	**00 06 02.1**	**+0.1**
D20K	**Etivluk River**	**61.41**	**21**	P	**P**	**00 06 02.5**	**+0.4**
	baz=246,SNR=312						
D20K				S	**S**	**00 14 11.9**	**+1.0**
	baz=246						
WIAZ	**Waiheke Island**	**61.41**	**154**	P	**P**	**00 06 03.9**	**+1.4**
TDK	**Taldygorghan**	**61.43**	**312**	*eP*	**P**	**00 06 02.9**	**+0.2**
	comp=Z,195nm,0.9s,baz=312						
TDK	**Taldyqorghan**	**61.43**	**312**	*eP*	**P**	**00 06 02.8**	**+0.2**
TDK				pmax	pmax		
	comp=Z,195nm,0.9s						
AWAZ	**Awhitu Peninsu**	**61.44**	**154**	P	**P**	**00 06 04.6**	**+2.0**
O22K	**Cooper Landing**	**61.56**	**30**	P	**P**	**00 06 03.4**	**+0.3**
	baz=257,SNR=21						
O22K				S	**S**	**00 14 12.2**	**-0.9**
	baz=257						
SEW	**Seward**	**61.61**	**31**	P	**P**	**00 06 03.8**	**+0.3**
	baz=257,SNR=70						
SEW				S	**S**	**00 14 13.8**	**+0.1**
	baz=257						
KUZ	**Kuaotunu**	**61.62**	**153**	P	**P**	**00 06 05.3**	**+1.5**
KUZ	**Kuaotunu**	**61.62**	**153**	P	**P**	**00 06 03.9**	**+0.1**
H21K	**Melozitna Rive**	**61.66**	**24**	IAmb	IAmb	00 06 06.5	
	comp=Z,261nm,1.1s						
H21K	**Melozitna Rive**	**61.66**	**24**	P	**P**	**00 06 04.2**	**+0.4**
	baz=251,SNR=291						
H21K				S	**S**	**00 14 17.5**	**+3.3**
	baz=251						
KURK	**Kurchatov**	**61.66**	**318**	P	**P**	**00 06 03.4**	**-0.7**
KURK	**Kurchatov**	**61.66**	**318**	P	**P**	**00 06 03.6**	**-0.5**
KURK				S	**S**	**00 14 12.1**	**-2.5**
KURK	**Kurchatov**	**61.66**	**318**	*c iP*	**P**	**00 06 03.7**	**-0.4**
KURK				pmax	pmax		
	comp=Z,305nm,0.8s						
KURK	**Kurchatov**	**61.66**	**318**	P	**P**	**00 06 03.9**	**-0.2**
KURK				PcP	**PcP**	**00 06 43.4**	**-0.7**
G21K	**Allakaket**	**61.68**	**23**	IAmb	IAmb	00 06 06.5	
	comp=Z,158nm,0.9s						
G21K	**Allakaket**	**61.68**	**23**	P	**P**	**00 06 04.3**	**+0.4**
	baz=250,SNR=199						
G21K				S	**S**	**00 14 17.1**	**+2.7**
	baz=250						
M22K	**Willow**	**61.68**	**29**	P	**P**	**00 06 04.0**	**0.0**
	baz=256,SNR=21						
M22K				S	**S**	**00 14 14.0**	**-0.5**
	baz=256						
MKAZ	**Moumakai**	**61.69**	**154**	P	**P**	**00 06 05.2**	**+0.9**
RC01	**Rabbit Creek A**	**61.70**	**30**	IAmb	IAmb	00 06 05.5	
	comp=Z,299nm,0.9s						
RC01	**Rabbit Creek A**	**61.70**	**30**	P	**P**	**00 06 04.1**	**0.0**
	baz=256,SNR=140						
RC01				S	**S**	**00 14 13.8**	**-1.0**
	baz=256						
KURBB	**Kurchatov Arra**	**61.71**	**318**	P	**P**	**00 06 03.4**	**-1.0**
	comp=Z,414nm,0.7s,baz=97,slow=7.5,SNR=1051						
KURBB				S	**S**	**00 14 14.6**	**-0.7**
	comp=Z,8.8nm,1.0s,baz=94,slow=12,SNR=8.1						
KURBB				PKPPKP	P'P'df	00 35 07.2	-8.3
	comp=Z,2.8nm,0.9s,baz=249,slow=3.7,SNR=9.7						
KURBB				LR	LR	00 35 12.3	
	comp=Z,302nm,18.6s,baz=151,slow=38						
KURBB				PKP2bc		00 35 20.3	
	comp=Z,11nm,1.1s,baz=270,slow=2.5,SNR=13						
	comp=Z,414nm,0.7s						
CUT	**Chulitna**	**61.78**	**28**	IAmb	IAmb	00 06 38.1	
	comp=Z,307nm,1.0s						
CUT	**Chulitna**	**61.78**	**28**	P	**P**	**00 06 04.7**	**+0.1**
	baz=255,SNR=13						
CUT				S	**S**	**00 14 14.9**	**-0.8**
	baz=255						
B20K	**Meade River**	**61.78**	**19**	P	**P**	**00 06 05.0**	**+0.6**
	baz=244,SNR=95						
B20K				S	**S**	**00 14 16.8**	**+1.3**
	baz=244						
TARG	**Taragay, Kyrgy**	**61.81**	**308**	P	**P**	**00 06 06.3**	**+0.6**
TARG	**Taragay, Kyrgy**	**61.81**	**308**	P	**P**	**00 06 06.3**	**+0.6**
TARG				pmax	pmax		
	comp=Z,100nm,1.0s						
BPAW	**Bear Paw Mtn.**	**61.92**	**26**	P	**P**	**00 06 05.7**	**+0.1**
	baz=254,SNR=560						
BPAW				S	**S**	**00 14 19.0**	**+1.4**
	baz=254						
F21K	**Alatna River**	**61.93**	**23**	P	**P**	**00 06 05.9**	**+0.3**
	baz=250,SNR=123						
F21K				S	**S**	**00 14 20.1**	**+2.5**
	baz=250						
NRIK	**Noril'sk**	**61.98**	**340**	P	**P**	**00 06 05.4**	**-0.5**
NRIK	**Noril'sk**	**61.98**	**340**	P	**P**	**00 06 05.7**	**-0.2**
	comp=Z,623nm,0.8s,baz=109,slow=8.2,SNR=530						
NRIK				S	**S**	**00 14 18.1**	**0.0**
	comp=Z,17nm,1.0s,baz=221,slow=21,SNR=18						
NRIK				LR	LR	00 32 37.0	
	comp=Z,310nm,21.6s,baz=112,slow=35						
NRIK				PKPPKP	**P'P'df**	**00 35 12.5**	**-1.7**
	comp=Z,4.8nm,1.1s,baz=38,slow=5.6,SNR=3.5						
	comp=Z,623nm,0.8s						
NRIK	**Noril'sk**	**61.98**	**340**	*de*P	**P**	**00 06 05.7**	**-0.2**
NRIK				pmax	pmax		
	comp=Z,959nm,1.1s						
PMR	**Palmer**	**62.10**	**29**	P	**P**	**00 06 06.4**	**-0.4**
PMR	**Palmer**	**62.10**	**29**	IAmb	IAmb	00 06 08.1	
	comp=Z,334nm,1.1s						
PMR	**Palmer**	**62.10**	**29**	P	**P**	**00 06 06.9**	**+0.2**
	baz=257,SNR=65						
PMR				S	**S**	**00 14 18.6**	**-1.2**
	baz=257						
C21K	**Knifeblade Rid**	**62.19**	**20**	P	**P**	**00 06 08.0**	**+0.7**
	baz=247,SNR=146						
C21K				S	**S**	**00 14 22.4**	**+1.6**
	baz=247						
E21K	**Kilik River**	**62.20**	**21**	P	**P**	**00 06 07.9**	**+0.5**
	baz=248						
E21K				S	**S**	**00 14 21.6**	**+0.7**
	baz=248						
GHO	**Glory Hole Cre**	**62.24**	**29**	IAmb	IAmb	00 06 09.3	
	comp=Z,236nm,0.9s						
MLY	**Manley**	**62.29**	**25**	P	**P**	**00 06 08.3**	**+0.3**
MLY				IAmb	IAmb	00 06 10.4	
	comp=Z,269nm,0.9s						
MLY	**Manley**	**62.29**	**25**	P	**P**	**00 06 08.5**	**+0.4**
	baz=253,SNR=319						
MLY				S	**S**	**00 14 24.0**	**+1.8**
	baz=253						
H22K	**Ishtalitna Cre**	**62.29**	**24**	P	**P**	**00 06 08.6**	**+0.6**
	baz=252,SNR=84						
H22K				S	**S**	**00 14 24.3**	**+2.1**
	baz=252						
PWL	**Port Wells**	**62.31**	**30**	P	**P**	**00 06 08.6**	**+0.3**
	baz=258,SNR=352						
PWL				S	**S**	**00 14 23.4**	**+0.8**
	baz=258						
TOZ	**Tahuroa Road**	**62.36**	**154**	IAmb	IAmb	00 06 11.3	
	comp=Z,171nm,1.0s						
TOZ	**Tahuroa Road**	**62.36**	**154**	P	**P**	**00 06 09.4**	**+0.6**
MDOK	**Medeo**	**62.37**	**310**	*eP*	**P**	**00 06 08.6**	**-0.5**
	baz=310						
MDOK				*eS*	**S**	**00 14 26.0**	**+1.8**
	baz=310						
MDOK	**Medeo**	**62.37**	**310**	*eP*	**P**	**00 06 08.6**	**-0.5**
MDOK				*eS*	**S**	**00 14 26.0**	**+1.8**
KNK	**Knik Glacier**	**62.37**	**30**	P	**P**	**00 06 08.8**	**+0.1**
	baz=257,SNR=94						
KNK				S	**S**	**00 14 23.3**	**-0.1**
	baz=257						
CHKK	**Chushkaly**	**62.42**	**310**	*eP*	**P**	**00 06 09.4**	**+0.1**
	baz=310						
CHKK	**Chushkaly**	**62.42**	**310**	*eP*	**P**	**00 06 09.4**	**+0.1**
B21K	**Ikpikpuk River**	**62.43**	**20**	IAmb	IAmb	00 06 11.3	
	comp=Z,214nm,0.9s						
B21K	**Ikpikpuk River**	**62.43**	**20**	P	**P**	**00 06 09.7**	**+0.9**
	baz=247,SNR=59						
B21K				S	**S**	**00 14 25.2**	**+1.6**
	baz=247						
TNSS	**Tian-Shan**	**62.44**	**309**	*eP*	**P**	**00 06 09.4**	**-0.6**
	baz=309						
TNSS	**Tian-Shan**	**62.44**	**309**	*eP*	**P**	**00 06 09.3**	**-0.6**
AAA	**Alma-Ata**	**62.47**	**310**	*eP*	**P**	**00 06 09.3**	**-0.4**
	comp=Z,156nm,0.8s,baz=310						
AAA	**Alma-Ata**	**62.47**	**310**	*eP*	**P**	**00 06 09.3**	**-0.4**
AAA				pmax	pmax		
	comp=Z,156nm,0.8s						
F22K	**John River**	**62.50**	**22**	P	**P**	**00 06 10.1**	**+0.7**
	baz=251						
F22K				S	**S**	**00 14 27.3**	**+2.5**
	baz=251						
A21K	**Barrow**	**62.51**	**18**	P	**P**	**00 06 10.4**	**+1.0**
	baz=244						
A21K				S	**S**	**00 14 26.1**	**+1.4**
	baz=244						
SML	**Sawmill**	**62.52**	**29**	P	**P**	**00 06 10.0**	**+0.3**
	baz=257,SNR=442						
SML				S	**S**	**00 14 24.8**	**-0.4**
	baz=257						
G22K	**Bettles**	**62.56**	**23**	P	**P**	**00 06 10.5**	**+0.8**
	baz=252						
G22K				S	**S**	**00 14 28.2**	**+2.8**
	baz=252						
P23K	**Montague Islan**	**62.59**	**31**	P	**P**	**00 06 10.9**	**+0.8**
	baz=259,SNR=84						
P23K				S	**S**	**00 14 28.6**	**+2.6**
	baz=259						
KMRZ	**Kaimai**	**62.64**	**154**	P	**P**	**00 06 12.4**	**+1.7**
WAT1	**Susitna Watana**	**62.65**	**28**	P	**P**	**00 06 11.0**	**+0.5**
	baz=257						
WAT1				S	**S**	**00 14 26.7**	**-0.1**
	baz=257						
RND	**Reindeer**	**62.66**	**27**	IAmb	IAmb	00 06 12.4	
	comp=Z,196nm,0.8s						
MCK	**McKinley**	**62.70**	**27**	P	**P**	**00 06 10.9**	**+0.1**
	baz=256,SNR=70						
MCK				S	**S**	**00 14 27.0**	**-0.3**
	baz=256						
HIZ	**Hauiti**	**62.76**	**155**	P	**P**	**00 06 12.7**	**+1.3**
D22K	**Ayikyak River**	**62.79**	**21**	P	**P**	**00 06 12.1**	**+0.8**
	baz=250,SNR=294						
D22K				S	**S**	**00 14 29.2**	**+0.9**
	baz=250						
M23K	**Glacier View**	**62.80**	**29**	P	**P**	**00 06 11.7**	**+0.3**
	baz=258,SNR=57						
M23K				S	**S**	**00 14 29.4**	**+0.8**
	baz=258						
E22K	**Anaktuvuk Pass**	**62.84**	**22**	IAmb	IAmb	00 06 14.3	
	comp=Z,259nm,0.8s						
E22K	**Anaktuvuk Pass**	**62.84**	**22**	P	**P**	**00 06 12.1**	**+0.4**
	baz=251						
E22K				S	**S**	**00 14 30.5**	**+1.5**
	baz=251						
NEA2	**Nenana**	**62.86**	**26**	IAmb	IAmb	00 06 14.5	
	comp=Z,206nm,1.0s						
NEA2	**Nenana**	**62.86**	**26**	P	**P**	**00 06 11.9**	**+0.1**
	baz=255,SNR=156						
NEA2				S	**S**	**00 14 29.9**	**+0.6**
	baz=255						
A22K	**Sinclair Lake**	**62.86**	**18**	P	**P**	**00 06 12.3**	**+0.7**
	baz=246						
A22K				S	**S**	**00 14 31.2**	**+2.2**
	baz=246						
TLZ	**Tolley Road**	**62.88**	**154**	P	**P**	**00 06 13.3**	**+1.0**
I23K	**Minto, Yukon-K**	**62.88**	**25**	IAmb	IAmb	00 06 14.5	
	comp=Z,194nm,0.8s						
I23K	**Minto, Yukon-K**	**62.88**	**25**	P	**P**	**00 06 12.6**	**+0.7**
	baz=255,SNR=177						
I23K				S	**S**	**00 14 31.3**	**+1.9**
	baz=255						
OPRZ	**Ohinepanea**	**62.90**	**153**	P	**P**	**00 06 13.6**	**+1.2**
GLI	**Glacier Island**	**62.91**	**30**	P	**P**	**00 06 12.7**	**+0.5**
	baz=259,SNR=137						
GLI				S	**S**	**00 14 31.0**	**+1.0**
	baz=259						
WAT6	**Susitna Watana**	**62.96**	**28**	P	**P**	**00 06 13.0**	**+0.3**
	baz=258,SNR=388						
WAT6				S	**S**	**00 14 30.8**	**-0.1**
	baz=258						
ULHL	**Ulahol**	**62.97**	**309**	P	**P**	**00 06 14.1**	**+0.9**
	SNR=60						
SCM	**Sheep Creek Mo**	**62.99**	**29**	P	**P**	**00 06 13.2**	**+0.4**
	baz=258,SNR=435						
SCM				S	**S**	**00 14 32.0**	**+0.9**
	baz=258	

baz=253,SNR=172
G23K S **S** **00 14 34.3 +2.6**
baz=253
B22K Teshekpuk Lake 63.08 19 P **P** **00 06 14.2 +1.1**
B22K IAmb IAmb 00 06 15.4
comp=Z,215nm,0.8s
B22K Teshekpuk Lake 63.08 19 P **P** **00 06 14.1 +1.0**
baz=248,SNR=14
B22K S **S** **00 14 33.4 +1.7**
baz=248
KHEZ Kahui Hut 63.10 156 P **P** **00 06 16.0 +2.3**
NEZ North Egmont 63.11 156 P **P** **00 06 15.6 +1.7**
COLD Coldfoot 63.14 23 P **P** **00 06 14.2 +0.6**
baz=253,SNR=151
COLD S **S** **00 14 36.1 +3.5**
baz=253
NRN Naryn 63.16 308 P **P** **00 06 15.0 +0.3**
NRN Naryn 63.16 308 P **P** **00 06 15.0 +0.3**
NRN pmax pmax
comp=Z,74nm,1.0s
BOOM Boomskoye usch 63.19 309 IAmb IAmb 00 06 16.8
comp=Z,100nm,0.6s
DHY Denali Highway 63.23 28 IAmb IAmb 00 06 16.3
comp=Z,244nm,1.2s
DHY Denali Highway 63.23 28 P **P** **00 06 14.9 +0.4**
baz=258,SNR=139
DHY S **S** **00 14 34.6 +0.4**
baz=258
WRH Wood River Hil 63.24 26 IAmb IAmb 00 06 15.5
comp=Z,188nm,0.9s
VRZ Vera Road 63.24 155 P **P** **00 06 15.8 +1.2**
KSH Kashi 63.25 306 P **P** **00 06 18.3 +3.3**
KSH PcP **pwP** **00 06 57.8 +4.3**
KSH S **S** **00 14 42.1 +6.9**
KSH pmax pmax
comp=Z,82nm,1.3s
KSH LR LR
comp=Z,300nm,12.4s
KSH LR LR
comp=Z,580nm,16.1s
KSH LR LR
comp=Z,800nm,16.1s
MDM Murphy Dome 63.30 26 IAmb IAmb 00 06 17.0
comp=Z,158nm,0.7s
HAZ Te Kaha 63.37 152 P **P** **00 06 14.6 -0.8**
COLA College 63.44 26 P **P** **00 06 15.9 +0.4**
COLA College 63.44 26 P **P** **00 06 15.9 +0.4**
COLA College 63.44 26 P **P** **00 06 15.6 0.0**
baz=256
COLA S **S** **00 14 37.0 +0.7**
baz=256
COLA College 63.44 26*d* *i*P **P** **00 06 15.2 -0.3**
COLA pmax pmax
comp=Z,114nm,0.9s
COLA College 63.44 26 P **P** **00 06 15.5 0.0**
COLA pP **pP** **00 06 49.2 -0.6**
COLA sP **sP** **00 07 04.7 -1.0**
RATZ Rangitukua 63.44 154 P **P** **00 06 18.1 +2.2**
TKM2 Tokmak 2 63.44 309 P **P** **00 06 17.1 +0.9**
SNR=180
TKM2 Tokmak 2 63.44 309 P **P** **00 06 16.4 +0.1**
MXZ Matakaoa Point 63.44 152 P **P** **00 06 14.4 -1.5**
MXZ Matakaoa Point 63.44 152 IAmb IAmb 00 06 16.2
comp=Z,189nm,0.9s
MXZ Matakaoa Point 63.44 152 P **P** **00 06 15.0 -0.9**
TWVZ Taurewa 63.47 155 P **P** **00 06 18.0 +1.8**
URZ Urewera 63.49 153 P **P** **00 06 15.5 -0.7**
URZ Urewera 63.49 153 LR LR 00 30 07.8
comp=Z,238nm,21.7s,baz=36,slow=32
URZ Urewera 63.49 153 P **P** **00 06 15.5 -0.7**
RUGZ Raukumara Rang 63.49 152 P **P** **00 06 15.7 -0.7**
KATZ Kakaramea 63.50 154 P **P** **00 06 18.0 +1.6**
EYAK Cordova Ski Ar 63.50 31 P **P** **00 06 16.4 +0.3**
EYAK Cordova Ski Ar 63.50 31 P **P** **00 06 17.2 +1.2**
baz=260,SNR=65
EYAK S **S** **00 14 39.5 +2.2**
baz=260
D23K Nanushuk River 63.51 21 P **P** **00 06 16.8 +0.8**
baz=252
D23K S **S** **00 14 39.6 +2.4**
baz=252
WTVZ West Tongariro 63.57 155 P **P** **00 06 17.9 +1.0**
KRVZ Karewarewa 63.58 155 P **P** **00 06 18.1 +1.2**
M24K Tolsona, Glenn 63.58 29 P **P** **00 06 16.8 +0.2**
M24K IAmb IAmb 00 06 54.1
comp=Z,293nm,0.9s
M24K Tolsona, Glenn 63.58 29 P **P** **00 06 17.4 +0.7**
baz=259,SNR=40
M24K S **S** **00 14 41.1 +2.7**
baz=259
KLU Klutina 63.58 30 IAmb IAmb 00 06 19.0
comp=Z,312nm,1.0s
KLU Klutina 63.58 30 P **P** **00 06 17.3 +0.6**
baz=260,SNR=225
KLU S **S** **00 14 40.3 +1.8**
baz=260
PKGZ Pakihiroa 63.59 152 P **P** **00 06 16.2 -0.7**
NTVZ North Tongarir 63.59 154 P **P** **00 06 18.6 +1.5**
NNVZ North Ngauruho 63.60 155 P **P** **00 06 18.2 +1.0**
E23K Chandalar 63.60 22 P **P** **00 06 17.6 +0.9**
baz=253,SNR=334
E23K S **S** **00 14 41.2 +2.7**
baz=253
TMVZ Te Maari 63.62 154 P **P** **00 06 18.6 +1.4**
COVZ Chateau Observ 63.62 155 P **P** **00 06 18.2 +1.0**
NGZ Ngauruhoe 63.63 155 P **P** **00 06 18.4 +1.1**
OTVZ Oturere 63.64 155 P **P** **00 06 18.8 +1.4**
SNVZ South Ngauruho 63.65 155 P **P** **00 06 18.4 +0.9**
H24K Noodor Dome 63.66 25 IAmb IAmb 00 06 20.6
comp=Z,400nm,1.8s
H24K Noodor Dome 63.66 25 P **P** **00 06 17.2 +0.1**
baz=256,SNR=168
H24K S **S** **00 14 41.6 +2.4**
baz=256
POKR Poker Plat Res 63.66 26 P **P** **00 06 17.1 0.0**
baz=256,SNR=48
POKR S **S** **00 14 38.5 -0.7**
baz=256
MRHZ Matea Rd 63.68 154 P **P** **00 06 17.5 0.0**
MAVZ Matarangi 63.69 155 P **P** **00 06 18.6 +0.7**
WMGZ Waiomatatini S 63.70 152 P **P** **00 06 16.8 -0.8**
HDA Harding Lake 63.71 27 P **P** **00 06 17.0 -0.3**
baz=257,SNR=98
HDA S **S** **00 14 39.1 -0.7**
baz=257
HDA S **S** **00 14 39.1 -0.7**
baz=257
TRVZ Turoa 63.71 155 P **P** **00 06 18.8 +0.8**
WHVZ Whangaehu Hut 63.71 155 P **P** **00 06 18.7 +0.7**
RTZ Ruatahuna 63.73 153 P **P** **00 06 17.5 -0.4**
MWZ Matawai 63.73 153 P **P** **00 06 17.4 -0.5**
WNVZ Wahianoa 63.76 155 P **P** **00 06 19.5 +1.3**
TOLK Toolik Lake Re 63.79 22 IAmb IAmb 00 06 20.6
comp=Z,216nm,0.8s
TOLK Toolik Lake Re 63.79 22 P **P** **00 06 18.6 +0.7**
baz=253,SNR=280
TOLK S **S** **00 14 42.7 +2.0**
baz=253
HYB Hyderabad 63.79 281 *e*P **P** **00 06 19.9 +1.1**
HYB IVmB_BB 00 06 21.8
comp=Z,1μm,0.8s
HYB *e*PcP **PcP** **00 06 54.2 +0.7**
HYB *e* 00 06 57.3
TWGZ Tauwhareparae 63.80 152 P **P** **00 06 17.2 -1.2**
C23K Itkillik River 63.81 20 P **P** **00 06 18.6 +0.7**
baz=251,SNR=211
C23K S **S** **00 14 42.9 +2.0**
baz=251
IL31 63.81 26 IAmb IAmb 00 06 18.7
comp=Z,255nm,1.0s
ILAR Eielson Array 63.81 26 P **P** **00 06 16.6 -1.4**
comp=Z,124nm,0.8s,baz=255,slow=4.6,SNR=570
ILAR pP **PcP** **00 06 53.2 +0.6**
comp=Z,56nm,0.7s,baz=263,slow=4.9,SNR=5.1
ILAR S **S** **00 14 42.5 +1.4**
comp=Z,1.0nm,1.0s,baz=258,slow=12,SNR=2.2
ILAR LR LR 00 33 33.9
comp=Z,225nm,19.5s,baz=264,slow=35
ILAR PKPPKP **P'P'df** **00 35 09.7 -1.7**
comp=Z,0.5nm,0.4s,baz=296,slow=12,SNR=9.3
comp=Z,124nm,0.8s
RAGZ Rawiri 63.82 153 P **P** **00 06 18.1 -0.4**
PUZ Puketiti 63.84 152 P **P** **00 06 17.8 -0.7**
MTHZ Maungataniwha 63.87 153 P **P** **00 06 18.7 -0.1**
QRZ Quartz Range 63.88 158 P **P** **00 06 19.3 +0.6**

QRZ Quartz Range 63.88 158 P **P** **00 06 19.8 +1.1**
MOVZ Moawhango 63.89 155 P **P** **00 06 19.0 +0.1**
KBK Karagaybulak 63.92 309 P **P** **00 06 20.2 +0.8**
SNR=60
TKGZ Te Karaka 63.96 152 P **P** **00 06 19.1 -0.2**
BKZ Black Stump Fm 63.99 154 P **P** **00 06 19.1 -0.5**
BKZ Black Stump Fm 63.99 154 P **P** **00 06 18.9 -0.6**
BKZ IAmb IAmb 00 06 20.5
comp=Z,245nm,0.9s
BKZ Black Stump Fm 63.99 154 P **P** **00 06 18.8 -0.7**
E24K Your Creek 64.01 22 IAmb IAmb 00 06 22.1
comp=Z,187nm,0.8s
E24K Your Creek 64.01 22 P **P** **00 06 20.0 +0.6**
baz=254,SNR=328
E24K S **S** **00 14 46.8 +3.2**
baz=254
SNGZ Shannon Statio 64.02 153 P **P** **00 06 20.0 +0.2**
G24K Hadweenzic Riv 64.03 24 IAmb IAmb 00 06 22.1
comp=Z,189nm,0.9s
G24K Hadweenzic Riv 64.03 24 P **P** **00 06 19.9 +0.5**
baz=256,SNR=189
G24K S **S** **00 14 46.6 +2.9**
baz=256
CHMS Chumysh 64.05 309 P **P** **00 06 20.6 +0.5**
SNR=42
NMHZ Naumai 64.06 154 P **P** **00 06 19.7 -0.4**
PAX Paxson 64.06 28 P **P** **00 06 20.2 +0.3**
baz=259,SNR=299
PAX S **S** **00 14 44.2 -0.2**
baz=259
KAIM Kayak Island 64.06 32 P **P** **00 06 20.3 +0.6**
baz=262
KAIM S **S** **00 14 48.6 +4.4**
baz=262
F24K Squaw Lake 64.08 23 IAmb IAmb 00 06 22.7
comp=Z,143nm,0.8s
F24K Squaw Lake 64.08 23 P **P** **00 06 20.5 +0.6**
baz=255,SNR=141
F24K S **S** **00 14 47.2 +2.8**
baz=255
K24K Donnelly Dome 64.08 27 P **P** **00 06 20.3 +0.4**
baz=259,SNR=51
K24K S **S** **00 14 44.4 -0.1**
baz=259
HARP HAARP 64.10 29 P **P** **00 06 20.8 +0.8**
baz=260,SNR=136
HARP S **S** **00 14 45.8 +1.0**
baz=260
BMRM Bremner River 64.12 31 P **P** **00 06 21.1 +0.8**
baz=261,SNR=230
BMRM S **S** **00 14 47.0 +1.8**
baz=261
SGDS Sogindy 64.13 310 *e*P **P** **00 06 20.2 -0.4**
baz=310
SGDS Sogindy 64.13 310 *e*P **P** **00 06 20.2 -0.4**
RIGZ Rimuhau 64.14 153 P **P** **00 06 20.9 +0.4**
FRU1 Bishkek 64.15 309 P **P** **00 06 22.1 +1.3**
FRU1 Bishkek 64.15 309 P **P** **00 06 22.1 +1.3**
FRU1 pmax pmax
comp=Z,95nm,0.6s
CNGZ Carnagh Statio 64.16 152 P **P** **00 06 20.4 -0.2**
KWHZ Kaweka Forest 64.18 154 P **P** **00 06 21.0 +0.2**
D24K Happy Valley 64.20 21 P **P** **00 06 21.4 +0.9**
baz=253,SNR=302
D24K S **S** **00 14 48.5 +2.8**
baz=253
N25K Chitina, Valde 64.23 30 IAmb IAmb 00 06 23.4
comp=Z,176nm,0.8s
N25K Chitina, Valde 64.23 30 P **P** **00 06 21.3 +0.4**
baz=261,SNR=204
N25K S **S** **00 14 47.9 +1.4**
baz=261
USP Ospenovka 64.23 310 P **P** **00 06 21.3 0.0**
SNR=99
UCH Uchtor 64.25 309 P **P** **00 06 22.9 +1.0**
SNR=204
AAK Ala-Archa 64.25 309 P **P** **00 06 21.6 0.0**
SNR=19
AAK Ala-Archa 64.25 309 P **P** **00 06 22.2 +0.7**
AAK Ala-Archa 64.25 309 *i* P **P** **00 06 22.0 +0.4**
SNR=13
AAK Ala-Archa 64.25 309 P **P** **00 06 22.0 +0.4**
AAK P **P** **00 06 22.0 +0.4**
AAK S **S** **00 14 48.4 +0.9**
AAK S **S** **00 14 48.4 +0.9**
AAK Ala-Archa 64.25 309*c* *i*P **P** **00 06 21.7 +0.1**
AAK pmax pmax
comp=Z,93nm,1.3s
AAK Ala-Archa 64.25 309 P **P** **00 06 22.0 +0.4**
AAK pP **pP** **00 06 55.6 -0.4**
ARHZ Aropaoanui 64.28 154 P **P** **00 06 21.2 -0.2**
PALK Pallekele 64.29 269 P **P** **00 06 24.8 +2.7**
PALK Pallekele 64.29 269⇓ *e*P **P** **00 06 20.7 -1.4**
PALK pmax pmax
comp=Z,142nm,2.3s
PALK Pallekele 64.29 269 P **P** **00 06 25.9 +3.8**
PALK pP **pwP** **00 06 60.0 -1.4**
KRHZ Kereru 64.34 154 P **P** **00 06 21.2 -0.6**
KNZ Kokohu 64.37 153 P **P** **00 06 21.7 -0.2**
DUWZ D'Urville Isla 64.37 157 P **P** **00 06 20.8 -1.2**
PRGZ Paritu Road 64.38 153 P **P** **00 06 22.4 +0.4**
SUCK Suckling Hills 64.40 32 P **P** **00 06 23.0 +1.1**
C24K Franklin Bluff 64.41 21 P **P** **00 06 23.1 +1.3**
baz=253
C24K S **S** **00 14 50.4 +2.2**
baz=253
ARLS Aral 64.41 308 P **P** **00 06 23.7 +1.1**
J25K Salcha River, 64.42 26 P **P** **00 06 21.5 -0.6**
baz=259,SNR=159
J25K S **S** **00 14 46.5 -2.1**
baz=259
PNHZ Pukenui 64.50 155 P **P** **00 06 22.4 -0.5**
BTLS Baital 64.52 312⇑ *i*P **P** **00 06 23.3 +0.3**
baz=312
BTLS Baital 64.52 312*c* *i*P **P** **00 06 23.3 +0.3**
TSZ Takapari Road 64.52 155 P **P** **00 06 22.5 -0.5**
NNZ Nelson 64.53 157 IAmb IAmb 00 06 25.1
comp=Z,425nm,1.3s
PRP Porcupine Dome 64.54 25 P **P** **00 06 21.9 -1.0**
baz=258,SNR=35
PRP S **S** **00 14 48.6 -1.6**
baz=258
G25K Bearman Lake 64.58 24 P **P** **00 06 23.8 +0.8**
baz=257,SNR=46
G25K S **S** **00 14 53.8 +3.5**
baz=257
H25L Birch Creek 64.58 25 P **P** **00 06 23.8 +0.9**
baz=258,SNR=98
H25L S **S** **00 14 54.6 +4.2**
baz=258
MHGZ Mahia Peninsul 64.58 153 P **P** **00 06 23.2 -0.2**
CKHZ Cape Kidnapper 64.65 154 P **P** **00 06 24.2 +0.5**
BGLC Bering Glacier 64.65 32 P **P** **00 06 25.7 +2.2**
baz=263,SNR=7.6
BGLC S **S** **00 14 55.6 +4.1**
baz=263
KAHZ Kahuranaki 64.68 154 P **P** **00 06 24.1 +0.1**
VRDI Verde Repeater 64.72 30 IAmb IAmb 00 06 26.3
comp=Z,300nm,0.9s
WPHZ Waipukurau 64.72 154 P **P** **00 06 23.8 -0.5**
POWZ Post Office Ro 64.73 155 P **P** **00 06 25.5 +1.2**
EKS2 Erkin-Say 64.78 309 P **P** **00 06 25.6 +0.6**
SNR=48
DVHZ Dannevirke 64.81 155 P **P** **00 06 25.3 +0.4**
CRQE Cirque 64.83 31 P **P** **00 06 25.2 +0.3**
baz=263,SNR=105
OGWZ Otaki Gorge 64.86 156 P **P** **00 06 24.9 -0.2**
AML Almayashu 64.86 309 P **P** **00 06 26.9 +1.1**
SNR=94
PXZ Pawanui 64.87 154 P **P** **00 06 24.7 -0.4**
MRZ Mangatainoka R 64.89 155 P **P** **00 06 24.7 -0.6**
MRZ IAmb IAmb 00 06 27.7
comp=Z,204nm,0.8s
MRZ Mangatainoka R 64.89 155 P **P** **00 06 24.4 -0.9**
SCRK Sand Creek 64.89 27 IAmb IAmb 00 06 27.0
comp=Z,333nm,1.1s
SCRK Sand Creek 64.89 27 P **P** **00 06 25.8 +0.5**
baz=260,SNR=341
SCRK S **S** **00 14 54.8 +0.2**
baz=260
TUWZ Tuamarina 64.92 157 P **P** **00 06 25.1 -0.4**
F25K Christian Rive 64.94 23 P **P** **00 06 26.2 +0.8**
baz=257,SNR=452
F25K S **S** **00 14 58.2 +3.3**
baz=257
MCARA McCarthy VSAT 64.94 30 P **P** **00 06 26.1 +0.6**

baz=262,SNR=145
MCARA S **S** **00 14 56.7 +1.6**
baz=262
PRWZ Pori Road 64.95 155 P **P** **00 06 25.8 +0.1**
TGL Tana Glacier 64.96 31 IAmb IAmb 00 06 28.0
comp=Z,331nm,1.0s
PRHZ Porangahau 64.97 154 P **P** **00 06 25.7 -0.2**
L26K Log Cabin Wild 65.03 28 IAmb IAmb 00 06 28.3
comp=Z,175nm,0.9s
L26K Log Cabin Wild 65.03 28 P **P** **00 06 26.5 +0.5**
baz=261,SNR=94
L26K S **S** **00 14 58.2 +2.2**
baz=261
HOWZ Holdsworth Sta 65.06 156 P **P** **00 06 26.7 +0.3**
ANWZ Angora Road 65.07 155 P **P** **00 06 26.2 -0.3**
D25K Kavik River 65.08 21 P **P** **00 06 26.9 +0.6**
baz=256,SNR=341
D25K S **S** **00 14 58.1 +1.5**
baz=256
M26K Nabesna, AK 65.09 29 P **P** **00 06 27.1 +0.6**
baz=262,SNR=94
M26K S **S** **00 14 58.2 +1.2**
baz=262
SNZO South Karori 65.11 156 P **P** **00 06 25.6 -1.0**
SNZO South Karori 65.11 156 P **P** **00 06 26.0 -0.6**
SNZO South Karori 65.11 156 P **P** **00 06 26.2 -0.4**
SNZO pP **pP** **00 07 00.2 -1.3**
BSWZ Blackbirch Sta 65.15 157 P **P** **00 06 27.2 +0.2**
J26L Joseph Creek 65.17 27 IAmb IAmb 00 06 28.7
comp=Z,326nm,0.9s
J26L Joseph Creek 65.17 27 P **P** **00 06 27.2 +0.3**
baz=260,SNR=221
J26L S **S** **00 14 57.8 0.0**
baz=260
BFZ Birch Farm 65.17 155 P **P** **00 06 26.5 -0.6**
BFZ Birch Farm 65.17 155 P **P** **00 06 26.6 -0.5**
ISLE Juniper Island 65.18 31 IAmb IAmb 00 06 29.4
comp=Z,434nm,1.3s
BHW Baring Head 65.25 156 IAmb IAmb 00 06 28.3
comp=Z,360nm,1.1s
MTW Mount Morrison 65.28 156 P **P** **00 06 27.7 -0.1**
CMWZ Cape Campbell 65.30 157 P **P** **00 06 27.5 -0.4**
BMAR Burnt Mountain 65.30 23 P **P** **00 06 28.7 +0.9**
MESA MESA 65.32 32 P **P** **00 06 28.4 +0.2**
baz=264,SNR=73
MESA S **S** **00 15 03.3 +3.1**
baz=264
CPWZ Castlepoint 65.34 155 P **P** **00 06 29.1 +0.9**
TMWZ Te Maipa 65.39 155 P **P** **00 06 27.7 -0.8**
MSWZ Moikau Station 65.40 156 P **P** **00 06 27.5 -1.1**
PAWZ Paruwai Farm 65.44 156 P **P** **00 06 28.8 -0.1**
I26K Coal Creek Min 65.47 26 P **P** **00 06 27.8 -1.0**
I26K Coal Creek Min 65.47 26 P **P** **00 06 28.5 -0.3**
baz=260
I26K S **S** **00 14 59.8 -1.5**
baz=260
G26K Porcupine Rive 65.51 24 P **P** **00 06 29.9 +0.9**
baz=259,SNR=180
G26K S **S** **00 15 05.0 +3.3**
baz=259
LTZ Lake Taylor 65.52 159 IAmb IAmb 00 06 30.9
comp=Z,142nm,0.8s
F26K Sheenjek River 65.52 23 P **P** **00 06 30.1 +0.9**
baz=258,SNR=428
F26K S **S** **00 15 05.0 +3.1**
baz=258
PLWZ Palliser 65.54 156 P **P** **00 06 28.1 -1.4**
TRWZ Traveller 65.56 156 P **P** **00 06 29.4 -0.3**
M27K Edge Creek, AK 65.61 29 IAmb IAmb 00 06 32.2
comp=Z,172nm,0.9s
M27K Edge Creek, AK 65.61 29 P **P** **00 06 30.2 +0.3**
baz=263,SNR=192
M27K S **S** **00 15 04.6 +1.2**
baz=263
KHZ Kahutara 65.64 158 P **P** **00 06 28.4 -1.6**
KHZ Kahutara 65.64 158 IAmb IAmb 00 06 30.1
comp=Z,256nm,1.1s
OHH Osh 65.64 307 P **P** **00 06 31.1 +0.7**
OTUK Ortayu 65.66 315 P **P** **00 06 30.7 +0.4**
CTG Chitna Glacier 65.70 31 P **P** **00 06 31.0 +0.4**
baz=264,SNR=116
CTG S **S** **00 15 06.0 +1.3**
baz=264
L27K Beaver Creek, 65.72 28 IAmb IAmb 00 06 32.7
comp=Z,171nm,0.9s
L27K Beaver Creek, 65.72 28 P **P** **00 06 31.2 +0.7**
baz=263,SNR=201
L27K S **S** **00 15 06.0 +1.5**
baz=263
C26K Camden Bay 65.73 21 P **P** **00 06 31.2 +0.9**
baz=257,SNR=389
C26K S **S** **00 15 07.7 +3.4**
baz=257
K27K Chicken 65.73 27 IAmb IAmb 00 06 33.2
comp=Z,183nm,1.1s
K27K Chicken 65.73 27 P **P** **00 06 30.9 +0.4**
baz=262
K27K S **S** **00 15 06.2 +1.6**
baz=262
BCAR Beaver Creek A 65.74 28 P **P** **00 06 30.7 +0.1**
LOGN Logan Glacier 65.85 31 IAmb IAmb 00 06 34.0
comp=Z,314nm,0.9s
NIL Nilore 65.89 299 P **P** **00 06 33.1 +1.0**
NIL Nilore 65.89 299 P **P** **00 06 32.1 0.0**
NIL Nilore 65.89 299 P **P** **00 06 33.1 +1.0**
NIL pmax pmax
comp=Z,333nm,0.9s
NIL Nilore 65.89 299 P **P** **00 06 33.1 +1.0**
NIL PcP **PcP** **00 07 02.9 +1.0**
NIL sP **sP** **00 07 24.2 +1.8**
OXZ Oxford 65.92 159 IAmb IAmb 00 06 32.2
comp=Z,269nm,0.9s
RPZ Rata Peaks 65.95 160 P **P** **00 06 30.6 -1.5**
RPZ Rata Peaks 65.95 160 P **P** **00 06 31.2 -0.8**
comp=Z,266nm,0.8s,baz=32,slow=2.2,SNR=51
comp=Z,266nm,0.8s
C27K Jago River 66.07 21 P **P** **00 06 32.9 +0.3**
baz=258,SNR=188
C27K S **S** **00 15 10.4 +1.9**
baz=258
RAR Rarotonga 66.13 124 P **P** **00 06 35.1 +1.4**
RAR IAmb IAmb 00 06 35.9
comp=Z,229nm,1.1s
RAR Rarotonga 66.13 124 LR LR 00 28 42.7
comp=Z,328nm,22.0s,baz=300,slow=30
RAR Rarotonga 66.13 124 P **P** **00 06 35.1 +1.4**
RAR pmax pmax
comp=Z,229nm,1.1s
RAR Rarotonga 66.13 124 P **P** **00 06 34.9 +1.2**
I27K Kandik River 66.15 26 P **P** **00 06 33.5 +0.3**
baz=262,SNR=98
I27K S **S** **00 15 10.1 +0.4**
baz=262
PINM Pinnacle 66.16 32 P **P** **00 06 34.1 +0.7**
baz=266,SNR=50
PINM S **S** **00 15 13.0 +3.0**
baz=266
ARK Arkit 66.17 308 P **P** **00 06 34.7 +0.8**
YUK3 Moose Creek 66.21 30 P **P** **00 06 34.1 +0.3**
baz=264,SNR=392
YUK3 S **S** **00 15 12.3 +1.4**
baz=264
EGAK Eagle 66.23 27 P **P** **00 06 34.2 +0.5**
baz=263,SNR=47
EGAK S **S** **00 15 11.7 +1.1**
baz=263
O28M Mount Upton 66.25 31 P **P** **00 06 34.6 +0.4**
baz=265,SNR=267
O28M S **S** **00 15 14.1 +2.6**
baz=265
H27K Steamboat Moun 66.28 25 P **P** **00 06 34.5 +0.4**
baz=262,SNR=419
H27K S **S** **00 15 13.0 +1.8**
baz=262
LBZ Lake Benmore 66.28 161 IAmb IAmb 00 06 35.1
comp=Z,219nm,1.0s
G27K Doyon Strip 66.31 24 P **P** **00 06 34.9 +0.6**
baz=261,SNR=95
G27K S **S** **00 15 14.8 +3.2**
baz=261
WKZ Wanaka 66.33 162 P **P** **00 06 34.8 +0.2**
DCZ Deep Cove 66.41 164 IAmb IAmb 00 06 36.0
comp=Z,237nm,0.9s
MQZ McQueen's Vall 66.46 159 IAmb IAmb 00 06 37.1
comp=Z,431nm,1.4s
YUK8 Steele Glacier 66.50 30 P **P** **00 06 36.2 +0.5**

baz=265,SNR=129
E27K Coleen River 66.56 23 P P 00 06 36.6 +0.8
baz=261,SNR=153
E27K S **S 00 15 16.3 +1.8**
baz=261
PNL Peninsula 66.56 32 P P 00 06 36.6 +0.7
PNL Peninsula 66.56 32 P P 00 06 36.5 +0.7
baz=266,SNR=39
PNL S **S 00 15 17.9 +3.1**
baz=266
MLZ Mavora Lakes 66.58 163 IAmb IAmb 00 06 37.2
comp=Z,233nm,1.0s
TRKS Terek-Say 66.81 308 P P 00 06 38.3 +0.3
I28M Miner Creek 66.83 26 P P 00 06 38.1 +0.5
baz=263,SNR=142
I28M S **S 00 15 17.8 -0.2**
baz=263
BVA0 Borovoye Array 66.87 320 *i* P **P 00 06 37.8 -0.1**
BVAR Borovoye Array 66.87 320 P P 00 06 37.3 -0.6
comp=Z,417nm,0.6s,baz=94,slow=7.2,SNR=1206
BVAR pP **pP 00 07 13.7 +0.4**
comp=Z,108nm,0.7s,baz=96,slow=7.4,SNR=2.8
BVAR S **S 00 15 20.4 +1.7**
comp=Z,15nm,0.8s,baz=87,slow=10,SNR=11
BVAR PKP2bc 00 35 08.1
comp=Z,22nm,1.1s,baz=259,slow=3.9,SNR=28
BVAR LR LR 00 35 24.5
comp=Z,160nm,18.1s,baz=139,slow=35
comp=Z,417nm,0.6s
DAWY Dawson 66.91 27 IAmb IAmb 00 06 40.5
comp=Z,189nm,0.9s
DAWY Dawson 66.91 27 P P 00 06 38.5 +0.4
baz=264,SNR=62
DAWY S **S 00 15 21.2 +2.2**
baz=264
BRVK Borovoye 66.93 321 P P 00 06 37.9 -0.5
BRVK IAmb IAmb 00 06 40.4
comp=Z,270nm,0.7s
BRVK Borovoye 66.93 321 P P 00 06 38.2 -0.1
BRVK P **P 00 06 38.2 -0.1**
BRVK S **S 00 15 18.4 -1.0**
BRVK S **S 00 15 18.4 -1.0**
BRVK Borovoye 66.93 321 *c iP* **P 00 06 38.2 -0.1**
BRVK pmax pmax
comp=Z,279nm,0.7s
BRVK Borovoye 66.93 321 P P 00 06 38.5 +0.2
BRVK pP **pP 00 07 13.7 0.0**
BRVK sP **sP 00 07 29.9 +0.2**
PYZ Puysegur Point 66.94 164 IAmb IAmb 00 06 40.0
comp=Z,199nm,0.9s
D27M Malcolm River 66.95 22 IAmb IAmb 00 06 41.2
comp=Z,180nm,0.8s
D27M Malcolm River 66.95 22 P P 00 06 39.1 +0.8
baz=261,SNR=64
D27M S **S 00 15 21.2 +1.9**
baz=261
O29M Mount Kennedy 67.01 32 P P 00 06 39.4 +0.5
O29M Mount Kennedy 67.01 32 P P 00 06 39.6 +0.7
baz=267,SNR=194
O29M S **S 00 15 24.4 +4.0**
baz=267
ODZ Otahua Downs 67.01 161 P P 00 06 38.8 0.0
ODZ Otahua Downs 67.01 161 IAmb IAmb 00 06 40.3
comp=Z,403nm,2.0s
YUK4 Talbot Arm 67.04 30 P P 00 06 40.2 +1.1
baz=266,SNR=415
YUK4 S **S 00 15 23.6 +2.7**
baz=266
F28M Old Crow 67.12 24 IAmb IAmb 00 06 41.8
comp=Z,185nm,0.9s
F28M Old Crow 67.12 24 P P 00 06 39.8 +0.5
baz=263,SNR=207
F28M S **S 00 15 23.8 +2.5**
baz=263
YUK6 Outpost Mounta 67.15 31 P P 00 06 40.2 +0.3
baz=267,SNR=178
YUK6 S **S 00 15 25.8 +3.5**
baz=267
KK31 Karatay Array 67.15 310 IAmb IAmb 00 06 42.9
comp=Z,193nm,0.8s
KK31 Karatay Array 67.15 310 *i* P **P 00 06 39.8 -0.2**
KKAR Karatay Array 67.15 310 P P 00 06 39.6 -0.4
KKAR Karatay Array 67.15 310 IAmb IAmb 00 06 42.9
comp=Z,192nm,0.8s
KKAR Karatay Array 67.15 310 P P 00 06 39.6 -0.4
BTK Batken 67.17 306 P P 00 06 40.4 +0.2
M29M Somme Creek 67.20 29 IAmb IAmb 00 06 42.9
comp=Z,341nm,0.8s
M29M Somme Creek 67.20 29 P P 00 06 40.6 +0.6
baz=266,SNR=488
M29M S **S 00 15 26.1 +3.5**
baz=266
E28M Babbage River 67.37 23 P P 00 06 41.5 +0.6
baz=262,SNR=145
E28M S **S 00 15 25.9 +1.7**
baz=262
L29M L29M 67.40 29 P P 00 06 41.7 +0.5
baz=266,SNR=503
L29M S **S 00 15 26.5 +1.8**
baz=266
P29M Windy Craggy 67.40 32 P P 00 06 41.9 +0.7
baz=268,SNR=149
P29M S **S 00 15 28.6 +3.8**
baz=268
J29N Klondike Camp 67.46 27 P P 00 06 42.3 +0.8
baz=265,SNR=21
J29N S **S 00 15 27.4 +2.0**
baz=265
I29M Ogilvie Camp, 67.50 26 P P 00 06 42.4 +0.7
baz=265,SNR=16
I29M S **S 00 15 26.9 +1.1**
baz=265
H29M Whitestone 67.55 25 P P 00 06 42.6 +0.6
baz=265,SNR=86
H29M S **S 00 15 27.8 +1.4**
baz=265
IUG Iuzhnay 67.58 309 *eP* **P 00 06 42.9 0.0**
comp=Z,118nm,1.1s,baz=309
IUG Iuzhnay 67.58 309 *eP* **P 00 06 42.8 0.0**
IUG pmax pmax
comp=Z,118nm,1.1s
BRLS Boroldey 67.65 310⇑ *i iP* **P 00 06 44.0 +0.9**
baz=309
BRLS Boroldey 67.65 310 *c iP* **P 00 06 44.0 +0.9**
GAR Garm 67.66 305 IAmb IAmb 00 06 45.0
comp=Z,456nm,1.4s
K29M Barlow Dome 67.72 28 IAmb IAmb 00 06 46.0
comp=Z,335nm,0.9s
K29M Barlow Dome 67.72 28 P P 00 06 44.0 +0.8
baz=266,SNR=467
K29M S **S 00 15 30.9 +2.2**
baz=266
D28M Stokes Point 67.75 22 P P 00 06 44.3 +1.2
baz=263
D28M S **S 00 15 30.6 +2.0**
baz=263
G29M Pine Creek 67.75 24 IAmb IAmb 00 06 46.0
comp=Z,248nm,0.9s
G29M Pine Creek 67.75 24 P P 00 06 44.1 +0.8
baz=265,SNR=202
G29M S **S 00 15 31.6 +2.8**
baz=265
N30M Aishikik Lake 67.79 30 IAmb IAmb 00 06 46.6
comp=Z,320nm,0.8s
N30M Aishikik Lake 67.79 30 P P 00 06 44.4 +0.8
baz=268,SNR=371
N30M S **S 00 15 32.4 +2.8**
baz=268
P30M Million Dollar 67.81 32 P P 00 06 44.7 +1.0
baz=268
P30M S **S 00 15 33.3 +3.5**
baz=268
CHM Chimkent 67.88 309 *eP* **P 00 06 44.5 0.0**
comp=Z,76nm,0.7s,baz=309
CHM Chimkent 67.88 309 *eP* **P 00 06 44.5 0.0**
CHM pmax pmax
comp=Z,76nm,0.7s
SYZ Scrubby Hill 67.93 163 P P 00 06 44.7 +0.2
E29M Blow River 67.95 23 P P 00 06 45.2 +0.8
baz=264,SNR=96
E29M S **S 00 15 32.3 +1.3**
baz=264
M30M Minto, Yukon 67.98 29 IAmb IAmb 00 06 47.5
comp=Z,210nm,1.1s
M30M Minto, Yukon 67.98 29 P P 00 06 45.7 +0.9
baz=268
M30M S **S 00 15 34.8 +3.1**
baz=268
PLBC Pleasant Camp 68.09 33 P P 00 06 46.2 +0.7
baz=269,SNR=166
PLBC S **S 00 15 37.4 +4.3**
baz=269
S31K Pelican 68.15 34 P P 00 06 46.4 +0.6
baz=270,SNR=17
S31K S **S 00 15 37.7 +4.0**
baz=270
EPYK Eagle Plains 68.23 25 IAmb IAmb 00 06 48.4
comp=Z,176nm,0.8s
EPYK Eagle Plains 68.23 25 P P 00 06 46.9 +0.7
baz=266,SNR=110
EPYK S **S 00 15 35.9 +1.4**
baz=266
O30N Mendenhall 68.25 31 P P 00 06 47.4 +0.9
baz=269,SNR=78
O30N S **S 00 15 37.3 +2.3**
baz=269
J30M Hart River 68.28 27 P P 00 06 47.5 +0.8
baz=267,SNR=156
J30M S **S 00 15 36.2 +0.8**
baz=267
I30M Mount Dempster 68.29 26 P P 00 06 47.6 +0.8
baz=267,SNR=107
I30M S **S 00 15 36.0 +0.5**
baz=267
R31K City Hall, Gus 68.41 34 P P 00 06 48.5 +1.0
baz=270
N31M Braeburn, Yuko 68.42 30 P P 00 06 48.9 +1.3
baz=269,SNR=231
N31M S **S 00 15 40.2 +3.2**
baz=269
MAYO Mayo, Yukon 68.43 28 P P 00 06 49.3 +1.8
baz=268,SNR=14
MAYO S **S 00 15 40.2 +3.3**
baz=268
G30M tAoh Zraii Nji 68.46 24 IAmb IAmb 00 06 49.8
comp=Z,223nm,1.1s
G30M tAoh Zraii Nji 68.46 24 P P 00 06 48.6 +0.8
baz=266,SNR=72
G30M S **S 00 15 38.4 +1.1**
baz=266
IGR Igron 68.53 305 P P 00 06 49.5 +0.9
CHGR Chuyangaron 68.60 305 P P 00 06 49.6 +0.4
SKAG Skagway 68.62 33 IAmb IAmb 00 06 51.6
comp=Z,258nm,1.0s
SKAG Skagway 68.62 33 P P 00 06 50.3 +1.6
baz=270,SNR=27
SKAG S **S 00 15 43.0 +3.7**
baz=270
SIT Sitka 68.65 35 P P 00 06 50.1 +1.1
baz=271,SNR=12
SIT S **S 00 15 45.0 +5.4**
baz=271
F30M Barrier River 68.67 24 P P 00 06 50.2 +1.2
baz=266,SNR=169
F30M S **S 00 15 41.2 +1.6**
baz=266
SIMJ Simiganj 68.72 305 P P 00 06 50.2 +0.2
SIMJ Simiganj 68.72 305 P P 00 06 50.1 +0.1
SIMJ PcP **PcP 00 07 14.5 +0.8**
SIMJ pP **pP 00 07 25.6 +0.7**
WHY Whitehorse 68.85 31 IAmb IAmb 00 06 53.2
comp=Z,326nm,1.1s
S32K Killisnoo 69.04 35 P P 00 06 52.8 +1.4
baz=271,SNR=38
S32K S **S 00 15 46.1 +1.9**
baz=271
R32K Eaglecrest 69.06 34 P P 00 06 53.0 +1.4
baz=271,SNR=20
M31M Drury Creek, Y 69.09 30 IAmb IAmb 00 06 54.0
comp=Z,221nm,0.9s
M31M Drury Creek, Y 69.09 30 P P 00 06 52.7 +1.1
baz=270,SNR=22
M31M S **S 00 15 46.4 +1.6**
baz=270
JIS Juneau Island 69.13 34 P P 00 06 52.6 +0.7
JIS Juneau Island 69.13 34 IAmb IAmb 00 06 54.7
comp=Z,389nm,1.2s
G31M Satah River 69.23 25 IAmb IAmb 00 06 54.4
comp=Z,333nm,0.8s
G31M Satah River 69.23 25 P P 00 06 52.9 +0.5
baz=268,SNR=167
G31M S **S 00 15 46.5 +0.3**
baz=268
KBL Kabul 69.24 301 P P 00 06 53.5 +0.2
KBL IAmb IAmb 00 06 55.6
comp=Z,259nm,1.1s
KBL Kabul 69.24 301 P P 00 06 53.4 +0.1
SNR=84
KBL S **S 00 15 48.2 +0.3**
KBL Kabul 69.24 301 P P 00 06 53.5 +0.1
KBL pmax pmax
comp=Z,259nm,1.2s
P32M Atlin 69.44 32 IAmb IAmb 00 06 56.6
comp=Z,273nm,0.9s
P32M Atlin 69.44 32 P P 00 06 54.9 +1.0
baz=271,SNR=150
P32M S **S 00 15 52.5 +3.4**
baz=271
F31M Tsiigehtchic 69.45 24 P P 00 06 54.3 +0.5
baz=268,SNR=40
F31M S **S 00 15 48.1 -0.6**
baz=268
INK Inuvik 69.56 23 IAmb IAmb 00 06 56.1
comp=Z,227nm,0.8s
INK Inuvik 69.56 23 P P 00 06 54.9 +0.6
baz=268,SNR=119
INK S **S 00 15 49.3 -0.7**
baz=268
INK Inuvik 69.56 23 LR LR 00 39 26.7
comp=Z,154nm,18.8s,baz=187,slow=37
FARO Faro, Yukon 69.58 30 P P 00 06 55.9 +1.2
baz=271,SNR=81
FARO S **S 00 15 52.2 +1.7**
baz=271
N32M Quiet Lake 69.72 31 IAmb IAmb 00 06 58.2
comp=Z,434nm,0.9s
N32M Quiet Lake 69.72 31 P P 00 06 56.7 +1.1
baz=271
N32M S **S 00 15 54.4 +2.1**
baz=271
P33M Teslin, Yukon 69.88 32 P P 00 06 57.6 +1.0
baz=272,SNR=158
P33M S **S 00 15 56.2 +1.9**
baz=272
U33K Whale Pass 69.90 36 IAmb IAmb 00 06 59.4
comp=Z,199nm,0.9s
U33K Whale Pass 69.90 36 P P 00 06 58.2 +1.5
baz=273,SNR=33
U33K S **S 00 15 57.8 +3.5**
baz=273
CRAG Craig 69.94 37 P P 00 06 58.3 +1.4
CRAG Craig 69.94 37 P P 00 06 58.2 +1.4
baz=273,SNR=12
CRAG S **S 00 15 57.9 +3.1**
baz=273
T33K Petersburg 69.95 35 P P 00 06 58.7 +1.7
baz=273
Q32M Nakina River 70.21 33 IAmb IAmb 00 07 01.8
comp=Z,363nm,1.5s
Q32M Nakina River 70.21 33 P P 00 07 00.2 +1.4
baz=273,SNR=56
Q32M S **S 00 16 01.5 +3.1**
baz=273
WRAK Wrangell Islan 70.31 36 P P 00 07 00.7 +1.6
baz=274
WRAK S **S 00 16 03.4 +4.3**
baz=274
DIB DAWSON INLET T 70.47 39 IAmb IAmb 00 07 02.1
comp=Z,230nm,1.0s
H02S1 DAWSON INLET T 70.47 39 P P 00 06 59.8 -0.4
SNR=22
MMPY Sheldon Lake, 70.54 29 IAmb IAmb 00 07 03.5
comp=Z,544nm,1.7s
MMPY Sheldon Lake, 70.54 29 P P 00 07 02.0 +1.4
baz=272,SNR=148
MMPY S **S 00 16 04.1 +2.4**
baz=272
CTZ Chatham Island 70.70 152 IAmb IAmb 00 07 04.2
comp=Z,209nm,1.0s
V35K Ketchikan 70.80 37 P P 00 07 03.3 +1.1
baz=275,SNR=16
V35K S **S 00 16 07.7 +2.8**
baz=275
R33M Jennings River 70.85 33 IAmb IAmb 00 07 05.6
comp=Z,222nm,1.0s
R33M Jennings River 70.85 33 P P 00 07 03.9 +1.3
baz=274,SNR=152
R33M S **S 00 16 09.0 +3.3**
baz=274
S34M Telegraph Cree 70.87 34 P P 00 07 04.1 +1.5
baz=274,SNR=36
S34M S **S 00 16 08.7 +3.1**
baz=274
HG4B Hotspring 71.33 40 IAmb IAmb 00 07 07.5
comp=Z,275nm,0.9s
DLBC Dease Lake 71.41 33 IAmb IAmb 00 07 08.9
comp=Z,357nm,0.9s
DLBC Dease Lake 71.41 33 P P 00 07 07.2 +1.3
baz=275,SNR=186
DLBC S **S 00 16 15.9 +3.9**
baz=275
DLBC Dease Lake 71.41 33 LR LR 00 35 44.5
comp=Z,177nm,21.2s,baz=285,slow=33
T35M Bob Quinn 71.42 35 IAmb IAmb 00 07 08.9
comp=Z,258nm,1.1s
T35M Bob Quinn 71.42 35 P P 00 07 07.2 +1.2
baz=275,SNR=77
T35M S **S 00 16 15.3 +3.2**
baz=275
U35K Hyder 71.65 36 P P 00 07 08.3 +1.1
baz=276
U35K S **S 00 16 18.6 +4.0**
baz=276
RUBB Prince Rupert 71.68 38 IAmb IAmb 00 07 09.9
comp=Z,311nm,1.0s
WTLY Watson Lake, Y 71.89 32 IAmb IAmb 00 07 11.6
comp=Z,321nm,1.0s
WTLY Watson Lake, Y 71.89 32 P P 00 07 09.9 +1.2
baz=275,SNR=37
WTLY S **S 00 16 20.4 +3.0**
baz=275
GRNB Grenville Isla 71.91 38 IAmb IAmb 00 07 11.3
comp=Z,300nm,1.0s
TGTN Hyland Airport 72.02 30 P P 00 07 10.7 +1.3
baz=275,SNR=86
TGTN S **S 00 16 21.1 +2.3**
baz=275
SVE Sverdlovsk 72.27 325 *de*P **P 00 07 11.2 +0.2**
SVE *e*S **S 00 16 19.9 -1.8**
SVE pmax pmax
comp=Z,238nm,1.3s
A36M Sachs Harbour 72.29 19 IAmb IAmb 00 07 12.8
comp=Z,269nm,0.8s
A36M Sachs Harbour 72.29 19 P P 00 07 11.6 +0.8
baz=275,SNR=6.9
A36M S **S 00 16 21.7 +0.3**
baz=275
PPT Papeete 72.76 116 P P 00 07 14.3 -0.2
comp=Z,136nm,0.9s,baz=335,slow=7.2,SNR=6.7
PPT LR LR 00 32 26.6
comp=Z,617nm,19.4s,baz=339,slow=30
comp=Z,136nm,0.9s
PPT2 Papeete2 72.77 116 *e*P **P 00 07 15.5 +0.9**
comp=Z,419nm,27.5s
PPT2 *e*S **SKiKP 00 16 31.8 -1.7**
comp=Z,318nm,22.8s
PPT2 Papeete2 72.77 116 *e*LR LR 00 29 35.6
comp=Z,1μm,35.0s
PPT2 *e*LR LR 00 29 42.8
comp=Z,1μm,22.8s
PPTF Pamatai, Papee 72.78 116 P P 00 07 16.7 +2.0
PPTF IAmb IAmb 00 07 17.9
comp=Z,396nm,1.3s
C36M Paulatuk 72.94 22 IAmb IAmb 00 07 16.3
comp=Z,274nm,0.9s
C36M Paulatuk 72.94 22 P P 00 07 15.1 +0.4
baz=277,SNR=38
C36M S **S 00 16 27.2 -1.7**
baz=277
BBB Bella Bella 73.23 40 IAmb IAmb 00 07 18.9
comp=Z,265nm,0.9s
BBB Bella Bella 73.23 40 LR LR 00 35 22.6
comp=Z,286nm,19.4s,baz=290,slow=32
LIRD Liard River Hi 73.33 32 P P 00 07 18.6 +1.4
baz=278,SNR=34
LIRD S **S 00 16 35.9 +2.3**
baz=278
ARU Arti 73.46 325 P P 00 07 17.5 -0.5
ARU IAmb IAmb 00 07 20.0
comp=Z,866nm,1.7s
ARU Arti 73.46 325 *d iP* **P 00 07 17.6 -0.4**
ARU 00 07 30.5
ARU S **S 00 16 37.1 +1.9**
ARU *SS sS 00 17 27.2 -9.0
ARU SS **SS 00 21 20.8 +0.6**
ARU pmax pmax
comp=Z,555nm,1.7s
ARU MLR MLR
comp=Z,423nm,17.0s
AB31 Akbulak array 73.73 317 P P 00 07 18.7 -1.0
ABKAR Akbulak array 73.73 317 P P 00 07 18.6 -1.1
ABKAR Akbulak array 73.73 317 IAmb IAmb 00 07 20.8
comp=Z,164nm,1.0s
TOAD Toad River Com 73.85 33 P P 00 07 20.9 +0.6
baz=279,SNR=200
TOAD S **S 00 16 39.6 0.0**
baz=279
WRGLY Wrigley 74.03 28 IAmb IAmb 00 07 23.7
comp=Z,380nm,0.8s
WRGLY Wrigley 74.03 28 P P 00 07 22.7 +1.5
baz=279,SNR=14
WRGLY S **S 00 16 42.3 +1.0**
baz=279
KOTAN Kotaneelee Air 74.24 31 P P 00 07 23.7 +1.2
baz=279,SNR=24
KOTAN S **S 00 16 46.1 +2.3**
baz=279
CBB Campbell River 75.30 42 IAmb IAmb 00 07 31.7
comp=Z,287nm,1.1s
OZB Mount Ozzard 75.42 43 IAmb IAmb 00 07 32.3
comp=Z,355nm,0.9s
TBI Tubuai 75.46 121 *eP* **P 00 07 31.1 +1.0**
comp=Z,1μm,28.2s
TBI *e*S **S 00 16 56.0 -2.4**
comp=Z,2μm,26.2s
TBI *e*SS **SS 00 21 51.8 -0.8**
comp=Z,432nm,26.5s
TBI *e*LQ LQ 00 27 42.4
comp=Z,2μm,27.5s
TBI *e*LR LR 00 30 42.0
comp=Z,990nm,34.5s
TBI *e*LR LR 00 30 43.3
comp=Z,2μm,24.2s
C03A Quillayute Air 76.23 44 IAmb IAmb 00 07 37.7
comp=Z,407nm,1.1s
CLRS Cowichan Lake 76.33 43 IAmb IAmb 00 07 37.4
comp=Z,228nm,1.0s
PGC Sidney 76.81 43 IAmb IAmb 00 07 39.9
comp=Z,235nm,0.9s
NLWA Neilton Lookou 76.81 44 IAmb IAmb 00 07 40.6
comp=Z,359nm,0.9s
B04A Port Angeles 76.91 44 IAmb IAmb 00 07 41.0
comp=Z,389nm,0.8s
WISH Wishkah 76.94 45 IAmb IAmb 00 07 41.5
comp=Z,439nm,0.8s
RADR Rader Ridge 77.08 45 IAmb IAmb 00 07 42.1
comp=Z,396nm,1.0s
HEBO Mount Hebo 77.38 46 IAmb IAmb 00 07 43.6
comp=Z,421nm,1.1s
GNW Green Mountain 77.46 44 IAmb IAmb 00 07 44.1
comp=Z,458nm,0.9s
G03D McMinnville, O 77.72 46 IAmb IAmb 00 07 45.3
comp=Z,284nm,0.8s
J01E Myrtle Point 77.74 48 IAmb IAmb 00 07 45.5
comp=Z,470nm,1.0s
KBO Bosley Butte 77.75 49 IAmb IAmb 00 07 46.0
comp=Z,517nm,1.2s
NGCH Negor - Chabah 77.81 293 P P 00 07 46.5 +3.1
COR Corvallis 77.84 47 P P 00 07 45.1 +2.0
COR IAmb IAmb 00 07 46.4
comp=Z,310nm,0.9s
COR Corvallis 77.84 47 P P 00 07 45.1 +2.0
COR pmax pmax
comp=Z,310nm,1.0s
KIRV Kirov 77.85 328 LR LR 00 44 22.2
comp=Z,288nm,19.1s,baz=115,slow=37
KIRV Kirov 77.85 328 *c iP* **P 00 07 42.8 -0.1**
I03D Drain, OR 78.02 48 IAmb IAmb 00 07 47.1
comp=Z,426nm,1.1s
K02D Willamette Mer 78.04 49 IAmb IAmb 00 07 47.1
comp=Z,314nm,1.2s
KSXB Camp Six Broad 78.09 50 IAmb IAmb 00 07 47.8
comp=Z,277nm,1.1s

YKA	**Yellowknife Ar**	78.15	28	P	P	00 07 44.0	-0.4
YKA	**Yellowknife Ar**	78.15	28	P	P	00 07 44.4	-0.1
	comp=Z,115nm,0.8s,baz=291,slow=5.6,SNR=371						
YKA				pP	pP	00 08 20.8	+0.7
	comp=Z,62nm,0.7s,baz=291,slow=5.4,SNR=7.1						
YKA				LR	LR	00 41 04.2	
	comp=Z,312nm,20.8s,baz=288,slow=34						
	comp=Z,115nm,0.8s						
YKA	**Yellowknife Ar**	78.15	28	*c*eP	P	00 07 44.4	-0.1
YKA				pmax	pmax		
	comp=Z,118nm,0.8s						
KRPM	**Rodgers**	78.15	50	IAmb	IAmb	00 07 48.4	
	comp=Z,457nm,1.0s						
H04D	**Lebanon**	78.25	47	IAmb	IAmb	00 07 48.4	
	comp=Z,490nm,1.2s						
KHMM	**Horse Mountain**	78.44	51	IAmb	IAmb	00 07 49.9	
	comp=Z,406nm,0.9s						
HUMO	**Hull Mountain**	78.57	49	IAmb	IAmb	00 07 51.0	
	comp=Z,609nm,1.6s						
H04A	**Detroit Lake**	78.59	47	IAmb	IAmb	00 07 49.6	
	comp=Z,400nm,1.0s						
KMRM	**Mail Ridge**	78.61	51	P	P	00 07 48.4	+0.8
KMRM				IAmb	IAmb	00 07 50.8	
	comp=Z,394nm,1.1s						
I04A	**Tendick Farm,**	78.66	48	IAmb	IAmb	00 07 50.0	
	comp=Z,374nm,1.0s						
HOOD	**Mount Hood Mea**	78.80	46	IAmb	IAmb	00 07 51.2	
	comp=Z,497nm,1.1s						
LTY	**Liberty**	78.96	44	IAmb	IAmb	00 07 51.5	
	comp=Z,319nm,0.9s						
YBH	**Yreka Blue Hor**	78.97	50	IAmb	IAmb	00 07 52.4	
	comp=Z,238nm,0.9s						
YBH	**Yreka Blue Hor**	78.97	50	LR	LR	00 38 16.0	
	comp=Z,277nm,19.2s,baz=282,slow=32						
HOPEN	**Hopen**	79.04	348	*e*P	P	00 07 50.1	+1.0
HOPEN				IAmb	IAmb	00 07 51.0	
	comp=Z,742nm,0.9s						
HOPEN				*e*S	S	00 17 37.2	+1.8
G05A	**Wamic**	79.05	46	IAmb	IAmb	00 07 52.4	
	comp=Z,178nm,0.8s						
BRLDA	**Berland Lookou**	79.12	37	IAmb	IAmb	00 07 52.4	
	comp=Z,276nm,0.9s						
I05D	**Terrebonne, OR**	79.27	47	IAmb	IAmb	00 07 53.6	
	comp=Z,588nm,1.6s						
O02D	**Mt. Diablo Mer**	79.31	51	IAmb	IAmb	00 07 54.5	
	comp=Z,287nm,0.9s						
MXC	**Moxie City**	79.39	44	IAmb	IAmb	00 07 54.2	
	comp=Z,286nm,1.0s						
HOPS	**Hopland Field**	79.40	52	IAmb	IAmb	00 07 54.3	
	comp=Z,299nm,1.1s						
K04D	**Chiloquin, OR**	79.42	49	P	P	00 07 52.5	+0.5
SPA0	**Spitsbergen Ar**	79.51	351	*e*P	P	00 07 52.2	+0.5
SPA0				IAmb	IAmb	00 07 54.1	
	comp=Z,561nm,1.1s						
SPA0				*e*S	S	00 17 40.7	+0.3
SPB2	**Spitsbergen Ar**	79.51	351	IAmb	IAmb	00 07 54.3	
	comp=Z,402nm,1.0s						
SPITS	**Spitsbergen Ar**	79.51	351	P	P	00 07 52.2	+0.5
	comp=Z,103nm,0.6s,baz=82,slow=6.2,SNR=106						
SPITS				PKKPbc	PKKPbc	00 26 35.6	-6.0
	comp=Z,5.4nm,0.7s,baz=147,slow=2.9,SNR=8.1						
	comp=Z,103nm,0.6s						
SPITS	**Spitsbergen Ar**	79.51	351	P	P	00 07 52.0	+0.3
SPITS				pmax	pmax		
	comp=Z,503nm,1.1s						
G06A	**Carlson Farm,**	79.51	46	IAmb	IAmb	00 07 54.8	
	comp=Z,644nm,1.9s						
KBS	**Kingsbay**	79.62	352	P	P	00 07 52.8	+0.5
KBS	**Kingsbay**	79.62	352	*e*P	P	00 07 52.8	+0.5
KBS				IAmb	IAmb	00 07 54.0	
	comp=Z,434nm,0.8s						
KBS				*e*S	S	00 17 40.6	-0.9
KBS	**Kingsbay**	79.62	352	*c i*P	P	00 07 52.2	-0.1
KBS				pmax	pmax		
	comp=Z,341nm,0.8s						
KBS	**Kingsbay**	79.62	352	*i*P	P	00 07 52.7	+0.4
GDXM	**Geysers**	79.66	53	P	P	00 07 54.5	+1.1
RES	**Resolute Bay**	79.67	14	pwP	pwP	00 08 29.5	-3.5
RES				IAmb	IAmb	00 08 30.9	
	comp=Z,237nm,0.9s						
RES	**Resolute Bay**	79.67	14	LR	LR	00 43 35.3	
	comp=Z,123nm,20.7s,baz=306,slow=36						
E07A	**Sunnyside**	79.68	44	IAmb	IAmb	00 07 55.8	
	comp=Z,407nm,0.8s						
MCCM	**Marconi Confer**	79.77	53	IAmb	IAmb	00 07 56.0	
	comp=Z,292nm,0.9s						
NOR	**Nord**	79.81	357	*i*P	P	00 07 53.0	-0.2
NOR				IAmb	IAmb	00 07 55.0	
	comp=Z,215nm,1.3s						
F07A	**Phinny Hill Vi**	79.81	45	IAmb	IAmb	00 07 56.5	
	comp=Z,209nm,0.9s						
HAWA	**Hanford**	79.94	44	IAmb	IAmb	00 07 57.1	
	comp=Z,312nm,0.8s						
D08A	**Wollman Farm,**	80.16	44	IAmb	IAmb	00 07 58.1	
	comp=Z,400nm,0.9s						
JLN	**Jalan Bani Buh**	80.18	290	P	P	00 07 57.0	+0.7
	SNR=8.8						
E08A	**Dider Farm, El**	80.23	44	IAmb	IAmb	00 07 58.6	
	comp=Z,237nm,1.0s						
C09A	**Chrisman Ranch**	80.37	43	IAmb	IAmb	00 07 59.1	
	comp=Z,336nm,0.8s						
ORV	**Oroville**	80.43	52	IAmb	IAmb	00 07 59.4	
	comp=Z,413nm,1.1s						
WBK	**Wadi Bani Khal**	80.44	291	P	P	00 07 58.8	+1.1
	SNR=21						
BELG	**Belogornoye**	80.59	322	*c i*P	P	00 07 57.7	-0.2
BELG				pmax	pmax		
	comp=Z,59nm,0.9s						
LVZ	**Lovozero**	80.81	339	P	P	00 07 58.3	-0.5
LVZ	**Lovozero**	80.81	339	*c i*P	P	00 07 58.2	-0.6
LVZ				pmax	pmax		
	comp=Z,87nm,1.0s						
E09A	**Wood Farm, Sta**	80.83	44	IAmb	IAmb	00 08 01.8	
	comp=Z,366nm,0.8s						
BIDO	**Bidbid**	80.94	292	P	P	00 08 01.3	+1.0
	SNR=54						
NEW	**Newport**	80.98	42	IAmb	IAmb	00 08 02.4	
	comp=Z,380nm,0.8s						
NEW	**Newport**	80.98	42	P	P	00 08 01.0	+0.9
	baz=287,SNR=217						
NEW				S	S	00 17 57.7	+0.9
	baz=287						
NEW	**Newport**	80.98	42	LR	LR	00 44 44.9	
	comp=Z,206nm,18.1s,baz=293,slow=36						
AFDM	**Forest Hills D**	80.99	52	IAmb	IAmb	00 08 02.7	
	comp=Z,260nm,0.9s						
SMDO	**Samad**	81.14	291	P	P	00 08 02.2	+0.7
	SNR=16						
JMDO	**Jabal Madar**	81.28	291	P	P	00 08 02.8	+0.7
	SNR=16						
APA	**Apatity**	81.39	339	‖ *i*P	P	00 08 00.1	-1.7
APA				*i* *PP	pP	00 08 36.8	-1.2
APA				*i* S	S	00 17 58.0	-2.2
APA				*i* PS	pS	00 18 47.0	+1.6
APA				pmax	pmax		
	comp=Z,100nm,0.7s						
APA				MLR	MLR		
	comp=Z,300nm,15.0s						
VADS	**Vadso**	81.42	342	*e*P	P	00 08 02.0	+0.1
VADS				IAmb	IAmb	00 08 02.9	
	comp=Z,369nm,1.0s						
VADS				*e*S	S	00 17 58.6	-1.8
BJO1	**Bjornoya**	81.46	347	*e*P	P	00 08 02.0	0.0
BJO1				IAmb	IAmb	00 08 02.8	
	comp=Z,401nm,1.3s						
BJO1				*e*S	S	00 17 59.1	-1.7
J08A	**Circle Bar Ran**	81.53	47	IAmb	IAmb	00 08 05.7	
	comp=Z,360nm,0.9s						
EMB	**Emerald Bay**	81.63	52	IAmb	IAmb	00 08 06.4	
	comp=Z,274nm,1.0s						
HOQ	**Hoqain**	81.64	292	P	P	00 08 05.1	+1.0
	SNR=64						
CMB	**Columbia Colle**	81.69	53	IAmb	IAmb	00 08 06.4	
	comp=Z,351nm,0.9s						
WVOR	**Wild Horse Val**	81.69	48	IAmb	IAmb	00 08 06.5	
	comp=Z,321nm,0.9s						
MHTO	**MHTO**	81.79	289	P	P	00 08 05.7	+0.8
	SNR=29						
BANOM	**Banah**	81.87	295	*i*P	P	00 08 06.8	+1.5
	SNR=6.8						
BMO	**Blue Mountains**	81.89	46	IAmb	IAmb	00 08 07.3	
	comp=Z,328nm,1.1s						
PMPB	**Monarch Peak**	81.89	55	IAmb	IAmb	00 08 07.8	
	comp=Z,343nm,1.1s						
PAHR	**Pah Rah Range**	81.95	51	IAmb	IAmb	00 08 07.8	
	comp=Z,371nm,1.1s						
SHME	**Shamm**	81.97	295	*i*P	P	00 08 06.7	+1.0
	SNR=18						
SHME	**Shamm**	81.97	295	P	P	00 08 06.6	+0.9
	SNR=22						
BSY	**Bisya**	81.98	291	P	P	00 08 06.6	+0.7
	SNR=24						
MDH	**Madha**	82.05	294	*i*P	P	00 08 06.1	-0.1
	SNR=20						
MDH	**Madha**	82.05	294	P	P	00 08 06.0	-0.1
	SNR=20						
MASF	**Masafi**	82.15	294	P	P	00 08 07.5	+0.8
	SNR=85						
MASF				S	S	00 18 10.2	+0.5
MSFE	**Esma-Masafi**	82.15	294	*i*P	P	00 08 07.6	+0.8
	SNR=85						
SOHO	**SOHO**	82.17	293	*i*P	P	00 08 07.2	+0.4
	SNR=219						
SOHO	**SOHO**	82.17	293	P	P	00 08 07.3	+0.6
UOSS	**Minazif**	82.23	294	P	P	00 08 07.8	+0.7
UOSS				IAmb	IAmb	00 08 09.7	
	comp=Z,307nm,0.9s						
UOSS	**Minazif**	82.23	294	*i*P	P	00 08 07.4	+0.2
	SNR=20						
UOSS	**Minazif**	82.23	294	P	P	00 08 08.2	+1.1
WAKR	**Walker**	82.27	52	IAmb	IAmb	00 08 10.0	
	comp=Z,208nm,0.8s						
YERR	**Yerington**	82.27	52	IAmb	IAmb	00 08 09.8	
	comp=Z,445nm,0.9s						
KEV	**Kevo**	82.30	342	P	P	00 08 06.1	-0.5
KEV	**Kevo**	82.30	342	P	P	00 08 06.1	-0.5
KEV				pmax	pmax		
	comp=Z,168nm,0.8s						
KEV	**Kevo**	82.30	342	SB	P	00 08 05.7	-0.8
HATD	**Hatta, Dubai**	82.32	294	*i*P	P	00 08 08.2	+0.6
	SNR=21						
HATD	**Hatta, Dubai**	82.32	294	P	P	00 08 08.7	+1.1
	SNR=42						
ARQ	**Araqi**	82.41	292	P	P	00 08 09.5	+1.4
	SNR=23						
ASHO	**Ashiyiah**	82.43	293	*i*P	P	00 08 08.8	+0.6
	SNR=130						
ASHO	**Ashiyiah**	82.43	293	P	P	00 08 09.4	+1.2
	SNR=49						
DQM	**DQM**	82.48	288	P	P	00 08 10.0	+1.5
	SNR=17						
UMQ	**Umm Al-Quwin**	82.53	294	*i*P	P	00 08 10.2	+1.6
	SNR=5.3						
UMQ	**Umm Al-Quwin**	82.53	294	P	P	00 08 10.7	+2.1
UMQ				S	S	00 18 15.1	+1.6
NAZ	**Nazwa, Dubai**	82.69	294	*i*P	P	00 08 11.0	+1.5
	SNR=12						
NAZ	**Nazwa, Dubai**	82.69	294	P	P	00 08 10.5	+1.0
	SNR=19						
HAMF	**Hammerfest**	82.73	343	*e*P	P	00 08 08.3	-0.5
HAMF				IAmb	IAmb	00 08 09.2	
	comp=Z,276nm,0.8s						
HAMF				*e*S	S	00 18 11.2	-2.7
SMMC	**Simmler**	82.78	55	P	P	00 08 11.4	+1.6
	baz=287,SNR=30						
FAQ	**Al Faqa, Dubai**	82.82	294	*i*P	P	00 08 10.2	0.0
	SNR=47						
FAQ	**Al Faqa, Dubai**	82.82	294	P	P	00 08 10.8	+0.7
	SNR=17						
ARCES	**ARCESS Array B**	82.86	342	P	P	00 08 09.2	-0.3
ARCES				IAmb	IAmb	00 08 10.8	
	comp=Z,227nm,0.8s						
ARCES	**ARCESS Array B**	82.86	342	P	P	00 08 09.1	-0.5
	comp=Z,180nm,0.8s,baz=70,slow=7.9,SNR=353						
ARCES				pP	pP	00 08 45.3	-0.7
	comp=Z,84nm,0.8s,baz=54,slow=6.3,SNR=4.6						
ARCES				PP	PP	00 11 20.9	-0.5
	comp=Z,20nm,0.8s,baz=43,slow=9.8,SNR=3.2						
ARCES				PKiKP	PKiKP	00 13 26.6	-1.1
	comp=Z,1.2nm,0.6s,baz=36,slow=1.5,SNR=5.1						
ARCES				S	S	00 18 14.0	-1.2
	comp=Z,12nm,1.1s,baz=72,slow=4.3,SNR=7.7						
ARCES				PKKPbc	PKKPbc	00 26 29.3	-4.6
	comp=Z,5.6nm,0.9s,baz=299,slow=1.9,SNR=9.1						
	comp=Z,180nm,0.8s						
ARCES	**ARCESS Array B**	82.86	342	P	P	00 08 09.2	-0.3
ARCES				pmax	pmax		
	comp=Z,227nm,0.9s						
ALNE	**Al Ain**	82.88	293	*i*P	P	00 08 10.9	+0.4
	SNR=68						
ALNE	**Al Ain**	82.88	293	P	P	00 08 11.5	+1.0
	SNR=29						
RYN	**Ryan**	82.91	52	IAmb	IAmb	00 08 13.1	
	comp=Z,364nm,0.9s						
VOG	**Valley Oaks Go**	82.96	54	P	P	00 08 11.5	+0.9
	baz=288,SNR=13						
VOG				S	S	00 18 21.5	+4.1
	baz=288						
MLAC	**Mammoth, Mammo**	82.98	53	P	P	00 08 12.7	+1.6
	baz=288,SNR=31						
MLAC				S	S	00 18 20.3	+2.2
	baz=288						
TULEG	**Thule**	82.99	8	IAmb	IAmb	00 08 48.2	
	comp=Z,352nm,0.9s						
TULEG	**Thule**	82.99	8	*i*P	P	00 08 10.6	+0.6
TULEG				IAmb	IAmb	00 08 13.4	
	comp=Z,208nm,1.0s						
LHV	**Little Huntoon**	83.04	52	IAmb	IAmb	00 08 14.0	
	comp=Z,378nm,1.1s						
PKM	**Mcpherson Peak**	83.05	56	P	P	00 08 12.8	+1.4
	baz=288,SNR=204						
PKM				S	S	00 18 20.7	+1.9
	baz=288						
ASUD	**Al Ashush, Dub**	83.08	294	*i*P	P	00 08 12.4	+0.9
	SNR=99						
ASUD	**Al Ashush, Dub**	83.08	294	P	P	00 08 12.8	+1.3
	SNR=55						
NVAR	**Mina Array Bea**	83.14	52	P	P	00 08 12.1	+0.2
NVAR				sP	pwP	00 08 50.4	-2.4
NVAR	**Mina Array Bea**	83.14	52	P	P	00 08 12.7	+0.9
	comp=Z,285nm,0.8s,baz=265,slow=6.1,SNR=720						
NVAR				pP	pP	00 08 49.7	+1.8
	comp=Z,179nm,0.8s,baz=269,slow=5.6,SNR=8.0						
NVAR				LR	LR	00 41 33.4	
	comp=Z,385nm,19.1s,baz=276,slow=33						
	comp=Z,285nm,0.8s						
NV11	**Mina Array Sit**	83.25	52	IAmb	IAmb	00 08 14.7	
	comp=Z,326nm,0.9s						
SBC	**Santa Barbara**	83.27	56	P	P	00 08 13.8	+1.5
	baz=288,SNR=16						
SBC				S	S	00 18 22.1	+1.6
	baz=288						
VES	**Vestal, Richgr**	83.33	55	P	P	00 08 13.0	+0.4
	baz=288,SNR=136						
AJN	**Ajban**	83.40	294	*i*P	P	00 08 13.7	+0.6
	SNR=49						
AJN	**Ajban**	83.40	294	P	P	00 08 13.9	+0.7
	SNR=68						
SCZ2	**Santa Cruz Isl**	83.46	56	P	P	00 08 14.2	+0.9
	baz=288,SNR=22						
MSO	**Missoula**	83.48	43	P	P	00 08 13.5	+0.2
	baz=290,SNR=43						
MSO				S	S	00 18 22.1	-0.5
	baz=290						
TIN	**Tinemaha, Big**	83.62	53	P	P	00 08 15.7	+1.5
	baz=288,SNR=33						
TIN				S	SKSac	00 18 25.2	+1.9
	baz=288						
MAK	**Makhachkala**	83.66	313	*e*P	P	00 08 13.1	-1.0
MAK				*e*		00 11 28.0	
MAK				*e*PPP	PPP	00 13 21.3	
MAK				*e*S	SKSac	00 18 23.2	+0.2
MAK				*e* *SS	sS	00 19 20.3	-6.4
MAK				*e*SS	SS	00 23 58.3	+4.7
MAK				*e*SSS	SSS	00 27 22.6	
MAK				pmax	pmax		
	comp=Z,189nm,1.0s						
MAK				MLR	MLR		
	comp=Z,508nm,15.0s						
DSP	**Deep Springs**	83.72	53	IAmb	IAmb	00 08 17.4	
	comp=Z,324nm,1.2s						
ARVC	**Arvin**	83.75	55	P	P	00 08 15.7	+1.0
	baz=288,SNR=51						
ARVC				S	SKSac	00 18 26.2	+2.3
	baz=288						
SNCC	**San Nicolas Is**	83.78	57	P	P	00 08 16.0	+1.1
	baz=288,SNR=44						
KTK1	**Kautokeino**	83.82	342	*e*P	P	00 08 14.1	-0.4
KTK1				IAmb	IAmb	00 08 15.1	
	comp=Z,140nm,0.9s						
KTK1				*e*SKSac	SKSac	00 18 21.5	-1.6
NEEM	**North Greenlan**	83.84	4	*i*P	P	00 08 15.3	+0.6
NEEM				IAmb	IAmb	00 08 17.5	
	comp=Z,578nm,0.9s						
Q09A	**Carvers**	83.84	51	IAmb	IAmb	00 08 17.8	
	comp=Z,329nm,1.1s						
ISA	**Isabella, Lake**	83.86	55	P	P	00 08 15.9	+0.5
	baz=288,SNR=76						
ISA				S	SKSac	00 18 25.8	+1.0
	baz=288						
CWC	**Cottonwood Cre**	83.92	54	P	P	00 08 16.7	+0.9
	baz=288						
CWC				S	SKSac	00 18 27.1	+1.7
	baz=288						
OSI	**Osito Audit: C**	83.99	56	P	P	00 08 17.1	+1.0
	baz=288,SNR=17						
OSI				S	SKSac	00 18 28.7	+3.1
	baz=288						
LKRN	**Lenkeran, Azer**	84.12	309	P	P	00 08 16.1	-0.4
HLID	**Hailey**	84.27	46	P	P	00 08 18.6	+1.1
	baz=290,SNR=230						
HLID				S	SKSac	00 18 30.3	+2.9
	baz=290						
GMN	**Gold Mountain**	84.27	53	IAmb	IAmb	00 08 19.9	
	comp=Z,216nm,0.9s						
GRAC	**Grapevine Rang**	84.29	53	IAmb	IAmb	00 08 19.9	
	comp=Z,209nm,1.1s						
GRAC	**Grapevine Rang**	84.29	53	P	P	00 08 18.6	+1.1
	baz=289,SNR=28						
GRAC				S	SKSac	00 18 31.5	+4.0
	baz=289						
CCAC	**Calif City Air**	84.37	55	IAmb	IAmb	00 08 20.4	
	comp=Z,214nm,0.8s						
JOF	**Joensuu**	84.40	335	*e*P	P	00 08 16.4	-1.0
DECC	**Green Verdugo**	84.41	56	P	P	00 08 18.9	+0.8
	baz=288,SNR=18						
DECC				S	SKSac	00 18 31.8	+3.5
	baz=288						
VRH	**Novokhopyorsk**	84.44	322	*e*P	P	00 08 14.6	-3.3
VRH				*e*S	SKSac	00 18 21.9	-5.8
VRH				pmax	pmax		
	comp=Z,100nm,0.7s						
VRH				pmax	pmax		
	comp=Z,130nm,0.8s						
VRH				smax	smax		
	comp=E,920nm,11.4s						
SEKA	**Sheki**	84.45	311	P	P	00 08 17.3	-1.0
EDW2	**Edwards Air Fo**	84.48	55	P	P	00 08 19.6	+1.0
	baz=288,SNR=106						
EDW2				S	SKSac	00 18 33.4	+4.7
	baz=288						
MPMC	**Manual Prospec**	84.50	54	P	P	00 08 19.9	+1.1
	baz=289,SNR=315						
MPMC				S	SKSac	00 18 32.5	+3.4
	baz=289						
LRMC	**Laurel Mtn Rad**	84.53	55	P	P	00 08 19.9	+1.0
	baz=289,SNR=114						
LRMC				S	SKSac	00 18 33.7	+4.4
	baz=289						
PASC	**Pasadena Art C**	84.55	56	IAmb	IAmb	00 08 20.7	
	comp=Z,237nm,0.9s						
DAG	**Danmarks Havn**	84.59	356	*i*P	P	00 08 17.0	-1.1
DAG				IAmb	IAmb	00 08 20.8	
	comp=Z,125nm,0.8s						
MZWR	**Madinat Zayed**	84.60	293	P	P	00 08 19.9	+0.7
FMP	**Fort Macarthur**	84.61	56	P	P	00 08 19.8	+0.7
	baz=288,SNR=9.7						
FMP				S	SKSac	00 18 34.5	+5.0
	baz=288						
CIS	**Catalina Islan**	84.61	57	P	P	00 08 19.6	+0.5
	baz=288,SNR=39						
CIS				S	SKSac	00 18 32.9	+3.2
	baz=288						
TRO	**Tromso**	84.63	344	*e*P	P	00 08 18.0	-0.4
TRO				IAmb	IAmb	00 08 18.9	
	comp=Z,411nm,1.0s						
TRO				*e*SKSac	SKSac	00 18 29.6	+1.3
ELK	**Elko**	84.64	49	IAmb	IAmb	00 08 21.8	
	comp=Z,327nm,0.9s						
ELK	**Elko**	84.64	49	LR	LR	00 40 35.1	
	comp=Z,503nm,20.0s,baz=272,slow=32						
SCI2	**San Clemente I**	84.64	57	P	P	00 08 19.7	+0.5
	baz=288,SNR=24						
MNGR	**Mingechevir, A**	84.68	311	P	P	00 08 18.8	-0.5
SHAO	**Shalim**	84.77	287	P	P	00 08 21.4	+1.2
FURC	**Furnace Creek,**	84.84	53	P	P	00 08 21.4	+1.2
	baz=289,SNR=132						
FURC				S	SKSac	00 18 36.9	+6.0
	baz=289						
MOS	**Moscow**	84.85	327	*e*P	P	00 08 16.6	-3.2
MOS				*e*		00 11 33.3	
MOS				*e*S	SKSac	00 18 26.6	-3.6
MOS				*e* *SS	pS	00 19 25.6	+4.6
MOS				pmax	pmax		
	comp=Z,218nm,1.0s						
MOS				pmax	pmax		
	comp=Z,600nm,2.0s						
MOS				smax	smax		
	comp=N,300nm,2.3s						
MOS				smax	smax		
	comp=E,400nm,2.5s						
WCT	**Wildcat Mounta**	84.92	53	IAmb	IAmb	00 08 23.0	
	comp=Z,300nm,1.0s						
BFSC	**Mount Baldy Ra**	84.94	56	P	P	00 08 21.3	+0.4
	baz=289,SNR=42						
BFSC				S	SKSac	00 18 37.1	+5.1
	baz=289						
GWY	**Greenwater Val**	85.08	54	IAmb	IAmb	00 08 23.8	
	comp=Z,276nm,1.1s						
JRN	**Qarnain Island**	85.14	295	P	P	00 08 22.2	+0.3
	SNR=11						
TPNV	**Topopah Spring**	85.15	53	P	P	00 08 23.0	+1.1
	baz=289,SNR=292						
TPNV				S	S	00 18 40.7	+1.0
	baz=289						
MZR	**Muzera**	85.18	293	*i*P	P	00 08 22.6	+0.4
	SNR=28						
MZR	**Muzera**	85.18	293	P	P	00 08 22.7	+0.6
	SNR=89						
R11B	**Troy Canyon, C**	85.19	51	IAmb	IAmb	00 08 24.7	
	comp=Z,396nm,1.4s						
R11B	**Troy Canyon, C**	85.19	51	P	P	00 08 23.4	+1.2
	baz=290,SNR=328						
R11B				S	SKSac	00 18 40.5	+7.0
	baz=290						
RRX	**Edison Barstow**	85.26	55	P	P	00 08 23.6	+1.2
	baz=289,SNR=9.4						
RRX				S	S	00 18 41.2	+0.8
	baz=289						
OUL	**Oulu**	85.26	338	SB	P	00 08 20.4	-1.3
GSC	**Goldstone, Bar**	85.27	55	IAmb	IAmb	00 08 24.7	
	comp=Z,211nm,1.1s						
GSC	**Goldstone, Bar**	85.27	55	P	P	00 08 23.5	+1.0
	baz=289,SNR=166						
GSC				S	S	00 18 41.9	+1.2
	baz=289						
GANJ	**Ganja**	85.27	311	P	P	00 08 21.7	-0.6
S11A	**Rachel**	85.30	52	IAmb	IAmb	00 08 25.2	
	comp=Z,412nm,1.0s						
ELS	**Elsinore Mount**	85.31	56	IAmb	IAmb	00 08 24.6	
	comp=Z,178nm,1.0s						
VALR	**Valaam**	85.36	334	*c i*P	P	00 08 20.5	-1.7
VALR				pmax	pmax		
	comp=Z,299nm,0.9s						
BOZ	**Bozeman (W)**	85.41	43	IAmb	IAmb	00 08 25.3	
	comp=Z,208nm,0.9s						
BOZ	**Bozeman (W)**	85.41	43	P	P	00 08 24.1	+1.1
	baz=292,SNR=316						
BOZ				S	SKSac	00 18 40.8	+6.3
	baz=292						
GHWR	**Ruwais**	85.41	294	P	P	00 08 23.8	+0.6
DMTO	**DMTO**	85.47	287	P	P	00 08

MURC				S		S	00 18 43.5	+0.4
	baz=289							
OBN	Obninsk	85.67	327	P		P	00 08 22.5	-1.4
OBN	Obninsk	85.67	327	c i P		P	00 08 22.7	-1.2
OBN				e*PP		pP	00 08 58.4	-2.4
OBN				e			00 11 44.5	
OBN				ePPP		PPP	00 13 38.9	
OBN				i S		SKSac	00 18 31.2	-4.1
OBN				pmax		pmax		
	comp=Z,54nm,0.9s							
OBN				MLR		MLR		
	comp=Z,383nm,19.0s							
EGMT	Eagleton	85.69	41	IAmb		IAmb	00 08 26.2	
	comp=Z,221nm,1.1s							
EGMT	Eagleton	85.69	41	P		P	00 08 25.0	+0.7
	baz=293,SNR=64							
EGMT				S		S	00 18 43.8	-0.6
	baz=293							
VORR	Voronezh	85.70	323	eP		P	00 08 21.0	-3.1
VORR				eS		SKSac	00 18 40.0	+4.3
VORR				pmax		pmax		
	comp=Z,220nm,0.7s							
VORR				pmax		pmax		
	comp=Z,210nm,0.7s							
VORR				smax		smax		
	comp=E,870nm,9.6s							
HEC	Hector,Ludlow	85.78	55	P		P	00 08 25.9	+0.9
	baz=290,SNR=143							
HEC				S		S	00 18 45.8	0.0
	baz=290							
109C	Camp Elliot, M	85.82	57	IAmb		IAmb	00 08 27.1	
	comp=Z,292nm,0.8s							
109C	Camp Elliot, M	85.82	57	P		P	00 08 25.9	+0.8
	baz=289,SNR=27							
109C				S		S	00 18 46.3	+0.3
	baz=289							
SPR3	Spring Creek 3	85.89	50	IAmb		IAmb	00 08 28.4	
	comp=Z,291nm,1.2s							
PRN	Pahroc Range	85.90	52	IAmb		IAmb	00 08 28.2	
	comp=Z,257nm,1.1s							
TUQ	Turquoise Moun	85.90	54	P		P	00 08 26.7	+1.0
	baz=290,SNR=38							
TUQ				S		S	00 18 47.0	0.0
	baz=290							
VSR	Storozhevoye	85.91	323	eP		P	00 08 22.5	-2.7
VSR				eS		SKSac	00 18 26.7	-10
VSR				pmax		pmax		
	comp=Z,160nm,0.6s							
VSR				pmax		pmax		
	comp=Z,230nm,0.9s							
VSR				smax		smax		
	comp=E,710nm,12.3s							
GUDG	Gudauri	85.92	313	P		P	00 08 26.7	+1.0
GOF	Gofitskoye	85.94	316	ceP		P	00 08 24.4	-1.1
DOK	Doka	85.94	288	P		P	00 08 26.1	+0.1
	SNR=10							
VORD	Divnogorie	85.94	323	eP		P	00 08 22.8	-2.5
VORD				eS		SKSac	00 18 27.6	-10
VORD				pmax		pmax		
	comp=Z,150nm,0.8s							
VORD				pmax		pmax		
	comp=Z,160nm,0.8s							
VORD				smax		smax		
	comp=E,1μm,12.4s							
KULLO	Kullorsuaq	86.07	6	i P		P	00 08 26.6	+1.1
KULLO				IAmb		IAmb	00 08 27.8	
	comp=Z,435nm,1.3s							
PFO	Pinyon Flats O	86.09	56	P		P	00 08 26.9	+0.3
PFO				IAmb		IAmb	00 08 28.6	
	comp=Z,257nm,1.1s							
PFO	Pinyon Flats O	86.09	56	P		P	00 08 27.3	+0.7
	baz=290,SNR=195							
PFO				S		S	00 18 47.9	-0.9
	baz=290							
PFO	Pinyon Flats O	86.09	56	LR		LR	00 44 35.1	
	comp=Z,214nm,18.3s,baz=269,slow=34							
PFO	Pinyon Flats O	86.09	56	d i P		P	00 08 27.2	+0.6
PFO				pmax		pmax		
	comp=Z,351nm,1.1s							
TPFO	Pinon Flats	86.10	56	P		P	00 08 27.3	+0.6
	baz=290,SNR=142							
TPFO				S		S	00 18 48.3	-0.7
	baz=290							
OBF0	Syolatti, Pyha	86.19	338	SB		P	00 08 25.5	-0.7
RBK	Rabkut	86.22	287	P		P	00 08 27.6	+0.2
	SNR=6.9							
BELC	Belle Mtn. Jos	86.32	56	P		P	00 08 28.4	+0.6
	baz=290,SNR=33							
GMRC	Granite Mounta	86.32	55	P		P	00 08 28.7	+0.9
	baz=290,SNR=175							
GMRC				S		S	00 18 52.0	+0.8
	baz=290							
CBX	Cerro Bola	86.36	57	IAmb		IAmb	00 08 29.8	
	comp=Z,221nm,0.9s							
MONP2	Monument Peak	86.36	57	P		P	00 08 29.0	+0.9
	baz=290,SNR=170							
MONP2				S		S	00 18 51.8	+0.2
	baz=290							
YFT	Old Faithful	86.36	44	IAmb		IAmb	00 08 32.2	
	comp=Z,339nm,1.0s							
NAX	Nakhchivan	86.37	310	P		P	00 08 27.2	-0.6
PSUT	Pine Spring	86.40	51	IAmb		IAmb	00 08 30.4	
	comp=Z,231nm,0.9s							
PUL	Pulkovo	86.41	333⇓	eP		P	00 08 26.9	-0.5
PUL				pmax		pmax		
	comp=Z,61nm,0.4s							
SLWR	Sila	86.41	294	P		P	00 08 28.1	0.0
SPUT	South Promonto	86.42	48	IAmb		IAmb	00 08 30.6	
	comp=Z,304nm,1.0s							
SHMA	Al-Shehemyia	86.47	296	P		P	00 08 28.3	-0.1
	SNR=17							
WHFO	Wadi Hawf	86.48	288	P		P	00 08 28.6	-0.1
IMW	Indian Meadow	86.50	45	IAmb		IAmb	00 08 31.4	
	comp=Z,200nm,0.9s							
CCX	Cicese	86.50	58	IAmb		IAmb	00 08 30.2	
	comp=Z,164nm,1.0s							
TRLG	Trialeti	86.52	313	P		P	00 08 28.1	-0.5
KBZ	Khabaz	86.53	315	P		P	00 08 27.8	-0.6
	comp=Z,24nm,0.9s,baz=91,slow=3.1,SNR=33							
KBZ				S		SKSac	00 18 40.8	-0.3
	comp=Z,1.2nm,0.6s,baz=315,slow=6.8,SNR=1.4							
KBZ				PKKPbc		PKKPbc	00 26 24.0	-0.4
	comp=Z,2.7nm,0.8s,baz=269,slow=1.3,SNR=5.2							
KBZ				PKPPKP		P'P'df	00 34 30.1	-1.9
	comp=Z,1.7nm,1.0s,baz=153,slow=5.7,SNR=3.8							
KBZ				LR		LR	00 50 15.1	
	comp=Z,180nm,19.5s,baz=77,slow=38							
	comp=Z,24nm,0.9s							
KBZ	Khabaz	86.53	315	ceP		P	00 08 27.4	-1.0
KBZ				pmax		pmax		
	comp=Z,33nm,1.0s							
FXWY	Fox Creek	86.54	45	IAmb		IAmb	00 08 31.5	
	comp=Z,192nm,1.1s							
H17A	Grant Village	86.56	44	IAmb		IAmb	00 08 33.7	
	comp=Z,255nm,1.0s							
H17A	Grant Village	86.56	44	P		P	00 08 31.8	+3.0
	baz=292							
OBF8	Ulkokalla	86.56	338	SG		P	00 08 28.1	+0.1
DUG	Dugway, Tooele	86.56	49	IAmb		IAmb	00 08 31.2	
	comp=Z,343nm,1.1s							
DUG	Dugway, Tooele	86.56	49	P		P	00 08 30.0	+1.2
	baz=291,SNR=435							
DUG				S		S	00 18 55.3	+2.0
	baz=291							
GNI	Garni	86.57	311	P		P	00 08 29.4	+0.5
GNI	Garni	86.57	311	P		P	00 08 28.4	-0.5
GNI	Garni	86.57	311	P		P	00 08 29.4	+0.5
GNI	Garni	86.57	311	c i P		P	00 08 28.5	-0.4
GNI				pmax		pmax		
	comp=Z,49nm,1.0s							
KIV	Kislovodsk	86.59	315	⇑P		P	00 08 27.8	-1.1
KIV	Kislovodsk	86.59	315	P		P	00 08 28.4	-0.5
KIV	Kislovodsk	86.59	315	i P		P	00 08 27.6	-1.3
	SNR=8.3							
KIV	Kislovodsk	86.59	315	P		P	00 08 28.6	-0.2
KIV	Kislovodsk	86.59	315	eP		P	00 08 27.5	-1.3
KIV				e			00 11 50.7	
KIV				eSS		SS	00 24 37.4	+0.6
KIV				pmax		pmax		
	comp=Z,29nm,1.0s							
TRNA	Turayna	86.61	295	P		P	00 08 28.8	-0.3
	SNR=18							
V12A	Nelson	86.62	54	IAmb		IAmb	00 08 31.7	
	comp=Z,287nm,1.0s							
IKP	In-Ko-Pah, Jac	86.69	57	P		P	00 08 30.5	+1.0
	baz=290,SNR=49							
IKP				S		S	00 18 54.7	+0.1
	baz=290							
SHA1	Shidzhatmaz	86.69	315	ceP		P	00 08 28.0	-1.5
RMX	La Rumorosa	86.73	57	IAmb		IAmb	00 08 32.1	
	comp=Z,216nm,1.1s							
STEI	Steigen	86.78	343	eP		P	00 08 28.2	-0.8
STEI				eSKSac		SKSac	00 18 46.0	+4.4
SAKB	Bahrain	86.80	296	P		P	00 08 29.8	-0.3
AHID	Auburn Hatcher	86.82	46	IAmb		IAmb	00 08 32.4	
	comp=Z,269nm,1.1s							
SWSC	Sam W. Stewart	86.83	56	P		P	00 08 30.8	+0.7
	baz=290,SNR=47							
SWSC				S		S	00 18 56.7	+1.0
	baz=290							
YUH	Yuha Desert	86.84	57	IAmb		IAmb	00 08 32.2	
	comp=Z,169nm,1.1s							
BC3	Big Chuckawall	86.87	56	P		P	00 08 31.5	+1.1
	baz=290,SNR=98							
BC3				S		S	00 18 57.5	+1.2
	baz=290							
IRM	Iron Mountain	86.94	55	P		P	00 08 31.7	+1.1
	baz=290,SNR=92							
IRM				S		S	00 18 56.9	0.0
	baz=290							
SMRA	Abu-Samra	86.95	295	P		P	00 08 30.3	-0.5
	SNR=29							
ESJX	Sierra Juarez	87.03	57	IAmb		IAmb	00 08 33.6	
	comp=Z,163nm,1.1s							
ABTO	Aybut	87.08	287	P		P	00 08 31.8	+0.2
	SNR=9.6							
LOF	Lofoten	87.09	344	eP		P	00 08 29.8	-0.8
LOF				IAmb		IAmb	00 08 30.7	
	comp=Z,143nm,1.5s							
LOF				eSKSac		SKSac	00 18 46.1	+2.5
DBG	Daneborg	87.09	356	i P		P	00 08 30.2	-0.2
DBG				IAmb		IAmb	00 08 32.0	
	comp=Z,444nm,1.3s							
CCUT	Cedar City	87.11	51	IAmb		IAmb	00 08 34.4	
	comp=Z,244nm,1.1s							
NEE2	Needles Airpor	87.13	54	P		P	00 08 32.6	+1.1
	baz=290,SNR=8.9							
NEE2				S		S	00 18 59.1	+0.5
	baz=290							
RLMT	Red Lodge	87.13	43	IAmb		IAmb	00 08 34.7	
	comp=Z,395nm,1.4s							
RLMT	Red Lodge	87.13	43	P		P	00 08 33.2	+1.6
	baz=293,SNR=111							
RLMT				S		S	00 18 59.9	+1.2
	baz=293							
CTU	Camp Tracy	87.14	48	IAmb		IAmb	00 08 33.8	
	comp=Z,239nm,1.0s							
FAUS	Fauske	87.14	343	eP		P	00 08 30.5	-0.4
FAUS				IAmb		IAmb	00 08 31.2	
	comp=Z,223nm,1.0s							
FAUS				eSKSac		SKSac	00 18 44.6	+0.6
NLU	North Lily Min	87.18	49	IAmb		IAmb	00 08 34.1	
	comp=Z,238nm,1.0s							
FFC	Flin Flon	87.22	33	P		P	00 08 31.7	+0.2
FFC	Flin Flon	87.22	33	P		P	00 08 31.7	+0.2
FFC				pmax		pmax		
	comp=Z,341nm,0.9s							
FINES	FINESS Array B	87.27	335	P		P	00 08 29.6	-2.0
	comp=Z,92nm,0.4s,baz=63,slow=4.6,SNR=1108							
FINES				PP		PP	00 11 54.5	-2.6
	comp=Z,33nm,0.8s,baz=77,slow=10.0,SNR=6.5							
FINES				S		SKSac	00 18 45.0	+0.1
	comp=Z,7.4nm,1.1s,baz=88,slow=4.4,SNR=4.0							
FINES				PKKPbc		PKKPbc	00 26 20.9	-2.5
	comp=Z,3.9nm,0.8s,baz=169,slow=1.9,SNR=10							
	comp=Z,92nm,0.4s							
SZCU	Shurtz Canyon	87.30	51	IAmb		IAmb	00 09 12.8	
	comp=Z,127nm,0.8s							
KEF	Keuruu	87.32	336	eP		P	00 08 28.9	-2.9
ERBR	Yeremizino-Bor	87.35	317	eP		P	00 08 31.3	-1.0
ERBR				eS		SKSac	00 18 45.9	-0.2
ERBR				pmax		pmax		
	comp=Z,165nm,1.0s							
LCMT	Little Creek M	87.39	52	IAmb		IAmb	00 08 35.6	
	comp=Z,275nm,1.2s							
MPU	Maple Canyon	87.47	49	IAmb		IAmb	00 08 35.5	
	comp=Z,218nm,1.1s							
BLYC	Blythe	87.56	55	IAmb		IAmb	00 08 36.0	
	comp=Z,231nm,1.3s							
GLA	Glamis	87.56	56	IAmb		IAmb	00 08 36.0	
	comp=Z,210nm,1.1s							
GLA	Glamis	87.56	56	P		P	00 08 34.9	+1.3
	baz=290,SNR=50							
GLA				S		S	00 19 02.8	-0.1
	baz=290							
VAF	Ylistaro	87.62	338	eP		P	00 08 31.7	-1.4
LABN	Labinsk	87.62	316	eP		P	00 08 32.7	-0.9
LABN				eS		SKSac	00 18 47.2	-0.6
LABN				pmax		pmax		
	comp=Z,40nm,0.9s							
PDMCI	Parker Dam,Lak	87.67	55	P		P	00 08 35.4	+1.3
	baz=291,SNR=39							
PDMCI				S		S	00 19 05.2	+1.5
	baz=291							
UMAU	Umeaa	87.80	339	SB		P	00 08 32.1	-1.9
UPNV	Upernavik	87.86	6	i P		P	00 08 35.2	+1.1
UPNV				IAmb		IAmb	00 08 36.2	
	comp=Z,130nm,1.0s							
BW06	Boulder Array	87.87	46	P		P	00 08 35.4	+0.3
	baz=293,SNR=31							
BW06				S		S	00 19 04.4	-1.4
	baz=293							
PDAR	Pinedale Array	87.87	46	P		P	00 08 34.6	-0.6
PDAR	Pinedale Array	87.87	46	P		P	00 08 35.4	+0.2
	comp=Z,16nm,0.8s,baz=267,slow=2.8,SNR=135							
PDAR				pP		pP	00 09 13.2	+1.7
	comp=Z,19nm,0.7s,baz=246,slow=2.5,SNR=6.4							
PDAR				PKKPbc		PKKPbc	00 26 20.0	-1.6
	comp=Z,0.7nm,0.7s,baz=95,slow=3.3,SNR=4.8							
PDAR				PKPPKP		P'P'df	00 34 26.9	-3.1
	comp=Z,0.4nm,0.7s,baz=116,slow=4.1,SNR=3.5							
PDAR				LR		LR	00 41 56.3	
	comp=Z,148nm,21.1s,baz=284,slow=31							
	comp=Z,16nm,0.8s							
TMUT	Trail Mountain	88.05	49	IAmb		IAmb	00 08 38.5	
	comp=Z,164nm,1.0s							
KBD	Kabd	88.12	300	P		P	00 08 35.8	-0.5
BATM	Batumi	88.17	313	P		P	00 08 35.7	-0.6
MOR8	Moi Rana	88.23	342	eP		P	00 08 34.3	-1.8
MOR8				eSKSac		SKSac	00 18 46.1	-4.5
SFX	San Felipe	88.24	58	IAmb		IAmb	00 08 39.0	
	comp=Z,278nm,1.0s							
BCA	Borcka	88.28	313	⇑P		P	00 08 36.0	-0.8
P17A	Butcher Ranch,	88.31	49	IAmb		IAmb	00 08 39.7	
	comp=Z,276nm,1.1s							
U15A	North Rim	88.31	52	IAmb		IAmb	00 09 18.0	
	comp=Z,178nm,0.8s							
KONS	Konsvik	88.38	343	eP		P	00 08 36.8	+0.1
LAO	LASA Array	88.43	41	IAmb		IAmb	00 08 40.9	
	comp=Z,118nm,0.9s							
LAO	LASA Array	88.43	41	P		P	00 08 38.5	+1.0
	baz=295,SNR=34							
LAO				S		S	00 19 10.5	-0.1
	baz=295							
ARBE	Arbavere	88.45	334	eP		P	00 08 35.7	-1.5
VSLR	Vesyoloye	88.56	316	d i P		P	00 08 37.2	-0.9
VSLR				pmax		pmax		
	comp=Z,140nm,1.1s							
P18A	Preston Nutter	88.61	49	IAmb		IAmb	00 08 41.0	
	comp=Z,125nm,1.0s							
HUSU	Husum	88.64	339	SN		P	00 08 36.9	-1.2
MEF	Metsahovi	88.65	335	eP		P	00 08 36.5	-1.6
Y14A	Wickenburg	88.68	55	IAmb		IAmb	00 09 19.3	
	comp=Z,164nm,0.8s							
VSU	Vasula	88.68	333	ceP		P	00 08 36.8	-1.5
VSU				pmax		pmax		
	comp=Z,99nm,1.0s							
SOC	Sochi	88.71	316	eP		P	00 08 36.6	-2.2
SOC				e			00 12 06.4	
SOC				eS		SKSac	00 18 51.9	-2.4
SOC				eSS		SS	00 25 10.2	+2.7
SOC				eSSS		SSS	00 28 43.1	
RDMU	Red Mountain	88.72	48	IAmb		IAmb	00 08 41.5	
	comp=Z,311nm,1.2s							
FCC	Fort Churchill	88.83	27	IAmb		IAmb	00 09 17.3	
	comp=Z,170nm,1.1s							
DGMT	Dagmar	88.88	39	P		P	00 08 39.8	+0.2
	baz=297							
DGMT				S		S	00 19 12.0	-2.7
	baz=297							
JMIC	Jan Mayen	89.12	352	eP		P	00 08 40.3	+0.1
PIX	Pinacate	89.17	57	IAmb		IAmb	00 08 43.4	
	comp=Z,158nm,1.3s							
RAF	Rauma	89.20	336	eP		P	00 08 38.8	-1.8
JMI	Jan Mayen	89.20	352	eP		P	00 08 41.8	+1.3
JMI				IAmb		IAmb	00 08 42.4	
	comp=Z,111nm,1.1s							
JMI				eSKSac		SKSac	00 18 59.3	+3.1
SUMG	Summit	89.21	1	IAmb		IAmb	00 08 43.6	
	comp=Z,179nm,1.0s							
SUMG	Summit	89.21	1	i P		P	00 08 41.5	+0.4
SUMG				IAmb		IAmb	00 08 43.4	
	comp=Z,174nm,1.0s							
NUUG	Nuugaatsiaq	89.34	6	i P		P	00 08 41.8	+0.6
NUUG				IAmb		IAmb	00 08 43.2	
	comp=Z,97nm,0.9s							
WUAZ	Wupatki	89.34	53	P		P	00 08 43.9	+1.7
	baz=292,SNR=133							
WUAZ				S		S	00 19 21.5	+1.6
	baz=292							
214A	Organ Pipe Nat	89.55	56	P		P	00 08 44.6	+1.6
	baz=292,SNR=120							
214A				S		S	00 19 22.5	+0.9
	baz=292							
ANN	Anapa	89.69	318	eP		P	00 08 42.3	-1.0
ANN				eS		SKSac	00 18 57.6	-2.4
ANN				pmax		pmax		
	comp=Z,81nm,0.9s							
X16A	Lo Mia Camp, P	89.70	54	IAmb		IAmb	00 08 47.0	
	comp=Z,216nm,1.7s							
MTSE	Matsula	89.78	334	eP		P	00 08 41.8	-1.6
O20A	White River Ci	89.82	48	IAmb		IAmb	00 08 46.3	
	comp=Z,232nm,1.2s							
O20A	White River Ci	89.82	48	P		P	00 08 45.2	+0.9
	baz=294,SNR=27							
O20A				S		S	00 19 23.0	-1.2
	baz=294							
RWWY	Rawlins	89.90	46	IAmb		IAmb	00 08 46.8	
	comp=Z,184nm,1.2s							
K22A	Casper	89.95	45	P		P	00 08 45.5	+0.6
	baz=295,SNR=29							
K22A				S		S	00 19 25.5	+0.3
	baz=295							
NSS	Namsos	90.14	342	eP		P	00 08 43.9	-1.1
NSS				IAmb		IAmb	00 08 44.8	
	comp=Z,100nm,0.8s							
NSS				eSKSac		SKSac	00 18 58.4	-3.5
UMMG	Uummannaq	90.28	6	i P		P	00 08 46.0	+0.5
UMMG				IAmb		IAmb	00 08 47.4	
	comp=Z,192nm,1.2s							
MNK	Minsk	90.34	329	i P		P	00 08 45.5	-0.6
MNK				i *PP		pP	00 09 23.5	-0.1
MNK				i *SP		sP	00 09 41.4	+2.3
MNK				i			00 12 21.4	
MNK				i S		SKSac	00 19 01.4	-2.0
MNK				pmax		pmax		
	comp=Z,136nm,0.8s							
MNK				pmax		pmax		
	comp=E,12nm,0.9s							
MNK				pmax		pmax		
	comp=N,24nm,0.8s							
MNK				MLR		MLR		
	comp=E,110nm,19.0s							
MNK				MLR		MLR		
	comp=N,100nm,17.0s							
AAL	Aland	90.41	336	eP		P	00 08 43.9	-2.4
IZAR	Zarasai	90.43	331	eP		P	00 08 47.9	+1.4
ISAL	Salakas	90.58	330	eP		P	00 08 48.1	+0.9
W18A	Petrified Fore	90.73	53	IAmb		IAmb	00 08 51.5	
	comp=Z,176nm,1.2s							
W18A	Petrified Fore	90.73	53	P		P	00 08 50.2	+1.6
	baz=293,SNR=28							
W18A				S		S	00 19 35.0	+2.4
	baz=293							
X18A	Snowflake	90.80	53	IAmb		IAmb	00 08 51.7	
	comp=Z,107nm,1.1s							
MVCO	Mesa Verde	90.82	50	IAmb		IAmb	00 08 51.5	
	comp=Z,230nm,1.3s							
MVCO	Mesa Verde	90.82	50	P		P	00 08 50.3	+1.1
	baz=294,SNR=103							
MVCO				S		S	00 19 34.5	+1.0
	baz=294							
RSSD	Black Hills	90.94	43	P		P	00 08 49.5	0.0
RSSD				IAmb		IAmb	00 08 51.1	
	comp=Z,170nm,1.5s							
RSSD	Black Hills	90.94	43	P		P	00 08 49.8	+0.3
	baz=297							
RSSD				S		S	00 19 32.3	-2.0
	baz=297							
RSSD	Black Hills	90.94	43	P		P	00 08 49.5	0.0
RSSD				pmax		pmax		
	comp=Z,170nm,1.5s							
SCO	Scoresbysund	90.96	356	IAmb		IAmb	00 08 50.6	
	comp=Z,78nm,1.1s							
SCO	Scoresbysund	90.96	356	i P		P	00 08 49.0	+0.3
SCO				IAmb		IAmb	00 08 50.4	
	comp=Z,76nm,1.1s							
TUC	Tucson	91.01	56	P		P	00 08 51.5	+1.6
TUC				IAmb		IAmb	00 08 52.9	
	comp=Z,146nm,1.2s							
TUC	Tucson	91.01	56	P		P	00 08 51.5	+1.6
	baz=293							
TUC				S		S	00 19 37.7	+2.6
	baz=293							
TUC	Tucson	91.01	56	P		P	00 08 51.5	+1.6
TUC				pmax		pmax		
	comp=Z,146nm,1.2s							
N23A	Red Feather La	91.10	46	P		P	00 08 52.1	+1.7
	baz=296,SNR=179							
N23A				S		S	00 19 37.2	+1.3
	baz=296							
SMCO	Snowmass	91.11	48	IAmb		IAmb	00 08 53.0	
	comp=Z,161nm,0.9s							
PHWY	Pilot Hill	91.25	46	IAmb		IAmb	00 08 53.4	
	comp=Z,112nm,1.1s							
UPP	Uppsala	91.52	337	eP		P	00 08 49.7	-1.8
ARPR	Arapgir-MALATY	91.53	312	IAmb		IAmb	00 08 54.3	
	comp=Z,108nm,1.1s							
PABE	Paberze	91.62	331	eP		P	00 08 51.0	-1.1
AKASG	Malin Array Be	91.70	325	P		P	00 08 50.9	-1.6
AKASG	Malin Array Be	91.70	325	P		P	00 08 50.7	-1.8
	comp=Z,6.7nm,0.5s,baz=53,slow=5.1,SNR=55							
AKASG				PP		PP	00 12 28.6	-4.0
	comp=Z,7.0nm,0.7s,baz=48,slow=8.0,SNR=5.1							
AKASG				S		SKSac	00 19 06.0	-5.2
	comp=Z,1.6nm,0.8s,baz=63,slow=4.3,SNR=2.0							
AKASG				PKKPbc		PKKPdf	00 26 09.6	+1.5
	comp=Z,3.7nm,0.6s,baz=265,slow=2.6,SNR=12							
	comp=Z,6.7nm,0.5s							
AKBB	Malin Array Si	91.70	325	ceP		P	00 08 50.2	-2.3
SRIG	Santa Rosalia	91.70	61	IAmb		IAmb	00 08 55.5	
	comp=Z,175nm,1.4s							
KIEV	Kiev	91.71	325	⇑P		P	00 08 50.4	-2.2
KIEV	Kiev	91.71	325	⇓P		PKKPdf	00 26 09.6	+1.6
KIEV	Kiev	91.71	325	P		P	00 08 51.0	-1.6
KIEV	Kiev	91.71	325	i P		P	00 08 50.6	-2.0
	SNR=10							
KIEV	Kiev	91.71	325	⇑P		P	00 08 50.4	-2.2
SIM	Simferopol'	91.72	319	eP		P	00 08 51.8	-1.0
SIM				eS		SKSac	00 19 13.2	+1.5
SIM				pmax		pmax		
	comp=Z,67nm,0.8s							
ISCO	Idaho Springs	91.80	47	IAmb		IAmb	00 08 56.2	
	comp=Z,93nm,1.0s							
ISCO	Idaho Springs	91.80	47	P		P	00 08 55.0	+1.4
	baz=296,SNR=108							
ISCO				S		S	00 19 44.0	+1.7
	baz=296							
S22A	4UR Ranch, Cre	91.81	49	IAmb

RAYN Ar Rayn 91.93 295 P **P 00 08 53.5 -0.8**
RAYN Ar Rayn 91.93 295 P **P 00 08 53.2 -1.1**
RAYN pmax pmax
comp=Z,119nm,0.9s
BRIGG Briggsdale 92.34 46 IAmb IAmb 00 09 40.3
comp=Z,125nm,1.4s
Q24A Divide 92.48 48 P **P 00 08 57.9 +1.0**
baz=296,SNR=45
Q24A S **S 00 19 47.2 -1.3**
baz=296
DIKM Dikmen 92.52 315 ⇓P **P 00 08 56.5 -0.1**
319A Douglas 92.55 56 IAmb IAmb 00 09 38.0
comp=Z,71nm,0.9s
ICESG Greenland Ices 92.67 2 *i* P **P 00 08 56.8 -0.3**
ICESG IAmb IAmb 00 08 58.6
comp=Z,239nm,0.9s
ULM Lac du Bonnet 92.71 35 IAmb IAmb 00 09 36.1
comp=Z,100nm,0.9s
ULM Lac du Bonnet 92.71 35 P **P 00 08 57.2 0.0**
comp=Z,46nm,0.8s,baz=302,slow=4.7,SNR=48
ULM pP **pP 00 09 33.6 -0.2**
comp=Z,79nm,0.8s,baz=310,slow=4.8,SNR=14
ULM LR LR 00 46 41.5
comp=Z,236nm,21.6s,baz=306,slow=33
comp=Z,46nm,0.8s
ULM Lac du Bonnet 92.71 35 *de*P **P 00 08 56.7 -0.5**
NC405 NORSAR Array S 92.73 340 IAmb IAmb 00 08 57.0
comp=Z,106nm,1.3s
HFS Hagfors 92.76 338 P **P 00 08 55.5 -1.8**
comp=Z,34nm,0.4s,baz=50,slow=4.5,SNR=448
HFS PP **PP 00 12 38.7 -1.9**
comp=Z,19nm,0.6s,baz=62,slow=6.9,SNR=6.5
HFS S **SKSac 00 19 15.1 -1.8**
comp=Z,9.3nm,1.1s,baz=88,slow=14,SNR=4.2
HFS PKKP **PKKPdf 00 26 05.7 -0.6**
comp=Z,1.9nm,0.3s,baz=188,slow=2.8,SNR=26
comp=Z,34nm,0.4s
SDCO Great Sand Dun 92.76 49 IAmb IAmb 00 09 00.3
comp=Z,98nm,1.1s
SDCO Great Sand Dun 92.76 49 P **P 00 08 59.2 +1.1**
baz=296,SNR=44
SDCO S **S 00 19 48.5 -2.5**
baz=296
VIKU Vikbolandet 92.79 336 *e*P **P 00 08 55.7 -1.6**
DOMB Dombas 92.88 341 *e*P **P 00 08 57.0 -0.8**
DOMB IAmb IAmb 00 08 57.8
comp=Z,100nm,1.6s
DOMB *e*SKSac **SKSac 00 19 11.9 -5.6**
SUW Suwalki 92.88 330 *e*P **P 00 08 56.6 -1.4**
SUW Suwalki 92.88 330 *e*P **P 00 08 56.5 -1.4**
MOL Molde 92.92 342 *e*P **P 00 08 57.3 -0.6**
NB2 NORSAR Subarra 92.95 340 P **P 00 08 56.1 -2.0**
comp=Z,37nm,0.9s,baz=44,slow=5.1
NB2 PP **PP 00 12 34.4 -7.6**
comp=Z,102nm,1.2s,baz=36,slow=7.9
NB2 PKKP **PKKPdf 00 26 06.9 +0.9**
comp=Z,7.2nm,1.1s,baz=223,slow=2.8
NB2 NORSAR Subarra 92.95 340 P **P 00 08 56.1 -2.0**
baz=44,slow=5.1
NOA NORSAR Array B 92.95 340 P **P 00 08 56.7 -1.5**
comp=Z,16nm,0.7s,baz=44,slow=4.5,SNR=87
NOA pP **pP 00 09 33.6 -1.6**
comp=Z,7.8nm,0.8s,baz=46,slow=4.5,SNR=2.8
NOA PP **PP 00 12 41.1 -1.0**
comp=Z,29nm,0.8s,baz=40,slow=7.8,SNR=14
NOA PKKPbc **PKKPdf 00 26 06.5 +0.5**
comp=Z,3.2nm,0.9s,baz=225,slow=2.7,SNR=5.9
comp=Z,16nm,0.7s
NC602 NORSAR Array S 93.06 339 *e*P **P 00 08 56.8 -1.8**
NC602 IAmb IAmb 00 08 57.7
comp=Z,17nm,0.9s
NC602 *e*SKSac **SKSac 00 19 15.3 -3.2**
121A Cookes Peak, D 93.25 54 IAmb IAmb 00 09 03.5
comp=Z,178nm,1.2s
121A Cookes Peak, D 93.25 54 P **P 00 09 02.3 +1.9**
baz=294,SNR=48
121A S **S 00 19 57.0 +1.8**
baz=294
ANMO Albuquerque 93.26 52 P **P 00 09 01.4 +1.1**
ANMO IAmb IAmb 00 09 02.8
comp=Z,114nm,1.2s
ANMO Albuquerque 93.26 52 P **P 00 09 01.7 +1.3**
baz=295
ANMO S **S 00 19 54.1 -1.2**
baz=295
ANMO Albuquerque 93.26 52 LR LR 00 45 50.0
comp=Z,258nm,20.0s,baz=28,slow=32
ANMO Albuquerque 93.26 52 P **P 00 09 01.4 +1.1**
ANMO pmax pmax
comp=Z,114nm,1.2s
Y22D IRIS PASSCAL I 93.28 53 P **P 00 09 02.2 +1.8**
baz=295
Y22D S **S 00 19 57.7 +2.4**
baz=295
SORM Soroca 93.55 324 ⇑P **P 00 08 59.0 -2.1**
SORM Soroca 93.55 324 ⇓P **PKKPdf 00 26 04.8 0.0**
SORM Soroca 93.55 324 ⇑P **P 00 08 59.0 -2.1**
SOEG Soedalen 93.63 359 *i* P **P 00 09 00.3 -0.7**
SOEG IAmb IAmb 00 09 02.0
comp=Z,66nm,1.2s
OGNE Ogallala 93.72 45 IAmb IAmb 00 09 45.5
comp=Z,109nm,1.4s
OGNE Ogallala 93.72 45 P **P 00 09 02.3 +0.1**
baz=298
AGMN Agassiz Nation 93.79 36 IAmb IAmb 00 09 45.0
comp=Z,167nm,1.6s
AGMN Agassiz Nation 93.79 36 P **P 00 09 02.2 0.0**
baz=303,SNR=21
T25A Trinidad 93.81 49 IAmb IAmb 00 09 05.9
comp=Z,142nm,1.2s
T25A Trinidad 93.81 49 P **P 00 09 04.0 +1.2**
baz=296,SNR=84
T25A S **S 00 19 59.1 -0.9**
baz=296
OSL Oslo 93.93 339 *e*P **P 00 09 01.8 -0.8**
OSL IAmb IAmb 00 09 02.2
comp=Z,52nm,1.1s
OSL *e*PP **PP 00 12 49.4 -0.2**
OSL *e*SKSac **SKSac 00 19 20.5 -2.7**
MILM Milestii Mici 93.94 322 ⇑P **P 00 09 00.5 -2.4**
MILM Milestii Mici 93.94 322 ⇓P **PKKPdf 00 26 04.9 +0.9**
MILM Milestii Mici 93.94 322 ⇑P **P 00 09 00.5 -2.4**
SFJD Kangerlussuaq 93.98 6 P **P 00 09 03.1 +0.4**
SFJD Kangerlussuaq 93.98 6 LR LR 00 52 55.3
comp=Z,79nm,20.1s,baz=345,slow=36
SFJD Kangerlussuaq 93.98 6 P **P 00 09 03.1 +0.4**
SFJD pmax pmax
comp=Z,174nm,1.0s
SFJD Kangerlussuaq 93.98 6 *i* P **P 00 09 02.9 +0.2**
SFJD IAmb IAmb 00 09 04.1
comp=Z,178nm,0.9s
SUSD Miller 93.99 41 IAmb IAmb 00 09 42.9
comp=Z,67nm,0.7s
SUSD Miller 93.99 41 P **P 00 09 03.0 -0.2**
baz=301,SNR=6.3
KSCO Kaye Shedlock' 94.22 47 IAmb IAmb 00 09 08.3
comp=Z,106nm,0.9s
KSCO Kaye Shedlock' 94.22 47 P **P 00 09 05.4 +0.8**
baz=298,SNR=7.0
KSCO S **S 00 20 03.9 +0.5**
baz=298
FOO Floro 94.42 342 *e*P **P 00 09 04.3 -0.4**
FOO IAmb IAmb 00 09 05.4
comp=Z,69nm,1.0s
FOO *e*PP **PP 00 12 52.2 -1.1**
FOO *e*SKSac **SKSac 00 19 23.6 -2.1**
HYA Hoyanger 94.43 342 *e*P **P 00 09 04.5 -0.4**
HYA IAmb IAmb 00 09 05.9
comp=Z,116nm,1.0s
HYA *e*SKSac **SKSac 00 19 30.8 +5.0**
K30B Basset 94.47 42 IAmb IAmb 00 09 49.0
comp=Z,76nm,1.0s
BR131 Keskin Array S 94.50 314 *ce*P **P 00 09 04.1 -1.8**
BRTR Keskin Array B 94.50 314 P **P 00 09 03.7 -2.2**
BRTR Keskin Array B 94.50 314 P **P 00 09 04.2 -1.7**
comp=Z,24nm,0.8s,baz=94,slow=2.7,SNR=113
BRTR pP **pP 00 09 41.2 -2.0**
comp=Z,11nm,0.9s,baz=69,slow=3.0,SNR=4.2
BRTR PKKPbc **PKKPbc 00 26 04.4 -0.3**
comp=Z,2.2nm,0.8s,baz=189,slow=3.6,SNR=12
BRTR PKPPKP **P'P'df 00 34 12.4 -5.0**
comp=Z,0.8nm,1.0s,baz=20,slow=4.6,SNR=4.7
comp=Z,24nm,0.8s
BRTR Keskin Array B 94.50 314 *ce*P **P 00 09 04.1 -1.8**
BRTR pmax pmax
comp=Z,24nm,0.8s
LPIG La Paz 94.51 63 LR LR 00 44 32.6
comp=Z,679nm,19.9s,baz=253,slow=31
IAS Iasi 94.52 323 ⇓P **PKKPdf 00 26 02.1 -0.9**
KONO Kongsberg 94.52 339 *e*P **P 00 09 03.7 -1.6**
BLEU Blekinge 94.64 335 *i* P **P 00 09 03.2 -2.7**
TLCR 94.86 321 ⇓P **P 00 09 06.0 -1.1**
TLCR 94.86 321 ⇓P **P 00 09 06.0 -1.1**
F33A 5 Mile Ranch, 94.87 38 IAmb IAmb 00 09 50.2
comp=Z,66nm,1.1s
BORU Boraas 94.89 337 *i* P **P 00 09 03.4 -3.7**
DY2G Dye2 94.90 5 *i* P **P 00 09 07.5 +0.2**
DY2G IAmb IAmb 00 09 09.5
comp=Z,184nm,1.3s
SUE Sulen 94.93 342 *e*P **P 00 09 06.9 -0.2**
SUE IAmb IAmb 00 09 07.8
comp=Z,63nm,0.9s
SUE *e*SKSac **SKSac 00 19 28.4 -0.1**
VLDR Vladesti 94.94 322 ⇓P **P 00 09 06.9 -0.6**
VLDR Vladesti 94.94 322 ⇑P **PKKPdf 00 25 59.3 -2.9**
LVV L'vov 94.95 327 *e*P **P 00 09 07.0 -0.5**
ANTO Ankara 95.01 315 ⇑P **P 00 09 06.8 -1.3**
ANTO Ankara 95.01 315 P **P 00 09 07.3 -0.8**
ANTO Ankara 95.01 315 P **P 00 09 07.6 -0.5**
ANTO Ankara 95.01 315 ⇑P **P 00 09 06.8 -1.3**
TJOU Tjoern 95.02 338 *i* P **P 00 09 05.1 -2.5**
JURR Jurilovca 95.04 320 ⇓P **P 00 09 06.9 -1.1**
GHRR 95.22 322 ⇑P **PKKPdf 00 26 00.6 -1.2**
ASK Askoy 95.27 342 *e*P **P 00 09 08.5 -0.2**
ASK *e*PP **PP 00 12 58.6 -1.3**
CFR Carcaliu 95.27 321 ⇑P **P 00 09 04.8 -4.2**
CFR Carcaliu 95.27 321 ⇓P **PKKPdf 00 26 00.1 -1.5**
CFR Carcaliu 95.27 321 ⇑P **P 00 09 04.8 -4.2**
TPGR Topolog 95.27 321 ⇓P **P 00 09 08.1 -1.0**
ODD1 Odda 95.28 341 *e*P **P 00 09 07.7 -1.1**
DEL Delary 95.30 336 *e*P **P 00 09 06.8 -2.2**
DEL Delary 95.30 336 *i* P **P 00 09 05.4 -3.5**
BER Bergen 95.30 342 *e*P **P 00 09 09.0 +0.1**
RTBA Rita Blanca 95.32 49 IAmb IAmb 00 09 12.7
comp=Z,132nm,1.6s
BEL Belsk 95.36 329 *e*P **P 00 09 09.6 +0.3**
FABU Falkenberg 95.36 336 *i* P **P 00 09 06.3 -2.9**
ONAU Onsala 95.38 337 *i* P **P 00 09 06.5 -2.8**
TESR Tescani 95.41 323 ⇓P **P 00 09 08.4 -1.3**
TESR Tescani 95.41 323 ⇓P **PKKPdf 00 26 00.0 -1.5**
MNTX Cornudas Mount 95.45 54 P **P 00 09 11.4 +1.2**
baz=296,SNR=41
MNTX S **S 00 20 14.1 0.0**
baz=296
BURAR Bucovina Array 95.59 324 ⇓P **P 00 09 09.6 -1.0**
BURAR Bucovina Array 95.59 324 ⇑P **PKKPdf 00 26 01.3 0.0**
BURAR Bucovina Array 95.59 324 P **P 00 09 08.9 -1.7**
HARR Harsova 95.65 321 ⇑P **P 00 09 10.3 -0.5**
HARR Harsova 95.65 321 ⇑P **PKKPdf 00 26 01.2 +0.2**
HARR Harsova 95.65 321 ⇑P **P 00 09 10.3 -0.5**
TLBR Topalu 95.66 321 ⇑P **P 00 09 09.4 -1.4**
BLS5 Blasjo 95.72 341 *e*P **P 00 09 09.6 -1.3**
BLS5 IAmb IAmb 00 09 11.8
comp=Z,26nm,1.0s
VRI Vrincioaia 95.72 322 ⇓P **P 00 09 10.8 -0.3**
VRI Vrincioaia 95.72 322 ⇑P **PKKPdf 00 25 57.8 -3.2**
VRI Vrincioaia 95.72 322 ⇓P **P 00 09 10.8 -0.3**
KWP Kalwaria Pacla 95.76 327 *e*P **P 00 09 09.9 -1.3**
PLOR Plostina 95.77 322 ⇓P **P 00 09 11.9 +0.5**
PLOR Plostina 95.77 322 ⇓P **PKKPdf 00 25 56.7 -4.1**
PLOR Plostina 95.77 322 ⇓P **P 00 09 11.9 +0.5**
ECSD EROS Data Cent 95.80 40 P **P 00 09 11.2 -0.4**
baz=302,SNR=13
ECSD S **S 00 20 12.2 -4.4**
baz=302
BSD Bornholm Skovb 95.83 334 *e*P **P 00 09 09.1 -2.2**
BSD Bornholm Skovb 95.83 334 *i* P **P 00 09 09.0 -2.4**
BSD IAmb IAmb 00 09 10.4
comp=Z,43nm,0.9s
BJUU Bjuv 95.91 336 *i* P **P 00 09 09.1 -2.6**
HOMB Homborsund 95.94 339 *i* P **P 00 09 10.0 -1.8**
TURR Turia 96.03 323 ⇑P **P 00 09 12.5 -0.1**
ICOR Ion Corvin 96.04 320 ⇓P **P 00 09 12.1 -0.5**
ICOR Ion Corvin 96.04 320 ⇓P **PKKPdf 00 26 00.7 +0.4**
BGNE Belgrade 96.05 43 P **P 00 09 11.8 -0.9**
baz=301
LUNU Lund 96.06 335 *i* P **P 00 09 09.1 -3.3**
GKP Gorka Klasztor 96.09 332 *e*P **P 00 09 11.1 -1.5**
GKP Gorka Klasztor 96.09 332 *e*P **P 00 09 11.8 -0.8**
PSN Preselentsi 96.09 320 P **P 00 09 11.0 -1.8**
OZUR 96.14 323 ⇑P **PKKPdf 00 25 53.9 -6.3**
VHRN Van Horn 96.15 55 IAmb IAmb 00 09 16.0
comp=Z,109nm,1.6s
VNDA Vanda 96.17 177 P **P 00 09 12.1 -0.2**
comp=Z,2.2nm,0.8s,baz=311,slow=5.3,SNR=11
VNDA PP **PP 00 13 07.0 -0.4**
comp=Z,7.7nm,1.1s,baz=335,slow=8.2,SNR=5.2
VNDA PKKPbc **PKKPbc 00 25 60.0 -2.0**
comp=Z,2.7nm,0.6s,baz=213,slow=3.5,SNR=12
VNDA LR LR 00 50 23.7
comp=Z,109nm,19.7s,baz=347,slow=34
ANGG Ammassalik, Gr 96.21 2 IAmb IAmb 00 09 13.1
comp=Z,34nm,0.7s
ANGG Ammassalik, Gr 96.21 2 *i* P **P 00 09 11.7 -1.1**
ANGG IAmb IAmb 00 09 12.9
comp=Z,34nm,0.7s
NEHR Nehoiu 96.22 322 ⇑P **PKKPdf 00 26 03.6 +3.5**
BOSR Bodos 96.22 323 ⇑P **P 00 09 12.0 -1.5**
BOSR Bodos 96.22 323 ⇓P **PKKPdf 00 25 56.2 -3.9**
ISOG Isortoq, Green 96.24 2 *i* P **P 00 09 12.0 -1.0**
ISOG IAmb IAmb 00 09 13.4
comp=Z,60nm,1.0s
KMY Karmoy 96.27 341 *e*P **P 00 09 13.6 +0.3**
KMY IAmb IAmb 00 09 13.7
comp=Z,37nm,1.0s
CBKS Cedar Bluff 96.29 46 IAmb IAmb 00 09 16.0
comp=Z,58nm,1.1s
CBKS Cedar Bluff 96.29 46 P **P 00 09 13.7 -0.2**
baz=300
MMAI Mount Meron Ar 96.32 308 P **P 00 09 13.6 -0.7**
comp=Z,4.1nm,0.6s,baz=68,slow=8.0,SNR=4.4
MMAI pP **pP 00 09 50.2 -0.8**
comp=Z,8.1nm,0.9s,baz=50,slow=5.6,SNR=2.8
comp=Z,4.1nm,0.6s
SNART Snartemo 96.32 340 *e*P **P 00 09 13.1 -0.5**
SNART Snartemo 96.32 340 *i* P **P 00 09 11.3 -2.2**
ARCR ARCALIA 96.38 324 ⇓P **PKKPdf 00 25 57.6 -2.1**
MLR Muntele Rosu 96.39 322 ⇑P **P 00 09 14.9 +0.6**
MLR Muntele Rosu 96.39 322 ⇓P **PKKPdf 00 25 58.9 -1.0**
MLR Muntele Rosu 96.39 322 ⇑P **P 00 09 14.9 +0.6**
EYMN Ely 96.39 35 P **P 00 09 13.8 -0.3**
baz=306,SNR=5.2
KOLS Kolonicke sedl 96.41 326 *i* P **P 00 09 13.4 -0.8**
KOLS *e* 00 13 13.5
MSTX Muleshoe 96.42 51 IAmb IAmb 00 13 09.6
comp=Z,57nm,1.2s
MSTX Muleshoe 96.42 51 P **P 00 09 14.9 +0.1**
baz=297,SNR=8.0
COP Copenhagen 96.42 336 *i* P **P 00 09 11.7 -2.4**
COP IAmb IAmb 00 09 26.0
comp=Z,55nm,0.9s
DOPR Dopca 96.44 323 ⇑P **P 00 09 13.4 -1.1**
DOPR Dopca 96.44 323 ⇑P **PKKPdf 00 26 00.5 +0.9**
BMR Baia Mare 96.51 325 ⇓P **P 00 09 14.3 -0.3**
BMR Baia Mare 96.51 325 ⇑P **PKKPdf 00 25 59.0 -0.5**
BMR Baia Mare 96.51 325 ⇓P **P 00 09 14.3 -0.3**
BORG Borgarnes 96.55 355 P **P 00 09 16.2 +1.8**
BORG IAmb IAmb 00 09 16.8
comp=Z,69nm,0.9s
BORG Borgarnes 96.55 355 P **P 00 09 16.2 +1.8**
BORG pmax pmax
comp=Z,69nm,0.9s
PECS Pecos 96.76 54 IAmb IAmb 00 09 56.0
comp=Z,36nm,0.6s
AMTX Amarillo 96.81 50 IAmb IAmb 00 09 18.4
comp=Z,71nm,0.9s
AMTX Amarillo 96.81 50 P **P 00 09 17.2 +0.8**
baz=298
AMTX S **S 00 20 25.0 -0.8**
baz=298
CRVS Cervenica-Dubn 96.85 327 *i* P **P 00 09 15.3 -0.9**
CRVS *e* 00 13 14.2
OJC Ojcow 96.87 329 *e*P P 00 09 10.7 -5.5
L34A Svendsen Farm, 96.89 42 IAmb IAmb 00 09 57.2
comp=Z,49nm,0.8s
VOIR 96.94 323 ⇑P **P 00 09 15.8 -0.9**
VOIR 96.94 323 ⇑P **PKKPdf 00 25 56.6 -2.3**
VOIR 96.94 323 ⇑P **P 00 09 15.8 -0.9**
CBBR Cluj-Babes-Bol 97.01 324 ⇓P **P 00 09 13.4 -3.6**
CJR Cluj-Napoca 97.02 324 ⇓P **PKKPdf 00 25 55.6 -3.1**
MUD Monsted U'grnd 97.09 337 *i* P **P 00 09 15.2 -1.9**
MUD IAmb IAmb 00 09 19.2
comp=Z,88nm,1.7s
SPMN Marine on St. 97.25 38 P **P 00 09 17.7 -0.3**
baz=305,SNR=7.0
SPMN S **S 00 20 26.8 -2.2**
baz=305
TNR Turnu Rosu 97.26 323 ⇓P **P 00 09 18.0 -0.1**
TNR Turnu Rosu 97.26 323 ⇓P **P 00 09 18.0 -0.1**
MARR Marisel-Cluj 97.31 324 ⇓P **P 00 09 16.7 -1.7**
MARR Marisel-Cluj 97.31 324 ⇓P **PKKPdf 00 25 57.0 -1.3**
DRGR 97.46 325 ⇓P **P 00 09 18.2 -0.9**
DRGR 97.46 325 ⇓P **PKKPdf 00 25 55.7 -2.2**
DRGR 97.46 325 ⇓P **P 00 09 18.2 -0.9**
HUMR Humele 97.49 322 ⇑P **PKKPdf 00 25 56.6 -1.1**
COPA Copaceanca 97.58 321 ⇓P **P 00 09 18.9 -0.6**
I37A Lemond, Waseca 97.59 39 IAmb IAmb 00 13 16.9
comp=Z,78nm,1.3s
SZH Strazhitsa 97.61 320 P **P 00 09 18.0 -1.7**
SSRD Sdr. Stenderup 97.65 337 *i* P **P 00 09 18.2 -1.4**
SSRD IAmb IAmb 00 09 21.3
comp=Z,35nm,0.8s
LOT Lotru 97.66 323 ⇑P **P 00 09 19.4 -0.6**
LANS Liptovska Anna 97.72 328 *i* P Pdif 00 09 20.2 0.0
LANS *e* 00 13 18.5
LANS Liptovska Anna 97.72 328 *e* 00 25 57.3
POST Post 97.78 52 IAmb IAmb 00 10 00.2
comp=Z,36nm,0.7s
TXAR Lajitas Array 97.81 56 P Pdif 00 09 21.1 +0.1
TXAR Lajitas Array 97.81 56 P Pdif 00 09 22.2 +1.1
comp=Z,7.8nm,1.0s,baz=274,slow=3.3,SNR=40
TXAR PP **PP 00 13 16.7 -4.1**
comp=Z,4.4nm,0.9s,baz=273,slow=6.2,SNR=5.7
TXAR PKiKP **PKiKP 00 13 55.1 +0.9**
comp=Z,1.9nm,0.8s,baz=294,slow=0.3,SNR=5.0
TXAR S **SKSac 00 19 46.0 +1.0**
comp=Z,0.4nm,0.9s,baz=308,slow=0.6,SNR=2.7
TXAR PKKP **PKKPbc 00 25 55.8 +0.3**
comp=Z,3.2nm,0.9s,baz=125,slow=5.3,SNR=14
TXAR PKPPKP **P'P'df 00 34 08.7 -2.9**
comp=Z,0.1nm,0.3s,baz=46,slow=3.6,SNR=3.5
TXAR LR LR 00 48 32.5
comp=Z,214nm,19.4s,baz=284,slow=32
comp=Z,7.8nm,1.0s
ELIS Ellis County 97.86 48 IAmb IAmb 00 09 23.3
comp=Z,62nm,1.2s
ELND Elena 97.86 320 ⇓P **P 00 09 20.1 -0.7**
ELND Elena 97.86 320 ⇑P **PKKPdf 00 25 53.3 -3.8**
DKNS Dickens 97.93 51 IAmb IAmb 00 09 23.3
comp=Z,42nm,0.9s
U32A Winter Ranch, 98.00 48 IAmb IAmb 00 09 23.5
comp=Z,47nm,1.0s
VLAD Vladila 98.14 322 ⇑P **P 00 09 21.4 -0.6**
RUE Ruedersdorf 98.16 333 *e*P **P 00 09 20.9 -1.0**
KSU1 Kansas State U 98.25 44 P **P 00 09 22.2 -0.5**
baz=302
GZR Gura Zlata 98.26 323 ⇓P **P 00 09 22.3 -0.4**
GZR Gura Zlata 98.26 323 ⇓P **PKKPdf 00 25 52.1 -4.4**
GZR Gura Zlata 98.26 323 ⇓P **P 00 09 22.3 -0.4**
MORC Moravsky Berou 98.27 329 ⇑P **P 00 09 21.5 -1.1**
MORC Moravsky Berou 98.27 329 ⇑P **PKKPdf 00 25 54.6 -1.8**
MORC Moravsky Berou 98.27 329 *e*P **P 00 09 21.1 -1.5**
MORC *e*PP **PP 00 13 22.5 -0.9**
MORC *e*PKKP **PKKPbc 00 25 54.5 -0.3**
MORC Moravsky Berou 98.27 329 ⇑P **P 00 09 21.5 -1.1**
PSZ Piszkesteto 98.28 327 ⇑P **P 00 09 21.5 -1.2**
PSZ Piszkesteto 98.28 327 ⇑P **P 00 09 21.5 -1.2**
SIRR Siria 98.36 325 ⇓P **PKKPdf 00 25 53.3 -2.9**
OSTC Ostas 98.38 330 *e*P **P 00 09 22.9 -0.1**
OSTC *e*SKS **SKSac 00 19 46.5 -0.5**
OSTC *e*PKKP **PKKPbc 00 25 53.4 -1.1**
OSTC AMS AMS 01 11 30.0
comp=Z,500nm,15.8s
OSTC Ostas 98.38 330 *e*P **P 00 09 22.9 -0.1**
OSTC *e* 00 19 46.5
MAUC Maruska 98.40 329 *e*P **P 00 09 22.6 -0.6**
MAUC *e*PKKP **PKKPbc 00 25 53.8 -0.7**
SURR Surduc 98.41 324 ⇓P **P 00 09 22.0 -1.3**
SURR Surduc 98.41 324 ⇑P **PKKPdf 00 25 52.0 -4.1**
KRLC Kraliky 98.43 330 *e*P **P 00 09 22.1 -1.2**
KRLC *e*PKKP **PKKPbc 00 25 53.4 -1.0**
KRLC AMS AMS 01 11 20.0
comp=Z,400nm,13.3s
KRLC Kraliky 98.43 330 *e*P **P 00 09 22.1 -1.2**
KAN14 Manchester OK 98.44 47 IAmb IAmb 00 11 00.6
comp=Z,49nm,0.9s
VYHS Vyhne 98.46 328 *i* P **P 00 09 22.9 -0.5**
VYHS *e* 00 13 26.2
VYHS Vyhne 98.46 328 *e* 00 25 53.9
DPC Dobruska-Polom 98.47 330 *e*P **P 00 09 22.9 -0.6**
DPC *e*PP **PP 00 13 22.5 -2.4**
DPC *e*PKKP **PKKPbc 00 25 53.3 -1.0**
DPC AMS AMS 01 11 30.0
comp=Z,500nm,15.3s
DPC Dobruska-Polom 98.47 330 *e*P **P 00 09 22.9 -0.6**
DPC *e* 00 13 22.5
BSZH Besenyszg 98.47 326 ⇑P Pdif 00 09 23.5 +0.1
ELL Elmali 98.52 313 IAmb IAmb 00 09 25.3
comp=Z,66nm,0.8s
BSEG Bad Segeberg 98.54 335 *e*Pdiff 00 09 22.8
APMT Aspermont 98.68 51 IAmb IAmb 00 09 26.5
comp=Z,77nm,1.5s
G40A Rib Lake 98.71 36 IAmb IAmb 00 10 03.5
comp=Z,30nm,0.8s
HERR Herculane 98.77 323 ⇓P **P 00 09 23.7 -1.1**
HERR Herculane 98.77 323 ⇓P **PKKPdf 00 25 50.3 -5.2**
BZS Buzias 98.78 324 ⇓P **P 00 09 23.3 -1.6**
BZS Buzias 98.78 324 ⇑P **PKKPdf 00 25 50.7 -4.7**
BZS Buzias 98.78 324 ⇓P **P 00 09 23.3 -1.6**
JAVC Velka Javorina 98.81 328 *e*P **P 00 09 24.8 -0.2**
JAVC *e*PP **PP 00 13 27.5 -0.1**
JAVC *e*PKKP **PKKPbc 00 25 53.6 +0.3**
GORT1 Trebel 98.84 334 *e*Pdiff 00 09 23.7
VALD Valchedram 98.89 322 P **P 00 09 25.0 -0.4**
SCIA State Center 98.89 40 Pdiff **P 00 09 24.7 -0.8**
baz=304
MPEP Malo Peshtene 98.90 321 P **P 00 09 24.0 -1.5**
WMOK Wichita Mounta 98.97 49 Pdiff **P 00 09 25.9 -0.1**
baz=300
WMOK S **S 00 20 43.0 -1.0**
baz=300
VRAC Vranov 99.04 329 ⇑P **Pdif 00 09 25.3 -0.7**
VRAC Vranov 99.04 329 *e*P **Pdif 00 09 24.8 -1.2**
VRAC *e*PP **PP 00 13 28.6 -0.7**
VRAC *e*PKKP **PKKPbc 00 25 51.7 -0.9**
VRAC Vranov 99.04 329 LR LR 00 55 15.1
comp=Z,246nm,20.4s,baz=58,slow=36
VRAC Vranov 99.04 329 ⇑P **Pdif 00 09 25.3 -0.7**
OZNA Ozona 99.06 53 IAmb IAmb 00 13 30.0
comp=Z,66nm,1.3s
SRO Srobarova 99.16 327 *i* P **Pdif 00 09 26.6 +0.1**
SRO *e* 00 13 30.6
PVCC Panska Ves 99.17 331 *e*PKKP 00 25 51.7
PVCC AMS AMS 01 12 10.0
comp=Z,700nm,16.5s
BANR Banloc 99.19 324 ⇓P **PKKPdf 00 25 52.4 -2.3**
BRG Berggiesshubel 99.21 332 ⇓*i*Pif 00 09 25.9
BRG Amp 00 09 27.0
comp=Z,9.3nm,1.0s
BRG Berggiesshubel 99.21 332 P **Pdif 00 09 34.4 +7.6**
BRG Amp 00 09 35.4
comp=Z,3.8nm,0.8s
BRG ⇓pPif 00 10 08.3
BRG Amp 00 10 10.7
comp=Z,4.3nm,1.0s
BRG Berggiesshubel 99.21 332 ⇓Sif **Sdif 00 20 41.0 -4.3**
BRG Berggiesshubel 99.21 332 SP SP 00 22 11.0 -0.7
BRG PKKP 00 25 51.6
BRG Amp 00 25 52.4
comp=Z,9.2nm,1.0s
BRG Berggiesshubel 99.21 332 *i* P **Pdif 00 09 25.9 -0.8**
BRG 00 10 08.3
BRG 00 13 26.1
BRG 00 19 50.7
BRG SP SP 00 22 11.0 -0.7
BRG SS **SS 00 27 34.0 -2.0**
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax

comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,69nm,1.1s
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG Berggiesshubel 99.21 332 *e*Pdiff 00 09 26.1
BRG *e*PP 00 13 30.9
MDVR Moldovita 99.23 323 ⇑P **Pdif 00 09 25.6 -1.4**
MDVR Moldovita 99.23 323 ⇑P **PKKPdf 00 25 49.1 -5.6**
RZN Rozhen 99.25 320 P **Pdif 00 09 25.0 -2.3**
KRUC Moravsky 99.30 329 *e*P **Pdif 00 09 25.6 -1.5**
KRUC *e*PP **PP 00 13 30.3 -0.9**
KRUC *e*PKKP **PKKPbc 00 25 50.9 -1.0**
MODS Modra-Piesok 99.32 328 *i* P **Pdif 00 09 26.7 -0.6**
MODS *e* 00 13 32.9
CLL Collm 99.33 332 *e*P **Pdif 00 09 26.0 -1.2**
CLL *i* 00 13 30.8
CLL *e* 00 19 42.0
CLL *e*S S 00 20 36.0 -10
CLL pmax pmax
comp=Z,25nm,1.1s
CLL pmax pmax
comp=Z,116nm,1.3s
CLL Collm 99.33 332 *e*Pdiff 00 09 26.0
CLL *e*PP 00 13 31.1
FLTG Flechtingen 99.35 334 *e*PP 00 13 30.9
ABTX Abilene, Hawle 99.37 51 Pdiff **Pdif 00 09 28.0 +0.2**
baz=299
GOPC GO Pecny, Ondr 99.49 330 *e*P **Pdif 00 09 27.4 -0.6**
GOPC AMS AMS 01 12 10.0
comp=Z,400nm,15.3s
GOPC GO Pecny, Ondr 99.49 330 *e*P **Pdif 00 09 27.4 -0.6**
PRU Pruhonice 99.55 331 *e*P **Pdif 00 09 27.3 -0.9**
PRU *e*SKS **SKSac 00 19 49.4 -3.4**
PRU *e*PKKP **PKKPbc 00 25 50.0 -1.2**
PRU AMS AMS 01 12 20.0
comp=Z,500nm,16.5s
PRU Pruhonice 99.55 331 *e*P **Pdif 00 09 27.3 -0.9**
PRU *e* 00 19 49.4
PRU MLR MLR
comp=Z,400nm,24.3s
TREC Trest 99.58 330 *e*P **Pdif 00 09 27.1 -1.3**
TREC AMS AMS 01 12 10.0
comp=Z,400nm,14.7s
TREC Trest 99.58 330 *e*P **Pdif 00 09 27.1 -1.3**
PLNA Plana 99.60 321 P **Pdif 00 09 27.0 -1.8**
VTS Vitosha 99.63 321 P **Pdif 00 09 28.0 -1.0**
NRDL Niedersach Rie 99.70 334 *e*PP 00 13 34.6
RETH Rethem/Aller, 99.82 335 *e*PP 00 13 34.5
BOVS Bovan 99.93 322 ⇑P **Pdif 00 09 28.8 -1.2**
BOVS Bovan 99.93 322 ⇓P PKKPdf 00 25 45.3 -8.0
MMB Musomishta 99.94 320 P **Pdif 00 09 28.0 -2.2**
MORH Mrgy, Hungar 100.02 326 ⇓P **Pdif 00 09 29.1 -1.3**
MORH Mrgy, Hungar 100.02 326 ⇓P **PKKPdf 00 25 48.7 -4.5**
FRGS Fruska Gora 100.06 325 ⇓P **Pdif 00 09 29.9 -0.7**
CLZ Clausthal 100.07 334 *e*PP 00 13 36.3
JFWS Jewell Farm 100.09 38 Pdiff **Pdif 00 09 30.1 -0.7**
baz=307
KKB Krupnik 100.15 320 P **Pdif 00 09 29.0 -2.1**
TANN Tannenbergstha 100.20 332 *e*PP 00 13 38.0
RONA Rosalia, Austr 100.26 328 *i* Pdiff **Pdif 00 09 30.6 -0.9**
comp=Z,4.6nm,0.8s
RONA *i* PP **PP 00 13 39.2 +0.6**
comp=Z,27nm,1.1s
RONA *i* PKKP **PKKPbc 00 25 48.6 -0.6**
comp=Z,4.4nm,0.9s
JCT Junction City 100.27 53 Pdiff **Pdif 00 09 32.4 +0.4**
baz=298
PLN Plauen 100.29 332 *e*Pdiff 00 09 30.1
PLN *e*PP 00 13 39.3
CONA Conrad Observa 100.33 328 *e*Pdiff **Pdif 00 09 31.2 -0.7**
comp=Z,5.2nm,0.9s,SNR=5.2
CONA *i* PP **PP 00 13 40.8 +1.6**
comp=Z,38nm,1.2s
CONA *e*SKS **SKSac 00 19 55.6 -1.3**
comp=Z,4.5nm,1.3s
CONA *i* PKKP **PKKPbc 00 25 48.4 -0.7**
comp=Z,6.0nm,0.9s
PEHC Pehcevo 100.33 320 *i* P **Pdif 00 09 30.5 -1.5**
MOX Moxa 100.41 332 *e*Pdiff 00 09 30.8
MOX *e*PP 00 13 39.6
MOX *e*L 00 58 34.4
comp=Z,228nm,20.2s
GTTG Gottingen 100.46 334 *e*PP 00 13 41.8
CKRC Cesky Krumlov 100.47 330 *e*P **Pdif 00 09 30.6 -1.8**
CKRC *e*PP **PP 00 13 37.9 -2.2**
CKRC *e*SKS **SKSac 00 19 55.3 -2.1**
CKRC *e*PKKP **PKKPbc 00 25 46.8 -1.8**
CKRC AMS AMS 01 12 40.0
comp=Z,300nm,14.7s
CKRC Cesky Krumlov 100.47 330 *e*P **Pdif 00 09 30.6 -1.8**
CKRC *e* 00 13 37.9
CKRC *e* 00 19 55.3
TUL3 Leonard 100.47 47 Pdiff **Pdif 00 09 32.8 +0.2**
baz=302
KHC Kasperske Hory 100.60 330 *e*P **Pdif 00 09 31.5 -1.5**
KHC *e*PP **PP 00 13 33.9 -7.2**
KHC *e*SKS **SKSac 00 19 57.5 -0.5**
KHC *e*PKKP **PKKPbc 00 25 46.7 -1.6**
KHC AMS AMS 01 12 50.0
comp=Z,400nm,12.6s
KHC Kasperske Hory 100.60 330 *e*P **Pdif 00 09 31.5 -1.5**
KHC *e* 00 19 57.5
KHC MLR MLR
comp=Z,400nm,22.9s
MANZ Manzenberg 100.67 332 *e*Pdiff 00 09 32.5
MANZ *e*PP 00 13 41.6
GERES GERESS Array B 100.74 330 P **Pdif 00 09 32.6 -1.1**
comp=Z,4.4nm,0.8s,baz=38,slow=5.0,SNR=26
GERES PP **PP 00 13 40.6 -1.6**
comp=Z,12nm,0.8s,baz=46,slow=7.6,SNR=9.0
GERES PKKPbc **PKKPbc 00 25 46.1 -1.8**
comp=Z,6.4nm,0.7s,baz=240,slow=2.6,SNR=25
GEC2 GERESS Array S 100.74 330 *e*Pdiff 00 09 32.2
GEC2 *e*PP 00 13 42.7
ROTZ Rotzenmuhle 100.78 332 *e*Pdiff 00 09 32.7
ROTZ *e*PP 00 13 42.1
IBBN Ibbenburen 100.79 335 *e*PP 00 13 40.0
STIP Stip 100.81 321 *i* P **Pdif 00 09 32.2 -1.8**
WET Wettzell 100.92 331 *e*PP 00 13 44.7
ARSA Arzberg 100.95 328 *e*Pdiff **Pdif 00 09 33.5 -1.0**
comp=Z,5.2nm,0.8s,SNR=5.5
ARSA *i* PP **PP 00 13 45.6 +1.8**
comp=Z,35nm,1.2s,SNR=6.3
ARSA *e*PKKP **PKKPbc 00 25 47.0 -0.2**
comp=Z,15nm,1.1s,SNR=7.1
UBBA Unterbreizbach 100.99 333 *e*PP 00 13 43.9
SKO Skopje 101.09 321 *i* P **Pdif 00 09 35.3 +0.1**
MOA Molln 101.17 329 *e*Pdiff **Pdif 00 09 34.6 -0.9**
comp=Z,3.5nm,0.8s
MOA *i* PP **PP 00 13 46.4 +1.0**
comp=Z,24nm,1.0s
MOA *i* PKKP **PKKPbc 00 25 45.8 -0.8**
comp=Z,18nm,0.9s,SNR=13
GRF Grafenberg Arr 101.28 332 *e*PP 00 13 47.0
GRF *e*L 01 01 13.3
comp=Z,227nm,19.5s
WHTX Lake Whitney, 101.29 51 Pdiff **Pdif 00 09 36.9 +0.5**
baz=300
KASTN Kahler Asten 101.36 334 *e*PP 00 13 47.7
GROS Grobnik 101.50 328 *e*Pdiff **Pdif 00 09 35.3 -1.8**
GROS *e*PP **PP 00 13 47.6 -0.3**
GROS *e* 00 19 59.7
GROS *e*SP SP 00 22 33.9 -2.5
GROS *i* PKKPbc **PKKPbc 00 25 45.5 -0.2**
GROS *e* 00 26 09.7
BIOA Bad Ischl, Aus 101.58 329 *e*Pdiff **Pdif 00 09 36.4 -1.0**
comp=Z,5.8nm,1.1s
BIOA *i* PP **PP 00 13 48.6 +0.2**
comp=Z,24nm,1.6s
BIOA *i* PKKP **PKKPbc 00 25 44.2 -1.2**
comp=Z,10nm,0.9s,SNR=6.1
SOKA Soboth 101.59 328 *e*Pdiff **Pdif 00 09 36.0 -1.5**
comp=Z,8.1nm,1.4s
SOKA *i* PP **PP 00 13 49.3 +0.6**
comp=Z,69nm,1.4s,SNR=8.8
SOKA *i* PKKP **PKKPbc 00 25 45.1 -0.3**
comp=Z,11nm,1.0s,SNR=6.7

833A Chaparral WMA, 101.60 55 Pdiff **Pdif 00 09 38.2 +0.3**
baz=298
BUG Bochum--Univer 101.65 335 *e*PP 00 13 49.7
435B Jarrell 101.80 52 Pdiff **Pdif 00 09 38.4 -0.2**
baz=300
SCHQ Schefferville 101.89 19 P **Pdif 00 09 38.8 +0.2**
comp=Z,8.6nm,0.7s,baz=347,slow=4.7,SNR=12
SCHQ pP pP 00 10 16.0 +0.7
comp=Z,14nm,0.8s,baz=342,slow=4.3,SNR=5.0
SCHQ PKiKP **PKiKP 00 14 00.7 0.0**
comp=Z,6.7nm,0.8s,baz=11,slow=8.0,SNR=3.7
L44A Lake County Fo 101.91 38 Pdiff **Pdif 00 09 38.7 -0.2**
baz=308
OBKA Obir 101.95 328 *i* PP **PP 00 13 52.9 +1.5**
comp=Z,82nm,1.0s,SNR=7.6
OBKA *e*PKKP **PKKPbc 00 25 44.3 -0.1**
comp=Z,19nm,1.1s,SNR=7.3
RJOB Jochberg 101.95 330 *e*Pdiff 00 09 37.7
OHR Ohrid 101.99 321 *i* P **Pdif 00 09 39.0 -0.4**
EKA Eskdalemuir Ar 102.02 343 P **Pdif 00 09 38.7 -0.4**
comp=Z,7.1nm,0.9s,baz=38,slow=4.2,SNR=18
EKA pP **pPdif 00 10 15.7 -0.7**
comp=Z,1.8nm,0.6s,baz=39,slow=6.3,SNR=2.3
EKA PP **PP 00 13 47.9 -3.5**
comp=Z,108nm,1.1s,baz=36,slow=6.8,SNR=22
GLMI Grayling 102.06 34 Pdiff **Pdif 00 09 39.0 -0.5**
baz=312
HDIL Hopedale 102.08 40 Pdiff **Pdif 00 09 39.4 -0.3**
baz=307
PDG Podgorica 102.08 323 ⇓P **Pdif 00 09 38.5 -1.2**
TNS Taunus Mts 102.09 334 *e*PP 00 13 52.6
KBA Koelnbreinsper 102.15 329 *e*Pdiff **Pdif 00 09 37.7 -2.4**
comp=Z,3.9nm,1.0s
KBA *i* PP **PP 00 13 52.8 -0.2**
comp=Z,67nm,1.4s
KBA *i* PKKP **PKKPbc 00 25 43.0 -1.0**
comp=Z,9.1nm,0.8s
LESA Schwarzleotal 102.23 330 *i* Pdiff **Pdif 00 09 38.7 -1.6**
comp=Z,6.6nm,1.0s
LESA *i* PP **PP 00 13 54.5 +1.1**
comp=Z,38nm,1.1s
LESA *e*SKS **SKSac 00 20 03.4 -2.6**
comp=Z,27nm,1.4s
LESA *i* PKKP **PKKPbc 00 25 42.9 -0.7**
comp=Z,11nm,0.6s
LJU Ljubljana 102.28 328 *e*PP **PP 00 13 53.1 -0.6**
LJU *i* PKKPbc **PKKPbc 00 25 43.1 -0.2**
MYKA Terra Mystica 102.32 329 *i* PP **PP 00 13 55.3 +1.2**
comp=Z,37nm,0.8s
MYKA *i* PKKP **PKKPbc 00 25 43.1 -0.3**
comp=Z,15nm,0.6s,SNR=7.3
CCM Cathedral Cave 102.33 43 Pdiff **Pdif 00 09 40.5 -0.3**
baz=305
AHRW Bad Neuenahr-A 102.42 335 *e*PP 00 13 54.9
MIAR Mount Ida 102.73 47 Pdiff **Pdif 00 09 43.0 +0.3**
baz=303
BTNL Ternell 102.76 335 *d*Pdif **Pdif 00 09 41.5 -1.1**
BTNL *d*PP **PP 00 13 57.4 +0.2**
BEBN Eben Emael 102.78 335 *d*PP **PP 00 13 56.2 -0.9**
ABTA Abfaltersbach 102.79 329 *e*Pdiff **Pdif 00 09 41.4 -1.5**
comp=Z,5.7nm,1.0s
ABTA *i* PP **PP 00 13 56.5 -1.1**
comp=Z,30nm,1.3s
ABTA *e*SKS **SKSac 00 20 07.1 -1.6**
comp=Z,7.4nm,0.9s
ABTA *e*PKKP **PKKPbc 00 25 41.6 -0.4**
comp=Z,14nm,0.8s,SNR=7.6
MEM Membach 102.79 335 *d*Pdif **Pdif 00 09 42.0 -0.6**
MEM *d*PP **PP 00 13 54.9 -2.4**
WATA Walderalm 102.82 330 *e*Pdiff **Pdif 00 09 41.2 -1.8**
comp=Z,4.5nm,1.0s
WATA *i* PP **PP 00 13 57.7 -0.2**
comp=Z,81nm,1.4s
WATA *i* PKKP **PKKPbc 00 25 41.2 -0.7**
comp=Z,7.3nm,0.8s
WTTA Wattenberg 102.84 330 *e*Pdiff **Pdif 00 09 42.5 -0.7**
comp=Z,5.5nm,1.1s
WTTA *e*PP **PP 00 13 57.0 -1.1**
comp=Z,65nm,1.4s
WTTA *i* PKKP **PKKPbc 00 25 41.8 -0.2**
comp=Z,19nm,0.8s,SNR=8.4
STU Stuttgart 102.86 332 *e*PP 00 13 57.4
BSTI Sart Tilman 102.99 335 *d*Pdif **Pdif 00 09 43.0 -0.5**
BSTI *d*PP **PP 00 13 56.5 -2.3**
BHOU Houvegnez 102.99 335 *d*Pdif **Pdif 00 09 43.4 -0.2**
BHOU *d*PP **PP 00 13 57.6 -1.3**
SQTA Sankt Quirin 103.08 330 *i* PP **PP 00 14 00.5 +0.8**
comp=Z,88nm,1.1s
SQTA *i* PKKP **PKKPbc 00 25 40.6 -0.5**
comp=Z,18nm,1.2s
RETA Reutte 103.09 331 *e*Pdiff **Pdif 00 09 43.7 -0.4**
comp=Z,10.0nm,1.3s
RETA *i* PP **PP 00 13 59.2 -0.6**
comp=Z,21nm,1.1s
RETA *e*PKKP **PKKPbc 00 25 40.8 -0.3**
comp=Z,16nm,1.4s,SNR=5.7
BCLA Clavier 103.22 335 *d*Pdif **Pdif 00 09 43.9 -0.6**
BCLA *d*PP **PP 00 13 58.2 -2.3**
UBR Ueberruh 103.25 331 *e*PP 00 13 59.5
BGES Gesves 103.34 335 *d*Pdif **Pdif 00 09 43.8 -1.2**
BGES *d*PP **PP 00 13 59.1 -2.3**
FETA Feichten 103.44 330 *e*Pdiff **Pdif 00 09 44.4 -1.5**
comp=Z,4.6nm,1.2s
FETA *e*PP **PP 00 14 00.8 -1.8**
comp=Z,53nm,1.1s
FETA *i* SKS **SKSac 00 20 10.1 -1.7**
comp=Z,9.5nm,1.5s
FETA *e*PKKP **PKKPbc 00 25 39.4 -0.8**
comp=Z,13nm,1.1s,SNR=6.5
NATX Nacogdoches 103.45 50 Pdiff **Pdif 00 09 46.0 0.0**
baz=302
RCHB Rochefort 103.46 335 *d*Pdif **Pdif 00 09 44.9 -0.7**
RCHB *d*PP **PP 00 14 00.1 -2.2**
WLF Walferdange 103.47 334 *d*Pdif **Pdif 00 09 45.5 -0.2**
WLF *d*PP **PP 00 14 01.4 -1.0**
WLF Walferdange 103.47 334 *e*PP 00 14 02.0
SFIN Lafayette 103.51 39 Pdiff **Pdif 00 09 46.2 +0.1**
baz=309
BMRD Maredsous 103.53 336 *d*Pdif **Pdif 00 09 45.1 -0.8**
BMRD *d*PP **PP 00 14 00.6 -2.1**
BFO Black Forest 103.57 332 *e*PP 00 14 03.8
DAVA Damuels 103.65 331 *e*Pdiff **Pdif 00 09 46.5 -0.3**
comp=Z,11nm,1.3s
DAVA *e*PP **PP 00 14 02.1 -2.0**
comp=Z,41nm,1.2s
DAVA *i* PKKP **PKKPbc 00 25 39.4 -0.1**
comp=Z,15nm,0.8s,SNR=6.4
DOU Dourbes 103.76 336 *d*Pdif **Pdif 00 09 45.2 -1.7**
DOU *d*PP **PP 00 14 03.6 -0.9**
DAVOX Davos/Dischmat 104.02 331 PKKPbc PKKPbc 00 25 37.9 -0.5
comp=Z,6.1nm,0.6s,baz=200,slow=15,SNR=13
MAW Mawson 104.23 203 Pdiff **Pdif 00 09 51.4 +2.9**
comp=Z,4.1nm,0.9s,baz=52,slow=3.2,SNR=8.6
MAW PKiKP **PKiKP 00 13 59.1 -5.3**
comp=Z,4.7nm,1.0s,baz=44,slow=7.1,SNR=3.9
MAW PKKPbc **PKKPbc 00 25 36.8 -1.7**
comp=Z,4.1nm,0.8s,baz=252,slow=6.5,SNR=6.2
AAM Ann Arbor 104.25 36 Pdiff **Pdif 00 09 49.0 -0.3**
baz=312
O48B Farmland 104.74 38 Pdiff **Pdif 00 09 51.3 -0.3**
baz=310
TIP Timpagrande 105.61 321 ⇑P **Pdif 00 09 55.1 -0.4**
QSPA South Pole Qui 108.20 180 Pdiff **Pdif 00 10 05.7 -0.6**
comp=Z,0.7nm,0.9s,baz=15,slow=5.1,SNR=1.5
QSPA PKiKP **PKiKP 00 14 10.1 -1.8**
comp=Z,4.3nm,0.7s,baz=284,slow=1.3,SNR=14
QSPA PKKPbc **PKKPbc 00 25 23.2 -3.7**
comp=Z,7.0nm,0.6s,baz=30,slow=0.3,SNR=18
QSPA PKKPab **PKKPab 00 25 37.9 +1.4**
comp=Z,2.9nm,0.6s,baz=201,slow=1.3,SNR=7.2
KEST Kesra 112.28 323 Pdiff **Pdif 00 10 25.4 +0.1**
comp=Z,2.5nm,0.9s,baz=93,slow=5.6,SNR=3.7
KEST PKiKP **PKiKP 00 14 20.6 0.0**
comp=Z,7.4nm,0.9s,baz=262,slow=2.6,SNR=7.5
KEST PP **PP 00 15 06.6 -0.5**
comp=Z,11nm,0.9s,baz=9.9,slow=3.6,SNR=5.7
KEST PKKPbc **PKKPbc 00 25 10.8 -1.3**
comp=Z,9.8nm,0.9s,baz=217,slow=4.6,SNR=12
KEST PKKPab **PKKPab 00 25 21.7 -0.8**
comp=Z,12nm,1.0s,baz=286,slow=2.6,SNR=7.2
PBRG Braganca 115.00 338 *e*PKP **PKiKP 00 14 25.6 -0.1**
PBRG Braganca 115.00 338 *e*PP **PP 00 15 26.4 +0.6**
PCAB Cabril 115.54 339 *e*PKP **PKPdf 00 14 27.4 +0.7**
PCAB Cabril 115.54 339 *e*PP **PP 00 15 28.3 -1.2**
POLO Lamas de Olo 115.75 338 *e*PKP **PKPdf 00 14 27.5 +0.3**
POLO Lamas de Olo 115.75 338 *e*PP **PP 00 15 31.2 +0.1**

ESDC Sonseca Array 115.77 335 **PKiKP 00 14 27.1 -0.1**
ESDC Sonseca Array 115.77 335 PKP **PKiKP 00 14 26.6 -0.6**
comp=Z,3.6nm,0.8s,baz=24,slow=2.4,SNR=16
ESDC sPKP 00 15 18.9
comp=Z,15nm,0.9s,baz=15,slow=4.3,SNR=6.8
ESDC PP **PP 00 15 31.2 -0.1**
comp=Z,32nm,1.0s,baz=30,slow=7.4,SNR=21
ESDC PKKPbc **PKKPbc 00 25 00.0 -0.5**
comp=Z,9.2nm,0.9s,baz=228,slow=2.7,SNR=37
ESDC PKKPab **PKKPab 00 25 06.6 -0.6**
comp=Z,23nm,0.9s,baz=217,slow=4.7,SNR=47
PVRL Vila Real 115.81 338 *e*PKP **PKPdf 00 14 27.7 +0.5**
PVRL Vila Real 115.81 338 *e*PP **PP 00 15 31.0 -0.5**
PAB San Pablo 116.04 335 **PKiKP 00 14 28.4 +0.6**
PAB San Pablo 116.04 335 PKIKP **PKiKP 00 14 28.4 +0.6**
PVIS Viseu 116.37 338 *e*PKP **PKiKP 00 14 28.6 +0.3**
PVIS Viseu 116.37 338 *e*PP **PP 00 15 35.9 +0.5**
MTE Manteigas 116.52 338 *e*PKP **PKiKP 00 14 29.3 +0.6**
MTE Manteigas 116.52 338 *e*PP **PP 00 15 36.9 +0.4**
PCBR Castelo Branco 116.99 337 *e*PKP **PKiKP 00 14 29.6 +0.1**
PCBR Castelo Branco 116.99 337 *e*PP **PP 00 15 40.0 +0.3**
COI Coimbra 117.00 338 *e*PP **PP 00 15 40.3 +0.6**
PCAS Casmilo, Conde 117.17 338 *e*PKP **PKiKP 00 14 30.1 +0.3**
PCAS Casmilo, Conde 117.17 338 *e*PP **PP 00 15 41.5 +0.6**
ELIB Princess Elisa 117.22 197 *d*PKPdf **PKiKP 00 14 29.3 +0.2**
PMRV Marv??o 117.32 337 *e*PKP **PKiKP 00 14 30.3 +0.1**
PMRV Marv??o 117.32 337 *e*PP **PP 00 15 42.0 0.0**
PSBE So Bento 117.75 338 *e*PKP **PKiKP 00 14 31.4 +0.4**
PSBE So Bento 117.75 338 *e*PP **PP 00 15 45.0 0.0**
PESTR Estremoz 117.89 337 *e*PKP **PKiKP 00 14 31.4 +0.1**
PESTR Estremoz 117.89 337 *e*PP **PP 00 15 45.9 0.0**
PMTG Montargil 117.94 337 *e*PKP **PKiKP 00 14 31.6 +0.2**
PMTG Montargil 117.94 337 *e*PP **PP 00 15 46.2 -0.1**
PBAR Barrancos 118.28 336 *e*PKP **PKiKP 00 14 32.2 +0.2**
PBAR Barrancos 118.28 336 *e*PP **PP 00 15 48.8 +0.2**
EVO Evora 118.34 337 *e*PKP **PKiKP 00 14 32.8 +0.7**
EVO Evora 118.34 337 *e*PP **PP 00 15 49.3 +0.3**
LIS Lisbon 118.59 338 *e*PKP **PKiKP 00 14 35.2 +2.6**
PBEJ Beja 118.73 337 *e*PP **PP 00 15 52.8 +1.1**
PNCL Nicolau / Gran 118.90 337 *e*PKP **PKiKP 00 14 33.8 +0.6**
PNCL Nicolau / Gran 118.90 337 *e*PP **PP 00 15 53.4 +0.5**
MESJ Messejana 119.02 337 *e*PKP **PKiKP 00 14 34.0 +0.5**
MESJ Messejana 119.02 337 *e*PP **PP 00 15 53.8 0.0**
MESJ Messejana 119.02 337 *e*PP **PP 00 15 54.5 +0.7**
PCVE Castro Verde 119.14 337 *e*PKP **PKiKP 00 14 34.5 +0.8**
PVAQ Vaqueiros 119.22 336 *e*PKP **PKiKP 00 14 34.6 +0.7**
PBDV Barranco-do-Ve 119.44 336 *e*PKP **PKiKP 00 14 35.5 +1.1**
PTEO Sao Teotonio 119.47 337 *e*PKP **PKiKP 00 14 35.3 +0.9**
MORF Marmelete 119.66 337 *e*PKP **PKiKP 00 14 35.6 +0.8**
PFVI Vila Bisbo 119.87 337 *e*PKP **PKiKP 00 14 35.9 +0.7**
LSZ Lusaka 120.60 263 **PKPdf 00 14 37.1 0.0**
LSZ Lusaka 120.60 263 PKIKP **PKPdf 00 14 37.1 0.0**
NVL N'lazarevskaya 120.99 196 ⇑*i*PKIKP **PKiKP 00 14 36.6 +0.4**
NVL pmax pmax
comp=Z,16nm,1.0s
BBSR BB Station 121.61 30 **PKiKP 00 14 40.0 +1.3**
MDT Midelt 121.82 331 PKKPbc PKKPbc 00 24 34.4 -4.1
comp=Z,2.5nm,0.9s,baz=311,slow=11,SNR=2.6
JTS Las Juntas de 122.25 65 **PKiKP 00 14 40.8 +0.4**
JTS Las Juntas de 122.25 65 PKIKP **PKiKP 00 14 40.8 +0.4**
TROLL Troll, Antarti 122.35 193 ⇓P **PKPdf 00 14 38.9 0.0**
comp=Z,838nm,0.6s
TROLL ⇑SKPdf **SKiKP 00 18 02.2 +1.2**
TROLL ⇑PKKPbc **PKKPab 00 24 34.0 -0.1**
comp=Z,394nm,0.9s
TROLL ⇑PKKPdf **PKKPdf 00 25 11.0 -2.2**
comp=Z,554nm,0.6s
SNAA Sanae 123.67 191 ⇓P **PKPdf 00 14 40.7 -0.7**
comp=Z,406nm,0.7s
SNAA ⇑PKKPbc **PKKPab 00 24 29.4 +1.0**
comp=Z,181nm,1.0s
SNAA ⇑PKKPdf **PKKPdf 00 25 04.6 -6.0**
comp=Z,98nm,0.8s
SNAA Sanae 123.67 191 PKP **PKPdf 00 14 40.8 -0.5**
comp=Z,17nm,0.7s,baz=185,slow=4.0,SNR=59
SNAA PKKPbc **PKKPab 00 24 29.9 +1.5**
comp=Z,12nm,1.1s,baz=322,slow=4.5,SNR=14
SNAA PKKP **PKKPdf 00 25 06.5 -4.1**
comp=Z,6.2nm,0.9s,baz=314,slow=4.4,SNR=5.1
SNAA Sanae 123.67 191*c* *i*PKIKP **PKPdf 00 14 40.3 -1.1**
SNAA pmax pmax
comp=Z,32nm,1.3s
TAM Tamanrasset 123.69 315 **PKiKP 00 14 43.5 +0.2**
TAM Tamanrasset 123.69 315 PKIKP **PKiKP 00 14 43.5 +0.2**
VNA2 Neumayer--Watz 125.11 190 ⇓P **PKPdf 00 14 43.9 -0.1**
comp=Z,52nm,0.7s,baz=212,slow=1.1
VNA2 ⇓SKPdf SKPdf 00 17 51.9 -14
baz=154,slow=3.5
VNA2 ⇑PKKPbc **PKKPab 00 24 22.8 +0.6**
comp=Z,3.3nm,0.7s,baz=334,slow=3.5
BOSA Boshof 125.14 248 PKP **PKiKP 00 14 45.7 -0.2**
comp=Z,7.3nm,0.9s,baz=82,slow=2.1,SNR=12
VNA3 Neumayer Olymp 125.20 189 ⇓P **PKPdf 00 14 43.1 -1.1**
comp=Z,32nm,0.8s
VNA3 ⇑PKKPbc **PKKPab 00 24 23.2 +1.4**
comp=Z,9.3nm,0.9s
VNA3 ⇑PKKPdf PKKPdf 00 24 58.6 -9.0
comp=Z,6.8nm,0.9s
VNA1 Neumayer--Stat 125.50 190 ⇓P **PKPdf 00 14 42.9 -1.8**
comp=Z,28nm,0.8s
VNA1 ⇓SKPdf SKPdf 00 17 49.6 -17
VNA1 ⇑PKKPdf **PKKPdf 00 24 59.5 -7.4**
comp=Z,5.3nm,0.8s
PMPST Porto Santo, M 126.09 342 *e*PKP **PKiKP 00 14 48.7 +1.1**
PMOZ Porto Moniz, M 126.59 342 *e*PKP **PKPdf 00 14 48.1 -0.2**
PMAR Madeira 126.60 342 *e*PKP **PKiKP 00 14 49.2 +0.4**
FUL Funchal 126.66 342 *e*PKP **PKiKP 00 14 49.5 +0.8**
TSUM Tsumeb 131.27 260 PKPpre 00 14 49.8
SJG San Juan 131.92 43 **PKPdf 00 14 58.5 -0.1**
SJG San Juan 131.92 43 PKIKP **PKPdf 00 14 58.5 -0.1**
OTAV Otavalo 132.61 72 PKPpre 00 14 53.8
OTAV Otavalo 132.61 72 PKIKP PKPpre 00 14 53.8
TORD Torodi Ar. Bea 132.84 309 PKP **PKPdf 00 14 59.2 -1.2**
comp=Z,4.4nm,0.5s,baz=45,slow=1.2,SNR=9.4
TORD PP **PP 00 17 24.8 -1.6**
comp=Z,10nm,0.8s,baz=84,slow=7.8,SNR=3.7
TORD SKPbc **SKPbc 00 18 12.2 -2.0**
comp=Z,28nm,0.7s,baz=40,slow=3.2,SNR=14
TORD SKKPbc **SKKPbc 00 27 32.5 -1.0**
comp=Z,3.6nm,0.9s,baz=226,slow=2.7,SNR=3.7
ANTS Antisana-Sarah 133.18 73 **PKiKP 00 15 02.6 -0.5**
ROSC El Rosal 134.08 64 PKP **PKPdf 00 15 02.5 -0.8**
comp=Z,23nm,0.6s,baz=56,slow=20,SNR=5.3
ROSC pPKP **pPKPdf 00 15 41.6 0.0**
comp=Z,26nm,0.8s,baz=86,slow=9.5,SNR=2.7
ROSC SKPbc **SKPbc 00 18 20.2 +1.3**
comp=Z,25nm,0.7s,baz=202,slow=19,SNR=5.9
SDV Santo Domingo 134.85 56 PKPpre 00 14 50.8
SDV PKPdf **PKPdf 00 15 05.2 +0.7**
SDV pPKPdf pPKPdf 00 15 42.1 -0.7
SDV Santo Domingo 134.85 56 SKPbc **SKPbc 00 18 21.6 +0.4**
comp=Z,250nm,0.9s,baz=296,slow=2.8,SNR=25
ATAH Atahualpa 135.44 81 PKP **PKiKP 00 15 07.4 0.0**
comp=Z,36nm,0.9s,baz=329,slow=2.0,SNR=14
ATAH SKP 00 18 27.5
comp=Z,80nm,1.0s,baz=255,slow=2.6,SNR=17
H05N1 Guadeloupe/Mar 136.45 39 PKP **PKPdf 00 15 06.2 -0.9**
SNR=6.8
NNA Nana 138.28 87 PKP **PKiKP 00 15 12.8 +0.1**
comp=Z,27nm,0.8s,baz=76,slow=2.4,SNR=5.9
NNA SKPab **SKiKP 00 18 36.0 +1.0**
comp=Z,47nm,1.1s,baz=266,slow=4.5,SNR=5.1
NNA Nana 138.28 87*c* *i*PKIKP **PKPdf 00 15 11.5 +0.9**
NNA pmax pmax
comp=Z,165nm,1.7s
COYC Coyhaique 138.46 139 **PKPdf 00 15 07.6 -2.3**
PLCA Paso Flores 141.61 133 PKhKP PKPpre 00 15 11.6
comp=Z,20nm,0.7s,baz=233,slow=3.6,SNR=41
PLCA SKPbc **SKPbc 00 18 39.6 +0.2**
comp=Z,26nm,1.0s,baz=223,slow=3.9,SNR=4.2
EFI East Falkland 141.76 156 PKPpre 00 15 11.4
EFI East Falkland 141.76 156*c* *i*PKIKP **PKPdf 00 15 17.1 +1.4**
EFI pmax pmax
comp=Z,24nm,1.3s
DBIC Dimbokro 141.93 308 PKPpre 00 15 11.9
DBIC Dimbokro 141.93 308 PKhKP PKPpre 00 15 11.8
comp=Z,16nm,0.4s,baz=43,slow=3.4,SNR=53
DBIC PP **PP 00 18 23.2 +0.1**
comp=Z,16nm,1.0s,baz=63,slow=6.4,SNR=3.7
DBIC SKPbc **SKPbc 00 18 39.2 -1.8**
comp=Z,27nm,0.7s,baz=2.5,slow=0.8,SNR=5.9
DBIC Dimbokro 141.93 308 PKHKP PKPpre 00 15 12.0
KIC Kosan Boka 142.05 308 ⇑*i*PKP1 **PKPdf 00 15 12.0 -5.4**
comp=Z,16nm,0.5s

TIC	**Toumodi**	**142.07 308**	⇑*e*PKP1	**PKPdf**	**00 15 12.0**	**-5.5**
	comp=Z,26nm,0.3s					
LIC	**Lamto**	**142.35 308**	⇑*e*PKP1	**PKPdf**	**00 15 13.1**	**-4.8**
	comp=Z,84nm,0.6s					
AC04	**Llanos de Chal**	**144.73 113**		**PKPdf**	**00 15 21.9**	**+0.2**
LCO	**Las Campanas**	**144.94 114**		**PKPdf**	**00 15 22.6**	**+0.2**
LCO	**Las Campanas**	**144.94 114**	PKIKP	**PKPdf**	**00 15 22.6**	**+0.2**
PB09	**IPOC Station P**	**146.81 102**		**PKPbc**	**00 15 28.1**	**+0.5**
LVC	**Limon Verde**	**147.12 103**	PKPbc	**PKPbc**	**00 15 28.7**	**0.0**
	comp=Z,218nm,0.9s,baz=265,slow=2.2,SNR=63					
LVC			PP	**PP**	**00 18 57.2**	**+2.0**
	comp=Z,26nm,0.9s,baz=288,slow=3.5,SNR=3.7					
LPAZ	**La Paz**	**147.42 92**	PKPbc	**PKPdf**	**00 15 28.4**	**+1.1**
	comp=Z,205nm,0.9s,baz=330,slow=1.9,SNR=128					
LPAZ			pPKPbc	**pPKPbc**	**00 16 07.3**	**-0.7**
	comp=Z,128nm,0.9s,baz=339,slow=2.8,SNR=4.1					
LPAZ			SKPbc	**SKiKP**	**00 18 55.7**	**+1.2**
	comp=Z,20nm,1.0s,baz=0.2,slow=1.9,SNR=3.3					
TRQA	**Tornquist**	**148.73 135**		**PKPdf**	**00 15 29.3**	**+1.1**
TRQA	**Tornquist**	**148.73 135**	PKIKP	**PKPdf**	**00 15 29.3**	**+1.1**
SAML	**Samuel**	**150.21 76**		**PKPdf**	**00 15 31.5**	**+0.3**
SAML	**Samuel**	**150.21 76**	PKIKP	**PKPdf**	**00 15 31.5**	**+0.3**
SIV	**San Ignacio**	**154.08 89**	PKP	**PKPdf**	**00 15 38.2**	**+1.3**
	comp=Z,35nm,0.9s,baz=261,slow=1.2,SNR=102					
SIV			PKPbc	**PKiKP**	**00 15 45.8**	**+0.7**
	comp=Z,31nm,0.9s,baz=225,slow=1.2,SNR=18					
SIV			PKPab	**PKPab**	**00 15 59.9**	**+0.7**
	comp=Z,32nm,0.8s,baz=171,slow=2.3,SNR=13					
CPUP	**Villa Florida**	**157.09 114**	PKP	**PKPdf**	**00 15 39.9**	**-0.7**
	comp=Z,30nm,1.1s,baz=268,slow=0.9,SNR=24					
CPUP			PKPab	**PKPab**	**00 16 12.4**	**+0.6**
	comp=Z,87nm,0.9s,baz=264,slow=5.5,SNR=30					
BDFB	**Brasilia**	**166.36 81**	PKP	**PKPdf**	**00 15 51.4**	**+0.9**
	comp=Z,52nm,0.9s,baz=358,slow=1.5,SNR=50					
BDFB			PKPab	**PKPab**	**00 16 52.9**	**0.0**
	comp=Z,28nm,0.9s,baz=277,slow=3.3,SNR=8.2					
BDFB			pPKPab	**pPKPab**	**00 17 30.5**	**+0.9**
	comp=Z,15nm,0.9s,baz=92,slow=4.8,SNR=3.2					
RCBR	**Riachuelo**	**167.38 8**	PKP	**PKPdf**	**00 15 50.8**	**-0.4**
	comp=Z,12nm,0.9s,baz=64,slow=0.3,SNR=4.4					
RCBR			PKPab	**PKPab**	**00 16 56.5**	**-0.4**
	comp=Z,17nm,0.8s,baz=63,slow=7.1,SNR=4.6					

HEL 21 00:06:35.0±0.4, 67°.80N×20°.23E, *h*0km, ML0.7,
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.71**	**69**	PG	Pg	00 06 47.2	-1.3
LANU				SG	Sg	00 06 56.8	-0.9
HEF	**Hetta**	**1.42**	**63**	PG	Pn	00 07 00.3	-1.8
	baz=246						
HEF				MSG		00 07 17.8	
	comp=Z,0.6nm,0.2s						
HEF				SN	Sn	00 07 22.8	+1.4
ERTU	**Ertsjaerv**	**1.47**	**148**	PG	Pn	00 07 01.1	-1.6
ERTU				SG	Sg	00 07 21.6	-0.5
KLF	**Kolari**	**1.54**	**110**	PG	Pn	00 07 02.4	-1.3
	baz=295						
KLF				MSG		00 07 21.4	
	comp=Z,0.3nm,0.2s						
KLF				SN	Sn	00 07 24.0	-0.4
KTK1	**Kautokeino**	**1.65**	**41**	PG	Pn	00 07 04.5	-0.7
KTK1				SN	Sb	00 07 27.5	0.0
TRO	**Tromso**	**1.90**	**346**	SG	Sb	00 07 34.0	-0.7
TOF	**Tornio**	**2.37**	**135**	MSG		00 07 45.0	
	comp=Z,0.3nm,0.2s						
TOF				SG	Sb	00 07 47.7	-0.4
SGF	**Sodankyl**	**2.44**	**96**	SG	Sb	00 07 49.8	-0.4
RNF	**Rovaniemi**	**2.55**	**115**	PB	Pn	00 07 18.3	+0.8
RNF				SG	Sb	00 07 52.8	-0.7
RAJF	**Raja-Jooseppi**	**3.10**	**74**	SB	Sb	00 08 07.6	-1.6
OBF4	**Vikkela, Lumij**	**3.59**	**145**	SG	Sb	00 08 23.3	+0.1

*CNRM **21** 00:06:35.9, 35°.71N×3°.63W, *h*17km, ML2.2*
*INMG **21** 00:06:36.6±2.1, 35°.70N×3°.74W, *h*0km±6km, ML1.9, Error ellipse: s-maj=5.2km s-min=3.2km az=31.0*
*MDD **21** 00:06:36.8±0.9, 35°.65N×3°.72W, *h*10km±7km, mb_Lg2.3/13, Error ellipse: s-maj=4.9km s-min=4.0km az=151.0*
*SFS **21** 00:06:36.4, 35°.60N×3°.76W, *h*15km, ML2.4/11, ML2.8/9, MLv2.2/11*
*IGIL **21** 00:06:39.4, 35°.62N×3°.77W, *h*30km*

ISC 21 00:06:36.1±1.1, 35°.68N±0°.02×3°.73W±0°.03, *h*14km±10km, n52, σ1s13/78, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.49**	**200**	P	**Pb**	**00 06 47.2**	**+0.7**
PALE	**Palemas**	**0.49**	**200**	S	**Sb**	**00 06 54.0**	**+0.5**
EALB	**Alboran**	**0.62**	**65**	Pg	**Pg**	**00 06 48.7**	**+0.4**
EALB				Sg	**Sg**	**00 06 57.4**	**+0.9**
EALB	**Alboran**	**0.62**	**65**	P	**Pg**	**00 06 48.3**	**0.0**
EALB				S	**Sg**	**00 06 57.7**	**+1.1**
EALB				*i* Vmb_Lg		00 06 59.2	
EMEL	**Melilla**	**0.74**	**121**	P	**Pg**	**00 06 49.8**	**-0.6**
EMEL				S	**Sg**	**00 06 59.2**	**-0.9**
EMLI	**Melilla**	**0.74**	**120**	Pg	**Pg**	**00 06 49.9**	**-0.5**
EMLI				Sg	**Sg**	**00 06 59.3**	**-0.9**
GOG	**Mont Gurugu**	**0.75**	**127**	P	**Pg**	**00 06 49.7**	**-1.0**
GOG	**Mont Gurugu**	**0.75**	**127**	S	**Sg**	**00 06 59.4**	**-1.3**
AKLM	**AKL**	**1.17**	**185**	P	**Pg**	**00 06 58.6**	**0.0**
AKLM	**AKL**	**1.17**	**185**	S	**Sg**	**00 07 14.1**	**+0.2**
ELGU	**Los Guajares,**	**1.19**	**4**	Pn	**Pn**	**00 06 57.4**	**-1.1**
ELGU				Sn	**Sb**	**00 07 12.8**	**-1.0**
ELGU	**Los Guajares,**	**1.19**	**4**	P	**Pn**	**00 06 57.1**	**-1.4**
ELGU				S	**Sb**	**00 07 13.0**	**-0.8**
ELGU				*i* Vmb_Lg		00 07 16.3	
EMIJ	**Mijas**	**1.22**	**317**	Pn	**Pn**	**00 06 57.9**	**-0.9**
EMIJ				Sn	**Sb**	**00 07 14.1**	**-0.6**
EMIJ	**Mijas**	**1.22**	**317**	P	**Pn**	**00 06 57.9**	**-0.9**
EMIJ				S	**Sb**	**00 07 14.2**	**-0.5**
EMIJ				*i* Vmb_Lg		00 07 16.2	
CEU	**Ceuta**	**1.35**	**280**	Pn	**Pn**	**00 06 58.3**	**-2.2**
CEU				Sn	**Sn**	**00 07 15.1**	**-3.2**
TAF	**Taforalt**	**1.38**	**128**	P	**Pn**	**00 06 59.6**	**-1.4**
EBER	**Berja**	**1.40**	**29**	Pn	**Pn**	**00 07 01.7**	**+0.4**
EBER				Sn	**Sn**	**00 07 20.5**	**+0.9**
EBER	**Berja**	**1.40**	**29**	P	**Pn**	**00 07 00.1**	**-1.2**
EBER				S	**Sn**	**00 07 19.1**	**-0.6**
EBER				*i* Vmb_Lg		00 07 26.1	
CHEFC	**Chefchaouen**	**1.43**	**247**	P	**Pn**	**00 07 02.2**	**+0.4**
EGOR	**Sierra Gorda,**	**1.46**	**348**	Pn	**Pn**	**00 07 01.3**	**-1.0**
EGOR	**Sierra Gorda,**	**1.46**	**348**	P	**Pn**	**00 07 02.2**	**0.0**
EGOR				S	**Sn**	**00 07 20.5**	**-0.8**
EGOR				*i* Vmb_Lg		00 07 32.7	
EQUE	**Quentar**	**1.54**	**9**	P	**Pn**	**00 07 03.9**	**+0.7**
EQUE				S	**Sn**	**00 07 21.3**	**-1.9**
EQUE				*i* Vmb_Lg		00 07 30.8	
EQES	**Quesada**	**2.19**	**14**	P	**Pn**	**00 07 14.2**	**+2.1**
EQES				S	**Sn**	**00 07 40.9**	**+1.8**
EQES				*i* Vmb_Lg		00 07 44.5	
EADA	**Adamuz**	**2.58**	**345**	P	**Pn**	**00 07 17.9**	**+0.5**
EADA				S	**Sn**	**00 07 49.3**	**+0.7**
EADA				*i* Vmb_Lg		00 07 55.9	
ECAB	**El Cabril**	**2.75**	**331**	Pn	**Pn**	**00 07 20.2**	**+0.4**
ECAB				Sn	**Sn**	**00 07 53.6**	**+0.7**
ECAB	**El Cabril**	**2.75**	**331**	P	**Pn**	**00 07 21.3**	**+1.5**
ECAB				S	**Sn**	**00 07 53.8**	**+1.0**
ECAB				*i* Vmb_Lg		00 08 13.8	
CZD	**Col de Zad**	**2.85**	**203**	P	**Pn**	**00 07 21.7**	**+0.3**
MD31	**MD31**	**2.93**	**197**	P	**Pn**	**00 07 23.3**	**+0.9**
MD31	**MD31**	**2.93**	**197**	S	**Sn**	**00 07 57.3**	**-0.1**
MDT	**Midelt**	**2.95**	**194**	P	**Pn**	**00 07 23.8**	**+1.2**
MDT	**Midelt**	**2.95**	**194**	S	**Sn**	**00 07 59.3**	**+1.5**
PSIM	**Granatula de C**	**3.14**	**360**	P	**Pn**	**00 07 26.5**	**+1.3**
PSIM				S	**Sn**	**00 08 00.3**	**-2.1**
EGRO	**El Granado**	**3.54**	**303**	P	**Pn**	**00 07 31.3**	**+0.6**
EGRO				*i* Vmb_Lg		00 08 20.3	
PBAR	**Barrancos**	**3.64**	**314**	*e*P	**Pn**	**00 07 32.8**	**+0.8**
PBAR				*e*S	**Sn**	**00 08 14.7**	**0.0**
PBAR				A	A	00 08 23.0	
	1.4nm,0.7s						
PVAQ	**Vaqueiros**	**3.64**	**299**	*e*P	**Pn**	**00 07 32.8**	**+0.8**
PVAQ				*e*S	**Sn**	**00 08 14.8**	**0.0**
PVAQ				A	A	00 08 16.7	
	3.0nm,0.8s						
PVAQ	**Vaqueiros**	**3.64**	**299**	Pn	**Pn**	**00 07 32.1**	**+0.1**
PVAQ	**Vaqueiros**	**3.64**	**299**	P	**Pn**	**00 07 31.6**	**-0.4**
PBDV	**Barranco-do-Ve**	**3.73**	**296**	*e*P	**Pn**	**00 07 34.3**	**+1.0**
PBDV				*e*S	**Sn**	**00 08 18.3**	**+1.3**
PAB	**San Pablo**	**3.89**	**353**	P	**Pn**	**00 07 36.9**	**+1.3**
PAB				*i* Vmb_Lg		00 08 35.2	
PCVE	**Castro Verde**	**3.98**	**301**	*e*P	**Pn**	**00 07 38.4**	**+1.8**
PCVE				*e*S	**Sn**	**00 08 21.7**	**-1.3**
EBAD	**Badajoz**	**4.04**	**321**	Pn	**Pn**	**00 07 38.0**	**+0.5**
EBAD	**Badajoz**	**4.04**	**321**	P	**Pn**	**00 07 38.2**	**+0.8**
EBAD				S	**Sn**	**00 08 22.5**	**-2.1**
EBAD				*i* Vmb_Lg		00 08 27.9	
MESJ	**Messejana**	**4.20**	**302**	*e*P	**Pn**	**00 07 40.3**	**+0.6**
MESJ	**Messejana**	**4.20**	**302**	*e*P	**Pn**	**00 07 40.1**	**+0.4**
PESTR	**Estremoz**	**4.43**	**317**	*e*P	**Pn**	**00 07 44.5**	**+1.6**
PESTR	**Estremoz**	**4.43**	**317**	P	**Pn**	**00 07 42.8**	**0.0**
PTEO	**Sao Teotonio**	**4.43**	**296**	*e*P	**Pn**	**00 07 44.4**	**+1.6**
EVO	**Evora**	**4.45**	**311**	*e*P	**Pn**	**00 07 44.2**	**+1.0**
PNCL	**Nicolau / Gran**	**4.55**	**304**	*e*P	**Pn**	**00 07 45.8**	**+1.3**
PNCL				*e*S	**Sn**	**00 08 36.2**	**-1.0**
PNCL				A	A	00 08 39.4	
	2.2nm,0.7s						
PNCL	**Nicolau / Gran**	**4.55**	**304**	Pn	**Pn**	**00 07 45.7**	**+1.3**
PMRV	**Marv??o**	**4.74**	**323**	*e*P	**Pn**	**00 07 48.3**	**+1.1**
PMRV				*e*S	**Sn**	**00 08 41.8**	**-0.1**
PMTG	**Montargil**	**4.93**	**315**	*e*P	**Pn**	**00 07 51.1**	**+1.4**
PMTG				*e*S	**Sn**	**00 08 45.0**	**-1.5**

*SFS **21** 00:08:33.0, 35°.65N×3°.83W, *h*0km, ML2.2/8, ML2.5/7, MLv2.0/8*
*INMG **21** 00:08:34.2±2.1, 35°.69N×3°.74W, *h*0km±9km, ML1.9, Error ellipse: s-maj=7.0km s-min=5.8km az=83.0*
*MDD **21** 00:08:34.0±0.4, 35°.67N×3°.76W, *h*0km, mb_Lg2.3/11, Error ellipse: s-maj=3.8km s-min=3.1km az=27.0*
*CNRM **21** 00:08:34.5, 35°.66N×3°.62W, *h*16km, ML2.3*

ISC 21 00:08:33.8±1.0, 35°.69N±0°.02×3°.71W±0°.03, *h*15km±9km, n43, σ1s24/66, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.51**	**202**	P	**Pg**	**00 08 44.3**	**+0.3**
PALE	**Palemas**	**0.51**	**202**	S	**Sg**	**00 08 52.2**	**+1.3**
EALB	**Alboran**	**0.60**	**66**	Pg	**Pb**	**00 08 46.3**	**+0.3**
EALB				Sg	**Sb**	**00 08 55.6**	**+1.3**
EALB	**Alboran**	**0.60**	**66**	P	**Pb**	**00 08 46.5**	**+0.5**
EALB				S	**Sb**	**00 08 55.0**	**+0.8**
EALB				*i* Vmb_Lg		00 08 56.6	
EMEL	**Melilla**	**0.73**	**123**	P	**Pg**	**00 08 47.8**	**-0.3**
EMEL				S	**Sg**	**00 08 57.2**	**-0.4**
EMLI	**Melilla**	**0.73**	**122**	Pg	**Pg**	**00 08 47.7**	**-0.4**
EMLI				Sg	**Sg**	**00 08 57.3**	**-0.4**
GOG	**Mont Gurugu**	**0.75**	**129**	P	**Pg**	**00 08 47.6**	**-0.8**
GOG	**Mont Gurugu**	**0.75**	**129**	S	**Sg**	**00 08 57.3**	**-1.0**
ELGU	**Los Guajares,**	**1.17**	**3**	Pg	**Pn**	**00 08 55.3**	**-0.4**
ELGU				Sg	**Sn**	**00 09 10.8**	**-0.8**
ELGU	**Los Guajares,**	**1.17**	**3**	P	**Pn**	**00 08 55.4**	**-0.4**
ELGU				S	**Sg**	**00 09 11.3**	**-0.5**
ELGU				*i* Vmb_Lg		00 09 15.1	
AKLM	**AKL**	**1.19**	**186**	P	**Pn**	**00 08 56.0**	**0.0**
AKLM	**AKL**	**1.19**	**186**	S	**Sb**	**00 09 10.6**	**-0.7**
EMIJ	**Mijas**	**1.22**	**315**	Pg	**Pn**	**00 08 56.2**	**-0.2**
EMIJ				Sg	**Sb**	**00 09 10.5**	**-1.9**
EMIJ	**Mijas**	**1.22**	**315**	P	**Pn**	**00 08 55.9**	**-0.6**
EMIJ				S	**Sb**	**00 09 11.6**	**-0.7**
EMIJ				*i* Vmb_Lg		00 09 13.6	
CEU	**Ceuta**	**1.37**	**279**	Sg	**Sn**	**00 09 12.6**	**-3.6**
EBER	**Berja**	**1.37**	**29**	Pn	**Pg**	**00 09 00.2**	**-0.1**
EBER	**Berja**	**1.37**	**29**	P	**Pn**	**00 08 58.6**	**+0.1**
EBER				S	**Sb**	**00 09 16.6**	**-0.1**
EBER				*i* Vmb_Lg		00 09 18.4	
TAF	**Taforalt**	**1.38**	**129**	P	**Pn**	**00 08 57.8**	**-0.8**
EGOR	**Sierra Gorda,**	**1.45**	**347**	Pn	**Pb**	**00 09 00.8**	**+0.1**
EGOR	**Sierra Gorda,**	**1.45**	**347**	P	**Pb**	**00 09 00.1**	**-0.6**
EGOR				S	**Sb**	**00 09 18.3**	**-0.6**
EGOR				*i* Vmb_Lg		00 09 31.6	
CHEFC	**Chefchaouen**	**1.46**	**247**	P	**Pn**	**00 09 00.1**	**+0.4**
EQTA	**Presa de Quent**	**1.52**	**8**	Pn	**Pb**	**00 09 01.9**	**+0.1**
EQES	**Quesada**	**2.17**	**13**	P	**Pb**	**00 09 12.2**	**-0.6**
EQES				S	**Sb**	**00 09 38.9**	**-0.6**
EQES				*i* Vmb_Lg		00 09 46.2	
ECAB	**El Cabril**	**2.74**	**330**	P	**Pn**	**00 09 19.5**	**+2.1**
ECAB				S	**Sn**	**00 09 51.5**	**+1.3**
ECAB				*i* Vmb_Lg		00 10 00.0	
CZD	**Col de Zad**	**2.88**	**203**	P	**Pn**	**00 09 20.1**	**+0.8**
MD31	**MD31**	**2.95**	**197**	P	**Pn**	**00 09 20.9**	**+0.7**
MD31	**MD31**	**2.95**	**197**	S	**Sn**	**00 09 56.2**	**+0.8**
MDT	**Midelt**	**2.97**	**195**	P	**Pn**	**00 09 21.8**	**+1.3**
EMIN	**Mina Concepcio**	**3.15**	**312**	P	**Pn**	**00 09 23.7**	**+0.8**
EMIN				S	**Sn**	**00 09 59.1**	**-1.2**
EMIN				*i* Vmb_Lg		00 09 59.8	
EGRO	**El Granado**	**3.55**	**302**	P	**Pn**	**00 09 28.1**	**+0.2**
EGRO				S	**Sn**	**00 10 08.5**	**-1.6**
EGRO				*i* Vmb_Lg		00 10 12.8	
PBAR	**Barrancos**	**3.64**	**314**	*e*Pn	**Pn**	**00 09 30.4**	**+0.8**
PBAR				*e*Sn	**Sn**	**00 10 12.4**	**+0.1**
PBAR				A	A	00 10 13.8	
	1.4nm,0.3s						
PVAQ	**Vaqueiros**	**3.65**	**299**	*e*Pn	**Pn**	**00 09 31.3**	**+1.5**
PVAQ				*e*Sn	**Sn**	**00 10 12.3**	**-0.3**
PVAQ				A	A	00 10 16.7	
	2.5nm,0.7s						
PVAQ	**Vaqueiros**	**3.65**	**299**	P	**Pn**	**00 09 31.4**	**+1.6**
PBDV	**Barranco-do-Ve**	**3.74**	**296**	*e*Pn	**Pn**	**00 09 30.9**	**-0.1**
PBDV				*e*Sn	**Sn**	**00 10 14.7**	**-0.1**
PAB	**San Pablo**	**3.88**	**353**	P	**Pn**	**00 09 35.1**	**+2.1**
PAB				S	**Sn**	**00 10 18.4**	**+0.2**
EBAD	**Badajoz**	**4.04**	**320**	P	**Pn**	**00 09 36.0**	**+0.9**
EBAD				S	**Sn**	**00 10 21.3**	**-0.8**
EBAD				*i* Vmb_Lg		00 10 25.4	
MESJ	**Messejana**	**4.21**	**302**	*e*Pn	**Pn**	**00 09 38.0**	**+0.6**
PESTR	**Estremoz**	**4.43**	**317**	*e*Pn	**Pn**	**00 09 44.8**	**+4.3**
PESTR				*e*Sn	**Sn**	**00 10 31.3**	**-0.5**
PESTR				A	A	00 10 34.9	
	1.8nm,0.7s						
PESTR	**Estremoz**	**4.43**	**317**	P	**Pn**	**00 09 42.7**	**+2.2**
EVO	**Evora**	**4.46**	**311**	*e*Pn	**Pn**	**00 09 42.4**	**+1.6**
EVO				*e*Sn	**Sn**	**00 10 32.1**	**-0.3**
PNCL	**Nicolau / Gran**	**4.56**	**303**	*e*Pn	**Pn**	**00 09 43.6**	**+1.4**
PNCL				*e*Sn	**Sn**	**00 10 34.5**	**-0.3**
PMRV	**Marv??o**	**4.74**	**323**	*e*Sn	**Sn**	**00 10 38.4**	**-1.0**
PMTG	**Montargil**	**4.93**	**314**	*e*Pn	**Pn**	**00 09 50.6**	**+3.3**
PMTG				*e*Sn	**Sn**	**00 10 45.1**	**+1.1**

*NNC **21** 00:40:26.5±5.2, 34°.24N×81°.02E, *h*0km, mb4.9, Error ellipse: s-maj=55.4km s-min=32.0km az=7.0*
*IDC **21** 00:40:32.6±0.5, 34°.90N×81°.03E, *h*0km, mb4.3/24, mbtmp4.3/29, ML3.8/5, MS4.2/61, Error ellipse: s-maj=13.7km s-min=9.9km az=52.0*
*MOS **21** 00:40:33.2±1.0, 34°.87N×80°.90E, *h*10km, mb4.8/42, MS4.4/7, Error ellipse: s-maj=6.7km s-min=3.4km az=114.9*
*BJI **21** 00:40:34.6±0.0, 35°.03N×81°.11E, *h*10km, mb4.6/48, mB5.0/26, ML5.0/4, Ms4.8/49, Ms7 4.6/48*
*NEIC **21** 00:40:35.8±1.6, 34°.97N±0°.07×81°.00E±0°.08, *h*10km±1km, mb4.6/154, Error ellipse: s-maj=12.9km s-min=9.2km az=226.0*
*GCMT **21** 00:40:38.8±0.2, 35°.15N±0°.02×80°.97E±0°.02, *h*22km±1km, MW5.0/101, Moment Tensor Solution. s29,c31; s101,c155; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}~0.65±.22; $M_{\theta\theta}$-2.42±.15; $M_{\phi\phi}$3.08±.16; $M_{r\theta}$1.53±.27; $M_{\theta\phi}$3.01±.10; $M_{\phi r}$~0.06±.21; Best double couple: $M_0$4.39000×10^16^ NP1:ϕ_s247.00000°, δ80.00000°, λ-20.00000°. NP2:ϕ_s341.00000°, δ70.00000°, λ-169.00000°. Principal axes: T 4.4730, Plg7.0000°, Azm295.0000°; N -0.1600, Plg67.0000°, Azm41.0000°; P -4.3070, Plg21.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 00:40:36.3±0.2, 34°.94N±0°.03×81°.06E±0°.03, *h*16km, n804, σ1s84/833, mb4.6/155, MS4.3/75, 33C-14D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNLY	**HANLEY**	**2.77**	**219**	*e*P	**Pb**	**00 41 25.0**	**-0.6**
HNLY				*ex*	**Sb**	**00 42 04.8**	**+5.3**
HNLY				*ex*	**Sg**	**00 42 07.9**	**+2.6**
HNLY				IAML		00 42 13.3	
	360nm,1.0s						
HNLY				IAML		00 42 14.9	
	comp=E,604nm,1.8s						
KLP	**Kalpa**	**4.13**	**215**	*e*P	**Pn**	**00 41 43.7**	**+4.7**
KLP				*ex*	**Sg**	**00 42 48.8**	**-0.2**
KLP				IAML		00 42 51.3	
	comp=E,350nm,1.1s						
SMLA	**Simla**	**5.01**	**222**	*e*P	**Pn**	**00 41 53.5**	**+2.7**
SMLA				*ex*	**Sg**	**00 43 18.5**	**+1.4**
THN	**Thein Dam**	**5.10**	**242**	IAML		00 43 32.9	
	comp=E,447nm,1.8s						
THN				IAML		00 43 34.7	
	comp=Z,296nm,1.5s						
BHK	**Bhakra**	**5.24**	**229**	*e*P	**Pn**	**00 41 57.4**	**+3.4**
DDI	**Dehra Dun**	**5.25**	**210**	*e*P	**Pn**	**00 41 57.3**	**+3.1**
DDI				*ex*	**Sg**	**00 43 28.8**	**+3.9**
PTH	**Pithoragarh**	**5.42**	**188**	*e*S	**Sn**	**00 43 05.9**	**+7.2**
LGTI	**Lohaghat**	**5.52**	**187**	*e*P	**Pn**	**00 42 02.1**	**+4.4**
LGTI				*e*S	**Sb**	**00 43 10.7**	**-7.4**
LGTI				IAML		00 43 14.8	
	comp=N,156nm,0.7s						
JMU	**Jammu**	**5.58**	**248**	*e*P	**Pn**	**00 42 02.0**	**+3.3**
JMU				*ex*	**Sg**	**00 43 39.1**	**+3.6**
JMU				IAML		00 43 51.9	
	comp=E,920nm,2.0s						
KSH	**Kashi**	**6.11**	**320**	Pn	**Pn**	**00 42 06.5**	**+0.5**
KSH				Sn	**Sn**	**00 43 16.8**	**+1.2**
KSH				LR	LR		
	comp=E,5μm,7.9s						
KSH				LR	LR		
	comp=E,2μm,6.9s						
KSH				LR	LR		
	comp=E,4μm,7.6s						
NIL	**Nilore**	**6.59**	**261**		**Pn**	**00 42 11.8**	**-0.6**
NIL	**Nilore**	**6.59**	**261**	P	**Pn**	**00 42 12.9**	**+0.4**
NIL	**Nilore**	**6.59**	**261**	P	**Pn**	**00 42 11.9**	**-0.6**
NDI	**New Delhi**	**7.04**	**209**	*e*P	**Pn**	**00 42 21.3**	**+2.6**
TARG	**Taragay, Kyrgy**	**7.24**	**340**		**Pn**	**00 42 21.4**	**-0.4**
TARG	**Taragay, Kyrgy**	**7.24**	**340**	P	**Pn**	**00 42 21.4**	**-0.4**
NRN	**Naryn**	**7.61**	**330**		**Pn**	**00 42 26.7**	**0.0**
NRN	**Naryn**	**7.61**	**330**	P	**Pn**	**00 42 26.7**	**0.0**
KUDL	**Kundal**	**7.81**	**211**	*e*P	**Pn**	**00 42 31.9**	**+2.6**
PRZ	**Przheval'sk**	**7.81**	**345**		**Pn**	**00 42 30.0**	**+0.5**
PRZ	**Przheval'sk**	**7.81**	**345**	P	**Pn**	**00 42 30.0**	**+0.5**
SHLS	**Shalkode**	**8.30**	**352**	*e*Pn	**Pn**	**00 42 37.9**	**+1.8**
	baz=355						
SHLS				*e*Pg	**Pb**	**00 43 01.6**	**+1.9**
	baz=355						
SHLS				*e*Sn	**Sn**	**00 44 04.5**	**-5.0**
	baz=355						
SHLS	**Shalkode**	**8.30**	**352**	P	**Pn**	**00 42 35.3**	**-0.8**
	comp=E,34nm,0.5s						
SHLS	**Shalkode**	**8.30**	**352**	*e*P	**Pn**	**00 42 37.8**	**+1.7**
SHLS				*e*		00 44 04.5	
UZB	**Uzynbulak**	**8.35**	**350**	*e*Pn	**Pn**	**00 42 37.8**	**+1.1**
	baz=350						
UZB				*e*Pg	**Pb**	**00 43 03.3**	**+2.8**
	baz=350						
UZB				*e*Sn	**Sn**	**00 44 06.6**	**-4.2**
	baz=350						
UZB	**Uzynbulak**	**8.35**	**350**	*e*P	**Pn**	**00 42 37.8**	**+1.1**
UZB				*e*		00 44 06.5	
SATY	**Saty**	**8.37**	**347**	*e*Pn	**Pn**	**00 42 37.2**	**+0.2**
	baz=347						
SATY				*e*Pg	**Pb**	**00 43 03.5**	**+2.7**
	baz=347						
SATY				*e*Sn	**Sn**	**00 44 07.3**	**-3.9**
	baz=347						
SATY				*e*Lg	Lg	00 44 54.7	
	baz=347						
SATY	**Saty**	**8.37**	**347**	*e*P	**Pn**	**00 42 37.2**	**+0.2**
SATY				*e*		00 44 07.2	
BOOM	**Boomskoye usch**	**8.53**	**334**		**Pn**	**00 42 39.9**	**+0.6**
BOOM	**Boomskoye usch**	**8.53**	**334**	P	**Pn**	**00 42 39.9**	**+0.6**
DRK	**Karamyk**	**8.66**	**304**		**Pn**	**00 42 41.5**	**+0.3**
DRK	**Karamyk**	**8.66**	**304**	P	**Pn**	**00 42 41.5**	**+0.3**
TNSS	**Tian-Shan**	**8.70**	**340**	*e*Pn	**Pn**	**00 42 44.0**	**+2.2**
	baz=340						
TNSS				*e*Pg		00 43 09.4	
	baz=340						
TNSS	**Tian-Shan**	**8.70**	**340**	P	**Pn**	**00 42 42.5**	**+0.8**
	comp=E,14nm,0.6s						
TNSS	**Tian-Shan**	**8.70**	**340**	*e*P	**Pn**	**00 42 43.9**	**+2.2**
**KP

SNR=14
KBL S Sn 00 44 46.2 -2.7
KBL Kabul 9.89 271 P Pn 00 42 57.1 -0.9
GTK Tadong 9.97 138 eP Pn 00 43 00.0 +0.9
GTK i x x 00 46 16.3
LSA Lhasa 10.01 119 P Pn 00 43 04.4 +4.6
LSA pmax pmax
comp=E,18nm,1.0s
LSA Lhasa 10.01 119 Pn **Pn 00 42 59.9 0.0**
LSA Lhasa 10.01 119 P Pn 00 42 59.9 0.0
AJM Ajmer 10.07 215 eP Pn 00 43 02.2 +1.8
CHGR Chuyangaron 10.24 295 Pn 00 43 00.8 -1.8
CHGR Chuyangaron 10.24 295 P Pn 00 43 00.8 -1.8
WMQ Urumqi 10.25 28 P Pn 00 43 06.6 +3.9
WMQ S Sn 00 44 58.4 +1.2
WMQ LR LR
comp=E,4μm,10.3s
WMQ LR LR
comp=E,4μm,8.9s
WMQ LR LR
comp=E,2μm,14.9s
TDK Taldyqorghan 10.25 349 ePn **Pn 00 43 04.8 +2.1**
baz=350
TDK Taldyqorghan 10.25 349 P Pn 00 43 03.1 +0.4
comp=E,96nm,0.6s
TDK Taldyqorghan 10.25 349 eP **Pn 00 43 04.8 +2.1**
SIMJ Simiganj 10.35 295 Pn 00 43 02.0 -2.2
GUNA GUNA 10.75 198 ex **Sn 00 45 06.9 -2.8**
IUG Iuzhnay 11.23 313 ePn **Pn 00 43 15.5 -0.8**
baz=313
IUG ePg 00 43 55.2
baz=313
IUG eSn **Sn 00 45 16.8 -4.7**
baz=313
IUG Iuzhnay 11.23 313 eP **Pn 00 43 15.4 -0.8**
IUG e 00 45 16.7
GOMU GeErMu 11.28 80 P Pn 00 43 21.0 +3.9
GOMU pmax pmax
comp=E,13nm,0.4s
GOMU LR LR
comp=E,17μm,11.5s
GOMU LR LR
comp=E,5μm,11.6s
GOMU LR LR
comp=E,6μm,11.2s
BTLS Baital 11.43 334 ePn **Pn 00 43 15.7 -3.1**
baz=334
BTLS ePg 00 43 59.3
baz=334
BTLS Baital 11.43 334 eP **Pn 00 43 15.6 -3.1**
KK31 Karatay Array 11.55 318 Pn 00 43 19.0 -1.5
KK31 Karatay Array 11.55 318 Pn **Pn 00 43 20.1 -0.4**
comp=E,7.6nm,0.7s,baz=139,slow=12,SNR=33
KK31 ⇓Sn **Sn 00 45 35.6 +6.4**
comp=E,8.8nm,0.7s,baz=134,slow=25
KK31 Karatay Array 11.55 318 P Pn 00 43 20.1 -0.4
KK31 SN **Sn 00 45 35.6 +6.4**
KKAR Karatay Array 11.55 318 Pn 00 43 18.9 -1.6
KKAR Karatay Array 11.55 318 Pn 00 43 19.5 -1.1
KKAR Karatay Array 11.55 318 P Pn 00 43 18.9 -1.6
TAWA Tawang 11.79 125 i x x 00 48 40.7
JASL Jaisalmer 11.82 230 eP **Pn 00 43 23.2 -0.9**
JASL IAmb IAmb 00 43 27.6
comp=Z,142nm,0.8s
MAKZ Makanchi 11.88 3 Pn 00 43 22.9 -2.1
MAKZ Makanchi 11.88 3 P Pn 00 43 25.6 +0.6
MAKZ Makanchi 11.88 3 P Pn 00 43 22.9 -2.1
MK31 Makanchi Array 11.88 4 Pn 00 43 22.6 -2.4
MK31 Makanchi Array 11.88 4 ⇑P **Pn 00 43 26.0 +1.0**
comp=Z,9.0nm,0.6s,baz=188,slow=12,SNR=106
MK31 Makanchi Array 11.88 4 deP **Pn 00 43 23.7 -1.3**
MKAR Makanchi Array 11.88 4 Pn 00 43 22.4 -2.5
MKAR Makanchi Array 11.88 4 Pn **Pn 00 43 23.7 -1.3**
comp=Z,2.7nm,0.3s,baz=184,slow=11,SNR=50
MKAR Sn **Sn 00 45 32.5 -4.7**
comp=Z,0.9nm,0.3s,baz=186,slow=25,SNR=2.1
MKAR Lg Lg 00 46 54.8
comp=Z,0.3nm,0.3s,baz=189,slow=30,SNR=2.3
MKAR LR LR 00 48 49.5
comp=Z,678nm,18.1s,baz=186,slow=42
comp=Z,10nm,0.5s
BRLS Borolday 11.89 316 ePn **Pn 00 43 23.9 -1.3**
baz=315
BRLS Borolday 11.89 316 eP **Pn 00 43 23.8 -1.3**
BHPL Bhopal 12.08 196 ex **Pn 00 43 26.8 -1.0**
BHPL ex **Sn 00 45 36.4 -5.8**
NRDN NARMADA NAGAR 12.64 197 eP P 00 43 41.8 -5.0
BLSP Bilaspur 12.80 175 ex **Pn 00 43 38.0 +0.4**
BLSP IAmb IAmb 00 43 41.5
comp=Z,38nm,0.9s
ZSN Zaisan 12.82 12 Pg **Pn 00 43 37.1 -0.8**
comp=Z,19nm,0.5s
ZIRO ZIRO 13.20 121 i x x 00 48 30.5
SHL Shillong 13.21 132 Pn **Pn 00 43 41.1 -2.3**
SHL Shillong 13.21 132 ex Pn 00 43 49.8 +6.4
SHL ex x 00 47 50.8
SHL Shillong 13.21 132 P Pn 00 43 41.1 -2.3
JORH JORHAT 13.96 122 i x x 00 49 19.3
MOKO MOKOCHONG 14.41 123 eP **Pn 00 43 57.5 -2.3**
MOKO i x x 00 49 33.6
KOHI KOHIMA 14.53 126 eP **Pn 00 43 59.3 -2.1**
KOHI IAmb IAmb 00 44 04.7
comp=Z,23nm,0.8s
LKP Lekhapani 14.75 117 i x x 00 49 47.8
IMP Imphal 15.03 129 ex **P 00 44 14.7 +1.2**
IMP i x x 00 50 02.0
HRA Herat 15.49 273 Pn 00 44 12.4 -1.9
HRA IAmb IAmb 00 44 23.0
comp=Z,42nm,1.1s
GTA Gaotai 15.60 68 eP **Pn 00 44 15.3 -0.3**
GTA pP P 00 44 20.8 +1.0
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA LR LR
comp=Z,2μm,15.3s
GTA LR LR
comp=Z,2μm,14.9s
GTA LR LR
comp=Z,2μm,15.6s
KURBB Kurchatov Arra 15.78 354 Pn **Pn 00 44 14.9 -2.8**
comp=Z,0.2nm,0.3s,baz=175,slow=12,SNR=22
KURBB Lg Lg 00 48 49.9
comp=Z,0.1nm,0.3s,baz=166,slow=31,SNR=4.6
KURBB LR LR 00 50 32.1
comp=Z,471nm,20.5s,baz=221,slow=38
comp=Z,1.6nm,0.3s
KURK Kurchatov 15.87 354 Pn **Pn 00 44 16.3 -2.5**
KURK Kurchatov 15.87 354 ceP **Pn 00 44 17.2 -1.6**
TNCH TengChong 18.04 118 ⇑P **Pn 00 44 46.3 -0.3**
TNCH pP pP 00 44 50.3 -2.6
TNCH S **Sn 00 48 04.4 -3.2**
TNCH sS S 00 48 12.1 -1.4
TNCH SS **SnSn 00 48 31.3 +10**
TNCH pmax pmax
comp=Z,54nm,0.4s
TNCH pmax pmax
comp=Z,210nm,4.1s
TNCH LR LR
comp=Z,840nm,10.0s
TNCH LR LR
comp=Z,630nm,8.3s
TNCH LR LR
comp=Z,2μm,20.5s
LZH Lanzhou 18.58 80 P P 00 44 52.5 -0.3
LZH sP pP 00 44 59.3 +0.5
LZH pmax pmax
comp=Z,430nm,4.8s
LZH LR LR
comp=Z,3μm,12.4s
LZH LR LR
comp=Z,2μm,12.0s
LZH LR LR
comp=Z,890nm,11.3s
ZAA0 Zalesovo Array 19.19 7 P P 00 44 58.4 -0.8
ZALV Zalesovo Beam 19.19 7 P P 00 44 58.2 -0.9
ZALV Zalesovo Beam 19.19 7 P P 00 44 57.0 -2.1
comp=Z,0.9nm,0.3s,baz=196,slow=11,SNR=22
ZALV Sn **Sn 00 48 33.2 -1.4**
comp=Z,0.1nm,0.3s,baz=184,slow=25,SNR=1.6
ZALV Lg Lg 00 50 42.3
comp=Z,0.2nm,0.3s,baz=188,slow=29,SNR=1.0
ZALV LR LR 00 52 37.0
comp=Z,338nm,20.0s,baz=198,slow=38
comp=Z,5.3nm,0.6s
ZALV Zalesovo Beam 19.19 7 i P **P 00 44 58.7 -0.4**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
CD2 Chengdu 19.47 96 P P 00 45 02.6 +0.2
CD2 pP pP 00 45 06.8 -1.6
CD2 sP sP 00 45 08.3 -2.9
CD2 S **S 00 48 44.8 +2.8**
CD2 sS sS 00 48 50.5 -1.0
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 pmax pmax
comp=Z,350nm,6.2s
CD2 LR LR
comp=Z,2μm,7.3s
CD2 LR LR
comp=Z,3μm,9.2s
CD2 LR LR
comp=Z,3μm,10.4s
BVAR Borovoye Array 19.60 341 P P 00 45 04.0 +0.3
comp=Z,0.2nm,0.3s,baz=158,slow=11,SNR=25
BVAR S **S 00 48 43.8 -0.5**
comp=Z,1.9nm,0.7s,baz=228,slow=34,SNR=1.4
BVAR Lg Lg 00 50 50.5
baz=151,slow=28,SNR=2.1
BVAR LR LR 00 53 10.6
comp=Z,515nm,20.3s,baz=151,slow=39
comp=Z,6.4nm,0.6s
PZH PanZhiHua 19.65 110 P Pn 00 45 08.1 +2.2
PZH S **S 00 48 44.3 -1.5**
PZH pmax pmax
comp=Z,20nm,1.8s
PZH pmax pmax
comp=Z,180nm,4.7s
PZH LR LR
comp=Z,610nm,7.6s
PZH LR LR
comp=Z,960nm,8.8s
PZH LR LR
comp=Z,1μm,9.8s
BRVK Borovoye 19.66 340 P P 00 45 03.7 -0.6
BRVK IAmb IAmb 00 45 13.9
comp=Z,25nm,0.8s
BRVK Borovoye 19.66 340 P P 00 45 02.9 -1.4
BRVK Borovoye 19.66 340 P P 00 45 03.7 -0.6
BRVK pmax pmax
comp=Z,25nm,0.9s
NGCH Negor - Chabah 19.66 246 P Pn 00 45 07.7 +1.7
ABKAR Akbulak array 21.12 319 P P 00 45 19.3 -0.8
ABKAR Akbulak array 21.12 319 P P 00 45 18.7 -1.4
KMI Kunming 21.13 112 ⇑P **P 00 45 20.8 +0.1**
KMI S **S 00 49 12.0 -3.5**
KMI pmax pmax
comp=Z,31nm,0.8s
KMI LR LR
comp=Z,760nm,9.4s
KMI LR LR
comp=Z,860nm,9.0s
KMI LR LR
comp=Z,1μm,11.4s
MOY Mondy 22.02 35 eP **P 00 45 32.5 +2.5**
MOY pmax pmax
comp=Z,53nm,2.4s
ZAK Zakamensk 22.35 40 eP **P 00 45 35.1 +1.6**
ZAK pmax pmax
comp=Z,9.0nm,1.8s
CHTO Chiang Mai 22.58 131 P P 00 45 35.8 -0.3
CHTO IAmb IAmb 00 45 43.0
comp=Z,18nm,0.9s
CHTO Chiang Mai 22.58 131 P P 00 45 35.8 -0.3
CHTO pmax pmax
comp=Z,18nm,0.9s
WSAR Wadi Sarin 22.75 245 LR LR 00 56 54.6
comp=Z,455nm,18.9s,baz=74,slow=43
AKTO Aktyubinsk 22.81 320 LR LR 00 55 19.6
comp=Z,2μm,18.4s,baz=140,slow=39
SONM Songino Array 22.84 48 P P 00 45 40.0 +1.2
SONM IAmb IAmb 00 45 44.6
comp=Z,30nm,1.4s
SONM Songino Array 22.84 48 P P 00 45 38.3 -0.5
comp=Z,9.8nm,1.0s,baz=246,slow=9.9,SNR=28
SONM LR LR 00 55 08.0
comp=Z,622nm,18.5s,baz=255,slow=38
comp=Z,9.8nm,1.0s
SONM Songino Array 22.84 48 P P 00 45 40.0 +1.2
SONM pmax pmax
comp=Z,30nm,1.4s
CM31 Chiang Mai Arr 22.85 131 P P 00 45 38.8 -0.1
CM31 IAmb IAmb 00 45 46.4
comp=Z,35nm,1.0s
CMAR Chiang Mai Arr 22.85 131 P P 00 45 39.3 +0.4
CMAR Chiang Mai Arr 22.85 131 P P 00 45 38.0 -0.9
comp=Z,7.2nm,0.8s,baz=312,slow=11,SNR=27
comp=Z,7.2nm,0.8s
CMAR Chiang Mai Arr 22.85 131 i P **P 00 45 39.7 +0.8**
CMAR pmax pmax
comp=Z,34nm,1.1s
XAN Xi'an 22.96 84 P P 00 45 40.5 +0.5
XAN S **S 00 49 52.0 +2.3**
XAN pmax pmax
comp=Z,18nm,1.1s
XAN pmax pmax
comp=Z,240nm,4.1s
XAN LR LR
comp=Z,2μm,12.5s
XAN LR LR
comp=Z,1μm,11.5s
XAN LR LR
comp=Z,2μm,10.6s
SHME Shamm 23.18 254 P P 00 45 43.3 +1.0
SNR=5.3
SHME S **S 00 50 01.4 +8.0**
ULN Ulaanbaatar 23.26 48 P P 00 45 43.7 +0.6
ULN Ulaanbaatar 23.26 48 P P 00 45 44.0 +0.9
ULN S **S 00 50 00.7 +5.9**
ULN Ulaanbaatar 23.26 48 P P 00 45 43.7 +0.6
ULN pmax pmax
comp=Z,50nm,1.4s
SMDO Samad 23.29 246 P P 00 45 45.3 +1.9
SMDO P **P 00 45 45.3 +1.9**
MDH Madha 23.42 253 P P 00 45 47.1 +2.4
MDH P **P 00 45 47.1 +2.4**
MDH S **S 00 50 00.8 +3.4**
MDH S **S 00 50 00.8 +3.4**
MASF Masafi 23.49 253 P P 00 45 47.3 +1.9
SNR=8.0
MASF P **P 00 45 47.3 +1.9**
SNR=8.0
MASF S **S 00 50 03.7 +5.0**
MASF S **S 00 50 03.7 +5.0**
BTO Baotou 23.52 67 eP **P 00 45 45.1 -0.6**
BTO pP **pP 00 45 49.1 -2.9**
BTO sP **sP 00 45 53.1 -1.7**
BTO PP **PnPn 00 46 18.1 +5.7**
BTO S **S 00 50 00.3 +1.2**
BTO pmax pmax
comp=Z,41nm,0.8s
BTO pmax pmax
comp=Z,220nm,3.9s
BTO LR LR
comp=Z,3μm,12.0s
BTO LR LR
comp=Z,2μm,13.7s
BTO LR LR
comp=Z,4μm,16.1s
GYA Guiyang 23.54 104 ⇑P **P 00 45 47.0 +1.0**
GYA S **S 00 50 01.0 +1.5**
GYA pmax pmax
comp=Z,16nm,1.4s
GYA pmax pmax
comp=Z,320nm,7.2s
GYA LR LR
comp=Z,810nm,7.8s
GYA LR LR
comp=Z,990nm,10.2s
GYA LR LR
comp=Z,860nm,9.5s
HOQ Hoqain 23.55 248 P P 00 45 47.3 +1.4
HOQ P **P 00 45 47.3 +1.4**
HOQ S **S 00 50 02.4 +2.9**
HOQ S **S 00 50 02.4 +2.9**
JMDO Jabal Madar 23.65 244 P P 00 45 48.2 +1.2
JMDO P **P 00 45 48.2 +1.2**
UOSS Minazif 23.67 252 P P 00 45 46.6 -0.5
UOSS IAmb IAmb 00 45 54.0
comp=Z,38nm,1.4s
UOSS Minazif 23.67 252 P P 00 45 49.6 +2.4
UOSS P **P 00 45 49.6 +2.4**
UOSS S **S 00 50 08.2 +6.8**
UOSS S **S 00 50 08.2 +6.8**
HATD Hatta, Dubai 23.79 252 P P 00 45 53.0 +4.6
HATD P **P 00 45 53.0 +4.6**
HATD S **S 00 50 07.8 +4.4**
HATD S **S 00 50 07.8 +4.4**
SOHO SOHO 23.84 250 P P 00 45 51.1 +2.4
SOHO P **P 00 45 51.1 +2.4**
SOHO S **S 00 50 10.1 +6.1**
SOHO S **S 00 50 10.1 +6.1**
ASHO Ashiyiah 23.92 251 P P 00 45 53.0 +3.4
SNR=15
ASHO P **P 00 45 53.0 +3.4**
SNR=15
NAZ Nazwa, Dubai 24.07 253 P P 00 45 55.1 +4.1
SNR=15
NAZ P **P 00 45 55.1 +4.1**
SNR=15
BSY Bisya 24.11 246 P P 00 45 56.9 +5.6
SLVN Son La 24.21 118 P P 00 45 53.0 +0.7
SLVN IAmb IAmb 00 45 56.5
comp=Z,19nm,1.5s
FAQ Al Faqa, Dubai 24.25 252 P P 00 45 56.1 +3.5
SNR=10
FAQ P **P 00 45 56.1 +3.5**
SNR=10
ARQ Araqi 24.28 248 P P 00 45 56.0 +3.0
ARQ P **P 00 45 56.0 +3.0**
ALNE Al Ain 24.48 251 P P 00 45 58.0 +3.2
SNR=11
ALNE P **P 00 45 58.0 +3.2**
SNR=11
ASUD Al Ashush, Dub 24.52 252 P P 00 45 57.7 +2.7
SNR=5.1
ASUD P **P 00 45 57.7 +2.7**
SNR=5.1
MHTO MHTO 24.60 242 P P 00 46 01.3 +5.4
MHTO P **P 00 46 01.3 +5.4**
HHC Hu-ho-hao-te 24.71 67 eP **P 00 45 58.8 +2.0**
HHC S **S 00 50 20.0 +1.8**
HHC SS 00 51 14.8
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,240nm,4.5s
HHC LR LR
comp=Z,600nm,14.1s
HHC LR LR
comp=Z,1μm,14.8s
HHC LR LR
comp=Z,2μm,15.3s
AJN Ajban 24.82 252 P P 00 45 60.0 +2.2
SNR=6.5
LYN LuoYang 25.76 82 P P 00 46 07.1 +0.8
LYN sP pP 00 46 10.3 -2.4
LYN pmax pmax
comp=Z,37nm,1.1s
LYN LR LR
comp=Z,2μm,12.6s
LYN LR LR
comp=Z,1μm,15.3s
LYN LR LR
comp=Z,2μm,14.1s
JRN Qarnain Island 26.32 255 P P 00 46 13.7 +2.4
SNR=5.3
ARU Arti 26.40 331 P P 00 46 10.8 -0.9
ARU Arti 26.40 331 LR LR 00 57 05.9
comp=Z,716nm,20.8s,baz=128,slow=38
ARU Arti 26.40 331 P P 00 46 11.6 -0.2
ARU 00 46 49.6
ARU S **S 00 50 47.7 +3.3**
ARU SS **SnSn 00 51 54.9 +10**
ARU MLR MLR
comp=Z,670nm,17.0s
ARU Arti 26.40 331 P P 00 46 10.7 -1.1
comp=Z,11nm,0.7s
GHWR Ruwais 26.78 254 P P 00 46 17.6 +2.1
GHWR P **P 00 46 17.6 +2.1**
MZR Muzera 26.81 251 P P 00 46 16.5 +0.7
SNR=9.3
MZR P **P 00 46 16.5 +0.7**
SNR=9.3
MAK Makhachkala 27.16 297 eP **P 00 46 11.6 -7.2**
MAK eS **S 00 50 47.0 -10**
MAK pmax pmax
comp=Z,238nm,1.6s
MAK MLR MLR
comp=Z,953nm,12.0s
HNS HongShan 27.20 75 eP **P 00 46 24.5 +5.3**
HNS LR LR
comp=Z,4μm,18.9s
HNS LR LR
comp=Z,560nm,17.7s
HNS LR LR
comp=Z,2μm,17.5s
PALK Pallekele 27.54 181 LR LR 00 56 27.3
comp=Z,526nm,19.9s,baz=107,slow=35
SAKB Bahrain 27.70 260 P P 00 46 25.6 +1.8
SMRA Abu-Samra 28.03 257 P P 00 46 28.9 +2.2
BJI Beijing 28.21 69 P P 00 46 31.6 +3.4
BJI pmax pmax
comp=Z,3.0nm,0.8s
BJI pmax pmax
comp=Z,55nm,4.0s
BJI LR LR
comp=Z,360nm,12.1s
BJI LR LR
comp=Z,340nm,16.8s
BJI LR LR
comp=Z,620nm,13.6s
XLT XiLinHaoTe 28.32 61 eP **P 00 46 30.4 +1.1**
XLT S **S 00 51 10.3 -4.9**
XLT sS pS 00 51 23.5 +1.2
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT LR LR
comp=Z,890nm,15.0s
XLT LR LR
comp=Z,860nm,17.8s
GNI Garni 29.12 291 LR LR 01 02 40.5
comp=Z,292nm,18.8s,baz=108,slow=46
BELG Belogornoye 29.46 317 LR LR 00 59 56.2
comp=Z,904nm,18.7s,baz=138,slow=40
QIZ Qiongzhong 30.01 114 P P 00 46 45.3 +0.9
QIZ S **S 00 51 43.6 +1.7**
QIZ LR LR
comp=Z,600nm,10.9s
QIZ LR LR
comp=Z,500nm,10.1s
QIZ LR LR
comp=Z,740nm,10.9s
KBZ Khabaz 30.57 298 LR LR 01 01 23.3
comp=Z,509nm,18.9s,baz=116,slow=41
KIV Kislovodsk 30.74 299 eP **P 00 46 49.2 -1.5**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,348nm,15.0s
KIV Kislovodsk 30.74 299 P P 00 46 51.2 +0.5
comp=Z,4.3nm,1.5s
GURO Guroymak-BITLI 31.32 288 P P 00 46 55.6 -0.4
NJ2 Nanjing 31.53 84 eP **P 00 46 56.0 -1.7**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 pmax pmax
comp=Z,410nm,4.3s
NJ2 LR LR
comp=Z,900nm,12.5s
NJ2 LR LR
comp=Z,440nm,17.1s
NJ2 LR LR
comp=Z,720nm,10.8s
KIRV Kirov 31.57 328 LR LR 01 00 53.9
comp=Z,726nm,18.1s,baz=127,slow=39
KIRV Kirov 31.57 328 ceP **P 00 46 57.0 -0.7**
RAYN Ar Rayn 32.88 259 P P 00 47 08.4 -1.3
RAYN Ar Rayn 32.88 259 P P 00 47 08.5 -1.3
RAYN pmax pmax
comp=Z,5.0nm,1.0s
ARPR Arapgir-MALATY 34.13 290 P P 00 47 20.9 +0.3
ARPR IAmb IAmb 00 47 38.8
comp=Z,12nm,1.0s
KULM Kulim 34.62 144 P P 00 47 24.7 -0.1
NRIK Noril'sk 34.64 4 P P 00 47 25.2 +0.7
NRIK IAmb IAmb 00 47 29.5

comp=Z,14nm,1.2s
NRIK Noril'sk 34.64 4 P P 00 47 24.1 -0.4
comp=Z,3.4nm,0.9s,baz=184,slow=6.6,SNR=7.0
comp=Z,3.4nm,0.9s
NRIK Noril'sk 34.64 4⇑ eP P 00 47 26.1 +1.7
NRIK pmax pmax
comp=Z,15nm,1.4s
CN2 Changchun 35.09 62 eP P 00 47 28.0 -0.6
CN2 eS S 00 53 03.8 +3.3
CN2 pmax pmax
comp=Z,10.0nm,0.2s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,700nm,12.0s
CN2 LR LR
comp=Z,700nm,12.0s
CN2 LR LR
comp=Z,900nm,13.0s
GAZ Gaziantep 35.28 287 P P 00 47 30.5 0.0
MOS Moscow 36.14 319 eP P 00 47 33.1 -4.3
MOS e 00 48 58.8
MOS eS S 00 53 14.7 -1.6
MOS MLR MLR
comp=E,900nm,19.0s
MOS MLR MLR
comp=Z,1μm,19.0s
BNX BinXian 36.48 58 ⇑P P 00 47 41.3 +0.8
BNX pmax pmax
comp=Z,10.0nm,1.4s
OBN Obninsk 36.55 317 LR LR 01 03 44.9
comp=Z,667nm,19.9s,baz=100,slow=38
ZEA Zeya 37.21 45 eP P 00 47 51.2 +4.6
ZEA MLR MLR
comp=E,300nm,16.0s
ZEA MLR MLR
comp=N,300nm,14.0s
ZEA MLR MLR
comp=Z,300nm,17.0s
KS19 Wonju Array Si 37.55 72 P P 00 47 50.0 +0.2
KS19 IAmb IAmb 00 47 53.2
comp=Z,16nm,1.2s
KSAR Wonju Array Be 37.58 72 P P 00 47 50.7 +0.8
KSAR Wonju Array Be 37.58 72 P P 00 47 50.7 +0.8
KSRS Korea Array 37.60 72 P P 00 47 49.7 -0.4
comp=Z,0.9nm,0.6s,baz=278,slow=7.6,SNR=7.8
KSRS LR LR 01 05 05.2
comp=Z,728nm,18.1s,baz=270,slow=39
comp=Z,0.9nm,0.6s
MMAI Mount Meron Ar 37.66 280 LR LR 01 06 47.7
comp=Z,333nm,18.5s,baz=20,slow=42
BR131 Keskin Array S 37.66 292 P P 00 47 49.3 -1.5
BR131 Keskin Array S 37.66 292 P P 00 47 49.3 -1.5
BR131 pmax pmax
comp=Z,5.0nm,1.1s
BRTR Keskin Array B 37.66 292 P P 00 47 49.9 -0.9
BRTR Keskin Array B 37.66 292 P P 00 47 50.8 0.0
comp=Z,3.1nm,0.9s,baz=95,slow=6.6,SNR=18
BRTR LR LR 01 07 07.1
comp=Z,252nm,21.6s,baz=78,slow=42
comp=Z,3.1nm,0.9s
MDJ Mudanjiang 38.04 60 P P 00 47 54.9 +1.1
MDJ pmax pmax
comp=Z,16nm,0.7s
EIL Elat 39.06 276 LR LR 01 07 09.5
comp=Z,532nm,18.7s,baz=72,slow=41
KLR Kul'dur 39.49 53 LR LR 01 05 26.7
comp=Z,390nm,18.3s,baz=264,slow=38
KLR Kul'dur 39.49 53⇑ eP P 00 48 06.5 +0.6
KLR pmax pmax
comp=Z,5.0nm,1.3s
USA0B Ussuriysk Arra 39.78 61⇑ eP P 00 48 10.9 +2.5
USRK Ussuriysk Ar. 39.78 61 P P 00 48 07.9 -0.5
comp=Z,2.2nm,0.8s,baz=267,slow=12,SNR=5.5
USRK LR LR 01 06 54.3
comp=Z,221nm,19.1s,baz=278,slow=40
comp=Z,2.2nm,0.8s
VLA Vladivostok 39.80 62 eP P 00 48 09.8 +1.3
VLA pmax pmax
comp=Z,15nm,1.0s
PDSI Padang 40.02 149 P P 00 48 12.6 +2.0
AK09 Malin Array Si 40.24 309 P P 00 48 10.6 -1.5
AK08 Malin Array Si 40.26 309 P P 00 48 10.8 -1.4
AK10 Malin Array Si 40.26 309 P P 00 48 10.8 -1.5
AKASG Malin Array Be 40.28 309 P P 00 48 11.4 -1.0
AKASG Malin Array Be 40.28 309 P P 00 48 10.9 -1.5
comp=Z,0.7nm,0.5s,baz=77,slow=8.0,SNR=18
AKASG PP PnPn 00 49 48.3 -0.4
comp=Z,1.4nm,0.6s,baz=78,slow=9.8,SNR=4.9
AKASG LR LR 01 07 26.5
comp=Z,583nm,18.9s,baz=76,slow=40
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 40.28 309 P P 00 48 11.5 -1.0
AKASG pmax pmax
comp=Z,7.0nm,1.5s
AKBB Malin Array Si 40.28 309 P P 00 48 10.5 -2.0
AKBB Malin Array Si 40.28 309 P P 00 48 10.5 -2.0
AKBB pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 40.28 309 P P 00 48 10.5 -2.0
AK03 Malin Array Si 40.29 309 P P 00 48 10.8 -1.7
AK01 Malin Array Si 40.29 309 P P 00 48 11.1 -1.4
AK07 Malin Array Si 40.29 309 P P 00 48 11.1 -1.4
AK05 Malin Array Si 40.29 309 P P 00 48 10.9 -1.6
AK02 Malin Array Si 40.29 309 P P 00 48 10.9 -1.6
KIEV Kiev 40.29 309 ⇑P P 00 48 11.0 -1.5
KIEV Kiev 40.29 309 P P 00 48 10.0 -2.5
KIEV Kiev 40.29 309 P P 00 48 10.0 -2.5
KIEV pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 40.29 309 P P 00 48 10.5 -2.0
comp=Z,25nm,1.1s
AK11 Malin Array Si 40.32 309 P P 00 48 11.1 -1.6
AK04 Malin Array Si 40.32 309 P P 00 48 11.1 -1.7
AK12 Malin Array Si 40.33 309 P P 00 48 10.9 -1.9
AK15 Malin Array Si 40.35 309 P P 00 48 11.1 -1.9
AK14 Malin Array Si 40.35 309 P P 00 48 11.1 -1.9
AK13 Malin Array Si 40.38 309 P P 00 48 11.6 -1.7
AK18 Malin Array Si 40.38 309 P P 00 48 11.7 -1.6
AK19 Malin Array Si 40.42 309 P P 00 48 11.9 -1.7
AK20 Malin Array Si 40.42 309 P P 00 48 11.9 -1.7
YAK Yakutsk 40.64 33 LR LR 01 06 12.0
comp=Z,356nm,20.6s,baz=242,slow=38
SORM Soroca 40.82 305 ⇑P P 00 48 15.5 -1.4
SORM Soroca 40.82 305 ⇑P P 00 48 15.5 -1.4
SORM Soroca 40.82 305 P P 00 48 15.4 -1.4
comp=Z,8.9nm,0.7s
TPGR Topolog 40.94 300 ⇑P P 00 48 17.9 -0.1
MI30 MI30,Zelenitsa 40.94 309 P P 00 48 16.0 -1.9
JNU Nakatsue 40.99 78 LR LR 01 07 05.6
comp=Z,640nm,18.7s,baz=294,slow=39
ELL Elmali 41.10 288 P P 00 48 18.8 -0.7
ELL Elmali 41.10 288 P P 00 48 18.8 -0.7
ELL pmax pmax
comp=Z,64nm,0.9s
VLDR Vladesti 41.10 302 ⇑P P 00 48 19.3 0.0
CFR Carcaliu 41.12 301 ⇑P P 00 48 18.0 -1.4
CFR Carcaliu 41.12 301 ⇑P P 00 48 18.0 -1.4
LUBAR Lubar, Ukraine 41.20 308 P P 00 48 18.0 -2.0
VARL Varlezi 41.26 302 ⇑P P 00 48 20.8 +0.2
MI28 Mi28,Pidlybu 41.28 310 P P 00 48 18.9 -1.7
MNK Minsk 41.38 315 *i* P **P 00 48 20.9 -0.5**
comp=E,9.0nm,1.1s
MNK *i* P **P 00 48 20.9 -0.5**
comp=N,6.0nm,0.7s
MNK *i* P **P 00 48 20.9 -0.5**
comp=Z,18nm,0.8s,baz=96
MNK *i* PP **PP 00 49 56.1 -0.8**
MNK *i* PPP PPP 00 50 23.1
MNK *i* S **S 00 54 41.3 +5.9**
MNK *i* SS **SS 00 57 39.8 +0.6**
MNK *i* SSS SSS 00 58 06.1
MNK *i* LQ LQ 01 02 25.6
MNK *i* LR LR 01 05 33.8
MNK Minsk 41.38 315 *i* P **P 00 48 20.9 -0.5**
MNK *i* 00 49 56.1
MNK *i* PPP PPP 00 50 23.1
MNK *i* S **S 00 54 41.2 +5.9**
MNK *i* SS **SS 00 57 39.7 +0.6**
MNK pmax pmax
comp=Z,18nm,0.9s
MNK pmax pmax
comp=E,9.0nm,1.0s
MNK pmax pmax
comp=N,6.0nm,0.7s

JOF Joensuu 41.42 328 *eP* **P 00 48 21.6 0.0**
CTYL Yalikoy Yolu 41.44 295 P **P 00 48 21.2 -0.9**
comp=N,7.5nm,0.5s
ICOR Ion Corvin 41.45 299 ⇓P P 00 48 21.8 -0.4
GHRR 41.56 302 P **P 00 48 23.1 +0.1**
ATD Arta Tunnel 41.76 246 LR LR 01 07 46.2
comp=N,6.2nm,19.9s,baz=38,slow=39
VRI Vrincioaia 42.05 302 ⇑P P 00 48 27.6 +0.5
VRI Vrincioaia 42.05 302 ⇑P P 00 48 27.6 +0.5
VRI Vrincioaia 42.05 302 P **P 00 48 27.3 +0.2**
comp=N,4.9nm,0.8s,comp=N,67nm.
TESR Tescani 42.05 303 ⇑P P 00 48 26.7 -0.4
TESR Tescani 42.05 303 P **P 00 48 25.9 -1.2**
comp=N,8.1nm,0.7s
KMPD K-Podol'skiy 42.07 306 P **P 00 48 24.9 -2.3**
PLOR5 Plostina Array 42.09 302 P **P 00 48 28.1 +0.6**
comp=N,17nm,0.8s
PLOR Plostina 42.10 302 ⇑P P 00 48 27.4 -0.1
PLOR Plostina 42.10 302 ⇑P P 00 48 27.4 -0.1
PLOR3 Plostina Array 42.10 302 P **P 00 48 27.6 0.0**
comp=N,9.6nm,0.8s
RNPP9 Sopachiv 42.41 310 P **P 00 48 29.0 -0.9**
RNPP5 Staryi Chortor 42.41 310 P **P 00 48 29.0 -0.9**
RNPP8 Varash 42.43 310 P **P 00 48 29.2 -0.8**
TURR Turia 42.52 302 ⇑P P 00 48 31.2 +0.3
VSU Vasula 42.53 321 *eP* **P 00 48 29.9 -0.9**
VSU pmax pmax
comp=Z,15nm,1.0s
MLR Muntele Rosu 42.63 302 ⇑P P 00 48 31.1 -0.8
MLR Muntele Rosu 42.63 302 P **P 00 48 31.7 -0.2**
MLR IAmb IAmb 00 48 33.9
comp=Z,13nm,0.8s
MLR Muntele Rosu 42.63 302 LR LR 01 09 12.4
comp=Z,254nm,20.4s,baz=56,slow=40
MLR Muntele Rosu 42.63 302 P **P 00 48 31.7 -0.2**
MLR pmax pmax
comp=Z,13nm,0.8s
BURAR Bucovina Array 42.95 305 ⇑P P 00 48 33.8 -0.7
BURAR Bucovina Array 42.95 305 P **P 00 48 33.6 -0.9**
BURAR Bucovina Array 42.95 305 P **P 00 48 33.6 -0.9**
BURAR pmax pmax
comp=Z,2.0nm,0.8s
BUR08 Bucovina Ar. S 42.96 305 P **P 00 48 33.2 -1.3**
ARBE Arbavere 43.08 322 *eP* **P 00 48 35.0 -0.2**
EZN Ezine 43.20 293 P **P 00 48 36.3 -0.1**
comp=Z,11nm,1.4s
VOIR 43.26 302 ⇑P P 00 48 36.7 -0.3
VOIR 43.26 302 ⇑P P 00 48 36.7 -0.3
VOIR 43.26 302 P **P 00 48 36.6 -0.4**
comp=Z,3.5nm,0.8s
KKM Kota Kinabalu 43.31 123 P **P 00 48 37.0 -0.7**
FIA1 FINESS Array S 43.40 325 P **P 00 48 36.8 -0.9**
FINES FINESS Array B 43.40 325 P **P 00 48 36.6 -1.2**
FINES FINESS Array B 43.40 325 P **P 00 48 37.0 -0.8**
comp=Z,10.0nm,0.6s,baz=105,slow=9.3,SNR=67
FINES LR LR 01 07 40.9
comp=Z,708nm,20.5s,baz=100,slow=38
comp=Z,10.0nm,0.6s
RDO Rodhopi 43.53 295 P **P 00 48 38.0 -1.1**
PABE Paberze 43.71 316 P **P 00 48 39.1 -1.2**
PABE Paberze 43.71 316 *eP* **P 00 48 40.3 -0.1**
MEF Metsahovi 43.99 323 *eP* **P 00 48 42.1 -0.4**
MTSE Matsula 44.08 321 *eP* **P 00 48 42.8 -0.4**
SUW Suwalki 44.10 314 P **P 00 48 42.2 -1.3**
SUW IAmb IAmb 00 48 43.2
comp=Z,12nm,0.9s
SUW Suwalki 44.10 314 *eP* **P 00 48 42.7 -0.9**
SUW Suwalki 44.10 314 P **P 00 48 42.2 -1.3**
SUW pmax pmax
comp=Z,12nm,0.9s
KEF Keuruu 44.11 326 *eP* **P 00 48 42.9 -0.5**
LOT Lotru 44.15 302 ⇓P P 00 48 43.4 -0.8
TIXI Tiksi 44.31 20 LR LR 01 09 10.3
comp=Z,1μm,18.3s,baz=258,slow=39
MARR Marisel-Cluj 44.46 304 ⇓P P 00 48 45.0 -1.6
KWP Kalwaria Pacla 44.48 308 P **P 00 48 45.6 -1.0**
KWP IAmb IAmb 00 48 50.4
comp=Z,8.5nm,1.1s
KWP Kalwaria Pacla 44.48 308 P **P 00 48 45.7 -1.0**
KWP pmax pmax
comp=Z,9.0nm,1.1s
KWP Kalwaria Pacla 44.48 308 P **P 00 48 46.0 -0.7**
comp=Z,7.9nm,1.0s
DRGR 44.73 304 ⇓P P 00 48 47.8 -0.9
DRGR 44.73 304 ⇓P P 00 48 47.8 -0.9
KOLS Kolonicke sedl 44.81 307 *eP* **P 00 48 49.3 0.0**
KOLS *e* 00 50 32.0
KOLS Kolonicke sedl 44.81 307 *eP* **P 00 48 49.3 0.0**
KOLS *eP*P **PcP 00 50 32.0 +0.9**
SURR Surduc 45.26 302 ⇓P P 00 48 51.8 -1.1
VAF Ylistaro 45.27 327 *eP* **P 00 48 52.5 -0.2**
RAF Rauma 45.39 324 *eP* **P 00 48 52.7 -1.0**
IDI Anoyia 45.40 287 LR LR 01 12 12.5
comp=Z,149nm,20.2s,baz=108,slow=42
JGF Kuroka 45.42 72 P **P 00 48 54.9 +0.5**
JGF IAmb IAmb 00 49 00.3
comp=Z,9.5nm,1.2s
JSD Sado 45.48 69 P **P 00 48 55.0 +0.3**
SIRR Siria 45.51 303 ⇑P P 00 48 53.9 -1.1
BZS Buzias 45.63 302 ⇓P P 00 48 54.5 -1.4
BZS Buzias 45.63 302 ⇓P P 00 48 54.5 -1.4
MDVR Moldovita 45.69 301 ⇑P P 00 48 55.3 -1.1
ARCES ARCESS Array B 45.80 336 P **P 00 48 55.7 -1.2**
comp=Z,3.6nm,0.7s,baz=103,slow=9.2,SNR=12
comp=Z,3.6nm,0.7s
MAJO Matsushiro 45.82 71 P **P 00 48 57.5 0.0**
MAJO IAmb IAmb 00 49 00.0
comp=Z,5.4nm,0.8s
MAJO Matsushiro 45.82 71 P **P 00 48 57.5 0.0**
MAJO pmax pmax
comp=Z,5.0nm,0.9s
MJAR Matsushiro Arr 45.83 71 P **P 00 48 56.3 -1.2**
comp=Z,4.0nm,0.9s,baz=292,slow=9.0,SNR=9.5
MJAR LR LR 01 08 51.1
comp=Z,314nm,21.6s,baz=296,slow=37
comp=Z,4.0nm,0.9s
BOVS Bovan 45.88 300 ⇓P P 00 48 57.3 -0.6
NIE Niedzica 46.06 308 P **P 00 48 59.1 -0.2**
KTK1 Kautokeino 46.41 335 *eP* **P 00 49 01.0 -0.7**
FURI Furi 46.58 246 LR LR 01 11 16.8
comp=Z,241nm,18.4s,baz=44,slow=40
HAMF Hammerfest 46.75 337 *eP* **P 00 49 04.6 +0.4**
JTM Tenmabayashi 46.94 64 P **P 00 49 05.8 -0.4**
FRGS Fruska Gora 46.96 302 P **P 00 49 05.8 -0.5**
comp=Z,10nm,0.8s
UPP Uppsala 47.34 322 *eP* **P 00 49 08.4 -0.6**
ASAJ Asahikawa 47.35 59 LR LR 01 10 23.7
comp=Z,380nm,19.7s,baz=291,slow=38
MORH Mrgy, Hungar 47.59 304 ⇑P P 00 49 09.1 -2.0
MORH Mrgy, Hungar 47.59 304 P **P 00 49 10.7 -0.5**
comp=Z,4.0nm,1.2s
MAUC Maruska 47.67 308 *eP* **P 00 49 11.3 -0.6**
VIKU Vikbolandet 47.79 320 *eP* **P 00 49 11.6 -0.9**
MORC Moravsky Berou 47.81 308 P **P 00 49 12.4 -0.5**
MORC IAmb IAmb 00 49 13.3
comp=Z,4.1nm,0.9s
MORC Moravsky Berou 47.81 308 *eP* **P 00 49 12.5 -0.5**
MORC Moravsky Berou 47.81 308 P **P 00 49 12.4 -0.5**
MORC pmax pmax
comp=Z,4.0nm,0.9s
JAVC Velka Javorina 47.84 307 *eP* **P 00 49 13.8 +0.6**
TRO Tromso 48.05 335 *eP* **P 00 49 13.7 -0.7**
JHJ Hachijo jima 2 48.09 75 LR LR 01 11 12.3
comp=Z,539nm,19.5s,baz=322,slow=38
KSP Ksiaz 48.47 310 P **P 00 49 17.3 -0.7**
comp=Z,5.6nm,2.0s
VRAC Vranov 48.48 308 *eP* **P 00 49 16.8 -1.3**
VRAC Vranov 48.48 308 LR LR 01 12 24.6
comp=Z,186nm,20.4s,baz=74,slow=39
DPC Dobruska-Polom 48.52 309 *eP* **P 00 49 18.1 -0.3**
DPC Dobruska-Polom 48.52 309 *eP* **P 00 49 18.1 -0.3**
DPC Dobruska-Polom 48.52 309 P **P 00 49 17.7 -0.7**
OSTC Ostas 48.56 310 *eP* **P 00 49 18.4 -0.2**
OSTC Ostas 48.56 310 *eP* **P 00 49 18.4 -0.2**
KRUC Moravsky 48.65 308 *eP* **P 00 49 19.0 -0.3**
RONA Rosalia, Austr 48.93 306 *i* P **P 00 49 21.0 -0.6**
comp=Z,3.5nm,0.8s
CONA Conrad Observa 49.18 306 *i* P **P 00 49 23.4 -0.2**
comp=Z,7.0nm,0.9s
MOR8 Moi Rana 49.20 330 *eP* **P 00 49 22.0 -1.3**
HFS Hagfors 49.32 322 P **P 00 49 23.5 -0.8**
comp=Z,10nm,0.6s,baz=93,slow=9.5,SNR=43
HFS LR LR 01 11 16.0
comp=Z,802nm,18.7s,baz=83,slow=37

comp=Z,10nm,0.6s
ARSA Arzberg 49.52 305 *i* P **P 00 49 24.2 -1.9**
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 49.95 310 *eP* **P 00 49 29.0 -0.3**
BRG Amp 00 49 29.6
comp=Z,4.8nm,0.9s
BRG Berggiesshubel 49.95 310 *eP* **P 00 49 28.9 -0.3**
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG MLR MLR
comp=N,188nm,11.4s
BRG MLR MLR
comp=Z,766nm,16.3s
BRG MLR MLR
comp=E,565nm,16.7s
SOKA Soboth 49.96 305 *i* P **P 00 49 29.3 -0.2**
comp=E,8.8nm,0.8s
MOA Molln 50.25 306 *eP* **P 00 49 30.8 -0.8**
comp=E,3.9nm,1.0s
NC405 NORSAR Array S 50.27 324 P **P 00 49 30.9 -0.7**
OBKA Obir 50.32 305 *i* P **P 00 49 31.5 -0.8**
comp=E,8.3nm,1.5s
NC602 NORSAR Array S 50.37 323 *eP* **P 00 49 31.1 -1.2**
GERES GERESS Array B 50.43 308 P **P 00 49 32.2 -0.8**
comp=E,2.0nm,0.9s,baz=77,slow=7.0,SNR=12
comp=E,2.0nm,0.9s
NC303 NORSAR Array S 50.44 324 P **P 00 49 32.2 -0.5**
NC303 IAmb IAmb 00 49 32.8
comp=Z,10nm,0.9s
KHC Kasperske Hory 50.46 308 P **P 00 49 31.8 -1.4**
KHC Kasperske Hory 50.46 308 *eP* **P 00 49 32.9 -0.3**
KHC Kasperske Hory 50.46 308 P **P 00 49 31.8 -1.4**
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 50.46 308 P **P 00 49 32.9 -0.3**
comp=Z,4.8nm,1.1s
CLL Collm 50.47 311 *i* P **P 00 49 31.8 -1.3**
comp=Z,5.0nm,1.1s
CLL *e*PP **PP 00 51 28.0 -0.6**
CLL *e*PPPP 00 52 38.0
CLL AMS AMS 01 09 00.0
comp=N,800nm,20.9s
CLL AMS AMS 01 09 00.0
comp=E,300nm,20.3s
CLL AMS AMS 01 12 00.0
comp=Z,600nm,19.7s
CLL Collm 50.47 311 *i* P **P 00 49 31.8 -1.3**
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL MLR MLR
comp=Z,600nm,19.7s
CLL Collm 50.47 311 P **P 00 49 32.3 -0.8**
comp=Z,5.9nm,1.5s
NB2 NORSAR Subarra 50.52 324 P **P 00 49 32.1 -1.4**
comp=Z,6.7nm,0.7s,baz=87,slow=7.4
NB2 NORSAR Subarra 50.52 324 P **P 00 49 32.1 -1.4**
baz=87,slow=7.4
NOA NORSAR Array B 50.52 324 P **P 00 49 32.4 -1.1**
comp=Z,5.7nm,0.7s,baz=88,slow=7.4,SNR=59
NOA LR LR 01 12 01.2
comp=Z,621nm,19.5s,baz=80,slow=37
comp=Z,5.7nm,0.7s
MA2 Magadan 50.52 38 P **P 00 49 32.9 -0.6**
MA2 IAmb IAmb 00 49 34.7
comp=Z,11nm,0.9s
MA2 Magadan 50.52 38 LR LR 01 11 35.8
comp=Z,293nm,18.1s,baz=274,slow=37
MA2 Magadan 50.52 38 P **P 00 49 32.9 -0.6**
MA2 pmax pmax
comp=Z,11nm,0.9s
MA2 Magadan 50.52 38 P **P 00 49 34.4 +0.9**
comp=Z,16nm,1.7s
TIP Timpagrande 50.53 295 P **P 00 49 32.4 -1.6**
TIP IAmb IAmb 00 49 40.5
comp=Z,11nm,1.2s
NAO01 NORSAR Array S 50.69 323 P **P 00 49 33.3 -1.4**
NAO01 IAmb IAmb 00 49 34.1
comp=Z,8.1nm,0.7s
BIOA Bad Ischl, Aus 50.69 306 *eP* **P 00 49 34.1 -0.9**
comp=Z,2.3nm,1.0s
NC204 NORSAR Array S 50.73 324 P **P 00 49 33.9 -1.2**
NBO00 NORSAR Array S 50.73 324 P **P 00 49 33.9 -1.1**
NBO00 IAmb IAmb 00 49 34.6
comp=Z,5.5nm,0.8s
OSL Oslo 50.82 322 *eP* **P 00 49 35.1 -0.6**
SPB2 Spitsbergen Ar 50.92 346 P **P 00 49 37.1 +0.8**
SPA0 Spitsbergen Ar 50.93 346 *eP* **P 00 49 38.5 +2.2**
SPITS Spitsbergen Ar 50.93 346 LR LR 01 14 04.1
comp=Z,244nm,21.3s,baz=86,slow=40
SPITS Spitsbergen Ar 50.93 346 P **P 00 49 36.8 +0.5**
SPITS pmax pmax
comp=Z,41nm,1.3s
CUC Castrocucco 51.00 296 P **P 00 49 35.8 -1.7**
KBA Koelnbreinsper 51.01 306 *eP* **P 00 49 36.7 -0.9**
comp=Z,3.9nm,1.3s
SEY Seymchan 51.15 34 *ceP* **P 00 49 38.5 +0.4**
SEY pmax pmax
comp=Z,26nm,1.7s
LESA Schwarzleotal 51.38 306 *i* P **P 00 49 39.4 -0.8**
comp=Z,4.5nm,0.9s
KONO Kongsberg 51.41 322 P **P 00 49 39.1 -1.0**
KONO IAmb IAmb 00 49 39.9
comp=Z,8.9nm,0.8s
KONO Kongsberg 51.41 322 *eP* **P 00 49 39.5 -0.6**
KONO Kongsberg 51.41 322 P **P 00 49 39.1 -1.0**
KONO pmax pmax
comp=Z,9.0nm,0.8s
CEL Celeste 51.45 294 P **P 00 49 39.8 -1.0**
CEL IAmb IAmb 00 49 46.2
comp=Z,8.4nm,1.0s
DOMB Dombas 51.50 325 *eP* **P 00 49 40.0 -0.9**
ABTA Abfaltersbach 51.64 305 *i* P **P 00 49 40.2 -1.9**
comp=Z,3.7nm,1.2s
KBS Kingsbay 51.98 347 **P 00 49 44.4 +0.3**
KBS IAmb IAmb 00 49 59.2
comp=Z,11nm,0.9s
KBS Kingsbay 51.98 347 *eP* **P 00 49 46.2 +2.1**
KBS Kingsbay 51.98 347 P **P 00 49 44.4 +0.3**
KBS pmax pmax
comp=Z,11nm,1.0s
JCJ Chichijima 52.27 81 LR LR 01 13 58.0
comp=Z,181nm,18.6s,baz=135,slow=38
TEOL Teolo 52.54 304 P **P 00 49 47.3 -1.5**
TEOL IAmb IAmb 00 49 48.5
comp=Z,10nm,1.1s
CESX Cesi 52.62 300 P **P 00 49 48.2 -1.3**
RETA Reutte 52.64 307 *i* P **P 00 49 48.6 -1.0**
comp=Z,8.9nm,1.7s
FETA Feichten 52.77 306 *i* P **P 00 49 49.1 -1.6**
comp=Z,3.9nm,0.9s
DAVA Damuels 53.27 306 *i* P **P 00 49 53.2 -1.1**
comp=Z,7.5nm,1.0s
DAVOX Davos/Dischmat 53.39 306 LR LR 01 15 07.1
comp=Z,377nm,21.1s,baz=54,slow=39
BER Bergen 53.45 323 *eP* **P 00 49 54.9 -0.4**
ASK Askoy 53.51 323 *eP* **P 00 49 54.9 -0.7**
KAPI Kappang 53.89 130 LR LR 01 15 27.8
comp=Z,160nm,18.8s,baz=296,slow=39
BILL Bilibino 56.36 27⇓ *eP* **P 00 50 18.9 +2.7**
BILL *e* 00 50 28.1
BILL pmax pmax
comp=Z,8.0nm,1.3s
KEST Kesra 57.23 293 P **P 00 50 23.0 0.0**
KEST IAmb IAmb 00 50 28.7
comp=Z,16nm,1.4s
KEST Kesra 57.23 293 P **P 00 50 21.9 -1.0**
comp=Z,1.3nm,0.7s,baz=307,slow=5.1,SNR=2.0
KEST LR LR 01 18 45.3
comp=Z,180nm,18.9s,baz=358,slow=40
comp=Z,1.3nm,0.7s
JMIC Jan Mayen 57.27 337 LR LR 01 14 55.8
comp=Z,133nm,20.1s,baz=84,slow=36
TATN Tatacuine 57.54 289 P **P 00 50 23.8 -1.3**
MBAR Mbarara 58.76 244 P **P 00 50 33.1 -0.9**
MBAR Mbarara 58.76 244 P **P 00 50 33.1 -0.9**
MBAR pmax pmax
comp=Z,3.0nm,0.9s
EKA Eskdalemuir Ar 58.99 318 P **P 00 50 33.9 -1.0**
comp=Z,5.1nm,0.7s,baz=77,slow=6.8,SNR=29
comp=Z,5.1nm,0.7s
GUMO Guam 60.95 93 LR LR 01 17 02.5
comp=Z,89nm,21.6s,baz=86,slow=36
BORG Borgarnes 63.93 332 LR LR 01 18 22.7
comp=Z,190nm,20.1s,baz=50,slow=36
SHEM Shemya Is, Ala 64.78 42 LR LR 01 20 50.3
comp=Z,125nm,19.1s,baz=328,slow=37

SUMG	Summit	65.06	343	P	P	00 51 15.9 +0.1
SUMG				IAmb	IAmb	00 51 19.3
	comp=Z,5.4nm,0.9s					
SUMG	Summit	65.06	343	P	P	00 51 15.9 +0.1
SUMG				pmax	pmax	
	comp=Z,5.0nm,0.9s					
ESDC	Sonseca Array	65.32	302	P	P	00 51 16.3 -1.4
	comp=Z,0.8nm,0.8s,baz=46,slow=7.0,SNR=6.7					
	comp=Z,0.8nm,0.8s					
C16K	Lisburne Hills	66.00	22	P	P	00 51 22.8 +1.3
	baz=305					
A19K	Wainwright	66.10	19	P	P	00 51 23.3 +1.3
	baz=308					
B18K	Kokolik River	66.41	20	P	P	00 51 25.4 +1.3
	baz=307					
C17K	DeLong Mountai	66.54	21	P	P	00 51 26.4 +1.4
	baz=306					
TNA	Tin City	66.68	25	P	P	00 51 27.5 +1.6
	baz=304					
MBWA	Marble Bar	66.79	141	P	P	00 51 27.4 +0.3
RDOG	Red Dog Mine	66.87	22	P	P	00 51 27.6 +0.5
	baz=307					
C18K	Utukok River	67.02	21	P	P	00 51 29.3 +1.2
C18K	Utukok River	67.02	21	P	P	00 51 29.0 +0.9
	baz=308					
D17K	Noatak River	67.03	22	P	P	00 51 29.2 +1.1
	baz=307					
A22K	Sinclair Lake	67.15	17	P	P	00 51 29.3 +0.5
	baz=312					
C19K	Lookout Ridge	67.19	20	P	P	00 51 30.3 +1.1
	baz=309					
PSA00	Pilbara Seismi	67.19	141	P	P	00 51 29.2 -0.4
B20K	Meade River	67.26	18	P	P	00 51 31.0 +1.5
	baz=311					
F14K	Arctic Creek	67.28	25	P	P	00 51 31.1 +1.3
	baz=305					
F15K	North Star Dit	67.72	24	P	P	00 51 34.1 +1.6
F15K	North Star Dit	67.72	24	P	P	00 51 33.6 +1.1
	baz=306					
E17K	Hotham Inlet	67.80	22	P	P	00 51 33.1 +0.2
	baz=308					
E18K	Tukpahlearik C	67.96	22	P	P	00 51 34.6 +0.6
E18K	Tukpahlearik C	67.96	22	P	P	00 51 34.5 +0.6
	baz=309					
D19K	Kuna River	67.99	20	P	P	00 51 35.2 +0.9
D19K				IAmb	IAmb	00 51 39.7
	comp=Z,4.1nm,0.8s					
D19K	Kuna River	67.99	20	P	P	00 51 35.1 +0.9
	baz=310					
ANM	Nome	68.14	25	P	P	00 51 36.3 +1.1
ANM	Nome	68.14	25	P	P	00 51 36.5 +1.3
	baz=306					
ANM	Nome	68.14	25	P	P	00 51 36.3 +1.1
ANM				pmax	pmax	
	comp=Z,14nm,1.2s					
B21K	Ikpikpuk River	68.18	18	P	P	00 51 36.5 +1.2
	baz=313					
D20K	Etivluk River	68.27	19	P	P	00 51 37.4 +1.5
	baz=312					
G15K	Niukluk	68.35	25	P	P	00 51 37.4 +1.0
	baz=307					
F17K	Baldwin Pennin	68.37	23	P	P	00 51 37.6 +1.1
F17K	Baldwin Pennin	68.37	23	P	P	00 51 38.0 +1.5
	baz=309					
C21K	Knifeblade Rid	68.45	19	P	P	00 51 38.5 +1.4
	baz=313					
G16K	Koyuk River	68.67	24	P	P	00 51 39.2 +0.8
G16K				IAmb	IAmb	00 51 42.3
	comp=Z,6.7nm,1.1s					
G16K	Koyuk River	68.67	24	P	P	00 51 39.9 +1.4
	baz=308					
E20K	Nigu River	68.69	20	P	P	00 51 40.2 +1.5
	baz=312,SNR=6.3					
F18K	Selawik	68.77	22	P	P	00 51 40.2 +1.2
	baz=310,SNR=6.7					
E19K	Redstone River	68.93	21	P	P	00 51 41.2 +1.1
E19K				IAmb	IAmb	00 51 47.4
	comp=Z,6.7nm,1.4s					
E19K	Redstone River	68.93	21	P	P	00 51 40.8 +0.7
	baz=312					
C23K	Itkillik River	69.02	17	P	P	00 51 41.9 +1.3
C23K	Itkillik River	69.02	17	P	P	00 51 41.3 +0.7
	baz=316					
G17K	Kiwalik Mounta	69.16	23	P	P	00 51 42.8 +1.3
	baz=309					
E21K	Killik River	69.16	19	P	P	00 51 41.3 -0.2
E21K	Killik River	69.16	19	P	P	00 51 42.4 +0.9
	baz=314					
H16K	Elim	69.17	24	P	P	00 51 42.6 +1.0
	baz=308					
F19K	Shaleruckik Mo	69.19	21	P	P	00 51 42.8 +1.2
F19K				IAmb	IAmb	00 51 44.2
	comp=Z,5.5nm,1.1s					
F19K	Shaleruckik Mo	69.19	21	P	P	00 51 42.9 +1.3
	baz=311					
D22K	Ayikyak River	69.19	18	P	P	00 51 42.3 +0.6
D22K				IAmb	IAmb	00 51 45.1
	comp=Z,5.7nm,0.8s					
D22K	Ayikyak River	69.19	18	P	P	00 51 43.2 +1.5
	baz=315					
G18K	Tagagawik	69.53	22	P	P	00 51 44.8 +0.9
	baz=311					
C24K	Franklin Bluff	69.56	17	P	P	00 51 45.0 +1.2
	baz=318					
D23K	Nanushuk River	69.64	18	P	P	00 51 45.4 +1.0
	baz=317					
F20K	Avaraart Lake	69.64	20	P	P	00 51 45.0 +0.6
F20K	Avaraart Lake	69.64	20	P	P	00 51 45.4 +1.0
	baz=313					
H17K	Granite Mounta	69.76	23	P	P	00 51 46.5 +1.3
H17K				IAmb	IAmb	00 51 48.9
	comp=Z,7.7nm,1.2s					
H17K	Granite Mounta	69.76	23	P	P	00 51 46.6 +1.4
	baz=310					
G19K	Purcell Mounta	69.85	22	P	P	00 51 46.8 +1.0
G19K				IAmb	IAmb	00 51 51.3
	comp=Z,5.4nm,1.1s					
G19K	Purcell Mounta	69.85	22	P	P	00 51 46.8 +1.0
	baz=312,SNR=6.1					
J14K	Nanvaranak Lak	69.88	26	P	P	00 51 46.6 +0.6
J14K				IAmb	IAmb	00 51 52.1
	comp=Z,6.9nm,1.1s					
J14K	Nanvaranak Lak	69.88	26	P	P	00 51 47.1 +1.1
	baz=308					
E22K	Anaktuvuk Pass	69.95	19	P	P	00 51 47.1 +0.7
E22K				IAmb	IAmb	00 51 50.0
	comp=Z,5.0nm,1.1s					
E22K	Anaktuvuk Pass	69.95	19	P	P	00 51 48.1 +1.6
	baz=316					
D24K	Happy Valley	69.95	17	P	P	00 51 48.0 +1.7
	baz=318					
K13K	Kusilvak Mount	69.97	27	P	P	00 51 47.2 +0.6
	baz=307					
H18K	Honhosa River	70.12	23	P	P	00 51 48.3 +0.9
	baz=311					
TOLK	Toolik Lake Re	70.15	18	P	P	00 51 48.2 +0.5
TOLK	Toolik Lake Re	70.15	18	P	P	00 51 47.8 +0.1
	baz=318,SNR=10					
F21K	Alatna River	70.15	20	P	P	00 51 48.9 +1.3
F21K				IAmb	IAmb	00 51 50.8
	comp=Z,4.1nm,0.9s					
F21K	Alatna River	70.15	20	P	P	00 51 48.2 +0.5
	baz=315,SNR=7.4					
I17K	Unalakleet	70.17	24	P	P	00 51 48.7 +1.0
	baz=310					
C26K	Camden Bay	70.26	15	P	P	00 51 49.3 +1.2
	baz=321					
F22K	John River	70.30	19	P	P	00 51 49.7 +1.1
	baz=316					
D25K	Kavik River	70.39	16	P	P	00 51 49.8 +0.7
D25K				IAmb	IAmb	00 51 53.0
	comp=Z,6.3nm,0.9s					
D25K	Kavik River	70.39	16	P	P	00 51 50.4 +1.3
	baz=320,SNR=8.8					
SPIA	Saint Paul Isl	70.44	33	P	P	00 51 51.1 +1.6
	baz=304					
H19K	Roundabout Mou	70.46	22	P	P	00 51 50.5 +1.0
H19K				IAmb	IAmb	00 51 54.9
	comp=Z,10nm,1.4s					
H19K	Roundabout Mou	70.46	22	P	P	00 51 50.4 +1.0
	baz=313					
E23K	Chandalar	70.57	18	P	P	00 51 51.9 +1.6
	baz=318,SNR=6.2					
J16K	Anvik River	70.59	25	P	P	00 51 51.8 +1.4
J16K	Anvik River	70.59	25	P	P	00 51 50.9 +0.6
	baz=310					
RES	Resolute Bay	70.62	359	LR	LR	01 25 52.3
	comp=Z,148nm,18.1s,baz=330,slow=38					
G21K	Allakaket	70.64	20	P	P	00 51 52.3 +1.7
	baz=315					
C27K	Jago River	70.75	15	P	P	00 51 52.3 +1.1
	baz=322					
E24K	Your Creek	70.84	18	P	P	00 51 53.0 +1.1
E24K				IAmb	IAmb	00 51 56.7
	comp=Z,6.0nm,1.4s					
E24K	Your Creek	70.84	18	P	P	00 51 52.7 +0.8
	baz=319					
GCSA	Galena City Sc	70.86	23	P	P	00 51 53.3 +1.4
	baz=313					
K15K	Wolf Creek Mou	70.90	26	P	P	00 51 53.5 +1.3
	baz=310					
G22K	Bettles	70.91	19	P	P	00 51 53.5 +1.3
	baz=316					
IMAR	Indian Mountai	70.95	21	P	P	00 51 53.5 +1.0
H20K	Anotleneega Mo	70.96	21	P	P	00 51 53.5 +0.9
	baz=314,SNR=6.7					
COLD	Coldfoot	71.03	19	P	P	00 51 54.3 +1.4
	baz=317					
J17K	VABM Dome	71.04	24	P	P	00 51 54.5 +1.4
	baz=311					
L14K	Kuka Creek	71.08	27	P	P	00 51 54.2 +0.9
L14K				IAmb	IAmb	00 51 59.7
	comp=Z,3.9nm,0.8s					
L14K	Kuka Creek	71.08	27	P	P	00 51 53.8 +0.5
	baz=309					
L15K	Ungalak Mounta	71.31	27	P	P	00 51 55.1 +0.4
	baz=310					
M13K	Dall Lake	71.41	28	P	P	00 51 55.9 +0.6
	baz=309					
F24K	Squaw Lake	71.41	18	P	P	00 51 56.3 +0.9
	baz=319					
H21K	Melozitna Rive	71.46	21	P	P	00 51 57.4 +1.8
H21K	Melozitna Rive	71.46	21	P	P	00 51 56.4 +0.8
	baz=316,SNR=8.4					
G23K	Bananza Creek	71.47	19	P	P	00 51 56.7 +1.1
G23K				IAmb	IAmb	00 52 00.5
	comp=Z,7.9nm,1.5s					
G23K	Bananza Creek	71.47	19	P	P	00 51 56.4 +0.7
	baz=318					
I20K	Naaghedeneel	71.57	22	P	P	00 51 57.3 +1.0
I20K	Naaghedeneel	71.57	22	P	P	00 51 56.6 +0.4
	baz=314					
D27M	Malcolm River	71.64	15	P	P	00 51 57.7 +1.1
D27M	Malcolm River	71.64	15	P	P	00 51 57.8 +1.1
	baz=325					
H22K	Ishtalitna Cre	71.69	20	P	P	00 51 57.1 +0.1
	baz=317					
M14K	Bethel	71.73	27	P	P	00 51 58.1 +0.9
M14K	Bethel	71.73	27	P	P	00 51 57.0 -0.2
	baz=310					
K17K	Iditarod	71.76	25	P	P	00 51 58.7 +1.3
K17K				IAmb	IAmb	00 52 03.1
	comp=Z,6.2nm,1.0s					
K17K	Iditarod	71.76	25	P	P	00 51 56.9 -0.6
	baz=312					
J19K	Poorman	71.77	23	P	P	00 51 58.8 +1.2
J19K	Poorman	71.77	23	P	P	00 51 57.9 +0.4
	baz=314					
J18K	Innoko River	71.78	24	P	P	00 51 58.3 +0.7
J18K				IAmb	IAmb	00 52 01.0
	comp=Z,5.6nm,1.4s					
J18K	Innoko River	71.78	24	P	P	00 51 57.8 +0.2
	baz=313					
F25K	Christian Rive	71.91	17	P	P	00 51 59.5 +1.1
	baz=321,SNR=6.3					
L16K	Owhat River	72.02	26	P	P	00 51 59.3 +0.3
L16K				IAmb	IAmb	00 52 05.7
	comp=Z,5.9nm,1.3s					
L16K	Owhat River	72.02	26	P	P	00 51 59.0 0.0
	baz=311					
J20K	Nowinta River	72.11	22	P	P	00 52 00.5 +1.0
J20K				IAmb	IAmb	00 52 03.1
	comp=Z,4.7nm,0.9s					
J20K	Nowinta River	72.11	22	P	P	00 51 59.8 +0.3
	baz=315,SNR=5.6					
G24K	Hadweenzic Riv	72.14	18	P	P	00 52 00.7 +1.0
G24K				IAmb	IAmb	00 52 03.2
	comp=Z,4.5nm,0.9s					
G24K	Hadweenzic Riv	72.14	18	P	P	00 51 59.7 +0.1
	baz=320					
L17K	Donlin	72.15	25	P	P	00 52 00.0 +0.2
	baz=312					
F26K	Sheenjek River	72.18	17	P	P	00 52 00.4 +0.5
	baz=322					
M15K	Kasigluk River	72.24	27	P	P	00 52 01.0 +0.7
	baz=311					
H23K	Yukon River	72.25	20	P	P	00 52 00.9 +0.5
H23K				IAmb	IAmb	00 52 05.8
	comp=Z,6.6nm,1.2s					
H23K	Yukon River	72.25	20	P	P	00 52 01.6 +1.2
	baz=318					
BMAR	Burnt Mountain	72.29	17	P	P	00 52 01.0 +0.4
N14K	Kuskokwak Cree	72.36	28	P	P	00 52 02.1 +1.1
	baz=310					
E27K	Coleen River	72.36	15	P	P	00 52 01.8 +0.8
E27K				IAmb	IAmb	00 52 04.3
	comp=Z,4.6nm,0.8s					
E27K	Coleen River	72.36	15	P	P	00 52 01.8 +0.8
	baz=324,SNR=5.2					
TTA	Tatalina	72.39	24	P	P	00 52 02.6 +1.3
TTA	Tatalina	72.39	24	P	P	00 52 02.1 +0.8
	baz=314					
TTA	Tatalina	72.39	24	P	P	00 52 02.6 +1.3
TTA				pmax	pmax	
	comp=Z,5.0nm,1.4s					
G25K	Bearman Lake	72.44	18	P	P	00 52 02.2 +0.8
	baz=321					
E28M	Babbage River	72.46	15	P	P	00 52 01.8 +0.3
E28M				IAmb	IAmb	00 52 05.4
	comp=Z,7.5nm,1.4s					
E28M	Babbage River	72.46	15	P	P	00 52 02.6 +1.1
	baz=326					
MLY	Manley	72.51	20	P	P	00 52 02.5 +0.5
MLY				IAmb	IAmb	00 52 05.2
	comp=Z,3.9nm,0.8s					
MLY	Manley	72.51	20	P	P	00 52 02.8 +0.8
	baz=318,SNR=6.1					
L18K	Granite Mounta	72.65	25	P	P	00 52 02.9 +0.1
L18K				IAmb	IAmb	00 52 07.4
	comp=Z,8.2nm,1.4s					
L18K	Granite Mounta	72.65	25	P	P	00 52 03.6 +0.9
	baz=313					
M16K	Timber Creek	72.66	26	P	P	00 52 03.6 +0.8
	baz=312					
H24K	Noodor Dome	72.70	19	P	P	00 52 02.9 -0.2
H24K	Noodor Dome	72.70	19	P	P	00 52 03.9 +0.8
	baz=320					
K20K	Telida	72.72	23	P	P	00 52 04.0 +0.8
K20K	Telida	72.72	23	P	P	00 52 03.9 +0.8
	baz=315					
N15K	Kwethluk River	72.81	27	P	P	00 52 04.7 +0.9
	baz=311					
I23K	Minto, Yukon-K	72.81	20	P	P	00 52 04.8 +1.1
I23K				IAmb	IAmb	00 52 07.0
	comp=Z,10nm,1.4s					
I23K	Minto, Yukon-K	72.81	20	P	P	00 52 04.7 +1.1
	baz=319					
G26K	Porcupine Rive	72.86	17	P	P	00 52 04.8 +0.9
	baz=323					
H25L	Birch Creek	72.90	18	P	P	00 52 05.1 +1.0
	baz=321					
M17K	Holitna River	72.95	25	P	P	00 52 05.5 +0.9
	baz=313					
O14K	Tigyukauivet M	72.96	28	P	P	00 52 05.7 +1.1
	baz=311					
E29M	Blow River	72.97	14	P	P	00 52 04.4 -0.1
E29M				IAmb	IAmb	00 52 08.4
	comp=Z,4.4nm,0.8s					
E29M	Blow River	72.97	14	P	P	00 52 05.8 +1.2
	baz=327,SNR=5.9					
N16K	Nishlik Lake	73.10	27	P	P	00 52 06.7 +1.2
	baz=312					
BPAW	Bear Paw Mtn.	73.13	21	P	P	00 52 06.5 +0.9
BPAW				IAmb	IAmb	00 52 09.1
	comp=Z,7.5nm,1.3s					
BPAW	Bear Paw Mtn.	73.13	21	P	P	00 52 06.8 +1.2
	baz=318					
F28M	Old Crow	73.21	15	P	P	00 52 07.3 +1.3
	baz=326					
MDM	Murphy Dome	73.27	20	P	P	00 52 08.3 +1.8
MDM				IAmb	IAmb	00 52 09.4
	comp=Z,10nm,1.4s					
L19K	White Mountain	73.29	24	P	P	00 52 07.7 +1.1
	baz=315					
NEA2	Nenana	73.31	20	P	P	00 52 07.6 +0.9
NEA2				IAmb	IAmb	00 52 10.2
	comp=Z,7.0nm,0.9s					
NEA2	Nenana	73.31	20	P	P	00 52 07.5 +0.9
	baz=319,SNR=6.7					
POKR	Poker Plat Res	73.37	19	P	P	00 52 08.1 +1.1
POKR	Poker Plat Res	73.37	19	P	P	00 52 07.8 +0.8
	baz=320					
L20K	Farewell, AK	73.40	23	P	P	00 52 08.0 +0.7
	baz=316					
COLA	College	73.44	20	P	P	00 52 08.6 +1.2
COLA	College	73.44	20	P	P	00 52 08.6 +1.2
COLA				pmax	pmax	
	comp=Z,8.0nm,0.6s					
M18K	Stony River	73.45	25	P	P	00 52 08.4 +0.9
	baz=314					
G27K	Doyon Strip	73.48	16	P	P	00 52 08.2 +0.6
G27K	Doyon Strip	73.48	16	P	P	00 52 08.5 +0.9
	baz=325					
NIKH	Nikolski High	73.54	36	P	P	00 52 08.8 +0.6
	baz=307					
PRP	Porcupine Dome	73.56	18	P	P	00 52 08.6 +0.3
	baz=322					
O15K	Ungalikthiuk R	73.57	28	P	P	00 52 09.0 +0.8
	baz=312					
CCB	Clear Creek Bu	73.63	20	P	P	00 52 08.4 -0.1
N17K	Nushagak Hills	73.64	26	P	P	00 52 09.0 +0.3
	baz=313					
M19K	Big River Lodg	73.64	24	P	P	00 52 08.7 +0.1
	baz=315					
IL31		73.78	19	P	P	00 52 09.5 +0.1
IL31				IAmb	IAmb	00 52 11.7
	comp=Z,8.5nm,1.4s					
ILAR	Eielson Array	73.78	19	P	P	00 52 08.5 -1.0
	comp=Z,1.6nm,0.6s,baz=316,slow=5.2,SNR=20					
ILAR				LR	LR	01 28 49.7
	comp=Z,216nm,19.7s,baz=314,slow=39					
	comp=Z,1.6nm,0.6s					
INK	Inuvik	73.87	13	P	P	00 52 10.9 +1.0
INK				IAmb	IAmb	00 52 14.4
	comp=Z,7.3nm,1.3s					
INK	Inuvik	73.87	13	P	P	00 52 10.4 +0.5
	baz=331					
INK	Inuvik	73.87	13	LR	LR	01 28 02.3
	comp=Z,158nm,21.5s,baz=355,slow=39					
INK	Inuvik	73.87	13	P	P	00 52 10.9 +1.0
INK				pmax	pmax	
	comp=Z,7.0nm,1.3s					
TORD	Torodi Ar. Bea	73.94	275	P	P	00 52 09.6 -1.6
	comp=Z,2.1nm,0.7s,baz=55,slow=5.6,SNR=21					
	comp=Z,2.1nm,0.7s					
O16K	Kokwok River B	73.94	27	P	P	00 52 11.4 +1.0
O16K	Kokwok River B	73.94	27	P	P	00 52 10.8 +0.3
	baz=313					
H27K	Steamboat Moun	73.98	17	P	P	00 52 11.0 +0.4
	baz=325					
N18K	Kilae Creek	74.00	25	P	P	00 52 11.7 +1.0
	baz=314					
MCK	McKinley	74.01	21	P	P	00 52 11.6 +0.8
	baz=319					
HDA	Harding Lake	74.05	20	P	P	00 52 12.0 +1.0
HDA	Harding Lake	74.05	20	P	P	00 52 11.7 +0.7
	baz=321					
F30M	Barrier River	74.05	14	P	P	00 52 11.1 +0.1
	baz=329					
M20K	Styx River	74.08	24	P	P	00 52 11.6 +0.3
M20K	Styx River	74.08	24	P	P	00 52 11.9 +0.6
	baz=316					
UNV	Unalaska Valle	74.13	35	P	P	00 52 12.2 +0.6
	baz=308					
O17K	Koliganek Bris	74.19	27	P	P	00 52 12.5 +0.7
	baz=314					
G29M	Pine Creek	74.19	15	P	P	00 52 12.5 +0.7
G29M				IAmb	IAmb	00 52 23.3
	comp=Z,8.0nm,1.1s					
G29M	Pine Creek	74.19	15	P	P	00 52 12.3 +0.5
	baz=328					
RND	Reindeer	74.28	21	P	P	00 52 11.9 -0.5
RND				IAmb	IAmb	00 52 25.5
	comp=Z,5.4nm,0.7s					
RND	Reindeer	74.28	21	P	P	00 52 11.9 -0.5
RND				pmax	pmax	
	comp=Z,5.0nm,0.7s					
J25K	Salcha River,	74.32	19	P	P	00 52 12.9 +0.3
J25K	Salcha River,	74.32	19	P	P	00 52 12.9 +0.3
	baz=322					
I26K	Coal Creek Min	74.34	18	P	P	00 52 13.1 +0.5
I26K				IAmb	IAmb	00 52 16.0
	comp=Z,8.9nm,1.2s					
I26K	Coal Creek Min	74.34	18	P	P	00 52 12.9 +0.3
	baz=324					
C36M	Paulatuk	74.39	9	P	P	00 52 13.4 +0.6
	baz=339					
WRA	Warramunga Arr	74.41	128	P	P	00 52 12.2 -1.5
	comp=Z,3.7nm,1.0s,baz=326,slow=5.9,SNR=9.8					
WRA				LR	LR	01 33 04.7
	comp=Z,71nm,18.1s,baz=318,slow=42					
	comp=Z,3.7nm,1.0s					
WRA	Warramunga Arr	74.41	128	*i* P	P	00 52 12.1 -1.6
WRA				pmax	pmax	
	comp=Z,4.0nm,1.0s					
I27K	Kandik River	74.47	17	P	P	00 52 14.3 +0.8
	baz=325					
G30M	tAoh Zraii Nji	74.51	14	P	P	00 52 13.0 -0.6
G30M				IAmb	IAmb	00 52 16.9
	comp=Z,4.7nm,0.9s					
G30M	tAoh Zraii Nji	74.51	14	P	P	00 52 13.5 -0.1
	baz=329					
SKT	Skwentna	74.53	23	P	P	00 52 13.6 -0.2
SKT				IAmb	IAmb	00 52 16.3
	comp=Z,5.3nm,0.9s					
SKT	Skwentna	74.53	23	P	P	00 52 13.6 -0.2
	baz=318					
F31M	Tsiigehtchic	74.59	13	P	P	00 52 14.2 +0.2
F31M				IAmb	IAmb	00 52 16.7
	comp=Z,15nm,1.4s					
F31M	Tsiigehtchic	74.59	13	P	P	00 52 14.1 +0.1
	baz=331					
H29M	Whitestone	74.70	15	P	P	00 52 15.8 +1.0
H29M				IAmb	IAmb	00 52 17.7
	comp=Z,3.3nm,0.7s					
H29M	Whitestone	74.70	15	P	P	00 52 15.1 +0.4
	baz=327					
WAT1	Susitna Watana	74.81	21	P	P	00 52 15.7 +0.2
	baz=320					
O18K	Koktuh Hills	74.82	26	P	P	00 52 15.4 -0.2
	baz=315					
K24K	Donnelly Dome	74.84	20	P	P	00 52 15.5 -0.1
	baz=322					
J26L	Joseph Creek	74.88	18	P	P	00 52 16.5 +0.6
J26L				IAmb	IAmb	00 52 19.2
	comp=Z,7.1nm,0.9s					
J26L	Joseph Creek	74.88	18	P	P	00 52 15.9 -0.1
	baz=323					
EPYK	Eagle Plains	74.93	15	P	P	00 52 16.8 +0.7
	baz=329					
G31M	Satah River	74.95	14	P	P	00 52 16.3 +0.2
G31M	Satah River	74.95	14	P	P	00 52 17.1 +1.0
	baz=331					
S12K	Black Hills	74.95	32	P	P	00 52 16.0 -0.4
	baz=311					
DHY	Denali Highway	74.96	21	P	P	00 52 16.1 -0.4
	baz=321					
I28M	Miner Creek	75.00	16	P	P	00 52 16.6 0.0
I28M	Miner Creek	75.00	16	P	P	00 52 15.8 -0.8
	baz=326					
P18K	Big Mountain,	75.14	26	P	P	00 52 17.9 +0.5
P18K	Big Mountain,	75.14	26	P	P	00 52 17.6 +0.1
	baz=315					
SUA	Susitna One	75.16	23	P	P	00 52 18.0 +0.4
	baz=318					
SCRK	Sand Creek	75.19	19	P	P	00 52 18.1 +0.4
SCRK	Sand Creek	75.19	19	P	P	00 52 17.6 -0.2
	baz=323					
WAT6	Susitna Watana	75.24	21	P	P	00 52 17.7 -0.5
	baz=320					
GHO	Glory Hole Cre	75.50	22	P	P	00 52 20.2 +0.7
GHO				IAmb	IAmb	00 52 27.6
	comp=Z,8.7nm,1.1s					
NWAO	Narrogin (SRO)	75.56	149	LR	LR	01 29 04.2
	comp=Z,72nm,18.8s,baz=18,slow=38					
PMR	Palmer	75.57	22	P	P	00 52 20.6 +0.9
PMR				IAmb	IAmb	00 52 22.2
	comp=Z,5.3nm,0.7s					
PMR	Palmer	75.57	22	P	P	00 52 20.7 +0.9
PMR				pmax	pmax	
	comp=Z,5.0nm,0.7s					

PAX	Paxson	75.59	20	P	P	00 52 20.1	0.0
	baz=322						
S14K	Fog Glacier	75.62	30	P	P	00 52 20.5	+0.2
	baz=312						
K27K	Chicken	75.65	18	P	P	00 52 20.5	+0.3
K27K				IAmb	IAmb	00 52 23.7	
	comp=Z,4.6nm,1.0s						
K27K	Chicken	75.65	18	P	P	00 52 19.9	-0.3
	baz=325						
SML	Sawmill	75.66	22	P	P	00 52 21.3	+0.9
SML	Sawmill	75.66	22	P	P	00 52 20.0	-0.4
	baz=320						
SML	Sawmill	75.66	22	P	P	00 52 21.3	+0.9
SML				pmax	pmax		
	comp=Z,14nm,1.3s						
P19K	Oil Pt	75.66	25	P	P	00 52 20.8	+0.3
P19K	Oil Pt	75.66	25	P	P	00 52 20.5	+0.1
	baz=317						
Q17K	Contact Creek	75.69	27	P	P	00 52 20.6	-0.2
	baz=315						
Q18K	Katmai Hardscr	75.75	27	P	P	00 52 21.6	+0.6
	baz=315						
RC01	Rabbit Creek A	75.76	23	P	P	00 52 21.9	+0.9
RC01				IAmb	IAmb	00 52 23.5	
	comp=Z,8.0nm,1.2s						
RC01	Rabbit Creek A	75.76	23	P	P	00 52 20.9	-0.1
	baz=319						
M23K	Glacier View	75.85	22	P	P	00 52 22.0	+0.5
	baz=320						
SDPT	Sand Point	75.86	31	P	P	00 52 21.3	-0.2
	baz=312						
KNK	Knik Glacier	75.92	22	P	P	00 52 22.4	+0.5
KNK				IAmb	IAmb	00 52 40.3	
	comp=Z,4.9nm,1.0s						
KNK	Knik Glacier	75.92	22	P	P	00 52 22.4	+0.5
	baz=320						
SCM	Sheep Creek Mo	75.94	21	P	P	00 52 21.9	-0.2
	baz=321						
I30M	Mount Dempster	75.99	15	P	P	00 52 22.4	+0.1
I30M	Mount Dempster	75.99	15	P	P	00 52 21.6	-0.7
	baz=329						
Q19K	Cape Douglas,	76.04	26	P	P	00 52 22.3	-0.3
	baz=316						
M24K	Tolsona, Glenn	76.07	21	P	P	00 52 22.6	-0.2
	baz=322						
HARP	HAARP	76.13	20	P	P	00 52 23.1	+0.1
	baz=322						
PWL	Port Wells	76.38	22	P	P	00 52 24.2	-0.3
	baz=320						
BRSE	Bradley Lake S	76.45	24	P	P	00 52 24.8	-0.1
	baz=318						
L27K	Beaver Creek,	76.50	19	P	P	00 52 26.2	+1.0
L27K	Beaver Creek,	76.50	19	P	P	00 52 24.5	-0.7
	baz=325						
BCAR	Beaver Creek A	76.51	19	P	P	00 52 26.3	+1.0
J30M	Hart River	76.56	16	P	P	00 52 24.9	-0.6
J30M	Hart River	76.56	16	P	P	00 52 25.3	-0.3
	baz=329						
SEW	Seward	76.60	23	P	P	00 52 25.1	-0.6
	baz=319						
KLU	Klutina	76.63	21	P	P	00 52 25.0	-1.0
	baz=322						
GLI	Glacier Island	76.75	22	P	P	00 52 25.9	-0.7
	baz=321						
ASAR	Alice Springs	76.86	131	P	P	00 52 26.6	-1.0
	comp=Z,1.2nm,0.7s,baz=315,slow=5.2,SNR=9.1						
ASAR				LR	LR	01 29 39.2	
	comp=Z,74nm,18.4s,baz=322,slow=38						
	comp=Z,1.2nm,0.7s						
K29M	Barlow Dome	76.92	16	P	P	00 52 27.2	-0.4
	baz=328						
N25K	Chitina, Valde	76.92	21	P	P	00 52 28.3	+0.7
N25K				IAmb	IAmb	00 52 31.1	
	comp=Z,4.2nm,0.9s						
N25K	Chitina, Valde	76.92	21	P	P	00 52 26.6	-1.0
	baz=323						
M27K	Edge Creek, AK	77.07	19	P	P	00 52 27.8	-0.7
	baz=325						
KDAK	Kodiak Island	77.26	26	P	P	00 52 29.3	-0.2
	baz=317						
KDAK	Kodiak Island	77.26	26	LR	LR	01 29 25.9	
	comp=Z,131nm,20.9s,baz=345,slow=38						
P23K	Montague Islan	77.34	23	P	P	00 52 29.4	-0.5
	baz=321						
L29M	L29M	77.40	17	P	P	00 52 30.0	-0.2
	baz=328						
OHAK	Old Harbor	77.42	27	P	P	00 52 29.9	-0.4
	baz=317						
CHIR	Chirikof Islan	77.53	29	P	P	00 52 31.3	+0.3
	baz=315						
MCARA	McCarthy VSAT	77.55	20	P	P	00 52 30.7	-0.3
	baz=324						
VRDI	Verde Repeater	77.56	20	P	P	00 52 31.9	+0.6
VRDI				IAmb	IAmb	00 52 34.4	
	comp=Z,3.4nm,0.8s						
RAGM	Ragged Mountai	77.88	21	P	P	00 52 33.2	+0.3
M29M	Somme Creek	77.88	18	P	P	00 52 33.2	+0.2
M29M	Somme Creek	77.88	18	P	P	00 52 32.7	-0.3
	baz=328						
YUK3	Moose Creek	77.93	19	P	P	00 52 32.6	-0.9
	baz=326						
CRQE	Cirque	78.05	20	P	P	00 52 33.5	-0.5
	baz=324						
M30M	Minto, Yukon	78.17	17	P	P	00 52 33.6	-1.0
	baz=329						
KAIM	Kayak Island	78.32	22	P	P	00 52 34.6	-0.8
	baz=323						
CTG	Chitna Glacier	78.36	20	P	P	00 52 34.3	-1.5
	baz=326						
FRB	Frobisher Bay	78.73	347	LR	LR	01 29 33.4	
	comp=Z,100nm,21.1s,baz=33,slow=37						
YUK4	Talbot Arm	78.77	18	P	P	00 52 36.9	-1.1
	baz=328						
O28M	Mount Upton	78.84	19	P	P	00 52 37.9	-0.7
	baz=327						
M31M	Drury Creek, Y	79.06	16	P	P	00 52 38.9	-0.5
	baz=331						
N30M	Aishikik Lake	79.06	18	P	P	00 52 39.3	-0.2
	baz=329						
YUK6	Outpost Mounta	79.18	18	P	P	00 52 38.8	-1.6
	baz=328						
N31M	Braeburn, Yuko	79.36	17	P	P	00 52 41.1	0.0
N31M				IAmb	IAmb	00 52 44.8	
	comp=Z,8.5nm,0.8s						
O29M	Mount Kennedy	79.67	19	P	P	00 52 42.2	-0.7
	baz=328						
O30N	Mendenhall	79.90	18	P	P	00 52 43.5	-0.6
	baz=330						
PNL	Peninsula	79.98	20	P	P	00 52 43.7	-0.8
	baz=327						
TSUM	Tsumeb	80.77	239	LR	LR	01 31 30.5	
	comp=Z,108nm,18.4s,baz=16,slow=38						
PLBC	Pleasant Camp	80.97	18	P	P	00 52 49.4	-0.4
	baz=330						
P33M	Teslin, Yukon	81.18	16	P	P	00 52 51.1	+0.2
P33M	Teslin, Yukon	81.18	16	P	P	00 52 50.2	-0.8
	baz=332						
P32M	Atlin	81.52	17	P	P	00 52 52.5	-0.2
	baz=332						
YKA	Yellowknife Ar	82.09	7	P	P	00 52 54.5	-1.1
	comp=Z,1.3nm,0.6s,baz=344,slow=5.4,SNR=8.7						
	comp=Z,1.3nm,0.6s						
BOSA	Boshof	82.28	227	P	P	00 52 56.2	-0.9
	comp=Z,4.1nm,0.6s,baz=51,slow=3.2,SNR=12						
	comp=Z,4.1nm,0.6s						
R33M	Jennings River	82.33	16	P	P	00 52 56.4	-0.7
	baz=334						
Q32M	Nakina River	82.42	17	P	P	00 52 57.1	-0.6
	baz=333						
DBIC	Dimbokro	82.88	273	P	P	00 52 58.6	-2.0
	comp=Z,4.0nm,0.8s,baz=72,slow=5.6,SNR=2.4						
	comp=Z,4.0nm,0.8s						
DLBC	Dease Lake	83.41	16	LR	LR	01 35 15.0	
	comp=Z,103nm,18.5s,baz=310,slow=39						
T35M	Bob Quinn	84.68	17	P	P	00 53 08.4	-0.6
	baz=335						
HNR	Honiara	86.37	104	LR	LR	01 30 26.5	
	comp=Z,1μm,20.4s,baz=292,slow=35						
SCHQ	Schefferville	86.42	342	LR	LR	01 37 49.4	
	comp=Z,53nm,18.0s,baz=26,slow=40						
STKA	Stephens Creek	87.47	132	P	P	00 53 20.9	-2.1
	comp=Z,2.7nm,0.8s,baz=303,slow=6.0,SNR=2.2						
STKA				LR	LR	01 36 33.8	
	comp=Z,98nm,20.2s,baz=316,slow=38						
	comp=Z,2.7nm,0.8s						
STKA	Stephens Creek	87.47	132	P	P	00 53 21.0	-2.1
BBB	Bella Bella	89.57	17	LR	LR	01 36 57.1	
	comp=Z,95nm,21.9s,baz=331,slow=38						
ULM	Lac du Bonnet	95.14	358	LR	LR	01 40 15.5	
	comp=Z,110nm,20.6s,baz=24,slow=38						
NEW	Newport	95.59	12	P	P	00 53 59.7	-1.1
	baz=345						
NEW	Newport	95.59	12	LR	LR	01 42 56.1	
	comp=Z,67nm,19.5s,baz=12,slow=39						
EGMT	Eagleton	96.84	7	P	P	00 54 05.2	-1.3
	baz=351						
EYMN	Ely	97.22	355	P	P	00 54 07.0	-1.1
	baz=6.2						
LBNH	Lisbon	97.45	341	P	P	00 54 08.5	-0.8
	baz=22						
LONY	Lake Ozonia	97.78	343	P	P	00 54 09.4	-1.4
	baz=20						
ECSD	EROS Data Cent	101.67	358	P	Pdif	00 54 27.0	-1.1
	baz=2.0						
BW06	Boulder Array	102.06	8	P	Pdif	00 54 28.8	-1.4
	baz=351						
SSPA	Standing Stone	102.33	344	P	Pdif	00 54 29.8	-1.3
	baz=18						
K22A	Casper	102.47	6	P	Pdif	00 54 31.0	-0.9
	baz=354						
O53A	New Philadelph	103.42	346	P	Pdif	00 54 34.4	-1.5
	baz=15						
MCWV	Mont Chateau	103.70	345	P	Pdif	00 54 35.9	-1.3
	baz=16						
DUG	Dugway, Tooele	104.15	11	P	Pdif	00 54 38.7	-0.7
	baz=348						
SFIN	Lafayette	104.26	351	P	Pdif	00 54 38.1	-1.5
	baz=10.0						
N23A	Red Feather La	104.26	5	P	Pdif	00 54 38.6	-1.5
	baz=354						
ISCO	Idaho Springs	105.38	5	P	PKiKP	00 58 58.4	-0.4
	baz=354						
MPMC	Manual Prospec	107.28	16	P	PKiKP	00 59 01.5	-0.8
	baz=344						
ISA	Isabella, Lake	107.43	17	P	PKiKP	00 59 01.7	-0.7
	baz=343						
PKM	Mcpherson Peak	107.84	18	P	PKiKP	00 59 02.7	-0.7
	baz=342						
ARVC	Arvin	107.86	17	P	PKiKP	00 59 02.4	-0.8
	baz=343						
T25A	Trinidad	108.11	5	P	PKiKP	00 59 03.1	-0.7
	baz=355						
WMOK	Wichita Mounta	110.68	360	P	PKiKP	00 59 07.5	-1.0
	baz=0.2						
MIAR	Mount Ida	110.69	355	P	PKiKP	00 59 07.8	-0.7
	baz=4.7						
QSPA	South Pole Qui	124.73	180	PKP	PKPdf	00 59 32.9	-1.4
	comp=Z,1.1nm,0.7s,baz=264,slow=1.9,SNR=7.3						
PPT2	Papeete2	131.94	82	eLR	LR	01 41 45.1	
	comp=Z,152nm,31.2s						
PPT2				eLR	LR	01 41 48.2	
	comp=Z,177nm,28.2s						
TBI	Tubuai	134.81	89	eLR	LR	01 43 09.4	
	comp=Z,469nm,26.8s						
LPAZ	La Paz	146.78	296	PKPbc	PKPdf	01 00 17.0	-0.1
	comp=Z,0.8nm,0.6s,baz=71,slow=8.5,SNR=2.8						

*NEIC **21** 00:50:55.1±1.3, 19°.42N±0°.09×63°.40W±0°.08, h10km±2km, mb4.4/4, Error ellipse: s-maj=17.0km s-min=10.0km az=32.0*
*IDC **21** 00:50:56.4±0.9, 19°.12N×63°.50W, h0km, mb3.6/7, mbtmp3.8/11, MLL3.4/4, Error ellipse: s-maj=18.1km s-min=17.9km az=167.0*
*TRN **21** 00:50:57.9, 19°.27N×63°.49W, h37km, MD4.8, Far North-east of Anguilla.*

ISC 21 00:50:59.7±0.7, 19°.25N±0°.07×63°.53W±0°.05, h31km, n62, σ1°.74/61, mb3.6/8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	St. Maarten	1.27	160		Pn	00 51 20.1	-1.2
SABA	Saba	1.64	170		Pn	00 51 26.8	+0.4
SEUS	St. Eustatius	1.82	163		Pn	00 51 27.7	-1.2
HUMP	Col San Antoni	2.46	244		Pn	00 51 37.4	-0.3
GCPR	Guaynabo City	2.59	249		Pn	00 51 39.0	-0.5
SJG	San Juan	2.73	246		Pn	00 51 41.4	0.0
SJG	San Juan	2.73	246	Pn	Pn	00 51 41.3	-0.1
	20nm,0.3s,baz=52,slow=13,SNR=18						
SJG				Sn	Sn	00 52 14.9	+1.5
	25nm,0.3s,baz=287,slow=20,SNR=4.1						
	65nm,0.4s						
SJG	San Juan	2.73	246	eP	Pn	00 51 42.2	+0.8
ANBD	Bethesda, Anti	2.76	142	eP	Pn	00 51 40.6	-1.2
ANBD				eS	Sn	00 52 13.1	-1.0
IGPR	InterUniversit	2.76	243		Pn	00 51 42.1	+0.3
MLYT	Lee's Yard	2.82	153	eP	Pn	00 51 42.3	-0.3
EMPR	Esperanza - Ma	2.94	255		Pn	00 51 43.7	-0.7
CELP	Cerrillos	3.12	248		Pn	00 51 46.8	0.0
OBIP	Obispado Ponce	3.15	248		Pn	00 51 47.6	+0.3
UUPR	Utuado, UPR, P	3.18	252		Pn	00 51 47.4	-0.3
AOPR	Arecibo Observ	3.19	254		Pn	00 51 46.6	-1.1
AOPR	Arecibo Observ	3.19	254	eP	Pn	00 51 47.2	-0.5
ABD	La Joyeuse, An	3.38	145	Pn	Pn	00 51 47.3	-3.0
GDHS	Morne Mazeau,	3.41	150		Pn	00 51 48.9	-1.9
AGPR	Aguadilla, PR	3.48	258		Pn	00 51 51.3	-0.4
MLPR	Magueyes Islan	3.57	250		Pn	00 51 52.5	-0.4
PRSN	Puerto Rico Se	3.58	254		Pn	00 51 52.6	-0.4
CRPR	Cabo Rojo, PR	3.61	251		Pn	00 51 53.5	-0.1
CBE	Ff, Capester	3.66	150	Pn	Pn	00 51 53.5	-0.6
GDSD	La Dsirade Is	3.75	141	Pn	Pn	00 51 54.1	-1.3
H05N1	Guadeloupe/Mar	3.75	141	Pn	Pn	00 51 54.3	-1.2
H05N1				Sn	Sn	00 52 39.0	+0.4
TBG	Guadaloupe-3	3.83	152	eP	Pn	00 51 56.9	+0.3
MAGL	Barre de l'ile	3.92	147	Pn	Pn	00 51 55.7	-2.1
PCDR	Punta Cana, DR	4.65	262	Pn	Pn	00 52 06.3	-1.5
SVN	Savane Anatole	4.93	152	eP	Pn	00 52 12.6	+0.8
FDF	Fort de France	5.04	153	Pn	Pn	00 52 12.0	-1.1
BIM	Bigot	5.26	153	Pn	Pn	00 52 15.0	-1.2
BIM	Bigot	5.26	153	eP	Pn	00 52 17.3	+1.0
MPOM	Morne Pois Mar	5.42	151	Pn	Pn	00 52 17.4	-1.0
SLBI	Saint Lucia, B	5.75	154	eP	Pn	00 52 23.4	+0.5
SDDR	Presa de Saban	7.34	269	Pn	Pn	00 52 45.0	+0.1
SDDR	Presa de Saban	7.34	269	eP	Pn	00 52 45.1	+0.2
GRTK	Grand Turk	7.48	289	Pn	Pn	00 52 45.0	-1.7
PCRV	Puerto La Cruz	9.08	187	Pn	Pn	00 53 07.3	-1.5
	0.6nm,0.3s,baz=22,slow=14,SNR=1.7						
	18nm,1.1s						
NMDO	Nuevo Mundo	10.85	279		Pn	00 53 28.5	-4.5
GTBY	Guantanamo Bay	10.94	275	Pn	Pn	00 53 30.1	-4.1
BAUV	El Baul	11.14	204	Pn	Pn	00 53 36.2	-0.7
SDV	Santo Domingo	12.39	215		Pn	00 53 55.2	+1.0
SDV	Santo Domingo	12.39	215	Pn	Pn	00 53 53.1	-1.1
	0.2nm,0.3s,baz=38,slow=11,SNR=2.1						
SDV				Sn	Sn	00 56 12.5	+1.1
	0.3nm,0.3s,baz=341,slow=18,SNR=1.6						
	1.2nm,0.3s						
MDP	Montagnes des	17.62	142	P	Pn	00 54 59.6	-3.4
	7.1nm,0.9s,baz=352,slow=7.5,SNR=2.3						
MDP				S	Sn	00 58 02.5	-16
	3.4nm,0.9s,baz=219,slow=17,SNR=1.1						
ROSC	El Rosal	17.77	218	P	P	00 55 05.9	0.0
ROSC				IAmb	IAmb	00 55 09.6	
	comp=Z,23nm,1.1s						
ROSC	El Rosal	17.77	218	P	P	00 55 05.1	-0.8
	comp=Z,3.9nm,0.3s,baz=45,slow=4.3,SNR=8.1						
	comp=Z,14nm,0.5s						
LCR2	La Lucha 2	21.94	247	P	P	00 55 51.2	+0.1
LCR2				IAmb	IAmb	00 55 58.6	
	comp=Z,15nm,0.8s						
S54A	Dingess, Beckl	24.12	324	P	P	00 56 06.1	-6.8
T50A	Nancy	25.72	318	P	P	00 56 24.5	-2.8
LPAZ	La Paz	35.60	188	P	P	00 57 55.9	+0.5
	comp=Z,1.5nm,0.9s,baz=3.6,slow=4.3,SNR=4.6						
	comp=Z,1.5nm,0.9s						
TXAR	Lajitas Array	37.78	293	P	P	00 58 15.6	+2.3
	comp=Z,0.7nm,0.6s,baz=103,slow=9.9,SNR=12						
	comp=Z,0.7nm,0.6s						
BDFB	Brasilia	37.88	155	P	P	00 58 14.1	-0.1
	comp=Z,1.9nm,0.7s,baz=325,slow=12,SNR=3.5						
	comp=Z,1.9nm,0.7s						
PDAR	Pinedale Array	45.19	312	P	P	00 59 15.3	+1.2
	comp=Z,0.4nm,0.6s,baz=98,slow=11,SNR=5.2						
	comp=Z,0.4nm,0.6s						
H10N3	ASCENSION HYDR	55.29	115	T	T	02 00 05.6	
	baz=299						
H10N2	ASCENSION HYDR	55.30	114	T	T	02 00 03.8	
	baz=299						
H10N1	ASCENSION HYDR	55.31	114	T	T	02 00 05.4	
	baz=299						
H10S3	ASCENSION HYDR	55.71	116	T	T	02 00 32.4	
	baz=296,slow=74,SNR=12						
H10S2	ASCENSION HYDR	55.73	116	T	T	02 00 34.5	
	baz=284,slow=74,SNR=8.6						
EKA	Eskdalemuir Ar	57.60	36	P	P	01 00 49.2	+2.7
	comp=Z,0.3nm,0.6s,baz=255,slow=5.3,SNR=4.0						
	comp=Z,0.3nm,0.6s						
TORD	Torodi Ar. Bea	62.63	85	P	P	01 01 21.5	-0.1
	comp=Z,0.3nm,0.8s,baz=292,slow=5.5,SNR=1.1						
	comp=Z,0.3nm,0.8s						
BRTR	Keskin Array B	83.24	50	P	P	01 03 26.6	+3.0
	comp=Z,0.3nm,0.7s,baz=311,slow=5.9,SNR=2.8						
	comp=Z,0.3nm,0.7s						

*IDC **21** 01:29:39.5±0.8, 16°.37N×99°.00W, h0km, mb4.2/14, mbtmp4.2/19, ML3.8/6, MS3.6/18, Error ellipse: s-maj=19.9km s-min=12.0km az=38.0*
*MEX **21** 01:29:40.0±0.8, 16°.16N×99°.25W, h11km±12km, MD4.7*
*NEIC **21** 01:29:40.1±1.7, 16°.23N±0°.07×99°.14W±0°.06, h10km±1km, mb4.6/90, Error ellipse: s-maj=11.9km s-min=8.5km az=211.0*

ISC 21 01:29:39.5±1.4, 16°.24N±0°.05×99°.17W±0°.03, h9km±8km, n481, σ0°.92/478, mb4.5/44, MS3.7/14, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	Cruz Grande	0.50	4	eP	Pg	01 29 50.2	+1.0
CRIG				i S	Sb	01 29 58.2	+0.4
DAIG	Los Arroyos	0.91	330	eP	Pg	01 29 55.4	-1.6
DAIG				eS	Sg	01 30 07.2	-1.6
PNIG	Pinotepa	1.01	81	eP	Pg	01 29 58.0	-1.0
PNIG				eS	Sg	01 30 11.2	-1.0
CAIG	El Cayaco	1.32	308	eP	Pn	01 30 00.9	-3.2
CAIG				i S	Sb	01 30 16.7	-4.9
TLIG	Tlapa	1.44	24	Pn	Pn	01 30 04.5	-1.3
TLIG				Sn	Sg	01 30 26.5	+0.6
YOIG	Yosondua	1.68	68	eP	Pn	01 30 08.3	-0.9
YOIG				i S	Sg	01 30 36.2	+2.7
MEIG	Mezcala	1.73	346	eP	Pn	01 30 09.1	-0.7
FTIG	Fresnillo de T	1.94	31	eP	Pn	01 30 12.1	-0.5
HLIG	Huajuapan de L	2.06	39	eP	Pn	01 30 13.8	-0.5
PET2	Petatlan	2.38	303	eP	Pb	01 30 24.3	+1.7
PET2				eS	Sg	01 30 56.0	-0.1
ZIIG	Zihuatanejo	2.58	302	i P	Pn	01 30 19.5	-1.9
YAIG	Yautepec	2.61	2	eP	Pn	01 30 22.5	+0.5
UNM	Universidad Na	3.08	360		Pn	01 30 28.7	+0.2
MOIG	Morelia	3.92	331		Pn	01 30 41.4	+1.2
CMIG	Matias Romero	4.20	78	Pn	Pn	01 30 42.7	-0.9
	12nm,0.3s,baz=266,slow=11,SNR=103						
CMIG				Sn	Sn	01 31 29.7	-3.0
	36nm,0.3s,baz=356,slow=23,SNR=8.2						
CMIG				Lg	Lg	01 31 45.0	
	23nm,0.3s,baz=328,slow=14,SNR=6.7						
CMIG				LR	LR	01 32 25.3	
	comp=Z,595nm,19.5s,baz=268,slow=41						
	27nm,0.4s						
JRQG	Juriquilla Cam	4.61	345		Pn	01 30 50.4	+1.0
CCIG	Comitan	6.76	89		Pn	01 31 19.9	+0.9
ZAIG	Zacatecas	7.24	334	Pn	Pn	01 31 27.0	+1.2
APG	El Apazote	8.48	97	Pn	Pn	01 31 43.2	+0.6
	0.1nm,0.3s,baz=200,slow=14,SNR=5.1						
APG				Sn	Sn	01 33 18.1	-0.6
	0.1nm,0.3s,baz=234,slow=22,SNR=1.5						
APG				Lg	Lg	01 34 07.3	
	0.1nm,0.3s,baz=58,slow=23,SNR=1.7						
PETF	Flores	8.95	84		Pn	01 31 47.1	-1.8
MTO3	Montecristo	9.64	100		Pn	01 31 59.4	+0.8
TEIG	Tepich	11.09	67		Pn	01 32 17.1	-1.2
TEIG	Tepich	11.09	67	Pn	Pn	01 32 16.0	-2.2
	3.3nm,0.3s,baz=251,slow=1.5,SNR=24						
TEIG				Sn	Sn	01 34 15.1	-7.2
	1.9nm,0.3s,baz=52,slow=23,SNR=9.2						
TEIG				LR	LR	01 36 41.8	
	comp=Z,93nm,18.5s,baz=270,slow=39						
	8.6nm,0.4s						
TGUH	Tegucigalpa,Un	11.69	99	Pn	Pn	01 32 26.0	-0.7
833A	Chaparral WMA,	12.03	359	Pn	Pn	01 32 32.0	+0.8
833A	Chaparral WMA,	12.03	359	P	Pn	01 32 31.4	+0.3
	baz=179						
HPIG		12.24	332	Pn	Pn	01 32 34.7	+0.5
DRIO	Del Rio	13.19	354		Pn	01 32 46.5	-0.5
HNDO	Hondo	13.23	360	Pn	Pn	01 32 47.1	-0.5
TXAR	Lajitas Array	13.68	343	Pn	Pn	01 32 53.7	0.0
TXAR	Lajitas Array	13.68	343	Pn	Pn	01 32 54.2	+0.5
	baz=163,slow=13,SNR=8.2						
TXAR				Lg	Lg	01 36 45.9	
	baz=161,slow=31						
TXAR				LR	LR	01 39 06.2	
	comp=Z,39nm,21.2s,baz=172,slow=42						
	0.9nm,0.9s						
TX31	Lajitas Ar. Si	13.68	343	Pn	Pn	01 32 53.5	-0.2
SAND	Sanderson	13.92	349	Pn	Pn	01 32 57.3	+0.3
HKT	Hockley	13.99	12	Pn	Pn	01 32 57.2	-0.6
JCT	Junction City	14.19	358	Pn	Pn	01 32 59.9	-0.8
JCT	Junction City	14.19	358	P	Pn	01 33 01.1	+0.4
	baz=177						
435B	Jarrell	14.55	5	Pn	Pn	01 33 05.1	-0.5
435B	Jarrell	14.55	5	P	Pn	01 33 05.4	-0.3
	baz=186						
OZNA	Ozona	14.73	353	Pn	Pn	01 33 08.6	+0.5
BRDY	Brady	14.98	1	Pn	Pn	01 33 12.1	+0.7
JTS	Las Juntas de	15.04	111		P	01 33 16.3	-1.5
JTS				IAmb	IAmb	01 33 38.1	
	comp=Z,46nm,1.2s						
JTS	Las Juntas de	15.04	111	Pn	Pn	01 33 13.9	+1.5
	comp=Z,0.9nm,0.3s,baz=289,slow=22,SNR=3.4						
	comp=Z,4.0nm,0.4s						
MNHN	Monahans	15.39	348		Pn	01 33 16.5	-0.4
VHRN	Van Horn	15.43	341	Pn	Pn	01 33 16.5	-1.0
441A	DeRidder	15.45	20	Pn	Pn	01 33 18.1	+0.6
441A				IAmb	IAmb	01 33 38.0	
	comp=Z,38nm,0.8s						
SGCY	Sterling City	15.71	354	Pn	Pn	01 33 21.3	+0.2
SGCY				IAmb	IAmb	01 33 36.5	
	comp=Z,31nm,1.0s						
WHTX	Lake Whitney,	15.76	5		Pn	01 33 21.8	+0.1
WHTX				IAmb	IAmb	01 33 27.4	
	comp=Z,34nm,0.8s						
WHTX	Lake Whitney,	15.76	5	P	Pn	01 33 21.3	-0.4
	baz=186,SNR=6.7						
237A	Washetta, Mont	15.99	10		Pn	01 33 25.9	+1.2

baz=172
MIAR Mount Ida 18.91 14 P P 01 33 59.5 -1.0
MIAR Mount Ida 18.91 14 P P 01 34 00.8 +0.3
baz=197
X40A Basin Creek Fa 19.05 16 P P 01 34 02.5 +0.6
TUC Tucson 19.16 329 Pn 01 34 04.8 +0.6
TUC Tucson 19.16 329 P Pn 01 34 05.5 +1.4
baz=144
ANMO Albuquerque 19.74 342 P P 01 34 09.5 -0.2
ANMO Albuquerque 19.74 342 P P 01 34 10.9 +1.1
baz=159
ANMO Albuquerque 19.74 342 P Pn 01 34 11.4 +0.2
comp=Z,0.4nm,0.3s,baz=239,slow=12,SNR=12
ANMO Lg Lg 01 40 03.1
comp=Z,0.1nm,0.3s,baz=159,slow=18,SNR=1.4
ANMO LR LR 01 42 31.0
comp=Z,290nm,21.2s,baz=250,slow=39
comp=Z,2.4nm,0.6s
TUL3 Leonard 19.82 8 P P 01 34 10.2 -0.2
baz=190,SNR=6.8
214A Organ Pipe Nat 19.97 324 P P 01 34 13.4 +1.4
baz=138
LRAL Lakeview Retre 20.02 31 P P 01 34 12.4 -0.2
baz=216
PIX Pinacate 20.05 322 P 01 34 12.8 -0.1
OXF Oxford 20.20 24 P P 01 34 15.3 +0.8
baz=208
DWPF Disney Wildern 20.20 51 P P 01 34 14.0 -0.7
baz=239
TIGA Tifton 20.75 40 P P 01 34 20.7 +0.2
baz=226
LCAR Lake Charles 21.00 18 P P 01 34 22.9 -0.3
W18A Petrified Fore 21.05 335 P P 01 34 25.1 +1.2
baz=151
T25A Trinidad 21.33 348 P P 01 34 27.5 +0.5
T25A IAmb IAmb 01 34 42.4
comp=Z,18nm,0.8s
T25A Trinidad 21.33 348 P P 01 34 28.3 +1.3
baz=166,SNR=15
ESJX Sierra Juarez 21.88 319 P P 01 34 33.5 +0.6
FPAL Fort Paine 21.92 31 P P 01 34 32.1 -1.0
FPAL IAmb IAmb 01 34 43.6
comp=Z,44nm,1.1s
GLA Glamis 21.92 323 P P 01 34 34.4 +1.2
GLA Glamis 21.92 323 P P 01 34 35.0 +1.7
baz=136
CHIV Chivirico 21.94 77 P P 01 34 32.1 -1.3
CHIV IAmb IAmb 01 34 40.6
comp=Z,22nm,1.0s
WUAZ Wupatki 22.08 333 P P 01 34 36.7 +1.7
baz=147,SNR=15
R32A Long Quarter, 22.11 1 P P 01 34 34.5 -0.6
R32A IAmb IAmb 01 34 49.3
comp=Z,21nm,1.0s
SDCO Great Sand Dun 22.14 347 P P 01 34 35.5 -0.3
SDCO Great Sand Dun 22.14 347 P P 01 34 36.7 +0.9
baz=164,SNR=16
GOGA Godfrey 22.21 37 P P 01 34 36.2 0.0
baz=223,SNR=6.2
WVT Waverly 22.24 25 P P 01 34 34.9 -1.6
WVT Waverly 22.24 25 P P 01 34 37.1 +0.6
baz=210
IKP In-Ko-Pah, Jac 22.42 320 P P 01 34 40.1 +1.5
baz=133
SWSC Sam W. Stewart 22.43 321 P P 01 34 39.4 +0.8
baz=134
MVCO Mesa Verde 22.46 340 P P 01 34 38.6 -0.6
MVCO Mesa Verde 22.46 340 P P 01 34 39.9 +0.7
baz=156,SNR=12
PDMCI Parker Dam,Lak 22.46 326 P P 01 34 40.5 +1.5
baz=140
S22A 4UR Ranch, Cre 22.47 344 P P 01 34 39.9 +0.6
baz=160,SNR=21
CBKS Cedar Bluff 22.50 359 P P 01 34 39.7 +0.3
baz=178
BC3 Big Chuckawall 22.72 323 P P 01 34 42.9 +1.0
baz=136
MONP2 Monument Peak 22.77 320 P P 01 34 43.5 +1.0
baz=133
CCM Cathedral Cave 22.83 16 P P 01 34 41.5 -1.3
CCM Cathedral Cave 22.83 16 P P 01 34 43.0 +0.2
baz=200
KSU1 Kansas State U 22.89 5 P P 01 34 43.0 -0.4
baz=186
KSCO Kaye Shedlock' 22.89 353 P P 01 34 42.2 -1.4
KSCO IAmb IAmb 01 34 54.5
comp=Z,24nm,0.9s
KSCO Kaye Shedlock' 22.89 353 P P 01 34 43.6 0.0
baz=171
IRM Iron Mountain 22.91 324 P P 01 34 45.1 +1.4
baz=137,SNR=7.2
NEE2 Needles Airpor 23.07 326 P P 01 34 47.3 +1.9
baz=139
Q24A Divide 23.24 348 P P 01 34 48.5 +1.1
baz=165
TPFO Pinon Flats 23.28 321 P P 01 34 48.2 +0.6
baz=134
BELC Belle Mtn. Jos 23.29 323 P P 01 34 48.5 +0.8
baz=135
PFO Pinyon Flats O 23.29 321 P P 01 34 48.2 +0.5
PFO Pinyon Flats O 23.29 321 P P 01 34 48.2 +0.5
baz=134
U49A Red Boiling Sp 23.44 28 P P 01 34 48.0 -1.0
U49A IAmb IAmb 01 34 57.5
comp=Z,31nm,1.1s
GMRC Granite Mounta 23.66 324 P P 01 34 52.1 +0.7
baz=137,SNR=8.2
TKL Tuckaleechee C 23.73 33 P P 01 34 51.0 -0.9
TKL Tuckaleechee C 23.73 33 LR LR 01 45 24.1
comp=Z,118nm,20.7s,baz=22,slow=40
MURC Murrieta 23.73 320 P P 01 34 53.2 +1.2
baz=132
SMCO Snowmass 23.86 345 P P 01 34 53.8 +0.2
SMCO IAmb IAmb 01 35 07.4
comp=Z,34nm,1.4s
HMU Henry Mountain 23.90 337 P P 01 34 55.1 +1.2
V12A Nelson 23.93 327 P P 01 34 54.6 +0.7
NHSC New Hope 24.02 42 P P 01 34 54.0 -0.6
baz=230
HEC Hector,Ludlow 24.07 323 P P 01 34 55.6 +0.3
baz=136
ISCO Idaho Springs 24.14 348 P P 01 34 56.7 +0.6
ISCO Idaho Springs 24.14 348 P P 01 34 56.7 +0.6
baz=165,SNR=22
CIS Catalina Islan 24.36 318 P P 01 34 59.0 +1.1
baz=130
OLIL Olney 24.43 21 P P 01 34 57.6 -0.8
BFSC Mount Baldy Ra 24.44 321 P P 01 35 00.2 +1.4
baz=133
TZTN Tazewell 24.53 31 P P 01 34 59.7 +0.3
baz=218
BRIGG Briggsdale 24.67 351 P P 01 35 00.6 -0.1
WCI Wyandotte Cave 24.67 25 P P 01 34 59.7 -0.8
WCI Wyandotte Cave 24.67 25 P P 01 35 00.4 -0.1
baz=211
GSC Goldstone, Bar 24.68 324 P P 01 35 02.0 +1.2
baz=136,SNR=5.9
KMSC Kings Mountain 24.68 37 P P 01 35 00.3 -0.5
KMSC Kings Mountain 24.68 37 P P 01 35 00.6 -0.2
baz=225
OGNE Ogallala 24.75 355 P P 01 35 01.9 +0.6
baz=173
MVU Marysvale 24.97 335 P P 01 35 04.7 +1.1
EDW2 Edwards Air Fo 25.08 321 P P 01 35 05.6 +1.1
baz=133
O20A White River Ci 25.09 343 P P 01 35 05.7 +1.1
baz=159,SNR=12
N23A Red Feather La 25.26 348 P P 01 35 07.1 +0.8
baz=165,SNR=13
FURC Furnace Creek, 25.55 325 P P 01 35 09.5 +0.9
baz=138
PHWY Pilot Hill 25.56 349 P P 01 35 09.7 +0.7
PHWY IAmb IAmb 01 35 12.3
comp=Z,12nm,0.8s
TPNV Topopah Spring 25.59 327 P P 01 35 10.0 +0.9
baz=139,SNR=31
MPMC Manual Prospec 25.61 324 P P 01 35 10.4 +1.1
baz=136,SNR=8.7
HDIL Hopedale 25.70 18 P P 01 35 09.3 -0.6
HDIL Hopedale 25.70 18 P P 01 35 10.6 +0.6
baz=202,SNR=7.7
OTAV Otavalo 25.89 126 P P 01 35 11.8 -0.6
OTAV IAmb IAmb 01 35 37.7
comp=Z,12nm,1.4s
ISA Isabella, Lake 25.90 322 P P 01 35 13.7 +1.8
baz=133
PULU Pululahua 25.99 126 P P 01 35 13.2 -0.1
PKM Mcpherson Peak 26.21 319 P P 01 35 16.3 +1.5
baz=130
CWC Cottonwood Cre 26.21 324 P P 01 35 16.1 +1.2
baz=135
SFIN Lafayette 26.24 21 P P 01 35 15.2 +0.4
baz=207
R11B Troy Canyon, C 26.34 330 P P 01 35 16.2 +0.3
baz=142,SNR=11
VES Vestal, Richgr 26.39 321 P P 01 35 17.3 +1.1
baz=133
P49A Miami Univ. Ec 26.42 26 P P 01 35 16.4 -0.1
baz=212,SNR=22
SLOR San Lorenzo - 26.47 128 P P 01 35 18.8 +1.1
SMMC Simmler 26.59 319 P P 01 35 18.9 +0.8
baz=130
DUG Dugway, Tooele 26.66 336 P P 01 35 18.8 0.0
DUG IAmb IAmb 01 35 32.0
comp=Z,11nm,1.1s
DUG Dugway, Tooele 26.66 336 P P 01 35 19.6 +0.8
baz=150
BLA Blacksburg 26.68 35 P P 01 35 18.6 -0.2
baz=223
CNNC Cliffs of the 26.83 41 P P 01 35 19.6 -0.6
baz=230
O48B Farmland 26.86 24 P P 01 35 20.2 -0.2
baz=211,SNR=20
ROSC El Rosal 26.89 112 P P 01 35 22.9 +1.5
ROSC IAmb IAmb 01 35 47.5
comp=Z,25nm,1.4s
ROSC El Rosal 26.89 112 P P 01 35 22.5 +1.1
comp=Z,2.2nm,0.4s,baz=71,slow=22,SNR=1.3
comp=Z,2.2nm,0.4s
TPH Tonopah 26.94 327 P P 01 35 22.2 +0.8
K22A Casper 27.07 348 P P 01 35 23.3 +0.8
baz=164
HWUT Hardware Ranch 27.45 340 P P 01 35 25.8 -0.1
HWUT IAmb IAmb 01 35 35.2
comp=Z,13nm,1.2s
MLAC Mammoth, Mammo 27.48 325 P P 01 35 27.9 +1.6
baz=136
ECSD EROS Data Cent 27.49 4 P P 01 35 25.4 -0.7
ECSD IAmb IAmb 01 35 34.4
comp=Z,13nm,1.2s
ECSD EROS Data Cent 27.49 4 P P 01 35 26.4 +0.2
baz=185,SNR=8.4
P52A Corning 27.65 29 P P 01 35 28.3 +0.8
baz=217
JFWS Jewell Farm 27.66 14 P P 01 35 28.5 +0.9
baz=199
NV11 Mina Array Sit 27.70 327 P P 01 35 28.4 +0.3
NV11 IAmb IAmb 01 35 47.6
comp=Z,11nm,1.2s
ACSO Alum Creek Sta 27.74 27 P P 01 35 27.7 -0.7
ACSO Alum Creek Sta 27.74 27 P P 01 35 28.8 +0.4
baz=215
NVAR Mina Array Bea 27.77 326 P P 01 35 29.2 +0.2
NVAR Mina Array Bea 27.77 326 P P 01 35 31.1 +2.2
comp=Z,3.8nm,1.0s,baz=152,slow=9.4,SNR=11
comp=Z,3.8nm,1.0s
BW06 Boulder Array 27.90 344 P P 01 35 31.1 +1.1
baz=158,SNR=15
PD31 Pinedale Array 27.90 344 P P 01 35 30.4 +0.5
PD31 IAmb IAmb 01 35 41.6
comp=Z,14nm,1.1s
PDAR Pinedale Array 27.90 344 P P 01 35 30.3 +0.3
PDAR Pinedale Array 27.90 344 P P 01 35 31.4 +1.5
comp=Z,4.1nm,0.8s,baz=140,slow=9.3,SNR=30
PDAR LR LR 01 47 02.9
comp=Z,124nm,20.9s,baz=145,slow=38
comp=Z,4.1nm,0.8s
RSSD Black Hills 28.10 353 P P 01 35 32.6 +0.8
baz=170
ELK Elko 28.11 333 LR LR 01 48 31.9
comp=Z,196nm,18.9s,baz=92,slow=40
SUSD Miller 28.12 0 P P 01 35 33.3 +1.6
baz=180
O53A New Philadelph 28.57 30 P P 01 35 36.6 +0.9
baz=218
SDV Santo Domingo 28.77 101 P P 01 35 37.3 -0.7
SDV IAmb IAmb 01 35 47.4
comp=Z,9.5nm,0.9s
SDV Santo Domingo 28.77 101 LR LR 01 47 23.1
comp=Z,96nm,19.9s,baz=76,slow=37
MCWV Mont Chateau 28.79 32 P P 01 35 37.7 0.0
baz=221
TPAW Teton Pass 28.96 342 P P 01 35 38.6 -0.8
TPAW IAmb IAmb 01 36 07.7
comp=Z,6.5nm,1.0s
CBN Corbin Frederi 29.09 37 P P 01 35 40.7 +0.4
baz=227
AAM Ann Arbor 29.19 24 P P 01 35 42.1 +0.9
baz=212
SPMN Marine on St. 29.39 9 P P 01 35 43.9 +0.9
baz=192
M53A Wt Miller and 29.75 29 P P 01 35 46.3 0.0
baz=218
RLMT Red Lodge 30.02 346 P P 01 35 49.4 +0.6
baz=160
HLID Hailey 30.17 338 P P 01 35 51.2 +1.1
baz=150
SSPA Standing Stone 30.52 33 P P 01 35 53.4 +0.3
baz=223
ERPA Erie 30.61 29 P P 01 35 52.0 -1.8
baz=218
BOZ Bozeman (W) 31.08 343 P P 01 35 58.9 +0.8
baz=156,SNR=12
BAUV El Baul 31.20 100 P P 01 35 58.8 -0.6
MDND Maddock 31.52 359 P P 01 36 02.0 +0.2
baz=179
AGMN Agassiz Nation 32.09 4 P P 01 36 07.2 +0.5
baz=186,SNR=15
EYMN Ely 32.25 10 P P 01 36 08.8 +0.6
baz=194
EGMT Eagleton 32.88 347 P P 01 36 14.2 +0.4
EGMT IAmb IAmb 01 36 24.4
comp=Z,15nm,1.1s
EGMT Eagleton 32.88 347 P P 01 36 14.3 +0.6
baz=161
MSO Missoula 32.88 341 P P 01 36 15.2 +1.3
baz=153
PAL Palisades 32.95 36 P P 01 36 14.4 0.0
baz=229
SADO Sadowa 33.08 27 LR LR 01 51 48.0
comp=Z,104nm,20.4s,baz=295,slow=40
ULM Lac du Bonnet 34.03 4 P P 01 36 22.4 -1.3
ULM Lac du Bonnet 34.03 4 P P 01 36 23.4 -0.3
comp=Z,13nm,0.8s,baz=186,slow=8.8,SNR=20
comp=Z,13nm,0.8s
L61B Northampton 34.59 36 P P 01 36 29.1 +0.4
baz=229
LONY Lake Ozonia 35.08 31 P P 01 36 33.1 +0.2
baz=224
NEW Newport 35.18 339 P P 01 36 34.3 +0.6
baz=149
HRV Adam Dziewonsk 35.26 36 P P 01 36 34.1 -0.3
baz=230
B08A Colville Reser 36.05 337 P P 01 36 42.1 +0.8
B08A IAmb IAmb 01 36 43.5
comp=Z,5.1nm,0.9s
LBNH Lisbon 36.19 34 P P 01 36 42.4 0.0
baz=228
PKME Peaks-Kenny Pk 38.28 35 P P 01 36 60.0 -0.2
baz=230
FFC Flin Flon 38.47 357 P P 01 37 01.5 -0.1
FFC IAmb IAmb 01 37 03.1
comp=Z,8.4nm,0.8s
ETMB Extrema 41.64 126 P P 01 37 28.2 -0.2
ETMB IAmb IAmb 01 37 36.0
comp=Z,7.8nm,0.9s
GBN Guysborough 42.87 39 P P 01 37 37.6 -0.4
GBN IAmb IAmb 01 37 39.6
comp=Z,20nm,1.1s
SAML Samuel 43.53 123 P P 01 37 42.7 -1.1
SCHQ Schefferville 45.88 26 P P 01 38 02.0 0.0
comp=Z,6.9nm,0.8s,baz=245,slow=7.1,SNR=10
comp=Z,6.9nm,0.8s
V35K Ketchikan 46.27 335 P P 01 38 05.5 +0.5
baz=134
T35M Bob Quinn 46.92 337 P P 01 38 10.8 +0.6
baz=137
CRAG Craig 46.99 334 P P 01 38 10.9 +0.2
baz=133
WRAK Wrangell Islan 47.33 336 P P 01 38 13.6 +0.3
baz=134
YKA Yellowknife Ar 47.47 350 P P 01 38 14.8 +0.5
comp=Z,2.7nm,0.8s,baz=162,slow=7.3,SNR=15
YKA LR LR 01 59 27.6
comp=Z,137nm,19.3s,baz=80,slow=38
comp=Z,2.7nm,0.8s
DLBC Dease Lake 47.93 339 P P 01 38 18.6 +0.5
baz=138
DLBC Dease Lake 47.93 339 LR LR 02 01 14.7
comp=Z,95nm,18.4s,baz=103,slow=40
VILB Vilhena 48.23 125 P P 01 38 20.9 0.0
WTLY Watson Lake, Y 48.80 341 P P 01 38 25.2 +0.5
baz=141
S32K Killisnoo 48.94 335 P P 01 38 26.2 +0.4
baz=132
R33M Jennings River 48.97 339 P P 01 38 26.8 +0.7
baz=138
Q32M Nakina River 49.11 338 P P 01 38 27.9 +0.6
baz=136
R32K Eaglecrest 49.46 336 P P 01 38 30.6 +0.8
baz=133
TGTN Hyland Airport 49.75 342 P P 01 38 32.4 +0.4
baz=142
S31K Pelican 49.93 335 P P 01 38 34.3 +1.0
baz=131
P32M Atlin 50.08 338 P P 01 38 34.8 +0.3
baz=135
P33M Teslin, Yukon 50.20 339 P P 01 38 35.5 0.0
baz=136
PTLB Pontes e Lacer 50.53 127 P P 01 38 38.1 -0.3
PTLB IAmb IAmb 01 38 45.5
comp=Z,11nm,1.3s
PLBC Pleasant Camp 50.97 337 P P 01 38 42.2 +1.0
baz=132
MMPY Sheldon Lake, 51.49 342 P P 01 38 45.7 +0.6
baz=139
P29M Windy Craggy 51.61 336 P P 01 38 46.2 +0.2
baz=130
P30M Million Dollar 51.64 337 P P 01 38 47.1 +0.8
baz=131
O30N Mendenhall 51.75 338 P P 01 38 48.1 +0.9
baz=133
N31M Braeburn, Yuko 52.13 339 P P 01 38 50.6 +0.6
baz=134,SNR=6.2
M31M Drury Creek, Y 52.17 340 P P 01 38 50.9 +0.7
baz=136
O29M Mount Kennedy 52.37 336 P P 01 38 52.3 +0.5
baz=130
N30M Aishikik Lake 52.58 338 P P 01 38 54.1 +0.8
baz=132
YUK6 Outpost Mounta 52.70 337 P P 01 38 55.0 +0.6
baz=130
PINM Pinnacle 52.89 336 P P 01 38 56.3 +0.7
baz=128
H03N2 Juan Fernandez 53.04 159 T T 02 36 11.9
baz=338,slow=78,SNR=17
H03N1 Juan Fernandez 53.05 159 T T 02 36 12.0
baz=338,slow=78,SNR=16
H03N3 Juan Fernandez 53.06 159 T T 02 36 12.0
baz=338,slow=78,SNR=23
YUK4 Talbot Arm 53.07 337 P P 01 38 58.2 +1.1
baz=130
M30M Minto, Yukon 53.23 339 P P 01 38 58.9 +0.8
baz=133
O28M Mount Upton 53.29 336 P P 01 38 58.8 +0.1
baz=128
MESA MESA 53.62 335 P P 01 39 01.4 +0.3
baz=126
M29M Somme Creek 53.72 339 P P 01 39 02.4 +0.7
baz=131
CTG Chitna Glacier 53.85 336 P P 01 39 03.4 +0.7
baz=127
YUK3 Moose Creek 54.01 337 P P 01 39 05.3 +1.3
baz=128
L29M L29M 54.05 339 P P 01 39 05.1 +1.1
baz=132
K29M Barlow Dome 54.34 340 P P 01 39 07.2 +0.9
baz=133
CRQE Cirque 54.42 335 P P 01 39 08.2 +1.4
baz=125
J30M Hart River 54.47 341 P P 01 39 08.3 +1.1
baz=134
MCARA McCarthy VSAT 54.76 336 P P 01 39 09.9 +0.7
baz=125
M27K Edge Creek, AK 54.90 337 P P 01 39 11.0 +0.7
baz=127
I30M Mount Dempster 54.94 342 P P 01 39 11.7 +1.1
baz=135,SNR=5.6
GLB Gilahina Butte 55.10 336 P P 01 39 12.2 +0.4
GLB IAmb IAmb 01 39 21.9
comp=Z,5.6nm,1.0s
DAWY Dawson 55.10 340 P P 01 39 12.0 +0.3
baz=131
BMRM Bremner River 55.15 335 P P 01 39 12.4 +0.3
baz=124
BCAR Beaver Creek A 55.30 338 P P 01 39 13.5 +0.4
L27K Beaver Creek, 55.31 338 P P 01 39 13.5 +0.3
baz=128
C36M Paulatuk 55.32 350 P P 01 39 12.9 -0.1
baz=150
M26K Nabesna, AK 55.34 337 P P 01 39 13.5 +0.1
baz=126
EYAK Cordova Ski Ar 55.40 334 P P 01 39 13.6 -0.2
baz=122
N25K Chitina, Valde 55.51 336 P P 01 39 14.8 +0.1
baz=124
G31M Satah River 55.58 344 P P 01 39 15.3 +0.3
baz=138,SNR=7.7
F31M Tsiigehtchic 55.84 345 P P 01 39 17.1 +0.3
baz=139
EPYK Eagle Plains 55.85 343 P P 01 39 16.9 -0.1
baz=135
KLU Klutina 55.97 335 P P 01 39 17.4 -0.7
baz=122
K27K Chicken 55.99 339 P P 01 39 17.8 -0.2
baz=128
GLI Glacier Island 56.13 334 P P 01 39 18.5 -0.6
baz=121
EGAK Eagle 56.15 340 P P 01 39 19.4 +0.3
EGAK IAmb IAmb 01 39 28.1
comp=Z,5.9nm,0.8s
EGAK Eagle 56.15 340 P P 01 39 19.2 0.0
baz=129,SNR=7.7
AQDB Aquidauana 56.15 129 P P 01 39 18.2 -1.5
G30M tAoh Zraii Nji 56.15 343 P P 01 39 19.0 -0.1
baz=136
HARP HAARP 56.17 336 P P 01 39 20.0 +0.7
baz=124
I28M Miner Creek 56.19 341 P P 01 39 19.5 0.0
baz=131
H29M Whitestone 56.23 342 P P 01 39 19.7 0.0
baz=133,SNR=9.6
M24K Tolsona, Glenn 56.41 336 P P 01 39 20.4 -0.7
baz=122
INK Inuvik 56.44 345 P P 01 39 21.1 0.0
baz=139
F30M Barrier River 56.49 344 P P 01 39 21.5 0.0
baz=137
PAX Paxson 56.60 337 P P 01 39 22.8 +0.2
baz=124
G29M Pine Creek 56.61 343 P P 01 39 23.1 +0.7
baz=134
SCRK Sand Creek 56.63 338 P P 01 39 23.8 +1.0
SCRK IAmb IAmb 01 39 32.7
comp=Z,3.8nm,0.9s
SCRK Sand Creek 56.63 338 P P 01 39 22.8 +0.1
baz=126
PWL Port Wells 56.65 334 P P 01 39 22.9 +0.1
baz=120
SCM Sheep Creek Mo 56.72 335 P P 01 39 23.5 +0.1
baz=121
SEW Seward 56.77 333 P P 01 39 23.8 +0.3
baz=118
J26L Joseph Creek 56.80 339 P P 01 39 23.9 0.0
baz=127,SNR=8.9
I27K Kandik River 56.83 340 P P 01 39 24.3 +0.3
baz=129
SML Sawmill 57.12 335 P P 01 39 26.3 +0.1
baz=120
I26K Coal Creek Min 57.14 340 P P 01 39 26.5 +0.3
baz=127
BRSE Bradley Lake S 57.18 332 P P 01 39 26.9 +0.3
baz=116
K24K Donnelly Dome 57.19 337 P P 01 39 26.7 +0.2
baz=124
H27K Steamboat Moun 57.20 341 P P 01 39 26.7 +0.1
baz=130
KDAK Kodiak Island 57.22 329 P P 01 39 27.2 +0.3
baz=114
WAT6 Susitna Watana 57.28 336 P P 01 39 27.5 +0.1
baz=121
PMR Palmer 57.34 334 P P 01 39 28.2 +0.6
baz=119

DHY	**Denali Highway**	57.39 336	P	P	01 39 28.5 +0.4
	baz=122				
J25K	**Salcha River,**	57.50 338	P	P	01 39 29.6 +0.8
	baz=125				
SII	**Sitkinak Islan**	57.56 327	P	P	01 39 29.7 +0.4
	baz=111				
E29M	**Blow River**	57.61 344	P	P	01 39 29.6 +0.2
	baz=135				
G27K	**Doyon Strip**	57.61 342	P	P	01 39 30.5 +1.0
	baz=130,SNR=6.0				
F28M	**Old Crow**	57.61 343	P	P	01 39 30.3 +0.8
	baz=132,SNR=9.7				
WAT1	**Susitna Watana**	57.73 336	P	P	01 39 30.9 +0.5
	baz=120				
HDA	**Harding Lake**	57.95 338	P	P	01 39 32.2 +0.3
	baz=123				
SUA	**Susitna One**	57.97 334	P	P	01 39 32.4 +0.2
	baz=117,SNR=5.7				
PRP	**Porcupine Dome**	58.07 339	P	P	01 39 33.4 +0.5
PRP			IAmb	IAmb	01 39 43.4
	comp=Z,8.4nm,0.9s				
PRP	**Porcupine Dome**	58.07 339	P	P	01 39 33.4 +0.5
	baz=125,SNR=7.2				
IL31		58.13 338	P	P	01 39 33.6 +0.6
IL31			IAmb	IAmb	01 39 42.9
	comp=Z,8.3nm,1.0s				
ILAR	**Eielson Array**	58.13 338	P	P	01 39 33.8 +0.7
ILAR	**Eielson Array**	58.13 338	P	P	01 39 34.4 +1.3
	comp=Z,2.7nm,0.9s,baz=142,slow=5.4,SNR=28				
ILAR			LR	LR	02 06 00.7
	comp=Z,62nm,20.2s,baz=125,slow=38				
	comp=Z,2.7nm,0.9s				
O20K	**Slope Mountain**	58.18 332	P	P	01 39 34.3 +0.7
	baz=115				
E28M	**Babbage River**	58.19 344	P	P	01 39 34.4 +0.8
	baz=133,SNR=6.2				
P19K	**Oil Pt**	58.29 331	P	P	01 39 34.6 +0.2
	baz=114				
MCK	**McKinley**	58.34 336	P	P	01 39 34.8 +0.2
	baz=120				
G26K	**Porcupine Rive**	58.35 341	P	P	01 39 35.3 +0.7
	baz=128				
WRH	**Wood River Hil**	58.40 337	P	P	01 39 35.5 +0.4
WRH			IAmb	IAmb	01 39 46.0
	comp=Z,5.3nm,1.0s				
E27K	**Coleen River**	58.48 343	P	P	01 39 35.8 +0.2
	baz=130,SNR=7.4				
POKR	**Poker Plat Res**	58.51 338	P	P	01 39 36.3 +0.5
	baz=123				
SKT	**Skwentna**	58.53 334	P	P	01 39 37.0 +1.0
SKT			IAmb	IAmb	01 39 45.2
	comp=Z,6.8nm,0.8s				
SKT	**Skwentna**	58.53 334	P	P	01 39 36.3 +0.3
	baz=117				
H25L	**Birch Creek**	58.60 340	P	P	01 39 36.2 -0.2
	baz=125				
CPUP	**Villa Florida**	58.69 136	P	P	01 39 38.7 +1.1
	comp=Z,3.1nm,0.9s,baz=258,slow=8.4,SNR=3.8				
	comp=Z,3.1nm,0.9s				
Q18K	**Katmai Hardscr**	58.74 330	P	P	01 39 37.7 0.0
	baz=112				
NEA2	**Nenana**	58.83 337	P	P	01 39 38.0 0.0
	baz=121				
BMAR	**Burnt Mountain**	58.89 341	P	P	01 39 39.2 +0.7
F26K	**Sheenjek River**	58.92 342	P	P	01 39 39.0 +0.4
	baz=128				
G25K	**Bearman Lake**	58.98 340	P	P	01 39 39.1 +0.1
	baz=125				
D27M	**Malcolm River**	59.01 344	P	P	01 39 39.2 -0.1
	baz=132				
Q17K	**Contact Creek**	59.03 329	P	P	01 39 39.7 0.0
	baz=110				
R17L	**Mt. Peulik Vol**	59.05 328	P	P	01 39 40.2 +0.5
	baz=110				
H24K	**Noodor Dome**	59.06 339	P	P	01 39 40.2 +0.6
	baz=123,SNR=6.7				
P18K	**Big Mountain,**	59.12 330	P	P	01 39 40.2 0.0
	baz=112				
M20K	**Styx River**	59.17 334	P	P	01 39 40.6 +0.1
	baz=115				
O18K	**Koktuh Hills**	59.29 331	P	P	01 39 41.9 +0.6
	baz=112				
BPAW	**Bear Paw Mtn.**	59.31 336	P	P	01 39 41.7 +0.3
BPAW			IAmb	IAmb	01 39 50.2
	comp=Z,8.5nm,1.2s				
BPAW	**Bear Paw Mtn.**	59.31 336	P	P	01 39 42.0 +0.6
	baz=119				
F25K	**Christian Rive**	59.32 341	P	P	01 39 42.0 +0.6
	baz=126				
N19K	**Bonanza Creek**	59.33 332	P	P	01 39 41.7 0.0
	baz=113				
G24K	**Hadweenzic Riv**	59.40 340	P	P	01 39 42.6 +0.6
	baz=124,SNR=6.6				
BDFB	**Brasília**	59.60 120	P	P	01 39 44.8 +0.6
	comp=Z,1.4nm,0.5s,baz=287,slow=8.3,SNR=3.0				
	comp=Z,1.4nm,0.5s				
H23K	**Yukon River**	59.63 338	P	P	01 39 43.5 -0.1
	baz=121				
SFJD	**Kangerlussuaq**	59.64 20	LR	LR	02 06 14.8
	comp=Z,80nm,21.9s,baz=216,slow=37				
MLY	**Manley**	59.66 337	P	P	01 39 44.4 +0.5
MLY	**Manley**	59.66 337	P	P	01 39 44.1 +0.2
	baz=119,SNR=6.7				
M19K	**Big River Lodg**	59.72 333	P	P	01 39 44.5 +0.2
	baz=114				
L20K	**Farewell, AK**	59.74 334	P	P	01 39 44.8 +0.3
	baz=115				
N18K	**Kilae Creek**	59.91 332	P	P	01 39 45.9 +0.3
	baz=112				
CHNA	**Chernabura Isl**	59.93 324	P	P	01 39 46.0 +0.3
	baz=105				
F24K	**Squaw Lake**	59.98 341	P	P	01 39 45.8 -0.2
	baz=124				
C27K	**Jago River**	60.00 344	P	P	01 39 46.0 -0.1
	baz=129				
L19K	**White Mountain**	60.04 333	P	P	01 39 47.1 +0.7
	baz=114				
O17K	**Koliganek Bris**	60.15 330	P	P	01 39 47.0 -0.2
	baz=110				
M18K	**Stony River**	60.19 332	P	P	01 39 47.1 -0.3
	baz=112				
K20K	**Telida**	60.19 335	P	P	01 39 47.4 -0.1
	baz=115,SNR=5.2				
G23K	**Bananza Creek**	60.26 339	P	P	01 39 48.4 +0.5
	baz=121,SNR=5.7				
H22K	**Ishtalitna Cre**	60.32 338	P	P	01 39 49.0 +0.7
	baz=119				
P16K	**Nushagak River**	60.33 329	P	P	01 39 49.4 +1.0
	baz=109				
N17K	**Nushagak Hills**	60.45 331	P	P	01 39 50.1 +0.8
	baz=110				
E24K	**Your Creek**	60.48 341	P	P	01 39 50.1 +0.7
	baz=123				
C26K	**Camden Bay**	60.51 343	P	P	01 39 49.9 +0.4
	baz=128				
D25K	**Kavik River**	60.56 343	P	P	01 39 50.7 +0.8
	baz=126,SNR=10.0				
O16K	**Kokwok River B**	60.56 330	P	P	01 39 50.9 +0.8
	baz=109				
J20K	**Nowinta River**	60.58 336	P	P	01 39 50.7 +0.6
	baz=115				
COLD	**Coldfoot**	60.58 340	P	P	01 39 51.0 +1.0
	baz=121				
H21K	**Melozitna Rive**	60.73 338	P	P	01 39 52.0 +0.9
	baz=118,SNR=5.1				
TTA	**Tatalina**	60.83 334	P	P	01 39 52.8 +1.0
	baz=113				
E23K	**Chandalar**	60.83 341	P	P	01 39 52.5 +0.6
	baz=122,SNR=5.2				
L18K	**Granite Mounta**	60.84 333	P	P	01 39 53.3 +1.4
	baz=112				
G22K	**Bettles**	60.87 339	P	P	01 39 53.6 +1.6
	baz=120				
M17K	**Holitna River**	60.88 332	P	P	01 39 53.5 +1.4
	baz=111				
I20K	**Naaghedeneel**	60.97 336	P	P	01 39 53.9 +1.2
	baz=115				
J19K	**Poorman**	61.09 335	P	P	01 39 54.5 +1.0
	baz=114,SNR=9.6				
TOLK	**Toolik Lake Re**	61.13 341	P	P	01 39 54.1 +0.3
TOLK			IAmb	IAmb	01 40 03.0
	comp=Z,6.5nm,0.8s				
TOLK	**Toolik Lake Re**	61.13 341	P	P	01 39 54.2 +0.4
	baz=122				
N16K	**Nishlik Lake**	61.17 331	P	P	01 39 54.5 +0.3
	baz=109				
D24K	**Happy Valley**	61.18 342	P	P	01 39 55.4 +1.3
	baz=123				
IMAR	**Indian Mountai**	61.22 338	P	P	01 39 54.4 -0.1
O15K	**Ungalikthiuk R**	61.27 329	P	P	01 39 56.3 +1.4
	baz=107				
J18K	**Innoko River**	61.33 334	P	P	01 39 55.9 +0.7
	baz=112				
G21K	**Allakaket**	61.38 338	P	P	01 39 55.4 -0.1
	baz=117				
F22K	**John River**	61.39 340	P	P	01 39 56.6 +1.0
	baz=119				
H20K	**Anotleneega Mo**	61.43 337	P	P	01 39 55.7 -0.1
	baz=115,SNR=6.5				
M16K	**Timber Creek**	61.44 331	P	P	01 39 56.1 +0.1
	baz=109				
L17K	**Donlin**	61.52 333	P	P	01 39 57.4 +0.9
	baz=110				
S12K	**Black Hills**	61.52 325	P	P	01 39 57.3 +0.6
	baz=103				
E22K	**Anakdavuk Pass**	61.58 340	P	P	01 39 57.5 +0.7
	baz=120				
D23K	**Nanushuk River**	61.64 341	P	P	01 39 58.1 +0.8
	baz=121				
F21K	**Alatna River**	61.70 339	P	P	01 39 58.2 +0.6
	baz=118,SNR=5.9				
N15K	**Kwethluk River**	61.70 330	P	P	01 39 58.4 +0.7
	baz=108				
K17K	**Iditarod**	61.72 333	P	P	01 39 58.1 +0.2
	baz=111				
GCSA	**Galena City Sc**	61.89 336	P	P	01 39 59.3 +0.4
	baz=113				
L16K	**Owhat River**	61.90 332	P	P	01 40 00.1 +1.0
	baz=109				
O14K	**Tigyukauivet M**	62.01 329	P	P	01 40 00.8 +1.0
	baz=106				
H19K	**Roundabout Mou**	62.03 337	P	P	01 40 00.7 +0.9
	baz=114				
C23K	**Itkillik River**	62.08 342	P	P	01 40 00.9 +0.7
	baz=122				
M15K	**Kasigluk River**	62.14 331	P	P	01 40 01.5 +0.8
	baz=107				
D22K	**Ayikyak River**	62.22 341	P	P	01 40 01.7 +0.6
	baz=119,SNR=8.8				
J17K	**VABM Dome**	62.29 334	P	P	01 40 02.8 +1.1
	baz=110				
F20K	**Avaraart Lake**	62.40 338	P	P	01 40 03.0 +0.6
	baz=115				
E21K	**Killik River**	62.43 340	P	P	01 40 03.4 +0.9
	baz=118				
G19K	**Purcell Mounta**	62.52 337	P	P	01 40 04.3 +1.1
	baz=114,SNR=7.1				
PLCA	**Paso Flores**	62.60 156	P	P	01 40 04.3 +0.2
PLCA	**Paso Flores**	62.60 156	P	P	01 40 05.8 +1.8
	comp=Z,1.7nm,0.8s,baz=326,slow=10,SNR=3.2				
	comp=Z,1.7nm,0.8s				
H18K	**Honhosa River**	62.63 336	P	P	01 40 04.4 +0.4
	baz=112				
M14K	**Bethel**	62.76 331	P	P	01 40 05.0 +0.3
	baz=106				
L15K	**Ungalak Mounta**	62.80 332	P	P	01 40 06.1 +1.0
	baz=107				
J16K	**Anvik River**	62.90 334	P	P	01 40 06.4 +0.7
	baz=109				
K15K	**Wolf Creek Mou**	63.00 332	P	P	01 40 07.0 +0.6
	baz=107				
G18K	**Tagagawik**	63.02 337	P	P	01 40 07.6 +1.1
	baz=112				
C21K	**Knifeblade Rid**	63.02 341	P	P	01 40 07.6 +1.1
	baz=117				
F19K	**Shaleruckik Mo**	63.05 338	P	P	01 40 07.0 +0.4
	baz=113				
E20K	**Nigu River**	63.08 339	P	P	01 40 07.6 +0.6
	baz=115				
E19K	**Redstone River**	63.11 338	P	P	01 40 07.4 +0.3
	baz=114				
I17K	**Unalakleet**	63.14 334	P	P	01 40 08.1 +0.8
	baz=109				
H17K	**Granite Mounta**	63.17 335	P	P	01 40 07.7 +0.2
	baz=110				
B21K	**Ikpikpuk River**	63.18 341	P	P	01 40 07.6 +0.2
	baz=118				
L14K	**Kuka Creek**	63.26 331	P	P	01 40 09.5 +1.4
	baz=106				
M13K	**Dall Lake**	63.33 330	P	P	01 40 09.6 +1.0
	baz=105				
D20K	**Etivluk River**	63.42 340	P	P	01 40 10.5 +1.3
	baz=115				
G17K	**Kiwalik Mounta**	63.65 336	P	P	01 40 12.3 +1.6
	baz=110				
F18K	**Selawik**	63.65 337	P	P	01 40 11.8 +1.2
	baz=111				
UNV	**Unalaska Valle**	63.69 322	P	P	01 40 12.5 +1.4
	baz=99				
D19K	**Kuna River**	63.83 339	P	P	01 40 12.7 +0.9
	baz=114				
A22K	**Sinclair Lake**	63.94 342	P	P	01 40 12.8 +0.4
	baz=118				
H16K	**Elim**	64.01 335	P	P	01 40 13.6 +0.6
	baz=108				
J14K	**Nanvaranak Lak**	64.03 333	P	P	01 40 14.0 +0.8
	baz=106				
B20K	**Meade River**	64.15 341	P	P	01 40 14.6 +0.7
	baz=115				
F17K	**Baldwin Pennin**	64.20 337	P	P	01 40 15.3 +1.1
	baz=110				
G16K	**Koyuk River**	64.29 335	P	P	01 40 15.7 +0.8
	baz=108				
E18K	**Tukpahlearik C**	64.30 338	P	P	01 40 15.6 +0.7
	baz=110				
K13K	**Kusilvak Mount**	64.32 331	P	P	01 40 16.6 +1.5
	baz=104				
E17K	**Hotham Inlet**	64.63 337	P	P	01 40 18.1 +1.0
	baz=109,SNR=5.0				
G15K	**Niukluk**	64.85 335	P	P	01 40 19.8 +1.2
	baz=106				
C18K	**Utukok River**	64.94 339	P	P	01 40 20.0 +0.8
	baz=110				
NIKH	**Nikolski High**	64.98 321	P	P	01 40 20.4 +0.8
	baz=96				
D17K	**Noatak River**	65.29 338	P	P	01 40 22.3 +1.0
	baz=108				
ANM	**Nome**	65.29 334	P	P	01 40 21.5 +0.1
	baz=105				
F15K	**North Star Dit**	65.30 336	P	P	01 40 22.1 +0.6
	baz=106,SNR=5.3				
RDOG	**Red Dog Mine**	65.34 338	P	P	01 40 22.4 +0.7
	baz=109				
B18K	**Kokolik River**	65.39 340	P	P	01 40 22.2 +0.2
	baz=110				
C17K	**DeLong Mountai**	65.57 339	P	P	01 40 24.2 +1.1
	baz=106				
P08K	**Saint George I**	65.80 325	P	P	01 40 25.9 +1.1
	baz=97				
F14K	**Arctic Creek**	65.91 335	P	P	01 40 25.9 +0.5
	baz=104				
SUMG	**Summit**	66.01 17	P	P	01 40 25.9 -0.5
SPIA	**Saint Paul Isl**	66.25 326	P	P	01 40 27.9 +0.1
	baz=97				
C16K	**Lisburne Hills**	66.27 338	P	P	01 40 28.4 +0.8
	baz=106				
TNA	**Tin City**	66.58 335	P	P	01 40 30.3 +0.7
	baz=103				
JMIC	**Jan Mayen**	75.00 20	LR	LR	02 17 10.6
	comp=Z,30nm,18.3s,baz=260,slow=38				
SPITS	**Spitsbergen Ar**	79.25 11	LR	LR	02 20 22.2
	comp=Z,79nm,18.9s,baz=255,slow=38				
EKA	**Eskdalemuir Ar**	80.18 35	P	P	01 41 50.1 0.0
	comp=Z,0.9nm,0.7s,baz=282,slow=3.9,SNR=4.3				
	comp=Z,0.9nm,0.7s				
ESDC	**Sonseca Array**	83.72 51	P	P	01 42 10.6 +1.4
	comp=Z,0.5nm,0.9s,baz=298,slow=6.1,SNR=2.0				
	comp=Z,0.5nm,0.9s				
NB2	**NORSAR Subarra**	85.42 27	P	P	01 42 18.5 +1.3
	comp=Z,2.8nm,0.9s,baz=299,slow=5.1				
NOA	**NORSAR Array B**	85.42 27	P	P	01 42 18.5 +1.3
	comp=Z,0.8nm,0.8s,baz=302,slow=5.0,SNR=5.8				
NOA			LR	LR	02 22 55.3
	comp=Z,10nm,18.7s,baz=275,slow=38				
	comp=Z,0.8nm,0.8s				
ARCES	**ARCESS Array B**	86.11 17	LR	LR	02 23 55.2
	comp=Z,39nm,18.7s,baz=302,slow=38				
HFS	**Hagfors**	86.92 28	LR	LR	02 23 20.7
	comp=Z,15nm,18.6s,baz=254,slow=37				
FINES	**FINESS Array B**	91.30 23	P	P	01 42 44.7 -0.5
	comp=Z,1.6nm,0.8s,baz=93,slow=6.5,SNR=5.9				
	comp=Z,1.6nm,0.8s				
WRA	**Warramunga Arr**	129.17 257	PKP	PKPdf	01 48 49.7 +0.7
	comp=Z,0.7nm,0.8s,baz=78,slow=1.5,SNR=2.9				
ASAR	**Alice Springs**	129.80 253	PKP	PKiKP	01 48 51.2 +0.4
	comp=Z,0.5nm,0.8s,baz=103,slow=2.9,SNR=3.1				
CMAR	**Chiang Mai Arr**	141.19 332	PKP	PKiKP	01 49 13.4 -0.7
	comp=Z,0.8nm,0.3s,baz=347,slow=3.7,SNR=1.6				

*NNC **21** 01:37:04.9±5.2,37°.12N×71°.07E,h0km,mb4.2,mpv3.8,*
Error ellipse: s-maj=39.0km s-min=34.1km az=179.0
*IDC **21** 01:37:12.3±24.0,35°.79N×72°.38E,h422km±144km,*
mb2.9/5,mbtmp3.6/6,Error ellipse: s-maj=382.6km
s-min=62.9km az=166.0

ISC 21 01:37:05.3±2.1,36°.9N±0°.2×71°.0E±0°.1,h200km,n14,
σ0°.79/17,mb3.4/4,2C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	5.60	21	P	Pn	01 38 28.7	+1.0
	SNR=23						
UCH	**Uchtor**	5.95	26	P	Pn	01 38 33.1	+0.9
	SNR=24						
EKS2	**Erkin-Say**	6.12	19	P	Pn	01 38 35.4	+1.3
	SNR=6.4						
KK31	**Karatay Array**	6.20	356	P	Pn	01 38 36.0	+1.0
	1.6nm,0.3s,baz=172,slow=12,SNR=13						
KK31				⇑S	Sn	01 39 45.4	-0.7
	6.1nm,0.4s,baz=179,slow=21						
AAK	**Ala-Archa**	6.31	24	⇑P	Pn	01 38 36.2	-0.3
	3.6nm,0.5s						
AAK				⇓S	Sn	01 39 48.9	0.0
	8.2nm,0.8s						
ULHL	**Ulahol**	6.67	35	P	Pn	01 38 41.5	+0.1
	SNR=9.5						
TKM2	**Tokmak 2**	6.95	29	P	Pn	01 38 45.8	+0.8
	SNR=20						
TKM2	**Tokmak 2**	6.95	29	⇓P	Pn	01 38 45.4	+0.5
	7.3nm,0.5s						
TKM2				⇓S	Sn	01 40 03.5	-0.5
	5.7nm,0.9s						
MKAR	**Makanchi Array**	12.94	37	P	P	01 40 05.7	+0.5
	0.2nm,0.5s,baz=210,slow=10,SNR=2.0						
ZALV	**Zalesovo Beam**	19.53	25	P	P	01 41 15.9	-1.4
	1.4nm,0.3s,baz=218,slow=9.8,SNR=6.1						
	1.4nm,0.3s						
FINES	**FINESS Array B**	37.16	326	P	P	01 43 56.7	+0.2
	1.5nm,1.0s,baz=115,slow=9.4,SNR=4.4						
	1.5nm,1.0s						
ARCES	**ARCESS Array B**	40.78	337	P	P	01 44 26.6	+0.1
	1.1nm,0.8s,baz=116,slow=8.1,SNR=5.1						
	1.1nm,0.8s						
HFS	**Hagfors**	42.76	322	P	P	01 44 42.1	-0.5
	0.6nm,0.5s,baz=99,slow=8.9,SNR=4.7						
	0.6nm,0.5s						
NOA	**NORSAR Array B**	44.07	323	P	P	01 44 52.8	-0.3
	0.4nm,0.8s,baz=90,slow=8.2,SNR=1.6						
	0.4nm,0.8s						

CATAC 21 01:40:32.7±1.2,13°.40N×87°.94W,h5km,ML2.0,
Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	0.10	153	*i* P	Pg	01 40 34.9	+0.1
LCND				*i* S	Sg	01 40 37.9	+1.6
LCND				IAML		01 40 39.2	
	comp=Z,170nm,1.0s						
CNCH	**Conchagua**	0.16	141	*i* P	Pg	01 40 35.9	0.0
CNCH				IAML		01 40 44.0	
	comp=Z,230nm,1.0s						
RANC	**El Ranchito**	0.34	276	*i* P	Pg	01 40 40.3	+0.9
RANC				IAML		01 40 42.4	
	comp=Z,650nm,1.0s						
PACA	**Pacayal**	0.38	280	*i* P	Pb	01 40 41.5	-0.6
PACA				*i* S	Sg	01 40 45.3	+0.1
PACA				IAML		01 41 25.8	
	comp=Z,820nm,1.0s						

SNET 21 01:41:08.6±0.6,13°.58N×88°.65W,h4km±1km,ML2.1,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	0.13	252	*i* P	Pg	01 41 12.1	+0.8
TECO				*e*S	Sg	01 41 14.3	+1.3
SCLA	**Alcaldia de Sa**	0.14	329	*i* P	Pg	01 41 12.8	+1.3
SCLA				*e*S	Sg	01 41 15.7	+2.2
SCLA				IAML		01 41 16.6	
	comp=Z,275nm,0.3s						
TECA	**Tecapa**	0.17	119	*e*P	Pg	01 41 13.5	+1.5
TECA				*e*S	Sg	01 41 16.5	+2.3
SNVI	**San Vicente**	0.18	281	*e*P	Pg	01 41 13.6	+1.3
COEG	**Centro de Oper**	0.23	281	*e*P	Pg	01 41 14.3	+1.3
COEG				*e*S	Sg	01 41 18.1	+2.1
COEG				IAML		01 41 19.5	
	comp=Z,957nm,0.2s						
INTP	**Intipuca**	0.69	123	*e*S	Sb	01 41 32.9	-0.3

*WEL **21** 02:07:09.5±0.7,34°.5±5°×17°.9W±1°.0,h0km,M4.6/21,*
mB5.1/10,ML5.0/22,MLv4.8/21,Mw(mB)4.4/10,Error
ellipse: s-maj=0.0km s-min=0.0km az=110.2,confirmed
*NEIC **21** 02:07:15.3±2.0,33°.85S±0°.08×179°.4W±0°.2,h35km±1km,*
mb4.5/16,Error ellipse: s-maj=24.3km s-min=12.2km
az=110.0
*IDC **21** 02:07:17.1±1.9,33°.81S×179°.80W,h53km±16km,mb4.0/6,*
mbtmp4.4/8,ML4.9/2,MS3.7/12,Error ellipse:
s-maj=23.7km s-min=10.7km az=106.0

ISC 21 02:07:16.7±0.5,33°.92S±0°.05×179°.32W±0°.09,h53km,
n103,σ1°.94/95,mb4.6/18,MS3.7/12,2C-6D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	4.12	207	Pn	Pn	02 08 15.1	-2.0
MXZ	**Matakaoa Point**	4.12	207	P	Pn	02 08 15.3	-1.7
MXZ				S	Sn	02 09 03.5	-0.4
MXZ				T	T	02 12 08.6	
WMGZ	**Waiomatatini S**	4.31	205	P	Pn	02 08 18.9	-0.8
WMGZ				S	Sn	02 09 10.0	+1.4
PKGZ	**Pakihiroa**	4.49	207	P	Pn	02 08 20.6	-1.7
PKGZ				S	Sn	02 09 10.5	-2.7
HAZ	**Te Kaha**	4.50	211	P	Pn	02 08 20.3	-1.9
HAZ				S	Sn	02 09 14.2	+1.0
WIZ	**White Island**	4.59	217	P	Pn	02 08 22.4	-1.1
WIZ				S	Sn	02 09 13.6	-1.8
WSRZ	**White Island S**	4.59	217	P	Pn	02 08 23.4	-0.1
WSRZ				S	Sn	02 09 08.9	-6.6
PUZ	**Puketiti**	4.59	205	P	Pn	02 08 21.5	-2.0
PUZ				S	Sn	02 09 14.2	-1.3
RUGZ	**Raukumara Rang**	4.72	210	P	Pn	02 08 23.8	-1.6
TWGZ	**Tauwhareparae**	4.78	206	P	Pn	02 08 24.3	-1.9
TWGZ				S	Sn	02 09 21.7	+1.4
GLKZ	**Green Lake**	4.79	15	P	Pn	02 08 20.6	-5.7
GLKZ				S	Sn	02 09 14.9	-5.6
RAO	**Raoul Island**	4.80	15	Pn	Pn	02 08 23.1	-3.4
RAO	**Raoul Island**	4.80	15	P	Pn	02 08 28.5	+2.0
	44nm,0.3s,baz=253,slow=19,SNR=2.3						
RAO				S	Sn	02 09 22.1	+1.3
	333nm,0.4s,baz=150,slow=20,SNR=5.1						
	105nm,0.3s						
GRZ	**Great Barrier**	4.88	240	P	Pn	02 08 27.4	0.0
KUZ	**Kuaotunu**	4.94	234	P	Pn	02 08 29.1	+0.8
WHRZ	**Whale Island**	4.95	216	P	Pn	02 08 27.8	-0.6
CNGZ	**Carnagh Statio**	4.98	203	P	Pn	02 08 27.3	-1.6
TKGZ	**Te Karaka**	5.06	206	P	Pn	02 08 27.5	-2.5
TKGZ				S	Sn	02 09 27.2	+0.1
MWZ	**Matawai**	5.09	209	P	Pn	02 08 27.3	-3.2
MWZ				S	Sn	02 09 27.5	-0.5
URZ	**Urewera**	5.21	213	P	Pn	02 08 29.8	-2.1
	50nm,0.3s,baz=2.3,slow=3.2,SNR=90						
URZ				S	Sn	02 09 27.8	-2.9
	68nm,0.3s,baz=49,slow=20,SNR=1.7						
	109nm,0.3s						
URZ	**Urewera**	5.21	213	P	Pn	02 08 29.9	-2.1
URZ				S	Sn	02 09 27.0	-3.7
WIAZ	**Waiheke Island**	5.37	236	P	Pn	02 08 35.1	+0.9
ABAZ	**Army Bay**	5.48	239	P	Pn	02 08 36.7	+0.9
MKAZ	**Moumakai**	5.51	233	P	Pn	02 08 37.4	+1.3
RTZ	**Ruatahuna**	5.56	211		Pn	02 08 34.6	-2.3
WCZ	**Waipu Caves**	5.58	247	P	Pn	02 08 37.2	+0.1
ETAZ	**East Tamaki Re**	5.59	236	P	Pn	02 08 39.2	+1.9
TOZ	**Tahuroa Road**	5.67	226	P	Pn	02 08 38.0	-0.4
RVAZ	**Riverhead Bore**	5.74	239	P	Pn	02 08 40.9	+1.6
AWAZ	**Awhitu Peninsu**	5.84	236	P	Pn	02 08 42.6	+1.9

OUZ	Omahuta	5.99	255	P	Pn	02 08 42.9	+0.2
TLZ	Tolley Road	6.06	222	P	Pn	02 08 43.5	-0.2
WAZ	Wanganui	7.40	216	P	Pn	02 08 58.6	-3.5
RPZ	Rata Peaks	12.32	215	P	Pn	02 10 00.5	-8.8
	7.6nm,0.4s,baz=49,slow=1.2,SNR=2.1						
RPZ				S	Sn	02 12 13.1	-12
	7.8nm,0.3s,baz=18,slow=20,SNR=1.8						
MSVF	Nonsavu	16.29	351	Pn	Pn	02 11 00.8	-1.2
MSVF				IAmb	IAmb	02 11 07.9	
	comp=Z,14nm,0.7s						
DZM	Mont Dzumac	17.22	310	eLR	LR	02 15 13.9	
	comp=Z,831nm,24.8s						
DZM	Mont Dzumac	17.22	310	LR	LR	02 16 33.7	
	comp=Z,606nm,19.0s,baz=118,slow=33						
RAR	Rarotonga	21.41	59	LR	LR	02 21 19.9	
	comp=Z,68nm,18.0s,baz=265,slow=39						
TBI	Tubuai	28.15	76	eLR	LR	02 20 14.1	
	comp=Z,1μm,28.8s						
TBI				eLR	LR	02 20 16.3	
	comp=Z,2μm,30.2s						
PPT2	Papeete2	31.18	66	eLR	LR	02 21 32.4	
	comp=Z,250nm,27.0s						
PPT2				eLR	LR	02 21 39.9	
	comp=Z,135nm,24.5s						
PPT	Papeete	31.20	66	LR	LR	02 24 52.2	
	comp=Z,70nm,18.6s,baz=205,slow=34						
STKA	Stephens Creek	32.75	263	P	P	02 13 44.5	0.0
STKA	Stephens Creek	32.75	263	LR	LR	02 25 53.2	
	comp=Z,199nm,18.7s,baz=46,slow=34						
CTA	Charters Tower	33.46	285	LR	LR	02 25 55.5	
	comp=Z,8.6nm,18.5s,baz=95,slow=34						
CTAO	Charters Tower	33.46	285	P	P	02 13 50.6	-0.2
CTAO				IAmb	IAmb	02 13 56.2	
	comp=Z,20nm,1.4s						
BBOO	Buckleboo	37.07	259	P	P	02 14 21.1	-0.7
PMG	Port Moresby	39.27	301	LR	LR	02 27 59.1	
	comp=Z,189nm,21.5s,baz=156,slow=32						
COEN	Coen	39.33	291	P	P	02 14 40.5	-0.4
COEN				IAmb	IAmb	02 14 55.9	
	comp=Z,11nm,1.0s						
AS31	Alice Springs	41.94	271	P	P	02 15 00.7	-1.7
ASAR	Alice Springs	41.94	271	P	P	02 15 02.0	-0.5
ASAR	Alice Springs	41.94	271	P	P	02 15 00.4	-2.1
	comp=Z,4.6nm,0.9s,baz=114,slow=7.4,SNR=22						
ASAR				PcP	PcP	02 16 55.9	-1.3
	comp=Z,0.6nm,0.6s,baz=115,slow=6.3,SNR=1.4						
ASAR				LR	LR	02 31 32.7	
	comp=Z,109nm,19.7s,baz=124,slow=35						
	comp=Z,4.6nm,0.9s						
WRA	Warramunga Arr	43.25	277	P	P	02 15 12.1	-1.0
WRA	Warramunga Arr	43.25	277	P	P	02 15 09.9	-3.2
	comp=Z,2.0nm,0.4s,baz=117,slow=7.6,SNR=46						
	comp=Z,2.0nm,0.4s						
WB0	Warramunga Arr	43.29	277	P	P	02 15 11.5	-1.9
WB0				IAmb	IAmb	02 15 36.2	
	comp=Z,12nm,1.3s						
FORT	Forrest	44.17	259	P	P	02 15 18.8	-1.6
SBA	Scott Base	44.46	184	P	P	02 15 24.5	+2.5
SBA				IAmb	IAmb	02 15 38.4	
	comp=Z,3.7nm,1.1s						
VNDA	Vanda	44.49	186	P	P	02 15 23.4	+1.1
VNDA	Vanda	44.49	186	P	P	02 15 24.6	+2.4
	comp=Z,0.6nm,0.7s,baz=15,slow=8.6,SNR=3.8						
	comp=Z,0.6nm,0.7s						
MTN	Manton Dam	49.55	283	P	P	02 16 01.6	-0.8
FITZ	Fitzroy Crossi	51.34	273	P	P	02 16 15.0	-1.0
QSPA	South Pole Qui	56.20	180	P	P	02 16 52.8	+1.8
QSPA				IAmb	IAmb	02 16 54.0	
	comp=Z,6.0nm,0.7s						
QSPA	South Pole Qui	56.20	180	P	P	02 16 53.4	+2.3
	comp=Z,5.1nm,0.6s,baz=31,slow=2.2,SNR=53						
	comp=Z,5.1nm,0.6s						
RPN	Rapa Nui	59.63	104	LR	LR	02 38 53.7	
	comp=Z,21nm,19.5s,baz=200,slow=32						
BELA	Belgrano 2	66.46	172	P	P	02 18 00.3	+0.3
BELA				IAmb	IAmb	02 18 21.9	
	comp=Z,5.7nm,1.1s						
MAW	Mawson	68.63	201	P	P	02 18 14.0	+0.3
	comp=Z,4.5nm,0.7s,baz=130,slow=8.0,SNR=8.3						
	comp=Z,4.5nm,0.7s						
TROLL	Troll, Antarti	74.36	181	⇓P	P	02 18 49.5	+1.1
	comp=Z,130nm,0.5s						
SNAA	Sanae	74.67	179	P	P	02 18 50.7	+0.6
SNAA				IAmb	IAmb	02 19 07.0	
	comp=Z,9.3nm,1.3s						
SNAA	Sanae	74.67	179	⇓P	P	02 18 51.0	+0.9
	comp=Z,66nm,0.7s						
SNAA	Sanae	74.67	179	P	P	02 18 50.7	+0.6
	comp=Z,2.0nm,0.6s,baz=162,slow=6.8,SNR=60						
	comp=Z,2.0nm,0.6s						
VNA3	Neumayer Olymp	74.88	177	⇓P	P	02 18 51.9	+0.7
	comp=Z,4.9nm,0.4s						
VNA2	Neumayer--Watz	75.29	177	⇓P	P	02 18 54.8	+1.1
	comp=Z,6.2nm,0.6s,baz=187,slow=5.3						
VNA1	Neumayer--Stat	75.53	177	⇓P	P	02 18 56.2	+1.3
	comp=Z,3.6nm,0.6s						
H03S2	Juan Fernandez	79.45	124	T	T	03 47 34.9	
	baz=234,slow=74,SNR=9.2						
H03S1	Juan Fernandez	79.47	124	T	T	03 47 36.1	
	baz=234,slow=74,SNR=9.9						
H03S3	Juan Fernandez	79.47	124	T	T	03 47 31.6	
	baz=234,slow=74,SNR=12						
H03N3	Juan Fernandez	79.67	123	T	T	03 47 45.0	
	baz=239,slow=72,SNR=70						
H03N2	Juan Fernandez	79.67	123	T	T	03 47 42.1	
	baz=239,slow=72,SNR=43						
H03N1	Juan Fernandez	79.68	123	T	T	03 47 42.2	
	baz=239,slow=72,SNR=75						
ASAJ	Asahikawa	85.06	334	LR	LR	02 50 51.0	
	comp=Z,46nm,21.6s,baz=168,slow=31						
NJ2	Nanjing	87.71	311	eP	P	02 20 00.8	+1.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NNA	Nana	93.50	107	LR	LR	02 53 41.4	
	comp=Z,41nm,20.2s,baz=216,slow=30						
KLR	Kul'dur	93.52	330	LR	LR	02 57 13.1	
	comp=Z,26nm,20.1s,baz=172,slow=32						
CMAR	Chiang Mai Arr	93.52	290	LR	LR	03 05 55.2	
	comp=Z,24nm,18.2s,baz=205,slow=38						
PZH	PanZhiHua	95.95	298	P	P	02 20 40.9	+2.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
HHC	Hu-ho-hao-te	97.88	314	eP	Pdif	02 20 48.5	+1.9
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,68nm,5.0s						
CPUP	Villa Florida	98.64	130	LR	LR	02 57 29.0	
	comp=Z,45nm,21.5s,baz=213,slow=30						
LZH	Lanzhou	99.92	307	eP	Pdif	02 20 57.9	+2.0
LZH				pP	pP	02 21 08.8	-1.5
LZH				pmax	pmax		
	comp=Z,16nm,1.5s						
KURBB	Kurchatov Arra	122.66	312	PKP	PKPdf	02 26 04.6	-1.3
	comp=Z,1.0nm,0.2s,baz=106,slow=2.1,SNR=5.7						
BVAR	Borovoye Array	128.09	314	PKP	PKPdf	02 26 15.2	-1.1
	comp=Z,1.0nm,0.6s,baz=77,slow=3.1,SNR=6.2						
ARCES	ARCESS Array B	141.76	346	PKhKP	PKPpre	02 26 36.4	
	comp=Z,0.4nm,0.4s,baz=14,slow=2.3,SNR=6.2						
KBZ	Khabaz	146.00	299	PKPbc	PKPdf	02 26 48.3	-1.1
	comp=Z,1.0nm,0.4s,baz=55,slow=2.8,SNR=5.6						
FINES	FINESS Array B	148.00	337	PKPbc	PKPdf	02 26 54.0	+1.8
	comp=Z,5.3nm,0.5s,baz=46,slow=3.5,SNR=66						
MMAI	Mount Meron Ar	151.10	278	PKPbc	PKPbc	02 27 03.5	-0.5
	comp=Z,1.1nm,0.3s,baz=102,slow=5.8,SNR=5.9						
LIC	Lamto	151.94	168	⇓iPKP1	PKiKP	02 27 10.6	+3.8
	comp=Z,17nm,0.5s						
NB2	NORSAR Subarra	152.02	349	PKP	PKPbc	02 27 04.3	-0.9
	comp=Z,1.8nm,0.5s,baz=16,slow=2.5						
NOA	NORSAR Array B	152.02	349	PKPbc	PKPbc	02 27 05.1	-0.1
	comp=Z,2.0nm,0.6s,baz=15,slow=4.4,SNR=27						
KIC	Kosan Boka	152.12	168	⇑iPKP1	PKiKP	02 27 11.3	+4.1
	comp=Z,3.7nm,0.5s						
TIC	Toumodi	152.35	168	⇑iPKP1	PKiKP	02 27 10.5	+2.9
	comp=Z,5.9nm,0.3s						
HFS	Hagfors	152.42	346	PKPbc	PKPbc	02 27 05.3	-0.8
	comp=Z,2.8nm,0.5s,baz=85,slow=3.2,SNR=23						
BRTR	Keskin Array B	153.09	292	PKPbc	PKPbc	02 27 06.1	-2.3
	comp=Z,0.4nm,0.4s,baz=104,slow=3.7,SNR=5.1						
BRTR				PKPab	PKPab	02 27 19.8	-0.4
	comp=Z,1.7nm,0.5s,baz=126,slow=3.0,SNR=11						
AKASG	Malin Array Be	153.28	317	PKPbc	PKPbc	02 27 07.0	-1.2
	comp=Z,0.4nm,0.3s,baz=67,slow=2.3,SNR=4.3						
AKASG				PKPab	PKPab	02 27 19.6	-0.8
	comp=Z,2.4nm,0.7s,baz=68,slow=2.1,SNR=6.6						
TORD	Torodi Ar. Bea	159.30	183	PKPab	PKPab	02 27 47.7	+0.7
	comp=Z,1.6nm,0.8s,baz=183,slow=3.1,SNR=7.9						
CLL	Collm	160.45	336	ePKPab	PKPab	02 27 50.0	-1.1

*IDC **21** 02:35:48.1±1.6, 3°.09S×129°.41E, h0km, mb3.5/3, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=55.0km s-min=25.4km az=71.0*
*DJA **21** 02:35:52.6±0.3, 3°S±3°×12°9E±°, h10km, M4.5/10, mb4.9/6, mB5.5/1, MLv4.3/10, Mw(mB)5.0/1*
ISC 21 02:35:51.3±0.8, 3°.43S±0°.08×128°.61E±0°.05, h10km, n13, σ1°.55/15, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	1.52	277	P	Pg	02 36 20.5	0.0
NLAI				S	Sg	02 36 40.7	+0.4
BNDI	Bandanaira	1.69	130	P	Pb	02 36 22.4	-0.1
SANI	Sanana	2.96	298	P	Pn	02 36 39.7	+1.3
SANI				S	Sn	02 37 15.6	+1.6
FAKI	Fak Fak	3.67	82	P	Pn	02 36 50.0	+1.8
SWI	Sorong	3.68	46	P	Pn	02 36 49.0	+0.7
SWI				S	Sn	02 37 32.8	+1.0
KMPI	Kaimana, Papua	5.09	93	P	Pn	02 37 09.5	+1.8
	254nm,0.9s						
SAUI	Saumlaki	5.25	149	P	Pn	02 37 11.8	+1.8
KMSI	Cibinong	6.10	311	P	Pn	02 37 22.6	+0.9
	125nm,0.5s						
KAPI	Kappang	8.97	260	Pn	Pn	02 38 09.9	+8.8
	1.2nm,0.3s,baz=79,slow=10,SNR=2.6						
	4.0nm,0.3s						
WRA	Warramunga Arr	17.34	162	P	Pn	02 39 51.7	-1.9
	0.2nm,0.3s,baz=349,slow=13,SNR=6.2						
	1.8nm,0.8s						
ASAR	Alice Springs	20.76	166	P	P	02 40 33.0	+0.4
	2.2nm,0.7s,baz=345,slow=9.9,SNR=26						
	2.2nm,0.7s						
SONM	Songino Array	54.64	342	P	P	02 45 17.6	-2.9
	0.4nm,0.4s,baz=170,slow=8.8,SNR=2.2						
	0.4nm,0.4s						
MKAR	Makanchi Array	64.50	327	P	P	02 46 28.5	+0.1
	0.2nm,0.5s,baz=118,slow=7.7,SNR=2.4						
	0.2nm,0.5s						

IDC 21 02:47:51.9±7.0, 14°.97S×178°.55W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=310.8km s-min=34.8km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.10	257	P	P	02 56 09.8	-0.5
	0.2nm,0.3s,baz=92,slow=8.0,SNR=9.9						
	0.2nm,0.3s						
ASAR	Alice Springs	45.53	251	P	P	02 56 14.0	+0.3
	3.4nm,0.3s,baz=85,slow=8.7,SNR=64						
	3.4nm,0.3s						
ILAR	Eielson Array	83.07	13	P	P	03 00 18.9	-0.1
	0.2nm,0.5s,baz=222,slow=5.3,SNR=6.5						
	0.2nm,0.5s						

*IDC **21** 02:59:20.0±1.7, 6°.36S×129°.59E, h0km, mb3.1/2, mbtmp3.6/4, ML4.1/2, Error ellipse: s-maj=77.0km s-min=27.2km az=59.0*
*NEIC **21** 02:59:33.2±1.8, 6°.41S±0°.08×130°.18E±0°.10, h127km±10km, mb4.3/8, Error ellipse: s-maj=16.6km s-min=6.7km az=51.0*
ISC 21 02:59:35.5±0.8, 6°.69S±0°.08×130°.12E±0°.09, h146km, n37, σ2°.19/36, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.74	138	P	Pn	03 00 06.5	-0.9
SAUI	Saumlaki	1.74	138		Pn	03 00 05.8	-1.6
SAUI				Sn	Sn	03 00 29.3	-2.5
FAKI	Fak Fak	4.30	30	Pn	Pn	03 00 32.2	-7.5
DRS	Darwin Rock St	5.76	172	P	Pn	03 01 00.3	+1.4
MTN	Manton Dam	6.20	171	P	Pn	03 01 04.3	-0.6
MTN	Manton Dam	6.20	171	Pn	Pn	03 01 04.2	-0.6
KDU	Kakadu	6.40	159	P	Pn	03 01 06.3	-1.2
SOEI	Soe	6.54	242	Pn	Pn	03 01 10.0	+0.5
TNTI	Ternate	7.90	340	P	Pn	03 01 28.0	+0.3
	32nm,0.6s						
TNTI	Ternate	7.90	340	Pn	Pn	03 01 22.9	-4.8
KNRA	Kununurra	9.03	188	Pn	Pn	03 01 41.3	-1.4
LUWI	Luwuk	9.23	307	Pn	Pn	03 01 41.3	-4.0
FITZ	Fitzroy Crossi	12.15	201	Pn	Pn	03 02 21.3	-2.6
WB0	Warramunga Arr	13.65	163	Pn	Pn	03 02 40.9	-2.2
WRA	Warramunga Arr	13.80	163	Pn	Pn	03 02 40.6	-4.5
WRA	Warramunga Arr	13.80	163	Pn	Pn	03 02 42.8	-2.2
	0.8nm,0.3s,baz=340,slow=13,SNR=49						
WRA				Sn	Sn	03 05 08.1	-10
	2.3nm,0.3s,baz=343,slow=23,SNR=18						
	1.2nm,0.3s						
COEN	Coen	14.73	120	P	P	03 02 59.0	-0.1
COEN	Coen	14.73	120		Pn	03 02 57.0	+0.2
QIS	Mount Isa	16.57	147	P	Pn	03 03 21.1	+1.6
AS31	Alice Springs	17.27	168		Pn	03 03 28.6	+0.8
AS31				IAmb	IAmb	03 03 32.2	
	comp=Z,3.8nm,0.3s						
ASAR	Alice Springs	17.27	168		Pn	03 03 28.7	+0.8
ASAR	Alice Springs	17.27	168	P	Pn	03 03 29.1	+1.3
	comp=Z,0.8nm,0.3s,baz=342,slow=10,SNR=32						
ASAR				S	S	03 06 34.8	-5.0
	comp=Z,2.9nm,0.7s,baz=347,slow=25,SNR=9.3						
	comp=Z,3.8nm,0.8s						
PSA00	Pilbara Seismi	17.82	213		Pn	03 03 34.8	+0.4
PSA00				IAmb	IAmb	03 03 36.6	
	comp=Z,19nm,1.4s						
WRKA	Warakurna	18.33	185	P	Pn	03 03 41.9	+1.4
CTA	Charters Tower	20.56	132	P	Pn	03 04 06.6	-0.1
	comp=Z,0.3nm,0.8s,baz=298,slow=11,SNR=4.0						
	comp=Z,0.3nm,0.8s						
CTAO	Charters Tower	20.56	132	P	P	03 04 02.9	+0.1
CTAO				IAmb	IAmb	03 04 15.7	
	comp=Z,17nm,1.5s						
OOD	Oodnadatta	21.65	167	P	P	03 04 18.0	+3.6
MULG	Mulgathing	23.76	172	P	P	03 04 38.6	+4.0
FORT	Forrest	24.04	184	P	P	03 04 40.7	+3.6
FORT	Forrest	24.04	184	P	P	03 04 38.0	+0.8
FORT				IAmb	IAmb	03 04 41.4	
	comp=Z,24nm,0.9s						
BBOO	Buckleboo	26.57	169	P	P	03 05 01.9	+1.9
STKA	Stephens Creek	27.26	158	P	P	03 05 06.4	+0.3
NWAO	Narrogin (SRO)	28.73	203	P	P	03 05 19.0	-0.2
MKAR	Makanchi Array	68.03	327	P	P	03 10 18.2	-1.0
MKAR	Makanchi Array	68.03	327	P	P	03 10 17.8	-1.3
	comp=Z,0.3nm,0.4s,baz=125,slow=6.7,SNR=4.7						
	comp=Z,0.3nm,0.4s						
VNDA	Vanda	72.74	173	P	P	03 10 49.2	+2.0
QSPA	South Pole Qui	83.28	180	P	P	03 11 47.4	+1.7

*NEIC **21** 03:12:24.7±0.7, 19°.43N±0°.01×155°.292W±0°.009, h4km±3km, Error ellipse: s-maj=1.7km s-min=1.1km az=176.0*
*HVO **21** 03:12:24.3±0.8, 19°.417N±0°.010×155°.277W±0°.007, h1km±4km, ML3.5/46, ML3.3/34(NEIC), Error ellipse: s-maj=1.5km s-min=0.8km az=160.0*
*IDC **21** 03:12:25.4±2.4, 19°.61N×155°.27W, h0km, mb3.5/3, mbtmp3.5/3, MS3.4/6, Error ellipse: s-maj=75.1km s-min=16.7km az=168.0*
ISC 21 03:12:24.5±1.0, 19°.44N±0°.03×155°.28W±0°.03, h3km±5km, n41, σ0°.55/35, mb3.6/3, MS3.3/6, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLHI	Steaming Bluff	0.01	147		Pg	03 12 25.8	+0.5
UWB	Uwekahuna B	0.01	190		Pg	03 12 25.6	+0.3
HATHI	Halema'uma'u T	0.02	137		Pg	03 12 25.3	0.0
OBL	Observatory Le	0.02	202		Pg	03 12 25.5	+0.2
UWE	Uwekahuna	0.02	225		Pg	03 12 25.2	-0.2
RSD	Rainshed	0.03	354		Pg	03 12 26.0	+0.6
RSD				IAML		03 12 26.8	
	comp=N,36μm,0.6s						
BYL	Byron's Ledge	0.03	151		Pg	03 12 25.3	-0.1
WRMHI	West Rim	0.04	217		Pg	03 12 26.3	+0.8
KKO	Keanakako`i	0.04	167		Pg	03 12 25.4	-0.1
KKO					Sg	03 12 26.2	0.0
RIM	Rim	0.04	178		Pg	03 12 26.0	+0.5
SDHHI	Sand Hill	0.05	200		Pg	03 12 25.7	0.0
SDHHI					Sg	03 12 26.6	0.0
PUH	Pauahi	0.09	139		Pg	03 12 26.6	+0.4
PUH				IAML		03 12 27.9	
	comp=N,14μm,0.4s						
PUH				IAML		03 12 28.0	
	comp=E,28μm,0.8s						
KNHH	Kane Nui o Ham	0.12	120		Pg	03 12 27.4	+0.5
MLH	Mauna Loa	0.12	298		Pg	03 12 28.0	+1.0
MLH				IAML		03 12 30.6	
	comp=N,14μm,0.8s						
MLH				IAML		03 12 31.1	
	comp=E,21μm,0.7s						
HLP	Hilina Pali	0.14	192		Pg	03 12 27.6	+0.3
HLP				IAML		03 12 30.5	
	comp=N,10μm,0.5s						
HLP				IAML		03 12 30.6	
	comp=E,13μm,1.0s						
STCH	Steam Cracks	0.15	110		Pg	03 12 27.7	+0.2
STCH				IAML		03 12 31.3	
	comp=N,14μm,0.7s						
STCH				IAML		03 12 31.8	
	comp=E,11μm,0.5s						
HTC	Hot Caves	0.23	210		Pg	03 12 29.2	+0.2
HMH	Humu'ula Sheep	0.26	310		Pg	03 12 30.4	+0.8
HMH				IAML		03 12 37.3	
	comp=N,8μm,0.5s						
HMH				IAML		03 12 38.4	
	comp=E,5μm,0.5s						
JOKA	Jonika Flow	0.26	91		Pg	03 12 29.6	+0.1
JOKA				IAML		03 12 37.6	
	comp=E,4μm,0.8s						
MLOA	Mauna Loa Obse	0.30	289	Pg	Pg	03 12 30.9	+0.5
MLOA				IAML		03 12 38.9	
	comp=N,7μm,0.7s						
MWH	Moku'aweowe	0.31	279		Pg	03 12 30.9	+0.4
PAH	Pahoa	0.32	80	Pg	Pg	03 12 31.0	+0.4
KHU	Kahuku	0.37	239	Pg	Pg	03 12 31.6	-0.2
POHA	Pohakuloa	0.40	323	Pg	Pg	03 12 32.6	+0.3
HPO	Honuapo	0.44	217		Pg	03 12 33.0	+0.1
HUH	Hualalai	0.58	295		Pg	03 12 36.0	+0.2
HUH				Sg	Sg	03 12 42.2	-1.2
I59US	HAWAII INFRASO	0.60	285	Pg	Pg	03 12 36.8	+0.6
	baz=119,slow=45						
HPAH	Hawaii Prepara	0.71	326	Pg	Pg	03 12 37.1	-1.1
HPAH				Sg	Sg	03 12 46.4	-1.0
YBH	Yreka Blue Hor	35.45	44	LR	LR	03 29 18.7	
	comp=N,47nm,21.7s,baz=245,slow=29						
H11N3	WAKE ISLAND Hy	35.58	277	T	T	03 56 28.9	
	baz=82,SNR=5.6						
H11N2	WAKE ISLAND Hy	35.59	277	T	T	03 56 38.6	
	baz=82						
H11N1	WAKE ISLAND Hy	35.60	277	T	T	03 56 31.1	
	baz=82						
PFO	Pinyon Flats O	37.26	60	LR	LR	03 30 27.9	
	comp=N,50nm,19.5s,baz=245,slow=29						
H02S1	DAWSON INLET T	38.04	22	T	T	03 59 49.2	
	SNR=7.9						
NEW	Newport	42.10	38	LR	LR	03 33 42.6	
	comp=N,40nm,20.4s,baz=209,slow=30						
PDAR	Pinedale Array	44.85	48	P	P	03 20 39.9	-0.5
	comp=N,0.3nm,0.8s,baz=224,slow=5.0,SNR=2.1						
	comp=N,0.3nm,0.8s						
ILAR	Eielson Array	45.65	5	P	P	03 20 46.1	-0.1
	comp=N,0.6nm,0.8s,baz=198,slow=6.9,SNR=6.6						
	comp=N,0.6nm,0.8s						
TXAR	Lajitas Array	47.70	68	P	P	03 21 03.8	+0.9
	comp=N,1.0nm,0.8s,baz=250,slow=8.3,SNR=11						
	comp=N,1.0nm,0.8s						
INK	Inuvik	50.73	10	LR	LR	03 40 18.8	
	comp=N,36nm,20.5s,baz=177,slow=33						
YKA	Yellowknife Ar	51.30	23	LR	LR	03 39 47.9	
	comp=N,34nm,22.0s,baz=356,slow=32						
PMG	Port Moresby	63.53	248	LR	LR	03 48 29.2	
	comp=N,36nm,18.0s,baz=128,slow=34						

*BER **21** 03:20:24.5±3.2, 76°.29N×1°.88W, h10km, mb(Pn)3.6, ML1.8(DNK), Confirmed Earthquake*
*DNK **21** 03:20:30.7±3.0, 77°.08N×34°.20W, h0km±56km, ML1.8*
ISC 21 03:20:20.6±1.5, 76°.26N±0°.08×1°.77W±0°.07, h10km, n10, σ3°.38/17, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	3.98	41	eP	Pn	03 21 23.0	+1.5
KBS				eS	Sn	03 22 05.4	-2.7
KBS				IAML		03 22 08.0	
	comp=Z,2.8nm,0.5s						
KBS	Kingsbay	3.98	41	iP	Pn	03 21 22.7	+1.2
KBS				iS	Sn	03 21 51.1	-17
DAG	Danmarks Havn	3.98	286	iP	Pn	03 21 23.9	+2.3
DAG				iS	Sn	03 22 06.8	-1.3
DAG				IAML		03 22 09.5	
	comp=Z,12nm,0.3s						
DAG	Danmarks Havn	3.98	286	iP	Pn	03 21 23.9	+2.3
DAG				iS	Sn	03 22 06.8	-1.3
DAG				IAML		03 22 09.5	
	comp=Z,12nm,0.3s						
DBG	Daneborg	5.08	256	iP	Pn	03 21 38.7	+2.1
DBG				iS	Sn	03 22 29.8	-5.5
DBG	Daneborg	5.08	256	iP	Pn	03 21 38.7	+2.1
DBG				iS	Sn	03 22 29.8	-5.5
JMIC	Jan Mayen	5.63	203	eP	Pn	03 21 46.9	+2.7
JMI	Jan Mayen	5.71	204	eP	Pn	03 21 47.9	+2.7
NOR	Nord	6.05	339	iP	Pn	03 21 53.4	+3.5
NOR				iS	Sn	03 22 55.6	-3.5
NOR				IAML		03 23 02.3	
	comp=Z,2.2nm,0.6s						
NOR	Nord	6.05	339	iP	Pn	03 21 53.4	+3.5
NOR				iS	Sn	03 22 55.6	-3.5
NOR				IAML		03 23 02.3	
	comp=Z,2.2nm,0.6s						

*SKHL **21** 04:07:08.8±0.3, 43°.20N×146°.00E, h44km±5km, mb4.0/2*
JMA 21 04:07:07.1±0.3, 43°.7N±0°.8×14°6E±°, h108km±2km, MV2.4/23, NEAR KUNASHIRI ISLAND, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.37	64	eP	Pn	04 07 25.5	+2.6

σ0°91/14, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.46	147	P	Pn	04 11 33.0	+0.8
SNSI				S	Sn	04 11 38.8	-0.3
MLSI	Meulaboh, Aceh	1.50	12	P	Pn	04 11 46.5	-0.1
MLSI				S	Sn	04 12 06.9	+2.0
KCSI	Kotacane, Aceh	1.84	67	P	Pn	04 11 51.4	+0.2
KCSI				S	Sn	04 12 13.4	+0.1
GSI	Gunungsitoli	2.10	135	P	Pn	04 11 54.7	-0.2
GSI				S	Sn	04 12 20.7	+0.9
PBSI	Pulau Batu	3.58	142	P	Pn	04 12 15.7	+0.5
CMAR	Chiang Mai Arr	15.82	10	Pn	Pn	04 14 54.8	-7.5
	0.6nm,0.3s,baz=199,slow=14,SNR=2.1						
CMAR				LR	LR	04 20 32.7	
	comp=Z,92nm,18.1s,baz=230,slow=37 1.2nm,0.3s						
H08S2	Diego Garcia H	25.72	246	T	T	04 43 26.4	
	baz=67,slow=76,SNR=52						
H08S3	Diego Garcia H	25.72	246	T	T	04 43 18.0	
	baz=67,slow=76,SNR=35						
H08S1	Diego Carcia H	25.73	246	T	T	04 43 31.6	
	baz=67,slow=76,SNR=36						
H01W3	Cape Leeuwin H	41.14	157	T	T	05 02 37.7	
	baz=334,slow=76						
H01W2	Cape Leeuwin H	41.15	157	T	T	05 02 30.2	
	baz=334,slow=76						
H01W1	Cape Leeuwin H	41.15	157	T	T	05 02 29.6	
	baz=334,slow=76,SNR=12						
WRA	Warramunga Arr	43.83	123	P	P	04 19 35.7	+11
	1.0nm,0.6s,baz=300,slow=9.2,SNR=5.5 1.0nm,0.6s						
ASAR	Alice Springs	45.25	128	P	P	04 19 47.2	+11
	0.5nm,0.6s,baz=300,slow=7.9,SNR=5.3 0.5nm,0.6s						
MKAR	Makanchi Array	45.44	347	P	P	04 19 37.4	-0.3
	3.4nm,0.9s,baz=165,slow=8.5,SNR=21 3.4nm,0.9s						
SONM	Songino Array	45.74	10	P	P	04 19 38.8	-1.4
	1.6nm,0.8s,baz=181,slow=9.3,SNR=6.9 1.6nm,0.8s						
KURBB	Kurchatov Arra	49.91	345	P	P	04 20 12.3	0.0
	0.7nm,0.6s,baz=164,slow=7.2,SNR=8.3 0.7nm,0.6s						
ZALV	Zalesovo Beam	51.82	352	P	P	04 20 25.7	-0.9
	0.6nm,0.3s,baz=170,slow=8.8,SNR=3.5 0.6nm,0.3s						
BVAR	Borovoye Array	54.39	341	P	P	04 20 46.1	+0.7
	0.5nm,0.5s,baz=144,slow=12,SNR=1.9 0.5nm,0.5s						
H04N2	CROZET ISLANDS	62.47	213	T	T	05 29 25.0	
	baz=52,slow=75,SNR=236						
H04N1	CROZET ISLANDS	62.48	213	T	T	05 29 25.6	
	baz=52,slow=75,SNR=251						
H04N3	CROZET ISLANDS	62.49	213	T	T	05 29 24.2	
	baz=52,slow=75,SNR=258						
H04S1	CROZET ISLANDS	62.83	213	T	T	05 29 43.6	
	baz=51,slow=75,SNR=28						
H04S3	CROZET ISLANDS	62.84	213	T	T	05 29 49.4	
	baz=51,slow=75,SNR=45						
H04S2	CROZET ISLANDS	62.85	213	T	T	05 29 51.2	
	baz=51,slow=75,SNR=46						

*IDC **21** 04:12:18.1±3.1, 4°.32S×153°.38E, h84km±24km, mb3.7/10, mbtmp4.0/10, Error ellipse: s-maj=39.3km s-min=18.6km az=97.0*

ISC 21 04:12:18.0±0.9, 4°.3S±0°.1×153°.4E±0°.3, h85km, n12, σ0°62/16, mb4.0/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	17.14	203	P	Pn	04 16 11.8	-0.5
	0.2nm,1.0s,baz=12,slow=15,SNR=2.1						
WRA	Warramunga Arr	24.20	229	P	P	04 17 26.8	0.0
	4.9nm,0.6s,baz=52,slow=10.0,SNR=59						
WRA				PcP	PcP	04 21 06.0	+0.4
	0.7nm,0.8s,baz=49,slow=2.8,SNR=3.3						
WRA				ScP	ScP	04 24 36.3	-0.5
	0.4nm,0.7s,baz=52,slow=3.9,SNR=2.7 4.9nm,0.6s						
ASAR	Alice Springs	26.89	223	P	P	04 17 50.8	-0.5
	0.2nm,0.3s,baz=55,slow=8.7,SNR=4.3						
ASAR				PcP	PcP	04 21 12.2	+0.5
	0.4nm,0.7s,baz=32,slow=3.8,SNR=1.5						
ASAR				ScP	ScP	04 24 43.6	-0.9
	0.3nm,0.7s,baz=71,slow=2.4,SNR=4.6 0.2nm,0.3s						
STKA	Stephens Creek	29.56	201	P	P	04 18 15.3	+0.4
	0.9nm,0.2s,baz=6.1,slow=19,SNR=2.2 0.9nm,0.2s						
VNDA	Vanda	73.28	178	P	P	04 23 40.8	+1.1
	1.6nm,0.8s,baz=325,slow=4.3,SNR=10 1.6nm,0.8s						
MKAR	Makanchi Array	80.36	319	P	P	04 24 20.7	+0.6
	0.2nm,0.4s,baz=92,slow=7.3,SNR=4.4 0.2nm,0.4s						
ILAR	Eielson Array	81.50	22	P	P	04 24 25.4	-0.4
	0.3nm,0.6s,baz=238,slow=5.2,SNR=5.4 0.3nm,0.6s						
KURBB	Kurchatov Arra	83.79	322	P	P	04 24 38.1	+0.2
	0.2nm,0.3s,baz=125,slow=8.0,SNR=1.8 0.2nm,0.3s						
QSPA	South Pole Qui	85.63	180	P	P	04 24 46.2	-0.9
	1.3nm,0.6s,baz=271,slow=0.6,SNR=9.2 1.3nm,0.6s						
NRIK	Noril'sk	85.71	341	P	P	04 24 47.1	0.0
	1.6nm,0.4s,baz=270,slow=4.0,SNR=3.6 1.6nm,0.4s						
BVAR	Borovoye Array	89.21	323	P	P	04 25 04.1	-0.3
	2.1nm,0.7s,baz=95,slow=7.7,SNR=7.6 2.1nm,0.7s						
TORD	Torodi Ar. Bea	150.71	289	PKPbc	PKPbc	04 32 01.8	+0.3
	2.0nm,0.7s,baz=46,slow=1.1,SNR=18						

*IDC **21** 04:19:15.4±0.5, 51°.91N×159°.09E, h0km, mb4.5/32, mbtmp4.5/36, ML4.5/3, MS3.8/57, Error ellipse: s-maj=12.8km s-min=10.6km az=141.0*

*BJI **21** 04:19:15.6±0.0, 51°.96N×159°.51E, h25km, mb4.5/43, mB4.9/20, Ms4.6/26, Ms7 4.3/26*

*KRSC **21** 04:19:16.7±1.8, 51°.73N×159°.40E, h36km±21km, Mc4.8, Ml5.4, Felt [II-III] at MGeoES-1, Viluchinsk, Petropavlovsk*

*MOS **21** 04:19:19.5±1.2, 51°.78N×159°.12E, h43km, mb5.1/41, Error ellipse: s-maj=7.7km s-min=2.9km az=90.7*

*NEIC **21** 04:19:20.2±1.4, 51°.86N±0°.04×159°.23E±0°.10, h30km±5km, mb4.9/412, Error ellipse: s-maj=10.6km s-min=2.8km az=54.0*

*GCMT **21** 04:19:21.2±0.4, 51°.79N±0°.02×159°.96E±0°.06, h20km±1km, MW4.8/89, Moment Tensor Solution. s15,c16; s89,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.18±.20; $M_{\theta\theta}$-2.03±.13; $M_{\phi\phi}$-0.15±.10; $M_{r\theta}$0.72±.20; $M_{\phi\theta}$0.30±.06; $M_{\phi r}$0.92±.23; Best double couple: $M_0$2.39400×10^{16} NP1:ϕ_s78.00000°, δ56.00000°, λ66.00000°. NP2: ϕ_s296.00000°, δ40.00000°, λ121.00000°. Principal axes: T 2.6260, Plg69.0000°, Azm297.0000°; N -0.4670, Plg20.0000°, Azm92.0000°; P -2.1620, Plg8.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 04:19:20.0±0.4, 51°.81N±0°.04×159°.35E±0°.03, h34km±1km, h35km:pP-P,n1045, σ1°42/903, mb4.8/296, MS3.9/74, 34C-40D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	0.79	270	eP	Pn	04 19 32.5	-2.3
KDTR				eS	Sn	04 19 42.5	-2.9
KDTR	Khodutka, Kamc	0.79	270	PN	Pn	04 19 32.5	-2.3
KDTR				S	Sn	04 19 42.5	-2.9
MTVR	Mutnovka	0.98	313	eP	Pn	04 19 36.3	-1.3
MTVR	Mutnovka	0.98	313	PN	Pn	04 19 36.3	-1.3
ASAK	Asacha	1.06	303	eP	Pn	04 19 37.7	-0.9
ASAK	Asacha	1.06	303	PN	Pn	04 19 37.7	-0.9
GRL	Gorelyy	1.08	314	eP	Pn	04 19 38.2	-0.7
GRL	Gorelyy	1.08	314	PN	Pn	04 19 38.2	-0.7
KRMR	Karymshinskiy	1.27	324	eP	Pn	04 19 40.6	-0.7
KRMR				eS	Sn	04 19 57.5	+0.4
KRMR	Karymshinskiy	1.27	324	PN	Pn	04 19 40.6	-0.7
KRMR				S	Sn	04 19 57.5	+0.4
DALK	Dalny	1.27	343	eP	Pn	04 19 40.4	-1.0
DALK	Dalny	1.27	343	PN	Pn	04 19 40.4	-1.0
PET	Petropavlovsk	1.29	341	Pn	Pn	04 19 40.4	-1.1
PET				Sn	Sn	04 19 56.9	-0.7
PET	Petropavlovsk	1.29	341	eP	Pn	04 19 40.6	-0.9
PET	Petropavlovsk	1.29	341	ιPN	Pn	04 19 40.5	-1.1
PET				eS	Sn	04 19 57.5	-0.1
PET				pmax	pmax		
	comp=Z,5μm,0.6s						
PET				smax	smax		
	comp=E,37μm,0.8s						
PET				smax	smax		
	comp=N,33μm,0.7s						
PET				smax	smax		
	comp=N,41μm,0.6s						
PET	Petropavlovsk	1.29	341	P	Pn	04 19 40.5	-1.1
INSR	Institute	1.34	340	eP	Pn	04 19 41.4	-0.8
INSR	Institute	1.34	340	PN	Pn	04 19 41.4	-0.8
SPN	Mys Shipunski	1.35	17	eP	Pn	04 19 42.0	-0.5
SPN	Mys Shipunski	1.35	17	PN	Pn	04 19 42.0	-0.5
NLC	Nalytchevo	1.36	360	eP	Pn	04 19 41.1	-1.5
NLC	Nalytchevo	1.36	360	PN	Pn	04 19 41.1	-1.5
UGLR	Uglovaya	1.44	347	eP	Pn	04 19 43.0	-0.7
UGLR	Uglovaya	1.44	347	PN	Pn	04 19 43.0	-0.7
SMAR	Somma	1.49	347	eP	Pn	04 19 43.6	-1.0
SMAR	Somma	1.49	347	PN	Pn	04 19 43.6	-1.0
AVH	Avacha	1.50	346	eP	Pn	04 19 44.2	-0.4
AVH	Avacha	1.50	346	PN	Pn	04 19 44.2	-0.4
KRER	Koryakskii	1.54	346	eP	Pn	04 19 44.9	-0.3
KRER	Koryakskii	1.54	346	PN	Pn	04 19 44.9	-0.3
KOK	Koryaka	1.54	344	eP	Pn	04 19 44.7	-0.5
KOK	Koryaka	1.54	344	PN	Pn	04 19 44.7	-0.5
KRX	Arik	1.61	345	eP	Pn	04 19 45.5	-0.6
KRX	Arik	1.61	345	PN	Pn	04 19 45.5	-0.6
APC	Apacha	1.75	310	eP	Pn	04 19 48.8	+0.9
APC	Apacha	1.75	310	PN	Pn	04 19 48.8	+0.9
GNL	Ganaly	2.07	336	eP	Pn	04 19 52.8	+0.3
GNL	Ganaly	2.07	336	PN	Pn	04 19 52.8	+0.3
KII	Karymskiy	2.23	1	eP	Pn	04 19 55.7	+1.1
KII	Karymskiy	2.23	1	PN	Pn	04 19 55.7	+1.1
SKR	Severo-Kuril's	2.33	242	eP	Pn	04 19 54.9	-1.0
SKR	Severo-Kuril's	2.33	242	ePN	Pn	04 19 55.0	-0.8
SKR				eS	Sn	04 20 22.2	-1.0
SKR				pmax	pmax		
	comp=Z,826nm,0.4s						
SKR				smax	smax		
	comp=N,9μm,0.6s						
SKR				smax	smax		
	comp=E,21μm,0.5s						
MKZ	Mys Kozlova	3.10	27	eP	Pn	04 20 06.9	+0.5
MKZ	Mys Kozlova	3.10	27	PN	Pn	04 20 06.9	+0.5
TUMD	Tumrok D	3.45	10	eP	Pn	04 20 13.1	+1.7
TUMD	Tumrok D	3.45	10	PN	Pn	04 20 13.0	+1.7
TUMR	Tumrok	3.51	7	eP	Pn	04 20 15.2	+3.0
TUMR	Tumrok	3.51	7	PN	Pn	04 20 13.1	+0.9
KMNR	Kamenistaya	3.98	7	eP	Pn	04 20 21.9	+3.2
KMNR	Kamenistaya	3.98	7	PN	Pn	04 20 21.9	+3.2
ESO	Esso	4.14	355	eP	Pn	04 20 23.5	+2.7
ESO	Esso	4.14	355	PN	Pn	04 20 23.5	+2.7
BZP	Bezymyannyi-Pe	4.17	9	eP	Pn	04 20 24.3	+3.0
BZP	Bezymyannyi-Pe	4.17	9	PN	Pn	04 20 24.2	+3.0
BZMR	Bezymyannaya	4.18	9	eP	Pn	04 20 24.1	+2.6
BZMR	Bezymyannaya	4.18	9	PN	Pn	04 20 24.1	+2.6
KIRR	Kirishev	4.19	8	eP	Pn	04 20 24.5	+2.9
KIRR	Kirishev	4.19	8	PN	Pn	04 20 24.5	+2.9
KPT	Kopyto	4.19	7	eP	Pn	04 20 24.3	+2.7
KPT	Kopyto	4.19	7	PN	Pn	04 20 24.3	+2.7
BZGR	Bezymyannyi-Gr	4.21	10	eP	Pn	04 20 24.7	+2.9
BZGR	Bezymyannyi-Gr	4.21	10	PN	Pn	04 20 24.7	+2.9
BZWR	Bezymyannyi-We	4.21	9	eP	Pn	04 20 25.0	+3.1
BZWR	Bezymyannyi-We	4.21	9	PN	Pn	04 20 25.0	+3.1
LGNR	Loginova	4.35	10	eP	Pn	04 20 27.1	+3.2
LGNR	Loginova	4.35	10	PN	Pn	04 20 27.1	+3.2
CIRR	Tsirk	4.39	10	eP	Pn	04 20 27.6	+3.3
CIRR	Tsirk	4.39	10	PN	Pn	04 20 27.6	+3.3
KRSR	Krestovskiy	4.47	9	eP	Pn	04 20 27.9	+2.5
KRSR	Krestovskiy	4.47	9	PN	Pn	04 20 27.9	+2.5
SRDR	Sredinnyy	4.52	3	eP	Pn	04 20 29.0	+3.0
SRDR	Sredinnyy	4.52	3	PN	Pn	04 20 29.0	+3.0
KLY	Klyuchi	4.57	9	eP	Pn	04 20 29.5	+2.8
KLY	Klyuchi	4.57	9	PN	Pn	04 20 29.5	+2.8
KBTR	Krutoberegovo	4.85	24	eP	Pn	04 20 32.1	+1.5
KBTR	Krutoberegovo	4.85	24	PN	Pn	04 20 32.1	+1.5
SRKR	Sorokina	4.97	12	eP	Pn	04 20 36.0	+3.8
SRKR	Sorokina	4.97	12	PN	Pn	04 20 36.0	+3.8
BKI	Bering	5.21	47	eP	Pn	04 20 35.7	+0.3
BKI				eS	Sn	04 21 30.8	-3.4
BKI	Bering	5.21	47	PN	Pn	04 20 35.7	+0.3
PALN	Palana	7.30	2	eP	Pn	04 21 10.0	+5.9
PALN	Palana	7.30	2	PN	Pn	04 21 10.0	+5.9
SHEM	Shemya Is, Ala	9.09	78	Pn	Pn	04 21 28.4	-0.3
	comp=E,10nm,0.3s,baz=285,slow=12,SNR=18						
SHEM				Sn	Sn	04 23 04.7	-5.0
	comp=E,5.9nm,0.3s,baz=249,slow=19,SNR=6.9						
SHEM				LR	LR	04 24 32.3	
	comp=E,459nm,20.7s,baz=268,slow=34 comp=E,19nm,0.3s						
MA2	Magadan	9.16	331	Pn	Pn	04 21 28.6	-1.0
MA2	Magadan	9.16	331	Pn	Pn	04 21 28.8	-0.7
	comp=E,0.6nm,0.3s,baz=163,slow=18,SNR=3.1						
MA2				Sn	Sn	04 23 06.6	-4.7
	comp=E,1.1nm,0.3s,baz=186,slow=19,SNR=1.2						
MA2				LR	LR	04 25 39.8	
	comp=E,441nm,18.1s,baz=165,slow=43 comp=E,2.5nm,0.4s						
OKH	Okha	10.12	286	dePN	Pn	04 21 46.7	+3.9
OKH				MLR	MLR		
	comp=E,1μm,13.0s						
OKH				MLR	MLR		
	comp=Z,700nm,11.0s						
OKH				MLR	MLR		
	comp=N,2μm,12.0s						
TYV	Tymovskoe	10.49	271	ePN	Pn	04 21 52.6	+4.7
TYV				eS	Sn	04 23 48.0	+3.9
TYV				pmax	pmax		
	comp=Z,16nm,1.1s						
TYV				pmax	pmax		
	comp=Z,200nm,2.4s						
TYV				smax	smax		
	comp=N,200nm,2.6s						
TYV				smax	smax		
	comp=E,100nm,2.6s						
TYV				MLR	MLR		
	comp=N,700nm,13.0s						
TYV				MLR	MLR		
	comp=E,1μm,13.0s						
TYV				MLR	MLR		
	comp=Z,700nm,14.0s						
SEY	Seymchan	11.76	344	Pn	Pn	04 22 06.4	+1.3
	comp=Z,3.6nm,0.9s,baz=338,slow=23,SNR=3.9						
SEY	Seymchan	11.76	344	↑ePN	Pn	04 22 05.7	+0.6
SEY				pmax	pmax		
	comp=Z,4.0nm,1.1s						
YSS	Yuzh-Sakhalins	11.85	252	ePN	Pn	04 22 03.1	-3.4
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS				MLR	MLR		
	comp=N,700nm,14.0s						
AMKA	Amchitka	12.41	84	Pn	Pn	04 22 13.3	-0.8
JKA	Kamikawa-asahi	13.59	242	Pn	Pn	04 22 30.6	+0.4
ASAJ	Asahikawa	13.59	242	Pn	Pn	04 22 30.8	+0.5
	comp=N,1.6nm,0.3s,baz=78,slow=13,SNR=7.1						
ASAJ				LR	LR	04 28 22.2	
	comp=N,408nm,18.0s,baz=59,slow=40						
ASAJ	Asahikawa	13.59	242	Pn	Pn	04 22 30.6	+0.4
GRNR	Gornyy	14.38	275	↑iP	P	04 22 49.1	+1.6
GRNR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GRNR				MLR	MLR		
	comp=E,500nm,11.0s						
GRNR				MLR	MLR		
	comp=N,500nm,12.0s						
GRNR				MLR	MLR		
	comp=Z,450nm,16.0s						
ERM	Erimo	14.75	235	↓eP	Pn	04 22 42.7	-3.3
ERM				pmax	pmax		
	comp=Z,21nm,1.0s						
GSTR	Great Sitkin T	15.15	79		P	04 22 56.1	+0.1
TEY	Ternei	16.51	255	eP	P	04 23 10.6	-0.5
TEY				e		04 26 11.0	
BILL	Bilibino	16.62	9	Pn	Pn	04 23 09.7	-0.3
BILL	Bilibino	16.62	9	↓iP	P	04 23 12.0	-0.2
BILL				pmax	pmax		
	comp=Z,13nm,1.3s						
BILL				MLR	MLR		
	comp=Z,319nm,13.0s						
KLR	Kul'dur	17.70	273	P	P	04 23 24.4	+0.2
	comp=Z,2.6nm,0.5s,baz=58,slow=10,SNR=11						
KLR	Kul'dur	17.70	273	↓eP	Pn	04 23 21.4	-2.2
KLR				pmax	pmax		
	comp=Z,23nm,1.1s						
P08K	Saint George I	18.71	63	P	P	04 23 34.3	-1.0
	baz=269						
YAK	Yakutsk	18.97	314		P	04 23 36.2	-1.9
YAK				IAmb	IAmb	04 23 50.2	
	comp=Z,33nm,0.6s						
YAK	Yakutsk	18.97	314	P	Pn	04 23 39.4	+0.4
	comp=Z,17nm,0.4s,baz=102,slow=9.3,SNR=1.6						
YAK	Yakutsk	18.97	314	eP	P	04 23 38.5	+0.4
YAK				eS	Sn	04 27 08.1	-2.0
YAK				pmax	pmax		
	comp=Z,27nm,1.1s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,16nm,1.0s						
YAK				smax	smax		
	comp=N,38nm,1.7s						
YAK				smax	smax		
	comp=E,37nm,1.8s						
YAK				MLR	MLR		
	comp=Z,252nm,12.0s						
YAK				MLR	MLR		
	comp=N,268nm,16.0s						
YAK				MLR	MLR		
	comp=E,103nm,14.0s						
JMM	Marumori	19.10	230	P	P	04 23 38.2	-1.4
JMM				IAmb	IAmb	04 23 44.0	
	comp=Z,167nm,2.0s						
NIKH	Nikolski High	19.36	74	P	P	04 23 40.8	-1.6
	baz=280						
ZEA	Zeya	19.43	288	eP	Pn	04 23 49.3	+4.7
ZEA				pmax	pmax		
	comp=Z,20nm,0.9s						
ZEA				MLR	MLR		
	comp=E,400nm,15.0s						
ZEA				MLR	MLR		
	comp=N,300nm,13.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,12.0s						
USA0B	Ussuriysk Arra	19.75	258	↑eP	P	04 23 43.0	-3.7
USRK	Ussuriysk Ar.	19.75	258	P	P	04 23 44.6	-2.1
USRK	Ussuriysk Ar.	19.75	258	P	P	04 23 43.6	-3.1
	comp=Z,0.3nm,0.3s,baz=56,slow=13,SNR=6.2						
USRK				LR	LR	04 32 53.6	
	comp=Z,152nm,19.1s,baz=68,slow=42 comp=Z,7.1nm,0.9s						
USRK	Ussuriysk Ar.	19.75	258	P	P	04 23 44.6	-2.1
UNV	Unalaska Valle	20.61	71	P	P	04 23 54.2	-1.9
	baz=278						
M11K	Mekoryuk	20.82	52	P	P	04 23 56.7	-1.5
	baz=261						
MDJ	Mudanjiang	20.99	262	P	Pn	04 24 03.3	+0.3
MDJ				PP	PnPn	04 24 26.9	+7.5
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,150nm,5.0s						
MDJ				LR	LR		
	comp=Z,530nm,14.4s						
MDJ				LR	LR		
	comp=Z,540nm,15.8s						
MDJ				LR	LR		
	comp=Z,760nm,15.1s						
MSHR	Mys Shultsa	21.15	255	↓eP	P	04 24 00.0	-1.9
MSHR				pmax	pmax		
	comp=Z,19nm,1.8s						
PSTR	Posyet	21.32	256	↑eP	P	04 24 01.7	-2.1
MJB9	Matsu-Tunnel	21.40	233	P	P	04 24 04.7	0.0
MAJO	Matsushiro	21.40	233	P	P	04 24 04.5	-0.2
MAJO	Matsushiro	21.40	233	P	P	04 24 04.5	-0.2
MAJO				pmax	pmax		
	comp=Z,79nm,0.8s						
MJAR	Matsushiro Arr	21.40	233	P	P	04 24 04.8	+0.1
	comp=Z,32nm,0.8s,baz=24,slow=11,SNR=92						
MJAR				LR	LR	04 32 33.7	
	comp=Z,400nm,21.8s,baz=38,slow=37 comp=Z,32nm,0.8s						
TNA	Tin City	21.54	38	P	P	04 24 03.9	-2.0
	baz=246						
BNX	BinXian	21.80	266	↓P	P	04 24 08.9	+0.1
BNX				pmax	pmax		
	comp=Z,6.0nm,1.1s						
K13K	Kusilvak Mount	21.83	48	P	P	04 24 07.2	-1.8
	baz=259						
F14K	Arctic Creek	22.11	39	P	P	04 24 10.7	-1.4
	baz=249						
ANM	Nome	22.18	41	P	P	04 24 11.7	-1.2
ANM				IAmb	IAmb	04 24 20.0	
	comp=Z,41nm,1.4s						
ANM	Nome	22.18	41	P	P	04 24 10.9	-1.9
	baz=252						
ANM	Nome	22.18	41	P	P	04 24 11.7	-1.2
ANM				pmax	pmax		
	comp=Z,41nm,1.4s						
M13K	Dall Lake	22.23	53	P	P	04 24 15.3	+2.0
M13K				IAmb	IAmb	04 24 32.0	
	comp=Z,45nm,1.1s						
M13K	Dall Lake	22.23	53	P	P	04 24 11.4	-1.9
	baz=264						
J14K	Nanvaranak Lak	22.49	47	P	P	04 24 16.7	+0.5
J14K				IAmb	IAmb	04 24 20.9	
	comp=Z,44nm,1.6s						
J14K	Nanvaranak Lak	22.49	47	P	P	04 24 14.5	-1.6
	baz=258						
JGF	Kuroka	22.57	233	P	P	04 24 17.5	+0.3
JGF				IAmb	IAmb	04 24 30.6	
	comp=Z,30nm,0.8s						
L14K	Kuka Creek	22.66	50	P	P	04 24 19.0	+1.1
L14K	Kuka Creek	22.66	50	P	P	04 24 16.0	-1.9
	baz=263						
F15K	North Star Dit	22.85	39	P	P	04 24 21.2	+1.3
F15K	North Star Dit	22.85	39	P	P	04 24 17.8	-2.1
	baz=250						
G15K	Niukluk	22.86	41	P	P	04 24 18.3	-1.7
	baz=253						
S12K	Black Hills	22.93	65	P	P	04 24 18.4	-2.4
	baz=277						
INU	Inuyama	22.93	233	P	P	04 24 20.6	-0.5
M14K	Bethel	22.94	52	P	P	04 24 21.5	+0.6
M14K				IAmb	IAmb	04 24 42.8	
	comp=Z,53nm,1.4s						
M14K	Bethel	22.94	52	P	P	04 24 18.7	-2.1
	baz=265						
N14K	Kuskokwak Cree	23.02	54	P	P	04 24 18.9	-2.8
	baz=267						
O14K	Tigyukauivet M	23.20	56	P	P	04 24 23.9	+0.3
O14K				IAmb	IAmb	04 24 40.1	
	comp=Z,39nm,1.1s						
O14K	Tigyukauivet M	23.20	56	P	P	04 24 20.8	-2.7
	baz=269						
L15K	Ungalak Mounta	23.27	50	P	P	04 24 22.2	-2.0
	baz=263						
K15K	Wolf Creek Mou	23.34	48	P	P	04 24 22.9	-1.9
	baz=262						
JHJ	Hachijo jima 2	23.48	225	LR	LR	04 37 39.8	
	comp=Z,34nm,18.0s,baz=188,slow=47						
H16K	Elim	23.50	42	P	P	04 24 25.2	-1.3
	baz=256						
M15K	Kasigluk River	23.56	52	P	P	04 24 25.5	-1.5
	baz=266,SNR=12						
C16K	Lisburne Hills	23.62

CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
I17K Unalakleet 23.99 44 P **P 04 24 28.9 -2.1**
baz=259
TIXI Tiksi 24.07 337 P **P 04 24 31.1 -0.6**
TIXI Tiksi 24.07 337 LR LR 04 34 59.5
comp=Z,256nm,18.4s,baz=196,slow=40
TIXI Tiksi 24.07 337⇑ *eP* **P 04 24 28.9 -2.8**
TIXI pmax pmax
comp=Z,17nm,0.9s
D17K Noatak River 24.16 35 P **P 04 24 30.8 -1.7**
baz=248,SNR=9.3
L16K Owhat River 24.23 50 P **P 04 24 31.2 -2.0**
baz=265
S14K Fog Glacier 24.26 63 P **P 04 24 31.0 -2.7**
baz=277
RDOG Red Dog Mine 24.35 34 P **P 04 24 33.8 -0.6**
RDOG IAmb IAmb 04 25 00.2
comp=Z,43nm,1.1s
RDOG Red Dog Mine 24.35 34 P **P 04 24 32.1 -2.3**
baz=247
G17K Kiwalik Mounta 24.37 40 P **P 04 24 32.8 -1.8**
baz=255,SNR=6.5
E17K Hotham Inlet 24.39 36 P **P 04 24 32.7 -1.9**
baz=251,SNR=10.0
F17K Baldwin Pennin 24.40 38 P **P 04 24 32.2 -2.6**
baz=253
M16K Timber Creek 24.43 52 P **P 04 24 33.6 -1.5**
baz=267
C17K DeLong Mountai 24.43 33 P **P 04 24 32.8 -2.3**
baz=246
CHNA Chernabura Isl 24.46 67 P **P 04 24 33.4 -2.0**
baz=280
N16K Nishlik Lake 24.50 53 P **P 04 24 34.5 -1.2**
baz=268
H17K Granite Mounta 24.54 42 IAmb IAmb 04 25 02.5
comp=Z,35nm,1.4s
H17K Granite Mounta 24.54 42 P **P 04 24 34.5 -1.6**
baz=257,SNR=8.3
J17K VABM Dome 24.61 46 IAmb IAmb 04 25 08.8
comp=Z,27nm,1.2s
J17K VABM Dome 24.61 46 P **P 04 24 35.2 -1.5**
baz=262
L17K Donlin 24.82 49 P **P 04 24 37.1 -1.5**
baz=265
O16K Kokwok River B 24.82 55 P **P 04 24 36.0 -2.7**
baz=271
K17K Iditarod 24.88 48 P **P 04 24 39.4 +0.3**
K17K IAmb IAmb 04 24 57.7
comp=Z,27nm,1.3s
K17K Iditarod 24.88 48 P **P 04 24 36.7 -2.4**
baz=264
CHGN Chignik 24.89 63 P **P 04 24 37.6 -1.7**
baz=278
E18K Tukpahlearik C 24.95 36 P **P 04 24 39.8 0.0**
E18K Tukpahlearik C 24.95 36 P **P 04 24 37.8 -1.9**
baz=251
F18K Selawik 25.06 38 P **P 04 24 38.8 -1.9**
baz=254,SNR=8.9
C18K Utukok River 25.17 33 IAmb IAmb 04 24 58.3
comp=Z,22nm,0.9s
C18K Utukok River 25.17 33 P **P 04 24 40.1 -1.7**
baz=248,SNR=7.5
M17K Holitna River 25.18 51 IAmb IAmb 04 24 55.2
comp=Z,32nm,0.9s
M17K Holitna River 25.18 51 P **P 04 24 41.3 -0.7**
baz=268,SNR=13
H18K Honhosa River 25.23 42 P **P 04 24 41.8 -0.5**
baz=259,SNR=8.2
B18K Kokolik River 25.25 31 P **P 04 24 42.4 0.0**
baz=246,SNR=12
G18K Tagagawik 25.27 40 P **P 04 24 43.0 +0.3**
G18K Tagagawik 25.27 40 P **P 04 24 41.7 -1.0**
baz=257
N17K Nushagak Hills 25.28 53 P **P 04 24 42.2 -0.6**
baz=270
O17K Koliganek Bris 25.33 55 P **P 04 24 41.5 -1.8**
baz=271
L18K Granite Mounta 25.58 49 P **P 04 24 45.1 -0.5**
baz=267,SNR=9.7
J18K Innoko River 25.68 46 P **P 04 24 46.3 -0.1**
baz=264,SNR=9.7
P17K Kvichak River 25.68 56 P **P 04 24 46.5 0.0**
baz=273
GCSA Galena City Sc 25.78 43 P **P 04 24 46.6 -0.7**
baz=261
JMN Monobe 25.80 235 P **P 04 24 49.5 +1.8**
JMN IAmb IAmb 04 25 01.3
comp=Z,42nm,1.0s
A19K Wainwright 25.83 30 P **P 04 24 47.2 -0.4**
baz=245
F19K Shaleruckik Mo 25.84 38 P **P 04 24 48.6 +0.8**
F19K Shaleruckik Mo 25.84 38 P **P 04 24 47.7 -0.1**
baz=256,SNR=13
C19K Lookout Ridge 25.88 33 P **P 04 24 50.0 +1.8**
C19K IAmb IAmb 04 25 16.5
comp=Z,39nm,1.1s
C19K Lookout Ridge 25.88 33 P **P 04 24 48.0 -0.2**
baz=249
N18K Kilae Creek 25.92 52 P **P 04 24 48.2 -0.5**
baz=270,SNR=6.6
TTA Tatalina 25.94 47 P **P 04 24 49.5 +0.6**
baz=266,SNR=8.7
G19K Purcell Mounta 25.95 40 P **P 04 24 50.1 +1.2**
G19K Purcell Mounta 25.95 40 P **P 04 24 49.5 +0.7**
baz=258,SNR=7.7
M18K Stony River 25.96 51 P **P 04 24 48.9 0.0**
baz=269
Q17K Contact Creek 26.04 58 P **P 04 24 50.3 +0.5**
baz=275
H19K Roundabout Mou 26.09 41 P **P 04 24 49.7 -0.4**
baz=260
D19K Kuna River 26.18 34 P **P 04 24 51.6 +0.7**
baz=252,SNR=7.8
E19K Redstone River 26.20 37 P **P 04 24 51.7 +0.6**
E19K IAmb IAmb 04 25 22.9
comp=Z,26nm,1.2s
E19K Redstone River 26.20 37 P **P 04 24 51.9 +0.8**
baz=255,SNR=8.9
J19K Poorman 26.22 45 P **P 04 24 50.3 -0.9**
baz=264,SNR=7.8
O18K Koktuh Hills 26.28 54 P **P 04 24 50.3 -1.6**
baz=273
P18K Big Mountain, 26.29 55 P **P 04 24 51.7 -0.3**
baz=274
KS19 Wonju Array Si 26.33 249 P **P 04 24 52.4 -0.1**
KSRS Korea Array 26.33 249 P **P 04 24 52.9 +0.4**
comp=Z,4.1nm,0.7s,baz=42,slow=9.3,SNR=18
KSRS LR LR 04 35 43.2
comp=Z,154nm,18.9s,baz=55,slow=38
comp=Z,4.1nm,0.7s
L19K White Mountain 26.44 49 P **P 04 24 52.9 -0.4**
baz=268
Q18K Katmai Hardscr 26.46 57 P **P 04 24 53.1 -0.6**
baz=275
N19K Bonanza Creek 26.61 52 P **P 04 24 53.6 -1.4**
baz=271
M19K Big River Lodg 26.65 50 P **P 04 24 54.3 -0.9**
baz=269
F20K Avaraart Lake 26.68 38 P **P 04 24 54.0 -1.4**
baz=258
H20K Anotleneega Mo 26.73 42 P **P 04 24 55.3 -0.6**
baz=262,SNR=6.3
D20K Etivluk River 26.77 34 P **P 04 24 55.7 -0.6**
baz=254,SNR=10.0
E20K Nigu River 26.80 35 P **P 04 24 55.6 -0.9**
baz=255
I20K Naaghedeneel 26.80 43 P **P 04 24 56.4 -0.1**
baz=264
K20K Telida 26.85 46 P **P 04 24 58.1 +1.1**
K20K Telida 26.85 46 P **P 04 24 57.5 +0.5**
baz=267,SNR=8.2
R18K Karluk 26.88 59 P **P 04 24 56.9 -0.4**
baz=278
J20K Nowinta River 26.88 45 P **P 04 24 56.1 -1.2**
baz=265,SNR=7.6
L20K Farewell, AK 26.90 48 P **P 04 24 57.4 -0.1**
baz=269
B20K Meade River 26.99 31 IAmb IAmb 04 25 17.4
comp=Z,42nm,1.1s
B20K Meade River 26.99 31 P **P 04 24 57.4 -0.8**
baz=250
Q19K Cape Douglas, 27.14 56 P **P 04 24 57.5 -2.2**
baz=276
SII Sitkinak Islan 27.18 61 P **P 04 24 58.8 -1.2**
baz=280
M20K Styx River 27.25 50 P **P 04 24 59.2 -1.5**
baz=270
IMAR Indian Mountai 27.26 41 P **P 04 25 01.5 +0.8**
P19K Oil Pt 27.29 55 P **P 04 24 59.6 -1.4**
baz=275
TJN Taejon 27.39 248⇑ *eP* **P 04 24 59.1 -3.0**
G21K Allakaket 27.44 40 P **P 04 25 00.4 -1.9**
baz=261
C21K Knifeblade Rid 27.53 34 P **P 04 25 02.0 -1.1**
baz=255,SNR=8.4
OHAK Old Harbor 27.55 60 P **P 04 25 02.0 -1.2**
baz=279
O20K Slope Mountain 27.56 54 P **P 04 25 02.8 -0.7**
baz=274
F21K Alatna River 27.57 38 P **P 04 25 02.2 -1.3**
baz=260
H21K Melozitna River 27.61 42 P **P 04 25 03.1 -0.6**
baz=264,SNR=7.9
E21K Killik River 27.64 35 P **P 04 25 04.8 +0.7**
E21K Killik River 27.64 35 P **P 04 25 03.6 -0.5**
baz=257
N20K Mount Spurr 27.70 51 P **P 04 25 02.8 -2.0**
baz=273
B21K Ikpikpuk River 27.71 33 IAmb IAmb 04 25 20.8
comp=Z,20nm,0.8s
B21K Ikpikpuk River 27.71 33 P **P 04 25 03.6 -1.1**
baz=254
Q20K Shuyak Island 27.83 57 P **P 04 25 05.3 -0.5**
baz=277
JNU Nakatsue 27.84 239 P **P 04 25 07.9 +1.8**
JNU IAmb IAmb 04 25 22.0
comp=Z,27nm,0.8s
JNU Nakatsue 27.84 239 P **P 04 25 07.0 +0.9**
comp=Z,7.5nm,0.8s,baz=5.7,slow=10,SNR=2.4
JNU LR LR 04 36 38.3
comp=Z,182nm,20.3s,baz=40,slow=38
comp=Z,7.5nm,0.8s
KDAK Kodiak Island 27.84 59 P **P 04 25 05.3 -0.6**
baz=279
KDAK Kodiak Island 27.84 59⇓ *eP* **P 04 25 02.6 -3.3**
KDAK pmax pmax
comp=Z,21nm,1.7s
JCJ Chichijima 27.88 214 LR LR 04 35 37.0
comp=Z,55nm,20.4s,baz=92,slow=35
SKT Skwentna 28.00 50 P **P 04 25 08.7 +1.3**
SKT Skwentna 28.00 50 P **P 04 25 06.6 -0.7**
baz=272
A22K Sinclair Lake 28.02 30 P **P 04 25 06.5 -0.8**
baz=251
F22K John River 28.12 38 P **P 04 25 07.2 -1.1**
baz=261
D22K Ayikyak River 28.20 35 P **P 04 25 09.9 +0.9**
D22K Ayikyak River 28.20 35 P **P 04 25 08.5 -0.5**
baz=258
H22K Ishtalitna Cre 28.22 41 P **P 04 25 09.0 -0.2**
baz=264
BPAW Bear Paw Mtn. 28.26 45 P **P 04 25 10.5 +0.9**
BPAW Bear Paw Mtn. 28.26 45 P **P 04 25 09.0 -0.6**
baz=268
G22K Bettles 28.29 39 P **P 04 25 09.4 -0.4**
baz=262
B22K Teshekpuk Lake 28.31 32 P **P 04 25 09.9 0.0**
baz=254
E22K Anaktuvuk Pass 28.36 36 P **P 04 25 10.0 -0.5**
baz=260
SUA Susitna One 28.39 51 P **P 04 25 10.7 -0.3**
baz=273
MLY Manley 28.41 43 P **P 04 25 12.0 +1.0**
MLY Manley 28.41 43 P **P 04 25 11.1 +0.1**
baz=267
BRSE Bradley Lake S 28.54 54 P **P 04 25 11.6 -0.6**
baz=276
COLD Coldfoot 28.83 38 P **P 04 25 13.8 -0.9**
baz=263
G23K Bananza Creek 28.84 40 P **P 04 25 14.3 -0.5**
baz=264
RC01 Rabbit Creek A 28.91 51 P **P 04 25 15.6 +0.2**
baz=275
D23K Nanushuk River 28.92 35 P **P 04 25 15.0 -0.5**
baz=260
H23K Yukon River 28.96 41 P **P 04 25 16.5 +0.6**
H23K Yukon River 28.96 41 P **P 04 25 15.4 -0.5**
baz=266
I23K Minto, Yukon-K 29.00 43 P **P 04 25 15.5 -0.6**
baz=268
NEA2 Nenana 29.11 44 P **P 04 25 18.2 +1.1**
NEA2 Nenana 29.11 44 P **P 04 25 16.3 -0.8**
baz=269
C23K Itkillik River 29.12 33 P **P 04 25 18.2 +1.1**
C23K Itkillik River 29.12 33 P **P 04 25 16.3 -0.8**
baz=258
SEW Seward 29.14 53 P **P 04 25 16.3 -1.1**
baz=277
PMR Palmer 29.16 50 P **P 04 25 16.4 -1.2**
baz=274
MCK McKinley 29.16 46 P **P 04 25 16.8 -0.9**
baz=271
E23K Chandalar 29.16 37 P **P 04 25 16.9 -0.8**
baz=262,SNR=7.4
TOLK Toolik Lake Re 29.27 36 P **P 04 25 17.8 -0.7**
baz=261
WAT1 Susitna Watana 29.36 48 P **P 04 25 19.0 -0.4**
baz=273
KNK Knik Glacier 29.50 51 P **P 04 25 19.8 -0.8**
baz=275
SML Sawmill 29.52 50 IAmb IAmb 04 25 39.4
comp=Z,19nm,0.8s
SML Sawmill 29.52 50 P **P 04 25 20.2 -0.7**
baz=275,SNR=8.4
E24K Your Creek 29.59 37 P **P 04 25 21.3 -0.1**
baz=263
PWL Port Wells 29.61 52 P **P 04 25 20.6 -1.0**
baz=276
D24K Happy Valley 29.61 35 P **P 04 25 21.1 -0.5**
baz=261
COLA College 29.64 43⇑ *eP* **P 04 25 20.3 -1.4**
COLA pmax pmax
comp=Z,3.0nm,0.9s
H24K Noodor Dome 29.65 41 P **P 04 25 22.0 0.0**
baz=268
XLT XiLinHaoTe 29.72 272 *eP* **P 04 25 21.8 -1.1**
XLT pP pP 04 25 27.3 -4.5
XLT pmax pmax
comp=Z,11nm,0.8s
XLT LR LR
comp=Z,54nm,17.8s
XLT LR LR
comp=Z,410nm,16.2s
XLT LR LR
comp=Z,130nm,9.3s
WAT6 Susitna Watana 29.75 48 P **P 04 25 23.2 +0.2**
baz=274
C24K Franklin Bluff 29.75 34 P **P 04 25 22.2 -0.5**
baz=260
F24K Squaw Lake 29.75 38 P **P 04 25 23.7 +0.9**
F24K Squaw Lake 29.75 38 P **P 04 25 23.4 +0.5**
baz=265
M23K Glacier View 29.81 50 P **P 04 25 23.6 +0.2**
baz=275
POKR Poker Plat Res 29.82 43 P **P 04 25 22.3 -1.1**
baz=270
G24K Hadweenzic Riv 29.85 40 P **P 04 25 24.7 +1.0**
baz=267
DHY Denali Highway 29.88 47 P **P 04 25 23.6 -0.6**
baz=273
SCM Sheep Creek Mo 30.00 50 IAmb IAmb 04 25 59.5
comp=Z,13nm,0.8s
SCM Sheep Creek Mo 30.00 50 P **P 04 25 24.2 -0.9**
baz=275
HDA Harding Lake 30.03 44 P **P 04 25 25.8 +0.6**
baz=271
ILAR Eielson Array 30.05 44 P **P 04 25 25.4 0.0**
ILAR Eielson Array 30.05 44 P **P 04 25 25.8 +0.4**
comp=Z,2.4nm,0.8s,baz=257,slow=7.9,SNR=28
ILAR PcP **PcP 04 28 25.6 -0.8**
comp=Z,0.5nm,0.6s,baz=267,slow=3.9,SNR=3.6
ILAR LR LR 04 39 02.2
comp=Z,152nm,20.0s,baz=278,slow=39
comp=Z,2.4nm,0.8s
G25K Bearman Lake 30.40 40 P **P 04 25 28.6 +0.1**
baz=268
H25L Birch Creek 30.50 41 P **P 04 25 30.6 +1.2**
baz=269
D25K Kavik River 30.50 35 IAmb IAmb 04 25 45.4
comp=Z,18nm,0.8s
D25K Kavik River 30.50 35 P **P 04 25 29.3 -0.2**
baz=263
M24K Tolsona, Glenn 30.51 49 P **P 04 25 29.5 -0.1**
baz=276
K24K Donnelly Dome 30.56 46 P **P 04 25 30.7 +0.7**
baz=273
PRP Porcupine Dome 30.62 42 IAmb IAmb 04 25 49.1
comp=Z,11nm,0.8s
PRP Porcupine Dome 30.62 42 P **P 04 25 31.0 +0.4**
baz=271,SNR=20
F25K Christian Rive 30.62 38 P **P 04 25 30.4 -0.2**
baz=267
KLU Klutina 30.70 50 P **P 04 25 32.2 +0.9**
baz=277
J25K Salcha River, 30.70 44 P **P 04 25 31.6 +0.3**
baz=272,SNR=8.5
PAX Paxson 30.76 47 P **P 04 25 31.7 -0.2**
baz=275
EYAK Cordova Ski Ar 30.91 52 P **P 04 25 32.9 -0.1**
baz=279
HARP HAARP 30.96 48 P **P 04 25 33.4 -0.1**
baz=276
BMAR Burnt Mountain 31.02 38 P **P 04 25 35.3 +1.3**
C26K Camden Bay 31.08 34 P **P 04 25 34.3 -0.2**
baz=264,SNR=10
F26K Sheenjek River 31.20 38 P **P 04 25 36.0 +0.5**
baz=268
N25K Chitina, Valde 31.31 50 P **P 04 25 36.0 -0.8**
baz=278
G26K Porcupine Rive 31.32 39 P **P 04 25 37.1 +0.5**
baz=270
SCRK Sand Creek 31.34 45 P **P 04 25 35.1 -1.9**
baz=274,SNR=9.2
BMRM Bremner River 31.40 51 P **P 04 25 38.0 +0.5**
baz=279
C27K Jago River 31.47 34 P **P 04 25 37.8 -0.1**
baz=266,SNR=12
J26L Joseph Creek 31.49 44 P **P 04 25 40.2 +1.9**
J26L Joseph Creek 31.49 44 P **P 04 25 38.4 +0.2**
baz=274
I26K Coal Creek Min 31.61 43 P **P 04 25 38.9 -0.3**
baz=273
L26K Log Cabin Wild 31.72 47 P **P 04 25 40.6 +0.4**
L26K Log Cabin Wild 31.72 47 P **P 04 25 40.7 +0.5**
baz=277
M26K Nabesna, AK 31.95 48 IAmb IAmb 04 25 47.1
comp=Z,12nm,1.1s
M26K Nabesna, AK 31.95 48 P **P 04 25 42.3 0.0**
baz=278,SNR=11
MCARA McCarthy VSAT 32.09 50 P **P 04 25 43.5 0.0**
baz=280
CRQM Cirque 32.15 51 IAmb IAmb 04 25 51.7
comp=Z,16nm,1.0s
CRQE Cirque 32.17 51 P **P 04 25 45.7 +1.4**
baz=280
E27K Coleen River 32.17 37 P **P 04 25 44.0 -0.1**
baz=270
K27K Chicken 32.17 45 IAmb IAmb 04 26 00.7
comp=Z,10.0nm,0.8s
K27K Chicken 32.17 45 P **P 04 25 44.5 +0.3**
baz=276
I27K Kandik River 32.24 42 P **P 04 25 44.4 -0.4**
baz=274
H27K Steamboat Moun 32.24 41 P **P 04 25 45.6 +0.8**
baz=273
L27K Beaver Creek, 32.40 47 IAmb IAmb 04 26 16.9
comp=Z,20nm,0.9s
L27K Beaver Creek, 32.40 47 P **P 04 25 46.7 +0.5**
baz=278,SNR=35
D27M Malcolm River 32.41 35 P **P 04 25 46.8 +0.5**
baz=269
BCAR Beaver Creek A 32.42 47 P **P 04 25 47.7 +1.3**
M27K Edge Creek, AK 32.48 48 IAmb IAmb 04 25 52.4
comp=Z,12nm,1.0s
M27K Edge Creek, AK 32.48 48 P **P 04 25 47.4 +0.4**
baz=279,SNR=11
EGAK Eagle 32.50 43 IAmb IAmb 04 25 50.4
comp=Z,10nm,0.8s
EGAK Eagle 32.50 43 P **P 04 25 47.6 +0.7**
baz=276,SNR=17
H11N2 WAKE ISLAND Hy 32.56 167 T T 05 00 58.2
baz=351,slow=76,SNR=837
H11N3 WAKE ISLAND Hy 32.58 167 T T 05 00 59.3
baz=351,slow=76,SNR=948
H11N1 WAKE ISLAND Hy 32.58 167 T T 05 00 51.6
baz=351,slow=76,SNR=707
F28M Old Crow 32.83 38 P **P 04 25 50.3 +0.4**
baz=272,SNR=6.0
E28M Babbage River 32.93 36 P **P 04 25 52.5 +1.8**
E28M Babbage River 32.93 36 P **P 04 25 50.7 0.0**
baz=271
I28M Miner Creek 32.95 42 P **P 04 25 51.1 +0.1**
baz=276,SNR=14
CTG Chitna Glacier 32.97 50 P **P 04 25 50.3 -1.1**
baz=281
CTGM Chitina Glacie 32.97 50 IAmb IAmb 04 26 07.8
comp=Z,12nm,0.8s
LOGN Logan Glacier 33.16 51 IAmb IAmb 04 26 11.4
comp=Z,9.7nm,0.8s
YUK3 Moose Creek 33.23 49 P **P 04 25 53.7 0.0**
baz=281,SNR=9.4
DAWY Dawson 33.34 45 P **P 04 25 54.9 +0.5**
baz=278
H29M Whitestone 33.52 41 P **P 04 25 55.4 -0.5**
baz=276
E29M Blow River 33.54 37 P **P 04 25 55.8 -0.2**
baz=273,SNR=5.3
O28M Mount Upton 33.56 51 P **P 04 25 55.7 -0.9**
baz=282,SNR=9.6
G29M Pine Creek 33.59 39 IAmb IAmb 04 26 11.2
comp=Z,11nm,0.8s
G29M Pine Creek 33.59 39 P **P 04 25 56.2 -0.3**
baz=275,SNR=7.5
I29M Ogilvie Camp, 33.64 42 IAmb IAmb 04 26 54.2
comp=Z,8.1nm,0.8s
I29M Ogilvie Camp, 33.64 42 P **P 04 25 57.5 +0.6**
baz=277,SNR=8.1
YUK8 Steele Glacier 33.66 50 P **P 04 25 58.3 +0.9**
baz=282
PINM Pinnacle 33.68 52 P **P 04 25 57.6 +0.2**
baz=284
H11S1 WAKE ISLAND Hy 33.74 167 T T 05 02 26.2
baz=351,slow=76,SNR=205
H11S3 WAKE ISLAND Hy 33.75 167 T T 05 02 19.8
baz=351,slow=76,SNR=786
H11S2 WAKE ISLAND Hy 33.75 167 T T 05 02 27.0
baz=351,slow=76,SNR=128
SONM Songino Array 33.77 285 P **P 04 25 55.9 -2.5**
comp=Z,0.4nm,0.3s,baz=95,slow=1.6,SNR=1.5
SONM PcP **PcP 04 28 37.4 +0.4**
comp=Z,3.7nm,0.7s,baz=82,slow=1.5,SNR=12
comp=Z,0.4nm,0.3s
M29M Somme Creek 34.03 47 P **P 04 26 00.2 -0.3**
baz=281,SNR=16
L29M L29M 34.05 46 P **P 04 26 01.6 +0.9**
L29M IAmb IAmb 04 26 16.8
comp=Z,16nm,0.8s
L29M L29M 34.05 46 P **P 04 26 01.2 +0.6**
baz=281,SNR=18
EPYK Eagle Plains 34.16 40 IAmb IAmb 04 26 06.6
comp=Z,42nm,1.9s
EPYK Eagle Plains 34.16 40 P **P 04 26 01.6 +0.1**
baz=277
YUK4 Talbot Arm 34.17 49 P **P 04 26 01.2 -0.6**
baz=283
HHC Hu-ho-hao-te 34.19 270 *eP* **P 04 26 02.1 0.0**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,90nm,5.1s
HHC LR LR
comp=Z,120nm,13.8s
HHC LR LR
comp=Z,190nm,13.8s
HHC LR LR
comp=Z,230nm,13.8s
K29M Barlow Dome 34.19 45 P **P 04 26 01.7 -0.2**
baz=280
G30M tAoh Zraii Nji 34.29 39 P **P 04 26 02.3 -0.3**
baz=276
HNS HongShan 34.32 263 ⇓P **P 04 26 02.8 -0.3**
HNS S **S 04 31 29.9 +1.8**
HNS pmax pmax
comp=Z,10.0nm,0.7s
HNS LR LR
comp=Z,510nm,15.5s
HNS LR LR

comp=Z,550nm,19.3s
HNS LR LR
comp=Z,380nm,13.4s
F30M Barrier River 34.39 38 P P 04 26 03.8 +0.3
baz=276
YUK6 Outpost Mounta 34.40 50 P P 04 26 03.3 -0.5
baz=284
O29M Mount Kennedy 34.45 51 P P 04 26 04.0 -0.1
baz=284
I30M Mount Dempster 34.46 42 IAmb IAmb 04 26 33.9
comp=Z,29nm,1.6s
I30M Mount Dempster 34.46 42 P P 04 26 04.2 0.0
baz=279,SNR=14
ZAK Zakamensk 34.51 290 *e*P **P 04 26 05.7 +1.0**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
J30M Hart River 34.58 43 P P 04 26 06.2 +0.9
baz=280
M30M Minto, Yukon 34.76 47 P P 04 26 08.2 +1.5
M30M Minto, Yukon 34.76 47 P P 04 26 07.1 +0.3
baz=282
N30M Aishikik Lake 34.87 49 P P 04 26 08.1 +0.3
baz=284
MAYO Mayo, Yukon 34.95 45 P P 04 26 09.5 +1.2
baz=282
P29M Windy Craggy 35.03 52 P P 04 26 09.8 +0.8
baz=286
G31M Satah River 35.06 39 P P 04 26 10.2 +1.1
baz=278
INK Inuvik 35.16 36 P P 04 26 10.8 +0.8
INK IAmb IAmb 04 26 27.0
comp=Z,13nm,1.0s
INK Inuvik 35.16 36 P P 04 26 11.1 +1.1
baz=277
INK Inuvik 35.16 36 LR LR 04 41 49.4
comp=Z,132nm,20.5s,baz=350,slow=38
INK Inuvik 35.16 36 P **P 04 26 10.8 +0.8**
INK pmax pmax
comp=Z,13nm,1.0s
F31M Tsiigehtchic 35.19 38 IAmb IAmb 04 26 27.0
comp=Z,16nm,1.2s
F31M Tsiigehtchic 35.19 38 P P 04 26 10.8 +0.6
baz=278
P30M Million Dollar 35.27 51 P P 04 26 11.7 +0.5
baz=286
BTO Baotou 35.29 271 *e*P P 04 26 18.8 +7.2
BTO pP pwP 04 26 26.5 +2.3
BTO sP sP 04 26 29.8 +5.7
BTO PP **PnPn 04 27 24.8 -5.2**
BTO S S 04 31 57.6 +14
BTO SS **SnSn 04 34 03.5 +1.1**
BTO pmax pmax
comp=Z,15nm,0.8s
BTO pmax pmax
comp=Z,270nm,4.1s
BTO LR LR
comp=N,2μm,14.5s
BTO LR LR
comp=E,710nm,16.8s
BTO LR LR
comp=Z,1μm,12.6s
NJ2 Nanjing 35.42 252 *e*P **P 04 26 13.3 +0.6**
NJ2 sP **pP 04 26 22.0 +0.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
N31M Braeburn, Yuko 35.48 48 IAmb IAmb 04 26 33.2
comp=Z,9.6nm,0.9s
N31M Braeburn, Yuko 35.48 48 P P 04 26 13.8 +0.9
baz=285,SNR=7.3
O30N Mendenhall 35.52 50 P P 04 26 13.2 0.0
baz=285,SNR=6.2
PLBC Pleasant Camp 35.75 52 P P 04 26 15.2 0.0
baz=287
M31M Drury Creek, Y 35.94 47 IAmb IAmb 04 26 22.4
comp=Z,10nm,0.9s
M31M Drury Creek, Y 35.94 47 P P 04 26 17.0 +0.2
baz=285,SNR=9.9
WHY Whitehorse 36.12 50 IAmb IAmb 04 26 27.6
comp=Z,14nm,1.1s
SKAG Skagway 36.25 52 P P 04 26 20.3 +0.8
SKAG IAmb IAmb 04 26 23.1
comp=Z,13nm,0.9s
SKAG Skagway 36.25 52 P P 04 26 21.2 +1.7
baz=288
FARO Faro, Yukon 36.40 47 P P 04 26 21.1 +0.3
baz=285
NRIK Noril'sk 36.70 326 LR LR 04 41 55.8
comp=Z,163nm,20.1s,baz=88,slow=37
NRIK Noril'sk 36.70 326⇓ *e*P **P 04 26 20.7 -2.5**
NRIK pmax pmax
comp=Z,7.0nm,1.5s
SIT Sitka 37.04 56 P P 04 26 26.6 +0.4
baz=291
P33M Teslin, Yukon 37.23 50 P P 04 26 27.7 -0.3
baz=288,SNR=7.6
MMPY Sheldon Lake, 37.23 46 P P 04 26 27.7 -0.2
baz=286,SNR=8.2
LYN LuoYang 37.55 261 *e*P **P 04 26 31.3 +0.5**
LYN pP pP 04 26 38.6 -1.3
LYN pmax pmax
comp=Z,13nm,0.5s
LYN pmax pmax
comp=Z,270nm,5.8s
LYN LR LR
comp=Z,530nm,20.1s
LYN LR LR
comp=Z,500nm,18.5s
LYN LR LR
comp=Z,490nm,18.6s
Q32M Nakina River 37.90 52 IAmb IAmb 04 26 41.2
comp=Z,27nm,1.6s
Q32M Nakina River 37.90 52 P P 04 26 33.4 -0.3
baz=290
C36M Paulatuk 38.36 34 P P 04 26 36.6 -0.6
baz=284
R33M Jennings River 38.38 51 P P 04 26 39.3 +1.6
R33M IAmb IAmb 04 26 41.6
comp=Z,15nm,1.1s
R33M Jennings River 38.38 51 P P 04 26 38.4 +0.7
baz=290,SNR=12
CRAG Craig 38.78 57 P P 04 26 41.9 +1.0
baz=294
WRAK Wrangell Islan 38.80 55 P P 04 26 41.4 +0.4
baz=293
S34M Telegraph Cree 38.84 53 P P 04 26 42.5 +1.2
baz=292
WTLY Watson Lake, Y 39.16 49 P P 04 26 45.5 +1.4
DLBC Dease Lake 39.18 52 P P 04 26 44.9 +0.5
baz=292,SNR=6.6
DLBC Dease Lake 39.18 52 LR LR 04 45 12.8
comp=Z,107nm,18.5s,baz=310,slow=40
V35K Ketchikan 39.62 57 P P 04 26 48.5 +0.6
baz=295
T35M Bob Quinn 39.64 54 P P 04 26 49.2 +1.1
baz=294
GUMO Guam 39.87 202 LR LR 04 40 59.3
comp=Z,43nm,21.8s,baz=86,slow=33
LIRD Liard River Hi 40.69 49 P P 04 26 58.0 +1.3
baz=294
TOAD Toad River Com 41.32 50 P P 04 27 03.0 +1.0
baz=295
LZH Lanzhou 41.88 270 ⇑P **P 04 27 09.3 +2.3**
LZH pP pP 04 27 15.8 -0.4
LZH pmax pmax
comp=Z,20nm,1.4s
LZH LR LR
comp=Z,390nm,13.1s
LZH LR LR
comp=Z,330nm,13.7s
LZH LR LR
comp=Z,220nm,11.0s
GTA Gaotai 42.31 277 *e*P **P 04 27 11.3 +0.9**
GTA PcP **PcP 04 29 04.3 +0.7**
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA LR LR
comp=Z,160nm,13.4s
GTA LR LR
comp=Z,190nm,12.7s
GTA LR LR
comp=Z,280nm,13.4s
BBB Bella Bella 42.91 60 LR LR 04 42 01.2
comp=Z,87nm,21.9s,baz=311,slow=32
ZALV Zalesovo Beam 43.10 304 P **P 04 27 12.4 -4.0**
ZALV Zalesovo Beam 43.10 304 P **P 04 27 14.7 -1.8**
comp=Z,1.4nm,0.7s,baz=79,slow=7.5,SNR=2.0
ZALV PcP **PcP 04 29 05.6 -0.1**
comp=Z,2.2nm,0.6s,baz=73,slow=3.4,SNR=5.5
comp=Z,1.4nm,0.7s
ZALV Zalesovo Beam 43.10 304 *i*P **P 04 27 17.1 +0.7**
ZALV pmax pmax
comp=Z,1.0nm,0.2s
YKA Yellowknife Ar 44.42 41 P **P 04 27 28.4 +1.5**
comp=Z,2.6nm,1.0s,baz=299,slow=8.0,SNR=12
YKA LR LR 04 47 23.1
comp=Z,88nm,19.9s,baz=304,slow=38
comp=Z,2.6nm,1.0s
YKA Yellowknife Ar 44.42 41 *i*P **P 04 27 28.7 +1.8**
YKA pmax pmax
comp=Z,3.0nm,1.0s
RES Resolute Bay 44.68 21 LR LR 04 48 11.4
comp=Z,33nm,19.5s,baz=4.0,slow=39
CD2 Chengdu 45.40 265 P **P 04 27 34.1 -1.1**
NOR Nord 46.81 359 *i*P **P 04 27 41.7 -3.9**
NOR IAmb IAmb 04 28 01.0
comp=Z,20nm,1.4s
WMQ Urumqi 46.97 290 *e*P **P 04 27 50.4 +2.9**
WMQ LR LR
comp=Z,450nm,11.5s
WMQ LR LR
comp=Z,280nm,10.5s
WMQ LR LR
comp=Z,170nm,14.1s
KURK Kurchatov 48.03 302 P **P 04 27 53.9 -1.6**
KURK Kurchatov 48.03 302 P **P 04 27 53.9 -1.6**
KURK pmax pmax
comp=Z,13nm,0.8s
KURK Kurchatov 48.03 302 P **P 04 27 54.3 -1.2**
KURK pP **pP 04 28 02.7 -2.0**
KBS Kingsbay 48.08 352 *i*P **P 04 27 54.0 -1.5**
KURBB Kurchatov Arra 48.13 302 P **P 04 27 54.7 -1.6**
comp=Z,7.9nm,0.7s,baz=62,slow=8.0,SNR=30
KURBB PcP **PcP 04 29 23.2 -0.1**
comp=Z,1.6nm,0.8s,baz=62,slow=3.5,SNR=4.5
KURBB ScP **ScP 04 33 18.5 +3.6**
comp=Z,0.6nm,0.7s,baz=55,slow=5.6,SNR=4.4
comp=Z,7.9nm,0.7s
MK31 Makanchi Array 48.31 296 *de*P **P 04 27 56.0 -1.8**
MKAR Makanchi Array 48.31 296 P **P 04 27 55.5 -2.3**
MKAR Makanchi Array 48.31 296 P **P 04 27 55.8 -2.0**
comp=Z,1.4nm,0.5s,baz=60,slow=7.6,SNR=16
MKAR ScP **ScP 04 33 17.6 +1.8**
comp=Z,0.5nm,0.6s,baz=60,slow=3.5,SNR=4.1
MKAR LR LR 04 48 42.9
comp=Z,159nm,19.5s,baz=36,slow=37
comp=Z,1.4nm,0.5s
MKAR Makanchi Array 48.31 296 *i*P **P 04 27 56.2 -1.6**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
SPA0 Spitsbergen Ar 48.32 350 *e*P **P 04 27 57.8 +0.3**
SPITS Spitsbergen Ar 48.32 350 P **P 04 27 57.6 +0.2**
comp=Z,25nm,0.8s,baz=59,slow=9.8,SNR=27
SPITS LR LR 04 50 00.5
comp=Z,106nm,19.0s,baz=1.5,slow=38
comp=Z,25nm,0.8s
SPB2 Spitsbergen Ar 48.33 350 P **P 04 27 57.4 0.0**
HOPEN Hopen 48.68 347 *e*P **P 04 28 00.4 +0.2**
NEEM North Greenlan 49.62 8 *i*P **P 04 28 06.5 -1.2**
NEEM IAmb IAmb 04 28 19.5
comp=Z,23nm,1.1s
B08A Colville Reser 49.71 60 P **P 04 28 08.9 +0.5**
B08A IAmb IAmb 04 28 30.4
comp=Z,11nm,1.1s
PZH PanZhiHua 49.76 262 P **P 04 28 10.3 +1.1**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.2s
C09A Chrisman Ranch 50.61 60 P **P 04 28 16.1 +0.8**
C09A IAmb IAmb 04 28 17.5
comp=Z,18nm,1.5s
BVAR Borovoye Array 50.83 309 P **P 04 28 15.1 -1.8**
comp=Z,4.2nm,0.5s,baz=57,slow=8.0,SNR=17
BVAR PcP **PcP 04 29 31.4 -1.7**
comp=Z,1.6nm,0.6s,baz=63,slow=6.8,SNR=1.6
BVAR LR LR 04 51 34.0
comp=Z,138nm,19.6s,baz=59,slow=38
comp=Z,4.2nm,0.5s
BRVK Borovoye 50.87 309 P **P 04 28 18.4 +1.3**
BRVK Borovoye 50.87 309 P **P 04 28 18.4 +1.3**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 50.87 309 P **P 04 28 15.5 -1.6**
BRVK pP **pP 04 28 24.2 -2.1**
F07A Phinny Hill Vi 50.87 63 P **P 04 28 18.1 +0.8**
F07A IAmb IAmb 04 28 19.9
comp=Z,9.1nm,0.7s
NEW Newport 50.95 59 P **P 04 28 17.9 +0.1**
baz=308
NEW Newport 50.95 59 LR LR 04 50 23.7
comp=Z,53nm,19.6s,baz=308,slow=37
E09A Wood Farm, Sta 51.47 61 IAmb IAmb 04 28 24.1
comp=Z,9.3nm,0.9s
DAG Danmarks Havn 51.68 359 *i*P **P 04 28 22.0 -0.9**
DAG IAmb IAmb 04 28 33.6
comp=Z,21nm,1.0s
J05D Fort Rock, OR 51.76 66 IAmb IAmb 04 28 27.6
comp=Z,12nm,1.0s
G08A Pilot Rock 51.78 63 P **P 04 28 25.3 +1.1**
YBH Yreka Blue Hor 51.90 68 LR LR 04 48 37.4
comp=Z,34nm,19.7s,baz=283,slow=34
BMO Blue Mountains 52.97 62 IAmb IAmb 04 28 35.7
comp=Z,16nm,1.6s
MSO Missoula 53.53 58 IAmb IAmb 04 28 40.4
comp=Z,13nm,1.2s
MSO Missoula 53.53 58 P **P 04 28 37.3 +0.2**
baz=310,SNR=8.6
LVZ Lovozero 53.71 337 P **P 04 28 38.3 +0.3**
LVZ Lovozero 53.71 337 P **P 04 28 38.3 +0.3**
comp=Z,18nm,1.9s
HAMF Hammerfest 53.77 343 *e*P **P 04 28 38.2 -0.1**
WVOR Wild Horse Val 53.78 65 P **P 04 28 40.9 +1.9**
WVOR IAmb IAmb 04 28 42.2
comp=Z,10nm,1.1s
WVOR Wild Horse Val 53.78 65 P **P 04 28 40.9 +1.9**
WVOR pmax pmax
comp=Z,10.0nm,1.1s
ARU Arti 54.03 318 *c i*P **P 04 28 38.2 -2.3**
ARU S **S 04 36 13.0 -0.9**
ARU SS **SKiKP 04 39 51.5 +2.0**
ARU pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 54.03 318 P **P 04 28 40.1 -0.4**
DBG Daneborg 54.17 360 *i*P **P 04 28 43.1 +1.9**
DBG IAmb IAmb 04 28 51.2
comp=Z,18nm,1.4s
FFC Flin Flon 54.24 45 P **P 04 28 42.9 +0.8**
FFC IAmb IAmb 04 28 46.3
comp=Z,8.8nm,1.1s
FFC Flin Flon 54.24 45 P **P 04 28 42.9 +0.8**
FFC pmax pmax
comp=Z,9.0nm,1.2s
ARCES ARCESS Array B 54.36 342 P **P 04 28 41.4 -1.3**
ARCES IAmb IAmb 04 28 45.5
comp=Z,7.7nm,0.9s
ARCES ARCESS Array B 54.36 342 P **P 04 28 42.7 0.0**
comp=Z,5.6nm,0.8s,baz=38,slow=8.7,SNR=13
ARCES LR LR 04 55 02.8
comp=Z,69nm,21.4s,baz=51,slow=40
comp=Z,5.6nm,0.8s
ARCES ARCESS Array B 54.36 342 P **P 04 28 41.4 -1.3**
ARCES pmax pmax
comp=Z,8.0nm,0.9s
MFID Camas Ranch 54.71 63 P **P 04 28 46.0 +0.2**
MFID IAmb IAmb 04 28 48.6
comp=Z,13nm,1.6s
AFDM Forest Hills D 54.72 70 IAmb IAmb 04 29 46.4
comp=Z,11nm,1.5s
EGMT Eagleton 54.93 55 IAmb IAmb 04 29 51.0
comp=Z,8.7nm,1.1s
EGMT Eagleton 54.93 55 P **P 04 28 47.7 +0.4**
baz=311,SNR=5.3
PAHR Pah Rah Range 55.14 68 IAmb IAmb 04 28 52.0
comp=Z,9.1nm,1.1s
AAK Ala-Archa 55.24 297 LR LR 04 53 48.5
comp=Z,157nm,18.4s,baz=60,slow=38
KTK1 Kautokeino 55.24 342 *e*P **P 04 28 49.2 +0.1**
SUMG Summit 55.28 6 P **P 04 28 50.0 +0.2**
SUMG IAmb IAmb 04 28 53.7
comp=Z,16nm,1.0s
SUMG Summit 55.28 6 P **P 04 28 50.0 +0.2**
SUMG pmax pmax
comp=Z,16nm,1.0s
SUMG Summit 55.28 6 *i*P **P 04 28 48.4 -1.4**
SUMG IAmb IAmb 04 28 53.9
comp=Z,14nm,0.9s
HLID Hailey 55.39 62 P **P 04 28 50.5 -0.2**
baz=311,SNR=8.3
PNTR Pine Nut 55.42 69 P **P 04 28 52.0 +0.9**
PNTR IAmb IAmb 04 28 54.5
comp=Z,12nm,0.9s
TRO Tromso 55.47 344 *e*P **P 04 28 50.4 -0.2**
BOZ Bozeman (W) 55.55 58 IAmb IAmb 04 28 54.8
comp=Z,14nm,1.2s
BOZ Bozeman (W) 55.55 58 P **P 04 28 51.1 -0.7**
baz=311,SNR=11
CMB Columbia Colle 55.67 70 IAmb IAmb 04 29 58.6
comp=Z,20nm,1.6s
BMN Battle Mountai 55.89 66 IAmb IAmb 04 28 57.8
comp=Z,11nm,1.0s
WAKR Walker 55.91 69 P **P 04 28 55.9 +1.3**
WAKR IAmb IAmb 04 28 58.0
comp=Z,8.3nm,0.9s
YHL Hebgen Lake 56.28 59 IAmb IAmb 04 29 00.5
comp=Z,25nm,1.5s
KVN Kaiserville 56.32 68 IAmb IAmb 04 29 00.8
comp=Z,10nm,1.0s
NVAR Mina Array Bea 56.62 69 P **P 04 28 59.3 -0.4**
NVAR Mina Array Bea 56.62 69 P **P 04 29 01.4 +1.8**
comp=Z,3.9nm,0.8s,baz=292,slow=7.6,SNR=29
comp=Z,3.9nm,0.8s
LHV Little Huntoon 56.62 69 IAmb IAmb 04 29 03.2
comp=Z,12nm,1.1s
PHRA Phrae 56.66 257 P **P 04 28 59.6 -0.3**
YFT Old Faithful 56.73 59 P **P 04 29 01.9 +1.6**
YFT IAmb IAmb 04 29 04.8
comp=Z,11nm,1.0s
ELK Elko 56.80 65 P **P 04 29 03.5 +2.5**
ELK Elko 56.80 65 IAmb IAmb 04 29 05.8
comp=Z,3.1nm,0.8s
ELK Elko 56.80 65 P **P 04 29 03.5 +2.5**
ELK pmax pmax
comp=Z,3.0nm,0.9s
YPP Pitchstone Pla 56.87 59 IAmb IAmb 04 29 05.7
comp=Z,15nm,1.5s
YMP Mirror Lake Pl 56.90 58 IAmb IAmb 04 29 05.3
comp=Z,17nm,1.2s
H17A Grant Village 56.90 59 IAmb IAmb 04 29 06.4
comp=Z,15nm,1.1s
IMW Indian Meadow 57.05 59 P **P 04 29 04.2 +1.5**
IMW IAmb IAmb 04 29 06.4
comp=Z,13nm,1.2s
RLMT Red Lodge 57.10 57 P **P 04 29 02.5 -0.5**
baz=312,SNR=12
JMIC Jan Mayen 57.20 355 LR LR 04 54 38.3
comp=Z,32nm,18.4s,baz=42,slow=37
CHTO Chiang Mai 57.20 258 P **P 04 29 04.1 +0.3**
CHTO Chiang Mai 57.20 258 P **P 04 29 04.1 +0.3**
CHTO pmax pmax
comp=Z,21nm,0.8s
TPAW Teton Pass 57.31 60 P **P 04 29 06.3 +1.8**
TPAW IAmb IAmb 04 29 08.5
comp=Z,18nm,1.4s
LOHW Long Hollow 57.42 60 IAmb IAmb 04 29 09.0
comp=Z,16nm,1.2s
SNOW Snow King Moun 57.44 60 IAmb IAmb 04 29 09.5
comp=Z,12nm,1.2s
CMAR Chiang Mai Arr 57.48 258 P **P 04 29 06.1 +0.5**
CMAR Chiang Mai Arr 57.48 258 P **P 04 29 06.7 +1.0**
comp=Z,7.0nm,0.9s,baz=28,slow=7.1,SNR=19
CMAR LR LR 04 54 44.7
comp=Z,71nm,20.4s,baz=310,slow=37
comp=Z,7.0nm,0.9s
HVU Hansel Valley 57.48 62 IAmb IAmb 04 29 09.1
comp=Z,9.4nm,1.1s
DSP Deep Springs 57.53 69 P **P 04 29 06.9 +1.1**
STEI Steigen 57.60 345 *e*P **P 04 29 06.2 +0.4**
LAO LASA Array 57.61 54 P **P 04 29 06.6 +0.2**
baz=313
LOF Lofoten 57.69 346 *e*P **P 04 29 06.5 0.0**
AHID Auburn Hatcher 57.72 61 IAmb IAmb 04 29 10.7
comp=Z,14nm,1.1s
SPUT South Promonto 57.98 63 P **P 04 29 10.1 +1.0**
SPUT IAmb IAmb 04 29 12.6
comp=Z,14nm,1.4s
FAUS Fauske 58.09 344 *e*P **P 04 29 08.9 -0.4**
CWC Cottonwood Cre 58.10 70 P **P 04 29 10.3 +0.2**
baz=314
GRAC Grapevine Rang 58.14 69 IAmb IAmb 04 29 13.5
comp=Z,8.3nm,1.1s
GRAC Grapevine Rang 58.14 69 P **P 04 29 10.9 +0.8**
baz=314
PKM Mcpherson Peak 58.15 73 P **P 04 29 10.5 +0.1**
baz=314
Q12A Willow Creek R 58.19 66 IAmb IAmb 04 29 19.0
comp=Z,7.2nm,1.0s
R11B Troy Canyon, C 58.23 67 P **P 04 29 11.0 0.0**
baz=314,SNR=11
HWUT Hardware Ranch 58.26 62 P **P 04 29 12.3 +1.2**
HWUT IAmb IAmb 04 29 14.6
comp=Z,17nm,1.4s
ABKAR Akbulak array 58.28 311 P **P 04 29 08.9 -2.0**
SGV South Grapevin 58.34 69 P **P 04 29 14.4 +2.7**
AKTO Aktyubinsk 58.35 313 LR LR 04 56 52.6
comp=Z,145nm,21.0s,baz=43,slow=39
SPR3 Spring Creek 3 58.50 66 IAmb IAmb 04 29 16.8
comp=Z,8.4nm,0.9s
DUG Dugway, Tooele 58.54 64 IAmb IAmb 04 29 16.4
comp=Z,8.9nm,1.1s
DUG Dugway, Tooele 58.54 64 P **P 04 29 12.3 -0.7**
baz=314,SNR=9.5
JOF Joensuu 58.54 335 *e*P **P 04 29 12.9 +0.4**
BW06 Boulder Array 58.55 60 P **P 04 29 12.3 -0.9**
baz=314,SNR=17
PD31 Pinedale Array 58.55 60 IAmb IAmb 04 29 16.4
comp=Z,14nm,1.1s
PDAR Pinedale Array 58.55 60 P **P 04 29 14.2 +1.0**
PDAR Pinedale Array 58.55 60 P **P 04 29 15.1 +1.9**
comp=Z,6.5nm,0.9s,baz=311,slow=3.4,SNR=55
comp=Z,6.5nm,0.9s
ICESG Greenland Ices 58.60 8 *i*P **P 04 29 11.2 -2.0**
ICESG IAmb IAmb 04 29 15.9
comp=Z,17nm,1.1s
S11A Rachel 58.63 68 IAmb IAmb 04 29 16.9
comp=Z,10nm,0.9s
TCUT Toone Canyon 58.68 62 IAmb IAmb 04 29 44.4
comp=Z,8.5nm,1.0s
MPMC Manual Prospec 58.71 70 P **P 04 29 14.4 +0.1**
baz=314,SNR=6.7
CTU Camp Tracy 58.78 63 P **P 04 29 15.3 +0.5**
CTU IAmb IAmb 04 29 17.8
comp=Z,17nm,1.6s
FURC Furnace Creek, 58.79 70 P **P 04 29 14.0 -0.7**
baz=314,SNR=8.1
TPNV Topopah Spring 58.82 69 P **P 04 29 16.9 +1.8**
TPNV Topopah Spring 58.82 69 P **P 04 29 14.9 -0.2**
baz=314,SNR=9.7
TPNV Topopah Spring 58.82 69 P **P 04 29 16.9 +1.8**
FRB Frobisher Bay 58.86 23 LR LR 04 58 15.5
comp=Z,69nm,18.6s,baz=7.5,slow=40
JLU Jordanelle 59.01 63 IAmb IAmb 04 29 19.9
comp=Z,16nm,1.5s
BTK Batken 59.02 297 IAmb IAmb 04 29 19.1
comp=Z,5.3nm,0.8s
BTK Batken 59.02 297 P **P 04 29 16.7 +0.4**
GWY Greenwater Val 59.10 70 IAmb IAmb 04 29 22.6
comp=Z,14nm,1.3s
PRN Pahroc Range 59.19 68 IAmb IAmb 04 29 20.9
comp=Z,11nm,1.3s
KONS Konsvik 59.25 345 *e*P **P 04 29 17.8 +0.4**
MPU Maple Canyon 59.31 63 IAmb IAmb 04 29 21.8
comp=Z,8.7nm,1.1s
MOR8 Moi Rana 59.34 344 *e*P **P 04 29 16.7 -1.4**
SFJD Kangerlussuaq 59.37 13 LR LR 04 57 57.0
comp=Z,80nm,18.5s,baz=348,slow=39
STOK Stokkvaagen 59.42 345 *e*P **P 04 29 18.6 +0.1**
RRX Edison Barstow 59.82 71 P **P 04 29 23.1 +1.3**
baz=315
ULM Lac du Bonnet 60.03 46 IAmb IAmb 04 29 24.8
comp=Z,6.4nm,1.1s
ULM Lac du Bonnet 60.03 46 P **P 04 29 23.5 +0.4**
comp=Z,1.0nm,0.3s,baz=327,slow=7.4,SNR=5.2
ULM LR LR 04 56 14.1
comp=Z,93nm,20.6s,baz=298,slow=37
comp=Z,1.0nm,0.3s
ULM Lac du Bonnet 60.03 46⇑ *e*P **P 04 29 20.1 -2.9**
SOEG Soedalen 60.03 5 *i*P **P 04 29 25.6 +2.9**
MDND Maddock 60.04 50 P **P 04 29 22.5 -0.6**
baz=316
TMUT Trail Mountain 60.05 64 IAmb IAmb 04 31 14.3

comp=Z,10nm,1.1s
CCUT Cedar City 60.05 66 P **P 04 29 25.5 +1.8**
P17A Butcher Ranch, 60.19 63 IAmb IAmb 04 29 27.8
comp=Z,17nm,1.4s
HEC Hector,Ludlow 60.24 71 P **P 04 29 25.2 +0.4**
baz=315
K22A Casper 60.24 58 IAmb IAmb 04 29 27.8
comp=Z,11nm,1.1s
K22A Casper 60.24 58 P **P 04 29 24.6 -0.2**
baz=315
Q16A Castle Valley 60.34 64 IAmb IAmb 04 29 28.8
comp=Z,6.9nm,1.0s
P18A Preston Nutter 60.35 63 P **P 04 29 26.9 +1.2**
P18A IAmb IAmb 04 30 14.8
comp=Z,6.1nm,0.9s
DY2G Dye2 60.44 12 *i* P **P 04 29 23.2 -2.6**
DY2G IAmb IAmb 04 30 01.9
comp=Z,252nm,2.6s
LCMT Little Creek M 60.50 67 IAmb IAmb 04 29 29.9
comp=Z,9.3nm,1.0s
RSSD Black Hills 60.50 55 P **P 04 29 27.3 +0.7**
RSSD Black Hills 60.50 55 P **P 04 29 26.9 +0.3**
baz=315
RSSD Black Hills 60.50 55 P **P 04 29 27.3 +0.7**
RSSD pmax pmax
comp=Z,29nm,0.9s
RSSD Black Hills 60.50 55 P **P 04 29 28.4 +1.8**
RSSD pP **pP 04 29 37.6 +1.7**
VAF Ylistaro 60.53 339 *eP* **P 04 29 26.8 +0.7**
RWWY Rawlins 60.55 59 IAmb IAmb 04 29 29.8
comp=Z,8.1nm,0.9s
SRU San Rafael Swe 60.56 63 IAmb IAmb 04 29 30.1
comp=Z,11nm,0.9s
MURC Murrieta 60.60 72 P **P 04 29 28.4 +1.2**
baz=315
GMRC Granite Mounta 60.67 70 P **P 04 29 27.6 -0.2**
baz=315,SNR=6.5
KNB Kanab 60.74 66 IAmb IAmb 04 29 31.8
comp=Z,14nm,1.2s
KEF Keuruu 60.78 337 *eP* **P 04 29 26.8 -1.1**
CHGR Chuyangaron 60.92 296 P **P 04 29 28.9 -0.5**
CHGR IAmb IAmb 04 29 31.8
comp=Z,10.0nm,0.8s
CHGR Chuyangaron 60.92 296 P **P 04 29 28.9 -0.5**
CHGR pmax pmax
comp=Z,10.0nm,0.8s
HNR Honiara 61.00 179 LR LR 04 55 28.0
comp=Z,683nm,18.7s,baz=347,slow=36
SIMJ Simiganj 61.00 296 P **P 04 29 30.1 +0.1**
SIMJ sP **sP 04 29 42.7 -0.3**
BELC Belle Mtn. Jos 61.02 71 P **P 04 29 31.2 +1.0**
baz=315
PFO Pinyon Flats O 61.02 72 LR LR 04 54 22.4
comp=Z,49nm,19.5s,baz=278,slow=34
O20A White River Ci 61.09 61 IAmb IAmb 04 29 33.6
comp=Z,14nm,1.2s
O20A White River Ci 61.09 61 P **P 04 29 30.0 -0.7**
baz=315,SNR=5.2
FINES FINESS Array B 61.11 336 P **P 04 29 29.3 -0.9**
FINES FINESS Array B 61.11 336 P **P 04 29 29.7 -0.5**
comp=Z,4.6nm,0.9s,baz=35,slow=7.1,SNR=18
comp=Z,4.6nm,0.9s
FINES FINESS Array B 61.11 336 *i* P **P 04 29 30.1 -0.1**
FINES pmax pmax
comp=Z,5.0nm,0.9s
NSS Namsos 61.26 345 *eP* **P 04 29 31.3 +0.2**
XMAS Kiritimati 61.31 129 P **P 04 29 33.3 +1.2**
XMAS pP **pP 04 29 43.0 +1.5**
BELG Belogornoye 61.40 320 LR LR 04 57 44.1
comp=Z,104nm,20.0s,baz=22,slow=38
IRM Iron Mountain 61.41 70 P **P 04 29 34.0 +1.3**
baz=315
U15A North Rim 61.45 67 IAmb IAmb 04 30 18.3
comp=Z,9.0nm,1.3s
AGMN Agassiz Nation 61.46 47 IAmb IAmb 04 29 36.6
comp=Z,6.3nm,1.0s
AGMN Agassiz Nation 61.46 47 P **P 04 29 33.0 +0.2**
baz=317
MONP2 Monument Peak 61.56 72 P **P 04 29 35.2 +1.3**
baz=316
BC3 Big Chuckawall 61.59 71 P **P 04 29 35.7 +1.7**
baz=316
N23A Red Feather La 61.79 59 P **P 04 29 37.4 +1.9**
N23A IAmb IAmb 04 29 38.7
comp=Z,13nm,0.9s
N23A Red Feather La 61.79 59 P **P 04 29 35.1 -0.4**
baz=316,SNR=9.1
PMG Port Moresby 61.87 194 LR LR 04 52 09.3
comp=Z,64nm,19.8s,baz=90,slow=32
PDMCI Parker Dam,Lak 61.89 70 P **P 04 29 35.9 0.0**
baz=316
IKP In-Ko-Pah, Jac 61.91 72 P **P 04 29 36.2 0.0**
baz=316
BLYC Blythe 62.06 70 P **P 04 29 38.0 +1.0**
BLYC IAmb IAmb 04 29 39.9
comp=Z,7.6nm,1.0s
NIL Nilore 62.12 290 P **P 04 29 37.9 +0.4**
GLA Glamis 62.38 71 P **P 04 29 39.8 +0.6**
baz=316
SMCO Snowmass 62.46 61 IAmb IAmb 04 29 43.1
comp=Z,9.4nm,1.1s
ESJX Sierra Juarez 62.47 73 IAmb IAmb 04 30 39.4
comp=Z,20nm,2.0s
RAF Rauma 62.51 338 *eP* **P 04 29 39.2 -0.4**
MEF Metsahovi 62.59 337 *eP* **P 04 29 41.2 +1.1**
WUAZ Wupatki 62.62 67 IAmb IAmb 04 29 44.3
comp=Z,10nm,1.1s
WUAZ Wupatki 62.62 67 P **P 04 29 41.6 +0.6**
baz=316
ISCO Idaho Springs 62.75 60 P **P 04 29 41.3 -0.6**
baz=316,SNR=17
SUSD Miller 62.81 52 P **P 04 29 41.3 -0.6**
baz=317
ARBE Arbavere 62.87 335 *eP* **P 04 29 41.6 -0.4**
BRIGG Briggsdale 62.88 58 P **P 04 29 43.8 +1.2**
MVCO Mesa Verde 63.03 64 P **P 04 29 43.2 -0.6**
baz=316,SNR=5.0
F33A 5 Mile Ranch, 63.06 49 IAmb IAmb 04 29 45.9
comp=Z,13nm,1.1s
OBN Obninsk 63.35 327 LR LR 05 00 17.8
comp=Z,142nm,18.5s,baz=0.5,slow=39
OBN Obninsk 63.35 327⇓ *eP* **P 04 29 46.1 +0.9**
OBN *PP **pP 04 29 55.0 +0.3**
OBN 04 30 22.0
OBN S **S 04 38 18.0 +3.2**
OBN pmax pmax
comp=Z,11nm,0.7s
OBN MLR MLR
comp=Z,126nm,16.0s
S22A 4UR Ranch, Cre 63.57 62 P **P 04 29 49.2 +1.9**
S22A IAmb IAmb 04 29 51.0
comp=Z,14nm,1.2s
S22A 4UR Ranch, Cre 63.57 62 P **P 04 29 47.4 0.0**
baz=316,SNR=12
Q24A Divide 63.60 60 P **P 04 29 46.6 -1.0**
baz=317
EYMN Ely 63.68 45 P **P 04 29 46.3 -1.3**
baz=319
BORG Borgarnes 63.77 0 LR LR 04 59 23.3
comp=Z,41nm,18.4s,baz=355,slow=38
MOL Molde 63.80 346 *eP* **P 04 29 49.7 +1.6**
OGNE Ogallala 63.81 57 P **P 04 29 47.9 -0.8**
baz=317
MTSE Matsula 64.05 336 *eP* **P 04 29 49.5 -0.3**
DOMB Dombas 64.06 345 *eP* **P 04 29 50.6 +0.7**
X18A Snowflake 64.14 67 IAmb IAmb 04 29 54.3
comp=Z,8.0nm,1.0s
SDCO Great Sand Dun 64.29 61 IAmb IAmb 04 29 55.4
comp=Z,13nm,1.4s
SDCO Great Sand Dun 64.29 61 P **P 04 29 51.5 -0.7**
baz=317,SNR=12
214A Organ Pipe Nat 64.35 70 IAmb IAmb 04 30 24.2
comp=Z,5.9nm,0.9s
214A Organ Pipe Nat 64.35 70 P **P 04 29 52.3 0.0**
baz=317
ECSD EROS Data Cent 64.47 51 IAmb IAmb 04 29 54.9
comp=Z,9.8nm,0.9s
ECSD EROS Data Cent 64.47 51 P **P 04 29 53.1 +0.3**
baz=318,SNR=8.7
UPP Uppsala 64.48 340 *eP* **P 04 29 52.7 +0.1**
NB2 NORSAR Subarra 64.64 343 P **P 04 29 53.6 -0.1**
comp=Z,29nm,1.1s,baz=22,slow=6.5
NB2 NORSAR Subarra 64.64 343 P **P 04 29 53.6 -0.1**
baz=22,slow=6.5
NOA NORSAR Array B 64.64 343 P **P 04 29 53.7 0.0**
comp=Z,4.8nm,0.6s,baz=21,slow=6.7,SNR=56
NOA LR LR 05 00 41.3
comp=Z,49nm,19.1s,baz=20,slow=38
comp=Z,4.8nm,0.6s
E38A The Farm, Brul 64.67 46 IAmb IAmb 04 30 20.3
comp=Z,9.0nm,0.9s
NC602 NORSAR Array S 64.87 343 IAmb IAmb 04 30 04.9
comp=Z,9.3nm,0.8s
NC602 NORSAR Array S 64.87 343 *eP* **P 04 29 55.4 +0.3**
KSCO Kaye Shedlock' 64.91 58 P **P 04 29 56.9 +0.9**
HFS Hagfors 65.03 342 P **P 04 29 56.0 -0.2**
comp=Z,14nm,0.4s,baz=55,slow=5.6,SNR=148
comp=Z,14nm,0.4s
SPMN Marine on St. 65.15 48 IAmb IAmb 04 29 59.3
comp=Z,7.2nm,0.9s
SPMN Marine on St. 65.15 48 P **P 04 29 57.5 +0.2**
baz=320
TUC Tucson 65.27 69 P **P 04 29 58.8 +0.4**
TUC Tucson 65.27 69 P **P 04 29 58.7 +0.4**
baz=317
TUC Tucson 65.27 69 P **P 04 29 58.8 +0.4**
TUC pmax pmax
comp=Z,4.0nm,1.1s
T25A Trinidad 65.33 61 IAmb IAmb 04 30 01.7
comp=Z,12nm,1.1s
T25A Trinidad 65.33 61 P **P 04 29 58.1 -0.7**
baz=317,SNR=9.8
HYA Hoyanger 65.34 346 *eP* **P 04 29 59.3 +1.1**
BGNE Belgrade 65.45 54 P **P 04 30 00.1 +0.8**
baz=318
SUE Sulen 65.66 347 *eP* **P 04 30 02.6 +2.4**
OSL Oslo 65.76 343 *eP* **P 04 30 01.9 +1.0**
ANMO Albuquerque 65.81 64 P **P 04 30 02.8 +0.8**
ANMO Albuquerque 65.81 64 P **P 04 30 02.7 +0.8**
baz=318
ANMO Albuquerque 65.81 64 P **P 04 30 02.8 +0.8**
ANMO pmax pmax
comp=Z,9.0nm,1.4s
ANMO Albuquerque 65.81 64 P **P 04 30 03.6 +1.7**
ANMO pP **sP 04 30 13.5 -1.6**
VIKU Vikbolandet 65.91 340 *eP* **P 04 30 02.3 +0.4**
ASK Askoy 66.14 346 *eP* **P 04 30 04.4 +1.1**
BER Bergen 66.22 346 *eP* **P 04 30 05.5 +1.7**
KONO Kongsberg 66.23 344 P **P 04 30 04.3 +0.4**
KONO Kongsberg 66.23 344 *eP* **P 04 30 05.2 +1.3**
KONO Kongsberg 66.23 344 P **P 04 30 04.3 +0.4**
KONO pmax pmax
comp=Z,24nm,1.1s
KONO Kongsberg 66.23 344 P **P 04 30 04.6 +0.7**
KONO pP **pP 04 30 13.9 +0.5**
ODD1 Odda 66.47 345 *eP* **P 04 30 06.9 +1.4**
319A Douglas 66.83 68 IAmb IAmb 04 30 11.4
comp=Z,10nm,0.9s
PABE Paberze 66.84 334 *eP* **P 04 30 09.9 +2.0**
BLS5 Blasjo 66.97 345 *eP* **P 04 30 10.5 +1.8**
SCHQ Schefferville 67.00 27 P **P 04 30 09.4 +0.5**
comp=Z,7.8nm,0.8s,baz=333,slow=7.0,SNR=10
SCHQ LR LR 05 03 39.0
comp=Z,64nm,18.4s,baz=240,slow=40
comp=Z,7.8nm,0.8s
KMY Karmoy 67.36 346 *eP* **P 04 30 12.9 +1.8**
SCIA State Center 67.49 50 P **P 04 30 13.8 +1.6**
baz=320
SNART Snartemo 67.88 345 *eP* **P 04 30 15.5 +1.1**
AMTX Amarillo 68.48 61 IAmb IAmb 04 30 21.3
comp=Z,13nm,0.9s
AMTX Amarillo 68.48 61 P **P 04 30 19.2 +0.4**
baz=319
MSTX Muleshoe 68.57 62 P **P 04 30 18.6 -0.7**
baz=319,SNR=9.9
NOKA Waynoka 68.63 58 P **P 04 30 19.5 0.0**
MAK Makhachkala 68.73 313 *eP* **P 04 30 20.2 +0.2**
MAK *e* 04 32 53.2
MAK *eS* **S 04 39 24.3 +3.7**
MAK MLR MLR
comp=Z,284nm,15.0s
MNTX Cornudas Mount 68.81 66 P **P 04 30 20.7 0.0**
baz=319,SNR=12
P38A Dawn 69.09 52 IAmb IAmb 04 30 24.0
comp=Z,16nm,1.1s
VLDQ Val d'Or 69.26 37 P **P 04 30 22.0 -1.2**
VLDQ IAmb IAmb 04 30 37.2
comp=Z,8.0nm,1.0s
MUD Monsted U'grnd 69.33 343 *i* P **P 04 30 24.9 +1.4**
MUD IAmb IAmb 04 30 34.2
comp=Z,40nm,1.1s
BSD Bornholm Skovb 69.42 339 *i* P **P 04 30 25.3 +1.3**
BSD IAmb IAmb 04 30 38.3
comp=Z,15nm,0.8s
AK03 Malin Array Si 69.45 329 P **P 04 30 25.4 +1.0**
AK04 Malin Array Si 69.47 329 P **P 04 30 25.5 +1.0**
AKASG Malin Array Be 69.47 329 P **P 04 30 23.4 -1.1**
comp=Z,3.4nm,0.6s,baz=31,slow=6.2,SNR=22
AKASG LR LR 05 03 18.5
comp=Z,113nm,19.3s,baz=34,slow=38
comp=Z,3.4nm,0.6s
AKASG Malin Array Be 69.47 329 *i* P **P 04 30 25.0 +0.5**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 69.47 329 IAmb IAmb 04 30 26.9
comp=Z,13nm,0.9s
AKBB Malin Array Si 69.47 329⇑ *eP* **P 04 30 22.5 -2.0**
AKBB Malin Array Si 69.47 329 P **P 04 30 25.5 +1.0**
KIEV Kiev 69.49 329⇑ P **P 04 30 24.8 +0.2**
KIEV Kiev 69.49 329 P **P 04 30 24.2 -0.4**
KIEV IAmb IAmb 04 30 26.9
comp=Z,12nm,0.9s
KIEV Kiev 69.49 329 P **P 04 30 24.2 -0.4**
KIEV pmax pmax
comp=Z,12nm,1.0s
KIEV Kiev 69.49 329 P **P 04 30 25.5 +1.0**
comp=Z,54nm,1.1s
KIEV Kiev 69.49 329 P **P 04 30 25.8 +1.3**
KIEV pP **pP 04 30 34.8 +0.7**
KIEV sP **pwP 04 30 39.0 +0.8**
AK01 Malin Array Si 69.49 329 P **P 04 30 25.6 +1.0**
AK18 Malin Array Si 69.51 329 P **P 04 30 25.7 +1.0**
AK20 Malin Array Si 69.51 329 P **P 04 30 25.7 +1.0**
AK11 Malin Array Si 69.51 329 P **P 04 30 25.8 +1.1**
AK15 Malin Array Si 69.51 329 P **P 04 30 25.8 +1.1**
AK02 Malin Array Si 69.52 329 P **P 04 30 25.8 +1.0**
AK08 Malin Array Si 69.52 329 P **P 04 30 25.8 +1.0**
AK19 Malin Array Si 69.53 329 P **P 04 30 25.6 +0.8**
AK09 Malin Array Si 69.53 329 P **P 04 30 25.6 +0.8**
AK12 Malin Array Si 69.55 329 P **P 04 30 25.7 +0.8**
AK05 Malin Array Si 69.55 329 P **P 04 30 25.8 +0.8**
AK10 Malin Array Si 69.55 329 P **P 04 30 25.8 +0.8**
AK14 Malin Array Si 69.57 329 P **P 04 30 25.9 +0.8**
AK13 Malin Array Si 69.60 329 P **P 04 30 26.1 +0.8**
AK07 Malin Array Si 69.61 329 P **P 04 30 26.2 +0.9**
VHRN Van Horn 69.72 66 IAmb IAmb 04 30 29.4
comp=Z,7.7nm,1.1s
MI30 MI30,Zelenitsa 69.77 329 P **P 04 30 27.1 +0.8**
DKNS Dickens 69.81 61 IAmb IAmb 04 30 29.3
comp=Z,14nm,1.0s
RNPP9 Sopachiv 69.89 331 P **P 04 30 28.9 +1.8**
PECS Pecos 69.91 65 IAmb IAmb 04 30 30.3
comp=Z,11nm,1.3s
POST Post 69.95 62 P **P 04 30 28.4 +0.6**
POST IAmb IAmb 04 30 30.2
comp=Z,11nm,0.9s
RNPP8 Varash 69.97 331 P **P 04 30 29.0 +1.5**
RNPP5 Staryi Chortor 70.06 331 P **P 04 30 29.5 +1.4**
KIV Kislovodsk 70.06 317 *eP* **P 04 30 25.0 -3.3**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,57nm,18.0s
ODSA Odessa 70.08 63 IAmb IAmb 04 30 31.1
comp=Z,14nm,1.0s
WMOK Wichita Mounta 70.15 59 P **P 04 30 27.8 -1.2**
baz=320,SNR=26
KBZ Khabaz 70.15 316 P **P 04 30 30.3 +1.6**
comp=Z,2.4nm,0.8s,baz=114,slow=4.1,SNR=4.5
KBZ LR LR 05 03 52.3
comp=Z,69nm,19.7s,baz=26,slow=38
comp=Z,2.4nm,0.8s
KBZ Khabaz 70.15 316⇑ *eP* **P 04 30 25.7 -3.0**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
MI29 MI29, Kamyanyy 70.16 329 P **P 04 30 29.8 +1.1**
SSRD Sdr. Stenderup 70.16 342 *i* P **P 04 30 32.1 +3.5**
SSRD IAmb IAmb 04 30 39.6
comp=Z,79nm,1.1s
SN07 Snyder 07 70.26 62 P **P 04 30 30.1 +0.4**
SN07 IAmb IAmb 04 30 32.1
comp=Z,9.3nm,1.0s
HDIL Hopedale 70.39 49 P **P 04 30 30.9 +0.5**
baz=322
APMT Aspermont 70.50 61 IAmb IAmb 04 30 33.3
comp=Z,13nm,0.9s
MNHN Monahans 70.56 64 IAmb IAmb 04 30 34.0
comp=Z,11nm,0.9s
LUBAR Lubar, Ukraine 70.62 329 P **P 04 30 31.7 +0.2**
S39A Bolivar 70.69 53 IAmb IAmb 04 30 33.1
comp=Z,10nm,1.0s
ALPN Alpine 70.79 65 P **P 04 30 32.7 -0.4**
TUL3 Leonard 70.82 56 P **P 04 30 33.7 +0.7**
baz=321
U38A Gravette 71.13 55 IAmb IAmb 04 30 36.4
comp=Z,13nm,0.9s
ABTX Abilene, Hawle 71.30 61 P **P 04 30 35.9 -0.1**
baz=320,SNR=5.0
SADO Sadowa 71.39 40 LR LR 05 05 12.4
comp=Z,56nm,18.3s,baz=352,slow=39
CCM Cathedral Cave 71.43 52 P **P 04 30 36.5 -0.2**
CCM IAmb IAmb 04 30 38.4
comp=Z,11nm,0.9s
CCM Cathedral Cave 71.43 52 P **P 04 30 36.2 -0.4**
baz=322
CCM Cathedral Cave 71.43 52 P **P 04 30 36.5 -0.2**
CCM pmax pmax
comp=Z,11nm,1.0s
CCM Cathedral Cave 71.43 52 P **P 04 30 37.2 +0.6**
TX31 Lajitas Ar. Si 71.56 66 IAmb IAmb 04 30 40.4
comp=Z,12nm,0.9s
TXAR Lajitas Array 71.56 66 P **P 04 30 38.8 +1.1**
TXAR Lajitas Array 71.56 66 P **P 04 30 39.0 +1.3**
comp=Z,6.2nm,0.7s,baz=298,slow=4.4,SNR=86
comp=Z,6.2nm,0.7s
LOOK Love County 71.57 58 IAmb IAmb 04 30 39.9
comp=Z,13nm,0.9s
LDAQ Lac Daran 71.60 33 P **P 04 30 38.2 +0.6**
LDAQ IAmb IAmb 04 30 52.2
comp=Z,9.2nm,1.0s
MGMO Mountain Grove 71.63 53 IAmb IAmb 04 30 40.3
comp=Z,8.6nm,0.8s
OZNA Ozona 71.78 63 IAmb IAmb 04 30 41.3
comp=Z,14nm,1.1s
LVV L'vov 71.86 331 *eP* **P 04 30 40.3 +1.3**
PLPT Palo Pinto 71.87 60 IAmb IAmb 04 30 41.5
comp=Z,12nm,0.9s
FVM French Village 71.88 51 P **P 04 30 40.1 +0.7**
FVM IAmb IAmb 04 31 20.3
comp=Z,13nm,1.1s
FVM French Village 71.88 51 P **P 04 30 40.1 +0.7**
FVM pmax pmax
comp=Z,13nm,1.2s
SAND Sanderson 71.96 65 IAmb IAmb 04 30 42.7
comp=Z,15nm,1.4s
SORM Soroca 71.98 328⇓ P **P 04 30 40.7 +0.9**
SORM Soroca 71.98 328 P **P 04 30 40.7 +0.9**
SORM Soroca 71.98 328 P **P 04 30 39.9 +0.1**
comp=Z,17nm,0.8s
Z35A Perchaven, San 72.04 59 IAmb IAmb 04 30 42.5
comp=Z,16nm,0.9s
GNI Garni 72.22 313 LR LR 05 06 30.8
comp=Z,75nm,20.0s,baz=25,slow=39
KMPD K-Podol'skiy 72.22 329 P **P 04 30 41.4 +0.2**
EKA Eskdalemuir Ar 72.24 350 P **P 04 30 40.9 -0.3**
comp=Z,2.7nm,0.6s,baz=18,slow=5.4,SNR=32
comp=Z,2.7nm,0.6s
ESK Eskdalemuir 72.26 350 P **P 04 30 42.2 +0.9**
ESK IAmb IAmb 04 30 52.1
comp=Z,12nm,0.8s
ESK Eskdalemuir 72.26 350 P **P 04 30 42.2 +0.9**
ESK pmax pmax
comp=Z,12nm,0.9s
LMQ La Malbaie 72.27 33 IAmb IAmb 04 30 53.6
comp=Z,16nm,1.5s
T42A Van Buren 72.31 52 IAmb IAmb 04 30 44.9
comp=Z,7.7nm,0.9s
KWP Kalwaria Pacla 72.42 332 P **P 04 30 42.7 +0.3**
KWP Kalwaria Pacla 72.42 332 P **P 04 30 42.7 +0.3**
KWP pmax pmax
comp=Z,41nm,0.9s
KWP Kalwaria Pacla 72.42 332 P **P 04 30 43.5 +1.1**
comp=Z,58nm,1.1s,comp=Z,522nm
CTAO Charters Tower 72.50 193 P **P 04 30 43.3 +0.2**
CTAO Charters Tower 72.50 193 P **P 04 30 43.3 +0.2**
CTAO pmax pmax
comp=Z,20nm,1.0s
O48B Farmland 72.53 46 P **P 04 30 44.4 +1.1**
baz=324
BRDY Brady 72.67 61 P **P 04 30 43.7 -0.5**
BRDY IAmb IAmb 04 30 46.5
comp=Z,12nm,1.0s
OJC Ojcow 72.70 334 IAmb IAmb 04 30 54.4
comp=Z,18nm,1.1s
OJC Ojcow 72.70 334 P **P 04 30 44.2 +0.1**
comp=Z,16nm,1.2s
JCT Junction City 72.85 63 IAmb IAmb 04 30 47.6
comp=Z,16nm,0.9s
JCT Junction City 72.85 63 P **P 04 30 44.8 -0.5**
baz=321,SNR=6.8
WHTX Lake Whitney, 72.96 60 P **P 04 30 45.8 -0.1**
baz=321
MIAR Mount Ida 73.02 56 P **P 04 30 46.7 +0.5**
MIAR IAmb IAmb 04 30 48.2
comp=Z,15nm,1.1s
MIAR Mount Ida 73.02 56 P **P 04 30 45.4 -0.8**
baz=322,SNR=9.4
MIAR Mount Ida 73.02 56 P **P 04 30 46.7 +0.5**
MIAR pmax pmax
comp=Z,15nm,1.1s
KSP Ksiaz 73.04 337 P **P 04 30 47.2 +1.1**
comp=Z,12nm,1.1s
KOLS Kolonicke sedl 73.17 332 *eP* **P 04 30 49.5 +2.6**
KOLS pmax pmax
comp=Z,9.0nm,0.7s
KOLS Kolonicke sedl 73.17 332 *eP* **P 04 30 49.5 +2.6**
DRIO Del Rio 73.21 64 IAmb IAmb 04 30 51.1
comp=Z,11nm,1.0s
PARMO Parma 73.26 52 P **P 04 30 49.1 +1.5**
NIE Niedzica 73.29 333 P **P 04 30 49.0 +1.4**
comp=Z,3.9nm,1.4s
OSTC Ostas 73.32 336 AMS AMS 05 08 10.0
comp=Z,100nm,18.4s
E62A Clayton Lake 73.35 33 IAmb IAmb 04 30 50.0
comp=Z,8.4nm,0.9s
CLL Collm 73.39 339 *i* P **P 04 30 48.6 +0.5**
comp=Z,18nm,1.0s
CLL *i* pP **pP 04 30 57.2 -0.5**
comp=Z,30nm,1.1s
CLL *e*PcP **PcP 04 31 05.0 +0.8**
CLL *ex* x 04 46 18.0
CLL Collm 73.39 339 *i* P **P 04 30 48.6 +0.5**
CLL *i* 04 30 57.2
CLL pmax pmax
comp=Z,18nm,1.0s
CLL Collm 73.39 339 P **P 04 30 48.9 +0.8**
comp=Z,26nm,1.1s,comp=Z,273nm
CRVS Cervenica-Dubn 73.43 333 *eP* **P 04 30 49.5 +1.1**
CRVS pmax pmax
comp=Z,12nm,1.0s
CRVS Cervenica-Dubn 73.43 333 *eP* **P 04 30 49.5 +1.1**
BUR08 Bucovina Ar. S 73.43 330 IAmb IAmb 04 30 59.0
comp=Z,7.3nm,0.8s
BURAR Bucovina Array 73.45 330⇑ P **P 04 30 49.1 +0.4**
BURAR Bucovina Array 73.45 330 P **P 04 30 49.0 +0.3**
BURAR IAmb IAmb 04 30 52.1
comp=Z,7.0nm,0.8s
BURAR Bucovina Array 73.45 330 P **P 04 30 49.1 +0.4**
DPC Dobruska-Polom 73.49 336 AMS AMS 05 08 50.0
comp=Z,200nm,11.9s
DPC Dobruska-Polom 73.49 336 P **P 04 30 50.2 +1.4**
comp=Z,11nm,1.6s
OKC Ostrava-Krasne 73.49 335 *eP* **P 04 30 51.3 +2.6**
OKC Ostrava-Krasne 73.49 335 *eP* **P 04 30 51.3 +2.6**
M53A Wt Miller and 73.52 43 P **P 04 30 48.8 -0.2**
baz=326
ACSO Alum Creek Sta 73.52 45 P **P 04 30 49.2 +0.2**
baz=325
BRG Berggiesshubel 73.58 338 *eP* **P 04 30 51.4 +2.2**
BRG Amp 04 30 52.4
comp=Z,6.1nm,1.0s
BRG Berggiesshubel 73.58 338 Amp 04 31 00.2
comp=Z,8.9nm,1.0s
BRG Berggiesshubel 73.58 338 *eP* **P 04 30 51.4 +2.2**
BRG 04 30 59.2
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 73.58 338 P P 04 30 59.2 +10

KRLC Kraliky 73.62 336 *e*P **P 04 30 50.4 +0.8**
KRLC AMS AMS 05 08 50.0
comp=Z,200nm,13.9s
KRLC Kraliky 73.62 336 *e*P **P 04 30 50.4 +0.8**
KRLC MLR MLR
comp=Z,200nm,13.9s
WCI Wyandotte Cave 73.65 48 P **P 04 30 50.7 +0.9**
baz=324
MORC Moravsky Berou 73.70 335 ⇓P **P 04 30 51.1 +1.1**
MORC Moravsky Berou 73.70 335 IAmb IAmb 04 31 00.6
comp=Z,15nm,1.0s
MORC Moravsky Berou 73.70 335 *e*P **P 04 30 50.5 +0.4**
MORC Moravsky Berou 73.70 335 P **P 04 30 51.1 +1.1**
PVCC Panska Ves 73.75 337 *e*P **P 04 30 53.5 +3.3**
PVCC Panska Ves 73.75 337 *e*P **P 04 30 53.5 +3.3**
LANS Liptovska Anna 73.76 334 *e*P **P 04 30 52.1 +1.7**
LANS pmax pmax
comp=Z,10.0nm,0.8s
LANS Liptovska Anna 73.76 334 *e*P **P 04 30 52.1 +1.7**
DZM Mont Dzumac 73.83 173 LR LR 04 59 54.8
comp=Z,104nm,18.8s,baz=8.5,slow=33
WLAR White Oak Lake 73.93 56 P **P 04 30 51.8 +0.2**
HSKC Hora Svate Kat 73.94 338 AMS AMS 05 09 40.0
comp=Z,200nm,11.4s
TESR Tescani 73.97 328 ⇓P **P 04 30 51.8 +0.2**
TESR Tescani 73.97 328 P **P 04 30 52.7 +1.1**
PRA Prague 74.21 337 AMS AMS 05 09 00.0
comp=Z,200nm,13.0s
G62A West of Eustis 74.22 34 P **P 04 30 53.5 +0.4**
G62A IAmb IAmb 04 31 12.8
comp=Z,11nm,0.9s
PRU Pruhonice 74.26 337 AMS AMS 05 09 00.0
comp=Z,200nm,12.2s
GOPC GO Pecny, Ondr 74.27 337 *e*P **P 04 30 56.3 +3.0**
GOPC AMS AMS 05 08 50.0
comp=Z,200nm,11.6s
GOPC GO Pecny, Ondr 74.27 337 *e*P **P 04 30 56.3 +3.0**
GOPC MLR MLR
comp=Z,200nm,11.6s
O53A New Philadelph 74.27 44 P **P 04 30 54.2 +0.8**
baz=326
VRAC Vranov 74.38 336 ⇑P **P 04 30 54.6 +0.6**
VRAC Vranov 74.38 336 *e*P **P 04 30 54.9 +0.9**
VRAC Vranov 74.38 336 LR LR 05 09 12.0
comp=Z,136nm,18.3s,baz=14,slow=40
VRAC Vranov 74.38 336 P **P 04 30 54.5 +0.6**
CCAR Cane Creek 74.43 55 P **P 04 30 55.8 +1.4**
VRI Vrincioaia 74.51 328 ⇑P **P 04 30 55.5 +0.7**
VRI Vrincioaia 74.51 328 P **P 04 30 55.4 +0.7**
JAVC Velka Javorina 74.51 335 *e*P **P 04 30 56.7 +1.9**
WB0 Warramunga Arr 74.55 204 P **P 04 30 55.0 -0.2**
PLOR Plostina 74.55 328 ⇓P **P 04 30 56.0 +0.9**
PLOR Plostina 74.55 328 P **P 04 30 55.9 +0.9**
H62A Milan 74.56 35 IAmb IAmb 04 30 57.6
comp=Z,11nm,0.9s
TURR Turia 74.58 328 ⇓P **P 04 30 55.1 0.0**
PKME Peaks-Kenny Pk 74.61 33 P **P 04 30 55.6 +0.3**
baz=331
WVT Waverly 74.61 51 P **P 04 30 55.5 0.0**
baz=324
NATX Nacogdoches 74.63 58 P **P 04 30 56.5 +0.8**
baz=322
CFR Carcaliu 74.64 327 ⇓P **P 04 30 56.1 +0.6**
CFR Carcaliu 74.64 327 P **P 04 30 56.0 +0.6**
KRUC Moravsky 74.66 336 *e*P **P 04 30 57.0 +1.4**
WR0 Warramunga Arr 74.69 204 IAmb IAmb 04 30 57.9
comp=Z,14nm,1.1s
COVR Voineasa-Covas 74.70 328 ⇑P **P 04 30 55.8 -0.1**
WRAB Tennant Creek 74.72 204 P **P 04 30 56.5 +0.4**
WRAB IAmb IAmb 04 30 57.6
comp=Z,17nm,1.0s
WRAB Tennant Creek 74.72 204⇓*e*P **P 04 30 51.6 -4.5**
WRAB pmax pmax
comp=Z,4.0nm,1.4s
WRA Warramunga Arr 74.73 204 P **P 04 30 55.9 -0.3**
WRA Warramunga Arr 74.73 204 P **P 04 30 56.2 0.0**
comp=Z,10nm,0.9s,baz=20,slow=6.2,SNR=35
WRA LR LR 05 01 28.3
comp=Z,64nm,22.0s,baz=106,slow=34
comp=Z,10nm,0.9s
WRA Warramunga Arr 74.73 204 *i*P **P 04 30 56.7 +0.5**
WRA pmax pmax
comp=Z,11nm,0.9s
833A Chaparral WMA, 74.74 64 IAmb IAmb 04 30 59.3
comp=Z,14nm,1.0s
833A Chaparral WMA, 74.74 64 P **P 04 30 56.5 +0.1**
baz=321
CJR Cluj-Napoca 74.76 330 ⇓P **P 04 30 56.6 +0.4**
CJR Cluj-Napoca 74.76 330 P **P 04 30 56.6 +0.4**
PSZ Piszkesteto 74.77 333 ⇓P **P 04 30 57.4 +1.0**
PSZ Piszkesteto 74.77 333 IAmb IAmb 04 31 00.0
comp=Z,10nm,0.9s
PSZ Piszkesteto 74.77 333 P **P 04 30 57.3 +1.0**
TPGR Topolog 74.82 326 ⇑P **P 04 30 56.5 -0.1**
MARR Marisel-Cluj 74.94 330 ⇑P **P 04 30 58.1 +0.7**
DRGR 74.96 331 ⇓P **P 04 30 57.4 -0.1**
DRGR 74.96 331 P **P 04 30 57.3 -0.1**
DIKM Dikmen 75.03 320 ⇑P **P 04 30 59.0 +1.2**
MODS Modra-Piesok 75.06 335 *e*P **P 04 31 00.8 +2.9**
MODS pmax pmax
comp=Z,22nm,1.1s
MODS Modra-Piesok 75.06 335 *e*P **P 04 31 00.8 +2.9**
M57A Sunshine Farm, 75.07 41 IAmb IAmb 04 30 59.4
comp=Z,11nm,0.9s
WVL Waterville 75.10 34 IAmb IAmb 04 31 09.1
comp=Z,32nm,1.8s
MLR Muntele Rosu 75.10 328 ⇓P **P 04 30 58.5 +0.2**
MLR Muntele Rosu 75.10 328 IAmb IAmb 04 31 03.3
comp=Z,8.3nm,0.7s
MLR Muntele Rosu 75.10 328 LR LR 05 07 07.5
comp=Z,100nm,19.0s,baz=5.0,slow=38
MLR Muntele Rosu 75.10 328 P **P 04 30 58.5 +0.2**
OXF Oxford 75.14 53 P **P 04 30 59.0 +0.4**
baz=323
I63A Otisfield 75.22 35 P **P 04 30 59.7 +0.8**
I63A IAmb IAmb 04 31 01.8
comp=Z,9.1nm,0.9s
ZST Bratislava 75.27 335 *e*P **P 04 31 03.3 +4.2**
ZST Bratislava 75.27 335 *e*P **P 04 31 03.3 +4.2**
KHC Kasperske Hory 75.29 338 IAmb IAmb 04 31 10.8
comp=Z,18nm,1.0s
KHC Kasperske Hory 75.29 338 *e*P **P 04 31 00.6 +1.4**
KHC *ep*P **pP 04 31 09.0 +0.1**
KHC AMS AMS 05 09 40.0
comp=Z,200nm,11.8s
KHC Kasperske Hory 75.29 338*de*P **P 04 30 59.9 +0.7**
KHC pmax pmax
comp=Z,26nm,1.0s
SRO Srobarova 75.30 334 *e*P **P 04 31 02.6 +3.4**
SRO pmax pmax
comp=Z,13nm,1.0s
SRO Srobarova 75.30 334 *e*P **P 04 31 02.6 +3.4**
GRFO Grafenberg 75.30 339 P **P 04 30 59.9 +0.7**
GRFO Grafenberg 75.30 339 P **P 04 30 59.9 +0.7**
GRFO pmax pmax
comp=Z,19nm,0.8s
MCWV Mont Chateau 75.35 43 P **P 04 31 00.5 +0.8**
baz=327
SSPA Standing Stone 75.35 41 P **P 04 30 59.7 0.0**
baz=328
CLTN Cedars of Leba 75.36 50 IAmb IAmb 04 31 01.9
comp=Z,6.8nm,0.8s
CKRC Cesky Krumlov 75.40 337 *e*P **P 04 31 00.8 +0.9**
CKRC AMS AMS 05 10 10.0
comp=Z,200nm,13.9s
CKRC Cesky Krumlov 75.40 337 *e*P **P 04 31 00.8 +0.9**
CKRC MLR MLR
comp=Z,200nm,13.9s
V48A Smith Brothers 75.41 50 IAmb IAmb 04 31 03.1
comp=Z,9.2nm,1.1s
PLAL Pickwick Lake 75.42 52 IAmb IAmb 04 31 01.7
comp=Z,12nm,1.2s
VOIR 75.44 329 ⇓P **P 04 31 01.3 +1.0**
VOIR 75.44 329 P **P 04 31 01.2 +1.0**
BTNL Ternell 75.48 343 *d*P **P 04 31 01.7 +1.4**
comp=Z,22nm,1.0s
MEM Membach 75.48 343 *d*P **P 04 31 01.7 +1.5**
comp=Z,37nm,1.0s
GEC2 GERESS Array S 75.52 337 IAmb IAmb 04 31 11.2
comp=Z,12nm,1.1s
GERES GERESS Array B 75.52 337 P **P 04 31 00.6 0.0**
GERES GERESS Array B 75.52 337 P **P 04 31 01.1 +0.4**
comp=Z,2.7nm,0.7s,baz=35,slow=4.9,SNR=17
GERES LR LR 05 09 43.1
comp=Z,118nm,18.1s,baz=76,slow=40
comp=Z,2.7nm,0.7s
BSTI Sart Tilman 75.58 343 *d*P **P 04 31 03.0 +2.1**
comp=Z,6.4nm,1.1s
ARR Arges 75.63 329 ⇓P **P 04 31 02.6 +1.3**
BHOU Houvegnez 75.72 343 *d*P **P 04 31 03.3 +1.6**
comp=Z,17nm,1.1s
SIRR Siria 75.75 331 ⇑P **P 04 31 03.0 +1.1**
BCLA Clavier 75.79 343 *d*P **P 04 31 04.3 +2.3**
comp=Z,15nm,1.0s
CONA Conrad Observa 75.84 336 *e*P **P 04 31 04.4 +1.9**
comp=Z,9.1nm,0.8s,SNR=9.7
BGES Gesves 75.86 343 *d*P **P 04 31 03.7 +1.2**
comp=Z,14nm,1.0s
RONA Rosalia, Austr 75.94 335 *i*P **P 04 31 05.0 +2.0**
comp=Z,10.0nm,1.1s,SNR=6.6
BMRD Maredsous 76.00 344 *d*P **P 04 31 04.2 +1.0**
comp=Z,21nm,1.0s
RCHB Rochefort 76.06 343 *d*P **P 04 31 05.0 +1.4**
comp=Z,13nm,1.0s
SURR Surduc 76.07 331 ⇑P **P 04 31 04.2 +0.4**
BUC1 Bucharest 76.08 327 ⇑P **P 04 31 04.3 +0.5**
BUC1 Bucharest 76.08 327 P **P 04 31 04.3 +0.5**
GZR Gura Zlata 76.20 330 ⇑P **P 04 31 05.1 +0.5**
GZR Gura Zlata 76.20 330 P **P 04 31 05.0 +0.5**
DOU Dourbes 76.22 344 *d*P **P 04 31 05.8 +1.3**
comp=Z,11nm,1.1s
SWET Sewanee 76.26 50 IAmb IAmb 04 31 32.1
comp=Z,25nm,1.4s
MOA Molln 76.31 337 *i*P **P 04 31 06.5 +1.4**
comp=Z,6.0nm,1.0s
BZS Buzias 76.35 331 ⇑P **P 04 31 05.8 +0.5**
BZS Buzias 76.35 331 P **P 04 31 05.8 +0.5**
ARSA Arzberg 76.56 336 *e*P **P 04 31 07.8 +1.3**
comp=Z,7.0nm,1.2s,SNR=6.4
STU Stuttgart 76.61 340 P **P 04 31 08.2 +1.5**
STU IAmb IAmb 04 31 17.5
comp=Z,20nm,1.2s
STU Stuttgart 76.61 340 P **P 04 31 08.2 +1.5**
STU pmax pmax
comp=Z,20nm,1.2s
BIOA Bad Ischl, Aus 76.62 337 *i*P **P 04 31 08.9 +2.1**
comp=Z,4.6nm,0.9s
PAL Palisades 76.62 39 P **P 04 31 06.7 -0.2**
baz=329
MORH Mrgy, Hungar 76.67 333 ⇑P **P 04 31 07.7 +0.6**
HERR Herculane 76.77 330 ⇑P **P 04 31 08.1 +0.4**
TKL Tuckaleechee C 76.91 48 LR LR 05 06 07.8
comp=Z,67nm,20.5s,baz=327,slow=36
FPAL Fort Paine 76.96 50 IAmb IAmb 04 31 11.9
comp=Z,11nm,1.1s
L64A Middleborough 76.97 36 IAmb IAmb 04 31 10.6
comp=Z,11nm,0.9s
MDVR Moldovita 77.07 331 ⇓P **P 04 31 10.1 +0.6**
LESA Schwarzleotal 77.10 337 *i*P **P 04 31 11.5 +1.9**
comp=Z,10nm,1.2s
EIDS Eidsvold 77.19 188 P **P 04 31 10.8 +0.8**
BFO Black Forest 77.20 341 P **P 04 31 10.5 +0.4**
BFO IAmb IAmb 04 31 20.8
comp=Z,14nm,1.1s
BFO Black Forest 77.20 341 P **P 04 31 10.5 +0.4**
BFO pmax pmax
comp=Z,14nm,1.1s
SOKA Soboth 77.21 336 *e*P **P 04 31 11.2 +1.0**
comp=Z,11nm,1.0s,SNR=11
PERS Pernice 77.23 336 *i*P **P 04 31 11.2 +0.9**
PERS *i*pP **pP 04 31 19.4 -0.6**
KBA Koelnbreinsper 77.26 337 *e*P **P 04 31 12.5 +1.9**
comp=Z,47nm,0.9s,SNR=31
FRGS Fruska Gora 77.30 332 ⇑P **P 04 31 10.7 0.0**
BRTR Keskin Array B 77.32 320 P **P 04 31 11.0 0.0**
BRTR Keskin Array B 77.32 320 P **P 04 31 11.2 +0.2**
comp=Z,2.9nm,0.8s,baz=56,slow=3.9,SNR=11
comp=Z,2.9nm,0.8s
ELND Elena 77.39 327 ⇑P **P 04 31 11.1 -0.2**
WATA Walderalm 77.44 338 *i*P **P 04 31 13.3 +1.7**
comp=Z,17nm,1.3s,SNR=5.6
RETA Reutte 77.48 339 *i*P **P 04 31 13.3 +1.6**
comp=Z,8.1nm,1.2s,SNR=6.2
WTTA Wattenberg 77.49 338 *i*P **P 04 31 13.8 +1.9**
comp=Z,18nm,1.1s,SNR=8.7
OBKA Obir 77.49 336 *i*P **P 04 31 12.6 +0.7**
comp=Z,18nm,1.3s,SNR=7.0
LRAL Lakeview Retre 77.51 52 P **P 04 31 12.4 +0.4**
baz=325
MYKA Terra Mystica 77.61 337 *i*P **P 04 31 14.9 +2.5**
comp=Z,7.3nm,1.0s
MDUB Mudurnu 77.63 322 P **P 04 31 11.7 -1.0**
SQTA Sankt Quirin 77.63 338 *e*P **P 04 31 14.5 +1.8**
comp=Z,15nm,1.1s,SNR=8.9
ABTA Abfaltersbach 77.77 337 *i*P **P 04 31 14.8 +1.4**
comp=Z,28nm,1.1s,SNR=5.9
PRED Cave del Predi 77.80 337 IAmb IAmb 04 31 22.9
comp=Z,15nm,0.9s
DAVA Damuels 77.87 339 *i*P **P 04 31 16.3 +2.3**
comp=Z,13nm,1.1s,SNR=6.1
FETA Feichten 77.93 339 *i*P **P 04 31 16.1 +1.8**
comp=Z,11nm,1.0s,SNR=7.4
BOVS Bovan 78.11 330 ⇓P **P 04 31 16.1 +0.8**
CEY Cerknica 78.24 336 *i*P **P 04 31 16.6 +0.7**
CEY *ep*P **PcP 04 31 24.8 -0.5**
AS31 Alice Springs 78.40 204 P **P 04 31 17.6 +0.7**
ASAR Alice Springs 78.40 204 P **P 04 31 18.1 +1.2**
ASAR Alice Springs 78.40 204 P **P 04 31 17.8 +0.9**
comp=Z,3.9nm,0.8s,baz=16,slow=5.2,SNR=27
ASAR LR LR 05 02 58.3
comp=Z,51nm,21.6s,baz=58,slow=33
comp=Z,3.9nm,0.8s
ASAR Alice Springs 78.40 204 P **P 04 31 18.1 +1.2**
FUORN Ofenpass-Fuorn 78.41 339 P **P 04 31 16.6 -0.5**
FUORN IAmb IAmb 04 31 28.6
comp=Z,15nm,1.2s
UOSS Minazif 78.43 296 P **P 04 31 16.9 -0.3**
UOSS IAmb IAmb 04 31 28.0
comp=Z,19nm,1.1s
CLF Chambon-Foret 78.62 345 P **P 04 31 17.9 0.0**
TUE Stuetta 78.75 339 P **P 04 31 19.9 +0.9**
RDO Rodhopi 79.09 326 IAmb IAmb 04 31 31.0
comp=Z,15nm,1.0s
PDG Podgorica 79.95 331 IAmb IAmb 04 31 35.7
comp=Z,15nm,0.9s
PUK Puka 80.12 331 P **P 04 31 25.9 -0.4**
PUK IAmb IAmb 04 31 41.9
comp=Z,15nm,1.2s
FNA Florina 80.80 329 IAmb IAmb 04 31 32.4
comp=Z,9.5nm,0.9s
SSB Saint Sauveur 80.88 342 IAmb IAmb 04 31 41.7
comp=Z,14nm,0.9s
GUMA Gualdo di Mace 81.02 335 IAmb IAmb 04 31 59.7
comp=Z,36nm,0.9s
KBN Korca 81.13 329 P **P 04 31 32.6 +0.8**
KBN IAmb IAmb 04 31 48.1
comp=Z,14nm,0.8s
KBN Korca 81.13 329 P **P 04 31 32.6 +0.8**
KBN pmax pmax
comp=Z,14nm,0.8s
NRCA Norcia 81.29 336 P **P 04 31 33.2 +0.6**
CSS Mathiatis 81.53 318 P **P 04 31 34.7 +0.8**
CSS IAmb IAmb 04 31 37.6
comp=Z,14nm,0.8s
SGRT San Giovanni R 81.59 333 IAmb IAmb 04 31 44.1
comp=Z,16nm,1.1s
INTR Introdacqua 81.85 335 IAmb IAmb 04 31 47.1
comp=Z,15nm,0.9s
PPT Papeete 82.13 131 LR LR 04 58 59.5
comp=Z,45nm,20.4s,baz=314,slow=29
PPT2 Papeete2 82.15 131 *e*LR LR 04 57 19.3
comp=Z,97nm,22.5s
PPT2 *e*LR LR 04 57 20.8
comp=Z,100nm,24.0s
MMAI Mount Meron Ar 82.31 315 P **P 04 31 38.3 +0.2**
comp=Z,19nm,0.8s,baz=50,slow=4.7,SNR=8.5
MMAI LR LR 05 13 11.3
comp=Z,50nm,18.9s,baz=4.5,slow=39
comp=Z,19nm,0.8s
TIP Timpagrande 83.69 332 ⇑P **P 04 31 45.9 +0.8**
STKA Stephens Creek 84.78 195 P **P 04 31 50.6 +0.2**
comp=Z,1.3nm,0.3s,baz=336,slow=12,SNR=2.3
STKA LR LR 05 06 29.3
comp=Z,44nm,21.9s,baz=24,slow=33
comp=Z,1.3nm,0.3s
RAYN Ar Rayn 85.37 303 P **P 04 31 53.0 -0.9**
RAYN Ar Rayn 85.37 303 P **P 04 31 53.0 -0.9**
RAYN pmax pmax
comp=Z,22nm,1.0s
ESDC Sonseca Array 87.73 347 P **P 04 32 04.7 -0.5**
ESDC IAmb IAmb 04 32 16.8
comp=Z,5.6nm,1.1s
ESDC Sonseca Array 87.73 347 P **P 04 32 05.1 -0.1**
comp=Z,2.3nm,0.7s,baz=3.8,slow=4.3,SNR=19
comp=Z,2.3nm,0.7s
PAB San Pablo 87.91 347 P **P 04 32 05.9 -0.2**
KEST Kesra 88.95 336 P **P 04 32 11.5 +0.5**
comp=Z,2.4nm,0.8s,baz=74,slow=10.0,SNR=2.4
KEST LR LR 05 18 48.1
comp=Z,72nm,18.1s,baz=320,slow=40
comp=Z,2.4nm,0.8s
MDT Midelt 94.56 347 LR LR 05 22 38.3
comp=Z,44nm,18.5s,baz=70,slow=40
JTS Las Juntas de 97.22 63 LR LR 05 20 47.8
comp=Z,28nm,18.0s,baz=312,slow=38
SJG San Juan 99.88 44 LR LR 05 20 30.1
comp=Z,43nm,19.9s,baz=30,slow=37
TORD Torodi Ar. Bea 112.47 336 PP **PP 04 38 36.0 -1.9**
comp=Z,1.3nm,1.0s,baz=24,slow=9.4,SNR=3.9
H03N2 Juan Fernandez 134.66 90 T T 07 08 58.9
baz=314,slow=77,SNR=204
H03N1 Juan Fernandez 134.67 90 T T 07 08 59.7
baz=314,slow=77,SNR=208
H03N3 Juan Fernandez 134.67 90 T T 07 08 53.0
baz=314,slow=77,SNR=164
PLCA Paso Flores 144.43 92 PKP PKPbc 04 38 50.9 +0.2
comp=Z,11nm,0.9s,baz=270,slow=6.1,SNR=10
ELIB Princess Elisa 152.15 208 *d*PKPdf **PKPbc 04 39 10.3 -0.2**
ELIB *dp*PKP **PKPab 04 39 19.6 -0.7**
TROLL Troll, Antarti 157.30 198 ⇑PKPab **PKPab 04 39 42.1 -0.1**
comp=Z,251nm,0.9s
SNAA Sanae 158.54 195 ⇑PKPab **PKPab 04 39 47.9 +0.3**
comp=Z,24nm,0.8s
SNAA Sanae 158.54 195 PKPab **PKPab 04 39 47.5 0.0**
comp=Z,1.2nm,0.9s,baz=171,slow=6.5,SNR=6.8
VNA3 Neumayer Olymp 159.88 190 ⇑PKPab **PKPab 04 39 53.3 -0.1**
comp=Z,3.8nm,0.8s
VNA2 Neumayer–Watz 159.89 193 ⇑PKPab **PKPab 04 39 55.2 +1.9**
comp=Z,3.1nm,0.7s,baz=178,slow=3.5

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*IDC **21** 04:27:24.2±2.0, 9°.22S×112°.98E, h0km, mb4.0/8, mbtmp4.0/8, Error ellipse: s-maj=82.0km s-min=21.2km az=49.0*
*DJA **21** 04:27:29.8±1.2, 10°S±5°×11°3E±°, h16km±11km, M4.0/14, mb4.0/2, MLv4.1/14*
ISC 21 04:27:29.0±1.2, 9°.6S±0°.1×112°.80E±0°.05, h36km, n20, σ2§26/22, mb4.2/8, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.73**	**51**	P	**Pn**	**04 27 57.1**	**+0.6**
JAGI				S	**Sn**	**04 28 19.2**	**+1.9**
PWJI	**Pagerwojo**	**1.83**	**327**	P	**Pn**	**04 27 59.4**	**+1.5**
ABJI	**Asem Bagus**	**2.26**	**39**	P	**Pn**	**04 28 06.5**	**+2.6**
DNP	**Denpasar**	**2.54**	**70**	P	**Pn**	**04 28 10.1**	**+2.4**
UGM	**Wanagama**	**2.79**	**306**	P	**Pn**	**04 28 14.1**	**+2.9**
SRBI	**Singaraja**	**2.80**	**58**	P	**Pn**	**04 28 13.4**	**+2.1**
SRBI				S	**Sn**	**04 28 46.5**	**+2.6**
YOGI	**Yogyakarta**	**3.03**	**305**	P	**Pn**	**04 28 17.1**	**+2.6**
SMRI	**Semarang**	**3.43**	**317**	P	**Pn**	**04 28 22.4**	**+2.5**
TWSI	**Taliwang, Sumb**	**4.11**	**79**	P	**Pn**	**04 28 31.5**	**+2.1**
CMJI	**Cimerak**	**4.66**	**292**	P	**Pn**	**04 28 40.0**	**+3.2**
PLAI	**Plampang**	**4.97**	**82**	P	**Pn**	**04 28 43.2**	**+2.1**
CNJI	**Cibinong**	**6.04**	**291**	P	**Pn**	**04 28 59.2**	**+3.3**
WRA	**Warramunga Arr**	**23.21**	**119**	P	**P**	**04 32 33.8**	**+0.8**
	1.0nm,1.0s,baz=297,slow=11,SNR=2.5						
	1.0nm,1.0s						
ASAR	**Alice Springs**	**24.55**	**127**	P	**P**	**04 32 46.4**	**+0.7**
	0.9nm,0.7s,baz=309,slow=9.4,SNR=5.4						
	0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.03**	**334**	P	**P**	**04 33 42.2**	**-1.3**
	1.5nm,0.3s,baz=173,slow=9.1,SNR=1.7						
	1.5nm,0.3s						
MJAR	**Matsushiro Arr**	**51.72**	**26**	P	**P**	**04 36 29.9**	**-3.0**
	0.8nm,0.3s,baz=212,slow=6.6,SNR=2.5						
	0.8nm,0.3s						
SONM	**Songino Array**	**57.43**	**355**	P	**P**	**04 37 13.3**	**-0.9**
	1.6nm,0.6s,baz=169,slow=8.0,SNR=7.6						
	1.6nm,0.6s						
MKAR	**Makanchi Array**	**62.37**	**337**	P	**P**	**04 37 47.0**	**-1.1**
	1.2nm,0.5s,baz=152,slow=7.3,SNR=12						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**66.93**	**337**	P	**P**	**04 38 16.9**	**-0.8**
	0.4nm,0.3s,baz=146,slow=6.6,SNR=2.0						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**67.57**	**343**	P	**P**	**04 38 20.0**	**-1.6**
	1.3nm,0.5s,baz=173,slow=3.2,SNR=5.9						
	1.3nm,0.5s						

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*NOU **21** 04:27:45.3, 38°.39S×176°.06E, h219km, MLv3.5/8, North Island, New Zealand*
*WEL **21** 04:27:49.9±0.6, 38°S±4°×17°6E±°, h173km±4km, M2.7/43, MLv2.7/43, Error ellipse: s-maj=0.0km s-min=0.0km az=84.0, confirmed*
ISC 21 04:27:44.9±1.7, 38°.39S±0°.05×175°.90E±0°.05, h212km±9km, n113, σ1§54/131, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.34**	**202**	P	**Pn**	**04 28 14.5**	**+1.6**
ALRZ	**Allen Road**	**0.39**	**117**	P	**Pn**	**04 28 13.9**	**+0.9**
KARZ	**Kaharoa**	**0.46**	**37**	P	**Pn**	**04 28 14.4**	**+1.1**
RATZ	**Rangitukua**	**0.49**	**191**	P	**Pn**	**04 28 14.7**	**+1.3**
HATZ	**Hinemaiaia**	**0.53**	**163**	P	**Pn**	**04 28 14.7**	**+1.2**
HATZ				S	**Sn**	**04 28 34.0**	**-1.9**
KMRZ	**Kaimai**	**0.54**	**4**	P	**Pn**	**04 28 14.8**	**+1.1**
RITZ	**Rihia Road**	**0.59**	**183**	P	**Pn**	**04 28 15.5**	**+1.8**
MRHZ	**Matea Rd**	**0.60**	**138**	P	**Pn**	**04 28 14.9**	**+1.0**
MRHZ				S	**Sn**	**04 28 33.5**	**-2.9**
KATZ	**Kakaramea**	**0.61**	**195**	P	**Pn**	**04 28 15.5**	**+1.5**
TGRZ	**Tauranga**	**0.72**	**24**	P	**Pn**	**04 28 15.3**	**+1.0**
TOZ	**Tahuroa Road**	**0.72**	**334**	P	**Pn**	**04 28 15.8**	**+1.4**
NTVZ	**North Tongarir**	**0.73**	**194**	P	**Pn**	**04 28 16.3**	**+1.8**
MARZ	**Manawahe**	**0.73**	**57**	P	**Pn**	**04 28 14.6**	**+0.1**
KRVZ	**Karewarewa**	**0.73**	**196**	P	**Pn**	**04 28 16.0**	**+1.5**
TMVZ	**Te Maari**	**0.74**	**192**	P	**Pn**	**04 28 16.3**	**+1.7**
TMVZ				S	**Sn**	**04 28 37.0**	**-0.8**
OPRZ	**Ohinepanea**	**0.75**	**44**	P	**Pn**	**04 28 15.4**	**+0.9**
ETVZ	**East Tongariro**	**0.76**	**191**	P	**Pn**	**04 28 16.3**	**+1.7**
ETVZ				S	**Sn**	**04 28 37.4**	**-0.6**
WTVZ	**West Tongariro**	**0.77**	**198**	P	**Pn**	**04 28 16.3**	**+1.6**
TWVZ	**Taurewa**	**0.77**	**208**	P	**Pn**	**04 28 16.2**	**+1.6**
NNVZ	**North Ngauruho**	**0.78**	**196**	P	**Pn**	**04 28 16.3**	**+1.6**
SNVZ	**South Ngauruho**	**0.82**	**194**	P	**Pn**	**04 28 16.9**	**+1.9**
SNVZ				S	**Sn**	**04 28 38.7**	**0.0**
HIZ	**Hauiti**	**0.83**	**261**	P	**Pn**	**04 28 16.7**	**+1.8**
HIZ	**Hauiti**	**0.83**	**261**	P	**Pn**	**04 28 15.6**	**+0.7**
COVZ	**Chateau Observ**	**0.86**	**199**	P	**Pn**	**04 28 16.8**	**+1.6**
MTHZ	**Maungataniwha**	**0.87**	**122**	P	**Pn**	**04 28 16.6**	**+1.5**
MTHZ				S	**Sn**	**04 28 36.8**	**-1.9**
RTZ	**Ruatahuna**	**0.88**	**105**	P	**Pn**	**04 28 16.7**	**+1.4**
RTZ				S	**Sn**	**04 28 37.3**	**-1.5**
TUVZ	**Tukino**	**0.90**	**192**	P	**Pn**	**04 28 17.2**	**+1.8**
BKZ	**Black Stump Fm**	**0.91**	**149**	P	**Pn**	**04 28 16.6**	**+1.2**
BKZ	**Black Stump Fm**	**0.91**	**149**	P	**Pn**	**04 28 16.8**	**+1.4**
BKZ				S	**Sn**	**04 28 37.1**	**-2.1**
FWVZ	**Far West T-bar**	**0.91**	**197**	P	**Pn**	**04 28 15.9**	**+0.3**
MAVZ	**Matarangi**	**0.92**	**196**	P	**Pn**	**04 28 17.4**	**+1.6**
WHVZ	**Whangaehu Hut**	**0.93**	**195**	P	**Pn**	**04 28 17.4**	**+1.7**
TRVZ	**Turoa**	**0.95**	**197**	P	**Pn**	**04 28 17.6**	**+1.7**
URZ	**Urewera**	**0.96**	**83**	P	**Pn**	**04 28 16.2**	**+0.5**
URZ	**Urewera**	**0.96**	**83**	P	**Pn**	**04 28 16.3**	**+0.7**
URZ				S	**Sn**	**04 28 36.2**	**-3.2**
WNVZ	**Wahianoa**	**0.97**	**194**	P	**Pn**	**04 28 17.5**	**+1.6**
NMHZ	**Naumai**	**1.00**	**135**	P	**Pn**	**04 28 18.4**	**+2.4**
NMHZ				S	**Sn**	**04 28 39.9**	**-0.3**
MOVZ	**Moawhango**	**1.02**	**186**	P	**Pn**	**04 28 17.5**	**+1.4**
MOVZ				S	**Sn**	**04 28 38.1**	**-2.5**
RAHZ	**Arahi**	**1.07**	**120**	P	**Pn**	**04 28 18.3**	**+1.9**
RAHZ				S	**Sn**	**04 28 40.0**	**-0.9**
KWHZ	**Kaweka Forest**	**1.11**	**159**	P	**Pn**	**04 28 18.8**	**+2.0**
KWHZ				S	**Sn**	**04 28 40.8**	**-0.8**
VRZ	**Vera Road**	**1.16**	**230**	P	**Pn**	**04 28 18.9**	**+2.0**
ARHZ	**Aropaoanui**	**1.23**	**136**	P	**Pn**	**04 28 19.6**	**+2.2**
ARHZ				S	**Sn**	**04 28 42.1**	**-0.7**
MCHZ	**McNeill Hill**	**1.23**	**150**	P	**Pn**	**04 28 19.9**	**+2.5**
MCHZ				S	**Sn**	**04 28 43.0**	**+0.1**
MWZ	**Matawai**	**1.28**	**88**	P	**Pn**	**04 28 19.1**	**+1.2**
MWZ				S	**Sn**	**04 28 41.3**	**-2.3**
KRHZ	**Kereru**	**1.31**	**164**	P	**Pn**	**04 28 20.0**	**+1.9**
KRHZ				S	**Sn**	**04 28 42.8**	**-1.3**
MKAZ	**Moumakai**	**1.41**	**335**	P	**Pn**	**04 28 20.6**	**+1.7**

RUGZ	Raukumara Rang	1.47 74	P	Pn	04 28 19.8 +0.2
RIGZ	Rimuhau	1.50 103	P	Pn	04 28 21.6 +1.9
KNZ	Kokohu	1.53 115	P	Pn	04 28 21.7 +1.8
TKGZ	Te Karaka	1.53 93	P	Pn	04 28 22.0 +2.1
WAZ	Wanganui	1.54 207	P	Pn	04 28 21.9 +1.9
PNHZ	Pukenui	1.54 171	P	Pn	04 28 21.8 +1.8
PNHZ			S	Sn	04 28 46.0 -1.6
CKHZ	Cape Kidnapper	1.57 144	P	Pn	04 28 22.5 +2.3
KAHZ	Kahuranaki	1.60 152	P	Pn	04 28 22.9 +2.4
HAZ	Te Kaha	1.62 68	P	Pn	04 28 21.3 +0.6
KUZ	Kuaotunu	1.65 355	P	Pn	04 28 22.4 +1.4
KUZ	Kuaotunu	1.65 355	P	Pn	04 28 22.4 +1.4
PRGZ	Paritu Road	1.65 110	P	Pn	04 28 22.8 +1.8
AWAZ	Awhitu Peninsu	1.65 323	P	Pn	04 28 23.1 +2.0
TWGZ	Tauwhareparae	1.65 83	P	Pn	04 28 23.4 +2.3
NEZ	North Egmont	1.66 237	P	Pn	04 28 23.8 +2.7
TSZ	Takapari Road	1.67 178	P	Pn	04 28 23.0 +1.8
WIAZ	Waiheke Island	1.70 339	P	Pn	04 28 23.3 +1.8
WPHZ	Waipukurau	1.73 166	P	Pn	04 28 23.6 +1.9
MHGZ	Mahia Peninsul	1.75 117	P	Pn	04 28 24.1 +2.2
PKGZ	Pakihiroa	1.79 75	P	Pn	04 28 23.9 +1.6
MBAZ	Motutapu North	1.80 334	P	Pn	04 28 24.2 +1.8
PXZ	Pawanui	1.81 156	P	Pn	04 28 24.4 +2.0
OHWZ	Ohakea	1.87 194	P	Pn	04 28 25.3 +2.3
DVHZ	Dannevirke	1.92 174	P	Pn	04 28 25.0 +1.5
PRHZ	Porangahau	1.96 163	P	Pn	04 28 25.7 +1.8
POWZ	Post Office Ro	2.00 183	P	Pn	04 28 25.9 +1.6
MXZ	Matakoao Point	2.08 67	P	Pn	04 28 26.8 +1.7
ANWZ	Angora Road	2.12 168	P	Pn	04 28 27.4 +2.0
GRZ	Great Barrier	2.16 351	P	Pn	04 28 27.8 +1.8
PRWZ	Pori Road	2.17 178	P	Pn	04 28 27.8 +1.8
MRZ	Mangatainoka R	2.28 186	P	Pn	04 28 28.6 +1.4
OGWZ	Otaki Gorge	2.49 193	P	Pn	04 28 30.8 +1.5
HOWZ	Holdsworth Sta	2.52 187	P	Pn	04 28 31.0 +1.2
CPWZ	Castlepoint	2.53 175	P	Pn	04 28 31.5 +1.7
KIW	Kapiti Island	2.59 197	P	Pn	04 28 31.6 +1.1
TMWZ	Te Maipa	2.72 180	P	Pn	04 28 33.0 +1.1
MTW	Mount Morrison	2.78 186	P	Pn	04 28 33.6 +0.9
CAW	Cannon Point	2.79 193	P	Pn	04 28 34.0 +1.3
DUWZ	D'Urville Isla	2.85 212	P	Pn	04 28 34.6 +1.1
TRWZ	Traveller	3.01 183	P	Pn	04 28 36.3 +1.0
PAWZ	Paruwai Farm	3.01 187	P	Pn	04 28 34.6 -0.6
WEL	Wellington	3.02 196	P	Pn	04 28 36.6 +1.3
SNZO	South Karori	3.06 197	P	Pn	04 28 37.1 +1.3
MSWZ	Moikau Station	3.07 189	P	Pn	04 28 36.7 +0.8
TCW	Tory Channel	3.08 203	P	Pn	04 28 37.3 +1.2
BHW	Baring Head	3.12 194	P	Pn	04 28 37.4 +0.9
PLWZ	Palliser	3.22 189	P	Pn	04 28 38.3 +0.6
TUWZ	Tuamarina	3.39 206	P	Pn	04 28 40.9 +1.3
NNZ	Nelson	3.43 214	P	Pn	04 28 40.9 +0.8
TKNZ	Takaka Hill	3.48 220	P	Pn	04 28 41.1 +0.3
BSWZ	Blackbirch Sta	3.67 204	P	Pn	04 28 44.3 +1.3
MRNZ	Matariki Terra	3.86 218	P	Pn	04 28 45.7 +0.4
THZ	Tophouse	4.08 213	P	Pn	04 28 48.9 +0.8
KHZ	Kahutara	4.41 203	P	Pn	04 28 53.3 +1.2
KHZ	Kahutara	4.41 203	P	Pn	04 28 53.3 +1.2
LTZ	Lake Taylor	5.18 211	P	Pn	04 29 02.5 +0.5
OKCZ	Okains Bay	5.75 201	P	Pn	04 29 09.8 +0.8
MQZ	McQueen's Vall	5.85 204	P	Pn	04 29 10.0 -0.3
AKCZ	Akaroa Harbour	5.92 201	P	Pn	04 29 11.6 +0.3
WACZ	Wakanui South	6.34 208	P	Pn	04 29 16.6 +0.1
RPZ	Rata Peaks	6.46 213	P	Pn	04 29 19.2 +1.0
RPZ	Rata Peaks	6.46 213	P	Pn	04 29 18.9 +0.7
ARCZ	Arundel	6.60 211	P	Pn	04 29 20.6 +0.7
TMZ	Timaru	7.03 210	P	Pn	04 29 26.0 +0.5
LBZ	Lake Benmore	7.37 214	P	Pn	04 29 30.1 +0.2
ODZ	Otahua Downs	7.72 209	P	Pn	04 29 35.5 +1.0
ODZ	Otahua Downs	7.72 209	P	Pn	04 29 35.2 +0.8

ROM 21 04:28:37.0±0.1, 42°.954N±0°.004×13°.125E±0°.005, h8km, ML1.1/13, 1C, Error ellipse: s-maj=0.4km s-min=0.2km az=192.0, Central Italy

Code	Station Name	Δ°	AZ²	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	Monte Fema	0.06	278	P	Pg	04 28 39.0	+0.1
FEMA				S	Sg	04 28 40.5	+0.3
NRCA	Norcia	0.12	184	⇑P	Pg	04 28 40.0	+0.3
NRCA				S	Sg	04 28 42.2	+0.7
NRCA	comp=E,220μm,0.1s			AML	AML		
NRCA	comp=N,273μm,0.4s			AML	AML		
NRCA	comp=N,249μm,0.1s			AML	AML		
NRCA	comp=N,239μm,0.1s			AML	AML		
NRCA	comp=E,217μm,0.1s			AML	AML		
NRCA	comp=E,220μm,0.1s			AML	AML		
CSP1	Cessapalombo	0.15	23	P	Pg	04 28 40.5	+0.3
CSP1				S	Sg	04 28 43.1	+0.6
CSP1	comp=E,54μm,1.4s			AML	AML		
CSP1	comp=N,33μm,1.2s			AML	AML		
CSP1	comp=E,55μm,1.4s			AML	AML		
CSP1	comp=E,51μm,0.3s			AML	AML		
CSP1	comp=N,25μm,0.3s			AML	AML		
MMO1	Montemonaco	0.16	110	P	Pg	04 28 40.4	+0.1
MMO1				S	Sg	04 28 43.1	+0.5
CESI	CESI - Serrava	0.17	287	P	Pg	04 28 41.1	+0.6
CESI				S	Sg	04 28 44.5	+1.5
CESI	comp=N,240μm,0.4s			AML	AML		
CESI	comp=E,95μm,0.4s			AML	AML		
CESI	comp=N,193μm,0.2s			AML	AML		
GUMA	Gualdo di Mace	0.19	55	P	Pg	04 28 41.5	+0.6
GUMA				S	Sg	04 28 45.0	+1.6
MML1	Montelago di S	0.20	325	P	Pg	04 28 41.5	+0.5
MML1				S	Sg	04 28 44.7	+1.0
PF6	Pievefavera	0.20	14	P	Pg	04 28 41.5	+0.5
MF5	Montefalcone A	0.25	82	P	Pg	04 28 42.8	+0.9
MF5				S	Sg	04 28 47.4	+2.1
MF5	comp=E,86μm,0.2s			AML	AML		
MF5	comp=N,54μm,0.2s			AML	AML		
MF5	comp=E,86μm,0.2s			AML	AML		
MF5	comp=N,54μm,0.2s			AML	AML		
MF5	comp=E,86μm,0.2s			AML	AML		
MF5	comp=N,54μm,0.2s			AML	AML		
ASSB	Assisi San Ben	0.35	285	P	Pg	04 28 44.5	+0.6
ASSB				S	Sb	04 28 50.4	-0.9
ASSB	comp=E,51μm,1.4s			AML	AML		
ASSB	comp=N,46μm,0.2s			AML	AML		
ASSB	comp=E,47μm,0.2s			AML	AML		
ASSB	comp=N,41μm,0.1s			AML	AML		
SMA1	SAN MARTINO	0.36	154	P	Pb	04 28 45.7	0.0
SMA1	comp=E,279μm,0.5s			AML	AML		
SMA1	comp=N,124μm,0.4s			AML	AML		
SMA1	comp=E,264μm,0.1s			AML	AML		
SMA1	comp=N,121μm,0.2s			AML	AML		
RM33	Pellescritta (	0.45	172	P	Pb	04 28 46.8	-0.4
RM33	comp=E,34μm,1.3s			AML	AML		
RM33	comp=N,31μm,0.3s			AML	AML		
RM33	comp=N,31μm,0.3s			AML	AML		
RM33	comp=N,27μm,0.1s			AML	AML		
RM33	comp=E,28μm,0.1s			AML	AML		
TERO	Teramo	0.48	133	P	Pg	04 28 46.7	+0.3
TERO	comp=E,23μm,0.8s			AML	AML		
TERO	comp=N,21μm,0.4s			AML	AML		
TERO	comp=N,16μm,0.1s			AML	AML		
TERO	comp=E,19μm,0.2s			AML	AML		

*IDC **21** 04:33:39.1±6.8, 23°.74N×144°.07E, h98km±61km, mb3.3/8, mbtmp3.7/10, ML3.4/2, MS3.0/1, Error ellipse: s-maj=42.8km s-min=18.5km az=78.0*

ISC 21 04:33:32.2±1.1, 23°.9N±0°.2×144°.2E±0°.3, h35km, n11, σ1§24/10, mb3.7/8, Volcano Islands region

Code	Station Name	Δ°	AZ²	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	13.65	339	P	P	04 36 49.7	-1.9
	0.1nm,0.3s,baz=162,slow=10,SNR=2.3 0.8nm,0.3s						
KSRS	Korea Array	19.42	318	P	Pn	04 37 57.3	+0.5
	0.2nm,0.3s,baz=123,slow=13,SNR=1.7 0.5nm,0.4s						
SHEM	Shemya Is, Ala	36.71	31	LR	LR	04 53 35.1	
	comp=Z,27nm,21.8s,baz=160,slow=32						
SONM	Songino Array	38.29	318	P	P	04 40 50.3	+0.9
	0.4nm,0.5s,baz=134,slow=6.2,SNR=2.2 0.4nm,0.5s						
WRA	Warramunga Arr	44.57	193	P	P	04 41 40.3	-0.6
	1.4nm,0.8s,baz=17,slow=9.0,SNR=10 1.4nm,0.8s						
ASAR	Alice Springs	48.27	193	P	P	04 42 09.5	-0.5
	0.2nm,0.5s,baz=9.6,slow=7.5,SNR=1.6 0.2nm,0.5s						
MKAR	Makanchi Array	53.92	311	P	P	04 42 53.0	+0.7
	0.1nm,0.4s,baz=81,slow=8.9,SNR=1.9 0.1nm,0.4s						
KURBB	Kurchatov Arra	56.58	316	P	P	04 43 12.5	+1.2
	0.8nm,0.5s,baz=92,slow=8.2,SNR=15 0.8nm,0.5s						
BVAR	Borovoye Array	61.63	319	P	P	04 43 47.1	+0.8
	0.6nm,0.4s,baz=79,slow=7.5,SNR=3.1 0.6nm,0.4s						
NVAR	Mina Array Bea	81.11	52	P	P	04 45 45.5	+1.0
	0.4nm,0.8s,baz=273,slow=2.7,SNR=3.6 0.4nm,0.8s						
FINES	FINESS Array B	81.63	335	P	P	04 45 45.0	-1.3
	0.8nm,0.6s,baz=67,slow=7.7,SNR=9.0 0.8nm,0.6s						

*IDC **21** 04:35:02.8±1.0, 9°.33S×113°.01E, h0km, mb4.0/10, mbtmp4.0/10, MS2.3/1, Error ellipse: s-maj=46.9km s-min=16.7km az=56.0*

*DJA **21** 04:35:07.7±0.5, 10°.5±4°.×11°.3E±°, h10km, M4.1/13, mb4.0/2, MLv4.2/13*

*NEIC **21** 04:35:07.6±1.6, 9°.63S±0°.07×112°.83E±0°.06, h35km±2km, mb4.2/9, Error ellipse: s-maj=11.3km s-min=9.8km az=192.0*

ISC 21 04:35:07.5±0.6, 9°.67S±0°.07×112°.82E±0°.06, h36km, n40, σ1§63/41, mb4.2/14, South of Jawa

Code	Station Name	Δ°	AZ²	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.78	48	Pn	Pn	04 35 35.4	-0.3
JAGI				Sn	Sn	04 35 56.9	-0.2
JAGI	Jajag, Banyuwa	1.78	48	P	Pn	04 35 36.4	+0.7
PWJI	Pagerwojo	1.93	328	P	Pn	04 35 38.7	+1.0
ABJI	Asem Bagus	2.33	37	P	Pn	04 35 45.7	+2.4
ABJI				S	Sn	04 36 14.0	+3.3
SRBI	Singaraja	2.84	56	P	Pn	04 35 51.3	+1.0
UGM	Wanagama	2.87	307	Pn	Pn	04 35 51.6	+0.9
UGM	Wanagama	2.87	307	P	Pn	04 35 52.3	+1.6
SMRI	Semarang	3.51	318	Pn	Pn	04 35 59.8	+0.2
SMRI	Semarang	3.51	318	P	Pn	04 36 02.0	+2.4
TWSI	Taliwang, Sumb	4.12	77	P	Pn	04 36 10.3	+2.5
CMJI	Cimerak	4.71	293	P	Pn	04 36 18.5	+2.4
PLAI	Plampang	4.96	81	P	Pn	04 36 22.1	+2.6
CNJI	Cibinong	6.10	292	P	Pn	04 36 38.3	+3.2
XMIS	Christmas Isla	7.11	263	Pn	Pn	04 36 49.3	+0.3
PMBI	Palembang	10.43	309		Pn	04 37 35.0	+0.4
MBWA	Marble Bar	13.21	151	Pn	Pn	04 38 10.9	-1.7
PSA00	Pilbara Seismi	13.62	151	Pn	Pn	04 38 18.6	+0.3
FITZ	Fitzroy Crossi	14.99	125	Pn	Pn	04 38 34.3	-2.5
KNRA	Kununurra	16.65	113	P	P	04 38 59.5	-0.8
WRA	Warramunga Arr	23.14	119	P	P	04 40 09.8	-1.0
	1.0nm,0.8s,baz=288,slow=11,SNR=7.0 1.0nm,0.8s						
WB2	Warramunga Arr	23.15	119	P	P	04 40 10.8	-0.1
WB2				IAmb	IAmb	04 40 22.0	
	comp=Z,13nm,1.4s						
WR0	Warramunga Arr	23.32	118	P	P	04 40 13.3	+0.7
WR0				IAmb	IAmb	04 40 17.6	
	comp=Z,14nm,1.4s						
ASAR	Alice Springs	24.48	127	P	P	04 40 24.8	+1.4
	comp=Z,2.3nm,0.7s,baz=304,slow=9.2,SNR=24 comp=Z,2.3nm,0.7s						
FORT	Forrest	25.34	148	P	P	04 40 31.1	-0.1
CMAR	Chiang Mai Arr	31.13	334	P	P	04 41 22.9	0.0
	comp=Z,0.7nm,0.3s,baz=165,slow=8.2,SNR=1.3 comp=Z,0.7nm,0.3s						
CTA	Charters Tower	33.86	112	LR	LR	04 57 43.9	
	comp=Z,4.5nm,18.4s,baz=92,slow=40						
STKA	Stephens Creek	34.62	134	P	P	04 41 56.0	+2.7
	comp=Z,1.2nm,0.4s,baz=357,slow=18,SNR=2.0 comp=Z,1.2nm,0.4s						
SONM	Songino Array	57.54	355	P	P	04 44 52.1	-1.3
SONM				IAmb	IAmb	04 44 53.4	
	comp=Z,1.2nm,0.9s						
SONM	Songino Array	57.54	355	P	P	04 44 52.3	-1.1
	comp=Z,0.8nm,0.4s,baz=182,slow=9.9,SNR=6.1 comp=Z,0.8nm,0.4s						
ASAJ	Asahikawa	59.96	24	P	P	04 45 08.1	-2.0
	comp=Z,6.9nm,0.8s,baz=180,slow=17,SNR=2.7 comp=Z,6.9nm,0.8s						
MK31	Makanchi Array	62.47	337	P	P	04 45 26.4	-0.7
MKAR	Makanchi Array	62.47	337	P	P	04 45 26.3	-0.9
MKAR	Makanchi Array	62.47	337	P	P	04 45 25.9	-1.3
	comp=Z,1.1nm,0.5s,baz=148,slow=7.5,SNR=16 comp=Z,1.1nm,0.5s						
KKAR	Karatay Array	65.14	327	P	P	04 45 43.6	-1.2
KURBB	Kurchatov Arra	67.03	337	P	P	04 45 55.4	-1.3
	comp=Z,0.4nm,0.6s,baz=135,slow=5.8,SNR=4.2 comp=Z,0.4nm,0.6s						
ZAA0	Zalesovo Array	67.67	343	P	P	04 45 59.7	-1.0
ZAA0				IAmb	IAmb	04 46 00.0	
	comp=Z,2.2nm,0.6s						
ZALV	Zalesovo Beam	67.67	343	P	P	04 45 59.7	-1.0
ZALV	Zalesovo Beam	67.67	343	P	P	04 45 59.5	-1.2
	comp=Z,1.9nm,0.6s,baz=148,slow=4.3,SNR=6.4 comp=Z,1.9nm,0.6s						
ABKAR	Akbulak array	74.71	327	P	P	04 46 43.0	-0.5
ABKAR				IAmb	IAmb	04 46 44.2	
	comp=Z,2.6nm,0.8s						
SNAA	Sanae	88.67	197	P	P	04 47 59.3	+2.5
	comp=Z,0.3nm,0.5s,baz=195,slow=5.7,SNR=6.5 comp=Z,0.3nm,0.5s						

*BGR **21** 05:17:59.4, 34°.49N×70°.29E, h33km, mb4.8, Ms3.2, Hypocentre not reviewed by the ISC*

*NNC **21** 05:18:15.4±2.1, 36°.59N×69°.26E, h0km, mb5.5, mpv5.4, Error ellipse: s-maj=21.4km s-min=17.7km az=111.0*

*BJI **21** 05:18:17.5±0.0, 36°.28N×69°.47E, h131km, mb4.7/53, mB5.0/18*

*MOS **21** 05:18:17.1±1.0, 36°.20N×69°.64E, h125km, mb4.8/69, Error ellipse: s-maj=4.5km s-min=3.0km az=87.2*

*IDC **21** 05:18:18.5±1.7, 36°.12N×69°.62E, h131km±15km, mb4.3/28, mbtmp4.8/33, MS3.3/11, Error ellipse: s-maj=9.5km s-min=8.3km az=6.0*

*NEIC **21** 05:18:18.6±1.6, 36°.19N±0°.06×69°.47E±0°.08, h123km±7km, mb4.8/73, Error ellipse: s-maj=9.1km s-min=8.1km az=121.0*

*GCMT **21** 05:18:18.6±0.4, 36°.15N±0°.03×69°.41E±0°.04, h121km±4km, MW4.7/86, Moment Tensor Solution. s17,c17; s86,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.41±.06; $M_{\theta\theta}$-1.70±.08; $M_{\phi\phi}$0.29±.08; $M_{r\theta}$0.34±.07; $M_{\theta\phi}$-0.12±.10; $M_{\phi r}$0.17±.06; Best double couple: $M_0$1.60700×10^{16} NP1:ϕ_s80.00000°, δ52.00000°, λ81.00000°. NP2: ϕ_s274.00000°, δ39.00000°, λ101.00000°. Principal axes:*

T 1.4670, Plg80.0000°, Azm308.0000°; N 0.2810, Plg7.0000°, Azm85.0000°; P -1.7460, Plg6.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 21 05:18:17.8±0.3, 36°.07N±0°.04×69°.59E±0°.03, h124km±2km, h124km:pP-P, n836, σ1§17/903, mb4.7/175, 44C-42D, Hindu Kush region

Code	Station Name	Δ°	AZ²	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	1.59	196		Pn	05 18 48.0	+1.2
KBL	Kabul	1.59	196	PN	Pn	05 18 48.0	+1.2
CHGR	Chuyangaron	2.61	353		Pn	05 18 57.9	-1.3
CHGR	Chuyangaron	2.61	353	PN	Pn	05 18 57.9	-1.3
SIMJ	Simiganj	2.63	350		Pn	05 18 58.1	-1.4
GAR	Garm	2.98	11		Pn	05 19 03.3	-0.8
DRK	Karamyk	3.83	27		Pn	05 19 15.6	+0.2
DRK	Karamyk	3.83	27	PN	Pn	05 19 15.6	+0.2
NIL	Nilore	3.86	128	Pn	Pn	05 19 17.5	+1.9
NIL	Nilore	3.86	128	PN	Pn	05 19 17.5	+1.9
BTK	Batken	4.10	13	PN	Pn	05 19 18.7	-0.1
OHH	Osh	5.11	29	PN	Pn	05 19 31.0	-1.3
JMU	Jammu	5.52	126	eP	Pn	05 19 38.9	+1.2
JMU				i x	x	05 19 39.9	
JMU				eS	Sn	05 20 38.8	-1.2
JMU				eS		05 20 39.4	
TRKS	Terek-Say	5.59	12	PN	Pn	05 19 37.2	-1.6
ARSB	Arslanbob	5.88	26		Pn	05 19 40.7	-2.0
ARSB	Arslanbob	5.88	26	PN	Pn	05 19 40.7	-2.0
ARK	Arkit	6.01	17	PN	Pn	05 19 43.4	-1.1
IUG	Iuzhnay	6.08	3	eP	Pn	05 19 44.2	-1.2
IUG	baz=3.0			eS	Sn	05 20 51.3	-2.4
IUG	baz=3.0						
IUG	Iuzhnay	6.08	3	ePN	Pn	05 19 44.2	-1.2
IUG				eS	Sn	05 20 51.3	-2.4
KSH	Kashi	6.12	54	P	Pn	05 19 41.9	-4.0
KSH				S	Sn	05 20 45.3	-9.3
KSH	comp=N,3μm,0.6s			smax	smax		
KSH	comp=E,2μm,0.6s			smax	smax		
THN	Thein Dam	6.24	124	eP	Pn	05 19 49.5	+2.1
THN				eS	Sn	05 20 57.4	0.0
THN	comp=E,2μm,0.4s			IAML		05 21 00.9	
THN	comp=E,2μm,0.7s			IAML		05 21 02.3	
THN	comp=E,2μm,0.4s			IAML		05 21 15.4	
THN	comp=E,947nm,0.4s			IAML		05 21 17.1	
HRA	Herat	6.24	257		Pn	05 19 47.7	0.0
CHM	Chimkent	6.24	0	eP	Pn	05 19 46.6	-1.0
CHM	baz=360						
CHM	Chimkent	6.24	0	ePN	Pn	05 19 46.5	-1.0
AML	Almayashu	6.84	27	P	Pn	05 19 54.8	-1.1
BRLS	SNR=247 Borolday	6.96	1	eP	Pn	05 19 51.9	-5.2
BRLS	comp=E,36nm,0.6s,baz=0.5 Borolday	6.96	1	Lg	Lg	05 21 01.4	
BRLS	comp=E,319nm,0.4s Borolday	6.96	1	ePN	Pn	05 19 51.9	-5.2
BRLS				pmax	pmax		
KK31	comp=Z,36nm,0.6s Karatay Array	7.06	6	Pn	Pn	05 19 56.9	-1.6
KK31	Karatay Array	7.06	6	P	Pn	05 19 54.0	-4.6
KK31	comp=Z,216nm,0.4s,baz=192,slow=13,SNR=2398			⇓S	Sn	05 21 11.0	-6.3
KK31	comp=Z,102nm,0.5s,baz=195,slow=21 Karatay Array	7.06	6	ePN	Pn	05 19 56.9	-1.6
KKAR	Karatay Array	7.06	6	Pn	Pn	05 19 56.6	-1.9
KKAR	Karatay Array	7.06	6		Pn	05 19 56.9	-1.7
KKAR	Karatay Array	7.06	6	PN	Pn	05 19 56.6	-1.9
UCH	Uchtor	7.24	30	P	Pn	05 20 00.4	-1.0
NRN	SNR=619 Naryn	7.33	41		Pn	05 20 00.3	-2.2
NRN	Naryn	7.33	41	PN	Pn	05 20 00.3	-2.2
BHK	Bhakra	7.34	127	eP	Pn	05 20 02.8	+0.5
BHK	comp=Z,1μm,0.4s			IAML		05 21 38.6	
EKS2	Erkin-Say	7.34	25	P	Pn	05 20 01.4	-0.9
AAK	SNR=211 Ala-Archa	7.58	29	P	Pn	05 20 05.1	-0.6
AAK	SNR=98 Ala-Archa	7.58	29	Pn	Pn	05 20 04.4	-1.3
AAK	Ala-Archa	7.58	29	P	Pn	05 20 04.9	-0.8
AAK	comp=Z,132nm,0.3s,baz=203,slow=8.4,SNR=127			S	Sn	05 21 27.4	-2.7
AAK	comp=Z,119nm,0.4s,baz=127,slow=18,SNR=7.1						
AAK	Ala-Archa	7.58	29	P	Pn	05 20 03.8	-1.8
AAK	comp=Z,163nm,0.7s			S	Sn	05 21 26.6	-3.5
KBK	comp=Z,254nm,0.8s Karagaybulak	7.78	31	P	Pn	05 20 08.0	-0.4
FRU1	SNR=45 Bishkek	7.78	29		Pn	05 20 07.9	-0.4
FRU1	Bishkek	7.78	29	PN	Pn	05 20 07.9	-0.4
CHMS	Chumysh	7.99	28	P	Pn	05 20 10.2	-0.9
CHMS	SNR=110 Chumysh	7.99	28	P	Pn	05 20 09.4	-1.6
CHMS				S	Sn	05 21 37.4	-2.4
CHMS	Chumysh	7.99	28	PN	Pn	05 20 09.4	-1.6
SMLA	Simla	8.01	126	eP	Pn	05 20 11.8	+0.4
SMLA				eS	Sn	05 21 36.6	-3.8
SMLA	comp=E,1μm,0.4s			IAML		05 21 42.4	
SMLA	comp=N,1μm,0.5s			IAML		05 21 43.2	
ULHL	Ulahol	8.04	38	P	Pn	05 20 11.1	-0.9
BOOM	SNR=63 Boomskoye usch	8.08	36	PN	Pn	05 20 11.1	-1.4
USP	Ospenovka	8.12	26	P	Pn	05 20 12.0	-0.9
TKM2	SNR=38 Tokmak 2	8.27	32	P	Pn	05 20 14.0	-1.0
TKM2	SNR=189 Tokmak 2	8.27	32	⇓P	Pn	05 20 13.6	-1.5
TKM2	comp=N,86nm,0.7s			⇓S	Sn	05 21 43.4	-3.4
TKM2	comp=N,154nm,0.8s						
TKM2	Tokmak 2	8.27	32	PN	Pn	05 20 13.5	-1.5
SGDS	Sogindy	8.33	26	eP	Pn	05 20 14.1	-1.6
SGDS	comp=N,20nm,0.8s,baz=27 Sogindy	8.33	26	ePN	Pn	05 20 14.1	-1.6
SGDS				pmax	pmax		
SGDS	comp=Z,20nm,0.8s						
TARG	Taragay, Kyrgy	8.54	46	Pn	Pn	05 20 17.2	-1.6
TARG	Taragay, Kyrgy	8.54	46	PN	Pn	05 20 17.2	-1.6
MTBS	Maitube	8.81	35	P	Pn	05 20 20.2	-1.9
TNSS	comp=Z,56nm,0.5s Tian-Shan	8.98	37	eP	Pn	05 20 23.2	-1.6
TNSS	baz=38 Tian-Shan	8.98	37	P	Pn	05 20 23.4	-1.4
TNSS	comp=Z,54nm,0.4s Tian-Shan	8.98	37	ePN	Pn	05 20 23.2	-1.6
AAA	Alma-Ata	9.10	36	eP	Pn	05 20 24.9	-1.1
AAA	baz=37 Alma-Ata	9.10	36	ePN	Pn	05 20 24.9	-1.1
DDI	Dehra Dun	9.12	127	eP	Pn	05 20 26.6	+0.3
DDI				eS	Sn	05 22 03.5	-3.8
MDOK	Medeo	9.12	37	eP	Pn	05 20 25.2	-1.3
MDOK	baz=37			eS	Sn	05 22 04.8	-2.6
MDOK	baz=37						
MDOK	Medeo	9.12	37	⇑P	Pn	05 20 25.5	-1.0
MDOK	comp=Z,102nm,0.7s			S	Sn	05 22 08.3	+0.9
MDOK	comp=Z,250nm,1.1s						
MDOK	Medeo	9.12	37	P	Pn	05 20 25.5	-1.0
MDOK				S	Sn	05 22 11.4	+3.9
JASL	Jaisalmer	9.19	173	eP	Pn	05 20 26.5	-0.8
KOTS	Kotyrbulak	9.21	37	P	Pn	05 20 26.2	-1.4
BTLS	comp=Z,163nm,0.8s Baital	9.58	19	c iP	Pn	05 20 30.1	-2.4
CHKK	Chushkaly	9.62	34	eP	Pn	05 20 31.7	-1.4
CHKK	baz=34 Chushkaly	9.62	34	P	Pn	05 20 31.0	-2.1
CHKK	comp=Z,21nm,0.7s Chushkaly	9.62	34	eP	Pn	05 20 31.7	-1.4
SATY	Saty	9.75	42	eP	Pn	05 20 33.9	-0.9
SATY	comp=Z,14nm,0.7s,baz=42 Saty	9.75	42	P	Pn	05 20 33.8	-1.0
	comp=Z,51nm,0.9s						

SATY Saty 9.75 42 *eP* **Pn 05 20 33.9 -0.9**
SATY pmax pmax
comp=Z,14nm,0.7s
NDI New Delhi 9.79 137 *eP* **Pn 05 20 34.2 -1.1**
NDI IAML 05 22 19.7
comp=E,486nm,0.8s
NDI *ex* x 05 22 26.8
NDI IAML 05 22 28.9
comp=E,470nm,0.6s
KUDL Kundal 9.83 142 *ex* x 05 20 34.1
KURS Kuram 9.92 39 P **Pn 05 20 35.9 -1.2**
comp=E,66nm,0.5s
SONA Sohna 10.05 139 *eP* **Pn 05 20 38.0 -0.9**
UZB Uzynbulak 10.14 43 *eP* **Pn 05 20 38.8 -1.4**
comp=E,14nm,0.7s,baz=44
UZB Uzynbulak 10.14 43 *eP* **Pn 05 20 38.7 -1.4**
UZB pmax pmax
comp=Z,14nm,0.7s
KPKS Kokpek 10.17 41 *eP* **Pn 05 20 38.8 -1.8**
comp=Z,15nm,0.6s,baz=41
KPKS Kokpek 10.17 41 P **Pn 05 20 38.9 -1.7**
comp=Z,75nm,0.7s
KPKS Kokpek 10.17 41 *eP* **Pn 05 20 38.7 -1.8**
KPKS pmax pmax
comp=Z,15nm,0.6s
ARXS Arharly 10.29 35 P **Pn 05 20 39.9 -2.2**
comp=Z,22nm,0.6s
ARXS Arharly 10.29 35 *eP* **Pn 05 20 39.4 -2.7**
SHLS Shalkode 10.39 44 *eP* **Pn 05 20 45.6 +2.1**
comp=Z,14nm,0.6s,baz=46
SHLS Shalkode 10.39 44 *eP* **Pn 05 20 45.6 +2.1**
SHLS pmax pmax
comp=Z,14nm,0.6s
AJM Ajmer 10.49 154 *eP* **Pn 05 20 43.8 -1.1**
AJM *eS* **Sn 05 22 36.9 -3.7**
BLB Baldybastay 10.51 38 P **Pn 05 20 42.8 -2.4**
comp=Z,210nm,0.7s
PDGK Podgornoye 10.52 43 ⇑P **Pn 05 20 44.7 -0.5**
comp=Z,48nm,0.7s
PDGK ⇓S **Sn 05 22 43.0 +1.9**
comp=Z,115nm,0.9s
PDGK Podgornoye 10.52 43 P **Pn 05 20 42.7 -2.5**
PDGK S **Sn 05 22 37.0 -4.2**
PTH Pithoragarh 11.05 123 *eP* **Pn 05 20 51.4 -1.1**
KNOS Konyrlen 11.05 39 P **Pn 05 20 51.5 -1.0**
LGTI Lohaghat 11.13 123 *eS* Sn 05 22 47.6 -8.4
LGTI IAML 05 22 52.1
comp=E,356nm,0.4s
LGTI IAML 05 23 04.5
comp=E,256nm,0.4s
TDK Taldyqorghan 11.16 34 *eP* **Pn 05 20 52.7 -1.0**
comp=E,18nm,0.6s,baz=35
TDK Taldyqorghan 11.16 34 *eP* **Pn 05 20 52.6 -1.0**
TDK pmax pmax
comp=Z,18nm,0.6s
DJR Jarkent 11.35 40 P **Pn 05 20 55.4 -0.9**
comp=Z,29nm,0.8s
OTUK Ortayu 12.34 9 P **Pn 05 21 07.0 -2.2**
OTUK Ortayu 12.34 9 P **Pn 05 21 06.9 -2.2**
BHUJ Bhuj 12.77 180 *eP* **Pn 05 21 13.8 -1.1**
JHNI Jhansi 13.06 142 *eP* **Pn 05 21 16.8 -1.9**
MAKZ Makanchi 14.17 37 **Pn 05 21 31.1 -1.8**
MAKZ Makanchi 14.17 37 P **Pn 05 21 31.1 -1.8**
MK31 Makanchi Array 14.32 38 Pn **Pn 05 21 32.9 -1.8**
MK31 Makanchi Array 14.32 38 ⇑P **Pn 05 21 35.8 +1.1**
comp=Z,85nm,0.7s,baz=214,slow=9.6,SNR=30
MK31 Makanchi Array 14.32 38 P **Pn 05 21 32.9 -1.8**
MKAR Makanchi Array 14.32 38 Pn **Pn 05 21 32.9 -1.8**
MKAR Makanchi Array 14.32 38 P **Pn 05 21 33.2 -1.5**
comp=Z,19nm,0.8s,baz=230,slow=13,SNR=73
MKAR S **Sn 05 24 13.5 +0.7**
comp=Z,5.1nm,0.9s,baz=232,slow=16,SNR=1.9
BHPL Bhopal 14.47 150 *eP* **Pn 05 21 35.6 -1.3**
AB31 Akbulak array 14.95 335 *i* P **Pn 05 21 39.1 -3.5**
AB31 S Sn 05 24 13.6 -14
ABKAR Akbulak array 14.95 335 **Pn 05 21 38.2 -4.4**
WMQ Urumqi 15.88 55 *eP* **Pn 05 21 55.0 +0.7**
WMQ S **Sn 05 24 44.3 -6.2**
KURBB Kurchatov Arra 15.92 21 P **Pn 05 21 51.0 -3.7**
comp=Z,6.9nm,0.5s,baz=210,slow=12,SNR=63
KURBB S **S 05 24 54.0 -1.1**
comp=Z,4.7nm,0.8s,baz=230,slow=27,SNR=2.8
WSAR Wadi Sarin 15.93 220 P **P 05 21 57.0 +0.8**
comp=Z,12nm,0.9s,baz=65,slow=10,SNR=4.9
UOSS Minazif 15.98 230 Pn **Pn 05 21 54.1 -1.5**
KURK Kurchatov 16.02 21 Pn **Pn 05 21 52.0 -4.0**
KURK Kurchatov 16.02 21 *d i* P **Pn 05 21 52.7 -3.3**
ZSN Zaisan 16.07 40 *eP* **Pn 05 21 56.2 -0.4**
baz=40
ZSN Zaisan 16.07 40 *eP* **Pn 05 21 56.1 -0.4**
AKTO Aktyubinsk 16.62 333 P **Pn 05 22 01.6 -1.6**
comp=Z,40nm,0.6s,baz=146,slow=12,SNR=55
AKTO S Sn 05 24 55.7 -12
comp=Z,23nm,0.8s,baz=177,slow=18,SNR=2.4
AKL Akola 16.63 155 *eP* **Pn 05 22 04.4 +0.7**
BVA0 Borovoye Array 16.96 2 ⇓P **P 05 22 07.4 +0.1**
comp=Z,36nm,0.7s,baz=163,slow=12,SNR=87
BVA0 Borovoye Array 16.96 2 P **P 05 22 07.4 +0.1**
BVAR Borovoye Array 16.96 2 P **Pn 05 22 05.3 -2.1**
comp=Z,41nm,0.5s,baz=168,slow=12,SNR=85
BVAR S **S 05 25 14.7 -2.9**
comp=Z,9.2nm,0.8s,baz=159,slow=21,SNR=2.3
BRVK Borovoye 17.00 1 P **P 05 22 05.4 -2.2**
BRVK Borovoye 17.00 1 *d i* P **P 05 22 05.6 -2.1**
BRVK pmax pmax
comp=Z,150nm,1.7s
MAK Makhachkala 18.35 299 *eP* **Pn 05 22 26.2 +2.1**
MAK pmax pmax
comp=Z,108nm,1.0s
MAK MLR MLR
comp=Z,129nm,16.0s
BOK Bokaro 18.65 127 *eP* **P 05 22 28.2 +2.1**
GNI Garni 19.95 289 P **Pn 05 22 41.8 -1.3**
GNI Garni 19.95 289 P **Pn 05 22 43.0 -0.2**
comp=Z,153nm,0.8s,baz=52,slow=1.5,SNR=58
GNI Garni 19.95 289 *c i* P **Pn 05 22 42.9 -0.2**
GNI pmax pmax
comp=Z,190nm,1.0s
GNI Garni 19.95 289 P **Pn 05 22 42.0 -1.1**
comp=Z,248nm,1.0s,comp=Z,2μm
GOMU GeErMu 20.36 82 P **P 05 22 47.1 +2.2**
GOMU pmax pmax
comp=Z,20nm,1.0s
TRLG Trialeti 20.57 293 P Pn 05 22 48.3 -2.0
ZAA0 Zalesovo Array 20.79 26 P **P 05 22 48.9 0.0**
ZALV Zalesovo Beam 20.79 26 P **P 05 22 48.2 -0.7**
ZALV Zalesovo Beam 20.79 26 P **P 05 22 49.2 +0.3**
comp=Z,126nm,0.6s,baz=222,slow=10,SNR=281
ZALV S **S 05 26 31.7 -2.2**
comp=Z,12nm,0.9s,baz=221,slow=17,SNR=5.2
comp=Z,126nm,0.6s
KARS Kars 21.25 290 P **P 05 22 55.7 +1.5**
KARS Kars 21.25 290 P **P 05 22 55.7 +1.5**
SVE Sverdlovsk 21.62 347 *de*P **P 05 22 58.2 +0.4**
SVE *eS* **S 05 26 50.8 +1.2**
SVE pmax pmax
comp=Z,160nm,1.4s
ARU Arti 21.69 343 P **P 05 22 57.2 -1.3**
ARU Arti 21.69 343 P **P 05 22 58.4 -0.2**
comp=Z,122nm,0.9s,baz=154,slow=6.6,SNR=76
ARU S **S 05 26 50.6 -0.2**
comp=Z,5.3nm,0.6s,baz=307,slow=23,SNR=1.2
comp=Z,122nm,0.9s
ARU Arti 21.69 343 P **P 05 22 57.4 -1.1**
comp=Z,209nm,1.2s,comp=Z,2μm
SHL Shillong 21.77 113 P **P 05 22 59.9 0.0**
SHL Shillong 21.77 113 *eP* **P 05 23 01.0 +1.1**
SHL Shillong 21.77 113 P **P 05 22 59.9 0.0**
KBZ Khabaz 21.80 299 P **P 05 22 59.1 -0.6**
comp=Z,25nm,0.9s,baz=123,slow=7.8,SNR=33
comp=Z,25nm,0.9s
SHA1 Shidzhatmaz 21.97 299 *ceP* **P 05 23 01.7 -0.1**
KIV Kislovodsk 21.99 299 ⇓P **P 05 23 02.2 +0.3**
KIV Kislovodsk 21.99 299 P **P 05 23 01.2 -0.8**
KIV Kislovodsk 21.99 299 *eP* **P 05 23 01.5 -0.4**
KIV *eS* **S 05 26 56.7 +0.2**
KIV pmax pmax
comp=Z,38nm,1.0s
KIV Kislovodsk 21.99 299 P **P 05 23 01.7 -0.2**
comp=Z,37nm,1.1s,comp=Z,317nm
GOF Gofitskoye 22.00 302 *ceP* **P 05 23 04.0 +2.1**
GURO Guroymak-BITLI 22.03 285 P **P 05 23 02.6 +0.2**
BELG Belogornoye 22.53 323 *c i* P **P 05 23 06.7 -0.4**
BELG pmax pmax
comp=Z,54nm,1.0s

VSLR Vesyoloye 23.80 297 *de*P **P 05 23 20.6 +1.5**
VSLR pmax pmax
comp=Z,43nm,0.9s
ERBR Yeremizino-Bor 23.91 303 *eP* **P 05 23 18.5 -1.5**
ERBR pmax pmax
comp=Z,23nm,0.4s
SOC Sochi 24.05 297 *eP* **P 05 23 21.4 +0.1**
SOC *e**PP **pP 05 23 42.6 -4.4**
SOC *e**SP **sP 05 24 01.7 -0.6**
SOC *eS* **S 05 27 31.1 +1.5**
SOC *e**SS **sS 05 28 15.4 -1.3**
SOC pmax pmax
comp=Z,33nm,1.0s
GTA Gaotai 24.08 73 *eP* **P 05 23 23.8 +2.0**
GTA pmax pmax
comp=Z,9.0nm,0.8s
RAYN Ar Rayn 24.28 246 P **P 05 23 23.2 -0.5**
RAYN Ar Rayn 24.28 246 P **P 05 23 23.2 -0.5**
RAYN pmax pmax
comp=Z,15nm,0.8s
ARPR Arapgir-MALATY 24.89 286 P **P 05 23 29.1 -0.2**
ARPR IAmb IAmb 05 23 33.1
comp=Z,37nm,1.2s
VRH Novokhopyorsk 25.01 316 *eP* **P 05 23 30.0 0.0**
VRH pmax pmax
comp=Z,52nm,1.3s
ANN Anapa 25.85 300 *eP* **P 05 23 35.8 -1.8**
ANN *e**PP **pP 05 24 00.0 -4.3**
ANN pmax pmax
comp=Z,44nm,0.9s
KIRV Kirov 26.15 336 *ceP* **P 05 23 40.6 +0.5**
comp=Z,52nm,19.9s,baz=186,slow=38
KIRV Kirov 26.15 336 *ceP* **P 05 23 40.6 +0.5**
VORD Divnogorie 26.30 314 *eP* **P 05 23 41.1 -0.5**
VORD *e**PP **pP 05 24 10.7 +2.4**
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 26.48 314 *eP* **P 05 23 41.7 -1.5**
VSR *e**PP **pP 05 24 10.4 +0.6**
VSR pmax pmax
comp=Z,30nm,1.3s
VORR Voronezh 26.63 315 *eP* **P 05 23 44.9 +0.3**
VORR pmax pmax
comp=Z,41nm,1.5s
LPSR Galich'ya Gora 27.18 317 *eP* **P 05 23 47.5 -2.0**
LPSR pmax pmax
comp=Z,20nm,0.7s
MOY Mondy 27.22 45 *eP* **P 05 23 52.1 +2.1**
MOY *e* 05 24 35.1
MOY pmax pmax
comp=Z,18nm,1.4s
LZH Lanzhou 27.61 80 ⇑P **P 05 23 55.3 +1.6**
LZH pP pP 05 24 26.4 +4.9
LZH sP sP 05 24 35.8 -0.4
LZH pmax pmax
comp=Z,20nm,1.4s
ZAK Zakamensk 28.13 49 *eP* **P 05 23 58.8 +0.7**
ZAK *e* 05 24 44.1
ZAK pmax pmax
comp=Z,11nm,1.0s
BR131 Keskin Array S 28.48 288 P **P 05 24 01.3 -0.1**
BR131 Keskin Array S 28.48 288 P **P 05 24 01.3 -0.1**
BR131 pmax pmax
comp=Z,7.0nm,1.0s
BRTR Keskin Array B 28.48 288 P **P 05 24 01.9 +0.4**
BRTR Keskin Array B 28.48 288 P **P 05 24 02.3 +0.9**
comp=Z,4.1nm,0.8s,baz=93,slow=8.7,SNR=14
BRTR PcP **PcP 05 27 10.4 +0.2**
comp=Z,1.0nm,0.7s,baz=104,slow=4.6,SNR=2.4
comp=Z,4.1nm,0.8s
PZH PanZhiHua 28.98 100 P **P 05 24 08.1 +2.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.7s
MOS Moscow 29.29 322 *eP* **P 05 24 06.8 -1.4**
MOS *e* 05 24 51.5
MOS *e* 05 25 15.4
MOS pmax pmax
comp=Z,100nm,1.1s
MOS pmax pmax
comp=Z,41nm,0.9s
SONM Songino Array 29.52 55 P **P 05 24 11.9 +1.4**
SONM Songino Array 29.52 55 P **P 05 24 11.7 +1.3**
comp=Z,2.7nm,0.5s,baz=265,slow=9.7,SNR=10
SONM PcP **PcP 05 27 10.3 -2.3**
comp=Z,3.6nm,1.1s,baz=238,slow=4.9,SNR=2.9
SONM LR LR 05 37 57.3
comp=Z,72nm,21.8s,baz=281,slow=40
comp=Z,2.7nm,0.5s
SONM Songino Array 29.52 55 P **P 05 24 11.9 +1.4**
SONM pmax pmax
comp=Z,14nm,1.5s
OBN Obninsk 29.53 321 ⇓P **P 05 24 11.0 +0.7**
OBN Obninsk 29.53 321 P **P 05 24 09.7 -0.6**
OBN Obninsk 29.53 321 *c i* P **P 05 24 10.5 +0.2**
OBN *SP **sP 05 24 55.0 +3.4**
OBN 05 25 06.0
OBN *eS* **S 05 29 00.8 +5.0**
OBN *e*SS **SnSn 05 30 36.3 -1.8**
OBN pmax pmax
comp=Z,119nm,1.7s
OBN MLR MLR
comp=Z,64nm,23.0s
ULN Ulaanbaatar 29.96 55 P **P 05 24 15.4 +1.0**
ULN Ulaanbaatar 29.96 55 P **P 05 24 15.4 +1.0**
ULN pmax pmax
comp=Z,6.0nm,0.7s
PALK Pallekele 30.41 158 LR LR 05 36 32.0
comp=Z,109nm,20.3s,baz=67,slow=36
CMAR Chiang Mai Arr 31.27 116 P **P 05 24 26.7 +0.7**
comp=Z,3.5nm,0.6s,baz=294,slow=8.3,SNR=19
CMAR PcP **PcP 05 27 18.0 +0.5**
comp=Z,2.3nm,0.7s,baz=299,slow=4.6,SNR=2.0
CMAR ScP **ScP 05 30 47.4 -1.6**
comp=Z,1.5nm,0.3s,baz=297,slow=6.0,SNR=7.6
comp=Z,3.5nm,0.6s
CMAR Chiang Mai Arr 31.27 116 *i* P **P 05 24 27.7 +1.7**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
YLV Yalova 31.68 290 P **P 05 24 28.9 -0.6**
comp=Z,20nm,1.1s,comp=Z,380nm
BTO Baotou 31.84 69 *eP* **P 05 24 31.1 +0.2**
BTO pP **pP 05 24 58.5 -0.5**
BTO sP **sP 05 25 13.3 -0.4**
BTO PP **PP 05 25 45.9 +0.8**
BTO S **S 05 29 33.4 +1.0**
BTO pmax pmax
comp=Z,17nm,0.5s
BTO pmax pmax
comp=Z,210nm,6.0s
BTO LR LR
comp=Z,410nm,6.9s
BTO LR LR
comp=Z,300nm,6.1s
BTO LR LR
comp=Z,180nm,9.8s
XAN Xi'an 32.12 82 ⇓P **P 05 24 34.3 +0.9**
XAN pmax pmax
comp=Z,29nm,0.7s
PHRA Phrae 32.18 115 P **P 05 24 37.6 +3.6**
TPGR Topolog 32.24 299 ⇑P **P 05 24 34.8 +0.4**
AK09 Malin Array Si 32.28 310 P **P 05 24 34.5 0.0**
AK10 Malin Array Si 32.30 309 P **P 05 24 34.7 0.0**
AK08 Malin Array Si 32.30 310 P **P 05 24 34.7 0.0**
AK07 Malin Array Si 32.32 309 P **P 05 24 34.9 0.0**
AK05 Malin Array Si 32.33 309 P **P 05 24 35.0 0.0**
AKASG Malin Array Be 32.34 310 P **P 05 24 34.8 -0.2**
comp=Z,7.9nm,0.7s,baz=88,slow=7.1,SNR=76
AKASG PcP **PcP 05 27 19.1 -0.8**
comp=Z,2.6nm,0.8s,baz=88,slow=2.2,SNR=3.2
AKASG LR LR 05 39 22.2
comp=Z,37nm,21.0s,baz=97,slow=39
comp=Z,7.9nm,0.7s
AKASG Malin Array Be 32.34 310 *i* P **P 05 24 35.0 0.0**
AKASG pmax pmax
comp=Z,13nm,0.7s
AKBB Malin Array Si 32.34 310 P **P 05 24 34.2 -0.8**
AKBB IAmb IAmb 05 24 36.2
comp=Z,41nm,1.3s
AKBB Malin Array Si 32.34 310 P **P 05 24 34.2 -0.8**
AKBB pmax pmax
comp=Z,41nm,1.3s
AKBB Malin Array Si 32.34 310 P **P 05 24 35.0 0.0**
AK02 Malin Array Si 32.34 310 P **P 05 24 35.0 0.0**

AK01 Malin Array Si 32.34 310 P **P 05 24 35.0 -0.1**
AK03 Malin Array Si 32.34 310 P **P 05 24 34.7 -0.4**
KIEV Kiev 32.34 310 ⇓P **P 05 24 35.5 +0.5**
KIEV Kiev 32.34 310 P **P 05 24 34.8 -0.3**
KIEV IAmb IAmb 05 24 36.1
comp=Z,37nm,1.3s
KIEV Kiev 32.34 310 P **P 05 24 34.8 -0.3**
KIEV pmax pmax
comp=Z,37nm,1.3s
KIEV Kiev 32.34 310 P **P 05 24 35.0 0.0**
CFR Carcaliu 32.45 299 ⇑P **P 05 24 37.2 +1.1**
CFR Carcaliu 32.45 299 P **P 05 24 37.2 +1.1**
SORM Soroca 32.51 305 P **P 05 24 35.1 -1.4**
comp=Z,5.0nm,0.6s,comp=Z,3μm
HHC Hu-ho-hao-te 32.98 69 *eP* **P 05 24 42.6 +1.7**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,74nm,4.7s
MI30 MI30,Zelenitsa 32.99 310 P **P 05 24 40.4 -0.3**
LUBAR Lubar, Ukraine 33.13 308 P **P 05 24 40.8 -1.1**
VRI Vrincioaia 33.46 300 ⇓P **P 05 24 47.0 +2.0**
VRI Vrincioaia 33.46 300 P **P 05 24 46.9 +2.0**
VRI Vrincioaia 33.46 300 P **P 05 24 45.4 +0.5**
comp=Z,7.7nm,0.9s,comp=Z,356nm
PLOR5 Plostina Array 33.50 300 P **P 05 24 46.3 +1.0**
comp=Z,29nm,1.0s
PLOR Plostina 33.51 300 ⇓P **P 05 24 47.6 +2.1**
PLOR Plostina 33.51 300 P **P 05 24 47.5 +2.1**
PLOR3 Plostina Array 33.52 300 P **P 05 24 46.4 +1.0**
comp=Z,28nm,1.1s,comp=Z,377nm
TESR Tescani 33.54 302 ⇓P **P 05 24 46.7 +1.2**
KMPD K-Podol'skiy 33.80 305 P **P 05 24 46.5 -1.3**
COVR Voineasa-Covas 33.82 300 ⇑P **P 05 24 49.9 +1.8**
TURR Turia 33.96 301 ⇑P **P 05 24 50.7 +1.4**
MLR Muntele Rosu 34.00 300 ⇑P **P 05 24 51.8 +2.1**
MLR Muntele Rosu 34.00 300 P **P 05 24 51.2 +1.5**
MLR Muntele Rosu 34.00 300 P **P 05 24 51.3 +1.5**
MLR pmax pmax
comp=Z,47nm,1.0s
MLR Muntele Rosu 34.00 300 P **P 05 24 50.7 +1.0**
comp=Z,48nm,1.0s,comp=Z,512nm
MNK Minsk 34.01 316 *i* P **P 05 24 50.3 +0.7**
comp=E,9.0nm,0.9s
MNK *i* P **P 05 24 50.3 +0.7**
comp=N,9.0nm,0.8s
MNK *i* P **P 05 24 50.3 +0.7**
comp=Z,31nm,1.1s,baz=105
MNK *i* pP **pP 05 25 16.2 -0.6**
MNK *i* PP **PP 05 26 07.5 -1.3**
MNK *i* S **S 05 30 09.5 +4.0**
MNK *i* sS **ScP 05 30 55.6 -2.2**
MNK *i* SS **SnSn 05 32 27.2 +1.0**
MNK Minsk 34.01 316 *i* P **P 05 24 50.2 +0.7**
MNK *i* 05 26 07.5
MNK *i* S **S 05 30 09.5 +4.0**
MNK *i* SS **SnSn 05 32 27.1 +1.0**
MNK pmax pmax
comp=Z,31nm,1.0s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK pmax pmax
comp=N,9.0nm,0.8s
EZN Ezine 34.08 290 P **P 05 24 51.2 +0.9**
comp=N,16nm,1.3s
ELND Elena 34.12 295 ⇓P **P 05 24 51.9 +1.3**
DOPR Dopca 34.40 301 ⇑P **P 05 24 54.5 +1.5**
RNPP5 Staryi Chortor 34.51 310 P **P 05 24 54.1 +0.3**
BURAR Bucovina Array 34.57 303 ⇓P **P 05 24 55.7 +1.2**
BURAR Bucovina Array 34.57 303 P **P 05 24 54.3 -0.2**
BURAR Bucovina Array 34.57 303 P **P 05 24 55.7 +1.2**
BUR08 Bucovina Ar. S 34.58 304 P **P 05 24 54.9 +0.2**
PUL Pulkovo 34.62 326 ⇑*eP* **P 05 24 55.1 +0.4**
PUL pmax pmax
comp=Z,108nm,0.5s
VOIR 34.63 300 ⇓P **P 05 24 56.0 +0.8**
VOIR 34.63 300 P **P 05 24 55.9 +0.8**
VOIR 34.63 300 P **P 05 24 55.4 +0.3**
comp=Z,6.4nm,0.8s
NACGM Naroch 34.73 316 *eP* **P 05 24 54.7 -1.1**
comp=E,2μm,0.9s,baz=105
NRIK Noril'sk 34.76 11 P **P 05 24 56.6 +0.8**
comp=E,8.3nm,0.5s,baz=200,slow=8.5,SNR=12
comp=E,8.3nm,0.5s
NRIK Noril'sk 34.76 11 *c i* P **P 05 24 56.9 +1.1**
NRIK pmax pmax
comp=Z,16nm,0.9s
LYN LuoYang 34.82 80 ⇑P **P 05 24 58.6 +1.9**
LYN pmax pmax
comp=Z,23nm,0.8s
LYN pmax pmax
comp=Z,250nm,4.5s
ARR Arges 34.92 300 ⇑P **P 05 24 59.0 +1.4**
ISAL Salakas 35.27 317 *eP* **P 05 25 02.8 +2.4**
LVV L'vov 35.51 307 *eP* **P 05 25 02.9 +0.4**
JOF Joensuu 35.68 331 *eP* **P 05 25 04.2 +0.5**
VSU Vasula 35.82 322 *c i* P **P 05 25 04.8 -0.2**
VSU pmax pmax
comp=Z,53nm,1.0s
MARR Marisel-Cluj 35.97 302 ⇑P **P 05 25 08.3 +1.7**
DRGR 36.25 302 ⇑P **P 05 25 10.5 +1.6**
DRGR 36.25 302 P **P 05 25 10.5 +1.6**
KWP Kalwaria Pacla 36.35 307 P **P 05 25 10.0 +0.3**
KWP Kalwaria Pacla 36.35 307 P **P 05 25 10.0 +0.3**
KWP pmax pmax
comp=Z,30nm,1.0s
BOD Bodaibo 36.40 39 *eP* **P 05 25 10.5 +0.5**
BOD pmax pmax
comp=Z,24nm,1.2s
PABE Paberze 36.44 317 *eP* **P 05 25 11.1 +0.8**
ARBE Arbavere 36.52 324 *eP* **P 05 25 11.5 +0.6**
VSVD Vaisvydziai 36.57 318 *eP* **P 05 25 11.9 +0.5**
KOLS Kolonicke sedl 36.59 306 *eP* **P 05 25 13.1 +1.3**
KOLS pmax pmax
comp=Z,10.0nm,0.7s
KOLS Kolonicke sedl 36.59 306 *eP* **P 05 25 13.1 +1.3**
KOLS *e*PP **PnPn 05 26 39.7 +0.9**
SURR Surduc 36.68 300 ⇑P **P 05 25 14.4 +1.9**
SIRR Siria 36.99 301 ⇑P **P 05 25 17.1 +2.0**
MDVR Moldovita 37.01 299 ⇑P **P 05 25 16.4 +1.0**
BZS Buzias 37.04 300 ⇑P **P 05 25 17.0 +1.5**
BZS Buzias 37.04 300 P **P 05 25 17.0 +1.5**
BOVS Bovan 37.10 297 ⇓P **P 05 25 17.0 +0.9**
CRVS Cervenica-Dubn 37.13 306 *eP* **P 05 25 18.7 +2.4**
CRVS pmax pmax
comp=Z,8.0nm,0.9s
CRVS Cervenica-Dubn 37.13 306 *eP* **P 05 25 18.7 +2.4**
FIA1 FINESS Array S 37.21 327 P **P 05 25 16.7 -0.1**
FINES FINESS Array B 37.21 327 P **P 05 25 16.7 -0.1**
comp=Z,13nm,0.7s,baz=111,slow=11,SNR=58
FINES LR LR 05 41 24.1
comp=Z,46nm,22.0s,baz=98,slow=37
comp=Z,13nm,0.7s
FINES FINESS Array B 37.21 327 *i* P **P 05 25 17.0 +0.2**
FINES pmax pmax
comp=Z,13nm,0.6s
MTSE Matsula 37.35 322 *eP* **P 05 25 18.4 +0.5**
LVZ Lovozero 37.45 339 *de*P **P 05 25 19.1 +0.4**
LVZ pmax pmax
comp=Z,26nm,1.3s
LVZ Lovozero 37.45 339 P **P 05 25 18.7 0.0**
LVZ pP **pP 05 25 47.6 +1.2**
MEF Metsahovi 37.54 324 *eP* **P 05 25 20.0 +0.5**
WHN Wuhan 37.56 85 P **P 05 25 21.0 +0.9**
WHN pmax pmax
comp=Z,38nm,0.7s
APA Apatity 37.60 338 ⇓*i P* **P 05 25 18.8 -1.2**
APA pmax pmax
comp=Z,12nm,0.9s
APA MLR MLR
comp=Z,200nm,10.0s
FNA Florina 37.69 292 P **P 05 25 21.2 +0.1**
FNA Florina 37.69 292 P **P 05 25 21.2 +0.1**
FNA pmax pmax
comp=Z,6.0nm,0.9s
KEF Keuruu 38.02 328 *eP* **P 05 25 24.2 +0.6**
PSZ Piszkesteto 38.16 304 ⇑P **P 05 25 26.2 +1.2**
PSZ Piszkesteto 38.16 304 P **P 05 25 24.9 -0.2**
PSZ Piszkesteto 38.16 304 P **P 05 25 24.9 -0.2**
PSZ pmax pmax
comp=Z,8.0nm,0.9s
FRGS Fruska Gora 38.34 299 ⇓P **P 05 25 27.3 +0.9**
FRGS Fruska Gora 38.34 299 P **P 05 25 26.9 +0.4**
comp=Z,13nm,1.1s

LANS Liptovska Anna 38.45 306 *e*P **P 05 25 29.4 +2.0**
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 38.45 306 *e*P **P 05 25 29.4 +2.0**
RAF Rauma 39.03 325 *e*P **P 05 25 31.8 -0.1**
MORH Mrgy, Hungar 39.08 301 P **P 05 25 33.2 +0.6**
comp=Z,5.9nm,1.7s
SRO Srobarova 39.23 304 *e*P **P 05 25 35.8 +2.0**
SRO pmax pmax
comp=Z,32nm,1.1s
SRO Srobarova 39.23 304 *e*P **P 05 25 35.8 +2.0**
VAF Ylistaro 39.29 328 *e*P **P 05 25 34.6 +0.5**
VAF Ylistaro 39.29 328 P **P 05 25 34.6 +0.5**
VAF pmax pmax
comp=Z,34nm,1.1s
MAUC Maruska 39.52 306 *e*P **P 05 25 37.4 +1.1**
AAL Aland 39.63 323 *e*P **P 05 25 36.7 -0.3**
JAVC Velka Javorina 39.63 305 *e*P **P 05 25 38.9 +1.6**
MORC Moravsky Berou 39.71 307 ⇑P **P 05 25 38.9 +1.1**
MORC Moravsky Berou 39.71 307 P **P 05 25 38.2 +0.3**
MORC IAmb IAmb 05 25 40.0
comp=Z,11nm,1.0s
MORC Moravsky Berou 39.71 307 *e*P **P 05 25 38.6 +0.7**
MORC Moravsky Berou 39.71 307 P **P 05 25 38.2 +0.3**
MORC pmax pmax
comp=Z,11nm,1.0s
MPLH Magyarpolny 39.78 303 P **P 05 25 39.0 +0.5**
comp=Z,16nm,1.2s
SMOL Smolenice 39.80 305 *e*P **P 05 25 39.3 +0.7**
SMOL pmax pmax
comp=Z,8.0nm,1.3s
MODS Modra-Piesok 39.91 305 *e*P **P 05 25 40.6 +1.1**
MODS pmax pmax
comp=Z,22nm,1.2s
MODS Modra-Piesok 39.91 305 *e*P **P 05 25 40.6 +1.1**
KRLC Kraliky 40.20 307 *e*P **P 05 25 42.3 +0.4**
KRLC Kraliky 40.20 307 *e*P **P 05 25 42.3 +0.4**
VADS Vadso 40.32 340 *e*P **P 05 25 42.9 +0.3**
VRAC Vranov 40.33 306 ⇓P **P 05 25 44.6 +1.6**
VRAC Vranov 40.33 306 *e*P **P 05 25 43.9 +0.9**
VRAC Vranov 40.33 306 LR LR 05 46 06.7
comp=Z,27nm,19.2s,baz=84,slow=41
VRAC Vranov 40.33 306 P **P 05 25 44.5 +1.6**
KRUC Moravsky 40.47 306 *e*P **P 05 25 44.9 +0.8**
DPC Dobruska-Polom 40.49 308 *e*P **P 05 25 45.7 +1.4**
DPC Dobruska-Polom 40.49 308 *e*P **P 05 25 45.7 +1.4**
DPC Dobruska-Polom 40.49 308 pP pP 05 26 09.5 -2.9
comp=Z,3.4nm,0.7s
OSTC Ostas 40.56 308 *e*P **P 05 25 46.5 +1.7**
OSTC Ostas 40.56 308 *e*P **P 05 25 46.5 +1.7**
RONA Rosalia, Austr 40.59 304 *e*P **P 05 25 46.0 +0.8**
comp=Z,9.2nm,1.3s,SNR=5.1
NJ2 Nanjing 40.67 81 *e*P **P 05 25 46.9 +1.0**
NJ2 pmax pmax
comp=Z,22nm,0.6s
UPP Uppsala 40.72 322 *e*P **P 05 25 46.2 +0.3**
KEV Kevo 40.79 339 P **P 05 25 46.4 0.0**
KEV IAmb IAmb 05 25 47.7
comp=Z,24nm,1.0s
KEV Kevo 40.79 339 P **P 05 25 46.4 0.0**
KEV pmax pmax
comp=Z,24nm,1.0s
KEV Kevo 40.79 339 P **P 05 25 46.6 +0.2**
CONA Conrad Observa 40.87 304 *i* P **P 05 25 48.6 +1.0**
comp=Z,21nm,1.2s,SNR=13
CONA *e*PcP **PcP 05 27 45.3 -0.6**
comp=Z,6.7nm,1.2s
VIKU Vikbolandet 40.93 320 *e*P **P 05 25 47.4 -0.3**
BLEU Blekinge 41.10 317 *i* P **P 05 25 48.5 -0.7**
ARCES ARCESS Array B 41.11 338 P **P 05 25 49.5 +0.4**
ARCES ARCESS Array B 41.11 338 P **P 05 25 49.2 +0.1**
comp=Z,23nm,0.8s,baz=119,slow=7.5,SNR=55
comp=Z,23nm,0.8s
ARCES ARCESS Array B 41.11 338 P **P 05 25 49.5 +0.4**
ARCES pmax pmax
comp=Z,40nm,1.0s
ARSA Arzberg 41.15 303 *i* P **P 05 25 50.6 +0.9**
comp=Z,4.2nm,1.0s
GROS Grobnik 41.23 302 *i* P **P 05 25 51.0 +0.6**
PERS Pernice 41.48 302 *i* P **P 05 25 53.4 +0.9**
BSD Bornholm Skovb 41.50 315 *i* P **P 05 25 50.2 -2.2**
BSD IAmb IAmb 05 25 50.8
comp=Z,25nm,1.0s
SOKA Soboth 41.53 302 *i* P **P 05 25 54.0 +1.0**
comp=Z,10.0nm,0.7s,SNR=9.0
KTK1 Kautokeino 41.56 337 *e*P **P 05 25 52.7 0.0**
PRU Pruhonice 41.64 307 *e*P **P 05 25 54.6 +0.9**
PRU Pruhonice 41.64 307 *e*P **P 05 25 54.6 +0.9**
SGRT San Giovanni R 41.71 295 P **P 05 25 54.1 -0.3**
SGRT IAmb IAmb 05 25 55.5
comp=Z,16nm,0.9s
CKRC Cesky Krumlov 41.85 305 *e*P **P 05 25 56.8 +1.4**
CKRC Cesky Krumlov 41.85 305 *e*P **P 05 25 56.8 +1.4**
LJU Ljubljana 41.95 301 *e*P **P 05 25 57.2 +0.9**
MOA Molln 41.95 304 *e*P **P 05 25 56.9 +0.6**
comp=Z,12nm,1.0s,SNR=10
BRG Berggiesshubel 42.00 309 *i* P **P 05 25 57.5 +0.9**
BRG Amp 05 25 58.1
comp=Z,10nm,0.7s
BRG Berggiesshubel 42.00 309 P P 05 26 02.8 +6.3
BRG Amp 05 26 03.2
comp=Z,4.7nm,0.7s
BRG pP pP 05 26 26.7 +2.1
BRG Amp 05 26 27.1
comp=Z,3.3nm,0.9s
BRG sP sP 05 26 38.5 -0.2
BRG Amp 05 26 39.5
comp=Z,4.5nm,0.8s
BRG PP **PP 05 27 37.6 +1.6**
BRG Amp 05 27 38.1
comp=Z,4.4nm,1.0s
BRG Berggiesshubel 42.00 309 *i* P **P 05 25 57.5 +0.9**
BRG 05 26 26.7
BRG SP 05 26 38.5
BRG 05 27 37.5
BRG pmax pmax
comp=Z,10.0nm,0.7s
BRG Berggiesshubel 42.00 309 *e*P 05 25 57.5
comp=Z,15nm,1.0s,baz=86,slow=7.9
CUC Castrocucco 42.01 292 P **P 05 25 57.4 +0.6**
CUC IAmb IAmb 05 25 59.6
comp=Z,24nm,0.8s
DEL Delary 42.19 317 *e*P **P 05 25 58.2 +0.2**
DEL Delary 42.19 317 *i* P **P 05 25 57.8 -0.3**
HAMF Hammerfest 42.22 339 *e*P **P 05 25 58.5 +0.5**
GEC2 GERESS Array S 42.25 306 P **P 05 25 59.3 +0.5**
GERES GERESS Array B 42.25 306 P **P 05 25 58.6 -0.2**
comp=Z,2.1nm,0.8s,baz=86,slow=6.8,SNR=13
GERES PcP **PcP 05 27 49.6 -0.7**
comp=Z,2.9nm,0.9s,baz=79,slow=5.2,SNR=5.7
comp=Z,2.1nm,0.8s
GEC2 GERESS Array S 42.25 306 *e*P 05 25 59.3
comp=Z,7.0nm,1.2s,baz=86,slow=7.9
KHC Kasperske Hory 42.31 306 *e*P **P 05 25 59.3 +0.1**
KHC Kasperske Hory 42.31 306 *ce*P **P 05 25 59.6 +0.4**
KHC pmax pmax
comp=Z,10.0nm,1.7s
LUNU Lund 42.37 316 *i* P **P 05 25 59.5 0.0**
BIOA Bad Ischl, Aus 42.38 304 *i* P **P 05 26 00.3 +0.5**
comp=Z,3.9nm,0.5s
MYKA Terra Mystica 42.49 302 *i* P **P 05 26 01.3 +0.6**
comp=Z,9.0nm,1.5s
PRED Cave del Predi 42.56 302 P **P 05 26 01.7 +0.4**
PRED IAmb IAmb 05 26 03.0
comp=Z,15nm,1.3s
CLL Collm 42.58 309 P **P 05 26 01.5 +0.3**
CLL Collm 42.58 309 *i* P **P 05 26 01.2 0.0**
comp=Z,10.0nm,1.1s
CLL *es*P **sP 05 26 44.0 +0.5**
CLL *e*PP **PP 05 27 44.0 +1.8**
CLL *i* PcP **PcP 05 27 51.5 +0.2**
comp=Z,11nm,1.2s
CLL *es*PP 05 28 22.0
CLL *e*(SS) 05 35 36.0
CLL *e*SSS SSS 05 36 42.0
CLL Collm 42.58 309 *i* P **P 05 26 01.2 0.0**
CLL *e**SP **sP 05 26 44.0 +0.5**
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 42.58 309 *e*P 05 26 01.6
comp=Z,6.4nm,0.8s,baz=86,slow=7.9
SABO M.te Sabotino 42.59 301 P **P 05 26 01.7 +0.1**
SABO IAmb IAmb 05 26 03.1
comp=Z,40nm,1.3s

BJUU Bjuv 42.64 316 *i* P **P 05 26 02.2 +0.6**
KBA Koelnbreinsper 42.64 303 *i* P **P 05 26 02.4 +0.3**
comp=Z,12nm,1.2s
HFS Hagfors 42.71 322 P **P 05 26 01.7 -0.5**
comp=Z,22nm,0.6s,baz=103,slow=11,SNR=111
HFS LR LR 05 46 08.0
comp=Z,60nm,18.4s,baz=106,slow=39
comp=Z,22nm,0.6s
FABU Falkenberg 42.87 318 *i* P **P 05 26 03.1 -0.4**
BORU Boraas 42.89 319 *i* P **P 05 26 03.1 -0.6**
TANN Tannenbergstha 42.96 308 *e*P 05 26 05.2
comp=Z,7.8nm,1.1s,baz=86,slow=7.9
LESA Schwarzleotal 43.06 304 *i* P **P 05 26 05.7 +0.4**
comp=Z,9.5nm,1.0s
LESA *i* PcP **PcP 05 27 54.5 +1.4**
comp=Z,4.3nm,0.9s
PLN Plauen 43.15 308 *e*P 05 26 06.8
comp=Z,5.6nm,0.9s,baz=86,slow=7.9
ROTZ Rotzmuhle 43.16 307 *e*P 05 26 07.2
comp=Z,3.6nm,1.1s,baz=86,slow=7.9
ZEA Zeya 43.20 47 *e*P **P 05 26 07.4 +1.2**
ZEA pmax pmax
comp=Z,20nm,0.8s
TRO Tromso 43.21 337 *e*P **P 05 26 06.0 0.0**
MANZ Manzenberg 43.21 307 *e*P 05 26 07.6
comp=Z,2.3nm,1.1s,baz=86,slow=7.9
ABTA Abfaltersbach 43.25 303 *i* P **P 05 26 06.5 -0.3**
comp=Z,6.9nm,1.1s
ONAU Onsala 43.33 318 *i* P **P 05 26 06.4 -0.8**
NEUB Neuenburg 43.35 309 *e*P 05 26 08.1
comp=Z,22nm,1.0s,baz=86,slow=7.9
HEH HeiHe 43.41 52 *e*P **P 05 26 09.3 +1.3**
HEH pmax pmax
comp=Z,38nm,1.0s
MOX Moxa 43.48 308 *e*P 05 26 09.5
comp=Z,6.8nm,0.9s,baz=86,slow=7.9
MOX *e*L 05 46 20.0
comp=Z,26nm,21.4s
MOR8 Moi Rana 43.64 331 *e*P **P 05 26 08.9 -0.6**
FLTG Flechtingen 43.64 311 *e*P 05 26 10.0
comp=Z,26nm,0.8s,baz=86,slow=7.9
FAUS Fauske 43.66 333 *e*P **P 05 26 09.8 0.0**
WTTA Wattenberg 43.78 303 *i* P **P 05 26 11.0 -0.2**
comp=Z,4.6nm,0.7s
WTTA *i* PP **PcP 05 27 57.9 +2.2**
comp=Z,8.7nm,1.1s
GRF Grafenberg Arr 43.81 307 *e*P 05 26 12.8
comp=Z,22nm,1.2s,baz=86,slow=7.9
GRF *e*L 05 44 12.0
comp=Z,34nm,20.3s
GRFO Grafenberg 43.81 307 P **P 05 26 12.3 +1.1**
GRFO IAmb IAmb 05 26 13.9
comp=Z,25nm,1.2s
GRFO Grafenberg 43.81 307 P **P 05 26 12.3 +1.1**
GRFO pmax pmax
comp=Z,25nm,1.2s
NC405 NORSAR Array S 43.81 324 P **P 05 26 10.1 -0.9**
NC405 IAmb IAmb 05 26 11.9
comp=Z,36nm,1.2s
WATA Walderalm 43.81 304 *i* P **P 05 26 10.9 -0.5**
comp=Z,10nm,1.4s
NC602 NORSAR Array S 43.85 323 P **P 05 26 10.3 -1.0**
NC602 IAmb IAmb 05 26 11.3
comp=Z,14nm,1.1s
NC602 NORSAR Array S 43.85 323 *e*P **P 05 26 10.6 -0.7**
STEI Steigen 43.85 334 *e*P **P 05 26 11.3 +0.1**
BNX BinXian 43.89 59 ⇓P **P 05 26 12.9 +1.0**
BNX pmax pmax
comp=Z,5.0nm,0.8s
NC303 NORSAR Array S 43.99 324 P **P 05 26 11.9 -0.6**
NB201 NORSAR Array S 44.01 323 P **P 05 26 12.0 -0.6**
NB201 IAmb IAmb 05 26 13.9
comp=Z,44nm,1.4s
NB2 NORSAR Subarra 44.04 323 P **P 05 26 12.1 -0.8**
comp=Z,9.4nm,0.5s,baz=98,slow=7.9
NB2 NORSAR Subarra 44.04 323 P **P 05 26 12.1 -0.8**
baz=98,slow=7.9
NOA NORSAR Array B 44.04 323 P **P 05 26 11.8 -1.1**
comp=Z,8.5nm,0.5s,baz=99,slow=7.9,SNR=76
NOA PP **PP 05 27 57.1 -0.6**
comp=Z,1.1nm,0.7s,baz=102,slow=8.9,SNR=3.3
NOA LR LR 05 46 50.1
comp=Z,32nm,19.1s,baz=110,slow=39
comp=Z,8.5nm,0.5s
SQTA Sankt Quirin 44.08 303 *i* P **P 05 26 13.0 -0.5**
comp=Z,4.0nm,0.7s
BSEG Bad Segeberg 44.15 313 *e*P 05 26 14.7
comp=Z,13nm,0.8s,baz=86,slow=7.9
OSL Oslo 44.16 322 *e*P **P 05 26 13.8 0.0**
STOK Stokkvaagen 44.24 331 *e*P **P 05 26 14.5 +0.2**
KONS Konsvik 44.24 331 *e*P **P 05 26 14.3 0.0**
NBO00 NORSAR Array S 44.25 323 P **P 05 26 13.7 -0.9**
NBO00 IAmb IAmb 05 26 14.9
comp=Z,26nm,1.2s
NSS Namsos 44.26 328 *e*P **P 05 26 14.4 -0.2**
NRDL Niedersach Rie 44.33 311 *e*P 05 26 16.2
comp=Z,11nm,0.8s,baz=86,slow=7.9
RETA Reutte 44.34 304 *i* P **P 05 26 15.0 -0.6**
comp=Z,3.1nm,0.8s
RETA *i* PP **PP 05 27 59.7 -1.4**
comp=Z,4.0nm,1.1s
FETA Feichten 44.43 303 *i* P **P 05 26 15.8 -0.5**
comp=Z,7.4nm,1.1s
FETA *e*PcP **PcP 05 27 58.3 +0.4**
comp=Z,6.2nm,1.0s
GTTG Gottingen 44.47 310 *e*P 05 26 17.3
comp=Z,28nm,1.1s,baz=86,slow=7.9
LOF Lofoten 44.52 334 *e*P **P 05 26 16.5 -0.1**
SSRD Sdr. Stenderup 44.54 315 *i* P **P 05 26 17.0 +0.1**
SSRD IAmb IAmb 05 26 19.0
comp=Z,20nm,0.6s
KONO Kongsberg 44.71 321 *e*P **P 05 26 17.8 -0.4**
KONO Kongsberg 44.71 321 *ce*P **P 05 26 17.7 -0.4**
KONO pmax pmax
comp=Z,15nm,1.7s
KONO Kongsberg 44.71 321 P **P 05 26 17.8 -0.4**
UBR Ueberruh 44.76 304 *e*P 05 26 18.9
comp=Z,8.4nm,0.7s,baz=86,slow=7.9
RETH Rethem/Aller, 44.77 311 *e*P 05 26 19.2
comp=Z,6.6nm,0.9s,baz=86,slow=7.9
TBLU Trondheim 44.79 326 *e*P **P 05 26 18.4 -0.3**
FUORN Ofenpass-Fuorn 44.80 303 P **P 05 26 19.2 -0.2**
DAVA Damuels 44.96 304 *i* P **P 05 26 20.5 -0.1**
comp=Z,12nm,0.6s,SNR=7.4
DAVA *e*PcP **PcP 05 27 60.0 +0.3**
comp=Z,10nm,1.1s
YAK Yakutsk 44.98 35 P **P 05 26 20.8 +0.5**
YAK Yakutsk 44.98 35 *e*P **P 05 26 20.7 +0.5**
YAK *e**PP **pP 05 26 51.3 +2.3**
YAK *e* 05 27 58.2
YAK *e*S **S 05 32 50.0 +1.0**
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK smax smax
comp=E,34nm,1.4s
YAK smax smax
comp=N,39nm,1.9s
DAVOX Davos/Dischmat 45.04 303 LR LR 05 48 59.1
comp=N,27nm,18.0s,baz=66,slow=41
DOMB Dombas 45.18 325 *e*P **P 05 26 21.7 -0.2**
HOMB Hombersund 45.20 319 *e*P **P 05 26 22.1 0.0**
STU Stuttgart 45.22 306 P **P 05 26 22.7 +0.3**
STU IAmb IAmb 05 26 23.6
comp=Z,9.8nm,0.8s
STU Stuttgart 45.22 306 P **P 05 26 22.7 +0.3**
STU pmax pmax
comp=Z,10.0nm,0.8s
BJO1 Bjornoya 45.34 343 *e*P **P 05 26 23.3 +0.4**
MDJ Mudanjiang 45.61 60 P **P 05 26 26.3 +0.8**
MDJ pmax pmax
comp=Z,10.0nm,0.6s
IBBN Ibbenburen 45.77 311 *e*P 05 26 27.4
comp=Z,18nm,0.7s,baz=86,slow=7.9
BFO Black Forest 45.85 305 P **P 05 26 27.1 -0.3**
BFO Black Forest 45.85 305 P **P 05 26 27.1 -0.3**
BFO pmax pmax
comp=Z,12nm,1.4s
BFO Black Forest 45.85 305 P **P 05 26 27.5 +0.1**
BFO Black Forest 45.85 305 *e*P 05 26 27.4
comp=Z,13nm,1.5s,baz=86,slow=7.9
SNART Snartemo 45.88 319 *e*P **P 05 26 27.9 +0.4**
MOL Molde 45.94 325 *e*P **P 05 26 28.1 +0.3**

KSRS Korea Array 46.10 70 P **P 05 26 29.6 +0.1**
comp=Z,4.1nm,0.7s,baz=283,slow=6.7,SNR=17
comp=Z,4.1nm,0.7s
ODD1 Odda 46.22 322 *e*P **P 05 26 30.3 +0.2**
BLS5 Blasjo 46.29 321 *e*P **P 05 26 31.0 +0.3**
KLR Kul'dur 46.32 53 P **P 05 26 31.0 0.0**
comp=Z,5.0nm,0.8s,baz=279,slow=8.8,SNR=13
KLR LR LR 05 45 42.6
comp=Z,50nm,19.6s,baz=248,slow=36
comp=Z,5.0nm,0.8s
KLR Kul'dur 46.32 53 *c i* P **P 05 26 31.4 +0.4**
KLR pmax pmax
comp=Z,9.0nm,1.0s
AHRW Bad Neuenahr-A 46.38 309 *e*P 05 26 32.3
comp=Z,88nm,2.3s,baz=86,slow=7.9
TIXI Tiksi 46.60 22 P **P 05 26 33.5 +0.6**
TIXI Tiksi 46.60 22 ⇑*e*P **P 05 26 33.0 +0.2**
TIXI pmax pmax
comp=Z,23nm,1.0s
TIXI Tiksi 46.60 22 P **P 05 26 33.2 +0.4**
TIXI pP **pP 05 27 03.1 +1.0**
TIXI sP **sP 05 27 15.9 -0.4**
ECH Echery 46.64 305 P **P 05 26 34.2 +0.6**
PDSI Padang 46.68 135 P **P 05 26 34.0 -0.2**
comp=Z,28nm,0.7s,comp=Z,3μm
SENIN Lac Senin/Sane 46.86 303 P **P 05 26 35.4 -0.1**
PSTR Posyet 46.88 62 *d i* P **P 05 26 36.7 +1.2**
ASK Askoy 46.95 322 *e*P **P 05 26 35.6 -0.1**
BTNL Ternell 46.97 309 *d*P **P 05 26 36.8 +0.7**
comp=Z,5.9nm,1.0s
MEM Membach 47.04 309 *d*P **P 05 26 36.1 -0.5**
comp=Z,8.4nm,1.0s
MEM *d*PP **PP 05 28 26.8 -1.4**
FOO Floro 47.05 324 *e*P **P 05 26 36.3 -0.2**
WLF Walferdange 47.08 307 P **P 05 26 37.6 +0.7**
WLF IAmb IAmb 05 26 39.1
comp=Z,16nm,1.0s
WLF Walferdange 47.08 307 *d*P **P 05 26 38.2 +1.3**
comp=Z,10.0nm,1.0s
WLF Walferdange 47.08 307 P **P 05 26 37.7 +0.7**
WLF pmax pmax
comp=Z,17nm,1.0s
WLF Walferdange 47.08 307 *e*P 05 26 38.0
comp=Z,19nm,1.1s,baz=86,slow=7.9
SUE Sulen 47.17 323 *e*P **P 05 26 37.7 +0.3**
USRK Ussuriysk Ar. 47.37 60 P **P 05 26 39.2 -0.1**
comp=Z,4.1nm,0.8s,baz=256,slow=9.0,SNR=6.2
comp=Z,4.1nm,0.8s
LPL La Plagne 47.41 302 *e*P **P 05 26 39.7 -0.2**
LPL pmax pmax
comp=Z,15nm,1.2s
BNI Bardonecchia 47.55 301 P **P 05 26 40.6 -0.2**
BNI Bardonecchia 47.55 301 P **P 05 26 40.6 -0.2**
BNI pmax pmax
comp=Z,17nm,1.6s
RCHB Rochefort 47.60 308 *d*P **P 05 26 41.7 +0.8**
RCHB *d*PcP **PcP 05 28 08.4 -0.3**
SPA0 Spitsbergen Ar 47.66 347 *e*P **P 05 26 41.8 +0.8**
SPITS Spitsbergen Ar 47.66 347 P **P 05 26 41.7 +0.8**
comp=Z,15nm,0.7s,baz=102,slow=12,SNR=11
comp=Z,15nm,0.7s
SPITS Spitsbergen Ar 47.66 347 P **P 05 26 41.0 0.0**
BGES Gesves 47.66 309 *d*P **P 05 26 41.5 +0.1**
BGES *d*PcP **PcP 05 28 08.6 -0.3**
BMRD Maredsous 47.87 309 *d*P **P 05 26 43.9 +0.9**
comp=Z,6.2nm,1.0s
DOU Dourbes 48.01 308 *d*P **P 05 26 43.9 -0.2**
comp=Z,5.4nm,1.1s
DOU *d*PcP **PcP 05 28 10.1 -0.1**
DOU *d*PP **PP 05 28 35.1 -2.0**
KEST Kesra 48.09 288 P **P 05 26 45.9 +0.8**
comp=Z,7.5nm,0.7s,baz=311,slow=1.4,SNR=7.9
comp=Z,7.5nm,0.7s
TATN Tataouine 48.26 284 P **P 05 26 46.2 -0.1**
TATN IAmb IAmb 05 26 47.9
comp=Z,22nm,0.8s
KBS Kingsbay 48.78 347 *de*P **P 05 26 49.8 +0.2**
KBS pmax pmax
comp=Z,60nm,1.3s
KBS Kingsbay 48.78 347 *i* P **P 05 26 49.9 +0.2**
KBS Kingsbay 48.78 347 P **P 05 26 50.6 +1.0**
KBS pP **pP 05 27 20.5 +1.9**
SSB Saint Sauveur 48.97 302 P **P 05 26 51.8 +0.2**
SSB sP **sP 05 27 36.9 +2.5**
CAF Calviac 50.76 302 *e*P **P 05 27 05.2 +0.1**
CAF pmax pmax
comp=Z,6.0nm,0.8s
MBAR Mbarara 51.33 233 *ce*P **P 05 27 10.8 +0.9**
MBAR pmax pmax
comp=Z,14nm,0.8s
MBAR Mbarara 51.33 233 P **P 05 27 10.4 +0.5**
LFF La Frestale 51.66 302 *e*P **P 05 27 11.7 -0.1**
LFF pmax pmax
comp=Z,6.0nm,0.6s
EKA Eskdalemuir Ar 51.80 316 P **P 05 27 12.3 -0.4**
comp=Z,5.1nm,0.6s,baz=93,slow=7.2,SNR=38
comp=Z,5.1nm,0.6s
MFF Saint Martin d 51.83 305 *e*P **P 05 27 11.4 -1.6**
MFF pmax pmax
comp=Z,5.0nm,0.9s
ESK Eskdalemuir 51.83 316 P **P 05 27 12.4 -0.5**
YSS Yuzh-Sakhalins 54.00 54 *de*P **P 05 27 29.4 +0.5**
YSS pmax pmax
comp=Z,32nm,1.0s
NOR Nord 54.02 350 *i* P **P 05 27 28.4 -0.2**
NOR IAmb IAmb 05 27 29.4
comp=Z,6.6nm,1.0s
MAJO Matsushiro 54.17 68 *d i* P **P 05 27 29.8 -0.6**
MAJO pmax pmax
comp=Z,8.0nm,0.8s
MJAR Matsushiro Arr 54.17 68 P **P 05 27 29.8 -0.6**
comp=Z,4.6nm,0.8s,baz=292,slow=10.0,SNR=14
comp=Z,4.6nm,0.8s
ASAJ Asahikawa 54.75 58 LR LR 05 52 38.9
comp=Z,56nm,19.2s,baz=112,slow=38
DAG Danmarks Havn 54.82 344 *i* P **P 05 27 33.1 -1.3**
DAG IAmb IAmb 05 27 35.1
comp=Z,14nm,0.7s
MA2 Magadan 55.40 38 *de*P **P 05 27 39.6 +0.8**
MA2 pmax pmax
comp=Z,10.0nm,1.0s
SEY Seymchan 55.41 33 *ce*P **P 05 27 39.9 +1.1**
SEY pmax pmax
comp=Z,16nm,1.3s
DBG Daneborg 55.61 341 *i* P **P 05 27 40.4 +0.2**
DBG IAmb IAmb 05 28 04.9
comp=Z,9.8nm,1.5s
TAM Tamanrasset 56.44 275 P **P 05 27 47.6 +0.6**
TAM pmax pmax
comp=Z,5.0nm,1.0s
ESBB Sonseca Array 56.65 298 P **P 05 27 48.0 -0.1**
ESBB IAmb IAmb 05 27 48.9
comp=Z,5.3nm,0.8s
ESDC Sonseca Array 56.65 298 P **P 05 27 47.4 -0.7**
ESDC Sonseca Array 56.65 298 P **P 05 27 47.6 -0.5**
comp=Z,4.7nm,0.7s,baz=61,slow=7.2,SNR=41
comp=Z,4.7nm,0.7s
PVIS Viseu 59.05 300 *e*P **P 05 28 05.6 +0.8**
PCBR Castelo Branco 59.09 299 *e*P **P 05 28 06.0 +0.9**
PMRV Marv??o 59.19 299 *e*P **P 05 28 06.0 +0.2**
PBAR Barrancos 59.44 297 *e*P **P 05 28 07.7 +0.2**
BILL Bilibino 59.49 26 *c i* P **P 05 28 08.2 +0.8**
BILL *i* *PP **pP 05 28 40.6 +2.7**
BILL *i* *SP **sP 05 28 51.6 +0.3**
BILL 05 30 24.0
BILL S S 05 36 27.0 +20
BILL *e* 05 42 33.4
BILL pmax pmax
comp=Z,27nm,1.7s
PESTR Estremoz 59.56 298 *e*P **P 05 28 08.9 +0.6**
COI Coimbra 59.61 300 *e*P **P 05 28 10.1 +1.5**
EVO Evora 59.99 298 *e*P **P 05 28 11.7 +0.4**
PBEJ Beja 60.09 297 *e*P **P 05 28 12.8 +0.8**
SUMG Summit 61.10 341 *i* P **P 05 28 19.0 +0.3**
SUMG IAmb IAmb 05 28 21.3
comp=Z,14nm,0.9s
NEEM North Greenlan 61.21 348 *i* P **P 05 28 19.2 -0.1**
NEEM IAmb IAmb 05 28 22.4
comp=Z,16nm,0.7s
ICESG Greenland Ices 63.18 338 *i* P **P 05 28 31.9 -0.6**
ICESG IAmb IAmb 05 28 33.8
comp=Z,18nm,1.2s
DY2G Dye2 66.73 337 *i* P **P 05 28 54.8 -0.7**
DY2G IAmb IAmb 05 28 56.5
comp=Z,40nm,1.3s

SFJD	Kangerlussuaq	67.74	338	P	P	05 29 04.0	+2.4
C16K	Lisburne Hills	68.24	19	P	P	05 29 04.6	0.0
C16K	Lisburne Hills	68.24	19	P	P	05 29 04.6	0.0
	baz=315						
B18K	Kokolik River	68.35	17	P	P	05 29 06.2	+0.9
	baz=317						
A22K	Sinclair Lake	68.60	14	P	P	05 29 07.5	+0.7
	baz=322						
C17K	DeLong Mountai	68.66	18	P	P	05 29 07.9	+0.6
	baz=316,SNR=6.5						
B20K	Meade River	68.93	16	P	P	05 29 09.6	+0.7
	baz=321						
C18K	Utukok River	69.03	18	P	P	05 29 09.9	+0.3
	baz=318,SNR=11						
RDOG	Red Dog Mine	69.04	19	P	P	05 29 09.3	-0.3
	baz=317						
C19K	Lookout Ridge	69.08	17	P	P	05 29 10.7	+0.9
C19K				IAmb	IAmb	05 29 11.5	
	comp=Z,12nm,0.6s						
C19K	Lookout Ridge	69.08	17	P	P	05 29 10.5	+0.6
	baz=319,SNR=6.4						
D17K	Noatak River	69.25	19	P	P	05 29 11.1	+0.2
	baz=317,SNR=15						
TNA	Tin City	69.39	22	P	P	05 29 12.2	+0.4
	baz=313						
B22K	Teshekpuk Lake	69.45	14	P	P	05 29 12.0	-0.1
	baz=324						
B21K	Ikpikpuk River	69.78	15	P	P	05 29 14.3	+0.2
	baz=323						
D19K	Kuna River	69.89	17	P	P	05 29 14.9	+0.1
	baz=320,SNR=26						
F14K	Arctic Creek	69.93	22	P	P	05 29 14.8	-0.3
	baz=315						
E17K	Hotham Inlet	70.03	19	P	P	05 29 15.3	-0.4
	baz=318,SNR=11						
D20K	Etivluk River	70.07	16	P	P	05 29 16.2	+0.2
	baz=322,SNR=14						
E18K	Tukpahlearik C	70.10	18	P	P	05 29 16.2	+0.1
E18K				IAmb	IAmb	05 29 17.3	
	comp=Z,28nm,1.1s						
E18K	Tukpahlearik C	70.10	18	P	P	05 29 16.2	+0.1
	baz=319,SNR=17						
C21K	Knifeblade Rid	70.12	15	P	P	05 29 16.9	+0.7
	baz=323,SNR=12						
F15K	North Star Dit	70.26	21	P	P	05 29 17.5	+0.4
	baz=316,SNR=16						
C23K	Itkillik River	70.41	14	P	P	05 29 18.9	+0.9
	baz=326,SNR=13						
E20K	Nigu River	70.52	16	P	P	05 29 18.9	+0.1
	baz=322,SNR=20						
F17K	Baldwin Pennin	70.67	19	P	P	05 29 19.8	+0.3
F17K	Baldwin Pennin	70.67	19	P	P	05 29 20.1	+0.6
	baz=318,SNR=7.1						
D22K	Ayikyak River	70.79	15	P	P	05 29 20.7	+0.4
	baz=325,SNR=14						
ANM	Nome	70.86	22	P	P	05 29 21.6	+0.8
	baz=316						
E21K	Killik River	70.87	16	P	P	05 29 20.7	-0.2
	baz=324						
C24K	Franklin Bluff	70.87	13	P	P	05 29 21.5	+0.8
	baz=328,SNR=5.0						
E19K	Redstone River	70.91	17	P	P	05 29 21.0	0.0
	baz=322,SNR=12						
G15K	Niukluk	70.95	21	P	P	05 29 21.6	+0.3
	baz=316,SNR=7.4						
F18K	Selawik	70.97	19	P	P	05 29 21.4	0.0
	baz=320,SNR=22						
D23K	Nanushuk River	71.13	14	P	P	05 29 22.8	+0.5
	baz=327						
G16K	Koyuk River	71.14	20	P	P	05 29 23.0	+0.5
	baz=318						
F19K	Shaleruckik Mo	71.26	18	P	P	05 29 22.4	-0.7
	baz=321,SNR=6.8						
D24K	Happy Valley	71.33	14	P	P	05 29 23.9	+0.3
	baz=328,SNR=5.2						
C26K	Camden Bay	71.37	12	P	P	05 29 24.8	+1.1
	baz=331,SNR=6.5						
G17K	Kiwalik Mounta	71.54	20	P	P	05 29 25.1	+0.3
	baz=319,SNR=14						
F20K	Avaraart Lake	71.59	17	P	P	05 29 24.8	-0.3
	baz=323						
TOLK	Toolik Lake Re	71.62	14	P	P	05 29 25.9	+0.6
TOLK	Toolik Lake Re	71.62	14	P	P	05 29 25.8	+0.4
	baz=328,SNR=28						
D25K	Kavik River	71.64	13	P	P	05 29 26.1	+0.6
	baz=330						
A36M	Sachs Harbour	71.73	5	P	P	05 29 27.2	+1.4
	baz=348						
H16K	Elim	71.74	21	P	P	05 29 26.5	+0.5
	baz=318,SNR=10						
G18K	Tagagawik	71.77	19	P	P	05 29 25.8	-0.4
	baz=321,SNR=5.7						
C27K	Jago River	71.83	12	P	P	05 29 27.4	+0.9
	baz=332,SNR=19						
F21K	Alatna River	71.97	16	P	P	05 29 27.4	-0.1
	baz=325,SNR=26						
G19K	Purcell Mounta	71.98	18	P	P	05 29 27.2	-0.3
G19K				IAmb	IAmb	05 29 28.5	
	comp=Z,18nm,0.9s						
G19K	Purcell Mounta	71.98	18	P	P	05 29 27.4	0.0
	baz=322,SNR=20						
F22K	John River	72.03	16	P	P	05 29 28.2	+0.4
	baz=326						
E23K	Chandalar	72.11	14	P	P	05 29 28.7	+0.3
	baz=328,SNR=15						
H17K	Granite Mounta	72.17	20	P	P	05 29 28.9	+0.2
	baz=320,SNR=10						
E24K	Your Creek	72.32	14	P	P	05 29 30.1	+0.6
	baz=328						
H18K	Honhosa River	72.42	19	P	P	05 29 30.1	-0.1
H18K	Honhosa River	72.42	19	P	P	05 29 30.0	-0.1
	baz=321,SNR=5.8						
G21K	Allakaket	72.55	17	P	P	05 29 30.5	-0.3
	baz=325,SNR=16						
D27M	Malcolm River	72.61	11	P	P	05 29 32.1	+0.8
	baz=335						
H19K	Roundabout Mou	72.63	18	P	P	05 29 31.4	+0.1
	baz=322						
G22K	Bettles	72.66	16	P	P	05 29 31.5	0.0
	baz=326						
COLD	Coldfoot	72.69	15	P	P	05 29 31.9	+0.2
	baz=327,SNR=38						
J14K	Nanvaranak Lak	72.74	23	P	P	05 29 32.5	+0.5
	baz=317,SNR=5.6						
I17K	Unalakleet	72.75	21	P	P	05 29 32.6	+0.5
	baz=319,SNR=6.6						
D28M	Stokes Point	72.86	10	P	P	05 29 33.7	+1.1
	baz=336						
F24K	Squaw Lake	72.91	14	P	P	05 29 33.5	+0.4
	baz=329,SNR=7.3						
K13K	Kusilvak Mount	72.99	24	P	P	05 29 34.0	+0.5
	baz=317						
H20K	Anotleneega Mo	73.05	18	P	P	05 29 34.0	+0.1
	baz=324,SNR=32						
GCSA	Galena City Sc	73.14	19	P	P	05 29 34.5	+0.2
	baz=322						
G23K	Bananza Creek	73.16	15	P	P	05 29 34.8	+0.3
G23K				IAmb	IAmb	05 29 36.4	
	comp=Z,12nm,0.9s						
G23K	Bananza Creek	73.16	15	P	P	05 29 34.9	+0.3
	baz=328,SNR=22						
J16K	Anvik River	73.24	21	P	P	05 29 35.4	+0.4
	baz=320						
F25K	Christian River	73.28	13	P	P	05 29 36.2	+1.0
	baz=331,SNR=35						
E28M	Babbage River	73.41	11	P	P	05 29 36.7	+0.8
	baz=336						
H21K	Melozitna Rive	73.42	17	P	P	05 29 36.1	+0.1
	baz=325,SNR=25						
E27K	Coleen River	73.46	12	P	P	05 29 37.0	+0.7
	baz=334,SNR=21						
F26K	Sheenjek River	73.47	13	P	P	05 29 36.5	+0.2
	baz=332,SNR=16						
DBIC	Dimbokro	73.53	266	P	P	05 29 36.5	-1.0
	comp=Z,5.0nm,0.7s,baz=36,slow=7.4,SNR=5.5						
	comp=Z,5.0nm,0.7s						
H22K	Ishtalitna Cre	73.55	16	P	P	05 29 37.0	+0.2
	baz=326,SNR=12						
J17K	VABM Dome	73.59	21	P	P	05 29 36.9	-0.2
J17K	VABM Dome	73.59	21	P	P	05 29 37.2	+0.2
	baz=321,SNR=6.8						
BMAR	Burnt Mountain	73.62	13	P	P	05 29 38.1	+0.8
G24K	Hadweenzic Riv	73.70	14	P	P	05 29 38.2	+0.5
	baz=330,SNR=24						
K15K	Wolf Creek Mou	73.71	22	P	P	05 29 38.6	+0.9
	baz=319						
I20K	Naaghedeneel	73.71	18	P	P	05 29 38.1	+0.4
	baz=324,SNR=10						
E29M	Blow River	73.85	10	P	P	05 29 39.4	+1.0
	baz=337,SNR=16						
G25K	Bearman Lake	73.92	14	P	P	05 29 39.9	+1.1
	baz=331,SNR=13						
H23K	Yukon River	74.02	16	P	P	05 29 40.4	+0.9
	baz=328,SNR=16						
L14K	Kuka Creek	74.06	23	P	P	05 29 40.5	+0.7
	baz=318,SNR=6.6						
J19K	Poorman	74.07	19	P	P	05 29 40.3	+0.5
	baz=323,SNR=30						
L15K	Ungalak Mounta	74.19	23	P	P	05 29 41.0	+0.5
	baz=319						
G26K	Porcupine Rive	74.19	13	P	P	05 29 41.0	+0.6
	baz=333,SNR=10						
J18K	Innoko River	74.20	20	P	P	05 29 40.9	+0.4
J18K				IAmb	IAmb	05 29 41.8	
	comp=Z,15nm,0.9s						
J18K	Innoko River	74.20	20	P	P	05 29 40.9	+0.4
	baz=323,SNR=20						
F28M	Old Crow	74.26	11	P	P	05 29 41.5	+0.6
	baz=336,SNR=14						
J20K	Nowinta River	74.30	18	P	P	05 29 41.7	+0.5
	baz=325,SNR=18						
K17K	Iditarod	74.34	21	P	P	05 29 41.8	+0.4
	baz=322,SNR=22						
H24K	Noodor Dome	74.36	15	P	P	05 29 42.1	+0.6
	baz=329,SNR=20						
H25L	Birch Creek	74.41	14	P	P	05 29 42.7	+1.0
	baz=331,SNR=9.1						
C36M	Paulatuk	74.41	5	P	P	05 29 41.6	-0.1
	baz=349						
MLY	Manley	74.42	17	P	P	05 29 42.3	+0.4
MLY				IAmb	IAmb	05 29 43.1	
	comp=Z,11nm,0.9s						
MLY	Manley	74.42	17	P	P	05 29 42.0	+0.1
	baz=327,SNR=21						
INK	Inuvik	74.51	9	P	P	05 29 42.5	+0.3
	baz=341,SNR=13						
M13K	Dall Lake	74.54	24	P	P	05 29 43.6	+1.1
	baz=318						
I23K	Minto, Yukon-K	74.64	16	P	P	05 29 43.5	+0.5
	baz=328,SNR=16						
G27K	Doyon Strip	74.70	12	P	P	05 29 44.3	+0.8
	baz=334,SNR=30						
M14K	Bethel	74.74	23	P	P	05 29 44.5	+0.9
M14K	Bethel	74.74	23	P	P	05 29 44.4	+0.7
	baz=319,SNR=9.3						
L16K	Owhat River	74.78	22	P	P	05 29 44.8	+0.9
	baz=321						
L17K	Donlin	74.80	21	P	P	05 29 44.6	+0.5
	baz=322,SNR=7.2						
TTA	Tatalina	74.82	20	P	P	05 29 44.4	+0.2
	baz=323,SNR=8.9						
F30M	Barrier River	74.87	10	P	P	05 29 44.8	+0.4
	baz=339,SNR=11						
K20K	Telida	74.99	19	P	P	05 29 45.8	+0.7
	baz=325,SNR=20						
MDM	Murphy Dome	75.05	16	P	P	05 29 45.8	+0.3
MDM				IAmb	IAmb	05 29 47.2	
	comp=Z,19nm,0.8s						
POKR	Poker Plat Res	75.08	15	P	P	05 29 46.2	+0.6
	baz=330,SNR=12						
PRP	Porcupine Dome	75.13	14	P	P	05 29 46.6	+0.5
	baz=331,SNR=16						
BPAW	Bear Paw Mtn.	75.15	17	P	P	05 29 45.8	-0.2
BPAW				IAmb	IAmb	05 29 47.7	
	comp=Z,11nm,0.8s						
BPAW	Bear Paw Mtn.	75.15	17	P	P	05 29 45.7	-0.4
	baz=327,SNR=21						
NEA2	Nenana	75.17	16	P	P	05 29 46.0	-0.2
NEA2	Nenana	75.17	16	P	P	05 29 45.9	-0.3
	baz=329,SNR=60						
M15K	Kasigluk River	75.19	23	P	P	05 29 47.1	+0.8
	baz=320						
G29M	Pine Creek	75.20	11	P	P	05 29 46.5	+0.2
	baz=337,SNR=9.0						
L18K	Granite Mounta	75.20	21	P	P	05 29 46.6	+0.3
	baz=323,SNR=6.5						
COLA	College	75.20	16	P	P	05 29 46.4	+0.1
	baz=330						
COLA	College	75.20	16*c*	*i*P	P	05 29 46.2	-0.1
COLA				pmax	pmax		
	comp=Z,31nm,0.9s						
H27K	Steamboat Moun	75.24	13	P	P	05 29 47.4	+0.8
	baz=334,SNR=31						
F31M	Tsiigehtchic	75.30	9	P	P	05 29 47.2	+0.3
F31M				IAmb	IAmb	05 29 48.2	
	comp=Z,19nm,0.8s						
F31M	Tsiigehtchic	75.30	9	P	P	05 29 47.1	+0.3
	baz=341,SNR=12						
G30M	tAoh Zraii Nji	75.40	10	P	P	05 29 47.7	+0.2
	baz=339,SNR=16						
N14K	Kuskokwak Cree	75.46	24	P	P	05 29 48.4	+0.6
	baz=319						
M16K	Timber Creek	75.48	22	P	P	05 29 48.3	+0.4
M16K				IAmb	IAmb	05 29 49.9	
	comp=Z,7.9nm,0.8s						
M16K	Timber Creek	75.48	22	P	P	05 29 48.7	+0.7
	baz=321,SNR=6.8						
ILAR	Eielson Array	75.50	15	P	P	05 29 47.4	-0.6
	comp=Z,10.0nm,0.9s,baz=318,slow=4.5,SNR=84						
	comp=Z,10.0nm,0.9s						
M17K	Holitna River	75.63	21	P	P	05 29 49.7	+0.9
	baz=322,SNR=8.0						
G31M	Satah River	75.72	9	P	P	05 29 48.9	-0.3
G31M				IAmb	IAmb	05 29 50.4	
	comp=Z,13nm,0.8s						
G31M	Satah River	75.72	9	P	P	05 29 49.4	+0.2
	baz=340,SNR=7.7						
L19K	White Mountain	75.74	20	P	P	05 29 49.8	+0.3
	baz=324,SNR=7.1						
L20K	Farewell, AK	75.76	19	P	P	05 29 49.8	+0.2
	baz=325,SNR=8.7						
I26K	Coal Creek Min	75.78	14	P	P	05 29 49.9	+0.3
	baz=333						
H29M	Whitestone	75.78	11	P	P	05 29 50.2	+0.6
H29M				IAmb	IAmb	05 29 51.2	
	comp=Z,24nm,0.8s						
H29M	Whitestone	75.78	11	P	P	05 29 50.1	+0.5
	baz=337,SNR=22						
N15K	Kwethluk River	75.79	23	P	P	05 29 50.0	+0.3
	baz=321						
I27K	Kandik River	75.80	13	P	P	05 29 50.1	+0.3
	baz=334,SNR=18						
HDA	Harding Lake	75.80	15	P	P	05 29 48.7	-1.1
	baz=330,SNR=10.0						
EPYK	Eagle Plains	75.90	11	P	P	05 29 50.0	-0.3
	baz=338,SNR=6.0						
MCK	McKinley	75.94	17	P	P	05 29 50.4	-0.2
	baz=329,SNR=7.3						
J25K	Salcha River,	75.96	15	P	P	05 29 50.2	-0.5
	baz=332,SNR=24						
N16K	Nishlik Lake	75.96	22	P	P	05 29 51.8	+1.0
	baz=322						
M18K	Stony River	76.03	21	P	P	05 29 51.4	+0.3
	baz=324,SNR=5.4						
M19K	Big River Lodg	76.09	20	P	P	05 29 51.8	+0.3
	baz=325						
O14K	Tigyukauivet M	76.11	24	P	P	05 29 51.5	0.0
	baz=320						
I28M	Miner Creek	76.23	12	P	P	05 29 52.2	-0.1
I28M				IAmb	IAmb	05 29 53.6	
	comp=Z,16nm,0.7s						
I28M	Miner Creek	76.23	12	P	P	05 29 52.5	+0.1
	baz=336,SNR=25						
N17K	Nushagak Hills	76.40	22	P	P	05 29 54.0	+0.8
	baz=323						
J26L	Joseph Creek	76.42	14	P	P	05 29 53.5	+0.1
	baz=333,SNR=29						
K24K	Donnelly Dome	76.58	15	P	P	05 29 53.7	-0.5
	baz=331,SNR=20						
I29M	Ogilvie Camp,	76.59	12	P	P	05 29 54.0	-0.2
	baz=337,SNR=20						
EGAK	Eagle	76.63	13	P	P	05 29 54.8	+0.4
EGAK	Eagle	76.63	13	P	P	05 29 54.6	+0.2
	baz=335,SNR=7.9						
O15K	Ungalikthiuk R	76.64	24	P	P	05 29 54.9	+0.3
	baz=321						
N18K	Kilae Creek	76.67	21	P	P	05 29 55.3	+0.6
	baz=324						
BOSA	Boshof	76.69	219	P	P	05 29 55.3	0.0
	comp=Z,9.6nm,0.9s,baz=48,slow=5.3,SNR=12						
	comp=Z,9.6nm,0.9s						
CUT	Chulitna	76.75	18	P	P	05 29 53.7	-1.5
	baz=328						
SKT	Skwentna	76.79	19	P	P	05 29 54.5	-0.9
	baz=327,SNR=28						
SCRK	Sand Creek	76.80	15	P	P	05 29 55.6	+0.1
SCRK				IAmb	IAmb	05 29 56.7	
	comp=Z,14nm,0.8s						
SCRK	Sand Creek	76.80	15	P	P	05 29 55.7	+0.1
	baz=333,SNR=27						
WAT1	Susitna Watana	76.81	17	P	P	05 29 54.1	-1.4
	baz=329						
O16K	Kokwok River B	76.87	23	P	P	05 29 56.5	+0.7
	baz=322						
DHY	Denali Highway	76.87	16	P	P	05 29 55.6	-0.4
	baz=330,SNR=33						
N19K	Bonanza Creek	76.96	20	P	P	05 29 56.7	+0.2
	baz=325,SNR=5.6						
I30M	Mount Dempster	77.02	11	P	P	05 29 56.8	0.0
I30M				IAmb	IAmb	05 29 58.2	
	comp=Z,22nm,0.8s						
I30M	Mount Dempster	77.02	11	P	P	05 29 56.8	0.0
	baz=339,SNR=37						
O17K	Koliganek Bris	77.03	22	P	P	05 29 57.3	+0.6
	baz=323						
K27K	Chicken	77.13	14	P	P	05 29 57.4	+0.2
	baz=334						
WAT6	Susitna Watana	77.21	17	P	P	05 29 56.9	-1.0
	baz=330,SNR=13						
N20K	Mount Spurr	77.27	19	P	P	05 29 57.7	-0.5
	baz=327						
SPCR	Spurr Chakacha	77.27	19	P	P	05 29 57.4	-0.7
	baz=327						
P16K	Nushagak River	77.34	23	P	P	05 29 57.4	-1.1
	baz=322						
M22K	Willow	77.35	18	P	P	05 29 58.1	-0.3
	baz=328,SNR=5.1						
PAX	Paxson	77.39	16	P	P	05 29 58.3	-0.5
	baz=332,SNR=27						
SUA	Susitna One	77.43	19	P	P	05 29 58.0	-1.1
	baz=328,SNR=16						
J29N	Klondike Camp	77.44	12	P	P	05 29 58.8	-0.2
	baz=337						
O19K	Port Alsworth	77.52	21	P	P	05 29 59.2	-0.2
	baz=325						
O18K	Koktuh Hills	77.53	21	P	P	05 29 60.0	+0.4
	baz=324,SNR=6.3						
DAWY	Dawson	77.60	13	P	P	05 30 00.0	+0.1
DAWY				IAmb	IAmb	05 30 00.9	
	comp=Z,12nm,0.8s						
DAWY	Dawson	77.60	13	P	P	05 29 59.8	-0.1
	baz=336,SNR=28						
J30M	Hart River	77.63	11	P	P	05 30 00.4	+0.2
	baz=339,SNR=19						
MEEK	Meekatharra	77.64	136	P	P	05 29 58.2	-2.3
P17K	Kvichak River	77.70	22	P	P	05 30 00.8	+0.4
	baz=324						
PMR	Palmer	77.73	18	P	P	05 29 60.0	-0.6
	baz=329,SNR=11						
SML	Sawmill	77.74	17	P	P	05 30 00.6	-0.2
	baz=330,SNR=28						
L26K	Log Cabin Wild	77.78	15	P	P	05 30 01.2	+0.3
L26K	Log Cabin Wild	77.78	15	P	P	05 30 01.0	+0.1
	baz=333,SNR=10						
M23K	Glacier View	77.90	17	P	P	05 30 01.1	-0.5
	baz=330,SNR=25						
P18K	Big Mountain,	77.91	22	P	P	05 30 01.3	-0.4
	baz=324						
HARP	HAARP	77.96	16	P	P	05 30 02.5	+0.6
	baz=332,SNR=17						
SCM	Sheep Creek Mo	77.96	17	P	P	05 30 01.6	-0.4
SCM	Sheep Creek Mo	77.96	17	P	P	05 30 01.8	-0.2
	baz=330,SNR=17						
SCM	Sheep Creek Mo	77.96	17	P	P	05 30 01.6	-0.4
SCM				pmax	pmax		
	comp=Z,24nm,0.7s						
M24K	Tolsona, Glenn	77.99	16	P	P	05 30 02.5	+0.3
	baz=331,SNR=17						
RC01	Rabbit Creek A	78.01	18	P	P	05 30 01.3	-0.9
	baz=328,SNR=9.2						
KNK	Knik Glacier	78.05	18	P	P	05 30 02.3	-0.1
	baz=330,SNR=7.8						
L27K	Beaver Creek,	78.06	14	P	P	05 30 02.7	+0.3
L27K				IAmb	IAmb	05 30 04.0	
	comp=Z,9.4nm,0.8s						
L27K	Beaver Creek,	78.06	14	P	P	05 30 02.8	+0.3
	baz=335,SNR=21						
O20K	Slope Mountain	78.09	20	P	P	05 30 01.7	-1.1
	baz=326						
K29M	Barlow Dome	78.12	12	P	P	05 30 03.0	+0.1
	baz=338,SNR=35						
P19K	Oil Pt	78.28	21	P	P	05 30 03.3	-0.4
	baz=326						
M26K	Nabesna, AK	78.42	15	P	P	05 30 04.5	0.0
	baz=334,SNR=7.3						
S12K	Black Hills	78.54	27	P	P	05 30 05.2	0.0
	baz=320						
PWL	Port Wells	78.56	18	P	P	05 30 04.8	-0.5
	baz=330,SNR=6.0						
Q18K	Katmai Hardscr	78.58	22	P	P	05 30 04.2	-1.2
	baz=325						
KLU	Klutina	78.58	17	P	P	05 30 05.5	+0.1
	baz=332,SNR=16						
MAYO	Mayo, Yukon	78.62	11	P	P	05 30 05.9	+0.3
	baz=339						
Q17K	Contact Creek	78.62	23	P	P	05 30 04.9	-0.8
	baz=324						
M27K	Edge Creek, AK	78.69	14	P	P	05 30 06.8	+0.7
	baz=335,SNR=29						
L29M	L29M	78.70	12	P	P	05 30 06.2	+0.2
	baz=338,SNR=8.2						
N25K	Chitina, Valde	78.78	16	P	P	05 30 06.5	0.0
	baz=332,SNR=5.9						
GLI	Glacier Island	78.85	17	P	P	05 30 06.3	-0.5
	baz=331,SNR=8.0						
BRSE	Bradley Lake S	78.89	20	P	P	05 30 05.8	-1.2
	baz=328						
SEW	Seward	78.92	19	P	P	05 30 06.5	-0.7
	baz=329						
M29M	Somme Creek	79.26	13	P	P	05 30 09.9	+0.7
	baz=337,SNR=14						
MCARA	McCarthy VSAT	79.33	15	P	P	05 30 09.6	+0.2
	baz=334						
BMRM	Bremner River	79.35	16	P	P	05 30 09.8	+0.3
	baz=333,SNR=9.1						
CHGN	Chignik	79.37	25	P	P	05 30 09.9	+0.3
	baz=322						
Q20K	Shuyak Island	79.38	21	P	P	05 30 09.3	-0.4
	baz=327						
M30M	Minto, Yukon	79.43	12	P	P	05 30 10.0	+0.1
	baz=339						
EYAK	Cordova Ski Ar	79.46	17	P	P	05 30 10.4	+0.3
	baz=332,SNR=10						
YUK3	Moose Creek	79.50	14	P	P	05 30 10.7	+0.1
	baz=336,SNR=12						
P23K	Montague Islan	79.54	18	P	P	05 30 10.7	+0.1
	baz=330						
CRQE	Cirque	79.88	16	P	P	05 30 12.6	0.0
	baz=334						
KDAK	Kodiak Island	80.02	21	P	P	05 30 12.9	-0.3
	baz=327						
KDAK	Kodiak Island	80.02	21⇑*e*	P	P	05 30 11.2	-2.0
KDAK				pmax	pmax		
	comp=Z,34nm,0.9s						
CTG	Chitna Glacier	80.06	15	P	P	05 30 13.9	+0.3
	baz=335,SNR=6.1						
M31M	Drury Creek, Y	80.17	11	P	P	05 30 14.0	+0.1
	baz=341,SNR=12						
YUK4	Talbot Arm	80.24	13	P	P	05 30 14.7	+0.1
	baz=337,SNR=7.9						
OHAK	Old Harbor	80.28	22	P	P	05 30 14.5	-0.1
	baz=326						
Q23K	Middleton Isla	80.30	18	P	P	05 30 14.5	-0.1
	baz=331						
FARO	Faro, Yukon	80.30	11	P	P	05 30 15.4	+0.7
	baz=342,SNR=7.4						
BGLC	Bering Glacier	80.40	16	P	P	05 30 15.2	0.0
	baz=334						
N30M	Aishikik Lake	80.42	13	P	P	05 30 15.7	+0.3
	baz=338,SNR=10						
O28M	Mount Upton	80.47	14	P	P	05 30 15.9	0.0
	baz=336,SNR=5.9						
WRGLY	Wrigley	80.49	6	P	P	05 30 16.3	+0.7
	baz=349						
SII	Sitkinak Islan	80.55	23	P	P	05 30 16.4	+0.3
	baz=326						
MUN	Mundaring	80.56	141

baz=336
O29M Mount Kennedy 81.22 14 P P 05 30 19.6 -0.1
baz=337
O30N Mendenhall 81.24 12 P P 05 30 19.8 +0.1
O30N IAmb IAmb 05 30 20.8
comp=Z,13nm,0.8s
O30N Mendenhall 81.24 12 P P 05 30 19.6 -0.1
baz=339,SNR=13
N32M Quiet Lake 81.37 11 P P 05 30 20.9 +0.5
baz=342
PNL Peninsula 81.64 14 P P 05 30 22.1 +0.3
baz=337
P30M Million Dollar 81.69 13 P P 05 30 22.2 +0.1
baz=339
YKA Yellowknife Ar 81.72 2 P P 05 30 22.0 -0.1
comp=Z,4.8nm,0.9s,baz=351,slow=5.2,SNR=41
comp=Z,4.8nm,0.9s
YKA Yellowknife Ar 81.72 2 *i* P **P 05 30 22.3 +0.2**
YKA pmax pmax
comp=Z,5.0nm,0.9s
P29M Windy Craggy 82.00 14 P P 05 30 23.7 -0.1
baz=338
P33M Teslin, Yukon 82.31 11 P P 05 30 25.3 -0.1
baz=342,SNR=32
PLBC Pleasant Camp 82.42 13 P P 05 30 26.1 +0.3
baz=339,SNR=17
SKAG Skagway 82.60 13 P P 05 30 27.1 +0.3
baz=340
WRA Warramunga Arr 82.74 121 P P 05 30 26.6 -1.5
comp=Z,5.5nm,0.8s,baz=322,slow=5.0,SNR=39
comp=Z,5.5nm,0.8s
WRA Warramunga Arr 82.74 121 *i* P **P 05 30 27.3 -0.8**
WRA pmax pmax
comp=Z,5.0nm,0.7s
P32M Atlin 82.75 12 P P 05 30 27.5 -0.1
baz=341,SNR=6.0
R33M Jennings River 83.37 10 P P 05 30 31.0 +0.1
baz=344,SNR=8.8
Q32M Nakina River 83.59 11 P P 05 30 32.2 +0.1
baz=342
S31K Pelican 83.85 14 P P 05 30 33.8 +0.6
baz=339
R32K Eaglecrest 83.86 13 P P 05 30 34.0 +0.7
baz=341
DLBC Dease Lake 84.43 10 P P 05 30 37.0 +0.8
baz=344
S32K Killisnoo 84.62 13 P P 05 30 38.0 +1.0
baz=341
TOAD Toad River Com 84.63 8 P P 05 30 37.3 +0.1
baz=348,SNR=8.8
S34M Telegraph Cree 84.77 11 P P 05 30 38.5 +0.7
baz=343,SNR=11
SIT Sitka 84.87 13 P P 05 30 38.5 +0.2
baz=340
ASAR Alice Springs 84.95 124 P P 05 30 38.6 -0.7
comp=Z,3.3nm,0.5s,baz=317,slow=5.2,SNR=30
comp=Z,3.3nm,0.5s
T35M Bob Quinn 85.80 11 P P 05 30 43.7 +0.7
baz=344
WRAK Wrangell Islan 86.00 12 P P 05 30 44.6 +0.6
baz=342
U33K Whale Pass 86.16 13 P P 05 30 44.9 +0.1
baz=342
CRAG Craig 86.77 13 P P 05 30 48.0 +0.2
baz=342
V35K Ketchikan 87.17 12 P P 05 30 50.1 +0.4
baz=343
ULM Lac du Bonnet 93.10 351 P P 05 31 16.6 -0.8
comp=Z,6.2nm,0.9s,baz=8.4,slow=3.1,SNR=7.7
comp=Z,6.2nm,0.9s
LONY Lake Ozonia 93.37 335 P P 05 31 17.4 -1.5
baz=28
HRV Adam Dziewonsk 94.13 332 P P 05 31 20.8 -1.6
baz=31
L61B Northampton 94.59 333 P P 05 31 22.9 -1.6
baz=30
EYMN Ely 94.67 347 P P 05 31 23.5 -1.2
baz=15
AGMN Agassiz Nation 95.01 350 P P 05 31 25.4 -0.9
baz=12
NEW Newport 95.83 5 P P 05 31 29.3 -0.8
baz=355
BINY Binghamton 95.99 335 P P 05 31 29.8 -1.2
baz=27
EGMT Eagleton 96.28 360 P P 05 31 31.4 -0.8
baz=0.6
PAL Palisades 96.30 333 P P 05 31 30.8 -1.4
baz=29
M53A Wt Miller and 98.19 338 P P 05 31 40.1 -0.7
baz=24
O53A New Philadelph 99.44 338 P Pdif 05 31 45.4 -1.0
baz=24
L44A Lake County Fo 99.45 343 P Pdif 05 31 45.7 -0.7
baz=18
ECSD EROS Data Cent 99.59 350 P Pdif 05 31 46.2 -0.9
baz=11
H17A Grant Village 99.91 0 P Pdif 05 31 48.3 -0.4
baz=360
RSSD Black Hills 99.98 355 P Pdif 05 31 48.4 -0.6
baz=5.3
ACSO Alum Creek Sta 99.99 339 P Pdif 05 31 48.7 -0.2
baz=22
CBN Corbin Frederi 100.02 334 P Pdif 05 31 48.3 -0.8
baz=27
P52A Corning 100.29 338 P Pdif 05 31 49.4 -0.8
baz=23
O48B Farmland 100.57 341 P Pdif 05 31 51.1 -0.4
baz=21
HLID Hailey 100.66 3 P Pdif 05 31 51.9 -0.1
baz=357
SCIA State Center 100.82 347 P Pdif 05 31 53.2 +0.6
baz=14
P49A Miami Univ. Ec 101.13 340 P Pdif 05 31 53.5 -0.4
baz=21
HDIL Hopedale 101.32 344 P Pdif 05 31 53.5 -1.2
baz=17
BW06 Boulder Array 101.54 359 P Pdif 05 31 55.3 -0.7
baz=0.8
BLA Blacksburg 101.96 336 P Pdif 05 31 57.3 -0.5
baz=24
BGNE Belgrade 102.08 351 P Pdif 05 31 57.3 -0.9
baz=10
CNNC Cliffs of the 102.86 333 P Pdif 05 32 00.7 -1.0
baz=26
OGNE Ogallala 102.97 353 P Pdif 05 32 01.9 -0.3
baz=7.0
N23A Red Feather La 103.30 357 P Pdif 05 32 03.6 -0.4
baz=3.8
TZTN Tazewell 103.56 338 P Pdif 05 32 05.4 +0.6
baz=22
DUG Dugway, Tooele 104.08 2 P Pdif 05 32 07.1 -0.2
baz=358
CCM Cathedral Cave 104.14 344 P Pdif 05 32 06.7 -0.7
baz=16
CBKS Cedar Bluff 104.84 351 P Pdif 05 32 11.0 +0.5
baz=9.0
KSCO Kaye Shedlock' 104.95 354 P Pdif 05 32 10.5 -0.7
baz=6.6
WVT Waverly 105.16 341 P Pdif 05 32 10.0 -2.0
baz=19
Q24A Divide 105.18 356 P Pdif 05 32 11.5 -0.9
baz=4.5
SDCO Great Sand Dun 106.41 356 P PKiKP 05 36 29.6 +1.2
baz=4.2
GOGA Godfrey 106.43 337 P PKiKP 05 36 29.0 +0.9
baz=22
T25A Trinidad 106.95 355 P PKiKP 05 36 29.5 +0.3
baz=5.1
MVCO Mesa Verde 107.07 358 P PKiKP 05 36 30.2 +0.7
baz=1.7
TUL3 Leonard 107.11 348 P PKiKP 05 36 29.8 +0.5
baz=12
TPNV Topopah Spring 107.15 5 P PKiKP 05 36 30.8 +1.2
baz=355
LRAL Lakeview Retre 107.85 339 P PKiKP 05 36 31.0 +0.3
baz=20
MIAR Mount Ida 108.01 345 P PKiKP 05 36 32.3 +1.3
baz=14
TROLL Troll, Antarti 117.32 199 ⇑PKiKP PKPdf 05 36 48.1 +0.5
comp=Z,458nm,0.7s
SNAA Sanae 118.60 200 ⇑PKiKP PKPdf 05 36 49.3 -0.6
comp=Z,78nm,0.9s
SNAA Sanae 118.60 200 PKP PKPdf 05 36 49.3 -0.6
comp=Z,3.5nm,0.9s,baz=58,slow=5.3,SNR=13
VNA2 Neumayer--Watz 119.58 202 ⇑PKiKP PKPdf 05 36 51.7 -0.1
comp=Z,12nm,0.6s,baz=13,slow=2.6
VNA1 Neumayer--Stat 119.72 202 ⇑PKiKP PKPdf 05 36 52.1 +0.1
comp=Z,7.7nm,0.9s
VNA3 Neumayer Olymp 120.38 202 ⇑PKiKP PKPdf 05 36 52.6 -0.7
comp=Z,10.0nm,0.7s
VNDA Vanda 125.39 165 PKP PKPdf 05 37 02.0 -0.8
comp=Z,0.9nm,0.8s,baz=338,slow=3.2,SNR=5.2
VNDA Vanda 125.39 165 PKIKP PKPdf 05 37 02.0 -0.8
QSPA South Pole Qui 125.87 180 PKP PKPdf 05 37 03.1 -0.9
comp=Z,5.5nm,0.9s,baz=226,slow=1.4,SNR=24
ROSC El Rosal 127.11 313 PKP PKPdf 05 37 08.4 -0.1
comp=Z,10.0nm,0.7s,baz=151,slow=2.6,SNR=6.5
CPUP Villa Florida 134.05 267 PKP PKPdf 05 37 19.7 -1.0
comp=Z,2.2nm,0.7s,baz=61,slow=2.3,SNR=9.9
LPAZ La Paz 137.65 286 PKP PKPdf 05 37 27.4 -1.0
comp=Z,1.7nm,0.8s,baz=157,slow=2.0,SNR=5.7
PLCA Paso Flores 148.61 249 PKPbc PKPbc 05 37 50.6 +0.5
comp=Z,9.4nm,1.0s,baz=159,slow=5.0,SNR=12

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*SJA **21** 06:06:14.1±0.6,24°.23S×67°.30W,h201km±4km,ML3.6, MW3.6*
*IDC **21** 06:06:15.2±1.9,24°.10S×67°.12W,h176km±28km,mb3.3/2, mbtmp3.7/7,Error ellipse: s-maj=34.6km s-min=18.2km az=132.0*
*NEIC **21** 06:06:15.8±1.5,24°.22S±0°.06×67°.4W±0°.1,h188km±8km, mb4.2/6,ML3.8(GUC),Error ellipse: s-maj=14.7km s-min=9.1km az=100.0*
*GUC **21** 06:06:16.2±0.7,24°.22S×67°.49W,h201km±6km,ML3.9*
ISC 21 06:06:15.0±0.7,**24°.20S**±0°.04×**67°.35W**±0°.06,**h193**km±7km,
n61,σ1§**57**/86,**mb3.9**/3,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.45**	**328**		**Pn**	**06 06 48.4**	**+0.5**
AF01	**San Pedro de A**	**1.45**	**328**	*eP*	**Pn**	**06 06 48.6**	**+0.7**
AF01				IAML		06 07 32.5	
comp=Z,170nm,0.8s							
AF01	**San Pedro de A**	**1.45**	**328**	*eP*	**Pn**	**06 06 49.3**	**+1.3**
AF01				*i* S	**S**	**06 07 14.3**	**+0.9**
AF01				IAML		06 07 16.1	
comp=E,405nm,0.5s							
LVC	**Limon Verde**	**2.13**	**317**		**Pn**	**06 06 55.5**	**+0.8**
LVC	**Limon Verde**	**2.13**	**317**	*eP*	**Pn**	**06 06 55.6**	**+0.8**
LVC				*eS*	**S**	**06 07 26.2**	**+0.6**
LVC	**Limon Verde**	**2.13**	**317**	P	**Pn**	**06 06 55.7**	**+1.0**
comp=E,20nm,0.3s,baz=126,slow=8.8,SNR=158							
LVC				S	**S**	**06 07 25.4**	**-0.1**
comp=E,77nm,0.4s,baz=6.3,slow=20,SNR=67							
LVC	**Limon Verde**	**2.13**	**317**	*i* P	**Pn**	**06 06 55.7**	**+1.0**
LVC				*eS*	**S**	**06 07 25.1**	**-0.4**
LVC				IAML		06 07 27.5	
comp=E,759nm,0.4s							
PB15	**IPOC Station P**	**2.17**	**296**		**Pn**	**06 06 55.5**	**+0.4**
PB15	**IPOC Station P**	**2.17**	**296**	*eP*	**Pn**	**06 06 56.1**	**+1.1**
PB15				*eS*	**S**	**06 07 26.6**	**+0.5**
PB15	**IPOC Station P**	**2.17**	**296**	*eP*	**Pn**	**06 06 55.9**	**+0.8**
PB15				*i* S	**S**	**06 07 26.0**	**-0.1**
GO02	**Mina Guanaco**	**2.25**	**244**		**Pn**	**06 06 56.1**	**+0.2**
GO02	**Mina Guanaco**	**2.25**	**244**	*eP*	**Pn**	**06 06 56.4**	**+0.5**
GO02				*eS*	**S**	**06 07 28.1**	**+0.4**
GO02	**Mina Guanaco**	**2.25**	**244**	*eP*	**Pn**	**06 06 56.4**	**+0.5**
GO02				*i* S	**S**	**06 07 27.6**	**-0.2**
GO02				IAML		06 07 29.8	
comp=N,383nm,0.1s							
FSA	**Cafayete**	**2.28**	**147**	*eP*	**Pn**	**06 06 54.9**	**-1.2**
FSA				*eS*	**S**	**06 07 26.9**	**-1.4**
PB06	**IPOC Station P**	**2.52**	**306**		**Pn**	**06 06 59.4**	**+0.6**
PB06	**IPOC Station P**	**2.52**	**306**	*eP*	**Pn**	**06 06 59.7**	**+0.9**
PB06				*eS*	**S**	**06 07 33.1**	**+0.3**
PB06				IAML		06 07 35.3	
comp=Z,262nm,0.4s							
PB06	**IPOC Station P**	**2.52**	**306**	*eP*	**Pn**	**06 06 59.5**	**+0.7**
PB06				*i* S	**S**	**06 07 32.6**	**-0.3**
PB06				IAML		06 07 34.6	
comp=N,452nm,0.2s							
PB14	**IPOC Station P**	**2.81**	**261**		**Pn**	**06 07 02.3**	**0.0**
PB14	**IPOC Station P**	**2.81**	**261**	*eP*	**Pn**	**06 07 02.6**	**+0.3**
PB14				*eS*	**S**	**06 07 39.1**	**-0.1**
PB14				IAML		06 07 50.1	
comp=Z,51nm,0.5s							
PB14	**IPOC Station P**	**2.81**	**261**	*eP*	**Pn**	**06 07 02.4**	**0.0**
PB09	**IPOC Station P**	**2.95**	**324**		**Pn**	**06 07 05.3**	**+1.4**
PB09	**IPOC Station P**	**2.95**	**324**	*eP*	**Pn**	**06 07 05.4**	**+1.4**
PB09				*eS*	**S**	**06 07 41.9**	**-0.2**
PB09				IAML		06 07 43.2	
comp=Z,167nm,0.8s							
PB09	**IPOC Station P**	**2.95**	**324**	*eP*	**Pn**	**06 07 05.3**	**+1.4**
PB09				*i* S	**S**	**06 07 42.3**	**+0.3**
PB09				IAML		06 07 43.7	
comp=N,186nm,0.6s							
PB10	**IPOC Station P**	**3.01**	**282**		**Pn**	**06 07 05.3**	**+1.1**
PB10	**IPOC Station P**	**3.01**	**282**	*eP*	**Pn**	**06 07 05.4**	**+1.1**
PB10				*eS*	**S**	**06 07 42.6**	**-0.2**
PB10				IAML		06 07 48.6	
comp=Z,61nm,0.5s							
PB10	**IPOC Station P**	**3.01**	**282**	*eP*	**Pn**	**06 07 05.5**	**+1.1**
PB10				*i* S	**S**	**06 07 42.0**	**-0.8**
PB04	**IPOC Station P**	**3.17**	**305**		**Pn**	**06 07 07.1**	**+0.6**
PB04	**IPOC Station P**	**3.17**	**305**	*eP*	**Pn**	**06 07 07.2**	**+0.8**
PB04				*eS*	**S**	**06 07 46.4**	**-0.2**
PB04				IAML		06 07 47.8	
comp=Z,128nm,0.2s							
PB04	**IPOC Station P**	**3.17**	**305**	*eP*	**Pn**	**06 07 07.5**	**+1.0**
PB04				*i* S	**S**	**06 07 45.8**	**-0.8**
AC06	**Mina Casimiro**	**4.15**	**220**		**Pn**	**06 07 16.6**	**-1.8**
PATCX	**Punta Patache**	**4.24**	**322**	Pn	**Pn**	**06 07 20.5**	**+0.9**
PATCX	**Punta Patache**	**4.24**	**322**	*eP*	**Pn**	**06 07 20.1**	**+0.4**
PATCX				*eS*	**S**	**06 08 03.8**	**-6.6**
PATCX				IAML		06 08 16.2	
comp=Z,49nm,0.6s							
GO03	**Copiap**	**4.26**	**217**	Pn	**Pn**	**06 07 18.4**	**-1.5**
GO03	**Copiap**	**4.26**	**217**	*eP*	**Pn**	**06 07 18.9**	**-1.0**
GO03				*eS*	**S**	**06 08 08.4**	**-2.5**
TA01	**Diego Aracena**	**4.46**	**324**	*eP*	**Pn**	**06 07 23.2**	**+0.9**
TA01				*eS*	**S**	**06 08 09.2**	**-6.0**
TA01				IAML		06 08 40.2	
comp=Z,34nm,0.6s							
HMBC	**Humberstone**	**4.55**	**328**	Pn	**Pn**	**06 07 24.1**	**+0.5**
HMBC	**Humberstone**	**4.55**	**328**	*eP*	**Pn**	**06 07 23.4**	**-0.2**
HMBC				*eS*	**S**	**06 08 18.0**	**+0.5**
HMBC				IAML		06 08 22.6	
comp=Z,86nm,0.3s							
GO01	**Chusmiza**	**4.82**	**339**		**Pn**	**06 07 28.6**	**+1.2**
PB11	**IPOC Station P**	**4.90**	**334**	*eP*	**Pn**	**06 07 28.6**	**+0.5**
PB11				*eS*	**S**	**06 08 22.0**	**-3.7**
PB11				IAML		06 08 28.6	
comp=Z,33nm,0.6s							
AC04	**Llanos de Chal**	**5.21**	**219**	*eP*	**Pn**	**06 07 29.7**	**-2.2**
AC04				*eS*	**S**	**06 08 29.7**	**-2.7**
AC04				IAML		06 08 32.0	
comp=Z,35nm,1.5s							
AC05	**El Transito**	**5.31**	**209**	Pn	**Pn**	**06 07 31.9**	**-1.4**
AC05	**El Transito**	**5.31**	**209**	*eP*	**Pn**	**06 07 32.4**	**-0.9**
AC05				*eS*	**S**	**06 08 32.2**	**-2.9**
AC05				IAML		06 08 40.1	
comp=Z,16nm,0.8s							
CO01	**Juntas del Tor**	**6.26**	**202**	Pn	**Pn**	**06 07 45.4**	**-0.2**
LPAZ	**La Paz**	**7.90**	**355**		**Pn**	**06 08 08.4**	**+0.8**
LPAZ	**La Paz**	**7.90**	**355**	P	**Pn**	**06 08 08.8**	**+1.2**
comp=Z,1.3nm,0.4s,baz=152,slow=6.1,SNR=17							
LPAZ				S	**S**	**06 09 34.3**	**-2.7**
comp=Z,0.5nm,0.5s,baz=352,slow=18,SNR=1.7							
CPUP	**Villa Florida**	**9.32**	**105**			06 08 30.7	
SIV	**San Ignacio**	**10.07**	**37**	P	**Pn**	**06 08 32.6**	**-2.7**
comp=Z,1.1nm,0.4s,baz=224,slow=11,SNR=8.6							
SIV				S	S	06 10 15.4	-13
comp=Z,0.5nm,0.6s,baz=252,slow=12,SNR=1.9							
TRCB	**Terra Rica**	**13.58**	**87**	P	**P**	**06 09 22.7**	**0.0**
TRQA	**Tornquist**	**14.56**	**163**	P	**P**	**06 09 33.0**	**-0.4**
PLCA	**Paso Flores**	**16.71**	**188**	P	**Pn**	**06 09 58.3**	**+0.2**
PLCA	**Paso Flores**	**16.71**	**188**	P	**Pn**	**06 09 59.8**	**+1.7**
comp=Z,1.7nm,1.0s,baz=4.8,slow=12,SNR=1.4							
VAO	**Valinhos**	**18.72**	**91**	P	**P**	**06 10 18.0**	**-1.3**
BDFB	**Brasilia**	**20.06**	**68**		**P**	**06 10 33.4**	**-0.3**
BDFB				IAmb	IAmb	06 10 34.3	
comp=Z,8.2nm,1.0s							
BDFB	**Brasilia**	**20.06**	**68**	P	**P**	**06 10 32.7**	**-1.1**
comp=Z,6.6nm,0.7s,baz=232,slow=10.0,SNR=9.5							
SNAA	**Sanae**	**59.27**	**161**	P	**P**	**06 15 57.3**	**+1.4**
SNAA				IAmb	IAmb	06 16 40.6	
comp=Z,7.2nm,1.5s							
SNAA	**Sanae**	**59.27**	**161**	P	**P**	**06 15 57.5**	**+1.6**
comp=Z,0.6nm,1.0s,baz=208,slow=13,SNR=1.7							
comp=Z,0.6nm,1.0s							
TX31	**Lajitas Ar. Si**	**63.65**	**325**	P	**P**	**06 16 24.8**	**-1.1**
TX31				IAmb	IAmb	06 16 57.1	
comp=Z,3.9nm,1.2s							
TXAR	**Lajitas Array**	**63.65**	**325**	P	**P**	**06 16 26.1**	**+0.3**
QSPA	**South Pole Qui**	**66.01**	**180**	P	**P**	**06 16 42.9**	**+2.2**
QSPA				IAmb	IAmb	06 16 59.2	
comp=Z,6.4nm,1.4s							
QSPA	**South Pole Qui**	**66.01**	**180**	P	**P**	**06 16 43.3**	**+2.7**
comp=Z,0.7nm,0.5s,baz=169,slow=5.2,SNR=7.8							
comp=Z,0.7nm,0.5s							
WRA	**Warramunga Arr**	**131.31**	**208**	PKP	**PKiKP**	**06 25 07.3**	**+1.4**
comp=Z,0.4nm,0.6s,baz=158,slow=1.7,SNR=5.9							

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*IDC **21** 06:09:21.5±0.9,8°.94S×109°.00W,h0km,mb3.8/9, mbtmp3.8/9,MS4.0/31,Error ellipse: s-maj=39.3km s-min=19.5km az=65.0*
*NEIC **21** 06:09:24.5±1.9,9°.07S±0°.02×109°.0W±0°.2,h10km±1km, mb4.5/29,Error ellipse: s-maj=27.6km s-min=3.2km az=269.0*
*GCMT **21** 06:09:26.5±0.4,9°.05S±0°.03×109°.03W±0°.03,h19km±1km, MW4.9/67,Moment Tensor Solution. s16,c19; s67,c97; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-2.43±.24; $M_{\theta\theta}$1.01±.13; $M_{\phi\phi}$1.42±.15; $M_{r\theta}$0.03±.24; $M_{\theta\phi}$1.21±.06; $M_{\phi r}$-0.18±.28; Best double couple: $M_0$2.44300×10^16 NP1:ϕ_s223.00000°, δ44.00000°, λ-85.00000°. NP2: ϕ_s223.00000°, δ46.00000°, λ-95.00000°. Principal axes: T 2.4450, Plg1.0000°, Azm130.0000°; N -0.0040, Plg3.0000°, Azm40.0000°; P -2.4410, Plg86.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 06:09:23.6±0.5,**9°.03S**±0°.09×**109°.01W**±0°.08,**h10**km,**n74**,
σ1§**12**/43,**mb4.4**/22,**MS4.1**/30,**Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**18.00**	**181**	P	**P**	**06 13 35.8**	**+1.2**
RPN	**Rapa Nui**	**18.00**	**181**	LR	LR	06 18 29.4	
comp=Z,480nm,20.1s,baz=6.5,slow=30							
VA02	**Isla de Pascua**	**18.04**	**181**	P	**P**	**06 13 34.6**	**-0.3**
TLIG	**Tlapa**	**28.37**	**21**	P	**P**	**06 15 18.8**	**+0.5**
CMIG	**Matias Romero**	**29.48**	**28**	LR	LR	06 23 33.2	
comp=Z,75nm,20.2s,baz=200,slow=29							
ATAH	**Atahualpa**	**30.37**	**89**	LR	LR	06 24 48.6	
comp=Z,498nm,18.1s,baz=266,slow=30							
JTS	**Las Juntas de**	**30.69**	**52**	LR	LR	06 24 40.7	
comp=Z,88nm,21.8s,baz=218,slow=30							
SLOR	**San Lorenzo -**	**31.48**	**77**	P	**P**	**06 15 47.2**	**+0.9**
SLOR				IAmb	IAmb	06 15 56.7	
comp=Z,4.2nm,0.7s							
NNA	**Nana**	**31.76**	**98**	LR	LR	06 24 60.0	
comp=Z,428nm,21.2s,baz=278,slow=30							
OTAV	**Otavalo**	**31.80**	**75**	P	**P**	**06 15 49.6**	**+0.5**
OTAV				IAmb	IAmb	06 15 56.4	
comp=Z,7.3nm,1.2s							
ZAIG	**Zacatecas**	**32.23**	**11**	P	**P**	**06 15 52.4**	**-0.1**
ZAIG				IAmb	IAmb	06 16 02.8	
comp=Z,7.3nm,1.3s							
LPIG	**La Paz**	**32.95**	**358**	LR	LR	06 25 54.2	
comp=Z,272nm,19.4s,baz=191,slow=30							
TEIG	**Tepich**	**35.52**	**35**	LR	LR	06 28 47.4	
comp=Z,58nm,20.4s,baz=224,slow=33							
H03N2	**Juan Fernandez**	**36.85**	**136**	T	T	06 55 28.7	
baz=308,slow=77,SNR=53							
H03N1	**Juan Fernandez**	**36.86**	**136**	T	T	06 55 37.0	
baz=308,slow=77,SNR=61							
H03N3	**Juan Fernandez**	**36.86**	**136**	T	T	06 55 29.6	
baz=308,slow=77,SNR=44							
TXAR	**Lajitas Array**	**38.49**	**8**	P	**P**	**06 16 45.1**	**-1.1**
comp=Z,0.3nm,0.9s,baz=185,slow=9.7,SNR=3.9							
TXAR				LR	LR	06 29 44.0	
comp=Z,81nm,19.2s,baz=212,slow=32							
comp=Z,0.3nm,0.9s							
SAND	**Sanderson**	**39.32**	**9**	P	**P**	**06 16 54.1**	**+1.0**
GO01	**Chusmiza**	**39.90**	**110**	P	**P**	**06 16 59.8**	**+1.1**
GO01				IAmb	IAmb	06 17 35.6	
comp=Z,10nm,1.1s							
PPT	**Papeete**	**40.30**	**254**	LR	LR	06 28 54.7	
comp=Z,128nm,19.0s,baz=102,slow=29							
PPT2	**Papeete2**	**40.31**	**254**	*e*S	**S**	**06 23 09.9**	**+0.3**
comp=Z,68nm,25.0s							
PPT2				*e*SS	**SnSn**	**06 26 11.9**	**-0.8**
comp=Z,582nm,27.8s							
PPT2				*e*LR	LR	06 28 01.2	
comp=Z,212nm,24.8s							
PPT2				*e*LR	LR	06 28 02.1	
comp=Z,186nm,26.2s							
LPAZ	**La Paz**	**40.48**	**104**	P	**P**	**06 17 03.1**	**-0.5**
LPAZ	**La Paz**	**40.48**	**104**	P	**P**	**06 17 03.5**	**0.0**
comp=Z,1.3nm,0.7s,baz=246,slow=3.0,SNR=4.9							
LPAZ				LR	LR	06 30 02.8	
comp=Z,314nm,20.6s,baz=242,slow=31							
comp=Z,1.3nm,0.7s							
SOR	**Soroa**	**40.60**	**38**	P	**P**	**06 17 04.3**	**+0.5**
LVC	**Limon Verde**	**40.73**	**114**	LR	LR	06 29 27.2	
comp=Z,351nm,20.1s,baz=296,slow=30							
HKT	**Hockley**	**40.78**	**18**	P	**P**	**06 17 05.7**	**+0.7**
435B	**Jarrell**	**41.08**	**15**	P	**P**	**06 17 08.8**	**+1.3**
TBI	**Tubuai**	**41.21**	**245**	*e*S	**S**	**06 23 24.4**	**+1.7**
comp=Z,222nm,24.2s							
TBI				*e*SS	**SS**	**06 26 25.3**	**-0.6**
comp=Z,1μm,30.0s							
TBI				*e*LR	LR	06 28 30.4	
comp=Z,483nm,25.5s							
BRDY	**Brady**	**41.22**	**13**	P	**P**	**06 17 08.1**	**-0.7**
BRDY				IAmb	IAmb	06 17 15.1	
comp=Z,7.1nm,1.0s							
SDV	**Santo Domingo**	**42.16**	**66**	LR	LR	06 30 27.3	
comp=Z,71nm,18.8s,baz=292,slow=30							
PLPT	**Palo Pinto**	**42.84**	**13**	P	**P**	**06 17 22.6**	**+0.6**
PLPT				IAmb	IAmb	06 17 36.7	
comp=Z,7.6nm,1.1s							
PFO	**Pinyon Flats O**	**42.99**	**351**	LR	LR	06 30 49.8	
comp=Z,227nm,20.3s,baz=172,slow=30							
X16A	**Lo Mia Camp, P**	**43.27**	**357**	P	**P**	**06 17 28.7**	**+3.1**
BO02	**Sierra Bellavi**	**43.35**	**132**	P	**P**	**06 17 26.0**	**-0.2**
BO02				IAmb	IAmb	06 17 34.3	
comp=Z,6.4nm,0.9s							
ANMO	**Albuquerque**	**43.80**	**3**	LR	LR	06 32 44.4	
comp=Z,143nm,18.7s,baz=281,slow=32							
SAML	**Samuel**	**45.24**	**94**	P	**P**	**06 17 40.5**	**-1.2**
SAML				IAmb	IAmb	06 17 48.6	
comp=Z,8.6nm,1.1s							
KNB	**Kanab**	**45.94**	**356**	P	**P**	**06 17 48.7**	**+1.8**
KNB				IAmb	IAmb	06 17 52.2	
comp=Z,5.5nm,1.3s							
MVCO	**Mesa Verde**	**46.00**	**1**	P	**P**	**06 17 48.6**	**+1.2**
MVCO				IAmb	IAmb	06 17 51.3	
comp=Z,4.3nm,1.1s							
PLCA	**Paso Flores**	**46.44**	**139**	P	**P**	**06 17 52.0**	**+1.2**
comp=Z,8.1nm,1.2s,baz=288,slow=4.5,SNR=3.0							
PLCA				LR	LR	06 32 12.6	
comp=Z,380nm,21.1s,baz=296,slow=30							
comp=Z,8.1nm,1.2s							
SIV	**San Ignacio**	**47.23**	**103**	P	**P**	**06 17 55.2**	**-2.1**
comp=Z,1.2nm,0.7s,baz=269,slow=9.1,SNR=4.2							
SIV				LR	LR	06 34 53.8	
comp=Z,201nm,20.5s,baz=297,slow=32							
comp=Z,1.2nm,0.7s							
LCAR	**Lake Charles**	**47.91**	**20**	P	**P**	**06 18 02.1**	**0.0**
NVAR	**Mina Array Bea**	**48.00**	**350**	P	**P**	**06 18 03.0**	**-0.1**
comp=Z,0.9nm,0.7s,baz=182,slow=9.7,SNR=8.8							
NVAR				LR	LR	06 33 56.0	
comp=Z,210nm,18.9s,baz=162,slow=31							
comp=Z,0.9nm,0.7s							
PBMO	**Poplar Bluff**	**48.80**	**20**	P	**P**	**06 18 09.0**	**0.0**
PBMO				IAmb	IAmb	06 18 14.9	
comp=Z,5.1nm,0.8s							
BOAV	**Boa Vista**	**49.64**	**79**	P	**P**	**06 18 15.1**	**-0.7**
BOAV				IAmb	IAmb	06 18 16.7	
comp=Z,5.0nm,1.0s							
ELK	**Elko**	**49.86**	**354**	LR	LR	06 35 18.2	
comp=Z,170nm,19.4s,baz=176,slow=31							
SJG	**San Juan**	**50.18**	**57**	LR	LR	06 35 36.8	
comp=Z,40nm,21.8s,baz=242,slow=31							
PDAR	**Pinedale Array**	**51.55**	**359**	P	**P**	**06 18 28.5**	**-1.5**
comp=Z,0.

MDP	**Montagnes des**	**57.92 78**	LR	LR	06 42 25.9	
	comp=Z,93nm,19.0s,baz=232,slow=34					
BDFB	**Brasilia**	**59.79 103**	LR	LR	06 42 38.2	
	comp=Z,204nm,19.6s,baz=301,slow=33					
BBB	**Bella Bella**	**63.14 347**	LR	LR	06 42 09.4	
	comp=Z,66nm,18.3s,baz=160,slow=31					
BRLDA	**Berland Lookou**	**63.28 354**	P	**P**	**06 19 52.7**	**+0.3**
YKA	**Yellowknife Ar**	**71.44 357**	P	**P**	**06 20 43.0**	**-0.8**
	comp=Z,0.8nm,1.0s,baz=183,slow=6.7,SNR=4.7					
	comp=Z,0.8nm,1.0s					
RCBR	**Riachuelo**	**72.47 93**	LR	LR	06 50 09.2	
	comp=Z,142nm,19.6s,baz=152,slow=34					
L29M	**L29M**	**75.31 347**	P	**P**	**06 21 08.2**	**+1.5**
KDAK	**Kodiak Island**	**75.42 338**	LR	LR	06 47 29.2	
	comp=Z,203nm,18.2s,baz=143,slow=30					
K29M	**Barlow Dome**	**75.82 347**	P	**P**	**06 21 09.8**	**0.0**
K29M			IAmb	IAmb	06 21 21.1	
	comp=Z,7.4nm,1.3s					
L27K	**Beaver Creek,**	**76.16 345**	P	**P**	**06 21 11.5**	**-0.1**
ILAR	**Eielson Array**	**78.86 344**	P	**P**	**06 21 24.6**	**-2.0**
	comp=Z,0.7nm,1.0s,baz=168,slow=4.6,SNR=2.4					
ILAR			LR	LR	06 49 01.3	
	comp=Z,73nm,19.0s,baz=334,slow=30					
	comp=Z,0.7nm,1.0s					
INK	**Inuvik**	**79.08 351**	LR	LR	06 52 27.1	
	comp=Z,117nm,21.6s,baz=167,slow=33					
MLY	**Manley**	**80.11 343**	P	**P**	**06 21 32.6**	**-0.9**
QSPA	**South Pole Qui**	**81.05 180**	P	**P**	**06 21 38.9**	**+0.1**
QSPA			IAmb	IAmb	06 21 41.7	
	comp=Z,7.4nm,1.1s					
QSPA	**South Pole Qui**	**81.05 180**	P	**P**	**06 21 38.8**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=127,slow=2.2,SNR=8.9					
	comp=Z,3.4nm,0.9s					
H11S2	**WAKE ISLAND Hy**	**87.46 289**	T	T	07 58 52.6	
	baz=101,slow=74,SNR=110					
H11S1	**WAKE ISLAND Hy**	**87.47 289**	T	T	07 59 02.2	
	baz=101,slow=74,SNR=76					
H11S3	**WAKE ISLAND Hy**	**87.48 289**	T	T	07 58 59.9	
	baz=101,slow=74,SNR=78					
H11N3	**WAKE ISLAND Hy**	**87.49 290**	T	T	07 58 60.0	
	baz=100,slow=75,SNR=32					
H11N2	**WAKE ISLAND Hy**	**87.51 290**	T	T	07 58 58.5	
	baz=100,slow=75,SNR=32					
H11N1	**WAKE ISLAND Hy**	**87.51 290**	T	T	07 58 57.5	
	baz=100,slow=75,SNR=27					
SHEM	**Shemya Is, Ala**	**89.28 324**	LR	LR	06 54 20.1	
	comp=Z,131nm,20.7s,baz=146,slow=30					
MKAR	**Makanchi Array**	**141.15 348**	PKP	**PKPdf**	**06 28 52.5**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=46,slow=4.2,SNR=3.1					
CMAR	**Chiang Mai Arr**	**151.31 292**	PKPbc	**PKPbc**	**06 29 17.5**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=325,slow=1.1,SNR=5.6					

NSSP ***21*** *06:15:11.7, 38°.95N×44°.27E, h10km, Ms4.5*
ISK ***21*** *06:15:13.6, 39°.04N×44°.12E, h5km, ML4.6/11*
AFAD ***21*** *06:15:13.5±0.0, 39°.04N×44°.15E, h8km±4km, MW4.5*
AZER ***21*** *06:15:13.9, 39°.02N×44°.09E, h10km, ml4.5*
IDC ***21*** *06:15:14.8±0.7, 39°.14N×44°.15E, h0km, mb4.0/17, mbtmp4.0/27, ML3.2/8, MS3.9/46, Error ellipse: s-maj=11.0km s-min=7.3km az=134.0*
TEH ***21*** *06:15:14.2, 38°.98N×44°.19E, h6km, ML4.2*
MOS ***21*** *06:15:15.5±1.4, 39°.03N×44°.17E, h14km, mb4.5/24, Error ellipse: s-maj=5.4km s-min=3.5km az=101.6*
BGR ***21*** *06:15:16.1, 38°.19N×44°.24E, h33km, mb4.4, Ms3.5, Hypocentre not reviewed by the ISC*
NEIC ***21*** *06:15:17.2±1.6, 39°.05N±0°.05×44°.18E±0°.08, h10km±1km, mb4.3/41, Error ellipse: s-maj=11.0km s-min=8.3km az=269.0*
MCSM ***21*** *06:15:17.3±0.6, 39°N±6°×4°4E±°, h11km±3km, mb4.2, mB4.7, MLv4.6, Mw(mB)3.9*
GCMT ***21*** *06:15:18.2±0.4, 38°.97N±0°.02×44°.14E±0°.03, h20km±1km, MW4.7/80, Moment Tensor Solution. s10,c10; s80,c106; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.51±.11; Mθθ-1.51±.09; Mφφ1.00±.07; Mrθ-0.28±.13; Mθφ-0.61±.06; Mφr-0.09±.14; Best double couple: M0 1.41700×10^16 NP1:φs32.00000°, δ86.00000°, λ-7.00000°. NP2: φs122.00000°, δ83.00000°, λ-176.00000°. Principal axes: T 1.1430, Plg3.0000°, Azm77.0000°; N 0.5440, Plg82.0000°, Azm186.0000°; P -1.6920, Plg8.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NAO ***21*** *06:15:31.6, 39°.69N×41°.96E, h33km, mb3.9*

ISC 21 06:15:15.4±0.7, 39°.01N±0°.02×44°.18E±0°.02, h4km±4km, n391, σ1§68/446, mb4.3/66, MS3.9/47, 8C-9D,
Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.25**	**302**	Pg	**Pg**	**06 15 17.5**	**-2.7**
CLDR				Sg	**Sg**	**06 15 21.5**	**-2.0**
CLDR	**Caldiran**	**0.25**	**302**	P	**Pg**	**06 15 16.8**	**-3.4**
CLDR				S	**Sg**	**06 15 20.4**	**-3.1**
OZAP	**Van, Ozalp-Mer**	**0.38**	**203**	P	**Pg**	**06 15 21.9**	**-0.8**
OZAP				S	**Sg**	**06 15 27.9**	**+0.1**
VMUR	**Van-Muradiye**	**0.48**	**268**	P	**Pg**	**06 15 22.8**	**-1.8**
VMUR				S	**Sg**	**06 15 30.4**	**-0.4**
MAKU	**Maku**	**0.52**	**48**	Pg	**Pg**	**06 15 24.1**	**-1.2**
DYDN	**Diyadin**	**0.66**	**324**	P	**Pg**	**06 15 25.7**	**-2.3**
DYDN				S	**Sg**	**06 15 35.6**	**-1.0**
ERCV	**ERCIS-VAN**	**0.66**	**271**	Pg	**Pg**	**06 15 26.6**	**-1.5**
ERCV				Sg	**Sg**	**06 15 36.4**	**-0.2**
ERCV	**ERCIS-VAN**	**0.66**	**271**	Pg	**Pg**	**06 15 27.3**	**-0.8**
VANB	**Van**	**0.75**	**236**	Pg	**Pg**	**06 15 29.6**	**-0.1**
VANB				Sg	**Sb**	**06 15 41.3**	**-0.3**
VANB	**Van**	**0.75**	**236**	Pg	**Pg**	**06 15 29.6**	**-0.1**
TVAN	**Van**	**0.78**	**232**	P	**Pg**	**06 15 29.2**	**-1.2**
TVAN				S	**Sb**	**06 15 41.7**	**-0.9**
TVAN	**Van**	**0.78**	**232**	Pg	**Pg**	**06 15 29.1**	**-1.2**
IGDI	**IGDIR**	**0.86**	**355**	P	**Pg**	**06 15 30.5**	**-1.4**
IGDI				S	**Sb**	**06 15 45.2**	**+0.4**
HYR	**Heyderabad**	**0.88**	**36**	Pg	**Pg**	**06 15 31.2**	**-1.0**
HYR	**Heyderabad**	**0.88**	**36**	P	**Pg**	**06 15 31.3**	**-1.0**
HYR				S	**Sb**	**06 15 44.5**	**-0.8**
TASB	**TASBURUN-IGDIR**	**0.97**	**2**	Pg	**Pg**	**06 15 32.8**	**-1.3**
TASB				Sg	**Sb**	**06 15 47.3**	**-0.8**
TASB	**TASBURUN-IGDIR**	**0.97**	**2**	Pg	**Pg**	**06 15 32.7**	**-1.3**
NAX	**Nakhchivan**	**1.03**	**81**	Pg	**Pg**	**06 15 34.1**	**-1.1**
NAX	**Nakhchivan**	**1.03**	**81**	P	**Pg**	**06 15 34.1**	**-1.1**
NAX				S	**Sn**	**06 15 50.8**	**-0.9**
NAX	**Nakhchivan**	**1.03**	**81**	PG	**Pg**	**06 15 34.1**	**-1.1**
NRKZ	**NAREK**	**1.05**	**20**	*e*P	**Pg**	**06 15 34.2**	**-1.4**
NRKZ				*e*S	**Sb**	**06 15 50.4**	**-0.1**
AGRB	**Hanur-Agry**	**1.08**	**302**	Pg	**Pg**	**06 15 34.2**	**-2.0**
AGRB				Sg	**Sg**	**06 15 49.7**	**-0.5**
KOTA	**Agri, Merkez-K**	**1.09**	**316**	P	**Pg**	**06 15 34.1**	**-2.3**
KOTA				S	**Sg**	**06 15 49.5**	**-1.1**
GEVA	**Gevas**	**1.12**	**232**	P	**Pg**	**06 15 34.7**	**-2.3**
GEVA				S	**Sg**	**06 15 51.2**	**-0.3**
VNNZ	**Vanand**	**1.12**	**346**	*e*P	**Pg**	**06 15 35.8**	**-1.2**
VNNZ				*e*S	**Sn**	**06 15 54.3**	**+0.2**
SBZ	**Shahbuz**	**1.13**	**70**	Pg	**Pg**	**06 15 36.0**	**-1.1**
SBZ	**Shahbuz**	**1.13**	**70**	P	**Pg**	**06 15 36.1**	**-1.1**
SBZ				S	**Sb**	**06 15 52.9**	**+0.2**
METS	**Metsamor**	**1.14**	**356**	*e*P	**Pg**	**06 15 35.5**	**-1.8**
METS				*e*S	**Sn**	**06 15 54.5**	**+0.2**
DORK	**Agr/Tutak/Do**	**1.15**	**289**	P	**Pg**	**06 15 34.6**	**-2.9**
DORK				S	**Sg**	**06 15 51.1**	**-1.4**
DORK				*i* AML	AML	06 15 58.0	
	comp=N,1μm,1.0s						
ADCV	**BITLIS_Adilcev**	**1.16**	**260**	P	**Pg**	**06 15 35.5**	**-2.1**
ADCV				S	**Sn**	**06 15 54.4**	**-0.5**
AKDM	**Akdamar-Van**	**1.16**	**234**	Pn	**Pg**	**06 15 35.6**	**-2.1**
GNI	**Garni**	**1.22**	**21**	Pn	**Pg**	**06 15 37.4**	**-1.3**
GNI	**Garni**	**1.22**	**21**	‖ *i*P	**Pg**	**06 15 37.2**	**-1.4**
GNI				‖ *i*S	**Sb**	**06 15 55.3**	**+0.1**
GNI	**Garni**	**1.22**	**21**	Pg	**Pg**	**06 15 37.6**	**-1.1**
GNI	**Garni**	**1.22**	**21**	Pg	**Pg**	**06 15 37.3**	**-1.4**
	96nm,0.3s,baz=233,slow=2.4,SNR=63						
GNI				Lg	Lg	06 15 52.5	
	1μm,0.3s,baz=169,slow=22,SNR=22						
GNI	**Garni**	**1.22**	**21**	*d i*PG	**Pg**	**06 15 37.1**	**-1.6**
GNI	**Garni**	**1.22**	**21**	P	**Pg**	**06 15 37.6**	**-1.1**
IMRD	**Marand**	**1.22**	**104**	Pg	**Pg**	**06 15 36.6**	**-2.3**
ARUZ	**Aruch**	**1.27**	**357**	*e*P	**Pg**	**06 15 38.1**	**-1.7**
ARUZ				*e*S	**Sn**	**06 15 58.4**	**+0.8**
MLAZ	**Malazgirt-MUS**	**1.28**	**276**	Pn	**Pg**	**06 15 38.4**	**-1.5**
MLAZ	**Malazgirt-MUS**	**1.28**	**276**	Pg	**Pg**	**06 15 38.1**	**-1.8**
ISHB	**Shabestar**	**1.34**	**122**	Pg	**Pn**	**06 15 37.7**	**-3.3**
KAPZ	**Kaputan**	**1.37**	**17**	*e*P	**Pn**	**06 15 39.8**	**-1.6**
KAPZ				*e*S	**Sn**	**06 16 01.2**	**+1.1**
AMBZ	**Amberd**	**1.38**	**2**	*e*P	**Pn**	**06 15 40.4**	**-1.2**
AMBZ				*e*S	**Sn**	**06 16 03.2**	**+2.8**
ORD	**Ordubad**	**1.41**	**93**	P	**Pn**	**06 15 40.2**	**-1.8**
ORD				S	**Sn**	**06 16 01.9**	**+0.8**
YOVA	**Hakkari_Yksek**	**1.42**	**177**	P	**Pn**	**06 15 39.2**	**-3.0**
YOVA				S	**Sn**	**06 16 03.4**	**+1.9**
YOVA	**Hakkari_Yksek**	**1.42**	**177**	Pg	**Pn**	**06 15 39.9**	**-2.3**
HAKT	**HAKKARI**	**1.50**	**195**	P	**Pn**	**06 15 40.8**	**-2.5**
HAKT				S	**Sg**	**06 16 03.9**	**+0.3**
DIGO	**Kars**	**1.54**	**336**	P	**Pn**	**06 15 43.1**	**-0.7**
EATA	**Eleskirt**	**1.56**	**303**	P	**Pn**	**06 15 42.7**	**-1.6**
EATA				S	**Sn**	**06 16 04.4**	**-0.7**
PERV	**Siirt/Pervari-**	**1.67**	**231**	P	**Pn**	**06 15 44.0**	**-1.5**
ITBZ	**Tabriz**	**1.72**	**116**	Pg	**Pn**	**06 15 44.7**	**-1.6**
BLIS	**Bitlis-Merkez**	**1.73**	**250**	P	**Pn**	**06 15 44.9**	**-1.4**
EAK	**Akyaka**	**1.73**	**345**	P	**Pb**	**06 15 47.2**	**-0.6**
GURO	**Guroymak-BITLI**	**1.74**	**255**	Pn	**Pn**	**06 15 45.4**	**-1.2**
GURO	**Guroymak-BITLI**	**1.74**	**255**		**Pn**	**06 15 44.9**	**-1.7**
KARS	**Kars**	**1.82**	**333**	Pn	**Pn**	**06 15 46.5**	**-1.2**
KARS	**Kars**	**1.82**	**333**	Pn	**Pn**	**06 15 47.1**	**-0.6**
KARS	**Kars**	**1.82**	**333**	PN	**Pn**	**06 15 47.1**	**-0.6**
BOZK	**Kars-Merkez-Bo**	**1.83**	**330**	P	**Pn**	**06 15 47.8**	**-0.1**
IAZR	**Azarshahr**	**1.94**	**133**	Pn	**Pn**	**06 15 49.1**	**-0.3**
HOMI	**Horasan**	**2.04**	**301**	P	**Pb**	**06 15 52.2**	**-1.0**
SRTM	**Siirt_Merkez**	**2.05**	**241**	P	**Pn**	**06 15 50.5**	**-0.2**
SRTM				*i* AML	AML	06 16 29.0	
	comp=N,4μm,1.0s						
KOPR	**Koprukoy-ERZUR**	**2.05**	**299**	Pn	**Pn**	**06 15 49.9**	**-1.0**
SIRN	**Sirnak**	**2.06**	**223**	P	**Pb**	**06 15 51.8**	**-1.5**
GDB	**GEDABAY**	**2.09**	**35**	P	**Pn**	**06 15 49.6**	**-1.8**
GDB				S	**Sn**	**06 16 17.3**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.10**	**318**	Pn	**Pn**	**06 15 50.5**	**-1.0**
MUSM	**Mu-Merkez**	**2.11**	**263**	P	**Pn**	**06 15 50.8**	**-0.7**
VRTB	**Varto-Mus**	**2.13**	**275**	Pn	**Pn**	**06 15 50.9**	**-1.0**
VRTB	**Varto-Mus**	**2.13**	**275**	P	**Pn**	**06 15 52.8**	**+0.9**
VRTB				*i* AML	AML	06 16 44.0	
	comp=E,3μm,2.1s						
QZX	**Qazax, Azerbai**	**2.24**	**24**	P	**Pn**	**06 15 51.5**	**-1.7**
QZX				S	**Sn**	**06 16 19.9**	**-1.5**
GANJ	**Ganja**	**2.32**	**45**	P	**Pn**	**06 15 53.0**	**-1.5**
GANJ				S	**Sn**	**06 16 22.7**	**-0.7**
GANJ	**Ganja**	**2.32**	**45**	PN	**Pn**	**06 15 52.9**	**-1.5**
IHRS	**Heris**	**2.34**	**106**	Pn	**Pn**	**06 15 55.3**	**+0.4**
ERZM	**Erzurum**	**2.36**	**293**	P	**Pn**	**06 15 55.4**	**+0.3**
KZRT	**Kazreti**	**2.38**	**4**	P	**Pn**	**06 15 56.5**	**+1.3**
KZRT				S	**Sg**	**06 16 33.1**	**+1.3**
KZRT	**Kazreti**	**2.38**	**4**	PN	**Pn**	**06 15 56.5**	**+1.3**
KZRT				S	**Sg**	**06 16 33.1**	**+1.3**
AKH	**Akhalkalaki**	**2.45**	**348**	Pn	**Pn**	**06 15 55.8**	**-0.6**
AKH	**Akhalkalaki**	**2.45**	**348**	P	**Pb**	**06 15 59.7**	**-0.5**
AKH				S	**Sg**	**06 16 36.3**	**+2.1**
AKH	**Akhalkalaki**	**2.45**	**348**	PN	**Pb**	**06 15 59.7**	**-0.5**
AKH				S	**Sg**	**06 16 36.3**	**+2.1**
KARO	**Karliova-Bingo**	**2.46**	**278**	Pn	**Pn**	**06 15 55.6**	**-0.8**
QRD	**Qoradiz**	**2.48**	**79**	P	**Pn**	**06 15 55.1**	**-1.4**
QRD				S	**Sn**	**06 16 26.9**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.49**	**251**	Pn	**Pn**	**06 15 56.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.49**	**251**	P	**Pn**	**06 15 58.0**	**+1.2**
AGDM	**Agdam**	**2.51**	**63**	P	**Pn**	**06 15 55.6**	**-1.4**
AGDM				S	**Sn**	**06 16 27.7**	**-0.4**
TRLG	**Trialeti**	**2.53**	**359**	P	**Pn**	**06 15 57.7**	**+0.3**
TRLG				S	**Sg**	**06 16 37.6**	**+1.0**
TRLG	**Trialeti**	**2.53**	**359**	PN	**Pn**	**06 15 57.7**	**+0.3**
TRLG				S	**Sg**	**06 16 37.6**	**+1.0**
MAHB	**Mahabad**	**2.54**	**151**	Pn	**Pn**	**06 15 58.1**	**+0.5**
BTMN	**Batman**	**2.55**	**245**	P	**Pn**	**06 15 59.0**	**+1.4**
BRNG	**Burnasheti**	**2.62**	**354**	P	**Pb**	**06 16 02.5**	**-0.6**
BRNG	**Burnasheti**	**2.62**	**354**	PN	**Pb**	**06 16 02.5**	**-0.6**
BRDA	**Brd**	**2.63**	**61**	P	**Pn**	**06 15 57.3**	**-1.3**
BRDA				S	**Sn**	**06 16 30.6**	**-0.3**
BLQ	**Beylaqan**	**2.71**	**74**	P	**Pn**	**06 15 58.3**	**-1.4**
BLQ				S	**Sn**	**06 16 32.7**	**-0.3**
BNGB	**Bingl**	**2.73**	**271**	Pn	**Pn**	**06 15 59.6**	**-0.5**
SEAG	**Tbilisi Sea**	**2.79**	**10**	P	**Pn**	**06 16 01.7**	**+0.8**
SEAG	**Tbilisi Sea**	**2.79**	**10**	PN	**Pn**	**06 16 01.7**	**+0.8**
VSHL	**Vashlovani**	**2.79**	**37**	P	**Pb**	**06 16 03.3**	**-2.6**
VSHL				S	**Sg**	**06 16 47.6**	**+2.5**
MNGR	**Mingechevir, A**	**2.84**	**51**	P	**Pn**	**06 16 00.2**	**-1.3**
MNGR				S	**Sn**	**06 16 35.6**	**-0.6**
MNGR	**Mingechevir, A**	**2.84**	**51**	PN	**Pn**	**06 16 00.2**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.86**	**280**	Pn	**Pn**	**06 16 01.4**	**-0.5**
BINT	**Bingol**	**2.88**	**268**	PN	**Pn**	**06 16 00.3**	**-2.0**
GRMI	**Germi**	**2.90**	**93**	Pn	**Pn**	**06 16 03.4**	**+1.0**
ABS	**Abastumani**	**2.93**	**340**	P	**Pn**	**06 16 04.3**	**+1.4**
ABS				S	**Sg**	**06 16 55.9**	**+6.3**
ABS	**Abastumani**	**2.93**	**340**	PN	**Pn**	**06 16 04.4**	**+1.4**
ABS				S	**Sg**	**06 16 55.9**	**+6.3**
IHSH	**Hashtrud**	**2.96**	**124**	Pn	**Pn**	**06 16 04.0**	**+0.5**
ISRB	**Sarab**	**2.98**	**112**	Pn	**Pn**	**06 16 03.7**	**0.0**
ZRD	**Zardab**	**2.98**	**64**	P	**Pn**	**06 16 02.0**	**-1.5**
ZRD				S	**Sn**	**06 16 39.2**	**-0.5**
SDS1	**Sardasht. Az.**	**3.04**	**160**	Pn	**Pn**	**06 16 04.5**	**+0.1**
ALIG	**Mtskhetisjvari**	**3.12**	**353**	P	**Pn**	**06 16 06.1**	**+0.7**
ALIG				S	**Sg**	**06 16 59.1**	**+3.6**
ALIG	**Mtskhetisjvari**	**3.12**	**353**	PN	**Pn**	**06 16 06.1**	**+0.7**
ALIG				S	**Sg**	**06 16 59.1**	**+3.6**
BCA	**Borcka**	**3.12**	**322**	Pn	**Pn**	**06 16 05.3**	**-0.1**
YRD	**Yardimli**	**3.16**	**90**	P	**Pn**	**06 16 04.6**	**-1.6**
YRD				S	**Sn**	**06 16 43.8**	**-0.7**
SEKA	**Sheki**	**3.19**	**46**	P	**Pn**	**06 16 05.7**	**-0.7**
SEKA				S	**Sn**	**06 16 45.6**	**+0.8**
SEKA	**Sheki**	**3.19**	**46**	PN	**Pn**	**06 16 05.6**	**-0.7**
BATM	**Batumi**	**3.21**	**324**	Pn	**Pn**	**06 16 06.4**	**-0.3**
BATM	**Batumi**	**3.21**	**324**	P	**Pb**	**06 16 13.3**	**+0.3**
BATM				S	**Sg**	**06 17 04.6**	**+6.0**
BATM	**Batumi**	**3.21**	**324**	PN	**Pb**	**06 16 13.3**	**+0.3**
BATM				S	**Sg**	**06 17 04.6**	**+6.0**
ZKTA	**Zakatala**	**3.22**	**35**	P	**Pn**	**06 16 05.2**	**-1.5**
ZKTA				S	**Sn**	**06 16 45.0**	**-0.5**
ZKTA	**Zakatala**	**3.22**	**35**	PN	**Pn**	**06 16 05.2**	**-1.5**
LGD	**Lagodekhi**	**3.23**	**28**	P	**Pn**	**06 16 09.2**	**+2.3**
LGD				S	**Sg**	**06 16 58.0**	**-1.1**
LGD	**Lagodekhi**	**3.23**	**28**	PN	**Pn**	**06 16 09.2**	**+2.3**
LGD				S	**Sg**	**06 16 58.0**	**-1.1**
LRK	**Lerik**	**3.27**	**95**	P	**Pn**	**06 16 06.1**	**-1.4**
LRK				S	**Sn**	**06 16 46.5**	**-0.4**
GLBA	**Clilabad**	**3.28**	**85**	P	**Pn**	**06 16 06.3**	**-1.3**
GLBA				S	**Sn**	**06 16 46.7**	**-0.3**
MAZI	**Mazidag**	**3.33**	**243**	Pn	**Pn**	**06 16 08.3**	**0.0**
DYBB	**Diyarbakir**	**3.34**	**253**	Pn	**Pn**	**06 16 08.7**	**+0.2**
CHRG	**Chargali**	**3.36**	**9**	P	**Pn**	**06 16 10.2**	**+1.3**
CHRG				S	**Sg**	**06 17 01.7**	**-1.7**
SAAT	**Saatly**	**3.39**	**74**	P	**Pn**	**06 16 07.3**	**-1.7**
SAAT				S	**Sn**	**06 16 48.5**	**-1.2**
QBL	**Gabala**	**3.41**	**54**	P	**Pn**	**06 16 07.9**	**-1.5**
QBL				S	**Sn**	**06 16 49.7**	**-0.6**
BAYT	**Aydıntepe-Bayb**	**3.41**	**295**	Pn	**Pn**	**06 16 09.2**	**-0.3**
TKB	**Tkibuli**	**3.46**	**345**	P	**Pn**	**06 16 10.9**	**+0.9**
TKB				S	**Sg**	**06 17 09.3**	**+3.0**
TKB	**Tkibuli**	**3.46**	**345**	PN	**Pn**	**06 16 10.9**	**+0.9**
TKB				S	**Sg**	**06 17 09.4**	**+3.0**
ERZN	**Erzincan**	**3.51**	**281**	Pn	**Pn**	**06 16 10.6**	**-0.2**
IML	**Ismayilli**	**3.55**	**59**	P	**Pn**	**06 16 09.9**	**-1.5**
IML				S	**Sn**	**06 16 53.2**	**-0.6**
LKRN	**Lenkeran, Azer**	**3.60**	**93**	P	**Pn**	**06 16 10.5**	**-1.4**
LKRN				S	**Sn**	**06 16 54.5**	**-0.4**
LKRN	**Lenkeran, Azer**	**3.60**	**93**	PN	**Pn**	**06 16 10.5**	**-1.4**
ASTR	**Astara**	**3.63**	**96**	P	**Pn**	**06 16 10.9**	**-1.5**
ASTR				S	**Sn**	**06 16 55.2**	**-0.4**
MTEO	**Meteo**	**3.67**	**4**	P	**Pn**	**06 16 16.5**	**+3.1**
MTEO	**Meteo**	**3.67**	**4**	PN	**Pn**	**06 16 16.5**	**+3.1**
GAS1	**Astara - Iran**	**3.70**	**98**	Pn	**Pn**	**06 16 13.6**	**+0.4**
SHTL	**Shatili**	**3.71**	**11**	P	**Pn**	**06 16 16.0**	**+2.3**
SHTL				S	**Sg**	**06 17 12.9**	**-1.8**
SHTL	**Shatili**	**3.71**	**11**	PN	**Pn**	**06 16 16.0**	**+2.3**
SHTL				S	**Sg**	**06 17 12.9**	**-1.8**
XNQ	**Khinaliq**	**3.72**	**53**	P	**Pn**	**06 16 12.2**	**-1.6**
XNQ				S	**Sn**	**06 16 57.5**	**-0.8**
PTK	**Pertek**	**3.74**	**270**	Pn	**Pn**	**06 16 13.9**	**-0.2**
POL	**Pirkuli**	**3.83**	**61**	P	**Pn**	**06 16 13.7**	**-1.5**
POL				S	**Sn**	**06 16 60.0**	**-0.8**
QSAR	**Qusar**	**4.00**	**50**	P	**Pn**	**06 16 15.9**	**-1.5**
QSAR				S	**Sn**	**06 17 04.2**	**-0.6**
QUBA	**Quba, Azerbaij**	**4.05**	**53**	P	**Pn**	**06 16 16.7**	**-1.4**
QUBA				S	**Sn**	**06 17 05.3**	**-0.7**
ATGJ	**Altiaghaj**	**4.09**	**62**	P	**Pn**	**06 16 17.3**	**-1.6**
SIZA	**Siyzn**	**4.17**	**59**	P	**Pn**	**06 16 18.3**	**-1.5**
BCHG	**Becho**	**4.20**	**344**	P	**Pb**	**06 16 28.4**	**-1.4**
BCHG				S	**Sg**	**06 17 30.1**	**-0.1**
NCK	**Nalchik**	**4.50**	**355**	‖ *e*PN	**Pn**	**06 16 23.4**	**-1.0**
ARPR	**Arapgir-MALATY**	**4.55**	**273**	Pn	**Pn**	**06 16 27.7**	**+2.4**
IDHR	**Dehrash**	**4.65**	**157**	Pn	**Pn**	**06 16 26.6**	**0.0**
ILIN	**Lien**	**4.65**	**151**	Pn	**Pn**	**06 16 26.3**	**-0.3**
MAK	**Makhachkala**	**4.68**	**31**	*e*Pn	Pn	06 16 17.3	-9.4
MAK				pmax	pmax		
	comp=Z,281nm,1.4s						
MAK				MLR	MLR		
	comp=Z,2μm,10.0s						
KBZ	**Khabaz**	**4.81**	**349**	Pn	**Pn**	**06 16 28.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=70,slow=23,SNR=1.9						
KBZ				Lg	Lg	06 17 48.6	
	comp=Z,0.2nm,0.3s,baz=127,slow=21,SNR=0.8						
	comp=Z,0.7nm,0.5s						
KBZ	**Khabaz**	**4.81**	**349**	‖ *e*PN	**Pn**	**06 16 28.0**	**-0.6**
SHA1	**Shidzhatmaz**	**4.86**	**347**	‖ *e*PN	**Pn**	**06 16 31.7**	**+2.2**
SNQR	**Sonqor, Kerman**	**4.98**	**145**	Pn	**Pn**	**06 16 31.7**	**+0.5**
IGHG	**Ghaleghazi**	**5.05**	**157**	Pn	**Pn**	**06 16 32.8**	**+0.7**
KVAR	**Kislovodsk Arr**	**5.07**	**348**	Pn	**Pn**	**06 16 32.6**	**+0.4**
	baz=282,slow=21						
KVAR				Lg	Lg	06 17 53.9	
	baz=71,slow=7.0						
KVAR				LR	LR	06 18 19.8	
	comp=Z,559nm,19.9s,baz=102,slow=38						
	comp=Z,2.4nm,0.3s						
KIV	**Kislovodsk**	**5.07**	**348**		**Pn**	**06 16 34.8**	**+2.6**
KIV	**Kislovodsk**	**5.07**	**348**	*e*PN	**Pn**	**06 16 31.9**	**-0.3**
KIV				pmax	pmax		
	comp=Z,18nm,1.1s						
KIV				MLR	MLR		
	comp=Z,470nm,10.0s						
VSLR	**Vesyoloye**	**5.44**	**326**	‖ *e*P	**Pn**	**06 16 37.0**	**-0.2**
ILBA	**Ilam Banvizeh**	**5.62**	**162**	Pn	**Pn**	**06 16 39.9**	**+0.1**
SOC	**Sochi**	**5.67**	**325**	*e*P	**Pn**	**06 16 37.9**	**-2.5**
SOC				*i*		06 17 42.8	
SOC				MLR	MLR		
	comp=Z,1μm,13.0s						
KLST	**Kelardasht - M**	**5.99**	**112**	Pn	**Pn**	**06 16 45.3**	**+0.2**
SNOP	**Sinop**	**7.47**	**297**	Pn	**Pn**	**06 17 05.6**	**+0.5**
ANN	**Anapa**	**7.67**	**321**	*e*P	**Pn**	**06 17 08.0**	**+0.2**
ANN				*e*S	**Sn**	**06 18 34.4**	**-0.6**
ANN				pmax	pmax		
	comp=Z,47nm,0.9s						
ANN				MLR	MLR		
	comp=Z,2μm,14.0s						
IGLO	**Ghaloghah**	**8.04**	**105**	Pn	**Pn**	**06 17 14.3**	**+1.1**
BR131	**Keskin Array S**	**8.20**	**278**		**

KBN	Korca	18.04 283	P	P	06 19 27.4	-0.1
KBN	Korca	18.04 283	P	P	06 19 27.4	-0.1
KBN			pmax	pmax		
comp=Z,19nm,1.2s						
KWP	Kalwaria Pacla	18.61 312	P	P	06 19 32.8	-0.8
KWP	Kalwaria Pacla	18.61 312	P	P	06 19 32.8	-0.8
KWP			pmax	pmax		
comp=Z,28nm,0.5s						
KWP	Kalwaria Pacla	18.61 312	P	Pn	06 19 33.4	-0.5
comp=Z,38nm,0.6s,comp=Z,1μm						
PUK	Puka	18.70 287	P	Pn	06 19 35.0	-0.1
CRVS	Cervenica-Dubn	19.05 309	eP	Pn	06 19 40.2	+1.0
CRVS	Cervenica-Dubn	19.05 309	eP	Pn	06 19 40.2	+1.0
SIMJ	Simiganj	19.33 83		Pn	06 19 42.5	-0.3
CHGR	Chuyangaron	19.45 83		Pn	06 19 43.6	-0.5
CHGR			IAmb	IAmb	06 19 47.1	
comp=Z,21nm,0.9s						
CHGR	Chuyangaron	19.45 83	P	Pn	06 19 43.6	-0.5
CHGR			pmax	pmax		
comp=Z,21nm,0.9s						
PSZ	Piszkesteto	19.68 305		Pn	06 19 46.3	-0.6
PSZ	Piszkesteto	19.68 305	P	Pn	06 19 46.3	-0.6
PSZ			pmax	pmax		
comp=Z,14nm,1.1s						
NACGM	Naroch	19.75 329	eP	P	06 19 44.3	-1.8
comp=N,663nm,0.8s,baz=136						
ARU	Arti	19.86 24	P	P	06 19 47.0	-0.2
ARU			IAmb	IAmb	06 19 59.3	
comp=Z,15nm,0.8s						
ARU	Arti	19.86 24	P	P	06 19 46.9	-0.4
baz=207,slow=7.5,SNR=9.1						
ARU			S	S	06 23 26.4	-4.7
comp=Z,1.5nm,0.3s,baz=278,slow=20,SNR=1.2						
ARU			LR	LR	06 29 46.4	
comp=Z,209nm,18.1s,baz=137,slow=44						
comp=Z,4.5nm,0.6s						
ARU	Arti	19.86 24	d iP	P	06 19 47.4	+0.2
ARU			S	S	06 23 30.9	-0.2
ARU			pmax	pmax		
comp=Z,8.0nm,0.8s						
ARU			MLR	MLR		
comp=Z,192nm,16.0s						
ARU	Arti	19.86 24	P	P	06 19 46.1	-1.1
comp=Z,23nm,1.1s,comp=Z,234nm						
KIRV	Kirov	19.88 8	P	P	06 19 46.7	-0.7
comp=Z,17nm,0.6s,baz=6.0,slow=21,SNR=4.8						
KIRV			S	S	06 23 27.6	-3.8
comp=Z,5.5nm,0.4s,baz=47,slow=8.5,SNR=1.2						
KIRV			LR	LR	06 29 04.3	
comp=Z,267nm,18.9s,baz=197,slow=42						
KIRV	Kirov	19.88 8	deP	P	06 19 47.4	0.0
NIE	Niedzica	19.95 309	P	P	06 19 48.6	+0.2
comp=Z,4.6nm,1.3s						
WSAR	Wadi Sarin	19.96 138	P	Pn	06 19 51.2	+1.0
comp=Z,10nm,0.9s,baz=14,slow=4.8,SNR=3.8						
WSAR			LR	LR	06 28 24.9	
comp=Z,339nm,20.4s,baz=335,slow=39						
comp=Z,10nm,0.9s						
MORH	Mrgy, Hungar	20.07 299	P	P	06 19 48.9	-0.8
comp=Z,8.1nm,1.0s						
KK31	Karatay Array	20.24 70	P	P	06 19 51.9	+0.4
KK31			IAmb	IAmb	06 19 58.1	
comp=Z,16nm,0.8s						
KK31	Karatay Array	20.24 70	P	P	06 19 51.9	+0.4
KK31			pmax	pmax		
comp=Z,16nm,0.9s						
KKAR	Karatay Array	20.24 70	P	P	06 19 51.9	+0.4
KKAR	Karatay Array	20.24 70	P	P	06 19 51.9	+0.4
GAR	Garm	20.29 82		Pn	06 19 53.9	-0.3
KBL	Kabul	20.38 95		P	06 19 54.1	+0.7
KBL			IAmb	IAmb	06 20 07.9	
comp=Z,14nm,1.0s						
KBL	Kabul	20.38 95	P	P	06 19 54.1	+0.7
KBL			pmax	pmax		
comp=Z,14nm,1.0s						
BTK	Batken	20.55 79		P	06 19 55.4	+0.4
BTK			IAmb	IAmb	06 20 11.8	
comp=Z,18nm,1.2s						
BTK	Batken	20.55 79	P	P	06 19 55.4	+0.4
BTK			pmax	pmax		
comp=Z,19nm,1.3s						
OJC	Ojcow	20.56 311	P	P	06 19 55.4	+0.4
OJC			IAmb	IAmb	06 20 05.7	
comp=Z,17nm,1.4s						
OJC	Ojcow	20.56 311	P	P	06 19 55.4	+0.4
OJC			pmax	pmax		
comp=Z,17nm,1.4s						
OJC	Ojcow	20.56 311	P	P	06 19 53.1	-1.9
comp=Z,7.9nm,1.0s						
TRKS	Terek-Say	20.69 74	P	Pn	06 19 58.3	-0.6
TRKS			pmax	pmax		
comp=Z,19nm,0.9s						
SUW	Suwalki	20.72 323	P	P	06 19 56.3	-0.2
SUW	Suwalki	20.72 323	P	P	06 19 56.3	-0.2
SUW			pmax	pmax		
comp=Z,69nm,1.0s						
MPLH	Magyarpolny	21.02 301	P	P	06 19 58.6	-1.4
comp=Z,38nm,1.0s						
TIP	Timpagrande	21.26 279	P	P	06 20 02.9	+0.2
comp=Z,8.0nm,0.9s						
DRK	Karamyk	21.37 80	P	P	06 20 05.2	+1.2
DRK	Karamyk	21.37 80	P	P	06 20 05.3	+1.2
DRK			pmax	pmax		
comp=Z,19nm,0.9s						
JAVC	Velka Javorina	21.38 306	eP	P	06 20 05.7	+1.8
OKC	Ostrava-Krasne	21.41 309	AMS	AMS	06 32 20.0	
comp=Z,300nm,16.0s						
MODS	Modra-Piesok	21.49 305	eP	P	06 20 05.7	+0.7
MODS	Modra-Piesok	21.49 305	ePN	P	06 20 05.7	+0.7
MORC	Moravsky Berou	21.75 308	P	P	06 20 07.4	-0.5
MORC	Moravsky Berou	21.75 308	eP	P	06 20 08.7	+0.8
MORC	Moravsky Berou	21.75 308	P	P	06 20 07.4	-0.5
MORC			pmax	pmax		
comp=Z,4.0nm,1.0s						
CUC	Castrocucco	21.88 282	P	P	06 20 09.1	-0.2
CUC			IAmb	IAmb	06 20 13.6	
comp=Z,17nm,1.1s						
RONA	Rosalia, Austr	21.96 302	eP	P	06 20 10.2	+0.1
comp=Z,12nm,0.8s						
OHH	Osh	22.00 77	P	P	06 20 13.0	+2.4
OHH			pmax	pmax		
comp=Z,19nm,1.4s						
ARSB	Arslanbob	22.09 75	P	P	06 20 13.1	+1.5
ARSB	Arslanbob	22.09 75	P	P	06 20 13.1	+1.5
ARSB			pmax	pmax		
comp=Z,8.0nm,1.1s						
VRAC	Vranov	22.19 307	eP	P	06 20 11.5	-1.0
VRAC	Vranov	22.19 307	LR	LR	06 31 27.9	
comp=Z,289nm,18.1s,baz=108,slow=44						
KRUC	Moravsky	22.25 306	eP	P	06 20 12.8	-0.3
CONA	Conrad Observa	22.30 303	eP	P	06 20 15.5	+1.7
comp=Z,7.3nm,0.9s						
KRLC	Kraliky	22.32 309	eP	P	06 20 17.6	+3.7
KRLC			AMS	AMS	06 33 40.0	
comp=Z,200nm,14.4s						
KRLC	Kraliky	22.32 309	eP	P	06 20 17.6	+3.7
KRLC			MLR	MLR		
comp=Z,200nm,14.4s						
ARSA	Arzberg	22.38 301	eP	P	06 20 16.3	+1.7
comp=Z,8.8nm,0.9s						
VSU	Vasula	22.48 336	⇓eP	P	06 20 16.4	+0.9
VSU			pmax	pmax		
comp=Z,25nm,1.4s						
SOKA	Soboth	22.61 299	eP	P	06 20 18.5	+1.4
comp=Z,5.7nm,1.1s						
DPC	Dobruska-Polom	22.69 309	eP	P	06 20 22.2	+4.4
DPC			AMS	AMS	06 34 00.0	
comp=Z,200nm,14.0s						
DPC	Dobruska-Polom	22.69 309	eP	P	06 20 22.2	+4.4
DPC			MLR	MLR		
comp=Z,200nm,14.0s						
DPC	Dobruska-Polom	22.69 309	P	P	06 20 17.7	-0.1
comp=Z,3.8nm,1.0s						
PAOL	Paolisi	22.72 285	P	P	06 20 17.7	-0.6
PAOL			IAmb	IAmb	06 20 23.3	
comp=Z,7.5nm,0.7s						
BRVK	Borovoye	22.76 43	P	P	06 20 19.8	+1.3
BRVK			IAmb	IAmb	06 20 33.3	
comp=Z,12nm,1.1s						
BRVK	Borovoye	22.76 43	P	P	06 20 19.8	+1.3
BRVK			pmax	pmax		
comp=Z,12nm,1.1s						
BVAR	Borovoye Array	22.80 43	P	P	06 20 19.7	+0.8
comp=Z,1.9nm,0.6s,baz=232,slow=11,SNR=12						
BVAR			S	S	06 24 31.4	+2.8
comp=Z,0.6nm,0.5s,baz=238,slow=39,SNR=2.1						
BVAR			LR	LR	06 30 32.3	
comp=Z,187nm,20.9s,baz=241,slow=40						
comp=Z,1.9nm,0.6s						
KSP	Ksiaz	22.87 310	P	P	06 20 18.7	-1.0
comp=Z,8.7nm,1.6s						
ARLS	Aral	23.06 73	P	P	06 20 23.6	+1.6
ARLS			pmax	pmax		
comp=Z,8.0nm,1.0s						
AAK	Ala-Archa	23.16 71	LR	LR	06 31 37.3	
comp=Z,171nm,19.0s,baz=280,slow=42						
AAK	Ala-Archa	23.16 71	⇑eP	P	06 20 23.9	+0.9
AAK			pmax	pmax		
comp=Z,14nm,2.5s						
MOA	Molln	23.34 302	eP	P	06 20 24.6	+0.1
comp=Z,8.6nm,0.9s						
GOPC	GO Pecny, Ondr	23.49 307	AMS	AMS	06 33 30.0	
comp=Z,300nm,14.0s						
CKRC	Cesky Krumlov	23.51 304	eP	P	06 20 26.9	+0.6
CKRC			eS	S	06 24 42.2	+1.5
CKRC			AMS	AMS	06 31 50.0	
comp=Z,300nm,13.6s						
CKRC	Cesky Krumlov	23.51 304	eP	P	06 20 26.9	+0.6
CKRC			eS	S	06 24 42.2	+1.5
CKRC			MLR	MLR		
comp=Z,300nm,13.6s						
PRED	Cave del Predi	23.58 298	P	P	06 20 27.1	0.0
PRED			IAmb	IAmb	06 20 31.8	
comp=Z,8.4nm,1.2s						
PRU	Pruhonice	23.67 307	eS	S	06 24 48.5	+5.4
PRU			AMS	AMS	06 33 40.0	
comp=Z,300nm,13.8s						
BIOA	Bad Ischl, Aus	23.72 301	eP	P	06 20 28.6	+0.2
comp=Z,18nm,2.2s						
PRA	Prague	23.76 307	AMS	AMS	06 33 30.0	
comp=Z,300nm,14.9s						
PVCC	Panska Ves	23.81 309	AMS	AMS	06 33 50.0	
comp=Z,300nm,14.2s						
KBA	Koelnbriesper	23.82 300	eP	P	06 20 28.4	-1.1
comp=Z,26nm,1.1s						
GEC2	GERESS Array S	23.91 304	P	P	06 20 29.9	-0.4
GEC2			IAmb	IAmb	06 20 32.2	
comp=Z,9.8nm,1.1s						
GERES	GERESS Array B	23.91 304	P	P	06 20 30.1	-0.2
comp=Z,3.6nm,0.9s,baz=106,slow=10,SNR=13						
comp=Z,3.6nm,0.9s						
GEC2	GERESS Array S	23.91 304	eL		06 31 48.3	
comp=Z,153nm,20.2s						
KHC	Kasperske Hory	24.05 305	P	P	06 20 31.5	-0.1
KHC			IAmb	IAmb	06 20 33.6	
comp=Z,9.2nm,1.1s						
KHC	Kasperske Hory	24.05 305	eP	P	06 20 31.4	-0.1
KHC			eS	S	06 24 51.0	+1.7
KHC			AMS	AMS	06 32 10.0	
comp=Z,300nm,13.2s						
KHC	Kasperske Hory	24.05 305	eP	P	06 20 31.4	-0.1
KHC			eS	S	06 24 51.0	+1.7
KHC			MLR	MLR		
comp=Z,300nm,13.2s						
KHC	Kasperske Hory	24.05 305	P	P	06 20 29.5	-2.1
comp=Z,8.9nm,1.9s,comp=Z,180nm						
BOOM	Boomskoye usch	24.23 72	P	P	06 20 34.5	+1.1
BOOM			IAmb	IAmb	06 20 37.8	
comp=Z,8.2nm,0.8s						
BOOM	Boomskoye usch	24.23 72	P	P	06 20 34.6	+1.1
BOOM			pmax	pmax		
comp=Z,8.0nm,0.8s						
BRG	Berggiesshubel	24.29 309	eP	P	06 20 40.5	+6.8
BRG			Amp		06 20 40.9	
comp=Z,2.4nm,0.7s						
BRG	Berggiesshubel	24.29 309	eP	P	06 20 40.5	+6.8
BRG			pmax	pmax		
comp=Z,2.0nm,0.7s						
LESA	Schwarzleotal	24.32 300	eP	P	06 20 33.7	-0.4
comp=Z,13nm,1.0s						
ABTA	Abfaltersbach	24.34 299	i P	P	06 20 34.6	+0.3
comp=Z,6.6nm,1.0s						
NRN	Naryn	24.34 74	P	P	06 20 35.6	+1.0
NRN			IAmb	IAmb	06 20 38.3	
comp=Z,12nm,1.0s						
NRN	Naryn	24.34 74	P	P	06 20 35.6	+1.0
NRN			pmax	pmax		
comp=Z,12nm,1.0s						
WET	Wettzell	24.51 305	eL		06 32 40.0	
comp=Z,179nm,18.2s						
HSKC	Hora Svate Kat	24.52 308	AMS	AMS	06 34 20.0	
comp=Z,300nm,16.6s						
KSH	Kashi	24.55 79	P	P	06 20 36.9	+0.5
KSH			pP	sP	06 20 39.8	+0.7
KSH			PP	PnPn	06 21 10.3	+3.2
KSH			pmax	pmax		
comp=Z,7.0nm,0.8s						
CLL	Collm	24.99 310	i P	P	06 20 39.0	-1.0
comp=Z,7.0nm,1.1s						
CLL			ePP	PnPn	06 21 12.0	-0.7
CLL			eS	S	06 25 13.0	+8.8
CLL			eSS	SnSn	06 25 58.0	+6.0
CLL			eSSS	SSS	06 26 06.0	
CLL			eSSSS		06 26 24.0	
CLL	Collm	24.99 310	i P	P	06 20 39.0	-1.0
CLL			pmax	pmax		
comp=Z,7.0nm,1.1s						
CLL	Collm	24.99 310	P	P	06 20 39.5	-0.5
comp=Z,6.4nm,1.0s						
CLL	Collm	24.99 310	eL		06 32 30.2	
comp=Z,135nm,19.6s						
WTTA	Wattenberg	25.00 300	i P	P	06 20 40.3	0.0
comp=Z,12nm,1.2s						
WATA	Walderalm	25.05 300	eP	P	06 20 41.0	+0.2
comp=Z,17nm,1.1s						
FINES	FINESS Array B	25.09 339	P	P	06 20 38.7	-2.1
comp=Z,3.0nm,0.5s,baz=146,slow=10,SNR=29						
FINES			LR	LR	06 31 17.6	
comp=Z,432nm,18.8s,baz=148,slow=39						
comp=Z,3.0nm,0.5s						
FINES	FINESS Array B	25.09 339	i P	P	06 20 40.7	-0.1
FINES			pmax	pmax		
comp=Z,8.0nm,0.9s						
SQTA	Sankt Quirin	25.28 300	eP	P	06 20 43.2	+0.4
comp=Z,18nm,1.1s						
FUR	Furstenfeldbru	25.37 302	eL		06 32 22.1	
comp=Z,167nm,20.2s						
FETA	Feichten	25.59 299	eP	P	06 20 46.5	+0.8
comp=Z,15nm,1.1s						
RETA	Reutte	25.62 300	eP	P	06 20 46.6	+0.7
comp=Z,7.0nm,1.0s						
MOX	Moxa	25.65 308	eL		06 33 14.1	
comp=Z,133nm,20.1s						
GRA1	Grafenberg Arr	25.68 305	P	P	06 20 46.6	+0.3
GRF	Grafenberg Arr	25.68 305	P	P	06 20 46.6	+0.3
GRF			pmax	pmax		
comp=Z,13nm,1.0s						
GRF	Grafenberg Arr	25.68 305	eP		06 20 47.5	
comp=Z,6.9nm,0.8s,baz=109,slow=11						
GRF			eL		06 34 11.9	
comp=Z,147nm,18.0s						
FUORN	Ofenpass-Fuorn	25.87 298	P	P	06 20 48.6	+0.3
FUORN			IAmb	IAmb	06 21 29.6	
comp=Z,5.9nm,1.1s						
DAVOX	Davos/Dischmat	26.14 298	LR	LR	06 33 59.1	
comp=Z,301nm,18.0s,baz=89,slow=43						
DAVA	Damuels	26.19 300	i P	P	06 20 51.8	+0.7
comp=Z,12nm,1.0s						
KURBB	Kurchatov Arra	26.75 53	P	P	06 20 54.8	-1.1
comp=Z,0.6nm,0.5s,baz=264,slow=9.1,SNR=9.8						
KURBB			LR	LR	06 34 03.8	
comp=Z,266nm,19.2s,baz=164,slow=42						
comp=Z,0.6nm,0.5s						
KURK	Kurchatov	26.82 53	P	P	06 20 57.4	+0.8
KURK			IAmb	IAmb	06 21 35.3	
comp=Z,7.4nm,1.2s						
KURK	Kurchatov	26.82 53	P	P	06 20 57.4	+0.8
KURK			pmax	pmax		
comp=Z,7.0nm,1.2s						
STU	Stuttgart	26.83 303	P	P	06 20 58.1	+1.5
STU	Stuttgart	26.83 303	P	P	06 20 58.2	+1.5
STU			pmax	pmax		
comp=Z,8.0nm,0.7s						
BFO	Black Forest	27.34 302	eL		06 34 31.1	
comp=Z,134nm,19.7s						
BSEG	Bad Segeberg	27.37 314	eL		06 33 28.6	
comp=Z,256nm,21.8s						
ATD	Arta Tunnel	27.39 183	LR	LR	06 32 46.1	
comp=Z,6.4nm,18.1s,baz=248,slow=38						
TNS	Taunus Mts	27.54 306	eL		06 35 17.8	
comp=Z,89nm,19.3s						
KEST	Kesra	27.78 274	P	P	06 21 06.2	+0.8
comp=Z,4.9nm,0.9s,baz=90,slow=19,SNR=3.9						
KEST			LR	LR	06 34 04.1	
comp=Z,319nm,19.9s,baz=314,slow=41						
comp=Z,4.9nm,0.9s						
BNI	Bardonecchia	28.32 295	P	P	06 21 11.4	+1.1
BNI	Bardonecchia	28.32 295	P	P	06 21 11.4	+1.1
BNI			pmax	pmax		
comp=Z,11nm,1.3s						
HFS	Hagfors	28.51 328	P	P	06 21 10.5	-1.0
comp=Z,3.4nm,0.8s,baz=128,slow=11,SNR=10						
HFS			LR	LR	06 33 59.8	
comp=Z,407nm,18.8s,baz=124,slow=40						
comp=Z,3.4nm,0.8s						
MK31	Makanchi Array	28.75 62	ceP	P	06 21 14.0	0.0
MKAR	Makanchi Array	28.75 62	P	P	06 21 14.0	+0.1
MKAR	Makanchi Array	28.75 62	P	P	06 21 13.6	-0.4
comp=Z,1.7nm,0.8s,baz=270,slow=6.4,SNR=14						
MKAR			LR	LR	06 33 48.2	
comp=Z,114nm,21.2s,baz=273,slow=39						
comp=Z,1.7nm,0.8s						
MKAR	Makanchi Array	28.75 62	i P	P	06 21 15.0	+1.0
MKAR			pmax	pmax		
comp=Z,2.0nm,0.8s						
NB2	NORSAR Subarra	30.03 328	P	P	06 21 23.7	-1.4
comp=Z,1.3nm,0.9s,baz=124,slow=9.3						
NOA	NORSAR Array B	30.03 328	P	P	06 21 23.7	-1.4
comp=Z,0.6nm,0.9s,baz=125,slow=8.9,SNR=5.2						
NOA			LR	LR	06 34 57.3	
comp=Z,328nm,20.3s,baz=130,slow=40						
comp=Z,0.6nm,0.9s						
ZALV	Zalesovo Beam	31.22 48	LR	LR	06 36 17.6	
comp=Z,134nm,19.8s,baz=254,slow=40						
ARCES	ARCESS Array B	32.17 348	P	P	06 21 42.1	-1.8
comp=Z,1.9nm,0.8s,baz=138,slow=9.6,SNR=6.2						
ARCES			LR	LR	06 35 32.9	
comp=Z,258nm,20.6s,baz=119,slow=38						
comp=Z,1.9nm,0.8s						
EKA	Eskdalemuir Ar	35.30 313	P	P	06 22 09.2	-2.0
comp=Z,2.3nm,0.7s,baz=100,slow=8.2,SNR=12						
comp=Z,2.3nm,0.7s						
ESDC	Sonseca Array	36.89 287	P	P	06 22 23.3	-1.8
comp=Z,1.1nm,0.7s,baz=66,slow=8.5,SNR=6.6						
ESDC			LR	LR	06 38 23.5	
comp=Z,100nm,20.0s,baz=80,slow=38						
comp=Z,1.1nm,0.7s						
NRIK	Noril'sk	38.08 23	LR	LR	06 41 05.0	
comp=Z,94nm,18.3s,baz=218,slow=41						
MDT	Midelt	39.62 277	LR	LR	06 39 52.5	
comp=Z,62nm,21.4s,baz=59,slow=37						
SPITS	Spitsbergen Ar	40.93 352	LR	LR	06 40 22.6	
comp=Z,59nm,19.4s,baz=119,slow=37						
JMIC	Jan Mayen	41.66 337	LR	LR	06 40 33.6	
comp=Z,156nm,19.9s,baz=124,slow=37						
SONM	Songino Array	44.93 58	LR	LR	06 45 14.0	
comp=Z,301nm,18.2s,baz=288,slow=40						
BORG	Borgarnes	45.18 327	LR	LR	06 43 21.7	
comp=Z,118nm,18.9s,baz=96,slow=37						
ULN	Ulaanbaatar	45.35 57	P	P	06 23 35.3	+0.5
ULN			IAmb	IAmb	06 23 44.3	
comp=Z,5.4nm,0.9s						
ULN	Ulaanbaatar	45.35 57	P	P	06 23 35.3	+0.5
ULN			pmax	pmax		
comp=Z,5.0nm,1.0s						
TORD	Torodi Ar. Bea	45.47 247	P	P	06 23 34.4	-1.4
comp=Z,1.2nm,0.8s,baz=28,slow=8.9,SNR=7.7						
TORD			LR	LR	06 45 13.7	
comp=Z,88nm,20.9s,baz=34,slow=40						
comp=Z,1.2nm,0.8s						
PALK	Pallekele	45.57 124	LR	LR	06 44 48.6	
comp=Z,117nm,21.0s,baz=58,slow=39						
PZH	PanZhiHua	49.25 87	P	P	06 24 07.3	+1.9
PZH			pmax	pmax		
comp=Z,20nm,1.1s						
PZH			pmax	pmax		
comp=Z,110nm,4.9s						
HHC	Hu-ho-hao-te	50.52 65	eP	P	06 24 15.4	+0.6
HHC			pmax	pmax		
comp=Z,7.0nm,0.8s						
HHC			pmax	pmax		
comp=Z,83nm,4.6s						
HHC			LR	LR		
comp=N,190nm,16.8s						
HHC			LR	LR		
comp=E,150nm,16.9s						
CMAR	Chiang Mai Arr	51.39 97	P	P	06 24 20.3	-1.2
comp=E,4.2nm,0.7s,baz=299,slow=8.8,SNR=21						
CMAR			LR	LR	06 52 18.1	
comp=E,45nm,20.4s,baz=285,slow=43						
comp=E,4.2nm,0.7s						
CMAR	Chiang Mai Arr	51.39 97	i P	P	06 24 21.3	-0.2
CMAR			pmax	pmax		
comp=Z,6.0nm,0.9s						
TIXI	Tiksi	51.87 24	LR	LR	06 50 22.7	
comp=Z,113nm,18.4s,baz=202,slow=41						
KIC	Kosan Boka	54.71 247	⇑iPKP2	P	06 24 46.7	+0.7
comp=Z,15nm,0.9s						
TIC	Toumodi	54.71 247	⇑iPKP2	P	06 24 46.7	+0.7
comp=Z,1.9nm,0.2s						
LIC	Lamto	55.01 247	⇑iPKP2	P	06 24 47.7	-0.4
comp=Z,27nm,0.8s						
SFJD	Kangerlussuaq	56.58 332	LR	LR	06 49 31.4	
comp=Z,148nm,19.5s,baz=60,slow=36						
HEH	HeiHe	57.34 49	eP	P	06 25 05.1	+0.7
HEH			pmax	pmax		
comp=Z,5.0nm,0.7s						
RES	Resolute Bay	63.39 349	LR	LR	06 56 55.4	
comp=Z,94nm,18.3s,baz=255,slow=40						
KSRS	Korea Array	63.43 62	P	P	06 25 45.8	-0.4
comp=Z,1.2nm,0.7s,baz=274,slow=7.1,SNR=6.1						
comp=Z,1.2nm,0.7s						
SEY	Seymchan	63.50 29	eP	P	06 25 50.3	+4.0
SEY			pmax	pmax		
comp=Z,5.0nm,1.0s						
BILL	Bilibino	64.84 21	⇓eP	P	06 25 56.9	+1.9
BILL			*SP	sP	06 26 01.0	+3.1
BILL					06 26 32.0	
BILL			pmax	pmax		
comp=Z,2.0nm,0.6s						
BOSA	Boshof	69.56 198	P	P	06 26 27.7	+2.2
comp=Z,2.0nm,0.8s,baz=23,slow=6.0,SNR=4.1						
BOSA			LR	LR	06 57 07.7	
comp=Z,105nm,20.0s,baz=11,slow=36						
comp=Z,2.0nm,0.8s						
JHJ	Hachijo jima 2	73.91 60	LR	LR	07 02 08.1	
comp=Z,90nm,20.1s,baz=105,slow=38						
ILAR	Eielson Array	76.19 5	P	P	06 27 03.5	-0.9
comp=Z,0.3nm,1.0s,baz=331,slow=5.2,SNR=2.2						
comp=Z,0.3nm,1.0s						
YKA	Yellowknife Ar	77.41 350	LR	LR	07 02 53.0	
comp=Z,64nm,20.2s,baz=8.0,slow=37						
JCJ	Chichijima	79.20 64	LR	LR	07 04 26.3	
comp=Z,108nm,21.0s,baz=92,slow=37						
KAPI	Kappang	82.01 103	LR	LR	07 10 28.8	
comp=Z,64nm,18.1s,baz=26,slow=40						
ULM	Lac du Bonnet	84.42 336	LR	LR	07 05 24.5	
comp=Z,66nm,20.2s,baz=349,slow=36						
TKL	Tuckaleechee C	91.51 320	LR	LR	07 11 24.8	
comp=Z,42nm,18.1s,baz=36,slow=37						
NEW	Newport	91.53 348	LR	LR	07 10 36.4	
comp=Z,85nm,20.5s,baz=6.5,slow=36						
PDAR	Pinedale Array	95.19 341	LR	LR	07 13 20.4	
comp=Z,45nm,18.5s,baz=20,slow=37						
YBH	Yreka Blue Hor	98.75 350	LR	LR	07 14 43.3	
comp=Z,65nm,21.5s,baz=355,slow=36						

ROM 21 06:16:59.0±0.1, 42°.941N±0°.002×13°.018E±0°.004,
h12km, ML1.3/6, Error ellipse: s-maj=0.3km
s-min=0.1km az=248.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	Monte Fema	0.03	47	P	Pg	06 17 01.6	+0.2
FEMA				S	Sg	06 17 03.1	+0.1
CESI	CESI - Serrava	0.10	308	P	Pg	06 17 02.4	+0.3
CESI				S	Sg	06 17 04.7	+0.5
CESI				AML	AML		
comp=N,532μm,0.1s							
CESI				AML	AML		
comp=E,294μm,0.2s							
NRCA	Norcia	0.13	147	P	Pg	06 17 02.7	+0.4
NRCA				S	Sg	06 17 05.2	+0.6
NRCA				AML

MMO1			S	Sg	06 17 08.3	+1.0
GAVE	**Gavelli**	**0.26 200**	P	Pg	06 17 05.0	+0.5
GAVE			S	Sb	06 17 09.4	-0.9
GAVE			AML	AML		
	comp=E,85μm,1.6s					
GAVE			AML	AML		
	comp=N,72μm,0.9s					
GAVE			AML	AML		
	comp=N,72μm,1.1s					
GAVE			AML	AML		
	comp=E,85μm,0.4s					
FOSV	**Fossato di Vic**	**0.40 332**	P	Pg	06 17 07.0	0.0
FOSV			S	Sb	06 17 13.5	-0.8

AFAD ***21*** *06:21:23.9±0.0, 39°.04N×44°.28E, h7km±3km, ML2.7*
ISK ***21*** *06:21:24.3, 39°.10N×44°.15E, h12km, ML2.9/7*
TEH ***21*** *06:21:27.0, 38°.97N×44°.32E, h11km, ML2.8*
AZER ***21*** *06:21:28.3, 39°.06N×44°.36E, h10km, ml2.8*

ISC 21 06:21:25.3±0.9, 39°.04N±0°.02×44°.13E±0°.02, h10km±8km, n36, σ1§40/57, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.20**	**302**	Pg	**Pg**	**06 21 28.7**	**-0.8**
CLDR				Sg	**Sg**	**06 21 32.3**	**-0.1**
CLDR	**Caldiran**	**0.20**	**302**	P	**Pg**	**06 21 28.9**	**-0.6**
CLDR				S	**Sg**	**06 21 32.7**	**+0.3**
OZAP	**Van, Ozalp-Mer**	**0.39**	**196**	P	**Pg**	**06 21 33.1**	**+0.1**
OZAP				S	**Sb**	**06 21 39.9**	**-0.7**
OZAP				*i* AML	AML	06 21 40.0	
	comp=E,1μm,0.5s						
OZAP				*i* AML	AML	06 21 44.0	
	comp=N,1μm,0.7s						
VMUR	**Van-Muradiye**	**0.44**	**264**	P	**Pg**	**06 21 34.1**	**+0.2**
VMUR				S	**Sb**	**06 21 41.5**	**-0.4**
VMUR				*i* AML	AML	06 21 44.0	
	comp=E,795nm,0.7s						
VMUR				*i* AML	AML	06 21 45.0	
	comp=N,721nm,0.3s						
MAKU	**Maku**	**0.53**	**53**	Pg	**Pg**	**06 21 36.0**	**+0.3**
MAKU				Sg	**Sg**	**06 21 43.6**	**+0.9**
DYDN	**Diyadin**	**0.61**	**326**	P	**Pg**	**06 21 37.6**	**+0.5**
DYDN				S	**Sb**	**06 21 47.2**	**+0.2**
DYDN				*i* AML	AML	06 21 51.0	
	comp=N,692nm,0.4s						
DYDN				*i* AML	AML	06 21 51.0	
	comp=E,423nm,0.3s						
VANB	**Van**	**0.73**	**233**	Pg	**Pn**	**06 21 40.8**	**-1.0**
VANB				Sg	**Sn**	**06 21 52.9**	**-0.2**
TVAN	**Van**	**0.76**	**228**	P	**Pn**	**06 21 41.0**	**-1.3**
TVAN				S	**Sn**	**06 21 53.7**	**-0.3**
TVAN				*i* AML	AML	06 22 01.0	
	comp=E,387nm,0.6s						
TVAN				*i* AML	AML	06 22 02.0	
	comp=N,503nm,0.5s						
HYR	**Heyderabad**	**0.88**	**39**	P	**Pb**	**06 21 42.6**	**-0.1**
HYR				S	**Sn**	**06 21 56.2**	**-0.5**
TASB	**TASBURUN-IGDIR**	**0.95**	**5**	Pg	**Pb**	**06 21 42.1**	**-1.8**
AGRB	**Hanur-Agry**	**1.03**	**302**	Pg	**Pb**	**06 21 44.1**	**-1.3**
KOTA	**Agri, Merkez-K**	**1.05**	**317**	P	**Pb**	**06 21 45.3**	**-0.3**
KOTA				S	**Sg**	**06 22 01.3**	**+2.2**
KOTA				*i* AML	AML	06 22 07.0	
	comp=N,50nm,0.4s						
KOTA				*i* AML	AML	06 22 07.0	
	comp=E,141nm,0.8s						
NAX	**Nakhchivan**	**1.07**	**82**	P	**Pg**	**06 21 46.3**	**+0.5**
NAX				S	**Sg**	**06 22 01.1**	**+1.4**
DORK	**Agr/Tutak/Do**	**1.11**	**289**	P	**Pn**	**06 21 46.7**	**-0.3**
DORK				S	**Sn**	**06 22 01.8**	**-0.7**
DORK				*i* AML	AML	06 22 07.0	
	comp=N,244nm,0.7s						
DORK				*i* AML	AML	06 22 09.0	
	comp=E,182nm,0.7s						
GEVA	**Gevas**	**1.11**	**230**	P	**Pg**	**06 21 46.6**	**+0.1**
GEVA				S	**Sg**	**06 22 04.7**	**+3.7**
GEVA				*i* AML	AML	06 22 09.0	
	comp=N,95nm,0.6s						
GEVA				*i* AML	AML	06 22 09.0	
	comp=E,85nm,0.6s						
ADCV	**BITLIS_Adilcev**	**1.12**	**259**	P	**Pn**	**06 21 46.9**	**-0.3**
ADCV				S	**Sg**	**06 22 05.3**	**+3.9**
ADCV				*i* AML	AML	06 22 08.0	
	comp=N,167nm,0.5s						
ADCV				*i* AML	AML	06 22 08.0	
	comp=E,126nm,0.9s						
AKDM	**Akdamar-Van**	**1.15**	**232**	Pn	**Pg**	**06 21 47.2**	**-0.1**
SBZ	**Shahbuz**	**1.16**	**72**	P	**Pn**	**06 21 47.3**	**-0.5**
SBZ				S	**Sg**	**06 22 04.5**	**+1.9**
MLAZ	**Malazgirt-MUS**	**1.24**	**275**	Pn	**Pn**	**06 21 47.9**	**-0.9**
IMRD	**Marand**	**1.27**	**104**	Pg	**Pn**	**06 21 48.0**	**-1.3**
ISHB	**Shabestar**	**1.39**	**122**	Pg	**Pn**	**06 21 49.2**	**-1.7**
ORD	**Ordubad**	**1.46**	**94**	P	**Pb**	**06 21 52.3**	**-0.3**
ORD				S	**Sg**	**06 22 13.4**	**+1.3**
EATA	**Eleskirt**	**1.51**	**303**	P	**Pb**	**06 21 54.0**	**+0.3**
EATA				S	**Sg**	**06 22 15.0**	**+1.0**
EATA				*i* AML	AML	06 22 20.0	
	comp=N,54nm,0.4s						
EATA				*i* AML	AML	06 22 24.0	
	comp=E,67nm,0.4s						
GURO	**Guroymak-BITLI**	**1.71**	**254**	Pn	**Pn**	**06 21 55.1**	**-0.2**
KARS	**Kars**	**1.78**	**333**	Pn	**Pn**	**06 21 55.0**	**-1.3**
IAZR	**Azarshahr**	**1.99**	**132**	Pn	**Pb**	**06 22 01.2**	**-0.5**
KOPR	**Koprukoy-ERZUR**	**2.00**	**299**	Pn	**Pn**	**06 21 58.6**	**-0.8**
GDB	**GEDABAY**	**2.09**	**36**	P	**Pg**	**06 22 05.6**	**+0.2**
GDB				S	**Sg**	**06 22 32.6**	**0.0**
QZX	**Qazax, Azerbai**	**2.23**	**25**	P	**Pg**	**06 22 08.0**	**-0.1**
QZX				S	**Sb**	**06 22 36.0**	**+2.5**
GANJ	**Ganja**	**2.33**	**46**	P	**Pb**	**06 22 08.5**	**+1.2**
GANJ				S	**Sg**	**06 22 39.2**	**-0.8**
IHRS	**Heris**	**2.39**	**107**	Pn	**Pb**	**06 22 06.6**	**-1.9**
QRD	**Qoradiz**	**2.51**	**79**	P	**Pb**	**06 22 10.8**	**+0.3**
QRD				S	**Sb**	**06 22 43.0**	**+1.6**
AGDM	**Agdam**	**2.54**	**64**	P	**Pb**	**06 22 10.8**	**-0.1**
ISRB	**Sarab**	**3.03**	**112**	Pn	**Pn**	**06 22 15.5**	**+2.0**
YRD	**Yardimli**	**3.21**	**91**	P	**Pb**	**06 22 18.8**	**-3.6**
LRK	**Lerik**	**3.31**	**96**	P	**Pb**	**06 22 21.0**	**-3.2**

NEIC ***21*** *06:56:19.4±0.6, 35°.895N±0°.010×97°.29W±0°.01, h9km±4km, Error ellipse: s-maj=1.6km s-min=1.1km az=135.0*

TUL 21 06:56:19.5±0.5, 35°.897N±0°.009×97°.27W±0°.01, h6km, ML2.5, mb_Lg2.2/21(NEIC), ML2.5/46(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=146.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.18**	**236**	Pg	Pg	06 56 23.4	+0.4
OK029				Sg	Sg	06 56 25.6	+0.1
OK029				IAML		06 56 26.3	
	830nm,0.2s						
OK029				IAML		06 56 26.3	
	986nm,0.2s						
ADOK	**Arcadia Dam**	**0.26**	**198**	Pg	Pg	06 56 24.9	+0.4
ADOK				Sg	Sg	06 56 28.4	+0.5
OK031	**S. Brethren Rd**	**0.36**	**81**	Pg	Pg	06 56 27.0	+0.5
OK031				Sg	Sg	06 56 32.1	+0.9
OK052	**Battle Ridge R**	**0.39**	**76**	Pg	Pg	06 56 27.7	+0.5
OK052				Sg	Sg	06 56 33.0	+0.7
OK052				IAML		06 56 33.7	
	605nm,0.3s						
OK052				IAML		06 56 33.7	
	415nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.51**	**195**	Pg	Pg	06 56 29.5	+0.2
OKCSW				IAML		06 56 39.6	
	comp=N,310nm,0.4s						
QUOK	**Quay**	**0.53**	**59**	Pg	Pg	06 56 30.1	+0.3
OK048	**Pawnee Station**	**0.58**	**27**		Pg	06 56 31.0	+0.2
OK048				IAML		06 56 39.2	
	comp=N,233nm,0.2s						
DEOK	**Depew**	**0.63**	**95**	Pg	Pg	06 56 31.6	0.0
DEOK				IAML		06 56 41.2	
	comp=E,246nm,0.1s						
DEOK				IAML		06 56 41.4	
	comp=N,298nm,0.1s						
FNO	**Franklin**	**0.65**	**189**	Pg	Pg	06 56 31.9	0.0
FNO				IAML		06 56 41.4	
	comp=N,156nm,0.1s						
FNO				IAML		06 56 44.0	
	comp=E,330nm,0.4s						
OK051	**E0350 and S346**	**0.70**	**30**	Pg	Pg	06 56 33.1	+0.1
OK051				IAML		06 56 44.0	
	comp=E,158nm,0.2s						
OK051				IAML		06 56 49.5	
	comp=E,213nm,0.2s						
W35A	**Tecumseh**	**0.81**	**156**	Pg	Pg	06 56 34.5	-0.6
W35A				IAML		06 56 48.7	
	comp=N,124nm,0.4s						
W35A				IAML		06 56 48.9	
	comp=E,106nm,0.5s						
CROK	**Carrier**	**0.83**	**317**	Pg	Pg	06 56 35.4	-0.2
CROK				IAML		06 56 54.0	
	comp=E,174nm,0.3s						
CROK				IAML		06 56 54.2	
	comp=N,186nm,0.2s						
BLOK	**Blackwell**	**0.86**	**3**	Pg	Pg	06 56 36.3	+0.2
GC02	**Grant County #**	**1.06**	**334**	Pg	Pg	06 56 39.5	-0.4
OK032	**Salt Plains WL**	**1.18**	**320**		Pg	06 56 41.5	-0.6
KAN09	**Caldwell North**	**1.27**	**347**		Pn	06 56 43.2	-0.6
OK038	**West end E0370**	**1.32**	**296**		Pn	06 56 43.7	-0.8
X34A	**Smith Ranch, M**	**1.37**	**200**		Pn	06 56 45.1	-0.2
U32A	**Winter Ranch,**	**1.48**	**289**		Pn	06 56 46.5	-0.2
WMOK	**Wichita Mounta**	**1.69**	**227**		Pn	06 56 50.0	+0.4
WMOK				IAmb_Lg		06 57 15.4	
	comp=Z,13nm,0.8s						
ELIS	**Ellis County**	**1.75**	**276**		Pn	06 56 50.1	-0.3
X37A	**Clayton**	**2.03**	**129**	Pn	Pn	06 56 55.2	+0.9
U38A	**Gravette**	**2.40**	**76**	Pn	Pn	06 57 00.2	+0.8
Z35A	**Perchaven, San**	**2.56**	**180**	IAmb_Lg		06 57 44.4	
	comp=Z,6.7nm,1.1s						
R32A	**Long Quarter,**	**2.77**	**336**	IAmb_Lg		06 57 50.3	
	comp=Z,9.2nm,1.1s						
KSU1	**Kansas State U**	**3.24**	**9**	IAmb_Lg		06 58 02.9	
	comp=Z,4.5nm,0.8s						
MIAR	**Mount Ida**	**3.31**	**113**	IAmb_Lg		06 58 12.6	
	comp=Z,5.8nm,0.8s						
S39A	**Bolivar**	**3.64**	**59**	IAmb_Lg		06 58 24.1	
	comp=Z,5.5nm,1.0s						
AMTX	**Amarillo**	**3.74**	**256**	IAmb_Lg		06 58 28.7	
	comp=Z,6.1nm,0.8s						
X40A	**Basin Creek Fa**	**3.90**	**110**	IAmb_Lg		06 58 26.4	
	comp=Z,5.4nm,0.8s						
BRDY	**Brady**	**4.82**	**198**	IAmb_Lg		06 58 58.1	
	comp=Z,5.0nm,1.0s						
T42A	**Van Buren**	**5.11**	**75**	IAmb_Lg		06 59 06.6	
	comp=Z,4.6nm,0.7s						
CGM3	**Cape Girardeau**	**6.28**	**75**	IAmb_Lg		06 59 39.6	
	comp=Z,3.7nm,0.8s						

HVO ***21*** *06:56:33.4±0.8, 19°.414N±0°.004×155°.266W±0°.008, h0km±4km, ML3.3/24, ML3.2/34(NEIC), Error ellipse: s-maj=1.1km s-min=0.6km az=105.0*
NEIC ***21*** *06:56:34.3±0.9, 19°.40N±0°.01×155°.259W±0°.007, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.8km az=105.0*
IDC ***21*** *06:56:35.5±2.4, 19°.64N×155°.30W, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=78.2km s-min=16.6km az=167.0*

ISC 21 06:56:34.7±0.8, 19°.42N±0°.04×155°.26W±0°.03, h10km, n36, σ1§35/36, mb3.4/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATHI	**Halema'uma'u T**	**0.00**	**356**		**Pg**	**06 56 34.2**	**-2.4**
BYL	**Byron's Ledge**	**0.01**	**175**		**Pg**	**06 56 33.9**	**-2.6**
SBLHI	**Steaming Bluff**	**0.01**	**311**		**Pg**	**06 56 34.6**	**-2.0**
UWB	**Uwekahuna B**	**0.02**	**282**		**Pg**	**06 56 34.9**	**-1.8**
OBL	**Observatory Le**	**0.02**	**260**		**Pg**	**06 56 35.2**	**-1.4**
KKO	**Keanakako'i**	**0.02**	**192**		**Pg**	**06 56 35.2**	**-1.5**
RIM	**Rim**	**0.03**	**206**		**Pg**	**06 56 35.1**	**-1.6**
UWE	**Uwekahuna**	**0.03**	**270**		**Pg**	**06 56 34.6**	**-2.1**
WRMHI	**West Rim**	**0.04**	**248**		**Pg**	**06 56 35.9**	**-0.9**
SDHHI	**Sand Hill**	**0.04**	**225**		**Pg**	**06 56 36.0**	**-0.8**
RSD	**Rainshed**	**0.04**	**339**		**Pg**	**06 56 35.2**	**-1.6**
PUH	**Pauahi**	**0.06**	**138**		**Pg**	**06 56 35.4**	**-1.5**
KNHH	**Kane Nui o Ham**	**0.10**	**116**		**Pg**	**06 56 36.3**	**-1.0**
HLP	**Hilina Pali**	**0.13**	**200**		**Pg**	**06 56 36.8**	**-1.0**
HLP				IAML		06 56 39.8	
	comp=N,10μm,1.3s						
STCH	**Steam Cracks**	**0.13**	**106**		**Pg**	**06 56 36.8**	**-1.0**
STCH				IAML		06 56 39.5	
	comp=E,11μm,0.7s						
STCH				IAML		06 56 40.5	
	comp=N,9μm,0.6s						
MLH	**Mauna Loa**	**0.14**	**302**		**Pg**	**06 56 37.5**	**-0.6**
MLH				IAML		06 56 40.0	
	comp=N,7μm,0.8s						
MLH				IAML		06 56 40.9	
	comp=E,8μm,0.7s						
NPOC	**North of Pu'u**	**0.14**	**101**		**Pg**	**06 56 37.2**	**-0.8**
NPOC					**Sg**	**06 56 40.1**	**-0.3**
JCUZ	**Jacuzzi**	**0.15**	**104**		**Pg**	**06 56 37.3**	**-0.8**
JCUZ					**Sg**	**06 56 40.1**	**-0.5**
HTC	**Hot Caves**	**0.22**	**215**		**Pg**	**06 56 38.7**	**-0.6**
JOKA	**Jonika Flow**	**0.24**	**87**		**Pg**	**06 56 38.7**	**-1.0**
JOKA				IAML		06 56 46.6	
	comp=E,4μm,0.9s						
JOKA				IAML		06 56 47.1	
	comp=N,5μm,1.4s						
HMH	**Humu'ula Sheep**	**0.28**	**311**		**Pg**	**06 56 40.1**	**-0.3**
HMH				IAML		06 56 48.3	
	comp=N,5μm,0.7s						
HMH				IAML		06 56 48.8	
	comp=E,4μm,0.7s						
MLOA	**Mauna Loa Obse**	**0.32**	**291**	Pg	**Pg**	**06 56 40.7**	**-0.5**
MLOA				IAML		06 56 49.3	
	comp=N,5μm,0.8s						
MWH	**Moku'aweowe**	**0.32**	**281**		**Pg**	**06 56 40.7**	**-0.6**
KHU	**Kahuku**	**0.38**	**243**	Pg	**Pg**	**06 56 41.6**	**-0.6**
KHU				IAML		06 56 49.6	
	comp=E,4μm,0.7s						
KHU				IAML		06 56 51.0	
	comp=N,3μm,1.0s						
ALEP	**Alea Permanent**	**0.38**	**288**		**Pg**	**06 56 41.5**	**-0.8**
ALEP					**Sb**	**06 56 49.1**	**-0.7**
POHA	**Pohakuloa**	**0.42**	**323**	Pg	**Pb**	**06 56 42.8**	**-1.5**
POHA	**Pohakuloa**	**0.42**	**323**		**Sg**	**06 56 48.5**	**-0.1**
HUH	**Hualalai**	**0.60**	**296**		**Pb**	**06 56 46.2**	**-1.3**
I59US	**HAWAII INFRASO**	**0.62**	**286**	Pg	**Pb**	**06 56 46.4**	**-1.3**
	baz=118,slow=35						
CPH	**Captain Cook**	**0.62**	**276**		**Pg**	**06 56 46.0**	**-0.8**
H11N3	**WAKE ISLAND Hy**	**35.60**	**277**	T	T	07 40 40.1	
	baz=85						
H11N2	**WAKE ISLAND Hy**	**35.61**	**277**	T	T	07 40 42.0	
	baz=85						
H11N1	**WAKE ISLAND Hy**	**35.62**	**277**	T	T	07 40 43.7	
	baz=85						
PDAR	**Pinedale Array**	**44.85**	**48**	P	**P**	**07 04 51.7**	**+2.2**
	comp=N,0.2nm,0.7s,baz=264,slow=8.1,SNR=1.9						
	comp=N,0.2nm,0.7s						
ILAR	**Eielson Array**	**45.67**	**5**	P	**P**	**07 04 55.6**	**+0.3**
	comp=N,0.4nm,0.9s,baz=182,slow=7.6,SNR=4.3						
	comp=N,0.4nm,0.9s						
TXAR	**Lajitas Array**	**47.70**	**68**	P	**P**	**07 05 13.4**	**+1.6**
	comp=N,0.6nm,0.8s,baz=256,slow=10,SNR=7.7						
	comp=N,0.6nm,0.8s						

VAO ***21*** *06:59:04.2±0.6, 8°.65S×76°.16W, h0km, mb4.1*

ISC 21 06:59:06.0±2.5, 8°.8S±0°.1×76°.3W±0°.2, h35km, n10, σ1§05/11, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**3.73**	**74**	*e*P	**Pn**	**07 00 01.2**	**+0.1**
CZSB				*e*S	**Sn**	**07 00 44.5**	**+0.7**
TBTG	**Tabatinga, AM**	**7.84**	**55**	*e*P	**Pn**	**07 00 56.5**	**-1.2**
ETMB	**Extrema**	**10.02**	**97**	*e*P	**Pn**	**07 01 26.6**	**-1.0**
SAML	**Samuel**	**12.97**	**92**	*e*P	**Pn**	**07 02 06.0**	**-2.0**
MACA	**Manacapuru-AM**	**16.52**	**71**	*e*P	**Pn**	**07 02 55.0**	**-0.1**
BBSD	**Serra de San D**	**17.41**	**120**	*e*P	**P**	**07 03 07.9**	**+0.6**
PTLB	**Pontes e Lacer**	**18.04**	**113**	*e*P	**P**	**07 03 15.5**	**+1.3**
SDV	**Santo Domingo**	**18.46**	**18**	*e*P	**P**	**07 03 19.1**	**0.0**
PDRB	**Porto dos Gac**	**19.47**	**100**	*e*P	**P**	**07 03 30.3**	**+0.3**
ITTB	**Itaituba**	**20.91**	**79**	*e*P	**P**	**07 03 46.0**	**+0.3**

IDC ***21*** *07:11:31.0±1.0, 42°.96N×100°.69W, h0km, mb2.9/1, mbtmp3.7/5, ML3.3/3, MS3.3/1, Error ellipse: s-maj=14.8km s-min=11.5km az=143.0*
NEIC ***21*** *07:11:30, 43°.01N×100°.61W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}0.49; $M_{\theta\theta}$3.87; $M_{\phi\phi}$-4.36; $M_{r\theta}$-1.46; $M_{\theta\phi}$5.29; $M_{\phi r}$-2.79; Fault plane solution: $M_0$7.41000×10^{13} NP1:ϕ_s290.00000°, δ65.00000°, λ5.00000°. NP2:ϕ_s198.00000°, δ85.00000°, λ155.00000°. Principal axes: T 7.4186, Plg21.0000°, Azm151.0000°; N -0.0028, Plg65.0000°, Azm8.0000°; P -7.4159, Plg14.0000°, Azm247.0000°;*
NEIC ***21*** *07:11:33.0±1.1, 43°.02N±0°.02×100°.56W±0°.05, h5km, mb_Lg3.5/112, Mwr3.2/5(SLM) Error ellipse: s-maj=6.9km s-min=3.6km az=285.0*

ISC 21 07:11:30.7±0.7, 43°.05N±0°.04×100°.63W±0°.04, h10km, n91, σ1§98/56, South Dakota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K30B	**Basset**	**0.83**	**116**	Pg	**Pb**	**07 11 47.7**	**+0.4**
K30B				Sg	**Sg**	**07 11 58.7**	**+1.1**
SUSD	**Miller**	**1.84**	**40**		**Pb**	**07 12 04.6**	**+0.1**
SUSD					**Sb**	**07 12 29.5**	**+1.8**
OGNE	**Ogallala**	**2.35**	**207**		**Pb**	**07 12 11.7**	**-1.5**
OGNE					**Sb**	**07 12 43.5**	**+1.2**
BGNE	**Belgrade**	**2.46**	**131**		**Pb**	**07 12 13.8**	**-1.3**
RSSD	**Black Hills**	**2.70**	**295**		**Pb**	**07 12 18.5**	**-0.7**
RSSD				IAmb_Lg		07 13 01.6	
	comp=Z,179nm,0.7s						
ECSD	**EROS Data Cent**	**3.00**	**75**		**Pn**	**07 12 20.2**	**+1.8**
L34A	**Svendsen Farm,**	**3.32**	**108**	Pn	**Pn**	**07 12 24.9**	**+2.2**
E28A	**Huff**	**3.52**	**359**		**Pn**	**07 12 27.7**	**+2.2**
E28A				IAmb_Lg		07 13 23.3	
	comp=Z,125nm,0.8s						
BRIGG	**Briggsdale**	**3.70**	**229**		**Pn**	**07 12 30.3**	**+2.2**
PHWY	**Pilot Hill**	**3.99**	**246**		**Pn**	**07 12 34.1**	**+1.9**
F33A	**5 Mile Ranch,**	**4.17**	**47**		**Pn**	**07 12 35.8**	**+1.4**
CBKS	**Cedar Bluff**	**4.29**	**171**		**Pn**	**07 12 37.7**	**+1.7**
CBKS				IAmb_Lg		07 13 55.6	
	comp=Z,76nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.31**	**201**		**Pn**	**07 12 38.3**	**+1.8**
N35A	**Tabor**	**4.31**	**119**		**Pn**	**07 12 38.4**	**+2.0**
K22A	**Casper**	**4.36**	**267**		**Pn**	**07 12 39.5**	**+2.4**
K22A				IAmb_Lg		07 13 51.2	
	comp=Z,102nm,0.9s						
N23A	**Red Feather La**	**4.51**	**243**		**Pn**	**07 12 42.0**	**+2.6**
R32A	**Long Quarter,**	**4.85**	**162**	Pn	**Pn**	**07 12 45.7**	**+2.0**
R32A				IAmb_Lg		07 14 10.0	
	comp=Z,72nm,0.8s						
MDND	**Maddock**	**4.85**	**8**		**Pn**	**07 12 44.9**	**+1.1**
MDND				IAmb_Lg		07 14 15.1	
	comp=Z,98nm,0.8s						
ISCO	**Idaho Springs**	**4.96**	**231**		**Pn**	**07 12 46.9**	**+1.4**
KSU1	**Kansas State U**	**4.98**	**141**	IAmb_Lg		07 14 18.2	
	comp=Z,110nm,0.9s						
RWWY	**Rawlins**	**5.06**	**257**		**Pn**	**07 12 50.1**	**+3.2**
Q24A	**Divide**	**5.33**	**221**	IAmb_Lg		07 14 31.8	
	comp=Z,94nm,0.8s						
I37A	**Lemond, Waseca**	**5.34**	**77**	IAmb_Lg		07 14 30.6	
	comp=Z,89nm,0.9s						
LAO	**LASA Array**	**5.39**	**314**	IAmb_Lg		07 14 21.4	
	comp=Z,79nm,0.9s						
SCIA	**State Center**	**5.60**	**99**	IAmb_Lg		07 14 29.8	
	comp=Z,63nm,0.8s						
N38A	**Joes South For**	**5.96**	**110**		**Pn**	**07 13 00.8**	**+1.9**
N38A				IAmb_Lg		07 14 51.7	
	comp=Z,79nm,0.8s						
DGMT	**Dagmar**	**5.97**	**337**		**Pn**	**07 13 01.5**	**+2.4**
SPMN	**Marine on St.**	**6.03**	**66**		**Pn**	**07 13 02.0**	**+2.0**
SPMN				IAmb_Lg		07 14 54.5	
	comp=Z,51nm,0.8s						
KAN12	**Harper NE Stat**	**6.09**	**160**	IAmb_Lg		07 14 49.8	
	comp=Z,78nm,0.9s						
SMCO	**Snowmass**	**6.16**	**233**	IAmb_Lg		07 14 59.4	
	comp=Z,52nm,1.0s						
AGMN	**Agassiz Nation**	**6.22**	**31**	IAmb_Lg		07 14 53.6	
	comp=Z,68nm,0.8s						
KAN01	**Argonia South**	**6.29**	**159**	IAmb_Lg		07 14 56.4	
	comp=Z,64nm,0.7s						
P38A	**Dawn**	**6.34**	**120**		**Pn**	**07 13 05.9**	**+1.7**
KAN14	**Manchester OK**	**6.42**	**161**	IAmb_Lg		07 15 08.0	
	comp=Z,47nm,0.8s						
SDCO	**Great Sand Dun**	**6.47**	**217**		**Pn**	**07 13 08.1**	**+1.7**
KAN13	**South Haven SW**	**6.50**	**157**	IAmb_Lg		07 15 04.6	
	comp=Z,59nm,0.8s						
NOKA	**Waynoka**	**6.54**	**168**	IAmb_Lg		07 15 12.3	
	comp=Z,62nm,0.9s						
PD31	**Pinedale Array**	**6.57**	**271**		**Pn**	**07 13 09.7**	**+2.2**
PDAR	**Pinedale Array**	**6.57**	**271**		**Pn**	**07 13 09.4**	**+1.9**
PDAR	**Pinedale Array**	**6.57**	**271**	Pn	**Pn**	**07 13 09.9**	**+2.4**
	comp=Z,6.2nm,0.4s,baz=93,slow=15,SNR=56						
PDAR				Pg	**Pb**	**07 13 27.1**	**+2.0**
	comp=Z,1.6nm,0.3s,baz=93,slow=15,SNR=13						
PDAR				Sn	**Sn**	**07 14 18.5**	**-4.1**
	comp=Z,1.5nm,0.3s,baz=99,slow=18,SNR=3.6						
PDAR				Lg	Lg	07 14 50.4	
	comp=Z,2.3nm,0.3s,baz=87,slow=33,SNR=2.5						
T25A	**Trinidad**	**6.58**	**207**		**Pn**	**07 13 08.9**	**+1.2**
OK038	**West end E0370**	**6.72**	**167**	IAmb_Lg		07 15 10.3	
	comp=Z,44nm,0.8s						
U32A	**Winter Ranch,**	**6.78**	**169**	IAmb_Lg		07 15 11.4	
	comp=Z,42nm,0.8s						
RTBA	**Rita Blanca**	**6.80**	**195**		**Pn**	**07 13 11.3**	**+0.6**
RTBA				IAmb_Lg		07 15 15.9	
	comp=Z,50nm,0.8s						
CROK	**Carrier**	**6.85**	**162**	IAmb_Lg		07 15 13.0	
	comp=Z,72nm,1.1s						
L40A	**Anamosa**	**7.01**	**95**	IAmb_Lg		07 15 24.6	
	comp=Z,44nm,0.9s						
ELIS	**Ellis County**	**7.04**	**172**		**Pn**	**07 13 14.7**	**+0.9**
ELIS				IAmb_Lg		07 15 25.1	
	comp=Z,62nm,0.9s						
YMP	**Mirror Lake Pl**	**7.09**	**287**	IAmb_Lg		07 15 28.2	
	comp=Z,38nm,1.0s						
OK051	**E0350 and S346**	**7.16**

HDIL	Hopedale	8.82	103		Pn	07 13 39.0	+0.7
ANMO	Albuquerque	9.28	211	Pg	Pg	07 14 18.1	
	comp=Z,0.2nm,0.3s,baz=94,slow=12,SNR=3.7						
ANMO				Lg	Lg	07 16 18.6	
	comp=Z,0.6nm,0.3s,baz=336,slow=15,SNR=2.9						
LOOK	Love County	9.44	162	IAmb_Lg		07 16 48.3	
	comp=Z,37nm,1.0s						
T42A	Van Buren	9.46	126	IAmb_Lg		07 16 35.2	
	comp=Z,34nm,0.7s						
FCAR	Ozark Folk Cen	9.71	135	IAmb_Lg		07 16 43.1	
	comp=Z,39nm,0.9s						
APMT	Aspermont	9.72	178	IAmb_Lg		07 16 42.7	
	comp=Z,25nm,1.0s						
POST	Post	9.99	184	IAmb_Lg		07 17 05.9	
	comp=Z,27nm,0.9s						
BRDY	Brady	11.81	173	Pn	Pn	07 14 17.3	-2.0
NEW	Newport	12.66	300	Lg	Lg	07 18 00.1	
	comp=Z,0.1nm,0.3s,baz=43,slow=21,SNR=1.2						
TXAR	Lajitas Array	13.90	191	Pn	Pn	07 14 47.2	-0.7
	comp=Z,0.2nm,0.3s,baz=13,slow=12,SNR=14						
TXAR				Pg	Pg	07 15 43.0	
	comp=Z,0.2nm,0.3s,baz=11,slow=12,SNR=5.1						
TXAR				Lg	Lg	07 18 36.8	
	comp=Z,0.2nm,0.3s,baz=4.6,slow=34,SNR=1.9						
	comp=Z,0.3nm,0.3s						
TKL	Tuckaleechee C	14.97	114	Pn	Pn	07 14 59.8	-2.4
	comp=Z,0.2nm,0.3s,baz=288,slow=9.6,SNR=1.2						
TKL				Lg	Lg	07 19 06.7	
	comp=Z,0.2nm,0.3s,baz=286,slow=11,SNR=2.1						
	comp=Z,0.6nm,0.3s						
SADO	Sadowa	15.58	76	Lg	Lg	07 19 29.4	
	comp=Z,0.3nm,0.3s,baz=204,slow=16,SNR=3.8						
YKA	Yellowknife Ar	21.14	342	P	P	07 16 18.2	+2.8
	comp=Z,0.5nm,0.8s,baz=151,slow=12,SNR=4.1						
YKA				Lg	Lg	07 22 39.9	
	baz=147,slow=34,SNR=1.9						
	comp=Z,0.5nm,0.8s						
INK	Inuvik	30.66	337	LR	LR	07 29 34.2	
	comp=Z,52nm,19.8s,baz=182,slow=35						

IDC 21 07:32:47.4±3.0, 18°.28S×173°.51W, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=178.6km s-min=25.7km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.15	259	P	P	07 41 37.3	0.0
	0.5nm,0.5s,baz=98,slow=6.9,SNR=15						
	0.5nm,0.5s						
ASAR	Alice Springs	49.18	254	P	P	07 41 37.5	-0.1
	4.8nm,0.8s,baz=93,slow=8.2,SNR=22						
	4.8nm,0.8s						
NVAR	Mina Array Bea	76.53	42	P	P	07 44 40.6	+0.8
	0.4nm,0.8s,baz=230,slow=8.1,SNR=4.0						
	0.4nm,0.8s						
H03S2	Juan Fernandez	83.71	123	T	T	09 18 02.4	
	baz=250,slow=75,SNR=7.3						
H03S1	Juan Fernandez	83.72	123	T	T	09 18 03.1	
	baz=250,slow=75,SNR=7.2						
H03S3	Juan Fernandez	83.73	123	T	T	09 18 02.6	
	baz=250,slow=75,SNR=8.2						
PDAR	Pinedale Array	84.47	42	P	P	07 45 22.1	-0.3
	0.1nm,0.6s,baz=187,slow=4.5,SNR=1.7						
	0.1nm,0.6s						
ILAR	Eielson Array	85.27	11	P	P	07 45 24.8	-0.8
	0.3nm,0.9s,baz=217,slow=6.3,SNR=2.1						
	0.3nm,0.9s						

*SSNC **21** 07:37:09.5±7.4, 17°.66N×70°.61W, h5km±225km, MD3.6, ML3.0*
*SDD **21** 07:37:10.4±2.1, 19°.19N×69°.66W, h99km±11km, MD3.4, ML3.0, MW3.4*
*OSPL **21** 07:37:11.0±2.3, 19°.20N×69°.66W, h93km±12km, ML2.6*

ISC 21 07:37:07.3±1.5, 19°.22N±0°.06×69°.67W±0°.03, h112km±11km, n30, σ1°86/48, 12C-12D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADR	Nagua	0.22	307	⇓ePg	Pn	07 37 22.6	-0.3
NADR				⇓eSg	Sn	07 37 34.0	-0.6
NADR				IAML		07 37 34.6	
	comp=N,1μm,0.5s						
NADR				IAML		07 37 35.4	
	comp=E,693nm,0.1s						
LONA1	Toro Cenizo, N	0.24	311	*i* P	Pn	07 37 23.2	+0.3
LONA1				eS	Sn	07 37 34.1	-0.6
LONA1				IAML		07 37 35.8	
	comp=Z,1μm,1.4s						
MIDR	Miches	0.64	112	⇑ePg	Pn	07 37 25.3	+0.1
MIDR				⇓eSg	Sn	07 37 37.1	-1.7
MIDR				IAML		07 37 37.2	
	comp=E,121nm,0.2s						
MIDR				IAML		07 37 37.8	
	comp=N,65nm,0.2s						
MIDR				IAML		07 37 37.8	
	comp=N,60nm,0.2s						
SDD	Santo Domingo	0.79	197	eS	Sn	07 37 38.2	-2.9
ABDR	Alto Bandera	0.99	246	⇓ePg	Pn	07 37 29.5	+0.7
ABDR				⇑eSg	Sn	07 37 43.9	-1.2
ABDR				IAML		07 37 45.2	
	comp=N,310nm,0.2s						
ABDR				IAML		07 37 47.1	
	comp=E,166nm,0.2s						
BANI	BANI	1.05	218	⇓ePg	Pn	07 37 29.9	+0.6
BANI				⇑eSg	Sn	07 37 45.2	-0.6
BANI				IAML		07 37 49.7	
	comp=N,401nm,0.1s						
BANI				IAML		07 37 49.9	
	comp=E,206nm,0.3s						
HIDR	Higuey Centro	1.10	125	⇑ePg	Pn	07 37 30.3	+0.7
HIDR				⇓eSg	Sn	07 37 46.2	-0.4
HIDR				IAML		07 37 46.6	
	comp=E,2μm,0.3s						
HIDR				IAML		07 37 47.0	
	comp=N,2μm,0.2s						
SADR	Isla Saona	1.33	140	ePg	Pn	07 37 33.7	+1.5
SADR				⇑eSg	Sn	07 37 49.2	-1.8
SADR				IAML		07 37 51.8	
	comp=E,132nm,0.6s						
SADR				IAML		07 37 52.6	
	comp=N,153nm,0.4s						
SADR				IAML		07 37 57.9	
	comp=N,170nm,0.8s						
PCDR	Punta Cana, DR	1.41	120	⇓ePg	Pn	07 37 34.2	+1.0
PCDR				⇑eSg	Sn	07 37 52.6	-0.1
PCDR				IAML		07 37 56.8	
	comp=N,149nm,1.0s						
PCDR				IAML		07 38 02.2	
	comp=E,126nm,1.8s						
PCDR	Punta Cana, DR	1.41	120	*i* P	Pn	07 37 34.1	+1.0
PCDR				eS	Sn	07 37 53.4	+0.6
PCDR				IAML		07 38 03.5	
	comp=Z,149nm,1.1s						
SDDR	Presa de Saban	1.54	261	⇓ePg	Pn	07 37 36.8	+2.0
SDDR				⇑eSg	Sn	07 37 56.8	+1.1
SDDR				IAML		07 37 59.2	
	comp=E,93nm,0.2s						
SDDR				IAML		07 38 00.3	
	comp=N,80nm,0.2s						
SDDR	Presa de Saban	1.54	261	eP	Pn	07 37 36.5	+1.7
SDDR				eS	Sn	07 37 55.4	-0.3
SDDR				IAML		07 37 58.9	
	comp=N,85nm,0.2s						
SDDR				IAML		07 37 59.2	
	comp=N,88nm,0.2s						
SDDR	Presa de Saban	1.54	261	*i* P	Pn	07 37 36.7	+2.0
SDDR				eS	Sn	07 37 56.5	+0.8
SDDR				IAML		07 37 59.9	
	comp=Z,54nm,0.2s						
SDDR	Presa de Saban	1.54	261	eS	Sn	07 37 57.8	+2.1
REDR	Restauracion	1.63	268	⇓ePg	Pn	07 37 40.2	+4.6
REDR				⇑eSg	Sn	07 38 03.7	+6.4
REDR				IAML		07 38 04.6	
	comp=N,295nm,0.1s						
REDR				IAML		07 38 05.8	
	comp=E,292nm,0.1s						
PODR	Polo	1.85	236	⇓ePg	Pn	07 37 40.1	+1.5
PODR				⇑eSg	Sn	07 38 00.9	-1.7
PODR				IAML		07 38 05.6	
	comp=N,53nm,0.6s						
PODR				IAML		07 38 12.0	
	comp=E,69nm,0.2s						
PODR	Polo	1.85	236	*i* P	Pn	07 37 40.4	+1.8
PODR				eS	Sn	07 38 03.9	+1.3
MCDR	Montecristi	1.99	290	⇑ePg	Pn	07 37 40.5	+0.4
MCDR				⇑eSg	Sn	07 38 06.4	+1.1
MCDR				IAML		07 38 07.1	
	comp=E,88nm,0.3s						
MCDR				IAML		07 38 07.4	
	comp=N,94nm,0.3s						
JIDR	Jimani	2.19	251	⇑ePg	Pn	07 37 43.4	+0.8
JIDR				⇓eSg	Sn	07 38 08.1	-1.7
JIDR				IAML		07 38 28.9	
	comp=E,46nm,2.8s						
JIDR				IAML		07 38 48.3	
	comp=N,30nm,3.1s						
AGPR	Aguadilla, PR	2.54	107	*i* P	Pn	07 37 48.8	+1.6
GRTK	Grand Turk	2.66	329	*i* P	Pn	07 37 50.3	+1.5
CRPR	Cabo Rojo, PR	2.71	116	*i* P	Pn	07 37 51.7	+2.1
AOPR	Arecibo Observ	2.90	107	eP	Pn	07 37 53.2	+1.2
AOPR				eS	Sn	07 38 26.7	+0.2
MASC	Masc	4.40	283	⇓eP	Pn	07 38 10.0	-2.0
MASC				IAML		07 39 01.7	
	comp=E,6.2nm,0.1s						
MASC				IAML		07 39 01.7	
	comp=N,17nm,0.1s						
QMBU	Quimbuelo	4.94	282	eP	Pn	07 38 16.8	-2.5
QMBU				IAML		07 39 13.6	
	comp=N,33nm,0.3s						
QMBU				IAML		07 39 13.6	
	comp=E,60nm,0.2s						
GTBY	Guantanamo Bay	5.17	279	eP	Pn	07 38 22.4	-0.1
RCC	Rio Carpintero	5.73	279	eP	Pn	07 38 29.3	-0.7
HLGC	Holguin	6.23	287	eP	Pn	07 38 38.0	+1.2
ANBD	Bethesda, Anti	7.82	105	eP	Pn	07 38 58.4	0.0
ANBD	Bethesda, Anti	7.82	105	eS	Sn	07 40 22.0	-3.4

*IDC **21** 07:42:04.9±3.8, 23°.18N×142°.33E, h126km±33km, mb3.8/16, mbtmp4.2/18, Error ellipse: s-maj=19.7km s-min=13.8km az=86.0*
*NEIC **21** 07:42:05.2±1.3, 23°.2N±0°.1×142°.3E±0°.2, h124km±8km, mb4.2/23, Error ellipse: s-maj=23.7km s-min=15.9km az=84.0*
*JMA **21** 07:42:06.2±0.2, 23°.4N±0°.8×14°.2E±°, h179km±1km, MV4.9/30, IOTO ISLANDS REGION*

ISC 21 07:42:10.1±0.8, 23°.71N±0°.08×142°.1E±0°.1, h150km, n64, σ1°66/58, mb4.1/28, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	2.91	1	P	Pn	07 42 57.6	+1.2
JHH2				S	Sn	07 43 37.5	+5.3
CBIJ	Chichi jima	3.37	1	P	Pn	07 43 03.5	+1.3
CBIJ				S	Sn	07 43 47.6	+4.9
JCJ	Chichijima	3.37	1	P	Pn	07 43 02.8	+0.6
JCJ	Chichijima	3.37	1	P	Pn	07 42 59.0	-3.2
	172nm,0.3s,baz=112,slow=24,SNR=47						
JCJ				S	Sn	07 43 41.2	-1.5
	380nm,0.3s,baz=147,slow=22,SNR=18						
JHJ2	Mitsune	9.59	348	Pn	Pn	07 44 25.3	+0.7
JHJ2	Mitsune	9.59	348	eP	Pn	07 44 25.9	+1.3
JHJ	Hachijo jima 2	9.60	348	P	Pn	07 44 25.4	+0.6
	28nm,0.3s,baz=62,slow=22,SNR=7.7						
JMKN	Mikurajimanish	10.39	348	P	Pn	07 44 35.6	+0.4
BSO1	Boso 1	10.96	355	eP	Pn	07 44 41.8	-0.4
BSO1				eS	Sn	07 46 44.4	+1.4
JOD2	Odawara 2	11.82	348	eP	Pn	07 44 54.1	+0.1
JNY	Yasuok	12.19	343	eP	Pn	07 44 59.1	+0.2
JAO	Obara	12.28	341	eP	Pn	07 45 00.6	+0.7
JHU	Hanno	12.35	349	eP	Pn	07 44 59.6	-1.3
JRY	Ryogami san	12.58	348	P	Pn	07 45 02.9	-1.0
JRY				eS	Sn	07 47 21.3	-1.8
JAG	Ashikaga	12.89	350	P	Pn	07 45 05.5	-2.3
JAG				eS	Sn	07 47 24.4	-5.8
JHO	Hitachi	12.93	354	eP	Pn	07 45 07.4	-0.9
JHS	Saijyo	13.72	327	eP	P	07 45 28.2	+6.1
KSRS	Korea Array	18.34	322	P	Pn	07 46 16.6	+1.7
	0.7nm,0.4s,baz=131,slow=13,SNR=5.1						
ASAJ	Asahikawa	20.36	1	P	Pn	07 46 38.5	0.0
	5.9nm,0.8s,baz=249,slow=17,SNR=2.1						
	5.9nm,0.8s						
H11N1	WAKE ISLAND Hy	23.33	95	T	T	08 11 03.1	
	baz=282						
H11N2	WAKE ISLAND Hy	23.33	95	T	T	08 11 03.7	
	baz=282						
H11N3	WAKE ISLAND Hy	23.34	95	T	T	08 11 04.3	
	baz=282						
CMAR	Chiang Mai Arr	40.53	271	P	P	07 49 33.7	-1.1
	1.4nm,0.3s,baz=65,slow=7.7,SNR=2.3						
	1.4nm,0.3s						
WR0	Warramunga Arr	44.03	190	P	P	07 49 55.5	-7.6
WR0				IAmb	IAmb	07 50 35.2	
	comp=Z,6.4nm,1.2s						
WB2	Warramunga Arr	44.05	191	P	P	07 49 56.5	-6.6
WRA	Warramunga Arr	44.05	191	P	P	07 49 56.1	-7.0
WRA	Warramunga Arr	44.05	191	P	P	07 49 56.1	-7.0
	comp=Z,1.5nm,0.4s,baz=8.4,slow=7.9,SNR=40						
	comp=Z,1.5nm,0.4s						
AS31	Alice Springs	47.76	190	P	P	07 50 26.5	-5.8
ASAR	Alice Springs	47.77	190	P	P	07 50 25.0	-7.3
ASAR	Alice Springs	47.77	190	P	P	07 50 25.3	-6.9
	comp=Z,0.3nm,0.5s,baz=14,slow=12,SNR=10						
	comp=Z,0.3nm,0.5s						
ZALV	Zasovo Beam	52.05	321	P	P	07 51 05.0	+0.8
	comp=Z,2.8nm,0.3s,baz=106,slow=8.2,SNR=12						
	comp=Z,2.8nm,0.3s						
MK31	Makanchi Array	52.64	312	P	P	07 51 09.8	+1.1
MK31				IAmb	IAmb	07 51 30.7	
	comp=Z,1.6nm,0.8s						
MKAR	Makanchi Array	52.64	312	P	P	07 51 09.3	+0.5
MKAR	Makanchi Array	52.64	312	P	P	07 51 10.1	+1.3
	comp=Z,1.4nm,0.4s,baz=90,slow=9.2,SNR=16						
	comp=Z,1.4nm,0.4s						
KURBB	Kurchatov Arra	55.41	316	P	P	07 51 29.7	+1.0
	comp=Z,2.9nm,0.4s,baz=92,slow=8.1,SNR=45						
	comp=Z,2.9nm,0.4s						
BVAR	Borovoye Array	60.53	319	P	P	07 52 05.3	+1.0
	comp=Z,8.4nm,0.4s,baz=86,slow=7.1,SNR=38						
	comp=Z,8.4nm,0.4s						
ILAR	Eielson Array	60.71	28	P	P	07 52 04.8	-0.6
	comp=Z,0.5nm,0.6s,baz=258,slow=5.3,SNR=9.2						
	comp=Z,0.5nm,0.6s						
D27M	Malcolm River	63.41	23	P	P	07 52 24.6	+1.3
D27M				IAmb	IAmb	07 52 25.6	
	comp=Z,1.5nm,0.6s						
I28M	Miner Creek	63.68	27	P	P	07 52 25.5	+0.2
F28M	Old Crow	63.74	25	P	P	07 52 26.3	+0.7
F28M				IAmb	IAmb	07 52 27.5	
	comp=Z,1.4nm,0.8s						
E28M	Babbage River	63.90	24	P	P	07 52 26.9	+0.3
E28M				IAmb	IAmb	07 52 28.9	
	comp=Z,5.5nm,1.5s						
H29M	Whitestone	64.33	26	P	P	07 52 29.6	+0.3
H29M				IAmb	IAmb	07 53 13.7	
	comp=Z,5.5nm,1.4s						
G29M	Pine Creek	64.46	25	P	P	07 52 31.2	+1.0
G29M				IAmb	IAmb	07 52 44.3	
	comp=Z,5.5nm,1.2s						
EPYK	Eagle Plains	64.99	26	P	P	07 52 33.8	+0.1
I30M	Mount Dempster	65.18	27	P	P	07 52 35.2	+0.2
I30M				IAmb	IAmb	07 52 37.7	
	comp=Z,1.4nm,0.6s						
G31M	Satah River	65.94	25	P	P	07 52 39.6	0.0
ARU	Arti	67.08	323	P	P	07 52 47.2	+0.1
ABKAR	Akbulak array	67.44	315	P	P	07 52 49.9	+0.3
YKA	Yellowknife Ar	75.14	28	P	P	07 53 35.3	-0.2
	comp=Z,0.8nm,0.6s,baz=296,slow=5.9,SNR=14						
	comp=Z,0.8nm,0.6s						
ARCES	ARCESS Array B	76.72	341	P	P	07 53 44.9	+0.5
	comp=Z,1.5nm,0.8s,baz=72,slow=7.8,SNR=4.7						
	comp=Z,1.5nm,0.8s						
KBZ	Khabaz	80.29	313	P	P	07 54 04.5	+0.1
	comp=Z,1.8nm,0.9s,baz=76,slow=9.0,SNR=3.6						
	comp=Z,1.8nm,0.9s						
FINES	FINESS Array B	80.96	334	P	P	07 54 06.9	-0.7
	comp=Z,1.8nm,0.5s,baz=68,slow=4.7,SNR=27						
	comp=Z,1.8nm,0.5s						
NVAR	Mina Array Bea	82.65	51	P	P	07 54 16.6	-0.7
	comp=Z,0.7nm,0.7s,baz=264,slow=6.3,SNR=7.4						
	comp=Z,0.7nm,0.7s						
GMN	Gold Mountain	83.87	52	P	P	07 54 22.3	-1.2
SUMG	Summit	83.97	0	P	P	07 54 23.3	-0.2
SUMG				IAmb	IAmb	07 54 40.7	
	comp=Z,8.2nm,1.5s						
BOZ	Bozeman (W)	83.98	43	P	P	07 54 22.9	-0.9
YHL	Hebgen Lake	84.61	43	P	P	07 54 26.9	-0.3
YHL				IAmb	IAmb	07 54 28.0	
	comp=Z,2.5nm,0.6s						
AKASG	Malin Array Be	85.32	324	P	P	07 54 29.8	-0.4
	comp=Z,0.3nm,0.4s,baz=59,slow=4.8,SNR=2.3						
	comp=Z,0.3nm,0.4s						
RLMT	Red Lodge	85.67	42	P	P	07 54 32.2	-0.2
RLMT				IAmb	IAmb	07 54 33.5	
	comp=Z,2.6nm,0.7s						
DUG	Dugway, Tooele	85.71	48	P	P	07 54 31.4	-1.2
DUG				IAmb	IAmb	07 54 32.4	
	comp=Z,1.6nm,0.6s						
HFS	Hagfors	86.51	337	P	P	07 54 34.2	-1.6
	comp=Z,0.9nm,0.6s,baz=48,slow=2.2,SNR=4.9						
	comp=Z,0.9nm,0.6s						
KNB	Kanab	87.17	51	P	P	07 54 38.7	-1.1
KNB				IAmb	IAmb	07 54 39.3	
	comp=Z,4.6nm,1.3s						
PLCA	Paso Flores	147.79	130	PKPbc	PKPdf	08 01 33.8	-0.6
	comp=Z,2.2nm,0.6s,baz=314,slow=9.3,SNR=3.9						
LPAZ	La Paz	150.66	81	PKPbc	PKPdf	08 01 43.3	+2.9
	comp=Z,0.5nm,0.5s,baz=11,slow=4.2,SNR=6.3						

*IDC **21** 07:58:13.3±0.4, 0°.92S×100°.88E, h0km, mb5.0/33, mbtmp5.0/35, ML4.4/2, MS4.7/25, Error ellipse: s-maj=16.5km s-min=10.1km az=62.0*
*MOS **21** 07:58:16.9±1.0, 0°.89S×100°.80E, h33km, mb5.4/45, MS4.8/5, Error ellipse: s-maj=10.5km s-min=4.4km az=113.8*
*NEIC **21** 07:58:16, 1°.17S×100°.47E, h18km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.34; $M_{\theta\theta}$-6.23; $M_{\phi\phi}$6.57; $M_{r\theta}$0.55; $M_{\theta\phi}$3.78; $M_{\phi r}$-2.25; Fault plane solution: $M_0$7.77000×10^{16} NP1: ϕ_s149.98000°, δ87.03000°, λ163.66000°. NP2: ϕ_s240.85000°, δ73.68000°, λ3.10000°. Principal axes: T 8.0909, Plg14.0000°, Azm104.0000°; N -0.6426, Plg73.0000°, Azm320.0000°; P -7.4482, Plg9.0000°, Azm197.0000°;*
*NEIC **21** 07:58:16±2.0, 0°.97S±0°.06×100°.77E±0°.07, h10km±1km, mb5.3/77, Mww5.2/24 Error ellipse: s-maj=12.9km s-min=9.4km az=229.0*
*NEIC **21** 07:58:16, 0°.97S×100°.77E, h18km*
*DJA **21** 07:58:17.2±0.3, 1°.S±2°×10°1E±°, h12km±2km, M5.3/79, mb5.3/79, mB5.8/35, MLv5.7/18, Mw(mB)5.3/35, MwMwp5.0/7, Mwp5.2/7*
*GCMT **21** 07:58:18.0±0.1, 1°.00S±0°.01×100°.72E±0°.01, h24km, MW5.3/135, Moment Tensor Solution. s84,c117; s135,c220; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.10±.02; $M_{\theta\theta}$-0.86±.02; $M_{\phi\phi}$0.96±.02; $M_{r\theta}$-0.22±.03; $M_{\theta\phi}$0.46±.02; $M_{\phi r}$-0.09±.03; Best double couple: $M_0$1.04700×10^{17} NP1:ϕ_s58.00000°, δ86.00000°, λ-13.00000°. NP2:ϕ_s149.00000°, δ77.00000°, λ-176.00000°. Principal axes: T 1.0860, Plg7.0000°, Azm104.0000°; N -0.0790, Plg76.0000°, Azm223.0000°; P -1.0070, Plg12.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **21** 07:58:18.3±0.0, 1°.14S×100°.71E, h43km, mb4.8/53, mB5.1/24, Ms5.2/47, Ms7 4.9/42*

ISC 21 07:58:17.9±0.6, 1°.05S±0°.04×100°.66E±0°.04, h28km±4km, n529, σ1°82/564, mb5.2/144, MS4.8/51, 33C-13D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	0.24	305	Pg	Pb	07 58 20.5	-3.9
PDSI				Sg	Sb	07 58 24.1	-4.7
BKNI	Bangkinang	1.42	16		Pn	07 58 40.7	-1.1
BKNI	Bangkinang	1.42	16	P	Pn	07 58 40.8	-1.1
SISI	Saibi	1.59	260	P	Pn	07 58 44.0	-0.2
PPSI	Pulau Pagai	1.82	201	P	Pn	07 58 48.3	+0.9
PBSI	Pulau Batu	2.58	293	P	Pn	07 58 57.3	-0.5
GSI	Gunungsitoli	3.87	307	P	Pn	07 59 17.6	+2.0
GSI	Gunungsitoli	3.87	307		Pn	07 59 16.2	+0.6
GSI	Gunungsitoli	3.87	307	P	Pn	07 59 16.1	+0.5
BTDF	Bukit Timah Da	3.93	52	P	Pn	07 59 16.2	-0.2
MNAI	Manna	4.01	145	P	Pn	07 59 19.6	+2.1
MNAI	Manna	4.01	145		Pn	07 59 18.8	+1.2
MNAI	Manna	4.01	145	P	Pn	07 59 18.8	+1.2
MYKOM	Kota Tinggi	4.26	49		Pn	07 59 20.0	-0.9
PMBI	Palembang	4.51	114	P	Pn	07 59 26.8	+2.4
PMBI	Palembang	4.51	114	Pn	Pn	07 59 20.7	-3.8
PMBI	Palembang	4.51	114	P	Pn	07 59 25.8	+1.4
LWLI	Liwa	5.20	139	P	Pn	07 59 35.9	+1.9
KCSI	Kotacane, Aceh	5.38	328	P	Pn	07 59 37.4	+1.0
SNSI	Sinabang, Aceh	5.53	308	P	Pn	07 59 39.5	+1.1
	568nm,0.8s,4.6nm						
KASI	Kota Agung	5.87	139	P	Pn	07 59 45.0	+1.9
	593nm,1.1s,6μm2.8nm						
BLSI	Bandar Lampung	6.27	133	P	Pn	07 59 51.4	+2.7
KULM	Kulim	6.30	360		Pn	07 59 47.9	-1.1
MLSI	Meulaboh, Aceh	6.78	321	P	Pn	07 59 56.5	+0.9
	535nm,1.1s,4μm1.6nm						
LHMI	Lhok Sumawe	7.26	329	P	Pn	08 00 02.3	+0.2
	474nm,1.5s						
SBJI	Serang	7.43	133	P	Pn	08 00 08.9	+4.4
	344nm,1.1s,3.4nm						
DBJI	Dramaga	8.17	132	P	Pn	08 00 17.8	+3.0
	270nm,1.4s,10μm4μm						
SKJI	Sukabumi	8.34	135	P	Pn	08 00 20.1	+3.0
	345nm,1.6s,6μm4μm						
CNJI	Cibinong	8.96	134	P	Pn	08 00 28.3	+2.8
	96nm,1.5s						
LEM	Lembang	9.01	130	P	Pn	08 00 28.6	+2.3
	263nm,1.5s,4μm4μm						
JCJI	Jatiwangi	9.32	126	P	Pn	08 00 35.4	+4.9
BBJI	Bungbulang	9.44	133	P	Pn	08 00 30.8	-1.4
SRIT	Nakonsritamara	9.64	354	P	Pn	08 00 35.3	+0.4
SRIT	Nakonsritamara	9.64	354		Pn	08 00 33.4	-1.5
SURA	Surathani	10.20	354	P	Pn	08 00 43.8	+1.2
CMJI	Cimerak	10.25	131	P	Pn	08 00 45.4	+2.2
	221nm,1.3s,3μm						
KPJI	Karang Pucung	10.34	127	P	Pn	08 00 46.7	+2.2
	111nm,1.3s						
STKI	Sintang	10.87	84	P	Pn	08 00 54.3	+2.5
SMRI	Semarang	11.43	122	P	Pn	08 01 03.5	+4.1
SMRI	Semarang	11.43	122	Pn	Pn	08 01 02.4	+3.0
SMRI	Semarang	11.43	122	P	Pn	08 01 03.2	+3.8
UWJI	Ujung Watu	11.57	118	P	Pn	08 01 04.2	+2.9
	190nm,0.8s,5μm						
UGM	Wanagama	11.96	125	P	Pn	08 01 09.6	+2.9
UGM	Wanagama	11.96	125		Pn	08 01 06.0	-0.7
UGM	W

comp=Z,2.0nm,0.3s,baz=207,slow=2.7,SNR=9.7
comp=Z,14nm,0.7s
KAPI Kappang 19.46 102 P Pn 08 02 44.3 +0.3
KAPI Kappang 19.46 102 P P 08 02 42.9 +0.2
KAPI IAmb IAmb 08 02 50.5
comp=Z,287nm,1.2s
KAPI Kappang 19.46 102 P P 08 02 40.7 -2.0
comp=Z,0.5nm,0.3s,baz=260,slow=9.7,SNR=17
KAPI LR LR 08 10 17.8
comp=Z,2μm,18.2s,baz=244,slow=38
comp=Z,71nm,1.0s
KAPI Kappang 19.46 102 P P 08 02 42.9 +0.2
KAPI P **P** **08 02 42.9 +0.2**
KAPI S **S** **08 06 20.7 -0.6**
KAPI S **S** **08 06 20.7 -0.6**
KAPI Kappang 19.46 102 P P 08 02 42.9 +0.2
KAPI pmax pmax
comp=Z,287nm,1.3s
CHTO Chiang Mai 19.81 355 P P 08 02 45.8 -0.6
CHTO Chiang Mai 19.81 355 P P 08 02 45.8 -0.6
CHTO pmax pmax
comp=Z,27nm,1.0s
BKSI Bulukumba 19.89 103 P Pn 08 02 48.7 -0.3
comp=Z,276nm,1.2s,comp=Z,4μm
TOLI2 Tolitoli 20.24 84 P P 08 02 51.3 +0.2
TOLI2 Tolitoli 20.24 84 P P 08 02 50.9 -0.2
TOLI2 IAmb IAmb 08 02 53.5
comp=Z,87nm,1.0s
MRSI Marisa 21.34 86 P P 08 03 03.5 +0.5
comp=Z,351nm,1.3s,comp=Z,3μm
PALK Pallekele 21.56 293 P P 08 03 07.1 +1.7
PALK IAmb IAmb 08 03 13.2
comp=Z,232nm,1.5s
PALK Pallekele 21.56 293 P P 08 03 06.4 +1.0
comp=Z,106nm,1.2s,baz=220,slow=11,SNR=7.9
PALK LR LR 08 10 54.1
comp=Z,2μm,19.3s,baz=206,slow=35
comp=Z,106nm,1.2s
PALK Pallekele 21.56 293 P P 08 03 08.0 +2.5
PALK P **P** **08 03 08.0 +2.5**
PALK S Sn 08 07 16.5 +4.2
PALK S Sn 08 07 16.5 +4.2
PALK Pallekele 21.56 293 P P 08 03 07.1 +1.7
PALK pmax pmax
comp=Z,232nm,1.5s
QIZ Qiongzhong 21.90 24 P P 08 03 09.9 +0.9
QIZ Qiongzhong 21.90 24 P P 08 03 07.6 -1.4
QIZ S **S** **08 07 10.1 +0.5**
QIZ pmax pmax
comp=Z,67nm,1.4s
QIZ pmax pmax
comp=Z,370nm,2.8s
QIZ LR LR
comp=Z,2μm,12.6s
QIZ LR LR
comp=Z,3μm,10.9s
LUWI Luwuk 22.11 90 P P 08 03 14.6 +3.3
LUWI Luwuk 22.11 90 P P 08 03 09.9 -1.4
LUWI IAmb IAmb 08 03 19.3
comp=Z,212nm,1.0s
LUWI Luwuk 22.11 90 P P 08 03 12.5 +1.2
comp=Z,204nm,1.2s,comp=Z,4μm
BBSI Bau Bau 22.31 102 P P 08 03 15.3 +1.8
comp=Z,144nm,1.1s,comp=Z,2μm
GTOI Gorontalo 22.41 86 P P 08 03 16.8 +2.2
comp=Z,65nm,0.8s
SLVN Son La 22.47 8 P P 08 03 15.2 +0.1
KMSI Cibinong 23.38 86 P P 08 03 25.8 +1.2
SOEI Soe 25.02 111 P P 08 03 40.5 +0.5
SOEI Soe 25.02 111 P P 08 03 42.9 +2.9
comp=Z,70nm,1.1s
SANI Sanana 25.34 93 P P 08 03 44.2 +1.5
comp=Z,46nm,1.2s
KMI Kunming 26.10 4 ⇑P P 08 03 50.0 +0.3
KMI pmax pmax
comp=Z,17nm,0.5s
KMI LR LR
comp=Z,2μm,16.4s
KMI LR LR
comp=Z,3μm,12.2s
KMI LR LR
comp=Z,4μm,12.5s
DAV Davao City (W) 26.14 72 LR LR 08 14 35.8
comp=Z,1μm,18.2s,baz=212,slow=38
NLAI Namlea 26.51 95 P P 08 03 55.7 +2.4
comp=Z,58nm,0.8s
TNTI Ternate 26.77 86 P P 08 03 58.7 +3.0
comp=Z,77nm,1.8s
TNTI Ternate 26.77 86 P P 08 03 55.6 -0.1
TNTI Ternate 26.77 86 P P 08 03 56.5 +0.8
comp=Z,62nm,1.5s
LBMI Labuha 26.84 89 P P 08 03 59.4 +3.0
MBWA Marble Bar 27.31 138 P P 08 03 59.0 -1.4
MBWA Marble Bar 27.31 138 P P 08 03 59.1 -1.4
MBWA Marble Bar 27.31 138 P P 08 03 59.6 -0.8
MBWA P **P** **08 03 59.6 -0.8**
PZH PanZhiHua 27.41 2 P P 08 04 03.5 +2.1
PZH SS **SnSn** **08 09 59.9 +8.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,5.1s
PZH LR LR
comp=Z,3μm,13.9s
PZH LR LR
comp=Z,3μm,15.4s
PZH LR LR
comp=Z,2μm,16.5s
PSA00 Pilbara Seismi 27.68 139 P P 08 04 02.1 -1.6
PSA00 Pilbara Seismi 27.68 139 P P 08 04 02.2 -1.5
PSA00 IAmb IAmb 08 04 06.5
comp=Z,34nm,0.9s
SHL Shillong 27.79 343 P P 08 04 03.8 -1.1
SHL IAmb IAmb 08 04 12.6
comp=Z,35nm,0.9s
SHL Shillong 27.79 343 P P 08 04 03.8 -1.1
SHL pmax pmax
comp=Z,35nm,0.9s
GULI GuiLin 27.82 19 P P 08 04 05.1 +0.1
GULI S **S** **08 08 52.5 +6.0**
GULI pmax pmax
comp=Z,10.0nm,1.4s
GULI LR LR
comp=Z,2μm,15.4s
GULI LR LR
comp=Z,3μm,14.9s
GULI LR LR
comp=Z,3μm,17.0s
GYA Guiyang 27.95 12 ⇓P P 08 04 08.9 +2.6
GYA S **S** **08 08 48.9 +0.1**
GYA pmax pmax
comp=Z,25nm,0.8s
GYA pmax pmax
comp=Z,250nm,5.3s
GYA LR LR
comp=Z,1μm,7.8s
GYA LR LR
comp=Z,4μm,11.3s
GYA LR LR
comp=Z,3μm,16.0s
HYB Hyderabad 28.48 311 eP P 08 04 11.8 +0.8
FITZ Fitzroy Crossi 29.82 126 P P 08 04 20.7 -2.1
FITZ Fitzroy Crossi 29.82 126 P P 08 04 19.6 -3.2
SWI Sorong 30.60 90 P P 08 04 31.3 +1.5
comp=Z,42nm,0.9s
MEEK Meekatharra 30.75 147 P P 08 04 30.9 -0.1
TPUB Ta-pu 31.04 38 P P 08 04 35.7 +2.1
MORW Morawa 31.49 154 P P 08 04 38.6 +1.1
MORW Morawa 31.49 154 P P 08 04 38.7 +1.2
MORW IAmb IAmb 08 04 41.3
comp=Z,34nm,1.1s
YULB Yu-li 31.52 38 P P 08 04 39.8 +2.0
YULB Yu-li 31.52 38 P P 08 04 37.8 0.0
YULB IAmb IAmb 08 04 47.2
comp=Z,42nm,1.1s
SSLB Suanglung 31.60 37 P P 08 04 40.6 +2.1
SSLB Suanglung 31.60 37 P P 08 04 37.8 -0.8
SSLB IAmb IAmb 08 04 47.1
comp=Z,79nm,1.4s
FAKI Fak Fak 31.62 94 P P 08 04 39.0 +0.1
FAKI Fak Fak 31.62 94 P P 08 04 38.0 -0.9
FAKI IAmb IAmb 08 04 48.2
comp=Z,54nm,1.0s
FAKI Fak Fak 31.62 94 P P 08 04 40.8 +1.9
comp=Z,63nm,1.1s

LSA Lhasa 31.90 344 P P 08 04 41.1 -0.5
LSA IAmb IAmb 08 04 44.4
comp=Z,15nm,0.7s
LSA Lhasa 31.90 344 P P 08 04 41.1 -0.5
LSA pmax pmax
comp=Z,15nm,0.7s
CD2 Chengdu 31.92 5 P P 08 04 41.3 0.0
CD2 S **S** **08 09 53.5 +2.7**
CD2 pmax pmax
comp=Z,100nm,5.1s
CD2 LR LR
comp=Z,3μm,11.4s
CD2 LR LR
comp=Z,3μm,13.9s
CD2 LR LR
comp=Z,3μm,11.0s
NACB Ninganchiao 32.28 38 P P 08 04 46.5 +2.1
NACB Ninganchiao 32.28 38 P P 08 04 44.5 +0.1
NACB IAmb IAmb 08 04 50.6
comp=Z,28nm,0.8s
KMPI Kaimana, Papua 33.12 95 P P 08 04 55.3 +3.4
WHN Wuhan 34.02 21 P P 08 05 03.3 +3.8
WHN LR LR
comp=Z,8μm,14.5s
WHN LR LR
comp=Z,4μm,11.7s
WHN LR LR
comp=Z,7μm,11.3s
MUN Mundaring 34.09 156 P P 08 05 00.9 +0.7
KLBR Kellerberrin 34.41 154 P P 08 05 05.6 +2.6
NWAO Narrogin (SRO) 35.34 155 P P 08 05 13.5 +2.6
NWAO Narrogin (SRO) 35.34 155 P P 08 05 10.6 -0.3
NWAO IAmb IAmb 08 05 17.7
comp=Z,43nm,0.8s
NWAO Narrogin (SRO) 35.34 155 LR LR 08 17 57.5
comp=Z,3μm,21.5s,baz=338,slow=34
NWAO Narrogin (SRO) 35.34 155 P P 08 05 10.6 -0.3
NWAO pmax pmax
comp=Z,43nm,0.9s
XAN Xi'an 35.76 12 P P 08 05 13.3 -1.3
XAN sP sP 08 05 30.0 +3.1
XAN PP **PP** **08 06 40.8 +4.6**
XAN S **S** **08 10 48.4 -1.7**
XAN sS sS 08 11 07.0 +2.7
XAN SS **SnSn** **08 13 07.5 -6.2**
XAN pmax pmax
comp=Z,45nm,0.8s
XAN pmax pmax
comp=Z,120nm,5.5s
XAN LR LR
comp=Z,3μm,14.9s
XAN LR LR
comp=Z,4μm,13.9s
XAN LR LR
comp=Z,3μm,17.0s
WRKA Warakurna 35.79 134 P P 08 05 13.0 -2.0
KMBL Kambalda 36.23 148 P P 08 05 17.7 -0.9
LZH Lanzhou 37.07 4 ⇑P P 08 05 30.1 +4.2
LZH pmax pmax
comp=Z,20nm,1.5s
LZH LR LR
comp=Z,2μm,13.1s
LZH LR LR
comp=Z,3μm,12.7s
LZH LR LR
comp=Z,2μm,13.4s
LYN LuoYang 37.11 16 P P 08 05 26.3 +0.3
LYN sP sP 08 05 43.4 +5.1
LYN PP **PnPn** **08 06 56.3 +4.9**
LYN S **S** **08 11 12.0 +1.4**
LYN pmax pmax
comp=Z,68nm,0.9s
LYN pmax pmax
comp=Z,230nm,4.9s
LYN LR LR
comp=Z,3μm,14.7s
LYN LR LR
comp=Z,5μm,14.1s
LYN LR LR
comp=Z,4μm,12.2s
NJ2 Nanjing 37.16 26 eP P 08 05 26.9 +0.4
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 LR LR
comp=Z,1μm,21.8s
NJ2 LR LR
comp=Z,3μm,17.7s
NJ2 LR LR
comp=Z,1μm,17.6s
SSE Sheshan 37.45 30 P P 08 05 27.8 -1.2
SSE S **S** **08 11 14.3 -1.6**
SSE pmax pmax
comp=Z,11nm,0.8s
SSE pmax pmax
comp=Z,290nm,4.2s
SSE LR LR
comp=Z,420nm,13.3s
SSE LR LR
comp=Z,810nm,13.6s
WB0 Warramunga Arr 37.89 122 P P 08 05 31.0 -2.0
WRA Warramunga Arr 37.92 122 P P 08 05 31.2 -2.0
WRA Warramunga Arr 37.92 122 P P 08 05 30.3 -2.9
comp=Z,9.1nm,0.8s,baz=298,slow=9.5,SNR=26
WRA PcP **PcP** **08 07 49.5 +0.5**
comp=Z,1.8nm,0.7s,baz=312,slow=2.3,SNR=2.9
WRA LR LR 08 24 31.5
comp=Z,636nm,19.5s,baz=286,slow=42
comp=Z,9.1nm,0.8s
WRA Warramunga Arr 37.92 122 P P 08 05 31.2 -2.0
WRA pmax pmax
comp=Z,3.0nm,2.0s
ASAR Alice Springs 39.29 127 P P 08 05 42.8 -1.9
ASAR Alice Springs 39.29 127 P P 08 05 42.1 -2.6
comp=Z,12nm,0.8s,baz=303,slow=7.2,SNR=38
ASAR PcP **PcP** **08 07 51.9 -1.4**
comp=Z,5.5nm,0.8s,baz=311,slow=2.5,SNR=8.1
ASAR S **S** **08 11 38.6 -5.5**
comp=Z,0.9nm,0.8s,baz=298,slow=16,SNR=4.1
ASAR LR LR 08 22 42.7
comp=Z,768nm,19.9s,baz=300,slow=38
comp=Z,12nm,0.8s
ASAR Alice Springs 39.29 127 P P 08 05 42.8 -1.9
AS31 Alice Springs 39.29 127 P P 08 05 42.3 -2.4
FORT Forrest 39.35 141 P P 08 05 43.7 -1.3
FORT Forrest 39.35 141 P P 08 05 43.8 -1.3
FORT IAmb IAmb 08 05 49.7
comp=Z,70nm,0.8s
TIA Tai'an 40.12 21 P P 08 05 51.6 +0.3
TIA S **S** **08 12 00.8 +4.7**
TIA pmax pmax
comp=Z,6.0nm,0.7s
TIA pmax pmax
comp=Z,170nm,3.5s
TIA LR LR
comp=Z,640nm,15.8s
TIA LR LR
comp=Z,2μm,12.9s
TIA LR LR
comp=Z,920nm,22.3s
GTA Gaotai 40.27 359 eP P 08 05 56.1 +3.4
GTA S S 08 12 07.4 +8.9
GTA SS **SS** **08 14 55.3 -2.4**
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,630nm,16.4s
GTA LR LR
comp=Z,1μm,17.1s
HNS HongShan 40.41 17 ⇓P P 08 05 53.6 -0.1
HNS pmax pmax
comp=Z,17nm,0.8s
HNS LR LR
comp=Z,800nm,12.7s
HNS LR LR
comp=Z,2μm,13.4s
HNS LR LR
comp=Z,1μm,17.1s
TABU Tabubil 40.71 97 P P 08 05 55.7 -0.9
BTO Baotou 42.33 11 eP P 08 06 10.3 +0.8
BTO pP **sP** **08 06 25.6 +3.7**
BTO sP pP 08 06 28.8 +10
BTO PP **PP** **08 07 51.9 +3.9**
BTO S **S** **08 12 29.3 +0.3**
BTO SS **SS** **08 15 37.8 -0.6**

BTO pmax pmax
comp=Z,7.0nm,0.6s
BTO pmax pmax
comp=Z,270nm,4.1s
BTO LR LR
comp=Z,2μm,14.9s
BTO LR LR
comp=Z,5μm,17.4s
BTO LR LR
comp=Z,3μm,18.2s
QIS Mount Isa 42.69 120 P P 08 06 09.6 -3.1
OOD Oodnadatta 42.80 132 P P 08 06 11.6 -1.8
HHC Hu-ho-hao-te 42.87 12 eP P 08 06 15.8 +1.9
HHC S **S** **08 12 39.9 +3.0**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,130nm,6.6s
HHC LR LR
comp=Z,1μm,13.1s
HHC LR LR
comp=Z,2μm,13.0s
HHC LR LR
comp=Z,1μm,14.7s
MULG Mulgathing 43.02 136 P P 08 06 13.2 -2.0
NIL Nilore 43.08 326 P P 08 06 15.6 -0.1
NIL IAmb IAmb 08 06 18.5
comp=Z,81nm,0.8s
NIL Nilore 43.08 326 P P 08 06 15.8 +0.1
NIL P **P** **08 06 15.8 +0.1**
NIL Nilore 43.08 326 P P 08 06 15.6 -0.1
NIL pmax pmax
comp=Z,81nm,0.8s
BJT Baijiatuau 43.26 17 P P 08 06 18.2 +1.2
BJT Baijiatuau 43.26 17 P P 08 06 16.8 -0.2
BJT Baijiatuau 43.26 17 P P 08 06 16.8 -0.2
BJT pmax pmax
comp=Z,16nm,0.9s
BJI Beijing 43.28 17 P P 08 06 17.8 +0.6
BJI ScS ScS 08 16 16.6 +1.1
BJI pmax pmax
comp=Z,9.0nm,0.9s
BJI pmax pmax
comp=Z,45nm,4.5s
BJI LR LR
comp=Z,870nm,15.6s
BJI LR LR
comp=Z,450nm,15.3s
BJI LR LR
comp=Z,880nm,17.1s
JNU Nakatsue 44.35 37 P P 08 06 25.4 -0.5
JNU Nakatsue 44.35 37 P P 08 06 25.4 -0.5
JNU IAmb IAmb 08 07 57.2
comp=Z,67nm,1.1s
KSAR Wonju Array Be 45.84 30 P P 08 06 37.0 -0.7
KSAR Wonju Array Be 45.84 30 P P 08 06 37.0 -0.7
KSRS Korea Array 45.87 31 P P 08 06 37.0 -0.9
comp=Z,11nm,0.7s,baz=224,slow=8.2,SNR=48
comp=Z,11nm,0.7s
KSRS Korea Array 45.87 31 P P 08 06 37.0 -0.9
KS19 Wonju Array Si 45.88 30 P P 08 06 38.3 +0.4
BBOO Buckleboo 45.88 137 P P 08 06 37.1 -1.0
BBOO Buckleboo 45.88 137 P P 08 06 37.0 -1.1
BBOO IAmb IAmb 08 06 43.7
comp=Z,29nm,0.9s
LCRK Leigh Creek 46.08 133 P P 08 06 38.2 -1.5
WMQ Urumqi 46.16 347 eP P 08 06 43.5 +3.4
WMQ pmax pmax
comp=Z,32nm,1.3s
WMQ LR LR
comp=Z,670nm,11.9s
WMQ LR LR
comp=Z,840nm,20.1s
WMQ LR LR
comp=Z,400nm,18.9s
KBL Kabul 46.16 323 P P 08 06 39.4 -1.1
KBL IAmb IAmb 08 06 46.8
comp=Z,19nm,0.8s
KBL Kabul 46.16 323 P P 08 06 43.0 +2.5
SNR=8.8
KBL P **P** **08 06 43.0 +2.5**
SNR=8.8
KBL S **S** **08 13 29.2 +4.0**
KBL S **S** **08 13 29.2 +4.0**
KBL Kabul 46.16 323 P P 08 06 39.4 -1.1
KBL pmax pmax
comp=Z,19nm,0.8s
KSH Kashi 46.28 333 P P 08 06 40.0 -1.2
KSH pmax pmax
comp=Z,50nm,0.9s
KSH LR LR
comp=Z,930nm,22.0s
KSH LR LR
comp=Z,490nm,21.3s
KSH LR LR
comp=Z,1μm,23.7s
INKA Innaminka 46.65 128 P P 08 06 41.6 -2.6
XLT XiLinHaoTe 46.83 15 eP P 08 06 50.6 +5.2
XLT pmax pmax
comp=Z,9.0nm,0.9s
WBK Wadi Bani Khal 46.92 303 P P 08 06 47.1 +0.6
WBK P **P** **08 06 47.1 +0.6**
PMG Port Moresby 46.99 102 LR LR 08 29 58.1
comp=Z,558nm,18.6s,baz=330,slow=41
WHYH Whyalla 47.05 136 P P 08 06 48.8 +1.6
TARG Taragay, Kyrgy 47.35 337 P P 08 06 49.7 -0.2
TARG IAmb IAmb 08 06 53.0
comp=Z,37nm,0.7s
TARG Taragay, Kyrgy 47.35 337 P P 08 06 49.7 -0.2
TARG pmax pmax
comp=Z,37nm,0.7s
WSAR Wadi Sarin 47.47 303 LR LR 08 25 09.5
comp=Z,613nm,21.1s,baz=126,slow=34
JMDO Jabal Madar 47.56 302 P P 08 06 52.1 +0.7
PRZ Przheval'sk 47.76 338 P P 08 06 53.0 +0.2
PRZ Przheval'sk 47.76 338 P P 08 06 53.0 +0.2
PRZ pmax pmax
comp=Z,53nm,1.0s
NRN Naryn 47.84 335 P P 08 06 53.2 -0.4
NRN Naryn 47.84 335 P P 08 06 53.2 -0.4
NRN pmax pmax
comp=Z,71nm,1.0s
SMDO Samad 47.88 303 P P 08 06 55.0 +1.0
SMDO P **P** **08 06 55.0 +1.0**
SHLS Shalkode 47.95 339 eP P 08 06 53.2 -1.1
comp=Z,15nm,0.9s,baz=339
SHLS Shalkode 47.95 339 eP P 08 06 53.1 -1.1
SHLS pmax pmax
comp=Z,15nm,0.9s
BIDO Bidbid 48.01 303 P P 08 06 56.4 +1.6
SNR=5.1
BIDO P **P** **08 06 56.4 +1.6**
SNR=5.1
BIDO S **S** **08 13 54.9 +3.4**
BIDO S **S** **08 13 54.9 +3.4**
UZB Uzynbulak 48.10 339 eP P 08 06 55.3 -0.1
baz=339
UZB Uzynbulak 48.10 339 eP P 08 06 55.3 -0.1
SHAO Shalim 48.18 295 P P 08 06 57.8 +1.5
HTT Hallett 48.20 136 P P 08 06 54.6 -1.7
DRK Karamyk 48.23 330 P P 08 06 56.8 +0.2
DRK Karamyk 48.23 330 P P 08 06 56.8 +0.2
DRK pmax pmax
comp=Z,125nm,0.7s
SATY Saty 48.25 338 eP P 08 06 56.7 +0.1
comp=Z,19nm,1.0s,baz=338
SATY Saty 48.25 338 eP P 08 06 56.6 +0.1
SATY pmax pmax
comp=Z,19nm,1.0s
ULHL Ulahol 48.41 336 P P 08 06 59.2 +1.3
SNR=15
CTA Charters Tower 48.41 116 P P 08 06 54.1 -3.9
CTA Charters Tower 48.41 116 LR LR 08 29 38.5
comp=Z,46nm,19.0s,baz=292,slow=39
KPKS Kokpek 48.50 339 eP P 08 06 58.3 -0.1
baz=338
KPKS Kokpek 48.50 339 eP P 08 06 58.3 -0.1
GAR Garm 48.63 328 P P 08 06 59.0 -0.5
DMTO DMTO 48.70 295 P P 08 07 00.6 +0.3
HOQ Hoqain 48.71 303 P P 08 07 02.5 +2.2
HOQ P **P** **08 07 02.5 +2.2**
BOOM Boomskoye usch 48.74 336 P P 08 07 00.5 +0.1
BOOM IAmb IAmb 08 07 02.6
comp=Z,29nm,0.9s
BOOM Boomskoye usch 48.74 336 P P 08 07 00.5 +0.1

BOOM pmax pmax
comp=Z,29nm,0.9s
TNSS Tian-Shan 48.79 337 *e*P **P 08 07 00.8 -0.3**
baz=337
TNSS Tian-Shan 48.79 337 *e*P **P 08 07 00.7 -0.3**
MDOK Medeo 48.86 337 *e*P **P 08 07 01.4 +0.1**
baz=337
MDOK Medeo 48.86 337 *e*P **P 08 07 01.3 +0.1**
SONM Songino Array 48.94 5 P **P 08 07 00.8 -1.0**
SONM Songino Array 48.94 5 P **P 08 07 01.0 -0.8**
comp=Z,15nm,0.7s,baz=189,slow=6.9,SNR=67
comp=Z,15nm,0.7s
SONM Songino Array 48.94 5 P **P 08 07 00.8 -1.0**
SONM pmax pmax
comp=Z,73nm,1.1s
QLP Quilpie 48.95 125 P **P 08 07 00.0 -2.0**
AAA Alma-Ata 48.95 337 *e*P **P 08 07 01.9 +0.1**
comp=Z,31nm,0.9s,baz=337
AAA Alma-Ata 48.95 337 *e*P **P 08 07 01.9 +0.1**
AAA pmax pmax
comp=Z,31nm,0.9s
CHGR Chuyangaron 48.99 327 P **P 08 07 00.8 -1.5**
CHGR Chuyangaron 48.99 327 P **P 08 07 00.8 -1.5**
CHGR pmax pmax
comp=Z,70nm,0.9s
ULN Ulaanbaatar 49.03 6 P **P 08 07 02.5 0.0**
ULN Ulaanbaatar 49.03 6 P **P 08 07 02.5 0.0**
ULN pmax pmax
comp=Z,52nm,1.1s
SIMJ Simiganj 49.08 327 P **P 08 07 02.0 -1.0**
SIMJ IAmb IAmb 08 07 06.5
comp=Z,40nm,0.9s
ARSB Arslanbob 49.09 332 P **P 08 07 02.9 -0.1**
ARSB Arslanbob 49.09 332 P **P 08 07 02.9 -0.1**
UCH Uchtor 49.12 334 P **P 08 07 05.6 +2.0**
SNR=63
BTK Batken 49.16 330 P **P 08 07 03.4 -0.1**
BTK IAmb IAmb 08 07 07.7
comp=Z,37nm,1.0s
BTK Batken 49.16 330 P **P 08 07 03.4 -0.1**
BTK pmax pmax
comp=Z,37nm,1.0s
TKM2 Tokmak 2 49.24 336 P **P 08 07 04.5 +0.3**
SNR=62
ARQ Araqi 49.28 302 P **P 08 07 04.6 0.0**
ARQ P **P 08 07 04.6 0.0**
KBK Karagaybulak 49.29 335 P **P 08 07 06.7 +2.1**
SNR=23
STKA Stephens Creek 49.30 133 P **P 08 07 03.3 -1.3**
STKA Stephens Creek 49.30 133 P **P 08 07 02.9 -1.7**
STKA Stephens Creek 49.30 133 P **P 08 07 02.9 -1.7**
comp=Z,16nm,0.7s,baz=313,slow=8.6,SNR=9.5
STKA LR LR 08 30 26.0
comp=Z,470nm,18.9s,baz=291,slow=39
comp=Z,16nm,0.7s
STKA Stephens Creek 49.30 133 P **P 08 07 02.9 -1.7**
STKA pmax pmax
comp=Z,4.0nm,0.8s
RBK Rabkut 49.32 294 P **P 08 07 05.5 +0.5**
AML Almayashu 49.41 334 P **P 08 07 07.5 +1.7**
SNR=13
ARXS Arharly 49.46 338 *e*P **P 08 07 05.9 +0.2**
AAK Ala-Archa 49.47 335 P **P 08 07 07.1 +1.2**
SNR=7.4
AAK Ala-Archa 49.47 335 P **P 08 07 06.7 +0.8**
AAK IAmb IAmb 08 07 10.0
comp=Z,27nm,0.9s
AAK Ala-Archa 49.47 335 P **P 08 07 07.0 +1.2**
comp=Z,19nm,0.8s,baz=168,slow=7.9,SNR=21
comp=Z,19nm,0.8s
AAK Ala-Archa 49.47 335 P **P 08 07 06.7 +0.8**
AAK pmax pmax
comp=Z,27nm,1.0s
CHKK Chushkaly 49.47 338 *e*P **P 08 07 05.6 -0.1**
baz=337
CHKK Chushkaly 49.47 338 *e*P **P 08 07 05.6 -0.1**
SOHO SOHO 49.59 303 P **P 08 07 08.0 +1.0**
INU Inuyama 49.63 40 P **P 08 07 04.2 -2.9**
CHMS Chumysh 49.65 335 P **P 08 07 08.3 +1.1**
SNR=16
DOK Doka 49.72 296 P **P 08 07 08.9 +0.9**
EKS2 Erkin-Say 49.80 334 P **P 08 07 08.9 +0.6**
SNR=87
WHFO Wadi Hawf 49.83 295 P **P 08 07 10.9 +1.9**
TDK Taldyqorghan 49.93 339 *e*P **P 08 07 09.4 +0.1**
comp=Z,14nm,0.6s,baz=339
TDK Taldyqorghan 49.93 339 *e*P **P 08 07 09.3 +0.1**
TDK pmax pmax
comp=Z,14nm,0.6s
USP Ospenovka 49.98 335 P **P 08 07 12.0 +2.3**
SNR=40
SGDS Sogindy 50.07 335 *e*P **P 08 07 10.7 +0.2**
baz=335
SGDS Sogindy 50.07 335 *e*P **P 08 07 10.6 +0.2**
ABTO Aybut 50.10 294 P **P 08 07 12.4 +1.4**
UOSS Minazif 50.19 304 P **P 08 07 11.8 +0.2**
UOSS Minazif 50.19 304 P **P 08 07 13.6 +2.0**
UOSS P **P 08 07 13.6 +2.0**
HATD Hatta, Dubai 50.20 304 P **P 08 07 13.4 +1.8**
SNR=5.2
ASHO Ashiyiah 50.20 304 P **P 08 07 12.8 +1.1**
ALNE Al Ain 50.21 303 P **P 08 07 12.7 +1.0**
SNR=9.9
ALNE P **P 08 07 12.7 +1.0**
SNR=9.9
ZSN Zaisan 50.24 346 *e*P **P 08 07 11.5 -0.1**
baz=346
ZSN Zaisan 50.24 346 *e*P **P 08 07 11.4 -0.1**
MDH Madha 50.26 305 P **P 08 07 13.9 +1.8**
MK31 Makanchi Array 50.30 344 P **P 08 07 10.8 -1.2**
MK31 Makanchi Array 50.30 344 P **P 08 07 10.8 -1.2**
MK31 pmax pmax
comp=Z,13nm,1.0s
MKAR Makanchi Array 50.30 344 P **P 08 07 11.3 -0.7**
MKAR Makanchi Array 50.30 344 P **P 08 07 11.8 -0.2**
comp=Z,12nm,0.7s,baz=149,slow=7.3,SNR=58
MKAR PKPPKP **P'P'df 08 38 06.6 +5.7**
comp=Z,0.9nm,1.0s,baz=242,slow=2.6,SNR=4.0
comp=Z,12nm,0.7s
HRA Herat 50.38 318 P **P 08 07 12.1 -1.0**
MASF Masafi 50.40 305 P **P 08 07 14.5 +1.3**
MAKZ Makanchi 50.41 343 P **P 08 07 12.4 -0.4**
MAKZ Makanchi 50.41 343 P **P 08 07 12.4 -0.4**
MAKZ pmax pmax
comp=Z,12nm,0.9s
FAQ Al Faqa, Dubai 50.62 304 P **P 08 07 17.0 +2.2**
SNR=6.1
ASUD Al Ashush, Dub 50.79 303 P **P 08 07 17.3 +1.3**
SNR=9.7
IUG Iuzhnay 51.12 331 *e*P **P 08 07 18.2 -0.2**
comp=Z,36nm,0.9s,baz=331
IUG Iuzhnay 51.12 331 *e*P **P 08 07 18.2 -0.2**
IUG pmax pmax
comp=Z,36nm,0.9s
BTLS Baital 51.62 336 *e*P **P 08 07 20.8 -1.1**
KK31 Karatay Array 51.62 332 P **P 08 07 21.0 -1.0**
KK31 IAmb IAmb 08 07 25.1
comp=Z,18nm,0.8s
KK31 Karatay Array 51.62 332 P **P 08 07 21.0 -1.0**
KK31 pmax pmax
comp=Z,18nm,0.8s
KKAR Karatay Array 51.62 332 P **P 08 07 21.3 -0.8**
KKAR Karatay Array 51.62 332 P **P 08 07 21.3 -0.8**
MZR Muzera 51.75 301 P **P 08 07 25.0 +1.7**
SNR=6.7
MZR P **P 08 07 25.0 +1.7**
SNR=6.7
BRLS Borolday 51.89 331 *e*P **P 08 07 23.2 -0.8**
baz=331
BRLS Borolday 51.89 331 *e*P **P 08 07 23.2 -0.8**
ARPS Mount Arapiles 52.04 138 P **P 08 07 27.7 +2.5**
CMSA Cobat Meteorol 52.21 130 P **P 08 07 28.4 +1.8**
USA0B Ussuriysk Arra 53.01 28 *i*P **P 08 07 32.2 -0.1**
USRK Ussuriysk Ar. 53.01 28 P **P 08 07 32.1 -0.2**
USRK Ussuriysk Ar. 53.01 28 P **P 08 07 31.5 -0.8**
comp=Z,15nm,0.8s,baz=236,slow=5.3,SNR=8.9
comp=Z,15nm,0.8s
USRK Ussuriysk Ar. 53.01 28 P **P 08 07 32.1 -0.2**
BRAT Ballarat 53.87 138 P **P 08 07 41.4 +2.7**
TRNA Turayna 54.30 302 P **P 08 07 43.2 +1.1**
SMRA Abu-Samra 54.63 302 P **P 08 07 44.6 +0.1**
AUDCS Dubbo College 54.76 130 P **P 08 07 46.7 +1.4**
KURBB Kurchatov Arra 54.84 343 P **P 08 07 44.1 -1.4**
comp=Z,13nm,1.0s,baz=161,slow=7.0,SNR=46
KURBB PcP **PcP 08 08 46.2 -1.3**
comp=Z,3.6nm,0.8s,baz=148,slow=3.4,SNR=4.8
comp=Z,13nm,1.0s
KURK Kurchatov 54.89 343 P **P 08 07 45.8 -0.1**
KURK Kurchatov 54.89 343 P **P 08 07 45.8 -0.1**
KURK pmax pmax
comp=Z,69nm,1.0s
TOO Toolangi 54.94 137 P **P 08 07 48.2 +1.6**
YNG Young 55.47 132 P **P 08 07 49.2 -1.2**
CAN Canberra 56.36 133 P **P 08 07 59.4 +2.5**
CAN Canberra 56.36 133 P **P 08 07 57.2 +0.4**
CAN IAmb IAmb 08 08 02.2
comp=Z,18nm,0.7s
CAN Canberra 56.36 133 P **P 08 07 57.3 +0.4**
CAN pmax pmax
comp=Z,18nm,0.7s
ZAA0 Zalesovo Array 56.37 349 P **P 08 07 55.5 -1.0**
ZAA0 IAmb IAmb 08 08 40.4
comp=Z,38nm,1.0s
ZALV Zalesovo Beam 56.37 349 P **P 08 07 55.5 -1.0**
ZALV Zalesovo Beam 56.37 349 P **P 08 07 54.8 -1.6**
comp=Z,13nm,0.8s,baz=172,slow=5.9,SNR=35
comp=Z,13nm,0.8s
ARMA Armidale 56.42 126 P **P 08 07 57.4 -0.1**
ARMA IAmb IAmb 08 08 20.6
comp=Z,20nm,1.2s
KLR Kul'dur 56.80 24 *i*P **P 08 07 58.8 -0.8**
KLR pmax pmax
comp=Z,10.0nm,0.8s
ATD Arta Tunnel 58.78 284 LR LR 08 30 28.6
comp=Z,10nm,20.1s,baz=84,slow=33
RAYN Ar Rayn 58.86 298 P **P 08 08 14.0 -0.7**
RAYN IAmb IAmb 08 08 20.2
comp=Z,16nm,1.0s
RAYN Ar Rayn 58.86 298 P **P 08 08 14.9 +0.2**
RAYN Ar Rayn 58.86 298 P **P 08 08 14.0 -0.7**
RAYN pmax pmax
comp=Z,16nm,1.0s
ZEA Zeya 58.90 18 *i*P **P 08 08 13.5 -0.8**
BVAR Borovoye Array 59.53 339 P **P 08 08 17.1 -1.6**
comp=Z,18nm,0.6s,baz=140,slow=9.0,SNR=68
comp=Z,18nm,0.6s
HNR Honiara 59.55 100 LR LR 08 35 11.8
comp=Z,5μm,21.9s,baz=326,slow=37
BRVK Borovoye 59.59 339 P **P 08 08 18.5 -0.6**
BRVK P **P 08 08 18.5 -0.6**
BRVK Borovoye 59.59 339 *i*P **P 08 08 17.2 -1.9**
BRVK pmax pmax
comp=Z,11nm,0.6s
YSS Yuzh-Sakhalins 60.33 32 *e*P **P 08 08 25.0 +0.7**
YSS *e*S **S 08 16 35.9 -1.2**
YSS pmax pmax
comp=Z,19nm,0.9s
YSS MLR MLR
comp=Z,400nm,14.0s
ABKAR Akbulak array 61.13 331 P **P 08 08 28.2 -1.4**
FURI Furi 62.53 281 LR LR 08 33 49.8
comp=Z,208nm,18.8s,baz=97,slow=34
TYV Tymovskoe 62.82 28 *e*P P 08 08 45.8 +4.8
TYV pmax pmax
comp=Z,200nm,2.4s
TYV pmax pmax
comp=Z,22nm,1.1s
AKTO Aktyubinsk 62.85 331 P **P 08 08 39.7 -1.5**
comp=Z,41nm,1.1s,baz=136,slow=4.2,SNR=23
AKTO PcP **PcP 08 09 19.9 +0.6**
comp=Z,12nm,0.8s,baz=80,slow=3.0,SNR=3.9
comp=Z,41nm,1.1s
MAK Makhachkala 64.67 319 *c i*P **P 08 08 49.1 -4.2**
MAK *e* 08 11 19.4
MAK *e*S **S 08 17 27.0 -4.8**
MAK *e*SS **SS 08 21 45.1 +2.0**
MAK pmax pmax
comp=Z,165nm,1.3s
GNI Garni 65.31 316 *i*P **P 08 08 58.2 +0.5**
GNI pmax pmax
comp=Z,25nm,1.2s
GNI Garni 65.31 316 P **P 08 08 58.3 +0.5**
comp=Z,25nm,0.9s
LODK Lodwar 65.42 274 P **P 08 09 00.5 +1.6**
LODK IAmb IAmb 08 09 05.3
comp=Z,14nm,1.1s
SVE Sverdlovsk 66.06 337 *e*P **P 08 09 02.1 0.0**
SVE pmax pmax
comp=Z,105nm,1.2s
TRLG Trialeti 66.32 317 P **P 08 09 04.3 0.0**
ARU Arti 66.61 336 P **P 08 09 04.3 -1.3**
comp=Z,21nm,0.8s,baz=144,slow=2.9,SNR=27
comp=Z,21nm,0.8s
ARU Arti 66.61 336 *c i*P **P 08 09 04.1 -1.5**
ARU 08 11 30.9
ARU S **S 08 17 56.7 +1.7**
ARU SS **SS 08 22 07.5 -5.2**
ARU pmax pmax
comp=Z,35nm,1.1s
ARU Arti 66.61 336 P **P 08 09 04.3 -1.3**
comp=Z,105nm,1.2s,comp=Z,1μm
GURO Guroymak-BITLI 66.62 313 P **P 08 09 06.3 +0.1**
GURO IAmb IAmb 08 09 12.3
comp=Z,34nm,1.0s
YAK Yakutsk 66.66 14 *i*P **P 08 09 05.0 -0.8**
YAK pmax pmax
comp=Z,30nm,0.7s
DZM Mont Dzumac 67.22 113 *e*LR LR 08 29 24.1
comp=Z,1μm,23.4s
DZM Mont Dzumac 67.22 113 LR LR 08 42 59.6
comp=Z,1μm,18.4s,baz=334,slow=40
BATM Batumi 68.00 316 P **P 08 09 19.0 +4.2**
KBZ Khabaz 68.03 319 P **P 08 09 14.6 -0.2**
comp=Z,22nm,0.7s,baz=115,slow=6.9,SNR=33
comp=Z,22nm,0.7s
KBZ Khabaz 68.03 319 *i*P **P 08 09 14.4 -0.4**
KBZ pmax pmax
comp=Z,36nm,1.0s
PYA1 Pyatigorsk 68.04 319 *i*P **P 08 09 14.5 -0.5**
SHA1 Shidzhatmaz 68.19 319 *i*P **P 08 09 15.5 -0.7**
KIV Kislovodsk 68.26 319 P **P 08 09 15.6 -0.8**
KIV Kislovodsk 68.26 319 *e*P **P 08 09 15.8 -0.7**
KIV *e*S **S 08 18 16.9 +1.3**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV Kislovodsk 68.26 319 P **P 08 09 15.4 -1.1**
comp=Z,23nm,0.7s,comp=Z,352nm
BELG Belogornoye 69.26 328 P **P 08 09 21.4 -0.9**
comp=Z,70nm,0.8s,baz=43,slow=1.2,SNR=11
comp=Z,70nm,0.8s
GAZ Gaziantep 69.75 310 P **P 08 09 25.9 0.0**
VSLR Vesyoloye 69.84 317 *i*P **P 08 09 25.7 -0.5**
VSLR pmax pmax
comp=Z,52nm,1.0s
MBAR Mbarara 69.91 270 P **P 08 09 29.7 +2.3**
MMAI Mount Meron Ar 70.02 306 P **P 08 09 27.8 +0.2**
comp=Z,19nm,0.9s,baz=99,slow=5.2,SNR=6.4
MMAI PP **PP 08 11 58.0 -4.8**
comp=Z,8.1nm,0.9s,baz=104,slow=11,SNR=3.6
comp=Z,19nm,0.9s
SOC Sochi 70.10 318 *e*P **P 08 09 25.5 -2.2**
SOC *e* 08 11 57.9
SOC *e*PPP PPP 08 13 41.2
SOC *e*S **S 08 18 37.1 0.0**
SOC MLR MLR
comp=Z,451nm,21.0s
MAW Mawson 71.36 194 P **P 08 09 36.8 +1.9**
comp=Z,15nm,1.0s,baz=28,slow=8.9,SNR=16
MAW LR LR 08 35 19.8
comp=Z,224nm,19.1s,baz=31,slow=31
comp=Z,15nm,1.0s
MA2 Magadan 71.90 24 LR LR 08 43 33.9
comp=Z,427nm,18.3s,baz=234,slow=38
VRH Novokhopyorsk 71.92 325 *e*P **P 08 09 37.7 -0.9**
VRH pmax pmax
comp=Z,190nm,0.8s
LSZ Lusaka 72.82 254 P **P 08 09 46.1 +1.3**
LSZ Lusaka 72.82 254 P **P 08 09 46.1 +1.3**
LSZ pmax pmax
comp=Z,12nm,1.0s
BR104 Keskin Array S 73.17 312 P **P 08 09 45.5 -1.0**
comp=Z,20nm,0.7s,comp=Z,156nm
BRTR Keskin Array B 73.17 312 P **P 08 09 45.3 -1.2**
comp=Z,14nm,0.7s,baz=131,slow=7.2,SNR=32
BRTR PKKPbc **PKKPbc 08 29 27.3 +0.9**
comp=Z,0.6nm,0.4s,baz=182,slow=8.4,SNR=4.4
comp=Z,14nm,0.7s
BR105 Keskin Array S 73.19 312 P **P 08 09 45.6 -1.0**
comp=Z,21nm,0.8s,comp=Z,172nm
BR106 Keskin Array S 73.19 312 P **P 08 09 45.6 -1.0**
comp=Z,21nm,0.8s,comp=Z,165nm
VORD Divnogorie 73.21 325 *e*P **P 08 09 44.5 -1.8**
VORD pmax pmax
comp=Z,70nm,0.6s
VSR Storozhevoye 73.38 325 *e*P **P 08 09 45.1 -2.2**
VSR pmax pmax
comp=Z,130nm,0.6s
VORR Voronezh 73.54 325 *e*P **P 08 09 47.8 -0.4**
VORR pmax pmax
comp=Z,145nm,1.0s
ANTO Ankara 73.84 312 P **P 08 09 49.4 -1.0**
comp=Z,18nm,1.3s,comp=Z,242nm
LPSR Galich'ya Gora 74.07 326 *e*P **P 08 09 49.0 -2.3**
LPSR pmax pmax
comp=Z,120nm,0.9s
SIM Simferopol' 74.35 317 *e*P **P 08 09 53.3 +0.2**
SIM pmax pmax
comp=Z,58nm,0.8s
TIXI Tiksi 74.82 9 LR LR 08 46 28.7
comp=Z,1μm,19.0s,baz=198,slow=39
TIXI Tiksi 74.82 9 P **P 08 09 52.9 -2.4**
RPZ Rata Peaks 75.18 135 P **P 08 09 57.4 -0.6**
comp=Z,16nm,0.8s,baz=243,slow=4.5,SNR=2.1
RPZ LR LR 08 43 10.8
comp=Z,1μm,20.0s,baz=286,slow=36
comp=Z,16nm,0.8s
LBTB Lobatse 76.03 245 LR LR 08 41 08.9
comp=Z,199nm,18.1s,baz=87,slow=34
MOS Moscow 76.03 329 *e*P **P 08 10 00.7 -1.8**
MOS *e* 08 12 47.2
MOS *e*S **S 08 19 37.6 -6.3**
MOS pmax pmax
comp=Z,145nm,1.4s
MOS pmax pmax
comp=Z,200nm,1.6s
MOS MLR MLR
comp=Z,700nm,20.0s
YLV Yalova 76.55 312 P **P 08 10 05.0 -0.9**
comp=Z,34nm,0.7s,comp=Z,486nm
BOSA Boshof 76.69 241 P **P 08 10 08.1 +1.1**
comp=Z,15nm,0.8s,baz=80,slow=4.9,SNR=18
BOSA PKKP **PKKPdf 08 29 03.3 -2.2**
comp=Z,1.2nm,0.7s,baz=34,slow=5.6,SNR=3.1
comp=Z,15nm,0.8s
CTYL Yalikoy Yolu 77.55 313 P **P 08 10 09.8 -1.6**
comp=Z,25nm,0.7s,comp=Z,4μm
PSN Preselentsi 78.14 315 P **P 08 10 15.7 +1.0**
MILM Milestii Mici 78.45 318 *e*P **P 08 10 16.0 -0.3**
comp=Z,50nm,0.7s
MILM Milestii Mici 78.45 318 *e*PcP **PcP 08 10 28.0 +2.6**
MILM Milestii Mici 78.45 318 *e*P **P 08 10 16.0 -0.3**
MILM *e* 08 10 28.0
MILM pmax pmax
comp=Z,100nm,2.0s
CFR Carcaliu 78.49 316 ⇑P **P 08 10 20.8 +4.2**
CFR Carcaliu 78.49 316 ⇑P **P 08 10 20.8 +4.2**
URZ Urewera 78.72 129 LR LR 08 48 45.4
comp=Z,905nm,18.7s,baz=29,slow=39
IDI Anoyia 79.01 306 P **P 08 10 20.5 +0.7**
SORM Soroca 79.05 319 ⇑P **P 08 10 18.9 -0.6**
SORM Soroca 79.05 319 ⇑P **P 08 10 18.9 -0.6**
SORM Soroca 79.05 319 P **P 08 10 18.0 -1.6**
comp=Z,92nm,1.1s,comp=Z,13μm
AK09 Malin Array Si 79.08 322 P **P 08 10 18.1 -1.6**
AK10 Malin Array Si 79.10 322 P **P 08 10 18.2 -1.6**
AK01 Malin Array Si 79.15 322 P **P 08 10 17.7 -2.3**
AK23 Malin Array Si 79.22 322 P **P 08 10 17.3 -3.1**
AK21 Malin Array Si 79.27 322 P **P 08 10 17.3 -3.4**
BISRR Bisoca 79.55 317 P **P 08 10 21.4 -1.1**
ELND Elena 79.61 314 ⇑P **P 08 10 23.1 +0.3**
VRI Vrincioaia 79.61 317 ⇑P **P 08 10 23.1 +0.4**
VRI Vrincioaia 79.61 317 ⇑P **P 08 10 23.1 +0.4**
VRI Vrincioaia 79.61 317 P **P 08 10 23.5 +0.8**
comp=Z,50nm,1.3s,comp=Z,475nm
PLOR5 Plostina Array 79.65 317 P **P 08 10 22.7 -0.3**
comp=Z,68nm,1.3s,comp=Z,709nm
PLOR Plostina 79.66 317 ⇑P **P 08 10 24.1 +1.1**
PLOR Plostina 79.66 317 ⇑P **P 08 10 24.1 +1.1**
PLOR3 Plostina Array 79.66 317 P **P 08 10 22.8 -0.3**
comp=Z,50nm,1.5s,comp=Z,7μm
KDZ Kurdzhali 79.75 313 P **P 08 10 22.4 -1.2**
TESR Tescani 79.80 318 P **P 08 10 22.2 -1.6**
comp=Z,93nm,0.7s,comp=Z,1000nm
LUBAR Lubar, Ukraine 79.86 321 P **P 08 10 21.8 -2.1**
MI29 MI29, Kamyanyy 79.92 322 P **P 08 10 19.8 -4.5**
COVR Voineasa-Covas 79.96 317 ⇑P **P 08 10 24.3 -0.4**
MLR Muntele Rosu 80.07 316 ⇑P **P 08 10 25.4 +0.1**
MLR Muntele Rosu 80.07 316 P **P 08 10 26.1 +0.7**
MLR Muntele Rosu 80.07 316 P **P 08 10 26.1 +0.7**
MLR pmax pmax
comp=Z,122nm,1.4s
MLR Muntele Rosu 80.07 316 P **P 08 10 25.0 -0.4**
comp=Z,64nm,1.5s,comp=Z,796nm
RZN Rozhen 80.21 313 P **P 08 10 25.2 -1.1**
PRAR RASCA 80.27 318 ⇑P **P 08 10 26.4 +0.2**
OZUR 80.30 317 ⇑P P 08 10 32.0 +5.5
KMPD K-Podol'skiy 80.37 320 P **P 08 10 26.0 -0.7**
DOPR Dopca 80.55 317 ⇑P **P 08 10 28.1 +0.3**
VOIR 80.67 316 P **P 08 10 27.7 -0.9**
comp=Z,17nm,0.6s,comp=Z,551nm
MNK Minsk 80.92 326 *i*P **P 08 10 30.5 +1.0**
MNK *i*S **SKSac 08 20 39.0 -7.3**
MNK pmax pmax
comp=Z,85nm,0.9s
MNK pmax pmax
comp=E,16nm,0.8s
MNK MLR MLR
comp=N,463nm,18.0s
MNK MLR MLR
comp=Z,472nm,16.0s
MNK MLR MLR
comp=E,148nm,18.0s
ARR Arges 80.95 316 ⇓P **P 08 10 29.5 -0.6**
BURAR Bucovina Array 80.99 318 ⇑P **P 08 10 30.8 +0.6**
BURAR Bucovina Array 80.99 318 P **P 08 10 30.3 +0.1**
BURAR IAmb IAmb 08 10 34.6
comp=Z,38nm,0.8s
BURAR Bucovina Array 80.99 318 P **P 08 10 30.6 +0.4**
MPEP Malo Peshtene 81.22 314 P **P 08 10 30.9 -0.6**
KKB Krupnik 81.42 312 P **P 08 10 30.4 -2.1**
ARCR ARCALIA 81.46 318 ⇑P **P 08 10 32.2 -0.4**
VTS Vitosha 81.47 313 P **P 08 10 32.3 -0.6**
PEHC Pehcevo 81.58 312 *i*P **P 08 10 31.8 -1.7**
CJR Cluj-Napoca 81.90 317 ⇑P **P 08 10 36.5 +1.4**
CJR Cluj-Napoca 81.90 317 ⇑P **P 08 10 36.5 +1.4**
RAO Raoul Island 82.00 119 LR LR 08 50 10.3
comp=Z,409nm,18.5s,baz=118,slow=38
LVZ Lovozero 82.12 340 P **P 08 10 34.9 -0.8**
MARR Marisel-Cluj 82.22 317 ⇓P **P 08 10 37.6 +0.8**
GZR Gura Zlata 82.24 316 ⇓P **P 08 10 37.2 +0.3**
GZR Gura Zlata 82.24 316 ⇓P **P 08 10 37.2 +0.3**
HERR Herculane 82.41 315 ⇓P **P 08 10 37.1 -0.5**
APA Apatity 82.44 339 ⇓*i*P **P 08 10 34.2 -3.1**
APA *i* 08 10 42.0
APA pmax pmax
comp=Z,13nm,0.9s
DRGR 82.52 317 ⇓P **P 08 10 39.0 +0.7**
DRGR 82.52 317 ⇓P **P 08 10 39.0 +0.7**
SKO Skopje 82.69 312 *i*P **P 08 10 37.7 -1.5**
BOVS Bovan 82.73 314 ⇓P **P 08 10 38.0 -1.4**
SURR Surduc 82.75 316 ⇑P **P 08 10 39.6 +0.2**
MDVR Moldovita 82.89 315 ⇑P **P 08 10 39.6 -0.6**
VNDA Vanda 82.96 169 P **P 08 10 40.2 +0.3**
comp=Z,3.2nm,0.8s,baz=303,slow=4.3,SNR=10.0
VNDA LR LR 08 46 59.0
comp=Z,268nm,18.4s,baz=331,slow=35
comp=Z,3.2nm,0.8s
OHR Ohrid 83.05 311 *i*P **P 08 10 40.4 -0.8**
BZS Buzias 83.08 316 ⇑P **P 08 10 41.8 +0.6**
BZS Buzias 83.08 316 ⇑P **P 08 10 41.8 +0.6**
SIRR Siria 83.15 317 ⇑P **P 08 10 41.5 -0.1**
KOLS Kolonicke sedl 83.16 319 *e*P **P 08 10 45.2 +3.7**
KOLS Kolonicke sedl 83.16 319 *e*P **P 08 10 45.2 +3.7**
FINES FINESS Array B 83.58 332 P **P 08 10 43.2 -0.1**
comp=Z,21nm,0.8s,baz=102,slow=8.0,SNR=7.3
comp=Z,21nm,0.8s
SBA Scott Base 84.05 169 P **P 08 10 46.7 +1.2**
SBA Scott Base 84.05 169 P **P 08 10 46.7 +1.2**
SBA pmax pmax
comp=Z,9.0nm,0.9s
PDG Podgorica 84.35 313 ⇑P **P 08 10 47.8 +0.1**
ELIB Princess Elisa 85.08 198 *d*P **P 08 10 53.2 +2.3**
comp=Z,12nm,1.0s
SRO Srobarova 85.62 318 *e*P **P 08 10 57.3 +3.3**
SRO Srobarova 85.62 318 *e*P **P 08 10 57.3 +3.3**

ARCES ARCESS Array B 85.81 340 P **P 08 10 54.2 -0.3**
comp=Z,17nm,0.8s,baz=100,slow=5.0,SNR=14
ARCES LR LR 08 51 45.2
comp=Z,618nm,21.9s,baz=96,slow=38
comp=Z,17nm,0.8s
TIP Timpagrande 85.92 309 ⇓P **P 08 10 56.8 +1.1**
TIP Timpagrande 85.92 309 P **P 08 10 56.0 +0.2**
comp=Z,30nm,1.3s,comp=Z,475nm
CEL Celeste 86.53 308 P **P 08 10 58.2 -0.5**
comp=Z,34nm,1.9s,comp=Z,465nm
NVL N'lazarevskaya 88.63 199 *e*P **P 08 11 10.8 +2.8**
NVL pmax pmax
comp=Z,15nm,0.9s
BRG Berggiesshubel 88.73 321 *i* P **P 08 11 11.1 +2.2**
BRG Amp 08 11 12.5
comp=Z,20nm,0.8s
BRG Berggiesshubel 88.73 321 *i* P **P 08 11 11.1 +2.2**
BRG pmax pmax
comp=Z,20nm,0.8s
BRG MLR MLR
comp=Z,403nm,20.7s
BRG MLR MLR
comp=N,352nm,20.1s
BRG MLR MLR
comp=E,177nm,17.6s
GERES GERESS Array B 88.77 319 P **P 08 11 10.5 +1.1**
comp=E,4.7nm,0.7s,baz=41,slow=4.3,SNR=6.7
comp=E,4.7nm,0.7s
QSPA South Pole Qui 88.91 180 P **P 08 11 10.6 +1.0**
comp=E,8.4nm,0.9s,baz=294,slow=2.8,SNR=26
QSPA LR LR 08 48 21.7
comp=E,298nm,18.6s,baz=2.5,slow=34
comp=E,8.4nm,0.9s
CLL Collm 89.34 321 *e*P **P 08 11 11.0 -0.8**
comp=Z,34nm,1.2s
CLL Collm 89.34 321 *e*P **P 08 11 11.0 -0.8**
CLL pmax pmax
comp=Z,34nm,1.2s
HFS Hagfors 89.38 330 P **P 08 11 12.2 +0.4**
comp=Z,15nm,0.9s,baz=106,slow=4.8,SNR=3.9
comp=Z,15nm,0.9s
SPITS Spitsbergen Ar 89.84 348 P **P 08 11 12.9 -0.7**
comp=Z,20nm,0.9s,baz=129,slow=12,SNR=4.6
SPITS LR LR 08 56 59.9
comp=Z,601nm,20.8s,baz=77,slow=39
comp=Z,20nm,0.9s
NB2 NORSAR Subarra 90.64 331 P **P 08 11 17.8 +0.1**
comp=Z,1.3nm,0.8s,baz=96,slow=5.3
NOA NORSAR Array B 90.64 331 P **P 08 11 18.0 +0.3**
comp=Z,4.6nm,1.1s,baz=93,slow=4.6,SNR=3.7
NOA LR LR 08 55 58.7
comp=Z,273nm,21.5s,baz=0.0,slow=38
comp=Z,4.6nm,1.1s
TROLL Troll, Antarti 91.53 198 ⇑P **P 08 11 24.7 +2.9**
comp=Z,214nm,1.1s
KEST Kesra 91.67 306 P **P 08 11 23.9 +0.8**
comp=Z,12nm,0.7s,baz=307,slow=3.1,SNR=11
comp=Z,12nm,0.7s
SNAA Sanae 93.24 198 ⇑P **P 08 11 30.0 +0.4**
comp=Z,53nm,1.1s
SNAA Sanae 93.24 198 P **P 08 11 30.8 +1.2**
comp=Z,2.2nm,1.1s,baz=55,slow=5.0,SNR=5.0
comp=Z,2.2nm,1.1s
VNA2 Neumayer--Watz 94.86 198 ⇑P **P 08 11 33.9 -3.0**
comp=Z,1.5nm,0.7s,baz=285,slow=2.1
J16K Anvik River 94.87 27 P **P 08 11 36.7 -0.4**
J16K IAmb IAmb 08 11 37.9
comp=Z,21nm,1.2s
VNA1 Neumayer--Stat 95.22 198 ⇑P **P 08 11 39.9 +1.3**
comp=Z,3.8nm,1.0s
VNA3 Neumayer Olymp 95.46 198 ⇑P **P 08 11 43.3 +3.6**
comp=Z,1.6nm,0.8s
H19K Roundabout Mou 96.28 24 P **P 08 11 42.9 -0.6**
H19K IAmb IAmb 08 11 48.4
comp=Z,12nm,1.1s
JMIC Jan Mayen 97.17 342 LR LR 09 02 57.7
comp=Z,113nm,18.0s,baz=67,slow=40
DAG Danmarks Havn 97.50 348 P **P 08 11 47.9 -0.9**
EKA Eskdalemuir Ar 98.71 326 P Pdif 08 11 56.1 +1.4
comp=Z,1.6nm,0.7s,baz=87,slow=5.3,SNR=3.6
comp=Z,1.6nm,0.7s
TORD Torodi Ar. Bea 98.97 283 P Pdif 08 11 57.1 +0.3
comp=Z,1.8nm,1.1s,baz=79,slow=8.8,SNR=5.7
TORD PKKPbc **PKKPbc 08 28 17.3 -5.8**
comp=Z,0.9nm,0.6s,baz=118,slow=4.4,SNR=4.8
comp=Z,1.8nm,1.1s
ILAR Eielson Array 100.38 24 P **Pdif 08 12 00.3 -1.7**
comp=Z,0.2nm,0.6s,baz=298,slow=4.2,SNR=1.5
ILAR PKKPbc **PKKPbc 08 28 19.9 -0.8**
comp=Z,0.9nm,0.8s,baz=145,slow=2.0,SNR=11
TBI Tubuai 107.78 115 *e*LR LR 08 48 07.8
comp=Z,1μm,28.2s
TBI *e*LR LR 08 48 19.1
comp=Z,2μm,24.0s
PPT2 Papeete2 108.48 109 *e*LR LR 08 48 23.0
comp=Z,385nm,23.8s
PPT2 *e*LR LR 08 48 24.2
comp=Z,455nm,23.2s
YKA Yellowknife Ar 113.28 17 PKiKP **PKiKP 08 16 51.0 -1.7**
comp=Z,0.6nm,0.8s,baz=319,slow=1.9,SNR=4.8
YKA PKKPbc **PKKPbc 08 27 38.4 -2.1**
comp=Z,0.4nm,0.8s,baz=149,slow=2.5,SNR=4.1
NEW Newport 122.79 29 PKP **PKPdf 08 17 11.3 -0.2**
comp=Z,1.8nm,0.6s,baz=331,slow=1.0,SNR=5.3
SCHQ Schefferville 125.42 351 PKP **PKPdf 08 17 15.3 -1.0**
comp=Z,5.1nm,0.6s,baz=342,slow=4.2,SNR=11
NVAR Mina Array Bea 128.45 39 PKP **PKPdf 08 17 23.0 +0.2**
comp=Z,1.6nm,0.6s,baz=321,slow=1.3,SNR=5.8
ULM Lac du Bonnet 129.00 14 PKP **PKPdf 08 17 22.1 -1.1**
comp=Z,4.9nm,0.6s,baz=48,slow=4.2,SNR=9.2
PDAR Pinedale Array 130.43 29 PKP **PKPdf 08 17 26.1 -0.4**
comp=Z,0.9nm,0.5s,baz=214,slow=1.2,SNR=12
PDAR SKPbc **SKPab 08 20 47.5 -0.6**
comp=Z,0.8nm,0.9s,baz=48,slow=2.2,SNR=4.1
PLCA Paso Flores 137.65 190 PKhKP PKPpre 08 17 35.4
comp=Z,2.3nm,0.9s,baz=258,slow=1.6,SNR=3.3
SDBA SAO DESIDERIO 143.29 248 *e*P **PKPdf 08 17 49.5 -1.3**
TXAR Lajitas Array 143.55 37 PKhKP PKPpre 08 17 48.5
comp=Z,1.6nm,0.5s,baz=276,slow=0.7,SNR=14
TXAR SKP 08 21 26.1
comp=Z,0.4nm,0.7s,baz=54,slow=1.6,SNR=3.3
IPMB Ipameri, GO 144.00 237 *e*P PKPbc 08 17 50.8 +1.0
PCMB Pacaembu 144.51 229 *e*P **PKPdf 08 17 52.4 -0.3**
BDFB Brasilia 144.88 241 PKPbc **PKPdf 08 17 54.2 +0.6**
comp=Z,42nm,0.9s,baz=117,slow=2.3,SNR=30
BDFB Brasilia 144.88 241 *e*P **PKPdf 08 17 53.8 +0.2**
CPUP Villa Florida 145.47 216 PKPbc **PKPab 08 17 55.1 +0.7**
comp=Z,33nm,0.8s,baz=130,slow=2.2,SNR=33
SJPY San Joaquin 145.69 219 *e*P **PKPbc 08 17 55.0 0.0**
AMBA Amambai (Brazi 146.38 223 *e*P **PKPbc 08 17 56.8 -0.4**
SMTB Santa Maria do 146.87 252 *e*P **PKPdf 08 17 56.1 -0.8**
RPRD Ribas do Rio P 147.01 228 *e*P **PKPbc 08 17 58.3 -0.7**
PAPY Pozo Azul 147.68 218 *e*P **PKPdf 08 17 58.6 +0.6**
DVLD Doverlandia 147.94 236 *e*P **PKPdf 08 17 59.6 +1.0**
ARAG Araguaiana, MT 148.11 237 *e*P **PKPdf 08 17 60.0 +1.1**
PRPB Paraúapebas 149.66 256 *e*P **PKPdf 08 18 02.3 +0.8**
FDPY Filadelfia 150.07 218 *e*P **PKPdf 08 18 03.5 +1.6**
POCN Pocone 151.61 231 *e*P **PKPdf 08 18 05.3 +0.9**
BBLB La Banda, Boli 151.87 225 *e*P **PKPdf 08 18 04.9 +0.2**
NBRS Nobres 152.11 236 *e*P **PKPdf 08 18 04.9 -0.4**
BBSD Serra de San D 154.13 225 *e*P **PKPdf 08 18 07.9 -0.2**
LPAZ La Paz 159.52 212 PKPab **PKPab 08 18 55.2 +1.6**
comp=Z,3.2nm,0.9s,baz=180,slow=5.1,SNR=2.8
TBTG Tabatinga, AM 169.24 241 *e*P **PKPdf 08 18 23.2 -0.6**
OTAV Otavalo 178.80 228 *e*P **PKPdf 08 18 27.4 -0.2**

NEIC ***21*** *07:58:39.9±2.2, 54°.43N±0°.03×160°.81W±0°.04, h10km±1km, mb5.4/91, ML5.3/26, Mww5.3/45, ML5.2(AEIC), Error ellipse: s-maj=5.3km s-min=3.4km az=351.0*
MOS ***21*** *07:58:39.0±0.9, 54°.58N×161°.01W, h21km, mb5.7/89, MS4.8/25, Error ellipse: s-maj=7.7km s-min=4.3km az=97.1*
BJI ***21*** *07:58:39.4±0.0, 54°.85N×161°.48W, h10km, mb5.5/82, mB5.5/44, Ms5.4/62, Ms7 5.2/58*
AEIC ***21*** *07:58:40.6±2.0, 54°.44N±0°.04×160°.78W±0°.04, h0km±4km, Error ellipse: s-maj=5.5km s-min=3.5km az=177.0*
NEIC ***21*** *07:58:41.9, 54°.47N×160°.85W, h36km, Moment Tensor Solution. Duration: 2≅4 Moment tensor: Scale 10^17^Nm; Mrr0.88; Mθθ-0.79; Mφφ-0.09; Mrθ0.62; Mθφ-0.35; Mφr0.29; Fault plane solution: M0 1.14000×10^17^ NP1:φs65.70000°, δ63.50000°, λ88.37000°. NP2:φs249.35000°, δ26.54000°, λ93.27000°. Principal axes: T 1.1136, Plg71.0000°, Azm332.0000°; N 0.0494, Plg1.0000°, Azm66.0000°; P -1.1630, Plg18.0000°, Azm157.0000°;*
NEIC ***21*** *07:58:41.9, 54°.47N×160°.85W, h36km*
GCMT ***21*** *07:58:43.9±0.1, 54°.39N±0°.01×160°.69W±0°.02, h34km, MW5.4/134, Moment Tensor Solution. s111,c182; s134,c245; Duration: 1≅2 Moment tensor: Scale 10^17^ Nm; Mrr0.90±.02; Mθθ-0.83±.02; Mφφ-0.06±.02; Mrθ0.92±.03; Mθφ-0.38±.01; Mφr0.39±.02; Best double couple: M0 1.37400×10^17^ NP1:φs67.00000°, δ68.00000°, λ90.00000°. NP2:φs248.00000°, δ22.00000°, λ91.00000°. Principal axes: T 1.3300, Plg67.0000°, Azm336.0000°; N 0.0880, Plg0.0000°, Azm67.0000°; P -1.4180, Plg23.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***21*** *07:58:43.3±1.5, 54°.55N×161°.01W, h40km±11km, mb5.0/38, mbtmp5.2/43, ML4.5/6, MS4.8/72 Error ellipse: s-maj=12.4km s-min=8.9km az=178.0*
BGR ***21*** *07:58:50.4, 55°.67N×161°.59W, h33km, mb5.5, Ms4.7, Hypocentre not reviewed by the ISC*

ISC 21 07:58:39.9±0.5, 54°.54N±0°.03×160°.82W±0°.02, h19km±1km, h19km:pP-P, n1234, σ1.59/1258, mb5.5/318, MS4.8/122, 94C-19D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.77**	**68**		**Pn**	**07 58 55.6**	**-0.1**
CNBA				Sg	**Sn**	**07 59 07.5**	**+0.8**
CHNA	**Chernabura Isl**	**0.77**	**67**	P	**Pn**	**07 58 55.7**	**0.0**
	baz=242,SNR=900						
CHNA				S	**Sn**	**07 59 08.3**	**+1.5**
	baz=242						
SDPT	**Sand Point**	**0.84**	**14**		**Pn**	**07 58 57.7**	**+1.1**
SDPT	**Sand Point**	**0.84**	**14**		**Sn**	**07 59 09.9**	**+1.5**
SDPT				IAML		07 59 12.4	
	comp=N,80μm,0.9s						
SDPT				IAML		07 59 15.8	
	comp=E,68μm,1.0s						
SDPT	**Sand Point**	**0.84**	**14**	P	**Pn**	**07 58 57.8**	**+1.2**
	baz=191,SNR=702						
SDPT				S	**Sn**	**07 59 10.4**	**+2.0**
	baz=191						
HAG	**Hague Volcano**	**1.00**	**322**		**Pg**	**07 59 00.5**	**+1.2**
HAG	**Hague Volcano**	**1.00**	**322**	P	**Pg**	**07 59 00.7**	**+1.4**
PS4A	**Pavlof South-4**	**1.00**	**324**		**Pg**	**07 59 00.5**	**+1.1**
PVV	**Pavlof Volcano**	**1.01**	**327**		**Pg**	**07 59 00.5**	**+1.0**
PVV					**Sg**	**07 59 15.4**	**+2.7**
PS1A	**Pavlof South-1**	**1.03**	**329**		**Pg**	**07 59 00.9**	**+1.0**
PS1A					**Sg**	**07 59 16.7**	**+3.2**
PN7A	**Pavlof North-7**	**1.12**	**323**		**Pg**	**07 59 02.5**	**+0.8**
S12K	**Black Hills**	**1.37**	**329**		**Pg**	**07 59 06.4**	**+0.2**
S12K				Sn	**Sg**	**07 59 24.8**	**+0.7**
S12K				IAML		07 59 27.2	
	comp=N,51μm,0.5s						
S12K				IAML		07 59 29.6	
	comp=E,60μm,0.3s						
S12K	**Black Hills**	**1.37**	**329**	P	**Pg**	**07 59 06.5**	**+0.2**
	baz=149,SNR=1000						
FALS	**False Pass**	**1.54**	**283**	P	**Pb**	**07 59 08.4**	**+0.7**
FALS	**False Pass**	**1.54**	**283**		**Pb**	**07 59 07.8**	**+0.1**
FALS					**Sg**	**07 59 30.3**	**+0.7**
FALS	**False Pass**	**1.54**	**283**	P	**Pb**	**07 59 07.8**	**+0.1**
	baz=104,SNR=1000						
ISLZ	**Isanotski Laza**	**1.69**	**278**		**Pb**	**07 59 10.1**	**-0.2**
ISLZ					**Sg**	**07 59 33.8**	**-0.6**
ISNN	**Isanotski Nort**	**1.74**	**281**		**Pb**	**07 59 11.6**	**+0.4**
VNWF	**Veniaminof 8**	**1.77**	**23**		**Pb**	**07 59 12.4**	**+0.6**
SSLS	**Shishaldin Sou**	**1.85**	**277**		**Pb**	**07 59 13.0**	**-0.2**
VNSS	**Veniaminof 8**	**1.86**	**24**		**Pb**	**07 59 14.2**	**+0.8**
S14K	**Fog Glacier**	**1.90**	**22**	P	**Pb**	**07 59 14.1**	**+0.3**
	baz=201,SNR=494						
VNFG	**Fog Glacier, M**	**1.90**	**22**		**Pb**	**07 59 14.4**	**+0.6**
SSLW	**Shishaldin Wes**	**1.93**	**278**		**Pb**	**07 59 13.9**	**-0.5**
VNHG	**Veniaminof 1**	**1.93**	**29**		**Pb**	**07 59 14.7**	**+0.2**
WESE	**West Dahl East**	**2.19**	**270**		**Pn**	**07 59 17.2**	**+1.9**
CHGN	**Chignik**	**2.24**	**37**		**Pb**	**07 59 18.3**	**-1.3**
CHGN				IAML		07 59 53.8	
	comp=E,22μm,1.0s						
CHGN				IAML		07 59 58.2	
	comp=N,13μm,0.9s						
CHGN	**Chignik**	**2.24**	**37**	P	**Pb**	**07 59 18.3**	**-1.3**
	baz=217,SNR=598						
CHGN				S	**Sb**	**07 59 45.9**	**-1.0**
	baz=217						
WEBT	**Westdahl Beart**	**2.29**	**273**		**Pn**	**07 59 18.6**	**+2.0**
WECS	**Westdahl Cape**	**2.30**	**271**		**Pn**	**07 59 18.8**	**+2.0**
ANPB	**Aniakchak Plen**	**2.69**	**31**		**Pb**	**07 59 25.1**	**-2.3**
AZAC	**Aniakchak**	**2.78**	**31**		**Pb**	**07 59 26.6**	**-2.3**
AHB	**Akutan Harbor**	**2.95**	**264**		**Pn**	**07 59 27.5**	**+1.8**
AKBBA	**Akutan Broad B**	**3.02**	**264**		**Pn**	**07 59 28.2**	**+1.5**
AKLV	**Akutan Long Va**	**3.03**	**265**		**Pn**	**07 59 28.2**	**+1.4**
AKGG	**Akutan Green G**	**3.04**	**266**		**Pn**	**07 59 28.7**	**+1.7**
ZRO	**Akutan Zero**	**3.05**	**264**		**Pn**	**07 59 28.6**	**+1.5**
LVA	**Lava Point**	**3.07**	**265**	Pn	**Pn**	**07 59 29.0**	**+1.7**
LVA				IAML		08 00 31.2	
	comp=E,8μm,1.2s						
AKRB	**Akutan Reef Bi**	**3.10**	**265**		**Pn**	**07 59 29.4**	**+1.7**
UNV	**Unalaska Valle**	**3.41**	**261**	P	**Pn**	**07 59 33.5**	**+1.6**
UNV	**Unalaska Valle**	**3.41**	**261**		**Pn**	**07 59 32.6**	**+0.7**
UNV	**Unalaska Valle**	**3.41**	**261**	P	**Pn**	**07 59 32.8**	**+0.9**
	baz=78,SNR=187						
UNV				S	**Sn**	**08 00 11.0**	**-0.8**
	baz=78						
MTBL	**Makushin Table**	**3.48**	**263**		**Pn**	**07 59 34.3**	**+1.3**
MSW	**Makushin Switc**	**3.55**	**262**		**Pn**	**07 59 34.9**	**+0.9**
MGOD	**Makushin Gods**	**3.63**	**261**		**Pn**	**07 59 36.3**	**+1.2**
MAPS	**Pakushin South**	**3.67**	**261**		**Pn**	**07 59 36.6**	**+1.1**
R17L	**Mt. Peulik Vol**	**3.98**	**37**	P	**Pn**	**07 59 42.9**	**+3.1**
	baz=220,SNR=182						
PLK4	**Peulik 4**	**3.98**	**37**		**Pn**	**07 59 43.0**	**+3.1**
PLK4	**Peulik 4**	**3.98**	**37**	IAML		08 00 46.2	
	comp=N,6μm,0.9s						
PLK1	**Peulik 1**	**4.03**	**34**		**Pn**	**07 59 43.4**	**+2.9**
PLK3	**Peulik 3**	**4.06**	**37**		**Pn**	**07 59 43.4**	**+2.5**
PLK2	**Peulik 2**	**4.10**	**36**		**Pn**	**07 59 45.0**	**+3.6**
SII	**Sitkinak Islan**	**4.28**	**59**	P	**Pn**	**07 59 45.4**	**+1.5**
SII	**Sitkinak Islan**	**4.28**	**59**		**Pn**	**07 59 45.3**	**+1.4**
SII	**Sitkinak Islan**	**4.28**	**59**	P	**Pn**	**07 59 45.3**	**+1.4**
	baz=243						
OKFG	**Magazine Ridge**	**4.33**	**258**		**Pn**	**07 59 46.3**	**+1.6**
OKNC	**Okmok New Cone**	**4.44**	**259**		**Pn**	**07 59 47.5**	**+1.3**
OKCE	**Okmok Cone E**	**4.47**	**259**		**Pn**	**07 59 48.3**	**+1.7**
OKWE	**Okmok W'ng Wal**	**4.50**	**259**		**Pn**	**07 59 48.3**	**+1.3**
Q17K	**Contact Creek**	**4.63**	**34**	P	**Pn**	**07 59 51.3**	**+2.4**
	baz=218,SNR=87						
CNTC	**Contact Creek**	**4.63**	**34**		**Pn**	**07 59 51.5**	**+2.6**
O15K	**Ungalikthiuk R**	**4.68**	**6**		**Pn**	**07 59 52.0**	**+2.5**
O15K	**Ungalikthiuk R**	**4.68**	**6**	P	**Pn**	**07 59 52.2**	**+2.7**
	baz=187,SNR=107						
R18K	**Karluk**	**4.69**	**47**		**Pn**	**07 59 51.4**	**+1.9**
R18K	**Karluk**	**4.69**	**47**	IAML		08 01 00.6	
	comp=N,3μm,1.4s						
R18K				IAML		08 01 04.2	
	comp=E,3μm,1.5s						
R18K	**Karluk**	**4.69**	**47**	P	**Pn**	**07 59 51.5**	**+2.0**
	baz=231						
ANCK	**Angle Creek**	**4.71**	**37**		**Pn**	**07 59 52.6**	**+2.7**
O14K	**Tigyukauivet M**	**4.73**	**357**	Pn	**Pn**	**07 59 52.8**	**+2.7**
O14K				IAML		08 01 21.1	
	comp=N,2μm,2.2s						
O14K				IAML		08 01 41.4	
	comp=E,2μm,1.5s						
O14K	**Tigyukauivet M**	**4.73**	**357**	P	**Pn**	**07 59 53.1**	**+3.0**
	baz=177,SNR=111						
Q16K	**King Salmon**	**4.75**	**27**	P	**Pn**	**07 59 53.0**	**+2.8**
	baz=210						
P16K	**Nushagak River**	**4.77**	**18**		**Pn**	**07 59 53.5**	**+2.9**
P16K	**Nushagak River**	**4.77**	**18**	P	**Pn**	**07 59 53.5**	**+2.9**
	baz=200,SNR=32						
ACHA	**Angle Creek He**	**4.78**	**37**		**Pn**	**07 59 53.5**	**+2.6**
KABU	**Katmai Buttres**	**4.84**	**37**		**Pn**	**07 59 54.6**	**+2.9**
KCE	**Katmai Mt Cerb**	**4.86**	**38**		**Pn**	**07 59 54.0**	**+2.1**
KVTA	**Katmai Vly 10**	**4.92**	**36**		**Pn**	**07 59 53.5**	**+0.7**
NIKH	**Nikolski High**	**5.02**	**255**	P	**Pn**	**07 59 55.3**	**+1.3**
	comp=E,639nm,1.0s						
NIKH	**Nikolski High**	**5.02**	**255**		**Pn**	**07 59 54.9**	**+0.9**
NIKH	**Nikolski High**	**5.02**	**255**	P	**Pn**	**07 59 54.9**	**+0.9**
	baz=70,SNR=16						
OHAK	**Old Harbor**	**5.02**	**55**	P	**Pn**	**07 59 54.8**	**+0.7**
OHAK	**Old Harbor**	**5.02**	**55**	Pn	**Pn**	**07 59 55.3**	**+1.2**
OHAK				IAML		08 01 20.7	
	comp=E,2μm,1.7s						
OHAK				IAML		08 01 22.2	
	comp=N,2μm,1.7s						
OHAK	**Old Harbor**	**5.02**	**55**	P	**Pn**	**07 59 55.1**	**+1.0**
	baz=240,SNR=32						
KAHC	**Katmai Hardscr**	**5.22**	**36**		**Pn**	**07 59 59.5**	**+2.5**
KAHC	**Katmai Hardscr**	**5.22**	**36**		**Pn**	**07 59 57.8**	**+0.8**
Q18K	**Katmai Hardscr**	**5.22**	**36**	P	**Pn**	**07 59 59.3**	**+2.4**
	baz=220,SNR=139						
P17K	**Kvichak River**	**5.25**	**25**		**Pn**	**08 00 00.6**	**+3.4**
P17K	**Kvichak River**	**5.25**	**25**	P	**Pn**	**08 00 00.4**	**+3.2**
	baz=208						
KAHG	**Katmai Hook Gl**	**5.27**	**39**		**Pn**	**08 00 00.0**	**+2.4**
O16K	**Kokwok River B**	**5.28**	**15**		**Pn**	**08 00 00.4**	**+2.7**
O16K	**Kokwok River B**	**5.28**	**15**	P	**Pn**	**08 00 00.1**	**+2.5**
	baz=197,SNR=107						
P08K	**Saint George I**	**5.37**	**296**		**Pn**	**08 00 00.2**	**+1.4**
P08K	**Saint George I**	**5.37**	**296**	P	**Pn**	**08 00 00.4**	**+1.6**
	baz=110,SNR=13						
N14K	**Kuskokwak Cree**	**5.42**	**355**		**Pn**	**08 00 02.2**	**+2.7**
N14K	**Kuskokwak Cree**	**5.42**	**355**	P	**Pn**	**08 00 02.4**	**+2.9**
	baz=174,SNR=244						
CLCO	**Concord Point,**	**5.58**	**255**		**Pn**	**08 00 02.9**	**+1.2**
O17K	**Koliganek Bris**	**5.63**	**20**		**Pn**	**08 00 05.4**	**+3.1**
O17K	**Koliganek Bris**	**5.63**	**20**	P	**Pn**	**08 00 05.1**	**+2.8**
	baz=202						
KDAK	**Kodiak Island**	**5.64**	**51**	P	**Pn**	**08 00 03.2**	**+0.7**
	baz=237						
KDAK	**Kodiak Island**	**5.64**	**51**	Pn	**Pn**	**08 00 03.2**	**+0.7**
	comp=N,24nm,0.3s,baz=207,slow=5.0,SNR=322						
KDAK				Sn	**Sn**	**08 01 04.7**	**-1.9**
	comp=N,44nm,0.3s,baz=46,slow=20,SNR=8.7						
KDAK				Lg	Lg	08 01 31.5	
	comp=N,36nm,0.3s,baz=27,slow=21,SNR=9.1						
	comp=N,62nm,0.4s						
CLES	**Cleveland East**	**5.66**	**256**	Pn	**Pn**	**08 00 02.9**	**+0.1**
N15K	**Kwethluk River**	**5.66**	**4**		**Pn**	**08 00 05.8**	**+3.0**
N15K	**Kwethluk River**	**5.66**	**4**	P	**Pn**	**08 00 05.9**	**+3.0**
	baz=184,SNR=210						
P18K	**Big Mountain,**	**5.75**	**30**		**Pn**	**08 00 07.1**	**+3.0**
P18K	**Big Mountain,**	**5.75**	**30**	P	**Pn**	**08 00 07.2**	**+3.0**
	baz=214,SNR=115						
Q19K	**Cape Douglas,**	**5.91**	**39**		**Pn**	**08 00 08.4**	**+2.0**
Q19K	**Cape Douglas,**	**5.91**	**39**	P	**Pn**	**08 00 08.8**	**+2.5**
	baz=224,SNR=89						
SPIA	**Saint Paul Isl**	**5.93**	**300**	P	**Pn**	**08 00 09.4**	**+2.9**
SPIA	**Saint Paul Isl**	**5.93**	**300**		**Pn**	**08 00 09.5**	**+3.0**
SPIA	**Saint Paul Isl**	**5.93**	**300**	P	**Pn**	**08 00 09.0**	**+2.5**
	baz=113,SNR=13						
M13K	**Dall Lake**	**6.05**	**348**		**Pn**	**08 00 11.6**	**+3.5**
M13K	**Dall Lake**	**6.05**	**348**	P	**Pn**	**08 00 11.6**	**+3.5**
	baz=166,SNR=277						
N16K	**Nishlik Lake**	**6.05**	**10**		**Pn**	**08 00 11.8**	**+3.5**
N16K	**Nishlik Lake**	**6.05**	**10**	P	**Pn**	**08 00 11.5**	**+3.2**
	baz=191,SNR=309						
O18K	**Koktuh Hills**	**6.14**	**28**	Pn	**Pn**	**08 00 12.0**	**+2.5**
O18K	**Koktuh Hills**	**6.14**	**28**	P	**Pn**	**08 00 12.7**	**+3.3**
	baz=212,SNR=132						
M15K	**Kasigluk River**	**6.17**	**1**		**Pn**	**08 00 12.1**	**+2.2**
M15K	**Kasigluk River**	**6.17**	**1**	P	**Pn**	**08 00 12.3**	**+2.4**
	baz=180,SNR=97						
Q20K	**Shuyak Island**	**6.19**	**45**	P	**Pn**	**08 00 11.8**	**+1.7**
	baz=232,SNR=45						
SYI	**Shuyak Island**	**6.19**	**45**	Pn	**Pn**	**08 00 11.3**	**+1.1**
M14K	**Bethel**	**6.26**	**355**	Pn	**Pn**	**08 00 13.1**	**+2.0**
M14K	**Bethel**	**6.26**	**355**	P	**Pn**	**08 00 13.7**	**+2.6**
	baz=174,SNR=304						
AUL	**Augustine Lava**	**6.32**	**37**		**Pn**	**08 00 14.9**	**+3.1**
N17K	**Nushagak Hills**	**6.32**	**17**	Pn	**Pn**	**08 00 14.0**	**+2.1**
N17K	**Nushagak Hills**	**6.32**	**17**	P	**Pn**	**08 00 14.7**	**+2.8**
	baz=199,SNR=114						
AU22	**Augustine Moun**	**6.33**	**37**		**Pn**	**08 00 14.8**	**+2.7**
M11K	**Mekoryuk**	**6.54**	**336**		**Pn**	**08 00 17.8**	**+2.9**
M11K	**Mekoryuk**	**6.54**	**336**	P	**Pn**	**08 00 17.6**	**+2.7**
	baz=152,SNR=35						
M16K	**Timber Creek**	**6.58**	**8**	P	**Pn**	**08 00 18.1**	**+2.7**
	baz=189,SNR=163						
P19K	**Oil Pt**	**6.58**	**36**	P	**Pn**	**08 00 17.1**	**+1.5**
	baz=222,SNR=68						
O19K	**Port Alsworth**	**6.67**	**29**		**Pn**	**08 00 19.7**	**+3.0**
O19K	**Port Alsworth**	**6.67**	**29**	P	**Pn**	**08 00 19.3**	**+2.6**
	baz=214						
N18K	**Kilae Creek**	**6.70**	**21**	P	**Pn**	**08 00 19.6**	**+2.4**
	baz=205,SNR=102						
L14K	**Kuka Creek**	**6.89**	**353**	P	**Pn**	**08 00 22.5**	**+2.7**
	baz=171,SNR=276						
IVE	**Iliamna Volcan**	**6.93**	**34**		**Pn**	**08 00 23.7**	**+3.3**
O20K	**Slope Mountain**	**7.11**	**35**		**Pn**	**08 00 25.8**	**+3.0**
O20K	**Slope Mountain**	**7.11**	**35**	P	**Pn**	**08 00 24.9**	**+2.2**
	baz=222,SNR=38						
M17K	**Holitna River**	**7.11**	**13**		**Pn**	**08 00 25.2**	**+2.4**
M17K	**Holitna River**	**7.11**	**13**	P	**Pn**	**08 00 25.6**	**+2.8**
	baz=196,SNR=154						
SVW2	**Sparrevohn**	**7.15**	**21**	P	**Pn**	**08 00 27.3**	**+4.1**
SVW2	**Sparrevohn**	**7.15**	**21**		**Pn**	**08 00 26.9**	**+3.6**
N19K	**Bonanza Creek**	**7.15**	**26**	Pn	**Pn**	**08 00 26.4**	**+3.1**
N19K	**Bonanza Creek**	**7.15**	**26**	P	**Pn**	**08 00 26.3**	**+2.9**
	baz=211,SNR=182						
HOM	**Homer**	**7.16**	**41**		**Pn**	**08 00 25.5**	**+2.0**
HOM	**Homer**	**7.16**	**41**	P	**Pn**	**08 00 25.1**	**+1.7**
	baz=228,SNR=40						
L15K	**Ungalak Mounta**	**7.17**	**357**		**Pn**	**08 00 25.7**	**+2.2**
L15K	**Ungalak Mounta**	**7.17**	**357**	P	**Pn**	**08 00 25.7**	**+2.2**
	baz=177,SNR=117						
L16K	**Owhat River**	**7.23**	**5**	P	**Pn**	**08 00 26.7**	**+2.4**
	baz=186,SNR=139						
CNPM	**China Poot**	**7.23**	**42**		**Pn**	**08 00 26.2**	**+1.8**
**

baz=207,SNR=274
SUA Susitna One 8.76 33 Pn 08 00 46.8 +1.4
SUA Susitna One 8.76 33 P Pn 08 00 46.9 +1.5
baz=222,SNR=90
J16K Anvik River 8.77 1 P Pn 08 00 47.9 +2.4
baz=181,SNR=119
TTA Tatalina 8.78 15 Pn 08 00 48.6 +2.9
TTA Tatalina 8.78 15 P Pn 08 00 48.2 +2.5
baz=198,SNR=25
TTA Tatalina 8.78 15 P Pn 08 00 48.6 +2.9
RC01 Rabbit Creek A 8.83 37 P Pn 08 00 48.9 +2.6
baz=226,SNR=40
SKT Skwentna 8.92 29 P Pn 08 00 50.5 +3.0
baz=217,SNR=139
J17K VABM Dome 8.93 5 Pn Pn 08 00 49.6 +1.9
J17K VABM Dome 8.93 5 P Pn 08 00 49.2 +1.5
baz=186,SNR=48
P23K Montague Islan 9.09 48 Pn 08 00 51.2 +1.3
P23K Montague Islan 9.09 48 P Pn 08 00 50.6 +0.8
baz=238,SNR=30
M22K Willow 9.17 34 P Pn 08 00 52.5 +1.6
baz=222,SNR=58
J18K Innoko River 9.20 12 P Pn 08 00 53.9 +2.5
baz=195,SNR=102
PWL Port Wells 9.20 41 P Pn 08 00 52.5 +1.2
baz=232,SNR=133
Q23K Middleton Isla 9.29 52 Pn 08 00 53.8 +1.3
Q23K Middleton Isla 9.29 52 P Pn 08 00 54.3 +1.8
baz=244
MID Middleton Isla 9.29 52 P Pn 08 00 54.5 +1.9
MID Middleton Isla 9.29 52 Pn 08 00 53.8 +1.2
MID Middleton Isla 9.29 52 P Pn 08 00 53.8 +1.2
I17K Unalakleet 9.38 0 P Pn 08 00 56.1 +2.3
baz=180,SNR=36
PMR Palmer 9.39 36 P Pn 08 00 55.6 +1.7
PMR Palmer 9.39 36 P Pn 08 00 55.3 +1.4
baz=226,SNR=20
GSMY Great Sitkin M 9.46 261 Pn 08 00 56.1 +1.1
PPLA Purkeypile 9.50 25 P Pn 08 00 58.1 +2.5
baz=212
K20K Telida 9.50 19 Pn 08 00 57.4 +1.9
K20K Telida 9.50 19 P Pn 08 00 57.9 +2.4
baz=204,SNR=62
KNK Knik Glacier 9.51 39 P Pn 08 00 57.5 +1.9
baz=229,SNR=18
GSCK Great Sitkin C 9.53 261 Pn 08 00 57.0 +1.1
CUT Chulitna 9.62 31 Pn 08 00 58.9 +1.9
CUT Chulitna 9.62 31 P Pn 08 00 58.3 +1.3
baz=219
GLI Glacier Island 9.70 44 P Pn 08 00 59.1 +0.9
baz=235,SNR=12
SML Sawmill 9.81 37 P Pn 08 01 00.5 +0.7
baz=227,SNR=17
SML Sawmill 9.81 37 P Pn 08 00 58.8 -1.0
J19K Poorman 9.85 14 P Pn 08 01 02.2 +2.0
baz=198,SNR=215
ADK Adak 9.88 261 P Pn 08 01 01.5 +0.8
ADK Adak 9.88 261 Pn 08 01 00.2 -0.5
ADK Adak 9.88 261 P Pn 08 01 00.2 -0.5
FID Port Fidalgo 9.88 45 Pn 08 01 00.7 0.0
M23K Glacier View 10.02 38 Pn 08 01 04.3 +1.7
M23K Glacier View 10.02 38 P Pn 08 01 03.9 +1.3
baz=229,SNR=25
EYAK Cordova Ski Ar 10.08 47 P Pn 08 01 04.3 +0.9
EYAK Cordova Ski Ar 10.08 47 Pn 08 01 04.5 +1.1
EYAK Cordova Ski Ar 10.08 47 P Pn 08 01 04.0 +0.6
baz=240,SNR=43
H16K Elim 10.16 357 P Pn 08 01 06.8 +2.4
baz=175,SNR=92
KIWB Kanaga Island 10.16 261 Pn 08 01 05.2 +0.7
SCM Sheep Creek Mo 10.19 39 P Pn 08 01 06.5 +1.5
baz=230,SNR=55
J20K Nowinta River 10.24 17 P Pn 08 01 08.3 +2.7
baz=202,SNR=77
ANM Nome 10.32 349 P Pn 08 01 09.5 +2.9
baz=165,SNR=52
KAIM Kayak Island 10.39 52 P Pn 08 01 09.0 +1.4
baz=245,SNR=16
GCSA Galena City Sc 10.43 9 P Pn 08 01 10.5 +2.3
baz=193,SNR=25
H17K Granite Mounta 10.44 2 Pn Pn 08 01 10.7 +2.3
H17K Granite Mounta 10.44 2 P Pn 08 01 10.8 +2.5
baz=183,SNR=43
WAT1 Susitna Watana 10.46 32 P Pn 08 01 09.1 +0.4
baz=223
RAGM Ragged Mountai 10.47 49 Pn 08 01 09.9 +1.0
KLU Klutina 10.52 43 P Pn 08 01 10.5 +1.0
baz=235,SNR=137
WAT6 Susitna Watana 10.55 35 P Pn 08 01 10.1 +0.1
baz=226,SNR=19
G15K Niukluk 10.61 353 P Pn 08 01 13.0 +2.4
baz=170,SNR=94
H18K Honhosa River 10.72 6 P Pn 08 01 14.5 +2.3
baz=188,SNR=29
I20K Naaghedeneel 10.77 15 P Pn 08 01 15.2 +2.4
baz=200,SNR=103
BMRM Bremner River 10.78 47 P Pn 08 01 13.6 +0.6
baz=240,SNR=46
M24K Tolsona, Glenn 10.79 39 Pn Pn 08 01 14.6 +1.5
M24K Tolsona, Glenn 10.79 39 P Pn 08 01 14.2 +1.0
baz=232,SNR=42
BPAW Bear Paw Mtn. 10.81 24 Pn 08 01 15.2 +1.9
BPAW Bear Paw Mtn. 10.81 24 P Pn 08 01 15.3 +1.9
baz=212,SNR=68
G16K Koyuk River 10.92 357 Pn 08 01 17.2 +2.4
G16K Koyuk River 10.92 357 P Pn 08 01 17.2 +2.4
baz=175,SNR=61
BGLC Bering Glacier 10.99 52 P Pn 08 01 17.5 +1.7
baz=247
G17K Kiwalik Mounta 11.00 0 P Pn 08 01 18.2 +2.2
baz=180,SNR=116
DHY Denali Highway 11.02 34 P Pn 08 01 16.4 +0.1
baz=225,SNR=46
MCK McKinley 11.04 29 P Pn 08 01 18.3 +1.8
baz=218,SNR=53
N25K Chitina, Valde 11.11 44 P Pn 08 01 18.7 +1.2
baz=237,SNR=38
H19K Roundabout Mou 11.24 9 P Pn 08 01 20.9 +1.7
baz=193,SNR=127
F14K Arctic Creek 11.30 348 P Pn 08 01 23.4 +3.2
baz=163,SNR=106
CRQM Cirque 11.32 49 Pn 08 01 21.0 +0.5
CRQE Cirque 11.33 50 P Pn 08 01 21.7 +1.0
baz=244,SNR=22
HARP HAARP 11.34 40 P Pn 08 01 22.3 +1.6
baz=233,SNR=21
F15K North Star Dit 11.36 352 P Pn 08 01 24.1 +3.1
baz=169,SNR=127
H20K Anotleneega Mo 11.38 13 P Pn 08 01 23.6 +2.4
baz=198,SNR=189
VRDI Verde Repeater 11.39 47 Pn 08 01 23.2 +1.6
G18K Tagagawik 11.45 4 Pn Pn 08 01 25.6 +3.6
G18K Tagagawik 11.45 4 P Pn 08 01 24.3 +2.3
baz=186,SNR=251
PAX Paxson 11.59 37 P Pn 08 01 24.6 +0.5
baz=230,SNR=47
TNA Tin City 11.60 345 P Pn 08 01 26.9 +2.8
baz=159,SNR=50
MESA MESA 11.63 53 Pn 08 01 26.2 +1.4
MESA MESA 11.63 53 P Pn 08 01 25.7 +1.0
baz=249,SNR=22
MCARA McCarthy VSAT 11.65 47 P Pn 08 01 24.8 -0.1
baz=242,SNR=9.1
MLY Manley 11.66 22 Pn Pn 08 01 26.8 +1.7
MLY Manley 11.66 22 P Pn 08 01 27.1 +2.0
baz=210,SNR=99
NEA2 Nenana 11.69 26 P Pn 08 01 25.8 +0.5
baz=216,SNR=16
G19K Purcell Mounta 11.79 7 P Pn 08 01 28.8 +2.1
baz=190,SNR=89
H21K Melozitna Rive 11.84 16 P Pn 08 01 30.2 +2.8
baz=203,SNR=141
F17K Baldwin Pennin 11.95 359 Pn 08 01 31.9 +3.1
F17K Baldwin Pennin 11.95 359 P Pn 08 01 32.9 +4.0
baz=179,SNR=26
K24K Donnelly Dome 12.04 34 P Pn 08 01 31.9 +1.6
baz=226,SNR=34
CCB Clear Creek Bu 12.06 28 Pn 08 01 29.4 -1.1
I23K Minto, Yukon-K 12.07 24 Pn 08 01 30.1 -0.5
I23K Minto, Yukon-K 12.07 24 P Pn 08 01 30.8 +0.2
baz=213,SNR=25
TABL Table Mountain 12.10 53 Pn 08 01 32.5 +1.3
F18K Selawik 12.12 2 P Pn 08 01 34.5 +3.3
baz=183,SNR=79
HDA Harding Lake 12.12 30 P Pn 08 01 31.2 0.0
baz=221,SNR=37

M26K Nabesna, AK 12.18 43 P Pn 08 01 32.9 +0.8
baz=237,SNR=50
CTG Chitna Glacier 12.20 50 P Pn 08 01 33.4 +0.8
baz=246,SNR=22
COLA College 12.23 27 P Pn 08 01 32.6 -0.1
COLA College 12.23 27 P Pn 08 01 32.8 +0.1
baz=218
COLA College 12.23 27 *i* P Pn 08 01 31.7 -1.0
H22K Ishtalitna Cre 12.30 18 P Pn 08 01 36.7 +3.0
baz=206,SNR=271
L26K Log Cabin Wild 12.39 40 P Pn 08 01 35.9 +1.0
baz=234,SNR=26
PINM Pinnacle 12.40 55 P Pn 08 01 35.9 +0.6
baz=252,SNR=26
ILAR Eielson Array 12.41 29 Pn Pn 08 01 34.2 -1.1
comp=N,0.8nm,0.3s,baz=220,slow=13,SNR=52
ILAR Sn Sn 08 03 44.3 -8.4
comp=N,1.1nm,0.3s,baz=235,slow=30,SNR=1.3
ILAR LR LR 08 06 44.2
comp=N,8µm,19.8s,baz=224,slow=39
ILAR ScP ScP 08 10 44.0 -2.3
comp=N,2.7nm,1.1s,baz=217,slow=3.1,SNR=5.6
comp=N,3.2nm,0.4s
F19K Shaleruckik Mo 12.43 6 P Pn 08 01 37.4 +2.0
baz=188,SNR=63
YKU2 Yakutat 12.53 58 P Pn 08 01 40.9 +4.1
POKR Poker Plat Res 12.53 27 Pn 08 01 37.1 +0.2
POKR Poker Plat Res 12.53 27 P Pn 08 01 37.0 +0.2
baz=218,SNR=14
G21K Allakaket 12.53 14 P Pn 08 01 40.1 +3.2
baz=200,SNR=96
E17K Hotham Inlet 12.60 358 P Pn 08 01 40.8 +3.0
baz=177,SNR=93
M27K Edge Creek, AK 12.60 44 P Pn 08 01 39.1 +1.1
baz=240,SNR=36
H23K Yukon River 12.61 22 P Pn 08 01 40.4 +2.5
baz=211,SNR=48
O28M Mount Upton 12.65 52 P Pn 08 01 40.0 +1.2
baz=249,SNR=65
PNL Peninsula 12.70 57 P Pn 08 01 40.7 +1.4
PNL Peninsula 12.70 57 P Pn 08 01 40.5 +1.3
baz=255,SNR=34
J25K Salcha River, 12.74 31 P Pn 08 01 39.1 -0.7
baz=224,SNR=61
SCRK Sand Creek 12.75 35 P Pn 08 01 40.0 +0.1
baz=230,SNR=36
F20K Avaraart Lake 12.79 9 P Pn 08 01 43.1 +2.7
baz=193
YUK3 Moose Creek 12.92 48 P Pn 08 01 43.8 +1.4
baz=245,SNR=36
E18K Tukpahlearik C 12.93 0 P Pn 08 01 46.3 +4.0
baz=180,SNR=134
L27K Beaver Creek, 12.98 41 P Pn 08 01 43.1 0.0
baz=237,SNR=66
H24K Noodor Dome 12.99 24 P Pn 08 01 43.9 +0.7
baz=215,SNR=102
BCAR Beaver Creek A 13.00 41 Pn 08 01 43.6 +0.2
YUK8 Steele Glacier 13.03 50 P Pn 08 01 44.9 +0.8
baz=248,SNR=50
E19K Redstone River 13.08 6 P Pn 08 01 47.3 +2.9
baz=189,SNR=49
F21K Alatna River 13.20 13 P Pn 08 01 49.3 +3.2
baz=199,SNR=171
G22K Bettles 13.21 16 P Pn 08 01 48.5 +2.4
baz=204
J26L Joseph Creek 13.23 34 P Pn 08 01 47.2 +0.7
baz=229,SNR=35
D17K Noatak River 13.25 356 P Pn 08 01 49.9 +3.2
baz=174
O29M Mount Kennedy 13.27 55 P Pn 08 01 49.0 +1.9
baz=254,SNR=121
G23K Bananza Creek 13.28 19 P Pn 08 01 49.3 +2.2
baz=208,SNR=128
PRP Porcupine Dome 13.35 28 P Pn 08 01 49.5 +1.3
baz=221,SNR=62
K27K Chicken 13.44 38 P Pn 08 01 50.1 +0.8
baz=233
P29M Windy Craggy 13.51 59 Pn Pn 08 01 52.2 +1.9
P29M Windy Craggy 13.51 59 P Pn 08 01 52.6 +2.2
baz=258,SNR=51
YUK6 Outpost Mounta 13.56 53 P Pn 08 01 53.1 +2.0
baz=251,SNR=15
YUK4 Talbot Arm 13.56 51 P Pn 08 01 53.5 +2.4
baz=249,SNR=20
RDOG Red Dog Mine 13.60 357 P Pn 08 01 55.0 +3.5
baz=175,SNR=60
F22K John River 13.65 14 P Pn 08 01 55.1 +2.9
baz=202
COLD Coldfoot 13.71 18 P Pn 08 01 54.7 +1.8
baz=207,SNR=117
G24K Hadweenzic Riv 13.80 23 P Pn 08 01 54.5 +0.3
baz=214,SNR=25
H25L Birch Creek 13.85 26 P Pn 08 01 54.7 -0.1
baz=219,SNR=39
I26K Coal Creek Min 13.90 32 P Pn 08 01 54.0 -1.5
baz=227
E20K Nigu River 13.94 7 P Pn 08 01 59.6 +3.5
baz=191,SNR=176
C16K Lisburne Hills 13.95 353 P Pn 08 01 59.8 +3.6
baz=169,SNR=10
P30M Million Dollar 14.00 57 P Pn 08 01 57.4 +0.4
baz=257
C17K DeLong Mountai 14.03 356 P Pn 08 02 00.4 +3.1
baz=174,SNR=20
M29M Somme Creek 14.06 47 P Pn 08 01 58.9 +1.0
baz=246,SNR=61
S31K Pelican 14.06 66 P Pn 08 01 59.1 +1.3
baz=266,SNR=30
D19K Kuna River 14.06 4 P Pn 08 01 59.9 +2.1
baz=186,SNR=100
C18K Utukok River 14.16 359 P Pn 08 02 01.6 +2.4
baz=179,SNR=123
PLBC Pleasant Camp 14.17 60 P Pn 08 02 00.9 +1.7
baz=260,SNR=31
G25K Bearman Lake 14.17 24 P Pn 08 02 00.3 +1.0
baz=217,SNR=12
EGAK Eagle 14.21 36 P Pn 08 01 59.5 -0.3
baz=233,SNR=17
N30M Aishikik Lake 14.30 51 P Pn 08 02 01.4 +0.2
baz=251,SNR=21
E21K Kilik River 14.31 10 P Pn 08 02 03.5 +2.3
baz=196
R31K City Hall, Gus 14.36 64 P Pn 08 02 02.3 +0.5
baz=265
D20K Etivluk River 14.36 6 P Pn 08 02 03.8 +2.0
baz=190,SNR=93
F24K Squaw Lake 14.40 20 P Pn 08 02 03.4 +1.0
baz=211,SNR=36
DAWY Dawson 14.44 40 P Pn 08 02 03.3 +0.3
baz=238,SNR=53
L29M L29M 14.48 45 P Pn 08 02 04.2 +0.7
baz=244,SNR=29
SIT Sitka 14.53 70 P Pn 08 02 05.3 +1.1
SIT Sitka 14.53 70 Pn 08 02 04.6 +0.4
SIT Sitka 14.53 70 P Pn 08 02 03.8 -0.4
baz=270
SIT Sitka 14.53 70 P Pn 08 02 04.6 +0.4
E23K Chandalar 14.55 17 P Pn 08 02 05.6 +1.0
baz=207,SNR=48
O30N Mendenhall 14.57 55 Pn Pn 08 02 05.9 +1.1
O30N Mendenhall 14.57 55 P Pn 08 02 05.5 +0.7
baz=255,SNR=22
I27K Kandik River 14.58 33 P Pn 08 02 05.2 +0.4
baz=229,SNR=107
C19K Lookout Ridge 14.63 2 P Pn 08 02 06.8 +1.2
baz=183,SNR=46
SKAG Skagway 14.69 60 P P 08 02 09.3 -3.1
SKAG Skagway 14.69 60 P Pn 08 02 06.4 0.0
baz=261,SNR=25
E24K Your Creek 14.77 18 P Pn 08 02 08.8 +1.4
baz=209
M30M Minto, Yukon 14.82 47 P Pn 08 02 08.4 +0.2
baz=248,SNR=20
D22K Ayikyak River 14.88 12 P Pn 08 02 09.0 +0.2
baz=199,SNR=151
B18K Kokolik River 14.89 359 P Pn 08 02 09.7 +0.7
baz=178,SNR=73
G26K Porcupine Rive 14.90 27 P Pn 08 02 08.6 -0.5
baz=221,SNR=38
N31M Braeburn, Yuko 14.91 52 Pn Pn 08 02 10.4 +1.0
N31M Braeburn, Yuko 14.91 52 P Pn 08 02 10.4 +1.0
baz=253,SNR=24
C21K Knifeblade Rid 14.93 8 P Pn 08 02 11.6 +2.0
baz=194,SNR=197
S32K Killisnoo 14.94 68 P Pn 08 02 11.7 +2.1
baz=270,SNR=5.9
F25K Christian Rive 14.95 23 P Pn 08 02 10.1 +0.3
baz=216,SNR=23

SHEM Shemya Is, Ala 14.96 273 Pn Pn 08 02 09.5 -0.5
comp=N,2.0nm,0.3s,baz=23,slow=6.5,SNR=8.9
SHEM LR LR 08 07 58.3
comp=N,4µm,20.4s,baz=88,slow=37
comp=N,64nm,0.9s
R32K Eaglecrest 14.99 65 P Pn 08 02 09.7 -0.7
baz=266,SNR=11
H27K Steamboat Moun 15.02 31 P Pn 08 02 10.5 -0.3
baz=228,SNR=63
I28M Miner Creek 15.03 35 P Pn 08 02 10.1 -0.9
baz=233,SNR=34
K29M Barlow Dome 15.05 42 Pn Pn 08 02 12.4 +1.0
K29M Barlow Dome 15.05 42 P Pn 08 02 11.9 +0.6
baz=242,SNR=38
JIS Juneau Island 15.06 65 P Pn 08 02 12.6 +1.3
JIS Juneau Island 15.06 65 Pn 08 02 13.1 +1.7
JIS IAmb IAmb 08 02 19.9
comp=Z,48nm,0.5s
J29N Klondike Camp 15.08 40 P Pn 08 02 12.1 +0.4
baz=239,SNR=32
TOLK Toolik Lake Re 15.09 16 P Pn 08 02 13.2 +1.5
baz=206,SNR=84
D23K Nanushuk River 15.21 14 P Pn 08 02 15.2 +1.8
baz=203
F26K Sheenjek River 15.38 24 P Pn 08 02 15.5 +0.1
baz=219,SNR=18
G27K Doyon Strip 15.38 29 P Pn 08 02 16.6 +1.1
baz=226,SNR=39
B21K Ikpikpuk River 15.40 8 P Pn 08 02 16.8 +1.1
baz=194,SNR=60
P32M Atlin 15.52 60 Pn P 08 02 19.8 -1.9
P32M Atlin 15.52 60 P Pn 08 02 16.8 -0.7
baz=262,SNR=28
I29M Ogilvie Camp, 15.53 37 P Pn 08 02 17.9 +0.3
baz=236,SNR=77
MAYO Mayo, Yukon 15.60 45 P Pn 08 02 19.0 +0.6
baz=246,SNR=43
B20K Meade River 15.62 5 P Pn 08 02 18.3 -0.2
baz=188
D24K Happy Valley 15.67 16 P Pn 08 02 19.9 +0.7
baz=206,SNR=113
A19K Wainwright 15.73 360 P Pn 08 02 21.3 +1.4
baz=179
M31M Drury Creek, Y 15.75 50 P Pn 08 02 21.3 +0.9
baz=252,SNR=83
U33K Whale Pass 15.80 73 Pn 08 02 21.3 +0.3
J30M Hart River 15.85 41 P Pn 08 02 20.8 -1.0
baz=242,SNR=264
CRAG Craig 15.88 75 P Pn 08 02 23.3 +1.3
CRAG Craig 15.88 75 P 08 02 23.7 -1.9
CRAG Craig 15.88 75 P Pn 08 02 21.0 -1.0
baz=278
H29M Whitestone 16.01 34 P Pn 08 02 23.0 -0.7
baz=234,SNR=77
C23K Itkillik River 16.03 13 P Pn 08 02 24.9 +1.0
baz=202,SNR=132
P33M Teslin, Yukon 16.05 58 P Pn 08 02 23.0 -1.4
baz=261,SNR=76
N32M Quiet Lake 16.09 55 P Pn 08 02 24.9 +0.1
baz=258
I30M Mount Dempster 16.15 39 P Pn 08 02 25.0 -0.6
baz=240,SNR=665
C24K Franklin Bluff 16.20 15 P Pn 08 02 26.7 +0.7
baz=206
B22K Teshekpuk Lake 16.20 9 P Pn 08 02 27.1 +1.0
baz=196,SNR=17
Q32M Nakina River 16.20 63 P Pn 08 02 26.2 -0.2
baz=266,SNR=25
WRAK Wrangell Islan 16.20 72 P Pn 08 02 26.4 +0.2
baz=275
FARO Faro, Yukon 16.23 51 P Pn 08 02 27.2 +0.7
baz=254,SNR=54
D25K Kavik River 16.24 18 Pn Pn 08 02 27.2 +0.5
D25K Kavik River 16.24 18 P Pn 08 02 27.1 +0.5
baz=211,SNR=50
E27K Coleen River 16.38 26 P Pn 08 02 28.6 +0.2
baz=223,SNR=18
F28M Old Crow 16.44 29 P Pn 08 02 29.1 0.0
baz=227,SNR=47
G29M Pine Creek 16.53 32 P Pn 08 02 31.5 +1.2
baz=232,SNR=118
EPYK Eagle Plains 16.64 35 P Pn 08 02 32.3 +0.5
baz=236,SNR=126
A22K Sinclair Lake 16.73 7 P Pn 08 02 33.2 +0.5
baz=192
V35K Ketchikan 16.75 75 P Pn 08 02 32.4 -0.7
baz=279,SNR=8.4
S34M Telegraph Cree 16.78 66 P Pn 08 02 33.0 -0.5
baz=271,SNR=27
R33M Jennings River 16.90 61 P Pn 08 02 34.9 -0.3
baz=266,SNR=35
A21K Barrow 16.95 5 P Pn 08 02 35.7 +0.2
baz=188
C27K Jago River 17.01 21 P Pn 08 02 36.6 +0.2
baz=216,SNR=56
C26K Camden Bay 17.02 19 P Pn 08 02 37.2 +0.8
baz=213,SNR=107
G30M tAoh Zraii Nji 17.15 34 P Pn 08 02 38.4 +0.3
baz=235,SNR=105
E28M Babbage River 17.21 27 P P 08 02 39.7 -0.7
baz=225,SNR=22
T35M Bob Quinn 17.31 69 P P 08 02 41.5 0.0
baz=274,SNR=16
D27M Malcolm River 17.32 24 P Pn 08 02 40.0 -0.3
baz=222
DLBC Dease Lake 17.36 64 P P 08 02 41.6 -0.5
baz=270,SNR=19
DLBC Dease Lake 17.36 64 P P 08 02 43.5 +1.4
comp=Z,1.1nm,0.3s,baz=269,slow=12,SNR=26
DLBC S Sn 08 05 51.9 -1.4
comp=Z,9.4nm,0.7s,baz=318,slow=18,SNR=3.0
DLBC LR LR 08 09 28.9
comp=Z,2µm,18.3s,baz=282,slow=37
comp=Z,20nm,0.9s
E29M Blow River 17.51 29 P Pn 08 02 42.6 +0.1
baz=229,SNR=38
U35K Hyder 17.55 73 P Pn 08 02 42.7 -0.4
baz=278
F30M Barrier River 17.65 32 P P 08 02 44.9 -0.3
baz=234,SNR=24
G31M Satah River 17.76 35 P Pn 08 02 45.1 -0.5
baz=238,SNR=40
D28M Stokes Point 17.93 26 P P 08 02 48.4 +0.3
baz=225,SNR=8.7
WTLY Watson Lake, Y 18.04 59 P Pn 08 02 49.2 -0.1
baz=266,SNR=23
F31M Tsiigehtchic 18.21 34 P P 08 02 51.5 +0.2
baz=238,SNR=25
TGTN Hyland Airport 18.44 55 P Pn 08 02 55.6 +1.5
baz=262,SNR=48
INK Inuvik 18.75 32 P P 08 02 56.5 -0.8
baz=236,SNR=80
INK Inuvik 18.75 32 P P 08 02 56.9 -0.3
comp=Z,4.6nm,0.3s,baz=214,slow=11,SNR=49
INK S Sn 08 06 22.4 -4.2
comp=Z,5.8nm,1.0s,baz=7.2,slow=31,SNR=1.0
INK LR LR 08 11 13.6
comp=Z,7µm,18.6s,baz=223,slow=40
comp=Z,24nm,0.6s
LIRD Liard River Hi 19.39 61 P P 08 03 04.2 -0.1
baz=270,SNR=45
BBB Bella Bella 19.57 83 P Pn 08 03 08.4 +0.8
comp=Z,0.2nm,0.3s,baz=291,slow=10,SNR=4.2
BBB LR LR 08 09 14.0
comp=Z,3µm,19.2s,baz=295,slow=32
TOAD Toad River Com 19.85 63 P P 08 03 08.8 -0.6
baz=273,SNR=81
KOTAN Kotaneelee Air 20.42 59 P P 08 03 15.2 -0.3
baz=270,SNR=23
BILL Bilibino 20.45 324 P P 08 03 16.4 +0.6
BILL IAmb IAmb 08 03 31.2
comp=Z,166nm,1.4s
BILL Bilibino 20.45 324 *c i* P P 08 03 15.9 +0.2
BILL *i* 08 03 28.2
BILL *e* PPP PPP 08 03 37.3
BILL S S 08 06 58.0 -5.5
BILL *i* SSS SSS 08 07 33.2
BILL pmax pmax
comp=Z,89nm,1.7s
BILL MLR MLR
comp=Z,9µm,16.0s
WRGLY Wrigley 20.89 50 P Pn 08 03 22.5 -0.6
WRGLY IAmb IAmb 08 03 27.2
comp=Z,221nm,1.1s
WRGLY Wrigley 20.89 50 P P 08 03 21.3 +0.8
baz=262,SNR=46
C36M Paulatuk 22.27 34 P P 08 03 35.0 -0.2
C36M Paulatuk 22.27 34 P P 08 03 35.1 -0.2

baz=247,SNR=14
A36M Sachs Harbour 23.11 27 P P 08 03 43.4 -0.6
baz=240
PET Petropavlovsk 23.76 283 P P 08 03 51.5 +0.8
PET Petropavlovsk 23.76 283 P P 08 03 50.2 -0.5
PET Petropavlovsk 23.76 283 *e*P **P 08 03 49.7 -1.0**
PET *e*S S 08 07 53.0 -12
PET pmax pmax
comp=Z,400nm,11.4s
PET pmax pmax
comp=Z,372nm,1.2s
PET MLR MLR
comp=Z,1µm,15.0s
PET MLR MLR
comp=Z,1µm,18.0s
PET Petropavlovsk 23.76 283 P P 08 03 49.8 -1.0
comp=Z,325nm,1.1s,comp=Z,4µm
NLWA Neilton Lookou 24.12 92 P P 08 03 54.0 -0.2
NLWA IAmb IAmb 08 04 10.7
comp=Z,113nm,1.1s
GNW Green Mountain 24.64 91 P P 08 04 01.2 +2.3
YKA Yellowknife Ar 24.91 53 P P 08 04 03.0 +1.8
comp=Z,10.0nm,0.8s,baz=275,slow=6.9,SNR=75
YKA PcP **PcP 08 07 37.1 +0.9**
comp=Z,3.6nm,0.8s,baz=270,slow=2.2,SNR=4.1
YKA ScP **ScP 08 11 11.6 -2.1**
comp=Z,4.2nm,1.0s,baz=275,slow=2.3,SNR=12
YKA LR LR 08 15 08.5
comp=Z,3µm,19.6s,baz=270,slow=39
comp=Z,10.0nm,0.8s
BRLDA Berland Lookou 25.04 73 P P 08 04 04.2 +1.6
SEY Seymchan 25.16 308 LR LR 08 14 45.2
comp=Z,2µm,21.3s,baz=104,slow=38
SEY Seymchan 25.16 308*ce*P **P 08 04 02.7 -0.7**
SEY pmax pmax
comp=Z,49nm,1.7s
SEY MLR MLR
comp=Z,3µm,22.0s
SKR Severo-Kuril's 26.12 279 *e*P **P 08 04 10.7 -1.5**
SKR pmax pmax
comp=Z,200nm,7.2s
MA2 Magadan 26.31 301 P **P 08 04 14.5 +0.6**
MA2 Magadan 26.31 301 LR LR 08 15 23.2
comp=Z,2µm,18.6s,baz=98,slow=38
MA2 Magadan 26.31 301*ce*P **P 08 04 15.2 +1.3**
MA2 pmax pmax
comp=Z,44nm,1.0s
MA2 Magadan 26.31 301 P **P 08 04 13.2 -0.7**
comp=Z,58nm,0.9s,comp=Z,709nm
HOOD Mount Hood Mea 26.54 94 P **P 08 04 16.3 +0.1**
HOOD IAmb IAmb 08 04 43.4
comp=Z,72nm,1.0s
F07A Phinny Hill Vi 27.22 91 P **P 08 04 22.9 +0.7**
I05D Terrebonne, OR 27.28 96 P **P 08 04 24.7 +1.8**
NEW Newport 27.61 85 P **P 08 04 24.8 -1.0**
baz=300
NEW Newport 27.61 85 P **P 08 04 28.0 +2.2**
comp=Z,6.2nm,0.9s,baz=294,slow=11,SNR=8.4
NEW LR LR 08 13 53.3
comp=Z,2µm,19.6s,baz=292,slow=33
comp=Z,6.2nm,0.9s
NEW Newport 27.61 85 P **P 08 04 28.0 +2.2**
YBH Yreka Blue Hor 28.10 101 LR LR 08 13 09.7
comp=Z,4µm,20.3s,baz=314,slow=31
MSO Missoula 30.20 85 P **P 08 04 47.6 -1.2**
baz=302
PAHR Pah Rah Range 31.34 101 P **P 08 05 00.6 +1.6**
PAHR IAmb IAmb 08 05 13.3
comp=Z,54nm,1.0s
HLID Hailey 31.77 91 P **P 08 05 03.1 +0.2**
baz=307,SNR=27
EGMT Eagleton 31.99 80 P **P 08 05 02.1 -2.5**
baz=301
WAKR Walker 32.12 103 P **P 08 05 07.5 +1.5**
WAKR IAmb IAmb 08 05 20.7
comp=Z,42nm,1.1s
RES Resolute Bay 32.16 27 P **P 08 05 07.3 +1.6**
comp=Z,8.4nm,0.6s,baz=270,slow=8.0,SNR=3.9
RES LR LR 08 19 31.6
comp=Z,2µm,19.8s,baz=268,slow=39
comp=Z,8.4nm,0.6s
BOZ Bozeman (W) 32.22 85 P **P 08 05 05.1 -1.6**
baz=304
NVAR Mina Array Bea 32.82 102 P **P 08 05 14.6 +2.5**
comp=Z,12nm,0.7s,baz=302,slow=8.7,SNR=108
NVAR PcP **PcP 08 07 58.4 +1.7**
comp=Z,1.3nm,0.7s,baz=299,slow=4.0,SNR=3.1
NVAR ScP **ScP 08 11 39.1 -0.3**
comp=Z,4.5nm,0.9s,baz=295,slow=3.1,SNR=14
NVAR LR LR 08 16 05.5
comp=Z,2µm,21.1s,baz=310,slow=32
comp=Z,12nm,0.7s
ELK Elko 33.05 96 LR LR 08 16 46.4
comp=Z,2µm,19.9s,baz=316,slow=33
MLAC Mammoth, Mammo 33.07 103 P **P 08 05 13.0 -1.4**
baz=314
YHH Holmes Hill 33.13 86 P **P 08 05 16.5 +1.6**
KIP Kipapa 33.13 175*ce*P **P 08 05 17.2 +2.5**
KIP pmax pmax
comp=Z,15nm,1.3s
FFC Flin Flon 33.19 65 P **P 08 05 15.8 +0.8**
FFC Flin Flon 33.19 65 P **P 08 05 15.8 +0.8**
FFC pmax pmax
comp=Z,9.0nm,1.0s
H17A Grant Village 33.52 86 P **P 08 05 16.9 -1.3**
baz=306,SNR=6.7
TIXI Tiksi 33.59 327 P **P 08 05 17.5 -0.7**
TIXI IAmb IAmb 08 05 18.6
comp=Z,37nm,1.2s
TIXI Tiksi 33.59 327 LR LR 08 20 55.2
comp=Z,3µm,18.5s,baz=128,slow=40
TIXI Tiksi 33.59 327*ce*P **P 08 05 18.4 +0.2**
TIXI pmax pmax
comp=Z,27nm,1.0s
TIXI MLR MLR
comp=Z,3µm,16.0s
TYV Tymovskoe 33.66 288 *e*P **P 08 05 19.3 +0.3**
TYV *e*S **S 08 10 43.8 +3.2**
TYV pmax pmax
comp=Z,300nm,3.6s
TYV pmax pmax
comp=Z,47nm,1.2s
TYV smax smax
comp=N,200nm,4.1s
TYV smax smax
comp=E,200nm,4.1s
TYV MLR MLR
comp=Z,1µm,17.0s
VOG Valley Oaks Go 33.69 106 P **P 08 05 19.5 +0.1**
baz=316
TIN Tinemaha, Big 33.82 103 P **P 08 05 20.3 -0.4**
baz=315
RLMT Red Lodge 33.86 84 P **P 08 05 20.1 -1.0**
baz=305,SNR=7.9
SMMC Simmler 34.08 107 P **P 08 05 21.5 -1.4**
baz=317
VES Vestal, Richgr 34.20 106 P **P 08 05 24.6 +0.7**
baz=316,SNR=18
CWC Cottonwood Cre 34.34 104 P **P 08 05 24.0 -1.3**
baz=316
GRAC Grapevine Rang 34.35 103 P **P 08 05 25.9 +0.6**
baz=315,SNR=6.3
Q12A Willow Creek R 34.40 98 P **P 08 05 26.9 +1.1**
Q12A IAmb IAmb 08 05 40.2
comp=Z,79nm,1.1s
R11B Troy Canyon, C 34.44 99 P **P 08 05 25.9 -0.2**
baz=313,SNR=43
PKM Mcpherson Peak 34.49 108 P **P 08 05 26.7 0.0**
baz=318,SNR=13
ISA Isabella, Lake 34.67 105 P **P 08 05 27.4 -0.7**
baz=316,SNR=11
BCW Bitter Crk WRg 34.68 107 P **P 08 05 30.1 +2.0**
BCW IAmb IAmb 08 05 42.7
comp=Z,111nm,1.5s
LAO LASA Array 34.73 80 P **P 08 05 28.5 0.0**
baz=303
DUG Dugway, Tooele 34.81 94 P **P 08 05 30.1 +0.7**
baz=311,SNR=29
DUG Dugway, Tooele 34.81 94 P **P 08 05 31.8 +2.5**
DUG pmax pmax
comp=Z,32nm,1.1s
ARVC Arvin 34.86 106 P **P 08 05 30.3 +0.7**
baz=317
SBC Santa Barbara 34.88 108 P **P 08 05 27.7 -2.0**
baz=318
UGL Uglegorsk 34.88 285 *e*P **P 08 05 29.6 0.0**
UGL pmax pmax
comp=Z,220nm,1.0s
DGMT Dagmar 34.93 76 P **P 08 05 28.5 -1.6**
baz=302
MPMC Manual Prospec 34.95 104 P **P 08 05 30.2 -0.4**
baz=316,SNR=40
FURC Furnace Creek, 35.01 103 P **P 08 05 31.7 +0.9**
baz=315,SNR=14
TPNV Topopah Spring 35.02 102 P **P 08 05 32.1 +0.9**
baz=314,SNR=39
BW06 Boulder Array 35.08 88 P **P 08 05 30.9 -0.9**
baz=308,SNR=24
PDAR Pinedale Array 35.08 88 P **P 08 05 32.5 +0.7**
PDAR Pinedale Array 35.08 88 P **P 08 05 33.4 +1.6**
comp=Z,2.2nm,0.6s,baz=299,slow=4.9,SNR=20
PDAR ScP **ScP 08 11 44.8 -2.5**
comp=Z,1.8nm,1.0s,baz=294,slow=1.5,SNR=8.2
PDAR LR LR 08 18 50.5
comp=Z,532nm,19.2s,baz=290,slow=34
LRMC Laurel Mtn Rad 35.25 105 P **P 08 05 34.3 +1.2**
baz=316,SNR=14
OSI Osito Audit: C 35.30 107 P **P 08 05 34.6 +1.1**
baz=318
PRN Pahroc Range 35.39 100 P **P 08 05 36.0 +1.6**
YUK Yuzh-Kuril'sk 35.51 275 *i* P **P 08 05 33.1 -2.0**
EDW2 Edwards Air Fo 35.51 106 P **P 08 05 35.6 +0.3**
baz=317,SNR=7.8
FCC Fort Churchill 35.56 55 P **P 08 05 36.4 +1.1**
FCC Fort Churchill 35.56 55 P **P 08 05 36.4 +1.1**
FCC pmax pmax
comp=Z,35nm,1.2s
YAK Yakutsk 35.62 311 LR LR 08 21 38.5
comp=Z,4µm,19.2s,baz=78,slow=39
YAK Yakutsk 35.62 311 *e*P **P 08 05 34.7 -1.1**
YAK *e**PP **pP 08 05 40.3 -1.4**
YAK *e* 08 06 54.0
YAK *e*S **S 08 11 09.8 -0.8**
YAK *e**SS **sS 08 11 24.4 +4.2**
YAK *e*SS **SnSn 08 13 28.2 -3.4**
YAK pmax pmax
comp=Z,89nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,21nm,1.1s
YAK pmax pmax
comp=Z,52nm,1.5s
YAK pmax pmax
comp=N,38nm,1.6s
YAK pmax pmax
comp=E,43nm,1.5s
YAK smax smax
comp=N,51nm,1.7s
YAK smax smax
comp=E,44nm,1.7s
YAK MLR MLR
comp=Z,4µm,20.0s
YAK MLR MLR
comp=N,819nm,21.0s
YAK MLR MLR
comp=E,2µm,18.0s
YSS Yuzh-Sakhalins 35.63 282 *e*P **P 08 05 36.5 +0.4**
YSS *e*S **S 08 11 09.3 -1.8**
YSS pmax pmax
comp=Z,200nm,5.0s
YSS pmax pmax
comp=Z,40nm,1.3s
SHOC Shoshone, Teco 35.75 103 P **P 08 05 37.6 +0.3**
baz=316,SNR=14
DECC Green Verdugo 35.78 107 P **P 08 05 38.4 +0.8**
baz=318
SNCC San Nicolas Is 35.87 109 P **P 08 05 38.6 +0.2**
baz=319
GSC Goldstone, Bar 35.88 104 P **P 08 05 39.6 +1.2**
baz=316,SNR=18
SHPR Sheep Range 35.95 101 P **P 08 05 40.7 +1.5**
BFSC Mount Baldy Ra 36.17 106 P **P 08 05 42.5 +1.5**
baz=318,SNR=25
CCUT Cedar City 36.26 98 P **P 08 05 42.9 +1.0**
CCUT IAmb IAmb 08 05 56.3
comp=Z,78nm,1.5s
TUQ Turquoise Moun 36.28 103 P **P 08 05 43.4 +1.4**
baz=316,SNR=11
TMUT Trail Mountain 36.33 94 P **P 08 05 44.1 +1.5**
CIS Catalina Islan 36.37 108 P **P 08 05 42.5 -0.2**
baz=318
HEC Hector,Ludlow 36.48 104 P **P 08 05 44.0 +0.4**
baz=317,SNR=12
BBRC Big Bear Solar 36.57 105 P **P 08 05 45.7 +1.2**
baz=317,SNR=6.2
Q16A Castle Valley 36.61 94 P **P 08 05 47.0 +2.2**
Q16A IAmb IAmb 08 06 00.3
comp=Z,145nm,1.6s
SCI2 San Clemente I 36.61 109 P **P 08 05 44.7 +0.1**
baz=319
SRU San Rafael Swe 36.85 94 P **P 08 05 49.1 +2.2**
SRU San Rafael Swe 36.85 94 P **P 08 05 49.1 +2.2**
SRU pmax pmax
comp=Z,281nm,1.8s
GMRC Granite Mounta 36.90 104 P **P 08 05 47.7 +0.5**
baz=316,SNR=21
MURC Murrieta 36.90 106 P **P 08 05 46.6 -0.5**
baz=318
K22A Casper 36.92 86 P **P 08 05 46.1 -1.3**
baz=308
GRNR Gornyy 37.14 291 ‖ *i* P **P 08 05 48.1 -0.9**
GRNR pmax pmax
comp=Z,60nm,0.9s
GRNR MLR MLR
comp=Z,710nm,17.0s
BELC Belle Mtn. Jos 37.28 105 P **P 08 05 51.1 +0.6**
baz=317,SNR=15
PFO Pinyon Flats O 37.30 106 P **P 08 05 51.5 +0.8**
baz=318,SNR=9.2
PFO Pinyon Flats O 37.30 106 LR LR 08 18 12.5
comp=Z,2µm,20.3s,baz=308,slow=31
PFO Pinyon Flats O 37.30 106 *i* P **P 08 05 51.7 +1.0**
PFO pmax pmax
comp=Z,29nm,1.0s
TPFO Pinon Flats 37.31 106 P **P 08 05 52.9 +2.1**
baz=318,SNR=9.8
ASAJ Asahikawa 37.35 278 LR LR 08 20 01.4
comp=Z,938nm,21.4s,baz=37,slow=34
RSSD Black Hills 37.47 82 P **P 08 05 51.2 -0.9**
baz=307
109C Camp Elliot, M 37.48 107 P **P 08 05 52.5 +0.5**
baz=319,SNR=7.5
NEE2 Needles Airpor 37.50 103 P **P 08 05 51.8 -0.4**
baz=316
O20A White River Ci 37.51 90 P **P 08 05 53.1 +0.6**
baz=310,SNR=23
HMU Henry Mountain 37.51 95 P **P 08 05 54.3 +1.7**
IRM Iron Mountain 37.65 104 P **P 08 05 55.3 +1.9**
baz=317,SNR=21
U15A North Rim 37.66 98 P **P 08 05 55.9 +2.0**
U15A IAmb IAmb 08 06 08.2
comp=Z,80nm,1.5s
BC3 Big Chuckawall 37.84 105 P **P 08 05 55.2 0.0**
baz=318
MDND Maddock 37.85 74 P **P 08 05 56.4 +1.4**
MDND Maddock 37.85 74 P **P 08 05 54.3 -0.7**
baz=304,SNR=15
MONP2 Monument Peak 37.86 106 P **P 08 05 55.7 +0.2**
baz=318,SNR=13
PDMCI Parker Dam,Lak 38.11 103 P **P 08 05 58.6 +1.3**
baz=317,SNR=5.2
SWSC Sam W. Stewart 38.17 106 P **P 08 05 57.2 -0.6**
baz=318
IKP In-Ko-Pah, Jac 38.21 106 P **P 08 05 59.7 +1.3**
baz=318,SNR=8.1
JEM Erimo 38.31 275 P **P 08 05 59.2 +0.3**
ERM Erimo 38.31 275 P **P 08 05 58.9 0.0**
ERM Erimo 38.31 275 P **P 08 05 58.8 -0.2**
ERM Erimo 38.31 275*ce*P **P 08 05 59.7 +0.8**
ERM pmax pmax
comp=Z,152nm,1.3s
YUH Yuha Desert 38.32 106 P **P 08 06 00.7 +1.6**
N23A Red Feather La 38.36 88 P **P 08 05 59.2 -0.5**
baz=310
ULM Lac du Bonnet 38.60 69 P **P 08 06 02.4 +1.1**
comp=Z,11nm,0.5s,baz=308,slow=9.1,SNR=19
ULM ScP **S 08 11 57.4 +1.1**
comp=Z,2.5nm,0.7s,baz=80,slow=12,SNR=4.1
ULM LR LR 08 22 27.2
comp=Z,1µm,18.0s,baz=310,slow=37
comp=Z,11nm,0.5s
GLA Glamis 38.64 105 P **P 08 06 03.5 +1.7**
baz=318,SNR=5.7
WUAZ Wupatki 38.83 99 P **P 08 06 05.0 +1.5**
baz=315,SNR=21
SMCO Snowmass 38.88 91 P **P 08 06 06.1 +1.9**
ISCO Idaho Springs 39.26 89 P **P 08 06 08.7 +1.4**
baz=311,SNR=8.6
MVCO Mesa Verde 39.31 94 P **P 08 06 08.8 +1.1**
MVCO Mesa Verde 39.31 94 P **P 08 06 08.0 +0.3**
baz=313,SNR=23
113A Mohawk Valley, 39.44 104 P **P 08 06 10.0 +1.5**
AGMN Agassiz Nation 39.68 71 P **P 08 06 11.3 +0.9**
baz=304,SNR=23
S22A 4UR Ranch, Cre 39.92 92 P **P 08 06 14.2 +1.4**
S22A IAmb IAmb 08 06 28.2
comp=Z,116nm,1.6s
S22A 4UR Ranch, Cre 39.92 92 P **P 08 06 13.1 +0.3**
baz=313,SNR=22
W18A Petrified Fore 40.05 98 P **P 08 06 14.1 +0.3**
baz=315
Q24A Divide 40.08 89 P **P 08 06 13.7 -0.4**
baz=312
SUSD Miller 40.19 78 P **P 08 06 14.7 0.0**
baz=307,SNR=9.1
TEY Ternei 40.24 283 *e*P **P 08 06 13.0 -2.0**
X18A Snowflake 40.35 98 P **P 08 06 18.0 +1.7**
X18A IAmb IAmb 08 06 31.5
comp=Z,94nm,1.4s
ZEA Zeya 40.44 299 *e*P **P 08 06 15.7 -0.8**
ZEA *e*S **S 08 12 18.1 -5.6**
ZEA pmax pmax
comp=E,100nm,2.2s
ZEA pmax pmax
comp=N,100nm,2.9s
ZEA pmax pmax
comp=Z,200nm,2.6s
ZEA pmax pmax
comp=N,20nm,0.5s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,60nm,0.8s
ZEA smax smax
comp=E,100nm,12.4s
KLR Kul'dur 40.51 291 LR LR 08 23 15.8
comp=E,1µm,21.8s,baz=47,slow=36
KLR Kul'dur 40.51 291*ce*P **P 08 06 16.7 -0.5**
KLR pmax pmax
comp=Z,78nm,1.3s
214A Organ Pipe Nat 40.59 104 P **P 08 06 19.8 +1.7**
214A IAmb IAmb 08 06 32.1
comp=Z,76nm,1.2s
214A Organ Pipe Nat 40.59 104 P **P 08 06 18.8 +0.7**
baz=318,SNR=12
OGNE Ogallala 40.60 85 P **P 08 06 17.5 -0.7**
baz=310
SDCO Great Sand Dun 40.69 91 P **P 08 06 19.8 +0.6**
baz=313,SNR=13
NEEM North Greenlan 41.42 18 *i* P **P 08 06 24.0 -0.7**
NEEM IAmb IAmb 08 06 26.2
comp=Z,76nm,1.1s
TUC Tucson 41.48 101 P **P 08 06 26.4 +0.9**
baz=318
TUC Tucson 41.48 101 P **P 08 06 27.8 +2.3**
TUC pmax pmax
comp=Z,42nm,1.2s
KSCO Kaye Shedlock' 41.52 87 P **P 08 06 25.9 +0.1**
baz=312
KULLO Kullorsuaq 41.72 23 *i* P **P 08 06 25.1 -1.7**
KULLO IAmb IAmb 08 06 28.6
comp=Z,37nm,1.0s
T25A Trinidad 41.74 91 P **P 08 06 29.3 +1.5**
T25A IAmb IAmb 08 06 42.6
comp=Z,114nm,1.0s
T25A Trinidad 41.74 91 P **P 08 06 28.5 +0.8**
baz=313,SNR=15
ECSD EROS Data Cent 41.96 77 P **P 08 06 29.7 +0.5**
baz=308,SNR=8.8
ANMO Albuquerque 42.07 95 P **P 08 06 30.8 +0.4**
baz=315
ANMO Albuquerque 42.07 95 LR LR 08 23 32.8
comp=Z,406nm,18.2s,baz=38,slow=35
ANMO Albuquerque 42.07 95 P **P 08 06 32.2 +1.7**
ANMO pmax pmax
comp=Z,17nm,1.1s
HEH HeiHe 42.25 295 *e*P **P 08 06 29.9 -1.6**
HEH pP **pP 08 06 33.0 -4.5**
HEH S **S 08 12 47.0 -3.7**
HEH ScS **ScS 08 16 30.1 -1.9**
HEH pmax pmax
comp=Z,82nm,1.0s
HEH pmax pmax
comp=Z,340nm,4.4s
HEH LR LR
comp=Z,840nm,16.8s
HEH LR LR
comp=Z,750nm,15.1s
HEH LR LR
comp=Z,2µm,18.2s
EYMN Ely 42.28 69 P **P 08 06 32.0 +0.3**
baz=306,SNR=19
Y22D IRIS PASSCAL I 42.42 96 P **P 08 06 31.8 -1.5**
baz=316
H11N2 WAKE ISLAND Hy 42.54 228 T T 08 52 05.4
baz=28,slow=76,SNR=901
H11N3 WAKE ISLAND Hy 42.54 228 T T 08 52 05.8
baz=28,slow=76,SNR=879
BGNE Belgrade 42.55 81 P **P 08 06 34.2 +0.1**
baz=310
H11N1 WAKE ISLAND Hy 42.55 228 T T 08 52 05.8
baz=28,slow=76,SNR=1397
NOR Nord 42.75 7 *i* P **P 08 06 34.7 -0.4**
NOR IAmb IAmb 08 06 37.0
comp=Z,84nm,1.3s
UPNV Upernavik 42.96 25 *i* P **P 08 06 36.9 0.0**
UPNV IAmb IAmb 08 06 38.0
comp=Z,42nm,1.1s
121A Cookes Peak, D 43.04 98 P **P 08 06 40.0 +1.7**
121A IAmb IAmb 08 06 53.3
comp=Z,136nm,1.4s
121A Cookes Peak, D 43.04 98 P **P 08 06 38.9 +0.6**
baz=317,SNR=21
SPMN Marine on St. 43.19 73 P **P 08 06 39.4 +0.3**
baz=308
CBKS Cedar Bluff 43.33 85 P **P 08 06 40.9 +0.4**
baz=312
USA0B Ussuriysk Arra 43.36 285 *i* P **P 08 06 38.9 -1.6**
USRK Ussuriysk Ar. 43.36 285 P **P 08 06 39.9 -0.6**
comp=Z,7.8nm,0.8s,baz=64,slow=13,SNR=13
USRK LR LR 08 24 52.5
comp=Z,2µm,21.1s,baz=48,slow=36
comp=Z,7.8nm,0.8s
H11S1 WAKE ISLAND Hy 43.70 228 T T 08 53 33.0
baz=25,slow=74
H11S2 WAKE ISLAND Hy 43.72 227 T T 08 53 31.9
baz=25
H11S3 WAKE ISLAND Hy 43.72 228 T T 08 53 32.6
baz=25,slow=74
VLA Vladivostok 44.09 284 *i* P **P 08 06 44.5 -1.9**
VLA pmax pmax
comp=Z,92nm,1.1s
FRB Frobisher Bay 44.15 40 P **P 08 06 47.7 +1.2**
comp=Z,72nm,0.6s,baz=306,slow=8.8,SNR=28
FRB LR LR 08 27 05.4
comp=Z,1µm,19.8s,baz=301,slow=38
comp=Z,72nm,0.6s
NUUG Nuugaatsiaq 44.43 26 *i* P **P 08 06 46.9 -1.9**
NUUG IAmb IAmb 08 06 50.5
comp=Z,90nm,1.4s
MDJ Mudanjiang 44.44 287 P **P 08 06 48.3 -0.9**
MDJ sP pP 08 06 53.0 -2.2
MDJ pmax pmax
comp=Z,27nm,1.0s
MDJ LR LR
comp=Z,2µm,22.0s
MDJ LR LR
comp=Z,1µm,17.9s
MDJ LR LR
comp=Z,2µm,20.6s
BOD Bodaibo 44.54 311 *e*P **P 08 06 49.1 -0.7**
BOD pmax pmax
comp=Z,82nm,1.1s
G40A Rib Lake 44.61 72 P **P 08 06 51.0 +0.4**
MJAR Matsushiro Arr 44.80 272 P **P 08 06 52.2 -0.1**
comp=Z,34nm,1.0s,baz=37,slow=6.5,SNR=84
MJAR ScP **ScP 08 12 23.3 -1.7**
comp=Z,0.5nm,0.4s,baz=56,slow=3.6,SNR=4.5
MJAR LR LR 08 24 18.8
comp=Z,604nm,21.8s,baz=61,slow=34

comp=Z,34nm,1.0s
MAJO Matsushiro 44.80 272 P P 08 06 52.3 0.0
MAJO Matsushiro 44.80 272 P P 08 06 52.4 0.0
MAJO Matsushiro 44.80 272c iP P 08 06 52.2 0.0
MAJO pmax pmax
comp=Z,140nm,1.2s
MJB9 Matsu-Tunnel 44.80 272 P P 08 06 52.4 +0.1
MSHR Mys Shultsa 44.85 284ceP P 08 06 52.8 +0.3
MSHR pmax pmax
comp=Z,209nm,1.3s
AMTX Amarillo 44.90 91 P P 08 06 53.3 +0.3
baz=315
MSTX Muleshoe 44.91 93 P P 08 06 53.5 +0.3
baz=316
BNX BinXian 44.95 290 ⇑P P 08 06 52.3 -0.9
BNX pmax pmax
comp=Z,69nm,1.0s
BNX pmax pmax
comp=Z,240nm,4.6s
KSU1 Kansas State U 44.95 83 P P 08 06 52.0 -1.3
baz=312
PSTR Posyet 45.00 284 iP P 08 06 54.1 +0.4
MNTX Cornudas Mount 45.03 97 P P 08 06 54.9 +0.8
baz=317,SNR=23
SCIA State Center 45.05 77 P P 08 06 54.5 +0.4
baz=310
UMMG Uummannaq 45.24 26 iP P 08 06 54.6 -0.6
UMMG IAmb IAmb 08 06 57.4
comp=Z,160nm,1.2s
E43A Lone Tree Farm 45.67 68 P P 08 06 59.9 +0.9
E43A IAmb IAmb 08 07 10.6
comp=Z,36nm,0.8s
JGF Kuroka 45.95 272 P P 08 07 01.6 +0.2
JFWS Jewell Farm 46.08 74 P P 08 07 02.8 +0.6
baz=310
I42A Draeger Farm, 46.19 72 P P 08 07 03.5 +0.4
I42A IAmb IAmb 08 07 17.2
comp=Z,44nm,0.8s
JHJ Hachijo jima 2 46.30 268 LR LR 08 27 00.1
comp=Z,287nm,18.8s,baz=100,slow=37
WMOK Wichita Mounta 46.69 89 P 08 07 07.7 +0.5
WMOK IAmb IAmb 08 07 21.1
comp=Z,42nm,1.0s
WMOK Wichita Mounta 46.69 89 P P 08 07 06.8 -0.3
baz=315,SNR=12
WMOK Wichita Mounta 46.69 89 P P 08 07 07.7 +0.5
WMOK pmax pmax
comp=Z,42nm,1.0s
KBS Kingsbay 46.72 2 eP P 08 07 08.0 +1.2
KBS IAmb IAmb 08 07 09.1
comp=Z,128nm,1.2s
KBS Kingsbay 46.72 2ceP P 08 07 08.7 +1.9
KBS pmax pmax
comp=Z,125nm,1.3s
KBS Kingsbay 46.72 2 iP P 08 07 06.8 0.0
DAG Danmarks Havn 46.78 11 P P 08 07 07.6 +0.3
DAG pmax pmax
comp=Z,67nm,1.1s
DAG Danmarks Havn 46.78 11 iP P 08 07 07.2 -0.1
DAG IAmb IAmb 08 07 08.7
comp=Z,115nm,1.3s
HIA Hailar 46.84 298 iP P 08 07 06.7 -1.5
HIA pmax pmax
comp=Z,22nm,1.0s
NRIK Noril'sk 46.88 333 P P 08 07 08.2 +0.1
comp=Z,33nm,0.8s,baz=55,slow=6.6,SNR=41
NRIK LR LR 08 29 52.7
comp=Z,2μm,18.8s,baz=32,slow=40
comp=Z,33nm,0.8s
NRIK Noril'sk 46.88 333ceP P 08 07 07.9 -0.3
NRIK pmax pmax
comp=Z,81nm,1.1s
SUMG Summit 47.09 20 P P 08 07 11.3 +1.1
SUMG pmax pmax
comp=Z,63nm,1.2s
SUMG Summit 47.09 20 iP P 08 07 10.0 -0.2
SUMG IAmb IAmb 08 07 12.6
comp=Z,81nm,1.2s
E46A Sault Ste Mari 47.13 67 P P 08 07 11.2 +0.8
E46A IAmb IAmb 08 07 30.6
comp=Z,41nm,1.0s
CN2 Changchun 47.26 289 eP P 08 07 08.9 -2.5
CN2 PP **PP 08 09 02.8 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,2μm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
SPA0 Spitsbergen Ar 47.53 1 eP P 08 07 13.6 +0.4
SPA0 IAmb IAmb 08 07 14.8
comp=Z,117nm,1.2s
SPITS Spitsbergen Ar 47.53 1 P P 08 07 13.3 +0.1
comp=Z,42nm,1.0s,baz=46,slow=4.8,SNR=14
SPITS LR LR 08 27 17.7
comp=Z,407nm,19.9s,baz=326,slow=36
comp=Z,42nm,1.0s
TUL3 Leonard 47.61 85 P P 08 07 13.1 -1.2
baz=314
ABTX Abilene, Hawle 47.69 91 P P 08 07 14.5 -0.5
baz=316,SNR=8.6
TX31 Lajitas Ar. Si 47.77 98 P P 08 07 16.8 +1.0
TXAR Lajitas Array 47.77 98 P P 08 07 16.6 +0.9
TXAR Lajitas Array 47.77 98 P P 08 07 17.2 +1.5
comp=Z,4.9nm,0.6s,baz=305,slow=5.5,SNR=60
TXAR ScP **ScP 08 12 36.9 -0.6**
comp=Z,2.8nm,1.1s,baz=298,slow=2.7,SNR=4.8
TXAR LR LR 08 26 39.4
comp=Z,924nm,18.4s,baz=301,slow=35
comp=Z,4.9nm,0.6s
L44A Lake County Fo 47.86 73 P P 08 07 14.4 -1.7
baz=311
GLMI Grayling 47.95 69 P P 08 07 14.4 -2.4
baz=310
LPIG La Paz 48.04 108 LR LR 08 25 06.1
comp=Z,594nm,18.1s,baz=326,slow=33
SFJD Kangerlussuaq 48.07 30 P P 08 07 19.0 +1.5
SFJD Kangerlussuaq 48.07 30 LR LR 08 30 49.5
comp=Z,706nm,18.9s,baz=313,slow=40
SFJD Kangerlussuaq 48.07 30 P P 08 07 19.0 +1.5
SFJD pmax pmax
comp=Z,118nm,1.2s
SFJD Kangerlussuaq 48.07 30 iP P 08 07 17.9 +0.4
SFJD IAmb IAmb 08 07 19.8
comp=Z,142nm,1.2s
HDIL Hopedale 48.16 76 P P 08 07 18.8 +0.2
HDIL Hopedale 48.16 76 P P 08 07 17.8 -0.7
baz=312,SNR=18
CIT Chita 48.21 304 eP P 08 07 19.5 +0.7
CIT e 08 07 30.9
CIT pmax pmax
comp=Z,134nm,1.4s
DBG Daneborg 48.74 13 iP P 08 07 20.8 -1.7
DBG IAmb IAmb 08 07 24.1
comp=Z,86nm,1.4s
CCM Cathedral Cave 48.75 80 P P 08 07 24.3 +1.3
CCM IAmb IAmb 08 07 35.6
comp=Z,26nm,0.9s
CCM Cathedral Cave 48.75 80 P P 08 07 22.5 -0.6
baz=313
CCM Cathedral Cave 48.75 80 P P 08 07 24.3 +1.3
CCM pmax pmax
comp=Z,26nm,1.0s
JCT Junction City 49.16 93 P P 08 07 26.6 +0.2
baz=318,SNR=55
FVM French Village 49.27 79 P P 08 07 26.9 -0.1
FVM IAmb IAmb 08 07 40.1
comp=Z,51nm,1.1s
FVM French Village 49.27 79 P P 08 07 26.9 -0.1
FVM pmax pmax
comp=Z,51nm,1.1s
JMN Monobe 49.30 273 P P 08 07 28.3 +0.9
WHTX Lake Whitney, 49.43 90 P P 08 07 28.2 -0.1
baz=317,SNR=6.9
ICESG Greenland Ices 49.44 24 iP P 08 07 27.4 -0.9
ICESG IAmb IAmb 08 07 30.1
comp=Z,144nm,1.1s
SFIN Lafayette 49.52 75 P P 08 07 28.7 -0.3
baz=313,SNR=8.2
SNY Shenyang 49.59 288 ⇑P P 08 07 29.6 +0.2
SNY pmax pmax
comp=Z,120nm,1.2s
SNY pmax pmax
comp=Z,410nm,3.5s
SNY LR LR
comp=Z,1μm,20.6s
SNY LR LR
comp=Z,1μm,17.1s
SNY LR LR
comp=Z,1μm,23.1s
NUUK Nuuk 49.68 33 iP P 08 07 30.4 +0.6
NUUK IAmb IAmb 08 07 32.6
comp=Z,78nm,1.1s
DY2G Dye2 49.68 29 iP P 08 07 28.2 -1.9
DY2G IAmb IAmb 08 07 32.5
comp=Z,61nm,1.2s
MIAR Mount Ida 49.85 85 P P 08 07 31.8 +0.3
baz=315
KSRS Korea Array 50.12 281 P P 08 07 34.0 +0.5
comp=Z,32nm,1.0s,baz=54,slow=7.2,SNR=54
KSRS LR LR 08 27 55.1
comp=Z,330nm,21.4s,baz=65,slow=35
comp=Z,32nm,1.0s
AAM Ann Arbor 50.14 70 P P 08 07 32.5 -1.1
baz=312
S44A Carbondale 50.14 79 P P 08 07 33.1 -0.5
S44A IAmb IAmb 08 07 46.7
comp=Z,40nm,0.8s
KSAR Wonju Array Be 50.15 281 P P 08 07 33.7 -0.1
435B Jarrell 50.23 91 P P 08 07 33.9 -0.6
baz=317
SCHQ Schefferville 50.26 49 P P 08 07 34.7 +0.4
comp=Z,21nm,1.1s,baz=328,slow=11,SNR=15
SCHQ LR LR 08 29 39.9
comp=Z,1μm,19.8s,baz=324,slow=37
comp=Z,21nm,1.1s
O48B Farmland 50.69 73 P P 08 07 36.9 -1.0
O48B IAmb IAmb 08 07 51.2
comp=Z,59nm,1.0s
O48B Farmland 50.69 73 P P 08 07 36.2 -1.6
baz=313,SNR=14
N49A Columbus Grove 50.78 72 P P 08 07 38.4 -0.1
N49A IAmb IAmb 08 07 39.4
comp=Z,47nm,1.2s
SADO Sadowa 50.92 65 LR LR 08 29 50.9
comp=Z,608nm,18.1s,baz=352,slow=37
833A Chaparral WMA, 51.01 95 P P 08 07 40.1 -0.2
baz=319,SNR=9.5
TJN Taejon 51.20 280ceP P 08 07 42.3 +0.7
NATX Nacogdoches 51.22 88 P P 08 07 42.2 +0.3
baz=317
BJO1 Bjornoya 51.24 0 eP P 08 07 42.2 +0.7
BJO1 IAmb IAmb 08 07 43.1
comp=Z,120nm,1.2s
JTU Tsushima 51.33 277 P P 08 07 43.4 +0.7
P49A Miami Univ. Ec 51.43 74 P P 08 07 42.8 -0.6
baz=314,SNR=7.0
WCI Wyandotte Cave 51.45 76 P P 08 07 42.4 -1.1
baz=314
SCO Scoresbysund 51.84 16 P P 08 07 46.9 +1.0
SCO IAmb IAmb 08 07 48.5
comp=Z,78nm,1.4s
SCO Scoresbysund 51.84 16 P P 08 07 46.9 +1.0
SCO pmax pmax
comp=Z,78nm,1.4s
SCO Scoresbysund 51.84 16 iP P 08 07 47.0 +1.0
SCO IAmb IAmb 08 07 48.1
comp=Z,93nm,1.5s
HKT Hockley 51.87 91 iP P 08 07 48.7 +2.1
HKT pmax pmax
comp=Z,76nm,1.4s
ACSO Alum Creek Sta 51.92 72 P P 08 07 45.9 -1.1
baz=314
WVT Waverly 52.05 79 P P 08 07 47.9 -0.1
WVT Waverly 52.05 79 P P 08 07 47.4 -0.6
baz=315
WVT Waverly 52.05 79 P P 08 07 47.9 -0.1
WVT pmax pmax
comp=Z,77nm,0.8s
XLT XiLinHaoTe 52.25 295 eP P 08 07 49.8 +0.2
XLT pP pP 08 07 54.4 -1.3
XLT PcP **PcP 08 09 01.5 +0.7**
XLT pmax pmax
comp=Z,110nm,1.1s
XLT pmax pmax
comp=Z,270nm,3.9s
XLT LR LR
comp=Z,110nm,16.4s
XLT LR LR
comp=Z,990nm,14.0s
XLT LR LR
comp=Z,1μm,21.0s
ERPA Erie 52.26 68 P P 08 07 49.0 -0.5
baz=313
OXF Oxford 52.29 82 P P 08 07 49.9 +0.1
baz=316
ISOG Isortoq, Green 52.34 27 iP P 08 07 48.8 -1.0
ISOG IAmb IAmb 08 07 51.0
comp=Z,113nm,1.4s
M53A WI Miller and 52.35 69 P P 08 07 50.1 -0.2
baz=314
IRK Irkutsk 52.39 309 eP P 08 07 49.4 -1.0
IRK pmax pmax
comp=Z,109nm,1.3s
Q51A Peebles 52.55 73 P P 08 07 51.7 0.0
ANGG Ammassalik, Gr 52.63 26 iP P 08 07 51.0 -0.9
ANGG IAmb IAmb 08 07 52.9
comp=Z,120nm,1.4s
DL2 Dalian 52.67 287 P P 08 07 52.8 +0.2
DL2 S **S 08 15 18.6 -0.4**
DL2 pmax pmax
comp=Z,51nm,0.8s
DL2 LR LR
comp=Z,800nm,17.6s
DL2 LR LR
comp=Z,3μm,16.6s
DL2 LR LR
comp=Z,2μm,15.4s
P52A Corning 52.80 72 P P 08 07 52.3 -1.3
baz=314
O53A New Philadelph 52.88 71 P P 08 07 53.7 -0.5
baz=314
U49A Red Boiling Sp 52.94 77 P P 08 07 54.6 -0.1
U49A IAmb IAmb 08 08 08.1
comp=Z,96nm,1.4s
JMIC Jan Mayen 53.23 11 LR LR 08 30 51.9
comp=Z,773nm,20.8s,baz=333,slow=36
VBMS Vicksburg 53.30 84 P P 08 07 56.5 -0.8
baz=317
M55A Ridgway 53.37 68 P P 08 07 57.8 0.0
M55A IAmb IAmb 08 08 14.0
comp=Z,51nm,0.9s
O54A Avella 53.39 70 P P 08 07 57.2 -0.7
O54A IAmb IAmb 08 08 14.8
comp=Z,42nm,1.0s
LONY Lake Ozonia 53.41 63 P P 08 07 56.9 -1.1
baz=314
X48A Hartselle 53.69 80 P P 08 07 59.5 -0.7
NRS Narsarsuaq 53.88 33 P P 08 08 01.9 +0.8
NRS IAmb IAmb 08 08 03.3
comp=Z,67nm,1.2s
NRS Narsarsuaq 53.88 33 P P 08 08 01.9 +0.8
NRS pmax pmax
comp=Z,67nm,1.2s
NCB Newcomb 54.04 63 P P 08 08 02.7 +0.1
NCB IAmb IAmb 08 08 16.7
comp=Z,30nm,1.1s
MCWV Mont Chateau 54.05 70 P P 08 08 01.1 -1.7
baz=315,SNR=7.6
ULN Ulaanbaatar 54.11 304ceP P 08 08 04.1 +0.8
ULN pmax pmax
comp=Z,44nm,1.0s
ZAK Zakamensk 54.13 308 eP P 08 08 03.0 -0.3
ZAK pmax pmax
comp=Z,29nm,1.2s
TZTN Tazewell 54.19 76 P P 08 08 03.1 -0.7
baz=316
MOY Mondy 54.26 311 eP P 08 08 04.6 +0.4
MOY pmax pmax
comp=Z,62nm,1.3s
BINY Binghamton 54.35 66 P P 08 08 05.3 +0.3
BINY IAmb IAmb 08 08 20.8
comp=Z,38nm,0.9s
BINY Binghamton 54.35 66 P P 08 08 04.2 -0.8
baz=314,SNR=8.1
SSPA Standing Stone 54.43 68 P P 08 08 04.6 -0.9
baz=315
SONM Songino Array 54.45 304 P P 08 08 06.4 +0.8
comp=Z,51nm,1.0s,baz=51,slow=6.3,SNR=33
SONM PcP **PcP 08 09 08.9 -0.2**
comp=Z,14nm,0.9s,baz=30,slow=2.3,SNR=4.4
SONM LR LR 08 33 56.7
comp=Z,2μm,19.4s,baz=36,slow=39
comp=Z,51nm,1.0s
FPAL Fort Paine 54.45 79 P P 08 08 05.0 -0.7
FPAL IAmb IAmb 08 08 18.6
comp=Z,55nm,0.9s
KRAR Krasnoyarsk 54.51 319 iP P 08 08 05.5 -0.3
V52A Sevierville 54.66 76 P P 08 08 07.0 -0.2
V52A IAmb IAmb 08 08 20.5
comp=Z,47nm,0.9s
TKL Tuckaleechee C 54.69 77 LR LR 08 31 05.5
comp=Z,1μm,19.2s,baz=327,slow=35
LRAL Lakeview Retre 54.74 81 P P 08 08 09.6 +1.7
LRAL Lakeview Retre 54.74 81 P P 08 08 07.1 -0.7
baz=317
L59A Walton 54.86 65 P P 08 08 09.2 +0.6
L59A IAmb IAmb 08 08 22.4
comp=Z,30nm,0.9s
BJI Beijing 54.88 291 P P 08 08 08.1 -0.7
BJI ScP **ScP 08 13 10.6 +2.7**
BJI S **S 08 15 49.1 +0.2**
BJI pmax pmax
comp=Z,10.0nm,1.2s
BJI pmax pmax
comp=Z,160nm,6.0s
BJI LR LR
comp=Z,310nm,16.2s
BJI LR LR
comp=Z,390nm,16.2s
BJI LR LR
comp=Z,620nm,16.1s
N58A Sunbury 54.92 67 P P 08 08 09.1 +0.1
N58A IAmb IAmb 08 08 25.1
comp=Z,43nm,1.2s
LBNH Lisbon 55.04 61 P P 08 08 10.1 +0.2
baz=315,SNR=5.5
HAMF Hammerfest 55.08 358 eP P 08 08 09.4 -0.4
HAMF IAmb IAmb 08 08 10.2
comp=Z,24nm,0.9s
VADS Vadso 55.43 356 eP P 08 08 12.3 +0.1
VADS IAmb IAmb 08 08 13.0
comp=Z,70nm,1.3s
BLA Blacksburg 55.46 73 P P 08 08 13.5 +0.4
BLA IAmb IAmb 08 08 26.7
comp=Z,44nm,1.1s
BLA Blacksburg 55.46 73 P P 08 08 12.8 -0.2
baz=316
BLA Blacksburg 55.46 73 P P 08 08 13.5 +0.4
BLA pmax pmax
comp=Z,44nm,1.1s
PKME Peaks-Kenny Pk 55.64 59 P P 08 08 13.9 -0.2
baz=315,SNR=5.7
L61B Northampton 55.91 63 P P 08 08 15.6 -0.6
baz=315
BRAL Brewton 56.07 83 P P 08 08 16.6 -0.8
baz=318
TRO Tromso 56.14 0 eP P 08 08 17.9 +0.6
TRO IAmb IAmb 08 08 18.4
comp=Z,169nm,1.6s
ARCES ARCESS Array B 56.15 357 P P 08 08 17.0 -0.5
comp=Z,5.9nm,0.5s,baz=29,slow=7.9,SNR=104
ARCES PcP **PcP 08 09 15.0 -0.1**
comp=Z,16nm,1.0s,baz=12,slow=6.7,SNR=5.7
ARCES LR LR 08 33 37.8
comp=Z,515nm,18.8s,baz=46,slow=37
comp=Z,5.9nm,0.5s
PAL Palisades 56.30 65 P P 08 08 17.4 -1.5
baz=316
CBN Corbin Frederi 56.44 70 P P 08 08 18.3 -1.6
baz=316
KMSC Kings Mountain 56.44 75 P P 08 08 19.2 -0.8
baz=317
HRV Adam Dziewonsk 56.45 63 P P 08 08 18.3 -1.7
baz=316
GOGA Godfrey 56.49 78 P P 08 08 18.7 -1.7
baz=317
GOGA Godfrey 56.49 78 P P 08 08 23.3 +2.9
KTK1 Kautokeino 56.73 358 eP P 08 08 21.1 -0.5
KTK1 IAmb IAmb 08 08 21.6
comp=Z,41nm,1.2s
HHC Hu-ho-hao-te 56.78 295 eP P 08 08 22.8 +0.3
HHC pP pP 08 08 26.9 -1.7
HHC sP sP 08 08 34.4 +3.4
HHC S **S 08 16 10.9 -3.5**
HHC SS **SS 08 19 59.5 -2.3**
HHC pmax pmax
comp=Z,43nm,1.1s
HHC pmax pmax
comp=Z,370nm,5.0s
HHC LR LR
comp=Z,1μm,12.1s
HHC LR LR
comp=Z,2μm,13.0s
HHC LR LR
comp=Z,1μm,15.6s
BORG Borgarnes 57.04 19 LR LR 08 35 56.8
comp=Z,680nm,18.9s,baz=336,slow=39
TIA Tai'an 57.10 287 P P 08 08 24.8 +0.1
TIA pmax pmax
comp=Z,30nm,1.2s
LVZ Lovozero 57.34 353ceP P 08 08 26.2 +0.2
LVZ pmax pmax
comp=Z,122nm,1.3s
LVZ Lovozero 57.34 353 P P 08 08 25.4 -0.6
comp=Z,89nm,1.1s,comp=Z,1μm
HNS HongShan 57.57 290 ⇑P P 08 08 28.5 +0.5
HNS eS **S 08 16 22.5 -2.2**
HNS pmax pmax
comp=Z,95nm,1.3s
HNS LR LR
comp=Z,550nm,18.4s
HNS LR LR
comp=Z,1μm,18.8s
HNS LR LR
comp=Z,2μm,20.6s
LOF Lofoten 57.58 2 eP P 08 08 29.2 +1.7
LOF IAmb IAmb 08 08 30.3
comp=Z,56nm,1.2s
M65A Busby, Falmout 57.60 63 P P 08 08 27.8 -0.4
baz=316
JOW Kunigami 57.64 272 LR LR 08 34 21.9
comp=Z,207nm,20.5s,baz=147,slow=37
APA Apatity 57.75 354 iP P 08 08 27.0 -1.8
APA iS **S 08 16 21.0 -5.2**
APA iPS **PnS 08 16 32.0 -6.0**
APA i 08 18 10.0
APA iSSS SSS 08 22 37.0
APA pmax pmax
comp=Z,14nm,1.2s
APA MLR MLR
comp=Z,900nm,10.0s
BTO Baotou 57.76 296 eP P 08 08 29.0 -0.5
BTO pP **pP 08 08 33.3 -2.3**
BTO sP **sP 08 08 36.6 -1.3**
BTO S **S 08 16 28.0 +0.6**
BTO pmax pmax
comp=Z,110nm,1.2s
BTO pmax pmax
comp=Z,530nm,5.7s
BTO LR LR
comp=Z,3μm,14.3s
BTO LR LR
comp=Z,3μm,16.3s
BTO LR LR
comp=Z,2μm,14.4s
STEI Steigen 57.81 2 eP P 08 08 29.3 +0.1
STEI IAmb IAmb 08 08 30.1
comp=Z,21nm,0.9s
TIGA Tifton 57.87 80 P P 08 08 30.1 -0.1
baz=318
CNNC Cliffs of the 58.30 73 P P 08 08 32.3 -0.8
baz=317
FAUS Fauske 58.36 2 eP P 08 08 33.1 0.0
FAUS IAmb IAmb 08 08 34.0
comp=Z,55nm,1.2s
NHSC New Hope 58.58 76 P P 08 08 33.7 -1.4
baz=318
TIY Taiyuan 58.58 292 eP P 08 08 35.8 +0.6
TIY pmax pmax
comp=Z,300nm,3.8s
ZALV Zalesovo Beam 59.11 321 P P 08 08 38.7 +0.2
comp=Z,7.8nm,0.3s,baz=37,slow=6.8,SNR=16
comp=Z,7.8nm,0.3s
ZALV Zalesovo Beam 59.11 321 iP P 08 08 39.0 +0.5

ZALV pmax pmax
comp=Z,8.0nm,0.3s
NJ2 Nanjing 59.18 283 *e*P **P 08 08 40.8 +1.5**
NJ2 pmax pmax
comp=Z,18nm,0.6s
KONS Konsvik 59.20 3 *e*P **P 08 08 39.4 +0.5**
KONS IAmb IAmb 08 08 39.6
comp=Z,27nm,0.9s
STOK Stokkvaagen 59.36 3 *e*P **P 08 08 40.3 +0.3**
STOK IAmb IAmb 08 08 41.4
comp=Z,65nm,1.1s
MOR8 Moi Rana 59.56 2 *e*P **P 08 08 40.2 -1.2**
MOR8 IAmb IAmb 08 08 41.0
comp=Z,28nm,1.0s
MSF Maaselka 59.64 355 P **P 08 08 42.0 0.0**
LYN LuoYang 60.90 289 ⇑P **P 08 08 51.3 +0.3**
LYN PP **PP 08 11 06.6 +1.7**
LYN pmax pmax
comp=Z,67nm,0.9s
LYN pmax pmax
comp=Z,650nm,4.4s
LYN LR LR
comp=Z,2μm,21.4s
LYN LR LR
comp=Z,730nm,15.3s
LYN LR LR
comp=Z,2μm,19.6s
ADZR Andozero 60.94 350 *e*P **P 08 08 49.8 -1.1**
ADZR *e* 08 11 04.0
ADZR pmax pmax
comp=Z,76nm,0.9s
NSS Namsos 61.13 4 *e*P **P 08 08 52.3 +0.1**
NSS IAmb IAmb 08 08 53.4
comp=Z,65nm,1.1s
DWPF Disney Wildern 61.60 81 P **P 08 08 54.7 -1.2**
baz=319
CMIG Matias Romero 62.32 100 LR LR 08 34 06.9
comp=Z,586nm,20.6s,baz=310,slow=34
TBLU Trondheim 62.34 5 *e*P **P 08 08 59.3 -1.0**
TBLU IAmb IAmb 08 09 00.6
comp=Z,82nm,1.1s
JOF Joensuu 62.50 354 *e*P **P 08 09 02.1 +0.7**
VAF Ylistaro 62.73 358 *e*P **P 08 09 03.5 +0.6**
WHN Wuhan 62.85 285 ⇓*i*P **P 08 09 04.3 +0.1**
WHN sP **sP 08 09 12.5 -0.3**
WHN pmax pmax
comp=Z,76nm,0.9s
MOL Molde 62.88 6 *e*P **P 08 09 04.5 +0.6**
MOL IAmb IAmb 08 09 05.4
comp=Z,84nm,1.2s
XAN Xi'an 63.22 292 P **P 08 09 06.4 -0.3**
XAN pmax pmax
comp=Z,55nm,1.4s
XAN pmax pmax
comp=Z,410nm,4.1s
XAN LR LR
comp=Z,1μm,16.8s
XAN LR LR
comp=Z,850nm,15.1s
XAN LR LR
comp=Z,1μm,17.7s
DOMB Dombas 63.49 5 *e*P **P 08 09 07.8 -0.2**
DOMB IAmb IAmb 08 09 09.1
comp=Z,60nm,0.9s
KEF Keuruu 63.55 357 *e*P **P 08 09 08.3 -0.1**
FOO Floro 63.67 7 *e*P **P 08 09 08.7 -0.5**
FOO IAmb IAmb 08 09 10.3
comp=Z,55nm,1.0s
TEIG Tepich 63.68 92 LR LR 08 38 54.0
comp=Z,270nm,18.8s,baz=340,slow=38
GTA Gaotai 63.87 302 ⇑P **P 08 09 10.6 -0.4**
GTA S **S 08 17 46.0 +0.6**
GTA pmax pmax
comp=Z,82nm,1.4s
GTA pmax pmax
comp=Z,380nm,4.0s
GTA LR LR
comp=Z,960nm,20.7s
GTA LR LR
comp=Z,670nm,18.9s
GTA LR LR
comp=Z,2μm,19.6s
KURK Kurchatov 63.96 322*ce*P **P 08 09 12.3 +1.0**
KURK pmax pmax
comp=Z,90nm,1.3s
KURBB Kurchatov Arra 64.07 322 P **P 08 09 12.1 +0.1**
comp=Z,47nm,1.1s,baz=33,slow=6.6,SNR=47
KURBB LR LR 08 39 24.6
comp=Z,3μm,19.6s,baz=22,slow=38
comp=Z,47nm,1.1s
VALR Valaam 64.08 354 *i*P **P 08 09 11.4 -0.4**
VALR pmax pmax
comp=Z,90nm,0.9s
HYA Hoyanger 64.18 7 *e*P **P 08 09 11.5 -1.1**
HYA IAmb IAmb 08 09 22.6
comp=Z,64nm,1.2s
SUE Sulen 64.18 8 *e*P **P 08 09 13.0 +0.5**
SUE IAmb IAmb 08 09 13.8
comp=Z,44nm,1.2s
FINES FINESS Array B 64.23 356 P **P 08 09 12.7 -0.2**
comp=Z,49nm,0.8s,baz=14,slow=7.4,SNR=192
FINES LR LR 08 41 20.5
comp=Z,296nm,18.2s,baz=32,slow=40
comp=Z,49nm,0.8s
FINES FINESS Array B 64.23 356 *i*P **P 08 09 12.6 -0.3**
FINES pmax pmax
comp=Z,49nm,0.8s
ZSN Zaisan 64.28 317 *e*P **P 08 09 14.0 +0.5**
comp=Z,29nm,0.7s,baz=316
ZSN Zaisan 64.28 317 *e*P **P 08 09 13.9 +0.5**
ZSN pmax pmax
comp=Z,29nm,0.7s
LZH Lanzhou 64.36 297 ⇑P **P 08 09 14.6 +0.2**
LZH sP sP 08 09 24.8 +1.9
LZH pmax pmax
comp=Z,81nm,1.4s
LZH pmax pmax
comp=Z,450nm,4.0s
LZH LR LR
comp=Z,2μm,13.1s
LZH LR LR
comp=Z,3μm,12.7s
LZH LR LR
comp=Z,2μm,13.4s
LRW Lerwick 64.52 11 *e*P **P 08 09 15.5 +0.7**
LRW IAmb IAmb 08 09 16.7
comp=Z,92nm,1.0s
LRW IAMs_20 IAMs_20 08 37 53.7
comp=Z,970nm,22.0s
NB2 NORSAR Subarra 64.59 4 P **P 08 09 15.6 +0.3**
comp=Z,88nm,0.9s,baz=356,slow=6.5
NB2 NORSAR Subarra 64.59 4 P **P 08 09 15.6 +0.3**
baz=356,slow=6.5
NOA NORSAR Array B 64.59 4 P **P 08 09 15.7 +0.3**
comp=Z,62nm,0.9s,baz=355,slow=6.6,SNR=191
comp=Z,62nm,0.9s
KIRV Kirov 64.62 343 P **P 08 09 15.3 -0.2**
comp=Z,128nm,1.0s,baz=42,slow=2.3,SNR=55
KIRV LR LR 08 40 01.9
comp=Z,720nm,21.9s,baz=30,slow=38
comp=Z,128nm,1.0s
KIRV Kirov 64.62 343*ce*P **P 08 09 15.6 +0.1**
BVAR Borovoye Array 64.71 329 P **P 08 09 16.8 +0.5**
comp=Z,33nm,0.5s,baz=44,slow=6.6,SNR=32
comp=Z,33nm,0.5s
BRVK Borovoye 64.72 329*ce*P **P 08 09 17.1 +0.9**
BRVK pmax pmax
comp=Z,102nm,1.0s
RAF Rauma 64.77 359 *e*P **P 08 09 17.0 +0.6**
ASK Askoy 64.79 8 *e*P **P 08 09 16.8 +0.3**
ASK IAmb IAmb 08 09 18.1
comp=Z,76nm,1.1s
ARU Arti 64.82 337 P **P 08 09 16.7 -0.1**
comp=Z,23nm,0.4s,baz=32,slow=3.6,SNR=28
comp=Z,23nm,0.4s
ARU Arti 64.82 337*d i*P **P 08 09 17.4 +0.6**
ARU 08 09 53.8
ARU 08 11 40.0
ARU S **S 08 17 59.4 +3.1**
ARU pmax pmax
comp=Z,137nm,1.3s
ARU MLR MLR
comp=Z,1μm,16.0s
BER Bergen 64.89 8 *e*P **P 08 09 17.8 +0.6**
BER IAmb IAmb 08 09 18.2
comp=Z,60nm,1.1s

NC602 NORSAR Array S 64.91 4 *e*P **P 08 09 17.5 +0.2**
NC602 IAmb IAmb 08 09 18.6
comp=Z,74nm,1.2s
CNSH ChangSha 65.45 284 P **P 08 09 21.4 +0.1**
CNSH S **S 08 18 07.1 +2.3**
CNSH pmax pmax
comp=Z,47nm,1.0s
ODD1 Odda 65.46 7 *e*P **P 08 09 21.7 +0.7**
ODD1 IAmb IAmb 08 09 22.6
comp=Z,68nm,1.0s
MEF Metsahovi 65.52 357 *e*P **P 08 09 22.2 +1.0**
HFS Hagfors 65.59 3 P **P 08 09 21.8 +0.1**
comp=Z,78nm,0.8s,baz=26,slow=3.8,SNR=155
comp=Z,78nm,0.8s
AAL Aland 65.63 360 *e*P **P 08 09 22.6 +0.6**
OSL Oslo 65.67 5 *e*P **P 08 09 22.8 +0.5**
LEWI Lewis, Hebride 65.71 15 *e*P **P 08 09 23.7 +1.1**
LEWI IAmb IAmb 08 09 24.4
comp=Z,74nm,1.3s
BIGH Upper Bighouse 65.79 13 *e*P **P 08 09 23.8 +0.7**
MK31 Makanchi Array 65.83 318*ce*P **P 08 09 23.6 0.0**
MKAR Makanchi Array 65.83 318 P **P 08 09 23.2 -0.4**
comp=Z,19nm,0.7s,baz=55,slow=8.8,SNR=20
MKAR LR LR 08 39 58.9
comp=Z,2μm,20.2s,baz=33,slow=38
comp=Z,19nm,0.7s
MKAR Makanchi Array 65.83 318 *i*P **P 08 09 23.2 -0.4**
MKAR pmax pmax
comp=Z,21nm,0.8s
KONO Kongsberg 65.90 5 *e*P **P 08 09 24.1 +0.3**
KONO Kongsberg 65.90 5*ce*P **P 08 09 25.0 +1.2**
KONO pmax pmax
comp=Z,149nm,1.3s
BLS5 Blasjo 65.93 7 *e*P **P 08 09 24.8 +0.8**
MAKZ Makanchi 65.94 318 ⇑P **P 08 09 23.0 -1.3**
UPP Uppsala 65.95 1 *e*P **P 08 09 24.9 +0.9**
LINV Loch Inver, As 65.95 14 *e*P **P 08 09 25.0 +0.9**
LINV IAmb IAmb 08 09 26.3
comp=Z,54nm,1.0s
LINV IAMs_20 IAMs_20 08 37 17.4
comp=Z,1μm,24.1s
WMQ Urumqi 66.03 313 ⇑P **P 08 09 25.5 +0.5**
WMQ pmax pmax
comp=Z,77nm,1.1s
WMQ pmax pmax
comp=Z,250nm,4.9s
WMQ LR LR
comp=Z,1μm,14.9s
WMQ LR LR
comp=Z,910nm,15.9s
WMQ LR LR
comp=Z,1μm,22.9s
KMY Karmoy 66.05 8 *e*P **P 08 09 24.8 +0.1**
ARBE Arbavere 66.25 356 *e*P **P 08 09 26.8 +0.8**
KPL Plockton 66.67 14 *e*P **P 08 09 29.2 +0.5**
KPL IAmb IAmb 08 09 30.4
comp=Z,52nm,1.3s
KPL IAMs_20 IAMs_20 08 37 50.3
comp=Z,1μm,24.8s
MCD Coleburn Disti 66.76 13 *e*P **P 08 09 30.3 +1.0**
MCD IAmb IAmb 08 09 31.3
comp=Z,146nm,1.1s
MTSE Matsula 67.04 357 *e*P **P 08 09 32.0 +1.0**
SNART Snartemo 67.06 7 *e*P **P 08 09 32.2 +1.0**
VSU Vasula 67.19 356*ce*P **P 08 09 32.4 +0.4**
VSU pmax pmax
comp=Z,143nm,1.0s
HOMB Homborsund 67.22 6 *e*P **P 08 09 32.7 +0.6**
VIKU Vikbolandet 67.30 1 *e*P **P 08 09 33.7 +1.1**
DRUM Mains of Drumt 67.51 13 *e*P **P 08 09 34.7 +0.7**
DRUM IAmb IAmb 08 09 35.8
comp=Z,128nm,0.9s
LAWE Loch Awe, Argy 67.75 15 *e*P **P 08 09 36.4 +0.8**
LAWE IAmb IAmb 08 09 37.4
comp=Z,88nm,1.3s
LAWE IAMs_20 IAMs_20 08 41 10.5
comp=Z,1μm,19.5s
INVG Invergeldie, C 67.78 14 *e*P **P 08 09 36.0 +0.3**
INVG IAmb IAmb 08 09 37.0
comp=Z,15nm,0.9s
INVG IAMs_20 IAMs_20 08 39 29.0
comp=Z,396nm,17.5s
PGBU Glenifferbraes 68.32 14 *e*P **P 08 09 39.9 +0.7**
PGBU IAmb IAmb 08 09 40.9
comp=Z,80nm,1.2s
PGBU IAMs_20 IAMs_20 08 38 36.4
comp=Z,1μm,23.5s
EDI Edinburgh 68.39 13 *e*P **P 08 09 40.4 +0.8**
CD2 Chengdu 68.40 293 P **P 08 09 40.4 +0.2**
CD2 pP pP 08 09 43.3 -3.1
CD2 sP sP 08 09 44.9 -3.8
CD2 S **S 08 18 40.8 +0.3**
CD2 pmax pmax
comp=Z,80nm,0.9s
CD2 pmax pmax
comp=Z,260nm,3.9s
ESY Stoneypath 68.47 13 *e*P **P 08 09 40.8 +0.7**
TDK Taldyqorghan 68.83 319 *e*P **P 08 09 42.9 +0.3**
baz=319
TDK LR LR 08 40 16.1
comp=Z,1μm,17.3s,baz=319
TDK Taldyqorghan 68.83 319 *e*P **P 08 09 42.8 +0.3**
TDK MLR MLR
comp=Z,1μm,17.0s
GOMU GeErMu 68.84 303 P **P 08 09 43.1 -0.1**
GOMU pmax pmax
comp=Z,43nm,1.0s
GOMU LR LR
comp=Z,1μm,16.5s
GOMU LR LR
comp=Z,1μm,15.3s
GOMU LR LR
comp=Z,3μm,15.9s
EKA Eskdalemuir Ar 68.97 13 P **P 08 09 44.1 +0.9**
comp=Z,27nm,0.8s,baz=341,slow=4.7,SNR=76
comp=Z,27nm,0.8s
ESK Eskdalemuir 68.97 13 *e*P **P 08 09 44.1 +0.8**
ESK IAmb IAmb 08 09 45.2
comp=Z,58nm,1.1s
NEWG New Galloway 69.03 14 *e*P **P 08 09 44.0 +0.4**
NEWG IAmb IAmb 08 09 45.3
comp=Z,45nm,1.2s
MOS Moscow 69.05 349 *e*P **P 08 09 42.3 -1.4**
MOS *e*S **S 08 18 52.2 +4.9**
MOS pmax pmax
comp=Z,300nm,1.7s
MOS pmax pmax
comp=Z,148nm,1.3s
MOS pmax pmax
comp=N,112nm,1.1s
MOS MLR MLR
comp=Z,700nm,20.0s
MUD Monsted U'grnd 69.06 6 *i*P **P 08 09 44.2 +0.4**
MUD IAmb IAmb 08 09 45.8
comp=Z,102nm,1.2s
GULI GuiLin 69.13 284 P **P 08 09 45.0 +0.3**
GULI pmax pmax
comp=Z,90nm,1.1s
GAL1 Galloway 69.20 15 *e*P **P 08 09 45.1 +0.5**
GAL1 IAmb IAmb 08 09 46.4
comp=Z,70nm,1.1s
GAL1 IAMs_20 IAMs_20 08 42 03.0
comp=Z,1μm,19.0s
DEL Delary 69.27 3 *e*P **P 08 09 46.5 +1.4**
EDMD Edmundbyers 69.61 13 *e*P **P 08 09 48.1 +0.9**
EDMD IAmb IAmb 08 09 49.2
comp=Z,55nm,1.2s
KESW Keswick, Cumbr 69.70 14 *e*P **P 08 09 48.1 +0.4**
KESW IAmb IAmb 08 09 49.6
comp=Z,61nm,1.1s
KESW IAMs_20 IAMs_20 08 39 06.4
comp=Z,937nm,23.4s
ARXS Arharly 69.71 319 *e*P **P 08 09 48.2 +0.1**
ILTH Belurgan, Co L 69.77 16 *e*P **P 08 09 48.9 +0.8**
OBN Obninsk 69.78 349 LR LR 08 46 20.5
comp=Z,780nm,18.4s,baz=19,slow=41
OBN Obninsk 69.78 349*c i*P **P 08 09 47.7 -0.5**
OBN *e**SP **pP 08 09 53.0 -1.4**
OBN *i* 08 09 57.0
OBN *i* 08 10 05.0
OBN S S 08 18 45.0 -11
OBN *e* 08 19 34.2
OBN *i* SSS SSS 08 26 24.1
OBN pmax pmax
comp=Z,137nm,1.0s

OBN MLR MLR
comp=Z,1μm,19.0s
OBN Obninsk 69.78 349 P **P 08 09 47.9 -0.3**
comp=Z,111nm,0.8s,comp=Z,1μm
IOMK Kirk Michael 69.81 15 *e*P **P 08 09 49.1 +0.6**
IGLA Glengowla, Co 69.84 18 *e*P **P 08 09 49.5 +0.9**
SHLS Shalkode 69.97 317 *e*P **P 08 09 48.9 -0.9**
baz=317
SHLS Shalkode 69.97 317 *e*P **P 08 09 48.9 -0.9**
COP Copenhagen 70.00 4 *i*P **P 08 09 49.4 -0.2**
COP IAmb IAmb 08 09 51.3
comp=Z,169nm,1.2s
KPKS Kokpek 70.02 318⇑*i*P **P 08 09 50.6 +0.6**
comp=Z,60nm,0.9s,baz=318
KPKS *e*S **S 08 19 01.7 +2.4**
baz=318
KPKS Kokpek 70.02 318*c i*P **P 08 09 50.6 +0.6**
KPKS *e*S **S 08 19 01.6 +2.3**
KPKS pmax pmax
comp=Z,60nm,0.9s
SSRD Sdr. Stenderup 70.06 6 *i*P **P 08 09 50.1 +0.2**
SSRD IAmb IAmb 08 09 52.0
comp=Z,121nm,1.1s
ISAL Salakas 70.10 356 *e*P **P 08 09 52.4 +2.2**
UZB Uzynbulak 70.15 318⇑*i*P **P 08 09 51.2 +0.2**
comp=Z,27nm,1.2s,baz=318
UZB Uzynbulak 70.15 318*c i*P **P 08 09 51.1 +0.2**
UZB pmax pmax
comp=Z,27nm,1.2s
GDLE Glaisdale, N Y 70.16 12 *e*P **P 08 09 51.3 +0.7**
PABE Paberze 70.25 357 *e*P **P 08 09 52.3 +1.2**
GYA Guiyang 70.29 288 ⇓P **P 08 09 52.6 +0.6**
GYA pmax pmax
comp=Z,82nm,1.0s
BTLS Baital 70.41 322⇑*i*P **P 08 09 52.7 +0.4**
comp=Z,36nm,0.9s,baz=322
BTLS Baital 70.41 322*c i*P **P 08 09 52.6 +0.4**
BTLS pmax pmax
comp=Z,36nm,0.9s
AKTO Aktyubinsk 70.46 335 P **P 08 09 52.8 +0.3**
comp=Z,62nm,0.9s,baz=22,slow=5.6,SNR=16
AKTO LR LR 08 44 35.2
comp=Z,814nm,19.7s,baz=24,slow=39
comp=Z,62nm,0.9s
SATY Saty 70.47 318⇑*i*P **P 08 09 53.2 +0.4**
comp=Z,31nm,1.0s,baz=318
SATY Saty 70.47 318*c i*P **P 08 09 53.2 +0.4**
SATY pmax pmax
comp=Z,31nm,1.0s
HPK Haverah Park 70.51 13 *e*P **P 08 09 53.4 +0.7**
BSD Bornholm Skovb 70.66 3 *e*P **P 08 09 54.7 +1.2**
BSD Bornholm Skovb 70.66 3 *i*P **P 08 09 53.8 +0.2**
BSD IAmb IAmb 08 09 54.8
comp=Z,53nm,1.1s
WME Myndd Eilian 70.69 15 *e*P **P 08 09 53.9 +0.1**
WME IAmb IAmb 08 09 55.4
comp=Z,48nm,1.0s
BELG Belogornoye 70.84 342 P **P 08 09 55.0 +0.2**
comp=Z,260nm,1.1s,baz=164,slow=1.9,SNR=16
comp=Z,260nm,1.1s
BELG Belogornoye 70.84 342 *e*P **P 08 09 54.1 -0.6**
BELG pmax pmax
comp=Z,50nm,1.1s
MDOK Medeo 70.90 319 *i*P **P 08 09 55.8 +0.3**
baz=319
MDOK LR LR 08 41 31.8
comp=Z,594nm,16.2s,baz=319
MDOK Medeo 70.90 319 *i*P **P 08 09 55.8 +0.3**
MDOK MLR MLR
comp=Z,594nm,16.0s
AAA Alma-Ata 70.92 319 *e*P **P 08 09 56.1 +0.6**
comp=Z,30nm,0.6s,baz=319
AAA LR LR 08 41 32.9
baz=319
AAA Alma-Ata 70.92 319 *e*P **P 08 09 56.1 +0.6**
AAA pmax pmax
comp=Z,30nm,0.6s
LBWR Ladybower, Pea 71.04 13 *e*P **P 08 09 56.7 +0.7**
LBWR IAmb IAmb 08 09 57.9
comp=Z,44nm,1.0s
TNSS Tian-Shan 71.05 319 *e*P **P 08 09 56.9 +0.2**
baz=319
TNSS Tian-Shan 71.05 319 *e*P **P 08 09 56.9 +0.2**
MNK Minsk 71.09 355 *i*P **P 08 09 56.9 +0.7**
MNK *i* 08 12 33.8
MNK *i* PPP PPP 08 14 16.7
MNK *i* S **S 08 19 12.1 +0.9**
MNK *i* SS **SS 08 23 47.0 +3.7**
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=Z,64nm,0.6s
MNK pmax pmax
comp=N,91nm,1.0s
MNK MLR MLR
comp=E,206nm,21.0s
MNK MLR MLR
comp=Z,448nm,18.0s
RGN Rugen 71.17 4 *e*P 08 09 58.1
comp=Z,196nm,1.2s,baz=356,slow=5.8
IWEX Carrickbyrne, 71.29 16 *e*P **P 08 09 58.2 +0.7**
FOEL Foel Wylfa 71.34 14 *e*P **P 08 09 58.5 +0.6**
FOEL IAmb IAmb 08 09 59.9
comp=Z,88nm,1.1s
FOEL IAMs_20 IAMs_20 08 43 17.0
comp=Z,1μm,19.8s
SGDS Sogindy 71.56 321⇑*i*P **P 08 09 60.0 +0.5**
comp=Z,32nm,1.1s,baz=321
SGDS Sogindy 71.56 321*c i*P **P 08 09 59.9 +0.5**
SGDS pmax pmax
comp=Z,32nm,1.1s
BSEG Bad Segeberg 71.64 6 *e*P 08 10 00.6
comp=Z,67nm,1.1s,baz=356,slow=5.8
BSEG *e*L 08 50 04.5
comp=Z,570nm,19.0s
TKM2 Tokmak 2 71.66 320 P **P 08 10 00.9 +0.7**
SNR=37
HLM1 Long Mynd 71.75 14 *e*P **P 08 10 00.8 +0.5**
HLM1 IAmb IAmb 08 10 01.7
comp=Z,35nm,1.1s
SUW Suwalki 71.76 358 *e*P **P 08 10 00.2 -0.1**
SUW Suwalki 71.76 358 *e*P **P 08 10 01.3 +1.0**
USP Ospenovka 71.77 321 P **P 08 10 01.5 +0.9**
SNR=24
CHMS Chunysh 71.91 320 P **P 08 10 02.5 +1.0**
SNR=34
LPSR Galich'ya Gora 71.97 347 *e*P **P 08 10 00.7 -0.9**
LPSR pmax pmax
comp=Z,160nm,1.2s
ULHL Ulahol 72.00 319 P **P 08 10 03.0 +0.8**
SNR=23
WACR West Acre 72.00 12 *e*P **P 08 10 02.8 +1.0**
WACR IAmb IAmb 08 10 03.4
comp=Z,140nm,1.0s
RSBS Rosebush, Pemb 72.02 15 *e*P **P 08 10 02.7 +0.8**
RSBS IAmb IAmb 08 10 03.8
comp=Z,68nm,1.1s
KBK Karagaybulak 72.13 320 P **P 08 10 04.5 +1.5**
SNR=22
AAK Ala-Archa 72.32 320 P **P 08 10 04.9 +0.8**
comp=Z,54nm,0.8s,baz=81,slow=2.5,SNR=23
AAK LR LR 08 44 48.1
comp=Z,3μm,18.3s,baz=45,slow=38
comp=Z,54nm,0.8s
AAK Ala-Archa 72.32 320*ce*P **P 08 10 05.3 +1.2**
AAK pmax pmax
comp=Z,147nm,1.3s
PPT Papeete 72.46 169 LR LR 08 37 31.4
comp=Z,560nm,18.2s,baz=316,slow=32
PPT2 Papeete2 72.48 169 *e*P **P 08 10 04.0 -1.0**
comp=Z,65nm,26.0s
PPT2 *e*S **S 08 19 30.6 +2.6**
comp=Z,459nm,30.5s
PPT2 *e*SS **SS 08 24 09.9 +2.5**
comp=Z,195nm,27.2s
PPT2 *e*LR LR 08 32 03.9
comp=Z,2μm,23.8s
PPT2 *e*LR LR 08 32 12.8
comp=Z,1μm,24.8s
GKP Gorka Klasztor 72.55 1 *e*P **P 08 10 05.8 +0.8**
EKS2 Erkin-Say 72.56 321 P **P 08 10 06.6 +1.1**
SNR=24
STRD Stroud 72.57 14 *e*P **P 08 10 06.5 +1.3**
STRD IAmb IAmb 08 10 07.3
comp=Z,157nm,1.3s
GORT1 Trebel 72.64 5 *e*P 08 10 06.6

comp=Z,80nm,1.4s,baz=356,slow=5.8
ELMS Elmsett, Ipswi 72.66 12 *e*P **P 08 10 06.1 +0.4**
RETH Rethem/Aller, 72.78 6 *e*P 08 10 07.5
comp=Z,43nm,1.1s,baz=356,slow=5.8
VORR Voronezh 72.85 347 *e*P **P 08 10 05.9 -0.9**
VORR pmax pmax
comp=Z,148nm,1.2s
PZH PanZhiHua 72.95 292 P **P 08 10 08.3 +0.3**
PZH S **S 08 19 34.3 +0.5**
PZH pmax pmax
comp=Z,60nm,0.9s
PZH pmax pmax
comp=Z,360nm,11.9s
PZH LR LR
comp=Z,440nm,15.2s
PZH LR LR
comp=Z,480nm,15.7s
PZH LR LR
comp=Z,710nm,20.6s
VRH Novokhopyorsk 72.96 345 *e*P **P 08 10 06.6 -0.9**
VRH pmax pmax
comp=Z,124nm,1.3s
NRDL Niedersach Rie 73.07 6 *e*P 08 10 08.9
comp=Z,70nm,1.2s,baz=356,slow=5.8
IBBN Ibbenburen 73.10 7 *e*P 08 10 09.3
comp=Z,115nm,1.4s,baz=356,slow=5.8
WOL Wolverton 73.15 13 *e*P **P 08 10 09.4 +0.8**
RUE Ruedersdorf 73.25 3 *e*P **P 08 10 10.6 +1.4**
RUE Ruedersdorf 73.26 3 *e*P 08 10 10.1
comp=Z,134nm,1.2s,baz=356,slow=5.8
FLTG Flechtingen 73.30 5 *e*P 08 10 09.8
comp=Z,54nm,1.2s,baz=356,slow=5.8
VSR Storozhevoye 73.30 347 *e*P **P 08 10 09.0 -0.5**
VSR pmax pmax
comp=Z,210nm,1.4s
JTS Las Juntas de 73.49 95 LR LR 08 43 28.4
comp=Z,258nm,20.3s,baz=312,slow=36
KMI Kunming 73.51 290 ⇑P **P 08 10 11.3 -0.1**
KMI pmax pmax
comp=Z,24nm,0.8s
VORD Divnogorie 73.53 347 *e*P **P 08 10 10.3 -0.5**
VORD pmax pmax
comp=Z,180nm,1.1s
BRLS Borolday 73.64 324 ⇑*i*P **P 08 10 13.3 +1.6**
baz=324
BRLS Borolday 73.64 324*c i*P **P 08 10 13.3 +1.6**
CCA1 Carnmenellis 73.66 16 *e*P **P 08 10 12.3 +0.7**
CLZ Clausthal 73.74 6 *e*P 08 10 13.4
comp=Z,99nm,1.3s,baz=356,slow=5.8
BUG Bochum--Univer 73.92 8 *e*P 08 10 14.0
comp=Z,77nm,1.2s,baz=356,slow=5.8
BEL Belsk 73.99 359 *e*P **P 08 10 14.3 +0.8**
GTTG Gottingen 74.01 6 *e*P 08 10 14.7
comp=Z,96nm,1.2s,baz=356,slow=5.8
KASTN Kahler Asten 74.25 7 *e*P 08 10 16.0
comp=Z,44nm,1.3s,baz=356,slow=5.8
RNPP9 Sopachiv 74.27 356 P **P 08 10 15.5 +0.3**
QIZ Qiongzhong 74.35 281 P **P 08 10 16.8 +0.7**
QIZ S **S 08 19 53.4 +4.0**
QIZ pmax pmax
comp=Z,30nm,1.5s
QIZ LR LR
comp=Z,230nm,16.8s
QIZ LR LR
comp=Z,360nm,18.5s
QIZ LR LR
comp=Z,410nm,20.2s
RNPP8 Varash 74.35 356 P **P 08 10 16.0 +0.4**
IUG Iuzhnay 74.35 323 *e*P **P 08 10 16.7 +0.6**
comp=Z,66nm,1.0s,baz=323
IUG Iuzhnay 74.35 323 *e*P **P 08 10 16.6 +0.6**
IUG pmax pmax
comp=Z,66nm,1.0s
JAY Jayapura 74.39 242 P **P 08 10 17.0 +0.6**
comp=Z,70nm,1.2s,comp=Z,859nm
CLL Collm 74.40 4 ⇑*i*P **P 08 10 16.4 +0.5**
CLL pmax pmax
comp=Z,50nm,1.2s
CLL MLR MLR
comp=Z,400nm,19.3s
CLL Collm 74.40 4 *e*P 08 10 16.3
comp=Z,44nm,1.1s,baz=356,slow=5.8
CLL *e*L 08 44 58.9
comp=Z,387nm,21.8s
KSH Kashi 74.44 318 P **P 08 10 20.5 +3.9**
KSH pP sP 08 10 24.1 -1.1
KSH sP PcP 08 10 30.3 -0.9
KSH pmax pmax
comp=Z,180nm,1.1s
KSH LR LR
comp=Z,2μm,20.3s
KSH LR LR
comp=Z,1μm,18.9s
KSH LR LR
comp=Z,3μm,20.6s
NEUB Neuenburg 74.44 5 *e*P 08 10 17.1
comp=Z,99nm,1.2s,baz=356,slow=5.8
RNPP5 Staryi Chortor 74.45 356 P **P 08 10 16.6 +0.3**
BSTI Sart Tilman 74.63 9 *d*P **P 08 10 18.3 +1.0**
comp=Z,6.4nm,0.0s
MEM Membach 74.64 9 *d*P **P 08 10 18.1 +0.7**
comp=Z,23nm,1.1s
BTNL Ternell 74.68 9 *d*P **P 08 10 18.7 +1.0**
comp=Z,21nm,1.2s
UBBA Unterbreizbach 74.73 6 *e*P 08 10 18.5
comp=Z,52nm,1.6s,baz=356,slow=5.8
GENI Genyem 74.74 243 P **P 08 10 17.8 -0.6**
BCLA Clavier 74.77 9 *d*P **P 08 10 17.9 -0.2**
comp=Z,12nm,0.0s
DAV Davao City (W) 74.77 261 LR LR 08 40 28.4
comp=Z,364nm,19.7s,baz=350,slow=34
BGES Gesves 74.78 9 *d*P **P 08 10 18.6 +0.4**
AKASG Malin Array Be 74.79 353 P **P 08 10 18.0 -0.3**
comp=Z,22nm,0.4s,baz=8.8,slow=5.7,SNR=86
AKASG LR LR 08 43 38.6
comp=Z,508nm,21.0s,baz=27,slow=36
comp=Z,22nm,0.4s
AKASG Malin Array Be 74.79 353 *i*P **P 08 10 18.0 -0.3**
AKASG pmax pmax
comp=Z,23nm,0.4s
AKBB Malin Array Si 74.79 353*ce*P **P 08 10 17.9 -0.3**
AKBB pmax pmax
comp=Z,196nm,1.1s
AKBB Malin Array Si 74.80 353 P **P 08 10 17.6 -2.4**
KIEV Kiev 74.80 353 ⇑P **P 08 10 18.3 0.0**
AHRW Bad Neuenahr-A 74.80 8 *e*P 08 10 19.3
comp=Z,32nm,1.1s,baz=356,slow=5.8
KIEV Kiev 74.80 353 ⇑P **P 08 10 18.3 -1.8**
KIEV Kiev 74.80 353 P **P 08 10 17.6 -2.4**
comp=Z,617nm,1.2s,comp=Z,7μm
MI30 MI30,Zelenitsa 74.81 354 P **P 08 10 17.8 -0.6**
BMRD Maredsous 74.83 10 *d*P **P 08 10 19.4 +0.9**
comp=Z,22nm,1.2s
BRG Berggiesshubel 74.87 3 *i*P **P 08 10 19.4 +0.7**
BRG Amp 08 10 20.8
comp=Z,46nm,1.1s
BRG Berggiesshubel 74.87 3 P P 08 10 28.3 +10
BRG Amp 08 10 30.2
comp=Z,32nm,1.2s
BRG Berggiesshubel 74.87 3 *i*P **P 08 10 19.4 +0.7**
BRG 08 10 28.3
BRG pmax pmax
comp=Z,47nm,1.1s
BRG Berggiesshubel 74.87 3 *e*P 08 10 19.3
comp=Z,47nm,1.1s,baz=356,slow=5.8
BHOU Houvegnez 74.90 9 *d*P **P 08 10 19.8 +0.9**
comp=Z,9.3nm,1.0s
KSP Ksiaz 74.96 2 *e*P **P 08 10 19.8 +0.5**
KSP Ksiaz 74.96 2 P **P 08 10 18.7 -0.5**
comp=Z,46nm,1.2s,comp=Z,655nm
MOX Moxa 75.00 5 *e*P 08 10 20.3
comp=Z,84nm,1.2s,baz=356,slow=5.8
MOX *e*L 08 53 24.7
comp=Z,323nm,19.5s
DOU Dourbes 75.02 10 *d*P **P 08 10 20.1 +0.6**
comp=Z,14nm,1.1s
RCHB Rochefort 75.02 9 *d*P **P 08 10 20.1 +0.5**
comp=Z,15nm,1.0s
JSA Saint Aubin 75.10 14 *e*P **P 08 10 20.6 +0.6**
HSKC Hora Svate Kat 75.11 4 *e*P **P 08 10 21.2 +1.0**
HSKC AMS AMS 08 52 30.0
comp=Z,400nm,18.5s
PLN Plauen 75.18 5 *e*P 08 10 21.3
comp=Z,28nm,1.2s,baz=356,slow=5.8
RICC Richard 75.20 3 *e*P **P 08 10 22.1 +1.5**
TNS Taunus Mts 75.22 7 *e*P 08 10 21.7
comp=Z,46nm,1.2s,baz=356,slow=5.8
TNS *e*L 08 52 15.2
comp=Z,453nm,19.7s
PVCC Panska Ves 75.23 3 AMS AMS 08 50 20.0
comp=Z,500nm,18.3s
OSTC Ostas 75.25 2 AMS AMS 08 53 20.0
comp=Z,800nm,16.5s
TANN Tannenbergstha 75.27 4 *e*P 08 10 21.9
comp=Z,60nm,1.6s,baz=356,slow=5.8
RAR Rarotonga 75.44 179 LR LR 08 36 50.6
comp=Z,360nm,18.9s,baz=302,slow=30
DPC Dobruska-Polom 75.45 2 *e*P **P 08 10 23.4 +1.2**
DPC AMS AMS 08 53 30.0
comp=Z,500nm,17.2s
DPC Dobruska-Polom 75.45 2 *e*P **P 08 10 23.4 +1.2**
DPC MLR MLR
comp=Z,500nm,17.2s
DPC Dobruska-Polom 75.45 2 P **P 08 10 22.7 +0.5**
comp=Z,68nm,1.2s,comp=Z,831nm
WLF Walferdange 75.59 9 *d*P **P 08 10 24.4 +1.5**
comp=Z,22nm,1.2s
WLF Walferdange 75.59 9 *e*P 08 10 24.2
comp=Z,69nm,1.2s,baz=356,slow=5.8
OJC Ojcow 75.61 360 *e*P **P 08 10 23.2 +0.2**
OJC Ojcow 75.61 360 P **P 08 10 22.8 -0.2**
comp=Z,36nm,1.4s,comp=Z,622nm
MANZ Manzenberg 75.68 5 *e*P 08 10 24.2
comp=Z,10nm,1.4s,baz=356,slow=5.8
PRA Prague 75.69 3 AMS AMS 08 50 40.0
comp=Z,500nm,20.6s
KRLC Kraliky 75.74 2 *e*P **P 08 10 24.7 +0.9**
KRLC *ex* x 08 10 33.5
KRLC AMS AMS 08 57 30.0
comp=Z,400nm,16.1s
KRLC Kraliky 75.74 2 *e*P **P 08 10 24.7 +0.9**
KRLC *e* 08 10 33.5
KRLC MLR MLR
comp=Z,400nm,16.1s
PRU Pruhonice 75.77 3 *e*P **P 08 10 24.9 +1.0**
PRU AMS AMS 08 50 40.0
comp=Z,500nm,21.1s
PRU Pruhonice 75.77 3 *e*P **P 08 10 24.9 +1.0**
PRU MLR MLR
comp=Z,500nm,21.1s
GOPC GO Pecny, Ondr 75.85 3 *e*P **P 08 10 24.8 +0.4**
GOPC AMS AMS 08 50 30.0
comp=Z,500nm,19.4s
GOPC GO Pecny, Ondr 75.85 3 *e*P **P 08 10 24.8 +0.4**
GOPC MLR MLR
comp=Z,500nm,19.4s
TNCH TengChong 75.87 293 ⇑P **P 08 10 25.5 +0.4**
TNCH pP pP 08 10 29.5 -1.9
TNCH sP sP 08 10 30.6 -3.1
TNCH PP **PP 08 13 12.9 -2.0**
TNCH S **S 08 20 09.1 +2.5**
TNCH SKS **SKSac 08 20 25.0 -10**
TNCH pmax pmax
comp=Z,88nm,0.8s
TNCH LR LR
comp=Z,690nm,19.8s
TNCH LR LR
comp=Z,660nm,15.9s
TNCH LR LR
comp=Z,940nm,21.1s
LSA Lhasa 75.89 301 P **P 08 10 27.4 +1.9**
LSA pmax pmax
comp=Z,72nm,0.9s
ROTZ Rotzenmuhle 75.90 5 *e*P 08 10 25.7
comp=Z,12nm,1.3s,baz=356,slow=5.8
GRF Grafenberg Arr 75.93 5 *e*P 08 10 25.9
comp=Z,75nm,1.4s,baz=356,slow=5.8
GRF *e*L 08 53 19.6
comp=Z,314nm,19.2s
LVV L'vov 75.94 357 *e*P **P 08 10 25.1 +0.3**
LVV *e* 08 10 38.4
OKC Ostrava-Krasne 75.99 1 *e*P **P 08 10 26.0 +0.8**
OKC AMS AMS 08 48 50.0
comp=Z,300nm,17.6s
OKC Ostrava-Krasne 75.99 1 *e*P **P 08 10 26.0 +0.8**
OKC MLR MLR
comp=Z,300nm,17.6s
MORC Moravsky Berou 76.05 1 ⇑P **P 08 10 25.9 +0.4**
MORC Moravsky Berou 76.05 1 *e*P **P 08 10 25.8 +0.2**
MORC Moravsky Berou 76.05 1 ⇑P **P 08 10 25.9 +0.4**
KWP Kalwaria Pacla 76.16 358 *e*P **P 08 10 26.9 +0.8**
NIE Niedzica 76.41 359 *e*P **P 08 10 28.7 +1.1**
NIE Niedzica 76.41 359 P **P 08 10 27.9 +0.3**
comp=Z,17nm,0.8s,comp=Z,263nm
MAUC Maruska 76.46 1 *e*P **P 08 10 28.9 +1.0**
VRAC Vranov 76.50 2 *e*P **P 08 10 28.9 +0.8**
WET Wettzell 76.56 4 *e*P 08 10 29.4
comp=Z,44nm,1.3s,baz=356,slow=5.8
WET *e*L 08 50 47.3
comp=Z,426nm,21.5s
KHC Kasperske Hory 76.60 4 *e*P **P 08 10 30.0 +1.3**
KHC *ex* x 08 10 39.7
KHC *e*S **S 08 20 11.5 -2.1**
KHC AMS AMS 08 50 20.0
comp=Z,500nm,20.7s
KHC Kasperske Hory 76.60 4 *e*P **P 08 10 30.0 +1.3**
KHC *e* 08 10 39.7
KHC *e*S **S 08 20 11.5 -2.1**
KHC MLR MLR
comp=Z,500nm,20.7s
KHC Kasperske Hory 76.60 4 P **P 08 10 29.0 +0.3**
comp=Z,55nm,1.3s,comp=Z,788nm
LANS Liptovska Anna 76.68 360 *e*P **P 08 10 31.0 +1.8**
LANS pmax pmax
comp=Z,42nm,1.2s
LANS Liptovska Anna 76.68 360 *e*P **P 08 10 31.0 +1.8**
STU Stuttgart 76.72 7 *e*P 08 10 30.2
comp=Z,70nm,1.1s,baz=356,slow=5.8
KRUC Moravsky 76.75 2 *e*P **P 08 10 30.1 +0.6**
KOLS Kolonicke sedl 76.87 358 *e*P **P 08 10 31.4 +1.2**
KOLS pmax pmax
comp=Z,41nm,1.1s
KOLS Kolonicke sedl 76.87 358 *e*P **P 08 10 31.4 +1.2**
GERES GERESS Array B 76.89 4 P **P 08 10 31.1 +0.7**
comp=Z,9.8nm,0.9s,baz=348,slow=4.5,SNR=40
comp=Z,9.8nm,0.9s
GEC2 GERESS Array S 76.89 4 *e*P 08 10 31.2
comp=Z,40nm,1.2s,baz=356,slow=5.8
CRVS Cervenica-Dubn 76.91 358 *e*P **P 08 10 31.4 +1.0**
CRVS pmax pmax
comp=Z,66nm,1.2s
CRVS Cervenica-Dubn 76.91 358 *e*P **P 08 10 31.4 +1.0**
CKRC Cesky Krumlov 76.93 3 *e*P **P 08 10 31.4 +0.9**
CKRC AMS AMS 08 51 20.0
comp=Z,700nm,19.5s
CKRC Cesky Krumlov 76.93 3 *e*P **P 08 10 31.4 +0.9**
CKRC MLR MLR
comp=Z,700nm,19.5s
JAVC Velka Javorina 76.97 1 *e*P **P 08 10 32.7 +1.9**
BFO Black Forest 77.10 7 P **P 08 10 32.3 +0.8**
BFO Black Forest 77.10 7 P **P 08 10 32.3 +0.8**
BFO pmax pmax
comp=Z,21nm,1.1s
BFO Black Forest 77.10 7 *e*P 08 10 32.2
comp=Z,126nm,2.1s,baz=356,slow=5.8
BFO *e*L 08 54 09.9
comp=Z,374nm,19.2s
PMG Port Moresby 77.18 233 *i*P **P 08 10 32.0 -0.2**
PMG pmax pmax
comp=Z,42nm,1.2s
KECS Kecovo 77.35 359 *e*P **P 08 10 34.2 +1.4**
KECS Kecovo 77.35 359 *e*P **P 08 10 34.2 +1.4**
MODS Modra-Piesok 77.45 1 *e*P **P 08 10 35.0 +1.6**
MODS pmax pmax
comp=Z,175nm,1.2s
MODS Modra-Piesok 77.45 1 *e*P **P 08 10 35.0 +1.6**
FUR Furstenfeldbru 77.45 5 *e*P 08 10 34.6
comp=Z,147nm,1.6s,baz=356,slow=5.8
FUR *e*L 09 00 16.2
comp=Z,321nm,19.5s
BAL3X Bal3x, Balta 77.52 353 P **P 08 10 33.3 -0.5**
ZST Bratislava 77.62 1 *e*P **P 08 10 36.2 +1.8**
ZST pmax pmax
comp=Z,209nm,1.3s
ZST Bratislava 77.62 1 *e*P **P 08 10 36.2 +1.8**
CHGR Chuyangaron 77.75 322 P **P 08 10 35.6 +0.2**
UBR Ueberruh 77.87 6 *e*P 08 10 36.7
comp=Z,28nm,1.1s,baz=356,slow=5.8
CONA Conrad Observa 77.87 2 *i*P **P 08 10 37.0 +1.2**
comp=Z,54nm,1.1s,SNR=32
MOA Molln 77.90 3 *i*P **P 08 10 36.7 +0.7**
comp=Z,21nm,1.2s,SNR=12
MFF Saint Martin d 77.91 13 *e*P **P 08 10 36.6 +0.6**
MFF pmax pmax
comp=Z,78nm,1.2s
PSZ Piszkesteto 77.92 360 ⇑P **P 08 10 37.8 +1.7**
PSZ Piszkesteto 77.92 360 ⇑P **P 08 10 37.8 +1.7**
RJOB Jochberg 77.96 4 *e*P 08 10 37.4
comp=Z,31nm,0.9s,baz=356,slow=5.8
SRO Srobarova 78.02 1 *e*P **P 08 10 38.7 +2.1**
SRO pmax pmax
comp=Z,57nm,1.4s
SRO Srobarova 78.02 1 *e*P **P 08 10 38.7 +2.1**
BIOA Bad Ischl, Aus 78.04 4 *i*P **P 08 10 37.5 +0.8**
comp=Z,32nm,1.2s,SNR=9.9
SWI Sorong 78.06 251 P **P 08 10 37.3 +0.1**
comp=Z,80nm,1.1s
BMR Baia Mare 78.10 357 ⇑P **P 08 10 37.5 +0.5**
BMR Baia Mare 78.10 357 ⇑P **P 08 10 37.5 +0.5**
RETA Reutte 78.10 6 *i*P **P 08 10 37.9 +0.7**
comp=Z,29nm,1.5s,SNR=14
RONA Rosalia, Austr 78.11 2 *i*P **P 08 10 38.5 +1.3**
comp=Z,32nm,1.2s,SNR=14
SJG San Juan 78.11 76 LR LR 08 45 50.5
comp=Z,331nm,18.9s,baz=298,slow=36
TBI Tubuai 78.18 169 *e*P **P 08 10 36.1 -1.4**
comp=Z,340nm,25.5s
TBI *e*S **S 08 20 29.4 -1.5**
comp=Z,1μm,37.8s
TBI *e*SS **SS 08 25 37.0 +3.3**
comp=Z,901nm,29.2s
TBI *e*LR LR 08 34 49.4
comp=Z,5μm,23.0s
TBI *e*LR LR 08 34 51.7
comp=Z,1μm,23.8s
DAVA Damuels 78.24 6 *i*P **P 08 10 38.8 +0.8**
comp=Z,13nm,0.9s
LESA Schwarzleotal 78.26 5 *i*P **P 08 10 39.0 +0.9**
comp=Z,41nm,1.5s
WATA Walderalm 78.30 5 *i*P **P 08 10 39.1 +0.8**
comp=Z,48nm,1.0s,SNR=18
WTTA Wattenberg 78.37 5 *i*P **P 08 10 39.9 +1.1**
comp=Z,42nm,0.9s,SNR=15
SQTA Sankt Quirin 78.39 6 *i*P **P 08 10 39.9 +1.0**
comp=Z,64nm,1.1s,SNR=19
ERBR Yeremizino-Bor 78.49 345 *e*P **P 08 10 40.4 +1.1**
ERBR *e*S **S 08 20 35.0 +0.9**
ERBR pmax pmax
comp=Z,166nm,1.1s
KIS Kishinev 78.51 353 *e*P **P 08 10 39.0 -0.3**
comp=Z,120nm,1.0s
KIS Kishinev 78.51 353 *e*PcP **PcP 08 10 48.0 -0.4**
KIS Kishinev 78.51 353 *e*P **P 08 10 39.0 -0.3**
KIS *e* 08 10 48.0
KIS *e*S **S 08 20 32.0 -2.2**
KIS pmax pmax
comp=Z,120nm,1.0s
ARSA Arzberg 78.54 3 *i*P **P 08 10 40.8 +1.2**
comp=Z,36nm,1.1s,SNR=18
FETA Feichten 78.56 6 *i*P **P 08 10 40.9 +1.0**
comp=Z,40nm,1.1s,SNR=22
MILM Milestii Mici 78.59 353 ⇑*i*P **P 08 10 39.0 -0.7**
comp=Z,260nm,1.4s
MILM Milestii Mici 78.59 353 *e*PcP **PcP 08 10 48.0 -0.7**
MILM Milestii Mici 78.59 353 *e*PP PP 08 13 34.0 -2.7
MILM *e*L L 08 37 23.0
MILM LQM 08 50 50.0
comp=Z,400nm,18.0s
MILM LRM MLR 08 51 22.0
comp=Z,600nm,18.5s
MILM Milestii Mici 78.59 353*c i*P **P 08 10 39.0 -0.7**
MILM *e* 08 10 48.0
MILM *e* 08 13 34.0
MILM pmax pmax
comp=Z,260nm,1.4s
MESR Meseseni 78.64 357 ⇓P **P 08 10 39.8 -0.2**
KBA Koelnbreinsper 78.64 4 *i*P **P 08 10 41.6 +1.4**
comp=Z,74nm,1.1s,SNR=36
MPLH Magyarpolny 78.66 1 P **P 08 10 40.7 +0.6**
comp=Z,124nm,1.2s,comp=Z,2μm
GOF Gofitskoye 78.72 343*ce*P **P 08 10 41.0 +0.5**
DAVOX Davos/Dischmat 78.75 6 LR LR 08 50 11.6
comp=Z,216nm,18.1s,baz=31,slow=39
SHL Shillong 78.91 299 P **P 08 10 41.4 -0.7**
SHL pmax pmax
comp=Z,63nm,1.1s
ABTA Abfaltersbach 78.93 5 *i*P **P 08 10 42.3 +0.5**
comp=Z,39nm,1.2s,SNR=14
TUE Stuetta 79.02 7 P **P 08 10 43.4 +0.9**
TUE IAmb IAmb 08 11 04.7
comp=Z,26nm,1.1s
TUE Stuetta 79.02 7 P **P 08 10 42.7 +0.3**
comp=Z,93nm,1.4s,comp=Z,2μm
MYKA Terra Mystica 79.10 4 *i*P **P 08 10 43.1 +0.5**
comp=Z,20nm,1.0s,SNR=8.8
SOKA Soboth 79.10 3 *i*P **P 08 10 43.6 +0.9**
comp=Z,72nm,1.1s,SNR=34
PERS Pernice 79.14 3 *i*P **P 08 10 43.9 +1.1**
FAKI Fak Fak 79.22 249 P **P 08 10 43.2 -0.4**
comp=Z,74nm,1.6s
OBKA Obir 79.25 3 *i*P **P 08 10 44.5 +0.9**
comp=Z,48nm,0.6s,SNR=15
PRED Cave del Predi 79.28 4 P **P 08 10 43.8 +0.2**
PRED IAmb IAmb 08 10 45.3
comp=Z,42nm,1.2s
KOGS Kog 79.36 2 *i*P **P 08 10 44.8 +0.8**
LABN Labinsk 79.50 345 *e*P **P 08 10 44.7 -0.1**
LABN pmax pmax
comp=Z,48nm,0.5s
GHRR 79.53 354 P **P 08 10 45.4 +0.5**
MORH Mrgy, Hungar 79.62 0 ⇑P **P 08 10 45.1 -0.3**
MORH Mrgy, Hungar 79.62 0 P **P 08 10 46.0 +0.6**
comp=Z,15nm,1.6s,comp=Z,393nm
LFF La Frestale 79.66 13 *e*P **P 08 10 46.3 +0.6**
LFF pmax pmax
comp=Z,69nm,1.3s
VLDR Vladesti 79.71 354 ⇑P **P 08 10 47.3 +1.4**
LJU Ljubljana 79.72 3 *i*P **P 08 10 46.2 +0.3**
LJU *i*pP **PcP 08 10 53.2 -0.5**
LJU *i* 08 11 10.1
ANN Anapa 79.82 347 *e*P **P 08 10 45.9 -0.6**
ANN *e*S **S 08 20 43.8 -4.4**
ANN pmax pmax
comp=Z,64nm,1.3s
CAF Calviac 79.84 12 *e*P **P 08 10 47.1 +0.4**
CAF pmax pmax
comp=Z,30nm,1.2s
KVAR Kislovodsk Arr 79.85 343 LR LR 08 49 46.8
comp=Z,323nm,19.3s,baz=257,slow=38
KIV Kislovodsk 79.85 343 ⇑P **P 08 10 48.6 +1.8**
KIV Kislovodsk 79.85 343 *e*P **P 08 10 47.6 +0.7**
KIV *e*S **S 08 20 50.3 +1.4**
KIV pmax pmax
comp=Z,84nm,4.3s
KIV pmax pmax
comp=Z,72nm,1.0s
KIV MLR MLR
comp=Z,278nm,19.0s
KIV Kislovodsk 79.85 343 P P 08 10 46.9 0.0
comp=Z,64nm,0.8s,comp=Z,860nm
MAK Makhachkala 79.91 339*c i*P **P 08 10 43.3 -3.7**
MAK *e* 08 13 55.3
MAK *e*PPP PPP 08 15 36.2
MAK *e*S **S 08 20 44.8 -4.4**
MAK *e*SS **SS 08 25 58.1 +0.9**
MAK *e*SSS SSS 08 29 23.3
MAK pmax pmax
comp=Z,331nm,1.2s
KBZ Khabaz 80.04 343 P P 08 10 48.8 +1.1
comp=Z,53nm,0.9s,baz=287,slow=1.5,SNR=14
KBZ LR LR 08 52 46.6
comp=Z,561nm,18.2s,baz=26,slow=40
comp=Z,53nm,0.9s
KBZ Khabaz 80.04 343*ce*P **P 08 10 48.6 +0.9**
KBZ pmax pmax
comp=Z,65nm,1.0s
SHA1 Shidzhatmaz 80.07 343*ce*P **P 08 10 49.6 +1.4**
SIM Simferopol' 80.08 349 *e*P **P 08 10 48.8 +0.9**
SIM pmax pmax
comp=Z,38nm,0.8s
BISRR Bisoca 80.08 355 P **P 08 10 49.3 +1.3**
comp=Z,128nm,1.0s
NCK Nalchik 80.14 342 *i*P **P 08 10 49.2 +0.9**
NCK pmax pmax
comp=Z,150nm,0.8s
TEOL Teolo 80.27 5 P **P 08 10 50.1 +1.1**
VOIR 80.27 356 P **P 08 10 50.0 +0.9**

comp=Z,30nm,1.0s,comp=Z,556nm
TPGR Topolog 80.67 353 ⇓P **P 08 10 51.6 +0.5**
FRGS Fruska Gora 80.68 360 ⇑P **P 08 10 52.8 +1.6**
FRGS Fruska Gora 80.68 360 P **P 08 10 51.5 +0.3**
comp=Z,54nm,1.2s,comp=Z,682nm
JURR Jurilovca 80.73 353 ⇓P **P 08 10 52.3 +0.9**
CMAR Chiang Mai Arr 80.94 289 P **P 08 10 53.0 0.0**
comp=Z,40nm,0.9s,baz=15,slow=5.4,SNR=65
CMAR LR LR 08 50 30.7
comp=Z,296nm,19.1s,baz=35,slow=38
comp=Z,40nm,0.9s
CMAR Chiang Mai Arr 80.94 289 *i* P **P 08 10 53.0 0.0**
CMAR pmax pmax
comp=Z,44nm,0.9s
TLBR Topalu 81.00 354 ⇑P **P 08 10 54.1 +1.3**
DZM Mont Dzumac 81.31 210 *e*P **P 08 10 56.5 +1.8**
comp=Z,71nm,23.4s
DZM Mont Dzumac 81.31 210 *e*S **S 08 21 07.5 +3.2**
comp=Z,272nm,27.6s
DZM *e*SS **SS 08 26 18.7 -2.2**
comp=Z,256nm,24.6s
DZM *e*LR LR 08 36 16.1
comp=Z,1μm,23.4s
DZM Mont Dzumac 81.31 210 P **P 08 10 55.9 +1.2**
comp=Z,4.4nm,1.1s,baz=111,slow=8.1,SNR=3.2
comp=Z,4.4nm,1.1s
PCAB Cabril 81.34 20⇑*e*P **P 08 10 55.4 +0.6**
comp=Z,45nm,1.6s
MFTR Murfatlar 81.34 353 ⇑P **P 08 10 56.0 +1.3**
PBRG Braganca 81.50 19⇑*e*P **P 08 10 57.1 +1.5**
comp=Z,39nm,1.6s
POLO Lamas de Olo 81.71 20⇑*e*P **P 08 10 58.4 +1.6**
comp=Z,25nm,1.4s
PVRL Vila Real 81.82 20⇑*e*P **P 08 10 58.9 +1.6**
comp=Z,83nm,1.5s
TRLG Trialeti 81.94 341 P **P 08 10 59.3 +1.1**
PVIS Viseu 82.32 20⇑*e*P **P 08 11 01.4 +1.4**
comp=Z,128nm,1.2s
MTE Manteigas 82.70 20⇑*e*P **P 08 11 03.2 +1.2**
comp=Z,117nm,1.2s
MTE Manteigas 82.70 20 *e*LQ LQ 08 39 16.3
MTE *e*LR LR 08 39 24.0
comp=Z,476nm,20.0s
COI Coimbra 82.70 21⇑*e*P **P 08 11 03.8 +1.9**
comp=Z,166nm,1.2s
COI Coimbra 82.70 21 *e*S **S 08 21 18.8 +0.5**
PCAS Casmilo, Conde 82.83 21⇑*e*P **P 08 11 04.2 +1.6**
comp=Z,125nm,1.4s
SDV Santo Domingo 82.95 85 LR LR 08 48 18.3
comp=Z,221nm,21.8s,baz=262,slow=36
SDV Santo Domingo 82.95 85 *e*P P 08 11 09.7 +6.0
GNI Garni 83.17 341 LR LR 08 55 36.5
comp=Z,754nm,18.2s,baz=38,slow=41
GNI Garni 83.17 341 *ce*P **P 08 11 06.8 +2.3**
GNI pmax pmax
comp=Z,31nm,0.8s
GNI Garni 83.17 341 P **P 08 11 05.3 +0.8**
comp=Z,59nm,1.1s,comp=Z,822nm
DIKM Dikmen 83.20 348 ⇑P **P 08 11 07.0 +2.5**
DIKM Dikmen 83.20 348 P **P 08 11 05.4 +0.9**
comp=Z,68nm,1.3s,comp=Z,854nm
PCBR Castelo Branco 83.25 20⇑*e*P **P 08 11 05.6 +0.9**
comp=Z,84nm,1.1s
PSBE So Bento 83.29 21⇑*e*P **P 08 11 06.4 +1.4**
comp=Z,134nm,1.3s
PMRV Marv??o 83.66 20⇑*e*P **P 08 11 07.8 +0.9**
comp=Z,73nm,1.4s
PMRV Marv??o 83.66 20 *e*S **S 08 21 34.6 +6.4**
PMRV Marv??o 83.66 20 *e*LQ LQ 08 38 03.0
PMRV *e*LR LR 08 39 40.5
comp=Z,348nm,22.0s
PMTG Montargil 83.84 21⇑*e*P **P 08 11 08.6 +0.8**
comp=Z,51nm,1.3s
CTYL Yalikoy Yolu 84.04 353 P **P 08 11 09.8 +1.0**
comp=Z,33nm,1.1s,comp=Z,3μm
ESDC Sonseca Array 84.08 18 P **P 08 11 10.0 +0.9**
comp=Z,30nm,1.0s,baz=343,slow=4.9,SNR=103
ESDC LR LR 08 50 34.8
comp=Z,459nm,19.6s,baz=358,slow=37
comp=Z,30nm,1.0s
PAB San Pablo 84.13 18 ⇓P **P 08 11 10.3 +0.9**
PESTR Estremoz 84.16 21⇑*e*P **P 08 11 10.2 +0.7**
comp=Z,77nm,1.4s
PESTR Estremoz 84.16 21 *e*S **SKSac 08 21 33.9 +2.2**
KLYT Kilyos 84.21 353 P **P 08 11 10.6 +1.0**
EVO Evora 84.40 21⇑*e*P **P 08 11 11.9 +1.2**
comp=Z,47nm,1.3s
PNCL Nicolau / Gran 84.69 22⇑*e*P **P 08 11 13.2 +1.1**
comp=Z,98nm,1.3s
PNCL Nicolau / Gran 84.69 22 *e*S **SKSac 08 21 38.0 +2.9**
YLV Yalova 84.86 352 P **P 08 11 14.0 +0.9**
comp=Z,41nm,1.1s,comp=Z,620nm
PBEJ Beja 84.92 21⇑*e*P **P 08 11 14.0 +0.7**
comp=Z,54nm,1.5s
PBAR Barrancos 84.94 20⇑*e*P **P 08 11 14.5 +1.1**
comp=Z,60nm,1.5s
PBAR Barrancos 84.94 20 *e*S **S 08 21 44.0 +3.1**
MESJ Messejana 85.02 21⇑*e*P **P 08 11 14.7 +0.9**
comp=Z,37nm,2.1s
MESJ Messejana 85.02 21 *e*P **P 08 11 14.5 +0.7**
MESJ *e*SKSac **SKSac 08 21 39.2 +2.0**
MESJ IAMs_20 IAMs_20 08 45 59.1
comp=Z,878nm,26.4s
MESJ Messejana 85.02 21 *e*P **P 08 11 14.5 +0.7**
MESJ *e* 08 21 39.2
PTEO Sao Teotonio 85.19 22⇑*e*P **P 08 11 15.7 +1.0**
ANTO Ankara 85.24 350 P **P 08 11 15.8 +0.8**
comp=Z,42nm,1.1s,comp=Z,480nm
BR106 Keskin Array S 85.28 349 P **P 08 11 16.1 +0.8**
comp=Z,40nm,1.0s,comp=Z,320nm
BR131 Keskin Array S 85.29 349 *c i*P **P 08 11 15.8 +0.5**
BRTR Keskin Array B 85.29 349 P **P 08 11 16.4 +1.1**
comp=Z,29nm,1.0s,baz=40,slow=2.1,SNR=24
BRTR PP **PP 08 14 33.8 +1.6**
comp=Z,3.3nm,0.9s,baz=15,slow=5.1,SNR=3.6
BRTR LR LR 08 54 57.1
comp=Z,347nm,18.8s,baz=70,slow=40
comp=Z,29nm,1.0s
BRTR Keskin Array B 85.29 349 *i* P **P 08 11 16.3 +1.0**
BRTR pmax pmax
comp=Z,29nm,1.0s
BR105 Keskin Array S 85.30 349 P **P 08 11 16.1 +0.7**
comp=Z,40nm,0.9s,comp=Z,306nm
BR104 Keskin Array S 85.31 349 P **P 08 11 16.2 +0.8**
comp=Z,47nm,1.0s,comp=Z,342nm
PCRV Puerto La Cruz 85.36 79 LR LR 08 49 13.4
comp=Z,505nm,20.4s,slow=35
MORF Marmelete 85.44 22 *e*P **P 08 11 16.8 +0.8**
MORF *e*SKSac **SKSac 08 21 41.9 +1.9**
MORF IAMs_20 IAMs_20 08 46 48.8
comp=Z,982nm,21.5s
MORF Marmelete 85.44 22 *e*P **P 08 11 16.8 +0.8**
MORF *e* 08 21 41.9
PFVI Vila Bisbo 85.57 22⇑*e*P **P 08 11 17.4 +0.9**
EZN Ezine 85.81 354 P **P 08 11 18.1 +0.4**
MTSU Mount Surprise 86.13 231 P **P 08 11 19.5 +0.1**
comp=Z,18nm,1.2s,SNR=8.4
TIP Timpagrande 86.63 2 P **P 08 11 22.2 +0.3**
comp=Z,31nm,1.1s,comp=Z,475nm
CTA Charters Tower 86.98 229 LR LR 08 44 22.8
comp=Z,27nm,21.8s,baz=16,slow=32
CTAO Charters Tower 86.98 229 P **P 08 11 23.4 -0.1**
CTAO Charters Tower 86.98 229 P **P 08 11 23.4 -0.1**
CTAO pmax pmax
comp=Z,40nm,1.0s
KDU Kakadu 87.27 244 P **P 08 11 23.9 -1.1**
comp=Z,43nm,1.3s,SNR=3.6
KAPI Kappang 87.94 259 P **P 08 11 28.2 -0.1**
comp=Z,35nm,1.1s,baz=319,slow=3.5,SNR=7.6
KAPI LR LR 08 46 48.5
comp=Z,145nm,21.8s,baz=60,slow=33
comp=Z,35nm,1.1s
KAPI Kappang 87.94 259 *i* P **P 08 11 27.9 -0.4**
KAPI pmax pmax
comp=Z,53nm,1.3s
MTN Manton Dam 88.11 245 P **P 08 11 28.1 -1.0**
comp=Z,33nm,1.5s,SNR=3.2
QIS Mount Isa 90.41 234 P P 08 11 35.0 -4.8
MDT Midelt 90.62 20 LR LR 08 57 24.5
comp=Z,250nm,18.2s,baz=26,slow=39
WR0 Warramunga Arr 92.35 238 P **P 08 11 48.7 -0.1**
WR0 IAmb IAmb 08 11 49.1
comp=Z,14nm,1.1s
WRAB Tennant Creek 92.42 238 *i* P **P 08 11 48.3 -0.8**
WRAB pmax pmax
comp=Z,19nm,1.1s
WRA Warramunga Arr 92.43 238 P **P 08 11 47.7 -1.5**
WRA Warramunga Arr 92.43 238 P **P 08 11 48.2 -1.0**
comp=Z,8.0nm,0.9s,baz=40,slow=5.5,SNR=27
WRA LR LR 08 49 08.6
comp=Z,292nm,21.7s,baz=5.0,slow=33
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 92.43 238 P **P 08 11 47.7 -1.5**
RPN Rapa Nui 92.59 136 LR LR 08 45 21.6
comp=Z,307nm,19.0s,baz=290,slow=30
QLP Quilpie 93.55 227 P **P 08 11 54.4 +0.3**
comp=Z,60nm,1.1s,SNR=5.9
PWJI Pagerwojo 94.95 263 P **P 08 11 59.1 -1.8**
comp=Z,27nm,1.3s
FITZ Fitzroy Crossi 95.38 246 P **P 08 12 01.5 -1.2**
FITZ Fitzroy Crossi 95.38 246 P **P 08 11 58.3 -4.5**
WSAR Wadi Sarin 95.45 324 LR LR 09 00 50.3
comp=Z,616nm,20.6s,baz=58,slow=39
ASAR Alice Springs 95.79 237 P **P 08 12 03.7 -0.9**
ASAR Alice Springs 95.79 237 P **P 08 12 04.0 -0.5**
comp=Z,4.4nm,0.9s,baz=39,slow=5.0,SNR=17
ASAR LR LR 08 53 06.4
comp=Z,387nm,19.4s,baz=33,slow=34
comp=Z,4.4nm,0.9s
ASAR Alice Springs 95.79 237 P **P 08 12 03.7 -0.9**
MDP Montagnes des 96.28 72 LR LR 08 56 03.5
comp=Z,288nm,20.7s,baz=355,slow=36
RAYN Ar Rayn 99.03 336 P **Pdif 08 12 20.1 +0.7**
STKA Stephens Creek 99.28 227 LR LR 08 52 45.2
comp=Z,608nm,21.0s,baz=19,slow=33
PALK Pallekele 99.99 298 LR LR 09 01 56.8
comp=Z,312nm,21.6s,baz=118,slow=38
TORD Torodi Ar. Bea 110.96 18 PP **PP 08 17 48.8 -0.2**
comp=Z,1.7nm,1.0s,baz=30,slow=7.8,SNR=5.4
H03N2 Juan Fernandez 112.15 117 T T 10 18 58.3
baz=323,slow=77,SNR=62
H03N1 Juan Fernandez 112.16 117 T T 10 18 56.2
baz=323,slow=77,SNR=67
H03N3 Juan Fernandez 112.16 117 T T 10 18 58.7
baz=323,slow=77,SNR=60
QSPA South Pole Qui 144.31 180 PKP **PKPab 08 18 10.7 -0.5**
comp=Z,12nm,0.6s,baz=299,slow=0.4,SNR=123
BOSA Boshof 153.72 348 PKP **PKPdf 08 18 29.3 -0.1**
comp=Z,5.9nm,1.1s,baz=13,slow=3.5,SNR=5.6
BOSA PKPbc **PKPbc 08 18 37.3 0.0**
comp=Z,11nm,0.9s,baz=234,slow=1.2,SNR=7.8
BOSA PP **PP 08 22 22.0 -1.8**
comp=Z,5.8nm,1.1s,baz=38,slow=3.8,SNR=4.3
MAW Mawson 155.79 220 PKP **PKPdf 08 18 31.2 +0.4**
comp=Z,0.9nm,0.9s,baz=32,slow=11,SNR=1.2
MAW PKPab **PKPab 08 18 57.4 -0.3**
comp=Z,9.8nm,0.9s,baz=72,slow=2.9,SNR=11
VNA3 Neumayer Olymp 159.08 154 ⇑PKPab **PKPab 08 19 09.4 -2.5**
comp=Z,5.9nm,0.8s
VNA1 Neumayer--Stat 159.81 154 ⇑PKPab PKPab 08 19 06.4 -8.6
comp=Z,10nm,0.9s
VNA2 Neumayer--Watz 159.86 155 ⇑PKPab **PKPab 08 19 13.4 -1.8**
comp=Z,7.1nm,0.6s,baz=244,slow=5.3
SNAA Sanae 160.36 159 ⇑PKPab **PKPab 08 19 14.6 -2.9**
comp=Z,177nm,0.9s
SNAA Sanae 160.36 159 PKP **PKPdf 08 18 37.6 +1.2**
comp=Z,1.4nm,1.0s,baz=71,slow=16,SNR=2.2
SNAA PKPab **PKPab 08 19 16.2 -1.2**
comp=Z,1.5nm,0.7s,baz=238,slow=5.4,SNR=8.1
TROLL Troll, Antarti 161.07 164 ⇑PKPab **PKPab 08 19 19.4 -1.3**
comp=Z,496nm,0.9s
ELIB Princess Elisa 162.43 184 *d*PKP PKPdf 08 18 48.0 +9.3

*AEIC **21** 08:03:08.4±1.6, 54°.51N±0°.04×160°.77W±0°.07, h10km±6km, Error ellipse: s-maj=6.7km s-min=5.4km az=128.0*
NEIC 21 08:03:07.6±1.4, 54°.50N±0°.04×160°.71W±0°.07, h25km±11km, ML3.9/14, ML3.8(AEIC), Error ellipse: s-maj=6.3km s-min=6.0km az=76.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.72**	**63**		Pn	08 03 22.3	+0.1
SDPT	**Sand Point**	**0.86**	**9**		Pb	08 03 23.8	0.0
SDPT					Sb	08 03 34.6	-0.4
SDPT	**Sand Point**	**0.86**	**9**	IAML		08 03 43.4	
comp=E,2μm,0.9s							
HAG	**Hague Volcano**	**1.07**	**320**		Pn	08 03 26.6	-0.5
HAG					Sb	08 03 40.3	-0.7
PS4A	**Pavlof South-4**	**1.08**	**322**		Pn	08 03 26.5	-0.6
PVV	**Pavlof Volcano**	**1.08**	**325**		Pn	08 03 26.4	-0.7
PVV					Sb	08 03 40.9	-0.2
PS1A	**Pavlof South-1**	**1.10**	**328**		Pn	08 03 27.6	+0.1
PN7A	**Pavlof North-7**	**1.20**	**322**		Pn	08 03 28.4	-0.4
PN7A					Sn	08 03 43.4	-0.9
S12K	**Black Hills**	**1.44**	**328**		Pn	08 03 32.4	+0.4
S12K					Sb	08 03 52.0	+0.6
FALS	**False Pass**	**1.61**	**284**		Pn	08 03 33.9	-0.5
FALS					Sn	08 03 54.9	+0.4
ISLZ	**Isanotski Laza**	**1.76**	**279**		Pn	08 03 36.6	+0.1
ISNN	**Isanotski Nort**	**1.82**	**282**		Pn	08 03 37.8	+0.5
CHGN	**Chignik**	**2.23**	**35**	Pn	Pn	08 03 43.4	+0.5
CHGN				IAML		08 04 20.1	
comp=N,357nm,0.7s							
CHGN				IAML		08 04 23.1	
comp=E,738nm,0.9s							
WESE	**West Dahl East**	**2.26**	**271**		Pn	08 03 44.3	+0.8
WEBT	**Westdahl Beart**	**2.36**	**274**		Pn	08 03 45.4	+0.7
WECS	**Westdahl Cape**	**2.37**	**272**		Pn	08 03 45.4	+0.4
AHB	**Akutan Harbor**	**3.02**	**265**		Pn	08 03 53.8	0.0
AKLV	**Akutan Long Va**	**3.09**	**266**		Pn	08 03 54.3	-0.5
ZRO	**Akutan Zero**	**3.12**	**265**		Pn	08 03 54.6	-0.6
LVA	**Lava Point**	**3.14**	**266**	Pn	Pn	08 03 55.1	-0.3
LVA				IAML		08 04 56.6	
comp=E,361nm,0.8s							
UNV	**Unalaska Valle**	**3.47**	**261**		Pn	08 03 59.1	-0.8
MTBL	**Makushin Table**	**3.54**	**264**		Pn	08 04 00.2	-0.8
MSW	**Makushin Switc**	**3.62**	**263**		Pn	08 04 00.9	-1.1
MAPS	**Pakushin South**	**3.73**	**262**		Pn	08 04 02.6	-1.0
SII	**Sitkinak Islan**	**4.24**	**58**	Pn	Pn	08 04 11.4	+0.8
SII				IAML		08 05 19.1	
comp=N,275nm,3.0s							
SII				IAML		08 05 46.3	
comp=E,241nm,2.5s							
OHAK	**Old Harbor**	**4.99**	**54**	Pn	Pn	08 04 20.8	0.0
OHAK				IAML		08 05 06.9	
comp=E,95nm,4.9s							
OHAK				IAML		08 05 48.1	
comp=N,73nm,1.5s							
KDAK	**Kodiak Island**	**5.61**	**51**	Pn	Pn	08 04 28.2	-1.1
M13K	**Dall Lake**	**6.10**	**348**	Pn	Pn	08 04 37.9	+1.9
M14K	**Bethel**	**6.31**	**354**	Pn	Pn	08 04 40.5	+1.6
L14K	**Kuka Creek**	**6.94**	**352**	Pn	Pn	08 04 48.8	+1.2
K13K	**Kusilvak Mount**	**7.74**	**346**	Pn	Pn	08 05 00.1	+1.6
ATKA	**Atka Island**	**8.39**	**260**	Pn	Pn	08 05 06.8	-0.7
J14K	**Nanvaranak Lak**	**8.41**	**351**	Pn	Pn	08 05 09.6	+1.9
PWL	**Port Wells**	**9.18**	**41**	Pn	Pn	08 05 18.0	-0.3
FID	**Port Fidalgo**	**9.86**	**45**	Pn	Pn	08 05 26.6	-1.0
ADK	**Adak**	**9.94**	**261**	Pn	Pn	08 05 28.5	-0.2
KIWB	**Kanaga Island**	**10.22**	**262**	Pn	Pn	08 05 31.1	-1.4
KLU	**Klutina**	**10.50**	**42**	Pn	Pn	08 05 36.7	+0.3
AMKA	**Amchitka**	**12.45**	**264**		P	08 06 08.9	-5.7

*IDC **21** 08:15:14.5±1.4, 54°.47N×161°.05W, h0km, mb3.9/16, mbtmp3.9/19, ML3.4/3, Error ellipse: s-maj=33.8km s-min=18.7km az=164.0*
*NEIC **21** 08:15:18.2±1.1, 54°.46N±0°.04×160°.81W±0°.07, h10km±1km, mb3.8/11, ML3.6/20, ML3.5(AEIC), Error ellipse: s-maj=7.1km s-min=6.8km az=103.0*
*AEIC **21** 08:15:19.1±1.5, 54°.43N±0°.04×160°.72W±0°.04, h7km±5km, Error ellipse: s-maj=6.0km s-min=3.6km az=175.0*
ISC 21 08:15:17.8±1.6, 54°.40N±0°.06×160°.72W±0°.04, h23km±11km, n134, σ1§29/133, mb3.9/17, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.78**	**57**	Pg	**Pn**	**08 15 33.4**	**0.0**
CNBA	**Chernabura Isl**	**0.78**	**57**		**Sn**	**08 15 44.3**	**-0.1**
SDPT	**Sand Point**	**0.97**	**8**	P	**Pb**	**08 15 35.3**	**-0.5**
SDPT	**Sand Point**	**0.97**	**8**		**Pb**	**08 15 35.5**	**-0.3**
SDPT					**Sb**	**08 15 48.0**	**-0.2**
SDPT	**Sand Point**	**0.97**	**8**	IAML		08 15 48.8	
comp=E,2μm,0.6s							
SDPT				IAML		08 15 51.1	
comp=N,2μm,0.5s							
HAG	**Hague Volcano**	**1.15**	**324**		**Pn**	**08 15 38.4**	**-0.1**
HAG					**Sn**	**08 15 53.6**	**+0.1**
PS4A	**Pavlof South-4**	**1.16**	**326**		**Pn**	**08 15 38.5**	**-0.1**
PS4A					**Sn**	**08 15 53.9**	**+0.2**
PVV	**Pavlof Volcano**	**1.16**	**328**		**Pn**	**08 15 38.4**	**-0.2**
PVV					**Sn**	**08 15 53.3**	**-0.4**
PS1A	**Pavlof South-1**	**1.19**	**331**		**Pn**	**08 15 39.0**	**0.0**
PS1A					**Sn**	**08 15 54.6**	**+0.2**
PN7A	**Pavlof North-7**	**1.27**	**325**		**Pb**	**08 15 41.0**	**-0.2**
S12K	**Black Hills**	**1.52**	**330**	Pn	**Pn**	**08 15 44.0**	**+0.4**
S12K	**Black Hills**	**1.52**	**330**		**Sb**	**08 16 03.9**	**-0.2**
S12K	**Black Hills**	**1.52**	**330**	IAML		08 16 04.8	
comp=E,2μm,0.6s							
S12K				IAML		08 16 08.4	
comp=N,2μm,0.4s							
FALS	**False Pass**	**1.64**	**287**	P	**Pb**	**08 15 46.2**	**-1.0**
FALS	**False Pass**	**1.64**	**287**		**Pn**	**08 15 45.9**	**+0.8**
ISLZ	**Isanotski Laza**	**1.77**	**282**		**Pn**	**08 15 48.0**	**+0.9**
ISNN	**Isanotski Nort**	**1.83**	**285**		**Pb**	**08 15 49.5**	**-1.1**
VNWF	**Veniaminof 8**	**1.88**	**20**		**Pn**	**08 15 48.8**	**+0.2**
SSLS	**Shishaldin Sou**	**1.94**	**281**		**Pn**	**08 15 50.9**	**+1.5**
SSLS					**Sb**	**08 16 15.9**	**-0.2**
SSLN	**Shishaldin Nor**	**1.95**	**284**		**Pb**	**08 15 51.3**	**-1.3**
VNSS	**Veniaminof 8**	**1.97**	**21**		**Pn**	**08 15 51.5**	**+1.5**
VNFG	**Fog Glacier, M**	**2.01**	**19**		**Pb**	**08 15 52.7**	**-1.0**
VNHG	**Veniaminof 1**	**2.03**	**25**		**Pn**	**08 15 52.0**	**+1.3**
WESE	**West Dahl East**	**2.26**	**274**		**Pn**	**08 15 55.4**	**+1.6**
CHGN	**Chignik**	**2.32**	**34**	Pn	**Pn**	**08 15 56.5**	**+1.9**
CHGN	**Chignik**	**2.32**	**34**		**Sn**	**08 16 24.4**	**+2.1**
CHGN	**Chignik**	**2.32**	**34**	IAML		08 16 30.6	
comp=E,517nm,0.9s							
CHGN				IAML		08 16 30.9	
comp=N,327nm,0.6s							
WEBT	**Westdahl Beart**	**2.36**	**276**		**Pn**	**08 15 56.4**	**+1.3**
AHB	**Akutan Harbor**	**3.00**	**267**		**Pn**	**08 16 05.1**	**+1.2**
AKLV	**Akutan Long Va**	**3.08**	**268**		**Pn**	**08 16 06.1**	**+1.1**
ZRO	**Akutan Zero**	**3.10**	**266**		**Pn**	**08 16 06.6**	**+1.3**
LVA	**Lava Point**	**3.12**	**268**	Pn	**Pn**	**08 16 07.1**	**+1.5**
LVA				IAML		08 17 01.2	
comp=E,187nm,0.7s							
UNV	**Unalaska Valle**	**3.45**	**263**	P	**Pn**	**08 16 10.8**	**+0.8**
UNV	**Unalaska Valle**	**3.45**	**263**		**Pn**	**08 16 10.8**	**+0.8**
MTBL	**Makushin Table**	**3.53**	**265**		**Pn**	**08 16 12.3**	**+1.1**
MSW	**Makushin Switc**	**3.60**	**265**		**Pn**	**08 16 12.9**	**+0.8**
MGOD	**Makushin Gods**	**3.67**	**263**		**Pn**	**08 16 14.2**	**+1.0**
MAPS	**Pakushin South**	**3.71**	**263**		**Pn**	**08 16 14.6**	**+1.0**
ANCK	**Angle Creek**	**4.79**	**35**		**Pn**	**08 16 30.5**	**+1.9**
O15K	**Ungalikthiuk R**	**4.82**	**6**		**Pn**	**08 16 29.8**	**+0.9**
ACHA	**Angle Creek He**	**4.86**	**36**		**Pn**	**08 16 31.9**	**+2.4**
O14K	**Tigyukauivet M**	**4.88**	**357**		**Pn**	**08 16 30.8**	**+1.2**
O14K				IAML		08 18 05.2	
comp=E,40nm,1.1s							
O14K				IAML		08 18 12.4	
comp=N,39nm,0.8s							
NIKH	**Nikolski High**	**5.04**	**257**	P	**Pn**	**08 16 35.2**	**+3.3**
OHAK	**Old Harbor**	**5.06**	**53**	P	**Pn**	**08 16 32.8**	**+0.6**
OHAK	**Old Harbor**	**5.06**	**53**	Pn	**Pn**	**08 16 32.7**	**+0.6**
OHAK				IAML		08 17 56.4	
comp=N,35nm,0.8s							
OHAK				IAML		08 18 03.2	
comp=E,33nm,0.8s							
KAHC	**Katmai Hardscr**	**5.31**	**34**		**Pn**	**08 16 37.6**	**+2.0**
O16K	**Kokwok River B**	**5.41**	**14**	Pn	**Pn**	**08 16 37.8**	**+0.9**
O16K				IAML		08 18 13.5	
comp=E,22nm,0.9s							
N14K	**Kuskokwak Cree**	**5.57**	**355**		**Pn**	**08 16 41.0**	**+1.9**
KDAK	**Kodiak Island**	**5.68**	**50**	Pn	**Pn**	**08 16 41.3**	**+0.6**
comp=E,1.3nm,0.3s,baz=226,slow=7.4,SNR=32							
KDAK				Sn	**Sn**	**08 17 41.8**	**-3.2**
comp=E,1.8nm,0.3s,baz=58,slow=22,SNR=8.0							
KDAK				Lg	Lg	08 18 08.7	
comp=E,1.7nm,0.3s,baz=328,slow=18,SNR=6.4							
comp=E,2.3nm,0.3s							
N15K	**Kwethluk River**	**5.80**	**3**	Pn	**Pn**	**08 16 44.2**	**+1.9**
P18K	**Big Mountain,**	**5.84**	**29**	Pn	**Pn**	**08 16 46.1**	**+3.2**
Q19K	**Cape Douglas,**	**5.99**	**38**		**Pn**	**08 16 46.3**	**+1.4**
M13K	**Dall Lake**	**6.20**	**348**	Pn	**Pn**	**08 16 49.0**	**+1.3**
O18K	**Koktuh Hills**	**6.24**	**26**		**Pn**	**08 16 49.0**	**+0.6**
SYI	**Shuyak Island**	**6.25**	**44**	Pn	**Pn**	**08 16 49.1**	**+0.6**
M15K	**Kasigluk River**	**6.32**	**0**		**Pn**	**08 16 50.7**	**+1.3**
M14K	**Bethel**	**6.41**	**355**	Pn	**Pn**	**08 16 51.3**	**+0.7**
N17K	**Nushagak Hills**	**6.44**	**16**	Pn	**Pn**	**08 16 52.0**	**+1.0**
P19K	**Oil Pt**	**6.67**	**35**		**Pn**	**08 16 56.1**	**+1.8**
M16K	**Timber Creek**	**6.71**	**7**		**Pn**	**08 16 56.1**	**+1.2**
N18K	**Kilae Creek**	**6.81**	**20**		**Pn**	**08 16 57.9**	**+1.7**
IVE	**Iliamna Volcan**	**7.01**	**33**		**Pn**	**08 17 00.2**	**+1.2**
L14K	**Kuka Creek**	**7.04**	**352**		**Pn**	**08 17 00.0**	**+0.7**
M17K	**Holitna River**	**7.24**	**13**		**Pn**	**08 17 03.4**	**+1.3**
N19K	**Bonanza Creek**	**7.25**	**25**		**Pn**	**08 17 04.8**	**+2.5**
CNPM	**China Poot**	**7.30**	**41**	Pn	**Pn**	**08 17 03.4**	**+0.4**
L15K	**Ungalak Mounta**	**7.32**	**357**		**Pn**	**08 17 04.0**	**+0.9**
L16K	**Owhat River**	**7.37**	**5**		**Pn**	**08 17 03.0**	**-0.7**
M18K	**Stony River**	**7.57**	**18**		**Pn**	**08 17 07.5**	**+0.9**
L17K	**Donlin**	**7.87**	**8**		**Pn**	**08 17 11.1**	**+0.5**
K15K	**Wolf Creek Mou**	**7.93**	**357**		**Pn**	**08 17 12.5**	**+0.9**
L18K	**Granite Mounta**	**8.13**	**13**		**Pn**	**08 17 15.6**	**+1.3**
ATKA	**Atka Island**	**8.37**	**260**	P	**Pn**	**08 17 19.4**	**+1.9**
L19K	**White Mountain**	**8.39**	**19**		**Pn**	**08 17 19.5**	**+1.6**
K17K	**Iditarod**	**8.44**	**8**		**Pn**	**08 17 19.3**	**+0.8**
J14K	**Nanvaranak Lak**	**8.51**	**351**		**Pn**	**08 17 20.1**	**+0.7**
SUA	**Susitna One**	**8.84**	**33**		**Pn**	**08 17 24.2**	**0.0**
RC01	**Rabbit Creek A**	**8.91**	**37**	Pn	**Pn**	**08 17 26.1**	**+1.2**
J16K	**Anvik River**	**8.92**	**0**		**Pn**	**08 17 25.9**	**+0.8**
J17K	**VABM Dome**	**9.07**	**5**	Pn	**Pn**	**08 17 27.9**	**+0.8**
PWL	**Port Wells**	**9.27**	**41**		**Pn**	**08 17 30.8**	**+0.9**
J18K	**Innoko River**	**9.33**	**11**		**Pn**	**08 17 32.0**	**+1.3**
I17K	**Unalakleet**	**9.52**	**0**	Pn	**Pn**	**08 17 34.3**	**+1.0**
K20K	**Telida**	**9.62**	**18**	Pn	**Pn**	**08 17 36.8**	**+2.1**
HIN	**Hinchinbrook I**	**9.74**	**46**		**Pn**	**08 17 36.9**	**+0.6**
ADK	**Adak**	**9.92**	**262**	P	**Pn**	**08 17 39.8**	**+1.0**
J19K	**Poorman**	**9.97**	**13**		**Pn**	**08 17 40.6**	**+1.1**
EYAK	**Cordova Ski Ar**	**10.13**	**47**	P	**Pn**	**08 17 41.8**	**+0.1**
SCM	**Sheep Creek Mo**	**10.27**	**38**		**Pn**	**08 17 43.4**	**-0.2**
J20K	**Nowinta River**	**10.36**	**16**		**Pn**	**08 17 46.4**	**+1.6**
KLU	**Klutina**	**10.58**	**42**		**Pn**	**08 17 48.2**	**+0.3**
H21K	**Melozitna Rive**	**11.96**	**16**		**Pn**	**08 18 07.9**	**+1.3**
ILAR	**Eielson Array**	**12.51**	**28**	Pn	**Pn**	**08 18 10.6**	**-3.5**
comp=E,0.1nm,0.3s,baz=219,slow=13,SNR=3.2							
comp=E,0.2nm,0.5s							
F21K	**Alatna River**	**13.33**	**12**		**Pn**	**08 18 27.9**	**+2.5**
M29M	**Somme Creek**	**14.11**	**46**		**Pn**	**08 18 36.4**	**+0.2**
DAWY	**Dawson**	**14.51**	**40**	Pn	**Pn**	**08 18 43.1**	**+1.5**
L29M	**

comp=Z,0.3nm,0.6s,baz=319,slow=6.3,SNR=1.2
KSRS Korea Array 50.21 281 P P 08 24 11.7 +0.1
comp=Z,0.3nm,0.3s,baz=39,slow=8.4,SNR=1.5
comp=Z,0.3nm,0.3s
SONM Songino Array 54.58 304 P P 08 24 43.6 -0.4
comp=Z,0.8nm,0.6s,baz=41,slow=10,SNR=4.0
comp=Z,0.8nm,0.6s
ARCES ARCESS Array B 56.29 357 P P 08 24 54.9 -1.1
comp=Z,1.3nm,0.9s,baz=31,slow=7.2,SNR=5.9
comp=Z,1.3nm,0.9s
KURBB Kurchatov Arra 64.22 323 P P 08 25 49.5 -0.9
comp=Z,2.0nm,0.2s,baz=30,slow=7.8,SNR=4.1
comp=Z,2.0nm,0.2s
FINES FINESS Array B 64.38 356 P P 08 25 50.7 -0.6
comp=Z,1.3nm,0.6s,baz=16,slow=8.1,SNR=13
comp=Z,1.3nm,0.6s
NB2 NORSAR Subarra 64.73 4 P P 08 25 53.3 -0.3
comp=Z,1.5nm,0.7s,baz=356,slow=6.5
NOA NORSAR Array B 64.73 4 P P 08 25 53.3 -0.3
comp=Z,1.4nm,0.8s,baz=356,slow=6.5,SNR=9.1
comp=Z,1.4nm,0.8s
BVAR Borovoye Array 64.87 329 P P 08 25 54.3 -0.3
comp=Z,1.1nm,0.5s,baz=38,slow=7.5,SNR=6.0
comp=Z,1.1nm,0.5s
HFS Hagfors 65.73 3 P P 08 25 59.8 -0.2
comp=Z,2.8nm,0.6s,baz=40,slow=2.5,SNR=14
comp=Z,2.8nm,0.6s
MKAR Makanchi Array 65.98 318 P P 08 26 01.3 -0.6
comp=Z,0.4nm,0.5s,baz=40,slow=5.7,SNR=5.4
comp=Z,0.4nm,0.5s
EKA Eskdalemuir Ar 69.09 14 P P 08 26 21.8 +0.5
comp=Z,0.6nm,0.6s,baz=339,slow=5.1,SNR=6.7
comp=Z,0.6nm,0.6s
AKASG Malin Array Be 74.94 353 P P 08 26 55.9 -0.6
comp=Z,1.3nm,0.4s,baz=6.3,slow=5.1,SNR=9.1
comp=Z,1.3nm,0.4s
GERES GERESS Array B 77.03 4 P P 08 27 07.8 -0.7
comp=Z,0.2nm,0.3s,baz=17,slow=4.1,SNR=2.0
comp=Z,0.2nm,0.3s
CMAR Chiang Mai Arr 81.04 289 P P 08 27 30.4 -0.5
comp=Z,0.9nm,0.3s,baz=19,slow=5.6,SNR=1.7
comp=Z,0.9nm,0.3s
ESDC Sonseca Array 84.19 18 P P 08 27 45.6 -1.5
comp=Z,0.5nm,0.7s,baz=350,slow=6.8,SNR=2.7
comp=Z,0.5nm,0.7s
BRTR Keskin Array B 85.44 349 P P 08 27 53.7 +0.2
comp=Z,0.3nm,0.5s,baz=16,slow=10,SNR=1.8
comp=Z,0.3nm,0.5s
QSPA South Pole Qui 144.17 180 PKP PKPab 08 34 48.4 +0.4
comp=Z,1.3nm,1.0s,baz=49,slow=1.9,SNR=2.3

GII 21 08:34:17.7±0.4, 29°.700N±0°.002×36°.179E±0°.002, h0km, Md1.4/2, confirmed, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.05**	**289**	P	Pb	08 34 38.3	-0.4
HRFI	**Mount Harif**	**1.05**	**289**	S	Sn	08 34 54.3	-0.7
EIL	**Elat**	**1.07**	**269**	S	Sb	08 34 54.3	+0.8
EIL	**Elat**	**1.07**	**269**	P	Pb	08 34 38.7	-0.3
MBRI	**Mt Berech**	**1.10**	**275**	P	Pb	08 34 39.8	+0.1
MBRI	**Mt Berech**	**1.10**	**275**	S	Sn	08 34 56.0	-0.4
PRNI	**Paran**	**1.21**	**303**	P	Pb	08 34 41.5	+0.1
PRNI	**Paran**	**1.21**	**303**	S	Sn	08 34 59.7	+0.8
ZFRI	**Zfri**	**1.22**	**315**	S	Sn	08 35 00.0	+1.0
KRMI	**Paran Flat**	**1.33**	**289**	P	Pb	08 34 43.4	-0.1
KRMI	**Paran Flat**	**1.33**	**289**	S	Sn	08 35 02.7	+0.7
MSBI	**Mazada**	**1.76**	**336**	P	Pn	08 34 49.4	+0.1
MSBI	**Mazada**	**1.76**	**336**	S	Sg	08 35 13.8	-0.4
YTIR	**Yattir**	**1.89**	**331**	P	Pn	08 34 51.2	-0.2
YTIR	**Yattir**	**1.89**	**331**	S	Sb	08 35 16.8	-0.7
KZIT	**Kziot**	**1.95**	**308**	P	Pn	08 34 52.9	+0.8
KZIT	**Kziot**	**1.95**	**308**	S	Sn	08 35 18.1	+0.8
DSI	**Dead Sea**	**1.99**	**340**	P	Pb	08 34 53.6	-1.1
DSI	**Dead Sea**	**1.99**	**340**	S	Sb	08 35 19.7	-0.3
HMDT	**Nahal Hemdat**	**2.61**	**348**	P	Pn	08 35 01.6	+0.6
HMDT	**Nahal Hemdat**	**2.61**	**348**	S	Sn	08 35 35.0	+1.6

IDC 21 08:35:00.8±11.0, 24°.01S×179°.54W, h470km±128km, mb3.2/3, mbtmp4.1/4, Error ellipse: s-maj=94.4km s-min=45.0km az=26.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.49**	**191**	P	P	08 38 06.3	+0.4
	2.0nm,0.4s,baz=47,slow=19,SNR=1.3						
URZ				S	S	08 40 36.0	-2.9
	9.0nm,1.0s,baz=354,slow=20,SNR=1.3						
STKA	**Stephens Creek**	**35.08**	**248**	P	P	08 41 13.2	-0.1
	1.9nm,0.7s,baz=95,slow=11,SNR=4.2						
	1.9nm,0.7s						
ASAR	**Alice Springs**	**42.44**	**261**	P	P	08 42 13.2	-0.1
	0.6nm,0.4s,baz=92,slow=6.6,SNR=19						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**42.82**	**266**	P	P	08 42 16.4	0.0
	1.9nm,0.4s,baz=98,slow=8.4,SNR=69						
	1.9nm,0.4s						
HFS	**Hagfors**	**142.73**	**349**	PKP	PKPdf	08 53 38.5	-0.8
	1.3nm,0.6s,baz=48,slow=2.1,SNR=6.6						

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*IDC **21** 08:50:35.8±11.0, 2°.79N×124°.51E, h299km±130km, mb3.2/6, mbtmp3.8/6, Error ellipse: s-maj=62.6km s-min=16.0km az=81.0*
*DJA **21** 08:50:36.9±1.1, 3°N±8°×12°4E±°, h285km±12km, M4.1/9, mb3.8/3, mB4.3/1, MLv4.2/9, Mw(mB)3.5/1*
ISC 21 08:50:34.7±0.9, 2.70N±0.09×124.4E±0.1, h288km, n14, σ1§85/14, mb3.4/6, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**2.17**	**192**	P	**Pn**	**08 51 21.8**	**0.0**
GTOI	**Gorontalo**	**2.50**	**215**	P	**Pn**	**08 51 26.4**	**+1.6**
TNTI	**Ternate**	**3.50**	**123**	P	Pn	08 51 38.2	+3.4
LUWI	**Luwuk**	**4.08**	**204**	P	**Pn**	**08 51 43.0**	**+1.8**
LBMI	**Labuha**	**4.51**	**137**	P	**Pn**	**08 51 49.0**	**+2.8**
SANI	**Sanana**	**4.97**	**162**	P	**Pn**	**08 51 52.4**	**+0.9**
SANI				S	**S**	**08 52 49.4**	**-3.6**
MPSI	**Mapaga**	**5.12**	**243**	P	**Pn**	**08 51 54.9**	**+1.7**
	4.5nm,0.6s,582nm0.1nm						
NLAI	**Namlea**	**6.47**	**156**	P	**Pn**	**08 52 11.4**	**+1.9**
WRA	**Warramunga Arr**	**24.51**	**157**	P	**P**	**08 55 29.1**	**+0.5**
	0.8nm,0.4s,baz=334,slow=10,SNR=36						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**27.78**	**161**	P	**P**	**08 55 58.8**	**+1.0**
	0.3nm,0.5s,baz=333,slow=7.2,SNR=5.2						
	0.3nm,0.5s						
MJAR	**Matsushiro Arr**	**35.99**	**19**	P	**P**	**08 57 07.5**	**-1.3**
	1.7nm,0.7s,baz=189,slow=8.6,SNR=6.3						
	1.7nm,0.7s						
SONM	**Songino Array**	**47.58**	**344**	P	**P**	**08 58 42.4**	**+0.3**
	0.7nm,0.6s,baz=150,slow=6.1,SNR=3.9						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**57.12**	**327**	P	**P**	**08 59 51.1**	**-0.6**
	0.3nm,0.3s,baz=122,slow=7.2,SNR=4.8						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**92.62**	**180**	P	**P**	**09 03 13.5**	**-0.2**
	2.5nm,1.3s,baz=333,slow=2.3,SNR=1.7						
	2.5nm,1.3s						

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*IDC **21** 08:59:27.9±5.9, 7°.49S×128°.14E, h126km±55km, mb3.6/8, mbtmp3.9/10, Error ellipse: s-maj=113.4km s-min=16.9km az=69.0*
ISC 21 08:59:25.2±0.9, 7°.6S±0°.3×128°.3E±0°.6, h100km, n11, σ2§87/13, mb3.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.61**	**155**	P	**Pn**	**09 02 36.4**	**+2.2**
	0.3nm,0.4s,baz=339,slow=13,SNR=15						
WRA				S	**Sn**	**09 04 59.4**	**-4.6**
	2.0nm,0.4s,baz=328,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.87**	**162**	P	**P**	**09 03 19.8**	**+4.0**
	1.4nm,0.4s,baz=341,slow=11,SNR=32						
ASAR				S	**Sn**	**09 06 17.5**	**-5.3**
	0.3nm,0.4s,baz=129,slow=21,SNR=1.9						
STKA	**Stephens Creek**	**27.16**	**155**	P	**P**	**09 05 00.8**	**+1.5**
	9.9nm,1.3s,baz=322,slow=11,SNR=3.4						
	9.9nm,1.3s						
SONM	**Songino Array**	**58.48**	**343**	P	**P**	**09 09 10.3**	**-0.6**
	1.2nm,0.8s,baz=152,slow=6.7,SNR=4.8						
	1.2nm,0.8s						
MKAR	**Makanchi Array**	**67.80**	**328**	P	**P**	**09 10 12.0**	**-0.5**
	0.3nm,0.3s,baz=131,slow=6.6,SNR=5.1						
	0.3nm,0.3s						

ZALV	**Zalesovo Beam**	**71.37**	**335**	P	**P**	**09 10 32.1**	**-2.0**
	0.6nm,0.4s,baz=156,slow=3.9,SNR=2.2						
	0.6nm,0.4s						
VNDA	**Vanda**	**72.07**	**173**	P	**P**	**09 10 38.9**	**+0.8**
	0.3nm,0.6s,baz=304,slow=8.1,SNR=2.0						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**72.13**	**329**	P	**P**	**09 10 37.6**	**-1.2**
	1.2nm,0.5s,baz=129,slow=5.0,SNR=11						
	1.2nm,0.5s						
BVAR	**Borovoye Array**	**77.66**	**328**	P	**P**	**09 11 09.1**	**-1.5**
	0.6nm,0.5s,baz=144,slow=5.2,SNR=2.2						
	0.6nm,0.5s						
QSPA	**South Pole Qui**	**82.39**	**180**	P	**P**	**09 11 36.1**	**0.0**
	0.5nm,0.6s,baz=315,slow=8.6,SNR=7.8						
	0.5nm,0.6s						
LPAZ	**La Paz**	**151.25**	**146**	PKPbc	**PKPbc**	**09 19 08.5**	**-0.3**
	0.5nm,0.4s,baz=239,slow=5.9,SNR=6.2						

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*UCR **21** 08:59:32.9±1.2, 10°.94N×86°.80W, h21km±12km, MW4.0*
*CATAC **21** 08:59:34.0±0.5, 11°.09N×86°.83W, h6km±4km, ML3.3*
ISC 21 08:59:32.4±3.3, 10°.98N±0°.06×86°.78W±0°.07, h13km±26km, n44, σ0§66/51, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.11**	**25**	*i* P	**Pb**	**08 59 52.1**	**-1.4**
CRUN				IAML		09 00 14.2	
	comp=Z,14μm,1.0s						
RA5A7	**El Crucero**	**1.11**	**25**	*i* P	**Pb**	**08 59 53.6**	**0.0**
RA5A7				IAML		09 00 15.2	
	comp=Z,4μm,1.0s						
LCRUZ	**La Cruz**	**1.14**	**85**	*e*P	**Pn**	**08 59 53.2**	**-0.8**
MAS3	**Al N del Volca**	**1.20**	**30**	*i* P	**Pn**	**08 59 55.2**	**+0.2**
MAS3				*i* S	**Sn**	**09 00 11.4**	**+0.3**
MAS3				IAML		09 00 19.1	
	comp=Z,630nm,1.0s						
COPN	**Copaltepe**	**1.21**	**9**	*i* P	**Pn**	**08 59 55.4**	**+0.3**
COPN				IAML		09 00 38.2	
	comp=Z,400nm,1.0s						
JAPN	**Al SSO del Vol**	**1.21**	**63**	*i* P	**Pn**	**08 59 55.8**	**+0.7**
JAPN				IAML		09 00 02.7	
	comp=Z,990nm,1.0s						
RE6B4	**Centro civico**	**1.24**	**23**	*i* P	**Pn**	**08 59 56.0**	**+0.5**
RE6B4				IAML		09 00 21.5	
	comp=Z,610nm,1.0s						
SAPS	**Ciudad Sandino**	**1.24**	**17**	*i* P	**Pn**	**08 59 55.9**	**+0.4**
SAPS				*i* S	**Sb**	**09 00 11.7**	**0.0**
SAPS				IAML		09 00 29.4	
	comp=Z,660nm,1.0s						
RB28C	**Hialeah**	**1.24**	**23**	*i* P	**Pn**	**08 59 55.9**	**+0.4**
RB28C				IAML		09 00 18.2	
	comp=Z,670nm,1.0s						
OMEN	**Al SSO del Vol**	**1.25**	**65**	*i* P	**Pn**	**08 59 55.9**	**+0.2**
OMEN				IAML		09 00 10.5	
	comp=Z,1μm,1.0s						
ELI1	**Hacienda Flor**	**1.25**	**105**	*e*P	**Pn**	**08 59 55.5**	**-0.2**
R0529	**La Mascota**	**1.26**	**25**	*i* P	**Pn**	**08 59 56.3**	**+0.5**
R0529				IAML		09 00 03.7	
	comp=Z,630nm,1.0s						
TISN	**Laguna Tiscapa**	**1.26**	**23**	*i* P	**Pn**	**08 59 56.2**	**+0.4**
TISN				IAML		09 00 20.0	
	comp=Z,51nm,1.0s						
R4DEC	**Barrio San Lui**	**1.28**	**24**	*i* P	**Pn**	**08 59 56.4**	**+0.4**
R4DEC				IAML		09 00 06.2	
	comp=Z,790nm,1.0s						
APQ2	**Apoyeque**	**1.29**	**20**	*i* P	**Pn**	**08 59 56.8**	**+0.6**
APQ2				IAML		09 00 28.2	
	comp=Z,490nm,1.0s						
WILN	**Americas 2**	**1.31**	**26**	*i* P	**Pn**	**08 59 56.8**	**+0.3**
WILN				*i* S	**Sn**	**09 00 14.7**	**+0.8**
WILN				IAML		09 00 38.2	
	comp=Z,480nm,1.0s						
DELF	**Filadelfia**	**1.32**	**113**	*e*P	**Pn**	**08 59 56.0**	**-0.5**
VRLE	**La Escondida,**	**1.41**	**98**	*e*P	**Pn**	**08 59 57.4**	**-0.4**
GPS3	**Bodega del ICE**	**1.41**	**99**	*e*P	**Pn**	**08 59 59.4**	**+1.5**
MOM2	**El Cardon**	**1.48**	**11**	*i* P	**Pn**	**08 59 59.4**	**+0.6**
MOM2				IAML		09 00 16.7	
	comp=Z,340nm,1.0s						
MACN	**El Madrono**	**1.48**	**4**	*i* P	**Pn**	**08 59 59.3**	**+0.4**
MACN				IAML		09 00 06.7	
	comp=Z,230nm,1.0s						
CNGA	**Al SSO del Vol**	**1.51**	**3**	*i* P	**Pn**	**08 59 58.0**	**-1.3**
CNGA				IAML		09 00 06.0	
	comp=Z,320nm,1.0s						
CNGA				*i* S	**Sn**	**09 00 18.4**	**-0.5**
PACN	**Al O del Volca**	**1.51**	**360**	*i* P	**Pn**	**08 59 58.9**	**-0.4**
PACN				*i* S	**Sn**	**09 00 18.3**	**-0.6**
PACN				IAML		09 00 33.8	
	comp=Z,310nm,1.0s						
CNGN	**Cerro Negro**	**1.52**	**3**	*i* P	**Pn**	**08 59 59.8**	**+0.5**
CNGN				*i* S	**Sn**	**09 00 18.7**	**-0.3**
CNGN				IAML		09 00 48.1	
	comp=Z,320nm,1.0s						
CNGN	**Cerro Negro**	**1.52**	**3**	*e*P	**Pn**	**08 59 59.5**	**+0.1**
BAGA	**Bagaces**	**1.56**	**106**	*e*P	**Pn**	**09 00 00.2**	**+0.3**
ILCN	**San Idelfonso**	**1.59**	**3**	*i* P	**Pn**	**09 00 00.6**	**+0.2**
ILCN				*i* S	**Sn**	**09 00 20.5**	**-0.3**
ILCN				IAML		09 00 23.9	
	comp=Z,81nm,1.0s						
QUEN	**Al S del Volca**	**1.61**	**358**	*i* P	**Pb**	**09 00 01.8**	**-0.2**
QUEN				IAML		09 00 35.7	
	comp=Z,300nm,1.0s						
PKGN	**Cerro Pekin**	**1.69**	**354**	*i* P	**Pn**	**09 00 02.4**	**+0.7**
PKGN				IAML		09 00 29.4	
	comp=Z,540nm,1.0s						
BRAN	**Las Pilas**	**1.78**	**14**	*i* P	Pn	08 59 55.8	-7.2
BRAN				IAML		09 00 02.8	
	comp=Z,330nm,1.0s						
BRAN				*i* S	Sn	09 00 12.5	-13
NYURE	**Nandayure**	**1.79**	**123**	*e*P	**Pn**	**09 00 01.9**	**-1.3**
BOAB	**BOACO BROADBAN**	**1.83**	**37**	*i* P	**Pn**	**09 00 03.7**	**+0.1**
BOAB				IAML		09 00 16.9	
	comp=Z,250nm,1.0s						
BOAB				*i* S	**Sb**	**09 00 28.3**	**-0.2**
ACON	**Acoyapa**	**1.86**	**58**	*i* P	**Pn**	**09 00 03.9**	**-0.1**
ACON				IAML		09 00 51.4	
	comp=Z,190nm,1.0s						
ACON	**Acoyapa**	**1.86**	**58**	*e*P	**Pn**	**09 00 03.6**	**-0.4**
JTS	**Las Juntas de**	**1.93**	**111**	*e*P	**Pn**	**09 00 03.9**	**-1.0**
LCHIL	**Los Chiles**	**2.03**	**88**	*e*P	**Pn**	**09 00 06.0**	**-0.4**
LIMN	**Finca el Limon**	**2.11**	**11**	*i* P	**Pn**	**09 00 08.0**	**+0.4**
LIMN				IAML		09 00 54.6	
	comp=Z,120nm,1.0s						
SOCE	**Pocosol**	**2.21**	**105**	*i* P	**Pb**	**09 00 12.7**	**+0.4**
SOCE				IAML		09 00 31.8	
	comp=Z,150nm,1.0s						
COVE	**Coope Vega, Sa**	**2.35**	**96**	*i* P	**Pb**	**09 00 14.5**	**-0.2**
COVE				IAML		09 00 28.7	
	comp=Z,160nm,1.0s						
CNCH	**Conchagua**	**2.50**	**336**	*i* P	**Pn**	**09 00 13.7**	**+0.7**
CNCH				IAML		09 00 51.2	
	comp=Z,220nm,1.0s						
LCND	**La Caada**	**2.56**	**335**	*i* P	**Pn**	**09 00 14.0**	**+0.4**
LCND				IAML		09 01 04.4	
	comp=Z,150nm,1.0s						
TCS1	**Tacares**	**2.61**	**111**	*i* P	**Pb**	**09 00 19.7**	**+0.5**
TCS1				IAML		09 01 04.3	
	comp=Z,810nm,1.0s						
ESPN	**Las Esperanzas**	**2.72**	**63**	*e*P	**Pn**	**09 00 16.7**	**+0.9**
LCR2	**La Lucha 2**	**3.00**	**114**	*e*P	**Pn**	**09 00 21.5**	**+1.7**

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*IDC **21** 09:03:11.6±1.9, 35°.27N×68°.48E, h0km, mb3.7/3, mbtmp3.6/6, ML3.2/3, MS3.8/1, Error ellipse: s-maj=37.6km s-min=34.1km az=54.0*
*NNC **21** 09:03:31.2±5.7, 36°.78N×68°.80E, h0km, mb4.0, mpv4.2, Error ellipse: s-maj=48.4km s-min=37.6km az=164.0*
ISC 21 09:03:13.2±1.7, 35°.4N±0°.2×68°.5E±0°.2, h10km, n13, σ1§58/11, mb3.5/3, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**6.84**	**9**	Pg	**Pn**	**09 04 56.6**	**+2.8**
	43nm,0.1s						
KK31	**Karatay Array**	**7.85**	**11**	P	**Pn**	**09 05 07.9**	**+0.4**
	1.6nm,0.4s,baz=201,slow=15,SNR=33						
KK31				⇓S	Sn	09 06 23.2	-13
	4.3nm,0.3s,baz=195,slow=22						
MRKS	**Merke**	**8.20**	**25**	Lg	Lg	09 06 30.7	
	7.2nm,0.4s						
TKM2	**Tokmak 2**	**9.30**	**34**	⇑P	**Pn**	**09 05 28.5**	**+1.0**
	2.4nm,0.5s						
TKM2				⇑S	Sn	09 07 02.1	-10
	1.4nm,0.7s						

KST	**Kastek**	**9.57**	**35**	P	**Pn**	**09 05 32.1**	**+1.1**
	5.7nm,0.5s						
AB31	**Akbulak array**	**15.22**	**338**	P	**P**	**09 06 52.4**	**-0.7**
	0.3nm,0.4s,baz=154,slow=12,SNR=11						
MKAR	**Makanchi Array**	**15.38**	**38**	Pn	**Pn**	**09 06 49.0**	**-1.2**
	0.1nm,0.3s,baz=228,slow=11,SNR=6.0						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**16.86**	**22**	Pn	**Pn**	**09 07 07.3**	**-1.9**
	0.1nm,0.3s,baz=215,slow=9.6,SNR=1.6						
	0.7nm,0.2s						
BVAR	**Borovoye Array**	**17.68**	**4**	Pn	**Pn**	**09 07 17.4**	**-1.9**
	baz=190,slow=9.5,SNR=3.1						
	0.8nm,0.5s						
HFS	**Hagfors**	**42.72**	**323**	P	**P**	**09 11 10.8**	**+0.7**
	1.9nm,0.7s,baz=102,slow=8.5,SNR=5.7						
	1.9nm,0.7s						
NOA	**NORSAR Array B**	**44.08**	**324**	P	**P**	**09 11 20.9**	**-0.3**
	0.6nm,0.8s,baz=96,slow=8.0,SNR=3.3						
	0.6nm,0.8s						
MDT	**Midelt**	**59.30**	**290**	LR	LR	09 44 12.1	
	comp=Z,68nm,18.4s,baz=98,slow=42						
WRA	**Warramunga Arr**	**83.14**	**120**	P	**P**	**09 15 39.7**	**+0.2**
	0.2nm,0.7s,baz=327,slow=4.8,SNR=1.6						
	0.2nm,0.7s						

IDC 21 09:14:28.6±3.8, 25°.44N×95°.88E, h0km, mb3.5/4, mbtmp3.5/4, MS3.6/1, Error ellipse: s-maj=414.9km s-min=25.0km az=59.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**23.90**	**337**	P	P	09 19 43.6	-0.4
	0.4nm,0.6s,baz=146,slow=10,SNR=4.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**28.47**	**337**	P	P	09 20 25.7	+0.5
	0.5nm,0.2s,baz=145,slow=9.7,SNR=1.9						
	0.5nm,0.2s						
ASAJ	**Asahikawa**	**42.03**	**52**	LR	LR	09 42 33.7	
	comp=Z,71nm,18.4s,baz=4.0,slow=40						
WRA	**Warramunga Arr**	**58.59**	**137**	P	P	09 24 28.0	+0.5
	0.4nm,0.8s,baz=326,slow=7.4,SNR=2.2						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**61.15**	**140**	P	P	09 24 44.5	-0.6
	0.3nm,0.8s,baz=315,slow=6.0,SNR=2.1						
	0.3nm,0.8s						

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*IDC **21** 09:19:32.6±0.6, 34°.47N×74°.06E, h0km, mb4.2/25, mbtmp4.3/30, ML3.9/6, MS3.8/2, Error ellipse: s-maj=13.9km s-min=11.8km az=33.0*
*NDI **21** 09:19:36.3±2.8, 34°.58N×73°.97E, h10km, ML4.0, MW4.3, mb4.5(NEIC)*
*MOS **21** 09:19:36.9±1.6, 34°.29N±0°.06×74°.08E±0°.08, h40km±8km, mb4.5/46, Error ellipse: s-maj=10.0km s-min=8.8km az=101.0*
*BJI **21** 09:19:36.3±0.0, 34°.34N×74°.09E, h44km, mb4.4/24, mB4.5/11, ML4.1/3, Ms3.8/7, Ms7 3.6/5*
*NNC **21** 09:19:43.1±2.9, 35°.00N×73°.82E, h0km, mb4.6, mpv5.3, Error ellipse: s-maj=31.8km s-min=21.5km az=57.0*
ISC 21 09:19:35.8±0.3, 34°.47N±0°.04×73°.99E±0°.04, h26km, n432, σ2§06/429, mb4.4/59, 13C-10D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**1.02**	**217**		**Pn**	**09 19 53.8**	**-0.6**
NIL	**Nilore**	**1.02**	**217**	P	**Pn**	**09 19 53.8**	**-0.6**
JMU	**Jammu**	**1.90**	**156**	*e*P	**Pb**	**09 20 09.0**	**-0.8**
JMU				*e*S	**Sb**	**09 20 34.8**	**+1.7**
JMU				IAML		09 20 37.0	
	comp=N,3μm,0.8s						
JMU				IAML		09 20 37.6	
	comp=E,3μm,0.8s						
THN	**Thein Dam**	**2.49**	**144**	*e*P	**Pb**	**09 20 18.2**	**-1.6**
THN				*e*S	**Sb**	**09 20 50.3**	**+0.2**
THN				IAML		09 20 54.4	
	comp=N,1μm,0.6s						
THN				IAML		09 20 54.8	
	comp=E,926nm,0.3s						
BHK	**Bhakra**	**3.66**	**145**	*e*PN	**Pn**	**09 20 34.5**	**+3.7**
BHK				*i* x	x	09 20 42.2	
BHK				*e*S	**Sb**	**09 21 19.1**	**-4.7**
BHK				IAML		09 21 32.3	
	comp=E,422nm,0.4s						
BHK				IAML		09 21 32.6	
	comp=N,413nm,0.4s						
BHK				IAML		09 21 36.5	
	comp=N,457nm,0.6s						
KBL	**Kabul**	**4.08**	**272**		**Pn**	**09 20 39.1**	**+2.3**
KBL	**Kabul**	**4.08**	**272**	P	**Pn**	**09 20 39.1**	**+2.3**
SMLA	**Simla**	**4.27**	**140**	*e*P	**Pn**	**09 20 41.6**	**+2.5**
SMLA				*e*S	**Sn**	**09 21 30.7**	**+2.6**
SMLA				IAML		09 21 52.9	
	comp=E,558nm,0.5s						
SMLA				IAML		09 21 56.3	
	comp=E,423nm,0.5s						
HNLY	**HANLEY**	**4.49**	**111**	*e*P	**Pn**	**09 20 47.0**	**+4.4**
HNLY				*i* x	Pb	09 20 59.8	+5.6
KLP	**Kalpa**	**4.62**	**128**	*e*P	**Pn**	**09 20 46.1**	**+1.9**
KLP				*e*S	**Sn**	**09 21 40.5**	**+3.2**
KLP				IAML		09 22 14.1	
	comp=N,251nm,0.6s						
KLP				IAML		09 22 15.4	
	comp=E,321nm,0.6s						
KSH	**Kashi**	**5.29**	**17**	P	**Pn**	**09 20 52.3**	**-0.9**
KSH				S	**Sn**	**09 21 47.5**	**-5.8**
KSH				smax	smax		
	comp=E,100nm,1.0s						
KSH				smax	smax		
	comp=E,150nm,1.2s						
DRK	**Karamyk**	**5.30**	**341**		**Pn**	**09 20 57.3**	**+3.7**
DRK	**Karamyk**	**5.30**	**341**	P	**Pn**	**09 20 57.3**	**+3.7**
DDI	**Dehra Dun**	**5.38**	**139**	*e*P	**Pn**	**09 20 57.0**	**+2.6**
GAR	**Garm**	**5.40**	**328**		**Pn**	**09 20 58.4**	**+3.6**
CHGR	**Chuyangaron**	**5.71**	**318**		**Pn**	**09 21 01.1**	**+2.1**
CHGR	**Chuyangaron**	**5.71**	**318**	P	**Pn**	**09 21 01.1**	**+2.1**
SIMJ	**Simiganj**	**5.79**	**318**		**Pn**	**09 21 02.5**	**+2.3**
OHH	**Osh**	**6.12**	**351**	P	**Pn**	**09 21 08.5**	**+3.9**
BTK	**Batken**	**6.13**	**337**

KKAR Karatay Array 9.04 344 Pn 09 21 46.2 +1.6
KKAR Karatay Array 9.04 344 P **Pn 09 21 46.2 +1.6**
BRLS Borolday 9.14 340 Lg Lg 09 23 19.7
comp=E,29nm,0.7s
KRBS Karabastau 9.31 8 P **Pn 09 21 50.5 +2.1**
comp=E,3.8nm,0.6s
BHPL Bhopal 11.58 164 *ex* x 09 24 16.3
MAKZ Makanchi 13.73 24 Pn 09 22 49.3 +0.6
MAKZ Makanchi 13.73 24 P **Pn 09 22 49.3 +0.6**
MK31 Makanchi Array 13.82 25 Pn 09 22 50.6 +0.6
MK31 Makanchi Array 13.82 25 P **P 09 22 55.6 -2.5**
comp=E,3.5nm,0.7s,baz=205,slow=11,SNR=10
MK31 Makanchi Array 13.82 25 P **Pn 09 22 50.6 +0.6**
MKAR Makanchi Array 13.82 25 Pn 09 22 51.8 +1.8
MKAR Makanchi Array 13.82 25 Pn **Pn 09 22 49.5 -0.4**
comp=E,0.1nm,0.3s,baz=207,slow=11,SNR=3.3
WMQ Urumqi 14.14 45 *eP* **Pn 09 22 57.0 +2.6**
LSA Lhasa 15.30 103 Pn 09 23 09.1 -1.4
LSA Lhasa 15.30 103 P **Pn 09 23 09.1 -1.4**
LSA pmax pmax
comp=Z,13nm,0.9s
KURBB Kurchatov Arra 16.48 10 Pn **Pn 09 23 24.1 -1.0**
comp=Z,0.5nm,0.3s,baz=198,slow=11,SNR=18
comp=Z,4.0nm,0.6s
KURK Kurchatov 16.59 10 Pn 09 23 24.8 -1.6
KURK Kurchatov 16.59 10 P **Pn 09 23 24.8 -1.6**
KURK pmax pmax
comp=Z,20nm,0.9s
WSAR Wadi Sarin 17.47 234 P **P 09 23 38.5 -0.2**
comp=Z,0.3nm,0.3s,baz=57,slow=1.6,SNR=4.0
WSAR S Sn 09 26 40.5 -11
comp=Z,5.2nm,0.9s,baz=0.0,slow=20,SNR=1.9
comp=Z,3.7nm,0.7s
SHL Shillong 17.84 115 Pn 09 23 37.8 -4.6
SHL Shillong 17.84 115 P **Pn 09 23 37.8 -4.6**
SHL pmax pmax
comp=Z,18nm,1.1s
ABKAR Akbulak array 18.06 329 P **Pn 09 23 43.4 -1.3**
BVAR Borovoye Array 18.73 353 P **P 09 23 52.4 +0.1**
comp=Z,1.0nm,0.3s,baz=160,slow=9.9,SNR=112
comp=Z,34nm,0.6s
BRVK Borovoye 18.77 353 P **Pn 09 23 54.1 +0.7**
BRVK Borovoye 18.77 353 *ceP* **Pn 09 23 54.4 +1.0**
BRVK pmax pmax
comp=Z,31nm,0.6s
AKTO Aktyubinsk 19.77 329 P **Pn 09 24 05.2 -0.2**
comp=Z,1.8nm,0.3s,baz=134,slow=8.3,SNR=41
AKTO S **S 09 27 41.0 -4.1**
comp=Z,1.7nm,0.8s,baz=357,slow=3.1,SNR=2.6
comp=Z,14nm,0.7s
ZAA0 Zalesovo Array 20.92 18 P **P 09 24 15.9 -0.3**
ZAA0 IAmb IAmb 09 24 17.4
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 20.92 18 P **P 09 24 15.9 -0.3**
ZALV Zalesovo Beam 20.92 18 P **P 09 24 16.6 +0.4**
comp=Z,13nm,0.6s,baz=213,slow=10,SNR=52
comp=Z,13nm,0.6s
GTA Gaotai 21.19 69 P **P 09 24 20.3 +0.9**
GTA pmax pmax
comp=Z,6.0nm,0.9s
GNI Garni 23.88 292 *i* P **P 09 24 50.0 +2.6**
GNI pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 24.37 339 P **P 09 24 52.4 +0.9**
ARU IAmb IAmb 09 25 01.4
comp=Z,7.9nm,0.9s
ARU Arti 24.37 339 *ceP* **P 09 24 53.0 +1.4**
ARU pmax pmax
comp=Z,9.0nm,1.0s
PZH PanZhiHua 25.14 101 P **P 09 24 58.1 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,120nm,5.3s
BELG Belogornoye 26.00 322 *i* P **P 09 25 09.1 +2.8**
BELG pmax pmax
comp=Z,6.0nm,1.1s
CHTO Chiang Mai 27.11 119 P **P 09 25 14.0 -2.7**
CHTO IAmb IAmb 09 25 22.4
comp=Z,11nm,0.8s
CHTO Chiang Mai 27.11 119 P **P 09 25 14.0 -2.7**
CHTO pmax pmax
comp=Z,11nm,0.9s
RAYN Ar Rayn 27.11 254 P **P 09 25 15.1 -1.6**
CM31 Chiang Mai Arr 27.34 119 P **P 09 25 15.6 -3.1**
CM31 IAmb IAmb 09 25 23.0
comp=Z,15nm,1.0s
CMAR Chiang Mai Arr 27.34 119 P **P 09 25 15.8 -2.9**
CMAR Chiang Mai Arr 27.34 119 P **P 09 25 19.0 +0.3**
comp=Z,8.2nm,1.0s,baz=303,slow=9.1,SNR=22
comp=Z,8.2nm,1.0s
CMAR Chiang Mai Arr 27.34 119 *i* P **P 09 25 19.7 +1.0**
CMAR pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 27.59 51 P **P 09 25 20.4 -0.6**
SONM Songino Array 27.59 51 P **P 09 25 21.6 +0.7**
comp=Z,3.3nm,0.9s,baz=247,slow=9.5,SNR=14
comp=Z,3.3nm,0.9s
SONM Songino Array 27.59 51 P **P 09 25 20.4 -0.6**
SONM pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 28.03 51 P **P 09 25 23.8 -1.0**
ULN Ulaanbaatar 28.03 51 *ceP* **P 09 25 26.6 +1.8**
ULN pmax pmax
comp=Z,5.0nm,1.1s
KIRV Kirov 29.14 333 *ceP* **P 09 25 36.0 +1.7**
ENH Enshi 30.18 88 P **P 09 25 42.2 -1.8**
HHC Hu-ho-hao-te 30.25 67 *eP* **P 09 25 45.3 +0.7**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,100nm,4.5s
SNOP Sinop 31.17 296 P **P 09 25 51.5 -1.1**
BR131 Keskin Array S 32.41 291 *i* P **P 09 26 07.2 +3.5**
BRTR Keskin Array B 32.41 291 P **P 09 26 06.0 +2.3**
comp=Z,1.6nm,0.7s,baz=124,slow=8.3,SNR=4.9
comp=Z,1.6nm,0.7s
BRTR Keskin Array B 32.41 291 *i* P **P 09 26 06.0 +2.3**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
OBN Obninsk 33.06 320⇑ *eP* **P 09 26 10.7 +1.8**
OBN *PP **sP** 09 26 20.0 -0.8
OBN *SP pP 09 26 26.0 +8.6
OBN 09 27 23.0
OBN PPP PPP 09 27 32.0
OBN 09 28 52.0
OBN S S 09 31 36.0 +10
OBN pmax pmax
comp=Z,4.0nm,0.7s
NRIK Noril'sk 35.73 8 P **P 09 26 31.9 -0.1**
NRIK IAmb IAmb 09 26 34.9
comp=Z,7.2nm,0.9s
NRIK Noril'sk 35.73 8 P **P 09 26 33.1 +1.2**
comp=Z,5.5nm,0.8s,baz=190,slow=5.5,SNR=5.7
comp=Z,5.5nm,0.8s
NRIK Noril'sk 35.73 8 *ceP* **P 09 26 33.1 +1.2**
NRIK pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 36.12 311 P **P 09 26 36.2 +0.8**
comp=Z,0.8nm,0.5s,baz=82,slow=6.8,SNR=5.9
comp=Z,0.8nm,0.5s
AKBB Malin Array Si 36.12 311 *i* P **P 09 26 36.2 +0.8**
AKBB pmax pmax
comp=Z,6.0nm,1.6s
TPGR Topolog 36.16 301 ⇓P **P 09 26 37.6 +1.7**
NJ2 Nanjing 37.37 81 *eP* **P 09 26 44.5 -1.8**
NJ2 pmax pmax
comp=Z,14nm,0.5s
PLOR Plostina 37.42 302 ⇑P **P 09 26 49.7 +3.0**
PLOR Plostina 37.42 302 P **P 09 26 49.6 +3.0**
COVR Voineasa-Covas 37.73 302 ⇑P **P 09 26 52.0 +2.7**
MLR Muntele Rosu 37.91 302 ⇓P **P 09 26 54.0 +3.0**
MLR Muntele Rosu 37.91 302 P **P 09 26 49.7 -1.2**
MLR Muntele Rosu 37.91 302 P **P 09 26 53.5 +2.6**
comp=Z,14nm,1.0s,baz=99,slow=1.3,SNR=14
comp=Z,14nm,1.0s
MLR Muntele Rosu 37.91 302 P **P 09 26 49.7 -1.2**
MLR pmax pmax
comp=Z,13nm,0.9s
BURAR Bucovina Array 38.44 305 ⇓P **P 09 26 57.2 +1.8**
BURAR Bucovina Array 38.44 305 P **P 09 26 57.1 +1.8**
VOIR 38.54 302 ⇓P **P 09 26 57.9 +1.7**
VOIR 38.54 302 P **P 09 26 57.9 +1.7**
MARR Marisel-Cluj 39.87 304 ⇓P **P 09 27 09.6 +2.4**
DRGR 40.14 304 ⇓P **P 09 27 11.9 +2.3**
DRGR 40.14 304 P **P 09 27 11.8 +2.3**
GZR Gura Zlata 40.14 302 ⇑P **P 09 27 11.5 +1.9**
FINES FINESS Array B 40.52 327 P **P 09 27 12.9 +0.6**
FINES FINESS Array B 40.52 327 P **P 09 27 13.2 +0.9**
comp=Z,1.6nm,0.6s,baz=108,slow=8.5,SNR=13
comp=Z,1.6nm,0.6s
FINES FINESS Array B 40.52 327 *i* P **P 09 27 13.1 +0.8**
FINES pmax pmax
comp=Z,2.0nm,0.6s
SURR Surduc 40.58 302 P **P 09 27 14.9 +1.8**
SIRR Siria 40.88 303 ⇑P **P 09 27 18.5 +2.9**
MDVR Moldovita 40.93 301 ⇑P **P 09 27 18.5 +2.4**
KSRS Korea Array 43.26 70 P **P 09 27 35.5 +0.5**
comp=Z,1.4nm,0.9s,baz=262,slow=5.7,SNR=6.3
comp=Z,1.4nm,0.9s
MORC Moravsky Berou 43.53 308 ⇓P **P 09 27 39.1 +1.9**
MORC Moravsky Berou 43.53 308 P **P 09 27 39.1 +1.9**
ARCES ARCESS Array B 43.95 338 P **P 09 27 41.1 +0.9**
ARCES IAmb IAmb 09 27 49.4
comp=Z,14nm,1.5s
ARCES ARCESS Array B 43.95 338 P **P 09 27 41.5 +1.4**
comp=Z,0.5nm,0.3s,baz=117,slow=8.1,SNR=14
comp=Z,0.5nm,0.3s
ARCES ARCESS Array B 43.95 338 P **P 09 27 41.1 +0.9**
ARCES pmax pmax
comp=Z,14nm,1.5s
VRAC Vranov 44.17 308 P **P 09 27 44.0 +1.8**
comp=Z,2.3nm,0.4s,baz=93,slow=8.9,SNR=3.9
comp=Z,2.3nm,0.4s
KLR Kul'dur 44.41 52 *ceP* **P 09 27 45.0 +0.8**
KLR pmax pmax
comp=Z,6.0nm,1.6s
CONA Conrad Observa 44.74 306 *i* P **P 09 27 48.4 +1.5**
comp=Z,3.6nm,0.8s
ARSA Arzberg 45.03 305 *eP* **P 09 27 49.9 +0.8**
comp=Z,3.1nm,1.2s
SOKA Soboth 45.42 304 *i* P **P 09 27 53.7 +1.4**
comp=Z,3.5nm,0.6s
BRG Berggiesshubel 45.80 310 *eP* **P 09 27 56.3 +1.2**
BRG Amp 09 27 57.4
comp=Z,2.9nm,0.7s
MOA Molln 45.81 306 *i* P **P 09 27 56.4 +1.0**
comp=Z,1.9nm,0.6s
GERES GERESS Array B 46.09 307 P **P 09 27 58.3 +0.7**
comp=Z,0.4nm,0.4s,baz=82,slow=7.3,SNR=2.4
comp=Z,0.4nm,0.4s
HFS Hagfors 46.16 323 P **P 09 27 58.5 +0.6**
comp=Z,8.3nm,0.7s,baz=98,slow=9.3,SNR=25
comp=Z,8.3nm,0.7s
TIXI Tiksi 46.77 21 LR LR 09 48 58.7
comp=Z,126nm,18.7s,baz=0.0,slow=38
NC405 NORSAR Array S 47.22 324 P **P 09 28 06.6 +0.4**
NC405 IAmb IAmb 09 28 07.7
comp=Z,6.2nm,0.8s
NC303 NORSAR Array S 47.40 324 P **P 09 28 07.5 0.0**
NB201 NORSAR Array S 47.42 324 P **P 09 28 07.7 -0.1**
NB2 NORSAR Subarra 47.46 324 P **P 09 28 08.4 +0.3**
comp=Z,2.0nm,0.7s,baz=93,slow=7.9
NOA NORSAR Array B 47.46 324 P **P 09 28 08.2 +0.2**
comp=Z,3.0nm,0.7s,baz=95,slow=7.6,SNR=22
comp=Z,3.0nm,0.7s
WTTA Wattenberg 47.65 305 *i* P **P 09 28 10.3 +0.3**
comp=Z,2.9nm,0.7s
DAVA Damuels 48.83 306 *i* P **P 09 28 19.4 +0.4**
comp=Z,5.4nm,0.6s
SPITS Spitsbergen Ar 50.02 347 P **P 09 28 29.0 +1.5**
comp=Z,3.7nm,0.7s,baz=140,slow=11,SNR=1.5
comp=Z,3.7nm,0.7s
SENIN Lac Senin/Sane 50.74 305 P **P 09 28 34.5 +0.8**
MJAR Matsushiro Arr 51.44 68 P **P 09 28 38.9 +0.1**
comp=Z,1.2nm,0.9s,baz=293,slow=12,SNR=5.5
comp=Z,1.2nm,0.9s
SEY Seymchan 54.76 33 *ceP* **P 09 29 05.7 +2.9**
SEY pmax pmax
comp=Z,4.0nm,1.7s
EKA Eskdalemuir Ar 55.44 317 P **P 09 29 07.9 +0.1**
comp=Z,1.5nm,0.6s,baz=94,slow=7.1,SNR=17
comp=Z,1.5nm,0.6s
DAG Danmarks Havn 57.35 344 P **P 09 29 22.7 +1.6**
DAG pmax pmax
comp=Z,9.0nm,1.0s
PET Petropavlovsk 60.31 44 P **P 09 29 42.8 +0.8**
ESDC Sonseca Array 60.57 300 P **P 09 29 44.4 +0.3**
comp=Z,1.1nm,0.7s,baz=69,slow=7.8,SNR=7.4
comp=Z,1.1nm,0.7s
TOA0 Torodi Ar. Sit 68.15 271 P **P 09 30 34.3 +0.3**
TORD Torodi Ar. Bea 68.15 271 P **P 09 30 34.4 +0.4**
comp=Z,1.9nm,0.7s,baz=61,slow=7.7,SNR=12
comp=Z,1.9nm,0.7s
A19K Wainwright 68.38 17 P **P 09 30 34.5 0.0**
baz=313
C16K Lisburne Hills 68.53 20 P **P 09 30 34.7 -0.8**
baz=310
B18K Kokolik River 68.77 18 P **P 09 30 36.6 -0.5**
baz=313
C17K DeLong Mountai 69.01 19 P **P 09 30 37.9 -0.6**
baz=312
A22K Sinclair Lake 69.23 15 P **P 09 30 39.8 0.0**
baz=318
C18K Utukok River 69.42 19 P **P 09 30 40.1 -1.0**
baz=314
B20K Meade River 69.47 17 P **P 09 30 41.2 -0.1**
baz=316
C19K Lookout Ridge 69.52 18 P **P 09 30 41.1 -0.7**
baz=315
D17K Noatak River 69.56 20 P **P 09 30 41.4 -0.5**
baz=312
F14K Arctic Creek 70.05 23 P **P 09 30 44.3 -0.7**
baz=310
B22K Teshekpuk Lake 70.07 15 P **P 09 30 44.1 -0.9**
baz=320
E17K Hotham Inlet 70.33 20 P **P 09 30 45.7 -1.0**
baz=313
D19K Kuna River 70.33 18 P **P 09 30 48.0 +1.2**
D19K IAmb IAmb 09 30 51.3
comp=Z,6.6nm,0.9s
D19K Kuna River 70.33 18 P **P 09 30 47.1 +0.3**
baz=316
B21K Ikpikpuk River 70.35 16 P **P 09 30 46.3 -0.4**
baz=319
F15K North Star Dit 70.43 22 P **P 09 30 46.5 -0.8**
baz=311
E18K Tukpahlearik C 70.44 20 P **P 09 30 46.9 -0.4**
baz=314
SFJD Kangerlussuaq 70.51 340 LR LR 10 04 25.0
comp=Z,54nm,18.6s,baz=227,slow=38
D20K Etivluk River 70.55 17 P **P 09 30 47.4 -0.7**
baz=317
C21K Knifeblade Rid 70.66 17 P **P 09 30 47.8 -0.9**
baz=319
ANM Nome 70.96 23 P **P 09 30 49.1 -1.4**
baz=311
E20K Nigu River 71.00 18 P **P 09 30 48.1 -2.7**
baz=318
C23K Itkillik River 71.07 15 P **P 09 30 50.2 -0.9**
baz=322
G15K Niukluk 71.10 22 P **P 09 30 50.1 -1.3**
baz=312
F18K Selawik 71.29 20 P **P 09 30 51.7 -0.8**
baz=315
E19K Redstone River 71.32 18 P **P 09 30 51.2 -1.5**
baz=317
G16K Koyuk River 71.34 22 P **P 09 30 52.2 -0.7**
baz=313
D22K Ayikyak River 71.36 16 P **P 09 30 52.0 -1.0**
baz=320
E21K Killik River 71.40 17 P **P 09 30 54.2 +1.0**
E21K IAmb IAmb 09 30 55.0
comp=Z,3.9nm,0.8s
E21K Killik River 71.40 17 P **P 09 30 52.1 -1.2**
baz=320
C24K Franklin Bluff 71.56 14 P **P 09 30 52.4 -1.7**
baz=324
F19K Shaleruckik Mo 71.64 19 P **P 09 30 53.2 -1.3**
baz=317
D23K Nanushuk River 71.75 16 P **P 09 30 54.8 -0.4**
baz=322
G17K Kiwalik Mounta 71.78 21 P **P 09 30 54.1 -1.4**
baz=315
H16K Elim 71.90 22 P **P 09 30 54.6 -1.6**
baz=314
D24K Happy Valley 72.00 15 P **P 09 30 55.9 -0.9**
baz=324
F20K Avaraart Lake 72.02 18 P **P 09 30 56.8 -0.1**
baz=318
G18K Tagagawik 72.08 20 P **P 09 30 56.9 -0.4**
baz=316
C26K Camden Bay 72.15 13 P **P 09 30 56.1 -1.5**
baz=327
TOLK Toolik Lake Re 72.25 15 P **P 09 30 59.3 +1.0**
TOLK IAmb IAmb 09 31 00.3
comp=Z,5.3nm,0.7s
TOLK Toolik Lake Re 72.25 15 P **P 09 30 57.1 -1.3**
baz=323,SNR=8.5
G19K Purcell Mounta 72.33 19 P **P 09 30 58.9 +0.1**
G19K Purcell Mounta 72.33 19 P **P 09 30 58.0 -0.8**
baz=318
D25K Kavik River 72.36 14 P **P 09 30 57.5 -1.5**
baz=326
H17K Granite Mounta 72.40 21 P **P 09 30 57.8 -1.4**
baz=315
F21K Alatna River 72.46 18 P **P 09 30 57.9 -1.6**
baz=320
F22K John River 72.55 17 P **P 09 30 58.7 -1.4**
baz=321
C27K Jago River 72.62 13 P **P 09 30 59.4 -1.1**
baz=328,SNR=5.3
H18K Honhosa River 72.70 21 P **P 09 30 59.2 -1.8**
baz=317
E23K Chandalar 72.71 16 P **P 09 30 58.8 -2.4**
baz=323
J14K Nanvaranak Lak 72.78 24 P **P 09 30 59.0 -2.5**
baz=313
I17K Unalakleet 72.91 22 P **P 09 30 59.1 -3.1**
baz=315
E24K Your Creek 72.95 15 P **P 09 31 00.5 -2.0**
baz=324
K13K Kusilvak Mount 72.96 25 P **P 09 30 59.7 -2.9**
baz=312
H19K Roundabout Mou 72.97 20 P **P 09 30 59.4 -3.1**
baz=318
G21K Allakaket 73.00 18 P **P 09 31 00.5 -2.2**
baz=320
G22K Bettles 73.18 17 P **P 09 31 01.4 -2.4**
baz=322
COLD Coldfoot 73.25 16 P **P 09 31 02.2 -2.0**
baz=323,SNR=7.3
IMAR Indian Mountai 73.35 18 P **P 09 31 05.3 +0.5**
J16K Anvik River 73.37 23 P **P 09 31 03.6 -1.4**
baz=315
H20K Anotleneega Mo 73.42 19 P **P 09 31 04.2 -1.1**
baz=319
M11K Mekoryuk 73.44 27 P **P 09 31 04.0 -1.4**
baz=312
D27M Malcolm River 73.45 12 P **P 09 31 03.4 -2.0**
baz=330
F24K Squaw Lake 73.53 16 P **P 09 31 04.2 -1.8**
baz=325
G23K Bananza Creek 73.70 17 P **P 09 31 05.1 -1.8**
baz=323
D28M Stokes Point 73.75 12 P **P 09 31 05.5 -1.6**
baz=332
J17K VABM Dome 73.77 22 P **P 09 31 05.3 -2.1**
baz=316
K15K Wolf Creek Mou 73.78 24 P **P 09 31 05.3 -2.1**
baz=315
H21K Melozitna River 73.85 18 P **P 09 31 07.7 -0.1**
H21K Melozitna Rive 73.85 18 P **P 09 31 06.0 -1.8**
baz=321
SPIA Saint Paul Isl 73.93 31 P **P 09 31 06.3 -2.1**
baz=309
F25K Christian Rive 73.96 15 P **P 09 31 06.3 -2.2**
baz=327
H22K Ishtalitna Cre 74.03 18 P **P 09 31 06.3 -2.5**
baz=322
L14K Kuka Creek 74.06 25 P **P 09 31 06.9 -2.1**
baz=314
I20K Naaghedeneel 74.07 19 P **P 09 31 06.2 -2.8**
baz=320
F26K Sheenjek River 74.18 14 P **P 09 31 07.7 -2.0**
baz=328
L15K Ungalak Mounta 74.23 24 P **P 09 31 07.6 -2.4**
baz=315
E27K Coleen River 74.25 13 P **P 09 31 07.8 -2.3**
baz=330
E28M Babbage River 74.26 12 P **P 09 31 08.0 -2.2**
baz=332
G24K Hadweenzic Riv 74.30 16 P **P 09 31 07.7 -2.7**
baz=325,SNR=5.5
BMAR Burnt Mountain 74.32 14 P **P 09 31 11.9 +1.3**
J19K Poorman 74.36 20 IAmb IAmb 09 31 13.4
comp=Z,5.6nm,1.0s
J19K Poorman 74.36 20 P **P 09 31 08.4 -2.4**
baz=319,SNR=5.9
I21K Tanana 74.44 18 P **P 09 31 08.4 -2.8**
baz=322
J18K Innoko River 74.44 21 P **P 09 31 08.3 -3.0**
baz=318
M13K Dall Lake 74.47 26 P **P 09 31 08.6 -2.8**
baz=314
K17K Iditarod 74.51 22 P **P 09 31 09.1 -2.5**
baz=317
H23K Yukon River 74.53 17 IAmb IAmb 09 31 14.5
comp=Z,3.5nm,0.8s
H23K Yukon River 74.53 17 P **P 09 31 09.8 -2.1**
baz=324
G25K Bearman Lake 74.55 15 P **P 09 31 10.0 -1.8**
baz=326
J20K Nowinta River 74.64 20 IAmb IAmb 09 31 14.9
comp=Z,5.1nm,0.8s
J20K Nowinta River 74.64 20 P **P 09 31 11.1 -1.3**
baz=320,SNR=7.0
M14K Bethel 74.72 25 P **P 09 31 11.5 -1.4**
baz=315
E29M Blow River 74.73 12 IAmb IAmb 09 31 15.4
comp=Z,3.6nm,0.8s
E29M Blow River 74.73 12 P **P 09 31 11.5 -1.4**
baz=333,SNR=5.2
L16K Owhat River 74.87 23 IAmb IAmb 09 31 17.5
comp=Z,7.3nm,1.0s
L16K Owhat River 74.87 23 P **P 09 31 12.4 -1.4**
baz=316,SNR=6.1
MLY Manley 74.88 18 P **P 09 31 11.6 -2.2**
baz=323
G26K Porcupine Rive 74.89 14 P **P 09 31 11.8 -2.0**
baz=328
H24K Noodor Dome 74.92 17 IAmb IAmb 09 31 16.6
comp=Z,3.2nm,0.9s
H24K Noodor Dome 74.92 17 P **P 09 31 12.7 -1.4**
baz=325
L17K Donlin 74.94 23 P **P 09 31 12.3 -1.9**
baz=317
H25L Birch Creek 75.03 16 P **P 09 31 12.6 -2.0**
baz=327
TTA Tatalina 75.05 21 P **P 09 31 13.2 -1.7**
baz=319
F28M Old Crow 75.07 13 P **P 09 31 13.1 -1.8**
baz=332
I23K Minto, Yukon-K 75.13 17 P **P 09 31 12.8 -2.3**
baz=324
M15K Kasigluk River 75.20 25 P **P 09 31 13.6 -2.1**
baz=316
K20K Telida 75.29 20 IAmb IAmb 09 31 18.8
comp=Z,4.9nm,0.9s
K20K Telida 75.29 20 P **P 09 31 13.7 -2.6**
baz=320
L18K Granite Mounta 75.38 22 P **P 09 31 14.3 -2.5**
baz=319
G27K Doyon Strip 75.44 14 P **P 09 31 15.1 -1.9**
baz=330
INK Inuvik 75.49 10 IAmb IAmb 09 31 19.4
comp=Z,5.2nm,0.9s
INK Inuvik 75.49 10 P **P 09 31 15.9 -1.3**
baz=337
M16K Timber Creek 75.55 24 P **P 09 31 15.7 -2.0**
baz=317
BPAW Bear Paw Mtn. 75.56 19 P **P 09 31 16.4 -1.3**
baz=323
MDM Murphy Dome 75.56 17 P **P 09 31 17.5 -0.2**
MDM IAmb IAmb 09 31 19.9
comp=Z,4.2nm,0.9s
POKR Poker Plat Res 75.62 17 P **P 09 31 16.1 -2.0**
baz=326
C36M Paulatuk 75.64 7 P **P 09 31 15.8 -2.2**
baz=345
TSUM Tsumeb 75.65 234 P **P 09 31 20.7 +1.8**
comp=Z,4.3nm,0.7s,baz=16,slow=8.5,SNR=5.3
comp=Z,4.3nm,0.7s
NEA2 Nenana 75.65 18 P **P 09 31 17.3 -0.9**
baz=324,SNR=9.7
COLA College 75.72 17 P **P 09 31 16.8 -1.8**
baz=325
PRP Porcupine Dome 75.73 16 P **P 09 31 16.6 -2.2**
baz=327
M17K Holitna River 75.76 23 P **P 09 31 16.9 -2.0**
baz=318

F30M	Barrier River	75.78	11	P		P	09 31 16.9	-2.0
	baz=335							
N15K	Kwethluk River	75.79	25	P		P	09 31 17.4	-1.7
	baz=316							
L19K	White Mountain	75.97	21	P		P	09 31 18.1	-2.1
	baz=320							
H27K	Steamboat Moun	75.97	14	P		P	09 31 18.2	-1.9
	baz=330							
N16K	Nishlik Lake	76.01	24	P		P	09 31 18.8	-1.6
	baz=317							
L20K	Farewell, AK	76.03	21	P		P	09 31 18.7	-1.8
	baz=321							
G29M	Pine Creek	76.03	12	P		P	09 31 18.4	-2.0
	baz=333							
O14K	Tigyukauivet M	76.03	26	P		P	09 31 18.5	-1.9
	baz=316							
ILAR	Eielson Array	76.04	17	P		P	09 31 20.0	-0.4
ILAR	Eielson Array	76.04	17	P		P	09 31 20.8	+0.3
	comp=Z,2.3nm,0.9s,baz=316,slow=4.9,SNR=21							
	comp=Z,2.3nm,0.9s							
M18K	Stony River	76.20	22	P		P	09 31 19.1	-2.4
	baz=319							
F31M	Tsiigehtchic	76.26	11	P		P	09 31 19.5	-2.0
	baz=337							
G30M	tAoh Zraii Nji	76.28	12	P		P	09 31 19.2	-2.6
	baz=335							
M19K	Big River Lodg	76.33	21	P		P	09 31 19.0	-3.2
	baz=320							
HDA	Harding Lake	76.33	17	P		P	09 31 19.8	-2.3
	baz=326							
MCK	McKinley	76.39	18	P		P	09 31 20.7	-1.8
	baz=324							
I26K	Coal Creek Min	76.44	15	P		P	09 31 20.5	-2.2
	baz=329							
N17K	Nushagak Hills	76.50	23	P		P	09 31 20.6	-2.5
	baz=318							
I27K	Kandik River	76.50	14	P		P	09 31 20.7	-2.5
	baz=330							
J25K	Salcha River,	76.53	16	P		P	09 31 21.3	-2.0
	baz=327							
H29M	Whitestone	76.59	13	P		P	09 31 25.0	+1.5
H29M				IAmb		IAmb	09 31 28.4	
	comp=Z,5.1nm,0.8s							
H29M	Whitestone	76.59	13	P		P	09 31 21.4	-2.2
	baz=333,SNR=7.2							
O15K	Ungalikthiuk R	76.60	25	P		P	09 31 21.6	-2.1
	baz=317							
G31M	Satah River	76.65	11	P		P	09 31 22.0	-1.8
	baz=336							
M20K	Styx River	76.72	21	P		P	09 31 21.5	-2.9
	baz=321							
EPYK	Eagle Plains	76.75	12	P		P	09 31 21.2	-3.3
	baz=334							
N18K	Kilae Creek	76.80	23	P		P	09 31 21.9	-3.0
	baz=319							
O16K	Kokwok River B	76.89	24	P		P	09 31 22.3	-3.1
	baz=318							
I28M	Miner Creek	76.98	14	IAmb		IAmb	09 31 30.1	
	comp=Z,3.8nm,0.8s							
I28M	Miner Creek	76.98	14	P		P	09 31 23.3	-2.5
	baz=332,SNR=5.8							
J26L	Joseph Creek	77.04	16	P		P	09 31 23.4	-2.8
	baz=329							
O17K	Koliganek Bris	77.10	24	P		P	09 31 23.9	-2.6
	baz=319							
SKT	Skwentna	77.10	20	P		P	09 31 24.1	-2.4
	baz=323,SNR=6.8							
K24K	Donnelly Dome	77.12	17	P		P	09 31 24.3	-2.3
	baz=327							
N19K	Bonanza Creek	77.14	22	P		P	09 31 23.7	-3.2
	baz=320							
WAT1	Susitna Watana	77.23	19	P		P	09 31 25.0	-2.3
	baz=325							
NIKH	Nikolski High	77.26	33	P		P	09 31 25.2	-2.3
	baz=311							
EGAK	Eagle	77.32	15	P		P	09 31 25.8	-1.8
	baz=331							
DHY	Denali Highway	77.33	18	P		P	09 31 25.8	-2.2
	baz=326							
SCRK	Sand Creek	77.39	16	P		P	09 31 25.9	-2.4
	baz=328							
SPCR	Spurr Chakacha	77.53	21	P		P	09 31 26.8	-2.2
	baz=322							
WAT6	Susitna Watana	77.65	18	P		P	09 31 26.7	-3.0
	baz=326							
O18K	Koktuh Hills	77.65	23	P		P	09 31 27.4	-2.2
	baz=320,SNR=6.2							
M22K	Willow	77.69	20	P		P	09 31 27.6	-2.1
	baz=324							
UNV	Unalaska Valle	77.72	32	P		P	09 31 28.1	-2.0
	baz=312							
SUA	Susitna One	77.74	20	P		P	09 31 27.2	-3.0
	baz=323,SNR=5.5							
P17K	Kvichak River	77.75	24	P		P	09 31 27.6	-2.5
	baz=319							
K27K	Chicken	77.78	15	P		P	09 31 27.8	-2.4
	baz=330							
BOSA	Boshof	77.83	223	P		P	09 31 33.0	+1.9
	comp=Z,3.1nm,0.9s,baz=95,slow=5.5,SNR=4.2							
	comp=Z,3.1nm,0.9s							
BOSA	Boshof	77.83	223	P		P	09 31 33.0	+1.9
I30M	Mount Dempster	77.85	13	P		P	09 31 27.9	-2.9
	baz=335,SNR=5.0							
PAX	Paxson	77.90	17	P		P	09 31 28.9	-2.1
	baz=327							
P18K	Big Mountain,	78.00	23	P		P	09 31 28.8	-2.8
	baz=320							
PMR	Palmer	78.09	20	P		P	09 31 30.1	-1.9
	baz=325							
SML	Sawmill	78.13	19	P		P	09 31 30.6	-1.8
	baz=325							
CAPN	Captain Cook N	78.18	21	P		P	09 31 30.1	-2.4
	baz=323							
S12K	Black Hills	78.28	29	P		P	09 31 30.6	-2.5
	baz=316							
O20K	Slope Mountain	78.29	22	P		P	09 31 31.3	-2.0
	baz=322							
M23K	Glacier View	78.31	19	P		P	09 31 31.9	-1.4
	baz=326							
DAWY	Dawson	78.31	14	P		P	09 31 30.9	-2.4
	baz=332,SNR=5.0							
RC01	Rabbit Creek A	78.33	20	P		P	09 31 31.3	-2.1
	baz=324							
SCM	Sheep Creek Mo	78.38	19	P		P	09 31 31.3	-2.4
	baz=326							
KNK	Knik Glacier	78.42	19	P		P	09 31 32.0	-1.9
	baz=325							
P19K	Oil Pt	78.44	22	P		P	09 31 32.8	-1.2
	baz=322							
J30M	Hart River	78.45	13	P		P	09 31 32.3	-1.8
	baz=335							
M24K	Tolsona, Glenn	78.45	18	P		P	09 31 32.9	-1.2
	baz=328							
HARP	HAARP	78.46	17	P		P	09 31 32.8	-1.3
	baz=327							
Q18K	Katmai Hardscr	78.65	24	P		P	09 31 34.0	-1.4
	baz=320							
Q17K	Contact Creek	78.65	24	P		P	09 31 33.4	-1.9
	baz=320							
L27K	Beaver Creek,	78.67	16	P		P	09 31 33.1	-2.2
	baz=330							
S14K	Fog Glacier	78.82	27	P		P	09 31 34.2	-2.1
	baz=317							
O22K	Cooper Landing	78.83	20	P		P	09 31 34.8	-1.3
	baz=324							
WRA	Warramunga Arr	78.84	124	P		P	09 31 37.5	+0.7
	comp=Z,2.4nm,0.7s,baz=324,slow=5.5,SNR=24							
	comp=Z,2.4nm,0.7s							
WRA	Warramunga Arr	78.84	124	*i* P		P	09 31 37.5	+0.7
WRA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
Q19K	Cape Douglas,	78.88	23	P		P	09 31 34.7	-1.7
	baz=321							
K29M	Barlow Dome	78.89	14	P		P	09 31 34.5	-2.1
	baz=334,SNR=6.8							
PWL	Port Wells	78.92	20	P		P	09 31 35.0	-1.6
	baz=325							
HOM	Homer	78.93	22	P		P	09 31 35.4	-1.3
	baz=323							
M26K	Nabesna, AK	78.98	17	P		P	09 31 36.0	-1.0
	baz=330							
KLU	Klutina	79.03	18	P		P	09 31 34.5	-2.9
	baz=327							
BRSE	Bradley Lake S	79.14	21	P		P	09 31 35.2	-2.6
	baz=324							
SDPT	Sand Point	79.16	28	P		P	09 31 35.2	-2.7
	baz=317							
SEW	Seward	79.22	21	P		P	09 31 36.2	-2.1
	baz=325							
GLI	Glacier Island	79.24	19	P		P	09 31 36.5	-1.9
	baz=326							
N25K	Chitina, Valde	79.27	18	P		P	09 31 37.3	-1.4
	baz=328							
M27K	Edge Creek, AK	79.28	16	P		P	09 31 36.9	-1.8
	baz=330							
MAYO	Mayo, Yukon	79.42	13	P		P	09 31 37.7	-1.6
	baz=335							
L29M	L29M	79.42	14	P		P	09 31 37.9	-1.5
	baz=333							
Q20K	Shuyak Island	79.53	23	P		P	09 31 38.3	-1.7
	baz=322							
R18K	Karluk	79.68	24	P		P	09 31 39.0	-1.8
	baz=321							
BMRM	Bremner River	79.82	18	P		P	09 31 40.0	-1.6
	baz=328							
MCARA	McCarthy VSAT	79.86	17	P		P	09 31 40.5	-1.2
	baz=330							
EYAK	Cordova Ski Ar	79.88	19	P		P	09 31 40.0	-1.8
	baz=328							
CHNA	Chernabura Isl	79.88	28	P		P	09 31 39.8	-2.2
	baz=317							
P23K	Montague Islan	79.89	20	P		P	09 31 39.8	-2.1
	baz=326							
M29M	Somme Creek	79.95	15	P		P	09 31 40.1	-2.2
	baz=333							
YUK3	Moose Creek	80.11	16	P		P	09 31 41.1	-2.2
	baz=332							
KDAK	Kodiak Island	80.13	23	P		P	09 31 41.3	-1.9
	baz=322							
M30M	Minto, Yukon	80.17	14	P		P	09 31 41.8	-1.7
	baz=334							
OHAK	Old Harbor	80.34	24	P		P	09 31 42.5	-1.8
	baz=322							
CRQE	Cirque	80.38	17	P		P	09 31 43.3	-1.4
	baz=330							
CTG	Chitna Glacier	80.62	17	P		P	09 31 44.3	-1.7
	baz=331							
YUK8	Steele Glacier	80.70	16	P		P	09 31 45.2	-1.4
	baz=332							
KAIM	Kayak Island	80.76	18	P		P	09 31 44.5	-2.1
	baz=329							
BGLC	Bering Glacier	80.88	18	P		P	09 31 46.4	-0.8
	baz=330							
YUK4	Talbot Arm	80.90	15	P		P	09 31 45.9	-1.7
	baz=333							
M31M	Drury Creek, Y	80.98	13	P		P	09 31 47.1	-0.7
	baz=336							
O28M	Mount Upton	81.06	16	P		P	09 31 46.1	-2.5
	baz=332							
ASAR	Alice Springs	81.09	127	P		P	09 31 49.6	+0.8
	comp=Z,2.6nm,0.6s,baz=314,slow=5.1,SNR=20							
	comp=Z,2.6nm,0.6s							
N30M	Aishikik Lake	81.12	15	P		P	09 31 46.4	-2.2
	baz=334							
FARO	Faro, Yukon	81.14	13	P		P	09 31 47.0	-1.7
	baz=337							
YUK6	Outpost Mounta	81.32	15	P		P	09 31 46.9	-3.0
	baz=333							
N31M	Braeburn, Yuko	81.37	14	P		P	09 31 48.6	-1.3
	baz=335							
O29M	Mount Kennedy	81.85	16	P		P	09 31 49.9	-2.7
	baz=333							
N32M	Quiet Lake	82.19	13	P		P	09 31 52.9	-1.3
	baz=338							
P33M	Teslin, Yukon	83.11	13	P		P	09 31 56.9	-2.2
	baz=338							
YKA	Yellowknife Ar	83.13	4	P		P	09 31 59.8	+0.8
	comp=Z,1.9nm,0.7s,baz=351,slow=5.0,SNR=21							
	comp=Z,1.9nm,0.7s							
R33M	Jennings River	84.22	13	P		P	09 32 03.0	-1.8
	baz=339							
S32K	Killisnoo	85.30	15	P		P	09 32 08.2	-1.9
	baz=337							
SIT	Sitka	85.52	16	P		P	09 32 08.8	-2.3
	baz=336							
S34M	Telegraph Cree	85.58	13	P		P	09 32 09.6	-1.9
	baz=339							
TOAD	Toad River Com	85.66	10	P		P	09 32 10.2	-1.7
	baz=344							
U33K	Whale Pass	86.86	15	P		P	09 32 15.4	-2.4
	baz=338							
PAL	Palisades	99.29	336	P		Pdif	09 33 12.9	-2.6
	baz=26							
O53A	New Philadelph	102.21	341	P		Pdif	09 33 25.5	-3.0
	baz=21							
P52A	Corning	103.03	341	P		Pdif	09 33 29.2	-3.0
	baz=20							
BW06	Boulder Array	103.07	3	P		Pdif	09 33 29.4	-3.2
	baz=357							
KSCO	Kaye Shedlock'	106.82	357	P		PKiKP	09 37 56.6	-2.6
	baz=2.8							
CBKS	Cedar Bluff	106.86	355	P		PKiKP	09 37 57.1	-2.0
	baz=5.3							
T25A	Trinidad	108.74	359	P		PKiKP	09 37 59.4	-3.5
	baz=1.3							
MPMC	Manual Prospec	109.02	10	P		PKiKP	09 38 00.6	-2.9
	baz=350							
ISA	Isabella, Lake	109.27	11	P		PKiKP	09 38 01.2	-2.6
	baz=349							
PKM	Mcpherson Peak	109.81	12	P		PKiKP	09 38 02.1	-2.9
	baz=348							
MIAR	Mount Ida	110.37	349	P		PKiKP	09 38 02.8	-2.9
	baz=11							
BELC	Belle Mtn. Jos	111.25	9	P		PKiKP	09 38 04.8	-2.8
	baz=351							
CIS	Catalina Islan	111.49	11	P		PKiKP	09 38 04.7	-3.3
	baz=349							
PFO	Pinyon Flats O	111.57	9	P		PKiKP	09 38 05.3	-3.0
	baz=351							
TPFO	Pinon Flats	111.58	9	P		PKiKP	09 38 05.6	-2.7
	baz=351							
BC3	Big Chuckawall	111.66	8	P		PKiKP	09 38 05.7	-2.7
	baz=352							
MSTX	Muleshoe	111.85	357	P		PKiKP	09 38 05.9	-2.9
	baz=2.8							
ABTX	Abilene, Hawle	113.00	354	P		PKiKP	09 38 08.6	-2.3
	baz=5.6							
121A	Cookes Peak, D	113.33	2	P		PKiKP	09 38 09.0	-2.7
	baz=358							
214A	Organ Pipe Nat	113.62	6	P		PKiKP	09 38 09.7	-2.4
	baz=354							
MNTX	Cornudas Mount	114.18	359	P		PKiKP	09 38 10.8	-2.3
	baz=0.5							
833A	Chaparral WMA,	117.24	353	P		PKPdf	09 38 16.4	-2.6
	baz=6.0							

ROM ***21*** *09:27:50.1±0.2, 39°.89N±0°.02×15°.68E±0°.04, h286km±1km, ML3.3/54, Error ellipse: s-maj=3.1km s-min=0.4km az=100.0*
IDC ***21*** *09:27:51.5±1.7, 40°.16N×15°.51E, h274km±23km, mb2.9/5, mbtmp3.5/9, Error ellipse: s-maj=27.7km s-min=25.5km az=114.0*
ISC 21 09:27:50.8±0.8,**39°.91N**±0°.06×**15°.69E**±0°.09,**h280**km±6km,
n48,σ1°**09**/68,**mb3.2**/4,**2C-11D**,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUC	Castrocucco	0.13	50	⇓*i*P	Pn	09 28 27.1	+0.4
CUC				S	S	09 28 54.7	-0.2
CUC				AML	AML		
	comp=E,78μm,0.5s						
CUC				AML	AML		
	comp=N,54μm,0.7s						
CUC				AML	AML		
	comp=N,54μm,0.7s						
CUC				AML	AML		
	comp=E,82μm,0.9s						
CUC				AML	AML		
	comp=N,54μm,0.7s						
CUC				AML	AML		
	comp=N,54μm,0.7s						
CUC				AML	AML		
	comp=E,167μm,1.1s						
CUC				AML	AML		
	comp=E,82μm,0.5s						
GRIS	Grisolia	0.21	143	P	Pn	09 28 26.9	+0.1
GRIS				S	S	09 28 54.7	-0.5
MMN	Mormanno	0.23	95	P	Pn	09 28 27.4	+0.7
MMN				S	S	09 28 55.0	0.0
MMN				AML	AML		
	comp=E,182μm,0.1s						
MMN				AML	AML		
	comp=N,148μm,1.1s						
MGR	Morigerati	0.25	335	⇓*i*P	Pn	09 28 27.4	+0.7
MGR				S	S	09 28 55.1	0.0
MGR				AML	AML		
	comp=N,71μm,0.4s						
MGR				AML	AML		
	comp=E,50μm,0.8s						
MGR				AML	AML		
	comp=E,50μm,0.8s						
MGR				AML	AML		
	comp=N,163μm,0.9s						
MGR				AML	AML		
	comp=E,143μm,1.0s						
MGR				AML	AML		
	comp=E,45μm,0.8s						
BULG	Bulgheria - Ca	0.29	305	⇓*i*P	Pn	09 28 27.8	+0.9
BULG				AML	AML		
	comp=N,106μm,0.4s						
BULG				AML	AML		
	comp=N,106μm,0.4s						
BULG				AML	AML		
	comp=E,62μm,0.7s						
BULG				AML	AML		
	comp=N,106μm,0.4s						
BULG				AML	AML		
	comp=N,85μm,0.7s						
BULG				AML	AML		
	comp=E,54μm,0.9s						
BULG				AML	AML		
	comp=N,85μm,0.5s						
MTSN	Montesano sull	0.36	8	P	Pn	09 28 27.4	+0.4
MTSN				AML	AML		
	comp=E,43μm,0.3s						
MTSN				AML	AML		
	comp=N,56μm,0.5s						
MTSN				AML	AML		
	comp=N,56μm,0.5s						
MCEL	Monticello	0.42	12	P	Pn	09 28 29.7	+2.6
MCEL				AML	AML		
	comp=E,91μm,0.5s						
MCEL				AML	AML		
	comp=N,76μm,0.7s						
MCEL				AML	AML		
	comp=N,76μm,0.7s						
CET2	Cetraro	0.43	152	⇓*i*P	Pn	09 28 27.6	+0.4
CET2				S	S	09 28 54.8	-1.1
CET2				AML	AML		
	comp=E,993μm,0.6s						
CET2				AML	AML		
	comp=N,721μm,1.2s						
CET2				AML	AML		
	comp=E,996μm,0.6s						
CET2				AML	AML		
	comp=N,1210μm,0.4s						
CET2				AML	AML		
	comp=N,1208μm,0.4s						
CET2				AML	AML		
	comp=E,997μm,0.6s						
SLCN	Sala Consilina	0.48	355	P	Pn	09 28 28.1	+0.9
CMPR	Campora	0.50	324	P	Pn	09 28 28.1	+0.9
SALB	San Lorenzo Be	0.51	94	P	Pn	09 28 28.0	+0.6
SALB				S	S	09 28 55.8	-0.5
SALB				AML	AML		
	comp=E,232μm,0.5s						
SALB				AML	AML		
	comp=N,147μm,1.1s						
SALB				AML	AML		
	comp=E,232μm,0.5s						
SALB				AML	AML		
	comp=N,139μm,0.4s						
SALB				AML	AML		
	comp=E,232μm,0.5s						
TDS	Terranova Siba	0.56	117	⇓*i*P	Pn	09 28 28.9	+1.5
TDS				S	S	09 28 57.0	+0.6
TDS				AML	AML		
	comp=E,86μm,0.6s						
TDS				AML	AML		
	comp=N,25μm,1.1s						
TDS				AML	AML		
	comp=E,92μm,1.6s						
TDS				AML	AML		
	comp=N,72μm,0.6s						
TDS				AML	AML		
	comp=E,90μm,0.5s						
TDS				AML	AML		
	comp=N,72μm,0.6s						
ORI	Oriolo Calabro	0.60	75	P	Pn	09 28 28.6	+1.1
ORI				S	S	09 28 57.2	+0.7
ORI				AML	AML		
	comp=E,356μm,0.4s						
ORI				AML	AML		
	comp=N,477μm,0.3s						
ORI				AML	AML		
	comp=E,356μm,0.4s						
ORI				AML	AML		
	comp=E,356μm,0.4s						
ORI				AML	AML		
	comp=N,477μm,0.3s						
CAR1	CAROLEI	0.77	148	P	Pn	09 28 28.6	+0.3
CAR1				S	S	09 28 56.5	-1.3
CAR1				AML	AML		
	comp=E,819μm,0.9s						
CAR1				AML	AML		
	comp=N,678μm,0.8s						
CAR1				AML	AML		
	comp=E,641μm,0.4s						
CAR1				AML	AML		
	comp=E,819μm,0.9s						
CAR1				AML	AML		
	comp=N,800μm,0.5s						
CAR1				AML	AML		
	comp=N,670μm,0.5s						
SPS2	Spezzano della	0.80	141	P	Pn	09 28 29.9	+1.6
SPS2				S	S	09 28 58.1	+0.1
SPS2				AML	AML		
	comp=E,164μm,0.4s						
SPS2				AML	AML		
	comp=N,432μm,0.5s						
SPS2				AML	AML		
	comp=N,432μm,0.5s						
SPS2				AML	AML		
	comp=E,164μm,0.4s						
MIGL	Miglionico	0.90	40	P	Pn	09 28 29.0	+0.3
MIGL				S	S	09 28 58.4	-0.2
MIGL				AML	AML		
	comp=N,192μm,0.5s						
MIGL				AML	AML		
	comp=E,200μm,0.6s						
MIGL				AML	AML		
	comp=N,192μm,0.5s						
MIGL				AML	AML		
	comp=N,192μm,0.5s						
MIGL				AML	AML		
	comp=E,200μm,0.6s						
PIPA	Pietrapaola	0.97	116	⇓*i*P	Pn	09 28 30.1	+1.1
PIPA				AML	AML		
	comp=E,250μm,0.2s						
PIPA				AML	AML		
	comp=N,232μm,0.2s						
PIPA				AML	AML		
	comp=E,251μm,0.2s						
PIPA				AML	AML		
	comp=N,265μm,0.5s						
PIPA				AML	AML		
	comp=N,232μm,0.2s						
PIPA				AML	AML		
	comp=E,254μm,0.2s						
PIPA				AML	AML		
	comp=E,251μm,0.2s						
MATE	Matera	1.07	46	⇓*i*P	Pn	09 28 29.9	+0.5
MATE				S	S	09 28 59.0	-1.0
MATE				AML	AML		
	comp=E,147μm,0.5s						
MATE				AML	AML		
	comp=N,120μm,0.5s						
MATE				AML	AML		
	comp=E,148μm,0.5s						
MATE				AML	AML		
	comp=E,147μm,0.5s						
MATE				AML	AML		
	comp=N,120μm,0.5s						
TIP	Timpagrande	1.10	131	⇓*i*P	Pn	09 28 31.0	+1.2
TIP				S	S	09 29 00.4	-0.2
TIP				AML	AML		
	comp=E,184μm,1.6s						
TIP				AML	AML		
	comp=N,112μm,0.9s						
TIP				AML	AML		
	comp=N,112μm,0.9s						

TIP				AML	AML	
	comp=E,169μm,0.6s					
TIP				AML	AML	
	comp=N,108μm,0.4s					
TIP				AML	AML	
	comp=E,145μm,0.6s					
TIP				AML	AML	
	comp=N,88μm,0.4s					
SERS	**Sersale**	**1.17 138**	⇓*iP*	**Pn**		**09 28 31.3 +1.1**
SERS			S	**S**		**09 29 00.7 -0.7**
SERS			AML	AML		
	comp=E,290μm,0.5s					
SERS			AML	AML		
	comp=N,312μm,0.4s					
SERS			AML	AML		
	comp=E,290μm,0.5s					
SERS			AML	AML		
	comp=N,255μm,0.5s					
SERS			AML	AML		
	comp=E,254μm,0.4s					
SERS			AML	AML		
	comp=N,312μm,0.4s					
LADO	**San Nicola del**	**1.18 122**	⇓*iP*	**Pn**		**09 28 31.2 +1.0**
LADO			AML	AML		
	comp=E,22μm,0.1s					
LADO			AML	AML		
	comp=N,26μm,0.1s					
LADO			AML	AML		
	comp=E,22μm,0.1s					
AMUR	**Altamura**	**1.22 35**	P	**Pn**		**09 28 30.9 +0.6**
AMUR			AML	AML		
	comp=E,68μm,0.8s					
AMUR			AML	AML		
	comp=N,57μm,0.2s					
AMUR			AML	AML		
	comp=N,57μm,0.2s					
JOPP	**Joppolo**	**1.31 173**	P	**Pn**		**09 28 31.3 +0.3**
JOPP			S	**S**		**09 29 01.1 -1.7**
JOPP			AML	AML		
	comp=N,396μm,0.6s					
JOPP			AML	AML		
	comp=E,454μm,0.3s					
JOPP			AML	AML		
	comp=E,453μm,0.3s					
JOPP			AML	AML		
	comp=N,376μm,0.2s					
NOCI	**Noci**	**1.37 50**	⇓*iP*	**Pn**		**09 28 31.9 +0.7**
NOCI			AML	AML		
	comp=N,170μm,0.1s					
NOCI			AML	AML		
	comp=E,119μm,0.3s					
NOCI			AML	AML		
	comp=E,117μm,0.1s					
NOCI			AML	AML		
	comp=N,170μm,0.1s					
PLAC	**Placanica**	**1.57 158**	P	**Pn**		**09 28 33.4 +0.6**
PLAC			S	**S**		**09 29 05.0 -1.0**
PLAC			AML	AML		
	comp=E,690μm,1.2s					
PLAC			AML	AML		
	comp=N,740μm,0.6s					
PLAC			AML	AML		
	comp=N,740μm,0.6s					
PLAC			AML	AML		
	comp=E,740μm,0.6s					
PLAC			AML	AML		
	comp=E,665μm,0.2s					
PLAC			AML	AML		
	comp=N,605μm,0.3s					
VPL	**Vulcano Piano**	**1.63 200**	P	**Pn**		**09 28 34.8 +1.7**
CEL	**Celeste**	**1.66 174**	P	**Pn**		**09 28 33.4 +0.1**
CEL			S	**S**		**09 29 05.7 -1.4**
CEL			AML	AML		
	comp=E,256μm,0.6s					
CEL			AML	AML		
	comp=N,256μm,0.8s					
CEL			AML	AML		
	comp=E,256μm,0.6s					
CEL			AML	AML		
	comp=N,210μm,0.5s					
CEL			AML	AML		
	comp=N,166μm,0.5s					
CEL			AML	AML		
	comp=E,206μm,0.6s					
CEL			AML	AML		
	comp=E,140μm,0.6s					
MILZ	**Milazzo**	**1.68 192**	P	**Pn**		**09 28 34.2 +0.8**
MILZ			S	**S**		**09 29 06.7 -0.5**
MILZ			AML	AML		
	comp=E,500μm,1.0s					
MILZ			AML	AML		
	comp=N,376μm,0.4s					
MILZ			AML	AML		
	comp=E,482μm,0.5s					
MILZ			AML	AML		
	comp=N,376μm,0.4s					
GMB	**Gambarie**	**1.74 176**	AML	AML		
	comp=E,847μm,0.2s					
GMB			AML	AML		
	comp=E,932μm,0.8s					
GMB			AML	AML		
	comp=N,863μm,0.2s					
GMB			AML	AML		
	comp=N,863μm,0.2s					
MPNC	**Port Mandanici**	**1.78 189**	P	**Pn**		**09 28 34.6 +0.3**
MPNC			S	**S**		**09 29 07.2 -1.5**
MPNC			AML	AML		
	comp=E,252μm,1.0s					
MPNC			AML	AML		
	comp=N,274μm,1.0s					
MPNC			AML	AML		
	comp=N,227μm,0.2s					
MPNC			AML	AML		
	comp=E,221μm,0.2s					
MSAG	**Monte S. Angel**	**1.81 5**	P	**Pn**		**09 28 34.5 +0.2**
SOI	**Samo**	**1.86 171**	P	**Pn**		**09 28 35.3 +0.5**
SOI			S	**S**		**09 29 07.9 -1.9**
SOI			AML	AML		
	comp=E,107μm,0.8s					
SOI			AML	AML		
	comp=N,129μm,0.5s					
SOI			AML	AML		
	comp=E,96μm,0.5s					
SOI			AML	AML		
	comp=N,129μm,0.5s					
MTTG	**Motta San Giov**	**1.91 180**	P	**Pn**		**09 28 36.1 +0.9**
MTTG			S	**S**		**09 29 09.0 -1.5**
MTTG			AML	AML		
	comp=E,131μm,0.9s					
MTTG			AML	AML		
	comp=N,133μm,0.6s					
MTTG			AML	AML		
	comp=E,131μm,0.9s					
MTTG			AML	AML		
	comp=N,128μm,0.5s					
NOV	**Novara**	**1.93 193**	P	**Pn**		**09 28 36.9 +1.4**
NOV			AML	AML		
	comp=E,87μm,0.4s					
NOV			AML	AML		
	comp=N,87μm,0.6s					
NOV			AML	AML		
	comp=E,87μm,0.4s					
MUCR	**Ucria**	**1.97 199**	⇑*iP*	**Pn**		**09 28 37.0 +1.1**
MUCR			AML	AML		
	comp=E,44μm,0.6s					
SCTE	**Santa Cesarea**	**2.14 85**	P	**Pn**		**09 28 38.2 +1.2**
CSLB	**Castelbuono**	**2.35 213**	⇑*iP*	**Pn**		**09 28 40.5 +1.5**
PETRA	**Petralia Sopra**	**2.41 211**	P	**Pn**		**09 28 41.5 +1.8**
PETRA			AML	AML		
	comp=E,65μm,0.7s					
PETRA			AML	AML		
	comp=N,68μm,0.7s					
VAE	**Valguarnera**	**2.63 203**	P	**Pn**		**09 28 43.4 +1.7**
	comp=N,14nm,0.6s,baz=326,slow=3.6,SNR=2.5					
HLNI	**Lentini**	**2.64 194**	P	**Pn**		**09 28 43.1 +1.4**
HLNI			AML	AML		
	comp=E,29μm,0.7s					
HLNI			AML	AML		
	comp=N,35μm,1.2s					
GERES	**GERESS Array B**	**9.04 352**	P	**Pn**		**09 29 56.5 -0.7**
	comp=N,0.7nm,0.5s,baz=161,slow=17,SNR=4.3					
AKASG	**Malin Array Be**	**14.37 37**	P	**P**		**09 31 01.9 +0.1**
	comp=N,0.3nm,0.3s,baz=232,slow=10,SNR=4.0					
ESDC	**Sonseca Array**	**15.11 275**	P	**P**		**09 31 11.0 +0.9**
	comp=N,0.4nm,0.5s,baz=76,slow=11,SNR=5.0					
HFS	**Hagfors**	**20.28 357**	P	**P**		**09 32 03.0 -2.6**
	comp=N,1.3nm,0.5s,baz=184,slow=9.7,SNR=9.8					
	comp=N,1.3nm,0.5s					
NOA	**NORSAR Array B**	**21.34 354**	P	**P**		**09 32 14.4 -1.6**
	comp=N,0.2nm,0.7s,baz=166,slow=10,SNR=1.2					
	comp=N,0.2nm,0.7s					
FINES	**FINESS Array B**	**22.48 13**	P	**P**		**09 32 26.4 0.0**
	comp=N,1.4nm,0.7s,baz=198,slow=10,SNR=7.2					
	comp=N,1.4nm,0.7s					
MKAR	**Makanchi Array**	**47.61 59**	P	**P**		**09 36 00.1 +1.2**
	comp=N,0.3nm,0.4s,baz=288,slow=7.6,SNR=4.7					
	comp=N,0.3nm,0.4s					
SCHQ	**Schefferville**	**54.61 315**	P	**P**		**09 36 49.8 -0.7**
	comp=N,0.6nm,0.3s,baz=72,slow=13,SNR=1.6					
	comp=N,0.6nm,0.3s					

KRSC 21 09:29:21.8±1.2, 51°.76N×159°.31E, h21km±29km, MI3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.77**	**274**	*eP*	Pb	09 29 36.3	-0.1
KDTR				*eS*	Sb	09 29 47.2	+0.8
MTVR	**Mutnovka**	**1.00**	**317**	*eP*	Pb	09 29 40.4	-0.1
MTVR				*eS*	Sn	09 29 54.3	0.0
ASAK	**Asacha**	**1.07**	**306**	*eP*	Pb	09 29 41.8	+0.2
ASAK				*eS*	Sn	09 29 56.5	+0.6
GRL	**Gorelyy**	**1.10**	**317**	*eP*	Pb	09 29 42.5	+0.3
GRL				*eS*	Sn	09 29 57.5	+0.9
KRMR	**Karymshinskiy**	**1.29**	**326**	*eP*	Pn	09 29 44.7	+0.1
KRMR				*eS*	Sb	09 30 01.6	+0.1
DALK	**Dalny**	**1.32**	**345**	*eP*	Pn	09 29 44.5	-0.4
PET	**Petropavlovsk**	**1.33**	**343**	*eP*	Pn	09 29 44.7	-0.3
PET				*eS*	Sb	09 30 02.7	+0.2
SPN	**Mys Shipunski**	**1.41**	**18**	*eP*	Pb	09 29 47.9	+0.6
NLC	**Nalytchevo**	**1.41**	**1**	*eP*	Pn	09 29 46.5	+0.3
UGLR	**Uglovaya**	**1.48**	**349**	*eP*	Pb	09 29 49.1	+0.5
SMAR	**Somma**	**1.54**	**348**	*eP*	Pb	09 29 50.0	+0.4
AVH	**Avacha**	**1.55**	**347**	*eP*	Pb	09 29 49.8	+0.1
KRER	**Koryakskii**	**1.58**	**348**	*eP*	Pb	09 29 50.4	0.0
KOK	**Koryaka**	**1.59**	**345**	*eP*	Pn	09 29 48.8	+0.1
KRX	**Arik**	**1.65**	**346**	*eP*	Pb	09 29 51.6	+0.1
APC	**Apacha**	**1.76**	**312**	*eP*	Pb	09 29 52.6	-0.8
GNL	**Ganaly**	**2.11**	**337**	*eP*	Pn	09 29 57.0	+1.1
GNL				*eS*	Sn	09 30 23.0	+1.5
TUMR	**Tumrok**	**3.56**	**8**	*eP*	Pn	09 30 19.4	+3.5

IDC 21 09:40:08.8±6.9, 20°.21S×179°.71W, h293km±70km, mb2.9/3, mbtmp3.7/4, Error ellipse: s-maj=32.1km s-min=20.1km az=87.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.20**	**188**	P	P	09 44 00.9	0.0
	8.7nm,0.9s,baz=337,slow=7.7,SNR=1.9						
URZ				S	S	09 47 14.3	+0.7
	3.0nm,0.6s,baz=198,slow=16,SNR=1.3						
ASAR	**Alice Springs**	**43.03**	**257**	P	P	09 47 40.4	-0.1
	0.2nm,0.4s,baz=89,slow=7.7,SNR=7.1						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.05**	**262**	P	P	09 47 40.5	-0.1
	0.4nm,0.8s,baz=97,slow=7.7,SNR=5.0						
	0.4nm,0.8s						
TXAR	**Lajitas Array**	**88.25**	**58**	P	P	09 52 27.6	0.0
	0.8nm,1.1s,baz=225,slow=4.8,SNR=4.0						
	0.8nm,1.1s						

*HVO **21** 09:55:10.5±0.9, 19°.409N±0°.009×155°.269W±0°.006, h0km±4km, ML3.4/49, ML2.8/36(NEIC), Error ellipse: s-maj=1.4km s-min=0.5km az=156.0*
*NEIC **21** 09:55:11.1±1.1, 19°.395N±0°.009×155°.25W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.6km az=140.0*
*IDC **21** 09:55:14.6±1.4, 19°.41N×155°.31W, h0km, mb3.4/3, mbtmp3.4/3, MS3.4/1, Error ellipse: s-maj=18.4km s-min=12.4km az=120.0*

ISC 21 09:55:14.1±0.9, 19°.42N±0°.04×155°.26W±0°.03, h10km, n30, σ3°.59/28, mb3.3/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**164**	Pg	Pg	09 55 11.1	-4.9
HATHI	**Halema'uma'u T**	**0.01**	**6**	Pg	**Pg**	**09 55 11.3**	**-4.7**
SBLHI	**Steaming Bluff**	**0.01**	**328**		**Pg**	**09 55 11.4**	**-4.6**
UWB	**Uwekahuna B**	**0.02**	**295**		**Pg**	**09 55 11.4**	**-4.7**
KKO	**Keanakako`i**	**0.02**	**192**		**Pg**	**09 55 11.8**	**-4.3**
OBL	**Observatory Le**	**0.02**	**271**		**Pg**	**09 55 12.0**	**-4.0**
RIM	**Rim**	**0.03**	**208**		**Pg**	**09 55 12.0**	**-4.1**
UWE	**Uwekahuna**	**0.03**	**277**		**Pg**	**09 55 11.7**	**-4.5**
WRMHI	**West Rim**	**0.04**	**254**		**Pg**	**09 55 12.8**	**-3.4**
SDHHI	**Sand Hill**	**0.04**	**228**		**Pg**	**09 55 12.8**	**-3.4**
RSD	**Rainshed**	**0.05**	**341**		**Pg**	**09 55 12.4**	**-3.9**
PUH	**Pauahi**	**0.06**	**135**		**Pg**	**09 55 12.7**	**-3.6**
PUH				IAML		09 55 13.3	
	comp=E,2μm,0.2s						
PUH				IAML		09 55 13.7	
	comp=N,2μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.10**	**113**		**Pg**	**09 55 13.5**	**-3.2**
HLP	**Hilina Pali**	**0.13**	**200**		**Pg**	**09 55 13.7**	**-3.4**
HLP				IAML		09 55 16.5	
	comp=E,2μm,0.8s						
HLP				IAML		09 55 16.6	
	comp=N,2μm,1.0s						
STCH	**Steam Cracks**	**0.13**	**104**	Pg	**Pg**	**09 55 14.0**	**-3.3**
STCH				IAML		09 55 17.3	
	comp=E,4μm,0.8s						
STCH				IAML		09 55 17.6	
	comp=N,2μm,0.3s						
MLH	**Mauna Loa**	**0.14**	**303**	Pg	**Pg**	**09 55 14.4**	**-3.1**
MLH				IAML		09 55 17.6	
	comp=N,1μm,0.4s						
MLH				IAML		09 55 18.3	
	comp=E,5μm,0.8s						
JOKA	**Jonika Flow**	**0.24**	**86**		**Pg**	**09 55 15.6**	**-3.5**
JOKA				IAML		09 55 22.9	
	comp=N,2μm,0.7s						
JOKA				IAML		09 55 23.0	
	comp=E,3μm,1.0s						
HMH	**Humu'ula Sheep**	**0.28**	**311**		**Pg**	**09 55 16.6**	**-3.3**
HMH				IAML		09 55 24.6	
	comp=E,7μm,1.0s						
MLOA	**Mauna Loa Obse**	**0.32**	**292**	Pg	**Pg**	**09 55 18.2**	**-2.5**
MLOA				IAML		09 55 27.9	
	comp=E,7μm,0.7s						
MLOA				IAML		09 55 28.2	
	comp=N,6μm,1.2s						
MWH	**Moku'aweowe**	**0.32**	**282**		**Pg**	**09 55 17.6**	**-3.2**
KHU	**Kahuku**	**0.38**	**243**	Pg	**Pg**	**09 55 18.8**	**-2.8**
KHU				IAML		09 55 28.5	
	comp=N,5μm,1.7s						
POHA	**Pohakuloa**	**0.42**	**323**	Pg	**Pg**	**09 55 19.6**	**-3.0**
HPO	**Honuapo**	**0.43**	**220**		**Pg**	**09 55 20.6**	**-1.9**
HUH	**Hualalai**	**0.60**	**296**		**Pg**	**09 55 23.0**	**-2.9**
I59US	**HAWAII INFRASO**	**0.62**	**286**	Pg	**Pb**	**09 55 25.8**	**-1.3**
	baz=117,slow=32						
I59US				I	I	09 58 29.8	
	baz=108,slow=328,SNR=5.7						
HPAH	**Hawaii Prepara**	**0.73**	**326**	Pg	**Pg**	**09 55 25.8**	**-2.5**
KDAK	**Kodiak Island**	**38.36**	**2**	LR	LR	10 16 14.9	
	comp=N,50nm,19.3s,baz=206,slow=33						
PDAR	**Pinedale Array**	**44.85**	**48**	P	**P**	**10 03 31.4**	**+2.5**
	comp=N,0.4nm,1.0s,baz=235,slow=4.1,SNR=2.5						
	comp=N,0.4nm,1.0s						
ILAR	**Eielson Array**	**45.67**	**5**	P	**P**	**10 03 36.7**	**+1.9**
	comp=N,0.3nm,0.8s,baz=197,slow=8.5,SNR=2.9						
	comp=N,0.3nm,0.8s						
TXAR	**Lajitas Array**	**47.70**	**68**	P	**P**	**10 03 53.5**	**+2.1**
	comp=N,1.0nm,1.0s,baz=255,slow=8.7,SNR=7.3						
	comp=N,1.0nm,1.0s						

SCB 21 10:05:31.8±1.1, 20°.06S×66°.03W, h54km±11km, ML3.0/3, MW3.7, Error ellipse: s-maj=4.4km s-min=2.1km az=1.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.24**	**163**	Pn	Pn	10 05 56.9	+3.6
MOCB				Sn	Sn	10 06 14.8	+5.5
MOCB				IAML		10 06 20.2	
	250nm,0.3s						
SOET	**ToroToro**	**1.94**	**6**	Pn	Pn	10 06 05.9	+3.1
SOET				Sn	Sn	10 06 31.1	+4.9
SOET				IAML		10 06 39.2	
	63nm,1.0s						
AOEA	**Aiquile**	**2.01**	**22**	Pn	Pn	10 06 06.3	+2.6
AOEA	**Aiquile**	**2.01**	**22**	Pn	Pn	10 06 07.0	+3.3
AOEA				Sn	Sn	10 06 33.4	+5.5
AOEA				IAML		10 06 42.8	
	183nm,0.6s						
SOTI	**Planta Incahua**	**2.25**	**84**	Pn	Pn	10 06 09.3	+2.6
SOEO	**Opoqueri**	**2.30**	**310**	Pn	Pn	10 06 11.1	+3.4
GO01	**Chusmiza**	**3.00**	**277**	Pn	Pn	10 06 19.9	+2.6
PB11	**IPOC Station P**	**3.42**	**274**	Pn	Pn	10 06 25.3	+2.5
SOEJ	**Jacaque**	**3.69**	**326**	Pn	Pn	10 06 30.3	+3.5
BBOE	**La Paz, Chanca**	**3.72**	**330**	Pn	Pn	10 06 31.2	+3.9
BBOD	**La Paz, Gloria**	**4.18**	**324**	Pn	Pn	10 06 37.1	+3.5
LPAZ	**La Paz**	**4.25**	**332**	Pn	Pn	10 06 37.6	+3.0
PB15	**IPOC Station P**	**4.48**	**225**	Pn	Pn	10 06 40.5	+3.1

*DJA **21** 10:42:46.0±1.1, 3°.N±4°×12°.8E±°, h28km±9km, M4.3/9, mb4.6/6, mB4.8/5, MLv4.3/9, Mw(mB)4.1/5*
*NEIC **21** 10:42:47.2±1.0, 2°.47N±0°.06×128°.16E±0°.08, h72km±9km, mb4.1/27, Error ellipse: s-maj=12.7km s-min=6.3km az=55.0*
*IDC **21** 10:42:48.9±6.5, 2°.56N×128°.47E, h100km±61km, mb3.6/11, mbtmp3.9/11, MS2.7/1, Error ellipse: s-maj=44.4km s-min=13.2km az=78.0*

ISC 21 10:42:48.5±0.5, 2°.45N±0°.06×128°.17E±0°.09, h100km, n65, σ1°.45/60, mb4.0/23, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.85**	**206**		**Pn**	**10 43 17.3**	**-1.9**
TNTI	**Ternate**	**1.85**	**206**	P	**Pn**	**10 43 17.6**	**-1.6**
SWI	**Sorong**	**4.51**	**137**	P	**Pn**	**10 43 52.8**	**-1.9**
KIMSI	**Cibinong**	**4.58**	**246**	P	**Pn**	**10 43 54.9**	**-0.7**
DAV	**Davao City (W)**	**5.27**	**331**	Pn	**Pn**	**10 44 02.9**	**-2.0**
GTOI	**Gorontalo**	**5.46**	**251**	P	**Pn**	**10 44 08.1**	**+0.6**
	32nm,0.6s,465nm0.1nm						
LUWI	**Luwuk**	**6.41**	**237**	Pn	**Pn**	**10 44 18.0**	**-2.5**
LUWI	**Luwuk**	**6.41**	**237**	P	**Pn**	**10 44 19.8**	**-0.7**
	49nm,0.7s						
MRSI	**Marisa**	**6.53**	**253**	P	**Pn**	**10 44 22.1**	**+0.1**
FAKI	**Fak Fak**	**6.71**	**143**	Pn	**Pn**	**10 44 22.1**	**-2.5**
FAKI	**Fak Fak**	**6.71**	**143**	P	**Pn**	**10 44 23.4**	**-1.2**
	30nm,1.0s,0.2nm						
TOLI2	**Tolitoli**	**7.50**	**260**		**Pn**	**10 44 33.5**	**-1.8**
MPSI	**Mapaga**	**8.53**	**256**	P	**Pn**	**10 44 50.2**	**+0.9**
BBSI	**Bau Bau**	**9.66**	**215**	P	**Pn**	**10 45 05.5**	**+0.8**
MYLDM	**Lahad Datu**	**10.02**	**286**	Pn	**Pn**	**10 45 07.1**	**-2.5**
KKM	**Kota Kinabalu**	**12.44**	**287**	Pn	**Pn**	**10 45 39.6**	**-2.7**
SOEI	**Soe**	**12.73**	**198**	Pn	**Pn**	**10 45 44.5**	**-1.5**
MTN	**Manton Dam**	**15.47**	**169**	Pn	**Pn**	**10 46 21.3**	**-0.1**
MTN				IAmb	IAmb	10 46 28.5	
	comp=Z,13nm,1.1s						
JAGI	**Jajag, Banyuwa**	**17.69**	**232**	P	**P**	**10 46 46.7**	**-1.5**
JAGI				IAmb	IAmb	10 46 47.3	
	comp=Z,30nm,1.1s						
KNRA	**Kununurra**	**18.02**	**178**	P	**Pn**	**10 46 52.0**	**-0.5**
KNRA				IAmb	IAmb	10 47 17.1	
	comp=Z,9.7nm,1.1s						
GUMO	**Guam**	**19.88**	**55**	P	**P**	**10 47 11.8**	**-0.3**
GUMO	**Guam**	**19.88**	**55**	LR	LR	10 53 39.0	
	comp=Z,23nm,20.5s,baz=236,slow=33						
UGM	**Wanagama**	**20.39**	**240**	P	**P**	**10 47 17.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**20.57**	**187**	P	**P**	**10 47 18.9**	**-0.5**
WB0	**Warramunga Arr**	**22.91**	**165**	P	**P**	**10 47 44.2**	**+0.2**
WB0				IAmb	IAmb	10 47 60.0	
	comp=Z,8.5nm,1.1s						
YHNB	**Yeheng**	**23.05**	**344**	P	**P**	**10 47 45.3**	**-0.1**
YHNB				IAmb	IAmb	10 47 56.9	
	comp=Z,17nm,1.0s						
WRAB	**Tennant Creek**	**23.05**	**165**	P	**P**	**10 47 46.6**	**+1.1**
WRAB				IAmb	IAmb	10 47 47.3	
	comp=Z,5.8nm,0.8s						
WRA	**Warramunga Arr**	**23.06**	**165**	P	**P**	**10 47 46.2**	**+0.6**
WRA	**Warramunga Arr**	**23.06**	**165**	P	**P**	**10 47 46.5**	**+0.9**
	comp=Z,5.0nm,0.6s,baz=345,slow=10,SNR=12						
WRA				PcP	**PcP**	**10 51 31.2**	**-0.6**
	comp=Z,0.3nm,1.0s,baz=346,slow=2.5,SNR=1.4						
	comp=Z,5.0nm,0.6s						
WB2	**Warramunga Arr**	**23.06**	**165**	P	**P**	**10 47 46.4**	**+0.8**
WB2				IAmb	IAmb	10 47 47.4	
	comp=Z,7.6nm,0.8s						
WR0	**Warramunga Arr**	**23.13**	**165**	P	**P**	**10 47 47.3**	**+1.0**
WR0				IAmb	IAmb	10 47 47.6	
	comp=Z,6.7nm,0.8s						
MBWA	**Marble Bar**	**24.87**	**199**	P	**P**	**10 48 03.7**	**+1.7**
ASAR	**Alice Springs**	**26.55**	**168**	P	**P**	**10 48 18.4**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=354,slow=7.6,SNR=4.7						
ASAR				PcP	**PcP**	**10 51 40.8**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=2.0,slow=2.0,SNR=7.1						
	comp=Z,0.8nm,0.5s						
KSRS	**Korea Array**	**34.84**	**360**	P	**P**	**10 49 30.6**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=176,slow=10,SNR=12						
	comp=Z,1.8nm,0.6s						
MJAR	**Matsushiro Arr**	**35.17**	**14**	P	**P**	**10 49 30.8**	**-2.1**
	comp=Z,0.8nm,0.4s,baz=180,slow=9.6,SNR=8.5						
	comp=Z,0.8nm,0.4s						
STKA	**Stephens Creek**	**36.44**	**161**	P	**P**	**10 49 43.6**	**-0.2**
	comp=Z,1.6nm,0.4s,baz=329,slow=8.7,SNR=7.5						
	comp=Z,1.6nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**40.96**	**64**	T	T	11 33 48.5	
	baz=252,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**40.97**	**64**	T	T	11 33 44.9	
	baz=252,slow=75,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**40.97**	**64**	T	T	11 34 00.7	
	baz=252,slow=75,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**41.53**	**63**	T	T	11 34 21.8	
	baz=250,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**41.54**	**63**	T	T	11 34 20.9	
	baz=250,slow=75,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**41.55**	**63**	T	T	11 34 22.4	
	baz=250,slow=75,SNR=12						
SONM	**Songino Array**	**48.97**	**341**	P	**P**	**10 51 25.4**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=148,slow=8.5,SNR=3.2						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**59.42**	**325**	P	**P**	**10 52 41.7**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=122,slow=7.8,SNR=8.0						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**63.59**	**327**	P	**P**	**10 53 09.1**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=128,slow=6.9,SNR=7.5						
	comp=Z,0.8nm,0.7s						
BVAR	**Borovoye Array**	**69.17**	**327**	P	**P**	**10 53 44.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=83,slow=4.6,SNR=1.6						
	comp=Z,0.2nm,0.3s						
VNDA	**Vanda**	**81.98**	**173**	P	**P**	**10 54 58.5**	**+1.6**
F20K	**Avaraart Lake**	**82.35**	**23**	P	**P**	**10 55 01.0**	**+2.0**
J20K	**Nowinta River**	**82.45**	**26**	P	**P**	**10 55 01.6**	**+2.0**
J20K				IAmb	IAmb	10 55 03.0	
	comp=Z,2.5nm,1.1s						
B20K	**Meade River**	**82.49**	**20**	P	**P**	**10 55 01.6**	**+1.9**
B20K				IAmb	IAmb	10 55 02.7	
	comp=Z,3.7nm,0.8s						
IMAR	**Indian Mountai**	**82.93**	**24**	P	**P**	**10 55 04.0**	**+1.9**
G21K	**Allakaket**	**83.11**	**23**	P	**P**	**10 55 04.8**	**+1.8**
G21K				IAmb	IAmb	10 55 13.7	
	comp=Z,1.9nm,1.1s						
B21K	**Ikpikpuk River**	**83.27**	**20**	P	**P**	**10 55 06.0**	**+2.3**
B21K				IAmb	IAmb	10 55 06.5	
	comp=Z,1.8nm,0.8s						
E21K	**Killik River**	**83.28**	**21**	P	**P**	**10 55 05.8**	**+1.9**
SKT	**Skwentna**	**83.29**	**28**	P	**P**	**10 55 04.6**	**+0.6**
SKT				IAmb	IAmb	10 55 15.3	
	comp=Z,2.0nm,1.0s						
RND	**Reindeer**	**84.67**	**27**	P	**P**	**10 55 12.0**	**+1.0**
RND				IAmb	IAmb	10 55 23.2	
	comp=Z,2.5nm,0.9s						
C23K	**Itkillik River**	**84.68**	**20**	P	**P**	**10 55 13.2**	**+2.3**
SCM	**Sheep Creek

*ISK **21** 10:45:27.9, 39.55N×26.05E, h7km, ML3.3/22*
*ATH **21** 10:45:29.0, 39.53N×26.04E, h14km, ML2.9/18, Error ellipse: s-maj=1.3km s-min=0.7km az=243.0*
*AFAD **21** 10:45:28.6±0.0, 39.54N×26.06E, h11km±1km, ML2.9*
*THE **21** 10:45:28.8, 39.55N×26.04E, h7km±1km, ML2.8/6, Error ellipse: s-maj=1.3km s-min=0.5km az=143.0*

ISC 21 10:45:28.4±0.8, 39.54N±0.01×26.05E±0.02, h13km±5km, n93, σ0.83/137, 6C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.08**	**120**	P	**Pg**	**10 45 31.2**	**0.0**
KOCA				*i* AML	AML	10 45 33.0	
	comp=N,6μm,0.2s						
KOCA				*i* AML	AML	10 45 33.0	
	comp=E,1μm,0.2s						
KOCA				S	**Sg**	**10 45 33.1**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.11**	**142**	Pg	**Pg**	**10 45 31.3**	**-0.3**
GPNR				Sg	**Sg**	**10 45 33.5**	**-0.2**
BOZC	**Bozcaada**	**0.30**	**1**	P	**Pg**	**10 45 34.8**	**+0.2**
BOZC				*i* AML	AML	10 45 39.0	
	comp=N,2μm,0.2s						
BOZC				*i* AML	AML	10 45 39.0	
	comp=E,2μm,0.2s						
BOZC				S	**Sg**	**10 45 39.4**	**+0.6**
EZNE	**Ezine-Canakkal**	**0.33**	**49**	Pg	**Pb**	**10 45 35.5**	**-0.6**
EZNE				Sg	**Sg**	**10 45 40.2**	**+0.6**
PRK	**Paraskevi**	**0.34**	**149**	P	**Pg**	**10 45 35.7**	**+0.3**
PRK	**Paraskevi**	**0.34**	**149**	P	**Pg**	**10 45 35.7**	**+0.3**
PRK				S	**Sg**	**10 45 40.3**	**+0.2**
PRK				AML	AML	10 45 42.6	
	comp=E,9951μm,0.5s						
PRK				AML	AML	10 45 43.6	
	comp=N,6919μm,0.6s						
EZN	**Ezine**	**0.35**	**37**	Pg	**Pg**	**10 45 35.6**	**0.0**
EZN				Sg	**Sg**	**10 45 40.6**	**+0.1**
EZN	**Ezine**	**0.35**	**37**	P	**Pg**	**10 45 35.7**	**+0.1**
EZN				S	**Sb**	**10 45 41.1**	**-0.9**
	comp=N,2μm,0.2s						
SIGR	**SIGRI**	**0.36**	**204**	Pg	**Pg**	**10 45 35.8**	**+0.1**
SIGR				Sg	**Sg**	**10 45 41.4**	**+0.8**
SIGR	**SIGRI**	**0.36**	**204**	P	**Pg**	**10 45 35.9**	**+0.2**
SIGR				S	**Sg**	**10 45 41.5**	**+0.8**
	comp=N,4μm,0.3s						
SIGR	**SIGRI**	**0.36**	**204**	P	**Pg**	**10 45 35.6**	**-0.1**
SIGR				S	**Sg**	**10 45 41.4**	**+0.8**
SIGR				AML	AML	10 45 42.1	
	comp=E,5817μm,0.2s						
SIGR				AML	AML	10 45 43.3	
	comp=N,9367μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.43**	**63**	P	**Pg**	**10 45 37.0**	**-0.1**
BAYC				S	**Sg**	**10 45 43.0**	**0.0**
BAYC				*i* AML	AML	10 45 47.0	
	comp=N,525nm,0.3s						
BAYC				*i* AML	AML	10 45 48.0	
	comp=N,486nm,0.4s						
ECEA	**Canakkale, Ece**	**0.51**	**11**	P	**Pb**	**10 45 38.9**	**-0.3**
ECEA				S	**Sb**	**10 45 46.9**	**+0.3**
ECEA				*i* AML	AML	10 45 49.0	
	comp=N,1μm,0.3s						
ECEA				*i* AML	AML	10 45 52.0	
	comp=N,1μm,0.4s						
AYVA	**Ayvalik**	**0.55**	**115**	P	**Pn**	**10 45 41.8**	**-0.1**
AYVA				*i* AML	AML	10 45 52.0	
	comp=N,331nm,0.5s						
AYVA				*i* AML	AML	10 45 56.0	
	comp=N,585nm,0.5s						
CNKL	**anakkale-Mer**	**0.58**	**27**	P	**Pg**	**10 45 39.8**	**-0.1**
CNKL				S	**Sb**	**10 45 48.8**	**+0.1**
CNKL				*i* AML	AML	10 45 50.0	
	comp=N,457nm,0.4s						
CNKL				*i* AML	AML	10 45 52.0	
	comp=N,394nm,0.5s						
GOAD	**anakkale-G¶**	**0.63**	**350**	P	**Pg**	**10 45 40.7**	**0.0**
GOAD				S	**Sg**	**10 45 49.2**	**+0.3**
GOAD				*i* AML	AML	10 45 53.0	
	comp=N,828nm,0.4s						
GOAD				*i* AML	AML	10 45 56.0	
	comp=N,511nm,0.3s						
COMU	**Canakkale**	**0.65**	**31**	Pg	**Pg**	**10 45 40.8**	**-0.2**
COMU				Sg	**Sb**	**10 45 50.1**	**-0.3**
GADA	**Gvkgeada**	**0.66**	**350**	Pg	**Pg**	**10 45 41.2**	**0.0**
GADA				Sg	**Sg**	**10 45 49.9**	**0.0**
LIA	**Limnos Island**	**0.75**	**298**	P	**Pb**	**10 45 43.4**	**+0.1**
LIA				S	**Sb**	**10 45 53.5**	**0.0**
	comp=N,2μm,0.3s						
LIA	**Limnos Island**	**0.75**	**298**	P	**Pb**	**10 45 43.4**	**+0.1**
LIA				S	**Sb**	**10 45 53.7**	**+0.2**
LIA				AML	AML	10 45 56.6	
	comp=N,3639μm,0.3s						
LIA				AML	AML	10 45 57.0	
	comp=E,3897μm,0.2s						
BUHA	**Balikesir, Bur**	**0.80**	**93**	P	**Pg**	**10 45 43.6**	**-0.3**
BUHA				S	**Sn**	**10 45 57.6**	**+0.5**
BUHA				*i* AML	AML	10 45 58.0	
	comp=E,438nm,0.5s						
BUHA				*i* AML	AML	10 45 59.0	
	comp=E,563nm,0.6s						
DKL	**Dikili**	**0.82**	**125**	Pg	**Pg**	**10 45 44.1**	**-0.1**
DKL				Sg	**Sb**	**10 45 55.6**	**+0.3**
EFSA	**Agios Efstrati**	**0.82**	**270**	P	**Pb**	**10 45 44.6**	**+0.2**
EFSA				S	**Sb**	**10 45 55.5**	**+0.2**
EFSA				AML	AML	10 45 57.5	
	comp=E,4575μm,0.3s						
EFSA				AML	AML	10 45 58.2	
	comp=N,3571μm,0.3s						
CAND	**Candarli**	**0.83**	**135**	Pg	**Pg**	**10 45 44.2**	**-0.3**
IZMD	**zmir-Dikili-**	**0.88**	**129**	P	**Pn**	**10 45 46.1**	**-0.5**
IZMD				*i* AML	AML	10 45 59.0	
	comp=N,102nm,0.7s						
IZMD				S	**Sn**	**10 45 59.2**	**0.0**
IZMD				*i* AML	AML	10 46 00.0	
	comp=N,152nm,0.7s						
GELI	**Tayfur-Gelibol**	**0.92**	**21**	Pg	**Pb**	**10 45 45.9**	**-0.2**
KARB	**zmir-Karabur**	**0.92**	**162**	P	**Pg**	**10 45 46.5**	**+0.2**
KARB				S	**Sg**	**10 45 59.2**	**+0.8**
KARB				*i* AML	AML	10 46 00.0	
	comp=N,545nm,0.4s						
KARB				*i* AML	AML	10 46 01.0	
	comp=N,570nm,0.5s						
FOCM	**Foa**	**0.99**	**147**	Pg	**Pb**	**10 45 47.1**	**-0.2**
ZEDA	**zmir-Bergama**	**0.99**	**125**	P	**Pn**	**10 45 47.8**	**-0.1**
ZEDA				S	**Sn**	**10 46 01.7**	**+0.1**
ZEDA				*i* AML	AML	10 46 02.0	
	comp=N,212nm,0.2s						
ZEDA				*i* AML	AML	10 46 02.0	
	comp=N,100nm,0.6s						
LPK	**Lapseki**	**0.99**	**33**	Pg	**Pb**	**10 45 47.3**	**-0.2**
EAG2	**Marmaro, Chios**	**1.00**	**177**	P	**Pb**	**10 45 47.3**	**-0.2**
EAG2				S	**Sb**	**10 46 00.7**	**+0.2**
EAG2				AML	AML	10 46 06.4	
	comp=N,11685μm,0.4s						
EAG2				AML	AML	10 46 06.6	
	comp=E,8107μm,0.3s						
YENI	**Yenice-Canakka**	**1.00**	**67**	Pg	**Pg**	**10 45 47.6**	**-0.2**
SMTH	**Samothraki Isl**	**1.01**	**337**	P	**Pb**	**10 45 47.5**	**-0.2**
SMTH	**Samothraki Isl**	**1.01**	**337**	P	**Pb**	**10 45 47.7**	**0.0**
SMTH				S	**Sg**	**10 46 01.0**	**-0.1**
ENZZ	**Sultanice-Enez**	**1.06**	**4**	Pg	**Pn**	**10 45 48.9**	**-0.1**
PSRA	**Psara**	**1.07**	**201**	P	**Pb**	**10 45 48.2**	**-0.5**
PSRA				S	**Sg**	**10 46 03.3**	**+0.4**
PSRA				AML	AML	10 46 06.2	
	comp=E,3264μm,0.2s						
PSRA				AML	AML	10 46 08.2	
	comp=N,2963μm,0.2s						
CAVK	**Edirne/Enez-Ca**	**1.15**	**5**	P	**Pn**	**10 45 50.3**	**+0.1**
CAVK				S	**Sg**	**10 46 06.4**	**+0.9**
CAVK				*i* AML	AML	10 46 07.0	
	comp=N,403nm,0.4s						
CAVK				*i* AML	AML	10 46 07.0	
	comp=N,412nm,0.6s						
CHOS	**Chios island**	**1.16**	**180**	Pn	**Pb**	**10 45 50.6**	**+0.4**
CHOS	**Chios island**	**1.16**	**180**	P	**Pn**	**10 45 49.7**	**-0.6**
CHOS				S	**Sg**	**10 46 07.2**	**+1.5**
	comp=N,860nm,0.5s						
CHOS	**Chios island**	**1.16**	**180**	P	**Pn**	**10 45 50.1**	**-0.2**
CHOS				S	**Sb**	**10 46 04.4**	**-0.8**
CHOS				AML	AML	10 46 09.3	
	comp=E,1899μm,0.3s						
CHOS				AML	AML	10 46 11.9	
	comp=N,1424μm,0.5s						
ERIK	**Erikli-Kesan**	**1.18**	**18**	Pn	**Pn**	**10 45 50.4**	**-0.2**
ENEZ	**Enez**	**1.19**	**4**	Pn	**Pb**	**10 45 50.9**	**+0.1**
ENEZ	**Enez**	**1.19**	**4**	P	**Pb**	**10 45 51.0**	**+0.1**
ENEZ				S	**Sg**	**10 46 07.3**	**+0.3**
SOMA	**Soma-Manisa**	**1.22**	**108**	Pn	**Pb**	**10 45 51.4**	**+0.1**
BALY	**Balya**	**1.23**	**80**	P	**Pb**	**10 45 51.5**	**0.0**
BALY				S	**Sg**	**10 46 08.3**	**+0.2**
BALY				*i* AML	AML	10 46 09.0	
	comp=N,535nm,0.4s						
BALY				*i* AML	AML	10 46 09.0	
	comp=N,276nm,0.3s						
URLA	**Izmir**	**1.26**	**160**	Pn	**Pn**	**10 45 51.5**	**-0.1**
URLA	**Izmir**	**1.26**	**160**	P	**Pn**	**10 45 51.3**	**-0.3**
URLA				S	**Sb**	**10 46 07.7**	**-0.3**
URLA				*i* AML	AML	10 46 08.0	
	comp=N,393nm,0.4s						
URLA				*i* AML	AML	10 46 11.0	
	comp=N,291nm,0.5s						
KRBG	**Karabiga-Canak**	**1.28**	**48**	Pn	**Pb**	**10 45 52.5**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.31**	**97**	P	**Pb**	**10 45 52.9**	**+0.1**
STEP				S	**Sg**	**10 46 10.4**	**-0.1**
STEP				*i* AML	AML	10 46 17.0	
	comp=N,210nm,0.4s						
STEP				*i* AML	AML	10 46 19.0	
	comp=N,233nm,0.7s						
SKY	**Skiros Island**	**1.34**	**241**	P	**Pn**	**10 45 52.3**	**-0.5**
SKY				S	**Sn**	**10 46 08.7**	**-1.7**
SKY				AML	AML	10 46 13.7	
	comp=N,807μm,0.3s						
SKY				AML	AML	10 46 14.5	
	comp=E,1591μm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**1.35**	**165**	P	**Pn**	**10 45 53.1**	**+0.2**
ZEYE				S	**Sb**	**10 46 10.9**	**+0.3**
ZEYE				*i* AML	AML	10 46 14.0	
	comp=E,342nm,0.4s						
ZEYE				*i* AML	AML	10 46 15.0	
	comp=E,260nm,0.3s						
KNL	**Balıkesir**	**1.35**	**57**	P	**Pb**	**10 45 53.6**	**+0.1**
KNL				S	**Sg**	**10 46 12.4**	**+0.5**
KNL				*i* AML	AML	10 46 13.0	
	comp=E,1μm,0.6s						
GONE	**Gonen-Balikesi**	**1.36**	**68**	Pn	**Pb**	**10 45 53.6**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.44**	**37**	Pn	**Pb**	**10 45 54.9**	**-0.1**
SART	**Tekirdag**	**1.44**	**37**	P	**Pb**	**10 45 55.0**	**0.0**
SART				*i* AML	AML	10 46 15.0	
	comp=E,463nm,0.3s						
SART				S	**Sg**	**10 46 15.1**	**+0.4**
SART				*i* AML	AML	10 46 16.0	
	comp=E,401nm,0.2s						
BKES	**Balkesir-Mer**	**1.47**	**82**	P	**Pg**	**10 45 57.8**	**+1.2**
BKES				S	**Sg**	**10 46 14.8**	**-0.8**
BKES				*i* AML	AML	10 46 20.0	
	comp=E,137nm,0.7s						
BKES				*i* AML	AML	10 46 23.0	
	comp=E,134nm,0.5s						
THAS	**Thassos island**	**1.47**	**317**	P	**Pn**	**10 45 54.4**	**-0.1**
THAS				S	**Sg**	**10 46 15.4**	**-0.4**
	comp=E,170nm,0.3s						
THAS	**Thassos island**	**1.47**	**317**	P	**Pn**	**10 45 54.5**	**-0.1**
THAS				S	**Sn**	**10 46 12.8**	**-0.8**
THAS				AML	AML	10 46 17.6	
	comp=N,410μm,0.3s						
THAS				AML	AML	10 46 19.4	
	comp=E,270μm,0.3s						
MRMT	**Marmara Adasi**	**1.59**	**48**	Pn	**Pb**	**10 45 57.2**	**-0.5**
EDC	**Edincik**	**1.61**	**60**	Pn	**Pb**	**10 45 57.2**	**-0.8**
SUSR	**Susurluk-Balik**	**1.63**	**74**	Pn	**Pn**	**10 45 57.3**	**+0.6**
UKOP	**Uzunkopru-Edir**	**1.65**	**16**	Pn	**Pn**	**10 45 57.6**	**+0.6**
RDO	**Rodhopi**	**1.65**	**347**	Pn	**Pb**	**10 45 57.9**	**-0.7**
RDO	**Rodhopi**	**1.65**	**347**	P	**Pn**	**10 45 57.3**	**+0.3**
RDO				S	**Sb**	**10 46 19.1**	**-0.1**
	comp=E,122nm,0.3s						
RDO	**Rodhopi**	**1.65**	**347**	P	**Pn**	**10 45 57.3**	**+0.3**
RDO				S	**Sn**	**10 46 17.3**	**-0.7**
RDO				AML	AML	10 46 21.4	
	comp=N,250μm,0.3s						
RDO				AML	AML	10 46 25.2	
	comp=E,240μm,0.3s						
KYMI	**Kymi, Euboea I**	**1.77**	**240**	P	**Pn**	**10 45 58.0**	**-0.6**
KYMI				AML	AML	10 46 27.4	
	comp=N,382μm,0.7s						
KYMI				AML	AML	10 46 29.0	
	comp=E,368μm,0.4s						
OUR	**Ouranopolis**	**1.77**	**297**	P	**Pn**	**10 45 58.7**	**0.0**
OUR				AML	AML	10 46 27.9	
	comp=N,293μm,0.3s						
OUR				AML	AML	10 46 30.2	
	comp=E,298μm,0.2s						
KAVA	**Kavala**	**1.87**	**322**	P	**Pn**	**10 46 00.0**	**0.0**
KVLA	**Kavala**	**1.89**	**318**	P	**Pn**	**10 46 00.4**	**+0.1**
SMG	**Samos**	**1.93**	**161**	P	**Pn**	**10 46 00.6**	**-0.4**
SMG	**Samos**	**1.93**	**161**	P	**Pn**	**10 46 00.6**	**-0.4**
SMG				AML	AML	10 46 33.3	
	comp=E,816μm,0.5s						
SMG				AML	AML	10 46 34.1	
	comp=N,519μm,0.3s						
KOKK	**Kokkinochori,**	**2.02**	**310**	P	**Pn**	**10 46 02.1**	**-0.1**
PLG	**Polygyros**	**2.16**	**293**	P	**Pn**	**10 46 04.4**	**+0.2**
PLG				AML	AML	10 46 40.4	
	comp=N,112μm,0.4s						
PLG				AML	AML	10 46 42.2	
	comp=E,75μm,0.4s						
DION	**Dionisos Attik**	**2.21**	**229**	P	**Pn**	**10 46 04.7**	**0.0**
DION				S	**Sn**	**10 46 30.9**	**-0.9**
DION				AML	AML	10 46 31.2	
	comp=E,376μm,0.4s						
DION				AML	AML	10 46 44.4	
	comp=N,258μm,0.9s						
ATHU	**Athens Univers**	**2.37**	**229**	P	**Pn**	**10 46 07.9**	**+1.0**
ATH	**Athens Observa**	**2.40**	**230**	P	**Pn**	**10 46 08.3**	**+0.9**
SOH	**Sokhos**	**2.42**	**303**	P	**Pn**	**10 46 08.2**	**+0.5**
SOH				AML	AML	10 46 48.9	
	comp=E,245μm,0.6s						
SOH				AML	AML	10 46 53.2	
	comp=N,110μm,0.4s						
VLY	**Voula,Athens**	**2.44**	**227**	P	**Pn**	**10 46 07.6**	**-0.3**
SRS	**Serrai**	**2.45**	**311**	P	**Pn**	**10 46 08.4**	**+0.4**
SRS				AML	AML	10 46 49.1	
	comp=E,124μm,0.6s						
SRS				AML	AML	10 46 51.7	
	comp=N,114μm,0.5s						
NVR	**Nevrokopi**	**2.46**	**318**	P	**Pn**	**10 46 09.0**	**+0.8**
HORT	**Hortiatis**	**2.49**	**296**	P	**Pn**	**10 46 09.5**	**+0.8**
VIL2	**Platees**	**2.54**	**239**	P	**Pn**	**10 46 09.0**	**-0.3**
VIL2				AML	AML	10 46 55.2	
	comp=N,102μm,0.6s						
VIL2				AML	AML	10 46 58.0	
	comp=E,148μm,0.5s						
AGG	**Agios Georgios**	**2.93**	**261**	P	**Pn**	**10 46 14.1**	**-0.5**
GUR	**Goura**	**3.31**	**242**	P	**Pn**	**10 46 19.5**	**-0.5**
ANX	**Ano Chora**	**3.35**	**255**	P	**Pn**	**10 46 20.9**	**+0.4**
ELND	**Elena**	**3.38**	**358**	⇑P	**Pn**	**10 46 21.4**	**+0.5**
VLI	**Veliai**	**3.74**	**222**	P	**Pn**	**10 46 25.7**	**-0.1**
BOVS	**Bovan**	**5.22**	**323**	⇑P	**Pn**	**10 46 48.6**	**+2.4**
MLR	**Muntele Rosu**	**5.95**	**359**	⇑P	**Pn**	**10 47 00.4**	**+4.2**
MDVR	**Moldovita**	**6.14**	**330**	⇑P	**Pn**	**10 47 00.5**	**+1.6**
PLOR	**Plostina**	**6.32**	**4**	⇑P	**Pn**	**10 47 03.0**	**+1.8**
GZR	**Gura Zlata**	**6.33**	**339**	⇓P	**Pn**	**10 46 56.6**	**-4.7**
VRI	**Vrincioaia**	**6.34**	**4**	⇑P	**Pn**	**10 47 05.0**	**+3.5**

*IDC **21** 10:48:20.6±2.3, 17.73N×145.65E, h189km±23km, mb3.1/7, mbtmp3.7/8, Error ellipse: s-maj=31.6km s-min=18.1km az=105.0*
*NEIC **21** 10:48:21.7±1.1, 17.90N±0.05×145.0E±0.2, h191km±10km, mb3.8/15, Error ellipse: s-maj=27.6km s-min=5.8km az=77.0*

ISC 21 10:48:21.9±0.6, 17.81N±0.07×145.2E±0.2, h200km, n31, σ1.38/29, mb3.6/16, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.20**	**184**	Pn	**Pn**	**10 49 26.4**	**+0.2**
GUMO	**Guam**	**4.20**	**184**	P	**Pn**	**10 49 26.1**	**-0.2**
	62nm,0.8s,baz=16,slow=20,SNR=1.8						
GUMO				S	**Sn**	**10 50 14.2**	**-2.7**
	26nm,0.4s,baz=158,slow=23,SNR=1.1						
JCJ	**Chichijima**	**9.64**	**344**	Pn	**Pn**	**10 50 34.2**	**-2.3**
H11N1	**WAKE ISLAND Hy**	**20.66**	**81**	T	T	11 14 19.3	
	baz=267						
H11N2	**WAKE ISLAND Hy**	**20.67**	**81**	T	T	11 14 25.3	
	baz=267						
H11N3	**WAKE ISLAND Hy**	**20.68**	**81**	T	T	11 14 27.6	
	baz=267						
KNRA	**Kununurra**	**36.99**	**207**	P	**P**	**10 55 09.8**	**-2.5**
WB0	**Warramunga Arr**	**38.81**	**196**	P	**P**	**10 55 27.9**	**+0.4**
WB0				IAmb	IAmb	10 55 53.4	
	comp=Z,3.0nm,0.9s						
WB2	**Warramunga Arr**	**38.99**	**196**	P	**P**	**10 55 29.7**	**+0.7**
WB2				IAmb	IAmb	10 55 56.8	
	comp=Z,3.7nm,0.9s						
WRA	**Warramunga Arr**	**38.99**	**196**	P	**P**	**10 55 29.1**	**+0.1**
WRA	**Warramunga Arr**	**38.99**	**196**	P	**P**	**10 55 29.5**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=16,slow=8.1,SNR=7.9						
	comp=Z,0.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**40.52**	**209**	P	**P**	**10 55 42.5**	**+0.9**
MA2	**Magadan**	**41.91**	**4**	P	**P**	**10 55 51.2**	**-1.2**
MA2				IAmb	IAmb	10 55 52.1	
	comp=Z,4.8nm,0.8s						
FUNA	**Funafuti**	**42.60**	**125**	P	**P**	**10 56 00.2**	**+1.6**
AS31	**Alice Springs**	**42.66**	**195**	P	**P**	**10 55 59.5**	**+0.4**
ASAR	**Alice Springs**	**42.66**	**195**	P	**P**	**10 55 58.9**	**-0.1**
ASAR	**Alice Springs**	**42.66**	**195**	P	**P**	**10 55 58.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=16,slow=6.4,SNR=11						
	comp=Z,0.4nm,0.5s						
EIDS	**Eidsvold**	**43.30**	**172**	P	**P**	**10 56 04.2**	**+0.1**
EIDS				IAmb	IAmb	10 56 08.3	
	comp=Z,4.6nm,0.9s						
DZM	**Mont Dzumac**	**44.78**	**151**	P	**P**	**10 56 16.4**	**+0.4**
DZM				IAmb	IAmb	10 56 18.3	
	comp=Z,2.9nm,0.9s						
MKAR	**Makanchi Array**	**58.71**	**314**	P	**P**	**10 58 01.4**	**+2.7**
	comp=Z,0.2nm,0.4s,baz=92,slow=7.2,SNR=2.1						
	comp=Z,0.2nm,0.4s						
H18K	**Honhosa River**	**60.15**	**24**	P	**P**	**10 58 08.3**	**+0.2**
H18K				IAmb	IAmb	10 58 30.4	
	comp=Z,1.3nm,1.0s						
J20K	**Nowinta River**	**61.48**	**26**	P	**P**	**10 58 18.1**	**+1.1**
KURBB	**Kurchatov Arra**	**61.64**	**318**	P	**P**	**10 58 20.9**	**+2.5**
	comp=Z,0.3nm,0.4s,baz=91,slow=7.7,SNR=3.9						
	comp=Z,0.3nm,0.4s						
IMAR	**Indian Mountai**	**62.24**	**24**	P	**P**	**10 58 23.4**	**+1.3**
H21K	**Melozitna Rive**	**62.50**	**24**	P	**P**	**10 58 24.5**	**+0.7**
MLY	**Manley**	**63.14**	**25**	P	**P**	**10 58 28.4**	**+0.2**
MLY				IAmb	IAmb	10 58 28.8	
	comp=Z,0.6nm,0.5s						
D22K	**Ayikyak River**	**63.60**	**21**	P	**P**	**10 58 31.9**	**+0.8**
D22K				IAmb	IAmb	10 58 59.8	
	comp=Z,1.0nm,1.0s						
I23K	**Minto, Yukon-K**	**63.73**	**25**	P	**P**	**10 58 32.7**	**+0.7**
I23K				IAmb	IAmb	10 59 01.1	
	comp=Z,0.7nm,0.9s						
ILAR	**Eielson Array**	**64.67**	**26**	P	**P**	**10 58 36.3**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=250,slow=5.8,SNR=8.8						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**84.09**	**52**	P	**P**	**11 00 29.4**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=267,slow=6.0,SNR=6.8						
	comp=Z,0.6nm,0.7s						
ELK	**Elko**	**85.59**	**49**	P	**P**	**11 00 37.3**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=256,slow=8.3,SNR=3.6						
	comp=Z,0.6nm,0.5s						

*NEIC **21** 11:52:35.1±1.0, 19.41N±0.01×155.250W±0.009, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.4km az=179.0*

HVO 21 11:52:34.2±0.7, 19.412N±0.009×155.263W±0.008, h0km±4km, ML3.5/39, ML2.6/28(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=205.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.00**	**84**		Pg	11 52 35.0	+0.5
HATHI	**Halema'uma'u T**	**0.01**	**10**		Pg	11 52 35.1	+0.5
KKO	**Keanakako`i**	**0.01**	**192**		Pg	11 52 35.6	+1.0
SBLHI	**Steaming Bluff**	**0.02**	**343**		Pg	11 52 35.5	+0.8
RIM	**Rim**	**0.02**	**212**		Pg	11 52 35.5	+0.8
UWB	**Uwekahuna B**	**0.02**	**312**		Pg	11 52 35.7	+1.0
OBL	**Observatory Le**	**0.02**	**286**		Pg	11 52 36.0	+1.3
UWE	**Uwekahuna**	**0.03**	**288**		Pg	11 52 36.1	+1.3
WRMHI	**West Rim**	**0.04**	**262**		Pg	11 52 36.6	+1.6
SDHHI	**Sand Hill**	**0.04**	**233**		Pg	11 52 36.8	+1.8
RSD	**Rainshed**	**0.05**	**344**		Pg	11 52 36.1	+0.8
RSD				IAML		11 52 36.3	
	comp=E,2μm,0.6s						
PUH	**Pauahi**	**0.06**	**130**		Pg	11 52 36.5	+1.2
PUH				IAML		11 52 36.8	
	comp=E,3μm,1.1s						
PUH				IAML		11 52 37.3	
	comp=N,4μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.09**	**110**		Pg	11 52 37.1	+1.0
HLP	**Hilina Pali**	**0.12**	**200**		Pg	11 52 37.6	+1.0
HLP				IAML		11 52 39.3	
	comp=N,1μm,0.9s						
HLP				IAML		11 52 39.9	
	comp=E,2μm,0.9s						
NPOC	**North of Pu'u**	**0.15**	**97**		Pg	11 52 37.9	+0.9
NPOC					Sg	11 52 40.9	+2.0
JCUZ	**Jacuzzi**	**0.15**	**100**		Pg	11 52 38.1	+0.9
JCUZ					Sg	11 52 42.0	+2.7
HTC	**Hot Caves**	**0.21**	**216**		Pg	11 52 39.5	+1.1
JOKA	**Jonika Flow**	**0.24**	**85**		Pg	11 52 39.5	+0.6
JOKA				IAML		11 52 46.2	
	comp=N,2μm,0.8s						
JOKA				IAML		11 52 46.6	
	comp=E,2μm,1.9s						
HMH	**Humu'ula Sheep**	**0.28**	**313**		Pg	11 52 40.7	+1.1
HMH				IAML		11 52 45.9	
	comp=N,2μm,1.4s						
HMH				IAML		11 52 48.4	
	comp=E,2μm,1.4s						
PAH	**Pahoa**	**0.31**	**74**	Pg	Pg	11 52 40.9	+0.7
MLOA	**Mauna Loa Obse**	**0.32**	**293**	Pg	Pg	11 52 41.3	+0.9
MWH	**Moku'aweowe**	**0.32**	**283**		Pb	11 52 41.9	-1.3
MWH	**Moku'aweowe**	**0.32**	**283**		Sg	11 52 46.7	+2.1
KHU	**Kahuku**	**0.37**	**244**	Pg	Pg	11 52 42.5	+1.2
KHU				IAML		11 52 50.1	
	comp=E,1μm,0.9s						
KHU				IAML		11 52 51.1	
	comp=N,1μm,1.3s						
ALEP	**Alea Permanent**	**0.38**	**290**		Pn	11 52 48.1	+0.8
ALEP					Sb	11 52 51.2	+0.6

TKGZ	Te Karaka	6.67 196	P	P	11 57 23.9	+2.5
TKGZ			S	S	11 58 41.9	-2.3
URZ	Urewera	6.69 201	P	P	11 57 23.5	+1.8
	69nm,0.3s,baz=5.4,slow=1.8,SNR=256					
URZ			S	S	11 58 41.8	-2.9
	40nm,0.5s,baz=72,slow=20,SNR=12					
URZ	Urewera	6.69 201	P	P	11 57 23.2	+1.5
URZ			S	S	11 58 41.8	-2.9
KARZ	Kaharoa	6.78 207	P	P	11 57 26.9	+4.2
TOZ	Tahuroa Road	6.85 212	P	P	11 57 27.8	+4.4
RIGZ	Rimuhau	6.94 196	P	P	11 57 26.9	+2.5
RIGZ			S	S	11 58 47.1	-2.5
RRRZ	Republican Roa	6.96 204	P	P	11 57 28.1	+3.5
PRGZ	Paritu Road	7.12 194	P	P	11 57 30.1	+3.8
PRGZ			S	S	11 58 51.6	-1.5
NMHZ	Naumai	7.56 200	P	P	11 57 33.2	+2.2
NMHZ			S	S	11 59 00.8	-1.0
ARHZ	Aropaoanui	7.66 199	P	P	11 57 33.7	+1.7
ARHZ			S	S	11 58 59.9	-3.6
HIZ	Hauiti	7.78 212	P	P	11 57 38.0	+4.7
KWHZ	Kaweka Forest	7.97 201	P	P	11 57 37.5	+2.0
KWHZ			S	S	11 59 09.3	-0.6
CKHZ	Cape Kidnapper	8.01 197	P	P	11 57 37.9	+2.1
CKHZ			S	S	11 59 08.4	-2.1
FWVZ	Far West T-bar	8.12 206	P	P	11 57 39.3	+2.1
WHVZ	Whangaehu Hut	8.13 206	P	P	11 57 38.9	+1.6
KAHZ	Kahuranaki	8.19 198	P	P	11 57 40.6	+2.8
KAHZ			S	S	11 59 14.0	-0.1
PXZ	Pawanui	8.42 197	P	P	11 57 41.5	+1.4
PXZ			S	S	11 59 14.5	-4.0
PNHZ	Pukenui	8.49 201	P	P	11 57 41.9	+0.8
PNHZ			S	S	11 59 16.7	-3.4
ASAR	Alice Springs	41.46 270	P	P	12 02 46.2	-0.4
	0.3nm,0.6s,baz=106,slow=7.2,SNR=9.3					
	0.3nm,0.6s					
WRA	Warramunga Arr	42.60 275	P	P	12 02 54.7	-1.0
	1.0nm,0.4s,baz=112,slow=7.8,SNR=25					
	1.0nm,0.4s					
FINES	FINESS Array B	146.08 338	PKPbc	PKiKP	12 14 30.5	-0.4
	1.9nm,0.4s,baz=41,slow=4.4,SNR=38					
HFS	Hagfors	150.47 346	PKPab	PKPab	12 14 49.9	+1.9
	0.5nm,0.4s,baz=41,slow=2.7,SNR=5.6					

ANF ***21*** *12:07:56.2±0.1,33°.47N×116°.79W,h10km±1km,ML3.0/31, Error ellipse: s-maj=1.3km s-min=1.2km az=43.0*
NEIC ***21*** *12:07:56.3±0.9,33°.479N±0°.007×116°.795W±0°.007, h5km±1km, Error ellipse: s-maj=1.8km s-min=1.2km az=49.0*
PAS ***21*** *12:07:56.8±0.9,33°.478N±0°.007×116°.799W±0°.009, h3km±1km, ML2.9/244, ML2.9/52(NEIC), Error ellipse: s-maj=1.0km s-min=1.0km az=130.0*

ISC 21 12:07:56.9±0.8,33°.48N±0°.01×116°.80W±0°.01,h13km±4km, n161,σ0⁝98/222,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRY	Cary Ranch	0.10	29		Pg	12 08 00.4	+0.3
BZNA	Buzz No.'s Pla	0.11	82		Pg	12 08 00.8	+0.6
PLM	Palomar	0.14	204		Pg	12 08 00.1	-0.5
PLM					Sg	12 08 02.5	-0.6
FRD	Ford Ranch, An	0.16	83		Pg	12 08 00.1	-0.8
FRD					Sg	12 08 02.2	-1.5
FRD	Ford Ranch, An	0.16	83		Pg	12 08 00.1	-0.8
FRD					Sg	12 08 02.1	-1.5
SNDA	J Saunders Pla	0.17	64		Pg	12 08 00.3	-0.7
SNDA					Sg	12 08 02.8	-1.1
GVDA	Garner Valley	0.22	28		Pg	12 08 01.0	-0.8
GVDA					Sg	12 08 03.9	-1.2
POB	Polly Butte	0.23	333		Pg	12 08 01.4	-0.7
POB					Sg	12 08 04.5	-1.1
BACC	Bachelor Mtn.	0.24	304		Pg	12 08 04.8	+2.6
DGR	Domenigoni Val	0.25	314		Pg	12 08 01.6	-0.7
DGR					Sg	12 08 04.9	-1.0
HMTC	Hemet	0.29	323		Pg	12 08 02.2	-0.7
HMTC					Sg	12 08 06.0	-1.0
MATG	Mataguay Scout	0.30	156		Pg	12 08 03.2	0.0
MATG					Sg	12 08 07.5	0.0
PFO	Pinyon Flats O	0.31	64		Pg	12 08 02.9	-0.5
PFO				IAML		12 08 07.3	
	2μm,0.6s						
PFO				IAML		12 08 08.1	
	1μm,0.3s						
PFO	Pinyon Flats O	0.31	64		Pg	12 08 02.9	-0.5
PFO					Sg	12 08 06.9	-0.8
PFO	Pinyon Flats O	0.31	64	P	Pg	12 08 02.8	-0.5
	baz=245,SNR=624						
PFO				S	Sg	12 08 06.9	-0.8
	baz=245						
XPFO	Pion Flat	0.31	65		Pg	12 08 02.9	-0.5
XPFO					Sg	12 08 07.0	-0.9
MURC	Murrieta	0.36	290		Pg	12 08 03.7	-0.4
MURC	Murrieta	0.36	290	P	Pg	12 08 03.7	-0.4
	baz=110,SNR=155						
MURC				S	Sg	12 08 09.0	0.0
	baz=110						
BORC	Borrego Spring	0.38	123		Pg	12 08 04.4	-0.1
BORC					Sg	12 08 09.7	0.0
PMD	Palm Desert	0.39	64		Pg	12 08 04.2	-0.5
PMD					Sg	12 08 09.2	-0.8
JUEM	Julian Eagle M	0.43	157		Pg	12 08 05.3	-0.1
JUEM					Sg	12 08 11.1	-0.1
BBSC	Beaumont Base	0.47	341		Pg	12 08 06.1	-0.1
BBSC					Sg	12 08 12.6	+0.1
GORC	Green Oak Ranc	0.48	229		Pg	12 08 06.1	-0.4
GORC					Sg	12 08 12.5	-0.4
DPP	Dos Picos Cty	0.49	194		Pg	12 08 06.2	-0.4
DPP					Sg	12 08 12.9	-0.2
DEVC	Devers	0.49	22		Pg	12 08 06.4	-0.2
DEVC					Sg	12 08 13.3	+0.1
SLH	Sleepy Hollow	0.53	122		Pb	12 08 07.5	-0.6
SLH					Sb	12 08 15.3	-0.3
ELS	Elsinore Mount	0.55	288		Pg	12 08 07.3	-0.5
ELS	Elsinore Mount	0.55	288		Sg	12 08 14.7	-0.5
EW2	E Wide Canyon	0.56	35		Pg	12 08 07.7	-0.3
EML	El Monte Cty P	0.58	184		Pg	12 08 07.8	-0.6
EML					Sg	12 08 15.4	-0.7
CFT	Crafton Hills	0.62	335		Pg	12 08 08.0	-0.2
CFT					Sg	12 08 17.2	0.0
109C	Camp Elliot, M	0.64	204		Pg	12 08 08.7	-0.7
109C				IAML		12 08 18.5	
	comp=E,508nm,0.2s						
109C	Camp Elliot, M	0.64	204	P	Pg	12 08 08.7	-0.7
	baz=23,SNR=44						
109C				S	Sg	12 08 17.4	-0.5
	baz=23						
CPE	Camp Elliot	0.64	204		Pg	12 08 08.8	-0.6
CPE					Sg	12 08 17.4	-0.4
MONP2	Monument Peak	0.66	152		Pg	12 08 09.7	-0.2
MONP2					Sg	12 08 18.5	-0.1
MONP2	Monument Peak	0.66	152	P	Pg	12 08 09.6	-0.2
	baz=332,SNR=43						
MONP2				S	Sg	12 08 18.4	-0.1
	baz=332						
RSBC	Riverside Bore	0.67	318		Pg	12 08 09.0	-0.9
RSBC	Riverside Bore	0.67	318		Pg	12 08 08.9	-1.0
RSBC					Sg	12 08 17.6	-1.1
SVD	Seven Oaks Dam	0.68	338		Pg	12 08 09.8	-0.3
SVD					Sg	12 08 19.0	-0.1
BLAC	Blackrock camp	0.68	30		Pg	12 08 09.7	-0.5
BLAC					Sg	12 08 18.8	-0.4
CTCC	Cactus City	0.70	75		Pb	12 08 10.4	-0.5
CTCC					Sb	12 08 20.0	-0.3
SALN	Salton City	0.70	106		Pb	12 08 10.8	-0.2
SALN					Sb	12 08 20.8	+0.2
RVR	Riverside	0.71	317		Pg	12 08 09.7	-0.9
RVR					Sg	12 08 18.8	-1.2
CFSC	Central Fire S	0.75	327		Pg	12 08 11.1	-0.4
CFSC					Sb	12 08 21.8	-0.1
SDMC	San Diego Miss	0.75	203		Pg	12 08 10.7	-0.8
SDMC					Sg	12 08 21.1	-0.2
SDRC	San Diego Road	0.75	190		Pg	12 08 10.6	-0.9
SDRC					Sg	12 08 20.5	-0.7
BBRC	Big Bear Solar	0.79	352		Pg	12 08 11.8	-0.6
BBRC					Sg	12 08 22.4	-0.3
BBRC	Big Bear Solar	0.79	352	P	Pg	12 08 11.7	-0.6
	baz=173,SNR=48						
BBRC				S	Sg	12 08 22.4	-0.3
	baz=173						
CTW	Cottonwood Mou	0.80	75		Pg	12 08 12.0	-0.3
CTW					Sg	12 08 22.5	-0.3
BAR	Barrett	0.80	173		Pg	12 08 11.6	-0.8
BAR				IAML		12 08 22.8	
	comp=N,388nm,0.2s						
BAR	Barrett	0.80	173		Sg	12 08 21.9	-1.0
FON	Fontana	0.82	319		Pg	12 08 11.8	-1.0
BELC	Belle Mtn. Jos	0.85	52		Pg	12 08 12.8	-0.6
BELC					Sg	12 08 23.8	-0.5
BELC	Belle Mtn. Jos	0.85	52	P	Pg	12 08 12.7	-0.6
	baz=232,SNR=185						
BELC				S	Sg	12 08 23.9	-0.5
	baz=232						
DUZA	Dulzura	0.87	179		Pg	12 08 12.7	-1.0
DUZA					Sg	12 08 24.1	-1.0
OLP	Otay Lakes Par	0.87	187		Pg	12 08 12.8	-1.0
OLP					Sg	12 08 24.3	-0.9
TPC	Twentynine Pal	0.88	45		Pg	12 08 13.3	-0.7
ERRC	Elmore Ranch	0.89	113		Pb	12 08 14.7	+0.5
ERRC					Sb	12 08 27.3	+1.4
GTM	Goat Mountain	0.89	24		Pg	12 08 13.4	-0.8
GTM					Sg	12 08 25.0	-0.9
BOMB	Bombay Beach	0.90	97		Pb	12 08 14.1	-0.2
CRR	Carrizo Plain	0.91	130		Pb	12 08 14.4	-0.1
TKX	Tecate	0.92	170		Pg	12 08 13.6	-1.1
TKX	Tecate	0.92	170		Sg	12 08 25.5	-1.2
SS2	San Sevaine	0.94	321		Pg	12 08 14.0	-1.0
CSP	Cedar Springs	0.94	330		Pg	12 08 14.1	-1.0
HAY	Hayfield	0.96	76		Pb	12 08 15.7	+0.4
HAY					Sb	12 08 28.6	+0.7
TJX	Tijuana	0.99	193		Pg	12 08 14.9	-1.0
TJX				IAML		12 08 31.5	
	comp=N,403nm,0.5s						
SWSC	Sam W. Stewart	0.99	122		Pg	12 08 15.2	-0.8
SWSC	Sam W. Stewart	0.99	122	P	Pg	12 08 15.2	-0.8
	baz=303,SNR=22						
SWSC				S	Sb	12 08 28.8	+0.1
	baz=303						
IKP	In-Ko-Pah, Jac	1.00	145		Pg	12 08 15.9	-0.4
IKP	In-Ko-Pah, Jac	1.00	145	P	Pg	12 08 15.9	-0.4
	baz=325,SNR=56						
IKP				S	Sg	12 08 29.1	-0.4
	baz=325						
FULC	Fullerton	1.02	293		Pb	12 08 16.5	+0.1
PSRC	Puddingstone R	1.04	306		Pg	12 08 16.0	-1.0
BFSC	Mount Baldy Ra	1.05	317		Pg	12 08 15.7	-1.4
BFSC	Mount Baldy Ra	1.05	317	P	Pg	12 08 15.7	-1.4
	baz=137,SNR=113						
BFSC				S	Sg	12 08 29.6	-1.1
	baz=137						
SSK	Sunset Peak	1.05	315		Pg	12 08 16.0	-1.1
RMX	La Rumorosa	1.06	145		Pn	12 08 18.0	+0.5
RMX				IAML		12 08 34.0	
	comp=E,252nm,0.2s						
RMX				IAML		12 08 35.7	
	comp=N,203nm,0.5s						
CLI2	Calipatria 2	1.08	109		Pg	12 08 16.9	-0.8
COK2	Cook Ranch 2	1.09	125		Pn	12 08 18.0	+0.2
YUH	Yuha Desert	1.10	138		Pg	12 08 17.3	-0.9
PEM	Pine Mountain	1.13	308		Pg	12 08 17.5	-1.1
BC3	Big Chuckawall	1.14	81	P	Pg	12 08 17.5	-1.2
	baz=261,SNR=80						
BC3				S	Sg	12 08 32.8	-0.8
	baz=261						
WESC	Westside Schoo	1.14	128		Pg	12 08 13.9	-5.0
CBX	Cerro Bola	1.17	174		Pg	12 08 17.9	-1.4
XTL	Crystal Lake,	1.21	313		Pg	12 08 18.6	-1.6
SGL	Mount Signal	1.22	132		Pg	12 08 18.8	-1.6
GVRC	Garvey Reservo	1.24	298		Pb	12 08 20.2	0.0
FMP	Fort Macarthur	1.27	281		Pg	12 08 20.5	-0.8
FMP	Fort Macarthur	1.27	281	S	Sb	12 08 37.8	+0.8
	baz=100						
MWC	Mount Wilson	1.29	306		Pg	12 08 20.2	-1.5
HOLC	Holcomb Ridge	1.31	319		Pn	12 08 20.4	-0.5
CHFC	Chilao Flat St	1.33	310		Pn	12 08 20.7	-0.6
PASC	Pasadena Art C	1.35	301		Pn	12 08 20.9	-0.5
CIS	Catalina Islan	1.36	267	S	Sb	12 08 39.0	-0.4
	baz=86						
JNH	Juniper Hills	1.37	315		Pn	12 08 21.2	-0.5
RPV	Rancho Palos V	1.37	282		Pn	12 08 22.0	+0.4
HEC	Hector,Ludlow	1.40	16	P	Pn	12 08 22.7	+0.5
	baz=196,SNR=28						
HEC				S	Sg	12 08 41.4	-0.8
	baz=196						
RRX	Edison Barstow	1.41	353	S	Sb	12 08 41.2	+0.4
	baz=173						
UABX	UABC, Campus M	1.42	126		Pn	12 08 22.8	+0.5
LRRC	Littlerock Res	1.46	316		Pb	12 08 24.1	+0.2
SBB	Saddle Back Bu	1.48	325		Pn	12 08 23.5	+0.2
DECC	Green Verdugo	1.50	302		Pn	12 08 23.9	+0.5
DECC	Green Verdugo	1.50	302	P	Pn	12 08 23.9	+0.5
	baz=121,SNR=8.8						
DECC				S	Sb	12 08 43.9	+0.5
	baz=121						
HYS	Haystack Butte	1.52	335		Pb	12 08 24.9	-0.1
IRM	Iron Mountain	1.53	63	P	Pn	12 08 23.7	-0.3
	baz=244,SNR=73						
IRM				Sb	Sg	12 08 45.7	-0.6
	baz=244						
SCI2	San Clemente I	1.55	252	S	Sn	12 08 43.7	-0.4
	baz=71						
CCX	Cicese	1.61	176		Pn	12 08 25.5	+0.6
CCX				IAML		12 08 48.1	
	comp=N,174nm,0.5s						
GMRC	Granite Mounta	1.61	36	P	Pn	12 08 25.0	-0.1
	baz=216,SNR=55						
GMRC				Sb	Sg	12 08 47.9	-0.9
	baz=216						
ESJX	Sierra Juarez	1.63	154		Pb	12 08 26.8	-0.2
ESJX				IAML		12 08 49.3	
	comp=N,147nm,0.1s						
CPBX	Cerro Prieto	1.64	130		Pn	12 08 26.3	+1.0
GLA	Glamis	1.70	104		Pn	12 08 25.6	-0.8
GLA				IAML		12 08 55.6	
	comp=E,127nm,0.6s						
GLA				IAML		12 09 04.2	
	comp=N,84nm,0.6s						
GLA	Glamis	1.70	104	P	Pn	12 08 25.5	-0.8
	baz=285						
EDW2	Edwards Air Fo	1.72	325	P	Pn	12 08 27.3	+0.8
	baz=144,SNR=45						
EDW2				S	Sb	12 08 49.8	0.0
	baz=144						
GSC	Goldstone, Bar	1.82	360	Pn	Pn	12 08 28.7	+0.8
GSC				IAML		12 08 56.6	
	comp=N,106nm,0.6s						
GSC				IAML		12 08 56.8	
	comp=E,136nm,0.4s						
GSC	Goldstone, Bar	1.82	360	P	Pn	12 08 28.9	+0.9
	baz=180,SNR=77						
GSC				Sb	Sg	12 08 54.8	-0.7
	baz=180						
BLYC	Blythe	1.92	81	Pn	Pn	12 08 30.1	+0.9
BLYC				IAML		12 08 59.1	
	comp=N,127nm,0.8s						
BLYC				IAML		12 09 01.9	
	comp=E,73nm,0.9s						
CCAC	Calif City Air	1.95	329		Pn	12 08 30.6	+0.8
CCAC				IAML		12 09 01.7	
	comp=N,129nm,0.5s						
CCAC				IAML		12 09 02.4	
	comp=E,90nm,0.5s						
TUQ	Turquoise Moun	2.08	20	P	Pn	12 08 32.0	+0.4
	baz=200,SNR=60						
TUQ				Sb	Sg	12 09 02.5	-1.4
	baz=200						
LRMC	Laurel Mtn Rad	2.13	340	P	Pn	12 08 33.0	+0.8
	baz=160,SNR=24						
LRMC				Sb	Sg	12 09 04.2	-1.2
	baz=160						
NEE2	Needles Airpor	2.22	54	Pb	Pb	12 08 37.6	+0.8
	baz=235,SNR=13						
NEE2				Sb	Sb	12 09 06.0	+1.8
	baz=235						
VTX	Valle De La Tr	2.25	157	Pn	Pb	12 08 36.8	-0.6
VTX				IAML		12 09 07.7	
	comp=N,66nm,0.6s						
SNCC	San Nicolas Is	2.29	265	Pn	Pn	12 08 34.4	0.0
SNCC	San Nicolas Is	2.29	265	S	Sn	12 09 03.7	+1.2
	baz=84						
ARVC	Arvin	2.35	315	Sb	Sg	12 09 10.8	-1.8
	baz=134						
PDMCI	Parker Dam,Lak	2.36	69	S	Sn	12 09 04.7	+0.7
	baz=250						
SCZ2	Santa Cruz Isl	2.42	283	Sg	Sg	12 09 16.7	+1.9
	baz=102						
SHOC	Shoshone, Teco	2.46	10	P	Pn	12 08 37.3	+0.7
	baz=190,SNR=11						
SHOC				Sb	Sg	12 09 13.8	-2.0
	baz=190						
ISA	Isabella, Lake	2.58	328	Pn	Pn	12 08 39.5	+1.1
ISA	Isabella, Lake	2.58	328	P	Pn	12 08 39.1	+0.7
	baz=147,SNR=12						
ISA				Sb	Sg	12 09 17.8	-2.2
	baz=147						
BCW	Bitter Crk WRg	2.62	305	Pn	Pn	12 08 39.5	+0.6
BCW				IAML		12 09 23.9	
	comp=N,52nm,0.5s						
BCW				IAML		12 09 39.7	
	comp=E,34nm,3.0s						
113A	Mohawk Valley,	2.64	105	Pn	Pn	12 08 39.7	+0.6
MPMC	Manual Prospec	2.64	348	P	Pn	12 08 40.1	+0.8
	baz=167,SNR=18						
MPMC				Sb	Sg	12 09 19.8	-1.9
	baz=167						
GWY	Greenwater Val	2.71	2	Pn	Pn	12 08 41.2	+1.0
V12A	Nelson	2.76	35	Pn	Pn	12 08 41.8	+0.9
W13A	Hualapai Mount	2.90	55		Pn	12 08 44.2	+1.2
SFX	San Felipe	2.94	145	Pn	Pn	12 08 43.7	+0.5
WTNK	Soaring Height	3.08	28	Pn	Pn	12 08 44.2	-1.1
Y14A	Wickenburg	3.19	81	Pn	Pn	12 08 47.5	+0.7
SHPR	Sheep Range	3.31	23		Pn	12 08 51.0	+2.5
WCT	Wildcat Mounta	3.31	2	Pn	Pn	12 08 49.8	+1.3
TPNV	Topopah Spring	3.49	7	Sb	Sg	12 09 45.9	-3.2
	baz=188						
GRAC	Grapevine Rang	3.54	353		Pn	12 08 54.2	+2.6
GRAC				IAML		12 09 59.4	
	comp=N,24nm,1.1s						
GRAC				IAML		12 10 04.5	
	comp=E,24nm,0.8s						
214A	Organ Pipe Nat	3.69	113	Pn	Pn	12 08 53.4	-0.1
GMN	Gold Mountain	3.83	354		Pn	12 08 57.7	+1.9
DSP	Deep Springs	4.00	346	Pn	Pn	12 08 59.9	+2.1
PRN	Pahroc Range	4.17	19	Pn	Pn	12 09 02.3	+2.0
MZP	Montezuma Peak	4.24	354	Pn	Pn	12 09 02.5	+1.1
S11A	Rachel	4.25	11	Pn	Pn	12 09 00.8	-0.5
PMPB	Monarch Peak	4.28	311	Pn	Pn	12 09 01.7	-0.1
MDPB	Devils Postpil	4.54	336	Pn	Pn	12 09 08.8	+3.2
X16A	Lo Mia Camp, P	4.55	77		Pn	12 09 06.7	+1.1
LCMT	Little Creek M	4.57	38		Pn	12 09 07.2	+1.4
TPH	Tonopah	4.60	356	Pn	Pn	12 09 07.6	+1.3
U15A	North Rim	4.73	50		Pn	12 09 09.0	+0.9
KNB	Kanab	4.80	42		Pn	12 09 10.1	+1.1
LHV	Little Huntoon	4.96	344	Pn	Pn	12 09 13.6	+2.6
NVAR	Mina Array Bea	5.09	347	Pn	Pn	12 09 13.0	0.0
PKCU	Pink Cliffs	5.39	41	Pn	Pn	12 09 19.4	+2.1
CMB	Columbia Colle	5.40	328	Pn	Pn	12 09 18.4	+1.3
KVN	Kaiserville	5.66	350	Pn	Pn	12 09 22.8	+2.0
X18A	Snowflake	5.78	78	Pn	Pn	12 09 24.4	+1.9

SOME ***21*** *12:15:10.1,40°.00N×77°.78E,h10km*
KRNET ***21*** *12:15:11.0±0.1,40°.05N×77°.65E,mb3.1*
NNC ***21*** *12:15:13.9±3.5,39°.79N×78°.14E,h0km,mb4.1,mpv3.9, Error ellipse: s-maj=32.1km s-min=23.9km az=38.0*

ISC 21 12:15:12.8±1.6,40°.09N±0°.07×77°.66E±0°.04,h10km,n59, σ1⁝83/94,13C-19D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.64	4	⇑eP	Pn	12 15 42.5	+0.4
	baz=4.0						
TARG				⇑eS	Sg	12 16 05.4	-0.2
	baz=4.0						
NRN	Naryn	1.84	317	⇓eP	Pb	12 15 45.7	-1.0
	baz=18						
NRN				⇓eS	Sg	12 16 11.1	-0.9
	baz=18						
KDJ	Kajisay	2.07	350	⇑eP	Pb	12 15 49.3	-1.3
	baz=51						
KDJ				⇑eS	Sg	12 16 17.4	-2.0
	baz=51						
ULHL	Ulahol	2.41	334	⇑eP	Pn	12 15 54.0	+1.6
	baz=35						
ULHL				⇑eS	Sb	12 16 25.3	-0.8
	baz=35						
PRZ	Przheval'sk	2.46	13	⇓eP	Pn	12 15 54.9	+1.8
	baz=13						
PRZ				⇓eS	Sb	12 16 27.1	-0.4
	baz=13						
BOOM	Boomskoye usch	2.73	332	⇑eP	Pn	12 15 58.5	+1.7
	baz=33						
BOOM				⇑eS	Sb	12 16 33.1	-2.2
	baz=33						
TNSS	Tian-Shan	2.99	350	eP	Pb	12 16 07.7	+1.3
	38nm,0.5s						
TNSS				eS	Sg	12 16 49.3	+0.3
	82nm,0.4s						
TNSS	Tian-Shan	2.99	350	Pg	Pb	12 16 07.7	+1.3
	38nm,0.5s						
TNSS				Lg	Lg	12 16 49.3	
	82nm,0.4s						
SATY	Saty	3.02	10	eP	Pb	12 16 07.7	+1.0
	16nm,0.2s						
SATY				eS	Sg	12 16 49.5	-0.3
	47nm,1.3s						
SATY	Saty	3.02	10	Pg	Pb	12 16 07.7	+1.0
	16nm,0.2s						
SATY				Lg	Lg	12 16 49.5	
	47nm,1.3s						
ARLS	Aral	3.08	306	⇓eP	Pn	12 16 03.0	+1.3
	baz=7.0						
ARLS				⇓eS	Sn	12 16 41.1	+2.4
	baz=7.0						
MDOK	Medeo	3.11	352	eP	Pb	12 16 09.5	+1.3
	20nm,0.2s						
MDOK				eS	Sg	12 16 52.4	-0.1
	112nm,0.3s						
MDOK	Medeo	3.11	352	Pn	Pb	12 16 08.8	+0.6
	8.4nm,0.4s						
MDOK				Pg	Pb	12 16 09.5	+1.3
	20nm,0.2s						
MDOK				⇑Sn	Sg	12 16 52.4	-0.1
	171nm,0.6s						
MDOK				Lg	Lg	12 16 52.4	
	112nm,0.3s						
AAA	Alma-Ata	3.17	350	eP	Pg	12 16 11.2	-2.2
	76nm,0.3s						
AAA				eS	Sg	12 16 55.0	+0.5
	364nm,0.3s						
AAA	Alma-Ata	3.17	350	Pg	Pg	12 16 11.2	-2.2
	76nm,0.3s						
AAA				Lg	Lg	12 16 55.0	
	364nm,0.3s						
KOTS	Kotyrbulak	3.17	353	eP	Pb	12 16 10.9	+1.7
	10nm,0.2s						
KOTS				eS	Sg	12 16 54.9	+0.3
	130nm,0.4s						
KOTS	Kotyrbulak	3.17	353	Pg	Pb	12 16 10.9	+1.7
	10nm,0.2s						
KOTS				Lg	Lg	12 16 54.9	
	130nm,0.4s						
MTBS	Maitube	3.18	344	eP	Pb	12 16 11.0	+1.7
	9.9nm,0.2s						
MTBS				eS	Sg	12 16 54.9	+0.2
	70nm,0.4s						
MTBS	Mait

	22nm,0.4s							
TKM2	Tokmak 2	3.23	332	⇓Pn		Pg	12 16 12.6	-2.0
	4.2nm,0.3s							
TKM2				⇑Sn		Sg	12 16 57.4	+1.0
	37nm,0.6s							
KBK	Karagaybulak	3.28	322	⇑eP		Pn	12 16 05.9	+1.5
	baz=23							
KBK				⇑eS		Sn	12 16 46.1	+2.6
	baz=23							
SHLS	Shalkode	3.35	23	eP		Pb	12 16 14.3	+2.0
	9.3nm,0.5s							
SHLS				eS		Sg	12 17 00.7	+0.3
	52nm,0.5s							
SHLS	Shalkode	3.35	23	Pg		Pb	12 16 14.3	+2.0
	9.3nm,0.5s							
SHLS				Lg		Lg	12 17 00.7	
	52nm,0.5s							
KURS	Kuram	3.42	6	eP		Pb	12 16 14.4	+1.0
	16nm,0.5s							
KURS				eS		Sg	12 17 00.7	-1.8
	22nm,0.6s							
KURS	Kuram	3.42	6	Pg		Pb	12 16 14.4	+1.0
	16nm,0.5s							
KURS				Lg		Lg	12 17 00.7	
	22nm,0.6s							
DGS	Degeres	3.45	336	eP		Pb	12 16 16.1	+2.0
	7.5nm,0.5s							
DGS				eS		Sg	12 17 03.8	+0.1
	46nm,0.7s							
DGS	Degeres	3.45	336	Pg		Pb	12 16 16.1	+2.0
	7.5nm,0.5s							
DGS				Lg		Lg	12 17 03.8	
	46nm,0.7s							
KPKS	Kokpek	3.46	12	eP		Pb	12 16 14.8	+0.6
	19nm,0.9s							
KPKS				eS		Sg	12 17 01.5	-2.4
	46nm,1.3s							
KPKS	Kokpek	3.46	12	Pg		Pb	12 16 14.8	+0.6
	19nm,0.9s							
KPKS				Lg		Lg	12 17 01.5	
	46nm,1.3s							
AAK	Ala-Archa	3.49	318	⇓Pn		Pb	12 16 16.3	+1.6
	5.8nm,0.5s							
AAK				⇓Sn		Sg	12 17 02.3	-2.5
	15nm,0.5s							
PDGK	Podgornoye	3.52	22	Pg		Pb	12 16 15.7	+0.6
	5.0nm,0.3s							
PDGK				Lg		Lg	12 17 03.1	
	12nm,0.3s							
CHMS	Chumysh	3.63	324	⇑Pn		Pb	12 16 18.5	+1.3
	4.3nm,0.4s							
CHMS				⇓Sn		Sg	12 17 09.1	-0.4
	20nm,0.6s							
KTBS	Karatobe	3.69	349	eP		Pb	12 16 19.8	+1.7
	5.2nm,0.3s							
KTBS				eS		Sg	12 17 10.1	-1.2
	110nm,0.5s							
KTBS	Karatobe	3.69	349	Lg		Lg	12 17 10.1	
	110nm,0.5s							
ARSB	Arslanbob	3.76	291	⇓eP		Pn	12 16 12.6	+1.6
	baz=91							
ARSB				⇓eS		Sn	12 16 57.1	+1.7
	baz=91							
CHKK	Chushkaly	3.80	353	eP		Pb	12 16 22.0	+2.2
	10nm,0.3s							
CHKK				eS		Sg	12 17 13.8	-0.8
	45nm,0.6s							
CHKK	Chushkaly	3.80	353	Pg		Pb	12 16 22.0	+2.2
	10nm,0.3s							
CHKK				Lg		Lg	12 17 13.8	
	45nm,0.6s							
KRBS	Karabastau	3.90	338	eP		Pg	12 16 24.4	-3.0
	5.5nm,0.3s							
KRBS				eS		Sg	12 17 17.8	-0.1
	29nm,1.0s							
KRBS	Karabastau	3.90	338	Pg		Pg	12 16 24.4	-3.0
	5.5nm,0.3s							
KRBS				Lg		Lg	12 17 17.8	
	29nm,1.0s							
BLB	Baldybastay	4.05	8	Pg		Pb	12 16 26.1	+1.9
	44nm,0.4s							
BLB				Lg		Lg	12 17 20.7	
	23nm,1.7s							
ARXS	Arharly	4.12	2	eP		Pb	12 16 27.5	+2.0
	12nm,0.6s							
ARXS				eS		Sg	12 17 23.2	-1.9
	34nm,0.4s							
ARXS	Arharly	4.12	2	Lg		Lg	12 17 23.2	
	34nm,0.4s							
MRKS	Merke	4.26	310	eP		Pg	12 16 31.0	-3.4
	2.1nm,0.0s							
MRKS				eS		Sg	12 17 29.5	-0.1
	12nm,0.4s							
MRKS	Merke	4.26	310	Pg		Pg	12 16 31.0	-3.4
	2.1nm,0.0s							
MRKS				Lg		Lg	12 17 29.5	
	12nm,0.4s							
KNOS	Konyrlen	4.41	14	Pg		Pb	12 16 33.0	+2.6
	0.6nm,0.2s							
KNOS				Lg		Lg	12 17 32.7	
	10nm,0.6s							
DJR	Jarkent	4.53	20	eP		Pb	12 16 34.1	+1.8
	3.1nm,0.3s							
DJR				eS		Sg	12 17 34.8	-3.3
	11nm,1.1s							
DJR	Jarkent	4.53	20	Pg		Pb	12 16 34.1	+1.8
	3.1nm,0.3s							
DJR				Lg		Lg	12 17 34.8	
	11nm,1.1s							
MNAS	Manas	4.56	303	⇓eP		Pn	12 16 23.3	+1.3
	baz=4.0							
MNAS				⇓eS		Sn	12 17 16.3	+1.2
	baz=4.0							
BTLS	Baital	5.62	333	eP		Pg	12 16 57.3	-3.1
	2.8nm,0.0s							
BTLS				eS		Sg	12 18 14.3	+1.1
	9.2nm,0.5s							
BTLS	Baital	5.62	333	Pg		Pg	12 16 57.3	-3.1
	2.8nm,0.0s							
BTLS				Lg		Lg	12 18 14.3	
	9.2nm,0.5s							
IUG	Iuzhnay	6.12	292	eP		Pg	12 17 05.8	-4.1
	5.8nm,0.6s							
IUG				eS		Sg	12 18 29.1	+0.1
	13nm,0.8s							
IUG	Iuzhnay	6.12	292	Pg		Pg	12 17 05.8	-4.1
	5.8nm,0.6s							
MK31	Makanchi Array	7.50	25	⇓P		Pn	12 17 05.1	+3.0
	0.2nm,0.3s,baz=200,slow=12,SNR=5.1							

*SKHL **21** 12:21:20.1±0.2, 44.°00N×147.°10E, h121km±2km, mb3.8/2, msha4.2/3*

JMA 21 12:21:19.2±0.3, **44.°N**±2.°×**14.°8E**±.°, **h97**km, **MV2.5**/15, **SE OFF ETOROFU, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.76	266	eP	Pn	12 21 36.9	+0.1
SHO				eS	Sn	12 21 49.6	-0.4
SHO				A	A	12 21 50.3	
	70nm,0.2s						
SHO				A	A	12 21 50.3	
	50nm,0.2s						
KUR	Kuril'sk	1.31	360	eP	Pn	12 21 44.4	+1.5
KUR				AMB	AMB	12 21 45.8	
	30nm,0.7s						
KUR				i S	Sn	12 22 04.6	+3.8
KUR				A	A	12 22 05.6	
	20nm,0.6s						
KUR				A	A	12 22 05.6	
	40nm,0.6s						
YUK	Yuzh-Kuril'sk	1.46	275	eP	Pn	12 21 41.0	-3.6
YUK				AMB	AMB	12 21 44.4	
	60nm,0.3s						
YUK				eS	Sn	12 21 56.5	-7.5
YUK				A	A	12 22 03.6	
	60nm,0.4s						
YUK				A	A	12 22 03.6	
	60nm,0.4s						
NEM2	Nemuro 2	1.64	251	eP	Pn	12 21 47.4	+0.4
NEM2				eS	Sn	12 22 08.7	+0.5
JRA	Rausu	1.99	271	eP	Pn	12 21 51.5	+0.2
JRA				S	Sn	12 22 15.9	-0.1
JNSB	Nemuroshibetsu	2.08	267	eP	Pn	12 21 53.2	+0.6
JNSB				S	Sn	12 22 18.7	+0.6
JNK	Nakash	2.31	263	eS	Sn	12 22 23.7	+0.1
JAK	Akkeshi	2.49	249	eS	Sn	12 22 28.7	+0.9

*IDC **21** 12:23:23.0±2.5, 44.°48N×84.°00E, h0km, mb3.6/1, mbtmp3.5/5, ML2.8/4, Error ellipse: s-maj=34.3km s-min=22.0km az=64.0*
*SOME **21** 12:23:32.3, 44.°45N×83.°72E, h30km*
*NNC **21** 12:23:35.1±3.6, 44.°63N×83.°33E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=30.4km s-min=16.2km az=121.0*

ISC 21 12:23:24.4±1.4, **44.°40N**±0.°06×**83.°82E**±0.°07, **h10**km, **n31**, σ1**°75**/39, **3C-4D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.63	336	Pn	Pb	12 24 12.4	+0.8
	0.6nm,0.3s,baz=147,slow=14,SNR=334						
MK31				⇑Lg	Lg	12 24 48.1	
	66nm,0.5s,baz=168,slow=28						
MKAR	Makanchi Array	2.63	336	Pn	Pn	12 24 08.1	+1.2
	2.0nm,0.3s,baz=152,slow=15,SNR=25						
MKAR				Pg	Pb	12 24 12.2	+0.7
	4.8nm,0.3s,baz=150,slow=17,SNR=34						
MKAR				Lg	Lg	12 24 47.0	
	44nm,0.3s,baz=151,slow=31,SNR=33						
	3.4nm,0.5s						
KTMS	Ketmen	2.68	250	eP	Pg	12 24 17.8	+2.1
	17nm,0.3s						
KTMS				eS	Sg	12 24 50.7	+0.2
	82nm,0.4s						
KTMS	Ketmen	2.68	250	Lg	Lg	12 24 50.7	
	82nm,0.4s						
MAKZ	Makanchi	2.74	332	⇓Pn	Pg	12 24 15.6	-1.2
	5.2nm,0.2s						
MAKZ				⇑Sn	Sb	12 24 46.6	-0.4
DJR	Jarkent	2.89	270	eP	Pg	12 24 22.4	+2.6
	7.9nm,0.4s						
DJR				eS	Sg	12 24 58.5	+1.2
	34nm,0.3s						
DJR	Jarkent	2.89	270	Lg	Lg	12 24 58.5	
	34nm,0.3s						
ZSN	Zaisan	3.14	13	eP	Pg	12 24 24.3	-0.2
	32nm,0.3s						
ZSN				eS	Sb	12 25 01.8	+3.2
	100nm,0.6s						
ZSN	Zaisan	3.14	13	Pg	Pg	12 24 24.3	-0.2
	32nm,0.3s						
ZSN				Lg	Lg	12 25 01.8	
	100nm,0.6s						
PDGK	Podgornoye	3.31	253	Pg	Pg	12 24 28.9	+1.1
	5.7nm,0.4s						
PDGK				Lg	Lg	12 25 09.4	
	57nm,0.8s						
PDGK	Podgornoye	3.31	253	⇑Pn	Pg	12 24 26.2	-1.5
	9.4nm,0.5s						
PDGK				⇓Sn	Sg	12 25 07.5	-3.1
	81nm,0.5s						
KNOS	Konyrlen	3.33	271	Pg	Pg	12 24 28.9	+0.7
	0.9nm,0.2s						
KNOS				Lg	Lg	12 25 09.5	
	43nm,0.3s						
SHLS	Shalkode	3.39	250	eP	Pb	12 24 25.0	+0.4
	30nm,0.5s						
SHLS				eS	Sb	12 25 03.2	-2.8
	218nm,0.4s						
SHLS	Shalkode	3.39	250	Pg	Pb	12 24 25.0	+0.4
	30nm,0.5s						
SHLS				Lg	Lg	12 25 03.2	
	218nm,0.4s						
UZB	Uzynbulak	3.69	252	eP	Pg	12 24 36.0	+0.9
	4.6nm,0.2s						
UZB				eS	Sg	12 25 21.7	-1.3
	18nm,0.6s						
UZB	Uzynbulak	3.69	252	Pg	Pg	12 24 36.0	+0.9
	4.6nm,0.2s						
UZB				Lg	Lg	12 25 21.7	
	18nm,0.6s						
KPKS	Kokpek	3.83	258	eP	Pg	12 24 37.9	+0.2
	15nm,0.3s						
KPKS				eS	Sg	12 25 25.1	-2.2
	102nm,0.4s						
KPKS	Kokpek	3.83	258	Lg	Lg	12 25 25.1	
	102nm,0.4s						
BLB	Baldybastay	3.85	267	Pg	Pg	12 24 39.0	+0.9
	19nm,0.3s						
BLB				Lg	Lg	12 25 27.2	
	69nm,0.5s						
TDK	Taldyqorghan	3.91	281	eP	Pg	12 24 39.1	-0.1
	54nm,0.2s						
TDK				eS	Sg	12 25 27.1	-2.7
	55nm,0.2s						
SATY	Saty	4.15	253	eP	Pg	12 24 44.4	+0.6
	6.8nm,0.4s						
SATY				eS	Sg	12 25 36.3	-1.2
	54nm,0.5s						
SATY	Saty	4.15	253	Pg	Pg	12 24 44.4	+0.6
	6.8nm,0.4s						
SATY				Lg	Lg	12 25 36.3	
	54nm,0.5s						
ARXS	Arharly	4.31	270	eP	Pg	12 24 47.8	+0.9
	7.0nm,0.6s						
ARXS				eS	Sg	12 25 42.2	-0.4
	43nm,0.8s						
ARXS	Arharly	4.31	270	Lg	Lg	12 25 42.2	
	43nm,0.8s						
SEM	Semipalatinsk	6.48	339	Pg	Pg	12 25 30.4	+1.9
	15nm,0.2s						
KURBB	Kurchatov Arra	7.18	332	Pn	Pn	12 25 10.4	+1.0
	0.2nm,0.3s,baz=144,slow=13,SNR=10						
KURBB				Sn	Sn	12 26 30.9	-0.1
	0.2nm,0.3s,baz=148,slow=18,SNR=5.3						
KURBB				Lg	Lg	12 27 11.2	
	0.3nm,0.3s,baz=147,slow=30,SNR=9.1						
	1.0nm,0.4s						
KURBB	Kurchatov Arra	7.18	332	⇓Lg	Lg	12 27 12.3	
	39nm,0.7s						
KURK	Kurchatov	7.23	333	⇓Lg	Lg	12 27 13.5	
	28nm,0.7s						
ZALV	Zalesovo Beam	9.58	4	Pn	Pn	12 25 40.7	-1.5
	0.7nm,0.3s,baz=184,slow=13,SNR=9.7						
ZALV				Sn	Sn	12 27 24.1	-5.8
	1.0nm,0.3s,baz=185,slow=21,SNR=11						
ZALV				Lg	Lg	12 28 26.0	
	baz=190,slow=37						
	1.8nm,0.4s						
BVAR	Borovoye Array	12.36	319	Pn	Pn	12 26 20.4	+0.1
	baz=125,slow=13,SNR=2.6						
BVAR				Lg	Lg	12 29 54.7	
	baz=123,slow=12						
	0.5nm,0.4s						
ARCES	ARCESS Array B	38.27	331	P	P	12 30 45.5	+1.1
	0.4nm,0.4s,baz=91,slow=7.6,SNR=7.1						
	0.4nm,0.4s						

*IDC **21** 12:48:43.6±1.0, 30.°00S×71.°72W, h0km, mb3.8/4, mbtmp3.8/7, ML3.6/3, MS3.2/2, Error ellipse: s-maj=47.2km s-min=22.3km az=94.0*
*SJA **21** 12:48:44.3±0.5, 29.°99S×71.°92W, h14km±5km, ML4.6, MW4.2*
*GUC **21** 12:48:48.2±0.9, 30.°01S×71.°68W, h37km±4km, ML3.8*

ISC 21 12:48:45.4±1.5, **30.°02S**±0.°03×**71.°74W**±0.°05, **h9**km±9km, **n42**, σ1**°33**/51, **mb4.0**/4, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.45	78	eP	Pn	12 48 57.1	-0.8
CO05				i S	Sb	12 49 03.0	+0.8
CO05				IAML		12 49 03.5	
	comp=E,9μm,0.2s						
CO06	Fray Jorge	0.66	172	eP	Pn	12 49 01.0	0.0
CO06				i S	Sn	12 49 10.1	-1.4
CO06				IAML		12 49 12.1	
	comp=E,9μm,0.2s						
GO04	Tololo Observa	0.83	101	eP	Pn	12 49 02.5	-1.0
GO04				eS	Sn	12 49 33.0	+17
GO04	Tololo Observa	0.83	101	eP	Pn	12 49 03.1	-0.4
GO04				i S	Sb	12 49 13.7	+0.1
GO04				IAML		12 49 14.8	
	comp=E,10μm,0.4s						
CO03	El Pedregal	1.23	132	eP	Pg	12 49 10.1	+1.2
CO03				IAML		12 50 04.4	
	comp=Z,6μm,0.5s						
CO03	El Pedregal	1.23	132	eP	Pg	12 49 09.4	+0.5
CO03				i S	Sg	12 49 24.7	-0.3
CO03				IAML		12 49 28.3	
	comp=E,3μm,0.3s						
CO02	Combarbal	1.35	152	eP	Pg	12 49 11.6	+0.4
CO02				IAML		12 50 09.5	
	comp=Z,11μm,0.4s						
CO02	Combarbal	1.35	152	eP	Pg	12 49 11.8	+0.6
CO02				i S	Sg	12 49 28.8	0.0
LCO	Las Campanas	1.35	43	eP	Pg	12 49 11.7	+0.3
LCO				IAML		12 50 02.1	
	comp=Z,37μm,0.6s						
LCO	Las Campanas	1.35	43	eP	Pb	12 49 11.1	+0.1
LCO				i S	Sg	12 49 28.7	-0.2
CO01	Juntas del Tor	1.43	89	eP	Pg	12 49 12.6	-0.4
CO01				eS	Sg	12 49 40.9	+9.3
CO01				IAML		12 50 05.5	
	comp=Z,9μm,0.6s						
CO01	Juntas del Tor	1.43	89	eP	Pg	12 49 12.5	-0.4
CO01				i S	Sg	12 49 30.6	-0.9
AC05	El Transito	1.74	48	eP	Pb	12 49 17.7	+0.2
AC05	El Transito	1.74	48	eP	Pb	12 49 17.6	0.0
AC05				eS	Sb	12 49 39.1	-0.5
AC05				IAML		12 49 42.4	
	comp=N,1μm,0.6s						
AC04	Llanos de Chal	1.90	18	eP	Pn	12 49 17.1	-0.8
AC04	Llanos de Chal	1.90	18	eP	Pn	12 49 18.7	+0.8
GO03	Copiap	2.75	29	eP	Pn	12 49 31.6	+1.9
GO03				eS	Sn	12 50 03.3	+0.2
RTLS	Leoncito	2.75	131	eP	Pb	12 49 34.4	-0.5
RTLS				IAML		12 50 53.6	
	comp=Z,5μm,0.5s						
AC06	Mina Casimiro	2.92	25	eP	Pn	12 49 33.2	+1.2
VA03	San Esteban	2.92	160	eP	Pb	12 49 36.8	-0.9
VA03				IAML		12 51 03.2	
	comp=Z,2μm,0.7s						
VA01	Torpederas	3.00	178	eP	Pn	12 49 34.3	+1.2
VA01				eS	Sn	12 50 11.8	+2.6
ROC1	El Roble	3.02	168	eP	Pb	12 49 38.8	-0.6
ZON	Zonda	3.05	121	eP	Pb	12 49 39.5	-0.3
ZON				IAML		12 51 05.7	
	comp=Z,901nm,0.7s						
PEL	Peldehue	3.25	164	eP	Pb	12 49 40.0	-3.3
MT02	Curacav	3.27	171	eP	Pg	12 49 48.1	0.0
MT02				IAML		12 51 11.8	
	comp=Z,1μm,0.5s						
MT05	Renca	3.47	166	eP	Pb	12 49 46.7	-0.4
MT05				IAML		12 51 24.8	
	comp=Z,1μm,0.3s						
MT03	Universidad Ad	3.62	163	eP	Pb	12 49 47.2	-2.5
MT03				IAML		12 51 26.5	
	comp=Z,2μm,0.8s						
MT01	Popeta	3.86	174	eP	Pn	12 49 47.2	+2.2
MT01				IAML		12 51 25.6	
	comp=Z,771nm,0.3s						
MT13	San Alfonso	3.92	162	eP	Pn	12 49 49.7	+3.8
MT13				IAML		12 51 31.4	
	comp=Z,786nm,0.6s						
LMEL	Las Melosas	4.04	161	eP	Pn	12 49 50.8	+3.3
H03N1	Juan Fernandez	7.00	239	Pn	Pn	12 50 28.2	+0.5
	baz=8.3,slow=74						
H03S1	Juan Fernandez	7.18	236	Pn	Pn	12 50 29.4	-0.9
LVC	Limon Verde	7.80	20	Pn	Pn	12 50 38.7	-0.7
	comp=Z,0.4nm,0.3s,baz=189,slow=20,SNR=1.6						
LVC				LR	LR	12 52 57.1	
	comp=Z,73nm,21.1s,baz=214,slow=33						
	comp=Z,0.9nm,0.3s						
LPAZ	La Paz	14.06	14	Pn	Pn	12 52 05.6	+0.2
	comp=Z,0.2nm,0.3s,baz=187,slow=8.1,SNR=8.3						
	comp=Z,1.8nm,0.6s						
SIV	San Ignacio	17.05	37	Pn	Pn	12 52 44.0	-0.1
	baz=219,slow=11,SNR=12						
	comp=Z,2.5nm,0.5s						
SNAA	Sanae	55.19	159	P	P	12 58 18.1	0.0
	comp=Z,1.6nm,0.6s,baz=282,slow=7.9,SNR=17						
	comp=Z,1.6nm,0.6s						
QSPA	South Pole Qui	60.21	180	P	P	12 58 54.6	+1.1
	comp=Z,0.8nm,0.8s,baz=162,slow=3.2,SNR=2.1						
	comp=Z,0.8nm,0.8s						
TXAR	Lajitas Array	66.41	330	P	P	12 59 35.7	+0.7
	comp=Z,0.2nm,0.6s,baz=138,slow=9.6,SNR=2.9						
	comp=Z,0.2nm,0.6s						
TORD	Torodi Ar. Bea	82.63	70	P	P	13 01 09.0	-0.5
	comp=Z,1.2nm,0.8s,baz=240,slow=4.4,SNR=5.9						
	comp=Z,1.2nm,0.8s						
LBTB	Lobatse	83.76	115	LR	LR	13 34 56.9	
	comp=Z,32nm,19.0s,baz=161,slow=33						
WRA	Warramunga Arr	124.34	210	PKP	PKPdf	13 07 43.2	-2.2
	comp=Z,0.2nm,0.9s,baz=160,slow=1.8,SNR=6.2						
ZALV	Zalesovo Beam	150.67	29	PKPbc	PKPbc	13 08 35.7	-1.7
	comp=Z,1.5nm,0.5s,baz=316,slow=3.7,SNR=9.1						

*IDC **21** 12:49:17.6±0.8, 29.°86S×71.°54W, h0km, mb3.8/7, mbtmp3.9/12, ML4.0/5, MS3.7/1, Error ellipse: s-maj=28.5km s-min=19.0km az=94.0*
*NEIC **21** 12:49:21.5±1.7, 29.°85S±0.°04×71.°72W±0.°05, h20km±6km, mb4.6/17, ML4.4(GUC), Error ellipse: s-maj=8.0km s-min=1.7km az=50.0*
*GUC **21** 12:49:22.4±0.8, 29.°87S×71.°62W, h36km±3km, ML4.4*

ISC 21 12:49:21.3±1.3, **29.°86S**±0.°03×**71.°68W**±0.°06, **h23**km±9km, **n94**, σ1**°05**/93, **mb4.3**/13, **4C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.38	99	Pg	Pb	12 49 30.1	+0.6
CO05	La Serena	0.38	99	eP	Pb	12 49 30.1	+0.6
CO05				eS	Sb	12 49 35.6	+0.6
CO05				IAML		12 49 36.5	
	comp=E,24μm,0.2s						
CO06	Fray Jorge	0.81	178	Pg	Pn	12 49 37.8	+0.5
CO06	Fray Jorge	0.81	178	eP	Pn	12 49 37.2	-0.1
CO06				eS	Sb	12 49 47.9	+0.7
CO06				IAML		12 49 51.0	
	comp=E,25μm,0.2s						
GO04	Tololo Observa	0.82	112	Pg	Pb	12 49 37.3	+0.2
GO04	Tololo Observa	0.82	112	eP	Pb	12 49 36.8	-0.3
GO04				eS	Sb	12 49 47.5	-0.3
GO04				IAML		12 49 53.0	
	comp=E,78μm,0.3s						
LCO	Las Campanas	1.20	45	Pn	Pb	12 49 43.8	+0.3
LCO	Las Campanas	1.20	45	eP	Pn	12 49 42.9	0.0
LCO				eS	Sb	12 49 59.1	+0.4
CO03	El Pedregal	1.29	139	Pn	Pb	12 49 44.9	-0.1
CO03	El Pedregal	1.29	139	eP	Pn	12 49 44.3	+0.3
CO03				eS	Sb	12 50 01.1	-0.2
CO03				IAML		12 50 05.0	
	comp=N,12μm,0.6s						
CO01	Juntas del Tor	1.38	95	Pn	Pb	12 49 46.4	-0.1
CO01	Juntas del Tor	1.38	95	eP	Pn	12 49 45.9	+0.5
CO01				eS	Sb	12 50 03.6	-0.2
CO01				IAML		12 50 06.2	
	comp=N,13μm,0.3s						
CO02	Combarbal	1.46	157	Pn	Pb	12 49 48.7	+0.9
CO02	Combarbal	1.46	157	eP	Pb	12 49 47.5	-0.3
CO02				eS	Sb	12 50 05.8	-0.2
AC05	El Transito	1.59	50	Pn	Pb	12 49 50.4	+0.3
AC05	El Transito	1.59	50	eP	Pb	12 49 49.5	-0.6
AC05				eS	Sb	12 50 09.7	-0.2
AC05				IAML		12 50 12.5	
	comp=E,12μm,0.8s						
AC04	Llanos de Chal	1.73	18	eS	Sb	12 50 13.2	-0.5
AC04				IAML		12 50 18.6	
	comp=E,3μm,0.4s						
GO03	Copiap	2.59	30	eP	Pn	12 50 03.9	+2.0
GO03				eS	Sn	12 50 34.5	+1.9
GO03				IAML		12 50 47.1	
	comp=N,2μm,0.4s						
VA06	Catapilco	2.71	173	Pn	Pn	12 50 04.4	+1.0
AC06	Mina Casimiro	2.75	25	Pn	Pn	12 50 04.8	+0.7
AC06	Mina Casimiro	2.75	25	eP	Pn	12 50 06.3	+2.3
AC06				eS	Sn	12 50 39.2	+2.7
AC06				IAML		12 50 51.2	
	comp=E,2μm,0.7s						
VA03	San Esteban	3.05	162	Pn	Pn	12 50 08.3	+0.1
MT01	Popeta	4.01	175	Pn	Pn	12 50 22.6	+1.3
MT13	San Alfonso	4.05	163	Pn	Pn	12 50 22.5	+0.6
LMEL	Las Melosas	4.17	163	Pn	Pn	12 50 24.3	+0.7
BO04	La Punta	4.21	168	Pn	Pn	12 50 24.9	+0.7
BO01	Tunca	4.54	174	Pn	Pn	12 50 29.5	+0.9
BO02	Sierra Bellavi	4.97	171	Pn	Pn	12 50 36.4	+1.7
GO02	Mina Guanaco	5.03	22	Pn	Pn

baz=65,slow=71,SNR=3173
H03S3 Juan Fernandez 7.31 235 Pn Pn 12 51 04.3 -2.1
baz=94,slow=76
H03S3 T T 12 58 41.5
baz=69
H03S1 Juan Fernandez 7.32 235 Pn Pn 12 51 03.9 -2.6
baz=86,slow=76
H03S1 T T 12 58 47.2
baz=69
H03S2 Juan Fernandez 7.33 235 T T 12 58 50.6
baz=69
LVC Limon Verde 7.64 20 Pn **Pn 12 51 12.8 +1.3**
LVC Limon Verde 7.64 20 Pn **Pn 12 51 08.3 -3.2**
comp=E,1.4nm,0.3s,baz=136,slow=21,SNR=7.1
comp=E,6.2nm,0.5s
PATCX Punta Patache 9.11 9 Pn **Pn 12 51 30.5 -1.0**
GO06 Curarrehue 9.70 179 Pn **Pn 12 51 39.6 0.0**
LR04 Corral 10.10 188 Pn **Pn 12 51 44.5 -0.3**
PLCA Paso Flores 10.88 175 Pn **Pn 12 51 56.2 +0.5**
PLCA Paso Flores 10.88 175 Pn **Pn 12 51 55.0 -0.7**
comp=E,0.2nm,0.3s,baz=340,slow=12,SNR=4.6
comp=E,0.8nm,0.5s
LL04 Puerto Octay 11.04 183 Pn **Pn 12 51 57.5 -0.3**
TRQA Tornquist 11.46 138 Pn **Pn 12 52 03.2 -0.4**
PB18 Visviri 12.38 10 Pn **Pn 12 52 15.8 -0.8**
LL06 Loncomilla 12.43 187 Pn **Pn 12 52 16.8 0.0**
ITQB Itaqui 13.08 93 Pn **Pn 12 52 24.6 -1.1**
CPUP Villa Florida 13.14 78 Pn 12 52 25.4 -1.1
CPUP Villa Florida 13.14 78 Pn **Pn 12 52 25.4 -1.1**
comp=E,0.4nm,0.3s,baz=276,slow=12,SNR=4.8
comp=E,2.8nm,0.6s
LPAZ La Paz 13.90 14 Pn 12 52 39.6 +2.1
LPAZ La Paz 13.90 14 Pn **Pn 12 52 37.0 -0.4**
comp=E,0.3nm,0.3s,baz=199,slow=8.4,SNR=4.1
comp=E,1.8nm,0.5s
PLTB Pedras Altas 15.64 102 Pn **Pn 12 52 59.5 -0.8**
PLTB IAmb IAmb 12 53 02.7
comp=Z,38nm,1.5s
SIV San Ignacio 16.89 38 Pn **Pn 12 53 14.7 -1.6**
baz=203,slow=11,SNR=7.9
comp=Z,5.0nm,0.8s
ITAB Concordia 17.37 86 P **Pn 12 53 22.0 -0.2**
ITAB IAmb IAmb 12 53 39.6
comp=Z,50nm,1.4s
PTLB Pontes e Lacer 18.41 42 P **Pn 12 53 35.1 +0.1**
SAML Samuel 22.27 23 P **P 12 54 17.8 +0.9**
BDFB Brasilia 25.93 62 P **P 12 54 51.5 -0.6**
BDFB IAmb IAmb 12 54 53.5
comp=Z,13nm,1.3s
BDFB Brasilia 25.93 62 P **P 12 54 50.7 -1.4**
comp=Z,2.9nm,0.6s,baz=252,slow=6.2,SNR=4.0
comp=Z,2.9nm,0.6s
RPN Rapa Nui 33.12 265 LR LR 13 05 25.7
comp=Z,107nm,18.9s,baz=113,slow=29
BOAV Boa Vista 33.80 20 P **P 12 56 00.6 -1.1**
MLPR Magueyes Islan 47.76 6 P **P 12 57 58.0 +1.4**
CELP Cerrillos 47.91 7 P **P 12 57 57.3 -0.6**
CELP IAmb IAmb 12 57 58.0
comp=Z,13nm,0.8s
VNA3 Neumayer Olymp 53.08 159 ⇑P **P 12 58 36.4 0.0**
comp=Z,1.0nm,0.6s
VNA2 Neumayer--Watz 53.72 158 ⇑P **P 12 58 41.4 +0.4**
comp=Z,2.8nm,0.6s,baz=288,slow=8.1
SNAA Sanae 55.31 159 P **P 12 58 53.6 +0.9**
SNAA IAmb IAmb 12 59 06.2
comp=Z,3.3nm,0.8s
SNAA Sanae 55.31 159 ⇑P **P 12 58 52.2 -0.5**
comp=Z,39nm,0.5s
SNAA Sanae 55.31 159 P **P 12 58 52.5 -0.1**
comp=Z,1.8nm,0.6s,baz=271,slow=8.1,SNR=9.5
comp=Z,1.8nm,0.6s
TROLL Troll, Antarti 57.02 159 ⇑P **P 12 59 04.3 -0.7**
comp=Z,70nm,1.1s
QSPA South Pole Qui 60.36 180 P **P 12 59 30.4 +2.0**
QSPA IAmb IAmb 12 59 44.1
comp=Z,12nm,1.5s
QSPA South Pole Qui 60.36 180 P **P 12 59 28.4 0.0**
comp=Z,1.7nm,0.8s,baz=138,slow=8.1,SNR=4.1
comp=Z,1.7nm,0.8s
SWET Sewanee 66.11 347 P **P 13 00 05.9 -0.6**
SWET IAmb IAmb 13 00 19.4
comp=Z,11nm,1.3s
TXAR Lajitas Array 66.31 330 P **P 13 00 09.7 +1.7**
comp=Z,0.2nm,0.6s,baz=171,slow=8.1,SNR=3.4
comp=Z,0.2nm,0.6s
HBAR Harrisburg 67.48 343 P **P 13 00 16.6 +1.4**
VNDA Vanda 68.21 191 P **P 13 00 19.0 -0.4**
S44A Carbondale 69.19 345 P **P 13 00 26.0 +0.1**
S44A IAmb IAmb 13 00 38.2
comp=Z,12nm,1.2s
M65A Busby, Falmout 71.07 1 P **P 13 00 37.3 0.0**
H43A Windswept, Laus 75.42 348 P **P 13 01 03.8 +0.9**
PDAR Pinedale Array 80.23 333 P **P 13 01 30.7 +0.6**
comp=Z,0.2nm,0.6s,baz=124,slow=4.8,SNR=2.2
comp=Z,0.2nm,0.6s
NVAR Mina Array Bea 80.69 325 P **P 13 01 32.5 -0.1**
comp=Z,0.1nm,0.6s,baz=151,slow=8.3,SNR=1.6
comp=Z,0.1nm,0.6s
TOA0 Torodi Ar. Sit 82.52 70 P **P 13 01 41.9 -0.7**
TOA0 IAmb IAmb 13 01 51.9
comp=Z,4.5nm,1.0s
TORD Torodi Ar. Bea 82.52 70 P **P 13 01 42.1 -0.5**
comp=Z,2.3nm,0.9s,baz=274,slow=5.7,SNR=7.3
comp=Z,2.3nm,0.9s
WRA Warramunga Arr 124.50 210 PKP **PKPdf 13 08 18.3 -1.0**
comp=Z,0.4nm,0.6s,baz=154,slow=1.6,SNR=5.2
H11S2 WAKE ISLAND Hyl 26.04 272 T T 15 27 14.4
baz=115,slow=75,SNR=80
H11S1 WAKE ISLAND Hyl 26.05 272 T T 15 27 14.4
baz=115,slow=75,SNR=116
H11S3 WAKE ISLAND Hyl 26.06 272 T T 15 27 14.4
baz=115,slow=75,SNR=114
H11N3 WAKE ISLAND Hyl 26.35 273 T T 15 27 37.3
baz=120,slow=74
H11N1 WAKE ISLAND Hyl 26.36 273 T T 15 27 41.7
baz=120
H11N2 WAKE ISLAND Hyl 26.37 273 T T 15 27 43.4
baz=120,slow=74
BVAR Borovoye Array 143.96 39 PKP PKPbc 13 08 52.9 +0.6
comp=Z,0.5nm,0.4s,baz=321,slow=1.8,SNR=2.9
KURBB Kurchatov Arra 149.55 39 PKPbc **PKPbc 13 09 07.4 -1.0**
comp=Z,0.8nm,0.2s,baz=300,slow=3.5,SNR=4.2
ZALV Zalesovo Beam 150.51 29 PKPbc **PKPbc 13 09 10.2 -0.4**
comp=Z,2.8nm,0.5s,baz=293,slow=3.3,SNR=9.7
MKAR Makanchi Array 153.67 43 PKPbc **PKiKP 13 09 19.4 +1.2**
comp=Z,0.1nm,0.3s,baz=354,slow=2.9,SNR=1.8

*SOME **21** 13:08:22.7,40°.93N×70°.22E,h10km*
*KRNET **21** 13:08:24.0±0.1,41°.00N×70°.25E,h12km,mb2.7*
*NNC **21** 13:08:24.6±10.0,40°.95N×69.81E,h0km,mb3.1,mpv3.6,*
Error ellipse: s-maj=156.1km s-min=62.8km az=90.0
ISC 21 13:08:23.3±1.4,41°.00N±0°.03×70°.17E±0°.05,h4km±11km,
n17,σ1§05/32,16C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.91**	**54**	⇑*iP*	**Pg**	**13 08 40.0**	**-0.7**
	baz=56						
TRKS				⇑*eS*	**Sg**	**13 08 52.1**	**-0.4**
	baz=56						
BTK	**Batken**	**1.06**	**152**	⇑*eP*	**Pg**	**13 08 43.8**	**+0.1**
	baz=55						
BTK				⇑*iS*	**Sb**	**13 08 58.7**	**+0.2**
	baz=55						
IUG	**Iuzhnay**	**1.15**	**355**	*eP*	**Pg**	**13 08 45.9**	**+0.4**
	41nm,0.1s						
IUG				*eS*	**Sn**	**13 09 02.3**	**-0.4**
	68nm,0.3s						
IUG	**Iuzhnay**	**1.15**	**355**	P	**Pg**	**13 08 45.9**	**+0.4**
	41nm,0.1s						
IUG				S	**Sn**	**13 09 02.3**	**-0.4**
	68nm,0.3s						
IUG	**Iuzhnay**	**1.15**	**355**	*eP*	**Pg**	**13 08 45.9**	**+0.4**
	baz=52						
IUG				*eS*	**Sn**	**13 09 02.3**	**-0.4**
	baz=52						
ARK	**Arkit**	**1.57**	**59**	⇑*eP*	**Pb**	**13 08 52.6**	**-0.4**
	baz=58						
ARK				⇑*eS*	**Sg**	**13 09 13.9**	**+0.1**
	baz=58						
DRK	**Karamyk**	**1.96**	**140**	⇑*eP*	**Pb**	**13 09 00.0**	**+0.2**
	baz=41						
DRK				⇑*eS*	**Sg**	**13 09 26.7**	**+0.3**
	baz=41						
BRLS	**Borolday**	**2.05**	**353**	*eP*	**Pn**	**13 08 58.1**	**-0.4**
	8.0nm,0.3s						
BRLS				*eS*	**Sn**	**13 09 23.4**	**-1.1**
	9.0nm,0.3s						
BRLS	**Borolday**	**2.05**	**353**	*eP*	**Pn**	**13 08 58.2**	**-0.4**
	baz=49						
BRLS				*eS*	**Sn**	**13 09 23.5**	**-1.1**
	baz=49						
KK31	**Karatay Array**	**2.12**	**7**	Pn	**Pb**	**13 09 02.8**	**+0.4**
	2.0nm,0.4s,baz=197,slow=16,SNR=22						
KK31				⇓Sn	**Sg**	**13 09 32.9**	**+1.5**
	13nm,0.8s						
KKAR	**Karatay Array**	**2.12**	**7**	⇑*eP*	**Pb**	**13 09 02.3**	**0.0**
	baz=5.0						
KKAR				⇑*eS*	**Sg**	**13 09 31.0**	**-0.5**
	baz=5.0						
ARSB	**Arslanbob**	**2.15**	**80**	⇑*eP*	**Pb**	**13 09 01.9**	**-1.0**
	baz=80						
ARSB				⇑*eS*	**Sb**	**13 09 30.4**	**+0.5**
	baz=80						
MNAS	**Manas**	**2.29**	**49**	⇓*iP*	**Pb**	**13 09 04.1**	**-1.3**
	baz=48						
MNAS				⇓*iS*	**Sb**	**13 09 34.1**	**-0.1**
	baz=48						
SFK	**Sufi-Kurgan**	**2.73**	**110**	⇑*eP*	**Pb**	**13 09 10.7**	**-2.1**
	baz=11						
SFK				⇑*eS*	**Sb**	**13 09 44.8**	**-1.8**
	baz=11						
MRKS	**Merke**	**2.87**	**52**	*eP*	**Pb**	**13 09 16.6**	**+1.4**
	2.8nm,0.2s						
MRKS				*eS*	**Sg**	**13 09 54.8**	**-0.9**
	5.9nm,0.6s						
MRKS	**Merke**	**2.87**	**52**	Lg	Lg	13 09 54.8	
	5.9nm,0.6s						
ARLS	**Aral**	**3.24**	**73**	⇑*eP*	**Pn**	**13 09 17.3**	**+2.2**
	baz=73						
ARLS				⇑*eS*	**Sn**	**13 09 56.5**	**+2.3**
	baz=73						

ISU 21 13:08:46.3,41°.40N×70°.63E,h8km,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHDK	**Chadak**	**0.44**	**168**	P	Pb	13 08 55.6	-0.7
CHDK				S	Sb	13 09 02.4	-0.6
CHMG	**Chimgan**	**0.49**	**288**	P	Pg	13 08 56.5	+0.7
CHMG				S	Sb	13 09 04.1	-0.5
CHMI	**Chimion**	**1.32**	**149**	P	Pb	13 09 11.2	-0.1
CHMI				S	Sn	13 09 29.9	+1.1
FRG	**Fergana**	**1.35**	**139**	P	Pb	13 09 11.7	-0.1
FRG				S	Sg	13 09 31.0	+1.4
KRSA	**Karasay**	**2.54**	**241**	P	Pb	13 09 31.2	-0.9
KRSA				S	Sg	13 10 06.9	-1.0

*NOU **21** 13:09:16.5,18°.96S×170°.05E,h0km,ML3.8/9,Vanuatu Islands*
*IDC **21** 13:09:26.9±5.4,19°.14S×168°.89E,h0km,mb3.8/3,*
mbtmp3.7/4,ML2.9/1,Error ellipse: s-maj=126.7km
s-min=35.8km az=115.0
ISC 21 13:09:25.4±2.0,19°.3S±0°.1×169°.5E±0°.2,h10km,n12,
σ1§33/13,mb3.7/3,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.55**	**212**	P	**Pn**	**13 10 06.4**	**-0.3**
LIFNC	**LIFOU**	**2.56**	**235**	P	**Pn**	**13 10 06.9**	**0.0**
YATNC	**Mamie plateau,**	**3.65**	**221**	P	**Pn**	**13 10 22.9**	**+1.0**
PINNC	**Pines Island,**	**3.79**	**210**	P	**Pn**	**13 10 24.3**	**+0.4**
DZM	**Mont Dzumac**	**3.95**	**226**	P	**Pn**	**13 10 27.2**	**+1.1**
DZM	**Mont Dzumac**	**3.95**	**226**	Pn	**Pn**	**13 10 25.8**	**-0.4**
	0.9nm,0.3s,baz=77,slow=19,SNR=36						
DZM				Sn	**Sn**	**13 11 13.0**	**+0.4**
	1.1nm,0.3s,baz=120,slow=20,SNR=1.8						
	6.0nm,0.5s						
NOUC	**Port Laguerre**	**4.07**	**226**	P	**Pn**	**13 10 29.1**	**+1.5**
ONTNC	**Ouen Toro**	**4.11**	**223**	P	**Pn**	**13 10 29.8**	**+1.6**
KOUNC	**Koumac, New Ca**	**5.04**	**255**	P	**Pn**	**13 10 41.9**	**+0.9**
WRA	**Warramunga Arr**	**33.07**	**263**	P	**P**	**13 15 59.1**	**-2.4**
	0.5nm,1.0s,baz=101,slow=7.4,SNR=1.7						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**33.33**	**256**	P	**P**	**13 16 02.4**	**-1.4**
	1.6nm,0.5s,baz=85,slow=8.8,SNR=34						
	1.6nm,0.5s						
SONM	**Songino Array**	**87.42**	**323**	P	**P**	**13 22 14.4**	**+1.3**
	0.2nm,0.4s,baz=134,slow=4.2,SNR=1.7						
	0.2nm,0.4s						

*IDC **21** 13:22:19.2±4.1,5°.22S×132°.90E,h0km,mb3.8/2,*
mbtmp4.0/4,ML4.4/2,Error ellipse: s-maj=282.7km
s-min=29.2km az=75.0
*DJA **21** 13:22:37.5±1.3,6°.S±2°.×13°.1E±°,h19km±10km,M4.6/9,*
mb4.5/5,mB5.3/4,MLv4.6/9,Mw(mB)4.8/4
*NEIC **21** 13:22:37.5±3.0,5°.96S±0°.08×130°.8E±0°.1,h127km±12km,*
mb4.0/6,Error ellipse: s-maj=19.0km s-min=11.2km
az=94.0
ISC 21 13:22:36.5±0.7,5°.97S±0°.05×130°.82E±0°.07,h100km,n49,
σ1§90/47,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.70**	**328**	P	**Pn**	**13 23 09.9**	**+4.5**
BNDI	**Bandanaira**	**1.70**	**328**	P	**Pn**	**13 23 08.5**	**+3.1**
BNDI				S	**Sn**	**13 23 27.9**	**+0.7**
SAUI	**Saumlaki**	**2.06**	**167**	P	**Pn**	**13 23 12.6**	**+2.8**
SAUI	**Saumlaki**	**2.06**	**167**	Pn	**Pn**	**13 23 12.7**	**+2.8**
SAUI	**Saumlaki**	**2.06**	**167**	P	**Pn**	**13 23 13.4**	**+3.5**
SAUI				S	**Sn**	**13 23 39.6**	**+4.3**
FAKI	**Fak Fak**	**3.35**	**25**	P	**Pn**	**13 23 28.6**	**+1.6**
FAKI	**Fak Fak**	**3.35**	**25**		**Pn**	**13 23 28.4**	**+1.3**
FAKI	**Fak Fak**	**3.35**	**25**	P	**Pn**	**13 23 28.3**	**+1.3**
FAKI				S	**Sn**	**13 24 06.7**	**+0.7**
KMPI	**Kaimana, Papua**	**3.68**	**52**	P	**Pn**	**13 23 33.7**	**+2.3**
KMPI				S	**Sn**	**13 24 15.7**	**+1.8**
NLAI	**Namlea**	**4.59**	**306**	P	**Pn**	**13 23 46.8**	**+3.0**
SWI	**Sorong**	**5.09**	**5**	P	**Pn**	**13 23 50.8**	**+0.2**
DRS	**Darwin Rock St**	**6.42**	**179**	P	**Pn**	**13 24 08.9**	**+0.3**
MTN	**Manton Dam**	**6.84**	**177**	P	**Pn**	**13 24 15.3**	**+1.0**
MTN	**Manton Dam**	**6.84**	**177**		**Pn**	**13 24 14.4**	**+0.2**
KDU	**Kakadu**	**6.87**	**166**	P	**Pn**	**13 24 14.2**	**-0.5**
SOEI	**Soe**	**7.50**	**240**	P	**Pn**	**13 24 24.6**	**+1.2**
SOEI	**Soe**	**7.50**	**240**	Pn	**Pn**	**13 24 24.9**	**+1.5**
SOEI	**Soe**	**7.50**	**240**	P	**Pn**	**13 24 25.1**	**+1.7**
	32nm,1.2s,0.2nm						
BATI	**Baumata**	**8.24**	**239**	P	**Pn**	**13 24 36.6**	**+3.2**
EDFI	**Ende, Flores**	**9.46**	**252**	P	**Pn**	**13 24 52.9**	**+2.8**
KNRA	**Kununurra**	**9.85**	**192**	Pn	**Pn**	**13 24 53.2**	**-2.1**
FITZ	**Fitzroy Crossi**	**13.07**	**202**	Pn	Pn	13 25 33.6	-4.9
WB0	**Warramunga Arr**	**14.15**	**166**		Pn	13 25 47.8	-4.7
WRAB	**Tennant Creek**	**14.30**	**166**		Pn	13 25 50.1	-4.3
WRA	**Warramunga Arr**	**14.30**	**166**	P	Pn	13 25 49.6	-4.9
WRA	**Warramunga Arr**	**14.30**	**166**	Pn	Pn	13 25 49.6	-4.9
	2.0nm,0.3s,baz=350,slow=13,SNR=45						
WRA				Sn	Sn	13 28 19.8	-12
	3.0nm,0.3s,baz=1.0,slow=23,SNR=7.9						
	2.7nm,0.2s						
WB2	**Warramunga Arr**	**14.31**	**166**		Pn	13 25 50.0	-4.5
WR0	**Warramunga Arr**	**14.37**	**166**	P	**Pn**	**13 25 52.4**	**-2.9**
COEN	**Coen**	**14.52**	**124**	P	**Pn**	**13 25 57.3**	**0.0**
COEN	**Coen**	**14.52**	**124**	Pn	**Pn**	**13 25 57.6**	**+0.3**
QIS	**Mount Isa**	**16.82**	**150**	P	**Pn**	**13 26 26.0**	**-0.1**
AS31	**Alice Springs**	**17.84**	**171**		**P**	**13 26 38.5**	**+0.6**
AS31				IAmb	IAmb	13 26 44.3	
	comp=Z,4.2nm,0.3s						
ASAR	**Alice Springs**	**17.84**	**171**		**P**	**13 26 37.7**	**-0.1**
ASAR	**Alice Springs**	**17.84**	**171**	P	**P**	**13 26 36.5**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=350,slow=10,SNR=39						
ASAR				S	Sn	13 29 45.1	-12
	comp=Z,1.0nm,0.4s,baz=2.8,slow=28,SNR=7.1						
	comp=Z,2.1nm,0.6s						
MTSU	**Mount Surprise**	**17.88**	**134**	P	**Pn**	**13 26 39.6**	**+0.6**
MBWA	**Marble Bar**	**18.53**	**214**	P	**P**	**13 26 44.9**	**-0.5**
MBWA	**Marble Bar**	**18.53**	**214**	P	**P**	**13 26 43.5**	**-1.9**
MBWA				IAmb	IAmb	13 26 49.1	
	comp=Z,4.9nm,0.8s						
PSA00	**Pilbara Seismi**	**18.80**	**213**	P	**P**	**13 26 47.8**	**-0.5**
PSA00	**Pilbara Seismi**	**18.80**	**213**	P	**P**	**13 26 46.5**	**-1.8**
PSA00				IAmb	IAmb	13 26 48.5	
	comp=Z,7.9nm,0.6s						
WRKA	**Warakurna**	**19.11**	**187**	P	**P**	**13 26 51.6**	**-0.1**
CTAO	**Charters Tower**	**20.54**	**135**	P	**P**	**13 27 07.5**	**+0.3**
CTAO				IAmb	IAmb	13 27 09.7	
	comp=Z,5.0nm,0.9s						
OOD	**Oodnadatta**	**22.19**	**169**	P	**P**	**13 27 23.7**	**-1.0**
MULG	**Mulgathing**	**24.38**	**173**	P	**P**	**13 27 45.3**	**-0.1**
FORT	**Forrest**	**24.82**	**186**	P	**P**	**13 27 49.0**	**-0.4**
FORT	**Forrest**	**24.82**	**186**	P	**P**	**13 27 48.7**	**-0.8**
LCRK	**Leigh Creek**	**25.32**	**165**	P	**P**	**13 27 54.5**	**+0.4**
MKAR	**Makanchi Array**	**67.82**	**326**	P	**P**	**13 33 23.1**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=113,slow=7.2,SNR=6.5						
	comp=Z,0.4nm,0.5s						
QSPA	**South Pole Qui**	**84.00**	**180**	P	**P**	**13 34 54.0**	**-1.7**
QSPA	**South Pole Qui**	**84.00**	**180**	P	**P**	**13 34 53.9**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=319,slow=4.0,SNR=2.3						
	comp=Z,0.8nm,0.7s						

DJA 21 13:23:37.2±1.4,10°.S±5°.×11°.3E±°,h15km±13km,M3.8/12,
mb3.7/1,MLv3.8/12,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.67**	**51**	P	Pn	13 24 05.3	-0.7
JAGI				S	Sn	13 24 27.6	+0.4
PWJI	**Pagerwojo**	**1.80**	**326**	P	Pn	13 24 06.5	-1.2
ABJI	**Asem Bagus**	**2.21**	**39**	P	Pn	13 24 14.5	+1.2
DNP	**Denpasar**	**2.50**	**71**	P	Pn	13 24 16.5	-0.8
GRJI	**Gresik**	**2.61**	**352**	P	Pn	13 24 19.6	+0.7
SRBI	**Singaraja**	**2.75**	**59**	P	Pn	13 24 20.4	-0.4
UGM	**Wanagama**	**2.78**	**305**	P	Pn	13 24 20.9	-0.4
TWSI	**Taliwang, Sumb**	**4.08**	**79**	P	Pn	13 24 38.7	-0.4
PLAI	**Plampang**	**4.93**	**82**	P	Pn	13 24 50.7	-0.1

*IDC **21** 13:24:42.3±0.9,56°.04S×31°.11W,h0km,mb4.1/5,*
mbtmp4.1/6,ML3.5/1,MS3.3/8,Error ellipse: s-maj=39.3km
s-min=20.5km az=71.0
*NEIC **21** 13:24:43.2±1.6,55°.8S±0°.1×30°.5W±0°.3,h10km±2km,*
mb4.6/12,Error ellipse: s-maj=28.1km s-min=14.4km
az=61.0
ISC 21 13:24:43.9±0.8,56°.1S±0°.1×31°.0W±0°.2,h10km,n36,
σ1§12/25,mb4.5/9,MS3.3/7,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.65**	**297**	Pn	**Pn**	**13 25 41.9**	**+1.6**
VNA1	**Neumayer--Stat**	**17.62**	**155**	⇑P	**P**	**13 28 49.7**	**-0.3**
	comp=Z,8.0nm,1.0s						
VNA3	**Neumayer Olymp**	**17.73**	**157**	⇑P	**Pn**	**13 28 49.6**	**-0.9**
	comp=Z,6.7nm,0.6s						
VNA2	**Neumayer--Watz**	**18.02**	**155**	⇑P	**Pn**	**13 28 51.6**	**-2.4**
	comp=Z,2.0nm,0.6s,baz=319,slow=11						
SNAA	**Sanae**	**19.62**	**154**	P	**Pn**	**13 29 12.6**	**-0.8**
SNAA	**Sanae**	**19.62**	**154**	⇑P	**P**	**13 29 12.0**	**0.0**
	comp=Z,60nm,0.7s						
SNAA	**Sanae**	**19.62**	**154**	P	**P**	**13 29 11.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=310,slow=12,SNR=9.7						
SNAA				LR	LR	13 35 11.3	
	comp=Z,47nm,19.5s,baz=36,slow=32						
	comp=Z,6.2nm,1.2s						
TROLL	**Troll, Antarti**	**21.19**	**152**	⇑P	**P**	**13 29 29.6**	**+0.4**
	comp=Z,254nm,1.1s						
MG05	**Puerto Natales**	**24.61**	**263**	P	**P**	**13 30 02.7**	**-1.2**
MG05				IAmb	IAmb	13 30 39.7	
	comp=Z,31nm,1.1s						
TRQA	**Tornquist**	**27.43**	**298**	P	**P**	**13 30 27.7**	**-1.9**
TRQA				IAmb	IAmb	13 30 48.9	
	comp=Z,19nm,1.2s						
PLCA	**Paso Flores**	**29.94**	**284**	LR	LR	13 41 47.5	
	comp=Z,55nm,21.8s,baz=176,slow=34						
LL06	**Loncomilla**	**30.63**	**279**	P	**P**	**13 30 57.4**	**-0.6**
QSPA	**South Pole Qui**	**34.18**	**180**	P	**P**	**13 31 29.7**	**+0.7**
QSPA				IAmb	IAmb	13 31 34.1	
	comp=Z,4.1nm,0.9s						
QSPA	**South Pole Qui**	**34.18**	**180**	P	**P**	**13 31 29.3**	**+0.3**
	comp=Z,2.9nm,0.9s,baz=198,slow=6.7,SNR=10						
	comp=Z,2.9nm,0.9s						
MT13	**San Alfonso**	**35.00**	**293**	P	**P**	**13 31 36.5**	**+0.1**
MT13				IAmb	IAmb	13 31 56.6	
	comp=Z,14nm,1.2s						
CPUP	**Villa Florida**	**35.31**	**316**	P	**P**	**13 31 37.8**	**-1.1**
CPUP	**Villa Florida**	**35.31**	**316**	P	**P**	**13 31 38.0**	**-0.9**
	comp=Z,4.2nm,0.9s,baz=156,slow=6.1,SNR=3.5						
CPUP				LR	LR	13 43 31.4	
	comp=Z,38nm,21.3s,baz=206,slow=32						
	comp=Z,4.2nm,0.9s						
VA03	**San Esteban**	**35.91**	**294**	P	**P**	**13 31 42.8**	**-1.4**
BDFB	**Brasilia**	**42.42**	**335**	LR	LR	13 47 20.5	
	comp=Z,41nm,20.1s,baz=153,slow=32						
GO01	**Chusmiza**	**46.21**	**306**	P	**P**	**13 33 08.8**	**-0.7**
GO01				IAmb	IAmb	13 33 11.1	
	comp=Z,6.5nm,0.8s						
VNDA	**Vanda**	**46.43**	**184**	P	**P**	**13 33 11.9**	**+2.0**
VNDA	**Vanda**	**46.43**	**184**	P	**P**	**13 33 10.7**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=198,slow=7.4,SNR=3.1						
	comp=Z,0.6nm,0.7s						
BOSA	**Boshof**	**48.03**	**79**	LR	LR	13 50 44.5	
	comp=Z,34nm,18.1s,baz=180,slow=32						
LPAZ	**La Paz**	**48.72**	**309**	P	**P**	**13 33 29.3**	**+0.2**
LPAZ				IAmb	IAmb	13 33 31.9	
	comp=Z,4.9nm,0.9s						
LPAZ	**La Paz**	**48.72**	**309**	P	**P**	**13 33 29.0**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=158,slow=9.4,SNR=10						
	comp=Z,3.5nm,0.8s						
H10S2	**ASCENSION HYDR**	**48.72**	**22**	T	T	14 25 26.2	
	baz=191,slow=74,SNR=17						
H10S3	**ASCENSION HYDR**	**48.72**	**22**	T	T	14 25 32.1	
	baz=29,slow=74,SNR=15						
H10N1	**ASCENSION HYDR**	**49.83**	**22**	T	T	14 26 50.2	
	baz=191,slow=75,SNR=9.3						
H10N3	**ASCENSION HYDR**	**49.83**	**22**	T	T	14 26 49.1	
	baz=191,slow=75,SNR=17						
H10N2	**ASCENSION HYDR**	**49.85**	**22**	T	T	14 26 50.2	
	baz=191,slow=75,SNR=15						
MDP	**Montagnes des**	**63.53**	**336**	LR	LR	14 02 19.8	
	comp=Z,38nm,19.2s,baz=142,slow=36						
TORD	**Torodi Ar. Bea**	**74.17**	**33**	P	**P**	**13 36 20.7**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=194,slow=4.3,SNR=7.9						
	comp=Z,2.7nm,0.9s						
SJG	**San Juan**	**79.64**	**326**	LR	LR	14 16 54.5	
	comp=Z,14nm,18.5s,baz=165,slow=39						
KEST	**Kesra**	**97.67**	**32**	LR	LR	14 18 57.5	
	comp=Z,29nm,18.5s,baz=246,slow=33						
ILAR	**Eielson Array**	**148.57**	**312**	PKPbc	**PKPdf**	**13 44 26.8**	**+1.0**
	comp=Z,4.1nm,1.2s,baz=102,slow=1.2,SNR=14						
SONM	**Songino Array**	**152.84**	**89**	PKPbc	**PKiKP**	**13 44 41.5**	**+1.1**
	comp=Z,1.4nm,1.0s,baz=242,slow=2.8,SNR=5.7						

*ISK **21** 13:45:02.2,36°.25N×28°.92E,

TURN *i* AML AML 13 45 33.0
comp=E,34nm,0.3s
CAME Cameli-Denizli 0.80 23 Pg **Pg 13 45 17.2 -0.4**
CAME Sg **Sg 13 45 28.3 +0.2**
KNIK Mula-Seydike 0.83 39 P **Pb 13 45 18.4 -0.3**
KNIK S **Sn 13 45 32.7 +0.3**
KNIK *i* AML AML 13 45 33.0
comp=E,77nm,0.5s
KNIK *i* AML AML 13 45 34.0
comp=N,48nm,0.3s
ELL Elmali 0.97 55 Pg **Pg 13 45 20.7 0.0**
DNZT Denizli-Tavas- 1.08 5 P **Pg 13 45 22.6 -0.2**
DNZT S **Sn 13 45 38.1 -0.3**
DNZT *i* AML AML 13 45 40.0
comp=N,29nm,0.6s
DNZT *i* AML AML 13 45 41.0
comp=E,41nm,0.5s
GOLH Golhisar 1.16 26 P **Pb 13 45 24.2 0.0**
GOLH S **Sn 13 45 42.5 +2.2**
GOLH *i* AML AML 13 45 44.0
comp=N,68nm,0.5s
GOLH *i* AML AML 13 45 50.0
comp=E,53nm,0.4s
DAT Datca 1.20 296 Pn **Pn 13 45 25.4 +0.4**
TAVA DENIZLI_Tavas 1.26 360 P **Pn 13 45 25.6 -0.3**
TAVA S **Sn 13 45 43.4 +0.5**
TAVA *i* AML AML 13 45 48.0
comp=N,51nm,0.5s
TAVA *i* AML AML 13 45 48.0
comp=E,42nm,0.5s
APMY Acipayam-Deniz 1.30 14 Pn **Pn 13 45 26.2 -0.2**
KORT Korkueli 1.40 55 Pn **Pn 13 45 27.9 +0.1**
MLSB Milas 1.42 320 Pn **Pn 13 45 28.3 +0.3**
BOST Bodrum 1.55 304 Pn **Pn 13 45 28.8 -1.0**
AYDB Zeytinkoy-Aydi 1.92 335 Pn **Pn 13 45 35.1 +0.1**

*IDC **21** 13:46:22.7±1.1, 40°.97N×19°.71E, h0km, mb3.7/8, mbtmp3.6/13, ML3.2/4, MS3.1/5, Error ellipse: s-maj=16.5km s-min=14.3km az=32.0*
*PRU **21** 13:46:25.8, 40°.72N×19°.87E, h20km*
*BEO **21** 13:46:26.1±0.7, 40°.87N×19°.72E, h17km±3km, ML3.4/18*
*TIR **21** 13:46:26.2, 40°.93N×19°.81E, h28km±2km, Ml3.7*
*PDG **21** 13:46:26.8±0.5, 40°.95N×19°.71E, h23km±1km, MD3.7/3, ML3.6/11, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*THE **21** 13:46:27.9, 40°.93N×19°.93E, h4km±1km, ML3.3/7, Error ellipse: s-maj=1.9km s-min=0.7km az=285.0*
ISC 21 13:46:27.1±0.9,**40°.94N**±0°.02×**19°.75E**±0°.03,**h31**km±7km,
n129,σ1°**65**/182,**mb3.9**/6,**22C-17D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.42**	**12**	⇑P	**Pb**	**13 46 35.1**	**-1.3**
TIR				⇑S	**Sb**	**13 46 43.1**	**+0.4**
TIR	**Tirane**	**0.42**	**12**	P	**Pb**	**13 46 35.4**	**-1.0**
baz=5.0							
TIR				S	**Sb**	**13 46 41.8**	**-0.8**
baz=5.0							
TIR				AMP			
comp=N,16nm,0.7s,baz=5.0							
TIR	**Tirane**	**0.42**	**12**	P	**Pb**	**13 46 35.2**	**-1.1**
TIR				S	**Sb**	**13 46 42.5**	**-0.2**
comp=N,4μm,0.6s							
TIR	**Tirane**	**0.42**	**12**	*e*Pg	**Pb**	**13 46 35.3**	**-1.0**
TIR				*e*Sg	**Sn**	**13 46 44.8**	**+1.0**
VLO	**Vlora**	**0.51**	**203**	P	**Pn**	**13 46 37.9**	**-0.3**
baz=208							
VLO				S	**Sn**	**13 46 48.0**	**+2.2**
baz=208							
VLO				AMP			
comp=N,67nm,0.3s,baz=208							
VLO	**Vlora**	**0.51**	**203**	P	**Pn**	**13 46 38.3**	**+0.1**
VLO				S	**Sn**	**13 46 47.8**	**+2.0**
comp=N,16μm,0.5s							
OHR	**Ohrid**	**0.81**	**77**	*i* Pg	**Pn**	**13 46 41.1**	**-1.4**
OHR				*i* Sg	**Sn**	**13 46 53.6**	**+0.1**
LSK	**Leskovik**	**1.02**	**140**	P	**Pn**	**13 46 45.2**	**-0.1**
baz=142							
LSK				S	**Sb**	**13 47 00.3**	**+1.0**
baz=142							
LSK				AMP			
comp=N,9.8nm,0.7s,baz=142							
LSK	**Leskovik**	**1.02**	**140**	P	**Pn**	**13 46 45.1**	**-0.2**
LSK				S	**Sn**	**13 46 58.7**	**+0.1**
comp=N,2μm,0.7s							
SRN	**Sarande**	**1.07**	**170**	P	**Pb**	**13 46 47.9**	**+0.8**
baz=172							
SRN				S	**Sb**	**13 47 02.8**	**+2.1**
baz=172							
SRN				AMP			
comp=E,3.6nm,0.4s,baz=172							
SRN	**Sarande**	**1.07**	**170**	P	**Pb**	**13 46 47.8**	**+0.7**
SRN				S	**Sb**	**13 47 02.6**	**+1.9**
comp=E,1μm,0.9s							
PUK	**Puka**	**1.11**	**5**	P	**Pb**	**13 46 47.7**	**-0.1**
baz=3.0							
PUK				S	**Sb**	**13 47 04.8**	**+2.9**
baz=3.0							
PUK				AMP			
comp=N,9.0nm,0.4s,baz=3.0							
NEST	**Nestorio**	**1.12**	**117**	P	**Pn**	**13 46 46.2**	**-0.5**
NEST				S	**Sb**	**13 47 01.5**	**-0.6**
comp=N,1μm,0.5s							
FNA	**Florina**	**1.24**	**97**	P	**Pn**	**13 46 48.4**	**0.0**
baz=96							
FNA				S	**Sb**	**13 47 05.7**	**0.0**
baz=96							
FNA				AMP			
comp=N,4.6nm,0.6s,baz=96							
FNA	**Florina**	**1.24**	**97**	P	**Pn**	**13 46 48.2**	**-0.2**
FNA				S	**Sb**	**13 47 05.4**	**-0.3**
comp=N,3μm,0.5s							
PENT	**Pentalofos**	**1.29**	**125**	P	**Pn**	**13 46 49.8**	**+0.7**
SCTE	**Santa Cesarea**	**1.30**	**229**	P	**Pb**	**13 46 50.3**	**-0.7**
baz=231							
SCTE				S	**Sb**	**13 47 10.0**	**+2.6**
baz=231							
SCTE				AMP			
comp=N,1.7nm,0.3s,baz=231							
DRME	**Dracevica, Mon**	**1.32**	**341**	*e*Pg	**Pb**	**13 46 51.5**	**+0.2**
DRME				*e*Sg	**Sb**	**13 47 10.7**	**+2.9**
DRME	**Dracevica, Mon**	**1.32**	**341**	⇑*i*Pg	**Pb**	**13 46 51.4**	**+0.2**
DRME				*i* Sg	**Sb**	**13 47 09.6**	**+1.8**
BCI	**Bajram Curri**	**1.45**	**9**	P	**Pb**	**13 46 53.6**	**+0.1**
baz=7.0							
BCI				S	**Sb**	**13 47 14.4**	**+2.8**
baz=7.0							
BCI				AMP			
comp=N,7.0nm,0.9s,baz=7.0							
BUM	**Brajici-Budva**	**1.51**	**335**	⇑*i*Pg	**Pb**	**13 46 53.3**	**-1.2**
BUM				*i* Sg	**Sb**	**13 47 13.9**	**+0.7**
PDG	**Podgorica**	**1.54**	**346**	⇓P	**Pb**	**13 46 53.8**	**-1.1**
PDG				⇑S	**Sb**	**13 47 13.3**	**-0.8**
PDG	**Podgorica**	**1.54**	**346**	*e*Pg	**Pb**	**13 46 55.0**	**0.0**
PDG				*e*Sg	**Sb**	**13 47 16.5**	**+2.5**
PDG	**Podgorica**	**1.54**	**346**	⇓*i*Pg	**Pb**	**13 46 54.6**	**-0.4**
PDG				*i* Sg	**Sb**	**13 47 15.0**	**+1.0**
KPRO	**Kipourio**	**1.57**	**128**	P	**Pb**	**13 46 54.7**	**-0.9**
KPRO				S	**Sb**	**13 47 14.7**	**-0.4**
comp=N,1μm,0.8s							
SKO	**Skopje**	**1.64**	**50**	*i* Pn	**Pb**	**13 46 55.8**	**-0.9**
SKO				*i* Sn	**Sb**	**13 47 17.4**	**+0.5**
PVY	**Plav**	**1.66**	**5**	⇓*i*Pn	**Pb**	**13 46 55.8**	**-1.4**
PVY				*i* Sn	**Sb**	**13 47 18.2**	**+0.4**
CEME	**Cevo**	**1.73**	**339**	⇓*i*Pn	**Pb**	**13 46 56.4**	**+1.3**
CEME				*i* Sn	**Sb**	**13 47 19.3**	**-0.2**
KOME	**Kolasin**	**1.92**	**355**	*e*Pg	**Pb**	**13 47 01.3**	**-0.2**
KOME				*e*Sg	**Sb**	**13 47 28.5**	**+3.4**
KOME	**Kolasin**	**1.92**	**355**	⇓*i*Pn	**Pn**	**13 46 59.3**	**+1.5**
KOME				*i* Sn	**Sb**	**13 47 23.6**	**-1.5**
NKME	**Niksic**	**1.92**	**342**	⇑*i*Pn	**Pb**	**13 46 59.9**	**-1.6**
NKME				*i* Sn	**Sb**	**13 47 24.1**	**-1.1**
IVA	**Berane**	**1.94**	**3**	⇑*i*Pn	**Pb**	**13 47 00.3**	**-1.5**
IVA				*i* Sn	**Sb**	**13 47 24.8**	**-0.8**
NOCI	**Noci**	**2.04**	**267**	P	**Pn**	**13 47 00.4**	**+1.0**
baz=267							
TREB	**Trebinje**	**2.06**	**330**	*e*Pn	**Pn**	**13 47 00.6**	**+0.9**
TREB				*e*Sg	**Sb**	**13 47 31.9**	**+2.8**
TREB	**Trebinje**	**2.06**	**330**	*e*Pn	**Pn**	**13 47 00.4**	**+0.7**
BRY	**Bratogost**	**2.16**	**336**	⇓*i*Pn	**Pn**	**13 47 02.5**	**+1.4**
BRY				*i* Sn	**Sb**	**13 47 29.7**	**-2.4**
THL	**Klokotos Trika**	**2.21**	**128**	P	**Pn**	**13 47 03.6**	**+2.0**
LIT	**Litokhoron**	**2.25**	**111**	P	**Pn**	**13 47 03.5**	**+1.3**
LKD2	**Lefkada island**	**2.26**	**162**	P	**Pn**	**13 47 04.0**	**+1.7**
baz=162							
LKD2	**Lefkada island**	**2.26**	**162**	P	**Pn**	**13 47 03.8**	**+1.5**
SJES	**Sjenica**	**2.33**	**4**	*e*Pn	**Pb**	**13 47 06.3**	**-2.2**
SJES				*e*Sn	**Sb**	**13 47 35.1**	**-1.8**
MATE	**Matera**	**2.33**	**264**	⇓P	**Pn**	**13 47 04.3**	**+1.0**
NYDR	**Nydri-Lefkada**	**2.34**	**162**	P	**Pn**	**13 47 04.9**	**+1.5**
PRVS	**Prvonek**	**2.34**	**47**	*e*Pn	**Pn**	**13 47 04.7**	**+1.2**
UPM	**Unac-Piva**	**2.35**	**345**	⇓*i*Pn	**Pn**	**13 47 05.6**	**+1.8**
UPM				*i* Sn	**Sn**	**13 47 34.2**	**+2.5**
KNT	**Kendrikon**	**2.39**	**84**	P	**Pn**	**13 47 05.5**	**+1.4**
KLINJ	**Klinje**	**2.39**	**339**	*e*Pn	**Pn**	**13 47 06.7**	**+2.4**
PLE	**Pljevlja**	**2.41**	**354**	⇓*i*Pn	**Pn**	**13 47 05.9**	**+1.4**
PLE				*i* Sn	**Sn**	**13 47 35.8**	**+2.8**
STON	**Ston**	**2.47**	**322**	*e*Pn	**Pn**	**13 47 05.9**	**+0.8**
SELS	**Selova**	**2.50**	**24**	*e*Pn	**Pn**	**13 47 06.8**	**+1.1**
PEHC	**Pehcevo**	**2.52**	**69**	*i* Pn	**Pn**	**13 47 07.7**	**+1.7**
PEHC				*i* Sn	**Sb**	**13 47 45.6**	**+3.4**
BOSS	**Bosilegrad**	**2.57**	**52**	*e*Pn	**Pn**	**13 47 08.2**	**+1.6**
BOSS				*e*Sn	**Sn**	**13 47 38.8**	**+2.0**
IVAS	**Ivanjica**	**2.66**	**6**	*e*Pn	**Pn**	**13 47 09.2**	**+1.4**
RUDO	**Rudo**	**2.69**	**354**	*e*Pn	**Pn**	**13 47 09.5**	**+1.2**
TIP	**Timpagrande**	**2.89**	**234**	⇑P	**Pn**	**13 47 12.0**	**+0.9**
BBLS	**Lazi&#263i**	**2.94**	**355**	*e*Pn	**Pn**	**13 47 13.6**	**+1.9**
GRUS	**Gruza**	**3.04**	**13**	*e*Pn	**Pn**	**13 47 15.3**	**+2.3**
BOVS	**Bovan**	**3.06**	**28**	⇑P	**Pn**	**13 47 14.6**	**+1.2**
BOVS	**Bovan**	**3.06**	**28**	*e*Pn	**Pn**	**13 47 14.8**	**+1.4**
SGRT	**San Giovanni R**	**3.13**	**286**	P	**Pn**	**13 47 15.5**	**+1.1**
baz=287							
DIVS	**Divibare**	**3.17**	**3**	*e*Pn	**Pn**	**13 47 16.2**	**+1.3**
ZAPS	**Zavoj**	**3.17**	**42**	*e*Pn	**Pn**	**13 47 17.1**	**+2.2**
ZAPS				*e*Sn	**Sn**	**13 47 53.6**	**+1.9**
HAPS	**Han Pijesak,Bl**	**3.20**	**350**	*e*Pn	**Pn**	**13 47 17.1**	**+1.7**
TRUS	**Trudelj**	**3.32**	**8**	*e*Pn	**Pn**	**13 47 18.1**	**+1.2**
TRUS				*e*Sn	**Sn**	**13 47 57.5**	**+2.2**
ZAGS	**Zajecar**	**3.41**	**32**	*e*Pn	**Pn**	**13 47 19.5**	**+1.3**
TEKS	**Tekeris**	**3.61**	**357**	*e*Pn	**Pn**	**13 47 22.0**	**+1.0**
KUBS	**Kucevo**	**3.75**	**22**	*e*Pn	**Pn**	**13 47 23.1**	**+0.2**
AVAS	**Avala Beograd**	**3.80**	**8**	*e*Pn	**Pn**	**13 47 24.6**	**+1.1**
MGRS	**Mrkonjic Grad**	**4.00**	**331**	*e*Pn	**Pn**	**13 47 28.1**	**+1.9**
MDVR	**Moldovita**	**4.10**	**20**	⇑P	**Pn**	**13 47 29.3**	**+1.5**
FRGS	**Fruska Gora**	**4.22**	**1**	⇑P	**Pn**	**13 47 30.2**	**+0.9**
FRGS	**Fruska Gora**	**4.22**	**1**	*e*Pn	**Pn**	**13 47 30.2**	**+0.9**
DJES	**Djerdap**	**4.25**	**28**	⇑P	**Pn**	**13 47 30.9**	**+1.3**
BLY	**Banja Luka**	**4.25**	**335**	*e*Pn	**Pn**	**13 47 31.8**	**+2.1**
A050A	**Klekovaca**	**4.26**	**327**	*e*Pn	**Pn**	**13 47 32.0**	**+2.0**
HERR	**Herculane**	**4.40**	**26**	⇑P	**Pn**	**13 47 33.6**	**+1.8**
BZS	**Buzias**	**4.87**	**16**	⇑P	**Pn**	**13 47 40.0**	**+1.7**
GZR	**Gura Zlata**	**4.97**	**25**	⇑P	**Pn**	**13 47 41.1**	**+1.4**
ELND	**Elena**	**4.98**	**64**	⇑P	**Pn**	**13 47 41.9**	**+2.1**
SURR	**Surduc**	**5.12**	**19**	⇓P	**Pn**	**13 47 42.8**	**+1.2**
MORH	**Mrgy, Hungar**	**5.34**	**352**	⇑P	**Pn**	**13 47 45.6**	**+1.0**
MORH	**Mrgy, Hungar**	**5.34**	**352**	*e*Pn	**Pn**	**13 47 45.8**	**+1.2**
LOT	**Lotru**	**5.38**	**32**	⇓P	**Pn**	**13 47 47.4**	**+2.1**
SIRR	**Siria**	**5.51**	**14**	⇓P	**Pn**	**13 47 48.1**	**+1.1**
BOJS	**Bojanci**	**5.62**	**326**	*e*Pn	**Pn**	**13 47 48.9**	**+0.3**
CRES	**Cresnjev**	**5.80**	**329**	*e*Pn	**Pn**	**13 47 52.0**	**+1.0**
VOIR		**5.94**	**39**	⇑P	**Pn**	**13 47 55.9**	**+3.0**
CEY	**Cerknica**	**6.17**	**323**	*e*Pn	**Pn**	**13 47 57.2**	**+1.1**
DRGR		**6.23**	**19**	⇓P	**Pn**	**13 47 59.7**	**+2.7**
MARR	**Marisel-Cluj**	**6.23**	**22**	⇑P	**Pn**	**13 47 58.8**	**+1.8**
MLR	**Muntele Rosu**	**6.42**	**43**	⇓P	**Pn**	**13 48 02.7**	**+3.1**
MLR	**Muntele Rosu**	**6.42**	**43**	Pn	**Pn**	**13 48 00.6**	**+1.0**
comp=N,0.6nm,0.3s,baz=265,slow=14,SNR=7.2							
MLR				Sn	**Sn**	**13 49 13.7**	**+1.9**
comp=N,0.2nm,0.3s,baz=166,slow=17,SNR=1.5							
MLR				LR	LR	13 51 08.2	
comp=N,146nm,19.0s,baz=160,slow=44							
comp=N,5.0nm,0.9s							
DOPR	**Dopca**	**6.49**	**37**	⇑P	**Pn**	**13 48 02.7**	**+2.2**
SOKA	**Soboth**	**6.68**	**331**	*i* Pn	**Pn**	**13 48 04.3**	**+1.2**
comp=N,0.9nm,0.2s,SNR=5.4							
SOKA				*i* Sn	**Sn**	**13 49 16.1**	**-2.0**
comp=N,2.8nm,0.4s							
OBKA	**Obir**	**6.72**	**328**	*i* Pn	**Pn**	**13 48 04.9**	**+1.2**
comp=N,2.4nm,0.2s							
OBKA				*e*Sn	**Sn**	**13 49 19.5**	**+0.2**
comp=N,8.6nm,0.3s							
OZUR		**6.77**	**38**	⇓P	**Pn**	**13 48 06.7**	**+2.4**
IDI	**Anoyia**	**6.94**	**143**	Pn	**Pn**	**13 48 06.5**	**-0.3**
comp=N,5.0nm,0.8s,baz=24,slow=22,SNR=1.0							
IDI				Sn	**Sn**	**13 49 19.8**	**-4.9**
comp=N,0.7nm,0.3s,baz=272,slow=18,SNR=1.5							
ARSA	**Arzberg**	**7.01**	**336**	*i* Pn	**Pn**	**13 48 09.2**	**+1.6**
comp=N,1.4nm,0.2s							
PLOR	**Plostina**	**7.03**	**43**	⇓P	**Pn**	**13 48 10.1**	**+2.3**
VRI	**Vrincioaia**	**7.08**	**44**	⇓P	**Pn**	**13 48 11.8**	**+3.3**
KBA	**Koelnbreinsper**	**7.68**	**325**	*e*Pn	**Pn**	**13 48 18.8**	**+1.9**
comp=N,0.9nm,0.2s							
KBA				*e*Sn	**Sn**	**13 49 41.9**	**-1.0**
comp=N,1.9nm,0.3s							
BURAR	**Bucovina Array**	**7.74**	**29**	⇑P	**Pn**	**13 48 19.4**	**+1.7**
ABTA	**Abfaltersbach**	**7.81**	**320**	*e*Pn	**Pn**	**13 48 20.0**	**+1.3**
comp=N,2.0nm,0.3s,SNR=6.5							
ABTA				*i* Sn	**Sn**	**13 49 43.5**	**-2.6**
comp=N,7.3nm,0.5s							
TLCR		**7.88**	**54**	⇑P	**Pn**	**13 48 23.0**	**+3.6**
MOA	**Molln**	**7.95**	**332**	*i* Pn	**Pn**	**13 48 23.0**	**+2.5**
comp=N,0.7nm,0.2s,SNR=7.7							
MOA				*i* Sn	**Sn**	**13 49 51.4**	**+2.1**
comp=N,2.0nm,0.3s							
BIOA	**Bad Ischl, Aus**	**8.05**	**329**	*i* Pn	**Pn**	**13 48 23.7**	**+1.9**
comp=N,1.8nm,0.2s							
BIOA				*e*Sn	**Sn**	**13 49 52.6**	**+0.8**
comp=N,2.1nm,0.3s							
LESA	**Schwarzleotal**	**8.24**	**324**	*i* Pn	**Pn**	**13 48 25.0**	**+0.5**
comp=N,2.7nm,0.4s							
LESA				*e*Sn	**Sn**	**13 49 54.4**	**-2.1**
comp=N,3.8nm,0.4s							
WTTA	**Wattenberg**	**8.60**	**320**	*i* Pn	**Pn**	**13 48 31.2**	**+1.6**
comp=N,11nm,0.4s,SNR=6.4							
WTTA				*i* Sn	**Sn**	**13 50 06.1**	**+0.5**
comp=N,11nm,0.5s							
WATA	**Walderalm**	**8.68**	**320**	*e*Pn	**Pn**	**13 48 31.6**	**+0.9**
comp=N,11nm,0.5s,SNR=4.8							
WATA				*e*Sn	**Sn**	**13 50 06.9**	**-0.7**
comp=N,2.2nm,0.3s							
SQTA	**Sankt Quirin**	**8.79**	**318**	*e*Pn	**Pn**	**13 48 34.2**	**+2.2**
comp=N,6.3nm,0.4s,SNR=4.9							
SQTA				*e*Sn	**Sn**	**13 50 09.3**	**-0.8**
comp=N,6.0nm,0.4s							
FETA	**Feichten**	**8.90**	**316**	*i* Pn	**Pn**	**13 48 35.7**	**+2.0**
comp=N,1.4nm,0.6s							
FETA				*e*Sn	**Sn**	**13 50 11.0**	**-1.9**
comp=N,1.5nm,0.4s							
GERES	**GERESS Array B**	**8.99**	**334**	Pn	**Pn**	**13 48 34.7**	**-0.1**
comp=N,0.1nm,0.3s,baz=147,slow=2.7,SNR=1.9							
GERES				Sn	**Sn**	**13 50 14.6**	**-0.5**
comp=N,0.4nm,0.3s,baz=140,slow=22,SNR=4.3							
comp=N,0.2nm,0.3s							
RETA	**Reutte**	**9.19**	**318**	*e*Pn	**Pn**	**13 48 39.6**	**+2.1**
comp=N,0.8nm,0.2s							
RETA				*i* Sn	**Sn**	**13 50 18.5**	**-1.4**
comp=N,4.7nm,0.4s							
DAVOX	**Davos/Dischmat**	**9.21**	**313**	Pn	**Pn**	**13 48 36.0**	**-2.0**
baz=155,slow=17,SNR=1.4							
DAVOX				Sn	**Sn**	**13 50 16.1**	**-4.5**
comp=N,0.2nm,0.3s,baz=7.7,slow=12,SNR=1.3							
comp=N,1.4nm,0.6s							
KHC	**Kasperske Hory**	**9.28**	**334**	*e*PN	**Pn**	**13 48 41.2**	**+2.4**
KHC				*e*SN	**Sn**	**13 50 22.1**	**0.0**
DAVA	**Damuels**	**9.52**	**315**	*e*Sn	**Sn**	**13 50 26.3**	**-1.8**
comp=N,2.0nm,0.3s							
BRTR	**Keskin Array B**	**10.67**	**92**	LR	LR	13 53 49.9	
comp=N,84nm,18.4s,baz=276,slow=42							
AKASG	**Malin Array Be**	**11.78**	**31**	LR	LR	13 55 15.6	
comp=N,30nm,18.7s,baz=222,slow=45							
HFS	**Hagfors**	**19.59**	**351**	P	**P**	**13 50 51.0**	**-1.3**
comp=N,0.1nm,0.3s,baz=182,slow=13,SNR=5.1							
comp=N,0.5nm,0.5s							
EKA	**Eskdalemuir Ar**	**20.87**	**321**	P	**P**	**13 51 05.6**	**-0.7**
comp=N,0.2nm,0.4s,baz=112,slow=11,SNR=4.3							
comp=N,0.2nm,0.4s							
FINES	**FINESS Array B**	**20.89**	**9**	P	**P**	**13 51 05.5**	**-1.0**
comp=N,0.9nm,0.5s,baz=179,slow=11,SNR=9.8							
comp=N,0.9nm,0.5s							
MDT	**Midelt**	**21.06**	**255**	LR	LR	13 59 25.1	
comp=N,34nm,19.0s,baz=166,slow=37							
TORD	**Torodi Ar. Bea**	**31.88**	**215**	P	**P**	**13 52 50.2**	**+0.7**
comp=N,0.4nm,0.7s,baz=22,slow=9.5,SNR=2.4							
comp=N,0.4nm,0.7s							
BVAR	**Borovoye Array**	**35.86**	**53**	P	**P**	**13 53 22.6**	**-1.3**
comp=N,1.7nm,0.7s,baz=253,slow=4.5,SNR=9.7							
comp=N,1.7nm,0.7s							
KURBB	**Kurchatov Arra**	**41.12**	**56**	P	**P**	**13 54 08.8**	**+0.7**
comp=N,0.9nm,0.3s,baz=297,slow=9.1,SNR=1.9							
comp=N,0.9nm,0.3s							
ZALV	**Zalesovo Beam**	**44.34**	**50**	P	**P**	**13 54 34.5**	**+0.5**
comp=N,3.0nm,0.4s,baz=288,slow=7.5,SNR=14							
comp=N,3.0nm,0.4s							
MKAR	**Makanchi Array**	**44.41**	**61**	P	**P**	**13 54 34.5**	**-0.3**
comp=N,0.4nm,0.4s,baz=282,slow=7.9,SNR=9.5							
comp=N,0.4nm,0.4s							
SONM	**Songino Array**	**59.19**	**52**	P	**P**	**13 56 25.7**	**+0.6**
comp=N,0.6nm,0.9s,baz=268,slow=5.2,SNR=1.9							
comp=N,0.6nm,0.9s							
YAK	**Yakutsk**	**63.01**	**30**	LR	LR	14 27 33.1	
comp=N,38nm,18.4s,baz=226,slow=39							

*IDC **21** 13:55:32.3±1.4, 6°.38S×143°.29E, h0km, mb3.9/3, mbtmp3.6/7, ML2.4/3, MS4.1/1, Error ellipse: s-maj=47.3km s-min=25.8km az=74.0*
ISC 21 13:55:37.5±1.1,**6°.5S**±0°.1×**143°.3E**±0°.2,**h35**km,**n8,**σ1°**27**/7,
mb3.9/3,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.80**	**128**	Pn	**Pn**	**13 56 46.7**	**-0.6**
1.3nm,0.3s,baz=291,slow=16,SNR=1.9							
6.5nm,0.5s							
CTA	**Charters Tower**	**13.84**	**168**	Pn	**Pn**	**13 58 52.2**	**+1.0**
baz=24,slow=18,SNR=2.1							
0.3nm,1.0s							
WRA	**Warramunga Arr**	**15.98**	**212**	Pn	**Pn**	**13 59 17.9**	**-1.9**
0.1nm,0.3s,baz=30,slow=13,SNR=8.8							
0.4nm,0.8s							
ASAR	**Alice Springs**	**19.35**	**207**	P	**P**	**14 00 01.3**	**+1.2**
1.0nm,0.6s,baz=32,slow=11,SNR=23							
JOW	**Kunigami**	**36.16**	**337**	LR	LR	14 15 47.0	
comp=Z,283nm,21.3s,baz=163,slow=34							
MKAR	**Makanchi Array**	**75.55**	**322**	P	**P**	**14 07 18.6**	**0.0**
0.5nm,0.6s,baz=104,slow=5.1,SNR=4.9							
0.5nm,0.6s							
QSPA	**South Pole Qui**	**83.50**	**180**	P	**P**	**14 08 01.6**	**0.0**
0.8nm,0.8s,baz=18,slow=3.2,SNR=2.0							
0.8nm,0.8s							
BVAR	**Borovoye Array**	**85.00**	**325**	P	**P**	**14 08 09.4**	**+0.2**
1.0nm,0.7s,baz=90,slow=8.6,SNR=4.2							
1.0nm,0.7s							

*IDC **21** 13:56:49.4±6.3, 18°.24S×168°.50E, h80km±49km, mb3.8/6, mbtmp4.1/7, ML4.1/1, Error ellipse: s-maj=47.2km s-min=36.1km az=71.0*
*NEIC **21** 13:56:50.1±1.4, 18°.2S±0°.1×168°.6E±0°.1, h97km±9km, mb4.4/9, Error ellipse: s-maj=20.4km s-min=16.8km az=187.0*
*NOU **21** 13:56:50.3, 18°.30S×168°.63E, h22km, MLv4.4/11, Vanuatu Islands*
ISC 21 13:56:45.8±1.1,**18°.1S**±0°.1×**168°.7E**±0°.1,**h69**km,**n34,**
σ1°**88**/33,**mb4.2**/11,**5C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**3.03**	**207**	P	**Pn**	**13 57 32.6**	**+1.1**
LIFNC	**LIFOU**	**3.03**	**207**		**Pn**	**13 57 32.4**	**+0.9**
MARNC	**Mare, Loyalty**	**3.45**	**191**	P	**Pn**	**13 57 38.6**	**+1.4**
YATNC	**Mamie plateau,**	**4.32**	**203**	P	**Pn**	**13 57 50.6**	**+1.5**
DZM	**Mont Dzumac**	**4.52**	**208**	P	**Pn**	**13 57 54.4**	**+2.5**
DZM	**Mont Dzumac**	**4.52**	**208**		**Pn**	**13 57 54.4**	**+2.5**
DZM	**Mont Dzumac**	**4.52**	**208**	P	**Pn**	**13 57 52.3**	**+0.4**
12nm,0.3s,baz=50,slow=9.4,SNR=211							
DZM				S	**Sn**	**13 58 41.5**	**-1.7**
45nm,0.3s,baz=311,slow=19,SNR=24							
32nm,0.4s							
NOUC	**Port Laguerre**	**4.61**	**209**	P	**Pn**	**13 57 56.2**	**+3.2**
PINNC	**Pines Island,**	**4.67**	**195**	P	**Pn**	**13 57 56.8**	**+2.9**
PINNC	**Pines Island,**	**4.67**	**195**		**Pn**	**13 57 56.3**	**+2.5**
ONTNC	**Ouen Toro**	**4.72**	**207**	P	**Pn**	**13 57 57.6**	**+3.0**
ONTNC	**Ouen Toro**	**4.72**	**207**		**Pn**	**13 57 57.0**	**+2.4**
KOUNC	**Koumac, New Ca**	**4.87**	**239**	P	**Pn**	**13 57 59.6**	**+3.1**
KOUNC	**Koumac, New Ca**	**4.87**	**239**		**Pn**	**13 57 58.6**	**+2.0**
STKA	**Stephens Creek**	**28.08**	**236**	P	**P**	**14 02 31.8**	**+0.8**
STKA	**Stephens Creek**	**28.08**	**236**	P	**P**	**14

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.84**	**229**	Pn	**Pn**	**14 09 26.5**	**+2.1**
SOEI	**Soe**	**3.84**	**229**	P	**Pn**	**14 09 26.0**	**+1.6**
SOEI				S	**S**	**14 10 13.7**	**-2.4**
NLAI	**Namlea**	**3.94**	**359**	P	**Pn**	**14 09 26.8**	**+1.5**
SAUI	**Saumlaki**	**4.15**	**101**	Pn	**Pn**	**14 09 26.3**	**-1.3**
SAUI	**Saumlaki**	**4.15**	**101**	P	Pn	14 09 39.6	+12
BATI	**Baumata**	**4.59**	**229**	P	**Pn**	**14 09 34.4**	**+1.8**
BATI				S	**S**	**14 10 28.9**	**-2.1**
MMRI	**Maumere**	**5.11**	**253**	P	**Pn**	**14 09 38.7**	**+0.2**
SANI	**Sanana**	**5.26**	**347**	P	**Pn**	**14 09 39.4**	**-0.9**
EDFI	**Ende, Flores**	**5.66**	**254**	P	**Pn**	**14 09 46.1**	**+1.0**
	9.0nm,0.9s						
EDFI				S	**S**	**14 10 49.7**	**-4.1**
	9.0nm,0.9s						
FAKI	**Fak Fak**	**6.60**	**50**	Pn	**Pn**	**14 09 55.2**	**-1.1**
MTN	**Manton Dam**	**6.82**	**146**	Pn	**Pn**	**14 09 59.0**	**+0.1**
BASI	**Baing, Sumba**	**7.19**	**245**	P	**Pn**	**14 10 05.5**	**+2.1**
	112nm,1.0s,0.5nm						
KNRA	**Kununurra**	**8.56**	**170**		**Pn**	**14 10 20.3**	**+0.1**
PLAI	**Plampang**	**9.46**	**260**	P	**Pn**	**14 10 30.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**10.93**	**188**	Pn	**Pn**	**14 10 50.6**	**+1.3**
WB0	**Warramunga Arr**	**14.31**	**151**		**Pn**	**14 11 30.4**	**+0.3**
WRAB	**Tennant Creek**	**14.44**	**152**	P	**Pn**	**14 11 32.0**	**+0.4**
WRA	**Warramunga Arr**	**14.44**	**152**	P	**Pn**	**14 11 31.7**	**+0.1**
	1.3nm,0.3s,baz=328,slow=12,SNR=110						
	2.5nm,0.3s						
WB2	**Warramunga Arr**	**14.45**	**152**		**Pn**	**14 11 31.9**	**+0.2**
WR0	**Warramunga Arr**	**14.55**	**151**		**Pn**	**14 11 33.7**	**+0.8**
MBWA	**Marble Bar**	**15.64**	**207**	P	**P**	**14 11 45.3**	**+1.5**
PSA00	**Pilbara Seismi**	**15.95**	**206**	P	**P**	**14 11 47.6**	**+0.4**
PSA00				IAmb	IAmb	14 11 51.3	
	comp=Z,7.3nm,0.7s						
UGM	**Wanagama**	**16.54**	**266**	P	**P**	**14 11 53.8**	**+0.1**
UGM				IAmb	IAmb	14 12 19.9	
	comp=Z,241nm,1.5s						
COEN	**Coen**	**17.08**	**114**	P	**Pn**	**14 12 00.8**	**-1.8**
COEN				IAmb	IAmb	14 12 28.5	
	comp=Z,22nm,1.3s						
AS31	**Alice Springs**	**17.59**	**159**	P	**Pn**	**14 12 08.1**	**-0.5**
AS31				IAmb	IAmb	14 12 12.5	
	comp=Z,5.6nm,0.6s						
ASAR	**Alice Springs**	**17.59**	**159**	P	**Pn**	**14 12 07.4**	**-1.1**
	comp=Z,6.9nm,0.4s,baz=338,slow=12,SNR=57						
	comp=Z,6.9nm,0.4s						
NWAO	**Narrogin (SRO)**	**27.21**	**199**	P	**P**	**14 13 38.3**	**+1.7**
NWAO				IAmb	IAmb	14 14 17.6	
	comp=Z,45nm,1.2s						
YOJ	**Yonaguni jima**	**31.73**	**353**	P	**P**	**14 14 18.1**	**+1.7**

*IDC **21** 14:24:42.6±7.2, 20°.12N×145°.02E, h219km±65km, mb3.0/8, mbtmp3.5/9, Error ellipse: s-maj=108.0km s-min=18.2km az=81.0*

ISC 21 14:24:39.9±3.0, **20°.2N**±0°.2×**145°.3E**±0°.9, **h200**km, **n9,** σ0°.69/**9**, **mb3.3/8**, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**17.43**	**341**	P	**Pn**	**14 28 30.6**	**-0.7**
	0.2nm,0.3s,baz=142,slow=13,SNR=2.8						
KSRS	**Korea Array**	**22.89**	**322**	P	**P**	**14 29 26.8**	**+0.5**
	1.2nm,0.8s,baz=150,slow=8.7,SNR=7.6						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**41.29**	**196**	P	**P**	**14 32 05.7**	**-0.3**
	0.4nm,0.8s,baz=17,slow=8.7,SNR=2.0						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**44.97**	**195**	P	**P**	**14 32 35.4**	**0.0**
	0.2nm,0.8s,baz=13,slow=6.2,SNR=1.2						
	0.2nm,0.8s						
ZALV	**Zalesovo Beam**	**56.60**	**322**	P	**P**	**14 34 01.1**	**-0.7**
	0.4nm,0.4s,baz=127,slow=9.3,SNR=2.3						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**57.15**	**313**	P	**P**	**14 34 05.2**	**-0.6**
	0.2nm,0.5s,baz=85,slow=11,SNR=3.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**59.95**	**317**	P	**P**	**14 34 25.5**	**+0.5**
	0.2nm,0.4s,baz=94,slow=7.9,SNR=4.2						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**65.08**	**320**	P	**P**	**14 34 59.8**	**+0.9**
	0.4nm,0.3s,baz=105,slow=6.9,SNR=2.5						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**85.37**	**335**	P	**P**	**14 36 54.7**	**+0.3**
	1.6nm,0.9s,baz=76,slow=3.5,SNR=7.3						
	1.6nm,0.9s						

*SJA **21** 14:39:01.8±0.7, 22°.26S×68°.64W, h132km±4km, ML5.1, MW5.0*

*NEIC **21** 14:39:03.6, 22°.41S×68°.72W, h110km, Moment Tensor Solution. Duration: 1ꝑ9 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.47; $M_{\theta\theta}$-0.09; $M_{\phi\phi}$0.56; $M_{r\theta}$0.24; $M_{\phi\theta}$2.44; $M_{\phi r}$-5.58; Fault plane solution: $M_0$6.12000×10^{16} NP1: ϕ_s358.75000°, δ87.61000°, λ-113.69000°. NP2: ϕ_s263.32000°, δ23.80000°, λ-5.93000°. Principal axes: T 6.1062, Plg38.0000°, Azm110.0000°; N 0.0252, Plg24.0000°, Azm360.0000°; P -6.1314, Plg43.0000°, Azm246.0000°;*

*NEIC **21** 14:39:03.6±2.5, 22°.28S±0°.04×68°.50W±0°.08, h104km±4km, mb5.3/239, Mww5.1/26, ML4.9(GUC) Error ellipse: s-maj=10.4km s-min=5.5km az=78.0*

*VAO **21** 14:39:03.2±0.4, 22°.14S×68°.41W, h97km±3km, mb5.4*

*NEIC **21** 14:39:03.6, 22°.31S×68°.51W, h110km*

*IDC **21** 14:39:04.6±0.4, 22°.28S×68°.48W, h116km±3km, mb4.5/18, mbtmp4.8/23, MS3.8/31, Error ellipse: s-maj=13.9km s-min=9.9km az=71.0*

*MOS **21** 14:39:04.2±1.5, 22°.26S×68°.48W, h118km, mb5.5/8, Error ellipse: s-maj=12.5km s-min=7.1km az=101.1*

*GUC **21** 14:39:04.6±0.8, 22°.25S×68°.66W, h115km±5km, ML5.0*

*GCMT **21** 14:39:07.6±0.2, 22°.32S±0°.01×68°.79W±0°.01, h134km±1km, MW5.2/119, Moment Tensor Solution. s73,c100; s119,c184; Duration: 1ꝑ0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.65±.15; $M_{\theta\theta}$-1.65±.21; $M_{\phi\phi}$2.30±.24; $M_{r\theta}$0.91±.11; $M_{\phi\theta}$1.55±.17; $M_{\phi r}$-7.06±.13; Best double couple: $M_0$7.50400×10^{16} NP1:ϕ_s350.00000°, δ86.00000°, λ-106.00000°. NP2:ϕ_s246.00000°, δ17.00000°, λ-15.00000°. Principal axes: T 8.0790, Plg39.0000°, Azm95.0000°; N -1.1490, Plg16.0000°, Azm351.0000°; P -6.9290, Plg47.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 14:39:04.3±0.2, **22°.27S**±0°.03×**68°.66W**±0°.03, **h115**km±2km, **h115**km:**pP-P, n771,** σ1**°62**/728, **mb5.2**/163, **23C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.41**	**214**	Pn	**Pn**	**14 39 21.4**	**-0.3**
LVC	**Limon Verde**	**0.41**	**214**	*e*P	**Pn**	**14 39 21.4**	**-0.3**
LVC				*e*S	**Sn**	**14 39 34.7**	**0.0**
LVC				IAML		14 39 35.4	
	comp=Z,34μm,0.6s						
LVC	**Limon Verde**	**0.41**	**214**	P	**Pn**	**14 39 21.8**	**+0.1**
	comp=Z,14μm,0.3s,baz=6.4,slow=5.4						
LVC				S	**Sn**	**14 39 34.3**	**-0.4**
	comp=Z,69μm,0.5s,baz=108,slow=19,SNR=51						
LVC	**Limon Verde**	**0.41**	**214**	*e*P	**Pn**	**14 39 21.6**	**0.0**
PB09	**IPOC Station P**	**0.71**	**311**		**Pn**	**14 39 23.3**	**-0.2**
PB09	**IPOC Station P**	**0.71**	**311**	*e*P	**Pn**	**14 39 23.7**	**+0.2**
PB09				*e*S	**Sn**	**14 39 39.3**	**+1.4**
PB09				IAML		14 39 42.4	
	comp=Z,38μm,0.8s						
PB09	**IPOC Station P**	**0.71**	**311**	⇑*i*P	**Pn**	**14 39 23.9**	**+0.4**
PB09				*e*S	**Sn**	**14 39 38.4**	**+0.5**
PB09				IAML		14 39 39.7	
	comp=N,51μm,0.6s						
AF01	**San Pedro de A**	**0.81**	**147**		**Pn**	**14 39 24.9**	**+0.3**
AF01	**San Pedro de A**	**0.81**	**147**	*e*P	**Pn**	**14 39 24.1**	**-0.4**
AF01				*e*S	**Sn**	**14 39 48.1**	**+8.4**
AF01				IAML		14 40 04.2	
	comp=Z,117μm,1.2s						
AF01	**San Pedro de A**	**0.81**	**147**	⇓*i*P	**Pn**	**14 39 24.8**	**+0.3**
AF01				*e*S	**Sn**	**14 39 40.0**	**+0.3**
PB06	**IPOC Station P**	**0.95**	**242**		**Pn**	**14 39 25.3**	**-0.3**
PB06	**IPOC Station P**	**0.95**	**242**	*e*P	**Pn**	**14 39 25.5**	**0.0**
PB06				*e*S	**Sn**	**14 39 42.8**	**+1.2**
PB06				IAML		14 39 48.0	
	comp=Z,22μm,0.9s						
PB06	**IPOC Station P**	**0.95**	**242**	⇑*i*P	**Pn**	**14 39 25.6**	**0.0**
PB06				*e*S	**Sn**	**14 39 41.9**	**+0.2**
PB06				IAML		14 39 43.3	
	comp=N,44μm,0.5s						
PB15	**IPOC Station P**	**1.20**	**218**		**Pn**	**14 39 28.1**	**-0.1**
PB15	**IPOC Station P**	**1.20**	**218**	*e*P	**Pn**	**14 39 28.4**	**+0.2**
PB15				*e*S	**Sn**	**14 39 47.4**	**+1.1**
PB15	**IPOC Station P**	**1.20**	**218**	⇑*i*P	**Pn**	**14 39 28.7**	**+0.5**
PB15				*e*S	**Sn**	**14 39 47.4**	**+1.1**
PB04	**IPOC Station P**	**1.38**	**267**		**Pn**	**14 39 30.0**	**-0.2**
PB04	**IPOC Station P**	**1.38**	**267**	*e*P	**Pn**	**14 39 30.0**	**-0.2**
PB04				*e*S	**Sn**	**14 39 48.1**	**-1.7**
PB04				IAML		14 39 51.3	
	comp=Z,23μm,0.2s						
PB04	**IPOC Station P**	**1.38**	**267**	⇑*i*P	**Pn**	**14 39 30.1**	**-0.2**
PB04				IAML		14 39 52.1	
	comp=E,29μm,0.1s						
PB05	**IPOC Station P**	**1.54**	**247**		**Pn**	**14 39 31.5**	**-0.5**
PB05	**IPOC Station P**	**1.54**	**247**	*e*P	**Pn**	**14 39 31.6**	**-0.4**
PB05				*e*S	**Sn**	**14 39 53.0**	**-0.1**
PB05				IAML		14 40 01.7	
	comp=Z,15μm,0.8s						
PB05	**IPOC Station P**	**1.54**	**247**	⇑*i*P	**Pn**	**14 39 31.9**	**-0.1**
PB05				*e*S	**Sn**	**14 39 52.6**	**-0.5**
PB05				IAML		14 39 57.4	
	comp=E,22μm,0.8s						
PATCX	**Punta Patache**	**2.00**	**316**		**Pn**	**14 39 36.7**	**-0.9**
PATCX	**Punta Patache**	**2.00**	**316**	*e*P	**Pn**	**14 39 37.0**	**-0.6**
PATCX				*e*S	**Sn**	**14 40 01.1**	**-2.0**
PATCX				IAML		14 40 09.4	
	comp=Z,8μm,0.8s						
PATCX	**Punta Patache**	**2.00**	**316**	⇑*i*P	**Pn**	**14 39 37.1**	**-0.5**
PATCX				*e*S	**Sn**	**14 40 02.5**	**-0.5**
PATCX				IAML		14 40 05.7	
	comp=E,8μm,0.5s						
TA01	**Diego Aracena**	**2.21**	**320**		**Pn**	**14 39 39.0**	**-1.1**
TA01	**Diego Aracena**	**2.21**	**320**	*e*P	**Pn**	**14 39 39.3**	**-0.9**
TA01				*e*S	**Sn**	**14 40 05.2**	**-2.4**
TA01				IAML		14 40 10.7	
	comp=Z,6μm,0.7s						
TA01	**Diego Aracena**	**2.21**	**320**	*e*P	**Pn**	**14 39 39.2**	**-0.9**
TA01				*e*S	**Sn**	**14 40 06.3**	**-1.3**
HMBC	**Humberstone**	**2.29**	**330**	*e*P	**Pn**	**14 39 40.2**	**-1.1**
HMBC				*e*S	**Sn**	**14 40 10.4**	**+0.8**
HMBC				IAML		14 40 11.6	
	comp=Z,7μm,0.3s						
HMBC	**Humberstone**	**2.29**	**330**	*e*P	**Pn**	**14 39 40.3**	**-1.0**
HMBC				*e*S	**Sn**	**14 40 08.0**	**-1.6**
HMBC				IAML		14 40 11.4	
	comp=E,7μm,0.3s						
TA02	**Huaiquique**	**2.41**	**325**		**Pn**	**14 39 42.0**	**-0.8**
TA02	**Huaiquique**	**2.41**	**325**	*e*P	**Pn**	**14 39 41.7**	**-1.1**
TA02				*e*S	**Sn**	**14 40 12.2**	**-0.2**
TA02				IAML		14 40 22.4	
	comp=Z,4μm,0.2s						
GO01	**Chusmiza**	**2.63**	**349**		**Pn**	**14 39 46.1**	**0.0**
GO01	**Chusmiza**	**2.63**	**349**	*e*P	**Pn**	**14 39 46.6**	**+0.5**
GO01				*e*S	**Sn**	**14 40 19.0**	**+0.8**
GO01	**Chusmiza**	**2.63**	**349**	⇑*i*P	**Pn**	**14 39 46.5**	**+0.3**
GO01				*e*S	**Sn**	**14 40 18.1**	**-0.1**
PB11	**IPOC Station P**	**2.66**	**339**	Pn	**Pn**	**14 39 45.3**	**-0.9**
PB11	**IPOC Station P**	**2.66**	**339**	*e*P	**Pn**	**14 39 45.2**	**-0.9**
PB11				*e*S	**Sn**	**14 40 14.7**	**-3.6**
PB11				IAML		14 40 19.6	
	comp=Z,5μm,0.7s						
PB11	**IPOC Station P**	**2.66**	**339**	⇑*i*P	**Pn**	**14 39 45.3**	**-0.9**
PB11				*e*S	**Sn**	**14 40 13.2**	**-5.2**
PB14	**IPOC Station P**	**2.84**	**214**		**Pn**	**14 39 48.1**	**-0.6**
PB14	**IPOC Station P**	**2.84**	**214**	*e*P	**Pn**	**14 39 48.0**	**-0.7**
PB14				*e*S	**Sn**	**14 40 17.6**	**-5.2**
PB14				IAML		14 40 19.4	
	comp=Z,10μm,0.6s						
YJA	**Yavi**	**2.92**	**89**	*e*P	**Pn**	**14 39 51.2**	**+1.4**
YJA				*e*S	**Sn**	**14 40 25.5**	**+0.7**
GO02	**Mina Guanaco**	**3.00**	**196**		**Pn**	**14 39 50.5**	**-0.3**
GO02	**Mina Guanaco**	**3.00**	**196**	*e*P	**Pn**	**14 39 50.5**	**-0.3**
GO02				*e*S	**Sn**	**14 40 20.9**	**-5.7**
GO02	**Mina Guanaco**	**3.00**	**196**	*e*P	**Pn**	**14 39 50.6**	**-0.3**
GO02				*e*S	**Sn**	**14 40 20.7**	**-5.9**
AC06	**Mina Casimiro**	**5.29**	**197**	Pn	**Pn**	**14 40 18.6**	**-2.5**
GO03	**Copiap**	**5.49**	**195**	Pn	**Pn**	**14 40 21.6**	**-2.2**
LPAZ	**La Paz**	**5.97**	**5**	Pn	**Pn**	**14 40 32.3**	**+1.4**
LPAZ	**La Paz**	**5.97**	**5**	P	**Pn**	**14 40 32.5**	**+1.6**
	comp=Z,35nm,0.4s,baz=178,slow=3.6,SNR=177						
AC04	**Llanos de Chal**	**6.30**	**200**	Pn	Pn	14 40 30.5	-4.2
AC05	**El Transito**	**6.70**	**192**	Pn	**Pn**	**14 40 37.8**	**-2.5**
LCO	**Las Campanas**	**6.96**	**195**	Pn	**Pn**	**14 40 40.2**	**-3.7**
LCO	**Las Campanas**	**6.96**	**195**	P	**Pn**	**14 40 40.2**	**-3.7**
CO01	**Juntas del Tor**	**7.78**	**189**	Pn	**Pn**	**14 40 53.2**	**-1.9**
GO04	**Tololo Observa**	**8.10**	**193**	Pn	**Pn**	**14 40 56.2**	**-3.2**
CO03	**El Pedregal**	**8.73**	**192**	Pn	**Pn**	**14 41 03.5**	**-4.2**
CO06	**Fray Jorge**	**8.78**	**197**	Pn	Pn	14 41 02.3	-6.0
BBSD	**Serra de San D**	**9.11**	**58**	*e*P	**Pn**	**14 41 08.7**	**-4.2**
BBSD				*e*S	Sn	14 42 43.3	-10
CO02	**Combarbal**	**9.14**	**193**	Pn	Pn	14 41 08.0	-5.3
ZON	**Zonda**	**9.24**	**180**	P	**Pn**	**14 41 15.6**	**+1.0**
SIV	**San Ignacio**	**9.51**	**50**	P	**Pn**	**14 41 14.4**	**-3.8**
	comp=Z,33nm,0.3s,baz=232,slow=11,SNR=92						
SIV				S	Sn	14 42 49.5	-14
	comp=Z,31nm,1.0s,baz=252,slow=14,SNR=3.9						
PAPY	**Pozo Azul**	**9.77**	**103**	*e*P	**Pn**	**14 41 19.8**	**-1.9**
MURT	**Porto Murtinho**	**10.28**	**89**	*e*P	**Pn**	**14 41 24.8**	**-3.7**
VA06	**Catapilco**	**10.52**	**192**	Pn	Pn	14 41 26.1	-5.6
VA03	**San Esteban**	**10.59**	**189**		Pn	14 41 28.6	-4.2
CPUP	**Villa Florida**	**11.10**	**114**	Pn	**Pn**	**14 41 37.0**	**-2.6**
CPUP	**Villa Florida**	**11.10**	**114**	P	**Pn**	**14 41 36.8**	**-2.9**
	comp=Z,28nm,0.8s,baz=298,slow=12,SNR=32						
CPUP				S	Sn	14 43 29.1	-13
	comp=Z,18nm,1.0s,baz=336,slow=19,SNR=1.3						
CPUP				LR	LR	14 46 33.2	
	comp=Z,687nm,21.5s,baz=318,slow=41						
CPUP	**Villa Florida**	**11.10**	**114**	P	**Pn**	**14 41 37.0**	**-2.6**
MT02	**Curacav**	**11.17**	**191**		Pn	14 41 33.9	-6.6
PTLB	**Pontes e Lacer**	**11.28**	**55**	Pn	**Pn**	**14 41 38.3**	**-3.8**
PTLB	**Pontes e Lacer**	**11.28**	**55**	*e*P	**Pn**	**14 41 37.8**	**-4.3**
MT09	**Talagante**	**11.65**	**190**		Pn	14 41 41.9	-5.2
MT01	**Popeta**	**11.78**	**191**	Pn	Pn	14 41 43.2	-5.4
BO04	**La Punta**	**11.80**	**188**		**Pn**	**14 41 45.0**	**-4.0**
AQDB	**Aquidauana**	**12.21**	**84**	Pn	**Pn**	**14 41 51.1**	**-3.3**
AQDB	**Aquidauana**	**12.21**	**84**	*e*P	**Pn**	**14 41 50.3**	**-4.1**
BO01	**Tunca**	**12.27**	**189**		Pn	14 41 50.8	-4.2
VILB	**Vilhena**	**12.28**	**42**	Pn	**Pn**	**14 41 52.2**	**-3.1**
VILB	**Vilhena**	**12.28**	**42**	*e*P	**Pn**	**14 41 52.2**	**-3.1**
ETMB	**Extrema**	**12.60**	**11**	Pn	**Pn**	**14 41 55.7**	**-3.9**
ETMB	**Extrema**	**12.60**	**11**	*e*P	**Pn**	**14 41 56.1**	**-3.5**
BO02	**Sierra Bellavi**	**12.62**	**188**	Pn	**Pn**	**14 41 56.0**	**-3.7**
NNA	**Nana**	**12.86**	**321**	P	**Pn**	**14 42 03.3**	**+0.2**
	comp=Z,9.3nm,0.6s,baz=97,slow=3.4,SNR=4.0						
NNA				S	**Sn**	**14 44 20.3**	**-4.5**
	comp=Z,10nm,0.6s,baz=74,slow=2.7,SNR=2.1						
NNA	**Nana**	**12.86**	**321**	*i*P	**Pn**	**14 42 04.0**	**+1.0**
ITQB	**Itaqui**	**13.09**	**127**	Pn	**Pn**	**14 42 03.0**	**-2.9**
ITQB	**Itaqui**	**13.09**	**127**	*e*P	**Pn**	**14 42 03.7**	**-2.1**
PSAL	**Palomas, Salto**	**13.21**	**134**	*e*P	**Pn**	**14 42 04.8**	**-2.6**
RVDE	**Rio Verde (Bra**	**13.24**	**78**	*e*P	Pn	14 42 03.0	-5.0
ML02	**Panimavida**	**13.66**	**190**	Pn	**Pn**	**14 42 12.3**	**-0.9**
SALV	**Santo Antonio**	**13.79**	**65**	*e*P	**Pn**	**14 42 11.8**	**-3.2**
CRSM	**Crissiumal (Br**	**14.25**	**114**	*e*P	**Pn**	**14 42 19.2**	**-1.6**
SAML	**Samuel**	**14.25**	**23**	Pn	**Pn**	**14 42 17.9**	**-2.9**
SAML	**Samuel**	**14.25**	**23**	P	**Pn**	**14 42 18.0**	**-2.9**
SAML	**Samuel**	**14.25**	**23**	*e*P	**Pn**	**14 42 17.3**	**-3.7**
H03N1	**Juan Fernandez**	**14.34**	**217**	P	**Pn**	**14 42 21.0**	**-0.7**
	baz=89,slow=74,SNR=35						
H03N1				T	T	14 54 55.3	
	baz=43,slow=72,SNR=28						
H03N2	**Juan Fernandez**	**14.35**	**217**	P	**Pn**	**14 42 20.9**	**-0.9**
	baz=89,slow=74,SNR=18						
H03N2				T	T	14 54 40.9	
	baz=43,slow=72,SNR=23						
H03N3	**Juan Fernandez**	**14.36**	**217**	P	**Pn**	**14 42 20.7**	**-1.3**
	baz=89,slow=74,SNR=36						
H03N3				T	T	14 54 46.2	
	baz=43,slow=72,SNR=21						
RODS	**Rosario do Sul**	**14.50**	**126**	*e*P	**Pn**	**14 42 21.5**	**-2.5**
H03S3	**Juan Fernandez**	**14.63**	**216**	P	**Pn**	**14 42 23.9**	**-1.5**
	baz=22,slow=19,SNR=32						
H03S1	**Juan Fernandez**	**14.64**	**216**	P	**Pn**	**14 42 23.8**	**-1.7**
	baz=22,slow=19,SNR=29						
H03S2	**Juan Fernandez**	**14.65**	**216**	P	**Pn**	**14 42 23.9**	**-1.6**
	baz=22,slow=19,SNR=22						
TBOT	**Tacuaremb**	**14.71**	**132**	*e*P	**Pn**	**14 42 24.5**	**-2.1**
TRCB	**Terra Rica**	**14.82**	**95**	*e*P	**Pn**	**14 42 27.2**	**-1.0**
CZSB	**Cruzeiro do Su**	**14.97**	**344**	Pn	**Pn**	**14 42 29.9**	**-0.1**
CZSB	**Cruzeiro do Su**	**14.97**	**344**	*e*P	**Pn**	**14 42 28.6**	**-1.4**
ALGR	**Alto Alegre (B**	**15.53**	**118**	*e*P	**Pn**	**14 42 34.8**	**-2.3**
PDRB	**Porto dos Gac**	**15.56**	**49**	*e*P	**Pn**	**14 42 34.6**	**-2.8**
ITAB	**Concordia**	**15.81**	**112**		**Pn**	**14 42 38.6**	**-1.8**
ITAB	**Concordia**	**15.81**	**112**	*e*P	**Pn**	**14 42 38.2**	**-2.2**
CPSB	**Cacapava Do Su**	**15.86**	**124**	*e*P	**Pn**	**14 42 38.6**	**-2.4**
PCMB	**Pacaembu**	**16.16**	**91**	*e*P	**Pn**	**14 42 42.5**	**-2.4**
LDASE	**Londrina, Braz**	**16.21**	**97**	*e*P	**Pn**	**14 42 43.0**	**-2.5**
PLTB	**Pedras Altas**	**16.40**	**128**	Pn	**Pn**	**14 42 44.6**	**-3.1**
PLTB	**Pedras Altas**	**16.40**	**128**	*e*P	**Pn**	**14 42 43.9**	**-3.8**
CLDB	**Colider**	**16.73**	**49**	*e*P	**Pn**	**14 42 49.3**	**-2.6**
TRQA	**Tornquist**	**16.75**	**161**		**Pn**	**14 42 50.1**	**-1.9**
TRQA	**Tornquist**	**16.75**	**161**	P	**Pn**	**14 42 50.1**	**-1.9**
ARAG	**Araguaiana, MT**	**17.21**	**71**	*e*P	**P**	**14 42 56.2**	**-1.3**
ITRB	**Iturama**	**17.28**	**85**	*e*P	**P**	**14 42 55.9**	**-2.4**
CNLB	**Canela**	**17.50**	**117**	*e*P	**P**	**14 42 58.5**	**-2.1**
FRTB	**Fartura**	**17.64**	**97**	*e*P	**P**	**14 43 01.1**	**-1.1**
ATAH	**Atahualpa**	**17.73**	**327**	P	**P**	**14 43 03.1**	**-0.6**
	comp=Z,4.8nm,0.7s,baz=65,slow=17,SNR=1.4						
TBTG	**Tabatinga, AM**	**18.02**	**356**	*e*P	**P**	**14 43 06.4**	**+0.1**
PLCA	**Paso Flores**	**18.48**	**185**	P	**P**	**14 43 10.6**	**-0.7**
PLCA	**Paso Flores**	**18.48**	**185**	P	**P**	**14 43 11.6**	**+0.3**
	comp=Z,8.9nm,0.6s,baz=4.7,slow=13,SNR=24						
PLCA				S	**Sn**	**14 46 39.0**	**-0.7**
	comp=Z,2.9nm,0.9s,baz=42,slow=14,SNR=1.4						
PLCA				LR	LR	14 51 31.1	
	comp=Z,371nm,19.9s,baz=356,slow=40						
PLCA	**Paso Flores**	**18.48**	**185**	*e*P	**P**	**14 43 12.2**	**+0.9**
BB19B	**Bebedouro**	**18.75**	**90**	*e*P	**P**	**14 43 12.3**	**-2.1**
TEFE	**Tefe**	**19.05**	**12**	*e*P	**P**	**14 43 16.9**	**-0.7**
SNDB	**Serra Nova Dou**	**19.48**	**61**	*e*P	**P**	**14 43 20.0**	**-2.3**
SPB	**Sao Paulo**	**19.60**	**98**	*e*P	**P**	**14 43 21.0**	**-2.5**
IPMB	**Ipameri, GO**	**19.67**	**81**	*e*P	**P**	**14 43 22.2**	**-2.1**
PET01	**Itanhaem-SP**	**19.75**	**100**	*e*P	**P**	**14 43 23.4**	**-1.8**
NPGB	**Novo Progresso**	**19.84**	**42**	*e*P	**P**	**14 43 23.4**	**-2.9**
VAO	**Valinhos**	**20.04**	**96**	P	**P**	**14 43 26.3**	**-2.1**
VAO	**Valinhos**	**20.04**	**96**	*e*P	**P**	**14 43 26.4**	**-2.0**
LL06	**Loncomilla**	**20.32**	**191**	P	**P**	**14 43 31.5**	**+0.4**
MACA	**Manacapuru-AM**	**20.51**	**23**	P	**P**	**14 43 31.4**	**-2.0**
MACA	**Manacapuru-AM**	**20.51**	**23**	*e*P	**P**	**14 43 31.0**	**-2.4**
BDFB	**Brasilia**	**20.60**	**75**	P	**P**	**14 43 32.5**	**-2.0**
BDFB	**Brasilia**	**20.60**	**75**	P	**P**	**14 43 31.9**	**-2.7**
	comp=Z,134nm,0.9s,baz=245,slow=14,SNR=68						
BDFB				LR	LR	14 52 37.7	
	comp=Z,509nm,20.0s,baz=275,slow=40						
	comp=Z,134nm,0.9s						
BDFB	**Brasilia**	**20.60**	**75**	P	**P**	**14 43 32.5**	**-2.0**
LL02	**Futaleuf**	**21.03**	**187**	P	**P**	**14 43 38.9**	**+0.1**
PMNB	**Patos De Minas**	**21.15**	**84**	*e*P	**P**	**14 43 38.0**	**-2.4**
PARB	**Paraibuna**	**21.27**	**97**	*e*P	**P**	**14 43 39.5**	**-2.0**
ARNL	**Arenillas**	**21.65**	**328**	P	**P**	**14 43 46.9**	**+1.3**
ITTB	**Itaituba**	**21.76**	**37**	*e*P	**P**	**14 43 43.8**	**-3.0**
BSCB	**Bom Sucesso**	**22.24**	**91**	*e*P	**P**	**14 43 49.9**	**-2.0**
VAS01	**Vassouras-RJ**	**23.33**	**95**	*e*P	**P**	**14 44 00.3**	**-2.1**
ANTS

SHEL	Horse Pasture	59.43	96	P	P	14 48 55.4 +0.1
SHEL				pmax	pmax	
	comp=Z,118nm,0.8s					
SHEL	Horse Pasture	59.43	96	P	P	14 48 55.5 +0.1
SWET	Sewanee	59.47	344	P	P	14 48 54.4 -0.8
VNA1	Neumayer--Stat	59.49	160	⇑P	P	14 48 56.0 +1.2
	comp=Z,21nm,1.1s					
435B	Jarrell	59.61	331	P	P	14 48 56.5 +0.4
	baz=149					
OXF	Oxford	59.81	340	P	P	14 48 58.0 +0.6
	baz=158					
VNA2	Neumayer--Watz	59.85	161	⇑P	P	14 48 58.0 +0.7
	comp=Z,23nm,0.7s,baz=282,slow=9.0					
TZTN	Tazewell	60.16	346	P	P	14 49 00.2 +0.4
	baz=164					
BLA	Blacksburg	60.19	349	P	P	14 49 01.1 +1.1
	baz=167					
JCT	Junction City	60.38	329	P	P	14 49 01.8 +0.4
	baz=147,SNR=11					
WHTX	Lake Whitney,	60.58	332	P	P	14 49 03.2 +0.4
	baz=149,SNR=5.8					
HPIG		60.62	322	IAmb	IAmb	14 49 34.3
	comp=Z,49nm,1.3s					
BRDY	Brady	60.68	330	IAmb	IAmb	14 49 34.0
	comp=Z,45nm,1.2s					
SLBS	Sierra La Lagu	60.81	316	P	P	14 49 06.8 +2.2
SLBS				pP	pP	14 49 35.3 +1.7
SLBS				sP	PcP	14 49 49.2 +1.9
WVT	Waverly	60.85	342	P	P	14 49 03.9 -0.6
WVT				IAmb	IAmb	14 49 34.2
	comp=Z,44nm,1.0s					
WVT	Waverly	60.85	342	P	P	14 49 04.7 +0.3
	baz=160					
WVT	Waverly	60.85	342	P	P	14 49 03.9 -0.6
WVT				pmax	pmax	
	comp=Z,44nm,1.0s					
WVT	Waverly	60.85	342	P	P	14 49 03.8 -0.6
WVT				pP	pP	14 49 33.0 -0.6
WVT				sP	sP	14 49 45.3 -1.3
UALR	University of	61.03	338	IAmb	IAmb	14 49 36.2
	comp=Z,50nm,1.2s					
MIAR	Mount Ida	61.26	337	P	P	14 49 07.7 +0.4
	baz=154,SNR=14					
TXAR	Lajitas Array	61.39	325	P	P	14 49 09.1 +0.7
	comp=Z,5.4nm,1.0s,baz=139,slow=8.0,SNR=27					
TXAR				pP	pP	14 49 38.0 +0.4
	comp=Z,7.1nm,0.9s,baz=134,slow=7.1,SNR=14					
TXAR				LR	LR	15 16 30.8
	comp=Z,23nm,18.4s,baz=122,slow=36					
	comp=Z,5.4nm,1.0s					
WHAR	Wooly Hollow	61.47	338	IAmb	IAmb	14 49 38.6
	comp=Z,45nm,1.2s					
SNAA	Sanae	61.48	161	P	P	14 49 09.0 +0.5
SNAA				IAmb	IAmb	14 49 10.0
	comp=Z,27nm,0.8s					
SNAA	Sanae	61.48	161	⇑*i*P	P	14 49 08.8 +0.3
SNAA	Sanae	61.48	161	⇑P	P	14 49 08.9 +0.5
	comp=Z,497nm,0.6s					
SNAA	Sanae	61.48	161	P	P	14 49 08.0 -0.4
	comp=Z,21nm,0.7s,baz=281,slow=7.4,SNR=250					
SNAA				LR	LR	15 13 54.7
	comp=Z,63nm,20.9s,baz=318,slow=34					
	comp=Z,21nm,0.7s					
SNAA	Sanae	61.48	161	P	P	14 49 09.0 +0.5
SNAA				pmax	pmax	
	comp=Z,27nm,0.8s					
LCAR	Lake Charles	61.80	339	IAmb	IAmb	14 49 41.0
	comp=Z,33nm,1.1s					
FCAR	Ozark Folk Cen	61.96	339	IAmb	IAmb	14 49 42.1
	comp=Z,30nm,1.1s					
ABTX	Abilene, Hawle	62.09	331	P	P	14 49 13.1 +0.1
	baz=147,SNR=13					
PBMO	Poplar Bluff	62.22	340	IAmb	IAmb	14 49 43.9
	comp=Z,42nm,1.1s					
WCI	Wyandotte Cave	62.41	344	P	P	14 49 14.5 -0.5
	baz=162					
MCWV	Mont Chateau	62.48	350	P	P	14 49 15.0 -0.3
	baz=168					
P52A	Corning	62.85	348	P	P	14 49 18.6 +0.8
	baz=166					
SN05	Snyder 5	62.88	330	IAmb	IAmb	14 49 19.7
	comp=Z,37nm,0.8s					
BBTS	Babate	62.90	59	LR	LR	15 16 05.6
	comp=Z,70nm,18.6s,baz=131,slow=35					
HHAR	Hobbs	62.95	337	IAmb	IAmb	14 49 49.3
	comp=Z,61nm,1.2s					
SN07	Snyder 07	63.06	330	IAmb	IAmb	14 49 50.1
	comp=Z,46nm,1.0s					
PAL	Palisades	63.14	356	P	P	14 49 19.9 +0.3
	baz=174					
MGMO	Mountain Grove	63.16	339	IAmb	IAmb	14 49 50.6
	comp=Z,84nm,1.4s					
SSPA	Standing Stone	63.17	352	P	P	14 49 19.0 -0.9
	baz=170					
TROLL	Troll, Antarti	63.20	161	⇑P	P	14 49 20.7 +0.8
	comp=Z,1µm,0.6s					
RLO	Rose Lookout	63.24	336	IAmb	IAmb	14 49 50.8
	comp=Z,69nm,1.3s					
U38A	Gravette	63.25	337	IAmb	IAmb	14 49 50.6
	comp=Z,34nm,1.2s					
O53A	New Philadelph	63.28	349	P	P	14 49 19.4 -1.2
	baz=167					
P49A	Miami Univ. Ec	63.28	346	P	P	14 49 19.8 -0.9
	baz=163					
TUL3	Leonard	63.30	336	P	P	14 49 19.8 -1.1
	baz=152,SNR=5.7					
WMOK	Wichita Mounta	63.50	332	P	P	14 49 20.5 -1.8
	baz=149,SNR=6.6					
DKNS	Dickens	63.55	330	IAmb	IAmb	14 49 52.7
	comp=Z,31nm,1.2s					
ACSO	Alum Creek Sta	63.59	348	P	P	14 49 22.0 -0.7
	baz=165					
CCM	Cathedral Cave	63.65	340	P	P	14 49 22.2 -0.9
CCM				IAmb	IAmb	14 49 53.6
	comp=Z,72nm,1.3s					
CCM	Cathedral Cave	63.65	340	P	P	14 49 23.1 +0.1
	baz=157					
CCM	Cathedral Cave	63.65	340	P	P	14 49 22.2 -0.9
CCM				pmax	pmax	
	comp=Z,72nm,1.3s					
CCM	Cathedral Cave	63.65	340	P	P	14 49 23.0 -0.1
CCM				pP	pP	14 49 52.4 -0.2
CCM				PcP	PcP	14 49 58.0 -0.3
CCM				sP	sP	14 50 05.6 +0.1
OK029	Liberty Lake	63.86	334	IAmb	IAmb	14 49 25.6
	comp=Z,32nm,0.8s					
S39A	Bolivar	64.00	338	IAmb	IAmb	14 49 56.1
	comp=Z,70nm,1.2s					
O48B	Farmland	64.07	346	P	P	14 49 26.1 +0.2
	baz=163					
MNTX	Cornudas Mount	64.16	326	P	P	14 49 26.3 -0.3
	baz=142,SNR=28					
R40A	Maddies Statio	64.19	340	IAmb	IAmb	14 49 57.2
	comp=Z,92nm,1.6s					
M53A	Wt Miller and	64.36	350	P	P	14 49 28.5 +0.8
	baz=168					
BINY	Binghamton	64.50	354	P	P	14 49 29.6 +1.0
	baz=172					
L61B	Northampton	64.50	357	P	P	14 49 29.8 +1.3
	baz=176					
HRV	Adam Dziewonsk	64.50	358	P	P	14 49 30.0 +1.4
	baz=177					
SFIN	Lafayette	64.65	344	P	P	14 49 29.7 +0.1
	baz=161					
MSTX	Muleshoe	64.67	329	P	P	14 49 30.9 +0.9
	baz=145,SNR=5.7					
CROK	Carrier	64.69	334	IAmb	IAmb	14 49 31.2
	comp=Z,40nm,0.8s					
ELIS	Ellis County	64.90	333	IAmb	IAmb	14 50 02.7
	comp=Z,54nm,1.3s					
AMTX	Amarillo	64.91	330	IAmb	IAmb	14 50 01.6
	comp=Z,26nm,1.1s					
AMTX	Amarillo	64.91	330	P	P	14 49 31.3 -0.3
	baz=146					
ERPA	Erie	64.91	351	P	P	14 49 32.2 +0.9
	baz=168					
OK032	Salt Plains WL	65.04	334	IAmb	IAmb	14 50 03.2
	comp=Z,57nm,1.2s					
P40A	Paris	65.25	340	IAmb	IAmb	14 50 04.1
	comp=Z,62nm,1.4s					
HDIL	Hopedale	65.39	343	P	P	14 49 35.6 +1.2
	baz=159					
P38A	Dawn	65.81	339	IAmb	IAmb	14 50 08.1
	comp=Z,68nm,1.6s					
319A	Douglas	66.03	322	IAmb	IAmb	14 50 11.3
	comp=Z,61nm,1.0s					
NVL	N'lazarevskaya	66.04	159	*e*P	P	14 49 38.5 +0.3
NVL				*e*S	S	14 58 18.1 +1.4
NVL				pmax	pmax	
	comp=Z,29nm,0.8s					
121A	Cookes Peak, D	66.08	324	IAmb	IAmb	14 50 12.0
	comp=Z,76nm,1.3s					
121A	Cookes Peak, D	66.08	324	P	P	14 49 39.3 0.0
	baz=140,SNR=12					
LBNH	Lisbon	66.25	357	P	P	14 49 40.9 +1.0
	baz=177					
KSU1	Kansas State U	66.42	337	P	P	14 49 40.8 -0.2
	baz=152					
L44A	Lake County Fo	66.55	345	P	P	14 49 42.7 +0.9
	baz=160					
R32A	Long Quarter,	66.63	335	IAmb	IAmb	14 50 13.8
	comp=Z,65nm,1.1s					
LONY	Lake Ozonia	66.78	355	P	P	14 49 44.2 +1.0
	baz=174					
Y22D	IRIS PASSCAL I	66.82	326	P	P	14 49 44.6 +0.8
	baz=141					
G62A	West of Eustis	67.18	359	IAmb	IAmb	14 50 19.7
	comp=Z,27nm,0.8s					
PKME	Peaks-Kenny Pk	67.21	360	P	P	14 49 47.1 +1.3
	baz=179					
ANMO	Albuquerque	67.27	327	P	P	14 49 47.9 +1.2
ANMO				IAmb	IAmb	14 50 18.4
	comp=Z,51nm,1.4s					
ANMO	Albuquerque	67.27	327	P	P	14 49 48.3 +1.5
	baz=142					
ANMO	Albuquerque	67.27	327	LR	LR	15 19 56.3
	comp=Z,43nm,18.1s,baz=261,slow=36					
ANMO	Albuquerque	67.27	327	P	P	14 49 47.9 +1.2
ANMO				pmax	pmax	
	comp=Z,51nm,1.4s					
ANMO	Albuquerque	67.27	327	P	P	14 49 48.2 +1.5
ANMO				pP	pP	14 50 17.1 +0.8
ANMO				sP	sP	14 50 30.8 +1.5
CBKS	Cedar Bluff	67.38	334	P	P	14 49 48.0 +0.8
	baz=149,SNR=6.0					
SADO	Sadowa	67.39	352	LR	LR	15 22 35.5
	comp=Z,48nm,18.9s,baz=124,slow=39					
TUC	Tucson	67.58	322	P	P	14 49 49.5 +0.9
TUC	Tucson	67.58	322	P	P	14 49 50.3 +1.6
	baz=138					
TUC	Tucson	67.58	322	P	P	14 49 49.5 +0.9
TUC	Tucson	67.58	322	P	P	14 49 50.0 +1.4
TUC				pP	pP	14 50 18.9 +0.6
TUC				sP	sP	14 50 32.3 +1.0
N35A	Tabor	67.63	338	IAmb	IAmb	14 50 20.2
	comp=Z,42nm,1.1s					
F64A	Sherman	67.81	0	P	P	14 49 50.5 +0.9
JFWS	Jewell Farm	67.84	343	P	P	14 49 52.0 +2.0
	baz=158					
LMN	Caledonia Moun	67.88	3	P	P	14 49 50.1 -0.1
QSPA	South Pole Qui	67.93	180	P	P	14 49 50.8 +0.4
	comp=Z,14nm,0.5s,baz=185,slow=1.3,SNR=310					
QSPA				LR	LR	15 21 17.8
	comp=Z,62nm,19.2s,baz=146,slow=37					
	comp=Z,14nm,0.5s					
QSPA	South Pole Qui	67.93	180	P	P	14 49 52.0 +1.5
QSPA				pP	pP	14 50 20.8 +0.8
QSPA				sP	sP	14 50 33.5 +0.7
T25A	Trinidad	68.02	330	IAmb	IAmb	14 50 23.9
	comp=Z,62nm,1.4s					
T25A	Trinidad	68.02	330	P	P	14 49 53.0 +1.6
	baz=144,SNR=9.8					
214A	Organ Pipe Nat	68.50	320	IAmb	IAmb	14 50 26.7
	comp=Z,75nm,1.2s					
214A	Organ Pipe Nat	68.50	320	P	P	14 49 56.6 +2.3
	baz=136,SNR=5.3					
E62A	Clayton Lake	68.57	359	IAmb	IAmb	14 50 28.4
	comp=Z,24nm,0.8s					
DBIC	Dimbokro	68.73	73	P	P	14 49 54.9 -1.3
	comp=Z,76nm,1.1s,baz=222,slow=5.5,SNR=37					
DBIC				LR	LR	15 19 36.6
	comp=Z,67nm,19.9s,baz=234,slow=36					
	comp=Z,76nm,1.1s					
DBIC	Dimbokro	68.73	73	P	P	14 49 55.3 -0.8
DBIC				pP	pP	14 50 25.3 -0.9
DBIC				sP	sP	14 50 39.5 +0.3
KSCO	Kaye Shedlock'	68.76	332	P	P	14 49 57.1 +1.2
	baz=146					
BGNE	Belgrade	69.01	337	P	P	14 49 57.7 +0.4
	baz=151					
SDCO	Great Sand Dun	69.02	329	IAmb	IAmb	14 50 30.3
	comp=Z,66nm,1.3s					
SDCO	Great Sand Dun	69.02	329	P	P	14 49 59.4 +1.6
	baz=144,SNR=57					
W18A	Petrified Fore	69.10	325	IAmb	IAmb	14 50 31.0
	comp=Z,105nm,1.4s					
W18A	Petrified Fore	69.10	325	P	P	14 50 00.1 +1.9
	baz=139					
BATG	Bathurst New B	69.26	2	P	P	14 49 59.0 +0.4
BATG				IAmb	IAmb	14 50 32.4
	comp=Z,28nm,0.9s					
X16A	Lo Mia Camp, P	69.51	323	IAmb	IAmb	14 50 33.8
	comp=Z,36nm,1.2s					
ELIB	Princess Elisa	69.64	161	*d*P	P	14 50 01.4 +0.4
	comp=Z,12nm,0.6s					
S22A	4UR Ranch, Cre	69.66	329	P	P	14 50 02.8 +1.1
	baz=142,SNR=12					
Q24A	Divide	69.84	330	IAmb	IAmb	14 50 35.3
	comp=Z,123nm,1.6s					
Q24A	Divide	69.84	330	P	P	14 50 04.5 +1.7
	baz=144,SNR=17					
LDAQ	Lac Daran	69.94	358	IAmb	IAmb	14 50 36.5
	comp=Z,27nm,0.8s					
MVCO	Mesa Verde	70.06	327	IAmb	IAmb	14 50 36.8
	comp=Z,71nm,1.2s					
MVCO	Mesa Verde	70.06	327	P	P	14 50 05.5 +1.4
	baz=141					
OGNE	Ogallala	70.12	334	P	P	14 50 05.0 +0.8
	baz=147					
WUAZ	Wupatki	70.28	324	IAmb	IAmb	14 50 38.6
	comp=Z,97nm,1.4s					
WUAZ	Wupatki	70.28	324	P	P	14 50 07.7 +2.2
	baz=138,SNR=22					
ECSD	EROS Data Cent	70.51	339	P	P	14 50 07.8 +1.4
	baz=152					
SPMN	Marine on St.	70.68	342	P	P	14 50 08.7 +1.3
	baz=156					
ISCO	Idaho Springs	70.73	331	IAmb	IAmb	14 50 40.0
	comp=Z,77nm,1.7s					
ISCO	Idaho Springs	70.73	331	P	P	14 50 09.3 +1.1
	baz=144,SNR=14					
BLYC	Blythe	70.78	321	IAmb	IAmb	14 50 40.8
	comp=Z,86nm,1.4s					
SMCO	Snowmass	70.86	329	IAmb	IAmb	14 50 42.2
	comp=Z,49nm,1.4s					
RMX	La Rumorosa	70.91	319	IAmb	IAmb	14 50 41.4
	comp=Z,51nm,1.2s					
IKP	In-Ko-Pah, Jac	70.96	319	P	P	14 50 11.6 +2.1
	baz=134					
SWSC	Sam W. Stewart	70.98	319	P	P	14 50 11.6 +2.1
	baz=134					
BC3	Big Chuckawall	71.27	320	P	P	14 50 12.4 +1.1
	baz=135,SNR=9.1					
MONP2	Monument Peak	71.32	319	P	P	14 50 13.3 +1.5
	baz=134					
BAR	Barrett	71.33	319	P	P	14 50 14.0 +2.3
BAR				IAmb	IAmb	14 50 44.6
	comp=Z,33nm,1.1s					
IRM	Iron Mountain	71.44	321	P	P	14 50 13.8 +1.5
	baz=135,SNR=7.1					
U15A	North Rim	71.46	324	IAmb	IAmb	14 50 46.3
	comp=Z,82nm,1.4s					
NEE2	Needles Airpor	71.56	321	P	P	14 50 15.1 +2.2
	baz=135					
N23A	Red Feather La	71.76	331	P	P	14 50 15.3 +1.0
	baz=144,SNR=16					
BELC	Belle Mtn. Jos	71.83	320	P	P	14 50 15.9 +1.1
	baz=134					
TPFO	Pinon Flats	71.83	319	P	P	14 50 16.4 +1.7
	baz=134					
PFO	Pinyon Flats O	71.84	319	P	P	14 50 16.5 +1.7
	baz=134					
PFO	Pinyon Flats O	71.84	319	*i*P	P	14 50 14.5 -0.3
PFO				pmax	pmax	
	comp=Z,15nm,1.1s					
SUSD	Miller	71.94	338	P	P	14 50 15.0 0.0
	baz=150					
GMRC	Granite Mounta	72.18	321	P	P	14 50 19.0 +2.2
	baz=135,SNR=14					
O20A	White River Ci	72.22	329	IAmb	IAmb	14 50 19.8
	comp=Z,37nm,0.9s					
O20A	White River Ci	72.22	329	P	P	14 50 18.9 +2.0
	baz=142,SNR=8.3					
PKCU	Pink Cliffs	72.22	325	IAmb	IAmb	14 50 53.4
	comp=Z,48nm,1.4s					
MURC	Murrieta	72.28	319	P	P	14 50 20.0 +2.7
	baz=133					
V12A	Nelson	72.38	322	IAmb	IAmb	14 50 50.3
	comp=Z,54nm,1.4s					
LCMT	Little Creek M	72.41	324	IAmb	IAmb	14 50 50.7
	comp=Z,48nm,1.5s					
SRU	San Rafael Swe	72.54	327	IAmb	IAmb	14 50 51.6
	comp=Z,85nm,1.6s					
BBRC	Big Bear Solar	72.56	320	P	P	14 50 20.8 +1.6
	baz=134					
HEC	Hector,Ludlow	72.61	320	P	P	14 50 21.4 +2.1
	baz=134					
SCI2	San Clemente I	72.69	318	P	P	14 50 22.8 +3.0
	baz=132					
Q16A	Castle Valley	72.72	326	IAmb	IAmb	14 50 53.3
	comp=Z,79nm,1.5s					
SZCU	Shurtz Canyon	72.75	324	IAmb	IAmb	14 50 53.8
	comp=Z,69nm,1.6s					
TUQ	Turquoise Moun	72.79	321	P	P	14 50 22.3 +1.9
	baz=135,SNR=7.3					
P18A	Preston Nutter	72.80	328	IAmb	IAmb	14 50 53.8
	comp=Z,97nm,1.5s					
CCUT	Cedar City	72.86	324	IAmb	IAmb	14 50 54.1
	comp=Z,95nm,1.5s					
BFSC	Mount Baldy Ra	72.99	319	P	P	14 50 23.3 +1.7
	baz=133					
GSC	Goldstone, Bar	73.21	320	IAmb	IAmb	14 50 55.6
	comp=Z,51nm,1.4s					
GSC	Goldstone, Bar	73.21	320	P	P	14 50 24.5 +1.7
	baz=134,SNR=5.8					
SHOC	Shoshone, Teco	73.32	321	P	P	14 50 25.5 +2.1
	baz=134					
DECC	Green Verdugo	73.41	319	P	P	14 50 26.1 +2.1
	baz=133					
K22A	Casper	73.43	332	P	P	14 50 25.5 +1.5
	baz=144,SNR=7.7					
TBI	Tubuai	73.46	251	*e*LR	LR	15 13 03.8
	comp=Z,812nm,44.5s					
SNCC	San Nicolas Is	73.48	317	P	P	14 50 26.4 +2.0
	baz=132					
RSSD	Black Hills	73.58	334	P	P	14 50 26.2 +1.2
	baz=146					
EDW2	Edwards Air Fo	73.63	319	P	P	14 50 26.9 +1.6
	baz=133,SNR=5.1					
PRN	Pahroc Range	73.69	323	IAmb	IAmb	14 50 59.4
	comp=Z,39nm,1.3s					
BSUT	Blindstream Ca	73.75	328	IAmb	IAmb	14 50 58.6
	comp=Z,123nm,2.0s					
MPU	Maple Canyon	73.79	327	IAmb	IAmb	14 50 59.4
	comp=Z,59nm,1.4s					
LRMC	Laurel Mtn Rad	73.85	320	P	P	14 50 28.6 +1.9
	baz=133,SNR=6.2					
NLU	North Lily Min	73.97	327	IAmb	IAmb	14 51 00.7
	comp=Z,50nm,1.4s					
TPNV	Topopah Spring	74.04	322	P	P	14 50 30.1 +2.4
	baz=135,SNR=13					
SCZ2	Santa Cruz Isl	74.04	318	P	P	14 50 29.4 +1.8
	baz=132					
FURC	Furnace Creek,	74.05	321	P	P	14 50 29.9 +2.4
	baz=134,SNR=8.3					
JLU	Jordanelle	74.14	327	IAmb	IAmb	14 51 01.6
	comp=Z,85nm,1.6s					
MPMC	Manual Prospec	74.14	321	P	P	14 50 30.0 +1.6
	baz=134,SNR=6.0					
S11A	Rachel	74.25	323	IAmb	IAmb	14 51 02.2
	comp=Z,97nm,1.7s					
SPR3	Spring Creek 3	74.44	325	IAmb	IAmb	14 51 03.4
	comp=Z,56nm,1.6s					
ISA	Isabella, Lake	74.45	320	P	P	14 50 31.2 +1.1
ISA				IAmb	IAmb	14 51 03.4
	comp=Z,34nm,1.1s					
ISA	Isabella, Lake	74.45	320	P	P	14 50 31.7 +1.6
	baz=133,SNR=10					
ISA	Isabella, Lake	74.45	320	P	P	14 50 31.2 +1.1
ISA				pmax	pmax	
	comp=Z,34nm,1.2s					
TCUT	Toone Canyon	74.51	328	IAmb	IAmb	14 51 02.7
	comp=Z,68nm,1.8s					
DUG	Dugway, Tooele	74.52	326	IAmb	IAmb	14 51 03.9
	comp=Z,59nm,1.6s					
DUG	Dugway, Tooele	74.52	326	P	P	14 50 32.1 +1.7
	baz=136					
BCW	Bitter Crk WRg	74.53	319	IAmb	IAmb	14 51 04.0
	comp=Z,58nm,1.2s					
R11B	Troy Canyon, C	74.66	323	P	P	14 50 33.4 +2.1
	baz=135					
GRAC	Grapevine Rang	74.71	321	P	P	14 50 33.6 +2.1
	baz=134					
Q12A	Willow Creek R	74.74	324	IAmb	IAmb	14 51 04.3
	comp=Z,49nm,1.4s					
PKM	Mcpherson Peak	74.75	318	P	P	14 50 34.3 +2.4
	baz=132,SNR=11					
CWC	Cottonwood Cre	74.75	321	P	P	14 50 33.5 +1.7
	baz=133					
BW06	Boulder Array	74.89	330	P	P	14 50 33.6 +1.0
	baz=141,SNR=8.4					
PDAR	Pinedale Array	74.89	330	P	P	14 50 33.1 +0.5
	comp=Z,2.3nm,0.9s,baz=149,slow=6.4,SNR=19					
PDAR				pP	pP	14 51 03.1 +0.2
	comp=Z,1.5nm,0.5s,baz=138,slow=7.1,SNR=6.2					
	comp=Z,2.3nm,0.9s					
VES	Vestal, Richgr	74.94	320	P	P	14 50 34.1 +1.4
	baz=132					
MDND	Maddock	75.13	339	P	P	14 50 34.5 +0.9
	baz=150					
SPUT	South Promonto	75.17	327	P	P	14 50 36.0 +1.8
SPUT				IAmb	IAmb	14 51 06.3
	comp=Z,64nm,1.5s					
BGU	Big Grassy Mou	75.17	327	IAmb	IAmb	14 51 07.2
	comp=Z,52nm,1.6s					
PPT2	Papeete2	75.36	257	*e*S	S	15 00 01.7 -4.9
	comp=Z,58nm,25.5s					
PPT2	Papeete2	75.36	257	*e*LR	LR	15 13 53.7
	comp=Z,343nm,35.5s					
PPT2				*e*LR	LR	15 13 59.3
	comp=Z,207nm,36.8s					
AHID	Auburn Hatcher	75.61	329	IAmb	IAmb	14 50 39.1
	comp=Z,37nm,1.1s					
HVU	Hansel Valley	75.68	327	IAmb	IAmb	14 51 09.1
	comp=Z,52nm,1.6s					
LOHW	Long Hollow	76.03	330	IAmb	IAmb	14 51 12.4
	comp=Z,66nm,1.9s					
KOMG	Komaggas	76.09	117	*e*P	P	14 50 40.5 +0.9
KOMG				IAmb	IAmb	14 50 41.5
	comp=Z,45nm,1.1s					
ULM	Lac du Bonnet	76.11	342	P	P	14 50 39.0 -0.1
	comp=Z,4.3nm,0.8s,baz=144,slow=5.8,SNR=6.7					
ULM				pP	pP	14 51 08.8 -0.6
	comp=Z,7.8nm,0.9s,baz=146,slow=6.2,SNR=6.4					
ULM				LR	LR	15 27 52.6
	comp=Z,39nm,18.6s,baz=241,slow=38					
	comp=Z,4.3nm,0.8s					
VNDA	Vanda	76.14	190	P	P	14 50 39.5 +0.5
	comp=Z,2.6nm,0.9s,baz=133,slow=5.6,SNR=13					
	comp=Z,2.6nm,0.9s					
PMPB	Monarch Peak	76.22	319	P	P	14 50 42.7 +2.5
PMPB				IAmb	IAmb	14 51 13.8
	comp=Z,98nm,1.6s					
NVAR	Mina Array Bea	76.24	322	P	P	14 50 42.1 +1.7
	comp=Z,3.5nm,0.9s,baz=156,slow=7.2,SNR=17					
NVAR				pP	pP	14 51 11.8 +1.2
	comp=Z,4.3nm,0.8s,baz=150,slow=4.9,SNR=8.3					
NVAR				LR	LR	15 21 48.4
	comp=Z,48nm,20.4s,baz=144,slow=34					
	comp=Z,3.5nm,0.9s					
IMW	Indian Meadow	76.40	330	IAmb	IAmb	14 51 13.6
	comp=Z,41nm,1.4s					
PRTV	Porterville,We	76.40	120	*e*P	P	14 50 42.4 +0.9
PRTV				IAmb	IAmb	14 50 42.8
	comp=Z,27nm,0.9s					
FLWY	Flagg Ranch	76.43	330	IAmb	IAmb	14 51 14.0
	comp=Z,47nm,1.1s					
ELIM	Elim	76.46	122	*e*P	P	14 50 42.2 +0.5
ELIM				IAmb	IAmb	14 50 42.7
	comp=Z,37nm,1.0s					
CER	Ceres	76.47	121	⇑*i*P	P	14 50 42.6 +0.8
CER				IAmb	IAmb	14 50 43.4
	comp=Z,34nm,1.0s					
LAO	LASA Array	76.57	334	IAmb	IAmb	14 51 13.8
	comp=Z,41nm,1.1s					

comp=Z,44nm,1.2s
H17A Grant Village 76.62 331 P P 14 50 44.4 +1.9
baz=140
SCHQ Schefferville 76.80 1 P P 14 50 42.6 -0.3
comp=Z,2.3nm,0.8s,baz=259,slow=2.9,SNR=4.4
SCHQ LR LR 15 25 50.8
comp=Z,23nm,21.7s,baz=224,slow=36
comp=Z,2.3nm,0.8s
YMR Madison River 77.00 330 IAmb IAmb 14 51 17.7
comp=Z,66nm,1.2s
YHL Hebgen Lake 77.24 330 IAmb IAmb 14 51 19.1
comp=Z,58nm,1.5s
DGMT Dagmar 77.27 337 IAmb IAmb 14 51 18.0
comp=Z,50nm,0.9s
DGMT Dagmar 77.27 337 P P 14 50 46.9 +1.2
baz=146,SNR=5.8
TORD Torodi Ar. Bea 77.40 70 P P 14 50 46.2 -1.0
comp=Z,28nm,0.8s,baz=251,slow=2.9,SNR=119
TORD pP **pP 14 51 17.6 -0.1**
comp=Z,16nm,0.9s,baz=253,slow=2.1,SNR=3.6
TORD LR LR 15 24 13.7
comp=Z,66nm,21.1s,baz=124,slow=35
comp=Z,28nm,0.8s
CVNA Calvinia 77.43 119⇑ iP P 14 50 48.4 +1.1
CVNA IAmb IAmb 14 50 49.2
comp=Z,82nm,1.3s
MATJ Matjiesfontein 77.53 121⇑ iP P 14 50 48.9 +1.0
MATJ IAmb IAmb 14 50 49.7
comp=Z,86nm,1.0s
PAHR Pah Rah Range 77.72 322 IAmb IAmb 14 51 22.3
comp=Z,38nm,1.1s
HLID Hailey 77.81 328 P P 14 50 51.0 +1.9
HLID Hailey 77.81 328 P P 14 50 51.1 +2.1
baz=137,SNR=8.3
SUR Sutherland 78.00 120 P P 14 50 51.7 +1.1
SUR IAmb IAmb 14 50 52.9
comp=Z,81nm,1.4s
SUR Sutherland 78.00 120⇑ iP P 14 50 51.6 +1.1
SUR IAmb IAmb 14 50 52.5
comp=Z,90nm,1.5s
BOZ Bozeman (W) 78.02 331 P P 14 50 50.9 +0.8
baz=140,SNR=6.6
WIN Windhoek 78.05 110 P P 14 50 50.4 -0.6
WIN IAmb IAmb 14 50 52.3
comp=Z,30nm,0.9s
WIN Windhoek 78.05 110 P P 14 50 50.4 -0.6
WIN pmax pmax
comp=Z,30nm,0.9s
DLMT Dillon 78.28 330 IAmb IAmb 14 51 24.2
comp=Z,40nm,1.4s
MFID Camas Ranch 78.41 327 IAmb IAmb 14 51 26.0
comp=Z,56nm,1.7s
MERW Merweville 78.47 121 eP P 14 50 53.9 +0.9
MERW IAmb IAmb 14 50 54.6
comp=Z,52nm,1.1s
FRAZ Fraserburg 78.62 120 eP P 14 50 54.7 +0.8
FRAZ IAmb IAmb 14 50 55.8
comp=Z,83nm,1.1s
ORV Oroville 78.83 321 IAmb IAmb 14 51 28.1
comp=Z,60nm,1.3s
AUGR Augrabies 78.84 116 eP P 14 50 55.3 +0.3
AUGR IAmb IAmb 14 50 56.3
comp=Z,94nm,1.7s
EGMT Eagleton 79.08 333 P P 14 50 56.7 +0.9
baz=142,SNR=6.0
GRAN Grantham 79.11 120 eP P 14 50 57.3 +0.8
GRAN IAmb IAmb 14 50 57.8
comp=Z,26nm,0.8s
BPMT Black Pine Rid 79.48 330 P P 14 51 00.6 +2.4
TSUM Tsumeb 79.60 107 P P 14 50 59.4 0.0
TSUM IAmb IAmb 14 51 01.1
comp=Z,71nm,0.9s
TSUM Tsumeb 79.60 107⇑ iP P 14 51 00.1 +0.6
TSUM IAmb IAmb 14 51 00.8
comp=Z,70nm,0.9s
TSUM Tsumeb 79.60 107 LR LR 15 23 44.1
comp=Z,90nm,19.2s,baz=336,slow=34
UPI Upington 79.67 116 eP P 14 51 00.1 +0.5
UPI IAmb IAmb 14 51 01.0
comp=Z,62nm,1.1s
MSO Missoula 80.00 330 P P 14 51 02.3 +1.5
baz=138
ROOI Rooidraai Farm 80.14 121 eP P 14 51 01.6 -0.5
ROOI IAmb IAmb 14 51 03.3
comp=Z,24nm,0.8s
YBH Yreka Blue Hor 80.96 322 LR LR 15 27 01.4
comp=Z,34nm,18.5s,baz=170,slow=36
GRAF Camdeboo Natio 80.96 121 eP P 14 51 07.3 +0.9
GRAF IAmb IAmb 14 51 08.2
comp=Z,33nm,0.9s
SOE Somerset East 81.66 122 eP P 14 51 10.5 +0.4
SOE IAmb IAmb 14 51 11.5
comp=Z,68nm,1.2s
MORF Marmelete 81.85 44 eP P 14 51 11.6 +0.8
I05D Terrebonne, OR 81.92 325 IAmb IAmb 14 51 13.8
comp=Z,27nm,0.8s
MDT Midelt 82.06 50 LR LR 15 27 44.1
comp=Z,48nm,19.8s,baz=142,slow=36
GRHM Grahamstown, E 82.09 123 P P 14 51 13.1 +0.8
GRHM IAmb IAmb 14 51 14.0
comp=Z,53nm,1.0s
GRHM Grahamstown, E 82.09 123 eP P 14 51 12.3 -0.1
GRHM IAmb IAmb 14 51 13.6
comp=Z,42nm,0.9s
HVD Gariep Dam 82.36 120⇑ iP P 14 51 14.6 +0.7
HVD IAmb IAmb 14 51 15.3
comp=Z,58nm,1.0s
PCVE Castro Verde 82.43 44 eP P 14 51 14.9 +1.1
MESJ Messejana 82.44 44 eP P 14 51 15.0 +1.2
MESJ Messejana 82.44 44 eP P 14 51 14.5 +0.7
MESJ IAmb IAmb 14 51 15.9
comp=Z,15nm,1.1s
MESJ Messejana 82.44 44 eP P 14 51 14.5 +0.7
NEW Newport 82.52 330 P P 14 51 15.2 +1.2
baz=136
PBEJ Beja 82.77 44 eP P 14 51 15.9 +0.4
comp=Z,19nm,1.3s
BOSA Boshof 82.89 118 P P 14 51 16.3 -0.3
comp=Z,33nm,0.9s,baz=249,slow=4.2,SNR=41
comp=Z,33nm,0.9s
EVO Evora 82.97 44 eP P 14 51 17.2 +0.7
comp=Z,26nm,2.3s
PMTG Montargil 83.15 43 eP P 14 51 18.0 +0.6
comp=Z,29nm,1.3s
PBAR Barrancos 83.39 44 eP P 14 51 19.4 +0.7
comp=Z,18nm,1.7s
PESTR Estremoz 83.44 43 eP P 14 51 19.3 +0.4
comp=Z,24nm,0.8s
SWZ Schweizer 83.47 117 eP P 14 51 18.3 -1.4
SWZ IAmb IAmb 14 51 20.1
comp=Z,31nm,0.9s
MAW Mawson 83.53 163 P P 14 51 19.9 +0.9
MAW Mawson 83.53 163 P P 14 51 19.7 +0.7
comp=Z,9.8nm,0.8s,baz=209,slow=5.9,SNR=29
MAW LR LR 15 29 22.7
comp=Z,46nm,18.3s,baz=244,slow=36
comp=Z,9.8nm,0.8s
PCAS Casmilo, Conde 83.56 42 eP P 14 51 20.3 +0.8
comp=Z,36nm,2.1s
PCBR Castelo Branco 84.07 43 eP P 14 51 21.9 -0.2
PVIS Viseu 84.32 42 eP P 14 51 24.8 +1.4
MTE Manteigas 84.35 42 eP P 14 51 24.2 +0.6
comp=Z,28nm,1.9s
LBTB Lobatse 84.49 115 LR LR 15 24 52.0
comp=Z,54nm,20.8s,baz=196,slow=33
MRCO Marico , North 84.99 115⇑ iP P 14 51 27.4 0.0
MRCO IAmb IAmb 14 51 29.0
comp=Z,25nm,0.9s
SNKL Senekal, Frees 85.07 118 eP P 14 51 27.8 0.0
SNKL IAmb IAmb 14 51 28.6
comp=Z,41nm,1.1s
PBRG Braganca 85.66 41 eP P 14 51 30.6 +0.5
HRAO HartRAO 85.91 116 eP P 14 51 31.9 -0.1
NHAM Northam, North 85.97 115 eP P 14 51 31.0 -1.2
NHAM IAmb IAmb 14 51 37.5
comp=Z,8.1nm,0.7s
NYAT Nyati, Northwe 86.01 116 eP P 14 51 32.4 -0.1
NYAT IAmb IAmb 14 51 33.4
comp=Z,18nm,0.9s
MTLB Matlabas, Limp 86.17 114 eP P 14 51 32.7 -0.5
MTLB IAmb IAmb 14 51 34.5
comp=Z,30nm,0.9s
ESDC Sonseca Array 86.22 44 P P 14 51 32.8 -0.2
comp=Z,16nm,1.3s,baz=239,slow=5.2,SNR=34
ESDC pP **pP 14 52 04.8 +0.6**
comp=Z,2.6nm,1.0s,baz=246,slow=5.5,SNR=2.5
ESDC LR LR 15 26 31.6
comp=Z,42nm,21.5s,baz=213,slow=33
comp=Z,16nm,1.3s
TSWA Tswaing Meteor 86.42 116 eP P 14 51 34.1 -0.4
TSWA IAmb IAmb 14 51 35.6
comp=Z,21nm,0.9s
LEPH Lephalale, Lim 86.78 114 eP P 14 51 36.3 +0.1
LEPH IAmb IAmb 14 51 37.9
comp=Z,24nm,0.9s
NWCL Newcastle 87.00 119 eP P 14 51 38.1 +0.8
CRAIL Swartwater, Li 87.57 114 eP P 14 51 40.2 +0.2
PILG Pilgrimsrest, 88.80 116 eP P 14 51 46.4 +0.4
PILG IAmb IAmb 14 51 47.0
comp=Z,16nm,0.9s
MUSN Musina, Limpop 89.14 114 eP P 14 51 47.3 -0.1
MPHEP Siloam, Limpop 89.17 114⇑ iP P 14 51 48.4 +0.9
MPHEP IAmb IAmb 14 51 49.2
comp=Z,12nm,0.9s
HOED Hoedspruit, Li 89.19 116⇑ iP P 14 51 47.5 -0.1
HOED IAmb IAmb 14 51 48.6
comp=Z,17nm,0.9s
MOPA Mopani 89.94 115 eP P 14 51 51.9 +0.7
MOPA IAmb IAmb 14 51 53.1
comp=Z,32nm,0.9s
BBB Bella Bella 90.40 328 LR LR 15 36 35.3
comp=Z,50nm,18.1s,baz=145,slow=38
KRI Karoi 91.11 109 eP P 14 51 57.7 +1.0
YKA Yellowknife Ar 91.98 340 P P 14 51 59.9 +0.4
comp=Z,4.2nm,0.8s,baz=138,slow=4.6,SNR=32
YKA pP **pP 14 52 30.4 -0.3**
comp=Z,9.4nm,0.8s,baz=138,slow=4.7,SNR=23
YKA LR LR 15 39 34.5
comp=Z,37nm,18.1s,baz=352,slow=40
comp=Z,4.2nm,0.8s
TOAD Toad River Com 93.24 334 P P 14 52 06.5 +1.1
baz=129
KEST Kesra 93.58 53 P P 14 52 07.5 -0.1
comp=Z,5.0nm,0.8s,baz=268,slow=6.2,SNR=5.0
comp=Z,5.0nm,0.8s
T35M Bob Quinn 94.24 331 P P 14 52 11.6 +1.6
baz=125
CRAG Craig 94.72 329 P P 14 52 14.2 +2.0
baz=123
WRAK Wrangell Islan 94.88 330 P P 14 52 14.4 +1.5
baz=124
DLBC Dease Lake 94.99 332 P P 14 52 14.8 +1.3
baz=125
DLBC Dease Lake 94.99 332 P P 14 52 13.9 +0.5
comp=Z,2.7nm,0.8s,baz=108,slow=6.7,SNR=5.2
DLBC pP **pP 14 52 44.8 +0.1**
comp=Z,4.3nm,1.0s,baz=110,slow=2.2,SNR=3.9
comp=Z,2.7nm,0.8s
U33K Whale Pass 95.07 330 P P 14 52 14.0 +0.2
baz=123
S34M Telegraph Cree 95.17 332 P P 14 52 14.9 +0.7
baz=124
R33M Jennings River 95.94 333 P P 14 52 18.5 +0.6
baz=124
TGTN Hyland Airport 96.09 335 P P 14 52 19.6 +1.2
baz=126
Q32M Nakina River 96.25 332 P P 14 52 20.7 +1.3
baz=123
S32K Killisnoo 96.47 330 P P 14 52 19.4 -0.7
baz=122
SIT Sitka 96.61 330 P P 14 52 21.1 +0.4
baz=121
P33M Teslin, Yukon 97.17 333 P Pdif 14 52 24.1 +0.6
baz=123
P32M Atlin 97.22 332 P P 14 52 23.3 -0.3
baz=122
N32M Quiet Lake 97.79 334 P P 14 52 25.2 -0.9
baz=122
VAE Valguarnera 98.01 53 LR LR 15 39 18.7
comp=Z,59nm,19.2s,baz=160,slow=37
DAVOX Davos/Dischmat 98.47 43 LR LR 15 37 27.8
comp=Z,37nm,19.4s,baz=266,slow=36
P30M Million Dollar 98.90 332 P P 14 52 30.9 -0.2
baz=119
N31M Braeburn, Yuko 99.08 333 P Pdif 14 52 31.8 0.0
baz=120
C36M Paulatuk 99.54 343 P Pdif 14 52 33.3 -0.3
baz=129
YUK6 Outpost Mounta 99.90 332 P Pdif 14 52 35.4 -0.4
baz=118
M30M Mirio, Yukon 100.03 334 P Pdif 14 52 36.3 +0.2
baz=119
YUK4 Talbot Arm 100.21 333 P Pdif 14 52 36.3 -0.8
baz=118
O28M Mount Upton 100.62 332 P Pdif 14 52 37.3 -1.8
baz=116
YUK8 Steele Glacier 100.66 332 P Pdif 14 52 38.4 -0.8
baz=117
L29M L29M 100.83 334 P Pdif 14 52 39.8 +0.2
baz=118
K29M Barlow Dome 100.93 335 P Pdif 14 52 39.8 -0.4
baz=118
I30M Mount Dempster 101.17 337 P Pdif 14 52 40.5 -0.7
baz=119
DAWY Dawson 101.77 335 P Pdif 14 52 43.8 0.0
baz=117
EPYK Eagle Plains 101.84 338 P Pdif 14 52 46.7 +2.6
baz=118
G30M tAoh Zraii Nji 101.97 338 P Pdif 14 52 47.0 +2.4
baz=119
M27K Edge Creek, AK 102.04 333 P Pdif 14 52 47.6 +2.5
baz=115
CLL Collm 102.06 39 ePP PP 14 56 57.0 -1.6
CLL *e*SKSac **SKSac 15 03 17.0 +3.1**
CLL *e*Sdif **Sdif 15 04 18.0 +0.1**
CLL *e*SP **SP 15 05 55.0 +3.3**
CLL *es*SP 15 06 39.0
CLL *e*SS SS 15 11 06.0 -20
CLL *e*(SSS) 15 14 36.0
MCARA McCarthy VSAT 102.12 332 P Pdif 14 52 48.4 +3.0
baz=114
L27K Beaver Creek, 102.31 334 P Pdif 14 52 47.7 +1.5
baz=115
M26K Nabesna, AK 102.53 333 P Pdif 14 52 49.1 +1.9
baz=114
G29M Pine Creek 102.56 338 P Pdif 14 52 48.3 +1.1
baz=117
BMRM Bremner River 102.66 331 P Pdif 14 52 50.3 +2.5
baz=113
EGAK Eagle 102.77 335 P Pdif 14 52 50.4 +2.3
baz=115
K27K Chicken 102.82 334 P Pdif 14 52 51.2 +2.8
baz=114
N25K Chitina, Valde 102.91 332 P Pdif 14 52 51.4 +2.4
baz=113
EYAK Cordova Ski Ar 103.02 330 P Pdif 14 52 51.5 +2.2
baz=112
E29M Blow River 103.20 339 P Pdif 14 52 51.5 +1.5
baz=117
I27K Kandik River 103.29 336 P Pdif 14 52 51.8 +1.3
baz=114
KLU Klutina 103.45 331 P Pdif 14 52 52.1 +0.7
baz=112
HARP HAARP 103.45 332 P Pdif 14 52 53.1 +1.8
baz=112
F28M Old Crow 103.52 338 P Pdif 14 52 52.8 +1.3
baz=116
H27K Steamboat Moun 103.52 337 P Pdif 14 52 54.0 +2.4
baz=114
SCRK Sand Creek 103.57 334 P Pdif 14 52 54.2 +2.3
baz=113
J26L Joseph Creek 103.60 335 P Pdif 14 52 53.4 +1.4
baz=113
GLI Glacier Island 103.75 330 P Pdif 14 52 54.2 +1.6
baz=111
I26K Coal Creek Min 103.76 335 P Pdif 14 52 54.2 +1.7
baz=113
M24K Tolsona, Glenn 103.79 332 P Pdif 14 52 54.0 +1.2
baz=111
PAX Paxson 103.80 333 P Pdif 14 52 55.4 +2.5
baz=112
E28M Babbage River 103.83 339 P Pdif 14 52 55.4 +2.6
baz=116
WAT6 Susitna Watana 104.64 332 P Pdif 14 52 58.6 +1.8
baz=110
DHY Denali Highway 104.65 333 P Pdif 14 52 59.1 +2.3
baz=110
ILAR Eielson Array 105.03 334 PP PP 14 57 22.9 +2.6
comp=Z,1.1nm,1.0s,baz=118,slow=4.9,SNR=7.5
G25K Bearman Lake 105.42 336 P PKiKP 14 57 15.1 +2.2
baz=110
HOM Homer 105.49 328 P PKiKP 14 57 14.8 +1.6
baz=107
OHAK Old Harbor 105.60 326 P PKiKP 14 57 15.5 +2.0
baz=107
G24K Hadweenzic Riv 105.91 336 P PKiKP 14 57 15.9 +2.1
baz=109
O20K Slope Mountain 106.09 329 P PKiKP 14 57 16.2 +1.8
baz=106
C26K Camden Bay 106.11 340 P PKiKP 14 57 16.5 +2.4
baz=110
SKT Skwentna 106.13 331 P PKiKP 14 57 16.4 +2.0
baz=107
P19K Oil Pt 106.26 328 P PKiKP 14 57 16.7 +2.0
baz=106
Q19K Cape Douglas, 106.27 327 P PKiKP 14 57 16.4 +1.7
baz=106
R18K Karluk 106.30 326 P PKiKP 14 57 16.4 +1.7
baz=106
F24K Squaw Lake 106.33 337 P PKiKP 14 57 16.4 +1.8
baz=108
D25K Kavik River 106.39 339 P PKiKP 14 57 17.6 +2.9
baz=109
H23K Yukon River 106.43 335 P PKiKP 14 57 17.5 +2.7
baz=107
CHIR Chirikof Islan 106.46 324 P PKiKP 14 57 16.8 +1.7
baz=105
BPAW Bear Paw Mtn. 106.51 333 P PKiKP 14 57 17.7 +2.7
baz=107
MLY Manley 106.67 334 P PKiKP 14 57 16.5 +1.2
baz=107
E24K Your Creek 106.72 337 P PKiKP 14 57 17.6 +2.2
baz=108
CAST Castle Rocks 106.78 332 P PKiKP 14 57 17.6 +2.1
baz=106
M20K Styx River 106.83 330 P PKiKP 14 57 18.1 +2.3
baz=106
Q18K Katmai Hardscr 106.88 327 P PKiKP 14 57 16.4 +0.5
baz=105
G23K Bananza Creek 106.88 336 P PKiKP 14 57 16.8 +1.1
baz=107
COLD Coldfoot 107.10 336 P PKiKP 14 57 17.3 +1.3
baz=106
E23K Chandalar 107.12 337 P PKiKP 14 57 18.5 +2.3
baz=107
D24K Happy Valley 107.17 338 P PKiKP 14 57 18.1 +2.0
baz=107
N19K Bonanza Creek 107.18 329 P PKiKP 14 57 18.1 +1.7
baz=105
P18K Big Mountain, 107.18 328 P PKiKP 14 57 17.2 +0.8
baz=104
Q17K Contact Creek 107.22 326 P PKiKP 14 57 18.6 +1.9
baz=104
TOLK Toolik Lake Re 107.28 338 P PKiKP 14 57 18.3 +1.9
baz=107
O18K Koktuh Hills 107.28 328 P PKiKP 14 57 18.2 +1.6
baz=104
R17L Mt. Peulik Vol 107.31 326 P PKiKP 14 57 17.7 +1.0
baz=104
L20K Farewell, AK 107.32 331 P PKiKP 14 57 17.7 +1.1
baz=105
M19K Big River Lodg 107.41 330 P PKiKP 14 57 18.5 +1.7
baz=104
G22K Bettles 107.50 336 P PKiKP 14 57 17.7 +1.0
baz=105
K20K Telida 107.63 332 P PKiKP 14 57 18.6 +1.5
baz=104
H21K Melozitna Rive 107.68 334 P PKiKP 14 57 18.7 +1.6
baz=105
L19K White Mountain 107.69 331 P PKiKP 14 57 19.7 +2.4
baz=104
P17K Kvichak River 107.73 327 P PKiKP 14 57 19.1 +1.7
baz=104
D23K Nanushuk River 107.75 338 P PKiKP 14 57 19.6 +2.5
baz=106
N18K Kilae Creek 107.81 329 P PKiKP 14 57 19.2 +1.7
baz=104
J20K Nowinta River 107.86 333 P PKiKP 14 57 19.3 +1.8
baz=104
F22K John River 107.91 336 P PKiKP 14 57 19.4 +1.8
baz=105
C23K Itkillik River 107.96 339 P PKiKP 14 57 18.4 +0.9
baz=105
M18K Stony River 107.97 330 P PKiKP 14 57 19.1 +1.4
baz=103
I20K Naaghedeneel 108.15 333 P PKiKP 14 57 19.9 +2.0
baz=103
G21K Allakaket 108.17 335 P PKiKP 14 57 20.0 +1.9
baz=104
O17K Koliganek Bris 108.19 328 P PKiKP 14 57 20.1 +1.9
baz=103
F21K Alatna River 108.33 336 P PKiKP 14 57 19.5 +1.1
baz=104
TTA Tatalina 108.39 331 P PKiKP 14 57 20.4 +1.8
baz=103
N17K Nushagak Hills 108.40 329 P PKiKP 14 57 20.4 +1.8
baz=102
CHNA Chernabura Isl 108.42 322 P PKiKP 14 57 19.8 +1.0
baz=102
D22K Ayikyak River 108.43 338 P PKiKP 14 57 20.6 +2.1
baz=104
J19K Poorman 108.45 332 P PKiKP 14 57 20.5 +1.9
baz=103
H20K Anotleneega Mo 108.48 334 P PKiKP 14 57 20.0 +1.3
baz=103
L18K Granite Mounta 108.54 330 P PKiKP 14 57 19.9 +1.0
baz=102
O16K Kokwok River B 108.64 328 P PKiKP 14 57 19.8 +0.8
baz=102
M17K Holitna River 108.71 329 P PKiKP 14 57 19.5 +0.3
baz=102
S14K Fog Glacier 108.71 324 P PKiKP 14 57 20.7 +1.2
baz=102
E21K Killik River 108.79 337 P PKiKP 14 57 20.1 +0.9
baz=103
J18K Innoko River 108.81 332 P PKiKP 14 57 20.3 +0.9
baz=102
B22K Teshekpuk Lake 109.02 339 P PKiKP 14 57 21.2 +1.7
baz=102
SDPT Sand Point 109.03 323 P PKiKP 14 57 20.3 +0.4
baz=102
H19K Roundabout Mou 109.12 334 P PKiKP 14 57 20.7 +0.9
baz=102
F20K Avaraart Lake 109.15 336 P PKiKP 14 57 20.0 +0.2
baz=102
GCSA Galena City Sc 109.15 333 P PKiKP 14 57 20.3 +0.5
baz=101
N16K Nishlik Lake 109.16 328 P PKiKP 14 57 21.6 +1.5
baz=101
C21K Knifeblade Rid 109.23 338 P PKiKP 14 57 21.5 +1.5
baz=102
L17K Donlin 109.26 330 P PKiKP 14 57 21.4 +1.3
baz=101
B21K Ikpikpuk River 109.27 338 P PKiKP 14 57 21.0 +1.0
baz=102
M16K Timber Creek 109.36 329 P PKiKP 14 57 21.5 +1.1
baz=101
K17K Iditarod 109.37 331 P PKiKP 14 57 21.8 +1.4
baz=101
O15K Ungalikthiuk R 109.43 327 P PKiKP 14 57 21.5 +0.9
baz=101
G19K Purcell Mounta 109.50 334 P PKiKP 14 57 21.1 +0.5
baz=101
E20K Nigu River 109.56 337 P PKiKP 14 57 21.9 +1.2
baz=101
A22K Sinclair Lake 109.66 340 P PKiKP 14 57 22.2 +1.5
baz=101
L16K Owhat River 109.73 330 P PKiKP 14 57 22.7 +1.6
baz=100
N15K Kwethluk River 109.75 328 P PKiKP 14 57 22.7 +1.5
baz=100
D20K Etivluk River 109.80 337 P PKiKP 14 57 23.1 +2.1
baz=100
E19K Redstone River 109.80 336 P PKiKP 14 57 22.0 +0.9
baz=100
H18K Honhosa River 109.84 333 P PKiKP 14 57 22.5 +1.3
baz=100
J17K VABM Dome 109.84 331 P PKiKP 14 57 22.4 +1.2
baz=100
F19K Shaleruckik Mo 109.90 335 P PKiKP 14 57 21.8 +0.6
baz=100
S12K Black Hills 109.98 323 P PKiKP 14 57 23.6 +1.9
baz=100
G18K Tagagawik 110.09 334 P PKiKP 14 57 22.3 +0.6
baz=99
M15K Kasigluk River 110.13 328 P PKiKP 14 57 23.7 +1.9
baz=100
O14K Tigyukauivet M 110.17 327 P PKiKP 14 57 24.3 +2.4
baz=100
B20K Meade River 110.21 339 P PKiKP 14 57 24.3 +2.6
baz=99
D19K Kuna River 110.30 337 P PKiKP 14 57 23.8 +1.8
baz=99

H17K	Granite Mounta	110.46	333	P	PKiKP	14 57 24.1 +1.8
	baz=99					
N14K	Kuskokwak Cree	110.49	328	P	PKiKP	14 57 23.5 +1.0
	baz=99					
J16K	Anvik River	110.50	331	P	PKiKP	14 57 23.8 +1.3
	baz=99					
DZM	Mont Dzumac	110.53	234	eLR	LR	15 30 18.9
	comp=Z,128nm,25.9s					
F18K	Selawik	110.60	335	P	PKiKP	14 57 24.7 +2.2
	baz=98					
I17K	Unalakleet	110.64	332	P	PKiKP	14 57 24.2 +1.6
	baz=98					
L15K	Ungalak Mounta	110.67	329	P	PKiKP	14 57 24.3 +1.5
	baz=98					
M14K	Bethel	110.75	328	P	PKiKP	14 57 24.3 +1.3
	baz=98					
K15K	Wolf Creek Mou	110.78	330	P	PKiKP	14 57 24.8 +1.7
	baz=98					
G17K	Kiwalik Mounta	110.85	334	P	PKiKP	14 57 24.8 +1.7
	baz=98					
C19K	Lookout Ridge	110.92	337	P	PKiKP	14 57 25.3 +2.1
	baz=97					
E18K	Tukpahlearik C	111.08	336	P	PKiKP	14 57 25.1 +1.6
	baz=97					
L14K	Kuka Creek	111.19	329	P	PKiKP	14 57 25.4 +1.6
	baz=98					
F17K	Baldwin Pennin	111.21	334	P	PKiKP	14 57 25.4 +1.7
	baz=97					
M13K	Dall Lake	111.39	328	P	PKiKP	14 57 25.2 +1.0
	baz=97					
H16K	Elim	111.40	333	P	PKiKP	14 57 25.6 +1.4
	baz=97					
C18K	Utukok River	111.44	337	P	PKiKP	14 57 26.3 +2.1
	baz=96					
E17K	Hotham Inlet	111.51	335	P	PKiKP	14 57 26.2 +2.0
	baz=96					
G16K	Koyuk River	111.54	333	P	PKiKP	14 57 26.4 +2.0
	baz=96					
A19K	Wainwright	111.56	339	P	PKiKP	14 57 26.4 +2.2
	baz=96					
B18K	Kokolik River	111.73	338	P	PKiKP	14 57 26.8 +2.1
	baz=95					
J14K	Nanvaranak Lak	111.77	330	P	PKiKP	14 57 26.2 +1.3
	baz=96					
AKASG	Malin Array Be	111.81	43	PP	PP	14 58 07.4 -2.7
	comp=Z,0.1nm,0.3s,baz=256,slow=8.0,SNR=5.7					
RDOG	Red Dog Mine	112.02	336	P	PKiKP	14 57 26.4 +1.1
	baz=95					
D17K	Noatak River	112.06	336	P	PKiKP	14 57 26.6 +1.3
	baz=95					
C17K	DeLong Mountai	112.15	337	P	PKiKP	14 57 27.6 +2.0
	baz=94					
K13K	Kusilvak Mount	112.19	329	P	PKiKP	14 57 27.8 +2.1
	baz=96					
G15K	Niukluk	112.20	333	P	PKiKP	14 57 27.4 +1.8
	baz=95					
UNV	Unalaska Valle	112.23	321	P	PKiKP	14 57 27.6 +1.6
	baz=97					
F15K	North Star Dit	112.52	334	P	PKiKP	14 57 28.5 +2.2
	baz=94					
ANM	Nome	112.74	332	P	PKiKP	14 57 28.0 +1.3
	baz=94					
M11K	Mekoryuk	112.79	328	P	PKiKP	14 57 28.5 +1.6
	baz=95					
C16K	Lisburne Hills	112.94	336	P	PKiKP	14 57 28.5 +1.5
	baz=92					
BRTR	Keskin Array B	113.08	55	PP	PP	14 58 16.3 -3.3
	comp=Z,0.6nm,0.6s,baz=224,slow=6.8,SNR=5.2					
F14K	Arctic Creek	113.20	333	P	PKiKP	14 57 28.8 +1.2
	baz=93					
NIKH	Nikolski High	113.53	320	P	PKiKP	14 57 29.5 +1.0
	baz=96					
TNA	Tin City	113.87	333	P	PKiKP	14 57 30.0 +1.2
	baz=91					
P08K	Saint George I	114.25	323	P	PKiKP	14 57 30.1 +0.3
	baz=94					
OBN	Obninsk	116.63	38	‖ iPKIKP	PKiKP	14 57 36.9 +2.5
OBN						14 58 45.0
OBN						15 04 36.2
OBN				PPS	PPS	15 09 38.0
OBN				SS	SS	15 14 49.0 +8.3
OBN				SSS	SSS	15 19 08.0
OBN				pmax	pmax	
	comp=Z,4.0nm,0.7s					
OBN				MLR	MLR	
	comp=Z,28nm,18.0s					
KIV	Kislovodsk	120.27	51	e PKIKP	PKiKP	14 57 43.4 +1.4
KIV				pmax	pmax	
	comp=Z,3.0nm,1.0s					
KBZ	Khabaz	120.42	51	i PKIKP	PKPdf	14 57 42.2 +0.1
BILL	Bilibino	123.32	338	‖ iPKIKP	PKiKP	14 57 47.8 +0.6
BILL						15 04 41.0
BILL				eSSS	SSS	15 20 37.9
BILL				pmax	pmax	
	comp=Z,5.0nm,1.5s					
BILL				MLR	MLR	
	comp=Z,45nm,17.0s					
H11S2	WAKE ISLAND Hyl	28.20	276	T	T	17 18 20.8
	baz=104,slow=75,SNR=91					
H11S1	WAKE ISLAND Hyl	28.21	277	T	T	17 18 21.3
	baz=104,slow=75,SNR=58					
H11S3	WAKE ISLAND Hyl	28.21	276	T	T	17 18 22.1
	baz=104,slow=75,SNR=64					
H11N3	WAKE ISLAND Hyl	28.30	278	T	T	17 18 25.9
	baz=104,slow=74,SNR=115					
H11N2	WAKE ISLAND Hyl	28.31	278	T	T	17 18 26.9
	baz=104,slow=74,SNR=97					
H11N1	WAKE ISLAND Hyl	28.31	278	T	T	17 18 27.1
	baz=104,slow=74,SNR=71					
ARU	Arti	128.65	35	i PKIKP	PKPdf	14 57 57.3 -0.2
ASAR	Alice Springs	129.34	207	PKP	PKiKP	14 58 00.7 0.0
	comp=Z,2.8nm,0.8s,baz=155,slow=2.0,SNR=17					
SEY	Seymchan	130.89	337	i PKIKP	PKPdf	14 58 01.4 -0.1
SEY				pmax	pmax	
	comp=Z,5.0nm,1.2s					
WRA	Warramunga Arr	132.41	210	PKP	PKPdf	14 58 06.6 +0.8
	comp=Z,2.2nm,0.5s,baz=168,slow=1.8,SNR=18					
WRA				pPKP	pPKPdf	14 58 38.5 +0.6
	comp=Z,1.4nm,0.6s,baz=155,slow=1.8,SNR=4.3					
WRA				SKPbc	SKPab	15 01 23.2 -0.2
	comp=Z,3.3nm,1.0s,baz=152,slow=3.8,SNR=9.2					
WRAB	Tennant Creek	132.41	210	i PKIKP	PKPdf	14 58 04.4 -1.4
BVAR	Borovoye Array	136.29	35	PKP	PKPdf	14 58 12.2 +0.2
	comp=Z,1.7nm,0.8s,baz=300,slow=3.3,SNR=7.7					
BVAR				pPKP	pPKPdf	14 58 45.4 +1.0
	comp=Z,2.0nm,0.8s,baz=277,slow=2.5,SNR=4.5					
BRLS	Borolday	139.90	49	e PKP	PKPdf	14 58 20.1 +1.0
	baz=49					
BRLS	Borolday	139.90	49	e PKIKP	PKPdf	14 58 20.0 +1.0
IUG	Iuzhnay	140.30	50	e PKP	PKPdf	14 58 21.1 +1.2
	baz=50					
IUG	Iuzhnay	140.30	50	e PKIKP	PKPdf	14 58 21.0 +1.2
KURK	Kurchatov	141.84	34	i PKIKP	PKPdf	14 58 23.8 +1.6
KURBB	Kurchatov Arra	141.85	34	PKP	PKPdf	14 58 20.4 -1.8
	comp=Z,0.9nm,0.9s,baz=309,slow=1.4,SNR=3.5					
BTLS	Baital	142.01	44	e PKP	PKPdf	14 58 23.6 +0.9
	baz=44					
BTLS	Baital	142.01	44	e PKIKP	PKPdf	14 58 23.5 +0.9
ZALV	Zalesovo Beam	142.54	26	PKP	PKPdf	14 58 21.1 -2.3
	comp=Z,1.1nm,0.5s,baz=327,slow=7.9,SNR=4.8					
SGDS	Sogindy	143.04	46	e PKP	PKPdf	14 58 25.4 +0.7
	baz=46					
SGDS	Sogindy	143.04	46	e PKIKP	PKPdf	14 58 25.4 +0.7
AAK	Ala-Archa	143.25	48	i PKIKP	PKPbc	14 58 23.8 +1.3
BOOM	Boomskoye usch	144.30	47	PKPdf	PKPdf	14 58 26.8 -0.2
BOOM	Boomskoye usch	144.30	47	PKIKP	PKPdf	14 58 26.8 -0.2
AAA	Alma-Ata	144.66	46	e PKP	PKPdf	14 58 28.3 +0.8
	baz=46					
AAA	Alma-Ata	144.66	46	e PKIKP	PKPdf	14 58 28.3 +0.8
NIL	Nilore	144.68	63	PKPdf	PKPab	14 58 26.9 +0.1
NIL	Nilore	144.68	63	PKIKP	PKPab	14 58 26.9 +0.1
YSS	Yuzh-Sakhalins	144.69	322	e PKIKP	PKPdf	14 58 27.6 +0.3
YSS				pmax	pmax	
	comp=Z,20nm,1.1s					
NRN	Naryn	144.74	49	PKPdf	PKPbc	14 58 27.9 +0.6
NRN	Naryn	144.74	49	PKIKP	PKPbc	14 58 27.9 +0.6
TNSS	Tian-Shan	144.75	46	e PKP	PKPdf	14 58 28.8 +0.6
	baz=46					
TNSS	Tian-Shan	144.75	46	e PKIKP	PKPdf	14 58 28.7 +0.6
MDOK	Medeo	144.76	46	e PKP	PKPdf	14 58 28.2 +0.4
	baz=46					
MDOK	Medeo	144.76	46	e PKIKP	PKPdf	14 58 28.2 +0.4
TDK	Taldyqorghan	144.80	42	e PKP	PKPdf	14 58 28.3 +0.7
	baz=42					
TDK	Taldyqorghan	144.80	42	e PKIKP	PKPdf	14 58 28.3 +0.7
KSH	Kashi	145.40	52	PKPbc	PKPbc	14 58 29.5 +0.4
KSH				sPKP		14 59 01.4
KSH				PP	PP	15 01 47.6 -2.4
KPKS	Kokpek	145.70	44	e PKP	PKPbc	14 58 30.3 +0.3
	baz=44					
KPKS	Kokpek	145.70	44	e PKP2	PKPbc	14 58 30.2 +0.3
SATY	Saty	145.71	45	e PKP	PKPbc	14 58 30.1 +0.1
	baz=45					
SATY				e PP	PP	15 01 53.4 +1.8
	baz=45					
SATY	Saty	145.71	45	e PKP2	PKPbc	14 58 30.0 +0.1
SATY				e		15 01 53.4
UZB	Uzynbulak	146.07	44	e PKP	PKPbc	14 58 31.1 -0.1
	baz=44					
UZB	Uzynbulak	146.07	44	e PKP2	PKPbc	14 58 31.0 -0.1
MK31	Makanchi Array	146.11	37	i PKP2	PKPdf	14 58 30.4 +0.6
MKAR	Makanchi Array	146.11	37	PKPbc	PKPbc	14 58 30.9 0.0
	comp=Z,9.2nm,0.9s,baz=304,slow=3.1,SNR=51					
MKAR				pPKPbc	pPKPdf	14 59 01.8 -0.3
	comp=Z,4.5nm,0.8s,baz=336,slow=2.7,SNR=3.7					
JKA	Kamikawa-asahi	146.27	318	PKPbc	PKPab	14 58 33.2 +0.8
ASAJ	Asahikawa	146.27	318	PKP2	PKPab	14 58 33.2 +0.8
ZEA	Zeya	146.33	343	e PKP2	PKPab	14 58 32.5 +0.2
ZEA				pmax	pmax	
	comp=Z,10.0nm,1.0s					
SHLS	Shalkode	146.35	44	e PKP	PKPbc	14 58 31.8 -0.1
	baz=44					
SHLS	Shalkode	146.35	44	e PKP2	PKPbc	14 58 31.7 -0.1
ERM	Erimo	146.91	314	i PKIKP	PKPdf	14 58 32.3 +1.1
ZSN	Zaisan	147.08	34	e PKP	PKPdf	14 58 32.6 +1.1
	baz=34					
ZSN	Zaisan	147.08	34	e PKIKP	PKPdf	14 58 32.5 +1.1
KLR	Kul'dur	148.61	334	i PKIKP	PKPdf	14 58 35.7 +1.9
KLR				pmax	pmax	
	comp=Z,6.0nm,1.2s					
HEH	HeiHe	149.35	340	e P	PKPab	14 58 44.8 +0.4
HEH				pmax	pmax	
	comp=Z,12nm,0.9s					
MOY	Mondy	149.58	13	e PKP2	PKiKP	14 58 43.3 +2.1
MOY				pmax	pmax	
	comp=Z,16nm,1.2s					
WMQ	Urumqi	150.95	37	e PKPbc	PKPdf	14 58 38.5 +0.7
USRK	Ussuriysk Ar.	152.28	327	PKPbc	PKiKP	14 58 47.4 +0.6
	comp=Z,5.0nm,0.9s,baz=57,slow=8.1,SNR=6.3					
USRK				pPKPbc	pPKPbc	14 59 16.6 -2.3
	comp=Z,6.0nm,0.8s,baz=43,slow=2.3,SNR=4.8					
MJAR	Matsushiro Arr	152.72	307	PKPbc	PKPbc	14 58 48.0 +0.2
	comp=Z,5.4nm,1.0s,baz=58,slow=1.1,SNR=19					
MJAR				pPKPbc	pPKPbc	14 59 19.6 -0.3
	comp=Z,3.7nm,1.0s,baz=70,slow=0.4,SNR=3.6					
SONM	Songino Array	154.18	8	PKP	PKPdf	14 58 42.7 +0.1
	comp=Z,0.2nm,0.3s,baz=337,slow=6.9,SNR=2.3					
SONM				pPKP	pPKPdf	14 59 11.8 -3.0
	comp=Z,2.3nm,0.8s,baz=304,slow=1.5,SNR=5.8					
KSRS	Korea Array	159.17	320	PKP	PKPdf	14 58 48.3 -0.8
	comp=Z,0.9nm,0.9s,baz=45,slow=1.9,SNR=5.9					
KSRS				pPKP	pPKPdf	14 59 21.8 +0.3
	comp=Z,1.8nm,1.0s,baz=45,slow=1.1,SNR=4.5					
KSRS				pPKPab	pPKPab	14 59 56.7 -1.2
	comp=Z,1.6nm,0.8s,baz=56,slow=3.6,SNR=3.2					
GTA	Gaotai	160.29	27	P	PKPab	14 59 32.8 +1.3
GTA				pmax	pmax	
	comp=Z,5.0nm,0.9s					
HHC	Hu-ho-hao-te	161.47	359	e P	PKPdf	14 58 50.8 -0.9
LZH	Lanzhou	164.76	24	e P	PKPab	14 59 52.3 +1.1
LZH				pmax	pmax	
	comp=Z,20nm,1.3s					
CMAR	Chiang Mai Arr	167.77	106	PKP	PKPdf	14 58 58.2 +0.5
	comp=Z,0.4nm,0.4s,baz=167,slow=9.3,SNR=1.2					
CMAR				PKPab	PKPab	15 00 04.7 -0.3
	comp=Z,2.1nm,0.6s,baz=247,slow=5.0,SNR=7.9					
CMAR				PP	PP	15 03 54.6 +0.6
	comp=Z,1.6nm,1.0s,baz=253,slow=4.4,SNR=7.4					
NJ2	Nanjing	168.18	327	e P	PKPdf	14 58 57.8 +0.2
NJ2				pmax	pmax	
	comp=Z,14nm,0.5s					
PZH	PanZhiHua	170.29	62	PKP	PKPdf	14 58 58.1 -1.1

DJA 21 14:53:41.3±0.6, 5°S±5°×13°0E±°, h247km±12km, M3.9/7, mb3.4/1, MLv4.1/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	0.81	20	P	Pn	14 54 14.4	-0.7
NLAI	Namlea	3.23	309	P	Pn	14 54 38.4	+2.2
FAKI	Fak Fak	3.52	48	P	Pn	14 54 40.0	+0.5
KMPI	Kaimana, Papua	4.38	69	P	Pn	14 54 50.4	+0.9
SWI	Sorong	4.69	20	P	Pn	14 54 53.2	-0.1
SANI	Sanana	4.85	311	P	Pn	14 54 54.5	-0.7
EDFI	Ende, Flores	8.59	246	P	Pn	14 55 41.6	-0.6

*NEIC **21** 15:20:58.3±2.7, 19°.1N±0°.1×69°.3W±0°.1, h35km±2km, ML2.9/20, Md3.7/6(RSPR), Error ellipse: s-maj=24.2km s-min=15.0km az=209.0*
*RSPR **21** 15:21:01.8, 19°.17N×68°.81W, h158km±6km, MD3.7/6*
ISC 21 15:21:03.3±1.7, 19°.2N±0°.2×68°.77W±0°.06, h129km, n38, σ1§77/35, 1C-7D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.81	153		Pn	15 21 14.1	-10
PCDR				IAML		15 21 42.5	
	comp=N,248nm,2.2s						
PCDR	Punta Cana, DR	0.81	153		Sn	15 21 25.4	-15
AGPR	Aguadilla, PR	1.75	116		Pn	15 21 30.9	-3.3
AGPR				IAML		15 21 59.5	
	comp=E,108nm,0.5s						
AGPR				IAML		15 22 11.3	
	comp=N,95nm,2.5s						
AGPR	Aguadilla, PR	1.75	116		Sn	15 21 55.1	-2.7
LSP	Las Mesas	1.92	123	‖ e P	Pn	15 21 33.8	-2.5
LSP	Las Mesas	1.92	123	e S	Sn	15 22 01.7	+0.2
LSP	Las Mesas	1.92	123		Pn	15 21 33.8	-2.5
LSP					Sn	15 22 01.7	+0.2
CRPR	Cabo Rojo, PR	2.00	128	‖ e P	Pn	15 21 37.4	+0.2
CRPR	Cabo Rojo, PR	2.00	128	e S	Sn	15 22 05.8	+2.7
CRPR	Cabo Rojo, PR	2.00	128		Pn	15 21 35.1	-2.0
CRPR	Cabo Rojo, PR	2.00	128		Sn	15 22 05.8	+2.7
MLPR	Magueyes Islan	2.07	127	‖ e P	Pn	15 21 36.7	-1.3
MLPR	Magueyes Islan	2.07	127	e S	Sn	15 22 05.9	+1.1
MLPR	Magueyes Islan	2.07	127		Pn	15 21 35.2	-2.9
MLPR	Magueyes Islan	2.07	127		Sn	15 22 05.9	+1.1
MLPR	Magueyes Islan	2.07	127	IAML		15 22 12.8	
	comp=E,26nm,0.9s						
AOPR	Arecibo Observ	2.11	115	‖ e P	Pn	15 21 38.4	-0.2
AOPR	Arecibo Observ	2.11	115	e S	Sn	15 22 06.0	+0.4
AOPR	Arecibo Observ	2.11	115		Sn	15 22 06.0	+0.4
AOPR	Arecibo Observ	2.11	115		Pn	15 21 37.0	-1.5
AOPR				IAML		15 22 11.1	
	comp=N,102nm,0.3s						
UUPR	Utuado, UPR, P	2.18	116	‖ e P	Pn	15 21 36.8	-2.6
UUPR	Utuado, UPR, P	2.18	116	e S	Sn	15 22 08.3	+1.2
UUPR	Utuado, UPR, P	2.18	116		Pn	15 21 39.0	-0.4
UUPR	Utuado, UPR, P	2.18	116		Sn	15 22 08.3	+1.2
UUPR	Utuado, UPR, P	2.18	116	IAML		15 22 11.5	
	comp=E,526nm,0.3s						
UUPR				IAML		15 22 15.2	
	comp=N,552nm,0.4s						
EMPR	Esperanza - Ma	2.26	109	‖ e P	Pn	15 21 41.4	+1.1
EMPR	Esperanza - Ma	2.26	109	e S	Sn	15 22 11.1	+2.3
EMPR	Esperanza - Ma	2.26	109		Pn	15 21 39.2	-1.2
EMPR	Esperanza - Ma	2.26	109		Sn	15 22 11.1	+2.3
CELP	Cerrillos	2.38	119	‖ e P	Pn	15 21 41.8	-0.2
CELP	Cerrillos	2.38	119	e S	Sn	15 22 14.1	+2.4
CELP	Cerrillos	2.38	119	IAML		15 22 18.4	
	comp=E,40nm,0.7s						
CELP				IAML		15 22 20.5	
	comp=N,48nm,0.7s						
CELP	Cerrillos	2.38	119		Pn	15 21 41.8	-0.2
CELP					Sn	15 22 14.1	+2.4
SDDR	Presa de Saban	2.39	264	‖ e P	Pn	15 21 41.5	-0.6
SDDR	Presa de Saban	2.39	264	e S	Sn	15 22 12.8	+0.9
SDDR	Presa de Saban	2.39	264		Pn	15 21 41.5	-0.6
GCPR	Guaynabo City	2.71	110	Pn	Pn	15 21 45.1	-1.1
GCPR				IAML		15 23 20.6	
	comp=N,22nm,2.0s						
GCPR				IAML		15 23 42.4	
	comp=E,26nm,2.6s						
SJG	San Juan	2.73	114	Pn	Pn	15 21 46.5	+0.1
SJG				IAML		15 22 45.9	
	comp=E,31nm,0.3s						
SJG				IAML		15 23 10.7	
	comp=E,38nm,0.3s						

*IDC **21** 16:10:17.8±20.0, 18°.83N×156°.03W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=421.5km s-min=61.7km az=36.0*
*HVO **21** 16:10:23.5±0.8, 19°.415N±0°.009×155°.278W±0°.008, h0km±2km, ML3.4/38, ML3.2/33(NEIC), Error ellipse: s-maj=1.3km s-min=0.9km az=185.0*
*NEIC **21** 16:10:24.0±1.0, 19°.39N±0°.01×155°.291W±0°.008, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.8km az=126.0*
ISC 21 16:10:24.3±0.8, 19°.43N±0°.04×155°.28W±0°.03, h10km, n40, σ1§38/35, mb3.5/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	Uwekahuna B	0.01	207		Pg	16 10 24.6	-1.7
SBLHI	Steaming Bluff	0.01	106		Pg	16 10 24.3	-1.9
OBL	Observatory Le	0.01	215		Pg	16 10 24.1	-2.1
HATHI	Halema'uma'u T	0.01	114		Pg	16 10 24.6	-1.6
UWE	Uwekahuna	0.02	244	Pg	Pg	16 10 24.2	-2.0
UWE	Uwekahuna	0.02	244		Sg	16 10 25.0	-2.7
BYL	Byron's Ledge	0.02	139	Pg	Pg	16 10 24.2	-2.1
BYL	Byron's Ledge	0.02	139		Sg	16 10 25.1	-2.5
KKO	Keanakako'i	0.03	164		Pg	16 10 25.1	-1.2
WRMHI	West Rim	0.03	226		Pg	16 10 25.4	-0.9
RIM	Rim	0.03	177		Pg	16 10 25.1	-1.2
RSD	Rainshed	0.03	356		Sg	16 10 26.7	-1.2
RSD	Rainshed	0.03	356	Pg	Pg	16 10 24.8	-1.6
RSD				IAML		16 10 25.5	
	comp=E,13μm,0.5s						
RSD				IAML		16 10 25.5	
	comp=N,19μm,0.8s						
SDHHI	Sand Hill	0.04	204		Pg	16 10 25.7	-0.7
PUH	Pauahi	0.08	134	Pg	Pg	16 10 25.4	-1.4
PUH				IAML		16 10 27.1	
	comp=E,21μm,0.8s						
PUH				IAML		16 10 27.2	
	comp=N,13μm,0.4s						
KNHH	Kane Nui o Ham	0.11	116		Pg	16 10 26.6	-0.5
MLH	Mauna Loa	0.12	302		Pg	16 10 27.1	-0.4
MLH	Mauna Loa	0.12	302	IAML		16 10 29.7	
	comp=N,7μm,0.8s						
MLH				IAML		16 10 30.6	
	comp=E,17μm,0.6s						
HLP	Hilina Pali	0.14	193		Sg	16 10 29.7	0.0
HLP	Hilina Pali	0.14	193		Pg	16 10 27.2	-0.2
HLP	Hilina Pali	0.14	193	IAML		16 10 28.4	
	comp=E,7μm,0.9s						
HLP	Hilina Pali	0.14	193	IAML		16 10 29.7	
	comp=N,11μm,0.6s						
STCH	Steam Cracks	0.15	107		Pg	16 10 27.3	-0.4
STCH	Steam Cracks	0.15	107	IAML		16 10 30.9	
	comp=E,9μm,0.6s						
STCH				IAML		16 10 31.1	
	comp=N,14μm,0.8s						
NPOC	North of Pu'u	0.16	103		Pg	16 10 27.3	-0.6
JCUZ	Jacuzzi	0.17	105		Pg	16 10 27.4	-0.7
HTC	Hot Caves	0.22	211		Pg	16 10 28.2	-0.7
JOKA	Jonika Flow	0.26	89	Pg	Pg	16 10 29.1	-0.4
JOKA				IAML		16 10 36.7	
	comp=E,4μm,0.8s						
HMH	Humu'ula Sheep	0.26	311		Pg	16 10 29.6	-0.1
HMH	Humu'ula Sheep	0.26	311	IAML		16 10 38.0	
	comp=E,6μm,1.0s						
HMH				IAML		16 10 38.1	
	comp=N,5μm,0.4s						
MLOA	Mauna Loa Obse	0.30	291	Pg	Pg	16 10 29.8	-0.8
MLOA				IAML		16 10 37.7	
	comp=N,4μm,0.6s						
ALEP	Alea Permanent	0.36	288		Pg	16 10 31.2	-0.5
ALEP					Sg	16 10 37.2	+0.6
KHU	Kahuku	0.37	240		Pg	16 10 31.3	-0.4
KHU	Kahuku	0.37	240	IAML		16 10 39.4	
	comp=E,3μm,1.0s						
KHU				IAML		16 10 39.7	
	comp=N,3μm,1.0s						
POHA	Pohakuloa	0.41	323	Pg	Pb	16 10 32.5	-1.2
HUH	Hualalai	0.59	296		Pb	16 10 35.8	-1.1
CPH	Captain Cook	0.61	276		Pg	16 10 35.1	-1.1
PDAR	Pinedale Array	44.85	48	P	P	16 18 41.1	+2.0
	comp=N,0.1nm,0.4s,baz=242,slow=5.0,SNR=4.0						
	comp=N,0.1nm,0.4s						
ILAR	Eielson Array	45.66	5	P	P	16 18 45.0	+0.2
	comp=N,0.5nm,0.8s,baz=203,slow=6.7,SNR=5.0						
	comp=N,0.5nm,0.8s						
TXAR	Lajitas Array	47.71	68	P	P	16 19 03.5	+1.9
	comp=N,0.6nm,0.8s,baz=254,slow=6.5,SNR=6.2						
	comp=N,0.6nm,0.8s						

SNET 21 16:56:59.8±0.5, 13°.59N×88°.68W, h1km±2km, ML2.1, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	Alcaldia de Te	0.11	239	e P	Pg	16 56 58.8	-3.1
TECO				e S	Sg	16 57 00.9	-2.4
TECO	Alcaldia de Te	0.11	239	e P	Pg	16 57 02.5	+0.6
TECO				e S	Sg	16 57 04.4	+1.1
SCLA	Alcaldia de Sa	0.12	338	e P	Pg	16 56 59.6	-2.5
SCLA				e S	Sg	16 57 01.4	-2.2
SCLA	Alcaldia de Sa	0.12	338	e P	Pg	16 57 03.3	+1.3
SCLA				e S	Sg	16 57 05.5	+1.9
PQSS	Presa 15 de Se	0.12	76	e P	Pg	16 56 58.6	-3.6
PQSS				e S	Sg	16 57 00.8	-3.0
PQSS	Presa 15 de Se	0.12	76	e P	Pg	16 57 02.5	+0.3
PQSS				e S	Sg	16 57 05.0	+1.1
COEG	Centro de Oper	0.19	278	e P	Pg	16 57 01.0	-2.5
COEG				e S	Sg	16 57 04.0	-2.1
COEG				IAML		16 57 06.1	
	comp=Z,148nm,0.2s						
COEG	Centro de Oper	0.19	278	e P	Pg	16 57 04.8	+1.2
COEG				e S	Sg	16 57 07.9	+1.9
COEG				IAML		16 57 09.8	
	comp=Z,440nm,0.3s						

DJA 21 17:20:27.0±0.8, 10°S±23°×11°8E±°, h54km±39km, M3.8/6, mb4.1/2, MLv3.6/6, Sumbawa region

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

NACB				S	Sb	17 32 46.1	-0.7
	baz=209							
NNSB	**Datong**	**0.34 270**		P	Pb	17 32 42.0	-0.6
	baz=270							
NNSB				*e*S	Sg	17 32 46.4	+1.1
	baz=270							

JMA 21 17:33:09.0±0.1, 24°.2N±0°.3×123°.9E±0°.3, h20km±1km, MV1.3/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.13**	**198**	*i* P	Pb	17 33 13.0	-0.3
JKRS	**Kuro-shima**	**0.15**	**69**	*i* P	Pb	17 33 13.6	0.0
JKRS				*e*S	Sb	17 33 16.9	+0.2
IRIF	**Iriomote-Funau**	**0.19**	**324**	P	Pb	17 33 13.8	-0.2
IRIF				*e*S	Sb	17 33 17.4	0.0
JIJ	**Ishigaki jima**	**0.32**	**56**	*i* P	Pb	17 33 15.8	-0.2
JIJ				*e*S	Sb	17 33 20.4	-0.4
JISG	**Ishigakijimahi**	**0.58**	**46**	P	Pb	17 33 20.2	-0.3
JISG				*e*S	Sb	17 33 28.3	-0.1
YOJ	**Yonaguni jima**	**0.81**	**290**	*e*S	Sb	17 33 35.5	+0.5
JYNG	**Yonagunijimaku**	**0.87**	**288**	*e*P	Pb	17 33 25.4	+0.1
JYNG				*e*S	Sb	17 33 37.1	+0.6
JTJ	**Tarama**	**0.90**	**59**	*e*P	Pn	17 33 26.3	-0.2
JTJ				*e*S	Sn	17 33 38.3	-0.6

*VAO **21** 17:45:10.5±3.5, 21°.37S×69°.41W, h68km±14km, mb4.7*
*IDC **21** 17:45:18.5±1.6, 21°.37S×68°.49W, h79km±14km, mb4.1/3, mbtmp4.2/7, MS2.9/2, Error ellipse: s-maj=33.7km s-min=14.4km az=122.0*
*NEIC **21** 17:45:19.9±1.2, 21°.28S±0°.04×68°.93W±0°.08, h130km±4km, mb4.5/11, ML4.0(GUC), Error ellipse: s-maj=10.9km s-min=5.8km az=79.0*
*SJA **21** 17:45:19.0±0.7, 21°.26S×68°.86W, h126km±5km, ML4.0, MW4.1*
*GUC **21** 17:45:21.0±0.7, 21°.26S×68°.82W, h117km±4km, ML4.0*
ISC 21 17:45:19.4±0.6, 21°.26S±0°.03×68°.85W±0°.05, h124km±6km, n98, σ1§68/127, mb4.0/3, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.65**	**214**		**Pn**	**17 45 39.6**	**+0.6**
PB09				Sn	**Sn**	**17 45 53.6**	**-0.2**
PB09	**IPOC Station P**	**0.65**	**214**	*e*P	**Pn**	**17 45 38.9**	**0.0**
PB09				*e*S	**Sn**	**17 45 54.8**	**+1.0**
PB09				IAML		17 45 55.9	
	comp=Z,2μm,0.7s						
PB09	**IPOC Station P**	**0.65**	**214**	*e*P	**Pn**	**17 45 39.7**	**+0.7**
PB09				*e*S	**Sn**	**17 45 54.1**	**+0.3**
PB09				IAML		17 45 54.6	
	comp=N,4μm,0.5s						
PATCX	**Punta Patache**	**1.29**	**290**		**Pn**	**17 45 45.4**	**+0.5**
PATCX				Sn	**Sn**	**17 46 04.4**	**+0.2**
PATCX	**Punta Patache**	**1.29**	**290**	*e*P	**Pn**	**17 45 45.8**	**+0.9**
PATCX				*e*S	**Sn**	**17 46 05.5**	**+1.3**
PATCX				IAML		17 46 06.8	
	comp=Z,2μm,0.5s						
PATCX	**Punta Patache**	**1.29**	**290**	⇑*e*P	**Pn**	**17 45 45.8**	**+0.9**
PATCX				*e*S	**Sn**	**17 46 05.1**	**+0.9**
PATCX				IAML		17 46 06.7	
	comp=E,4μm,0.3s						
LVC	**Limon Verde**	**1.34**	**182**		**Pn**	**17 45 46.4**	**+0.6**
LVC				Sn	**Sn**	**17 46 06.5**	**+0.8**
LVC	**Limon Verde**	**1.34**	**182**	*e*P	Pn	17 45 34.5	-11
LVC				*e*S	**Sn**	**17 46 06.3**	**+0.6**
LVC	**Limon Verde**	**1.34**	**182**	P	Pn	17 45 40.0	-5.8
	comp=E,25nm,0.3s,baz=344,slow=13,SNR=72						
LVC				LR	LR	17 45 57.7	
	comp=E,58nm,21.1s,baz=176,slow=30						
LVC				S	**Sn**	**17 46 06.4**	**+0.6**
	comp=E,422nm,0.5s,baz=92,slow=22,SNR=15						
LVC	**Limon Verde**	**1.34**	**182**	*e*P	**Pn**	**17 45 47.2**	**+1.5**
LVC				*e*S	**Sn**	**17 46 06.6**	**+0.8**
LVC				IAML		17 46 07.4	
	comp=E,3μm,0.3s						
HMBC	**Humberstone**	**1.38**	**315**	Pn	**Pn**	**17 45 45.9**	**0.0**
HMBC				Sn	**Sn**	**17 46 05.4**	**-0.6**
HMBC	**Humberstone**	**1.38**	**315**	*e*P	**Pn**	**17 45 46.2**	**+0.3**
HMBC				*e*S	**Sn**	**17 46 06.6**	**+0.7**
HMBC				IAML		17 46 08.7	
	comp=Z,2μm,0.5s						
HMBC	**Humberstone**	**1.38**	**315**	⇑*e*P	**Pn**	**17 45 46.0**	**+0.2**
HMBC				*e*S	**Sn**	**17 46 05.9**	**0.0**
HMBC				IAML		17 46 08.3	
	comp=E,4μm,0.4s						
TA01	**Diego Aracena**	**1.42**	**299**		**Pn**	**17 45 46.5**	**+0.3**
TA01				Sn	**Sn**	**17 46 06.3**	**-0.2**
TA01	**Diego Aracena**	**1.42**	**299**	*e*P	**Pn**	**17 45 46.7**	**+0.5**
TA01				*e*S	**Sn**	**17 46 07.1**	**+0.6**
TA01				IAML		17 46 08.6	
	comp=Z,955nm,0.4s						
TA01	**Diego Aracena**	**1.42**	**299**	⇑*e*P	**Pn**	**17 45 46.8**	**+0.5**
TA01				*e*S	**Sn**	**17 46 06.6**	**0.0**
TA01				IAML		17 46 07.5	
	comp=N,2μm,0.4s						
TA02	**Huaiquique**	**1.55**	**309**		**Pn**	**17 45 47.9**	**+0.3**
TA02	**Huaiquique**	**1.55**	**309**	*e*P	**Pn**	**17 45 47.5**	**-0.2**
TA02				*e*S	**Sn**	**17 46 08.8**	**-0.4**
TA02				IAML		17 46 11.3	
	comp=Z,1μm,0.1s						
PB06	**IPOC Station P**	**1.59**	**205**		**Pn**	**17 45 49.3**	**+1.0**
PB06				Sn	**Sn**	**17 46 10.4**	**+0.2**
PB06	**IPOC Station P**	**1.59**	**205**	*e*P	**Pn**	**17 45 47.5**	**-0.7**
PB06				*e*S	**Sn**	**17 46 11.2**	**+0.9**
PB06				IAML		17 46 12.1	
	comp=Z,2μm,0.7s						
PB06	**IPOC Station P**	**1.59**	**205**	*e*P	**Pn**	**17 45 49.5**	**+1.2**
PB06				*e*S	**Sn**	**17 46 11.1**	**+0.9**
PB06				IAML		17 46 11.8	
	comp=E,3μm,0.4s						
PB04	**IPOC Station P**	**1.61**	**228**		**Pn**	**17 45 49.1**	**+0.6**
PB04				Sn	**Sn**	**17 46 10.0**	**-0.7**
PB04	**IPOC Station P**	**1.61**	**228**	*e*P	**Pn**	**17 45 49.1**	**+0.6**
PB04				*e*S	**Sn**	**17 46 11.5**	**+0.7**
PB04				IAML		17 46 12.8	
	comp=Z,1μm,0.5s						
PB04	**IPOC Station P**	**1.61**	**228**	⇑*i*P	**Pn**	**17 45 49.2**	**+0.6**
PB04				*e*S	**Sn**	**17 46 10.9**	**+0.2**
PB04				IAML		17 46 15.0	
	comp=E,1μm,0.6s						
GO01	**Chusmiza**	**1.62**	**348**		**Pn**	**17 45 49.8**	**+0.8**
GO01	**Chusmiza**	**1.62**	**348**	*e*P	**Pn**	**17 45 50.1**	**+1.2**
GO01				*e*S	**Sn**	**17 46 13.3**	**+1.9**
GO01	**Chusmiza**	**1.62**	**348**	*e*P	**Pn**	**17 45 49.8**	**+0.8**
GO01				*i* S	**Sn**	**17 46 12.8**	**+1.3**
GO01				IAML		17 46 14.3	
	comp=N,3μm,0.3s						
PB11	**IPOC Station P**	**1.67**	**333**	Pn	**Pn**	**17 45 49.8**	**+0.5**
PB11	**IPOC Station P**	**1.67**	**333**	*e*P	**Pn**	**17 45 49.8**	**+0.5**
PB11				*e*S	**Sn**	**17 46 07.2**	**-4.9**
PB11				IAML		17 46 13.0	
	comp=Z,2μm,1.2s						
PB11	**IPOC Station P**	**1.67**	**333**	*e*P	**Pn**	**17 45 49.9**	**+0.5**
PB11				*e*S	**Sn**	**17 46 12.2**	**+0.2**
AF01	**San Pedro de A**	**1.79**	**160**		**Pn**	**17 45 51.8**	**+0.9**
AF01	**San Pedro de A**	**1.79**	**160**	*e*P	**Pn**	**17 45 52.6**	**+1.7**
AF01				IAML		17 46 40.0	
	comp=Z,587nm,1.1s						
PB05	**IPOC Station P**	**2.02**	**218**		**Pn**	**17 45 54.0**	**+0.6**
PB05	**IPOC Station P**	**2.02**	**218**	*e*P	**Pn**	**17 45 54.3**	**+0.9**
PB05				*e*S	**Sn**	**17 46 13.3**	**-6.2**
PB05				IAML		17 46 20.0	
	comp=Z,542nm,0.7s						
PB05	**IPOC Station P**	**2.02**	**218**	*e*P	**Pn**	**17 45 54.1**	**+0.7**
PB05				*e*S	**Sn**	**17 46 19.1**	**-0.3**
PB15	**IPOC Station P**	**2.02**	**196**		**Pn**	**17 45 53.5**	**-0.1**
PB15	**IPOC Station P**	**2.02**	**196**	*e*P	**Pn**	**17 45 53.3**	**-0.2**
PB15				*e*S	**Sn**	**17 46 21.1**	**+1.4**
PB15				IAML		17 46 24.6	
	comp=Z,3μm,0.2s						
PB15	**IPOC Station P**	**2.02**	**196**	*e*P	**Pn**	**17 45 54.3**	**+0.8**
PB15				*e*S	**Sn**	**17 46 20.8**	**+1.2**
AP01	**Chacalluta**	**3.20**	**334**	Pn	**Pn**	**17 46 08.8**	**+0.4**
YJA	**Yavi**	**3.23**	**107**	*e*P	**Pn**	**17 46 11.6**	**+2.3**
PB14	**IPOC Station P**	**3.64**	**203**	Pn	**Pn**	**17 46 14.7**	**+0.1**
PB14	**IPOC Station P**	**3.64**	**203**	*e*P	**Pn**	**17 46 15.5**	**+0.9**
PB14				*e*S	**Sn**	**17 46 55.8**	**-1.5**
PB14				IAML		17 47 22.7	
	comp=Z,136nm,0.6s						
GO02	**Mina Guanaco**	**3.94**	**190**	Pn	**Pn**	**17 46 19.0**	**+0.4**
GO02	**Mina Guanaco**	**3.94**	**190**	*e*P	**Pn**	**17 46 19.4**	**+0.8**
AZAP	**Zapla**	**4.57**	**131**	*e*P	**Pn**	**17 46 29.0**	**+2.1**
AZAP				IAML		17 47 25.1	
	comp=Z,41nm,3.5s						
LPAZ	**La Paz**	**4.99**	**8**	Pn	**Pn**	**17 46 35.3**	**+2.4**
LPAZ	**La Paz**	**4.99**	**8**	*e*P	**Pn**	**17 46 35.8**	**+2.9**
LPAZ	**La Paz**	**4.99**	**8**	P	**Pn**	**17 46 34.6**	**+1.6**
	comp=Z,8.2nm,0.4s,baz=171,slow=5.4,SNR=49						
LPAZ				LR	LR	17 49 19.1	
	comp=Z,50nm,21.2s,baz=202,slow=47						
AC06	**Mina Casimiro**	**6.22**	**192**	Pn	**Pn**	**17 46 47.1**	**-1.8**
GO03	**Copiap**	**6.43**	**191**	Pn	**Pn**	**17 46 49.9**	**-1.8**
AC04	**Llanos de Chal**	**7.20**	**196**	Pn	**Pn**	**17 46 59.0**	**-3.1**
AC05	**El Transito**	**7.65**	**189**		**Pn**	**17 47 06.5**	**-1.7**
LCO	**Las Campanas**	**7.90**	**192**	Pn	**Pn**	**17 47 08.5**	**-3.2**
CO01	**Juntas del Tor**	**8.75**	**187**	Pn	**Pn**	**17 47 20.5**	**-2.7**
BBSD	**Serra de San D**	**8.78**	**64**	*e*P	**Pn**	**17 47 20.7**	**-2.8**
SIV	**San Ignacio**	**9.05**	**56**	P	**Pn**	**17 47 24.6**	**-2.5**
	comp=Z,14nm,0.5s,baz=241,slow=12,SNR=62						
SIV				S	**Sn**	**17 48 59.1**	**-8.2**
	comp=Z,2.5nm,0.7s,baz=298,slow=16,SNR=4.3						
GO04	**Tololo Observa**	**9.05**	**191**	Pn	**Pn**	**17 47 23.1**	**-4.1**
CO02	**Combarbal**	**10.09**	**191**	Pn	**Pn**	**17 47 36.9**	**-4.2**
PTLB	**Pontes e Lacer**	**10.88**	**60**	Pn	**Pn**	**17 47 50.9**	**-0.9**
PTLB	**Pontes e Lacer**	**10.88**	**60**	*e*P	**Pn**	**17 47 50.9**	**-0.9**
VILB	**Vilhena**	**11.69**	**46**	Pn	**Pn**	**17 48 00.7**	**-1.7**
VILB	**Vilhena**	**11.69**	**46**	*e*P	**Pn**	**17 48 01.1**	**-1.4**
CPUP	**Villa Florida**	**11.69**	**118**	Pn	**Pn**	**17 48 00.9**	**-1.5**
CPUP	**Villa Florida**	**11.69**	**118**	P	**Pn**	**17 47 59.4**	**-3.0**
	comp=Z,2.9nm,0.7s,baz=313,slow=11,SNR=7.1						
MT02	**Curacav**	**12.12**	**189**	Pn	Pn	17 48 03.2	-4.9
BO04	**La Punta**	**12.78**	**187**	Pn	**Pn**	**17 48 16.4**	**-0.1**
BO01	**Tunca**	**13.23**	**188**	Pn	**Pn**	**17 48 21.2**	**-1.2**
SALV	**Santo Antonio**	**13.56**	**69**	*e*P	**Pn**	**17 48 27.6**	**+0.7**
PDRB	**Porto dos Gac**	**15.06**	**52**	*e*P	**Pn**	**17 48 46.3**	**+0.3**
TRCB	**Terra Rica**	**15.12**	**99**	P	**Pn**	**17 48 48.1**	**+1.5**
BI02	**San Fabin de**	**15.49**	**187**	P	**Pn**	**17 48 51.4**	**+0.2**
BI02				IAmb	IAmb	17 48 53.8	
	comp=Z,12nm,0.8s						
ITAB	**Concordia**	**16.36**	**115**		**P**	**17 49 03.0**	**+0.5**
ITAB				IAmb	IAmb	17 49 16.6	
	comp=Z,53nm,1.5s						
PCMB	**Pacaembu**	**16.38**	**94**	*e*P	**Pn**	**17 49 02.7**	**+0.4**
LDASE	**Londrina, Braz**	**16.55**	**101**	*e*P	**Pn**	**17 49 04.8**	**+0.5**
ARAG	**Araguaiana, MT**	**17.08**	**74**	*e*P	**Pn**	**17 49 11.7**	**+0.9**
PLTB	**Pedras Altas**	**17.17**	**131**	P	**Pn**	**17 49 12.2**	**+0.3**
PLTB				IAmb	IAmb	17 49 51.8	
	comp=Z,25nm,1.4s						
TRQA	**Tornquist**	**17.76**	**162**		**Pn**	**17 49 19.8**	**+0.9**
FRTB	**Fartura**	**17.97**	**100**	*e*P	**P**	**17 49 21.2**	**+0.9**
SNDB	**Serra Nova Dou**	**19.18**	**64**	*e*P	**P**	**17 49 33.2**	**-0.3**
NPGB	**Novo Progresso**	**19.23**	**45**	*e*P	**P**	**17 49 33.9**	**-0.3**
PLCA	**Paso Flores**	**19.46**	**184**	P	**Pn**	**17 49 38.5**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=350,slow=10,SNR=9.2						
IPMB	**Ipameri, GO**	**19.71**	**84**	*e*P	**P**	**17 49 40.2**	**+0.8**
VAO	**Valinhos**	**20.35**	**99**	P	**P**	**17 49 45.3**	**-0.9**
VAO				IAmb	IAmb	17 49 47.4	
	comp=Z,26nm,0.8s						
BDFB	**Brasilia**	**20.53**	**78**	P	**P**	**17 49 48.0**	**-0.3**
BDFB	**Brasilia**	**20.53**	**78**	P	**P**	**17 49 49.2**	**+0.9**
	comp=Z,17nm,0.4s,baz=248,slow=9.7,SNR=29						
	comp=Z,17nm,0.4s						
ITTB	**Itaituba**	**21.08**	**39**	*e*P	**P**	**17 49 53.4**	**-0.6**
SMTB	**Santa Maria do**	**23.91**	**62**	*e*P	**P**	**17 50 23.6**	**+1.5**
JANB	**Januaria**	**24.10**	**79**	*e*P	**P**	**17 50 23.7**	**-0.1**
BOAV	**Boa Vista**	**24.88**	**20**	P	**P**	**17 50 32.2**	**+1.4**
MCPB	**Macapa, AP**	**26.46**	**40**	*e*P	**P**	**17 50 45.7**	**+0.6**
NAN01	**Guarapari, ES**	**27.27**	**88**	*e*P	**P**	**17 50 53.6**	**+1.3**
BAUV	**El Baul**	**30.03**	**2**	P	**P**	**17 51 16.6**	**-0.1**
BAUV				IAmb	IAmb	17 51 52.0	
	comp=Z,22nm,1.4s						
RCBR	**Riachuelo**	**35.40**	**69**	P	**P**	**17 52 02.8**	**-1.0**
PMSA	**Palmer Station**	**43.61**	**177**	P	**P**	**17 53 08.0**	**-3.0**
TKL	**Tuckaleechee C**	**58.35**	**346**	LR	LR	18 22 19.1	
	comp=Z,23nm,19.3s,baz=144,slow=38						
QSPA	**South Pole Qui**	**68.93**	**180**	P	**P**	**17 56 15.0**	**+4.1**
	comp=Z,1.4nm,0.6s,baz=177,slow=1.3,SNR=19						
	comp=Z,1.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.22**	**70**	P	**P**	**17 57 01.8**	**+1.5**
	comp=Z,1.0nm,0.4s,baz=264,slow=6.6,SNR=16						
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**145.41**	**36**	PKPbc	**PKiKP**	**18 04 46.4**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=321,slow=3.1,SNR=8.6						

*IDC **21** 17:50:41.6±1.1, 33°.35N×141°.65E, h0km, mb3.8/10, mbtmp3.8/12, ML3.2/2, MS2.9/3, Error ellipse: s-maj=25.0km s-min=17.4km az=77.0*
*JMA **21** 17:50:45.9±0.5, 33°.N±°×14°.2E±°, h48km, MV3.2/26, E OFF HACHIJOJIMA ISLAND*
ISC 21 17:50:47.1±1.0, 33°.42N±0°.06×141°.7E±0°.1, h41km, n27, σ1§55/29, mb3.7/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.35**	**336**	*e*P	**Pn**	**17 51 08.8**	**-0.1**
BSO1				*e*S	**Sn**	**17 51 24.8**	**-0.6**
JHJ2	**Mitsune**	**1.56**	**259**	*e*P	**Pn**	**17 51 11.8**	**-0.6**
JHCJ	**Hachijojimakas**	**1.59**	**258**	*e*P	**Pn**	**17 51 10.6**	**-2.1**
JHJ	**Hachijo jima 2**	**1.59**	**260**	Pn	**Pn**	**17 51 11.2**	**-1.6**
	71nm,0.3s,baz=341,slow=23,SNR=37						
JHJ				Sn	**Sn**	**17 51 31.4**	**-0.7**
	38nm,0.3s,baz=110,slow=23,SNR=6.9						
BSO3	**Boso 3**	**1.67**	**326**	*e*P	**Pn**	**17 51 13.3**	**-0.3**
JMKN	**Mikurajimanish**	**1.78**	**286**	*e*P	**Pn**	**17 51 14.2**	**-1.1**
JAOM	**Aogashimamukai**	**1.85**	**239**	*e*P	**Pn**	**17 51 15.1**	**-1.2**
JIZS	**Izushimoda**	**2.64**	**300**	P	**Pn**	**17 51 27.1**	**0.0**
JOD2	**Odawara 2**	**2.80**	**312**	*e*P	**Pn**	**17 51 27.8**	**-1.6**
JOD2				*e*S	**Sn**	**17 52 01.1**	**-0.9**
JRY	**Ryogami san**	**3.44**	**320**	*e*P	**Pn**	**17 51 38.0**	**-0.2**
JAG	**Ashikaga**	**3.50**	**330**	*e*P	**Pn**	**17 51 38.6**	**-0.3**
MJAR	**Matsushiro Arr**	**4.20**	**319**	Pn	**Pn**	**17 51 48.1**	**-0.5**
	0.4nm,0.3s,baz=145,slow=12,SNR=46						
MJAR				Sn	**Sn**	**17 52 38.9**	**+2.5**
	0.3nm,0.3s,baz=139,slow=19,SNR=4.0						
	4.1nm,0.4s						
JNU	**Nakatsue**	**9.02**	**271**	LR	LR	17 56 10.2	
	comp=Z,43nm,20.9s,baz=92,slow=36						
ASAJ	**Asahikawa**	**10.70**	**4**	Pn	**Pn**	**17 53 15.1**	**-2.6**
	0.3nm,0.3s,baz=172,slow=15,SNR=2.1						
ASAJ				Sn	**Sn**	**17 55 11.6**	**-4.6**
	0.3nm,0.3s,baz=68,slow=27,SNR=1.9						
	6.9nm,1.1s						
KSRS	**Korea Array**	**11.89**	**294**	LR	LR	17 57 51.0	
	comp=Z,34nm,18.8s,baz=125,slow=36						
SONM	**Songino Array**	**30.09**	**309**	P	**P**	**17 56 54.2**	**+1.6**
	0.9nm,0.8s,baz=110,slow=11,SNR=6.0						
	0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.90**	**260**	P	**P**	**17 58 24.8**	**-0.7**
	0.5nm,0.7s,baz=41,slow=8.0,SNR=4.7						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**46.27**	**305**	P	**P**	**17 59 09.0**	**+0.5**
	0.4nm,0.5s,baz=85,slow=9.4,SNR=5.1						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**48.43**	**311**	P	**P**	**17 59 25.1**	**0.0**
	0.8nm,0.5s,baz=90,slow=8.6,SNR=9.7						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**53.52**	**189**	P	**P**	**18 00 03.7**	**+0.1**
	1.8nm,0.5s,baz=4.5,slow=7.6,SNR=35						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**57.25**	**188**	P	**P**	**18 00 30.1**	**-0.3**
	0.5nm,0.5s,baz=357,slow=6.7,SNR=12						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**72.10**	**333**	P	**P**	**18 02 07.2**	**+0.5**
	0.6nm,0.7s,baz=39,slow=9.0,SNR=1.6						
	0.6nm,0.7s						
HFS	**Hagfors**	**77.45**	**336**	P	**P**	**18 02 39.5**	**+1.7**
	1.7nm,1.0s,baz=46,slow=4.2,SNR=1.4						
	1.7nm,1.0s						
NB2	**NORSAR Subarra**	**77.59**	**338**	P	**P**	**18 02 39.7**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**77.59**	**338**	P	**P**	**18 02 40.1**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=40,slow=5.7,SNR=4.2						
	comp=Z,0.6nm,0.7s						
BRTR	**Keskin Array B**	**81.40**	**312**	P	**P**	**18 03 01.7**	**+1.8**
	comp=Z,0.7nm,0.8s,baz=120,slow=4.4,SNR=4.2						
	comp=Z,0.7nm,0.8s						
TKL	**Tuckaleechee C**	**99.20**	**36**	LR	LR	18 52 10.3	
	comp=Z,12nm,18.9s,baz=117,slow=37						

*KRNET **21** 18:21:02.4±0.1, 42°.38N×78°.49E, h18km, mb2.1*
*SOME **21** 18:21:03.4, 42°.53N×78°.47E, h10km*

*NNC **21** 18:21:03.6±0.9, 42°.58N×78°.50E, h0km, mb2.7, mpv3.0, Error ellipse: s-maj=7.2km s-min=3.1km az=166.0*
ISC 21 18:21:02.5±1.0, 42°.46N±0°.03×78°.48E±0°.03, h11km±6km, n34, σ1§41/64, 17C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.06**	**296**	⇑*i*P	**Pg**	**18 21 05.5**	**+0.5**
	baz=31						
PRZ				⇑*e*S	**Sg**	**18 21 07.9**	**+1.1**
	baz=31						
SATY	**Saty**	**0.60**	**355**	*e*P	**Pg**	**18 21 13.7**	**-0.6**
	8.8nm,0.1s						
SATY				*e*S	**Sg**	**18 21 21.2**	**-1.1**
	274nm,0.2s						
UZB	**Uzynbulak**	**0.80**	**30**	*e*P	**Pg**	**18 21 16.9**	**-1.1**
	2.3nm,0.1s						
UZB				*e*S	**Sg**	**18 21 26.6**	**-1.8**
	37nm,0.1s						
UZB	**Uzynbulak**	**0.80**	**30**	P	**Pg**	**18 21 16.9**	**-1.1**
	2.3nm,0.1s						
UZB				S	**Sg**	**18 21 26.6**	**-1.8**
	37nm,0.1s						
TARG	**Taragay, Kyrgy**	**0.88**	**215**	⇓*i*P	**Pg**	**18 21 18.2**	**-1.3**
	baz=19						
TARG				⇓*e*S	**Sg**	**18 21 29.7**	**-1.4**
	baz=19						
SHLS	**Shalkode**	**1.01**	**46**	*e*P	**Pn**	**18 21 25.5**	**+2.8**
	4.3nm,0.1s						
SHLS				*e*S	**Sn**	**18 21 41.4**	**+4.4**
	22nm,0.3s						
SHLS	**Shalkode**	**1.01**	**46**	P	**Pn**	**18 21 25.5**	**+2.8**
	4.3nm,0.1s						
SHLS				S	**Sn**	**18 21 41.4**	**+4.4**
	22nm,0.3s						
KDJ	**Kajisay**	**1.01**	**252**	⇑*e*P	**Pb**	**18 21 21.2**	**-1.0**
	baz=56						
KDJ				⇑*e*S	**Sb**	**18 21 34.8**	**-0.8**
	baz=56						
KPKS	**Kokpek**	**1.02**	**9**	*e*P	**Pb**	**18 21 20.8**	**-1.5**
	14nm,0.2s						
KPKS				*e*S	**Sb**	**18 21 33.4**	**-2.3**
KPKS	**Kokpek**	**1.02**	**9**	P	**Pb**	**18 21 20.8**	**-1.5**
	14nm,0.2s						
KPKS				S	**Sb**	**18 21 33.4**	**-2.3**
KURS	**Kuram**	**1.05**	**348**	*e*P	**Pb**	**18 21 22.1**	**-0.8**
	1.5nm,0.1s						
KURS				*e*S	**Sb**	**18 21 35.6**	**-1.1**
	11nm,0.2s						
KURS	**Kuram**	**1.05**	**348**	P	**Pb**	**18 21 22.0**	**-0.8**
	1.5nm,0.1s						
KURS				S	**Sb**	**18 21 35.6**	**-1.1**
	11nm,0.2s						
PDGK	**Podgornoye**	**1.15**	**40**	P	**Pb**	**18 21 23.2**	**-1.2**
	1.1nm,0.2s						
PDGK				S	**Sb**	**18 21 37.2**	**-2.1**
	11nm,0.1s						
MDOK	**Medeo**	**1.27**	**304**	*e*P	**Pn**	**18 21 25.6**	**-0.7**
	12nm,0.3s						
MDOK				*e*S	**Sb**	**18 21 41.6**	**-1.2**
	55nm,0.3s						
MDOK	**Medeo**	**1.27**	**304**	Pg	**Pn**	**18 21 25.6**	**-0.7**
	12nm,0.3s						
MDOK				P	**Pg**	**18 21 27.6**	**+0.8**
	6.1nm,0.4s						
MDOK				Lg	Lg	18 21 41.6	
	55nm,0.3s						
MDOK				S	**Sg**	**18 21 43.8**	**+0.5**
	36nm,0.5s						
TNSS	**Tian-Shan**	**1.27**	**298**	*e*P	**Pn**	**18 21 25.8**	**-0.7**
	10nm,0.2s						
TNSS				*e*S	**Sb**	**18 21 42.0**	**-1.1**
	24nm,0.3s						
TNSS	**Tian-Shan**	**1.27**	**298**	P	**Pn**	**18 21 25.8**	**-0.7**
	10nm,0.2s						
KOTS	**Kotyrbulak**	**1.27**	**308**	*e*P	**Pn**	**18 21 26.1**	**-0.2**
	8.7nm,0.3s						
KOTS				*e*S	**Sb**	**18 21 42.5**	**-0.4**
	45nm,0.2s						
KOTS	**Kotyrbulak**	**1.27**	**308**	P	**Pn**	**18 21 26.1**	**-0.2**
	8.7nm,0.3s						
KOTS				S	**Sb**	**18 21 42.5**	**-0.4**
	45nm,0.2s						
KNDC	**Almaty**	**1.35**	**305**	⇓P	**Pg**	**18 21 28.5**	**+0.2**
	12nm,0.6s						
KNDC				⇓S	**Sn**	**18 21 45.0**	**-0.2**
	48nm,0.5s	

KDU	Kakadu	7.96 190	P	Pn	18 38 38.4	+3.0
DRS	Darwin Rock St	8.13 201	P	Pn	18 38 41.0	+3.2
SANI	Sanana	8.31 289	P	Pn	18 38 39.9	-0.5
SANI	Sanana	8.31 289	P	Pn	18 38 39.2	-1.2
MTN	Manton Dam	8.43 198	P	Pn	18 38 45.0	+3.0
MTN	Manton Dam	8.43 198		Pn	18 38 44.6	+2.6
MTN				Sn	18 40 16.1	-1.3
SOEI	Soe	10.71 242	P	Pn	18 39 15.7	+2.4
SOEI	Soe	10.71 242	Pn	Pn	18 39 15.8	+2.5
LUWI	Luwuk	11.68 288	Pn	Pn	18 39 25.4	-1.1
KNRA	Kununurra	11.91 204	Pn	Pn	18 39 29.9	+0.2
COEN	Coen	12.93 135	P	Pn	18 39 43.9	+0.2
COEN	Coen	12.93 135	Pn	Pn	18 39 43.8	+0.1
TOLI2	Tolitoli	14.32 294	Pn	Pn	18 40 01.0	-1.7
WB0	Warramunga Arr	14.89 178		Pn	18 40 09.1	-1.3
WB2	Warramunga Arr	15.06 178		Pn	18 40 11.5	-1.2
WB2			IAmb	IAmb	18 40 30.4	
	comp=Z,17nm,1.4s					
WRA	Warramunga Arr	15.06 178	Pn	Pn	18 40 10.8	-1.9
	comp=Z,1.1nm,0.3s,baz=7.1,slow=13,SNR=52					
WRA			Sn	Sn	18 42 53.5	-6.2
	comp=Z,0.7nm,0.3s,baz=355,slow=23,SNR=6.2					
	comp=Z,2.5nm,0.3s					
FITZ	Fitzroy Crossi	15.47 211	Pn	Pn	18 40 15.5	-2.5
MTSU	Mount Surprise	16.74 143	P	P	18 40 36.4	-0.4
AS31	Alice Springs	18.76 180	P	P	18 40 57.9	-1.1
ASAR	Alice Springs	18.76 180	P	P	18 40 59.6	+0.6
	comp=Z,1.0nm,0.3s,baz=14,slow=12,SNR=35					
ASAR			S	Sn	18 44 20.9	-8.6
	comp=Z,1.0nm,0.6s,baz=359,slow=26,SNR=4.9					
	comp=Z,2.7nm,0.6s					
WRKA	Warakurna	20.82 194	P	P	18 41 24.0	+2.5
GUMO	Guam	21.29 31	LR	LR	18 49 52.2	
	comp=Z,32nm,18.1s,baz=203,slow=40					
OOD	Oodnadatta	22.93 176	P	P	18 41 47.5	+3.4
MAJO	Matsushiro	41.33 5	P	P	18 44 26.3	+0.6
MAJO			IAmb	IAmb	18 44 33.1	
	comp=Z,4.0nm,1.1s					
MJB9	Matsu-Tunnel	41.33 5	P	P	18 44 26.4	+0.7
MJB9			IAmb	IAmb	18 44 33.1	
	comp=Z,4.1nm,1.1s					
MK31	Makanchi Array	68.58 325	P	P	18 47 42.6	-0.2
MK31			IAmb	IAmb	18 47 47.0	
	comp=Z,1.2nm,0.7s					
MKAR	Makanchi Array	68.58 325	P	P	18 47 42.9	+0.1
MKAR	Makanchi Array	68.58 325	P	P	18 47 44.1	+1.3
	comp=Z,1.4nm,0.4s,baz=112,slow=8.0,SNR=34					
	comp=Z,1.4nm,0.4s					
MAKZ	Makanchi	68.77 325	P	P	18 47 44.5	+0.6
MAKZ			IAmb	IAmb	18 47 46.4	
	comp=Z,2.0nm,0.5s					
KURBB	Kurchatov Arra	72.72 327	P	P	18 48 08.4	+0.5
	comp=Z,0.5nm,0.2s,baz=122,slow=5.0,SNR=8.1					
	comp=Z,0.5nm,0.2s					
BVAR	Borovoye Array	78.31 327	P	P	18 48 40.9	+0.9
	comp=Z,0.6nm,0.5s,baz=124,slow=8.0,SNR=7.1					
	comp=Z,0.6nm,0.5s					

IDC 21 18:51:31.7±2.0, 14°.91S×177°.40W, h0km, mb3.7/5, mbtmp3.7/5, MS3.6/4, Error ellipse: s-maj=135.4km s-min=26.5km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	16.89	243	LR	LR	19 01 05.6	
	comp=Z,251nm,18.7s,baz=53,slow=34						
H11N3	WAKE ISLAND Hy	37.72	335	T	T	19 38 52.0	
	baz=154						
H11N1	WAKE ISLAND Hy	37.72	335	T	T	19 38 48.7	
H11N2	WAKE ISLAND Hy	37.74	335	T	T	19 38 54.7	
	baz=154						
STKA	Stephens Creek	40.97	238	LR	LR	19 14 32.0	
	comp=Z,96nm,19.3s,baz=26,slow=34						
WRA	Warramunga Arr	46.20	257	P	P	18 59 57.8	-1.0
	1.3nm,1.1s,baz=95,slow=8.2,SNR=3.3						
	1.3nm,1.1s						
ASAR	Alice Springs	46.60	251	P	P	19 00 02.4	+0.5
	1.4nm,0.8s,baz=86,slow=7.8,SNR=11						
ASAR				LR	LR	19 17 44.2	
	comp=Z,93nm,18.5s,baz=78,slow=34						
	1.4nm,0.8s						
GUMO	Guam	46.87	305	LR	LR	19 18 59.5	
	comp=Z,18nm,18.2s,baz=236,slow=35						
ILAR	Eielson Array	82.77	13	P	P	19 03 57.1	-0.1
	0.5nm,1.1s,baz=219,slow=6.7,SNR=3.0						
	0.5nm,1.1s						
TXAR	Lajitas Array	83.58	58	P	P	19 04 02.9	+0.6
	0.8nm,1.1s,baz=216,slow=2.9,SNR=4.9						
	0.8nm,1.1s						
PDAR	Pinedale Array	84.52	43	P	P	19 04 06.5	-0.5
	0.7nm,0.9s,baz=239,slow=4.7,SNR=4.7						
	0.7nm,0.9s						

*NOU **21** 18:58:48.4, 31°.81S×138°.60E, h0km, MLv3.4/11, South Australia*
*AUST **21** 18:58:48.8±0.3, 31°.78S×138°.53E, h10km, mb4.1/2, Mjma3.8/12, ML2.6/8, MLv3.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **21** 18:58:51.0±5.0, 31°.34S×138°.62E, h0km, mbtmp2.7/3, ML2.7/3, Error ellipse: s-maj=92.7km s-min=22.2km az=39.0*

ISC 21 18:58:48.3±3.4, 31°.76S±0°.04×138°.54E±0°.05, h13km±24km, n26, σ1§67/36, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRK	Leigh Creek	1.34	348	P	Pn	18 59 14.6	+1.9
LCRK	Leigh Creek	1.34	348	P	Pn	18 59 14.2	+1.6
	0.2nm,SNR=3.5						
LCRK				S	Sn	18 59 33.0	+2.6
NAPP	Napperby	1.46	193	P	Pn	18 59 15.9	+1.5
	0.2nm,SNR=12						
WHYH	Whyalla	1.51	213	P	Pn	18 59 16.4	+1.4
HTT	Hallett	1.70	169	P	Pn	18 59 18.1	+0.4
HTT	Hallett	1.70	169	P	Pn	18 59 18.4	+0.8
	0.1nm,SNR=1.7						
HTT				S	Sn	18 59 41.8	+2.5
BBOO	Buckleboo	2.35	243	P	Pn	18 59 28.1	+1.4
BBOO	Buckleboo	2.35	243	P	Pn	18 59 28.0	+1.4
	0.1nm,SNR=1.4						
BBOO				S	Sn	18 59 57.5	+2.2
STKA	Stephens Creek	2.60	93	P	Pn	18 59 30.9	+0.9
STKA	Stephens Creek	2.60	93	P	Pn	18 59 31.1	+1.0
	SNR=1.4						
STKA	Stephens Creek	2.60	93	Pn	Pb	18 59 34.3	-0.5
	0.8nm,0.3s,baz=282,slow=12,SNR=10						
STKA				Sn	Sb	19 00 06.5	-0.2
	3.1nm,0.3s,baz=343,slow=22,SNR=5.5						
	2.9nm,0.4s						
SDAN	Sedan	2.82	167	P	Pn	18 59 34.1	+1.1
	SNR=1.7						
SDAN				S	Sn	19 00 08.1	+1.2
MULG	Mulgathing	4.12	290	P	Pn	18 59 52.5	+1.5
MULG	Mulgathing	4.12	290	P	Pn	18 59 52.5	+1.5
	0.1nm,SNR=1.7						
MULG				S	Sn	19 00 40.0	+0.9
INKA	Innaminka	4.44	26	P	Pn	18 59 57.1	+1.8
INKA	Innaminka	4.44	26	P	Pn	18 59 56.8	+1.5
	0.1nm,SNR=1.3						
INKA				S	Sn	19 00 47.6	+0.7
OOD	Oodnadatta	4.67	327	P	Pn	19 00 01.2	+2.7
OOD	Oodnadatta	4.67	327	P	Pn	19 00 00.7	+2.2
	0.1nm,SNR=1.8						
OOD				S	Sn	19 00 53.8	+1.2
ARPS	Mount Arapiles	5.69	152	P	Pn	19 00 12.7	+0.2
	8.9nm,0.9s						
ARPS	Mount Arapiles	5.69	152	P	Pn	19 00 12.2	-0.3
	SNR=2.2						
CMSA	Cobar Meteorol	6.10	90	P	Pn	19 00 19.1	+1.0
CMSA	Cobar Meteorol	6.10	90	P	Pn	19 00 17.8	-0.4
	0.1nm,SNR=1.7						
TOO	Toolangi	8.14	137	P	Pn	19 00 46.8	+0.6
FORT	Forrest	9.03	273	P	Pn	19 00 58.3	0.0
	0.1nm,SNR=1.6						
ASAR	Alice Springs	9.05	332	Pn	Pn	19 00 59.4	+0.7
	baz=158,slow=12,SNR=1.2						
ASAR				Sn	Sn	19 02 36.9	-3.7
	0.1nm,0.3s,baz=152,slow=21,SNR=5.0						
	0.1nm,0.3s						
WRA	Warramunga Arr	12.36	341	Pn	Pn	19 01 43.1	-0.9
	0.1nm,0.3s,baz=168,slow=12,SNR=4.9						
WRA				Sn	Sn	19 03 58.6	-3.1
	baz=137,slow=11,SNR=1.5						
	0.2nm,0.6s						

*NOU **21** 19:06:22.3, 39°.50S×176°.12E, h35km, MLv4.5/12, North Island, New Zealand*
*NEIC **21** 19:06:22.9±1.2, 39°.43S±0°.05×176°.03E±0°.08, h48km±9km, mb4.4/13, Error ellipse: s-maj=8.9km s-min=6.8km az=85.0*
*WEL **21** 19:06:23.7, 39°.2°×17°.6E°, h48km±4km, M4.3/79, ML4.6/79, MLv4.3/79, Error ellipse: s-maj=0.0km s-min=0.0km az=148.1, confirmed*
*WEL **21** 19:06:23.7, 39°.37S×176°.10E, h60km, ML4.3, Mw4.1, Moment Tensor Solution. s3 Moment tensor: M_{rr}=117.44; $M_{\theta\theta}$=41.16; $M_{\phi\phi}$=76.29; $M_{r\theta}$=169.48; $M_{\theta\phi}$=29.84; $M_{\phi r}$=10.25; Fault plane solution: NP1:ϕ_s=145.00000°, δ19.00000°, λ-50.00000°. NP2:ϕ_s=283.00000°, δ76.00000°, λ-102.00000°. Principal axes: T -225.4400, Plg30.0000°, Azm23.0000°; N 160.2100, Plg12.0000°, Azm286.0000°; P 65.2400, Plg57.0000°, Azm176.0000°; NORTH ISLAND*
*IDC **21** 19:06:24.2±2.3, 39°.27S×176°.10E, h64km±26km, mb3.8/6, mbtmp4.1/6, MS3.3/3 Error ellipse: s-maj=25.3km s-min=20.2km az=58.0*

ISC 21 19:06:23.4±0.7, 39°.44S±0°.03×176°.06E±0°.03, h55km±5km, n226, σ1§07/232, mb4.5/16, 5C, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	Moawhango	0.24	277	P	Pn	19 06 32.2	-0.4
MOVZ				S	Sn	19 06 38.5	-0.7
KWHZ	Kaweka Forest	0.28	88	P	Pn	19 06 32.8	-0.1
KWHZ				S	Sn	19 06 40.0	+0.3
KRHZ	Kereru	0.32	131	P	Pn	19 06 33.1	-0.1
TUVZ	Tukino	0.35	298	P	Pn	19 06 33.6	0.0
TUVZ				S	Sn	19 06 40.9	-0.1
WNVZ	Wahianoa	0.37	287	P	Pn	19 06 33.7	-0.1
WNVZ				S	Sn	19 06 40.9	-0.4
WHVZ	Whangaehu Hut	0.39	293	P	Pn	19 06 34.0	-0.1
ETVZ	East Tongariro	0.40	318	P	Pn	19 06 33.9	-0.2
ETVZ				S	Sn	19 06 41.2	-0.5
OTVZ	Oturere	0.41	312	P	Pn	19 06 34.0	-0.1
SNVZ	South Ngauruho	0.41	308	P	Pn	19 06 34.0	-0.1
TRVZ	Turoa	0.42	289	P	Pn	19 06 34.3	0.0
MAVZ	Matarangi	0.42	293	P	Pn	19 06 34.2	-0.2
TMVZ	Te Maari	0.42	319	P	Pn	19 06 34.1	-0.2
FWVZ	Far West T-bar	0.43	295	P	Pn	19 06 34.3	-0.1
BKZ	Black Stump Fm	0.43	52	P	Pn	19 06 33.4	-0.9
BKZ	Black Stump Fm	0.43	52		Pn	19 06 33.4	-0.9
BKZ					Sn	19 06 40.6	-1.5
BKZ	Black Stump Fm	0.43	52	P	Pn	19 06 33.5	-0.9
NGZ	Ngauruhoe	0.44	306	P	Pn	19 06 34.4	0.0
NTVZ	North Tongarir	0.45	319	P	Pn	19 06 34.3	-0.2
MTVZ	Mangateitei	0.46	276	P	Pn	19 06 34.7	+0.2
NNVZ	North Ngauruho	0.46	311	P	Pn	19 06 34.6	-0.1
COVZ	Chateau Observ	0.46	300	P	Pn	19 06 34.6	0.0
KRVZ	Karewarewa	0.47	316	P	Pn	19 06 34.6	-0.1
WTVZ	West Tongariro	0.48	311	P	Pn	19 06 34.8	-0.1
PNHZ	Pukenui	0.49	167	P	Pn	19 06 35.3	+0.4
MCHZ	McNeill Hill	0.50	91	P	Pn	19 06 35.7	+0.8
KATZ	Kakaramea	0.54	328	P	Pn	19 06 35.3	-0.2
HATZ	Hinemaiaia	0.55	3	P	Pn	19 06 34.6	-0.9
PKVZ	Pokaka	0.57	285	P	Pn	19 06 36.1	+0.2
TWVZ	Taurewa	0.60	307	P	Pn	19 06 35.8	-0.4
RATZ	Rangitukua	0.61	339	P	Pn	19 06 35.8	-0.5
TSZ	Takapari Road	0.63	187	P	Pn	19 06 37.4	+1.0
MRHZ	Matea Rd	0.66	25	P	Pn	19 06 36.0	-1.0
NMHZ	Naumai	0.67	60	P	Pn	19 06 37.8	+0.7
WPHZ	Waipukurau	0.69	155	P	Pn	19 06 38.0	+0.7
KAHZ	Kahuranaki	0.73	120	P	Pn	19 06 38.2	+0.4
ARHZ	Aropaoanui	0.75	77	P	Pn	19 06 38.5	+0.6
WATZ	Wairara	0.77	341	P	Pn	19 06 37.6	-0.7
WHTZ	Whakaora	0.77	354	P	Pn	19 06 38.0	-0.4
CKHZ	Cape Kidnapper	0.82	106	P	Pn	19 06 39.2	+0.3
MTHZ	Maungataniwha	0.84	47	P	Pn	19 06 38.9	-0.3
PXZ	Pawanui	0.86	134	P	Pn	19 06 39.5	+0.2
DVHZ	Dannevirke	0.87	174	P	Pn	19 06 40.1	+0.6
WAZ	Wanganui	0.89	249	P	Pn	19 06 40.9	+1.2
ALRZ	Allen Road	0.90	14	P	Pn	19 06 39.0	-0.9
WPRZ	Whakapapatarin	0.92	5	P	Pn	19 06 39.3	-0.9
PRHZ	Porangahau	0.94	152	P	Pn	19 06 41.1	+0.6
RAHZ	Arahi	0.95	57	P	Pn	19 06 41.0	+0.4
OHWZ	Ohakea	0.96	216	P	Pn	19 06 42.7	+2.0
KUTZ	Kaahu Road	0.96	349	P	Pn	19 06 40.2	-0.6
PRRZ	Plateau Road	0.97	16	P	Pn	19 06 39.9	-1.0
POWZ	Post Office Ro	0.98	193	P	Pn	19 06 42.0	+1.1
WHHZ	Waihua	0.98	69	P	Pn	19 06 41.5	+0.5
VRZ	Vera Road	1.05	287	P	Pn	19 06 42.2	+0.3
HRRZ	Handcock Road	1.06	10	P	Pn	19 06 41.5	-0.6
ANWZ	Angora Road	1.07	163	P	Pn	19 06 42.8	+0.6
GRRZ	Galatos Road	1.08	2	P	Pn	19 06 41.9	-0.5
RTZ	Ruatahuna	1.09	42	Pn	Pn	19 06 41.6	-0.9
RTZ	Ruatahuna	1.09	42	P	Pn	19 06 41.8	-0.7
MUGZ	Murupara	1.11	30	P	Pn	19 06 41.4	-1.3
PRWZ	Pori Road	1.12	183	P	Pn	19 06 43.7	+0.9
HSRZ	Hossack Road	1.13	8	P	Pn	19 06 42.4	-0.6
RRRZ	Republican Roa	1.15	18	P	Pn	19 06 42.3	-1.0
TLZ	Tolley Road	1.18	340	P	Pn	19 06 42.8	-0.8
SNGZ	Shannon Statio	1.19	57	P	Pn	19 06 44.0	+0.2
HLRZ	Highlands Stat	1.20	11	P	Pn	19 06 43.9	-0.1
TARZ	Mount Tarawera	1.25	16	P	Pn	19 06 44.1	-0.6
BFZ	Birch Farm	1.25	173		Pn	19 06 44.7	+0.1
BFZ	Birch Farm	1.25	173	P	Pn	19 06 44.8	+0.1
UTU	Utuhina	1.26	5	P	Pn	19 06 44.3	-0.4
MRZ	Mangatainoka R	1.28	197	Pn	Pn	19 06 45.4	+0.5
MRZ	Mangatainoka R	1.28	197	P	Pn	19 06 45.4	+0.5
LREZ	Lake Rotokare	1.28	268	P	Pn	19 06 46.1	+1.1
HIZ	Hauiti	1.31	314	P	Pn	19 06 45.3	-0.1
HIZ	Hauiti	1.31	314		Pn	19 06 45.3	-0.1
HIZ	Hauiti	1.31	314	P	Pn	19 06 45.3	-0.1
KNZ	Kokohu	1.32	72	P	Pn	19 06 44.9	-0.6
MKRZ	Makatiti	1.33	14	P	Pn	19 06 45.5	-0.3
NGRZ	Ngongotaha	1.34	4	P	Pn	19 06 45.2	-0.6
TIWZ	Tintock	1.34	186	P	Pn	19 06 46.4	+0.5
OMRZ	Omania	1.35	11	P	Pn	19 06 45.3	-0.7
MHEZ	Mangahewa	1.39	284	P	Pn	19 06 47.6	+1.1
RAGZ	Rawiri	1.42	49	P	Pn	19 06 47.6	+0.8
KARZ	Kaharoa	1.42	6	P	Pn	19 06 46.3	-0.6
EDRZ	Edgecumbe	1.43	22	P	Pn	19 06 46.1	-1.0
URZ	Urewera	1.43	35	P	Pn	19 06 45.9	-1.1
URZ	Urewera	1.43	35	P	Pn	19 06 45.8	-1.1
	551nm,0.2s,baz=317,slow=7.9,SNR=227						
URZ				S	Sn	19 07 02.5	-2.3
	959nm,0.4s,baz=1.7,slow=15,SNR=9.2						
URZ	Urewera	1.43	35	P	Pn	19 06 46.0	-1.1
LIRZ	Lichensteins R	1.45	10	P	Pn	19 06 44.8	-2.5
DREZ	Durham Road	1.46	279	P	Pn	19 06 48.7	+1.3
MHGZ	Mahia Peninsul	1.46	79	P	Pn	19 06 47.4	0.0
PREZ	Palmer Road	1.47	273	P	Pn	19 06 49.3	+1.6
CPWZ	Castlepoint	1.48	176	P	Pn	19 06 48.3	+0.6
PRGZ	Paritu Road	1.51	71	P	Pn	19 06 47.5	-0.5
RIGZ	Rimuhau	1.51	62	P	Pn	19 06 47.7	-0.4
HOWZ	Holdsworth Sta	1.52	196	P	Pn	19 06 48.3	+0.1
MARZ	Manawahe	1.53	19	P	Pn	19 06 47.4	-0.9
NEZ	North Egmont	1.53	276	P	Pn	19 06 49.8	+1.3
OGWZ	Otaki Gorge	1.54	206	P	Pn	19 06 48.9	+0.5
KHEZ	Kahui Hut	1.59	274	P	Pn	19 06 51.1	+1.9
KMRZ	Kaimai	1.59	357	P	Pn	19 06 48.6	-0.6
MWZ	Matawai	1.59	47	P	Pn	19 06 48.8	-0.4
PKE	Pukeiti	1.62	278	P	Pn	19 06 51.3	+1.6
OPRZ	Ohinepanea	1.64	14	P	Pn	19 06 49.0	-0.8
KIW	Kapiti Island	1.67	211	P	Pn	19 06 50.8	+0.5
TMWZ	Te Maipa	1.67	184	P	Pn	19 06 50.0	-0.3
NMEZ	Namu Road	1.69	270	P	Pn	19 06 52.3	+1.8
NBEZ	Newall Road No	1.71	275	P	Pn	19 06 52.5	+1.8
TGRZ	Tauranga	1.71	5	P	Pn	19 06 50.2	-0.6
TKGZ	Te Karaka	1.71	55	P	Pn	19 06 50.5	-0.3
WHRZ	Whale Island	1.73	25	P	Pn	19 06 51.5	+0.4
TOZ	Tahuroa Road	1.76	345		Pn	19 06 50.8	-0.6
TOZ	Tahuroa Road	1.76	345	P	Pn	19 06 50.8	-0.6
MTW	Mount Morrison	1.77	194	P	Pn	19 06 51.1	-0.6
CAW	Cannon Point	1.83	204	P	Pn	19 06 52.2	-0.3
CNGZ	Carnagh Statio	1.93	61	P	Pn	19 06 53.7	0.0
RUGZ	Raukumara Rang	1.94	41	P	Pn	19 06 53.3	-0.7
TWGZ	Tauwhareparae	1.96	51	P	Pn	19 06 54.3	0.0
TRWZ	Traveller	1.98	188	P	Pn	19 06 53.8	-0.7
PAWZ	Paruwai Farm	2.00	194	P	Pn	19 06 53.9	-0.9
MSWZ	Moikau Station	2.07	197		Pn	19 06 54.7	-1.0
MSWZ	Moikau Station	2.07	197	P	Pn	19 06 54.7	-1.0
WEL	Wellington	2.09	208	P	Pn	19 06 55.5	-0.5
WIZ	White Island	2.10	25	P	Pn	19 06 55.0	-1.1
DUWZ	D'Urville Isla	2.13	230	P	Pn	19 06 56.7	+0.1
SNZO	South Karori	2.14	208	P	Pn	19 06 55.9	-0.7
SNZO	South Karori	2.14	208		Pn	19 06 56.0	-0.6
HAZ	Te Kaha	2.15	39	P	Pn	19 06 55.7	-1.2
BHW	Baring Head	2.17	204		Pn	19 06 56.0	-1.0
BHW	Baring Head	2.17	204	P	Pn	19 06 56.1	-0.9
PUZ	Puketiti	2.19	52	P	Pn	19 06 56.4	-1.0
PKGZ	Pakihiroa	2.21	46	P	Pn	19 06 57.5	-0.2
PLWZ	Palliser	2.22	196		Pn	19 06 56.4	-1.4
PLWZ	Palliser	2.22	196	P	Pn	19 06 56.4	-1.4
TCW	Tory Channel	2.23	217		Pn	19 06 57.5	-0.4
TCW	Tory Channel	2.23	217	P	Pn	19 06 57.5	-0.4
MKAZ	Moumakai	2.43	343	P	Pn	19 07 00.1	-0.5
WMGZ	Waiomatatini S	2.45	50	P	Pn	19 07 00.1	-0.9
KBAZ	Karaka Road Bo	2.51	338	P	Pn	19 07 01.7	0.0
TUWZ	Tuamarina	2.56	218		Pn	19 07 02.3	-0.1
TUWZ	Tuamarina	2.56	218	P	Pn	19 07 02.3	-0.1
MXZ	Matakaoa Point	2.57	44	P	Pn	19 07 02.2	-0.3
MXZ	Matakaoa Point	2.57	44	Pn	Pn	19 07 01.4	-1.2
MXZ	Matakaoa Point	2.57	44	P	Pn	19 07 02.2	-0.3
AWAZ	Awhitu Peninsu	2.62	334	P	Pn	19 07 03.2	+0.1
ETAZ	East Tamaki Re	2.63	340	P	Pn	19 07 03.1	-0.3
KUZ	Kuaotunu	2.70	354	P	Pn	19 07 04.9	+0.6
KUZ	Kuaotunu	2.70	354	P	Pn	19 07 03.6	-0.7
CMWZ	Cape Campbell	2.70	211		Pn	19 07 03.5	-0.9
CMWZ	Cape Campbell	2.70	211	P	Pn	19 07 11.2	+6.8
NNZ	Nelson	2.71	228		Pn	19 07 04.2	-0.3
NNZ	Nelson	2.71	228	P	Pn	19 07 03.9	-0.5
WIAZ	Waiheke Island	2.74	344	P	Pn	19 07 04.8	0.0
EPAZ	Eden Park BICE	2.76	338	P	Pn	19 07 05.1	0.0
WTAZ	Waiatarua	2.76	334	P	Pn	19 07 05.6	+0.5
HBAZ	Herne Bay Bore	2.79	338	P	Pn	19 07 05.3	-0.1
MBAZ	Motutapu North	2.81	341	P	Pn	19 07 05.6	-0.3
BSWZ	Blackbirch Sta	2.82	215		Pn	19 07 04.9	-1.1
BSWZ	Blackbirch Sta	2.82	215	P	Pn	19 07 04.9	-1.1
TKNZ	Takaka Hill	2.86	235		Pn	19 07 06.1	-0.4
TKNZ	Takaka Hill	2.86	235	P	Pn	19 07 06.1	-0.4
RVAZ	Riverhead Bore	2.91	336	P	Pn	19 07 07.1	0.0
ABAZ	Army Bay	2.99	341	P	Pn	19 07 08.5	+0.2
QRZ	Quartz Range	3.04	242	P	Pn	19 07 08.4	-0.6
QRZ	Quartz Range	3.04	242		Pn	19 07 08.4	-0.6
QRZ	Quartz Range	3.04	242	P	Pn	19 07 08.4	-0.6
MRNZ	Matariki Terra	3.19	231	Pn	Pn	19 07 10.8	-0.3
MRNZ	Matariki Terra	3.19	231	P	Pn	19 07 10.7	-0.3
GRZ	Great Barrier	3.21	351	P	Pn	19 07 11.0	-0.3
THZ	Tophouse	3.34	225		Pn	19 07 12.3	-0.8
THZ	Tophouse	3.34	225	P	Pn	19 07 12.1	-1.1
KHZ	Kahutara	3.54	212	P	Pn	19 07 13.8	-2.0
KHZ	Kahutara	3.54	212	Pn	Pn	19 07 13.7	-2.0
KHZ	Kahutara	3.54	212	P	Pn	19 07 13.8	-2.0
WCZ	Waipu Caves	3.75	338	P	Pn	19 07 19.2	+0.6
DSZ	Denniston Nort	3.98	233		Pn	19 07 20.5	-1.3
DSZ	Denniston Nort	3.98	233	P	Pn	19 07 20.5	-1.3
GVZ	Greta Valley S	4.20	212	P	Pn	19 07 22.5	-2.4
LTZ	Lake Taylor	4.40	219	P	Pn	19 07 25.4	-2.2
OUZ	Omahuta	4.64	334	P	Pn	19 07 31.0	+0.1
OUZ	Omahuta	4.64	334	P	Pn	19 07 31.2	+0.3
INZ	Inchbonnie	4.79	225	P	Pn	19 07 30.7	-2.2
OXZ	Oxford	4.92	217		Pn	19 07 31.4	-3.4
MQZ	McQueen's Vall	4.97	210	Pn	Pn	19 07 31.3	-4.1
WVZ	Waitaha Valley	5.41	226	P	Pn	19 07 39.4	-2.0
RPZ	Rata Peaks	5.69	220	P	Pn	19 07 44.0	-1.2
RPZ	Rata Peaks	5.69	220	P	Pn	19 07 43.5	-1.8
	9.2nm,0.3s,baz=6.4,slow=0.7,SNR=10						
RPZ				S	Sn	19 08 43.4	-5.8
	73nm,0.4s,baz=244,slow=1.8,SNR=24						
RPZ				LR	LR	19 09 58.4	
	comp=Z,233nm,18.8s,baz=96,slow=37						
RPZ	Rata Peaks	5.69	220	P	Pn	19 07 43.2	-2.1
ARCZ	Arundel	5.80	217	P	Pn	19 07 44.6	-2.2
FOZ	Fox Glacier	6.22	227	P	Pn	19 07 54.1	+1.5
CTZ	Chatham Island	6.97	130	P	Pn	19 08 00.8	-2.0

σ2°17/8, mb3.8/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.76**	**348**	Pn	**Pn**	**19 22 27.8**	**-0.1**
	112nm,0.3s,baz=78,slow=22,SNR=6.0						
RAO				Sn	**Sn**	**19 22 46.7**	**-2.7**
	231nm,0.3s,baz=48,slow=23,SNR=6.2						
URZ	**Urewera**	**8.51**	**210**	Pn	**Pn**	**19 23 59.8**	**-0.9**
	0.3nm,0.3s,baz=294,slow=15,SNR=1.9						
URZ				Sn	**Sn**	**19 25 33.1**	**-2.6**
	1.3nm,0.3s,baz=126,slow=21,SNR=7.2						
URZ				LR	LR	19 27 01.2	
	comp=Z,119nm,19.0s,baz=40,slow=35						
DZM	**Mont Dzumac**	**16.86**	**298**	LR	LR	19 30 04.4	
	comp=Z,626nm,19.1s,baz=9.0,slow=29						
STKA	**Stephens Creek**	**34.77**	**258**	P	**P**	**19 28 50.2**	**+2.8**
	1.9nm,0.9s,baz=86,slow=13,SNR=2.0						
	1.9nm,0.9s						
ASAR	**Alice Springs**	**43.50**	**267**	P	**P**	**19 30 01.4**	**+0.7**
	0.5nm,0.5s,baz=104,slow=7.4,SNR=7.5						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**44.55**	**272**	P	**P**	**19 30 09.5**	**+0.5**
	0.6nm,0.4s,baz=112,slow=7.9,SNR=7.7						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**145.83**	**340**	PKPbc	**PKPab**	**19 41 35.9**	**+0.2**
	1.2nm,0.4s,baz=50,slow=4.2,SNR=37						

*JMA **21** 19:25:12.3±0.3,23°N±2°×12°3E±°, h57km, MV2.4/14, FAR S OFF ISHIGAKIJIMA*
*TAP **21** 19:25:14.5,22.°90N×122.°91E, h89km±1km, ML2.6, D*
ISC 21 19:25:09.8±1.7,22°82N±0°05×123°10E±0°04, h15km±13km, n69, σ1°50/128, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.39**	**28**	*eP*	**Pg**	**19 25 35.9**	**-0.7**
HATJ				*eS*	**Sn**	**19 25 52.4**	**-0.4**
EOS4	**EOS4**	**1.48**	**331**	P	**Pb**	**19 25 38.0**	**+1.1**
	baz=333						
EOS4				S	**Sn**	**19 25 54.2**	**-0.3**
	baz=333						
LDUT	**Ludao**	**1.51**	**265**	*eS*	**Sn**	**19 25 53.2**	**-2.6**
	baz=260						
CHKH	**Chenggong**	**1.61**	**284**	*eP*	**Pb**	**19 25 39.7**	**+0.4**
	baz=287						
CHKH				*eS*	**Sn**	**19 25 55.0**	**-3.3**
	baz=287						
IRIF	**Iriomote-Funau**	**1.62**	**21**	*eP*	**Pn**	**19 25 38.5**	**+0.8**
IRIF				*eS*	**Sn**	**19 25 57.8**	**-0.6**
EOS3	**EOS3**	**1.63**	**334**	P	**Pb**	**19 25 39.8**	**+0.4**
	baz=336						
EOS3				S	**Sn**	**19 25 59.9**	**+1.5**
	baz=336						
LAY	**Lan-yu**	**1.63**	**242**	*eP*	**Pn**	**19 25 38.4**	**+0.4**
	baz=235						
LAY				*eS*	**Sn**	**19 25 56.6**	**-2.1**
	baz=235						
JYNG	**Yonaguni jima**	**1.63**	**355**	*eS*	**Sn**	**19 25 58.4**	**-0.4**
YOJ	**Yonaguni jima**	**1.64**	**357**	*eS*	**Sn**	**19 25 58.8**	**-0.1**
JKRS	**Kuro-shima**	**1.64**	**30**	*eP*	**Pb**	**19 25 39.5**	**-0.3**
JKRS				*eS*	**Sn**	**19 25 58.3**	**-0.6**
HGSD	**Ruisui**	**1.68**	**294**	*eP*	**Pn**	**19 25 38.4**	**-0.3**
	baz=289						
HGSD				*eS*	**Sn**	**19 25 57.1**	**-2.9**
	baz=289						
FULB	**Fuli**	**1.71**	**283**	P	**Pn**	**19 25 39.0**	**-0.1**
	baz=286						
FULB				S	**Sn**	**19 25 58.0**	**-2.7**
	baz=286						
SHUL	**Shoufeng**	**1.71**	**305**	P	**Pn**	**19 25 39.8**	**+0.8**
	baz=311						
SHUL				S	**Sn**	**19 25 58.9**	**-1.8**
	baz=311						
EYUL	**Yuli**	**1.72**	**288**	P	**Pn**	**19 25 40.0**	**+0.7**
	baz=287						
EYUL				S	**Sn**	**19 25 59.9**	**-1.1**
	baz=287						
TWF1	**Yuli**	**1.74**	**288**	P	**Pn**	**19 25 39.9**	**+0.3**
	baz=287						
TWF1				S	**Sn**	**19 26 00.2**	**-1.3**
	baz=287						
ECS	**Chishang**	**1.75**	**279**	*eP*	**Pn**	**19 25 39.5**	**-0.2**
	baz=282						
ECS				S	**Sn**	**19 26 01.5**	**-0.4**
	baz=282						
YULB	**Yu-li**	**1.75**	**289**	P	**Pn**	**19 25 40.3**	**+0.6**
	baz=288						
YULB				S	**Sn**	**19 25 59.9**	**-2.0**
	baz=288						
EGFH	**Guangfu**	**1.76**	**299**	P	**Pn**	**19 25 41.2**	**+1.5**
	baz=305						
EGFH				*eS*	**Sn**	**19 25 58.0**	**-3.9**
	baz=305						
EHY	**Hungye**	**1.77**	**293**	*eP*	**Pn**	**19 25 41.0**	**+1.1**
	baz=291						
EHY				*eS*	**Sn**	**19 26 01.2**	**-1.1**
	baz=291						
EOS2	**EOS2**	**1.78**	**334**	P	**Pb**	**19 25 41.8**	**-0.3**
	baz=335						
EOS2				S	**Sn**	**19 26 03.1**	**+0.9**
	baz=335						
JIJ	**Ishigaki jima**	**1.81**	**32**	*eP*	**Pn**	**19 25 41.4**	**+0.9**
JIJ				*eS*	**Sn**	**19 26 01.9**	**-1.3**
WARBT	**Fenglin Townsh**	**1.81**	**300**	P	**Pn**	**19 25 40.9**	**+0.4**
	baz=305						
LONT	**Longtian**	**1.82**	**273**	P	**Pn**	**19 25 42.1**	**+1.5**
	baz=267						
LONT				S	**Sn**	**19 26 03.2**	**-0.2**
	baz=267						
ESL	**Shilin**	**1.82**	**303**	P	**Pn**	**19 25 41.0**	**+0.4**
	baz=304						
ESL				S	**Sn**	**19 26 00.4**	**-3.1**
	baz=304						
TWGBT	**Beinan**	**1.86**	**270**	P	**Pn**	**19 25 42.4**	**+1.2**
	baz=265						
TWGBT				S	**Sn**	**19 26 03.2**	**-1.3**
	baz=265						
ETM	**Tongmen**	**1.87**	**308**	P	**Pn**	**19 25 42.3**	**+1.1**
	baz=313						
ETM				*eS*	**Sn**	**19 26 01.6**	**-3.0**
	baz=313						
TWG	**Pinlang**	**1.87**	**270**	P	**Pn**	**19 25 42.6**	**+1.3**
	baz=265						
TWG				S	**Sn**	**19 26 02.9**	**-1.8**
	baz=265						
NACB	**Ninganchiao**	**1.93**	**315**	P	**Pn**	**19 25 42.2**	**+0.1**
	baz=312						
NACB				S	**Sn**	**19 26 04.0**	**-2.1**
	baz=312						
EAHA	**Aohua**	**1.95**	**321**	P	**Pb**	**19 25 44.9**	**-0.2**
	baz=317						
EAHA				S	**Sn**	**19 26 05.9**	**-0.8**
	baz=317						
ELDTW	**Lidau**	**1.95**	**281**	P	**Pn**	**19 25 43.4**	**+0.9**
	baz=285						
ELDTW				*eS*	**Sn**	**19 26 05.7**	**-1.2**
	baz=285						
LXIB	**Xiulin Townshi**	**1.96**	**308**	P	**Pn**	**19 25 42.8**	**+0.2**
	baz=313						
LXIB				S	**Sn**	**19 26 05.9**	**-1.2**
	baz=313						
ECL	**Taimali**	**1.99**	**264**	*eP*	**Pn**	**19 25 43.2**	**+0.2**
	baz=260						
ECL				*eS*	**Sn**	**19 26 05.9**	**-1.8**
	baz=260						
EWUT	**Wuta**	**2.02**	**323**	P	**Pn**	**19 25 44.8**	**+1.4**
	baz=332						
EWUT				S	**Sn**	**19 26 07.7**	**-0.7**
	baz=332						
VWDT	**VWDT**	**2.03**	**298**	P	**Pn**	**19 25 45.1**	**+1.6**
	baz=303						
VWDT				*eS*	**Sn**	**19 26 07.4**	**-1.1**
	baz=303						
ETLH	**Xiulin Townshi**	**2.03**	**313**	*eP*	**Pn**	**19 25 43.5**	**0.0**
	baz=313						
ETLH				S	**Sn**	**19 26 07.0**	**-1.7**
	baz=313						
ENA	**Nanau**	**2.03**	**322**	P	**Pn**	**19 25 45.1**	**+1.6**
	baz=325						
ENA				S	**Sn**	**19 26 08.0**	**-0.6**
	baz=325						
JISG	**Ishigakijimahi**	**2.08**	**32**	*eP*	**Pn**	**19 25 45.0**	**+0.9**
JISG				*eS*	**Sn**	**19 26 08.7**	**-1.1**
OWD	**Renai**	**2.10**	**303**	P	**Pn**	**19 25 45.2**	**+0.7**
	baz=309						
OWD				S	**Sn**	**19 26 07.9**	**-2.6**
	baz=309						
EAST	**Anshuo**	**2.13**	**259**	P	**Pn**	**19 25 46.5**	**+1.7**
	baz=261						
EAST				S	**Sn**	**19 26 10.5**	**-0.6**
	baz=261						
WHF	**Hehuan Shan**	**2.14**	**308**	P	**Pn**	**19 25 46.5**	**+1.1**
	baz=310						
WHF				*eS*	**Sn**	**19 26 10.8**	**-1.1**
	baz=310						
CHGB	**Renai**	**2.16**	**305**	P	**Pn**	**19 25 46.8**	**+1.3**
	baz=312						
CHGB				*eS*	**Sn**	**19 26 11.6**	**-0.5**
	baz=312						
WUSB	**Renai**	**2.16**	**303**	P	**Pn**	**19 25 47.0**	**+1.6**
	baz=311						
WUSB				*eS*	**Sn**	**19 26 09.8**	**-2.3**
	baz=311						
SLIU	**Shizi**	**2.21**	**255**	*eP*	**Pn**	**19 25 47.2**	**+1.2**
	baz=242						
SLIU				*eS*	**Sn**	**19 26 12.0**	**-1.1**
	baz=242						
FUSS	**Fushou**	**2.22**	**310**	P	**Pn**	**19 25 47.6**	**+1.3**
	baz=311						
FUSS				S	**Sn**	**19 26 12.0**	**-1.6**
	baz=311						
LATG	**Datong**	**2.24**	**320**	*eP*	**Pn**	**19 25 47.5**	**+1.1**
	baz=322						
LATG				S	**Sn**	**19 26 12.2**	**-1.7**
	baz=322						
NNSB	**Datong**	**2.25**	**316**	*eP*	**Pn**	**19 25 48.4**	**+1.9**
	baz=312						
NNSB				*eS*	**Sn**	**19 26 12.9**	**-1.2**
	baz=312						
NNS	**Nan Shan**	**2.26**	**316**	*eP*	**Pb**	**19 25 51.2**	**+0.8**
	baz=313						
NNS				*eS*	**Sn**	**19 26 13.7**	**-0.8**
	baz=313						
SLGT	**Liugui**	**2.27**	**275**	P	**Pn**	**19 25 49.1**	**+2.4**
	baz=277						
SLGT				*eS*	**Sn**	**19 26 16.7**	**+2.2**
	baz=277						
TWT	**Tachien**	**2.27**	**309**	*eP*	**Pb**	**19 25 49.6**	**-1.0**
	baz=310						
TWT				*eS*	**Sn**	**19 26 14.6**	**-0.3**
	baz=310						
TDCB	**Techi**	**2.28**	**309**	P	**Pn**	**19 25 48.5**	**+1.4**
	baz=310						
TDCB				*eS*	**Sn**	**19 26 14.0**	**-1.0**
	baz=310						
MASBT	**Mashibuluo**	**2.29**	**265**	P	**Pn**	**19 25 48.4**	**+1.4**
	baz=261						
ENTT	**Nioudou**	**2.29**	**323**	P	**Pn**	**19 25 48.9**	**+1.8**
	baz=325						
ENTT				*eS*	**Sn**	**19 26 15.3**	**+0.2**
	baz=325						
NDT	**Datong Townshi**	**2.29**	**321**	P	**Pn**	**19 25 49.0**	**+1.8**
	baz=323						
NDT				S	**Sn**	**19 26 13.8**	**-1.4**
	baz=323						
TPUB	**Ta-pu**	**2.33**	**282**	*eP*	**Pb**	**19 25 51.8**	**+0.4**
	baz=284						
TYC	**Yuchr**	**2.33**	**298**	*eP*	**Pb**	**19 25 51.1**	**-0.4**
	baz=302						
TYC				*eS*	**Sn**	**19 26 16.2**	**+0.3**
	baz=302						
WTP	**Ta-pu**	**2.33**	**281**	*eP*	**Pb**	**19 25 52.4**	**+0.9**
	baz=283						
WTP				*eS*	**Sn**	**19 26 19.1**	**+3.1**
	baz=283						
JTJ	**Tarama**	**2.33**	**39**	P	**Pn**	**19 25 48.8**	**+1.1**
JTJ				*eS*	**Sn**	**19 26 15.3**	**-0.8**
WCS	**Beigang Elemen**	**2.36**	**302**	*eP*	**Pb**	**19 25 52.4**	**+0.4**
	baz=306						
FUSB	**Fushanzhiwuyua**	**2.38**	**325**	*eP*	**Pb**	**19 25 51.7**	**-0.7**
	baz=333						
FUSB				S	**Sn**	**19 26 16.3**	**-1.0**
	baz=333						
CHN1	**Nanshi**	**2.40**	**279**	P	**Pb**	**19 25 52.0**	**-0.7**
	baz=283						
CHN1				*eS*	**Sn**	**19 26 21.1**	**+3.3**
	baz=283						
YHNB	**Yeheng**	**2.43**	**320**	*eP*	**Pn**	**19 25 50.9**	**+1.9**
	baz=314						
YHNB				S	**Sn**	**19 26 16.8**	**-1.7**
	baz=314						
NWLT	**Wulai**	**2.44**	**323**	*eP*	**Pb**	**19 25 53.5**	**+0.2**
	baz=332						
NWLT				S	**Sn**	**19 26 18.4**	**-0.3**
	baz=332						
TIPB	**Shuangxi**	**2.44**	**332**	*eP*	**Pb**	**19 25 52.1**	**-1.3**
	baz=341						
NSK	**Sanguang**	**2.44**	**320**	P	**Pn**	**19 25 51.1**	**+1.9**
	baz=314						
NSK				*eS*	**Sn**	**19 26 14.7**	**-4.1**
	baz=314						
TWK	**Hsinying**	**2.45**	**281**	*eP*	**Pb**	**19 25 55.1**	**+1.5**
	baz=279						
TWK				*eS*	**Sn**	**19 26 22.0**	**+3.0**
	baz=279						
WHP	**Taichung City**	**2.45**	**307**	*eS*	**Sn**	**19 26 19.7**	**+0.6**
	baz=312						
WNT	**Mingjian**	**2.46**	**296**	*eP*	**Pb**	**19 25 53.9**	**+0.2**
	baz=303						
NFF	**Wufeng Townshi**	**2.56**	**315**	*eP*	**Pb**	**19 25 54.0**	**-1.5**
	baz=311						
NFF				*eS*	**Sn**	**19 26 22.2**	**+0.4**
	baz=311						
LIOB	**Emei**	**2.64**	**314**	P	**Pn**	**19 25 55.0**	**+3.1**
	baz=311						
LIOB				*eS*	**Sn**	**19 26 23.9**	**+0.3**
	baz=311						

*NEIC **21** 19:27:45.3±0.9, 19.°40N±0.°01×155.°294W±0.°009, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.6km az=206.0*
*NEIC **21** 19:28:01.9±1.0, 19.°404N±0.°007×155.°284W±0.°007, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.3km az=2.0*
*HVO **21** 19:28:01.5±0.8, 19.°394N±0.°010×155.°277W±0.°008, h0km±3km, ML3.6/38, ML3.1/34(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=172.0*
*IDC **21** 19:28:07.8±19.0, 20.°14N×154.°97W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=403.4km s-min=57.8km az=36.0*
ISC 21 19:28:02.2±0.8, 19°41N±0°04×155°28W±0°03, h10km, n31, σ1°55/34, mb3.5/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**344**		**Pg**	**19 28 02.2**	**-1.9**
UWB	**Uwekahuna B**	**0.01**	**19**		**Pg**	**19 28 02.6**	**-1.5**
UWE	**Uwekahuna**	**0.01**	**311**		**Pg**	**19 28 02.3**	**-1.8**
WRMHI	**West Rim**	**0.02**	**250**		**Pg**	**19 28 02.6**	**-1.5**
SBLHI	**Steaming Bluff**	**0.02**	**44**		**Pg**	**19 28 02.6**	**-1.6**
BYL	**Byron's Ledge**	**0.02**	**91**		**Pg**	**19 28 02.1**	**-2.0**
KKO	**Keanakako`i**	**0.02**	**133**		**Pg**	**19 28 02.0**	**-2.1**
HATHI	**Halema'uma'u T**	**0.02**	**63**	Pg	**Pg**	**19 28 02.4**	**-1.7**
SDHHI	**Sand Hill**	**0.03**	**205**		**Pg**	**19 28 02.4**	**-1.8**
RSD	**Rainshed**	**0.05**	**5**	Pg	**Pg**	**19 28 03.4**	**-0.9**
RSD				IAML		19 28 04.5	
	comp=E,7μm,0.8s						
PUH	**Pauahi**	**0.07**	**121**	Pg	**Pg**	**19 28 03.3**	**-1.3**
PUH				IAML		19 28 04.2	
	comp=E,12μm,0.8s						
PUH				IAML		19 28 04.3	
	comp=N,7μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.11**	**107**	Pg	**Pg**	**19 28 04.4**	**-0.6**
HLP	**Hilina Pali**	**0.12**	**192**	Pg	**Pg**	**19 28 04.4**	**-0.7**
HLP				IAML		19 28 06.2	
	comp=N,10μm,0.8s						
HLP				IAML		19 28 06.4	
	comp=E,10μm,0.9s						
MLH	**Mauna Loa**	**0.13**	**310**		**Pg**	**19 28 05.2**	**-0.2**
MLH				IAML		19 28 08.7	
	comp=N,10μm,1.1s						
STCH	**Steam Cracks**	**0.15**	**100**		**Pg**	**19 28 04.7**	**-0.9**
STCH				IAML		19 28 08.5	
	comp=E,10μm,1.0s						
NPOC	**North of Pu'u**	**0.16**	**97**		**Pg**	**19 28 05.4**	**-0.4**
HTC	**Hot Caves**	**0.20**	**212**		**Pg**	**19 28 06.1**	**-0.4**
JOKA	**Jonika Flow**	**0.26**	**85**	Pg	**Pb**	**19 28 06.9**	**-2.2**
JOKA					**Sg**	**19 28 10.2**	**-0.9**
JOKA				IAML		19 28 15.2	
	comp=E,3μm,1.5s						
JOKA				IAML		19 28 15.3	
	comp=N,5μm,1.1s						
HMH	**Humu`ula Sheep**	**0.27**	**315**	Pg	**Pb**	**19 28 07.9**	**-1.4**
HMH				IAML		19 28 16.5	
	comp=E,5μm,1.1s						
HMH				IAML		19 28 16.7	
	comp=N,5μm,0.9s						
MLOA	**Mauna Loa Obse**	**0.30**	**294**		**Pb**	**19 28 08.1**	**-1.8**
MLOA				IAML		19 28 17.3	
	comp=N,4μm,1.1s						
MLOA				IAML		19 28 17.4	
	comp=E,3μm,1.0s						
MWH	**Moku'aweowe**	**0.30**	**284**	Pg	**Pb**	**19 28 08.4**	**-1.6**
MWH					**Sg**	**19 28 11.8**	**-1.0**
MWH				IAML		19 28 16.7	
	comp=N,5μm,0.6s						
PAH	**Pahoa**	**0.33**	**75**	Pg	**Pb**	**19 28 08.3**	**-1.8**
PAH					**Sg**	**19 28 12.2**	**-0.9**
KHU	**Kahuku**	**0.35**	**242**		**Pb**	**19 28 08.8**	**-1.9**
KHU				IAML		19 28 18.7	
	comp=N,2μm,1.1s						
KHU				IAML		19 28 19.4	
	comp=E,2μm,0.8s						
HPO	**Honuapo**	**0.41**	**219**	Pg	**Pb**	**19 28 10.0**	**-1.5**
POHA	**Pohakuloa**	**0.42**	**326**	Pg	**Pb**	**19 28 10.5**	**-1.3**
POHA	**Pohakuloa**	**0.42**	**326**		**Sg**	**19 28 15.4**	**-0.6**
HUH	**Hualalai**	**0.59**	**298**		**Pb**	**19 28 13.8**	**-0.9**
HPAH	**Hawaii Prepara**	**0.73**	**328**	Pg	**Pg**	**19 28 14.7**	**-1.6**
PDAR	**Pinedale Array**	**44.87**	**48**	P	**P**	**19 36 18.5**	**+1.4**
	comp=E,0.3nm,0.7s,baz=247,slow=5.5,SNR=2.6						
	comp=E,0.3nm,0.7s						
ILAR	**Eielson Array**	**45.68**	**5**	P	**P**	**19 36 24.1**	**+1.2**
	comp=E,0.4nm,0.7s,baz=200,slow=7.5,SNR=4.7						
	comp=E,0.4nm,0.7s						
TXAR	**Lajitas Array**	**47.72**	**68**	P	**P**	**19 36 42.4**	**+2.8**
	comp=E,1.1nm,0.8s,baz=264,slow=8.1,SNR=15						
	comp=E,1.1nm,0.8s						

*IDC **21** 19:37:40.4±0.7, 34.°37N×73.°88E, h0km, mb3.8/14, mbtmp3.8/19, ML3.6/5, MS4.0/2, Error ellipse: s-maj=20.3km s-min=14.0km az=48.0*
*NDI **21** 19:37:42.6±2.8, 34.°70N×73.°63E, h33km, ML3.8, MW4.3, mb4.2(NEIC)*
*NNC **21** 19:37:44.0±7.7, 36.°46N×78.°13E, h0km, mb3.7, mpv4.0, Error ellipse: s-maj=96.5km s-min=48.5km az=16.0*
*NEIC **21** 19:37:46.5±1.6, 34.°36N±0.°06×74.°00E±0.°06, h44km±6km, mb4.2/16, Error ellipse: s-maj=10.0km s-min=5.8km az=155.0*
ISC 21 19:37:44.8±0.5, 34°45N±0°04×73°93E±0°05, h26km, n64, σ1°93/71, mb3.9/21, 2C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**0.98**	**215**	Pn	**Pn**	**19 38 02.4**	**-0.5**
NIL				Sn	**Sn**	**19 38 16.3**	**+0.3**
JMU	**Jammu**	**1.91**	**155**	*eP*	**Pb**	**19 38 17.3**	**-1.8**
JMU				*eS*	**Sb**	**19 38 42.8**	**+0.3**
JMU				IAML		19 38 43.2	
	comp=E,2μm,0.5s						
JMU				IAML		19 38 45.1	
	comp=E,1μm,0.1s						
THN	**Thein Dam**	**2.51**	**143**	*eP*	**Pb**	**19 38 26.4**	**-2.8**
THN				*i x*	x	19 38 30.0	
THN				*eS*	**Sb**	**19 38 58.5**	**-1.2**
THN				IAML		19 39 02.9	
	comp=E,560nm,0.3s						
THN				IAML		19 39 03.5	
	comp=E,602nm,0.3s						
BHK	**Bhakra**	**3.68**	**145**	*eP*	**Pn**	**19 38 39.8**	**-0.3**
BHK				*eS*	**Sn**	**19 39 26.9**	**+4.2**
BHK				IAML		19 39 41.3	
	comp=E,255nm,0.1s						
BHK				IAML		19 39 43.5	
	comp=E,217nm,0.6s						
KBL	**Kabul**	**4.03**	**273**		**Pn**	**19 38 47.5**	**+2.4**
SMLA	**Simla**	**4.29**	**140**	*eP*	**Pn**	**19 38 49.9**	**+1.5**
SMLA				*i x*	x	19 39 02.0	
SMLA				*ex*	x	19 39 40.2	
SMLA				*i x*	x	19 39 55.7	
SMLA				IAML		19 39 59.6	
	comp=E,266nm,0.8s						
SMLA				IAML		19 40 03.1	
	comp=E,202nm,0.7s						
HNLY	**HANLEY**	**4.53**	**110**	*eP*	**Pn**	**19 38 54.2**	**+2.0**
HNLY				*eS*	**Sn**	**19 39 44.5**	**+0.2**
KLP	**Kalpa**	**4.66**	**128**	*eP*	**Pn**	**19 38 54.5**	**+0.8**
KLP				*eS*	**Sn**	**19 39 48.6**	**+1.5**
KLP				IAML		19 40 06.3	
	comp=E,137nm,0.2s						
KLP				IAML		19 40 09.7	
	comp=E,111nm,0.5s						
KLP				IAML		19 40 16.2	
	comp=N,122nm,0.7s						
KLP				IAML		19 40 17.7	
	comp=E,130nm,0.8s						
DRK	**Karamyk**	**5.30**	**342**		**Pn**	**19 39 04.8**	**+2.2**
KSH	**Kashi**	**5.31**	**17**	Pn	**Pn**	**19 39 01.6**	**-1.0**
KSH				Sn	**Sn**	**19 39 56.4**	**-6.6**
KSH				smax	smax		
	comp=N,50nm,0.4s						
KSH				smax	smax		
	comp=E,43nm,0.3s						
GAR	**Garm**	**5.38**	**328**		**Pn**	**19 39 06.3**	**+2.7**
DDI	**Dehra Dun**	**5.40**	**139**	*eP*	**Pn**	**19 39 04.6**	**+0.8**
CHGR	**Chuyangaron**	**5.69**	**319**		**Pn**	**19 39 10.2**	**+2.5**
SIMJ	**Simiganj**	**5.77**	**318**		**Pn**	**19 39 10.8**	**+2.0**
BTK	**Batken**	**6.12**	**337**	Pn	**Pn**	**19 39 16.9**	**+3.3**
KUDL	**Kundal**	**6.66**	**160**	*ex*	x	19 39 19.6	
KUDL				*eS*	**Sn**	**19 40 33.1**	**-2.9**
NRN	**Naryn**	**7.16**	**13**	Pn	**Pn**	**19 39 30.5**	**+2.4**
AJM	**Ajmer**	**7.97**	**175**	*ex*	x	19 39 58.8	
AAK	**Ala-Archa**	**8.18**	**3**	Pn	**Pn**	**19 39 44.0**	**+2.0**
AAK	**Ala-Archa**	**8.18**	**3**	Pn	**Pn**	**19 39 43.9**	**+1.8**
	comp=E,2.1nm,0.3s,baz=93,slow=5.8,SNR=4.2						
AAK				Sn	**Sn**	**19 41 18.7**	**+5.0**
	comp=E,0.4nm,0.3s,baz=24,slow=21,SNR=1.5						
	comp=E,5.8nm,0.5s						
KK31	**Karatay Array**	**9.04**	**344**	Pn	**Pn**	**19 39 55.0**	**+1.4**
KK31	**Karatay Array**	**9.04**	**344**	⇑P	**Pn**	**19 39 54.6**	**+1.0**
	comp=E,2.6nm,0.4s,baz=155,slow=10,SNR=76						
KK31				⇑S	**Sn**	**19 41 34.7**	**+0.2**
	comp=E,5.4nm,0.4s						
KKAR	**Karatay Array**	**9.04**	**344**	Pn	**Pn**	**19 39 54.6**	**+1.0**
MAKZ	**Makanchi**	**13.76**	**24**	Pn	**Pn**	**19 40 59.1**	**+0.9**
MKAR	**Makanchi Array**	**13.86**	**25**	Pn	**Pn**	**19 40 58.6**	**-0.9**
	comp=E,0.1nm,0.3s,baz=206,slow=13,SNR=2.0						
	comp=E,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**16.51**	**10**	Pn	**Pn**	**19 41 33.2**	**-1.2**
	baz=197,slow=9.9,SNR=1.7						
	comp=E,0.4nm,0.3s						
AB31	**Akbulak array**	**18.04**	**329**	P	**P**	**19 41 59.3**	**+5.4**
	comp=E,4.0nm,1.1s,baz=136,slow=9.7,SNR=16						
ABKAR	**Akbulak array**	**18.04**	**329**	P	**P**	**19 41 54.6**	**+0.7**
ABKAR	**Akbulak array**	**18.04**	**329**	P	**P**	**19 41 54.3**	**+0.4**
ABKAR				IAmb	IAmb	19 42 12.8	
	comp=Z,2.8nm,0.8s						
BVAR	**Borovoye Array**	**18.74**	**353**	P	**Pn**	**19 42 02.3**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=154,slow=9.2,SNR=21						
	comp=Z,3.8nm,0.4s						
BRVK	**Borovoye**	**18.78**	**353**	P	**P**	**19 42 02.4**	**+0.5**
AKTO	**Aktyubinsk**	**19.75**	**329**	P	**P**	**19 42 13.1**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=130,slow=7.1,SNR=19						
	comp=Z,7.0nm,0.7s						
ZAA0	**Zalesovo Array**	**20.95**	**18**	P	**P**	**19 42 25.0**	**-0.5**
ZALV	**Zalesovo Beam**	**20.95**	**18**	P	**P**	**19 42 25.0**	**-0.6

BRTR Keskin Array B 32.37 291 P P 19 44 10.7 -1.6
comp=Z,0.4nm,0.6s,baz=67,slow=11,SNR=3.1
comp=Z,0.4nm,0.6s
AKASG Malin Array Be 36.09 311 P P 19 44 42.8 -1.4
comp=Z,0.3nm,0.5s,baz=83,slow=7.0,SNR=2.8
comp=Z,0.3nm,0.5s
MLR Muntele Rosu 37.87 302 P P 19 45 00.6 +1.0
MLR IAmb IAmb 19 45 02.8
comp=Z,3.6nm,0.9s
FINES FINESS Array B 40.51 327 P P 19 45 20.4 -0.9
comp=Z,2.8nm,1.1s,baz=125,slow=10.0,SNR=5.5
comp=Z,2.8nm,1.1s
ARCES ARCESS Array B 43.94 338 P P 19 45 49.8 +0.6
comp=Z,0.8nm,0.6s,baz=112,slow=7.9,SNR=8.1
comp=Z,0.8nm,0.6s
HFS Hagfors 46.14 323 P P 19 46 06.8 0.0
comp=Z,2.9nm,0.7s,baz=104,slow=8.7,SNR=16
comp=Z,2.9nm,0.7s
NB2 NORSAR Subarra 47.44 324 P P 19 46 16.5 -0.5
comp=Z,0.7nm,0.6s,baz=94,slow=7.9
NOA NORSAR Array B 47.44 324 P P 19 46 16.6 -0.4
comp=Z,0.5nm,0.5s,baz=101,slow=7.1,SNR=7.2
comp=Z,0.5nm,0.5s
MJB9 Matsu-Tunnel 51.49 68 P P 19 46 45.6 -2.6
MJB9 IAmb IAmb 19 46 47.7
comp=Z,3.0nm,0.9s
MAJO Matsushiro 51.49 68 P P 19 46 45.8 -2.4
MAJO IAmb IAmb 19 46 47.7
comp=Z,3.1nm,0.9s
JHJ Hachijo jima 2 53.85 72 LR LR 20 13 26.7
comp=Z,417nm,21.3s,baz=107,slow=40
EKA Eskdalemuir Ar 55.41 317 P P 19 47 16.1 -0.6
comp=Z,0.9nm,0.7s,baz=93,slow=6.8,SNR=4.0
comp=Z,0.9nm,0.7s
ESDC Sonseca Array 60.53 300 P P 19 47 52.8 -0.1
comp=Z,0.2nm,0.5s,baz=53,slow=8.1,SNR=2.1
comp=Z,0.2nm,0.5s
TOA0 Torodi Ar. Sit 68.10 271 P P 19 48 42.0 -0.7
TORD Torodi Ar. Bea 68.10 271 P P 19 48 42.1 -0.7
TORD IAmb IAmb 19 49 05.3
comp=Z,1.8nm,1.2s
TORD Torodi Ar. Bea 68.10 271 P P 19 48 42.6 -0.2
comp=Z,0.7nm,0.5s,baz=37,slow=6.1,SNR=12
comp=Z,0.7nm,0.5s
BMAR Burnt Mountain 74.34 14 P P 19 49 20.7 +0.9
I28M Miner Creek 77.00 14 P P 19 49 34.7 -0.4
I28M IAmb IAmb 19 49 39.5
comp=Z,2.2nm,1.1s
I29M Ogilvie Camp, 77.39 13 P P 19 49 36.4 -0.8
I29M IAmb IAmb 19 49 38.0
comp=Z,3.0nm,1.4s
I30M Mount Dempster 77.88 13 P P 19 49 39.6 -0.4
WB0 Warramunga Arr 78.80 123 P P 19 49 44.2 -1.3
WRA Warramunga Arr 78.88 124 P P 19 49 45.1 -0.9
WRA Warramunga Arr 78.88 124 P P 19 49 45.5 -0.5
comp=Z,0.7nm,0.6s,baz=310,slow=6.2,SNR=13
comp=Z,0.7nm,0.6s
ASAR Alice Springs 81.12 127 P P 19 49 57.6 -0.5
comp=Z,1.0nm,0.8s,baz=310,slow=5.4,SNR=12
comp=Z,1.0nm,0.8s

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*NNC **21** 19:38:56.5±0.5, 42.°86N×78.°04E, h0km, mb2.8, mpv3.3,*
Error ellipse: s-maj=4.1km s-min=1.4km az=174.0
*KRNET **21** 19:38:57.6±0.1, 42.°82N×78.°02E, h29km, mb2.3*
*SOME **21** 19:38:57.3, 42.°87N×78.°03E, h10km*
ISC 21 19:38:56.6±1.1, 42.°85N±0.°02×78.°01E±0.°02, h0km±10km, n43, σ1s27/86, 12C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 68nm,0.1s	**0.36**	**54**	*e*P	**Pg**	**19 39 03.5**	**0.0**
SATY	761nm,0.0s			*e*S	**Sg**	**19 39 08.1**	**-0.1**
SATY	**Saty** 68nm,0.1s	**0.36**	**54**	P	**Pg**	**19 39 03.5**	**0.0**
SATY	761nm,0.0s			S	**Sg**	**19 39 08.1**	**-0.1**
PRZ	**Przheval'sk** baz=39	**0.46**	**141**	⇓*e*P	**Pb**	**19 39 06.8**	**-1.0**
PRZ	baz=39			⇓*e*S	**Sb**	**19 39 13.3**	**-1.9**
KURS	**Kuram** 5.1nm,0.2s	**0.65**	**10**	*e*P	**Pg**	**19 39 09.2**	**+0.1**
KURS	20nm,0.3s			*e*S	**Sg**	**19 39 17.8**	**+0.2**
KURS	**Kuram** 5.1nm,0.2s	**0.65**	**10**	P	**Pg**	**19 39 09.2**	**+0.1**
KURS	20nm,0.3s			S	**Sg**	**19 39 17.8**	**+0.2**
KOTS	**Kotyrbulak** 19nm,0.3s	**0.76**	**301**	*e*P	**Pg**	**19 39 11.8**	**+0.5**
KOTS	19nm,0.4s			*e*S	**Sg**	**19 39 22.3**	**+1.1**
KOTS	**Kotyrbulak** 19nm,0.3s	**0.76**	**301**	P	**Pg**	**19 39 11.8**	**+0.5**
KOTS	19nm,0.4s			S	**Sg**	**19 39 22.3**	**+1.1**
MDOK	**Medeo** 12nm,0.3s	**0.77**	**295**	*e*P	**Pg**	**19 39 11.9**	**+0.4**
MDOK	14nm,0.4s			*e*S	**Sg**	**19 39 22.4**	**+0.9**
MDOK	**Medeo** 8.4nm,0.5s	**0.77**	**295**	P	**Pg**	**19 39 11.6**	**+0.1**
MDOK	12nm,0.3s			Pg	**Pg**	**19 39 11.9**	**+0.4**
MDOK	14nm,0.4s			Lg	Lg	19 39 22.4	
MDOK	9.4nm,0.5s			S	**Sg**	**19 39 22.6**	**+1.1**
KPKS	**Kokpek** 24nm,0.1s	**0.79**	**38**	*e*P	**Pg**	**19 39 11.4**	**-0.4**
KPKS	40nm,0.3s			*e*S	**Sg**	**19 39 21.6**	**-0.5**
KPKS	**Kokpek** 24nm,0.1s	**0.79**	**38**	P	**Pg**	**19 39 11.4**	**-0.4**
KPKS	40nm,0.3s			S	**Sg**	**19 39 21.6**	**-0.5**
UZB	**Uzynbulak** 3.7nm,0.1s	**0.80**	**68**	*e*P	**Pg**	**19 39 11.4**	**-0.6**
UZB	39nm,0.2s			*e*S	**Sg**	**19 39 21.6**	**-0.8**
UZB	**Uzynbulak** 3.7nm,0.1s	**0.80**	**68**	P	**Pg**	**19 39 11.4**	**-0.6**
UZB	39nm,0.2s			S	**Sg**	**19 39 21.6**	**-0.8**
TNSS	**Tian-Shan** 4.9nm,0.1s	**0.80**	**284**	*e*P	**Pg**	**19 39 12.5**	**+0.5**
TNSS	5.0nm,0.2s			*e*S	**Sg**	**19 39 23.5**	**+1.0**
TNSS	**Tian-Shan** 4.9nm,0.1s	**0.80**	**284**	P	**Pg**	**19 39 12.5**	**+0.5**
TNSS	5.0nm,0.2s			S	**Sg**	**19 39 23.5**	**+1.0**
KDJ	**Kajisay** baz=21	**0.94**	**221**	⇑*e*P	**Pg**	**19 39 15.0**	**+0.3**
KDJ	baz=21			⇑*e*S	**Sg**	**19 39 27.6**	**+0.7**
SHLS	**Shalkode** 7.8nm,0.6s	**1.11**	**73**	*e*P	**Pn**	**19 39 22.9**	**+3.4**
SHLS	31nm,0.8s			*e*S	**Sn**	**19 39 41.2**	**+5.6**
SHLS	**Shalkode** 7.8nm,0.6s	**1.11**	**73**	P	**Pn**	**19 39 22.9**	**+3.4**
SHLS	31nm,0.8s			S	**Sn**	**19 39 41.2**	**+5.6**
TARG	**Taragay, Kyrgy** baz=88	**1.13**	**188**	⇑*e*P	**Pg**	**19 39 18.1**	**-0.1**
TARG	baz=88			⇑*e*S	**Sg**	**19 39 33.0**	**+0.2**
PDGK	**Podgornoye** 2.2nm,0.3s	**1.19**	**66**	P	**Pb**	**19 39 18.3**	**-1.8**
PDGK	7.6nm,0.3s			S	**Sb**	**19 39 33.4**	**-2.7**
MTBS	**Maitube** 5.6nm,0.1s	**1.19**	**284**	*e*P	**Pb**	**19 39 20.0**	**-0.2**
MTBS	12nm,0.8s			*e*S	**Sg**	**19 39 36.0**	**+1.0**
MTBS	**Maitube** 5.6nm,0.1s	**1.19**	**284**	P	**Pb**	**19 39 20.0**	**-0.2**
MTBS	12nm,0.8s			S	**Sg**	**19 39 36.0**	**+1.0**
CHKK	**Chushkaly** 2.7nm,0.4s	**1.25**	**324**	*e*P	**Pn**	**19 39 20.8**	**-0.7**
CHKK	22nm,0.2s			*e*S	**Sb**	**19 39 37.6**	**-0.2**
CHKK	**Chushkaly** 2.7nm,0.4s	**1.25**	**324**	P	**Pn**	**19 39 20.7**	**-0.7**
CHKK	22nm,0.2s			S	**Sb**	**19 39 37.6**	**-0.2**
BLB	**Baldybastay** 26nm,0.0s	**1.30**	**15**	P	**Pn**	**19 39 21.2**	**-1.0**
BLB	32nm,0.3s			S	**Sb**	**19 39 38.2**	**-1.0**
KTBS	**Karatobe** 4.8nm,0.2s	**1.30**	**312**	*e*P	**Pn**	**19 39 21.5**	**-0.6**
KTBS	22nm,0.3s			*e*S	**Sb**	**19 39 39.0**	**-0.2**
KTBS	**Karatobe** 4.8nm,0.2s	**1.30**	**312**	P	**Pn**	**19 39 21.5**	**-0.6**
KTBS	22nm,0.3s			S	**Sb**	**19 39 39.0**	**-0.2**
ARXS	**Arharly** 2.0nm,0.1s	**1.37**	**355**	*e*P	**Pn**	**19 39 22.4**	**-0.7**
ARXS	34nm,0.4s			*e*S	**Sb**	**19 39 40.5**	**-0.8**
ARXS	**Arharly** 2.0nm,0.1s	**1.37**	**355**	P	**Pn**	**19 39 22.4**	**-0.7**
ARXS	34nm,0.4s			S	**Sb**	**19 39 40.5**	**-0.8**
ULHL	**Ulahol** baz=47	**1.44**	**246**	⇑*e*P	**Pn**	**19 39 23.6**	**-0.5**
ULHL	baz=47			⇑*e*S	**Sn**	**19 39 42.4**	**-1.4**
KST	**Kastek** 4.8nm,0.2s	**1.52**	**278**	*e*P	**Pb**	**19 39 25.6**	**-0.1**
KST	10nm,0.3s			*e*S	**Sg**	**19 39 45.9**	**+0.6**
KST	**Kastek** 4.8nm,0.2s	**1.52**	**278**	P	**Pb**	**19 39 25.5**	**-0.1**
KST	10nm,0.3s			S	**Sg**	**19 39 45.9**	**+0.6**
BOOM	**Boomskoye usch** baz=59	**1.57**	**258**	⇑*e*P	**Pn**	**19 39 25.7**	**-0.2**
BOOM	baz=59			⇑*i*S	**Sn**	**19 39 46.1**	**-0.8**
DGS	**Degeres** 6.6nm,0.3s	**1.69**	**284**	*e*P	**Pb**	**19 39 28.6**	**0.0**
DGS	12nm,0.1s			*e*S	**Sb**	**19 39 50.9**	**+0.5**
DGS	**Degeres** 6.6nm,0.3s	**1.69**	**284**	P	**Pb**	**19 39 28.5**	**0.0**
DGS	12nm,0.1s			S	**Sb**	**19 39 50.9**	**+0.5**
KNOS	**Konyrlen** 5.1nm,0.3s	**1.73**	**29**	S	**Sg**	**19 39 52.7**	**+0.3**
TKM2	**Tokmak 2** baz=74	**1.77**	**273**	⇓*i*P	**Pn**	**19 39 28.8**	**+0.1**
TKM2	baz=74			⇓*e*S	**Sn**	**19 39 51.4**	**-0.7**
KTMS	**Ketmen** 1.5nm,0.2s	**1.82**	**70**	*e*P	**Pb**	**19 39 30.0**	**-0.8**
KTMS	7.2nm,0.2s			*e*S	**Sb**	**19 39 53.6**	**-0.5**
KRBS	**Karabastau** 6.0nm,0.4s	**1.91**	**297**	*e*P	**Pb**	**19 39 32.6**	**+0.3**
KRBS	9.2nm,0.1s			*e*S	**Sg**	**19 39 58.0**	**+0.1**
KBK	**Karagaybulak** baz=67	**2.26**	**266**	⇓*e*P	**Pn**	**19 39 35.5**	**+0.1**
KBK	baz=67			⇓*i*S	**Sn**	**19 40 03.0**	**-1.1**
CHMS	**Chumysh** baz=75	**2.40**	**275**	⇑*i*P	**Pn**	**19 39 37.3**	**+0.2**
CHMS	baz=75			⇑*i*S	**Sn**	**19 40 06.1**	**-1.1**
AAK	**Ala-Archa** baz=67	**2.60**	**267**	⇑*i*P	**Pn**	**19 39 40.1**	**+0.1**
AAK	baz=67			⇑*e*S	**Sn**	**19 40 10.9**	**-1.4**
USP	**Ospenovka** baz=81	**2.61**	**280**	⇓*e*P	**Pn**	**19 39 40.2**	**+0.2**
USP	baz=81			⇓*e*S	**Sn**	**19 40 11.2**	**-1.2**

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*BJI **21** 19:43:28.0±0.0, 19.°40N×155.°30W, h10km, mb4.9/16,*
mB5.6/21, Ms5.2/27, Ms7 5.0/27
*NEIC **21** 19:43:28.4, 19.°30N×155.°29W, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}=1.09; $M_{\theta\theta}$=0.52; $M_{\phi\phi}$=0.57; $M_{r\theta}$=-0.53; $M_{\theta\phi}$=0.52; $M_{\phi r}$=-0.16; Fault plane solution: M_0=1.21000×10^{17} NP1:ϕ_s=56.10000°, δ=58.37000°, λ=-77.18000°. NP2:ϕ_s=212.64000°, δ=33.88000°, λ=-109.81000°. Principal axes: T 1.1756, Plg=12.0000°, Azm=137.0000°; N 0.0771, Plg=11.0000°, Azm=229.0000°; P =-1.2527, Plg=73.0000°, Azm=359.0000°;*
*HVO **21** 19:43:28.7±0.8, 19.°402N±0.°009×155.°288W±0.°007, h0km±3km, ML=4.1/41, mb=4.5/49(NEIC), ML=3.6/37(NEIC), Mwws=5.3/21(NEIC) Error ellipse: s-maj=1.4km s-min=0.9km az=198.0*
*NEIC **21** 19:43:28.4, 19.°40N×155.°29W, h12km*
*NEIC **21** 19:43:29.4±0.8, 19.°400N±0.°009×155.°292W±0.°007, h2km±1km, Error ellipse: s-maj=1.3km s-min=1.0km az=189.0*
*IDC **21** 19:43:31.2±0.9, 19.°39N×155.°27W, h0km, mb3.9/9, mbtmp3.9/9, MS4.5/47, Error ellipse: s-maj=16.6km s-min=12.3km az=148.0*
*GCMT **21** 19:43:35.7±0.1, 19.°37N±0.°01×155.°18W±0.°01, h12km, MW5.3/160, Moment Tensor Solution. s97,c150; s160,c281; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}=1.07±.01; $M_{\theta\theta}$=0.58±.01; $M_{\phi\phi}$=0.49±.01; $M_{r\theta}$=0.30±.03; $M_{\theta\phi}$=0.34±.01; $M_{\phi r}$=0.04±.04; Best double couple: M_0=1.01600×10^{17} NP1:ϕ_s=236.00000°, δ=53.00000°, λ=-81.00000°. NP2:ϕ_s=42.00000°, δ=38.00000°, λ=-101.00000°. Principal axes: T 0.9090, Plg=8.0000°, Azm=320.0000°; N 0.2190, Plg=7.0000°, Azm=51.0000°; P =-1.1240, Plg=80.0000°, Azm=183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 19:43:29.0±0.7, 19.°41N±0.°03×155.°30W±0.°02, h4km±4km, n191, σ2s50/142, mb4.5/40, MS4.7/72, 1C, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.01**	**188**		**Pg**	**19 43 29.6**	**-0.3**
UWE	**Uwekahuna**	**0.01**	**33**	Pg	**Pg**	**19 43 29.7**	**-0.3**
OBL	**Observatory Le**	**0.01**	**70**		**Pg**	**19 43 29.5**	**-0.4**
SDHHI	**Sand Hill**	**0.02**	**168**		**Pg**	**19 43 29.8**	**-0.2**
UWB	**Uwekahuna B**	**0.02**	**58**		**Pg**	**19 43 30.6**	**+0.5**
RIM	**Rim**	**0.03**	**126**		**Pg**	**19 43 30.0**	**0.0**
SBLHI	**Steaming Bluff**	**0.03**	**64**		**Pg**	**19 43 30.7**	**+0.6**
KKO	**Keanakako`i**	**0.03**	**115**		**Pg**	**19 43 30.3**	**+0.2**
BYL	**Byron's Ledge**	**0.04**	**91**		**Pg**	**19 43 30.0**	**-0.1**
HATHI	**Halema'uma'u T**	**0.04**	**74**	Pg	**Pg**	**19 43 30.0**	**-0.1**
RSD	**Rainshed**	**0.05**	**22**		**Pg**	**19 43 30.4**	**0.0**
RSD	comp=N,8μm,2.0s			IAML		19 43 30.4	
PUH	**Pauahi**	**0.09**	**116**		**Pg**	**19 43 31.0**	**+0.1**
PUH	comp=E,9μm,0.8s			IAML		19 43 31.7	
PUH	comp=N,6μm,0.7s			IAML		19 43 31.9	
MLH	**Mauna Loa**	**0.12**	**315**		**Pg**	**19 43 32.6**	**+1.1**
MLH	comp=N,8μm,0.1s			IAML		19 43 34.8	
MLH	comp=E,26μm,0.8s			IAML		19 43 35.5	
HLP	**Hilina Pali**	**0.12**	**184**		**Pg**	**19 43 31.3**	**-0.1**
HLP	comp=N,9μm,0.7s			IAML		19 43 33.1	
HLP	comp=E,22μm,0.8s			IAML		19 43 33.9	
KNHH	**Kane Nui o Ham**	**0.13**	**105**		**Pg**	**19 43 32.1**	**+0.5**
STCH	**Steam Cracks**	**0.17**	**99**		**Pg**	**19 43 32.1**	**-0.2**
STCH	comp=E,39μm,1.0s			IAML		19 43 36.7	
STCH	comp=N,22μm,0.4s			IAML		19 43 36.8	
NPOC	**North of Pu'u**	**0.18**	**96**		**Pg**	**19 43 33.1**	**+0.5**
NPOC					**Sg**	**19 43 36.6**	**+1.6**
JCUZ	**Jacuzzi**	**0.19**	**99**		**Pg**	**19 43 33.2**	**+0.5**
JCUZ					**Sg**	**19 43 35.9**	**+0.6**
HTC	**Hot Caves**	**0.20**	**208**		**Pg**	**19 43 33.4**	**+0.5**
HMH	**Humu'ula Sheep**	**0.26**	**318**		**Pg**	**19 43 34.8**	**+0.7**
HMH	comp=N,30μm,0.4s			IAML		19 43 42.2	
HMH				IAML		19 43 43.1	
JOKA	**Jonika Flow**	**0.28**	**86**		**Pg**	**19 43 34.9**	**+0.5**
JOKA	comp=E,33μm,0.7s			IAML		19 43 39.3	
MLOA	**Mauna Loa Obse**	**0.29**	**295**		**Pg**	**19 43 35.6**	**+0.9**
MLOA	comp=N,26μm,1.0s			IAML		19 43 44.7	
MWH	**Moku'aweowe**	**0.29**	**284**		**Pg**	**19 43 35.7**	**+0.9**
KHU	**Kahuku**	**0.34**	**241**		**Pg**	**19 43 36.0**	**+0.3**
KHU	comp=E,20μm,4.2s			IAML		19 43 44.1	
KHU	comp=N,21μm,1.4s			IAML		19 43 44.8	
PAH	**Pahoa**	**0.34**	**76**	Pg	**Pg**	**19 43 36.0**	**+0.3**
HPO	**Honuapo**	**0.40**	**217**		**Pg**	**19 43 37.0**	**+0.2**
POHA	**Pohakuloa**	**0.41**	**327**	Pg	**Pg**	**19 43 37.6**	**+0.6**
POHA				Sg	**Sg**	**19 43 42.8**	**+0.4**
HUH	**Hualalai**	**0.57**	**298**		**Pb**	**19 43 41.1**	**-0.8**
I59US	**HAWAII INFRASO** baz=111,slow=36	**0.59**	**288**	Pg	**Pn**	**19 43 43.0**	**-1.4**
I59US	comp=N,0.2nm,1.0s,baz=107,slow=322,SNR=6.0			I	I	19 46 39.0	
HPAH	**Hawaii Prepara**	**0.72**	**329**	Pg	**Pg**	**19 43 42.3**	**-0.6**
MHA	**Mahukona**	**0.96**	**324**		**Pg**	**19 43 46.1**	**-1.4**
HLK	**Haleakala**	**1.61**	**326**		**Pn**	**19 43 57.3**	**-1.2**
KHLH	**Kahului Airpor**	**1.82**	**325**		**Pn**	**19 43 58.1**	**-3.0**
KPA	**Kalaupapa**	**2.37**	**318**		**Pn**	**19 44 05.9**	**-2.9**
DHH	**Diamond Head**	**2.98**	**309**		**Pn**	**19 44 15.5**	**-1.7**
HON	**Honolulu**	**3.17**	**307**	Pn	**Pn**	**19 44 17.1**	**-2.7**
KIP	**Kipapa**	**3.24**	**309**		**Pn**	**19 44 17.0**	**-3.7**
KEKH	**Kekaha**	**4.86**	**303**	Pn	**Pn**	**19 44 38.9**	**-4.0**
JOHN	**Johnston Islan**	**13.79**	**261**	Pn	**Pn**	**19 46 41.6**	**-3.9**
BCW	**Bitter Crk WRg**	**35.26**	**57**	P	**P**	**19 50 21.8**	**-3.2**
ORV	**Oroville**	**35.32**	**48**	P	**P**	**19 50 21.8**	**-3.6**
AFDM	**Forest Hills D**	**35.45**	**49**	P	**P**	**19 50 22.3**	**-4.3**
YBH	**Yreka Blue Hor** comp=N,323nm,21.6s,baz=249,slow=30	**35.48**	**44**	LR	LR	20 00 57.4	
H11N3	**WAKE ISLAND Hy** baz=84,slow=74,SNR=54	**35.56**	**277**	T	T	20 27 34.0	
H11N2	**WAKE ISLAND Hy** baz=84,slow=74,SNR=38	**35.57**	**277**	T	T	20 27 34.8	
H11N1	**WAKE ISLAND Hy** baz=84,slow=74,SNR=28	**35.58**	**277**	T	T	20 27 35.0	
H11S2	**WAKE ISLAND Hy** baz=83,slow=74,SNR=14	**35.90**	**275**	T	T	20 28 01.8	
H11S1	**WAKE ISLAND Hy** baz=83,slow=74,SNR=10	**35.90**	**275**	T	T	20 27 59.9	
H11S3	**WAKE ISLAND Hy** baz=83,slow=74,SNR=10	**35.92**	**275**	T	T	20 28 00.5	
WAKR	**Walker**	**36.39**	**51**	P	**P**	**19 50 31.4**	**-3.5**
WAKR				IAmb	IAmb	19 50 54.3	
OMMB	**Old Mammoth Mi** comp=Z,14nm,1.4s	**36.40**	**52**	P	**P**	**19 50 31.1**	**-4.0**
OMMB	comp=Z,8.8nm,1.3s			IAmb	IAmb	19 50 45.1	
PAHR	**Pah Rah Range**	**36.88**	**49**	P	**P**	**19 50 38.0**	**-1.0**
PAHR	comp=Z,9.7nm,1.4s			IAmb	IAmb	19 50 49.7	
LHV	**Little Huntoon**	**36.99**	**52**	P	**P**	**19 50 36.0**	**-3.7**
LHV	comp=Z,22nm,1.7s			IAmb	IAmb	19 51 15.9	
DSP	**Deep Springs**	**37.10**	**53**	P	**P**	**19 50 41.4**	**+0.7**
DSP	comp=Z,12nm,1.5s			IAmb	IAmb	19 51 01.6	
PPT	**Papeete** comp=Z,1μm,20.8s,baz=338,slow=30	**37.18**	**171**	LR	LR	20 02 02.2	
NVAR	**Mina Array Bea**	**37.20**	**51**	P	**P**	**19 50 38.0**	**-3.8**
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.6s,baz=247,slow=12,SNR=4.1	**37.20**	**51**	P	**P**	**19 50 44.8**	**+3.0**
NVAR	comp=Z,312nm,21.6s,baz=252,slow=30			LR	LR	20 02 06.5	
PPT2	**Papeete2** comp=Z,128nm,24.5s	**37.20**	**171**	*e*P	**P**	**19 50 39.6**	**-2.1**
PPT2	comp=Z,433nm,25.0s			*e*S	**S**	**19 56 27.5**	**-1.8**
PPT2	comp=Z,3μm,27.0s			*e*LR	LR	20 00 36.6	
PPT2	comp=Z,4μm,25.0s			*e*LR	LR	20 00 43.8	
PFO	**Pinyon Flats O**	**37.29**	**60**	P	**P**	**19 50 38.8**	**-3.7**
PFO	comp=Z,13nm,1.4s			IAmb	IAmb	19 50 52.0	
PFO	**Pinyon Flats O** comp=Z,2.5nm,0.9s,baz=244,slow=6.1,SNR=3.7	**37.29**	**60**	P	**P**	**19 50 45.9**	**+3.4**
H04A	**Detroit Lake**	**37.30**	**40**	P	**P**	**19 50 39.6**	**-2.7**
H04A	comp=Z,18nm,1.3s			IAmb	IAmb	19 50 52.7	
NV11	**Mina Array Sit**	**37.31**	**51**	P	**P**	**19 50 38.8**	**-3.8**
NV11	comp=Z,18nm,1.6s			IAmb	IAmb	19 51 01.7	
GSC	**Goldstone, Bar**	**37.41**	**57**	P	**P**	**19 50 39.5**	**-3.9**
KVN	**Kaiserville**	**37.56**	**51**	P	**P**	**19 50 41.2**	**-3.6**
KVN	comp=Z,25nm,2.0s			IAmb	IAmb	19 51 10.2	
GWY	**Greenwater Val**	**37.75**	**56**	P	**P**	**19 50 42.5**	**-3.9**
GWY	comp=Z,19nm,1.6s			IAmb	IAmb	19 50 55.9	
WCT	**Wildcat Mounta**	**37.95**	**55**	P	**P**	**19 50 44.7**	**-3.3**
WCT	comp=Z,19nm,1.7s			IAmb	IAmb	19 50 57.9	
KDAK	**Kodiak Island** comp=Z,1μm,21.4s,baz=205,slow=30	**38.37**	**2**	LR	LR	20 02 56.2	
WVOR	**Wild Horse Val**	**38.50**	**45**	P	P	19 50 47.3	-5.3
WVOR	comp=Z,26nm,1.9s			IAmb	IAmb	19 51 16.7	
GLA	**Glamis**	**38.52**	**61**	P	**P**	**19 50 49.0**	**-3.8**
GNW	**Green Mountain**	**38.52**	**36**	P	**P**	**19 50 48.9**	**-3.7**
GNW	comp=Z,28nm,1.9s			IAmb	IAmb	19 51 02.7	
LON	**Longmire**	**38.63**	**37**	P	**P**	**19 50 50.9**	**-2.7**
LON	comp=Z,14nm,1.5s			IAmb	IAmb	19 51 03.7	
BMN	**Battle Mountai**	**38.69**	**49**	P	**P**	**19 50 50.6**	**-3.7**
CBB	**Campbell River**	**38.74**	**31**	P	**P**	**19 50 51.1**	**-3.3**
CBB	comp=Z,18nm,1.3s			IAmb	IAmb	19 52 22.8	
BBB	**Bella Bella** comp=Z,362nm,20.1s,baz=226,slow=30	**38.99**	**27**	LR	LR	20 03 02.0	
J08A	**Circle Bar Ran**	**39.01**	**44**	P	**P**	**19 50 52.9**	**-3.9**
J08A	comp=Z,23nm,1.9s			IAmb	IAmb	19 51 20.9	
SHPR	**Sheep Range**	**39.01**	**56**	P	**P**	**19 50 53.2**	**-3.9**
V12A	**Nelson**	**39.06**	**57**	P	**P**	**19 50 53.2**	**-4.2**
R11B	**Troy Canyon, C**	**39.19**	**53**	P	**P**	**19 50 54.6**	**-4.0**
PRN	**Pahroc Range**	**39.33**	**54**	P	**P**	**19 50 56.1**	**-3.6**
PRN	comp=Z,23nm,1.7s			IAmb	IAmb	19 51 20.1	
113A	**Mohawk Valley,**	**39.35**	**62**	P	**P**	**19 50 56.4**	**-3.4**
G08A	**Pilot Rock**	**39.58**	**41**	P	**P**	**19 50 59.3**	**-2.4**
W13A	**Hualapai Mount**	**39.69**	**58**	P	**P**	**19 50 58.2**	**-4.6**
ELK	**Elko**	**40.21**	**49**	P	**P**	**19 51 05.7**	**-1.4**
ELK	comp=Z,24nm,1.9s			IAmb	IAmb	19 51 26.8	
ELK	**Elko** comp=Z,0.3nm,0.3s,baz=267,slow=7.5,SNR=3.0	**40.21**	**49**	P	**P**	**19 51 08.9**	**+1.8**
RAR	**Rarotonga** comp=Z,840nm,19.6s,baz=336,slow=30	**40.61**	**186**	LR	LR	20 04 02.0	
SHEM	**Shemya Is, Ala** comp=Z,1μm,21.6s,baz=114,slow=31	**40.86**	**332**	LR	LR	20 04 42.6	
F10A	**Beach Ranch, E**	**40.98**	**41**	P	**P**	**19 51 11.6**	**-1.6**
X16A	**Lo Mia Camp, P**	**41.54**	**60**	P	**P**	**19 51 17.3**	**-0.7**
HLID	**Hailey**	**41.79**	**46**	P	**P**	**19 51 17.8**	**-2.2**
HLID	comp=Z,18nm,2.0s			IAmb	IAmb	19 51 38.3	
MSU	**Marysvale**	**41.81**	**54**	P	**P**	**19 51 20.6**	**+0.3**
BGU	**Big Grassy Mou**	**41.86**	**50**	P	P	19 51 15.2	-5.3
NEW	**Newport** comp=Z,260nm,20.7s,baz=236,slow=30	**42.13**	**38**	LR	LR	20 04 43.5	
TBI	**Tubual** comp=Z,484nm,23.8s	**42.88**	**172**	*e*P	**P**	**19 51 28.5**	**-0.2**
TBI	comp=Z,3μm,25.0s			*e*LQ	LQ	20 01 26.1	
TBI	comp=Z,2μm,27.0s			*e*LR	LR	20 03 16.5	
TBI	comp=Z,14μm,28.5s			*e*LR	LR	20 03 21.9	
DLBC	**Dease Lake** comp=Z,659nm,20.6s,baz=241,slow=30	**43.12**	**19**	LR	LR	20 05 28.1	
BSUT	**Blindstream Ca**	**43.40**	**51**	P	**P**	**19 51 32.0**	**-1.3**
BSUT	comp=Z,20nm,1.6s			IAmb	IAmb	19 51 41.4	
BPMT	**Black Pine Rid**	**43.55**	**42**	P	**P**	**19 51 32.5**	**-1.9**

TPAW	Teton Pass	44.13	47		P	P	19 51 37.5	-1.6
ANMO	Albuquerque	45.68	60		P	P	19 51 49.5	-1.9
ANMO					IAmb	IAmb	19 52 10.5	
	comp=Z,6.3nm,1.4s							
ILAR	Eielson Array	45.68	5		LR	LR	20 07 52.0	
	comp=Z,567nm,19.4s,baz=186,slow=32							
VHRN	Van Horn	46.61	66		P	P	19 51 56.4	-2.4
SDCO	Great Sand Dun	46.81	56		P	P	19 51 59.4	-1.1
TX31	Lajitas Ar. Si	47.73	68		P	P	19 52 06.9	-0.6
TXAR	Lajitas Array	47.73	68		P	P	19 52 06.6	-0.9
TXAR	Lajitas Array	47.73	68		P	P	19 52 09.9	+2.4
	comp=Z,2.6nm,0.8s,baz=252,slow=8.9,SNR=22							
	comp=Z,2.6nm,0.8s							
G29M	Pine Creek	48.77	9		P	P	19 52 16.1	+1.2
ZAIG	Zacatecas	49.11	76		P	P	19 52 15.0	-3.4
ZAIG					IAmb	IAmb	19 52 22.3	
	comp=Z,3.1nm,0.5s							
OZNA	Ozona	49.93	66		P	P	19 52 22.1	-2.2
SGCY	Sterling City	49.94	64		P	P	19 52 22.6	-1.7
SGCY					IAmb	IAmb	19 52 36.6	
	comp=Z,8.4nm,1.1s							
INK	Inuvik	50.76	10		LR	LR	20 12 13.3	
	comp=Z,643nm,18.7s,baz=184,slow=34							
YKA	Yellowknife Ar	51.33	23		P	P	19 52 36.0	+1.8
	comp=Z,1.0nm,0.8s,baz=234,slow=7.7,SNR=5.5							
YKA					LR	LR	20 11 18.1	
	comp=Z,290nm,20.4s,baz=218,slow=32							
	comp=Z,1.0nm,0.8s							
ECSD	EROS Data Cent	54.33	50		P	P	19 52 55.4	-1.5
MA2	Magadan	55.45	330		LR	LR	20 12 29.9	
	comp=Z,1μm,21.8s,baz=114,slow=31							
DZM	Mont Dzumac	55.66	224		eP	P	19 53 09.6	+2.8
	comp=Z,127nm,22.9s							
DZM					eS	S	20 00 52.9	-1.0
	comp=Z,254nm,24.6s							
DZM					eSS	SS	20 04 41.8	+2.3
	comp=Z,183nm,27.3s							
DZM					eLR	LR	20 09 16.4	
	comp=Z,575nm,33.8s							
DZM	Mont Dzumac	55.66	224		LR	LR	20 15 00.1	
	comp=Z,166nm,18.4s,baz=56,slow=34							
ULM	Lac du Bonnet	55.84	42		LR	LR	20 13 06.5	
	comp=Z,164nm,21.7s,baz=238,slow=32							
SEY	Seymchan	56.10	334		LR	LR	20 13 55.2	
	comp=Z,557nm,20.7s,baz=148,slow=32							
MJAR	Matsushiro Arr	60.06	302		P	P	19 53 41.7	+4.1
	comp=Z,2.9nm,1.1s,baz=90,slow=4.9,SNR=6.9							
	comp=Z,2.9nm,1.1s							
URZ	Urewera	62.95	204		LR	LR	20 16 41.8	
	comp=Z,360nm,19.8s,baz=121,slow=32							
PMG	Port Moresby	63.50	248		LR	LR	20 20 59.7	
	comp=Z,175nm,18.1s,baz=68,slow=35							
RES	Resolute Bay	63.74	15		LR	LR	20 17 45.1	
	comp=Z,566nm,21.7s,baz=268,slow=32							
TKL	Tuckaleechee C	64.19	59		LR	LR	20 21 17.3	
	comp=Z,288nm,18.8s,baz=206,slow=35							
RPN	Rapa Nui	64.22	135		LR	LR	20 15 31.2	
	comp=Z,540nm,18.4s,baz=297,slow=30							
JNU	Nakatsue	66.40	298		LR	LR	20 23 21.6	
	comp=Z,375nm,18.0s,baz=88,slow=36							
TIXI	Tiksi	67.26	341		LR	LR	20 23 17.2	
	comp=Z,409nm,19.6s,baz=134,slow=36							
KSRS	Korea Array	68.17	303		LR	LR	20 22 52.0	
	comp=Z,324nm,18.8s,baz=75,slow=35							
JTS	Las Juntas de	68.22	86		LR	LR	20 16 54.3	
	comp=Z,384nm,20.8s,baz=292,slow=29							
CTA	Charters Tower	69.43	239		LR	LR	20 21 26.7	
	comp=Z,11nm,19.6s,baz=52,slow=33							
JOW	Kunigami	69.74	292		LR	LR	20 20 39.5	
	comp=Z,198nm,21.1s,baz=136,slow=32							
RPZ	Rata Peaks	69.99	205		LR	LR	20 19 49.0	
	comp=Z,328nm,21.9s,baz=69,slow=31							
DL2	Dalian	72.81	306		P	P	19 55 02.6	+3.5
DL2					pmax	pmax		
	comp=Z,20nm,1.2s							
DL2					pmax	pmax		
	comp=Z,510nm,7.8s							
DL2					LR	LR		
	comp=Z,460nm,18.8s							
DL2					LR	LR		
	comp=Z,370nm,27.5s							
DL2					LR	LR		
	comp=Z,910nm,27.1s							
KULLO	Kullorsuaq	73.57	16	i	P	P	19 55 04.5	+1.6
KULLO					IAmb	IAmb	19 55 05.6	
	comp=Z,2.7nm,0.6s							
NEEM	North Greenlan	74.24	13	i	P	P	19 55 08.7	+1.5
UPNV	Upernavik	74.30	18	i	P	P	19 55 08.5	+1.2
UPNV					IAmb	IAmb	19 55 10.7	
	comp=Z,6.1nm,0.8s							
NUUG	Nuugaatsiaq	75.51	19	i	P	P	19 55 16.1	+1.8
NUUG					IAmb	IAmb	19 55 18.3	
	comp=Z,21nm,1.1s							
XLT	XiLinHaoTe	75.83	312	e	P	P	19 55 21.6	+4.8
XLT					SS	SS	20 09 53.6	+2.2
XLT					pmax	pmax		
	comp=Z,4.0nm,1.4s							
XLT					pmax	pmax		
	comp=Z,450nm,9.5s							
XLT					LR	LR		
	comp=Z,470nm,20.8s							
XLT					LR	LR		
	comp=Z,680nm,21.2s							
UMMG	Uummannaq	76.12	20	i	P	P	19 55 20.3	+2.6
NOR	Nord	77.14	6	i	P	P	19 55 25.3	+1.9
DAV	Davao City (W)	77.46	273		LR	LR	20 22 38.9	
	comp=Z,327nm,21.9s,baz=65,slow=30							
SFJD	Kangerlussuaq	77.89	23		LR	LR	20 25 46.7	
	comp=Z,401nm,21.7s,baz=260,slow=33							
HNS	HongShan	78.47	306	⇑	P	P	19 55 35.1	+3.5
HNS					pmax	pmax		
	comp=Z,540nm,8.9s							
HNS					LR	LR		
	comp=Z,460nm,23.2s							
HNS					LR	LR		
	comp=Z,500nm,24.0s							
STKA	Stephens Creek	79.07	231		LR	LR	20 23 51.0	
	comp=Z,191nm,20.3s,baz=30,slow=31							
SUMG	Summit	79.24	16	i	P	P	19 55 38.2	+2.5
HHC	Hu-ho-hao-te	79.86	310	e	P	P	19 55 37.0	-2.3
HHC					PP	PP	19 58 39.8	-0.6
HHC					S	S	20 05 38.8	-4.8
HHC					sS	sS	20 05 47.8	+1.5
HHC					SS	SS	20 10 49.3	-2.9
HHC					pmax	pmax		
	comp=Z,8.0nm,0.5s							
HHC					pmax	pmax		
	comp=Z,360nm,6.8s							
HHC					LR	LR		
	comp=Z,220nm,18.3s							
HHC					LR	LR		
	comp=Z,520nm,18.3s							
HHC					LR	LR		
	comp=Z,610nm,19.9s							
ROSC	El Rosal	79.91	88		LR	LR	20 22 40.1	
	comp=Z,184nm,19.9s,baz=234,slow=29							
ATAH	Atahualpa	80.13	101		LR	LR	20 24 50.3	
	comp=Z,321nm,18.1s,baz=304,slow=31							
DAG	Danmarks Havn	80.59	9	i	P	P	19 55 44.6	+2.2
LYN	LuoYang	81.02	303		P	P	19 55 46.8	+1.3
LYN					S	S	20 06 02.0	+6.3
LYN					pmax	pmax		
	comp=Z,810nm,7.6s							
LYN					LR	LR		
	comp=Z,820nm,18.2s							
LYN					LR	LR		
	comp=Z,990nm,19.8s							
NRIK	Noril'sk	81.02	341		LR	LR	20 31 57.5	
	comp=Z,351nm,20.1s,baz=43,slow=36							
BTO	Baotou	81.05	310	e	P	P	19 55 44.5	-1.2
BTO					S	S	20 05 55.8	-0.3
BTO					pmax	pmax		
	comp=Z,15nm,0.5s							
BTO					pmax	pmax		
	comp=Z,420nm,7.0s							
BTO					LR	LR		
	comp=Z,560nm,10.0s							
BTO					LR	LR		
	comp=Z,560nm,15.0s							
BTO					LR	LR		
	comp=Z,690nm,16.7s							
ASAR	Alice Springs	81.21	241		P	P	19 55 47.9	+1.3
	comp=Z,0.3nm,0.8s,baz=64,slow=5.6,SNR=4.3							
	comp=Z,0.3nm,0.8s							
SONM	Songino Array	81.24	318		P	P	19 55 45.3	-1.3
SONM	Songino Array	81.24	318		P	P	19 55 49.2	+2.6
	comp=Z,0.7nm,0.9s,baz=75,slow=1.6,SNR=5.0							
SONM					LR	LR	20 29 43.4	
	comp=Z,558nm,20.9s,baz=44,slow=34							
	comp=Z,0.7nm,0.9s							
DBG	Daneborg	82.18	11	i	P	P	19 55 53.3	+2.5
SPITS	Spitsbergen Ar	82.49	2		LR	LR	20 28 57.2	
	comp=Z,244nm,21.2s,baz=284,slow=33							
NNA	Nana	83.30	105		LR	LR	20 23 52.0	
	comp=Z,369nm,21.1s,baz=288,slow=29							
XAN	Xi'an	83.96	304		P	P	19 56 02.6	+1.6
XAN					pmax	pmax		
	comp=Z,640nm,10.7s							
XAN					LR	LR		
	comp=Z,490nm,23.0s							
XAN					LR	LR		
	comp=Z,840nm,21.3s							
XAN					LR	LR		
	comp=Z,960nm,21.1s							
SCO	Scoresbysund	84.64	14	i	P	P	19 56 06.5	+2.9
KAPI	Kappang	86.90	264		LR	LR	20 31 20.0	
	comp=Z,111nm,20.2s,baz=86,slow=33							
JMIC	Jan Mayen	86.94	10		LR	LR	20 31 44.6	
	comp=Z,215nm,21.9s,baz=306,slow=33							
LZH	Lanzhou	87.15	307		P	P	19 56 20.8	+3.9
LZH					PP	PP	19 59 44.1	+3.9
LZH					pmax	pmax		
	comp=Z,240nm,5.8s							
LZH					LR	LR		
	comp=Z,230nm,13.4s							
LZH					LR	LR		
	comp=Z,390nm,14.4s							
LZH					LR	LR		
	comp=Z,260nm,13.1s							
QIZ	Qiongzhong	88.20	289		P	P	19 56 21.1	-1.0
QIZ					S	S	20 07 04.3	-3.5
QIZ					pmax	pmax		
	comp=Z,430nm,5.5s							
QIZ					LR	LR		
	comp=Z,290nm,10.4s							
QIZ					LR	LR		
	comp=Z,420nm,21.9s							
QIZ					LR	LR		
	comp=Z,440nm,21.0s							
GYA	Guiyang	88.39	297		P	P	19 56 23.9	+0.9
GYA					SKS	SKSac	20 06 48.6	-4.8
GYA					S	S	20 07 07.9	-1.8
GYA					pmax	pmax		
	comp=Z,5.0nm,1.0s							
GYA					pmax	pmax		
	comp=Z,410nm,5.4s							
GYA					LR	LR		
	comp=Z,260nm,6.8s							
GYA					LR	LR		
	comp=Z,220nm,4.9s							
GYA					LR	LR		
	comp=Z,220nm,5.6s							
GTA	Gaotai	88.79	312	e	P	P	19 56 28.6	+3.9
GTA					SS	SS	20 13 06.6	+2.5
GTA					pmax	pmax		
	comp=Z,2.0nm,1.1s							
GTA					pmax	pmax		
	comp=Z,380nm,8.0s							
GTA					LR	LR		
	comp=Z,260nm,17.5s							
GTA					LR	LR		
	comp=Z,320nm,19.3s							
GTA					LR	LR		
	comp=Z,340nm,19.6s							
BORG	Borgarnes	89.01	18		LR	LR	20 32 57.2	
	comp=Z,160nm,21.5s,baz=308,slow=33							
CD2	Chengdu	89.15	302		P	P	19 56 25.0	-1.4
CD2					SKS	SKSac	20 06 55.5	-2.1
CD2					S	S	20 07 15.0	-1.5
CD2					SS	SS	20 13 12.8	+3.2
CD2					pmax	pmax		
	comp=Z,450nm,6.7s							
CD2					LR	LR		
	comp=Z,440nm,16.7s							
CD2					LR	LR		
	comp=Z,600nm,20.5s							
CD2					LR	LR		
	comp=Z,490nm,26.0s							
H03N2	Juan Fernandez	89.72	126		T	T	21 35 35.3	
	baz=298,slow=76,SNR=7.7							
H03N3	Juan Fernandez	89.74	126		T	T	21 35 31.4	
	baz=298,slow=76,SNR=7.7							
H03N1	Juan Fernandez	89.74	126		T	T	21 35 35.1	
	baz=298,slow=76,SNR=9.3							
ZALV	Zalesovo Beam	90.66	329		P	P	19 56 31.8	-1.1
ZALV	Zalesovo Beam	90.66	329		P	P	19 56 36.8	+3.9
	comp=Z,0.9nm,0.7s,baz=67,slow=3.9,SNR=4.7							
	comp=Z,0.9nm,0.7s							
ARCES	ARCESS Array B	91.30	360		LR	LR	20 39 09.1	
	comp=Z,169nm,18.4s,baz=354,slow=37							
PZH	PanZhiHua	92.47	299		P	P	19 56 41.3	-0.7
PZH					S	S	20 07 46.3	-0.9
PZH					pmax	pmax		
	comp=Z,10.0nm,0.7s							
PZH					pmax	pmax		
	comp=Z,220nm,10.2s							
PZH					LR	LR		
	comp=Z,180nm,18.8s							
PZH					LR	LR		
	comp=Z,250nm,17.3s							
PZH					LR	LR		
	comp=Z,440nm,24.5s							
LPAZ	La Paz	92.71	106		LR	LR	20 30 45.5	
	comp=Z,173nm,20.3s,baz=300,slow=31							
LVC	Limon Verde	94.09	112		LR	LR	20 30 01.8	
	comp=Z,451nm,20.1s,baz=294,slow=30							
WMQ	Urumqi	94.72	320	e	P	P	19 56 52.3	+0.3
WMQ					LR	LR		
	comp=Z,560nm,13.9s							
WMQ					LR	LR		
	comp=Z,250nm,20.1s							
WMQ					LR	LR		
	comp=Z,250nm,18.7s							
MKAR	Makanchi Array	96.17	324		LR	LR	20 37 27.5	
	comp=Z,444nm,22.0s,baz=58,slow=34							
BVAR	Borovoye Array	97.76	334		LR	LR	20 41 51.9	
	comp=Z,218nm,20.1s,baz=42,slow=36							
CMAR	Chiang Mai Arr	98.01	293		LR	LR	20 40 41.0	
	comp=Z,175nm,19.3s,baz=65,slow=35							
PLCA	Paso Flores	98.58	130		LR	LR	20 31 29.7	
	comp=Z,497nm,21.3s,baz=307,slow=29							
KIRV	Kirov	99.65	347		LR	LR	20 45 02.8	
	comp=Z,415nm,19.8s,baz=19,slow=37							
HSKC	Hora Svate Kat	109.58	8		AMS	AMS	20 48 50.0	
	comp=Z,200nm,22.8s							
OSTC	Ostas	109.94	6		AMS	AMS	20 49 40.0	
	comp=Z,200nm,25.1s							
DPC	Dobruska-Polom	110.15	6		AMS	AMS	20 54 00.0	
	comp=Z,200nm,18.5s							
PRA	Prague	110.23	7		AMS	AMS	20 50 30.0	
	comp=Z,300nm,23.2s							
PRU	Pruhonice	110.33	7	e	PP	PP	20 02 27.0	-8.9
PRU					AMS	AMS	20 49 50.0	
	comp=Z,400nm,21.8s							
GOPC	GO Pecny, Ondr	110.43	7	e	PP	PP	20 02 17.4	-19
GOPC					AMS	AMS	20 49 30.0	
	comp=Z,400nm,20.5s							
KRLC	Kraliky	110.47	5		AMS	AMS	20 51 50.0	
	comp=Z,200nm,19.2s							
OKC	Ostrava-Krasne	110.81	5		AMS	AMS	20 51 10.0	
	comp=Z,300nm,18.7s							
KHC	Kasperske Hory	111.05	8	e	SP	SP	20 12 10.8	-0.8
KHC					AMS	AMS	20 49 30.0	
	comp=Z,300nm,15.4s							
TREC	Trest	111.11	6		AMS	AMS	20 51 50.0	
	comp=Z,300nm,22.5s							
CKRC	Cesky Krumlov	111.45	7	e	PP	PP	20 02 32.1	-12
CKRC					AMS	AMS	20 47 40.0	
	comp=Z,200nm,22.5s							

*IDC **21** 19:48:30.8±0.8, 56°.59N×149°.21W, h0km, mb3.8/20, mbtmp3.8/24, ML3.8/4, MS3.4/4, Error ellipse: s-maj=22.2km s-min=11.9km az=26.0*
*NEIC **21** 19:48:30.9±1.2, 56°.39N±0°.06×149°.24W±0°.09, h20km±6km, mb4.4/15, ML4.1/74, ML4.0(AEIC), Error ellipse: s-maj=9.5km s-min=7.1km az=157.0*
*AEIC **21** 19:48:34.1±1.3, 56°.35N±0°.07×149°.23W±0°.09, h12km±5km, Error ellipse: s-maj=10.0km s-min=7.4km az=164.0*
ISC 21 19:48:29.6±3.5,**56°.46N**±0°.06×**149°.28W**±0°.04,**h3**km±23km, **n355**,σ1§**08**/362,**mb4.1**/29,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.24	308		Pn	19 49 07.5	0.0
KDAK	Kodiak Island	2.24	308		Sn	19 49 33.0	-2.5
KDAK	Kodiak Island	2.24	308	Pn	Pn	19 49 07.1	-0.3
	39nm,0.3s,baz=142,slow=4.8,SNR=214						
KDAK				Sn	Sn	19 49 32.4	-3.1
	42nm,0.3s,baz=72,slow=23,SNR=7.0						
KDAK				LR	LR	19 49 47.9	
	comp=Z,322nm,20.9s,baz=163,slow=35						
	78nm,0.3s						
OHAK	Old Harbor	2.33	291	P	Pn	19 49 08.1	-0.6
OHAK	Old Harbor	2.33	291		Pn	19 49 08.1	-0.6
OHAK					Sn	19 49 34.5	-3.2
OHAK	Old Harbor	2.33	291	P	Pn	19 49 08.1	-0.6
	baz=110						
OHAK				S	Sn	19 49 34.6	-3.2
	baz=110						
SII	Sitkinak Islan	2.72	274	P	Pn	19 49 14.7	+0.6
SII	Sitkinak Islan	2.72	274		Pn	19 49 14.0	-0.1
SII					Sn	19 49 44.3	-3.1
SII				IAML		19 49 52.1	
	comp=E,670nm,0.7s						
SII				IAML		19 50 07.8	
	comp=N,718nm,0.8s						
SII	Sitkinak Islan	2.72	274	P	Pn	19 49 14.1	+0.1
	baz=92						
SII				S	Sn	19 49 44.5	-2.9
	baz=92						
SYI	Shuyak Island	2.73	323		Pn	19 49 14.5	+0.3
SYI					Sn	19 49 46.0	-1.6
SYI				IAML		19 49 48.2	
	comp=E,641nm,0.7s						
SYI				IAML		19 49 48.3	
	comp=N,472nm,0.6s						
Q20K	Shuyak Island	2.73	323	P	Pn	19 49 14.4	+0.2
	baz=142						
Q20K				S	Sn	19 49 47.1	-0.6
	baz=142						
R18K	Karluk	3.04	294		Pn	19 49 18.6	+0.2
R18K					Sn	19 49 52.5	-2.7
R18K				IAML		19 50 03.2	
	comp=N,672nm,0.6s						
R18K				IAML		19 50 03.3	
	comp=E,574nm,0.4s						
R18K	Karluk	3.04	294	P	Pn	19 49 18.4	+0.1
	baz=111						
R18K				S	Sn	19 49 54.0	-1.2
	baz=111						
CNPM	China Poot	3.24	342	Pn	Pn	19 49 21.2	-0.1
Q23K	Middleton Isla	3.36	26	Pn	Pn	19 49 22.2	-0.6
Q23K				IAML		19 50 00.2	
	comp=N,297nm,0.7s						
Q23K				IAML		19 50 13.3	
	comp=E,303nm,0.9s						
Q23K	Middleton Isla	3.36	26	P	Pn	19 49 22.2	-0.6
	baz=208						
MID	Middleton Isla	3.36	27		Pn	19 49 22.4	-0.5
MID	Middleton Isla	3.36	27	IAML		19 50 00.2	
	comp=N,320nm,0.7s						
BRSE	Bradley Lake S	3.38	347		Pn	19 49 22.9	-0.2
BRSE					Sn	19 50 01.3	-2.4
BRSE	Bradley Lake S	3.38	347	P	Pn	19 49 22.9	-0.2
	baz=166						
BRSE				S	Sn	19 50 01.3	-2.4
	baz=166						
Q19K	Cape Douglas,	3.41	318		Pn	19 49 24.4	+0.9
Q19K	Cape Douglas,	3.41	318	P	Pn	19 49 24.5	+0.9
	baz=136						
BRLK	Bradley Lake	3.42	346		Pn	19 49 23.3	-0.5
KAPH	Katmai Pasha	3.47	310		Pn	19 49 23.7	-0.7
CHIR	Chirikof Islan	3.61	262		Pn	19 49 25.3	-1.0
CHIR				IAML		19 50 05.9	
	comp=E,399nm,0.6s						
CHIR				IAML		19 50 10.5	
	comp=N,384nm,0.7s						
CHIR	Chirikof Islan	3.61	262	P	Pn	19 49 25.2	-1.0
	baz=79						
CHIR				S	Sn	19 50 04.6	-4.7
	baz=79						
SEW	Seward	3.66	359		Pn	19 49 26.6	-0.3
SEW	Seward	3.66	359	P	Pn	19 49 26.6	-0.3
	baz=178						
P23K	Montague Islan	3.68	15		Pn	19 49 27.0	-0.3
P23K					Sn	19 50 08.1	-3.1
P23K	Montague Islan	3.68	15	P	Pn	19 49 27.0	-0.3
	baz=196						
P23K				S	Sn	19 50 08.1	-3.1
	baz=196						
ACHA	Angle Creek He	3.72	301		Pn	19 49 29.2	+1.4
KAHC	Katmai Hardscr	3.79	308		Pn	19 49 28.2	-0.6
KAHC	Katmai Hardscr	3.79	308	P	Pn	19 49 28.3	-0.6
	baz=124						
Q18K	Katmai Hardscr	3.79	308	P	Pn	19 49 29.9	+1.1
	baz=124						
P19K	Oil Pt	3.83	328		Pn	19 49 30.0	+0.7
P19K	Oil Pt	3.83	328	P	Pn	19 49 29.8	+0.5
	baz=146						
CNTC	Contact Creek	4.01	300		Pn	19 49 32.6	+0.7
Q17K	Contact Creek	4.01	300	P	Pn	19 49 32.6	+0.7
	baz=115						
O20K	Slope Mountain	4.04	335	P	Pn	19 49 33.0	+0.7
	baz=153						
O22K	Cooper Landing	4.04	357		Pn	19 49 31.8	-0.4
O22K	Cooper Landing	4.04	357	P	Pn	19 49 32.6	+0.5
	baz=176						
PLK4	Peulik 4	4.04	290		Pn	19 49 32.1	-0.1
PLK4	Peulik 4	4.04	290	IAML		19 50 30.3	
	comp=N,317nm,0.8s						
PLK4				IAML		19 50 38.0	
	comp=E,326nm,0.8s						
R17L	Mt. Peulik Vol	4.04	290	P	Pn	19 49 32.1	-0.1
	baz=105						
ILSW	Iliamna Southw	4.08	332		Pn	19 49 33.0	+0.1
ILSW				IAML		19 50 22.9	
	comp=N,276nm,0.5s						
ILSW				IAML		19 50 23.9	
	comp=E,310nm,0.8s						
HIN	Hinchinbrook I	4.21	19	Pn	Pn	19 49 34.3	-0.2
HIN				IAML		19 50 25.4	
	comp=E,311nm,1.0s						
KAIM	Kayak Island	4.32	34	Pn	Pn	19 49 36.0	-0.1
KAIM	Kayak Island	4.32	34	P	Pn	19 49 35.8	-0.3
	baz=217						
P18K	Big Mountain,	4.32	315	Pn	Pn	19 49 36.2	+0.1
P18K	Big Mountain,	4.32	315	P	Pn	19 49 36.2	+0.1
	baz=131						
RDSO	Redoubt South	4.40	337		Pn	19 49 37.0	-0.2
RSO	Redoubt South	4.41	337		Pn	19 49 36.6	-0.8
PWL	Port Wells	4.44	6		Pn	19 49 37.4	-0.2
PWL				IAML		19 50 32.2	
	comp=E,194nm,0.6s						
PWL				IAML		19 50 35.6	
	comp=N,151nm,0.6s						
PWL	Port Wells	4.44	6	P	Pn	19 49 37.5	-0.2
	baz=186						
EYAK	Cordova Ski Ar	4.50	23	P	Pn	19 49 38.6	+0.1
EYAK	Cordova Ski Ar	4.50	23	P	Pn	19 49 38.5	0.0
	baz=205						
NCT	North Crescent	4.54	337		Pn	19 49 39.3	+0.2
FID	Port Fidalgo	4.54	18		Pn	19 49 38.6	-0.5
FID				IAML		19 50 35.6	
	comp=N,145nm,0.7s						
FID				IAML		19 50 41.8	
	comp=E,152nm,1.2s						
GLI	Glacier Island	4.58	14		Pn	19 49 39.4	-0.2
GLI				IAML		19 50 40.9	
	comp=N,122nm,0.8s						
GLI				IAML		19 50 40.9	
	comp=E,159nm,0.7s						
GLI	Glacier Island	4.58	14	P	Pn	19 49 39.2	-0.3
	baz=195						
RAGM	Ragged Mountai	4.62	30		Pn	19 49 40.3	+0.1
O18K	Koktuh Hills	4.63	320	Pn	Pn	19 49 39.5	-0.8
O18K				IAML		19 50 47.8	
	comp=N,185nm,0.8s						
O18K	Koktuh Hills	4.63	320	P	Pn	19 49 40.5	+0.2
	baz=135						
SUCK	Suckling Hills	4.64	36		Pn	19 49 40.5	0.0
SUCK				IAML		19 50 51.6	
	comp=N,296nm,1.3s						
RC01	Rabbit Creek A	4.65	357		Pn	19 49 40.4	-0.2
RC01				IAML		19 50 39.0	
	comp=N,124nm,0.7s						
RC01				IAML		19 50 44.5	
	comp=E,156nm,0.6s						

RC01 Rabbit Creek A 4.65 357 P Pn 19 49 40.5 0.0
baz=177
HMT Hamilton 4.70 32 Pn Pn 19 49 41.4 +0.1
P17K Kvichak River 4.71 309 P Pn 19 49 42.2 +0.9
baz=123
FIS Fire Island 4.72 354 Pn 19 49 41.9 +0.4
FIS IAML 19 50 42.9
comp=E,236nm,0.5s
FIS IAML 19 50 59.8
comp=N,249nm,0.7s
BGLC Bering Glacier 4.84 38 Pn 19 49 43.1 -0.1
BGLC Bering Glacier 4.84 38 P Pn 19 49 43.1 -0.1
baz=222
SPU Mount Spurr 4.95 344 Pn 19 49 44.2 -0.5
SPU IAML 19 50 44.9
comp=N,99nm,1.1s
SPU IAML 19 50 45.9
comp=E,166nm,1.2s
KNK Knik Glacier 4.99 5 Pn 19 49 45.1 -0.1
KNK IAML 19 50 54.4
comp=E,85nm,0.6s
KNK Knik Glacier 4.99 5 P Pn 19 49 45.4 +0.2
baz=185
SNH Sunshine Point 5.04 40 Pn Pn 19 49 46.0 0.0
SNH IAML 19 51 14.1
comp=N,192nm,1.4s
SNH IAML 19 51 15.1
comp=E,190nm,1.3s
SPCP Crater Peak Br 5.04 344 Pn 19 49 46.4 +0.3
SUA Susitna One 5.07 352 Pn Pn 19 49 46.3 -0.3
SUA IAML 19 50 47.4
comp=E,104nm,0.7s
SUA Susitna One 5.07 352 P Pn 19 49 46.1 -0.4
baz=171
CHGN Chignik 5.08 272 Pn Pn 19 49 45.8 -0.6
CHGN IAML 19 50 48.7
comp=N,159nm,0.6s
CHGN IAML 19 50 53.7
comp=E,153nm,0.6s
BMRM Bremner River 5.13 26 P Pn 19 49 47.3 0.0
baz=210
N19K Bonanza Creek 5.14 330 Pn Pn 19 49 47.0 -0.3
N19K Bonanza Creek 5.14 330 P Pn 19 49 47.4 0.0
baz=146
PMR Palmer 5.15 1 P Pn 19 49 48.4 +1.0
PMR Palmer 5.15 1 Pn 19 49 46.7 -0.7
WAX Waxell Ridge 5.23 37 Pn 19 49 48.3 -0.3
O17K Koliganek Bris 5.31 312 P Pn 19 49 49.9 +0.3
baz=126
P16K Nushagak River 5.33 303 Pn 19 49 50.2 +0.4
P16K Nushagak River 5.33 303 P Pn 19 49 50.2 +0.4
baz=116
GHO Glory Hole Cre 5.33 2 Pn 19 49 50.5 +0.5
KLU Klutina 5.34 18 Pn 19 49 50.4 +0.3
KLU IAML 19 51 01.2
comp=N,101nm,0.6s
KLU IAML 19 51 04.6
comp=E,94nm,0.9s
KLU Klutina 5.34 18 P Pn 19 49 50.5 +0.4
baz=200
MESA MESA 5.37 43 Pn 19 49 49.3 -1.3
MESA MESA 5.37 43 P Pn 19 49 49.5 -1.1
baz=228
CRQM Cirque 5.37 34 Pn 19 49 50.3 -0.3
CRQE Cirque 5.38 34 P Pn 19 49 50.6 -0.1
baz=219
SML Sawmill 5.38 5 Pn 19 49 51.3 +0.6
SML Sawmill 5.38 5 P Pn 19 49 51.4 +0.6
baz=185
M23K Glacier View 5.41 8 P Pn 19 49 51.8 +0.8
baz=189
N18K Kilae Creek 5.46 323 Pn Pn 19 49 51.4 -0.4
N18K Kilae Creek 5.46 323 P Pn 19 49 51.6 -0.1
baz=138
TGL Tana Glacier 5.47 35 Pn 19 49 51.7 -0.2
SCM Sheep Creek Mo 5.48 10 Pn 19 49 52.2 +0.1
SCM Sheep Creek Mo 5.48 10 P Pn 19 49 52.2 +0.1
baz=191
ISLE Juniper Island 5.52 38 Pn 19 49 52.7 0.0
O16K Kokwok River B 5.64 308 Pn 19 49 54.8 +0.7
O16K Kokwok River B 5.64 308 P Pn 19 49 54.6 +0.5
baz=121
SKT Skwentna 5.66 349 Pn 19 49 54.5 +0.1
SKT Skwentna 5.66 349 P Pn 19 49 54.4 0.0
baz=167
VRDI Verde Repeater 5.66 30 Pn Pn 19 49 54.2 -0.3
N25K Chitina, Valde 5.70 23 P Pn 19 49 55.3 +0.3
baz=206
S14K Fog Glacier 5.71 272 P Pn 19 49 54.5 -0.7
baz=85
VNFG Fog Glacier, M 5.71 272 Pn 19 49 54.5 -0.7
GLB Gilahina Butte 5.74 27 Pn Pn 19 49 55.5 -0.1
M20K Styx River 5.79 342 Pn 19 49 55.9 -0.4
M20K Styx River 5.79 342 P Pn 19 49 56.4 +0.2
baz=158
SAMH Samovar Hills 5.80 47 Pn 19 49 56.6 +0.2
N17K Nushagak Hills 5.81 318 Pn Pn 19 49 56.4 -0.1
N17K Nushagak Hills 5.81 318 P Pn 19 49 56.6 +0.1
baz=132
GRNC Granite Creek 5.81 39 Pn 19 49 56.6 -0.2
TABL Table Mountain 5.84 44 Pn 19 49 56.9 -0.2
M24K Tolsona, Glenn 5.88 14 Pn 19 49 58.1 +0.6
M24K Tolsona, Glenn 5.88 14 P Pn 19 49 58.4 +0.9
baz=196
MCARA McCarthy VSAT 5.90 31 Pn 19 49 57.5 -0.2
PTPK Patty Peak 5.91 34 Pn 19 49 58.2 +0.1
PCA Pinnacle 5.99 49 Pn 19 49 59.2 +0.1
PINM Pinnacle 6.00 49 P Pn 19 49 59.2 +0.1
baz=236
M19K Big River Lodg 6.06 336 Pn 19 49 59.6 -0.3
M19K Big River Lodg 6.06 336 P Pn 19 50 00.1 +0.2
baz=152
CHNA Chernabura Isl 6.06 259 P Pn 19 49 59.6 -0.4
baz=71
CNBA Chernabura Isl 6.07 259 Pn 19 49 59.4 -0.6
M18K Stony River 6.07 329 P Pn 19 49 59.8 -0.3
baz=144
CTG Chitna Glacier 6.12 39 P Pn 19 50 00.9 0.0
baz=225
CTGM Chitina Glacie 6.12 39 Pn 19 50 01.1 +0.1
LOGN Logan Glacier 6.15 41 Pn 19 50 01.1 -0.2
PNL Peninsula 6.15 54 P Pn 19 50 02.0 +0.8
PNL Peninsula 6.15 54 Pn 19 50 01.0 -0.2
PNL Peninsula 6.15 54 P Pn 19 50 01.0 -0.2
baz=242
BCPM Bancas Point 6.18 52 Pn 19 50 01.7 +0.1
WAT6 Susitna Watana 6.19 7 P Pn 19 50 02.1 +0.3
baz=188
O15K Ungalikthiuk R 6.26 300 Pn 19 50 03.8 +1.2
O15K Ungalikthiuk R 6.26 300 P Pn 19 50 03.8 +1.2
baz=112
HARP HAARP 6.32 18 Pn 19 50 04.8 +1.3
HARP HAARP 6.32 18 P Pn 19 50 04.8 +1.3
baz=201
SDPT Sand Point 6.39 265 P Pn 19 50 05.4 +0.9
SDPT Sand Point 6.39 265 Pn 19 50 04.4 -0.1
SDPT Sand Point 6.39 265 P Pn 19 50 03.5 -1.0
baz=76
WAT7 Susitna Watana 6.40 2 Pn 19 50 05.0 +0.4
N16K Nishlik Lake 6.40 313 P Pn 19 50 05.2 +0.6
baz=125
WAT1 Susitna Watana 6.40 3 Pn 19 50 04.9 +0.3
WAT1 Susitna Watana 6.40 3 P Pn 19 50 04.9 +0.3
baz=183
L19K White Mountain 6.41 336 P Pn 19 50 04.2 -0.5
baz=151
O28M Mount Upton 6.42 44 Pn 19 50 05.0 -0.1
O28M Mount Upton 6.42 44 P Pn 19 50 05.0 -0.1
baz=231
L20K Farewell, AK 6.47 341 Pn 19 50 05.8 +0.2
L20K Farewell, AK 6.47 341 P Pn 19 50 05.8 +0.2
baz=157
M17K Holitna River 6.50 323 Pn Pn 19 50 06.3 +0.2
M17K Holitna River 6.50 323 P Pn 19 50 06.2 +0.2
baz=136
DHY Denali Highway 6.70 7 Pn Pn 19 50 08.9 0.0
DHY Denali Highway 6.70 7 P Pn 19 50 09.5 +0.6
baz=189
M26K Nabesna, AK 6.76 26 Pn Pn 19 50 09.7 +0.1
N15K Kwethluk River 6.80 308 Pn 19 50 11.5 +1.4
N15K Kwethluk River 6.80 308 P Pn 19 50 11.2 +1.2
baz=119
M16K Timber Creek 6.80 316 Pn 19 50 10.5 +0.4
M16K Timber Creek 6.80 316 P Pn 19 50 10.6 +0.6
baz=128

PAX Paxson 6.81 15 P Pn 19 50 10.9 +0.6
baz=198
O29M Mount Kennedy 6.82 51 Pn 19 50 10.6 +0.2
O29M Mount Kennedy 6.82 51 P Pn 19 50 10.0 -0.4
baz=239
YUK2 White River 6.88 36 Pn 19 50 11.7 +0.5
P29M Windy Craggy 6.90 58 Pn 19 50 10.8 -0.7
P29M Windy Craggy 6.90 58 P Pn 19 50 10.6 -0.8
baz=247
L18K Granite Mounta 6.90 330 Pn Pn 19 50 11.7 +0.2
L18K Granite Mounta 6.90 330 P Pn 19 50 11.8 +0.3
baz=144
RND Reindeer 6.97 2 Pn Pn 19 50 13.0 +0.6
O14K Tigyukauivet M 6.98 299 Pn Pn 19 50 13.4 +0.9
YUK3 Moose Creek 7.00 37 Pn 19 50 13.3 +0.3
YUK3 Moose Creek 7.00 37 P Pn 19 50 13.3 +0.3
baz=224
M27K Edge Creek, AK 7.01 29 Pn 19 50 13.1 0.0
M27K Edge Creek, AK 7.01 29 P Pn 19 50 13.2 0.0
baz=215
MENT Mentasta 7.08 21 Pn 19 50 13.9 0.0
KTH Kantishna Hill 7.16 354 Pn 19 50 15.0 -0.1
S12K Black Hills 7.19 269 Pn 19 50 14.8 -0.7
S12K Black Hills 7.19 269 P Pn 19 50 15.0 -0.5
baz=80
PN7A Pavlof North-7 7.22 267 Pn 19 50 15.2 -0.7
L26K Log Cabin Wild 7.23 22 Pn 19 50 16.6 +0.6
S31K Pelican 7.25 73 Pn Pn 19 50 14.4 -1.7
S31K Pelican 7.25 73 P Pn 19 50 14.8 -1.3
baz=263
M15K Kasigluk River 7.32 310 Pn 19 50 17.7 +0.6
M15K Kasigluk River 7.32 310 P Pn 19 50 17.7 +0.6
baz=121
K20K Telida 7.32 343 Pn 19 50 17.0 -0.2
K20K Telida 7.32 343 P Pn 19 50 17.4 +0.2
baz=159
TTA Tatalina 7.32 335 Pn 19 50 17.7 +0.4
N14K Kuskokwak Cree 7.42 303 Pn 19 50 18.4 -0.1
N14K Kuskokwak Cree 7.42 303 P Pn 19 50 18.4 -0.1
baz=113
L16K Owhat River 7.43 319 Pn 19 50 18.7 0.0
L16K Owhat River 7.43 319 P Pn 19 50 18.7 0.0
baz=131
K24K Donnelly Dome 7.57 12 Pn 19 50 20.6 0.0
K24K Donnelly Dome 7.57 12 P Pn 19 50 20.7 0.0
baz=194
BCAR Beaver Creek A 7.62 27 Pn Pn 19 50 21.6 +0.2
SIT Sitka 7.70 80 P Pn 19 50 19.0 -3.3
SIT Sitka 7.70 80 Pn 19 50 19.1 -3.2
SIT Sitka 7.70 80 P Pn 19 50 19.4 -2.9
baz=271
BPAW Bear Paw Mtn. 7.71 354 Pn Pn 19 50 22.0 -0.6
BPAW Bear Paw Mtn. 7.71 354 P Pn 19 50 22.2 -0.4
baz=173
K17K Iditarod 7.76 328 Pn Pn 19 50 22.6 -0.6
K17K Iditarod 7.76 328 P Pn 19 50 23.0 -0.2
baz=140
M14K Bethel 7.89 308 Pn Pn 19 50 24.1 -0.8
J18K Innoko River 7.95 335 Pn Pn 19 50 26.0 +0.2
SCRK Sand Creek 7.98 17 Pn 19 50 26.3 -0.1
SCRK Sand Creek 7.98 17 P Pn 19 50 26.1 -0.3
baz=201
SKAG Skagway 8.00 62 P Pn 19 50 27.4 +0.9
SKAG Skagway 8.00 62 Pn 19 50 26.6 +0.1
N30M Aishikik Lake 8.04 46 Pn 19 50 27.4 +0.2
HDA Harding Lake 8.06 7 Pn 19 50 27.9 +0.6
HDA Harding Lake 8.06 7 P Pn 19 50 27.7 +0.4
baz=189
WRH Wood River Hil 8.06 4 Pn 19 50 27.5 +0.2
S32K Killisnoo 8.10 77 Pn 19 50 26.2 -1.7
S32K Killisnoo 8.10 77 P Pn 19 50 25.8 -2.0
baz=268
J20K Nowinta River 8.11 345 P Pn 19 50 28.4 +0.5
baz=160
O30N Mendenhall 8.12 52 Pn Pn 19 50 28.7 +0.4
M29M Somme Creek 8.14 38 P Pn 19 50 28.8 +0.3
baz=227
FALS False Pass 8.16 265 P Pn 19 50 29.3 +0.7
FALS False Pass 8.16 265 Pn 19 50 28.1 -0.6
FALS False Pass 8.16 265 P Pn 19 50 28.1 -0.6
baz=74
L15K Ungalak Mounta 8.17 315 P Pn 19 50 29.1 +0.3
baz=125
J19K Poorman 8.18 340 Pn Pn 19 50 28.3 -0.7
J19K Poorman 8.18 340 P Pn 19 50 28.9 -0.2
baz=155
R32K Eaglecrest 8.19 71 Pn Pn 19 50 28.4 -0.7
CCB Clear Creek Bu 8.24 4 Pn 19 50 30.1 +0.2
JIS Juneau Island 8.26 71 P Pn 19 50 29.7 -0.3
JIS Juneau Island 8.26 71 Pn 19 50 29.3 -0.7
ISLZ Isanotski Laza 8.36 264 Pn 19 50 30.7 -0.8
M13K Dall Lake 8.37 304 Pn Pn 19 50 31.7 +0.1
M13K Dall Lake 8.37 304 P Pn 19 50 31.4 -0.2
baz=113
K27K Chicken 8.39 22 P Pn 19 50 32.1 +0.2
baz=208
J25K Salcha River, 8.40 12 Pn Pn 19 50 31.7 -0.4
J25K Salcha River, 8.40 12 P Pn 19 50 32.1 +0.1
baz=195
IL31 8.42 7 Pn 19 50 33.0 +0.7
ILAR Eielson Array 8.42 7 Pn Pn 19 50 32.5 +0.2
comp=E,1.5nm,0.3s,baz=187,slow=13,SNR=58
ILAR Sn Sn 19 52 04.5 -3.2
comp=E,1.2nm,0.3s,baz=222,slow=17,SNR=6.0
ILAR LR LR 19 53 49.7
comp=E,403nm,19.7s,baz=150,slow=38
COLA College 8.47 4 P Pn 19 50 34.7 +1.8
L14K Kuka Creek 8.48 311 Pn Pn 19 50 33.8 +0.7
L14K Kuka Creek 8.48 311 P Pn 19 50 33.2 +0.1
baz=120
J17K VABM Dome 8.51 329 Pn 19 50 32.5 -1.0
J17K VABM Dome 8.51 329 P Pn 19 50 33.5 0.0
baz=141
J26L Joseph Creek 8.54 17 P Pn 19 50 34.0 0.0
baz=201
MDM Murphy Dome 8.54 3 Pn 19 50 34.3 +0.3
K15K Wolf Creek Mou 8.55 318 Pn Pn 19 50 34.2 +0.1
K15K Wolf Creek Mou 8.55 318 P Pn 19 50 34.0 0.0
baz=128
WHY Whitehorse 8.62 55 Pn 19 50 35.9 +0.8
MLY Manley 8.63 356 Pn 19 50 35.2 +0.1
MLY Manley 8.63 356 P Pn 19 50 35.4 +0.3
baz=174
L29M L29M 8.71 36 P Pn 19 50 36.3 0.0
baz=224
I23K Mio, Yukon-K 8.72 360 P Pn 19 50 36.7 +0.4
baz=180
I20K Naaghedeneel 8.74 345 Pn 19 50 37.1 +0.5
P32M Atlin 8.83 63 P Pn 19 50 37.2 -0.7
baz=255
J16K Anvik River 8.89 325 Pn 19 50 38.5 -0.2
U33K Whale Pass 9.00 85 Pn Pn 19 50 37.8 -2.4
U33K Whale Pass 9.00 85 P Pn 19 50 37.2 -3.0
baz=278
DAWY Dawson 9.06 29 Pn 19 50 41.6 +0.5
CRAG Craig 9.12 90 P Pn 19 50 38.7 -3.1
CRAG Craig 9.12 90 Pn 19 50 38.5 -3.3
CRAG Craig 9.12 90 P Pn 19 50 38.8 -3.0
baz=282
EGAK Eagle 9.24 22 Pn 19 50 44.3 +0.8
PRP Porcupine Dome 9.27 10 Pn 19 50 44.0 0.0
PRP Porcupine Dome 9.27 10 P Pn 19 50 44.0 0.0
baz=193
I26K Coal Creek Min 9.36 16 Pn 19 50 45.3 +0.2
H21K Melozitna Rive 9.38 351 P Pn 19 50 44.6 -0.8
baz=168
H23K Yukon River 9.40 359 Pn 19 50 46.1 +0.4
H23K Yukon River 9.40 359 P Pn 19 50 46.1 +0.4
baz=179
K29M Barlow Dome 9.43 33 P Pn 19 50 46.3 +0.1
baz=223
P33M Teslin, Yukon 9.43 60 Pn Pn 19 50 46.1 -0.1
H24K Noodor Dome 9.43 4 P Pn 19 50 46.3 +0.1
baz=184
H22K Ishtalitna Cre 9.52 355 Pn 19 50 47.5 +0.1
H22K Ishtalitna Cre 9.52 355 P Pn 19 50 47.5 +0.1
baz=173
H18K Honhosa River 9.77 337 Pn 19 50 50.4 -0.4
IMAR Indian Mountai 9.79 349 Pn 19 50 50.3 -0.7
LVA Lava Point 9.82 263 Pn Pn 19 50 50.9 -0.7
I27K Kandik River 9.89 19 Pn 19 50 53.2 +0.8
I27K Kandik River 9.89 19 P Pn 19 50 53.2 +0.8
baz=205
S34M Telegraph Cree 9.96 74 Pn 19 50 51.8 -1.6

V35K Ketchikan 9.99 89 Pn Pn 19 50 51.7 -2.1
I28M Miner Creek 10.08 23 Pn Pn 19 50 55.8 +0.7
R33M Jennings River 10.17 66 Pn Pn 19 50 55.7 -0.6
G21K Allakaket 10.29 350 Pn 19 50 57.1 -0.7
G23K Bananza Creek 10.29 358 Pn Pn 19 50 57.5 -0.5
DLBC Dease Lake 10.56 71 Pn Pn 19 51 00.8 -0.8
DLBC Dease Lake 10.56 71 Pn Pn 19 51 01.3 -0.3
comp=E,2.7nm,0.3s,baz=245,slow=12,SNR=21
DLBC Sn Sn 19 52 56.4 -3.9
comp=E,0.3nm,0.3s,baz=215,slow=17,SNR=1.1
DLBC LR LR 19 54 23.2
comp=E,306nm,19.4s,baz=293,slow=34
comp=E,5.7nm,0.4s
MMPY Sheldon Lake, 11.01 49 Pn 19 51 08.5 +0.8
F20K Avaraart Lake 11.04 347 Pn Pn 19 51 08.3 +0.1
F24K Squaw Lake 11.12 3 Pn Pn 19 51 09.7 +0.5
BMAR Burnt Mountain 11.22 9 Pn Pn 19 51 10.5 -0.2
SPIA Saint Paul Isl 11.51 282 P Pn 19 51 15.3 +0.8
EPYK Eagle Plains 11.59 26 Pn 19 51 15.7 +0.1
F28M Old Crow 12.01 18 Pn Pn 19 51 22.7 +1.3
E21K Killik River 12.21 352 Pn Pn 19 51 24.6 +0.4
TOLK Toolik Lake Re 12.23 359 Pn Pn 19 51 23.5 -0.8
E27K Coleen River 12.28 14 Pn Pn 19 51 24.9 -0.2
C23K Itkillik River 13.44 358 Pn Pn 19 51 40.7 -0.1
INK Inuvik 13.88 25 Pn Pn 19 51 47.0 +0.2
INK Inuvik 13.88 25 Pn Pn 19 51 47.7 +0.9
comp=E,0.4nm,0.3s,baz=216,slow=9.7,SNR=5.8
INK LR LR 19 57 31.7
comp=E,191nm,19.1s,baz=186,slow=39
comp=E,7.8nm,1.0s
ATKA Atka Island 15.11 264 P Pn 19 52 03.4 -0.2
ATKA Atka Island 15.11 264 Pn 19 52 02.2 -1.4
GSTR Great Sitkin T 16.19 266 Pn 19 52 17.1 -0.6
ADK Adak 16.63 266 P Pn 19 52 22.8 -0.5
ADK Adak 16.63 266 Pn 19 52 22.2 -1.1
ADK IAmb IAmb 19 52 36.2
comp=Z,35nm,1.2s
KIWB Kanaga Island 16.90 266 Pn Pn 19 52 26.3 -0.5
YKA Yellowknife Ar 18.44 57 P Pn 19 52 47.4 +1.6
baz=273,slow=10,SNR=8.7
comp=Z,2.6nm,1.1s
B08A Colville Reser 19.86 101 P P 19 52 59.0 -2.4
MXC Moxie City 20.42 107 P P 19 53 06.8 -0.8
MXC IAmb IAmb 19 53 28.9
comp=Z,17nm,1.3s
NEW Newport 21.12 99 P P 19 53 14.7 -0.4
NEW IAmb IAmb 19 53 26.4
comp=Z,16nm,1.4s
NEW Newport 21.12 99 P P 19 53 18.5 +3.4
comp=Z,2.0nm,0.7s,baz=309,slow=8.2,SNR=3.7
comp=Z,2.0nm,0.7s
I05D Terrebonne, OR 21.38 113 P P 19 53 16.5 -1.5
I05D IAmb IAmb 19 53 28.4
comp=Z,36nm,1.4s
HUMO Hull Mountain 21.82 118 P P 19 53 21.2 -1.5
HUMO IAmb IAmb 19 53 42.9
comp=Z,15nm,1.0s
PINE Pine Mountain 21.96 113 P P 19 53 23.5 -1.0
PINE IAmb IAmb 19 53 48.7
comp=Z,24nm,1.4s
G08A Pilot Rock 21.97 108 P P 19 53 24.4 0.0
J05D Fort Rock, OR 22.18 115 P P 19 53 24.9 -1.8
J05D IAmb IAmb 19 53 37.7
comp=Z,12nm,0.8s
YBH Yreka Blue Hor 22.60 119 P P 19 53 32.4 +1.2
comp=Z,3.6nm,1.1s,baz=198,slow=3.2,SNR=2.2
comp=Z,3.6nm,1.1s
WVOR Wild Horse Val 24.11 113 P P 19 53 45.8 -0.6
WVOR IAmb IAmb 19 54 04.7
comp=Z,7.9nm,1.0s
ELK Elko 27.09 111 P P 19 54 15.1 +1.5
comp=Z,0.8nm,0.7s,baz=303,slow=1.4,SNR=2.2
comp=Z,0.8nm,0.7s
NVAR Mina Array Bea 27.30 118 P P 19 54 16.8 +1.5
comp=Z,0.8nm,0.8s,baz=316,slow=10,SNR=5.0
comp=Z,0.8nm,0.8s
PDAR Pinedale Array 28.70 101 P P 19 54 30.6 +2.8
comp=Z,0.2nm,0.5s,baz=338,slow=6.8,SNR=3.7
comp=Z,0.2nm,0.5s
TXAR Lajitas Array 41.89 111 P P 19 56 19.1 -2.0
TXAR Lajitas Array 41.89 111 P P 19 56 23.1 +2.1
comp=Z,0.8nm,1.0s,baz=306,slow=4.3,SNR=5.3
comp=Z,0.8nm,1.0s
JKA Kamikawa-asahi 43.45 284 P P 19 56 33.5 +0.2
H11N2 WAKE ISLAND Hy 48.98 240 T T 20 50 30.9
baz=29,slow=76,SNR=7.5
H11N3 WAKE ISLAND Hy 48.98 240 T T 20 50 53.3
baz=29,slow=76,SNR=7.8
H11N1 WAKE ISLAND Hy 48.99 240 T T 20 50 34.5
baz=29,slow=76,SNR=7.0
H11S1 WAKE ISLAND Hy 50.12 239 T T 20 52 15.7
baz=29,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 50.13 239 T T 20 51 59.1
baz=29,slow=76,SNR=18
H11S3 WAKE ISLAND Hy 50.13 239 T T 20 52 08.7
baz=29,slow=76,SNR=15
MJAR Matsushiro Arr 51.14 279 P P 19 57 33.9 +0.5
comp=Z,0.3nm,0.4s,baz=42,slow=6.5,SNR=2.9
comp=Z,0.3nm,0.4s
ARCES ARCESS Array B 54.25 2 P P 19 57 55.9 -0.1
comp=Z,1.8nm,0.8s,baz=8.8,slow=8.2,SNR=5.1
comp=Z,1.8nm,0.8s
SONM Songino Array 58.52 310 P P 19 58 28.7 +1.8
comp=Z,2.6nm,1.0s,baz=44,slow=6.5,SNR=8.4
comp=Z,2.6nm,1.0s
ZALV Zalesovo Beam 61.41 327 P P 19 58 48.5 +2.0
comp=Z,0.7nm,0.5s,baz=23,slow=7.8,SNR=3.0
comp=Z,0.7nm,0.5s
HHC Hu-ho-hao-te 61.64 302 eP P 19 58 47.4 -1.0
HHC S S 20 06 59.4 -12
HHC Hu-ho-hao-te 61.64 302 SS SS 20 11 07.9 -3.8
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,170nm,6.2s
HHC LR LR
comp=N,310nm,16.8s
HHC LR LR
comp=E,430nm,16.8s
HHC LR LR
comp=Z,590nm,18.3s
NOA NORSAR Array B 61.84 11 P P 19 58 50.0 +0.8
comp=Z,1.3nm,1.1s,baz=346,slow=6.4,SNR=3.1
comp=Z,1.3nm,1.1s
FIA1 FINESS Array S 62.38 3 P P 19 58 52.9 +0.1
FINES FINESS Array B 62.38 3 P P 19 58 52.4 -0.4
FINES FINESS Array B 62.38 3 P P 19 58 53.9 +1.0
comp=Z,1.0nm,0.7s,baz=353,slow=10,SNR=5.2
comp=Z,1.0nm,0.7s
EKA Eskdalemuir Ar 65.21 21 P P 19 59 12.1 +0.5
comp=Z,0.7nm,0.7s,baz=343,slow=6.7,SNR=2.2
comp=Z,0.7nm,0.7s
BVAR Borovoye Array 66.12 335 P P 19 59 18.9 +1.4
comp=Z,0.5nm,0.6s,baz=35,slow=5.3,SNR=2.2
comp=Z,0.5nm,0.6s
KURBB Kurchatov Arra 66.19 329 P P 19 59 20.0 +2.1
comp=Z,0.7nm,1.0s,baz=28,slow=5.9,SNR=4.4
comp=Z,0.7nm,1.0s
MKAR Makanchi Array 68.45 325 P P 19 59 31.6 -0.8
MKAR Makanchi Array 68.45 325 P P 19 59 34.1 +1.7
comp=Z,0.3nm,0.5s,baz=34,slow=7.2,SNR=6.0
comp=Z,0.3nm,0.5s
MAKZ Makanchi 68.54 325 P 19 59 31.6 -1.4
MAKZ IAmb IAmb 19 59 53.6
comp=Z,4.0nm,1.3s
WMQ Urumqi 69.21 320 eP P 19 59 38.5 +1.2
WMQ LR LR
comp=N,350nm,14.1s
WMQ LR LR
comp=E,240nm,15.7s
WMQ LR LR
comp=Z,280nm,24.5s
ABKAR Akbulak array 71.88 340 P P 19 59 51.7 -1.7
ABKAR Akbulak array 71.88 340 P P 19 59 51.6 -1.7
ABKAR IAmb IAmb 20 00 04.3
comp=Z,3.2nm,1.4s
AKASG Malin Array Be 73.20 1 P P 20 00 01.7 +0.6
comp=Z,1.1nm,0.6s,baz=4.5,slow=6.4,SNR=5.6
comp=Z,1.1nm,0.6s
GERES GERESS Array B 74.11 12 P P 20 00 08.3 +1.6
comp=Z,0.4nm,0.6s,baz=20,slow=3.2,SNR=3.0
comp=Z,0.4nm,0.6s
KSH Kashi 77.00 326 P P 20 00 26.8 +3.3
KSH pmax pmax
comp=Z,2.0nm,0.6s
PZH PanZhiHua 78.03 300 P P 20 00 28.8 -0.6
PZH pmax pmax

comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,190nm,5.5s
ESDC Sonseca Array 79.83 26 P **P 20 00 39.9 +0.9**
comp=Z,1.0nm,0.9s,baz=330,slow=5.4,SNR=6.9
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 86.20 298 P **P 20 01 13.7 +1.4**
comp=Z,0.5nm,0.5s,baz=7.6,slow=4.7,SNR=5.5
comp=Z,0.5nm,0.5s
QSPA South Pole Qui 146.25 180 PKPbc **PKPab 20 08 11.0 +0.3**
comp=Z,1.5nm,0.9s,baz=27,slow=2.9,SNR=4.9

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*IDC **21** 20:01:04.7±1.2, 1°.11N×85°.33W, h0km, mb3.8/9, mbtmp4.0/13, ML3.6/4, MS4.2/30, Error ellipse: s-maj=53.0km s-min=18.2km az=54.0*
*NEIC **21** 20:01:07.5±2.6, 1°.07N±0°.09×85°.2W±0°.1, h10km±2km, mb4.3/18, Error ellipse: s-maj=22.0km s-min=12.5km az=239.0*
*IGQ **21** 20:01:11.0±1.7, 1°.N±10°.×8°.5W±1°.4, h10km, M4.5/7*
*GCMT **21** 20:01:11.5±0.2, 1°.16N±0°.01×85°.35W±0°.01, h22km±1km, MW5.2/133, Moment Tensor Solution. s61,c88; s133,c203; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.40±.17; Mθθ1.73±.14; Mφφ-2.12±.18; Mrθ-0.33±.22; Mθφ6.35±.13; Mφr0.15±.27; Best double couple: Mo6.64500×10^16 NP1:φs98.00000°, δ89.00000°, λ-3.00000°. NP2:φs188.00000°, δ87.00000°, λ-179.00000°. Principal axes: T 6.4450, Plg2.0000°, Azm143.0000°; N 0.4040, Plg87.0000°, Azm267.0000°; P -6.8440, Plg2.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 20:01:06.0±0.7, 1°.08N±0°.08×85°.19W±0°.09, h10km, n76, σ1§68/53, mb4.1/14, MS4.3/26, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLP	**Puerto Lpez**	**5.13**	**121**	P	**Pn**	**20 02 21.6**	**-1.3**
PPLP				S	**Sn**	**20 03 19.9**	**-2.3**
SALI	**Salinas**	**5.31**	**128**	P	**Pn**	**20 02 21.6**	**-3.7**
GGPT	**Toaza - Volcan**	**6.70**	**101**	P	**Pn**	**20 02 46.6**	**+1.7**
TERV	**Terraza Guagua**	**6.70**	**101**	P	**Pn**	**20 02 45.1**	**0.0**
PULU	**Pululahua**	**6.77**	**99**	Pn	**Pn**	**20 02 45.4**	**-0.5**
OTAV	**Otavalo**	**6.79**	**97**		**Pn**	**20 02 46.5**	**+0.3**
ARNL	**Arenillas**	**6.88**	**132**	Pn	**Pn**	**20 02 46.7**	**-0.3**
ARNL	**Arenillas**	**6.88**	**132**	P	**Pn**	**20 02 48.0**	**+1.0**
SLOR	**San Lorenzo -**	**6.93**	**105**	Pn	**Pn**	**20 02 48.9**	**+0.8**
URCU	**Urcuqui**	**6.96**	**95**	P	**Pn**	**20 02 49.5**	**+1.0**
IMBA	**Imbabura, San**	**7.04**	**96**	Pn	**Pn**	**20 02 50.7**	**+1.2**
ANTS	**Antisana-Sarah**	**7.19**	**103**	Pn	**Pn**	**20 02 53.1**	**+1.2**
ANTS	**Antisana-Sarah**	**7.19**	**103**	P	**Pn**	**20 02 56.1**	**+4.2**
ANGU	**Angureal**	**7.25**	**98**	P	**Pn**	**20 02 53.9**	**+1.2**
BOSC	**San Juan Bosco**	**7.90**	**122**	P	**Pn**	**20 03 04.9**	**+3.7**
LCR2	**La Lucha 2**	**8.69**	**8**	Pn	**Pn**	**20 03 13.9**	**+1.9**
JTS	**Las Juntas de**	**9.15**	**1**		**Pn**	**20 03 19.3**	**+1.1**
JTS	**Las Juntas de**	**9.15**	**1**	Pn	**Pn**	**20 03 17.2**	**-1.1**
	0.8nm,0.3s,baz=182,slow=7.9,SNR=2.3						
JTS				Sn	**Sn**	**20 04 57.5**	**-3.9**
	0.6nm,0.3s,baz=314,slow=23,SNR=2.3						
JTS				LR	LR	20 06 04.2	
	comp=Z,1μm,19.8s,baz=178,slow=33						
	6.1nm,0.6s						
SOCE	**Pocosol**	**9.26**	**4**	Pn	**Pn**	**20 03 21.9**	**+2.1**
ATAH	**Atahualpa**	**10.61**	**140**	Pn	**Pn**	**20 03 40.8**	**+2.2**
	3.6nm,0.3s,baz=317,slow=11,SNR=13						
	22nm,0.5s						
ROSC	**El Rosal**	**11.48**	**71**	Pn	**Pn**	**20 03 51.6**	**+1.1**
ROSC	**El Rosal**	**11.48**	**71**	LR	LR	20 07 57.1	
	comp=Z,1μm,20.6s,baz=237,slow=36						
TGUH	**Tegucigalpa,Un**	**13.06**	**351**	Pn	**Pn**	**20 04 14.2**	**+2.4**
MTO3	**Montecristo**	**13.86**	**343**	Pn	**Pn**	**20 04 24.9**	**+2.1**
APG	**El Apazote**	**14.78**	**340**	Pn	**Pn**	**20 04 35.6**	**+0.1**
	baz=131,slow=9.3						
CZSB	**Cruzeiro do Su**	**15.22**	**125**		**Pn**	**20 04 40.2**	**-1.0**
SDV	**Santo Domingo**	**16.44**	**61**	Pn	**Pn**	**20 04 58.5**	**+1.4**
SDV	**Santo Domingo**	**16.44**	**61**	Pn	**P**	**20 05 00.3**	**+0.4**
	0.7nm,0.3s,baz=266,slow=11,SNR=3.7						
SDV				LR	LR	20 10 52.3	
	comp=Z,1μm,21.4s,baz=244,slow=36						
	3.6nm,0.4s						
CCIG	**Comitan**	**16.59**	**336**		**P**	**20 05 00.8**	**-0.7**
CCIG				IAmb	IAmb	20 05 33.4	
	comp=Z,24nm,1.1s						
CMIG	**Matias Romero**	**18.55**	**330**	P	**P**	**20 05 22.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=134,slow=9.8,SNR=4.5						
	comp=Z,8.9nm,1.1s						
BAUV	**El Baul**	**18.77**	**65**	P	**P**	**20 05 24.5**	**-1.0**
BAUV				IAmb	IAmb	20 05 32.7	
	comp=Z,21nm,1.1s						
TEIG	**Tepich**	**19.27**	**351**	LR	LR	20 12 22.2	
	comp=Z,951nm,18.9s,baz=188,slow=35						
TLIG	**Tlapa**	**21.01**	**322**	P	**P**	**20 05 49.6**	**-0.3**
TLIG				IAmb	IAmb	20 06 04.3	
	comp=Z,25nm,1.3s						
ETMB	**Extrema**	**21.77**	**120**	P	**P**	**20 05 56.5**	**-1.7**
PCRV	**Puerto La Cruz**	**22.34**	**65**	LR	LR	20 15 38.7	
	comp=Z,456nm,18.9s,slow=39						
SAML	**Samuel**	**24.09**	**115**	P	**P**	**20 06 20.9**	**-1.1**
SAML				IAmb	IAmb	20 06 47.7	
	comp=Z,6.1nm,0.9s						
LPAZ	**La Paz**	**24.11**	**136**	P	**P**	**20 06 23.2**	**+0.3**
LPAZ				IAmb	IAmb	20 06 27.9	
	comp=Z,15nm,1.3s						
LPAZ	**La Paz**	**24.11**	**136**	P	**P**	**20 06 23.8**	**+1.0**
	comp=Z,7.1nm,1.1s,baz=325,slow=9.8,SNR=15						
LPAZ				LR	LR	20 16 57.0	
	comp=Z,252nm,18.1s,baz=308,slow=39						
	comp=Z,7.1nm,1.1s						
SJG	**San Juan**	**25.22**	**47**	LR	LR	20 16 03.5	
	comp=Z,410nm,21.6s,baz=238,slow=36						
SIV	**San Ignacio**	**29.24**	**126**	LR	LR	20 19 48.5	
	comp=Z,289nm,20.0s,baz=315,slow=38						
TX31	**Lajitas Ar. Si**	**33.16**	**330**	P	**P**	**20 07 44.4**	**+1.5**
TXAR	**Lajitas Array**	**33.16**	**330**	P	**P**	**20 07 44.4**	**+1.5**
TXAR	**Lajitas Array**	**33.16**	**330**	P	**P**	**20 07 41.8**	**-1.1**
	comp=Z,1.2nm,1.0s,baz=139,slow=8.4,SNR=6.0						
TXAR				LR	LR	20 20 00.7	
	comp=Z,337nm,19.2s,baz=136,slow=34						
	comp=Z,1.2nm,1.0s						
LPIG	**La Paz**	**33.40**	**315**	LR	LR	20 17 37.2	
	comp=Z,398nm,19.7s,baz=172,slow=30						
OXF	**Oxford**	**33.49**	**354**	P	**P**	**20 07 47.2**	**+1.6**
ABTX	**Abilene, Hawle**	**34.20**	**338**	P	**P**	**20 07 53.5**	**+1.7**
ABTX				IAmb	IAmb	20 08 02.8	
	comp=Z,8.8nm,1.2s						
H03N2	**Juan Fernandez**	**34.84**	**171**	T	T	20 45 00.3	
	baz=349,slow=76,SNR=54						
H03N1	**Juan Fernandez**	**34.84**	**171**	T	T	20 44 57.8	
	baz=349,slow=76,SNR=48						
H03N3	**Juan Fernandez**	**34.85**	**171**	T	T	20 44 54.8	
	baz=349,slow=76,SNR=57						
VHRN	**Van Horn**	**35.00**	**329**	P	**P**	**20 07 57.8**	**-1.1**
VHRN				IAmb	IAmb	20 08 01.9	
	comp=Z,4.9nm,0.9s						
ANMO	**Albuquerque**	**39.10**	**332**	P	**P**	**20 08 35.0**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=247,slow=8.6,SNR=3.6						
ANMO				LR	LR	20 23 46.0	
	comp=Z,408nm,20.8s,baz=238,slow=35						
	comp=Z,0.6nm,0.4s						
SDCO	**Great Sand Dun**	**41.00**	**335**	P	**P**	**20 08 49.7**	**+0.1**
PFO	**Pinyon Flats O**	**43.66**	**321**	LR	LR	20 25 56.2	
	comp=Z,274nm,19.8s,baz=128,slow=34						
CCUT	**Cedar City**	**44.61**	**328**	P	**P**	**20 09 20.4**	**+1.4**
CCUT				IAmb	IAmb	20 09 31.6	
	comp=Z,9.3nm,1.5s						
PDAR	**Pinedale Array**	**46.90**	**335**	P	**P**	**20 09 35.4**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=134,slow=9.1,SNR=4.1						
PDAR				LR	LR	20 29 43.7	
	comp=Z,416nm,18.4s,baz=136,slow=37						
	comp=Z,0.4nm,0.5s						
ELK	**Elko**	**47.95**	**329**	P	**P**	**20 09 44.7**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=146,slow=7.6,SNR=2.8						
ELK				LR	LR	20 29 28.0	
	comp=Z,622nm,19.5s,baz=144,slow=36						
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**47.99**	**325**	P	**P**	**20 09 44.6**	**-0.8**
	comp=Z,1.4nm,1.0s,baz=142,slow=7.5,SNR=6.5						
NVAR				LR	LR	20 29 18.9	
	comp=Z,277nm,18.7s,baz=103,slow=35						
	comp=Z,1.4nm,1.0s						
ULM	**Lac du Bonnet**	**49.83**	**351**	P	**P**	**20 09 58.0**	**-1.1**
	comp=Z,2.7nm,0.9s,baz=146,slow=11,SNR=4.2						
ULM				LR	LR	20 31 46.6	
	comp=Z,137nm,19.7s,baz=199,slow=37						
	comp=Z,2.7nm,0.9s						
YBH	**Yreka Blue Hor**	**52.70**	**325**	LR	LR	20 32 26.9	
	comp=Z,340nm,18.3s,baz=148,slow=36						
SCHQ	**Schefferville**	**55.65**	**13**	LR	LR	20 34 11.6	
	comp=Z,219nm,19.0s,baz=207,slow=36						
BBB	**Bella Bella**	**62.26**	**332**	LR	LR	20 36 59.7	
	comp=Z,199nm,20.2s,baz=145,slow=35						
FRB	**Frobisher Bay**	**63.72**	**8**	LR	LR	20 37 27.9	
	comp=Z,290nm,18.8s,baz=196,slow=34						
YKA	**Yellowknife Ar**	**65.11**	**345**	P	**P**	**20 11 44.8**	**-1.8**
	comp=Z,0.9nm,0.9s,baz=147,slow=6.0,SNR=1.7						
YKA				LR	LR	20 41 55.1	
	comp=Z,172nm,18.7s,baz=150,slow=38						
	comp=Z,0.9nm,0.9s						
PPT	**Papeete**	**66.00**	**250**	LR	LR	20 34 13.7	
	comp=Z,90nm,19.0s,baz=7.0,slow=30						
DLBC	**Dease Lake**	**67.12**	**336**	LR	LR	20 42 24.8	
	comp=Z,225nm,19.5s,baz=104,slow=37						
PMSA	**Palmer Station**	**67.50**	**170**	LR	LR	20 38 13.3	
	comp=Z,240nm,18.6s,baz=280,slow=33						
RES	**Resolute Bay**	**73.74**	**357**	LR	LR	20 45 12.9	
	comp=Z,72nm,19.1s,baz=254,slow=36						
INK	**Inuvik**	**74.66**	**343**	LR	LR	20 48 57.2	
	comp=Z,244nm,18.4s,baz=170,slow=38						
KDAK	**Kodiak Island**	**77.19**	**330**	LR	LR	20 46 21.0	
	comp=Z,147nm,19.0s,baz=180,slow=35						
ILAR	**Eielson Array**	**77.29**	**337**	P	**P**	**20 13 01.8**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=126,slow=4.6,SNR=3.5						
ILAR				LR	LR	20 48 43.1	
	comp=Z,227nm,18.8s,baz=128,slow=37						
	comp=Z,0.3nm,0.8s						
SNAA	**Sanae**	**88.61**	**162**	P	**P**	**20 13 59.1**	**+0.2**
SPITS	**Spitsbergen Ar**	**91.32**	**12**	LR	LR	20 56 04.9	
	comp=Z,132nm,18.0s,baz=246,slow=36						
KEST	**Kesra**	**93.06**	**54**	LR	LR	20 52 51.1	
	comp=Z,171nm,20.9s,baz=312,slow=33						
H11S2	**WAKE ISLAND Hyl**	**06.79**	**290**	T	T	22 14 27.6	
	baz=85,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hyl**	**06.80**	**290**	T	T	22 14 28.3	
	baz=85,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hyl**	**06.81**	**290**	T	T	22 14 29.3	
	baz=85,slow=75,SNR=16						

IDC 21 20:18:49.9±2.8, 13°.67S×178°.09W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=302.3km s-min=30.2km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.37**	**250**	P	P	20 27 18.2	-0.1
	0.9nm,0.7s,baz=76,slow=8.4,SNR=7.4						
	0.9nm,0.7s						
NVAR	**Mina Array Bea**	**76.18**	**44**	P	P	20 30 41.0	+0.6
	0.5nm,0.8s,baz=219,slow=7.8,SNR=5.2						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	**83.48**	**58**	P	P	20 31 19.7	-0.4
	1.2nm,1.2s,baz=200,slow=4.4,SNR=4.9						
	1.2nm,1.2s						
PDAR	**Pinedale Array**	**84.08**	**44**	P	P	20 31 22.8	-0.2
	0.8nm,0.9s,baz=209,slow=4.6,SNR=6.1						
	0.8nm,0.9s						

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*JMA **21** 20:20:05.9±0.1, 36°.3N±0°.5×137°.1E±0°.7, h263km±1km, MV3.0/67, TOYAMA GIFU BORDER REG*
*IDC **21** 20:20:06.4±0.6, 36°.35N×137°.06E, h263km±6km, mb3.1/5, mbtmp3.8/9, Error ellipse: s-maj=21.5km s-min=12.1km az=77.0*

ISC 21 20:20:06.1±0.8, 36°.41N±0°.06×137°.06E±0°.06, h260km±6km, n41, σ1§24/54, mb3.1/5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.28**	**133**	P	**Pn**	**20 20 39.7**	**-0.1**
JGN				eS	S	20 21 05.8	-0.5
JKG	**Kaga**	**0.61**	**257**	P	**Pn**	**20 20 41.1**	**+0.6**
JKG				S	**S**	**20 21 08.5**	**+1.0**
JNG	**Nsakai**	**0.84**	**90**	P	**Pn**	**20 20 41.8**	**+0.3**
JNG				S	**S**	**20 21 09.6**	**+0.2**
JGF	**Kuroka**	**0.84**	**163**	P	**Pn**	**20 20 41.1**	**-0.5**
JYTA	**Yamagatataniai**	**0.86**	**198**	P	**Pn**	**20 20 41.3**	**-0.3**
JYTA				eS	**S**	**20 21 08.0**	**-1.5**
MAT	**Matsushiro**	**0.93**	**82**	P	**Pn**	**20 20 42.0**	**+0.2**
MAT				eS	**S**	**20 21 10.5**	**+0.5**
MAJO	**Matsushiro**	**0.93**	**82**	P	**Pn**	**20 20 42.0**	**+0.1**
MJAR	**Matsushiro Arr**	**0.93**	**82**	P	**Pn**	**20 20 42.5**	**+0.6**
	4.1nm,0.4s,baz=250,slow=7.0,SNR=43						
MJAR				S	**S**	**20 21 11.7**	**+1.6**
	6.6nm,0.9s,baz=220,slow=21,SNR=14						
JSZ	**Suzu**	**1.06**	**13**	P	**Pn**	**20 20 43.0**	**+0.6**
JSZ				S	**S**	**20 21 12.0**	**+0.8**
INU	**Inuyama**	**1.06**	**182**	P	**Pn**	**20 20 41.8**	**-0.8**
JHG	**Hegura jima**	**1.44**	**355**	P	**Pn**	**20 20 46.0**	**+1.1**
JHG				eS	**S**	**20 21 17.5**	**+1.9**
JYN	**Shimob**	**1.51**	**127**	P	**Pn**	**20 20 45.2**	**-0.4**
JWT	**Wachi**	**1.76**	**231**	P	**Pn**	**20 20 47.2**	**-0.2**
JKY	**Yasaka**	**1.77**	**244**	*i P*	**Pn**	**20 20 47.3**	**-0.2**
JSD	**Sado**	**1.88**	**30**	P	**Pn**	**20 20 49.0**	**+0.7**
JSD				eS	**S**	**20 21 22.0**	**+0.2**
JAG	**Ashikaga**	**1.93**	**89**	P	**Pn**	**20 20 48.1**	**-0.7**
JOD2	**Odawara 2**	**2.01**	**124**	eP	**Pn**	**20 20 49.4**	**-0.2**
JIE	**Ise**	**2.04**	**188**	P	**Pn**	**20 20 49.7**	**-0.2**
JIE				eS	**S**	**20 21 23.1**	**-1.3**
JKSM	**Kasumi**	**2.11**	**248**	*i P*	**Pn**	**20 20 50.4**	**0.0**
JWY	**Kouya**	**2.50**	**209**	P	**Pn**	**20 20 54.2**	**-0.1**
JAW	**Awa shima**	**2.68**	**49**	eP	**Pn**	**20 20 56.6**	**+0.8**
JTNC	**Tanabenakahech**	**2.85**	**205**	P	**Pn**	**20 20 57.2**	**-0.5**
JOTO	**OTAMA OYAMA**	**2.86**	**65**	P	**Pn**	**20 20 58.3**	**+0.6**
JOTO				eS	**S**	**20 21 39.0**	**+0.3**
JOI	**OKI**	**3.08**	**269**	P	**Pn**	**20 21 00.3**	**+0.2**
JFK	**Kawauchi**	**3.20**	**72**	P	**Pn**	**20 21 01.0**	**-0.4**
JMM	**Marumori**	**3.31**	**63**	P	**Pn**	**20 21 02.6**	**0.0**
JMM	**Marumori**	**3.31**	**63**	P	**Pn**	**20 21 02.6**	**0.0**
JMN	**Monobe**	**3.74**	**225**	P	**Pn**	**20 21 07.2**	**-0.3**
JHJ	**Hachijo jima 2**	**3.98**	**145**	P	**Pn**	**20 21 12.0**	**+1.9**
	45nm,0.6s,baz=250,slow=22,SNR=1.7						
JHJ				S	**S**	**20 22 01.5**	**+0.4**
	24nm,0.3s,baz=88,slow=22,SNR=1.1						
JTM	**Tenmabayashi**	**5.38**	**34**	P	**Pn**	**20 21 29.0**	**+2.3**
JNU	**Nakatsue**	**6.06**	**239**	P	**Pn**	**20 21 35.4**	**+0.2**
JNU	**Nakatsue**	**6.06**	**239**	P	**Pn**	**20 21 34.9**	**-0.4**
	4.1nm,0.6s,baz=276,slow=3.7,SNR=5.8						
JEM	**Erimo**	**7.33**	**38**	P	**Pn**	**20 21 51.1**	**+0.3**
USRK	**Ussuriysk Ar.**	**8.69**	**335**	P	**Pn**	**20 22 09.8**	**+1.9**
	5.3nm,0.6s,baz=152,slow=12,SNR=13						
ASAJ	**Asahikawa**	**8.78**	**27**	P	**Pn**	**20 22 07.7**	**-1.4**
	4.4nm,0.3s,baz=239,slow=9.0,SNR=23						
ASAJ				S	**S**	**20 23 42.2**	**-6.4**
	3.2nm,0.5s,baz=73,slow=32,SNR=6.6						
KLR	**Kul'dur**	**13.38**	**345**	P	**Pn**	**20 23 05.9**	**-0.4**
	4.7nm,0.6s,baz=151,slow=10,SNR=18						
KURBB	**Kurchatov Arra**	**43.63**	**308**	P	**P**	**20 27 45.7**	**+0.8**
	0.6nm,0.8s,baz=85,slow=8.3,SNR=5.1						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**51.88**	**32**	P	**P**	**20 28 47.8**	**0.0**
	0.2nm,0.6s,baz=273,slow=5.6,SNR=4.6						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**56.11**	**183**	P	**P**	**20 29 17.8**	**-1.0**
	1.4nm,0.3s,baz=359,slow=7.6,SNR=32						
	1.4nm,0.3s						
ASAR	**Alice Springs**	**59.83**	**183**	P	**P**	**20 29 43.9**	**-0.6**
	0.3nm,0.3s,baz=360,slow=5.9,SNR=14						
	0.3nm,0.3s						
TXAR	**Lajitas Array**	**93.23**	**50**	P	**P**	**20 32 52.0**	**+0.5**
	0.1nm,0.6s,baz=302,slow=1.7,SNR=2.3						
	0.1nm,0.6s						

IDC 21 20:37:36.7±2.0, 6°.35S×141°.85E, h0km, mb3.4/1, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=39.7km s-min=18.1km az=108.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.08**	**120**	Pn	Pn	20 39 06.8	-1.1
	17nm,0.9s,baz=277,slow=18,SNR=2.3						
WRA	**Warramunga Arr**	**15.35**	**208**	Pn	Pn	20 41 14.2	-0.7
	0.2nm,0.3s,baz=26,slow=13,SNR=11						
WRA				Sn	Sn	20 44 04.8	-1.0
	0.2nm,0.3s,baz=40,slow=23,SNR=3.1						
WRA				Lg	Lg	20 45 46.2	
	0.1nm,0.3s,baz=26,slow=28,SNR=1.4						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**18.84**	**203**	P	Pn	20 41 59.3	+0.5
	0.5nm,0.3s,baz=31,slow=10,SNR=39						
ASAR				S	Sn	20 45 30.8	+0.5
	0.3nm,0.5s,baz=25,slow=27,SNR=2.1						
ASAR				Lg	Lg	20 47 39.3	
	baz=22,slow=30						
	3.7nm,0.7s						
MKAR	**Makanchi Array**	**74.56**	**322**	P	P	20 49 17.9	+0.4
	0.2nm,0.5s,baz=108,slow=7.7,SNR=1.8						
	0.2nm,0.5s						

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*IDC **21** 20:56:18.0±0.5, 48°.17S×99°.44E, h0km, mb5.0/15, mbtmp5.0/15, MS5.5/43, Error ellipse: s-maj=21.5km s-min=13.3km az=121.0*
*BJI **21** 20:56:18.0±0.0, 48°.53S×99°.19E, h19km, mb5.0/62, mB5.6/43, Ms5.8/65, Ms7 5.6/65*
*MOS **21** 20:56:18.3±1.1, 48°.27S×99°.70E, h10km, mb5.5/31, MS5.6/18, Error ellipse: s-maj=14.8km s-min=8.2km az=79.7*
*NEIC **21** 20:56:19.9±1.9, 48°.23S±0°.09×99°.6E±0°.1, h10km±1km, mb5.4/78, Ms_20 5.7/492, Mwb5.8/36, Mww5.9/21, Error ellipse: s-maj=15.9km s-min=15.5km az=140.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-0.22; Mθθ5.53; Mφφ-5.31; Mrθ0.16; Mθφ2.09; Mφr1.38; Fault plane solution: Mo5.97000×10^17 NP1: φs215.14000°, δ83.62000°, λ-167.97000°. NP2: φs123.79000°, δ78.04000°, λ-6.52000°. Principal axes: T 5.9422, Plg4.0000°, Azm349.0000°; N 0.0605, Plg76.0000°, Azm243.0000°; P -6.0027, Plg13.0000°, Azm80.0000°;*
*NEIC **21** 20:56:20.3, 48°.24S×99°.75E, h10km*
*NEIC **21** 20:56:20.3, 48°.24S×99°.79E, h22km*
*NEIC **21** 20:56:20.3, 48°.24S×99°.64E, h22km, Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10^17Nm; Mrr0.60; Mθθ7.30; Mφφ-7.90; Mrθ-2.64; Mθφ2.89; Mφr-1.75; Fault plane solution: Mo8.74000×10^17 NP1: φs213.24000°, δ82.13000°, λ160.11000°. NP2: φs306.07000°, δ70.30000°, λ8.37000°. Principal axes: T 8.8699, Plg20.0000°, Azm168.0000°; N -0.2609, Plg69.0000°, Azm12.0000°; P -8.6090, Plg8.0000°, Azm261.0000°;*
*GCMT **21** 20:56:22.9±0.1, 48°.10S×99°.39E, h12km, MW5.8/167, Moment Tensor Solution. s157,c324; s167,c521; Duration: 2s0 Moment tensor: Scale 10^17Nm; Mrr-0.28±.04; Mθθ6.64±.04; Mφφ-6.36±.04; Mrθ0.24±.10; Mθφ2.50±.04; Mφr0.49±.10; Best double couple: Mo6.98600×10^17 NP1:φs215.00000°, δ89.00000°, λ-175.00000°. NP2:φs124.00000°, δ85.00000°, λ-1.00000°. Principal axes: T 7.1190, Plg3.0000°, Azm349.0000°; N -0.2610, Plg85.0000°, Azm226.0000°; P -6.8540, Plg4.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 21 20:56:20.0±0.2, 48°.32S±0°.04×99°.54E±0°.05, h10km, n920, σ1§62/676, mb5.4/132, MS5.7/325, 9C-2D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.25**	**44**	T	T	21 17 59.2	
	baz=215,slow=74,SNR=396						
H01W1	**Cape Leeuwin H**	**17.26**	**44**	T	T	21 17 51.3	
	baz=215,slow=74,SNR=1975						
H01W3	**Cape Leeuwin H**	**17.26**	**44**	T	T	21 18 00.2	
	baz=215,slow=74,SNR=1659						
RKGY	**Rocky Gully**	**18.87**	**50**	P	**Pn**	**21 00 41.8**	**+1.0**
RKGY	**Rocky Gully**	**18.87**	**50**	P	**P**	**21 00 40.9**	**+0.6**
	209nm,1.2s,SNR=3.3						
CASY	**Casey**	**18.91**	**166**	P	**P**	**21 00 39.5**	**-0.9**
NWAO	**Narrogin (SRO)**	**20.34**	**47**	P	**P**	**21 00 56.9**	**+0.6**
NWAO	**Narrogin (SRO)**	**20.34**	**47**	P	**P**	**21 00 56.7**	**+0.4**
NWAO	**Narrogin (SRO)**	**20.34**	**47**		**P**	**21 00 52.6**	**-3.8**
NWAO				IAmb	IAmb	21 01 02.6	
	comp=Z,217nm,1.2s						
NWAO	**Narrogin (SRO)**	**20.34**	**47**	P	Pn	21 01 00.2	+1.9
	comp=Z,6.3nm,SNR=6.3						
NWAO	**Narrogin (SRO)**	**20.34**	**47**	P	**P**	**21 00 56.0**	**-0.3**
	comp=Z,45nm,1.0s,baz=208,slow=11,SNR=9.1						
NWAO				LR	LR	21 06 45.3	
	comp=Z,19μm,20.9s,baz=208,slow=31						
	comp=Z,45nm,1.0s						
MUN	**Mundaring**	**20.63**	**44**	P	**P**	**21 01 00.5**	**+1.0**
MUN	**Mundaring**	**20.63**	**44**	P	**P**	**21 01 00.0**	**+0.5**
	comp=Z,8.0nm,SNR=8.0						
KLBR	**Kellerberrin**	**21.68**	**46**	P	**P**	**21 01 11.0**	**+0.1**
KLBR	**Kellerberrin**	**21.68**	**46**	P	**P**	**21 01 10.8**	**0.0**
	comp=Z,15nm,SNR=15						
BLDU	**Ballidu**	**22.01**	**43**	P	**P**	**21 01 14.1**	**-0.3**
BLDU	**Ballidu**	**22.01**	**43**	P	**P**	**21 01 14.5**	**+0.2**
	comp=Z,12nm,SNR=12						
MORW	**Morawa**	**23.05**	**39**	P	**P**	**21 01 26.6**	**+1.2**
MORW	**Morawa**	**23.05**	**39**	P	**P**	**21 01 22.4**	**-3.0**
MORW				IAmb	IAmb	21 01 36.9	
	comp=Z,268nm,1.9s						
MORW	**Morawa**	**23.05**	**39**	P	**P**	**21 01 26.0**	**+0.6**
	comp=Z,5.8nm,SNR=5.8						
KMBL	**Kambalda**	**23.96**	**53**	P	**P**	**21 01 34.4**	**-0.1**
	comp=

comp=Z,14nm,SNR=14
STKA Stephens Creek 35.61 78 P **P 21 03 16.4 -1.3**
STKA PcP **PcP 21 05 46.5 +0.2**
comp=Z,32nm,1.0s,baz=211,slow=8.9,SNR=28
STKA LR LR 21 15 03.6
comp=Z,11nm,1.1s,baz=193,slow=1.8,SNR=3.2
STKA pmax pmax
comp=Z,16µm,21.5s,baz=222,slow=32
comp=Z,32nm,1.0s
STKA Stephens Creek 35.61 78 *e*P **P 21 03 16.3 -1.5**
STKA pmax pmax
comp=Z,32nm,1.0s
COCO West Island 36.09 356 IAMs_20 IAMs_20 21 15 00.0
comp=Z,11µm,20.0s
ASAR Alice Springs 36.64 60 P **P 21 03 24.7 -2.0**
ASAR Alice Springs 36.64 60 P **P 21 03 24.9 -1.7**
comp=Z,36nm,0.9s,baz=217,slow=7.8,SNR=155
ASAR PcP **PcP 21 05 49.1 -0.4**
comp=Z,3.4nm,1.0s,baz=215,slow=2.5,SNR=3.6
ASAR LR LR 21 16 43.1
comp=Z,12µm,18.3s,baz=224,slow=34
comp=Z,36nm,0.9s
AS31 Alice Springs 36.64 60 P **P 21 03 25.2 -1.5**
VNDA Vanda 37.42 162 P **P 21 03 34.2 +1.6**
VNDA Vanda 37.42 162 P **P 21 03 32.9 +0.2**
comp=Z,18nm,0.9s,baz=285,slow=9.6,SNR=43
VNDA LR LR 21 17 53.6
comp=Z,20µm,18.4s,baz=286,slow=34
comp=Z,18nm,0.9s
VNDA Vanda 37.42 162 P **P 21 03 34.2 +1.6**
VNDA pmax pmax
comp=Z,36nm,1.0s
INKA Innaminka 37.83 72 P **P 21 03 37.5 +0.9**
XMIS Christmas Isla 38.06 10 IAMs_20 IAMs_20 21 15 21.3
comp=Z,10µm,20.0s
CAN Canberra 38.43 89 IAMs_20 IAMs_20 21 15 46.0
comp=Z,12µm,22.0s
SBA Scott Base 38.51 162 P **P 21 03 42.8 +0.9**
SBA IAmb IAmb 21 03 58.1
comp=Z,116nm,1.5s
SBA Scott Base 38.51 162 P **P 21 03 42.8 +0.9**
SBA pmax pmax
comp=Z,116nm,1.5s
SBA MLR MLR
comp=Z,16µm,19.0s
CMSA Cobar Meteorol 38.52 81 P **P 21 03 43.0 +0.5**
CMSA Cobar Meteorol 38.52 81 P **P 21 03 43.1 +0.7**
comp=Z,9.7nm,SNR=9.7
YNG Young 38.63 87 P **P 21 03 45.2 +1.8**
YNG Young 38.63 87 P **P 21 03 44.6 +1.3**
comp=Z,6.3nm,SNR=6.3
WRA Warramunga Arr 39.82 57 P **P 21 03 50.9 -2.5**
WRA Warramunga Arr 39.82 57 P **P 21 03 51.8 -1.7**
comp=Z,39nm,0.9s,baz=217,slow=8.2,SNR=132
WRA PcP **PcP 21 05 59.7 +0.3**
comp=Z,3.7nm,1.1s,baz=226,slow=3.3,SNR=2.9
WRA LR LR 21 18 19.1
comp=Z,17µm,21.1s,baz=212,slow=33
comp=Z,39nm,0.9s
WRA Warramunga Arr 39.82 57 *e*P **P 21 03 51.7 -1.7**
WRA pmax pmax
comp=Z,40nm,0.9s
WRAB Tennant Creek 39.83 57 *i*P **P 21 03 51.9 -1.6**
WRAB pmax pmax
comp=Z,108nm,1.5s
WR0 Warramunga Arr 39.91 57 P **P 21 03 51.8 -2.4**
WR0 IAmb IAmb 21 03 56.4
comp=Z,81nm,1.2s
AUDCS Dubbo College 40.03 85 P **P 21 03 56.6 +1.5**
KNRA Kununurra 40.44 46 P **P 21 03 58.4 -0.2**
comp=Z,4.5nm,SNR=4.5
ELIB Princess Elisa 40.78 208 *d*P **P 21 04 01.5 +0.4**
comp=Z,23nm,1.2s
QLP Quilpie 40.86 74 P **P 21 04 02.9 +0.9**
QLP Quilpie 40.86 74 P **P 21 04 02.8 +0.8**
comp=Z,38nm,SNR=38
AULRC Lightning Ridg 41.38 81 P **P 21 04 07.3 +1.0**
JAGI Jajag, Banyuwa 41.59 22 P **P 21 04 09.5 +1.5**
JAGI Jajag, Banyuwa 41.59 22 P **P 21 04 06.1 -1.9**
JAGI IAmb IAmb 21 04 11.7
comp=Z,69nm,1.1s
QSPA South Pole Qui 41.82 180 P **P 21 04 10.4 +0.7**
QSPA IAmb IAmb 21 04 19.9
comp=Z,126nm,1.1s
QSPA South Pole Qui 41.82 180 P **P 21 04 10.9 +1.3**
comp=Z,92nm,1.0s,baz=308,slow=3.1,SNR=159
QSPA LR LR 21 20 41.7
comp=Z,23µm,18.3s,baz=319,slow=35
comp=Z,92nm,1.0s
LEM Lembang 41.91 12 P **P 21 04 12.7 +1.8**
LEM pmax pmax
comp=Z,60nm,1.3s
SMRI Semarang 42.16 16 P **P 21 04 13.9 +1.2**
SMRI Semarang 42.16 16 P **P 21 04 11.9 -0.8**
SMRI IAmb IAmb 21 05 12.5
comp=Z,71nm,1.1s
SMRI IAMs_20 IAMs_20 21 17 04.2
comp=Z,9µm,22.0s
AUPHS Peel High Scho 42.24 85 P **P 21 04 14.7 +1.4**
QIS Mount Isa 42.38 63 P **P 21 04 14.4 -0.2**
QIS Mount Isa 42.38 63 P **P 21 04 14.0 -0.6**
comp=Z,5.6nm,SNR=5.6
ARMA Armidale 43.16 85 P **P 21 04 22.9 +2.0**
ARMA Armidale 43.16 85 P **P 21 04 20.6 -0.3**
ARMA Armidale 43.16 85 P **P 21 04 22.3 +1.3**
comp=Z,4.5nm,SNR=4.5
SOEI Soe 43.70 37 P **P 21 04 26.4 +1.1**
SOEI Soe 43.70 37 P **P 21 04 24.9 -0.5**
SOEI IAmb IAmb 21 04 33.9
comp=Z,57nm,1.0s
SOEI IAMs_20 IAMs_20 21 22 44.1
comp=Z,7µm,18.0s
MMRI Maumere 43.95 33 P **P 21 04 28.5 +1.3**
MMRI Maumere 43.95 33 P **P 21 04 24.7 -2.5**
MTN Manton Dam 44.03 47 P **P 21 04 27.0 -0.8**
MTN Manton Dam 44.03 47 P **P 21 04 24.9 -3.0**
MTN IAmb IAmb 21 04 30.0
comp=Z,54nm,0.9s
MTN Manton Dam 44.03 47 P **P 21 04 27.3 -0.6**
comp=Z,10nm,SNR=10
RER Riviere de l'E 44.20 292 P **P 21 04 28.4 -0.8**
RER IAMs_20 IAMs_20 21 17 59.3
comp=Z,6µm,19.0s
DRS Darwin Rock St 44.27 47 P **P 21 04 29.8 0.0**
NVL N'lazarevskaya 44.65 208⇑*i*P **P 21 04 32.4 +0.2**
NVL *e*S **S 21 11 03.0 -5.0**
NVL pmax pmax
comp=Z,65nm,1.1s
NVL MLR MLR
comp=Z,3µm,16.0s
KDU Kakadu 44.83 49 P **P 21 04 34.0 -0.2**
KDU Kakadu 44.83 49 P **P 21 04 33.6 -0.7**
comp=Z,8.9nm,SNR=8.9
PMBI Palembang 45.44 7 P **P 21 04 38.7 -0.4**
AUWSH Wavell State H 46.06 83 P **P 21 04 44.7 +0.7**
EIDS Eidsvold 46.15 79 P **P 21 04 44.8 +0.2**
EIDS Eidsvold 46.15 79 P **P 21 04 43.7 -0.9**
EIDS Eidsvold 46.15 79 P **P 21 04 45.0 +0.3**
comp=Z,7.2nm,SNR=7.2
BKSI Bulukumba 46.30 29 P **P 21 04 49.0 +3.1**
comp=Z,25nm,1.1s
KAPI Kappang 46.48 28 LR LR 21 21 06.5
comp=Z,2µm,20.5s,baz=195,slow=32
KAPI Kappang 46.48 28 *i*P **P 21 04 44.6 -2.6**
KAPI pmax pmax
comp=Z,20nm,1.3s
H08S2 Diego Garcia H 46.55 322 T T 21 54 16.6
baz=155,slow=76,SNR=61
H08S1 Diego Carcia H 46.56 322 T T 21 54 15.9
baz=155,slow=76,SNR=59
H08S3 Diego Garcia H 46.57 322 T T 21 54 22.5
baz=155,slow=76,SNR=46
CTA Charters Tower 46.81 70 LR LR 21 22 40.7
comp=Z,631nm,21.5s,baz=218,slow=34
CTA Charters Tower 46.81 70 P **P 21 04 49.1 -0.8**
CTAO Charters Tower 46.81 70 P **P 21 04 49.7 -0.2**
CTAO Charters Tower 46.81 70 P **P 21 04 48.4 -1.6**
CTAO Charters Tower 46.81 70 IAMs_20 IAMs_20 21 22 27.6
comp=Z,8µm,21.0s
CTAO Charters Tower 46.81 70 P **P 21 04 48.4 -1.6**
CTAO pmax pmax
comp=Z,62nm,1.0s
CTAO MLR MLR
comp=Z,8µm,21.0s
TROLL Troll, Antarti 46.97 205⇑P **P 21 04 51.2 +0.5**
comp=Z,2µm,0.9s
BBSI Bau Bau 46.98 32 P **P 21 04 54.5 +3.3**

FOMA Nahampoana Res 47.08 280 IAMs_20 IAMs_20 21 19 25.4
comp=Z,8µm,19.0s
MTSU Mount Surprise 47.08 66 P **P 21 04 53.4 +1.3**
MTSU Mount Surprise 47.08 66 P **P 21 04 52.8 +0.8**
comp=Z,7.6nm,SNR=7.6
RK1H Rockhampton Ha 47.14 77 P **P 21 04 54.3 +1.9**
RPZ Rata Peaks 48.22 113 LR LR 21 22 01.0
comp=Z,3µm,18.7s,baz=240,slow=32
BKNI Bangkinang 48.47 2 P **P 21 05 02.5 -0.2**
BKNI IAMs_20 IAMs_20 21 21 19.7
comp=Z,7µm,20.0s
SNAA Sanae 48.62 204 P **P 21 05 03.6 +0.2**
SNAA Sanae 48.62 204 *e*P **P 21 05 04.8 +1.4**
SNAA Sanae 48.62 204⇑P **P 21 05 03.9 +0.6**
comp=Z,959nm,0.8s
SNAA Sanae 48.62 204 P **P 21 05 04.0 +0.6**
comp=Z,48nm,0.9s,baz=128,slow=8.4,SNR=60
SNAA LR LR 21 24 03.7
comp=Z,20µm,18.8s,baz=108,slow=34
comp=Z,48nm,0.9s
SNAA Sanae 48.62 204 P **P 21 05 03.6 +0.2**
SNAA pmax pmax
comp=Z,68nm,1.0s
SNAA MLR MLR
comp=Z,19µm,19.0s
MTKI Muara Teweh, K 49.02 21 P **P 21 05 07.1 +0.1**
comp=Z,67nm,1.5s
TPRI Tanjung Pinang 49.23 7 P **P 21 05 11.6 +3.0**
comp=Z,49nm,1.5s,comp=Z,1µm
STKI Sintang 49.29 16 P P 21 05 14.3 +5.2
comp=Z,21nm,0.4s
VOI Vohitsoka 49.35 283 P **P 21 05 10.8 +1.1**
VOI IAmb IAmb 21 05 37.7
comp=Z,84nm,1.6s
VOI IAMs_20 IAMs_20 21 20 33.3
comp=Z,8µm,19.0s
VOI Vohitsoka 49.35 283 *e*P **P 21 05 05.5 -4.1**
COEN Coen 49.65 62 P **P 21 05 13.2 +1.3**
COEN Coen 49.65 62 P **P 21 05 11.3 -0.6**
COEN IAmb IAmb 21 05 15.9
comp=Z,70nm,1.4s
COEN Coen 49.65 62 P **P 21 05 12.3 +0.5**
comp=Z,4.8nm,SNR=4.8
MYKOM Kota Tinggi 50.05 6 P **P 21 05 14.2 -0.5**
MYKOM IAmb IAmb 21 05 26.9
comp=Z,55nm,1.5s
VNA2 Neumayer--Watz 50.26 204⇑P **P 21 05 16.3 +0.4**
comp=Z,45nm,0.9s,baz=124,slow=6.2
VNA1 Neumayer--Stat 50.65 204⇑P **P 21 05 19.7 +0.9**
comp=Z,66nm,1.0s
VNA3 Neumayer Olymp 50.69 203⇑P **P 21 05 19.7 +0.6**
comp=Z,35nm,0.9s
BELA Belgrano 2 50.99 191 P **P 21 05 21.1 -0.2**
BELA IAmb IAmb 21 05 29.1
comp=Z,109nm,2.0s
BSWZ Blackbirch Sta 51.06 112 P **P 21 05 21.6 -0.7**
LUWI Luwuk 51.19 30 P **P 21 05 25.8 +2.3**
SANI Sanana 51.41 35 P **P 21 05 26.4 +1.3**
OPO Ambohidratompo 51.50 286 LR LR 21 21 44.2
comp=Z,3µm,20.3s,baz=15,slow=30
MPSI Mapaga 51.58 26 P **P 21 05 25.9 -0.5**
comp=Z,27nm,1.3s,comp=Z,598nm
SBUM Sibu 51.76 16 P **P 21 05 26.6 -1.1**
MRSI Marisa 52.34 29 P **P 21 05 35.7 +3.7**
comp=Z,55nm,1.2s,comp=Z,703nm
TOLI2 Tolitoli 52.58 27 P **P 21 05 34.5 +0.7**
TOLI2 Tolitoli 52.58 27 P **P 21 05 31.6 -2.2**
GTOI Gorontalo 52.84 30 P **P 21 05 38.9 +3.2**
FAKI Fak Fak 53.23 42 P **P 21 05 36.9 -1.8**
FAKI IAmb IAmb 21 05 41.2
comp=Z,47nm,1.0s
BKZ Black Stump Fm 54.16 111 P **P 21 05 49.6 +4.3**
BKZ Black Stump Fm 54.16 111 P **P 21 05 44.5 -0.8**
BKZ IAmb IAmb 21 05 54.5
comp=Z,51nm,1.0s
BKZ IAMs_20 IAMs_20 21 24 21.4
comp=Z,5µm,20.0s
SWI Sorong 54.63 40 P **P 21 05 48.9 0.0**
comp=Z,43nm,1.1s,comp=Z,836nm
OUZ Omahuta 54.72 105 IAMs_20 IAMs_20 21 24 27.9
comp=Z,5µm,18.0s
RTZ Ruatahuna 54.80 111 P **P 21 05 49.3 -0.7**
PMBG Pietermaritzbu 55.03 263 *e*P **P 21 05 54.0 +2.3**
PMBG IAmb IAmb 21 06 06.1
comp=Z,44nm,1.2s
URZ Urewera 55.09 110 LR LR 21 25 26.6
comp=Z,3µm,19.1s,baz=322,slow=32
KSTD Kokstad 55.11 262 *e*P **P 21 05 52.0 -0.5**
KSTD IAmb IAmb 21 06 02.0
comp=Z,36nm,1.3s
GRHM Grahamstown, E 55.35 257 *e*P **P 21 05 53.4 -0.6**
PMG Port Moresby 55.61 62 P **P 21 05 57.6 +1.6**
PMG Port Moresby 55.61 62 P **P 21 05 57.7 +1.7**
PMG Port Moresby 55.61 62 P **P 21 05 54.8 -1.2**
PMG IAmb IAmb 21 05 59.4
comp=Z,80nm,1.4s
PMG Port Moresby 55.61 62 IAMs_20 IAMs_20 21 26 27.1
comp=Z,5µm,21.0s
PMG Port Moresby 55.61 62 LR LR 21 26 50.2
comp=Z,5µm,21.9s,baz=224,slow=33
PMG Port Moresby 55.61 62 P **P 21 05 54.8 -1.2**
PMG pmax pmax
comp=Z,80nm,1.4s
PMG MLR MLR
comp=Z,5µm,21.0s
TABU Tabubil 55.64 53 P **P 21 05 57.0 +0.7**
POGA Pongola 55.65 266 P **P 21 05 56.3 +0.1**
POGA IAmb IAmb 21 06 05.5
comp=Z,42nm,1.4s
NWCL Newcastle 56.60 265 *e*P **P 21 06 05.2 +2.1**
NWCL IAmb IAmb 21 06 12.0
comp=Z,40nm,1.2s
SRIT Nakonsritamara 56.66 0 P **P 21 06 06.3 +2.9**
SRIT Nakonsritamara 56.66 0 P **P 21 06 02.8 -0.6**
SRIT IAmb IAmb 21 06 09.1
comp=Z,50nm,1.2s
GRAF Camdeboo Natio 57.21 257 *e*P **P 21 06 08.4 +1.1**
GRAF IAmb IAmb 21 06 17.2
comp=Z,75nm,1.3s
SURA Surathani 57.23 0 P **P 21 06 11.1 +3.7**
HVD Gariep Dam 57.63 259 *e*P **P 21 06 10.5 +0.1**
HVD IAmb IAmb 21 06 19.8
comp=Z,47nm,1.2s
SNKL Senekal, Frees 57.65 263 *e*P **P 21 06 09.9 -0.7**
SNKL IAmb IAmb 21 06 19.9
comp=Z,92nm,1.3s
ROOI Rooidraai Farm 57.68 256 *e*P **P 21 06 10.9 +0.2**
ROOI IAmb IAmb 21 06 17.2
comp=Z,117nm,1.6s
JAY Jayapura 57.69 51 P **P 21 06 12.6 +1.8**
comp=Z,34nm,1.6s,comp=Z,551nm
PALK Pallekele 57.79 338 LR LR 21 25 50.4
comp=Z,4µm,19.1s,baz=270,slow=31
PILG Pilgrimsrest, 57.93 268 *e*P **P 21 06 12.4 -0.3**
PILG IAmb IAmb 21 06 21.5
comp=Z,64nm,1.2s
DULL Dullstroom, Mp 57.99 267 *e*P **P 21 06 11.6 -1.5**
DULL IAmb IAmb 21 06 22.0
comp=Z,42nm,1.2s
BFON Badsfontein, M 58.03 257 *e*P **P 21 06 13.1 -0.2**
BFON IAmb IAmb 21 06 22.7
comp=Z,93nm,1.8s
HOED Hoedspruit, Li 58.13 268 *e*P **P 21 06 13.8 0.0**
HOED IAmb IAmb 21 06 19.1
comp=Z,67nm,1.6s
KOUNC Koumac, New Ca 58.22 86 P **P 21 06 15.8 +1.4**
KOUNC Koumac, New Ca 58.22 86 P **P 21 06 13.4 -1.1**
MOPA Mopani 58.43 269 *e*P **P 21 06 16.9 +0.9**
MOPA IAmb IAmb 21 06 29.9
comp=Z,130nm,1.5s
ONTNC Ouen Toro 58.44 89 P **P 21 06 15.5 -0.5**
NOUC Port Laguerre 58.48 88 P **P 21 06 17.1 +0.8**
DZM Mont Dzumac 58.60 89 P **P 21 06 18.9 +1.7**
DZM Mont Dzumac 58.60 89 *e*P **P 21 06 14.1 -3.1**
comp=Z,46nm,1.4s
DZM Mont Dzumac 58.60 89 *e*PP **PP 21 08 22.0 -4.7**
comp=Z,177nm,23.0s
DZM *e*S **S 21 14 14.3 -7.1**
comp=Z,1µm,26.1s
DZM *e*SS **SS 21 18 12.9 -0.9**
comp=Z,855nm,25.4s
DZM *e*LQ LQ 21 21 00.9
comp=Z,2µm,30.1s
DZM Mont Dzumac 58.60 89 P **P 21 06 16.4 -0.8**
DZM IAmb IAmb 21 06 30.0
comp=Z,46nm,1.5s

DZM Mont Dzumac 58.60 89 LR LR 21 26 32.7
comp=Z,4µm,20.9s,baz=225,slow=31
GRAN Grantham 58.69 255 *e*P P 21 06 12.9 -4.9
GRAN IAmb IAmb 21 06 27.9
comp=Z,9.7nm,1.0s
PRYS Parys 58.82 263 *e*P **P 21 06 18.4 -0.3**
PRYS IAmb IAmb 21 06 26.9
comp=Z,57nm,1.5s
MERW Merweville 58.87 255 *e*P **P 21 06 16.6 -2.4**
MERW IAmb IAmb 21 06 31.5
comp=Z,380nm,2.6s
BOSA Boshof 59.09 261 P **P 21 06 20.7 +0.1**
BOSA IAmb IAmb 21 06 29.6
comp=Z,58nm,1.4s
BOSA Boshof 59.09 261 *e*P **P 21 06 20.3 -0.3**
BOSA IAmb IAmb 21 06 29.3
comp=Z,67nm,1.5s
BOSA Boshof 59.09 261 P **P 21 06 18.5 -2.1**
comp=Z,11nm,0.9s,baz=142,slow=8.0,SNR=11
BOSA LR LR 21 26 55.6
comp=Z,7µm,18.3s,baz=144,slow=31
comp=Z,11nm,0.9s
BOSA Boshof 59.09 261 P **P 21 06 20.7 +0.1**
BOSA pmax pmax
comp=Z,58nm,1.5s
MATJ Matjiesfontein 59.09 253 *e*P **P 21 06 21.1 +0.5**
MATJ IAmb IAmb 21 06 47.5
comp=Z,3µm,4.3s
RUST Rust De Winter 59.17 266 *e*P **P 21 06 19.0 -2.3**
RUST IAmb IAmb 21 06 29.9
comp=Z,62nm,1.4s
HRAO HartRAO 59.29 265 *e*P **P 21 06 19.8 -2.3**
TSWA Tswaing Meteor 59.35 265 *e*P **P 21 06 21.7 -0.8**
TSWA IAmb IAmb 21 06 31.1
comp=Z,42nm,1.4s
FRAZ Fraserburg 59.43 255 *e*P **P 21 06 23.5 +0.6**
FRAZ IAmb IAmb 21 06 32.8
comp=Z,136nm,1.7s
SUR Sutherland 59.52 254 P **P 21 06 25.0 +1.4**
SUR IAmb IAmb 21 06 33.8
comp=Z,60nm,1.4s
SUR Sutherland 59.52 254 LR LR 21 26 29.6
comp=Z,9µm,20.4s,baz=136,slow=30
WTBG Waterberg Wild 59.63 267 *e*P P 21 06 14.5 -10
WTBG IAmb IAmb 21 06 33.5
comp=Z,88nm,1.7s
MPHEP Siloam, Limpop 59.66 269 *e*P **P 21 06 23.8 -0.8**
MPHEP IAmb IAmb 21 06 33.6
comp=Z,34nm,1.1s
DAV Davao City (W) 59.72 30 LR LR 21 28 55.2
comp=Z,1µm,21.3s,baz=208,slow=33
NYAT Nyati, Northwe 59.73 265 *e*P **P 21 06 23.4 -1.6**
NYAT IAmb IAmb 21 06 33.7
comp=Z,40nm,1.3s
SWZ Schweizer 59.99 262 *e*P **P 21 06 24.7 -2.2**
SWZ IAmb IAmb 21 06 35.2
comp=Z,85nm,1.4s
PRTV Porterville,We 60.17 253 *e*P **P 21 06 26.7 -1.2**
PRTV IAmb IAmb 21 06 33.3
comp=Z,453nm,2.8s
NHAM Northam, North 60.20 265 *e*P **P 21 06 27.4 -0.8**
NHAM IAmb IAmb 21 06 39.9
comp=Z,41nm,1.4s
MUSN Musina, Limpop 60.30 269 *e*P **P 21 06 29.0 +0.1**
MUSN IAmb IAmb 21 06 38.2
comp=Z,75nm,1.4s
MRCO Marico , North 60.43 264 *e*P **P 21 06 28.7 -1.2**
MRCO IAmb IAmb 21 06 38.5
comp=Z,50nm,1.4s
DLV T Lat 60.52 10 IAMs_20 IAMs_20 21 29 10.6
comp=Z,5µm,20.0s
LEPH Lephalale, Lim 60.60 266 *e*P **P 21 06 29.9 -1.1**
LEPH IAmb IAmb 21 06 39.8
comp=Z,74nm,1.5s
CVNA Calvinia 60.78 254 *e*P **P 21 06 32.8 +0.6**
CVNA IAmb IAmb 21 06 51.6
comp=Z,51nm,1.3s
CRAIL Swartwater, Li 61.02 268 *e*P **P 21 06 34.1 +0.2**
MTLB Matlabas, Limp 61.12 266 *e*P **P 21 06 31.9 -2.7**
MTLB IAmb IAmb 21 06 43.3
comp=Z,62nm,1.4s
LBTB Lobatse 61.27 264 P **P 21 06 35.5 -0.1**
LBTB IAmb IAmb 21 06 44.2
comp=Z,33nm,1.4s
LBTB Lobatse 61.27 264 *e*P **P 21 06 32.6 -3.0**
LBTB IAmb IAmb 21 06 40.4
comp=Z,69nm,1.9s
LBTB Lobatse 61.27 264 LR LR 21 27 07.4
comp=Z,5µm,21.9s,baz=142,slow=30
LBTB Lobatse 61.27 264 P **P 21 06 35.5 -0.1**
LBTB pmax pmax
comp=Z,33nm,1.4s
KEIM Keimoes 61.84 258 *e*P **P 21 06 38.0 -1.3**
KEIM IAmb IAmb 21 06 45.2
comp=Z,84nm,1.8s
UPI Upington 61.88 258 *e*P **P 21 06 38.3 -1.4**
UPI IAmb IAmb 21 06 48.6
comp=Z,101nm,1.7s
AUGR Augrabies 62.32 257 *e*P **P 21 06 40.6 -2.0**
AUGR IAmb IAmb 21 06 51.9
comp=Z,74nm,1.5s
NAYO Nakonayok 62.37 2 P **P 21 06 45.2 +2.5**
SRDT SRDT 62.38 360 P **P 21 06 46.3 +3.5**
MATP Matopo 62.50 270 LR LR 21 27 51.2
comp=Z,5µm,21.5s,baz=136,slow=30
KOMG Komaggas 63.36 254 *e*P **P 21 06 49.1 -0.4**
KOMG IAmb IAmb 21 07 11.3
comp=Z,48nm,1.5s
SMAI San Martin Ant 63.45 186 P **P 21 06 50.6 +1.3**
HNR Honiara 63.48 74 LR LR 21 31 20.1
comp=Z,106µm,21.8s,baz=216,slow=33
RAO Raoul Island 64.04 105 LR LR 21 29 07.2
comp=Z,2µm,21.6s,baz=190,slow=31
KRI Karoi 64.30 273 *e*P **P 21 06 56.2 +0.4**
NONG Nongkai 66.16 4 P **P 21 07 10.1 +2.6**
LSZ Lusaka 66.36 273 P **P 21 07 09.2 0.0**
LSZ IAMs_20 IAMs_20 21 30 21.4
comp=Z,6µm,20.0s
LSZ Lusaka 66.36 273 P **P 21 07 09.2 0.0**
LSZ pmax pmax
comp=Z,129nm,2.0s
LSZ MLR MLR
comp=Z,6µm,20.0s
CM31 Chiang Mai Arr 66.47 359 P **P 21 07 08.4 -1.2**
CM31 IAmb IAmb 21 07 14.4
comp=Z,42nm,1.1s
CMAR Chiang Mai Arr 66.47 359 P **P 21 07 08.0 -1.5**
CMAR Chiang Mai Arr 66.47 359 P **P 21 07 08.6 -1.0**
comp=Z,56nm,1.2s,baz=199,slow=5.5,SNR=38
CMAR LR LR 21 33 04.1
comp=Z,7µm,19.4s,baz=190,slow=33
comp=Z,56nm,1.2s
CMAR Chiang Mai Arr 66.47 359 *e*P **P 21 07 08.5 -1.0**
CMAR pmax pmax
comp=Z,55nm,1.2s
PHRA Phrae 66.51 1 P **P 21 07 09.2 -0.6**
PMSA Palmer Station 66.52 188 LR LR 21 36 20.0
comp=Z,12µm,20.1s,baz=166,slow=36
CHTO Chiang Mai 66.83 359 P **P 21 07 10.8 -1.0**
CHTO Chiang Mai 66.83 359 P **P 21 07 10.8 -1.0**
CHTO pmax pmax
comp=Z,25nm,1.4s
CHTO MLR MLR
comp=Z,8µm,20.0s
QIZ Qiongzhong 67.67 11 P **P 21 07 18.3 +1.2**
QIZ S **S 21 16 17.9 +3.6**
QIZ SS **SS 21 20 37.8 +1.9**
QIZ pmax pmax
comp=Z,500nm,6.7s
QIZ LR LR
comp=Z,3µm,18.5s
QIZ LR LR
comp=Z,1µm,21.9s
QIZ LR LR
comp=Z,5µm,18.5s
QIZ Qiongzhong 67.67 11 IAMs_20 IAMs_20 21 33 21.6
comp=Z,5µm,21.0s
HYB Hyderabad 68.07 338 *e*P **P 21 07 19.6 -0.2**
WIN Windhoek 68.57 260 P **P 21 07 23.8 +0.5**
WIN IAmb IAmb 21 07 33.7
comp=Z,36nm,1.4s
WIN IAMs_20 IAMs_20 21 32 29.4
comp=Z,3µm,18.0s
WIN Windhoek 68.57 260 P **P 21 07 23.8 +0.5**
WIN pmax pmax
comp=Z,36nm,1.4s

WIN				MLR	MLR		
	comp=Z,3μm,18.0s						
MSVF	**Nonsavu**	**69.38**	**94**	P	**P**	**21 07 30.4**	**+2.2**
MSVF	**Nonsavu**	**69.38**	**94**	P	**P**	**21 07 27.6**	**-0.6**
MSVF	**Nonsavu**	**69.38**	**94**	P	**P**	**21 07 27.6**	**-0.6**
MSVF				pmax	pmax		
	comp=Z,152nm,1.8s						
SLVN	**Son La**	**69.44**	**4**	IAMs_20	IAMs_20	21 38 27.0	
	comp=Z,4μm,18.0s						
KIBK	**Kibwezi**	**69.60**	**290**	P	**P**	**21 07 29.3**	**-0.2**
TSUM	**Tsumeb**	**70.63**	**263**	P	**P**	**21 07 35.8**	**-0.1**
TSUM	**Tsumeb**	**70.63**	**263**	*e*P	**P**	**21 07 34.3**	**-1.6**
TSUM				IAmb	IAmb	21 07 45.2	
	comp=Z,47nm,1.8s						
TSUM	**Tsumeb**	**70.63**	**263**	LR	LR	21 33 58.2	
	comp=Z,9μm,18.9s,baz=141,slow=32						
KMBO	**Kilima Mbogo**	**71.04**	**291**	P	**P**	**21 07 38.3**	**-0.3**
KMBO	**Kilima Mbogo**	**71.04**	**291**	*e*P	**P**	**21 07 39.9**	**+1.4**
KMBO				IAmb	IAmb	21 07 47.7	
	comp=Z,186nm,2.0s						
KMBO	**Kilima Mbogo**	**71.04**	**291**	P	**P**	**21 07 38.3**	**-0.3**
KMBO				pmax	pmax		
	comp=Z,29nm,1.7s						
KMBO				MLR	MLR		
	comp=Z,2μm,18.0s						
HOPE	**Hope Point**	**71.25**	**205**	P	**P**	**21 07 39.8**	**+0.9**
HOPE	**Hope Point**	**71.25**	**205**	IAMs_20	IAMs_20	21 35 13.5	
	comp=Z,3μm,20.0s						
HOPE	**Hope Point**	**71.25**	**205**	P	**P**	**21 07 39.8**	**+0.9**
HOPE				pmax	pmax		
	comp=Z,90nm,1.4s						
HOPE				MLR	MLR		
	comp=Z,3μm,20.0s						
TNCH	**TengChong**	**73.01**	**359**	P	**P**	**21 07 48.8**	**-1.2**
TNCH				PP	**PP**	**21 10 39.1**	**+6.2**
TNCH				S	**S**	**21 17 10.6**	**-6.4**
TNCH				SKS	**SKSac**	**21 17 46.6**	**-9.0**
TNCH				pmax	pmax		
	comp=Z,25nm,1.3s						
TNCH				pmax	pmax		
	comp=Z,380nm,4.8s						
TNCH				LR	LR		
	comp=Z,1μm,19.3s						
TNCH				LR	LR		
	comp=Z,980nm,21.4s						
TNCH				LR	LR		
	comp=Z,4μm,21.1s						
KMI	**Kunming**	**73.16**	**3**	⇑P	**P**	**21 07 52.8**	**+1.9**
KMI				S	**SKiKP**	**21 17 21.4**	**-1.5**
KMI				SS	**SS**	**21 22 04.8**	**+4.1**
KMI				pmax	pmax		
	comp=Z,24nm,0.9s						
KMI				pmax	pmax		
	comp=Z,420nm,4.2s						
KMI				LR	LR		
	comp=Z,2μm,22.1s						
KMI				LR	LR		
	comp=Z,1μm,19.5s						
KMI				LR	LR		
	comp=Z,4μm,24.0s						
GUMO	**Guam**	**73.59**	**46**	LR	LR	21 39 53.2	
	comp=Z,783nm,19.4s,baz=210,slow=36						
SHL	**Shillong**	**73.86**	**353**	P	**P**	**21 07 53.6**	**-1.4**
SHL				IAmb	IAmb	21 08 06.4	
	comp=Z,41nm,1.3s						
SHL	**Shillong**	**73.86**	**353**	P	**P**	**21 07 53.6**	**-1.4**
SHL				pmax	pmax		
	comp=Z,41nm,1.3s						
SHL				MLR	MLR		
	comp=Z,5μm,20.0s						
SSLB	**Suanglung**	**74.30**	**20**	P	**P**	**21 07 59.2**	**+1.8**
SSLB	**Suanglung**	**74.30**	**20**	P	**P**	**21 07 56.1**	**-1.3**
SSLB				IAmb	IAmb	21 08 13.2	
	comp=Z,70nm,1.4s						
PZH	**PanZhiHua**	**74.50**	**2**	P	**P**	**21 08 01.3**	**+2.7**
PZH				S	**S**	**21 17 33.4**	**-0.2**
PZH				SKS	**SKSac**	**21 18 04.8**	**-1.8**
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH				pmax	pmax		
	comp=Z,390nm,6.3s						
PZH				LR	LR		
	comp=Z,2μm,17.6s						
PZH				LR	LR		
	comp=Z,1μm,19.8s						
PZH				LR	LR		
	comp=Z,3μm,18.4s						
GYA	**Guiyang**	**74.71**	**7**	⇓P	**P**	**21 07 59.8**	**0.0**
GYA				S	**S**	**21 17 35.4**	**-0.5**
GYA				SS	**SS**	**21 22 28.0**	**+3.9**
GYA				pmax	pmax		
	comp=Z,23nm,1.1s						
GYA				pmax	pmax		
	comp=Z,290nm,7.4s						
GYA				LR	LR		
	comp=Z,1μm,22.6s						
GYA				LR	LR		
	comp=Z,3μm,18.8s						
GYA				LR	LR		
	comp=Z,3μm,19.0s						
NACB	**Ninganchiao**	**74.82**	**21**	P	**P**	**21 08 01.9**	**+1.6**
NACB	**Ninganchiao**	**74.82**	**21**	P	**P**	**21 07 58.9**	**-1.5**
NACB				IAmb	IAmb	21 08 17.1	
	comp=Z,43nm,1.3s						
USHA	**Ushuaia**	**76.72**	**187**	LR	LR	21 41 35.0	
	comp=Z,8μm,19.8s,baz=168,slow=35						
ATD	**Arta Tunnel**	**77.80**	**303**	LR	LR	21 37 54.1	
	comp=Z,60nm,19.0s,baz=139,slow=32						
LSA	**Lhasa**	**78.03**	**353**	IAMs_20	IAMs_20	21 42 05.3	
	comp=Z,3μm,18.0s						
FURI	**Furi**	**78.07**	**298**	LR	LR	21 37 33.5	
	comp=Z,2μm,19.8s,baz=141,slow=32						
ENH	**Enshi**	**78.74**	**9**	P	**P**	**21 08 24.2**	**+1.8**
ENH	**Enshi**	**78.74**	**9**	P	**P**	**21 08 21.0**	**-1.3**
ENH				IAMs_20	IAMs_20	21 39 49.1	
	comp=Z,4μm,21.0s						
CD2	**Chengdu**	**78.96**	**4**	P	**P**	**21 08 25.3**	**+1.7**
CD2				S	**S**	**21 18 20.8**	**-1.2**
CD2				SS	**SS**	**21 23 30.6**	**+2.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				pmax	pmax		
	comp=Z,320nm,6.2s						
CD2				LR	LR		
	comp=Z,4μm,20.5s						
CD2				LR	LR		
	comp=Z,2μm,19.9s						
CD2				LR	LR		
	comp=Z,4μm,20.4s						
JOW	**Kunigami**	**79.12**	**26**	LR	LR	21 40 27.8	
	comp=Z,498nm,20.3s,baz=272,slow=34						
WHN	**Wuhan**	**79.62**	**13**	P	**P**	**21 08 28.3**	**+1.2**
WHN				sP	**PcP**	**21 08 38.3**	**+3.4**
WHN				S	**S**	**21 18 28.9**	**0.0**
WHN				LR	LR		
	comp=Z,3μm,14.2s						
WHN				LR	LR		
	comp=Z,2μm,12.5s						
WHN				LR	LR		
	comp=Z,9μm,23.8s						
TARA	**Tarawa**	**80.02**	**77**	IAMs_20	IAMs_20	21 39 08.6	
	comp=Z,3μm,22.0s						
WSAR	**Wadi Sarin**	**80.10**	**322**	LR	LR	21 37 06.2	
	comp=Z,4μm,19.6s,baz=152,slow=31						
RAR	**Rarotonga**	**81.24**	**112**	LR	LR	21 37 27.0	
	comp=Z,1μm,21.9s,baz=238,slow=30						
NJ2	**Nanjing**	**81.86**	**16**	*e*P	**P**	**21 08 40.8**	**+1.8**
NJ2				sP	**pwP**	**21 08 48.5**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,23.7s						
NJ2				LR	LR		
	comp=Z,1μm,21.4s						
NJ2				LR	LR		
	comp=Z,2μm,17.0s						
XAN	**Xi'an**	**82.42**	**8**	P	**P**	**21 08 39.5**	**-2.5**
XAN				pP	pwP	21 08 52.6	+4.2
XAN				PP	**PP**	**21 11 53.6**	**+2.1**
XAN				S	**S**	**21 18 52.4**	**-5.6**
XAN				pmax	pmax		
	comp=Z,20nm,1.2s						
XAN				pmax	pmax		
	comp=Z,360nm,4.8s						
XAN				LR	LR		
	comp=Z,5μm,19.2s						
XAN				LR	LR		
	comp=Z,3μm,19.2s						
XAN				LR	LR		
	comp=Z,8μm,21.1s						
LYN	**LuoYang**	**83.30**	**11**	*e*P	**P**	**21 08 46.6**	**+0.1**
LYN				pP	pwP	21 08 57.8	+4.8
LYN				S	**SKSac**	**21 19 08.1**	**-0.3**
LYN				pmax	pmax		
	comp=Z,20nm,0.7s						
LYN				pmax	pmax		
	comp=Z,560nm,4.9s						
LYN				LR	LR		
	comp=Z,2μm,17.6s						
LYN				LR	LR		
	comp=Z,2μm,18.4s						
LYN				LR	LR		
	comp=Z,3μm,19.6s						
LZH	**Lanzhou**	**84.12**	**4**	⇑P	**P**	**21 08 53.0**	**+2.1**
LZH				sP	pwP	21 09 02.4	+5.1
LZH				S	**S**	**21 19 15.3**	**-0.1**
LZH				pmax	pmax		
	comp=Z,25nm,1.5s						
LZH				pmax	pmax		
	comp=Z,370nm,4.8s						
LZH				LR	LR		
	comp=Z,2μm,16.1s						
LZH				LR	LR		
	comp=Z,2μm,15.1s						
LZH				LR	LR		
	comp=Z,3μm,15.8s						
GOMU	**GeErMu**	**84.25**	**356**	P	P	21 08 57.5	+5.7
GOMU	**GeErMu**	**84.25**	**356**	S	**S**	**21 19 18.3**	**+1.1**
GOMU	**GeErMu**	**84.25**	**356**	SS	SS	21 24 48.8	+1.3
GOMU				LR	LR		
	comp=N,2μm,21.5s						
GOMU				LR	LR		
	comp=E,2μm,21.3s						
GOMU				LR	LR		
	comp=Z,3μm,21.0s						
NIL	**Nilore**	**84.92**	**338**	P	**P**	**21 08 52.6**	**-2.2**
NIL	**Nilore**	**84.92**	**338**	P	**P**	**21 08 52.6**	**-2.2**
NIL				pmax	pmax		
	comp=Z,40nm,1.0s						
TIA	**Tai'an**	**85.61**	**14**	P	**P**	**21 08 58.0**	**-0.2**
TIA				pmax	pmax		
	comp=Z,33nm,1.0s						
TIA				pmax	pmax		
	comp=Z,230nm,4.7s						
TIA				LR	LR		
	comp=Z,1μm,16.5s						
TIA				LR	LR		
	comp=Z,2μm,16.5s						
TIA				LR	LR		
	comp=Z,1μm,15.8s						
TBI	**Tubuai**	**85.78**	**121**	*e*P	**P**	**21 09 02.1**	**+2.5**
	comp=Z,314nm,28.0s						
TBI	**Tubuai**	**85.78**	**121**	*e*S	**S**	**21 19 29.0**	**-3.5**
	comp=Z,620nm,25.0s						
TBI				*e*SS	**SS**	**21 25 07.7**	**-0.7**
	comp=Z,4μm,29.8s						
TBI				*e*LQ	LQ	21 32 14.5	
	comp=Z,22μm,34.5s						
TBI				*e*LR	LR	21 35 56.7	
	comp=Z,4μm,23.0s						
JNU	**Nakatsue**	**85.79**	**26**	P	**P**	**21 09 01.4**	**+2.2**
JNU	**Nakatsue**	**85.79**	**26**	P	**P**	**21 08 58.3**	**-0.9**
	comp=Z,17nm,1.1s,baz=142,slow=4.3,SNR=4.2						
JNU				LR	LR	21 46 02.0	
	comp=Z,503nm,19.1s,baz=204,slow=35						
	comp=Z,17nm,1.1s						
RAYN	**Ar Rayn**	**86.31**	**312**	P	**P**	**21 09 00.5**	**-1.6**
RAYN	**Ar Rayn**	**86.31**	**312**	P	**P**	**21 09 00.5**	**-1.6**
RAYN				pmax	pmax		
	comp=Z,27nm,1.5s						
HNS	**HongShan**	**86.40**	**12**	⇑P	**P**	**21 09 01.6**	**-0.5**
HNS				PP	**PP**	**21 12 24.4**	**+0.5**
HNS				SKS	**SKSac**	**21 19 29.5**	**+1.5**
HNS				S	**S**	**21 19 39.6**	**+2.1**
HNS				pmax	pmax		
	comp=Z,17nm,1.2s						
HNS				LR	LR		
	comp=Z,1μm,22.8s						
HNS				LR	LR		
	comp=Z,950nm,21.3s						
HNS				LR	LR		
	comp=Z,2μm,23.9s						
KBL	**Kabul**	**86.88**	**335**	P	**P**	**21 09 03.0**	**-1.8**
KBL				IAmb	IAmb	21 09 07.4	
	comp=Z,31nm,1.1s						
KBL	**Kabul**	**86.88**	**335**	P	**P**	**21 09 03.0**	**-1.8**
KBL				pmax	pmax		
	comp=Z,31nm,1.1s						
GTA	**Gaotai**	**87.35**	**0**	*e*P	**P**	**21 09 05.4**	**-1.4**
GTA				sP	pwP	21 09 13.8	+0.5
GTA				SKS	**SKSac**	**21 19 33.0**	**-1.1**
GTA				S	**S**	**21 19 49.3**	**+2.3**
GTA				SS	**SS**	**21 25 33.6**	**+1.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,280nm,5.8s						
GTA				LR	LR		
	comp=Z,2μm,20.7s						
GTA				LR	LR		
	comp=Z,1μm,20.7s						
GTA				LR	LR		
	comp=Z,3μm,20.0s						
JHJ	**Hachijo jima 2**	**88.70**	**33**	LR	LR	21 47 26.6	
	comp=Z,704nm,20.3s,baz=236,slow=35						
HRA	**Herat**	**88.82**	**330**	P	**P**	**21 09 13.3**	**-0.8**
HRA				IAmb	IAmb	21 09 26.5	
	comp=Z,40nm,2.0s						
BTO	**Baotou**	**89.03**	**8**	*e*P	**P**	**21 09 15.6**	**+0.9**
BTO				S	**S**	**21 20 01.6**	**-1.2**
BTO				pmax	pmax		
	comp=Z,21nm,1.0s						
BTO				pmax	pmax		
	comp=Z,540nm,5.6s						
BTO				LR	LR		
	comp=Z,7μm,23.5s						
BTO				LR	LR		
	comp=Z,4μm,20.4s						
BTO				LR	LR		
	comp=Z,9μm,19.8s						
KSAR	**Wonju Array Be**	**89.04**	**22**	P	**P**	**21 09 13.9**	**-0.8**
KSAR	**Wonju Array Be**	**89.04**	**22**	P	**P**	**21 09 13.9**	**-0.8**
KSRS	**Korea Array**	**89.06**	**22**	P	**P**	**21 09 14.4**	**-0.4**
	comp=Z,3.9nm,1.0s,baz=197,slow=4.1,SNR=12						
KSRS				LR	LR	21 52 41.0	
	comp=Z,411nm,18.0s,baz=220,slow=38						
	comp=Z,3.9nm,1.0s						
BJT	**Baijiatuau**	**89.18**	**13**	P	**P**	**21 09 17.9**	**+2.6**
BJT	**Baijiatuau**	**89.18**	**13**	P	**P**	**21 09 14.5**	**-0.8**
BJT				IAmb	IAmb	21 09 27.6	
	comp=Z,58nm,1.8s						
BJT	**Baijiatuau**	**89.18**	**13**	P	**P**	**21 09 14.5**	**-0.8**
BJT				pmax	pmax		
	comp=Z,58nm,1.8s						
BJT				MLR	MLR		
	comp=Z,2μm,21.0s						
BJI	**Beijing**	**89.21**	**13**	P	**P**	**21 09 15.4**	**0.0**
BJI				S	**S**	**21 20 05.4**	**+1.2**
BJI				SS	**SS**	**21 25 57.8**	**-1.5**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BJI				pmax	pmax		
	comp=Z,100nm,3.9s						
BJI				LR	LR		
	comp=Z,740nm,21.6s						
BJI				LR	LR		
	comp=Z,350nm,18.2s						
BJI				LR	LR		
	comp=Z,1μm,19.9s						
HHC	**Hu-ho-hao-te**	**89.42**	**9**	*e*P	**P**	**21 09 17.5**	**+0.9**
HHC				SKS	**SKSac**	**21 19 43.4**	**-3.0**
HHC				S	**S**	**21 20 05.0**	**-1.5**
HHC				SS	**SS**	**21 26 05.5**	**+2.8**
HHC				pmax	pmax		
	comp=Z,29nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
HHC				LR	LR		
	comp=Z,1μm,20.6s						
HHC				LR	LR		
	comp=Z,1μm,18.3s						
HHC				LR	LR		
	comp=Z,2μm,19.9s						
KSH	**Kashi**	**89.92**	**342**	P	**P**	**21 09 17.8**	**-1.2**
KSH				pP	sP	21 09 22.0	-0.1
KSH				S	**S**	**21 20 07.3**	**-4.0**
KSH				SS	**SS**	**21 26 11.3**	**+1.2**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KSH				LR	LR		
	comp=Z,1μm,22.3s						
KSH				LR	LR		
	comp=Z,2μm,19.9s						
KSH				LR	LR		
	comp=Z,1μm,20.6s						
PPT2	**Papeete2**	**90.19**	**117**	*e*S	**S**	**21 20 08.5**	**-6.4**
	comp=Z,351nm,25.2s						
PPT2				*e*SS	**SS**	**21 26 11.9**	**-1.2**
	comp=Z,2μm,30.8s						
PPT2				*e*LQ	LQ	21 34 06.8	
	comp=Z,4μm,29.0s						
PPT2				*e*LR	LR	21 38 02.9	
	comp=Z,3μm,25.0s						
PPT2				*e*LR	LR	21 38 05.6	
	comp=Z,2μm,26.0s						
PPT	**Papeete**	**90.21**	**117**	LR	LR	21 43 31.4	
	comp=Z,921nm,19.1s,baz=214,slow=31						
CHGR	**Chuyangaron**	**90.71**	**337**	P	**P**	**21 09 20.5**	**-2.1**
CHGR				IAmb	IAmb	21 09 33.5	
	comp=Z,40nm,1.5s						
CHGR	**Chuyangaron**	**90.71**	**337**	P	**P**	**21 09 20.5**	**-2.1**
CHGR				pmax	pmax		
	comp=Z,40nm,1.5s						
GAR	**Garm**	**90.73**	**338**	P	**P**	**21 09 20.9**	**-1.9**
SIMJ	**Simiganj**	**90.75**	**337**	P	**P**	**21 09 21.2**	**-1.6**
PLCA	**Paso Flores**	**90.90**	**188**	P	**P**	**21 09 23.6**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=200,slow=4.5,SNR=4.3						
PLCA				LR	LR	21 48 58.5	
	comp=Z,8μm,20.4s,baz=169,slow=35						
	comp=Z,4.2nm,0.9s						
MAJO	**Matsushiro**	**91.25**	**30**	P	**P**	**21 09 27.3**	**+2.2**
MAJO	**Matsushiro**	**91.25**	**30**	P	**P**	**21 09 23.3**	**-1.8**
MAJO				IAmb	IAmb	21 09 35.9	
	comp=Z,34nm,1.5s						
MAJO	**Matsushiro**	**91.25**	**30**	P	**P**	**21 09 23.3**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,34nm,1.5s						
MJAR	**Matsushiro Arr**	**91.25**	**30**	P	**P**	**21 09 24.3**	**-0.8**
	comp=Z,5.2nm,1.0s,baz=194,slow=5.9,SNR=13						
	comp=Z,5.2nm,1.0s						
MJB9	**Matsu-Tunnel**	**91.25**	**30**	P	**P**	**21 09 23.1**	**-2.0**
MJB9				IAmb	IAmb	21 09 35.9	
	comp=Z,31nm,1.5s						
MJA0	**Matsu Arr-Jizo**	**91.26**	**30**	*e*P	**P**	**21 09 24.2**	**-1.0**
MJA0				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WMQ	**Urumqi**	**92.34**	**351**	*e*P	**P**	**21 09 32.4**	**+2.3**
WMQ				sP	pwP	21 09 41.3	+4.8
WMQ				SKS	**SKSac**	**21 20 02.4**	**-0.5**
WMQ				S	**S**	**21 20 30.5**	**-2.5**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				LR	LR		
	comp=Z,2μm,15.5s						
WMQ				LR	LR		
	comp=Z,1μm,16.7s						
WMQ				LR	LR		
	comp=Z,4μm,24.5s						
SHLS	**Shalkode**	**92.79**	**345**	*e*P	**P**	**21 09 32.0**	**-0.2**
	comp=Z,9.4nm,1.0s,baz=345						
SHLS	**Shalkode**	**92.79**	**345**	*e*P	**P**	**21 09 32.0**	**-0.2**
SHLS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
UZB	**Uzynbulak**	**92.86**	**345**	*e*P	**P**	**21 09 33.0**	**+0.4**
	baz=345						
UZB	**Uzynbulak**	**92.86**	**345**	*e*P	**P**	**21 09 33.0**	**+0.4**
SATY	**Saty**	**92.88**	**345**	*e*P	**P**	**21 09 33.4**	**+0.8**
	baz=344						
SATY	**Saty**	**92.88**	**345**	*e*P	**P**	**21 09 33.4**	**+0.8**
XLT	**XiLinHaoTe**	**92.98**	**12**	*e*P	**P**	**21 09 32.3**	**-0.7**
XLT				SKS	**SKSac**	**21 20 06.8**	**+0.3**
XLT				SS	**SS**	**21 26 50.4**	**-3.6**
XLT				pmax	pmax		
	comp=Z,8.0nm,1.2s						
XLT				LR	LR		
	comp=Z,2μm,19.5s						
XLT				LR	LR		
	comp=Z,2μm,19.3s						
TNSS	**Tian-Shan**	**93.12**	**344**	*e*P	**P**	**21 09 34.6**	**+0.4**
	baz=343						
TNSS	**Tian-Shan**	**93.12**	**344**	*e*P	**P**	**21 09 34.5**	**+0.4**
KPKS	**Kokpek**	**93.23**	**345**	*e*P	**P**	**21 09 34.5**	**+0.3**
	baz=345						
KPKS	**Kokpek**	**93.23**	**345**	*e*P	**P**	**21 09 34.5**	**+0.3**
AAK	**Ala-Archa**	**93.23**	**342**	LR	LR	21 47 37.2	
	comp=Z,2μm,21.3s,baz=161,slow=33						
AAK	**Ala-Archa**	**93.23**	**342**	*i* P	**P**	**21 09 34.8**	**+0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MDOK	**Medeo**	**93.23**	**344**	*e*P	**P**	**21 09 35.3**	**+1.0**
	baz=343						
MDOK	**Medeo**	**93.23**	**344**	*e*P	**P**	**21 09 35.2**	**+1.0**
IUG	**Iuzhnay**	**93.77**	**338**	*e*P	**P**	**21 09 37.1**	**+0.3**
	baz=338						
IUG	**Iuzhnay**	**93.77**	**338**	*e*P	**P**	**21 09 37.0**	**+0.3**
SGDS	**Sogindy**	**93.98**	**342**	*e*P	**P**	**21 09 37.9**	**+0.3**
	baz=342						
SGDS	**Sogindy**	**93.98**	**342**	*e*P	**P**	**21 09 37.9**	**+0.3**
CN2	**Changchun**	**94.52**	**19**	*e*P	**P**	**21 09 40.5**	**+0.5**
CN2				*e*S	**S**	**21 20 45.1**	**-6.9**
CN2				SS	**SS**	**21 27 12.1**	**-3.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
CN2				LR	LR		
	comp=Z,800nm,16.0s						
CN2				LR	LR		
	comp=Z,600nm,14.1s						
KKAR	**Karatay Array**	**94.56**	**339**	P	**P**	**21 09 39.7**	**-0.5**
KKAR	**Karatay Array**	**94.56**	**339**	P	**P**	**21 09 39.7**	**-0.5**
BRLS	**Borolday**	**94.65**	**339**	*e*P	**P**	**21 09 40.5**	**-0.2**
	baz=338						
BRLS	**Borolday**	**94.65**	**339**	*e*P	**P**	**21 09 40.4**	**-0.2**
PSTR	**Posyet**	**94.69**	**23**	*i* P	**P**	**21 09 40.8**	**+0.1**
MSHR	**Mys Shultsa**	**94.71**	**23**	*i* P	**P**	**21 09 41.6**	**+0.7**
MSHR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TDK	**Taldyqorghan**	**94.77**	**345**	*e*P	**P**	**21 09 41.7**	**+0.6**
	comp=Z,7.2nm,1.1s,baz=345						
TDK	**Taldyqorghan**	**94.77**	**345**	*e*P	**P**	**21 09 41.6**	**+0.5**
TDK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BTLS	**Baital**	**95.62**	**342**	*e*P	**P**	**21 09 45.2**	**+0.2**
	baz=342						
BTLS	**Baital**	**95.62**	**342**	*e*P	**P**	**21 09 45.2**	**+0.2**
MKAR	**Makanchi Array**	**95.92**	**348**	P	**P**	**21 09 46.4**	**0.0**
	comp=Z,0.6nm,0.8s,baz=177,slow=6.1,SNR=4.2						
MKAR				LR	LR	21 49 39.1	
	comp=Z,3μm,21.7s,baz=178,slow=33						
MKAR	**Makanchi Array**	**95.92**	**348**	*e*P	**P**	**21 09 48.2**	**+1.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**95.95**	**5**	P	**P**	**21 09 45.9**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=197,slow=4.5,SNR=4.6						
SONM				LR	LR	21 52 54.3	
	comp=Z,2μm,19.6s,baz=178,slow=35						
	comp=Z,1.4nm,0.9s						
SONM	**Songino Array**	**95.95**	**5**	*e*P	**P**	**21 09 47.4**	**+0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MAKZ	**Makanchi**	**95.97**	**348**	IAMs_20	IAMs_20	21 49 28.1	
	comp=Z,2μm,22.0s						
ULN	**Ulaanbaatar**	**96.02**	**5**	IAMs_20	IAMs_20	21 50 40.0	
	comp=Z,2μm,21.0s						
ULN	**Ulaanbaatar**	**96.02**	**5**	*i* P	**P**	**21 09 47.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ZSN	**Zaisan**	**96.23**	**350**	*e*P	**P**	**21 09 48.5**	**+0.7**
	baz=350						
ZSN	**Zaisan**	**96.23**	**350**	*e*P	**P**	**21 09 48.4**	**+0.7**
USRK	**Ussuriysk Ar.**	**96.44**	**23**	LR	LR	21 56 37.5	
	comp=Z,554nm,18.5s,baz=203,slow=38						
EIL	**Elat**	**96.74**	**308**	LR	LR	21 46 59.7	
	comp=Z,2μm,19.9s,baz=144,slow=32						
GHAJ	**Ghor Haditha**	**97.72**	**309**	IAMs_20	IAMs_20	21 48 11.5	

comp=Z,3µm,19.0s
MMAI Mount Meron Ar 99.16 310 LR LR 21 47 47.4
comp=Z,2µm,21.7s,baz=88,slow=31
ASAJ Asahikawa 99.51 30 LR LR 21 52 53.5
comp=Z,475nm,21.8s,baz=200,slow=34
KURBB Kurchatov Arra 100.20 347 P **Pdif 21 10 03.7 -1.7**
comp=Z,1.1nm,1.1s,baz=178,slow=3.7,SNR=5.7
KURK Kurchatov 100.28 347 *i* P **Pdif 21 10 06.4 +0.6**
KURK pmax pmax
comp=Z,2.0nm,0.9s
CSS Mathiatis 101.75 310 IAMs_20 IAMs_20 21 52 51.2
comp=Z,2µm,18.0s
MAK Makhachkala 101.78 324 *i* P **Pdif 21 10 06.7 -6.0**
MAK *i* 21 14 30.5
MAK *e*PPP PPP 21 16 30.6
MAK *e* 21 20 45.4
MAK *e*PS **PS 21 23 25.7 -2.2**
MAK *e*SS SS 21 28 59.3 +1.4
MAK pmax pmax
comp=Z,79nm,1.2s
ZALV Zalesovo Beam 102.65 351 P **Pdif 21 10 14.4 -1.8**
comp=Z,0.4nm,0.4s,baz=211,slow=2.5,SNR=1.9
AC05 El Transito 102.66 189 IAMs_20 IAMs_20 21 56 35.4
comp=Z,2µm,18.0s
JOHN Johnston Islan 102.91 79 IAMs_20 IAMs_20 21 49 16.2
comp=Z,2µm,22.0s
BRVK Borovoye 104.02 342 IAMs_20 IAMs_20 21 52 27.8
comp=Z,2µm,22.0s
TORD Torodi Ar. Bea 104.89 273 PP **PP 21 14 45.7 -1.9**
comp=Z,0.7nm,0.9s,baz=134,slow=8.3,SNR=2.6
ANTO Ankara 105.82 313 IAMs_20 IAMs_20 21 54 48.7
comp=Z,2µm,19.0s
MIDW Midway 106.22 66 IAMs_20 IAMs_20 21 55 55.9
comp=Z,2µm,19.0s
ARU Arti 109.83 337 IAMs_20 IAMs_20 21 58 24.9
comp=Z,2µm,20.0s
WDD Wied Dalam 112.76 299 IAMs_20 IAMs_20 22 06 53.7
comp=Z,2µm,18.0s
RCBR Riachuelo 113.46 230 IAMs_20 IAMs_20 21 52 22.4
comp=Z,2µm,22.0s
KIEV Kiev 115.58 318 IAMs_20 IAMs_20 22 03 45.3
comp=Z,2µm,21.0s
OKC Ostrava-Krasne 120.18 312 AMS AMS 22 17 10.0
comp=Z,700nm,19.0s
KRLC Kraliky 121.01 312 AMS AMS 22 15 20.0
comp=Z,600nm,18.3s
TREC Trest 121.17 310 AMS AMS 22 17 00.0
comp=Z,1µm,18.0s
PABE Paberze 121.18 320 IAMs_20 IAMs_20 22 08 48.5
comp=Z,1µm,19.0s
DPC Dobruska-Polom 121.42 312 AMS AMS 22 20 40.0
comp=Z,700nm,20.3s
TIXI Tiksi 121.46 10 IAMs_20 IAMs_20 22 06 59.6
comp=Z,2µm,22.0s
CKRC Cesky Krumlov 121.47 309 AMS AMS 22 09 40.0
comp=Z,900nm,19.9s
GERES GERESS Array B 121.80 309 PKP **PKPdf 21 15 11.2 -2.3**
comp=Z,0.6nm,0.7s,baz=193,slow=1.7,SNR=5.0
GERES GERESS Array B 121.80 309 *e*PKIKP **PKiKP 21 15 15.2 +1.5**
GOPC GO Pecny, Ondr 121.91 311 AMS AMS 22 08 30.0
comp=Z,800nm,18.3s
KHC Kasperske Hory 122.04 309 AMS AMS 22 10 10.0
comp=Z,1µm,20.0s
PRU Pruhonice 122.08 311 AMS AMS 22 05 50.0
comp=Z,800nm,19.9s
PRA Prague 122.19 311 AMS AMS 22 08 50.0
comp=Z,700nm,18.4s
TUE Stuetta 122.66 305 IAMs_20 IAMs_20 22 12 58.2
comp=Z,1µm,20.0s
HSKC Hora Svate Kat 123.03 311 AMS AMS 22 15 40.0
comp=Z,800nm,18.5s
BNI Bardonecchia 123.29 302 IAMs_20 IAMs_20 22 13 58.0
comp=Z,1µm,18.0s
CART Cartagena 123.32 291 IAMs_20 IAMs_20 22 05 28.8
comp=Z,2µm,22.0s
CLL Collm 123.67 311 *e*P **Pdif 21 11 51.0 +1.2**
CLL *i* 21 15 17.3
CLL *e* 21 17 00.0
CLL pmax pmax
comp=Z,4.0nm,1.1s
CLL MLR MLR
comp=Z,700nm,19.5s
FINES FINESS Array B 124.17 326 PKP **PKPdf 21 15 15.8 -1.7**
comp=Z,3.5nm,0.9s,baz=132,slow=6.2,SNR=5.9
LVZ Lovozero 125.59 335 IAMs_20 IAMs_20 22 11 06.0
comp=Z,2µm,21.0s
ESDC Sonseca Array 126.42 291 PKP **PKPdf 21 15 21.8 -0.8**
comp=Z,1.7nm,1.0s,baz=92,slow=1.0,SNR=6.7
PAB San Pablo 126.59 291 IAMs_20 IAMs_20 22 13 48.4
comp=Z,1µm,18.0s
CLF Chambon-Foret 127.49 303 IAMs_20 IAMs_20 22 13 41.2
comp=Z,1µm,19.0s
PMRV Marv??o 128.43 289 *e*LQ LQ 21 51 39.6
PMRV *e*LR LR 21 58 27.1
comp=Z,1µm,27.1s
KEV Kevo 128.93 335 IAMs_20 IAMs_20 22 08 30.2
comp=Z,2µm,22.0s
MTE Manteigas 129.08 290 IAMs_20 IAMs_20 22 08 09.5
comp=Z,2µm,21.0s
MTE Manteigas 129.08 290 *e*LQ LQ 21 51 12.5
MTE *e*LR LR 21 58 47.5
comp=Z,2µm,22.9s
ARCES ARCESS Array B 129.23 334 *e*PKIKP **PKiKP 21 15 31.8 +4.1**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
COI Coimbra 129.52 289 IAMs_20 IAMs_20 22 09 42.1
comp=Z,1µm,20.0s
PMOZ Porto Moniz, M 130.88 276 *e*LR LR 21 59 33.8
comp=Z,3µm,18.8s
SLOR San Lorenzo - 131.12 183 IAMs_20 IAMs_20 22 08 22.3
comp=Z,1µm,19.0s
CNBA Chernabura Isl 132.85 51 IAMs_20 IAMs_20 22 09 03.2
comp=Z,1µm,21.0s
O14K Tigyukauivet M 133.92 45 IAMs_20 IAMs_20 22 12 58.0
comp=Z,1µm,20.0s
F14K Arctic Creek 134.16 35 P **PKiKP 21 15 38.8 +1.0**
baz=248
ANM Nome 134.20 37 IAMs_20 IAMs_20 22 13 43.2
comp=Z,1µm,20.0s
ANM Nome 134.20 37 P **PKiKP 21 15 39.4 +1.6**
baz=248
M15K Kasigluk River 134.75 43 P **PKiKP 21 15 40.3 +1.2**
baz=248
L15K Ungalak Mounta 134.76 42 P **PKiKP 21 15 40.2 +1.1**
baz=248
N15K Kwethluk River 134.82 44 IAMs_20 IAMs_20 22 14 39.9
comp=Z,1µm,20.0s
F15K North Star Dit 134.90 36 P **PKiKP 21 15 40.7 +1.5**
baz=250
K15K Wolf Creek Mou 134.97 41 P **PKiKP 21 15 40.7 +1.2**
baz=249
O16K Kokwok River B 135.55 45 IAMs_20 IAMs_20 22 09 05.1
comp=Z,1µm,22.0s
O16K Kokwok River B 135.55 45 P **PKiKP 21 15 42.0 +1.3**
baz=249
N16K Nishlik Lake 135.55 44 P **PKiKP 21 15 42.3 +1.5**
baz=249
M16K Timber Creek 135.66 43 P **PKiKP 21 15 41.1 +0.1**
baz=249
R17L Mt. Peulik Vol 135.66 48 P **PKiKP 21 15 41.6 +0.6**
baz=248
G16K Koyuk River 135.69 36 P **PKiKP 21 15 41.5 +0.6**
baz=251
J16K Anvik River 135.72 40 P **PKiKP 21 15 41.2 +0.2**
baz=250
I17K Unalakleet 135.88 39 IAMs_20 IAMs_20 22 14 49.5
comp=Z,1µm,21.0s
O17K Koliganek Bris 136.08 45 P **PKiKP 21 15 42.1 +0.3**
baz=249
Q17K Contact Creek 136.13 48 P **PKiKP 21 15 41.9 -0.2**
baz=249
D17K Noatak River 136.13 33 P **PKiKP 21 15 42.0 +0.3**
baz=253
N17K Nushagak Hills 136.30 44 IAMs_20 IAMs_20 22 11 03.0
comp=Z,1µm,22.0s
N17K Nushagak Hills 136.30 44 P **PKiKP 21 15 41.9 -0.4**
baz=250
RDOG Red Dog Mine 136.30 33 IAMs_20 IAMs_20 22 13 44.5
comp=Z,1µm,22.0s
C17K DeLong Mountai 136.33 32 P **PKiKP 21 15 42.3 +0.2**
baz=254
L17K Donlin 136.34 42 P **PKiKP 21 15 42.3 0.0**
baz=251
SII Sitkinak Islan 136.36 50 IAMs_20 IAMs_20 22 25 31.8
comp=Z,1µm,19.0s
J17K VABM Dome 136.40 40 IAMs_20 IAMs_20 22 27 23.4
comp=Z,1µm,18.0s
G17K Kiwalik Mounta 136.40 37 P **PKiKP 21 15 42.8 +0.5**
baz=252
F17K Baldwin Pennin 136.45 35 IAMs_20 IAMs_20 22 15 29.6
comp=Z,1µm,20.0s
M17K Holitna River 136.48 43 P **PKiKP 21 15 42.9 +0.3**
baz=251
K17K Iditarod 136.52 41 P **PKiKP 21 15 43.1 +0.5**
baz=252
H17K Granite Mounta 136.53 37 P **PKiKP 21 15 42.7 +0.1**
baz=252
Q18K Katmai Hardscr 136.70 47 P **PKiKP 21 15 43.4 +0.1**
baz=250
N18K Kilae Creek 136.96 44 P **PKiKP 21 15 43.7 0.0**
baz=251
E18K Tukpahlearik C 136.97 34 IAMs_20 IAMs_20 22 18 56.1
comp=Z,1µm,21.0s
E18K Tukpahlearik C 136.97 34 P **PKiKP 21 15 43.9 +0.5**
baz=254
O18K Koktuli Hills 137.01 46 IAMs_20 IAMs_20 22 12 38.7
comp=Z,1µm,21.0s
B18K Kokolik River 137.04 31 P **PKiKP 21 15 43.6 +0.1**
baz=256
OHAK Old Harbor 137.06 50 P **PKiKP 21 15 44.2 +0.3**
baz=249
C18K Utukok River 137.08 32 IAMs_20 IAMs_20 22 25 14.9
comp=Z,2µm,20.0s
C18K Utukok River 137.08 32 P **PKiKP 21 15 43.9 +0.2**
baz=255
F18K Selawik 137.11 35 P **PKiKP 21 15 44.1 +0.4**
baz=254
H18K Honhosa River 137.22 37 IAMs_20 IAMs_20 22 15 46.0
comp=Z,1µm,22.0s
M18K Stony River 137.24 43 P **PKiKP 21 15 45.0 +0.9**
baz=252
J18K Innoko River 137.44 40 P **PKiKP 21 15 45.5 +0.9**
baz=253
Q19K Cape Douglas, 137.46 47 IAMs_20 IAMs_20 22 11 06.7
comp=Z,2µm,22.0s
TTA Tatalina 137.59 41 P **PKiKP 21 15 46.3 +1.4**
baz=253
N19K Bonanza Creek 137.65 44 IAMs_20 IAMs_20 22 13 27.7
comp=Z,1µm,20.0s
N19K Bonanza Creek 137.65 44 P **PKiKP 21 15 46.3 +1.2**
baz=252
C19K Lookout Ridge 137.75 32 IAMs_20 IAMs_20 22 23 09.7
comp=Z,1µm,20.0s
C19K Lookout Ridge 137.75 32 P **PKiKP 21 15 46.6 +1.6**
baz=257
L19K White Mountain 137.89 42 IAMs_20 IAMs_20 22 14 33.8
comp=Z,1µm,20.0s
L19K White Mountain 137.89 42 P **PKiKP 21 15 46.3 +0.8**
baz=254
F19K Shaleruckik Mo 137.89 35 P **PKiKP 21 15 46.3 +1.0**
baz=256
SYI Shuyak Island 137.97 48 IAMs_20 IAMs_20 22 13 42.4
comp=Z,1µm,20.0s
G19K Purcell Mounta 137.99 36 PKPdf **PKPdf 21 15 43.5 -0.1**
G19K IAMs_20 IAMs_20 22 26 02.3
comp=Z,1000nm,19.0s
G19K Purcell Mounta 137.99 36 P **PKiKP 21 15 45.8 +0.2**
baz=256
M19K Big River Lodg 138.02 43 P **PKiKP 21 15 46.0 +0.3**
baz=254
J19K Poorman 138.05 40 IAMs_20 IAMs_20 22 16 27.0
comp=Z,1µm,20.0s
J19K Poorman 138.05 40 P **PKiKP 21 15 46.5 +0.7**
baz=255
H19K Roundabout Mou 138.09 37 PKPdf **PKPdf 21 15 44.1 +0.4**
H19K IAMs_20 IAMs_20 22 15 24.1
comp=Z,1µm,20.0s
H19K Roundabout Mou 138.09 37 P **PKiKP 21 15 45.7 0.0**
baz=256
D19K Kuna River 138.14 33 IAMs_20 IAMs_20 22 25 06.0
comp=Z,1µm,20.0s
D19K Kuna River 138.14 33 P **PKiKP 21 15 45.6 -0.2**
baz=258
E19K Redstone River 138.24 34 IAMs_20 IAMs_20 22 21 10.7
comp=Z,1µm,22.0s
E19K Redstone River 138.24 34 P **PKiKP 21 15 45.7 -0.4**
baz=257
L20K Farewell, AK 138.41 42 P **PKPdf 21 15 45.8 +1.4**
baz=254
K20K Telida 138.55 41 P **PKPdf 21 15 45.4 +0.8**
baz=255
M20K Styx River 138.59 43 IAMs_20 IAMs_20 22 13 33.3
comp=Z,1µm,22.0s
M20K Styx River 138.59 43 P **PKPdf 21 15 45.6 +0.7**
baz=254
HOM Homer 138.66 47 IAMs_20 IAMs_20 22 12 17.4
comp=Z,1µm,22.0s
H20K Anotleneega Mo 138.72 38 P **PKPdf 21 15 46.0 +1.0**
baz=257
J20K Nowinta River 138.72 40 IAMs_20 IAMs_20 22 27 44.8
comp=Z,954nm,19.0s
J20K Nowinta River 138.72 40 P **PKPdf 21 15 45.9 +0.9**
baz=256
D20K Etivluk River 138.72 33 P **PKPdf 21 15 45.8 +0.9**
baz=259
F20K Avaraart Lake 138.72 35 IAMs_20 IAMs_20 22 26 08.7
comp=Z,1µm,20.0s
F20K Avaraart Lake 138.72 35 P **PKPdf 21 15 45.1 +0.2**
baz=258
B20K Meade River 138.76 31 IAMs_20 IAMs_20 22 27 59.5
comp=Z,1µm,19.0s
E20K Nigu River 138.79 33 P **PKPdf 21 15 46.1 +1.1**
baz=259
CNPM China Poot 138.82 47 IAMs_20 IAMs_20 22 10 17.7
comp=Z,1µm,22.0s
BRLK Bradley Lake 139.06 47 IAMs_20 IAMs_20 22 11 11.7
comp=Z,1µm,22.0s
BRSE Bradley Lake S 139.12 47 P **PKPdf 21 15 47.1 +1.3**
baz=254
CAPN Captain Cook N 139.21 45 IAMs_20 IAMs_20 22 10 53.8
comp=Z,1µm,22.0s
PPLA Purkeypile 139.27 42 P **PKPdf 21 15 46.8 +0.7**
baz=256
SKT Skwentna 139.34 43 IAMs_20 IAMs_20 22 14 04.3
comp=Z,2µm,21.0s
SKT Skwentna 139.34 43 P **PKiKP 21 15 48.0 -0.5**
baz=256
CHUM Lake Minchumin 139.44 40 P **PKiKP 21 15 47.9 -0.6**
baz=257
C21K Knifeblade Rid 139.45 32 P **PKiKP 21 15 48.7 +0.2**
baz=261
G21K Allakaket 139.48 36 IAMs_20 IAMs_20 22 26 38.8
comp=Z,1µm,20.0s
G21K Allakaket 139.48 36 P **PKPdf 21 15 47.3 +1.1**
baz=259
SUA Susitna One 139.58 44 IAMs_20 IAMs_20 22 11 55.6
comp=Z,1µm,22.0s
SUA Susitna One 139.58 44 P **PKPdf 21 15 47.8 +1.1**
baz=256
B21K Ikpikpuk River 139.58 31 IAMs_20 IAMs_20 22 22 34.0
comp=Z,1µm,21.0s
B21K Ikpikpuk River 139.58 31 P **PKPdf 21 15 47.6 +1.3**
baz=262
H21K Melozitna Rive 139.60 38 IAMs_20 IAMs_20 22 27 05.9
comp=Z,1µm,20.0s
H21K Melozitna Rive 139.60 38 P **PKiKP 21 15 48.7 -0.2**
baz=259
F21K Alatna River 139.62 35 IAMs_20 IAMs_20 22 25 29.3
comp=Z,1µm,20.0s
F21K Alatna River 139.62 35 P **PKiKP 21 15 49.2 +0.3**
baz=260
E21K Killik River 139.63 33 P **PKiKP 21 15 48.3 -0.6**
baz=261
FIS Fire Island 139.74 45 IAMs_20 IAMs_20 22 11 42.0
comp=Z,1µm,22.0s
O22K Cooper Landing 139.81 46 IAMs_20 IAMs_20 22 13 47.9
comp=Z,1µm,21.0s
I21K Tanana 139.85 38 **PKPdf 21 15 47.4 +0.5**
I21K IAMs_20 IAMs_20 22 27 22.0
comp=Z,1µm,20.0s
I21K Tanana 139.85 38 P **PKiKP 21 15 48.6 -0.7**
baz=259
M22K Willow 139.94 44 IAMs_20 IAMs_20 22 29 41.1
comp=Z,1µm,19.0s
RC01 Rabbit Creek A 139.96 45 P **PKiKP 21 15 49.1 -0.6**
baz=256
KTH Kantishna Hill 139.97 41 IAMs_20 IAMs_20 22 15 52.4
comp=Z,1µm,20.0s
CUT Chulitna 140.02 43 IAMs_20 IAMs_20 22 14 59.2
comp=Z,2µm,21.0s
BPAW Bear Paw Mtn. 140.06 40 IAMs_20 IAMs_20 22 27 44.1
comp=Z,1µm,20.0s
BPAW Bear Paw Mtn. 140.06 40 P **PKiKP 21 15 49.5 -0.4**
baz=259
B22K Teshekpuk Lake 140.07 30 IAMs_20 IAMs_20 22 20 57.2
comp=Z,1µm,20.0s
B22K Teshekpuk Lake 140.07 30 P **PKiKP 21 15 49.8 +0.1**
baz=264
D22K Ayikyak River 140.16 33 IAMs_20 IAMs_20 22 25 16.5
comp=Z,2µm,20.0s
D22K Ayikyak River 140.16 33 P **PKiKP 21 15 49.9 0.0**
baz=263
F22K John River 140.16 35 P **PKiKP 21 15 49.8 -0.2**
baz=262
H22K Ishtalitna Cre 140.22 37 P **PKiKP 21 15 50.7 +0.6**
baz=260
G22K Bettles 140.33 36 P **PKiKP 21 15 51.3 +1.0**
baz=262
MLY Manley 140.34 39 **PKPdf 21 15 48.5 +0.5**
MLY Manley 140.34 39 P **PKiKP 21 15 51.3 +0.8**
baz=260
GHO Glory Hole Cre 140.50 44 IAMs_20 IAMs_20 22 12 32.8
comp=Z,1µm,22.0s
BRU2 Volcan 140.56 177 IAMs_20 IAMs_20 22 07 27.2
comp=Z,2µm,22.0s
PWL Port Wells 140.57 46 IAMs_20 IAMs_20 22 18 54.9
comp=Z,930nm,19.0s
KNK Knik Glacier 140.63 45 IAMs_20 IAMs_20 22 19 01.5
comp=Z,969nm,20.0s
GRGR Grenville 140.66 210 IAMs_20 IAMs_20 22 21 26.0
comp=Z,1µm,19.0s
BWN Browne 140.73 40 IAMs_20 IAMs_20 22 28 37.7
comp=Z,1µm,19.0s
SML Sawmill 140.78 44 P **PKiKP 21 15 52.0 +0.6**
baz=258
P23K Montague Islan 140.82 47 P **PKiKP 21 15 52.2 +0.7**
baz=256
RND Reindeer 140.86 42 IAMs_20 IAMs_20 22 15 31.2
comp=Z,1µm,21.0s
MCK McKinley 140.88 41 P **PKiKP 21 15 52.4 +0.9**
baz=260
COLD Coldfoot 140.88 35 P **PKiKP 21 15 52.6 +1.1**
baz=263
WAT1 Susitna Watana 140.88 42 P **PKiKP 21 15 52.7 +1.1**
baz=259
G23K Bananza Creek 140.89 36 IAMs_20 IAMs_20 22 20 04.9
comp=Z,1µm,21.0s
H23K Yukon River 140.96 38 IAMs_20 IAMs_20 22 28 45.8
comp=Z,1µm,20.0s
BCIP Isla Barro Col 140.98 181 IAMs_20 IAMs_20 22 11 46.4
comp=Z,1µm,19.0s
C23K Itkillik River 140.99 31 IAMs_20 IAMs_20 22 21 30.3
comp=Z,1µm,20.0s
C23K Itkillik River 140.99 31 P **PKiKP 21 15 53.5 +2.0**
baz=266
GLI Glacier Island 141.16 46 P **PKiKP 21 15 53.1 +0.9**
baz=258
E23K Chandalar 141.20 34 P **PKiKP 21 15 53.2 +1.0**
baz=264
Q23K Middleton Isla 141.20 48 P **PKiKP 21 15 52.8 +0.5**
baz=256
WAT6 Susitna Watana 141.20 43 P **PKiKP 21 15 53.2 +0.7**
baz=259
SCM Sheep Creek Mo 141.25 44 P **PKiKP 21 15 53.4 +1.0**
baz=259
TOLK Toolik Lake Re 141.26 33 IAMs_20 IAMs_20 22 24 57.6
comp=Z,1µm,20.0s
TOLK Toolik Lake Re 141.26 33 P **PKiKP 21 15 52.9 +0.7**
baz=265
HIN Hinchinbrook I 141.35 47 IAMs_20 IAMs_20 22 16 42.5
comp=Z,1µm,20.0s
WRH Wood River Hil 141.37 40 IAMs_20 IAMs_20 22 17 57.7
comp=Z,1µm,20.0s
FID Port Fidalgo 141.43 46 IAMs_20 IAMs_20 22 27 09.1
comp=Z,1µm,20.0s
LCR2 La Lucha 2 141.44 174 IAMs_20 IAMs_20 22 09 12.1
comp=Z,2µm,21.0s
DHY Denali Highway 141.46 42 P **PKiKP 21 15 53.2 +0.3**
baz=260
CCB Clear Creek Bu 141.51 40 IAMs_20 IAMs_20 22 18 23.6
comp=Z,1µm,20.0s
COLA College 141.53 39 IAMs_20 IAMs_20 22 19 42.8
comp=Z,1µm,20.0s
D24K Happy Valley 141.57 32 IAMs_20 IAMs_20 22 22 31.7
comp=Z,1µm,22.0s
E24K Your Creek 141.62 34 IAMs_20 IAMs_20 22 25 17.0
comp=Z,1µm,20.0s
H24K Noodor Dome 141.64 38 IAMs_20 IAMs_20 22 30 21.8
comp=Z,1µm,19.0s
POKR Poker Plat Res 141.74 39 IAMs_20 IAMs_20 22 17 07.4
comp=Z,1µm,21.0s
F24K Squaw Lake 141.80 35 IAMs_20 IAMs_20 22 17 58.0
comp=Z,1µm,20.0s
KLU Klutina 141.84 45 P **PKiKP 21 15 53.9 +0.2**
baz=259
G24K Hadweenzic Riv 141.89 36 IAMs_20 IAMs_20 22 23 25.5
comp=Z,1µm,20.0s
ILAR Eielson Array 141.92 40 PKhKP PKPpre 21 15 43.1
comp=Z,1.3nm,1.0s,baz=268,slow=4.6,SNR=8.2
ILAR Eielson Array 141.92 40 *e*PKIKP **PKiKP 21 15 52.7 -0.9**
RAGM Ragged Mountai 142.23 47 IAMs_20 IAMs_20 22 27 59.9
comp=Z,1µm,20.0s
PAX Paxson 142.30 43 P **PKPdf 21 15 50.5 -1.1**
baz=262
HARP HAARP 142.35 44 P **PKPdf 21 15 51.0 -0.6**
baz=261
BMRM Bremner River 142.37 46 P **PKPdf 21 15 50.6 -1.1**
baz=260
HMT Hamilton 142.43 47 IAMs_20 IAMs_20 22 29 29.0
comp=Z,1µm,20.0s
G25K Bearman Lake 142.44 36 P **PKPdf 21 15 50.8 -0.8**
baz=266
D25K Kavik River 142.45 32 P **PKPdf 21 15 50.8 -0.8**
baz=269
N25K Chitina, Valde 142.49 45 P **PKPdf 21 15 50.8 -1.1**
baz=260
H25L Birch Creek 142.52 37 P **PKPdf 21 15 50.4 -1.3**
baz=266
J25K Salcha River, 142.55 40 IAMs_20 IAMs_20 22 18 51.0
comp=Z,1µm,20.0s
J25K Salcha River, 142.55 40 P **PKPdf 21 15 50.1 -1.8**
baz=264
PRP Porcupine Dome 142.58 38 IAMs_20 IAMs_20 22 20 08.6
comp=Z,1µm,20.0s
PRP Porcupine Dome 142.58 38 P **PKPdf 21 15 50.6 -1.4**
baz=265
F25K Christian Rive 142.67 35 P **PKPdf 21 15 50.6 -1.5**
baz=268
BIM Bigot 142.68 212 IAMs_20 IAMs_20 22 22 09.7
comp=Z,1µm,21.0s
FYU Fort Yukon 142.77 37 IAMs_20 IAMs_20 22 21 31.8
comp=Z,1µm,21.0s
GLB Gilahina Butte 142.83 45 IAMs_20 IAMs_20 22 31 36.7
comp=Z,1µm,21.0s
ILAM Ilet Lapin Mar 142.85 212 IAMs_20 IAMs_20 22 22 31.2
comp=Z,1µm,19.0s
BGLC Bering Glacier 142.86 48 P **PKPdf 21 15 51.2 -1.2**
baz=260
DAG Danmarks Havn 142.87 340 *i* P **PKPdf 21 15 49.0 -3.1**
FDF Fort de France 142.91 212 IAMs_20 IAMs_20 22 22 53.7
comp=Z,1µm,21.0s
C26K Camden Bay 142.96 31 P **PKPdf 21 15 51.9 -0.5**
baz=271
VRDI Verde Repeater 142.97 46 IAMs_20 IAMs_20 22 13 16.3
comp=Z,1µm,22.0s
CRQM Cirque 143.04 47 IAMs_20 IAMs_20 22 28 16.0
comp=Z,1µm,20.0s
CRQE Cirque 143.07 47 P **PKPdf 21 15 52.2 -0.9**
baz=261
SCRK Sand Creek 143.09 41 IAMs_20 IAMs_20 22 16 48.1
comp=Z,2µm,20.0s
SCRK Sand Creek 143.09 41 P **PKPdf 21 15 51.9 -1.1**
baz=264
SNH Sunshine Point 143.09 48 IAMs_20 IAMs_20 22 24 12.7
comp=Z,1µm,18.0s
WAX Waxell Ridge 143.13 47 IAMs_20 IAMs_20 22 28 25.7
comp=Z,1µm,20.0s
TGL Tana Glacier 143.19 47 IAMs_20 IAMs_20 22 30 56.3
comp=Z,1µm,20.0s
F26K Sheenjek River 143.24 35 P **PKPdf 21 15 52.0 -1.0**
baz=269
L26K Log Cabin Wild 143.26 43 IAMs_20 IAMs_20 22 30 03.0
comp=Z,1µm,18.0s
J26L Joseph Creek 143.32 40 IAMs_20 IAMs_20 22 19 48.2
comp=Z,1µm,20.0s
J26L Joseph Creek 143.32 40 P PKPbc 21 15 52.3 +1.8
baz=265
M26K Nabesna, AK 143.35 44 PKPdf **PKPdf 21 15 52.4 -1.0**
M26K IAMs_20 IAMs_20 22 23 42.3
comp=Z,938nm,20.0s
M26K Nabesna, AK 143.35 44 P PKPbc 21 15 51.6 +1.0
baz=263
G26K Porcupine Rive 143.37 36 P **PKPdf 21 15 52.8 -0.4**
baz=268

C27K	Jago River baz=272	143.39	32	P		PKPdf	21 15 52.2	-1.0
ISLE	Juniper Island comp=Z,987nm,19.0s	143.41	47	IAMs_20		IAMs_20	22 24 37.0	
MESA	MESA comp=Z,1µm,20.0s	143.53	48	IAMs_20		IAMs_20	22 20 34.3	
I26K	Coal Creek Min comp=Z,1µm,20.0s	143.55	39	IAMs_20		IAMs_20	22 19 25.3	
I26K	Coal Creek Min baz=267	143.55	39	P		PKPdf	21 15 52.7	-0.9
GRNC	Granite Creek comp=Z,1µm,19.0s	143.71	47	IAMs_20		IAMs_20	22 23 29.0	
DBG	Daneborg	143.77	336	*i* P		PKPbc	21 15 52.0	+0.6
M27K	Edge Creek, AK comp=Z,1µm,19.0s	143.86	44	IAMs_20		IAMs_20	22 28 26.9	
M27K	Edge Creek, AK baz=264	143.86	44	P		PKPbc	21 15 53.6	+1.4
K27K	Chicken comp=Z,2µm,22.0s	143.93	41	IAMs_20		IAMs_20	22 14 54.9	
K27K	Chicken baz=266	143.93	41	P		PKPbc	21 15 52.9	+0.7
CTG	Chitna Glacier baz=262	143.95	46	P		PKPbc	21 15 53.7	+1.2
CTGM	Chitina Glacie comp=Z,919nm,19.0s	143.95	46	IAMs_20		IAMs_20	22 23 57.2	
L27K	Beaver Creek,	143.96	43	PKPdf		PKPbc	21 15 52.5	+0.2
L27K	Beaver Creek, baz=265	143.96	43	P		PKPbc	21 15 53.0	+0.7
BCAR	Beaver Creek A	143.98	43	PKPdf		PKPbc	21 15 52.6	+0.2
E27K	Coleen River comp=Z,1µm,20.0s	144.20	34	IAMs_20		IAMs_20	22 24 04.3	
E27K	Coleen River baz=272	144.20	34	P		PKPab	21 15 52.9	+0.3
I27K	Kandik River baz=268	144.20	38	P		PKPbc	21 15 53.3	+0.3
G27K	Doyon Strip	144.21	36			PKPab	21 15 52.5	-0.1
G27K	comp=Z,2µm,19.0s			IAMs_20		IAMs_20	22 29 35.6	
G27K	Doyon Strip baz=270	144.21	36	P		PKPbc	21 15 53.2	+0.2
H27K	Steamboat Moun baz=269	144.25	37	P		PKPab	21 15 52.7	-0.1
GDSD	La Dsirade Is comp=Z,1µm,22.0s	144.34	213	IAMs_20		IAMs_20	22 20 41.6	
PINM	Pinnacle baz=262	144.36	48	P		PKPab	21 15 53.8	+0.4
EGAK	Eagle	144.37	40			PKPab	21 15 52.6	-0.6
EGAK	comp=Z,1µm,20.0s			IAMs_20		IAMs_20	22 27 14.0	
EGAK	Eagle baz=268	144.37	40	P		PKPab	21 15 53.1	-0.1
D27M	Malcolm River comp=Z,2µm,22.0s	144.38	32	IAMs_20		IAMs_20	22 19 37.8	
D27M	Malcolm River baz=274	144.38	32	P		PKPab	21 15 53.4	+0.2
YUK3	Moose Creek baz=264,SNR=11	144.47	45	P		PKPab	21 15 53.8	-0.2
O28M	Mount Upton baz=263	144.48	47	P		PKPab	21 15 53.6	-0.5
GDHS	Morne Mazeau,	144.55	212			PKPab	21 15 54.5	-0.8
GDHS	comp=Z,1µm,22.0s			IAMs_20		IAMs_20	22 23 02.6	
ABD	La Joyeuse, An comp=Z,1µm,19.0s	144.64	213	IAMs_20		IAMs_20	22 21 23.6	
BCPM	Bancas Point comp=Z,1µm,20.0s	144.65	48	IAMs_20		IAMs_20	22 16 29.8	
PNL	Peninsula baz=262,SNR=9.2	144.72	49	P		PKPab	21 15 53.6	-1.1
YUK8	Steele Glacier baz=264	144.75	46	P		PKPab	21 15 53.8	-1.2
F28M	Old Crow baz=273,SNR=27	144.88	35	P		PKPab	21 15 53.9	-1.1
I28M	Miner Creek comp=Z,1µm,19.0s	144.90	39	IAMs_20		IAMs_20	22 27 21.0	
I28M	Miner Creek baz=270,SNR=76	144.90	39	P		PKPab	21 15 54.5	-0.8
SCO	Scoresbysund	144.93	330			PKPdf	21 15 56.1	+0.3
SCO	Scoresbysund	144.93	330	PKIKP		PKPdf	21 15 56.1	+0.3
SCO	comp=Z,2µm,22.0s			MLR		MLR		
SCO	Scoresbysund	144.93	330	*i* P		PKiKP	21 15 58.6	-1.1
E28M	Babbage River comp=Z,1µm,18.0s	144.94	33	IAMs_20		IAMs_20	22 31 45.1	
E28M	Babbage River baz=275,SNR=48	144.94	33	P		PKPab	21 15 54.6	-0.6
DAWY	Dawson	145.11	41			PKPbc	21 15 54.5	-1.4
DAWY	Dawson baz=268,SNR=27	145.11	41	P		PKPbc	21 15 55.2	-0.7
D28M	Stokes Point baz=276,SNR=12	145.16	32	P		PKPbc	21 15 55.8	-0.1
O29M	Mount Kennedy comp=Z,1µm,20.0s	145.22	48	IAMs_20		IAMs_20	22 17 12.8	
O29M	Mount Kennedy baz=264,SNR=14	145.22	48	P		PKPbc	21 15 56.0	-0.5
YUK4	Talbot Arm baz=265,SNR=8.1	145.29	46	P		PKPbc	21 15 56.6	-0.3
TGUH	Tegucigalpa,Un comp=Z,1µm,19.0s	145.38	168	IAMs_20		IAMs_20	22 13 04.2	
MTO3	Montecristo	145.39	165			PKPbc	21 15 55.6	-2.9
YUK6	Outpost Mounta baz=265,SNR=9.9	145.39	47	P		PKPbc	21 15 57.0	-0.2
M29M	Somme Creek comp=Z,1µm,20.0s	145.46	44	IAMs_20		IAMs_20	22 30 58.0	
M29M	Somme Creek baz=267,SNR=42	145.46	44	P		PKPdf	21 15 56.8	-0.3
H29M	Whitestone comp=Z,1µm,19.0s	145.53	37	IAMs_20		IAMs_20	22 29 02.8	
H29M	Whitestone baz=272,SNR=20	145.53	37	P		PKPdf	21 15 57.2	+0.1
P29M	Windy Craggy comp=Z,1µm,21.0s	145.56	49	IAMs_20		IAMs_20	22 16 22.9	
P29M	Windy Craggy baz=263,SNR=18	145.56	49	P		PKPdf	21 15 57.5	+0.2
E29M	Blow River comp=Z,1µm,21.0s	145.56	34	IAMs_20		IAMs_20	22 24 54.5	
E29M	Blow River baz=276,SNR=30	145.56	34	P		PKPdf	21 15 56.9	-0.1
I29M	Ogilvie Camp, comp=Z,1µm,22.0s	145.58	39	IAMs_20		IAMs_20	22 26 22.1	
I29M	Ogilvie Camp, baz=271	145.58	39	P		PKPdf	21 15 57.1	0.0
J29N	Klondike Camp comp=Z,1µm,21.0s	145.63	41	IAMs_20		IAMs_20	22 16 54.4	
J29N	Klondike Camp baz=270	145.63	41	P		PKPdf	21 15 56.9	-0.4
G29M	Pine Creek comp=Z,1µm,21.0s	145.64	36	IAMs_20		IAMs_20	22 19 56.5	
G29M	Pine Creek baz=274,SNR=24	145.64	36	P		PKPdf	21 15 56.5	-0.6
L29M	L29M comp=Z,1µm,19.0s	145.64	43	IAMs_20		IAMs_20	22 28 14.9	
L29M	L29M baz=268,SNR=63	145.64	43	P		PKPdf	21 15 57.5	+0.1
K29M	Barlow Dome comp=Z,1µm,20.0s	145.93	42	IAMs_20		IAMs_20	22 26 02.3	
K29M	Barlow Dome baz=270,SNR=31	145.93	42	P		PKPdf	21 15 58.3	+0.4
P30M	Million Dollar baz=264	146.00	48	P		PKPdf	21 15 58.2	+0.1
N30M	Aishikik Lake comp=Z,1µm,21.0s	146.04	46	IAMs_20		IAMs_20	22 31 02.6	
N30M	Aishikik Lake baz=266,SNR=21	146.04	46	P		PKPdf	21 15 58.5	+0.4
SEUS	St. Eustatius comp=Z,2µm,22.0s	146.10	211	IAMs_20		IAMs_20	22 21 35.6	
S31K	Pelican comp=Z,1µm,20.0s	146.11	52	IAMs_20		IAMs_20	22 15 31.9	
S31K	Pelican baz=262	146.11	52	P		PKPdf	21 15 58.2	0.0
EPYK	Eagle Plains	146.19	37			PKPdf	21 15 57.6	-0.5
EPYK	Eagle Plains baz=274,SNR=14	146.19	37	P		PKPdf	21 15 58.2	0.0
PLBC	Pleasant Camp baz=264	146.23	50	P		PKPdf	21 15 58.6	+0.2
M30M	Minto, Yukon comp=Z,943nm,20.0s	146.24	44	IAMs_20		IAMs_20	22 26 26.0	
M30M	Minto, Yukon baz=268	146.24	44	P		PKPdf	21 15 58.2	-0.1
G30M	tAoh Zraii Nji comp=Z,1µm,22.0s	146.34	36	IAMs_20		IAMs_20	22 19 44.0	
G30M	tAoh Zraii Nji baz=275,SNR=16	146.34	36	P		PKPdf	21 15 58.5	0.0
I30M	Mount Dempster comp=Z,1µm,19.0s	146.40	39	IAMs_20		IAMs_20	22 27 35.7	
I30M	Mount Dempster baz=273,SNR=19	146.40	39	P		PKPdf	21 15 58.5	-0.2
F30M	Barrier River baz=277,SNR=18	146.44	35	P		PKPbc	21 15 59.6	-0.3
J30M	Hart River	146.44	40	PKPdf		PKPdf	21 15 58.5	-0.3
J30M	comp=Z,2µm,21.0s			IAMs_20		IAMs_20	22 26 33.8	
J30M	Hart River baz=272,SNR=46	146.44	40	P		PKPdf	21 15 59.5	+0.7
SIT	Sitka baz=261	146.47	54	P		PKPdf	21 15 59.7	+0.9
O30N	Mendenhall comp=Z,1µm,20.0s	146.48	47	IAMs_20		IAMs_20	22 17 52.3	
O30N	Mendenhall baz=266,SNR=17	146.48	47	P		PKPdf	21 15 59.8	+0.9
CCIG	Comitan comp=Z,2µm,20.0s	146.64	159	IAMs_20		IAMs_20	22 15 47.7	
MAYO	Mayo, Yukon comp=Z,1µm,21.0s	146.66	42	IAMs_20		IAMs_20	22 24 13.5	
N31M	Braeburn, Yuko comp=Z,1µm,20.0s	146.67	46	IAMs_20		IAMs_20	22 19 17.2	
N31M	Braeburn, Yuko baz=268,SNR=15	146.67	46	P		PKPdf	21 16 00.1	+1.0
SKAG	Skagway baz=265,SNR=6.5	146.76	50	P		PKPdf	21 16 00.1	+0.9
S32K	Killisnoo baz=262	146.93	53	P		PKPdf	21 16 00.5	+0.9
R32K	Eaglecrest baz=264	147.06	52	P		PKPdf	21 16 00.4	+0.5
G31M	Satah River comp=Z,1µm,22.0s	147.11	36	IAMs_20		IAMs_20	22 23 41.4	
G31M	Satah River baz=277,SNR=17	147.11	36	P		PKPdf	21 16 00.8	+1.1
INK	Inuvik comp=Z,1µm,21.0s	147.18	33	IAMs_20		IAMs_20	22 21 36.2	
INK	Inuvik baz=280,SNR=8.2	147.18	33	P		PKPdf	21 16 00.6	+0.9
SNCC	San Nicolas Is baz=231	147.21	103	P		PKPdf	21 16 00.9	0.0
F31M	Tsiigehtchic comp=Z,908nm,19.0s	147.24	35	IAMs_20		IAMs_20	22 28 40.8	
F31M	Tsiigehtchic baz=279,SNR=17	147.24	35	P		PKPdf	21 16 00.8	+1.0
M31M	Drury Creek, Y comp=Z,1µm,20.0s	147.35	45	IAMs_20		IAMs_20	22 18 43.0	
M31M	Drury Creek, Y baz=270,SNR=8.7	147.35	45	P		PKPdf	21 16 01.7	+1.4
UNM	Universidad Na comp=Z,1µm,20.0s	147.35	146	IAMs_20		IAMs_20	22 15 21.7	
CRAG	Craig baz=260	147.42	57	P		PKPbc	21 16 02.4	-0.6
U33K	Whale Pass comp=Z,2µm,21.0s	147.53	56	IAMs_20		IAMs_20	22 15 02.4	
U33K	Whale Pass baz=261	147.53	56	P		PKPdf	21 16 02.0	+1.4
P32M	Atlin comp=Z,1µm,20.0s	147.59	50	IAMs_20		IAMs_20	22 20 57.7	
P32M	Atlin baz=266,SNR=12	147.59	50	P		PKPdf	21 16 02.4	+1.7
SCZ2	Santa Cruz Isl baz=232	147.60	102	P		PKPdf	21 16 02.3	+0.7
HUMP	Col San Antoni	147.63	207			PKPbc	21 16 04.0	-0.7
HUMP	comp=Z,1µm,18.0s			IAMs_20		IAMs_20	22 27 48.7	
SCI2	San Clemente I baz=230	147.67	104	P		PKPdf	21 16 02.3	+0.6
SJG	San Juan comp=Z,1µm,19.0s	147.69	206	IAMs_20		IAMs_20	22 30 05.2	
OBIP	Obispado Ponce comp=Z,875nm,18.0s	147.76	205	IAMs_20		IAMs_20	22 30 52.9	
CELP	Cerrillos comp=Z,940nm,18.0s	147.78	205	IAMs_20		IAMs_20	22 30 39.5	
SBC	Santa Barbara baz=232	147.82	101	P		PKPdf	21 16 03.0	+1.2
FARO	Faro, Yukon baz=271	147.84	45	P		PKPbc	21 16 03.4	-0.6
GCPR	Guaynabo City	147.86	206			PKPbc	21 16 04.2	-1.1
CRPR	Cabo Rojo, PR comp=Z,897nm,18.0s	147.87	204	IAMs_20		IAMs_20	22 30 50.7	
N32M	Quiet Lake comp=Z,1µm,21.0s	147.96	47	IAMs_20		IAMs_20	22 18 00.4	
N32M	Quiet Lake baz=269	147.96	47	P		PKPbc	21 16 03.3	-1.2
UUPR	Utuado, UPR, P comp=Z,1µm,18.0s	147.99	205	IAMs_20		IAMs_20	22 30 12.1	
WRAK	Wrangell Islan comp=Z,1µm,21.0s	148.00	56	IAMs_20		IAMs_20	22 15 17.9	
WRAK	Wrangell Islan baz=262	148.00	56	P		PKPbc	21 16 03.9	-0.7
CIS	Catalina Islan baz=231	148.03	104	P		PKPbc	21 16 04.4	-1.1
PKM	Mcpherson Peak baz=233	148.03	100	P		PKPbc	21 16 04.8	-0.8
SAO	San Andreas Ge	148.03	96			PKPbc	21 16 05.5	+0.2
SAO	comp=Z,1µm,20.0s			IAMs_20		IAMs_20	22 15 53.0	
SAO	San Andreas Ge	148.03	96	PKP2		PKPbc	21 16 05.5	+0.2
SAO	comp=Z,1µm,20.0s			MLR		MLR		
P33M	Teslin, Yukon comp=Z,1µm,21.0s	148.07	48	IAMs_20		IAMs_20	22 21 21.4	
P33M	Teslin, Yukon baz=268,SNR=7.5	148.07	48	P		PKPbc	21 16 04.7	-0.1
HOPS	Hopland Field comp=Z,2µm,22.0s	148.15	91	IAMs_20		IAMs_20	22 11 07.9	
SMMC	Simmler baz=234	148.16	99	P		PKPbc	21 16 05.1	-0.6
BBGB	Big Mountain B	148.20	96			PKPbc	21 16 05.2	-0.7
V35K	Ketchikan baz=261	148.25	58	P		PKPbc	21 16 05.3	+0.1
Q32M	Nakina River comp=Z,1µm,20.0s	148.29	51	IAMs_20		IAMs_20	22 16 24.3	
Q32M	Nakina River baz=266,SNR=8.6	148.29	51	P		PKPbc	21 16 05.9	+0.4
109C	Camp Elliot, M comp=Z,1µm,18.0s	148.54	106	IAMs_20		IAMs_20	22 21 05.8	
109C	Camp Elliot, M baz=230	148.54	106	P		PKPbc	21 16 06.8	0.0
OSI	Osito Audit: C baz=232	148.57	102	P		PKPbc	21 16 07.0	+0.1
DECC	Green Verdugo baz=232	148.61	103	P		PKPbc	21 16 07.3	+0.4
NEEM	North Greenlan	148.63	348	*i* P		PKPdf	21 16 04.4	+2.0
PASC	Pasadena Art C comp=Z,1µm,20.0s	148.66	103	IAMs_20		IAMs_20	22 11 10.6	
PCDR	Punta Cana, DR comp=Z,2µm,22.0s	148.69	202	IAMs_20		IAMs_20	22 20 49.3	
A36M	Sachs Harbour comp=Z,1µm,21.0s	148.77	25	IAMs_20		IAMs_20	22 27 26.2	
A36M	Sachs Harbour baz=295	148.77	25	P		PKPbc	21 16 06.6	+0.5
MMPY	Sheldon Lake, baz=273	148.79	44	P		PKPbc	21 16 06.4	-0.2
S34M	Telegraph Cree comp=Z,1µm,21.0s	148.81	53	IAMs_20		IAMs_20	22 14 52.3	
S34M	Telegraph Cree baz=266	148.81	53	P		PKiKP	21 16 08.6	+0.6
ARVC	Arvin baz=233	148.81	101	P		PKiKP	21 16 09.0	+0.3
MURC	Murrieta baz=231	148.94	105	P		PKPbc	21 16 08.4	+0.6
R33M	Jennings River baz=268	148.98	50	P		PKiKP	21 16 08.4	-0.1
MONP2	Monument Peak baz=230	148.98	106	P		PKPbc	21 16 08.5	+0.4
IKP	In-Ko-Pah, Jac baz=229	149.03	107	P		PKPbc	21 16 08.8	+0.7
VES	Vestal, Richgr baz=234	149.07	99	P		PKPbc	21 16 08.8	+0.8
VOG	Valley Oaks Go baz=235	149.15	98	P		PKPbc	21 16 08.8	+0.6
T35M	Bob Quinn comp=Z,1µm,20.0s	149.21	55	IAMs_20		IAMs_20	22 15 16.9	
T35M	Bob Quinn baz=265	149.21	55	P		PKPbc	21 16 08.4	+0.7
EDW2	Edwards Air Fo baz=233	149.21	102	P		PKPbc	21 16 08.9	+0.4
SUMG	Summit	149.25	337	PKPbc		PKPbc	21 16 08.7	+0.8
SUMG	comp=Z,1µm,20.0s			IAMs_20		IAMs_20	22 31 07.7	
SUMG	Summit	149.25	337	PKP2		PKPbc	21 16 08.7	+0.8
SUMG	comp=Z,1µm,20.0s			MLR		MLR		
SUMG	Summit	149.25	337	*i* P		PKPbc	21 16 07.0	-0.8
ISA	Isabella, Lake	149.37	100			PKPdf	21 16 05.3	+0.8
ISA	Isabella, Lake baz=234,SNR=9.2	149.37	100	P		PKPbc	21 16 09.8	+1.0
ISA	Isabella, Lake	149.37	100	PKIKP		PKPdf	21 16 05.3	+0.8
SWSC	Sam W. Stewart baz=229	149.42	107	P		PKPbc	21 16 09.5	+0.5
PFO	Pinyon Flats O	149.42	105			PKPdf	21 16 06.6	+1.9
PFO	Pinyon Flats O	149.42	105	P		PKPbc	21 16 09.8	+0.7
	baz=230							
PFO	Pinyon Flats O	149.42	105	PKIKP		PKPdf	21 16 06.6	+1.9
TPFO	Pinon Flats	149.42	105	P		PKPbc	21 16 09.3	+0.2
DLBC	baz=230 Dease Lake baz=267	149.43	52	P		PKPbc	21 16 09.1	+0.9
CMB	Columbia Colle comp=Z,1µm,20.0s	149.44	95	IAMs_20		IAMs_20	22 15 15.1	
ORV	Oroville comp=Z,1µm,22.0s	149.49	91	IAMs_20		IAMs_20	22 12 01.2	
YBH	Yreka Blue Hor comp=Z,1µm,22.0s	149.72	87	IAMs_20		IAMs_20	22 11 01.3	
LRMC	Laurel Mtn Rad baz=233,SNR=10	149.78	101	P		PKPbc	21 16 10.7	+0.7
SDDR	Presa de Saban comp=Z,1µm,21.0s	149.81	197	IAMs_20		IAMs_20	22 20 41.3	
MTDJ	Mount Denham comp=Z,1µm,18.0s	149.89	186	IAMs_20		IAMs_20	22 27 04.4	
BELC	Belle Mtn. Jos baz=231	149.96	105	P		PKPbc	21 16 11.1	+0.6
PIX	Pinacate	149.96	112			PKPdf	21 16 05.9	+0.5
CWC	Cottonwood Cre baz=235	150.08	99	P		PKPbc	21 16 11.4	+0.7
BC3	Big Chuckawall baz=230,SNR=11	150.09	106	P		PKiKP	21 16 12.0	+0.4
GLA	Glamis baz=229	150.10	108	P		PKPbc	21 16 11.3	+0.6
OMMB	Old Mammoth Mi	150.13	97			PKPbc	21 16 10.8	-0.1
HATC	Hat Creek Radi comp=Z,1µm,20.0s	150.13	89	IAMs_20		IAMs_20	22 17 35.2	
C36M	Paulatuk comp=Z,944nm,20.0s	150.19	29	IAMs_20		IAMs_20	22 26 34.7	
C36M	Paulatuk baz=292	150.19	29	P		PKiKP	21 16 12.1	+1.6
GSC	Goldstone, Bar baz=233,SNR=22	150.24	102	P		PKiKP	21 16 12.2	+0.4
MPMC	Manual Prospec baz=234,SNR=21	150.25	101	P		PKiKP	21 16 13.2	+1.3
MLAC	Mammoth, Mammo baz=237	150.25	97	P		PKiKP	21 16 13.4	+1.4
HEC	Hector,Ludlow baz=232	150.26	104	P		PKiKP	21 16 13.6	+1.7
TGTN	Hyland Airport baz=274	150.27	46	P		PKiKP	21 16 13.3	+2.3
COR	Corvallis comp=Z,2µm,22.0s	150.53	81	IAMs_20		IAMs_20	22 13 01.6	
113A	Mohawk Valley,	150.59	110			PKPbc	21 16 10.0	-1.8
IRM	Iron Mountain baz=231,SNR=11	150.61	106	P		PKiKP	21 16 13.8	+1.2
214A	Organ Pipe Nat baz=227,SNR=9.2	150.64	112	P		PKiKP	21 16 13.3	+0.6
GMRC	Granite Mounta baz=232,SNR=14	150.67	104	P		PKiKP	21 16 13.6	+0.8
GRAC	Grapevine Rang baz=236	150.87	99	P		PKiKP	21 16 13.5	+0.5
FURC	Furnace Creek, baz=235	150.89	100	P		PKiKP	21 16 14.3	+1.3
TUQ	Turquoise Moun baz=233,SNR=8.7	150.90	103	P		PKiKP	21 16 13.6	+0.3
HPIG		151.01	128			PKiKP	21 16 14.5	+0.7
NVAR	Mina Array Bea	151.03	96	PKPdf		PKPdf	21 16 08.1	+0.9
NVAR	Mina Array Bea comp=Z,32nm,1.0s,baz=221,slow=3.7,SNR=46	151.03	96	PKPbc		PKiKP	21 16 13.7	+0.2
NV11	Mina Array Sit	151.13	96			PKPdf	21 16 08.8	+1.6
NLWA	Neilton Lookou comp=Z,1µm,22.0s	151.14	75	IAMs_20		IAMs_20	22 14 07.9	
ICESG	Greenland Ices	151.21	331	*i* P		PKPbc	21 16 10.2	-2.4
TULEG	Thule comp=Z,1µm,20.0s	151.29	354	IAMs_20		IAMs_20	22 26 43.5	
NEE2	Needles Airpor baz=232	151.33	106	P		PKiKP	21 16 14.9	+0.9
PDMCI	Parker Dam,Lak baz=231	151.35	107	P		PKiKP	21 16 14.9	+0.9
GTBY	Guantanamo Bay comp=Z,1µm,21.0s	151.35	191	IAMs_20		IAMs_20	22 20 03.5	
CHIV	Chivirico comp=Z,757nm,19.0s	151.54	188	IAMs_20		IAMs_20	22 25 08.3	
TPNV	Topopah Spring baz=235	151.57	100	P		PKPbc	21 16 14.5	+0.3
ANGG	Ammassalik, Gr comp=Z,1µm,20.0s	151.72	323	IAMs_20		IAMs_20	22 30 49.4	
KULLO	Kullorsuaq	151.83	347	*i* P		PKPbc	21 16 12.0	-1.4
NMDO	Nuevo Mundo comp=Z,2µm,21.0s	151.96	191	IAMs_20		IAMs_20	22 20 32.7	
TUC	Tucson	152.13	114			PKPbc	21 16 14.4	-1.1
TUC	Tucson baz=226	152.13	114	P		PKPbc	21 16 16.0	+0.5
TUC	Tucson	152.13	114	PKIKP		PKPbc	21 16 14.4	-1.1
TUC	comp=Z,1µm,19.0s			MLR		MLR		
GRTK	Grand Turk comp=Z,920nm,20.0s	152.23	199	IAMs_20		IAMs_20	22 25 55.6	
WRGLY	Wrigley comp=Z,1µm,21.0s	152.25	42	IAMs_20		IAMs_20	22 37 18.3	
KOTAN	Kotaneelee Air baz=276	152.45	48	P		PKiKP	21 16 16.6	+1.1
WVOR	Wild Horse Val	152.75	88			PKPbc	21 16 13.6	-3.0
WVOR	comp=Z,974nm,18.0s			IAMs_20		IAMs_20	22 28 38.5	
WVOR	Wild Horse Val	152.75	88	PKIKP		PKPbc	21 16 13.6	-3.0
WVOR	comp=Z,1µm,18.0s			MLR		MLR		
R11B	Troy Canyon, C baz=237	152.79	98	P		PKPbc	21 16 16.5	-0.4
RES	Resolute Bay comp=Z,1µm,21.0s	152.83	8	IAMs_20		IAMs_20	22 24 03.0	
HAWA	Hanford comp=Z,966nm,20.0s	153.65	79	IAMs_20		IAMs_20	22 18 49.0	
CCUT	Cedar City	153.81	102			PKPdf	21 16 11.3	0.0
WUAZ	Wupatki comp=Z,1µm,19.0s	153.88	108	IAMs_20		IAMs_20	22 23 13.0	
WUAZ	Wupatki baz=231	153.88	108	P		PKPbc	21 16 17.9	-1.5
TXAR	Lajitas Array comp=Z,1.9nm,1.0s,baz=186,slow=2.5,SNR=11	153.98	128	PKP		PKPdf	21 16 11.5	-0.1
121A	Cookes Peak, D	154.09	117	PKPdf		PKPdf	21 16 11.1	-0.7
121A	Cookes Peak, D baz=225	154.09	117	P		PKPbc	21 16 18.4	-1.5
ELK	Elko comp=Z,1µm,22.0s	154.25	94	IAMs_20		IAMs_20	22 13 13.4	
EPT	El Paso comp=Z,973nm,18.0s	154.28	120	IAMs_20		IAMs_20	22 23 47.1	
BMO	Blue Mountains comp=Z,2µm,22.0s	154.60	84	IAMs_20		IAMs_20	22 15 13.2	
W18A	Petrified Fore baz=230	154.65	111	P		PKPbc	21 16 18.3	-2.7
CAMR	Camarioca comp=Z,2µm,20.0s	154.78	178	IAMs_20		IAMs_20	22 19 10.5	
MNTX	Cornudas Mount baz=222	154.87	122	P		PKPbc	21 16 17.9	-3.5
MFID	Camas Ranch comp=Z,1µm,22.0s	155.04	88	IAMs_20		IAMs_20	22 14 37.0	
MVU	Marysvale	155.09	101			PKPdf	21 16 18.7	+5.6
833A	Chaparral WMA, baz=211	155.24	137	P		PKPdf	21 16 16.3	+3.0
DUG	Dugway, Tooele comp=Z,1µm,19.0s	155.59	97	IAMs_20		IAMs_20	22 22 28.0	
DUG	Dugway, Tooele baz=240	155.59	97	P		PKPdf	21 16 17.5	+3.9
Y22D	IRIS PASSCAL I comp=Z,1µm,18.0s	155.68	116	IAMs_20		IAMs_20	22 26 36.5	
NEW	Newport comp=Z,1µm,22.0s	155.75	76	IAMs_20		IAMs_20	22 35 09.9	
NEW	Newport baz=256	155.75	76	P		PKPdf	21 16 18.5	+5.1
HLID	Hailey comp=Z,1µm,22.0s	156.04	89	IAMs_20		IAMs_20	22 14 45

AHID	Auburn Hatcher	157.92	93	IAMs_20	IAMs_20	22 22 40.6	
	comp=Z,1μm,20.0s						
MSTX	Muleshoe	158.02	123	P	PKPab	21 16 51.8	+1.5
	baz=223						
S22A	4UR Ranch, Cre	158.12	109	P	PKPab	21 16 54.1	+3.1
	baz=233						
435B	Jarrell	158.15	137	IAMs_20	IAMs_20	22 22 58.7	
	comp=Z,860nm,19.0s						
HKT	Hockley	158.20	142	IAMs_20	IAMs_20	22 28 01.2	
	comp=Z,1μm,21.0s						
TPAW	Teton Pass	158.32	91	IAMs_20	IAMs_20	22 44 07.0	
	comp=Z,1μm,22.0s						
FXWY	Fox Creek	158.33	91	IAMs_20	IAMs_20	22 36 16.3	
	comp=Z,1μm,22.0s						
IMW	Indian Meadow	158.49	90	IAMs_20	IAMs_20	22 35 19.3	
	comp=Z,1μm,20.0s						
O20A	White River Ci	158.57	102	P	PKPab	21 16 54.9	+2.3
	baz=239						
LOHW	Long Hollow	158.60	91	IAMs_20	IAMs_20	22 44 46.5	
	comp=Z,1μm,22.0s						
BOZ	Bozeman (W)	158.63	86	IAMs_20	IAMs_20	22 18 03.8	
	comp=Z,1μm,21.0s						
BOZ	Bozeman (W)	158.63	86	P	PKPab	21 16 56.4	+3.7
	baz=252						
ABTX	Abilene, Hawle	158.67	130	P	PKPab	21 16 56.5	+3.5
	baz=217						
FLWY	Flagg Ranch	158.72	90	IAMs_20	IAMs_20	22 43 41.5	
	comp=Z,1μm,22.0s						
BW06	Boulder Array	158.95	94	P	PKPab	21 16 57.1	+2.8
	baz=245						
PDAR	Pinedale Array	158.95	94	PKP	PKPdf	21 16 18.7	+0.8
	comp=Z,3.8nm,1.1s,baz=229,slow=1.6,SNR=11						
SDCO	Great Sand Dun	158.96	111	IAMs_20	IAMs_20	22 27 19.6	
	comp=Z,1μm,20.0s						
SDCO	Great Sand Dun	158.96	111	P	PKPab	21 16 56.8	+2.3
	baz=232						
WHTX	Lake Whitney,	159.23	136	P	PKPab	21 16 58.4	+3.1
	baz=214						
T25A	Trinidad	159.25	114	P	PKPab	21 16 57.5	+1.8
	baz=230						
AMTX	Amarillo	159.31	123	IAMs_20	IAMs_20	22 26 02.0	
	comp=Z,997nm,19.0s						
DWPF	Disney Wildern	159.81	178	P	PKPab	21 17 00.8	+2.9
	baz=182						
Q24A	Divide	159.91	109	P	PKPab	21 17 00.1	+1.4
	baz=234						
RLMT	Red Lodge	160.05	88	P	PKPab	21 17 01.6	+2.6
	baz=251						
N23A	Red Feather La	160.46	103	P	PKPab	21 17 02.8	+1.8
	baz=239						

*IDC **21** 20:57:15.2±6.2, 25°.72N×91°.66E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=467.1km s-min=24.3km az=61.0*
*NDI **21** 20:57:15.1±2.1, 25°.44N×90°.34E, h10km, ML3.4, MW3.3*
ISC 21 20:57:15.1±1.1, 25°.46N±0°.08×90°.36E±0°.06, h10km, n10, σ1§76/15, mb3.4/4, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	1.38	85		eP	Pn	20 57 40.2	-0.4
SHL					eS	Sb	20 57 58.4	-0.6
SHL					IAML		20 58 00.1	
	comp=E,880nm,0.2s							
SHL					IAML		20 58 00.2	
	comp=N,824nm,0.2s							
GTK	Tadong	2.43	320		eP	Pn	20 57 55.0	0.0
GTK					i x	Pb	20 57 59.1	0.0
IMP	Imphal	3.31	100		eP	Pn	20 58 07.8	+0.7
IMP					ex	Sn	20 58 49.6	+3.1
IMP					IAML		20 58 51.3	
	comp=E,30nm,0.8s							
IMP					IAML		20 58 54.2	
	comp=E,32nm,0.3s							
KOHI	KOHIMA	3.40	85		eP	Pn	20 58 08.6	+0.2
KOHI					i x	x	20 58 26.6	
KOHI					eS	Sn	20 58 48.9	+0.1
KOHI					IAML		20 59 07.3	
	comp=E,170nm,0.5s							
ZIRO	ZIRO	3.75	56		eP	Pn	20 58 12.6	-0.6
ZIRO					eS	Sn	20 58 57.7	+0.2
ZIRO					IAML		20 59 19.6	
	comp=E,590nm,0.7s							
ZIRO					IAML		20 59 26.6	
	comp=E,595nm,0.7s							
SAIH	SAIHA	3.81	140		eP	Pn	20 58 14.6	+0.6
SAIH					IAML		20 58 51.5	
	comp=N,40nm,1.5s							
MKAR	Makanchi Array	22.24	345		P	P	21 02 14.4	+2.3
	comp=N,0.6nm,0.5s,baz=152,slow=11,SNR=3.7							
	comp=N,0.6nm,0.5s							
KURBB	Kurchatov Arra	26.73	343		P	P	21 02 57.2	+2.6
	comp=N,0.3nm,0.6s,baz=148,slow=11,SNR=3.6							
	comp=N,0.3nm,0.6s							
WRA	Warramunga Arr	62.16	132		P	P	21 07 34.0	-2.8
	comp=N,0.4nm,0.5s,baz=322,slow=7.2,SNR=6.2							
	comp=N,0.4nm,0.5s							
ASAR	Alice Springs	64.52	136		P	P	21 07 50.1	-2.4
	comp=N,0.2nm,0.5s,baz=315,slow=6.2,SNR=1.6							
	comp=N,0.2nm,0.5s							

IDC 21 21:01:22.3±3.2, 0°.83N×97°.63E, h0km, mb3.6/4, mbtmp3.5/5, Error ellipse: s-maj=131.9km s-min=25.0km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.57	4		P	P	21 05 30.7	+0.8
	0.7nm,0.7s,baz=192,slow=11,SNR=5.0							
H08S2	Diego Garcia H	26.44	251		T	T	21 34 17.7	
	baz=72,slow=76,SNR=282							
H08S3	Diego Garcia H	26.45	251		T	T	21 34 13.4	
	baz=72,slow=76,SNR=231							
H08S1	Diego Carcia H	26.46	251		T	T	21 34 10.9	
	baz=72,slow=76,SNR=195							
H01W3	Cape Leeuwin H	38.74	158		T	T	21 50 05.5	
	baz=333,slow=76,SNR=13							
H01W2	Cape Leeuwin H	38.75	158		T	T	21 50 06.7	
	baz=333,slow=76,SNR=16							
H01W1	Cape Leeuwin H	38.76	158		T	T	21 50 07.1	
	baz=333,slow=76,SNR=13							
WRA	Warramunga Arr	41.48	122		P	P	21 09 11.4	-0.1
	0.8nm,0.9s,baz=303,slow=8.9,SNR=1.6							
	0.8nm,0.9s							
ASAR	Alice Springs	42.83	127		P	P	21 09 22.3	-0.1
	0.7nm,1.1s,baz=299,slow=7.0,SNR=1.8							
	0.7nm,1.1s							
MKAR	Makanchi Array	47.70	346		P	P	21 10 00.4	-0.4
	0.3nm,0.5s,baz=161,slow=7.7,SNR=4.8							
	0.3nm,0.5s							
ZALV	Zalesovo Beam	53.99	351		P	P	21 10 47.5	-0.5
	0.5nm,0.4s,baz=176,slow=8.7,SNR=1.7							
	0.5nm,0.4s							
H04N2	CROZET ISLANDS	61.71	214		T	T	22 18 28.8	
	baz=54,slow=75,SNR=225							
H04N1	CROZET ISLANDS	61.72	214		T	T	22 18 29.4	
	baz=54,slow=75,SNR=249							
H04N3	CROZET ISLANDS	61.73	214		T	T	22 18 28.0	
	baz=54,slow=75,SNR=259							
H04S1	CROZET ISLANDS	62.04	214		T	T	22 18 50.8	
	baz=53,slow=75,SNR=109							
H04S3	CROZET ISLANDS	62.05	214		T	T	22 18 44.5	
	baz=53,slow=75,SNR=215							
H04S2	CROZET ISLANDS	62.06	214		T	T	22 18 53.0	
	baz=53,slow=75,SNR=125							

*SKHL **21** 21:04:46.0±0.7, 43°.70N×147°.40E, h84km±4km, mb4.7/2, msha4.8/3*
*JMA **21** 21:04:46.2±0.3, 44°N±1°×14°7E±°, h79km, MV2.6/15, E OFF HOKKAIDO*
ISC 21 21:04:45.4±2.4, 43°.8N±0°.1×147°.3E±0°.1, h91km±15km, n9, σ0§62/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.32	285		eP	Pn	21 04 59.5	+0.6
SHO					AMB	AMB	21 04 59.8	
	90nm,0.2s							
SHO					eS	Sn	21 05 09.0	-0.1
SHO					A	A	21 05 09.7	
	410nm,0.3s							
SHO					A	A	21 05 09.7	
	440nm,0.3s							
YUK	Yuzh-Kuril'sk	1.04	284		i P	Pn	21 05 05.5	0.0
YUK					AMB	AMB	21 05 05.6	
	250nm,0.2s							
YUK					eS	Sn	21 05 19.7	-0.9
YUK					A	A	21 05 21.4	
	170nm,0.4s							
YUK					A	A	21 05 21.4	
	130nm,0.4s							
NEM2	Nemuro 2	1.18	249		i P	Pn	21 05 07.4	+0.2
NEM2					eS	Sn	21 05 22.8	-0.8
KUR	Kuril'sk	1.51	17		eP	Pn	21 05 11.4	+0.2
KUR					eS	Sn	21 05 30.3	-0.5
KUR					A	A	21 05 31.1	
	50nm,0.3s							
KUR					A	A	21 05 31.1	
	40nm,0.3s							
JRA	Rausu	1.55	276		eP	Pn	21 05 12.2	+0.4
JRA					eS	Sn	21 05 31.8	+0.1
JNSB	Nemuroshibetsu	1.63	270		P	Pn	21 05 13.5	+0.7
JNSB					eS	Sn	21 05 34.1	+0.5
JKHN	Kushirohamanak	1.68	246		eP	Pn	21 05 14.0	+0.6
JKHN					eS	Sn	21 05 34.2	-0.5
JNK	Nakash	1.85	265		eP	Pn	21 05 15.9	+0.2
JAK	Akkeshi	2.03	248		eP	Pn	21 05 18.2	+0.3
JAK					eS	Sn	21 05 41.7	-1.1

*IDC **21** 21:09:19.6±1.2, 35°.00N×23°.51E, h0km, mb3.5/9, mbtmp3.5/13, ML3.0/2, Error ellipse: s-maj=25.5km s-min=13.9km az=179.0*
*THE **21** 21:09:22.7, 34°.93N×23°.63E, h0km±3km, ML2.9/6, Error ellipse: s-maj=4.3km s-min=1.1km az=222.0*
*ATH **21** 21:09:23.3, 34°.99N×23°.65E, h16km±6km, ML3.3/5, Manual Solution by I.Dede This location: 2020/07/03 22:54:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 13 km*
ISC 21 21:09:22.3±1.4, 34°.94N±0°.05×23°.63E±0°.05, h16km±9km, n33, σ1§22/42, mb3.6/9, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.29	9		P	Pb	21 09 28.9	-0.3
KNDR					S	Sb	21 09 35.0	+1.2
GVD	Gavdhos	0.39	105		P	Pg	21 09 30.2	-0.1
GVD					S	Sb	21 09 37.0	+0.4
	9μm,0.2s							
GVD	Gavdhos	0.39	105		P	Pg	21 09 30.2	-0.1
GVD					S	Sb	21 09 36.6	0.0
IMMV	Iera Moni Meta	0.59	29		P	Pb	21 09 33.9	-0.4
IMMV					S	Sn	21 09 44.2	-1.1
	3μm,0.3s							
IMMV	Iera Moni Meta	0.59	29		P	Pb	21 09 34.1	-0.2
RODP	Rodopos	0.62	10		P	Pb	21 09 35.5	+0.7
RODP					S	Sn	21 09 45.3	-0.9
	728nm,0.4s							
CHAN	Chania	0.67	30		P	Pb	21 09 35.7	+0.2
PRNS	Prines Rethymn	0.83	59		P	Pg	21 09 37.2	-1.3
PRNS					S	Sn	21 09 48.8	-2.4
	385nm,0.7s							
TMBK	Timbaki Herakl	0.94	82		P	Pn	21 09 40.9	0.0
ANKY	Antikythira Is	0.96	344		P	Pg	21 09 41.0	+0.1
ANKY					S	Sn	21 09 54.9	+0.5
	885nm,0.6s							
ANKY	Antikythira Is	0.96	344		P	Pg	21 09 41.1	+0.1
IDI	Anoyia	1.09	71		P	Pg	21 09 42.6	-0.8
IDI					S	Sn	21 09 59.6	+1.9
	368nm,0.5s							
IDI	Anoyia	1.09	71		Pg	Pg	21 09 42.5	-0.8
	13nm,0.3s,baz=235,slow=17,SNR=62							
IDI					Sn	Sn	21 10 01.6	+3.8
	38nm,0.3s,baz=279,slow=13,SNR=9.1							
MHLO	Agia Marina, M	1.85	20		P	Pb	21 09 55.8	0.0
VLI	Veliai	1.86	343		P	Pb	21 09 55.7	-0.2
BRTR	Keskin Array B	9.29	56		Pn	Pn	21 11 38.7	+3.1
	0.1nm,0.3s,baz=234,slow=17,SNR=1.9							
	0.3nm,0.6s							
VRAC	Vranov	15.26	342		Pn	Pn	21 12 57.4	+0.4
	1.7nm,0.6s,baz=159,slow=8.6,SNR=1.2							
CKRC	Cesky Krumlov	15.49	336		eP	P	21 13 05.7	+1.4
GERES	GERESS Array B	15.71	335		Pn	Pn	21 13 03.0	0.0
	0.2nm,0.3s,baz=145,slow=10,SNR=1.5							
KRLC	Kralicky	15.93	344		eP	P	21 13 10.2	+0.9
KHC	Kasperske Hory	16.00	335		eP	P	21 13 11.1	+1.1
KHC					ex	x	21 13 17.7	
AKASG	Malin Array Be	16.27	13		Pn	Pn	21 13 08.9	-1.0
	0.2nm,0.3s,baz=205,slow=10,SNR=2.3							
	0.1nm,0.3s							
DPC	Dobruska-Polom	16.30	343		eP	P	21 13 13.2	-0.1
ESDC	Sonseca Array	22.41	290		P	P	21 14 20.0	-0.2
	0.3nm,0.7s,baz=90,slow=10,SNR=2.4							
	0.3nm,0.7s							
HFS	Hagfors	26.02	349		P	P	21 14 51.7	-2.6
	1.5nm,0.6s,baz=159,slow=12,SNR=9.6							
	1.5nm,0.6s							
NOA	NORSAR Array B	27.30	347		P	P	21 15 04.3	-1.7
	0.7nm,0.9s,baz=156,slow=8.7,SNR=3.5							
	0.7nm,0.9s							
EKA	Eskdalemuir Ar	27.50	326		P	P	21 15 07.4	-0.3
	0.6nm,0.5s,baz=127,slow=8.1,SNR=5.7							
	0.6nm,0.5s							
TORD	Torodi Ar. Bea	29.40	228		P	P	21 15 24.9	-0.1
	0.2nm,0.4s,baz=31,slow=9.4,SNR=1.1							
	0.2nm,0.4s							
KURBB	Kurchatov Arra	42.23	51		P	P	21 17 14.1	-0.3
	0.7nm,0.5s,baz=273,slow=8.4,SNR=4.9							
	0.7nm,0.5s							
MKAR	Makanchi Array	44.94	56		P	P	21 17 36.7	+0.3
	0.5nm,0.6s,baz=279,slow=7.5,SNR=13							
	0.5nm,0.6s							
ZALV	Zalesovo Beam	46.06	46		P	P	21 17 44.7	-0.4
	0.3nm,0.4s,baz=265,slow=6.8,SNR=2.0							
	0.3nm,0.4s							
SONM	Songino Array	60.59	50		P	P	21 19 32.4	+0.2
	0.2nm,0.5s,baz=298,slow=3.1,SNR=1.5							
	0.2nm,0.5s							
WRA	Warramunga Arr	117.82	96		PKP	PKPdf	21 28 07.6	-0.7
	0.3nm,0.7s,baz=314,slow=2.1,SNR=1.7							

IDC 21 21:10:22.5±8.0, 6°.44S×147°.49E, h81km±73km, mb3.5/1, mbtmp3.7/3, ML0.2/1, Error ellipse: s-maj=91.3km s-min=57.9km az=113.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.96	186		P	Pn	21 11 07.7	+0.3
	0.2nm,0.3s,baz=356,slow=16,SNR=1.3							
PMG					S	Sn	21 11 42.5	+0.6
	37nm,0.5s,baz=17,slow=19,SNR=14							
	4.0nm,0.4s							
WRA	Warramunga Arr	18.52	222		P	P	21 14 32.6	-0.1
	1.2nm,0.4s,baz=47,slow=11,SNR=20							
ASAR	Alice Springs	21.54	216		P	P	21 15 05.6	+0.3
	1.9nm,0.5s,baz=48,slow=9.2,SNR=49							
	1.9nm,0.5s							
TORD	Torodi Ar. Bea	145.67	284		PKPbc	PKPdf	21 29 52.0	-0.6
	0.5nm,0.6s,baz=88,slow=4.6,SNR=4.7							

*THE **21** 21:14:12.8, 39°.55N×26°.07E, h2km±1km, ML2.8/10, Error ellipse: s-maj=1.3km s-min=0.4km az=104.0*
*AFAD **21** 21:14:12.8±0.0, 39°.55N×26°.12E, h7km±1km, MW3.1*
*ISK **21** 21:14:12.2, 39°.55N×26°.07E, h6km, ML3.0/22*
*ATH **21** 21:14:13.3, 39°.53N×26°.08E, h13km±1km, ML2.7/11, Error ellipse: s-maj=2.0km s-min=0.8km az=238.0*
ISC 21 21:14:12.6±0.8, 39°.54N±0°.01×26°.08E±0°.02, h10km±5km, n81, σ0§59/130, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KOCA	Canakkale, Ayv	0.06	133		P	Pg	21 14 14.7	0.0
KOCA					S	Sg	21 14 16.0	-0.3
KOCA					i AML	AML	21 14 16.0	
	comp=Z,2μm,0.1s							
KOCA					i AML	AML	21 14 16.0	
	comp=N,3μm,0.2s							
KOCA					i AML	AML	21 14 16.0	
	comp=E,4μm,0.3s							
GPNR	Gulpinar-Canak	0.10	155		Pg	Pg	21 14 14.9	-0.2
GPNR					Sg	Sg	21 14 16.5	-0.4
BOZC	Bozcaada	0.30	356		P	Pg	21 14 19.0	+0.4
BOZC					P	Pg	21 14 19.0	+0.4
BOZC					i AML	AML	21 14 23.0	
	comp=Z,399nm,0.2s							
BOZC					i AML	AML	21 14 23.0	
	comp=Z,367nm,0.2s							
BOZC					i AML	AML	21 14 23.0	
	comp=N,1μm,0.3s							
BOZC					i AML	AML	21 14 23.0	
	comp=E,1μm,0.2s							
BOZC					i AML	AML	21 14 23.0	
	comp=N,1μm,0.3s							
BOZC					i AML	AML	21 14 23.0	
	comp=E,1μm,0.2s							
BOZC					S	Sg	21 14 23.3	+0.6
BOZC					S	Sg	21 14 23.3	+0.6
EZNE	Ezine-Canakkal	0.31	46		Pg	Pg	21 14 19.1	+0.4
EZNE					Sg	Sg	21 14 23.9	+1.1
PRK	Paraskevi	0.33	153		P	Pg	21 14 19.6	+0.5
PRK					S	Sg	21 14 24.7	+1.1
	5μm,0.4s							
PRK	Paraskevi	0.33	153		P	Pg	21 14 19.7	+0.5
PRK					S	Sg	21 14 24.4	+0.8
PRK					AML	AML	21 14 26.1	
	comp=E,11108μm,0.4s							
PRK					AML	AML	21 14 27.9	
	comp=N,8752μm,0.5s							
EZN	Ezine	0.34	34		Pg	Pg	21 14 19.6	+0.3
EZN					Sg	Sg	21 14 24.7	+0.8
EZN	Ezine	0.34	34		P	Pg	21 14 19.6	+0.3
EZN					S	Sg	21 14 24.2	+0.3
	comp=N,2μm,0.4s							
SIGR	SIGRI	0.37	208		Pg	Pg	21 14 20.4	+0.4
SIGR					Sg	Sg	21 14 25.7	+0.8
SIGR	SIGRI	0.37	208		P	Pg	21 14 20.3	+0.4
SIGR					S	Sg	21 14 25.7	+0.8
	comp=N,3μm,0.3s							
SIGR	SIGRI	0.37	208		P	Pg	21 14 20.4	+0.4
SIGR					S	Sg	21 14 25.5	+0.6
SIGR					AML	AML	21 14 26.3	
	comp=N,5321μm,0.4s							
SIGR					AML	AML	21 14 26.3	
	comp=E,5907μm,0.2s							
BAYC	CANAKKALE_Bayr	0.41	61		P	Pg	21 14 20.7	0.0
BAYC					S	Sg	21 14 25.8	-0.3
BAYC					i AML	AML	21 14 26.0	
	comp=E,2μm,0.2s							
BAYC					i AML	AML	21 14 27.0	
	comp=E,472nm,0.4s							
BAYC					i AML	AML	21 14 27.0	
	comp=E,658nm,0.5s							
ECEA	Canakkale, Ece	0.51	8		P	Pg	21 14 22.9	+0.5
ECEA					S	Sb	21 14 30.4	-0.5
ECEA					i AML	AML	21 14 33.0	
	comp=E,270nm,0.2s							
ECEA					i AML	AML	21 14 33.0	
	comp=E,544nm,0.3s							
ECEA					i AML	AML	21 14 34.0	
	comp=E,549nm,0.4s							
AYVA	Ayvalik	0.53	116		P	Pg	21 14 23.0	+0.2
AYVA					S	Sg	21 14 29.8	0.0
AYVA					i AML	AML	21 14 33.0	
	comp=E,237nm,0.4s							
AYVA					i AML	AML	21 14 33.0	
	comp=E,420nm,0.5s							
AYVA					i AML	AML	21 14 36.0	
	comp=E,235nm,0.3s							
CNKL	anakkale-Mer	0.57	24		P	Pg	21 14 23.5	-0.2
CNKL					P	Pb	21 14 23.7	-1.0
CNKL					S	Sg	21 14 31.6	+0.3
CNKL					S	Sb	21 14 31.8	-1.1
CNKL					i AML	AML	21 14 34.0	
	comp=E,211nm,0.3s							
CNKL					i AML	AML	21 14 34.0	
	comp=E,207nm,0.3s							
CNKL					i AML	AML	21 14 35.0	
	comp=E,200nm,0.4s							
CNKL					i AML	AML	21 14 35.0	
	comp=E,195nm,0.5s							
CNKL					i AML	AML	21 14 37.0	
	comp=E,126nm,0.5s							
CNKL					i AML	AML	21 14 40.0	
	comp=E,139nm,0.6s							
COMU	Canakkale	0.63	28		Pg	Pg	21 14 24.9	+0.1
GOAD	anakkale-G¶	0.63	348		P	Pg	21 14 24.8	0.0
GOAD					S	Sg	21 14 33.5	+0.4
GOAD					i AML	AML	21 14 34.0	
	comp=E,313nm,0.3s							
GOAD					i AML	AML	21 14 38.0	
	comp=E,338nm,0.5s							
GOAD					i AML	AML	21 14 42.0	
	comp=E,233nm,0.4s							
GADA	Gvkgeada	0.66	348		Pg	Pg	21 14 25.4	0.0
GADA					Sg	Sg	21 14 34.5	+0.4
BUHA	Balikesir, Bur	0.77	93		P	Pg	21 14 27.4	0.0
BUHA					S	Sg	21 14 37.8	+0.3
BUHA					i AML	AML	21 14 39.0	
	comp=E,205nm,0.3s							
BUHA					i AML	AML	21 14 39.0	
	comp=E,264nm,0.4s							
BUHA					i AML	AML	21 14 42.0	
	comp=E,126nm,0.4s							
LIA	Limnos Island	0.78	297		P	Pg	21 14 28.0	+0.4
LIA					S	Sb	21 14 38.7	-0.1
	comp=E,1μm,0.3s							
LIA	Limnos Island	0.78	297		P	Pg	21 14 28.1	+0.4
LIA					S	Sb	21 14 39.6	+0.8
LIA					AML	AML	21 14 41.8	
	comp=E,3170μm,0.4s							
LIA					AML	AML	21 14 48.3	
	comp=N,1626μm,0.6s							
DKL	Dikili	0.79	126		Pg	Pg	21 14 28.1	+0.2
CAND	Candarli	0.81	136		Pg	Pg	21 14 28.5	+0.3
EFSA	Agios Efstrati	0.84	270		P	Pg	21 14 29.2	+0.4
IZMD	zmir-Dikili-	0.86	130		P	Pb	21 14 30.1	+0.5
IZMD					P	Pb	21 14 30.2	+0.5
IZMD					S	Sb	21 14 41.6	+0.4
IZMD					S	Sb	21 14 41.7	+0.4
IZMD					i AML	AML	21 14 43.0	
	comp=N,263nm,0.7s							
IZMD					i AML	AML	21 14 43.0	
	comp=N,209nm,0.6s							
IZMD					i AML	AML	21 14 43.0	
	comp=N,166nm,1.0s							
IZMD					i AML	AML	21 14 43.0	
	comp=N,121nm,0.6s							
IZMD					i AML	AML	21 14 43.0	
	comp=N,167nm,1.0s							
IZMD					i AML	AML	21 14 43.0	
	comp=N,120nm,0.6s							
GELI	Tayfur-Gelibol	0.91	19		Pg	Pg	21 14 29.9	-0.1
KARB	zmir-Karabur	0.92	164		P	Pg	21 14 30.5	+0.3
KARB					S	Sb	21 14 42.9	+0.2
KARB					i AML	AML	21 14 45.0	
	comp=N,429nm,0.2s							
KARB					i AML	AML	21 14 45.0	
	comp=N,400nm,0.5s							
KARB					i AML	AML	21 14 46.0	
	comp=N,167nm,0.4s							
ZEDA	zmir-Bergama	0.96	126		P	Pg	21 14 31.2	+0.1
ZEDA					S	Sb	21 14 44.3	+0.2
ZEDA					i AML	AML	21 14 46.0	
	comp=N,261nm,0.5s							
ZEDA					i AML	AML	21 14 47.0	
	comp=N,87nm,0.2s							
ZEDA					i AML	AML	21 14 47.0	
	comp=N,186nm,0.2s							
FOCM	Foa	0.97	148		Pg	Pg	21 14 31.4	+0.2
YENI	Yenice-Canakka	0.98	66		Pg	Pg	21 14 31.4	0.0
LPK	Lapseki	0.98	32		Pg	Pg	21 14 31.3	-0.1
SMTH	Samothraki Isl	1.02	336		P	Pg	21 14 32.0	-0.2
SMTH					S	Sb	21 14 46.2	+0.4
SMTH	Samothraki Isl	1.02	336		P	Pg	21 14 32.1	-0.1
ENZZ	Sultanice-Enez	1.06	2		Pg	Pg	21 14 33.1	+0.1
PSRA	Psara	1.08	202		P	Pg	21

CHOS				S	Sb	21 14 50.9	+1.2
	comp=N,658nm,0.3s						
CHOS	**Chios island**	**1.15**	**181**	P	**Pg**	21 14 34.2	-0.5
CHOS				S	**Sg**	21 14 49.9	+0.2
CHOS				AML	AML	21 14 55.6	
	comp=N,1192μm,0.4s						
CHOS				AML	AML	21 14 57.6	
	comp=E,1440μm,0.2s						
ERIK	**Erikli-Kesan**	**1.18**	**16**	Pn	**Pg**	21 14 34.6	-0.5
SOMA	**Soma-Manisa**	**1.19**	**108**	Pn	**Pg**	21 14 35.4	0.0
ENEZ	**Enez**	**1.19**	**3**	Pn	**Pg**	21 14 35.3	-0.2
ENEZ	**Enez**	**1.19**	**3**	P	**Pg**	21 14 34.9	-0.6
ENEZ				S	**Sn**	21 14 52.2	+0.7
	comp=E,478nm,0.4s						
BALY	**Balya**	**1.20**	**80**	P	**Pb**	21 14 35.9	+0.5
BALY				S	**Sg**	21 14 50.6	-0.7
BALY				*i* AML	AML	21 14 53.0	
	comp=E,147nm,0.3s						
BALY				*i* AML	AML	21 14 54.0	
	comp=E,158nm,0.4s						
BALY				*i* AML	AML	21 14 56.0	
	comp=E,248nm,0.4s						
CESE	**eme**	**1.22**	**172**	Pn	**Pb**	21 14 35.9	+0.2
URLA	**Izmir**	**1.25**	**161**	Pn	**Pn**	21 14 35.7	-0.3
URLA	**Izmir**	**1.25**	**161**	P	**Pn**	21 14 34.7	-1.4
URLA				S	**Sg**	21 14 52.5	-0.2
KRBG	**Karabiga-Canak**	**1.26**	**47**	Pn	**Pn**	21 14 36.3	+0.1
STEP	**BALIKESIR_Sava**	**1.28**	**97**	P	**Pn**	21 14 36.9	+0.5
STEP				S	**Sg**	21 14 53.9	+0.2
STEP				*i* AML	AML	21 14 56.0	
	comp=E,77nm,0.6s						
STEP				*i* AML	AML	21 14 59.0	
	comp=E,145nm,1.0s						
STEP				*i* AML	AML	21 15 01.0	
	comp=E,183nm,0.5s						
KNL	**Balıkesir**	**1.33**	**56**	P	**Pn**	21 14 37.4	+0.3
KNL				S	**Sb**	21 14 55.1	+0.5
KNL				*i* AML	AML	21 14 56.0	
	comp=E,527nm,0.6s						
KNL				*i* AML	AML	21 14 58.0	
	comp=E,200nm,0.6s						
KNL				*i* AML	AML	21 15 25.0	
	comp=E,1.1nm,1.8s						
GONE	**Gonen-Balikesi**	**1.33**	**67**	Pn	**Pn**	21 14 37.6	+0.4
ZEYE	**Izmir, Urla-Ze**	**1.34**	**166**	P	**Pn**	21 14 36.9	-0.4
ZEYE				S	**Sb**	21 14 53.9	-1.1
ZEYE				*i* AML	AML	21 14 59.0	
	comp=E,112nm,0.4s						
ZEYE				*i* AML	AML	21 14 59.0	
	comp=E,180nm,0.3s						
ZEYE				*i* AML	AML	21 15 01.0	
	comp=E,220nm,0.3s						
SKY	**Skiros Island**	**1.36**	**241**	P	**Pn**	21 14 37.2	-0.5
SKY				AML	AML	21 14 59.7	
	comp=E,765μm,0.4s						
SKY				AML	AML	21 15 00.5	
	comp=N,741μm,0.2s						
RKY	**Sarkoy-Tekirda**	**1.42**	**36**	Pn	**Pn**	21 14 38.9	+0.4
SART	**Tekirdag**	**1.42**	**36**	P	**Pn**	21 14 38.7	+0.2
SART				S	**Sb**	21 14 57.9	+0.5
SART				*i* AML	AML	21 14 59.0	
	comp=N,143nm,0.5s						
SART				*i* AML	AML	21 14 59.0	
	comp=N,232nm,0.4s						
SART				*i* AML	AML	21 14 59.0	
	comp=N,238nm,0.5s						
BKES	**Balkesir-Mer**	**1.44**	**82**	P	**Pn**	21 14 39.5	+0.8
BKES				S	**Sn**	21 14 57.4	-0.2
BKES				*i* AML	AML	21 15 01.0	
	comp=N,168nm,0.2s						
BKES				*i* AML	AML	21 15 02.0	
	comp=N,119nm,0.6s						
BKES				*i* AML	AML	21 15 03.0	
	comp=N,101nm,0.3s						
THAS	**Thassos island**	**1.49**	**316**	P	**Pn**	21 14 39.0	-0.3
THAS				S	**Sg**	21 15 00.8	+0.3
	comp=N,102nm,0.3s						
THAS	**Thassos island**	**1.49**	**316**	P	**Pn**	21 14 39.1	-0.3
THAS				AML	AML	21 14 59.1	
	comp=N,231μm,0.3s						
THAS				AML	AML	21 14 59.1	
	comp=E,156μm,0.3s						
BLKS	**Balkesir-Sus**	**1.49**	**77**	P	**Pn**	21 14 40.0	+0.6
BLKS				P	**Pb**	21 14 40.2	-0.2
BLKS				S	**Sn**	21 14 58.8	-0.1
BLKS				S	**Sb**	21 14 59.1	-0.3
BLKS				*i* AML	AML	21 15 01.0	
	comp=E,56nm,0.3s						
BLKS				*i* AML	AML	21 15 02.0	
	comp=E,70nm,0.4s						
BLKS				*i* AML	AML	21 15 03.0	
	comp=E,53nm,0.7s						
BLKS				*i* AML	AML	21 15 04.0	
	comp=E,65nm,0.7s						
BLKS				*i* AML	AML	21 15 04.0	
	comp=E,65nm,0.8s						
BLKS				*i* AML	AML	21 15 05.0	
	comp=E,59nm,0.4s						
AKHS	**Akhisar**	**1.50**	**116**	P	**Pn**	21 14 39.2	-0.3
AKHS				S	**Sn**	21 14 56.5	-2.6
AKHS				*i* AML	AML	21 14 58.0	
	comp=E,1.3nm,0.9s						
AKHS				*i* AML	AML	21 15 03.0	
	comp=E,34nm,0.7s						
AKHS				*i* AML	AML	21 15 04.0	
	comp=E,71nm,0.4s						
EDC	**Edincik**	**1.59**	**59**	Pn	**Pn**	21 14 41.3	+0.6
SUSR	**Susurluk-Balik**	**1.60**	**74**	Pn	**Pn**	21 14 41.5	+0.6
UKOP	**Uzunkopru-Edir**	**1.64**	**15**	Pn	**Pn**	21 14 41.9	+0.5
RDO	**Rodhopi**	**1.66**	**346**	Pn	**Pn**	21 14 42.1	+0.5
RDO	**Rodhopi**	**1.66**	**346**	P	**Pn**	21 14 42.1	+0.5
RDO				S	**Sn**	21 15 03.8	+0.9
	comp=E,70nm,0.3s						
RDO	**Rodhopi**	**1.66**	**346**	P	**Pn**	21 14 41.5	-0.1
RDO				AML	AML	21 15 06.7	
	comp=E,146μm,0.3s						
RDO				AML	AML	21 15 08.7	
	comp=N,116μm,0.3s						
KYMI	**Kymi, Euboea I**	**1.79**	**240**	P	**Pn**	21 14 42.7	-0.7
OUR	**Ouranopolis**	**1.80**	**297**	P	**Pn**	21 14 43.9	+0.4
OUR				S	**Sn**	21 15 07.2	+0.8
	comp=N,78nm,0.6s						
OUR	**Ouranopolis**	**1.80**	**297**	P	**Pn**	21 14 44.0	+0.4
OUR				AML	AML	21 15 14.1	
	comp=N,201μm,0.8s						
OUR				AML	AML	21 15 16.6	
	comp=E,135μm,0.4s						
KAVA	**Kavala**	**1.88**	**321**	P	**Pn**	21 14 44.7	0.0
SMG	**Samos**	**1.92**	**162**	P	**Pn**	21 14 45.5	+0.2
SMG				S	**Sb**	21 15 12.4	+0.6
	comp=E,255nm,0.5s						
SMG	**Samos**	**1.92**	**162**	P	**Pn**	21 14 45.8	+0.4
KOKK	**Kokkinochori,**	**2.04**	**309**	P	**Pn**	21 14 46.9	0.0
KOKK				AML	AML	21 15 20.1	
	comp=E,111μm,0.4s						
KOKK				AML	AML	21 15 30.1	
	comp=N,151μm,0.7s						
PLG	**Polygyros**	**2.19**	**293**	P	**Pn**	21 14 49.4	+0.4
DION	**Dionisos Attik**	**2.23**	**230**	P	**Pn**	21 14 50.0	+0.5
SRS	**Serrai**	**2.47**	**310**	P	**Pn**	21 14 53.0	+0.2
SRS	**Serrai**	**2.47**	**310**	P	**Pn**	21 14 53.1	+0.2
SRS				AML	AML	21 15 37.4	
	comp=E,64μm,0.5s						
SRS				AML	AML	21 15 41.1	
	comp=N,51μm,0.9s						
APE	**Apeiranthos**	**2.51**	**190**	P	**Pn**	21 14 52.2	-1.2
TYRN	**Tyrnavos**	**2.98**	**274**	P	**Pn**	21 15 00.7	+0.9
PEHC	**Pehcevo**	**3.29**	**314**	*i* Pn	**Pb**	21 15 08.8	-2.4
STIP	**Stip**	**3.66**	**307**	*i* Pn	**Pn**	21 15 09.1	-0.2

*IDC **21** 21:28:37.4±4.2,36.′15N×70.′90E,h101km±37km,mb3.8/15, mbtmp4.1/20,Error ellipse: s-maj=25.4km s-min=16.5km az=33.0*

*NEIC **21** 21:28:43.3±2.1,36.′46N±0.′06×70.′79E±0.′08,h138km±6km, mb4.2/14,Error ellipse: s-maj=9.9km s-min=7.9km az=117.0*

*NNC **21** 21:28:44.3±2.0,36.′96N×70.′77E,h0km,mb4.6,mpv4.3, Error ellipse: s-maj=16.4km s-min=12.7km az=159.0*

ISC 21 21:28:42.8±0.5,36.′44N±0.′05×71.′01E±0.′05,h150km,n91, σ1§59/105,mb3.9/16,4C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.48**	**221**		**Pn**	**21 29 23.4**	**-0.5**
KBL				Sn	**Sn**	**21 29 53.3**	**-2.3**
GAR	**Garm**	**2.62**	**348**	Pn	**Pn**	**21 29 24.8**	**-0.6**
CHGR	**Chuyangaron**	**2.66**	**327**	Pn	**Pn**	**21 29 24.5**	**-1.5**
SIMJ	**Simiganj**	**2.73**	**325**	Pn	**Pn**	**21 29 25.5**	**-1.3**
DRK	**Karamyk**	**3.10**	**11**		**Pn**	**21 29 32.7**	**+1.0**
NIL	**Nilore**	**3.34**	**146**		**Pn**	**21 29 35.9**	**+1.3**
BTK	**Batken**	**3.62**	**358**	Pn	**Pn**	**21 29 38.5**	**+0.4**
JMU	**Jammu**	**4.91**	**138**	*e*P	**Pn**	**21 29 54.9**	**-0.1**
JMU				*e*S	**Sn**	**21 30 49.2**	**-2.0**
JMU				IAML		21 30 52.5	
	comp=N,683nm,0.4s						
JMU				IAML		21 30 54.4	
	comp=E,338nm,0.1s						
KSH	**Kashi**	**4.98**	**50**	Pn	**Pn**	**21 29 53.3**	**-2.7**
KSH				Sn	**Sn**	**21 30 44.8**	**-8.3**
KSH				smax	smax		
	comp=N,180nm,0.6s						
KSH				smax	smax		
	comp=E,190nm,0.5s						
ARSB	**Arslanbob**	**5.11**	**17**		**Pn**	**21 29 56.7**	**-1.1**
THN	**Thein Dam**	**5.58**	**134**	*e*P	**Pn**	**21 30 04.2**	**+0.4**
THN				*e*S	**Sn**	**21 31 06.6**	**-0.6**
AML	**Almayashu**	**6.05**	**19**	P	**Pn**	**21 30 10.2**	**-0.4**
	SNR=235						
NRN	**Naryn**	**6.32**	**36**	Pn	**Pn**	**21 30 12.7**	**-1.3**
UCH	**Uchtor**	**6.38**	**24**	P	**Pn**	**21 30 14.6**	**-0.4**
	SNR=30						
EKS2	**Erkin-Say**	**6.57**	**18**	P	**Pn**	**21 30 17.1**	**-0.1**
	SNR=44						
BRLS	**Borolday**	**6.64**	**353**	Pg	**Pn**	**21 30 13.7**	**-4.4**
	comp=E,32nm,0.6s						
KK31	**Karatay Array**	**6.67**	**357**		**Pn**	**21 30 17.7**	**-0.6**
KK31	**Karatay Array**	**6.67**	**357**	P	**Pn**	**21 30 17.7**	**-0.6**
	comp=E,36nm,0.3s,baz=178,slow=12,SNR=954						
KK31				⇑S	**Sn**	**21 31 28.5**	**-4.7**
	comp=E,55nm,0.5s,baz=178,slow=18						
KKAR	**Karatay Array**	**6.67**	**357**		**Pn**	**21 30 17.7**	**-0.6**
KKAR	**Karatay Array**	**6.67**	**357**		**Pn**	**21 30 17.5**	**-0.8**
BHK	**Bhakra**	**6.73**	**137**	*e*P	**Pn**	**21 30 18.7**	**-0.5**
BHK				*i* x	x	21 30 33.7	
BHK				*e*S	**Sn**	**21 31 32.4**	**-2.4**
BHK				IAML		21 31 36.2	
	comp=E,149nm,0.6s						
AAK	**Ala-Archa**	**6.75**	**22**	P	**Pn**	**21 30 19.8**	**+0.2**
	SNR=11						
AAK	**Ala-Archa**	**6.75**	**22**		**Pn**	**21 30 19.2**	**-0.4**
AAK	**Ala-Archa**	**6.75**	**22**	P	**Pn**	**21 30 19.5**	**-0.1**
	comp=E,15nm,0.3s,baz=202,slow=5.4,SNR=14						
AAK				S	**Sn**	**21 31 33.4**	**-2.0**
	comp=E,27nm,0.5s,baz=162,slow=20,SNR=12						
AAK	**Ala-Archa**	**6.75**	**22**	P	**Pn**	**21 30 19.6**	**0.0**
	comp=E,14nm,0.6s						
AAK				S	**Sn**	**21 31 33.3**	**-2.1**
	comp=E,65nm,0.7s						
KBK	**Karagaybulak**	**6.91**	**25**	P	**Pn**	**21 30 22.9**	**+1.1**
	SNR=7.8						
FRU1	**Bishkek**	**6.95**	**23**	Pn	**Pn**	**21 30 22.0**	**-0.2**
CHMS	**Chumysh**	**7.16**	**23**	P	**Pn**	**21 30 24.6**	**-0.3**
	SNR=15						
CHMS	**Chumysh**	**7.16**	**23**	⇓P	**Pn**	**21 30 24.4**	**-0.5**
	comp=E,11nm,0.5s						
CHMS				⇑S	**Sn**	**21 31 44.8**	**-0.1**
	comp=E,20nm,0.7s						
USP	**Ospenovka**	**7.33**	**20**	P	**Pn**	**21 30 27.1**	**-0.1**
	SNR=21						
SMLA	**Simla**	**7.37**	**134**	*e*P	**Pn**	**21 30 26.8**	**-1.0**
SMLA				*e*S	**Sn**	**21 31 47.5**	**-2.6**
SMLA				IAML		21 31 49.9	
	comp=N,190nm,0.4s						
SMLA				IAML		21 31 50.4	
	comp=E,139nm,0.2s						
TKM2	**Tokmak 2**	**7.37**	**27**	P	**Pn**	**21 30 27.9**	**-0.1**
	SNR=11						
TKM2	**Tokmak 2**	**7.37**	**27**	⇑P	**Pn**	**21 30 27.7**	**-0.2**
	comp=E,24nm,0.8s						
TKM2				⇑S	**Sn**	**21 31 49.8**	**-0.7**
	comp=E,15nm,0.7s						
TARG	**Taragay, Kyrgy**	**7.47**	**43**	Pn	**Pn**	**21 30 29.2**	**-0.2**
HNLY	**HANLEY**	**7.51**	**117**	*e*P	**Pn**	**21 30 30.2**	**0.0**
HNLY				*e*S	**Sn**	**21 31 53.7**	**-0.6**
SGDS	**Sogindy**	**7.53**	**21**	Pg	**Pn**	**21 30 30.4**	**+0.4**
	comp=E,18nm,0.8s						
SGDS				Lg	Lg	21 31 52.7	
	comp=E,106nm,0.8s						
KST	**Kastek**	**7.62**	**29**	Lg	Lg	21 31 55.1	
	comp=E,28nm,0.7s						
DGS	**Degeres**	**7.72**	**27**	Pg	**Pn**	**21 30 32.5**	**+0.1**
	comp=E,5.3nm,0.7s						
DGS				Lg	Lg	21 31 56.2	
	comp=E,15nm,0.9s						
KLP	**Kalpa**	**7.75**	**127**	*e*P	**Pn**	**21 30 32.8**	**-0.4**
KLP				*e*S	**Sn**	**21 31 55.2**	**-4.7**
KLP				IAML		21 31 58.5	
	comp=E,119nm,0.4s						
KLP				IAML		21 31 58.8	
	comp=E,112nm,0.1s						
TNSS	**Tian-Shan**	**8.02**	**33**	Pg	**Pn**	**21 30 37.8**	**+1.1**
	comp=E,4.8nm,0.7s						
TNSS				Lg	Lg	21 32 05.9	
	comp=E,4.5nm,0.5s						
MDOK	**Medeo**	**8.16**	**33**	Pg	**Pn**	**21 30 39.5**	**+1.1**
	comp=E,12nm,1.4s						
MDOK				Lg	Lg	21 32 08.9	
	comp=E,6.6nm,0.7s						
PRZ	**Przheval'sk**	**8.31**	**41**	Pn	**Pn**	**21 30 40.3**	**-0.1**
MAKZ	**Makanchi**	**13.20**	**35**	Pn	**Pn**	**21 31 43.8**	**-0.6**
MKAR	**Makanchi Array**	**13.34**	**36**	Pn	**Pn**	**21 31 46.2**	**0.0**
MKAR	**Makanchi Array**	**13.34**	**36**	P	**Pn**	**21 31 45.8**	**-0.4**
	comp=E,1.5nm,0.7s,baz=224,slow=16,SNR=16						
AB31	**Akbulak array**	**15.14**	**331**	P	**P**	**21 32 11.2**	**+0.8**
	comp=E,2.6nm,0.5s,baz=143,slow=12,SNR=94						
AB31				⇓S	**Sn**	**21 34 53.8**	**-3.1**
	comp=E,3.4nm,0.5s						
ABKAR	**Akbulak array**	**15.14**	**331**	Pn	**Pn**	**21 32 07.0**	**-1.7**
ABKAR	**Akbulak array**	**15.14**	**331**	Pn	**Pn**	**21 32 07.5**	**-1.2**
ABKAR				IAmb	IAmb	21 32 11.2	
	comp=Z,5.2nm,0.7s						
KURBB	**Kurchatov Arra**	**15.18**	**19**	P	**Pn**	**21 32 08.2**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=205,slow=11,SNR=5.0						
KURK	**Kurchatov**	**15.29**	**19**	Pn	**Pn**	**21 32 10.7**	**+0.2**
KURK				IAmb	IAmb	21 32 14.7	
	comp=Z,7.3nm,0.7s						
BVAR	**Borovoye Array**	**16.59**	**359**	P	**P**	**21 32 25.6**	**-0.7**
	comp=Z,6.6nm,0.7s,baz=172,slow=12,SNR=20						
BRVK	**Borovoye**	**16.62**	**358**	P	**P**	**21 32 25.8**	**-0.9**
BRVK				IAmb	IAmb	21 32 30.5	
	comp=Z,6.1nm,0.6s						
AKTO	**Aktyubinsk**	**16.84**	**330**	P	**P**	**21 32 28.2**	**-0.9**
	comp=Z,4.6nm,0.4s,baz=148,slow=9.2,SNR=5.8						
ZAA0	**Zalesovo Array**	**19.97**	**24**	P	**P**	**21 33 03.6**	**+0.5**
ZAA0				IAmb	IAmb	21 33 06.4	
	comp=Z,4.1nm,0.5s						
ZALV	**Zalesovo Beam**	**19.97**	**24**	P	**P**	**21 33 03.5**	**+0.4**
ZALV	**Zalesovo Beam**	**19.97**	**24**	P	**P**	**21 33 03.7**	**+0.6**
	comp=Z,4.0nm,0.4s,baz=219,slow=10,SNR=24						
	comp=Z,4.0nm,0.4s						
ARU	**Arti**	**21.69**	**341**	P	**P**	**21 33 21.1**	**-0.4**
ARU				IAmb	IAmb	21 33 25.1	
	comp=Z,4.4nm,0.8s						
ARU	**Arti**	**21.69**	**341**	P	**P**	**21 33 22.6**	**+1.1**
	comp=Z,3.4nm,0.6s,baz=139,slow=2.4,SNR=10.0						
	comp=Z,3.4nm,0.6s						
RAYN	**Ar Rayn**	**25.48**	**247**	P	**P**	**21 33 55.8**	**-1.4**
AKASG	**Malin Array Be**	**32.99**	**309**	P	**P**	**21 35 03.6**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=106,slow=9.8,SNR=11						
	comp=Z,0.7nm,0.4s						
NRIK	**Noril'sk**	**34.18**	**10**	P	**P**	**21 35 15.5**	**+2.2**
	comp=Z,2.9nm,0.7s,baz=198,slow=9.6,SNR=4.0						
	comp=Z,2.9nm,0.7s						
BURAR	**Bucovina Array**	**35.33**	**303**	P	**P**	**21 35 23.8**	**+0.3**
BUR08	**Bucovina Ar. S**	**35.34**	**303**	P	**P**	**21 35 23.8**	**+0.1**
JOF	**Joensuu**	**35.92**	**330**	*e*P	**P**	**21 35 29.9**	**+1.6**
ARBE	**Arbavere**	**36.91**	**323**	*e*P	**P**	**21 35 38.4**	**+1.7**
FIA1	**FINESS Array S**	**37.54**	**326**	P	**P**	**21 35 42.6**	**+0.6**
FIA1				IAmb	IAmb	21 36 02.2	
	comp=Z,15nm,1.2s						
FINES	**FINESS Array B**	**37.54**	**326**	P	**P**	**21 35 43.2**	**+1.2**
FINES	**FINESS Array B**	**37.54**	**326**	P	**P**	**21 35 43.4**	**+1.4**
	comp=Z,1.0nm,0.4s,baz=116,slow=11,SNR=21						
	comp=Z,1.0nm,0.4s						
MTSE	**Matsula**	**37.77**	**321**	*e*P	**P**	**21 35 45.5**	**+1.5**
RAF	**Rauma**	**39.39**	**324**	*e*P	**P**	**21 35 58.5**	**+1.1**
VAF	**Ylistaro**	**39.58**	**328**	*e*P	**P**	**21 36 00.4**	**+1.4**
AAL	**Aland**	**40.02**	**323**	*e*P	**P**	**21 36 03.4**	**+0.8**
ARCES	**ARCESS Array B**	**41.20**	**338**	P	**P**	**21 36 14.2**	**+1.9**
ARCES	**ARCESS Array B**	**41.20**	**338**	P	**P**	**21 36 13.6**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=115,slow=8.0,SNR=15						
	comp=Z,1.2nm,0.5s						
VIKU	**Vikbolandet**	**41.38**	**320**	*e*P	**P**	**21 36 15.0**	**+1.1**
BRG	**Berggiesshubel**	**42.67**	**308**	*e*P	**P**	**21 36 26.2**	**+1.8**
BRG				Amp		21 36 26.4	
	comp=Z,1.6nm,0.8s						
DEL	**Delary**	**42.71**	**317**	*e*P	**P**	**21 36 25.6**	**+1.0**
HFS	**Hagfors**	**43.12**	**322**	P	**P**	**21 36 28.8**	**+0.9**
	comp=Z,6.4nm,0.5s,baz=97,slow=10,SNR=43						
	comp=Z,6.4nm,0.5s						
CLL	**Collm**	**43.24**	**309**	*e*P	**P**	**21 36 29.0**	**+0.1**
CLL				*e*PP	**PP**	**21 38 13.0**	**+0.8**
CLL				AMS	AMS	23 00 00.0	
	comp=Z,500nm,19.1s						
NC405	**NORSAR Array S**	**44.20**	**323**	P	**P**	**21 36 37.2**	**+0.7**
NC405				IAmb	IAmb	21 36 38.6	
	comp=Z,6.7nm,0.8s						
NB2	**NORSAR Subarra**	**44.43**	**323**	P	**P**	**21 36 38.8**	**+0.4**
	comp=Z,3.0nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.43**	**323**	P	**P**	**21 36 38.9**	**+0.5**
	comp=Z,4.8nm,0.7s,baz=97,slow=7.8,SNR=34						
	comp=Z,4.8nm,0.7s						
KONO	**Kongsberg**	**45.14**	**321**	P	**P**	**21 36 44.2**	**+0.3**
SPB2	**Spitsbergen Ar**	**47.55**	**347**	P	**P**	**21 37 04.5**	**+2.0**
SPITS	**Spitsbergen Ar**	**47.55**	**347**	P	**P**	**21 37 04.0**	**+1.5**
	comp=Z,0.8nm,0.4s,baz=110,slow=12,SNR=5.9						
	comp=Z,0.8nm,0.4s						
EKA	**Eskdalemuir Ar**	**52.34**	**316**	P	**P**	**21 37 39.3**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=79,slow=7.3,SNR=4.7						
	comp=Z,0.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P	**P**	**21 39 09.9**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=58,slow=7.8,SNR=11						
	comp=Z,0.8nm,0.6s						
BOSA	**Boshof**	**77.71**	**220**	P	**P**	**21 40 22.9**	**-0.2**
	comp=Z,3.0nm,1.0s,baz=29,slow=10,SNR=2.8						
	comp=Z,3.0nm,1.0s						
YKA	**Yellowknife Ar**	**81.31**	**3**	P	**P**	**21 40 43.4**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=337,slow=4.1,SNR=3.7						
	comp=Z,0.4nm,0.5s						
WRA	**Warramunga Arr**	**81.95**	**122**	P	**P**	**21 40 45.7**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=324,slow=5.0,SNR=8.3						
	comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**84.21**	**125**	P	**P**	**21 40 57.1**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=311,slow=5.2,SNR=12						
	comp=Z,0.8nm,0.6s						

*IDC **21** 21:31:46.4±0.8, 14.′93S×177.′31W,h0km,mb4.1/11, mbtmp4.1/11,Error ellipse: s-maj=39.8km s-min=18.5km az=146.0*

ISC 21 21:32:31.0±0.8,15.′2S±0.′2×177.′7W±0.′2,h400km,n35, σ1§60/32,mb3.6/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N3	**WAKE ISLAND Hy**	**37.87**	**336**	T	T	22 19 03.2	
	baz=153,slow=76,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**37.89**	**336**	T	T	22 19 05.6	
	baz=153,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**37.89**	**336**	T	T	22 19 04.0	
	baz=153,slow=76,SNR=5.2						
STKA	**Stephens Creek**	**40.59**	**239**	P	**P**	**21 39 31.8**	**-2.1**
	8.6nm,1.1s,baz=62,slow=6.7,SNR=4.5						
	8.6nm,1.1s						
WRA	**Warramunga Arr**	**45.87**	**257**	P	**P**	**21 40 13.5**	**-2.2**
	3.5nm,1.1s,baz=87,slow=8.4,SNR=7.0						
	3.5nm,1.1s						
ASAR	**Alice Springs**	**46.25**	**252**	P	**P**	**21 40 16.7**	**-1.9**
	4.5nm,1.1s,baz=85,slow=8.3,SNR=17						
	4.5nm,1.1s						
KSRS	**Korea Array**	**73.18**	**317**	P	**P**	**21 43 18.7**	**-0.7**
	0.4nm,0.3s,baz=130,slow=7.3,SNR=3.5						
	0.4nm,0.3s						
QSPA	**South Pole Qui**	**74.83**	**180**	P	**P**	**21 43 30.2**	**+1.5**
	1.3nm,0.9s,baz=257,slow=3.4,SNR=3.7						
	1.3nm,0.9s						
NVAR	**Mina Array Bea**	**77.00**	**44**	P	**P**	**21 43 39.1**	**-2.3**
	2.1nm,1.0s,baz=239,slow=10,SNR=11						
	2.1nm,1.0s						
ILAR	**Eielson Array**	**83.11**	**13**	P	**P**	**21 44 11.7**	**-1.0**
	1.2nm,1.0s,baz=219,slow=5.6,SNR=9.2						
	1.2nm,1.0s						
TXAR	**Lajitas Array**	**83.96**	**58**	P	**P**	**21 44 17.0**	**-1.0**
	2.9nm,1.2s,baz=250,slow=1.8,SNR=12						
	2.9nm,1.2s						
PDAR	**Pinedale Array**	**84.92**	**43**	P	**P**	**21 44 20.8**	**-1.7**
	1.7nm,0.9s,baz=251,slow=4.7,SNR=13						
	1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**88.65**	**289**	P	**P**	**21 44 44.4**	**+3.9**
	0.3nm,0.3s,baz=103,slow=4.0,SNR=1.5						
	0.3nm,0.3s						
YKA	**Yellowknife Ar**	**91.60**	**24**	P	**P**	**21 44 53.4**	**+0.2**
	0.4nm,0.7s,baz=254,slow=3.8,SNR=1.9						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**115.19**	**322**	PKP	**PKiKP**	**21 50 30.0**	**+4.6**
	0.5nm,0.8s,baz=76,slow=0.6,SNR=2.4						
BRTR	**Keskin Array B**	**143.33**	**318**	PKP	**PKiKP**	**21 51 22.3**	**-0.1**
	1.0nm,1.0s,baz=56,slow=3.8,SNR=4.5						
GERES	**GERESS Array B**	**145.18**	**347**	PKP	**PKiKP**	**21 51 25.4**	**-0.4**
	0.6nm,0.8s,baz=26,slow=

LRK S Sg 22 00 36.8 +0.9
YRD Yardimli 1.39 67 P Pg 22 00 17.3 -0.6
YRD S Sg 22 00 36.9 +0.9
BLQ Beylaqan 1.53 29 P Pg 22 00 20.3 -0.2
BLQ S Sg 22 00 42.2 +1.8
GLBA Clilabad 1.65 58 P Pg 22 00 22.7 +0.1
GLBA S Sg 22 00 46.7 +2.7
ASTR Astara 1.73 83 P Pg 22 00 23.8 -0.5
ASTR S Sg 22 00 48.2 +1.5
LKRN Lenkeran, Azer 1.74 78 P Pg 22 00 23.8 -0.6
LKRN S Sg 22 00 47.9 +0.8
GAS1 Astara - Iran 1.76 89 Pg Pg 22 00 23.6 -1.2
AGDM Agdam 1.77 13 P Pg 22 00 24.0 -1.0
AGDM S Sg 22 00 48.8 +0.8
MAKU Maku 1.78 304 Pg Pb 22 00 23.8 +0.5
HYR Heyderabad 1.91 315 P Pg 22 00 26.4 -1.2
HYR S Sg 22 00 52.4 0.0
BRDA Brd 1.93 13 P Pg 22 00 27.6 -0.5
BRDA S Sg 22 00 55.0 +1.8
SAAT Saatly 2.05 43 S Sg 22 00 56.0 -0.9
ZRD Zardab 2.07 24 P Pg 22 00 30.5 -0.3
ZRD S Sg 22 00 57.5 -0.2
GANJ Ganja 2.27 355 P Pb 22 00 31.8 +0.3
GANJ S Sg 22 01 01.3 -2.7
KDMR Kurdemir 2.34 31 P Pb 22 00 32.5 -0.2
KDMR S Sg 22 01 05.5 -0.7
GDB GEDABAY 2.43 345 P Pb 22 00 34.6 +0.4
GDB S Sg 22 01 07.8 -1.2
IML Ismayilli 2.70 26 P Pb 22 00 37.9 -1.0
IML S Sb 22 01 13.6 +1.8
QBL Gabala 2.73 20 P Pb 22 00 38.0 -1.5
QBL S Sb 22 01 12.5 -0.2
GBS Qobustan 2.81 39 P Pb 22 00 40.8 0.0
GBS S Sb 22 01 14.8 -0.2
QZX Qazax, Azerbai 2.83 341 P Pb 22 00 41.8 +0.7
QZX S Sg 22 01 20.4 -1.7
PQL Pirkuli 2.86 32 P Pb 22 00 40.1 -1.5
PQL S Sb 22 01 16.6 +0.2
SEKA Sheki 2.86 9 P Pb 22 00 40.5 -1.2
SEKA S Sb 22 01 17.9 +1.5
XNQ Khinaliq 3.03 23 P Pb 22 00 41.6 -2.9
XNQ S Sb 22 01 23.2 +1.8
SIZA Siyzn 3.22 33 S Sb 22 01 27.6 +0.8
ZKTA Zakatala 3.25 0 S Sb 22 01 27.7 +0.1

*IDC **21** 22:15:22.7±1.4, 37.°70N×24.°72W, h0km, mb3.7/4, mbtmp3.7/4, MS4.0/1, Error ellipse: s-maj=48.5km s-min=32.6km az=13.0*
*SVSA **21** 22:15:25.1±1.5, 37.°51N×24.°75W, h5km, ML4.1(INMG), Error ellipse: s-maj=7.2km s-min=2.6km az=73.0*
ISC 21 22:15:22.5±1.7, 37.°60N±0.°05×24.°82W±0.°06, h10km±11km, n35, σ1§85/55, mb3.8/4, 6C-5D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.33**	**302**	⇓eP	**Pn**	**22 15 32.4**	**-1.0**
BART				eS	**Sb**	**22 15 37.9**	**+2.0**
BART				A	A	22 15 39.5	
	21µm,0.2s						
PNOR2	**Nordeste**	**0.35**	**312**	⇓eP	**Pn**	**22 15 32.5**	**-1.1**
PNOR2				eS	**Sb**	**22 15 38.1**	**+1.7**
PNOR2				A	A	22 15 40.3	
	15µm,0.3s						
PPOV	**Povoa§Co**	**0.37**	**293**	eP	**Pn**	**22 15 32.8**	**-1.1**
PPOV				eS	**Sb**	**22 15 38.9**	**+1.9**
PPOV				A	A	22 15 40.3	
	8µm,0.1s						
PGRON	**Lagoa das Cont**	**0.48**	**291**	⇑eP	**Pn**	**22 15 34.6**	**-0.8**
PGRON				eS	**Sb**	**22 15 42.1**	**+2.0**
PGRON				A	A	22 15 44.6	
	4µm,0.1s						
PCALD	**Caldeiras da R**	**0.57**	**290**	eP	**Pn**	**22 15 35.9**	**-0.7**
PCALD				eS	**Sb**	**22 15 44.2**	**+1.5**
PCALD				A	A	22 15 45.7	
	3µm,0.3s						
CMLA	**Cha da Macela**	**0.59**	**286**	⇑eP	**Pn**	**22 15 36.2**	**-0.7**
CMLA				eS	**Sb**	**22 15 45.1**	**+1.9**
CMLA				A	A	22 15 47.9	
	7µm,0.3s						
PSMN	**Pico do Norte,**	**0.63**	**199**	⇑eP	**Pb**	**22 15 34.7**	**-0.8**
PSMN				eS	**Sg**	**22 15 42.0**	**-0.9**
PSMN				A	A	22 15 46.8	
	727nm,0.2s						
PSMA	**Santa Maria**	**0.66**	**203**	⇑eP	**Pb**	**22 15 35.1**	**-0.9**
PSMA				eS	**Sg**	**22 15 42.8**	**-0.9**
PSMA				A	A	22 15 43.8	
	1µm,0.2s						
PDA	**Ponta Delgada**	**0.69**	**282**	⇑eP	**Pb**	**22 15 37.3**	**+0.7**
PDA				eS	**Sb**	**22 15 47.2**	**+1.1**
PDA				A	A	22 15 49.2	
	3µm,0.1s						
PSET	**Sete Cidades**	**0.75**	**287**	⇑eP	**Pn**	**22 15 38.9**	**-0.3**
PSET				eS	**Sb**	**22 15 48.9**	**+0.9**
PSET				A	A	22 15 52.6	
	4µm,0.3s						
PSCM	**Serra do Cume**	**2.12**	**302**	eP	**Pn**	**22 15 57.9**	**-0.1**
PSCM				eS	**Sn**	**22 16 22.1**	**-2.3**
PSCM				A	A	22 16 27.2	
	2µm,0.2s						
ADH	**Angra Heroismo**	**2.18**	**300**	⇓eP	**Pn**	**22 15 58.1**	**-0.7**
ADH				eS	**Sn**	**22 16 22.6**	**-3.2**
ADH				A	A	22 16 29.0	
	503nm,0.3s						
PAGU	**Agualva, Azore**	**2.20**	**303**	⇓eP	**Pn**	**22 15 59.0**	**-0.1**
PAGU				eS	**Sn**	**22 16 24.1**	**-2.3**
PAGU				A	A	22 16 26.7	
	2µm,0.2s						
PSBA	**Serra de Santa**	**2.29**	**301**	⇓eP	**Pn**	**22 16 00.5**	**+0.1**
PSBA				eS	**Sn**	**22 16 26.5**	**-2.2**
PSBA				A	A	22 16 32.3	
	579nm,0.3s						
PID	**Ribeirinha**	**2.74**	**289**	eP	**Pn**	**22 16 07.3**	**+0.8**
PID				eS	**Sn**	**22 16 37.2**	**-2.5**
PID				A	A	22 16 39.8	
	157nm,0.3s						
PMAN	**Manadas**	**2.78**	**293**	eP	**Pn**	**22 16 07.4**	**+0.4**
PMAN				eS	**Sn**	**22 16 38.1**	**-2.5**
PMAN				A	A	22 16 42.8	
	195nm,0.2s						
PPNO	**Prainha do Nor**	**2.86**	**289**	eP	**Pn**	**22 16 09.2**	**+1.0**
PPNO				eS	**Sn**	**22 16 39.9**	**-2.8**
PPNO				A	A	22 16 43.3	
	196nm,0.2s						
PGRA	**Graciosa**	**2.87**	**301**	eP	**Pg**	**22 16 18.8**	**+1.4**
PGRA				eS	**Sg**	**22 16 52.0**	**-2.6**
PGRA				A	A	22 16 56.2	
	130nm,0.3s						
SRBC	**Serra Branca**	**2.91**	**300**	eP	**Pn**	**22 16 06.9**	**-2.0**
SRBC				eS	**Sn**	**22 16 39.5**	**-4.5**
SRBC				A	A	22 16 43.5	
	240nm,0.1s						
ROSA	**Rosais**	**2.92**	**294**	eP	**Pn**	**22 16 09.3**	**+0.3**
ROSA				eS	**Sn**	**22 16 41.6**	**-2.6**
ROSA				A	A	22 16 47.4	
	144nm,0.2s						
PICO	**Pico**	**2.99**	**289**	eP	**Pn**	**22 16 10.5**	**+0.5**
PICO				eS	**Sn**	**22 16 43.9**	**-2.0**
PICO				A	A	22 16 47.1	
	342nm,0.2s						
PCAN	**Candelaria**	**3.02**	**288**	eP	**Pn**	**22 16 10.9**	**+0.5**
PCAN				eS	**Sn**	**22 16 44.8**	**-1.9**
PCAN				A	A	22 16 48.5	
	208nm,0.5s						
HOR	**Horta**	**3.15**	**288**	eS	**Sn**	**22 16 47.5**	**-2.2**
HOR				A	A	22 16 50.6	
	284nm,0.3s						
PFCBR	**Castelo Branco**	**3.21**	**288**	eS	**Sn**	**22 16 49.1**	**-2.2**
PFCBR				A	A	22 16 53.7	
	55nm,0.6s						
CALA	**Caldeira**	**3.22**	**289**	eP	**Pn**	**22 16 13.5**	**+0.4**
CALA				eS	**Sn**	**22 16 49.4**	**-2.2**
CALA				A	A	22 16 52.6	
	555nm,0.5s						
PCED	**Cedros**	**3.23**	**290**	eP	**Pn**	**22 16 13.3**	**0.0**
PCED				eS	**Sn**	**22 16 48.8**	**-3.0**
PCED				A	A	22 16 53.3	
	137nm,0.5s						
ESDC	**Sonseca Array**	**16.42**	**76**	Pn	**Pn**	**22 19 09.5**	**-3.6**
	baz=268,slow=13,SNR=5.1						
TORD	**Torodi Ar. Bea**	**33.93**	**129**	P	**P**	**22 22 07.6**	**+1.7**
	0.4nm,0.7s,baz=326,slow=8.6,SNR=2.5						
	0.4nm,0.7s						
IDI	**Anoyia**	**39.68**	**78**	LR	LR	22 41 01.8	
	comp=Z,182nm,18.1s,baz=294,slow=39						
H10N2	**ASCENSION HYDR**	**46.21**	**166**	T	T	23 13 09.1	
	baz=348						
H10N3	**ASCENSION HYDR**	**46.22**	**166**	T	T	23 13 16.8	
	baz=348						
H10N1	**ASCENSION HYDR**	**46.23**	**166**	T	T	23 13 09.6	
	baz=348						
TXAR	**Lajitas Array**	**64.52**	**288**	P	**P**	**22 26 01.9**	**+2.2**
	0.5nm,0.7s,baz=80,slow=7.4,SNR=6.9						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**70.59**	**36**	P	**P**	**22 26 38.4**	**+0.7**
	0.8nm,0.5s,baz=309,slow=6.5,SNR=3.8						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**73.68**	**43**	P	**P**	**22 26 57.8**	**+1.5**
	0.7nm,0.7s,baz=310,slow=6.1,SNR=7.1						
	0.7nm,0.7s						

IDC 21 22:24:15.8±8.2, 17.°04S×171.°78W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=352.7km s-min=40.9km az=140.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**51.00**	**258**	P	P	22 33 19.0	-0.9
	1.1nm,0.4s,baz=96,slow=6.4,SNR=29						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**51.10**	**253**	P	P	22 33 21.3	+0.6
	3.6nm,0.5s,baz=89,slow=7.6,SNR=74						
	3.6nm,0.5s						
ILAR	**Eielson Array**	**83.76**	**10**	P	P	22 36 46.5	+0.1
	0.3nm,0.7s,baz=198,slow=5.7,SNR=3.1						
	0.3nm,0.7s						

*ISK **21** 22:28:25.7, 36.°45N×28.°74E, h5km, ML2.5/12*
*ATH **21** 22:28:27.0, 36.°47N×28.°74E, h6km±2km, ML2.2/5, Manual Solution by A.Papageorgiou This location: 2020/06/12 14:12:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISC 21 22:28:26.7±1.2, 36.°46N±0.°04×28.°74E±0.°02, h9km±12km, n23, σ0§59/32, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.33**	**57**	Pg	**Pg**	**22 28 33.2**	**0.0**
FETY				Sg	**Sb**	**22 28 39.4**	**-0.7**
RDI1	**Rhodes Town Ha**	**0.42**	**269**	P	**Pg**	**22 28 35.1**	**+0.2**
RDI1				S	**Sb**	**22 28 41.5**	**-1.2**
TURN	**Turunc**	**0.51**	**308**	Pg	**Pg**	**22 28 36.9**	**+0.3**
TURN				Sg	**Sb**	**22 28 45.0**	**-0.3**
ARG	**Arkhangelos**	**0.55**	**244**	Pg	**Pg**	**22 28 37.2**	**-0.3**
ARG				Sg	**Sb**	**22 28 46.3**	**-0.3**
ARG	**Arkhangelos**	**0.55**	**244**	P	**Pb**	**22 28 37.9**	**-0.7**
ARG				S	**Sb**	**22 28 46.0**	**-0.6**
CAME	**Cameli-Denizli**	**0.66**	**43**	Pg	**Pb**	**22 28 39.9**	**-0.6**
CAME				Sg	**Sb**	**22 28 50.1**	**+0.2**
AKAS	**Kas**	**0.73**	**108**	Pg	**Pb**	**22 28 41.2**	**-0.5**
KSL	**Kastellorizon**	**0.75**	**114**	P	**Pb**	**22 28 41.7**	**-0.2**
KSL				S	**Sg**	**22 28 51.2**	**+0.3**
RGE1	**Gennadi, Rhode**	**0.79**	**237**	P	**Pg**	**22 28 41.6**	**-0.2**
RGE1				S	**Sb**	**22 28 52.5**	**-0.8**
DAT	**Datca**	**0.97**	**286**	Pg	**Pb**	**22 28 45.6**	**-0.3**
ELL	**Elmali**	**0.98**	**73**	Pg	**Pb**	**22 28 45.9**	**-0.1**
APMY	**Acipayam-Deniz**	**1.10**	**24**	Pn	**Pn**	**22 28 48.3**	**-0.2**
MLSB	**Milas**	**1.14**	**317**	Pn	**Pn**	**22 28 48.9**	**0.0**
BODT	**Bodrum**	**1.30**	**298**	Pn	**Pg**	**22 28 51.7**	**+0.1**
KORT	**Korkuteli**	**1.40**	**67**	Pn	**Pg**	**22 28 53.8**	**+0.2**
NAZL	**Nazilli-Aydin**	**1.54**	**347**	Pn	**Pg**	**22 28 55.9**	**-0.5**
KARP	**Karpathos**	**1.57**	**235**	P	**Pb**	**22 28 55.8**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.63**	**336**	Pn	**Pb**	**22 28 56.8**	**-0.3**
SMG	**Samos**	**1.97**	**310**	P	**Pn**	**22 29 00.8**	**+0.5**
SMG				S	**Sn**	**22 29 25.3**	**+0.2**
APE	**Apeiranthos**	**2.65**	**284**	P	**Pn**	**22 29 10.6**	**+1.0**
CHOS	**Chios island**	**2.88**	**313**	P	**Pn**	**22 29 13.8**	**+1.0**
IDI	**Anoyia**	**3.34**	**251**	P	**Pn**	**22 29 20.4**	**+1.2**
SIGR	**SIGRI**	**3.57**	**321**	P	**Pn**	**22 29 23.2**	**+0.9**

*NOU **21** 22:34:00.6, 21.°23S×169.°07E, h0km, MLv4.0/8, Southeast of Loyalty Islands*
*IDC **21** 22:34:02.7±2.0, 22.°53S×168.°94E, h0km, mb3.6/2, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=78.7km s-min=30.9km az=172.0*
ISC 21 22:34:07.3±1.6, 21.°39S±0.°09×168.°5E±0.°1, h10km, n13, σ1§00/14, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.43**	**258**	P	**Pn**	**22 34 20.0**	**+0.5**
LIFNC	**LIFOU**	**1.31**	**297**	P	**Pb**	**22 34 31.2**	**-0.8**
PINNC	**Pines Island,**	**1.55**	**218**	P	**Pb**	**22 34 36.1**	**0.0**
YATNC	**Mamie plateau,**	**1.62**	**245**	P	**Pb**	**22 34 36.9**	**-0.4**
DZM	**Mont Dzumac**	**2.01**	**250**	P	**Pb**	**22 34 44.0**	**0.0**
DZM	**Mont Dzumac**	**2.01**	**250**	Pn	**Pb**	**22 34 43.3**	**-0.7**
	15nm,0.3s,baz=104,slow=17,SNR=208						
DZM				Sn	**Sg**	**22 35 11.6**	**-0.4**
	67nm,0.3s,baz=105,slow=20,SNR=11						
	40nm,0.3s						
ONTNC	**Ouen Toro**	**2.09**	**244**	P	**Pb**	**22 34 45.2**	**-0.1**
NOUC	**Port Laguerre**	**2.15**	**250**	P	**Pb**	**22 34 45.2**	**-1.0**
KOUNC	**Koumac, New Ca**	**4.01**	**281**	P	**Pn**	**22 35 11.3**	**+2.5**
WRA	**Warramunga Arr**	**31.94**	**266**	P	**P**	**22 40 33.8**	**+0.3**
	0.6nm,0.7s,baz=102,slow=7.8,SNR=6.6						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**31.98**	**259**	P	**P**	**22 40 32.7**	**-1.1**
	0.7nm,0.7s,baz=86,slow=9.4,SNR=9.2						
	0.7nm,0.7s						
EKA	**Eskdalemuir Ar**	**145.53**	**352**	PKPbc	**PKPdf**	**22 53 44.9**	**-0.6**
	0.4nm,0.4s,baz=1.8,slow=2.0,SNR=6.3						
GERES	**GERESS Array B**	**146.01**	**330**	PKPbc	**PKPab**	**22 53 47.6**	**-0.3**
	0.7nm,0.7s,baz=90,slow=2.9,SNR=7.7						

IDC 21 22:44:43.2±9.8, 18.°75S×174.°08W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=423.0km s-min=43.0km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.52**	**260**	P	P	22 53 29.3	+0.9
	0.5nm,0.3s,baz=94,slow=8.3,SNR=37						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**48.53**	**255**	P	P	22 53 26.8	-1.7
	0.4nm,0.6s,baz=91,slow=9.3,SNR=2.6						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**85.84**	**11**	P	P	22 57 24.2	-0.1
	0.3nm,0.6s,baz=206,slow=5.9,SNR=1.5						
	0.3nm,0.6s						

*IDC **21** 22:50:57.5±0.5, 60.°60S×26.°85W, h0km, mb4.5/10, mbtmp4.5/10, MS3.6/3, Error ellipse: s-maj=24.4km s-min=16.9km az=67.0*
*NEIC **21** 22:50:57.8±2.1, 60.°6S±0.°1×26.°2W±0.°3, h10km±1km, mb5.1/36, Error ellipse: s-maj=22.9km s-min=17.7km az=60.0*
ISC 21 22:50:58.1±0.4, 60.°63S±0.°08×26.°48W±0.°09, h10km, n97, σ1§10/92, mb5.0/24, 8C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.48**	**151**	⇑P	**Pn**	**22 53 53.4**	**-2.0**
	comp=Z,175nm,0.3s						
VNA1				⇑S	Sn	22 56 03.8	-10
	comp=Z,5.8nm,0.5s						
VNA3	**Neumayer Olymp**	**12.60**	**155**	⇑P	**Pn**	**22 53 54.4**	**-2.7**
	comp=Z,82nm,0.4s						
VNA3				⇓S	Sn	22 56 03.2	-14
	comp=Z,4.0nm,0.3s						
VNA2	**Neumayer--Watz**	**12.88**	**151**	⇑P	**Pn**	**22 53 58.7**	**-2.2**
	comp=Z,28nm,0.3s,baz=306,slow=15						
VNA2				⇓S	Sn	22 56 08.5	-16
	comp=Z,3.9nm,0.6s,baz=203,slow=13						
SNAA	**Sanae**	**14.48**	**150**	⇑P	**Pn**	**22 54 19.9**	**-2.9**
	comp=Z,260nm,0.3s						
SNAA				⇑S	Sn	22 56 50.2	-13
	comp=Z,36nm,0.4s						
SNAA	**Sanae**	**14.48**	**150**	Pn	**Pn**	**22 54 20.3**	**-2.5**
	comp=Z,4.5nm,0.3s,baz=311,slow=16,SNR=192						
SNAA				Sn	Sn	22 56 50.6	-13
	comp=Z,0.2nm,0.3s,baz=324,slow=19,SNR=1.7						
SNAA				LR	LR	22 58 53.0	
	comp=Z,160nm,21.2s,baz=311,slow=33						
TROLL	**Troll, Antarti**	**16.07**	**147**	⇑P	**Pn**	**22 54 41.9**	**-1.9**
	comp=Z,808nm,0.6s						
TROLL				⇑S	Sn	22 57 29.7	-12
	comp=Z,60nm,0.3s						
BELA	**Belgrano 2**	**17.53**	**186**		**Pn**	**22 55 02.2**	**0.0**
SMAI	**San Martin Ant**	**18.76**	**229**	P	**Pn**	**22 55 18.2**	**+0.9**
EFI	**East Falkland**	**19.56**	**283**		**Pn**	**22 55 28.0**	**+1.0**
EFI				IAmb	IAmb	22 55 30.4	
	comp=Z,101nm,1.4s						
ELIB	**Princess Elisa**	**22.20**	**141**	dP	**P**	**22 55 55.5**	**+1.3**
	comp=Z,5.7nm,1.0s						
MG03	**Isla Dawson**	**24.35**	**266**	P	**P**	**22 56 16.1**	**+0.3**
MG03				IAmb	IAmb	22 56 16.6	
	comp=Z,84nm,1.7s						
GO09	**Cerro Castillo**	**26.80**	**270**	P	**P**	**22 56 37.2**	**-0.7**
QSPA	**South Pole Qui**	**29.61**	**180**	P	**P**	**22 57 04.2**	**+1.1**
QSPA	**South Pole Qui**	**29.61**	**180**	P	**P**	**22 57 05.2**	**+2.1**
	comp=Z,7.7nm,1.0s,baz=198,slow=7.5,SNR=32						
QSPA				LR	LR	23 08 22.1	
	comp=Z,242nm,20.9s,baz=191,slow=35						
	comp=Z,7.7nm,1.0s						
TRQA	**Tornquist**	**31.69**	**299**	P	**P**	**22 57 21.6**	**0.0**
TRQA				IAmb	IAmb	22 57 41.2	
	comp=Z,55nm,1.9s						
PLTB	**Pedras Altas**	**33.95**	**316**	P	**P**	**22 57 41.6**	**+0.3**
PLTB				IAmb	IAmb	22 57 51.9	
	comp=Z,24nm,1.1s						
MAW	**Mawson**	**36.31**	**140**	P	**P**	**22 58 02.2**	**+1.0**
	comp=Z,3.4nm,0.9s,baz=235,slow=8.5,SNR=5.5						
MAW				LR	LR	23 10 28.1	
	comp=Z,96nm,20.8s,baz=255,slow=32						
	comp=Z,3.4nm,0.9s						
ITQB	**Itaqui**	**36.92**	**313**	P	**P**	**22 58 06.4**	**-0.4**
ITQB				IAmb	IAmb	22 58 08.0	
	comp=Z,44nm,0.9s						
ITAB	**Concordia**	**37.65**	**321**	P	**P**	**22 58 13.3**	**+0.2**
ACHE	**Chepes**	**39.57**	**300**	eP	**P**	**22 58 28.6**	**-0.8**
PEL	**Peldehue**	**39.65**	**294**	P	**P**	**22 58 30.3**	**+0.4**
PEL				IAmb	IAmb	22 58 32.0	
	comp=Z,40nm,1.1s						
CPUP	**Villa Florida**	**40.22**	**315**	P	**P**	**22 58 34.2**	**-0.3**
CPUP	**Villa Florida**	**40.22**	**315**	P	**P**	**22 58 34.5**	**-0.1**
	comp=Z,7.6nm,0.5s,baz=155,slow=9.3,SNR=29						
	comp=Z,7.6nm,0.5s						
AVFE	**Valle Fertil**	**40.34**	**299**	eP	**P**	**22 58 35.8**	**0.0**
ACCO	**Cerro Coronel**	**41.10**	**297**	eP	**P**	**22 58 43.3**	**+1.0**
ACLC	**CERRO LA CRUZ**	**41.20**	**301**	eP	**P**	**22 58 42.7**	**-0.2**
ACDV	**Cuesta del Vie**	**41.49**	**298**	eP	**P**	**22 58 46.1**	**+0.8**
SBA	**Scott Base**	**41.52**	**184**	P	**P**	**22 58 43.3**	**-1.5**
CYA	**Choya**	**41.58**	**303**	eP	**P**	**22 58 44.5**	**-1.3**
AROD	**Rodeo**	**41.65**	**297**	i P	**P**	**22 58 47.8**	**+1.1**
VNDA	**Vanda**	**42.00**	**183**	P	**P**	**22 58 48.2**	**-0.5**
VNDA	**Vanda**	**42.00**	**183**	P	**P**	**22 58 50.2**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=185,slow=7.1,SNR=8.6						
	comp=Z,1.6nm,0.7s						
CO01	**Juntas del Tor**	**42.08**	**297**	P	**P**	**22 58 51.2**	**+1.0**
VCA	**Vinchina**	**42.33**	**300**	eP	**P**	**22 58 53.3**	**+1.2**
AC05	**El Transito**	**43.14**	**297**	P	**P**	**22 58 59.0**	**+0.3**
LCO	**Las Campanas**	**43.18**	**297**	P	**P**	**22 58 59.4**	**+0.2**
AC06	**Mina Casimiro**	**44.46**	**298**	P	**P**	**22 59 08.6**	**-0.5**
AC06				IAmb	IAmb	22 59 10.6	
	comp=Z,29nm,1.0s						
H04S2	**CROZET ISLANDS**	**45.49**	**110**	T	T	23 48 33.6	
	baz=223,slow=74,SNR=18						
H04S3	**CROZET ISLANDS**	**45.50**	**109**	T	T	23 48 35.0	
	baz=223,slow=74,SNR=16						
H04S1	**CROZET ISLANDS**	**45.51**	**110**	T	T	23 48 31.5	
	baz=223,slow=74,SNR=21						
GO02	**Mina Guanaco**	**46.05**	**301**	P	**P**	**22 59 22.0**	**-0.1**
BOSA	**Boshof**	**46.93**	**71**		**P**	**22 59 26.4**	**-2.4**
BOSA				IAmb	IAmb	23 00 16.5	
	comp=Z,46nm,2.0s						
BOSA	**Boshof**	**46.93**	**71**	P	**P**	**22 59 31.0**	**+2.3**
	comp=Z,2.3nm,0.6s,baz=199,slow=13,SNR=6.0						
	comp=Z,2.3nm,0.6s						
PB15	**IPOC Station P**	**47.73**	**302**	P	**P**	**22 59 34.9**	**-0.3**
LVC	**Limon Verde**	**48.03**	**303**	P	**P**	**22 59 37.7**	**+0.1**
LVC				IAmb	IAmb	22 59 38.6	
	comp=Z,9.2nm,0.6s						
PB05	**IPOC Station P**	**48.35**	**301**	P	**P**	**22 59 39.4**	**-0.5**
PB04	**IPOC Station P**	**48.79**	**302**	P	**P**	**22 59 43.1**	**-0.2**
PB09	**IPOC Station P**	**48.89**	**303**	P	**P**	**22 59 44.7**	**+0.7**
PB09				IAmb	IAmb	22 59 46.2	
	comp=Z,23nm,1.0s						
HMBC	**Humberstone**	**50.51**	**303**	P	**P**	**22 59 55.9**	**-0.5**
HMBC				IAmb	IAmb	22 59 56.8	
	comp=Z,14nm,0.5s						
PTLB	**Pontes e Lacer**	**50.91**	**318**	P	**P**	**22 59 58.2**	**-1.0**
PTLB				IAmb	IAmb	22 59 59.9	
	comp=Z,11nm,0.7s						
LPAZ	**La Paz**	**53.40**	**307**	P	**P**	**23 00 18.2**	**-0.2**
LPAZ				IAmb	IAmb	23 00 19.3	
	comp=Z,10nm,0.5s						
LPAZ	**La Paz**	**53.40**	**307**	P	**P**	**23 00 18.9**	**+0.4**
	comp=Z,8.4nm,0.4s,baz=108,slow=6.9,SNR=60						
	comp=Z,8.4nm,0.4s						
H10N1	**ASCENSION HYDR**	**53.44**	**15**	T	T	23 58 28.1	
	baz=186,slow=71						
H10N3	**ASCENSION HYDR**	**53.44**	**15**	T	T	23 58 21.8	
	baz=186,slow=71						
H10N2	**ASCENSION HYDR**	**53.45**	**15**	T	T	23 58 21.8	
	baz=186,slow=71						
VILB	**Vilhena**	**53.59**	**318**	P	**P**	**23 00 18.3**	**-1.0**
VILB				IAmb	IAmb	23 00 19.7	
	comp=Z,31nm,1.0s						
SAML	**Samuel**	**58.34**	**316**	P	**P**	**23 00 52.3**	**-0.9**
ETMB	**Extrema**	**58.60**	**312**	P	**P**	**23 00 53.9**	**-1.1**
ETMB				IAmb	IAmb	23 00 55.3	
	comp=Z,16nm,0.8s						
CZSB	**Cruzeiro do Su**	**62.98**	**307**	P	**P**	**23 01 23.4**	**-1.4**
BOAV	**Boa Vista**	**68.16**	**323**	P	**P**	**23 01 56.5**	**-1.7**
DBIC	**Dimbokro**	**69.22**	**23**	P	**P**	**23 02 04.0**	**-0.8**
DBIC	**Dimbokro**	**69.22**	**23**	P	**P**	**23 02 05.8**	**+1.0**
	comp=Z,5.3nm,0.9s,baz=174,slow=6.8,SNR=2.2						
	comp=Z,5.3nm,0.9s						
TOA0	**Torodi Ar. Sit**	**76.90**	**28**		**P**	**23 02 51.4**	**+1.2**
TOA0				IAmb	IAmb	23 02 53.4	
	comp=Z,20nm,1.1s						
TORD	**Torodi Ar. Bea**	**76.90**	**28**	P	**P**	**23 02 51.5**	**+1.3**
TORD				IAmb	IAmb	23 02 53.4	

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SONM                                    PKPab  sPKPab  23 10 58.2 +0.7
     comp=Z,1.2nm,0.9s,baz=232,slow=2.6,SNR=4.4
H29M  Whitestone      150.44 310              PKPbc   23 10 48.0  0.0
BCAR  Beaver Creek A  150.52 303              PKiKP   23 10 49.0 -0.1
K27K  Chicken         151.04 305              PKiKP   23 10 50.8 +0.7
SCRK  Sand Creek      151.79 304              PKiKP   23 10 52.0 +0.2
J26L  Joseph Creek    151.82 305              PKiKP   23 10 52.2 +0.4
E27K  Coleen River    152.28 313              PKiKP   23 10 52.5 -0.1
D27M  Malcolm River   152.34 316              PKiKP   23 10 53.2 +0.4
J25K  Salcha River,   152.59 305              PKiKP   23 10 54.1 +0.7
ILAR  Eielson Array   153.26 305              PKiKP   23 10 54.8 +0.1
ILAR  Eielson Array   153.26 305        PKPbc PKiKP   23 10 55.2 +0.6
     comp=Z,0.9nm,0.5s,baz=116,slow=3.2,SNR=12
                                        PKPab  PKPab   23 11 04.2 -2.4
ILAR
     comp=Z,1.3nm,0.8s,baz=108,slow=2.9,SNR=6.4
```

*IDC **21** 23:29:34.3±0.9, 5°.80S×142°.40E, h0km, mb3.7/7, mbtmp3.7/10, ML4.1/2, Error ellipse: s-maj=31.7km s-min=18.9km az=85.0*
*NEIC **21** 23:29:35.9±1.9, 5°.76S±0°.09×142°.26E±0°.07, h10km±1km, mb4.2/9, Error ellipse: s-maj=16.2km s-min=10.1km az=155.0*
*DJA **21** 23:29:38.7±0.5, 6°S±3°×14°3E±°, h10km, M4.3/4, mb4.1/2, MLv4.4/4*
ISC 21 23:29:35.7±0.6, 5°.82S±0°.04×142°.27E±0°.07, h10km, n36, σ2°05/41, mb3.9/9, New Guinea

```
Code  Station Name        Δ°   AZ°   Phase ID                Time    Res
                                     Op    ISC               h m s   ISC
TABU  Tabubil             1.18 298   P     Pn                23 29 59.3 +1.0
MMPI  Merauke             3.23 215   P     Pg                23 30 37.4 -0.2
MMPI                                 S     Sg                23 31 22.3 +2.8
JAY   Jayapura            3.63 334   P     Pn                23 30 35.2 +3.1
JAY                                  S     Sn                23 31 17.1 +2.0
GENI  Genyem              3.83 327   P     Pb                23 30 39.9 -3.5
GENI                                 S     Sb                23 31 27.0 -2.8
PMG   Port Moresby        6.02 127   P     Pn                23 31 07.1 +2.3
PMG   Port Moresby        6.02 127   Pn    Pn                23 31 05.8 +1.0
PMG   Port Moresby        6.02 127   Pn    Pn                23 31 04.7 -0.1
     5.5nm,0.3s,baz=350,slow=19,SNR=2.5
PMG                                  Sn    Sn                23 32 14.0 +0.2
     4.2nm,0.3s,baz=214,slow=20,SNR=10
COEN  Coen                8.14 174   P     Pn                23 31 43.0 +9.0
COEN  Coen                8.14 174   Pn    Pn                23 31 36.1 +2.1
FAKI  Fak Fak            10.40 286   Pn    Pn                23 32 04.1 -0.9
KDU   Kakadu             11.83 234   P     Pn                23 32 26.2 +1.6
DRS   Darwin Rock St     13.00 239   P     Pn                23 32 41.5 +0.8
MTN   Manton Dam         13.02 237   P     Pn                23 32 41.5 +0.7
MTN   Manton Dam         13.02 237         Pn                23 32 41.3 +0.5
QIS   Mount Isa          14.88 190   P     Pn                23 33 07.8 +1.5
WB0   Warramunga Arr     15.84 208   Pn    Pn                23 33 19.0  0.0
WB0                                  IAmb  IAmb              23 33 33.0
     comp=Z,11nm,1.2s
WRA   Warramunga Arr     16.02 208   Pn    Pn                23 33 20.1 -1.1
WRA   Warramunga Arr     16.02 208   Pn    Pn                23 33 20.6 -0.6
     comp=Z,0.8nm,0.3s,baz=28,slow=13,SNR=29
WRA                                  Sn    Sn                23 36 13.4 -5.7
     comp=Z,0.3nm,0.3s,baz=40,slow=23,SNR=1.8
WRA                                  Lg    Lg                23 38 06.5
     comp=Z,0.2nm,0.3s,baz=36,slow=32,SNR=3.9
     comp=Z,2.0nm,0.5s
KNRA  Kununurra          16.48 232   Pn    Pn                23 33 26.5 -0.7
KNRA                                 IAmb  IAmb              23 33 33.4
     comp=Z,19nm,0.9s
AS31  Alice Springs      19.49 204   P     P                 23 34 02.8 -0.2
ASAR  Alice Springs      19.49 204   P     P                 23 34 04.0 +1.0
ASAR  Alice Springs      19.49 204   P     Pn                23 34 04.7 +0.4
     comp=Z,0.5nm,0.3s,baz=33,slow=12,SNR=23
ASAR                                 S     Sn                23 37 35.8 -7.3
     comp=Z,0.6nm,0.3s,baz=40,slow=20,SNR=1.3
ASAR                                 Lg    Lg                23 39 56.3
     baz=32,slow=34
     comp=Z,2.9nm,0.7s
FITZ  Fitzroy Crossi     20.31 232   P     P                 23 34 13.5 +1.5
KSRS  Korea Array        45.08 344   P     P                 23 37 52.8 +0.8
     comp=Z,0.4nm,0.4s,baz=152,slow=8.1,SNR=2.2
     comp=Z,0.4nm,0.4s
SONM  Songino Array      62.05 333   P     P                 23 39 57.3 +0.7
     comp=Z,0.2nm,0.5s,baz=145,slow=5.3,SNR=1.4
     comp=Z,0.2nm,0.5s
MKAR  Makanchi Array     74.41 322   P     P                 23 41 12.8 -1.2
MKAR  Makanchi Array     74.41 322   P     P                 23 41 14.6 +0.6
     comp=Z,0.4nm,0.6s,baz=104,slow=8.2,SNR=5.2
     comp=Z,0.4nm,0.6s
MAKZ  Makanchi           74.60 322   P     P                 23 41 15.0 -0.1
MAKZ                                 IAmb  IAmb              23 41 18.3
     comp=Z,2.3nm,1.2s
KURBB Kurchatov Arra     78.30 324   P     P                 23 41 37.1 +1.1
     comp=Z,0.2nm,0.6s,baz=112,slow=4.1,SNR=2.4
     comp=Z,0.2nm,0.6s
BVAR  Borovoye Array     83.88 325   P     P                 23 42 06.2 +0.5
     comp=Z,0.6nm,0.6s,baz=104,slow=4.7,SNR=4.4
     comp=Z,0.6nm,0.6s
QSPA  South Pole Qui     84.15 180   P     P                 23 42 06.1 -0.8
QSPA                                 IAmb  IAmb              23 42 16.4
     comp=Z,3.3nm,1.4s
QSPA  South Pole Qui     84.15 180   P     P                 23 42 06.4 -0.6
     comp=Z,0.8nm,0.9s,baz=315,slow=5.1,SNR=1.6
     comp=Z,0.8nm,0.9s
E19K  Redstone River     84.49  20   P     P                 23 42 08.4 -0.1
E19K                                 IAmb  IAmb              23 42 27.8
     comp=Z,4.5nm,1.5s
D19K  Kuna River         84.72  19   P     P                 23 42 09.3 -0.3
ILAR  Eielson Array      87.19  24   P     P                 23 42 21.1 -0.8
     comp=Z,0.6nm,0.7s,baz=249,slow=5.5,SNR=6.8
     comp=Z,0.6nm,0.7s
BMAR  Burnt Mountain     88.94  22   P     P                 23 42 30.8 +0.6
```

DJA 21 23:43:24.8±0.6, 8°S±6°×12°2E±°, h209km±6km, M3.8/10, mb4.2/2, mB5.0/1, MLv3.6/10, Mw(mB)4.3/1, Flores region

```
Code  Station Name        Δ°   AZ°   Phase ID                Time    Res
                                     Op    ISC               h m s   ISC
MMRI  Maumere            0.28 195   P     Pn                23 43 52.8 +0.4
EDFI  Ende, Flores       0.72 238   P     Pn                23 43 55.3 +1.2
EDFI                                 S     S                 23 44 18.5 +1.8
BATI  Baumata            2.27 144   P     Pn                23 44 08.9 +2.1
BATI                                 S     S                 23 44 40.3 +1.0
SOEI  Soe                2.38 126   P     Pn                23 44 08.5 +0.4
BASI  Baing, Sumba       2.52 223   P     Pn                23 44 08.0 -1.4
PLAI  Plampang           4.51 264   P     Pn                23 44 32.7 -0.5
TWSI  Taliwang, Sumb     5.38 266   P     Pn                23 44 45.1 +0.8
     19nm,0.8s,0.1nm
```

*UPP **21** 23:44:20.4±0.0, 67°.82N×20°.21E, h0km, ML2.1, Unknown*
*HEL **21** 23:44:20.7±0.2, 67°.81N×20°.17E, h0km, ML1.5, Suspected explosion*
*IDC **21** 23:44:21.7±1.1, 67°.88N×20°.57E, h0km, mbtmp2.8/4, ML1.7/4, Error ellipse: s-maj=18.8km s-min=6.7km az=121.0*
ISC 21 23:44:20.7±0.8, 67°.82N±0°.02×20°.22E±0°.03, h0km, n33, σ1°32/51, Sweden

```
Code  Station Name        Δ°   AZ°   Phase ID                Time    Res
                                     Op    ISC               h m s   ISC
KUA   Kurravaara         0.14  18   P     Pg                23 44 23.4  0.0
KUA                                  S     Sg                23 44 25.3 +0.1
RATU  Laukkuluspa        0.24 271   P     Pg                23 44 25.0 -0.2
KOVU  Salmi              0.41 357   P     Pg                23 44 28.1 -0.3
LANU  Lannavaara         0.71  70   P     Pg                23 44 33.8 -0.4
LANU  Lannavaara         0.71  70   PG    Pg                23 44 33.9 -0.3
LANU                                 SG    Sg                23 44 43.4 +0.1
DUNU  Dundret            0.71 169   P     Pg                23 44 33.8 -0.5
DUNU                                 S     Sg                23 44 44.2 +0.7
SALU  Saltoluokta        0.79 237   P     Pg                23 44 35.2 -0.6
HEF   Hetta              1.42  64   eP    Pn                23 44 46.1 -1.5
HEF   Hetta              1.42  64   PG    Pn                23 44 46.6 -1.1
HEF                                  MSG                     23 45 04.0
     comp=Z,3.9nm,0.2s
HEF                                  SG    Sg                23 45 05.6 -0.5
ERTU  Ertsjaerv          1.48 148   P     Pn                23 44 47.7 -0.9
ERTU  Ertsjaerv          1.48 148   PG    Pn                23 44 47.6 -0.9
ERTU                                 SN    Sg                23 45 07.8 -0.5
KLF   Kolari             1.55 111   PG    Pn                23 44 48.9 -0.6
KLF                                  MSG                     23 45 07.9
     comp=Z,4.1nm,0.2s
KLF                                  SN    Sn                23 45 10.2 -0.1
KTK1  Kautokeino         1.64  42   PG    Pn                23 44 50.4 -0.3
KTK1                                 SN    Sg                23 45 12.8 -0.3
HARU  Harads             1.69 170   P     Pn                23 44 51.1 -0.2
TRO   Tromso             1.88 346   PG    Pn                23 44 54.4 +0.5
TRO                                  SG    Sb                23 45 19.5 -0.3
FAUS  Fauske             1.94 259   eP    Pn                23 44 55.6 +0.8
KALU  Kalix              2.33 146   PB    Pn                23 45 00.8 +0.7
KALU                                 SG    Sn                23 45 31.0 +1.7
TOF   Tornio             2.38 135   PB    Pn                23 45 02.0 +1.1
TOF                                  MSG                     23 45 31.4
     comp=Z,2.1nm,0.2s
TOF                                  SG    Sb                23 45 33.0 -1.1
SGF   Sodankyl           2.44  96   PB    Pn                23 45 03.0 +1.4
SGF                                  SG    Sb                23 45 36.0  0.0
RNF   Rovaniemi          2.56 116   PB    Pn                23 45 04.9 +1.6
RNF                                  SG    Sb                23 45 38.7 -0.7
ARA0  ARCESS Array S     2.59  46   SB    Sb                23 45 38.0 -2.2
ARCES ARCESS Array B     2.59  46   Pn    Pn                23 45 04.8 +1.1
     comp=Z,0.2nm,0.3s,baz=228,slow=14,SNR=15
ARCES                                Lg    Lg                23 45 37.3
     comp=Z,1.1nm,0.3s,baz=229,slow=24,SNR=16
     comp=Z,0.7nm,0.3s
RAJF  Raja-Jooseppi      3.10  74   PB    Pn                23 45 12.9 +2.2
RAJF                                 SB    Sn                23 45 50.6 +2.3
KEV   Kevo               3.14  49   SN    Sn                23 45 50.3 +0.9
RANF  Ranua              3.16 122   PG    Pb                23 45 16.2 -1.3
     baz=306
RANF                                 SG    Sb                23 45 58.8 +2.3
OUL   Oulu               3.57 138   PG    Pb                23 45 25.4 +0.8
VRF   Varrio             3.57  87   PG    Pb                23 45 24.8 +0.2
VRF                                  SG    Sb                23 46 08.2 -0.1
OLKF  Oulanka, Finla     3.89 108   PG    Pb                23 45 30.8 +0.7
     baz=294
UMAU  Umeaa              3.96 177   SN    Sn                23 46 10.4 +0.8
KU6   Riekki             4.21 111   PG    Pb                23 45 36.0 +0.6
KU6                                  SG    Sg                23 46 31.5 -4.2
FINES FINESS Array B     6.88 156   Pn    Pn                23 46 05.0 +2.4
     baz=324,slow=14,SNR=2.0
FINES                                Sn    Sn                23 47 22.6 +1.3
     comp=Z,0.1nm,0.3s,baz=344,slow=29,SNR=1.0
FINES                                Lg    Lg                23 47 54.6
     comp=Z,0.3nm,0.3s,baz=331,slow=27,SNR=7.7
     comp=Z,0.8nm,0.7s
NOA   NORSAR Array B     7.83 214   Pn    Pn                23 46 16.3 +0.6
     baz=23,slow=11,SNR=1.3
NOA                                  Lg    Lg                23 48 30.4
     baz=39,slow=21,SNR=5.7
     comp=Z,0.2nm,0.7s
HFS   Hagfors            8.23 203   Pn    Pn                23 46 21.7 +0.6
     baz=30,slow=12,SNR=2.2
HFS                                  Sn    Sn                23 47 51.1 -3.5
     comp=Z,0.1nm,0.3s,baz=28,slow=26,SNR=1.4
     comp=Z,1.5nm,0.9s
```

SVSA 22 00:03:01.5±1.3, 43°.75N×23°.58W, h5km, ML4.4(INMG), Error ellipse: s-maj=145.0km s-min=14.1km az=123.0, Northern Mid-Atlantic Ridge

```
Code  Station Name        Δ°   AZ°   Phase ID                Time    Res
                                     Op    ISC               h m s   ISC
PAGU  Agualva, Azore     5.67 210   eP    Pn                00 04 22.6 -3.8
PAGU                                 eS    Sn                00 05 28.2 -3.6
PAGU                                 A     A                 00 05 31.8
     20nm,0.6s
PSBA  Serra de Santa     5.72 211   eP    Pn                00 04 23.1 -4.0
PSBA                                 eS    Sn                00 05 29.2 -3.9
PSBA                                 A     A                 00 05 43.4
     38nm,0.7s
ROSA  Rosais             6.13 216   eS    Sn                00 05 33.6 -10
PICO  Pico               6.39 217   eP    Pn                00 04 31.7 -4.7
PICO                                 eS    Sn                00 05 40.6 -9.1
```

NAM 22 00:05:31.5±4.3, 19°.70S×14°.47E, h17km±16km, ML0.4, 6C-3D, Namibia

```
Code  Station Name        Δ°   AZ°   Phase ID                Time    Res
                                     Op    ISC               h m s   ISC
ST3N  ST3                0.05 150   i P   Pg                00 05 37.1 +2.3
ST3N  ST3                0.05 150 ↑ i P   Pg                00 05 36.8 +1.9
ST3N                                 i S   Sg                00 05 38.0 +1.0
ST3N                                 IAML                    00 05 38.7
     comp=Z,2.5nm,0.0s
ST9N  ST9                0.12 145   i P   Pg                00 05 35.7 +0.3
ST9N  ST9                0.12 145 ↓ i P   Pg                00 05 35.7 +0.3
ST9N                                 i S   Sb                00 05 36.4 -1.6
ST9N                                 IAML                    00 05 36.7
     comp=Z,118nm,0.1s
ST6N  ST6                0.12 215   i S   Sg                00 05 42.1 +4.0
ST6N  ST6                0.12 215 ↑ i P   Pg                00 05 38.0 +2.5
ST6N                                 i S   Sg                00 05 40.0 +1.8
ST6N                                 IAML                    00 05 41.0
     comp=Z,3.3nm,0.1s
ST1N  ST1                0.14 105   i P   Pb                00 05 36.5 +0.8
ST1N                                 i S   Sg                00 05 37.5 -0.9
ST1N  ST1                0.14 105   i P   Pb                00 05 36.5 +0.8
ST1N                                 i S   Sg                00 05 37.7 -0.7
ST1N                                 IAML                    00 05 37.8
     comp=Z,43nm,0.1s
ST8N  ST8                0.15 274 ↑ i P   Pb                00 05 40.0 +4.1
ST8N                                 i S   Sb                00 05 43.6 +4.8
ST8N                                 IAML                    00 05 45.2
     comp=Z,0.8nm,0.1s
ST2N  ST2                0.25 153   i P   Pb                00 05 38.1 +0.4
ST2N  ST2                0.25 153 ↓ i P   Pg                00 05 37.3  0.0
ST2N                                 i S   Sg                00 05 39.2 -2.1
ST2N                                 IAML                    00 05 39.5
     comp=Z,4.7nm,0.1s
ST5N  ST5                0.28 108   i P   Pg                00 05 36.6 -1.1
ST5N  ST5                0.28 108 ↑ i P   Pb                00 05 38.3 +0.1
ST5N                                 i S   Sg                00 05 40.7 -1.4
ST5N                                 IAML                    00 05 41.0
     comp=Z,2.6nm,0.0s
ST10N ST10               0.30 195   i S   Sg                00 05 42.7  0.0
ST10N ST10               0.30 195 ↑ i P   Pb                00 05 39.7 +1.2
ST10N                              ↑ i P   Pn                00 05 39.8 -1.5
ST10N                                IAML                    00 05 44.5
     comp=N,3.1nm,0.1s
ST10N                                IAML                    00 05 44.8
     comp=Z,2.7nm,0.1s
ST4N  ST4                0.51 112   i P   Pg                00 05 31.7 -10
ST4N                                 i S   Sg                00 05 36.1 -13
ST4N  ST4                0.51 112 ↓ i P   Pb                00 05 42.3 +0.2
ST4N                                 i S   Sb                00 05 49.1 -0.1
ST4N                                 IAML                    00 05 51.6
     comp=Z,1.0nm,0.0s
```

*KRSC **22** 00:20:27.6±0.8, 60°.80N×165°.60E, h6km±10km, Ml4.2*
*IDC **22** 00:20:28.0±3.3, 60°.62N×165°.57E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=104.2km s-min=22.9km az=179.0*
ISC 22 00:20:29.4±0.8, 60°.76N±0°.05×165°.62E±0°.06, h10km, n12, σ1°50/12, mb3.6/6, Eastern Siberia

```
Code  Station Name        Δ°   AZ°   Phase ID                Time    Res
                                     Op    ISC               h m s   ISC
TILK  Tilichiki          0.41 140   eP    Pb                00 20 37.3 -1.3
TILK                                 eS    Sb                00 20 43.5 -1.3
KMSK  Kamenskaya         1.74  9    eP    Pb                00 20 58.8 -2.5
OSSR  Ossora             1.98 221   eP    Pb                00 21 03.4 -2.1
OSSR                                 eS    Sb                00 21 29.5 -0.7
PALN  Palana             3.30 242   eP    Pn                00 21 21.9 +0.9
BZMR  Bezymyannaya       5.54 211   eP    Pn                00 21 55.8 +4.0
BZP   Bezymyannyi-Pe     5.54 211   eP    Pn                00 21 55.8 +3.8
ILAR  Eielson Array      21.68  59  P     P                 00 25 21.6 +1.7
     0.9nm,0.6s,baz=264,slow=9.0,SNR=21
     0.9nm,0.6s
KURBB Kurchatov Arra     46.57 299   P     P                 00 28 57.6 +0.8
     1.5nm,0.6s,baz=44,slow=7.9,SNR=15
     1.5nm,0.6s
MKAR  Makanchi Array     47.77 293   P     P                 00 29 06.3  0.0
     0.3nm,0.6s,baz=56,slow=9.0,SNR=5.2
     0.3nm,0.6s
BVAR  Borovoye Array     48.15 306   P     P                 00 29 10.2 +1.1
     1.5nm,0.7s,baz=54,slow=7.5,SNR=7.5
     1.5nm,0.7s
PDAR  Pinedale Array     51.54  69   P     P                 00 29 35.8 +0.4
     0.4nm,0.6s,baz=349,slow=4.6,SNR=4.6
     0.4nm,0.6s
NOA   NORSAR Array B     56.94 345   P     P                 00 30 14.2  0.0
     0.2nm,0.7s,baz=15,slow=7.1,SNR=1.7
     0.2nm,0.7s
```

*NEIC **22** 00:26:56.4±0.7, 36°.44N±0°.02×98°.81W±0°.03, h5km±1km, Error ellipse: s-maj=4.0km s-min=3.1km az=260.0*
TUL 22 00:26:56.8±0.9, 36°.46N±0°.02×98°.79W±0°.009, h6km±3km, ML2.5, mb_Lg2.6/44(NEIC), ML2.6/18(NEIC), Error ellipse: s-maj=2.7km s-min=0.8km az=168.0, Oklahoma

```
Code  Station Name        Δ°   AZ°   Phase ID                Time    Res
                                     Op    ISC               h m s   ISC
OK038 West end E0370     0.05  65   Pg    Pg                00 26 58.7 +0.4
OK038                                Sg    Sg                00 27 00.1 +0.8
U32A  Winter Ranch,      0.18 245   Pg    Pg                00 27 00.8 +0.3
U32A                                 Sg    Sg                00 27 03.6 +0.7
U32A                                 IAML                    00 27 04.3
     comp=E,1μm,0.2s
NOKA  Waynoka            0.21 329   Pg    Pg                00 27 01.3 +0.4
NOKA                                 Sg    Sg                00 27 04.5 +0.8
NOKA                                 IAML                    00 27 04.8
     comp=E,2μm,0.2s
NOKA                                 IAML                    00 27 04.9
     comp=N,2μm,0.2s
OK032 Salt Plains WL     0.59  54   Pg    Pg                00 27 08.1  0.0
OK032                                IAML                    00 27 21.4
     comp=N,294nm,0.2s
OK032                                IAML                    00 27 21.7
     comp=N,316nm,0.2s
CROK  Carrier            0.66  86   Pg                      00 27 09.4 -0.1
CROK                                 IAML                    00 27 25.0
     comp=E,237nm,0.3s
CROK                                 IAML                    00 27 32.0
     comp=N,332nm,0.3s
CSTR  Hydro, Custer      0.81 174   Pg                      00 27 12.4  0.0
KAN14 Manchester OK      0.84  53   Pg                      00 27 12.8 -0.1
GC02  Grant County #     0.85  62   Pg                      00 27 13.0 -0.2
KAN05 Bluff City Nor     0.99  49   Pg    Pg                00 27 15.1 -0.7
KAN08 Anthony NE Sta     1.02  41   Pg    Pg                00 27 16.0 -0.3
KAN17 Caldwell West      1.02  54   Pg    Pg                00 27 16.0 -0.4
KAN09 Caldwell North     1.17  54   Pg    Pg                00 27 18.3 -0.8
KAN13 South Haven SW     1.20  62   Pg    Pg                00 27 19.3 -0.4
OK029 Liberty Lake       1.27 121         Pn                00 27 20.2 -0.9
BLOK  Blackwell          1.31  76         Pn                00 27 21.2 -0.4
ADOK  Arcadia Dam        1.41 124         Pn                00 27 22.4 -0.6
OK048 Pawnee Station     1.50  91         Pn                00 27 24.2 -0.1
OKCSW OKLAHOMA CITY      1.52 133         Pn                00 27 24.2 -0.4
WMOK  Wichita Mounta     1.71 179         Pn                00 27 26.9 -0.4
SMWD  Samnorwood         1.79 221         Pn                00 27 28.6 +0.4
SMWD                                 IAmb_Lg                 00 27 54.7
     comp=Z,40nm,0.8s
T35A  Sooner Cattle      1.90  75   Pn    Pn                00 27 30.7 +1.0
DEOK  Depew              1.96 108   Pn    Pn                00 27 30.9 +0.3
R32A  Long Quarter,      1.96   2         Pn                00 27 31.6 +0.9
R32A                                 IAmb_Lg                 00 28 02.2
     comp=Z,33nm,0.8s
X34A  Smith Ranch, M     2.01 157         Pn                00 27 32.2 +0.9
X34A                                 IAmb_Lg                 00 28 00.9
     comp=Z,29nm,0.7s
W35A  Tecumseh           2.04 129         Pn                00 27 32.2 +0.6
TUL3  Leonard            2.49 102   Pn    Pn                00 27 38.0 +0.1
WTFS  Witchita Falls     2.70 174         Pn                00 27 40.9 +0.1
LOOK  Love County        2.79 151         Pn                00 27 42.6 +0.5
AMTX  Amarillo           2.82 237   Pn    Pn                00 27 43.1 +0.5
AMTX                                 IAmb_Lg                 00 28 33.3
     comp=Z,25nm,1.0s
RLO   Rose Lookout       3.06  94   IAmb_Lg                 00 28 36.2
     comp=Z,8.8nm,0.7s
KSU1  Kansas State U     3.16  33   Pn    Pn                00 27 47.0 -0.1
RTBA  Rita Blanca        3.17 271         Pn                00 27 48.5 +1.0
DKNS  Dickens            3.28 213   Pn    Pn                00 27 49.7 +0.8
APMT  Aspermont          3.31 200         Pn                00 27 48.9 -0.3
X37A  Clayton            3.36 123         Pn                00 27 50.1 +0.3
U38A  Gravette           3.56  89   IAmb_Lg                 00 28 55.0
     comp=Z,10nm,0.7s
FW06  Azle               3.62 163   IAmb_Lg                 00 28 55.7
     comp=Z,11nm,1.0s
HHAR  Hobbs              3.92  91   IAmb_Lg                 00 29 07.3
     comp=Z,9.0nm,0.8s
SN05  Snyder 5           3.96 206   IAmb_Lg                 00 29 04.4
     comp=Z,16nm,0.9s
KSCO  Kaye Shedlock'     3.96 311   IAmb_Lg                 00 29 08.7
     comp=Z,12nm,0.8s
POST  Post               4.05 214   IAmb_Lg                 00 29 07.9
     comp=Z,11nm,0.8s
MSTX  Muleshoe           4.09 234   IAmb_Lg                 00 29 09.4
     comp=Z,16nm,1.0s
S39A  Bolivar            4.55  73   IAmb_Lg                 00 29 28.4
     comp=Z,9.7nm,0.9s
T25A  Trinidad           4.55 280   IAmb_Lg                 00 29 19.9
     comp=Z,12nm,0.8s
MIAR  Mount Ida          4.67 113   Pn    Pn                00 28 08.1 +0.2
MIAR                                 IAmb_Lg                 00 29 26.4
     comp=Z,6.2nm,0.9s
BGNE  Belgrade           4.97   6   IAmb_Lg                 00 29 43.0
     comp=Z,13nm,0.7s
X40A  Basin Creek Fa     5.25 110   IAmb_Lg                 00 29 46.5
     comp=Z,6.7nm,0.9s
Q24A  Divide             5.62 298   IAmb_Lg                 00 29 53.9
     comp=Z,6.3nm,0.9s
435B  Jarrell            5.75 170   IAmb_Lg                 00 30 11.8
     comp=Z,8.9nm,0.8s
CCM   Cathedral Cave     6.23  73   IAmb_Lg                 00 30 15.5
     comp=Z,5.5nm,0.8s
PBMO  Poplar Bluff       6.74  85   IAmb_Lg                 00 30 34.1
     comp=Z,9.1nm,0.9s
PHWY  Pilot Hill         7.10 315   IAmb_Lg                 00 30 45.3
     comp=Z,6.4nm,0.9s
N23A  Red Feather La     7.13 311   IAmb_Lg                 00 30 47.9
     comp=Z,7.8nm,0.9s
```

*IDC **22** 00:31:03.4±1.5, 0°.37S×129°.65E, h0km, mb3.6/6, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=130.7km s-min=19.1km az=71.0*
ISC 22 00:31:08.8±2.2, 0°.4S±0°.5×129°.9E±°, h35km, n7, σ0°73/7, mb3.6/6, Halmahera

```
Code  Station Name        Δ°   AZ°   Phase ID                Time    Res
                                     Op    ISC               h m s   ISC
WRA   Warramunga Arr     19.96 167   P     P                 00 35 37.2 -1.0
     0.2nm,0.3s,baz=347,slow=11,SNR=12
WRA                                  S     S                 00 39 10.0 -11
     0.6nm,0.7s,baz=356,slow=22,SNR=3.2
     0.3nm,0.3s
ASAR  Alice Springs      23.49 170   P     P                 00 36 15.4 -0.2
     1.9nm,0.6s,baz=350,slow=10,SNR=25
     1.9nm,0.6s
SONM  Songino Array      52.11 340   P     P                 00 40 15.5 -0.1
     0.3nm,0.4s,baz=152,slow=7.8,SNR=1.6
     0.3nm,0.4s
MKAR  Makanchi Array     62.53 325   P     P                 00 41 29.0 -0.1
     0.3nm,0.5s,baz=116,slow=8.6,SNR=4.2
     0.3nm,0.5s
KURBB Kurchatov Arra     66.71 327   P     P                 00 41 56.8 +0.5
     0.3nm,0.5s,baz=120,slow=5.5,SNR=4.4
     0.3nm,0.5s
BVAR  Borovoye Array     72.29 327   P     P                 00 42 30.5 -0.2
     0.5nm,0.7s,baz=134,slow=4.2,SNR=3.5
     0.5nm,0.7s
VNDA  Vanda              78.99 173   P     P                 00 43 09.5 +0.9
     0.6nm,0.7s,baz=315,slow=5.7,SNR=3.9
     0.6nm,0.7s
```

*IDC **22** 00:44:12.9±0.7, 33°.02N×102°.34E, h0km, mb3.9/17, mbtmp3.9/19, ML3.9/2, MS3.4/11, Error ellipse: s-maj=26.7km s-min=14.3km az=54.0*
*NEIC **22** 00:44:15.8±1.9, 33°.1N±0°.1×102°.45E±0°.10, h10km±1km, mb4.1/14, Error ellipse: s-maj=23.7km s-min=8.5km az=30.0*
ISC 22 00:44:14.7±0.5, 33°.04N±0°.07×102°.40E±0°.09, h10km, n47, σ0°97/42, mb4.0/23, MS3.2/9, Sichuan

```
Code  Station Name        Δ°   AZ°   Phase ID                Time    Res
                                     Op    ISC               h m s   ISC
ENH   Enshi              6.64 113   Pn    Pn                00 45 53.6 +1.2
CHTO  Chiang Mai        14.50 193         P                 00 47 48.6 +1.9
CM31  Chiang Mai Arr    14.85 193         P                 00 47 49.8 -0.8
CMAR  Chiang Mai Arr    14.85 193         P                 00 47 49.8 -0.8
CMAR  Chiang Mai Arr    14.85 193   Pn    Pn                00 47 43.9 -0.8
     0.3nm,0.3s,baz=4.8,slow=13,SNR=2.1
CMAR                                 LR    LR                00 54 00.3
     comp=Z,88nm,21.0s,baz=25,slow=40
     0.8nm,0.3s
SONM  Songino Array     15.09  10   Pn    Pn                00 47 46.0 -1.9
SONM  Songino Array     15.09  10   Pn    Pn                00 47 47.7 -0.3
     0.2nm,0.3s,baz=196,slow=13,SNR=9.5
SONM                                 LR    LR                00 53 57.3
```

comp=Z,164nm,18.3s,baz=167,slow=39
1.3nm,0.7s

ULN	**Ulaanbaatar**	**15.22**	**12**	Pn	**Pn**	**00 47 49.5**	**-0.3**
ULN				IAmb	IAmb	00 48 00.2	

comp=Z,3.7nm,0.7s

MKAR	**Makanchi Array**	**20.58**	**318**	P	**P**	**00 48 54.0**	**+0.4**
MKAR	**Makanchi Array**	**20.58**	**318**	P	**P**	**00 48 52.9**	**-0.8**

comp=Z,1.8nm,0.7s,baz=118,slow=10,SNR=10

MKAR				LR	LR	00 57 23.1	

comp=Z,72nm,19.6s,baz=122,slow=38
comp=Z,1.8nm,0.7s

MAKZ	**Makanchi**	**20.76**	**317**	P	**P**	**00 48 57.3**	**+1.7**
PRZ	**Przheval'sk**	**21.13**	**303**	P	**P**	**00 49 02.2**	**+2.4**
PRZ				IAmb	IAmb	00 49 11.3	

comp=Z,5.9nm,0.6s

KSAR	**Wonju Array Be**	**21.25**	**71**	P	**P**	**00 49 01.4**	**+0.5**
KSRS	**Korea Array**	**21.28**	**71**	P	**P**	**00 49 01.8**	**+0.5**

comp=Z,2.2nm,0.7s,baz=259,slow=9.2,SNR=11
comp=Z,2.2nm,0.7s

TARG	**Taragay, Kyrgy**	**21.33**	**301**	P	**P**	**00 49 03.0**	**+0.8**
NRN	**Naryn**	**22.56**	**299**	P	**P**	**00 49 16.4**	**+1.0**
NRN				IAmb	IAmb	00 49 23.7	

comp=Z,4.5nm,1.0s

BOOM	**Boomskoye usch**	**22.87**	**302**	P	**P**	**00 49 19.0**	**+0.6**
BOOM				IAmb	IAmb	00 49 26.8	

comp=Z,8.8nm,1.3s

AAK	**Ala-Archa**	**23.94**	**302**	LR	LR	00 59 52.8	

comp=Z,56nm,19.4s,baz=134,slow=39

ZAA0	**Zalesovo Array**	**24.36**	**334**	P	**P**	**00 49 32.8**	**+0.2**
ZAA0				IAmb	IAmb	00 49 36.1	

comp=Z,4.2nm,0.7s

ZALV	**Zalesovo Beam**	**24.36**	**334**	P	**P**	**00 49 32.3**	**-0.3**

comp=Z,3.9nm,0.6s,baz=138,slow=9.6,SNR=20

ZALV				LR	LR	00 59 18.3	

comp=Z,72nm,18.6s,baz=116,slow=37
comp=Z,3.9nm,0.6s

KURBB	**Kurchatov Arra**	**24.83**	**322**	P	**P**	**00 49 36.7**	**-0.2**

comp=Z,1.7nm,0.7s,baz=124,slow=9.5,SNR=14
comp=Z,1.7nm,0.7s

KURK	**Kurchatov**	**24.84**	**322**	P	**P**	**00 49 37.0**	**0.0**
KURK				IAmb	IAmb	00 49 41.6	

comp=Z,2.2nm,0.8s

KLR	**Kul'dur**	**27.16**	**45**	LR	LR	01 02 42.4	

comp=Z,32nm,19.3s,baz=218,slow=41

KBL	**Kabul**	**27.69**	**282**	P	**P**	**00 50 05.1**	**+1.9**
KBL				IAmb	IAmb	00 50 14.9	

comp=Z,3.4nm,0.7s

BVAR	**Borovoye Array**	**30.38**	**321**	P	**P**	**00 50 27.9**	**+1.2**

comp=Z,0.7nm,0.7s,baz=108,slow=9.5,SNR=4.4

BVAR				LR	LR	01 03 31.6	

comp=Z,52nm,19.6s,baz=116,slow=38
comp=Z,0.7nm,0.7s

ABKAR	**Akbulak array**	**35.32**	**310**	P	**P**	**00 51 09.8**	**0.0**
NRIK	**Noril'sk**	**37.30**	**351**	P	**P**	**00 51 27.5**	**+1.0**
NRIK	**Noril'sk**	**37.30**	**351**	P	**P**	**00 51 26.6**	**+0.1**

comp=Z,4.4nm,0.8s,baz=166,slow=5.1,SNR=7.4
comp=Z,4.4nm,0.8s

ARU	**Arti**	**38.02**	**321**	P	**P**	**00 51 33.8**	**+1.0**
TIXI	**Tiksi**	**41.16**	**12**	LR	LR	01 11 49.4	

comp=Z,61nm,18.4s,baz=176,slow=40

BRTR	**Keskin Array B**	**54.54**	**298**	P	**P**	**00 53 42.0**	**-1.1**

comp=Z,0.5nm,0.8s,baz=76,slow=6.1,SNR=3.8
comp=Z,0.5nm,0.8s

ARCES	**ARCESS Array B**	**54.91**	**335**	P	**P**	**00 53 45.2**	**+0.1**

comp=Z,2.7nm,1.1s,baz=82,slow=7.5,SNR=3.8
comp=Z,2.7nm,1.1s

AKASG	**Malin Array Be**	**55.01**	**312**	P	**P**	**00 53 45.5**	**-0.7**

comp=Z,0.5nm,0.5s,baz=67,slow=7.6,SNR=1.6
comp=Z,0.5nm,0.5s

FINES	**FINESS Array B**	**55.16**	**325**	P	**P**	**00 53 46.3**	**-0.7**

comp=Z,1.4nm,0.6s,baz=84,slow=7.1,SNR=12
comp=Z,1.4nm,0.6s

WRA	**Warramunga Arr**	**60.88**	**145**	P	**P**	**00 54 26.8**	**-0.8**
WRA	**Warramunga Arr**	**60.88**	**145**	P	**P**	**00 54 27.7**	**+0.1**

comp=Z,2.8nm,0.7s,baz=338,slow=7.2,SNR=20
comp=Z,2.8nm,0.7s

WR0	**Warramunga Arr**	**60.99**	**145**	P	**P**	**00 54 28.4**	**0.0**
HFS	**Hagfors**	**61.36**	**325**	P	**P**	**00 54 30.6**	**+0.2**

comp=Z,0.8nm,0.6s,baz=48,slow=8.6,SNR=4.5
comp=Z,0.8nm,0.6s

NOA	**NORSAR Array B**	**62.25**	**327**	P	**P**	**00 54 36.4**	**-0.1**

comp=Z,0.2nm,0.5s,baz=71,slow=7.1,SNR=3.3

NOA				LR	LR	01 21 41.8	

comp=Z,19nm,18.6s,baz=105,slow=36
comp=Z,0.2nm,0.5s

VRAC	**Vranov**	**63.23**	**313**	LR	LR	01 23 44.2	

comp=Z,46nm,19.1s,baz=64,slow=38

AS31	**Alice Springs**	**63.89**	**148**	P	**P**	**00 54 46.8**	**-1.0**
AS31				IAmb	IAmb	00 54 50.5	

comp=Z,2.1nm,1.4s

ASAR	**Alice Springs**	**63.89**	**148**	P	**P**	**00 54 47.1**	**-0.6**
ASAR	**Alice Springs**	**63.89**	**148**	P	**P**	**00 54 47.9**	**+0.1**

comp=Z,1.4nm,0.6s,baz=337,slow=6.9,SNR=18
comp=Z,1.4nm,0.6s

DAVOX	**Davos/Dischmat**	**68.36**	**312**	LR	LR	01 27 00.2	

comp=Z,64nm,19.5s,baz=156,slow=38

ILAR	**Eielson Array**	**68.72**	**25**	P	**P**	**00 55 17.0**	**-1.2**

comp=Z,0.6nm,0.9s,baz=306,slow=7.7,SNR=4.3
comp=Z,0.6nm,0.9s

YKA	**Yellowknife Ar**	**80.26**	**16**	P	**P**	**00 56 25.5**	**+0.2**

comp=Z,0.5nm,0.6s,baz=340,slow=4.6,SNR=2.2
comp=Z,0.5nm,0.6s

TORD	**Torodi Ar. Bea**	**91.68**	**287**	P	**P**	**00 57 21.9**	**-0.9**

comp=Z,0.6nm,0.8s,baz=68,slow=4.8,SNR=3.9
comp=Z,0.6nm,0.8s

*IDC **22** 00:47:03.4±1.6, 4°.35N×127°.09E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=146.0km s-min=19.3km az=68.0*

ISC 22 00:47:15.0±3.7, 4°N±1°×12°8E±°, h104km, n6, σ0§33/6, mb3.5/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.14**	**165**	P	**P**		**00 52 30.5**	**-0.1**

1.3nm,0.9s,baz=343,slow=10,SNR=13
1.3nm,0.9s

ASAR	**Alice Springs**	**28.63**	**168**	P	**P**		**00 53 01.9**	**+0.1**

0.4nm,0.5s,baz=353,slow=7.6,SNR=7.9
0.4nm,0.5s

MKAR	**Makanchi Array**	**57.44**	**325**	P	**P**		**00 56 53.4**	**+0.3**

0.4nm,0.5s,baz=123,slow=8.4,SNR=7.6
0.4nm,0.5s

ZALV	**Zalesovo Beam**	**60.33**	**333**	P	**P**		**00 57 12.7**	**-0.2**

0.2nm,0.3s,baz=111,slow=7.9,SNR=2.0
0.2nm,0.3s

KURBB	**Kurchatov Arra**	**61.59**	**327**	P	**P**		**00 57 21.1**	**-0.3**

0.3nm,0.5s,baz=128,slow=6.8,SNR=5.1
0.3nm,0.5s

BVAR	**Borovoye Array**	**67.17**	**327**	P	**P**		**00 57 58.1**	**+0.3**

0.2nm,0.4s,baz=98,slow=7.4,SNR=2.1
0.2nm,0.4s

*FUNV **22** 01:17:05.0, 10°.85N×62°.20W, h28km, MW3.7*
*TRN **22** 01:17:05.3, 10°.93N×62°.07W, h91km, MD3.4, North of the Paria peninsula.*

ISC 22 01:17:02.0±1.4, 10°.85N±0°.04×62°.20W±0°.05, h108km±13km, n21, σ1§64/35, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.46**	**109**	*e*P		**Pn**	**01 17 19.4**	**+1.0**
TCE				*e*S		**Sn**	**01 17 29.5**	**-1.1**
TRN	**Trinidad (W)**	**0.81**	**104**	*i* P		**Pn**	**01 17 22.2**	**+1.1**
TRN				*e*S		**Sn**	**01 17 33.9**	**-1.5**
TPP	**Pointe-a-Pierr**	**0.91**	**126**	*e*P		**Pn**	**01 17 24.2**	**+2.2**
TBH	**Brigand Hill**	**1.17**	**108**	*e*P		**Pn**	**01 17 26.5**	**+1.7**
GRFF	**Grenada Fort F**	**1.28**	**21**	*e*P		**Pn**	**01 17 26.4**	**+0.3**
GRFF				*e*S		**Sn**	**01 17 43.1**	**-1.2**
GRGR	**Grenville**	**1.38**	**23**	*e*P		**Pn**	**01 17 28.1**	**+0.8**
GRGR				*e*S		**Sn**	**01 17 45.7**	**-0.8**
GRW	**Mount Saint Ca**	**1.41**	**22**	*e*P		**Pn**	**01 17 28.8**	**+1.1**
GRW				*e*S		**Sn**	**01 17 45.5**	**-1.6**
GRHS	**Sauteurs**	**1.47**	**22**	*e*P		**Pn**	**01 17 29.3**	**+0.9**
GRHS				*e*S		**Sn**	**01 17 47.5**	**-0.8**
GRSS	**Sisters**	**1.55**	**22**	*e*P		**Pn**	**01 17 30.5**	**+1.2**
GRSS				*e*S		**Sn**	**01 17 49.7**	**-0.3**
GCMP	**Grenada, Carri**	**1.79**	**25**	*e*P		**Pn**	**01 17 33.2**	**+0.9**
GCMP				*e*S		**Sn**	**01 17 54.1**	**-1.2**
SVOC	**Richmond Hill,**	**2.48**	**23**	*e*P		**Pn**	**01 17 43.1**	**+2.0**
SVOC				*e*S		**Sn**	**01 18 10.1**	**-1.0**
PCRV	**Puerto La Cruz**	**2.49**	**255**	*e*P		**Pn**	**01 17 43.0**	**+1.7**
PCRV				*e*S		**Sn**	**01 18 10.0**	**-1.3**
SVT	**Saint Vincent**	**2.49**	**22**	*e*P		**Pn**	**01 17 42.3**	**+1.1**
SVT				*e*S		**Sn**	**01 18 09.1**	**-2.2**
SVB	**Belmont**	**2.58**	**21**	*e*P		**Pn**	**01 17 43.7**	**+1.3**
SVB				*e*S		**Sn**	**01 18 11.7**	**-1.8**
TACV	**Tcata**	**4.80**	**262**	*e*P		**Pn**	**01 18 14.6**	**+2.5**
TACV				*e*S		**Sn**	**01 19 05.2**	**-1.6**
LUEV	**Luepa**	**5.03**	**172**	*e*P		**Pn**	**01 18 16.4**	**+1.1**
LUEV				*e*S		**Sn**	**01 19 10.0**	**-2.4**
BENV	**Beln**	**5.38**	**261**	*e*P		**Pn**	**01 18 22.1**	**+2.0**
CACV	**CAICARA DEL OR**	**5.39**	**233**	*e*P		Pn	01 18 16.4	-3.6
CACV				*e*S		Sn	01 19 10.0	-11
TURV	**Turiamo**	**5.56**	**266**	*e*P		**Pn**	**01 18 23.9**	**+1.5**
BAUV	**El Baul**	**6.06**	**252**	*e*P		**Pn**	**01 18 30.0**	**+0.9**
BAUV				*e*S		**Sn**	**01 19 33.7**	**-3.5**
TEPV	**Terepaima**	**6.94**	**263**	*e*P		**Pn**	**01 18 42.6**	**+1.5**

IDC 22 01:17:41.5±1.9, 6°.31S×129°.28E, h0km, mb3.9/2, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=147.4km s-min=29.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.41**	**161**	Pn		Pn	01 21 06.1	-0.8

0.2nm,0.3s,baz=342,slow=14,SNR=11

WRA				Sn		Sn	01 23 34.4	-13

0.7nm,0.3s,baz=332,slow=22,SNR=4.6
0.3nm,0.3s

ASAR	**Alice Springs**	**17.82**	**166**	P		P	01 21 51.6	-0.3

0.1nm,0.3s,baz=351,slow=11,SNR=2.6

ASAR				S		Sn	01 25 00.5	-10

0.4nm,0.6s,baz=350,slow=26,SNR=2.5
0.4nm,0.7s

MKAR	**Makanchi Array**	**67.26**	**327**	P		P	01 28 38.3	+0.4

1.2nm,0.4s,baz=123,slow=7.3,SNR=17
1.2nm,0.4s

KURBB	**Kurchatov Arra**	**71.55**	**329**	P		P	01 29 03.8	-0.5

0.3nm,0.5s,baz=121,slow=5.5,SNR=4.9
0.3nm,0.5s

RSNC 22 01:50:26.0±0.0, 6°N±2°×7°4W±°, h2km±4km, M2.2, ML2.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.56**	**196**	P		Pg	01 50 35.6	-1.3
SPBC				S		Sg	01 50 44.2	0.0
PTBC	**PUERTO BERRIO,**	**0.63**	**302**	P		Pg	01 50 37.4	-0.7
PTBC				S		Sg	01 50 47.6	+1.3
NORC	**Norcasia**	**1.14**	**236**	P		Pg	01 50 47.5	-0.3
NORC				S		Sg	01 51 01.8	-0.8
NORC	**Norcasia**	**1.14**	**236**	P		Sg	01 51 01.8	-0.8
ROSC	**El Rosal**	**1.41**	**196**	P		Pb	01 50 53.5	+0.2
ROSC				S		Sn	01 51 13.9	+1.5
ROSC	**El Rosal**	**1.41**	**196**	P		Sg	01 51 13.7	+2.4
CHIC	**Chingaza**	**1.57**	**173**	P		Pb	01 50 55.9	-0.2
CHIC				S		Sg	01 51 20.2	+3.6
ZARC	**Zaragoza, Cauc**	**1.59**	**324**	P		Pn	01 50 52.0	-3.2
ZARC				S		Sn	01 51 12.3	-4.0
PAMC	**Pamplona, Colo**	**1.66**	**47**	P		Pn	01 50 51.0	-5.6
PAMC				S		Sn	01 51 09.8	-8.9
CVER	**Cruz Verde, Cu**	**1.68**	**185**	P		Pg	01 50 58.5	+0.3
VILC	**Villavicencio,**	**2.09**	**174**	P		Pb	01 51 03.8	-0.9
VILC				S		Sn	01 51 29.9	+1.1
OCAC	**Ocana**	**2.11**	**16**	P		Pn	01 50 57.9	-4.6
OCAC				S		Sn	01 51 25.4	-4.0
TAMC	**Tame, Arauca**	**2.13**	**84**	P		Pn	01 50 59.8	-2.9
TAMC				S		Sn	01 51 26.8	-2.9
UREC	**San Jos de Ur**	**2.22**	**314**	P		Pn	01 51 03.0	-0.9
UREC				S		Sn	01 51 32.6	+0.6
PTGC	**Puerto Gaitan,**	**2.67**	**138**	P		Pn	01 51 11.0	+1.0
PTGC				S		Sb	01 51 45.8	-2.0
SJCC	**San Jacinto, C**	**3.88**	**341**	P		Pn	01 51 24.4	-2.4
SJCC				S		Sn	01 52 11.9	-1.1
SDV	**Santo Domingo**	**4.21**	**50**	P		Pn	01 51 29.3	-2.2
SDV				S		Sn	01 52 16.2	-5.2
CRJC	**Cerrejon, Guaj**	**4.90**	**12**	P		Pn	01 51 36.8	-4.0
CRJC				S		Sn	01 52 35.8	-2.4

RSNC 22 01:50:44.1±0.0, 5°N±2°×7°6W±°, h0km±4km, M2.2, ML2.2, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUY2C	**Guyana, Caldas**	**0.43**	**76**	P		Pg	01 50 51.8	-0.5
GUY2C				S		Sg	01 50 58.6	+0.8
RECRC	**Villamaria, Ca**	**0.45**	**110**	P		Pg	01 50 53.5	+0.7
RECRC				S		Sb	01 51 02.0	-0.8
PLMC	**San Jos del P**	**0.54**	**247**	P		Pg	01 50 52.2	-2.4
PLMC				S		Sg	01 50 58.9	-2.7
ANIL	**Santa Ana**	**0.73**	**149**	P		Pg	01 50 57.9	-0.2
ANIL				S		Sb	01 51 09.4	-1.1
NORC	**Norcasia**	**1.01**	**64**	S		Sg	01 51 15.8	-0.8
YOTC	**Yotoco, Valle**	**1.26**	**207**	P		Pg	01 51 04.5	-3.8
YOTC				S		Sg	01 51 21.6	-3.1
ORTC	**Ortega, Tolima**	**1.32**	**156**	P		Pg	01 51 08.1	-1.3
ORTC				S		Sb	01 51 27.3	+0.1
ROSC	**El Rosal**	**1.48**	**101**	S		Sn	01 51 34.8	+2.1
PIZC	**Pizarro, Choco**	**1.58**	**264**	P		Pn	01 51 11.4	-2.0
PIZC				S		Sn	01 51 32.6	-2.0
PRAC	**Prado**	**1.66**	**147**	P		Pn	01 51 14.5	0.0
PRAC				S		Sg	01 51 39.4	+2.0
MALC	**Bahia Malaga**	**1.90**	**235**	P		Pn	01 51 18.6	+0.8
MALC				S		Sn	01 51 40.4	-2.1
PTBC	**PUERTO BERRIO,**	**1.93**	**43**	P		Pn	01 51 16.4	-1.8
PTBC				S		Sn	01 51 40.4	-2.8
DBBC	**Dabeiba**	**1.93**	**347**	P		Pn	01 51 16.7	-1.6
DBBC				S		Sn	01 51 41.2	-2.2
JAMC	**Jamundi, Valle**	**2.09**	**205**	P		Pn	01 51 19.2	-1.4
JAMC				S		Sn	01 51 41.3	-6.2
POPC	**Popayan, Colom**	**2.71**	**199**	P		Pn	01 51 29.4	+0.2
POPC				S		Sb	01 52 07.8	+0.1
BBAC	**Balboa, Cauca**	**3.41**	**205**	P		Pn	01 51 41.7	+2.9

IDC 22 01:50:45.1±3.0, 1°.81S×137°.41E, h0km, mb3.4/2, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=109.9km s-min=30.3km az=82.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.27**	**189**	P		Pn	01 55 00.1	-0.3

0.2nm,0.3s,baz=11,slow=12,SNR=11

WRA				S		Sn	01 58 10.2	-15

1.2nm,0.8s,baz=6.6,slow=23,SNR=5.8
0.7nm,0.4s

ASAR	**Alice Springs**	**22.00**	**189**	P		P	01 55 41.0	-0.2

1.0nm,0.6s,baz=14,slow=10,SNR=11

ASAR				S		S	01 59 36.3	-8.6

1.4nm,0.9s,baz=14,slow=23,SNR=4.8
1.0nm,0.6s

MKAR	**Makanchi Array**	**68.28**	**323**	P		P	02 01 48.3	+0.2

0.2nm,0.6s,baz=129,slow=6.8,SNR=2.1
0.2nm,0.6s

NDI 22 02:17:30.4±2.2, 11°.81N×78°.04E, h6km±8km, ML3.6, MW3.3, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SALM	**Salem**	**0.22**	**134**	*e*Pg		Pg	02 17 34.2	-0.6
SALM				*i* Sg		Sg	02 17 36.7	-1.1
SALM				IAML			02 17 37.1	

comp=E,6μm,0.1s

SALM				IAML			02 17 48.1	

comp=E,6μm,0.1s

KOD	**Kodaikanal**	**1.66**	**200**	*e*P		Pn	02 17 60.0	-0.3
KOD				*e*S		Sn	02 18 22.1	+0.1
KOD				IAML			02 18 25.8	

comp=E,538nm,0.3s

KOD				IAML			02 18 35.4	

comp=E,505nm,0.1s

MDRS	**Chennai**	**2.50**	**60**	*e*P		Pn	02 18 11.0	-0.6
MDRS				*e*S		Sn	02 18 40.1	-2.2
MDRS				IAML			02 18 44.9	

comp=N,266nm,0.1s

MDRS				IAML			02 18 45.1	

comp=E,184nm,0.1s

MNGI	**Mangalore**	**3.34**	**290**	*e*P		Pn	02 18 24.9	+1.8
MNGI				*e*S		Sn	02 19 01.8	-1.3
MNGI				IAML			02 19 09.1	

comp=N,839nm,0.3s

MNGI				IAML			02 19 09.2	

comp=E,525nm,0.4s

TRD	**Trivandrum**	**3.44**	**198**	*ex*		Pb	02 18 30.2	-1.6
TRD				*e*S		Sn	02 19 05.5	-0.2
TRD				IAML			02 19 20.1	

comp=N,444nm,0.2s

TRD				IAML			02 19 21.1	

comp=E,568nm,0.2s

POO	**Poona**	**7.81**	**329**	*e*S		Sn	02 20 46.0	-7.5

*IDC **22** 02:18:25.1±0.8, 32°.99S×72°.06W, h0km, mb3.9/8, mbtmp3.9/12, ML4.0/4, MS3.6/3, Error ellipse: s-maj=23.2km s-min=17.2km az=111.0*
*NEIC **22** 02:18:27.9±1.5, 32°.99S±0°.03×72°.11W±0°.07, h22km±3km, mb3.7/3, ML3.8(GUC), Error ellipse: s-maj=8.5km s-min=3.9km az=97.0*
*GUC **22** 02:18:27.9±0.9, 33°.00S×72°.13W, h24km±30km, ML4.0*

ISC 22 02:18:25.6±1.5, 32°.98S±0°.03×72°.19W±0°.05, h6km±9km, n95, σ1§01/99, mb4.0/11, 8C-11D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VA05	**Santo Domingo**	**0.83**	**145**			**Pg**	**02 18 42.3**	**+0.8**
VA05					Sg	**Sg**	**02 18 52.2**	**0.0**
VA05	**Santo Domingo**	**0.83**	**145**	⇓*i*P		**Pg**	**02 18 42.3**	**+0.8**
VA05				*e*S		**Sg**	**02 18 52.6**	**+0.3**
VA05				IAML			02 18 54.1	

comp=E,18μm,0.3s

VA06	**Catapilco**	**0.86**	**61**			**Pg**	**02 18 42.9**	**+0.8**
VA06					Sg	**Sg**	**02 18 53.6**	**+0.2**
VA06	**Catapilco**	**0.86**	**61**	⇓*i*P		**Pg**	**02 18 43.0**	**+0.8**
VA06				*e*S		**Sg**	**02 18 53.6**	**+0.2**
VA06				IAML			02 18 55.5	

comp=E,14μm,0.3s

MT02	**Curacav**	**0.93**	**108**			**Pg**	**02 18 43.1**	**-0.3**
MT02					Sg	**Sg**	**02 18 55.1**	**-0.3**
MT02	**Curacav**	**0.93**	**108**	⇓*i*P		**Pg**	**02 18 43.3**	**-0.1**
MT02				*e*S		**Sg**	**02 18 55.3**	**-0.1**
ROCH	**El Roble**	**0.99**	**90**	⇓*i*P		**Pg**	**02 18 44.6**	**-0.1**
ROCH				*e*S		**Sg**	**02 18 57.0**	**-0.6**
ROCH				IAML			02 19 01.6	

comp=N,5μm,0.7s

MT01	**Popeta**	**1.18**	**138**	Pn		**Pb**	**02 18 47.6**	**-0.8**
MT01	**Popeta**	**1.18**	**138**	⇓*i*P		**Pb**	**02 18 47.6**	**-0.8**
MT01				*e*S		**Sb**	**02 19 02.4**	**-1.5**
MT01				IAML			02 19 04.6	

comp=E,4μm,0.4s

PEL	**Peldehue**	**1.27**	**98**	Pn		**Pn**	**02 18 49.4**	**-0.6**
PEL	**Peldehue**	**1.27**	**98**	*i* P		**Pn**	**02 18 49.5**	**-0.6**
PEL				IAML			02 19 10.3	

comp=E,4μm,0.4s

MT09	**Talagante**	**1.28**	**129**	Pn		**Pn**	**02 18 49.3**	**-0.9**
MT09	**Talagante**	**1.28**	**129**	⇓*e*P		**Pn**	**02 18 49.4**	**-0.8**
MT09				*e*S		**Sb**	**02 19 05.2**	**-1.7**
MT09				IAML			02 19 11.9	

comp=N,3μm,0.4s

MT05	**Renca**	**1.28**	**109**	Pn		**Pb**	**02 18 50.4**	**+0.2**
MT05	**Renca**	**1.28**	**109**	⇓*i*P		**Pb**	**02 18 50.7**	**+0.5**
MT05				IAML			02 19 11.1	

comp=E,3μm,0.3s

VA03	**San Esteban**	**1.40**	**81**	Pn		**Pn**	**02 18 50.8**	**-0.9**
VA03	**San Esteban**	**1.40**	**81**	⇓*i*P		**Pn**	**02 18 51.0**	**-0.7**
VA03				IAML			02 19 13.3	

comp=E,5μm,0.3s

MT10	**Hacienda Santa**	**1.42**	**102**	⇓*i*P		**Pn**	**02 18 51.8**	**-0.2**
MT10				IAML			02 19 17.4	

comp=N,8μm,0.5s

MT14	**Cerro Calı́n**	**1.45**	**107**	⇓*i*P		**Pn**	**02 18 52.2**	**-0.2**
MT14				IAML			02 19 15.8	

comp=E,4μm,0.5s

MT16	**CCHEN**	**1.47**	**108**	Pn		**Pn**	**02 18 52.4**	**-0.3**
MT16	**CCHEN**	**1.47**	**108**	*e*P		**Pn**	**02 18 52.5**	**-0.2**
MT03	**Universidad Ad**	**1.50

comp=N,157nm,19.1s,baz=251,slow=39
comp=N,1.4nm,0.7s
LPAZ La Paz 17.02 13 P **Pn 02 22 25.4 +0.4**
LPAZ IAmb IAmb 02 22 56.3
comp=Z,3.2nm,1.1s
LPAZ La Paz 17.02 13 P **Pn 02 22 25.4 +0.4**
comp=Z,0.1nm,0.3s,baz=213,slow=5.3,SNR=4.8
comp=Z,1.2nm,0.6s
SIV San Ignacio 19.69 33 P **P 02 22 55.5 -0.1**
baz=232,slow=12,SNR=5.6
comp=Z,1.3nm,0.9s
PTLB Pontes e Lacer 21.09 37 P **P 02 23 10.4 -0.4**
PTLB IAmb IAmb 02 23 22.6
comp=Z,2.6nm,0.9s
BDFB Brasilia 27.88 58 P **P 02 24 15.3 -1.2**
BDFB IAmb IAmb 02 24 30.3
comp=Z,8.5nm,1.3s
BDFB Brasilia 27.88 58 P **P 02 24 15.9 -0.6**
comp=Z,1.5nm,0.5s,baz=233,slow=7.3,SNR=6.5
BDFB LR LR 02 36 33.9
comp=Z,160nm,18.9s,baz=138,slow=39
comp=Z,1.5nm,0.5s
VNA3 Neumayer Olymp 50.35 158 ⇑P **P 02 27 23.0 +0.1**
comp=Z,0.9nm,0.5s
VNA2 Neumayer--Watz 51.00 157 ⇑P **P 02 27 28.2 +0.4**
comp=Z,1.4nm,0.7s,baz=281,slow=9.3
SNAA Sanae 52.57 158 ⇑P **P 02 27 39.5 -0.1**
comp=Z,21nm,0.7s
SNAA Sanae 52.57 158 P **P 02 27 40.0 +0.4**
comp=Z,0.6nm,0.7s,baz=265,slow=8.5,SNR=6.2
comp=Z,0.6nm,0.7s
TROLL Troll, Antarti 54.28 158 ⇑P **P 02 27 47.9 -4.3**
comp=Z,38nm,0.7s
QSPA South Pole Qui 57.25 180 P **P 02 28 13.6 0.0**
comp=Z,1.0nm,0.7s,baz=168,slow=2.6,SNR=6.6
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 68.79 331 P **P 02 29 31.7 +1.1**
comp=Z,0.1nm,0.5s,baz=168,slow=8.9,SNR=1.8
comp=Z,0.1nm,0.5s
MAW Mawson 74.19 164 P **P 02 30 02.9 +0.3**
comp=Z,1.8nm,0.9s,baz=276,slow=8.3,SNR=2.8
comp=Z,1.8nm,0.9s
DBIC Dimbokro 74.98 72 P **P 02 30 07.6 -0.5**
comp=Z,1.9nm,0.6s,baz=198,slow=3.2,SNR=1.3
DBIC LR LR 03 03 20.2
comp=Z,37nm,18.0s,baz=201,slow=36
comp=Z,1.9nm,0.6s
BOSA Boshof 80.66 118 P **P 02 30 39.0 -0.8**
comp=Z,1.1nm,0.7s,baz=214,slow=3.6,SNR=4.0
comp=Z,1.1nm,0.7s
TORD Torodi Ar. Bea 83.98 70 P **P 02 30 57.1 0.0**
comp=Z,1.3nm,0.8s,baz=262,slow=7.8,SNR=10
comp=Z,1.3nm,0.8s
H11S2 WAKE ISLAND Hyl 25.65 270 T T 04 56 14.2
baz=118,slow=75,SNR=12
H11S1 WAKE ISLAND Hyl 25.67 270 T T 04 56 17.8
baz=118,slow=75,SNR=14
H11S3 WAKE ISLAND Hyl 25.67 270 T T 04 56 13.6
baz=118,slow=75,SNR=12
BVAR Borovoye Array 146.62 42 PKPbc **PKPab 02 38 08.4 -0.3**
comp=Z,0.6nm,0.4s,baz=351,slow=1.7,SNR=4.3
KURBB Kurchatov Arra 152.21 42 PKPbc **PKPbc 02 38 20.2 -1.5**
comp=Z,0.3nm,0.3s,baz=330,slow=3.5,SNR=2.2
ZALV Zalesovo Beam 153.43 31 PKPbc **PKiKP 02 38 25.2 +0.8**
comp=Z,0.5nm,0.4s,baz=316,slow=4.0,SNR=2.0
MKAR Makanchi Array 156.18 47 PKPab **PKPab 02 38 48.7 +0.1**
comp=Z,0.2nm,0.4s,baz=278,slow=1.6,SNR=2.2

*CATAC **22** 02:32:49.8±1.2, 8°.34N×82°.95W, h2km±4km, ML3.5*
*UCR **22** 02:32:49.9±0.5, 8°.37N×82°.87W, h8km±3km, MW3.5*
*UPA **22** 02:32:49.8±1.2, 8°.39N×82°.83W, h17km±2km, ML3.9*
ISC 22 02:32:49.6±1.3, 8°.37N±0°.05×82°.84W±0°.03, h20km±2km, n34, σ0^{s}87/49, 1C-6D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.17**	**193**	⇑*i*P	**Pb**	**02 32 54.3**	**-0.7**
PTPM				AMP		02 32 54.8	
	comp=Z,43μm,0.1s						
PTPM				*e*S	**Sb**	**02 32 59.1**	**+0.3**
CDITO	**Canoas**	**0.20**	**351**	*i* P	**Pb**	**02 32 55.1**	**-0.1**
CDITO				*i* S	**Sb**	**02 32 59.9**	**+0.8**
CDITO				IAML		02 33 03.5	
	comp=Z,3μm,1.0s						
DVD	**David**	**0.39**	**81**	⇓*i*P	**Pb**	**02 32 57.6**	**-0.1**
DVD				AMP		02 32 57.8	
	comp=Z,9μm,0.1s						
DVD				*e*S	**Sb**	**02 33 04.3**	**+1.0**
FITO	**Golfito**	**0.40**	**309**	*e*P	**Pb**	**02 32 57.2**	**-0.7**
PEDE3	**Pedregal, Chir**	**0.41**	**88**	⇓*i*P	**Pb**	**02 32 57.7**	**-0.5**
MLIR3	**Monte Lirio, C**	**0.42**	**2**	*i* P	**Pb**	**02 32 59.1**	**+0.9**
MLIR3				AMP		02 32 59.8	
	comp=Z,6μm,0.1s						
LOCO3	**Loma Colorada,**	**0.42**	**85**	*e*P	**Pb**	**02 32 58.1**	**-0.1**
EDAD	**Golfito**	**0.42**	**311**	*e*P	**Pb**	**02 32 57.7**	**-0.6**
BRU2	**Volcan**	**0.44**	**19**	⇓*i*P	**Pb**	**02 32 59.1**	**+0.3**
BRU2				AMP		02 32 59.9	
	comp=Z,4μm,0.2s						
BRU2				*e*S	**Sn**	**02 33 07.0**	**-1.4**
BRU2	**Volcan**	**0.44**	**19**	*i* P	**Pb**	**02 32 58.6**	**-0.2**
BRU2				*i* S	**Sn**	**02 33 06.9**	**-1.5**
BRU2				IAML		02 33 09.6	
	comp=Z,1μm,1.0s						
BRU2	**Volcan**	**0.44**	**19**	*e*P	**Pb**	**02 32 59.1**	**+0.3**
LOMA3	**Las Lomas, Chi**	**0.45**	**83**	⇓*i*P	**Pb**	**02 32 58.4**	**-0.4**
VITO	**San Vito**	**0.46**	**344**	*e*P	**Pb**	**02 32 59.8**	**+0.7**
BCO2	**Palmira**	**0.46**	**42**	⇓*i*P	**Pb**	**02 32 59.3**	**+0.2**
BCO2				AMP		02 32 60.0	
	comp=Z,16μm,0.1s						
BCO2				*e*S	**Sb**	**02 33 07.1**	**+1.6**
JIME	**Puerto Jimenez**	**0.51**	**289**	*e*P	**Pb**	**02 32 59.6**	**-0.1**
LNBQ3	**Los Naranjos,**	**0.57**	**44**	⇓*i*P	**Pb**	**02 33 00.5**	**-0.6**
EDP2	**Potrero Grande**	**0.72**	**333**	*e*P	**Pb**	**02 33 03.8**	**+0.3**
EDPN	**Palmar Norte**	**0.84**	**314**	*e*P	**Pb**	**02 33 04.9**	**-0.6**
CHGR2	**Aguacate**	**0.89**	**51**	*e*P	**Pb**	**02 33 05.2**	**-1.2**
CHGR2				*e*S	**Sb**	**02 33 17.5**	**-0.3**
DRK0	**Durika**	**0.97**	**336**	*e*P	**Pb**	**02 33 07.1**	**-0.7**
DRK0				*e*S	**Sb**	**02 33 20.1**	**-0.2**
DRK0	**Durika**	**0.97**	**336**	*i* P	**Pb**	**02 33 07.3**	**-0.5**
DRK0				*i* S	**Sb**	**02 33 19.3**	**-1.0**
DRK0				IAML		02 33 24.3	
	comp=Z,3μm,1.0s						
DRK0	**Durika**	**0.97**	**336**	*e*P	**Pb**	**02 33 07.2**	**-0.7**
OCHAL	**Ojochal**	**1.07**	**312**	*i* P	**Pn**	**02 33 08.5**	**-1.0**
OCHAL				*i* S	**Sb**	**02 33 23.1**	**0.0**
OCHAL				IAML		02 33 28.8	
	comp=Z,630nm,1.0s						
CNI2	**El Empalme, Bo**	**1.11**	**19**	*e*P	**Pn**	**02 33 09.2**	**-0.7**
CNI2				*e*S	**Sb**	**02 33 23.6**	**-0.4**
BUS1	**Rivas**	**1.48**	**323**	*e*P	**Pn**	**02 33 15.3**	**-0.1**
LCR2	**La Lucha 2**	**1.78**	**320**	*i* P	**Pn**	**02 33 20.5**	**+1.1**
LCR2				*i* S	**Sb**	**02 33 43.0**	**-0.7**
LCR2				IAML		02 33 47.1	
	comp=Z,250nm,1.0s						
LCR2	**La Lucha 2**	**1.78**	**320**	*e*P	**Pn**	**02 33 20.4**	**+1.1**
ABE2	**San Pablo**	**1.79**	**318**	*e*P	**Pb**	**02 33 21.8**	**+0.1**
RAFA	**San Farael, Vo**	**1.84**	**329**	*i* P	**Pb**	**02 33 22.3**	**-0.5**
RAFA				*i* S	**Sb**	**02 33 45.8**	**+0.2**
RAFA				IAML		02 33 53.8	
	comp=Z,1μm,1.0s						
CHIT3	**Chitre**	**2.43**	**100**	*e*P	**Pn**	**02 33 28.4**	**+0.3**
AZU	**Azuero**	**2.61**	**103**	*e*P	**Pn**	**02 33 31.0**	**+0.4**
AZU				*e*S	**Sn**	**02 34 01.9**	**+0.3**
SOCE	**Pocosol**	**2.66**	**319**	*i* P	**Pn**	**02 33 33.7**	**+2.4**
SOCE				IAML		02 33 36.9	
	comp=Z,220nm,1.0s						
SOCE				*i* S	**Sb**	**02 34 09.7**	**+0.9**
ARE1	**Arenal 1**	**2.78**	**318**	*e*P	**Pn**	**02 33 35.4**	**+2.4**
JTS	**Las Juntas de**	**2.82**	**313**	*e*P	**Pn**	**02 33 34.3**	**+0.7**

*IDC **22** 02:46:00.1±9.1, 33°.23S×148°.93E, h0km, mbtmp4.0/3, ML4.0/3, Error ellipse: s-maj=151.8km s-min=50.3km az=174.0*
*NOU **22** 02:46:00.7, 33°.47S×148°.93E, h0km, MLv4.2/21, New South Wales, Australia*
*AUST **22** 02:46:01.5±0.1, 33°.47S×148°.96E, h10km, mb4.2/12, Mjma4.0/36, ML3.8/28, MLv4.1/27, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 22 02:46:00.1±1.2, 33°.46S±0°.03×148°.96E±0°.03, h7km±10km, n56, σ1^{s}73/73, New South Wales

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

YNG	**Young**	**0.96**	**209**	P	**Pg**	**02 46 18.7**	**+0.1**
YNG	**Young**	**0.96**	**209**	P	**Pg**	**02 46 18.5**	**-0.1**
	9.5nm,SNR=71						
YNG				S	**Sg**	**02 46 31.7**	**+0.6**
AUDCS	**Dubbo College**	**1.25**	**347**	P	**Pg**	**02 46 23.6**	**-0.6**
AUDCS				S	**Sg**	**02 46 41.4**	**+0.9**
DLN	**Dalton (NSW)**	**1.28**	**172**	P	**Pg**	**02 46 23.8**	**-0.9**
DLN				S	**Sg**	**02 46 40.1**	**-1.1**
OKDL	**Oakdale**	**1.41**	**116**	P	**Pn**	**02 46 25.9**	**-0.3**
	895nm,SNR=895						
OKDL				S	**Sg**	**02 46 43.6**	**-1.8**
SYDH	**Sydney Hard Ro**	**1.52**	**102**	P	**Pn**	**02 46 28.3**	**+0.6**
SYDH	**Sydney Hard Ro**	**1.52**	**102**	P	**Pn**	**02 46 28.0**	**+0.3**
	2.6nm,SNR=180						
SYDH				S	**Sn**	**02 46 48.0**	**+0.4**
WTPK	**Wilton Park**	**1.59**	**119**	P	**Pn**	**02 46 29.2**	**+0.5**
	594nm,SNR=594						
WTPK				S	**Sn**	**02 46 50.1**	**+0.5**
MABG	**Mt Annan Botan**	**1.62**	**113**	P	**Pn**	**02 46 29.7**	**+0.6**
	2.3nm,SNR=170						
MABG				S	**Sn**	**02 46 50.7**	**+0.5**
CATI	**Cattai, Sydney**	**1.64**	**94**	P	**Pn**	**02 46 30.0**	**+0.6**
	1.4nm,SNR=94						
CATI				S	**Sn**	**02 46 51.4**	**+0.8**
WOLH	**Wollongong Har**	**1.85**	**121**	P	**Pn**	**02 46 33.4**	**+1.1**
AUMTS	**Mt Stromlo**	**1.86**	**179**	S	**Sn**	**02 46 57.9**	**+1.7**
CAN	**Canberra**	**1.86**	**179**	P	**Pn**	**02 46 32.8**	**+0.4**
CAN	**Canberra**	**1.86**	**179**	P	**Pn**	**02 46 33.4**	**+1.0**
	1.6nm,SNR=36						
CAN				S	**Sn**	**02 46 57.9**	**+1.7**
RIV	**Riverview**	**1.87**	**102**	P	**Pn**	**02 46 33.4**	**+0.9**
RIV	**Riverview**	**1.87**	**102**	P	**Pn**	**02 46 33.3**	**+0.8**
	1.0nm,SNR=12						
RIV				S	**Sn**	**02 46 57.9**	**+1.5**
CNB	**Canberra Magne**	**1.88**	**170**	P	**Pn**	**02 46 33.0**	**+0.2**
CNB	**Canberra Magne**	**1.88**	**170**	P	**Pn**	**02 46 32.9**	**+0.1**
CNB				S	**Sn**	**02 46 58.8**	**+2.0**
SYDS	**Sydney Soft Ro**	**1.95**	**105**	P	**Pn**	**02 46 35.1**	**+1.5**
	1.8nm,SNR=18						
SYDS				S	**Sn**	**02 47 01.0**	**+2.7**
AUKHS	**Kincumber High**	**2.02**	**91**	P	**Pn**	**02 46 35.8**	**+1.2**
NTLH	**Newcastle Hard**	**2.37**	**77**	P	**Pn**	**02 46 42.1**	**+2.7**
NTLH	**Newcastle Hard**	**2.37**	**77**	P	**Pn**	**02 46 42.1**	**+2.7**
	0.9nm,SNR=24						
NTLH				S	**Sn**	**02 47 10.6**	**+2.0**
CMSA	**Cobar Meteorol**	**3.36**	**304**	P	**Pn**	**02 46 55.0**	**+2.0**
CMSA	**Cobar Meteorol**	**3.36**	**304**	P	**Pn**	**02 46 55.1**	**+2.0**
	219nm,SNR=219						
CMSA				S	**Sn**	**02 47 36.1**	**+3.0**
MILA	**Mila**	**3.59**	**177**	P	**Pn**	**02 46 57.8**	**+1.5**
MILA	**Mila**	**3.59**	**177**	P	**Pn**	**02 46 57.6**	**+1.3**
	0.5nm,SNR=12						
ARMA	**Armidale**	**3.79**	**38**	P	**Pn**	**02 47 00.7**	**+1.7**
ARMA	**Armidale**	**3.79**	**38**	P	**Pn**	**02 47 00.6**	**+1.6**
	55nm,SNR=55						
TOO	**Toolangi**	**4.99**	**214**	P	**Pn**	**02 47 17.0**	**+1.6**
TOO	**Toolangi**	**4.99**	**214**	P	**Pn**	**02 47 17.0**	**+1.6**
	17nm,SNR=17						
TOO				S	**Sn**	**02 48 14.9**	**+1.6**
GVL	**Greenvale**	**5.31**	**217**	P	**Pn**	**02 47 21.4**	**+1.6**
	0.1nm,SNR=14						
BRAT	**Ballarat**	**5.79**	**224**	P	**Pn**	**02 47 28.6**	**+2.3**
BRAT	**Ballarat**	**5.79**	**224**	P	**Pn**	**02 47 28.8**	**+2.5**
	0.1nm,SNR=14						
STKA	**Stephens Creek**	**6.41**	**282**	P	**Pn**	**02 47 36.0**	**+1.1**
STKA	**Stephens Creek**	**6.41**	**282**	P	**Pn**	**02 47 34.8**	**-0.1**
	SNR=3.0						
STKA	**Stephens Creek**	**6.41**	**282**	Pn	**Pn**	**02 47 34.6**	**-0.3**
	1.5nm,0.3s,baz=103,slow=17,SNR=9.2						
STKA				Sn	**Sn**	**02 48 47.3**	**-1.0**
	4.5nm,0.3s,baz=90,slow=13,SNR=5.5						
STKA				Lg	Lg	02 49 22.2	
	1.5nm,0.3s,baz=173,slow=20,SNR=2.8						
	3.8nm,0.3s						
ARPS	**Mount Arapiles**	**6.71**	**238**	P	**Pn**	**02 47 40.3**	**+1.3**
ARPS	**Mount Arapiles**	**6.71**	**238**	P	**Pn**	**02 47 40.6**	**+1.6**
	0.2nm,SNR=8.4						
QLP	**Quilpie**	**7.98**	**328**	P	**Pn**	**02 47 58.7**	**+2.2**
QLP	**Quilpie**	**7.98**	**328**	P	**Pn**	**02 47 58.4**	**+1.9**
	0.1nm,SNR=2.6						
MGBR	**Mount Gambier**	**8.05**	**236**	P	**Pn**	**02 47 58.9**	**+1.5**
	0.1nm,SNR=1.9						
SDAN	**Sedan**	**8.06**	**260**	P	**Pn**	**02 47 57.2**	**-0.4**
	SNR=2.6						
EIDS	**Eidsvold**	**8.27**	**13**	P	**Pn**	**02 48 01.8**	**+1.4**
	SNR=1.8						
HTT	**Hallett**	**8.39**	**267**	P	**Pn**	**02 48 02.8**	**+0.6**
HTT	**Hallett**	**8.39**	**267**	P	**Pn**	**02 48 02.4**	**+0.2**
	0.1nm,SNR=1.7						
NAPP	**Napperby**	**9.05**	**269**	P	**Pn**	**02 48 12.4**	**+1.2**
	0.1nm,SNR=3.0						
INKA	**Innaminka**	**9.08**	**307**	P	**Pn**	**02 48 12.2**	**+0.6**
INKA	**Innaminka**	**9.08**	**307**	P	**Pn**	**02 48 11.9**	**+0.3**
	0.1nm,SNR=1.5						
LCRK	**Leigh Creek**	**9.61**	**285**	P	**Pn**	**02 48 20.0**	**+1.1**
LCRK	**Leigh Creek**	**9.61**	**285**	P	**Pn**	**02 48 19.9**	**+1.1**
	0.1nm,SNR=1.6						
BBOO	**Buckleboo**	**10.84**	**270**	P	**Pn**	**02 48 36.0**	**+0.3**
BBOO	**Buckleboo**	**10.84**	**270**	P	**Pn**	**02 48 35.0**	**-0.7**
	0.1nm,SNR=1.6						
OOD	**Oodnadatta**	**12.74**	**293**	P	**Pn**	**02 49 02.3**	**+0.6**
MULG	**Mulgathing**	**13.05**	**280**	P	**Pn**	**02 49 05.9**	**-0.1**
ASAR	**Alice Springs**	**16.42**	**303**	Pn	**Pn**	**02 49 50.1**	**-0.9**
	0.9nm,0.3s,baz=126,slow=12,SNR=48						
ASAR				Sn	Sn	02 52 42.1	-11
	baz=122,slow=22						
	2.9nm,0.5s						
WRA	**Warramunga Arr**	**18.73**	**312**	Pn	**P**	**02 50 19.0**	**-0.4**
	0.5nm,0.3s,baz=136,slow=11,SNR=20						
WRA				Sn	**Sn**	**02 53 40.6**	**-8.9**
	baz=139,slow=27,SNR=2.6						
	1.8nm,0.5s						

*KRSC **22** 02:59:25.3±1.5, 53°.91N×169°.06E, h56km±37km, Ml4.1*
*IDC **22** 02:59:26.4±3.7, 53°.82N×169°.43E, h51km±44km, mb3.2/10, mbtmp3.4/10, ML3.9/1, MS2.7/2, Error ellipse: s-maj=47.0km s-min=16.5km az=179.0*
ISC 22 02:59:26.4±0.8, 53°.85N±0°.08×169°.35E±0°.06, h50km, n52, σ1^{s}44/66, mb3.4/10, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.39**	**306**	*e*P	**Pn**	**03 00 01.2**	**-1.7**
BKI				*e*S	**Sn**	**03 00 29.2**	**-1.8**
SHEM	**Shemya Is, Ala**	**3.07**	**110**	P	**Pn**	**03 00 11.7**	**-0.6**
	17nm,0.3s,baz=52,slow=5.3,SNR=16						
SHEM				S	**Sn**	**03 00 46.8**	**-0.9**
	48nm,0.4s,baz=277,slow=16,SNR=2.2						
SHEM				LR	LR	03 01 15.5	
	comp=Z,74nm,18.9s,baz=220,slow=36						
KBTR	**Krutoberegovo**	**4.43**	**305**	*e*P	**Pn**	**03 00 31.9**	**+0.9**
KBTR				*e*S	**Sn**	**03 01 19.7**	**-1.6**
TUMD	**Tumrok D**	**5.38**	**288**	*e*P	**Pn**	**03 00 43.7**	**-0.4**
TUMD				*e*S	**Sn**	**03 01 42.5**	**-2.2**
BZGR	**Bezymyannyi-Gr**	**5.41**	**296**	*e*P	**Pn**	**03 00 44.6**	**0.0**
BZGR				*e*S	**Sn**	**03 01 43.8**	**-1.6**
SRKR	**Sorokina**	**5.45**	**304**	*e*P	Pn	03 00 46.5	+1.4
SRKR				*e*S	**Sn**	**03 01 45.9**	**-0.5**
LGNR	**Loginova**	**5.46**	**298**	*e*P	**Pn**	**03 00 45.1**	**-0.3**
LGNR				*e*S	**Sn**	**03 01 43.2**	**-3.9**
BZP	**Bezymyannyi-Pe**	**5.49**	**296**	*e*P	**Pn**	**03 00 46.1**	**+0.5**
BZP				*e*S	**Sn**	**03 01 46.3**	**-1.1**
BZMR	**Bezymyannaya**	**5.52**	**296**	*e*P	**Pn**	**03 00 46.5**	**+0.5**
BZMR				*e*S	**Sn**	**03 01 47.9**	**-0.3**
TUMR	**Tumrok**	**5.54**	**289**	*e*P	**Pn**	**03 00 46.3**	**0.0**
TUMR				*e*S	**Sn**	**03 01 46.0**	**-2.7**
KLY	**Klyuchi**	**5.57**	**300**	*e*P	**Pn**	**03 00 45.6**	**-0.9**
KLY				*e*S	**Sn**	**03 01 44.7**	**-4.4**
KRSR	**Krestovskiy**	**5.58**	**299**	*e*P	**Pn**	**03 00 47.5**	**+0.7**
KRSR				*e*S	**Sn**	**03 01 47.9**	**-1.7**
KMNR	**Kamenistaya**	**5.60**	**294**	*e*P	**Pn**	**03 00 47.6**	**+0.5**
KMNR				*e*S	**Sn**	**03 01 48.5**	**-1.7**
KIRR	**Kirishev**	**5.61**	**296**	*e*P	**Pn**	**03 00 47.5**	**+0.3**
KIRR				*e*S	**Sn**	**03 01 47.3**	**-3.0**
SPN	**Mys Shipunski**	**5.62**	**266**	*e*P	**Pn**	**03 00 46.8**	**-0.5**
SPN				*e*S	**Sn**	**03 01 47.9**	**-2.5**
KPT	**Kopyto**	**5.67**	**296**	*e*P	**Pn**	**03 00 48.3**	**+0.3**
KPT				*e*S	**Sn**	**03 01 48.9**	**-2.9**
NLC	**Nalytchevo**	**6.01**	**268**	*e*P	**Pn**	**03 00 52.6**	**+0.1**
SRDR	**Sredinnyy**	**6.05**	**298**	*e*P	**Pn**	**03 00 53.8**	**+0.5**
SRDR				*e*S	**Sn**	**03 02 00.7**	**-0.6**
UGLR	**Uglovaya**	**6.31**	**268**	*e*P	**Pn**	**03 00 57.6**	**+0.8**
UGLR				*e*S	**Sn**	**03 02 06.4**	**-1.1**

SMAR	**Somma**	**6.31**	**269**	*e*P	**Pn**	**03 00 57.1**	**+0.1**
KRER	**Koryakskii**	**6.34**	**269**	*e*P	**Pn**	**03 00 57.9**	**+0.6**
KRER				*e*S	**Sn**	**03 02 07.5**	**-0.9**
AVH	**Avacha**	**6.35**	**269**	*e*P	**Pn**	**03 00 58.0**	**+0.6**
AVH				*e*S	**Sn**	**03 02 07.8**	**-0.7**
DALK	**Dalny**	**6.38**	**267**	*e*P	**Pn**	**03 00 58.4**	**+0.7**
DALK				*e*S	**Sn**	**03 02 08.7**	**-0.5**
KRX	**Arik**	**6.39**	**270**	*e*P	**Pn**	**03 00 58.5**	**+0.6**
KRX				*e*S	**Sn**	**03 02 09.0**	**-0.6**
KOK	**Koryaka**	**6.41**	**269**	*e*P	**Pn**	**03 00 58.7**	**+0.6**
KOK				*e*S	**Sn**	**03 02 09.3**	**-0.6**
PET	**Petropavlovsk**	**6.44**	**267**	*e*P	**Pn**	**03 00 59.4**	**+0.8**
ESO	**Esso**	**6.48**	**293**	*e*P	**Pn**	**03 01 00.2**	**+1.1**
GNL	**Ganaly**	**6.76**	**273**	*e*P	Pn	03 01 04.6	+1.5
KRMR	**Karymshinskiy**	**6.79**	**266**	*e*P	Pn	03 01 05.4	+2.0
KRMR				*e*S	**Sn**	**03 02 18.1**	**-1.2**
MTVR	**Mutnovka**	**6.85**	**263**	*e*P	Pn	03 01 05.8	+1.5
MTVR				*e*S	**Sn**	**03 02 18.5**	**-2.5**
GRL	**Gorelyy**	**6.90**	**264**	*e*P	Pn	03 01 06.5	+1.6
ASAK	**Asacha**	**7.04**	**263**	*e*P	**Pn**	**03 01 07.6**	**+0.7**
ASAK				*e*S	**Sn**	**03 02 23.9**	**-1.7**
KDTR	**Khodutka, Kamc**	**7.13**	**258**	*e*P	**Pn**	**03 01 08.3**	**+0.4**
APC	**Apacha**	**7.35**	**268**	*e*P	**Pn**	**03 01 12.2**	**+1.2**
KLR	**Kul'dur**	**23.64**	**274**	LR	LR	03 14 20.1	
	comp=Z,34nm,19.7s,baz=202,slow=38						
ILAR	**Eielson Array**	**24.32**	**46**	P	**P**	**03 04 39.0**	**+0.1**
	0.3nm,0.7s,baz=252,slow=7.5,SNR=6.7						
	0.3nm,0.7s						
KSRS	**Korea Array**	**32.71**	**257**	P	**P**	**03 05 54.4**	**+0.5**
	1.1nm,0.7s,baz=38,slow=9.7,SNR=5.5						
	1.1nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**34.11**	**184**	T	T	03 42 25.0	
	baz=2.8,slow=76,SNR=1001						
H11N3	**WAKE ISLAND Hy**	**34.12**	**184**	T	T	03 42 25.9	
	baz=2.8,slow=76,SNR=837						
H11N1	**WAKE ISLAND Hy**	**34.13**	**184**	T	T	03 42 26.6	
	baz=2.8,slow=76,SNR=989						
H11S1	**WAKE ISLAND Hy**	**35.34**	**184**	T	T	03 43 56.5	
	baz=2.8,slow=76,SNR=586						
H11S3	**WAKE ISLAND Hy**	**35.35**	**184**	T	T	03 43 58.9	
	baz=2.8,slow=76,SNR=227						
H11S2	**WAKE ISLAND Hy**	**35.35**	**184**	T	T	03 43 59.2	
	baz=2.8,slow=76,SNR=461						
SONM	**Songino Array**	**39.03**	**288**	P	**P**	**03 06 50.0**	**+2.0**
	0.2nm,0.5s,baz=60,slow=7.3,SNR=2.3						
	0.2nm,0.5s						
NVAR	**Mina Array Bea**	**50.23**	**77**	P	**P**	**03 08 18.3**	**+0.9**
	0.3nm,0.6s,baz=314,slow=8.2,SNR=0.9						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**52.00**	**306**	P	**P**	**03 08 30.0**	**-0.2**
	0.1nm,0.4s,baz=53,slow=7.9,SNR=3.6						
	0.1nm,0.4s						
PDAR	**Pinedale Array**	**52.23**	**67**	P	**P**	**03 08 32.5**	**+0.2**
	0.1nm,0.3s,baz=308,slow=4.4,SNR=1.7						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**52.68**	**300**	P	**P**	**03 08 34.8**	**-0.6**
	0.2nm,0.6s,baz=64,slow=6.6,SNR=1.8						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**54.10**	**313**	P	**P**	**03 08 45.9**	**+0.2**
	1.6nm,0.6s,baz=46,slow=8.5,SNR=8.2						
	1.6nm,0.6s						
NB2	**NORSAR Subarra**	**64.14**	**348**	P	**P**	**03 09 57.8**	**+2.8**
	comp=Z,3.3nm,1.4s,baz=14,slow=6.5						
NOA	**NORSAR Array B**	**64.14**	**348**	P	**P**	**03 09 55.2**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=12,slow=7.1,SNR=2.6						
	comp=Z,0.5nm,0.8s						
TXAR	**Lajitas Array**	**65.18**	**74**	P	**P**	**03 10 00.7**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=298,slow=4.0,SNR=1.6						
	comp=Z,0.2nm,0.5s						

*OSPL **22** 03:10:44.8±3.1, 19°.63N×70°.28W, h0km±19km, ML2.7*
*SDD **22** 03:10:45.3±2.3, 19°.63N×70°.30W, h18km±15km, MD3.5, ML2.8, MW3.3*
ISC 22 03:10:42.2±1.1, 19°.69N±0°.03×70°.22W±0°.02, h18km±9km, n18, σ1^{s}32/35, 18C-8D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADR	**Cabrera**	**0.26**	**94**	⇑*e*Pg	**Pn**	**03 10 51.2**	**0.0**
CADR				⇑*e*Sg	**Sn**	**03 10 57.5**	**+0.6**
CADR				IAML		03 11 03.4	
	comp=E,1μm,0.5s						
CADR				IAML		03 11 03.8	
	comp=N,1μm,0.6s						
SODR	**Sosua Marina B**	**0.34**	**281**	⇑*e*Pg	**Pn**	**03 10 51.2**	**-1.1**
SODR				⇑*e*Sg	**Sb**	**03 10 56.6**	**+1.7**

PCDR	Punta Cana, DR	2.09 124	⇑ePg	Pg	03 11 21.2	-1.1
PCDR			⇓eSg	Sg	03 11 49.5	-0.1
PCDR			IAML		03 11 57.0	
	comp=N,125nm,0.5s					
PCDR			IAML		03 12 02.0	
	comp=E,88nm,1.9s					
PCDR	Punta Cana, DR	2.09 124	i P	Pb	03 11 20.5	+0.9
PCDR			IAML		03 11 54.5	
	comp=Z,126nm,1.6s					

NOU ***22*** *03:14:42.3, 41°.23S×173°.68E, h114km, MLv5.2/16, South Island, New Zealand*
IDC ***22*** *03:14:42.6±0.5, 41°.09S×173°.70E, h86km±4km, mb4.0/9, mbtmp4.4/11, MS3.3/5, Error ellipse: s-maj=16.9km s-min=10.5km az=124.0*
NEIC ***22*** *03:14:43.3, 41°.14S×173°.56E, h99km*
NEIC ***22*** *03:14:44.4±1.2, 41°.17S±0°.04×173°.56E±0°.03, h89km±3km, mb4.7/27, Mwr4.6/43, Error ellipse: s-maj=5.7km s-min=2.2km az=202.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}3.39; $M_{\theta\theta}$-1.08; $M_{\phi\phi}$-2.31; $M_{r\theta}$4.11; $M_{\theta\phi}$7.04; $M_{\phi r}$2.08; Fault plane solution: $M_0$8.93000×10^15^ NP1:ϕ_s355.51000°, δ58.40000°, λ154.66000°. NP2:ϕ_s99.44000°, δ68.62000°, λ34.24000°. Principal axes: T 8.9625, Plg39.0000°, Azm321.0000°; N -0.0567, Plg50.0000°, Azm128.0000°; P -8.9058, Plg6.0000°, Azm225.0000°;*
WEL ***22*** *03:14:44.6±0.9, 41°.S±4°.×17°.4E±°, h73km±7km, M5.2/124, ML5.4/7, MLv5.2/124 Error ellipse: s-maj=0.0km s-min=0.0km az=9.1, confirmed*
WEL ***22*** *03:14:44.6, 41°.21S×173°.54E, h78km, ML5.2, Mw4.7, Moment Tensor Solution. s7 Moment tensor: M_{rr}889.92; $M_{\theta\theta}$-209.54; $M_{\phi\phi}$-680.39; $M_{r\theta}$366.86; $M_{\theta\phi}$-886.74; $M_{\phi r}$-151.13; Fault plane solution: NP1: ϕ_s350.00000°, δ50.00000°, λ131.00000°. NP2: ϕ_s116.00000°, δ55.00000°, λ52.00000°. Principal axes: T -1367.3700, Plg59.0000°, Azm327.0000°; N 246.8300, Plg30.0000°, Azm140.0000°; P 1120.5500, Plg3.0000°, Azm232.0000°; SOUTH ISLAND*

ISC 22 03:14:43.8±0.4, 41°.19S±0°.03×173°.60E±0°.03, h94km±3km, h94km:pP-P, n309, σ1$45/341, mb4.6/30, 13C, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAVS	**Havelock**	**0.16**	**120**	P	**Pn**	**03 14 57.4**	**+0.3**
HAVS				S	**Sn**	**03 15 06.4**	**-0.6**
NNZ	**Nelson**	**0.17**	**262**		**Pn**	**03 14 57.0**	**-0.1**
NNZ				Sn	**Sn**	**03 15 06.2**	**-0.9**
NNZ	**Nelson**	**0.17**	**262**	P	**Pn**	**03 14 57.0**	**-0.1**
NNZ				S	**Sn**	**03 15 06.4**	**-0.6**
NCBS	**Nelson Council**	**0.25**	**252**	P	**Pn**	**03 14 56.3**	**-1.1**
NCBS				S	**Sn**	**03 15 06.1**	**-1.5**
NLMS	**Nelson Nelmac**	**0.25**	**253**	P	**Pn**	**03 14 56.4**	**-1.0**
NLMS				S	**Sn**	**03 15 05.9**	**-1.7**
NELH	**Nelson Hospita**	**0.26**	**249**	P	**Pn**	**03 14 56.6**	**-0.8**
NELH				S	**Sn**	**03 15 06.7**	**-0.9**
QCCS	**Picton Queen C**	**0.33**	**105**	P	**Pn**	**03 14 56.8**	**-1.0**
QCCS				S	**Sn**	**03 15 06.6**	**-1.6**
BWRS	**Waikakaho Road**	**0.34**	**137**	P	**Pn**	**03 14 58.2**	**+0.4**
BWRS				S	**Sn**	**03 15 08.4**	**+0.1**
TUWZ	**Tuamarina**	**0.35**	**133**		**Pn**	**03 14 58.9**	**+1.0**
TUWZ				Sn	**Sn**	**03 15 08.8**	**+0.4**
TUWZ	**Tuamarina**	**0.35**	**133**	P	**Pn**	**03 14 58.9**	**+1.0**
TUWZ				S	**Sn**	**03 15 09.0**	**+0.6**
BTWS	**Nelson Brightw**	**0.41**	**241**	P	**Pn**	**03 14 57.3**	**-0.9**
BTWS				S	**Sn**	**03 15 07.6**	**-1.4**
MGCS	**Blenheim Marlb**	**0.41**	**141**	P	**Pn**	**03 14 57.9**	**-0.3**
MGCS				S	**Sn**	**03 15 08.5**	**-0.5**
MOTS	**Motueka DOC wo**	**0.45**	**278**	P	**Pn**	**03 14 58.9**	**+0.4**
MOTS				S	**Sn**	**03 15 09.2**	**-0.3**
DUWZ	**D'Urville Isla**	**0.46**	**32**	P	**Pn**	**03 14 58.6**	**0.0**
DUWZ				S	**Sn**	**03 15 09.8**	**+0.1**
WVFS	**Wairau Valley**	**0.47**	**204**	P	**Pn**	**03 14 57.9**	**-0.8**
WVFS				S	**Sn**	**03 15 08.3**	**-1.5**
TKNZ	**Takaka Hill**	**0.51**	**288**		**Pn**	**03 14 58.9**	**-0.1**
TKNZ				Sn	**Sn**	**03 15 09.3**	**-1.1**
TKNZ	**Takaka Hill**	**0.51**	**288**	P	**Pn**	**03 14 58.9**	**-0.1**
TCW	**Tory Channel**	**0.51**	**92**		**Pn**	**03 14 59.4**	**+0.5**
TCW				Sn	**Sn**	**03 15 10.0**	**-0.4**
TCW	**Tory Channel**	**0.51**	**92**	P	**Pn**	**03 14 59.5**	**+0.5**
TCW				S	**Sn**	**03 15 10.3**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.56**	**158**		**Pn**	**03 14 60.0**	**+0.6**
BSWZ				Sn	**Sn**	**03 15 11.6**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.56**	**158**	P	**Pn**	**03 15 00.0**	**+0.6**
SEDS	**Seddon Fire St**	**0.60**	**143**	P	**Pn**	**03 15 00.9**	**+1.2**
SEDS				S	**Sn**	**03 15 13.1**	**+1.5**
MRNZ	**Matariki Terra**	**0.67**	**252**		**Pn**	**03 15 00.3**	**0.0**
MRNZ				Sn	**Sn**	**03 15 12.4**	**-0.3**
MRNZ	**Matariki Terra**	**0.67**	**252**	P	**Pn**	**03 15 00.6**	**+0.3**
CMWZ	**Cape Campbell**	**0.72**	**141**		**Pn**	**03 15 01.5**	**+0.7**
CMWZ				Sn	**Sn**	**03 15 14.9**	**+1.3**
CMWZ	**Cape Campbell**	**0.72**	**141**	P	**Pn**	**03 15 01.7**	**+0.9**
THZ	**Tophouse**	**0.77**	**222**		**Pn**	**03 15 01.9**	**+0.5**
THZ				Sn	**Sn**	**03 15 14.3**	**-0.3**
THZ	**Tophouse**	**0.77**	**222**	P	**Pn**	**03 15 01.9**	**+0.5**
SNZO	**South Karori**	**0.84**	**98**	P	**Pn**	**03 15 02.3**	**+0.3**
SNZO	**South Karori**	**0.84**	**98**		**Pn**	**03 15 02.3**	**+0.3**
WEL	**Wellington**	**0.89**	**96**	P	**Pn**	**03 15 02.6**	**+0.2**
QRZ	**Quartz Range**	**0.89**	**294**	P	**Pn**	**03 15 02.3**	**-0.2**
QRZ	**Quartz Range**	**0.89**	**294**		**Pn**	**03 15 02.1**	**-0.5**
QRZ	**Quartz Range**	**0.89**	**294**	P	**Pn**	**03 15 02.2**	**-0.2**
BHW	**Baring Head**	**0.98**	**103**	P	**Pn**	**03 15 03.5**	**0.0**
KIW	**Kapiti Island**	**1.04**	**72**	P	**Pn**	**03 15 04.3**	**+0.1**
CAW	**Cannon Point**	**1.11**	**86**	P	**Pn**	**03 15 04.9**	**-0.1**
KHZ	**Kahutara**	**1.22**	**182**	P	**Pn**	**03 15 07.1**	**+0.8**
KHZ	**Kahutara**	**1.22**	**182**	Pn	**Pn**	**03 15 06.9**	**+0.6**
KHZ	**Kahutara**	**1.22**	**182**	P	**Pn**	**03 15 07.0**	**+0.8**
OGWZ	**Otaki Gorge**	**1.25**	**73**	P	**Pn**	**03 15 06.5**	**-0.1**
MSWZ	**Moikau Station**	**1.26**	**101**	P	**Pn**	**03 15 06.6**	**-0.2**
PLWZ	**Palliser**	**1.30**	**107**	P	**Pn**	**03 15 07.2**	**-0.1**
PAWZ	**Paruwai Farm**	**1.39**	**98**	P	**Pn**	**03 15 08.0**	**-0.4**
MTW	**Mount Morrison**	**1.44**	**89**	P	**Pn**	**03 15 08.3**	**-0.6**
DSZ	**Denniston Nort**	**1.46**	**247**	P	**Pn**	**03 15 09.0**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.48**	**79**	P	**Pn**	**03 15 08.9**	**-0.5**
TRWZ	**Traveller**	**1.59**	**98**	P	**Pn**	**03 15 10.4**	**-0.4**
MRZ	**Mangatainoka R**	**1.59**	**71**	P	**Pn**	**03 15 10.1**	**-0.7**
OHWZ	**Ohakea**	**1.64**	**53**	P	**Pn**	**03 15 11.5**	**+0.1**
TMWZ	**Te Maipa**	**1.73**	**88**	P	**Pn**	**03 15 12.0**	**-0.7**
TIWZ	**Tintock**	**1.78**	**77**	P	**Pn**	**03 15 12.5**	**-0.8**
WAZ	**Wanganui**	**1.78**	**37**	P	**Pn**	**03 15 14.2**	**+0.8**
NMEZ	**Namu Road**	**1.79**	**7**	P	**Pn**	**03 15 14.3**	**+0.9**
NMEZ				S	**Sn**	**03 15 36.3**	**+0.5**
GVZ	**Greta Valley S**	**1.82**	**193**	Pn	**Pn**	**03 15 13.5**	**-0.3**
GVZ	**Greta Valley S**	**1.82**	**193**	P	**Pn**	**03 15 13.9**	**+0.1**
POWZ	**Post Office Ro**	**1.83**	**65**	P	**Pn**	**03 15 12.9**	**-1.0**
LREZ	**Lake Rotokare**	**1.84**	**20**	P	**Pn**	**03 15 15.3**	**+1.3**
LTZ	**Lake Taylor**	**1.87**	**212**	Pn	**Pn**	**03 15 13.9**	**-0.6**
LTZ	**Lake Taylor**	**1.87**	**212**	P	**Pn**	**03 15 14.5**	**0.0**
PREZ	**Palmer Road**	**1.90**	**13**	P	**Pn**	**03 15 15.8**	**+1.0**
PRWZ	**Pori Road**	**1.91**	**71**	P	**Pn**	**03 15 14.0**	**-0.9**
KHEZ	**Kahui Hut**	**1.92**	**10**	P	**Pn**	**03 15 16.1**	**+0.9**
KHEZ	**Kahui Hut**	**1.92**	**10**	P	**Pn**	**03 15 16.0**	**+0.8**
KHEZ				S	**Sn**	**03 15 39.4**	**+0.3**
NBEZ	**Newall Road No**	**1.93**	**6**	P	**Pn**	**03 15 16.2**	**+1.0**
NEZ	**North Egmont**	**1.96**	**11**	P	**Pn**	**03 15 16.1**	**+0.5**
CPWZ	**Castlepoint**	**1.99**	**83**	P	**Pn**	**03 15 15.4**	**-0.5**
PKE	**Pukeiti**	**2.02**	**9**	P	**Pn**	**03 15 17.2**	**+0.8**
DREZ	**Durham Road**	**2.05**	**13**	P	**Pn**	**03 15 17.7**	**+0.9**
BFZ	**Birch Farm**	**2.07**	**77**	P	**Pn**	**03 15 15.8**	**-1.2**
BFZ	**Birch Farm**	**2.07**	**77**	Pn	**Pn**	**03 15 15.2**	**-1.8**
BFZ	**Birch Farm**	**2.07**	**77**	P	**Pn**	**03 15 15.8**	**-1.2**
AMCZ	**Amberley**	**2.10**	**199**	Pn	**Pn**	**03 15 16.9**	**-0.5**
AMCZ	**Amberley**	**2.10**	**199**	P	**Pn**	**03 15 17.2**	**-0.2**
TSZ	**Takapari Road**	**2.12**	**59**	P	**Pn**	**03 15 16.6**	**-1.1**
DVHZ	**Dannevirke**	**2.15**	**66**	P	**Pn**	**03 15 16.5**	**-1.5**
MHEZ	**Mangahewa**	**2.19**	**15**	P	**Pn**	**03 15 19.6**	**+1.1**
INZ	**Inchbonnie**	**2.22**	**226**	Pn	**Pn**	**03 15 18.4**	**-0.6**
INZ	**Inchbonnie**	**2.22**	**226**	P	**Pn**	**03 15 18.9**	**-0.1**
VRZ	**Vera Road**	**2.25**	**24**	P	**Pn**	**03 15 20.1**	**+0.8**
ANWZ	**Angora Road**	**2.30**	**72**	P	**Pn**	**03 15 18.5**	**-1.5**
MTVZ	**Mangateitei**	**2.30**	**39**	P	**Pn**	**03 15 20.4**	**+0.2**
PKVZ	**Pokaka**	**2.32**	**36**	P	**Pn**	**03 15 20.2**	**-0.2**
PNHZ	**Pukenui**	**2.36**	**58**	P	**Pn**	**03 15 19.4**	**-1.4**
TRVZ	**Turoa**	**2.41**	**39**	P	**Pn**	**03 15 21.4**	**-0.3**
WNVZ	**Wahianoa**	**2.41**	**40**	P	**Pn**	**03 15 21.3**	**-0.3**
OXZ	**Oxford**	**2.43**	**208**	P	**Pn**	**03 15 20.5**	**-1.1**
MOVZ	**Moawhango**	**2.43**	**43**	P	**Pn**	**03 15 21.1**	**-0.7**
WPHZ	**Waipukurau**	**2.44**	**63**	P	**Pn**	**03 15 20.4**	**-1.5**
MAVZ	**Matarangi**	**2.44**	**39**	P	**Pn**	**03 15 21.9**	**-0.3**
WHVZ	**Whangaehu Hut**	**2.44**	**39**	P	**Pn**	**03 15 21.8**	**-0.3**
FWVZ	**Far West T-bar**	**2.45**	**38**	P	**Pn**	**03 15 21.7**	**-0.5**
TUVZ	**Tukino**	**2.48**	**40**	P	**Pn**	**03 15 22.6**	**0.0**
COVZ	**Chateau Observ**	**2.48**	**37**	P	**Pn**	**03 15 22.2**	**-0.4**
PRHZ	**Porangahau**	**2.48**	**69**	P	**Pn**	**03 15 20.8**	**-1.7**
NGZ	**Ngauruhoe**	**2.53**	**38**	P	**Pn**	**03 15 23.0**	**-0.2**
SNVZ	**South Ngauruho**	**2.54**	**39**	P	**Pn**	**03 15 23.4**	**0.0**
TWVZ	**Taurewa**	**2.54**	**34**	P	**Pn**	**03 15 22.8**	**-0.6**
OKCZ	**Okains Bay**	**2.56**	**189**	P	**Pn**	**03 15 22.9**	**-0.6**
OTVZ	**Oturere**	**2.57**	**39**	P	**Pn**	**03 15 23.7**	**-0.1**
NNVZ	**North Ngauruho**	**2.57**	**38**	P	**Pn**	**03 15 23.3**	**-0.5**
WTVZ	**West Tongariro**	**2.58**	**37**	P	**Pn**	**03 15 23.2**	**-0.6**
MOZ	**McQueen's Vall**	**2.61**	**195**	P	**Pn**	**03 15 22.5**	**-1.6**
ETVZ	**East Tongariro**	**2.62**	**39**	P	**Pn**	**03 15 24.0**	**-0.4**
KRVZ	**Karewarewa**	**2.62**	**37**	P	**Pn**	**03 15 23.7**	**-0.7**
KRHZ	**Kereru**	**2.62**	**55**	P	**Pn**	**03 15 22.8**	**-1.5**
NTVZ	**North Tongarir**	**2.63**	**38**	P	**Pn**	**03 15 24.3**	**-0.2**
TMVZ	**Te Maari**	**2.63**	**39**	P	**Pn**	**03 15 24.2**	**-0.3**
AKCZ	**Akaroa Harbour**	**2.73**	**191**	P	**Pn**	**03 15 24.6**	**-1.0**
KATZ	**Kakaramea**	**2.74**	**37**	P	**Pn**	**03 15 25.5**	**-0.5**
PXZ	**Pawanui**	**2.74**	**66**	P	**Pn**	**03 15 23.9**	**-2.0**
RACZ	**Rakaia**	**2.75**	**203**	P	**Pn**	**03 15 24.7**	**-1.3**
MHCZ	**Mount Hutt**	**2.78**	**212**	P	**Pn**	**03 15 25.1**	**-1.4**
KWHZ	**Kaweka Forest**	**2.79**	**52**	P	**Pn**	**03 15 25.4**	**-1.2**
RITZ	**Rihia Road**	**2.81**	**39**	P	**Pn**	**03 15 26.5**	**-0.4**
WVZ	**Waitaha Valley**	**2.84**	**228**	P	**Pn**	**03 15 26.3**	**-0.9**
HIZ	**Hauiti**	**2.85**	**20**	P	**Pn**	**03 15 27.6**	**+0.2**
HIZ	**Hauiti**	**2.85**	**20**		**Pn**	**03 15 27.5**	**+0.2**
HIZ	**Hauiti**	**2.85**	**20**	P	**Pn**	**03 15 27.5**	**+0.2**
RATZ	**Rangitukua**	**2.86**	**36**	P	**Pn**	**03 15 27.3**	**-0.2**
KAHZ	**Kahuranaki**	**2.86**	**62**	P	**Pn**	**03 15 25.7**	**-1.8**
MCHZ	**McNeill Hill**	**2.94**	**55**	P	**Pn**	**03 15 27.4**	**-1.1**
WATZ	**Wairara**	**2.97**	**34**	P	**Pn**	**03 15 29.0**	**-0.1**
HATZ	**Hinemaiaia**	**2.99**	**41**	P	**Pn**	**03 15 27.8**	**-1.4**
BKZ	**Black Stump Fm**	**3.00**	**49**	P	**Pn**	**03 15 28.0**	**-1.5**
BKZ	**Black Stump Fm**	**3.00**	**49**	P	**Pn**	**03 15 27.9**	**-1.5**
WACZ	**Wakanui South**	**3.04**	**205**	P	**Pn**	**03 15 28.3**	**-1.5**
CKHZ	**Cape Kidnapper**	**3.06**	**61**	P	**Pn**	**03 15 28.1**	**-2.1**
WHTZ	**Whakaora**	**3.11**	**36**	P	**Pn**	**03 15 30.5**	**-0.3**
RPZ	**Rata Peaks**	**3.15**	**216**	P	**Pn**	**03 15 30.0**	**-1.3**
RPZ	**Rata Peaks**	**3.15**	**216**	P	**Pn**	**03 15 29.8**	**-1.5**
	657nm,0.6s,baz=226,slow=1.1,SNR=90					
RPZ				S	**Sn**	**03 16 04.7**	**-3.3**
	1μm,0.6s,baz=351,slow=18,SNR=3.6					
RPZ	**Rata Peaks**	**3.15**	**216**	P	**Pn**	**03 15 29.7**	**-1.5**
KUTZ	**Kaahu Road**	**3.20**	**33**	P	**Pn**	**03 15 31.6**	**-0.4**
MRHZ	**Matea Rd**	**3.20**	**43**	P	**Pn**	**03 15 30.2**	**-1.9**
GCSZ	**Gaunt Creek Bo**	**3.23**	**228**	P	**Pn**	**03 15 31.6**	**-0.7**
TLZ	**Tolley Road**	**3.23**	**28**	P	**Pn**	**03 15 32.1**	**-0.4**
NMHZ	**Naumai**	**3.23**	**51**	P	**Pn**	**03 15 31.0**	**-1.5**
ARHZ	**Aropaoanui**	**3.24**	**55**	P	**Pn**	**03 15 30.6**	**-1.9**
ARCZ	**Arundel**	**3.28**	**212**	P	**Pn**	**03 15 31.5**	**-1.6**
WPRZ	**Whakapapatarin**	**3.32**	**37**	P	**Pn**	**03 15 32.4**	**-1.3**
ALRZ	**Allen Road**	**3.37**	**40**	P	**Pn**	**03 15 32.8**	**-1.5**
MTHZ	**Maungataniwha**	**3.41**	**48**	P	**Pn**	**03 15 32.9**	**-2.0**
GRRZ	**Galatos Road**	**3.44**	**35**	P	**Pn**	**03 15 34.5**	**-0.7**
PRRZ	**Plateau Road**	**3.44**	**40**	P	**Pn**	**03 15 33.7**	**-1.6**
HRRZ	**Handcock Road**	**3.48**	**37**	P	**Pn**	**03 15 34.9**	**-1.0**
WHHZ	**Waihua**	**3.50**	**54**	P	**Pn**	**03 15 33.9**	**-2.1**
RAHZ	**Arahi**	**3.51**	**51**	P	**Pn**	**03 15 33.9**	**-2.3**
HSRZ	**Hossack Road**	**3.53**	**36**	P	**Pn**	**03 15 35.7**	**-0.8**
UTU	**Utuhina**	**3.62**	**34**	P	**Pn**	**03 15 36.9**	**-0.7**
HLRZ	**Highlands Stat**	**3.62**	**37**	P	**Pn**	**03 15 37.1**	**-0.7**
RRRZ	**Republican Roa**	**3.63**	**39**	P	**Pn**	**03 15 36.1**	**-1.8**
MUGZ	**Murupara**	**3.65**	**43**	P	**Pn**	**03 15 35.4**	**-2.7**
FOZ	**Fox Glacier**	**3.65**	**229**	Pn	**Pn**	**03 15 35.9**	**-2.1**
FOZ	**Fox Glacier**	**3.65**	**229**	P	**Pn**	**03 15 36.8**	**-1.2**
RTZ	**Ruatahuna**	**3.66**	**46**	P	**Pn**	**03 15 35.7**	**-2.6**
NGRZ	**Ngongotaha**	**3.68**	**34**	P	**Pn**	**03 15 37.8**	**-0.7**
TARZ	**Mount Tarawera**	**3.71**	**38**	P	**Pn**	**03 15 37.7**	**-1.3**
TMZ	**Timaru**	**3.72**	**210**	P	**Pn**	**03 15 37.5**	**-1.5**
SNGZ	**Shannon Statio**	**3.75**	**51**	P	**Pn**	**03 15 36.9**	**-2.5**
OMRZ	**Omania**	**3.75**	**36**	P	**Pn**	**03 15 38.2**	**-1.3**
TOZ	**Tahuroa Road**	**3.76**	**24**	Pn	**Pn**	**03 15 38.7**	**-0.8**
TOZ	**Tahuroa Road**	**3.76**	**24**	P	**Pn**	**03 15 39.1**	**-0.5**
MKRZ	**Makatiti**	**3.77**	**37**	P	**Pn**	**03 15 40.3**	**+0.5**
KARZ	**Kaharoa**	**3.77**	**34**	P	**Pn**	**03 15 38.9**	**-0.9**
KMRZ	**Kaimai**	**3.80**	**29**	P	**Pn**	**03 15 40.3**	**+0.1**
KNZ	**Kokohu**	**3.80**	**57**	P	**Pn**	**03 15 37.0**	**-3.1**
LIRZ	**Lichtensteins R**	**3.84**	**35**	P	**Pn**	**03 15 40.6**	**-0.1**
MHGZ	**Mahia Peninsul**	**3.88**	**60**	P	**Pn**	**03 15 38.3**	**-2.9**
EDRZ	**Edgecumbe**	**3.92**	**39**	P	**Pn**	**03 15 39.6**	**-2.3**
RAGZ	**Rawiri**	**3.98**	**49**	P	**Pn**	**03 15 40.2**	**-2.5**
MARZ	**Manawahe**	**3.99**	**38**	P	**Pn**	**03 15 40.8**	**-2.0**
URZ	**Urewera**	**3.99**	**44**	P	**Pn**	**03 15 39.8**	**-2.9**
URZ	**Urewera**	**3.99**	**44**	P	**Pn**	**03 15 39.2**	**-3.5**
	125nm,0.4s,baz=332,slow=5.0,SNR=415					
URZ				S	**Sn**	**03 16 24.4**	**-3.9**
	695nm,0.4s,baz=177,slow=18,SNR=25					
URZ	**Urewera**	**3.99**	**44**	P	**Pn**	**03 15 39.5**	**-3.1**
PRGZ	**Paritu Road**	**3.99**	**57**	P	**Pn**	**03 15 39.5**	**-3.2**
TGRZ	**Tauranga**	**4.03**	**32**	P	**Pn**	**03 15 42.4**	**-0.7**
OPRZ	**Ohinepanea**	**4.05**	**35**	P	**Pn**	**03 15 41.8**	**-1.7**
RIGZ	**Riruhau**	**4.05**	**54**	P	**Pn**	**03 15 40.5**	**-3.1**
LBZ	**Lake Benmore**	**4.06**	**217**	P	**Pn**	**03 15 41.4**	**-2.2**
MWZ	**Matawai**	**4.16**	**48**	P	**Pn**	**03 15 41.8**	**-3.2**
AWAZ	**Awhitu Peninsu**	**4.20**	**11**	P	**Pn**	**03 15 46.2**	**+0.6**
KBAZ	**Karaka Road Bo**	**4.21**	**14**	P	**Pn**	**03 15 46.5**	**+0.8**
MKAZ	**Moumakai**	**4.26**	**17**	P	**Pn**	**03 15 46.1**	**-0.2**
TKGZ	**Te Karaka**	**4.27**	**51**	P	**Pn**	**03 15 43.5**	**-3.0**
WTAZ	**Waiatarua**	**4.32**	**10**	P	**Pn**	**03 15 48.0**	**+0.8**
ETAZ	**East Tamaki Re**	**4.36**	**14**	P	**Pn**	**03 15 48.0**	**+0.3**
EPAZ	**Eden Park BICE**	**4.40**	**12**	P	**Pn**	**03 15 49.1**	**+0.8**
ODZ	**Otahua Downs**	**4.42**	**208**	P	**Pn**	**03 15 47.2**	**-1.2**
ODZ	**Otahua Downs**	**4.42**	**208**	P	**Pn**	**03 15 46.8**	**-1.6**
HBAZ	**Herne Bay Bore**	**4.42**	**12**	P	**Pn**	**03 15 49.4**	**+0.8**
CNGZ	**Carnagh Statio**	**4.46**	**54**	P	**Pn**	**03 15 45.8**	**-3.3**
RVAZ	**Riverhead Bore**	**4.48**	**10**	P	**Pn**	**03 15 49.6**	**+0.2**
RUGZ	**Raukumara Rang**	**4.51**	**46**	P	**Pn**	**03 15 46.1**	**-3.7**
TWGZ	**Tauwhareparae**	**4.53**	**50**	P	**Pn**	**03 15 47.5**	**-2.5**
MBAZ	**Motutapu North**	**4.53**	**13**	P	**Pn**	**03 15 50.6**	**+0.5**
WIAZ	**Waiheke Island**	**4.55**	**16**	P	**Pn**	**03 15 50.6**	**+0.2**
JCZ	**Jackson Bay**	**4.57**	**229**	P	**Pn**	**03 15 49.2**	**-1.4**
JCZ	**Jackson Bay**	**4.57**	**229**	P	**Pn**	**03 15 48.7**	**-1.9**
WIZ	**White Island**	**4.60**	**38**	P	**Pn**	**03 15 48.0**	**-2.9**
ABAZ	**Army Bay**	**4.69**	**12**	P	**Pn**	**03 15 52.8**	**+0.6**
KUZ	**Kuaotunu**	**4.74**	**21**	P	**Pn**	**03 15 52.1**	**-0.7**
KUZ	**Kuaotunu**	**4.74**	**21**	P	**Pn**	**03 15 51.9**	**-1.0**
PUZ	**Puketiti**	**4.76**	**51**	P	**Pn**	**03 15 49.5**	**-3.6**
PKGZ	**Pakihiroa**	**4.80**	**48**	P	**Pn**	**03 15 50.2**	**-3.5**
WKZ	**Wanaka**	**4.95**	**221**	Pn	**Pn**	**03 15 52.5**	**-3.2**
WKZ	**Wanaka**	**4.95**	**221**	P	**Pn**	**03 15 52.8**	**-2.8**
WMGZ	**Waiomatatini S**	**5.02**	**49**	P	**Pn**	**03 15 53.0**	**-3.6**
EAZ	**Earnscleugh**	**5.11**	**216**	P	**Pn**	**03 15 55.2**	**-2.7**
MXZ	**Matakaoa Point**	**5.14**	**47**	P	**Pn**	**03 15 55.3**	**-3.0**
MXZ	**Matakaoa Point**	**5.14**	**47**	P	**Pn**	**03 15 55.2**	**-3.1**
GRZ	**Great Barrier**	**5.14**	**17**	P	**Pn**	**03 15 57.9**	**-0.5**
HHSZ	**Highcliff Hill**	**5.17**	**204**	P	**Pn**	**03 15 57.6**	**-1.1**
WCZ	**Waipu Caves**	**5.28**	**7**	P	**Pn**	**03 15 60.0**	**-0.2**
MSZ	**Milford Sound**	**5.43**	**228**	P	**Pn**	**03 16 00.8**	**-1.3**
TUZ	**Tuapeka**	**5.56**	**210**	P	**Pn**	**03 16 02.2**	**-1.8**
MLZ	**Mavora Lakes**	**5.78**	**222**	P	**Pn**	**03 16 05.3**	**-1.6**
OUZ	**Omahuta**	**5.96**	**360**	P	**Pn**	**03 16 09.5**	**0.0**
OUZ	**Omahuta**	**5.96**	**360**	P	**Pn**	**03 16 09.3**	**-0.2**
SYZ	**Scrubby Hill**	**6.24**	**210**	P	**Pn**	**03 16 11.9**	**-1.2**
SYZ	**Scrubby Hill**	**6.24**	**210**	P	**Pn**	**03 16 12.2**	**-1.0**
WHZ	**Wether Hill Ro**	**6.24**	**219**	P	**Pn**	**03 16 11.4**	**-1.8**
DCZ	**Deep Cove**	**6.35**	**226**	Pn	**Pn**	**03 16 13.6**	**-1.1**
DCZ	**Deep Cove**	**6.35**	**226**	P	**Pn**	**03 16 14.2**	**-0.5**
APZ	**The Paps**	**6.94**	**214**	P	**Pn**	**03 16 20.5**	**-2.2**
PYZ	**Puysegur Point**	**7.06**	**223**	Pn	**Pn**	**03 16 23.6**	**-0.8**
CTZ	**Chatham Island**	**7.67**	**113**	P	**Pn**	**03 16 30.8**	**-1.8**
CTZ	**Chatham Island**	**7.67**	**113**		**Pn**	**03 16 32.0**	**-0.6**
CTZ	**Chatham Island**	**7.67**	**113**	P	**Pn**	**03 16 31.7**	**-0.9**
RAO	**Raoul Island**	**13.77**	**33**	P	Pn	03 17 49.2	-5.7
	160nm,0.5s,baz=270,slow=20,SNR=2.1					
PINNC	**Pines Island,**	**19.24**	**343**	Pn	**Pn**	**03 19 02.7**	**+0.2**
PINNC				IAmb	IAmb	03 19 07.2	
	comp=Z,38nm,1.1s						
ONTNC	**Ouen Toro**	**19.77**	**340**	P	**P**	**03 19 07.0**	**+0.6**
CNB	**Canberra Magne**	**19.89**	**279**	P	**Pn**	**03 19 10.8**	**+0.7**
	comp=Z,27nm,1.0s,SNR=2.7						
DZM	**Mont Dzumac**	**20.00**	**340**	*e*P	**P**	**03 19 09.1**	**+0.1**
	comp=Z,65nm,1.1s						
DZM				*e*S	**S**	**03 22 42.0**	**-6.8**
	comp=Z,90nm,25.7s						
DZM				*e*LR	LR	03 24 00.2	
	comp=Z,151nm,28.2s						
DZM	**Mont Dzumac**	**20.00**	**340**	P	**P**	**03 19 09.7**	**+0.7**
DZM				IAmb	IAmb	03 19 12.3	
	comp=Z,32nm,1.0s						
DZM	**Mont Dzumac**	**20.00**	**340**	P	**Pn**	**03 19 10.4**	**-1.1**
	comp=Z,21nm,0.8s,baz=130,slow=15,SNR=18						
DZM				LR	LR	03 25 55.5	
	comp=Z,49nm,18.7s,baz=169,slow=34						
CAN	**Canberra**	**20.16**	**279**	P	Pn	03 19 15.5	+2.2
LIFNC	**LIFOU**	**21.06**	**343**	P	**P**	**03 19 20.3**	**+0.1**
TOO	**Toolangi**	**21.98**	**270**	P	**P**	**03 19 30.7**	**+0.6**
KOUNC	**Koumac, New Ca**	**22.05**	**336**	P	**P**	**03 19 33.8**	**+3.0**
KOUNC				IAmb	IAmb	03 19 35.0	
	comp=Z,53nm,0.7s						
MSVF	**Nonsavu**	**23.69**	**11**	P	**P**	**03 19 45

KIC	**Kosan Boka**	145.28	183	⇑iPKIKP	PKPab	03 34 10.9	-0.1
	comp=Z,29nm,0.8s						
TIC	**Toumodi**	145.58	182	⇑iPKIKP	PKPdf	03 34 10.3	-1.2
	comp=Z,5.8nm,0.3s						
DBIC	**Dimbokro**	145.60	183	PKPbc	PKPbc	03 34 11.7	0.0
	comp=Z,3.9nm,0.5s,baz=127,slow=2.4,SNR=17						
DBIC				pPKPbc	pPKPab	03 34 36.5	-1.0
	comp=Z,7.2nm,0.7s,baz=174,slow=4.1,SNR=3.5						
MMAI	**Mount Meron Ar**	145.94	270	PKPbc	PKPbc	03 34 12.4	0.0
	comp=Z,5.7nm,0.7s,baz=114,slow=3.6,SNR=4.0						
ICESG	**Greenland Ices**	147.03	21	*e*P	PKPdf	03 34 12.9	+0.3
ARCES	**ARCESS Array B**	147.09	340	PKPbc	PKPbc	03 34 13.5	-1.0
	comp=Z,3.7nm,0.7s,baz=52,slow=1.6,SNR=14						
BRTR	**Keskin Array B**	149.68	281	PKPbc	PKPbc	03 34 20.8	-1.6
	comp=Z,2.6nm,0.8s,baz=146,slow=4.9,SNR=12						
TORD	**Torodi Ar. Bea**	151.18	197	PKPbc	PKPbc	03 34 25.5	-1.0
	comp=Z,1.6nm,0.6s,baz=206,slow=1.1,SNR=19						
TORD				pPKPbc	pPKPdf	03 34 48.9	+2.3
	comp=Z,1.7nm,0.5s,baz=200,slow=1.6,SNR=2.9						
FINES	**FINESS Array B**	151.80	327	PKPbc	PKPbc	03 34 24.9	-1.5
	comp=Z,3.2nm,0.8s,baz=31,slow=2.3,SNR=12						
FINES				PKPab	PKPab	03 34 36.8	+1.0
	comp=Z,1.1nm,0.5s,baz=66,slow=4.7,SNR=4.2						
FINES				pPKPbc	pPKPbc	03 34 49.9	-2.4
	comp=Z,3.2nm,0.7s,baz=98,slow=3.9,SNR=4.0						
AKASG	**Malin Array Be**	153.69	303	PKPab	PKPab	03 34 42.8	-1.4
	comp=Z,1.4nm,0.7s,baz=77,slow=3.5,SNR=5.2						
HFS	**Hagfors**	157.33	334	PKPab	PKPab	03 34 59.9	+0.5
	comp=Z,4.2nm,0.5s,baz=66,slow=3.6,SNR=38						
NB2	**NORSAR Subarra**	157.40	337	PKP	PKPab	03 35 00.6	+0.8
	comp=Z,4.0nm,0.7s,baz=36,slow=4.4						
NOA	**NORSAR Array B**	157.40	337	PKPab	PKPab	03 35 00.5	+0.8
	comp=Z,3.1nm,0.7s,baz=38,slow=4.6,SNR=21						
CRVS	**Cervenica-Dubn**	158.94	301	*e*PKP	PKPab	03 35 12.2	+5.3
GERES	**GERESS Array B**	163.89	305	PKPab	PKPab	03 35 26.9	-1.7
	comp=Z,0.8nm,0.8s,baz=31,slow=4.0,SNR=6.4						
EKA	**Eskdalemuir Ar**	165.69	352	PKPab	PKPab	03 35 36.7	+0.7
	comp=Z,1.1nm,0.7s,baz=16,slow=4.0,SNR=4.6						

TIR ***22*** *03:33:22.6, 41°.49N×19°.56E, h21km±8km, Md2.7, Ml2.0*
BEO ***22*** *03:33:24.7±0.7, 41°.43N×19°.62E, h10km±2km, ML1.9/6*
ISC 22 03:33:23.8±1.0, 41°.47N±0°.03×19°.58E±0°.04, h16km±9km, n20, σ0°76/34, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	0.25	118	P	Pg	03 33 29.0	-0.2
	baz=121						
TIR				S	Sb	03 33 33.8	-0.2
	baz=121						
TIR				AMP			
	comp=E,0.9nm,0.3s,baz=121						
TIR	**Tirane**	0.25	118	*e*Pg	Pg	03 33 29.1	-0.2
TIR				*e*Sg	Sb	03 33 33.5	-0.5
PUK	**Puka**	0.62	22	P	Pg	03 33 35.0	-1.2
	baz=24						
PUK				S	Sb	03 33 44.9	-0.1
	baz=24						
PUK				AMP			
	comp=N,0.4nm,0.3s,baz=24						
DRME	**Dracevica, Mon**	0.78	338	*e*Pg	Pg	03 33 39.2	+0.2
DRME				*e*Sg	Sn	03 33 52.9	+1.3
BCI	**Bajram Curri**	0.97	22	P	Pb	03 33 41.0	-1.4
	baz=23						
BCI				S	Sn	03 33 55.9	-0.5
	baz=23						
BCI				AMP			
	comp=N,0.2nm,0.4s,baz=23						
PDG	**Podgorica**	0.99	346	*e*Pg	Pg	03 33 43.1	0.0
PDG				*e*Sg	Sn	03 33 57.9	+1.1
KOME	**Kolasin**	1.39	358	*e*Pg	Pg	03 33 50.6	+0.1
KOME				*e*Sg	Sg	03 34 10.3	+1.7
FNA	**Florina**	1.52	116	P	Pb	03 33 51.4	-0.3
	baz=116						
FNA				S	Sg	03 34 13.3	+0.5
	baz=116						
FNA				AMP			
	comp=E,0.1nm,0.2s,baz=116						
DBRK	**Dubrovnik**	1.61	319	*e*Pn	Pb	03 33 52.9	-0.2
DBRK				Sn	Sb	03 34 12.9	-0.3
SRN	**Sarande**	1.62	168	P	Pb	03 33 53.5	+0.2
	baz=168						
SRN				S	Sg	03 34 15.9	+0.1
	baz=168						
SCTE	**Santa Cesarea**	1.63	212	P	Pb	03 33 53.2	-0.2
	baz=211						
SJES	**Sjenica**	1.82	9	*e*Pg	Pb	03 33 56.6	-0.2
SJES				*e*Sg	Sg	03 34 22.6	+0.2
STON	**Ston**	1.98	316	*e*Pn	Pn	03 33 55.6	-1.0
SELS	**Selova**	2.09	33	*e*Pn	Pn	03 33 59.5	+1.2
SELS				*e*Sn	Sb	03 34 26.6	-0.6
IVAS	**Ivanjica**	2.15	11	*e*Pn	Pn	03 34 00.3	+1.2
IVAS				*e*Sn	Sb	03 34 28.3	-0.7
RICI	**Ricice**	2.72	319	*e*Pn	Pn	03 34 06.5	-0.3
HVAR	**Hvar**	2.88	307	Sn	Sn	03 34 42.6	-0.8
KIJV	**Kijevo**	3.45	318	*e*Pn	Pn	03 34 17.6	+0.7
MORI	**Morici**	3.73	311	*e*Pn	Pn	03 34 20.8	+0.1
MORI				Sn	Sn	03 35 03.7	-0.6
VIRC	**Vir**	4.36	312	*e*Pn	Pn	03 34 30.0	+0.6

NOU ***22*** *03:55:55.5, 22°.24S×171°.66E, h0km, MLv4.9/9, Southeast of Loyalty Islands*
NEIC ***22*** *03:55:56.1±1.5, 22°.30S±0°.08×171°.8E±0°.1, h89km±10km, mb4.4/16, Error ellipse: s-maj=17.7km s-min=10.6km az=73.0*
IDC ***22*** *03:55:59.3±5.2, 22°.38S×171°.54E, h118km±38km, mb3.8/7, mbtmp4.2/8, MS3.2/3, Error ellipse: s-maj=38.9km s-min=27.4km az=75.0*
ISC 22 03:55:56.8±1.0, 22°.33S±0°.1×171°.7E±0°.1, h98km, n43, σ1§03/41, mb4.4/14, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	3.54	283	P	Pn	03 56 50.7	+0.9
PINNC	**Pines Island,**	3.99	265	P	Pn	03 56 56.9	+1.1
PINNC	**Pines Island,**	3.99	265	Pn	Pn	03 56 56.5	+0.6
LIFNC	**LIFOU**	4.46	289	P	Pn	03 57 02.4	+0.2
LIFNC	**LIFOU**	4.46	289	Pn	Pn	03 57 02.2	0.0
YATNC	**Mamie plateau,**	4.50	272	P	Pn	03 57 02.8	0.0
ONTNC	**Ouen Toro**	4.90	269	P	Pn	03 57 09.7	+1.5
ONTNC	**Ouen Toro**	4.90	269	Pn	Pn	03 57 08.2	0.0
DZM	**Mont Dzumac**	4.92	272	P	Pn	03 57 09.4	+0.9
DZM	**Mont Dzumac**	4.92	272	Pn	Pn	03 57 08.3	-0.2
DZM	**Mont Dzumac**	4.92	272	P	Pn	03 57 08.9	+0.3
	60nm,0.5s,baz=68,slow=18,SNR=386						
DZM				S	Sn	03 58 03.1	-1.2
	483nm,0.5s,baz=96,slow=23,SNR=22						
NOUC	**Port Laguerre**	5.05	271	P	Pn	03 57 11.1	+0.9
KOUNC	**Koumac, New Ca**	7.16	283	P	Pn	03 57 40.9	+1.9
KOUNC	**Koumac, New Ca**	7.16	283	Pn	Pn	03 57 39.9	+0.9
NFK	**Norfolk Island**	7.54	206	P	Pn	03 57 45.0	+1.0
	3.6nm,SNR=5.2						
RAO	**Raoul Island**	11.60	129	LR	LR	04 01 09.5	
	comp=Z,60nm,20.2s,baz=134,slow=26						
KHZ	**Kahutara**	20.12	176	P	P	04 00 22.4	-0.3
KHZ				IAmb	IAmb	04 00 29.1	
	comp=Z,29nm,1.2s						
LTZ	**Lake Taylor**	20.43	179	P	P	04 00 27.4	+1.1
LTZ				IAmb	IAmb	04 00 28.5	
	comp=Z,20nm,0.8s						
CTAO	**Charters Tower**	23.86	271	P	P	04 01 02.8	+1.4
MTSU	**Mount Surprise**	26.05	274	P	P	04 01 22.5	+1.2
	comp=Z,17nm,0.7s,SNR=7.6						
WR0	**Warramunga Arr**	34.73	267	P	P	04 02 36.4	-1.3
AS31	**Alice Springs**	34.80	260	P	P	04 02 37.5	-0.8
ASAR	**Alice Springs**	34.80	260	P	P	04 02 37.5	-0.8
	comp=Z,5.3nm,0.8s,baz=86,slow=9.0,SNR=50						
	comp=Z,5.3nm,0.8s						
WB0	**Warramunga Arr**	34.90	267	P	P	04 02 37.4	-1.9
WB0				IAmb	IAmb	04 02 40.8	
	comp=Z,2.7nm,0.7s						
WB2	**Warramunga Arr**	34.91	267	P	P	04 02 37.7	-1.6
WB2				IAmb	IAmb	04 03 04.0	
	comp=Z,4.3nm,1.0s						
WRA	**Warramunga Arr**	34.92	267	P	P	04 02 37.8	-1.6
WRA	**Warramunga Arr**	34.92	267	P	P	04 02 36.6	-2.8
	comp=Z,1.1nm,0.5s,baz=96,slow=8.4,SNR=20						
	comp=Z,1.1nm,0.5s						
MTN	**Manton Dam**	39.73	277	P	P	04 03 19.3	-0.8
MTN				IAmb	IAmb	04 03 24.8	
	comp=Z,14nm,1.1s						
FORT	**Forrest**	39.78	248	P	P	04 03 19.9	-0.4
KNRA	**Kununurra**	41.07	271	P	P	04 03 30.1	-1.0
KNRA				IAmb	IAmb	04 03 31.4	
	comp=Z,7.1nm,0.9s						
FITZ	**Fitzroy Crossi**	43.35	267	P	P	04 03 49.5	-0.1
FITZ	**Fitzroy Crossi**	43.35	267	P	P	04 03 50.0	+0.4
	comp=Z,341nm,1.1s,SNR=2.4						
MBWA	**Marble Bar**	48.13	261	P	P	04 04 26.9	-0.4
MBWA				IAmb	IAmb	04 04 27.5	
	comp=Z,4.0nm,0.6s						
MORW	**Morawa**	50.27	250	P	P	04 04 43.7	+0.3
KAPI	**Kappang**	53.07	281	P	P	04 05 04.7	+0.2
	comp=Z,1.9nm,0.3s,baz=86,slow=14,SNR=6.8						
	comp=Z,1.9nm,0.3s						
MJAR	**Matsushiro Arr**	66.55	331	P	P	04 06 36.1	-0.2
	comp=Z,0.8nm,0.6s,baz=160,slow=7.5,SNR=2.9						
	comp=Z,0.8nm,0.6s						
QSPA	**South Pole Qui**	67.77	180	P	P	04 06 43.9	0.0
QSPA				IAmb	IAmb	04 06 48.1	
	comp=Z,3.7nm,1.1s						
QSPA	**South Pole Qui**	67.77	180	P	P	04 06 43.6	-0.3
	comp=Z,2.6nm,1.0s,baz=27,slow=0.6,SNR=5.1						
	comp=Z,2.6nm,1.0s						
ASAJ	**Asahikawa**	71.29	338	LR	LR	04 34 07.2	
	comp=Z,15nm,19.5s,baz=154,slow=32						
KSRS	**Korea Array**	72.34	325	P	P	04 07 12.2	+0.3
	comp=Z,1.6nm,0.8s,baz=126,slow=6.7,SNR=6.9						
	comp=Z,1.6nm,0.8s						
PMSA	**Palmer Station**	83.24	159	P	P	04 08 11.8	-0.3
SONM	**Songino Array**	91.06	322	P	P	04 08 50.4	+0.1
	comp=Z,0.4nm,0.4s,baz=134,slow=4.3,SNR=5.1						
	comp=Z,0.4nm,0.4s						
ILAR	**Eielson Array**	92.46	16	LR	LR	04 43 36.2	
	comp=Z,21nm,21.4s,baz=80,slow=31						

IDC ***22*** *04:00:50.3±1.5, 0°.95N×125°.62E, h0km, mb3.7/5, mbtmp3.8/5, Error ellipse: s-maj=182.5km s-min=19.6km az=65.0*
NEIC ***22*** *04:00:51.8±1.4, 1°.42N±0°.05×126°.66E±0°.10, h10km±2km, mb4.1/12, Error ellipse: s-maj=17.9km s-min=5.1km az=63.0*
DJA ***22*** *04:00:52.8±0.3, 1°.N±5°×12°.7E±°, h10km, M3.9/8, MLv3.9/8*
ISC 22 04:00:50.9±0.8, 1°.48N±0°.09×126°.75E±0°.08, h10km, n25, σ0§90/26, mb4.0/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	0.94	139		Pn	04 01 11.2	+1.0
TNTI				Sg	Sg	04 01 20.8	-0.4
TNTI	**Ternate**	0.94	139	P	Pn	04 01 11.0	+0.8
SGSI	**Sangihe**	2.51	331	P	Pb	04 01 35.6	-0.5
KMSI	**Cibinong**	2.91	252	P	Pn	04 01 37.2	-0.2
GTOI	**Gorontalo**	3.83	257	P	Pn	04 01 51.8	+1.8
LUWI	**Luwuk**	4.70	238	P	Pn	04 02 02.5	+0.5
KNRA	**Kununurra**	17.16	173	P	P	04 04 53.2	+0.5
WB0	**Warramunga Arr**	22.41	161	P	P	04 05 50.0	+0.1
WB0				IAmb	IAmb	04 05 56.5	
	comp=Z,4.7nm,0.8s						
WRAB	**Tennant Creek**	22.55	161	P	P	04 05 49.8	-1.6
WRA	**Warramunga Arr**	22.56	161	P	P	04 05 50.1	-1.4
WRA	**Warramunga Arr**	22.56	161	P	P	04 05 51.3	-0.2
	comp=Z,1.5nm,0.5s,baz=336,slow=10,SNR=21						
	comp=Z,1.5nm,0.5s						
WB2	**Warramunga Arr**	22.56	161	P	P	04 05 51.1	-0.4
WB2				IAmb	IAmb	04 05 57.3	
	comp=Z,5.2nm,0.9s						
WR0	**Warramunga Arr**	22.64	161	P	P	04 05 51.6	-0.7
WR0				IAmb	IAmb	04 06 06.7	
	comp=Z,9.8nm,1.2s						
PSA00	**Pilbara Seismi**	23.89	196	P	P	04 06 04.1	-0.8
AS31	**Alice Springs**	25.95	165	P	P	04 06 23.6	-0.2
ASAR	**Alice Springs**	25.95	165	P	P	04 06 23.5	-0.3
ASAR	**Alice Springs**	25.95	165	P	P	04 06 22.8	-1.0
	comp=Z,0.7nm,0.6s,baz=345,slow=10,SNR=11						
	comp=Z,0.7nm,0.6s						
STKA	**Stephens Creek**	36.04	158	P	P	04 07 52.8	+0.2
STKA				IAmb	IAmb	04 08 13.1	
	comp=Z,2.5nm,1.5s						
MK31	**Makanchi Array**	59.41	326	P	P	04 10 53.5	-0.2
MK31				IAmb	IAmb	04 11 16.7	
	comp=Z,1.5nm,1.1s						
MKAR	**Makanchi Array**	59.41	326	P	P	04 10 53.1	-0.6
MKAR	**Makanchi Array**	59.41	326	P	P	04 10 54.0	+0.2
	comp=Z,0.4nm,0.4s,baz=122,slow=7.4,SNR=11						
	comp=Z,0.4nm,0.4s						
MAKZ	**Makanchi**	59.59	326	P	P	04 10 56.8	+1.7
MAKZ				IAmb	IAmb	04 11 19.7	
	comp=Z,3.2nm,1.4s						
KURBB	**Kurchatov Arra**	63.64	328	P	P	04 11 21.2	-1.0
	comp=Z,0.6nm,0.3s,baz=130,slow=6.6,SNR=7.7						
	comp=Z,0.6nm,0.3s						
KURK	**Kurchatov**	63.64	328	P	P	04 11 22.6	+0.4
BVAR	**Borovoye Array**	69.21	327	P	P	04 11 58.9	+1.0
	comp=Z,0.2nm,0.3s,baz=116,slow=6.6,SNR=2.2						
	comp=Z,0.2nm,0.3s						

IDC ***22*** *04:20:27.0±6.5, 6°.28S×147°.21E, h113km±67km, mb2.8/2, mbtmp3.4/4, Error ellipse: s-maj=83.2km s-min=37.2km az=133.0*
ISC 22 04:20:25.3±1.4, 6°.2S±0°.1×147°.0E±0°.3, h100km, n6, σ0§90/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.21	178	P	Pn	04 21 14.5	+0.6
	44nm,0.4s,baz=18,slow=13,SNR=22						
PMG				S	Sn	04 21 52.0	+0.6
	22nm,0.4s,baz=167,slow=20,SNR=7.7						
CTA	**Charters Tower**	13.85	183	P	P	04 23 40.9	-1.5
	0.2nm,0.7s,baz=14,slow=12,SNR=1.8						
WRA	**Warramunga Arr**	18.43	221	P	P	04 24 32.9	-0.1
	0.5nm,0.5s,baz=47,slow=12,SNR=14						
ASAR	**Alice Springs**	21.50	215	P	P	04 25 06.7	+0.5
	0.4nm,0.5s,baz=54,slow=9.1,SNR=3.1						
	0.4nm,0.5s						
ILAR	**Eielson Array**	85.63	23	P	P	04 32 52.5	+0.1
	0.1nm,0.5s,baz=262,slow=6.3,SNR=2.1						
	0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	145.17	284	PKPbc	PKPdf	04 39 52.7	+0.5
	0.5nm,0.7s,baz=72,slow=4.7,SNR=2.9						

IDC 22 04:35:36.7±317.0, 21°.81N×148°.30E, h0km, Error ellipse: s-maj=274.9km s-min=118.7km az=73.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	15.16	334	I	I	06 11 30.0	
	0.1nm,0.8s,baz=151,slow=312,SNR=1.7						
I45RU	**USSURIYSK INFR**	26.09	333	I	I	07 13 00.0	
	baz=142,slow=311,SNR=1.1						
I40PG	**Keravat**	26.20	172	I	I	07 15 50.0	
	0.1nm,1.0s,baz=352,slow=317,SNR=1.8						

IDC ***22*** *04:46:59.9±1.1, 52°.82N×172°.24E, h0km, mb3.6/10, mbtmp3.6/10, Error ellipse: s-maj=34.0km s-min=17.5km az=11.0*
NEIC ***22*** *04:46:59.5±2.3, 52°.42N±0°.08×172°.1E±0°.2, h10km±2km, mb3.8/21, Error ellipse: s-maj=20.6km s-min=6.0km az=129.0*
ISC 22 04:47:01.2±0.9, 52°.7N±0°.2×172°.22E±0°.08, h10km, n48, σ1§22/42, mb3.8/19, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	1.15	87	Pn	Pn	04 47 22.1	-1.2
	281nm,0.3s,baz=284,slow=17,SNR=234						
SHEM				Sn	Sb	04 47 36.5	-1.6
	757nm,0.3s,baz=171,slow=23,SNR=68						
SHEM				LR	LR	04 47 43.6	
	comp=Z,49nm,19.5s,baz=327,slow=39						
AMKA	**Amchitka**	4.57	104	Pn	Pn	04 48 11.2	+0.9
KIWB	**Kanaga Island**	6.58	93	Pn	Pn	04 48 38.0	0.0
ADK	**Adak**	6.86	92	Pn	Pn	04 48 42.3	+0.5
ATKA	**Atka Island**	8.32	88	Pn	Pn	04 49 02.8	+1.0
J16K	**Anvik River**	17.74	43		P	04 51 11.9	+3.0
J16K				IAmb	IAmb	04 51 50.7	
	comp=Z,8.5nm,1.4s						
J18K	**Innoko River**	19.44	44	P	P	04 51 29.1	+1.6
H19K	**Roundabout Mou**	20.31	39	Pn	Pn	04 51 42.1	+3.2
J20K	**Nowinta River**	20.74	43	P	P	04 51 42.6	+0.9
J20K				IAmb	IAmb	04 51 51.1	
	comp=Z,2.0nm,0.8s						
D19K	**Kuna River**	21.18	30	P	P	04 51 47.6	+1.2
D19K				IAmb	IAmb	04 52 02.5	
	comp=Z,8.5nm,1.4s						
IMAR	**Indian Mountai**	21.52	39	P	P	04 51 51.7	+1.7
H21K	**Melozitna Rive**	21.76	40	P	P	04 51 54.8	+2.1
BPAW	**Bear Paw Mtn.**	22.05	44	P	P	04 51 58.2	+2.4
B20K	**Meade River**	22.32	27	P	P	04 52 01.5	+3.0
B21K	**Ikpikpuk River**	22.84	30	P	P	04 52 04.9	+0.8
D22K	**Ayikyak River**	23.09	32	P	P	04 52 07.5	+0.8
D22K				IAmb	IAmb	04 52 19.1	
	comp=Z,2.9nm,1.1s						
WRH	**Wood River Hil**	23.37	44	P	P	04 52 10.4	+0.9
WRH				IAmb	IAmb	04 52 42.5	
	comp=Z,6.6nm,1.4s						
MDM	**Murphy Dome**	23.41	43	P	P	04 52 11.3	+1.2
MDM				IAmb	IAmb	04 52 17.9	
	comp=Z,4.4nm,1.4s						
CCB	**Clear Creek Bu**	23.53	44	P	P	04 52 11.7	+0.6
ILAR	**Eielson Array**	23.94	44	P	P	04 52 14.3	-0.7
	comp=Z,0.3nm,0.5s,baz=250,slow=8.5,SNR=7.1						
	comp=Z,0.3nm,0.5s						
C23K	**Itkillik River**	24.17	31	P	P	04 52 17.0	-0.2
C23K				IAmb	IAmb	04 52 19.3	
	comp=Z,3.1nm,0.9s						
SCRK	**Sand Creek**	25.07	46	P	P	04 52 24.8	-0.7
J26L	**Joseph Creek**	25.31	45	P	P	04 52 26.6	-1.1
J26L				IAmb	IAmb	04 52 57.1	
	comp=Z,2.9nm,1.3s						
D25K	**Kavik River**	25.34	33	P	P	04 52 27.6	-0.3
D25K				IAmb	IAmb	04 52 46.8	
	comp=Z,2.8nm,1.3s						
BMAR	**Burnt Mountain**	25.43	38	P	P	04 52 28.8	+0.1
L27K	**Beaver Creek,**	25.97	48	P	P	04 52 33.7	+0.1
L27K				IAmb	IAmb	04 52 58.0	
	comp=Z,4.9nm,1.5s						
EGAK	**Eagle**	26.37	45	P	P	04 52 35.7	-1.5
EGAK				IAmb	IAmb	04 52 41.9	
	comp=Z,1.8nm,0.7s						
G31M	**Satah River**	29.33	40	P	P	04 53 02.4	-1.2
H11N2	**WAKE ISLAND Hy**	33.15	189	T	T	05 28 53.7	
	baz=6.2,slow=76,SNR=1128						
H11N3	**WAKE ISLAND Hy**	33.16	189	T	T	05 28 55.0	
	baz=6.2,slow=76,SNR=1271						
H11N1	**WAKE ISLAND Hy**	33.17	189	T	T	05 28 56.9	
	baz=6.2,slow=76,SNR=1377						
H11S1	**WAKE ISLAND Hy**	34.38	189	T	T	05 30 25.6	
	baz=6.0,slow=76,SNR=1293						
H11S3	**WAKE ISLAND Hy**	34.39	189	T	T	05 30 29.3	
	baz=6.0,slow=76,SNR=1281						
H11S2	**WAKE ISLAND Hy**	34.39	189	T	T	05 30 29.5	
	baz=6.0,slow=76,SNR=986						
PDAR	**Pinedale Array**	51.08	68	P	P	04 56 03.4	-0.5
PDAR	**Pinedale Array**	51.08	68	P	P	04 56 04.5	+0.6
	comp=Z,0.3nm,0.6s,baz=272,slow=7.0,SNR=4.2						
	comp=Z,0.3nm,0.6s						
KURBB	**Kurchatov Arra**	54.08	308	P	P	04 56 25.4	-0.2
	comp=Z,1.2nm,0.8s,baz=56,slow=7.9,SNR=9.9						
	comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	54.76	303	P	P	04 56 30.0	-0.7
MKAR	**Makanchi Array**	54.76	303	P	P	04 56 30.2	-0.6
	comp=Z,0.3nm,0.5s,baz=50,slow=6.4,SNR=2.8						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	56.16	315	P	P	04 56 39.6	-1.0
	comp=Z,0.5nm,0.5s,baz=51,slow=11,SNR=2.3						
	comp=Z,0.5nm,0.5s						
KKAR	**Karatay Array**	63.27	307	P	P	04 57 30.0	+0.2
TXAR	**Lajitas Array**	63.82	75	P	P	04 57 33.9	+0.1
	comp=Z,0.1nm,0.3s,baz=306,slow=6.5,SNR=5.5						
	comp=Z,0.1nm,0.3s						
NC204	**NORSAR Array S**	65.43	350	P	P	04 57 43.1	-0.6
NB2	**NORSAR Subarra**	65.61	350	P	P	04 57 44.5	-0.3
	comp=Z,0.3nm,0.6s,baz=13,slow=6.5						
NOA	**NORSAR Array B**	65.61	350	P	P	04 57 44.5	-0.3
	comp=Z,0.5nm,0.6s,baz=14,slow=6.5,SNR=4.4						
	comp=Z,0.5nm,0.6s						
HFS	**Hagfors**	66.22	348	P	P	04 57 47.9	-0.8
	comp=Z,0.8nm,0.5s,baz=25,slow=7.2,SNR=10						
	comp=Z,0.8nm,0.5s						
EKA	**Eskdalemuir Ar**	72.28	357	P	P	04 58 25.6	-0.7
	comp=Z,0.7nm,0.6s,baz=9.7,slow=5.0,SNR=3.6						
	comp=Z,0.7nm,0.6s						
WRA	**Warramunga Arr**	79.45	216	P	P	04 59 08.7	+1.1
	comp=Z,0.6nm,0.9s,baz=28,slow=5.8,SNR=2.7						
	comp=Z,0.6nm,0.9s						

IDC 22 04:58:52.5±1.4, 14°.69N×120°.21E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=77.3km s-min=21.6km az=80.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	23.69	15	P	P	05 04 05.0	-0.9
	0.4nm,0.4s,baz=213,slow=8.2,SNR=5.6						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	37.11	158	P	P	05 06 04.1	-0.8
	0.2nm,0.3s,baz=339,slow=9.0,SNR=11						
	0.2nm,0.3s						
ASAR	**Alice Springs**	40.40	160	P	P	05 06 33.1	+0.5
	0.2nm,0.3s,baz=331,slow=8.8,SNR=5.9						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	47.97	333	P	P	05 07 32.6	-0.3
	0.5nm,0.3s,baz=128,slow=9.

comp=Z,13nm,1.0s
WRA Warramunga Arr 17.30 167 P **Pn 05 06 25.7 -1.4**
WRA Warramunga Arr 17.30 167 P **Pn 05 06 25.0 -2.1**
comp=Z,0.7nm,0.3s,baz=347,slow=12,SNR=28
WRA S **Sn 05 09 32.1 -6.9**
comp=Z,1.0nm,0.6s,baz=345,slow=25,SNR=2.5
WRA LR LR 05 13 19.4
comp=Z,83nm,19.4s,baz=10.0,slow=38
comp=Z,3.7nm,0.5s
WB2 Warramunga Arr 17.30 167 P **Pn 05 06 25.3 -1.8**
WB2 IAmb IAmb 05 06 30.1
comp=Z,17nm,1.0s
WR0 Warramunga Arr 17.37 166 P **Pn 05 06 26.9 -0.9**
SBUM Sibu 18.79 287 **P 05 06 45.1 +0.2**
QIS Mount Isa 19.70 153 P **Pn 05 06 56.2 0.0**
MTSU Mount Surprise 20.42 138 P Pn 05 07 05.2 +0.4
MBWA Marble Bar 20.73 209 P **P 05 07 04.1 -1.8**
MBWA IAmb IAmb 05 07 15.2
comp=Z,8.8nm,0.9s
AS31 Alice Springs 20.84 170 P **P 05 07 07.9 +0.8**
AS31 IAmb IAmb 05 07 11.9
comp=Z,8.3nm,0.8s
ASAR Alice Springs 20.84 170 P **P 05 07 07.9 +0.8**
ASAR Alice Springs 20.84 170 P **P 05 07 07.6 +0.4**
comp=Z,29nm,0.8s,baz=349,slow=10,SNR=221
ASAR S **S 05 10 55.5 -3.1**
comp=Z,2.3nm,0.8s,baz=350,slow=21,SNR=6.0
comp=Z,29nm,0.8s
PSA00 Pilbara Seismi 21.03 208 P **P 05 07 07.9 -1.3**
PSA00 IAmb IAmb 05 07 12.7
comp=Z,8.5nm,0.8s
WRKA Warakurna 21.98 185 P **P 05 07 18.8 -0.6**
BBJI Bungbulang 22.90 258 P **P 05 07 24.9 -4.4**
CTAO Charters Tower 23.09 139 P **P 05 07 32.6 +1.5**
CTAO IAmb IAmb 05 07 40.6
comp=Z,10nm,0.8s
FORT Forrest 27.69 184 P **P 05 08 11.9 -1.4**
BBOO Buckleboo 30.15 170 P **P 05 08 32.7 -2.4**
STKA Stephens Creek 30.64 161 P **P 05 08 40.6 +1.1**
STKA Stephens Creek 30.64 161 P **P 05 08 40.1 +0.6**
comp=Z,2.2nm,0.3s,baz=351,slow=9.0,SNR=6.2
comp=Z,2.2nm,0.3s
CMAR Chiang Mai Arr 37.46 306 P **P 05 09 39.9 +1.0**
comp=Z,0.8nm,0.3s,baz=135,slow=7.5,SNR=11
comp=Z,0.8nm,0.3s
CHTO Chiang Mai 37.65 306 P **P 05 09 41.0 +0.5**
CHTO IAmb IAmb 05 09 42.6
comp=Z,7.9nm,1.1s
LHI Lord Howe Isla 39.27 139 P **P 05 09 54.7 +0.8**
MJAR Matsushiro Arr 40.05 10 P **P 05 09 59.7 -0.6**
comp=Z,0.6nm,0.7s,baz=198,slow=8.5,SNR=2.1
comp=Z,0.6nm,0.7s
KSRS Korea Array 40.32 357 P **P 05 10 04.0 +1.5**
comp=Z,0.7nm,0.5s,baz=173,slow=9.0,SNR=2.8
comp=Z,0.7nm,0.5s
SONM Songino Array 54.76 341 P **P 05 11 55.3 +0.5**
comp=Z,1.4nm,0.9s,baz=157,slow=8.0,SNR=4.8
comp=Z,1.4nm,0.9s
BFZ Birch Farm 55.86 139 P **P 05 12 00.9 -1.8**
SEY Seymchan 67.87 11 P **P 05 13 25.3 +2.3**
comp=Z,2.0nm,0.6s,baz=208,slow=9.1,SNR=7.4
comp=Z,2.0nm,0.6s
VNDA Vanda 76.36 173 P **P 05 14 14.3 +0.6**
VNDA Vanda 76.36 173 P **P 05 14 13.8 +0.1**
comp=Z,0.4nm,0.6s,baz=268,slow=6.0,SNR=2.5
comp=Z,0.4nm,0.6s
MAW Mawson 78.72 201 P **P 05 14 27.2 +0.3**
comp=Z,1.5nm,0.6s,baz=87,slow=1.5,SNR=6.8
comp=Z,1.5nm,0.6s
QSPA South Pole Qui 86.94 180 P **P 05 15 10.4 +0.6**
QSPA South Pole Qui 86.94 180 P **P 05 15 10.5 +0.7**
comp=Z,1.5nm,0.9s,baz=284,slow=2.3,SNR=8.6
comp=Z,1.5nm,0.9s
TXAR Lajitas Array 122.64 57 PKP **PKiKP 05 21 22.6 +0.9**
comp=Z,0.1nm,0.5s,baz=207,slow=2.5,SNR=2.5
CPUP Villa Florida 149.93 166 PKPbc **PKPbc 05 22 16.5 +0.5**
comp=Z,4.2nm,1.1s,baz=176,slow=0.8,SNR=5.2
LPAZ La Paz 153.61 137 PKPbc **PKPbc 05 22 25.9 +0.4**
comp=Z,0.6nm,0.6s,baz=198,slow=3.2,SNR=2.5

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*DSN **22** 05:04:41.3±1.6,28°.17N×55°.12E,h10km,ML4.2/13,Error ellipse: s-maj=22.8km s-min=7.7km az=35.0*
*MOS **22** 05:04:45.4±1.0,27°.51N×54°.93E,h17km,mb4.7/54,Error ellipse: s-maj=5.7km s-min=4.1km az=103.8*
*IDC **22** 05:04:45.1±0.5,27°.57N×54°.94E,h0km,mb4.4/36, mbtmp4.4/42,ML4.0/7,MS4.5/3,Error ellipse: s-maj=12.8km s-min=10.7km az=5.0*
*TEH **22** 05:04:47.2,27°.49N×54°.90E,h20km±21km,ML4.5*
*NEIC **22** 05:04:47.3±1.5,27°.64N±0°.03×54°.88E±0°.07,h10km±1km, mb4.6/147,Error ellipse: s-maj=11.1km s-min=4.4km az=288.0*
*THR **22** 05:04:48.7±0.5,27°.62N×54°.91E,h16km±7km,ML4.5*
ISC 22 05:04:47.4±0.8,**27°.51N**±0°.03×**54°.89E**±0°.03,**h16**km±4km, **n575**,σ1$**29**/538,**mb4.6**/162,**MS4.7**/6,**1C-1D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.49**	**289**	Pg	**Pb**	**05 04 57.9**	**+0.3**
BNDS	**Bandar-Abbas**	**1.14**	**95**	*e*Pg	**Pg**	**05 05 10.1**	**+0.6**
BNDS				*e*Sg	**Sg**	**05 05 25.6**	**+1.1**
BNDS	**Bandar-Abbas**	**1.14**	**95**	*e*Pg	**Pb**	**05 05 09.3**	**+0.5**
BNDS				*e*Sg	**Sb**	**05 05 24.0**	**+0.5**
GENO	**Geno**	**1.14**	**95**	Pg	**Pn**	**05 05 08.9**	**0.0**
IBND	**Bandar-abas**	**1.47**	**92**	Pg	**Pb**	**05 05 14.5**	**+0.2**
JHRM	**Jahrom**	**1.53**	**311**	Pg	**Pb**	**05 05 15.7**	**+0.3**
LMD1	**Lamerd**	**1.54**	**264**	Pg	**Pb**	**05 05 16.1**	**+0.5**
SHME	**Shamm**	**1.83**	**142**	*e*P	**Pn**	**05 05 19.6**	**+1.4**
SHME	SNR=43			S	**Sg**	**05 05 48.7**	**+2.3**
GHIR	**Ghir-Karzin**	**1.86**	**295**	*e*Pn	**Pb**	**05 05 21.2**	**+0.3**
GHIR	**Ghir-Karzin**	**1.86**	**295**	*e*Pn	**Pb**	**05 05 21.3**	**+0.3**
QIR1	**Qir**	**1.90**	**301**	Pn	**Pb**	**05 05 20.6**	**-1.1**
BANOM	**Banah**	**2.02**	**141**	*e*P	**Pb**	**05 05 22.7**	**-1.0**
	SNR=20						
MSFE	**Esma-Masafi**	**2.42**	**152**	*e*P	**Pn**	**05 05 28.9**	**+2.5**
	SNR=25						
KHNJ	**Kahnooj**	**2.53**	**79**	Pn	**Pn**	**05 05 28.5**	**+0.7**
MDH	**Madha**	**2.54**	**150**	*i* P	**Pn**	**05 05 30.1**	**+2.2**
	SNR=28						
NAZ	**Nazwa, Dubai**	**2.60**	**164**	*i* P	**Pb**	**05 05 32.8**	**-0.9**
	SNR=14						
NGRK	**Negar Kerman**	**2.67**	**37**	Pn	**Pn**	**05 05 30.8**	**+0.7**
UOSS	**Minazif**	**2.81**	**155**	Pn	**Pn**	**05 05 34.5**	**+2.8**
UOSS	**Minazif**	**2.81**	**155**	*i* P	**Pn**	**05 05 33.3**	**+1.6**
	SNR=24						
UOSS	**Minazif**	**2.81**	**155**	Pn	**Pn**	**05 05 34.5**	**+2.8**
FAQ	**Al Faqa, Dubai**	**2.82**	**167**	*i* P	**Pn**	**05 05 34.9**	**+3.1**
	SNR=6.2						
HATD	**Hatta, Dubai**	**2.90**	**157**	*i* P	**Pn**	**05 05 35.1**	**+2.2**
	SNR=19						
ASUD	**Al Ashush, Dub**	**2.90**	**172**	P	**Pb**	**05 05 37.5**	**-1.2**
AJN	**Ajban**	**2.94**	**178**	*i* P	**Pb**	**05 05 37.6**	**-1.7**
	SNR=8.3						
KRBR	**Kerman**	**2.96**	**33**	*e*Pn	**Pn**	**05 05 36.0**	**+2.0**
KRBR				*e*Sg	**Sb**	**05 06 18.3**	**+2.3**
KRBR				IAML		05 06 27.8	
	comp=E,2μm,0.6s						
KRBR				IAML		05 06 28.2	
	comp=N,1μm,0.5s						
KRBR	**Kerman**	**2.96**	**33**	*e*Pn	**Pn**	**05 05 34.8**	**+0.8**
KRBR				*e*Sg	**Sb**	**05 06 15.3**	**-0.7**
KRBR				IAML		05 06 27.8	
	comp=E,2μm,0.4s						
KRBR				IAML		05 06 28.2	
	comp=N,1μm,0.6s						
TVBK	**TV Kerman**	**2.96**	**33**	Pn	**Pn**	**05 05 35.5**	**+1.4**
SHI	**Shiraz**	**2.98**	**316**	Pn	**Pn**	**05 05 36.0**	**+1.9**
SHI	**Shiraz**	**2.98**	**316**	P	**Pn**	**05 05 37.0**	**+2.8**
ASHO	**Ashiyiah**	**3.00**	**159**	*i* P	**Pn**	**05 05 37.3**	**+2.9**
	SNR=32						
JASK	**Jask - Hormozg**	**3.12**	**121**	Pn	**Pn**	**05 05 36.8**	**+0.8**
KHGB	**Koh Gabri**	**3.18**	**26**	Pn	**Pn**	**05 05 38.9**	**+2.0**
CHMN	**Cheshme madani**	**3.30**	**44**	Pn	**Pn**	**05 05 40.6**	**+1.8**
DSBU	**Dashti - Bushe**	**3.32**	**286**	Pn	**Pn**	**05 05 40.8**	**+2.0**
ALNE	**Al Ain**	**3.52**	**167**	P	**Pn**	**05 05 44.7**	**+3.2**
KAZ2	**Kazeron-Fars-I**	**3.53**	**307**	Pn	**Pn**	**05 05 43.0**	**+1.3**
KBAM	**BAM**	**3.53**	**62**	Pn	**Pn**	**05 05 43.6**	**+1.9**
KRM1	**Kerman Provinc**	**3.64**	**34**	Pn	**Pn**	**05 05 44.9**	**+1.7**
SOHO	**SOHO**	**3.67**	**156**	P	**Pn**	**05 05 44.4**	**+0.9**
ZRDN	**Zarand Kerman**	**3.73**	**22**	Pn	**Pn**	**05 05 45.9**	**+1.3**
IMEH	**Mehriz**	**3.88**	**356**	Pn	**Pn**	**05 05 48.5**	**+1.9**
IBAF	**Bafgh**	**4.11**	**8**	Pn	**Pn**	**05 05 50.5**	**+0.9**
HOQ	**Hoqain**	**4.48**	**150**	Pn	**Pn**	**05 05 56.0**	**+1.4**
ISAD	**Sadrabad**	**4.51**	**347**	Pn	**Pn**	**05 05 57.2**	**+1.8**
ICHK	**Chekchek**	**4.74**	**355**	Pn	**Pn**	**05 05 60.0**	**+1.6**
IRAM	**Ramesheh**	**4.81**	**334**	Pn	**Pn**	**05 06 01.2**	**+1.8**
CHBR	**Chabahar**	**5.36**	**110**	*e*Pn	**Pn**	**05 06 08.1**	**+1.5**
CHBR	**Chabahar**	**5.36**	**110**	Pn	**Pn**	**05 06 07.9**	**+1.2**
IBRJ	**Brojen**	**5.40**	**325**	Pn	**Pn**	**05 06 09.1**	**+1.5**
WSAR	**Wadi Sarin**	**5.43**	**141**	Pn	**Pn**	**05 06 09.7**	**+1.9**
	comp=N,4.4nm,0.3s,baz=314,slow=9.7,SNR=29						
WSAR				Sn	**Sn**	**05 07 09.0**	**-1.0**
	comp=N,3.5nm,0.3s,baz=236,slow=18,SNR=1.6						
	comp=N,22nm,0.6s						
NASN	**Na'in**	**5.57**	**342**	*e*Pn	**Pn**	**05 06 11.9**	**+2.0**
ZHSF	**Zahedan**	**5.58**	**67**	*e*Pn	**Pn**	**05 06 11.2**	**+1.3**
TPRV	**Parvadeh(Tabas**	**5.72**	**15**	Pn	**Pn**	**05 06 13.0**	**+1.3**
BSRN	**Basiran**	**5.77**	**39**	*e*Pn	**Pn**	**05 06 13.4**	**+1.0**
BSRN	**Basiran**	**5.77**	**39**	Pn	**Pn**	**05 06 13.2**	**+0.8**
ZNGN	**Zangian**	**5.78**	**324**	Pn	**Pn**	**05 06 13.9**	**+1.1**
IZEF	**Zefreh**	**5.81**	**338**	Pn	**Pn**	**05 06 13.8**	**+0.7**
JHBN	**Jahan bin**	**5.97**	**323**	Pn	**Pn**	**05 06 16.6**	**+1.2**
WBK	**Wadi Bani Khal**	**6.12**	**142**	Pn	**Pn**	**05 06 18.7**	**+1.5**
IPIR	**Pirpir**	**6.21**	**327**	Pn	**Pn**	**05 06 19.8**	**+1.1**
TKDS	**Koohdasht(Taba**	**6.38**	**17**	Pn	**Pn**	**05 06 22.1**	**+1.2**
TABS	**Tabas**	**6.41**	**17**	*e*Pn	**Pn**	**05 06 22.5**	**+1.2**
IKLH	**Kolahrood**	**6.46**	**335**	Pn	**Pn**	**05 06 23.3**	**+1.2**
TNSJ	**Nastanj**	**6.60**	**13**	Pn	**Pn**	**05 06 24.9**	**+1.0**
SRVN	**Saravan**	**6.67**	**89**	Pn	**Pn**	**05 06 26.4**	**+1.6**
IDAH	**Dahanechah**	**6.76**	**38**	Pn	**Pn**	**05 06 28.2**	**+2.0**
AFRZ	**Afriz**	**6.89**	**30**	Pn	**Pn**	**05 06 29.1**	**+1.3**
QAMS	**Qamsar**	**6.90**	**335**	Pn	**Pn**	**05 06 29.4**	**+1.3**
ISFB	**Sefidab**	**7.19**	**342**	Pn	**Pn**	**05 06 32.6**	**+0.6**
KHMZ	**Khomeyn**	**7.52**	**327**	*e*Pn	**Pn**	**05 06 38.2**	**+1.5**
GHVR	**GHOM**	**7.60**	**337**	*e*Pn	**Pn**	**05 06 39.4**	**+1.8**
SHRT	**Shahrakht**	**7.69**	**36**	*e*Pn	**Pn**	**05 06 40.2**	**+1.4**
SHRT	**Shahrakht**	**7.69**	**36**	Pn	**Pn**	**05 06 40.4**	**+1.7**
IVRN	**Varamin**	**7.94**	**341**	Pn	**Pn**	**05 06 43.5**	**+1.3**
ASAO	**Ashtian**	**8.16**	**330**	*e*Pn	**Pn**	**05 06 47.5**	**+2.1**
IDMV	**Damavand**	**8.40**	**344**	Pn	**Pn**	**05 06 51.0**	**+2.2**
DAMV	**Damavand**	**8.47**	**344**	*e*Pn	**Pn**	**05 06 51.8**	**+2.2**
SHRO	**Shahrood**	**8.51**	**6**	*e*Pn	**Pn**	**05 06 51.9**	**+1.8**
IKFM	**Kafar-mosalman**	**8.54**	**316**	Pn	**Pn**	**05 06 51.4**	**+1.1**
CHTH	**Charan**	**8.97**	**340**	*e*Pn	**Pn**	**05 06 59.0**	**+2.5**
IGLO	**Ghaloghah**	**9.01**	**355**	Pn	**Pn**	**05 06 58.6**	**+1.6**
SBZV	**Sabzevar**	**9.15**	**14**	Pn	**Pn**	**05 06 60.0**	**+1.0**
HRA	**Herat**	**9.32**	**41**		**Pn**	**05 07 00.9**	**-0.3**
QABG	**Abgarm-Qazvin**	**9.34**	**332**	Pn	**Pn**	**05 07 02.8**	**+1.2**
RAYN	**Ar Rayn**	**9.36**	**247**		**Pn**	**05 07 02.4**	**+0.6**
RAYN	**Ar Rayn**	**9.36**	**247**	*i* P	**Pn**	**05 07 02.5**	**+0.8**
	SNR=26						
RAYN	**Ar Rayn**	**9.36**	**247**	Pn	**Pn**	**05 07 02.3**	**+0.6**
RAYN	**Ar Rayn**	**9.36**	**247**	P	**Pn**	**05 07 02.4**	**+0.6**
ILBA	**Ilam Banvizeh**	**9.65**	**311**	Pn	**Pn**	**05 07 06.7**	**+1.0**
IMYA	**Miami**	**9.85**	**25**	Pn	**Pn**	**05 07 10.4**	**+1.9**
IGHG	**Ghaleghazi**	**9.86**	**316**	Pn	**Pn**	**05 07 09.8**	**+1.1**
SNGE	**Sanandaj**	**9.94**	**321**	*e*Pn	**Pn**	**05 07 10.3**	**+0.5**
MRVT	**Maraveh tapeh**	**10.17**	**5**	*e*Pn	**Pn**	**05 07 14.7**	**+1.8**
BJRD	**Bojnurd**	**10.38**	**11**	*e*Pn	**Pn**	**05 07 17.6**	**+1.8**
GRMI	**Germi**	**12.70**	**334**	*e*Pn	**Pn**	**05 07 50.4**	**+3.0**
KBL	**Kabul**	**14.01**	**57**	Pn	**Pn**	**05 08 03.6**	**-1.8**
KBL	**Kabul**	**14.01**	**57**	P	**Pn**	**05 08 03.6**	**-1.8**
MAKU	**Maku**	**14.55**	**327**	*e*Pn	**Pn**	**05 08 15.8**	**+3.0**
GNI	**Garni**	**15.15**	**329**	Pn	**Pn**	**05 08 22.2**	**+1.3**
	comp=N,1.0nm,0.3s,baz=48,slow=22,SNR=1.6						
	comp=N,5.0nm,0.5s						
GURO	**Guroymak-BITLI**	**15.39**	**319**	Pn	**Pn**	**05 08 21.9**	**-2.2**
SIMJ	**Simiganj**	**16.21**	**43**	Pn	**Pn**	**05 08 33.3**	**-1.3**
CHGR	**Chuyangaron**	**16.30**	**43**	Pn	**Pn**	**05 08 33.8**	**-2.0**
CHGR	**Chuyangaron**	**16.30**	**43**	P	**Pn**	**05 08 33.8**	**-2.0**
CHGR				pmax	pmax		
	comp=Z,21nm,1.0s						
KARS	**Kars**	**16.32**	**326**	Pn	**Pn**	**05 08 32.8**	**-3.2**
KARS	**Kars**	**16.32**	**326**	P	**Pn**	**05 08 32.8**	**-3.2**
KARS				pmax	pmax		
	comp=Z,124nm,1.4s						
NIL	**Nilore**	**16.95**	**64**		**Pn**	**05 08 43.7**	**-0.1**
NIL	**Nilore**	**16.95**	**64**	P	**Pn**	**05 08 43.7**	**-0.1**
NIL				pmax	pmax		
	comp=Z,25nm,0.9s						
GAR	**Garm**	**17.23**	**44**		**Pn**	**05 08 45.2**	**-2.2**
GHAJ	**Ghor Haditha**	**17.26**	**287**	P	**Pn**	**05 08 45.8**	**-1.9**
GHAJ				IAmb	IAmb	05 09 02.4	
	comp=Z,62nm,1.4s						
GROC	**Groznyy**	**17.31**	**337**	*e*P	**Pn**	**05 08 47.3**	**-1.0**
GROC				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BALJ	**Balqa**	**17.32**	**290**		**Pn**	**05 08 45.7**	**-2.8**
BALJ	**Balqa**	**17.32**	**290**	P	**P**	**05 08 50.5**	**+0.6**
SHMJ	**Saham**	**17.34**	**292**	P	**P**	**05 08 51.5**	**+1.4**
HMDT	**Nahal Hemdat**	**17.44**	**290**	P	**P**	**05 08 54.6**	**+3.4**
ZFRI	**Zfri**	**17.50**	**285**	P	**P**	05 09 00.4	+8.5
PRNI	**Paran**	**17.64**	**284**	P	**P**	**05 08 56.7**	**+3.3**
EIL	**Elat**	**17.65**	**282**	P	**Pn**	**05 08 52.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=145,slow=3.4,SNR=3.1						
	comp=Z,7.2nm,1.0s						
EIL	**Elat**	**17.65**	**282**	P	**P**	**05 08 57.1**	**+3.6**
MBRI	**Mt Berech**	**17.68**	**282**	P	**P**	**05 08 56.5**	**+2.5**
MMAI	**Mount Meron Ar**	**17.70**	**293**	P	**P**	**05 08 54.3**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=89,slow=22,SNR=2.1						
	comp=Z,0.7nm,0.3s						
GAZ	**Gaziantep**	**17.75**	**307**	P	**Pn**	**05 08 51.0**	**-2.9**
BTK	**Batken**	**18.18**	**42**		**Pn**	**05 08 57.9**	**-1.3**
BTK	**Batken**	**18.18**	**42**	P	**Pn**	**05 08 57.9**	**-1.3**
BTK				pmax	pmax		
	comp=Z,36nm,1.5s						
NCK	**Nalchik**	**18.38**	**333**	*i* P	**Pn**	**05 09 04.4**	**+2.8**
DRK	**Karamyk**	**18.44**	**45**	P	**P**	**05 09 02.0**	**-0.5**
DRK	**Karamyk**	**18.44**	**45**	P	**P**	**05 09 02.0**	**-0.5**
DRK				pmax	pmax		
	comp=Z,46nm,0.4s						
KBZ	**Khabaz**	**18.86**	**332**	P	**Pn**	**05 09 08.0**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=138,slow=10,SNR=19						
	comp=Z,5.5nm,0.7s						
KBZ	**Khabaz**	**18.86**	**332**	*i* P	**Pn**	**05 09 08.8**	**+1.5**
SHA1	**Shidzhatmaz**	**18.97**	**332**	*i* P	**Pn**	**05 09 11.2**	**+2.3**
KVAR	**Kislovodsk Arr**	**19.13**	**332**	P	**P**	**05 09 10.1**	**+0.3**
	baz=114,slow=20						
	comp=Z,3.2nm,0.5s						
KIV	**Kislovodsk**	**19.13**	**332**		**P**	**05 09 08.4**	**-1.5**
KIV				IAmb	IAmb	05 09 17.0	
	comp=Z,38nm,0.8s						
KIV	**Kislovodsk**	**19.13**	**332**	*e*P	**Pn**	**05 09 12.1**	**+1.4**
KIV				pmax	pmax		
	comp=Z,42nm,1.1s						
KIV				MLR	MLR		
	comp=Z,510nm,14.0s						
BNN	**Bunyan**	**19.51**	**310**	P	**P**	**05 09 13.7**	**-0.3**
ATD	**Arta Tunnel**	**19.51**	**218**	P	**Pn**	**05 09 16.9**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=49,slow=20,SNR=1.5						
CSS	**Mathiatis**	**19.86**	**297**	P	**P**	**05 09 16.6**	**-1.1**
VSLR	**Vesyoloye**	**19.94**	**327**	*i* P	**Pn**	**05 09 19.8**	**-0.5**
KK31	**Karatay Array**	**20.06**	**35**	P	**P**	**05 09 19.2**	**-0.7**
KK31				IAmb	IAmb	05 09 26.8	
	comp=Z,21nm,0.8s						
KK31	**Karatay Array**	**20.06**	**35**	P	**P**	**05 09 19.2**	**-0.7**
KK31				pmax	pmax		
	comp=Z,21nm,0.8s						
KKAR	**Karatay Array**	**20.06**	**35**	P	**P**	**05 09 19.1**	**-0.8**
KKAR				IAmb	IAmb	05 09 26.8	
	comp=Z,21nm,0.8s						
KKAR	**Karatay Array**	**20.06**	**35**	P	**P**	**05 09 19.1**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,21nm,0.8s						
KSH	**Kashi**	**21.21**	**50**	P	**P**	**05 09 26.3**	**-6.2**
KSH				pP	pP	05 09 35.8	-1.5
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BR131	**Keskin Array S**	**21.43**	**310**	P	**P**	**05 09 35.7**	**+0.8**
BR131				IAmb	IAmb	05 09 37.0	
	comp=Z,16nm,0.7s						
BR131	**Keskin Array S**	**21.43**	**310**	P	**P**	**05 09 35.7**	**+0.8**
BR131				pmax	pmax		
	comp=Z,16nm,0.7s						
BRTR	**Keskin Array B**	**21.43**	**310**	P	**P**	**05 09 35.8**	**+1.0**
BRTR	**Keskin Array B**	**21.43**	**310**	P	**P**	**05 09 36.0**	**+1.2**
	comp=Z,10nm,0.6s,baz=131,slow=13,SNR=91						
	comp=Z,10nm,0.6s						
BRTR	**Keskin Array B**	**21.43**	**310**	P	**P**	**05 09 35.8**	**+1.0**
AAK	**Ala-Archa**	**21.95**	**41**	P	**P**	**05 09 41.1**	**+0.6**
AAK				IAmb	IAmb	05 09 49.2	
	comp=Z,24nm,0.9s						
AAK	**Ala-Archa**	**21.95**	**41**	P	**P**	**05 09 40.3**	**-0.2**
	comp=Z,18nm,0.9s,baz=239,slow=4.9,SNR=3.9						
	comp=Z,18nm,0.9s						
AAK	**Ala-Archa**	**21.95**	**41**	*i* P	**P**	**05 09 40.8**	**+0.3**
AAK				pmax	pmax		
	comp=Z,24nm,0.9s						
AB31	**Akbulak array**	**22.06**	**9**	*e*P	**P**	**05 09 40.8**	**-0.6**
ABKAR	**Akbulak array**	**22.06**	**9**	P	**P**	**05 09 41.1**	**-0.3**
ABKAR				IAmb	IAmb	05 09 49.6	
	comp=Z,17nm,0.8s						
ABKAR	**Akbulak array**	**22.06**	**9**	P	**P**	**05 09 41.4**	**0.0**
ANTO	**Ankara**	**22.07**	**310**	P	**P**	**05 09 41.2**	**-0.5**
ANTO				IAmb	IAmb	05 09 48.4	
	comp=Z,23nm,0.8s						
ANTO	**Ankara**	**22.07**	**310**	P	**P**	**05 09 41.2**	**-0.5**
ANTO				pmax	pmax		
	comp=Z,23nm,0.9s						
NRN	**Naryn**	**22.19**	**46**	P	**P**	**05 09 43.1**	**-0.1**
NRN				IAmb	IAmb	05 09 51.3	
	comp=Z,14nm,0.7s						
NRN	**Naryn**	**22.19**	**46**	P	**P**	**05 09 43.1**	**-0.1**
NRN				pmax	pmax		
	comp=Z,14nm,0.7s						
ANN	**Anapa**	**22.20**	**326**	*e*P	**P**	**05 09 35.8**	**-7.1**
ANN				*e**PP	**P**	**05 09 38.5**	**-4.4**
ANN				*e*S	**S**	**05 13 37.1**	**-10**
ANN				pmax	pmax		
	comp=Z,54nm,1.1s						
BOOM	**Boomskoye usch**	**22.73**	**43**	P	**P**	**05 09 48.8**	**0.0**
BOOM				IAmb	IAmb	05 09 55.7	
	comp=Z,36nm,1.4s						
BOOM	**Boomskoye usch**	**22.73**	**43**	P	**P**	**05 09 48.8**	**0.0**
BOOM				pmax	pmax		
	comp=Z,36nm,1.4s						
ELL	**Elmali**	**23.02**	**300**	P	**P**	**05 09 51.5**	**-0.4**
ELL	**Elmali**	**23.02**	**300**	P	**P**	**05 09 51.5**	**-0.4**
ELL				pmax	pmax		
	comp=Z,43nm,0.7s						
MDUB	**Mudurnu**	**23.43**	**310**	P	**P**	**05 09 55.4**	**-0.6**
SIM	**Simferopol'**	**24.05**	**322**	P	**P**	**05 10 08.1**	**+6.4**
SIM				pmax	pmax		
	comp=Z,13nm,0.8s						
PRZ	**Przheval'sk**	**24.26**	**46**	P	**P**	**05 10 04.4**	**+0.4**
PRZ				IAmb	IAmb	05 10 15.3	
	comp=Z,12nm,0.9s						
PRZ	**Przheval'sk**	**24.26**	**46**	P	**P**	**05 10 04.4**	**+0.4**
PRZ				pmax	pmax		
	comp=Z,12nm,0.9s						
BELG	**Belogornoye**	**25.45**	**350**	*i* P	**P**	**05 10 14.1**	**-0.2**
BELG				pmax	pmax		
	comp=Z,7.0nm,1.4s						
VRH	**Novokhopyorsk**	**25.68**	**341**	*e*P	**P**	**05 10 17.2**	**+0.8**
VRH				pmax	pmax		
	comp=Z,45nm,1.4s						
VSR	**Storozhevoye**	**26.50**	**338**	*e*P	**P**	**05 10 22.6**	**-1.3**
VSR				pmax	pmax		
	comp=Z,20nm,1.1s						
VORR	**Voronezh**	**26.87**	**338**	*e*P	**P**	**05 10 27.1**	**-0.1**
VORR				pmax	pmax		
	comp=Z,24nm,1.4s						
RDO	**Rodhopi**	**27.65**	**307**	P	**P**	**05 10 34.4**	**+0.1**
LPSR	**Galich'ya Gora**	**27.76**	**339**	*e*P	**P**	**05 10 37.3**	**+2.2**
LPSR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BRVK	**Borovoye**	**27.97**	**20**	P	**P**	**05 10 35.8**	**-1.3**
BRVK				IAmb	IAmb	05 10 43.5	
	comp=Z,6.9nm,0.7s						
BRVK	**Borovoye**	**27.97**	**20**	*i* P	**P**	**05 10 37.0**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BVA0	**Borovoye Array**	**27.97**	**20**	*i* P	**P**	**05 10 36.9**	**-0.2**
BVAR	**Borovoye Array**	**27.97**	**20**	P	**P**	**05 10 37.0**	**-0.1**
	comp=Z,20nm,0.8s,baz=207,slow=8.3,SNR=51						
	comp=Z,20nm,0.8s						
BVAR	**Borovoye Array**	**27.97**	**20**	P	**P**	**05 10 37.0**	**-0.1**
MAKZ	**Makanchi**	**28.71**	**41**	P	**P**	**05 10 43.9**	**+0.1**
MAKZ				IAmb	IAmb	05 10 50.5	
	comp=Z,5.5nm,0.7s						
MAKZ	**Makanchi**	**28.71**	**41**	P	**P**	**05 10 43.9**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MK31	**Makanchi Array**	**28.88**	**41**	P	**P**	**05 10 44.8**	**-0.5**
MK31	**Makanchi Array**	**28.88**	**41**	P	**P**	**05 10 44.8**	**-0.5**
MK31				pmax	pmax		

ZAA0 **Zalesovo Array** 34.35 32 P P 05 11 32.7 -0.5
ZALV **Zalesovo Beam** 34.35 32 P P 05 11 32.4 -0.8
ZALV **Zalesovo Beam** 34.35 32 P P 05 11 32.8 -0.4
comp=Z,7.0nm,0.5s,baz=240,slow=9.5,SNR=38
comp=Z,7.0nm,0.5s
CUC **Castrocucco** 34.53 301 P P 05 11 34.5 -0.5
CUC IAmb IAmb 05 11 46.5
comp=Z,18nm,1.3s
VYHS **Vyhne** 34.84 317 eP P 05 11 37.6 0.0
VYHS **Vyhne** 34.84 317 eP P 05 11 37.6 0.0
OJC **Ojcow** 35.02 320 P P 05 11 40.7 +1.6
PABE **Paberze** 35.77 330 P P 05 11 43.4 -2.2
RONA **Rosalia, Austr** 36.13 314 epP P 05 11 51.4 +2.7
comp=Z,1.4nm,0.8s
MORC **Moravsky Berou** 36.14 318 P P 05 11 48.8 0.0
MORC **Moravsky Berou** 36.14 318 eP P 05 11 48.3 -0.5
MORC **Moravsky Berou** 36.14 318 P P 05 11 48.8 0.0
MORC pmax pmax
comp=Z,3.0nm,0.9s
ARSA **Arzberg** 36.48 313 epP pP 05 11 57.5 +0.7
comp=Z,2.1nm,1.1s
CONA **Conrad Observa** 36.48 315 epP pP 05 11 56.2 -0.7
comp=Z,4.2nm,1.5s
VRAC **Vranov** 36.53 317 eP P 05 11 52.0 -0.1
VRAC **Vranov** 36.53 317 P P 05 11 51.9 -0.1
comp=Z,1.4nm,0.6s,baz=111,slow=10,SNR=2.7
comp=Z,1.4nm,0.6s
KRUC **Moravsky** 36.55 317 eP P 05 11 52.2 -0.1
VSU **Vasula** 36.63 335 P P 05 11 52.9 +0.1
VSU pmax pmax
comp=Z,34nm,0.8s
KRLC **Kraliky** 36.71 318 eP P 05 11 52.8 -0.9
KRLC **Kraliky** 36.71 318 eP P 05 11 52.8 -0.9
OBKA **Obir** 36.89 312 epP pP 05 12 02.4 +2.0
comp=Z,12nm,1.5s
NRCA **Norcia** 37.02 306 P P 05 11 56.9 +0.5
NRCA IAmb IAmb 05 12 01.4
comp=Z,16nm,1.1s
MOA **Molln** 37.47 314 i pP pP 05 12 04.7 -0.6
comp=Z,6.1nm,1.6s
CKRC **Cesky Krumlov** 37.76 315 eP P 05 12 09.6 +7.1
CKRC **Cesky Krumlov** 37.76 315 eP P 05 12 09.6 +7.1
BIOA **Bad Ischl, Aus** 37.83 313 eP P 05 12 01.5 -1.7
comp=Z,1.8nm,0.8s
KBA **Koelnbreinsper** 37.84 312 eP P 05 12 04.2 +0.8
comp=Z,1.2nm,0.5s
GERES **GERESS Array B** 38.14 315 P P 05 12 05.3 -0.6
comp=Z,0.6nm,0.7s,baz=126,slow=10,SNR=5.3
comp=Z,0.6nm,0.7s
ABTA **Abfaltersbach** 38.30 312 epP P 05 12 08.8 +1.5
comp=Z,2.0nm,0.7s
KHC **Kasperske Hory** 38.31 316 P P 05 12 05.8 -1.4
KHC **Kasperske Hory** 38.31 316 eP P 05 12 04.0 -3.2
KHC **Kasperske Hory** 38.31 316 P P 05 12 05.8 -1.4
KHC pmax pmax
comp=Z,2.0nm,0.8s
LESA **Schwarzleotal** 38.38 313 i P P 05 12 07.4 -0.4
comp=Z,3.3nm,0.8s
BRG **Berggiesshubel** 38.69 318 eP P 05 12 10.5 +0.1
BRG Amp 05 12 12.1
comp=Z,2.4nm,1.0s
BRG **Berggiesshubel** 38.69 318 eP P 05 12 10.4 +0.1
BRG pmax pmax
comp=Z,2.0nm,1.0s
GTA **Gaotai** 38.95 60 eP P 05 12 13.8 +1.0
GTA pmax pmax
comp=Z,10.0nm,0.7s
WTTA **Wattenberg** 39.02 312 eP P 05 12 11.6 -1.7
comp=Z,8.8nm,1.2s
FIA1 **FINESS Array S** 39.02 338 P P 05 12 13.0 +0.1
FIA1 IAmb IAmb 05 12 17.2
comp=Z,17nm,0.8s
FINES **FINESS Array B** 39.02 338 P P 05 12 13.0 +0.1
FINES **FINESS Array B** 39.02 338 P P 05 12 12.8 -0.2
comp=Z,7.3nm,0.6s,baz=143,slow=10.0,SNR=67
comp=Z,7.3nm,0.6s
FINES **FINESS Array B** 39.02 338 P P 05 12 13.0 +0.1
WATA **Walderalm** 39.07 312 eP P 05 12 12.0 -1.7
comp=Z,6.2nm,0.9s
SQTA **Sankt Quirin** 39.29 312 eP P 05 12 14.8 -0.7
comp=Z,4.5nm,0.8s
KEST **Kesra** 39.36 294 P P 05 12 15.3 -0.9
KEST **Kesra** 39.36 294 P P 05 12 17.2 +1.0
comp=Z,5.2nm,0.8s,baz=34,slow=3.6,SNR=5.3
comp=Z,5.2nm,0.8s
CLL **Collm** 39.40 319 P P 05 12 15.2 -1.1
CLL **Collm** 39.40 319 i P P 05 12 16.3 0.0
comp=Z,17nm,1.9s
CLL ePP PP 05 13 44.0 -2.7
CLL **Collm** 39.40 319 i P P 05 12 16.3 0.0
CLL pmax pmax
comp=Z,17nm,1.9s
FETA **Feichten** 39.55 312 i P P 05 12 16.5 -1.3
comp=Z,6.5nm,0.8s
RETA **Reutte** 39.65 312 eP P 05 12 17.4 -1.1
comp=Z,1.6nm,0.6s
FUORN **Ofenpass-Fuorn** 39.77 311 P P 05 12 19.3 -0.5
GRA1 **Grafenberg Arr** 39.95 316 P P 05 12 19.6 -1.3
GRF **Grafenberg Arr** 39.95 316 P P 05 12 19.6 -1.3
GRF pmax pmax
comp=Z,8.0nm,1.0s
GRFO **Grafenberg** 39.95 316 P P 05 12 19.8 -1.1
GRFO **Grafenberg** 39.95 316 P P 05 12 19.8 -1.1
GRFO pmax pmax
comp=Z,7.0nm,0.9s
DAVOX **Davos/Dischmat** 40.07 311 P P 05 12 21.8 -0.3
comp=Z,2.1nm,0.4s,baz=112,slow=7.6,SNR=5.4
comp=Z,2.1nm,0.4s
DAVA **Damuels** 40.18 312 i P P 05 12 22.4 -0.6
comp=Z,9.9nm,0.5s
TUE **Stuetta** 40.36 310 P P 05 12 24.0 -0.6
CHTO **Chiang Mai** 41.24 92 P P 05 12 32.3 +0.4
CHTO **Chiang Mai** 41.24 92 P P 05 12 32.3 +0.4
CHTO pmax pmax
comp=Z,5.0nm,0.7s
CMAR **Chiang Mai Arr** 41.36 93 P P 05 12 33.0 0.0
CMAR **Chiang Mai Arr** 41.36 93 P P 05 12 34.2 +1.2
comp=Z,2.0nm,0.5s,baz=294,slow=8.1,SNR=9.5
comp=Z,2.0nm,0.5s
PZH **PanZhiHua** 41.56 80 P P 05 12 36.9 +2.3
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.7s
SENIN **Lac Senin/Sane** 41.73 310 P P 05 12 34.7 -1.1
SENIN IAmb IAmb 05 12 36.4
comp=Z,11nm,0.7s
LPL **La Plagne** 41.99 308 eP P 05 12 36.7 -1.3
ECH **Echery** 42.17 313 P P 05 12 38.1 -1.1
ECH **Echery** 42.17 313 P P 05 12 38.1 -1.1
ECH pmax pmax
comp=Z,3.0nm,0.9s
HFS **Hagfors** 42.92 331 P P 05 12 44.8 -0.3
comp=Z,7.4nm,0.5s,baz=125,slow=9.3,SNR=53
comp=Z,7.4nm,0.5s
SMF **Signal de Mont** 44.14 310 eP P 05 12 54.0 -1.1
SMF pmax pmax
comp=Z,4.0nm,0.7s
NC602 **NORSAR Array S** 44.15 331 P P 05 12 54.9 -0.1
NC602 IAmb IAmb 05 13 02.4
comp=Z,10nm,1.2s
NC405 **NORSAR Array S** 44.26 332 P P 05 12 55.5 -0.4
NB201 **NORSAR Array S** 44.41 331 IAmb IAmb 05 12 57.2
comp=Z,9.6nm,0.7s
SSF **Saint Saulge** 44.42 310 eP P 05 12 56.4 -0.9
SSF pmax pmax
comp=Z,18nm,1.6s
NB2 **NORSAR Subarra** 44.44 331 P P 05 12 56.3 -1.0
comp=Z,6.0nm,0.7s,baz=116,slow=7.9
NOA **NORSAR Array B** 44.44 331 P P 05 12 56.5 -0.8
comp=Z,5.4nm,0.7s,baz=118,slow=7.9,SNR=57
comp=Z,5.4nm,0.7s
NC303 **NORSAR Array S** 44.46 332 P P 05 12 57.0 -0.5
NC303 IAmb IAmb 05 13 05.6
comp=Z,9.6nm,1.2s
NAO01 **NORSAR Array S** 44.48 331 P P 05 12 56.8 -0.9
NAO01 IAmb IAmb 05 12 58.0
comp=Z,7.6nm,0.8s
SONM **Songino Array** 44.60 49 P P 05 12 59.0 0.0
SONM **Songino Array** 44.60 49 P P 05 12 59.0 0.0
comp=Z,2.6nm,0.9s,baz=259,slow=9.4,SNR=8.5
comp=Z,2.6nm,0.9s
SONM **Songino Array** 44.60 49 P P 05 12 59.0 0.0
SONM pmax pmax
comp=Z,5.0nm,1.4s
NBO00 **NORSAR Array S** 44.62 331 P P 05 12 58.5 -0.2
NBO00 IAmb IAmb 05 12 59.0
comp=Z,6.2nm,0.7s
TAM **Tamanrasset** 44.71 275 P P 05 13 00.4 +0.3
TAM **Tamanrasset** 44.71 275 P P 05 13 00.4 +0.3
TAM pmax pmax
comp=Z,5.0nm,1.0s
NC204 **NORSAR Array S** 44.74 331 P P 05 12 59.2 -0.6
ULN **Ulaanbaatar** 45.04 49 i P P 05 13 02.8 +0.3
ULN pmax pmax
comp=Z,5.0nm,1.4s
CAF **Calviac** 45.20 307 eP P 05 13 03.2 -0.5
CAF pmax pmax
comp=Z,3.0nm,0.6s
ARCES **ARCESS Array B** 45.39 346 P P 05 13 04.1 -0.7
comp=Z,3.1nm,0.9s,baz=140,slow=9.6,SNR=9.4
comp=Z,3.1nm,0.9s
NRIK **Noril'sk** 45.98 15 P P 05 13 09.7 +0.3
NRIK IAmb IAmb 05 13 10.9
comp=Z,7.7nm,1.1s
NRIK **Noril'sk** 45.98 15 P P 05 13 08.9 -0.5
comp=Z,2.0nm,0.5s,baz=209,slow=6.5,SNR=5.4
comp=Z,2.0nm,0.5s
NRIK **Noril'sk** 45.98 15 P P 05 13 09.7 +0.3
NRIK pmax pmax
comp=Z,8.0nm,1.1s
LFF **La Frestale** 46.14 307 eP P 05 13 10.8 -0.2
LFF pmax pmax
comp=Z,7.0nm,0.6s
XAN **Xi'an** 46.43 68 P P 05 13 14.0 +0.5
XAN pmax pmax
comp=Z,10.0nm,1.0s
HHC **Hu-ho-hao-te** 47.97 59 eP P 05 13 26.3 +0.8
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,79nm,5.5s
ESDC **Sonseca Array** 49.71 300 P P 05 13 38.6 -0.2
ESDC **Sonseca Array** 49.71 300 P P 05 13 39.2 +0.4
comp=Z,1.4nm,0.4s,baz=72,slow=7.5,SNR=41
comp=Z,1.4nm,0.4s
EKA **Eskdalemuir Ar** 49.79 321 P P 05 13 38.6 -0.4
comp=Z,0.4nm,0.3s,baz=115,slow=8.1,SNR=8.1
comp=Z,0.4nm,0.3s
EKB **Eskdalemuir** 49.81 321 P P 05 13 38.5 -0.8
PAB **San Pablo** 50.01 300 P P 05 13 41.5 +0.3
PAB IAmb IAmb 05 13 42.5
comp=Z,3.4nm,0.6s
PAB **San Pablo** 50.01 300 P P 05 13 41.5 +0.3
PAB pmax pmax
comp=Z,3.0nm,0.6s
BOD **Bodaibo** 50.79 36 eP P 05 13 46.3 -0.4
BOD pmax pmax
comp=Z,22nm,1.1s
QIZ **Qiongzhong** 50.84 87 P P 05 13 47.2 -0.4
MDT **Midelt** 51.14 291 LR LR 05 39 58.7
comp=Z,853nm,18.1s,baz=91,slow=41
DSB **Dublin** 51.41 318 P P 05 13 50.4 -1.0
DSB IAmb IAmb 05 13 58.1
comp=Z,13nm,1.1s
TORD **Torodi Ar. Bea** 51.53 265 P P 05 13 53.1 +0.3
comp=Z,4.3nm,0.7s,baz=64,slow=9.4,SNR=26
comp=Z,4.3nm,0.7s
PESTR **Estremoz** 52.59 299 P P 05 14 00.1 -0.4
PESTR IAmb IAmb 05 14 01.3
comp=Z,6.4nm,0.9s
TIA **Tai'an** 52.78 64 P P 05 14 02.5 +0.6
TIA pmax pmax
comp=Z,14nm,0.9s
SPITS **Spitsbergen Ar** 53.64 351 P P 05 14 07.8 +0.2
comp=Z,4.7nm,0.8s,baz=125,slow=8.3,SNR=1.6
comp=Z,4.7nm,0.8s
SPITS **Spitsbergen Ar** 53.64 351 P P 05 14 07.8 +0.2
SPITS pmax pmax
comp=Z,19nm,1.3s
NJ2 **Nanjing** 54.99 69 eP P 05 14 17.8 -0.3
NJ2 pmax pmax
comp=Z,18nm,1.1s
NJ2 pmax pmax
comp=Z,160nm,4.1s
CN2 **Changchun** 57.93 54 eP P 05 14 38.5 -0.3
CN2 esP sP 05 14 47.4 +1.2
ZEA **Zeya** 58.03 42 eP P 05 14 48.4 +9.0
TSUM **Tsumeb** 58.84 222 P P 05 14 46.4 +0.9
TSUM IAmb IAmb 05 14 48.7
comp=Z,8.6nm,1.2s
YAK **Yakutsk** 59.00 32 P P 05 14 45.3 -0.7
YAK **Yakutsk** 59.00 32 eP P 05 14 43.4 -2.6
YAK pmax pmax
comp=Z,20nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.2s
BNX **BinXian** 59.01 51 ||P P 05 14 45.9 -0.4
BNX pmax pmax
comp=Z,8.0nm,1.1s
TIXI **Tiksi** 59.11 21 P P 05 14 46.5 -0.1
TIXI IAmb IAmb 05 15 00.0
comp=Z,5.2nm,0.7s
TIXI **Tiksi** 59.11 21 P P 05 14 46.3 -0.3
comp=Z,2.4nm,0.4s,baz=275,slow=11,SNR=2.1
comp=Z,2.4nm,0.4s
TIXI **Tiksi** 59.11 21 P P 05 14 46.5 -0.1
TIXI pmax pmax
comp=Z,5.0nm,0.7s
LBTB **Lobatse** 59.36 211 P P 05 14 50.0 +0.9
LBTB **Lobatse** 59.36 211 P P 05 14 50.0 +0.9
LBTB pmax pmax
comp=Z,10.0nm,1.1s
DBIC **Dimbokro** 60.16 262 P P 05 14 55.0 +0.3
DBIC **Dimbokro** 60.16 262 P P 05 14 55.0 +0.3
comp=Z,4.5nm,0.6s,baz=23,slow=5.9,SNR=6.5
comp=Z,4.5nm,0.6s
DBIC **Dimbokro** 60.16 262 P P 05 14 55.0 +0.3
DBIC pmax pmax
comp=Z,34nm,1.5s
TJN **Taejon** 60.84 62 P P 05 14 58.0 -1.1
TJN **Taejon** 60.84 62 P P 05 14 58.0 -1.1
TJN pmax pmax
comp=Z,82nm,1.1s
KS19 **Wonju Array Si** 60.97 60 P P 05 15 00.0 +0.1
KSAR **Wonju Array Be** 60.99 60 P P 05 15 00.6 +0.5
KSAR **Wonju Array Be** 60.99 60 P P 05 15 00.6 +0.5
KSRS **Korea Array** 61.02 60 P P 05 14 59.5 -0.8
comp=Z,3.4nm,0.6s,baz=278,slow=6.8,SNR=17
comp=Z,3.4nm,0.6s
KLR **Kul'dur** 61.36 47 eP P 05 15 01.5 -0.9
KLR pmax pmax
comp=Z,5.0nm,1.3s
USRK **Ussuriysk Ar.** 62.49 52 P P 05 15 08.8 -1.3
comp=Z,2.7nm,0.9s,baz=286,slow=5.4,SNR=2.9
comp=Z,2.7nm,0.9s
BOSA **Boshof** 62.62 209 P P 05 15 12.2 +1.1
BOSA IAmb IAmb 05 15 28.9
comp=Z,4.4nm,0.7s
BOSA **Boshof** 62.62 209 P P 05 15 12.2 +1.1
comp=Z,3.7nm,0.5s,baz=25,slow=7.7,SNR=22
comp=Z,3.7nm,0.5s
SUMG **Summit** 65.01 341 P P 05 15 25.7 -1.0
SUMG IAmb IAmb 05 15 29.7
comp=Z,4.5nm,0.8s
SUMG **Summit** 65.01 341 P P 05 15 25.7 -1.0
SUMG pmax pmax
comp=Z,5.0nm,0.8s
BBTS **Babate** 67.08 275 LR LR 05 45 34.4
comp=Z,269nm,18.2s,baz=322,slow=36
YSS **Yuzh-Sakhalins** 69.06 47 eP P 05 15 51.4 -1.0
YSS pmax pmax
comp=Z,20nm,0.9s
MJAR **Matsushiro Arr** 69.17 59 P P 05 15 51.8 -1.5
comp=Z,2.1nm,0.9s,baz=289,slow=8.5,SNR=6.2
comp=Z,2.1nm,0.9s
SEY **Seymchan** 69.17 29 eP P 05 15 51.5 -1.3
SEY pmax pmax
comp=Z,13nm,0.9s
MA2 **Magadan** 69.56 33 P P 05 15 55.9 +0.6
comp=Z,7.6nm,0.8s,baz=309,slow=6.5,SNR=1.9
comp=Z,7.6nm,0.8s
DAV **Davao City (W)** 69.65 93 LR LR 05 51 36.7
comp=Z,238nm,19.1s,baz=334,slow=40
BILL **Bilibino** 72.31 22 P P 05 16 12.2 +0.4
BILL **Bilibino** 72.31 22 eP P 05 16 12.4 +0.6
BILL e*PP pP 05 16 15.8 -1.6
BILL e 05 18 54.1
BILL ePPP PPP 05 20 37.5
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,707nm,22.0s
A21K **Barrow** 78.99 10 P P 05 16 49.5 -0.5
baz=332
A19K **Wainwright** 79.22 12 P P 05 16 50.7 -0.5
baz=328
A22K **Sinclair Lake** 79.52 10 P P 05 16 52.5 -0.4
baz=333
B18K **Kokolik River** 79.80 12 P P 05 16 54.3 -0.1
baz=327
C16K **Lisburne Hills** 79.98 14 P P 05 16 55.5 0.0
baz=324
B20K **Meade River** 80.07 11 P P 05 16 55.9 0.0
baz=332
C17K **DeLong Mountai** 80.27 13 P P 05 16 57.4 +0.3
baz=326
B22K **Teshekpuk Lake** 80.35 9 P P 05 16 58.0 +0.6
baz=335
C19K **Lookout Ridge** 80.43 12 P P 05 16 58.2 +0.3
baz=329
C18K **Utukok River** 80.52 13 P P 05 16 58.5 0.0
baz=328
A36M **Sachs Harbour** 80.78 0 P P 05 16 59.7 +0.1
baz=360
B21K **Ikpikpuk River** 80.82 10 P P 05 16 59.9 0.0
baz=334
D17K **Noatak River** 80.94 14 P P 05 17 00.4 -0.2
baz=326
C23K **Itkillik River** 81.20 9 P P 05 17 03.3 +1.4
C23K IAmb IAmb 05 17 04.1
comp=Z,6.9nm,0.8s
C23K **Itkillik River** 81.20 9 P P 05 17 02.6 +0.7
baz=337
C21K **Knifeblade Rid** 81.21 10 P P 05 17 02.5 +0.4
baz=334
D19K **Kuna River** 81.23 12 P P 05 17 02.7 +0.5
baz=331
D20K **Etivluk River** 81.30 11 P P 05 17 03.1 +0.5
baz=332
C24K **Franklin Bluff** 81.56 8 P P 05 17 05.0 +1.1
baz=339
TNA **Tin City** 81.56 17 P P 05 17 05.0 +1.0
baz=322
E18K **Tukpahlearik C** 81.69 13 IAmb IAmb 05 17 08.4
comp=Z,4.6nm,0.9s
E18K **Tukpahlearik C** 81.69 13 P P 05 17 04.7 +0.1
baz=329
E17K **Hotham Inlet** 81.73 14 P P 05 17 04.5 -0.3
baz=328
E20K **Nigu River** 81.78 11 P P 05 17 04.9 -0.2
baz=332
D22K **Ayikyak River** 81.79 10 IAmb IAmb 05 17 06.9
comp=Z,7.6nm,1.1s
D22K **Ayikyak River** 81.79 10 P P 05 17 05.5 +0.4
baz=336
C26K **Camden Bay** 81.81 7 P P 05 17 05.7 +0.5
baz=342
E21K **Killik River** 81.99 10 IAmb IAmb 05 17 19.6
comp=Z,9.7nm,1.5s
E21K **Killik River** 81.99 10 P P 05 17 06.4 +0.2
baz=334
D23K **Nanushuk River** 82.00 9 P P 05 17 07.0 +0.7
baz=337
F14K **Arctic Creek** 82.03 16 P P 05 17 06.3 -0.1
baz=324
D24K **Happy Valley** 82.07 8 P P 05 17 06.9 +0.3
baz=339
FITZ **Fitzroy Crossi** 82.14 115 P P 05 17 08.1 +0.4
C27K **Jago River** 82.21 6 P P 05 17 07.7 +0.4
baz=343
D25K **Kavik River** 82.21 7 IAmb IAmb 05 17 10.3
comp=Z,3.7nm,0.8s
D25K **Kavik River** 82.21 7 P P 05 17 07.5 +0.1
baz=341
F15K **North Star Dit** 82.25 15 P P 05 17 07.9 +0.3
baz=325
E19K **Redstone River** 82.31 12 P P 05 17 07.8 -0.1
baz=332
F17K **Baldwin Pennin** 82.39 14 P P 05 17 08.7 +0.5
baz=328
TOLK **Toolik Lake Re** 82.45 9 IAmb IAmb 05 17 13.6
comp=Z,5.5nm,0.9s
TOLK **Toolik Lake Re** 82.45 9 P P 05 17 08.8 +0.1
baz=338
F18K **Selawik** 82.59 13 P P 05 17 09.0 -0.2
baz=330
F19K **Shaleruckik Mo** 82.75 12 IAmb IAmb 05 17 14.3
comp=Z,5.1nm,0.9s
F19K **Shaleruckik Mo** 82.75 12 P P 05 17 10.0 -0.1
baz=331
D27M **Malcolm River** 82.84 6 P P 05 17 10.7 +0.1
baz=346
F20K **Avaraart Lake** 82.94 12 P P 05 17 10.5 -0.6
baz=333
G15K **Niukluk** 82.98 16 P P 05 17 10.8 -0.6
baz=326
E23K **Chandalar** 82.99 9 P P 05 17 12.0 +0.5
baz=338
ANM **Nome** 83.01 16 P P 05 17 10.9 -0.6
baz=325
G16K **Koyuk River** 83.04 15 P P 05 17 11.6 0.0
baz=327
F22K **John River** 83.12 10 P P 05 17 12.5 +0.3
baz=336
E24K **Your Creek** 83.13 9 IAmb IAmb 05 17 17.7
comp=Z,4.7nm,0.9s
E24K **Your Creek** 83.13 9 P P 05 17 12.6 +0.4
baz=339
F21K **Alatna River** 83.17 11 IAmb IAmb 05 17 16.9
comp=Z,2.7nm,0.8s
F21K **Alatna River** 83.17 11 P P 05 17 12.4 0.0
baz=335
G17K **Kiwalik Mounta** 83.33 14 P P 05 17 12.9 -0.3
baz=329
G18K **Tagagawik** 83.40 13 P P 05 17 14.5 +0.9
baz=330
C36M **Paulatuk** 83.43 360 P P 05 17 13.6 0.0
baz=1.0
G19K **Purcell Mounta** 83.50 13 IAmb IAmb 05 17 18.4
comp=Z,5.7nm,1.0s
G19K **Purcell Mounta** 83.50 13 P P 05 17 14.4 +0.4
baz=332
E28M **Babbage River** 83.58 5 IAmb IAmb 05 17 19.9
comp=Z,4.6nm,1.2s
E28M **Babbage River** 83.58 5 P P 05 17 14.9 +0.4
baz=347
COLD **Coldfoot** 83.68 10 P P 05 17 15.2 +0.3
baz=338
H16K **Elim** 83.70 15 P P 05 17 15.2 +0.1
baz=327
F24K **Squaw Lake** 83.73 9 P P 05 17 15.5 +0.2
baz=340
G22K **Bettles** 83.77 10 P P 05 17 16.3 +0.9
baz=337
E27K **Coleen River** 83.81 6 IAmb IAmb 05 17 21.1
comp=Z,4.4nm,1.2s
E27K **Coleen River** 83.81 6 P P 05 17 16.2 +0.5
baz=345
G21K **Allakaket** 83.81 11 IAmb IAmb 05 17 19.8
comp=Z,3.6nm,0.8s
G21K **Allakaket** 83.81 11 P P 05 17 15.6 -0.1
baz=335
E29M **Blow River** 83.92 5 P P 05 17 16.4 +0.2
baz=349
F25K **Christian Rive** 83.95 8 P P 05 17 16.7 +0.3
baz=342
H17K **Granite Mounta** 83.97 14 P P 05 17 16.3 -0.2
H17K IAmb IAmb 05 17 17.6
comp=Z,7.7nm,1.4s
H17K **Granite Mounta** 83.97 14 P P 05 17 16.4 -0.1
baz=329
SCHQ **Schefferville** 84.00 330 P P 05 17 16.3 -0.5
comp=Z,2.9nm,0.7s,baz=22,slow=4.9,SNR=7.2
comp=Z,2.9nm,0.7s
F26K **Sheenjek River** 84.02 7 P P 05 17 17.1 +0.3
baz=343
H18K **Honhosa River** 84.11 13 P P 05 17 17.1 -0.1
baz=331
H19K **Roundabout Mou** 84.16 13 P P 05 17 17.7 +0.3
baz=332
G23K **Bananza Creek** 84.19 10 IAmb IAmb 05 17 23.1
comp=Z,5.6nm,1.1s
G23K **Bananza Creek** 84.19 10 P P 05 17 17.6 0.0
baz=338,SNR=7.0
BMAR **Burnt Mountain** 84.23 7 P 05 17 18.9 +1.1
IMAR **Indian Mountai** 84.25 11 P P 05 17 18.1 +0.2
INK **Inuvik** 84.27 3 P P 05 17 18.2 +0.3

INK			IAmb	IAmb	05 17 22.7	
	comp=Z,2.9nm,0.8s					
INK	**Inuvik**	**84.27**	**3**	P	**P**	**05 17 18.1 +0.3**
	baz=352					
INK	**Inuvik**	**84.27**	**3**	P	**P**	**05 17 18.2 +0.3**
INK				pmax	pmax	
	comp=Z,3.0nm,0.8s					
H20K	**Anotleneega Mo**	**84.49**	**12**	P	**P**	**05 17 19.2 0.0**
	baz=334					
F28M	**Old Crow**	**84.53**	**6**	IAmb	IAmb	05 17 24.0
	comp=Z,5.3nm,1.1s					
F28M	**Old Crow**	**84.53**	**6**	P	**P**	**05 17 19.5 +0.2**
	baz=347					
G24K	**Hadweenzic Riv**	**84.56**	**9**	P	**P**	**05 17 19.9 +0.4**
	baz=340,SNR=9.2					
G25K	**Bearman Lake**	**84.68**	**8**	P	**P**	**05 17 20.2 +0.2**
	baz=341					
I17K	**Unalakleet**	**84.70**	**15**	P	**P**	**05 17 20.7 +0.5**
	baz=329					
H21K	**Melozitna Rive**	**84.71**	**11**	IAmb	IAmb	05 17 25.0
	comp=Z,3.2nm,0.8s					
H21K	**Melozitna Rive**	**84.71**	**11**	P	**P**	**05 17 20.6 +0.3**
	baz=336					
H22K	**Ishtalitna Cre**	**84.73**	**11**	P	**P**	**05 17 20.6 +0.2**
	baz=337					
G26K	**Porcupine Rive**	**84.78**	**7**	P	**P**	**05 17 21.2 +0.7**
	baz=344					
F30M	**Barrier River**	**84.83**	**4**	P	**P**	**05 17 21.3 +0.4**
	baz=350					
J14K	**Nanvaranak Lak**	**84.97**	**17**	P	**P**	**05 17 22.3 +0.8**
	baz=326					
H23K	**Yukon River**	**85.09**	**10**	IAmb	IAmb	05 17 27.9
	comp=Z,4.9nm,0.8s					
H23K	**Yukon River**	**85.09**	**10**	P	**P**	**05 17 23.0 +0.9**
	baz=338,SNR=8.3					
F31M	**Tsiigehtchic**	**85.12**	**3**	P	**P**	**05 17 22.7 +0.5**
	baz=352,SNR=6.1					
G27K	**Doyon Strip**	**85.14**	**6**	IAmb	IAmb	05 17 27.7
	comp=Z,4.1nm,0.8s					
G27K	**Doyon Strip**	**85.14**	**6**	P	**P**	**05 17 23.1 +0.6**
	baz=345,SNR=8.9					
H25L	**Birch Creek**	**85.19**	**8**	P	**P**	**05 17 22.4 -0.2**
	baz=342					
I20K	**Naaghedeneel**	**85.19**	**12**	P	**P**	**05 17 22.6 -0.1**
	baz=334					
J16K	**Anvik River**	**85.24**	**15**	P	**P**	**05 17 22.8 -0.1**
	baz=329					
H24K	**Noodor Dome**	**85.32**	**9**	P	**P**	**05 17 23.7 +0.4**
	baz=340					
K13K	**Kusilvak Mount**	**85.36**	**18**	P	**P**	**05 17 24.1 +0.6**
	baz=326					
G29M	**Pine Creek**	**85.37**	**5**	IAmb	IAmb	05 17 24.6
	comp=Z,4.8nm,1.1s					
G29M	**Pine Creek**	**85.37**	**5**	P	**P**	**05 17 23.5 0.0**
	baz=349					
G30M	**tAoh Zraii Nji**	**85.43**	**4**	P	**P**	**05 17 23.6 -0.3**
	baz=350,SNR=5.5					
J17K	**VABM Dome**	**85.49**	**15**	P	**P**	**05 17 24.5 +0.4**
	baz=330					
G31M	**Satah River**	**85.61**	**4**	P	**P**	**05 17 24.9 +0.2**
G31M	**Satah River**	**85.61**	**4**	P	**P**	**05 17 24.5 -0.2**
	baz=352,SNR=5.1					
MLY	**Manley**	**85.64**	**11**	P	**P**	**05 17 25.4 +0.5**
MLY				IAmb	IAmb	05 17 32.7
	comp=Z,4.1nm,0.9s					
MLY	**Manley**	**85.64**	**11**	P	**P**	**05 17 25.3 +0.4**
	baz=337					
J19K	**Poorman**	**85.70**	**13**	P	**P**	**05 17 25.8 +0.5**
J19K				IAmb	IAmb	05 17 30.1
	comp=Z,4.4nm,0.8s					
J19K	**Poorman**	**85.70**	**13**	P	**P**	**05 17 25.6 +0.5**
	baz=333					
H27K	**Steamboat Moun**	**85.72**	**7**	P	**P**	**05 17 25.7 +0.4**
	baz=346,SNR=13					
I23K	**Minto, Yukon-K**	**85.75**	**10**	IAmb	IAmb	05 17 27.7
	comp=Z,5.7nm,1.1s					
I23K	**Minto, Yukon-K**	**85.75**	**10**	P	**P**	**05 17 25.9 +0.5**
	baz=339					
J20K	**Nowinta River**	**85.82**	**12**	IAmb	IAmb	05 17 28.0
	comp=Z,5.4nm,1.1s					
J20K	**Nowinta River**	**85.82**	**12**	P	**P**	**05 17 26.1 +0.3**
	baz=334					
K15K	**Wolf Creek Mou**	**85.86**	**16**	P	**P**	**05 17 26.6 +0.6**
	baz=328					
PRP	**Porcupine Dome**	**85.94**	**8**	IAmb	IAmb	05 17 31.5
	comp=Z,4.3nm,0.9s					
PRP	**Porcupine Dome**	**85.94**	**8**	P	**P**	**05 17 27.1 +0.5**
	baz=342,SNR=10					
J18K	**Innoko River**	**85.94**	**14**	P	**P**	**05 17 27.0 +0.5**
	baz=332					
EPYK	**Eagle Plains**	**86.00**	**5**	IAmb	IAmb	05 17 27.5
	comp=Z,5.9nm,0.9s					
EPYK	**Eagle Plains**	**86.00**	**5**	P	**P**	**05 17 26.5 -0.2**
	baz=350					
H29M	**Whitestone**	**86.02**	**5**	P	**P**	**05 17 26.7 0.0**
	baz=348,SNR=6.0					
POKR	**Poker Plat Res**	**86.06**	**9**	P	**P**	**05 17 27.3 +0.3**
	baz=340					
MDM	**Murphy Dome**	**86.10**	**10**	IAmb	IAmb	05 17 32.1
	comp=Z,6.8nm,1.0s					
M11K	**Mekoryuk**	**86.20**	**19**	P	**P**	**05 17 28.1 +0.4**
	baz=324					
K17K	**Iditarod**	**86.26**	**15**	P	**P**	**05 17 28.3 +0.3**
	baz=331					
NEA2	**Nenana**	**86.31**	**10**	IAmb	IAmb	05 17 32.7
	comp=Z,5.5nm,1.2s					
NEA2	**Nenana**	**86.31**	**10**	P	**P**	**05 17 28.3 +0.1**
	baz=339					
I27K	**Kandik River**	**86.32**	**7**	P	**P**	**05 17 28.7 +0.3**
	baz=345,SNR=5.2					
L14K	**Kuka Creek**	**86.38**	**17**	P	**P**	**05 17 29.2 +0.6**
	baz=327					
I26K	**Coal Creek Min**	**86.44**	**7**	IAmb	IAmb	05 17 43.9
	comp=Z,3.7nm,0.9s					
I26K	**Coal Creek Min**	**86.44**	**7**	P	**P**	**05 17 29.2 +0.4**
	baz=344					
BPAW	**Bear Paw Mtn.**	**86.46**	**11**	P	**P**	**05 17 28.8 -0.2**
	baz=337,SNR=13					
ILAR	**Eielson Array**	**86.47**	**9**	P	**P**	**05 17 28.2 -0.8**
	comp=Z,1.2nm,0.7s,baz=324,slow=4.0,SNR=13					
	comp=Z,1.2nm,0.7s					
TTA	**Tatalina**	**86.57**	**14**	IAmb	IAmb	05 17 34.9
	comp=Z,7.0nm,1.4s					
TTA	**Tatalina**	**86.57**	**14**	P	**P**	**05 17 29.7 +0.1**
	baz=333					
K20K	**Telida**	**86.58**	**13**	P	**P**	**05 17 29.5 0.0**
	baz=335,SNR=6.9					
I28M	**Miner Creek**	**86.64**	**6**	IAmb	IAmb	05 17 31.6
	comp=Z,2.8nm,0.8s					
I28M	**Miner Creek**	**86.64**	**6**	P	**P**	**05 17 29.7 -0.3**
	baz=347,SNR=6.7					
L17K	**Donlin**	**86.77**	**15**	P	**P**	**05 17 30.7 +0.2**
	baz=331					
J25K	**Salcha River,**	**86.83**	**9**	IAmb	IAmb	05 17 31.9
	comp=Z,8.9nm,1.3s					
J25K	**Salcha River,**	**86.83**	**9**	P	**P**	**05 17 30.6 -0.2**
	baz=342,SNR=7.8					
L16K	**Owhat River**	**86.87**	**16**	P	**P**	**05 17 31.8 +0.8**
	baz=330					
I29M	**Ogilvie Camp,**	**86.87**	**6**	IAmb	IAmb	05 17 32.4
	comp=Z,3.4nm,0.8s					
I29M	**Ogilvie Camp,**	**86.87**	**6**	P	**P**	**05 17 30.7 -0.3**
	baz=348					
L18K	**Granite Mounta**	**87.06**	**14**	P	**P**	**05 17 32.1 +0.2**
	baz=332					
M14K	**Bethel**	**87.07**	**17**	P	**P**	**05 17 32.2 +0.3**
	baz=328					
MCK	**McKinley**	**87.14**	**10**	P	**P**	**05 17 32.1 -0.2**
	baz=339					
I30M	**Mount Dempster**	**87.16**	**5**	IAmb	IAmb	05 17 33.4
	comp=Z,5.0nm,0.8s					
I30M	**Mount Dempster**	**87.16**	**5**	P	**P**	**05 17 32.1 -0.4**
	baz=350,SNR=9.6					
J26L	**Joseph Creek**	**87.16**	**8**	P	**P**	**05 17 32.6 +0.1**
	baz=344,SNR=18					
EGAK	**Eagle**	**87.17**	**7**	P	**P**	**05 17 32.4 0.0**
	baz=346,SNR=8.8					
L20K	**Farewell, AK**	**87.41**	**13**	P	**P**	**05 17 33.9 +0.2**
	baz=335					
L19K	**White Mountain**	**87.48**	**13**	P	**P**	**05 17 34.3 +0.2**
	baz=334					
M16K	**Timber Creek**	**87.59**	**16**	P	**P**	**05 17 34.5 0.0**
	baz=330					
M17K	**Holitna River**	**87.61**	**15**	P	**P**	**05 17 35.1 +0.4**
	baz=332					
SCRK	**Sand Creek**	**87.62**	**8**	P	**P**	**05 17 34.9 +0.1**
	baz=343,SNR=9.5					
K27K	**Chicken**	**87.80**	**7**	P	**P**	**05 17 35.9 +0.4**
	baz=345					
J30M	**Hart River**	**87.80**	**5**	IAmb	IAmb	05 17 55.1
	comp=Z,3.1nm,0.9s					
J30M	**Hart River**	**87.80**	**5**	P	**P**	**05 17 36.0 +0.4**
	baz=350					
M18K	**Stony River**	**87.89**	**14**	P	**P**	**05 17 36.2 +0.2**
	baz=333					
DHY	**Denali Highway**	**88.00**	**10**	P	**P**	**05 17 36.8 +0.1**
	baz=340					
DAWY	**Dawson**	**88.04**	**6**	P	**P**	**05 17 36.8 +0.1**
	baz=347,SNR=5.1					
SKT	**Skwentna**	**88.32**	**12**	IAmb	IAmb	05 17 42.6
	comp=Z,3.7nm,0.9s					
SKT	**Skwentna**	**88.32**	**12**	P	**P**	**05 17 38.3 +0.3**
	baz=337					
K29M	**Barlow Dome**	**88.43**	**5**	IAmb	IAmb	05 17 43.1
	comp=Z,4.0nm,0.9s					
K29M	**Barlow Dome**	**88.43**	**5**	P	**P**	**05 17 39.1 +0.5**
	baz=349					
N18K	**Kilae Creek**	**88.60**	**15**	P	**P**	**05 17 39.9 +0.5**
	baz=333					
L26K	**Log Cabin Wild**	**88.61**	**8**	P	**P**	**05 17 40.0 +0.6**
	baz=344					
L27K	**Beaver Creek,**	**88.76**	**8**	IAmb	IAmb	05 17 42.6
	comp=Z,2.5nm,0.9s					
L27K	**Beaver Creek,**	**88.76**	**8**	P	**P**	**05 17 40.3 +0.2**
	baz=345					
BCAR	**Beaver Creek A**	**88.76**	**8**	P	**P**	**05 17 40.0 -0.1**
N19K	**Bonanza Creek**	**88.79**	**14**	P	**P**	**05 17 40.5 +0.2**
	baz=334					
N20K	**Mount Spurr**	**88.91**	**13**	P	**P**	**05 17 41.2 +0.3**
	baz=336					
SUA	**Susitna One**	**88.94**	**12**	P	**P**	**05 17 41.7 +0.7**
	baz=338					
SML	**Sawmill**	**89.04**	**11**	P	**P**	**05 17 42.1 +0.7**
	baz=340					
O16K	**Kokwok River B**	**89.05**	**16**	P	**P**	**05 17 41.6 +0.2**
	baz=331					
L29M	**L29M**	**89.10**	**6**	IAmb	IAmb	05 17 43.3
	comp=Z,6.8nm,1.3s					
L29M	**L29M**	**89.10**	**6**	P	**P**	**05 17 42.1 +0.4**
	baz=348					
M27K	**Edge Creek, AK**	**89.44**	**8**	P	**P**	**05 17 43.4 0.0**
	baz=345					
RC01	**Rabbit Creek A**	**89.47**	**12**	P	**P**	**05 17 43.9 +0.5**
	baz=338					
O18K	**Koktuh Hills**	**89.50**	**15**	P	**P**	**05 17 43.8 +0.3**
	baz=334					
M29M	**Somme Creek**	**89.72**	**6**	P	**P**	**05 17 45.5 +0.8**
	baz=348					
KLU	**Klutina**	**89.72**	**10**	P	**P**	**05 17 45.2 +0.5**
	baz=342					
N25K	**Chitina, Valde**	**89.81**	**9**	P	**P**	**05 17 45.4 +0.3**
	baz=343					
YKA	**Yellowknife Ar**	**89.92**	**355**	P	**P**	**05 17 46.1 +0.6**
	comp=Z,2.5nm,0.8s,baz=6.9,slow=4.1,SNR=4.2					
	comp=Z,2.5nm,0.8s					
P19K	**Oil Pt**	**90.11**	**14**	P	**P**	**05 17 46.7 +0.2**
	baz=335					
WRA	**Warramunga Arr**	**90.16**	**112**	P	**P**	**05 17 47.0 -0.3**
	comp=Z,1.1nm,0.8s,baz=314,slow=4.0,SNR=14					
	comp=Z,1.1nm,0.8s					
WRA	**Warramunga Arr**	**90.16**	**112**	P	**P**	**05 17 47.0 -0.3**
YUK3	**Moose Creek**	**90.17**	**7**	P	**P**	**05 17 46.8 -0.2**
	baz=346					
M31M	**Drury Creek, Y**	**90.29**	**4**	P	**P**	**05 17 47.3 +0.1**
	baz=352					
YUK4	**Talbot Arm**	**90.78**	**6**	P	**P**	**05 17 49.6 -0.2**
	baz=348					
N30M	**Aishikik Lake**	**90.82**	**6**	IAmb	IAmb	05 17 48.0
	comp=Z,2.0nm,0.8s					
CTG	**Chitna Glacier**	**90.86**	**8**	P	**P**	**05 17 50.6 +0.5**
	baz=346					
NIKH	**Nikolski High**	**91.27**	**25**	P	**P**	**05 17 52.7 +0.8**
	baz=322					
UNV	**Unalaska Valle**	**91.42**	**23**	P	**P**	**05 17 52.2 -0.4**
	baz=324					
O30N	**Mendenhall**	**91.58**	**5**	P	**P**	**05 17 53.1 -0.2**
	baz=350					
ASAR	**Alice Springs**	**91.61**	**116**	P	**P**	**05 17 53.7 -0.4**
	comp=Z,1.0nm,0.7s,baz=305,slow=4.7,SNR=13					
	comp=Z,1.0nm,0.7s					
SDPT	**Sand Point**	**92.09**	**19**	P	**P**	**05 17 55.5 -0.2**
	baz=329					
R33M	**Jennings River**	**93.29**	**3**	P	**P**	**05 18 00.2 -1.1**
	baz=355					
LONY	**Lake Ozonia**	**94.68**	**326**	P	**P**	**05 18 07.7 -0.2**
	baz=43					
S34M	**Telegraph Cree**	**94.76**	**3**	P	**P**	**05 18 08.1 +0.2**
	baz=355					
BINY	**Binghamton**	**97.15**	**326**	P	**P**	**05 18 18.8 -0.4**
	baz=42					
P52A	**Corning**	**102.12**	**327**	P	**Pdif**	**05 18 40.9 -0.5**
	baz=38					
L44A	**Lake County Fo**	**102.62**	**333**	P	**Pdif**	**05 18 42.6 -1.0**
	baz=33					
S22A	**4UR Ranch, Cre**	**112.86**	**344**	P	**PKiKP**	**05 23 24.2 0.0**
	baz=18					
WMOK	**Wichita Mounta**	**113.27**	**337**	P	**PKiKP**	**05 23 24.7 +0.1**
	baz=25					
NVAR	**Mina Array Bea**	**114.10**	**354**	PKiKP	PKPdf	05 23 27.0 +0.6
	comp=Z,0.4nm,0.7s,baz=0.0,slow=3.4,SNR=3.9					
QSPA	**South Pole Qui**	**117.35**	**180**	PKP	**PKPdf**	**05 23 30.4 -1.0**
	comp=Z,1.2nm,0.9s,baz=46,slow=12,SNR=2.5					
PFO	**Pinyon Flats O**	**118.66**	**352**	P	**PKiKP**	**05 23 35.4 +0.1**
	baz=8.7					
MONP2	**Monument Peak**	**119.37**	**352**	P	**PKPdf**	**05 23 36.3 -0.4**
	baz=8.8					
SCI2	**San Clemente I**	**119.52**	**354**	P	**PKiKP**	**05 23 37.2 +0.5**
	baz=6.7					
IKP	**In-Ko-Pah, Jac**	**119.56**	**351**	P	**PKPdf**	**05 23 36.1 -0.8**
	baz=9.2					
LPAZ	**La Paz**	**126.36**	**269**	PKP	**PKPdf**	**05 23 51.1 +0.2**
	comp=Z,0.7nm,0.7s,baz=85,slow=7.8,SNR=2.4					

BJI ***22*** *05:06:59.2±0.0,27°.72N×54°.34E,h26km,mb5.3/86, mB5.5/59,Ms5.2/78,Ms7 4.9/75*

MOS ***22*** *05:07:00.8±0.9,27°.59N×54°.93E,h14km,mb5.7/106, MS4.7/44,Error ellipse: s-maj=4.2km s-min=2.9km az=103.5*

IDC ***22*** *05:07:00.5±0.4,27°.58N×54°.95E,h0km,mb5.3/40, mbtmp5.3/44,ML4.6/4,MS4.7/37,Error ellipse: s-maj=9.8km s-min=8.2km az=136.0*

SGS ***22*** *05:07:01.7,27°.65N×55°.29E,h10km,Ml5.6*

GCMT ***22*** *05:07:02.5±0.1,27°.42N±0°.01×54°.82E±0°.01,h12km, MW5.3/149,Moment Tensor Solution. s132,c213; s149,c280; Duration: 1±1 Moment tensor: Scale 10^{17} Nm; M_{rr}1.10±.01; $M_{\theta\theta}$-0.91±.01; $M_{\phi\phi}$-0.18±.01; $M_{r\theta}$-0.02±.03; $M_{\theta\phi}$0.52±.01; $M_{\phi r}$-0.06±.03; Best double couple: $M_0$1.14300×10^{17} NP1:ϕ_s121.00000°,δ45.00000°, λ95.00000°. NP2:ϕ_s294.00000°,δ45.00000°,λ85.00000°. Principal axes: T 1.1030, Plg87.0000°, Azm113.0000°; N 0.0840, Plg3.0000°, Azm297.0000°; P -1.1830, Plg0.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

GII ***22*** *05:07:02.6±0.4,27°.63N×54°.86E,h10km,confirmed*

NEIC ***22*** *05:07:02.5±1.3,27°.66N±0°.06×54°.88E±0°.06,h8km±1km, mb5.6/388,Ms_20 4.9/308,Mwb5.2/69,Mww5.4/19,Error ellipse: s-maj=10.6km s-min=8.4km az=141.0,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}6.48; $M_{\theta\theta}$-5.55; $M_{\phi\phi}$-0.93; $M_{r\theta}$-0.15; $M_{\theta\phi}$3.28; $M_{\phi r}$-0.77; Fault plane solution: $M_0$6.94000×10^{16} NP1: ϕ_s124.69000°,λ46.38000°,λ100.20000°. NP2: ϕ_s290.08000°,δ44.56000°,λ79.47000°. Principal axes: T 6.5790, Plg83.0000°, Azm110.0000°; N 0.6806, Plg7.0000°, Azm298.0000°; P -7.2596, Plg1.0000°, Azm208.0000°;*

TEH ***22*** *05:07:02.4,27°.56N×54°.95E,h19km±13km,ML5.6*

NEIC ***22*** *05:07:02.9,27°.68N×54°.90E,h18km*

NEIC ***22*** *05:07:02.9,27°.98N×54°.67E,h18km,Moment Tensor Solution. Duration:2±4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.38; $M_{\theta\theta}$-0.97; $M_{\phi\phi}$-0.41; $M_{r\theta}$-0.76; $M_{\theta\phi}$0.58; $M_{\phi r}$0.23; Fault plane solution: $M_0$1.57000×10^{17} NP1: ϕ_s294.70000°,δ60.20000°,λ82.94000°. NP2: ϕ_s128.70000°,δ30.56000°,λ102.12000°. Principal axes: T 1.6092, Plg74.0000°, Azm187.0000°; N -0.0684, Plg6.0000°, Azm298.0000°; P -1.5408, Plg15.0000°, Azm30.0000°;*

NEIC ***22*** *05:07:03,27°.69N×54°.89E,h10km*

DSN ***22*** *05:07:03.4±1.2,27°.73N×54°.94E,h10km,mb5.8/1, ML5.2/11,Error ellipse: s-maj=13.4km s-min=12.8km az=64.0*

THR ***22*** *05:07:04.3±0.3,27°.64N×54°.93E,h17km±11km,ML5.3*

OMAN ***22*** *05:07:05.0±0.0,27°.62N×54°.90E,h18km,mb5.8/25, ml5.2/19,ms5.4/1,Mwp5.5/15,Error ellipse: s-maj=0.6km s-min=0.5km az=261.0*

BGR ***22*** *05:07:19.4,27°.69N×52°.31E,h33km,mb5.1,Ms4.5, Hypocentre not reviewed by the ISC*

ISC 22 05:07:02.9±0.3,27°.59N±0°.02×54°.97E±0°.02,h14km±1km, h13km:pP-P,n1741,σ1967/1749,mb5.5/447,MS4.9/249, 173C-32D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.53**	**278**	Pg	**Pg**	**05 07 13.5**	**+0.1**
BNDS	**Bandar-Abbas**	**1.09**	**100**	*e*Pg	**Pn**	**05 07 25.5**	**+1.6**
BNDS				*e*Sg	**Sn**	**05 07 41.0**	**+2.2**
BNDS	**Bandar-Abbas**	**1.09**	**100**	*e*Pg	**Pn**	**05 07 25.3**	**+1.4**
BNDS				*e*Sg	**Sn**	**05 07 40.6**	**+1.7**
GENO	**Geno**	**1.09**	**100**	Pg	**Pn**	**05 07 24.9**	**+1.0**
IBND	**Bandar-abas**	**1.40**	**96**	Pg	**Pg**	**05 07 30.1**	**+0.2**
JHRM	**Jahrom**	**1.53**	**307**	Pg	**Pg**	**05 07 32.4**	**+0.1**
LMD1	**Lamerd**	**1.62**	**261**	Pg	**Pg**	**05 07 33.7**	**-0.4**
SHME	**Shamm**	**1.86**	**145**	*e*P	**Pn**	**05 07 35.5**	**+1.1**
	SNR=9.2						
SHME				S	**Sg**	**05 08 05.4**	**+2.6**
SHME	**Shamm**	**1.86**	**145**	P	**Pb**	**05 07 37.2**	**+0.4**
SHME				P	**Pb**	**05 07 37.2**	**+0.4**
SHME				S	**Sb**	**05 08 00.7**	**+0.8**
SHME				S	**Sb**	**05 08 00.7**	**+0.8**
GHIR	**Ghir-Karzin**	**1.88**	**292**	*e*Pn	**Pb**	**05 07 37.1**	**-0.1**
GHIR	**Ghir-Karzin**	**1.88**	**292**	*e*Pn	**Pb**	**05 07 37.1**	**-0.1**
QIR1	**Qir**	**1.92**	**298**	Pn	**Pb**	**05 07 37.3**	**-0.4**
BANOM	**Banah**	**2.05**	**144**	*e*P	**Pn**	**05 07 37.6**	**+0.6**
	SNR=20						
BANOM	**Banah**	**2.05**	**144**	P	**Pb**	**05 07 39.1**	**-0.8**
UMQ	**Umm Al-Quwin**	**2.15**	**163**	P	**Pb**	**05 07 42.6**	**+0.9**
KHNJ	**Kahnooj**	**2.45**	**81**	Pn	**Pn**	**05 07 44.2**	**+1.6**
MASF	**Masafi**	**2.46**	**154**	P	**Pb**	**05 07 45.3**	**-1.7**
	SNR=11						
MSFE	**Esma-Masafi**	**2.47**	**154**	P	**Pn**	**05 07 43.5**	**+0.7**
NGRK	**Negar Kerman**	**2.56**	**37**	Pn	**Pn**	**05 07 46.2**	**+1.8**
MDH	**Madha**	**2.58**	**152**	P	**Pn**	**05 07 45.6**	**+1.3**
MDH	**Madha**	**2.58**	**152**	P	**Pb**	**05 07 46.9**	**-2.0**
NAZ	**Nazwa, Dubai**	**2.67**	**166**	P	**Pb**	**05 07 48.7**	**-1.9**
NAZ	**Nazwa, Dubai**	**2.67**	**166**	P	**Pb**	**05 07 48.3**	**-2.2**
KRBR	**Kerman**	**2.85**	**33**	*e*Pn	**Pb**	**05 07 51.2**	**-2.6**
KRBR				*e*S	**Sn**	**05 08 25.3**	**+2.6**
KRBR				IAML		05 08 43.2	
	comp=E,9μm,0.5s						
KRBR				IAML		05 08 45.9	
	comp=N,8μm,0.5s						
KRBR	**Kerman**	**2.85**	**33**	*e*Pn	**Pb**	**05 07 51.5**	**-2.3**
KRBR				IAML		05 08 42.9	
	comp=E,9μm,0.4s						
KRBR				IAML		05 08 45.9	
	comp=N,8μm,0.7s						
TVBK	**TV Kerman**	**2.86**	**33**	Pn	**Pn**	**05 07 50.9**	**+2.5**
UOSS	**Minazif**	**2.86**	**157**	Pn	**Pn**	**05 07 50.4**	**+2.2**
UOSS	**Minazif**	**2.86**	**157**	P	**Pb**	**05 07 51.5**	**-2.3**
UOSS	**Minazif**	**2.86**	**157**	Pn	**Pn**	**05 07 50.4**	**+2.2**
UOSS	**Minazif**	**2.86**	**157**	P	**Pb**	**05 07 54.0**	**+0.2**
UOSS				S	**Sb**	**05 08 28.1**	**-0.6**
FAQ	**Al Faqa, Dubai**	**2.89**	**169**	*i* P	**Pn**	**05 07 51.3**	**+2.6**
	SNR=9.8						
FAQ	**Al Faqa, Dubai**	**2.89**	**169**	P	**Pb**	**05 07 51.5**	**-2.8**
	SNR=9.5						
FAQ				P	**Pb**	**05 07 51.5**	**-2.8**
	SNR=9.5						
FAQ				S	**Sb**	**05 08 28.0**	**-1.6**
FAQ				S	**Sb**	**05 08 28.0**	**-1.6**
HATD	**Hatta, Dubai**	**2.95**	**159**	P	**Pn**	**05 07 51.7**	**+2.3**
SHI	**Shiraz**	**2.97**	**314**	Pn	**Pn**	**05 07 52.0**	**+2.1**
SHI	**Shiraz**	**2.97**	**314**	P	**Pn**	**05 07 52.3**	**+2.4**
ASUD	**Al Ashush, Dub**	**2.97**	**174**	P	**Pb**	**05 07 53.2**	**-2.5**
ASUD	**Al Ashush, Dub**	**2.97**	**174**	P	**Pb**	**05 07 53.3**	**-2.4**
ASUD				P	**Pb**	**05 07 53.3**	**-2.4**
AJN	**Ajban**	**3.02**	**180**	P	**Pn**	**05 07 53.3**	**+3.0**
	SNR=6.3						
AJN				P	**Pn**	**05 07 53.3**	**+3.0**
	SNR=6.3						
ASHO	**Ashiyiah**	**3.06**	**161**	P	**Pn**	**05 07 52.9**	**+1.9**
ASHO	**Ashiyiah**	**3.06**	**161**	P	**Pn**	**05 07 53.3**	**+2.3**
KHGB	**Koh Gabri**	**3.07**	**25**	Pn	**Pn**	**05 07 53.5**	**+2.3**
JASK	**Jask - Hormozg**	**3.11**	**123**	Pn	**Pn**	**05 07 52.5**	**+0.8**
JASK	**Jask - Hormozg**	**3.11**	**123**	P	**Pn**	**05 07 52.7**	**+1.1**
	SNR=12						
CHMN	**Cheshme madani**	**3.19**	**44**	Pn	**Pn**	**05 07 56.3**	**+3.2**
JRN	**Qarnain Island**	**3.25**	**216**	P	**Pn**	**05 07 56.1**	**+2.5**
	SNR=16						
JRN				P	**Pn**	**05 07 56.1**	**+2.5**
	SNR=16						
DSBU	**Dashti - Bushe**	**3.37**	**284**	Pn	**Pn**	**05 07 56.5**	**+1.3**
KBAM	**BAM**	**3.43**	**63**	Pn	**Pn**	**05 07 58.7**	**+2.6**
KRM1	**Kerman Provinc**	**3.53**	**34**	Pn	**Pn**	**05 07 60.0**	**+2.4**
ALNE	**Al Ain**	**3.59**	**169**	P	**Pn**	**05 08 00.7**	**+2.4**
ALNE				P	**Pn**	**05 08 00.7**	**+2.4**
ZRDN	**Zarand Kerman**	**3.63**	**22**	Pn	**Pn**	**05 08 01.8**	**+2.8**
SOHO	**SOHO**	**3.72**	**157**	P	**Pn**	**05 08 04.1**	**+4.0**
SOHO				P	**Pn**	**05 08 04.1**	**+4.0**
IMEH	**Mehriz**	**3.80**	**355**	Pn	**Pn**	**05 08 03.3**	**+2.1**
SHMA	**Al-Shehemyia**	**3.98**	**245**	P	**Pn**	**05 08 06.1**	**+2.6**
	SNR=5.6						
SHMA				S	**Sn**	**05 08 53.6**	**+3.6**
IBAF	**Bafgh**	**4.02**	**7**	Pn	**Pn**	**05 08 06.4**	**+2.2**
TRNA	**Turayna**	**4.42**	**231**	P	**Pn**	**05 08 11.4**	**+1.8**
	SNR=38						
TRNA				S	**Sn**	**05 09 03.8**	**+3.0**
ISAD	**Sadrabad**	**4.45**	**346**	Pn	**Pn**	**05 08 12.8**	**+2.5**
KLNJ	**Kolanjah**	**4.50**	**320**	Pn	**Pn**	**05 08 12.2**	**+1.1**
HOQ	**Hoqain**	**4.52**	**152**	Pn	**Pn**	**05 08 12.4**	**+1.3**
**

NHRD Haradh 6.07 243 S **Sn 05 09 43.0 +1.5**
NHRD Haradh 6.07 243 P **Pn 05 08 33.8 +1.6**
WBK Wadi Bani Khal 6.15 143 Pn **Pn 05 08 34.9 +1.5**
WBK Wadi Bani Khal 6.15 143 P **Pn 05 08 36.2 +2.8**
IPIR Pirpir 6.18 326 Pn **Pn 05 08 35.0 +0.9**
TABS Tabas 6.31 17 *e*Pn **Pn 05 08 38.9 +3.1**
IKLH Kolahrood 6.41 334 Pn **Pn 05 08 39.0 +1.7**
KURES Khurais 6.50 249 P **Pn 05 08 39.7 +1.4**
KBD Kabd 6.60 286 P **Pn 05 08 42.1 +2.5**
SRVN Saravan 6.60 90 Pn **Pn 05 08 41.8 +2.0**
IDAH Dahanechah 6.65 38 Pn **Pn 05 08 42.4 +1.8**
JLN Jalan Bani Buh 6.75 142 P **Pn 05 08 42.2 +0.4**
SNR=8.9
JLN P **Pn 05 08 42.2 +0.4**
SNR=8.9
AFRZ Afriz 6.78 30 Pn **Pn 05 08 44.8 +2.6**
KRSH Karshahi 6.80 340 Pn **Pn 05 08 44.0 +1.4**
QAMS Qamsar 6.85 334 Pn **Pn 05 08 44.6 +1.4**
MHTO MHTO 7.12 157 P **Pn 05 08 47.7 +0.9**
ISFB Sefidab 7.13 342 Pn **Pn 05 08 48.8 +1.8**
QYSM Um Kedad 7.18 274 P **Pn 05 08 48.6 +1.1**
KHMZ Khomeyn 7.49 326 *e*Pn **Pn 05 08 54.8 +2.8**
GHVR GHOM 7.55 336 *e*Pn **Pn 05 08 55.2 +2.5**
KHRJ Al Kharj 7.56 242 P **Pn 05 08 52.9 0.0**
SHRT Shahrakht 7.58 36 *e*Pn **Pn 05 08 56.8 +3.7**
SHRT Shahrakht 7.58 36 Pn **Pn 05 08 55.3 +2.3**
IVRN Varamin 7.88 340 Pn **Pn 05 08 58.9 +1.6**
IANJ Anjilo 7.90 354 Pn **Pn 05 08 59.7 +2.0**
ILAS Lasjerd 7.95 348 Pn **Pn 05 08 59.1 +0.8**
IQOM Qom 7.96 336 Pn **Pn 05 09 00.3 +1.8**
DQM DQM 7.99 162 P **Pn 05 09 01.4 +2.7**
ASAO Ashtian 8.12 330 *e*Pn **Pn 05 09 02.8 +2.1**
IFIR Firoozkooh 8.24 347 Pn **Pn 05 09 03.6 +1.2**
IDMV Damavand 8.34 343 Pn **Pn 05 09 05.3 +1.6**
DAMV Damavand 8.41 343 *e*Pn **Pn 05 09 07.3 +2.7**
SHRO Shahrood 8.42 6 *e*Pn **Pn 05 09 07.9 +3.2**
IHSB Hasanabad 8.43 339 Pn **Pn 05 09 06.2 +1.4**
IKFM Kafar-mosalman 8.52 316 Pn **Pn 05 09 07.6 +1.7**
HSAM Samen 8.57 322 Pn **Pn 05 09 07.1 +0.3**
IPRN Peran 8.91 346 Pn **Pn 05 09 13.8 +2.4**
CHTH Charan 8.91 339 *e*Pn **Pn 05 09 14.2 +2.6**
TBJM Torbat-e-JAM 8.91 30 Pn **Pn 05 09 14.0 +2.5**
LYLS 8.93 233 P **Pn 05 09 11.3 -0.3**
IGLO Ghaloghah 8.93 354 Pn **Pn 05 09 15.0 +3.2**
DOK Doka 8.97 185 P **Pn 05 09 12.7 +0.6**
SNR=7.3
SBZV Sabzevar 9.05 14 Pn **Pn 05 09 15.0 +1.6**
HRA Herat 9.21 41 Pn **Pn 05 09 16.1 +0.5**
IMOG Moghan 9.27 23 Pn **Pn 05 09 19.5 +3.1**
MZPU Pul' - Mazandar 9.28 343 Pn **Pn 05 09 18.8 +2.2**
QABG Abgarm-Qazvin 9.30 332 Pn **Pn 05 09 17.7 +0.9**
ASYS 9.43 272 P **Pn 05 09 17.8 -0.8**
RAYN Ar Rayn 9.46 247 Pn **Pn 05 09 18.0 -0.9**
RAYN Ar Rayn 9.46 247 *i* P **Pn 05 09 21.5 +2.6**
SNR=7.2
RAYN Ar Rayn 9.46 247 P **Pn 05 09 18.0 -0.9**
JRKH Jarkhoshk 9.47 28 Pn **Pn 05 09 22.2 +3.2**
KLST Kelardasht - M 9.49 341 Pn **Pn 05 09 22.1 +2.5**
KCHF Cheshme Sefid, 9.52 316 Pn **Pn 05 09 20.3 +0.5**
SHAO Shalim 9.55 176 P **Pn 05 09 20.0 0.0**
DWDS Al Duwadimi 9.60 254 P **Pn 05 09 20.9 0.0**
IMND Minoodasht 9.64 2 Pn **Pn 05 09 21.7 +0.4**
ILBA Ilam Banvizeh 9.65 311 *e*Pn **Pn 05 09 23.0 +1.5**
ILBA Ilam Banvizeh 9.65 311 Pn **Pn 05 09 22.2 +0.7**
WHFO Wadi Hawf 9.69 187 P **Pn 05 09 22.5 +0.4**
SNR=14
IKRD Kardeh 9.93 22 Pn **Pn 05 09 27.6 +2.1**
ILIN Lien 10.01 319 Pn **Pn 05 09 27.4 +0.9**
RBK Rabkut 10.07 184 P **Pn 05 09 26.9 -0.4**
MRVT Maraveh tapeh 10.08 5 *e*Pn **Pn 05 09 30.6 +3.2**
MRVT Maraveh tapeh 10.08 5 Pn **Pn 05 09 28.7 +1.3**
GIDE GILAN DEYLAMAN 10.24 337 *e*Pn **Pn 05 09 32.2 +2.6**
IEMG Emamgholi 10.27 17 Pn **Pn 05 09 31.5 +1.3**
BJRD Bojnurd 10.28 11 *e*Pn **Pn 05 09 33.5 +3.2**
ABTO Aybut 10.31 189 P **Pn 05 09 30.6 0.0**
ZNJK Zanjan 10.50 331 *e*Pn **Pn 05 09 36.2 +3.0**
HRML HRML 10.55 240 P **Pn 05 09 32.3 -1.6**
HIL04 Ash Shaalaniya 10.82 274 P **Pn 05 09 36.1 -1.5**
QSMS Sumairaa 10.98 268 P **Pn 05 09 37.7 -2.0**
HTM02 HTM02 11.04 269 P **Pn 05 09 39.2 -1.3**
HTM03 HTM03 11.14 270 P **Pn 05 09 40.5 -1.5**
HTM01 HTM01 11.15 268 P **Pn 05 09 41.1 -1.0**
HTM04 HTM04 11.30 270 P **Pn 05 09 42.7 -1.4**
HTM05 HTM05 11.39 271 P **Pn 05 09 43.6 -1.8**
AFFS `Afif 11.39 254 P **Pn 05 09 48.7 +3.4**
HTM06 HTM06 11.40 269 P **Pn 05 09 44.5 -1.0**
IHSH Hashtrud 11.66 328 Pn **Pn 05 09 49.5 +0.2**
HIL01 Al Amaaer 11.74 264 P **Pn 05 09 48.2 -2.0**
ISRB Sarab 11.91 331 Pn **Pn 05 09 54.5 +2.0**
IHRS Heris 12.59 330 Pn **Pn 05 10 03.4 +1.5**
GRMI Germi 12.65 334 *e*Pn **Pn 05 10 05.0 +2.4**
GRMI Germi 12.65 334 Pn **Pn 05 10 03.0 +0.4**
ETH04 ETH04 12.98 269 P **Pn 05 10 05.9 -1.3**
ETH05 ETH05 13.17 270 P **Pn 05 10 08.9 -0.8**
ETH08 ETH08 13.21 269 P **Pn 05 10 09.4 -1.0**
ISHB Shabestar 13.23 326 Pn **Pn 05 10 10.9 +0.3**
ETH06 ETH06 13.44 269 P **Pn 05 10 12.0 -1.4**
IMRD Marand 13.53 327 Pn **Pn 05 10 16.5 +1.9**
KBL Kabul 13.90 57 Pn **Pn 05 10 21.1 +1.3**
KBL Kabul 13.90 57 P **P 05 10 24.6 -3.4**
SNR=41
KBL P **P 05 10 24.6 -3.4**
SNR=41
KBL Kabul 13.90 57 P **Pn 05 10 21.1 +1.3**
MAKU Maku 14.52 326 *e*Pn **Pn 05 10 28.7 +0.5**
GNI Garni 15.12 329 **Pn 05 10 36.7 +0.4**
GNI Garni 15.12 329 Pn **Pn 05 10 37.8 +1.6**
comp=N,1.6nm,0.3s,baz=184,slow=3.6,SNR=7.9
comp=N,76nm,1.1s
GNI Garni 15.12 329 P **P 05 10 39.9 -1.5**
GNI P **P 05 10 39.9 -1.5**
GNI Garni 15.12 329 P **Pn 05 10 36.7 +0.4**
GNI pmax pmax
comp=Z,123nm,1.6s
GURO Guroymak-BITLI 15.38 319 **Pn 05 10 37.5 -2.1**
SIMJ Simiganj 16.11 43 Pn **Pn 05 10 47.7 -1.4**
CHGR Chuyangaron 16.20 43 Pn **Pn 05 10 49.2 -1.0**
CHGR IAmb IAmb 05 10 55.8
comp=Z,348nm,1.2s
CHGR Chuyangaron 16.20 43 P **Pn 05 10 49.2 -1.0**
CHGR pmax pmax
comp=Z,348nm,1.2s
KARS Kars 16.29 326 P **Pn 05 10 52.5 +1.1**
KARS IAmb IAmb 05 10 53.6
comp=Z,848nm,1.9s
KARS Kars 16.29 326 P **Pn 05 10 52.5 +1.1**
KARS pmax pmax
comp=Z,848nm,1.9s
MAK Makhachkala 16.49 340 *e*P **Pn 05 10 51.9 -1.9**
MAK *e*S **Sn 05 13 56.7 +0.2**
MAK pmax pmax
comp=Z,2μm,1.0s
MAK MLR MLR
comp=Z,3μm,14.0s
NIL Nilore 16.85 65 Pn **Pn 05 10 58.7 +0.2**
NIL IAmb IAmb 05 11 07.8
comp=Z,461nm,1.1s
NIL Nilore 16.85 65 P **P 05 11 01.4 +0.9**
NIL Nilore 16.85 65 P **Pn 05 10 58.7 +0.2**
NIL pmax pmax
comp=Z,461nm,1.1s
SWQJ Swaqa 16.87 287 P **P 05 11 00.0 -0.9**
HSUJ Al Zarqa 16.89 290 P **Pn 05 10 59.7 +0.6**
HSNJ Maan 17.09 284 P **P 05 11 04.4 +1.1**
GAR Garm 17.12 44 P **Pn 05 11 00.5 -1.5**
GAR IAmb IAmb 05 11 10.9
comp=Z,389nm,1.0s
KARJ KARJ 17.20 286 P **P 05 11 05.8 +1.4**
GROC Groznyy 17.26 337 *e*P **P 05 11 04.7 -0.2**
GROC *e*S **Sn 05 14 14.2 -1.1**
GROC pmax pmax
comp=Z,1.0nm,0.8s
GHAJ Ghor Haditha 17.30 287 P **Pn 05 11 02.6 -1.5**
GHAJ Ghor Haditha 17.30 287 P **Pn 05 11 04.1 0.0**
BALJ Balqa 17.35 290 P **Pn 05 11 03.5 -1.3**
BALJ IAmb IAmb 05 11 11.4
comp=Z,453nm,0.9s
BALJ Balqa 17.35 290 P **Pn 05 11 04.5 -0.3**
LISJ El Lisan 17.36 287 P **Pn 05 11 05.2 +0.4**
SHMJ Saham 17.37 292 P **Pn 05 11 04.9 -0.1**
KSHT Keshet 17.39 293 P **Pn 05 11 04.1 -1.2**

QRNJ Al-Qirein 17.45 290 P **Pn 05 11 06.1 +0.1**
MDBI Mazsada 17.48 287 P P 05 11 18.4 +11
MSBI Mazada 17.48 287 P **P 05 11 06.9 -0.5**
MSBI Mazada 17.48 287 P **Pn 05 11 04.9 -1.3**
HMDT Nahal Hemdat 17.48 290 P **Pn 05 11 06.2 -0.1**
HMDT Nahal Hemdat 17.48 290 P **Pn 05 11 04.6 -1.7**
UJAP Al Uja 17.48 289 P **Pn 05 11 06.3 0.0**
DSI Dead Sea 17.49 288 P **Pn 05 11 06.8 +0.3**
DSI Dead Sea 17.49 288 P **Pn 05 11 05.1 -1.4**
NATI Neve Ativ 17.51 293 P **Pn 05 11 07.0 +0.2**
NATI Neve Ativ 17.51 293 P **Pn 05 11 04.8 -2.0**
ZFRI Zfri 17.55 284 P **P 05 11 08.2 -0.1**
ZFRI Zfri 17.55 284 P **Pn 05 11 05.6 -1.6**
GEM Giv'at Ha'Em 17.56 293 P **Pn 05 11 07.6 +0.2**
GEM Giv'at Ha'Em 17.56 293 P **Pn 05 11 05.6 -1.8**
MMLI Mount Malkishu 17.60 291 P **Pn 05 11 06.8 -1.0**
AQBJ Aqaba 17.61 282 P **P 05 11 10.1 +1.1**
HWQ Hawqa 17.61 297 *e*P **Pn 05 11 08.0 -0.1**
BCA Borcka 17.63 325 ⇑P **P 05 11 10.0 +0.8**
HRFI Mount Harif 17.64 283 P **Pn 05 11 06.6 -1.8**
PRNI Paran 17.68 284 P **P 05 11 10.4 +0.6**
PRNI Paran 17.68 284 P **Pn 05 11 07.8 -1.1**
YTIR Yattir 17.69 287 P **P 05 11 09.6 -0.3**
YTIR Yattir 17.69 287 P **Pn 05 11 07.8 -1.2**
EIL Elat 17.70 281 P **Pn 05 11 08.3 -0.7**
comp=Z,0.9nm,0.3s,baz=106,slow=5.4,SNR=12
EIL S **S 05 14 31.6 -1.8**
comp=Z,58nm,0.9s,baz=102,slow=19,SNR=1.7
EIL LR LR 05 19 24.0
comp=Z,3μm,18.4s,baz=90,slow=42
comp=Z,40nm,0.9s
EIL Elat 17.70 281 P **P 05 11 10.0 +0.1**
EIL Elat 17.70 281 P **Pn 05 11 07.6 -1.5**
MMA0 Mount Meron ar 17.73 292 P **P 05 11 10.1 -0.3**
MMA0B Mount Meron ar 17.73 292 P **Pn 05 11 08.8 -0.8**
MMAI Mount Meron Ar 17.73 292 P **Pn 05 11 09.8 +0.3**
comp=Z,5.2nm,0.3s,baz=98,slow=18,SNR=16
MMAI S **Sn 05 14 20.1 -6.9**
comp=Z,2.9nm,0.3s,baz=104,slow=30,SNR=2.0
MMAI LR LR 05 19 21.8
comp=Z,1μm,18.5s,baz=44,slow=42
comp=Z,18nm,0.5s
MBRI Mt Berech 17.73 282 P **P 05 11 10.9 +0.5**
BHL Bhannes 17.74 295 *e*P **Pn 05 11 09.5 -0.3**
GAZ Gaziantep 17.76 307 P **Pn 05 11 09.0 -0.8**
BLGI Bet Lehem HaGe 17.85 291 P **P 05 11 11.9 +0.3**
BLGI Bet Lehem HaGe 17.85 291 P **Pn 05 11 10.0 -0.9**
AMAZ Amatzia 17.88 287 P **P 05 11 12.4 +0.5**
AMAZ Amatzia 17.88 287 P **Pn 05 11 10.4 -0.9**
SLTI Sal'it 17.88 290 P **Pn 05 11 11.6 +0.3**
KRMI Paran Flat 17.91 283 P **Pn 05 11 11.0 -0.8**
HNTI Hanita 17.93 293 P **P 05 11 13.0 +0.5**
HNTI Hanita 17.93 293 P **Pn 05 11 11.1 -0.8**
ARPR Arapgir-MALATY 17.98 314 P **P 05 11 13.1 -0.1**
ARPR IAmb IAmb 05 11 20.3
comp=Z,325nm,1.0s
OFRI `Ofer 18.00 291 P **P 05 11 13.8 +0.6**
OFRI `Ofer 18.00 291 P **Pn 05 11 11.7 -1.1**
BTK Batken 18.07 43 P **Pn 05 11 12.8 -1.0**
BTK Batken 18.07 43 P **Pn 05 11 12.8 -1.0**
BTK pmax pmax
comp=Z,107nm,0.9s
KZIT Kziot 18.25 285 P **P 05 11 16.3 +0.3**
KZIT Kziot 18.25 285 P **Pn 05 11 15.2 -0.7**
DRK Karamyk 18.33 45 P **Pn 05 11 17.0 -0.1**
DRK IAmb IAmb 05 11 22.7
comp=Z,370nm,1.2s
DRK Karamyk 18.33 45 P **Pn 05 11 17.0 -0.1**
DRK pmax pmax
comp=Z,370nm,1.2s
NCK Nalchik 18.34 333*c i*P **P 05 11 17.3 +0.4**
KBZ Khabaz 18.82 332 P **Pn 05 11 24.1 +1.4**
comp=Z,58nm,0.7s,baz=134,slow=11,SNR=31
KBZ S **S 05 14 55.5 -0.3**
comp=Z,12nm,0.9s,baz=120,slow=20,SNR=1.0
KBZ Khabaz 18.82 332*ce*P **Pn 05 11 23.3 +0.7**
SHA1 Shidzhatmaz 18.93 332*ce*P **Pn 05 11 25.0 +0.8**
IUG Iuzhnay 19.02 36 *e*P **Pn 05 11 25.4 +0.1**
comp=Z,211nm,0.7s,baz=36
IUG *e*S **S 05 15 01.2 +1.0**
baz=36
IUG Iuzhnay 19.02 36 *e*P **Pn 05 11 25.3 0.0**
IUG *e*S **S 05 15 01.2 +1.0**
IUG pmax pmax
comp=Z,211nm,0.7s
KVAR Kislovodsk Arr 19.09 332 S **S 05 15 02.4 +0.9**
comp=Z,18nm,1.0s,baz=65,slow=9.6,SNR=1.0
KIV Kislovodsk 19.09 332 P **P 05 11 24.6 -0.7**
KIV Kislovodsk 19.09 332 P **Pn 05 11 27.7 +1.7**
KIV P **Pn 05 11 27.7 +1.7**
KIV Kislovodsk 19.09 332 ⇓P **Pn 05 11 27.8 +1.7**
KIV Kislovodsk 19.09 332 *e*P **Pn 05 11 26.1 0.0**
KIV *e*S **S 05 15 03.3 +1.7**
KIV pmax pmax
comp=Z,768nm,1.0s
KIV Kislovodsk 19.09 332 P **Pn 05 11 26.8 +0.7**
comp=Z,770nm,1.1s,comp=Z,6μm
BNN Bunyan 19.50 310 P **Pn 05 11 31.4 +0.2**
BRLS Borolday 19.56 34 *e*P **P 05 11 26.9 -3.4**
baz=34
BRLS Borolday 19.56 34 *e*P **P 05 11 26.9 -3.4**
ATD Arta Tunnel 19.62 218 P **P 05 11 31.0 -0.2**
ATD Arta Tunnel 19.62 218 P **P 05 11 31.4 +0.2**
comp=Z,2.6nm,0.9s,baz=2.2,slow=7.6,SNR=12
ATD S **Sn 05 15 14.1 +1.3**
comp=Z,0.5nm,0.3s,baz=124,slow=21,SNR=2.3
ATD LR LR 05 19 39.4
comp=Z,103nm,19.6s,baz=37,slow=39
GOF Gofitskoye 19.86 334*ce*P **P 05 11 34.3 +0.7**
CSS Mathiatis 19.88 297 **P 05 11 32.8 -1.1**
CSS IAmb IAmb 05 11 43.6
comp=Z,413nm,1.1s
CSS Mathiatis 19.88 297 P **Pn 05 11 35.3 -0.2**
CSS Mathiatis 19.88 297 P **P 05 11 34.6 +0.7**
comp=Z,367nm,1.0s,comp=Z,4μm
VSLR Vesyoloye 19.91 327*c i*P **P 05 11 34.8 +0.7**
KK31 Karatay Array 19.95 35 **P 05 11 34.3 -0.3**
KK31 IAmb IAmb 05 11 42.5
comp=Z,362nm,0.8s
KK31 Karatay Array 19.95 35 P **P 05 11 34.3 -0.3**
KK31 pmax pmax
comp=Z,363nm,0.9s
KKAR Karatay Array 19.95 35 P **P 05 11 34.3 -0.3**
KKAR IAmb IAmb 05 11 42.5
comp=Z,360nm,0.8s
KKAR Karatay Array 19.95 35 P **P 05 11 34.3 -0.3**
KKAR pmax pmax
comp=Z,360nm,0.9s
SOC Sochi 20.16 326 *e*P **P 05 11 34.6 -2.2**
SOC *e**SP Pn 05 11 39.6 +0.9
SOC *e*PPP PPP 05 11 59.5
SOC *e*S **S 05 15 22.7 0.0**
SOC *e*SS **SnSn 05 15 40.9 +1.0**
SOC *e*SS **SnSn 05 15 51.7 +12**
SOC pmax pmax
comp=Z,66nm,0.8s
SOC MLR MLR
comp=Z,918nm,11.0s
LABN Labinsk 20.49 330 *e*P **P 05 11 41.3 +0.9**
LABN *e**PP Pn 05 11 42.7 +0.2
LABN pmax pmax
comp=Z,360nm,0.8s
LABN MLR MLR
comp=Z,3μm,13.0s
LABN MLR MLR
comp=E,3μm,11.0s
LABN MLR MLR
comp=N,7μm,11.0s
AML Almayashu 21.06 42 P **P 05 11 47.6 +0.5**
SNR=7.2
KSH Kashi 21.11 50 P **P 05 11 41.4 -5.9**
KSH pP pP 05 11 46.5 -4.8
KSH sP sP 05 11 51.5 -1.7
KSH S S 05 15 26.3 -16
KSH pmax pmax
comp=N,75nm,0.8s
KSH LR LR
comp=N,6μm,18.2s
KSH LR LR
comp=N,3μm,14.4s
KSH LR LR
comp=N,6μm,14.8s
DIKM Dikmen 21.37 316 ⇓P **P 05 11 50.4 +0.5**
DIKM Dikmen 21.37 316 P **P 05 11 50.0 0.0**

comp=N,226nm,1.1s,comp=N,3μm
BR131 Keskin Array S 21.42 310 P **P 05 11 50.9 +0.2**
BR131 IAmb IAmb 05 12 00.3
comp=Z,283nm,0.8s
BR131 Keskin Array S 21.42 310 P **P 05 11 50.9 +0.2**
BR131 pmax pmax
comp=Z,283nm,0.8s
BRTR Keskin Array B 21.42 310 P **P 05 11 50.9 +0.2**
BRTR Keskin Array B 21.42 310 P **P 05 11 51.2 +0.5**
comp=Z,117nm,0.7s,baz=131,slow=13,SNR=89
BRTR S **S 05 15 45.8 -2.4**
comp=Z,1.5nm,0.8s,baz=149,slow=17,SNR=0.8
BRTR ScP **ScP 05 19 33.1 +2.4**
comp=Z,4.3nm,0.7s,baz=151,slow=4.2,SNR=7.2
comp=Z,117nm,0.7s
BR105 Keskin Array S 21.44 310 P **P 05 11 51.2 +0.4**
comp=Z,389nm,0.8s,comp=Z,3μm
BR105 pP **sP 05 11 56.3 -0.5**
comp=Z,389nm,0.8s,comp=Z,3μm
ERBR Yeremizino-Bor 21.44 331 *e*P **P 05 11 49.6 -1.0**
ERBR *e**PP **pP 05 11 51.6 -3.1**
ERBR *e*S **S 05 15 50.9 +2.8**
ERBR pmax pmax
comp=Z,268nm,1.5s
ERBR MLR MLR
comp=Z,2μm,13.0s
ERBR MLR MLR
comp=N,3μm,12.0s
ERBR MLR MLR
comp=E,3μm,12.0s
EKS2 Erkin-Say 21.44 41 P **P 05 11 51.6 +0.8**
SNR=112
BR106 Keskin Array S 21.44 310 P **P 05 11 51.5 +0.6**
comp=E,376nm,0.9s,comp=E,3μm
UCH Uchtor 21.61 42 P **P 05 11 53.2 +0.2**
SNR=30
SNOP Sinop 21.62 317 P **P 05 11 52.8 +0.3**
AAK Ala-Archa 21.84 42 P **P 05 11 56.4 +1.2**
SNR=37
AAK Ala-Archa 21.84 42 P **P 05 11 55.9 +0.7**
AAK Ala-Archa 21.84 42 P **P 05 11 56.4 +1.2**
comp=E,114nm,0.8s,baz=180,slow=1.7,SNR=29
AAK S **S 05 15 57.7 +1.3**
comp=E,12nm,0.8s,baz=207,slow=13,SNR=2.5
AAK ScP **ScP 05 19 35.3 +3.6**
comp=E,8.5nm,0.8s,baz=270,slow=0.5,SNR=4.1
AAK LR LR 05 22 08.6
comp=E,2μm,18.8s,baz=241,slow=42
comp=E,114nm,0.8s
AAK Ala-Archa 21.84 42 P **P 05 11 56.9 +1.7**
AAK P **P 05 11 56.9 +1.7**
AB31 Akbulak array 21.97 9 *i* P **P 05 11 56.1 -0.2**
ABKAR Akbulak array 21.97 9 P **P 05 11 56.0 -0.3**
ABKAR IAmb IAmb 05 12 03.1
comp=Z,217nm,0.9s
ABKAR Akbulak array 21.97 9 P **P 05 11 56.4 +0.2**
FRU1 Bishkek 22.02 41 IAmb IAmb 05 12 07.3
comp=Z,199nm,0.9s
ANTO Ankara 22.07 309 P **P 05 11 58.0 +0.4**
ANTO Ankara 22.07 309 P **P 05 11 58.3 +0.8**
ANTO Ankara 22.07 309 ⇑P **P 05 11 58.3 +0.8**
ANTO Ankara 22.07 309 P **P 05 11 58.0 +0.4**
ANTO pmax pmax
comp=Z,408nm,0.9s
BR231 Keskin MP Arra 22.07 309 P **P 05 11 56.0 -1.7**
NRN Naryn 22.08 46 P **P 05 11 57.7 -0.2**
NRN IAmb IAmb 05 12 07.9
comp=Z,261nm,0.9s
NRN Naryn 22.08 46 P **P 05 11 57.7 -0.2**
NRN pmax pmax
comp=Z,261nm,0.9s
KBK Karagaybulak 22.12 42 P **P 05 11 59.2 +1.0**
SNR=38
ANN Anapa 22.17 325 *e*P **P 05 11 57.8 -0.7**
ANN *e**PP **pP 05 12 00.6 -2.0**
ANN *e* 05 12 20.7
ANN *i* S **S 05 16 05.2 +2.9**
ANN pmax pmax
comp=Z,81nm,0.9s
ANN MLR MLR
comp=N,3μm,18.0s
ANN MLR MLR
comp=E,2μm,17.0s
ANN MLR MLR
comp=Z,2μm,17.0s
CHMS Chumysh 22.21 41 P **P 05 11 59.1 +0.1**
SNR=19
USP Ospenovka 22.23 40 P **P 05 11 59.2 0.0**
SNR=20
BZK Bozkurt 22.32 315 P **P 05 11 59.7 -0.4**
BZK Bozkurt 22.32 315 ⇑P **P 05 12 01.4 +1.2**
BZK Bozkurt 22.32 315 P **P 05 12 01.2 +1.0**
comp=Z,216nm,0.7s,comp=Z,3μm
SGDS Sogindy 22.42 40 *e*P **P 05 12 01.1 -0.2**
baz=40
SGDS *e*S **S 05 16 09.5 +2.2**
baz=40
SGDS Sogindy 22.42 40 *e*P **P 05 12 01.1 -0.2**
SGDS *e*S **S 05 16 09.4 +2.2**
BOOM Boomskoye usch 22.62 43 P **P 05 12 03.7 +0.1**
BOOM IAmb IAmb 05 12 16.6
comp=Z,260nm,1.0s
BOOM Boomskoye usch 22.62 43 P **P 05 12 03.7 +0.1**
BOOM pmax pmax
comp=Z,260nm,1.0s
TKM2 Tokmak 2 22.66 42 P **P 05 12 04.3 +0.3**
SNR=29
ULHL Ulahol 22.67 44 P **P 05 12 05.4 +1.2**
SNR=23
ISP Isparta 22.90 303 P **P 05 12 06.1 -0.3**
ISP IAmb IAmb 05 12 18.8
comp=Z,251nm,1.4s
ISP Isparta 22.90 303 P **P 05 12 06.1 -0.3**
ISP pmax pmax
comp=Z,251nm,1.4s
AKTO Aktyubinsk 22.93 5 P **P 05 12 06.3 -0.2**
comp=Z,141nm,0.9s,baz=194,slow=9.2,SNR=28
AKTO S **S 05 16 15.7 -0.4**
comp=Z,12nm,0.9s,baz=225,slow=4.3,SNR=2.1
AKTO ScP **ScP 05 19 36.3 +2.2**
comp=Z,9.4nm,0.9s,baz=148,slow=3.0,SNR=5.5
AKTO LR LR 05 22 42.4
comp=Z,3μm,18.4s,baz=174,slow=41
comp=Z,141nm,0.9s
BTLS Baital 23.13 36 *e*P **P 05 12 08.6 -0.1**
comp=Z,142nm,1.0s,baz=36
BTLS *e*S **S 05 16 21.0 +1.3**
baz=36
BTLS Baital 23.13 36 *e*P **P 05 12 08.5 -0.1**
BTLS *e*S **S 05 16 20.9 +1.3**
BTLS pmax pmax
comp=Z,142nm,1.0s
TARG Taragay, Kyrgy 23.39 47 P **P 05 12 12.2 +0.4**
TARG IAmb IAmb 05 12 29.1
comp=Z,182nm,1.0s
TARG IAMs_20 IAMs_20 05 22 37.0
comp=Z,3μm,18.0s
TARG Taragay, Kyrgy 23.39 47 P **P 05 12 12.2 +0.4**
TARG pmax pmax
comp=Z,182nm,1.0s
TARG MLR MLR
comp=Z,3μm,18.0s
AAA Alma-Ata 23.62 43 *e*P **P 05 12 13.0 -0.6**
comp=Z,186nm,0.9s,baz=43
AAA LR LR 05 21 27.2
comp=Z,2μm,15.1s,baz=43
AAA Alma-Ata 23.62 43 *e*P **P 05 12 13.0 -0.6**
AAA pmax pmax
comp=Z,186nm,0.9s
AAA MLR MLR
comp=Z,2μm,15.0s
MDOK Medeo 23.67 43 *e*P **P 05 12 13.7 -0.6**
baz=43
MDOK *e*S **S 05 16 29.9 +1.0**
baz=43
MDOK LR LR 05 21 28.6
comp=Z,1μm,11.6s,baz=43
MDOK Medeo 23.67 43 *e*P **P 05 12 13.7 -0.6**
MDOK *e*S **S 05 16 29.8 +1.0**
MDOK MLR MLR
comp=Z,1μm,12.0s
HYB Hyderabad 23.99 110 *e*P **P 05 12 18.7 +1.4**
SIM Simferopol' 24.02 322*ce*P **P 05 12 16.6 -0.8**
SIM *e*S **S 05 16 38.6 +4.5**
SIM pmax pmax
comp=Z,89nm,0.6s

CHKK	**Chushkaly**	**24.03**	**42**	*e*P	**P**	**05 12 17.7**	**+0.1**
	baz=42						
CHKK	**Chushkaly**	**24.03**	**42**	*e*P	**P**	**05 12 17.6**	**+0.1**
FURI	**Furi**	**24.14**	**223**	P	**P**	**05 12 19.4**	**+0.4**
FURI				IAmb	IAmb	05 12 31.4	
	comp=Z,211nm,1.0s						
FURI	**Furi**	**24.14**	**223**	LR	LR	05 22 00.3	
	comp=Z,2μm,20.8s,baz=48,slow=37						
PRZ	**Przheval'sk**	**24.16**	**46**	P	**P**	**05 12 19.6**	**+0.7**
PRZ				IAmb	IAmb	05 12 26.2	
	comp=Z,161nm,0.9s						
PRZ	**Przheval'sk**	**24.16**	**46**	P	**P**	**05 12 19.6**	**+0.7**
PRZ				pmax	pmax		
	comp=Z,161nm,0.9s						
PRZ				MLR	MLR		
	comp=Z,2μm,20.0s						
ARG	**Arkhangelos**	**24.30**	**297**	IAmb	IAmb	05 12 43.8	
	comp=Z,218nm,1.0s						
SATY	**Saty**	**24.45**	**45**	*e*P	**P**	**05 12 21.4**	**-0.2**
	baz=45						
SATY				*e*S	**S**	**05 16 43.0**	**+1.6**
	baz=45						
SATY	**Saty**	**24.45**	**45**	*e*P	**P**	**05 12 21.4**	**-0.2**
SATY				*e*S	**S**	**05 16 42.9**	**+1.6**
ARXS	**Arharly**	**24.73**	**42**	*e*P	**P**	**05 12 24.1**	**+0.1**
YLV	**Yalova**	**24.73**	**308**	P	**P**	**05 12 24.2**	**+0.2**
	comp=Z,117nm,1.2s,comp=Z,2μm						
KPKS	**Kokpek**	**24.84**	**44**	*e*P	**P**	**05 12 25.0**	**-0.1**
	comp=Z,66nm,0.9s,baz=44						
KPKS	**Kokpek**	**24.84**	**44**	*e*P	**P**	**05 12 24.9**	**-0.1**
KPKS				pmax	pmax		
	comp=Z,66nm,0.9s						
UZB	**Uzynbulak**	**24.89**	**45**	*e*P	**P**	**05 12 25.5**	**0.0**
	comp=Z,57nm,0.9s,baz=45						
UZB	**Uzynbulak**	**24.89**	**45**	*e*P	**P**	**05 12 25.4**	**0.0**
UZB				pmax	pmax		
	comp=Z,57nm,0.9s						
KARP	**Karpathos**	**24.93**	**295**	P	**P**	**05 12 25.9**	**+0.1**
KARP	**Karpathos**	**24.93**	**295**	P	**P**	**05 12 27.0**	**+1.2**
KARP	**Karpathos**	**24.93**	**295**	P	**P**	**05 12 26.5**	**+0.7**
	comp=Z,419nm,0.8s,comp=Z,4μm						
SHLS	**Shalkode**	**25.17**	**46**	*e*P	**P**	**05 12 30.4**	**+2.3**
	comp=Z,68nm,0.8s,baz=46						
SHLS	**Shalkode**	**25.17**	**46**	*e*P	**P**	**05 12 30.3**	**+2.3**
SHLS				pmax	pmax		
	comp=Z,68nm,0.8s						
KLYT	**Kilyos**	**25.24**	**309**	P	**P**	**05 12 28.0**	**-0.5**
	comp=Z,139nm,1.1s,comp=Z,2μm						
BELG	**Belogornoye**	**25.37**	**349**	P	**P**	**05 12 29.7**	**+0.1**
	comp=Z,169nm,0.9s,baz=153,slow=4.5,SNR=23						
BELG				S	**S**	**05 16 53.4**	**-2.1**
	comp=Z,56nm,1.1s,baz=73,slow=12,SNR=2.0						
BELG				LR	LR	05 24 18.3	
	comp=Z,1μm,20.6s,baz=156,slow=41						
	comp=Z,169nm,0.9s						
BELG	**Belogornoye**	**25.37**	**349***c*	*i*P	**P**	**05 12 29.5**	**0.0**
BELG				pmax	pmax		
	comp=Z,95nm,1.2s						
TDK	**Taldyqorghan**	**25.52**	**41**	*e*P	**P**	**05 12 31.2**	**+0.2**
	comp=Z,122nm,0.7s,baz=41						
TDK				LR	LR	05 22 36.8	
	comp=Z,3μm,15.0s,baz=41						
TDK	**Taldyqorghan**	**25.52**	**41**	*e*P	**P**	**05 12 31.2**	**+0.2**
TDK				pmax	pmax		
	comp=Z,122nm,0.7s						
TDK				MLR	MLR		
	comp=Z,3μm,15.0s						
VRH	**Novokhopyorsk**	**25.62**	**341**	*e*P	**P**	**05 12 32.0**	**+0.2**
VRH				*e*S	**S**	**05 17 03.0**	**+3.5**
VRH				pmax	pmax		
	comp=Z,437nm,1.2s						
VRH				MLR	MLR		
	comp=Z,1μm,19.0s						
CTYL	**Yalikoy Yolu**	**25.85**	**309**	P	**P**	**05 12 34.1**	**+0.1**
	comp=Z,402nm,0.8s,comp=Z,3μm						
VORD	**Divnogorie**	**26.20**	**337**	*e*P	**P**	**05 12 38.3**	**+1.3**
VORD				*e*S	**S**	**05 17 13.3**	**+4.7**
VORD				pmax	pmax		
	comp=Z,150nm,0.2s						
VORD				smax	smax		
	comp=E,310nm,4.6s						
VSR	**Storozhevoye**	**26.45**	**337**	*e*P	**P**	**05 12 38.6**	**-0.7**
VSR				*e*S	**S**	**05 17 16.2**	**+3.6**
VSR				pmax	pmax		
	comp=Z,250nm,1.0s						
VSR				smax	smax		
	comp=E,1μm,10.0s						
APE	**Apeiranthos**	**26.52**	**298**	⇑P	**P**	**05 12 40.7**	**+0.5**
APE	**Apeiranthos**	**26.52**	**298**	*i* P	**P**	**05 12 39.8**	**-0.4**
KHAM	**Kharkiv**	**26.57**	**332**	P	**P**	**05 12 41.0**	**+0.5**
EZN	**Ezine**	**26.65**	**305**	P	**P**	**05 12 41.7**	**+0.4**
EZN	**Ezine**	**26.65**	**305**	P	**P**	**05 12 41.5**	**+0.2**
	comp=E,97nm,0.9s,comp=E,2μm						
IDI	**Anoyia**	**26.71**	**294**	P	**P**	**05 12 41.4**	**-0.6**
IDI				IAmb	IAmb	05 13 08.8	
	comp=Z,154nm,0.8s						
IDI	**Anoyia**	**26.71**	**294**	P	**P**	**05 12 42.3**	**+0.3**
IDI	**Anoyia**	**26.71**	**294**	S	**S**	**05 17 21.9**	**+4.6**
	comp=Z,8.1nm,0.8s,baz=160,slow=12,SNR=1.3						
IDI				ScP	**ScP**	**05 19 46.8**	**+1.7**
	comp=Z,14nm,1.2s,baz=114,slow=10.0,SNR=1.5						
VORR	**Voronezh**	**26.82**	**338**	*e*P	**P**	**05 12 42.8**	**+0.1**
VORR				*e*S	**S**	**05 17 21.5**	**+3.1**
VORR				pmax	pmax		
	comp=Z,390nm,1.4s						
VORR				MLR	MLR		
	comp=Z,800nm,15.0s						
NE56	**Odesa**	**26.86**	**322**	P	**P**	**05 12 42.5**	**-0.6**
NE56				pP	**pP**	**05 12 47.0**	**-0.4**
PSN	**Preselentsi**	**26.89**	**314**	P	**P**	**05 12 43.0**	**-0.5**
MFTR	**Murfatlar**	**26.97**	**315**	⇓P	**P**	**05 12 45.5**	**+1.4**
JURR	**Jurilovca**	**26.98**	**316**	⇓P	**P**	**05 12 44.3**	**+0.1**
PLTM	**Poltava**	**27.00**	**330**	P	**P**	**05 12 45.5**	**+1.2**
TLCR		**27.23**	**317**	⇓P	**P**	**05 12 47.8**	**+1.4**
TLCR		**27.23**	**317**	P	**P**	**05 12 47.8**	**+1.4**
TPGR	**Topolog**	**27.31**	**316**	⇑P	**P**	**05 12 47.5**	**+0.3**
ICOR	**Ion Corvin**	**27.33**	**314**	⇑P	**P**	**05 12 48.1**	**+0.7**
PURM	**Purcari**	**27.35**	**320**	⇓P	**P**	**05 12 47.2**	**-0.3**
PURM	**Purcari**	**27.35**	**320**	P	**P**	**05 12 46.8**	**-0.7**
	comp=Z,240nm,0.8s,comp=Z,8μm						
TLBR	**Topalu**	**27.38**	**315**	⇑P	**P**	**05 12 48.6**	**+0.8**
JMB	**Yambol**	**27.46**	**310**	P	**P**	**05 12 48.1**	**-0.5**
HARR	**Harsova**	**27.52**	**315**	⇓P	**P**	**05 12 49.1**	**0.0**
HARR	**Harsova**	**27.52**	**315**	P	**P**	**05 12 49.1**	**0.0**
CFR	**Carcaliu**	**27.64**	**317**	⇑P	**P**	**05 12 51.2**	**+1.0**
CFR	**Carcaliu**	**27.64**	**317**	P	**P**	**05 12 51.1**	**+1.0**
RDO	**Rodhopi**	**27.65**	**307**	IAmb	IAmb	05 13 18.7	
	comp=Z,85nm,1.0s						
LPSR	**Galich'ya Gora**	**27.70**	**339**	*e*P	**P**	**05 12 50.0**	**-0.6**
LPSR				*e*S	**S**	**05 17 33.3**	**+1.0**
LPSR				pmax	pmax		
	comp=Z,220nm,0.7s						
LPSR				smax	smax		
	comp=E,1μm,19.2s						
BRVK	**Borovoye**	**27.87**	**20**	P	**P**	**05 12 52.2**	**+0.2**
BRVK	**Borovoye**	**27.87**	**20**	P	**P**	**05 12 52.8**	**+0.7**
BRVK	**Borovoye**	**27.87**	**20**	P	**P**	**05 12 52.3**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,148nm,0.8s						
BRVK				MLR	MLR		
	comp=Z,4μm,18.0s						
BVA0	**Borovoye Array**	**27.87**	**20**	*i* P	**P**	**05 12 52.5**	**+0.4**
BVAR	**Borovoye Array**	**27.87**	**20**	P	**P**	**05 12 52.4**	**+0.3**
	comp=Z,289nm,0.8s,baz=201,slow=7.8,SNR=72						
BVAR				PcP	**PcP**	**05 16 07.8**	**+0.1**
	comp=Z,16nm,0.7s,baz=224,slow=4.0,SNR=3.7						
BVAR				S	**S**	**05 17 33.9**	**-1.1**
	comp=Z,5.0nm,0.9s,baz=114,slow=1.8,SNR=0.9						
BVAR				ScP	**ScP**	**05 19 51.0**	**+2.8**
	comp=Z,5.9nm,0.9s,baz=190,slow=0.9,SNR=5.0						
BVAR				LR	LR	05 25 56.9	
	comp=Z,4μm,18.6s,baz=200,slow=41						
	comp=Z,289nm,0.8s						
KDZ	**Kurdzhali**	**27.96**	**308**	P	**P**	**05 12 53.0**	**0.0**
SCTR	**Scanteiesti**	**27.98**	**317**	⇑P	**P**	**05 12 54.2**	**+1.1**
VLDR	**Vladesti**	**28.02**	**318**	⇑P	**P**	**05 12 54.0**	**+0.5**
ELND	**Elena**	**28.08**	**311**	⇑P	**P**	**05 12 54.6**	**+0.5**
MILM	**Milestii Mici**	**28.17**	**320**	⇑*i* P	**P**	**05 12 53.0**	**-1.8**
	comp=Z,180nm,2.4s						
MILM	**Milestii Mici**	**28.17**	**320**	*e*PP	P	05 13 41.0	+46
MILM	**Milestii Mici**	**28.17**	**320**	*e*PPP	PPP	05 13 54.0	
MILM	**Milestii Mici**	**28.17**	**320**	*e*PcP	**PcP**	**05 16 07.0**	**-1.5**
MILM				*e*S	**S**	**05 17 35.0**	**-4.8**
	comp=Z,1μm,3.5s						
MILM				*e*SS	SS	05 19 20.0	-19
MILM				*e*L	L	05 28 16.0	
MILM				LRM	MLR	05 29 13.0	
	comp=Z,800nm,17.0s						
MILM	**Milestii Mici**	**28.17**	**320***c*	*i*P	**P**	**05 12 53.0**	**-1.8**
MILM				*e*		05 13 41.0	
MILM				*e*PPP	PPP	05 13 54.0	
MILM				*e*		05 16 07.0	
MILM				*e*S	**S**	**05 17 35.0**	**-4.8**
MILM				*e*SS	SS	05 19 20.0	-19
MILM				pmax	pmax		
	comp=Z,180nm,2.4s						
VARL	**Varlezi**	**28.18**	**318**	⇑P	**P**	**05 12 56.5**	**+1.5**
KIS	**Kishinev**	**28.21**	**320**	⇑*i* P	**P**	**05 12 53.6**	**-1.6**
	comp=Z,160nm,6.5s						
KIS	**Kishinev**	**28.21**	**320**	*e*PP	P	05 13 41.0	+46
KIS	**Kishinev**	**28.21**	**320**	*e*PcP	**PcP**	**05 16 10.0**	**+1.4**
KIS				*e*S	**S**	**05 17 34.0**	**-6.5**
KIS				M	M	05 18 11.0	
	comp=Z,500nm,8.5s						
KIS				*e*SS	SS	05 19 20.0	-20
KIS				*e*L	L	05 24 19.0	
KIS				LRM	MLR	05 29 29.0	
	comp=Z,400nm,15.5s						
KIS	**Kishinev**	**28.21**	**320***c*	*i*P	**P**	**05 12 53.8**	**-1.4**
KIS				*e*		05 13 41.0	
KIS				*e*		05 16 10.0	
KIS				*e*S	**S**	**05 17 34.0**	**-6.5**
KIS				pmax	pmax		
	comp=Z,460nm,6.5s						
BAL3X	**Bal3x, Balta**	**28.32**	**323**	P	**P**	**05 12 54.8**	**-1.4**
RZN	**Rozhen**	**28.40**	**308**	P	**P**	**05 12 57.4**	**+0.2**
GHRR		**28.53**	**318**	P	**P**	**05 12 58.1**	**0.0**
SGRR	**Singureni**	**28.55**	**313**	⇓P	**P**	**05 12 58.8**	**+0.5**
PLD	**Plovdiv**	**28.55**	**308**	P	**P**	**05 12 58.9**	**+0.6**
SULR		**28.57**	**314**	⇑P	**P**	**05 12 59.6**	**+1.2**
ISR	**Istrita**	**28.60**	**315**	P	**P**	**05 12 59.7**	**+1.0**
	comp=Z,81nm,0.8s,comp=Z,2μm						
MAKZ	**Makanchi**	**28.60**	**41**	P	**P**	**05 12 59.1**	**+0.4**
MAKZ				IAmb	IAmb	05 13 03.4	
	comp=Z,77nm,0.8s						
MAKZ	**Makanchi**	**28.60**	**41**	P	**P**	**05 12 59.1**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,77nm,0.8s						
MAKZ				MLR	MLR		
	comp=Z,2μm,22.0s						
BISRR	**Bisoca**	**28.70**	**316**	P	**P**	**05 13 00.6**	**+0.9**
	comp=Z,138nm,1.1s,comp=Z,3μm						
MK31	**Makanchi Array**	**28.77**	**41**	P	**P**	**05 13 00.4**	**+0.1**
MK31	**Makanchi Array**	**28.77**	**41**	P	**P**	**05 13 00.4**	**+0.1**
MK31				pmax	pmax		
	comp=Z,51nm,1.1s						
MKAR	**Makanchi Array**	**28.77**	**41**	P	**P**	**05 13 00.3**	**+0.1**
MKAR	**Makanchi Array**	**28.77**	**41**	P	**P**	**05 13 00.6**	**+0.3**
	comp=Z,48nm,0.8s,baz=227,slow=8.1,SNR=37						
MKAR				PcP	**PcP**	**05 16 08.6**	**-1.4**
	comp=Z,9.0nm,0.9s,baz=233,slow=5.1,SNR=2.2						
MKAR				S	**S**	**05 17 48.1**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=216,slow=12,SNR=1.5						
MKAR				ScP	**ScP**	**05 19 53.5**	**+2.3**
	comp=Z,5.2nm,0.9s,baz=248,slow=3.3,SNR=4.3						
MKAR				LR	LR	05 25 22.4	
	comp=Z,2μm,21.8s,baz=246,slow=38						
MKAR				P3KPbc		05 45 11.8	
	comp=Z,0.9nm,0.8s,baz=58,slow=4.7,SNR=8.1						
	comp=Z,48nm,0.8s						
VRI	**Vrincioaia**	**28.84**	**317**	⇑P	**P**	**05 13 01.6**	**+0.6**
VRI	**Vrincioaia**	**28.84**	**317**	P	**P**	**05 13 01.5**	**+0.6**
VRI	**Vrincioaia**	**28.84**	**317**	P	**P**	**05 13 01.3**	**+0.4**
	comp=Z,28nm,0.9s,comp=Z,710nm						
PLOR5	**Plostina Array**	**28.87**	**317**	P	**P**	**05 13 01.8**	**+0.6**
	comp=Z,66nm,0.8s,comp=Z,1μm						
PLOR	**Plostina**	**28.88**	**317**	⇑P	**P**	**05 13 02.3**	**+1.0**
PLOR	**Plostina**	**28.88**	**317**	P	**P**	**05 13 02.2**	**+1.0**
PLOR3	**Plostina Array**	**28.89**	**317**	P	**P**	**05 13 01.7**	**+0.4**
	comp=Z,44nm,1.0s,comp=Z,802nm						
NEHR	**Nehoiu**	**28.90**	**316**	⇑P	**P**	**05 13 02.8**	**+1.4**
ARU	**Arti**	**28.93**	**4**	P	**P**	**05 13 00.8**	**-0.6**
ARU	**Arti**	**28.93**	**4**	P	**P**	**05 13 01.5**	**0.0**
	comp=Z,17nm,0.5s,baz=137,slow=4.0,SNR=15						
ARU				ScP	**ScP**	**05 19 54.9**	**+3.5**
	comp=Z,3.1nm,0.4s,baz=270,slow=5.1,SNR=2.3						
ARU				LR	LR	05 26 23.6	
	comp=Z,2μm,18.2s,baz=184,slow=40						
	comp=Z,17nm,0.5s						
ARU	**Arti**	**28.93**	**4***c*	*i*P	**P**	**05 13 01.8**	**+0.3**
ARU						05 13 50.4	
ARU				PPP	PPP	05 14 03.1	
ARU				S	**S**	**05 17 56.0**	**+4.4**
ARU				SS	**SnSn**	**05 19 22.3**	**+8.1**
ARU				pmax	pmax		
	comp=Z,22nm,0.7s						
ARU	**Arti**	**28.93**	**4**	P	**P**	**05 13 01.9**	**+0.4**
	comp=Z,70nm,0.8s,comp=Z,713nm						
MMB	**Musomishta**	**29.05**	**307**	P	**P**	**05 13 03.1**	**+0.3**
PGB	**Panagyurishte**	**29.08**	**309**	P	**P**	**05 13 03.6**	**+0.5**
SORM	**Soroca**	**29.12**	**322**	P	**P**	**05 13 01.7**	**-1.5**
	comp=Z,52nm,0.8s,comp=Z,715nm						
MLR	**Muntele Rosu**	**29.14**	**316**	IAmb	IAmb	05 13 40.4	
	comp=Z,63nm,0.9s						
MLR	**Muntele Rosu**	**29.14**	**316**	P	**P**	**05 13 04.2**	**+0.5**
	comp=Z,14nm,0.9s,baz=96,slow=4.1,SNR=14						
MLR				ScP	**ScP**	**05 19 55.7**	**+3.3**
	comp=Z,8.2nm,1.1s,baz=90,slow=20,SNR=13						
MLR				LR	LR	05 25 07.1	
	comp=Z,1μm,21.4s,baz=175,slow=37						
	comp=Z,14nm,0.9s						
MLR	**Muntele Rosu**	**29.14**	**316**	⇑P	**P**	**05 13 04.4**	**+0.7**
MLR	**Muntele Rosu**	**29.14**	**316**	P	**P**	**05 13 04.2**	**+0.5**
	comp=Z,53nm,0.8s,comp=Z,758nm						
KURBB	**Kurchatov Arra**	**29.14**	**32**	P	**P**	**05 13 04.0**	**+0.6**
	comp=Z,42nm,0.8s,baz=231,slow=8.2,SNR=45						
KURBB				PcP	**PcP**	**05 16 10.6**	**-0.3**
	comp=Z,12nm,0.8s,baz=234,slow=2.8,SNR=4.5						
KURBB				ScP	**ScP**	**05 19 55.5**	**+3.3**
	comp=Z,9.0nm,1.1s,baz=221,slow=3.6,SNR=8.7						
KURBB				LR	LR	05 26 13.6	
	comp=Z,3μm,20.6s,baz=224,slow=40						
KURBB				P3KPbc		05 45 11.0	
	comp=Z,0.3nm,0.3s,baz=45,slow=3.5,SNR=5.1						
	comp=Z,42nm,0.8s						
KURBB	**Kurchatov Arra**	**29.14**	**32**	P	**P**	**05 13 03.7**	**+0.2**
COVR	**Voineasa-Covas**	**29.15**	**316**	⇓P	**P**	**05 13 04.0**	**+0.3**
TESR	**Tescani**	**29.21**	**318**	P	**P**	**05 13 03.9**	**-0.2**
	comp=Z,66nm,0.8s,comp=Z,1μm						
KURK	**Kurchatov**	**29.25**	**31**	P	**P**	**05 13 04.1**	**-0.3**
KURK				IAmb	IAmb	05 13 10.9	
	comp=Z,66nm,0.8s						
KURK	**Kurchatov**	**29.25**	**31**	IAMs_20	IAMs_20	05 26 05.1	
	comp=Z,3μm,21.0s						
KURK	**Kurchatov**	**29.25**	**31**	P	**P**	**05 13 05.3**	**+0.9**
KURK	**Kurchatov**	**29.25**	**31**	P	**P**	**05 13 04.1**	**-0.3**
KURK				pmax	pmax		
	comp=Z,66nm,0.8s						
KURK				MLR	MLR		
	comp=Z,3μm,21.0s						
ONER	**Baraj Valea Uz**	**29.28**	**317**	⇑P	**P**	**05 13 04.9**	**+0.2**
TURR	**Turia**	**29.37**	**317**	⇓P	**P**	**05 13 06.4**	**+0.9**
ITM	**Ithomi**	**29.37**	**297**	P	**P**	**05 13 04.8**	**-0.9**
AGG	**Agios Georgios**	**29.41**	**301**	IAmb	IAmb	05 14 03.7	
	comp=Z,70nm,1.1s						
SVE	**Sverdlovsk**	**29.49**	**6**	*e*P	**P**	**05 13 06.8**	**+0.3**
SVE				pmax	pmax		
	comp=Z,79nm,1.2s						
SVE				MLR	MLR		
	comp=Z,3μm,13.0s						
KKB	**Krupnik**	**29.59**	**307**	P	**P**	**05 13 07.5**	**-0.1**
VOIR		**29.68**	**315**	⇓P	**P**	**05 13 09.0**	**+0.6**
VOIR		**29.68**	**315**	P	**P**	**05 13 08.9**	**+0.5**
VOIR		**29.68**	**315**	P	**P**	**05 13 08.7**	**+0.3**
	comp=Z,102nm,0.9s,comp=Z,892nm						
MPEP	**Malo Peshtene**	**29.68**	**310**	P	**P**	**05 13 08.8**	**+0.4**
DOPR	**Dopca**	**29.71**	**316**	⇑P	**P**	**05 13 08.8**	**+0.2**
PEHC	**Pehcevo**	**29.73**	**307**	*i* P	**P**	**05 13 08.3**	**-0.6**
BIZ	**Bicaz**	**29.75**	**318**	⇑P	**P**	**05 13 09.7**	**+0.8**
VTS	**Vitosha**	**29.77**	**309**	P	**P**	**05 13 07.5**	**-1.8**
ARR	**Arges**	**29.91**	**314**	⇓P	**P**	**05 13 10.6**	**+0.2**
VALD	**Valchedram**	**30.01**	**311**	P	**P**	**05 13 11.7**	**+0.5**
AK07	**Malin Array Si**	**30.15**	**326**	P	**P**	**05 13 11.1**	**-1.2**
AK09	**Malin Array Si**	**30.15**	**327**	P	**P**	**05 13 11.4**	**-1.0**
AKASG	**Malin Array Be**	**30.23**	**327**	P	**P**	**05 13 12.0**	**-1.1**
AKASG	**Malin Array Be**	**30.23**	**327**	P	**P**	**05 13 12.1**	**-1.0**
	comp=Z,17nm,0.6s,baz=137,slow=8.5,SNR=57						
AKASG				PcP	**PcP**	**05 16 12.4**	**-1.3**
	comp=Z,8.4nm,0.9s,baz=90,slow=2.5,SNR=1.3						
AKASG				S	**S**	**05 18 09.2**	**-3.0**
	comp=Z,1.3nm,0.7s,baz=126,slow=14,SNR=1.5						
AKASG				ScP	**ScP**	**05 19 58.6**	**+2.9**
	comp=Z,8.3nm,0.9s,baz=98,slow=2.5,SNR=7.4						
	comp=Z,17nm,0.6s						
AKASG	**Malin Array Be**	**30.23**	**327**	P	**P**	**05 13 12.0**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,59nm,1.2s						
AKBB	**Malin Array Si**	**30.23**	**327**	P	**P**	**05 13 11.8**	**-1.2**
AKBB				IAmb	IAmb	05 13 28.8	
	comp=Z,66nm,0.8s						
AKBB	**Malin Array Si**	**30.23**	**327***c*	*e*P	**P**	**05 13 12.3**	**-0.8**
AKBB				pmax	pmax		
	comp=Z,67nm,0.9s						
AKBB	**Malin Array Si**	**30.23**	**327**	P	**P**	**05 13 11.9**	**-1.2**
KIEV	**Kiev**	**30.24**	**327**	P	**P**	**05 13 11.7**	**-1.4**
KIEV				IAmb	IAmb	05 13 28.7	
	comp=Z,59nm,0.8s						
KIEV	**Kiev**	**30.24**	**327**	P	**P**	**05 13 11.7**	**-1.4**
KIEV				pmax	pmax		
	comp=Z,59nm,0.9s						
KIEV	**Kiev**	**30.24**	**327**	P	**P**	**05 13 12.3**	**-0.8**
	comp=Z,294nm,0.8s,comp=Z,3μm						
AK03	**Malin Array Si**	**30.25**	**327**	P	**P**	**05 13 12.1**	**-1.2**
KMPD	**K-Podol'skiy**	**30.40**	**321**	P	**P**	**05 13 12.8**	**-1.8**
LODK	**Lodwar**	**30.47**	**221**	P	**P**	**05 13 16.2**	**+0.6**
LODK				IAMs_20	IAMs_20	05 25 58.8	
	comp=Z,3μm,19.0s						
LODK	**Lodwar**	**30.47**	**221**	P	**P**	**05 13 17.6**	**+2.0**
	SNR=13						
LUBAR	**Lubar, Ukraine**	**30.48**	**324**	P	**P**	**05 13 14.2**	**-1.2**
LOT	**Lotru**	**30.50**	**314**	⇑P	**P**	**05 13 15.1**	**-0.5**
SRE	**Strehaia**	**30.54**	**312**	⇓P	**P**	**05 13 17.1**	**+1.2**
SRE	**Strehaia**	**30.54**	**312**	P	**P**	**05 13 17.1**	**+1.2**
FNA	**Florina**	**30.55**	**304**	P	**P**	**05 13 15.8**	**-0.3**
FNA				IAmb	IAmb	05 13 27.8	
	comp=Z,63nm,0.9s						
FNA	**Florina**	**30.55**	**304**	P	**P**	**05 13 15.8**	**-0.3**
FNA				pmax	pmax		
	comp=Z,63nm,0.9s						
OBN	**Obninsk**	**30.57**	**339**	P	**P**	**05 13 15.9**	**-0.1**
OBN	**Obninsk**	**30.57**	**339**	P	**P**	**05 13 16.0**	**0.0**
	comp=Z,109nm,0.6s,baz=66,slow=1.0,SNR=25						
OBN				S	**S**	**05 18 14.1**	**-3.2**
	comp=Z,13nm,0.4s,baz=58,slow=19,SNR=1.6						
OBN				LR	LR	05 28 05.4	
	comp=Z,1μm,19.4s,baz=150,slow=41						
	comp=Z,109nm,0.6s						
OBN	**Obninsk**	**30.57**	**339***c*	*e*P	**P**	**05 13 16.4**	**+0.4**
OBN				*e**PP	**pP**	**05 13 19.4**	**-1.0**
OBN				*e**SP	**sP**	**05 13 20.9**	**-1.3**
OBN				*e*		05 14 15.7	
OBN				*e*PPP	PPP	05 14 24.3	
OBN				*e*		05 16 14.4	
OBN				pmax	pmax		
	comp=Z,99nm,0.6s						
OBN				MLR	MLR		
	comp=Z,1μm,18.0s						
OBN	**Obninsk**	**30.57**	**339**	P	**P**	**05 13 16.6**	**+0.6**
	comp=Z,210nm,0.7s,comp=Z,2μm						
BURAR	**Bucovina Array**	**30.61**	**319**	P	**P**	**05 13 16.1**	**-0.5**
BURAR	**Bucovina Array**	**30.61**	**319**	⇑P	**P**	**05 13 16.3**	**-0.4**
ZSN	**Zaisan**	**30.62**	**42**	*e*P	**P**	**05 13 16.4**	**-0.2**
	baz=42						
ZSN				*e*S	**S**	**05 18 19.8**	**+1.5**
	baz=42						
ZSN	**Zaisan**	**30.62**	**42**	*e*P	**P**	**05 13 16.4**	**-0.2**
ZSN				*e*S	**S**	**05 18 19.8**	**+1.5**
MI29	**MI29, Kamyanyy**	**30.74**	**325**	P	**P**	**05 13 16.7**	**-0.9**
MI30	**MI30,Zelenitsa**	**30.77**	**326**	P	**P**	**05 13 16.6**	**-1.3**
MOS	**Moscow**	**30.78**	**341**	*e*P	**P**	**05 13 16.2**	**-1.7**
MOS				*e*S	**S**	**05 18 19.4**	**-1.2**
MOS				pmax	pmax		
	comp=Z,93nm,0.9s						
MOS				pmax	pmax		
	comp=Z,300nm,1.8s						
SKO	**Skopje**	**30.83**	**307**	*i* P	**P**	**05 13 18.5**	**0.0**
ARCR	**ARCĂLIA**	**30.87**	**317**	⇓P	**P**	**05 13 19.3**	**+0.5**
WMQ	**Urumqi**	**30.87**	**50**	⇑*i* P	**P**	**05 13 19.8**	**+0.9**
WMQ				pP	pP	05 13 23.4	+0.1
WMQ				pmax	pmax		
	comp=Z,52nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,410nm,4.5s						
WMQ				LR	LR		
	comp=Z,4μm,22.3s						
WMQ				LR	LR		
	comp=Z,2μm,24.1s						
WMQ				LR	LR		
	comp=Z,3μm,24.1s						
OHR	**Ohrid**	**31.05**	**305**	*i* P	**P**	**05 13 18.9**	**-1.6**
GZR	**Gura Zlata**	**31.11**	**313**	⇑P	**P**	**05 13 20.4**	**-0.6**
HERR

SHL	**Shillong**	**33.00 85**	P	**P**	**05 13 37.5**	**-0.5**
SHL			pmax	pmax		
	comp=Z,78nm,0.8s					
SHL			MLR	MLR		
	comp=Z,3μm,22.0s					
KWP	**Kalwaria Pacla**	**33.06 320**	*e*P	**P**	**05 13 38.1**	**+0.1**
BRY	**Bratogost**	**33.15 307**	⇑*i*P	**P**	**05 13 37.3**	**-1.7**
HAPS	**Han Pijesak,BI**	**33.20 309**	⇑*i*P	**P**	**05 13 39.0**	**-0.4**
TREB	**Trebinje**	**33.24 307**	*e*P	**P**	**05 13 38.1**	**-1.5**
KMBO	**Kilima Mbogo**	**33.25 214**	P	**P**	**05 13 40.2**	**0.0**
KMBO	**Kilima Mbogo**	**33.25 214**	P	**P**	**05 13 42.1**	**+1.9**
KMBO	**Kilima Mbogo**	**33.25 214**	P	**P**	**05 13 40.3**	**0.0**
KMBO			pmax	pmax		
	comp=Z,40nm,1.0s					
KMBO			MLR	MLR		
	comp=Z,1μm,19.0s					
MNK	**Minsk**	**33.37 331**	*i* P	**P**	**05 13 39.7**	**-0.9**
	comp=E,17nm,1.0s					
MNK			*i* P	**P**	**05 13 39.7**	**-0.9**
	comp=N,25nm,0.8s					
MNK			*i* P	**P**	**05 13 39.7**	**-0.9**
	comp=Z,70nm,0.7s,baz=133					
MNK			*i* PP	**PP**	**05 14 48.0**	**-8.0**
MNK			*i* PPP	PPP	05 15 00.7	
MNK			*i* PcP	**PcP**	**05 16 20.5**	**-1.6**
MNK			*i* S	**S**	**05 19 01.9**	**+0.9**
MNK			*i* SS	**SnSn**	**05 21 08.9**	**+6.8**
MNK			*i* LQ	LQ	05 23 18.7	
MNK			*i* LR	LR	05 26 49.2	
MNK			*i* LRM	MLR	05 28 58.8	
	comp=N,607nm,14.1s					
MNK			*i* LRM	MLR	05 29 01.7	
	comp=Z,793nm,15.1s					
MNK			*i* LRM	MLR	05 29 02.4	
	comp=E,157nm,18.5s					
MNK	**Minsk**	**33.37 331**	*i* P	**P**	**05 13 39.6**	**-0.9**
MNK			*i*		05 14 48.0	
MNK			*i*		05 16 20.4	
MNK			*i* S	**S**	**05 19 01.9**	**+0.9**
MNK			*i* SS	**SnSn**	**05 21 08.9**	**+6.8**
MNK			pmax	pmax		
	comp=E,17nm,1.0s					
MNK			pmax	pmax		
	comp=N,25nm,0.8s					
MNK			pmax	pmax		
	comp=Z,70nm,0.7s					
MNK			MLR	MLR		
	comp=N,607nm,14.0s					
MNK			MLR	MLR		
	comp=Z,793nm,15.0s					
MNK			MLR	MLR		
	comp=E,157nm,19.0s					
CRVS	**Cervenica-Dubn**	**33.43 319**	*e*P	**P**	**05 13 41.5**	**+0.2**
CRVS			pmax	pmax		
	comp=Z,29nm,0.9s					
CRVS	**Cervenica-Dubn**	**33.43 319**	*e*P	**P**	**05 13 41.5**	**+0.2**
TIP	**Timpagrande**	**33.70 300**	P	**P**	**05 13 43.6**	**-0.2**
TIP			IAmb	IAmb	05 13 56.2	
	comp=Z,86nm,1.0s					
TIP	**Timpagrande**	**33.70 300**	⇑P	**P**	**05 13 44.1**	**+0.4**
TIP	**Timpagrande**	**33.70 300**	P	**P**	**05 13 44.2**	**+0.4**
	comp=Z,71nm,1.2s,comp=Z,895nm					
STON	**Ston**	**33.74 307**	⇑*i*P	**P**	**05 13 44.3**	**+0.3**
KIBK	**Kibwezi**	**33.93 211**	IAmb	IAmb	05 13 54.4	
	comp=Z,111nm,1.4s					
PSZ	**Piszkesteto**	**33.95 316**	⇑P	**P**	**05 13 45.5**	**-0.3**
PSZ	**Piszkesteto**	**33.95 316**	P	**P**	**05 13 45.5**	**-0.3**
MORH	**Mrgy, Hungar**	**34.10 313**	⇑*i*P	**P**	**05 13 46.6**	**-0.5**
MORH	**Mrgy, Hungar**	**34.10 313**	⇑P	**P**	**05 13 46.8**	**-0.2**
MORH	**Mrgy, Hungar**	**34.10 313**	P	**P**	**05 13 46.9**	**-0.2**
	comp=Z,36nm,1.2s,comp=Z,558nm					
NACGM	**Naroch**	**34.11 331**	*i* P	**P**	**05 13 47.5**	**+0.5**
	baz=132					
ZAA0	**Zalesovo Array**	**34.24 32**	P	**P**	**05 13 47.9**	**-0.3**
ZALV	**Zalesovo Beam**	**34.24 32**	P	**P**	**05 13 48.1**	**-0.2**
	comp=Z,95nm,0.7s,baz=242,slow=9.3,SNR=55					
ZALV			PcP	**PcP**	**05 16 23.3**	**-1.3**
	comp=Z,18nm,0.8s,baz=226,slow=6.4,SNR=2.7					
ZALV			S	**S**	**05 19 12.7**	**-1.9**
	comp=Z,2.2nm,0.7s,baz=249,slow=6.2,SNR=1.6					
ZALV			LR	LR	05 29 24.2	
	comp=Z,2μm,20.0s,baz=230,slow=39					
	comp=Z,95nm,0.7s					
ZALV	**Zalesovo Beam**	**34.24 32**	*i* P	**P**	**05 13 48.0**	**-0.2**
ZALV			pmax	pmax		
	comp=Z,98nm,0.7s					
CEL	**Celeste**	**34.26 298**	P	**P**	**05 13 49.0**	**+0.4**
	comp=Z,34nm,0.8s,comp=Z,566nm					
RICI	**Ricice**	**34.30 308**	*i* P	**P**	**05 13 47.1**	**-1.8**
NIE	**Niedzica**	**34.35 319**	*e*P	**P**	**05 13 49.2**	**-0.1**
NIE	**Niedzica**	**34.35 319**	P	**P**	**05 13 49.3**	**0.0**
	comp=Z,8.7nm,1.3s,comp=Z,211nm					
CUC	**Castrocucco**	**34.54 301**	IAmb	IAmb	05 14 07.3	
	comp=Z,100nm,0.9s					
MGRS	**Mrkonjic Grad**	**34.58 309**	⇑*i*P	**P**	**05 13 50.9**	**-0.4**
BLY	**Banja Luka**	**34.60 310**	*e*P	**P**	**05 13 50.8**	**-0.7**
GOMU	**GeErMu**	**34.70 66**	P	**P**	**05 13 53.8**	**+0.9**
GOMU			S	**S**	**05 19 21.6**	**-1.3**
GOMU			pmax	pmax		
	comp=Z,57nm,0.9s					
GOMU			LR	LR		
	comp=Z,870nm,15.6s					
GOMU			LR	LR		
	comp=Z,1μm,15.3s					
GOMU			LR	LR		
	comp=Z,2μm,16.5s					
VYHS	**Vyhne**	**34.83 317**	*e*P	**P**	**05 13 53.1**	**-0.3**
VYHS			pmax	pmax		
	comp=Z,12nm,1.0s					
VYHS	**Vyhne**	**34.83 317**	*e*P	**P**	**05 13 53.1**	**-0.3**
ISAL	**Salakas**	**34.84 331**	*e*P	**P**	**05 13 54.9**	**+1.6**
SRO	**Srobarova**	**34.89 315**	*e*P	**P**	**05 13 54.0**	**+0.1**
SRO			pmax	pmax		
	comp=Z,80nm,1.8s					
SRO	**Srobarova**	**34.89 315**	*e*P	**P**	**05 13 54.0**	**+0.1**
IZAR	**Zarasai**	**34.91 332**	*e*P	**P**	**05 13 56.8**	**+2.9**
KIJV	**Kijevo**	**34.94 308**	*i* P	**P**	**05 13 53.4**	**-1.1**
A050A	**Klekovaca**	**34.98 309**	⇑*i*P	**P**	**05 13 53.3**	**-1.5**
OJC	**Ojcow**	**35.00 320**	*e*P	**P**	**05 13 54.5**	**-0.3**
OJC	**Ojcow**	**35.00 320**	IAmb	IAmb	05 14 10.7	
	comp=Z,56nm,0.8s					
OJC	**Ojcow**	**35.00 320**	P	**P**	**05 13 54.5**	**-0.3**
OJC	**Ojcow**	**35.00 320**	P	**P**	**05 13 54.5**	**-0.3**
	comp=Z,86nm,0.9s,comp=Z,915nm					
MPLH	**Magyarpolny**	**35.14 314**	P	**P**	**05 13 56.0**	**-0.1**
	comp=Z,183nm,1.1s,comp=Z,2μm					
MOSL	**Moslavina**	**35.15 311**	*i* P	**P**	**05 13 55.1**	**-1.1**
SUW	**Suwalki**	**35.20 327**	*e*P	**P**	**05 13 55.8**	**-0.6**
SUW	**Suwalki**	**35.20 327**	P	**P**	**05 13 55.2**	**-1.2**
SUW	**Suwalki**	**35.20 327**	*e*P	**P**	**05 13 56.4**	**-0.1**
SUW	**Suwalki**	**35.20 327**	P	**P**	**05 13 55.2**	**-1.2**
SUW			pmax	pmax		
	comp=Z,160nm,1.0s					
BEL	**Belsk**	**35.22 323**	*e*P	**P**	**05 13 56.7**	**0.0**
MORI	**Morici**	**35.39 308**	*i* P	**P**	**05 13 57.2**	**-1.0**
BEHE	**Becsehely**	**35.40 312**	⇑*i*P	**P**	**05 13 58.3**	**-0.1**
KALN	**Kalnik**	**35.51 312**	*i* P	**P**	**05 13 58.3**	**-1.0**
PAOL	**Paolisi**	**35.65 303**	IAmb	IAmb	05 14 06.5	
	comp=Z,88nm,1.0s					
JAVC	**Velka Javorina**	**35.68 317**	*e*P	**P**	**05 14 01.2**	**+0.4**
JAVC			*e*S	**S**	**05 19 28.4**	**-8.6**
SMOL	**Smolenice**	**35.70 316**	*e*P	**P**	**05 14 00.6**	**-0.3**
SMOL			pmax	pmax		
	comp=Z,10.0nm,1.2s					
PABE	**Paberze**	**35.73 330**	*e*P	**P**	**05 14 01.0**	**0.0**
KOGS	**Kog**	**35.74 312**	*i* P	**P**	**05 14 00.9**	**-0.4**
MODS	**Modra-Piesok**	**35.74 316**	*e*P	**P**	**05 14 02.2**	**+0.9**
MODS			pmax	pmax		
	comp=Z,86nm,1.5s					
MODS	**Modra-Piesok**	**35.74 316**	*e*P	**P**	**05 14 02.2**	**+0.9**
PTJ	**Puntijarka**	**35.76 311**	P	**P**	**05 14 01.1**	**-0.5**
ZST	**Bratislava**	**35.78 315**	*e*P	**P**	**05 14 01.1**	**-0.5**
ZST			pmax	pmax		
	comp=Z,45nm,1.1s					
ZST	**Bratislava**	**35.78 315**	*e*P	**P**	**05 14 01.1**	**-0.5**
OKC	**Ostrava-Krasne**	**35.79 318**	*e*P	**P**	**05 14 00.8**	**-0.8**
OKC			AMS	AMS	05 34 40.0	
	comp=Z,700nm,16.8s					
OKC	**Ostrava-Krasne**	**35.79 318**	*e*P	**P**	**05 14 00.8**	**-0.8**
OKC			MLR	MLR		
	comp=Z,700nm,16.8s					
VIRC	**Vir**	**35.95 308**	*i* P	**P**	**05 14 01.1**	**-1.9**
VSVD	**Vaisvydziai**	**36.05 330**	*e*P	**P**	**05 14 03.9**	**+0.2**
CRES	**Cresnjev**	**36.08 311**	⇑*i*P	**P**	**05 14 03.2**	**-1.0**
RONA	**Rosalia, Austr**	**36.12 314**	*i* P	**P**	**05 14 04.0**	**-0.5**
	comp=Z,24nm,1.0s,SNR=13					
RONA			*e*ScP	**ScP**	**05 20 18.8**	**+2.5**
	comp=Z,9.5nm,1.4s					
MORC	**Moravsky Berou**	**36.12 318**	P	**P**	**05 14 04.0**	**-0.6**
MORC			IAmb	IAmb	05 14 20.2	
	comp=Z,55nm,1.0s					
MORC	**Moravsky Berou**	**36.12 318**	*e*P	**P**	**05 14 03.7**	**-0.9**
MORC			*e*S	**S**	**05 19 38.8**	**-4.9**
MORC	**Moravsky Berou**	**36.12 318**	⇑P	**P**	**05 14 03.9**	**-0.6**
MORC	**Moravsky Berou**	**36.12 318**	P	**P**	**05 14 04.0**	**-0.6**
MORC			pmax	pmax		
	comp=Z,55nm,1.0s					
MORC			MLR	MLR		
	comp=Z,800nm,19.0s					
BOJS	**Bojanci**	**36.13 310**	*i* P	**P**	**05 14 04.4**	**-0.2**
BOJS			*e*PP	**PP**	**05 15 31.9**	**+5.2**
BOJS			*e*S	**S**	**05 19 43.1**	**-0.8**
BOJS	**Bojanci**	**36.13 310**	⇑*i*P	**P**	**05 14 04.1**	**-0.5**
INTR	**Introdacqua**	**36.30 304**	IAmb	IAmb	05 14 14.3	
	comp=Z,66nm,0.8s					
PUL	**Pulkovo**	**36.33 339**	*c*eP	**P**	**05 14 07.0**	**+0.9**
PUL			pmax	pmax		
	comp=Z,193nm,0.7s					
MBAR	**Mbarara**	**36.44 224**	P	**P**	**05 14 07.8**	**+0.1**
MBAR	**Mbarara**	**36.44 224**	P	**P**	**05 14 08.7**	**+0.9**
MBAR	**Mbarara**	**36.44 224**	P	**P**	**05 14 07.8**	**+0.1**
MBAR			pmax	pmax		
	comp=Z,21nm,1.0s					
MBAR			MLR	MLR		
	comp=Z,3μm,20.0s					
ARSA	**Arzberg**	**36.47 313**	*e*P	**P**	**05 14 07.2**	**-0.3**
	comp=Z,6.8nm,1.0s,SNR=7.6					
ARSA			*i* ScP	**ScP**	**05 20 17.0**	**-0.6**
	comp=Z,8.4nm,1.0s					
CONA	**Conrad Observa**	**36.47 314**	*i* P	**P**	**05 14 06.9**	**-0.7**
	comp=Z,10.0nm,1.0s,SNR=11					
CONA			*e*ScP	**ScP**	**05 20 19.5**	**+1.8**
	comp=Z,5.3nm,1.2s					
VRAC	**Vranov**	**36.51 317**	*e*P	**P**	**05 14 07.4**	**-0.4**
VRAC			*e*S	**S**	**05 19 46.1**	**-3.5**
VRAC	**Vranov**	**36.51 317**	P	**P**	**05 14 07.1**	**-0.8**
	comp=Z,24nm,0.9s,baz=107,slow=8.8,SNR=24					
VRAC			S	**S**	**05 19 48.3**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=41,slow=20,SNR=1.0					
VRAC			LR	LR	05 33 19.8	
	comp=Z,986nm,18.5s,baz=112,slow=43					
	comp=Z,24nm,0.9s					
VRAC	**Vranov**	**36.51 317**	⇓P	**P**	**05 14 07.3**	**-0.6**
VRAC	**Vranov**	**36.51 317**	P	**P**	**05 14 07.2**	**-0.6**
KRUC	**Moravsky**	**36.54 316**	*e*P	**P**	**05 14 07.6**	**-0.5**
KRUC			*e*S	**S**	**05 19 49.1**	**-0.9**
VSU	**Vasula**	**36.59 335**	*c*eP	**P**	**05 14 08.3**	**0.0**
VSU			pmax	pmax		
	comp=Z,101nm,0.6s					
RIY	**Rijeka**	**36.60 310**	P	**P**	**05 14 11.1**	**+2.4**
SOKA	**Soboth**	**36.61 312**	*e*P	**P**	**05 14 08.6**	**-0.3**
	comp=Z,13nm,1.0s					
SOKA			*i* ScP	**ScP**	**05 20 18.0**	**-0.2**
	comp=Z,14nm,1.1s					
KRLC	**Kraliky**	**36.69 318**	AMS	AMS	05 32 30.0	
	comp=Z,900nm,14.2s					
CEY	**Cerknica**	**36.75 310**	⇑*i*P	**P**	**05 14 08.5**	**-1.5**
SMRN	**Sveta Marina**	**36.76 309**	*i* P	**P**	**05 14 08.4**	**-1.5**
OBKA	**Obir**	**36.88 312**	*e*P	**P**	**05 14 10.6**	**-0.5**
	comp=Z,22nm,1.0s					
OBKA			*e*ScP	**ScP**	**05 20 21.4**	**+2.2**
	comp=Z,9.6nm,1.8s					
GUMA	**Gualdo di Mace**	**36.90 306**	IAmb	IAmb	05 14 46.9	
	comp=Z,116nm,1.0s					
GUMA			IAMs_20	IAMs_20	05 29 50.3	
	comp=Z,872nm,18.0s					
PBUR	**Paburge**	**36.97 329**	*e*P	**P**	**05 14 11.4**	**-0.1**
NRCA	**Norcia**	**37.02 305**	IAmb	IAmb	05 14 31.8	
	comp=Z,82nm,0.8s					
JAVS	**Javornik**	**37.04 311**	*i* P	**P**	**05 14 11.9**	**-0.6**
JAVS			*e*PP	**PnPn**	**05 15 43.3**	**+6.2**
DPC	**Dobruska-Polom**	**37.07 318**	*e*P	**P**	**05 14 12.1**	**-0.6**
DPC	**Dobruska-Polom**	**37.07 318**	*e*P	**P**	**05 14 12.1**	**-0.6**
DPC	**Dobruska-Polom**	**37.07 318**	P	**P**	**05 14 12.1**	**-0.6**
	comp=Z,54nm,1.1s,comp=Z,414nm					
TREC	**Trest**	**37.18 316**	*e*P	**P**	**05 14 13.2**	**-0.3**
TREC			*e*PP	**PnPn**	**05 15 41.4**	**+2.8**
TREC			AMS	AMS	05 33 10.0	
	comp=Z,1μm,15.0s					
TREC	**Trest**	**37.18 316**	*e*P	**P**	**05 14 13.2**	**-0.3**
TREC			*e*		05 15 41.4	
TREC			MLR	MLR		
	comp=Z,1μm,15.0s					
OSTC	**Ostas**	**37.22 319**	*e*P	**P**	**05 14 13.4**	**-0.4**
OSTC	**Ostas**	**37.22 319**	*e*P	**P**	**05 14 13.4**	**-0.4**
KSP	**Ksiaz**	**37.29 319**	*e*P	**P**	**05 14 13.9**	**-0.5**
KSP	**Ksiaz**	**37.29 319**	P	**P**	**05 14 13.9**	**-0.5**
	comp=Z,45nm,1.0s,comp=Z,492nm					
CESX	**Cesi**	**37.37 305**	IAmb	IAmb	05 14 24.9	
	comp=Z,123nm,1.2s					
VALR	**Valaam**	**37.43 341**	*i* P	**P**	**05 14 14.4**	**-1.0**
VALR			pmax	pmax		
	comp=Z,116nm,0.8s					
MOA	**Molln**	**37.46 314**	*i* P	**P**	**05 14 15.5**	**-0.5**
	comp=Z,14nm,0.8s,SNR=17					
MOA			*e*ScP	**ScP**	**05 20 25.4**	**+4.1**
	comp=Z,6.0nm,1.2s					
MYKA	**Terra Mystica**	**37.52 312**	*i* P	**P**	**05 14 15.8**	**-0.7**
	comp=Z,6.7nm,0.9s					
MYKA			*i* ScP	**ScP**	**05 20 22.6**	**+1.0**
	comp=Z,13nm,1.0s					
ARBE	**Arbavere**	**37.55 336**	*e*P	**P**	**05 14 17.1**	**+0.6**
CKRC	**Cesky Krumlov**	**37.74 315**	*e*P	**P**	**05 14 17.5**	**-0.8**
CKRC			*e*PP	**PnPn**	**05 15 46.7**	**+1.2**
CKRC			AMS	AMS	05 35 10.0	
	comp=Z,900nm,14.4s					
CKRC	**Cesky Krumlov**	**37.74 315**	*e*P	**P**	**05 14 17.5**	**-0.8**
CKRC			*e*		05 15 46.7	
CKRC			MLR	MLR		
	comp=Z,900nm,14.4s					
GKP	**Gorka Klasztor**	**37.81 323**	*e*P	**P**	**05 14 18.6**	**-0.2**
GKP	**Gorka Klasztor**	**37.81 323**	*e*P	**P**	**05 14 18.3**	**-0.5**
BIOA	**Bad Ischl, Aus**	**37.82 313**	*e*P	**P**	**05 14 18.3**	**-0.6**
	comp=Z,27nm,0.8s,SNR=14					
BIOA			*e*ScP	**ScP**	**05 20 23.8**	**+1.2**
	comp=Z,7.4nm,0.9s					
GOPC	**GO Pecny, Ondr**	**37.83 317**	*e*P	**P**	**05 14 18.0**	**-1.0**
GOPC			AMS	AMS	05 33 30.0	
	comp=Z,1μm,15.4s					
GOPC	**GO Pecny, Ondr**	**37.83 317**	*e*P	**P**	**05 14 18.0**	**-1.0**
GOPC			MLR	MLR		
	comp=Z,1μm,15.4s					
KBA	**Koelnbreinsper**	**37.84 312**	*i* P	**P**	**05 14 18.6**	**-0.7**
	comp=Z,12nm,0.8s,SNR=15					
KBA			*e*ScP	**ScP**	**05 20 22.9**	**0.0**
	comp=Z,7.6nm,1.5s					
MTSE	**Matsula**	**37.87 334**	*e*P	**P**	**05 14 19.0**	**-0.1**
ADZR	**Andozero**	**37.91 348**	*e*P	**P**	**05 14 18.9**	**-0.5**
ADZR			*e*S	**S**	**05 20 10.9**	**+0.5**
ADZR			pmax	pmax		
	comp=Z,80nm,0.6s					
PRU	**Pruhonice**	**38.00 317**	*e*P	**P**	**05 14 19.2**	**-1.2**
PRU			AMS	AMS	05 33 40.0	
	comp=Z,1μm,14.2s					
PRU	**Pruhonice**	**38.00 317**	*e*P	**P**	**05 14 19.2**	**-1.2**
PRU			MLR	MLR		
	comp=Z,1μm,14.2s					
PRA	**Prague**	**38.09 317**	AMS	AMS	05 33 40.0	
	comp=Z,1μm,13.9s					
GEC2	**GERESS Array S**	**38.13 315**	P	**P**	**05 14 20.5**	**-1.1**
GEC2	**GERESS Array S**	**38.13 315**	*e*P		05 14 20.6	
	comp=Z,12nm,1.0s,baz=110,slow=8.4					
GERES	**GERESS Array B**	**38.13 315**	P	**P**	**05 14 20.2**	**-1.5**
GERES	**GERESS Array B**	**38.13 315**	P	**P**	**05 14 20.6**	**-1.1**
	comp=Z,5.5nm,0.8s,baz=113,slow=8.8,SNR=18					
GERES			ScP	**ScP**	**05 20 27.3**	**+3.4**
	comp=Z,5.9nm,0.9s,baz=114,slow=3.2,SNR=10					
	comp=Z,5.5nm,0.8s					
PVCC	**Panska Ves**	**38.18 318**	*e*P	**P**	**05 14 21.2**	**-0.7**
PVCC			AMS	AMS	05 33 40.0	
	comp=Z,1μm,16.4s					
PVCC	**Panska Ves**	**38.18 318**	*e*P	**P**	**05 14 21.2**	**-0.7**
PVCC			MLR	MLR		
	comp=Z,1μm,16.4s					
ABTA	**Abfaltersbach**	**38.30 311**	*i* P	**P**	**05 14 22.5**	**-0.6**
	comp=Z,20nm,0.9s,SNR=15					
ABTA			*i* S	**S**	**05 20 16.2**	**-0.7**
	comp=Z,4.5nm,0.9s					
KHC	**Kasperske Hory**	**38.30 316**	P	**P**	**05 14 22.2**	**-0.8**
KHC	**Kasperske Hory**	**38.30 316**	*e*P	**P**	**05 14 22.4**	**-0.6**
KHC			*e*PP	**PnPn**	**05 15 53.5**	**+1.3**
KHC			AMS	AMS	05 33 20.0	
	comp=Z,900nm,15.8s					
KHC	**Kasperske Hory**	**38.30 316**	P	**P**	**05 14 22.2**	**-0.8**
KHC			pmax	pmax		
	comp=Z,47nm,0.8s					
LESA	**Schwarzleotal**	**38.37 313**	*e*P	**P**	**05 14 22.6**	**-1.1**
	comp=Z,7.3nm,0.6s					
LESA			*e*S	**S**	**05 20 18.4**	**+0.5**
	comp=Z,4.1nm,0.8s					
RJOB	**Jochberg**	**38.38 313**	*e*P		05 14 22.8	
	comp=Z,13nm,0.7s,baz=110,slow=8.4					
RICC	**Richard**	**38.46 318**	*e*P	**P**	**05 14 23.8**	**-0.5**
RICC			AMS	AMS	05 34 10.0	
	comp=Z,1μm,16.6s					
TEOL	**Teolo**	**38.54 309**	P	**P**	**05 14 24.2**	**-0.8**
JOF	**Joensuu**	**38.58 343**	*e*P	**P**	**05 14 25.6**	**+0.5**
MEF	**Metsahovi**	**38.67 336**	*e*P	**P**	**05 14 25.7**	**-0.2**
BRG	**Berggiesshubel**	**38.67 318**	⇑*i*P	**P**	**05 14 25.5**	**-0.7**
BRG			Amp		05 14 30.1	
	comp=Z,33nm,1.1s					
BRG	**Berggiesshubel**	**38.67 318**	P	P	05 14 39.5	+13
BRG			Amp		05 14 42.3	
	comp=Z,40nm,1.0s					
BRG	**Berggiesshubel**	**38.67 318**	P	P	05 14 48.4	+22
BRG			Amp		05 14 53.4	
	comp=Z,36nm,1.0s					
BRG			PP	**PnPn**	**05 15 58.0**	**+1.3**
BRG			Amp		05 16 11.9	
	comp=Z,13nm,1.0s					
BRG			⇑PP	**PcP**	**05 16 41.5**	**+3.5**
BRG			Amp		05 16 44.5	
	comp=Z,10nm,0.9s					
BRG	**Berggiesshubel**	**38.67 318**	S	**S**	**05 20 22.0**	**-0.4**
BRG			⇑SP	**ScP**	**05 20 30.5**	**+4.7**
BRG			Amp		05 20 31.5	
	comp=Z,8.9nm,1.1s					
BRG	**Berggiesshubel**	**38.67 318**	⇑*i*P	**P**	**05 14 25.4**	**-0.7**
BRG					05 15 57.9	
BRG					05 16 41.4	
BRG			S	**S**	**05 20 22.0**	**-0.4**
BRG					05 20 30.4	
BRG			pmax	pmax		
	comp=Z,33nm,1.1s					
BRG			pmax	pmax		
	comp=Z,13nm,1.0s					
BRG			MLR	MLR		
	comp=E,640nm,15.1s					
BRG			MLR	MLR		
	comp=N,766nm,22.2s					
BRG			MLR	MLR		
	comp=Z,1μm,23.1s					
BRG	**Berggiesshubel**	**38.67 318**	*e*P		05 14 25.5	
	comp=Z,33nm,1.1s,baz=110,slow=8.4					
WET	**Wettzell**	**38.74 315**	*e*P		05 14 25.3	
	comp=Z,16nm,1.0s,baz=110,slow=8.4					
WET			*e*L		05 34 12.4	
	comp=Z,645nm,19.9s					
ZCCA	**Zocca**	**38.82 307**	IAMs_20	IAMs_20	05 32 18.0	
	comp=Z,2μm,21.0s					
GTA	**Gaotai**	**38.84 61**	⇑P	**P**	**05 14 28.9**	**+1.0**
GTA			S	**S**	**05 20 26.8**	**+1.3**
GTA			SS	**SS**	**05 23 12.1**	**-4.5**
GTA			pmax	pmax		
	comp=Z,62nm,1.2s					
GTA			pmax	pmax		
	comp=Z,520nm,6.5s					
GTA			LR	LR		
	comp=Z,860nm,18.9s					
GTA			LR	LR		
	comp=Z,1μm,18.5s					
GTA			LR	LR		
	comp=Z,2μm,18.2s					
HSKC	**Hora Svate Kat**	**38.88 318**	*e*P	**P**	**05 14 26.3**	**-1.6**
HSKC			AMS	AMS	05 34 20.0	
	comp=Z,1μm,15.3s					
FINES	**FINESS Array B**	**38.97 338**	P	**P**	**05 14 28.0**	**-0.4**
FINES	**FINESS Array B**	**38.97 338**	P	**P**	**05 14 28.2**	**-0.2**
	comp=Z,68nm,0.8s,baz=124,slow=10,SNR=57					
FINES			S	**S**	**05 20 23.0**	**-3.5**
	comp=Z,6.7nm,0.8s,baz=130,slow=15,SNR=3.4					
FINES			LR	LR	05 33 06.7	
	comp=Z,761nm,19.3s,baz=134,slow=40					
	comp=Z,68nm,0.8s					
TNCH	**TengChong**	**38.98 84**	⇑P	**P**	**05 14 31.0**	**+1.8**
TNCH			PP	**PnPn**	**05 16 02.5**	**+1.6**
TNCH			S	**S**	**05 20 28.8**	**+0.9**
TNCH			pmax	pmax		
	comp=Z,200nm,1.0s					
TNCH			LR	LR		
	comp=Z,490nm,9.2s					
TNCH			LR	LR		
	comp=Z,410nm,7.5s					
TNCH			LR	LR		
	comp=Z,540nm,12.1s					
WTTA	**Wattenberg**	**39.01 312**	*i* P	**P**	**05 14 28.1**	**-1.1**
	comp=Z,19nm,0.6s,SNR=26					
WTTA			*e*S	**S**	**05 20 24.1**	**-3.7**
	comp=Z,15nm,0.9s					
WATA	**Walderalm**	**39.06 312**	*i* P	**P**	**05 14 28.1**	**-1.5**
	comp=Z,32nm,1.2s,SNR=29					
WATA			*e*ScP	**ScP**	**05 20 27.4**	**-0.2**
	comp=Z,8.6nm,0.9s					
VLC	**Villacollemand**	**39.21 307**	P	**P**	**05 14 30.3**	**-0.4**
SQTA	**Sankt Quirin**	**39.28 312**	*i* P	**P**	**05 14 30.2**	**-1.2**
	comp=Z,32nm,0.6s,SNR=28					
SQTA			*i* ScP	**ScP**	**05 20 28.6**	**+0.3**
	comp=Z,24nm,1.1s					
ROTZ	**Rotzenmuhle**	**39.35 316**	*e*P		05 14 31.3	
	comp=Z,6.0nm,1.0s,baz=110,slow=8.4					
PRMA	**PARMA**	**39.37 308**	IAmb	IAmb	05 15 22.7	
	comp=Z,187nm,1.2s					
RUE	**Ruedersdorf**	**39.37 321**	*e*P	**P**	**05 14 31.8**	**0.0**
RUE	**Ruedersdorf**	**39.37 321**	*e*P		05 14 31.5	
	comp=Z,83nm,1.1s,baz=110,slow=8.4					
CLL	**Collm**	**39.38 319**	P	**P**	**05 14 31.3**	**-0.7**
CLL	**Collm**	**39.38 319**	⇑*i*P	**P**	**05 14 31.4**	**-0.7**
	comp=Z,33nm,1.1s					
CLL			*i* sP	**pP**	**05 14 36.3**	**-0.2**
	comp=Z,45nm,0.9s					
CLL			*i* x	x	05 14 46.5	
	comp=Z,

BSD IAmb IAmb 05 14 35.5
comp=Z,50nm,0.7s
KEF Keuruu 39.89 338 *e*P **P 05 14 36.2 +0.1**
GRA1 Grafenberg Arr 39.94 316 IAmb IAmb 05 15 21.8
comp=Z,87nm,1.0s
GRF Grafenberg Arr 39.94 316 *e*P 05 14 36.2
comp=Z,43nm,1.0s,baz=110,slow=8.4
GRF *e*L 05 34 49.2
comp=Z,728nm,18.1s
GRFO Grafenberg 39.94 316 P **P 05 14 35.8 -0.9**
GRFO Grafenberg 39.94 316 P **P 05 14 35.8 -0.9**
GRFO pmax pmax
comp=Z,83nm,1.0s
MOX Moxa 39.99 317 P **P 05 14 36.4 -0.7**
MOX Moxa 39.99 317 *e*P 05 14 36.3
comp=Z,12nm,1.2s,baz=110,slow=8.4
MOX *e*L 05 35 06.6
comp=Z,1μm,18.0s
DAVOX Davos/Dischmat 40.06 311 P **P 05 14 37.1 -0.9**
comp=Z,19nm,0.5s,baz=106,slow=6.4,SNR=18
DAVOX S **S 05 20 35.3 -8.5**
comp=Z,6.9nm,0.9s,baz=125,slow=5.9,SNR=3.9
DAVOX LR LR 05 35 16.4
comp=Z,1μm,18.0s,baz=89,slow=42
comp=Z,19nm,0.5s
NEUB Neuenburg 40.08 318 *e*P 05 14 37.2
comp=Z,21nm,0.8s,baz=110,slow=8.4
UBR Ueberruh 40.12 312 *e*P 05 14 37.0
comp=Z,65nm,1.1s,baz=110,slow=8.4
DAVA Damuels 40.17 312 *i* P **P 05 14 37.7 -1.1**
comp=Z,66nm,0.6s,SNR=45
DAVA *e*ScP **ScP 05 20 34.3 +2.5**
comp=Z,7.7nm,1.0s
RAF Rauma 40.18 336 *e*P **P 05 14 38.0 -0.5**
TUE Stuetta 40.36 310 P **P 05 14 39.3 -1.2**
TUE Stuetta 40.36 310 P **P 05 14 39.3 -1.2**
comp=Z,244nm,0.9s,comp=Z,2μm
RGN Rugen 40.46 323 P **P 05 14 40.8 -0.1**
RGN IAmb IAmb 05 14 47.1
comp=Z,141nm,0.8s
RGN Rugen 40.46 323 *e*P **P 05 14 41.5 +0.7**
RGN Rugen 40.46 323 *e*P 05 14 41.1
comp=Z,135nm,0.8s,baz=110,slow=8.4
FLTG Flechtingen 40.77 319 *e*P 05 14 43.4
comp=Z,112nm,1.0s,baz=110,slow=8.4
ABSA Djebel Ababsia 40.88 294 P **P 05 14 46.2 +1.4**
CMAH Djebel Manchou 40.92 295 P **P 05 14 46.1 +1.0**
GORT1 Trebel 40.96 320 *e*P 05 14 45.2
comp=Z,120nm,1.0s,baz=110,slow=8.4
STU Stuttgart 40.97 314 P **P 05 14 43.7 -1.6**
STU Stuttgart 40.97 314 P **P 05 14 43.7 -1.6**
STU pmax pmax
comp=Z,13nm,0.8s
UBBA Unterbreizbach 41.02 317 *e*P 05 14 45.3
comp=Z,84nm,1.8s,baz=110,slow=8.4
CLZ Clausthal 41.11 319 *e*P 05 14 46.5
comp=Z,82nm,1.1s,baz=110,slow=8.4
CHTO Chiang Mai 41.18 93 P **P 05 14 47.8 +0.5**
CHTO IAmb IAmb 05 14 56.2
comp=Z,99nm,1.0s
CHTO Chiang Mai 41.18 93 P **P 05 14 47.8 +0.5**
CHTO pmax pmax
comp=Z,99nm,1.0s
VAF Ylistaro 41.23 338 *e*P **P 05 14 47.2 0.0**
GTTG Gottingen 41.26 318 *e*P 05 14 47.5
comp=Z,106nm,1.3s,baz=110,slow=8.4
CMAR Chiang Mai Arr 41.30 93 P **P 05 14 49.1 +0.8**
CMAR Chiang Mai Arr 41.30 93 P **P 05 14 49.3 +1.0**
comp=Z,36nm,1.1s,baz=290,slow=7.5,SNR=27
CMAR PcP **PcP 05 16 46.8 -0.1**
comp=Z,11nm,0.8s,baz=289,slow=5.1,SNR=5.9
CMAR ScP **ScP 05 20 36.9 +0.3**
comp=Z,1.1nm,0.3s,baz=284,slow=5.5,SNR=2.5
CMAR LR LR 05 34 50.1
comp=Z,643nm,20.5s,baz=280,slow=40
comp=Z,36nm,1.1s
CAEH 'Ain El Ouahch 41.38 295 P **P 05 14 49.6 +0.8**
COP Copenhagen 41.40 325 *i* P **P 05 14 48.5 -0.1**
COP IAmb IAmb 05 14 49.6
comp=Z,108nm,0.8s
BFO Black Forest 41.43 313 P **P 05 14 47.1 -1.9**
BFO Black Forest 41.43 313 P **P 05 14 47.2 -1.9**
BFO Black Forest 41.43 313 *e*L 05 33 58.5
comp=Z,815nm,20.3s
NRDL Niedersach Rie 41.48 319 *e*P 05 14 49.8
comp=Z,280nm,1.5s,baz=110,slow=8.4
PZH PanZhiHua 41.48 80 P **P 05 14 51.8 +1.9**
PZH PP **PP 05 16 27.1 +1.4**
PZH S **S 05 21 03.4 -1.8**
PZH pmax pmax
comp=Z,20nm,1.5s
PZH pmax pmax
comp=Z,370nm,6.7s
PZH LR LR
comp=Z,2μm,18.2s
PZH LR LR
comp=Z,810nm,16.5s
PZH LR LR
comp=Z,1μm,18.4s
CKFL Kef-Lekhel 41.49 295 P **P 05 14 50.9 +1.0**
CASM Ain Smara 41.68 294 P **P 05 14 52.4 +1.1**
SENIN Lac Senin/Sane 41.73 310 IAmb IAmb 05 15 08.8
comp=Z,183nm,1.1s
TNS Taunus Mts 41.81 316 *e*P 05 14 51.6
comp=Z,86nm,1.6s,baz=110,slow=8.4
TNS *e*L 05 36 23.8
comp=Z,752nm,18.5s
BSEG Bad Segeberg 41.85 321 *e*P 05 14 52.3
comp=Z,85nm,1.2s,baz=110,slow=8.4
BSEG *e*L 05 37 02.0
comp=Z,745nm,18.7s
MOY Mondy 41.90 42 *e*P **P 05 14 54.1 +1.1**
MOY pmax pmax
comp=Z,143nm,1.7s
BNI Bardonecchia 41.96 308 P **P 05 14 52.2 -1.4**
BNI Bardonecchia 41.96 308 P **P 05 14 52.2 -1.4**
BNI pmax pmax
comp=Z,48nm,0.9s
RETH Rethem/Aller, 41.98 319 *e*P 05 14 53.7
comp=Z,109nm,1.4s,baz=110,slow=8.4
LPL La Plagne 41.99 308 *e*P **P 05 14 51.6 -2.3**
LPL pmax pmax
comp=Z,27nm,0.6s
LZH Lanzhou 42.01 66 ⇑P **P 05 14 54.8 +0.6**
LZH sP sP 05 15 05.3 +5.0
LZH S **S 05 21 09.1 -3.8**
LZH pmax pmax
comp=Z,51nm,1.4s
LZH pmax pmax
comp=Z,250nm,5.2s
LZH LR LR
comp=Z,2μm,13.4s
LZH LR LR
comp=Z,680nm,13.4s
LZH LR LR
comp=Z,930nm,14.8s
APA Apatity 42.08 348 ⇓*i*P **P 05 14 52.8 -1.2**
APA *i* 05 16 31.7
APA *i* 05 16 44.9
APA *i* S **S 05 21 10.0 -2.7**
APA *i* SS **SS 05 24 10.0 -10**
APA pmax pmax
comp=Z,43nm,0.7s
APA MLR MLR
comp=Z,2μm,14.0s
KASTN Kahler Asten 42.09 317 *e*P 05 14 54.6
comp=Z,128nm,1.5s,baz=110,slow=8.4
LVZ Lovozero 42.14 349 P **P 05 14 54.3 -0.3**
LVZ Lovozero 42.14 349 *ce*P **P 05 14 55.5 +0.9**
LVZ pmax pmax
comp=Z,77nm,1.7s
LVZ Lovozero 42.14 349 P **P 05 14 54.9 +0.3**
comp=Z,54nm,1.6s
ECH Echery 42.17 312 P **P 05 14 53.5 -1.6**
ECH Echery 42.17 312 P **P 05 14 53.5 -1.6**
ECH pmax pmax
comp=Z,30nm,0.9s
CD2 Chengdu 42.43 73 P **P 05 14 57.1 -0.4**
CD2 S **S 05 21 17.5 -1.5**
CD2 SS **SS 05 24 26.6 -1.5**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 pmax pmax
comp=Z,300nm,7.1s
CD2 LR LR
comp=Z,1μm,15.3s
CD2 LR LR
comp=Z,1μm,14.5s
CD2 LR LR
comp=Z,1μm,17.5s
KMI Kunming 42.67 82 ⇑P **P 05 15 00.1 +0.4**
KMI SS SS 05 24 30.6 -2.7
KMI pmax pmax
comp=Z,100nm,0.9s
KMI pmax pmax
comp=Z,630nm,3.8s
KMI LR LR
comp=Z,1μm,20.0s
KMI LR LR
comp=Z,620nm,19.1s
KMI LR LR
comp=Z,640nm,16.6s
AHRW Bad Neuenahr-A 42.74 316 *e*P 05 14 59.6
comp=Z,26nm,0.9s,baz=110,slow=8.4
SSRD Sdr. Stenderup 42.78 323 *i* P **P 05 14 59.5 -0.4**
SSRD IAmb IAmb 05 15 01.1
comp=Z,59nm,0.8s
IBBN Ibbenburen 42.79 318 *e*P 05 15 00.4
comp=Z,275nm,1.6s,baz=110,slow=8.4
BUG Bochum--Univer 42.84 317 *e*P 05 15 00.7
comp=Z,110nm,1.2s,baz=110,slow=8.4
HFS Hagfors 42.88 331 P **P 05 15 00.1 -0.6**
comp=Z,75nm,0.8s,baz=127,slow=9.5,SNR=61
HFS LR LR 05 35 01.2
comp=Z,598nm,19.0s,baz=122,slow=39
comp=Z,75nm,0.8s
ZAK Zakamensk 42.96 45 *e*P **P 05 15 01.1 -0.5**
ZAK *e* 05 16 42.5
ZAK pmax pmax
comp=Z,28nm,1.3s
ZAK pmax pmax
comp=Z,14nm,1.1s
SRDT SRDT 43.06 99 P **P 05 15 04.9 +2.2**
WLF Walferdange 43.12 314 P **P 05 15 01.6 -1.1**
WLF Walferdange 43.12 314 *d*P **P 05 15 01.8 -0.9**
WLF Walferdange 43.12 314 P **P 05 15 01.7 -1.1**
WLF Walferdange 43.12 314 P **P 05 15 01.6 -1.1**
WLF pmax pmax
comp=Z,37nm,0.9s
WLF MLR MLR
comp=Z,400nm,19.0s
WLF Walferdange 43.12 314 *e*P 05 15 01.7
comp=Z,47nm,1.1s,baz=110,slow=8.4
BTNL Ternell 43.33 316 *d*P **P 05 15 04.8 +0.3**
BHOU Houvegnez 43.36 315 *d*P **P 05 15 04.7 0.0**
MUD Monsted U'grnd 43.38 325 *i* P **P 05 15 04.2 -0.5**
MUD IAmb IAmb 05 15 05.8
comp=Z,37nm,0.8s
MEM Membach 43.41 316 *d*P **P 05 15 05.1 0.0**
BEBN Eben Emael 43.66 316 *d*P **P 05 15 07.2 +0.1**
BSTI Sart Tilman 43.68 316 *d*P **P 05 15 07.5 +0.2**
RCHB Rochefort 43.80 315 *d*P **P 05 15 08.1 -0.2**
BCLA Clavier 43.81 315 *d*P **P 05 15 08.3 -0.1**
comp=Z,20nm,1.4s
BGES Gesves 43.94 315 *d*P **P 05 15 09.1 -0.2**
IRK Irkutsk 44.01 42 *e*P **P 05 15 07.7 -2.2**
IRK pmax pmax
comp=Z,85nm,2.3s
OSL Oslo 44.09 330 *e*P **P 05 15 09.8 -0.6**
OSL *e*S **S 05 21 39.5 -3.0**
NC602 NORSAR Array S 44.11 331 *e*P **P 05 15 09.4 -1.1**
NC602 IAmb IAmb 05 15 15.4
comp=Z,34nm,0.8s
NC602 *e*PP **PcP 05 16 54.7 -0.8**
NC602 *e*S **S 05 21 43.7 +1.0**
NC602 *e*SS **SS 05 24 56.7 -3.3**
BMRD Maredsous 44.12 315 *d*P **P 05 15 10.6 -0.2**
SMF Signal de Mont 44.13 310 *e*P **P 05 15 08.9 -2.1**
SMF pmax pmax
comp=Z,48nm,0.8s
DOU Dourbes 44.19 315 *d*P **P 05 15 11.2 -0.2**
comp=Z,35nm,1.0s
NB201 NORSAR Array S 44.37 331 P **P 05 15 11.4 -1.3**
NB201 IAmb IAmb 05 15 16.2
comp=Z,78nm,0.9s
NB2 NORSAR Subarra 44.40 331 P **P 05 15 11.7 -1.2**
comp=Z,63nm,0.7s,baz=118,slow=7.9
NB2 PP **PP 05 16 55.0 -1.4**
comp=Z,21nm,0.9s,baz=117,slow=10
NB2 NORSAR Subarra 44.40 331 P **P 05 15 11.7 -1.2**
baz=118,slow=7.9
NOA NORSAR Array B 44.40 331 P **P 05 15 11.7 -1.2**
comp=Z,59nm,0.8s,baz=119,slow=8.0,SNR=129
NOA PP **PcP 05 16 59.0 +2.5**
comp=Z,3.1nm,0.7s,baz=51,slow=16,SNR=0.9
NOA LR LR 05 35 58.0
comp=Z,594nm,18.4s,baz=125,slow=39
comp=Z,59nm,0.8s
NC303 NORSAR Array S 44.42 332 P **P 05 15 11.9 -1.2**
NC303 IAmb IAmb 05 15 16.8
comp=Z,46nm,0.8s
NAO01 NORSAR Array S 44.44 331 P **P 05 15 12.4 -0.9**
NAO01 IAmb IAmb 05 15 16.8
comp=Z,77nm,0.9s
KONO Kongsberg 44.48 329 P **P 05 15 12.6 -0.9**
KONO IAmb IAmb 05 15 20.2
comp=Z,50nm,0.9s
KONO Kongsberg 44.48 329 *e*P **P 05 15 12.6 -0.9**
KONO IAmb IAmb 05 15 19.4
comp=Z,49nm,0.9s
KONO *e*PP **PcP 05 16 56.9 +0.1**
KONO *e*S **S 05 21 47.0 -1.0**
KONO *e*SS **SS 05 25 05.8 -1.4**
KONO Kongsberg 44.48 329 P **P 05 15 12.6 -0.9**
KONO pmax pmax
comp=Z,50nm,0.9s
EJON La Jonquera 44.48 304 P **P 05 15 12.8 -1.1**
SONM Songino Array 44.49 49 P **P 05 15 13.7 -0.3**
SONM Songino Array 44.49 49 P **P 05 15 14.3 +0.3**
comp=Z,20nm,0.9s,baz=255,slow=8.3,SNR=28
SONM PP **PP 05 16 58.0 +0.3**
comp=Z,5.6nm,0.9s,baz=247,slow=10,SNR=1.3
comp=Z,20nm,0.9s
SONM Songino Array 44.49 49 P **P 05 15 13.7 -0.3**
SONM pmax pmax
comp=Z,39nm,1.0s
ETOS Mallorca 44.50 300 P **P 05 15 14.3 +0.2**
NBO00 NORSAR Array S 44.58 331 P **P 05 15 13.4 -0.9**
NBO00 IAmb IAmb 05 15 19.4
comp=Z,50nm,0.7s
NC204 NORSAR Array S 44.70 331 P **P 05 15 14.4 -1.0**
SLVN Son La 44.75 87 IAmb IAmb 05 15 23.6
comp=Z,51nm,0.9s
TAM Tamanrasset 44.77 275 P **P 05 15 16.2 -0.3**
TAM IAmb IAmb 05 15 23.0
comp=Z,42nm,0.8s
TAM Tamanrasset 44.77 275 P **P 05 15 16.2 -0.3**
TAM pmax pmax
comp=Z,42nm,0.8s
ULN Ulaanbaatar 44.94 49 P **P 05 15 17.6 0.0**
ULN Ulaanbaatar 44.94 49 IAMs_20 IAMs_20 05 36 34.1
comp=Z,1μm,18.0s
ULN Ulaanbaatar 44.94 49 P **P 05 15 17.9 +0.3**
ULN Ulaanbaatar 44.94 49 P **P 05 15 17.6 0.0**
ULN pmax pmax
comp=Z,34nm,1.1s
ULN MLR MLR
comp=Z,1μm,18.0s
NAYO Nakonayok 45.01 97 P **P 05 15 20.2 +1.9**
VADS Vadso 45.03 348 *e*P **P 05 15 17.5 -0.3**
VADS IAmb IAmb 05 15 21.1
comp=Z,49nm,1.1s
VADS *e*PP **PP 05 17 02.9 0.0**
VADS *e*S **S 05 21 56.6 +0.8**
VADS *e*ScS **SS 05 25 16.1 -1.4**
SNART Snartemo 45.08 327 *e*P **P 05 15 17.0 -1.3**
NONG Nongkai 45.17 92 P **P 05 15 20.7 +1.1**
KEV Kevo 45.19 347 P **P 05 15 18.6 -0.4**
KEV IAmb IAmb 05 15 23.4
comp=Z,70nm,0.9s
KEV Kevo 45.19 347 P **P 05 15 18.6 -0.4**
KEV pmax pmax
comp=Z,70nm,0.9s
CAF Calviac 45.20 307 *e*P **P 05 15 18.0 -1.6**
CAF pmax pmax
comp=Z,27nm,0.7s
ARCES ARCESS Array B 45.32 346 P **P 05 15 20.2 +0.1**
ARCES IAmb IAmb 05 15 34.0
comp=Z,95nm,1.6s
ARCES ARCESS Array B 45.32 346 P **P 05 15 20.0 -0.1**
comp=Z,19nm,0.8s,baz=140,slow=7.8,SNR=20
ARCES PP **PcP 05 16 59.4 -0.1**
comp=Z,12nm,0.7s,baz=145,slow=7.2,SNR=2.8
ARCES LR LR 05 37 29.3
comp=Z,1μm,19.2s,baz=139,slow=40
comp=Z,19nm,0.8s
ARCES ARCESS Array B 45.32 346 P **P 05 15 20.2 +0.1**
ARCES pmax pmax
comp=Z,95nm,1.6s
KTK1 Kautokeino 45.43 345 *e*P **P 05 15 20.9 0.0**
KTK1 *e*S **S 05 21 58.9 -2.8**
KTK1 *e*SS **SS 05 25 32.8 +8.0**
EIBI Ibiza 45.66 299 P **P 05 15 23.4 +0.1**
CEST Esterri de Car 45.69 304 IAmb IAmb 05 15 31.0
comp=Z,45nm,0.8s
MLSI Meulaboh, Aceh 45.76 113 P **P 05 15 25.6 +1.3**
comp=Z,91nm,0.9s
DOMB Dombas 45.78 332 *e*P **P 05 15 23.5 -0.3**
DOMB IAmb IAmb 05 15 24.9
comp=Z,29nm,0.7s
DOMB *e*PP **PP 05 17 11.3 +0.3**
DOMB *e*S **S 05 22 06.6 -0.3**
DOMB *e*SS **SS 05 25 29.6 -1.5**
GYA Guiyang 45.79 79 ⇓P **P 05 15 25.8 +1.2**
GYA PcP **PcP 05 17 04.1 +2.0**
GYA S **S 05 22 07.6 -0.5**
GYA pmax pmax
comp=Z,23nm,1.5s
GYA pmax pmax
comp=Z,600nm,6.8s
GYA LR LR
comp=Z,2μm,23.1s
GYA LR LR
comp=Z,850nm,22.8s
GYA LR LR
comp=Z,400nm,15.5s
BLS5 Blasjo 45.85 328 *e*P **P 05 15 24.5 0.0**
BLS5 IAmb IAmb 05 15 25.3
comp=Z,20nm,0.8s
BLS5 *e*PP **PP 05 17 12.0 +0.2**
BLS5 *e*S **S 05 22 08.8 +0.9**
BLS5 *e*ScS **ScS 05 25 23.6 +3.8**
NRIK Noril'sk 45.88 15 P **P 05 15 24.6 +0.1**
NRIK IAmb IAmb 05 15 34.9
comp=Z,69nm,0.9s
NRIK Noril'sk 45.88 15 P **P 05 15 24.6 +0.1**
comp=Z,39nm,0.9s,baz=224,slow=5.3,SNR=24
NRIK ScP **ScP 05 20 57.6 +3.4**
comp=Z,4.3nm,0.8s,baz=170,slow=4.8,SNR=4.0
NRIK S **S 05 22 07.4 -0.7**
comp=Z,1.4nm,0.3s,baz=148,slow=9.5,SNR=1.4
NRIK LR LR 05 37 48.6
comp=Z,1μm,18.2s,baz=212,slow=40
comp=Z,39nm,0.9s
NRIK Noril'sk 45.88 15 *ce*P **P 05 15 25.1 +0.6**
NRIK pmax pmax
comp=Z,79nm,0.9s
NSS Namsos 45.88 336 *e*P **P 05 15 25.0 +0.4**
ODD1 Odda 45.95 328 *e*P **P 05 15 26.7 +1.4**
ODD1 IAmb IAmb 05 15 30.9
comp=Z,86nm,0.9s
ODD1 *e*PP **PP 05 17 12.7 -0.2**
ODD1 *e*S **S 05 22 10.4 +0.8**
ODD1 *e*ScS **ScS 05 25 20.3 -0.3**
LFF La Frestale 46.15 307 *e*P **P 05 15 25.6 -1.4**
LFF pmax pmax
comp=Z,35nm,0.6s
XAN Xi'an 46.34 68 P **P 05 15 28.0 -0.7**
XAN S **S 05 22 13.9 -1.9**
XAN SS **SS 05 25 37.8 -3.5**
XAN pmax pmax
comp=Z,120nm,0.8s
XAN pmax pmax
comp=Z,640nm,4.5s
XAN LR LR
comp=Z,1μm,19.2s
XAN LR LR
comp=Z,1μm,17.4s
XAN LR LR
comp=Z,2μm,18.6s
KMY Karmoy 46.35 327 *e*P **P 05 15 27.6 -0.8**
KMY IAmb IAmb 05 15 35.5
comp=Z,40nm,0.8s
FAUS Fauske 46.44 340 *e*P **P 05 15 28.4 -0.5**
FAUS IAmb IAmb 05 15 34.5
comp=Z,73nm,0.8s
FAUS *e*PP **PP 05 17 18.3 +0.4**
FAUS *e*S **S 05 22 11.9 -4.3**
OPO Ambohidratompo 46.51 190 LR LR 05 33 08.6
comp=Z,883nm,20.6s,baz=182,slow=34
STOK Stokkvaagen 46.53 338 *e*P **P 05 15 27.5 -2.2**
STOK IAmb IAmb 05 15 36.1
comp=Z,119nm,0.9s
STOK *e*PP **PP 05 17 19.4 +0.6**
STOK *e*ScP **ScP 05 20 55.9 -1.1**
STOK *e*S **S 05 22 19.3 +1.9**
ELSH Elham, Standar 46.55 316 *e*P **P 05 15 29.7 -0.3**
HAMF Hammerfest 46.58 346 *e*P **P 05 15 30.4 +0.4**
HAMF IAmb IAmb 05 15 33.7
comp=Z,61nm,0.8s
HAMF *e*S **S 05 22 22.4 +4.2**
HAMF *e*SS **SS 05 25 44.8 +0.8**
KONS Konsvik 46.59 338 *e*P **P 05 15 29.9 -0.2**
HYA Hoyanger 46.65 330 *e*P **P 05 15 30.2 -0.4**
HYA IAmb IAmb 05 15 31.4
comp=Z,38nm,0.8s
HYA *e*PP **PP 05 17 18.7 -1.4**
MOL Molde 46.65 332 *e*P **P 05 15 30.4 -0.2**
MOL *e*S **S 05 22 17.2 -2.0**
MOL *e*ScS **ScS 05 25 29.5 +4.6**
BTO Baotou 46.70 59 *e*P **P 05 15 31.4 -0.2**
BTO PP **PP 05 17 25.0 +3.7**
BTO S **S 05 22 19.9 -1.0**
BTO SS **SS 05 25 38.0 -9.1**
BTO pmax pmax
comp=Z,75nm,0.9s
BTO pmax pmax
comp=Z,440nm,4.9s
BTO LR LR
comp=Z,3μm,15.3s
BTO LR LR
comp=Z,1μm,8.8s
BTO LR LR
comp=Z,2μm,19.1s
BER Bergen 46.73 329 *e*P **P 05 15 31.4 +0.1**
BER IAmb IAmb 05 15 35.5
comp=Z,76nm,0.8s
BER *e*S **S 05 22 15.9 -4.6**
BER *e*SS **SS 05 25 46.6 -0.1**
ELMS Elmsett, Ipswi 46.79 317 ⇑*e*P **P 05 15 31.1 -0.8**
STEI Steigen 46.80 341 *e*P **P 05 15 31.1 -0.7**
STEI IAmb IAmb 05 15 35.1
comp=Z,54nm,0.8s
STEI *e*PP **PP 05 17 21.8 +0.1**
ASK Askoy 46.83 329 *e*P **P 05 15 32.0 -0.1**
TRO Tromso 46.93 344 *e*P **P 05 15 33.1 +0.4**
ABPO Ambohimpanom 46.94 190 P **P 05 15 34.1 +0.5**
ABPO Ambohimpanom 46.94 190 P **P 05 15 34.1 +0.5**
ABPO pmax pmax
comp=Z,36nm,1.2s
HMNX Herstmonceux 47.00 315 ⇑*e*P **P 05 15 32.9 -0.7**
WACR West Acre 47.12 318 ⇑*e*P **P 05 15 33.8 -0.7**
WACR IAmb IAmb 05 15 37.8
comp=Z,103nm,1.0s
SUE Sulen 47.24 329 *e*P **P 05 15 35.1 -0.2**
KCSI Kotacane, Aceh 47.31 113 P **P 05 15 34.2 -2.3**
comp=Z,56nm,0.8s,comp=Z,2μm
FOO Floro 47.32 330 *e*P **P 05 15 35.9 0.0**
FOO IAmb IAmb 05 15 39.8
comp=Z,32nm,0.8s
FOO *e*S **S 05 22 28.4 -0.5**
ECHE Chera 47.42 300 P **P 05 15 37.8 +0.6**
LOF Lofoten 47.43 340 *e*P **P 05 15 35.1 -1.6**
LOF IAmb IAmb 05 15 39.7
comp=Z,40nm,1.1s
LOF *e*S **S 05 22 31.8 +1.6**
LOF *e*SS **SS 05 25 57.8 +0.2**
CART Cartagena 47.59 297 IAmb IAmb 05 16 02.5
comp=Z,30nm,0.8s
CART Cartagena 47.59 297 P **P 05 15 38.2 -0.2**
EMUR La Murta 47.76 297 P **P 05 15 39.0 -0.7**
HHC Hu-ho-hao-te 47.87 59 *e*P **P 05 15 41.5 +0.9**
HHC pP pP 05 15 45.3 +0.2
HHC sP sP 05 15 54.3 +7.4
HHC PcP **PcP 05 17 07.6 -1.6**

HHC PP **PP** **05 17 36.3 +3.9**
HHC S **S** **05 22 39.8 +2.3**
HHC SS **SS** **05 25 57.8 -8.1**
HHC pmax pmax
comp=Z,31nm,0.8s
HHC pmax pmax
comp=Z,500nm,6.2s
HHC LR LR
comp=Z,500nm,12.5s
HHC LR LR
comp=Z,750nm,12.5s
HHC LR LR
comp=Z,1μm,12.2s
ETOB Tobarra 47.93 298 P **P** **05 15 41.4 +0.3**
WOL Wolverton 48.04 315⇑ *e*P **P** **05 15 41.2 -0.4**
TLOR Lorca, Murcia 48.13 297 P **P** **05 15 42.6 0.0**
GDLE Glaisdale, N Y 48.28 320⇑ *e*P **P** **05 15 42.7 -0.8**
CWF Charnwood Fore 48.29 317⇑ *e*P **P** **05 15 42.1 -1.4**
JSA Saint Aubin 48.42 313⇑ *e*P **P** **05 15 43.4 -1.2**
JSA IAmb IAmb 05 15 43.9
comp=Z,46nm,0.8s
SWN1 Swindon 48.42 316⇑ *e*P **P** **05 15 44.3 -0.3**
SWN1 IAmb IAmb 05 15 48.1
comp=Z,126nm,0.8s
GSI Gunungsitoli 48.43 115 P **P** **05 15 46.7 +1.5**
GSI Gunungsitoli 48.43 115 P **P** **05 15 44.7 -0.5**
GSI IAmb IAmb 05 15 52.0
comp=Z,51nm,0.8s
GSI Gunungsitoli 48.43 115 P **P** **05 15 43.3 -1.9**
comp=Z,72nm,0.9s,comp=Z,5μm
RER Riviere de l'E 48.47 179 P **P** **05 15 44.3 -1.0**
ENIJ Nijar 48.61 296 P **P** **05 15 45.6 -0.7**
LBWR Ladybower, Pea 48.63 318⇑ *e*P **P** **05 15 44.9 -1.3**
LBWR IAmb IAmb 05 15 51.1
comp=Z,70nm,0.8s
HPK Haverah Park 48.66 319⇑ *e*P **P** **05 15 45.5 -1.0**
KULM Kulim 48.73 109 P **P** **05 15 47.8 +0.3**
KULM IAmb IAmb 05 15 54.3
comp=Z,43nm,0.9s
TIY Taiyuan 48.76 63 *e*P **P** **05 15 48.4 +0.8**
TIY pmax pmax
comp=Z,31nm,1.6s
TIY pmax pmax
comp=Z,450nm,5.8s
TIY LR LR
comp=Z,1μm,16.5s
TIY LR LR
comp=Z,460nm,16.5s
TIY LR LR
comp=Z,850nm,24.7s
OLDB Oldbury-Upon-S 48.90 316 *e*P **P** **05 15 47.0 -1.3**
EDMD Edmundbyers 49.01 320⇑ *e*P **P** **05 15 48.4 -0.7**
MONM Monmouth 49.08 316⇑ *e*P **P** **05 15 48.5 -1.2**
MONM IAmb IAmb 05 15 52.8
comp=Z,70nm,0.9s
UCM Universidad Co 49.12 301 P **P** **05 15 50.3 0.0**
EBER Berja 49.16 296 P **P** **05 15 50.2 -0.5**
LYN LuoYang 49.18 67 P **P** **05 15 51.3 +0.6**
LYN pP pP 05 15 54.6 -0.6
LYN PP **PP** **05 17 48.4 +4.0**
LYN S **S** **05 22 57.3 +1.4**
LYN pmax pmax
comp=Z,130nm,0.9s
LYN pmax pmax
comp=Z,360nm,8.0s
LYN LR LR
comp=Z,1μm,21.2s
LYN LR LR
comp=Z,2μm,20.3s
LYN LR LR
comp=Z,2μm,23.0s
HLM1 Long Mynd 49.21 317⇑ *e*P **P** **05 15 49.7 -0.9**
HLM1 IAmb IAmb 05 15 55.7
comp=Z,39nm,0.7s
MCH1 Michaelchurch 49.22 316⇑ *e*P **P** **05 15 49.6 -1.1**
MCH1 IAmb IAmb 05 15 55.0
comp=Z,58nm,0.8s
GULI GuiLin 49.31 79 P **P** **05 15 51.5 -0.3**
GULI pmax pmax
comp=Z,30nm,1.1s
EALB Alboran 49.39 295 P **P** **05 15 51.7 -0.6**
FOEL Foel Wylfa 49.45 317⇑ *e*P **P** **05 15 51.8 -0.7**
ESY Stoneypath 49.56 321⇑ *e*P **P** **05 15 52.5 -0.8**
EQTA Presa de Quent 49.56 297 P **P** **05 15 52.8 -0.9**
CIT Chita 49.60 44 *e*P **P** **05 15 52.8 -0.9**
CIT *e* 05 16 02.9
KESW Keswick, Cumbr 49.62 320⇑ *e*P **P** **05 15 52.8 -1.0**
KESW IAmb IAmb 05 15 53.6
comp=Z,62nm,0.9s
DYA Yadsworthy 49.65 314⇑ *e*P **P** **05 15 52.8 -1.3**
DRUM Mains of Drumt 49.67 323⇑ *e*P **P** **05 15 53.0 -1.1**
ESBB Sonseca Array 49.72 300 IAmb IAmb 05 16 04.1
comp=Z,121nm,1.6s
ESDC Sonseca Array 49.72 300 P **P** **05 15 54.1 -0.7**
ESDC IAmb IAmb 05 15 59.6
comp=Z,153nm,1.9s
ESDC Sonseca Array 49.72 300 P **P** **05 15 54.1 -0.7**
comp=Z,15nm,0.7s,baz=68,slow=7.6,SNR=78
ESDC ScP **ScP** **05 21 14.4 +3.3**
comp=Z,3.8nm,0.9s,baz=66,slow=3.6,SNR=7.7
ESDC S **S** **05 23 01.0 -2.6**
comp=Z,0.4nm,0.8s,baz=77,slow=17,SNR=2.4
ESDC LR LR 05 40 23.3
comp=Z,442nm,18.9s,baz=75,slow=40
comp=Z,15nm,0.7s
LRW Lerwick 49.73 327⇑ *e*P **P** **05 15 53.5 -1.0**
LRW IAmb IAmb 05 15 59.6
comp=Z,65nm,0.8s
ELGU Los Guajares, 49.75 296 P **P** **05 15 54.6 -0.6**
EKA Eskdalemuir Ar 49.77 321 P **P** **05 15 53.5 -1.4**
comp=Z,23nm,0.8s,baz=114,slow=7.7,SNR=36
EKA ScP **ScP** **05 21 10.9 0.0**
comp=Z,4.5nm,0.9s,baz=111,slow=7.7,SNR=3.3
comp=Z,23nm,0.8s
EKB Eskdalemuir 49.78 321 P **P** **05 15 53.6 -1.4**
ESK Eskdalemuir 49.79 321 P **P** **05 15 53.6 -1.4**
ESK Eskdalemuir 49.79 321⇑ *e*P **P** **05 15 54.0 -1.1**
ESK Eskdalemuir 49.79 321 P **P** **05 15 53.6 -1.4**
ESK pmax pmax
comp=Z,25nm,0.8s
VOI Vohitsoka 49.84 190 P **P** **05 15 57.0 +1.1**
VOI IAmb IAmb 05 16 17.5
comp=Z,73nm,0.9s
VOI Vohitsoka 49.84 190 P **P** **05 15 57.3 +1.4**
EDI Edinburgh 49.88 321⇑ *e*P **P** **05 15 54.6 -1.1**
LSZ Lusaka 49.91 215 P **P** **05 15 56.0 -0.5**
LSZ IAmb IAmb 05 16 20.9
comp=Z,55nm,1.2s
LSZ IAMs_20 IAMs_20 05 37 00.3
comp=Z,1μm,20.0s
LSZ Lusaka 49.91 215 P **P** **05 15 57.4 +0.9**
LSZ Lusaka 49.91 215 P **P** **05 15 56.0 -0.5**
LSZ pmax pmax
comp=Z,55nm,1.2s
LSZ MLR MLR
comp=Z,1μm,20.0s
PAB San Pablo 50.03 300 P **P** **05 15 56.6 -0.6**
PAB IAmb IAmb 05 16 06.1
comp=Z,47nm,0.7s
PAB San Pablo 50.03 300 P **P** **05 15 56.6 -0.6**
PAB pmax pmax
comp=Z,47nm,0.7s
PAB MLR MLR
comp=Z,500nm,19.0s
HTL Hartland 50.05 315⇑ *e*P **P** **05 15 56.4 -0.7**
EGOR Sierra Gorda, 50.10 297 P **P** **05 15 56.4 -1.5**
SBD Saint Breward 50.14 314⇑ *e*P **P** **05 15 57.0 -0.8**
WME Myndd Eilian 50.16 318⇑ *e*P **P** **05 15 57.2 -0.7**
MCD Coleburn Disti 50.21 323⇑ *e*P **P** **05 15 57.1 -1.1**
MCD IAmb IAmb 05 15 57.9
comp=Z,38nm,0.8s
WPS Cemaes, Angles 50.28 318⇑ *e*P **P** **05 15 58.1 -0.6**
WPS IAmb IAmb 05 16 03.7
comp=Z,59nm,0.8s
RSBS Rosebush, Pemb 50.29 316⇑ *e*P **P** **05 15 58.0 -0.9**
NEWG New Galloway 50.34 320⇑ *e*P **P** **05 15 58.4 -0.8**
NEWG IAmb IAmb 05 16 04.3
comp=Z,29nm,0.8s
EADA Adamuz 50.35 298 P **P** **05 15 59.2 -0.5**
IOMK Kirk Michael 50.42 319⇑ *e*P **P** **05 15 59.0 -0.8**
INVG Invergeldie, C 50.43 322⇑ *e*P **P** **05 15 59.0 -0.9**
INVG IAmb IAmb 05 16 04.4
comp=Z,31nm,0.8s
BJO1 Bjornoya 50.44 348 *e*P **P** **05 15 56.5 -3.2**
CCA1 Carnmenellis 50.47 314⇑ *e*P **P** **05 15 59.5 -0.8**

WIM Isle of Man 50.47 319⇑ *e*P **P** **05 15 59.5 -0.7**
KRI Karoi 50.54 212 *i*P **P** **05 16 02.4 +1.1**
GAL1 Galloway 50.58 320⇑ *e*P **P** **05 16 00.1 -0.9**
GAL1 IAmb IAmb 05 16 05.8
comp=Z,51nm,0.7s
PGBU Glenifferbraes 50.58 321 *e*P **P** **05 16 00.1 -0.9**
HNS HongShan 50.59 63 ⇑P **P** **05 16 01.8 +0.4**
HNS S **S** **05 23 11.6 -4.0**
HNS pmax pmax
comp=Z,38nm,1.2s
HNS LR LR
comp=Z,1μm,20.0s
HNS LR LR
comp=Z,1μm,24.1s
BOD Bodaibo 50.68 36 *e*P **P** **05 16 01.3 -0.5**
BOD pmax pmax
comp=Z,233nm,1.1s
EMIJ Mijas 50.70 296 P **P** **05 16 00.8 -1.5**
QIZ Qiongzhong 50.77 87 P **P** **05 16 04.3 +1.3**
QIZ Qiongzhong 50.77 87 P **P** **05 16 03.9 +0.9**
QIZ S **S** **05 23 18.3 -0.3**
QIZ pmax pmax
comp=Z,150nm,1.3s
QIZ pmax pmax
comp=Z,1μm,3.3s
QIZ LR LR
comp=Z,630nm,20.2s
QIZ LR LR
comp=Z,420nm,14.3s
QIZ LR LR
comp=Z,590nm,16.8s
QIZ Qiongzhong 50.77 87 P **P** **05 16 03.4 +0.4**
CNSH ChangSha 50.80 75 P **P** **05 16 03.1 0.0**
CNSH S **S** **05 23 17.0 -1.7**
CNSH pmax pmax
comp=Z,52nm,1.2s
CNSH LR LR
comp=Z,1μm,16.3s
CNSH LR LR
comp=Z,720nm,21.2s
CNSH LR LR
comp=Z,950nm,17.5s
ECAB El Cabril 51.02 298 P **P** **05 16 04.3 -0.4**
HOPEN Hopen 51.07 351 *e*P **P** **05 16 03.1 -1.3**
HOPEN *e*SS **SS** **05 26 57.6 +1.7**
XLT XiLinHaoTe 51.07 54 *e*P **P** **05 16 05.9 +0.8**
XLT pP pP 05 16 08.3 -1.3
XLT PP **PP** **05 18 07.3 +5.7**
XLT S **S** **05 23 26.3 +3.9**
XLT pmax pmax
comp=Z,24nm,1.2s
XLT pmax pmax
comp=Z,410nm,5.5s
XLT LR LR
comp=Z,880nm,16.3s
XLT LR LR
comp=Z,960nm,22.1s
LAWE Loch Awe, Argy 51.15 321⇑ *e*P **P** **05 16 04.5 -0.8**
LAWE IAmb IAmb 05 16 08.4
comp=Z,49nm,0.7s
LIJA Lijar 51.16 297 P **P** **05 16 04.1 -1.7**
SISI Saibi 51.22 117 P **P** **05 16 08.6 +2.2**
comp=Z,62nm,0.8s
LINV Loch Inver, As 51.33 324⇑ *e*P **P** **05 16 05.8 -0.8**
LINV IAmb IAmb 05 16 11.6
comp=Z,46nm,0.8s
DSB Dublin 51.39 318 P **P** **05 16 06.0 -1.1**
DSB IAmb IAmb 05 16 12.6
comp=Z,30nm,0.6s
CLGH Cloghs, Cushen 51.41 320 *e*P **P** **05 16 06.3 -1.0**
BJT Baijiatuau 51.43 59 P **P** **05 16 08.5 +0.8**
BJT Baijiatuau 51.43 59 P **P** **05 16 06.6 -1.1**
BJT Baijiatuau 51.43 59 P **P** **05 16 06.6 -1.1**
BJT pmax pmax
comp=Z,29nm,1.0s
BJT MLR MLR
comp=Z,600nm,21.0s
BJI Beijing 51.43 59 P **P** **05 16 06.4 -1.3**
BJI pP **pP** **05 16 11.3 -0.9**
BJI S **S** **05 23 24.8 -2.4**
BJI pmax pmax
comp=Z,9.0nm,1.2s
BJI pmax pmax
comp=Z,170nm,6.4s
BJI LR LR
comp=Z,720nm,20.5s
BJI LR LR
comp=Z,380nm,21.7s
BJI LR LR
comp=Z,480nm,22.0s
KPL Plockton 51.45 323 *e*P **P** **05 16 06.5 -0.9**
WHN Wuhan 51.47 72 P **P** **05 16 10.9 +2.8**
WHN pmax pmax
comp=Z,130nm,1.2s
WHN LR LR
comp=Z,3μm,20.5s
IWEX Carrickbyrne, 51.57 316⇑ *e*P **P** **05 16 07.6 -0.9**
TORD Torodi Ar. Bea 51.60 265 P **P** **05 16 08.1 -1.2**
comp=Z,43nm,0.9s,baz=67,slow=10,SNR=46
TORD S **S** **05 23 26.4 -3.7**
comp=Z,0.9nm,0.9s,baz=41,slow=7.4,SNR=1.7
TORD LR LR 05 39 26.2
comp=Z,916nm,18.7s,baz=66,slow=38
comp=Z,43nm,0.9s
PBRG Braganca 51.65 303⇑ *i*P **P** **05 16 08.9 -0.5**
comp=Z,60nm,1.8s
PBRG Braganca 51.65 303 *e*PP **PP** **05 18 12.5 +5.7**
BKNI Bangkinang 51.81 114 P **P** **05 16 11.2 +0.4**
BKNI Bangkinang 51.81 114 P **P** **05 16 10.0 -0.7**
BKNI Bangkinang 51.81 114 P **P** **05 16 13.4 +2.6**
comp=Z,112nm,1.4s
SFS San Fernando 51.86 296 P **P** **05 16 09.6 -1.3**
SFS San Fernando 51.86 296 P **P** **05 16 09.6 -1.3**
SFS pmax pmax
comp=Z,169nm,0.6s
PDSI Padang 52.06 115 P **P** **05 16 13.0 +0.3**
comp=Z,37nm,0.9s
PBAR Barrancos 52.27 298⇑ *i*P **P** **05 16 13.4 -0.6**
comp=Z,135nm,1.0s
PBAR *e*S **S** **05 23 44.5 +5.7**
DLV T Lat 52.33 96 P **P** **05 16 15.6 +0.7**
PMRV Marv??o 52.38 300⇑ *i*P **P** **05 16 14.0 -0.8**
comp=Z,69nm,1.4s
PMRV Marv??o 52.38 300 *e*PP **PP** **05 18 17.1 +3.7**
PMRV *e*S **S** **05 23 41.1 +0.7**
PMRV Marv??o 52.38 300 *e*LR LR 05 39 17.6
comp=Z,350nm,20.0s
MTE Manteigas 52.39 301 P **P** **05 16 14.1 -0.8**
MTE IAmb IAmb 05 16 20.0
comp=Z,158nm,1.7s
MTE Manteigas 52.39 301⇑ *i*P **P** **05 16 14.8 -0.1**
comp=Z,116nm,1.6s
MTE Manteigas 52.39 301 *e*PP **PP** **05 18 19.7 +6.2**
MTE *e*S **S** **05 23 47.3 +6.8**
MTE Manteigas 52.39 301 *e*LR LR 05 39 51.1
comp=Z,464nm,18.0s
PCBR Castelo Branco 52.40 301⇑ *i*P **P** **05 16 14.4 -0.5**
comp=Z,119nm,1.5s
PVRL Vila Real 52.43 302⇑ *e*P **P** **05 16 15.1 -0.1**
comp=Z,116nm,1.7s
POLO Lamas de Olo 52.48 302⇑ *i*P **P** **05 16 15.4 -0.2**
comp=Z,49nm,1.6s
POLO Lamas de Olo 52.48 302 *e*PP **PP** **05 18 20.4 +6.1**
POLO *e*S S 05 23 52.7 +11
PESTR Estremoz 52.61 299 P **P** **05 16 15.4 -1.1**
PESTR IAmb IAmb 05 16 23.5
comp=Z,37nm,0.8s
PESTR Estremoz 52.61 299⇑ *i*P **P** **05 16 15.7 -0.8**
comp=Z,58nm,1.8s
PESTR *e*S **S** **05 23 47.7 +4.2**
PCAB Cabril 52.62 303⇑ *e*P **P** **05 16 16.4 -0.1**
comp=Z,77nm,1.9s
PVIS Viseu 52.62 302⇑ *i*P **P** **05 16 16.5 -0.1**
comp=Z,119nm,1.7s
TIA Tai'an 52.68 64 P **P** **05 16 17.3 +0.2**
TIA pmax pmax
comp=Z,78nm,1.1s
TIA LR LR
comp=Z,2μm,21.2s
TIA LR LR
comp=Z,790nm,21.2s
TIA LR LR
comp=Z,1μm,20.1s
HSPB Hornsund (broa 52.84 350 *e*P **P** **05 16 15.2 -2.4**
PBEJ Beja 52.94 298⇑ *e*P **P** **05 16 18.3 -0.6**

comp=Z,91nm,1.6s
EVO Evora 52.98 299⇑ *i*P **P** **05 16 18.8 -0.4**
comp=Z,80nm,1.6s
COI Coimbra 53.07 301⇑ *i*P **P** **05 16 20.2 +0.3**
comp=Z,115nm,0.8s
COI *e*S **S** **05 23 56.0 +6.3**
PMTG Montargil 53.07 300⇑ *e*P **P** **05 16 19.2 -0.7**
comp=Z,62nm,1.4s
PMTG Montargil 53.07 300 *e*PP **PP** **05 18 20.9 +1.3**
PMTG *e*S **S** **05 23 51.5 +1.8**
PBDV Barranco-do-Ve 53.11 297⇑ *i*P **P** **05 16 19.2 -1.0**
comp=Z,83nm,1.5s
PBDV Barranco-do-Ve 53.11 297 *e*PP **PP** **05 18 21.3 +1.3**
PBDV *e*S **S** **05 23 56.0 +5.7**
PCVE Castro Verde 53.13 298⇑ *i*P **P** **05 16 19.4 -1.0**
comp=Z,76nm,1.6s
PCVE Castro Verde 53.13 298 *e*PP **PP** **05 18 26.3 +6.1**
PCAS Casmilo, Conde 53.16 301⇑ *e*P **P** **05 16 20.4 -0.1**
comp=Z,87nm,1.8s
PCAS Casmilo, Conde 53.16 301 *e*PP **PP** **05 18 22.6 +2.2**
PCAS *e*S **S** **05 23 55.6 +4.7**
IGLA Glengowla, Co 53.19 318⇑ *e*P **P** **05 16 19.9 -0.6**
MESJ Messejana 53.24 298⇑ *i*P **P** **05 16 20.4 -0.8**
comp=Z,57nm,1.4s
MESJ Messejana 53.24 298 *e*P **P** **05 16 20.7 -0.5**
MESJ IAmb IAmb 05 16 22.2
comp=Z,19nm,0.7s
MESJ *e*S **S** **05 23 52.2 +0.1**
MESJ Messejana 53.24 298 *e*P **P** **05 16 20.7 -0.5**
MESJ *e*S **S** **05 23 52.2 +0.1**
MYKOM Kota Tinggi 53.30 110 IAMs_20 IAMs_20 05 39 41.3
comp=Z,747nm,18.0s
AVE Averroes 53.39 292 IAmb IAmb 05 16 29.0
comp=Z,72nm,0.8s
HIA Hailar 53.42 48 P **P** **05 16 24.0 +1.6**
HIA Hailar 53.42 48 P **P** **05 16 22.1 -0.3**
HIA Hailar 53.42 48 P **P** **05 16 22.1 -0.3**
HIA pmax pmax
comp=Z,26nm,0.9s
PNCL Nicolau / Gran 53.44 299⇑ *i*P **P** **05 16 22.1 -0.5**
comp=Z,64nm,2.0s
PNCL Nicolau / Gran 53.44 299 *e*PP **PP** **05 18 24.3 +1.3**
PNCL *e*S **S** **05 23 58.4 +3.6**
PSBE So Bento 53.45 300⇑ *i*P **P** **05 16 22.5 -0.2**
comp=Z,100nm,1.8s
PSBE So Bento 53.45 300 *e*PP **PP** **05 18 25.9 +2.8**
HKPS Hong Kong Po S 53.49 82 IAmb IAmb 05 16 28.2
comp=Z,98nm,1.2s
SPB2 Spitsbergen Ar 53.56 351 IAmb IAmb 05 16 50.3
comp=Z,51nm,0.9s
SPITS Spitsbergen Ar 53.57 351 P **P** **05 16 22.8 -0.2**
comp=Z,14nm,0.8s,baz=127,slow=9.6,SNR=16
SPITS LR LR 05 43 10.3
comp=Z,731nm,18.5s,baz=106,slow=40
comp=Z,14nm,0.8s
SPITS Spitsbergen Ar 53.57 351 P **P** **05 16 22.8 -0.2**
SPITS pmax pmax
comp=Z,71nm,1.2s
MORF Marmelete 53.67 298 *e*S **S** **05 24 03.2 +5.3**
PFVI Vila Bisbo 53.83 297⇑ *i*P **P** **05 16 24.4 -1.1**
comp=Z,118nm,1.1s
PFVI Vila Bisbo 53.83 297 *e*PP **PP** **05 18 31.7 +5.2**
MATP Matopo 54.18 211 LR LR 05 41 23.5
comp=Z,438nm,18.7s,baz=56,slow=38
MATP Matopo 54.18 211 *i*P P 05 16 22.6 -5.6
KBS Kingsbay 54.73 351 P **P** **05 16 31.5 +0.1**
KBS Kingsbay 54.73 351 IAMs_20 IAMs_20 05 43 32.7
comp=Z,842nm,19.0s
KBS Kingsbay 54.73 351 P **P** **05 16 31.5 +0.1**
KBS pmax pmax
comp=Z,25nm,0.8s
KBS MLR MLR
comp=Z,800nm,19.0s
NJ2 Nanjing 54.90 69 ⇑P **P** **05 16 33.3 0.0**
NJ2 pmax pmax
comp=Z,99nm,0.9s
NJ2 pmax pmax
comp=Z,280nm,5.1s
NJ2 LR LR
comp=Z,2μm,18.6s
NJ2 LR LR
comp=Z,670nm,18.0s
NJ2 LR LR
comp=Z,1μm,15.9s
MUSN Musina, Limpop 55.21 209 *i*P **P** **05 16 32.9 -2.7**
JMIC Jan Mayen 55.58 339 LR LR 05 42 30.3
comp=Z,448nm,18.7s,baz=96,slow=38
MOPA Mopani 55.68 206 *i*P **P** **05 16 41.0 +2.1**
DL2 Dalian 55.77 60 P **P** **05 16 38.8 -0.7**
DL2 S **S** **05 24 25.6 -0.4**
DL2 pmax pmax
comp=Z,150nm,1.0s
DL2 pmax pmax
comp=Z,630nm,3.9s
DL2 LR LR
comp=Z,1μm,19.1s
DL2 LR LR
comp=Z,770nm,21.2s
DL2 LR LR
comp=Z,1μm,16.2s
PPBI Pangkal Pinang 57.39 112 P **P** **05 16 53.2 +1.8**
CN2 Changchun 57.82 54 *e*P **P** **05 16 53.8 -0.2**
CN2 *e*S **S** **05 24 48.8 -4.3**
CN2 pmax pmax
comp=Z,70nm,1.2s
CN2 LR LR
comp=Z,480nm,15.0s
CN2 LR LR
comp=Z,260nm,15.0s
ZEA Zeya 57.92 42 *e*P **P** **05 16 55.1 +0.6**
ZEA *e*S **S** **05 24 59.0 +5.0**
ZEA pmax pmax
comp=E,100nm,4.5s
ZEA pmax pmax
comp=N,100nm,5.5s
ZEA pmax pmax
comp=Z,200nm,5.5s
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,40nm,0.9s
ZEA smax smax
comp=E,200nm,9.0s
ZEA MLR MLR
comp=E,400nm,11.0s
ZEA MLR MLR
comp=Z,500nm,14.0s
KASI Kota Agung 58.04 117 P P 05 17 01.3 +5.4
comp=Z,74nm,1.0s
HEH HeiHe 58.32 46 *e*P **P** **05 16 56.5 -0.9**
HEH pmax pmax
comp=Z,27nm,1.2s
HEH pmax pmax
comp=Z,390nm,4.6s
HEH LR LR
comp=Z,860nm,14.3s
HEH LR LR
comp=Z,2μm,11.7s
HEH LR LR
comp=Z,3μm,12.1s
YAK Yakutsk 58.89 32 P **P** **05 17 00.1 -1.0**
YAK Yakutsk 58.89 32 *c i*P **P** **05 16 59.7 -1.4**
YAK *e* 05 17 51.8
YAK *e* 05 19 09.9
YAK *e*S **S** **05 25 03.3 -3.1**
YAK *e**SS **sS** **05 25 20.5 +6.6**
YAK *e* 05 26 48.0
YAK *e*SS **SS** **05 28 58.3 -1.2**
YAK pmax pmax
comp=Z,136nm,1.1s
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,102nm,1.5s
YAK pmax pmax
comp=Z,130nm,3.2s
YAK pmax pmax
comp=N,77nm,2.7s
YAK pmax pmax
comp=E,129nm,3.0s
YAK smax smax
comp=E,295nm,4.7s
YAK smax smax
comp=N,152nm,3.7s

YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=N,472nm,19.0s
YAK MLR MLR
comp=E,471nm,21.0s
BNX BinXian 58.90 51 ⇑P **P 05 17 00.8 -0.7**
BNX pmax pmax
comp=E,70nm,0.9s
TSUM Tsumeb 58.95 222 P **P 05 17 02.8 +0.6**
TSUM IAmb IAmb 05 17 07.8
comp=Z,75nm,1.2s
SSLB Suanglung 58.96 78 IAmb IAmb 05 17 07.8
comp=Z,58nm,0.9s
TIXI Tiksi 59.00 21 P **P 05 17 01.3 -0.4**
TIXI IAmb IAmb 05 17 06.7
comp=Z,50nm,0.8s
TIXI Tiksi 59.00 21 *ce*P **P 05 17 01.7 -0.1**
TIXI pmax pmax
comp=Z,118nm,1.7s
POGA Pongola 59.02 204 IAmb IAmb 05 17 09.2
comp=Z,41nm,0.7s
YULB Yu-li 59.38 78 IAmb IAmb 05 17 14.3
comp=Z,56nm,1.0s
NACB Ninganchiao 59.39 77 P **P 05 17 05.0 -0.3**
NACB IAmb IAmb 05 17 11.0
comp=Z,71nm,1.1s
LBTB Lobatse 59.47 211 P **P 05 17 06.3 +0.6**
LBTB IAmb IAmb 05 17 23.8
comp=Z,51nm,0.9s
LBTB Lobatse 59.47 211 P **P 05 17 06.3 +0.6**
LBTB pmax pmax
comp=Z,51nm,1.0s
LBTB Lobatse 59.47 211 *i*P **P 05 17 08.3 +2.6**
BORG Borgarnes 59.58 331 P **P 05 17 05.5 -0.3**
BORG Borgarnes 59.58 331 LR LR 05 43 48.2
comp=Z,424nm,21.7s,baz=103,slow=37
BORG Borgarnes 59.58 331 P **P 05 17 05.5 -0.3**
BORG pmax pmax
comp=Z,198nm,1.7s
DAG Danmarks Havn 59.60 345 *i*P **P 05 17 05.6 -0.3**
DAG IAmb IAmb 05 17 06.3
comp=Z,15nm,0.8s
DBG Daneborg 59.66 342 *i*P **P 05 17 06.7 +0.4**
DBG IAmb IAmb 05 17 07.8
comp=Z,15nm,0.9s
SCO Scoresbysund 59.90 338 *i*P **P 05 17 08.7 +0.7**
SCO IAmb IAmb 05 17 09.9
comp=Z,16nm,0.9s
INCN Inchon 59.91 61 P **P 05 17 08.2 -0.5**
INCN Inchon 59.91 61 P **P 05 17 08.4 -0.3**
INCN Inchon 59.91 61 P **P 05 17 08.4 -0.3**
INCN P **P 05 17 08.4 -0.3**
INCN Inchon 59.91 61 P **P 05 17 08.4 -0.3**
INCN pmax pmax
comp=Z,103nm,0.9s
NOR Nord 60.21 351 *i*P **P 05 17 08.1 -1.9**
NOR IAmb IAmb 05 17 10.8
comp=Z,22nm,1.2s
DBIC Dimbokro 60.24 262 P **P 05 17 10.3 -1.0**
DBIC IAmb IAmb 05 17 21.3
comp=Z,57nm,0.8s
DBIC Dimbokro 60.24 262 P **P 05 17 10.2 -1.0**
comp=Z,54nm,1.0s,baz=54,slow=7.9,SNR=22
DBIC S **S 05 25 21.6 -3.6**
comp=Z,3.8nm,1.1s,baz=3.4,slow=17,SNR=1.6
comp=Z,54nm,1.0s
DBIC Dimbokro 60.24 262 P **P 05 17 10.3 -1.0**
DBIC pmax pmax
comp=Z,57nm,0.8s
KIC Kosan Boka 60.29 261 ⇑*i*P **P 05 17 10.8 -0.8**
comp=Z,70nm,0.9s
TIC Toumodi 60.40 262 ⇑*i*P **P 05 17 11.5 -0.8**
comp=Z,6.9nm,0.2s
DBJI Dramaga 60.44 116 P P 05 17 18.0 +5.4
comp=Z,73nm,0.6s
SKJI Sukabumi 60.56 117 P **P 05 17 18.1 +4.8**
LIC Lamto 60.60 261 *e*P **P 05 17 12.9 -0.8**
comp=Z,88nm,0.8s
MDJ Mudanjiang 60.62 52 P **P 05 17 12.2 -1.2**
MDJ Mudanjiang 60.62 52 P **P 05 17 12.0 -1.4**
MDJ pmax pmax
comp=Z,13nm,1.1s
MDJ pmax pmax
comp=Z,410nm,5.7s
MDJ LR LR
comp=Z,590nm,14.4s
MDJ LR LR
comp=Z,1μm,15.1s
MDJ LR LR
comp=Z,1μm,21.3s
MDJ Mudanjiang 60.62 52 P **P 05 17 11.9 -1.4**
STKI Sintang 60.64 107 P **P 05 17 14.6 +0.7**
comp=Z,68nm,0.8s
PMPST Porto Santo, M 60.71 294 *e*P **P 05 17 15.4 +1.2**
comp=Z,238nm,1.4s
TJN Taejon 60.74 62 P **P 05 17 13.5 -0.8**
TJN Taejon 60.74 62 *ce*P **P 05 17 13.6 -0.8**
KS19 Wonju Array Si 60.86 60 P **P 05 17 14.8 -0.4**
KSAR Wonju Array Be 60.89 61 P **P 05 17 14.9 -0.4**
KSAR Wonju Array Be 60.89 61 P **P 05 17 14.9 -0.4**
KSRS Korea Array 60.92 61 P **P 05 17 14.7 -0.8**
comp=Z,60nm,0.9s,baz=277,slow=7.1,SNR=44
comp=Z,60nm,0.9s
KLR Kul'dur 61.25 47 *ce*P **P 05 17 17.0 -0.6**
KLR pmax pmax
comp=Z,70nm,1.3s
PMAR Madeira 61.28 294 *e*P **P 05 17 18.3 0.0**
comp=Z,340nm,1.8s
FUL Funchal 61.28 294 *e*P **P 05 17 21.3 +3.2**
PMOZ Porto Moniz, M 61.48 294 *e*P **P 05 17 17.2 -2.4**
comp=Z,248nm,1.7s
PMOZ Porto Moniz, M 61.48 294 *e*PP **PP 05 19 38.8 +4.0**
PMOZ *e*S **S 05 25 47.8 +7.0**
PMOZ Porto Moniz, M 61.48 294 *e*LR LR 05 45 02.8
comp=Z,314nm,18.0s
KKM Kota Kinabalu 61.78 98 P **P 05 17 21.5 -0.3**
PSTR Posyet 61.88 54 *i*P **P 05 17 21.1 -0.8**
MSHR Mys Shultsa 62.15 54 *ce*P **P 05 17 23.9 +0.1**
MSHR pmax pmax
comp=Z,64nm,0.8s
USA0B Ussuriysk Arra 62.39 52 P **P 05 17 24.4 -0.9**
USA0B IAmb IAmb 05 17 28.3
comp=Z,38nm,0.8s
USA0B Ussuriysk Arra 62.39 52 P **P 05 17 24.4 -0.9**
USA0B pmax pmax
comp=Z,38nm,0.8s
USRK Ussuriysk Ar. 62.39 52 P **P 05 17 24.4 -0.9**
USRK Ussuriysk Ar. 62.39 52 P **P 05 17 24.1 -1.2**
comp=Z,34nm,0.8s,baz=281,slow=6.7,SNR=25
comp=Z,34nm,0.8s
USRK Ussuriysk Ar. 62.39 52 P **P 05 17 24.4 -0.9**
CMJI Cimerak 62.52 116 P **P 05 17 29.8 +3.2**
comp=Z,106nm,0.9s
VLA Vladivostok 62.55 53 *i*P **P 05 17 25.6 -0.8**
VLA pmax pmax
comp=Z,109nm,0.9s
BOSA Boshof 62.73 209 P **P 05 17 27.6 -0.2**
BOSA IAmb IAmb 05 17 28.3
comp=Z,35nm,0.8s
BOSA Boshof 62.73 209 P **P 05 17 27.3 -0.5**
comp=Z,34nm,0.8s,baz=30,slow=6.6,SNR=52
comp=Z,34nm,0.8s
BOSA Boshof 62.73 209 P **P 05 17 27.6 -0.2**
BOSA pmax pmax
comp=Z,35nm,0.8s
JTU Tsushima 62.83 63 P **P 05 17 30.1 +1.7**
LQP Lukban 63.00 88 ⇑*e*P **P 05 17 30.9 +0.9**
GRNR Gornyy 63.91 44 ⇑*i*P **P 05 17 34.8 -0.6**
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR MLR MLR
comp=E,590nm,12.0s
GRNR MLR MLR
comp=N,590nm,13.0s
GRNR MLR MLR
comp=Z,800nm,11.0s
UGM Wanagama 64.26 115 P **P 05 17 41.4 +3.2**
comp=Z,136nm,1.0s
JNU Nakatsue 64.41 64 P **P 05 17 39.3 +0.3**
JNU Nakatsue 64.41 64 IAmb IAmb 05 17 49.6
comp=Z,52nm,1.0s
SUMG Summit 64.95 341 P **P 05 17 41.6 -0.6**
SUMG IAmb IAmb 05 17 47.5
comp=Z,54nm,0.9s
SUMG Summit 64.95 341 P **P 05 17 41.6 -0.6**
SUMG pmax pmax
comp=Z,54nm,0.9s
SUMG Summit 64.95 341 *i*P **P 05 17 42.1 -0.1**
SUMG IAmb IAmb 05 17 43.7
comp=Z,47nm,1.0s
PWJI Pagerwojo 65.36 114 P **P 05 17 44.5 -0.8**
comp=Z,67nm,0.9s
TEY Ternei 65.39 50 ⇑*e*P **P 05 17 43.4 -1.6**
TEY pmax pmax
comp=E,10.0nm,1.0s
TEY pmax pmax
comp=Z,20nm,0.9s
ICESG Greenland Ices 66.15 337 *i*P **P 05 17 48.0 -2.0**
ICESG IAmb IAmb 05 17 50.9
comp=Z,31nm,0.9s
JMN Monobe 66.61 63 P **P 05 17 55.1 +1.9**
JMN Monobe 66.61 63 IAMs_20 IAMs_20 05 49 30.9
comp=Z,925nm,21.0s
NEEM North Greenlan 66.67 347 *i*P **P 05 17 53.2 0.0**
NEEM IAmb IAmb 05 17 54.2
comp=Z,52nm,0.9s
ABJI Asem Bagus 67.21 113 P **P 05 18 00.8 +3.7**
comp=Z,119nm,1.0s
JAGI Jajag, Banyuwa 67.52 113 P **P 05 17 58.1 -1.0**
JAGI Jajag, Banyuwa 67.52 113 P **P 05 17 56.1 -3.0**
JAGI Jajag, Banyuwa 67.52 113 P **P 05 17 58.4 -0.7**
comp=Z,51nm,1.0s
MBO M'Bour 67.63 275 P **P 05 17 56.7 -3.1**
TYV Tymovskoe 67.72 43 *e*P **P 05 18 03.5 +3.6**
TYV pmax pmax
comp=Z,400nm,2.4s
TYV pmax pmax
comp=Z,48nm,1.1s
MPSI Mapaga 67.74 102 P **P 05 18 02.6 +2.0**
comp=Z,63nm,1.4s,comp=Z,924nm
SUR Sutherland 67.92 211 P **P 05 18 01.3 -0.2**
SUR Sutherland 67.92 211 P **P 05 18 02.6 +1.1**
SRBI Singaraja 68.17 112 P P 05 18 08.2 +5.0
comp=Z,100nm,0.9s
INU Inuyama 68.55 60 P **P 05 18 04.7 -0.7**
INU Inuyama 68.55 60 P **P 05 18 04.6 -0.7**
JGF Kuroka 68.72 60 P **P 05 18 07.3 +0.8**
JGF Kuroka 68.72 60 IAmb IAmb 05 18 25.4
comp=Z,24nm,0.9s
YSS Yuzh-Sakhalins 68.95 47 P **P 05 18 06.9 -0.7**
YSS Yuzh-Sakhalins 68.95 47 P **P 05 18 07.4 -0.2**
YSS Yuzh-Sakhalins 68.95 47 *ce*P **P 05 18 06.9 -0.7**
YSS *e**SP **pP 05 18 12.3 0.0**
YSS *e* 05 20 38.9
YSS *e*S **S 05 27 07.0 -4.8**
YSS pmax pmax
comp=Z,300nm,4.1s
YSS pmax pmax
comp=Z,180nm,1.0s
YSS MLR MLR
comp=E,500nm,17.0s
MJB9 Matsu-Tunnel 69.06 59 IAmb IAmb 05 18 19.5
comp=Z,38nm,0.9s
SEY Seymchan 69.06 29 *ce*P **P 05 18 08.4 +0.3**
SEY pmax pmax
comp=Z,175nm,0.8s
MAJO Matsushiro 69.06 59 P **P 05 18 07.5 -1.1**
MAJO Matsushiro 69.06 59 P **P 05 18 07.5 -1.1**
MAJO IAmb IAmb 05 18 18.5
comp=Z,38nm,0.8s
MAJO Matsushiro 69.06 59 P **P 05 18 07.5 -1.1**
MAJO pmax pmax
comp=Z,38nm,0.9s
MJAR Matsushiro Arr 69.07 59 P **P 05 18 07.6 -1.0**
comp=Z,17nm,0.9s,baz=292,slow=8.6,SNR=23
comp=Z,17nm,0.9s
KULLO Kullorsuaq 69.25 345 *i*P **P 05 18 08.8 -0.2**
KULLO IAmb IAmb 05 18 10.8
comp=Z,30nm,0.8s
DY2G Dye2 69.35 335 *i*P **P 05 18 08.9 -1.2**
MA2 Magadan 69.45 33 P **P 05 18 10.4 -0.2**
MA2 Magadan 69.45 33 P **P 05 18 10.3 -0.2**
MA2 IAMs_20 IAMs_20 05 50 36.2
comp=Z,903nm,22.0s
MA2 Magadan 69.45 33 *ce*P **P 05 18 10.6 +0.1**
MA2 pmax pmax
comp=Z,86nm,0.8s
MA2 Magadan 69.45 33 P **P 05 18 10.2 -0.3**
comp=Z,120nm,1.0s,comp=Z,1μm
UMMG Uummannaq 69.66 340 *i*P **P 05 18 10.8 -0.8**
UMMG IAmb IAmb 05 18 12.4
comp=Z,39nm,0.9s
JKA Kamikawa-asahi 69.75 50 IAmb IAmb 05 18 15.9
comp=Z,52nm,0.9s
JKA IAMs_20 IAMs_20 05 49 30.7
comp=Z,823nm,22.0s
UPNV Upernavik 69.84 343 *i*P **P 05 18 14.9 +2.2**
TWSI Taliwang, Sumb 69.91 112 P P 05 18 19.1 +5.1
comp=Z,40nm,0.7s
GTOI Gorontalo 70.31 100 P P 05 18 28.9 +12
KAPI Kappang 70.32 107 P **P 05 18 16.0 -0.6**
KAPI Kappang 70.32 107 P **P 05 18 16.0 -0.6**
KAPI pmax pmax
comp=Z,74nm,0.9s
EUNU Eureka 70.54 353 IAmb IAmb 05 18 24.0
comp=Z,53nm,0.8s
JMM Marumori 70.56 57 P **P 05 18 18.3 +0.6**
JMM Marumori 70.56 57 P **P 05 18 16.6 -1.2**
PLAI Plampang 70.70 111 P **P 05 18 19.9 +1.1**
PLAI Plampang 70.70 111 P **P 05 18 21.7 +2.9**
comp=Z,47nm,0.8s
SFJD Kangerlussuaq 70.73 336 P **P 05 18 18.3 +0.1**
SFJD Kangerlussuaq 70.73 336 LR LR 05 50 42.6
comp=Z,326nm,20.1s,baz=60,slow=37
SFJD Kangerlussuaq 70.73 336 P **P 05 18 18.3 +0.1**
SFJD pmax pmax
comp=Z,25nm,1.0s
SFJD MLR MLR
comp=Z,500nm,18.0s
SFJD Kangerlussuaq 70.73 336 *i*P **P 05 18 18.1 -0.1**
BKSI Bulukumba 70.80 107 P **P 05 18 19.4 -0.1**
comp=Z,46nm,1.1s,comp=Z,874nm
ERM Erimo 70.84 52 P **P 05 18 19.9 +0.5**
ERM Erimo 70.84 52 P **P 05 18 19.9 +0.5**
ERM IAmb IAmb 05 18 40.2
comp=Z,70nm,1.0s
ERM Erimo 70.84 52 P **P 05 18 19.9 +0.5**
ERM pmax pmax
comp=Z,71nm,1.0s
JEM Erimo 70.84 52 P **P 05 18 20.0 +0.6**
NRS Narsarsuaq 71.01 330 *i*P **P 05 18 20.8 +0.8**
BILL Bilibino 72.20 22 P **P 05 18 27.6 +0.5**
BILL Bilibino 72.20 22 *ce*P **P 05 18 27.6 +0.5**
BILL *i**PP **pP 05 18 30.9 -0.9**
BILL *e**SP **sP 05 18 32.6 -0.9**
BILL *e* 05 18 44.1
BILL *e* 05 21 07.5
BILL *e*PPP PPP 05 22 51.0
BILL pmax pmax
comp=Z,141nm,1.3s
BILL MLR MLR
comp=Z,527nm,18.0s
IVI Ivigtut 72.21 330 IAmb IAmb 05 18 32.4
comp=Z,47nm,0.9s
IVI Ivigtut 72.21 330 *i*P **P 05 18 26.8 -0.4**
NUUK Nuuk 72.39 334 *i*P **P 05 18 26.8 -1.4**
SHEL Horse Pasture 73.04 241 P **P 05 18 31.6 -1.3**
SHEL Horse Pasture 73.04 241 P **P 05 18 31.6 -1.3**
SHEL pmax pmax
comp=Z,416nm,1.9s
TNTI Ternate 74.07 98 P **P 05 18 40.9 +1.9**
TNTI Ternate 74.07 98 P **P 05 18 39.0 0.0**
TNTI Ternate 74.07 98 P **P 05 18 41.0 +1.9**
comp=Z,114nm,1.0s,comp=Z,2μm
SANI Sanana 74.21 101 P **P 05 18 39.6 -0.3**
SANI Sanana 74.21 101 P **P 05 18 39.6 -0.3**
comp=Z,159nm,0.9s,comp=Z,1μm
MMRI Maumere 74.31 109 P **P 05 18 42.5 +2.1**
MMRI Maumere 74.31 109 IAmb IAmb 05 18 54.4
comp=Z,82nm,1.0s
MMRI Maumere 74.31 109 P **P 05 18 41.7 +1.3**
comp=Z,84nm,1.1s,comp=Z,3μm
SKR Severo-Kuril's 75.74 40 *ce*P **P 05 18 45.5 -2.6**
PET Petropavlovsk 76.09 37 P **P 05 18 50.5 +0.4**
PET Petropavlovsk 76.09 37 *e*P **P 05 18 47.0 -3.1**
PET *e*S **S 05 28 26.8 -6.4**
PET pmax pmax
comp=Z,300nm,6.6s
PET pmax pmax
comp=Z,200nm,7.2s
PET pmax pmax
comp=Z,38nm,1.0s
PET MLR MLR
comp=Z,500nm,22.0s
RES Resolute Bay 76.10 352 IAMs_20 IAMs_20 05 56 23.5
comp=Z,446nm,20.0s
BATI Baumata 76.33 109 P **P 05 18 54.1 +2.0**
SOEI Soe 76.60 109 P **P 05 18 53.8 +0.1**
SOEI Soe 76.60 109 P **P 05 18 56.4 +2.7**
SWI Sorong 78.26 97 P **P 05 19 05.6 +2.7**
comp=Z,119nm,1.1s,comp=Z,1μm
FRB Frobisher Bay 78.77 338 LR LR 05 57 17.3
comp=Z,236nm,19.1s,baz=36,slow=38
A21K Barrow 78.89 10 P **P 05 19 05.9 +0.5**
baz=332
A19K Wainwright 79.12 12 P **P 05 19 07.4 +0.8**
baz=328
MBWA Marble Bar 79.17 121 P **P 05 19 06.7 -1.0**
MBWA Marble Bar 79.17 121 P **P 05 19 07.3 -0.5**
MBWA Marble Bar 79.17 121 P **P 05 19 07.2 -0.5**
A22K Sinclair Lake 79.43 10 P **P 05 19 08.9 +0.6**
baz=333
PSA00 Pilbara Seismi 79.50 121 P **P 05 19 08.5 -1.0**
B18K Kokolik River 79.70 12 P **P 05 19 10.5 +0.6**
baz=327,SNR=29
C16K Lisburne Hills 79.88 14 IAmb IAmb 05 19 14.8
comp=Z,39nm,0.9s
C16K IAMs_20 IAMs_20 06 00 37.3
comp=Z,601nm,19.0s
C16K Lisburne Hills 79.88 14 P **P 05 19 10.5 -0.3**
baz=324
B20K Meade River 79.97 11 P **P 05 19 11.8 +0.5**
baz=332
C17K DeLong Mountai 80.17 13 P **P 05 19 12.5 0.0**
baz=326,SNR=22
B22K Teshekpuk Lake 80.25 9 P **P 05 19 13.4 +0.6**
baz=335,SNR=20
C19K Lookout Ridge 80.34 12 P **P 05 19 13.7 +0.3**
baz=329,SNR=12
C18K Utukok River 80.42 13 P **P 05 19 14.0 +0.1**
C18K IAmb IAmb 05 19 18.1
comp=Z,60nm,0.8s
C18K Utukok River 80.42 13 P **P 05 19 13.8 -0.1**
baz=328,SNR=26
RDOG Red Dog Mine 80.58 14 IAMs_20 IAMs_20 06 01 32.8
comp=Z,593nm,20.0s
RDOG Red Dog Mine 80.58 14 P **P 05 19 14.3 -0.4**
baz=327
A36M Sachs Harbour 80.69 0 P **P 05 19 15.4 +0.2**
baz=360,SNR=18
B21K Ikpikpuk River 80.72 10 P **P 05 19 15.9 +0.6**
baz=334
D17K Noatak River 80.84 14 P **P 05 19 16.1 0.0**
baz=326,SNR=54
C23K Itkillik River 81.11 9 P **P 05 19 18.3 +1.0**
C23K Itkillik River 81.11 9 P **P 05 19 18.4 +1.0**
baz=337,SNR=92
C21K Knifeblade Rid 81.11 10 P **P 05 19 18.2 +0.7**
baz=334,SNR=56
D19K Kuna River 81.14 12 IAmb IAmb 05 19 22.0
comp=Z,57nm,0.9s
D19K Kuna River 81.14 12 P **P 05 19 17.8 +0.1**
baz=331,SNR=46
MORW Morawa 81.19 129 P **P 05 19 18.5 0.0**
MORW IAmb IAmb 05 19 41.2
comp=Z,105nm,1.6s
D20K Etivluk River 81.21 11 P **P 05 19 18.2 +0.2**
baz=332,SNR=27
TNA Tin City 81.46 17 P **P 05 19 19.5 +0.2**
baz=322
C24K Franklin Bluff 81.46 8 P **P 05 19 20.1 +0.9**
baz=339,SNR=20
E18K Tukpahlearik C 81.59 13 IAmb IAmb 05 19 24.2
comp=Z,52nm,0.8s
E18K Tukpahlearik C 81.59 13 P **P 05 19 19.9 -0.1**
baz=329,SNR=43
E17K Hotham Inlet 81.63 14 P **P 05 19 20.1 -0.2**
baz=328,SNR=18
E20K Nigu River 81.69 11 P **P 05 19 20.4 -0.2**
baz=332,SNR=27
D22K Ayikyak River 81.69 10 P **P 05 19 21.2 +0.6**
D22K IAmb IAmb 05 19 25.5
comp=Z,61nm,0.8s
D22K Ayikyak River 81.69 10 P **P 05 19 21.3 +0.7**
baz=336,SNR=52
C26K Camden Bay 81.71 7 P **P 05 19 21.6 +1.0**
baz=342,SNR=24
E21K Killik River 81.89 10 IAMs_20 IAMs_20 05 59 05.2
comp=Z,527nm,20.0s
E21K Killik River 81.89 10 P **P 05 19 21.6 -0.1**
baz=334
D23K Nanushuk River 81.90 9 P **P 05 19 22.3 +0.6**
baz=337
F14K Arctic Creek 81.93 16 P **P 05 19 22.1 +0.3**
baz=324
D24K Happy Valley 81.98 8 IAmb IAmb 05 19 26.9
comp=Z,49nm,0.8s
D24K Happy Valley 81.98 8 P **P 05 19 22.7 +0.7**
baz=339,SNR=28
C27K Jago River 82.12 7 P **P 05 19 23.7 +0.9**
baz=343,SNR=66
FITZ Fitzroy Crossi 82.12 115 P **P 05 19 23.4 -0.2**
D25K Kavik River 82.12 7 IAMs_20 IAMs_20 06 00 09.9
comp=Z,535nm,20.0s
D25K Kavik River 82.12 7 P **P 05 19 23.4 +0.6**
baz=341
F15K North Star Dit 82.15 15 IAmb IAmb 05 19 27.6
comp=Z,67nm,0.9s
F15K North Star Dit 82.15 15 P **P 05 19 23.4 +0.4**
baz=325,SNR=26
E19K Redstone River 82.21 12 IAmb IAmb 05 19 27.3
comp=Z,30nm,0.8s
E19K Redstone River 82.21 12 P **P 05 19 23.2 -0.1**
baz=332,SNR=31
F17K Baldwin Pennin 82.29 14 IAmb IAmb 05 19 30.1
comp=Z,52nm,0.8s
F17K Baldwin Pennin 82.29 14 P **P 05 19 23.9 +0.2**
baz=328,SNR=26
TOLK Toolik Lake Re 82.36 9 P **P 05 19 24.9 +0.7**
baz=338,SNR=72
F18K Selawik 82.49 13 P **P 05 19 24.6 -0.1**
baz=330
BLDU Ballidu 82.60 130 P **P 05 19 24.8 -1.0**
F19K Shaleruckik Mo 82.66 12 IAmb IAmb 05 19 29.7
comp=Z,51nm,0.9s
F19K Shaleruckik Mo 82.66 12 P **P 05 19 24.9 -0.7**
baz=331,SNR=83
D27M Malcolm River 82.75 6 P **P 05 19 26.7 +0.5**
baz=346
DRLN Deer Lake 82.77 322 IAmb IAmb 05 19 30.3
comp=Z,48nm,0.9s
D28M Stokes Point 82.84 5 P **P 05 19 26.1 -0.5**
baz=348
F20K Avaraart Lake 82.84 12 IAMs_20 IAMs_20 06 02 28.3
comp=Z,451nm,21.0s
F20K Avaraart Lake 82.84 12 P **P 05 19 26.4 -0.2**
baz=333
G15K Niukluk 82.88 16 P **P 05 19 26.8 0.0**
baz=326,SNR=18
E23K Chandalar 82.90 9 P **P 05 19 27.6 +0.6**
baz=338,SNR=98
ANM Nome 82.91 16 P **P 05 19 27.5 +0.5**
baz=325,SNR=7.3
G16K Koyuk River 82.94 15 IAmb IAmb 05 19 31.8
comp=Z,59nm,1.0s
G16K Koyuk River 82.94 15 P **P 05 19 27.5 +0.4**
baz=327
F22K John River 83.03 10 P **P 05 19 28.4 +0.8**
baz=336
E24K Your Creek 83.03 9 IAMs_20 IAMs_20 06 00 36.2
comp=Z,474nm,19.0s
E24K Your Creek 83.03 9 P **P 05 19 28.4 +0.7**
baz=339
F21K Alatna River 83.08 11 IAmb IAmb 05 19 35.2
comp=Z,51nm,0.9s
F21K IAMs_20 IAMs_20 06 02 48.5
comp=Z,445nm,20.0s
F21K Alatna River 83.08 11 P **P 05 19 28.0 +0.2**
baz=335,SNR=98
G17K Kiwalik Mounta 83.23 14 P **P 05 19 28.5 -0.1**
baz=329,SNR=22
G18K Tagagawik 83.31 13 IAmb IAmb 05 19 32.9
comp=Z,37nm,1.0s
G18K Tagagawik 83.31 13 P **P 05 19 28.7 -0.4**
baz=330,SNR=29
C36M Paulatuk 83.34 360 P **P 05 19 28.4 -0.7**
baz=0.9,SNR=11
G19K Purcell Mounta 83.40 13 P **P 05 19 29.3 -0.2**

baz=332,SNR=86
E28M Babbage River 83.49 5 IAmb IAmb 05 19 34.7
comp=Z,32nm,0.9s
E28M Babbage River 83.49 5 P **P** **05 19 30.5 +0.5**
baz=347
DRS Darwin Rock St 83.56 108 P **P** **05 19 31.1 0.0**
COLD Coldfoot 83.59 10 P **P** **05 19 30.9 +0.5**
baz=338,SNR=70
H16K Elim 83.60 15 P **P** **05 19 30.6 0.0**
baz=327,SNR=20
F24K Squaw Lake 83.64 9 IAmb IAmb 05 19 39.7
comp=Z,29nm,0.8s
F24K IAMs_20 IAMs_20 06 00 55.3
comp=Z,483nm,18.0s
F24K Squaw Lake 83.64 9 P **P** **05 19 31.5 +0.8**
baz=340,SNR=46
G22K Bettles 83.67 10 P **P** **05 19 31.2 +0.4**
baz=337
G21K Allakaket 83.71 11 IAmb IAmb 05 19 37.1
comp=Z,39nm,0.8s
G21K Allakaket 83.71 11 P **P** **05 19 30.9 -0.2**
baz=335,SNR=55
E27K Coleen River 83.72 6 IAmb IAmb 05 19 36.0
comp=Z,43nm,1.1s
E27K Coleen River 83.72 6 P **P** **05 19 31.7 +0.6**
baz=345,SNR=36
E29M Blow River 83.83 5 IAmb IAmb 05 19 36.3
comp=Z,33nm,0.9s
E29M Blow River 83.83 5 P **P** **05 19 32.1 +0.4**
baz=349,SNR=25
F25K Christian Rive 83.85 8 P **P** **05 19 32.8 +0.9**
baz=342,SNR=40
H17K Granite Mounta 83.87 14 IAmb IAmb 05 19 36.1
comp=Z,44nm,0.9s
H17K Granite Mounta 83.87 14 P **P** **05 19 32.0 0.0**
baz=329,SNR=33
F26K Sheenjek River 83.93 7 P **P** **05 19 32.9 +0.7**
baz=343,SNR=28
MTN Manton Dam 83.96 108 P **P** **05 19 32.7 -0.5**
MTN IAmb IAmb 05 19 48.1
comp=Z,26nm,1.0s
SCHQ Schefferville 83.96 330 P **P** **05 19 32.2 -0.4**
SCHQ IAmb IAmb 05 19 39.1
comp=Z,38nm,0.8s
SCHQ Schefferville 83.96 330 P **P** **05 19 31.8 -0.8**
comp=Z,35nm,1.0s,baz=48,slow=4.8,SNR=27
SCHQ LR LR 05 58 34.3
comp=Z,307nm,20.8s,baz=54,slow=37
comp=Z,35nm,1.0s
H18K Honhosa River 84.01 14 IAmb IAmb 05 19 36.9
comp=Z,45nm,0.9s
H18K Honhosa River 84.01 14 P **P** **05 19 32.4 -0.2**
baz=331,SNR=25
H19K Roundabout Mou 84.07 13 IAmb IAmb 05 19 37.3
comp=Z,33nm,1.0s
H19K IAMs_20 IAMs_20 06 02 34.8
comp=Z,572nm,21.0s
H19K Roundabout Mou 84.07 13 P **P** **05 19 32.9 0.0**
baz=332,SNR=26
G23K Bananza Creek 84.09 10 IAmb IAmb 05 19 37.9
comp=Z,49nm,0.9s
G23K Bananza Creek 84.09 10 P **P** **05 19 33.6 +0.5**
baz=338,SNR=55
BMAR Burnt Mountain 84.14 7 P **P** **05 19 34.2 +0.9**
IMAR Indian Mountai 84.16 11 P **P** **05 19 33.1 -0.2**
INK Inuvik 84.18 3 IAmb IAmb 05 19 37.6
comp=Z,44nm,0.9s
INK Inuvik 84.18 3 P **P** **05 19 33.4 -0.1**
baz=352,SNR=37
H20K Anotleneega Mo 84.39 12 P **P** **05 19 34.6 0.0**
baz=334,SNR=38
F28M Old Crow 84.43 6 P **P** **05 19 35.1 +0.3**
baz=347,SNR=101
G24K Hadweenzic Riv 84.47 9 P **P** **05 19 36.0 +1.0**
baz=340,SNR=121
G25K Bearman Lake 84.58 8 P **P** **05 19 36.5 +1.0**
baz=341,SNR=29
I17K Unalakleet 84.60 15 P **P** **05 19 36.3 +0.7**
baz=329,SNR=22
H21K Melozitna River 84.62 11 IAmb IAmb 05 19 40.4
comp=Z,46nm,0.9s
H21K IAMs_20 IAMs_20 06 01 20.3
comp=Z,408nm,20.0s
H21K Melozitna River 84.62 11 P **P** **05 19 36.1 +0.4**
baz=336,SNR=51
H22K Ishtalitna Cre 84.64 11 P **P** **05 19 36.8 +0.9**
baz=337
GCSA Galena City Sc 84.67 13 P **P** **05 19 36.0 0.0**
baz=332
G26K Porcupine Rive 84.69 7 P **P** **05 19 36.8 +0.8**
baz=343,SNR=36
F30M Barrier River 84.75 4 P **P** **05 19 36.4 +0.1**
baz=350,SNR=42
J14K Nanvaranak Lak 84.87 17 IAmb IAmb 05 19 44.7
comp=Z,47nm,1.1s
J14K IAMs_20 IAMs_20 05 58 04.3
comp=Z,379nm,18.0s
J14K Nanvaranak Lak 84.87 17 P **P** **05 19 37.4 +0.4**
baz=326,SNR=13
FYU Fort Yukon 84.88 8 IAMs_20 IAMs_20 06 02 19.1
comp=Z,346nm,18.0s
H23K Yukon River 84.99 10 IAMs_20 IAMs_20 06 04 45.1
comp=Z,388nm,18.0s
H23K Yukon River 84.99 10 P **P** **05 19 38.6 +1.0**
baz=338,SNR=75
KDU Kakadu 85.02 107 P **P** **05 19 38.3 -0.2**
F31M Tsiigehtchic 85.03 3 P **P** **05 19 37.7 0.0**
baz=352,SNR=53
G27K Doyon Strip 85.05 7 P **P** **05 19 38.6 +0.6**
baz=345,SNR=126
H25L Birch Creek 85.09 8 P **P** **05 19 39.0 +0.9**
baz=342,SNR=42
I20K Naaghedeneel 85.10 12 IAMs_20 IAMs_20 06 01 48.0
comp=Z,540nm,20.0s
I20K Naaghedeneel 85.10 12 P **P** **05 19 38.8 +0.7**
baz=334,SNR=23
J16K Anvik River 85.14 15 IAMs_20 IAMs_20 06 01 33.4
comp=Z,429nm,21.0s
J16K Anvik River 85.14 15 P **P** **05 19 39.0 +0.6**
baz=329,SNR=58
H24K Noodor Dome 85.22 9 IAmb IAmb 05 19 43.8
comp=Z,36nm,0.9s
H24K IAMs_20 IAMs_20 06 02 36.2
comp=Z,520nm,20.0s
H24K Noodor Dome 85.22 9 P **P** **05 19 39.5 +0.7**
baz=340,SNR=42
K13K Kusilvak Mount 85.26 18 IAmb IAmb 05 19 43.5
comp=Z,38nm,1.1s
K13K Kusilvak Mount 85.26 18 P **P** **05 19 39.2 +0.2**
baz=326
G29M Pine Creek 85.28 5 IAmb IAmb 05 19 43.3
comp=Z,49nm,0.8s
G29M Pine Creek 85.28 5 P **P** **05 19 39.0 0.0**
baz=348,SNR=38
G30M tAoh Zraii Nji 85.34 4 P **P** **05 19 39.3 -0.1**
baz=350,SNR=64
J17K VABM Dome 85.39 15 IAmb IAmb 05 19 44.1
comp=Z,46nm,1.1s
J17K IAMs_20 IAMs_20 06 01 51.0
comp=Z,558nm,20.0s
J17K VABM Dome 85.39 15 P **P** **05 19 39.7 +0.1**
baz=330,SNR=27
G31M Satah River 85.52 4 P **P** **05 19 40.2 0.0**
baz=352,SNR=82
MLY Manley 85.54 11 IAmb IAmb 05 19 46.9
comp=Z,51nm,0.8s
MLY IAMs_20 IAMs_20 06 01 28.6
comp=Z,531nm,21.0s
MLY Manley 85.54 11 P **P** **05 19 40.5 +0.1**
baz=337,SNR=106
J19K Poorman 85.60 13 P **P** **05 19 41.1 +0.5**
baz=333,SNR=56
H27K Steamboat Moun 85.62 7 P **P** **05 19 41.4 +0.6**
baz=345,SNR=84
I23K Minto, Yukon-K 85.65 10 IAmb IAmb 05 19 45.6
comp=Z,40nm,0.9s
I23K IAMs_20 IAMs_20 06 02 04.5
comp=Z,535nm,21.0s
I23K Minto, Yukon-K 85.65 10 P **P** **05 19 41.3 +0.4**
baz=339,SNR=41
J20K Nowinta River 85.72 12 IAmb IAmb 05 19 45.9
comp=Z,51nm,0.9s
J20K IAMs_20 IAMs_20 06 02 07.5
comp=Z,486nm,20.0s
J20K Nowinta River 85.72 12 P **P** **05 19 41.7 +0.5**
baz=334,SNR=57
K15K Wolf Creek Mou 85.76 16 IAmb IAmb 05 19 46.7
comp=Z,60nm,1.0s
K15K IAMs_20 IAMs_20 06 05 34.9
comp=Z,525nm,20.0s
K15K Wolf Creek Mou 85.76 16 P **P** **05 19 42.1 +0.6**
baz=328,SNR=21
J18K Innoko River 85.84 14 IAmb IAmb 05 20 04.3
comp=Z,33nm,1.0s
J18K IAMs_20 IAMs_20 06 01 35.9
comp=Z,578nm,21.0s
J18K Innoko River 85.84 14 P **P** **05 19 41.9 0.0**
baz=332,SNR=32
PRP Porcupine Dome 85.85 8 IAmb IAmb 05 19 49.4
comp=Z,49nm,0.8s
PRP Porcupine Dome 85.85 8 P **P** **05 19 42.6 +0.5**
baz=342,SNR=74
EPYK Eagle Plains 85.91 5 P **P** **05 19 41.6 -0.6**
baz=350,SNR=43
H29M Whitestone 85.93 5 P **P** **05 19 42.5 +0.2**
baz=348,SNR=70
POKR Poker Plat Res 85.97 9 IAmb IAmb 05 19 47.1
comp=Z,50nm,0.9s
POKR Poker Plat Res 85.97 9 P **P** **05 19 42.7 +0.2**
baz=340,SNR=18
MDM Murphy Dome 86.00 10 IAMs_20 IAMs_20 06 03 30.7
comp=Z,452nm,18.0s
M11K Mekoryuk 86.10 19 P **P** **05 19 43.6 +0.4**
baz=324
COLA College 86.14 10 P **P** **05 19 43.3 0.0**
COLA College 86.14 10 P **P** **05 19 42.9 -0.3**
COLA IAmb IAmb 05 19 50.3
comp=Z,44nm,1.0s
COLA College 86.14 10 IAMs_20 IAMs_20 06 03 36.3
comp=Z,459nm,19.0s
COLA College 86.14 10 P **P** **05 19 42.8 -0.5**
baz=340
COLA College 86.14 10 P **P** **05 19 42.9 -0.3**
COLA pmax pmax
comp=Z,44nm,1.0s
K17K Iditarod 86.16 15 IAMs_20 IAMs_20 06 02 25.3
comp=Z,444nm,21.0s
K17K Iditarod 86.16 15 P **P** **05 19 43.7 +0.2**
baz=331,SNR=32
NEA2 Nenana 86.22 10 IAmb IAmb 05 19 50.1
comp=Z,27nm,0.9s
NEA2 IAMs_20 IAMs_20 06 03 57.5
comp=Z,462nm,19.0s
NEA2 Nenana 86.22 10 P **P** **05 19 43.3 -0.5**
baz=339,SNR=36
I27K Kandik River 86.22 7 P **P** **05 19 44.1 +0.3**
baz=345,SNR=54
L14K Kuka Creek 86.28 17 P **P** **05 19 44.4 +0.4**
baz=327,SNR=32
L15K Ungalak Mounta 86.30 16 P **P** **05 19 44.4 +0.2**
baz=328,SNR=12
I26K Coal Creek Min 86.34 8 P **P** **05 19 44.4 +0.1**
baz=344
CCB Clear Creek Bu 86.36 10 IAMs_20 IAMs_20 06 03 41.2
comp=Z,401nm,20.0s
BPAW Bear Paw Mtn. 86.36 11 P **P** **05 19 44.5 0.0**
baz=337,SNR=154
IL31 86.37 9 IAmb IAmb 05 19 49.9
comp=Z,27nm,0.9s
ILAR Eielson Array 86.37 9 P **P** **05 19 43.5 -1.0**
comp=Z,14nm,0.8s,baz=326,slow=4.1,SNR=44
ILAR PP **PP** **05 23 04.2 -0.6**
comp=Z,1.8nm,0.9s,baz=334,slow=5.0,SNR=3.5
ILAR PKKPbc **PKKPbc** **05 37 40.2 -2.5**
comp=Z,0.8nm,0.6s,baz=188,slow=2.3,SNR=9.8
ILAR PKPPKP **P'P'df** **05 45 48.0 -5.9**
comp=Z,0.6nm,1.1s,baz=181,slow=1.7,SNR=4.1
ILAR LR LR 06 03 31.4
comp=Z,396nm,19.5s,baz=334,slow=39
comp=Z,14nm,0.8s
ILAR Eielson Array 86.37 9 P **P** **05 19 43.6 -0.9**
TTA Tatalina 86.47 14 P **P** **05 19 44.7 -0.4**
TTA Tatalina 86.47 14 IAmb IAmb 05 19 49.6
comp=Z,48nm,1.1s
TTA Tatalina 86.47 14 P **P** **05 19 45.2 +0.2**
baz=333,SNR=39
K20K Telida 86.48 13 P **P** **05 19 45.4 +0.3**
baz=334,SNR=103
WRH Wood River Hil 86.48 10 IAMs_20 IAMs_20 06 02 28.4
comp=Z,479nm,21.0s
I28M Miner Creek 86.55 6 IAmb IAmb 05 19 49.3
comp=Z,41nm,0.9s
I28M Miner Creek 86.55 6 P **P** **05 19 45.2 -0.3**
baz=347,SNR=56
BWN Browne 86.55 10 IAMs_20 IAMs_20 06 01 48.9
comp=Z,496nm,20.0s
L17K Donlin 86.67 15 P **P** **05 19 46.5 +0.5**
baz=331,SNR=23
HDA Harding Lake 86.71 9 IAmb IAmb 05 19 51.1
comp=Z,31nm,0.8s
HDA IAMs_20 IAMs_20 06 03 53.4
comp=Z,397nm,20.0s
HDA Harding Lake 86.71 9 P **P** **05 19 44.6 -1.6**
baz=341,SNR=30
J25K Salcha River, 86.73 9 IAMs_20 IAMs_20 06 03 11.0
comp=Z,461nm,21.0s
J25K Salcha River, 86.73 9 P **P** **05 19 46.1 -0.3**
baz=342,SNR=80
L16K Owhat River 86.77 16 P **P** **05 19 47.0 +0.5**
baz=330,SNR=24
I29M Ogilvie Camp, 86.78 6 IAmb IAmb 05 19 50.3
comp=Z,55nm,0.9s
I29M Ogilvie Camp, 86.78 6 P **P** **05 19 46.0 -0.5**
baz=348,SNR=74
M13K Dall Lake 86.88 18 P **P** **05 19 48.0 +1.0**
baz=327
GENI Genyem 86.93 95 P **P** **05 19 48.9 +0.8**
GENI Genyem 86.93 95 P **P** **05 19 48.6 +0.5**
L18K Granite Mounta 86.96 14 IAmb IAmb 05 19 51.9
comp=Z,30nm,1.1s
L18K IAMs_20 IAMs_20 06 05 40.3
comp=Z,568nm,20.0s
L18K Granite Mounta 86.96 14 P **P** **05 19 47.7 +0.3**
baz=332,SNR=13
M14K Bethel 86.97 17 P **P** **05 19 48.0 +0.6**
baz=328,SNR=15
MCK McKinley 87.04 10 P **P** **05 19 47.2 -0.6**
baz=339,SNR=45
I30M Mount Dempster 87.07 5 P **P** **05 19 47.8 -0.2**
baz=350,SNR=34
J26L Joseph Creek 87.07 8 IAMs_20 IAMs_20 06 02 57.9
comp=Z,381nm,20.0s
J26L Joseph Creek 87.07 8 P **P** **05 19 48.0 0.0**
baz=344,SNR=197
EGAK Eagle 87.08 7 IAMs_20 IAMs_20 06 02 55.1
comp=Z,401nm,22.0s
EGAK Eagle 87.08 7 P **P** **05 19 48.0 +0.1**
baz=346,SNR=82
L20K Farewell, AK 87.31 13 P **P** **05 19 49.3 +0.1**
baz=335,SNR=54
M15K Kasigluk River 87.34 17 P **P** **05 19 49.5 +0.3**
baz=329,SNR=18
RND Reindeer 87.36 10 IAmb IAmb 05 19 53.3
comp=Z,38nm,1.1s
RND IAMs_20 IAMs_20 06 02 12.8
comp=Z,445nm,21.0s
JAY Jayapura 87.37 94 P **P** **05 19 53.9 +3.6**
comp=Z,65nm,1.1s,comp=Z,3µm
L19K White Mountain 87.38 14 IAmb IAmb 05 19 54.6
comp=Z,60nm,1.2s
L19K White Mountain 87.38 14 P **P** **05 19 49.6 +0.1**
baz=334,SNR=20
K24K Donnelly Dome 87.45 9 P **P** **05 19 49.0 -0.8**
baz=342,SNR=14
M16K Timber Creek 87.49 16 IAmb IAmb 05 19 54.9
comp=Z,35nm,0.9s
M16K Timber Creek 87.49 16 P **P** **05 19 50.4 +0.4**
baz=330,SNR=12
M17K Holitna River 87.51 15 IAmb IAmb 05 19 55.1
comp=Z,49nm,0.9s
M17K Holitna River 87.51 15 P **P** **05 19 50.8 +0.7**
baz=332,SNR=19
SCRK Sand Creek 87.52 8 P **P** **05 19 50.5 +0.3**
baz=343,SNR=122
J29N Klondike Camp 87.68 6 IAmb IAmb 05 19 55.6
comp=Z,49nm,0.9s
J29N Klondike Camp 87.68 6 P **P** **05 19 51.3 +0.4**
baz=348
K27K Chicken 87.70 7 P **P** **05 19 51.6 +0.7**
baz=345
J30M Hart River 87.71 5 IAmb IAmb 05 19 55.6
comp=Z,32nm,1.0s
J30M Hart River 87.71 5 P **P** **05 19 51.2 0.0**
baz=350,SNR=38
M19K Big River Lodg 87.73 13 IAmb IAmb 05 19 55.9
comp=Z,56nm,1.4s
M19K Big River Lodg 87.73 13 P **P** **05 19 51.7 +0.5**
baz=334
N14K Kuskokwak Cree 87.74 18 P **P** **05 19 51.7 +0.5**
baz=328
M18K Stony River 87.79 14 P **P** **05 19 51.7 +0.3**
baz=333,SNR=20
WRKA Warakurna 87.88 120 P **P** **05 19 53.3 +0.9**
DHY Denali Highway 87.91 10 IAmb IAmb 05 20 09.5
comp=Z,34nm,1.0s
DHY IAMs_20 IAMs_20 06 06 55.1
comp=Z,404nm,19.0s
DHY Denali Highway 87.91 10 P **P** **05 19 51.5 -0.6**
baz=340,SNR=18
N15K Kwethluk River 87.95 17 IAmb IAmb 05 19 59.1
comp=Z,24nm,1.0s
N15K Kwethluk River 87.95 17 P **P** **05 19 51.4 -0.8**
baz=329
DAWY Dawson 87.95 6 P **P** **05 19 51.9 -0.3**
DAWY IAmb IAmb 05 19 56.5
comp=Z,47nm,1.0s
DAWY Dawson 87.95 6 P **P** **05 19 52.2 0.0**
baz=347,SNR=59
WAT1 Susitna Watana 87.95 11 P **P** **05 19 51.0 -1.2**
baz=339
M20K Styx River 88.00 13 P **P** **05 19 52.0 -0.6**
baz=335
N16K Nishlik Lake 88.01 16 P **P** **05 19 53.3 +0.8**
baz=331
CUT Chulitna 88.06 11 IAMs_20 IAMs_20 06 03 48.2
comp=Z,564nm,21.0s
CUT Chulitna 88.06 11 P **P** **05 19 51.5 -1.1**
baz=338
P08K Saint George I 88.06 23 P **P** **05 19 52.7 0.0**
baz=322
SVW2 Sparrevohn 88.20 14 P **P** **05 19 53.6 +0.2**
SKT Skwentna 88.22 12 P **P** **05 19 52.5 -1.0**
baz=337,SNR=60
PAX Paxson 88.29 9 P **P** **05 19 53.2 -0.7**
baz=342,SNR=14
WAT6 Susitna Watana 88.31 10 P **P** **05 19 53.3 -0.9**
baz=340,SNR=20
K29M Barlow Dome 88.34 6 IAmb IAmb 05 19 58.5
comp=Z,40nm,0.8s
K29M IAMs_20 IAMs_20 06 04 21.4
comp=Z,401nm,20.0s
K29M Barlow Dome 88.34 6 P **P** **05 19 54.3 +0.2**
baz=349,SNR=56
N17K Nushagak Hills 88.34 15 IAmb IAmb 05 19 59.0
comp=Z,23nm,1.1s
N17K Nushagak Hills 88.34 15 P **P** **05 19 54.6 +0.5**
baz=332
O14K Tigyukauivet M 88.42 18 P **P** **05 19 54.9 +0.4**
baz=328
N18K Kilae Creek 88.50 15 IAMs_20 IAMs_20 06 00 19.3
comp=Z,397nm,20.0s
N18K Kilae Creek 88.50 15 P **P** **05 19 55.3 +0.5**
baz=333
BATG Bathurst New B 88.51 324 IAMs_20 IAMs_20 06 02 24.6
comp=Z,425nm,20.0s
L26K Log Cabin Wild 88.52 8 IAmb IAmb 05 19 59.6
comp=Z,34nm,1.4s
L26K IAMs_20 IAMs_20 06 04 16.3
comp=Z,474nm,21.0s
L26K Log Cabin Wild 88.52 8 P **P** **05 19 55.2 +0.3**
baz=344,SNR=12
MENT Mentasta 88.56 8 P **P** **05 19 55.3 +0.2**
MENT Mentasta 88.56 8 IAmb IAmb 05 19 59.6
comp=Z,26nm,0.8s
L27K Beaver Creek, 88.67 8 IAmb IAmb 05 20 00.4
comp=Z,28nm,1.1s
L27K IAMs_20 IAMs_20 06 04 44.2
comp=Z,361nm,19.0s
L27K Beaver Creek, 88.67 8 P **P** **05 19 56.2 +0.6**
baz=345,SNR=34
BCAR Beaver Creek A 88.67 8 P **P** **05 19 56.1 +0.5**
M22K Willow 88.69 12 P **P** **05 19 55.0 -0.6**
baz=338,SNR=15
N19K Bonanza Creek 88.69 14 P **P** **05 19 56.0 +0.2**
N19K IAmb IAmb 05 20 03.1
comp=Z,22nm,0.8s
N19K IAMs_20 IAMs_20 06 03 36.2
comp=Z,521nm,22.0s
N19K Bonanza Creek 88.69 14 P **P** **05 19 56.2 +0.3**
baz=334,SNR=17
MAYO Mayo, Yukon 88.71 5 IAmb IAmb 05 21 00.4
comp=Z,39nm,0.9s
MAYO Mayo, Yukon 88.71 5 P **P** **05 19 56.0 +0.2**
baz=350
N20K Mount Spurr 88.81 13 P **P** **05 19 55.6 -0.8**
baz=336
ADK Adak 88.84 29 IAMs_20 IAMs_20 06 01 58.4
comp=Z,408nm,22.0s
SUA Susitna One 88.84 12 IAMs_20 IAMs_20 06 03 44.0
comp=Z,419nm,19.0s
SUA Susitna One 88.84 12 P **P** **05 19 56.3 -0.3**
baz=338,SNR=78
SPU Mount Spurr 88.86 13 IAMs_20 IAMs_20 06 06 55.4
comp=Z,340nm,18.0s
O15K Ungalikthiuk R 88.87 17 P **P** **05 19 56.8 +0.2**
baz=330
HARP HAARP 88.88 9 P **P** **05 19 56.8 +0.2**
baz=342
GHO Glory Hole Cre 88.88 11 IAmb IAmb 05 20 04.0
comp=Z,40nm,0.9s
SML Sawmill 88.95 11 IAmb IAmb 05 20 06.3
comp=Z,38nm,0.9s
SML IAMs_20 IAMs_20 06 04 30.7
comp=Z,444nm,22.0s
SML Sawmill 88.95 11 P **P** **05 19 56.5 -0.5**
baz=340,SNR=16
O16K Kokwok River B 88.95 16 P **P** **05 19 57.1 +0.2**
baz=331
M24K Tolsona, Glenn 89.01 10 P **P** **05 19 57.9 +0.7**
baz=341,SNR=8.4
L29M L29M 89.01 6 IAmb IAmb 05 20 04.8
comp=Z,34nm,0.9s
L29M L29M 89.01 6 P **P** **05 19 57.4 +0.2**
baz=348,SNR=37
PMR Palmer 89.01 11 P **P** **05 19 57.3 +0.1**
PMR Palmer 89.01 11 IAmb IAmb 05 20 04.8
comp=Z,26nm,1.0s
PMR IAMs_20 IAMs_20 06 06 00.5
comp=Z,428nm,20.0s
PMR Palmer 89.01 11 P **P** **05 19 56.9 -0.2**
baz=339,SNR=15
O17K Koliganek Bris 89.03 16 P **P** **05 19 57.5 +0.2**
baz=332
M23K Glacier View 89.06 11 P **P** **05 19 56.9 -0.5**
baz=340
SCM Sheep Creek Mo 89.09 10 IAmb IAmb 05 20 12.5
comp=Z,48nm,1.4s
SCM IAMs_20 IAMs_20 06 05 05.4
comp=Z,479nm,20.0s
SCM Sheep Creek Mo 89.09 10 P **P** **05 19 57.3 -0.4**
baz=340
TABU Tabubil 89.10 96 P **P** **05 19 59.6 +1.1**
M26K Nabesna, AK 89.17 8 IAMs_20 IAMs_20 06 04 36.4
comp=Z,416nm,22.0s
M26K Nabesna, AK 89.17 8 P **P** **05 19 58.0 0.0**
baz=344,SNR=11
O19K Port Alsworth 89.29 14 IAMs_20 IAMs_20 06 00 17.9
comp=Z,521nm,22.0s
O19K Port Alsworth 89.29 14 P **P** **05 19 57.9 -0.5**
baz=334
KNK Knik Glacier 89.30 11 IAMs_20 IAMs_20 06 07 46.0
comp=Z,515nm,20.0s
KNK Knik Glacier 89.30 11 P **P** **05 19 58.5 0.0**
baz=339
M27K Edge Creek, AK 89.35 8 IAmb IAmb 05 20 03.8
comp=Z,33nm,1.0s
M27K Edge Creek, AK 89.35 8 P **P** **05 19 59.3 +0.4**
baz=345,SNR=33
RC01 Rabbit Creek A 89.38 12 IAmb IAmb 05 20 02.8
comp=Z,26nm,0.8s
RC01 Rabbit Creek A 89.38 12 P **P** **05 19 58.4 -0.5**
baz=338,SNR=14
O18K Koktuh Hills 89.40 15 IAmb IAmb 05 20 03.6
comp=Z,32nm,0.9s
O18K Koktuh Hills 89.40 15 P **P** **05 19 59.3 +0.2**
baz=334
CAPN Captain Cook N 89.41 12 P **P** **05 19 59.0 0.0**
baz=337
WRGLY Wrigley 89.48 359 IAmb IAmb 05 20 11.8
comp=Z,36nm,0.8s
WRGLY Wrigley 89.48 359 P **P** **05 19 59.8 +0.5**
baz=1.4,SNR=11
KLU Klutina 89.63 10 IAmb IAmb 05 20 04.9
comp=Z,38nm,1.4s

KLU	Klutina	89.63	10	P	P	05 20 00.6	+0.4	
	baz=342,SNR=9.6							
M29M	Somme Creek	89.63	6	P	P	05 20 00.6	+0.4	
	baz=348,SNR=19							
M30M	Minto, Yukon	89.65	5	P	P	05 19 59.7	-0.5	
	baz=350							
P17K	Kvichak River	89.70	16	P	P	05 19 59.6	-0.8	
	baz=333							
N25K	Chitina, Valde	89.72	9	IAms_20	IAms_20	06 06 54.9		
	comp=Z,359nm,20.0s							
N25K	Chitina, Valde	89.72	9	P	P	05 20 00.3	-0.3	
	baz=343							
O20K	Slope Mountain	89.75	13	P	P	05 19 59.7	-1.1	
	baz=336							
P18K	Big Mountain,	89.81	15	IAms_20	IAms_20	06 06 08.7		
	comp=Z,424nm,21.0s							
P18K	Big Mountain,	89.81	15	P	P	05 19 59.6	-1.4	
	baz=334							
PWL	Port Wells	89.84	11	P	P	05 20 00.5	-0.6	
	baz=340							
YKA	Yellowknife Ar	89.84	355	P	P	05 20 01.0	0.0	
YKA	Yellowknife Ar	89.84	355	P	P	05 20 01.3	+0.3	
	comp=Z,24nm,0.8s,baz=6.5,slow=4.9,SNR=19							
	comp=Z,24nm,0.8s							
YKA	Yellowknife Ar	89.84	355	*i* P	P	05 20 02.7	+1.7	
YKA				pmax	pmax			
	comp=Z,24nm,0.8s							
MMPI	Merauke	89.84	100	P	P	05 20 03.3	+1.4	
PQI	Presque Isle	89.92	325	IAmb	IAmb	05 20 07.8		
	comp=Z,20nm,0.9s							
O22K	Cooper Landing	89.94	12	P	P	05 20 00.9	-0.6	
	baz=338							
GLB	Gilahina Butte	89.98	9	IAms_20	IAms_20	06 04 10.0		
	comp=Z,431nm,21.0s							
P19K	Oil Pt	90.01	14	P	P	05 20 00.5	-1.5	
	baz=335							
GLI	Glacier Island	90.03	11	IAms_20	IAms_20	06 06 14.2		
	comp=Z,462nm,19.0s							
GLI	Glacier Island	90.03	11	P	P	05 20 01.7	-0.3	
	baz=341							
YUK3	Moose Creek	90.08	7	P	P	05 20 02.6	+0.1	
	baz=346,SNR=24							
Q16K	King Salmon	90.11	16	P	P	05 20 02.0	-0.3	
	baz=332							
WRA	Warramunga Arr	90.13	112	P	P	05 20 02.3	-0.7	
WRA	Warramunga Arr	90.13	112	P	P	05 20 02.4	-0.7	
	comp=Z,8.9nm,0.8s,baz=314,slow=4.0,SNR=30							
WRA				PKKP	PKKPdf	05 37 29.4	-0.2	
	comp=Z,0.8nm,0.7s,baz=120,slow=2.5,SNR=6.0							
	comp=Z,8.9nm,0.8s							
WRA	Warramunga Arr	90.13	112	*i* P	P	05 20 02.4	-0.7	
WRA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
WRAB	Tennant Creek	90.13	112	P	P	05 20 02.5	-0.6	
WRAB				IAmb	IAmb	05 20 09.1		
	comp=Z,22nm,0.7s							
WRAB	Tennant Creek	90.13	112	P	P	05 20 02.5	-0.6	
WRAB				pmax	pmax			
	comp=Z,22nm,0.7s							
WB2	Warramunga Arr	90.14	112	IAmb	IAmb	05 20 09.1		
	comp=Z,25nm,0.7s							
MCARA	McCarthy VSAT	90.14	9	IAms_20	IAms_20	06 05 18.2		
	comp=Z,507nm,21.0s							
MCARA	McCarthy VSAT	90.14	9	P	P	05 20 02.6	0.0	
	baz=344							
M31M	Druy Creek, Y	90.20	4	P	P	05 20 02.6	-0.2	
	baz=352,SNR=16							
VRDI	Verde Repeater	90.24	9	IAms_20	IAms_20	06 05 33.7		
	comp=Z,416nm,22.0s							
FARO	Faro, Yukon	90.24	4	P	P	05 20 03.0	0.0	
	baz=353							
FID	Port Fidalgo	90.25	10	IAmb	IAmb	05 22 25.2		
	comp=Z,16nm,0.6s							
FID				IAms_20	IAms_20	06 05 46.1		
	comp=Z,484nm,21.0s							
BMRM	Bremner River	90.33	9	P	P	05 20 03.3	-0.2	
	baz=343,SNR=12							
HOM	Homer	90.34	13	P	P	05 20 01.8	-1.6	
	baz=337							
SEW	Seward	90.35	12	P	P	05 20 02.1	-1.3	
	baz=339							
BRLK	Bradley Lake	90.39	13	IAmb	IAmb	05 20 07.2		
	comp=Z,34nm,1.0s							
BRLK				IAms_20	IAms_20	06 07 34.2		
	comp=Z,482nm,20.0s							
BRSE	Bradley Lake S	90.44	13	P	P	05 20 02.1	-1.8	
	baz=338							
Q18K	Katmai Hardscr	90.53	15	P	P	05 20 02.1	-2.4	
	baz=334							
CNPM	China Poot	90.54	13	IAmb	IAmb	05 20 09.9		
	comp=Z,24nm,0.9s							
EYAK	Cordova Ski Ar	90.55	10	P	P	05 20 04.9	+0.5	
EYAK	Cordova Ski Ar	90.55	10	P	P	05 20 04.8	+0.4	
	baz=342							
Q19K	Cape Douglas,	90.58	14	IAms_20	IAms_20	06 08 39.2		
	comp=Z,429nm,18.0s							
Q19K	Cape Douglas,	90.58	14	P	P	05 20 03.7	-0.9	
	baz=335							
YUK8	Steele Glacier	90.63	7	P	P	05 20 04.5	-0.6	
	baz=347							
LDAQ	Lac Daran	90.64	327	IAms_20	IAms_20	06 03 27.8		
	comp=Z,372nm,22.0s							
Q17K	Contact Creek	90.66	16	P	P	05 20 03.3	-1.8	
	baz=333							
YUK4	Talbot Arm	90.69	7	P	P	05 20 05.0	-0.3	
	baz=348,SNR=43							
FORT	Forrest	90.71	125	P	P	05 20 06.5	+0.9	
N30M	Aishikik Lake	90.73	6	P	P	05 20 04.8	-0.5	
	baz=349,SNR=13							
CRQM	Cirque	90.73	9	IAms_20	IAms_20	06 06 44.1		
	comp=Z,401nm,20.0s							
CRQE	Cirque	90.75	9	P	P	05 20 05.3	-0.1	
	baz=344							
CTG	Chitna Glacier	90.76	8	P	P	05 20 05.6	0.0	
	baz=346,SNR=14							
CTGM	Chitina Glacie	90.77	8	IAmb	IAmb	05 20 13.3		
	comp=Z,29nm,0.9s							
P23K	Montague Islan	90.81	11	P	P	05 20 04.9	-0.7	
	baz=340							
N31M	Braeburn, Yuko	90.81	5	P	P	05 20 05.8	+0.1	
	baz=351							
RAGM	Ragged Mountai	90.87	10	IAmb	IAmb	05 20 11.5		
	comp=Z,22nm,1.0s							
GRNC	Granite Creek	90.94	8	IAmb	IAmb	05 20 13.9		
	comp=Z,21nm,0.9s							
GRNC				IAms_20	IAms_20	06 05 44.3		
	comp=Z,393nm,21.0s							
LOGN	Logan Glacier	90.94	8	IAmb	IAmb	05 20 11.5		
	comp=Z,35nm,0.9s							
ISLE	Juniper Island	90.99	8	IAms_20	IAms_20	06 06 05.6		
	comp=Z,506nm,21.0s							
WAX	Waxell Ridge	91.07	9	IAms_20	IAms_20	06 04 44.7		
	comp=Z,514nm,22.0s							
O28M	Mount Upton	91.09	7	P	P	05 20 07.1	-0.2	
	baz=347							
YUK6	Outpost Mounta	91.11	6	P	P	05 20 07.6	+0.2	
	baz=348,SNR=11							
SYI	Shuyak Island	91.14	14	IAms_20	IAms_20	06 05 04.0		
	comp=Z,556nm,21.0s							
TGTN	Hyland Airport	91.16	2	P	P	05 20 07.8	+0.5	
	baz=357							
S12K	Black Hills	91.22	20	P	P	05 20 07.1	-0.6	
	baz=328							
TABL	Table Mountain	91.30	8	IAmb	IAmb	05 20 14.3		
	comp=Z,19nm,0.8s							
TABL				IAms_20	IAms_20	06 05 09.7		
	comp=Z,465nm,21.0s							
SUCK	Suckling Hills	91.30	9	IAms_20	IAms_20	06 05 09.9		
	comp=Z,527nm,21.0s							
BGLC	Bering Glacier	91.33	9	P	P	05 20 08.0	+0.1	
	baz=344							
N32M	Quiet Lake	91.33	4	IAms_20	IAms_20	06 08 17.4		
	comp=Z,356nm,19.0s							
N32M	Quiet Lake	91.33	4	P	P	05 20 08.0	-0.2	
	baz=353,SNR=7.9							
F62A	Pittston Farm,	91.44	325	IAmb	IAmb	05 21 41.4		
	comp=Z,49nm,1.9s							
MESA	MESA	91.45	8	IAmb	IAmb	05 20 13.6		
	comp=Z,27nm,0.9s							
MESA				IAms_20	IAms_20	06 08 20.8		
	comp=Z,505nm,20.0s							
MESA	MESA	91.45	8	P	P	05 20 08.8	-0.1	
	baz=345							
O30N	Mendenhall	91.49	5	P	P	05 20 08.7	-0.2	
	baz=350,SNR=10							
FALS	False Pass	91.51	21	P	P	05 20 08.1	-0.8	
	baz=327							
Q23K	Middleton Isla	91.52	11	P	P	05 20 08.4	-0.5	
	baz=341							
PKME	Peaks-Kenny Pk	91.53	324	P	P	05 20 07.9	-1.3	
	baz=47							
ASAR	Alice Springs	91.59	116	P	P	05 20 09.2	-0.7	
ASAR	Alice Springs	91.59	116	P	P	05 20 09.1	-0.8	
	comp=Z,6.0nm,0.6s,baz=304,slow=4.7,SNR=29							
ASAR				PKKPbc	PKKPbc	05 37 28.8	-0.8	
	comp=Z,0.2nm,0.7s,baz=116,slow=2.9,SNR=1.1							
	comp=Z,6.0nm,0.6s							
ASAR	Alice Springs	91.59	116	P	P	05 20 09.2	-0.7	
R18K	Karluk	91.63	15	P	P	05 20 08.0	-1.5	
	baz=334							
WHY	Whitehorse	91.70	5	P	P	05 20 08.6	-1.3	
	baz=351							
O29M	Mount Kennedy	91.72	7	IAms_20	IAms_20	06 06 54.9		
	comp=Z,332nm,19.0s							
O29M	Mount Kennedy	91.72	7	P	P	05 20 08.9	-1.1	
	baz=348							
PINM	Pinnacle	91.74	8	P	P	05 20 09.3	-0.7	
	baz=347,SNR=5.3							
KDAK	Kodiak Island	91.86	14	P	P	05 20 10.5	0.0	
KDAK				IAmb	IAmb	05 20 15.2		
	comp=Z,42nm,1.1s							
KDAK	Kodiak Island	91.86	14	P	P	05 20 10.1	-0.4	
	baz=336							
KDAK	Kodiak Island	91.86	14	P	P	05 20 10.5	0.0	
KDAK				pmax	pmax			
	comp=Z,42nm,1.1s							
P30M	Million Dollar	92.06	6	P	P	05 20 11.4	-0.1	
	baz=350							
OHAK	Old Harbor	92.21	15	P	P	05 20 12.7	+0.6	
OHAK	Old Harbor	92.21	15	IAms_20	IAms_20	06 06 40.3		
	comp=Z,340nm,21.0s							
OHAK	Old Harbor	92.21	15	P	P	05 20 11.1	-1.0	
	baz=335							
PNL	Peninsula	92.25	7	P	P	05 20 11.9	-0.5	
P33M	Teslin, Yukon	92.28	4	P	P	05 20 11.8	-0.8	
	baz=353,SNR=8.9							
P29M	Windy Craggy	92.47	6	P	P	05 20 13.1	-0.2	
	baz=349							
WTLY	Watson Lake, Y	92.56	2	P	P	05 20 12.6	-1.2	
	baz=357							
KOTAN	Kotaneelee Air	92.60	360	P	P	05 20 13.0	-0.8	
	baz=0.9							
SII	Sitkinak Islan	92.60	16	P	P	05 20 13.1	-0.9	
	baz=334							
PLBC	Pleasant Camp	92.77	6	P	P	05 20 14.2	-0.5	
	baz=350							
P32M	Atlin	92.84	4	P	P	05 20 14.2	-0.9	
	baz=352,SNR=6.7							
SKAG	Skagway	92.85	5	P	P	05 20 16.2	+1.1	
SKAG	Skagway	92.85	5	P	P	05 20 14.3	-0.8	
	baz=351							
R33M	Jennings River	93.20	3	P	P	05 20 15.5	-1.3	
	baz=355,SNR=12							
VLDQ	Val d'Or	93.40	330	IAmb	IAmb	05 20 22.4		
	comp=Z,21nm,1.3s							
TRQ	Mont Tremblant	93.47	328	IAmb	IAmb	05 20 21.9		
	comp=Z,27nm,1.3s							
Q32M	Nakina River	93.56	4	P	P	05 20 17.2	-1.4	
	baz=354,SNR=5.6							
LBNH	Lisbon	93.59	325	P	P	05 20 18.0	-0.8	
	baz=45							
TOAD	Toad River Com	93.88	0	P	P	05 20 19.6	-0.3	
	baz=360,SNR=21							
R32K	Eaglecrest	94.09	5	P	P	05 20 19.6	-1.2	
	baz=352							
JIS	Juneau Island	94.10	5	P	P	05 20 21.8	+1.0	
DLBC	Dease Lake	94.20	3	P	P	05 20 21.5	+0.1	
	baz=356,SNR=13							
S31K	Pelican	94.26	6	P	P	05 20 20.4	-1.1	
	baz=350							
LONY	Lake Ozonia	94.65	326	IAmb	IAmb	05 20 27.9		
	comp=Z,25nm,0.9s							
LONY	Lake Ozonia	94.65	326	P	P	05 20 23.1	-0.6	
	baz=43							
S34M	Telegraph Cree	94.67	3	IAmb	IAmb	05 20 28.5		
	comp=Z,21nm,1.1s							
S34M	Telegraph Cree	94.67	3	P	P	05 20 23.3	-0.1	
	baz=355,SNR=5.5							
WBO	Williamsburg	94.71	327	IAms_20	IAms_20	06 05 12.3		
	comp=Z,368nm,20.0s							
QIS	Mount Isa	94.77	111	P	P	05 20 24.7	+0.1	
S32K	Killisnoo	94.89	5	P	P	05 20 24.3	-0.1	
	baz=352							
OOD	Oodnadatta	94.99	119	P	P	05 20 25.7	+0.3	
MAW	Mawson	95.09	177	P	P	05 20 24.7	-0.1	
	comp=Z,8.2nm,0.9s,baz=351,slow=6.1,SNR=10							
	comp=Z,8.2nm,0.9s							
SIT	Sitka	95.23	6	P	P	05 20 25.5	-0.6	
	baz=351							
L61B	Northampton	95.24	324	P	P	05 20 25.2	-1.2	
	baz=45							
NBAN	Anadia - AL	95.50	262	*e*P	P	05 20 28.7	+0.7	
T35M	Bob Quinn	95.64	3	P	P	05 20 26.5	-1.5	
	baz=355							
FFC	Flin Flon	95.65	347	P	P	05 20 26.8	-1.2	
FFC				IAmb	IAmb	05 20 34.5		
	comp=Z,17nm,1.1s							
FFC	Flin Flon	95.65	347	IAms_20	IAms_20	06 08 07.3		
	comp=Z,382nm,20.0s							
FFC	Flin Flon	95.65	347	P	P	05 20 26.8	-1.2	
FFC				pmax	pmax			
	comp=Z,17nm,1.1s							
T33K	Petersburg	95.66	4	P	P	05 20 27.5	-0.4	
	baz=353							
DELO	Deloro Mine	96.18	328	IAmb	IAmb	05 20 31.1		
	comp=Z,53nm,1.7s							
PMG	Port Moresby	96.22	97	LR	LR	06 08 48.4		
	comp=Z,21nm,21.6s,baz=308,slow=38							
SADO	Sadowa	96.70	329	LR	LR	06 07 05.7		
	comp=Z,244nm,18.6s,baz=50,slow=37							
MTSU	Mount Surprise	97.64	106	P	Pdif	05 20 37.8	+0.1	
ULM	Lac du Bonnet	98.30	342	P	Pdif	05 20 40.8	+0.7	
	comp=Z,5.4nm,1.0s,baz=32,slow=2.4,SNR=4.4							
	comp=Z,5.4nm,1.0s							
BRLDA	Berland Lookou	98.39	355	IAmb	IAmb	05 20 48.1		
	comp=Z,14nm,0.8s							
EYMN	Ely	98.99	338	IAms_20	IAms_20	06 09 01.0		
	comp=Z,359nm,20.0s							
M53A	WI Miller and	99.98	328	P	Pdif	05 20 47.0	-0.8	
	baz=39							
AGMN	Agassiz Nation	100.05	341	IAms_20	IAms_20	06 10 51.9		
	comp=Z,354nm,22.0s							
O53A	New Philadelph	101.16	327	IAms_20	IAms_20	06 08 23.1		
	comp=Z,475nm,22.0s							
L48A	N Adams	101.30	330	IAms_20	IAms_20	06 09 32.5		
	comp=Z,422nm,22.0s							
SPMN	Marine on St.	101.81	337	IAms_20	IAms_20	06 14 09.5		
	comp=Z,362nm,18.0s							
E28A	Huff	102.96	343	IAms_20	IAms_20	06 11 53.8		
	comp=Z,364nm,19.0s							
EGMT	Eagleton	103.49	350	IAms_20	IAms_20	06 11 36.6		
	comp=Z,342nm,22.0s							
P48A	Milroy	103.75	329	IAms_20	IAms_20	06 11 26.4		
	comp=Z,293nm,20.0s							
LAO	LASA Array	104.13	347	IAms_20	IAms_20	06 12 31.7		
	comp=Z,440nm,22.0s							
C09A	Chrisman Ranch	104.71	355	IAms_20	IAms_20	06 10 53.9		
	comp=Z,279nm,20.0s							
SMRT	St. Maarten	104.78	300	IAms_20	IAms_20	06 06 24.5		
	comp=Z,320nm,20.0s							
WCI	Wyandotte Cave	105.15	329	IAms_20	IAms_20	06 13 31.4		
	comp=Z,320nm,19.0s							
GNW	Green Mountain	105.16	358	IAms_20	IAms_20	06 18 01.1		
	comp=Z,350nm,20.0s							
MSO	Missoula	105.25	352	IAms_20	IAms_20	06 16 27.2		
	comp=Z,400nm,20.0s							
D08A	Wollman Farm,	105.49	356	IAms_20	IAms_20	06 14 46.7		
	comp=Z,403nm,21.0s							
D05A	Drumchaw	105.52	358	IAms_20	IAms_20	06 01 58.4		
	comp=Z,267nm,20.0s							
TROLL	Troll, Antarti	105.65	195	⇑PKKPbc	PKKPbc	05 36 52.6	+0.9	
	comp=Z,122nm,0.9s							
TROLL				⇓PKiKP	PKiKP	05 25 37.9	+13	
	comp=Z,136nm,0.8s							
LON	Longmire	105.95	358	IAms_20	IAms_20	06 17 18.8		
	comp=Z,286nm,20.0s							
RSSD	Black Hills	106.09	344	IAms_20	IAms_20	06 11 10.5		
	comp=Z,342nm,20.0s							
DLMT	Dillon	106.51	351	IAms_20	IAms_20	06 13 45.7		
	comp=Z,341nm,20.0s							
SLM	Saint Louis	106.52	332	IAms_20	IAms_20	06 12 45.5		
	comp=Z,324nm,20.0s							
SNAA	Sanae	106.71	196	⇑PKKPbc	PKKPbc	05 36 47.8	-0.5	
	comp=Z,32nm,0.7s							
SNAA				⇑PKiKP	PKiKP	05 25 40.3	+13	
	comp=Z,18nm,0.9s							
SNAA	Sanae	106.71	196	PKiKP	PKiKP	05 25 26.3	-0.8	
	comp=Z,1.0nm,0.9s,baz=11,slow=15,SNR=1.9							
SNAA				PKKPbc	PKKPbc	05 36 45.7	-2.6	
	comp=Z,1.6nm,0.9s,baz=219,slow=4.7,SNR=7.9							
YMP	Mirror Lake Pl	106.74	349	IAms_20	IAms_20	06 11 57.8		
	comp=Z,330nm,21.0s							
YHL	Hebgen Lake	106.80	350	IAms_20	IAms_20	06 13 51.4		
	comp=Z,448nm,22.0s							
YMR	Madison River	106.95	350	IAms_20	IAms_20	06 13 55.2		
	comp=Z,388nm,20.0s							
W50A	Signal Mountai	107.14	327	IAms_20	IAms_20	06 16 19.3		
	comp=Z,262nm,19.0s							
FVM	French Village	107.15	332	IAms_20	IAms_20	06 08 44.3		
	comp=Z,369nm,20.0s							
VNA2	Neumayer--Watz	107.44	198	⇑PKKPbc	PKKPbc	05 36 43.1	-2.8	
	comp=Z,2.2nm,0.6s,baz=270,slow=4.6							
VNA2				⇑PKiKP	PKiKP	05 25 27.8	-0.5	
	comp=Z,1.4nm,0.6s,baz=358,slow=4.2							
VNA1	Neumayer--Stat	107.53	198	⇑PKKPbc	PKKPbc	05 36 43.9	-1.6	
	comp=Z,3.8nm,0.8s							
MOOW	Moose Ponds	107.81	349	IAms_20	IAms_20	06 12 20.9		
	comp=Z,379nm,22.0s							
K22A	Casper	108.05	346	P	PKiKP	05 25 30.7	-0.1	
	baz=17							
SNOW	Snow King Moun	108.09	349	IAms_20	IAms_20	06 08 41.4		
	comp=Z,362nm,21.0s							
GLAT	Glass	108.10	330	IAms_20	IAms_20	06 14 03.6		
	comp=Z,337nm,20.0s							
PBMO	Poplar Bluff	108.17	331	IAms_20	IAms_20	06 13 44.3		
	comp=Z,386nm,22.0s							
T42A	Van Buren	108.24	332	IAms_20	IAms_20	06 13 40.0		
	comp=Z,391nm,20.0s							
VNA3	Neumayer Olymp	108.24	198	⇑PKKPbc	PKKPbc	05 36 43.8	+0.4	
	comp=Z,5.4nm,0.8s							
VNA3				⇑PKiKP	PKiKP	05 25 29.2	-0.7	
	comp=Z,1.4nm,0.5s							
BDFB	Brasilia	108.39	262	PP	PP	05 25 58.3	+1.9	
	comp=Z,2.4nm,0.8s,baz=62,slow=8.5,SNR=4.1							
HLID	Hailey	108.52	352	IAms_20	IAms_20	06 15 50.9		
	comp=Z,400nm,20.0s							
PDAR	Pinedale Array	108.55	348	PKiKP	PKiKP	05 25 30.7	-1.1	
	comp=Z,1.1nm,0.7s,baz=52,slow=3.2,SNR=4.7							
PDAR				PKKPbc	PKKPbc	05 36 40.1	-1.7	
	comp=Z,0.6nm,0.7s,baz=149,slow=3.1,SNR=6.0							
X48A	Hartselle	108.58	328	IAms_20	IAms_20	06 13 19.4		
	comp=Z,419nm,21.0s							
MGMO	Mountain Grove	108.61	333	IAms_20	IAms_20	06 16 25.9		
	comp=Z,255nm,20.0s							
AHID	Auburn Hatcher	108.82	349	IAms_20	IAms_20	06 17 32.8		
	comp=Z,335nm,20.0s							
LCAR	Lake Charles	109.08	331	IAms_20	IAms_20	06 14 24.4		
	comp=Z,314nm,21.0s							
CBKS	Cedar Bluff	109.83	339	IAms_20	IAms_20	06 13 01.8		
	comp=Z,306nm,20.0s							
HWUT	Hardware Ranch	110.03	349	IAms_20	IAms_20	06 11 17.7		
	comp=Z,393nm,21.0s							
HHAR	Hobbs	110.04	334	IAms_20	IAms_20	06 13 48.6		
	comp=Z,296nm,19.0s							
HVU	Hansel Valley	110.05	350	IAms_20	IAms_20	06 18 04.3		
	comp=Z,350nm,19.0s							
U38A	Gravette	110.07	334	IAms_20	IAms_20	06 15 01.5		
	comp=Z,331nm,18.0s							
250A	Grady	110.20	325	IAms_20	IAms_20	06 19 15.5		
	comp=Z,343nm,20.0s							
ISCO	Idaho Springs	110.55	344	IAms_20	IAms_20	06 13 46.7		
	comp=Z,324nm,20.0s							
OK051	E0350 and S346	110.94	336	IAms_20	IAms_20	06 16 26.2		
	comp=Z,384nm,20.0s							
CTU	Camp Tracy	110.95	349	IAms_20	IAms_20	06 16 30.1		
	comp=Z,348nm,19.0s							
X40A	Basin Creek Fa	111.14	332	IAms_20	IAms_20	06 15 26.9		
	comp=Z,285nm,19.0s							
OK032	Salt Plains WL	111.15	337	IAms_20	IAms_20	06 02 34.9		
	comp=Z,238nm,20.0s							
DUG	Dugway, Tooele	111.61	350	IAms_20	IAms_20	06 16 36.5		
	comp=Z,260nm,19.0s							
143A	Socs Landing,	112.04	330	IAms_20	IAms_20	06 15 21.0		
	comp=Z,366nm,22.0s							
Q12A	Willow Creek R	113.03	351	IAms_20	IAms_20	06 20 30.1		
	comp=Z,318nm,20.0s							
CHIV	Chivirico	113.29	310	IAms_20	IAms_20	05 59 31.9		
	comp=Z,209nm,19.0s							
KVN	Kaiserville	113.39	354	IAms_20	IAms_20	06 23 18.6		
	comp=Z,327nm,18.0s							
PSUT	Pine Spring	113.39	350	IAms_20	IAms_20	06 16 45.7		
	comp=Z,286nm,20.0s							
PNTR	Pine Nut	113.47	355	IAms_20	IAms_20	06 22 38.8		
	comp=Z,379nm,22.0s							
EMB	Emerald Bay	113.62	356	IAms_20	IAms_20	05 57 34.7		
	comp=Z,260nm,18.0s							
AFDM	Forest Hills D	113.69	357	IAms_20	IAms_20	06 14 29.8		
	comp=Z,270nm,20.0s							
NVAR	Mina Array Bea	114.02	354	PKiKP	PKiKP	05 25 42.2	0.0	
	comp=Z,3.3nm,0.8s,baz=9.5,slow=1.4,SNR=17							
NVAR				PKKPbc	PKKPbc	05 36 22.1	-1.7	
	comp=Z,0.9nm,0.7s,baz=184,slow=4.9,SNR=7.9							
LHV	Little Huntoon	114.21	354	IAms_20	IAms_20	06 11 28.5		
	comp=Z,302nm,18.0s							
WHTX	Lake Whitney,	115.19	334	IAms_20	IAms_20	06 18 45.8		
	comp=Z,344nm,21.0s							
FURC	Furnace Creek,	115.82	353	P	PKPdf	05 25 45.4	0.0	
	baz=8.1							
CWC	Cottonwood Cre	115.97	354	P	PKPdf	05 25 46.0	0.0	
	baz=6.9							
MPMC	Manual Prospec	116.29	353	P	PKiKP	05 25 46.1	-0.5	
	baz=7.5							
GSC	Goldstone, Bar	116.96	352	P	PKPdf	05 25 47.7	-0.1	
	baz=8.2							
QSPA	South Pole Qui	117.44	180	PKP	PKPdf	05 25 45.9	-1.6	
	comp=Z,4.3nm,0.8s,baz=276,slow=1.4,SNR=14			

comp=Z,3.3nm,0.7s,baz=136,slow=0.2,SNR=16

TRQA	**Tornquist**	**126.90**	**242**	PKPdf	**PKiKP**	**05 26 06.8 -0.2**
TRQA	**Tornquist**	**126.90**	**242**	PKIKP	**PKiKP**	**05 26 06.8 -0.2**
LCO	**Las Campanas**	**132.50**	**255**		**PKiKP**	**05 26 18.6 -0.3**
LCO	**Las Campanas**	**132.50**	**255**	PKIKP	**PKiKP**	**05 26 18.6 -0.3**
MT02	**Curacav**	**133.61**	**249**	PKPdf	**PKPdf**	**05 26 19.9 +0.5**
PLCA	**Paso Flores**	**133.74**	**239**	PKP	**PKPdf**	**05 26 19.6 +0.1**

comp=Z,6.0nm,1.1s,baz=26,slow=5.8,SNR=4.2

PPT2	**Papeete2**	**155.29**	**71**	*e*LR	LR	06 18 53.7
PPT2				*e*LR	LR	06 18 55.2

comp=Z,213nm,28.2s

TBI	**Tubuai**	**157.56**	**85**	*e*LR	LR	06 19 56.3

comp=Z,1μm,30.8s

*JMA **22** 05:07:04.3±0.2,24°.6N±0°.7×122°.1E±0°.4,h59km±3km, MV2.7/12,TAIWAN REGION*
*TAP **22** 05:07:05.3,24°.68N×122°.10E,h4km,ML2.8,C*
ISC 22 05:07:04.5±0.9,24°.66N±0°.02×122°.21E±0°.02,h9km±7km, n96,σ0s87/173,1C-4D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.24**	**175**	P	**Pb**	**05 07 10.9**	**+1.7**
EOS2	baz=173			*i* S	**Sg**	**05 07 15.7**	**+3.3**
EGS	baz=173 **0.32**	**307**		⇓P	**Pg**	**05 07 10.4**	**-0.3**
EGS	baz=319			*i* S	**Sg**	**05 07 14.1**	**-0.9**
TWC	**Suao**	**0.33**	**262**	*i* P	**Pg**	**05 07 10.4**	**-0.7**
TWC	baz=250			S	**Sg**	**05 07 13.8**	**-1.7**
ESAO	**Su ao**	**0.34**	**257**	*i* P	**Pg**	**05 07 10.9**	**-0.4**
ESAO	baz=244			*i* S	**Sg**	**05 07 14.6**	**-1.2**
EOS3	**EOS3**	**0.38**	**165**	*i* P	**Pb**	**05 07 13.7**	**+0.3**
EOS3	baz=161			*e*S	**Sb**	**05 07 20.1**	**+0.8**
TWB1	**Santiao Chiao**	**0.40**	**330**	*e*P	**Pg**	**05 07 13.3**	**+0.9**
TWB1	baz=345			*e*S	**Sg**	**05 07 16.9**	**-0.9**
ILA	**Ilan**	**0.43**	**285**	*e*P	**Pg**	**05 07 12.6**	**-0.4**
ILA	baz=284			*i* S	**Sg**	**05 07 18.2**	**-0.6**
EWUT	**Wuta**	**0.45**	**242**	*e*P	**Pg**	**05 07 13.3**	**+0.1**
EWUT	baz=230			*e*S	**Sb**	**05 07 20.2**	**-1.2**
NDS	**Dongshan**	**0.45**	**267**	*e*P	**Pg**	**05 07 12.8**	**-0.5**
NDS	baz=261			*e*S	**Sg**	**05 07 20.0**	**+0.7**
TIPB	**Shuangxi**	**0.47**	**312**	*i* P	**Pg**	**05 07 13.5**	**-0.2**
TIPB	baz=320			S	**Sg**	**05 07 19.0**	**-0.9**
ENA	**Nanau**	**0.48**	**242**	⇓*i*P	**Pg**	**05 07 13.8**	**-0.1**
ENA	baz=230			*e*S	**Sg**	**05 07 20.9**	**+0.6**
TWE	**Neicheng**	**0.50**	**278**	*i* P	**Pg**	**05 07 13.4**	**-0.8**
TWE	baz=275			*e*S	**Sg**	**05 07 20.9**	**+0.2**
SXI1	**Grass Mountain**	**0.53**	**325**	*e*P	**Pg**	**05 07 15.1**	**+0.2**
EAHA	**Aohua**	**0.54**	**233**	*e*P	**Pn**	**05 07 17.2**	**-1.2**
EAHA	baz=233			*e*S	**Sb**	**05 07 23.1**	**-0.9**
EOS4	**EOS4**	**0.54**	**170**	*e*P	**Pb**	**05 07 16.3**	**+0.3**
EOS4	baz=159			*e*S	**Sn**	**05 07 27.6**	**+0.5**
NWF	**Wu-fen Shan**	**0.57**	**317**	P	**Pg**	**05 07 15.6**	**+0.1**
NWF	baz=312			*e*S	**Sg**	**05 07 23.8**	**+0.7**
WFSB	**Wu-fen Shan**	**0.57**	**317**	⇓*i*P	**Pg**	**05 07 15.8**	**+0.2**
WFSB	baz=312			*e*S	**Sg**	**05 07 23.9**	**+0.9**
FUSB	**Fushanzhiwuyua**	**0.58**	**280**	*e*P	**Pg**	**05 07 15.1**	**-0.6**
FUSB	baz=279			*e*S	**Sg**	**05 07 23.5**	**+0.3**
ENTT	**Nioudou**	**0.59**	**269**	*i* P	**Pg**	**05 07 15.2**	**-0.7**
ENTT	baz=264			S	**Sg**	**05 07 23.2**	**-0.4**
TNOU	**National Taiwa**	**0.63**	**321**	*e*P	**Pb**	**05 07 18.2**	**+0.4**
TNOU	baz=318			*e*S	**Sg**	**05 07 26.1**	**+1.1**
LATG	**Datong**	**0.64**	**259**	⇑*e*P	**Pg**	**05 07 16.1**	**-0.7**
LATG	baz=264			*i* S	**Sg**	**05 07 24.7**	**-0.4**
NDT	**Datong Townshi**	**0.64**	**265**	*e*P	**Pg**	**05 07 16.9**	**+0.1**
NDT	baz=272			*e*S	**Sg**	**05 07 25.0**	**-0.2**
NWLT	**Wulai**	**0.66**	**281**	*e*P	**Pg**	**05 07 17.2**	**0.0**
NWLT	baz=280			S	**Sg**	**05 07 24.4**	**-1.3**
TWA	**Mucha**	**0.66**	**300**	*e*P	**Pg**	**05 07 14.9**	**-2.3**
TWA	baz=303			*e*S	**Sg**	**05 07 24.5**	**-1.3**
NHDH	**Xindian Distri**	**0.69**	**296**	*i* P	**Pg**	**05 07 17.9**	**0.0**
NHDH	baz=298			*e*S	**Sg**	**05 07 27.9**	**+0.9**
JYNG	**Yonagunijimaku**	**0.70**	**107**	P	**Pb**	**05 07 19.3**	**+0.4**
JYNG				*e*S	**Sn**	**05 07 30.9**	**-0.7**
ETL	**Fush Village**	**0.73**	**227**	P	**Pb**	**05 07 19.1**	**-0.4**
ETL	baz=218			*e*S	**Sb**	**05 07 29.3**	**-0.3**
NACB	**Ninganchiao**	**0.74**	**230**	*i* P	**Pg**	**05 07 18.4**	**-0.4**
NACB	baz=221			*e*S	**Sg**	**05 07 27.2**	**-1.2**
YOJ	**Yonaguni jima**	**0.75**	**105**	*e*P	**Pn**	**05 07 20.4**	**-1.0**
YOJ	baz=105			*e*S	**Sn**	**05 07 32.2**	**-0.8**
YOJ	**Yonaguni jima**	**0.75**	**105**	*e*P	**Pb**	**05 07 20.1**	**+0.3**
YOJ				*e*S	**Sn**	**05 07 31.9**	**-1.0**
YM01	**YM01**	**0.76**	**310**	P	**Pg**	**05 07 19.5**	**+0.3**
YM01	baz=302			S	**Sg**	**05 07 29.1**	**0.0**
YHNB	**Yeheng**	**0.76**	**271**	P	**Pg**	**05 07 18.4**	**-0.8**
YHNB	baz=268			*e*S	**Sg**	**05 07 28.2**	**-0.9**
YM08	**YM08**	**0.77**	**313**	*e*P	**Pg**	**05 07 20.1**	**+0.6**
YM08	baz=304			*i* S	**Sg**	**05 07 30.0**	**+0.4**
NSK	**Sanguang**	**0.78**	**272**	*e*P	**Pg**	**05 07 18.6**	**-0.9**
NSK	baz=269			*e*S	**Sg**	**05 07 28.6**	**-1.1**
NNSB	**Datong**	**0.79**	**253**	P	**Pg**	**05 07 18.7**	**-1.0**
NNSB	baz=248			*e*S	**Sg**	**05 07 30.0**	**0.0**
NNSH	**Datong**	**0.79**	**253**	*e*P	**Pg**	**05 07 19.9**	**+0.2**
NNSH	baz=237			*e*S	**Sg**	**05 07 30.0**	**+0.1**
NNS	**Nan Shan**	**0.79**	**254**	P	**Pg**	**05 07 19.6**	**-0.2**
NNS	baz=248			*e*S	**Sg**	**05 07 30.6**	**+0.5**
ETLH	**Xiulin Townshi**	**0.80**	**236**	*e*P	**Pg**	**05 07 19.8**	**-0.1**
ETLH	baz=228			*e*S	**Sb**	**05 07 31.2**	**-0.5**
TWD	**Chiawan**	**0.80**	**224**	*e*P	**Pn**	**05 07 21.6**	**-0.4**
TWD	baz=226			*e*S	**Sb**	**05 07 31.9**	**+0.2**
ANP	**Anpu**	**0.82**	**310**	*e*P	**Pb**	**05 07 21.4**	**+0.4**
ANP	baz=301			*e*S	**Sb**	**05 07 32.1**	**-0.2**
TWY	**Chenhua**	**0.83**	**318**	⇓*e*P	**Pn**	**05 07 21.9**	**-0.5**
TWY	baz=311			*e*S	**Sb**	**05 07 33.3**	**+0.9**
TWS1	**Kuangyinshan**	**0.84**	**302**	*e*P	**Pb**	**05 07 21.8**	**+0.4**
TWS1	baz=292			*e*S	**Sg**	**05 07 32.4**	**+0.5**
NTST	**Danshui**	**0.86**	**306**	*e*S	**Sb**	**05 07 34.1**	**+0.9**
LXIB	**Xiulin Townshi**	**0.96**	**229**	P	**Pn**	**05 07 24.1**	**-0.4**
FUSS	**Fushou**	**0.97**	**245**	P	**Pg**	**05 07 23.3**	**0.0**
FUSS	baz=240			*e*S	**Sb**	**05 07 36.3**	**-0.5**
PCYT	**Pengchaiyu**	**0.98**	**353**	*e*P	**Pg**	**05 07 23.3**	**-0.1**
NCUH	**Zhongli**	**0.98**	**289**	*e*P	**Pn**	**05 07 24.7**	**+0.1**
NFF	**Wufeng Townshi**	**0.99**	**269**	*e*P	**Pg**	**05 07 23.6**	**-0.1**
WHF	**Hehuan Shan**	**1.00**	**240**	*e*P	**Pn**	**05 07 24.9**	**-0.3**
TWT	**Tachien**	**1.02**	**247**	*i* S	**Sg**	**05 07 37.6**	**0.0**
TDCB	**Techi**	**1.04**	**247**	P	**Pb**	**05 07 24.5**	**-0.3**
SHUL	**Shoufeng**	**1.05**	**215**	*e*P	**Pn**	**05 07 27.8**	**+2.3**
LIOB	**Emei**	**1.09**	**270**	*e*P	**Pn**	**05 07 26.2**	**+0.1**
LIOB	baz=267			*e*S	**Sn**	**05 07 41.8**	**+0.6**
ESL	**Shilin**	**1.10**	**220**	*e*S	**Sn**	**05 07 41.1**	**-0.4**
NSTT	**Nanjuang**	**1.10**	**269**	*e*P	**Pn**	**05 07 26.7**	**+0.5**
CHGB	**Renai**	**1.12**	**238**	*e*P	**Pn**	**05 07 26.1**	**-0.5**
CHGB	baz=232			S	**Sg**	**05 07 40.2**	**-0.3**
SBCB	**Hsinchu**	**1.12**	**277**	*e*P	**Pn**	**05 07 27.5**	**+1.0**
SBCB	baz=298			*e*S	**Sn**	**05 07 43.2**	**+1.1**
OWD	**Renai**	**1.18**	**234**	*e*P	**Pg**	**05 07 28.4**	**+1.3**
OWD	baz=228			*e*S	**Sn**	**05 07 43.1**	**-0.4**
WUSB	**Renai**	**1.20**	**237**	P	**Pn**	**05 07 27.3**	**-0.4**
WUSB	baz=231			*i* S	**Sg**	**05 07 42.9**	**-0.2**
WARBT	**Fenglin Townsh**	**1.20**	**219**	*e*P	**Pg**	**05 07 28.4**	**+0.8**
WARBT	baz=220			*e*S	**Sn**	**05 07 44.3**	**+0.3**
WHP	**Taichung City**	**1.21**	**252**	P	**Pg**	**05 07 27.9**	**+0.1**
WHP	baz=248			*e*S	**Sn**	**05 07 44.1**	**-0.3**
EGFH	**Guangfu**	**1.22**	**216**	*e*P	**Pg**	**05 07 29.4**	**+1.5**
EGFH	baz=228			S	**Sn**	**05 07 45.2**	**+0.9**
NMLH	**Miaoli**	**1.30**	**265**	P	**Pg**	**05 07 30.1**	**+0.6**
NMLH	baz=263			*e*S	**Sg**	**05 07 48.5**	**+2.2**
DPDB	**Guoxing**	**1.33**	**242**	*e*P	**Pg**	**05 07 31.2**	**+1.2**
DPDB	baz=227			*e*S	**Sg**	**05 07 48.0**	**+0.8**
VWDT	**VWDT**	**1.33**	**228**	*e*P	**Pg**	**05 07 30.8**	**+0.8**
VWDT	baz=221			*e*S	**Sg**	**05 07 48.9**	**+1.6**
NSY	**Sanyi**	**1.34**	**260**	*e*P	**Pg**	**05 07 31.6**	**+1.4**
NSY	baz=257			*e*S	**Sg**	**05 07 50.2**	**+2.5**
TWQ1	**Liyutan**	**1.34**	**257**	*e*P	**Pb**	**05 07 29.8**	**-0.2**
TWQ1	baz=254			*e*S	**Sg**	**05 07 48.8**	**+1.0**
EHYH	**Wanrong**	**1.40**	**215**	*e*P	**Pg**	**05 07 31.9**	**+0.4**
EHYH	baz=221			*e*S	**Sg**	**05 07 50.1**	**+0.5**
EHY	**Hungye**	**1.40**	**216**	P	**Pg**	**05 07 30.9**	**-0.6**
IRIF	baz=222			*e*P	**Pn**	**05 07 30.1**	**-0.5**
IRIF	**Iriomote-Funau**	**1.42**	**103**	*e*S	**Sn**	**05 07 48.8**	**-0.6**
SMLT	**Sun Moon Lake**	**1.42**	**238**	*e*P	**Pg**	**05 07 33.2**	**+1.3**
SMLT	baz=232			*e*S	**Sg**	**05 07 50.6**	**+0.3**
SSLB	**Suanglung**	**1.44**	**233**	P	**Pg**	**05 07 31.6**	**-0.5**
SSLB	baz=228			*e*S	**Sg**	**05 07 50.5**	**-0.3**
TYC	**Yuchr**	**1.45**	**239**	*e*P	**Pg**	**05 07 32.7**	**+0.4**
TYC	baz=224			*e*S	**Sg**	**05 07 50.5**	**-0.6**
YULB	**Yu-li**	**1.51**	**214**	*e*P	**Pg**	**05 07 33.7**	**+0.1**
YULB	baz=219			S	**Sg**	**05 07 53.9**	**+0.8**
HATJ	**Hateruma jima**	**1.57**	**112**	*e*P	**Pn**	**05 07 32.3**	**-0.3**
CHKH	**Chenggong**	**1.64**	**207**	*e*P	**Pb**	**05 07 35.0**	**0.0**
CHKH	baz=181			S	**Sg**	**05 07 56.5**	**-0.7**
FULB	**Fuli**	**1.68**	**210**	*e*P	**Pn**	**05 07 34.1**	**0.0**
FULB	baz=183			*e*S	**Sg**	**05 07 57.3**	**-1.1**
JKRS	**Kuro-shima**	**1.69**	**104**	*e*P	**Pn**	**05 07 34.3**	**0.0**
JKRS				*e*S	**Sn**	**05 07 55.4**	**-0.7**
CHN5	**Tsauling**	**1.75**	**233**	*e*P	**Pg**	**05 07 39.5**	**+1.3**
CHN5	baz=245			*e*S	**Sg**	**05 08 03.6**	**+2.6**
JIJ	**Ishigaki jima**	**1.78**	**99**	*e*P	**Pn**	**05 07 34.9**	**-0.6**
JIJ				*e*S	**Sn**	**05 07 57.1**	**-1.3**
WDLH	**Douliu**	**1.81**	**238**	P	**Pg**	**05 07 38.9**	**-0.3**
WDLH	baz=235			*e*S	**Sg**	**05 08 03.5**	**+0.9**
ELDTW	**Lidau**	**1.82**	**217**	*e*P	**Pb**	**05 07 37.2**	**-0.9**
WCKO	**Fanlu**	**1.90**	**231**	*e*P	**Pg**	**05 07 41.3**	**+0.3**
WCKO	baz=227			*e*S	**Sb**	**05 08 04.0**	**+0.6**
JISG	**Ishigakijimahi**	**1.91**	**92**	*e*P	**Pn**	**05 07 37.4**	**+0.1**
STYH	**Taoyuan**	**1.98**	**222**	*e*P	**Pg**	**05 07 42.4**	**-0.1**
STYH	baz=216			S	**Sg**	**05 08 07.6**	**-0.6**
TPUB	**Ta-pu**	**1.98**	**227**	*e*P	**Pg**	**05 07 42.0**	**-0.5**
TPUB	baz=223			*e*S	**Sg**	**05 08 08.7**	**+0.6**
WTP	**Ta-pu**	**2.03**	**226**	*e*P	**Pb**	**05 07 41.8**	**+0.2**
WTP	baz=222			S	**Sg**	**05 08 08.9**	**-0.8**
LDUT	**Ludao**	**2.09**	**199**	*e*S	**Sn**	**05 08 03.4**	**-2.5**
TWK	**Hsinying**	**2.10**	**229**	*e*P	**Pg**	**05 07 45.9**	**+1.1**
TWK	baz=225			*e*S	**Sg**	**05 08 13.5**	**+1.5**
SNST	**Tainan City**	**2.12**	**228**	*e*P	**Pg**	**05 07 44.9**	**-0.3**
SNST	baz=224			*e*S	**Sg**	**05 08 12.3**	**-0.4**
CHN1	**Nanshi**	**2.12**	**227**	*e*P	**Pb**	**05 07 43.8**	**+0.5**
CHN1	baz=223			*e*S	**Sg**	**05 08 12.8**	**0.0**
SLGT	**Liugui**	**2.19**	**221**	P	**Pb**	**05 07 44.3**	**-0.1**
MASBT	baz=213			*e*P	**Pb**	**05 07 48.4**	**-1.2**
MASBT	**Mashibuluo**	**2.50**	**216**	*e*S	**Sb**	**05 08 20.1**	**-0.4**
PHUB	**P'eng-hu**	**2.67**	**245**	*e*P	**Pn**	**05 07 47.5**	**-0.2**
PHUB	baz=245			*e*S	**Sn**	**05 08 20.1**	**0.0**
PTMZ	**Houxiangcun**	**2.83**	**278**	*e*P	**Pn**	**05 07 50.6**	**+0.6**
PTMZ	baz=280			*e*S	**Sn**	**05 08 24.1**	**-0.2**
VCHM	**Qimei**	**2.92**	**241**	*e*P	**Pn**	**05 07 52.3**	**+1.0**

BEO 22 05:11:07.5±0.2,43°.47N×20°.73E,h1km±2km,ML1.8/10, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.38**	**131**	*e*Pg	Pg	05 11 14.7	0.0
SELS				*e*Sg	Sg	05 11 20.4	+0.8
GRUS	**Gruza**	**0.42**	**359**	*e*Pg	Pg	05 11 15.1	-0.5
GRUS				*e*Sg	Sg	05 11 21.3	+0.2
IVAS	**Ivanjica**	**0.43**	**285**	*e*Pg	Pg	05 11 14.1	-1.7
IVAS				*e*Sg	Sg	05 11 19.7	-1.7
SJES	**Sjenica**	**0.59**	**250**	*e*Pg	Pg	05 11 17.7	-1.1
SJES				*e*Sg	Sg	05 11 25.6	-0.8
TRUS	**Trudelj**	**0.79**	**343**	*e*Pg	Pg	05 11 22.4	-0.3
TRUS				*e*Sg	Sg	05 11 34.1	+1.2
DIVS	**Divibare**	**0.83**	**320**	*e*Pg	Pg	05 11 23.6	+0.3
DIVS				*e*Sg	Sg	05 11 34.9	+0.8
BBLS	**Lazi&#263i**	**1.04**	**293**	*e*Pg	Pg	05 11 26.0	-1.4
BBLS				*e*Sg	Sg	05 11 41.5	+0.6
ZAGS	**Zajecar**	**1.15**	**72**	*e*Pg	Pg	05 11 28.3	-1.2
ZAGS				*e*Sg	Sg	05 11 44.1	-0.2
KUBS	**Kucevo**	**1.17**	**36**	*e*Pg	Pg	05 11 28.2	-1.7
KUBS				*e*Sg	Sg	05 11 42.9	-2.1
AVAS	**Avala Beograd**	**1.24**	**353**	*e*Pg	Pg	05 11 30.1	-1.1
AVAS				*e*Sg	Sg	05 11 46.2	-1.1
PRVS	**Prvonek**	**1.38**	**134**	*e*Pg	Pg	05 11 31.9	-2.0
PRVS				*e*Sg	Sg	05 11 51.6	-0.1
TEKS	**Tekeris**	**1.39**	**322**	*e*Pg	Pn	05 11 33.0	-1.0
TEKS				*e*Sg	Sg	05 11 50.9	-1.1
ZAPS	**Zavoj**	**1.40**	**97**	*e*Pg	Pn	05 11 33.5	-0.8
ZAPS				*e*Sg	Sg	05 11 51.7	-0.9

ATH 22 05:12:50.4,37°.97N×21°.01E,h24km±2km,ML1.9/6,Error ellipse: s-maj=2.5km s-min=0.9km az=206.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.30**	**208**	P	Pb	05 12 57.3	0.0
LTHK				S	Sb	05 13 02.6	+0.6
LTHK				AML	AML	05 13 03.6	
LTHK	comp=E,511μm,0.1s			AML	AML	05 13 07.6	
LTHK	comp=N,589μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.36**	**293**	P	Pb	05 12 57.7	-0.6
PSDA				S	Sb	05 13 03.6	-0.2
RLS	**Riolos of Patr**	**0.37**	**77**	P	Pb	05 12 57.9	-0.6
RLS				S	Sb	05 13 03.6	-0.4
RLS				AML	AML	05 13 05.3	
RLS	comp=E,658μm,0.3s			AML	AML	05 13 05.5	
RLS	comp=N,496μm,0.3s						
VLS	**Valsamata**	**0.39**	**302**	P	Pb	05 12 58.3	-0.5
VLS				S	Sb	05 13 04.5	0.0
VLS				AML	AML	05 13 05.2	
VLS	comp=E,385μm,0.1s			AML	AML	05 13 07.4	
VLS	comp=N,362μm,0.2s						
DRO	**Drossia**	**0.55**	**92**	P	Pb	05 13 01.4	-0.2
DRO				S	Sb	05 13 09.3	+0.2
DRO				AML	AML	05 13 14.5	
DRO	comp=E,736μm,0.3s			AML	AML	05 13 14.6	
DRO	comp=N,571μm,0.3s						
DMLN	**Damoulianata-K**	**0.57**	**298**	P	Pb	05 13 01.5	-0.3
FSK	**Fiskardo**	**0.60**	**324**	P	Pb	05 13 02.2	-0.2
FSK				S	Sb	05 13 10.8	+0.4
FSK				AML	AML	05 13 15.4	
FSK	comp=N,150μm,0.4s			AML	AML	05 13 23.6	
FSK	comp=E,235μm,0.5s						
EVGI	**Lefkada island**	**0.70**	**337**	P	Pb	05 13 03.7	-0.4
PVO	**Paravola**	**0.76**	**32**	P	Pb	05 13 05.1	0.0
EFP	**Efpalio**	**0.84**	**57**	P	Pb	05 13 05.6	-0.7
EFP				S	Sn	05 13 18.0	-0.4
EFP				AML	AML	05 13 21.4	
EFP	comp=N,176μm,0.4s			AML	AML	05 13 21.6	
EFP	comp=E,142μm,0.3s						
LKD2	**Lefkada island**	**0.86**	**341**	P	Pb	05 13 06.4	-0.3
TSLK	**Tsoukalades, L**	**0.90**	**342**	P	Pb	05 13 07.2	-0.1
KLV	**Kalavryta, Ach**	**0.90**	**85**	P	Pb	05 13 06.4	-1.1
KALE	**Kalithea**	**0.98**	**65**	P	Pn	05 13 07.7	-1.1

*ISK **22** 05:15:31.1,36°.47N×26°.72E,h135km±2km,ML2.0/7*
*ATH **22** 05:15:35.2,36°.38N×26°.54E,h19km±6km,ML2.4/2,Error ellipse: s-maj=7.3km s-min=2.1km az=160.0*
*AFAD **22** 05:15:36.6±0.0,36°.38N×27°.14E,h7km±6km,ML2.6*
ISC 22 05:15:29.8±1.8,36°.37N±0°.07×26°.71E±0°.04,h138km±14km, n21,σ2s06/35,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.79**	**62**	Pg	**Pn**	**05 15 52.8**	**+1.1**
BODT	**Bodrum**	**0.84**	**35**	Pg	**Pn**	**05 15 53.0**	**+0.9**
BODT				Sg	**Sn**	**05 16 08.8**	**-0.2**
KARP	**Karpathos**	**0.90**	**156**	P	**Pn**	**05 15 53.9**	**+1.3**
KARP				S	**Sn**	**05 16 06.1**	**-3.7**
KARP				AML	AML	05 16 13.4	
KARP	comp=N,1175μm,0.2s			AML	AML	05 16 14.0	
KARP	comp=E,989μm,0.2s						
SANT	**Santorini**	**1.01**	**271**	Pg	**Pn**	**05 15 55.3**	**+1.8**
ARG	**Arkhangelos**	**1.15**	**97**	Pn	**Pn**	**05 15 56.5**	**+1.7**
ARG				Sn	**Sn**	**05 16 14.9**	**+1.1**
ARG	**Arkhangelos**	**1.15**	**97**	P	**Pn**	**05 15 56.5**	**+1.7**
ARG				S	**Sn**	**05 16 14.1**	**+0.3**
ARG				AML	AML	05 16 17.0	
ARG	comp=E,137μm,0.2s			AML	AML	05 16 18.4	
ARG	comp=N,111μm,0.2s						
APE	**Apeiranthos**	**1.18**	**307**	Pn	**Pn**	**05 15 55.9**	**+0.8**
APE	**Apeiranthos**	**1.18**	**307**	P	**Pn**	**05 15 55.7**	**+0.6**
TURN	**Turunc**	**1.30**	**71**	Pn	**Pn**	**05 15 57.6**	**+1.4**
TURN	**Turunc**	**1.30**	**71**	P	**Pn**	**05 15 57.3**	**+1.1**
TURN				S	**Sn**	**05 16 16.3**	**-0.1**
MULA	**Mugla, Merkez-**	**1.57**	**55**	P	**Pn**	**05 16 00.4**	**+1.1**
MULA				S	**Sn**	**05 16 21.1**	**-0.7**
IDI	**Anoyia**	**1.83**	**234**	P	**Pn**	**05 16 03.0**	**+0.8**
IDI				S	**Sn**	**05 16 25.2**	**-1.8**
SABU	**Mula-Dalaman**	**1.87**	**75**	P	**Pn**	**05 16 04.2**	**+1.5**
SABU				S	**Sn**	**05 16 27.3**	**-0.5**
SABU				*i* AML	AML	05 16 54.0	
SABU	comp=N,57nm,1.4s						
FETY	**Fethiye**	**1.93**	**81**	Pn	**Pn**	**05 16 04.8**	**+1.5**
FETY	**Fethiye**	**1.93**	**81**	P	**Pn**	**05 16 06.6**	**+3.3**
FETY				S	**Sn**	**05 16 29.8**	**+0.7**
IZZE	**Mula-Seydike**	**2.03**	**87**	P	**Pn**	**05 16 05.7**	**+1.2**
IZZE				S	**Sn**	**05 16 28.0**	**-3.1**
IZZE				*i* AML	AML	05 16 33.0	
IZZE	comp=N,45nm,0.2s						
DNZT	**Denizli-Tavas-**	**2.07**	**63**	P	**Pn**	**05 16 06.0**	**+0.9**
DNZT				S	**Sn**	**05 16 29.8**	**-2.3**
AKAS	**Kas**	**2.34**	**92**	P	**Pn**	**05 16 10.0**	**+1.6**
AKAS				S	**Sn**	**05 16 33.6**	**-4.5**
AKAS				*i* AML	AML	05 16 44.0	
AKAS	comp=N,70nm,1.1s			*i* AML	AML	05 16 47.0	

comp=N,38nm,0.6s
AKAS *i* AML AML 05 16 48.0
comp=N,75nm,1.0s
IMMV Iera Moni Meta 2.39 249 P **Pn 05 16 10.7 +1.7**
IMMV S **Sn 05 16 37.1 -2.0**
GOLH Golhisar 2.45 68 P **Pn 05 16 11.4 +1.7**
GOLH S **Sn 05 16 35.7 -4.7**
GOLH *i* AML AML 05 16 43.0
comp=N,133nm,1.5s
GOLH *i* AML AML 05 16 44.0
comp=N,64nm,1.2s
GOLH *i* AML AML 05 17 12.0
comp=N,81nm,1.9s
GVD Gavdhos 2.63 235 P **Pn 05 16 14.0 +2.2**

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*NEIC **22** 05:40:21.8±1.0, 12°57'N±0'10×142°3'E±0'1, h99km±8km, mb4.4/62, Error ellipse: s-maj=19.1km s-min=13.0km az=108.0*
*IDC **22** 05:40:23.9±1.7, 12°60'N×142°36'E, h128km±16km, mb4.0/21, mbtmp4.4/22, Error ellipse: s-maj=17.0km s-min=10.5km az=81.0*
ISC 22 05:40:21.3±0.4, 12°54'N±0'06×142°21'E±0'07, h100km, n262,σ0°68/252, mb4.4/57, 1D, South of Mariana Islands

Code	Station Name	Δ° AΔ°	Phase Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.79 68**	Pn	**Pn**	**05 41 04.1**	**-0.2**
GUMO	**Guam**	**2.79 68**	P	**Pn**	**05 41 05.7**	**+1.4**
	33nm,0.3s,baz=252,slow=20,SNR=12					
GUMO			S	**Sn**	**05 41 38.6**	**+1.2**
	173nm,0.4s,baz=162,slow=20,SNR=8.1					
JMZ	**Minamidaito 2**	**16.78 323**		**Pn**	**05 44 10.2**	**0.0**
FAKI	**Fak Fak**	**18.27 213**	P	**P**	**05 44 27.7**	**+0.4**
FAKI			IAmb	IAmb	05 44 53.7	
	comp=Z,41nm,1.2s					
JHJ2	**Mitsune**	**20.59 354**	P	**P**	**05 44 51.1**	**-1.3**
JMN	**Monobe**	**22.42 342**	P	**P**	**05 45 11.9**	**+0.1**
JMN			IAmb	IAmb	05 45 16.6	
	comp=Z,22nm,1.1s					
TWG	**Pinlang**	**22.56 300**	P	**P**	**05 45 12.3**	**-1.1**
TWG			IAmb	IAmb	05 45 35.2	
	comp=Z,19nm,1.1s					
JNU	**Nakatsue**	**22.96 335**	P	**P**	**05 45 16.9**	**-0.4**
JNU			IAmb	IAmb	05 45 44.5	
	comp=Z,44nm,1.5s					
SSLB	**Suanglung**	**23.05 302**	P	**P**	**05 45 19.0**	**+0.7**
MJAR	**Matsushiro Arr**	**24.17 352**	P	**P**	**05 45 26.3**	**-1.9**
	comp=Z,5.1nm,0.8s,baz=174,slow=8.4,SNR=16					
	comp=Z,5.1nm,0.8s					
MAJO	**Matsushiro**	**24.17 352**	P	**P**	**05 45 28.1**	**-0.1**
MJB9	**Matsu-Tunnel**	**24.17 352**	P	**P**	**05 45 28.6**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**24.30 73**	T	T	06 09 46.3	
	baz=253					
H11S1	**WAKE ISLAND Hy**	**24.32 73**	T	T	06 09 47.8	
	baz=253					
H11S2	**WAKE ISLAND Hy**	**24.32 73**	T	T	06 09 52.3	
	baz=253					
H11N1	**WAKE ISLAND Hy**	**24.74 70**	T	T	06 11 02.9	
	baz=249					
H11N2	**WAKE ISLAND Hy**	**24.75 70**	T	T	06 10 51.1	
	baz=249					
H11N3	**WAKE ISLAND Hy**	**24.76 70**	T	T	06 10 53.6	
	baz=249					
JMM	**Marumori**	**25.25 357**	P	**P**	**05 45 37.9**	**-0.2**
JMM			IAmb	IAmb	05 45 38.4	
	comp=Z,30nm,1.2s					
MTN	**Manton Dam**	**27.51 204**	P	**P**	**05 45 58.4**	**-0.1**
MTN			IAmb	IAmb	05 46 23.7	
	comp=Z,18nm,1.2s					
KSAR	**Wonju Array Be**	**27.92 335**	P	**P**	**05 46 01.9**	**-0.2**
KNRA	**Kununurra**	**31.03 206**	P	**P**	**05 46 30.3**	**+0.5**
KNRA			IAmb	IAmb	05 46 40.4	
	comp=Z,12nm,1.2s					
JKA	**Kamikawa-asahi**	**31.47 1**	P	**P**	**05 46 33.9**	**+0.6**
USRK	**Ussuriysk Ar.**	**32.75 346**	P	**P**	**05 46 45.6**	**+1.1**
	comp=Z,8.5nm,0.8s,baz=184,slow=9.5,SNR=8.3					
	comp=Z,8.5nm,0.8s					
WB0	**Warramunga Arr**	**33.01 194**	P	**P**	**05 46 47.6**	**+0.5**
WB0			IAmb	IAmb	05 46 48.1	
	comp=Z,6.1nm,0.9s					
WR0	**Warramunga Arr**	**33.17 193**	P	**P**	**05 46 48.6**	**+0.2**
WR0			IAmb	IAmb	05 46 49.1	
	comp=Z,4.9nm,0.8s					
WB2	**Warramunga Arr**	**33.19 194**	P	**P**	**05 46 48.9**	**+0.2**
WB2			IAmb	IAmb	05 46 50.1	
	comp=Z,7.1nm,0.9s					
WRA	**Warramunga Arr**	**33.20 194**	P	**P**	**05 46 48.4**	**-0.3**
WRA	**Warramunga Arr**	**33.20 194**	P	**P**	**05 46 49.0**	**+0.3**
	comp=Z,5.2nm,0.7s,baz=14,slow=9.3,SNR=36					
WRA			PcP	**PcP**	**05 49 28.7**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=35,slow=4.1,SNR=2.4					
	comp=Z,5.2nm,0.7s					
FITZ	**Fitzroy Crossi**	**34.56 209**	P	**P**	**05 47 00.7**	**+0.2**
BNX	**BinXian**	**35.40 342**	↓P	**P**	**05 47 08.9**	**+1.4**
BNX			pmax	pmax		
	comp=Z,19nm,0.8s					
BJT	**Baijiatuau**	**35.72 325**	P	**P**	**05 47 09.4**	**-0.9**
AS31	**Alice Springs**	**36.89 193**	P	**P**	**05 47 20.3**	**-0.1**
AS31			IAmb	IAmb	05 47 22.2	
	comp=Z,1.8nm,0.6s					
ASAR	**Alice Springs**	**36.89 193**	P	**P**	**05 47 20.4**	**-0.1**
ASAR	**Alice Springs**	**36.89 193**	P	**P**	**05 47 20.6**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=21,slow=11,SNR=42					
ASAR			PcP	**PcP**	**05 49 40.1**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=14,slow=2.5,SNR=2.3					
	comp=Z,1.5nm,0.4s					
HHC	**Hu-ho-hao-te**	**38.94 322**	*e*P	**P**	**05 47 40.3**	**+2.7**
HHC			pmax	pmax		
	comp=Z,7.0nm,0.9s					
HHC			pmax	pmax		
	comp=Z,160nm,5.8s					
HEH	**HeiHe**	**39.52 345**	*e*P	**P**	**05 47 43.0**	**+0.9**
HEH			pmax	pmax		
	comp=Z,23nm,0.8s					
PZH	**PanZhiHua**	**40.41 296**	P	**P**	**05 47 51.8**	**+1.7**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.6s					
PZH			pmax	pmax		
	comp=Z,190nm,6.8s					
DZM	**Mont Dzumac**	**41.81 145**	P	**P**	**05 48 02.6**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=333,slow=16,SNR=1.6					
	comp=Z,2.0nm,0.6s					
CMAR	**Chiang Mai Arr**	**42.03 284**	P	**P**	**05 48 04.8**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=86,slow=6.3,SNR=10					
CMAR			PcP	**PcP**	**05 49 57.5**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=116,slow=1.9,SNR=6.0					
	comp=Z,1.9nm,0.7s					
ARMA	**Armidale**	**43.66 168**	P	**P**	**05 48 15.7**	**-0.6**
STKA	**Stephens Creek**	**44.17 181**	P	**P**	**05 48 19.7**	**-0.5**
STKA	**Stephens Creek**	**44.17 181**	P	**P**	**05 48 19.1**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=343,slow=9.9,SNR=5.8					
	comp=Z,2.0nm,0.5s					
FORT	**Forrest**	**45.17 197**	P	**P**	**05 48 28.5**	**+0.3**
BBOO	**Buckleboo**	**45.48 187**	P	**P**	**05 48 30.8**	**+0.2**
ULN	**Ulaanbaatar**	**45.81 327**	P	**P**	**05 48 32.7**	**-0.6**
GTA	**Gaotai**	**45.97 313**	*e*P	**P**	**05 48 36.3**	**+1.7**
GTA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
SONM	**Songino Array**	**46.14 327**	P	**P**	**05 48 35.4**	**-0.5**
SONM	**Songino Array**	**46.14 327**	P	**P**	**05 48 36.8**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=144,slow=6.7,SNR=7.7					
SONM			PcP	**PcP**	**05 50 07.8**	**-2.5**
	comp=Z,0.4nm,0.4s,baz=108,slow=3.2,SNR=2.5					
	comp=Z,1.9nm,0.6s					
MORW	**Morawa**	**48.48 211**	P	**P**	**05 48 54.2**	**+0.1**
AMKA	**Amchitka**	**48.98 30**	P	**P**	**05 48 57.5**	**-0.1**
TOO	**Toolangi**	**49.94 177**	P	**P**	**05 49 05.4**	**+0.4**
YAK	**Yakutsk**	**50.23 352**	P	**P**	**05 49 06.6**	**-0.3**
MK31	**Makanchi Array**	**60.46 317**	P	**P**	**05 50 21.4**	**+0.8**
MK31			IAmb	IAmb	05 50 22.3	
	comp=Z,2.7nm,0.8s					
MKAR	**Makanchi Array**	**60.46 317**	P	**P**	**05 50 21.6**	**+0.9**
MKAR	**Makanchi Array**	**60.46 317**	P	**P**	**05 50 21.3**	**+0.7**
	comp=Z,4.0nm,0.7s,baz=96,slow=8.3,SNR=39					
	comp=Z,4.0nm,0.7s					
MAKZ	**Makanchi**	**60.67 317**	P	**P**	**05 50 22.5**	**+0.4**
ZAA0	**Zalesovo Array**	**60.98 325**	P	**P**	**05 50 23.8**	**-0.2**
ZAA0			IAmb	IAmb	05 50 24.6	
	comp=Z,2.7nm,0.7s					
ZALV	**Zalesovo Beam**	**60.98 325**	P	**P**	**05 50 23.9**	**-0.1**
ZALV	**Zalesovo Beam**	**60.98 325**	P	**P**	**05 50 23.8**	**-0.2**
	comp=Z,3.1nm,0.5s,baz=112,slow=7.2,SNR=13					
	comp=Z,3.1nm,0.5s					
M13K	**Dall Lake**	**62.02 27**	P	**P**	**05 50 31.5**	**+0.7**
	baz=244					
K13K	**Kusilvak Mount**	**62.15 25**	P	**P**	**05 50 32.1**	**+0.4**
	baz=242					
O14K	**Tigyukauivet M**	**62.50 29**	P	**P**	**05 50 34.7**	**+0.7**
	baz=247					
N14K	**Kuskokwak Cree**	**62.57 28**	P	**P**	**05 50 35.4**	**+0.9**
	baz=246					
L14K	**Kuka Creek**	**62.72 26**	P	**P**	**05 50 35.9**	**+0.4**
	baz=244					
M14K	**Bethel**	**62.79 27**	P	**P**	**05 50 36.1**	**+0.1**
	baz=245					
F14K	**Arctic Creek**	**63.26 21**	P	**P**	**05 50 39.1**	**+0.1**
	baz=239					
M15K	**Kasigluk River**	**63.34 28**	P	**P**	**05 50 40.0**	**+0.4**
	baz=246					
L15K	**Ungalak Mounta**	**63.39 26**	P	**P**	**05 50 39.8**	**-0.1**
	baz=245					
K15K	**Wolf Creek Mou**	**63.63 26**	P	**P**	**05 50 41.9**	**+0.5**
	baz=245					
KURK	**Kurchatov**	**63.73 321**	P	**P**	**05 50 42.9**	**+0.5**
KURBB	**Kurchatov Arra**	**63.76 320**	P	**P**	**05 50 42.8**	**+0.3**
	comp=Z,11nm,0.7s,baz=105,slow=6.8,SNR=65					
	comp=Z,11nm,0.7s					
P16K	**Nushagak River**	**63.98 30**	P	**P**	**05 50 44.4**	**+0.6**
	baz=250					
BOOM	**Boomskoye usch**	**64.16 311**	P	**P**	**05 50 46.7**	**+1.1**
M16K	**Timber Creek**	**64.25 28**	P	**P**	**05 50 45.5**	**-0.1**
	baz=248					
L16K	**Owhat River**	**64.28 27**	P	**P**	**05 50 45.5**	**-0.2**
	baz=247					
H16K	**Elim**	**64.37 23**	P	**P**	**05 50 46.6**	**+0.3**
	baz=243					
I17K	**Unalakleet**	**64.65 24**	P	**P**	**05 50 48.6**	**+0.5**
	baz=245					
O17K	**Koliganek Bris**	**64.67 29**	P	**P**	**05 50 48.9**	**+0.6**
	baz=250					
N17K	**Nushagak Hills**	**64.88 28**	P	**P**	**05 50 50.3**	**+0.6**
	baz=250					
L17K	**Donlin**	**64.95 27**	P	**P**	**05 50 50.9**	**+0.8**
	baz=248					
M17K	**Holitna River**	**65.07 27**	P	**P**	**05 50 51.5**	**+0.6**
M17K			IAmb	IAmb	05 50 52.3	
	comp=Z,6.2nm,0.9s					
M17K	**Holitna River**	**65.07 27**	P	**P**	**05 50 51.6**	**+0.7**
	baz=249					
J17K	**VABM Dome**	**65.11 25**	P	**P**	**05 50 51.2**	**+0.1**
J17K			IAmb	IAmb	05 50 52.3	
	comp=Z,3.9nm,0.8s					
J17K	**VABM Dome**	**65.11 25**	P	**P**	**05 50 51.9**	**+0.8**
	baz=247					
K17K	**Iditarod**	**65.17 26**	P	**P**	**05 50 51.7**	**+0.2**
	baz=248					
G17K	**Kiwalik Mounta**	**65.35 23**	P	**P**	**05 50 53.2**	**+0.5**
	baz=244					
H17K	**Granite Mounta**	**65.40 23**	P	**P**	**05 50 53.4**	**+0.5**
	baz=245					
D17K	**Noatak River**	**65.50 20**	P	**P**	**05 50 54.0**	**+0.5**
	baz=241					
N18K	**Kilae Creek**	**65.53 28**	P	**P**	**05 50 54.4**	**+0.4**
	baz=251					
F17K	**Baldwin Pennin**	**65.55 22**	P	**P**	**05 50 54.3**	**+0.5**
	baz=243					
E17K	**Hotham Inlet**	**65.64 21**	P	**P**	**05 50 55.2**	**+0.8**
	baz=243					
L18K	**Granite Mounta**	**65.69 27**	P	**P**	**05 50 55.7**	**+0.9**
	baz=250					
M18K	**Stony River**	**65.83 28**	P	**P**	**05 50 56.3**	**+0.5**
	baz=251					
C17K	**DeLong Mountai**	**65.85 19**	P	**P**	**05 50 56.1**	**+0.3**
	baz=241					
H18K	**Honhosa River**	**66.08 23**	P	**P**	**05 50 58.0**	**+0.6**
H18K			IAmb	IAmb	05 51 03.7	
	comp=Z,8.2nm,1.5s					
H18K	**Honhosa River**	**66.08 23**	P	**P**	**05 50 57.7**	**+0.3**
	baz=247					
F18K	**Selawik**	**66.19 22**	P	**P**	**05 50 58.4**	**+0.5**
	baz=245					
E18K	**Tukpahlearik C**	**66.21 21**	P	**P**	**05 50 58.8**	**+0.7**
	baz=244					
TTA	**Tatalina**	**66.23 26**	P	**P**	**05 50 58.5**	**+0.1**
	baz=250					
N19K	**Bonanza Creek**	**66.23 29**	P	**P**	**05 50 58.4**	**-0.1**
	baz=252					
G18K	**Tagagawik**	**66.27 23**	IAmb	IAmb	05 50 59.3	
	comp=Z,5.2nm,0.9s					
G18K	**Tagagawik**	**66.27 23**	P	**P**	**05 50 58.6**	**0.0**
	baz=246,SNR=5.7					
NRIK	**Noril'sk**	**66.29 342**	P	**P**	**05 50 57.6**	**-1.0**
	comp=Z,2.1nm,0.3s,baz=110,slow=8.6,SNR=5.2					
	comp=Z,2.1nm,0.3s					
KDAK	**Kodiak Island**	**66.33 32**	P	**P**	**05 50 58.8**	**-0.2**
	baz=255					
L19K	**White Mountain**	**66.49 27**	P	**P**	**05 51 00.5**	**+0.4**
	baz=251					
Q20K	**Shuyak Island**	**66.63 31**	P	**P**	**05 51 00.8**	**-0.2**
	baz=255					
J19K	**Poorman**	**66.76 25**	P	**P**	**05 51 01.4**	**-0.3**
	baz=250					
O20K	**Slope Mountain**	**66.91 30**	P	**P**	**05 51 01.5**	**-1.3**
	baz=254					
G19K	**Purcell Mounta**	**66.96 23**	IAmb	IAmb	05 51 04.2	
	comp=Z,6.9nm,0.8s					
G19K	**Purcell Mounta**	**66.96 23**	P	**P**	**05 51 03.0**	**+0.1**
	baz=248,SNR=6.9					
H19K	**Roundabout Mou**	**66.97 23**	P	**P**	**05 51 03.0**	**0.0**
	baz=248,SNR=5.1					
F19K	**Shaleruckik Mo**	**66.97 22**	P	**P**	**05 51 03.2**	**+0.3**
	baz=247					
M20K	**Styx River**	**67.17 28**	P	**P**	**05 51 04.9**	**+0.4**
	baz=253					
K20K	**Telida**	**67.20 26**	P	**P**	**05 51 05.0**	**+0.5**
	baz=252					
C19K	**Lookout Ridge**	**67.30 19**	P	**P**	**05 51 05.7**	**+0.6**
	baz=244					
E19K	**Redstone River**	**67.41 21**	P	**P**	**05 51 05.9**	**+0.1**
	baz=247,SNR=6.3					
J20K	**Nowinta River**	**67.43 25**	IAmb	IAmb	05 51 07.3	
	comp=Z,4.1nm,0.7s					
J20K	**Nowinta River**	**67.43 25**	P	**P**	**05 51 06.2**	**+0.3**
	baz=251					
I20K	**Naaghedeneel**	**67.50 24**	P	**P**	**05 51 06.9**	**+0.6**
	baz=251					
D19K	**Kuna River**	**67.52 20**	P	**P**	**05 51 06.8**	**+0.4**
	baz=246					
H20K	**Anotleneega Mo**	**67.57 24**	P	**P**	**05 51 07.3**	**+0.5**
	baz=250					
F20K	**Avaraart Lake**	**67.80 22**	P	**P**	**05 51 08.8**	**+0.6**
	baz=249					
SKT	**Skwentna**	**67.92 28**	P	**P**	**05 51 08.8**	**-0.3**
	baz=255					
E20K	**Nigu River**	**68.08 21**	P	**P**	**05 51 10.6**	**+0.5**
	baz=248,SNR=6.5					
D20K	**Etivluk River**	**68.12 20**	P	**P**	**05 51 10.3**	**+0.1**
	baz=247,SNR=5.8					
SUA	**Susitna One**	**68.15 28**	P	**P**	**05 51 10.6**	**-0.1**
	baz=256					
H21K	**Melozitna Rive**	**68.44 24**	P	**P**	**05 51 12.8**	**+0.5**
	baz=252,SNR=5.1					
G21K	**Allakaket**	**68.44 23**	P	**P**	**05 51 12.8**	**+0.5**
	baz=251					
B20K	**Meade River**	**68.45 19**	P	**P**	**05 51 12.5**	**+0.3**
	baz=246					
RC01	**Rabbit Creek A**	**68.54 29**	P	**P**	**05 51 12.8**	**-0.1**
	baz=257					
F21K	**Alatna River**	**68.68 22**	P	**P**	**05 51 14.4**	**+0.6**
	baz=251					
BPAW	**Bear Paw Mtn.**	**68.73 26**	P	**P**	**05 51 14.5**	**+0.4**
	baz=254,SNR=5.2					
C21K	**Knifeblade Rid**	**68.90 20**	P	**P**	**05 51 15.7**	**+0.7**
	baz=249					
E21K	**Killik River**	**68.92 21**	P	**P**	**05 51 15.9**	**+0.7**
	baz=250					
PMR	**Palmer**	**68.94 29**	P	**P**	**05 51 15.6**	**+0.2**
	baz=257					
H22K	**Ishtalitna Cre**	**69.07 24**	P	**P**	**05 51 16.6**	**+0.4**
	baz=253					
MLY	**Manley**	**69.09 25**	IAmb	IAmb	05 51 17.1	
	comp=Z,4.6nm,0.7s					
MLY	**Manley**	**69.09 25**	P	**P**	**05 51 16.5**	**+0.2**
	baz=254,SNR=7.9					
A21K	**Barrow**	**69.15 18**	P	**P**	**05 51 17.1**	**+0.6**
	baz=246					
BVAR	**Borovoye Array**	**69.15 322**	P	**P**	**05 51 17.0**	**+0.1**
	comp=Z,15nm,0.5s,baz=104,slow=7.8,SNR=83					
	comp=Z,15nm,0.5s					
PWL	**Port Wells**	**69.15 29**	P	**P**	**05 51 16.6**	**-0.2**
	baz=258					
KNK	**Knik Glacier**	**69.21 29**	P	**P**	**05 51 17.4**	**+0.2**
	baz=258					
BRVK	**Borovoye**	**69.22 322**	P	**P**	**05 51 17.8**	**+0.6**
F22K	**John River**	**69.25 22**	P	**P**	**05 51 17.9**	**+0.6**
	baz=252					
G22K	**Bettles**	**69.32 23**	P	**P**	**05 51 17.5**	**-0.1**
	baz=253					
SML	**Sawmill**	**69.36 28**	P	**P**	**05 51 17.7**	**-0.4**
	baz=258					
WAT1	**Susitna Watana**	**69.48 27**	P	**P**	**05 51 18.4**	**-0.3**
	baz=257					
D22K	**Ayikyak River**	**69.51 21**	P	**P**	**05 51 19.8**	**+0.9**
D22K			IAmb	IAmb	05 51 20.2	
	comp=Z,4.6nm,0.8s					
D22K	**Ayikyak River**	**69.51 21**	P	**P**	**05 51 19.4**	**+0.6**
	baz=251					
MCK	**McKinley**	**69.52 26**	P	**P**	**05 51 18.7**	**-0.3**
	baz=256					
M23K	**Glacier View**	**69.63 28**	P	**P**	**05 51 20.1**	**+0.4**
	baz=258					
NEA2	**Nenana**	**69.67 25**	P	**P**	**05 51 20.1**	**+0.3**
NEA2	**Nenana**	**69.67 25**	P	**P**	**05 51 20.2**	**+0.3**
	baz=256					
I23K	**Minto, Yukon-K**	**69.68 25**	P	**P**	**05 51 20.8**	**+1.0**
	baz=256					
GLI	**Glacier Island**	**69.75 29**	P	**P**	**05 51 20.6**	**+0.2**
GLI			IAmb	IAmb	05 51 31.4	
	comp=Z,14nm,1.2s					
GLI	**Glacier Island**	**69.75 29**	P	**P**	**05 51 20.9**	**+0.5**
	baz=259					
H23K	**Yukon River**	**69.78 24**	P	**P**	**05 51 21.4**	**+0.8**
H23K			IAmb	IAmb	05 51 21.7	
	comp=Z,4.6nm,0.9s					
H23K	**Yukon River**	**69.78 24**	P	**P**	**05 51 20.7**	**+0.1**
	baz=255,SNR=5.9					
WAT6	**Susitna Watana**	**69.79 28**	P	**P**	**05 51 20.8**	**0.0**
	baz=258					
G23K	**Bananza Creek**	**69.83 23**	P	**P**	**05 51 21.3**	**+0.5**
G23K			IAmb	IAmb	05 51 22.7	
	comp=Z,3.3nm,0.8s					
G23K	**Bananza Creek**	**69.83 23**	P	**P**	**05 51 21.1**	**+0.2**
	baz=254,SNR=7.1					
SCM	**Sheep Creek Mo**	**69.83 28**	P	**P**	**05 51 20.8**	**-0.2**
	baz=259					
COLD	**Coldfoot**	**69.90 23**	P	**P**	**05 51 22.0**	**+0.7**
	baz=254,SNR=6.4					
WRH	**Wood River Hil**	**70.05 26**	P	**P**	**05 51 21.5**	**-0.6**
WRH			IAmb	IAmb	05 51 22.3	
	comp=Z,6.3nm,1.1s					
DHY	**Denali Highway**	**70.06 27**	P	**P**	**05 51 22.2**	**-0.2**
DHY	**Denali Highway**	**70.06 27**	P	**P**	**05 51 22.9**	**+0.4**
	baz=258					
MDM	**Murphy Dome**	**70.10 25**	IAmb	IAmb	05 51 23.8	
	comp=Z,4.1nm,1.0s					
D23K	**Nanushuk River**	**70.23 21**	P	**P**	**05 51 24.2**	**+1.0**
	baz=253					
E23K	**Chandalar**	**70.34 22**	P	**P**	**05 51 24.7**	**+0.6**
	baz=254,SNR=8.3					
M24K	**Tolsona, Glenn**	**70.41 28**	P	**P**	**05 51 24.8**	**+0.3**
	baz=260					
KLU	**Klutina**	**70.42 29**	P	**P**	**05 51 24.5**	**-0.1**
	baz=260					
H24K	**Noodor Dome**	**70.45 24**	P	**P**	**05 51 24.8**	**+0.1**
H24K	**Noodor Dome**	**70.45 24**	P	**P**	**05 51 25.1**	**+0.4**
	baz=257					
POKR	**Poker Plat Res**	**70.47 25**	P	**P**	**05 51 24.9**	**+0.2**
	baz=257					
C23K	**Itkillik River**	**70.51 20**	P	**P**	**05 51 24.6**	**-0.2**
C23K			IAmb	IAmb	05 51 26.1	
	comp=Z,6.9nm,0.8s					
C23K	**Itkillik River**	**70.51 20**	P	**P**	**05 51 25.6**	**+0.7**
	baz=253,SNR=6.4					
HDA	**Harding Lake**	**70.52 26**	P	**P**	**05 51 25.0**	**0.0**
	baz=258					
TOLK	**Toolik Lake Re**	**70.52 21**	P	**P**	**05 51 25.6**	**+0.6**
	baz=254					
IL31		**70.62 25**	P	**P**	**05 51 24.5**	**-1.1**
IL31			IAmb	IAmb	05 51 24.8	
	comp=Z,2.7nm,0.6s					
ILAR	**Eielson Array**	**70.62 25**	P	**P**	**05 51 23.9**	**-1.8**
	comp=Z,2.2nm,0.6s,baz=248,slow=6.0,SNR=27					
	comp=Z,2.2nm,0.6s					
IL03	**Eielson Array**	**70.64 25**	P	**P**	**05 51 24.1**	**-1.6**
E24K	**Your Creek**	**70.76 22**	P	**P**	**05 51 27.5**	**+1.0**
	baz=255					
G24K	**Hadweenzic Riv**	**70.81 23**	P	**P**	**05 51 27.1**	**+0.3**
	baz=257					
F24K	**Squaw Lake**	**70.84 22**	P	**P**	**05 51 27.5**	**+0.4**
	baz=256					
PAX	**Paxson**	**70.89 27**	P	**P**	**05 51 26.9**	**-0.5**
	baz=260,SNR=5.3					
D24K	**Happy Valley**	**70.92 21**	P	**P**	**05 51 27.8**	**+0.4**
	baz=255					
BMRM	**Bremner River**	**70.97 30**	P	**P**	**05 51 28.3**	**+0.4**
	baz=261					
C24K	**Franklin Bluff**	**71.11 20**	P	**P**	**05 51 28.5**	**0.0**
	baz=254					
J25K	**Salcha River,**	**71.23 26**	P	**P**	**05 51 29.5**	**+0.1**
	baz=259					
G25K	**Bearman Lake**	**71.35 23**	P	**P**	**05 51 30.9**	**+0.8**
	baz=258					
H25L	**Birch Creek**	**71.36 24**	P	**P**	**05 51 30.7**	**+0.6**
	baz=258					
F25K	**Christian Rive**	**71.70 23**	P	**P**	**05 51 32.9**	**+0.7**
	baz=258,SNR=5.5					
SCRK	**Sand Creek**	**71.72 26**	P	**P**	**05 51 32.2**	**-0.2**
	baz=261					
D25K	**Kavik River**	**71.81 21**	IAmb	IAmb	05 51 33.9	
	comp=Z,4.6nm,0.9s					
D25K	**Kavik River**	**71.81 21**	P	**P**	**05 51 33.3**	**+0.5**
	baz=257					
L26K	**Log Cabin Wild**	**71.86 28**	P	**P**	**05 51 33.3**	**+0.1**
	baz=262,SNR=5.3					
J26L	**Joseph Creek**	**71.98 26**	P	**P**	**05 51 32.5**	**-1.4**
J26L	**Joseph Creek**	**71.98 26**	P	**P**	**05 51 34.0**	**0.0**
	baz=261					
BMAR	**Burnt Mountain**	**72.07 23**	P	**P**	**05 51 34.2**	**-0.2**
I26K	**Coal Creek Min**	**72.27 25**	P	**P**	**05 51 35.5**	**0.0**
	baz=261					
F26K	**Sheenjek River**	**72.28 23**	P	**P**	**05 51 36.4**	**+0.8**
	baz=260,SNR=7.5					
G26K	**Porcupine Rive**	**72.29 23**	P	**P**	**05 51 36.1**	**+0.5**
	baz=260					
C26K	**Camden Bay**	**72.44 20**	P	**P**	**05 51 37.2**	**+0.8**
	baz=258,SNR=6.0					
M27K	**Edge Creek, AK**	**72.44 28**	P	**P**	**05 51 37.1**	**+0.2**
	baz=263					
L27K	**Beaver Creek,**	**72.55 28**	P	**P**	**05 51 36.9**	**-0.4**
	baz=263					
CTG	**Chitna Glacier**	**72.55 30**	P	**P**	**05 51 37.8**	**+0.3**
	baz=264					
K27K	**Chicken**	**72.56 27**	P	**P**	**05 51 37.6**	**+0.4**
	baz=263					
C27K	**Jago River**	**72.79 21**	P	**P**	**05 51 39.1**	**+0.5**
	baz=259					
I27K	**Kandik River**	**72.95 25**	P	**P**	**05 51 39.8**	**+0.1**
	baz=263					
EGAK	**Eagle**	**73.04 26**	P	**P**	**05 51 40.5**	**+0.4**
	baz=263					
YUK3	**Moose Creek**	**73.05 29**	P	**P**	**05 51 40.7**	**+

baz=268
I29M Ogilvie Camp, 74.30 25 P **P** **05 51 48.1 +0.5**
baz=266
H29M Whitestone 74.34 24 P **P** **05 51 48.1 +0.4**
baz=265
G29M Pine Creek 74.53 24 P **P** **05 51 49.1 +0.2**
baz=266
K29M Barlow Dome 74.54 27 IAmb IAmb 05 51 50.9
comp=Z,4.1nm,0.9s
K29M Barlow Dome 74.54 27 P **P** **05 51 49.1 0.0**
baz=267,SNR=6.5
N30M Aishikik Lake 74.63 29 P **P** **05 51 49.9 +0.3**
baz=268
P30M Million Dollar 74.65 31 P **P** **05 51 50.2 +0.5**
baz=268
E29M Blow River 74.70 22 P **P** **05 51 50.3 +0.5**
baz=265
M30M Minto, Yukon 74.81 28 P **P** **05 51 50.9 +0.3**
baz=268
PLBC Pleasant Camp 74.94 32 P **P** **05 51 51.3 0.0**
baz=269
EPYK Eagle Plains 75.02 24 P **P** **05 51 51.9 +0.2**
baz=267
J30M Hart River 75.10 26 P **P** **05 51 52.2 -0.1**
baz=268
O30N Mendenhall 75.10 30 P **P** **05 51 52.1 -0.2**
baz=269
I30M Mount Dempster 75.10 26 P **P** **05 51 52.0 -0.3**
baz=268
G30M tAoh Zraii Nji 75.25 24 P **P** **05 51 53.1 +0.1**
baz=267
N31M Braeburn, Yuko 75.26 29 P **P** **05 51 53.4 +0.2**
baz=269
F30M Barrier River 75.44 23 P **P** **05 51 54.2 +0.1**
baz=267
WHY Whitehorse 75.69 30 P **P** **05 51 56.0 +0.3**
baz=270
S32K Killisnoo 75.88 34 P **P** **05 51 56.5 -0.2**
baz=271
M31M Drury Creek, Y 75.93 29 P **P** **05 51 57.2 +0.3**
baz=270
G31M Satah River 76.01 24 P **P** **05 51 57.1 -0.2**
baz=269
N32M Quiet Lake 76.56 30 P **P** **05 52 00.8 +0.2**
baz=272
P33M Teslin, Yukon 76.72 31 P **P** **05 52 02.1 +0.5**
baz=272
SPITS Spitsbergen Ar 84.65 350 P **P** **05 52 42.4 -1.0**
comp=Z,3.9nm,0.8s,baz=87,slow=6.1,SNR=4.2
comp=Z,3.9nm,0.8s
ARCES ARCESS Array B 87.27 342 P **P** **05 52 55.2 -1.2**
comp=Z,1.4nm,0.5s,baz=66,slow=6.8,SNR=20
comp=Z,1.4nm,0.5s
NEW Newport 87.72 41 P **P** **05 52 59.4 +0.3**
baz=286
KBZ Khabaz 88.05 314 P **P** **05 52 58.9 -1.7**
comp=Z,0.6nm,0.4s,baz=129,slow=8.7,SNR=2.0
comp=Z,0.6nm,0.4s
NVAR Mina Array Bea 89.59 51 P **P** **05 53 08.1 -0.2**
comp=Z,0.7nm,0.6s,baz=268,slow=5.4,SNR=6.6
comp=Z,0.7nm,0.6s
VNDA Vanda 90.60 176 P **P** **05 53 11.0 -0.8**
comp=Z,1.1nm,1.0s,baz=300,slow=7.6,SNR=4.3
comp=Z,1.1nm,1.0s
MPMC Manual Prospec 90.86 53 P **P** **05 53 13.7 -0.6**
baz=286
HLID Hailey 90.92 45 P **P** **05 53 14.0 -0.4**
baz=288
FINES FINESS Array B 91.00 334 P **P** **05 53 11.9 -2.2**
comp=Z,3.3nm,0.6s,baz=64,slow=4.7,SNR=28
comp=Z,3.3nm,0.6s
IRM Iron Mountain 93.25 54 P **P** **05 53 24.7 -0.5**
baz=287
NOA NORSAR Array B 97.08 338 P **P** **05 53 39.4 -2.7**
comp=Z,0.3nm,0.7s,baz=59,slow=4.3,SNR=1.5
comp=Z,0.3nm,0.7s
LPAZ La Paz 150.39 101 PKPbc **PKPbc** **06 00 02.9 0.0**
comp=Z,5.8nm,0.6s,baz=322,slow=2.8,SNR=45

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*DJA **22** 05:48:03.6±1.6, 12°S±10°×11°9E±°, h15km±14km, M4.0/7, mb4.2/2, MLv3.9/7*
*IDC **22** 05:48:04.6±3.4, 10°.76S×119°.68E, h0km, mb3.7/1, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=258.6km s-min=31.7km az=49.0*
ISC 22 05:48:04.3±1.3, 11°.4S±0°.1×119°.03E±0°.08, h10km, n9, σ1°25/9, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.94**	**52**	P	**Pn**	**05 48 37.6**	**+0.2**
PLAI	**Plampang**	**2.87**	**334**	P	**Pn**	**05 48 50.4**	**+0.3**
TWSI	**Taliwang, Sumb**	**3.41**	**322**	P	**Pn**	**05 48 57.0**	**-0.6**
EDFI	**Ende, Flores**	**3.74**	**45**	P	**Pn**	**05 49 01.1**	**-1.1**
JAGI	**Jajag, Banyuwa**	**5.63**	**301**	P	**Pn**	**05 49 27.9**	**-0.3**
26nm,1.0s							
BKSI	**Bulukumba**	**6.17**	**10**	P	**Pn**	**05 49 36.3**	**+0.8**
WRA	**Warramunga Arr**	**16.98**	**122**	Pn	**Pn**	**05 52 00.6**	**-1.6**
0.1nm,0.3s,baz=298,slow=14,SNR=6.8							
WRA				Sn	Sn	05 54 58.8	-12
0.1nm,0.3s,baz=289,slow=24,SNR=1.1							
0.3nm,0.6s							
ASAR	**Alice Springs**	**18.66**	**133**	P	**Pn**	**05 52 25.0**	**+2.1**
0.1nm,0.3s,baz=312,slow=13,SNR=5.4							
0.4nm,0.5s							
MKAR	**Makanchi Array**	**66.63**	**333**	P	**P**	**05 58 54.9**	**-0.1**
0.7nm,0.8s,baz=156,slow=5.7,SNR=3.6							
0.7nm,0.8s							

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*IDC **22** 05:50:31.8±1.3, 24°.76S×179°.78E, h510km±13km, mb3.4/13, mbtmp4.2/15, Error ellipse: s-maj=15.2km s-min=13.8km az=6.0*
*NEIC **22** 05:50:32.7±1.1, 24°.66S±0°.10×180°.0W±0°.1, h539km±14km, mb4.4/27, Error ellipse: s-maj=18.4km s-min=12.1km az=123.0*
ISC 22 05:50:31.4±0.5, 24°.76S±0°.07×179°.81E±0°.07, h500km, n61, σ1°62/66, mb4.1/27, 4C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.91**	**156**	P	**P**	**05 52 00.5**	**+3.0**
RAO	**Raoul Island**	**4.91**	**156**	P	**P**	**05 51 59.8**	**+2.4**
261nm,0.3s,baz=29,slow=19,SNR=6.3							
RAO				S	**S**	**05 53 10.5**	**+2.7**
172nm,0.3s,baz=270,slow=20,SNR=2.0							
MSVF	**Nonsavu**	**7.18**	**346**	P	**P**	**05 52 22.1**	**+2.5**
PINNC	**Pines Island,**	**11.53**	**278**	P	**P**	**05 53 08.0**	**+3.1**
LIFNC	**LIFOU**	**12.25**	**286**	P	**P**	**05 53 15.1**	**+2.4**
DZM	**Mont Dzumac**	**12.56**	**280**	P	**P**	**05 53 19.5**	**+3.4**
DZM	**Mont Dzumac**	**12.56**	**280**	P	**P**	**05 53 19.0**	**+3.0**
11nm,0.6s,baz=84,slow=19,SNR=24							
AFI	**Afiamalu**	**13.39**	**38**	P	**P**	**05 53 22.9**	**-2.1**
URZ	**Urewera**	**13.65**	**189**	P	**P**	**05 53 26.9**	**-0.3**
8.8nm,0.8s,baz=359,slow=4.5,SNR=6.7							
URZ				S	**S**	**05 55 49.8**	**-2.4**
12nm,0.9s,baz=342,slow=20,SNR=11							
RTZ	**Ruatahuna**	**14.02**	**189**	P	**P**	**05 53 33.5**	**+2.3**
BKZ	**Black Stump Fm**	**14.63**	**190**	P	**P**	**05 53 40.0**	**+2.4**
KOUNC	**Koumac, New Ca**	**14.93**	**283**	P	**P**	**05 53 43.4**	**+2.6**
KOUNC				IAmb	IAmb	05 53 51.0	
comp=Z,13nm,1.1s							
BFZ	**Birch Farm**	**16.15**	**190**	P	**P**	**05 53 51.6**	**-1.8**
QRZ	**Quartz Range**	**17.14**	**199**	P	**P**	**05 54 03.5**	**0.0**
RAR	**Rarotonga**	**19.13**	**83**	P	**P**	**05 54 21.8**	**-0.3**
comp=Z,4.7nm,0.4s,baz=330,slow=15,SNR=1.3							
LHI	**Lord Howe Isla**	**19.48**	**245**	P	**P**	**05 54 26.8**	**+1.6**
RPZ	**Rata Peaks**	**20.22**	**199**	P	**P**	**05 54 29.8**	**-2.1**
comp=Z,4.7nm,0.4s,baz=32,slow=12,SNR=1.6							
comp=Z,4.7nm,0.4s							
EIDS	**Eidsvold**	**26.01**	**263**	P	**P**	**05 55 24.7**	**+0.9**
EIDS				IAmb	IAmb	05 55 24.9	
comp=Z,5.4nm,0.8s							
CAN	**Canberra**	**28.57**	**241**	P	**P**	**05 55 47.4**	**+1.1**
CAN				IAmb	IAmb	05 56 05.7	
comp=Z,6.7nm,1.1s							
CTAO	**Charters Tower**	**31.32**	**272**	P	**P**	**05 56 11.1**	**+0.8**
TOO	**Toolangi**	**31.84**	**238**	P	**P**	**05 56 14.6**	**+0.1**
STKA	**Stephens Creek**	**34.25**	**249**	P	**P**	**05 56 35.4**	**+0.4**
STKA	**Stephens Creek**	**34.25**	**249**	P	**P**	**05 56 34.9**	**-0.1**
comp=Z,2.7nm,0.4s,baz=89,slow=10,SNR=11							
comp=Z,2.7nm,0.4s							
COEN	**Coen**	**36.09**	**280**	P	**P**	**05 56 50.8**	**+0.3**
COEN				IAmb	IAmb	05 57 16.1	
comp=Z,9.5nm,1.1s							
BBOO	**Buckleboo**	**38.95**	**248**	P	**P**	**05 57 13.0**	**-0.8**
BBOO				IAmb	IAmb	05 57 31.4	
comp=Z,14nm,1.1s							
AS31	**Alice Springs**	**41.73**	**262**	P	**P**	**05 57 36.1**	**-0.2**
AS31				IAmb	IAmb	05 57 36.7	
comp=Z,2.5nm,0.4s							
ASAR	**Alice Springs**	**41.73**	**262**	P	**P**	**05 57 35.7**	**-0.6**
ASAR	**Alice Springs**	**41.73**	**262**	P	**P**	**05 57 36.0**	**-0.3**
comp=Z,2.7nm,0.3s,baz=93,slow=7.0,SNR=66							
ASAR				ScP	**ScP**	**06 02 22.8**	**-0.9**
comp=Z,0.6nm,0.9s,baz=110,slow=5.2,SNR=2.8							
ASAR				S	**S**	**06 03 13.8**	**-3.2**
comp=Z,0.4nm,0.9s,baz=91,slow=16,SNR=1.8							
comp=Z,2.7nm,0.3s							
WR0	**Warramunga Arr**	**41.99**	**267**	P	**P**	**05 57 37.8**	**-0.6**
WR0				IAmb	IAmb	05 57 38.1	
comp=Z,8.1nm,0.5s							
WB2	**Warramunga Arr**	**42.17**	**267**	P	**P**	**05 57 39.3**	**-0.5**
WRAB	**Tennant Creek**	**42.17**	**267**	P	**P**	**05 57 39.1**	**-0.7**
WB0	**Warramunga Arr**	**42.18**	**267**	P	**P**	**05 57 39.2**	**-0.6**
WB0				IAmb	IAmb	05 57 39.7	
comp=Z,14nm,0.5s							
WRA	**Warramunga Arr**	**42.18**	**267**	P	**P**	**05 57 39.0**	**-0.9**
comp=Z,11nm,0.4s,baz=99,slow=6.9,SNR=390							
WRA				ScP	**ScP**	**06 02 25.4**	**-0.1**
comp=Z,2.2nm,1.0s,baz=101,slow=3.7,SNR=7.6							
WRA				S	S	06 03 16.6	-6.9
comp=Z,0.5nm,0.9s,baz=106,slow=21,SNR=1.3							
comp=Z,11nm,0.4s							
FORT	**Forrest**	**45.85**	**250**	P	**P**	**05 58 07.0**	**-1.2**
FORT				IAmb	IAmb	05 58 10.1	
comp=Z,25nm,0.9s							
MTN	**Manton Dam**	**47.35**	**275**	P	**P**	**05 58 18.7**	**-1.1**
MTN				IAmb	IAmb	05 58 43.7	
comp=Z,10nm,1.1s							
KNRA	**Kununurra**	**48.51**	**271**	P	**P**	**05 58 28.1**	**-0.3**
KNRA				IAmb	IAmb	05 58 28.6	
comp=Z,15nm,0.5s							
VNDA	**Vanda**	**53.51**	**185**	P	**P**	**05 59 04.3**	**+0.4**
VNDA	**Vanda**	**53.51**	**185**	P	**P**	**05 59 04.1**	**+0.2**
comp=Z,0.6nm,0.5s,baz=7.9,slow=7.7,SNR=6.6							
comp=Z,0.6nm,0.5s							
SBA	**Scott Base**	**53.51**	**183**	P	**P**	**05 59 04.1**	**+0.3**
PSA00	**Pilbara Seismi**	**54.84**	**260**	P	**P**	**05 59 13.1**	**-1.1**
PSA00				IAmb	IAmb	05 59 23.4	
comp=Z,12nm,1.1s							
MBWA	**Marble Bar**	**55.06**	**261**	P	**P**	**05 59 14.6**	**-1.2**
MORW	**Morawa**	**56.42**	**250**	P	**P**	**05 59 23.4**	**-1.7**
JAGI	**Jajag, Banyuwa**	**64.43**	**272**	P	**P**	**06 00 16.6**	**-1.8**
JAGI				IAmb	IAmb	06 00 24.8	
comp=Z,18nm,1.1s							
QSPA	**South Pole Qui**	**65.33**	**180**	P	**P**	**06 00 22.8**	**-0.6**
QSPA				IAmb	IAmb	06 00 24.0	
comp=Z,4.4nm,0.8s							
QSPA	**South Pole Qui**	**65.33**	**180**	P	**P**	**06 00 23.3**	**-0.1**
comp=Z,3.1nm,0.7s,baz=343,slow=0.7,SNR=25							
comp=Z,3.1nm,0.7s							
MJAR	**Matsushiro Arr**	**72.51**	**326**	P	**P**	**06 01 06.0**	**-0.9**
comp=Z,1.8nm,0.8s,baz=162,slow=6.6,SNR=6.1							
comp=Z,1.8nm,0.8s							
BELA	**Belgrano 2**	**75.61**	**173**	P	**P**	**06 01 22.9**	**-1.0**
BELA				IAmb	IAmb	06 01 23.3	
comp=Z,3.6nm,0.6s							
MAW	**Mawson**	**76.89**	**201**	P	**P**	**06 01 30.5**	**-0.6**
comp=Z,1.9nm,0.8s,baz=134,slow=7.7,SNR=3.5							
comp=Z,1.9nm,0.8s							
TROLL	**Troll, Antarti**	**83.47**	**181**	⇑P	**P**	**06 02 04.8**	**-0.9**
comp=Z,230nm,0.3s							
SNAA	**Sanae**	**83.81**	**179**	⇑P	**P**	**06 02 05.6**	**-1.8**
comp=Z,16nm,0.4s							
SNAA	**Sanae**	**83.81**	**179**	P	**P**	**06 02 05.5**	**-1.8**
comp=Z,0.5nm,0.3s,baz=215,slow=11,SNR=22							
comp=Z,0.5nm,0.3s							
VNA3	**Neumayer Olymp**	**84.03**	**177**	⇑P	**P**	**06 02 06.7**	**-1.7**
comp=Z,1.4nm,0.3s							
VNA2	**Neumayer--Watz**	**84.44**	**178**	⇑P	**P**	**06 02 08.8**	**-1.6**
comp=Z,4.2nm,0.5s,baz=197,slow=5.2							
NVAR	**Mina Array Bea**	**85.49**	**44**	P	**P**	**06 02 16.2**	**0.0**
comp=Z,0.5nm,0.7s,baz=222,slow=8.0,SNR=4.6							
comp=Z,0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	**P**	**06 02 36.4**	**+0.4**
comp=Z,0.6nm,0.3s,baz=155,slow=3.9,SNR=4.3							
comp=Z,0.6nm,0.3s							
TXAR	**Lajitas Array**	**91.03**	**58**	P	**P**	**06 02 42.5**	**+0.3**
comp=Z,0.9nm,0.8s,baz=218,slow=7.1,SNR=12							
comp=Z,0.9nm,0.8s							
ILAR	**Eielson Array**	**92.91**	**14**	P	**P**	**06 02 48.7**	**-1.2**
comp=Z,0.2nm,0.6s,baz=207,slow=3.7,SNR=1.8							
comp=Z,0.2nm,0.6s							
HFS	**Hagfors**	**143.35**	**348**	PKhKP	PKPpre	06 09 04.9	
comp=Z,0.8nm,0.5s,baz=45,slow=3.7,SNR=9.2							
AKASG	**Malin Array Be**	**145.59**	**326**	PKPbc	**PKPdf**	**06 09 10.8**	**-1.2**
comp=Z,0.6nm,0.4s,baz=49,slow=3.4,SNR=6.9							
BRTR	**Keskin Array B**	**147.95**	**306**	PKPbc	**PKPdf**	**06 09 19.8**	**+3.3**
comp=Z,0.3nm,0.4s,baz=90,slow=1.4,SNR=2.2							
BRTR				PKPab	**PKiKP**	**06 09 23.7**	**+2.0**
comp=Z,0.5nm,0.5s,baz=97,slow=3.1,SNR=4.5							
TORD	**Torodi Ar. Bea**	**168.31**	**189**	PKPab	**PKPab**	**06 10 52.2**	**-0.7**
comp=Z,0.4nm,0.7s,baz=191,slow=3.5,SNR=2.3							

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*DSN **22** 05:59:17.2±1.1, 28°.01N×54°.97E, h10km, ML3.6/7, Error ellipse: s-maj=24.2km s-min=8.8km az=50.0*
*TEH **22** 05:59:20.5, 27°.50N×54°.96E, h15km±18km, ML4.0*
*OMAN **22** 05:59:23.2±0.1, 27°.57N×54°.96E, h12km±1km, mb5.3/1, ml3.7/9, Error ellipse: s-maj=2.3km s-min=0.7km az=25.0*
*IDC **22** 05:59:25.6±3.0, 27°.57N×54°.91E, h48km±31km, mb3.6/16, mbtmp3.8/18, ML3.5/2, Error ellipse: s-maj=17.4km s-min=15.9km az=54.0*
ISC 22 05:59:21.2±1.2, 27°.55N±0°.03×54°.99E±0°.03, h13km±8km, n76, σ2°07/88, mb3.8/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.56**	**282**	Pg	**Pb**	**05 59 32.1**	**-0.8**
GENO	**Geno**	**1.06**	**98**	Pg	**Pg**	**05 59 42.4**	**+0.7**
IBND	**Bandar-abas**	**1.38**	**94**	Pg	**Pg**	**05 59 48.1**	**+0.4**
JHRM	**Jahrom**	**1.57**	**308**	Pg	**Pg**	**05 59 51.3**	**-0.1**
LMD1	**Lamerd**	**1.64**	**263**	Pg	**Pg**	**05 59 52.0**	**-0.7**
SHME	**Shamm**	**1.81**	**145**	P	**Pb**	**05 59 53.8**	**-0.4**
SHME				S	**Sg**	**06 00 22.4**	**+2.9**
SHME	**Shamm**	**1.81**	**145**	P	**Pg**	**05 59 54.1**	**-1.9**
SNR=12							
SHME				S	**Sg**	**06 00 19.4**	**-0.1**
QIR1	**Qir**	**1.95**	**299**	Pn	**Pg**	**05 59 57.8**	**-0.9**
BANOM	**Banah**	**2.00**	**144**	P	**Pb**	**05 59 56.5**	**-0.9**
BANOM	**Banah**	**2.00**	**144**	P	**Pb**	**05 59 57.1**	**-0.3**
BANOM				S	**Sg**	**06 00 27.1**	**+1.6**
MASF	**Masafi**	**2.41**	**154**	P	**Pb**	**06 00 03.6**	**-0.8**
SNR=16							
MASF				S	**Sb**	**06 00 34.3**	**+0.3**
MSFE	**Esma-Masafi**	**2.42**	**154**	P	**Pb**	**06 00 03.3**	**-1.3**
KHNJ	**Kahnooj**	**2.44**	**80**	Pn	**Pb**	**06 00 02.8**	**-2.1**
MDH	**Madha**	**2.53**	**152**	P	**Pb**	**06 00 04.4**	**-2.0**
MDH	**Madha**	**2.53**	**152**	P	**Pb**	**06 00 04.8**	**-1.7**
MDH				S	**Sb**	**06 00 34.6**	**-2.8**
NGRK	**Negar Kerman**	**2.59**	**36**	Pn	**Pn**	**06 00 05.1**	**+2.0**
UOSS	**Minazif**	**2.81**	**157**	P	**Pb**	**06 00 07.4**	**-3.9**
UOSS	**Minazif**	**2.81**	**157**	P	**Pb**	**06 00 08.5**	**-2.7**
FAQ	**Al Faqa, Dubai**	**2.84**	**169**	P	**Pb**	**06 00 09.0**	**-2.8**
FAQ	**Al Faqa, Dubai**	**2.84**	**169**	P	**Pb**	**06 00 09.1**	**-2.7**
FAQ				S	**Sb**	**06 00 44.9**	**-1.6**
TVBK	**TV Kerman**	**2.88**	**32**	Pn	**Pb**	**06 00 10.0**	**-2.7**
HATD	**Hatta, Dubai**	**2.90**	**159**	P	**Pb**	**06 00 09.2**	**-3.5**
HATD	**Hatta, Dubai**	**2.90**	**159**	P	**Pb**	**06 00 10.6**	**-2.2**
ASHO	**Ashiyiah**	**3.01**	**161**	P	**Pb**	**06 00 11.6**	**-3.1**
ASHO	**Ashiyiah**	**3.01**	**161**	P	**Pb**	**06 00 11.7**	**-3.0**
JASK	**Jask - Hormozg**	**3.07**	**122**	Pn	**Pn**	**06 00 11.0**	**+1.7**
JASK	**Jask - Hormozg**	**3.07**	**122**	P	**Pn**	**06 00 11.4**	**+2.0**
SNR=5.7							
KHGB	**Koh Gabri**	**3.10**	**24**	Pn	**Pn**	**06 00 13.2**	**+3.2**
CHMN	**Cheshme madani**	**3.21**	**44**	Pn	**Pb**	**06 00 15.1**	**-3.2**
DSBU	**Dashti - Bushe**	**3.40**	**285**	Pn	**Pn**	**06 00 16.3**	**+2.4**
KBAM	**BAM**	**3.43**	**62**	Pn	**Pn**	**06 00 17.6**	**+3.1**
ZRDN	**Zarand Kerman**	**3.66**	**21**	Pn	**Pn**	**06 00 20.4**	**+2.7**
IMEH	**Mehriz**	**3.84**	**355**	Pn	**Pn**	**06 00 23.0**	**+2.8**
SHMA	**Al-Shehemyia**	**3.98**	**246**	P	**Pn**	**06 00 24.5**	**+2.7**
SNR=17							
SHMA				S	**Sn**	**06 01 10.8**	**+2.5**
IBAF	**Bafgh**	**4.06**	**7**	Pn	**Pn**	**06 00 25.5**	**+2.4**
SAKB	**Bahrain**	**4.28**	**250**	P	**Pn**	**06 00 27.4**	**+1.5**
SAKB				S	**Sn**	**06 01 19.3**	**+3.5**
TRNA	**Turayna**	**4.40**	**231**	P	**Pn**	**06 00 30.0**	**+2.3**
SNR=21							
HOQ	**Hoqain**	**4.47**	**152**	Pn	**Pn**	**06 00 29.5**	**+0.8**
ISAD	**Sadrabad**	**4.50**	**346**	Pn	**Pn**	**06 00 32.0**	**+2.8**
KLNJ	**Kolanjah**	**4.55**	**320**	Pn	**Pn**	**06 00 31.5**	**+1.5**
SMRA	**Abu-Samra**	**4.67**	**234**	P	**Pn**	**06 00 34.0**	**+2.6**
SNR=5.2							
SMRA				S	**Sn**	**06 01 26.1**	**+0.6**
ICHK	**Chekchek**	**4.71**	**354**	Pn	**Pn**	**06 00 35.0**	**+2.9**
MZR	**Muzera**	**4.73**	**197**	P	**Pn**	**06 00 34.9**	**+2.7**
MZR				S	**Sn**	**06 01 30.4**	**+3.5**
IRAM	**Ramesheh**	**4.81**	**332**	Pn	**Pn**	**06 00 35.9**	**+2.3**
SMDO	**Samad**	**5.26**	**148**	P	Pn	06 00 43.1	+3.6
SMDO				S	**Sn**	**06 01 43.0**	**+3.0**
CHBR	**Chabahar**	**5.29**	**110**	Pn	**Pn**	**06 00 41.8**	**+2.0**
WSAR	**Wadi Sarin**	**5.41**	**142**	P	**Pn**	**06 00 43.7**	**+2.1**
2.3nm,0.3s,baz=341,slow=5.8,SNR=19							
WSAR				S	**Sn**	**06 01 43.0**	**-0.7**
10nm,0.6s,baz=297,slow=6.8,SNR=1.7							
6.2nm,0.3s							
IBRJ	**Brojen**	**5.42**	**324**	Pn	**Pn**	**06 00 44.0**	**+2.1**
TPRV	**Parvadeh(Tabas**	**5.65**	**15**	Pn	**Pn**	**06 00 47.3**	**+2.4**
BSRN	**Basiran**	**5.68**	**38**	Pn	**Pn**	**06 00 48.3**	**+3.0**
ANAR	**Anarak**	**5.73**	**349**	Pn	**Pn**	**06 00 48.5**	**+2.5**
JMDO	**Jabal Madar**	**5.88**	**151**	P	**Pn**	**06 00 50.9**	**+2.9**
IKOO	**Kooshah**	**5.97**	**35**	Pn	**Pn**	**06 00 52.2**	**+2.7**
WBK	**Wadi Bani Khal**	**6.10**	**143**	P	**Pn**	**06 00 53.0**	**+1.9**
KBD	**Kabd**	**6.63**	**286**	P	**Pn**	**06 00 59.9**	**+1.6**
MHTO	**MHTO**	**7.08**	**157**	P	**Pn**	**06 01 06.7**	**+2.3**
WHFO	**Wadi Hawf**	**9.65**	**187**	P	**Pn**	**06 01 41.2**	**+1.4**
ABTO	**Aybut**	**10.27**	**189**	P	**Pn**	**06 01 49.1**	**+0.8**
KBZ	**Khabaz**	**18.87**	**332**	P	**Pn**	**06 03 41.6**	**+0.1**
0.1nm,0.3s,baz=166,slow=14,SNR=3.6							
1.1nm,0.7s							
BRTR	**Keskin Array B**	**21.47**	**310**	P	**P**	**06 04 10.0**	**+0.5**
2.0nm,0.7s,baz=132,slow=13,SNR=12							
2.0nm,0.7s							
BVAR	**Borovoye Array**	**27.90**	**20**	P	**P**	**06 05 11.2**	**+0.5**
3.3nm,0.8s,baz=206,slow=6.1,SNR=13							
3.3nm,0.8s							
MKAR	**Makanchi Array**	**28.79**	**41**	P	**P**	**06 05 18.9**	**+0.2**
0.3nm,0.5s,baz=232,slow=10,SNR=1.9							
0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**29.17**	**31**	P	**P**	**06 05 22.8**	**+0.8**
0.6nm,0.5s,baz=236,slow=7.6,SNR=1.3							
0.6nm,0.5s							
AKASG	**Malin Array Be**	**30.28**	**327**	P	**P**	**06 05 30.7**	**-1.1**
0.5nm,0.5s,baz=140,slow=8.6,SNR=5.2							
0.5nm,0.5s							
ZALV	**Zalesovo Beam**	**34.27**	**31**	P	**P**	**06 06 07.4**	**+0.6**
1.3nm,0.5s,baz=238,slow=10,SNR=6.2							
1.3nm,0.5s							
FINES	**FINESS Array B**	**39.02**	**338**	P	**P**	**06 06 47.0**	**-0.2**
0.9nm,0.4s,baz=140,slow=9.0,SNR=13							
0.9nm,0.4s							
HFS	**Hagfors**	**42.93**	**331**	P	**P**	**06 07 18.9**	**-0.5**
1.0nm,0.4s,baz=124,slow=7.9,SNR=16							
1.0nm,0.4s							
NB2	**NORSAR Subarra**	**44.45**	**331**	P	**P**	**06 07 30.5**	**-1.1**
comp=Z,0.8nm,0.5s,baz=116,slow=7.9							
NOA	**NORSAR Array B**	**44.45**	**331**	P	**P**	**06 07 30.4**	**-1.3**
comp=Z,0.8nm,0.5s,baz=122,slow=7.8,SNR=8.7							
comp=Z,0.8nm,0.5s							
ESDC	**Sonseca Array**	**49.76**	**300**	P	**P**	**06 08 13.0**	**-0.5**
comp=Z,0.4nm,0.4s,baz=76,slow=7.3,SNR=11							
comp=Z,0.4nm,0.4s							
EKA	**Eskdalemuir Ar**	**49.81**	**321**	P	**P**	**06 08 12.2**	**-1.3**
comp=Z,0.2nm,0.3s,baz=98,slow=6.8,SNR=1.9							
EKA				PcP	**PcP**	**06 09 31.9**	**-2.2**
comp=Z,1.4nm,0.9s,baz=98,slow=3.7,SNR=3.7							
comp=Z,0.2nm,0.3s							
TORD	**Torodi Ar. Bea**	**51.62**	**265**	P	**P**	**06 08 26.9**	**-0.8**
comp=Z,1.1nm,0.7s,baz=57,slow=7.9,SNR=6.4							
comp=Z,1.1nm,0.7s							
KSRS	**Korea Array**	**60.92**	**61**	P	**P**	**06 09 34.5**	**+0.6**
comp=Z,0.6nm,0.5s,baz=281,slow=6.9,SNR=1.6							
comp=Z,0.6nm,0.5s							
BOSA	**Boshof**	**62.70**	**209**	P	**P**	**06 09 46.2**	**+0.3**
comp=Z,1.6nm,0.5s,baz=20,slow=5.8,SNR=9.8							
comp=Z,1.6nm,0.5s							
WRA	**Warramunga Arr**	**90.09**	**112**	P	**P**	**06 12 20.6**	**-0.6**
comp=Z,0.7nm,1.1s,baz=315,slow=3.9,SNR=2.3							
comp=Z,0.7nm,1.1s							
ASAR	**Alice Springs**	**91.55**	**116**	P	**P**	**06 12 27.4**	**-0.6**
comp=Z,0.3nm,0.8s,baz=300,slow=5.1,SNR=1.7							
comp=Z,0.3nm,0.8s							

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*RSNC **22** 05:59:59.9±0.0, 7°N±2°×7°9W±°, h7km±4km, M2.4, ML2.4*
*UPA **22** 06:00:02.1±0.5, 7°.36N×78°.74W, h13km±5km, MD3.9*
ISC 22 05:59:58.5±1.6, 7°.23N±0°.05×78°.68W±0°.03, h9km±12km, n18, σ1°21/32, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.87**	**95**	P	**Pg**	**06 00 14.9**	**-0.4**
PTAC				S	**Sg**	**06 00 25.5**	**-1.1**
UPD2	**Meteti**	**1.47**	**27**	*e*P	**Pn**	**06 00 25.1**	**-0.1**
UPD2				*e*S	**Sn**	**06 00 44.3**	**-0.3**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
TIR				AMP				
	comp=N,0.3nm,0.5s,baz=333							
FNA	**Florina**	**0.79**	**81**	P		**Pb**	**06 07 28.1**	**-0.5**
	baz=82							
FNA				S		**Sn**	**06 07 41.1**	**-0.7**
	baz=82							
FNA				AMP				
	comp=E,0.8nm,0.3s,baz=82							
FNA	**Florina**	**0.79**	**81**	*i* Pg		**Pb**	**06 07 28.0**	**-0.5**
FNA				*i* Sg		**Sn**	**06 07 41.3**	**-0.4**
FNA	**Florina**	**0.79**	**81**	P		**Pb**	**06 07 28.0**	**-0.5**
FNA				S		**Sb**	**06 07 38.7**	**-0.6**
FNA				AML	AML		06 07 42.6	
	comp=N,1236μm,0.4s							
FNA				AML	AML		06 07 42.9	
	comp=E,972μm,0.4s							
SRN	**Sarande**	**0.82**	**199**	P		**Pb**	**06 07 28.8**	**-0.4**
	baz=198							
SRN				S		**Sn**	**06 07 41.8**	**-0.8**
	baz=198							
SRN				AMP				
	comp=E,0.5nm,0.5s,baz=198							
KASA	**Kassiopi**	**0.97**	**200**	P		**Pn**	**06 07 32.6**	**+0.3**
KPRO	**Kipourio**	**1.04**	**132**	P		**Pb**	**06 07 32.8**	**-0.2**
PUK	**Puka**	**1.42**	**346**	P		**Pb**	**06 07 39.6**	**+0.2**
	baz=347							
PUK				S		**Sn**	**06 08 00.2**	**+2.7**
	baz=347							
PUK				AMP				
	comp=N,0.2nm,0.5s,baz=347							
SCTE	**Santa Cesarea**	**1.56**	**248**	P		**Pb**	**06 07 40.5**	**-1.1**
BCI	**Bajram Curri**	**1.72**	**353**	P		**Pg**	**06 07 44.9**	**-0.9**
	baz=354							
BCI				S		**Sg**	**06 08 09.8**	**+1.7**
	baz=354							
BCI				AMP				
	comp=E,0.2nm,0.5s,baz=354							
LKD2	**Lefkada island**	**1.88**	**173**	P		**Pg**	**06 07 48.9**	**-0.1**
	baz=172							
LKD2				S		**Sg**	**06 08 15.7**	**+2.3**
	baz=172							
LKD2				AMP				
	comp=E,0.1nm,0.6s,baz=172							
LKD2	**Lefkada island**	**1.88**	**173**	P		**Pn**	**06 07 45.5**	**+0.5**
THE	**Thessaloniki**	**1.99**	**90**	*i* Pg		**Pb**	**06 07 48.2**	**-0.8**
KNT	**Kendrikon**	**1.99**	**75**	*i* Pn		**Pb**	**06 07 48.2**	**-0.9**
FSK	**Fiskardo**	**2.20**	**176**	P		**Pn**	**06 07 49.9**	**+0.5**
PEHC	**Pehcevo**	**2.22**	**59**	*i* Pn		**Pg**	**06 07 53.8**	**-1.6**
BEY	**Berane**	**2.24**	**351**	*i* Pn		**Pb**	**06 07 52.1**	**-1.2**
SOH	**Sokhos**	**2.29**	**85**	*i* Pn		**Pb**	**06 07 53.9**	**-0.2**

*NEIC **22** 06:13:00.4±0.9, 44°.73S±0°.08×81°.3W±0°.2, h10km±2km, mb4.2/8, Error ellipse: s-maj=23.7km s-min=14.1km az=275.0*
*IDC **22** 06:13:01.2±1.4, 44°.91S×80°.88W, h0km, mb3.7/5, mbtmp3.7/6, ML4.0/1, MS3.8/3, Error ellipse: s-maj=39.0km s-min=24.2km az=111.0*

ISC 22 06:13:01.2±0.9, 44°.78S±0°.08×81°.2W±0°.1, h10km, n43, σ1§21/39, mb3.7/5, MS3.9/3, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
GO07	**Milladeo Hill,**	**5.65**	**75**		Pn	**Pn**	**06 14 23.7**	**-1.6**
AY02	**Valle Explorad**	**5.83**	**110**		Pn	**Pn**	**06 14 25.9**	**-1.8**
LL07	**Hotel Espejo d**	**5.88**	**73**		Pn	**Pn**	**06 14 28.4**	**+0.1**
LL06	**Loncomilla**	**6.04**	**68**		Pn	**Pn**	**06 14 29.8**	**-0.7**
AY03	**Cochrane**	**6.45**	**116**			**Pn**	**06 14 36.8**	**+0.6**
COYC	**Coyhaique**	**6.46**	**100**		Pn	**Pn**	**06 14 36.3**	**0.0**
LL05	**Los Muermos**	**6.55**	**62**		Pn	**Pn**	**06 14 36.3**	**-1.3**
LL01	**San Ignacio de**	**6.78**	**72**			**Pn**	**06 14 40.2**	**-0.5**
GO08	**Villa O'Higgin**	**6.97**	**125**			**Pn**	**06 14 44.1**	**+0.8**
LL04	**Puerto Octay**	**7.50**	**62**			**Pn**	**06 14 49.4**	**-1.2**
LR05	**Currie**	**8.14**	**59**			**Pn**	**06 14 59.1**	**-0.3**
LR03	**Panguipulli**	**8.31**	**55**			**Pn**	**06 15 02.2**	**+0.4**
GO09	**Cerro Castillo**	**8.77**	**141**			**Pn**	**06 15 08.5**	**+0.5**
PLCA	**Paso Flores**	**8.78**	**66**		Pn	**Pn**	**06 15 08.1**	**-0.2**
	0.4nm,0.3s,baz=239,slow=9.3,SNR=18							
PLCA					Sn	**Sn**	**06 16 48.9**	**+1.5**
	0.1nm,0.3s,baz=226,slow=16,SNR=1.8							
	5.2nm,0.9s							
GO06	**Curarrehue**	**8.86**	**57**			**Pn**	**06 15 09.2**	**-0.2**
MG05	**Puerto Natales**	**8.99**	**143**		Pn	**Pn**	**06 15 11.5**	**+0.5**
H03S1	**Juan Fernandez**	**11.06**	**10**		T	T	06 27 17.5	
	baz=185,slow=73,SNR=159							
H03S2	**Juan Fernandez**	**11.06**	**10**		T	T	06 27 17.9	
	baz=185,slow=73,SNR=136							
H03S3	**Juan Fernandez**	**11.07**	**10**		T	T	06 27 18.9	
	baz=185,slow=73,SNR=138							
MG03	**Isla Dawson**	**11.43**	**146**		Pn	**Pn**	**06 15 44.5**	**+0.1**
ML02	**Panimavida**	**11.67**	**43**			**Pn**	**06 15 47.5**	**-0.2**
GO05	**Huala**	**12.05**	**39**		Pn	**Pn**	**06 15 52.0**	**-1.0**
BO01	**Tunca**	**12.94**	**40**		Pn	**Pn**	**06 16 03.4**	**-1.7**
MT01	**Popeta**	**13.31**	**38**		Pn	**Pn**	**06 16 08.8**	**-1.4**
MT09	**Talagante**	**13.50**	**39**			**Pn**	**06 16 12.1**	**-0.8**
MT02	**Curacav**	**13.88**	**37**		Pn	**Pn**	**06 16 16.7**	**-1.2**
VA06	**Catapilco**	**14.41**	**35**		Pn	**Pn**	**06 16 24.0**	**-1.2**
VA03	**San Esteban**	**14.55**	**38**			**Pn**	**06 16 27.4**	**+0.1**
CO02	**Combarbal**	**15.72**	**34**		Pn	**Pn**	**06 16 41.8**	**-1.0**
CO02					IAmb	IAmb	06 16 47.9	
	comp=Z,12nm,1.1s							
CO03	**El Pedregal**	**16.16**	**34**			**Pn**	**06 16 49.2**	**+0.7**
CO03					IAmb	IAmb	06 16 56.0	
	comp=Z,14nm,1.1s							
CPUP	**Villa Florida**	**26.57**	**54**	P		**P**	**06 18 39.2**	**-0.2**
CPUP					IAmb	IAmb	06 18 45.9	
	comp=Z,8.1nm,1.1s							
CPUP	**Villa Florida**	**26.57**	**54**	P		**P**	**06 18 39.5**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=222,slow=11,SNR=6.9							
CPUP					LR	LR	06 28 42.8	
	comp=Z,280nm,18.4s,baz=85,slow=36							
	comp=Z,1.8nm,0.8s							
ITAB	**Concordia**	**29.07**	**63**	P		**P**	**06 19 00.7**	**-1.0**
LPAZ	**La Paz**	**30.45**	**25**	P		**P**	**06 19 17.2**	**+2.5**
	comp=Z,0.9nm,0.9s,baz=225,slow=8.6,SNR=2.4							
	comp=Z,0.9nm,0.9s							
SNAA	**Sanae**	**44.64**	**154**	P		**P**	**06 21 13.2**	**-0.2**
SNAA	**Sanae**	**44.64**	**154**	P		**P**	**06 21 12.7**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=276,slow=9.2,SNR=2.7							
	comp=Z,1.1nm,1.0s							
OTAV	**Otavalo**	**44.89**	**4**	P		**P**	**06 21 13.8**	**-2.7**
QSPA	**South Pole Qui**	**45.46**	**180**	P		**P**	**06 21 18.6**	**-1.7**
QSPA					IAmb	IAmb	06 21 30.6	
	comp=Z,3.9nm,1.1s							
QSPA	**South Pole Qui**	**45.46**	**180**	P		**P**	**06 21 21.3**	**+1.1**
	comp=Z,1.1nm,1.0s,baz=110,slow=5.0,SNR=1.8							
	comp=Z,1.1nm,1.0s							
ROSC	**El Rosal**	**49.77**	**9**	P		**P**	**06 21 52.7**	**-1.7**
SUR	**Sutherland**	**75.57**	**121**	LR		LR	06 51 17.2	
	comp=Z,55nm,19.7s,baz=168,slow=30							
TXAR	**Lajitas Array**	**76.57**	**340**	P		**P**	**06 24 54.1**	**+2.5**
	comp=Z,0.4nm,0.9s,baz=167,slow=8.3,SNR=2.9							
	comp=Z,0.4nm,0.9s							
BBTS	**Babate**	**83.17**	**62**	LR		LR	07 02 23.3	
	comp=Z,36nm,18.0s,baz=140,slow=36							

CATAC 22 06:15:31.7±0.5, 11°.80N×87°.59W, h17km±4km, ML3.9, 4C-24D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
CRIN	**San Cristobal**	**1.03**	**31**	*eP*		Pb	06 15 43.4	-7.9
PACN	**Al O del Volca**	**1.04**	**48**	⇓*iP*		Pb	06 15 50.8	-0.5
PACN						IAML	06 15 51.2	
	comp=Z,2μm,1.0s							
COPN	**Copaltepe**	**1.05**	**69**	⇓*iP*		Pg	06 15 52.7	+0.7
COPN						IAML	06 16 10.9	
	comp=Z,1μm,1.0s							
PKGN	**Cerro Pekin**	**1.05**	**35**	⇓*iP*		Pb	06 15 51.4	0.0
PKGN						IAML	06 15 51.8	
	comp=Z,5μm,1.0s							
PKGN				*i* S		Sn	06 16 07.3	+1.4
QUEN	**Al S del Volca**	**1.06**	**43**	⇓*iP*		Pb	06 15 50.6	-1.1
QUEN						IAML	06 16 11.0	
	comp=Z,3μm,1.0s							
CNGA	**Al SSO del Vol**	**1.11**	**52**	⇑*iP*		Pb	06 15 50.7	-1.7
CNGA						IAML	06 15 51.0	
	comp=Z,3μm,1.0s							
MACN	**El Madrono**	**1.11**	**54**	⇓*iP*		Pb	06 15 52.1	-0.4
MACN						IAML	06 15 52.6	
	comp=Z,2μm,1.0s							
CNGN	**Cerro Negro**	**1.11**	**51**	⇓*iP*		Pb	06 15 51.9	-0.6
CNGN						IAML	06 15 52.2	
	comp=Z,2μm,1.0s							
SAPS	**Ciudad Sandino**	**1.22**	**72**	⇓*iP*		Pn	06 15 53.9	0.0
SAPS				*i* S		Sg	06 16 12.8	+1.7
SAPS						IAML	06 16 15.7	
	comp=Z,2μm,1.0s							
MOM2	**El Cardon**	**1.25**	**60**	⇓*iP*		Pn	06 15 52.9	-1.5
MOM2						IAML	06 15 53.6	
	comp=Z,1μm,1.0s							
MOM2				*i* S		Sn	06 16 11.4	+0.5
RA5A7	**El Crucero**	**1.27**	**81**	*i* P		Pb	06 15 55.1	-0.1
RA5A7						IAML	06 16 23.6	
	comp=Z,7μm,1.0s							
APYN	**Apoyeque**	**1.29**	**70**	*i* P		Pn	06 15 54.5	-0.4
APYN				*i* S		Sg	06 16 14.0	+0.6
APYN						IAML	06 16 20.6	
	comp=Z,45nm,1.0s							
ABCN	**Banco Central**	**1.29**	**76**	⇓*iP*		Pn	06 15 54.8	-0.2
ABCN						IAML	06 16 43.6	
	comp=Z,5μm,1.0s							
APQ2	**Apoyeque**	**1.30**	**72**	*i* P		Pn	06 15 54.1	-1.0
APQ2						IAML	06 16 21.3	
	comp=Z,1μm,1.0s							
RE6B4	**Centro civico**	**1.31**	**76**	⇓*iP*		Pn	06 15 54.7	-0.5
RE6B4						IAML	06 15 55.0	
	comp=Z,4μm,1.0s							
RB28C	**Hialeah**	**1.32**	**76**	⇓*iP*		Pn	06 15 55.0	-0.4
RB28C						IAML	06 15 55.2	
	comp=Z,6μm,1.0s							
USIM	**UNAN**	**1.32**	**76**	⇓*iP*		Pn	06 15 55.0	-0.5
USIM				*i* S		Sg	06 16 13.8	-0.8
USIM						IAML	06 16 56.9	
	comp=Z,8μm,1.0s							
TISN	**Laguna Tiscapa**	**1.33**	**75**	⇓*iP*		Pn	06 15 54.0	-1.6
TISN						IAML	06 15 54.2	
	comp=Z,220nm,1.0s							
ENAN	**Enatrel Managu**	**1.34**	**77**	⇓*iP*		Pn	06 15 55.2	-0.4
ENAN				*i* S		Sb	06 16 13.8	+0.6
ENAN						IAML	06 16 29.8	
	comp=Z,10μm,1.0s							
R4DEC	**Barrio San Lui**	**1.36**	**75**	⇑*iP*		Pn	06 15 55.0	-0.9
R4DEC						IAML	06 15 55.4	
	comp=Z,1μm,1.0s							
R4DEC				*i* S		Sb	06 16 13.7	-0.1
R0529	**La Mascota**	**1.36**	**76**	⇓*iP*		Pn	06 15 55.2	-0.7
R0529						IAML	06 15 55.5	
	comp=Z,4μm,1.0s							
MAS3	**Al N del Volca**	**1.40**	**81**	⇓*iP*		Pn	06 15 55.7	-0.8
MAS3				*i* S		Sg	06 16 16.1	-0.9
MAS3						IAML	06 16 23.5	
	comp=Z,1μm,1.0s							
RB213	**Mirador 2 Volc**	**1.40**	**83**	⇓*iP*		Pn	06 15 54.7	-1.9
RB213						IAML	06 15 55.1	
	comp=Z,4μm,1.0s							
WILN	**Americas 2**	**1.42**	**75**	⇑*iP*		Pn	06 15 55.4	-1.3
WILN						IAML	06 15 55.7	
	comp=Z,860nm,1.0s							
WILN				*i* S		Sn	06 16 14.9	-0.1
CNCH	**Conchagua**	**1.48**	**351**	*i* P		Pn	06 15 56.6	-1.1
CNCH						IAML	06 16 25.3	
	comp=Z,1μm,1.0s							
BRAN	**Las Pilas**	**1.52**	**53**	⇓*iP*		Pn	06 15 54.4	-3.7
BRAN				*i* S		Sn	06 16 12.9	-4.5
BRAN						IAML	06 16 17.2	
	comp=Z,2μm,1.0s							
LCND	**La Caada**	**1.52**	**349**	*i* P		Pn	06 15 57.0	-1.2
LCND						IAML	06 16 22.8	
	comp=Z,400nm,1.0s							
JUCU	**Jucuarın**	**1.58**	**336**	⇓*iP*		Pn	06 15 59.4	+0.4
JUCU						IAML	06 16 24.6	
	comp=Z,1μm,1.0s							
SBEN	**San Benito**	**1.58**	**71**	*i* P		Pn	06 15 56.3	-2.7
SBEN						IAML	06 15 56.5	
	comp=Z,6μm,1.0s							
RANC	**El Ranchito**	**1.76**	**337**	⇓*iP*		Pn	06 16 01.2	-0.3
RANC						IAML	06 17 05.1	
	comp=Z,600nm,1.0s							
PACA	**Pacayal**	**1.80**	**337**	*i* P		Pn	06 16 01.8	-0.4
PACA						IAML	06 16 30.6	
	comp=Z,3μm,1.0s							
JAPN	**Al SSO del Vol**	**1.89**	**98**	*i* P		Pn	06 16 03.4	+0.1
JAPN						IAML	06 16 40.8	
	comp=Z,850nm,1.0s							
LCRUZ	**La Cruz**	**2.05**	**110**	⇓*eP*		Pb	06 16 07.7	-0.9
TECO	**Alcaldia de Te**	**2.08**	**326**	*i* P		Pn	06 16 06.1	+0.3
TECO				*i* S		Sb	06 16 33.4	-1.2
TECO						IAML	06 16 40.2	
	comp=Z,150nm,1.0s							
UESV	**Universidad de**	**2.16**	**327**	*i* P		Pn	06 16 06.9	-0.1
UESV				*i* S		Sn	06 16 34.0	+0.5
UESV						IAML	06 16 38.6	
	comp=Z,210nm,1.0s							
SCLA	**Alcaldia de Sa**	**2.19**	**330**	*i* P		Pn	06 16 07.3	-0.1
SCLA				*i* S		Sn	06 16 35.3	+1.1
SCLA						IAML	06 16 40.1	
	comp=Z,110nm,1.0s							
COEG	**Centro de Oper**	**2.20**	**325**	*i* P		Pn	06 16 07.3	-0.3
COEG				*i* S		Sn	06 16 34.8	+0.3
COEG						IAML	06 16 42.2	
	comp=Z,180nm,1.0s							
ELI1	**Hacienda Flor**	**2.31**	**120**	*eP*		Pb	06 16 12.4	-0.5
ACON	**Acoyapa**	**2.37**	**86**	*i* S		Sn	06 16 36.8	-1.7
ACON	**Acoyapa**	**2.37**	**86**	*eP*		Pn	06 16 05.6	-4.2
LOMA	**Loma Larga**	**2.39**	**320**	*i* P		Pn	06 16 11.6	+1.3
LOMA				*i* S		Sn	06 16 39.5	+0.2
LOMA						IAML	06 16 42.7	
	comp=Z,400nm,1.0s							
VRLE	**La Escondida,**	**2.40**	**115**	*eP*		Pn	06 16 11.9	+1.5
DELF	**Filadelfia**	**2.41**	**124**	*eP*		Pb	06 16 14.9	+0.3
GPS2	**Hotel Rincn d**	**2.43**	**115**	*eP*		Pb	06 16 12.9	-2.1
SACU	**Santa Cruz**	**2.50**	**128**	*eP*		Pb	06 16 15.3	-0.8
PMON	**Piamonte**	**2.54**	**319**	*i* P		Pn	06 16 12.4	+0.2
PMON				*i* S		Sn	06 16 43.8	+1.0
PMON						IAML	06 16 47.2	
	comp=Z,410nm,1.0s							
JUD3	**Juan Diaz 3**	**2.59**	**129**	⇓*eP*		Pb	06 16 16.8	-1.0
COLC	**Colonia**	**2.60**	**116**	*eP*		Pn	06 16 13.8	+0.8
BAGA	**Bagaces**	**2.61**	**119**	⇑*eP*		Pn	06 16 14.9	+1.8
CUI	**Cuipilapa**	**2.64**	**115**	*eP*		Pn	06 16 14.8	+1.2
NICO	**Nicoya**	**2.68**	**128**	⇓*iP*		Pb	06 16 17.6	-1.7
INDI	**Punta indio, G**	**2.81**	**133**	*i* P		Pb	06 16 19.8	-1.7
INDI				*i* S		Sb	06 16 54.0	-1.7
INDI						IAML	06 16 57.3	
	comp=Z,740nm,1.0s							
NYURE	**Nandayure**	**2.92**	**128**	*eP*		Pb	06 16 21.2	-2.1
NUBE	**Las Nubes**	**2.98**	**315**	*i* P		Pn	06 16 19.0	+0.6
NUBE				*i* S		Sn	06 16 53.8	-0.2
NUBE						IAML	06 16 59.8	
	comp=Z,150nm,1.0s							
JUNT	**Juntas**	**2.99**	**120**	*eP*		Pb	06 16 21.8	-2.8
JTS	**Las Juntas de**	**2.99**	**120**	*eP*		Pn	06 16 19.4	+0.9
MTEVE	**Monteverde**	**3.09**	**118**	⇓*iP*		Pn	06 16 21.8	+1.9
ARE1	**Arenal 1**	**3.12**	**115**	*eP*		Pn	06 16 21.2	+1.0
ESPN	**Las Esperanzas**	**3.24**	**83**	*eP*		Pn	06 16 15.5	-6.3
TRB2	**Turrubares**	**3.61**	**121**	*eP*		Pn	06 16 28.6	+1.6
ACOS	**Acosta**	**3.91**	**120**	*eP*		Pn	06 16 32.5	+1.3
LCR2	**La Lucha 2**	**4.08**	**120**	*i* P		Pn	06 16 34.4	+0.9
LCR2				*i* S		Sn	06 17 20.2	-0.8
LCR2						IAML	06 17 23.1	
	comp=Z,110nm,1.0s							
LLNJ	**Naranjito**	**4.14**	**124**	*eP*		Pn	06 16 36.0	+1.9
VERB	**Verbena**	**4.25**	**115**	*eP*		Pn	06 16 37.4	+1.5
BUS1	**Rivas**	**4.39**	**120**	*eP*		Pn	06 16 39.2	+1.1
OCHAL	**Ojochal**	**4.72**	**124**	*i* P		Pn	06 16 43.3	+1.1
OCHAL				*i* S		Sn	06 17 35.8	-0.8
OCHAL						IAML	06 17 48.4	
	comp=Z,110nm,1.0s							
DRK0	**Durika**	**4.96**	**120**	*i* P		Pn	06 16 46.1	+0.4
DRK0				*i* S		Sn	06 17 39.8	-3.0
DRK0						IAML	06 17 46.0	
	comp=Z,650nm,1.0s							

*BJI **22** 06:22:50.4±0.0, 19°.72N×121°.73E, h27km, mb4.6/35, mB4.6/11, ML4.5/3, Ms4.1/3, Ms7 3.9/4*
*NEIC **22** 06:22:51.7±0.9, 19°.57N±0°.08×121°.73E±0°.08, h41km±7km, mb4.5/70, Error ellipse: s-maj=12.0km s-min=9.9km az=148.0*
*IDC **22** 06:22:55.3±3.0, 19°.59N×121°.87E, h85km±28km, mb3.9/23, mbtmp4.3/26, MS3.5/25, Error ellipse: s-maj=18.7km s-min=12.6km az=69.0*

ISC 22 06:22:52.9±0.7, 19°.64N±0°.03×121°.76E±0°.05, h59km±7km, n162, σ1§20/145, mb4.4/65, MS3.5/23, 9C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
CICP	**Calayan Island**	**0.46**	**216**	⇑*iP*		Pn	06 23 04.5	+0.1
CICP				*i* S		**Sn**	**06 23 12.4**	**-0.2**
BBP	**Basco**	**0.82**	**13**	⇑*iP*		**Pn**	**06 23 08.9**	**+0.3**
BBP				*i* S		**Sn**	**06 23 20.7**	**+0.5**
BBP	**Basco**	**0.82**	**13**	⇑*eP*		**Pn**	**06 23 08.9**	**+0.3**
BBP				*eS*		**Sn**	**06 23 20.5**	**+0.3**
PACPP	**Pamplona Cagay**	**1.23**	**198**	⇑*iP*		**Pn**	**06 23 14.4**	**+0.4**
PACPP				*i* S		**Sn**	**06 23 30.2**	**+0.4**
SGCP	**Gonzaga**	**1.41**	**169**	⇓*iP*		**Pn**	**06 23 18.0**	**+1.6**
PIP	**Pasuquin**	**1.70**	**220**	⇑*eP*		**Pn**	**06 23 20.4**	**+0.2**
PIP				*eS*		**Sn**	**06 23 41.2**	**+0.2**
APYP	**Conner**	**1.83**	**196**	⇑*iP*		**Pn**	**06 23 22.9**	**+0.8**
APYP				*i* S		**Sn**	**06 23 46.1**	**+1.8**
SIPP	**Brgy, Tapao**	**2.11**	**216**	⇑*eP*		**Pn**	**06 23 26.8**	**+1.0**
SIPP				*eS*		**Sn**	**06 23 52.0**	**+1.1**
TWG	**Pinlang**	**3.23**	**349**			**Pn**	**06 23 39.8**	**-1.4**
YULB	**Yu-li**	**3.76**	**353**			**Pn**	**06 23 47.6**	**-0.9**
TPUB	**Ta-pu**	**3.80**	**344**			**Pn**	**06 23 48.1**	**-0.8**
SSLB	**Suanglung**	**4.20**	**350**		Pn	**Pn**	**06 23 54.2**	**-0.3**
NACB	**Ninganchiao**	**4.52**	**358**			**Pn**	**06 23 58.5**	**-0.3**
YOJ	**Yonaguni jima**	**4.94**	**13**		Pn	**Pn**	**06 24 04.6**	**+0.1**
PCPS	**Palayan City**	**5.00**	**188**	⇓*eP*		Pn	06 23 56.0	-9.5
PCPS				*eS*		Sn	06 24 44.8	-17
YHNB	**Yeheng**	**5.02**	**356**		Pn	**Pn**	**06 24 05.5**	**-0.3**
TATO	**Taipei**	**5.32**	**357**			**Pn**	**06 24 08.8**	**-1.0**
LQP	**Lukban**	**5.50**	**182**	⇑*eP*		Pn	06 24 14.3	+1.9
KNMB	**Chin-men Tao**	**5.73**	**328**		Pn	**Pn**	**06 24 13.9**	**-1.6**
GQP	**Guinayangan**	**5.74**	**173**	⇓*eP*		Pn	06 24 18.0	+2.5
GQP				*eS*		**Sn**	**06 25 20.4**	**+0.3**
QZH	**Quanzhou**	**6.04**	**331**		Pn	**Pn**	**06 24 18.3**	**-1.4**
QZH					smax	smax		
	comp=N,120nm,0.6s							
QZH					smax	smax		
	comp=E,190nm,0.7s							
HKPS	**Hong Kong Po S**	**7.59**	**292**		Pn	**Pn**	**06 24 39.2**	**-1.8**
JOW	**Kunigami**	**9.33**	**39**		Pn	**Pn**	**06 25 03.9**	**-0.8**
JOW	**Kunigami**	**9.33**	**39**	P		**Pn**	**06 25 05.8**	**+1.1**
	44nm,0.6s,baz=165,slow=16,SNR=18							
JOW				S		**Sn**	**06 26 42.3**	**-5.9**
	8.5nm,0.3s,baz=226,slow=13,SNR=1.4							
QIZ	**Qiongzhong**	**11.27**	**269**		Pn	**Pn**	**06 25 28.6**	**-2.6**
NJ2	**Nanjing**	**12.64**	**349**	*eP*		**Pn**	**06 25 50.4**	**+0.6**
NJ2					pmax	pmax		
	comp=Z,23nm,1.2s							
NJ2					pmax	pmax		
	comp=Z,430nm,5.6s							
DAV	**Davao City (W)**	**13.03**	**163**		LR	LR	06 31 11.7	
	comp=Z,227nm,21.4s,baz=334,slow=38							
GYA	**Guiyang**	**15.46**	**299**	⇓*P*		**Pn**	**06 26 26.4**	**-1.1**
GYA					pmax	pmax		
	comp=Z,25nm,0.8s							
JNU	**Nakatsue**	**15.71**	**29**			**Pn**	**06 26 29.9**	**-0.6**
JNU					IAmb	IAmb	06 26 35.4	
	comp=Z,27nm,1.0s							
JNU	**Nakatsue**	**15.71**	**29**	P		**Pn**	**06 26 31.6**	**+1.1**
	comp=Z,14nm,0.9s,baz=177,slow=4.7,SNR=6.6							
JNU					LR	LR	06 32 33.9	
	comp=Z,126nm,21.0s,baz=210,slow=37							
LYN	**LuoYang**	**16.99**	**333**	*eP*		**P**	**06 26 50.9**	**+3.3**
LYN					pmax	pmax		
	comp=Z,23nm,0.7s							
LYN					pmax	pmax		
	comp=Z,430nm,3.9s							
LYN					LR	LR		
	comp=Z,310nm,17.7s							
XAN	**Xi'an**	**18.33**	**324**	P		**Pn**	**06 27 04.3**	**+1.2**
XAN					pmax	pmax		
	comp=Z,14nm,0.9s							
KSAR	**Wonju Array Be**	**18.53**	**15**	P		**P**	**06 27 04.1**	**-0.4**
KSRS	**Korea Array**	**18.55**	**16**	P		**P**	**06 27 05.4**	**+0.6**
	comp=Z,2.8nm,0.3s,baz=198,slow=11,SNR=20							
KSRS					LR	LR	06 35 08.7	
	comp=Z,89nm,19.2s,baz=215,slow=40							
KS19	**Wonju Array Si**	**18.58**	**15**	P		**P**	**06 27 05.0**	**-0.1**
HNS	**HongShan**	**18.74**	**342**	⇑*P*		**Pn**	**06 27 09.3**	**+1.5**
HNS					pmax	pmax		
	comp=Z,47nm,1.4s							
SBUM	**Sibu**	**19.46**	**210**			**P**	**06 27 14.0**	**-0.9**
TNTI	**Ternate**	**19.54**	**163**	P		**P**	**06 27 14.5**	**-1.2**
TNTI					IAmb	IAmb	06 27 39.4	
	comp=Z,22nm,0.9s							
PZH	**PanZhiHua**	**19.64**	**294**	P		**Pn**	**06 27 20.3**	**+1.6**
PZH				

COEN Coen 39.48 146 P **P** **06 30 15.9 -1.8**
COEN IAmb IAmb 06 30 42.7
comp=Z,11nm,1.1s
MBWA Marble Bar 40.59 183 P **P** **06 30 26.2 -0.8**
MBWA IAmb IAmb 06 30 45.7
comp=Z,24nm,1.5s
PSA00 Pilbara Seismi 41.00 183 P **P** **06 30 29.0 -1.3**
WB0 Warramunga Arr 41.07 162 P **P** **06 30 29.5 -1.4**
WB0 IAmb IAmb 06 30 30.3
comp=Z,7.0nm,0.8s
WRAB Tennant Creek 41.22 162 P **P** **06 30 31.0 -1.1**
WRAB IAmb IAmb 06 30 31.6
comp=Z,8.2nm,0.8s
WRA Warramunga Arr 41.22 162 P **P** **06 30 31.2 -1.0**
WRA Warramunga Arr 41.22 162 P **P** **06 30 30.8 -1.4**
comp=Z,6.4nm,0.7s,baz=342,slow=9.1,SNR=44
WRA PcP **PcP** **06 32 30.3 0.0**
comp=Z,0.8nm,0.8s,baz=333,slow=4.0,SNR=1.0
comp=Z,6.4nm,0.7s
WB2 Warramunga Arr 41.22 162 P **P** **06 30 31.1 -1.1**
WB2 IAmb IAmb 06 30 31.7
comp=Z,9.0nm,0.8s
WR0 Warramunga Arr 41.30 162 P **P** **06 30 31.4 -1.4**
WR0 IAmb IAmb 06 30 32.3
comp=Z,9.1nm,0.7s
PALK Pallekele 41.66 259 LR LR 06 48 45.8
comp=Z,33nm,18.7s,baz=219,slow=37
MK31 Makanchi Array 42.05 319 P **P** **06 30 39.6 +0.9**
MKAR Makanchi Array 42.05 319 P **P** **06 30 39.4 +0.7**
MKAR Makanchi Array 42.05 319 P **P** **06 30 40.0 +1.3**
comp=Z,4.1nm,0.8s,baz=113,slow=9.3,SNR=23
MKAR PcP **PcP** **06 32 32.5 -0.2**
comp=Z,0.9nm,0.7s,baz=100,slow=4.9,SNR=2.0
MKAR LR LR 06 49 07.7
comp=Z,30nm,19.1s,baz=68,slow=37
comp=Z,4.1nm,0.8s
MAKZ Makanchi 42.24 319 P **P** **06 30 40.2 -0.1**
H11S3 WAKE ISLAND Hy 42.38 84 T T 07 16 03.0
baz=280,slow=75,SNR=68
H11S1 WAKE ISLAND Hy 42.39 84 T T 07 16 03.1
baz=280,slow=75,SNR=77
H11N1 WAKE ISLAND Hy 42.40 82 T T 07 16 04.4
baz=277,slow=75,SNR=88
H11N2 WAKE ISLAND Hy 42.40 82 T T 07 16 06.7
baz=277,slow=75,SNR=71
H11S2 WAKE ISLAND Hy 42.40 84 T T 07 16 01.4
baz=280,slow=75,SNR=63
H11N3 WAKE ISLAND Hy 42.41 82 T T 07 16 03.8
baz=277,slow=75,SNR=52
KSH Kashi 43.94 307 P P 06 30 59.1 +4.9
KSH pmax pmax
comp=Z,9.0nm,0.5s
ZAA0 Zalesovo Array 44.38 329 P **P** **06 30 57.9 +0.6**
ZAA0 IAmb IAmb 06 30 58.8
comp=Z,7.3nm,0.8s
ZALV Zalesovo Beam 44.38 329 P **P** **06 30 58.1 +0.7**
ZALV Zalesovo Beam 44.38 329 P **P** **06 30 57.9 +0.5**
comp=Z,5.7nm,0.6s,baz=114,slow=7.4,SNR=28
ZALV LR LR 06 50 26.0
comp=Z,53nm,18.5s,baz=98,slow=37
comp=Z,5.7nm,0.6s
AS31 Alice Springs 44.64 164 P **P** **06 30 59.3 -0.5**
ASAR Alice Springs 44.64 164 P **P** **06 30 59.0 -0.8**
comp=Z,4.4nm,0.8s,baz=344,slow=7.1,SNR=25
ASAR PcP **PcP** **06 32 41.6 -0.1**
comp=Z,0.3nm,0.4s,baz=342,slow=3.6,SNR=1.1
comp=Z,4.4nm,0.8s
MA2 Magadan 45.00 20 LR LR 06 49 56.5
comp=Z,53nm,19.6s,baz=238,slow=36
NIL Nilore 45.16 298 P **P** **06 31 04.5 +0.5**
AAK Ala-Archa 45.78 311 LR LR 06 52 34.3
comp=Z,69nm,18.7s,baz=96,slow=39
KURK Kurchatov 45.97 323 P **P** **06 31 11.1 +1.2**
KURK IAmb IAmb 06 31 12.0
comp=Z,7.4nm,0.9s
KURBB Kurchatov Arra 45.98 323 P **P** **06 31 11.1 +1.1**
comp=Z,8.2nm,0.8s,baz=120,slow=8.1,SNR=35
KURBB PcP **PcP** **06 32 45.1 -0.8**
comp=Z,0.3nm,0.4s,baz=126,slow=4.7,SNR=0.9
comp=Z,8.2nm,0.8s
GAR Garm 48.16 305 P **P** **06 31 27.8 +0.4**
KBL Kabul 48.71 299 P **P** **06 31 32.1 +0.2**
CHGR Chuyangaron 49.01 305 P **P** **06 31 34.0 +0.1**
FORT Forrest 50.49 173 P **P** **06 31 44.7 -0.3**
BVAR Borovoye Array 51.56 323 P **P** **06 31 53.6 +0.7**
comp=Z,2.1nm,0.6s,baz=119,slow=8.6,SNR=9.0
BVAR PcP **PcP** **06 33 05.8 -0.3**
comp=Z,2.3nm,0.7s,baz=95,slow=9.4,SNR=3.6
comp=Z,2.1nm,0.6s
BRVK Borovoye 51.64 323 P **P** **06 31 54.4 +1.0**
BRVK IAmb IAmb 06 31 55.6
comp=Z,8.3nm,1.1s
TIXI Tiksi 52.19 3 P **P** **06 31 57.2 +0.1**
TIXI IAmb IAmb 06 32 03.6
comp=Z,8.6nm,1.1s
BBOO Buckleboo 53.91 165 P **P** **06 32 10.3 0.0**
NRIK Noril'sk 53.92 346 P **P** **06 32 10.6 +0.7**
NRIK IAmb IAmb 06 32 38.1
comp=Z,8.6nm,1.2s
NRIK Noril'sk 53.92 346 P **P** **06 32 10.2 +0.3**
comp=Z,2.3nm,0.4s,baz=133,slow=14,SNR=4.0
comp=Z,2.3nm,0.4s
HRA Herat 54.32 299 P **P** **06 32 13.7 -0.1**
HRA IAmb IAmb 06 32 14.8
comp=Z,3.8nm,0.8s
ABKAR Akbulak array 57.04 317 P **P** **06 32 33.6 +0.8**
AKTO Aktyubinsk 58.44 318 P **P** **06 32 42.8 +0.3**
comp=Z,6.3nm,0.7s,baz=90,slow=6.1,SNR=8.0
comp=Z,6.3nm,0.7s
ARU Arti 59.08 325 P **P** **06 32 47.3 +0.5**
ARU Arti 59.08 325 P **P** **06 32 47.3 +0.5**
comp=Z,14nm,1.0s
DZM Mont Dzumac 60.21 131 LR LR 06 55 52.9
comp=Z,131nm,19.1s,baz=6.0,slow=33
CAN Canberra 60.46 155 P **P** **06 32 56.6 0.0**
C16K Lisburne Hills 65.59 23 P **P** **06 33 31.2 +1.1**
L14K Kuka Creek 66.04 31 P **P** **06 33 34.7 +1.6**
L14K IAmb IAmb 06 33 35.9
comp=Z,7.7nm,0.9s
J16K Anvik River 67.09 29 P **P** **06 33 41.0 +1.1**
J16K IAmb IAmb 06 33 49.5
comp=Z,5.1nm,1.1s
H17K Granite Mounta 67.45 27 P **P** **06 33 43.8 +1.7**
H17K IAmb IAmb 06 33 45.6
comp=Z,4.1nm,1.1s
C19K Lookout Ridge 67.77 22 P **P** **06 33 45.6 +1.6**
C19K IAmb IAmb 06 34 06.6
comp=Z,3.9nm,0.9s
G18K Tagagawik 68.00 26 P **P** **06 33 46.9 +1.3**
G18K IAmb IAmb 06 33 48.0
comp=Z,3.0nm,0.8s
D19K Kuna River 68.28 23 P **P** **06 33 48.6 +1.3**
D19K IAmb IAmb 06 34 04.9
comp=Z,4.1nm,0.8s
E19K Redstone River 68.59 24 IAmb IAmb 06 34 14.4
comp=Z,3.6nm,0.9s
KBZ Khabaz 68.77 310 P **P** **06 33 51.0 +0.3**
comp=Z,3.1nm,0.8s,baz=63,slow=5.3,SNR=5.9
comp=Z,3.1nm,0.8s
H19K Roundabout Mou 68.91 26 IAmb IAmb 06 34 13.4
comp=Z,4.1nm,0.9s
B22K Teshekpuk Lake 69.93 21 P **P** **06 33 58.5 +1.2**
J20K Nowinta River 69.95 28 P **P** **06 33 59.1 +1.5**
IMAR Indian Mountai 70.01 26 P **P** **06 33 59.4 +1.4**
RAYN Ar Rayn 70.24 289 P **P** **06 34 00.2 -0.1**
RAYN IAmb IAmb 06 34 01.2
comp=Z,6.3nm,1.1s
D22K Ayikyak River 70.25 23 P **P** **06 34 00.9 +1.4**
D22K IAmb IAmb 06 34 28.2
comp=Z,6.4nm,1.2s
H21K Melozitna River 70.42 26 P **P** **06 34 02.2 +1.7**
H21K IAmb IAmb 06 34 20.9
comp=Z,8.3nm,1.5s
BPAW Bear Paw Mtn. 71.34 28 IAmb IAmb 06 34 27.3
comp=Z,6.9nm,1.2s
MLY Manley 71.34 27 P **P** **06 34 07.0 +0.9**
RND Reindeer 72.37 28 IAmb IAmb 06 34 32.5
comp=Z,6.0nm,1.0s
MDM Murphy Dome 72.41 27 P **P** **06 34 13.6 +1.1**
MDM IAmb IAmb 06 34 32.9
comp=Z,6.1nm,1.2s
G24K Hadweenzic Riv 72.45 25 P **P** **06 34 13.9 +1.2**
ILAR Eielson Array 73.00 27 P **P** **06 34 15.6 -0.5**
comp=Z,0.4nm,0.6s,baz=285,slow=7.5,SNR=6.5
comp=Z,0.4nm,0.6s
PRP Porcupine Dome 73.44 26 P **P** **06 34 19.8 +1.0**

BMAR Burnt Mountain 73.44 24 P **P** **06 34 20.0 +1.3**
ARCES ARCESS Array B 73.94 339 P **P** **06 34 21.7 +0.2**
comp=Z,1.2nm,0.7s,baz=72,slow=5.6,SNR=8.1
ARCES LR LR 07 08 44.5
comp=Z,45nm,19.0s,baz=28,slow=37
comp=Z,1.2nm,0.7s
SPITS Spitsbergen Ar 74.02 348 P **P** **06 34 21.9 0.0**
comp=Z,3.8nm,0.8s,baz=81,slow=13,SNR=1.9
comp=Z,3.8nm,0.8s
FINES FINESS Array B 75.64 330 P **P** **06 34 31.4 0.0**
comp=Z,1.8nm,0.7s,baz=56,slow=3.5,SNR=10
FINES LR LR 07 11 52.4
comp=Z,26nm,18.6s,baz=204,slow=39
comp=Z,1.8nm,0.7s
I28M Miner Creek 75.72 25 IAmb IAmb 06 34 55.1
comp=Z,6.2nm,1.3s
BRTR Keskin Array B 76.32 308 P **P** **06 34 36.1 +0.2**
comp=Z,0.8nm,0.6s,baz=80,slow=6.8,SNR=6.0
comp=Z,0.8nm,0.6s
DAWY Dawson 76.33 27 IAmb IAmb 06 34 55.0
comp=Z,8.7nm,1.5s
AK09 Malin Array Si 76.61 319 P **P** **06 34 36.7 -0.4**
AK03 Malin Array Si 76.62 319 P **P** **06 34 36.6 -0.6**
AKASG Malin Array Be 76.63 319 P **P** **06 34 36.4 -0.9**
comp=Z,0.8nm,0.5s,baz=64,slow=6.5,SNR=7.0
comp=Z,0.8nm,0.5s
EPYK Eagle Plains 76.71 24 IAmb IAmb 06 34 36.9
comp=Z,13nm,1.5s
L29M L29M 77.16 27 IAmb IAmb 06 35 00.0
comp=Z,5.7nm,1.2s
LUBAR Lubar, Ukraine 77.74 319 P **P** **06 34 42.7 -0.8**
VRI Vrincioaia 79.56 315 P **P** **06 34 54.7 +1.1**
comp=Z,5.2nm,1.0s
CTYL Yalikoy Yolu 79.78 310 P **P** **06 34 54.5 -0.3**
BUR08 Bucovina Ar. S 80.02 317 P **P** **06 34 56.9 +0.7**
HFS Hagfors 81.78 331 P **P** **06 35 04.3 -0.9**
comp=Z,1.5nm,0.6s,baz=130,slow=2.3,SNR=11
HFS LR LR 07 12 46.3
comp=Z,63nm,20.3s,baz=58,slow=36
comp=Z,1.5nm,0.6s
NB2 NORSAR Subarra 82.48 333 P **P** **06 35 07.8 -1.1**
comp=Z,0.5nm,0.7s,baz=64,slow=5.3
NOA NORSAR Array B 82.48 333 P **P** **06 35 08.2 -0.7**
comp=Z,0.8nm,0.7s,baz=63,slow=4.9,SNR=7.1
NOA LR LR 07 14 51.4
comp=Z,51nm,19.6s,baz=70,slow=38
comp=Z,0.8nm,0.7s
OJC Ojcow 82.50 321 P **P** **06 35 09.5 +0.3**
comp=Z,5.8nm,0.7s
RES Resolute Bay 83.04 9 LR LR 07 17 29.1
comp=Z,24nm,18.2s,baz=91,slow=39
JMIC Jan Mayen 83.34 345 LR LR 07 16 05.2
comp=Z,31nm,20.2s,baz=338,slow=38
KSP Ksiaz 84.32 322 P **P** **06 35 19.0 +0.5**
comp=Z,8.7nm,0.8s
GERES GERESS Array B 86.69 321 P **P** **06 35 30.2 -0.3**
comp=Z,0.5nm,0.6s,baz=58,slow=10,SNR=3.8
comp=Z,0.5nm,0.6s
YKA Yellowknife Ar 86.93 23 P **P** **06 35 30.1 -1.1**
comp=Z,0.9nm,0.5s,baz=348,slow=2.5,SNR=4.8
comp=Z,0.9nm,0.5s
BORG Borgarnes 91.23 345 LR LR 07 19 29.4
comp=Z,28nm,21.8s,baz=335,slow=37

NEIC ***22*** *06:23:57.6±0.9, 14°.83S±0°.08×76°.51W±0°.10, h10km±2km, mb4.0/9, Error ellipse: s-maj=19.7km s-min=7.6km az=231.0*
IDC ***22*** *06:23:58.9±0.9, 14°.83S×76°.35W, h0km, mb3.8/6, mbtmp3.9/7, ML4.6/1, MS3.7/1, Error ellipse: s-maj=35.1km s-min=22.4km az=46.0*
VAO ***22*** *06:24:12.8±2.4, 14°.30S×75°.57W, h65km±11km, mb4.6*
ISC 22 06:23:59.1±0.7, 14°.76S±0°.07×76°.3W±0°.1, h10km, n52, σ1$47/42, mb4.0/7, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.81**	**349**		**Pn**	**06 24 43.9**	**-0.3**
CZSB	**Cruzeiro do Su**	**7.82**	**27**	Pn	**Pn**	**06 25 53.6**	**+0.5**
CZSB	**Cruzeiro do Su**	**7.82**	**27**	*eP*	**Pn**	**06 25 55.2**	**+2.2**
LPAZ	**La Paz**	**8.00**	**102**	Pn	**Pn**	**06 25 57.3**	**+1.2**
LPAZ	**La Paz**	**8.00**	**102**	Pn	**Pn**	**06 25 58.9**	**+2.8**
3.6nm,0.3s,baz=286,slow=7.9,SNR=163							
14nm,0.4s							
LPAZ	**La Paz**	**8.00**	**102**	*eP*	**Pn**	**06 25 59.1**	**+3.0**
TA02	**Huaiquique**	**8.03**	**134**	Pn	**Pn**	**06 25 56.0**	**+0.1**
TA01	**Diego Aracena**	**8.19**	**136**	Pn	**Pn**	**06 25 58.0**	**-0.2**
GO01	**Chusmiza**	**8.35**	**127**		**Pn**	**06 26 00.3**	**-0.4**
PATCX	**Punta Patache**	**8.39**	**137**	Pn	**Pn**	**06 26 01.2**	**+0.2**
PB04	**IPOC Station P**	**9.51**	**143**	Pn	**Pn**	**06 26 15.4**	**-1.0**
PB09	**IPOC Station P**	**9.68**	**137**	Pn	**Pn**	**06 26 18.2**	**-0.5**
PB05	**IPOC Station P**	**9.89**	**145**	Pn	**Pn**	**06 26 20.9**	**-0.7**
PB06	**IPOC Station P**	**10.14**	**142**	Pn	**Pn**	**06 26 23.6**	**-1.4**
LVC	**Limon Verde**	**10.47**	**139**	Pn	**Pn**	**06 26 29.4**	**-0.4**
PB15	**IPOC Station P**	**10.58**	**144**	Pn	**Pn**	**06 26 29.8**	**-1.3**
ETMB	**Extrema**	**10.99**	**65**	Pn	**Pn**	**06 26 35.6**	**-1.0**
ETMB	**Extrema**	**10.99**	**65**	*eP*	**Pn**	**06 26 35.6**	**-1.0**
TBTG	**Tabatinga, AM**	**12.24**	**31**	Pn	**Pn**	**06 26 53.6**	**-0.1**
TBTG	**Tabatinga, AM**	**12.24**	**31**	*eP*	**Pn**	**06 26 54.5**	**+0.8**
SAML	**Samuel**	**14.06**	**67**	Pn	**Pn**	**06 27 17.6**	**-1.0**
ANTS	**Antisana-Sarah**	**14.30**	**352**	Pn	**Pn**	**06 27 20.5**	**-1.8**
OTAV	**Otavalo**	**15.06**	**352**	Pn	**Pn**	**06 27 31.1**	**-1.4**
TULM	**Tulcn-Chalpat**	**15.45**	**354**	Pn	**Pn**	**06 27 35.6**	**-2.1**
VILB	**Vilhena**	**15.72**	**85**		**Pn**	**06 27 40.8**	**-0.1**
VILB				IAmb	IAmb	06 27 54.5	
comp=Z,14nm,1.1s							
PTLB	**Pontes e Lacer**	**16.57**	**95**		**Pn**	**06 27 50.9**	**-0.9**
H03N1	**Juan Fernandez**	**18.75**	**187**	T	T	06 47 46.1	
baz=8.7,slow=74,SNR=314							
H03N2	**Juan Fernandez**	**18.75**	**187**	T	T	06 47 45.4	
baz=8.7,slow=74,SNR=241							
H03N3	**Juan Fernandez**	**18.77**	**187**	T	T	06 47 46.4	
baz=8.7,slow=74,SNR=290							
MT02	**Curacav**	**19.00**	**167**	P	**P**	**06 28 18.9**	**-2.1**
MT02				IAmb	IAmb	06 28 43.8	
comp=Z,9.7nm,1.0s							
MACA	**Manacapuru-AM**	**19.22**	**55**		**P**	**06 28 23.9**	**+0.3**
MACA				IAmb	IAmb	06 28 27.8	
comp=Z,9.5nm,0.6s							
MACA	**Manacapuru-AM**	**19.22**	**55**	*eP*	**P**	**06 28 22.8**	**-0.7**
AQDB	**Aquidauana**	**20.41**	**109**	P	**P**	**06 28 36.2**	**-0.4**
AQDB				IAmb	IAmb	06 28 52.1	
comp=Z,4.1nm,1.0s							
ITTB	**Itaituba**	**22.72**	**65**	*eP*	**P**	**06 29 01.1**	**-0.3**
SDV	**Santo Domingo**	**24.15**	**14**	P	**P**	**06 29 14.5**	**-1.3**
SDV				IAmb	IAmb	06 29 16.7	
comp=Z,7.6nm,1.1s							
BAUV	**El Baul**	**24.93**	**20**	P	**P**	**06 29 21.4**	**-1.3**
ITRB	**Iturama**	**25.23**	**105**	*eP*	**P**	**06 29 27.8**	**+2.3**
JTS	**Las Juntas de**	**26.33**	**340**	LR	LR	06 40 03.6	
comp=Z,158nm,18.3s,baz=262,slow=37							
BDFB	**Brasília**	**27.29**	**96**	P	**P**	**06 29 47.8**	**+3.5**
comp=Z,1.4nm,0.6s,baz=259,slow=7.3,SNR=4.1							
comp=Z,1.4nm,0.6s							
TXAR	**Lajitas Array**	**51.20**	**329**	P	**P**	**06 33 04.7**	**+1.7**
comp=Z,0.4nm,0.5s,baz=151,slow=8.5,SNR=9.0							
comp=Z,0.4nm,0.5s							
NVAR	**Mina Array Bea**	**65.94**	**325**	P	**P**	**06 34 48.1**	**+2.3**
comp=Z,0.2nm,0.6s,baz=148,slow=5.3,SNR=2.6							
comp=Z,0.2nm,0.6s							
SNAA	**Sanae**	**70.89**	**161**	P	**P**	**06 35 17.7**	**+1.6**
comp=Z,0.9nm,0.7s,baz=267,slow=6.7,SNR=12							
comp=Z,0.9nm,0.7s							
QSPA	**South Pole Qui**	**75.39**	**180**	P	**P**	**06 35 43.1**	**+0.2**
comp=Z,1.4nm,1.0s,baz=202,slow=1.4,SNR=2.6							
comp=Z,1.4nm,1.0s							
TORD	**Torodi Ar. Bea**	**82.00**	**74**	P	**P**	**06 36 20.0**	**-0.1**
comp=Z,1.8nm,0.7s,baz=211,slow=1.1,SNR=10							
comp=Z,1.8nm,0.7s							
H11N3	**WAKE ISLAND Hy**	**19.73**	**284**	T	T	08 54 03.1	
baz=96,slow=74,SNR=60							
H11N2	**WAKE ISLAND Hy**	**19.75**	**284**	T	T	08 54 01.5	
baz=96,slow=74,SNR=49							
H11N1	**WAKE ISLAND Hy**	**19.75**	**284**	T	T	08 54 02.7	
baz=96,slow=74,SNR=15							
H11S2	**WAKE ISLAND Hy**	**19.79**	**283**	T	T	08 54 08.4	
baz=101,slow=74,SNR=5.6							
H11S1	**WAKE ISLAND Hy**	**19.80**	**283**	T	T	08 54 09.1	
baz=101,slow=74,SNR=5.3							
H11S3	**WAKE ISLAND Hy**	**19.81**	**283**	T	T	08 54 04.4	
baz=101,slow=74,SNR=4.7							
WRA	**Warramunga Arr**	**134.22**	**222**	PKP	**PKiKP**	**06 43 19.4**	**0.0**
comp=Z,0.1nm,0.4s,baz=129,slow=1.7,SNR=5.3							
SONM	**Songino Array**	**146.95**	**357**	PKPbc	**PKiKP**	**06 43 42.9**	**-1.9**
comp=Z,1.1nm,0.6s,baz=267,slow=0.7,SNR=7.5							

IDC ***22*** *06:27:45.0±1.5, 35°.94N×71°.31E, h0km, mb3.7/7, mbtmp3.9/10, ML3.9/3, Error ellipse: s-maj=30.9km s-min=27.4km az=102.0*
ISC 22 06:27:58.5±1.2, 36°.4N±0°.1×71°.4E±0°.1, h100km, n14, σ1$49/17, mb3.6/6, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.67**	**20**	Pn	**Pn**	**06 29 34.8**	**+0.8**
4.1nm,0.3s,baz=180,slow=5.9,SNR=10							
AAK				Sn	**Sn**	**06 30 47.4**	**-1.2**
0.7nm,0.3s,baz=198,slow=13,SNR=1.6							
9.3nm,0.3s							
KK31	**Karatay Array**	**6.71**	**355**	⇓*P*	**Pn**	**06 29 35.1**	**+0.7**
23nm,0.3s,baz=180,slow=13							
KK31				⇑*S*	**Sn**	**06 30 46.2**	**-3.1**
2.6nm,0.3s,baz=187,slow=23,SNR=6.3							
TKM2	**Tokmak 2**	**7.28**	**25**	⇑*P*	**Pn**	**06 29 43.5**	**+1.3**
7.8nm,0.6s							
TKM2				⇑*S*	**Sn**	**06 31 02.8**	**-0.6**
1.4nm,0.5s							
BVAR	**Borovoye Array**	**16.62**	**358**	P	**Pn**	**06 31 44.9**	**-0.3**
0.1nm,0.3s,baz=173,slow=13,SNR=9.5							
1.4nm,0.5s							
AKTO	**Aktyubinsk**	**16.99**	**330**	P	**Pn**	**06 31 49.9**	**0.0**
0.9nm,0.3s,baz=150,slow=11,SNR=11							
3.2nm,0.4s							
ZALV	**Zalesovo Beam**	**19.88**	**24**	P	**P**	**06 32 21.8**	**+0.2**
1.7nm,0.3s,baz=206,slow=9.6,SNR=8.4							
1.7nm,0.3s							
FINES	**FINESS Array B**	**37.71**	**326**	P	**P**	**06 35 04.5**	**+0.5**
1.0nm,0.7s,baz=115,slow=8.9,SNR=6.4							
1.0nm,0.7s							
FRGS	**Fruska Gora**	**39.41**	**299**	P	**P**	**06 35 19.1**	**+0.7**
ARCES	**ARCESS Array B**	**41.33**	**338**	P	**P**	**06 35 36.2**	**+2.3**
0.5nm,0.5s,baz=118,slow=9.6,SNR=1.6							
0.5nm,0.5s							
HFS	**Hagfors**	**43.31**	**322**	P	**P**	**06 35 51.9**	**+1.8**
0.9nm,0.4s,baz=93,slow=12,SNR=7.7							
0.9nm,0.4s							
NB2	**NORSAR Subarra**	**44.62**	**323**	P	**P**	**06 36 02.1**	**+1.5**
comp=Z,0.4nm,0.4s,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**44.62**	**323**	P	**P**	**06 36 01.2**	**+0.6**
comp=Z,0.4nm,0.4s,baz=96,slow=7.7,SNR=6.1							
comp=Z,0.4nm,0.4s							
TORD	**Torodi Ar. Bea**	**66.00**	**269**	P	**P**	**06 38 32.9**	**-1.7**
comp=Z,0.3nm,0.4s,baz=34,slow=5.9,SNR=5.7							
comp=Z,0.3nm,0.4s							
WRA	**Warramunga Arr**	**81.71**	**122**	P	**P**	**06 40 04.8**	**-1.3**
comp=Z,0.6nm,0.9s,baz=328,slow=4.9,SNR=2.5							
comp=Z,0.6nm,0.9s							

IDC ***22*** *06:41:24.7±1.9, 32°.77N×35°.65E, h0km, mb3.2/1, mbtmp3.1/3, ML3.4/2, MS3.2/1, Error ellipse: s-maj=11.7km s-min=5.5km az=143.0*
NIC ***22*** *06:41:25.4, 32°.90N×35°.69E, h5km±4km, Ml3.1/11*
NEIC ***22*** *06:41:25.4±1.5, 32°.80N±0°.04×35°.64E±0°.08, h10km±2km, mb_Lg2.9/5, Error ellipse: s-maj=12.7km s-min=4.3km az=110.0*
GII ***22*** *06:41:26.1±0.3, 32°.849N±0°.001×35°.572E±0°.001, h6km, Md3.6/11, Mws3.5/8, confirmed*
JSO ***22*** *06:41:26, 32°.86N×35°.59E, h5km, ML3.6/37*
AFAD ***22*** *06:41:29.5±0.0, 33°.09N×35°.63E, h5km±3km, MW3.8*
ISC 22 06:41:26.1±0.7, 32°.85N±0°.01×35°.59E±0°.02, h9km±4km, n132, σ1$24/160, 10C-6D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHM	**Kefar Nahum**	**0.04**	**340**	P	**Pg**	**06 41 27.6**	**-0.3**
KNHM				S	**Sg**	**06 41 28.9**	**-0.2**
SPIR	**Sapir Facility**	**0.05**	**287**	P	**Pg**	**06 41 27.5**	**-0.4**
SPIR				S	**Sg**	**06 41 28.9**	**-0.3**
RMOT	**Ramot**	**0.06**	**89**	⇑*iP*	**Pg**	**06 41 28.3**	**+0.2**
RMOT				S	**Sg**	**06 41 30.0**	**+0.6**
ENGV	**Ein-Gev**	**0.08**	**151**	P	**Pg**	**06 41 28.4**	**+0.1**
ENGV				S	**Sg**	**06 41 30.7**	**+0.8**
TVER	**Teveria**	**0.08**	**213**	⇑*iP*	**Pg**	**06 41 28.0**	**-0.3**
TVER				S	**Sg**	**06 41 29.8**	**-0.1**
HDNS	**Had-Ness**	**0.09**	**27**	P	**Pg**	**06 41 28.9**	**+0.5**
HDNS				S	**Sg**	**06 41 30.8**	**+0.8**
AMID	**Amiad**	**0.09**	**329**	⇓*iP*	**Pg**	**06 41 28.4**	**0.0**
AMID				S	**Sg**	**06 41 30.0**	**-0.1**
RSPN	**Rosh Pina**	**0.13**	**342**	⇓*iP*	**Pg**	**06 41 29.1**	**+0.1**
RSPN				S	**Sg**	**06 41 31.6**	**+0.6**
ZEFT	**Zefat**	**0.14**	**325**	P	**Pg**	**06 41 29.5**	**+0.1**
ZEFT				S	**Sg**	**06 41 32.3**	**+0.7**
SHGL	**Shaar Hagolan**	**0.16**	**177**	P	**Pg**	**06 41 30.1**	**+0.5**
MNHA	**Menahamia**	**0.19**	**191**	P	**Pg**	**06 41 30.0**	**0.0**
MNHA				S	**Sg**	**06 41 33.5**	**+0.8**
SHMJ	**Saham**	**0.19**	**131**	P	**Pg**	**06 41 30.3**	**+0.2**
KSHT	**Keshet**	**0.23**	**54**	S	**Sg**	**06 41 35.6**	**+1.8**
KSHT	**Keshet**	**0.23**	**54**	⇑*iP*	**Pg**	**06 41 31.2**	**+0.5**
MMA0	**Mount Meron ar**	**0.23**	**316**	P	**Pg**	**06 41 30.9**	**+0.1**
MMA0B	**Mount Meron ar**	**0.23**	**316**	⇓*iP*	**Pg**	**06 41 30.8**	**0.0**
MMA0B	**Mount Meron ar**	**0.23**	**316**	S	**Sg**	**06 41 35.0**	**+1.0**
MMAI	**Mount Meron Ar**	**0.23**	**316**	LR	LR	06 41 17.2	
comp=Z,38nm,21.1s,baz=109,slow=24							
MMAI				Pg	**Pg**	**06 41 30.9**	**0.0**
737nm,0.3s,baz=138,slow=19,SNR=550							
MMAI				Lg	Lg	06 41 35.2	
5μm,0.3s,baz=140,slow=39,SNR=53							
BLGI	**Bet Lehem HaGe**	**0.36**	**251**	P	**Pg**	**06 41 33.1**	**-0.1**
BLGI	**Bet Lehem HaGe**	**0.36**	**251**	S	**Sg**	**06 41 39.1**	**+1.1**
BLGI	**Bet Lehem HaGe**	**0.36**	**251**	⇑*iP*	**Pg**	**06 41 33.1**	**-0.1**
GEM	**Giv'at Ha'Em**	**0.36**	**9**	P	**Pg**	**06 41 33.6**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.36**	**9**	S	**Sb**	**06 41 39.9**	**-0.7**
GEM	**Giv'at Ha'Em**	**0.36**	**9**	⇓*iP*	**Pg**	**06 41 33.4**	**+0.3**
IZRL	**Izrael**	**0.37**	**219**	P	**Pg**	**06 41 33.4**	**+0.1**
IZRL				S	**Sg**	**06 41 39.4**	**+1.2**
HNTI	**Hanita**	**0.42**	**303**	P	**Pg**	**06 41 34.7**	**+0.3**
HNTI	**Hanita**	**0.42**	**303**	S	**Sb**	**06 41 41.4**	**-0.9**
HNTI	**Hanita**	**0.42**	**303**	⇑*iP*	**Pg**	**06 41 34.6**	**+0.3**
NATI	**Neve Ativ**	**0.43**	**16**	P	**Pg**	**06 41 34.7**	**+0.2**
NATI	**Neve Ativ**	**0.43**	**16**	S	**Sb**	**06 41 41.9**	**-0.5**
NATI	**Neve Ativ**	**0.43**	**16**	⇓*iP*	**Pg**	**06 41 34.6**	**+0.2**
MMLI	**Mount Malkishu**	**0.44**	**199**	S	**Sg**	**06 41 41.3**	**+0.9**
MMLI	**Mount Malkishu**	**0.44**	**199**	⇑*iP*	**Pg**	**06 41 34.6**	**-0.1**
MMLI	**Mount Malkishu**	**0.44**	**199**	P	**Pg**	**06 41 34.6**	**-0.1**
MMLI				AML	AML	06 41 43.0	
10nm,0.5s							
MMLI				AML	AML	06 41 43.1	
8.5nm,0.4s							
QRNJ	**Al-Qirein**	**0.51**	**182**	P	**Pg**	**06 41 36.1**	**0.0**
OFRI	**`Ofer**	**0.56**	**246**	P	**Pg**	**06 41 36.9**	**-0.1**
OFRI	**`Ofer**	**0.56**	**246**	S	**Sg**	**06 41 45.3**	**+0.9

KZIT	**Kziot**	**2.19 208**	S	**Pg**	**06 42 07.1**	**-1.0**
KZIT	**Kziot**	**2.19 208**	P	Pn	06 41 57.2	-5.6
KZIT	**Kziot**	**2.19 208**	P	**Pn**	**06 42 03.9**	**+1.2**
KZIT			S	**Sb**	**06 42 33.8**	**+0.6**
KZIT			AML	AML	06 42 40.5	
	1.2nm,0.5s					
KZIT			AML	AML	06 42 43.4	
	1.3nm,0.5s					
ZFRI	**Zfri**	**2.32 189**	P	**Pn**	**06 42 05.4**	**+1.0**
ZFRI	**Zfri**	**2.32 189**	P	**Pn**	**06 42 05.4**	**+1.0**
PARAL	**Paralimni**	**2.50 329**	P	**Pn**	**06 42 06.5**	**-0.4**
PARAL			S	**Sn**	**06 42 38.2**	**+0.7**
PARAL			AML	AML	06 42 42.0	
	0.1nm,0.4s					
PARAL			AML	AML	06 42 42.1	
	0.1nm,0.4s					
PRNI	**Paran**	**2.54 192**	P	**Pn**	**06 42 09.0**	**+1.4**
PRNI	**Paran**	**2.54 192**	P	**Pn**	**06 42 08.5**	**+0.9**
MVOU	**Mavrovouni**	**2.71 323**	P	**Pn**	**06 42 08.9**	**-0.9**
MVOU			AML	AML	06 42 47.5	
	0.1nm,0.4s					
MVOU			AML	AML	06 42 51.7	
	0.1nm,0.5s					
ASGA	**Asgata**	**2.75 315**	P	**Pn**	**06 42 10.4**	**0.0**
ASGA			S	**Sn**	**06 42 44.9**	**+1.2**
ASGA			AML	AML	06 42 51.8	
	0.1nm,0.8s					
ASGA			AML	AML	06 42 54.6	
	0.2nm,0.4s					
AKIN	**Akıncılar- Kıb**	**2.79 321**	*e*P	**Pn**	**06 42 11.2**	**+0.2**
CSS	**Mathiatis**	**2.82 319**	*e*P	**Pn**	**06 42 11.6**	**+0.1**
CSS			*e*S	**Sn**	**06 42 43.6**	**-2.1**
CSS	**Mathiatis**	**2.82 319**		**Pn**	**06 42 11.1**	**-0.3**
CSS	**Mathiatis**	**2.82 319**	P	**Pn**	**06 42 11.3**	**-0.2**
CSS	**Mathiatis**	**2.82 319**	P	**Pn**	**06 42 11.3**	**-0.2**
CSS			S	**Sn**	**06 42 47.4**	**+1.8**
CSS			AML	AML	06 42 49.8	
	0.2nm,0.4s					
CSS			AML	AML	06 42 49.8	
	0.2nm,0.5s					
KRMI	**Paran Flat**	**2.82 195**	P	**Pn**	**06 42 12.4**	**+0.9**
KRMI	**Paran Flat**	**2.82 195**	P	**Pn**	**06 42 13.2**	**+1.7**
HRFI	**Mount Harif**	**2.84 190**	P	**Pn**	**06 42 13.3**	**+1.5**
HRFI	**Mount Harif**	**2.84 190**	P	**Pn**	**06 42 12.6**	**+0.8**
HRFI	**Mount Harif**	**2.84 190**	S	**Sn**	**06 42 46.5**	**+0.3**
EREN	**Erenkoy**	**2.92 337**	*e*P	**Pn**	**06 42 12.7**	**-0.1**
EREN	**Erenkoy**	**2.92 337**	P	**Pn**	**06 42 13.9**	**+1.2**
EREN			S	**Sn**	**06 42 45.2**	**-2.8**
ATHAL	**Athalassa**	**2.92 322**	S	**Sn**	**06 42 51.0**	**+2.9**
ATHAL			AML	AML	06 42 53.8	
	0.3nm,0.4s					
ATHAL			AML	AML	06 43 00.6	
	0.2nm,0.5s					
TROD	**Troodos**	**3.08 313**	P	**Pn**	**06 42 15.4**	**+0.1**
TROD			S	**Sn**	**06 42 54.2**	**+1.8**
TROD			AML	AML	06 43 03.4	
	0.2nm,0.5s					
TROD			AML	AML	06 43 03.4	
	0.2nm,0.4s					
MBRI	**Mt Berech**	**3.10 191**	P	**Pn**	**06 42 16.4**	**+1.1**
MBRI	**Mt Berech**	**3.10 191**	P	**Pn**	**06 42 15.9**	**+0.5**
AQBJ	**Aqaba**	**3.15 189**	P	**Pn**	**06 42 17.2**	**+1.3**
LEF	**Lefka**	**3.19 316**	*e*P	**Pn**	**06 42 17.3**	**+0.9**
LEF	**Lefka**	**3.19 316**	P	**Pn**	**06 42 19.4**	**+3.0**
LEF			S	**Sn**	**06 42 55.7**	**+1.1**
EIL	**Elat**	**3.22 190**	P	**Pn**	**06 42 18.2**	**+1.3**
ALFC	**Alefka**	**3.39 314**	P	**Pn**	**06 42 19.7**	**+0.5**
ALFC			S	**Sn**	**06 43 01.7**	**+2.1**
ALFC			AML	AML	06 43 05.3	
	0.3nm,0.5s					
ALFC			AML	AML	06 43 06.0	
	0.5nm,0.5s					
AKMS	**Akamas**	**3.47 309**	P	**Pn**	**06 42 20.6**	**+0.4**
AKMS			S	**Sn**	**06 43 03.3**	**+1.9**
AKMS			AML	AML	06 43 11.6	
	0.1nm,0.4s					
AKMS			AML	AML	06 43 11.9	
	0.2nm,0.5s					
TAHT	**Tahtakopru-Hat**	**3.55 8**	*e*P	**Pn**	**06 42 22.2**	**+0.8**
TISA	**Tisan-Mersin**	**3.66 335**	*e*P	**Pn**	**06 42 23.2**	**+0.2**
AKKU	**Akkuyu-Mersin**	**3.71 333**	*e*P	**Pn**	**06 42 23.9**	**+0.3**
IKL	**Isikli**	**3.73 336**	*e*P	**Pn**	**06 42 23.7**	**-0.2**
GULN	**MERSIN_Gulnar**	**3.73 334**	P	**Pn**	**06 42 23.4**	**-0.5**
GULN			S	**Sn**	**06 43 02.4**	**-5.6**
SILI	**Silifke-Mersin**	**3.77 339**	*e*P	**Pn**	**06 42 24.7**	**+0.3**
SLFK	**Silifke-Mersin**	**3.79 339**	*e*P	**Pn**	**06 42 25.2**	**+0.6**
KIZK	**Mersin**	**3.81 342**	*e*P	**Pn**	**06 42 25.3**	**+0.3**
KIZK	**Mersin**	**3.81 342**	P	**Pn**	**06 42 25.1**	**0.0**
KIZK			S	**Sn**	**06 43 05.9**	**-4.1**
TEKE	**Tekeli-Mersin**	**3.87 329**	*e*P	**Pn**	**06 42 25.9**	**+0.1**
KEBE	**Keben-Mersin**	**3.91 337**	*e*P	**Pn**	**06 42 26.7**	**+0.3**
TEVE	**Tevekalti-Mers**	**3.99 334**	*e*P	**Pn**	**06 42 27.9**	**+0.3**
GAZI	**Gazipasa**	**4.33 322**	*e*P	**Pn**	**06 42 32.9**	**+0.8**
GAZI	**Gazipasa**	**4.33 322**	P	**Pn**	**06 42 33.1**	**+0.9**
GAZI			S	**Sn**	**06 43 16.7**	**-6.0**
GULE	**Gulek**	**4.47 352**	P	**Pn**	**06 42 35.0**	**+0.7**
GULE			S	**Sn**	**06 43 23.9**	**-2.7**
GAZ	**Gaziantep**	**4.51 17**	*e*P	**Pn**	**06 42 36.3**	**+1.6**
GAZ	**Gaziantep**	**4.51 17**	Pn	**Pn**	**06 42 33.6**	**-1.1**
GAZ			IAmb_Lg		06 43 58.6	
	comp=Z,28nm,0.8s					
KOZT	**Kozan**	**4.62 2**	*e*P	**Pn**	**06 42 37.3**	**+1.1**
KERG	**Konya-Eregli**	**4.71 346**	P	**Pn**	**06 42 38.7**	**+1.2**
KERG			S	**Sn**	**06 43 30.2**	**-2.2**
KMRS	**Kahramanmaras**	**4.77 13**	*e*P	**Pn**	**06 42 39.7**	**+1.5**
CMRD	**Camardi-Nigde**	**4.83 354**	*e*P	**Pn**	**06 42 39.9**	**+0.8**
HDMB	**Hadim**	**4.83 329**	*e*P	**Pn**	**06 42 40.0**	**+0.7**
KKBE	**Karaman, Kazim**	**4.87 334**	P	**Pn**	**06 42 39.3**	**-0.4**
KKBE			S	**Sn**	**06 43 32.7**	**-3.6**
YESY	**Yesilyurt**	**5.15 343**	*e*P	**Pn**	**06 42 44.4**	**+0.9**
SEDI	**Konya, Seydise**	**5.56 327**	P	**Pn**	**06 42 51.3**	**+2.1**
SEDI			S	**Sn**	**06 43 51.4**	**-1.9**
AKAS	**Kas**	**5.98 306**	*e*P	**Pn**	**06 42 55.1**	**+0.1**
ISP	**Isparta**	**6.46 322**	Pn	**Pn**	**06 43 00.6**	**-1.0**
ARPR	**Arapgir-MALATY**	**6.61 19**	Pn	**Pn**	**06 43 03.5**	**-0.2**
ARPR			IAmb_Lg		06 45 07.6	
	comp=Z,13nm,0.9s					
ARG	**Arkhangelos**	**7.02 301**	Pn	**Pn**	**06 43 08.1**	**-0.9**
BRTR	**Keskin Array B**	**7.04 348**	Pn	**Pn**	**06 43 10.6**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=159,slow=17,SNR=7.6					
	comp=Z,1.1nm,0.4s					
BR131	**Keskin Array S**	**7.04 348**	Pn	**Pn**	**06 43 09.4**	**-0.1**
IDI	**Anoyia**	**9.21 288**	Pn	**Pn**	**06 43 39.0**	**-0.2**
AKASG	**Malin Array Be**	**18.45 347**	P	**Pn**	**06 45 42.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=160,slow=12,SNR=1.7					
	comp=Z,0.1nm,0.3s					
KURBB	**Kurchatov Arra**	**36.03 48**	LR	LR	07 03 50.8	
	comp=Z,36nm,19.7s,baz=172,slow=37					
MKAR	**Makanchi Array**	**37.91 54**	P	**P**	**06 48 44.0**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=260,slow=9.4,SNR=2.8					
	comp=Z,0.2nm,0.6s					

*IDC **22** 06:43:42.1±3.1, 1°.98S×99°.45E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=152.5km s-min=25.9km az=53.0*
*DJA **22** 06:43:46.8±1.0, 2°.S±4°×10°.0E±°, h21km±13km, M3.6/7, MLv3.6/7*
ISC 22 06:43:45.3±0.9, 1°.75S±0°.05×99°.79E±0°.06, h10km, n19, σ0s93/11, mb3.4/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.82**	**301**	P	**Pg**	**06 44 01.3**	**+0.2**
SISI				S	**Sb**	**06 44 14.3**	**+1.5**
PPSI	**Pulau Pagai**	**1.03**	**168**	P	**Pg**	**06 44 05.8**	**+0.8**
PDSI	**Padang**	**1.07**	**39**	P	**Pg**	**06 44 06.2**	**+0.3**
PDSI				S	**Sg**	**06 44 20.9**	**+1.1**
PBSI	**Pulau Batu**	**2.27**	**318**	P	**Pn**	**06 44 22.5**	**-0.3**
H08S2	**Diego Garcia H**	**27.82**	**257**	T	T	07 18 16.4	
	baz=84						
H08S3	**Diego Garcia H**	**27.82**	**257**	T	T	07 18 20.6	
	baz=84						
H08S1	**Diego Carcia H**	**27.84**	**257**	T	T	07 18 17.9	
	baz=84						
WRA	**Warramunga Arr**	**38.30**	**121**	P	**P**	**06 51 05.6**	**-0.7**
	0.6nm,0.9s,baz=303,slow=9.1,SNR=5.2						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**39.56**	**126**	P	**P**	**06 51 16.9**	**0.0**
	0.3nm,0.6s,baz=299,slow=7.0,SNR=4.6						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**50.74**	**345**	P	**P**	**06 52 45.4**	**+0.1**
	0.3nm,0.7s,baz=154,slow=8.0,SNR=3.0						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**56.89**	**349**	P	**P**	**06 53 29.0**	**-1.2**
	0.3nm,0.2s,baz=160,slow=4.6,SNR=1.8						
	0.3nm,0.2s						
H04N2	**CROZET ISLANDS**	**60.87**	**216**	T	T	07 59 30.4	
	baz=58,slow=75,SNR=11						
H04N1	**CROZET ISLANDS**	**60.88**	**216**	T	T	07 59 30.9	
	baz=58,slow=75,SNR=17						
H04N3	**CROZET ISLANDS**	**60.89**	**216**	T	T	07 59 29.5	
	baz=58,slow=75,SNR=16						
H04S1	**CROZET ISLANDS**	**61.17**	**216**	T	T	07 59 50.6	
	baz=52						
H04S3	**CROZET ISLANDS**	**61.18**	**216**	T	T	07 59 49.5	
	baz=52						
H04S2	**CROZET ISLANDS**	**61.18**	**216**	T	T	07 59 51.3	
	baz=52						
BDFB	**Brasilia**	**143.78**	**240**	PKP	PKPab	07 03 19.1	+0.3
	1.5nm,0.8s,baz=98,slow=18,SNR=2.2						
TXAR	**Lajitas Array**	**144.63**	**37**	PKPbc	**PKPab**	**07 03 20.9**	**-0.7**
	0.1nm,0.4s,baz=304,slow=0.3,SNR=1.9						

IDC 22 07:00:08.1±5.2, 23°.75S×177°.70W, h0km, mb3.5/2, mbtmp3.5/2, MS3.0/1, Error ellipse: s-maj=298.3km s-min=40.9km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.14**	**260**	P	P	07 08 18.6	-0.2
	0.3nm,0.8s,baz=93,slow=6.5,SNR=2.2						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**44.52**	**265**	P	P	07 08 21.8	0.0
	0.6nm,0.4s,baz=103,slow=8.1,SNR=43						
	0.6nm,0.4s						
GUMO	**Guam**	**52.12**	**312**	LR	LR	07 28 28.6	
	comp=Z,17nm,21.9s,baz=198,slow=33						
ARCES	**ARCESS Array B**	**132.15**	**349**	PKP	PKPdf	07 19 22.5	-0.7
	2.2nm,1.0s,baz=0.0,slow=2.7,SNR=3.9						
HFS	**Hagfors**	**142.77**	**351**	PKP	PKPdf	07 19 40.4	-2.5
	1.0nm,0.4s,baz=36,slow=1.7,SNR=16						
AKASG	**Malin Array Be**	**145.95**	**329**	PKPbc	PKPdf	07 19 48.3	-0.5
	0.3nm,0.3s,baz=44,slow=4.8,SNR=5.7						
EKA	**Eskdalemuir Ar**	**148.19**	**6**	PKPbc	PKPbc	07 19 56.0	+0.4
	0.6nm,0.7s,baz=345,slow=2.2,SNR=2.1						

*SDD **22** 07:08:01.8±1.6, 17°.93N×68°.64W, h117km±32km, MD3.1, ML2.2, MW2.2*
*NEIC **22** 07:08:01.6±0.4, 17°.9N±0°.1×68°.6W±0°.1, h111km±13km, ML2.3/24, Md3.1/7(RSPR), Error ellipse: s-maj=25.7km s-min=8.3km az=220.0*
*RSPR **22** 07:08:05.2, 17°.97N×68°.44W, h105km±3km, MD3.1/7*
ISC 22 07:08:00.0±3.3, 18°.0N±0°.2×68°.6W±0°.1, h127km±19km, n31, σ1s16/39, 11C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.53**	**24**	⇓*e*P	**Pn**	**07 08 19.9**	**+1.0**
PCDR	**Punta Cana, DR**	**0.53**	**24**	*e*S	**Sn**	**07 08 33.7**	**+0.4**
PCDR	**Punta Cana, DR**	**0.53**	**24**		**Pn**	**07 08 19.4**	**+0.5**
PCDR					**Sn**	**07 08 32.6**	**-0.7**
PCDR				IAML		07 08 46.7	
	comp=E,63nm,1.8s						
MIDR	**Miches**	**1.04**	**336**	⇑*e*Pg	**Pn**	**07 08 22.7**	**-0.4**
MIDR				⇑*e*Sg	**Sn**	**07 08 40.2**	**-0.3**
MIDR				IAML		07 08 55.1	
	comp=N,22nm,3.1s						
PRSN	**Puerto Rico Se**	**1.40**	**82**	Pn	**Pn**	**07 08 25.9**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.42**	**91**	⇓*e*P	**Pn**	**07 08 28.6**	**+1.5**
CRPR	**Cabo Rojo, PR**	**1.42**	**91**	*e*S	**Sn**	**07 08 47.2**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.42**	**91**		**Pn**	**07 08 27.3**	**+0.3**
CRPR					**Sn**	**07 08 47.2**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.42**	**91**	⇑*e*Pg	**Pn**	**07 08 28.9**	**+1.9**
CRPR				⇑*e*Sg	**Sn**	**07 08 46.2**	**-1.4**
CRPR				IAML		07 08 53.8	
	comp=E,28nm,1.8s						
CRPR				IAML		07 09 02.3	
	comp=N,25nm,1.2s						
CRPR				IAML		07 09 02.4	
	comp=N,25nm,1.2s						
LSP	**Las Mesas**	**1.45**	**84**	⇓*e*P	**Pn**	**07 08 29.6**	**+2.2**
LSP	**Las Mesas**	**1.45**	**84**		**Pn**	**07 08 29.6**	**+2.2**
AGPR	**Aguadilla, PR**	**1.49**	**73**	⇓*e*P	**Pn**	**07 08 29.9**	**+2.1**
AGPR	**Aguadilla, PR**	**1.49**	**73**	*e*S	**Sn**	**07 08 48.7**	**-0.2**
AGPR	**Aguadilla, PR**	**1.49**	**73**		**Pn**	**07 08 27.9**	**+0.2**
MLPR	**Magueyes Islan**	**1.49**	**92**	⇓*e*P	**Pn**	**07 08 28.7**	**+0.9**
MLPR	**Magueyes Islan**	**1.49**	**92**	*e*S	**Sn**	**07 08 47.9**	**-1.0**
MLPR	**Magueyes Islan**	**1.49**	**92**		**Pn**	**07 08 28.1**	**+0.3**
MLPR				IAML		07 09 15.2	
	comp=E,21nm,2.7s						
MLPR	**Magueyes Islan**	**1.49**	**92**	⇑*e*Pg	**Pn**	**07 08 27.4**	**-0.4**
MLPR				IAML		07 08 42.8	
	comp=E,16nm,2.4s						
MLPR				⇑*e*Sg	**Sn**	**07 08 47.0**	**-1.9**
MLPR				IAML		07 08 48.3	
	comp=N,18nm,3.2s						
MLPR				IAML		07 09 21.9	
	comp=N,18nm,2.5s						
AOPR	**Arecibo Observ**	**1.79**	**79**	Pn	**Pn**	**07 08 32.0**	**+0.6**
AOPR				IAML		07 08 55.1	
	comp=E,27nm,0.9s						
AOPR				IAML		07 09 10.0	
	comp=N,29nm,1.8s						
AOPR	**Arecibo Observ**	**1.79**	**79**	⇑*e*Pg	**Pn**	**07 08 31.5**	**+0.1**
AOPR				⇑*e*Sg	**Sn**	**07 08 53.7**	**-1.5**
AOPR				IAML		07 09 02.0	
	comp=E,25nm,0.7s						
AOPR				IAML		07 09 09.5	
	comp=N,28nm,1.9s						
AOPR				IAML		07 09 09.5	
	comp=N,28nm,1.9s						
UUPR	**Utuado, UPR, P**	**1.81**	**83**	⇑*e*P	**Pn**	**07 08 33.4**	**+1.9**
UUPR	**Utuado, UPR, P**	**1.81**	**83**	*e*S	**Sn**	**07 08 54.8**	**-0.8**
UUPR	**Utuado, UPR, P**	**1.81**	**83**		**Pn**	**07 08 33.0**	**+1.4**
OBIP	**Obispado Ponce**	**1.90**	**89**	Pn	**Pn**	**07 08 33.6**	**+1.0**
OBIP				IAML		07 09 21.9	
	comp=E,16nm,3.2s						
OBIP				IAML		07 09 39.6	
	comp=N,15nm,2.5s						
CELP	**Cerrillos**	**1.93**	**88**	⇓*e*P	**Pn**	**07 08 34.2**	**+1.2**
CELP	**Cerrillos**	**1.93**	**88**	*e*S	**Sn**	**07 08 57.3**	**-0.9**
CELP	**Cerrillos**	**1.93**	**88**		**Pn**	**07 08 33.4**	**+0.5**
CELP					**Sn**	**07 08 57.3**	**-0.9**
CELP				IAML		07 09 54.6	
	comp=N,14nm,2.5s						
CELP	**Cerrillos**	**1.93**	**88**	⇑*e*Pg	**Pn**	**07 08 33.5**	**+0.5**
CELP				⇑*e*Sg	**Sn**	**07 08 57.0**	**-1.2**
CELP				IAML		07 09 07.3	
	comp=N,13nm,3.1s						
SJG	**San Juan**	**2.34**	**88**	Pn	**Pn**	**07 08 38.3**	**+0.3**
SJG				IAML		07 09 59.2	
	comp=N,14nm,2.3s						
SJG				IAML		07 10 15.4	
	comp=N,14nm,2.6s						
IGPR	**InterUniversit**	**2.38**	**91**	Pn	**Pn**	**07 08 39.2**	**+0.7**
IGPR				IAML		07 09 31.2	
	comp=E,14nm,1.5s						
IGPR				IAML		07 09 58.4	
	comp=N,12nm,1.4s						
GCPR	**Guaynabo City**	**2.42**	**83**	Pn	**Pn**	**07 08 39.8**	**+0.7**
GCPR				IAML		07 10 12.8	
	comp=N,19nm,2.9s						

DJA 22 07:13:35.9±0.5, 9°.S±8°.×11°.8E±°, h116km±7km, M3.9/7, mb4.5/1, MLv3.6/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.65**	**251**	P	Pn	07 13 56.1	+1.6
PLAI				S	Sn	07 14 10.4	+1.9
TWSI	**Taliwang, Sumb**	**1.51**	**265**	P	Pn	07 14 04.0	+0.9
TWSI				S	Sn	07 14 21.1	-2.8
BASI	**Baing, Sumba**	**2.68**	**127**	P	Pn	07 14 18.0	+0.1
SRBI	**Singaraja**	**3.20**	**279**	P	Pn	07 14 24.7	0.0
EDFI	**Ende, Flores**	**3.26**	**93**	P	Pn	07 14 25.7	+0.1
EDFI				S	Sn	07 15 04.3	+0.4
BKSI	**Bulukumba**	**3.69**	**28**	P	Pn	07 14 31.3	+0.1
JAGI	**Jajag, Banyuwa**	**4.20**	**272**	P	Pn	07 14 37.1	-1.0
BATI	**Baumata**	**5.43**	**107**	P	Pn	07 14 54.7	0.0

*IDC **22** 07:14:46.6±1.4, 42°.57N×85°.86E, h0km, mb3.9/3, mbtmp3.8/6, ML3.2/3, Error ellipse: s-maj=65.7km s-min=15.7km az=57.0*
*SOME **22** 07:14:49.0, 42°.72N×85°.67E, h5km*
*NNC **22** 07:14:54.5±2.5, 42°.85N×85°.50E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=18.9km s-min=11.1km az=137.0*
ISC 22 07:14:48.3±1.2, 42°.61N±0°.06×85°.71E±0°.05, h10km, n44, σ2s85/60, mb3.8/3, 10C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**4.01**	**284**	*e*P	**Pb**	**07 16 01.7**	**+2.5**
	6.4nm,0.3s						
KTMS				*e*S	**Sg**	**07 16 54.4**	**-2.8**
	38nm,0.5s						
KTMS	**Ketmen**	**4.01**	**284**	Pg	**Pb**	**07 16 01.7**	**+2.5**
	6.4nm,0.3s						
KTMS				Lg	Lg	07 16 54.4	
	38nm,0.5s						
PDGK	**Podgornoye**	**4.62**	**281**	Pg	**Pb**	**07 16 12.9**	**+3.4**
	2.9nm,0.2s						
PDGK				Lg	Lg	07 17 13.7	
	12nm,0.4s						
PDGK	**Podgornoye**	**4.62**	**281**	⇓Pg	**Pg**	**07 16 14.5**	**-2.3**
	2.0nm,0.3s						
PDGK				⇑Lg	Lg	07 17 13.8	
	12nm,0.5s						
SHLS	**Shalkode**	**4.62**	**279**	*e*P	**Pb**	**07 16 09.2**	**-0.4**
	16nm,0.2s						
SHLS				*e*S	**Sb**	**07 17 07.3**	**+2.0**
	156nm,0.4s						
SHLS	**Shalkode**	**4.62**	**279**	Pg	**Pb**	**07 16 09.2**	**-0.4**
	16nm,0.2s						
SHLS				Lg	Lg	07 17 07.3	
	156nm,0.4s						
DJR	**Jarkent**	**4.64**	**294**	*e*P	**Pb**	**07 16 12.6**	**+2.9**
	4.9nm,0.3s						
DJR				*e*S	**Sg**	**07 17 12.4**	**-4.8**
	22nm,0.3s						
DJR	**Jarkent**	**4.64**	**294**	Pg	**Pb**	**07 16 12.6**	**+2.9**
	4.9nm,0.3s						
DJR				Lg	Lg	07 17 12.4	
	22nm,0.3s						
MK31	**Makanchi Array**	**4.84**	**331**	⇑Pn	**Pn**	**07 16 04.0**	**+2.9**
	1.8nm,0.2s,baz=149,slow=14,SNR=174						
MK31				⇑Pg	**Pg**	**07 16 17.3**	**-3.6**
	2.8nm,0.3s,baz=142,slow=17,SNR=12						
MK31				⇑Lg	Lg	07 17 22.5	
	6.4nm,0.3s,baz=148,slow=29,SNR=8.1						
MKAR	**Makanchi Array**	**4.84**	**331**	Pn	**Pn**	**07 16 04.2**	**+3.0**
	2.7nm,0.3s,baz=150,slow=13,SNR=144						
MKAR				Sn	**Sn**	**07 16 59.2**	**+2.0**
	3.3nm,0.3s,baz=146,slow=20,SNR=4.6						
MKAR				Lg	Lg	07 17 19.9	
	6.6nm,0.3s,baz=149,slow=31,SNR=13						
	4.8nm,0.2s						
ZSN	**Zaisan**	**4.87**	**353**	*e*P	**Pg**	**07 16 19.1**	**-2.5**
	8.1nm,0.2s						
ZSN				*e*S	**Sg**	**07 17 25.3**	**+0.6**
	19nm,0.8s						
ZSN	**Zaisan**	**4.87**	**353**	Pg	**Pg**	**07 16 19.1**	**-2.5**
	8.1nm,0.2s						
ZSN				Lg	Lg	07 17 25.3	
	19nm,0.8s						
MAKZ	**Makanchi**	**4.96**	**329**	⇑Pn	**Pn**	**07 16 05.8**	**+2.9**
	1.5nm,0.3s						
MAKZ				⇓Pg	**Pg**	**07 16 19.8**	**-3.6**
	4.4nm,0.4s						
MAKZ				⇑Sn	**Sn**	**07 17 02.3**	**+1.9**
	4.1nm,0.4s						
MAKZ				⇓Lg	Lg	07 17 25.2	
	8.5nm,0.6s						
KNOS	**Konyrlen**	**5.06**	**292**	Pg	**Pg**	**07 16 24.8**	**-0.5**
	1.3nm,0.5s						
KNOS				Lg	Lg	07 17 34.7	
	15nm,0.4s						
KPKS	**Kokpek**	**5.22**	**282**	*e*P	**Pg**	**07 16 24.4**	**-3.8**
	4.0nm,0.2s						
KPKS				*e*S	**Sg**	**07 17 33.0**	**-2.8**
	29nm,0.4s						
KPKS	**Kokpek**	**5.22**	**282**	Pg	**Pg**	**07 16 24.5**	**-3.8**
	4.0nm,0.2s						
KPKS				Lg	Lg	07 17 33.0	
	29nm,0.4s						
SATY	**Saty**	**5.39**	**277**	*e*P	**Pg**	**07 16 28.4**	**-3.1**
	4.9nm,0.3s						
SATY				*e*S	**Sg**	**07 17 40.3**	**-1.0**
	33nm,0.3s						
SATY	**Saty**	**5.39**	**277**	Pg	**Pg**	**07 16 28.4**	**-3.1**
	4.9nm,0.3s						
SATY				Lg	Lg	07 17 40.3	
	33nm,0.3s						
BLB	**Baldybastay**	**5.48**	**288**	Pg	**Pb**	**07 16 27.9**	**+3.8**
	22nm,0.5s						
BLB				Lg	Lg	07 17 38.6	
	37nm,0.3s						
KURS	**Kuram**	**5.59**	**282**	*e*P	**Pg**	**07 16 32.2**	**-3.2**
	2.8nm,0.5s						
KURS				*e*S	**Sg**	**07 17 46.3**	**-1.5**
	15nm,0.8s						
KURS	**Kuram**	**5.59**	**282**	Pg	**Pg**	**07 16 32.2**	**-3.2**
	2.8nm,0.5s						
KURS				Lg	Lg	07 17 46.3	
	15nm,0.8s						
TDK	**Taldyqorghan**	**5.80**	**297**	*e*P	**Pg**	**07 16 38.9**	**-0.4**
	28nm,0.3s						
TDK				*e*S	**Sg**	**07 17 58.3**	**+3.9**
	62nm,0.4s						
TDK	**Taldyqorghan**	**5.80**	**297**	Pg	**Pg**	**07 16 38.9**	**-0.4**
	28nm,0.3s						
TDK				Lg	Lg	07 17 58.3	
	62nm,0.4s						
ARXS	**Arharly**	**5.96**	**288**	*e*P	**Pg**	**07 16 37.6**	**-4.8**
	3.2nm,0.3s						
ARXS				*e*S	**Sg**	**07 17 55.3**	**-4.3**
	19nm,0.5s						
ARXS	**Arharly**	**5

AAK	Ala-Archa	8.27 274	Lg	Lg	07 19 10.7	
	0.6nm,0.3s,baz=82,slow=8.2,SNR=1.6					
KURBB	Kurchatov Arra	9.41 331	Pn	Pn	07 17 04.7	+0.9
	0.1nm,0.3s,baz=141,slow=12,SNR=3.3					
KURBB			Sn	Sn	07 18 46.8	-2.7
	0.1nm,0.3s,baz=135,slow=25,SNR=1.3					
KURBB			Lg	Lg	07 19 46.4	
	0.1nm,0.3s,baz=151,slow=29,SNR=7.6					
	0.5nm,0.3s					
KURBB	Kurchatov Arra	9.41 331	⇓Lg	Lg	07 19 45.3	
	22nm,0.8s					
KURK	Kurchatov	9.45 331	⇑Lg	Lg	07 19 47.6	
	6.5nm,0.7s					
ZALV	Zalesovo Beam	11.36 357	Pn	Pn	07 17 30.4	-0.1
	0.4nm,0.3s,baz=175,slow=14,SNR=5.4					
ZALV			Sn	Sn	07 19 33.1	-4.2
	0.4nm,0.3s,baz=189,slow=28,SNR=3.1					
	0.9nm,0.3s					
FINES	FINESS Array B	39.56 319	P	P	07 22 20.0	+0.9
	1.1nm,0.8s,baz=102,slow=10,SNR=2.8					
	1.1nm,0.8s					
SPITS	Spitsbergen Ar	44.45 344	P	P	07 22 59.4	+0.4
	2.8nm,0.7s,baz=75,slow=7.8,SNR=5.7					
	2.8nm,0.7s					
WRA	Warramunga Arr	76.69 133	P	P	07 26 38.5	-1.1
	0.4nm,0.5s,baz=328,slow=4.9,SNR=12					
	0.4nm,0.5s					

RHSSO 22 07:22:56.3±0.9, 43.°50N×20.°67E, h6km±3km, ML2.6/6
BEO 22 07:22:56.6±0.2, 43.°49N×20.°70E, h3km±2km, ML2.6/15
ISC 22 07:22:55.4±1.1, 43.°51N±0.°02×20.°74E±0.°02, h5km±9km, n65, σ1°19/103, 18C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRUS	Gruza	0.38	358	eP	Pg	07 23 04.5	-0.2
GRUS				eS	Sg	07 23 10.7	-0.2
SELS	Selova	0.40	135	eP	Pb	07 23 04.0	-1.0
SELS				eS	Sb	07 23 09.8	-1.6
IVAS	Ivanjica	0.43	280	eP	Pg	07 23 03.6	-0.1
IVAS				eS	Sg	07 23 08.8	-0.5
SJES	Sjenica	0.61	247	eP	Pg	07 23 07.1	0.0
SJES				eS	Sg	07 23 14.9	-0.1
BOVS	Bovan	0.72	79	eP	Pn	07 23 11.2	-1.0
BOVS				eS	Sb	07 23 19.6	-0.9
BOVS	Bovan	0.72	79	⇑P	Pb	07 23 10.8	+0.5
BOVS				⇑S	Sb	07 23 20.1	-0.4
TRUS	Trudelj	0.76	342	eP	Pg	07 23 10.6	+0.7
TRUS				eS	Sb	07 23 22.4	+0.8
DIVS	Divibare	0.80	318	eP	Pg	07 23 11.2	+0.4
DIVS				eS	Sb	07 23 23.5	+0.5
SVIS	Svilajnac	0.83	24	eP	Pn	07 23 13.9	+0.1
SVIS				eS	Sb	07 23 24.9	+1.0
RUDO	Rudo	1.00	277	⇓P	Pg	07 23 13.1	-1.4
RUDO				eS	Sg	07 23 26.4	-1.1
BBLS	Lazi&#263i	1.03	291	eP	Pg	07 23 15.0	-0.1
BBLS				eS	Sb	07 23 30.0	+0.4
ZAGS	Zajecar	1.13	74	eP	Pn	07 23 19.1	+1.3
ZAGS				eS	Sn	07 23 33.7	0.0
KUBS	Kucevo	1.13	36	eP	Pg	07 23 16.6	-0.5
KUBS				eS	Sb	07 23 32.5	0.0
AVAS	Avala Beograd	1.20	352	eP	Pn	07 23 19.1	+0.3
AVAS				eS	Sn	07 23 35.5	0.0
BEO	Beograd	1.32	352	eP	Pn	07 23 19.9	-0.5
BEO				eS	Sg	07 23 37.7	0.0
TEKS	Tekeris	1.36	321	eP	Pg	07 23 22.2	+0.8
TEKS				eS	Sn	07 23 40.0	+0.6
PRVS	Prvonek	1.40	135	eP	Pb	07 23 21.5	-0.5
PRVS				eS	Sn	07 23 40.7	+0.3
ZAPS	Zavoj	1.40	99	eP	Pg	07 23 22.6	+0.3
ZAPS				eS	Sn	07 23 41.2	+0.7
BLKB	Belogradchik	1.42	85	⇓S	Sn	07 23 42.3	+1.5
HAPS	Han Pijesak,BI	1.42	295	⇑iPg	Pn	07 23 21.5	-0.4
HAPS				eSg	Sb	07 23 39.8	-0.9
MDVR	Moldovita	1.46	29	⇑P	Pb	07 23 22.6	-0.4
MDVR				⇑S	Sg	07 23 42.1	-0.1
PDG	Podgorica	1.53	226	⇑P	Pn	07 23 22.6	-0.6
PDG				⇑S	Sn	07 23 42.8	-0.7
KLINJ	Klinje	1.60	259	ePn	Pn	07 23 24.6	+0.1
KLINJ				eSn	Sn	07 23 45.3	-0.3
BOSS	Bosilegrad	1.63	128	ePg	Pn	07 23 24.8	+0.1
BOSS				eSg	Sg	07 23 48.2	+0.5
FRGS	Fruska Gora	1.78	338	ePg	Pg	07 23 30.2	+0.7
FRGS				eSg	Sn	07 23 47.7	-2.1
FRGS	Fruska Gora	1.78	338	⇑P	Pn	07 23 25.7	-1.2
FRGS				⇑S	Sn	07 23 48.4	-1.4
RMGR	Halanga-Turnu	1.82	50	⇑P	Pn	07 23 28.0	+0.6
HERR	Herculane	1.83	41	⇓P	Pn	07 23 28.1	+0.6
HERR				⇓S	Sn	07 23 51.3	+0.3
TREB	Trebinje	1.92	247	ePn	Pn	07 23 29.4	+0.8
TREB				eSn	Sn	07 23 52.8	-0.3
DBRK	Dubrovnik	2.07	247	ePn	Pb	07 23 33.0	-0.5
SRE	Strehaia	2.12	56	⇓P	Pn	07 23 31.4	-0.1
SRE				⇓S	Sb	07 24 00.2	-0.8
BZS	Buzias	2.20	16	⇑P	Pn	07 23 32.3	-0.3
BZS				⇑S	Sn	07 23 59.8	-0.4
STON	Ston	2.31	255	ePn	Pn	07 23 35.7	+1.7
STON				Sn	Sn	07 24 04.5	+1.8
STON	Ston	2.31	255	ePn	Pn	07 23 34.0	0.0
STON				eSn	Sn	07 24 01.9	-0.8
PEHC	Pehcevo	2.35	136	iPn	Pg	07 23 40.5	0.0
GZR	Gura Zlata	2.39	37	⇑P	Pn	07 23 35.8	+0.6
SURR	Surduc	2.46	23	⇓P	Pn	07 23 35.5	-0.6
SURR				⇓S	Sn	07 24 05.6	-0.9
RICI	Ricice	2.62	271	ePn	Pn	07 23 39.4	+1.0
MAKA	Makarska	2.72	267	ePn	Pn	07 23 41.6	+2.0
SIRR	Siria	2.84	13	⇑P	Pn	07 23 41.3	-0.1
SIRR				⇑S	Sn	07 24 14.7	-1.2
LOT	Lotru	2.91	47	⇑P	Pn	07 23 43.2	+0.7
MORH	Mrgy, Hungar	3.09	332	ePn	Pn	07 23 44.6	-0.2
MORH				eSn	Sn	07 24 22.0	-0.1
MORH	Mrgy, Hungar	3.09	332	⇓P	Pn	07 23 43.4	-1.4
MORH				⇑S	Sn	07 24 19.7	-2.4
A050A	Klekovaca	3.19	289	ePn	Pn	07 23 46.6	+0.4
A050A				eSn	Sn	07 24 24.3	-0.3
MOSL	Moslavina	3.54	308	ePn	Pn	07 23 51.0	0.0
DRGR		3.57	22	⇑P	Pn	07 23 51.5	0.0
MORI	Morici	3.67	277	ePn	Pn	07 23 54.6	+2.0
ZIRJ	Zirje	3.70	274	ePn	Pn	07 23 55.3	+2.2
CJR	Cluj-Napoca	3.79	31	⇑P	Pn	07 23 54.6	+0.1
KALN	Kalnik	4.02	312	ePn	Pn	07 23 57.0	-0.6
DUGI	Dugi Otok	4.14	279	ePn	Pn	07 24 00.2	+1.0
VIRC	Vir	4.18	283	ePn	Pn	07 24 00.5	+0.7
CRES	Cresnjev	4.42	303	ePn	Pn	07 24 03.3	+0.2
CRES				eSn	Sn	07 24 53.6	-1.4
SOKA	Soboth	5.13	310	ePn	Pn	07 24 16.1	+3.1
	0.2nm,0.2s						
VYHS	Vyhne	5.16	346	ePN	Pn	07 24 15.1	+1.8
VYHS				eSN	Sn	07 25 09.9	-3.3
RONA	Rosalia, Austr	5.22	325	ePn	Pn	07 24 16.7	+2.6
	0.9nm,0.4s						
ARSA	Arzberg	5.24	317	iPn	Pn	07 24 14.7	+0.3
	1.2nm,0.3s						
OBKA	Obir	5.32	307	ePn	Pn	07 24 16.7	+1.3
	0.4nm,0.2s						
CONA	Conrad Observa	5.58	324	ePn	Pn	07 24 20.9	+1.7
	0.4nm,0.3s						
ABTA	Abfaltersbach	6.66	302	ePn	Pn	07 24 36.3	+2.4
	0.3nm,0.2s						
LESA	Schwarzleotal	6.89	307	ePn	Pn	07 24 39.3	+2.3
	0.2nm,0.1s						
WTTA	Wattenberg	7.43	304	iPn	Pn	07 24 47.2	+2.7
	1.4nm,0.4s						
WATA	Walderalm	7.50	304	ePn	Pn	07 24 48.1	+2.7
	0.4nm,0.2s						
SQTA	Sankt Quirin	7.67	302	iPn	Pn	07 24 50.9	+3.2
	1.2nm,0.3s						
FETA	Feichten	7.88	300	ePn	Pn	07 24 52.1	+1.3
	0.7nm,0.4s						

NNC 22 07:54:42.7±5.5, 36.°97N×70.°37E, h0km, mb3.8, mpv3.3, 1C-3D, Error ellipse: s-maj=53.5km s-min=34.8km az=155.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.13	1	⇓P	Pn	07 56 15.6	+1.1
	0.1nm,0.1s,baz=186,slow=14,SNR=19						
KK31				S	Sn	07 57 27.1	+1.7
	0.6nm,0.3s,baz=188,slow=24,SNR=5.9						
TKM2	Tokmak 2	7.17	32	⇑P	Pn	07 56 29.0	-0.1
	4.2nm,0.5s						
TKM2				⇓S	Sn	07 57 52.0	+0.7
	1.3nm,0.6s						
AB31	Akbulak array	14.43	332	⇓P	Pn	07 58 05.9	-2.3
	0.2nm,0.4s,baz=163,slow=12,SNR=9.6						

UPA 22 07:59:32.3±0.8, 8.°35N×83.°12W, h41km±4km, ML4.0
CATAC 22 07:59:32.0±1.0, 8.°37N×83.°08W, h23km±3km, ML2.9
ISC 22 07:59:32.5±1.3, 8.°38N±0.°05×83.°09W±0.°04, h30km±11km, n17, σ0°56/31, 2C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	Puerto Jimnez	0.26	307	eP	Pn	07 59 39.7	-0.6
PTJ1				eS	Sn	07 59 46.3	+0.9
PTJ1	Puerto Jimnez	0.26	307	iP	Pn	07 59 39.8	-0.5
PTJ1				iS	Sn	07 59 46.2	+0.9
PTJ1				IAML		07 59 56.4	
	comp=Z,2μm,1.0s						
PTPM	Petroterminale	0.27	129	eP	Pn	07 59 39.9	-0.7
PTPM				eS	Sn	07 59 46.8	+1.1
CDITO	Canoas	0.29	48	iP	Pb	07 59 39.9	+0.1
CDITO				iS	Sn	07 59 45.8	-0.3
CDITO				IAML		07 59 50.9	
	comp=Z,720nm,1.0s						
MLIR3	Monte Lirio, C	0.49	33	eP	Pn	07 59 43.6	0.0
BRU2	Volcan	0.57	44	eP	Pn	07 59 44.5	-0.3
BRU2				eS	Sn	07 59 53.7	+0.4
BRU2	Volcan	0.57	44	iP	Pn	07 59 44.7	-0.1
BRU2				iS	Sn	07 59 53.7	+0.4
BRU2				IAML		07 59 56.4	
	comp=Z,660nm,1.0s						
DVD	David	0.64	85	⇑eP	Pb	07 59 45.0	-0.1
DVD				eS	Sn	07 59 54.8	+0.1
BCO2	Palmira	0.65	59	⇑iP	Pn	07 59 45.7	-0.2
BCO2				AMP		07 59 45.9	
	comp=Z,6μm,0.1s						
BCO2				eS	Sn	07 59 56.1	+0.9
LOCO3	Loma Colorada,	0.67	87	eP	Pn	07 59 45.5	-0.4
LNBQ3	Los Naranjos,	0.76	57	eP	Pn	07 59 47.1	-0.3
DRK0	Durika	0.89	350	⇓iP	Pn	07 59 49.0	-0.2
DRK0				eS	Sb	08 00 01.5	+0.3
DRK0	Durika	0.89	350	iP	Pn	07 59 49.0	-0.2
DRK0				iS	Sn	08 00 01.3	+0.1
DRK0				IAML		08 00 04.6	
	comp=Z,2μm,1.0s						
OCHAL	Ojochal	0.90	323	iP	Pn	07 59 48.5	-0.7
OCHAL				iS	Sb	08 00 01.8	+0.6
OCHAL				IAML		08 00 04.9	
	comp=Z,160nm,1.0s						
CHGR2	Aguacate	1.09	59	eP	Pn	07 59 51.9	+0.1
CHGR2				eS	Sb	08 00 06.8	+0.1
CNI2	El Empalme, Bo	1.21	31	eP	Pn	07 59 52.8	-0.6
CNI2				eS	Sn	08 00 08.5	-0.3
LCR2	La Lucha 2	1.63	326	iP	Pn	07 59 59.7	+0.3
LCR2				iS	Sb	08 00 21.0	-1.2
LCR2				IAML		08 00 25.1	
	comp=Z,110nm,1.0s						

SNET 22 08:01:32.7±0.6, 13.°64N×89.°05W, h8km±2km, ML1.7
CATAC 22 08:01:33.3±0.4, 13.°67N×89.°04W, h5km±2km, ML2.0, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.05	206	eP	Pg	08 01 34.8	+0.1
LFRS				eS	Sg	08 01 36.5	+0.8
AEIL	Aeropuerto Ilo	0.08	292	eP	Pg	08 01 35.6	+0.5
LFIJ	La Fuente	0.11	319	eP	Pg	08 01 35.9	+0.3
UDBS	Universidad Do	0.12	293	eP	Pg	08 01 36.2	+0.4
UDBS				eS	Sg	08 01 38.7	+1.2
UDBS				IAML		08 01 39.2	
	comp=Z,626nm,0.3s						
UDBS	Universidad Do	0.12	293	iP	Pg	08 01 36.2	+0.4
UDBS				iS	Sg	08 01 38.5	+1.0
LOMA	Loma Larga	0.13	260	iP	Pg	08 01 36.4	+0.4
LOMA				IAML		08 02 00.3	
	comp=Z,1μm,1.0s						
IGN	Direccin Gen	0.13	290	eP	Pg	08 01 36.5	+0.4
IGN				eS	Sg	08 01 39.4	+1.4
PANCS	Alcalda de	0.15	248	eP	Pg	08 01 36.5	+0.2
PANCS				eS	Sg	08 01 38.9	+0.6
PANCS	Alcalda de	0.15	248	iP	Pg	08 01 36.4	+0.1
PANCS				iS	Sg	08 01 38.6	+0.3
PANCS				IAML		08 01 47.6	
	comp=Z,2μm,1.0s						
COEG	Centro de Oper	0.16	107	eP	Pg	08 01 37.0	+0.4
COEG				eS	Sg	08 01 39.9	+1.2
COEG				IAML		08 01 40.4	
	comp=Z,341nm,0.3s						
COEG	Centro de Oper	0.16	107	iP	Pg	08 01 36.9	+0.3
COEG				iS	Sg	08 01 40.0	+1.3
SNET	Serv Nac Est T	0.19	276	eP	Pg	08 01 37.0	-0.1
SNET				eS	Sg	08 01 40.7	+1.2
SNET	Serv Nac Est T	0.19	276	iP	Pg	08 01 37.4	+0.4
SNET				iS	Sg	08 01 40.6	+1.1
SNET				IAML		08 02 02.0	
	comp=Z,770nm,1.0s						
UEES	Universidad Ev	0.20	284	iP	Pg	08 01 37.7	+0.4
UEES				IAML		08 02 02.9	
	comp=Z,330nm,1.0s						
PIC2	El Picacho	0.22	290	eP	Pg	08 01 38.8	+1.0
PIC2				eS	Sg	08 01 43.1	+2.3
UESV	Universidad de	0.25	97	eP	Pg	08 01 38.7	+0.5
UESV	Universidad de	0.25	97	iP	Pg	08 01 38.6	+0.5
UESV				IAML		08 01 56.2	
	comp=Z,210nm,1.0s						
PMON	Piamonte	0.27	280	iP	Pg	08 01 39.3	+0.7
PMON				IAML		08 02 07.2	
	comp=Z,550nm,1.0s						
QUEZ	Alcaldia de Qu	0.28	306	iP	Pg	08 01 39.3	+0.5
QUEZ				IAML		08 01 47.2	
	comp=Z,2μm,1.0s						
TECO	Alcaldia de Te	0.28	117	eP	Pg	08 01 39.1	+0.2
TECO				eS	Sg	08 01 43.1	+0.6
TECO				IAML		08 01 46.1	
	comp=Z,36nm,0.1s						
TECO	Alcaldia de Te	0.28	117	iP	Pg	08 01 39.0	+0.2
TECO				IAML		08 02 00.3	
	comp=Z,88nm,1.0s						
SCLA	Alcaldia de Sa	0.30	83	iP	Pg	08 01 39.8	+0.5
SCLA				IAML		08 02 05.7	
	comp=Z,77nm,1.0s						
LALI	Alcalda de L	0.33	237	iP	Pg	08 01 40.4	+0.8
LALI				iS	Sg	08 01 45.5	+1.6
LALI				IAML		08 02 02.4	
	comp=Z,120nm,1.0s						
JAYA	Jayaque - finc	0.40	268	iP	Pg	08 01 41.6	+0.6
JAYA				IAML		08 02 08.3	
	comp=Z,340nm,1.0s						

TAP 22 08:46:22.1, 24.°46N×121.°88E, h18km, ML1.7, 1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	Wuta	0.09	264	⇓P	Pg	08 46 26.3	+0.6
	baz=263						
EWUT				iS	Sg	08 46 29.1	+0.9
	baz=263						
ESAO	Su ao	0.12	344	P	Pg	08 46 26.8	+0.7
	baz=344						
ESAO				S	Sg	08 46 29.6	+0.8
	baz=344						
ENA	Nanau	0.13	258	P	Pg	08 46 26.7	+0.6
	baz=256						
ENA				iS	Sg	08 46 29.7	+0.9
	baz=256						
TWC	Suao	0.16	349	P	Pg	08 46 27.1	+0.6
	baz=352						
TWC				S	Sg	08 46 30.2	+0.8
	baz=352						
NDS	Dongshan	0.23	320	P	Pg	08 46 28.2	+0.7
	baz=319						
NDS				S	Sg	08 46 32.1	+0.9
	baz=319						
EOS2	EOS2	0.32	96	P	Pb	08 46 29.5	+0.3
	baz=96						
EOS2				iS	Sb	08 46 35.2	+1.1
	baz=96						
TWE	Neicheng	0.33	324	P	Pb	08 46 29.9	+0.5
	baz=325						
TWE				S	Sb	08 46 35.1	+0.7
	baz=325						
ILA	Ilan	0.33	339	S	Sb	08 46 35.6	+1.1
	baz=339						
LATG	Datong	0.33	284	P	Pb	08 46 30.2	+0.6
	baz=283						
LATG				iS	Sb	08 46 35.3	+0.8
	baz=283						
ENTT	Nioudou	0.34	303	P	Pb	08 46 29.9	+0.3
	baz=302						
ENTT				eS	Sb	08 46 34.8	0.0
	baz=302						
NDT	Datong Townshi	0.37	294	S	Sb	08 46 36.2	+0.7
	baz=293						
NACB	Ninganchiao	0.38	223	eP	Pg	08 46 30.1	0.0
	baz=222						
NACB				eS	Sb	08 46 36.0	0.0
	baz=222						
FUSB	Fushanzhiwuyua	0.40	319	P	Pb	08 46 31.3	+0.5
	baz=318						
FUSB				S	Sb	08 46 37.3	+0.6
	baz=318						
EOS3	EOS3	0.43	113	eP	Pb	08 46 31.1	+0.1
	baz=112						
EOS3				S	Sb	08 46 38.1	+0.9
	baz=112						
ETLH	Xiulin Townshi	0.44	236	iP	Pb	08 46 31.7	+0.3
	baz=235						
ETLH				eS	Sb	08 46 37.9	+0.2
	baz=235						
NNSB	Datong	0.46	267	P	Pb	08 46 31.5	-0.1
	baz=266						
NNSB				eS	Sb	08 46 38.4	+0.3
	baz=266						
TWD	Chiawan	0.46	215	eS	Sn	08 46 40.6	-0.7
	baz=214						
NNS	Nan Shan	0.46	268	S	Sb	08 46 38.8	+0.4
	baz=267						
NWLT	Wulai	0.47	313	iP	Pb	08 46 32.2	+0.4
	baz=312						
NWLT				eS	Sb	08 46 38.6	+0.1
	baz=312						
YHNB	Yeheng	0.51	295	P	Pb	08 46 33.0	+0.5
	baz=294						
YHNB				eS	Sb	08 46 39.5	-0.1
	baz=294						
TIPB	Shuangxi	0.52	354	P	Pb	08 46 32.8	+0.2
	baz=354						
TIPB				eS	Sb	08 46 40.1	+0.3
	baz=354						
EOS4	EOS4	0.52	130	P	Pb	08 46 32.7	+0.3
	baz=129						
EOS4				eS	Sb	08 46 39.8	+0.4
	baz=129						
NSK	Sanguang	0.53	295	iP	Pb	08 46 33.0	+0.3
	baz=294						
NSK				S	Sb	08 46 40.5	+0.6
	baz=294						
LXIB	Xiulin Townshi	0.61	225	eP	Pb	08 46 33.6	-0.5
	baz=224						
LXIB				eS	Sg	08 46 43.2	+0.8
	baz=224						
FUSS	Fushou	0.62	251	eP	Pn	08 46 35.4	-0.7
	baz=250						
FUSS				S	Sb	08 46 43.8	+1.1
	baz=250						
WHF	Hehuan Shan	0.64	241	eP	Pn	08 46 36.0	-0.6
	baz=240						
WHF				S	Sb	08 46 44.8	+1.1
	baz=240						
TDCB	Techi	0.69	253	eP	Pn	08 46 36.8	-0.2
	baz=252						
TDCB				eS	Sn	08 46 47.0	-0.3
	baz=252						
YM01	YM01	0.74	338	eP	Pn	08 46 38.5	+0.8
	baz=337						
YM01				eS	Sn	08 46 49.0	+0.5
	baz=337						
CHGB	Renai	0.76	239	eP	Pn	08 46 38.0	0.0
	baz=238						
CHGB				eS	Sg	08 46 47.6	+0.6
	baz=238						
LIOB	Emei	0.81	284	eP	Pn	08 46 39.0	+0.4
	baz=283						
LIOB				eS	Sn	08 46 50.7	+0.5
	baz=283						
WUSB	Renai	0.84	237	eP	Pn	08 46 39.8	+0.8
	baz=236						
WUSB				eS	Sn	08 46 51.6	+0.7
	baz=236						
WARBT	Fenglin Townsh	0.86	212	eP	Pn	08 46 39.8	+0.5
	baz=211						
WARBT				S	Sn	08 46 51.2	-0.2
	baz=211						
EGFH	Guangfu	0.89	208	eP	Pn	08 46 40.5	+0.9
	baz=207						
EGFH				eS	Sn	08 46 51.7	-0.2
	baz=207						
VWDT	VWDT	0.97	224	eP	Pg	08 46 41.7	+0.7
	baz=224						
VWDT				eS	Sn	08 46 55.2	+1.1
	baz=224						
SSLB	Suanglung	1.08	232	eP	Pg	08 46 43.9	+1.0
	baz=231						
SSLB				eS	Sg	08 46 58.3	+1.2
	baz=231						

JMA 22 08:47:18.2±0.1, 24.°2N±0.°3×123.°8E±0.°3, h16km±1km, MV0.9/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.15	324	iP	Pg	08 47 22.2	-0.1
IRIF				eS	Sg	08 47 25.2	+0.3
HATJ	Hateruma jima	0.15	187	iP	Pg	08 47 22.1	-0.2
HATJ				eS	Sg	08 47 25.1	+0.1
JKRS	Kuro-shima	0.17	81	iP	Pg	08 47 22.6	+0.1
JKRS				eS	Sb	08 47 26.0	-0.3
JIJ	Ishigaki jima	0.33	62	P	Pg	08 47 24.8	-0.3
JIJ				eS	Sg	08 47 29.4	-0.3
JISG	Ishigakijimahi	0.58	50	P	Pg	08 47 29.6	-0.1
JISG				eS	Sb	08 47 37.8	-0.3
JYNG	Yonagunijimaku	0.84	287	eP	Pb	08 47 34.4	-0.1
JTJ	Tarama	0.91	62	eS	Sg	08 47 48.1	+0.4

TAP 22 08:48:31.1, 23.°97N×121.°77E, h3km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.15	274	eS	Sg	08 48 37.4	+1.3
	baz=273						
TEYL	Yanliau Villag	0.19	238	eP	Pg	08 48 34.5	-0.2
	baz=239						
TWD	Chiawan	0.20	305	eP	Pg	08 48 36.5	+1.6
	baz=306						
TWD				S	Sg	08 48 40.1	+2.7
	baz=306						
ETL	Fush Village	0.23	325	iP	Pg	08 48 36.9	+1.2
	baz=308						
ETL				S	Sg	08 48 41.6	+2.9
	baz=308						
ETM	Tongmen	0.25	270	eP	Pb	08 48 38.4	0.0
	baz=257						
ETM				eS	Sb	08 48 42.5	-0.6
	baz=257						
SHUL	Shoufeng	0.26	227	P	Pg	08 48 37.1	+1.0
	baz=226						
SHUL				eS	Sb	08 48 41.6	-1.7
	baz=226						
NACB	Ninganchiao	0.26	322	P	Pg	08 48 37.2	+1.0
	baz=307						
NACB				eS	Sb	08 48 41.8	-1.6
	baz=307						
LXIB	Xiulin Townshi	0.33	280	P	Pb	08 48 39.4	-0.4
	baz=278						
LXIB				iS	Sb	08 48 44.9	-0.6
	baz=278						
ESL	Shilin	0.34	244	P	Pb	08 48 38.8	-1.1

ETLH				*e*S	Sb	08 48 45.0	-1.2
	baz=312						
WARBT	**Fenglin Townsh**	**0.43 235**		P	Pb	08 48 41.3	0.0
	baz=233						
WARBT				*i* S	Sb	08 48 48.1	-0.2
	baz=233						
ENA	**Nanau**	**0.46 357**		*i* P	Pb	08 48 41.7	-0.2
	baz=359						
ENA				S	Sb	08 48 49.0	-0.1
	baz=359						
EWUT	**Wuta**	**0.48**	**1**	P	Pb	08 48 42.3	+0.2
	baz=3.0						
EWUT				*i* S	Sb	08 48 49.8	+0.2
	baz=3.0						
WHF	**Hehuan Shan**	**0.50 291**		*i* P	Pb	08 48 42.1	-0.6
	baz=288						
WHF				*e*S	Sb	08 48 49.7	-0.9
	baz=288						
OWD	**Renai**	**0.55 269**		P	Pb	08 48 42.8	-0.6
	baz=266						
OWD				S	Sb	08 48 51.9	+0.2
	baz=266						
CHGB	**Renai**	**0.55 280**		P	Pb	08 48 43.7	+0.1
	baz=276						
CHGB				S	Sb	08 48 52.0	0.0
	baz=276						
FUSS	**Fushou**	**0.56 300**		P	Pb	08 48 43.4	-0.3
	baz=298						
FUSS				S	Sb	08 48 52.7	+0.5
	baz=298						
HGSD	**Ruisui**	**0.57 214**		*i* P	Pb	08 48 43.4	-0.3
	baz=213						
HGSD				*i* S	Sb	08 48 52.5	+0.2
	baz=213						
NNSB	**Datong**	**0.58 322**		*e*P	Pb	08 48 43.6	-0.4
	baz=309						
NNSB				*e*S	Sb	08 48 52.3	-0.5
	baz=309						
NNS	**Nan Shan**	**0.60 322**		P	Pb	08 48 44.3	+0.1
	baz=309						
NNS				*e*S	Sb	08 48 53.0	-0.1
	baz=309						
WUSB	**Renai**	**0.60 273**		*e*P	Pb	08 48 44.9	+0.6
	baz=271						
WUSB				*e*S	Sb	08 48 54.7	+1.5
	baz=271						
LATG	**Datong**	**0.61 339**		P	Pb	08 48 44.6	+0.1
	baz=339						
LATG				*e*S	Sb	08 48 55.1	+1.6
	baz=339						
VWDT	**VWDT**	**0.61 250**		*e*P	Pn	08 48 45.8	-0.9
	baz=259						
VWDT				*e*S	Sb	08 48 55.0	+1.4
	baz=259						
TDCB	**Techi**	**0.63 297**		*e*P	Pb	08 48 45.6	+0.7
	baz=296						
TDCB				*e*S	Sb	08 48 54.9	+0.8
	baz=296						
NDT	**Datong Townshi**	**0.68 340**		P	Pb	08 48 45.5	-0.1
	baz=341						
NDT				*i* S	Sb	08 48 56.3	+1.0
	baz=341						
ENTT	**Nioudou**	**0.70 344**		P	Pb	08 48 45.8	-0.1
	baz=332						
ENTT				*i* S	Sb	08 48 57.0	+1.1
	baz=332						
YULB	**Yu-li**	**0.72 217**		*i* S	Sb	08 48 57.2	+0.7
	baz=216						
TWE	**Neicheng**	**0.76 353**		P	Pb	08 48 46.7	-0.2
	baz=339						
SSLB	**Suanglung**	**0.77 257**		*i* P	Pb	08 48 47.4	+0.2
	baz=265						
SSLB				S	Sb	08 48 59.0	+1.0
	baz=265						
YHNB	**Yeheng**	**0.79 333**		*i* P	Pb	08 48 47.7	+0.2
	baz=323						
YHNB				S	Sb	08 49 00.1	+1.4
	baz=323						
TYC	**Yuchr**	**0.84 266**		*e*P	Pn	08 48 49.3	-0.5
	baz=275						
TYC				*e*S	Sb	08 49 01.1	+1.1
	baz=275						
NWLT	**Wulai**	**0.84 343**		P	Pb	08 48 49.0	+0.6
	baz=329						
NWLT				S	Sb	08 49 01.4	+1.2
	baz=329						
CHKT	**Chengkung**	**0.94 203**		*e*P	Pg	08 48 49.5	+0.4
	baz=178						
CHKT				*e*S	Sb	08 49 02.7	-0.1
	baz=178						

JMA 22 08:49:17.5±0.1, 24°.2N±0°.4×123°.8E±0°.4, h16km±1km, MV0.8/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.15 325**		P	Pg	08 49 21.6	-0.1
IRIF				*e*S	Sg	08 49 24.6	+0.2
HATJ	**Hateruma jima**	**0.15 187**		P	Pg	08 49 21.4	-0.2
HATJ				*e*S	Sg	08 49 24.5	+0.2
JKRS	**Kuro-shima**	**0.17**	**81**	P	Pg	08 49 21.9	+0.1
JKRS				*e*S	Sb	08 49 25.2	-0.2
JIJ	**Ishigaki jima**	**0.33**	**62**	*e*P	Pg	08 49 24.1	-0.3
JIJ				*e*S	Sg	08 49 28.8	-0.4
JISG	**Ishigakijimahi**	**0.58**	**50**	*e*P	Pg	08 49 28.9	-0.1
JISG				*e*S	Sb	08 49 37.2	-0.1

OMAN 22 09:25:41.0±0.5, 14°.09N×51°.39E, h38km±118km, ml4.0/1, Error ellipse: s-maj=24.7km s-min=10.5km az=260.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.72**	**29**	P	Pn	09 26 36.0	0.0
	SNR=9.7						
ABTO				S	Sn	09 27 18.9	+0.3
RBK	**Rabkut**	**4.34**	**38**	P	Pn	09 26 44.7	+0.3
WHFO	**Wadi Hawf**	**4.44**	**31**	P	Pn	09 26 45.8	0.0
	SNR=23						
WHFO				S	Sn	09 27 37.4	+1.1
DMTO	**DMTO**	**4.97**	**43**	P	Pn	09 26 53.1	+0.1
DOK	**Doka**	**5.21**	**30**	P	Pn	09 26 56.5	+0.1
	SNR=5.7						

*IDC **22** 09:27:56.6±1.2, 1°.11N×121°.28E, h0km, mb3.5/5, mbtmp3.5/5, MS2.6/1, Error ellipse: s-maj=141.4km s-min=20.4km az=64.0*
*DJA **22** 09:28:04.8±0.7, 1°N±23°.×12°.1E±°, h37km±20km, M3.4/5, MLv3.4/5*
ISC 22 09:28:01.9±1.0, 1°.2N±0°.1×121°.13E±0°.08, h29km, n9, σ1§68/8, mb3.7/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.07**	**131**	P	**Pb**	**09 28 22.8**	**+1.0**
MPSI	**Mapaga**	**1.49**	**236**	P	**Pn**	**09 28 27.7**	**+1.0**
GTOI	**Gorontalo**	**1.96**	**106**	P	**Pn**	**09 28 34.0**	**+0.9**
DAV	**Davao City (W)**	**7.34**	**37**	LR	LR	09 32 50.5	
	comp=Z,42nm,19.0s,baz=228,slow=40						
WRA	**Warramunga Arr**	**24.67**	**149**	P	**P**	**09 33 17.5**	**-2.9**
	1.2nm,1.0s,baz=326,slow=10,SNR=11						
	1.2nm,1.0s						
ASAR	**Alice Springs**	**27.64**	**154**	P	**P**	**09 33 45.8**	**-1.5**
	0.2nm,0.4s,baz=344,slow=14,SNR=6.9						
	0.2nm,0.4s						
SONM	**Songino Array**	**48.20**	**347**	P	**P**	**09 36 40.3**	**+0.4**
	0.8nm,0.7s,baz=175,slow=6.6,SNR=5.4						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**56.64**	**329**	P	**P**	**09 37 42.5**	**+0.1**
	0.3nm,0.4s,baz=129,slow=8.3,SNR=4.1						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**61.02**	**330**	P	**P**	**09 38 12.1**	**-0.6**
	0.4nm,0.7s,baz=136,slow=6.6,SNR=3.2						
	0.4nm,0.7s						

*IDC **22** 09:35:25.8±0.9, 10°.60S×113°.34E, h0km, mb3.9/14, mbtmp4.0/14, Error ellipse: s-maj=34.4km s-min=16.3km az=56.0*
*DJA **22** 09:35:25.9±0.6, 11°S±7°.×11°.3E±°, h10km, M4.5/12, mb4.5/6, MLv4.5/12*
*NEIC **22** 09:35:26.7±2.5, 10°.87S±0°.03×113°.31E±0°.08, h10km±1km, mb4.2/15, Error ellipse: s-maj=14.3km s-min=4.2km az=105.0*
ISC 22 09:35:28.0±0.5, 10°.83S±0°.06×113°.26E±0°.05, h25km, n57, σ1§73/60, mb4.1/21, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.50**	**21**		**Pn**	**09 36 08.1**	**+0.9**
JAGI	**Jajag, Banyuwa**	**2.50**	**21**	P	**Pn**	**09 36 07.7**	**+0.5**
JAGI				S	**Sn**	**09 36 38.3**	**+1.3**
DNP	**Denpasar**	**2.88**	**42**	P	**Pb**	**09 36 15.0**	**-3.7**
PWJI	**Pagerwojo**	**3.14**	**333**	P	**Pn**	**09 36 15.1**	**-0.8**
PWJI				S	**Sn**	**09 36 50.2**	**-2.3**
ABJI	**Asem Bagus**	**3.16**	**18**	P	**Pn**	**09 36 18.8**	**+2.5**
ABJI				S	**Sn**	**09 36 56.7**	**+3.5**
SRBI	**Singaraja**	**3.34**	**35**	P	**Pn**	**09 36 20.6**	**+1.9**
SRBI				S	**Sn**	**09 36 59.8**	**+2.2**
UGM	**Wanagama**	**3.96**	**317**		**Pn**	**09 36 28.8**	**+1.6**
UGM	**Wanagama**	**3.96**	**317**	P	**Pn**	**09 36 26.6**	**-0.6**
UGM				S	**Sn**	**09 37 10.1**	**-2.8**
TWSI	**Taliwang, Sumb**	**4.13**	**60**	P	**Pn**	**09 36 29.9**	**+0.3**
YOGI	**Yogyakarta**	**4.18**	**315**	P	**Pn**	**09 36 29.9**	**-0.4**
PLAI	**Plampang**	**4.88**	**66**	P	**Pn**	**09 36 37.6**	**-2.2**
CMJI	**Cimerak**	**5.63**	**302**	P	**Pn**	**09 36 50.5**	**+0.3**
	65nm,0.9s,0.3nm						
CNJI	**Cibinong**	**6.99**	**300**	P	**Pn**	**09 37 09.2**	**+0.3**
	31nm,1.2s,0.1nm						
XMIS	**Christmas Isla**	**7.48**	**272**	Pn	**Pn**	**09 37 14.4**	**-1.3**
EDFI	**Ende, Flores**	**8.56**	**77**	P	**Pn**	**09 37 31.9**	**+1.3**
MBWA	**Marble Bar**	**12.01**	**150**	Pn	**Pn**	**09 38 15.0**	**-2.6**
PSA00	**Pilbara Seismi**	**12.41**	**150**	Pn	**Pn**	**09 38 20.6**	**-2.6**
LUWI	**Luwuk**	**13.56**	**45**	Pn	**Pn**	**09 38 37.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**13.99**	**122**	Pn	**Pn**	**09 38 42.5**	**-2.4**
KNRA	**Kununurra**	**15.84**	**109**	Pn	**Pn**	**09 39 07.0**	**-2.5**
KNRA				IAmb	IAmb	09 39 26.9	
	comp=Z,23nm,1.5s						
WB0	**Warramunga Arr**	**22.22**	**116**	P	**P**	**09 40 22.5**	**-0.5**
WRA	**Warramunga Arr**	**22.23**	**117**	P	**P**	**09 40 24.8**	**+1.7**
	comp=Z,1.3nm,0.8s,baz=289,slow=10,SNR=14						
WRA				S	**S**	**09 44 23.6**	**-3.2**
	comp=Z,0.6nm,0.8s,baz=294,slow=21,SNR=2.7						
	comp=Z,1.3nm,0.8s						
WRAB	**Tennant Creek**	**22.24**	**117**	P	**P**	**09 40 22.6**	**-0.6**
WRAB				IAmb	IAmb	09 40 31.6	
	comp=Z,8.9nm,1.2s						
WB2	**Warramunga Arr**	**22.24**	**117**	P	**P**	**09 40 22.9**	**-0.3**
WB2				IAmb	IAmb	09 40 30.2	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**22.41**	**116**	P	**P**	**09 40 25.9**	**+0.8**
WR0				IAmb	IAmb	09 41 07.2	
	comp=Z,10.0nm,1.3s						
AS31	**Alice Springs**	**23.45**	**126**	P	**P**	**09 40 37.8**	**+2.1**
ASAR	**Alice Springs**	**23.45**	**126**	P	**P**	**09 40 36.9**	**+1.2**
ASAR	**Alice Springs**	**23.45**	**126**	P	**P**	**09 40 38.0**	**+2.2**
	comp=Z,1.4nm,0.6s,baz=301,slow=9.3,SNR=20						
	comp=Z,1.4nm,0.6s						
FORT	**Forrest**	**24.14**	**147**	P	**P**	**09 40 44.1**	**+1.9**
CMAR	**Chiang Mai Arr**	**32.35**	**334**	P	**P**	**09 41 56.1**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=158,slow=9.7,SNR=1.7						
	comp=Z,1.4nm,0.3s						
STKA	**Stephens Creek**	**33.51**	**133**	P	**P**	**09 42 07.8**	**+2.0**
STKA				IAmb	IAmb	09 42 40.2	
	comp=Z,4.0nm,1.5s						
STKA	**Stephens Creek**	**33.51**	**133**	P	**P**	**09 42 08.8**	**+3.0**
	comp=Z,1.8nm,0.8s,baz=296,slow=10.0,SNR=3.9						
	comp=Z,1.8nm,0.8s						
H08S2	**Diego Garcia H**	**40.34**	**271**	T	T	10 26 24.8	
	baz=96,slow=75						
H08S3	**Diego Garcia H**	**40.35**	**271**	T	T	10 26 23.6	
	baz=96,slow=75						
H08S1	**Diego Carcia H**	**40.36**	**271**	T	T	10 26 16.7	
	baz=96,slow=75						
KSRS	**Korea Array**	**49.96**	**15**	P	**P**	**09 44 20.9**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=202,slow=7.0,SNR=8.8						
	comp=Z,2.0nm,0.8s						
MJAR	**Matsushiro Arr**	**52.65**	**25**	P	**P**	**09 44 38.6**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=183,slow=9.3,SNR=5.1						
	comp=Z,1.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**57.35**	**16**	P	**P**	**09 45 13.9**	**-0.2**
USRK	**Ussuriysk Ar.**	**57.35**	**16**	P	**P**	**09 45 12.9**	**-1.2**
	comp=Z,3.6nm,0.7s,baz=187,slow=7.3,SNR=7.4						
	comp=Z,3.6nm,0.7s						
NIL	**Nilore**	**58.35**	**321**		**P**	**09 45 22.6**	**+1.3**
SONM	**Songino Array**	**58.72**	**355**	P	**P**	**09 45 23.7**	**-0.1**
SONM	**Songino Array**	**58.72**	**355**	P	**P**	**09 45 24.3**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=176,slow=9.9,SNR=5.7						
	comp=Z,0.9nm,0.6s						
BOOM	**Boomskoye usch**	**63.11**	**330**	P	**P**	**09 45 54.1**	**+0.3**
BOOM				IAmb	IAmb	09 46 37.1	
	comp=Z,2.7nm,1.0s						
MKAR	**Makanchi Array**	**63.70**	**337**	P	**P**	**09 45 57.8**	**+0.4**
MKAR	**Makanchi Array**	**63.70**	**337**	P	**P**	**09 45 58.2**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=144,slow=7.8,SNR=5.3						
	comp=Z,0.6nm,0.6s						
KK31	**Karatay Array**	**66.34**	**327**	P	**P**	**09 46 15.2**	**+0.5**
KK31				IAmb	IAmb	09 46 28.3	
	comp=Z,4.0nm,1.5s						
KKAR	**Karatay Array**	**66.34**	**327**	P	**P**	**09 46 15.8**	**+1.2**
KURBB	**Kurchatov Arra**	**68.26**	**337**	P	**P**	**09 46 27.2**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=146,slow=6.7,SNR=2.0						
	comp=Z,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**68.89**	**342**	P	**P**	**09 46 31.4**	**+0.9**
ZALV	**Zalesovo Beam**	**68.89**	**342**	P	**P**	**09 46 30.8**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=138,slow=6.7,SNR=4.8						
	comp=Z,1.1nm,0.5s						
BVAR	**Borovoye Array**	**73.37**	**335**	P	**P**	**09 46 59.2**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=105,slow=11,SNR=3.7						
	comp=Z,0.8nm,0.6s						
ABKAR	**Akbulak array**	**75.90**	**327**	P	**P**	**09 47 13.1**	**+0.7**
ABKAR				IAmb	IAmb	09 47 25.8	
	comp=Z,1.6nm,0.8s						
ABKAR	**Akbulak array**	**75.90**	**327**	P	**P**	**09 47 13.6**	**+1.2**
QSPA	**South Pole Qui**	**79.18**	**180**	P	**P**	**09 47 29.9**	**-0.9**
QSPA				IAmb	IAmb	09 48 08.0	
	comp=Z,4.4nm,1.2s						
SNAA	**Sanae**	**87.69**	**197**	P	**P**	**09 48 17.2**	**+2.9**
SNAA	**Sanae**	**87.69**	**197**	P	**P**	**09 48 16.7**	**+2.4**
	comp=Z,0.8nm,0.8s,baz=171,slow=4.8,SNR=6.0						
	comp=Z,0.8nm,0.8s						
BRTR	**Keskin Array B**	**88.98**	**311**	P	**P**	**09 48 21.7**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=101,slow=6.4,SNR=4.1						
	comp=Z,0.7nm,0.8s						

*SNET **22** 09:58:37.3±0.7, 12°.88N×88°.84W, h55km±12km, ML3.7*
*CATAC **22** 09:58:37.1±0.2, 12°.84N×88°.81W, h42km±7km, mb4.1, ML3.9*
ISC 22 09:58:37.0±1.3, 12°.86N±0°.06×88°.83W±0°.04, h63km±14km, n85, σ0§77/129, 11C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.68**	**4**	*e*P	**Pn**	**09 58 50.9**	**-0.4**
TECO	**Alcaldia de Te**	**0.68**	**4**	*i* P	**Pn**	**09 58 50.8**	**-0.4**
TECO				*i* S	**Sn**	**09 59 01.5**	**-0.2**
TECO				IAML		09 59 06.4	
	comp=Z,4μm,1.0s						
JUCU	**Jucuarjn**	**0.69**	**55**	*e*P	**Pn**	**09 58 51.0**	**-0.4**
JUCU	**Jucuarjn**	**0.69**	**55**	*i* P	**Pn**	**09 58 51.0**	**-0.4**
JUCU				*i* S	**Sn**	**09 59 01.8**	**-0.2**
JUCU				IAML		09 59 06.7	
	comp=Z,6μm,1.0s						
TECA	**Tecapa**	**0.71**	**26**	*e*P	**Pn**	**09 58 51.7**	**-0.1**
TECA				*e*S	**Sn**	**09 59 03.0**	**+0.4**
COEG	**Centro de Oper**	**0.76**	**356**	*e*P	**Pn**	**09 58 51.9**	**-0.4**
COEG				IAML		09 59 06.7	
	comp=Z,3μm,0.4s						
COEG	**Centro de Oper**	**0.76**	**356**	*i* P	**Pn**	**09 58 51.6**	**-0.7**
COEG				*i* S	**Sn**	**09 59 03.3**	**-0.2**
COEG				IAML		09 59 07.3	
	comp=Z,3μm,1.0s						
LCY	**Lacayo**	**0.77**	**43**	*e*P	**Pn**	**09 58 52.3**	**-0.1**
UESV	**Universidad de**	**0.78**	**3**	*e*P	**Pn**	**09 58 52.2**	**-0.2**
UESV	**Universidad de**	**0.78**	**3**	*i* P	**Pn**	**09 58 52.1**	**-0.3**
UESV				*i* S	**Sn**	**09 59 04.0**	**+0.2**
UESV				IAML		09 59 09.0	
	comp=Z,7μm,1.0s						
RANC	**El Ranchito**	**0.78**	**42**	*e*P	**Pn**	**09 58 52.4**	**-0.1**
RANC	**El Ranchito**	**0.78**	**42**	*i* P	**Pn**	**09 58 52.2**	**-0.3**
RANC				*i* S	**Sn**	**09 59 04.3**	**+0.3**
RANC				IAML		09 59 10.6	
	comp=Z,4μm,1.0s						
PACA	**Pacayal**	**0.78**	**39**	*e*P	**Pn**	**09 58 52.8**	**+0.2**
PACA	**Pacayal**	**0.78**	**39**	*i* P	**Pn**	**09 58 52.7**	**+0.2**
PACA				*i* S	**Sn**	**09 59 04.9**	**+0.9**
PACA				IAML		09 59 08.0	
	comp=Z,33μm,1.0s						
LALI	**Alcalda de L**	**0.79 323**		*e*P	**Pn**	**09 58 52.0**	**-0.5**
LALI				IAML		09 59 03.6	
	comp=Z,2μm,0.3s						
LALI	**Alcalda de L**	**0.79 323**		*i* P	**Pn**	**09 58 52.2**	**-0.3**
LALI				*i* S	**Sn**	**09 59 02.9**	**-1.1**
LALI				IAML		09 59 03.3	
	comp=Z,2μm,1.0s						
LFRS	**El Faro**	**0.80 343**	↓	*e*P	**Pn**	**09 58 52.4**	**-0.4**
LFRS				*e*S	**Sn**	**09 59 04.4**	**+0.1**
PQSS	**Presa 15 de Se**	**0.81**	**19**	↓ *e*P	**Pn**	**09 58 52.8**	**+0.1**
PQSS	**Presa 15 de Se**	**0.81**	**19**	*i* P	**Pn**	**09 58 52.7**	**0.0**
PQSS				*i* S	**Sn**	**09 59 05.2**	**+0.9**
PQSS				IAML		09 59 07.4	
	comp=Z,4μm,1.0s						
BLLM	**Bellamira**	**0.82**	**44**	*e*P	**Pn**	**09 58 52.8**	**-0.1**
PANCS	**Alcalda de**	**0.83 335**		*i* P	**Pn**	**09 58 52.3**	**-0.8**
PANCS				*i* S	**Sn**	**09 59 03.9**	**-1.0**
PANCS				IAML		09 59 07.7	
	comp=Z,4μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.85**	**7**	↑ *e*P	**Pn**	**09 58 53.4**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.85**	**7**	*i* P	**Pn**	**09 58 53.4**	**+0.1**
SCLA				*i* S	**Sn**	**09 59 05.9**	**+0.6**
SCLA				IAML		09 59 09.3	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**0.85 337**		*e*P	**Pn**	**09 58 53.1**	**-0.4**
LOMA				IAML		09 59 09.2	
	comp=Z,3μm,0.3s						
LOMA	**Loma Larga**	**0.85 337**		*i* P	**Pn**	**09 58 52.9**	**-0.6**
LOMA				*i* S	**Sn**	**09 59 05.5**	**-0.1**
LOMA				IAML		09 59 09.1	
	comp=Z,3μm,1.0s						
AEIL	**Aeropuerto Ilo**	**0.88 341**		*e*P	**Pn**	**09 58 53.7**	**0.0**
CNRM	**Centro Naciona**	**0.89**	**46**	*e*P	**Pn**	**09 58 53.7**	**0.0**
CNRM	**Centro Naciona**	**0.89**	**46**	*i* P	**Pn**	**09 58 53.6**	**-0.1**
CNRM				*i* S	**Sn**	**09 59 07.3**	**+1.2**
CNRM				IAML		09 59 10.8	
	comp=Z,12μm,1.0s						
UDBS	**Universidad Do**	**0.91 340**		*e*P	**Pn**	**09 58 53.9**	**-0.2**
UDBS	**Universidad Do**	**0.91 340**		*i* P	**Pn**	**09 58 53.9**	**-0.2**
UDBS				*i* S	**Sn**	**09 59 06.8**	**0.0**
UDBS				IAML		09 59 10.8	
	comp=Z,3μm,1.0s						
SNET	**Serv Nac Est T**	**0.92 335**		*e*P	**Pn**	**09 58 53.9**	**-0.4**
SNET				IAML		09 59 07.9	
	comp=Z,2μm,0.3s						
SNET	**Serv Nac Est T**	**0.92 335**		*i* P	**Pn**	**09 58 53.8**	**-0.4**
SNET				*i* S	**Sn**	**09 59 06.4**	**-0.5**
SNET				IAML		09 59 07.7	
	comp=Z,4μm,1.0s						
IGN	**Direccin Gen**	**0.92 339**		*i* P	**Pn**	**09 58 54.1**	**-0.1**
IGN				IAML		09 58 54.4	
	comp=Z,8μm,1.0s						
IGN				*i* S	**Sn**	**09 59 07.0**	**+0.1**
ITCA	**Escuela Especi**	**0.92 332**		*e*P	**Pn**	**09 58 54.0**	**-0.4**
ITCA	**Escuela Especi**	**0.92 332**		*i* P	**Pn**	**09 58 53.6**	**-0.7**
ITCA				*i* S	**Sn**	**09 59 06.6**	**-0.5**
ITCA				IAML		09 59 19.3	
	comp=Z,4μm,1.0s						
LFU	**La Fuente**	**0.93 343**		*e*P	**Pn**	**09 58 54.4**	**0.0**
LFU				*e*S	**Sn**	**09 59 07.5**	**+0.3**
MAGS	**Ministerio de**	**0.94 332**		*e*P	**Pn**	**09 58 54.1**	**-0.4**
UEES	**Universidad Ev**	**0.94 335**		*e*P	**Pn**	**09 58 54.1**	**-0.4**
UEES	**Universidad Ev**	**0.94 335**		*i* P	**Pn**	**09 58 54.4**	**-0.2**
UEES				*i* S	**Sn**	**09 59 07.3**	**-0.3**
UEES				IAML		09 59 11.5	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	**0.97 331**	↑	*e*P	**Pn**	**09 58 54.6**	**-0.4**
PMON	**Piamonte**	**0.97 331**		*i* P	**Pn**	**09 58 54.6**	**-0.4**
PMON				*i* S	**Sn**	**09 59 08.2**	**-0.1**
PMON				IAML		09 59 13.5	
	comp=Z,4μm,1.0s						
BOQS	**Boqueron**	**0.98 333**		*e*P	**Pn**	**09 58 55.1**	**-0.1**
BOQS				*e*S	**Sn**	**09 59 08.8**	**+0.3**
JAYA	**Jayaque - finc**	**1.00 323**		*e*P	**Pn**	**09 58 54.8**	**-0.5**
JAYA	**Jayaque - finc**	**1.00 323**		*i* P	**Pn**	**09 58 54.8**	**-0.5**
JAYA				*i* S	**Sn**	**09 59 07.9**	**-1.0**
JAYA				IAML		09 59 10.4	
	comp=Z,8μm,1.0s						
LCND	**La Caada**	**1.02**	**64**	*e*P	**Pn**	**09 58 55.3**	**-0.1**
LCND	**La Caada**	**1.02**	**64**	*i* P	**Pn**	**09 58 55.4**	**0.0**
LCND				*i* S	**Sn**	**09 59 09.3**	**+0.2**
LCND				IAML		09 59 11.1	
	comp=Z,7μm,1.0s						
CNCH	**Conchagua**	**1.05**	**67**	↑ *e*P	**Pn**	**09 58 55.8**	**-0.2**
CNCH	**Conchagua**	**1.05**	**67**	*i* P	**Pn**	**09 58 55.6**	**-0.4**
CNCH				*i* S	**Sn**	**09 59 10.0**	**-0.1**
CNCH				IAML		09 59 14.2	
	comp=Z,7μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.06 336**		*e*P	**Pn**	**09 58 56.2**	**+0.1**
QUEZ	**Alcaldia de Qu**	**1.06 336**		*i* P	**Pn**	**09 58 56.2**	**+0.1**
QUEZ				*i* S	**Sn**	**09 59 10.9**	**+0.7**
QUEZ				IAML		09 59 21.1	
	comp=Z,4μm,1.0s						
CEDA	**San Andres**	**1.09 330**		*e*P	**Pn**	**09 58 56.1**	**-0.3**
CEDA				IAML		09 59 14.8	
	comp=Z,2μm,0.3s						
CEDA	**San Andres**	**1.09 330**		*i* P	**Pn**	**09 58 56.1**	**-0.3**
CEDA				*i* S	**Sn**	**09 59 11.0**	**+0.2**
CEDA				IAML		09 59 24.9	
	comp=Z,4μm,1.0s						
SBLS	**San Blas**	**1.25 322**		*e*P	**Pn**	**09 58 59.1**	**+0.5**
SNJE	**San Jose**	**1.26 323**		*e*P	**Pn**	**09 58 58.9**	**+0.1**
LLGN	**La Laguna**	**1.30 355**	↑	*e*P	**Pn**	**09 58 59.1**	**-0.2**
LLGN	**La Laguna**	**1.30 355**		*i* P	**Pn**	**09 58 59.0**	**-0.2**
LLGN				IAML		09 58 59.1	
	comp=Z,690nm,1.0s						
LLGN				*i* S	**Sn**	**09 59 15.4**	**-0.5**
RTR	**El Retiro**	**1.31 323**		*e*P	**Pn**	**09 58 59.7**	**+0.3**
UNIC	**Universidad Ca**	**1.

OCON	**Estacion meteo**	**2.41**	**71**	*i* P	**Pn**	**09 59 12.5**	**-1.7**
OCON				*i* S	**Sn**	**09 59 41.0**	**-1.7**
OCON				IAML		09 59 42.6	
	comp=Z,200nm,1.0s						
BRAN	**Las Pilas**	**2.42**	**93**	*i* P	**Pn**	**09 59 15.6**	**+1.4**
BRAN				IAML		09 59 20.6	
	comp=Z,420nm,1.0s						
BRAN				*i* S	**Sn**	**09 59 44.8**	**+2.0**
SAPS	**Ciudad Sandino**	**2.46**	**106**	*i* P	**Pn**	**09 59 15.2**	**+0.4**
SAPS				*i* S	**Sn**	**09 59 42.9**	**-0.9**
SAPS				IAML		09 59 49.6	
	comp=Z,410nm,1.0s						
RE6B4	**Centro civico**	**2.58**	**106**	*i* P	**Pn**	**09 59 16.2**	**-0.1**
RE6B4				IAML		09 59 20.7	
	comp=Z,300nm,1.0s						
TISN	**Laguna Tiscapa**	**2.60**	**106**	*i* P	**Pn**	**09 59 14.5**	**-2.1**
TISN				IAML		09 59 45.4	
	comp=Z,23nm,1.0s						
RB213	**Mirador 2 Volc**	**2.74**	**108**	*i* P	**Pn**	**09 59 16.7**	**-1.9**
RB213				IAML		09 59 56.2	
	comp=Z,290nm,1.0s						
BOAB	**BOACO BROADBAN**	**3.11**	**97**	*i* P	**Pn**	**09 59 23.0**	**-0.7**
BOAB				IAML		09 59 26.0	
	comp=Z,52nm,1.0s						
INDI	**Punta indio, G**	**4.41**	**132**	*i* P	**Pn**	**09 59 42.4**	**+1.0**
INDI				IAML		10 00 30.1	
	comp=Z,63nm,1.0s						
LCR2	**La Lucha 2**	**5.65**	**123**	*i* P	**Pn**	**10 00 01.3**	**+2.7**
LCR2				IAML		10 00 05.9	
	comp=Z,34nm,1.0s						
LCR2				*i* S	**Sn**	**10 01 01.0**	**-1.3**
OCHAL	**Ojochal**	**6.31**	**126**	*i* P	**Pn**	**10 00 09.6**	**+2.1**
OCHAL				IAmb	IAmb	10 00 17.5	
	comp=Z,35nm,2.0s						
OCHAL				*i* S	**Sn**	**10 01 18.3**	**+0.1**
OCHAL				IAML		10 01 25.2	
	comp=Z,87nm,1.0s						
DRK0	**Durika**	**6.54**	**123**	*i* P	**Pn**	**10 00 13.2**	**+2.4**
DRK0				*i* S	**Sn**	**10 01 22.1**	**-2.0**
DRK0				IAML		10 01 49.9	
	comp=Z,310nm,1.0s						

BJI ***22*** *10:04:36.3±0.0, 4.′44N×92.′96E, h24km, mb4.8/65, mB5.2/26, Ms5.1/22, Ms7 4.7/22*
DJA ***22*** *10:04:37.5±1.1, 5.′N±7.′×9.′3E±1.′1, h10km, M5.2/8, mb5.3/7, mB5.4/2, MLv5.2/8, Mw(mB)4.9/2*
MOS ***22*** *10:04:37.6±0.9, 4.′88N×92.′99E, h9km, mb5.2/27, Error ellipse: s-maj=8.8km s-min=5.1km az=100.5*
IDC ***22*** *10:04:38.1±0.6, 4.′88N×93.′00E, h0km, mb4.5/16, mbtmp4.6/18, ML4.7/2, Error ellipse: s-maj=21.6km s-min=14.6km az=72.0*
NEIC ***22*** *10:04:40.4±2.1, 4.′89N±0.′08×92.′97E±0.′08, h10km±1km, mb5.2/43, Error ellipse: s-maj=14.6km s-min=12.3km az=221.0*
ISC 22 10:04:39.6±0.4, 4.′84N±0.′05×92.′99E±0.′06, h10km, n398, σ0.′81/385, mb5.0/76, MS4.6/10, 12C-8D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.45**	**99**	P	**Pn**	**10 05 31.9**	**-1.6**
LHMI	**Lhok Sumawe**	**3.96**	**84**	Pn	**Pn**	**10 05 41.0**	**+0.5**
LHMI	**Lhok Sumawe**	**3.96**	**84**	P	**Pn**	**10 05 41.2**	**+0.7**
SNSI	**Sinabang, Aceh**	**4.12**	**126**	P	**Pn**	**10 05 40.5**	**-2.1**
KCSI	**Kotacane, Aceh**	**4.95**	**105**	P	**Pn**	**10 05 54.6**	**+0.5**
	344nm,1.1s,4μm1.3nm						
GSI	**Gunungsitoli**	**5.77**	**127**	Pn	**Pn**	**10 06 04.3**	**-1.2**
GSI	**Gunungsitoli**	**5.77**	**127**	P	**Pn**	**10 06 03.6**	**-1.8**
	125nm,0.5s						
PSI	**Prapat**	**6.26**	**109**	P	**Pn**	**10 06 13.5**	**+1.3**
RPSI	**Rantau Prapat**	**6.30**	**110**		**Pn**	**10 06 13.5**	**+0.9**
PBA	**Port Blair**	**6.78**	**358**	Pn	**Pn**	**10 06 20.8**	**+1.6**
PBA	**Port Blair**	**6.78**	**358**	*ex*	**Pn**	**10 06 21.9**	**+2.7**
PBSI	**Pulau Batu**	**7.18**	**132**	P	**Pn**	**10 06 24.3**	**-0.5**
	233nm,1.1s,1.1nm						
SRIT	**Nakonsritamara**	**7.56**	**60**	Pn	**Pn**	**10 06 30.1**	**+0.2**
KULM	**Kulim**	**7.65**	**86**	Pn	**Pn**	**10 06 31.1**	**-0.1**
SISI	**Saibi**	**8.64**	**135**	P	Pn	10 06 33.9	-11
PALK	**Pallekele**	**12.45**	**282**	Pn	**Pn**	**10 07 36.7**	**-0.5**
PALK	**Pallekele**	**12.45**	**282**	Pn	**Pn**	**10 07 36.4**	**-0.7**
	4.9nm,0.3s,baz=204,slow=12,SNR=21						
PALK				Sn	Sn	10 09 42.2	-14
	5.7nm,0.3s,baz=132,slow=10,SNR=14						
	13nm,0.4s						
PALK	**Pallekele**	**12.45**	**282**	*de*P	**Pn**	**10 07 36.6**	**-0.5**
CM31	**Chiang Mai Arr**	**14.73**	**23**	Pn	**Pn**	**10 08 07.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**14.73**	**23**	Pn	**Pn**	**10 08 08.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**14.73**	**23**	Pn	**Pn**	**10 08 07.8**	**-0.4**
	0.9nm,0.3s,baz=218,slow=14,SNR=139						
	28nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.73**	**23**	P	**Pn**	**10 08 08.2**	**-0.1**
MDRS	**Chennai**	**15.00**	**304**	*e*P	**P**	**10 08 17.7**	**+0.4**
CHTO	**Chiang Mai**	**15.06**	**22**		**Pn**	**10 08 11.5**	**-1.1**
CHTO	**Chiang Mai**	**15.06**	**22**	P	**Pn**	**10 08 11.5**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,38nm,1.1s						
PHRA	**Phrae**	**15.31**	**27**	Pn	**Pn**	**10 08 14.6**	**-1.4**
UBPT	**Khong Chiam**	**16.07**	**49**		**Pn**	**10 08 24.4**	**-1.5**
UBPT				IAmb	IAmb	10 08 31.7	
	comp=Z,110nm,1.1s						
DLV	**T Lat**	**16.87**	**64**	Pn	**Pn**	**10 08 35.2**	**-1.1**
SAIH	**SAIHA**	**17.55**	**0**	*e*P	**Pn**	**10 08 42.1**	**-2.5**
SAIH				IAmb	IAmb	10 08 45.4	
	comp=Z,51nm,0.7s						
LEM	**Lembang**	**18.64**	**128**	P	**Pn**	**10 08 59.2**	**+1.0**
SBUM	**Sibu**	**19.34**	**96**	P	**Pn**	**10 09 06.4**	**-0.1**
SLVN	**Son La**	**19.52**	**32**		**P**	**10 09 07.9**	**+0.5**
SLVN				IAmb	IAmb	10 09 11.2	
	comp=Z,84nm,1.1s						
IMP	**Imphal**	**19.90**	**3**	*e*P	**P**	**10 09 09.9**	**-1.6**
BOK	**Bokaro**	**20.05**	**341**	*e*P	Pn	10 09 14.1	-0.8
BOK				IAmb	IAmb	10 09 18.6	
	comp=Z,37nm,0.4s						
SHL	**Shillong**	**20.64**	**357**	P	**P**	**10 09 17.1**	**-2.5**
SHL				IAmb	IAmb	10 09 19.5	
	comp=Z,154nm,1.0s						
SHL	**Shillong**	**20.64**	**357**	*e*P	**P**	**10 09 17.6**	**-2.1**
SHL	**Shillong**	**20.64**	**357**	P	**P**	**10 09 17.2**	**-2.5**
SHL				pmax	pmax		
	comp=Z,154nm,1.0s						
TNCH	**TengChong**	**20.77**	**14**	P	**P**	**10 09 21.3**	**+0.3**
TNCH				pP	sP	10 09 25.1	+1.0
TNCH				PP	**PnPn**	**10 09 42.9**	**+3.6**
TNCH				S	**S**	**10 13 08.5**	**-4.6**
TNCH				pmax	pmax		
	comp=Z,88nm,0.9s						
TNCH				pmax	pmax		
	comp=Z,190nm,4.4s						
TNCH				LR	LR		
	comp=Z,1μm,14.3s						
TNCH				LR	LR		
	comp=Z,1μm,10.8s						
TNCH				LR	LR		
	comp=Z,510nm,17.4s						
KOHI	**KOHIMA**	**20.79**	**3**	*e*P	**P**	**10 09 19.2**	**-2.0**
KOHI				IAmb	IAmb	10 09 21.8	
	comp=Z,184nm,0.8s						
MOKO	**MOKOCHONG**	**21.41**	**4**	*e*P	**P**	**10 09 27.2**	**-0.7**
MOKO				IAmb	IAmb	10 09 28.6	
	comp=Z,162nm,0.6s						
QIZ	**Qiongzhong**	**21.67**	**48**	P	**P**	**10 09 30.3**	**-0.3**
QIZ				pmax	pmax		
	comp=Z,62nm,1.4s						
QIZ				LR	LR		
	comp=Z,1μm,16.0s						
QIZ				LR	LR		
	comp=Z,370nm,11.8s						
QIZ				LR	LR		
	comp=Z,910nm,18.5s						
ITAN	**ITANAGAR**	**22.19**	**2**	*e*P	**P**	**10 09 35.2**	**-1.0**
KMI	**Kunming**	**22.24**	**24**	⇓P	**P**	**10 09 38.1**	**+1.2**
KMI				S	**S**	**10 13 43.1**	**+1.1**
KMI				pmax	pmax		
	comp=Z,26nm,1.2s						
KMI				LR	LR		
	comp=Z,860nm,10.2s						
KMI				LR	LR		
	comp=Z,780nm,10.3s						
KMI				LR	LR		
	comp=Z,1μm,11.1s						
ZIRO	**ZIRO**	**22.58**	**2**	*e*P	**P**	**10 09 38.5**	**-2.0**
GTK	**Tadong**	**22.74**	**350**	*e*P	**P**	**10 09 42.2**	**0.0**
GTK				IAmb	IAmb	10 09 51.8	
	comp=Z,65nm,1.0s						
PZH	**PanZhiHua**	**23.11**	**20**	P	**P**	**10 09 46.9**	**+0.8**
PZH				S	**S**	**10 13 57.6**	**0.0**
PZH				pmax	pmax		
	comp=Z,50nm,0.9s						
PZH				pmax	pmax		
	comp=Z,230nm,4.7s						
PZH				LR	LR		
	comp=Z,530nm,12.7s						
PZH				LR	LR		
	comp=Z,590nm,12.0s						
PZH				LR	LR		
	comp=Z,810nm,13.9s						
BHPL	**Bhopal**	**23.67**	**322**	*ex*	PnPn	10 10 06.6	-12
BHPL				IAmb	IAmb	10 10 08.8	
	comp=Z,9.8nm,0.6s						
H08S3	**Diego Garcia H**	**23.91**	**239**	T	T	10 34 53.6	
	baz=59,slow=75						
H08S2	**Diego Garcia H**	**23.91**	**239**	T	T	10 34 55.4	
	baz=59,slow=75						
H08S1	**Diego Carcia H**	**23.93**	**239**	T	T	10 34 55.2	
	baz=59,slow=75						
LSA	**Lhasa**	**24.79**	**356**	P	**P**	**10 10 04.0**	**+1.6**
LSA	**Lhasa**	**24.79**	**356**	P	**P**	**10 10 02.2**	**-0.1**
LSA				IAmb	IAmb	10 10 06.4	
	comp=Z,75nm,1.3s						
LSA	**Lhasa**	**24.79**	**356**	P	**P**	**10 10 02.3**	**-0.1**
LSA				pmax	pmax		
	comp=Z,75nm,1.3s						
GYA	**Guiyang**	**25.16**	**30**	⇑P	**P**	**10 10 05.8**	**+0.4**
GYA				S	**S**	**10 14 26.8**	**-3.9**
GYA				pmax	pmax		
	comp=Z,36nm,1.0s						
GYA				pmax	pmax		
	comp=Z,280nm,6.2s						
GYA				LR	LR		
	comp=Z,600nm,12.5s						
GYA				LR	LR		
	comp=Z,670nm,16.3s						
GYA				LR	LR		
	comp=Z,400nm,17.8s						
KAPI	**Kappang**	**28.47**	**110**	*c i*P	**P**	**10 10 35.3**	**+0.1**
KAPI				pmax	pmax		
	comp=Z,37nm,1.4s						
GOMU	**GeErMu**	**31.25**	**3**	P	**P**	**10 11 00.8**	**+0.8**
GOMU				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WHN	**Wuhan**	**32.54**	**36**	P	**P**	**10 11 11.6**	**+0.6**
XAN	**Xi'an**	**32.61**	**25**	⇓P	**P**	**10 11 10.5**	**-1.1**
XAN				S	**S**	**10 16 27.0**	**-0.5**
XAN				pmax	pmax		
	comp=Z,55nm,0.9s						
XAN				pmax	pmax		
	comp=Z,280nm,4.6s						
XAN				LR	LR		
	comp=Z,1μm,12.9s						
XAN				LR	LR		
	comp=Z,2μm,11.0s						
XAN				LR	LR		
	comp=Z,2μm,14.4s						
LZH	**Lanzhou**	**32.66**	**16**	P	**P**	**10 11 12.3**	**+0.1**
LZH				sP	pwP	10 11 21.3	+1.8
LZH				pmax	pmax		
	comp=Z,41nm,1.4s						
NIL	**Nilore**	**34.04**	**330**	P	**P**	**10 11 23.7**	**-0.4**
NIL	**Nilore**	**34.04**	**330**	P	**P**	**10 11 23.7**	**-0.4**
LYN	**LuoYang**	**34.64**	**29**	P	**P**	**10 11 29.6**	**+0.3**
LYN				sP	pwP	10 11 36.1	+0.9
LYN				pmax	pmax		
	comp=Z,39nm,1.0s						
LYN				pmax	pmax		
	comp=Z,390nm,4.9s						
LYN				LR	LR		
	comp=Z,1μm,14.7s						
LYN				LR	LR		
	comp=Z,1μm,13.8s						
LYN				LR	LR		
	comp=Z,2μm,15.7s						
GTA	**Gaotai**	**34.97**	**9**	*e*P	**P**	**10 11 32.5**	**+0.3**
GTA				sP	pwP	10 11 47.6	+8.2
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NJ2	**Nanjing**	**36.33**	**39**	*e*P	**P**	**10 11 43.6**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,98nm,4.4s						
KSH	**Kashi**	**37.80**	**338**	P	**P**	**10 11 54.6**	**-1.8**
KSH				sP	pwP	10 12 07.9	+4.5
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HNS	**HongShan**	**38.01**	**29**	⇑P	**P**	**10 11 58.3**	**+0.3**
HNS				S	**S**	**10 17 52.0**	**+1.7**
HNS				pmax	pmax		
	comp=Z,40nm,1.0s						
HNS				LR	LR		
	comp=Z,810nm,18.2s						
BTO	**Baotou**	**38.77**	**21**	*e*P	**P**	**10 12 04.3**	**-0.2**
BTO				pP	**sP**	**10 12 08.4**	**+0.8**
BTO				sP	**pwP**	**10 12 10.8**	**+0.5**
BTO				PP	**PnPn**	**10 13 36.1**	**+0.7**
BTO				S	**S**	**10 18 02.8**	**+0.9**
BTO				pmax	pmax		
	comp=Z,58nm,0.7s						
BTO				pmax	pmax		
	comp=Z,210nm,4.1s						
BTO				LR	LR		
	comp=Z,3μm,15.3s						
BTO				LR	LR		
	comp=Z,4μm,14.1s						
BTO				LR	LR		
	comp=Z,3μm,18.6s						
WMQ	**Urumqi**	**39.10**	**354**	*e*P	**P**	**10 12 07.8**	**+0.6**
WMQ				sP	pwP	10 12 14.8	+0.4
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
WMQ				LR	LR		
	comp=Z,7μm,12.9s						
WMQ				LR	LR		
	comp=Z,9μm,15.9s						
WMQ				LR	LR		
	comp=Z,6μm,23.9s						
TARG	**Taragay, Kyrgy**	**39.16**	**342**	P	**P**	**10 12 08.6**	**+0.5**
TARG				IAmb	IAmb	10 13 31.4	
	comp=Z,82nm,1.1s						
TARG	**Taragay, Kyrgy**	**39.16**	**342**	P	**P**	**10 12 08.6**	**+0.5**
TARG				pmax	pmax		
	comp=Z,82nm,1.1s						
NRN	**Naryn**	**39.48**	**340**	P	**P**	**10 12 10.9**	**+0.2**
NRN	**Naryn**	**39.48**	**340**	P	**P**	**10 12 10.9**	**+0.2**
NRN				pmax	pmax		
	comp=Z,199nm,1.2s						
HHC	**Hu-ho-hao-te**	**39.54**	**22**	⇓*i*P	**P**	**10 12 11.5**	**+0.5**
HHC				pP	sP	10 12 14.9	+0.8
HHC				sP	pwP	10 12 18.3	+1.4
HHC				pmax	pmax		
	comp=Z,29nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,4.9s						
PRZ	**Przheval'sk**	**39.67**	**343**	P	**P**	**10 12 13.0**	**+0.9**
PRZ				IAmb	IAmb	10 13 42.4	
	comp=Z,110nm,1.2s						
PRZ	**Przheval'sk**	**39.67**	**343**	P	**P**	**10 12 13.0**	**+0.9**
PRZ				pmax	pmax		
	comp=Z,109nm,1.2s						
SHLS	**Shalkode**	**40.00**	**345**	*e*P	**P**	**10 12 13.6**	**-1.1**
	baz=345						
SHLS	**Shalkode**	**40.00**	**345**	*e*P	**P**	**10 12 13.6**	**-1.1**
UZB	**Uzynbulak**	**40.10**	**344**	*e*P	**P**	**10 12 15.3**	**-0.4**
	baz=344						
UZB	**Uzynbulak**	**40.10**	**344**	*e*P	**P**	**10 12 15.3**	**-0.4**
SATY	**Saty**	**40.20**	**343**	*e*P	**P**	**10 12 16.2**	**-0.3**
	baz=343						
SATY	**Saty**	**40.20**	**343**	*e*P	**P**	**10 12 16.1**	**-0.3**
BOOM	**Boomskoye usch**	**40.44**	**340**	P	**P**	**10 12 18.3**	**-0.2**
BOOM	**Boomskoye usch**	**40.44**	**340**	P	**P**	**10 12 18.3**	**-0.2**
BOOM				pmax	pmax		
	comp=Z,171nm,1.2s						
KPKS	**Kokpek**	**40.49**	**344**	*e*P	**P**	**10 12 18.1**	**-0.7**
	baz=344						
KPKS	**Kokpek**	**40.49**	**344**	*e*P	**P**	**10 12 18.1**	**-0.7**
ARSB	**Arslanbob**	**40.50**	**337**	P	**P**	**10 12 18.6**	**-0.4**
ARSB				IAmb	IAmb	10 12 47.3	
	comp=Z,68nm,1.2s						
ARSB	**Arslanbob**	**40.50**	**337**	P	**P**	**10 12 18.6**	**-0.4**
ARSB				pmax	pmax		
	comp=Z,68nm,1.2s						
TNSS	**Tian-Shan**	**40.61**	**342**	*e*P	**P**	**10 12 19.2**	**-0.9**
	baz=342						
TNSS	**Tian-Shan**	**40.61**	**342**	*e*P	**P**	**10 12 19.2**	**-0.9**
MDOK	**Medeo**	**40.69**	**342**	*e*P	**P**	**10 12 20.2**	**-0.4**
	baz=342						
MDOK	**Medeo**	**40.69**	**342**	*e*P	**P**	**10 12 20.1**	**-0.4**
UCH	**Uchtor**	**40.70**	**339**	P	**P**	**10 12 21.3**	**+0.3**
	SNR=11						
AAA	**Alma-Ata**	**40.78**	**342**	*e*P	**P**	**10 12 21.1**	**-0.1**
	comp=Z,13nm,0.6s,baz=342						
AAA	**Alma-Ata**	**40.78**	**342**	*e*P	**P**	**10 12 21.0**	**-0.1**
AAA				pmax	pmax		
	comp=Z,13nm,0.6s						
BJT	**Baijiatuau**	**40.79**	**28**	P	**P**	**10 12 21.4**	**+0.2**
BJT	**Baijiatuau**	**40.79**	**28**	P	**P**	**10 12 21.4**	**+0.2**
BJT				pmax	pmax		
	comp=Z,25nm,1.1s						
BJI	**Beijing**	**40.81**	**28**	P	**P**	**10 12 21.8**	**+0.5**
BJI				sP	**pwP**	**10 12 29.1**	**+1.9**
BJI				pmax	pmax		
	comp=Z,11nm,1.2s						
BJI				pmax	pmax		
	comp=Z,85nm,6.1s						
AML	**Almayashu**	**40.92**	**338**	P	**P**	**10 12 23.4**	**+0.6**
	SNR=18						
KBK	**Karagaybulak**	**40.93**	**340**	P	**P**	**10 12 23.5**	**+1.0**
	SNR=5.5						
TKM2	**Tokmak 2**	**40.94**	**340**	P	**P**	**10 12 22.8**	**+0.2**
	SNR=10						
AAK	**Ala-Archa**	**41.07**	**339**	P	**P**	**10 12 23.7**	**+0.1**
AAK				IAmb	IAmb	10 13 06.8	
	comp=Z,127nm,1.1s						
AAK	**Ala-Archa**	**41.07**	**339**	*ce*P	**P**	**10 12 24.2**	**+0.5**
AAK				pmax	pmax		
	comp=Z,17nm,1.3s						
ARXS	**Arharly**	**41.42**	**343**	*e*P	**P**	**10 12 26.0**	**-0.4**
USP	**Ospenovka**	**41.62**	**340**	P	**P**	**10 12 28.3**	**+0.3**
	SNR=11						
SGDS	**Sogindy**	**41.74**	**340**	*e*P	**P**	**10 12 28.8**	**-0.3**
	comp=Z,24nm,1.1s,baz=340						
SGDS	**Sogindy**	**41.74**	**340**	*e*P	**P**	**10 12 28.7**	**-0.3**
SGDS				pmax	pmax		
	comp=Z,24nm,1.1s						
TDK	**Taldyqorghan**	**41.99**	**345**	*e*P	**P**	**10 12 30.6**	**-0.4**
	comp=Z,24nm,0.9s,baz=344						
TDK	**Taldyqorghan**	**41.99**	**345**	*e*P	**P**	**10 12 30.6**	**-0.4**
TDK				pmax	pmax		
	comp=Z,24nm,0.9s						
CHM	**Chimkent**	**42.73**	**334**	*e*P	**P**	**10 12 37.0**	**-0.1**
	comp=Z,23nm,0.6s,baz=334						
CHM	**Chimkent**	**42.73**	**334**	*e*P	**P**	**10 12 36.9**	**-0.1**
CHM				pmax	pmax		
	comp=Z,23nm,0.6s						
MK31	**Makanchi Array**	**42.81**	**349**	P	**P**	**10 12 37.3**	**-0.3**
MK31				IAmb	IAmb	10 13 39.7	
	comp=Z,41nm,0.9s						
MK31	**Makanchi Array**	**42.81**	**349**	P	**P**	**10 12 37.3**	**-0.3**
MK31				pmax	pmax		
	comp=Z,41nm,0.9s						
MKAR	**Makanchi Array**	**42.81**	**349**	P	**P**	**10 12 37.3**	**-0.3**
	comp=Z,13nm,1.1s,baz=160,slow=7.6,SNR=37						
	comp=Z,13nm,1.1s						
MAKZ	**Makanchi**	**42.88**	**349**	P	**P**	**10 12 37.3**	**-0.9**
MAKZ				IAmb	IAmb	10 13 43.6	
	comp=Z,148nm,1.7s						
MAKZ	**Makanchi**	**42.88**	**349**	P	**P**	**10 12 37.3**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,148nm,1.7s						
ZSN	**Zaisan**	**43.02**	**352**	*e*P	**P**	**10 12 39.1**	**-0.3**
	baz=352						
ZSN	**Zaisan**	**43.02**	**352**	*e*P	**P**	**10 12 39.1**	**-0.3**
BRLS	**Borolday**	**43.21**	**335**	*e*P	**P**	**10 12 39.3**	**-1.7**
	comp=Z,32nm,1.1s,baz=335						
BRLS	**Borolday**	**43.21**	**335**	*e*P	**P**	**10 12 39.3**	**-1.7**
BRLS				pmax	pmax		
	comp=Z,32nm,1.1s						
BTLS	**Baital**	**43.34**	**340**	*e*P	**P**	**10 12 41.2**	**-0.8**
	comp=Z,40nm,1.0s,baz=340						
BTLS	**Baital**	**43.34**	**340**	*e*P	**P**	**10 12 41.1**	**-0.8**
BTLS				pmax	pmax		
	comp=Z,40nm,1.0s						
XLT	**XiLinHaoTe**	**43.90**	**24**	*e*P	**P**	**10 12 46.8**	**+0.2**
XLT				sP	pwP	10 12 53.6	+1.1
XLT				pmax	pmax		
	comp=Z,31nm,1.0s						
XLT				pmax	pmax		
	comp=Z,120nm,3.6s						
H01W3	**Cape Leeuwin H**	**44.25**	**155**	T	T	11 00 01.7	
	baz=330,slow=76,SNR=38						
H01W2	**Cape Leeuwin H**	**44.26**	**155**	T	T	11 00 02.6	
	baz=330,slow=76,SNR=44						
H01W1	**Cape Leeuwin H**	**44.26**	**155**	T	T	11 00 02.8	
	baz=330,slow=76,SNR=27						
SONM	**Songino Array**	**44.36**	**13**	P	**P**	**10 12 49.3**	**-1.0**
SONM	**Songino Array**	**44.36**	**13**	P	**P**	**10 12 50.1**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=194,slow=8.0,SNR=21						
SONM				PcP	**PcP**	**10 14 34.6**	**+0.4**
	comp=Z,3.7nm,0.7s,baz=208,slow=5.5,SNR=5.2						
	comp=Z,4.9nm,0.7s						
SONM	**Songino Array**	**44.36**	**13**	P	**P**	**10 12 49.3**	**-1.0**
SONM				pmax	pmax		
	comp=Z,20nm,1.2s						
ULN	**Ulaanbaatar**	**44.54**	**13**	⇑*e*P	**P**	**10 12 51.3**	**-0.4**
ULN				pmax	pmax		
	comp=Z,13nm,3.0s						
JNU	**Nakatsue**	**45.13**	**47**	P	**P**	**10 12 55.9**	**-0.6**
	comp=Z,11nm,0.9s,baz=206,slow=13,SNR=4.2						
	comp=Z,11nm,0.9s						
KSRS	**Korea Array**	**45.51**	**40**	P	**P**	**10 12 58.5**	**-0.9**
	comp=Z,3.7nm,1.1s,baz=224,slow=7.8,SNR=11						
	comp=Z,3.7nm,1.1s						
ZAK	**Zakamensk**	**46.21**	**9**	*e*P	**P**	**10 13 04.1**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.9s						
KURBB	**Kurchatov Arra**	**47.22**	**347**	P	**P**	**10 13 12.7**	**+0.1**
	comp=Z,10nm,1.1s,baz=168,slow=7.4,SNR=30						
	comp=Z,10nm,1.1s						
KURK	**Kurchatov**	**47.28**	**348**	P	**P**	**10 13 12.8**	**-0.3**
KURK	**Kurchatov**	**47.28**	**348**	*c i*P	**P**	**10 13 13.3**	**+0.2**
KURK				pmax	pmax		
	comp=Z,27nm,1.4s						
WB0	**Warramunga Arr**	**47.49**	**122**	P	**P**	**10 13 14.8**	**-0.5**
WB0				IAmb	IAmb	10 13 22.6	
	comp=Z,27nm,1.1s						
WRA	**Warramunga Arr**	**47.52**	**123**	P	**P**	**10 13 15.1**	**-0.4**
WRA	**Warramunga Arr**	**47.52**	**123**	P	**P**	**10 13 15.5**	**0.0**
	comp=Z,14nm,1.0s,baz=300,slow=8.9,SNR=52						
WRA				PcP	**PcP**	**10 14 45.6**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=309,slow=3.2,SNR=1.3						
	comp=Z,14nm,1.0s						
WRA	**Warramunga Arr**	**47.52**	**123**	P	**P**	**10 13 15.1**	**-0.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.6s						
WRAB	**Tennant Creek**	**47.53**	**123**	P	**P**	**10 13 14.1**	**-1.5**
WRAB				IAmb	IAmb	10 13 23.1	
	comp=Z,32nm,1.1s						
WRAB	**Tennant Creek**	**47.53**	**123**	*ce*P	**P**	**10 13 15.6**	**0.0**
WRAB				pmax	pmax		
	comp=Z,33nm,1.2s						
WB2	**Warramunga Arr**	**47.53**	**123**	P	**

MDJ	**Mudanjiang**	**50.95**	**33**	P	**P**	**10 13 41.1**	**-0.3**
MDJ				pmax	pmax		
comp=Z,20nm,1.5s							
MDJ	**Mudanjiang**	**50.95**	**33**	P	**P**	**10 13 41.9**	**+0.5**
MDJ				IAmb	IAmb	10 13 43.1	
comp=Z,30nm,1.3s							
USA0B	**Ussuriysk Arra**	**52.03**	**35⇓**	*e*P	**P**	**10 13 49.4**	**-0.1**
USRK	**Ussuriysk Ar.**	**52.03**	**35**	P	**P**	**10 13 49.0**	**-0.5**
comp=Z,4.3nm,0.9s,baz=224,slow=7.8,SNR=5.1							
comp=Z,4.3nm,0.9s							
USRK	**Ussuriysk Ar.**	**52.03**	**35**	P	**P**	**10 13 49.0**	**-0.5**
MJAR	**Matsushiro Arr**	**52.05**	**46**	P	**P**	**10 13 49.2**	**-0.7**
comp=Z,2.1nm,0.8s,baz=246,slow=6.8,SNR=2.8							
MJAR				PcP	**PcP**	**10 15 01.6**	**-0.4**
comp=Z,2.7nm,0.9s,baz=239,slow=4.1,SNR=4.1							
comp=Z,2.1nm,0.8s							
HEH	**HeiHe**	**53.71**	**27**	*e*P	**P**	**10 14 01.3**	**-0.4**
HEH				pmax	pmax		
comp=Z,28nm,1.1s							
HEH				pmax	pmax		
comp=Z,220nm,4.7s							
KLR	**Kul'dur**	**55.07**	**30**	P	**P**	**10 14 11.1**	**-0.6**
comp=Z,11nm,1.1s,baz=248,slow=8.1,SNR=13							
comp=Z,11nm,1.1s							
KLR	**Kul'dur**	**55.07**	**30***c*	*i*P	**P**	**10 14 11.7**	**0.0**
KLR				pmax	pmax		
comp=Z,23nm,1.3s							
BOD	**Bodaibo**	**55.35**	**13**	*e*P	**P**	**10 14 13.5**	**0.0**
BOD				pmax	pmax		
comp=Z,19nm,1.6s							
ZEA	**Zeya**	**56.18**	**24**	*e*P	**P**	**10 14 20.0**	**+0.5**
ZEA				pmax	pmax		
comp=Z,10.0nm,1.2s							
STKA	**Stephens Creek**	**58.90**	**132**	P	**P**	**10 14 38.8**	**-0.4**
STKA	**Stephens Creek**	**58.90**	**132**	P	**P**	**10 14 39.5**	**+0.3**
comp=Z,5.6nm,0.6s,baz=301,slow=6.7,SNR=7.6							
comp=Z,5.6nm,0.6s							
STKA	**Stephens Creek**	**58.90**	**132**	P	**P**	**10 14 38.8**	**-0.4**
STKA				pmax	pmax		
comp=Z,4.0nm,1.2s							
YSS	**Yuzh-Sakhalins**	**59.87**	**37**	P	**P**	**10 14 45.3**	**-0.3**
YSS				IAmb	IAmb	10 14 46.8	
comp=Z,43nm,1.2s							
YSS	**Yuzh-Sakhalins**	**59.87**	**37**	*e*P	**P**	**10 14 45.6**	**0.0**
YSS				*e*S	**S**	**10 22 56.8**	**-0.6**
YSS				pmax	pmax		
comp=Z,26nm,1.0s							
BELG	**Belogornoye**	**60.31**	**330***c*	*i*P	**P**	**10 14 51.8**	**+3.3**
BELG				pmax	pmax		
comp=Z,53nm,1.4s							
TYV	**Tymovskoe**	**61.74**	**33**	*e*P	**P**	**10 14 57.6**	**-0.6**
TYV				pmax	pmax		
comp=Z,14nm,1.5s							
TYV				pmax	pmax		
comp=Z,200nm,4.8s							
H04N2	**CROZET ISLANDS**	**62.55**	**211**	T	T	11 23 13.6	
baz=49,slow=75							
H04N1	**CROZET ISLANDS**	**62.56**	**211**	T	T	11 23 10.2	
baz=49,slow=75							
H04N3	**CROZET ISLANDS**	**62.57**	**211**	T	T	11 23 11.9	
baz=49,slow=75							
H04S1	**CROZET ISLANDS**	**62.95**	**210**	T	T	11 23 43.6	
baz=47,slow=76							
H04S3	**CROZET ISLANDS**	**62.96**	**210**	T	T	11 23 43.0	
baz=47,slow=76							
H04S2	**CROZET ISLANDS**	**62.97**	**210**	T	T	11 23 42.4	
baz=47,slow=76							
YAK	**Yakutsk**	**63.22**	**18**	*e*P	**P**	**10 15 06.3**	**-1.6**
YAK				*e*S	**S**	**10 23 38.5**	**-0.8**
YAK				pmax	pmax		
comp=Z,24nm,1.1s							
YAK				pmax	pmax		
comp=N,12nm,1.1s							
YAK				pmax	pmax		
comp=E,21nm,1.5s							
YAK				smax	smax		
comp=N,195nm,4.6s							
YAK				smax	smax		
comp=E,97nm,3.3s							
BRTR	**Keskin Array B**	**63.57**	**312**	P	**P**	**10 15 09.9**	**-0.9**
comp=E,18nm,1.1s,baz=145,slow=9.4,SNR=2.2							
comp=E,18nm,1.1s							
ARMA	**Armidale**	**66.06**	**126**	P	**P**	**10 15 28.0**	**+0.7**
ARMA				IAmb	IAmb	10 15 39.2	
comp=Z,42nm,1.6s							
LSZ	**Lusaka**	**67.20**	**251**	P	**P**	**10 15 35.1**	**+0.3**
LSZ	**Lusaka**	**67.20**	**251**	P	**P**	**10 15 35.1**	**+0.3**
LSZ				pmax	pmax		
comp=Z,137nm,1.4s							
OBN	**Obninsk**	**67.34**	**329**	*e*P	**P**	**10 15 35.0**	**+0.3**
OBN				*e*		10 16 00.6	
OBN				*e*		10 18 03.2	
OBN				*e*PPP	PPP	10 19 38.2	
OBN				pmax	pmax		
comp=Z,45nm,1.0s							
MA2	**Magadan**	**69.97**	**27**	P	**P**	**10 15 50.8**	**-0.3**
MA2				IAmb	IAmb	10 18 25.4	
comp=Z,15nm,0.9s							
MA2	**Magadan**	**69.97**	**27⇓**	*i*P	**P**	**10 15 51.3**	**+0.2**
MA2				pmax	pmax		
comp=Z,21nm,1.4s							
TIXI	**Tiksi**	**70.41**	**11**	P	**P**	**10 15 52.5**	**-1.1**
TIXI	**Tiksi**	**70.41**	**11⇑**	*i*P	**P**	**10 15 52.9**	**-0.7**
TIXI				pmax	pmax		
comp=Z,44nm,1.0s							
LBTB	**Lobatse**	**71.80**	**242**	P	**P**	**10 16 02.4**	**-0.7**
LBTB	**Lobatse**	**71.80**	**242**	P	**P**	**10 16 02.4**	**-0.7**
LBTB				pmax	pmax		
comp=Z,56nm,1.1s							
SEY	**Seymchan**	**72.15**	**24⇓**	*i*P	**P**	**10 16 03.9**	**-0.3**
SEY				pmax	pmax		
comp=Z,14nm,1.4s							
BILL	**Bilibino**	**79.31**	**22**	*e*P	**P**	**10 16 44.0**	**-1.2**
BILL				*e*		10 16 51.5	
BILL				pmax	pmax		
comp=Z,10.0nm,1.3s							
ELIB	**Princess Elisa**	**88.37**	**197**	*d*P	**P**	**10 17 33.6**	**+2.0**
TNA	**Tin City**	**89.39**	**24**	P	**P**	**10 17 36.4**	**+0.1**
baz=280							
SPIA	**Saint Paul Isl**	**89.64**	**33**	P	**P**	**10 17 37.0**	**-0.7**
baz=278							
C16K	**Lisburne Hills**	**89.84**	**21**	P	**P**	**10 17 38.4**	**+0.1**
baz=283							
F14K	**Arctic Creek**	**90.06**	**24**	P	**P**	**10 17 39.7**	**+0.2**
baz=282							
VNDA	**Vanda**	**90.21**	**168**	P	**P**	**10 17 40.7**	**+0.8**
comp=Z,0.5nm,0.4s,baz=288,slow=6.4,SNR=3.8							
comp=Z,0.5nm,0.4s							
C17K	**DeLong Mountai**	**90.58**	**21**	P	**P**	**10 17 42.2**	**+0.4**
baz=285							
ANM	**Nome**	**90.64**	**25**	P	**P**	**10 17 42.9**	**+0.7**
baz=283							
F15K	**North Star Dit**	**90.69**	**24**	P	**P**	**10 17 43.0**	**+0.6**
baz=283							
D17K	**Noatak River**	**90.81**	**22**	P	**P**	**10 17 43.7**	**+0.8**
baz=285							
B18K	**Kokolik River**	**90.82**	**20**	P	**P**	**10 17 43.3**	**+0.4**
baz=286							
G15K	**Niukluk**	**91.10**	**24**	P	**P**	**10 17 44.3**	**-0.1**
baz=284							
M11K	**Mekoryuk**	**91.15**	**29**	P	**P**	**10 17 45.0**	**+0.4**
baz=282							
C18K	**Utukok River**	**91.23**	**21**	P	**P**	**10 17 45.5**	**+0.5**
baz=286							
E17K	**Hotham Inlet**	**91.44**	**22**	P	**P**	**10 17 46.4**	**+0.6**
baz=286							
K13K	**Kusilvak Mount**	**91.55**	**28**	P	**P**	**10 17 46.9**	**+0.5**
baz=283							
C19K	**Lookout Ridge**	**91.65**	**20**	P	**P**	**10 17 47.5**	**+0.6**
baz=288							
G16K	**Koyuk River**	**91.69**	**24**	P	**P**	**10 17 47.6**	**+0.6**
baz=285							
E18K	**Tukpahlearik C**	**91.80**	**22**	P	**P**	**10 17 48.3**	**+0.7**
baz=287							
F17K	**Baldwin Pennin**	**91.84**	**23**	P	**P**	**10 17 48.4**	**+0.8**
baz=286							
A21K	**Barrow**	**91.87**	**18**	P	**P**	**10 17 48.0**	**+0.3**
baz=291							
H16K	**Elim**	**91.94**	**25**	P	**P**	**10 17 48.5**	**+0.3**
baz=285,SNR=5.5							
B20K	**Meade River**	**92.16**	**19**	P	**P**	**10 17 49.7**	**+0.6**
baz=290							
UNV	**Unalaska Valle**	**92.30**	**36**	P	**P**	**10 17 50.2**	**+0.1**
baz=281							
G17K	**Kiwalik Mounta**	**92.34**	**24**	P	**P**	**10 17 50.3**	**+0.2**
baz=287,SNR=5.4							
D19K	**Kuna River**	**92.36**	**20**	P	**P**	**10 17 50.4**	**+0.2**
baz=289							
F18K	**Selawik**	**92.40**	**22**	P	**P**	**10 17 50.8**	**+0.5**
baz=288							
A22K	**Sinclair Lake**	**92.48**	**18**	P	**P**	**10 17 51.1**	**+0.6**
baz=292							
M13K	**Dall Lake**	**92.53**	**29**	P	**P**	**10 17 51.3**	**+0.3**
baz=284							
L14K	**Kuka Creek**	**92.61**	**28**	P	**P**	**10 17 51.7**	**+0.3**
baz=285							
I17K	**Unalakleet**	**92.80**	**25**	P	**P**	**10 17 52.7**	**+0.5**
baz=287							
D20K	**Etivluk River**	**92.80**	**20**	P	**P**	**10 17 52.5**	**+0.3**
baz=291							
H17K	**Granite Mounta**	**92.81**	**24**	P	**P**	**10 17 52.7**	**+0.5**
baz=288,SNR=6.8							
K15K	**Wolf Creek Mou**	**92.88**	**27**	P	**P**	**10 17 53.1**	**+0.5**
baz=286							
G18K	**Tagagawik**	**93.01**	**23**	P	**P**	**10 17 53.2**	**+0.1**
baz=289							
J16K	**Anvik River**	**93.01**	**26**	P	**P**	**10 17 53.8**	**+0.6**
baz=287,SNR=9.4							
E19K	**Redstone River**	**93.02**	**21**	P	**P**	**10 17 53.3**	**+0.1**
baz=290							
F19K	**Shaleruckik Mo**	**93.04**	**22**	P	**P**	**10 17 53.5**	**+0.3**
baz=290,SNR=9.2							
L15K	**Ungalak Mounta**	**93.07**	**27**	P	**P**	**10 17 53.7**	**+0.2**
baz=286,SNR=5.1							
M14K	**Bethel**	**93.10**	**28**	P	**P**	**10 17 54.1**	**+0.5**
baz=286							
E20K	**Nigu River**	**93.11**	**20**	P	**P**	**10 17 54.0**	**+0.4**
baz=291							
B21K	**Ikpikpuk River**	**93.13**	**19**	P	**P**	**10 17 54.1**	**+0.6**
baz=293							
B22K	**Teshekpuk Lake**	**93.22**	**18**	P	**P**	**10 17 54.6**	**+0.6**
baz=294							
C21K	**Knifeblade Rid**	**93.25**	**19**	P	**P**	**10 17 54.8**	**+0.6**
baz=292							
H18K	**Honhosa River**	**93.36**	**24**	P	**P**	**10 17 55.2**	**+0.4**
baz=289,SNR=5.8							
G19K	**Purcell Mounta**	**93.53**	**23**	P	**P**	**10 17 56.1**	**+0.6**
baz=290,SNR=7.9							
J17K	**VABM Dome**	**93.63**	**25**	P	**P**	**10 17 56.5**	**+0.5**
baz=288,SNR=5.2							
F20K	**Avaraart Lake**	**93.72**	**21**	P	**P**	**10 17 56.7**	**+0.3**
baz=292,SNR=6.6							
M15K	**Kasigluk River**	**93.72**	**28**	P	**P**	**10 17 57.0**	**+0.5**
baz=287							
E21K	**Killik River**	**93.80**	**20**	P	**P**	**10 17 57.0**	**+0.2**
baz=293							
L16K	**Owhat River**	**93.98**	**27**	P	**P**	**10 17 58.2**	**+0.5**
baz=288							
H19K	**Roundabout Mou**	**93.99**	**23**	P	**P**	**10 17 58.7**	**+1.1**
baz=291,SNR=14							
D22K	**Ayikyak River**	**94.06**	**19**	P	**P**	**10 17 58.7**	**+0.8**
baz=294							
N15K	**Kwethluk River**	**94.15**	**29**	P	**P**	**10 17 59.0**	**+0.5**
baz=287							
K17K	**Iditarod**	**94.18**	**26**	P	**P**	**10 17 58.6**	**0.0**
baz=289,SNR=7.7							
C23K	**Itkillik River**	**94.30**	**18**	P	**P**	**10 17 59.7**	**+0.7**
baz=296							
L17K	**Donlin**	**94.37**	**27**	P	**P**	**10 18 00.1**	**+0.6**
baz=289							
M16K	**Timber Creek**	**94.43**	**28**	P	**P**	**10 17 59.8**	**+0.1**
baz=288							
F21K	**Alatna River**	**94.46**	**21**	P	**P**	**10 18 00.5**	**+0.7**
baz=294							
O15K	**Ungalikthiuk R**	**94.58**	**30**	P	**P**	**10 18 00.8**	**+0.3**
baz=287							
J18K	**Innoko River**	**94.61**	**25**	P	**P**	**10 18 01.1**	**+0.5**
baz=290,SNR=6.9							
H20K	**Anofleneega Mo**	**94.61**	**23**	P	**P**	**10 18 01.0**	**+0.4**
baz=292,SNR=6.3							
D23K	**Nanushuk River**	**94.67**	**19**	P	**P**	**10 18 01.2**	**+0.5**
baz=296,SNR=6.9							
N16K	**Nishlik Lake**	**94.69**	**28**	P	**P**	**10 18 01.4**	**+0.4**
baz=288							
G21K	**Allakaket**	**94.73**	**22**	P	**P**	**10 18 01.6**	**+0.6**
baz=294,SNR=6.3							
QSPA	**South Pole Qui**	**94.76**	**180**	P	**P**	**10 18 01.9**	**+0.6**
comp=Z,1.0nm,1.0s,baz=171,slow=16,SNR=1.7							
comp=Z,1.0nm,1.0s							
F22K	**John River**	**94.80**	**21**	P	**P**	**10 18 01.8**	**+0.5**
baz=295							
J19K	**Poorman**	**94.88**	**24**	P	**P**	**10 18 02.6**	**+0.8**
baz=291,SNR=7.7							
C24K	**Franklin Bluff**	**94.95**	**18**	P	**P**	**10 18 02.7**	**+0.8**
baz=298							
M17K	**Holitna River**	**95.00**	**27**	P	**P**	**10 18 02.9**	**+0.5**
baz=290							
I20K	**Naaghedeneel**	**95.04**	**23**	P	**P**	**10 18 03.0**	**+0.6**
baz=292							
L18K	**Granite Mounta**	**95.06**	**26**	P	**P**	**10 18 03.0**	**+0.4**
baz=290							
TTA	**Tatalina**	**95.10**	**25**	P	**P**	**10 18 03.3**	**+0.4**
baz=291							
D24K	**Happy Valley**	**95.18**	**18**	P	**P**	**10 18 03.4**	**+0.4**
baz=298							
TOLK	**Toolik Lake Re**	**95.18**	**19**	P	**P**	**10 18 03.3**	**+0.1**
baz=297,SNR=5.7							
G22K	**Bettles**	**95.29**	**21**	P	**P**	**10 18 03.9**	**+0.4**
baz=296							
O16K	**Kokwok River B**	**95.29**	**29**	P	**P**	**10 18 04.0**	**+0.3**
baz=289							
H21K	**Melozitna Rive**	**95.34**	**22**	P	**P**	**10 18 04.3**	**+0.5**
baz=294							
J20K	**Nowinta River**	**95.41**	**24**	P	**P**	**10 18 05.3**	**+1.1**
baz=293							
N17K	**Nushagak Hills**	**95.41**	**28**	P	**P**	**10 18 05.3**	**+1.1**
baz=290							
E23K	**Chandalar**	**95.43**	**20**	P	**P**	**10 18 05.1**	**+0.8**
baz=297,SNR=5.1							
P16K	**Nushagak River**	**95.52**	**29**	P	**P**	**10 18 05.5**	**+0.8**
baz=289							
COLD	**Coldfoot**	**95.61**	**20**	P	**P**	**10 18 05.2**	**+0.1**
baz=297							
M18K	**Stony River**	**95.70**	**27**	P	**P**	**10 18 06.0**	**+0.5**
baz=291							
O17K	**Koliganek Bris**	**95.71**	**29**	P	**P**	**10 18 05.9**	**+0.3**
baz=290							
K20K	**Telida**	**95.76**	**25**	P	**P**	**10 18 06.6**	**+0.7**
baz=293,SNR=7.3							
H22K	**Ishtalitna Cre**	**95.78**	**22**	P	**P**	**10 18 06.3**	**+0.4**
baz=296							
E24K	**Your Creek**	**95.80**	**19**	P	**P**	**10 18 06.3**	**+0.3**
baz=298							
D25K	**Kavik River**	**95.86**	**18**	P	**P**	**10 18 06.7**	**+0.4**
baz=300,SNR=14							
L19K	**White Mountain**	**95.87**	**26**	P	**P**	**10 18 06.8**	**+0.4**
baz=292							
G23K	**Bananza Creek**	**95.91**	**21**	P	**P**	**10 18 06.7**	**+0.2**
baz=297							
N18K	**Kilae Creek**	**95.96**	**27**	P	**P**	**10 18 07.1**	**+0.3**
baz=291							
C26K	**Camden Bay**	**95.99**	**17**	P	**P**	**10 18 07.4**	**+0.7**
baz=302,SNR=5.4							
L20K	**Farewell, AK**	**96.18**	**25**	P	**P**	**10 18 08.3**	**+0.6**
baz=293							
M19K	**Big River Lodg**	**96.18**	**26**	P	**P**	**10 18 08.6**	**+0.8**
baz=292							
P17K	**Kvichak River**	**96.22**	**29**	P	**P**	**10 18 08.3**	**+0.4**
baz=290							
F24K	**Squaw Lake**	**96.27**	**20**	P	**P**	**10 18 08.5**	**+0.4**
baz=299							
H23K	**Yukon River**	**96.48**	**22**	P	**P**	**10 18 09.6**	**+0.5**
baz=297							
C27K	**Jago River**	**96.50**	**17**	P	**P**	**10 18 09.7**	**+0.6**
baz=303							
N19K	**Bonanza Creek**	**96.55**	**27**	P	**P**	**10 18 09.9**	**+0.3**
baz=292							
O18K	**Koktuh Hills**	**96.57**	**28**	P	**P**	**10 18 10.1**	**+0.5**
baz=291							
BPAW	**Bear Paw Mtn.**	**96.70**	**23**	P	**P**	**10 18 10.4**	**+0.2**
baz=296							
P18K	**Big Mountain,**	**96.73**	**29**	P	**P**	**10 18 10.8**	**+0.4**
baz=291							
M20K	**Styx River**	**96.74**	**26**	P	**P**	**10 18 10.7**	**+0.3**
baz=294							
G24K	**Hadweenzic Riv**	**96.81**	**20**	P	**P**	**10 18 11.2**	**+0.7**
baz=299							
F25K	**Christian Rive**	**96.98**	**19**	P	**P**	**10 18 11.9**	**+0.5**
baz=301							
H24K	**Noodor Dome**	**97.08**	**21**	P	Pdif	10 18 12.6	+0.6
baz=299							
G25K	**Bearman Lake**	**97.25**	**20**	P	Pdif	10 18 12.8	+0.2
baz=300							
SKT	**Skwentna**	**97.39**	**25**	P	Pdif	10 18 13.8	+0.4
baz=295							
F26K	**Sheenjek River**	**97.41**	**19**	P	Pdif	10 18 13.8	+0.5
baz=302							
D27M	**Malcolm River**	**97.51**	**17**	P	Pdif	10 18 14.3	+0.5
baz=306							
G26K	**Porcupine Rive**	**97.93**	**19**	P	Pdif	10 18 16.2	+0.6
baz=303							
E27K	**Coleen River**	**97.94**	**18**	P	Pdif	10 18 16.0	+0.4
baz=305							
ILAR	**Eielson Array**	**97.97**	**22**	P	Pdif	10 18 16.7	+0.9
comp=Z,0.5nm,0.8s,baz=272,slow=5.1,SNR=6.5							
comp=Z,0.5nm,0.8s							
CAPN	**Captain Cook N**	**98.07**	**26**	P	**P**	**10 18 16.3**	**+0.1**
baz=295							
PRP	**Porcupine Dome**	**98.09**	**21**	P	**P**	**10 18 16.5**	**0.0**
baz=301							
PMR	**Palmer**	**98.58**	**25**	P	Pdif	10 18 18.7	+0.2
baz=297							
J25K	**Salcha River,**	**98.61**	**22**	P	Pdif	10 18 18.9	+0.1
baz=301							
KDAK	**Kodiak Island**	**98.63**	**30**	P	**P**	**10 18 18.8**	**0.0**
baz=294							
WAT6	**Susitna Watana**	**98.70**	**24**	P	**P**	**10 18 19.4**	**0.0**
baz=298							
G27K	**Doyon Strip**	**98.71**	**19**	P	**P**	**10 18 19.1**	**0.0**
baz=305							
F28M	**Old Crow**	**98.80**	**18**	P	Pdif	10 18 19.7	+0.2
baz=307							
E29M	**Blow River**	**98.92**	**17**	P	Pdif	10 18 20.2	+0.2
baz=309							
H27K	**Steamboat Moun**	**99.08**	**20**	P	**Pdif**	**10 18 21.1**	**+0.3**
baz=305							
F30M	**Barrier River**	**100.03**	**17**	P	**Pdif**	**10 18 25.4**	**+0.4**
baz=310							
I28M	**Miner Creek**	**100.07**	**20**	P	**Pdif**	**10 18 25.2**	**-0.1**
baz=306							
H29M	**Whitestone**	**100.12**	**19**	P	**Pdif**	**10 18 25.6**	**+0.2**
baz=308							
MSO	**Missoula**	**123.31**	**22**	PKPdf	**PKPdf**	**10 23 37.4**	**+0.1**
MSO	**Missoula**	**123.31**	**22**	P	**PKPdf**	**10 23 37.1**	**-0.2**
baz=327							
EGMT	**Eagleton**	**123.70**	**18**	P	**PKPdf**	**10 23 37.7**	**-0.3**
baz=332							
BPMT	**Black Pine Rid**	**123.82**	**22**	PKPdf	**PKPdf**	**10 23 38.6**	**+0.1**
J08A	**Circle Bar Ran**	**124.24**	**27**	PKPdf	**PKPdf**	**10 23 39.2**	**0.0**
DGMT	**Dagmar**	**124.82**	**14**	P	**PKPdf**	**10 23 40.0**	**0.0**
baz=339							
BOZ	**Bozeman (W)**	**125.20**	**21**	P	**PKPdf**	**10 23 40.8**	**-0.3**
baz=330							
HLID	**Hailey**	**125.84**	**24**	PKPdf	**PKiKP**	**10 23 43.1**	**+0.3**
HLID	**Hailey**	**125.84**	**24**	P	**PKPdf**	**10 23 41.9**	**-0.5**
baz=326							
LAO	**LASA Array**	**125.94**	**16**	P	**PKPdf**	**10 23 42.3**	**0.0**
baz=336							
AFDM	**Forest Hills D**	**126.30**	**33**		**PKPdf**	**10 23 42.2**	**-1.0**
RLMT	**Red Lodge**	**126.42**	**19**	P	**PKPdf**	**10 23 43.3**	**-0.1**
baz=332							
EYMN	**Ely**	**127.29**	**4**	P	**PKPdf**	**10 23 44.9**	**+0.2**
baz=354							
SNOW	**Snow King Moun**	**127.35**	**22**		**PKiKP**	**10 23 45.8**	**-0.1**
ELK	**Elko**	**127.78**	**27**	PKP	**PKPdf**	**10 23 46.4**	**+0.1**
comp=Z,0.8nm,0.5s,baz=24,slow=1.5,SNR=3.6							
NVAR	**Mina Array Bea**	**128.09**	**31**	PKPdf	**PKiKP**	**10 23 47.7**	**+0.2**
NVAR	**Mina Array Bea**	**128.09**	**31**	PKP	**PKPdf**	**10 23 46.9**	**0.0**
comp=Z,2.0nm,0.9s,baz=329,slow=2.0,SNR=11							
BW06	**Boulder Array**	**128.39**	**21**	P	**PKPdf**	**10 23 47.0**	**-0.4**
baz=331							
PD31	**Pinedale Array**	**128.39**	**21**		**PKPdf**	**10 23 47.5**	**+0.2**
PDAR	**Pinedale Array**	**128.39**	**21**	PKPdf	**PKPdf**	**10 23 47.1**	**-0.3**
PDAR	**Pinedale Array**	**128.39**	**21**	PKP	**PKPdf**	**10 23 46.7**	**-0.6**
comp=Z,1.8nm,0.8s,baz=5.7,slow=1.5,SNR=9.0							
RSSD	**Black Hills**	**128.91**	**16**	P	**PKPdf**	**10 23 48.2**	**-0.1**
baz=338							
DSP	**Deep Springs**	**129.06**	**32**	PKPdf	**PKiKP**	**10 23 50.3**	**+1.2**
LBNH	**Lisbon**	**129.29**	**346**	P	**PKPdf**	**10 23 49.1**	**+0.4**
baz=20							
DUG	**Dugway, Tooele**	**129.30**	**26**	P	**PKPdf**	**10 23 49.2**	**+0.1**
baz=326							
R11B	**Troy Canyon, C**	**129.52**	**29**	PKPdf	**PKiKP**	**10 23 51.4**	**+1.1**
R11B	**Troy Canyon, C**	**129.52**	**29**	P	**PKPdf**	**10 23 49.6**	**0.0**
baz=322							
K22A	**Casper**	**129.52**	**19**	P	**PKPdf**	**10 23 49.7**	**+0.3**
baz=335							
VES	**Vestal, Richgr**	**129.59**	**34**	P	**PKPdf**	**10 23 49.8**	**+0.3**
baz=317							
CWC	**Cottonwood Cre**	**129.70**	**33**	P	**PKPdf**	**10 23 50.1**	**+0.2**
baz=318							
MPMC	**Manual Prospec**	**130.30**	**33**	P	**PKPdf**	**10 23 50.9**	**-0.2**
baz=319							
FURC	**Furnace Creek,**	**130.32**	**32**	P	**PKPdf**	**10 23 50.9**	**+0.1**
baz=320							
HRV	**Adam Dziewonsk**	**130.83**	**345**	P	**PKPdf**	**10 23 51.8**	**+0.2**
baz=20							
SHOC	**Shoshone, Teco**	**131.06**	**32**	P	**PKPdf**	**10 23 52.1**	**-0.2**
baz=320							
L61B	**Northampton**	**131.16**	**346**	P	**PKPdf**	**10 23 52.5**	**+0.2**
baz=19							
O20A	**White River Ci**	**131.17**	**22**		**PKiKP**	**10 23 53.7**	**+0.1**
O20A	**White River Ci**	**131.17**	**22**	P	**PKPdf**	**10 23 52.7**	**0.0**
baz=332							
SNCC	**San Nicolas Is**	**131.18**	**37**	P	**PKPdf**	**10 23 52.5**	**-0.1**
baz=315							
GSC	**Goldstone, Bar**	**131.23**	**33**	P	**PKPdf**	**10 23 52.7**	**-0.1**
baz=319							
BFSC	**Mount Baldy Ra**	**131.55**	**34**	P	**PKPdf**	**10 23 53.5**	**0.0**
baz=317							
SCI2	**San Clemente I**	**131.95**	**36**	P	**PKPdf**	**10 23 53.9**	**-0.2**
baz=316							
JFWS	**Jewell Farm**	**132.38**	**3**	P	**PKPdf**	**10 23 54.7**	**+0.2**
baz=356							
BELC	**Belle Mtn. Jos**	**132.65**	**33**	P	**PKPdf**	**10 23 55.4**	**-0.2**
baz=319							
PFO	**Pinyon Flats O**	**132.69**	**34**	P	**PKPdf**	**10 23 55.4**	**-0.2**
baz=318							
ERPA	**Erie**	**132.83**	**353**	P	**PKPdf**	**10 23 55.5**	**0.0**
baz=9.5							
109C	**Camp Elliot, M**	**132.85**	**35**	P	**PKPdf**	**10 23 55.9**	**+0.2**
baz=317							
M53A	**WI Miller and**	**133.58**	**353**	P	**PKPdf**	**10 23 57.1**	**+0.3**
baz=8.7							
S22A	**4UR Ranch, Cre**	**133.79**	**22**	P	**PKPdf**	**10 23 57.4**	**-0.4**
baz=332							
SDCO	**Great Sand Dun**	**134.27**	**21**

JCT	Junction City	142.81	18	PKPdf	PKPdf	10 24 12.3	-1.9
JCT	Junction City	142.81	18	P	PKPdf	10 24 15.4	+1.2
	baz=339						
JCT	Junction City	142.81	18	PKIKP	PKPdf	10 24 12.3	-1.9
HPIG		143.62	29	PKPdf	PKPbc	10 24 14.6	+1.4
HKT	Hockley	144.39	13		PKPbc	10 24 15.1	0.0
HKT	Hockley	144.39	13	PKIKP	PKPbc	10 24 15.1	0.0
CPUP	Villa Florida	144.48	230	PKP	PKPbc	10 24 15.7	+0.1
	comp=Z,6.8nm,1.0s,baz=107,slow=2.5,SNR=9.5						
833A	Chaparral WMA,	144.94	19	P	PKPdf	10 24 18.9	+1.0
	baz=338						
LPAZ	La Paz	158.25	237	PKP	PKPdf	10 24 39.1	+0.1
	comp=Z,1.5nm,0.9s,baz=180,slow=3.0,SNR=4.1						
LPAZ				PKPab	PKPab	10 25 12.4	-0.5
	comp=Z,2.5nm,1.0s,baz=107,slow=9.1,SNR=4.9						

PDG **22** *10:07:16.5, 34°.45N×46°.13E, h10km, mb5.8/4*
BJI **22** *10:07:22.9±0.0, 34°.42N×45°.43E, h30km, mb5.5/86, mB5.5/54, Ms5.9/89, Ms7 5.6/87*
IDC **22** *10:07:24.1±0.4, 34°.56N×46°.21E, h0km, mb5.3/46, mbtmp5.3/57, ML4.7/9, MS5.3/70, Error ellipse: s-maj=9.7km s-min=8.2km az=4.0*
ISN **22** *10:07:24.8±0.9, 34°.69N×46°.26E, h17km±5km, ML5.7*
NEIC **22** *10:07:25.8, 34°.62N×46°.20E, h22km*
NEIC **22** *10:07:25.8, 34°.82N×46°.08E, h22km, Moment Tensor Solution. Duration: 3ŝ1.0 Moment tensor: Scale 10^17 Nm; Mrr=0.81; Mθθ=4.22; Mφφ=3.40; Mrθ=0.18; Mθφ=4.52; Mφr=-1.96; Fault plane solution: M0=6.26000×10^17 NP1: φs=158.63000°, δ83.00000°, λ161.20000°. NP2: φs=251.00000°, δ71.35000°, λ7.39000°. Principal axes: T 6.0664, Plg18.0000°, Azm113.0000°; N 0.3957, Plg70.0000°, Azm319.0000°; P -6.4620, Plg8.0000°, Azm206.0000°;*
MOS **22** *10:07:25.0±1.3, 34°.55N×46°.16E, h11km, mb6.0/91, MS5.3/74 Error ellipse: s-maj=4.0km s-min=2.6km az=113.9*
TEH **22** *10:07:25.2, 34°.63N×46°.26E, h8km±35km, ML5.7*
THR **22** *10:07:25.9±1.6, 34°.63N×46°.29E, h6km±7km, ML5.6*
GII **22** *10:07:26.8±0.5, 34°.45N×46°.25E, h10km, confirmed*
IPGP **22** *10:07:26.0, 34°.65N×46°.18E, h10km, Mw5.6, Fault plane solution: NP1:φs249.00000°, δ83.00000°, λ-13.00000°. NP2:φs341.00000°, δ77.00000°, λ-173.00000°.*
SGS **22** *10:07:26.7, 34°.78N×46°.26E, h14km, Ml6.1*
NEIC **22** *10:07:27.2, 34°.60N×46°.20E, h12km*
DSN **22** *10:07:27.5±0.3, 34°.38N×46°.33E, h15km, mb6.0/4, Error ellipse: s-maj=7.6km s-min=3.6km az=54.0*
GCMT **22** *10:07:27.2±0.1, 34°.48N±0°.01×46°.18E±0°.01, h18km, MW5.8/163, Moment Tensor Solution. s144,c262; s163,c482; Duration: 1ŝ9 Moment tensor: Scale 10^17 Nm; Mrr=0.07±.04; Mθθ=3.80±.04; Mφφ3.87±.04; Mrθ2.11±.12; Mθφ3.63±.04; Mφr=0.03±.09; Best double couple: M0=5.67100×10^17 NP1:φs246.00000°, δ83.00000°, λ-19.00000°. NP2:φs338.00000°, δ71.00000°, λ-172.00000°. Principal axes: T 5.4250, Plg8.0000°, Azm293.0000°; N 0.4900, Plg69.0000°, Azm46.0000°; P -5.9170, Plg19.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
AFAD **22** *10:07:27.6±0.0, 34°.69N×45°.79E, h7km±4km, MW5.8*
NEIC **22** *10:07:27.2±2.1, 34°.59N±0°.05×46°.17E±0°.07, h12km±1km, mb5.9/207, Ms_20 5.5/816, Mwb5.7/56, Mwws5.8/23, Error ellipse: s-maj=10.9km s-min=7.3km az=59.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.12; Mθθ-3.67; Mφφ3.55; Mrθ0.16; Mθφ2.61; Mφr0.35; Fault plane solution: M0=4.47000×10^17 NP1: φs332.84000°, δ86.02000°, λ176.79000°. NP2: φs63.06000°, δ86.79000°, λ3.98000°. Principal axes: T 4.4304, Plg5.0000°, Azm288.0000°; N 0.0832, Plg85.0000°, Azm102.0000°; P -4.5136, Plg1.0000°, Azm198.0000°;*
NAO **22** *10:07:27.1, 34°.45N×46°.14E, h33km, mb5.4*
BGR **22** *10:07:44.5, 34°.98N×43°.84E, h33km, mb5.9, mB_BB6.0, Ms5.2, Hypocentre not reviewed by the ISC*
ISC 22 10:07:26.6±0.5, 34°.54N±0°.02×46°.24E±0°.02, h11km±2km, n2289, σ1ŝ99/2223, mb5.8/358, MS5.5/565, 109C-71D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.20	36	Pg	Pg	10 07 28.7	-2.3
IGHG	Ghaleghazi	0.34	128	Pg	Pg	10 07 33.6	+0.1
GLG1	Gilan-e-Gharb	0.51	213	Pg	Pg	10 07 36.7	+0.2
KGS1	Ghasr-e-Shirin	0.54	267	Pg	Pg	10 07 36.7	-0.4
ILIN	Lien	0.70	57	Pg	Pg	10 07 37.9	-2.4
ILIN				Sg	Sg	10 07 48.1	-1.4
KCHF	Cheshme Sefid,	0.71	111	Pg	Pg	10 07 39.4	-0.9
KCHF				Sg	Sb	10 07 51.6	+0.7
ILBA	Ilam Banvizeh	0.91	182	ePg	Pg	10 07 44.3	+0.1
ILBA				eSg	Sn	10 07 59.5	+1.0
ILBA				IAML		10 08 07.7	
	comp=E,165μm,0.6s						
ILBA				IAML		10 08 08.6	
	comp=N,127μm,0.5s						
ILBA	Ilam Banvizeh	0.91	182	Pg	Pb	10 07 44.5	0.0
SNGE	Sanandaj	1.06	58	ePg	Pg	10 07 44.2	-2.9
SNGE				eSg	Sg	10 07 58.8	-2.1
SNQR	Sonqor, Kerman	1.19	74	Pg	Pb	10 07 46.9	-2.3
IBZA	Bozab	1.34	92	Pg	Pn	10 07 50.2	-1.2
IBDR	Badra	1.45	190	ePg	Pg	10 07 54.0	-0.3
IBDR				eSg	Sg	10 08 15.0	+1.9
IBDR				AML	AML	10 08 26.6	
	comp=E,108μm,0.7s						
IBDR				AML	AML	10 08 28.9	
	comp=N,95μm,1.0s						
SDS1	Sardasht. Az.	1.72	339	Pg	Pn	10 07 55.8	-0.9
HSAM	Samen	1.98	99	Pn	Pn	10 08 01.2	+1.0
BHD	Baghdad	2.00	231	ePn	Pn	10 08 01.0	+0.7
BHD				eSn	Sb	10 08 28.0	+0.1
BHD				AML	AML	10 08 40.1	
	comp=E,64μm,0.5s						
MAHB	Mahabad	2.27	349	Pn	Pn	10 08 04.3	+0.2
RAFI	Al-Rafai	2.81	182	ePn	Pn	10 08 13.0	+1.6
RAFI				eSn	Sb	10 08 49.0	-2.2
IHSH	Hashtrud	2.88	16	Pn	Pn	10 08 12.6	-0.1
ZNJK	Zanjan	2.91	42	ePn	Pn	10 08 14.9	+1.8
ASAO	Ashtian	3.12	89	ePn	Pn	10 08 19.0	+3.0
IAZR	Azarshahr	3.14	356	Pn	Pn	10 08 16.4	+0.2
KHMZ	Khomeyn	3.18	103	ePn	Pn	10 08 18.1	+1.3
YOVA	Hakkari_Yksek	3.43	333	P	Pn	10 08 20.5	+0.3
YOVA				S	Sn	10 08 59.0	-1.9
ISRB	Sarab	3.48	19	Pn	Pn	10 08 21.0	+0.1
HAKT	HAKKARI	3.65	326	P	Pn	10 08 23.5	+0.3
HAKT				S	Sn	10 09 04.8	-1.6
ITBZ	Tabriz	3.69	359	Pn	Pn	10 08 23.6	-0.1
ISHB	Shabestar	3.77	352	Pn	Pn	10 08 24.1	-0.8
AHWZ	Ahwaz	3.78	147	Pn	Pn	10 08 27.1	+2.3
CSN1	Caspian	3.80	37	Pn	Pn	10 08 25.2	+0.1
GIDE	GILÂN DEYLAMAN	3.82	50	ePn	Pn	10 08 26.6	+1.1
GIDE				IAML		10 09 41.5	
	comp=E,7μm,0.7s						
GIDE				IAML		10 09 42.4	
	comp=N,5μm,0.5s						
IHRS	Heris	3.83	9	Pn	Pn	10 08 25.9	+0.2
IQOM	Qom	3.99	84	Pn	Pn	10 08 28.9	+1.0
THKV	Tehran--Karaj	4.04	69	ePn	Pn	10 08 29.5	+1.0
LHJ2	Lahijan - Gila	4.06	49	Pn	Pn	10 08 29.3	+0.6
GHVR	GHOM	4.17	89	ePn	Pn	10 08 31.2	+0.9
GHVR				IAML		10 10 05.7	
	comp=E,8μm,0.9s						
IMRD	Marand	4.19	354	Pn	Pn	10 08 30.7	+0.1
CHTH	Charan	4.22	70	ePn	Pn	10 08 31.9	+0.7
IHSB	Hasanabad	4.23	76	Pn	Pn	10 08 31.9	+0.8
SIRN	Sirnak	4.28	315	P	Pn	10 08 31.3	-0.5
SIRN				S	Sn	10 09 19.7	-2.1
IPIR	Pirpir	4.30	114	Pn	Pn	10 08 33.0	+0.8
QAMS	Qamsar	4.35	99	Pn	Pn	10 08 33.3	+0.5
JHBN	Jahan bin	4.36	121	Pn	Pn	10 08 34.2	+1.2
GAS1	Astara - Iran	4.37	28	Pn	Pn	10 08 33.6	+0.6
TEH	Tehran	4.38	73	Pn	Pn	10 08 33.8	+0.6
TEHA	Amirabad Tehra	4.38	73	Pn	Pn	10 08 33.9	+0.6
KLST	Kelardasht - M	4.40	62	Pn	Pn	10 08 34.4	+0.8
GRMI	Germi	4.46	17	ePn	Pn	10 08 35.2	+0.9
GRMI	Germi	4.46	17	Pn	Pn	10 08 35.2	+0.9
OZAP	Van, Ozalp-Mer	4.50	337	P	Pn	10 08 36.0	+1.1
PERV	Siirt/Pervari-	4.53	320	P	Pn	10 08 34.8	-0.4
PERV				S	Sn	10 09 23.3	-4.6
IVRN	Varamin	4.54	83	Pn	Pn	10 08 36.3	+1.0
ZNGN	Zangian	4.55	121	Pn	Pn	10 08 36.9	+1.2
GEVA	Gevas	4.56	327	P	Pn	10 08 36.4	+0.7
TVAN	Van	4.59	331	P	Pn	10 08 38.0	+1.9
IKLH	Kolahrood	4.60	104	Pn	Pn	10 08 37.3	+1.0
LKRN	Lenkeran, Azer	4.64	25	P	Pn	10 08 39.4	+2.9
NAX	Nakhchivan	4.67	353	P	Pn	10 08 39.0	+2.0
MZPU	Pul - Mazandar	4.74	65	Pn	Pn	10 08 39.2	+1.0
MIDY	Mardin/Midyat-	4.86	307	P	Pn	10 08 38.4	-1.3
MIDY				S	Sn	10 09 30.6	-5.4
IDMV	Damavand	4.86	76	Pn	Pn	10 08 40.7	+0.8
SRTM	Siirt_Merkez	4.91	316	P	Pn	10 08 39.8	-0.5
SRTM				S	Sn	10 09 27.4	-10
KRSH	Karshahi	4.91	95	Pn	Pn	10 08 41.5	+1.0
VMUR	Van-Muradiye	4.93	335	P	Pn	10 08 42.4	+1.6
IBRJ	Brojen	4.96	121	Pn	Pn	10 08 41.9	+0.7
CLDR	Caldiran	4.96	339	P	Pn	10 08 41.1	-0.1
ISFB	Sefidab	4.96	90	Pn	Pn	10 08 41.8	+0.7
MAKU	Maku	4.97	346	ePn	Pn	10 08 42.1	+0.9
MAKU	Maku	4.97	346	Pn	Pn	10 08 41.4	+0.1
BLIS	Bitlis-Merkez	5.10	321	P	Pn	10 08 42.7	-0.4
ADCV	BITLIS_Adilcev	5.11	327	P	Pn	10 08 44.0	+0.7
ADCV				S	Sn	10 09 46.6	+4.1
ABEH	Behbahan	5.18	138	Pn	Pn	10 08 46.0	+1.8
MARD	Mardin	5.23	304	P	Pn	10 08 44.2	-0.6
BTMN	Batman	5.23	311	P	Pn	10 08 43.2	-1.6
GURO	Guroymak-BITLI	5.25	321	Pn	Pn	10 08 45.4	+0.3
IPRN	Peran	5.26	69	Pn	Pn	10 08 46.9	+1.6
IGAR	Gharneh	5.29	112	Pn	Pn	10 08 47.5	+1.7
IZEF	Zefreh	5.33	106	Pn	Pn	10 08 47.7	+1.3
DYDN	Diyadin	5.40	339	P	Pn	10 08 47.5	+0.3
SVAN	Silvan-Diyarba	5.44	313	P	Pn	10 08 45.5	-2.1
KBD	Kabd	5.49	167	P	Pn	10 08 49.5	+1.2
SARAR	Arar	5.52	222	P	Pn	10 08 49.6	+0.9
DORK	Agr/Tutak/Do	5.58	331	P	Pn	10 08 50.2	+0.6
ILAS	Lasjerd	5.58	79	Pn	Pn	10 08 50.6	+0.9
IALA	Alasht	5.59	72	Pn	Pn	10 08 52.1	+2.2
IGDI	IGDIR	5.59	343	P	Pn	10 08 51.0	+1.2
MUSM	Mu-Merkez	5.65	319	P	Pn	10 08 50.0	-0.6
SRFHA	Rafha	5.66	195	P	Pn	10 08 52.2	+1.5
SRFHA	Rafha	5.66	195	S	Sn	10 09 56.2	+0.5
KLNJ	Kolanjah	5.72	127	Pn	Pn	10 08 52.2	+0.5
GNI	Garni	5.73	348	Pn	Pn	10 08 53.9	+2.3
GNI	Garni	5.73	348	P	Pn	10 08 53.7	+2.0
GNI	Garni	5.73	348	Pn	Pn	10 08 54.0	+2.3
	comp=E,13nm,0.3s,baz=171,slow=1.5,SNR=25						
GNI				Lg	Lg	10 10 26.5	
	comp=E,4.0nm,0.3s,baz=221,slow=20,SNR=1.4						
GNI				LR	LR	10 11 20.6	
	comp=E,15μm,21.6s,baz=168,slow=42						
	comp=E,157nm,0.8s						
NASN	Na'in	5.74	106	ePn	Pn	10 08 53.0	+0.9
KOTA	Agri, Merkez-K	5.79	336	P	Pn	10 08 53.8	+1.3
IRAM	Ramesheh	5.82	116	Pn	Pn	10 08 53.6	+0.5
DIYA	Diyarbakir	5.99	306	P	Pn	10 08 52.4	-2.8
DIYA				S	Sn	10 09 59.6	-4.3
VRTB	Varto-Mus	6.00	322	P	Pn	10 08 56.1	+0.7
SLHN	Bingol, Solhan	6.08	318	P	Pn	10 08 56.8	-0.5
SLHN				S	Sn	10 10 10.2	+4.0
HANI	Diyarbakir_Han	6.09	311	P	Pn	10 08 55.7	-0.9
HANI				S	Sn	10 10 02.8	-3.6
GANJ	Ganja	6.10	1	P	Pn	10 09 02.6	+5.9
EATA	Eleskirt	6.10	332	P	Pn	10 08 56.2	-0.7
MNGR	Mingechevir, A	6.26	6	P	Pn	10 09 06.0	+7.2
DIGO	Kars	6.29	340	P	Pn	10 09 02.2	+2.7
DIGO				S	Sn	10 10 15.1	+3.5
IANJ	Anjilo	6.36	79	Pn	Pn	10 09 00.3	-0.2
ANAR	Anarak	6.37	100	Pn	Pn	10 09 00.4	-0.1
KFJS2	Khafji	6.44	163	P	Pn	10 09 02.6	+1.3
KFJS2	Khafji	6.44	163	S	Sn	10 10 14.7	-0.1
EAK	Akyaka	6.48	342	P	Pn	10 09 03.1	+1.0
HOMI	Horasan	6.49	329	P	Pn	10 09 02.2	0.0
HOMI				S	Sn	10 10 16.8	+0.3
BOZK	Kars-Merkez-Bo	6.58	338	P	Pn	10 09 03.9	+0.5
BOZK				S	Sn	10 10 22.5	+4.1
KARS	Kars	6.58	338	Pn	Pn	10 09 07.2	+3.8
KARS	Kars	6.58	338	P	Pn	10 09 07.2	+3.8
KOVA	Elazig, Kovanc	6.63	311	P	Pn	10 09 03.9	-0.2
KOVA				S	Sn	10 10 18.4	-1.4
TRAF	Turaif	6.65	242	P	Pn	10 09 03.8	-0.5
QYSM	Um Kedad	6.69	175	P	Pn	10 09 06.4	+1.6
SEKA	Sheki	6.70	6	P	Pn	10 09 10.8	+5.8
KAZ2	Kazeron-Fars-I	6.73	135	Pn	Pn	10 09 06.6	+1.3
WELAS	Turaif	6.74	248	P	Pn	10 09 05.5	0.0
ISAD	Sadrabad	6.76	111	Pn	Pn	10 09 05.6	-0.4
EMRE	Erzurum,Aziziy	6.90	324	P	Pn	10 09 08.0	+0.1
EMRE				S	Sb	10 10 38.0	-11
GOLE	Ardahan-G¶le	6.92	336	P	Pn	10 09 09.6	+1.5
ZKTA	Zakatala	7.09	2	P	Pn	10 09 14.0	+3.7
AHBU	AHRAM	7.11	141	Pn	Pn	10 09 11.1	+0.6
KOPT	Kop Dagi	7.13	322	P	Pn	10 09 12.1	+1.0
KOPT				S	Sb	10 10 45.4	-10
KRIK	Erzurum-spir	7.17	325	P	Pn	10 09 15.3	+3.8
KRIK				S	Sn	10 10 38.9	+5.8
ASYS		7.20	194	P	Pn	10 09 12.1	+0.3
ICHK	Chekchek	7.20	106	Pn	Pn	10 09 11.5	-0.5
SHI	Shiraz	7.22	131	Pn	Pn	10 09 11.6	-0.6
HANO	Al Hamad	7.35	247	P	Pn	10 09 13.1	-0.8
WSKAK	WSKAK	7.36	237	P	Pn	10 09 13.3	-0.7
DSBU	Dashti - Bushe	7.50	144	Pn	Pn	10 09 16.3	+0.3
IMEH	Mehriz	7.70	112	Pn	Pn	10 09 19.3	+0.4
GAZ	Gaziantep	7.79	292	Pn	Pn	10 09 18.8	-1.1
BCA	Borcka	7.80	333	⇑P	Pn	10 09 23.2	+3.2
ARPR	Arapgir-MALATY	7.80	308		Pn	10 09 20.1	-0.1
WANAN	Al Wanan	7.85	165	P	Pn	10 09 21.3	+0.6
IMND	Minoodasht	7.92	67	Pn	Pn	10 09 22.3	+0.7
SHRO	Shahrood	8.12	77	ePn	Pn	10 09 26.0	+1.5
HTM05	HTM05	8.14	207	P	Pn	10 09 23.0	-1.8
HTM03	HTM03	8.15	205	P	Pn	10 09 24.3	-0.7
HTM04	HTM04	8.23	205	P	Pn	10 09 24.9	-1.1
HTM02	HTM02	8.25	203	P	Pn	10 09 25.5	-0.9
BEIL	Beino	8.30	273	eP	Pn	10 09 27.0	+0.1
QSMS	Sumairaa	8.42	202	P	Pn	10 09 28.2	-0.4
MAK	Makhachkala	8.47	6	eP	Pn	10 09 29.2	+0.1
MAK				eS	Sn	10 11 05.8	+1.1
MAK				pmax	pmax		
	comp=Z,522nm,1.0s						
MAK				MLR	MLR		
	comp=Z,61μm,16.0s						
GHIR	Ghir-Karzin	8.49	135	ePn	Pn	10 09 29.3	-0.3
HWQ	Hawqa	8.51	271	eP	Pn	10 09 30.6	+0.7
MRVT	Maraveh tapeh	8.56	66	ePn	Pn	10 09 31.7	+1.2
MRVT	Maraveh tapeh	8.56	66	Pn	Pn	10 09 29.2	-1.2
TNSJ	Nastanj	8.60	91	Pn	Pn	10 09 32.6	+1.5
ZAHL	Zahle	8.61	268	eP	Pn	10 09 32.4	+1.2
GROC	Groznyy	8.66	358	eP	Pn	10 09 33.7	+1.9
GROC				eS	Sn	10 11 12.3	+2.9
GROC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
JHRM	Jahrom	8.68	132	Pn	Pn	10 09 32.7	+0.5
RCY	Rachaya	8.70	266	eP	Pn	10 09 33.2	+0.7
HSUJ	Al Zarqa	8.75	257	P	Pn	10 09 36.2	+3.1
BHL	Bhannes	8.79	269	eP	Pn	10 09 34.5	+0.8
QRWL	Qaraoun	8.82	267	eP	Pn	10 09 34.9	+0.8
TPRV	Parvadeh(Tabas	8.82	97	Pn	Pn	10 09 35.7	+1.5
KSHT	Keshet	8.82	263	P	Pn	10 09 34.6	+0.4
NATI	Neve Ativ	8.83	265	P	Pn	10 09 34.3	+0.2
NATI	Neve Ativ	8.83	265	P	Pn	10 09 33.9	-0.1
GEM	Giv'at Ha'Em	8.90	264	P	Pn	10 09 34.8	-0.3
GEM	Giv'at Ha'Em	8.90	264	P	Pn	10 09 35.0	-0.1
SHMJ	Saham	8.92	261	P	Pn	10 09 36.7	+1.3
TABS	Tabas	9.06	93	ePn	Pn	10 09 38.4	+0.9
TKDS	Koohdasht(Taba	9.07	93	Pn	Pn	10 09 38.0	+0.4
MMC4	Mount Meron ar	9.14	263	P	Pn	10 09 38.9	+0.4
MMA0	Mount Meron ar	9.15	263	P	Pn	10 09 39.0	+0.4
MMA0B	Mount Meron ar	9.15	263	P	Pn	10 09 38.9	+0.3
MMAI	Mount Meron Ar	9.15	263	Pn	Pn	10 09 38.4	-0.2
	comp=Z,17nm,0.3s,baz=87,slow=18,SNR=97						
MMAI				Sn	Sn	10 11 21.8	+0.1
	comp=Z,18nm,0.3s,baz=77,slow=15,SNR=5.3						
MMAI				Lg	Lg	10 12 11.8	
	comp=Z,46nm,0.3s,baz=87,slow=36,SNR=4.6						
MMAI				LR	LR	10 13 58.5	
	comp=Z,24μm,19.8s,baz=20,slow=43						
	comp=Z,244nm,0.8s						
SWQJ	Swaqa	9.17	252	P	Pn	10 09 39.3	+0.4
NCK	Nalchik	9.18	348	‖iP	Pn	10 09 42.3	+3.4
RMAH	Rumah	9.18	176	P	Pn	10 09 40.1	+1.1
QRNJ	Al-Qirein	9.18	259	P	Pn	10 09 39.9	+1.0
BALJ	Balqa	9.20	258	Pn	Pn	10 09 39.4	+0.1
BALJ	Balqa	9.20	258	P	Pn	10 09 40.2	+0.9
HMDT	Nahal Hemdat	9.24	259	P	Pn	10 09 41.0	+1.2
HMDT	Nahal Hemdat	9.24	259	P	Pn	10 09 40.1	+0.2
MMLI	Mount Malkishu	9.28	260	P	Pn	10 09 40.9	+0.6
SAKB	Bahrain	9.30	155	P	Pn	10 09 41.0	+0.4
SAKB				S	Sn	10 11 22.6	-2.7
LMD1	Lamerd	9.31	139	Pn	Pn	10 09 40.7	-0.1
HNTI	Hanita	9.32	264	P	Pn	10 09 42.7	+1.8
HNTI	Hanita	9.32	264	P	Pn	10 09 41.5	+0.6
UJAP	Al Uja	9.39	257	P	Pn	10 09 43.4	+1.6
BLGI	Bet Lehem HaGe	9.39	262	P	Pn	10 09 43.7	+1.9
BLGI	Bet Lehem HaGe	9.39	262	P	Pn	10 09 42.7	+0.9
BNN	Bunyan	9.39	300	Pn	Pn	10 09 42.6	+0.7
SBZV	Sabzevar	9.46	75	Pn	Pn	10 09 43.9	+1.0
GHAJ	Ghor Haditha	9.54	253		Pn	10 09 44.3	+0.5
GHAJ	Ghor Haditha	9.54	253	P	Pn	10 09 44.5	+0.7
GHAJ	Ghor Haditha	9.54	253	P	Pn	10 09 44.3	+0.5
KBZ	Khabaz	9.54	345	Pn	Pn	10 09 47.2	+3.5
	comp=Z,2.0nm,0.3s,baz=155,slow=9.0,SNR=80						
KBZ				LR	LR	10 14 14.4	
	comp=Z,18μm,19.1s,baz=150,slow=43						
	comp=Z,40nm,1.1s						
KARJ	KARJ	9.54	252	P	Pn	10 09 41.8	-2.1
KURES	Khurais	9.55	169	P	Pn	10 09 45.2	+1.1
SHMA	Al-Shehemyia	9.57	153	P	Pn	10 09 44.5	+0.2
	SNR=19						
SHMA				S	Sn	10 11 28.8	-3.0
BJRD	Bojnurd	9.57	68	ePn	Pn	10 09 46.0	+1.7
DSI	Dead Sea	9.59	255	P	Pn	10 09 46.4	+1.9
DSI	Dead Sea	9.59	255	P	Pn	10 09 45.0	+0.5
OFRI	`Ofer	9.59	262	P	Pn	10 09 45.7	+1.1
OFRI	`Ofer	9.59	262	P	Pn	10 09 45.7	+1.1
KHGB	Koh Gabri	9.59	113	Pn	Pn	10 09 43.7	-1.1
SHA1	Shidzhatmaz	9.60	344	‖iP	Pn	10 09 46.8	+1.9
LISJ	El Lisan	9.63	253	P	Pn	10 09 46.1	+1.1
SLTI	Sal'it	9.64	259	P	Pn	10 09 46.7	+1.4
SLTI	Sal'it	9.64	259	P	Pn	10 09 46.3	+1.0
HOFOF	Al Hofuf	9.64	160	P	Pn	10 09 45.7	+0.4
MDBI	Mazsada	9.70	254	P	Pn	10 09 46.8	+0.8
MSBI	Mazada	9.70	254	P	Pn	10 09 47.9	+1.9
MSBI	Mazada	9.70	254	P	Pn	10 09 46.6	+0.6
LAR1	LAR	9.77	132	Pn	Pn	10 09 42.2	-4.9
KVAR	Kislovodsk Arr	9.80	345	Pn	Pn	10 09 50.2	+2.7
	comp=Z,31nm,1.1s,baz=106,slow=0.7						
KVAR				LR	LR	10 13 21.5	
	comp=Z,30μm,18.7s,baz=169,slow=37						
KIV	Kislovodsk	9.80	345	Pn	Pn	10 09 52.4	+4.9
KIV	Kislovodsk	9.80	345	P	Pn	10 09 50.2	+2.7
KIV	Kislovodsk	9.80	345	eP	Pn	10 09 51.2	+3.7
KIV				eS	Sn	10 11 44.8	+7.3
KIV				pmax	pmax		
	comp=Z,202nm,1.1s						
KIV				MLR	MLR		
	comp=Z,8μm,12.0s						
YTIR	Yattir	9.87	254	P	Pn	10 09 49.7	+1.2
YTIR	Yattir	9.87	254	P	Pn	10 09 49.1	+0.6
ISFR	Sfrayin	9.88	72	Pn	Pn	10 09 51.2	+2.5
HSNJ	Maan	9.89	247	P	Pn	10 09 51.7	+2.9
AMAZ	Amatzia	9.97	256	P	Pn	10 09 51.8	+2.0
AMAZ	Amatzia	9.97	256	P	Pn	10 09 50.1	+0.4
TVBK	TV Kerman	9.99	114	Pn	Pn	10 09 50.2	-0.2
KRBR	Kerman	9.99	114	ePn	Pn	10 09 50.5	+0.1
DWDS	Al Duwadimi	10.04	187	P	Pn	10 09 49.0	-1.8
NHRD	Haradh	10.07	165	P	Pn	10 09 50.5	-0.8
VSLR	Vesyoloye	10.13	333	c iP	Pn	10 09 54.7	+2.7
VSLR				pmax	pmax		
	comp=Z,865nm,1.3s						
KRM1	Kerman Provinc	10.14	110	Pn	Pn	10 09 52.1	-0.3
NGRK	Negar Kerman	10.14	116	Pn	Pn	10 09 51.5	-1.0
ZFRI	Zfri	10.15	250	P	Pn	10 09 54.5	+2.3
ZFRI	Zfri	10.15	250	P	Pn	10 09 53.0	+0.8
SOC

comp=N,204nm,0.9s,comp=N,2μm
SNOP Sinop 11.44 314 Pn Pn 10 10 12.0 +2.2
IMYA Miami 11.45 77 Pn **Pn 10 10 12.3 +2.2**
SLWR Sila 11.46 154 P **Pn 10 10 09.4 -0.8**
SLWR P **Pn 10 10 09.4 -0.8**
SLWR S **Sn 10 12 14.9 -3.4**
SLWR S **Sn 10 12 14.9 -3.4**
IDAH Dahanechah 11.50 95 Pn **Pn 10 10 10.8 -0.2**
TBJM Torbat-e-JAM 11.59 82 Pn **Pn 10 10 13.7 +1.6**
JRKH Jarkhoshk 11.62 79 Pn **Pn 10 10 13.9 +1.5**
SHRT Shahrakht 11.68 90 *e*Pn **Pn 10 10 14.2 +0.9**
SHRT Shahrakht 11.68 90 Pn **Pn 10 10 13.3 0.0**
KBAM BAM 11.69 114 Pn **Pn 10 10 12.9 -0.6**
KHNJ Kahnooj 11.80 121 Pn **Pn 10 10 13.7 -1.2**
SHBH1 SHBH1 11.92 156 P **Pn 10 10 15.3 -1.2**
ANTO Ankara 11.97 300 Pn 10 10 19.4 +2.2
ANTO Ankara 11.97 300 ⇑P **Pn 10 10 20.6 +3.4**
ANTO Ankara 11.97 300 P **Pn 10 10 20.5 +3.4**
BR231 Keskin MP Arra 11.97 300 Pn 10 10 21.4 +4.2
ERBR Yeremizino-Bor 12.00 340 *e*P **Pn 10 10 19.7 +2.2**
ERBR *e*S **Sn 10 12 37.8 +6.6**
ERBR pmax pmax
comp=Z,487nm,1.0s
ERBR MLR MLR
comp=N,48μm,12.0s
ERBR MLR MLR
comp=E,32μm,11.0s
ERBR MLR MLR
comp=Z,15μm,15.0s
NHDN Nehbandan 12.01 101 Pn **Pn 10 10 18.5 +0.6**
GHWR Ruwais 12.02 150 P **Pn 10 10 16.8 -1.1**
GHWR P **Pn 10 10 16.8 -1.1**
GHWR S **Sn 10 12 26.1 -5.8**
GHWR S **Sn 10 12 26.1 -5.8**
SHME Shamm 12.02 132 *i*P **Pn 10 10 16.0 -1.9**
SNR=30
SHME Shamm 12.02 132 P **Pn 10 10 16.7 -1.2**
SNR=32
SHME P **Pn 10 10 16.7 -1.2**
SNR=32
SHME S **Sn 10 12 28.4 -3.7**
SHME S **Sn 10 12 28.4 -3.7**
UMQ Umm Al-Quwin 12.13 135 *i*P **Pn 10 10 19.1 -0.2**
SNR=86
UMQ Umm Al-Quwin 12.13 135 P **Pn 10 10 19.2 -0.1**
SNR=71
UMQ S **Sn 10 12 30.5 -4.1**
BZK Bozkurt 12.13 311 Pn **Pn 10 10 23.7 +4.3**
BANOM Banah 12.21 132 *i*P **Pn 10 10 18.8 -1.7**
SNR=30
BANOM Banah 12.21 132 P **Pn 10 10 18.8 -1.7**
BANOM S **Sn 10 12 31.7 -5.0**
ANN Anapa 12.28 329 *e*P **Pn 10 10 22.4 +1.1**
ANN *e*S **Sn 10 12 42.3 +4.1**
ANN pmax pmax
comp=Z,119nm,0.8s
ANN MLR MLR
comp=E,33μm,15.0s
ANN MLR MLR
comp=Z,36μm,15.0s
ANN MLR MLR
comp=N,35μm,20.0s
LYLS 12.48 176 P **Pn 10 10 23.0 -1.3**
AJN Ajban 12.51 140 *i*P **Pn 10 10 23.8 -0.7**
SNR=23
AJN Ajban 12.51 140 P **Pn 10 10 24.4 -0.2**
SNR=22
AJN P **Pn 10 10 24.4 -0.2**
SNR=22
AJN S **Sn 10 12 39.3 -4.7**
AJN S **Sn 10 12 39.3 -4.7**
MASF Masafi 12.54 134 P **Pn 10 10 24.2 -0.8**
SNR=280
MASF S **Sn 10 12 38.2 -6.5**
SNR=8.5
NAZ Nazwa, Dubai 12.54 137 *i*P **Pn 10 10 24.0 -1.0**
SNR=471
NAZ Nazwa, Dubai 12.54 137 P **Pn 10 10 24.5 -0.5**
SNR=470
NAZ P **Pn 10 10 24.5 -0.5**
SNR=470
NAZ S **Sn 10 12 38.8 -6.0**
NAZ S **Sn 10 12 38.8 -6.0**
MSFE Esma-Masafi 12.55 134 *i*P **Pn 10 10 23.5 -1.6**
SNR=280
MZWR Madinat Zayed 12.64 146 P **Pn 10 10 25.2 -1.1**
MZWR S **Sn 10 12 42.0 -5.1**
ASUD Al Ashush, Dub 12.64 139 *i*P **Pn 10 10 25.9 -0.5**
SNR=177
ASUD Al Ashush, Dub 12.64 139 P **Pn 10 10 26.4 0.0**
SNR=176
ASUD P **Pn 10 10 26.4 0.0**
SNR=176
ASUD S **Sn 10 12 43.4 -3.8**
ASUD S **Sn 10 12 43.4 -3.8**
MDH Madha 12.67 134 *i*P **Pn 10 10 25.0 -1.9**
SNR=206
MDH Madha 12.67 134 P **Pn 10 10 24.7 -2.1**
SNR=221
MDH P **Pn 10 10 24.7 -2.1**
SNR=221
MDH S Sn 10 12 38.8 -9.2
MDH S Sn 10 12 38.8 -9.2
FAQ Al Faqa, Dubai 12.69 138 *i*P **Pn 10 10 26.0 -1.1**
SNR=320
FAQ Al Faqa, Dubai 12.69 138 P **Pn 10 10 26.0 -1.1**
SNR=320
FAQ P **Pn 10 10 26.0 -1.1**
SNR=320
FAQ P **Pn 10 10 26.0 -1.1**
SNR=320
FAQ S **Sn 10 12 43.3 -5.1**
SNR=7.6
FAQ S **Sn 10 12 43.3 -5.1**
SNR=7.6
FAQ S **Sn 10 12 43.3 -5.1**
SNR=7.6
UOSS Minazif 12.89 135 Pn **Pn 10 10 27.0 -2.8**
UOSS Minazif 12.89 135 *i*P **Pn 10 10 28.2 -1.6**
SNR=159
UOSS Minazif 12.89 135 P **Pn 10 10 27.6 -2.1**
UOSS P **Pn 10 10 27.6 -2.1**
UOSS S Sn 10 12 42.9 -10
UOSS S Sn 10 12 42.9 -10
HATD Hatta, Dubai 12.94 136 *i*P **Pn 10 10 29.0 -1.4**
SNR=575
HATD Hatta, Dubai 12.94 136 P **Pn 10 10 28.8 -1.6**
SNR=576
HATD P **Pn 10 10 28.8 -1.6**
SNR=576
HATD S **Sn 10 12 48.3 -6.1**
SNR=10
HATD S **Sn 10 12 48.3 -6.1**
SNR=10
ASHO Ashiyiah 13.00 136 *i*P **Pn 10 10 30.0 -1.4**
SNR=1141
ASHO Ashiyiah 13.00 136 P **Pn 10 10 29.7 -1.6**
SNR=234
ASHO S **Sn 10 12 49.9 -6.2**
SNR=12
ISP Isparta 13.12 289 Pn **Pn 10 10 35.4 +2.5**
ISP Isparta 13.12 289 P **Pn 10 10 35.4 +2.5**
MZR Muzera 13.12 149 *i*P **Pn 10 10 31.0 -1.9**
SNR=465
MZR Muzera 13.12 149 P **Pn 10 10 31.7 -1.3**
SNR=465
MZR P **Pn 10 10 31.7 -1.3**
SNR=465
MZR S **Sn 10 12 53.3 -5.7**
SNR=13
MZR S **Sn 10 12 53.3 -5.7**
SNR=13
HRA Herat 13.21 86 Pn 10 10 38.3 +4.0
JASK Jask - Hormozg 13.25 128 P **Pn 10 10 31.4 -3.2**
SNR=43
ZHSF Zahedan 13.26 108 *e*Pn **Pn 10 10 36.7 +1.7**
MDUB Mudurnu 13.33 301 Pn 10 10 38.4 +2.6
ALNE Al Ain 13.33 139 *i*P **Pn 10 10 33.8 -2.0**
SNR=111
ALNE Al Ain 13.33 139 P **Pn 10 10 34.7 -1.1**
SNR=111
ALNE P **Pn 10 10 34.7 -1.1**
SNR=111
ALNE S **Sn 10 12 58.4 -5.6**
ALNE S **Sn 10 12 58.4 -5.6**

ZHDN Zahedan 13.38 109 Pn **Pn 10 10 37.1 +0.5**
ELL Elmali 13.47 284 Pn 10 10 41.5 +3.8
ELL Elmali 13.47 284 P **Pn 10 10 41.5 +3.8**
KSL Kastellorizon 13.70 282 P **Pn 10 10 42.2 +1.5**
SOHO SOHO 13.70 136 *i*P **Pn 10 10 38.0 -2.8**
SNR=89
SOHO SOHO 13.70 136 P **Pn 10 10 38.7 -2.1**
SOHO P **Pn 10 10 38.7 -2.1**
SOHO S **Sn 10 13 05.4 -7.7**
SOHO S **Sn 10 13 05.4 -7.7**
SIM Simferopol' 13.95 322 *e*P **Pn 10 10 46.0 +1.8**
SIM *e*S **Sn 10 13 23.0 +4.0**
SIM pmax pmax
comp=Z,265nm,1.4s
UMZA Um Al Zommool 14.14 144 P **Pn 10 10 44.4 -2.4**
UMZA S **Sn 10 13 14.7 -9.0**
ARQ Araqi 14.32 138 P **Pn 10 10 47.5 -1.9**
SNR=102
ARQ P **Pn 10 10 47.5 -1.9**
SNR=102
ARQ S **Sn 10 13 22.9 -5.5**
SNR=7.3
ARQ S **Sn 10 13 22.9 -5.5**
SNR=7.3
HOQ Hoqain 14.58 136 P **Pn 10 10 50.3 -2.5**
SNR=68
HOQ P **Pn 10 10 50.3 -2.5**
SNR=68
HOQ S **Sn 10 13 29.4 -5.0**
HOQ S **Sn 10 13 29.4 -5.0**
KULA Kula-Manisa 14.68 291 P **Pn 10 10 56.4 +2.1**
ARG Arkhangelos 14.88 282 Pn 10 10 56.2 -0.6
ARG Arkhangelos 14.88 282 P **Pn 10 10 56.2 -0.6**
ISK Istanbul-Kandi 15.05 301 P **Pn 10 11 00.1 +0.9**
BIDO Bidbid 15.10 133 P **Pn 10 10 57.9 -2.0**
SNR=21
BIDO P **Pn 10 10 57.9 -2.0**
SNR=21
BIDO S **Sn 10 13 39.2 -8.1**
BIDO S **Sn 10 13 39.2 -8.1**
KLYT Kilyos 15.13 301 P **Pn 10 11 01.8 +1.6**
BSY Bisya 15.17 138 P **Pn 10 10 58.0 -2.9**
SNR=187
BSY S **Sn 10 13 41.5 -7.5**
CHBR Chabahar 15.20 122 *e*Pn **Pn 10 10 58.9 -2.3**
DAT Datca 15.34 284 P **Pn 10 11 02.8 -0.3**
SMDO Samad 15.41 135 P **Pn 10 11 01.1 -3.0**
SNR=106
SMDO P **Pn 10 11 01.1 -3.0**
SNR=106
SMDO S **Sn 10 13 49.2 -5.6**
SNR=8.8
SMDO S **Sn 10 13 49.2 -5.6**
SNR=8.8
BODT Bodrum 15.57 285 P **Pn 10 11 06.0 0.0**
WSAR Wadi Sarin 15.62 133 Pn **Pn 10 11 04.3 -2.4**
comp=Z,250nm,0.5s,baz=323,slow=9.9,SNR=244
WSAR Sn **Sn 10 13 50.2 -10**
comp=Z,9.4nm,0.3s,baz=165,slow=20,SNR=1.8
WSAR LR LR 10 18 20.3
comp=Z,25μm,20.6s,baz=337,slow=42
KARP Karpathos 15.66 279 Pn 10 11 07.3 0.0
KARP Karpathos 15.66 279 P **Pn 10 11 05.8 -1.5**
KARP Karpathos 15.66 279 P **Pn 10 11 08.6 +1.3**
comp=Z,3μm,0.8s,comp=Z,28μm
CTYL Yalikoy Yolu 15.74 301 P **Pn 10 11 08.5 +0.3**
comp=Z,943nm,1.1s,comp=Z,13μm
NGCH Negor - Chabah 15.81 121 P **Pn 10 11 07.1 -2.0**
SNR=7.0
NGCH S **Sn 10 13 58.4 -5.9**
JMDO Jabal Madar 15.97 136 P **Pn 10 11 08.6 -2.7**
SNR=33
JMDO P **Pn 10 11 08.6 -2.7**
SNR=33
JMDO S **Sn 10 14 00.3 -8.2**
JMDO S **Sn 10 14 00.3 -8.2**
SMG Samos 16.00 287 P **Pn 10 11 10.6 -0.9**
WBK Wadi Bani Khal 16.30 133 P **Pn 10 11 13.3 -2.1**
SNR=30
WBK S **Sn 10 14 10.7 -5.6**
ZKR Zakros 16.46 278 P **Pn 10 11 17.0 -0.5**
EFOR EFORIE 16.60 310 ⇑P **Pn 10 11 20.3 +1.1**
PRK Paraskevi 16.65 292 P **Pn 10 11 20.2 +0.4**
CHOS Chios island 16.68 289 P **Pn 10 11 20.7 +0.3**
PSN Preselentsi 16.71 308 P **Pn 10 11 20.9 +0.3**
EZN Ezine 16.72 294 P **Pn 10 11 20.7 0.0**
EZN Ezine 16.72 294 P **Pn 10 11 21.2 +0.5**
EZN Ezine 16.72 294 P **Pn 10 11 21.2 +0.5**
comp=Z,384nm,1.3s,comp=Z,7μm
MFTR Murfatlar 16.78 310 ⇓P **P 10 11 23.0 -0.6**
JURR Jurilovca 16.80 313 ⇑P **P 10 11 23.7 -0.1**
JLN Jalan Bani Buh 16.91 133 P **Pn 10 11 21.2 -2.1**
SNR=50
JLN P **Pn 10 11 21.2 -2.1**
SNR=50
JLN S **Sn 10 14 20.7 -10**
JLN S **Sn 10 14 20.7 -10**
EDRB Edirne 16.96 301 P **Pn 10 11 22.5 -1.2**
SIGR SIGRI 16.96 292 P **Pn 10 11 24.4 +0.6**
VRH Novokhopyorsk 16.98 350 *e*P **Pn 10 11 21.7 -2.2**
VRH *e*S **Sn 10 14 32.2 -0.2**
VRH pmax pmax
comp=Z,2μm,1.9s
VRH MLR MLR
comp=Z,5μm,18.0s
PRD Provadia 16.98 306 P **P 10 11 26.8 +0.9**
APE Apeiranthos 16.99 285 P **Pn 10 11 23.0 -1.2**
APE Apeiranthos 16.99 285 *c*P **Pn 10 11 23.8 -0.4**
MHTO MHTO 17.01 140 P **Pn 10 11 21.4 -3.1**
SNR=62
MHTO P **Pn 10 11 21.4 -3.1**
SNR=62
MHTO P **Pn 10 11 21.4 -3.1**
SNR=62
MHTO S **Sn 10 14 23.0 -10**
MHTO S **Sn 10 14 23.0 -10**
MHTO S **Sn 10 14 23.0 -10**
SANT Santorini 17.03 282 Pn 10 11 23.5 -1.2
TLCR 17.05 314 ⇑P **P 10 11 25.8 -0.9**
TLCR 17.05 314 P **P 10 11 25.8 -0.9**
ENEZ Enez 17.06 297 P **Pn 10 11 25.3 +0.3**
NEF NEVSHA 17.11 306 P **P 10 11 27.6 +0.2**
TPGR Topolog 17.12 312 ⇑P **Pn 10 11 26.3 +0.6**
ICOR Ion Corvin 17.14 309 ⇓P **P 10 11 27.9 +0.2**
VORD Divnogorie 17.18 345 *e*P **Pn 10 11 25.7 -0.7**
VORD *e*S **Sn 10 14 35.2 -2.2**
VORD pmax pmax
comp=Z,2μm,1.5s
VORD smax smax
comp=E,700nm,4.9s
TLBR Topalu 17.19 311 ⇑P **P 10 11 28.8 +0.6**
PURM Purcari 17.23 319 ⇓P **P 10 11 27.9 -0.7**
PURM Purcari 17.23 319 P **Pn 10 11 26.7 -0.4**
comp=E,2μm,0.7s,comp=E,16μm
JMB Yambol 17.33 303 P **P 10 11 32.0 +2.3**
HARR Harsova 17.34 311 ⇑P **P 10 11 29.6 -0.2**
HARR Harsova 17.34 311 P **P 10 11 29.6 -0.2**
DOK Doka 17.34 154 P **Pn 10 11 25.5 -3.2**
SNR=98
DOK S **Sn 10 14 31.4 -10**
KSTL Kastelli Herak 17.38 279 P **Pn 10 11 27.6 -1.5**
VSR Storozhevoye 17.44 345 *e*P **Pn 10 11 28.3 -1.4**
VSR *e*S **Sn 10 14 44.3 +0.6**
VSR pmax pmax
comp=Z,2μm,1.8s
VSR smax smax
comp=E,3μm,3.0s
SMTH Samothraki Isl 17.45 296 P **Pn 10 11 28.9 -1.1**
CFR Carcaliu 17.46 313 ⇑P **Pn 10 11 30.5 +0.6**
CFR Carcaliu 17.46 313 P **Pn 10 11 30.5 +0.6**
IDI Anoyia 17.53 279 P **Pn 10 11 30.0 -1.1**
IDI IAmb IAmb 10 11 38.4
comp=Z,672nm,1.1s
IDI Anoyia 17.53 279 P **Pn 10 11 30.8 -0.2**
IDI Anoyia 17.53 279 S **Sn 10 14 39.0 -7.2**
IDI P **Pn 10 11 31.2 +0.1**
IDI Anoyia 17.53 279 P **Pn 10 11 29.0 -2.0**
comp=Z,15nm,0.3s,baz=56,slow=15,SNR=63
IDI S **Sn 10 14 49.8 +3.6**
comp=Z,26nm,0.9s,baz=197,slow=19,SNR=1.5
comp=Z,80nm,0.5s
GIUM Giurgiulesti 17.58 314 ⇑P **P 10 11 32.6 +0.1**
LIA Limnos Island 17.59 294 P **Pn 10 11 31.2 -0.5**
RDO Rodhopi 17.61 298 P **P 10 11 32.8 -0.1**

RDO Rodhopi 17.61 298 P **P 10 11 32.6 -0.3**
DQM DQM 17.66 143 P **Pn 10 11 29.4 -3.2**
SNR=44
DQM S Sn 10 14 38.4 -11
AMRR Amara 17.67 310 ⇑P **P 10 11 33.2 -0.4**
AMRR Amara 17.67 310 P **P 10 11 33.1 -0.4**
SCHLR Schela 17.79 313 ⇑P **Pn 10 11 34.5 +0.4**
NEGRR Negrea 17.80 314 ⇑P **Pn 10 11 34.5 +0.3**
SCTR Scanteiesti 17.80 314 ⇑P **Pn 10 11 34.5 +0.2**
SCHL Schela 17.81 313 ⇓P **P 10 11 35.4 +0.4**
PRNS Prines Rethymn 17.84 279 P **P 10 11 35.4 -0.1**
DIM Dimitrovgrad 17.84 301 P **P 10 11 38.2 +2.8**
VLDR Vladesti 17.84 315 ⇑P **Pn 10 11 35.0 +0.3**
AB31 Akbulak array 17.85 30 *i*P **P 10 11 35.2 -0.3**
ABKAR Akbulak array 17.85 30 P **Pn 10 11 33.4 -1.5**
ABKAR Akbulak array 17.85 30 P **Pn 10 11 34.0 -0.8**
ABKAR IAmb IAmb 10 11 43.8
comp=Z,162nm,1.1s
VORR Voronezh 17.86 346 *e*P **Pn 10 11 34.4 -0.5**
VORR *e*S **Sn 10 14 53.1 -0.8**
VORR pmax pmax
comp=Z,628nm,1.4s
VORR MLR MLR
comp=Z,3μm,14.0s
WHFO Wadi Hawf 17.86 156 P **Pn 10 11 31.9 -3.3**
SNR=133
WHFO S **Sn 10 14 45.0 -9.4**
SNR=6.3
IZVR Izvoarele 17.87 313 ⇑P **Pn 10 11 35.4 +0.3**
BELG Belogornoye 17.88 3 P **Pn 10 11 33.0 -2.0**
comp=Z,8.2nm,0.3s,baz=130,slow=0.6,SNR=48
BELG S **Sn 10 14 45.0 -9.2**
comp=Z,48nm,0.8s,baz=253,slow=20,SNR=1.0
BELG LR LR 10 20 13.1
comp=Z,12μm,18.9s,baz=187,slow=43
comp=Z,560nm,1.0s
KDZ Kurdzhali 17.89 299 P **P 10 11 37.2 +1.2**
SLCR Slobozia Conac 17.89 314 ⇓P **P 10 11 36.2 +0.3**
ELND Elena 17.93 304 ⇓P **P 10 11 36.4 0.0**
LEHL Lehliu 17.93 309 ⇑P **P 10 11 37.9 +1.5**
TUDR 17.96 313 ⇓P **P 10 11 37.3 +0.7**
SZH Strazhitsa 17.99 305 P **P 10 11 38.5 +1.5**
PGOR Pogoanele 18.03 311 ⇓P **P 10 11 38.2 +0.7**
MILM Milestii Mici 18.05 318 ⇑*i*P **Pn 10 11 34.0 -3.2**
comp=Z,1μm,1.5s
MILM Milestii Mici 18.05 318 *c i*P **Pn 10 11 34.0 -3.2**
MILM *e*S **Sn 10 14 57.0 -1.4**
MILM pmax pmax
comp=Z,1μm,1.5s
MILM MLR MLR
comp=Z,16μm,14.5s
AKTO Aktyubinsk 18.07 25 P **Pn 10 11 36.8 -0.6**
comp=Z,3.0nm,0.3s,baz=203,slow=11,SNR=35
AKTO LR LR 10 20 46.0
comp=Z,10μm,18.4s,baz=198,slow=44
comp=Z,77nm,1.1s
THAS Thassos island 18.09 296 P **Pn 10 11 37.2 -0.5**
KIS Kishinev 18.09 319 *e*P **Pn 10 11 35.0 -2.8**
comp=Z,670nm,1.9s
KIS Kishinev 18.09 319 ⇓P **Pn 10 11 37.9 +0.1**
KIS Kishinev 18.09 319 *e*P **Pn 10 11 35.0 -2.8**
KIS *e*S **Sn 10 14 57.0 -2.5**
KIS pmax pmax
comp=Z,670nm,1.9s
KIS MLR MLR
comp=Z,5μm,14.5s
KIS Kishinev 18.09 319 P **Pn 10 11 37.5 -0.3**
comp=Z,320nm,0.8s,comp=Z,4μm
GVD Gavdhos 18.22 277 P **Pn 10 11 39.0 -0.5**
KYMI Kymi, Euboea I 18.24 289 P **Pn 10 11 39.5 -0.1**
ABTO Aybut 18.24 158 P **Pn 10 11 36.0 -3.8**
SNR=90
ABTO P **Pn 10 11 36.0 -3.8**
SNR=90
ABTO S **Sn 10 14 54.9 -8.7**
SNR=9.9
ABTO S **Sn 10 14 54.9 -8.7**
SNR=9.9
IMMV Iera Moni Meta 18.26 279 P **Pn 10 11 39.5 -0.4**
BAL3X Bal3x, Balta 18.27 322 P **Pn 10 11 39.5 -0.5**
DION Dionisos Attik 18.32 288 P **P 10 11 41.8 +1.1**
KAVA Kavala 18.33 297 P **Pn 10 11 40.4 -0.3**
RZN Rozhen 18.34 299 P **P 10 11 42.9 +1.8**
GHRR 18.36 314 ⇑P **P 10 11 41.4 +0.3**
GHRR 18.36 314 P **Pn 10 11 40.9 -0.1**
PTL Penteli 18.37 287 P **P 10 11 41.8 +0.5**
SGRR Singureni 18.37 308 ⇑P **P 10 11 42.8 +1.5**
SULR 18.39 309 ⇓P **P 10 11 43.0 +1.6**
RBK Rabkut 18.40 155 P **P 10 11 38.2 -3.5**
SNR=66
RBK S **Sn 10 14 58.2 -9.1**
SNR=9.3
ISR Istrita 18.41 311 ⇑P **Pn 10 11 42.8 +1.1**
ISR Istrita 18.41 311 P **Pn 10 11 42.8 +1.1**
ISR Istrita 18.41 311 P **P 10 11 41.0 -0.7**
comp=Z,582nm,1.2s,comp=Z,14μm
ODBI Odobesti 18.41 313 ⇓P **Pn 10 11 42.8 +1.1**
ODBI Odobesti 18.41 313 P **Pn 10 11 42.6 +0.9**
comp=Z,143nm,1.4s,comp=Z,2μm
VLY Voula,Athens 18.41 287 P **P 10 11 41.3 -0.4**
PANC Panciu 18.41 314 ⇑P **Pn 10 11 42.6 +0.9**
ATHU Athens Univers 18.43 287 P **Pn 10 11 42.2 +0.2**
SHAO Shalim 18.46 151 *i*P **P 10 11 39.2 -3.1**
SNR=26
SHAO Shalim 18.46 151 P **P 10 11 40.3 -2.0**
SNR=26
SHAO S **Sn 10 14 59.7 -9.0**
SNR=8.6
PLD Plovdiv 18.46 301 P **Pn 10 11 43.6 +1.2**
DMTO DMTO 18.47 153 P **P 10 11 38.9 -3.6**
SNR=58
DMTO S **Sn 10 14 59.7 -9.3**
SNR=9.2
ATH Athens Observa 18.48 287 P **Pn 10 11 42.7 +0.1**
PVL Pavlikeni 18.48 304 P **Pn 10 11 44.2 +1.6**
BISRR Bisoca 18.51 312 ⇑P **Pn 10 11 44.5 +1.4**
OUR Ouranopolis 18.58 295 P **P 10 11 43.6 0.0**
PLAR PLOIESTI 18.64 310 ⇓P **Pn 10 11 45.8 +1.3**
VRI Vrincioaia 18.66 313 ⇑P **Pn 10 11 45.5 +0.7**
VRI Vrincioaia 18.66 313 P **Pn 10 11 45.5 +0.7**
VRI Vrincioaia 18.66 313 P **Pn 10 11 44.9 +0.1**
comp=Z,138nm,1.3s,comp=Z,1μm
KOKK Kokkinochori, 18.67 296 P **P 10 11 44.5 0.0**
PLOR5 Plostina Array 18.69 313 P **Pn 10 11 45.7 +0.6**
comp=Z,422nm,1.2s,comp=Z,6μm
PLOR Plostina 18.70 313 ⇓P **Pn 10 11 46.0 +0.7**
PLOR Plostina 18.70 313 P **Pn 10 11 46.0 +0.7**
NEHR Nehoiu 18.71 311 ⇑P **Pn 10 11 46.2 +0.9**
SIMJ Simiganj 18.72 71 P **P 10 11 45.1 -0.2**
PAIG Paliouri 18.74 293 P **Pn 10 11 45.5 -0.2**
KBL Kabul 18.78 83 P **Pn 10 11 46.9 +0.3**
KBL Kabul 18.78 83 P **Pn 10 11 47.3 +0.8**
SNR=69
KBL P **Pn 10 11 47.3 +0.8**
SNR=69
KBL P **Pn 10 11 47.3 +0.8**
SNR=69
KBL Kabul 18.78 83 P **Pn 10 11 46.9 +0.3**
KBL Kabul 18.78 83 pmax pmax
comp=Z,232nm,1.7s
ANKY Antikythira Is 18.79 281 P **P 10 11 45.0 -0.9**
LPSR Galich'ya Gora 18.80 346 *e*P **P 10 11 43.5 -2.4**
LPSR *e*S **Sn 10 15 11.4 -5.1**
LPSR pmax pmax
comp=Z,2μm,0.8s
LPSR smax smax
comp=E,3μm,1.9s
VILL Villia 18.81 288 P **Pn 10 11 47.3 +0.6**
COPA Copaceanca 18.83 307 ⇓P **Pn 10 11 48.0 +1.2**
CHGR Chuyangaron 18.84 71 P **Pn 10 11 48.1 +1.0**
NVR Nevrokopi 18.89 298 P **Pn 10 11 47.8 +0.2**
KRND KRANIDI 18.90 285 P **P 10 11 45.9 -1.2**
IAS Iasi 18.90 318 ⇓P **P 10 11 46.8 -0.3**
IAS Iasi 18.90 318 P **P 10 11 46.7 -0.3**
MLR Muntele Rosu 18.96 311 P **P 10 11 47.6 -0.2**
MLR Muntele Rosu 18.96 311 P **P 10 11 47.3 -0.5**
comp=E,1.2nm,0.3s,baz=270,slow=24,SNR=65
MLR ScP **ScP 10 19 50.2 +1.2**
comp=E,13nm,1.0s,baz=102,slow=20,SNR=4.2
comp=E,157nm,1.2s
MLR Muntele Rosu 18.96 311 ⇓P **Pn 10 11 49.2 +0.7**
MLR Muntele Rosu 18.96 311 P **P 10 11 47.6 -0.2**
MLR pmax pmax
comp=Z,528nm,1.2s

MLR Muntele Rosu 18.96 311 P **Pn 10 11 48.9 +0.4**
comp=Z,406nm,0.8s,comp=Z,6μm
COVR Voineasa-Covas 18.97 313 ⇓P **Pn 10 11 49.3 +0.8**
PGB Panagyurishte 18.98 301 P **Pn 10 11 50.6 +1.9**
PLG Polygyros 18.99 295 P **P 10 11 48.2 +0.1**
NEO Neokhori 18.99 291 P **P 10 11 48.2 0.0**
MMB Musomishta 19.02 298 P **Pn 10 11 49.8 +0.6**
SRS Serrai 19.03 297 P **P 10 11 48.2 -0.4**
SORM Soroca 19.04 321 P **P 10 11 46.5 -2.1**
comp=Z,538nm,0.8s,comp=Z,12μm
TESR Tescani 19.04 315 ⇑P **P 10 11 48.6 -0.1**
TESR Tescani 19.04 315 P **P 10 11 47.7 -0.9**
comp=Z,570nm,0.8s,comp=Z,8μm
VLI Velíai 19.06 283 P **P 10 11 45.9 -3.0**
ONER Baraj Valea Uz 19.10 314 ⇓P **P 10 11 49.7 +0.4**
HUMR Humele 19.15 308 ⇓P **Pn 10 11 50.9 +0.3**
SOH Sokhos 19.15 296 P **Pn 10 11 50.5 -0.2**
TURR Turia 19.19 313 ⇑P **Pn 10 11 51.6 +0.4**
HORT Hortiatis 19.29 295 P **P 10 11 50.5 -1.0**
STFAR Stefanesti-Arg 19.30 309 ⇓P **P 10 11 51.3 -0.2**
VLAD Vladila 19.32 306 ⇑P **Pn 10 11 53.3 +0.6**
OZUR 19.34 313 ⇓P **P 10 11 52.4 +0.4**
AXAR Agios Charalam 19.37 289 P **P 10 11 52.3 0.0**
MTUR Matau 19.39 310 ⇑P **Pn 10 11 53.3 -0.3**
MTUR Matau 19.39 310 P **Pn 10 11 53.3 -0.3**
THE Thessaloniki 19.40 295 P **Pn 10 11 53.2 -0.5**
BOSR Bodos 19.41 313 ⇑P **Pn 10 11 53.4 -0.5**
VOIR 19.49 310 ⇓P **Pn 10 11 55.1 +0.2**
VOIR 19.49 310 P **Pn 10 11 55.1 +0.2**
VOIR 19.49 310 P **Pn 10 11 54.4 -0.5**
comp=Z,1μm,1.4s,comp=Z,16μm
DOPR Dopca 19.52 312 ⇓P **Pn 10 11 54.7 -0.5**
KKB Krupnik 19.54 299 P **Pn 10 11 55.5 +0.1**
MPEP Malo Peshtene 19.55 303 P **Pn 10 11 56.8 +1.3**
KNT Kendrikon 19.55 297 P **P 10 11 53.7 -0.6**
GUR Goura 19.56 287 P **P 10 11 53.2 -1.3**
AGG Agios Georgios 19.65 290 P **P 10 11 54.6 -0.8**
AGG Agios Georgios 19.65 290 P **P 10 11 54.6 -0.8**
AGG Agios Georgios 19.65 290 P **P 10 11 54.6 -0.8**
AGG pmax pmax
comp=Z,2μm,1.9s
VTS Vitosha 19.67 301 P **Pn 10 11 57.6 +0.5**
PEHC Pehcevo 19.69 298 *i* P **P 10 11 55.0 -0.9**
KLV Kalavryta, Ach 19.72 287 P **P 10 11 54.6 -1.6**
ARR Arges 19.72 310 ⇑P **Pn 10 11 57.6 -0.1**
PRAR RASCA 19.74 316 ⇑P **P 10 11 56.7 +0.4**
GAR Garm 19.77 70 P **Pn 10 11 58.1 -0.3**
MAKR Makrakomi, Fth 19.80 290 P **P 10 11 56.9 -0.2**
TYRN Tyrnavos 19.81 292 P **P 10 11 56.9 -0.1**
VALD Valchedram 19.87 304 P **Pn 10 11 58.5 -0.7**
ITM Ithomi 19.87 285 P **P 10 11 56.0 -1.7**
ITM IAmb IAmb 10 12 02.9
comp=Z,309nm,0.6s
ITM Ithomi 19.87 285 P **P 10 11 55.5 -2.3**
EFP Efpalio 19.93 288 P **P 10 11 57.8 -0.6**
THL Klokotos Trika 19.95 292 P **P 10 11 57.8 -0.8**
PYL PYLOS 20.02 284 P **P 10 11 56.0 -3.4**
TNR Turnu Rosu 20.07 310 ⇑P **P 10 12 00.3 +0.4**
TNR Turnu Rosu 20.07 310 P **P 10 12 00.3 +0.4**
IUG Iuzhnay 20.11 61 *e*P Pn 10 12 02.4 +0.2
comp=Z,387nm,1.3s,baz=61
IUG *e*S Sn 10 15 49.0 +0.6
baz=61
IUG Iuzhnay 20.11 61 *e*P Pn 10 12 02.4 +0.2
IUG *e*S Sn 10 15 49.0 +0.6
IUG pmax pmax
comp=Z,387nm,1.3s
BRLS Borolday 20.20 58 *e*P **P 10 11 60.0 -1.4**
baz=59
BRLS Borolday 20.20 58 *e*P **P 10 11 59.9 -1.4**
MDB Medias 20.23 312 ⇓P Pn 10 12 03.2 -0.3
MDB Medias 20.23 312 P Pn 10 12 03.2 -0.3
AK07 Malin Array Si 20.26 327 P **P 10 11 59.9 -1.9**
AK09 Malin Array Si 20.27 328 P **P 10 12 00.0 -2.0**
AK10 Malin Array Si 20.27 327 P **P 10 12 00.0 -2.0**
AK08 Malin Array Si 20.30 328 P **P 10 12 00.0 -2.2**
KMPD K-Podol'skiy 20.30 320 P **P 10 12 00.1 -2.2**
LOT Lotru 20.31 309 ⇑P **P 10 12 03.2 +0.6**
TGMR Targu Mures 20.32 313 ⇑P Pn 10 12 04.0 -0.6
AKASG Malin Array Be 20.36 328 P **P 10 12 00.8 -2.1**
AKASG IAmb IAmb 10 12 06.2
comp=Z,461nm,1.1s
AKASG Malin Array Be 20.36 328 P **P 10 12 00.8 -2.1**
comp=Z,121nm,0.7s,baz=141,slow=9.2,SNR=75
AKASG ScP **ScP 10 19 52.2 +0.3**
comp=Z,7.7nm,0.9s,baz=99,slow=1.9,SNR=8.9
AKASG LR LR 10 21 15.9
comp=Z,15μm,19.4s,baz=124,slow=41
comp=Z,121nm,0.7s
AKASG Malin Array Be 20.36 328 P **P 10 12 00.8 -2.1**
AKASG pmax pmax
comp=Z,461nm,1.1s
AKBB Malin Array Si 20.36 328 P **P 10 12 00.7 -2.2**
AKBB IAmb IAmb 10 12 06.2
comp=Z,1μm,1.4s
AKBB Malin Array Si 20.36 328 P **P 10 12 00.7 -2.2**
AKBB pmax pmax
comp=Z,1μm,1.5s
AKBB Malin Array Si 20.36 328 P **P 10 12 00.7 -2.2**
KIEV Kiev 20.36 328 P **P 10 12 00.4 -2.5**
KIEV IAmb IAmb 10 12 06.2
comp=Z,973nm,1.4s
KIEV Kiev 20.36 328 IAMs_20 IAMs_20 10 21 05.0
comp=Z,17μm,19.0s
KIEV Kiev 20.36 328 P **P 10 12 00.4 -2.5**
KIEV pmax pmax
comp=Z,973nm,1.5s
KIEV MLR MLR
comp=Z,17μm,19.0s
SRE Strehaia 20.37 307 ⇑P Pn 10 12 04.8 -0.4
SRE Strehaia 20.37 307 P Pn 10 12 04.7 -0.4
PUNG Punghina 20.41 305 ⇓P Pn 10 12 05.0 -0.6
BURAR Bucovina Array 20.46 316 P **P 10 12 03.1 -1.1**
BURAR IAmb IAmb 10 12 11.6
comp=Z,504nm,0.7s
BURAR Bucovina Array 20.46 316 ⇓P **P 10 12 04.0 -0.2**
BURAR Bucovina Array 20.46 316 P **P 10 12 03.1 -1.1**
BURAR pmax pmax
comp=Z,504nm,0.7s
BUR08 Bucovina Ar. S 20.48 316 P **P 10 12 03.5 -0.9**
BUR08 IAmb IAmb 10 12 17.5
comp=Z,460nm,0.9s
AK21 Malin Array Si 20.49 328 P **P 10 12 02.3 -2.1**
LUBAR Lubar, Ukraine 20.50 324 P **P 10 12 02.6 -1.8**
FNA Florina 20.61 295 P **P 10 12 05.8 -0.1**
FNA Florina 20.61 295 P **P 10 12 05.8 -0.1**
FNA pmax pmax
comp=Z,1μm,1.2s
FNA MLR MLR
comp=Z,8μm,18.0s
ARCR ARCALIA 20.69 314 ⇓P **P 10 12 07.4 +0.8**
KK31 Karatay Array 20.70 58 P **P 10 12 06.6 -0.1**
KK31 Karatay Array 20.70 58 P **P 10 12 06.6 -0.1**
KK31 pmax pmax
comp=Z,144nm,1.2s
KKAR Karatay Array 20.70 58 P **P 10 12 06.6 -0.1**
KKAR Karatay Array 20.70 58 P **P 10 12 06.6 -0.1**
KKAR pmax pmax
comp=Z,143nm,1.2s
RMGR Halanga-Turnu 20.71 306 ⇑P **P 10 12 07.8 +1.0**
TRKS Terek-Say 20.77 63 P Pn 10 12 09.0 -1.1
MI29 MI29, Kamyanyy 20.79 325 P **P 10 12 06.0 -1.6**
SKO Skopje 20.80 298 *i* P **P 10 12 08.4 +0.6**
DJES Djerdap 20.82 306 ⇑P **P 10 12 08.0 0.0**
MI30 MI30,Zelenitsa 20.86 326 P **P 10 12 06.0 -2.3**
GZR Gura Zlata 20.93 308 ⇑P **P 10 12 09.0 -0.3**
DRK Karamyk 20.97 69 P **P 10 12 11.0 +1.0**
DRK Karamyk 20.97 69 P **P 10 12 11.0 +1.0**
DRK Karamyk 20.97 69 pmax pmax
comp=Z,120nm,0.9s
HERR Herculane 20.97 307 ⇓P **P 10 12 10.1 +0.5**
CJR Cluj-Napoca 20.97 312 ⇓P **P 10 12 10.3 +0.6**
CJR Cluj-Napoca 20.97 312 P **P 10 12 10.3 +0.6**
BOVS Bovan 21.04 303 ⇓P **P 10 12 10.3 -0.1**
DEV Deva 21.04 310 ⇑P **P 10 12 10.9 +0.5**
DEV Deva 21.04 310 P **P 10 12 10.9 +0.5**
OHR Ohrid 21.10 296 *i* P **P 10 12 11.9 +0.8**
MI28 Mi28,Pidlybu 21.22 326 P **P 10 12 10.5 -1.8**
MARR Marisel-Cluj 21.25 312 ⇓P **P 10 12 13.0 +0.3**
MDVR Moldovita 21.40 306 ⇑P **P 10 12 15.0 +0.7**
BMR Baia Mare 21.49 314 ⇑P **P 10 12 15.6 +0.4**
BMR Baia Mare 21.49 314 P **P 10 12 15.6 +0.4**

SURR Surduc 21.49 309 ⇑P **P 10 12 15.1 0.0**
DRGR 21.55 312 ⇓P **P 10 12 16.0 0.0**
DRGR 21.55 312 P **P 10 12 15.9 0.0**
MESR Meseseni 21.57 313 ⇑P **P 10 12 16.6 +0.6**
OBN Obninsk 21.65 345 P **P 10 12 14.1 -2.6**
OBN Obninsk 21.65 345 P **P 10 12 15.3 -1.5**
comp=Z,316nm,0.8s,baz=157,slow=3.2,SNR=40
OBN S **S 10 16 10.4 -5.8**
comp=Z,38nm,0.6s,baz=197,slow=19,SNR=2.7
OBN LR LR 10 22 15.3
comp=Z,7μm,19.4s,baz=154,slow=41
comp=Z,316nm,0.8s
OBN Obninsk 21.65 345 *d* iP **P 10 12 18.3 +1.6**
OBN *e* 10 12 40.0
OBN *e*PPP PPP 10 12 44.4
OBN *i* S **S 10 16 11.0 -5.2**
OBN *e* 10 16 16.6
OBN *i* SS **SnSn 10 16 48.3 +8.1**
OBN pmax pmax
comp=Z,1μm,1.4s
OBN MLR MLR
comp=Z,7μm,11.0s
OBN Obninsk 21.65 345 P **P 10 12 15.1 -1.6**
comp=Z,774nm,1.4s,comp=Z,13μm
BZS Buzias 21.77 308 ⇑P **P 10 12 18.0 -0.2**
BZS Buzias 21.77 308 P **P 10 12 18.0 -0.2**
TIR Tirane 21.84 296 P **P 10 12 18.1 -0.8**
TIR IAmb IAmb 10 12 26.2
comp=Z,547nm,1.1s
TIR Tirane 21.84 296 ⇑P **P 10 12 20.3 +1.3**
TIR Tirane 21.84 296 P **P 10 12 18.1 -0.8**
TIR pmax pmax
comp=Z,547nm,1.1s
TIR Tirane 21.84 296 P **P 10 12 17.7 -1.2**
comp=Z,519nm,0.8s,comp=Z,7μm
OHH Osh 21.84 66 P **P 10 12 20.3 +1.2**
PUK Puka 21.94 298 P **P 10 12 18.7 -1.5**
PUK IAmb IAmb 10 12 29.0
comp=Z,247nm,0.8s
SIRR Siria 21.99 310 ⇑P **P 10 12 20.9 +0.3**
BANR Banloc 22.00 307 ⇑P **P 10 12 21.9 +1.3**
MOS Moscow 22.02 347 *e*P **P 10 12 16.5 -4.3**
MOS *e*PPP PPP 10 12 48.9
MOS *e*S **S 10 16 17.6 -5.9**
MOS *e* 10 23 40.3
MOS pmax pmax
comp=N,2μm,2.2s
MOS pmax pmax
comp=E,600nm,2.2s
MOS pmax pmax
comp=Z,4μm,2.2s
MOS pmax pmax
comp=Z,1μm,1.8s
MOS pmax pmax
comp=N,681nm,1.4s
MOS pmax pmax
comp=E,202nm,1.4s
MOS smax smax
comp=E,6μm,3.8s
MOS MLR MLR
comp=N,7μm,14.0s
MOS MLR MLR
comp=E,6μm,14.0s
MOS MLR MLR
comp=Z,11μm,14.0s
TIM Timisoara 22.07 308 ⇑P **P 10 12 22.5 +1.1**
TIM Timisoara 22.07 308 P **P 10 12 22.5 +1.1**
CEI Carei 22.11 314 ⇑P **P 10 12 22.4 +0.6**
CEI Carei 22.11 314 P **P 10 12 22.4 +0.6**
IVA Berane 22.12 300 ⇑*i*P **P 10 12 20.9 -1.2**
RNPP5 Staryi Chortor 22.26 325 P **P 10 12 21.5 -1.9**
RNPP2 Kostyukhnivka 22.32 325 P **P 10 12 23.5 -0.6**
LVV L'vov 22.33 320 *e*P **P 10 12 24.0 -0.2**
LVV *e*S **S 10 16 21.7 -7.8**
LVV MLR MLR
comp=E,7μm,14.0s
LVV MLR MLR
comp=N,4μm,11.0s
LVV MLR MLR
comp=Z,17μm,15.0s
RNPP8 Varash 22.34 325 P **P 10 12 22.5 -1.8**
NIL Nilore 22.36 85 P **P 10 12 25.2 +0.4**
NIL Nilore 22.36 85 P **P 10 12 25.0 +0.3**
NIL Nilore 22.36 85 P **P 10 12 25.2 +0.4**
NIL pmax pmax
comp=Z,1μm,1.4s
RNPP9 Sopachiv 22.38 325 P **P 10 12 22.6 -2.0**
KOME Kolasin 22.38 300 ⇑*i*P **P 10 12 22.5 -2.4**
PDG Podgorica 22.48 299 P **P 10 12 24.4 -1.5**
PDG Podgorica 22.48 299 ⇓P **P 10 12 25.9 +0.1**
PDG Podgorica 22.48 299 ⇑*i*P **P 10 12 25.4 -0.5**
DRME Dracevica, Mon 22.48 298 ⇑*i*P **P 10 12 24.5 -1.4**
PLE Pljevlja 22.58 301 ⇑*i*P **P 10 12 25.5 -1.6**
RUDO Rudo 22.67 302 ⇑*i*P **P 10 12 27.0 -0.9**
BUM Brajici-Budva 22.72 298 ⇑*i*P **P 10 12 26.7 -1.8**
SCTE Santa Cesarea 22.73 292 P **P 10 12 28.1 -0.4**
CEME Cevo 22.75 299 ⇑*i*P **P 10 12 25.7 -3.1**
NKME Niksic 22.77 299 ⇓*i*P **P 10 12 25.6 -3.4**
FRGS Fruska Gora 22.80 306 ⇑P **P 10 12 30.2 +0.9**
FRGS Fruska Gora 22.80 306 P **P 10 12 29.1 -0.2**
comp=Z,313nm,1.0s,comp=Z,6μm
KOLS Kolonicke sedl 22.82 316 *e*P **P 10 12 29.9 +0.4**
KOLS pmax pmax
comp=Z,1μm,1.0s
KOLS Kolonicke sedl 22.82 316 *e*P **P 10 12 29.9 +0.4**
KOLS *e*S **S 10 16 43.4 +4.8**
KOLS *e* 10 51 17.9
UPM Unac-Piva 22.90 300 ⇓*i*P **P 10 12 28.4 -2.1**
EKS2 Erkin-Say 22.92 61 P **P 10 12 32.9 +2.2**
SNR=16
KWP Kalwaria Pacla 22.94 318 P **P 10 12 30.5 -0.2**
KWP Kalwaria Pacla 22.94 318 P **P 10 12 30.5 -0.2**
KWP pmax pmax
comp=Z,1μm,1.1s
KWP MLR MLR
comp=Z,3μm,21.0s
KWP Kalwaria Pacla 22.94 318 P **P 10 12 31.0 +0.3**
comp=Z,1μm,1.7s,comp=Z,16μm
HAPS Han Pijesak,Bl 23.08 303 ⇑*i*P **P 10 12 31.9 -0.4**
BRY Bratogost 23.09 299 ⇓*i*P **P 10 12 31.5 -1.0**
ATD Arta Tunnel 23.11 189 P **P 10 12 35.0 +2.3**
ATD IAmb IAmb 10 12 38.1
comp=Z,435nm,1.4s
ATD Arta Tunnel 23.11 189 LR LR 10 22 16.0
comp=Z,270nm,19.9s,baz=10,slow=39
KLINJ Klinje 23.12 300 *e*P **P 10 12 32.7 0.0**
TREB Trebinje 23.19 299 ⇑*i*P **P 10 12 31.7 -1.6**
CRVS Cervenica-Dubn 23.27 316 *e*P **P 10 12 33.5 -0.6**
CRVS pmax pmax
comp=Z,2μm,1.2s
CRVS Cervenica-Dubn 23.27 316 *e*P **P 10 12 33.5 -0.6**
CRVS *e*S **S 10 16 53.1 +6.8**
BHUJ Bhuj 23.32 113 *e*P **P 10 12 36.1 +1.4**
BHUJ IAmb IAmb 10 12 42.0
comp=Z,400nm,1.3s
BHUJ *e*S **S 10 16 50.3 +2.9**
AAK Ala-Archa 23.44 61 *i* P **P 10 12 36.5 +0.6**
SNR=11
AAK Ala-Archa 23.44 61 LR LR 10 22 46.6
comp=Z,8μm,20.1s,baz=260,slow=39
AAK Ala-Archa 23.44 61 *ce*P **P 10 12 36.2 +0.2**
AAK pmax pmax
comp=Z,157nm,1.3s
AAK MLR MLR
comp=Z,7μm,12.0s
ARU Arti 23.46 17 P **P 10 12 34.9 -1.0**
ARU IAmb IAmb 10 12 47.0
comp=Z,431nm,1.0s
ARU Arti 23.46 17 P **P 10 12 34.8 -1.0**
comp=Z,64nm,1.0s,baz=199,slow=9.1,SNR=13
ARU LR LR 10 24 49.3
comp=Z,14μm,18.3s,baz=210,slow=45
comp=Z,64nm,1.0s
ARU Arti 23.46 17 *c i*P **P 10 12 35.5 -0.4**
ARU PPP PPP 10 13 11.2
ARU S **S 10 16 51.1 +2.0**
ARU SS Sn 10 17 29.0 +21
ARU pmax pmax
comp=Z,469nm,2.1s
ARU MLR MLR
comp=Z,15μm,17.0s
KECS Kecovo 23.65 314 *e*P **P 10 12 38.4 +0.6**
KECS pmax pmax
comp=Z,443nm,1.0s

KECS Kecovo 23.65 314 *e*P **P 10 12 38.4 +0.6**
BTLS Baital 23.69 55 *e*P **P 10 12 39.2 +1.0**
baz=55
BTLS *e*S **S 10 16 55.3 +2.2**
baz=55
BTLS Baital 23.69 55 *e*P **P 10 12 39.2 +1.0**
BTLS *e*S **S 10 16 55.3 +2.2**
CHMS Chumysh 23.69 61 P **P 10 12 40.0 +1.7**
SNR=13
STON Ston 23.69 299 *e*P **P 10 12 35.6 -2.6**
STON Ston 23.69 299 ⇑*i*P **P 10 12 35.9 -2.3**
SGDS Sogindy 23.70 59 *e*P **P 10 12 39.4 +1.0**
baz=59
SGDS Sogindy 23.70 59 *e*P **P 10 12 39.4 +1.0**
MNK Minsk 23.73 333 *i* P **P 10 12 36.1 -2.4**
comp=E,153nm,1.0s
MNK *i* P **P 10 12 36.1 -2.4**
comp=N,301nm,0.9s
MNK *i* P **P 10 12 36.1 -2.4**
comp=Z,361nm,0.8s,baz=138
MNK *i* PP **PnPn 10 13 01.9 -4.1**
MNK *i* S **S 10 16 49.3 -4.3**
MNK *i* SS Sn 10 17 19.6 +4.6
MNK *i* LR LR 10 20 26.4
MNK *i* LRM MLR 10 21 01.4
comp=N,12μm,17.9s
MNK *i* LRM MLR 10 21 20.4
comp=E,5μm,18.4s
MNK *i* LRM MLR 10 22 26.9
comp=Z,4μm,15.2s
MNK Minsk 23.73 333 *i* P **P 10 12 36.1 -2.4**
MNK *i* S **S 10 16 49.2 -4.3**
MNK pmax pmax
comp=Z,361nm,0.9s
MNK pmax pmax
comp=N,301nm,0.9s
MNK pmax pmax
comp=E,153nm,1.0s
MNK MLR MLR
comp=N,12μm,18.0s
MNK MLR MLR
comp=E,5μm,18.0s
MNK MLR MLR
comp=Z,4μm,15.0s
PSZ Piszkesteto 23.76 312 P **P 10 12 36.8 -2.2**
PSZ Piszkesteto 23.76 312 ⇓P **P 10 12 38.6 -0.5**
PSZ Piszkesteto 23.76 312 P **P 10 12 38.5 -0.5**
DOB Doboj 23.84 304 *e*P **P 10 12 39.7 0.0**
MORH Mrgy, Hungar 23.92 307 ⇑*i*P **P 10 12 39.4 -1.0**
MORH Mrgy, Hungar 23.92 307 ⇑P **P 10 12 40.6 +0.2**
MORH Mrgy, Hungar 23.92 307 P **P 10 12 40.0 -0.4**
comp=Z,440nm,1.6s,comp=Z,9μm
TIP Timpagrande 23.99 290 P **P 10 12 39.7 -1.6**
TIP IAmb IAmb 10 12 45.9
comp=Z,321nm,1.4s
TIP IAMs_20 IAMs_20 10 23 22.2
comp=Z,14μm,19.0s
TIP Timpagrande 23.99 290 ⇑P **P 10 12 41.5 +0.2**
TIP Timpagrande 23.99 290 P **P 10 12 40.3 -0.9**
comp=Z,126nm,1.5s,comp=Z,4μm
KIRV Kirov 24.15 4 P **P 10 12 41.3 -1.1**
comp=Z,147nm,0.8s,baz=194,slow=3.9,SNR=45
KIRV LR LR 10 23 47.2
comp=Z,15μm,19.9s,baz=186,slow=41
comp=Z,147nm,0.8s
KIRV Kirov 24.15 4 *d* iP **P 10 12 41.1 -1.3**
KSH Kashi 24.19 69 P **P 10 12 40.3 -2.9**
KSH S **S 10 17 02.0 +0.6**
KSH pmax pmax
comp=Z,28nm,0.8s
KSH pmax pmax
comp=Z,1μm,4.5s
KSH LR LR
comp=Z,38μm,17.2s
KSH LR LR
comp=Z,26μm,17.2s
KSH LR LR
comp=Z,24μm,13.7s
NIE Niedzica 24.19 316 P **P 10 12 42.8 -0.2**
comp=Z,245nm,1.9s,comp=Z,5μm
RICI Ricice 24.22 300 *e*P **P 10 12 41.0 -2.3**
SVE Sverdlovsk 24.35 19 *ce*P **P 10 12 45.0 +0.7**
SVE *e*S **S 10 17 03.9 +0.5**
SVE pmax pmax
comp=Z,611nm,1.6s
SVE MLR MLR
comp=Z,10μm,19.0s
NACGM Naroch 24.46 332 *i* P **P 10 12 43.4 -1.9**
MGRS Mrkonjic Grad 24.46 303 ⇑*i*P **P 10 12 45.8 +0.3**
BLY Banja Luka 24.47 303 ⇑*i*P **P 10 12 44.7 -0.9**
LANS Liptovska Anna 24.55 315 *e*P **P 10 12 46.8 +0.5**
LANS pmax pmax
comp=Z,834nm,2.0s
LANS Liptovska Anna 24.55 315 *e*P **P 10 12 46.8 +0.5**
LANS *e*S **S 10 17 10.3 +3.5**
THN Thein Dam 24.64 87 *e*P **P 10 12 47.2 +0.1**
THN *e*S **S 10 17 04.4 -4.0**
VYHS Vyhne 24.65 313 *e*P **P 10 12 46.6 -0.5**
VYHS pmax pmax
comp=Z,2μm,2.3s
VYHS Vyhne 24.65 313 *e*P **P 10 12 46.6 -0.5**
VYHS *e*S **S 10 17 11.7 +3.4**
HVAR Hvar 24.65 299 *e*P **P 10 12 46.7 -0.5**
CEL Celeste 24.65 288 P **P 10 12 47.1 -0.3**
CEL Celeste 24.65 288 P **P 10 12 47.0 -0.3**
comp=Z,610nm,0.9s,comp=Z,12μm
SRO Srobarova 24.70 311 *e*P **P 10 12 48.4 +0.9**
SRO pmax pmax
comp=Z,1μm,1.9s
SRO Srobarova 24.70 311 *e*P **P 10 12 48.4 +0.9**
CUC Castrocucco 24.75 292 P **P 10 12 47.9 -0.3**
CUC IAmb IAmb 10 12 53.7
comp=Z,472nm,1.2s
KIJV Kijevo 24.84 301 *e*P **P 10 12 47.2 -1.7**
OJC Ojcow 24.86 317 P **P 10 12 48.6 -0.4**
OJC Ojcow 24.86 317 P **P 10 12 48.6 -0.4**
OJC pmax pmax
comp=Z,733nm,0.9s
OJC Ojcow 24.86 317 P **P 10 12 48.0 -1.0**
comp=Z,1μm,1.9s,comp=Z,16μm
A050A Klekovaca 24.86 302 ⇑*i*P **P 10 12 48.2 -1.0**
SGRT San Giovanni R 24.95 296 P **P 10 12 49.1 -1.0**
SGRT IAmb IAmb 10 12 54.6
comp=Z,244nm,1.1s
MPLH Magyarpolny 24.96 309 P **P 10 12 49.5 -0.4**
comp=Z,2μm,1.1s,comp=Z,22μm
MOSL Moslavina 24.99 305 *e*P **P 10 12 49.1 -1.2**
BRVK Borovoye 25.17 35 P **P 10 12 52.8 +1.0**
BRVK IAmb IAmb 10 12 58.9
comp=Z,620nm,1.6s
BRVK Borovoye 25.17 35 P **P 10 12 53.1 +1.3**
BRVK P **P 10 12 53.1 +1.3**
BRVK P **P 10 12 53.1 +1.3**
BRVK S **S 10 17 19.2 +2.6**
BRVK S **S 10 17 19.2 +2.6**
BRVK S **S 10 17 19.2 +2.6**
BRVK Borovoye 25.17 35 *d* iP **P 10 12 52.5 +0.7**
BRVK pmax pmax
comp=Z,179nm,1.1s
BRVK MLR MLR
comp=Z,8μm,15.0s
BVA0 Borovoye Array 25.20 35 P **P 10 12 53.6 +1.5**
BVAR Borovoye Array 25.20 35 P **P 10 12 52.9 +0.8**
comp=Z,30nm,0.7s,baz=226,slow=7.1,SNR=50
BVAR ScP **ScP 10 20 04.1 -0.4**
comp=Z,12nm,0.9s,baz=266,slow=3.0,SNR=5.6
BVAR LR LR 10 24 48.9
comp=Z,10μm,19.1s,baz=219,slow=42
BVAR P3KPbc 10 45 48.4
comp=Z,0.2nm,0.3s,baz=53,slow=5.6,SNR=1.5
comp=Z,30nm,0.7s
ISAL Salakas 25.21 333 *e*P **P 10 12 53.0 +1.0**
BEHE Becsehely 25.23 307 ⇑*i*P **P 10 12 52.8 +0.5**
TNSS Tian-Shan 25.28 61 *e*P **P 10 12 53.9 +0.5**
baz=61
TNSS Tian-Shan 25.28 61 *e*P **P 10 12 53.9 +0.5**
AAA Alma-Ata 25.29 61 *e*P **P 10 12 54.3 +1.3**
comp=Z,98nm,0.9s,baz=61
AAA Alma-Ata 25.29 61 *e*P **P 10 12 54.3 +1.3**
AAA pmax pmax
comp=Z,98nm,0.9s
MORI Morici 25.31 301 *e*P **P 10 12 51.4 -1.8**
ZIRJ Zirje 25.32 300 *e*P **P 10 12 52.0 -1.2**
SUW Suwalki 25.33 327 P **P 10 12 52.1 -1.1**
SUW IAMs_20 IAMs_20 10 24 11.0

comp=Z,11μm,19.0s
SUW Suwalki 25.33 327 *e*P **P 10 12 53.8 +0.6**
SUW Suwalki 25.33 327 P **P 10 12 52.1 -1.1**
SUW pmax pmax
comp=Z,950nm,0.9s
SUW MLR MLR
comp=Z,11μm,19.0s
KALN Kalnik 25.34 306 *e*P **P 10 12 52.3 -1.1**
MDOK Medeo 25.38 61 *e*P **P 10 12 55.4 +1.4**
baz=61
MDOK *e*S **S 10 17 22.9 +2.5**
baz=61
MDOK LR LR 10 23 42.0
comp=Z,5μm,10.3s,baz=61
MDOK Medeo 25.38 61 *e*P **P 10 12 55.3 +1.3**
MDOK *e*S **S 10 17 22.9 +2.5**
MDOK MLR MLR
comp=Z,5μm,10.0s
UDBI Udbina 25.41 302 *e*P **P 10 12 51.9 -2.2**
CHKK Chushkaly 25.46 59 *e*P **P 10 12 55.6 +1.0**
baz=59
CHKK Chushkaly 25.46 59 *e*P **P 10 12 55.5 +1.0**
BHK Bhakra 25.46 89 *e*P **P 10 12 55.2 +0.6**
BHK *e*S **S 10 17 22.3 +0.7**
JAVC Velka Javorina 25.50 313⇑ *i*P **P 10 12 54.9 0.0**
JAVC *e*S **S 10 17 15.7 -6.4**
SMOL Smolenice 25.51 312 *e*P **P 10 12 55.7 +0.8**
SMOL pmax pmax
comp=Z,252nm,1.1s
MODS Modra-Piesok 25.55 312 *e*P **P 10 12 55.1 -0.3**
MODS pmax pmax
comp=Z,2μm,1.4s
MODS Modra-Piesok 25.55 312 *e*P **P 10 12 55.0 -0.3**
KOGS Kog 25.57 307 *i*P **P 10 12 54.7 -0.7**
ZAG Zagreb 25.57 305 P **P 10 12 55.3 -0.2**
PLIT Plitvice 25.58 303 *e*P **P 10 12 54.1 -1.5**
ZST Bratislava 25.60 311 *e*P **P 10 12 55.2 -0.5**
ZST pmax pmax
comp=Z,2μm,1.0s
ZST Bratislava 25.60 311 *e*P **P 10 12 55.2 -0.5**
PTJ Puntijarka 25.60 305 P **P 10 12 54.7 -1.1**
MAUC Maruska 25.61 314 *e*P **P 10 12 56.1 +0.2**
OKC Ostrava-Krasne 25.63 315 *e*P **P 10 12 55.4 -0.5**
OKC AMS AMS 10 26 00.0
comp=Z,8μm,13.6s
OKC Ostrava-Krasne 25.63 315 *e*P **P 10 12 55.4 -0.5**
OKC MLR MLR
comp=Z,8μm,13.6s
RAC Raciborz 25.71 316 *e*P **P 10 12 56.2 -0.5**
RAC *e*S **S 10 17 24.2 -1.0**
RAC AMS AMS 10 23 46.2
comp=Z,6.0nm,24.1s
RAC Raciborz 25.71 316 *e*P **P 10 12 56.2 -0.5**
RAC *e*S **S 10 17 24.2 -1.0**
RAC MLR MLR
comp=Z,6μm,24.1s
TARG Taragay, Kyrgy 25.74 64 P **P 10 13 02.0 +4.4**
TARG Taragay, Kyrgy 25.74 64 P **P 10 13 02.0 +4.4**
TARG pmax pmax
comp=Z,82nm,1.1s
PAOL Paolisi 25.77 294 P **P 10 12 56.7 -0.7**
PAOL IAmb IAmb 10 13 05.9
comp=Z,367nm,1.3s
DUGI Dugi Otok 25.80 301 *e*P **P 10 12 55.7 -1.8**
VAE Valguarnera 25.85 286 P **P 10 12 58.2 0.0**
comp=Z,210nm,0.8s,baz=89,slow=1.5,SNR=58
comp=Z,210nm,0.8s
VIRC Vir 25.86 301 *e*P **P 10 12 56.1 -2.0**
OZLJ Ozalj 25.87 305 *e*P **P 10 12 57.4 -0.7**
WDD Wied Dalam 25.90 282 P **P 10 12 57.3 -1.3**
RAFF Raffo Rosso 25.91 285 P **P 10 12 59.6 +1.0**
CRES Cresnjev 25.93 305⇑ *i*P **P 10 12 58.2 -0.5**
RONA Rosalia, Austr 25.93 310 *i*P **P 10 12 58.0 -0.8**
comp=Z,60nm,0.7s,SNR=395
RONA *e*ScP **ScP 10 20 08.4 +1.6**
comp=Z,11nm,1.4s
MORC Moravsky Berou 25.95 315 P **P 10 12 57.4 -1.6**
MORC Moravsky Berou 25.95 315⇑ *i*P **P 10 12 57.7 -1.3**
MORC *e*S **S 10 17 23.6 -5.6**
MORC Moravsky Berou 25.95 315⇓ P **P 10 12 58.6 -0.4**
MORC Moravsky Berou 25.95 315 P **P 10 12 57.4 -1.6**
MORC pmax pmax
comp=Z,2μm,1.6s
BOJS Bojanci 25.98 304⇑ *i*P **P 10 12 58.5 -0.7**
PABE Paberze 26.01 331 P **P 10 12 57.8 -1.5**
PABE IAmb IAmb 10 13 03.4
comp=Z,314nm,0.9s
PABE IAMs_20 IAMs_20 10 24 33.7
comp=Z,11μm,19.0s
PABE Paberze 26.01 331 *e*P **P 10 12 58.5 -0.8**
NVLJ Novalja 26.04 302 *e*P **P 10 12 58.5 -1.2**
ARXS Arharly 26.12 59 *e*P **P 10 13 01.5 +0.9**
RABC Rab 26.14 302 *e*P **P 10 12 58.9 -1.8**
SMLA Simla 26.16 89 *e*x x 10 12 57.6
SMLA *e*P **P 10 13 02.0 +1.1**
SMLA IAmb IAmb 10 13 07.6
comp=Z,292nm,0.8s
SMLA *e*S **S 10 17 33.7 +1.2**
PRZ Przheval'sk 26.27 63 P **P 10 13 03.9 +1.9**
PRZ Przheval'sk 26.27 63 P **P 10 13 03.9 +1.9**
PRZ pmax pmax
comp=Z,70nm,1.0s
CONA Conrad Observa 26.28 310 *i*P **P 10 13 01.2 -0.8**
comp=Z,35nm,1.0s,SNR=407
ARSA Arzberg 26.28 308 *i*P **P 10 13 01.6 -0.4**
comp=Z,41nm,0.6s,SNR=223
ARSA *i*ScP **ScP 10 20 07.0 -0.8**
comp=Z,4.9nm,0.8s
VRAC Vranov 26.33 313⇑ *i*P **P 10 13 01.6 -0.7**
VRAC *e*S **S 10 17 30.0 -5.1**
VRAC Vranov 26.33 313 P **P 10 13 01.7 -0.6**
comp=Z,65nm,0.9s,baz=110,slow=8.7,SNR=98
VRAC LR LR 10 24 42.2
comp=Z,7μm,21.4s,baz=104,slow=40
comp=Z,65nm,0.9s
VRAC Vranov 26.33 313 ⇑P **P 10 13 02.5 +0.2**
VRAC Vranov 26.33 313 P **P 10 13 02.5 +0.2**
SATY Saty 26.34 62 *e*P **P 10 13 04.0 +1.3**
baz=62
SATY *e*S **S 10 17 38.0 +2.3**
baz=62
SATY Saty 26.34 62 *e*P **P 10 13 04.0 +1.3**
SATY *e*S **S 10 17 38.0 +2.3**
INTR Introdacqua 26.35 296 P **P 10 13 02.5 -0.2**
INTR IAmb IAmb 10 13 31.1
comp=Z,256nm,1.2s
KRUC Moravsky 26.35 312⇑ *i*P **P 10 13 01.8 -0.8**
KRUC *e*S **S 10 17 33.4 -2.0**
VSVD Vaisvydziai 26.36 331 *e*P **P 10 13 01.0 -1.4**
SOKA Soboth 26.44 307 *i*P **P 10 13 03.0 -0.4**
comp=Z,24nm,0.8s,SNR=124
SOKA *i*PcP **PcP 10 16 28.7 +0.2**
comp=Z,30nm,1.5s
SOKA *e*ScP **ScP 10 20 07.1 -1.2**
comp=Z,12nm,1.2s
FURI Furi 26.45 197 P **P 10 13 06.9 +2.9**
FURI Furi 26.45 197 IAMs_20 IAMs_20 10 23 49.2
comp=Z,11μm,19.0s
FURI Furi 26.45 197 LR LR 10 24 00.9
comp=Z,11μm,20.1s,baz=31,slow=38
RIY Rijeka 26.47 304 P **P 10 13 03.4 -0.2**
KRLC Kraliky 26.53 315 *e*P **P 10 13 03.4 -0.8**
KRLC AMS AMS 10 25 40.0
comp=Z,11μm,13.8s
KRLC Kraliky 26.53 315 *e*P **P 10 13 03.4 -0.8**
KRLC MLR MLR
comp=Z,11μm,13.8s
CEY Cerknica 26.60 304⇑ *i*P **P 10 13 04.2 -0.7**
KPKS Kokpek 26.61 61 *e*P **P 10 13 06.0 +1.0**
baz=61
KPKS Kokpek 26.61 61 *e*P **P 10 13 06.0 +1.0**
LJU Ljubljana 26.61 305 *e*P **P 10 13 04.6 -0.3**
LJU *e*S **S 10 17 41.2 +1.7**
SMRN Sveta Marina 26.63 303 *e*P **P 10 13 03.2 -1.9**
TDK Taldyqorghan 26.68 57 *e*P **P 10 13 06.1 +0.5**
comp=Z,156nm,1.2s,baz=57
TDK LR LR 10 24 34.5
comp=Z,7μm,14.2s,baz=57
TDK Taldyqorghan 26.68 57 *e*P **P 10 13 06.0 +0.5**
TDK pmax pmax
comp=Z,156nm,1.2s
TDK MLR MLR
comp=Z,7μm,14.0s
OBKA Obir 26.71 306 *i*pP **P 10 13 07.5 +1.6**
comp=Z,27nm,1.0s,SNR=66
OBKA *e*ScP **ScP 10 20 10.5 +1.3**
comp=Z,0.3nm,0.2s
CLTB Caltabellotta 26.80 286 P **P 10 13 07.8 +1.1**
CRNS Crni Vrh 26.80 305 *e*P **P 10 13 05.2 -1.4**
UZB Uzynbulak 26.80 61 *e*P **P 10 13 08.0 +1.1**
baz=62
UZB Uzynbulak 26.80 61 *e*P **P 10 13 08.0 +1.1**
GUMA Gualdo di Mace 26.89 298 P **P 10 13 07.1 -0.4**
GUMA IAmb IAmb 10 13 29.7
comp=Z,232nm,0.9s
GUMA IAMs_20 IAMs_20 10 24 26.0
comp=Z,13μm,20.0s
BRJN Brijuni 26.89 302 *e*P **P 10 13 05.7 -1.7**
DPC Dobruska-Polom 26.91 315 *e*P **P 10 13 06.8 -0.8**
DPC AMS AMS 10 25 50.0
comp=Z,11μm,13.7s
DPC Dobruska-Polom 26.91 315 *e*P **P 10 13 06.8 -0.8**
DPC MLR MLR
comp=Z,11μm,13.7s
DPC Dobruska-Polom 26.91 315 P **P 10 13 06.7 -0.8**
comp=Z,216nm,1.1s,comp=Z,3μm
KLP Kalpa 26.94 87 *e*P **P 10 13 09.2 +0.8**
KLP *e*S **S 10 17 46.2 +0.6**
TREC Trest 26.99 312 AMS AMS 10 25 50.0
comp=Z,14μm,14.7s
NRCA Norcia 27.02 298 IAMs_20 IAMs_20 10 24 54.5
comp=Z,13μm,20.0s
GORS Gorjuse 27.04 306 *e*P **P 10 13 06.6 -2.2**
OSTC Ostas 27.06 315 *e*P **P 10 13 08.4 -0.5**
OSTC AMS AMS 10 25 50.0
comp=Z,6μm,14.7s
OSTC Ostas 27.06 315 *e*P **P 10 13 08.4 -0.5**
OSTC MLR MLR
comp=Z,6μm,14.7s
DDI Dehra Dun 27.12 90 *e*P **P 10 13 13.3 +3.6**
DDI IAmb IAmb 10 13 16.6
comp=Z,327nm,1.0s
SHLS Shalkode 27.12 62 *e*P **P 10 13 13.4 +3.7**
baz=62
SHLS Shalkode 27.12 62 *e*P **P 10 13 13.4 +3.7**
KSP Ksiaz 27.14 316 P **P 10 13 08.5 -1.1**
comp=Z,276nm,1.7s,comp=Z,4μm
PBUR Paburge 27.20 330 *e*P **P 10 13 09.8 -0.2**
SABO M.te Sabotino 27.22 305 P **P 10 13 09.9 -0.5**
SABO IAmb IAmb 10 13 15.5
comp=Z,831nm,1.4s
HNLY HANLEY 27.24 84 *e*P **P 10 13 11.2 -0.1**
HNLY *e*x x 10 18 00.2
VSU Vasula 27.24 337*c* *i*P **P 10 13 09.2 -1.2**
VSU pmax pmax
comp=Z,193nm,0.8s
VSU MLR MLR
comp=Z,13μm,17.0s
MOA Molln 27.28 309 *i*P **P 10 13 10.1 -0.8**
comp=Z,24nm,0.5s,SNR=133
MOA *e*S **S 10 17 52.2 +2.1**
comp=Z,23nm,1.2s
PUL Pulkovo 27.32 342*d* *i*P **P 10 13 12.4 +1.3**
PUL pmax pmax
comp=Z,109nm,0.8s
PUL MLR MLR
comp=Z,6μm,13.0s
MYKA Terra Mystica 27.35 306 *i*pP **P 10 13 12.1 +0.5**
comp=Z,4.5nm,0.4s,SNR=42
MYKA *i*PcP **PcP 10 16 31.9 +1.2**
comp=Z,46nm,1.7s
PRED Cave del Predi 27.35 306 P **P 10 13 10.3 -1.4**
PRED IAmb IAmb 10 13 15.6
comp=Z,362nm,1.5s
CESX Cesi 27.39 297 P **P 10 13 11.2 -0.7**
CESX IAMs_20 IAMs_20 10 24 31.1
comp=Z,11μm,19.0s
CKRC Cesky Krumlov 27.55 311 *e*P **P 10 13 12.0 -1.4**
CKRC *e*S **S 10 17 56.1 +1.7**
CKRC AMS AMS 10 27 00.0
comp=Z,10μm,12.7s
CKRC Cesky Krumlov 27.55 311 *e*P **P 10 13 12.0 -1.4**
CKRC *e*S **S 10 17 56.1 +1.7**
CKRC MLR MLR
comp=Z,10μm,12.7s
BIOA Bad Ischl, Aus 27.64 308 *i*P **P 10 13 13.3 -0.8**
comp=Z,35nm,0.4s,SNR=138
BIOA *e*ScP **ScP 10 20 11.7 -0.2**
comp=Z,21nm,1.4s
GOPC GO Pecny, Ondr 27.65 313 *e*P **P 10 13 13.2 -1.0**
GOPC AMS AMS 10 26 20.0
comp=Z,7μm,13.6s
GOPC GO Pecny, Ondr 27.65 313 *e*P **P 10 13 13.2 -1.0**
GOPC MLR MLR
comp=Z,7μm,13.6s
KBA Koelnbreinsper 27.66 307 *i*P **P 10 13 13.9 -0.6**
comp=Z,31nm,0.6s,SNR=72
KBA *e*S **S 10 17 58.0 +1.5**
comp=Z,54nm,1.9s
GKP Gorka Klasztor 27.77 321 *e*P **P 10 13 16.1 +0.9**
PRU Pruhonice 27.82 313 *e*P **P 10 13 15.3 -0.4**
PRU AMS AMS 10 26 20.0
comp=Z,8μm,12.9s
PRU Pruhonice 27.82 313 *e*P **P 10 13 15.3 -0.4**
PRU MLR MLR
comp=Z,8μm,12.9s
STAL STALIGIAL 27.89 305 P **P 10 13 15.3 -1.1**
STAL IAmb IAmb 10 13 24.9
comp=Z,517nm,1.8s
PRA Prague 27.92 313 AMS AMS 10 26 30.0
comp=Z,8μm,12.3s
GEC2 GERESS Array S 27.94 311 P **P 10 13 15.8 -1.1**
GEC2 IAmb IAmb 10 13 58.2
comp=Z,353nm,1.9s
GERES GERESS Array B 27.94 311 P **P 10 13 15.6 -1.4**
comp=Z,18nm,0.8s,baz=110,slow=10,SNR=71
GERES ScP **ScP 10 20 11.4 -1.4**
comp=Z,0.6nm,0.6s,baz=152,slow=4.3,SNR=1.7
GERES LR LR 10 27 26.8
comp=Z,5μm,19.2s,baz=113,slow=43
comp=Z,18nm,0.8s
GEC2 GERESS Array S 27.94 311 *e*P 10 13 15.4
comp=Z,72nm,1.2s,baz=109,slow=8.9
GEC2 *e*L 10 27 16.7
comp=Z,6μm,18.2s
PVCC Panska Ves 28.01 314 *e*P **P 10 13 17.3 -0.1**
PVCC AMS AMS 10 27 00.0
comp=Z,9μm,14.5s
PVCC Panska Ves 28.01 314 *e*P **P 10 13 17.3 -0.1**
PVCC MLR MLR
comp=Z,9μm,14.5s
KHC Kasperske Hory 28.11 311 P **P 10 13 17.6 -0.8**
KHC Kasperske Hory 28.11 311 *e*P **P 10 13 17.9 -0.5**
KHC *e*S **S 10 18 02.6 -0.6**
KHC AMS AMS 10 27 20.0
comp=Z,10μm,13.7s
KHC Kasperske Hory 28.11 311 *e*P **P 10 13 17.9 -0.5**
KHC *e*S **S 10 18 02.6 -0.6**
KHC MLR MLR
comp=Z,10μm,13.7s
KHC Kasperske Hory 28.11 311 P **P 10 13 17.6 -0.8**
comp=Z,186nm,1.7s,comp=Z,4μm
ABTA Abfaltersbach 28.13 306 *i*P **P 10 13 17.7 -0.9**
comp=Z,319nm,1.7s,SNR=131
ABTA *i*PcP **PcP 10 16 34.3 +1.7**
comp=Z,28nm,1.2s
ABTA S **S 10 18 05.1 +1.4**
comp=Z,49nm,1.6s
LESA Schwarzleotal 28.19 307 *i*P **P 10 13 18.0 -1.2**
comp=Z,25nm,0.5s
LESA *e*S **S 10 18 05.3 +0.7**
comp=Z,56nm,1.3s
LESA *e*ScP **ScP 10 20 13.3 -0.3**
comp=Z,33nm,2.0s
RJOB Jochberg 28.19 308 *e*P 10 13 17.8
comp=Z,243nm,1.2s,baz=109,slow=8.9
ARBE Arbavere 28.25 338 *e*P **P 10 13 18.0 -1.4**
RICC Richard 28.29 314 *e*P **P 10 13 19.6 -0.3**
RICC AMS AMS 10 28 00.0
comp=Z,8μm,13.8s
KURBB Kurchatov Arra 28.41 46 P **P 10 13 20.1 -0.8**
comp=Z,17nm,0.8s,baz=253,slow=8.5,SNR=28
KURBB ScP **ScP 10 20 11.6 -2.5**
comp=Z,8.2nm,1.1s,baz=251,slow=3.8,SNR=4.2
KURBB LR LR 10 26 07.7
comp=Z,7μm,21.4s,baz=243,slow=40
KURBB P3KPbc 10 45 40.1
comp=Z,2.9nm,0.9s,baz=71,slow=3.9,SNR=10
comp=Z,17nm,0.8s
TEOL Teolo 28.42 303 P **P 10 13 20.4 -0.7**
TEOL IAmb IAmb 10 13 51.8
comp=Z,206nm,1.0s
OSSC Osservatorio P 28.46 299 IAMs_20 IAMs_20 10 25 37.3
comp=Z,12μm,19.0s
KURK Kurchatov 28.50 46 P **P 10 13 25.0 +3.3**
KURK S **S 10 18 13.0 +3.9**
KURK Kurchatov 28.50 46*c* *i*P **P 10 13 20.4 -1.3**
KURK pmax pmax
comp=Z,230nm,2.0s
KURK MLR MLR
comp=Z,11μm,14.0s
BRG Berggiesshubel 28.51 315 *e*P **P 10 13 20.4 -1.4**
BRG Amp 10 13 27.4
comp=Z,216nm,1.4s
BRG Berggiesshubel 28.51 315 S **S 10 18 03.0 -6.4**
BRG ⇑SP **ScP 10 20 19.6 +5.2**
BRG Amp 10 20 20.8
comp=Z,45nm,1.5s
BRG Berggiesshubel 28.51 315 *e*P **P 10 13 20.4 -1.4**
BRG S **S 10 18 03.0 -6.4**
BRG pmax pmax
comp=Z,216nm,1.4s
BRG MLR MLR
comp=E,4μm,17.3s
BRG MLR MLR
comp=Z,9μm,15.3s
BRG MLR MLR
comp=N,3μm,16.0s
BRG Berggiesshubel 28.51 315 *e*P 10 13 20.4
comp=N,315nm,1.6s,baz=109,slow=8.9
WET Wettzell 28.55 311 *e*P 10 13 20.6
comp=N,176nm,1.2s,baz=109,slow=8.9
WET *e*L 10 28 26.6
comp=N,5μm,19.9s
VALR Valaam 28.59 345*de*P **P 10 13 20.2 -2.2**
VALR pmax pmax
comp=Z,188nm,0.8s
VALR MLR MLR
comp=Z,3μm,10.0s
CASP Castiglione de 28.66 297 P **P 10 13 23.1 -0.2**
CASP IAmb IAmb 10 13 30.9
comp=Z,321nm,1.3s
HSKC Hora Svate Kat 28.71 314 *e*P **P 10 13 22.3 -1.4**
HSKC AMS AMS 10 27 40.0
comp=Z,8μm,12.9s
ZCCA Zocca 28.75 301 P **P 10 13 25.0 +0.9**
WTTA Wattenberg 28.84 307 *i*P **P 10 13 23.6 -1.4**
comp=Z,36nm,0.5s,SNR=155
WTTA *e*PcP **PcP 10 16 35.7 +1.2**
comp=Z,65nm,1.5s
WTTA *e*S **S 10 18 13.0 -1.9**
comp=Z,165nm,1.3s
WATA Walderalm 28.89 307 *i*P **P 10 13 23.8 -1.6**
comp=Z,27nm,0.6s,SNR=141
WATA *e*PcP **PcP 10 16 35.9 +1.4**
comp=Z,61nm,1.1s
WATA *e*S **S 10 18 16.0 +0.2**
comp=Z,196nm,1.4s
SQTA Sankt Quirin 29.11 306 *i*P **P 10 13 25.7 -1.7**
comp=Z,16nm,0.4s,SNR=168
SQTA *i*PcP **PcP 10 16 36.9 +1.8**
comp=Z,55nm,1.8s
SQTA *e*S **S 10 18 16.1 -3.0**
comp=Z,131nm,1.3s
SQTA *e*ScP **ScP 10 20 18.9 +2.3**
comp=Z,13nm,0.9s
VLC Villacollemand 29.15 300 P **P 10 13 27.2 -0.4**
ROTZ Rotzenmuhle 29.16 312 *e*P 10 13 26.9
comp=Z,76nm,1.1s,baz=109,slow=8.9
CLL Collm 29.22 315 P **P 10 13 27.1 -1.1**
CLL IAmb IAmb 10 13 32.9
comp=Z,227nm,1.1s
CLL Collm 29.22 315 *e*P **P 10 13 27.0 -1.1**
comp=Z,504nm,1.6s
CLL *e*S **S 10 18 18.0 -2.5**
CLL *e*SS ScP 10 20 04.0 -13
CLL AMS AMS 10 28 00.0
comp=Z,7μm,18.5s
CLL Collm 29.22 315 *e*P **P 10 13 27.0 -1.1**
CLL *e*S **S 10 18 18.0 -2.5**
CLL pmax pmax
comp=Z,504nm,1.6s
CLL MLR MLR
comp=Z,7μm,18.5s
CLL Collm 29.22 315 P **P 10 13 26.9 -1.3**
comp=Z,228nm,1.7s,comp=Z,3μm
CLL Collm 29.22 315 *e*P 10 13 26.9
comp=Z,241nm,1.1s,baz=109,slow=8.9
CLL *e*L 10 28 08.9
comp=Z,7μm,18.6s
TANN Tannenbergstha 29.22 313 *e*P 10 13 27.0
comp=Z,282nm,1.8s,baz=109,slow=8.9
RUE Ruedersdorf 29.25 318 *e*P **P 10 13 28.2 -0.2**
RUE Ruedersdorf 29.25 318 *e*P 10 13 27.8
comp=Z,1μm,1.8s,baz=109,slow=8.9
PRMA PARMA 29.28 301 P **P 10 13 29.4 +0.7**
FUR Furstenfeldbru 29.29 308 *e*P 10 13 27.5
comp=Z,567nm,0.9s,baz=109,slow=8.9
FUR *e*L 10 26 32.3
comp=Z,6μm,18.5s
MANZ Manzenberg 29.30 312 *e*P 10 13 27.9
comp=Z,21nm,1.0s,baz=109,slow=8.9
MEF Metsahovi 29.36 338 *e*P **P 10 13 28.5 -0.8**
FETA Feichten 29.39 306 *i*P **P 10 13 28.6 -1.3**
comp=Z,68nm,0.8s,SNR=109
FETA *e*PcP **PcP 10 16 37.0 +1.2**
comp=Z,37nm,1.1s
FETA *e*S **S 10 18 22.0 -1.6**
comp=Z,78nm,1.2s
FETA *e*ScP **ScP 10 20 18.8 +1.3**
comp=Z,22nm,1.4s
BHPL Bhopal 29.42 104 *e*P **P 10 13 30.8 +0.5**
BHPL IAmb IAmb 10 13 36.4
comp=Z,49nm,0.9s
PLN Plauen 29.43 313 *e*P 10 13 28.9
comp=Z,81nm,1.2s,baz=109,slow=8.9
RETA Reutte 29.46 307 *i*P **P 10 13 29.3 -1.2**
comp=Z,16nm,0.3s,SNR=48
RETA *e*S **S 10 18 22.8 -1.8**
comp=Z,219nm,1.5s
RETA *e*ScP **ScP 10 20 19.3 +1.6**
comp=Z,22nm,1.3s
MAKZ Makanchi 29.49 55 IAMs_20 IAMs_20 10 26 27.9
comp=Z,14μm,20.0s
MAKZ Makanchi 29.49 55 P **P 10 13 33.1 +2.5**
FUORN Ofenpass-Fuorn 29.62 305 P **P 10 13 31.5 -0.6**
FUORN IAmb IAmb 10 13 37.7
comp=Z,266nm,1.6s
MK31 Makanchi Array 29.70 55 P **P 10 13 32.9 +0.4**
MK31 Makanchi Array 29.70 55 P **P 10 13 32.9 +0.4**
MK31 pmax pmax
comp=Z,41nm,0.9s
MKAR Makanchi Array 29.70 55 P **P 10 13 32.3 -0.2**
MKAR Makanchi Array 29.70 55 P **P 10 13 33.1 +0.7**
comp=Z,24nm,0.6s,baz=252,slow=8.4,SNR=20
MKAR LR LR 10 26 45.1
comp=Z,14μm,20.2s,baz=264,slow=39
MKAR P3KPbc 10 45 35.5
comp=Z,2.0nm,0.9s,baz=75,slow=4.8,SNR=9.2
comp=Z,24nm,0.6s
MKAR Makanchi Array 29.70 55 P **P 10 13 32.3 -0.2**
TATN Tataouine 29.73 276 P **P 10 13 33.6 +0.6**
GRA1 Grafenberg Arr 29.75 311 P **P 10 13 32.1 -0.8**
GRF Grafenberg Arr 29.75 311 P **P 10 13 32.1 -0.8**
GRF pmax pmax
comp=Z,1μm,1.7s
GRF Grafenberg Arr 29.75 311 *e*P 10 13 32.0
comp=Z,380nm,1.1s,baz=109,slow=8.9
GRF *e*L 10 28 50.3
comp=Z,5μm,20.6s
GRFO Grafenberg 29.75 311 P **P 10 13 32.2 -0.7**
GRFO Grafenberg 29.75 311 P **P 10 13 32.2 -0.7**
GRFO pmax pmax
comp=Z,1μm,1.7s
MSSA Maissana 29.79 300 P **P 10 13 32.2 -1.2**
MSSA IAMs_20 IAMs_20 10 26 19.4
comp=Z,12μm,22.0s
MOX Moxa 29.81 313 P **P 10 13 32.4 -1.0**
MOX Moxa 29.81 313 *e*P 10 13 31.9
comp=Z,147nm,1.4s,baz=109,slow=8.9
MOX *e*L 10 26 12.1
comp=Z,6μm,21.0s
ADZR Andozero 29.83 353 *e*P **P 10 13 31.3 -2.0**
ADZR pmax pmax
comp=Z,212nm,1.0s
FIA1 FINESS Array S 29.85 341 P **P 10 13 32.0 -1.6**

FIA1 IAmb IAmb 10 13 37.0
comp=Z,330nm,1.2s
FINES FINESS Array B 29.85 341 P **P** **10 13 31.2 -2.4**
FINES FINESS Array B 29.85 341 P **P** **10 13 31.7 -2.0**
comp=Z,26nm,0.6s,baz=146,slow=11,SNR=146
FINES PcP **PcP** **10 16 36.2 -0.3**
comp=Z,16nm,0.7s,baz=125,slow=7.3,SNR=2.6
FINES PKiKP **PKiKP** **10 24 08.7 0.0**
comp=Z,1.0nm,0.6s,baz=114,slow=3.5,SNR=4.5
FINES P3KPbc 10 45 31.5
comp=Z,1.5nm,0.7s,baz=349,slow=4.3,SNR=6.9
comp=Z,26nm,0.6s
BSD Bornholm Skovb 29.88 323 *e*P **P** **10 13 32.3 -1.6**
BSD Bornholm Skovb 29.88 323 *i* P **P** **10 13 31.4 -2.5**
BSD IAmb IAmb 10 13 35.8
comp=Z,136nm,1.0s
JOF Joensuu 29.90 346 *e*P **P** **10 13 33.4 -0.7**
NEUB Neuenburg 29.91 314 *e*P 10 13 32.9
comp=Z,100nm,1.0s,baz=109,slow=8.9
DAVOX Davos/Dischmat 29.91 305 P **P** **10 13 33.4 -1.1**
comp=Z,10nm,0.3s,baz=23,slow=3.8,SNR=44
DAVOX LR LR 10 27 51.8
comp=Z,5μm,19.4s,baz=94,slow=41
comp=Z,10nm,0.3s
UBR Ueberruh 29.94 307 *e*P 10 13 33.0
comp=Z,408nm,1.2s,baz=109,slow=8.9
DAVA Damuels 30.01 306 *i* P **P** **10 13 33.8 -1.6**
comp=Z,73nm,0.4s,SNR=131
DAVA *e*PcP **PcP** **10 16 39.2 +1.8**
comp=Z,44nm,1.2s
DAVA *i* S **S** **10 18 33.6 +0.3**
comp=Z,144nm,1.3s
BLEU Blekinge 30.08 326 *i* P **P** **10 13 34.7 -1.0**
KEST Kesra 30.09 283 P **P** **10 13 36.8 +0.7**
KEST IAmb IAmb 10 13 40.5
comp=Z,210nm,1.4s
KEST Kesra 30.09 283 P **P** **10 13 35.4 -0.7**
comp=Z,47nm,0.7s,baz=22,slow=1.8,SNR=42
KEST PcP **PcP** **10 16 38.1 +0.4**
comp=Z,21nm,0.8s,baz=27,slow=3.7,SNR=3.7
comp=Z,47nm,0.7s
TUE Stuetta 30.21 304 P **P** **10 13 36.6 -0.7**
TUE IAmb IAmb 10 13 42.3
comp=Z,374nm,1.6s
TUE Stuetta 30.21 304 P **P** **10 13 37.1 -0.2**
comp=Z,699nm,1.9s,comp=Z,12μm
RGN Rugen 30.41 321 P **P** **10 13 37.5 -1.1**
RGN IAMs_20 IAMs_20 10 27 49.5
comp=Z,13μm,20.0s
RGN Rugen 30.41 321 *e*P **P** **10 13 39.0 +0.3**
FLTG Flechtingen 30.62 316 *e*P 10 13 39.3
comp=Z,394nm,1.4s,baz=109,slow=8.9
KEF Keuruu 30.78 340 *e*P **P** **10 13 41.1 -0.7**
STU Stuttgart 30.78 309 P **P** **10 13 40.6 -1.4**
STU IAmb IAmb 10 13 46.0
comp=Z,250nm,1.6s
STU Stuttgart 30.78 309 P **P** **10 13 40.6 -1.4**
STU pmax pmax
comp=Z,250nm,1.6s
STU MLR MLR
comp=Z,5μm,20.0s
RAF Rauma 30.82 337 *e*P **P** **10 13 41.1 -1.1**
GORT1 Trebel 30.83 318 *e*P 10 13 42.0
comp=Z,765nm,1.2s,baz=109,slow=8.9
UBBA Unterbreizbach 30.84 313 *e*P 10 13 41.4
comp=Z,338nm,1.8s,baz=109,slow=8.9
LUNU Lund 30.87 323 *i* P **P** **10 13 40.8 -1.8**
CLZ Clausthal 30.95 315 *e*P 10 13 42.5
comp=Z,148nm,0.8s,baz=109,slow=8.9
DEL Delary 31.08 325 *i* P **P** **10 13 41.9 -2.7**
GTTG Gottingen 31.09 314 *e*P 10 13 44.0
comp=Z,288nm,1.3s,baz=109,slow=8.9
BFO Black Forest 31.25 308 P **P** **10 13 44.9 -1.3**
BFO IAmb IAmb 10 13 52.4
comp=Z,193nm,1.7s
BFO Black Forest 31.25 308 P **P** **10 13 44.9 -1.3**
BFO pmax pmax
comp=Z,193nm,1.7s
BFO MLR MLR
comp=Z,6μm,19.0s
BFO Black Forest 31.25 308 *e*P 10 13 44.3
comp=Z,39nm,0.9s,baz=109,slow=8.9
BFO *e*L 10 27 54.7
comp=Z,6μm,19.5s
BJUU Bjuv 31.29 324 *i* P **P** **10 13 44.8 -1.6**
NRDL Niedersach Rie 31.33 316 *e*P 10 13 46.6
comp=Z,310nm,1.2s,baz=109,slow=8.9
COP Copenhagen 31.39 323 *i* P **P** **10 13 46.7 -0.6**
COP IAmb IAmb 10 13 52.3
comp=Z,425nm,1.0s
CMAH Djebel Manchou 31.50 285 P **P** **10 13 49.7 +1.1**
ABSA Djebel Ababsia 31.50 284 P **P** **10 13 51.1 +2.4**
ZSN Zaisan 31.55 54 *e*P **P** **10 13 50.4 +1.6**
baz=54
ZSN Zaisan 31.55 54 *e*P **P** **10 13 50.4 +1.6**
SENIN Lac Senin/Sane 31.59 304 P **P** **10 13 47.6 -1.8**
TNS Taunus Mts 31.62 311 *e*P 10 13 48.3
comp=Z,502nm,1.4s,baz=109,slow=8.9
TNS *e*L 10 29 49.3
comp=Z,7μm,18.3s
BSEG Bad Segeberg 31.74 319 *e*L 10 28 24.0
comp=Z,15μm,19.1s
RETH Rethem/Aller, 31.84 316 *e*P 10 13 50.7
comp=Z,626nm,1.2s,baz=109,slow=8.9
BNI Bardonecchia 31.88 301 P **P** **10 13 50.6 -1.3**
BNI IAMs_20 IAMs_20 10 28 49.7
comp=Z,9μm,22.0s
BNI Bardonecchia 31.88 301 P **P** **10 13 50.6 -1.3**
BNI pmax pmax
comp=Z,624nm,0.9s
BNI MLR MLR
comp=Z,9μm,22.0s
LPL La Plagne 31.88 302 *e*P **P** **10 13 49.3 -2.7**
LPL pmax pmax
comp=Z,367nm,1.3s
FABU Falkenberg 31.90 325 *i* P **P** **10 13 50.3 -1.5**
KASTN Kahler Asten 31.91 313 *e*P 10 13 51.4
comp=Z,402nm,1.6s,baz=109,slow=8.9
CAEH 'Ain El Ouahch 31.93 286 P **P** **10 13 53.1 +0.8**
ECH Echery 31.99 307 P **P** **10 13 50.6 -2.1**
ECH IAmb IAmb 10 13 56.7
comp=Z,137nm,1.0s
ECH Echery 31.99 307 P **P** **10 13 50.6 -2.1**
ECH pmax pmax
comp=Z,137nm,1.0s
ECH MLR MLR
comp=Z,6μm,20.0s
CKFL Kef-Lekhel 32.09 285 P **P** **10 13 56.3 +2.5**
VAF Ylistaro 32.09 340 *e*P **P** **10 13 51.9 -1.5**
BORU Boraas 32.20 326 *i* P **P** **10 13 53.2 -1.2**
CASM Ain Smara 32.30 285 P **P** **10 13 56.9 +1.3**
ONAU Onsala 32.48 325 *i* P **P** **10 13 55.6 -1.2**
AHRW Bad Neuenahr-A 32.55 311 *e*P 10 13 56.8
comp=Z,252nm,1.1s,baz=109,slow=8.9
LODK Lodwar 32.57 200 P **P** **10 13 59.7 +1.6**
LODK Lodwar 32.57 200 P **P** **10 14 00.4 +2.3**
SNR=22
IBBN Ibbenburen 32.62 315 *e*P 10 13 58.0
comp=Z,2μm,1.6s,baz=109,slow=8.9
BUG Bochum--Univer 32.66 313 *e*P 10 13 57.8
comp=Z,520nm,1.6s,baz=109,slow=8.9
SSRD Sdr. Stenderup 32.73 321 *i* P **P** **10 13 59.9 +0.9**
SSRD IAmb IAmb 10 14 04.3
comp=Z,371nm,0.9s
WLF Walferdange 32.93 310 P **P** **10 13 59.2 -1.7**
WLF Walferdange 32.93 310 *d*P **P** **10 13 59.1 -1.8**
comp=Z,144nm,1.0s
WLF Walferdange 32.93 310 P **P** **10 13 59.4 -1.4**
WLF Walferdange 32.93 310 P **P** **10 13 59.2 -1.7**
WLF pmax pmax
comp=Z,224nm,0.9s
WLF MLR MLR
comp=Z,3μm,19.0s
WLF Walferdange 32.93 310 *e*P 10 13 59.2
comp=Z,251nm,1.0s,baz=109,slow=8.9
BTNL Ternell 33.15 311 *d*P **P** **10 14 01.9 -0.9**
comp=Z,38nm,0.8s
WMQ Urumqi 33.15 61 *e*P **P** **10 14 05.3 +2.3**
WMQ PP **PP** **10 15 17.5 -0.3**
WMQ pmax pmax
comp=Z,52nm,1.1s
WMQ pmax pmax
comp=Z,310nm,3.7s
WMQ LR LR
comp=Z,8μm,18.1s
WMQ LR LR
comp=Z,9μm,16.5s
WMQ LR LR
comp=Z,7μm,21.3s
BHOU Houvegnez 33.17 311 *d*P **P** **10 14 01.2 -1.8**
SET Setif 33.18 285 P **P** **10 14 05.0 +1.7**
HFS Hagfors 33.19 331 P **P** **10 14 01.2 -1.8**
comp=Z,94nm,0.6s,baz=134,slow=8.6,SNR=111
HFS LR LR 10 29 27.4
comp=Z,6μm,19.1s,baz=122,slow=40
comp=Z,94nm,0.6s
ZALV Zalesovo Beam 33.21 42 P **P** **10 14 02.5 -0.8**
comp=Z,19nm,0.5s,baz=262,slow=9.2,SNR=21
ZALV ScP **ScP** **10 20 30.0 +0.1**
comp=Z,3.8nm,0.8s,baz=213,slow=5.0,SNR=4.1
ZALV LR LR 10 29 26.1
comp=Z,7μm,20.9s,baz=247,slow=40
ZALV P3KPbc 10 45 19.6
comp=Z,0.5nm,0.5s,baz=73,slow=4.8,SNR=3.9
comp=Z,19nm,0.5s
ZALV Zalesovo Beam 33.21 42 *i* P **P** **10 14 05.0 +1.8**
ZALV pmax pmax
comp=Z,27nm,0.6s
MEM Membach 33.23 311 *d*P **P** **10 14 03.3 -0.1**
comp=Z,36nm,0.9s
OVD Ostervraa, Den 33.25 324 *i* P **P** **10 14 03.1 -0.5**
OVD IAmb IAmb 10 14 06.6
comp=Z,143nm,0.9s
MUD Monsted U'grnd 33.38 323 *i* P **P** **10 14 03.8 -0.8**
MUD IAmb IAmb 10 14 09.8
comp=Z,253nm,1.0s
SSB Saint Sauveur 33.40 301 P **P** **10 14 02.7 -2.4**
SSB Saint Sauveur 33.40 301 P **P** **10 14 02.7 -2.4**
SSB pmax pmax
comp=Z,556nm,1.6s
BEBN Eben Emael 33.47 312 *d*P **P** **10 14 05.2 -0.4**
HYB Hyderabad 33.49 112 *e*P **P** **10 14 07.8 +1.7**
BSTI Sart Tilman 33.49 311 *d*P **P** **10 14 05.8 0.0**
RCHB Rochefort 33.61 310 *d*P **P** **10 14 05.6 -1.2**
BCLA Clavier 33.62 311 *d*P **P** **10 14 06.2 -0.8**
comp=Z,53nm,1.0s
STRU Stroemstad 33.65 328 *i* P **P** **10 14 05.4 -1.6**
BGES Gesves 33.75 311 *d*P **P** **10 14 06.6 -1.4**
APA Apatity 33.90 351⇓ *i*P **P** **10 14 08.7 -0.4**
APA *i* 10 15 17.0
APA *i* S **S** **10 19 30.0 -3.2**
APA pmax pmax
comp=Z,80nm,0.9s
APA MLR MLR
comp=Z,5μm,16.0s
BMRD Maredsous 33.93 310 *d*P **P** **10 14 08.2 -1.4**
comp=Z,57nm,1.2s
SMF Signal de Mont 34.00 304 *e*P **P** **10 14 09.0 -1.3**
SMF pmax pmax
comp=Z,603nm,1.3s
DOU Dourbes 34.00 310 *d*P **P** **10 14 09.1 -1.1**
comp=Z,79nm,0.0s
LVZ Lovozero 34.06 352 P **P** **10 14 09.7 -0.9**
LVZ Lovozero 34.06 352 *c e*P **P** **10 14 09.1 -1.5**
LVZ pmax pmax
comp=Z,251nm,1.8s
LVZ MLR MLR
comp=Z,5μm,20.0s
LVZ Lovozero 34.06 352 P **P** **10 14 10.6 0.0**
comp=Z,81nm,0.8s,comp=Z,2μm
OSL Oslo 34.32 329 *e*P **P** **10 14 11.7 -1.1**
OSL IAmb IAmb 10 14 15.9
comp=Z,241nm,0.9s
OSL IAMs_20 IAMs_20 10 29 25.0
comp=Z,12μm,19.7s
NC602 NORSAR Array S 34.41 330 P **P** **10 14 11.8 -1.8**
NC602 IAmb IAmb 10 14 16.6
comp=Z,200nm,1.8s
NC602 NORSAR Array S 34.41 330 *e*P **P** **10 14 12.4 -1.2**
NC602 IAmb IAmb 10 14 15.9
comp=Z,214nm,1.8s
NC602 *e*S **S** **10 19 40.9 -0.3**
EJON La Jonquera 34.53 296 P **P** **10 14 13.7 -1.2**
NC405 NORSAR Array S 34.55 331 P **P** **10 14 12.9 -2.0**
NC405 IAmb IAmb 10 14 17.9
comp=Z,120nm,1.1s
KONO Kongsberg 34.66 328 P **P** **10 14 13.4 -2.4**
KONO Kongsberg 34.66 328 IAMs_20 IAMs_20 10 28 50.8
comp=Z,8μm,20.0s
KONO Kongsberg 34.66 328 *e*P **P** **10 14 14.4 -1.4**
KONO *e*S **S** **10 19 45.5 +0.3**
KONO IAMs_20 IAMs_20 10 28 44.9
comp=Z,8μm,18.9s
KONO Kongsberg 34.66 328 *c i*P **P** **10 14 14.2 -1.6**
KONO pmax pmax
comp=Z,83nm,0.8s
KONO MLR MLR
comp=Z,7μm,16.0s
NB2 NORSAR Subarra 34.71 331 P **P** **10 14 13.8 -2.5**
comp=Z,62nm,0.9s,baz=124,slow=9.3
NB2 PP **PnPn** **10 15 25.3 -6.7**
comp=Z,174nm,2.0s,baz=129,slow=11
NB2 NORSAR Subarra 34.71 331 P **P** **10 14 13.8 -2.5**
baz=124,slow=9.3
NOA NORSAR Array B 34.71 331 P **P** **10 14 13.7 -2.5**
comp=Z,18nm,0.7s,baz=125,slow=8.7,SNR=113
NOA LR LR 10 29 43.9
comp=Z,5μm,20.2s,baz=130,slow=39
comp=Z,18nm,0.7s
ETOS Mallorca 34.75 292 P **P** **10 14 17.1 +0.2**
NBO00 NORSAR Array S 34.88 330 P **P** **10 14 16.0 -1.8**
NC204 NORSAR Array S 35.03 331 P **P** **10 14 17.4 -1.6**
CAF Calviac 35.14 301 *e*P **P** **10 14 18.2 -1.9**
CAF pmax pmax
comp=Z,183nm,1.4s
SNART Snartemo 35.14 325 *e*P **P** **10 14 20.3 +0.4**
SNART IAmb IAmb 10 14 23.5
comp=Z,1μm,2.5s
SNART *e*S **S** **10 19 52.9 +0.3**
SNART Snartemo 35.14 325 *i* P **P** **10 14 18.7 -1.2**
CLF Chambon-Foret 35.21 306 P **P** **10 14 19.9 -0.8**
CEST Esterri de Car 35.74 297 P **P** **10 14 24.3 -1.2**
CEST IAmb IAmb 10 14 30.2
comp=Z,157nm,1.0s
CEST IAMs_20 IAMs_20 10 29 15.0
comp=Z,5μm,21.0s
MNCI Minicoy 35.91 130 IAMs_20 IAMs_20 10 29 10.0
comp=Z,10μm,19.0s
EIBI Ibiza 35.96 291 P **P** **10 14 27.3 0.0**
BLS5 Blasjo 35.97 326 *e*P **P** **10 14 26.3 -0.8**
BLS5 IAmb IAmb 10 14 31.0
comp=Z,200nm,1.3s
BLS5 *e*S **S** **10 20 03.4 -1.9**
BLS5 *e*SS **SS** **10 22 30.6 -11**
LFF La Frestale 36.08 301 *e*P **P** **10 14 26.4 -1.8**
LFF pmax pmax
comp=Z,245nm,1.1s
ODD1 Odda 36.11 327 *e*P **P** **10 14 28.1 -0.2**
ODD1 IAmb IAmb 10 14 32.7
comp=Z,190nm,1.0s
ODD1 *e*S **S** **10 20 05.0 -2.5**
ODD1 IAMs_20 IAMs_20 10 29 39.3
comp=Z,9μm,19.6s
DOMB Dombas 36.12 331 *e*P **P** **10 14 28.1 -0.3**
DOMB IAmb IAmb 10 14 31.6
comp=Z,100nm,1.2s
DOMB *e*S **S** **10 20 08.2 +0.5**
DOMB *e*ScS **ScS** **10 24 46.0 +0.3**
DOMB IAMs_20 IAMs_20 10 33 58.8
comp=Z,6μm,13.2s
TBLU Trondheim 36.34 333 *e*P **P** **10 14 30.0 -0.1**
TBLU IAmb IAmb 10 14 33.3
comp=Z,121nm,1.4s
TBLU *e*PP **PnPn** **10 15 50.8 -1.2**
TBLU *e*S **S** **10 20 06.5 -4.2**
TBLU *e*SS **SS** **10 22 49.8 +0.7**
TBLU IAMs_20 IAMs_20 10 30 41.2
comp=Z,12μm,18.5s
ELSH Elham, Standar 36.36 311 *e*P **P** **10 14 29.4 -1.1**
KMY Karmoy 36.44 325 *e*P **P** **10 14 30.7 -0.4**
KMY IAmb IAmb 10 14 36.7
comp=Z,62nm,0.9s
KMY *e*PP **PnPn** **10 15 52.5 -0.8**
KMY *e*S **S** **10 20 11.9 -0.5**
KMBO Kilima Mbogo 36.47 195 P **P** **10 14 33.8 +1.8**
KMBO Kilima Mbogo 36.47 195 *i* P **P** **10 14 34.2 +2.2**
SNR=18
KMBO Kilima Mbogo 36.47 195 P **P** **10 14 34.1 +2.1**
KMBO Kilima Mbogo 36.47 195 P **P** **10 14 33.8 +1.8**
KMBO pmax pmax
comp=Z,79nm,1.3s
KMBO MLR MLR
comp=Z,6μm,20.0s
NSS Namsos 36.50 336 *e*P **P** **10 14 30.2 -1.4**
NSS IAmb IAmb 10 14 34.9
comp=Z,192nm,1.1s
NSS *e*PP **PnPn** **10 15 53.4 -0.6**
NSS *e*S **S** **10 20 11.1 -2.1**
NSS IAMs_20 IAMs_20 10 30 36.4
comp=Z,12μm,16.0s
MFF Saint Martin d 36.74 303 *e*P **P** **10 14 30.4 -3.4**
MFF pmax pmax
comp=Z,441nm,1.2s
MOR8 Moi Rana 36.80 339 *e*P **P** **10 14 32.2 -1.9**
MOR8 IAmb IAmb 10 14 36.8
comp=Z,372nm,1.6s
MOR8 *e*PP **PnPn** **10 15 54.6 -3.0**
MOR8 *e*S **S** **10 20 13.3 -4.5**
MOR8 *e*SS **SnSn** **10 22 52.3 +3.4**
MOR8 IAMs_20 IAMs_20 10 29 40.8
comp=Z,14μm,21.8s
VADS Vadso 36.82 350 *e*P **P** **10 14 32.8 -1.4**
VADS IAmb IAmb 10 14 37.8
comp=Z,216nm,1.2s
VADS *e*S **S** **10 20 19.2 +1.2**
VADS IAMs_20 IAMs_20 10 30 07.5
comp=Z,5μm,19.2s
KEV Kevo 36.83 349 P **P** **10 14 33.1 -1.2**
KEV IAmb IAmb 10 14 38.6
comp=Z,420nm,2.0s
KEV IAMs_20 IAMs_20 10 30 38.2
comp=Z,6μm,18.0s
KEV Kevo 36.83 349 P **P** **10 14 33.1 -1.2**
KEV pmax pmax
comp=Z,420nm,2.0s
KEV MLR MLR
comp=Z,6μm,18.0s
KTK1 Kautokeino 36.85 346 *e*P **P** **10 14 32.8 -1.7**
KTK1 *e*PP **PnPn** **10 15 57.0 -1.2**
KTK1 *e*S **S** **10 20 17.6 -0.9**
HYA Hoyanger 36.88 329 *e*P **P** **10 14 34.2 -0.6**
HYA *e*S **S** **10 20 17.7 -1.3**
ARCES ARCESS Array B 36.88 348 P **P** **10 14 33.4 -1.4**
ARCES ARCESS Array B 36.88 348 P **P** **10 14 33.3 -1.5**
comp=Z,32nm,0.9s,baz=158,slow=8.1,SNR=63
ARCES PP **PP** **10 15 56.5 -2.1**
comp=Z,29nm,0.7s,baz=145,slow=11,SNR=7.3
ARCES ScP **ScP** **10 20 40.8 -2.1**
comp=Z,7.7nm,1.1s,baz=168,slow=4.6,SNR=1.6
ARCES LR LR 10 30 50.0
comp=Z,10μm,20.0s,baz=144,slow=38
comp=Z,32nm,0.9s
ARCES ARCESS Array B 36.88 348 P **P** **10 14 33.4 -1.4**
ARCES pmax pmax
comp=Z,129nm,1.3s
BER Bergen 36.90 327 *e*P **P** **10 14 34.0 -0.9**
BER IAmb IAmb 10 14 38.9
comp=Z,139nm,0.8s
BER *e*PP **PP** **10 15 56.9 -2.0**
BER *e*S **S** **10 20 21.5 +2.1**
BER *e*SS **SS** **10 23 01.1 +0.6**
BER IAMs_20 IAMs_20 10 31 14.4
comp=Z,7μm,15.3s
WACR West Acre 36.95 314 *e*P **P** **10 14 34.9 -0.6**
WACR IAmb IAmb 10 14 40.0
comp=Z,600nm,0.9s
WACR IAMs_20 IAMs_20 10 30 27.4
comp=Z,4μm,17.3s
ASK Askoy 37.00 327 *e*P **P** **10 14 34.6 -1.2**
ASK IAmb IAmb 10 14 44.2
comp=Z,101nm,0.8s
ASK *e*S **S** **10 20 20.0 -0.9**
ASK *e*SS **SnSn** **10 22 57.6 +3.7**
MOL Molde 37.01 331 *e*P **P** **10 14 35.5 -0.4**
MOL *e*S **S** **10 20 20.8 -0.1**
MOL IAMs_20 IAMs_20 10 31 12.1
comp=Z,6μm,20.5s
STOK Stokkvaagen 37.33 339 *e*P **P** **10 14 37.0 -1.6**
STOK *e*S **S** **10 20 25.5 -0.3**
TAM Tamanrasset 37.37 263 P **P** **10 14 40.5 +0.9**
TAM IAmb IAmb 10 14 47.8
comp=Z,158nm,1.1s
TAM Tamanrasset 37.37 263 P **P** **10 14 40.5 +0.9**
TAM pmax pmax
comp=Z,158nm,1.1s
TAM MLR MLR
comp=Z,4μm,22.0s
FAUS Fauske 37.41 341 *e*P **P** **10 14 38.3 -1.0**
FAUS IAmb IAmb 10 14 42.4
comp=Z,367nm,1.6s
FAUS *e*S **S** **10 20 24.5 -2.6**
FAUS IAMs_20 IAMs_20 10 30 01.7
comp=Z,8μm,21.3s
KONS Konsvik 37.41 339 *e*P **P** **10 14 37.5 -1.8**
SUE Sulen 37.45 328 *e*P **P** **10 14 38.5 -1.1**
SUE *e*S **S** **10 20 26.2 -1.5**
MDRS Chennai 37.47 116 *e*P **P** **10 14 42.1 +1.8**
MDRS IAmb IAmb 10 14 57.0
comp=Z,70nm,1.3s
KIBK Kibwezi 37.48 194 P **P** **10 14 41.6 +1.2**
KIBK Kibwezi 37.48 194 P **P** **10 14 42.0 +1.5**
SNR=12
FOO Floro 37.56 329 *e*P **P** **10 14 39.5 -1.1**
FOO IAmb IAmb 10 14 43.9
comp=Z,324nm,1.8s
FOO *e*S **S** **10 20 29.4 0.0**
LMK Market Rasen 37.65 315 *e*P **P** **10 14 40.6 -0.8**
LMK IAMs_20 IAMs_20 10 34 36.7
comp=Z,7μm,16.0s
ECHE Chera 37.67 292 P **P** **10 14 42.3 +0.4**
STEI Steigen 37.82 341 *e*P **P** **10 14 41.9 -0.8**
STEI IAmb IAmb 10 14 45.8
comp=Z,176nm,1.2s
STEI *e*S **S** **10 20 31.8 -1.4**
STEI *e*SS **SnSn** **10 23 13.3 -0.2**
WOL Wolverton 37.85 311 *e*P **P** **10 14 41.8 -1.3**
MBAR Mbarara 37.86 206 P **P** **10 14 44.5 +0.7**
MBAR Mbarara 37.86 206 P **P** **10 14 44.7 +1.0**
MBAR Mbarara 37.86 206 P **P** **10 14 44.5 +0.7**
MBAR pmax pmax
comp=Z,55nm,1.1s
MBAR MLR MLR
comp=Z,4μm,19.0s
CART Cartagena 38.00 289 P **P** **10 14 44.0 -0.6**
LSA Lhasa 38.10 84 P **P** **10 14 47.6 +1.5**
LSA IAmb IAmb 10 14 51.7
comp=Z,184nm,1.3s
LSA IAMs_20 IAMs_20 10 32 58.0
comp=Z,8μm,20.0s
LSA Lhasa 38.10 84 P **P** **10 14 47.6 +1.5**
LSA pmax pmax
comp=Z,184nm,1.3s
LSA MLR MLR
comp=Z,8μm,20.0s
CWF Charnwood Fore 38.11 313 *e*P **P** **10 14 43.4 -2.0**
CWF IAMs_20 IAMs_20 10 35 23.4
comp=Z,4μm,15.5s
GDLE Glaisdale, N Y 38.13 316 *e*P **P** **10 14 44.1 -1.4**
GDLE IAMs_20 IAMs_20 10 32 45.9
comp=Z,8μm,18.0s
EMUR La Murta 38.14 289 P **P** **10 14 45.5 -0.3**
HAMF Hammerfest 38.16 348 *e*P **P** **10 14 43.7 -1.9**
HAMF IAmb IAmb 10 14 49.3
comp=Z,89nm,0.8s
HAMF *e*PP **PP** **10 16 09.8 -2.8**
HAMF *e*S **S** **10 20 38.4 +0.1**
HAMF *e*SS **SS** **10 23 27.7 +1.9**
SWN1 Swindon 38.23 311 *e*P **P** **10 14 45.1 -1.3**
TRO Tromso 38.24 345 *e*P **P** **10 14 45.5 -0.6**
TRO *e*S **S** **10 20 34.9 -4.6**
TRO *e*SS **SS** **10 23 28.1 +0.7**
JSA Saint Aubin 38.24 308 *e*P **P** **10 14 44.4 -2.1**
JSA IAmb IAmb 10 14 49.5
comp=Z,251nm,1.0s
JSA IAMs_20 IAMs_20 10 31 57.0
comp=Z,6μm,16.1s
KRAR Krasnoyarsk 38.25 41⇑ *e*P **P** **10 14 48.6 +2.2**
ETOB Tobarra 38.25 290 P **P** **10 14 47.0 +0.2**
LOF Lofoten 38.42 341 *e*P **P** **10 14 46.8 -0.9**
LOF IAmb IAmb 10 14 49.9
comp=Z,207nm,1.5s
LOF *e*PP **PP** **10 16 15.5 +0.1**
LOF *e*S **S** **10 20 39.7 -2.5**
LOF *e*SS **SnSn** **10 23 28.9 +1.1**
LBWR Ladybower, Pea 38.47 314 *e*P **P** **10 14 46.7 -1.7**

LBWR IAmb IAmb 10 14 52.4
comp=Z,388nm,0.9s
LBWR IAMs_20 IAMs_20 10 35 18.8
comp=Z,5μm,15.4s
STRD Stroud 38.49 312 *e*P **P 10 14 47.0 -1.5**
STRD IAmb IAmb 10 14 52.2
comp=Z,670nm,0.9s
STRD IAMs_20 IAMs_20 10 33 42.5
comp=Z,5μm,17.7s
HPK Haverah Park 38.51 315 *e*P **P 10 14 46.9 -1.7**
HPK IAmb IAmb 10 14 52.8
comp=Z,2μm,1.7s
HPK IAMs_20 IAMs_20 10 33 50.5
comp=Z,7μm,15.6s
TLOR Lorca, Murcia 38.53 289 P **P 10 14 48.4 -0.7**
STNC Stoke 38.70 314 *e*P **P 10 14 49.3 -1.0**
OLDB Oldbury-Upon-S 38.72 311 *e*P **P 10 14 48.8 -1.6**
EDMD Edmundbyers 38.87 317 *e*P **P 10 14 50.0 -1.6**
EDMD IAmb IAmb 10 14 55.8
comp=Z,699nm,1.6s
EDMD IAMs_20 IAMs_20 10 32 59.1
comp=Z,6μm,21.0s
HLM1 Long Mynd 39.02 313 *e*P **P 10 14 51.4 -1.6**
HLM1 IAmb IAmb 10 14 57.2
comp=Z,310nm,0.9s
HLM1 IAMs_20 IAMs_20 10 35 60.0
comp=Z,5μm,15.1s
MCH1 Michaelchurch 39.03 312 *e*P **P 10 14 51.7 -1.4**
MCH1 IAmb IAmb 10 14 56.9
comp=Z,595nm,1.4s
ENIJ Nijar 39.06 288 P **P 10 14 53.2 -0.4**
FOEL Foel Wylfa 39.27 313 *e*P **P 10 14 53.9 -1.1**
FOEL IAmb IAmb 10 14 59.6
comp=Z,521nm,0.8s
FOEL IAMs_20 IAMs_20 10 35 58.4
comp=Z,6μm,15.5s
UCM Universidad Co 39.31 293 P **P 10 14 54.9 -0.7**
GOMU GeErMu 39.31 73 P **P 10 14 59.8 +3.7**
GOMU S **S 10 20 59.9 +2.6**
GOMU SS **SnSn 10 23 55.1 +4.1**
GOMU pmax pmax
comp=Z,92nm,1.0s
GOMU LR LR
comp=Z,8μm,15.2s
GOMU LR LR
comp=Z,5μm,15.0s
GOMU LR LR
comp=Z,10μm,15.3s
ESY Stoneypath 39.45 318 *e*P **P 10 14 55.1 -1.4**
DYA Yadsworthy 39.47 309 *e*P **P 10 14 54.4 -2.3**
DYA IAMs_20 IAMs_20 10 32 51.6
comp=Z,4μm,15.4s
KESW Keswick, Cumbr 39.47 316 *e*P **P 10 14 55.3 -1.4**
KESW IAmb IAmb 10 15 00.7
comp=Z,334nm,0.8s
KESW IAMs_20 IAMs_20 10 33 55.7
comp=Z,5μm,18.1s
DRUM Mains of Drumt 39.59 320 *e*P **P 10 14 56.1 -1.6**
DRUM IAMs_20 IAMs_20 10 34 03.4
comp=Z,9μm,19.9s
EBER Berja 39.61 288 P **P 10 14 58.2 -0.2**
EKA Eskdalemuir Ar 39.63 317 P **P 10 14 56.3 -1.8**
comp=Z,38nm,0.5s,baz=107,slow=8.3,SNR=114
EKA ScP **ScP 10 20 52.6 -1.0**
comp=Z,2.0nm,0.9s,baz=106,slow=5.2,SNR=2.5
comp=Z,38nm,0.5s
ESK Eskdalemuir 39.66 317 P **P 10 14 56.8 -1.5**
ESK IAmb IAmb 10 15 02.5
comp=Z,198nm,1.1s
ESK Eskdalemuir 39.66 317 *e*P **P 10 14 56.4 -1.9**
ESK IAMs_20 IAMs_20 10 34 57.5
comp=Z,5μm,13.7s
ESK Eskdalemuir 39.66 317 P **P 10 14 56.8 -1.5**
ESK pmax pmax
comp=Z,198nm,1.2s
ESK MLR MLR
comp=Z,4μm,22.0s
LRW Lerwick 39.81 325 *e*P **P 10 14 58.9 -0.5**
HTL Hartland 39.86 310 *e*P **P 10 14 59.0 -1.0**
HTL IAMs_20 IAMs_20 10 34 40.0
comp=Z,6μm,14.6s
YLL Llanberis 39.88 314 *e*P **P 10 14 58.1 -2.0**
EALB Alboran 39.93 287 P **P 10 15 00.3 -0.5**
ESBB Sonseca Array 39.94 293 P **P 10 15 00.1 -0.9**
ESBB IAmb IAmb 10 15 06.1
comp=Z,330nm,1.1s
ESDC Sonseca Array 39.95 293 P **P 10 14 59.8 -1.2**
ESDC IAmb IAmb 10 15 06.1
comp=Z,361nm,1.1s
ESDC Sonseca Array 39.95 293 P **P 10 14 60.0 -1.0**
comp=Z,106nm,0.9s,baz=65,slow=7.5,SNR=171
ESDC PcP **PcP 10 17 05.4 -0.8**
comp=Z,18nm,0.9s,baz=49,slow=3.1,SNR=7.7
ESDC ScP **ScP 10 20 55.3 +0.1**
comp=Z,2.1nm,1.1s,baz=100,slow=3.9,SNR=2.5
comp=Z,106nm,0.9s
SBD Saint Breward 39.96 310 *e*P **P 10 14 59.5 -1.4**
MSEY Mahe Island 39.96 166 P **P 10 15 02.0 +0.8**
MSEY Mahe Island 39.96 166 P **P 10 15 01.4 +0.1**
MSEY P **P 10 15 01.4 +0.1**
MSEY Mahe Island 39.96 166 P **P 10 15 02.0 +0.8**
MSEY pmax pmax
comp=Z,114nm,1.1s
EQTA Presa de Quent 39.98 289 P **P 10 15 00.7 -0.6**
WME Myndd Eilian 39.99 314 *e*P **P 10 15 00.2 -0.9**
EMLI Melilla 40.01 286 P **P 10 15 01.9 +0.5**
WLF1 Llynfaes 40.03 314 *e*P **P 10 15 00.3 -1.1**
RSBS Rosebush, Pemb 40.10 312 *e*P **P 10 15 01.1 -0.9**
RSBS IAmb IAmb 10 15 05.6
comp=Z,259nm,0.9s
WPS Cemaes, Angles 40.11 314 *e*P **P 10 15 00.6 -1.4**
MCD Coleburn Disti 40.16 321 *e*P **P 10 15 00.7 -1.7**
MCD IAmb IAmb 10 15 05.7
comp=Z,2μm,2.2s
ELGU Los Guajares, 40.20 288 P **P 10 15 02.7 -0.4**
NEWG New Galloway 40.20 317 *e*P **P 10 15 01.2 -1.6**
NEWG IAmb IAmb 10 15 06.5
comp=Z,98nm,1.0s
NEWG IAMs_20 IAMs_20 10 34 05.9
comp=Z,5μm,18.3s
SHL Shillong 40.22 90 P **P 10 15 03.2 -0.4**
SHL IAmb IAmb 10 15 07.5
comp=Z,482nm,1.5s
SHL Shillong 40.22 90 *e*P **P 10 15 04.1 +0.5**
SHL IAmb IAmb 10 15 07.1
comp=Z,224nm,1.3s
SHL Shillong 40.22 90 P **P 10 15 03.5 0.0**
SNR=25
SHL Shillong 40.22 90 P **P 10 15 03.2 -0.4**
SHL pmax pmax
comp=Z,482nm,1.5s
SHL MLR MLR
comp=Z,14μm,22.0s
PAB San Pablo 40.26 292 P **P 10 15 02.6 -1.0**
PAB IAmb IAmb 10 15 08.8
comp=Z,523nm,1.4s
PAB San Pablo 40.26 292 P **P 10 15 02.6 -1.0**
PAB pmax pmax
comp=Z,523nm,1.4s
PAB MLR MLR
comp=Z,3μm,18.0s
IOMK Kirk Michael 40.26 315 *e*P **P 10 15 02.0 -1.3**
IOMK IAMs_20 IAMs_20 10 36 05.7
comp=Z,13μm,15.6s
CCA1 Carnmenellis 40.28 309 *e*P **P 10 15 02.0 -1.6**
CCA1 IAMs_20 IAMs_20 10 35 15.5
comp=Z,5μm,13.5s
WIM Isle of Man 40.31 315 *e*P **P 10 15 02.3 -1.4**
INVG Invergeldie, C 40.33 319 *e*P **P 10 15 02.9 -1.0**
INVG IAmb IAmb 10 15 08.1
comp=Z,156nm,1.0s
INVG IAMs_20 IAMs_20 10 34 02.1
comp=Z,4μm,20.4s
GAL1 Galloway 40.44 316 *e*P **P 10 15 03.1 -1.6**
GAL1 IAMs_20 IAMs_20 10 35 09.4
comp=Z,5μm,17.1s
PGBU Glenifferbraes 40.46 318 *e*P **P 10 15 04.4 -0.6**
PGBU IAmb IAmb 10 15 08.4
comp=Z,2μm,2.1s
PGBU IAMs_20 IAMs_20 10 35 31.5
comp=Z,6μm,15.0s
EGOR Sierra Gorda, 40.52 289 P **P 10 15 04.5 -1.4**
EADA Adamuz 40.68 290 P **P 10 15 06.6 -0.4**
LAWE Loch Awe, Argy 41.04 318 *e*P **P 10 15 08.3 -1.4**
LAWE IAmb IAmb 10 15 12.9
comp=Z,1μm,2.2s
LAWE IAMs_20 IAMs_20 10 35 58.5
comp=Z,10μm,15.9s
DSB Dublin 41.21 314 P **P 10 15 10.0 -1.2**
DSB Dublin 41.21 314 P **P 10 15 09.8 -1.4**
DSB IAmb IAmb 10 15 15.3
comp=Z,186nm,0.8s
CLGH Cloghs, Cushen 41.27 316 *e*P **P 10 15 09.8 -1.7**
CLGH IAMs_20 IAMs_20 10 35 35.6
comp=Z,6μm,17.8s
ILTH Belurgan, Co L 41.27 315 P **P 10 15 09.8 -1.8**
LINV Loch Inver, As 41.29 321 *e*P **P 10 15 10.0 -1.7**
LINV IAmb IAmb 10 15 14.8
comp=Z,1μm,2.0s
LINV IAMs_20 IAMs_20 10 36 55.8
comp=Z,5μm,14.2s
ECAB El Cabril 41.35 290 P **P 10 15 11.7 -0.8**
IWEX Carrickbyrne, 41.38 312 P **P 10 15 11.8 -0.7**
IWEX Carrickbyrne, 41.38 312 *e*P **P 10 15 11.8 -0.7**
LIJA Lijar 41.58 289 P **P 10 15 12.3 -2.3**
NRIK Noril'sk 41.61 21 P **P 10 15 14.7 +0.5**
NRIK IAmb IAmb 10 15 20.5
comp=Z,372nm,1.4s
NRIK Noril'sk 41.61 21 P **P 10 15 15.2 +0.9**
comp=Z,43nm,1.1s,baz=234,slow=7.3,SNR=46
NRIK LR LR 10 36 16.2
comp=Z,5μm,19.7s,baz=216,slow=42
comp=Z,43nm,1.1s
NRIK Noril'sk 41.61 21 *c e*P **P 10 15 14.8 +0.6**
NRIK Noril'sk 41.61 21 P **P 10 15 14.7 +0.5**
NRIK pmax pmax
comp=Z,372nm,1.5s
ECAL Calabor 41.70 296 P **P 10 15 14.5 -0.9**
PBRG Braganca 41.72 296 *e*P **P 10 15 14.7 -0.9**
comp=Z,229nm,2.0s
PBRG Braganca 41.72 296 *e*PP PP 10 16 58.1 +6.2
PALK Pallekele 41.73 123 P **P 10 15 17.3 +1.4**
PALK Pallekele 41.73 123 IAMs_20 IAMs_20 10 33 42.1
comp=Z,6μm,21.0s
PALK Pallekele 41.73 123 P **P 10 15 16.9 +0.9**
comp=Z,37nm,1.0s,baz=55,slow=9.2,SNR=7.2
PALK LR LR 10 32 52.5
comp=Z,6μm,21.8s,baz=55,slow=37
comp=Z,37nm,1.0s
PALK Pallekele 41.73 123 P **P 10 15 17.3 +1.4**
PALK pmax pmax
comp=Z,175nm,1.6s
PALK MLR MLR
comp=Z,6μm,21.0s
CEU Ceuta 41.78 287 P **P 10 15 14.2 -1.9**
IDGL Inch Island, C 42.06 316 P **P 10 15 17.3 -0.8**
IDGL Inch Island, C 42.06 316 *e*P **P 10 15 17.1 -1.0**
IDGL IAMs_20 IAMs_20 10 35 07.1
comp=Z,5μm,17.8s
LEWI Lewis, Hebride 42.16 321 *e*P **P 10 15 18.4 -0.5**
LEWI IAMs_20 IAMs_20 10 35 27.0
comp=Z,5μm,20.6s
BJO1 Bjornoya 42.19 349 *e*P **P 10 15 18.6 -0.2**
BJO1 *e*S **S 10 21 35.2 -3.2**
IFR Ifrane 42.21 284 P **P 10 15 20.0 +0.2**
SFS San Fernando 42.31 288 P **P 10 15 19.6 -0.7**
SFS San Fernando 42.31 288 P **P 10 15 19.6 -0.7**
SFS pmax pmax
comp=Z,509nm,0.8s
SFS MLR MLR
comp=Z,5μm,21.0s
EMIN Mina Concepcio 42.38 290 P **P 10 15 20.3 -0.6**
MOY Mondy 42.41 49 *e*P **P 10 15 23.3 +2.1**
MOY pmax pmax
comp=Z,216nm,2.3s
EBAD Badajoz 42.44 292 P **P 10 15 20.0 -1.4**
PVRL Vila Real 42.52 296 *e*P **P 10 15 21.4 -0.7**
comp=Z,513nm,1.8s
MTE Manteigas 42.54 294 P **P 10 15 21.3 -1.0**
MTE Manteigas 42.54 294 *e*P **P 10 15 21.9 -0.4**
comp=Z,950nm,1.5s
MTE *e*S **S 10 21 44.9 +0.3**
MTE *e*LR LR 10 26 36.3
comp=Z,2μm,18.0s
GTA Gaotai 42.55 67 *e*P **P 10 15 24.3 +1.8**
GTA S **S 10 21 46.8 +1.8**
GTA pmax pmax
comp=Z,45nm,1.3s
GTA pmax pmax
comp=Z,340nm,5.5s
GTA LR LR
comp=Z,5μm,16.0s
GTA LR LR
comp=Z,4μm,15.6s
GTA LR LR
comp=Z,5μm,15.6s
POLO Lamas de Olo 42.57 296 *e*P **P 10 15 21.9 -0.6**
comp=Z,229nm,1.4s
POLO *e*S **S 10 21 47.4 +2.3**
ARNO Arenosillo 42.57 289 P **P 10 15 23.3 +0.8**
PBAR Barrancos 42.58 291 *e*P **P 10 15 21.8 -0.7**
comp=Z,845nm,1.6s
PBAR Barrancos 42.58 291 *e*PP **PP 10 17 01.5 +0.4**
PBAR *e*S **S 10 21 42.8 -2.3**
PBAR Barrancos 42.58 291 P **P 10 15 21.5 -1.0**
PCBR Castelo Branco 42.59 293 *e*P **P 10 15 21.8 -0.8**
comp=Z,1μm,1.8s
PMRV Marv??o 42.60 293 *e*P **P 10 15 21.5 -1.2**
comp=Z,518nm,1.7s
PMRV Marv??o 42.60 293 *e*PP **PP 10 17 01.0 -0.4**
PMRV *e*S **S 10 21 46.7 +1.3**
PMRV *e*LR LR 10 25 52.0
comp=Z,2μm,18.0s
PCAB Cabril 42.69 296 *e*P **P 10 15 22.5 -0.9**
comp=Z,399nm,1.5s
PVIS Viseu 42.75 295 *e*P **P 10 15 23.5 -0.5**
comp=Z,831nm,1.7s
PESTR Estremoz 42.86 292 P **P 10 15 23.2 -1.6**
PESTR IAmb IAmb 10 15 29.6
comp=Z,366nm,1.0s
PESTR Estremoz 42.86 292 *e*P **P 10 15 23.8 -1.1**
comp=Z,546nm,1.4s
PESTR Estremoz 42.86 292 *e*PP **PP 10 17 05.8 +1.6**
PESTR *e*S **S 10 21 51.3 +2.0**
PESTR Estremoz 42.86 292 P **P 10 15 23.7 -1.1**
IGLA Glengowla, Co 43.02 314 P **P 10 15 24.3 -1.6**
IGLA Glengowla, Co 43.02 314 *e*P **P 10 15 24.1 -1.7**
IGLA IAMs_20 IAMs_20 10 35 21.9
comp=Z,6μm,17.7s
EGRO El Granado 43.06 290 P **P 10 15 25.5 -1.0**
HOPEN Hopen 43.18 353 *e*P **P 10 15 26.4 -0.4**
HOPEN IAmb IAmb 10 15 31.2
comp=Z,329nm,1.4s
HOPEN *e*PP **PP 10 17 07.3 +0.4**
HOPEN *e*S **S 10 21 54.8 +1.8**
COI Coimbra 43.23 294 P **P 10 15 27.7 -0.1**
COI Coimbra 43.23 294 *e*P **P 10 15 27.9 +0.1**
comp=Z,900nm,1.8s
COI *e*S **S 10 21 57.0 +2.4**
COI Coimbra 43.23 294 P **P 10 15 27.7 -0.1**
COI pmax pmax
comp=Z,1μm,1.7s
COI MLR MLR
comp=Z,2μm,18.0s
PBEJ Beja 43.25 291 *e*P **P 10 15 27.4 -0.6**
comp=Z,846nm,1.7s
EVO Evora 43.25 292 *e*P **P 10 15 27.3 -0.7**
comp=Z,290nm,1.8s
EVO Evora 43.25 292 *e*PP **PP 10 17 09.8 +1.4**
EVO Evora 43.25 292 P **P 10 15 27.5 -0.5**
PMTG Montargil 43.30 293 *e*P **P 10 15 27.9 -0.5**
comp=Z,425nm,1.7s
PMTG *e*S **S 10 21 57.2 +1.5**
PCAS Casmilo, Conde 43.32 294 *e*P **P 10 15 27.9 -0.7**
comp=Z,484nm,1.4s
PCAS Casmilo, Conde 43.32 294 *e*PP **PP 10 17 09.7 +0.6**
PCAS *e*S **S 10 21 57.9 +1.9**
RTC Rabat Centre 43.46 285 P **P 10 15 30.6 +0.9**
PCVE Castro Verde 43.47 290 *e*P **P 10 15 29.1 -0.7**
comp=Z,575nm,1.4s
PCVE Castro Verde 43.47 290 *e*PP **PP 10 17 10.6 -0.1**
PCVE *e*S **S 10 22 01.4 +3.2**
PCVE Castro Verde 43.47 290 P **P 10 15 29.3 -0.5**
PBDV Barranco-do-Ve 43.47 290 *e*P **P 10 15 29.5 -0.3**
comp=Z,401nm,1.4s
PBDV *e*S **S 10 22 00.8 +2.5**
PBDV Barranco-do-Ve 43.47 290 P **P 10 15 29.9 +0.1**
VAL Valentia 43.50 311 P **P 10 15 28.6 -1.2**
VAL Valentia 43.50 311 P **P 10 15 29.3 -0.4**
MESJ Messejana 43.56 291 *e*P **P 10 15 30.2 -0.3**
comp=Z,382nm,1.7s
MESJ Messejana 43.56 291 *e*PP **PP 10 17 14.7 +3.0**
MESJ Messejana 43.56 291 *e*P **P 10 15 30.2 -0.3**
MESJ IAmb IAmb 10 15 34.7
comp=Z,272nm,1.3s
MESJ *e*S **S 10 22 00.2 +0.7**
MESJ Messejana 43.56 291 *e*P **P 10 15 30.2 -0.3**
MESJ *e*S **S 10 22 00.2 +0.7**
PSBE So Bento 43.65 293 *e*P **P 10 15 31.2 0.0**
comp=Z,1μm,1.7s
PSBE *e*S **S 10 21 58.8 -2.1**
PNCL Nicolau / Gran 43.74 291 *e*P **P 10 15 31.5 -0.4**
comp=Z,359nm,1.7s
PNCL Nicolau / Gran 43.74 291 *e*PP **PP 10 17 11.9 -1.7**
PNCL *e*S **S 10 22 04.3 +2.2**
PNCL Nicolau / Gran 43.74 291 P **P 10 15 31.8 -0.1**
ZAK Zakamensk 43.85 51 *e*P **P 10 15 35.9 +3.1**
ZAK *e* 10 17 23.8
ZAK pmax pmax
comp=Z,50nm,2.2s
MORF Marmelete 44.02 290 P **P 10 15 34.9 +0.7**
MORF IAmb IAmb 10 15 39.5
comp=Z,461nm,1.6s
MORF Marmelete 44.02 290 *e*P **P 10 15 34.0 -0.3**
comp=Z,410nm,1.6s
MORF Marmelete 44.02 290 ⇑ *e*PP **PP 10 17 16.6 -0.1**
MORF *e*S **S 10 22 08.5 +2.2**
MORF Marmelete 44.02 290 *e*P **P 10 15 33.9 -0.3**
MORF IAmb IAmb 10 15 39.0
comp=Z,496nm,1.7s
MORF *e*S **S 10 22 06.9 +0.6**
MORF Marmelete 44.02 290 *e*P **P 10 15 33.9 -0.3**
MORF *e*S **S 10 22 06.9 +0.6**
PTEO Sao Teotonio 44.02 291 *e*P **P 10 15 33.6 -0.6**
comp=Z,633nm,1.7s
PTEO Sao Teotonio 44.02 291 *e*PP **PP 10 17 17.2 +0.6**
LIS Lisbon 44.08 292 *e*P **P 10 15 34.4 -0.3**
LIS IAmb IAmb 10 15 41.1
comp=Z,693nm,1.3s
LIS *e*S **S 10 22 07.7 +0.6**
LIS Lisbon 44.08 292 *e*P **P 10 15 34.4 -0.3**
LIS *e*S **S 10 22 07.7 +0.6**
AVE Averroes 44.10 284 P **P 10 15 35.6 +0.7**
AVE Averroes 44.10 284 P **P 10 15 35.2 +0.3**
PMAFR Mafra 44.13 293 P **P 10 15 35.2 +0.1**
PFVI Vila Bisbo 44.19 290 *e*P **P 10 15 35.4 -0.2**
comp=Z,608nm,1.6s
PFVI Vila Bisbo 44.19 290 *e*PP **PP 10 17 17.4 -1.1**
PFVI *e*S **S 10 22 12.1 +3.3**
PFVI Vila Bisbo 44.19 290 P **P 10 15 35.0 -0.6**
IRK Irkutsk 44.45 48 *e*P **P 10 15 38.2 +0.7**
IRK *e*S **S 10 22 21.0 +8.8**
IRK pmax pmax
comp=Z,388nm,2.3s
TIO Tiouine 44.72 281 P **P 10 15 40.2 +0.1**
TOA0 Torodi Ar. Sit 45.52 253 P **P 10 15 46.0 -0.4**
TOA0 IAmb IAmb 10 15 51.9
comp=Z,202nm,1.3s
TORD Torodi Ar. Bea 45.52 253 P **P 10 15 45.9 -0.5**
comp=Z,50nm,1.0s,baz=64,slow=8.4,SNR=88
TORD PcP **PcP 10 17 26.1 +0.9**
comp=Z,17nm,0.9s,baz=48,slow=4.0,SNR=3.6
TORD LR LR 10 37 01.3
comp=Z,2μm,20.8s,baz=53,slow=39
comp=Z,50nm,1.0s
SPB2 Spitsbergen Ar 45.58 352 P **P 10 15 46.2 +0.1**
SPB2 IAmb IAmb 10 15 50.6
comp=Z,168nm,1.0s
SPA0 Spitsbergen Ar 45.59 352 *e*P **P 10 15 45.4 -0.8**
SPA0 IAmb IAmb 10 15 49.2
comp=Z,602nm,1.9s
SPA0 *e*S **S 10 22 27.7 -0.4**
SPA0 *e*ScS **ScS 10 25 37.6 -4.3**
SPITS Spitsbergen Ar 45.59 352 P **P 10 15 45.4 -0.8**
comp=Z,57nm,0.7s,baz=128,slow=11,SNR=29
SPITS PP **PP 10 17 31.8 -0.9**
comp=Z,42nm,0.9s,baz=119,slow=24,SNR=2.2
comp=Z,57nm,0.7s
SPITS Spitsbergen Ar 45.59 352 P **P 10 15 45.4 -0.8**
SPITS pmax pmax
comp=Z,280nm,1.4s
TNCH TengChong 45.92 87 ⇑P **P 10 15 49.4 -0.3**
TNCH pP sP 10 16 03.9 +8.8
TNCH PP **PP 10 17 34.8 -2.4**
TNCH S **S 10 22 33.4 -1.0**
TNCH sS sS 10 22 56.3 +15
TNCH SS **SS 10 25 59.4 +0.4**
TNCH pmax pmax
comp=Z,110nm,0.9s
TNCH pmax pmax
comp=Z,300nm,3.9s
TNCH LR LR
comp=Z,4μm,17.8s
TNCH LR LR
comp=Z,3μm,17.4s
TNCH LR LR
comp=Z,3μm,23.6s
SONM Songino Array 46.06 54 P **P 10 15 51.1 +0.6**
SONM Songino Array 46.06 54 P **P 10 15 51.0 +0.6**
comp=Z,3.0nm,0.6s,baz=282,slow=9.0,SNR=8.4
SONM LR LR 10 38 52.9
comp=Z,7μm,18.1s,baz=270,slow=41
comp=Z,3.0nm,0.6s
SONM Songino Array 46.06 54 P **P 10 15 51.1 +0.6**
SONM pmax pmax
comp=Z,28nm,1.5s
JMIC Jan Mayen 46.42 338 *e*P **P 10 15 52.2 -0.5**
JMIC *e*S **S 10 22 37.0 -3.1**
JMIC *e*ScS **ScS 10 25 49.1 +1.7**
JMIC Jan Mayen 46.42 338 LR LR 10 36 34.5
comp=Z,3μm,18.5s,baz=116,slow=38
LZH Lanzhou 46.43 71 ⇓P **P 10 15 56.0 +2.4**
LZH pP sP 10 16 02.0 +3.0
LZH pmax pmax
comp=Z,86nm,1.5s
LZH LR LR
comp=Z,9μm,15.8s
LZH LR LR
comp=Z,6μm,14.8s
LZH LR LR
comp=Z,9μm,16.1s
ULN Ulaanbaatar 46.50 54 P **P 10 15 54.9 +1.0**
ULN Ulaanbaatar 46.50 54 IAMs_20 IAMs_20 10 39 04.2
comp=Z,6μm,19.0s
ULN Ulaanbaatar 46.50 54 P **P 10 15 55.2 +1.2**
ULN P **P 10 15 55.2 +1.2**
ULN S **S 10 22 43.9 +1.7**
ULN S **S 10 22 43.9 +1.7**
ULN Ulaanbaatar 46.50 54 *c i*P **P 10 15 53.4 -0.6**
ULN pmax pmax
comp=Z,70nm,1.1s
ULN MLR MLR
comp=Z,4μm,15.0s
KBS Kingsbay 46.72 351 P **P 10 15 54.7 -0.3**
KBS Kingsbay 46.72 351 IAMs_20 IAMs_20 10 37 58.1
comp=Z,4μm,18.0s
KBS Kingsbay 46.72 351 *e*P **P 10 15 55.2 +0.1**
KBS IAmb IAmb 10 16 03.2
comp=Z,41nm,0.8s
KBS *e*S **S 10 22 44.7 +0.5**
KBS *e*SS **SS 10 26 14.5 +4.4**
KBS Kingsbay 46.72 351 P **P 10 15 54.7 -0.3**
KBS pmax pmax
comp=Z,46nm,0.9s
KBS MLR MLR
comp=Z,4μm,18.0s
KBS Kingsbay 46.72 351 *i*P **P 10 15 53.6 -1.4**
CD2 Chengdu 47.97 77 P **P 10 16 07.4 +1.9**
CD2 S **S 10 23 01.5 -1.8**
CD2 SS **SS 10 26 27.1 -4.8**
CD2 pmax pmax
comp=Z,160nm,1.1s
CD2 pmax pmax
comp=Z,220nm,4.8s
CD2 LR LR
comp=Z,7μm,15.5s
CD2 LR LR
comp=Z,7μm,20.0s
CD2 LR LR
comp=Z,6μm,17.1s
PZH PanZhiHua 47.97 84 P **P 10 16 06.4 +0.7**
PZH S **S 10 23 00.9 -2.7**
PZH pmax pmax
comp=Z,50nm,1.3s
PZH pmax pmax

comp=Z,240nm,5.9s
PZH LR LR
comp=Z,4μm,14.7s
PZH LR LR
comp=Z,3μm,15.7s
PZH LR LR
comp=Z,4μm,22.6s
CHTO Chiang Mai 49.10 95 P **P 10 16 13.4 -0.9**
CHTO IAmb IAmb 10 16 17.4
comp=Z,309nm,1.8s
CHTO Chiang Mai 49.10 95 P **P 10 16 13.4 -0.9**
CHTO pmax pmax
comp=Z,309nm,1.8s
CM31 Chiang Mai Arr 49.27 95 P **P 10 16 14.9 -0.8**
CM31 IAmb IAmb 10 16 24.5
comp=Z,79nm,1.0s
CMAR Chiang Mai Arr 49.27 95 P **P 10 16 14.3 -1.3**
comp=Z,25nm,0.7s,baz=294,slow=8.5,SNR=50
CMAR LR LR 10 41 07.5
comp=Z,3μm,19.9s,baz=300,slow=41
comp=Z,25nm,0.7s
KMI Kunming 49.36 85 ⇓P **P 10 16 17.1 +0.6**
KMI S **S 10 23 25.6 +2.3**
KMI SS **SS 10 26 50.8 -4.1**
KMI pmax pmax
comp=Z,80nm,1.0s
KMI pmax pmax
comp=Z,390nm,3.4s
KMI LR LR
comp=Z,6μm,21.0s
KMI LR LR
comp=Z,3μm,19.7s
KMI LR LR
comp=Z,5μm,16.0s
BORG Borgarnes 49.84 329 P **P 10 16 18.1 -1.2**
comp=Z,12nm,0.8s,baz=94,slow=7.8,SNR=3.1
BORG LR LR 10 37 28.3
comp=Z,3μm,21.9s,baz=92,slow=36
comp=Z,12nm,0.8s
BOD Bodaibo 49.91 40 *e*P **P 10 16 19.4 -0.5**
BOD pmax pmax
comp=Z,258nm,2.0s
BTO Baotou 49.94 63 *e*P **P 10 16 20.6 0.0**
BTO pP **sP 10 16 32.8 +6.8**
BTO sP pP 10 16 36.9 +12
BTO PP **PP 10 18 14.9 -0.4**
BTO S **S 10 23 31.3 +0.4**
BTO pmax pmax
comp=Z,74nm,0.8s
BTO pmax pmax
comp=Z,580nm,4.5s
BTO LR LR
comp=Z,9μm,13.0s
BTO LR LR
comp=Z,9μm,17.1s
BTO LR LR
comp=Z,13μm,16.9s
CIT Chita 50.17 48 *e*P **P 10 16 24.9 +2.8**
CIT *e* 10 18 22.4
CIT *e* 10 23 39.9
CIT pmax pmax
comp=Z,396nm,2.1s
PHRA Phrae 50.31 94 P **P 10 16 23.0 -0.5**
SCO Scoresbysund 50.61 336 P **P 10 16 25.5 +0.5**
SCO IAmb IAmb 10 16 30.4
comp=Z,222nm,1.4s
SCO IAMs_20 IAMs_20 10 37 12.2
comp=Z,5μm,22.0s
SCO Scoresbysund 50.61 336 P **P 10 16 25.5 +0.5**
SCO pmax pmax
comp=Z,223nm,1.4s
SCO Scoresbysund 50.61 336 *i* P **P 10 16 26.1 +1.1**
SCO IAmb IAmb 10 16 30.1
comp=Z,273nm,1.5s
SCO *i* 10 27 26.3
DBG Daneborg 50.74 341 *i* P **P 10 16 26.6 +0.6**
DBG IAmb IAmb 10 16 30.8
comp=Z,351nm,1.6s
DAG Danmarks Havn 50.96 344 *i* P **P 10 16 26.1 -1.5**
DAG IAmb IAmb 10 16 31.2
comp=Z,316nm,1.7s
HHC Hu-ho-hao-te 51.01 62⇑*i*P **P 10 16 31.8 +3.1**
HHC pP sP 10 16 36.3 +2.2
HHC sP pP 10 16 39.9 +7.3
HHC S **S 10 23 47.1 +1.3**
HHC pmax pmax
comp=Z,68nm,1.2s
HHC pmax pmax
comp=Z,300nm,4.3s
HHC LR LR
comp=Z,5μm,17.5s
HHC LR LR
comp=Z,2μm,15.9s
HHC LR LR
comp=Z,4μm,15.9s
XAN Xi'an 51.02 72 P **P 10 16 29.1 +0.4**
XAN pP sP 10 16 35.3 +1.2
XAN PP **PP 10 18 27.0 +1.9**
XAN S **S 10 23 46.6 +0.6**
XAN ScS **ScS 10 26 15.6 -4.0**
XAN pmax pmax
comp=Z,300nm,1.0s
XAN pmax pmax
comp=Z,650nm,3.8s
XAN LR LR
comp=Z,22μm,18.7s
XAN LR LR
comp=Z,11μm,17.5s
XAN LR LR
comp=Z,9μm,19.6s
PMPST Porto Santo, M 51.26 287 *e*P **P 10 16 30.6 +0.1**
comp=Z,2μm,1.7s
SRDT SRDT 51.55 99 P **P 10 16 33.9 +1.1**
PMAR Madeira 51.84 287 *e*P **P 10 16 35.6 +0.5**
comp=Z,1μm,1.8s
SLVN Son La 51.99 89 P **P 10 16 37.2 +1.0**
SLVN IAmb IAmb 10 16 41.0
comp=Z,238nm,1.7s
GYA Guiyang 52.02 82 ⇓P **P 10 16 37.0 +0.6**
GYA S **S 10 23 56.9 -3.2**
GYA pmax pmax
comp=Z,36nm,0.9s
GYA pmax pmax
comp=Z,380nm,5.6s
GYA LR LR
comp=Z,8μm,24.6s
GYA LR LR
comp=Z,6μm,26.7s
GYA LR LR
comp=Z,2μm,29.3s
PMOZ Porto Moniz, M 52.03 287 P **P 10 16 36.8 +0.4**
PMOZ Porto Moniz, M 52.03 287 *e*P **P 10 16 35.0 -1.4**
comp=Z,797nm,1.7s
PMOZ *e*S **S 10 24 04.1 +4.1**
PMOZ *e*LR LR 10 31 08.8
comp=Z,963nm,18.0s
PMOZ Porto Moniz, M 52.03 287 P **P 10 16 37.9 +1.5**
NOR Nord 52.16 350 *i* P **P 10 16 36.8 +0.2**
NOR IAmb IAmb 10 16 40.9
comp=Z,105nm,1.6s
LSZ Lusaka 52.43 202 P **P 10 16 40.4 +1.0**
LSZ IAmb IAmb 10 16 43.8
comp=Z,137nm,1.4s
LSZ IAMs_20 IAMs_20 10 41 06.8
comp=Z,4μm,20.0s
LSZ Lusaka 52.43 202 P **P 10 16 42.1 +2.7**
LSZ P **P 10 16 42.1 +2.7**
LSZ Lusaka 52.43 202 P **P 10 16 40.4 +1.0**
LSZ pmax pmax
comp=Z,137nm,1.4s
LSZ MLR MLR
comp=Z,4μm,20.0s
EOSO Osorio 52.48 281 P **P 10 16 39.6 -0.2**
TIY Taiyuan 52.55 66 *e*P **P 10 16 40.6 +0.4**
TIY S **S 10 24 10.5 +3.5**
TIY pmax pmax
comp=Z,310nm,4.3s
TIY LR LR
comp=Z,4μm,14.1s
TIY LR LR
comp=Z,5μm,14.8s
TIY LR LR
comp=Z,5μm,17.9s
ENH Enshi 52.80 76 P **P 10 16 43.4 +1.3**
ENH Enshi 52.80 76 P **P 10 16 42.8 +0.7**
ENH IAmb IAmb 10 17 07.0
comp=Z,176nm,1.5s
ENH IAMs_20 IAMs_20 10 40 31.2
comp=Z,5μm,21.0s
OPO Ambohidratompo 52.82 179 LR LR 10 38 56.0
comp=Z,3μm,19.8s,baz=183,slow=36
NONG Nongkai 52.93 93 P **P 10 16 43.9 +0.8**
ABPO Ambohimpanom 53.27 179 P **P 10 16 47.0 +1.4**
ABPO Ambohimpanom 53.27 179 P **P 10 16 47.0 +1.4**
ABPO pmax pmax
comp=Z,106nm,1.4s
NAYO Nakonayok 53.36 98 P **P 10 16 47.7 +1.4**
XLT XiLinHaoTe 53.44 58 *e*P **P 10 16 49.3 +2.6**
XLT S **S 10 24 15.3 -3.7**
XLT pmax pmax
comp=Z,22nm,1.1s
XLT pmax pmax
comp=Z,330nm,5.0s
XLT LR LR
comp=Z,680nm,16.4s
XLT LR LR
comp=Z,2μm,19.8s
XLT LR LR
comp=Z,4μm,17.2s
LYN LuoYang 53.61 70 P **P 10 16 47.1 -0.8**
LYN sP sP 10 17 05.8 +12
LYN S **S 10 24 21.1 -0.2**
LYN pmax pmax
comp=Z,160nm,1.2s
LYN pmax pmax
comp=Z,500nm,3.9s
LYN LR LR
comp=Z,3μm,14.1s
LYN LR LR
comp=Z,8μm,15.9s
LYN LR LR
comp=Z,9μm,16.9s
SOEG Soedalen 53.87 333 *i* P **P 10 16 50.3 +1.1**
SOEG IAmb IAmb 10 16 54.4
comp=Z,122nm,1.3s
HNS HongShan 54.36 66 ⇑P **P 10 16 54.8 +1.4**
HNS S **S 10 24 34.1 +2.7**
HNS pmax pmax
comp=Z,48nm,1.1s
HNS LR LR
comp=Z,7μm,16.8s
HNS LR LR
comp=Z,3μm,16.4s
HNS LR LR
comp=Z,7μm,17.9s
DBIC Dimbokro 54.55 252 P **P 10 16 54.5 -0.5**
DBIC IAmb IAmb 10 17 00.3
comp=Z,208nm,1.4s
DBIC Dimbokro 54.55 252 P **P 10 16 53.8 -1.1**
comp=Z,31nm,0.6s,baz=32,slow=8.3,SNR=18
DBIC LR LR 10 41 01.9
comp=Z,7μm,18.1s,baz=26,slow=37
comp=Z,31nm,0.6s
DBIC Dimbokro 54.55 252 P **P 10 16 54.5 -0.5**
DBIC pmax pmax
comp=Z,208nm,1.4s
HIA Hailar 54.55 50 P **P 10 16 58.8 +4.2**
HIA Hailar 54.55 50 P **P 10 16 55.4 +0.8**
HIA IAmb IAmb 10 17 00.0
comp=Z,84nm,1.0s
HIA Hailar 54.55 50 P **P 10 16 55.4 +0.8**
HIA pmax pmax
comp=Z,84nm,1.0s
HIA MLR MLR
comp=Z,13μm,19.0s
BJI Beijing 54.61 62 P **P 10 16 55.8 +0.7**
BJI S **S 10 24 31.4 -3.3**
BJI pmax pmax
comp=Z,21nm,1.0s
BJI pmax pmax
comp=Z,140nm,4.6s
BJI LR LR
comp=Z,3μm,16.6s
BJI LR LR
comp=Z,1μm,15.3s
BJI LR LR
comp=Z,3μm,16.5s
BJT Baijiatuau 54.61 62 P **P 10 16 56.2 +1.0**
BJT Baijiatuau 54.61 62 P **P 10 16 56.0 +0.8**
BJT Baijiatuau 54.61 62 IAMs_20 IAMs_20 10 43 53.2
comp=Z,4μm,18.0s
BJT Baijiatuau 54.61 62 P **P 10 16 56.0 +0.8**
BJT pmax pmax
comp=Z,37nm,1.0s
BJT MLR MLR
comp=Z,4μm,18.0s
KIC Kosan Boka 54.64 251 ⇓*i*P **P 10 16 55.2 -0.5**
comp=Z,192nm,1.1s
TIC Toumodi 54.69 252⇑*e*P **P 10 16 55.4 -0.6**
comp=Z,3.4nm,0.2s
SURA Surathani 54.87 104 P **P 10 16 57.1 -0.2**
LIC Lamto 54.95 251 ⇓*i*P **P 10 16 57.3 -0.6**
comp=Z,39nm,0.5s
LHMI Lhok Sumawe 55.13 110 IAMs_20 IAMs_20 10 41 27.5
comp=Z,4μm,22.0s
SRIT Nakonsritamara 55.18 105 P **P 10 16 59.8 +0.2**
TIXI Tiksi 55.33 22 P **P 10 17 01.4 +1.6**
TIXI IAmb IAmb 10 17 04.2
comp=Z,300nm,1.7s
TIXI Tiksi 55.33 22 LR LR 10 45 56.2
comp=Z,4μm,18.6s,baz=282,slow=42
TIXI Tiksi 55.33 22*ce*P **P 10 17 01.7 +1.9**
TIXI pmax pmax
comp=Z,182nm,1.6s
SUMG Summit 55.87 339 P **P 10 17 03.3 -0.9**
SUMG Summit 55.87 339 P **P 10 17 03.3 -0.9**
SUMG pmax pmax
comp=Z,324nm,1.3s
SUMG MLR MLR
comp=Z,3μm,21.0s
SUMG Summit 55.87 339 *i* P **P 10 17 02.9 -1.2**
SUMG IAmb IAmb 10 17 08.6
comp=Z,338nm,1.3s
RER Riviere de l'E 56.12 169 P **P 10 17 07.3 +1.1**
VOI Vohitsoka 56.13 179 P **P 10 17 07.1 +0.8**
VOI IAmb IAmb 10 17 09.9
comp=Z,141nm,1.7s
VOI IAMs_20 IAMs_20 10 39 31.4
comp=Z,4μm,22.0s
UBPT Khong Chiam 56.26 94 P **P 10 17 08.9 +1.6**
UBPT Khong Chiam 56.26 94 P **P 10 17 07.9 +0.6**
UBPT IAmb IAmb 10 17 12.3
comp=Z,121nm,1.5s
CNSH ChangSha 56.39 77 P **P 10 17 09.0 +0.9**
CNSH S **S 10 25 02.3 +3.5**
CNSH pmax pmax
comp=Z,57nm,0.8s
CNSH LR LR
comp=Z,8μm,19.3s
CNSH LR LR
comp=Z,5μm,19.4s
CNSH LR LR
comp=Z,6μm,20.2s
BART Pico Bartolome 56.44 296 *e*P **P 10 17 08.8 +0.3**
comp=Z,506nm,1.3s
BART *e*S **S 10 25 03.3 +3.9**
WHN Wuhan 56.57 74 P **P 10 17 11.3 +2.0**
WHN pmax pmax
comp=Z,240nm,1.2s
WHN LR LR
comp=Z,12μm,17.8s
WHN LR LR
comp=Z,7μm,13.3s
WHN LR LR
comp=Z,21μm,17.2s
TIA Tai'an 56.59 66 P **P 10 17 10.4 +0.9**
TIA S **S 10 25 02.1 +0.8**
TIA pmax pmax
comp=Z,170nm,1.1s
TIA pmax pmax
comp=Z,450nm,4.0s
TIA LR LR
comp=Z,4μm,18.2s
TIA LR LR
comp=Z,5μm,17.8s
TIA LR LR
comp=Z,6μm,19.1s
PGRON Lagoa das Cont 56.60 296 *e*P **P 10 17 10.8 +1.3**
comp=Z,497nm,1.3s
PSMN Pico do Norte, 56.63 295 *e*P **P 10 17 10.8 +1.1**
comp=Z,411nm,1.4s
PSMN *e*S **S 10 25 04.4 +2.6**
PSMN Pico do Norte, 56.63 295 *e*LR LR 10 35 26.1
comp=Z,913nm,20.0s
ANGG Ammassalik, Gr 56.63 330 IAMs_20 IAMs_20 10 42 10.5
comp=Z,4μm,21.0s
PCALD Caldeiras da R 56.67 296 *e*P **P 10 17 10.2 +0.2**
comp=Z,519nm,1.8s
PSMA Santa Maria 56.68 295 *e*P **P 10 17 11.1 +1.0**
comp=Z,528nm,2.6s
CMLA Cha da Macela 56.71 296 *e*S **S 10 25 05.8 +2.9**
CMLA Cha da Macela 56.71 296 *e*LR LR 10 35 44.0
comp=Z,1μm,22.0s
ICESG Greenland Ices 56.77 335 *i* P **P 10 17 10.1 -0.6**
ICESG IAmb IAmb 10 17 15.3
comp=Z,317nm,1.1s
KCSI Kotacane, Aceh 56.84 111 P P 10 17 06.1 -5.3
comp=Z,58nm,1.1s,comp=Z,3μm
PSET Sete Cidades 56.84 296 *e*P **P 10 17 12.5 +1.3**
comp=Z,536nm,1.4s
PSET Sete Cidades 56.84 296 *e*LR LR 10 34 33.2
comp=Z,2μm,22.0s
YAK Yakutsk 57.17 34 P **P 10 17 13.1 0.0**
YAK IAmb IAmb 10 17 16.7
comp=Z,119nm,1.2s
YAK Yakutsk 57.17 34 *e*P **P 10 17 13.1 0.0**
YAK *e* 10 18 09.7
YAK *e* 10 19 20.3
YAK *e*PPP PPP 10 20 38.8
YAK *e*S **S 10 25 07.3 -0.8**
YAK *e**SS sS 10 25 23.9 +9.3
YAK *e* 10 26 59.2
YAK *e*SS **SS 10 28 59.1 +2.7**
YAK pmax pmax
comp=Z,89nm,1.4s
YAK pmax pmax
comp=N,21nm,1.7s
YAK pmax pmax
comp=E,51nm,1.4s
YAK pmax pmax
comp=Z,110nm,2.2s
YAK pmax pmax
comp=N,98nm,2.5s
YAK pmax pmax
comp=E,84nm,2.5s
YAK smax smax
comp=N,535nm,4.3s
YAK smax smax
comp=E,107nm,3.2s
YAK MLR MLR
comp=N,5μm,26.0s
YAK MLR MLR
comp=E,6μm,26.0s
MATP Matopo 57.21 200 *i* P **P 10 17 16.2 +2.3**
PAGU Agualva, Azore 57.59 297 *e*S **S 10 25 22.2 +7.8**
PAGU Agualva, Azore 57.59 297 *e*LR LR 10 35 36.1
comp=E,1μm,20.0s
ZEA Zeya 57.95 44 *e*P **P 10 17 19.9 +1.1**
ZEA *e*S **S 10 25 22.6 +3.9**
ZEA pmax pmax
comp=E,100nm,3.0s
ZEA pmax pmax
comp=Z,200nm,2.6s
ZEA pmax pmax
comp=E,20nm,1.2s
ZEA pmax pmax
comp=Z,40nm,1.2s
ZEA smax smax
comp=E,200nm,13.2s
ZEA smax smax
comp=N,300nm,14.3s
ZEA MLR MLR
comp=E,3μm,17.0s
ZEA MLR MLR
comp=N,2μm,15.0s
QIZ Qiongzhong 57.98 88 P **P 10 17 22.3 +2.8**
QIZ PcP **PcP 10 18 12.9 +1.3**
QIZ S **S 10 25 20.9 +0.9**
QIZ SS **SS 10 29 14.6 +3.6**
QIZ pmax pmax
comp=N,64nm,2.4s
QIZ LR LR
comp=N,3μm,20.2s
QIZ LR LR
comp=N,3μm,18.4s
QIZ LR LR
comp=N,3μm,21.9s
QIZ Qiongzhong 57.98 88 IAMs_20 IAMs_20 10 45 23.2
comp=Z,3μm,22.0s
KULM Kulim 57.98 107 P **P 10 17 18.6 -0.9**
KULM IAmb IAmb 10 17 21.2
comp=Z,127nm,1.0s
KULM IAMs_20 IAMs_20 10 43 51.1
comp=Z,4μm,20.0s
GSI Gunungsitoli 58.10 113 P **P 10 17 21.3 +1.0**
GSI Gunungsitoli 58.10 113 P **P 10 17 16.6 -3.7**
comp=Z,120nm,1.4s
NEEM North Greenlan 58.15 345 *i* P **P 10 17 20.7 +0.6**
NEEM IAmb IAmb 10 17 24.8
comp=Z,313nm,1.6s
PMAN Manadas 58.30 298 *e*P **P 10 17 22.8 +1.4**
comp=Z,236nm,0.9s
ROSA Rosais 58.38 298 *e*P **P 10 17 23.2 +1.2**
comp=Z,314nm,1.0s
ROSA *e*S **S 10 25 25.6 +0.9**
ROSA Rosais 58.38 298 *e*LR LR 10 36 02.3
comp=Z,1μm,18.0s
PICO Pico 58.59 298 *e*LR LR 10 36 10.0
comp=Z,1μm,20.0s
MUSN Musina, Limpop 58.62 198 *i* P **P 10 17 20.5 -3.3**
PCED Cedros 58.75 298 *e*P **P 10 17 26.3 +1.7**
comp=Z,229nm,1.7s
CALA Caldeira 58.76 298 *e*P **P 10 17 25.0 +0.2**
comp=Z,267nm,0.9s
DL2 Dalian 58.97 62 P **P 10 17 25.3 -0.8**
DL2 S **S 10 25 33.8 +1.5**
DL2 pmax pmax
comp=Z,190nm,1.0s
DL2 pmax pmax
comp=Z,490nm,5.2s
DL2 LR LR
comp=Z,3μm,15.8s
DL2 LR LR
comp=Z,3μm,17.8s
DL2 LR LR
comp=Z,4μm,17.2s
HEH HeiHe 59.06 48 *e*P **P 10 17 25.8 -0.8**
HEH pP **sP 10 17 33.8 +1.8**
HEH S **S 10 25 32.1 -1.2**
HEH ScS **ScS 10 27 11.5 -5.0**
HEH pmax pmax
comp=Z,52nm,0.9s
HEH pmax pmax
comp=Z,630nm,4.7s
HEH LR LR
comp=Z,4μm,12.5s
HEH LR LR
comp=Z,7μm,16.9s
HEH LR LR
comp=Z,10μm,16.2s
MOPA Mopani 59.43 196 *i* P **P 10 17 25.8 -3.5**
NJ2 Nanjing 59.50 70⇑*i*P **P 10 17 31.4 +1.5**
NJ2 pmax pmax
comp=Z,71nm,1.1s
NJ2 pmax pmax
comp=Z,610nm,4.6s
NJ2 LR LR
comp=Z,7μm,19.8s
NJ2 LR LR
comp=Z,3μm,15.3s
NJ2 LR LR
comp=Z,4μm,17.5s
BBTS Babate 59.51 267 LR LR 10 50 33.5
comp=Z,2μm,18.3s,baz=305,slow=44
PBSI Pulau Batu 59.52 114 P **P 10 17 28.2 -2.0**
comp=Z,174nm,1.2s
DY2G Dye2 59.84 332 *i* P **P 10 17 31.4 -0.6**
DY2G IAmb IAmb 10 17 36.0
comp=Z,533nm,1.2s
MBO M'Bour 59.99 267 P **P 10 17 33.8 +0.3**
MBO IAMs_20 IAMs_20 10 48 19.5
comp=Z,4μm,20.0s
TSUM Tsumeb 60.00 212 P **P 10 17 34.3 +0.8**
TSUM IAmb IAmb 10 17 36.6
comp=Z,120nm,1.2s
TSUM Tsumeb 60.00 212 LR LR 10 43 52.9
comp=Z,3μm,18.8s,baz=10,slow=36
KULLO Kullorsuaq 60.50 343 *i* P **P 10 17 37.2 +1.1**

KULLO IAmb IAmb 10 17 40.3
comp=Z,96nm,1.0s
DLV T Lat 60.51 96 P **P** **10 17 39.2 +2.0**
UMMG Uummannaq 60.51 338 *i* P **P** **10 17 35.3 -0.9**
UMMG IAmb IAmb 10 17 40.0
comp=Z,253nm,1.2s
NUUG Nuugaatsiaq 60.54 339 *i* P **P** **10 17 35.6 -0.8**
NUUG IAmb IAmb 10 17 39.9
comp=Z,75nm,1.2s
BNX BinXian 60.55 53 ⇑P **P** **10 17 38.3 +1.4**
BNX pmax pmax
comp=Z,39nm,1.1s
SUJ Sinuiju 60.59 60 P **P** **10 17 35.7 -1.5**
SUJ S **S** **10 25 49.2 -4.0**
SUJ AmB
comp=Z,619nm,3.1s
SUJ AMS AMS
comp=Z,4µm,12.7s
UPNV Upernavik 60.92 341 *i* P **P** **10 17 38.8 -0.1**
UPNV IAmb IAmb 10 17 43.1
comp=Z,141nm,1.0s
SISI Saibi 60.96 114 P P 10 17 34.9 -5.1
comp=Z,92nm,1.3s
NRS Narsarsuaq 61.19 326 P **P** **10 17 40.4 -0.5**
NRS IAMs_20 IAMs_20 10 46 18.9
comp=Z,3µm,18.0s
NRS Narsarsuaq 61.19 326 P **P** **10 17 40.4 -0.5**
NRS pmax pmax
comp=Z,228nm,1.1s
NRS MLR MLR
comp=Z,3µm,18.0s
NRS Narsarsuaq 61.19 326 *i* P **P** **10 17 39.5 -1.4**
NRS IAmb IAmb 10 17 44.5
comp=Z,201nm,1.0s
SFJD Kangerlussuaq 61.30 334 P **P** **10 17 41.0 -0.6**
SFJD IAmb IAmb 10 17 45.1
comp=Z,142nm,1.2s
SFJD Kangerlussuaq 61.30 334 IAMs_20 IAMs_20 10 43 31.8
comp=Z,5µm,22.0s
SFJD Kangerlussuaq 61.30 334 LR LR 10 43 54.9
comp=Z,5µm,21.8s,baz=64,slow=36
SFJD Kangerlussuaq 61.30 334 P **P** **10 17 41.0 -0.6**
SFJD pmax pmax
comp=Z,143nm,1.2s
SFJD Kangerlussuaq 61.30 334 *i* P **P** **10 17 40.5 -1.2**
SFJD IAmb IAmb 10 17 44.8
comp=Z,140nm,1.2s
BKNI Bangkinang 61.38 111 P **P** **10 17 42.9 0.0**
SSE Sheshan 61.71 70 P P 10 17 39.8 -5.1
SSE S **S** **10 26 12.0 +4.3**
SSE pmax pmax
comp=Z,8.0nm,0.7s
SSE pmax pmax
comp=Z,140nm,3.5s
SSE LR LR
comp=N,3µm,23.5s
SSE LR LR
comp=E,1µm,24.0s
PDSI Padang 61.73 113 P **P** **10 17 41.5 -3.8**
comp=E,107nm,1.2s
PYAG Pyongyang 61.90 60 P **P** **10 17 45.3 -0.8**
PYAG S **S** **10 26 05.8 -4.0**
PYAG AmB
comp=Z,453nm,2.1s
PYAG AMS AMS
comp=Z,2µm,12.6s
KLR Kul'dur 62.06 48 P **P** **10 17 46.1 -0.9**
comp=Z,22nm,0.9s,baz=288,slow=7.4,SNR=19
KLR LR LR 10 47 00.9
comp=Z,6µm,18.1s,baz=292,slow=38
comp=Z,22nm,0.9s
KLR Kul'dur 62.06 48 *d i* P **P** **10 17 47.2 +0.2**
KLR pmax pmax
comp=Z,59nm,1.3s
KLR MLR MLR
comp=Z,6µm,15.0s
TULEG Thule 62.18 346 IAMs_20 IAMs_20 10 45 52.8
comp=Z,3µm,22.0s
HJU Haeju 62.27 61 P **P** **10 17 47.7 -0.9**
HJU S **S** **10 26 10.6 -4.0**
HJU AmB
comp=Z,1µm,3.4s
HJU AMS AMS
comp=Z,2µm,10.2s
LBTB Lobatse 62.38 201 P **P** **10 17 50.2 +0.7**
LBTB IAmb IAmb 10 18 00.1
comp=Z,56nm,1.1s
LBTB Lobatse 62.38 201 P **P** **10 17 50.2 +0.7**
LBTB pmax pmax
comp=Z,56nm,1.1s
LBTB Lobatse 62.38 201 *i* P **P** **10 17 49.0 -0.5**
MDJ Mudanjiang 62.40 53 P **P** **10 17 49.9 +0.5**
MDJ S **S** **10 26 17.5 +1.4**
MDJ SS **SS** **10 30 27.8 +8.6**
MDJ pmax pmax
comp=Z,24nm,2.4s
MDJ LR LR
comp=Z,8µm,18.2s
MDJ LR LR
comp=Z,4µm,18.6s
MDJ LR LR
comp=Z,6µm,19.9s
KNMB Chin-men Tao 62.41 78 IAMs_20 IAMs_20 10 48 03.9
comp=Z,3µm,21.0s
IVI Ivigtut 62.42 327 P **P** **10 17 47.3 -1.8**
IVI Ivigtut 62.42 327 *i* P **P** **10 17 48.2 -1.0**
IVI IAmb IAmb 10 17 52.4
comp=Z,451nm,1.6s
MYKOM Kota Tinggi 62.64 108 P **P** **10 17 51.1 -0.3**
MYKOM IAmb IAmb 10 17 53.1
comp=Z,70nm,1.0s
NUUK Nuuk 62.79 331 *i* P **P** **10 17 50.2 -1.5**
NUUK IAmb IAmb 10 17 55.0
comp=Z,136nm,1.0s
BTDF Bukit Timah Da 62.85 109 P **P** **10 17 52.5 -0.3**
POGA Pongola 63.07 195 P **P** **10 17 55.2 +1.3**
POGA IAmb IAmb 10 18 06.5
comp=Z,118nm,1.4s
INCN Inchon 63.15 62 P **P** **10 17 56.7 +2.1**
INCN Inchon 63.15 62 P **P** **10 17 55.6 +1.1**
INCN IAmb IAmb 10 18 03.2
comp=Z,51nm,0.8s
INCN Inchon 63.15 62 IAMs_20 IAMs_20 10 49 50.0
comp=Z,3µm,19.0s
INCN Inchon 63.15 62 P **P** **10 17 55.7 +1.1**
INCN pmax pmax
comp=Z,51nm,0.9s
INCN MLR MLR
comp=Z,3µm,19.0s
WIN Windhoek 63.18 210 P **P** **10 17 56.3 +1.3**
WIN IAMs_20 IAMs_20 10 47 08.5
comp=Z,4µm,20.0s
WIN Windhoek 63.18 210 P **P** **10 17 56.3 +1.3**
WIN pmax pmax
comp=Z,132nm,1.0s
WIN MLR MLR
comp=Z,4µm,20.0s
TPRI Tanjung Pinang 63.71 108 P **P** **10 17 57.2 -1.3**
comp=Z,138nm,1.3s
KS19 Wonju Array Si 64.04 61 P **P** **10 18 00.5 +0.1**
KS19 IAmb IAmb 10 18 16.9
comp=Z,152nm,1.7s
KSAR Wonju Array Be 64.08 61 P **P** **10 17 60.0 -0.7**
KSAR Wonju Array Be 64.08 61 P **P** **10 18 00.0 -0.7**
KSRS Korea Array 64.10 61 P **P** **10 17 59.6 -1.2**
comp=Z,45nm,1.0s,baz=283,slow=6.8,SNR=31
KSRS LR LR 10 49 24.6
comp=Z,2µm,18.4s,baz=270,slow=39
comp=Z,45nm,1.0s
USA0B Ussuriysk Arra 64.14 53 P **P** **10 18 00.1 -0.9**
USA0B IAmb IAmb 10 18 04.6
comp=Z,61nm,1.1s
USA0B Ussuriysk Arra 64.14 53 P **P** **10 18 00.1 -0.9**
USA0B pmax pmax
comp=Z,61nm,1.1s
USRK Ussuriysk Ar. 64.14 53 P **P** **10 17 59.9 -1.1**
USRK Ussuriysk Ar. 64.14 53 P **P** **10 17 59.1 -1.8**
comp=Z,41nm,1.0s,baz=280,slow=5.8,SNR=24
USRK LR LR 10 48 21.7
comp=Z,6µm,20.2s,baz=292,slow=38
comp=Z,41nm,1.0s
USRK Ussuriysk Ar. 64.14 53 P **P** **10 17 59.9 -1.1**
TJN Taejon 64.14 62 P **P** **10 18 03.2 +2.1**
TJN Taejon 64.14 62‖ *eP* **P** **10 18 02.5 +1.4**
GRNR Gornyy 64.26 45‖ *i* P **P** **10 18 04.2 +2.6**
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR MLR MLR
comp=N,2µm,15.0s
GRNR MLR MLR
comp=Z,4µm,16.0s
VLA Vladivostok 64.51 54 *eP* **P** **10 18 04.2 +0.8**
YHNB Yeheng 64.72 77 P **P** **10 18 07.7 +2.5**
YHNB Yeheng 64.72 77 P **P** **10 18 06.6 +1.4**
YHNB IAMs_20 IAMs_20 10 50 05.0
comp=Z,4µm,20.0s
TPUB Ta-pu 64.77 78 P **P** **10 18 07.3 +1.9**
TPUB Ta-pu 64.77 78 IAMs_20 IAMs_20 10 50 21.3
comp=Z,3µm,19.0s
SSLB Suanglung 64.80 78 P **P** **10 18 07.7 +2.1**
YULB Yu-li 65.27 78 P **P** **10 18 11.2 +2.6**
TWG Pinlang 65.36 78 IAMs_20 IAMs_20 10 49 24.1
comp=Z,4µm,20.0s
TWGBT Beinan 65.36 78 P **P** **10 18 12.2 +2.9**
BOSA Boshof 65.87 200 P **P** **10 18 12.9 +0.6**
BOSA IAmb IAmb 10 18 14.8
comp=Z,79nm,1.2s
BOSA Boshof 65.87 200 P **P** **10 18 11.6 -0.7**
comp=Z,30nm,0.8s,baz=24,slow=6.5,SNR=18
BOSA LR LR 10 47 55.9
comp=Z,3µm,19.0s,baz=30,slow=37
comp=Z,30nm,0.8s
BOSA Boshof 65.87 200 P **P** **10 18 13.0 +0.6**
BOSA pmax pmax
comp=Z,79nm,1.3s
BOSA Boshof 65.87 200 *i* P **P** **10 18 13.4 +1.1**
SEY Seymchan 66.62 29 *d i* P **P** **10 18 16.7 0.0**
SEY pmax pmax
comp=Z,163nm,1.2s
PPBI Pangkal Pinang 66.88 110 P **P** **10 18 16.5 -2.6**
LWLI Liwa 67.11 114 P **P** **10 18 17.3 -3.3**
comp=Z,187nm,0.9s,comp=Z,7µm
MA2 Magadan 67.64 32 P **P** **10 18 24.0 +0.7**
MA2 Magadan 67.64 32 P **P** **10 18 23.5 +0.2**
MA2 IAmb IAmb 10 18 28.0
comp=Z,143nm,1.3s
MA2 IAMs_20 IAMs_20 10 50 40.4
comp=Z,3µm,20.0s
MA2 Magadan 67.64 32 LR LR 10 51 00.3
comp=Z,3µm,19.4s,baz=307,slow=39
MA2 Magadan 67.64 32 *d i* P **P** **10 18 23.9 +0.7**
MA2 pmax pmax
comp=Z,115nm,1.3s
TYV Tymovskoe 67.78 43 *eP* **P** **10 18 27.5 +3.3**
TYV *eS* **S** **10 27 28.2 +6.2**
TYV pmax pmax
comp=Z,300nm,2.4s
TYV pmax pmax
comp=Z,43nm,1.2s
TYV smax smax
comp=N,600nm,5.5s
TYV smax smax
comp=E,500nm,5.5s
JNU Nakatsue 68.18 64 P **P** **10 18 29.2 +2.1**
JNU Nakatsue 68.18 64 P **P** **10 18 28.0 +0.9**
JNU IAmb IAmb 10 18 38.6
comp=Z,50nm,0.9s
JNU Nakatsue 68.18 64 P **P** **10 18 26.8 -0.4**
comp=Z,27nm,0.9s,baz=42,slow=2.7,SNR=12
JNU LR LR 10 50 46.1
comp=Z,3µm,19.6s,baz=296,slow=38
comp=Z,27nm,0.9s
UGL Uglegorsk 68.28 45 *eP* P 10 18 36.8 +9.4
UGL *eS* **S** **10 27 29.4 +1.5**
UGL MLR MLR
comp=E,4µm,16.0s
UGL MLR MLR
comp=Z,4µm,16.0s
UGL MLR MLR
comp=N,2µm,15.0s
BILL Bilibino 68.44 20 P **P** **10 18 29.0 +1.0**
BILL IAmb IAmb 10 18 33.0
comp=Z,164nm,1.3s
BILL Bilibino 68.44 20 *d i* P **P** **10 18 29.1 +1.0**
BILL *e* 10 18 52.4
BILL *e* 10 21 01.5
BILL *e*PPP PPP 10 22 40.2
BILL *e*S **S** **10 27 33.4 +4.1**
BILL *e*SS **SS** **10 31 59.4 +7.4**
BILL pmax pmax
comp=Z,79nm,1.1s
SBUM Sibu 68.92 102 P **P** **10 18 31.3 -0.6**
JOW Kunigami 69.17 71 P **P** **10 18 31.7 -1.6**
comp=Z,26nm,0.8s,baz=148,slow=22,SNR=6.0
JOW LR LR 10 52 40.9
comp=Z,3µm,18.3s,baz=278,slow=39
comp=Z,26nm,0.8s
FRB Frobisher Bay 69.42 334 LR LR 10 48 03.9
comp=Z,2µm,21.8s,baz=52,slow=35
SOE Somerset East 69.66 199 P **P** **10 18 37.0 +0.9**
YSS Yuzh-Sakhalins 69.69 47 P **P** **10 18 39.3 +3.1**
YSS Yuzh-Sakhalins 69.69 47 P **P** **10 18 36.4 +0.2**
YSS Yuzh-Sakhalins 69.69 47 *eP* **P** **10 18 36.5 +0.2**
YSS *eS* **S** **10 27 41.5 -3.3**
YSS pmax pmax
comp=Z,300nm,4.6s
YSS pmax pmax
comp=Z,50nm,1.1s
YSS smax smax
comp=N,400nm,5.7s
YSS MLR MLR
comp=Z,3µm,17.0s
YSS MLR MLR
comp=N,2µm,13.0s
YSS MLR MLR
comp=E,4µm,16.0s
STKI Sintang 69.73 105 P **P** **10 18 35.0 -1.9**
comp=E,114nm,1.4s
GRHM Grahamstown, E 69.99 198 P **P** **10 18 38.7 +0.6**
GRHM IAmb IAmb 10 18 42.2
comp=Z,107nm,1.6s
JMN Monobe 70.11 62 P **P** **10 18 42.1 +3.0**
KKM Kota Kinabalu 70.11 96 P **P** **10 18 40.4 +1.0**
SHEL Horse Pasture 70.44 234 P **P** **10 18 42.5 +1.3**
SHEL IAmb IAmb 10 18 48.2
comp=Z,124nm,1.1s
SHEL Horse Pasture 70.44 234 P **P** **10 18 42.5 +1.3**
SHEL pmax pmax
comp=Z,124nm,1.1s
SUR Sutherland 70.73 203 P **P** **10 18 44.3 +1.4**
SUR IAmb IAmb 10 18 46.1
comp=Z,136nm,1.6s
SUR Sutherland 70.73 203 LR LR 10 50 53.2
comp=Z,4µm,18.7s,baz=22,slow=37
SUR Sutherland 70.73 203 P **P** **10 18 45.2 +2.4**
SUR P **P** **10 18 45.2 +2.4**
ASAJ Asahikawa 70.99 49 P **P** **10 18 42.6 -1.6**
comp=Z,12nm,0.9s,baz=223,slow=16,SNR=5.1
ASAJ LR LR 10 52 15.0
comp=Z,3µm,18.2s,baz=312,slow=38
comp=Z,12nm,0.9s
ASAJ Asahikawa 70.99 49 P **P** **10 18 43.4 -0.8**
ASAJ pmax pmax
comp=Z,63nm,1.7s
JKA Kamikawa-asahi 70.99 49 P **P** **10 18 43.4 -0.9**
ASCN Ascension 71.09 246 IAMs_20 IAMs_20 10 46 41.5
comp=Z,2µm,21.0s
INU Inuyama 71.58 59 P **P** **10 18 47.2 -0.8**
INU IAMs_20 IAMs_20 10 53 11.3
comp=Z,2µm,19.0s
MJB9 Matsu-Tunnel 71.83 58 P **P** **10 18 48.9 -0.6**
MAJO Matsushiro 71.83 58 P **P** **10 18 50.5 +1.0**
MAJO Matsushiro 71.83 58 P **P** **10 18 49.0 -0.5**
MAJO Matsushiro 71.83 58 IAMs_20 IAMs_20 10 55 37.5
comp=Z,3µm,20.0s
MAJO Matsushiro 71.83 58‖ *eP* **P** **10 18 49.3 -0.2**
MAJO pmax pmax
comp=Z,28nm,0.9s
MAJO MLR MLR
comp=Z,2µm,18.0s
MJAR Matsushiro Arr 71.83 58 P **P** **10 18 49.6 +0.1**
comp=Z,16nm,1.1s,baz=307,slow=7.5,SNR=21
MJAR LR LR 10 52 30.0
comp=Z,3µm,21.8s,baz=300,slow=38
comp=Z,16nm,1.1s
DRLN Deer Lake 72.67 318 P **P** **10 18 53.7 -0.5**
DRLN IAMs_20 IAMs_20 10 50 27.2
comp=Z,2µm,22.0s
JMM Marumori 72.95 56 P **P** **10 18 58.6 +2.5**
JMM Marumori 72.95 56 P **P** **10 18 55.5 -0.6**
JMM IAmb IAmb 10 19 04.6
comp=Z,82nm,0.9s
A21K Barrow 73.19 8 P **P** **10 18 56.2 -0.7**
baz=340
SMRI Semarang 73.27 111 IAMs_20 IAMs_20 10 53 34.9
comp=Z,3µm,20.0s
A36M Sachs Harbour 73.60 357 IAMs_20 IAMs_20 10 56 49.5
comp=Z,2µm,20.0s
A36M Sachs Harbour 73.60 357 P **P** **10 18 58.4 -1.0**
baz=7.4
A22K Sinclair Lake 73.67 7 P **P** **10 18 59.0 -0.7**
baz=342,SNR=15
A19K Wainwright 73.70 9 P **P** **10 18 59.6 -0.3**
baz=337,SNR=7.3
UGM Wanagama 73.88 112 IAMs_20 IAMs_20 10 50 45.0
comp=Z,2µm,21.0s
SCHQ Schefferville 74.15 326 P **P** **10 19 01.4 -1.4**
SCHQ IAmb IAmb 10 19 06.7
comp=Z,136nm,1.0s
SCHQ Schefferville 74.15 326 P **P** **10 19 01.3 -1.6**
comp=Z,73nm,0.8s,baz=48,slow=4.7,SNR=49
SCHQ LR LR 10 52 25.9
comp=Z,1µm,20.3s,baz=50,slow=36
comp=Z,73nm,0.8s
B18K Kokolik River 74.37 10 P **P** **10 19 02.8 -1.0**
baz=336,SNR=44
B20K Meade River 74.37 8 P **P** **10 19 03.8 0.0**
B20K IAmb IAmb 10 19 09.0
comp=Z,150nm,1.0s
B20K IAMs_20 IAMs_20 10 56 04.8
comp=Z,3µm,20.0s
B20K Meade River 74.37 8 P **P** **10 19 03.3 -0.6**
baz=340,SNR=38
B22K Teshekpuk Lake 74.46 7 IAMs_20 IAMs_20 10 55 21.0
comp=Z,2µm,19.0s
B22K Teshekpuk Lake 74.46 7 P **P** **10 19 04.2 -0.1**
baz=343,SNR=18
C16K Lisburne Hills 74.81 12 P **P** **10 19 06.2 -0.2**
baz=334,SNR=7.3
BKB Balikpapan 74.87 102 IAMs_20 IAMs_20 10 56 31.4
comp=Z,3µm,22.0s
C19K Lookout Ridge 74.92 9 IAMs_20 IAMs_20 10 57 29.3
comp=Z,3µm,19.0s
C19K Lookout Ridge 74.92 9 P **P** **10 19 06.5 -0.7**
baz=338,SNR=24
PWJI Pagerwojo 74.93 111 P **P** **10 19 03.5 -4.4**
comp=Z,33nm,0.9s
PET Petropavlovsk 74.95 35 IAMs_20 IAMs_20 10 55 32.3
comp=Z,2µm,19.0s
PET Petropavlovsk 74.95 35 *eP* P 10 18 59.8 -7.7
PET *eS* **SKiKP** **10 28 33.9 +2.2**
PET MLR MLR
comp=Z,2µm,16.0s
C17K DeLong Mountai 74.98 11 P **P** **10 19 07.1 -0.4**
baz=335,SNR=53
B21K Ikpikpuk River 75.03 7 IAMs_20 IAMs_20 10 56 25.1
comp=Z,3µm,20.0s
B21K Ikpikpuk River 75.03 7 P **P** **10 19 06.7 -0.9**
baz=342,SNR=48
C18K Utukok River 75.12 10 P **P** **10 19 07.8 -0.5**
C18K IAMs_20 IAMs_20 10 56 04.6
comp=Z,3µm,22.0s
C18K Utukok River 75.12 10 P **P** **10 19 07.8 -0.5**
baz=337,SNR=47
C23K Itkillik River 75.20 6 P **P** **10 19 08.8 +0.1**
C23K Itkillik River 75.20 6 P **P** **10 19 08.3 -0.4**
baz=346,SNR=61
RDOG Red Dog Mine 75.41 11 IAMs_20 IAMs_20 10 57 09.3
comp=Z,2µm,20.0s
RDOG Red Dog Mine 75.41 11 P **P** **10 19 10.0 +0.1**
baz=336,SNR=7.9
C21K Knifeblade Rid 75.45 8 P **P** **10 19 10.3 +0.2**
baz=342,SNR=62
C24K Franklin Bluff 75.47 5 P **P** **10 19 10.8 +0.5**
baz=347
C26K Camden Bay 75.53 4 P **P** **10 19 10.6 +0.1**
baz=351,SNR=19
D20K Etivluk River 75.66 8 P **P** **10 19 11.3 -0.1**
baz=341,SNR=33
D19K Kuna River 75.68 9 IAMs_20 IAMs_20 10 56 25.4
comp=Z,2µm,21.0s
D19K Kuna River 75.68 9 P **P** **10 19 11.4 -0.1**
baz=340
D17K Noatak River 75.70 11 P **P** **10 19 11.5 -0.1**
baz=335,SNR=66
C27K Jago River 75.88 4 P **P** **10 19 12.8 +0.2**
baz=352,SNR=67
D22K Ayikyak River 75.94 7 IAMs_20 IAMs_20 10 56 10.5
comp=Z,2µm,21.0s
D22K Ayikyak River 75.94 7 P **P** **10 19 13.2 +0.3**
baz=344
D24K Happy Valley 76.02 6 P **P** **10 19 13.2 -0.2**
baz=347,SNR=18
D25K Kavik River 76.03 5 P **P** **10 19 13.3 -0.2**
baz=349,SNR=58
D23K Nanushuk River 76.04 6 P **P** **10 19 13.6 0.0**
baz=346,SNR=52
E20K Nigu River 76.15 8 P **P** **10 19 14.1 -0.2**
baz=341,SNR=46
C36M Paulatuk 76.17 356 P **P** **10 19 12.8 -1.5**
C36M IAmb IAmb 10 19 17.9
comp=Z,142nm,0.9s
C36M Paulatuk 76.17 356 P **P** **10 19 13.9 -0.3**
baz=8.3,SNR=24
E21K Killik River 76.23 8 IAMs_20 IAMs_20 10 57 23.8
comp=Z,3µm,21.0s
E21K Killik River 76.23 8 P **P** **10 19 14.0 -0.7**
baz=343
E18K Tukpahlearik C 76.34 10 P **P** **10 19 15.0 -0.3**
E18K IAmb IAmb 10 19 19.9
comp=Z,147nm,1.1s
E18K IAMs_20 IAMs_20 10 58 55.9
comp=Z,3µm,20.0s
E18K Tukpahlearik C 76.34 10 P **P** **10 19 14.9 -0.3**
baz=338,SNR=48
MPSI Mapaga 76.37 99 P **P** **10 19 14.4 -1.9**
comp=Z,44nm,1.0s,comp=Z,608nm
D28M Stokes Point 76.38 2 P **P** **10 19 14.8 -0.6**
baz=356
D27M Malcolm River 76.39 3 P **P** **10 19 15.7 +0.1**
baz=354,SNR=49
TOLK Toolik Lake Re 76.46 6 P **P** **10 19 14.8 -1.2**
baz=347,SNR=95
E17K Hotham Inlet 76.47 11 P **P** **10 19 15.3 -0.7**
baz=337,SNR=48
TNA Tin City 76.76 14 P **P** **10 19 17.4 -0.2**
baz=332
E19K Redstone River 76.78 9 IAMs_20 IAMs_20 10 57 19.3
comp=Z,3µm,20.0s
E19K Redstone River 76.78 9 P **P** **10 19 17.7 -0.1**
baz=340
E23K Chandalar 77.02 6 P **P** **10 19 18.8 -0.4**
baz=347,SNR=38
JAGI Jajag, Banyuwa 77.03 110 P **P** **10 19 20.5 +0.6**
JAGI Jajag, Banyuwa 77.03 110 IAMs_20 IAMs_20 10 54 16.4
comp=Z,3µm,21.0s
E28M Babbage River 77.08 2 IAMs_20 IAMs_20 10 56 15.4
comp=Z,2µm,21.0s
E28M Babbage River 77.08 2 P **P** **10 19 19.1 -0.3**
baz=355,SNR=86
GBN Guysborough 77.10 317 P **P** **10 19 19.5 -0.4**
E24K Your Creek 77.10 6 P **P** **10 19 20.7 +1.1**
E24K IAmb IAmb 10 19 24.7
comp=Z,214nm,1.6s
E24K Your Creek 77.10 6 P **P** **10 19 19.5 -0.2**
baz=348,SNR=42
F14K Arctic Creek 77.15 13 P **P** **10 19 18.9 -0.9**
baz=333
F17K Baldwin Pennin 77.15 11 IAMs_20 IAMs_20 10 58 22.3
comp=Z,2µm,19.0s
F17K Baldwin Pennin 77.15 11 P **P** **10 19 19.2 -0.6**
baz=337,SNR=14
F18K Selawik 77.24 10 P **P** **10 19 19.7 -0.6**
baz=338
F15K North Star Dit 77.25 13 IAMs_20 IAMs_20 10 57 51.0
comp=Z,2µm,21.0s
F15K North Star Dit 77.25 13 P **P** **10 19 20.0 -0.4**
baz=334,SNR=16
DAV Davao City (W) 77.25 90 LR LR 10 58 06.9
comp=Z,862nm,19.0s,baz=346,slow=39
F19K Shaleruckik Mo 77.29 10 IAMs_20 IAMs_20 10 58 57.1
comp=Z,2µm,20.0s
F19K Shaleruckik Mo 77.29 10 P **P** **10 19 19.6 -1.1**
baz=340,SNR=64
F22K John River 77.32 7 P **P** **10 19 20.2 -0.6**
baz=345
E29M Blow River 77.34 2 P **P** **10 19 20.4 -0.5**
baz=357,SNR=182
F20K Avaraart Lake 77.36 9 IAMs_20 IAMs_20 10 57 47.7
comp=Z,3µm,20.0s

F20K	Avaraart Lake baz=342,SNR=37	77.36	9	P	P	10 19 20.4	-0.5
E27K	Coleen River baz=353,SNR=108	77.42	3	P	P	10 19 20.4	-0.9
F21K	Alatna River comp=Z,2µm,21.0s	77.45	8	IAMs_20	IAMs_20	10 58 06.2	
F21K	Alatna River baz=344,SNR=113	77.45	8	P	P	10 19 20.8	-0.8
INK	Inuvik	77.47	360	P	P	10 19 20.4	-1.1
INK	Inuvik baz=0.2,SNR=34	77.47	360	P	P	10 19 20.2	-1.3
INK	Inuvik comp=Z,2µm,20.2s,baz=354,slow=40	77.47	360	LR	LR	10 59 03.3	
INK	Inuvik	77.47	360	P	P	10 19 20.4	-1.1
INK	comp=Z,67nm,1.2s			pmax	pmax		
F24K	Squaw Lake baz=348,SNR=68	77.70	6	P	P	10 19 22.3	-0.6
F26K	Sheenjek River baz=351,SNR=44	77.78	4	P	P	10 19 22.8	-0.6
COLD	Coldfoot baz=346,SNR=93	77.78	6	P	P	10 19 22.7	-0.7
F25K	Christian Rive baz=350,SNR=59	77.79	5	P	P	10 19 23.1	-0.4
G16K	Koyuk River comp=Z,2µm,21.0s	77.93	12	IAMs_20	IAMs_20	10 58 29.1	
G16K	Koyuk River baz=336,SNR=41	77.93	12	P	P	10 19 23.7	-0.5
G22K	Bettles baz=345	77.95	7	P	P	10 19 24.4	+0.1
MRSI	Marisa comp=Z,45nm,0.5s	77.96	98	P	P	10 19 23.5	-1.7
G15K	Niukluk baz=335	78.00	13	P	P	10 19 24.1	-0.5
BMAR	Burnt Mountain	78.02	4	P	P	10 19 23.8	-0.9
G19K	Purcell Mounta comp=Z,2µm,22.0s	78.04	9	IAMs_20	IAMs_20	10 58 30.8	
G19K	Purcell Mounta baz=341,SNR=92	78.04	9	P	P	10 19 24.2	-0.6
G18K	Tagagawik comp=Z,3µm,22.0s	78.05	10	IAMs_20	IAMs_20	10 57 58.2	
G18K	Tagagawik baz=339	78.05	10	P	P	10 19 23.8	-1.1
F28M	Old Crow baz=355,SNR=77	78.06	2	P	P	10 19 23.8	-1.2
G17K	Kiwalik Mounta baz=338,SNR=40	78.11	11	P	P	10 19 24.9	-0.3
G21K	Allakaket comp=Z,2µm,21.0s	78.13	8	IAMs_20	IAMs_20	10 57 44.0	
G21K	Allakaket baz=344,SNR=72	78.13	8	P	P	10 19 24.2	-1.1
ANM	Nome baz=334,SNR=6.7	78.14	13	P	P	10 19 24.5	-1.0
F30M	Barrier River baz=358,SNR=98	78.16	1	P	P	10 19 24.8	-0.6
G23K	Bananza Creek comp=Z,2µm,20.0s	78.30	7	IAMs_20	IAMs_20	10 57 56.7	
G23K	Bananza Creek baz=346,SNR=51	78.30	7	P	P	10 19 25.4	-0.9
F31M	Tsiigehtchic baz=0.1,SNR=99	78.34	360	P	P	10 19 26.0	-0.4
BATG	Bathurst New B comp=Z,3µm,20.0s	78.46	320	IAMs_20	IAMs_20	10 54 08.3	
G24K	Hadweenzic Riv baz=349,SNR=97	78.53	6	P	P	10 19 26.5	-1.0
G26K	Porcupine Rive baz=352,SNR=114	78.54	4	P	P	10 19 26.7	-0.9
G25K	Bearman Lake baz=350,SNR=25	78.57	5	P	P	10 19 26.4	-1.3
IMAR	Indian Mountai	78.61	8	P	P	10 19 27.2	-0.8
H16K	Elim baz=336,SNR=13	78.65	12	P	P	10 19 27.4	-0.8
LMN	Caledonia Moun	78.67	318	P	P	10 19 29.3	+0.6
LMN	comp=Z,104nm,1.2s			IAmb	IAmb	10 19 33.0	
LMN	comp=Z,2µm,18.0s			IAMs_20	IAMs_20	10 58 11.9	
H19K	Roundabout Mou comp=Z,2µm,22.0s	78.71	9	IAMs_20	IAMs_20	10 58 50.5	
H19K	Roundabout Mou baz=341,SNR=35	78.71	9	P	P	10 19 28.1	-0.4
H17K	Granite Mounta baz=338,SNR=42	78.76	11	P	P	10 19 28.0	-0.8
G30M	tAoh Zrail Nji baz=358,SNR=113	78.78	1	P	P	10 19 28.1	-0.9
G27K	Doyon Strip baz=353,SNR=152	78.79	3	P	P	10 19 28.1	-1.0
H18K	Honhosa River baz=340,SNR=36	78.79	10	P	P	10 19 27.9	-1.1
G29M	Pine Creek baz=356,SNR=94	78.82	2	P	P	10 19 28.1	-1.1
G31M	Satah River baz=360,SNR=164	78.86	0	P	P	10 19 28.3	-0.9
H20K	Anotlenegga Mo baz=342,SNR=85	78.95	9	P	P	10 19 28.7	-1.1
H22K	Ishtalitna Cre baz=345	78.96	7	P	P	10 19 29.4	-0.6
H21K	Melozitna Rive comp=Z,2µm,21.0s	79.04	8	IAMs_20	IAMs_20	10 57 38.1	
H21K	Melozitna Rive baz=344,SNR=107	79.04	8	P	P	10 19 29.6	-0.8
H25L	Birch Creek baz=350	79.09	5	P	P	10 19 30.1	-0.4
H23K	Yukon River	79.21	7	P	P	10 19 31.4	+0.1
H23K	comp=Z,149nm,1.1s			IAmb	IAmb	10 19 37.0	
H23K	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	10 58 33.7	
H23K	Yukon River baz=347,SNR=96	79.21	7	P	P	10 19 31.0	-0.4
TWSI	Taliwang, Sumb	79.32	108	P	P	10 19 26.5	-6.1
H24K	Noodor Dome	79.35	6	P	P	10 19 32.0	-0.1
H24K	comp=Z,109nm,1.3s			IAmb	IAmb	10 19 37.4	
H24K	Noodor Dome baz=348,SNR=52	79.35	6	P	P	10 19 31.5	-0.6
KAPI	Kappang comp=Z,731nm,18.1s,baz=306,slow=40	79.37	104	LR	LR	10 59 51.6	
H27K	Steamboat Moun baz=354,SNR=147	79.37	3	P	P	10 19 31.9	-0.3
EPYK	Eagle Plains baz=358,SNR=75	79.39	1	P	P	10 19 31.6	-0.7
GCSA	Galena City Sc baz=341	79.39	10	P	P	10 19 32.0	-0.3
H29M	Whitestone baz=356,SNR=73	79.50	2	P	P	10 19 32.4	-0.5
I17K	Unalakleet baz=338,SNR=37	79.61	12	P	P	10 19 32.7	-0.7
JCJ	Chichijima comp=Z,1µm,21.6s,baz=310,slow=37	79.66	64	LR	LR	10 56 42.2	
I20K	Naaghedeneel comp=Z,3µm,21.0s	79.67	9	IAMs_20	IAMs_20	10 59 19.8	
I20K	Naaghedeneel baz=343,SNR=39	79.67	9	P	P	10 19 32.9	-0.8
BKSI	Bulukumba	79.85	104	P	P	10 19 34.6	-0.9
BKSI	Bulukumba	79.85	104	P	P	10 19 32.7	-2.8
PRP	Porcupine Dome baz=350,SNR=21	79.85	5	P	P	10 19 34.3	-0.6
MLY	Manley comp=Z,2µm,22.0s	79.87	7	IAMs_20	IAMs_20	10 58 25.1	
MLY	Manley baz=346,SNR=102	79.87	7	P	P	10 19 34.6	-0.3
PQI	Presque Isle comp=Z,3µm,19.0s	79.88	320	IAMs_20	IAMs_20	10 57 01.8	
I23K	Minto, Yukon-K comp=Z,2µm,21.0s	79.89	7	IAMs_20	IAMs_20	10 59 16.0	
I23K	Minto, Yukon-K baz=347,SNR=50	79.89	7	P	P	10 19 34.7	-0.3
I27K	Kandik River baz=354,SNR=59	80.00	3	P	P	10 19 35.3	-0.3
PLAI	Plampang	80.07	108	P	P	10 19 37.6	+0.9
PLAI	Plampang	80.07	108	P	P	10 19 25.7	-11
PLAI	Plampang comp=Z,56nm,0.7s,comp=Z,1µm	80.07	108	P	P	10 19 31.2	-5.5
POKR	Poker Plat Res	80.10	6	P	P	10 19 36.4	+0.3
POKR	comp=Z,183nm,1.1s			IAmb	IAmb	10 19 41.4	
POKR	Poker Plat Res baz=349,SNR=42	80.10	6	P	P	10 19 35.4	-0.7
J14K	Nanvaranak Lak	80.14	13	P	P	10 19 36.2	-0.1
J14K	comp=Z,105nm,1.1s			IAmb	IAmb	10 19 41.3	
J14K	Nanvaranak Lak baz=336,SNR=26	80.14	13	P	P	10 19 36.0	-0.4
D62A	Allapoint, All comp=Z,2µm,20.0s	80.16	321	IAMs_20	IAMs_20	10 55 19.0	
J16K	Anvik River comp=Z,2µm,20.0s	80.18	12	IAMs_20	IAMs_20	11 01 23.6	
J16K	Anvik River baz=338,SNR=30	80.18	12	P	P	10 19 35.8	-0.8
MDM	Murphy Dome comp=Z,2µm,20.0s	80.18	6	IAMs_20	IAMs_20	10 59 03.6	
I26K	Coal Creek Min baz=352	80.21	4	P	P	10 19 35.7	-1.0
I28M	Miner Creek baz=355,SNR=139	80.22	3	P	P	10 19 35.7	-1.2
GGN	Saint George comp=Z,2µm,21.0s	80.25	319	IAMs_20	IAMs_20	10 55 24.6	
J19K	Poorman comp=Z,2µm,20.0s	80.28	10	IAMs_20	IAMs_20	10 58 55.1	
J19K	Poorman baz=342,SNR=83	80.28	10	P	P	10 19 36.3	-0.8
COLA	College	80.30	6	P	P	10 19 37.2	+0.1
COLA	College	80.30	6	P	P	10 19 37.1	-0.1
COLA	comp=Z,176nm,1.1s			IAmb	IAmb	10 19 41.9	
COLA	College baz=348	80.30	6	P	P	10 19 35.7	-1.4
COLA	College	80.30	6	P	P	10 19 37.1	-0.1
COLA	comp=Z,176nm,1.1s			pmax	pmax		
COLA				MLR	MLR		
J20K	comp=Z,2µm,20.0s						
	Nowinta River baz=343,SNR=77	80.30	9	P	P	10 19 36.2	-1.0
J17K	VABM Dome comp=Z,3µm,20.0s	80.33	11	IAMs_20	IAMs_20	11 00 31.4	
J17K	VABM Dome baz=339,SNR=24	80.33	11	P	P	10 19 36.4	-1.0
I29M	Ogilvie Camp, baz=356,SNR=77	80.36	2	P	P	10 19 36.2	-1.4
NEA2	Nenana comp=Z,2µm,20.0s	80.46	7	IAMs_20	IAMs_20	10 59 43.1	
NEA2	Nenana baz=347,SNR=42	80.46	7	P	P	10 19 37.2	-0.9
IL31		80.48	6	P	P	10 19 37.0	-1.1
ILAR	Eielson Array	80.48	6	P	P	10 19 37.6	-0.5
ILAR	Eielson Array comp=Z,19nm,0.8s,baz=332,slow=4.0,SNR=43	80.48	6	P	P	10 19 37.1	-1.0
ILAR				PKKPbc	PKKPbc	10 38 18.6	-1.0
ILAR	comp=Z,1.1nm,0.7s,baz=214,slow=2.4,SNR=14			LR	LR	11 00 15.7	
ILAR	comp=Z,850nm,20.3s,baz=334,slow=39 comp=Z,19nm,0.8s	80.48	6	P	P	10 19 37.7	-0.5
LMQ	La Malbaie comp=Z,2µm,21.0s	80.50	322	IAMs_20	IAMs_20	10 54 41.1	
CCB	Clear Creek Bu comp=Z,2µm,20.0s	80.53	6	IAMs_20	IAMs_20	10 59 24.8	
I30M	Mount Dempster baz=358,SNR=150	80.55	1	P	P	10 19 37.8	-0.9
F64A	Sherman comp=Z,3µm,20.0s	80.58	320	IAMs_20	IAMs_20	10 55 22.3	
G65A	Princeton comp=Z,3µm,20.0s	80.59	319	IAMs_20	IAMs_20	10 55 44.6	
J18K	Innoko River baz=341,SNR=53	80.63	10	P	P	10 19 38.2	-0.8
K13K	Kusilvak Mount comp=Z,2µm,21.0s	80.66	14	IAMs_20	IAMs_20	11 00 06.4	
K13K	Kusilvak Mount baz=335	80.66	14	P	P	10 19 38.1	-1.1
WRH	Wood River Hil	80.67	6	IAMs_20	IAMs_20	10 59 27.6	
E62A	comp=Z,2µm,21.0s Clayton Lake comp=Z,2µm,20.0s	80.70	321	IAMs_20	IAMs_20	10 57 27.5	
BPAW	Bear Paw Mtn. comp=Z,2µm,21.0s	80.75	8	IAMs_20	IAMs_20	10 59 26.4	
BPAW	Bear Paw Mtn. baz=346,SNR=74	80.75	8	P	P	10 19 38.5	-1.2
J25K	Salcha River, comp=Z,2µm,20.0s	80.75	5	IAMs_20	IAMs_20	11 02 19.7	
J25K	Salcha River, baz=350,SNR=82	80.75	5	P	P	10 19 38.9	-0.9
HDA	Harding Lake baz=349,SNR=34	80.83	6	P	P	10 19 40.0	-0.1
BWN	Browne comp=Z,2µm,20.0s	80.84	7	IAMs_20	IAMs_20	10 59 55.4	
EGAK	Eagle baz=354,SNR=102	80.84	3	P	P	10 19 39.4	-0.7
EMMW	East Machias comp=Z,2µm,21.0s	80.85	319	IAMs_20	IAMs_20	10 55 43.5	
K15K	Wolf Creek Mou comp=Z,2µm,20.0s	80.94	13	IAMs_20	IAMs_20	11 01 37.5	
K15K	Wolf Creek Mou baz=337,SNR=29	80.94	13	P	P	10 19 40.7	0.0
J26L	Joseph Creek baz=352,SNR=73	80.99	4	P	P	10 19 40.5	-0.5
K17K	Iditarod	81.09	11	P	P	10 19 41.3	-0.1
K17K	comp=Z,162nm,1.2s			IAmb	IAmb	10 19 46.3	
K17K	Iditarod baz=340,SNR=43	81.09	11	P	P	10 19 41.4	-0.1
K20K	Telida	81.10	9	P	P	10 19 41.3	-0.3
K20K	comp=Z,142nm,1.1s			IAmb	IAmb	10 19 46.6	
K20K	comp=Z,3µm,22.0s			IAMs_20	IAMs_20	11 00 24.7	
K20K	Telida baz=343,SNR=82	81.10	9	P	P	10 19 41.4	-0.2
J30M	Hart River baz=358,SNR=139	81.19	1	P	P	10 19 41.6	-0.6
TTA	Tatalina	81.24	10	P	P	10 19 45.5	+3.1
TTA	Tatalina baz=342,SNR=20	81.24	10	P	P	10 19 41.6	-0.8
J29N	Klondike Camp baz=356	81.28	2	P	P	10 19 41.6	-0.9
MCK	McKinley baz=347,SNR=34	81.32	7	P	P	10 19 42.2	-0.5
F62A	Pittston Farm, comp=Z,2µm,19.0s	81.41	321	IAMs_20	IAMs_20	10 57 48.2	
PKME	Peaks-Kenny Pk comp=Z,3µm,21.0s	81.47	320	IAMs_20	IAMs_20	10 55 59.9	
PKME	Peaks-Kenny Pk baz=49,SNR=5.3	81.47	320	P	P	10 19 43.4	-0.4
SCRK	Sand Creek comp=Z,2µm,21.0s	81.48	5	IAMs_20	IAMs_20	11 02 15.6	
SCRK	Sand Creek baz=352,SNR=160	81.48	5	P	P	10 19 42.4	-1.3
L15K	Ungalak Mounta baz=337,SNR=17	81.51	13	P	P	10 19 43.3	-0.4
K24K	Donnelly Dome baz=350,SNR=38	81.53	5	P	P	10 19 44.0	+0.1
K27K	Chicken comp=Z,2µm,20.0s	81.54	4	IAMs_20	IAMs_20	11 03 04.1	
K27K	Chicken baz=353	81.54	4	P	P	10 19 43.5	-0.4
L14K	Kuka Creek comp=Z,2µm,19.0s	81.60	14	IAMs_20	IAMs_20	11 02 13.4	
L14K	Kuka Creek baz=336	81.60	14	P	P	10 19 43.5	-0.6
DAWY	Dawson baz=355,SNR=85	81.63	3	P	P	10 19 43.8	-0.6
L17K	Donlin baz=340,SNR=23	81.64	11	P	P	10 19 44.1	-0.3
L18K	Granite Mounta baz=341,SNR=27	81.81	11	P	P	10 19 45.0	-0.3
L16K	Owhat River comp=Z,2µm,20.0s	81.84	12	IAMs_20	IAMs_20	11 02 25.5	
L16K	Owhat River baz=339,SNR=22	81.84	12	P	P	10 19 44.2	-1.2
K29M	Barlow Dome comp=Z,2µm,22.0s	81.91	2	IAMs_20	IAMs_20	11 01 54.7	
K29M	Barlow Dome baz=357,SNR=109	81.91	2	P	P	10 19 44.4	-1.6
SHEM	Shemya Is, Ala comp=Z,2µm,18.4s,baz=309,slow=39	81.96	29	LR	LR	11 00 22.3	
L20K	Farewell, AK baz=343	81.97	9	P	P	10 19 45.1	-1.1
YKA	Yellowknife Ar	82.08	351	P	P	10 19 47.2	+0.5
YKA	Yellowknife Ar comp=Z,11nm,0.8s,baz=19,slow=5.7,SNR=14	82.08	351	P	P	10 19 45.0	-1.7
YKA	comp=Z,1µm,20.7s,baz=14,slow=38 comp=Z,11nm,0.8s			LR	LR	10 58 57.3	
YKA	Yellowknife Ar	82.08	351	P	P	10 19 47.2	+0.5
DHY	Denali Highway	82.11	6	P	P	10 19 46.2	-0.8
DHY	comp=Z,225nm,2.0s			IAmb	IAmb	10 19 51.1	
DHY	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	11 00 45.6	
DHY	Denali Highway baz=349,SNR=36	82.11	6	P	P	10 19 46.3	-0.8
L19K	White Mountain baz=343,SNR=32	82.12	10	P	P	10 19 46.2	-0.7
WVL	Waterville comp=Z,3µm,20.0s	82.13	320	IAMs_20	IAMs_20	10 56 40.4	
G62A	West of Eustis comp=Z,2µm,20.0s	82.16	320	IAMs_20	IAMs_20	10 59 22.1	
MAYO	Mayo, Yukon baz=358,SNR=49	82.18	1	P	P	10 19 46.7	-0.5
WRGLY	Wrigley baz=8.6,SNR=35	82.22	355	P	P	10 19 47.0	-0.4
WAT1	Susitna Watana baz=348	82.24	7	P	P	10 19 46.7	-0.9
M14K	Bethel baz=337	82.28	14	P	P	10 19 47.3	-0.4
M13K	Dall Lake comp=Z,2µm,19.0s	82.31	14	IAMs_20	IAMs_20	11 03 34.1	
M13K	Dall Lake baz=336,SNR=6.2	82.31	14	P	P	10 19 47.2	-0.7
PAX	Paxson baz=350,SNR=35	82.37	5	P	P	10 19 47.9	-0.5
M19K	Big River Lodg comp=Z,2µm,20.0s	82.45	10	IAMs_20	IAMs_20	11 01 39.4	
M19K	Big River Lodg baz=343,SNR=34	82.45	10	P	P	10 19 47.7	-0.9
L26K	Log Cabin Wild baz=352,SNR=53	82.47	4	P	P	10 19 48.2	-0.5
M17K	Holitna River comp=Z,2µm,20.0s	82.47	11	IAMs_20	IAMs_20	11 01 46.1	
M17K	Holitna River baz=341,SNR=25	82.47	11	P	P	10 19 48.6	-0.2
CUT	Chulitna comp=Z,2µm,22.0s	82.48	8	IAMs_20	IAMs_20	11 00 09.1	
CUT	Chulitna baz=346	82.48	8	P	P	10 19 48.8	0.0
BCAR	Beaver Creek A	82.52	4	P	P	10 19 48.6	-0.5
L27K	Beaver Creek, baz=353,SNR=95	82.52	4	P	P	10 19 49.0	-0.1
WAT6	Susitna Watana baz=348,SNR=38	82.56	6	P	P	10 19 48.4	-1.0
M15K	Kasigluk River baz=338,SNR=10	82.57	13	P	P	10 19 49.0	-0.3
M16K	Timber Creek comp=Z,2µm,20.0s	82.58	12	IAMs_20	IAMs_20	11 01 28.9	
M16K	Timber Creek baz=339,SNR=25	82.58	12	P	P	10 19 49.0	-0.3
L29M	L29M baz=356,SNR=41	82.62	2	P	P	10 19 48.7	-0.9
M18K	Stony River baz=342,SNR=20	82.64	10	P	P	10 19 48.7	-0.9
M20K	Styx River comp=Z,3µm,22.0s	82.64	9	IAMs_20	IAMs_20	10 59 57.5	
M20K	Styx River baz=344,SNR=21	82.64	9	P	P	10 19 48.8	-0.9
SKT	Skwentna comp=Z,2µm,20.0s	82.75	8	IAMs_20	IAMs_20	11 01 16.2	
SKT	Skwentna baz=345,SNR=54	82.75	8	P	P	10 19 49.6	-0.6
H62A	Milan comp=Z,3µm,21.0s	82.92	320	IAMs_20	IAMs_20	10 56 44.2	
HARP	HAARP baz=351,SNR=24	82.96	5	P	P	10 19 50.6	-0.7
I63A	Otisfield comp=Z,2µm,20.0s	82.97	320	IAMs_20	IAMs_20	10 56 55.5	
SVW2	Sparrevohn	83.05	10	P	P	10 19 54.4	+2.6
N14K	Kuskokwak Cree baz=337,SNR=8.6	83.10	14	P	P	10 19 51.7	-0.3
M26K	Nabesna, AK	83.11	4	P	P	10 19 52.0	-0.2
M26K	comp=Z,85nm,1.2s			IAmb	IAmb	10 19 57.2	
M26K	Nabesna, AK baz=352,SNR=46	83.11	4	P	P	10 19 51.7	-0.5
BASI	Baing, Sumba	83.11	107	P	P	10 19 50.2	-2.6
BASI	Baing, Sumba comp=Z,181nm,1.5s	83.11	107	P	P	10 19 52.7	-0.1
EDFI	Ende, Flores	83.12	105	P	P	10 19 49.0	-4.0
EDFI	Ende, Flores	83.12	105	P	P	10 19 48.6	-4.4
N16K	Nishlik Lake baz=340,SNR=17	83.12	12	P	P	10 19 50.5	-1.7
M22K	Willow	83.13	8	P	P	10 19 52.0	-0.1
M22K	comp=Z,119nm,1.0s			IAmb	IAmb	10 19 57.0	
M22K	comp=Z,3µm,21.0s			IAMs_20	IAMs_20	11 01 02.3	
M22K	Willow baz=346,SNR=16	83.13	8	P	P	10 19 50.8	-1.3
M24K	Tolsona, Glenn baz=350,SNR=45	83.17	6	P	P	10 19 51.3	-1.1
N15K	Kwethluk River comp=Z,2µm,18.0s	83.17	13	IAMs_20	IAMs_20	11 02 40.0	
N15K	Kwethluk River baz=338,SNR=8.2	83.17	13	P	P	10 19 51.8	-0.7
M30M	Minto, Yukon baz=358,SNR=23	83.19	1	P	P	10 19 52.0	-0.6
M27K	Edge Creek, AK baz=353,SNR=72	83.22	4	P	P	10 19 52.1	-0.7
SML	Sawmill baz=348,SNR=32	83.27	7	P	P	10 19 51.4	-1.6
M29M	Somme Creek comp=Z,2µm,21.0s	83.28	2	IAMs_20	IAMs_20	11 04 01.1	
M29M	Somme Creek baz=356,SNR=45	83.28	2	P	P	10 19 52.5	-0.7
SCM	Sheep Creek Mo baz=349,SNR=26	83.34	6	P	P	10 19 53.2	-0.1
M23K	Glacier View baz=348	83.34	7	P	P	10 19 52.3	-1.0
N17K	Nushagak Hills comp=Z,2µm,19.0s	83.34	11	IAMs_20	IAMs_20	11 02 34.1	
N17K	Nushagak Hills baz=341,SNR=8.3	83.34	11	P	P	10 19 51.8	-1.5
SUA	Susitna One comp=Z,2µm,22.0s	83.34	8	IAMs_20	IAMs_20	11 00 23.9	
SUA	Susitna One baz=346,SNR=21	83.34	8	P	P	10 19 51.9	-1.5
PMR	Palmer	83.40	7	P	P	10 19 55.5	+2.0
PMR	Palmer baz=347,SNR=57	83.40	7	P	P	10 19 52.9	-0.6
N18K	Kilae Creek baz=342,SNR=30	83.40	11	P	P	10 19 53.8	+0.2
N20K	Mount Spurr baz=345	83.42	9	P	P	10 19 52.9	-0.9
SPCR	Spurr Chakacha baz=345	83.42	9	P	P	10 19 43.3	-10
N19K	Bonanza Creek baz=343,SNR=50	83.48	10	P	P	10 19 53.6	-0.6
I62A	Tamworth comp=Z,2µm,19.0s	83.49	320	IAMs_20	IAMs_20	11 00 11.3	
MMRI	Maumere	83.49	105	P	P	10 19 53.6	-1.2
MMRI	Maumere	83.49	105	P	P	10 20 04.7	+10
LBNH	Lisbon comp=Z,2µm,21.0s	83.55	320	IAMs_20	IAMs_20	10 57 12.9	
LBNH	Lisbon baz=47	83.55	320	P	P	10 19 54.7	0.0
MNTQ	Montreal, Queb comp=Z,2µm,18.0s	83.56	322	IAMs_20	IAMs_20	10 59 10.1	
FARO	Faro, Yukon baz=0.4,SNR=80	83.57	360	P	P	10 19 53.8	-0.7
VLDQ	Val d'Or comp=Z,2µm,19.0s	83.57	326	IAMs_20	IAMs_20	11 03 01.2	
SPIA	Saint Paul Isl baz=330	83.58	19	P	P	10 19 53.8	-0.7
M31M	Drury Creek, Y comp=Z,2µm,20.0s	83.60	0	IAMs_20	IAMs_20	11 02 42.4	
M31M	Drury Creek, Y baz=360,SNR=54	83.60	0	P	P	10 19 54.3	-0.3
KNK	Knik Glacier baz=348,SNR=21	83.64	7	P	P	10 19 54.6	-0.2
FIS	Fire Island comp=Z,3µm,22.0s	83.72	8	IAMs_20	IAMs_20	11 00 57.8	
N25K	Chitina, Valde baz=351,SNR=17	83.79	5	P	P	10 19 54.8	-1.0
KLU	Klutina baz=350,SNR=72	83.80	6	P	P	10 19 55.0	-0.7
O14K	Tigyukauivet M comp=Z,2µm,21.0s	83.80	14	IAMs_20	IAMs_20	11 03 31.3	
O14K	Tigyukauivet M baz=338,SNR=8.6	83.80	14	P	P	10 19 55.0	-0.6
RC01	Rabbit Creek A comp=Z,2µm,21.0s	83.82	8	IAMs_20	IAMs_20	11 01 22.6	
RC01	Rabbit Creek A baz=347,SNR=6.8	83.82	8	P	P	10 19 55.8	+0.1
YUK3	Moose Creek baz=354,SNR=78	83.87	3	P	P	10 19 55.5	-0.8
VT1	Waterbury comp=Z,2µm,21.0s	83.92	321	IAMs_20	IAMs_20	10 57 26.9	
CAPN	Captain Cook N comp=Z,2µm,22.0s	83.97	8	IAMs_20	IAMs_20	10 59 19.6	
CAPN	Captain Cook N baz=346	83.97	8	P	P	10 19 56.2	-0.3
O16K	Kokwok River B comp=Z,2µm,19.0s	84.07	12	IAMs_20	IAMs_20	11 03 44.4	
O16K	Kokwok River B baz=340,SNR=14	84.07	12	P	P	10 19 56.6	-0.4

O17K	Koliganek Bris	84.07	12	P	P	10 19 56.2	-0.8	
	baz=341,SNR=25							
O19K	Port Alsworth	84.10	10	IAMs_20	IAMs_20	11 02 17.1		
	comp=Z,2µm,22.0s							
O19K	Port Alsworth	84.10	10	P	P	10 19 57.3	+0.1	
	baz=343							
HNH	Hanover	84.11	320	IAMs_20	IAMs_20	10 59 39.6		
	comp=Z,2µm,19.0s							
MCARA	McCarthy VSAT	84.12	4	P	P	10 19 57.2	-0.1	
MCARA				IAmb	IAmb	10 20 06.1		
	comp=Z,45nm,1.0s							
MCARA	McCarthy VSAT	84.12	4	P	P	10 19 56.3	-1.0	
	baz=352,SNR=6.7							
O15K	Ungalikthiuk R	84.15	13	P	P	10 19 56.5	-0.9	
	baz=339,SNR=8.3							
TGTN	Hyland Airport	84.17	357	P	P	10 19 57.1	-0.5	
	baz=4.6,SNR=28							
PWL	Port Wells	84.20	7	P	P	10 19 57.4	-0.3	
PWL				IAmb	IAmb	10 20 02.3		
	comp=Z,116nm,1.0s							
PWL	Port Wells	84.20	7	P	P	10 19 57.1	-0.6	
	baz=348,SNR=25							
O18K	Koktuh Hills	84.30	11	IAMs_20	IAMs_20	11 02 43.2		
	comp=Z,2µm,22.0s							
O18K	Koktuh Hills	84.30	11	P	P	10 19 57.3	-1.0	
	baz=342,SNR=14							
GLI	Glacier Island	84.30	7	IAMs_20	IAMs_20	11 02 15.2		
	comp=Z,2µm,22.0s							
GLI	Glacier Island	84.30	7	P	P	10 19 56.8	-1.4	
	baz=349							
N31M	Braeburn, Yuko	84.30	1	IAMs_20	IAMs_20	11 03 41.1		
	comp=Z,2µm,22.0s							
N31M	Braeburn, Yuko	84.30	1	P	P	10 19 57.7	-0.6	
	baz=358,SNR=19							
N30M	Aishikik Lake	84.31	2	IAMs_20	IAMs_20	11 05 01.1		
	comp=Z,2µm,20.0s							
N30M	Aishikik Lake	84.31	2	P	P	10 19 57.5	-0.8	
	baz=357,SNR=19							
YUK4	Talbot Arm	84.38	2	P	P	10 19 57.3	-1.6	
	baz=356,SNR=33							
YUK8	Steele Glacier	84.39	3	P	P	10 19 58.3	-0.7	
	baz=355							
O22K	Cooper Landing	84.42	8	IAMs_20	IAMs_20	11 01 53.4		
	comp=Z,3µm,21.0s							
O22K	Cooper Landing	84.42	8	P	P	10 19 58.2	-0.6	
	baz=347,SNR=5.9							
BMRM	Bremner River	84.42	5	P	P	10 19 58.5	-0.4	
	baz=351,SNR=7.7							
BCX	Boston College	84.44	319	IAMs_20	IAMs_20	11 02 45.6		
	comp=Z,2µm,20.0s							
O20K	Slope Mountain	84.45	9	P	P	10 19 58.4	-0.7	
	baz=344							
WES	Weston	84.49	319	IAMs_20	IAMs_20	10 57 40.8		
	comp=Z,3µm,21.0s							
J61A	Chester	84.50	320	IAMs_20	IAMs_20	11 00 40.9		
	comp=Z,2µm,18.0s							
L64A	Middleborough	84.53	318	IAMs_20	IAMs_20	10 58 02.9		
	comp=Z,3µm,20.0s							
HRV	Adam Dziewonsk	84.54	319	IAMs_20	IAMs_20	10 57 54.0		
	comp=Z,3µm,21.0s							
HRV	Adam Dziewonsk	84.54	319	P	P	10 19 58.9	-0.9	
	baz=47							
P16K	Nushagak River	84.62	12	P	P	10 19 59.3	-0.5	
	baz=340							
CTG	Chitna Glacier	84.64	4	P	P	10 19 59.2	-0.9	
	baz=354,SNR=24							
N32M	Quiet Lake	84.65	360	IAMs_20	IAMs_20	11 00 55.2		
	comp=Z,2µm,22.0s							
N32M	Quiet Lake	84.65	360	P	P	10 19 59.1	-0.9	
	baz=0.6							
LONY	Lake Ozonia	84.67	322	IAMs_20	IAMs_20	10 59 52.3		
	comp=Z,2µm,19.0s							
LONY	Lake Ozonia	84.67	322	P	P	10 19 59.5	-0.9	
	baz=45,SNR=16							
M65A	Busby, Falmout	84.67	318	IAMs_20	IAMs_20	11 01 42.8		
	comp=Z,2µm,19.0s							
M65A	Busby, Falmout	84.67	318	P	P	10 19 59.9	-0.5	
	baz=48							
P17K	Kvichak River	84.73	11	P	P	10 20 00.0	-0.3	
	baz=342,SNR=20							
P18K	Big Mountain,	84.73	11	IAMs_20	IAMs_20	11 02 43.8		
	comp=Z,2µm,22.0s							
P18K	Big Mountain,	84.73	11	P	P	10 19 59.9	-0.5	
	baz=342							
CRQE	Cirque	84.75	5	P	P	10 20 00.2	-0.5	
	baz=352,SNR=32							
EYAK	Cordova Ski Ar	84.75	6	P	P	10 20 01.1	+0.7	
EYAK	Cordova Ski Ar	84.75	6	P	P	10 20 00.3	-0.1	
	baz=350,SNR=15							
WBO	Williamsburg	84.75	323	IAMs_20	IAMs_20	10 59 56.3		
	comp=Z,2µm,20.0s							
P19K	Oil Pt	84.78	10	P	P	10 19 59.7	-1.0	
	baz=344							
YUK6	Outpost Mounta	84.79	2	P	P	10 20 00.1	-0.8	
	baz=356,SNR=13							
K62A	Royalston	84.79	319	IAMs_20	IAMs_20	10 58 09.8		
	comp=Z,2µm,20.0s							
SEW	Seward	84.82	8	P	P	10 20 00.6	-0.2	
	baz=347,SNR=21							
HIN	Hinchinbrook I	84.83	6	IAMs_20	IAMs_20	11 02 32.2		
	comp=Z,2µm,21.0s							
O28M	Mount Upton	84.89	3	P	P	10 20 01.0	-0.6	
	baz=355,SNR=15							
NCB	Newcomb	84.94	321	IAMs_20	IAMs_20	10 57 35.4		
	comp=Z,2µm,21.0s							
BRLK	Bradley Lake	84.98	9	IAMs_20	IAMs_20	11 01 45.5		
	comp=Z,2µm,22.0s							
HOM	Homer	84.99	9	IAMs_20	IAMs_20	11 02 59.5		
	comp=Z,3µm,21.0s							
HOM	Homer	84.99	9	P	P	10 20 01.8	+0.1	
	baz=345							
RAGM	Ragged Mountai	84.99	5	IAMs_20	IAMs_20	11 04 31.5		
	comp=Z,2µm,20.0s							
O30N	Mendenhall	85.02	1	IAMs_20	IAMs_20	11 03 41.2		
	comp=Z,2µm,20.0s							
O30N	Mendenhall	85.02	1	P	P	10 20 01.4	-0.5	
	baz=358,SNR=20							
BRSE	Bradley Lake S	85.02	9	P	P	10 20 01.2	-0.6	
	baz=346							
ACCN	Adirondack Com	85.06	321	IAMs_20	IAMs_20	11 00 10.7		
	comp=Z,2µm,20.0s							
WAX	Waxell Ridge	85.06	5	IAMs_20	IAMs_20	11 05 17.3		
	comp=Z,2µm,20.0s							
P23K	Montague Islan	85.14	7	P	P	10 20 02.5	+0.1	
	baz=349,SNR=8.6							
WHY	Whitehorse	85.14	1	P	P	10 20 02.3	-0.3	
WHY	Whitehorse	85.14	1	P	P	10 20 01.8	-0.8	
	baz=359							
CNPM	China Poot	85.17	9	P	P	10 20 02.3	-0.3	
CNPM				IAmb	IAmb	10 20 06.8		
	comp=Z,133nm,1.2s							
CNPM				IAMs_20	IAMs_20	11 01 15.2		
	comp=Z,3µm,22.0s							
L61B	Northampton	85.18	319	P	P	10 20 02.4	-0.6	
	baz=46							
Q16K	King Salmon	85.18	12	P	P	10 20 02.4	-0.2	
	baz=341							
KOTAN	Kotaneelee Air	85.34	355	P	P	10 20 03.4	0.0	
	baz=8.1,SNR=9.2							
BGLC	Bering Glacier	85.36	5	P	P	10 20 03.5	0.0	
	baz=352							
UCCT	U. Connecticut	85.38	319	IAMs_20	IAMs_20	10 58 28.5		
	comp=Z,3µm,22.0s							
MESA	MESA	85.39	4	P	P	10 20 04.6	+0.7	
MESA				IAmb	IAmb	10 20 09.3		
	comp=Z,133nm,1.2s							
MESA	MESA	85.39	4	P	P	10 20 03.4	-0.5	
	baz=353,SNR=5.5							
Q19K	Cape Douglas,	85.42	10	P	P	10 20 03.5	-0.4	
	baz=344							
O29M	Mount Kennedy	85.42	2	P	P	10 20 03.3	-0.7	
	baz=356							
J59A	Piesco	85.44	321	IAMs_20	IAMs_20	10 58 00.7		
	comp=Z,2µm,20.0s							
KAIM	Kayak Island	85.47	5	P	P	10 20 03.8	-0.3	
	baz=351							
Q18K	Katmai Hardscr	85.48	11	P	P	10 20 03.8	-0.5	
	baz=343,SNR=7.5							
M63A	Gales Ferry	85.55	318	IAMs_20	IAMs_20	10 58 33.0		
	comp=Z,2µm,20.0s							
PINM	Pinnacle	85.56	3	P	P	10 20 04.0	-0.6	
	baz=355,SNR=12							
P33M	Teslin, Yukon	85.59	360	P	P	10 20 03.9	-0.9	
	baz=0.8,SNR=37							
WTLY	Watson Lake, Y	85.61	358	P	P	10 20 04.4	-0.4	
	baz=4.2,SNR=5.6							
P30M	Million Dollar	85.65	2	P	P	10 20 05.1	+0.1	
	baz=357							
Q17K	Contact Creek	85.70	12	P	P	10 20 04.6	-0.8	
	baz=342,SNR=14							
SOEI	Soe	85.77	105	P	P	10 20 06.5	+0.1	
SOEI	Soe	85.77	105	IAMs_20	IAMs_20	11 03 12.6		
	comp=Z,2µm,20.0s							
SOEI	Soe	85.77	105	P	P	10 20 03.0	-3.4	
	comp=Z,79nm,1.1s							
Q23K	Middleton Isla	85.80	6	P	P	10 20 05.2	-0.5	
	baz=350							
Q20K	Shuyak Island	85.90	10	P	P	10 20 05.4	-0.8	
	baz=345,SNR=11							
J58A	Remsen	85.91	321	IAMs_20	IAMs_20	10 58 23.3		
	comp=Z,3µm,21.0s							
PNL	Peninsula	86.02	3	P	P	10 20 08.1	+1.2	
PNL	Peninsula	86.02	3	P	P	10 20 06.1	-0.8	
	baz=355,SNR=6.1							
P29M	Windy Craggy	86.12	2	P	P	10 20 08.2	+0.8	
P29M	Windy Craggy	86.12	2	P	P	10 20 07.4	0.0	
	baz=357,SNR=6.9							
LIRD	Liard River Hi	86.18	356	P	P	10 20 07.3	-0.3	
	baz=6.4,SNR=20							
P32M	Atlin	86.22	360	P	P	10 20 07.5	-0.4	
P32M	Atlin	86.22	360	P	P	10 20 07.7	-0.2	
	baz=0.1,SNR=16							
R17L	Mt. Peulik Vol	86.23	12	P	P	10 20 08.1	+0.2	
	baz=342							
DELO	Deloro Mine	86.26	323	IAMs_20	IAMs_20	10 58 00.2		
	comp=Z,2µm,21.0s							
PLBC	Pleasant Camp	86.33	1	P	P	10 20 08.5	+0.1	
	baz=358,SNR=39							
SKAG	Skagway	86.34	1	P	P	10 20 09.3	+0.9	
SKAG	Skagway	86.34	1	P	P	10 20 08.4	+0.1	
	baz=359,SNR=19							
PECO	Prince Edward	86.37	323	IAMs_20	IAMs_20	10 59 04.3		
	comp=Z,2µm,22.0s							
R33M	Jennings River	86.39	359	IAMs_20	IAMs_20	11 03 59.1		
	comp=Z,2µm,20.0s							
R33M	Jennings River	86.39	359	P	P	10 20 08.9	0.0	
	baz=2.4,SNR=37							
R18K	Karluk	86.60	11	P	P	10 20 08.8	-0.9	
	baz=343							
N62A	Caumsett State	86.66	319	IAMs_20	IAMs_20	10 59 16.2		
	comp=Z,2µm,22.0s							
KDAK	Kodiak Island	86.67	10	P	P	10 20 09.9	-0.1	
KDAK	Kodiak Island	86.67	10	P	P	10 20 09.3	-0.8	
	baz=345							
KDAK	Kodiak Island	86.67	10	*c iP*	P	10 20 09.4	-0.7	
KDAK				pmax	pmax			
	comp=Z,338nm,1.0s							
TOAD	Toad River Com	86.69	356	P	P	10 20 09.5	-0.7	
	baz=7.1,SNR=54							
J56A	Wolcott	86.78	322	IAMs_20	IAMs_20	11 01 07.1		
	comp=Z,2µm,19.0s							
SADO	Sadowa	86.81	324	IAMs_20	IAMs_20	11 01 04.9		
	comp=Z,2µm,18.0s							
SADO	Sadowa	86.81	324	P	P	10 20 09.2	-1.8	
	comp=Z,7.3nm,0.9s,baz=142,slow=0.6,SNR=5.9							
SADO				LR	LR	11 01 42.4		
	comp=Z,2µm,18.0s,baz=54,slow=38							
	comp=Z,7.3nm,0.9s							
RCBR	Riachuelo	86.83	261	LR	LR	10 59 13.3		
	comp=Z,2µm,20.2s,baz=62,slow=36							
RCBR	Riachuelo	86.83	261	*eP*	P	10 20 11.8	+0.2	
PAL	Palisades	86.84	319	IAMs_20	IAMs_20	10 59 11.1		
	comp=Z,2µm,20.0s							
PAL	Palisades	86.84	319	P	P	10 20 11.3	0.0	
	baz=46							
Q32M	Nakina River	86.84	359	IAMs_20	IAMs_20	11 03 07.2		
	comp=Z,2µm,20.0s							
Q32M	Nakina River	86.84	359	P	P	10 20 10.9	-0.2	
	baz=1.3,SNR=21							
S14K	Fog Glacier	86.91	14	P	P	10 20 10.5	-0.8	
	baz=339							
S12K	Black Hills	86.92	16	IAMs_20	IAMs_20	11 03 49.1		
	comp=Z,2µm,21.0s							
S12K	Black Hills	86.92	16	P	P	10 20 11.0	-0.4	
	baz=337							
TRNY	Table Rock, Ra	86.92	319	IAMs_20	IAMs_20	10 59 04.0		
	comp=Z,2µm,21.0s							
FFC	Flin Flon	86.98	342	P	P	10 20 10.6	-1.0	
FFC				IAmb	IAmb	10 20 15.9		
	comp=Z,108nm,1.2s							
FFC	Flin Flon	86.98	342	IAMs_20	IAMs_20	11 02 07.5		
	comp=Z,2µm,19.0s							
FFC	Flin Flon	86.98	342	P	P	10 20 10.6	-1.0	
FFC				pmax	pmax			
	comp=Z,108nm,1.3s							
FFC				MLR	MLR			
	comp=Z,2µm,19.0s							
K57A	Scipio Center	86.99	322	IAMs_20	IAMs_20	11 03 59.9		
	comp=Z,2µm,18.0s							
BINY	Binghamton	87.10	321	P	P	10 20 12.5	0.0	
	baz=44							
CHGN	Chignik	87.11	13	P	P	10 20 12.7	+0.5	
CHGN				IAmb	IAmb	10 23 28.2		
	comp=Z,79nm,0.8s							
CHGN	Chignik	87.11	13	P	P	10 20 12.2	0.0	
	baz=340							
OHAK	Old Harbor	87.11	10	P	P	10 20 13.2	+1.0	
OHAK	Old Harbor	87.11	10	P	P	10 20 11.4	-0.8	
	baz=344,SNR=15							
ODNJ	Ogdensburg	87.16	319	IAMs_20	IAMs_20	10 59 12.6		
	comp=Z,2µm,22.0s							
J55A	Hilton	87.27	323	IAMs_20	IAMs_20	11 02 15.0		
	comp=Z,2µm,18.0s							
DLBC	Dease Lake	87.32	358	P	P	10 20 13.8	+0.5	
DLBC	Dease Lake	87.32	358	P	P	10 20 13.6	+0.2	
	baz=3.1,SNR=35							
DLBC	Dease Lake	87.32	358	P	P	10 20 13.1	-0.3	
	comp=Z,9.8nm,1.0s,baz=8.8,slow=5.6,SNR=38							
DLBC				LR	LR	11 02 49.7		
	comp=Z,1µm,21.9s,baz=360,slow=38							
	comp=Z,9.8nm,1.0s							
R31K	City Hall, Gus	87.39	1	P	P	10 20 13.6	+0.1	
	baz=358							
KSPA	Keystone Colle	87.45	320	IAMs_20	IAMs_20	11 02 23.9		
	comp=Z,2µm,20.0s							
UNV	Unalaska Valle	87.52	19	P	P	10 20 13.5	-0.7	
	baz=334							
JIS	Juneau Island	87.54	0	P	P	10 20 16.9	+2.7	
R32K	Eaglecrest	87.54	0	P	P	10 20 13.3	-1.0	
	baz=359,SNR=20							
SII	Sitkinak Islan	87.61	11	P	P	10 20 13.9	-0.7	
	baz=343							
NIKH	Nikolski High	87.65	20	P	P	10 20 14.6	-0.3	
	baz=332							
J54A	Appleton	87.67	323	IAMs_20	IAMs_20	10 59 29.7		
	comp=Z,2µm,19.0s							
S31K	Pelican	87.83	1	IAMs_20	IAMs_20	11 05 18.3		
	comp=Z,2µm,21.0s							
S31K	Pelican	87.83	1	P	P	10 20 15.1	-0.5	
	baz=358,SNR=6.4							
NBCL	Cascavel-CE	87.87	263	*eP*	P	10 20 17.9	+1.4	
S34M	Telegraph Cree	87.88	359	IAMs_20	IAMs_20	11 04 51.9		
	comp=Z,2µm,22.0s							
S34M	Telegraph Cree	87.88	359	P	P	10 20 15.3	-0.5	
	baz=2.2,SNR=37							
LUPA	Lehigh Univers	87.92	320	IAMs_20	IAMs_20	10 59 45.5		
	comp=Z,2µm,22.0s							
L56A	Greenwood	87.96	322	IAMs_20	IAMs_20	10 58 45.4		
	comp=Z,2µm,22.0s							
CHIR	Chirikof Islan	88.08	12	IAMs_20	IAMs_20	11 04 30.3		
	comp=Z,2µm,20.0s							
CHIR	Chirikof Islan	88.08	12	P	P	10 20 17.2	+0.3	
	baz=342							
CHNA	Chernabura Isl	88.26	15	P	P	10 20 16.8	-0.9	
	baz=339							
CNBA	Chernabura Isl	88.27	15	IAMs_20	IAMs_20	11 04 54.5		
	comp=Z,2µm,21.0s							
WVNY	West Valley, N	88.29	323	IAMs_20	IAMs_20	11 00 13.3		
	comp=Z,2µm,22.0s							
M57A	Sunshine Farm,	88.31	321	P	P	10 20 17.4	-0.9	
S32K	Killisnoo	88.34	0	P	P	10 20 17.9	-0.2	
	baz=359,SNR=5.9							
N58A	Sunbury	88.46	320	IAMs_20	IAMs_20	11 03 03.7		
	comp=Z,2µm,20.0s							
SIT	Sitka	88.75	1	P	P	10 20 22.0	+2.0	
SIT	Sitka	88.75	1	P	P	10 20 19.6	-0.4	
	baz=359,SNR=5.9							
T35M	Bob Quinn	88.79	358	IAMs_20	IAMs_20	11 04 29.6		
	comp=Z,2µm,21.0s							
T35M	Bob Quinn	88.79	358	P	P	10 20 19.9	-0.4	
	baz=2.9,SNR=17							
MVL	Millersville	88.87	320	IAMs_20	IAMs_20	11 00 25.6		
	comp=Z,2µm,21.0s							
T33K	Petersburg	89.00	360	P	P	10 20 20.9	-0.3	
	baz=0.7,SNR=5.6							
MBWA	Marble Bar	89.06	116	P	P	10 20 22.5	+0.5	
MBWA	Marble Bar	89.06	116	P	P	10 20 21.5	-0.4	
MBWA	Marble Bar	89.06	116	P	P	10 20 23.2	+1.2	
M55A	Ridgway	89.06	322	IAMs_20	IAMs_20	11 06 12.5		
	comp=Z,2µm,18.0s							
E43A	Lone Tree Farm	89.10	330	IAMs_20	IAMs_20	11 01 20.1		
	comp=Z,2µm,20.0s							
ULM	Lac du Bonnet	89.17	337	P	P	10 20 21.1	-1.1	
ULM	Lac du Bonnet	89.17	337	P	P	10 20 21.3	-0.9	
	comp=Z,14nm,0.8s,baz=43,slow=4.6,SNR=16							
ULM				LR	LR	11 02 28.8		
	comp=Z,2µm,18.7s,baz=28,slow=37							
	comp=Z,14nm,0.8s							
ULM	Lac du Bonnet	89.17	337	P	P	10 20 21.1	-1.1	
ULM				pmax	pmax			
	comp=Z,17nm,0.9s							
I49A	Point Hope	89.17	326	IAMs_20	IAMs_20	11 03 46.3		
	comp=Z,2µm,20.0s							
D41A	Chassel	89.19	331	IAMs_20	IAMs_20	11 04 05.4		
	comp=Z,2µm,19.0s							
ERPA	Erie	89.19	323	IAMs_20	IAMs_20	10 59 59.0		
	comp=Z,2µm,20.0s							
ERPA	Erie	89.19	323	P	P	10 20 21.4	-1.0	
	baz=42							
SSPA	Standing Stone	89.22	321	P	P	10 20 23.0	+0.4	
SSPA				IAmb	IAmb	10 20 27.5		
	comp=Z,172nm,1.9s							
SSPA	Standing Stone	89.22	321	IAMs_20	IAMs_20	11 00 15.8		
	comp=Z,2µm,20.0s							
SSPA	Standing Stone	89.22	321	P	P	10 20 21.8	-0.8	
	baz=43							
GLMI	Grayling	89.30	327	IAMs_20	IAMs_20	11 02 36.6		
	comp=Z,2µm,22.0s							
GLMI	Grayling	89.30	327	P	P	10 20 22.3	-0.6	
	baz=38							
NBAN	Anadia - AL	89.32	258	*eP*	P	10 20 23.8	+0.3	
GUMO	Guam	89.35	74	LR	LR	11 06 03.3		
	comp=Z,349nm,19.0s,baz=311,slow=39							
WRAK	Wrangell Islan	89.39	359	P	P	10 20 22.6	-0.4	
	baz=1.2							
PSA00	Pilbara Seismi	89.39	117	P	P	10 20 24.4	+0.8	
PSA00	Pilbara Seismi	89.39	117	P	P	10 20 24.3	+0.7	
PSA00				IAmb	IAmb	10 20 26.6		
	comp=Z,104nm,1.7s							
G45A	Suttons Bay	89.59	328	IAMs_20	IAMs_20	11 03 15.1		
	comp=Z,2µm,20.0s							
EYMN	Ely	89.60	333	P	P	10 20 23.4	-0.9	
	baz=34,SNR=11							
U33K	Whale Pass	89.70	360	P	P	10 20 23.7	-0.7	
	baz=0.6,SNR=6.4							
U35K	Hyder	89.85	358	IAMs_20	IAMs_20	11 07 16.6		
	comp=Z,2µm,20.0s							
U35K	Hyder	89.85	358	P	P	10 20 24.5	-0.6	
	baz=3.1							
K50A	Casco	89.97	325	IAMs_20	IAMs_20	11 03 13.5		
	comp=Z,2µm,20.0s							
M53A	WI Miller and	90.04	323	IAMs_20	IAMs_20	11 01 02.4		
	comp=Z,2µm,22.0s							
M53A	WI Miller and	90.04	323	P	P	10 20 25.4	-1.1	
	baz=41							
F42A	Maple Grove Fa	90.07	330	IAMs_20	IAMs_20	11 01 58.7		
	comp=Z,2µm,21.0s							
COWI	Conover	90.20	331	IAMs_20	IAMs_20	11 02 39.1		
	comp=Z,2µm,21.0s							
M52A	Chesterland	90.30	324	IAMs_20	IAMs_20	11 00 33.3		
	comp=Z,2µm,21.0s							
CRAG	Craig	90.35	360	P	P	10 20 26.1	-1.5	
	baz=0.6							
V35K	Ketchikan	90.47	359	P	P	10 20 27.2	-0.9	
	baz=1.8							
N53A	Lisbon	90.60	323	IAMs_20	IAMs_20	11 01 30.2		
	comp=Z,2µm,22.0s							
J47A	Sunmer	90.63	327	IAMs_20	IAMs_20	11 04 42.9		
	comp=Z,2µm,21.0s							
CBN	Corbin Frederi	90.71	319	IAMs_20	IAMs_20	11 01 19.6		
	comp=Z,2µm,22.0s							
CBN	Corbin Frederi	90.71	319	P	P	10 20 28.1	-1.4	
	baz=43							
E38A	The Farm, Brul	90.73	332	IAMs_20	IAMs_20	11 02 26.1		
	comp=Z,2µm,20.0s							
AAM	Ann Arbor	90.83	325	IAMs_20	IAMs_20	11 03 49.0		
	comp=Z,2µm,19.0s							
AAM	Ann Arbor	90.83	325	P	P	10 20 29.3	-0.7	
	baz=39							
AGMN	Agassiz Nation	90.85	336	P	P	10 20 29.3	-0.8	
	baz=30,SNR=10							
MCWV	Mont Chateau	90.95	321	IAMs_20	IAMs_20	11 02 30.7		
	comp=Z,2µm,21.0s							
MCWV	Mont Chateau	90.95	321	P	P	10 20 29.7	-1.0	
	baz=42,SNR=5.1							
H43A	Windswept, Lux	90.95	329	IAMs_20	IAMs_20	11 05 05.2		
	comp=Z,2µm,22.0s							
R58B	Mineral	91.16	319	IAMs_20	IAMs_20	11 01 43.4		
	comp=Z,2µm,22.0s							
O53A	New Philadelph	91.20	323	IAMs_20	IAMs_20	11 01 03.3		
	comp=Z,2µm,22.0s							
O53A	New Philadelph	91.20	323	P	P	10 20 29.8	-2.1	
	baz=41,SNR=5.1							
M50A	Fremont	91.22	324	IAMs_20	IAMs_20	11 05 13.7		
	comp=Z,2µm,19.0s							
N51A	Ashland	91.27	324	IAMs_20	IAMs_20	11 02 19.0		
	comp=Z,2µm,20.0s							
NBLA	Lagarto - SE	91.30	258	*eP*	P	10 20 32.9	+0.2	
G40A	Rib Lake	91.31	331	IAMs_20	IAMs_20	11 03 23.5		
	comp=Z,2µm,20.0s							
O52A	Adamsville	91.62	323	IAMs_20	IAMs_20	11 01 05.2		
	comp=Z,2µm,20.0s							
T59A	Double "B" Far	91.71	318	IAMs_20	IAMs_20	11 02 27.9		
	comp=Z,2µm,20.0s							
S57A	Dark Hollow, R	91.89	320	IAMs_20	IAMs_20	11 02 09.6		
	comp=Z,2µm,20.0s							
I42A	Draeger Farm,	91.91	329	IAMs_20	IAMs_20	11 03 13.4		
	comp=Z,2µm,20.0s							
Q54A	Coxs Mills	91.97	322	IAMs_20

comp=Z,15nm,1.0s
M44A **Midewin, Midew** 93.55 327 IAMs_20 IAMs_20 11 05 07.3
comp=Z,2µm,20.0s
U56A **King** 93.70 320 IAMs_20 IAMs_20 11 03 14.9
comp=Z,2µm,21.0s
L42A **Oliver, Polo** 93.77 329 IAMs_20 IAMs_20 11 05 50.7
comp=Z,2µm,18.0s
P48A **Milroy** 93.88 325 IAMs_20 IAMs_20 11 03 53.1
comp=Z,2µm,22.0s
SFIN **Lafayette** 93.94 326 IAMs_20 IAMs_20 11 06 42.4
comp=Z,1µm,20.0s
SFIN **Lafayette** 93.94 326 P **P** **10 20 42.7 -1.7**
baz=37
E28A **Huff** 93.94 338 IAMs_20 IAMs_20 11 05 06.7
comp=Z,2µm,21.0s
Y60A **Bolivia** 94.23 317 IAMs_20 IAMs_20 11 08 13.2
comp=Z,1µm,19.0s
R50A **Paris** 94.26 323 IAMs_20 IAMs_20 11 02 45.4
comp=Z,2µm,21.0s
S51A **Beattyville** 94.39 322 IAMs_20 IAMs_20 11 04 50.9
comp=Z,2µm,20.0s
MDP **Montagnes des** 94.42 279 LR LR 11 03 19.5
comp=Z,1µm,21.3s,baz=59,slow=36
V55A **Taylorsville** 94.52 320 IAMs_20 IAMs_20 11 03 40.5
comp=Z,2µm,22.0s
NWAO **Narrogin (SRO)** 94.54 127 LR LR 11 02 31.5
comp=Z,1µm,18.5s,baz=299,slow=35
P46A **Rosedale** 94.59 326 IAMs_20 IAMs_20 11 05 54.9
comp=Z,2µm,20.0s
BLO **Bloomington** 94.63 325 IAMs_20 IAMs_20 11 04 15.8
comp=Z,1µm,20.0s
R49A **Shelbyville** 94.67 324 IAMs_20 IAMs_20 11 02 48.1
comp=Z,2µm,22.0s
HDIL **Hopedale** 94.78 328 IAMs_20 IAMs_20 11 05 54.8
comp=Z,2µm,22.0s
HDIL **Hopedale** 94.78 328 P **P** **10 20 46.6 -1.7**
baz=35
GDHS **Morne Mazeau,** 95.05 294 IAMs_20 IAMs_20 11 08 12.9
comp=Z,1µm,20.0s
EGMT **Eagleton** 95.05 344 IAMs_20 IAMs_20 11 07 12.7
comp=Z,2µm,21.0s
ECSD **EROS Data Cent** 95.06 334 P **P** **10 20 47.8 -1.8**
baz=30,SNR=22
KMSC **Kings Mountain** 95.12 319 IAMs_20 IAMs_20 11 04 44.3
comp=Z,2µm,22.0s
TZTN **Tazewell** 95.21 322 P **P** **10 20 49.4 -1.1**
baz=39
SUSD **Miller** 95.26 336 P **P** **10 20 48.8 -1.7**
baz=28
WCI **Wyandotte Cave** 95.26 324 IAMs_20 IAMs_20 11 02 25.8
comp=Z,2µm,22.0s
WCI **Wyandotte Cave** 95.26 324 P **P** **10 20 49.0 -1.6**
baz=38
SCIA **State Center** 95.32 331 IAMs_20 IAMs_20 11 09 30.7
comp=Z,2µm,18.0s
SCIA **State Center** 95.32 331 P **P** **10 20 49.6 -1.2**
baz=32
LAO **LASA Array** 95.43 341 IAMs_20 IAMs_20 11 05 30.9
comp=Z,2µm,21.0s
LAO **LASA Array** 95.43 341 P **P** **10 20 49.8 -1.5**
baz=22,SNR=30
PAULI **Pauline** 95.62 319 IAMs_20 IAMs_20 11 05 31.6
comp=Z,2µm,21.0s
P43A **Skaggs, Pawnee** 95.63 327 IAMs_20 IAMs_20 11 07 47.2
comp=Z,2µm,20.0s
OLIL **Olney** 95.72 326 IAMs_20 IAMs_20 11 07 24.6
comp=Z,2µm,19.0s
JSC **Jenkinsville** 95.72 319 IAMs_20 IAMs_20 11 06 34.4
comp=Z,1µm,19.0s
V52A **Sevierville** 95.78 321 IAMs_20 IAMs_20 11 07 21.7
comp=Z,2µm,19.0s
Q44A **Meyer Farm, Va** 96.00 326 IAMs_20 IAMs_20 11 04 10.1
comp=Z,2µm,22.0s
NHSC **New Hope** 96.00 317 IAMs_20 IAMs_20 11 04 28.0
comp=Z,2µm,22.0s
NHSC **New Hope** 96.00 317 P **P** **10 20 52.9 -1.1**
baz=42
TKL **Tuckaleechee C** 96.01 321 P **P** **10 20 52.9 -1.2**
comp=Z,8.5nm,0.9s,baz=110,slow=5.4,SNR=8.4
TKL LR LR 11 04 53.6
comp=Z,1µm,21.8s,baz=44,slow=36
comp=Z,8.5nm,0.9s
USIN **University of** 96.13 325 IAMs_20 IAMs_20 11 05 11.6
comp=Z,2µm,21.0s
NEW **Newport** 96.24 349 IAMs_20 IAMs_20 11 04 31.5
comp=Z,2µm,22.0s
NEW **Newport** 96.24 349 P **P** **10 20 53.9 -1.0**
baz=14,SNR=21
NEW **Newport** 96.24 349 P **P** **10 20 53.3 -1.6**
comp=Z,8.0nm,0.9s,baz=11,slow=4.7,SNR=17
NEW LR LR 11 04 54.5
comp=Z,2µm,22.0s,baz=15,slow=36
comp=Z,8.0nm,0.9s
HODGE **Hodges** 96.30 319 IAMs_20 IAMs_20 11 05 39.7
comp=Z,2µm,21.0s
U49A **Red Boiling Sp** 96.36 323 IAMs_20 IAMs_20 11 05 54.0
comp=Z,2µm,20.0s
W52A **Murphy** 96.53 321 IAMs_20 IAMs_20 11 04 22.5
comp=Z,2µm,22.0s
T47A **Sharon Grove** 96.64 324 IAMs_20 IAMs_20 11 03 20.2
comp=Z,2µm,21.0s
P40A **Paris** 96.83 329 IAMs_20 IAMs_20 11 11 15.7
comp=Z,2µm,18.0s
CLTN **Cedars of Leba** 96.97 323 IAMs_20 IAMs_20 11 06 21.1
comp=Z,2µm,20.0s
MSO **Missoula** 97.06 346 P **P** **10 20 57.5 -1.2**
baz=16,SNR=6.2
S44A **Carbondale** 97.09 326 IAMs_20 IAMs_20 11 07 22.0
comp=Z,1µm,20.0s
SJG **San Juan** 97.16 298 LR LR 11 03 27.9
comp=Z,620nm,21.7s,baz=54,slow=35
RSSD **Black Hills** 97.17 339 P **P** **10 20 58.5 -0.9**
baz=24
N35A **Tabor** 97.17 332 IAMs_20 IAMs_20 11 08 56.6
comp=Z,2µm,19.0s
257A **Skidaway Islan** 97.32 317 IAMs_20 IAMs_20 11 06 55.9
comp=Z,2µm,21.0s
T45A **Paducah** 97.35 325 IAMs_20 IAMs_20 11 06 09.0
comp=Z,2µm,21.0s
P38A **Dawn** 97.37 330 IAMs_20 IAMs_20 11 06 41.1
comp=Z,2µm,19.0s
FVM **French Village** 97.39 327 IAMs_20 IAMs_20 11 07 57.9
comp=Z,2µm,20.0s
V48A **Smith Brothers** 97.49 323 IAMs_20 IAMs_20 11 06 37.8
comp=Z,2µm,21.0s
GOGA **Godfrey** 97.58 320 IAMs_20 IAMs_20 11 07 33.4
comp=Z,2µm,19.0s
GOGA **Godfrey** 97.58 320 P **P** **10 20 59.8 -1.4**
baz=40
CGM3 **Cape Girardeau** 97.60 326 IAMs_20 IAMs_20 11 06 36.4
comp=Z,2µm,21.0s
BGNE **Belgrade** 97.64 334 P **P** **10 21 00.0 -1.4**
baz=29
RLMT **Red Lodge** 97.66 343 P **P** **10 20 59.8 -1.9**
baz=20,SNR=5.3
WVT **Waverly** 97.67 324 IAMs_20 IAMs_20 11 09 18.6
comp=Z,1µm,18.0s
WVT **Waverly** 97.67 324 P **P** **10 21 00.2 -1.4**
baz=37
CCM **Cathedral Cave** 97.70 327 P **P** **10 20 59.7 -2.0**
baz=34
LTY **Liberty** 97.73 351 IAMs_20 IAMs_20 11 09 43.6
comp=Z,2µm,20.0s
BOZ **Bozeman (W)** 97.76 345 IAMs_20 IAMs_20 11 12 50.9
comp=Z,2µm,20.0s
BOZ **Bozeman (W)** 97.76 345 P **P** **10 21 00.1 -1.9**
baz=18,SNR=7.5
R40A **Maddies Statio** 97.95 328 IAMs_20 IAMs_20 11 10 40.6
comp=Z,2µm,20.0s
NLWA **Neilton Lookou** 97.96 353 IAMs_20 IAMs_20 11 11 58.1
comp=Z,2µm,22.0s
154A **Montrose** 97.99 319 IAMs_20 IAMs_20 11 07 15.5
comp=Z,1µm,20.0s
HICK **Hickman** 98.01 325 IAMs_20 IAMs_20 11 06 28.4
comp=Z,1µm,21.0s
PARMO **Parma** 98.16 326 IAMs_20 IAMs_20 11 05 50.3
comp=Z,2µm,21.0s
E07A **Sunnyside** 98.31 350 IAMs_20 IAMs_20 11 06 22.8
comp=Z,2µm,22.0s
PVMO **Portageville** 98.34 325 IAMs_20 IAMs_20 11 05 55.0
comp=Z,2µm,20.0s
MXC **Moxie City** 98.35 351 IAMs_20 IAMs_20 11 06 24.9
comp=Z,1µm,22.0s
PBMO **Poplar Bluff** 98.38 326 IAMs_20 IAMs_20 11 08 58.0
comp=Z,2µm,19.0s
HAWA **Hanford** 98.42 350 IAMs_20 IAMs_20 11 08 30.4
comp=Z,2µm,20.0s
F10A **Beach Ranch, E** 98.48 348 IAMs_20 IAMs_20 11 10 14.4
comp=Z,1µm,20.0s

LNXT **Lenox** 98.49 325 IAMs_20 IAMs_20 11 08 14.2
comp=Z,1µm,20.0s
HALT **Halls** 98.58 325 IAMs_20 IAMs_20 11 07 22.4
comp=Z,1µm,19.0s
PEBM **Pemiscott Bayo** 98.66 325 IAMs_20 IAMs_20 11 06 47.5
comp=Z,1µm,20.0s
PLAL **Pickwick Lake** 98.71 324 IAMs_20 IAMs_20 11 04 34.1
comp=Z,2µm,22.0s
152A **Waverly Hall** 98.82 320 IAMs_20 IAMs_20 11 08 22.2
comp=Z,2µm,20.0s
456A **Hilliard** 98.82 317 IAMs_20 IAMs_20 11 07 40.6
comp=Z,2µm,21.0s
GNAR **Gosnell** 98.85 325 IAMs_20 IAMs_20 11 05 59.6
comp=Z,1µm,21.0s
S39A **Bolivar** 98.91 329 IAMs_20 IAMs_20 11 07 22.9
comp=Z,2µm,20.0s
KSU1 **Kansas State U** 99.06 332 IAMs_20 IAMs_20 11 06 16.7
comp=Z,2µm,20.0s
K22A **Casper** 99.24 340 IAMs_20 IAMs_20 11 05 58.8
comp=Z,2µm,22.0s
K22A **Casper** 99.24 340 P **Pdif** **10 21 06.8 -1.9**
baz=22
LCAR **Lake Charles** 99.29 326 IAMs_20 IAMs_20 11 09 35.2
comp=Z,2µm,21.0s
MOOW **Moose Ponds** 99.31 343 IAMs_20 IAMs_20 11 10 06.5
comp=Z,2µm,20.0s
HBAR **Harrisburg** 99.48 326 IAMs_20 IAMs_20 11 06 28.4
comp=Z,1µm,21.0s
MET **Memphis--Engin** 99.50 325 IAMs_20 IAMs_20 11 07 15.7
comp=Z,2µm,22.0s
WRA **Warramunga Arr** 99.53 108 P **Pdif** **10 21 07.9 -2.1**
comp=Z,0.8nm,0.6s,baz=318,slow=3.9,SNR=5.4
WRA PP **PP** **10 25 13.9 -0.1**
comp=Z,7.7nm,1.1s,baz=300,slow=8.8,SNR=7.5
WRA PKKPbc **PKKPbc** **10 37 29.8 -1.8**
comp=Z,1.2nm,0.8s,baz=127,slow=2.5,SNR=12
WRA LR LR 11 09 26.9
comp=Z,1µm,20.1s,baz=312,slow=37
comp=Z,0.8nm,0.6s
WRA **Warramunga Arr** 99.53 108 *i* P **Pdif** **10 21 09.0 -1.0**
BMO **Blue Mountains** 99.58 348 IAMs_20 IAMs_20 11 12 12.6
comp=Z,2µm,19.0s
SNOW **Snow King Moun** 99.58 343 IAMs_20 IAMs_20 11 10 15.8
comp=Z,2µm,21.0s
LRAL **Lakeview Retre** 99.72 322 P **Pdif** **10 21 08.9 -1.9**
baz=37
OXF **Oxford** 99.74 324 IAMs_20 IAMs_20 11 05 03.3
comp=Z,2µm,22.0s
OXF **Oxford** 99.74 324 P **Pdif** **10 21 09.4 -1.4**
baz=36
PDAR **Pinedale Array** 99.94 342 P **Pdif** **10 21 10.6 -1.4**
comp=Z,1.4nm,0.9s,baz=107,slow=1.5,SNR=11
PDAR PKKPbc **PKKPbc** **10 37 28.8 -2.2**
comp=Z,0.3nm,0.6s,baz=159,slow=2.8,SNR=3.6
PDAR LR LR 11 08 52.8
comp=Z,781nm,18.1s,baz=14,slow=37
comp=Z,1.4nm,0.9s
656A **Willston** 100.13 316 IAMs_20 IAMs_20 11 06 48.4
comp=Z,2µm,22.0s
250A **Grady** 100.17 320 IAMs_20 IAMs_20 11 09 56.1
comp=Z,2µm,19.0s
SDDR **Presa de Saban** 100.29 301 IAMs_20 IAMs_20 11 09 54.2
comp=Z,1µm,21.0s
HLID **Hailey** 100.29 346 IAMs_20 IAMs_20 11 12 42.5
comp=Z,2µm,20.0s
AHID **Auburn Hatcher** 100.32 343 IAMs_20 IAMs_20 11 09 52.4
comp=Z,2µm,20.0s
HHAR **Hobbs** 100.36 328 IAMs_20 IAMs_20 11 14 00.3
comp=Z,2µm,20.0s
WHAR **Wooly Hollow** 100.45 327 IAMs_20 IAMs_20 11 08 13.0
comp=Z,2µm,20.0s
CBKS **Cedar Bluff** 100.50 334 P **Pdif** **10 21 12.0 -2.2**
baz=28
COR **Corvallis** 100.68 352 IAMs_20 IAMs_20 11 11 25.5
comp=Z,2µm,21.0s
N23A **Red Feather La** 100.69 339 IAMs_20 IAMs_20 11 07 32.3
comp=Z,2µm,21.0s
MFID **Camas Ranch** 100.71 347 IAMs_20 IAMs_20 11 09 43.4
comp=Z,2µm,21.0s
UALR **University of** 100.91 326 IAMs_20 IAMs_20 11 14 53.0
comp=Z,2µm,20.0s
PINE **Pine Mountain** 101.17 351 IAMs_20 IAMs_20 11 12 19.6
comp=Z,1µm,19.0s
ASAR **Alice Springs** 101.21 111 P **Pdif** **10 21 16.9 -0.6**
comp=Z,1.4nm,0.8s,baz=308,slow=5.0,SNR=9.5
ASAR PP **PP** **10 25 26.9 +0.1**
comp=Z,4.0nm,1.1s,baz=318,slow=7.1,SNR=5.3
ASAR PKiKP **PKiKP** **10 25 42.1 -0.2**
comp=Z,0.9nm,0.8s,baz=304,slow=1.3,SNR=6.4
ASAR PKKPbc **PKKPbc** **10 37 25.6 -1.3**
comp=Z,2.1nm,0.6s,baz=122,slow=3.7,SNR=17
BRAL **Brewton** 101.22 321 IAMs_20 IAMs_20 11 08 25.8
comp=Z,2µm,22.0s
KSCO **Kaye Shedlock'** 101.34 336 P **Pdif** **10 21 16.5 -1.6**
baz=26
CCAR **Cane Creek** 101.35 325 IAMs_20 IAMs_20 11 07 37.8
comp=Z,2µm,21.0s
OK051 **E0350 and S346** 101.39 330 IAMs_20 IAMs_20 11 14 23.4
comp=Z,2µm,22.0s
TUL3 **Leonard** 101.47 329 IAMs_20 IAMs_20 11 08 39.5
comp=Z,2µm,19.0s
TUL3 **Leonard** 101.47 329 P **Pdif** **10 21 16.9 -1.6**
baz=31
OK048 **Pawnee Station** 101.51 330 IAMs_20 IAMs_20 11 11 09.6
comp=Z,2µm,20.0s
ISCO **Idaho Springs** 101.59 338 P **Pdif** **10 21 17.7 -1.7**
baz=23
MIAR **Mount Ida** 101.66 327 P **Pdif** **10 21 17.6 -1.7**
baz=33
NMDO **Nuevo Mundo** 101.77 305 IAMs_20 IAMs_20 11 07 22.0
comp=Z,855nm,20.0s
OK052 **Battle Ridge R** 101.81 330 IAMs_20 IAMs_20 11 16 30.7
comp=Z,1µm,19.0s
OK031 **S. Brethren Rd** 101.86 330 IAMs_20 IAMs_20 11 16 43.0
comp=Z,1µm,20.0s
RDMU **Red Mountain** 102.00 341 IAMs_20 IAMs_20 11 13 42.0
comp=Z,1µm,19.0s
BDFB **Brasília** 102.14 259 PP **PP** **10 25 33.8 -0.1**
comp=Z,6.0nm,0.8s,baz=40,slow=10,SNR=8.0
WVOR **Wild Horse Val** 102.16 349 IAMs_20 IAMs_20 11 13 55.7
comp=Z,2µm,19.0s
WLAR **White Oak Lake** 102.16 326 IAMs_20 IAMs_20 11 10 18.2
comp=Z,2µm,21.0s
143A **Socs Landing,** 102.17 324 IAMs_20 IAMs_20 11 08 45.7
comp=Z,1µm,21.0s
Q24A **Divide** 102.21 338 P **Pdif** **10 21 19.9 -2.2**
baz=24
OK029 **Liberty Lake** 102.25 330 IAMs_20 IAMs_20 11 14 35.5
comp=Z,2µm,20.0s
BSUT **Blindstream Ca** 102.34 342 IAMs_20 IAMs_20 11 11 09.9
comp=Z,1µm,21.0s
CTU **Camp Tracy** 102.44 343 IAMs_20 IAMs_20 11 12 28.4
comp=Z,2µm,21.0s
HUMO **Hull Mountain** 102.59 352 IAMs_20 IAMs_20 11 09 39.1
comp=Z,1µm,21.0s
MAW **Mawson** 102.60 174 P **Pdif** **10 21 22.9 +0.4**
comp=Z,1.9nm,0.9s,baz=70,slow=6.9,SNR=2.6
ELIS **Ellis County** 102.80 332 IAMs_20 IAMs_20 10 58 07.5
comp=Z,2µm,22.0s
P18A **Preston Nutter** 103.07 342 IAMs_20 IAMs_20 11 14 18.1
comp=Z,2µm,18.0s
CHIV **Chivirico** 103.14 306 IAMs_20 IAMs_20 11 09 06.3
comp=Z,1µm,20.0s
L02F **Cave Junction** 103.14 352 IAMs_20 IAMs_20 11 08 56.7
comp=Z,2µm,22.0s
DUG **Dugway, Tooele** 103.16 344 IAMs_20 IAMs_20 11 11 36.6
comp=Z,2µm,19.0s
DUG **Dugway, Tooele** 103.16 344 P **Pdif** **10 21 24.2 -2.0**
baz=18,SNR=6.1
ELK **Elko** 103.17 346 IAMs_20 IAMs_20 11 15 26.6
comp=Z,1µm,20.0s
ELK **Elko** 103.17 346 Pdiff **Pdif** **10 21 26.0 -0.3**
comp=Z,2.3nm,0.9s,baz=31,slow=4.6,SNR=8.9
NLU **North Lily Min** 103.22 343 IAMs_20 IAMs_20 11 12 52.0
comp=Z,2µm,21.0s
YBH **Yreka Blue Hor** 103.42 352 IAMs_20 IAMs_20 11 14 07.2
comp=Z,1µm,21.0s
SDCO **Great Sand Dun** 103.44 337 P **Pdif** **10 21 25.7 -1.9**
baz=24
T25A **Trinidad** 103.64 336 P **Pdif** **10 21 26.5 -1.9**
baz=24
WMOK **Wichita Mounta** 103.71 331 P **Pdif** **10 21 26.4 -2.1**
baz=29
S22A **4UR Ranch, Cre** 103.85 338 P **Pdif** **10 21 26.6 -2.9**
baz=23
Q16A **Castle Valley** 103.98 342 IAMs_20 IAMs_20 11 16 10.1
comp=Z,1µm,18.0s
CAMR **Camarioca** 104.14 311 IAMs_20 IAMs_20 11 05 51.9
comp=Z,1µm,22.0s

KRPM **Rodgers** 104.14 352 IAMs_20 IAMs_20 11 10 25.2
comp=Z,2µm,21.0s
HATC **Hat Creek Radi** 104.17 350 IAMs_20 IAMs_20 11 15 16.8
comp=Z,1µm,20.0s
NATX **Nacogdoches** 104.48 326 IAMs_20 IAMs_20 11 17 23.9
comp=Z,2µm,19.0s
NATX **Nacogdoches** 104.48 326 P **Pdif** **10 21 29.9 -2.1**
baz=32
TCRU **Three Creeks R** 104.58 343 IAMs_20 IAMs_20 11 13 46.2
comp=Z,2µm,21.0s
441A **DeRidder** 104.64 325 IAMs_20 IAMs_20 11 11 21.0
comp=Z,2µm,21.0s
AMTX **Amarillo** 104.70 333 P **Pdif** **10 21 30.5 -2.5**
baz=27
237A **Washetta, Mont** 104.80 327 IAMs_20 IAMs_20 11 13 22.0
comp=Z,1µm,18.0s
MVCO **Mesa Verde** 104.85 339 P **Pdif** **10 21 32.0 -1.8**
baz=21
KMPM **Mount Pierce** 104.89 352 IAMs_20 IAMs_20 11 10 46.9
comp=Z,2µm,22.0s
MTPU **Mount Pierson** 105.06 343 IAMs_20 IAMs_20 11 18 36.8
comp=Z,1µm,18.0s
MIDW **Midway** 105.19 39 IAMs_20 IAMs_20 11 12 15.7
comp=Z,1µm,20.0s
SOR **Soroa** 105.34 312 IAMs_20 IAMs_20 11 15 56.9
comp=Z,1µm,20.0s
ORV **Oroville** 105.41 350 IAMs_20 IAMs_20 11 13 07.2
comp=Z,1µm,21.0s
WHTX **Lake Whitney,** 105.53 329 P **PKiKP** **10 25 49.9 -0.1**
baz=30
R11B **Troy Canyon, C** 105.55 345 IAMs_20 IAMs_20 11 10 53.9
comp=Z,2µm,22.0s
R11B **Troy Canyon, C** 105.55 345 P **PKiKP** **10 25 49.7 -0.5**
baz=16
KCPM **Cahto Peak** 105.55 352 IAMs_20 IAMs_20 11 15 21.4
comp=Z,2µm,21.0s
MACA **Manacapuru-AM** 105.72 277 IAMs_20 IAMs_20 11 12 04.6
comp=Z,1µm,19.0s
ABTX **Abilene, Hawle** 105.90 331 P **PKiKP** **10 25 50.0 -0.7**
baz=29
NVAR **Mina Array Bea** 106.00 347 PKiKP **PKiKP** **10 25 50.9 -0.1**
comp=Z,0.9nm,0.7s,baz=353,slow=0.4,SNR=4.4
NVAR PKKPbc **PKKPbc** **10 37 10.3 -2.8**
comp=Z,1.3nm,0.7s,baz=190,slow=4.6,SNR=13
ANMO **Albuquerque** 106.31 337 P **PKiKP** **10 25 51.1 -0.6**
baz=23
HKT **Hockley** 106.55 326 IAMs_20 IAMs_20 11 18 54.1
comp=Z,2µm,20.0s
CMB **Columbia Colle** 106.73 349 IAMs_20 IAMs_20 11 18 30.8
comp=Z,1µm,22.0s
DSP **Deep Springs** 106.97 347 IAMs_20 IAMs_20 11 16 04.1
comp=Z,1µm,18.0s
MCCM **Marconi Confer** 106.98 351 IAMs_20 IAMs_20 11 17 07.4
comp=Z,1µm,20.0s
TPNV **Topopah Spring** 107.03 345 P **PKiKP** **10 25 52.2 -0.7**
baz=15
GRAC **Grapevine Rang** 107.21 346 P **PKiKP** **10 25 52.0 -1.1**
baz=14
WUAZ **Wupatki** 107.23 341 IAMs_20 IAMs_20 11 11 00.3
comp=Z,2µm,21.0s
ELIB **Princess Elisa** 107.41 187 *d*PKiKP **PKiKP** **10 25 54.8 +2.4**
GSC **Goldstone, Bar** 108.74 345 P **PKiKP** **10 25 55.1 -1.0**
baz=15
MNTX **Cornudas Mount** 108.91 335 P **PKiKP** **10 25 55.5 -0.8**
baz=24
121A **Cookes Peak, D** 108.96 337 IAMs_20 IAMs_20 11 15 45.3
comp=Z,2µm,19.0s
121A **Cookes Peak, D** 108.96 337 P **PKiKP** **10 25 55.6 -1.0**
baz=22
GMRC **Granite Mounta** 108.99 344 P **PKiKP** **10 25 55.9 -0.7**
baz=16
HEC **Hector,Ludlow** 109.09 345 P **PKiKP** **10 25 56.3 -0.4**
baz=15
Y14A **Wickenburg** 109.16 342 IAMs_20 IAMs_20 11 14 06.3
comp=Z,1µm,21.0s
EDW2 **Edwards Air Fo** 109.38 346 P **PKiKP** **10 25 56.4 -0.8**
baz=14
833A **Chaparral WMA,** 109.54 328 IAMs_20 IAMs_20 11 14 04.3
comp=Z,1µm,19.0s
BCW **Bitter Crk WRg** 109.59 348 IAMs_20 IAMs_20 11 14 42.5
comp=Z,2µm,22.0s
PKM **Mcpherson Peak** 109.71 348 P **PKiKP** **10 25 57.8 -0.2**
baz=12
BFSC **Mount Baldy Ra** 109.94 346 P **PKiKP** **10 25 58.3 -0.1**
baz=14
PASC **Pasadena Art C** 110.11 346 IAMs_20 IAMs_20 11 15 12.3
comp=Z,2µm,22.0s
PFO **Pinyon Flats O** 110.29 345 P **PKiKP** **10 25 58.8 -0.3**
baz=15
TPFO **Pinon Flats** 110.30 345 P **PKiKP** **10 25 58.6 -0.5**
baz=15
TXAR **Lajitas Array** 110.40 332 Pdiff **Pdif** **10 22 00.8 +2.2**
comp=Z,0.2nm,0.7s,baz=357,slow=2.5,SNR=3.6
TXAR PKiKP **PKiKP** **10 25 59.1 -0.3**
comp=Z,0.4nm,0.6s,baz=42,slow=1.5,SNR=2.7
TXAR PKKPab **PKKPab** **10 37 11.1 -1.9**
comp=Z,1.8nm,1.0s,baz=189,slow=6.7,SNR=5.0
113A **Mohawk Valley,** 110.46 342 IAMs_20 IAMs_20 11 12 54.9
comp=Z,1µm,22.0s
TROLL **Troll, Antarti** 110.55 193 ⇑PKiKP **PKiKP** **10 25 59.7 +1.5**
comp=Z,40nm,0.4s
TROLL ⇑SKSac SKSac 10 32 55.4 +19
comp=Z,23nm,0.3s
SWSC **Sam W. Stewart** 110.78 344 P **PKiKP** **10 25 59.5 -0.3**
baz=16
CIS **Catalina Islan** 110.90 346 P **PKiKP** **10 25 59.5 -0.6**
baz=14
MONP2 **Monument Peak** 110.98 344 P **PKiKP** **10 26 00.0 -0.5**
baz=15
YUH **Yuha Desert** 111.10 344 IAMs_20 IAMs_20 11 19 34.6
comp=Z,1µm,20.0s
109C **Camp Elliot, M** 111.13 345 IAMs_20 IAMs_20 11 18 44.7
comp=Z,1µm,20.0s
SNAA **Sanae** 111.36 195 IAMs_20 IAMs_20 11 15 10.5
comp=Z,1µm,18.0s
SNAA **Sanae** 111.36 195 ⇑PKiKP **PKiKP** **10 26 00.3 +0.6**
comp=Z,24nm,0.7s
SNAA ⇑SKSac **SKSac** **10 32 49.9 +10**
comp=Z,12nm,0.7s
SNAA **Sanae** 111.36 195 PKiKP **PKiKP** **10 26 00.2 +0.5**
comp=Z,1.7nm,1.0s,baz=210,slow=6.6,SNR=6.7
ESJX **Sierra Juarez** 111.72 344 IAMs_20 IAMs_20 11 16 51.1
comp=Z,1µm,19.0s
VNA2 **Neumayer--Watz** 111.84 197 ⇑PKiKP **PKiKP** **10 26 00.6 +0.1**
comp=Z,5.7nm,0.8s,baz=347,slow=4.7
VNA1 **Neumayer--Stat** 111.86 197 ⇑PKiKP **PKiKP** **10 26 01.9 +1.4**
comp=Z,5.2nm,0.8s
CCX **Cicese** 112.02 344 IAMs_20 IAMs_20 11 12 59.8
comp=Z,1µm,22.0s
VTX **Valle De La Tr** 112.27 343 IAMs_20 IAMs_20 11 16 57.7
comp=Z,2µm,22.0s
VNA3 **Neumayer Olymp** 112.60 197 ⇑PKiKP **PKiKP** **10 26 01.6 -0.4**
comp=Z,4.5nm,0.8s
TBTG **Tabatinga, AM** 113.82 282 IAMs_20 IAMs_20 11 15 18.8
comp=Z,1µm,19.0s
CPUP **Villa Florida** 115.01 254 PKP **PKPdf** **10 26 07.5 -0.4**
comp=Z,2.5nm,0.8s,baz=147,slow=2.9,SNR=3.7
BRU2 **Volcan** 115.28 302 IAMs_20 IAMs_20 11 17 17.3
comp=Z,1µm,21.0s
MTO3 **Montecristo** 115.60 311 IAMs_20 IAMs_20 11 22 55.7
comp=Z,1µm,20.0s
ZAIG **Zacatecas** 115.76 328 IAMs_20 IAMs_20 11 22 44.1
comp=Z,1µm,21.0s
CCIG **Comitan** 115.81 315 IAMs_20 IAMs_20 11 24 09.9
comp=Z,1µm,21.0s
SNET **Serv Nac Est T** 116.06 311 IAMs_20 IAMs_20 11 23 47.0
comp=Z,964nm,19.0s
TULM **Tulcn-Chalpat** 117.06 291 IAMs_20 IAMs_20 11 24 19.8
comp=Z,1µm,20.0s
IMBA **Imbabura, San** 117.66 291 IAMs_20 IAMs_20 11 17 47.6
comp=Z,988nm,20.0s
ANTS **Antisana-Sarah** 118.12 291 IAMs_20 IAMs_20 11 16 42.0
comp=Z,1µm,21.0s
TLIG **Tlapa** 118.32 321 IAMs_20 IAMs_20 11 21 18.5
comp=Z,1µm,19.0s
LPAZ **La Paz** 118.98 270 PKP **PKPdf** **10 26 15.6 -1.0**
comp=Z,7.3nm,0.9s,baz=69,slow=4.0,SNR=10
LPAZ PKKPab **PKKPab** **10 36 32.5 -0.3**
comp=Z,1.7nm,0.9s,baz=159,slow=4.2,SNR=5.8
ARNL **Arenillas** 121.51 289 IAMs_20 IAMs_20 11 20 26.8
comp=Z,1µm,20.0s
BELA **Belgrano 2** 121.60 194 PKPdf **PKiKP** **10 26 19.3 +0.1**
AP01 **Chacalluta** 121.85 269 IAMs_20 IAMs_20 11 18 00.7
comp=Z,1µm,20.0s
TRQA **Tornquist** 123.38 244 PKPdf **PKiKP** **10 26 24.5 +0.6**
TRQA **Tornquist** 123.38 244 PKIKP **PKiKP** **10 26 24.5 +0.6**
KOUNC **Koumac, New Ca** 124.10 93 IAMs_20 IAMs_20 11 20 26.6
comp=Z,1µm,21.0s

QSPA	South Pole Qui	124.37 180			PKPdf	10 26 24.7	-0.1
QSPA	South Pole Qui	124.37 180	PKP		PKPdf	10 26 23.8	-1.0
	comp=Z,14nm,1.1s,baz=307,slow=1.4,SNR=17						
DZM	Mont Dzumac	126.59 93	eSS		SS	10 45 29.8	-3.0
	comp=Z,508nm,32.7s						
DZM	Mont Dzumac	126.59 93	eLR		LR	11 06 10.2	
	comp=Z,2μm,24.6s						
VNDA	Vanda	128.94 165	PKP		PKPdf	10 26 31.8	-1.4
	comp=Z,0.8nm,0.6s,baz=269,slow=4.7,SNR=3.2						
PLCA	Paso Flores	130.51 243	PKP		PKPdf	10 26 37.0	-0.3
	comp=Z,24nm,1.1s,baz=32,slow=3.1,SNR=7.5						
PLCA	Paso Flores	130.51 243	PKIKP		PKPdf	10 26 37.0	-0.3
GO06	Curarrehue	130.91 245	PKPdf		PKiKP	10 26 40.0	+0.9
PPT2	Papeete2	157.99 44	eSS		SS	10 51 35.3	+0.3
	comp=Z,542nm,22.8s						
PPT2	Papeete2	157.99 44	eLR		LR	11 20 37.2	
	comp=Z,2μm,24.5s						
PPT2			eLR		LR	11 20 38.0	
	comp=Z,2μm,25.8s						
TBI	Tubuai	162.33 55	eSS		SS	10 52 20.1	-1.0
	comp=Z,1μm,26.5s						
TBI	Tubuai	162.33 55	eLR		LR	11 22 41.7	
	comp=Z,2μm,25.0s						
TBI			eLR		LR	11 22 41.9	
	comp=Z,7μm,24.0s						

*IDC **22** 10:09:13.8±1.2, 37°.16N×141°.88E, h0km, mb3.7/4, mbtmp3.8/11, ML3.4/7, MS2.9/2, Error ellipse: s-maj=24.8km s-min=19.7km az=101.0*
*NIED **22** 10:09:19.9, 37°.25N×141°.52E, h46km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=0.31; Mθθ=5.32; Mφφ=5.63; Mrθ=2.37; Mφθ=-5.33; Mφr=5.64; Fault plane solution: Mo=9.79000×10^14 NP1: φs=202.00000°, δ=89.00000°, λ=-39.00000°. NP2: φs=293.00000°, δ=51.00000°, λ=-178.00000°.*
*JMA **22** 10:09:19.9±0.1, 37°.3N±0°.4×141°.5E±0°.9, h46km±1km, MD4.2/40, MV4.3/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF
ISC 22 10:09:18.7±1.5, 37°.22N±0°.04×141°.65E±0°.06, h29km±11km, n54, σ1§45/46, mb3.8/4, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.64 284		⇓iP			Pb	10 09 31.2	-0.1
JFK				⇓S			Sb	10 09 39.0	-0.9
JFK	Kawauchi	0.64 284		A			A	10 09 31.2	
	comp=E,25nm,0.6s,comp=N,9.0nm,1.8s								
ONAJ	Iwakimizuishiy	0.69 261		iP			Pb	10 09 32.1	-0.1
ONAJ				iS			Sb	10 09 40.6	-0.9
ONAJ	Iwakimizuishiy	0.69 261		A			A	10 09 32.1	
	comp=E,91nm,0.3s,comp=N,38nm,0.3s								
JMST	Minamisoumatoc	0.79 310		⇓iP			Pn	10 09 33.2	-0.7
JMST				⇓S			Sb	10 09 42.7	-1.5
JMST	Minamisoumatoc	0.79 310		A			A	10 09 33.2	
	comp=E,8.0nm,0.5s,comp=N,18nm,0.4s								
JFFD	Fukushimafurud	0.88 262		iP			Pn	10 09 34.6	-0.5
JFFD				S			Sn	10 09 44.5	-2.4
JFFD	Fukushimafurud	0.88 262		A			A	10 09 34.6	
	comp=E,6.0nm,0.9s,comp=N,7.0nm,0.6s								
JMM	Marumori	0.94 314		P			Pn	10 09 35.6	-0.4
JMM	Marumori	0.94 314		⇓iP			Pn	10 09 35.3	-0.6
JMM				⇓S			Sn	10 09 46.4	-2.0
JMM	Marumori	0.94 314		A			A	10 09 35.3	
	comp=E,4.0nm,0.3s,comp=N,4.0nm,0.2s								
JHO	Hitachi	1.05 235		iP			Pn	10 09 36.9	-0.7
JHO				S			Sn	10 09 49.3	-2.0
JOTO	OTAMA OYAMA	1.10 289		iP			Pn	10 09 38.4	+0.2
JOTO				iS			Sn	10 09 51.2	-1.3
JOTO	OTAMA OYAMA	1.10 289		A			A	10 09 38.4	
	comp=E,64nm,0.3s,comp=N,38nm,0.5s								
JIO	Ouri	1.26 349		⇓iP			Pn	10 09 40.1	-0.2
JYAR	Yonezawaarcadi	1.38 301		A			A	10 09 41.9	
	comp=E,11nm,0.6s,comp=N,13nm,0.6s								
JOU	Okura	1.39 326		⇓iP			Pn	10 09 42.1	-0.1
JOU				⇓S			Sn	10 09 59.8	+0.3
JOU	Okura	1.39 326		A			A	10 09 42.1	
	comp=E,4.0nm,0.7s,comp=N,6.0nm,0.6s								
JSB	Shiboa	1.40 260		A			A	10 09 42.2	
	comp=E,11nm,0.4s,comp=N,10.0nm,1.2s								
JYT	Yasato	1.53 230		A			A	10 09 44.5	
	comp=E,7.0nm,0.4s,comp=N,5.0nm,0.9s								
JIHU	Itakohorinouch	1.54 216		A			A	10 09 45.0	
	comp=E,11nm,3.5s,comp=N,10.0nm,5.1s								
JFY	Yanaizu	1.56 278		P			Pn	10 09 44.8	+0.3
JFY				S			Sn	10 10 03.8	0.0
JYS	Shiratake	1.61 309		⇓iP			Pn	10 09 45.5	+0.3
JYS				⇓S			Sn	10 10 05.8	+0.9
JSD	Sado	2.81 288		P			Pn	10 10 03.3	+1.6
MJAR	Matsushiro Arr	2.84 257		Pn			Pn	10 10 03.1	+1.0
	comp=N,3.3nm,0.3s,baz=84,slow=15,SNR=51								
MJAR				Sn			Sn	10 10 38.5	+3.2
	comp=N,2.4nm,0.3s,baz=48,slow=23,SNR=5.1								
MJAR				LR			LR	10 11 28.6	
	comp=N,247nm,18.3s,baz=92,slow=45								
	comp=N,26nm,0.3s								
MAJO	Matsushiro	2.84 257		P			Pn	10 10 03.8	+1.7
JTM	Tenmabayashi	3.59 353		P			Pn	10 10 13.7	+1.3
JSG	Sagara	3.78 229		P			Pn	10 10 18.2	+3.1
JGF	Kuroka	3.82 246		P			Pn	10 10 18.1	+2.5
JHJ2	Mitsune	4.36 201		P			Pn	10 10 24.4	+1.4
JHJ	Hachijo jima 2	4.36 201		Pn			Pn	10 10 23.2	+0.2
	comp=N,31nm,0.3s,baz=331,slow=21,SNR=26								
JHJ				Sn			Sn	10 11 11.2	-1.8
	comp=N,32nm,0.3s,baz=344,slow=19,SNR=6.7								
	comp=N,69nm,0.4s								
ERM	Erimo	4.93 13		P			Pn	10 10 31.3	+0.5
JEM	Erimo	4.93 13		P			Pn	10 10 31.6	+0.8
ASAJ	Asahikawa	6.93 6		Pn			Pn	10 10 58.3	0.0
	comp=N,1.1nm,0.3s,baz=222,slow=10,SNR=11								
ASAJ				Sn			Sn	10 12 15.9	-0.2
	comp=N,1.8nm,0.3s,baz=228,slow=15,SNR=1.7								
	comp=N,3.5nm,0.3s								
JMN	Monobe	7.23 244		P			Pn	10 11 05.3	+2.8
JNU	Nakatsue	9.71 248		Pn			Pn	10 11 36.6	+0.1
	comp=N,0.3nm,0.3s,baz=50,slow=7.9,SNR=2.2								
	comp=N,7.3nm,0.9s								
JCJ	Chichijima	10.10 177		P			Pn	10 11 44.4	+2.6
	comp=N,88nm,1.3s								
JCJ	Chichijima	10.10 177		Pn			Pn	10 11 35.3	-6.5
	comp=N,4.3nm,0.3s,baz=285,slow=20,SNR=1.9								
JCJ				Sn			Sn	10 13 20.9	-13
	comp=N,5.4nm,0.3s,baz=287,slow=19,SNR=1.9								
USRK	Ussuriysk Ar.	10.12 317		Pn			Pn	10 11 43.0	+1.1
	comp=N,0.3nm,0.3s,baz=124,slow=13,SNR=2.0								
	comp=N,1.1nm,0.3s								
KSRS	Korea Array	10.93 275		Pn			Pn	10 11 55.7	+2.6
	comp=N,0.1nm,0.3s,baz=92,slow=13,SNR=11								
KSRS				LR			LR	10 16 00.0	
	comp=N,42nm,18.6s,baz=125,slow=36								
	comp=N,2.9nm,0.8s								
KLR	Kul'dur	13.99 332		Pn			Pn	10 12 35.9	+1.0
	comp=N,0.1nm,0.3s,baz=134,slow=15,SNR=1.8								
	comp=N,0.5nm,0.5s								
H11N2	WAKE ISLAND Hy	28.08 121		T			T	10 44 44.4	
	baz=315,slow=75								
H11N1	WAKE ISLAND Hy	28.09 121		T			T	10 44 45.0	
	baz=315,slow=75								
H11N3	WAKE ISLAND Hy	28.10 121		T			T	10 44 45.4	
	baz=315,slow=75								
H11S1	WAKE ISLAND Hy	28.80 123		T			T	10 45 39.2	
	baz=316,slow=76								
H11S3	WAKE ISLAND Hy	28.80 124		T			T	10 45 39.3	
	baz=316,slow=76								
H11S2	WAKE ISLAND Hy	28.82 124		T			T	10 45 40.1	
	baz=316,slow=76								
KURBB	Kurchatov Arra	46.04 308		P			P	10 17 38.9	-0.6
	comp=N,3.1nm,0.7s,baz=84,slow=8.9,SNR=2.4								
	comp=N,3.1nm,0.7s								
ILAR	Eielson Array	49.24 32		P			P	10 18 03.3	-0.9
	comp=N,0.4nm,0.7s,baz=260,slow=5.4,SNR=2.1								
	comp=N,0.4nm,0.7s								
WRA	Warramunga Arr	57.27 188		P			P	10 19 02.9	-0.8
	comp=N,0.6nm,0.5s,baz=5.3,slow=7.2,SNR=8.6								
	comp=N,0.6nm,0.5s								
ASAR	Alice Springs	60.99 188		P			P	10 19 28.4	-1.0
	comp=N,0.5nm,0.8s,baz=2.0,slow=5.4,SNR=3.0								
	comp=N,0.5nm,0.8s								
H03N2	Juan Fernandez	146.86 96		T			T	13 13 12.1	
	baz=292,slow=76								
H03N3	Juan Fernandez	146.87 96		T			T	13 13 13.3	
	baz=292,slow=76								
H03N1	Juan Fernandez	146.87 96		T			T	13 13 14.0	
	baz=292,slow=76								

*IDC **22** 10:37:53.8±1.6, 34°.48S×178°.52W, h0km, mb4.2/4, mbtmp4.2/5, ML4.0/1, Error ellipse: s-maj=36.1km s-min=31.0km az=65.0*
*NEIC **22** 10:37:54.5±0.6, 34°.46S±0°.09×178°.4W±0°.1, h10km±2km, mb4.4/9, Error ellipse: s-maj=19.7km s-min=14.0km az=112.0*
ISC 22 10:37:54.9±1.0, 34°.41S±0°.09×178°.6W±0°.2, h10km, n21, σ0§48/22, mb4.4/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.05 218		Pn			Pn	10 38 57.0	+0.1
RAO	Raoul Island	5.17 6		Pn			Pn	10 39 12.1	-0.3
URZ	Urewera	5.20 221		Pn			Pn	10 39 13.2	+0.6
	5.0nm,0.3s,baz=11,slow=2.4,SNR=22								
URZ				Sn			Sn	10 40 11.8	-0.8
	6.9nm,0.3s,baz=264,slow=19,SNR=7.5								
	13nm,0.3s								
RTZ	Ruatahuna	5.53 219					Pn	10 39 17.5	+0.2
TOZ	Tahuroa Road	5.84 234		Pn			Pn	10 39 21.5	-0.1
KOUNC	Koumac, New Ca	20.51 308		P			P	10 42 33.5	+0.3
KOUNC				IAmb			IAmb	10 42 54.0	
	comp=Z,33nm,1.5s								
AS31	Alice Springs	42.59 272		P			P	10 45 52.1	+0.8
ASAR	Alice Springs	42.59 272		P			P	10 45 51.4	0.0
ASAR	Alice Springs	42.59 272		P			P	10 45 52.0	+0.6
	comp=Z,4.2nm,0.6s,baz=115,slow=7.8,SNR=95								
	comp=Z,4.2nm,0.6s								
WR0	Warramunga Arr	43.76 277		P			P	10 46 00.6	-0.2
WR0				IAmb			IAmb	10 46 02.6	
	comp=Z,4.9nm,1.0s								
WB2	Warramunga Arr	43.93 277		P			P	10 46 02.6	+0.4
WRAB	Tennant Creek	43.93 277		P			P	10 46 02.3	+0.1
WRAB				IAmb			IAmb	10 46 03.4	
	comp=Z,4.2nm,0.7s								
WRA	Warramunga Arr	43.94 277		P			P	10 46 02.4	+0.2
WRA	Warramunga Arr	43.94 277		P			P	10 46 02.6	+0.4
	comp=Z,4.0nm,0.7s,baz=118,slow=7.6,SNR=52								
	comp=Z,4.0nm,0.7s								
WB0	Warramunga Arr	43.98 277		P			P	10 46 02.8	+0.2
KNRA	Kununurra	50.67 278		P			P	10 46 54.4	-0.3
KNRA				IAmb			IAmb	10 47 21.3	
	comp=Z,7.0nm,1.2s								
QSPA	South Pole Qui	55.71 180		P			P	10 47 32.0	+0.6
QSPA				IAmb			IAmb	10 47 54.9	
	comp=Z,7.2nm,1.4s								
QSPA	South Pole Qui	55.71 180		P			P	10 47 31.7	+0.3
	comp=Z,1.5nm,1.1s,baz=170,slow=12,SNR=2.0								
	comp=Z,1.5nm,1.1s								
SNAA	Sanae	74.17 179		P			P	10 49 30.5	-0.7
SNAA	Sanae	74.17 179		P			P	10 49 30.7	-0.6
	comp=Z,1.5nm,1.2s,baz=198,slow=9.6,SNR=1.8								
	comp=Z,1.5nm,1.2s								
FINES	FINESS Array B	148.70 337		PKPbc			PKPbc	10 57 42.0	+0.4
	comp=Z,2.3nm,0.8s,baz=26,slow=3.5,SNR=11								

WEL 22 10:38:47.8, 41°S±3°.3×17°5E±°, h30km±5km, M2.4/18, ML2.8/26, MLv2.4/18, Error ellipse: s-maj=0.0km s-min=0.0km az=93.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OGWZ	Otaki Gorge	0.06 127		P			Pb	10 38 53.4	+0.4
KIW	Kapiti Island	0.17 241		P			Pb	10 38 54.0	+0.3
CAW	Cannon Point	0.33 185		P			Pb	10 38 56.1	+0.4
HOWZ	Holdsworth Sta	0.33 111		P			Pb	10 38 56.1	+0.3
MRZ	Mangatainoka R	0.38 72		P			Pb	10 38 56.2	-0.2
MTW	Mount Morrison	0.48 142		P			Pn	10 38 58.5	-0.3
WEL	Wellington	0.56 207		P			Pb	10 38 59.5	+0.2
TIWZ	Tintock	0.59 90		P			Pb	10 38 59.8	0.0
POWZ	Post Office Ro	0.64 53		P			Pb	10 39 00.1	-0.4
MSWZ	Moikau Station	0.65 170		P			Pn	10 39 00.9	-0.1
PAWZ	Paruwai Farm	0.65 158		P			Pn	10 39 01.0	-0.1
BHW	Baring Head	0.65 196		P			Pb	10 39 00.7	-0.1
TMWZ	Te Maipa	0.68 119		P			Pb	10 39 01.3	0.0
PRWZ	Pori Road	0.70 71		P			Pb	10 39 01.5	0.0
TRWZ	Traveller	0.76 145		P			Pb	10 39 02.7	+0.2
TCW	Tory Channel	0.76 235		P			Pn	10 39 02.2	-0.3
PLWZ	Palliser	0.80 172		P			Pn	10 39 03.0	0.0
BFZ	Birch Farm	0.87 84		P			Pn	10 39 03.4	-0.7
DUWZ	D'Urville Isla	0.90 268		P			Pn	10 39 04.1	-0.3
TSZ	Takapari Road	0.97 43		P			Pn	10 39 05.1	-0.4
WAZ	Wanganui	1.03 355		P			Pn	10 39 06.4	+0.2
TUWZ	Tuamarina	1.09 233		P			Pb	10 39 07.8	-0.3
BSWZ	Blackbirch Sta	1.32 224		P			Pn	10 39 10.1	0.0
NNZ	Nelson	1.38 251		P			Pb	10 39 12.1	-0.9
MOVZ	Moawhango	1.46 20		P			Pn	10 39 11.9	-0.3
WNVZ	Wahianoa	1.50 15		P			Pn	10 39 13.2	+0.3
TRVZ	Turoa	1.52 13		P			Pn	10 39 13.7	+0.6
WHVZ	Whangaehu Hut	1.54 14		P			Pn	10 39 14.1	+0.7
FWVZ	Far West T-bar	1.56 13		P			Pn	10 39 14.3	+0.5
VRZ	Vera Road	1.67 351		P			Pn	10 39 15.8	+0.7
NNVZ	North Ngauruho	1.69 14		P			Pn	10 39 16.4	+0.9
KHEZ	Kahui Hut	1.70 330		P			Pn	10 39 16.8	+1.2
MRNZ	Matariki Terra	1.88 250		P			Pn	10 39 19.0	+1.1
THZ	Tophouse	1.93 239		P			Pn	10 39 18.5	-0.2
BKZ	Black Stump Fm	1.93 34		P			Pb	10 39 21.9	-0.6
QRZ	Quartz Range	1.96 268		P			Pn	10 39 19.7	+0.8
MRHZ	Matea Rd	2.19 28		P			Pn	10 39 24.0	+1.8

*IDC **22** 10:46:08.3±1.9, 34°.75N×46°.13E, h0km, mb3.6/10, mbtmp3.7/14, ML3.0/4, MS3.4/1, Error ellipse: s-maj=36.1km s-min=18.3km az=152.0*
*ISN **22** 10:46:08.9±0.8, 34°.64N×46°.29E, h16km±5km, ML3.9, Landslide*
*TEH **22** 10:46:09.2, 34°.61N×46°.26E, h8km±20km, ML3.9*
ISC 22 10:46:09.1±1.2, 34°.63N±0°.03×46°.22E±0°.03, h10km±9km, n72, σ1§57/75, mb3.5/9, 7C, Western Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.15 63		Pg			Pg	10 46 12.8	+0.3
IGHG	Ghaleghazi	0.41 136		Pg			Pg	10 46 17.4	+0.1
KGS1	Ghasr-e-Shirin	0.54 257		Pg			Pg	10 46 20.3	+0.8
GLG1	Gilan-e-Gharb	0.58 207		Pg			Pg	10 46 20.3	0.0
GLG1				Sg			Sb	10 46 29.4	-0.2
ILIN	Lien	0.67 65		Pg			Pb	10 46 22.0	-1.1
KCHF	Cheshme Sefid,	0.76 118		Pg			Pg	10 46 23.2	-0.6
KCHF				Sg			Sb	10 46 34.8	-0.4
ILBA	Ilam Banvizeh	1.00 181		Pg			Pg	10 46 27.9	-0.5
SNQR	Sonqor, Kerman	1.18 79		Pg			Pb	10 46 31.2	-0.5
IBZA	Bozab	1.36 96		Pg			Pg	10 46 34.8	-0.4
IBDR	Badra	1.54 189		ePg			Pn	10 46 37.0	+0.4
IBDR				eSg			Sb	10 46 58.0	+0.8
IBDR				AML			AML	10 47 04.1	
	comp=E,2μm,0.2s								
IBDR				AML			AML	10 47 11.3	
	comp=N,2μm,1.0s								
SDS1	Sardasht. Az.	1.63 339		Pg			Pg	10 46 40.0	-0.4
HSAM	Samen	2.01 101		Pn			Pb	10 46 45.6	-0.3
BHD	Baghdad	2.05 229		ePn			Pn	10 46 45.0	+1.4
BHD				eSn			Sb	10 47 12.0	+0.1
MAHB	Mahabad	2.17 349		Pn			Pb	10 46 48.3	-0.3
RAFI	Al-Rafai	2.90 182		ePn			Pn	10 46 57.0	+1.6
RAFI				eSn			Sn	10 47 32.0	+1.7
IAZR	Azarshahr	3.05 356		Pn			Pb	10 47 00.7	-2.9
ISRB	Sarab	3.39 20		Pn			Pn	10 47 05.4	+3.0
ISHB	Shabestar	3.68 353		Pn			Pn	10 47 08.9	+2.7
IHRS	Heris	3.74 10		Pn			Pn	10 47 10.3	+3.2
IQOM	Qom	4.00 86		Pn			Pn	10 47 12.6	+1.9
IMRD	Marand	4.09 354		Pn			Pn	10 47 14.7	+2.7
IPIR	Pirpir	4.35 115		Pn			Pn	10 47 16.9	+1.3
GRMI	Germi	4.38 17		Pn			Pn	10 47 18.7	+2.9
QAMS	Qamsar	4.38 100		Pn			Pn	10 47 18.5	+2.6
JHBN	Jahan bin	4.42 122		Pn			Pn	10 47 18.6	+2.1
ZNGN	Zangian	4.62 122		Pn			Pn	10 47 20.8	+1.6
IKLH	Kolahrood	4.64 105		Pn			Pn	10 47 21.9	+2.5
IDMV	Damavand	4.86 77		Pn			Pn	10 47 24.8	+2.3
ISFB	Sefidab	4.98 92		Pn			Pn	10 47 25.8	+1.8
IBRJ	Brojen	5.02 121		Pn			Pn	10 47 27.1	+2.4
IGAR	Gharneh	5.34 113		Pn			Pn	10 47 31.1	+2.0
IZEF	Zefreh	5.37 107		Pn			Pn	10 47 31.9	+2.4
GNI	Garni	5.63 348		Lg			Lg	10 49 06.5	
	comp=N,1.1nm,0.3s,baz=192,slow=9.3,SNR=3.0								
GNI				LR			LR	10 49 42.8	
	comp=N,361nm,18.2s,baz=7.5,slow=39								
KLNJ	Kolanjah	5.79 127		Pn			Pn	10 47 37.3	+1.9
IRAM	Ramesheh	5.88 117		Pn			Pn	10 47 38.3	+1.8
DSBU	Dashti - Bushe	7.58 144		Pn			Pn	10 48 01.3	+1.5
MMAI	Mount Meron Ar	9.15 263		Lg			Lg	10 50 52.0	
	comp=N,1.5nm,0.3s,baz=109,slow=17,SNR=2.1								
EIL	Elat	10.76 246		Pn			Pn	10 48 43.3	+0.1
	comp=N,0.5nm,0.3s,baz=96,slow=4.8,SNR=2.0								
EIL				Lg			Lg	10 51 49.9	
	comp=N,0.5nm,0.3s,baz=126,slow=8.7,SNR=1.2								
	comp=N,1.2nm,0.3s								
RAYN	Ar Rayn	11.09 183		Pn			Pn	10 48 45.2	-2.6
BRTR	Keskin Array B	11.25 301		Pn			Pn	10 48 52.1	+2.1
	comp=N,0.1nm,0.3s,baz=122,slow=13,SNR=14								
	comp=N,2.9nm,0.9s								
SHME	Shamm	12.10 132		Pn			Pn	10 49 01.0	-0.6
NAZ	Nazwa, Dubai	12.62 137		Pn			Pn	10 49 08.6	-0.1
MSFE	Esma-Masafi	12.62 134		Pn			Pn	10 49 07.5	-1.3
ASUD	Al Ashush, Dub	12.73 139		Pn			Pn	10 49 09.7	-0.5
MDH	Madha	12.75 134		Pn			Pn	10 49 08.5	-2.0
FAQ	Al Faqa, Dubai	12.77 138		Pn			Pn	10 49 10.1	-0.8
UOSS	Minazif	12.96 135		Pn			Pn	10 49 11.4	-2.1
HATD	Hatta, Dubai	13.02 136		Pn			Pn	10 49 12.2	-2.0
ASHO	Ashiyiah	13.08 137		Pn			Pn	10 49 13.8	-1.3
MZR	Muzera	13.21 149		Pn			Pn	10 49 15.9	-0.9
ALNE	Al Ain	13.41 139		Pn			Pn	10 49 18.8	-0.8
SOHO	SOHO	13.78 137		Pn			Pn	10 49 22.7	-1.9
WSAR	Wadi Sarin	15.69 133		Pn			Pn	10 49 47.5	-2.9
	comp=N,1.2nm,0.3s,baz=321,slow=13,SNR=12								
WSAR				Sn			Sn	10 52 32.4	-12
	comp=N,0.4nm,0.3s,baz=288,slow=20,SNR=1.2								
IDI	Anoyia	17.50 278		P			Pn	10 50 13.5	+0.2
	comp=N,0.7nm,0.3s,baz=85,slow=14,SNR=2.5								
	comp=N,3.9nm,0.4s								
AKTO	Aktyubinsk	17.99 25		P			P	10 50 19.9	+0.2
	comp=N,0.1nm,0.3s,baz=214,slow=3.6,SNR=1.6								
	comp=N,0.7nm,0.5s								
SORM	Soroca	18.96 321		⇑P			P	10 50 28.7	-1.6
TNR	Turnu Rosu	20.00 310		⇑P			P	10 50 41.6	-0.2
AKASG	Malin Array Be	20.27 328		P			P	10 50 43.9	-0.7
	comp=N,0.4nm,0.3s,baz=139,slow=9.1,SNR=12								
	comp=N,0.4nm,0.3s								
BURAR	Bucovina Array	20.38 316		⇑P			P	10 50 45.3	-0.7
BOVS	Bovan	20.98 303		⇑P			P	10 50 53.7	+1.3
MARR	Marisel-Cluj	21.17 312		⇑P			P	10 50 55.6	+1.0
DRAR		21.48 312		⇑P			P	10 50 57.9	+0.1
SIRR	Siria	21.92 309		⇑P			P	10 51 03.3	+0.9
BVAR	Borovoye Array	25.14 36		P			P	10 51 34.9	+0.7
	comp=N,0.7nm,0.8s,baz=210,slow=8.3,SNR=3.7								
	comp=N,0.7nm,0.8s								
MKAR	Makanchi Array	29.66 55		P			P	10 52 15.1	+0.3
	comp=N,0.1nm,0.4s,baz=247,slow=10.0,SNR=2.2								
	comp=N,0.1nm,0.4s								
FINES	FINESS Array B	29.76 341		P			P	10 52 14.4	-1.1
	comp=N,0.7nm,0.5s,baz=152,slow=8.6,SNR=8.0								
	comp=N,0.7nm,0.5s								
HFS	Hagfors	33.10 330		P			P	10 52 44.5	-0.4
	comp=N,1.5nm,0.5s,baz=131,slow=10,SNR=8.7								
	comp=N,1.5nm,0.5s								
NOA	NORSAR Array B	34.62 331		P			P	10 52 57.2	-1.0
	comp=N,0.3nm,0.6s,baz=125,slow=8.7,SNR=2.3								
	comp=N,0.3nm,0.6s								
ARCES	ARCESS Array B	36.79 348		P			P	10 53 16.1	-0.6
	comp=N,0.8nm,0.7s,baz=165,slow=7.5,SNR=1.3								
	comp=N,0.8nm,0.7s								
EKA	Eskdalemuir Ar	39.56 317		P			P	10 53 39.5	-0.6
	comp=N,0.4nm,0.3s,baz=110,slow=8.3,SNR=6.9								
	comp=N,0.4nm,0.3s								
ESDC	Sonseca Array	39.90 292		P			P	10 53 42.4	-0.9
	comp=N,0.3nm,0.5s,baz=90,slow=7.7,SNR=4.8								
	comp=N,0.3nm,0.5s								
TORD	Torodi Ar. Bea	45.53 253		P			P	10 54 29.7	+0.5
	comp=N,0.9nm,0.9s,baz=51,slow=7.6,SNR=3.9								
	comp=N,0.9nm,0.9s								

*NOU **22** 11:14:33.6, 38°.32S×175°.95E, h214

TSZ	Takapari Road	1.76 179	P	Pn	11 15 11.3	+1.6
TSZ			S	Sn	11 15 39.3	+0.5
MHGZ	Mahia Peninsul	1.77 120	P	Pn	11 15 12.0	+2.2
MHGZ			S	Sn	11 15 38.5	-0.3
KHEZ	Kahui Hut	1.80 236	P	Pn	11 15 12.4	+2.3
CNGZ	Carnagh Statio	1.81 97	P	Pn	11 15 12.5	+2.4
WPHZ	Waipukurau	1.81 167	P	Pn	11 15 11.9	+1.7
PUZ	Puketiti	1.85 84	P	Pn	11 15 11.9	+1.3
PUZ			S	Sn	11 15 37.8	-2.3
PXZ	Pawanui	1.88 157	P	Pn	11 15 12.6	+1.8
PXZ			S	Sn	11 15 39.5	-1.3
DVHZ	Dannevirke	2.01 175	P	Pn	11 15 13.5	+1.3
DVHZ			S	Sn	11 15 41.2	-1.9
MXZ	Matakaoa Point	2.02 70	P	Pn	11 15 14.0	+1.8
MXZ	Matakaoa Point	2.02 70	P	Pn	11 15 13.9	+1.8
WMGZ	Waiomatatini S	2.02 77	P	Pn	11 15 13.5	+1.3
WMGZ			S	Sn	11 15 41.4	-1.6
PRHZ	Porangahau	2.05 165	P	Pn	11 15 14.0	+1.6
PRHZ			S	Sn	11 15 42.7	-1.0
POWZ	Post Office Ro	2.10 183	P	Pn	11 15 14.2	+1.2
ANWZ	Angora Road	2.21 169	P	Pn	11 15 15.8	+1.7
ANWZ			S	Sn	11 15 45.5	-1.1
PRWZ	Pori Road	2.26 179	P	Pn	11 15 16.3	+1.7
MRZ	Mangatainoka R	2.38 186	P	Pn	11 15 16.9	+1.0
MRZ			S	Sn	11 15 48.3	-1.5
BFZ	Birch Farm	2.40 174	P	Pn	11 15 17.3	+1.2
BFZ	Birch Farm	2.40 174	P	Pn	11 15 17.3	+1.2
BFZ			S	Sn	11 15 48.3	-1.9
TIWZ	Tintock	2.48 181	P	Pn	11 15 18.3	+1.3
TIWZ			S	Sn	11 15 49.9	-2.0
OGWZ	Otaki Gorge	2.59 193	P	Pn	11 15 19.3	+1.1
OGWZ			S	Sn	11 15 51.8	-2.1
KIW	Kapiti Island	2.68 197	P	Pn	11 15 20.0	+0.8
TMWZ	Te Maipa	2.81 181	P	Pn	11 15 21.6	+0.9
MTW	Mount Morrison	2.88 186	P	Pn	11 15 21.9	+0.4
CAW	Cannon Point	2.89 193	P	Pn	11 15 22.3	+0.8
DUWZ	D'Urville Isla	2.94 211	P	Pn	11 15 22.8	+0.6
TRWZ	Traveller	3.11 183	P	Pn	11 15 24.8	+0.7
WEL	Wellington	3.12 196	P	Pn	11 15 25.0	+0.8
SNZO	South Karori	3.16 197	P	Pn	11 15 25.0	+0.4
MSWZ	Moikau Station	3.16 189	P	Pn	11 15 25.0	+0.3
TCW	Tory Channel	3.18 203	P	Pn	11 15 25.6	+0.7
BHW	Baring Head	3.22 194	P	Pn	11 15 25.7	+0.4
PLWZ	Palliser	3.31 189	P	Pn	11 15 26.7	+0.2
TUWZ	Tuamarina	3.48 205	P	Pn	11 15 29.5	+1.0
NNZ	Nelson	3.52 213	P	Pn	11 15 29.3	+0.4
TKNZ	Takaka Hill	3.57 219	P	Pn	11 15 33.8	+4.3
QRZ	Quartz Range	3.64 225	P	Pn	11 15 30.9	+0.5
BSWZ	Blackbirch Sta	3.76 204	P	Pn	11 15 32.5	+0.6
MRNZ	Matariki Terra	3.94 217	P	Pn	11 15 34.9	+0.8
THZ	Tophouse	4.17 213	P	Pn	11 15 38.2	+1.3
KHZ	Kahutara	4.50 203	P	Pn	11 15 41.5	+0.5
KHZ	Kahutara	4.50 203	P	Pn	11 15 41.6	+0.6
DSZ	Denniston Nort	4.68 221	P	Pn	11 15 45.6	+2.3
GVZ	Greta Valley S	5.16 204	P	Pn	11 15 49.5	+0.2
LTZ	Lake Taylor	5.28 211	P	Pn	11 15 50.9	+0.1
INZ	Inchbonnie	5.59 216	P	Pn	11 15 55.3	+0.6
RPZ	Rata Peaks	6.55 213	P	Pn	11 16 07.8	+0.7
ODZ	Otahua Downs	7.82 209	P	Pn	11 16 24.0	+0.6
ODZ	Otahua Downs	7.82 209	P	Pn	11 16 23.8	+0.4

*IDC **22** 11:16:12.4±0.6,4.″86S×153.°39E, h52km±4km, mb4.1/23, mbtmp4.4/24, MS3.6/1, Error ellipse: s-maj=21.2km s-min=11.1km az=89.0*

*NEIC **22** 11:16:15.0±1.3,4.°9S±0.°1×153.°3E±0.°1, h71km±8km, mb4.5/25, Error ellipse: s-maj=17.1km s-min=16.4km az=47.0*

*DJA **22** 11:16:22.3±2.7,5.°S±11.″×15.°3E±1.°6, h124km±19km, M5.0/9, mb4.5/9, MLv5.2/1*

ISC 22 11:16:13.4±0.4,4.°86S±0.°06×153.°36E±0.°07, h56km, n95, σ1§11/103, mb4.6/45, 1C-1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVG	Kavieng	3.41	312	P	Pn	11 17 06.2	+2.2
PMG	Port Moresby	7.63	233	P	Pn	11 18 02.7	+0.7
PMG	Port Moresby	7.63	233	P	Pn	11 18 02.5	+0.5
PMG	Port Moresby	7.63	233	Pn	Pn	11 18 02.5	+0.5
PMG	Port Moresby	7.63	233	P	Pn	11 18 01.2	-0.8
	58nm,0.7s,baz=54,slow=6.1,SNR=18						
PMG				S	Sn	11 19 24.3	-2.8
	145nm,0.6s,baz=27,slow=18,SNR=10						
PMG				LR	LR	11 21 09.7	
	comp=Z,472nm,20.3s,baz=302,slow=39						
HNR	Honiara	7.96	125	Pn	Pn	11 18 09.0	+2.5
COEN	Coen	13.51	227	P	Pn	11 19 22.8	+0.4
COEN	Coen	13.51	227	Pn	Pn	11 19 22.7	+0.3
CTA	Charters Tower	16.64	204	P	Pn	11 20 02.3	-0.7
	0.6nm,1.1s,baz=32,slow=17,SNR=2.6						
CTAO	Charters Tower	16.64	204		Pn	11 20 01.8	-1.2
KOUNC	Koumac, New Ca	18.87	147	P	Pn	11 20 30.0	-0.3
KOUNC	Koumac, New Ca	18.87	147		P	11 20 29.0	-0.2
KOUNC				IAmb	IAmb	11 20 41.3	
	comp=Z,18nm,0.8s						
QIS	Mount Isa	20.55	219	P	P	11 20 48.9	+1.4
LIFNC	LIFOU	20.79	141	P	P	11 20 51.4	+1.3
LIFNC	LIFOU	20.79	141	P	P	11 20 48.7	-1.4
DZM	Mont Dzumac	21.29	145	P	P	11 20 55.1	-0.5
DZM	Mont Dzumac	21.29	145	P	P	11 20 55.1	-0.5
DZM	Mont Dzumac	21.29	145	P	P	11 20 54.9	-0.6
	comp=Z,25nm,0.5s,baz=265,slow=6.8,SNR=105						
	comp=Z,25nm,0.5s						
ONTNC	Ouen Toro	21.48	145	P	P	11 20 56.9	-0.6
YATNC	Mamie plateau,	21.54	144	P	P	11 20 58.9	+0.7
KDU	Kakadu	22.04	248	P	P	11 21 05.0	+1.4
PINNC	Pines Island,	22.30	144	P	P	11 21 05.0	-1.2
PINNC				IAmb	IAmb	11 21 06.0	
	comp=Z,21nm,0.9s						
MTN	Manton Dam	23.33	249	P	P	11 21 18.5	+1.5
MTN	Manton Dam	23.33	249	P	P	11 21 16.1	-0.9
DRS	Darwin Rock St	23.43	250	P	P	11 21 20.2	+2.4
	comp=Z,42nm,0.7s						
WB0	Warramunga Arr	23.68	230	P	P	11 21 19.1	-1.1
WB0				IAmb	IAmb	11 21 40.5	
	comp=Z,24nm,1.0s						
WR0	Warramunga Arr	23.68	229	P	P	11 21 19.3	-0.9
WR0				IAmb	IAmb	11 21 40.7	
	comp=Z,24nm,1.1s						
WRAB	Tennant Creek	23.81	229	P	P	11 21 20.0	-1.4
WRAB				IAmb	IAmb	11 21 41.7	
	comp=Z,25nm,1.2s						
WB2	Warramunga Arr	23.82	229	P	P	11 21 20.8	-0.7
WB2				IAmb	IAmb	11 21 38.4	
	comp=Z,16nm,1.0s						
WRA	Warramunga Arr	23.83	229	P	P	11 21 20.0	-1.5
WRA	Warramunga Arr	23.83	229	P	P	11 21 20.2	-1.3
	comp=Z,4.4nm,0.6s,baz=53,slow=9.6,SNR=54						
WRA				PcP	PcP	11 25 03.8	+0.1
	comp=Z,1.4nm,0.6s,baz=59,slow=2.2,SNR=6.5						
WRA				ScP	ScP	11 28 38.4	+0.8
	comp=Z,0.7nm,0.8s,baz=52,slow=3.1,SNR=3.4						
	comp=Z,4.4nm,0.6s						
ARMA	Armidale	25.48	183	P	P	11 21 36.8	+0.3
ARMA				IAmb	IAmb	11 21 37.6	
	comp=Z,13nm,0.8s						
INKA	Innaminka	25.73	206	P	P	11 21 39.5	+0.8
AS31	Alice Springs	26.48	223	P	P	11 21 44.3	-1.3
ASAR	Alice Springs	26.48	223	P	P	11 21 45.0	-0.7
ASAR	Alice Springs	26.48	223	P	P	11 21 44.2	-1.4
	comp=Z,1.1nm,0.4s,baz=59,slow=9.0,SNR=25						
ASAR				PcP	PcP	11 25 09.8	+0.2
	comp=Z,1.4nm,0.6s,baz=51,slow=2.8,SNR=6.5						
ASAR				ScP	ScP	11 28 46.1	+1.0
	comp=Z,0.7nm,0.9s,baz=28,slow=4.2,SNR=3.9						
	comp=Z,1.1nm,0.4s						
H11S3	WAKE ISLAND Hy	26.67	29	T	T	11 49 33.2	
	baz=215,slow=73						
H11S2	WAKE ISLAND Hy	26.67	29	T	T	11 49 37.7	
	baz=215,slow=73						
H11S1	WAKE ISLAND Hy	26.68	29	T	T	11 49 34.0	
	baz=215,slow=73						
CMSA	Cobar Meteorol	27.50	194	P	P	11 21 56.5	+1.9
STKA	Stephens Creek	29.05	201	P	P	11 22 08.0	-0.4
	comp=Z,1.6nm,0.6s,baz=22,slow=16,SNR=4.2						
	comp=Z,1.6nm,0.6s						
MBWA	Marble Bar	36.43	241	P	P	11 23 15.2	+2.2
MEEK	Meekatharra	39.61	233	P	P	11 23 40.3	+0.5
	comp=Z,40nm,2.7s						
TCW	Tory Channel	40.76	156	P	P	11 23 48.9	-0.1
RPZ	Rata Peaks	41.73	161	P	P	11 23 56.8	-0.2
ODZ	Otahua Downs	42.79	162	P	P	11 24 06.0	+0.5
	comp=Z,63nm,0.8s						
MJAR	Matsushiro Arr	43.55	342	P	P	11 24 09.6	-2.2
	comp=Z,1.3nm,0.8s,baz=162,slow=9.8,SNR=4.2						
	comp=Z,1.3nm,0.8s						
KSRS	Korea Array	48.30	333	P	P	11 24 49.2	0.0
	comp=Z,1.3nm,0.7s,baz=144,slow=9.6,SNR=6.7						
KSRS				pP	pP	11 25 03.5	+0.5
	comp=Z,3.5nm,0.8s,baz=149,slow=8.3,SNR=9.5						
	comp=Z,1.3nm,0.7s						
NJ2	Nanjing	49.24	321	*e*P	P	11 24 57.9	+1.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,190nm,4.6s						
ASAJ	Asahikawa	49.70	350	P	P	11 25 00.1	+0.4
	comp=Z,3.1nm,0.7s,baz=106,slow=15,SNR=1.8						
	comp=Z,3.1nm,0.7s						
USRK	Ussuriysk Ar.	52.48	341	P	P	11 25 20.7	+0.1
	comp=Z,2.0nm,0.7s,baz=139,slow=5.4,SNR=5.1						
	comp=Z,2.0nm,0.7s						
BNX	BinXian	55.43	338	⇓P	P	11 25 41.8	-0.3
BNX				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KLR	Kul'dur	57.06	343	P	P	11 25 53.8	+0.2
	comp=Z,1.1nm,0.6s,baz=204,slow=4.0,SNR=4.0						
	comp=Z,1.1nm,0.6s						
CMAR	Chiang Mai Arr	58.41	295	P	P	11 26 03.9	+0.2
	comp=Z,0.7nm,0.3s,baz=122,slow=5.8,SNR=7.1						
	comp=Z,0.7nm,0.3s						
PZH	PanZhiHua	58.86	305	P	P	11 26 09.1	+2.2
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,270nm,7.3s						
XLT	XiLinHaoTe	59.00	329	*e*P	P	11 26 07.0	-0.5
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,100nm,4.6s						
HHC	Hu-ho-hao-te	59.42	324	*e*P	P	11 26 17.0	+6.5
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
MA2	Magadan	64.27	359	P	P	11 26 41.9	-0.6
	comp=Z,3.4nm,0.8s,baz=153,slow=6.8,SNR=2.6						
MA2				pP	pP	11 26 56.1	-0.3
	comp=Z,3.9nm,0.7s,baz=175,slow=6.4,SNR=3.9						
	comp=Z,3.4nm,0.8s						
GTA	Gaotai	66.08	317	*e*P	P	11 26 56.1	+1.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				LR	LR		
	comp=N,140nm,17.4s						
GTA				LR	LR		
	comp=E,170nm,16.7s						
GTA				LR	LR		
	comp=Z,200nm,16.4s						
SONM	Songino Array	66.67	328	P	P	11 26 57.6	-0.9
	comp=Z,1.2nm,0.5s,baz=138,slow=5.5,SNR=7.2						
SONM				pP	pP	11 27 11.8	-1.4
	comp=Z,1.8nm,0.9s,baz=153,slow=5.6,SNR=2.5						
	comp=Z,1.2nm,0.5s						
VNDA	Vanda	72.75	178	P	P	11 27 35.5	+0.3
VNDA				IAmb	IAmb	11 27 36.4	
	comp=Z,5.0nm,0.8s						
VNDA	Vanda	72.75	178	P	P	11 27 34.8	-0.4
	comp=Z,3.6nm,0.7s,baz=326,slow=6.7,SNR=23						
	comp=Z,3.6nm,0.7s						
SBA	Scott Base	73.29	177	P	P	11 27 38.4	0.0
SBA				IAmb	IAmb	11 27 40.8	
	comp=Z,5.4nm,1.0s						
E19K	Redstone River	80.08	17	P	P	11 28 15.7	-1.1
E19K				IAmb	IAmb	11 28 59.3	
	comp=Z,8.9nm,1.1s						
MK31	Makanchi Array	80.73	319	P	P	11 28 21.2	+0.3
MK31				IAmb	IAmb	11 28 22.2	
	comp=Z,6.5nm,1.1s						
MKAR	Makanchi Array	80.73	319	P	P	11 28 21.0	+0.2
MKAR	Makanchi Array	80.73	319	P	P	11 28 21.0	+0.2
	comp=Z,3.0nm,0.7s,baz=98,slow=7.9,SNR=28						
MKAR				pP	pP	11 28 35.7	-0.1
	comp=Z,2.5nm,0.5s,baz=102,slow=6.9,SNR=12						
	comp=Z,3.0nm,0.7s						
MAKZ	Makanchi	80.94	319	P	P	11 28 21.9	0.0
ZAA0	Zalesovo Array	81.51	326	P	P	11 28 23.4	-1.3
ZAA0				IAmb	IAmb	11 28 24.8	
	comp=Z,4.3nm,0.7s						
ZALV	Zalesovo Beam	81.51	326	P	P	11 28 23.9	-0.8
	comp=Z,4.2nm,0.6s,baz=114,slow=6.0,SNR=19						
ZALV				pP	pP	11 28 40.0	+0.8
	comp=Z,2.1nm,0.4s,baz=127,slow=5.9,SNR=4.7						
	comp=Z,4.2nm,0.6s						
ILAR	Eielson Array	82.00	22	P	P	11 28 24.9	-2.2
	comp=Z,0.7nm,0.8s,baz=246,slow=4.0,SNR=9.2						
	comp=Z,0.7nm,0.8s						
J25K	Salcha River,	82.50	22	P	P	11 28 28.1	-1.6
KSH	Kashi	83.40	311	P	P	11 28 38.8	+3.7
KSH				pP	sP	11 28 55.0	-0.8
KSH				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BOOM	Boomskoye usch	84.03	313	P	P	11 28 38.8	+0.5
BOOM				IAmb	IAmb	11 28 56.1	
	comp=Z,4.5nm,0.6s						
BMAR	Burnt Mountain	84.11	20	P	P	11 28 37.9	-0.1
KURK	Kurchatov	84.16	322	P	P	11 28 37.9	-0.6
KURBB	Kurchatov Arra	84.19	322	P	P	11 28 37.5	-1.2
	comp=Z,4.2nm,0.9s,baz=108,slow=4.4,SNR=23						
KURBB				pP	pP	11 28 53.4	+0.2
	comp=Z,3.9nm,0.7s,baz=110,slow=4.5,SNR=11						
	comp=Z,4.2nm,0.9s						
QSPA	South Pole Qui	85.10	180	P	P	11 28 43.0	-0.2
QSPA	South Pole Qui	85.10	180	P	P	11 28 42.8	-0.3
	comp=Z,13nm,0.5s,baz=214,slow=0.5,SNR=203						
	comp=Z,13nm,0.5s						
AAK	Ala-Archa	85.11	313	P	P	11 28 42.7	-1.1
	comp=Z,2.6nm,0.5s,baz=139,slow=4.7,SNR=2.0						
	comp=Z,2.6nm,0.5s						
MAW	Mawson	85.73	203	P	P	11 28 45.6	-0.5
	comp=Z,3.3nm,0.6s,baz=108,slow=8.8,SNR=10						
	comp=Z,3.3nm,0.6s						
J30M	Hart River	86.04	24	P	P	11 28 48.2	+0.4
J30M				IAmb	IAmb	11 29 31.5	
	comp=Z,6.4nm,1.3s						
NRIK	Noril'sk	86.20	341	P	P	11 28 47.6	-0.7
	comp=Z,2.6nm,0.5s,baz=147,slow=3.6,SNR=4.3						
	comp=Z,2.6nm,0.5s						
KKAR	Karatay Array	88.08	313	P	P	11 28 57.6	-0.4
BVAR	Borovoye Array	89.62	323	P	P	11 29 04.3	-0.7
	comp=Z,2.7nm,0.5s,baz=104,slow=6.3,SNR=20						
BVAR				pP	pP	11 29 19.6	-0.1
	comp=Z,20nm,0.7s,baz=102,slow=4.9,SNR=28						
	comp=Z,2.7nm,0.5s						
NVAR	Mina Array Bea	91.68	52	P	P	11 29 14.9	-0.4
	comp=Z,0.2nm,0.3s,baz=282,slow=4.2,SNR=2.5						
	comp=Z,0.2nm,0.3s						
TROLL	Troll, Antarti	100.98	189	⇑P	Pdif	11 29 55.5	-1.2
	comp=Z,52nm,0.5s						
SNAA	Sanae	102.04	188	P	Pdif	11 29 59.7	-1.6
	comp=Z,0.5nm,0.7s,baz=321,slow=11,SNR=1.6						
AKASG	Malin Array Be	114.87	325	PKP	PKiKP	11 34 47.1	-0.7
	comp=Z,1.2nm,0.5s,baz=55,slow=2.3,SNR=6.4						
CKRC	Cesky Krumlov	124.09	328	*e*PKP	PKiKP	11 35 06.0	0.0
KHC	Kasperske Hory	124.28	329	*e*PKP	PKiKP	11 35 06.5	+0.1
GERES	GERESS Array B	124.39	329	PKP	PKiKP	11 35 06.5	-0.3
	comp=Z,1.2nm,0.6s,baz=48,slow=2.0,SNR=12						
EKA	Eskdalemuir Ar	126.25	344	PKP	PKiKP	11 35 09.9	-0.1
	comp=Z,0.4nm,0.6s,baz=32,slow=2.8,SNR=3.5						
BDFB	Brasilia	150.63	134	PKPbc	PKPbc	11 35 58.7	-1.6
	comp=Z,2.1nm,0.5s,baz=233,slow=0.9,SNR=5.1						
TORD	Torodi Ar. Bea	150.85	288	PKPbc	PKPbc	11 35 60.0	-0.8
	comp=Z,4.8nm,0.4s,baz=80,slow=2.6,SNR=66						

*RSNC **22** 11:22:22.5±0.0,5.°N±2.°×7.°8W±.°, h19km±4km, M2.8, ML2.8*

*IDC **22** 11:22:42.1±7.8,5.°25N×76.°58W, h217km±92km, mb3.1/1, mbtmp3.5/2, Error ellipse: s-maj=161.1km s-min=38.7km az=87.0*

ISC 22 11:22:16.5±1.4,5.°16N±0.°03×78.°14W±0.°04, h13km±10km, n29, σ2§10/50, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	Pizarro, Choco	0.80	104	P	Pn	11 22 37.2	+3.8
PIZC				S	Sn	11 22 48.5	+3.4
SOLC	Bahia Solano	1.29	34	P	Pb	11 22 40.7	+0.2
SOLC				S	Sb	11 22 57.5	+0.5
MALC	Bahia Malaga	1.39	145	P	Pg	11 22 45.3	+2.1
MALC				S	Sg	11 23 03.4	+2.2
PLMC	San Jos del P	1.86	98	P	Pg	11 22 51.9	-0.3
PLMC				S	Sg	11 23 14.7	-1.7
PTAC	Punta Ardita,	2.00	9	P	Pb	11 22 53.6	+0.8
PTAC				S	Sn	11 23 13.1	-1.9
YOTC	Yotoco, Valle	2.13	123	P	Pg	11 22 55.8	-1.6
YOTC				S	Sb	11 23 21.3	-0.2
JAMC	Jamundi, Valle	2.42	143	P	Pb	11 23 00.1	+0.1
JAMC				S	Sb	11 23 27.0	-2.8
DBBC	Dabeiba	2.66	46	P	Pb	11 23 04.1	0.0
DBBC				S	Sb	11 23 35.4	-1.3
GUY2C	Guyana, Caldas	2.76	88	P	Pb	11 23 06.4	+0.4
GUY2C				S	Sb	11 23 39.9	0.0
ANIL	Santa Ana	2.80	104	P	Pb	11 23 06.3	-0.3
POPC	Popayan, Colom	2.98	151	P	Pb	11 23 07.8	-1.8
POPC				S	Sb	11 23 42.1	-3.9
APAC	Apartado, Choc	3.13	29	P	Pb	11 23 12.1	0.0
APAC				S	Sb	11 23 48.8	-1.4
ORTC	Ortega, Tolima	3.13	113	P	Pb	11 23 12.3	+0.2
ORTC				S	Sb	11 23 48.0	-2.3
BBAC	Balboa, Cauca	3.24	164	P	Pb	11 23 15.1	+1.1
NORC	Norcasia	3.28	83	P	Pb	11 23 14.6	0.0
NORC				S	Sb	11 23 52.1	-2.3
AZU	Azuero	3.37	321	P	Pn	11 23 10.1	+1.2
AZU				S	Sn	11 23 48.9	+0.1
PRAC	Prado	3.54	114	P	Pb	11 23 17.9	-1.2
PRAC				S	Sb	11 23 59.4	-2.6
CAPC	Capurgana	3.54	13	P	Pb	11 23 16.2	-2.9
CAPC				S	Sn	11 23 55.1	+2.1
BETC	Betania	3.64	132	P	Pb	11 23 19.9	-0.9
BETC				S	Sb	11 24 02.6	-2.3
ROSC	El Rosal	3.81	95	P	Pb	11 23 25.9	+2.0
	15nm,0.4s,baz=258,slow=19,SNR=6.1						
ROSC				S	Sn	11 23 59.0	-1.2
	18nm,0.7s,baz=287,slow=20,SNR=1.5						
PTBC	PUERTO BERRIO,	3.91	69	P	Pb	11 23 23.0	-2.3
PTBC				S	Sb	11 24 09.0	-3.6
GARC	Garzon, Huila	3.96	138	P	Pb	11 23 24.7	-1.6
GARC				S	Sb	11 24 10.7	-3.5
ZARC	Zaragoza, Cauc	4.00	54	P	Pb	11 23 24.5	-2.4
ZARC				S	Sn	11 24 09.3	+5.0
SPBC	San Pablo de B	4.08	83	P	Pb	11 23 25.9	-2.3
BCIP	Isla Barro Col	4.33	337	P	Pn	11 23 24.0	+2.0
BCIP				S	Sn	11 24 13.6	+1.2
VILC	Villavicencio,	4.55	103	P	Pb	11 23 34.8	-1.5
ILAR	Eielson Array	76.39	336	P	P	11 34 10.2	+4.8
	0.5nm,0.9s,baz=113,slow=3.6,SNR=7.6						
	0.5nm,0.9s						
ASAR	Alice Springs	144.07	236	PKPbc	PKiKP	11 41 54.4	-2.0
	1.1nm,0.7s,baz=120,slow=3.6,SNR=19						
WRA	Warramunga Arr	145.16	242	PKPbc	PKiKP	11 41 58.4	-0.3
	0.6nm,0.4s,baz=104,slow=3.3,SNR=11						

*UPA **22** 11:23:16.9±1.2,8.°98N×82.°78W, h8km±9km, ML3.9*

*CATAC **22** 11:23:17.1±0.9,9.°04N×82.°72W, h5km, ML3.3*

ISC 22 11:23:16.6±1.0,9.°04N±0.°03×82.°72W±0.°03, h16km±8km, n15, σ0§50/26, 2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	Volcan	0.24	173	⇓*i*P	Pb	11 23 22.4	-0.3
BRU2				*e*S	Sg	11 23 25.9	0.0
BRU2	Volcan	0.24	173	*i*P	Pb	11 23 22.5	-0.3
BRU2				*i*S	Sg	11 23 25.8	-0.2
BRU2				IAML		11 23 26.2	
	comp=Z,11μm,1.0s						
BCO2	Palmira	0.37	149	⇓*i*P	Pb	11 23 25.0	+0.1
BCO2				AMP		11 23 25.1	
	comp=Z,15μm,0.1s						
BCO2				*e*S	Sb	11 23 30.6	+0.1
LNBQ3	Los Naranjos,	0.37	131	*e*P	Pb	11 23 24.7	-0.1
CNI2	El Empalme, Bo	0.46	33	*e*P	Pb	11 23 27.2	+0.9
CNI2				*e*S	Sn	11 23 35.2	-1.2
CDITO	Canoas	0.48	198	*i*P	Pb	11 23 27.1	+0.3
CDITO				*i*S	Sb	11 23 34.3	+0.7
CDITO				IAML		11 23 40.3	
	comp=Z,740nm,1.0s						
DRK0	Durika	0.56	294	*e*P	Pg	11 23 27.9	+0.1
DRK0				*e*S	Sb	11 23 35.9	-0.3
DRK0	Durika	0.56	294	*i*P	Pg	11 23 28.0	+0.1
DRK0				*i*S	Sg	11 23 35.7	+0.2
DRK0				IAML		11 23 36.6	
	comp=Z,6μm,1.0s						
CHGR2	Aguacate	0.58	100	*e*P	Pb	11 23 28.5	+0.2
CHGR2				*e*S	Sb	11 23 36.6	+0.2
DVD	David	0.65	156	*e*P	Pb	11 23 30.0	+0.3
DVD				*e*S	Sb	11 23 39.5	+1.0
LOMA3	Las Lomas, Chi	0.68	152	*e*P	Pb	11 23 30.9	+0.8
LOCO3	Loma Colorada,	0.69	154	*e*P	Pg	11 23 30.0	-0.2
PTPM	Petroterminale	0.84	191	*e*P	Pn	11 23 33.5	-0.3
OCHAL	Ojochal	0.92	274	*i*P	Pn	11 23 34.9	+0.1
OCHAL				IAML		11 23 35.1	
	comp=Z,1μm,1.0s						
OCHAL				*i*S	Sn	11 23 48.0	+0.3
LCR2	La Lucha 2	1.45	299	*i*P	Pg	11 23 44.0	-0.6
LCR2			

comp=Z,278nm,20.4s,baz=199,slow=32
ATD Arta Tunnel 16.97 284 P **Pn 11 31 00.6 +0.6**
baz=87,slow=18,SNR=2.0
ATD LR LR 11 36 29.4
comp=Z,23nm,19.8s,baz=82,slow=34
1.2nm,1.0s
UOSS Minazif 17.49 350 Pn **Pn 11 31 03.8 -2.6**
UOSS IAmb IAmb 11 31 08.6
comp=Z,53nm,1.3s
FURI Furi 20.75 275 P **P 11 31 44.2 +0.6**
FURI IAmb IAmb 11 31 51.6
comp=Z,51nm,1.1s
FURI Furi 20.75 275 LR LR 11 39 04.7
comp=Z,606nm,19.6s,baz=102,slow=35
RAYN Ar Rayn 20.79 321 P **P 11 31 42.6 -1.0**
PALK Pallekele 20.92 90 LR LR 11 38 00.1
comp=Z,721nm,20.2s,baz=9.2,slow=32
KIBK Kibwezi 23.69 246 P **P 11 32 13.3 -1.0**
KIBK IAmb IAmb 11 32 15.1
comp=Z,15nm,1.0s
KMBO Kilima Mbogo 23.95 250 P **P 11 32 16.6 -0.2**
KMBO IAmb IAmb 11 32 18.6
comp=Z,17nm,0.9s
LODK Lodwar 24.49 261 P **P 11 32 22.9 +1.2**
LODK IAmb IAmb 11 32 35.6
comp=Z,16nm,1.0s
HRA Herat 26.71 5 P **P 11 32 41.4 -0.4**
KBL Kabul 28.13 17 P **P 11 32 55.7 +1.2**
OPO Ambohidratompo 28.80 205 LR LR 11 42 13.7
comp=Z,233nm,18.6s,baz=170,slow=32
EIL Elat 31.87 317 LR LR 11 45 28.0
comp=Z,215nm,21.1s,baz=78,slow=35
KK31 Karatay Array 36.58 13 P **P 11 34 08.8 +0.7**
KK31 IAmb IAmb 11 34 29.3
comp=Z,11nm,1.3s
KKAR Karatay Array 36.58 13 P **P 11 34 08.3 +0.2**
KKAR IAmb IAmb 11 34 29.3
comp=Z,11nm,1.3s
AAK Ala-Archa 37.23 18 P **P 11 34 13.8 0.0**
AAK Ala-Archa 37.23 18 P **P 11 34 13.9 +0.1**
comp=Z,1.4nm,0.3s,baz=217,slow=11,SNR=5.9
AAK LR LR 11 49 34.0
comp=Z,191nm,19.4s,baz=225,slow=36
comp=Z,1.4nm,0.3s
KBZ Khabaz 38.79 341 P **P 11 34 26.6 -0.1**
comp=Z,1.0nm,0.5s,baz=137,slow=6.8,SNR=9.0
comp=Z,1.0nm,0.5s
KIV Kislovodsk 39.06 341 P **P 11 34 30.3 +1.1**
KIV IAmb IAmb 11 34 38.4
comp=Z,23nm,1.1s
KIV Kislovodsk 39.06 341 P **P 11 34 31.6 +2.4**
comp=Z,17nm,1.3s
BR104 Keskin Array S 39.49 328 P **P 11 34 34.9 +2.0**
comp=Z,3.4nm,1.2s,comp=Z,32nm
BRTR Keskin Array B 39.51 328 P **P 11 34 33.3 +0.3**
BRTR Keskin Array B 39.51 328 P **P 11 34 33.5 +0.6**
comp=Z,1.0nm,0.8s,baz=133,slow=5.2,SNR=7.8
BRTR LR LR 11 50 03.5
comp=Z,139nm,20.3s,baz=46,slow=35
comp=Z,1.0nm,0.8s
BR131 Keskin Array S 39.51 328 P **P 11 34 33.3 +0.3**
BR105 Keskin Array S 39.51 328 P **P 11 34 34.1 +1.0**
comp=Z,3.7nm,1.1s
BR106 Keskin Array S 39.52 328 P **P 11 34 33.7 +0.6**
comp=Z,3.3nm,1.4s,comp=Z,36nm
CMAR Chiang Mai Arr 39.70 70 P **P 11 34 35.0 +0.2**
CMAR Chiang Mai Arr 39.70 70 P **P 11 34 33.7 -1.1**
comp=Z,0.5nm,0.6s,baz=270,slow=7.1,SNR=4.3
CMAR LR LR 11 50 05.6
comp=Z,157nm,20.5s,baz=255,slow=35
comp=Z,0.5nm,0.6s
ANTO Ankara 40.06 327 P **P 11 34 39.4 +1.9**
ANTO IAmb IAmb 11 34 46.6
comp=Z,24nm,1.1s
ABKAR Akbulak array 41.46 0 P **P 11 34 48.7 0.0**
ABKAR IAmb IAmb 11 34 58.1
comp=Z,10nm,0.9s
ABKAR Akbulak array 41.46 0 P **P 11 34 48.8 0.0**
YLV Yalova 42.42 325 P **P 11 34 59.2 +2.3**
comp=Z,12nm,1.0s
MAKZ Makanchi 43.46 22 P **P 11 35 05.3 +0.2**
MK31 Makanchi Array 43.57 23 P **P 11 35 06.6 +0.6**
MKAR Makanchi Array 43.57 23 P **P 11 35 06.4 +0.4**
MKAR Makanchi Array 43.57 23 P **P 11 35 04.8 -1.3**
comp=Z,0.6nm,0.9s,baz=186,slow=7.1,SNR=3.8
MKAR PcP **PcP 11 36 53.1 -0.3**
comp=Z,1.1nm,0.9s,baz=227,slow=3.2,SNR=4.7
MKAR LR LR 11 54 43.4
comp=Z,121nm,18.6s,baz=329,slow=38
comp=Z,0.6nm,0.9s
WMQ Urumqi 43.59 30 *e*P **P 11 35 08.3 +2.0**
WMQ LR LR
comp=Z,210nm,20.7s
EZN Ezine 43.73 322 P **P 11 35 09.6 +2.2**
comp=Z,5.1nm,0.9s
PZH PanZhiHua 44.16 60 P **P 11 35 13.8 +2.6**
PZH S **S 11 41 45.9 +2.7**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,210nm,9.3s
PZH LR LR
comp=N,190nm,20.1s
PZH LR LR
comp=E,360nm,20.1s
PZH LR LR
comp=Z,370nm,23.5s
RDO Rodhopi 45.02 323 P **P 11 35 18.4 +0.7**
RDO IAmb IAmb 11 35 25.6
comp=Z,8.5nm,1.2s
ITM Ithomi 45.07 316 P **P 11 35 18.6 +0.4**
ITM IAmb IAmb 11 35 20.5
comp=Z,19nm,1.2s
KURBB Kurchatov Arra 45.63 17 P **P 11 35 21.9 -0.5**
comp=Z,2.0nm,0.8s,baz=211,slow=8.4,SNR=8.7
comp=Z,2.0nm,0.8s
KURK Kurchatov 45.74 17 P **P 11 35 23.4 +0.2**
HARR Harsova 46.01 329 ⇓P **P 11 35 27.6 +2.0**
BVAR Borovoye Array 46.08 9 P **P 11 35 24.4 -1.5**
comp=Z,0.9nm,0.7s,baz=180,slow=8.1,SNR=1.9
BVAR LR LR 11 56 47.8
comp=Z,161nm,19.1s,baz=193,slow=39
comp=Z,0.9nm,0.7s
CFR Carcaliu 46.25 329 ⇑P **P 11 35 28.8 +1.5**
LBTB Lobatse 46.39 225 LR LR 11 54 02.1
comp=Z,193nm,18.1s,baz=36,slow=35
ISR Istrita 47.03 328 P **P 11 35 35.9 +2.3**
comp=Z,16nm,1.3s,comp=Z,1μm
VRI Vrincioaia 47.44 329 ⇓P **P 11 35 38.3 +1.6**
VRI Vrincioaia 47.44 329 P **P 11 35 39.5 +2.8**
comp=Z,11nm,1.1s,comp=Z,264nm
PLOR5 Plostina Array 47.46 329 P **P 11 35 39.1 +2.2**
comp=Z,22nm,1.4s
PLOR Plostina 47.47 329 ⇓P **P 11 35 39.4 +2.5**
PLOR3 Plostina Array 47.47 329 P **P 11 35 39.1 +2.1**
comp=Z,39nm,1.4s,comp=Z,679nm
MLR Muntele Rosu 47.59 328 P **P 11 35 39.7 +1.7**
MLR IAmb IAmb 11 35 42.2
comp=Z,12nm,1.1s
MLR Muntele Rosu 47.59 328 ⇑P **P 11 35 40.4 +2.4**
MLR Muntele Rosu 47.59 328 P **P 11 35 40.0 +2.0**
comp=Z,11nm,1.3s
TESR Tescani 47.92 330 ⇓P **P 11 35 41.8 +1.4**
TESR Tescani 47.92 330 P **P 11 35 41.9 +1.5**
comp=Z,15nm,0.8s
VOIR 48.03 328 ⇑P **P 11 35 43.1 +1.7**
VOIR 48.03 328 P **P 11 35 42.7 +1.3**
comp=Z,8.8nm,1.3s
OZUR 48.08 329 ⇑P **P 11 35 43.4 +1.7**
DOPR Dopca 48.20 328 ⇓P **P 11 35 44.0 +1.4**
SORM Soroca 48.25 332 ⇓P **P 11 35 44.3 +1.4**
SORM Soroca 48.25 332 P **P 11 35 43.7 +0.8**
comp=Z,8.6nm,1.3s
ARU Arti 48.65 359 P **P 11 35 45.4 -0.4**
ARU IAmb IAmb 11 35 48.7
comp=Z,9.1nm,1.1s
ARU Arti 48.65 359 P **P 11 35 45.6 -0.2**
comp=Z,8.7nm,1.4s
BOSA Boshof 48.98 221 LR LR 11 53 22.0
comp=Z,256nm,21.0s,baz=42,slow=32
HERR Herculane 49.12 325 ⇑P **P 11 35 51.1 +1.4**
TSUM Tsumeb 49.26 237 LR LR 11 56 18.4
comp=Z,330nm,18.4s,baz=324,slow=36
BURAR Bucovina Array 49.39 330 P **P 11 35 52.9 +1.1**
BURAR Bucovina Array 49.39 330 ⇓P **P 11 35 53.8 +2.0**
BUR08 Bucovina Ar. S 49.42 330 P **P 11 35 52.6 +0.6**
BUR08 IAmb IAmb 11 36 04.3
comp=Z,6.8nm,1.1s
KMPD K-Podol'skiy 49.44 331 P **P 11 35 52.1 +0.1**
MDVR Moldovita 49.46 325 ⇑P **P 11 35 53.7 +1.4**
AK07 Malin Array Si 49.66 335 P **P 11 35 55.3 +1.6**
AK09 Malin Array Si 49.67 335 P **P 11 35 54.9 +1.1**
AK10 Malin Array Si 49.67 335 P **P 11 35 54.9 +1.1**
AK08 Malin Array Si 49.70 335 P **P 11 35 54.8 +0.8**
AK02 Malin Array Si 49.74 335 P **P 11 35 55.1 +0.8**
AKASG Malin Array Be 49.76 335 P **P 11 35 53.5 -0.9**
comp=Z,1.5nm,0.8s,baz=144,slow=6.9,SNR=23
comp=Z,1.5nm,0.8s
AKBB Malin Array Si 49.76 335 P **P 11 35 55.0 +0.5**
AKBB Malin Array Si 49.76 335 P **P 11 35 54.7 +0.2**
KIEV Kiev 49.77 335 P **P 11 35 54.7 +0.3**
LUBAR Lubar, Ukraine 49.81 333 P **P 11 35 55.5 +0.6**
SURR Surduc 49.82 326 ⇑P **P 11 35 56.6 +1.7**
BZS Buzias 50.02 326 ⇓P **P 11 35 57.6 +1.1**
ZAA0 Zalesovo Array 50.44 19 P **P 11 35 58.7 -0.8**
ZALV Zalesovo Beam 50.44 19 P **P 11 35 58.2 -1.3**
ZALV Zalesovo Beam 50.44 19 P **P 11 35 58.8 -0.7**
comp=Z,1.2nm,0.8s,baz=224,slow=6.2,SNR=6.8
ZALV LR LR 11 58 29.7
comp=Z,111nm,18.3s,baz=230,slow=37
comp=Z,1.2nm,0.8s
MI28 Mi28,Pidlybu 50.59 334 P **P 11 36 02.0 +1.3**
OBN Obninsk 50.77 343 P **P 11 36 02.4 +0.4**
OBN Obninsk 50.77 343 LR LR 11 57 24.0
comp=Z,195nm,18.7s,baz=166,slow=36
FRGS Fruska Gora 50.77 324 ⇓P **P 11 36 04.7 +2.4**
FRGS Fruska Gora 50.77 324 P **P 11 36 03.7 +1.4**
comp=Z,17nm,2.2s
RNPP5 Staryi Chortor 51.59 334 P **P 11 36 08.9 +0.7**
RNPP8 Varash 51.68 334 P **P 11 36 09.8 +0.9**
KOLS Kolonicke sedl 51.74 329 *e*P **P 11 36 11.9 +2.5**
MORH Mrgy, Hungar 52.05 325 ⇑P **P 11 36 13.4 +1.7**
MORH Mrgy, Hungar 52.05 325 P **P 11 36 12.8 +1.1**
comp=Z,9.6nm,1.6s
CRVS Cervenica-Dubn 52.13 329 *e*P **P 11 36 14.8 +2.4**
XAN Xi'an 52.38 53 P **P 11 36 13.4 -1.2**
XAN pmax pmax
comp=Z,16nm,1.2s
NIE Niedzica 53.05 329 P **P 11 36 21.0 +1.8**
comp=Z,1.6nm,1.8s
SRO Srobarova 53.15 326 *e*P **P 11 36 21.4 +1.6**
VYHS Vyhne 53.26 327 *e*P **P 11 36 21.4 +0.7**
LANS Liptovska Anna 53.32 328 *e*P **P 11 36 23.5 +2.3**
KEST Kesra 53.66 309 LR LR 12 00 15.7
comp=Z,165nm,18.4s,baz=298,slow=37
OJC Ojcow 53.80 329 P **P 11 36 25.8 +1.2**
comp=Z,6.3nm,1.4s
H04N1 CROZET ISLANDS 54.03 187 T T 12 34 34.7
baz=9.6,slow=76
H04N2 CROZET ISLANDS 54.03 187 T T 12 34 32.9
baz=9.6,slow=76
MODS Modra-Piesok 54.04 326 *e*P **P 11 36 27.4 +1.0**
H04N3 CROZET ISLANDS 54.05 187 T T 12 34 33.1
baz=9.6,slow=76
JAVC Velka Javorina 54.10 327 *e*P **P 11 36 27.7 +0.8**
RONA Rosalia, Austr 54.21 325 *i* P **P 11 36 28.4 +0.6**
comp=Z,7.9nm,0.9s
SUR Sutherland 54.33 221 LR LR 11 56 32.4
comp=Z,237nm,21.5s,baz=54,slow=33
SOKA Soboth 54.40 324 *i* P **P 11 36 30.0 +0.8**
comp=Z,4.1nm,1.2s
ARSA Arzberg 54.41 324 *i* P **P 11 36 30.0 +0.8**
comp=Z,8.8nm,1.5s
CONA Conrad Observa 54.58 325 *i* P **P 11 36 31.5 +1.1**
comp=Z,11nm,1.1s
OBKA Obir 54.60 323 *i* P **P 11 36 32.2 +1.6**
comp=Z,7.2nm,1.1s
MORC Moravsky Berou 54.70 328 P **P 11 36 31.8 +0.5**
MORC Moravsky Berou 54.70 328 *e*P **P 11 36 31.5 +0.2**
MORC Moravsky Berou 54.70 328 ⇑P **P 11 36 31.8 +0.5**
SUW Suwalki 54.72 335 P **P 11 36 31.8 +0.6**
KRUC Moravsky 54.91 327 *e*P **P 11 36 32.9 +0.2**
VRAC Vranov 54.94 327 *e*P **P 11 36 33.2 +0.3**
MYKA Terra Mystica 55.20 323 *i* P **P 11 36 36.0 +1.1**
comp=Z,10nm,1.4s
MOA Molln 55.45 324 *i* P **P 11 36 37.6 +0.9**
comp=Z,10.0nm,1.0s
STAL STALIGIAL 55.58 322 P **P 11 36 38.2 +0.6**
DPC Dobruska-Polom 55.67 328 *e*P **P 11 36 40.0 +1.7**
DPC Dobruska-Polom 55.67 328 P **P 11 36 38.8 +0.5**
comp=Z,7.6nm,1.2s
BIOA Bad Ischl, Aus 55.73 324 *i* P **P 11 36 39.5 +0.7**
comp=Z,3.0nm,0.6s
OSTC Ostas 55.85 328 *e*P **P 11 36 41.7 +2.2**
ABTA Abfaltersbach 55.93 323 *e*P **P 11 36 41.2 +0.9**
comp=Z,5.5nm,1.1s
KSP Ksiaz 55.97 328 P **P 11 36 41.0 +0.7**
comp=Z,9.4nm,1.3s
LESA Schwarzleotal 56.16 323 *i* P **P 11 36 42.4 +0.5**
comp=Z,5.8nm,0.9s
SONM Songino Array 56.28 36 P **P 11 36 41.7 -1.1**
comp=Z,0.5nm,0.4s,baz=232,slow=8.1,SNR=6.4
comp=Z,0.5nm,0.4s
GERES GERESS Array B 56.29 325 P **P 11 36 42.2 -0.6**
comp=Z,0.2nm,0.3s,baz=108,slow=7.2,SNR=4.1
comp=Z,0.2nm,0.3s
KHC Kasperske Hory 56.51 325 P **P 11 36 43.5 -0.7**
KHC IAmb IAmb 11 36 50.3
comp=Z,12nm,1.5s
KHC Kasperske Hory 56.51 325 *e*P **P 11 36 45.3 +1.1**
KHC Kasperske Hory 56.51 325 P **P 11 36 44.1 -0.1**
comp=Z,5.1nm,1.4s
HHC Hu-ho-hao-te 56.66 46 *e*P **P 11 36 46.3 +0.7**
HHC sP pP 11 36 52.8 +0.6
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,220nm,5.3s
HHC LR LR
comp=N,140nm,14.7s
HHC LR LR
comp=E,310nm,16.1s
HHC LR LR
comp=Z,290nm,18.8s
WTTA Wattenberg 56.71 323 *i* P **P 11 36 45.9 0.0**
comp=Z,8.8nm,0.8s
WATA Walderalm 56.78 323 *i* P **P 11 36 46.2 -0.1**
comp=Z,12nm,1.4s
SQTA Sankt Quirin 56.94 323 *i* P **P 11 36 48.2 +0.7**
comp=Z,5.6nm,0.7s
TORD Torodi Ar. Bea 57.12 281 LR LR 12 00 56.4
comp=Z,245nm,20.3s,baz=80,slow=36
FETA Feichten 57.14 322 *i* P **P 11 36 49.2 +0.2**
comp=Z,5.7nm,1.4s
BRG Berggiesshubel 57.23 327 *e*PKP **P 11 36 50.6 +1.3**
BRG Amp 11 36 57.1
comp=Z,6.5nm,1.3s
RETA Reutte 57.34 323 *i* P **P 11 36 50.7 +0.5**
comp=Z,5.4nm,1.0s
DAVA Damuels 57.78 322 *e*P **P 11 36 53.1 -0.3**
comp=Z,9.2nm,1.2s
CLL Collm 57.96 327 *i* P **P 11 36 55.4 +1.1**
comp=Z,16nm,1.6s
CLL *i* sP **pP 11 37 00.5 -0.9**
comp=Z,38nm,2.0s
CLL Collm 57.96 327 P **P 11 36 55.5 +1.1**
comp=Z,8.3nm,1.8s
GRA1 Grafenberg Arr 58.12 325 P **P 11 36 55.2 -0.4**
GRA1 IAmb IAmb 11 37 01.7
comp=Z,18nm,1.3s
GRFO Grafenberg 58.12 325 P **P 11 36 55.5 -0.1**
GRFO IAmb IAmb 11 37 01.7
comp=Z,13nm,1.1s
SENIN Lac Senin/Sane 58.99 320 P **P 11 37 02.3 +0.4**
FINES FINESS Array B 59.13 342 P **P 11 37 02.5 +0.1**
FINES FINESS Array B 59.13 342 P **P 11 37 00.5 -1.8**
comp=Z,1.5nm,0.7s,baz=133,slow=5.9,SNR=4.5
comp=Z,1.5nm,0.7s
BFO Black Forest 59.18 323 P **P 11 37 03.1 +0.1**
ECH Echery 59.84 322 P **P 11 37 07.5 0.0**
ECH IAmb IAmb 11 37 09.4
comp=Z,11nm,1.3s
NJ2 Nanjing 59.98 57 *e*P **P 11 37 10.4 +1.6**
NJ2 pmax pmax
comp=Z,11nm,0.6s
NJ2 pmax pmax
comp=Z,680nm,4.1s
KAPI Kappang 61.31 100 LR LR 12 04 32.3
comp=Z,113nm,18.0s,baz=274,slow=37
HFS Hagfors 62.63 336 P **P 11 37 25.1 -1.1**
comp=Z,2.5nm,0.7s,baz=128,slow=9.6,SNR=9.0
comp=Z,2.5nm,0.7s
CLF Chambon-Foret 62.80 321 P **P 11 37 27.8 +0.3**
DBIC Dimbokro 63.91 274 LR LR 12 05 25.1
comp=Z,265nm,19.7s,baz=78,slow=36
NOA NORSAR Array B 64.15 336 P **P 11 37 34.7 -1.6**
comp=Z,0.7nm,0.8s,baz=120,slow=6.9,SNR=3.7
NOA LR LR 12 09 35.4
comp=Z,43nm,18.0s,baz=95,slow=40
comp=Z,0.7nm,0.8s
ESBB Sonseca Array 64.87 310 P **P 11 37 42.0 +0.6**
ESBB IAmb IAmb 11 37 43.6
comp=Z,10nm,1.1s
ESDC Sonseca Array 64.87 310 P **P 11 37 41.8 +0.3**
ESDC IAmb IAmb 11 37 43.5
comp=Z,8.9nm,1.2s
ESDC Sonseca Array 64.87 310 P **P 11 37 40.8 -0.7**
comp=Z,5.6nm,1.1s,baz=85,slow=5.6,SNR=20
comp=Z,5.6nm,1.1s
DAV Davao City (W) 65.37 86 LR LR 12 07 41.0
comp=Z,63nm,18.7s,baz=196,slow=37
ARCES ARCESS Array B 65.63 347 P **P 11 37 45.4 -0.4**
comp=Z,1.9nm,0.7s,baz=130,slow=6.8,SNR=5.7
comp=Z,1.9nm,0.7s
JOW Kunigami 67.56 64 LR LR 12 12 05.1
comp=Z,90nm,18.1s,baz=168,slow=40
NWAO Narrogin (SRO) 67.99 130 LR LR 12 02 50.0
comp=Z,217nm,21.6s,baz=88,slow=32
KSRS Korea Array 68.18 53 P **P 11 38 00.9 -1.6**
comp=Z,1.4nm,0.7s,baz=262,slow=6.7,SNR=7.3
comp=Z,1.4nm,0.7s
EKA Eskdalemuir Ar 68.42 327 P **P 11 38 02.6 -1.1**
comp=Z,0.6nm,0.6s,baz=121,slow=6.1,SNR=4.1
comp=Z,0.6nm,0.6s
JNU Nakatsue 70.18 58 LR LR 12 09 30.2
comp=Z,167nm,21.1s,baz=246,slow=36
KLR Kul'dur 72.59 41 LR LR 12 12 01.6
comp=Z,238nm,18.7s,baz=248,slow=37
BBTS Babate 74.75 283 LR LR 12 11 20.2
comp=Z,168nm,20.6s,baz=324,slow=36
TIXI Tiksi 76.30 18 LR LR 12 14 49.3
comp=Z,113nm,18.9s,baz=313,slow=38
WRA Warramunga Arr 78.42 112 P **P 11 39 00.6 -2.8**
comp=Z,1.9nm,1.0s,baz=295,slow=4.4,SNR=7.4
comp=Z,1.9nm,1.0s
ASAR Alice Springs 78.86 116 P **P 11 39 03.5 -2.2**
comp=Z,1.5nm,0.6s,baz=290,slow=5.3,SNR=32
ASAR LR LR 12 09 40.1
comp=Z,138nm,20.8s,baz=242,slow=32
comp=Z,1.5nm,0.6s
ASAJ Asahikawa 79.69 47 LR LR 12 15 43.8
comp=Z,144nm,18.9s,baz=99,slow=37
ELIB Princess Elisa 82.91 191 *d*P **P 11 39 28.8 +2.3**
comp=Z,1.6nm,1.1s
SUMG Summit 85.16 343 P **P 11 39 39.6 +1.3**
STKA Stephens Creek 87.25 122 LR LR 12 16 05.2
comp=Z,71nm,18.5s,baz=197,slow=34
CTA Charters Tower 89.47 110 LR LR 12 16 26.2
comp=Z,12nm,21.8s,baz=128,slow=33
PDAR Pinedale Array 128.85 350 PKP **PKPdf 11 46 09.8 -0.5**
comp=Z,1.0nm,1.0s,baz=0.0,slow=0.1,SNR=7.3
NVAR Mina Array Bea 134.11 358 PKP **PKPdf 11 46 20.4 +0.1**
comp=Z,1.0nm,0.9s,baz=32,slow=1.5,SNR=6.0

ROM 22 11:39:54.1±0.1,43°.074N±0°.004×13°.075E±0°.005,
h10km,ML1.6/19,4C,Error ellipse: s-maj=0.5km
s-min=0.3km az=172.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSP1	**Cessapalombo**	**0.10**	**79**	P	Pg	11 39 57.0	+0.2
CSP1				S	Sg	11 39 59.3	+0.5
CSP1				AML	AML		
	comp=E,430μm,0.4s						
CSP1				AML	AML		
	comp=E,429μm,0.4s						
CSP1				AML	AML		
	comp=N,218μm,0.2s						
CESI	**CESI - Serrava**	**0.14**	**241**	P	Pg	11 39 57.9	+0.5
CESI				S	Sg	11 40 00.7	+1.0
CESI				AML	AML		
	comp=N,360μm,0.1s						
CESI				AML	AML		
	comp=E,206μm,0.5s						
CESI				AML	AML		
	comp=E,172μm,0.2s						
CESI				AML	AML		
	comp=N,360μm,0.1s						
GUMA	**Gualdo di Mace**	**0.19**	**93**	P	Pg	11 39 58.9	+0.7
GUMA				S	Sg	11 40 02.8	+1.8
GUMA				AML	AML		
	comp=N,690μm,0.1s						
GUMA				AML	AML		
	comp=E,470μm,0.2s						
GUMA				AML	AML		
	comp=E,413μm,0.2s						
GUMA				AML	AML		
	comp=N,690μm,0.1s						
GUMA				AML	AML		
	comp=E,470μm,0.2s						
GUMA				AML	AML		
	comp=N,644μm,0.6s						
SNTG	**Esanatoglia**	**0.21**	**332**	P	Pg	11 39 58.7	+0.3
SNTG				S	Sg	11 40 02.4	+0.9
SNTG				AML	AML		
	comp=E,118μm,0.3s						
SNTG				AML	AML		
	comp=E,118μm,0.3s						
SNTG				AML	AML		
	comp=N,112μm,0.9s						
SNTG				AML	AML		
	comp=E,103μm,0.1s						
SNTG				AML	AML		
	comp=E,102μm,0.1s						
NRCA	**Norcia**	**0.24**	**173**	P	Pg	11 39 59.4	+0.3
NRCA				S	Sg	11 40 03.5	+1.0
NRCA				AML	AML		
	comp=E,186μm,0.2s						
NRCA				AML	AML		
	comp=N,310μm,0.1s						
NRCA				AML	AML		
	comp=E,186μm,0.2s						
NRCA				AML	AML		
	comp=N,310μm,0.1s						
NRCA				AML	AML		
	comp=E,186μm,0.2s						
CING	**Cingoli**	**0.31**	**16**	P	Pg	11 40 00.8	+0.4
CING				S	Sb	11 40 06.0	-1.0
CING				AML	AML		
	comp=E,160μm,0.7s						
CING				AML	AML		
	comp=N,130μm,0.9s						
CING				AML	AML		
	comp=E,145μm,0.1s						
CING				AML	AML		
	comp=N,114μm,0.1s						
FOSV	**Fossato di Vic**	**0.32**	**314**	⇑P	Pg	11 40 01.1	+0.6
FOSV				S	Sb	11 40 06.4	-0.8
FOSV				AML	AML		
	comp=E,72μm,0.9s						
FOSV				AML	AML		
	comp=N,109μm,0.2s						
FOSV				AML	AML		
	comp=N,109μm,0.2s						
FOSV				AML	AML		
	comp=E,69μm,0.1s						
FOSV				AML	AML		
	comp=N,109μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.34**	**289**	⇑P	Pg	11 40 01.3	+0.4
ATCC				S	Sb	11 40 07.0	-0.7
ATCC				AML	AML		
	comp=N,164μm,0.2s						
ATCC				AML	AML		
	comp=E,191μm,0.3s						
ATCC				AML	AML		
	comp=N,164μm,0.2s						
ATCC				AML	AML		
	comp=E,185μm,0.1s						
MURB	**Monte Urbino**	**0.45**	**295**	⇑P	Pg	11 40 03.3	+0.4
MURB				S	Sb	11 40 10.4	-0.4
MURB				AML	AML		
	comp=N,104μm,1.7s						
MURB				AML	AML		
	comp=E,81μm,0.5s						
MOMA	**Monte Martano**	**0.46**	**234**	⇑P	Pb	11 40 03.8	-0.5
MOMA				S	Sb	11 40 10.6	-0.6
MOMA				AML	AML		
	comp=N,684μm,1.3s						

MOMA			AML	AML
	comp=E,476μm,1.6s			
MOMA			AML	AML
	comp=E,95μm,1.0s			
MOMA			AML	AML
	comp=N,53μm,0.1s			
MOMA			AML	AML
	comp=N,53μm,0.1s			
MOMA			AML	AML
	comp=E,86μm,0.2s			

ROM ***22*** *11:40:13.3±0.1, 43°.825N±0°.008×11°.984E±0°.007, h19km±1km, ML2.0/24, Error ellipse: s-maj=0.9km s-min=0.3km az=210.0*

ISC 22 11:40:13.6±1.0, 43°.82N±0°.03×11°.99E±0°.03, h19km±2km, n20, σ0°50/33, 3C-3D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.14**	**312**	⇓P	**Pg**	**11 40 17.4**	**-0.4**
SFI				S	**Sg**	**11 40 20.4**	**-0.4**
SFI				AML	AML		
	comp=E,855μm,0.3s						
SFI				AML	AML		
	comp=N,858μm,0.7s						
SFI				AML	AML		
	comp=E,859μm,0.3s						
SFI				AML	AML		
	comp=N,918μm,0.7s						
SFI				AML	AML		
	comp=E,697μm,0.1s						
SFI				AML	AML		
	comp=N,690μm,0.1s						
SFI				AML	AML		
	comp=N,672μm,0.1s						
SFI				AML	AML		
	comp=E,728μm,0.1s						
ASQU	**Asqua**	**0.14**	**263**	⇓P	**Pg**	**11 40 17.8**	**-0.2**
ASQU				S	**Sg**	**11 40 21.0**	**0.0**
CRE	**Caprese Michel**	**0.20**	**187**	⇓P	**Pg**	**11 40 18.7**	**0.0**
CRE				S	**Sg**	**11 40 22.5**	**+0.3**
CRE				AML	AML		
	comp=E,1845μm,0.2s						
CRE				AML	AML		
	comp=N,4555μm,0.2s						
CRE				AML	AML		
	comp=E,1845μm,0.2s						
CRE				AML	AML		
	comp=N,4555μm,0.2s						
CPGN	**Carpegna, Ital**	**0.24**	**93**	⇑P	**Pg**	**11 40 19.3**	**-0.1**
CPGN				S	**Sg**	**11 40 24.4**	**+1.0**
CPGN				AML	AML		
	comp=E,65500μm,1.6s						
CPGN				AML	AML		
	comp=N,82500μm,1.6s						
CPGN				AML	AML		
	comp=E,482μm,0.7s						
CPGN				AML	AML		
	comp=N,540μm,0.7s						
CPGN				AML	AML		
	comp=E,439μm,0.4s						
CPGN				AML	AML		
	comp=N,434μm,0.2s						
PARC	**Parchiule**	**0.25**	**132**	P	**Pb**	**11 40 18.9**	**-0.3**
PARC				S	**Sg**	**11 40 23.2**	**-0.1**
PARC				AML	AML		
	comp=E,424μm,0.8s						
PARC				AML	AML		
	comp=N,478μm,0.9s						
PARC				AML	AML		
	comp=N,385μm,0.1s						
PARC				AML	AML		
	comp=E,403μm,0.2s						
SSP9	**Sansepolcro**	**0.26**	**156**	P	**Pg**	**11 40 19.4**	**-0.2**
SSP9				S	**Sg**	**11 40 24.0**	**+0.3**
SSP9				AML	AML		
	comp=E,334μm,0.8s						
SSP9				AML	AML		
	comp=N,325μm,0.2s						
SSP9				AML	AML		
	comp=N,325μm,0.2s						
SSP9				AML	AML		
	comp=E,300μm,0.3s						
LMD	**Lutirano**	**0.33**	**323**	P	**Pb**	**11 40 20.5**	**-0.4**
LMD				S	**Sb**	**11 40 25.9**	**+0.1**
RUFI	**Rufina**	**0.34**	**274**	⇑P	**Pb**	**11 40 21.0**	**-0.1**
RUFI				S	**Sb**	**11 40 26.5**	**+0.3**
BADI	**Badiali**	**0.36**	**148**	P	**Pg**	**11 40 20.9**	**-0.3**
BADI				S	**Sb**	**11 40 27.0**	**+0.4**
BADI				AML	AML		
	comp=E,352μm,0.1s						
BADI				AML	AML		
	comp=N,307μm,0.4s						
BADI				AML	AML		
	comp=N,302μm,0.1s						
BADI				AML	AML		
	comp=E,352μm,0.1s						
PE3	**Peglio**	**0.39**	**108**	⇑P	**Pg**	**11 40 21.4**	**-0.3**
PE3				S	**Sb**	**11 40 28.1**	**+0.6**
PE3				AML	AML		
	comp=E,852μm,0.4s						
PE3				AML	AML		
	comp=N,1030μm,0.3s						
PE3				AML	AML		
	comp=E,817μm,0.3s						
PE3				AML	AML		
	comp=N,702μm,0.3s						
APEC	**Apecchio**	**0.41**	**129**	P	**Pg**	**11 40 21.7**	**-0.4**
APEC				S	**Sb**	**11 40 28.6**	**+0.6**
APEC				AML	AML		
	comp=E,236μm,0.5s						
APEC				AML	AML		
	comp=N,215μm,0.4s						
APEC				AML	AML		
	comp=N,215μm,0.4s						
APEC				AML	AML		
	comp=E,209μm,0.3s						
NARO	**Abbazia di Nar**	**0.48**	**115**	P	**Pg**	**11 40 22.6**	**-0.7**
NARO				S	**Sb**	**11 40 30.4**	**+0.4**
NARO				AML	AML		
	comp=E,100μm,1.1s						
NARO				AML	AML		
	comp=N,114μm,0.9s						
NARO				AML	AML		
	comp=N,105μm,0.1s						
NARO				AML	AML		
	comp=E,72μm,0.1s						
PIEI	**Pieia**	**0.49**	**125**	P	**Pg**	**11 40 22.7**	**-0.8**
PIEI				S	**Sb**	**11 40 30.3**	**+0.1**
PIEI				AML	AML		
	comp=E,115μm,0.8s						
PIEI				AML	AML		
	comp=N,122μm,0.3s						
PIEI				AML	AML		
	comp=E,98μm,0.2s						
PIEI				AML	AML		
	comp=N,122μm,0.3s						
SEI	**Scarperia**	**0.51**	**298**	P	**Pb**	**11 40 24.4**	**+0.4**
ATMI	**Monte Miggiano**	**0.52**	**157**	AML	AML		
	comp=N,350μm,0.4s						
ATMI				AML	AML		
	comp=E,554μm,0.3s						
ATVO	**AVT- Monte Val**	**0.53**	**145**	P	**Pg**	**11 40 24.1**	**-0.2**
ATVO				S	**Sn**	**11 40 33.1**	**-1.4**
ATVO				AML	AML		
	comp=E,180μm,1.5s						
ATVO				AML	AML		
	comp=N,151μm,1.4s						
ATVO				AML	AML		
	comp=N,130μm,0.4s						
ATVO				AML	AML		
	comp=E,180μm,0.5s						
MPAG	**Monte Paganucc**	**0.59**	**108**	AML	AML		
	comp=N,102μm,0.7s						
MPAG				AML	AML		
	comp=E,30000μm,1.6s						
MPAG				AML	AML		
	comp=N,11300μm,1.6s						
MPAG				AML	AML		
	comp=E,282μm,0.7s						
MPAG				AML	AML		
	comp=E,282μm,1.3s						
MPAG				AML	AML		
	comp=N,102μm,1.3s						
MPAG				AML	AML		
	comp=E,30000μm,0.4s						
MPAG				AML	AML		
	comp=N,11300μm,0.4s						
SBPO	**S.Benedetto Po**	**1.45**	**329**	AML	AML		
	comp=E,3645μm,0.1s						
SBPO				AML	AML		
	comp=N,2775μm,1.5s						
BRJN	**Brijuni**	**1.67**	**49**	*e*Pn	**Pn**	**11 40 42.4**	**+0.6**
BRJN				Sn	**Sb**	**11 41 03.8**	**-0.5**
SMRN	**Sveta Marina**	**1.98**	**51**	*e*Pn	**Pn**	**11 40 46.1**	**+0.1**
SMRN				Sn	**Sn**	**11 41 10.4**	**+0.3**

SOME ***22*** *11:56:06.5, 39°.52N×71°.87E, h15km*
KRNET ***22*** *11:56:09.7±0.1, 39°.41N×72°.36E, h14km, mb3.0*
NNC ***22*** *11:56:20.8±2.9, 39°.87N×72°.36E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=21.6km s-min=10.2km az=0.0*

ISC 22 11:56:10.6±1.4, 39°.26N±0°.06×72°.27E±0°.03, h9km±11km, n33, σ2°37/57, 27C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.43**	**301**	⇑*e*P	**Pg**	**11 56 18.3**	**-0.8**
DRK				⇑*e*S	**Sb**	**11 56 24.7**	**-2.5**
	baz=80						
SFK	**Sufi-Kurgan**	**1.21**	**51**	⇑*e*P	**Pn**	**11 56 30.3**	**-3.7**
SFK				⇑*e*S	**Sb**	**11 56 45.2**	**-4.5**
	baz=55						
OHH	**Osh**	**1.32**	**17**	⇑*e*P	**Pn**	**11 56 31.9**	**-3.5**
OHH				⇑*e*S	**Sb**	**11 56 48.2**	**-4.6**
	baz=16						
BTK	**Batken**	**1.38**	**306**	⇓*e*P	**Pn**	**11 56 35.2**	**-0.9**
BTK				⇓*e*S	**Sg**	**11 56 53.9**	**-1.1**
	baz=99						
GAR	**Garm**	**1.54**	**261**	⇑*e*P	**Pg**	**11 56 40.3**	**0.0**
GAR				⇑*e*S	**Sg**	**11 57 02.6**	**+2.3**
	baz=56						
ARSB	**Arslanbob**	**2.13**	**15**	⇑*e*P	**Pn**	**11 56 46.4**	**-0.2**
ARSB				⇑*e*S	**Sn**	**11 57 13.2**	**0.0**
	baz=14						
TRKS	**Terek-Say**	**2.43**	**339**	⇑*e*P	**Pn**	**11 56 50.1**	**-0.5**
TRKS				⇑*e*S	**Sn**	**11 57 19.8**	**-0.7**
	baz=37						
CHGR	**Chuyangaron**	**2.50**	**257**	⇑*e*P	**Pb**	**11 56 55.0**	**-0.8**
CHGR				⇑*e*S	**Sb**	**11 57 28.1**	**+1.4**
	baz=54						
ARK	**Arkit**	**2.55**	**355**	⇓*e*P	**Pn**	**11 56 52.1**	**-0.1**
ARK				⇓*e*S	**Sn**	**11 57 23.5**	**+0.1**
	baz=53						
ARLS	**Aral**	**3.03**	**30**	⇑*e*P	**Pn**	**11 56 58.8**	**-0.1**
ARLS				⇑*e*S	**Sn**	**11 57 34.8**	**-0.6**
	baz=31						
MNAS	**Manas**	**3.23**	**3**	⇓*e*P	**Pn**	**11 57 01.9**	**+0.3**
MNAS				⇓*e*S	**Sn**	**11 57 39.9**	**-0.4**
	baz=2.0						
MRKS	**Merke**	**3.56**	**11**	*e*P	**Pn**	**11 57 08.7**	**+2.6**
	3.6nm,0.3s						
MRKS				*e*S	**Sb**	**11 57 52.8**	**-4.2**
	9.5nm,0.4s						
MRKS	**Merke**	**3.56**	**11**	Pg	**Pb**	**11 57 13.8**	**0.0**
	3.6nm,0.3s						
MRKS				Lg	Lg	11 57 53.3	
	9.5nm,0.4s						
NRN	**Naryn**	**3.58**	**52**	⇑*e*P	**Pn**	**11 57 06.5**	**-0.1**
NRN				⇑*e*S	**Sn**	**11 57 47.9**	**-1.3**
	baz=53						
EKS2	**Erkin-Say**	**3.58**	**18**	⇑*e*P	**Pn**	**11 57 06.6**	**+0.1**
EKS2				⇑*e*S	**Sn**	**11 57 48.1**	**-0.9**
	baz=18						
KBK	**Karagaybulak**	**3.95**	**30**	⇑*e*P	**Pn**	**11 57 11.7**	**+0.1**
KBK				⇑*e*S	**Sn**	**11 57 57.0**	**-1.1**
	baz=30						
FRU1	**Bishkek**	**3.97**	**26**	⇑*e*P	**Pn**	**11 57 12.1**	**+0.4**
FRU1				⇑*e*S	**Sn**	**11 57 57.7**	**-0.7**
	baz=26						
KK31	**Karatay Array**	**4.06**	**341**	Pn	**Pn**	**11 57 14.9**	**+1.9**
	1.4nm,0.4s,baz=157,slow=16,SNR=19						
KK31				⇑Sn	**Sn**	**11 58 00.6**	**0.0**
	3.0nm,0.6s,baz=154,slow=22						
KKAR	**Karatay Array**	**4.06**	**341**	⇑*e*P	**Pn**	**11 57 13.7**	**+0.7**
KKAR				⇑*e*S	**Sn**	**11 58 00.5**	**-0.1**
	baz=40						
CHMS	**Chumysh**	**4.18**	**26**	⇓*e*P	**Pn**	**11 57 14.6**	**0.0**
CHMS				⇓*e*S	**Sn**	**11 58 02.1**	**-1.4**
	baz=26						
BRLS	**Borolday**	**4.19**	**335**	Pg	**Pb**	**11 57 26.0**	**+1.5**
	2.1nm,0.3s						
BRLS				Lg	Lg	11 58 13.8	
	4.2nm,0.5s						
USP	**Ospenovka**	**4.34**	**22**	⇓*e*P	**Pn**	**11 57 16.9**	**+0.1**
USP				⇓*e*S	**Sn**	**11 58 06.0**	**-1.5**
	baz=22						
KST	**Kastek**	**4.70**	**35**	*e*P	**Pb**	**11 57 33.2**	**0.0**
	1.9nm,0.5s						
KST				*e*S	**Sb**	**11 58 35.6**	**+5.8**
	6.4nm,0.7s						
KST	**Kastek**	**4.70**	**35**	Pg	**Pg**	**11 57 40.0**	**-0.6**
	1.9nm,0.5s						
KST				Lg	Lg	11 58 37.8	
	6.4nm,0.7s						
DGS	**Degeres**	**4.77**	**32**	*e*P	**Pb**	**11 57 33.1**	**-1.4**
	3.8nm,0.4s						
DGS				*e*S	**Sb**	**11 58 35.0**	**+2.9**
	6.6nm,0.6s						
DGS	**Degeres**	**4.77**	**32**	Pg	**Pb**	**11 57 38.0**	**+3.5**
	3.8nm,0.4s						
DGS				Lg	Lg	11 58 35.2	
	6.6nm,0.6s						
KRBS	**Karabastau**	**5.12**	**29**	*e*P	**Pb**	**11 57 38.8**	**-1.5**
	2.5nm,0.4s						
KRBS				*e*S	**Sb**	**11 58 45.3**	**+3.4**
	3.7nm,0.6s						
KRBS	**Karabastau**	**5.12**	**29**	Pg	**Pb**	**11 57 42.8**	**+2.5**
	2.5nm,0.4s						
KRBS				Lg	Lg	11 58 42.6	
	3.7nm,0.6s						
TNSS	**Tian-Shan**	**5.17**	**42**	*e*P	**Pb**	**11 57 41.6**	**+0.3**
	1.9nm,0.4s						
TNSS				*e*S	**Sb**	**11 58 49.9**	**+6.2**
	2.0nm,0.5s						
TNSS	**Tian-Shan**	**5.17**	**42**	Pg	**Pb**	**11 57 44.6**	**+3.3**
	1.9nm,0.4s						
TNSS				Lg	Lg	11 58 46.1	
	2.0nm,0.5s						
MDOK	**Medeo**	**5.31**	**41**	Pg	**Pg**	**11 57 50.1**	**-2.2**
	2.2nm,0.3s						
MDOK				Lg	Lg	11 58 55.3	
	5.5nm,0.5s						
KTBS	**Karatobe**	**5.54**	**35**	*e*P	**Pb**	**11 57 48.1**	**+0.5**
	1.5nm,0.5s						
KTBS				*e*S	**Sb**	**11 59 00.7**	**+6.5**
	2.8nm,0.7s						
KTBS	**Karatobe**	**5.54**	**35**	Pg	Pb	11 57 52.6	+5.0
	1.5nm,0.5s						
KTBS				Lg	Lg	11 58 59.7	
	2.8nm,0.7s						

ISN ***22*** *12:06:09.2±1.1, 34°.63N×46°.19E, h18km±20km, ML2.5*
TEH ***22*** *12:06:09.3, 34°.60N×46°.18E, h5km, ML2.7*

ISC 22 12:06:09.0±1.4, 34°.64N±0°.05×46°.17E±0°.04, h7km±15km, n10, σ0°62/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.19**	**71**	Pg	**Pg**	**12 06 13.0**	**+0.2**
IGHG	**Ghaleghazi**	**0.45**	**133**	Pg	**Pg**	**12 06 18.1**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.57**	**203**	Pg	**Pg**	**12 06 20.2**	**+0.2**
ILIN	**Lien**	**0.71**	**67**	Pg	**Pn**	**12 06 25.0**	**-0.7**
KCHF	**Cheshme Sefid,**	**0.80**	**117**	Pg	**Pb**	**12 06 25.2**	**-0.3**
ILBA	**Ilam Banvizeh**	**1.01**	**178**	Pg	**Pn**	**12 06 29.7**	**-0.1**
IBDR	**Badra**	**1.54**	**188**	*e*Pg	**Pn**	**12 06 36.5**	**-0.4**
	baz=8.0						
IBDR				*e*Sg	**Sg**	**12 06 58.0**	**-0.5**
IBDR				AML	AML	12 07 15.4	
	comp=N,9.3nm,0.6s						
IBDR				AML	AML	12 07 19.5	
	comp=E,13nm,0.9s						
IKRK	**Kirkuk**	**1.68**	**297**	*e*Pn	**Pb**	**12 06 40.0**	**-0.4**
IKRK				*e*Sn	**Sb**	**12 07 03.0**	**+1.2**
IKRK				AML	AML	12 07 11.2	
	comp=N,125nm,0.4s						
IKRK				AML	AML	12 07 15.6	
	comp=E,130nm,1.2s						
IKFM	**Kafar-mosalman**	**1.78**	**128**	Pg	**Pg**	**12 06 43.3**	**+0.2**
HSAM	**Samen**	**2.05**	**101**	Pn	**Pb**	**12 06 47.4**	**+0.5**

IDC ***22*** *12:08:01.4±2.5, 36°.42N×70°.96E, h185km±22km, mb3.8/20, mbtmp4.4/25, Error ellipse: s-maj=15.7km s-min=10.4km az=24.0*
MOS ***22*** *12:08:02.2±0.8, 36°.57N×71°.00E, h198km, mb4.4/24, Error ellipse: s-maj=7.6km s-min=3.6km az=80.8*
NEIC ***22*** *12:08:03.5±1.1, 36°.60N±0°.07×70°.92E±0°.09, h194km±4km, mb4.3/46, Error ellipse: s-maj=11.1km s-min=10.1km az=50.0*
NNC ***22*** *12:08:12.0±10.0, 37°.29N×71°.20E, h214km±115km, mb3.7, mpv4.9, Error ellipse: s-maj=111.8km s-min=56.5km az=171.0*

ISC 22 12:08:02.1±0.5, 36°.53N±0°.04×70°.97E±0°.04, h184km±3km, h185km:pP-P, n389, σ1°12/428, mb4.3/54, 14C-10D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.52**	**348**	Pn	**Pn**	**12 08 46.4**	**+1.0**
KBL	**Kabul**	**2.53**	**219**	Pn	**Pn**	**12 08 47.3**	**+1.6**
KBL	**Kabul**	**2.53**	**219**	PN	**Pn**	**12 08 47.3**	**+1.6**
CHGR	**Chuyangaron**	**2.56**	**326**	Pn	**Pn**	**12 08 46.8**	**+0.9**
CHGR	**Chuyangaron**	**2.56**	**326**	PN	**Pn**	**12 08 46.8**	**+0.9**
SIMJ	**Simiganj**	**2.63**	**324**	Pn	**Pn**	**12 08 47.6**	**+0.9**
DRK	**Karamyk**	**3.02**	**12**		**Pn**	**12 08 53.4**	**+2.0**
DRK	**Karamyk**	**3.02**	**12**	PN	**Pn**	**12 08 53.4**	**+2.0**
NIL	**Nilore**	**3.43**	**146**	Pn	**Pn**	**12 08 58.9**	**+2.6**
NIL	**Nilore**	**3.43**	**146**	PN	**Pn**	**12 08 58.9**	**+2.6**
OHH	**Osh**	**4.23**	**19**	PN	**Pn**	**12 09 07.5**	**+1.2**
KSH	**Kashi**	**4.95**	**51**	Pn	**Pn**	**12 09 12.8**	**-2.8**
KSH				Sn	Sn	12 10 04.0	-9.3
KSH				smax	smax		
	comp=N,260nm,0.5s						
KSH				smax	smax		
	comp=E,350nm,0.7s						
TRKS	**Terek-Say**	**4.99**	**1**	PN	**Pn**	**12 09 16.4**	**+0.2**
JMU	**Jammu**	**5.00**	**138**	*e*P	**Pn**	**12 09 18.5**	**+2.4**
JMU				*e*S	**Sn**	**12 10 12.5**	**-1.7**
ARSB	**Arslanbob**	**5.04**	**18**		**Pn**	**12 09 17.1**	**+0.4**
ARSB	**Arslanbob**	**5.04**	**18**	PN	**Pn**	**12 09 17.1**	**+0.4**
ARK	**Arkit**	**5.32**	**8**	PN	**Pn**	**12 09 21.0**	**+0.7**
IUG	**Iuzhnay**	**5.66**	**353**	*e*PN	**Pn**	**12 09 27.7**	**+3.0**
THN	**Thein Dam**	**5.66**	**135**	*e*P	**Pn**	**12 09 26.5**	**+1.8**
THN				*e*S	**Sn**	**12 10 29.0**	**-0.8**
THN				IAML		12 10 31.3	
	comp=E,856nm,0.4s						
THN				IAML		12 10 45.9	
	comp=E,517nm,0.3s						
ARLS	**Aral**	**5.92**	**25**	PN	**Pn**	**12 09 28.4**	**+0.1**
AML	**Almayashu**	**5.98**	**20**	P	**Pn**	**12 09 29.9**	**+0.7**
	SNR=890						
NRN	**Naryn**	**6.27**	**37**	Pn	**Pn**	**12 09 32.1**	**-0.8**
NRN	**Naryn**	**6.27**	**37**	PN	**Pn**	**12 09 32.1**	**-0.8**
UCH	**Uchtor**	**6.32**	**25**	P	**Pn**	**12 09 33.0**	**-0.6**
	SNR=93						
DZA	**Taraz**	**6.36**	**2**	*e*P	**Pn**	**12 09 34.8**	**+0.9**
	baz=2.0						
DZA	**Taraz**	**6.36**	**2**	*e*PN	**Pn**	**12 09 34.7**	**+0.9**
EKS2	**Erkin-Say**	**6.50**	**19**	P	**Pn**	**12 09 36.4**	**+0.7**
	SNR=103						
BRLS	**Borolday**	**6.55**	**353**	*e*P	**Pn**	**12 09 33.3**	**-3.0**
	comp=E,10nm,0.4s,baz=351						
BRLS	**Borolday**	**6.55**	**353**	*e*PN	**Pn**	**12 09 33.3**	**-3.0**
BRLS				pmax	pmax		
	comp=Z,11nm,0.4s						
KK31	**Karatay Array**	**6.58**	**357**	Pn	**Pn**	**12 09 37.0**	**+0.4**
KK31	**Karatay Array**	**6.58**	**357**	⇑P	**Pn**	**12 09 36.9**	**+0.2**
	comp=Z,36nm,0.4s,baz=177,slow=13						
KK31				⇑S	**Sn**	**12 10 46.4**	**-4.9**
	comp=Z,131nm,0.5s,baz=188,slow=24,SNR=3.8						
KK31	**Karatay Array**	**6.58**	**357**	PN	**Pn**	**12 09 36.8**	**+0.2**
KKAR	**Karatay Array**	**6.58**	**357**	Pn	**Pn**	**12 09 36.9**	**+0.3**
KKAR	**Karatay Array**	**6.58**	**357**	Pn	**Pn**	**12 09 37.0**	**+0.4**
KKAR	**Karatay Array**	**6.58**	**357**	PN	**Pn**	**12 09 37.0**	**+0.4**
AAK	**Ala-Archa**	**6.68**	**23**		**Pn**	**12 09 38.6**	**+0.5**
AAK	**Ala-Archa**	**6.68**	**23**	P	**Pn**	**12 09 38.7**	**+0.6**
	comp=Z,63nm,0.3s,baz=175,slow=6.2,SNR=62						
AAK				S	**Sn**	**12 10 53.1**	**-0.9**
	comp=Z,34nm,0.4s,baz=42,slow=15,SNR=10						
BHK	**Bhakra**	**6.82**	**137**	*e*P	**Pn**	**12 09 40.7**	**+0.8**
BHK				*e*S	**Sn**	**12 10 54.5**	**-2.7**
BHK				IAML		12 10 57.6	
	comp=E,422nm,0.3s						
BHK				IAML		12 11 10.0	
	comp=E,437nm,0.1s						
KBK	**Karagaybulak**	**6.84**	**25**	P	**Pn**	**12 09 41.5**	**+1.2**
	SNR=31						
FRU1	**Bishkek**	**6.88**	**23**		**Pn**	**12 09 41.7**	**+1.1**
FRU1	**Bishkek**	**6.88**	**23**	PN	**Pn**	**12 09 41.7**	**+1.1**
ULHL	**Ulahol**	**7.01**	**34**	P	**Pn**	**12 09 43.2**	**+0.6**
	SNR=8.1						
BOOM	**Boomskoye usch**	**7.08**	**31**	PN	**Pn**	**12 09 43.9**	**+0.5**
CHMS	**Chumysh**	**7.08**	**23**	P	**Pn**	**12 09 43.7**	**+0.4**
	SNR=42						
USP	**Ospenovka**	**7.25**	**21**	P	**Pn**	**12 09 45.5**	**-0.1**
	SNR=128						
TKM2	**Tokmak 2**	**7.31**	**28**	P	**Pn**	**12 09 47.2**	**+0.8**
	SNR=303						
TKM2	**Tokmak 2**	**7.31**	**28**	⇑P	**Pn**	**12 09 47.0**	**+0.5**
	comp=E,149nm,0.6s						
TKM2				⇓S	**Sn**	**12 11 06.4**	**-2.6**
	comp=E,56nm,1.1s						
TKM2	**Tokmak 2**	**7.31**	**28**	PN	**Pn**	**12 09 46.9**	**+0.5**
TARG	**Taragay, Kyrgy**	**7.42**	**44**		**Pn**	**12 09 48.0**	**-0.2**
TARG	**Taragay, Kyrgy**	**7.42**	**44**	PN	**Pn**	**12 09 48.0**	**-0.2**
SMLA	**Simla**	**7.46**	**134**	*e*P	**Pn**	**12 09 49.0**	**+0.7**
SMLA				*e*S	**Sn**	**12 11 09.3**	**-2.9**
SMLA				*e*S		12 11 09.4	
SMLA				IAML		12 11 13.3	
	comp=E,604nm,0.6s						
SMLA				IAML		12 11 13.5	
	comp=E,397nm,0.6s						
SGDS	**Sogindy**	**7.46**	**21**	*e*P	**Pn**	**12 09 48.1**	**-0.2**
	baz=20						
SGDS	**Sogindy**	**7.46**	**21**	*e*PN	**Pn**	**12 09 48.1**	**-0.2**
TNSS	**Tian-Shan**	**7.96**	**33**	*e*P	**Pn**	**12 09 55.2**	**0.0**
	baz=33						
TNSS				*e*S	**Sn**	**12 11 26.1**	**+1.3**
	baz=33						
TNSS	**Tian-Shan**	**7.96**	**33**	*e*PN	**Pn**	**12 09 55.1**	**0.0**
TNSS				*e*S	**Sn**	**12 11 26.0**	**+1.3**
AAA	**Alma-Ata**	**8.08**	**33**	*e*P	**Pn**	**12 09 56.9**	**+0.4**
	baz=32						
AAA	**Alma-Ata**	**8.08**	**33**	*e*PN	**Pn**	**12 09 56.8**	**+0.3**
MDOK	**Medeo**	**8.11**	**33**	*e*P	**Pn**	**12 09 57.2**	**+0.3**
	baz=33						
MDOK				*e*S	**Sn**	**12 11 29.6**	**+1.8**
	baz=33						
MDOK	**Medeo**	**8.11**	**33**	⇑P	**Pn**	**12 09 57.7**	**+0.9**
	comp=E,27nm,0.5s						
MDOK				S	Sn	12 11 15.5	-12
	comp=E,16nm,0.9s						
MDOK	**Medeo**	**8.11**	**33**	*e*PN	**Pn**	**12 09 57.1**	**+0.3**
MDOK				*e*S	**Sn**	**12 11 29.6**	**+1.8**
PRZ	**Przheval'sk**	**8.26**	**42**		**Pn**	**12 09 59.5**	**+0.5**
PRZ	**Przheval'sk**	**8.26**	**42**	PN	**Pn**	**12 09 59.5**	**+0.5**
DDI	**Dehra Dun**	**8.56**	**134**	*e*P	**Pn**	**12 10 03.4**	**+0.5**
DDI				*e*S	**Sn**	**12 11 34.4**	**-4.4**
DDI				*e*S		12 11 34.9	
DDI				IAML		12 11 41.8	
	comp=E,312nm,0.2s						
DDI				IAML		12 11 42.6	
	comp=E,326nm,0.3s						
SATY	**Saty**	**8.67**	**39**	*e*P	**Pn**	**12 10 04.2**	**0.0**
	baz=38						

SATY Saty 8.67 39 *e*PN Pn 12 10 04.2 0.0
BTLS Baital 8.81 14 *e*P Pn 12 10 05.8 -0.2
baz=14
BTLS Baital 8.81 14 *e*PN Pn 12 10 05.7 -0.2
UZB Uzynbulak 9.05 41 *e*P Pn 12 10 09.6 +0.3
baz=40
UZB Uzynbulak 9.05 41 *e*P Pn 12 10 09.5 +0.3
KPKS Kokpek 9.11 38 *e*P Pn 12 10 09.8 -0.2
baz=38
KPKS Kokpek 9.11 38 *e*P Pn 12 10 09.7 -0.2
ARXS Arharly 9.28 32 *e*P Pn 12 10 11.3 -0.9
TDK Taldyqorghan 10.16 31 *e*P Pn 12 10 23.7 +0.1
comp=E,7.5nm,0.5s,baz=31
TDK Taldyqorghan 10.16 31 *e*P Pn 12 10 23.6 0.0
TDK pmax pmax
comp=Z,8.0nm,0.5s
MAKZ Makanchi 13.14 35 Pn 12 11 01.2 -0.6
MAKZ Makanchi 13.14 35 P Pn 12 11 01.2 -0.6
MK31 Makanchi Array 13.28 36 Pn 12 11 03.9 +0.3
MK31 Makanchi Array 13.28 36 ⇓P Pn 12 11 04.2 +0.7
comp=Z,8.8nm,0.7s,baz=210,slow=14,SNR=42
MK31 Makanchi Array 13.28 36 *de*P Pn 12 11 04.9 +1.4
MKAR Makanchi Array 13.28 36 Pn 12 11 04.2 +0.7
MKAR Makanchi Array 13.28 36 P Pn 12 11 03.8 +0.3
comp=Z,7.8nm,0.8s,baz=206,slow=8.1,SNR=27
MKAR S **S** 12 13 34.3 -0.2
comp=Z,0.6nm,0.6s,baz=220,slow=11,SNR=1.2
BHPL Bhopal 14.37 155 *e*P **P** 12 11 20.8 +1.6
BHPL *e*S S 12 13 46.1 -13
BHPL *e*S Sn 12 13 48.0 -10
WMQ Urumqi 14.70 55 *e*P **P** 12 11 22.9 +0.3
WMQ pmax pmax
comp=Z,25nm,0.7s
ZSN Zaisan 15.00 39 *e*P Pn 12 11 25.2 +0.3
baz=39
ZSN Zaisan 15.00 39 *e*P Pn 12 11 25.2 +0.3
AB31 Akbulak array 15.05 331 P Pn 12 11 24.2 -1.1
comp=Z,4.5nm,0.4s,baz=146,slow=12,SNR=265
AB31 Akbulak array 15.05 331 P Pn 12 11 24.3 -1.1
ABKAR Akbulak array 15.05 331 P Pn 12 11 24.3 -1.1
ABKAR Akbulak array 15.05 331 P Pn 12 11 24.1 -1.3
KURBB Kurchatov Arra 15.10 19 P Pn 12 11 24.7 -1.3
comp=Z,2.7nm,0.4s,baz=208,slow=10,SNR=18
KURBB S **S** 12 14 14.2 -0.8
comp=Z,0.6nm,0.7s,baz=1.0,slow=2.6,SNR=1.9
KURBB Kurchatov Arra 15.10 19 ⇑P **P** 12 11 27.0 +0.1
comp=Z,6.2nm,0.5s
KURK Kurchatov 15.21 19 P Pn 12 11 27.4 0.0
KURK Kurchatov 15.21 19 P Pn 12 11 24.7 -2.6
KURK S **S** 12 14 14.3 -3.1
BVA0 Borovoye Array 16.50 359 ⇓P **P** 12 11 42.9 +0.6
comp=Z,5.3nm,0.6s,baz=169,slow=13,SNR=41
BVA0 Borovoye Array 16.50 359 P **P** 12 11 42.9 +0.6
BVAR Borovoye Array 16.50 359 P Pn 12 11 43.0 0.0
comp=Z,4.1nm,0.3s,baz=154,slow=9.5,SNR=51
BVAR S **S** 12 14 42.0 -2.9
comp=Z,3.0nm,0.5s,baz=158,slow=21,SNR=5.5
BRVK Borovoye 16.53 359 Pn 12 11 43.6 +0.2
BRVK IAmb IAmb 12 11 45.8
comp=Z,20nm,1.1s
BRVK Borovoye 16.53 359 P Pn 12 11 43.6 +0.2
BRVK pmax pmax
comp=Z,20nm,1.2s
AKTO Aktyubinsk 16.74 330 P **P** 12 11 45.9 +0.8
comp=Z,21nm,0.3s,baz=143,slow=7.5,SNR=75
AKTO S **S** 12 14 47.3 -2.8
comp=Z,2.4nm,0.4s,baz=169,slow=20,SNR=1.9
WSAR Wadi Sarin 17.01 222 P **P** 12 11 49.6 +1.5
comp=Z,5.1nm,0.7s,baz=65,slow=8.5,SNR=4.3
ZAA0 Zalesovo Array 19.90 25 P **P** 12 12 19.5 +0.3
ZALV Zalesovo Beam 19.90 25 P **P** 12 12 19.3 0.0
ZALV Zalesovo Beam 19.90 25 P **P** 12 12 19.6 +0.4
comp=Z,16nm,0.6s,baz=221,slow=11,SNR=83
comp=Z,16nm,0.6s
GNI Garni 20.86 288 *de*P **P** 12 12 31.0 +1.1
GNI pmax pmax
comp=Z,75nm,1.6s
SHL Shillong 20.94 116 P **P** 12 12 31.1 +0.2
SHL IAmb IAmb 12 12 34.4
comp=Z,15nm,1.0s
SHL Shillong 20.94 116 P **P** 12 12 31.1 +0.2
SHL pmax pmax
comp=Z,15nm,1.0s
ARU Arti 21.60 341 P **P** 12 12 35.3 -1.9
ARU IAmb IAmb 12 12 39.7
comp=Z,15nm,1.0s
ARU Arti 21.60 341 P **P** 12 12 37.3 +0.1
comp=Z,7.1nm,0.5s
comp=Z,7.1nm,0.5s
ARU Arti 21.60 341 *d i*P **P** 12 12 37.5 +0.3
ARU *PP **pP** 12 13 07.7 -1.9
ARU 12 13 17.8
ARU S **S** 12 16 26.0 +2.0
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 21.60 341 P **P** 12 12 37.6 +0.3
comp=Z,18nm,1.3s
KBZ Khabaz 22.57 297 P **P** 12 12 46.5 -0.3
comp=Z,1.3nm,0.6s,baz=115,slow=8.9,SNR=4.5
comp=Z,1.3nm,0.6s
KBZ Khabaz 22.57 297⇑ *e*P **P** 12 12 46.7 0.0
KBZ pmax pmax
comp=Z,7.0nm,1.9s
KIV Kislovodsk 22.75 298 *e*P **P** 12 12 50.0 +1.4
KIV *e*S **S** 12 16 45.8 +2.6
KIV pmax pmax
comp=Z,6.0nm,1.0s
BELG Belogornoye 22.85 321 *c i*P **P** 12 12 49.9 +0.7
BELG pmax pmax
comp=Z,4.0nm,0.6s
KIRV Kirov 26.20 334 *c i*P **P** 12 13 20.1 +0.7
ANN Anapa 26.60 299 *e*P **P** 12 13 17.8 -5.4
ANN *e**PP **pP** 12 13 55.8 -5.0
ANN *e*S **S** 12 17 36.9 -7.1
ANN pmax pmax
comp=Z,25nm,0.9s
PZH PanZhiHua 27.97 102 P **P** 12 13 37.8 +2.1
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,160nm,5.3s
SONM Songino Array 28.34 55 P **P** 12 13 39.5 +0.7
comp=Z,1.2nm,0.5s,baz=262,slow=8.8,SNR=8.5
comp=Z,1.2nm,0.5s
BRTR Keskin Array B 29.40 288 P **P** 12 13 48.9 +0.6
comp=Z,0.7nm,0.6s,baz=177,slow=11,SNR=3.0
comp=Z,0.7nm,0.6s
OBN Obninsk 29.90 319 *ce*P **P** 12 13 52.7 +0.4
OBN *e**PP **pP** 12 14 32.2 +1.6
OBN *e**SP **sP** 12 14 51.5 -0.5
OBN *e* 12 14 59.3
OBN *e* 12 16 49.9
OBN pmax pmax
comp=Z,6.0nm,0.4s
BR231 Keskin MP Arra 30.05 288 P **P** 12 13 50.1 -3.9
CMAR Chiang Mai Arr 30.49 119 P **P** 12 13 58.0 +0.1
comp=Z,1.3nm,0.8s,baz=204,slow=31,SNR=5.8
comp=Z,1.3nm,0.8s
CMAR Chiang Mai Arr 30.49 119 P **P** 12 13 58.0 +0.1
HHC Hu-ho-hao-te 31.77 70 *e*P **P** 12 14 12.8 +3.7
HHC pP pP 12 14 51.0 +2.4
HHC PP **PP** 12 15 27.0 +2.4
HHC pmax pmax
comp=Z,23nm,0.5s
HHC pmax pmax
comp=Z,70nm,4.7s
AK09 Malin Array Si 32.86 309 P **P** 12 14 18.2 0.0
AK10 Malin Array Si 32.88 309 P **P** 12 14 18.4 0.0
AK08 Malin Array Si 32.88 309 P **P** 12 14 18.3 -0.1
AK07 Malin Array Si 32.90 309 P **P** 12 14 18.7 +0.1
AK05 Malin Array Si 32.91 309 P **P** 12 14 18.7 0.0
AKASG Malin Array Be 32.91 309 P **P** 12 14 18.5 -0.2
AKASG Malin Array Be 32.91 309 P **P** 12 14 19.1 +0.3
comp=Z,4.1nm,0.6s,baz=82,slow=6.9,SNR=20
comp=Z,4.1nm,0.6s
AKASG Malin Array Be 32.91 309 *i*P **P** 12 14 19.0 +0.3
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKBB Malin Array Si 32.91 309 P **P** 12 14 17.5 -1.1
AKBB IAmb IAmb 12 14 19.5
comp=Z,7.2nm,0.7s
AKBB Malin Array Si 32.91 309 *d i*P **P** 12 14 19.0 +0.3
AKBB pmax pmax
comp=Z,7.0nm,0.6s
AKBB Malin Array Si 32.91 309 P **P** 12 14 18.6 -0.1

AK02 Malin Array Si 32.91 309 P **P** 12 14 18.7 0.0
KIEV Kiev 32.92 309 P **P** 12 14 17.9 -0.9
KIEV IAmb IAmb 12 14 19.5
comp=Z,6.5nm,0.7s
KIEV Kiev 32.92 309 P **P** 12 14 17.9 -0.9
KIEV pmax pmax
comp=Z,7.0nm,0.7s
KIEV Kiev 32.92 309 P **P** 12 14 18.8 0.0
comp=Z,36nm,0.7s
SORM Soroca 33.17 304 P **P** 12 14 20.8 -0.2
comp=Z,6.0nm,0.4s,comp=Z,1um
MI30 MI30,Zelenitsa 33.57 309 P **P** 12 14 24.4 0.0
LUBAR Lubar, Ukraine 33.73 307 P **P** 12 14 25.7 -0.1
MI28 Mi28,Pidlybu 33.92 309 P **P** 12 14 27.6 +0.2
NRIK Noril'sk 34.10 10 P **P** 12 14 30.2 +1.4
NRIK Noril'sk 34.10 10 P **P** 12 14 29.8 +1.1
comp=Z,9.3nm,0.6s,baz=204,slow=6.0,SNR=12
comp=Z,9.3nm,0.6s
NRIK Noril'sk 34.10 10 *c i*P **P** 12 14 29.9 +1.1
NRIK pmax pmax
comp=Z,12nm,0.9s
KMPD K-Podol'skiy 34.46 305 P **P** 12 14 31.4 -0.7
MNK Minsk 34.46 315 *i*P **P** 12 14 32.3 +0.2
comp=E,218nm,23.7s
MNK *i*P **P** 12 14 32.3 +0.2
comp=N,7.0nm,0.8s
MNK *i*P **P** 12 14 32.3 +0.2
comp=Z,11nm,0.8s,baz=104
MNK *i*pP **pP** 12 15 12.5 +1.7
MNK *i*PP **PP** 12 15 53.2 -0.7
MNK *i*PcP **PcP** 12 17 03.3 +0.5
MNK *i*S **S** 12 19 47.8 +1.4
MNK *i*sS **sS** 12 20 58.5 +2.6
MNK *i*SS **SnSn** 12 22 24.1 +3.5
MNK *i*LR LR 12 27 45.1
MNK *i*LRM MLR 12 29 37.5
comp=N,749nm,28.9s
MNK *i*LRM MLR 12 29 41.5
comp=E,218nm,23.7s
MNK *i*LRM MLR 12 30 15.7
comp=Z,69nm,19.9s
MNK Minsk 34.46 315 *i*P **P** 12 14 32.3 +0.2
MNK *i* *PP **pP** 12 15 12.5 +1.7
MNK *i* 12 15 53.2
MNK *i* 12 17 03.3
MNK *i*S **S** 12 19 47.7 +1.4
MNK *i* *SS **sS** 12 20 58.4 +2.6
MNK pmax pmax
comp=Z,11nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK MLR MLR
comp=E,218nm,24.0s
MNK MLR MLR
comp=Z,69nm,20.0s
MLR Muntele Rosu 34.74 299 P **P** 12 14 36.1 +1.3
MLR Muntele Rosu 34.74 299 P **P** 12 14 36.1 +1.3
MLR pmax pmax
comp=Z,4.0nm,0.8s
RNPP5 Staryi Chortor 35.07 309 P **P** 12 14 37.4 +0.1
RNPP9 Sopachiv 35.09 310 P **P** 12 14 37.3 -0.2
BUR08 Bucovina Ar. S 35.26 303 P **P** 12 14 39.9 +0.7
VSU Vasula 36.15 322⇑ *e*P **P** 12 14 46.6 +0.3
VSU pmax pmax
comp=Z,13nm,0.8s
FIA1 FINESS Array S 37.45 326 P **P** 12 14 57.5 +0.2
FINES FINESS Array B 37.45 326 P **P** 12 14 57.1 -0.1
FINES FINESS Array B 37.45 326 P **P** 12 14 57.6 +0.3
comp=Z,4.7nm,0.4s,baz=119,slow=9.8,SNR=73
comp=Z,4.7nm,0.4s
VADS Vadso 40.28 339 *e*P **P** 12 15 21.3 +0.6
ARCES ARCESS Array B 41.11 338 P **P** 12 15 27.8 +0.3
ARCES IAmb IAmb 12 15 28.6
comp=Z,8.4nm,0.7s
ARCES ARCESS Array B 41.11 338 P **P** 12 15 28.1 +0.6
comp=Z,9.7nm,0.6s,baz=113,slow=8.0,SNR=69
comp=Z,9.7nm,0.6s
ARCES ARCESS Array B 41.11 338 P **P** 12 15 27.8 +0.3
ARCES pmax pmax
comp=Z,8.0nm,0.7s
KTK1 Kautokeino 41.58 336 *e*P **P** 12 15 31.6 +0.2
ZEA Zeya 42.06 48 *e*P **P** 12 15 37.1 +1.6
HAMF Hammerfest 42.19 339 *e*P **P** 12 15 37.2 +1.0
HEH HeiHe 42.25 53 *e*P **P** 12 15 37.8 +0.8
HEH pmax pmax
comp=Z,13nm,0.6s
SGRT San Giovanni R 42.53 295 P **P** 12 15 39.0 -0.5
BRG Berggiesshubel 42.59 308 *e*P **P** 12 15 40.8 +1.0
BRG Amp 12 15 41.6
comp=Z,2.1nm,0.6s
BRG Berggiesshubel 42.59 308 *e*P **P** 12 15 40.7 +1.0
BRG pmax pmax
comp=Z,2.0nm,0.6s
HFS Hagfors 43.03 322 P **P** 12 15 43.4 +0.3
comp=Z,11nm,0.6s,baz=99,slow=9.2,SNR=55
comp=Z,11nm,0.6s
TRO Tromso 43.23 336 *e*P **P** 12 15 45.0 +0.4
FAUS Fauske 43.77 332 *e*P **P** 12 15 49.2 +0.3
MOR8 Moi Rana 43.78 331 *e*P **P** 12 15 48.7 -0.4
STEI Steigen 43.94 333 *e*P **P** 12 15 50.4 +0.1
YAK Yakutsk 43.95 35⇓ *e*P **P** 12 15 50.5 0.0
YAK pmax pmax
comp=Z,7.0nm,0.6s
NC405 NORSAR Array S 44.11 323 P **P** 12 15 51.9 +0.2
NC405 IAmb IAmb 12 15 52.6
comp=Z,14nm,0.9s
NC602 NORSAR Array S 44.15 323 *e*P **P** 12 15 51.8 -0.3
NC303 NORSAR Array S 44.29 323 P **P** 12 15 53.3 +0.1
NB2 NORSAR Subarra 44.34 323 P **P** 12 15 53.2 -0.4
comp=Z,5.3nm,0.5s,baz=95,slow=7.9
NB2 NORSAR Subarra 44.34 323 P **P** 12 15 53.2 -0.4
baz=95,slow=7.9
NOA NORSAR Array B 44.34 323 P **P** 12 15 53.3 -0.4
comp=Z,6.4nm,0.6s,baz=97,slow=7.8,SNR=47
comp=Z,6.4nm,0.6s
KONS Konsvik 44.37 331 *e*P **P** 12 15 53.8 +0.1
STOK Stokkvaagen 44.38 331 *e*P **P** 12 15 54.0 +0.2
NSS Namsos 44.46 328 *e*P **P** 12 15 54.9 +0.4
NBO00 NORSAR Array S 44.55 323 P **P** 12 15 54.8 -0.5
NC204 NORSAR Array S 44.58 323 P **P** 12 15 55.7 +0.1
NC204 IAmb IAmb 12 15 56.1
comp=Z,8.8nm,0.6s
LOF Lofoten 44.61 333 *e*P **P** 12 15 55.6 0.0
KONO Kongsberg 45.05 321 *e*P **P** 12 15 59.1 -0.1
KLR Kul'dur 45.15 54⇑ *i*P **P** 12 16 00.5 +0.4
KLR pmax pmax
comp=Z,7.0nm,1.7s
BJO1 Bjornoya 45.23 343 *e*P **P** 12 16 01.1 +0.7
DOMB Dombas 45.45 324 *e*P **P** 12 16 02.7 +0.3
TIXI Tiksi 45.75 22 P **P** 12 16 04.8 +0.3
TIXI IAmb IAmb 12 16 05.5
comp=Z,9.4nm,0.8s
TIXI Tiksi 45.75 22⇑ *i*P **P** 12 16 04.7 +0.2
TIXI pmax pmax
comp=Z,9.0nm,0.8s
SPITS Spitsbergen Ar 47.46 347 P **P** 12 16 19.0 +1.3
comp=Z,2.3nm,0.4s,baz=121,slow=11,SNR=11
comp=Z,2.3nm,0.4s
SENIN Lac Senin/Sane 47.55 303 P **P** 12 16 18.8 -0.4
EKA Eskdalemuir Ar 52.25 316 P **P** 12 16 53.7 -0.4
comp=Z,0.3nm,0.3s,baz=102,slow=7.3,SNR=8.0
EKA PcP **PcP** 12 18 01.9 -0.9
comp=Z,0.6nm,0.7s,baz=59,slow=2.7,SNR=3.9
comp=Z,0.3nm,0.3s
SEY Seymchan 54.41 34⇑ *e*P **P** 12 17 10.2 +0.5
SEY pmax pmax
comp=Z,9.0nm,2.2s
ESDC Sonseca Array 57.42 298 P **P** 12 17 30.5 -1.1
comp=Z,0.5nm,0.6s,baz=58,slow=6.8,SNR=8.3
comp=Z,0.5nm,0.6s
BILL Bilibino 58.59 26 *e*P **P** 12 17 39.9 +0.8
BILL *e**PP **pP** 12 18 21.0 -1.6
BILL *e* 12 18 27.0
BILL *e**SP **sP** 12 18 41.9 -1.3
BILL pmax pmax
comp=Z,3.0nm,0.8s
TORD Torodi Ar. Bea 65.69 269 P **P** 12 18 24.6 -2.5
comp=Z,1.9nm,0.5s,baz=49,slow=6.2,SNR=24
comp=Z,1.9nm,0.5s
B18K Kokolik River 67.58 18 P **P** 12 18 39.3 +1.1
baz=316
C17K DeLong Mountai 67.87 19 P **P** 12 18 40.4 +0.3
baz=315
B20K Meade River 68.18 16 P **P** 12 18 42.6 +0.7
baz=320

C18K Utukok River 68.25 18 P **P** 12 18 43.0 +0.5
baz=317
C19K Lookout Ridge 68.31 17 P **P** 12 18 43.7 +0.9
baz=318
D17K Noatak River 68.45 19 P **P** 12 18 44.0 +0.4
baz=316,SNR=5.6
B21K Ikpikpuk River 69.04 16 P **P** 12 18 47.9 +0.7
baz=322
F14K Arctic Creek 69.09 22 P **P** 12 18 48.4 +0.7
baz=314
D19K Kuna River 69.12 17 P **P** 12 18 48.2 +0.3
baz=319
E17K Hotham Inlet 69.23 19 P **P** 12 18 48.8 +0.3
baz=317
E18K Tukpahlearik C 69.31 19 P **P** 12 18 49.2 +0.3
baz=318
D20K Etivluk River 69.31 17 P **P** 12 18 49.3 +0.3
baz=321
C21K Knifeblade Rid 69.37 16 P **P** 12 18 49.8 +0.4
baz=322
F15K North Star Dit 69.43 21 P **P** 12 18 50.1 +0.4
baz=315
C23K Itkillik River 69.70 14 P **P** 12 18 52.0 +0.7
C23K Itkillik River 69.70 14 P **P** 12 18 52.5 +1.3
baz=325,SNR=5.2
E20K Nigu River 69.76 17 P **P** 12 18 51.8 0.0
baz=321
F17K Baldwin Pennin 69.86 20 P **P** 12 18 52.8 +0.5
baz=317
ANM Nome 70.01 22 P **P** 12 18 54.1 +0.8
baz=315
D22K Ayikyak River 70.05 15 P **P** 12 18 54.0 +0.5
baz=324
G15K Niukluk 70.11 22 P **P** 12 18 54.3 +0.4
baz=316
E21K Killik River 70.12 16 P **P** 12 18 53.9 -0.1
baz=323
E19K Redstone River 70.13 18 P **P** 12 18 53.9 -0.1
baz=320
C24K Franklin Bluff 70.17 14 P **P** 12 18 54.3 +0.2
baz=327
F18K Selawik 70.17 19 P **P** 12 18 54.1 -0.1
baz=319
D23K Nanushuk River 70.40 15 P **P** 12 18 56.1 +0.5
baz=326
F19K Shaleruckik Mo 70.48 18 P **P** 12 18 55.2 -0.8
baz=320
D24K Happy Valley 70.62 14 P **P** 12 18 57.4 +0.4
baz=327
C26K Camden Bay 70.68 12 P **P** 12 18 57.5 +0.2
baz=330
G17K Kiwalik Mounta 70.72 20 P **P** 12 18 57.4 -0.2
baz=318
F20K Avaraart Lake 70.82 18 P **P** 12 18 57.6 -0.6
baz=322
TOLK Toolik Lake Re 70.90 15 **P** 12 18 59.2 +0.5
TOLK Toolik Lake Re 70.90 15 P **P** 12 18 58.9 +0.2
baz=326,SNR=11
H16K Elim 70.91 21 P **P** 12 18 58.7 0.0
baz=317
D25K Kavik River 70.94 13 P **P** 12 18 59.5 +0.6
D25K IAmb IAmb 12 19 00.6
comp=Z,4.4nm,0.8s
D25K Kavik River 70.94 13 P **P** 12 18 59.5 +0.6
baz=329,SNR=6.3
G18K Tagagawik 70.97 19 P **P** 12 18 59.8 +0.7
baz=320
C27K Jago River 71.14 12 P **P** 12 19 00.8 +0.7
baz=331,SNR=7.8
G19K Purcell Mounta 71.19 19 P **P** 12 19 00.7 +0.3
baz=321
F21K Alatna River 71.22 17 **P** 12 19 00.8 +0.2
F21K IAmb IAmb 12 19 02.6
comp=Z,4.9nm,0.9s
F21K Alatna River 71.22 17 P **P** 12 19 00.8 +0.2
baz=324,SNR=11
F22K John River 71.28 16 P **P** 12 19 01.4 +0.4
baz=324
H17K Granite Mounta 71.35 20 P **P** 12 19 01.9 +0.5
baz=319
E23K Chandalar 71.38 15 P **P** 12 19 01.5 -0.2
baz=326
E24K Your Creek 71.59 15 **P** 12 19 03.3 +0.5
E24K IAmb IAmb 12 19 03.8
comp=Z,3.1nm,0.6s
E24K Your Creek 71.59 15 P **P** 12 19 03.5 +0.6
baz=327,SNR=5.9
H18K Honhosa River 71.62 20 P **P** 12 19 02.7 -0.3
baz=320
G21K Allakaket 71.78 17 P **P** 12 19 03.8 -0.2
baz=324
H19K Roundabout Mou 71.83 19 P **P** 12 19 04.3 +0.1
baz=322
G22K Bettles 71.91 16 P **P** 12 19 04.8 +0.1
baz=325
I17K Unalakleet 71.92 21 P **P** 12 19 05.3 +0.6
baz=318
D27M Malcolm River 71.94 11 **P** 12 19 05.5 +0.6
D27M Malcolm River 71.94 11 P **P** 12 19 05.9 +1.0
baz=333
COLD Coldfoot 71.95 16 P **P** 12 19 05.1 +0.2
baz=326
K13K Kusilvak Mount 72.11 24 P **P** 12 19 06.2 +0.2
baz=316
IMAR Indian Mountai 72.15 18 P **P** 12 19 06.0 -0.2
F24K Squaw Lake 72.19 15 P **P** 12 19 06.7 +0.3
baz=328
D28M Stokes Point 72.20 11 P **P** 12 19 06.5 +0.1
baz=335
H20K Anotleneega Mo 72.26 18 P **P** 12 19 07.2 +0.4
baz=323,SNR=7.4
J16K Anvik River 72.40 22 P **P** 12 19 08.7 +1.1
baz=319
G23K Bananza Creek 72.42 16 P **P** 12 19 07.9 +0.2
baz=326
F25K Christian Rive 72.57 14 P **P** 12 19 09.5 +0.8
baz=330,SNR=5.4
H21K Melozitna Rive 72.64 17 P **P** 12 19 08.9 -0.2
baz=324
E28M Babbage River 72.74 11 **P** 12 19 10.8 +1.1
E28M Babbage River 72.74 11 P **P** 12 19 10.0 +0.4
baz=335,SNR=5.2
F26K Sheenjek River 72.77 13 P **P** 12 19 10.5 +0.7
baz=331
E27K Coleen River 72.78 12 **P** 12 19 10.3 +0.4
E27K Coleen River 72.78 12 P **P** 12 19 10.2 +0.4
baz=333
H22K Ishtalitna Cre 72.79 17 P **P** 12 19 09.7 -0.3
baz=326
I20K Naaghedeneel 72.92 19 P **P** 12 19 11.4 +0.7
baz=323
G24K Hadweenzic Riv 72.97 15 **P** 12 19 11.7 +0.7
G24K IAmb IAmb 12 19 12.2
comp=Z,2.9nm,0.6s
G24K Hadweenzic Riv 72.97 15 P **P** 12 19 11.2 +0.1
baz=328
E29M Blow River 73.19 11 **P** 12 19 12.7 +0.4
E29M Blow River 73.19 11 P **P** 12 19 13.2 +1.0
baz=336
L14K Kuka Creek 73.19 24 P **P** 12 19 13.6 +1.3
baz=317
G25K Bearman Lake 73.20 14 P **P** 12 19 13.0 +0.8
baz=330
J19K Poorman 73.26 20 P **P** 12 19 13.3 +0.6
baz=322,SNR=8.0
H23K Yukon River 73.27 16 P **P** 12 19 13.2 +0.4
baz=327
J18K Innoko River 73.38 20 P **P** 12 19 13.7 +0.3
baz=322,SNR=6.4
G26K Porcupine Rive 73.49 14 P **P** 12 19 14.1 +0.1
baz=332
J20K Nowinta River 73.51 19 P **P** 12 19 14.7 +0.5
J20K IAmb IAmb 12 19 15.5
comp=Z,4.2nm,0.7s
J20K Nowinta River 73.51 19 P **P** 12 19 14.6 +0.5
baz=324
K17K Iditarod 73.51 21 P **P** 12 19 14.8 +0.6
baz=321
F28M Old Crow 73.59 12 P **P** 12 19 14.9 +0.3
baz=335
H24K Noodor Dome 73.62 16 P **P** 12 19 15.2 +0.3
baz=328
MLY Manley 73.66 17 **P** 12 19 15.2 +0.2
MLY Manley 73.66 17 P **P** 12 19 14.7 -0.4
baz=326
H25L Birch Creek 73.69 15 P **P** 12 19 16.4 +1.2
baz=330
C36M Paulatuk 73.85 6 P **P** 12 19 16.3 +0.3

baz=348
M14K Bethel 73.87 24 P P 12 19 17.1 +0.8
baz=318
INK Inuvik 73.88 9 P P 12 19 16.3 +0.1
INK IAmb IAmb 12 19 17.5
comp=Z,5.0nm,0.6s
INK Inuvik 73.88 9 P P 12 19 16.9 +0.7
baz=340,SNR=7.1
INK Inuvik 73.88 9 P P 12 19 16.3 +0.1
INK pmax pmax
comp=Z,5.0nm,0.6s
I23K Minto, Yukon-K 73.88 17 P P 12 19 17.0 +0.8
baz=327
L16K Owhat River 73.93 22 P P 12 19 17.1 +0.4
baz=320
TTA Tatalina 74.00 20 P P 12 19 17.1 -0.1
baz=322
G27K Doyon Strip 74.00 13 P P 12 19 18.0 +1.0
baz=333,SNR=8.7
K20K Telida 74.19 19 P P 12 19 18.8 +0.7
baz=324,SNR=5.3
F30M Barrier River 74.22 10 P P 12 19 19.7 +1.4
baz=338
MDM Murphy Dome 74.30 16 P P 12 19 19.1 +0.4
MDM IAmb IAmb 12 19 19.9
comp=Z,2.9nm,0.6s
POKR Poker Plat Res 74.34 16 P P 12 19 19.6 +0.6
baz=329
L18K Granite Mounta 74.37 21 P P 12 19 19.6 +0.4
baz=322
BPAW Bear Paw Mtn. 74.37 18 P 12 19 19.3 +0.1
BPAW Bear Paw Mtn. 74.37 18 P P 12 19 19.3 +0.1
baz=326,SNR=5.2
PRP Porcupine Dome 74.40 15 P P 12 19 19.9 +0.4
baz=330
NEA2 Nenana 74.42 17 P P 12 19 19.1 -0.3
NEA2 IAmb IAmb 12 19 20.2
comp=Z,5.2nm,0.8s
NEA2 Nenana 74.42 17 P P 12 19 19.7 +0.3
baz=328,SNR=7.2
COLA College 74.45 16 P P 12 19 20.2 +0.7
baz=328
COLA College 74.45 16 *d iP* **P 12 19 19.9 +0.3**
COLA pmax pmax
comp=Z,5.0nm,0.8s
G29M Pine Creek 74.53 11 P P 12 19 20.4 +0.4
baz=336
H27K Steamboat Moun 74.55 13 P P 12 19 21.2 +1.0
baz=333,SNR=5.4
M16K Timber Creek 74.62 23 P P 12 19 21.6 +1.0
baz=320
F31M Tsiigehtchic 74.67 10 P P 12 19 21.0 +0.2
baz=340
G30M tAoh Zraii Nji 74.74 11 P P 12 19 21.6 +0.3
baz=338
ILAR Eielson Array 74.76 16 P P 12 19 20.2 -1.1
comp=Z,1.1nm,0.8s,baz=306,slow=4.8,SNR=18
comp=Z,1.1nm,0.8s
M17K Holitna River 74.79 22 P P 12 19 22.4 +0.7
baz=322
N15K Kwethluk River 74.92 24 P P 12 19 23.0 +0.6
baz=320
L20K Farewell, AK 74.95 20 P P 12 19 22.6 0.0
baz=324
HDA Harding Lake 75.06 16 P P 12 19 22.0 -1.1
baz=329
I26K Coal Creek Min 75.06 14 P P 12 19 23.3 +0.1
baz=332
G31M Satah River 75.08 10 P P 12 19 22.9 -0.2
G31M IAmb IAmb 12 19 24.1
comp=Z,4.0nm,0.8s
G31M Satah River 75.08 10 P P 12 19 23.8 +0.7
baz=339
I27K Kandik River 75.09 13 P P 12 19 23.6 +0.3
baz=333
H29M Whitestone 75.11 12 P P 12 19 23.8 +0.4
baz=336,SNR=6.5
MCK McKinley 75.18 17 P P 12 19 23.2 -0.7
baz=328
J25K Salcha River, 75.22 15 P P 12 19 23.9 -0.2
baz=330,SNR=6.4
EPYK Eagle Plains 75.23 11 P P 12 19 23.6 -0.5
baz=337
M19K Big River Lodg 75.28 20 P P 12 19 24.9 +0.5
baz=324
RND Reindeer 75.47 17 P P 12 19 24.8 -0.8
RND IAmb IAmb 12 19 25.5
comp=Z,9.7nm,1.5s
RND Reindeer 75.47 17 P P 12 19 24.8 -0.8
RND pmax pmax
comp=Z,10.0nm,1.5s
I28M Miner Creek 75.54 13 P P 12 19 26.1 +0.1
baz=335,SNR=8.3
N17K Nushagak Hills 75.56 22 P P 12 19 26.4 +0.4
baz=322
J26L Joseph Creek 75.70 15 P P 12 19 26.9 +0.1
J26L IAmb IAmb 12 19 27.6
comp=Z,3.2nm,0.7s
J26L Joseph Creek 75.70 15 P P 12 19 27.0 +0.1
baz=332,SNR=6.8
K24K Donnelly Dome 75.84 16 P P 12 19 26.7 -0.9
baz=330
EGAK Eagle 75.92 14 P P 12 19 27.7 -0.3
baz=334
SKT Skwentna 76.00 19 P P 12 19 28.0 -0.5
SKT Skwentna 76.00 19 P P 12 19 28.1 -0.5
baz=326
SCRK Sand Creek 76.07 15 P 12 19 29.1 +0.1
SCRK IAmb IAmb 12 19 29.9
comp=Z,3.1nm,0.5s
SCRK Sand Creek 76.07 15 P P 12 19 29.3 +0.3
baz=332,SNR=6.6
DHY Denali Highway 76.11 17 P 12 19 29.1 -0.2
DHY IAmb IAmb 12 19 29.7
comp=Z,3.5nm,0.6s
DHY Denali Highway 76.11 17 P P 12 19 28.8 -0.4
baz=329
I30M Mount Dempster 76.35 11 P P 12 19 30.9 +0.3
baz=338,SNR=5.8
K27K Chicken 76.42 14 P P 12 19 31.8 +1.0
baz=333
WAT6 Susitna Watana 76.44 17 P P 12 19 30.6 -0.6
baz=329
SUA Susitna One 76.63 19 P P 12 19 32.0 -0.2
baz=327
PAX Paxson 76.64 16 P P 12 19 31.9 -0.3
baz=331,SNR=6.6
P17K Kvichak River 76.84 23 P P 12 19 33.8 +0.5
baz=323
DAWY Dawson 76.90 13 P P 12 19 33.6 0.0
DAWY IAmb IAmb 12 19 34.5
comp=Z,5.1nm,1.2s
DAWY Dawson 76.90 13 P P 12 19 33.6 0.0
baz=335
PMR Palmer 76.94 18 P P 12 19 33.6 -0.2
baz=328
J30M Hart River 76.96 12 P P 12 19 34.5 +0.5
baz=338
SML Sawmill 76.96 18 P P 12 19 33.5 -0.5
baz=328
L26K Log Cabin Wild 77.05 15 P P 12 19 34.7 +0.3
baz=332
M23K Glacier View 77.12 18 P P 12 19 34.2 -0.6
baz=329
SCM Sheep Creek Mo 77.19 18 P P 12 19 35.6 +0.4
baz=329
HARP HAARP 77.21 16 P P 12 19 35.9 +0.6
baz=331
M24K Tolsona, Glenn 77.23 17 P P 12 19 35.7 +0.3
baz=330
L27K Beaver Creek, 77.33 15 P P 12 19 35.6 -0.4
baz=334
K29M Barlow Dome 77.44 13 P P 12 19 35.9 -0.8
baz=337
KLU Klutina 77.82 17 P P 12 19 38.1 -0.7
baz=330
M27K Edge Creek, AK 77.96 15 P P 12 19 39.6 0.0
baz=334
N25K Chitina, Valde 78.03 17 P P 12 19 40.2 +0.3
baz=332
M29M Somme Creek 78.56 13 P P 12 19 43.0 +0.2
baz=336
M30M Minto, Yukon 78.74 13 P P 12 19 43.3 -0.5
baz=338
YUK3 Moose Creek 78.77 15 P P 12 19 44.1 -0.1
baz=335
KDAK Kodiak Island 79.18 22 P P 12 19 46.0 -0.1
baz=326

CTG Chitna Glacier 79.32 15 P P 12 19 47.3 +0.2
baz=334
M31M Drury Creek, Y 79.50 12 P P 12 19 47.3 -0.6
baz=340
YUK4 Talbot Arm 79.53 14 P P 12 19 47.5 -0.8
baz=336
FARO Faro, Yukon 79.64 11 P P 12 19 48.4 -0.3
baz=340
N31M Braeburn, Yuko 79.93 13 P P 12 19 49.8 -0.4
baz=338
YUK6 Outpost Mounta 79.95 14 P P 12 19 49.7 -0.8
baz=336
WHY Whitehorse 80.86 13 P P 12 19 54.7 -0.6
baz=339
YKA Yellowknife Ar 81.22 3 P P 12 19 56.5 -0.5
comp=Z,1.4nm,0.4s,baz=14,slow=5.8,SNR=17
comp=Z,1.4nm,0.4s
YKA Yellowknife Ar 81.22 3 *i* P **P 12 19 57.0 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.3s
P33M Teslin, Yukon 81.63 12 P P 12 19 59.0 -0.4
baz=341
PLBC Pleasant Camp 81.71 14 P P 12 19 59.0 -0.7
baz=338
WRA Warramunga Arr 82.03 122 P P 12 20 00.0 -1.8
comp=Z,0.5nm,0.6s,baz=323,slow=4.9,SNR=14
comp=Z,0.5nm,0.6s
WRAB Tennant Creek 82.03 122⇓ *eP* **P 12 20 00.3 -1.5**
R33M Jennings River 82.71 11 P P 12 20 04.6 -0.3
baz=342
R31K City Hall, Gus 82.81 14 P P 12 20 04.6 -0.6
baz=339
Q32M Nakina River 82.91 12 P P 12 20 05.4 -0.8
baz=341
DLBC Dease Lake 83.77 11 P P 12 20 09.6 -0.7
baz=343
ASAR Alice Springs 84.29 125 P P 12 20 12.1 -1.2
comp=Z,1.1nm,0.5s,baz=312,slow=4.8,SNR=29
comp=Z,1.1nm,0.5s
JFWS Jewell Farm 99.10 346 P Pdif 12 21 21.0 -1.2
baz=15
ECSD EROS Data Cent 99.32 351 P Pdif 12 21 21.8 -1.3
baz=10
O53A New Philadelph 99.43 339 P Pdif 12 21 22.5 -1.2
baz=22
RSSD Black Hills 99.60 356 P Pdif 12 21 22.7 -1.9
baz=4.1

TEH ***22*** *12:10:57.9,34.°59N×46.°24E,h8km±44km,ML2.8*
ISN ***22*** *12:10:57.8±1.5,34.°63N×46.°26E,h18km±18km,ML2.8*
ISC 22 12:10:57.7±1.3,**34.°62N**±0.°04×**46.°22E**±0.°04,**h6**km±12km,
n11,σ0°**62**/13,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.16**	**59**	Pg	**Pg**	**12 11 01.3**	**+0.2**
IGHG	**Ghaleghazi**	**0.41**	**134**	Pg	**Pg**	**12 11 05.9**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.53**	**258**	Pg	**Pb**	**12 11 09.1**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.56**	**207**	Pg	**Pg**	**12 11 08.7**	**+0.1**
ILIN	**Lien**	**0.69**	**64**	Pg	**Pg**	**12 11 10.7**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.76**	**116**	Pg	**Pg**	**12 11 12.2**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.99**	**180**	Pg	**Pb**	**12 11 16.6**	**-0.7**
SNQR	**Sonqor, Kerman**	**1.19**	**78**	Sg	**Sn**	**12 11 38.2**	**+0.5**
IBDR	**Badra**	**1.52**	**189**	*e*Pg	**Pn**	**12 11 25.0**	**-0.4**
baz=10.0							
IBDR				*e*Sg	**Sg**	**12 11 47.0**	**+0.4**
IBDR				AML	AML	12 11 52.1	
comp=E,173nm,0.4s							
IBDR				AML	AML	12 11 54.0	
comp=N,110nm,0.9s							
IKRK	**Kirkuk**	**1.73**	**297**	*e*Pn	**Pb**	**12 11 29.0**	**-0.8**
IKRK				*e*Sn	**Sb**	**12 11 53.0**	**+1.2**
IKFM	**Kafar-mosalman**	**1.74**	**128**	Pg	**Pb**	**12 11 29.9**	**-0.1**

TEH ***22*** *12:13:34.8,34.°61N×46.°21E,h5km,ML2.5*
ISN ***22*** *12:13:34.9±1.3,34.°64N×46.°26E,h20km±24km,ML2.5*
ISC 22 12:13:34.4±1.1,**34.°64N**±0.°05×**46.°26E**±0.°05,**h12**km±10km,
n9,σ0°**42**/11,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.12**	**61**	Pg	**Pg**	**12 13 37.9**	**+0.2**
IGHG	**Ghaleghazi**	**0.40**	**141**	Pg	**Pg**	**12 13 42.9**	**+0.4**
GLG1	**Gilan-e-Gharb**	**0.60**	**209**	Pg	**Pg**	**12 13 46.4**	**+0.2**
ILIN	**Lien**	**0.64**	**64**	Pg	**Pn**	**12 13 49.6**	**0.0**
ILBA	**Ilam Banvizeh**	**1.02**	**183**	Pg	**Pb**	**12 13 53.7**	**-0.3**
IBDR	**Badra**	**1.55**	**190**	*e*Pg	**Pn**	**12 14 02.0**	**+0.1**
baz=10.0							
IBDR				*e*Sg	**Sg**	**12 14 24.0**	**-0.4**
IBDR				AML	AML	12 14 30.3	
comp=E,109nm,0.6s							
IBDR				AML	AML	12 14 31.8	
comp=N,59nm,0.5s							
IKFM	**Kafar-mosalman**	**1.73**	**130**	Pg	**Pg**	**12 14 07.8**	**+0.2**
IKRK	**Kirkuk**	**1.75**	**296**	*e*Pn	**Pb**	**12 14 06.0**	**-0.5**
IKRK				*e*Sn	**Sb**	**12 14 29.0**	**+0.6**
HSAM	**Samen**	**1.98**	**102**	Pn	**Pg**	**12 14 12.5**	**+0.1**

IDC ***22*** *12:24:27.9±0.9,2.°57S×121.°66E,h0km,mb3.7/9,*
mbtmp3.8/10,ML4.1/1,MS3.0/1,Error ellipse:
s-maj=34.1km s-min=16.0km az=68.0
DJA ***22*** *12:24:28.9±0.2,3.°S±3.°×12.°2E±.°,h10km,M4.4/12,mb4.6/3,*
mB5.3/1,MLv4.3/12,Mw(mB)4.7/1
NEIC ***22*** *12:24:29.8±1.2,2.°59S±0.°05×121.°73E±0.°09,h10km±2km,*
mb4.1/8,Error ellipse: s-maj=16.6km s-min=4.4km
az=300.0
ISC 22 12:24:30.7±0.6,**2.°56S**±0.°05×**121.°64E**±0.°06,**h22**km,**n33,**
σ0°**99**/35,**mb4.0**/13,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.89**	**37**	Pn	**Pn**	**12 25 01.2**	**-0.4**
LUWI	**Luwuk**	**1.89**	**37**	P	**Pn**	**12 25 01.1**	**-0.6**
LUWI				S	**Sb**	**12 25 27.1**	**-0.6**
MRSI	**Marisa**	**3.03**	**6**	P	**Pn**	**12 25 16.5**	**-0.9**
BBSI	**Bau Bau**	**3.05**	**162**	P	**Pn**	**12 25 19.5**	**+1.8**
KAPI	**Kappang**	**3.08**	**218**	Pn	**Pn**	**12 25 18.5**	**+0.5**
KAPI	**Kappang**	**3.08**	**218**	Pn	**Pn**	**12 25 18.9**	**+0.9**
23nm,0.3s,baz=351,slow=4.5,SNR=31							
KAPI				Sn	**Sn**	**12 25 55.8**	**+1.6**
14nm,0.3s,baz=210,slow=23,SNR=1.9							
KAPI				LR	LR	12 26 25.5	
comp=Z,231nm,19.6s,baz=40,slow=38							
67nm,0.4s							
BKSI	**Bulukumba**	**3.13**	**209**	P	**Pn**	**12 25 18.9**	**+0.1**
MPSI	**Mapaga**	**3.37**	**329**	P	**Pn**	**12 25 20.7**	**-1.3**
GTOI	**Gorontalo**	**3.46**	**23**	P	**Pn**	**12 25 23.7**	**+0.4**
TOLI2	**Tolitoli**	**3.75**	**347**		**Pn**	**12 25 28.1**	**+0.8**
SANI	**Sanana**	**4.38**	**83**	P	**Pn**	**12 25 37.1**	**+1.2**
EDFI	**Ende, Flores**	**6.15**	**180**	P	**Pn**	**12 26 00.0**	**-0.4**
MYLDM	**Lahad Datu**	**8.30**	**338**	Pn	**Pn**	**12 26 30.9**	**+1.0**
KNRA	**Kununurra**	**14.80**	**152**	Pn	**Pn**	**12 27 58.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**15.93**	**166**	P	**P**	**12 28 17.9**	**+0.8**
WB0	**Warramunga Arr**	**21.16**	**145**	P	**P**	**12 29 14.2**	**-0.4**
WB0				IAmb	IAmb	12 29 33.3	
comp=Z,9.1nm,1.1s							
WRAB	**Tennant Creek**	**21.27**	**145**	P	**P**	**12 29 15.2**	**-0.6**
WRAB				IAmb	IAmb	12 29 15.8	
comp=Z,9.3nm,1.2s							
WRA	**Warramunga Arr**	**21.27**	**145**	P	**P**	**12 29 15.6**	**-0.2**
comp=Z,2.4nm,0.9s,baz=324,slow=10,SNR=11							
comp=Z,2.4nm,0.9s							
WB2	**Warramunga Arr**	**21.27**	**145**	P	**P**	**12 29 16.5**	**+0.7**
WR0	**Warramunga Arr**	**21.40**	**145**	P	**P**	**12 29 17.4**	**+0.3**
WR0				IAmb	IAmb	12 29 20.2	
comp=Z,8.0nm,1.0s							
AS31	**Alice Springs**	**24.11**	**152**	P	**P**	**12 29 44.4**	**-0.6**
ASAR	**Alice Springs**	**24.11**	**152**	P	**P**	**12 29 44.4**	**-0.6**
ASAR	**Alice Springs**	**24.11**	**152**	P	**P**	**12 29 45.4**	**+0.3**
comp=Z,2.2nm,0.8s,baz=321,slow=7.9,SNR=19							
comp=Z,2.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**30.59**	**314**	P	**P**	**12 30 42.8**	**-0.5**
comp=Z,0.3nm,0.3s,baz=171,slow=1.4,SNR=1.7							
comp=Z,0.3nm,0.3s							
STKA	**Stephens Creek**	**34.69**	**149**	P	**P**	**12 31 19.3**	**+0.3**
comp=Z,4.9nm,0.9s,baz=313,slow=15,SNR=4.7							
comp=Z,4.9nm,0.9s							
SONM	**Songino Array**	**51.93**	**347**	P	**P**	**12 33 39.7**	**+1.7**
comp=Z,0.3nm,0.5s,baz=163,slow=7.4,SNR=2.0							
comp=Z,0.3nm,0.5s							
MKAR	**Makanchi Array**	**60.10**	**330**	P	**P**	**12 34 36.7**	**+0.4**
MKAR	**Makanchi Array**	**60.10**	**330**	P	**P**	**12 34 37.2**	**+0.8**
comp=Z,0.3nm,0.6s,baz=138,slow=7.5,SNR=4.6							
comp=Z,0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**64.09**	**337**	P	**P**	**12 35 02.7**	**-0.3**
comp=Z,0.4nm,0.4s,baz=131,slow=4.0,SNR=2.0							
comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**64.51**	**331**	P	**P**	**12 35 07.2**	**+1.4**
comp=Z,0.3nm,0.6s,baz=144,slow=5.9,SNR=4.1							
comp=Z,0.3nm,0.6s							
VNDA	**Vanda**	**77.92**	**172**	P	**P**	**12 36 23.7**	**-2.8**
VNDA				IAmb	IAmb	12 36 36.5	
comp=Z,3.3nm,1.4s							
QSPA	**South Pole Qui**	**87.39**	**180**	P	**P**	**12 37 16.0**	**-0.1**
QSPA	**South Pole Qui**	**87.39**	**180**	P	**P**	**12 37 17.0**	**+0.9**
comp=Z,0.9nm,0.8s,baz=345,slow=9.5,SNR=1.9							
comp=Z,0.9nm,0.8s							

IDC ***22*** *12:24:36.9±1.1,24.°25S×67.°02W,h172km±10km,mb3.3/8,*
mbtmp3.8/13,Error ellipse: s-maj=16.0km s-min=13.4km
az=41.0
NEIC ***22*** *12:24:36.9±1.7,24.°31S±0.°06×67.°1W±0.°1,h181km±7km,*
mb4.5/28,ML4.4(GUC),Error ellipse: s-maj=16.2km
s-min=9.2km az=91.0
SJA ***22*** *12:24:36.8±0.6,24.°32S×67.°19W,h190km±5km,ML3.9,*
MW4.1
GUC ***22*** *12:24:38.2±0.7,24.°38S×67.°23W,h180km±13km,ML4.3*
ISC 22 12:24:36.7±0.6,**24.°33S**±0.°03×**67.°21W**±0.°04,**h184**km±6km,
n104,σ1°**30**/122,**mb4.3**/22,**9C-1D,Chile-Argentina**
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.60**	**104**	*e*P	**Pn**	**12 25 11.4**	**+1.2**
SLA				*e*S	**Sn**	**12 25 37.0**	**+1.0**
SLA				IAML		12 25 37.1	
comp=Z,289nm,1.0s							
SLA	**San Lorenzo**	**1.60**	**104**⇓	*i*P	**Pn**	**12 25 11.1**	**+0.9**
SLA				*e*S	**Sn**	**12 25 35.8**	**-0.3**
AF01	**San Pedro de A**	**1.64**	**327**		**Pn**	**12 25 11.7**	**+0.9**
AF01	**San Pedro de A**	**1.64**	**327**	*e*P	**Pn**	**12 25 11.5**	**+0.8**
AF01				IAML		12 25 57.3	
comp=Z,395nm,0.8s							
AF01	**San Pedro de A**	**1.64**	**327**	*e*P	**Pn**	**12 25 12.1**	**+1.4**
AZAP	**Zapla**	**1.96**	**87**	*e*P	**Pn**	**12 25 14.4**	**+0.5**
AZAP				*e*S	**Sn**	**12 25 43.2**	**+0.6**
AZAP				IAML		12 25 44.5	
comp=Z,368nm,0.7s							
FSA	**Cafayete**	**2.09**	**148**	*e*P	**Pn**	**12 25 16.2**	**+0.9**
FSA				*e*S	**Sn**	**12 25 45.1**	**-0.2**
GO02	**Mina Guanaco**	**2.32**	**249**	Pn	**Pn**	**12 25 19.5**	**+1.6**
GO02	**Mina Guanaco**	**2.32**	**249**	*e*P	**Pn**	**12 25 19.5**	**+1.6**
GO02				*e*S	**Sn**	**12 25 50.7**	**+0.7**
GO02	**Mina Guanaco**	**2.32**	**249**⇑	*i*P	**Pn**	**12 25 19.4**	**+1.5**
LVC	**Limon Verde**	**2.32**	**317**		**Pn**	**12 25 18.9**	**+0.8**
LVC	**Limon Verde**	**2.32**	**317**	*e*P	**Pn**	**12 25 19.2**	**+1.1**
LVC				*e*S	**Sn**	**12 25 51.3**	**+1.2**
LVC				IAML		12 25 53.8	
comp=Z,152nm,0.3s							
LVC	**Limon Verde**	**2.32**	**317**	P	**Pn**	**12 25 19.2**	**+1.1**
comp=Z,323nm,0.4s,baz=139,slow=6.0,SNR=700							
LVC				S	**Sn**	**12 25 50.1**	**0.0**
comp=Z,204nm,0.3s,baz=303,slow=22,SNR=18							
LVC	**Limon Verde**	**2.32**	**317**⇑	*i*P	**Pn**	**12 25 19.2**	**+1.1**
LVC				*e*S	**Sn**	**12 25 50.4**	**+0.3**
LVC				IAML		12 25 53.0	
comp=Z,2μm,0.3s							
PB15	**IPOC Station P**	**2.36**	**298**		**Pn**	**12 25 19.3**	**+1.0**
PB15	**IPOC Station P**	**2.36**	**298**	*e*P	**Pn**	**12 25 19.7**	**+1.4**
PB15				*e*S	**Sn**	**12 25 51.0**	**+0.5**
PB15	**IPOC Station P**	**2.36**	**298**⇑	*i*P	**Pn**	**12 25 19.6**	**+1.4**
YJA	**Yavi**	**2.65**	**36**	*e*P	**Pn**	**12 25 23.5**	**+1.5**
YJA				*e*S	**Sn**	**12 25 54.8**	**-2.3**
PB06	**IPOC Station P**	**2.71**	**306**		**Pn**	**12 25 23.0**	**+0.6**
PB06	**IPOC Station P**	**2.71**	**306**	*e*P	**Pn**	**12 25 23.4**	**+1.1**
PB06				*e*S	**Sn**	**12 25 57.8**	**0.0**
PB06				IAML		12 26 00.9	
comp=Z,499nm,0.3s							
PB06	**IPOC Station P**	**2.71**	**306**⇑	*i*P	**Pn**	**12 25 23.4**	**+1.1**
PB06				IAML		12 25 59.4	
comp=N,904nm,0.1s							
PB14	**IPOC Station P**	**2.93**	**264**	*e*P	**Pn**	**12 25 25.5**	**+0.5**
PB14				*e*S	**Sn**	**12 26 02.4**	**-0.2**
PB14				IAML		12 26 06.2	
comp=Z,421nm,0.2s							
PB14	**IPOC Station P**	**2.93**	**264**	*e*P	**Pn**	**12 25 25.7**	**+0.7**
PB14				IAML		12 26 03.3	
comp=E,271nm,0.4s							
AHML	**Horco Molle**	**2.97**	**146**	*e*P	**Pn**	**12 25 26.9**	**+1.7**
AHML				*e*S	**Sn**	**12 26 04.3**	**+1.1**
AHML	**Horco Molle**	**2.97**	**146**	*i*P	**Pn**	**12 25 26.7**	**+1.4**
ALOL	**LOMAS DE OLMED**	**2.99**	**81**	*e*S	Sn	12 25 53.8	-10
PB04	**IPOC Station P**	**3.36**	**306**	*e*P	**Pn**	**12 25 30.3**	**+0.1**
PB04				*e*S	**Sn**	**12 26 10.7**	**-1.1**
PB04				IAML		12 26 12.4	
comp=Z,467nm,0.2s							
PB04	**IPOC Station P**	**3.36**	**306**⇑	*i*P	**Pn**	**12 25 30.6**	**+0.4**
GUSE	**Guasayan**	**4.12**	**150**	*e*P	**Pn**	**12 25 41.3**	**+1.7**
AC06	**Mina Casimiro**	**4.14**	**223**	Pn	**Pn**	**12 25 40.0**	**+0.3**
AC06	**Mina Casimiro**	**4.14**	**223**	*e*P	**Pn**	**12 25 39.7**	**0.0**
GO03	**Copiap**	**4.24**	**219**	Pn	**Pn**	**12 25 41.3**	**+0.2**
GO03	**Copiap**	**4.24**	**219**	*e*P	**Pn**	**12 25 41.2**	**+0.2**
GO03				*e*S	**Sn**	**12 26 30.8**	**-0.8**
GO03	**Copiap**	**4.24**	**219**	*e*P	**Pn**	**12 25 40.9**	**-0.2**
CYA	**Choya**	**4.28**	**163**	*e*P	**Pn**	**12 25 42.7**	**+1.2**
CYA				*e*S	Sn	12 26 17.2	-15
CYA	**Choya**	**4.28**	**163**	*e*P	**Pn**	**12 25 42.3**	**+0.7**
PATCX	**Punta Patache**	**4.43**	**322**		**Pn**	**12 25 43.0**	**-0.6**
PATCX	**Punta Patache**	**4.43**	**322**	*e*P	**Pn**	**12 25 43.3**	**-0.3**
PATCX				IAML		12 26 47.6	
comp=Z,110nm,0.5s							
PATCX	**Punta Patache**	**4.43**	**322**	*e*P	**Pn**	**12 25 43.0**	**-0.6**
VCA	**Vinchina**	**4.48**	**191**	*e*P	**Pn**	**12 25 46.4**	**+2.2**
VCA				*e*S	**Sn**	**12 26 36.1**	**-1.0**
TA01	**Diego Aracena**	**4.65**	**323**	Pn	**Pn**	**12 25 46.0**	**-0.3**
HMBC	**Humberstone**	**4.74**	**328**		**Pn**	**12 25 46.2**	**-1.4**
GO01	**Chusmiza**	**5.00**	**338**		**Pn**	**12 25 51.0**	**-0.2**
GO01	**Chusmiza**	**5.00**	**338**	*e*P	**Pn**	**12 25 51.6**	**+0.3**
ACLC	**CERRO LA CRUZ**	**5.08**	**177**	*e*P	**Pn**	**12 25 52.9**	**+0.9**
AC04	**Llanos de Chal**	**5.19**	**221**	Pn	**Pn**	**12 25 52.6**	**-0.6**
AC04	**Llanos de Chal**	**5.19**	**221**	*e*P	**Pn**	**12 25 52.7**	**-0.6**
AC04				*e*S	**Sn**	**12 26 46.5**	**-6.9**
AC04				IAML		12 26 54.0	
comp=Z,50nm,0.4s							
AC05	**El Transito**	**5.26**	**211**	*e*P	**Pn**	**12 25 54.4**	**+0.1**
AC05				*e*S	**Sn**	**12 26 54.0**	**-1.3**
AC05				IAML		12 26 57.2	
comp=Z,39nm,0.5s							
LCO	**Las Campanas**	**5.61**	**213**		**Pn**	**12 25 58.5**	**-0.5**
CO01	**Juntas del Tor**	**6.18**	**204**	Pn	**Pn**	**12 26 07.1**	**+0.7**
GO04	**Tololo Observa**	**6.64**	**208**		**Pn**	**12 26 12.2**	**-0.1**
CO03	**El Pedregal**	**7.18**	**205**		**Pn**	**12 26 17.1**	**-2.2**
CPUP	**Villa Florida**	**9.15**	**105**	P	**Pn**	**12 26 43.8**	**-1.4**
comp=Z,1.4nm,0.6s,baz=309,slow=11,SNR=4.5							
SIV	**San Ignacio**	**10.10**	**36**	P	**Pn**	**12 26 55.1**	**-2.6**
comp=Z,2.7nm,0.5s,baz=209,slow=11,SNR=20							
SIV				S	**Sn**	**12 28 47.2**	**-3.1**
comp=Z,0.7nm,0.5s,baz=294,slow=22,SNR=1.9							
ITAB	**Concordia**	**13.88**	**105**	P	**P**	**12 27 48.0**	**-0.3**
PLTB	**Pedras Altas**	**14.10**	**125**	P	**Pn**	**12 27 46.9**	**-1.6**
TRQA	**Tornquist**	**14.39**	**163**		**Pn**	**12 27 51.4**	**-0.7**
ETMB	**Extrema**	**14.47**	**4**	P	**P**	**12 27 54.4**	**-0.5**
SAML	**Samuel**	**15.77**	**15**	P	**Pn**	**12 28 08.1**	**-1.1**
PLCA	**Paso Flores**	**16.59**	**189**	P	**Pn**	**12 28 19.3**	**+0.4**
PLCA	**Paso Flores**	**16.59**	**189**	P	**Pn**	**12 28 20.4**	**+1.5**
comp=Z,4.1nm,1.1s,baz=21,slow=15,SNR=2.1							
VAO	**Valinhos**	**18.59**	**90**	P	**P**	**12 28 38.8**	**-1.4**
VAO				IAmb	IAmb	12 28 40.9	
comp=Z,16nm,1.0s							
LL06	**Loncomilla**	**18.61**	**195**	P	**P**	**12 28 41.0**	**+0.8**
BDFB	**Brasilia**	**19.98**	**68**	P	**P**	**12 28 52.5**	**-2.9**
BDFB				IAmb	IAmb	12 29 21.3	
comp=Z,8.3nm,1.2s							
BDFB	**Brasilia**	**19.98**	**68**	P	**P**	**12 28 53.5**	**-1.8**
comp=Z,1.9nm,0.5s,baz=241,slow=11,SNR=3.3							
BOAV	**Boa Vista**	**27.35**	**15**	P	**P**	**12 30 04.3**	**-0.5**
BAUV	**El Baul**	**33.08**	**358**	P	**P**	**12 30 54.2**	**-1.0**
BAUV				IAmb	IAmb	12 31 29.4	
comp=Z,22nm,1.4s							
MLPR	**Magueyes Islan**	**42.05**	**0**	P	**P**	**12 32 09.3**	**-1.0**
TEIG	**Tepich**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BELA	Belgrano 2	55.74	172	P	P	12 33 54.3	+0.6
VNA3	Neumayer Olymp	56.90	161	⇑P	P	12 34 03.5	+1.4
	comp=Z,1.3nm,0.8s						
VNA2	Neumayer--Watz	57.47	160	⇑P	P	12 34 08.0	+2.0
	comp=Z,2.2nm,0.6s,baz=287,slow=7.3						
SNAA	Sanae	59.10	161	P	P	12 34 18.8	+1.4
SNAA	Sanae	59.10	161	⇑P	P	12 34 18.0	+0.6
	comp=Z,8.7nm,0.4s						
SNAA	Sanae	59.10	161	P	P	12 34 19.1	+1.7
	comp=Z,0.5nm,0.6s,baz=286,slow=9.1,SNR=9.4						
	comp=Z,0.5nm,0.6s						
GOGA	Godfrey	59.48	344	P	P	12 34 18.2	-2.1
GOGA				IAmb	IAmb	12 34 20.6	
	comp=Z,5.4nm,1.0s						
Y49A	Blount Mountai	60.69	342	P	P	12 34 27.5	-1.0
Y49A				IAmb	IAmb	12 34 36.7	
	comp=Z,11nm,1.4s						
TROLL	Troll, Antarti	60.81	160	⇑P	P	12 34 30.3	+1.1
	comp=Z,58nm,0.5s						
V55A	Taylorsville	61.31	347	P	P	12 34 33.4	+0.7
CPCT	Cooper Cave	61.68	344	P	P	12 34 35.5	+0.3
CPCT				IAmb	IAmb	12 35 09.6	
	comp=Z,11nm,1.4s						
TKL	Tuckaleechee C	61.69	345	P	P	12 34 34.7	-0.6
SWET	Sewanee	61.83	343	P	P	12 34 36.3	0.0
SWET				IAmb	IAmb	12 35 00.7	
	comp=Z,15nm,1.5s						
S54A	Dingess, Beckl	63.21	348	P	P	12 34 45.6	+0.3
WVT	Waverly	63.22	341	P	P	12 34 45.0	-0.3
WVT				IAmb	IAmb	12 34 46.5	
	comp=Z,11nm,1.2s						
TXAR	Lajitas Array	63.84	325	P	P	12 34 50.1	+0.3
TXAR	Lajitas Array	63.84	325	P	P	12 34 50.9	+1.2
	comp=Z,0.4nm,0.8s,baz=145,slow=7.9,SNR=6.4						
	comp=Z,0.4nm,0.8s						
WCI	Wyandotte Cave	64.76	343	P	P	12 34 55.3	-0.1
WCI				IAmb	IAmb	12 34 56.3	
	comp=Z,4.8nm,0.5s						
P52A	Corning	65.14	347	P	P	12 34 57.5	-0.3
P52A				IAmb	IAmb	12 34 59.0	
	comp=Z,9.3nm,1.1s						
O53A	New Philadelph	65.56	348	P	P	12 35 00.9	+0.4
O53A				IAmb	IAmb	12 35 13.3	
	comp=Z,9.8nm,1.1s						
QSPA	South Pole Qui	65.87	180	P	P	12 35 04.0	+1.5
QSPA	South Pole Qui	65.87	180	P	P	12 35 04.2	+1.8
	comp=Z,0.7nm,0.5s,baz=110,slow=1.0,SNR=7.9						
	comp=Z,0.7nm,0.5s						
O48B	Farmland	66.40	345	P	P	12 35 05.6	-0.3
O48B				IAmb	IAmb	12 35 11.8	
	comp=Z,11nm,0.9s						
S39A	Bolivar	66.40	338	P	P	12 35 06.5	+0.6
S39A				IAmb	IAmb	12 35 08.6	
	comp=Z,5.1nm,0.9s						
N49A	Columbus Grove	66.81	346	P	P	12 35 08.8	+0.4
TOA0	Torodi Ar. Sit	76.86	69	P	P	12 36 08.7	-0.2
TORD	Torodi Ar. Bea	76.86	69	P	P	12 36 09.2	+0.3
	comp=Z,1.4nm,0.5s,baz=261,slow=5.4,SNR=11						
	comp=Z,1.4nm,0.5s						
PDAR	Pinedale Array	77.34	329	P	P	12 36 12.9	+1.7
	comp=Z,0.4nm,0.7s,baz=131,slow=7.5,SNR=3.9						
	comp=Z,0.4nm,0.7s						
ULM	Lac du Bonnet	78.48	342	P	P	12 36 17.4	+0.4
	comp=Z,2.7nm,0.8s,baz=162,slow=7.7,SNR=4.1						
	comp=Z,2.7nm,0.8s						
NVAR	Mina Array Bea	78.68	321	P	P	12 36 21.5	+2.8
	comp=Z,0.4nm,0.6s,baz=154,slow=6.4,SNR=4.1						
	comp=Z,0.4nm,0.6s						
ESDC	Sonseca Array	86.77	44	P	P	12 37 01.7	+1.5
	comp=Z,0.3nm,0.8s,baz=239,slow=4.2,SNR=4.3						
	comp=Z,0.3nm,0.8s						
ASAR	Alice Springs	128.07	205	PKP	PKPdf	12 43 22.3	+0.7
	comp=Z,0.3nm,0.7s,baz=146,slow=1.5,SNR=5.1						
WRA	Warramunga Arr	131.25	207	PKP	PKiKP	12 43 29.0	+0.3
	comp=Z,1.1nm,1.2s,baz=160,slow=1.8,SNR=7.0						
ZALV	Zalesovo Beam	143.78	28	PKP	PKPdf	12 43 48.8	-0.7
	comp=Z,1.1nm,0.4s,baz=305,slow=5.2,SNR=5.9						
MKAR	Makanchi Array	146.90	40	PKPbc	PKPab	12 43 59.0	-0.2
	comp=Z,2.0nm,0.6s,baz=314,slow=2.5,SNR=24						

UCR **22** *12:39:19.9±2.8, 17°.14N×96°.15W, h6km±55km, MW3.8*
IDC **22** *12:39:39.1±0.3, 17°.41N×94°.51W, h137km±3km, mb4.2/24, mbtmp4.7/27, MS3.7/17, Error ellipse: s-maj=10.2km s-min=8.1km az=42.0*
MOS **22** *12:39:39.6±1.0, 17°.56N×94°.48W, h147km, mb4.9/31, Error ellipse: s-maj=9.5km s-min=5.6km az=103.5*
NEIC **22** *12:39:40.6, 17°.53N×94°.54W, h150km*
MEX **22** *12:39:40.7±0.9, 17°.38N×94°.70W, h150km±6km, MD5.0*
NEIC **22** *12:39:40.6, 17°.53N×94°.43W, h150km, Moment Tensor Solution. Duration: 19s Moment tensor: Scale 10^16Nm; Mrr=4.59; Mθθ0.80; Mφφ3.80; Mrθ0.48; Mθφ-2.99; Mφr-1.19; Fault plane solution: M0 5.28000×10^16 NP1: φs331.53000°, δ52.05000°, λ-85.83000°. NP2: φs144.76000°, δ38.14000°, λ-95.33000°. Principal axes: T 5.7933, Plg7.0000°, Azm59.0000°; N -1.0329, Plg3.0000°, Azm149.0000°; P -4.7604, Plg82.0000°, Azm264.0000°;*
NEIC **22** *12:39:41.1±1.8, 17°.54N±0°.08×94°.54W±0°.06, h142km±4km, mb5.0/147, Mww5.1/37 Error ellipse: s-maj=12.5km s-min=7.4km az=206.0*
GCMT **22** *12:39:43.1±0.2, 17°.66N±0°.01×94°.57W±0°.01, h140km±1km, MW5.1/127, Moment Tensor Solution. s72, c84; s127, c197; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.37±.09; Mθθ0.28±.11; Mφφ4.10±.12; Mrθ0.50±.09; Mφφ-3.62±.12; Mφr-1.53±.10; Best double couple: M0 5.57600×10^16 NP1: φs336.00000°, δ54.00000°, λ-81.00000°. NP2: φs141.00000°, δ37.00000°, λ-102.00000°. Principal axes: T 6.5080, Plg8.0000°, Azm59.0000°; N -1.8590, Plg7.0000°, Azm150.0000°; P -4.6430, Plg79.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
CATAC **22** *12:39:49.1±1.1, 17°.12N×94°.16W, h129km±9km, MB5.4, mb5.2, ML5.3*
GCG **22** *12:40:00.4±1.7, 16°.84N×93°.25W, h50km±999km, MD4.9*
ISC 22 12:39:40.3±0.3, 17°.42N±0°.03×94°.62W±0°.03, h149km±2km, h150km; pP-P, n949, σ1943/1044, mb4.8/143, 19C-20D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,111μm,1.0s						
OZST	Orizaba	2.75	302	eP	Pn	12 40 23.7	-1.0
OZST				eS	Sn	12 40 56.3	-2.7
TPIG	Tehuac#an	2.79	291	eP	Pn	12 40 25.2	0.0
TPIG				eS	Sn	12 40 59.1	-0.8
PEIG	Puerto Escondi	2.81	240⇑	eP	Pn	12 40 22.0	-3.3
PEIG				eS	Sn	12 40 56.2	-3.8
JAUV	Jalcomulco	2.83	313	eP	Pn	12 40 24.4	-1.2
JAUV				eS	Sn	12 40 57.8	-2.9
LVIG	Laguna Verde	2.85	324	eP	Pn	12 40 24.4	-1.5
LVIG				eS	Sn	12 40 58.2	-2.8
YOIG	Yosondua	2.85	259⇑	eP	Pn	12 40 24.3	-1.8
YOIG				eS	Sn	12 40 57.5	-3.9
TXIG	Tlaxiaco	3.01	267⇑	eP	Pn	12 40 27.4	-0.7
HLIG	Huajuapan de L	3.06	278⇑	eP	Pn	12 40 28.4	-0.3
HLIG				eS	Sn	12 41 01.7	-4.3
PAVE	Pavencul	3.23	133	eP	Pn	12 40 29.8	-1.0
PAVE				eS	Sn	12 41 10.7	+0.8
CHUJ	Union Juarez	3.34	133	eP	Pn	12 40 31.2	-1.1
CHUJ				eS	Sn	12 41 13.2	+0.7
THIG		3.37	138	eP	Pn	12 40 31.4	-1.0
THIG				eS	Sn	12 41 13.4	+0.6
FTIG	Fresnillo de T	3.38	279⇑	iP	Pn	12 40 32.5	-0.2
FTIG				eS	Sn	12 41 09.9	-3.4
PNIG	Pinotepa	3.51	254	eP	Pn	12 40 31.1	-3.2
PNIG				eS	Sn	12 41 10.8	-5.2
SCIG	Sabancuy	3.61	64	eP	Pn	12 40 34.1	-1.4
SCIG				eS	Sn	12 41 15.1	-3.1
HUEH	Huehuetenango	3.65	125		Pn	12 40 35.6	-0.7
HUEH				Sn	Sn	12 41 18.4	-1.2
HUEH	Huehuetenango	3.65	125	iP	Pn	12 40 35.3	-1.0
HUEH				iS	Sn	12 41 15.7	-3.9
HUEH				IAML		12 41 28.8	
	comp=Z,23μm,1.0s						
PHPU	Puebla	3.74	296	eP	Pn	12 40 41.5	+4.1
PHPU				eS	Sn	12 41 22.9	+1.2
TLIG	Tlapa	3.77	273	Pn	Pn	12 40 37.0	-0.7
TLIG				Sn	Sn	12 41 19.0	-3.3
TLIG	Tlapa	3.77	273⇑	eP	Pn	12 40 36.6	-1.1
TLIG				eS	Sn	12 41 18.6	-3.6
HMTT	Tlapaneco	3.78	276	eP	Pn	12 40 36.5	-1.3
HMTT				eS	Sn	12 41 19.1	-3.2
MGIG	Malinaltepec	3.84	268⇑	eP	Pn	12 40 37.6	-1.1
MGIG				eS	Sn	12 41 22.1	-1.8
CXUV	Coxquihui	3.92	315	eP	Pn	12 40 38.9	-0.8
CXUV				eS	Sn	12 41 23.0	-2.7
STG3	Santiaguito 3,	3.98	132	iP	Pn	12 40 41.3	+0.8
STG3				iS	Sn	12 41 13.9	-13
QUIS	Sacapulas	4.00	122	iP	Pn	12 40 40.6	-0.1
QUIS				iS	Sn	12 41 23.2	-4.3
QUIS				IAML		12 41 27.4	
	comp=Z,6μm,1.0s						
RTAL	Retalhuleu	4.03	135	Pn	Pn	12 40 41.1	+0.1
RTAL	Retalhuleu	4.03	135	iP	Pn	12 40 42.0	+1.0
RTAL				IAML		12 41 19.9	
	comp=Z,4μm,1.0s						
SOKI	Kika Raxquin	4.03	129	iS	Sn	12 41 21.0	-7.8
PBCV	Popocatepetl	4.05	293⇑	eP	Pn	12 40 43.0	+1.3
PBPN	Popocatepetl	4.14	294	eP	Pn	12 40 43.5	+0.7
PPM	Popocatepetl	4.14	294⇑	eP	Pn	12 40 44.4	+1.4
PPM				eS	Sn	12 41 21.8	-10
PBXN	Popocatepetl	4.15	293	eP	Pn	12 40 43.1	+0.1
PBXN				eS	Sn	12 41 25.5	-6.1
PBXN				eS		12 41 29.6	
SULM	Suchitepequez,	4.27	136	iP	Pn	12 40 45.1	+0.9
CRIG	Cruz Grande	4.37	262	eP	Pn	12 40 42.8	-2.6
CRIG				eS	Sn	12 41 27.0	-9.0
YAIG	Yautepec	4.46	289	eP	Pn	12 40 47.1	+0.3
YAIG				eS	Sn	12 41 34.1	-4.5
PETF	Flores	4.57	96		Pn	12 40 45.4	-2.7
PETF	Flores	4.57	96	iS	Sn	12 41 36.8	-4.0
VTVM	Tizayuca	4.58	301	eP	Pn	12 40 48.1	-0.4
XCVM	Xochimilco	4.64	294	eP	Pn	12 40 48.5	-0.8
XCVM				eS	Sn	12 41 41.2	-1.7
APG	El Apazote	4.66	120	P	Pn	12 40 47.7	-1.8
	comp=Z,1.5nm,0.3s,baz=212,slow=16,SNR=76						
APG				S	Sn	12 41 40.4	-2.9
	comp=Z,108nm,0.4s,baz=85,slow=16,SNR=33						
TLVM	San Miguel Top	4.66	293	eP	Pn	12 40 49.5	0.0
TLVM				eS	Sn	12 41 41.2	-2.2
FUG	Fuego 3	4.69	129	iP	Pn	12 40 53.1	+3.3
PBVM	Pinon	4.69	296	eP	Pn	12 40 49.2	-0.4
PBVM				eS	Sn	12 41 39.1	-4.6
CNCY	Coyoacan	4.72	294	eP	Pn	12 40 52.1	+1.8
CNCY				eS	Sn	12 41 40.2	-4.6
UNM	Universidad Na	4.73	294	Pn	Pn	12 40 51.8	+1.4
UNM	Universidad Na	4.73	294	eP	Pn	12 40 50.3	-0.1
UNM				eS	Sn	12 41 41.6	-3.3
UNM	Universidad Na	4.73	294	P	Pn	12 40 51.8	+1.4
CUP5	Mexico City	4.73	294	eP	Pn	12 40 51.4	+1.0
CUP5				eS	Sn	12 41 41.9	-3.1
BJVM	Benito Juarez	4.74	295	eP	Pn	12 40 50.9	+0.3
BJVM				eS	Sn	12 41 39.3	-5.9
PLIG	Platanillo	4.75	282⇑	eP	Pn	12 40 50.8	+0.3
PLIG				eS	Sn	12 41 39.0	-6.2
CTVM	Cuauhtemoc	4.76	296	eP	Pn	12 40 57.5	+6.7
MEIG	Mezcala	4.79	277	eP	Pn	12 40 50.4	-0.7
MEIG				eS	Sn	12 41 42.0	-4.2
APVM	Azcapotzalco	4.82	296	eP	Pn	12 40 52.2	+0.6
APVM				eS	Sn	12 41 43.5	-3.6
DAIG	Los Arroyos	4.83	266	eP	Pn	12 40 49.2	-2.3
AOVM	Tlapan	4.83	293	eP	Pn	12 40 51.9	0.0
AOVM				eS	Sn	12 41 43.7	-4.0
CJVM	Cuajimalpa	4.83	294	eP	Pn	12 40 51.4	-0.4
CJVM				eS	Sn	12 41 39.6	-7.8
MAVM	Malinalco, Edo	4.88	289	eP	Pn	12 40 51.8	-0.6
MAVM				eS	Sn	12 41 46.7	-1.7
INVM	La Marquesa	4.89	293	eP	Pn	12 40 53.2	+0.5
INVM				eS	Sn	12 41 48.2	-0.8
NBG	Las Nubes	4.98	124	iP	Pn	12 40 55.8	+2.0
ACP2	Acapulco	5.07	265	eP	Pn	12 40 51.2	-3.4
ACP2				eS	Sn	12 41 46.4	-6.2
DEIG	Demacu	5.07	305	eP	Pn	12 40 55.7	+0.9
TOVM	TOLUCA	5.15	292	eP	Pn	12 40 56.9	+0.8
TOVM				eS	Sn	12 41 51.5	-3.5
MRL	Marmol	5.28	115	iP	Pn	12 40 57.7	0.0
CTUV	Llano Grande	5.35	319	eP	Pn	12 40 56.9	-1.5
CTUV				eS	Sn	12 41 58.3	-1.1
CAIG	El Cayaco	5.41	267	eP	Pn	12 40 56.3	-2.9
CAIG				eS	Sn	12 41 56.7	-4.1
ATYC	Atoyac	5.56	269	eP	Pn	12 41 00.4	-0.8
ACIG	Acambay	5.60	298	eP	Pn	12 41 02.6	+0.8
MYIG	Mrida	5.80	52	eP	Pn	12 41 01.9	-2.5
MTO3	Montecristo	5.88	120		Pn	12 41 04.7	-1.1
MTO3	Montecristo	5.88	120	iP	Pn	12 41 05.1	-0.7
MTO3				IAmb	IAmb	12 41 30.5	
	comp=Z,66nm,0.8s						
MTO3				IAML		12 42 01.9	
	comp=Z,420nm,1.0s						
MTO3				IVmB_BB		12 42 01.9	
	comp=Z,3μm,1.0s						
JAYA	Jayaque - finc	6.23	126	iP	Pn	12 41 14.1	+3.7
JAYA				IAmb	IAmb	12 41 31.7	
	comp=Z,200nm,0.7s						
JAYA				IVmB_BB		12 42 02.6	
	comp=Z,8μm,1.0s						
JAYA				IAML		12 42 03.0	
	comp=Z,840nm,1.0s						
PET2	Petatlan	6.34	272	eP	Pn	12 41 11.8	+0.2
JRQG	Juriquilla Cam	6.41	302		Pn	12 41 14.8	+2.1
ZIIG	Zihuatanejo	6.54	273	eP	Pn	12 41 13.0	-1.2
ZIIG				eS	Sn	12 42 27.4	-0.2
TEIG	Tepich	6.62	64	Pn	Pn	12 41 13.5	-1.9
TEIG	Tepich	6.62	64	P	Pn	12 41 13.1	-2.2
	comp=Z,506nm,0.6s,baz=267,slow=6.8,SNR=431						
TEIG				S	Sn	12 42 28.7	-1.1
	comp=Z,184nm,0.6s,baz=12,slow=19,SNR=5.7						
TEIG				LR	LR	12 43 57.3	
	comp=Z,712nm,18.5s,baz=218,slow=40						
MOIG	Morelia	6.62	291		Pn	12 41 16.9	+1.3
MOIG	Morelia	6.62	291	eP	Pn	12 41 15.7	+0.1
MOIG				eS	Sn	12 42 28.6	-1.6
UON	La Union	6.88	276	iP	Pn	12 41 19.8	+1.0
UON				eS	Sn	12 42 35.7	-0.3
GTIG	Gomez Farias	7.05	323	eP	Pn	12 41 20.5	-0.6
TGUH	Tegucigalpa,Un	7.82	114	Pn	Pn	12 41 32.9	+1.3
MMIG	Aquila	8.36	277	eP	Pn	12 41 38.6	+0.1
MMIG				eS	Sn	12 43 08.3	-3.2
AAIG	Aguscalientes	8.60	303	eP	Pn	12 41 42.8	+0.8
LNIG	Linares	8.70	330	eP	Pn	12 41 43.6	+0.4
LNIG				eS	Sn	12 43 14.0	-5.9
JUBC	Volcan de Coli	8.74	285	eP	Pn	12 41 43.9	-0.1
JUBC				eS	Sn	12 43 18.6	-2.8
MNGA	Volcan de Coli	8.78	285	eP	Pn	12 41 44.4	0.0
MNGA				eS	Sn	12 43 20.6	-1.5
COIG	Colima	8.79	283	eP	Pn	12 41 43.9	-0.6
COIG				eS	Sn	12 43 19.5	-2.7
SOMAC	Volcano de Col	8.80	285	eP	Pn	12 41 45.0	+0.1
SOMAC				eS	Sn	12 43 21.2	-1.6
CEGR	Campo Tres	8.99	284	eP	Pn	12 41 45.4	-1.7
CEGR				eS	Sn	12 43 24.6	-2.3
CDAR	Ciudad de Arme	9.05	281	eP	Pn	12 41 46.2	-1.6
CDAR				eS	Sn	12 43 23.3	-5.0
MACN	El Madrono	9.12	122	iP	Pn	12 41 52.0	+3.2
MACN				IAML		12 41 55.9	
	comp=Z,47nm,1.0s						
MACN				IVmB_BB		12 41 55.9	
	comp=Z,650nm,1.0s						
ZAIG	Zacatecas	9.17	307	Pn	Pn	12 41 52.4	+2.9
ZAIG	Zacatecas	9.17	307	eP	Pn	12 41 51.5	+1.9
MNIG	Monterrey	9.71	328	eP	Pn	12 41 55.2	-1.3
CIHU	Emiliano Zapat	9.78	282	eP	Pn	12 41 56.7	-0.8
CIHU				eS	Sn	12 43 45.0	-0.9
BOAB	BOACO BROADBAN	9.96	119	Pn	Pn	12 42 01.3	+1.4
ANIG	Ahuacatlan	10.03	293	eP	Pn	12 42 03.2	+2.3
CJM	Chamela	10.11	283	eP	Pn	12 42 03.7	+1.9
CJM				eS	Sn	12 43 51.9	-1.8
ACON	Acoyapa	10.62	119		Pn	12 42 09.3	+0.6
CUI	Cuipilapa	11.37	125	eP	Pn	12 42 19.5	+1.0
JUD3	Juan Diaz 3	11.39	124		Pn	12 42 19.2	+0.4
INDI	Punta Indio, G	11.61	129	iP	Pn	12 42 23.5	+1.8
INDI				IAmb	IAmb	12 42 23.6	
	comp=Z,86nm,0.9s						
INDI				IVmB_BB		12 42 33.9	
	comp=Z,2μm,1.0s						
833A	Chaparral WMA,	11.71	339		Pn	12 42 23.3	+0.5
833A	Chaparral WMA,	11.71	339	P	Pn	12 42 23.0	+0.2
	baz=156,SNR=20						
JTS	Las Juntas de	11.76	126	Pn	Pn	12 42 24.4	+0.8
JTS	Las Juntas de	11.76	126	P	Pn	12 42 23.2	-0.4
	comp=Z,12nm,0.3s,baz=321,slow=16,SNR=20						
JTS				S	Sn	12 44 33.2	-0.5
	comp=Z,9.1nm,0.5s,baz=280,slow=19,SNR=2.0						
JTS				LR	LR	12 47 17.0	
	comp=Z,215nm,21.8s,baz=283,slow=39						
JTS	Las Juntas de	11.76	126	eP	Pn	12 42 23.3	-0.4
JUNT	Juntas	11.76	126	eP	Pn	12 42 22.0	-1.6
JUNT				eS	S	12 44 47.7	-4.0
ARE1	Arenal 1	11.84	124	eP	Pn	12 42 25.9	+1.2
SOCE	Pocosol	11.96	124		Pn	12 42 26.6	+0.3
SOCE	Pocosol	11.96	124	iP	P	12 42 32.9	-0.1
SOCE				IVmB_BB		12 42 37.7	
	comp=Z,3μm,1.0s						
SOR	Soroa	12.14	62	Pn	Pn	12 42 26.1	-2.4
SOR	Soroa	12.14	62	P	Pn	12 42 26.1	-2.4
MCIG	Muzquiz	12.18	330	eP	Pn	12 42 28.5	-0.4
TRB2	Turrubares	12.38	126	eP	Pn	12 42 32.5	+0.8
MLDN	Muldoon	12.51	350	Pn	Pn	12 42 32.9	-0.2
HKT	Hockley	12.52	355	Pn	Pn	12 42 32.7	-0.6
HKT	Hockley	12.52	355	P	Pn	12 42 32.7	-0.6
PDIG	Papasquiaro	12.58	309	eP	Pn	12 42 34.6	+0.2
HDC	Heredia	12.59	125		Pn	12 42 34.7	+0.2
HNDO	Hondo	12.78	341		Pn	12 42 35.4	-1.4
ABE2	San Pablo	12.81	125	eP	Pn	12 42 37.6	+0.1
LCR2	La Lucha 2	12.83	125	Pn	Pn	12 42 38.0	+0.3
LCR2	La Lucha 2	12.83	125	iP	Pn	12 42 38.6	+0.9
LCR2				IVmB_BB		12 42 45.1	
	comp=Z,3μm,1.0s						
LCR2				IAmb	IAmb	12 42 45.2	
	comp=Z,130nm,0.7s						
LCR2	La Lucha 2	12.83	125	eP	Pn	12 42 37.8	+0.1
BUS1	Rivas	13.15	125	eP	Pn	12 42 42.3	+0.3
DRIO	Del Rio	13.15	336	Pn	Pn	12 42 40.5	-1.0
OCHAL	Ojochal	13.51	126	iP	Pn	12 42 48.2	+2.1
OCHAL				IAmb	IAmb	12 42 53.1	
	comp=Z,160nm,0.6s						
435B	Jarrell	13.57	349		Pn	12 42 45.4	-1.4
435B	Jarrell	13.57	349	P	Pn	12 42 47.0	+0.1
	baz=168						
CAMR	Camarioca	13.64	64		Pn	12 42 45.7	-2.0
DRK0	Durika	13.71	125	iP	P	12 42 51.5	-1.1
DRK0				IAmb	IAmb	12 42 54.8	
	comp=Z,270nm,0.6s						
JCT	Junction City	13.83	341	Pn	Pn	12 42 48.7	-1.4
JCT	Junction City	13.83	341	P	Pn	12 42 50.6	+0.5
	baz=158,SNR=32						
JCT	Junction City	13.83	341	P	Pn	12 42 48.7	-1.4
HPIG		13.93	315		Pn	12 42 52.1	+0.5
HPIG		13.93	315	eP	Pn	12 42 51.4	-0.2
BCIG	La Boquilla	14.17	317	eP	Pn	12 42 53.8	-0.7
SAND	Sanderson	14.23	333	Pn	Pn	12 42 55.0	-0.3
NATX	Nacogdoches	14.27	360	Pn	Pn	12 42 55.1	-0.6
NATX	Nacogdoches	14.27	360	P	Pn	12 42 55.3	-0.4
	baz=180,SNR=6.6						
BRDY	Brady	14.36	345	Pn	Pn	12 42 56.5	-0.4
TX31	Lajitas Ar. Si	14.47	327		Pn	12 42 59.1	+0.9
TXAR	Lajitas Array	14.47	327	P	P	12 42 59.9	-0.9
	comp=Z,12nm,0.7s,baz=147,slow=13,SNR=117						
237A	Washetta, Mont	14.55	356		Pn	12 42 58.5	-0.7
346A	Big Creek Wild	14.67	18		Pn	12 42 59.2	-1.5
OZNA	Ozona	14.69	337	P	Pn	12 43 01.8	+0.9
WHTX	Lake Whitney,	14.73	350	P	Pn	12 43 01.9	+0.5
WHTX	Lake Whitney,	14.73	350	P	Pn	12 43 02.0	+0.6
	baz=169,SNR=21						
FW13	Cleburne	15.08	351		Pn	12 43 05.5	-0.2
FW14	Alvarado	15.09	352	P	Pn	12 43 05.9	0.0
FW16	Waxahatchie	15.13	353	P	Pn	12 43 06.3	-0.1
VBMS	Vicksburg	15.19	13	P	Pn	12 43 06.3	-0.8
	baz=195						
ALPN	Alpine	15.29	329	P	P	12 43 09.9	-0.1
TREL	Terrell	15.30	355	P	Pn	12 43 07.9	-0.6
BRAL	Brewton	15.32	25	P	P	12 43 09.5	-0.5
BRAL	Brewton	15.32	25	P	Pn	12 43 08.3	-0.4
	baz=208,SNR=11						
FW07	Weatherford	15.48	350	P	Pn	12 43 10.4	-0.3
SGCY	Sterling City	15.59	339	P	Pn	12 43 11.9	-0.1
PLPT	Palo Pinto	15.68	348	P	Pn	12 43 12.9	-0.3
MNHN	Monahans	15.71	333	P	P	12 43 15.2	+0.7
FW06	Azle	15.71	351	P	Pn	12 43 13.4	-0.1
Z38A	Mt. Pleasant	15.77	359	P	Pn	12 43 14.1	-0.2
ABTX	Abilene, Hawle	15.80	344	P	P	12 43 15.0	-0.4
ABTX	Abilene, Hawle	15.80	344	P	P	12 43 15.3	-0.1
	baz=162,SNR=34						
FW03	Perrin-Whitt E	15.86	349	P	P	12 43 15.5	-0.6
LPIG	La Paz	16.10	297	P	P	12 43 21.9	+3.1
	comp=Z,20nm,0.7s,baz=318,slow=9.2,SNR=1.9						
DWPF	Disney Wildern	16.14	46	P	Pn	12 43 17.7	-1.1
DWPF	Disney Wildern	16.14	46	P	Pn	12 43 18.0	-0.8
	baz=232						
PEC

CHIV Chivirico 17.43 79 P Pn 12 43 33.9 -0.6
152A Waverly Hall 17.61 29 P Pn 12 43 35.5 -1.1
WMOK Wichita Mounta 17.64 349 P 12 43 35.7 0.0
WMOK Wichita Mounta 17.64 349 P Pn 12 43 36.5 -0.4
baz=166,SNR=34
WMOK Wichita Mounta 17.64 349 P P 12 43 35.7 0.0
OXF Oxford 17.64 14 P P 12 43 35.0 -0.7
OXF Oxford 17.64 14 P Pn 12 43 35.8 -1.1
baz=196,SNR=14
OXF Oxford 17.64 14 P P 12 43 35.0 -0.7
CGIG 17.73 319 eP Pn 12 43 38.4 +0.2
W35A Tecumseh 17.77 354 P Pn 12 43 37.5 -1.0
EPT El Paso 17.89 325 P Pn 12 43 39.4 -0.6
WHAR Wooly Hollow 17.92 6 P Pn 12 43 39.2 -0.9
FNO Franklin 17.93 353 Pn 12 43 40.0 -0.4
Y49A Blount Mountai 17.95 23 P P 12 43 38.2 -0.9
MSTX Muleshoe 18.03 338 P Pn 12 43 40.9 -0.7
MSTX Muleshoe 18.03 338 P Pn 12 43 40.7 -0.9
baz=154,SNR=26
X48A Hartselle 18.26 20 P P 12 43 42.3 -0.2
SMWD Samnorwood 18.31 345 P P 12 43 43.5 +0.4
TUL3 Leonard 18.44 357 P P 12 43 44.4 0.0
baz=176,SNR=66
AMTX Amarillo 18.50 341 P Pn 12 43 46.0 -1.1
AMTX Amarillo 18.50 341 P P 12 43 45.7 +0.6
baz=158
FCAR Ozark Folk Cen 18.53 6 P P 12 43 45.4 +0.1
GTBY Guantanamo Bay 18.65 79 P Pn 12 43 47.7 -1.2
RLO Rose Lookout 18.67 359 P P 12 43 46.1 -0.8
HHAR Hobbs 18.79 2 P P 12 43 48.2 -0.1
GOGA Godfrey 18.82 30 P P 12 43 48.0 -0.5
GOGA Godfrey 18.82 30 P P 12 43 48.2 -0.3
baz=215,SNR=5.9
GOGA Godfrey 18.82 30 P P 12 43 48.0 -0.5
LCAR Lake Charles 18.83 9 P P 12 43 48.2 -0.4
FPAL Fort Paine 18.85 24 P P 12 43 47.9 -1.1
Y52A Lilburn 18.91 28 P P 12 43 49.1 -0.5
GNAR Gosnell 18.91 12 P P 12 43 49.1 -0.4
U38A Gravette 18.94 1 P P 12 43 49.8 0.0
HALT Halls 19.00 13 P P 12 43 50.2 -0.2
ELIS Ellis County 19.05 348 P P 12 43 51.5 +0.4
OK051 E0350 and S346 19.11 355 P P 12 43 51.3 -0.3
121A Cookes Peak, D 19.17 324 P Pn 12 43 55.1 0.0
121A Cookes Peak, D 19.17 324 P Pn 12 43 55.1 0.0
baz=138,SNR=79
319A Douglas 19.24 319 P Pn 12 43 55.0 -0.8
U32A Winter Ranch, 19.28 349 P P 12 43 54.2 +0.6
SWET Sewanee 19.34 22 P P 12 43 53.0 -1.3
WVT Waverly 19.58 17 P P 12 43 56.7 -0.1
baz=200
Y22D IRIS PASSCAL I 19.91 329 P Pn 12 44 02.9 -0.9
baz=143,SNR=5.6
NHSC New Hope 20.32 37 P P 12 44 04.3 -0.5
baz=223,SNR=6.9
ANMO Albuquerque 20.40 331 P P 12 44 07.4 +1.6
baz=146
ANMO Albuquerque 20.40 331 P P 12 44 06.9 +1.1
comp=Z,27nm,0.9s,baz=239,slow=12,SNR=96
comp=Z,27nm,0.9s
ANMO Albuquerque 20.40 331 dfiP P 12 44 07.4 +1.6
ANMO pmax pmax
comp=Z,20nm,1.0s
U49A Red Boiling Sp 20.56 21 P P 12 44 05.7 -1.6
TKL Tuckaleechee C 20.56 26 P P 12 44 05.3 -2.1
TKL Tuckaleechee C 20.56 26 P P 12 44 05.1 -2.2
comp=Z,33nm,0.7s,baz=194,slow=13,SNR=44
comp=Z,33nm,0.7s
T47A Sharon Grove 20.59 17 P P 12 44 06.0 -1.6
LAPR La Primavera 20.73 312 eP P 12 44 11.0 +1.8
CCM Cathedral Cave 20.77 8 P P 12 44 08.5 -1.0
baz=189
TUC Tucson 20.81 318 P P 12 44 12.3 +2.2
baz=131
TUC Tucson 20.81 318 eP P 12 44 12.1 +2.0
KMSC Kings Mountain 21.25 31 P P 12 44 13.6 -1.1
baz=217,SNR=19
TZTN Tazewell 21.42 25 P P 12 44 14.9 -1.6
baz=210,SNR=10
T25A Trinidad 21.45 338 P P 12 44 18.9 +1.7
baz=153,SNR=55
KSU1 Kansas State U 21.67 356 P P 12 44 18.1 -1.0
baz=175
CBKS Cedar Bluff 21.78 349 P P 12 44 20.6 +0.3
baz=166,SNR=5.8
214A Organ Pipe Nat 21.92 315 P P 12 44 23.1 +1.3
214A Organ Pipe Nat 21.92 315 P P 12 44 23.6 +1.7
baz=127,SNR=39
WCI Wyandotte Cave 21.98 18 P P 12 44 20.5 -1.8
baz=202
PIX Pinacate 22.13 313 P P 12 44 24.6 +0.7
U54A Nelsons Funny 22.14 28 P P 12 44 22.3 -1.7
U54A IAmb IAmb 12 44 23.7
comp=Z,72nm,0.9s
P40A Paris 22.14 5 P P 12 44 22.3 -1.6
P38A Dawn 22.14 2 P P 12 44 22.4 -1.6
P38A IAmb IAmb 12 44 23.6
comp=Z,44nm,0.7s
SDCO Great Sand Dun 22.39 337 P P 12 44 28.2 +1.5
baz=152,SNR=44
KSCO Kaye Shedlock' 22.62 344 P P 12 44 29.3 +0.7
baz=160,SNR=5.7
S22A 4UR Ranch, Cre 22.91 334 P P 12 44 33.1 +1.4
baz=149,SNR=28
MVCO Mesa Verde 23.20 331 P P 12 44 35.7 +1.5
baz=144,SNR=46
OTAV Otavalo 23.34 135 P P 12 44 38.8 +2.8
OTAV Otavalo 23.34 135 P P 12 44 38.8 +2.8
OTAV pmax pmax
comp=Z,26nm,1.5s
Q24A Divide 23.35 339 P P 12 44 36.0 +0.3
baz=154,SNR=7.8
BLA Blacksburg 23.35 30 P P 12 44 34.1 -1.2
baz=216,SNR=10
WUAZ Wupatki 23.38 324 P P 12 44 37.1 +1.3
baz=136,SNR=75
PULU Pululahua 23.47 136 P P 12 44 40.2 +3.2
IMBA Imbabura, San 23.48 135 P P 12 44 41.4 +4.2
HDIL Hopedale 23.51 10 P P 12 44 35.2 -1.4
baz=193,SNR=8.9
P49A Miami Univ. Ec 23.66 19 P P 12 44 36.5 -1.5
P49A Miami Univ. Ec 23.66 19 P P 12 44 35.4 -2.6
baz=204,SNR=29
SFIN Lafayette 23.78 14 P P 12 44 38.3 -0.9
baz=198,SNR=7.5
GLA Glamis 23.94 314 P P 12 44 42.0 +1.2
baz=125,SNR=21
BLYC Blythe 24.15 316 P P 12 44 44.0 +1.4
O48B Farmland 24.18 18 P P 12 44 41.2 -1.7
baz=202,SNR=30
SMCO Snowmass 24.20 336 P P 12 44 44.9 +1.4
SMCO IAmb IAmb 12 44 50.0
comp=Z,37nm,1.1s
PDMCI Parker Dam,Lak 24.24 318 P P 12 44 44.6 +1.2
baz=129,SNR=9.5
ISCO Idaho Springs 24.25 339 P P 12 44 44.0 +0.1
baz=154,SNR=31
OGNE Ogallala 24.30 346 P P 12 44 44.5 +0.5
baz=162,SNR=19
SCIA State Center 24.43 3 P P 12 44 45.3 +0.2
baz=183,SNR=11
SWSC Sam W. Stewart 24.55 313 P P 12 44 48.0 +1.7
baz=124,SNR=11
IKP In-Ko-Pah, Jac 24.61 312 P P 12 44 49.4 +2.5
baz=123,SNR=10
P52A Corning 24.65 24 P P 12 44 45.6 -1.4
baz=210,SNR=7.3
BC3 Big Chuckawall 24.71 315 P P 12 44 50.0 +2.1
baz=126,SNR=41
IRM Iron Mountain 24.81 316 P P 12 44 50.0 +1.4
baz=127,SNR=14
SDV Santo Domingo 24.83 107 P P 12 44 48.8 -0.4
SDV IAmb IAmb 12 45 24.2
comp=Z,35nm,1.2s
NEE2 Needles Airpor 24.84 318 P P 12 44 50.3 +1.5
baz=129
HMU Henry Mountain 24.86 329 P P 12 44 51.1 +1.7
HMU IAmb IAmb 12 44 52.2
comp=Z,48nm,1.0s
ACSO Alum Creek Sta 24.86 22 P P 12 44 47.5 -1.5
baz=207
MONP2 Monument Peak 24.96 312 P P 12 44 51.6 +1.4
baz=123,SNR=8.4
BAR Barrett 25.02 312 P P 12 44 50.6 0.0
O52A Adamsville 25.18 24 P P 12 44 50.2 -1.7
O52A IAmb IAmb 12 45 25.8
comp=Z,77nm,1.0s
KNB Kanab 25.27 324 P P 12 44 53.9 +0.9
KNB Kanab 25.27 324 P P 12 44 53.9 +0.9
KNB pmax pmax
comp=Z,23nm,0.9s
BELC Belle Mtn. Jos 25.28 315 P P 12 44 55.1 +2.0
baz=125,SNR=11
L44A Lake County Fo 25.33 12 P P 12 44 53.3 +0.1
baz=195
N23A Red Feather La 25.35 340 P P 12 44 54.8 +1.1
baz=154,SNR=6.0
TPFO Pinon Flats 25.37 314 P P 12 44 56.0 +2.1
baz=124,SNR=9.2
PFO Pinyon Flats O 25.38 314 P P 12 44 55.8 +1.9
baz=124,SNR=11
PFO Pinyon Flats O 25.38 314 ceP P 12 44 55.5 +1.6
PFO pmax pmax
comp=Z,39nm,1.1s
109C Camp Elliot, M 25.44 311 P P 12 44 55.3 +0.9
baz=122
GMRC Granite Mounta 25.52 317 P P 12 44 57.3 +2.1
baz=127,SNR=18
O20A White River Ci 25.52 335 P P 12 44 56.1 +0.9
baz=148,SNR=17
O53A New Philadelph 25.54 24 P P 12 44 53.3 -1.8
baz=211,SNR=5.4
MCWV Mont Chateau 25.60 27 P P 12 44 55.8 +0.1
baz=214
JFWS Jewell Farm 25.68 7 P P 12 44 55.4 -1.0
baz=190,SNR=27
MURC Murrieta 25.89 313 P P 12 44 59.9 +1.5
baz=123,SNR=12
HEC Hector,Ludlow 25.99 316 P P 12 45 01.6 +2.2
baz=126,SNR=5.4
BBRC Big Bear Solar 26.06 314 P P 12 45 02.7 +2.5
baz=124,SNR=7.3
ELS Elsinore Mount 26.07 313 P P 12 45 00.7 +0.6
TUQ Turquoise Moun 26.09 318 P P 12 45 02.2 +1.9
baz=128,SNR=11
ECSD EROS Data Cent 26.28 357 P P 12 45 01.6 -0.3
ECSD IAmb IAmb 12 45 03.2
comp=Z,27nm,0.7s
ECSD EROS Data Cent 26.28 357 P P 12 45 01.5 -0.3
baz=176,SNR=44
SHPR Sheep Range 26.29 320 P P 12 45 03.7 +1.5
RRX Edison Barstow 26.46 315 P P 12 45 05.0 +1.5
baz=125
AAM Ann Arbor 26.51 18 P P 12 45 02.8 -1.0
baz=204
SCI2 San Clemente I 26.53 310 P P 12 45 06.0 +1.8
baz=120
BFSC Mount Baldy Ra 26.55 314 P P 12 45 05.8 +1.3
baz=123,SNR=7.8
GSC Goldstone, Bar 26.59 316 P P 12 45 06.5 +1.7
baz=126,SNR=5.9
SHOC Shoshone, Teco 26.60 318 P P 12 45 06.7 +1.9
baz=128
CIS Catalina Islan 26.65 311 P P 12 45 06.6 +1.4
baz=121
FMP Fort Macarthur 26.72 312 P P 12 45 07.4 +1.6
baz=121
M53A WI Miller and 26.77 24 P P 12 45 04.5 -1.7
baz=211
GWY Greenwater Val 27.03 318 P P 12 45 09.9 +1.1
DECC Green Verdugo 27.03 313 P P 12 45 10.0 +1.3
baz=122
NLU North Lily Min 27.08 330 P P 12 45 10.3 +1.1
K22A Casper 27.12 340 P P 12 45 10.8 +1.3
baz=154,SNR=8.7
EDW2 Edwards Air Fo 27.14 314 P P 12 45 11.6 +1.9
baz=124,SNR=5.1
SUSD Miller 27.18 353 P P 12 45 10.3 +0.4
baz=171
TPNV Topopah Spring 27.24 320 P P 12 45 12.5 +1.8
baz=130,SNR=22
LRMC Laurel Mtn Rad 27.27 316 P P 12 45 12.8 +2.0
baz=125,SNR=8.0
SSPA Standing Stone 27.27 29 P P 12 45 11.4 +0.7
baz=217
JLU Jordanelle 27.29 331 P P 12 45 11.4 +0.2
FURC Furnace Creek, 27.32 318 P P 12 45 13.3 +2.2
baz=128,SNR=12
SNCC San Nicolas Is 27.38 310 P P 12 45 13.4 +1.7
baz=119
MPMC Manual Prospec 27.48 317 P P 12 45 14.6 +1.8
baz=126,SNR=22
OSI Osito Audit: C 27.50 313 P P 12 45 14.0 +1.2
baz=122
ERPA Erie 27.61 24 P P 12 45 14.8 +1.1
baz=211
DUG Dugway, Tooele 27.62 329 P P 12 45 15.4 +1.4
baz=140,SNR=6.9
SPMN Marine on St. 27.76 3 P P 12 45 14.2 -0.8
baz=184,SNR=29
R11B Troy Canyon, C 27.77 323 P P 12 45 16.8 +1.4
baz=133,SNR=28
RSSD Black Hills 27.78 345 P P 12 45 16.2 +0.8
baz=160
ARVC Arvin 27.85 314 P P 12 45 18.0 +2.1
baz=123,SNR=8.8
ISA Isabella, Lake 27.90 315 P P 12 45 18.1 +1.6
baz=124,SNR=8.8
GRAC Grapevine Rang 27.97 319 P P 12 45 18.8 +1.9
baz=128,SNR=6.9
CWC Cottonwood Cre 28.09 317 P P 12 45 19.7 +1.5
baz=126
SBC Santa Barbara 28.10 312 P P 12 45 18.8 +0.6
baz=121
BW06 Boulder Array 28.28 336 P P 12 45 20.3 +0.3
baz=149,SNR=6.9
PD31 Pinedale Array 28.28 336 P P 12 45 19.9 -0.1
PDAR Pinedale Array 28.28 336 P P 12 45 20.0 0.0
PDAR Pinedale Array 28.28 336 P P 12 45 19.3 -0.6
comp=Z,2.4nm,0.8s,baz=146,slow=8.4,SNR=20
PDAR PcP PcP 12 48 28.9 -0.4
comp=Z,0.6nm,0.5s,baz=133,slow=4.8,SNR=3.7
PDAR LR LR 13 00 11.1
comp=Z,104nm,18.5s,baz=190,slow=44
comp=Z,2.4nm,0.8s
BGU Big Grassy Mou 28.29 330 P P 12 45 20.7 +0.8
PKM Mcpherson Peak 28.41 313 P P 12 45 23.2 +2.2
baz=121,SNR=11
VES Vestal, Richgr 28.41 315 P P 12 45 23.0 +2.1
baz=124,SNR=26
TIN Tinemaha, Big 28.55 318 P P 12 45 24.0 +1.7
baz=127
SMMC Simmler 28.75 313 P P 12 45 25.5 +1.5
baz=122,SNR=5.0
VOG Valley Oaks Go 28.88 316 P P 12 45 26.6 +1.5
baz=124
ATAH Atahualpa 29.20 145 LR LR 12 54 49.5
comp=Z,126nm,18.1s,baz=274,slow=31
ELK Elko 29.26 327 ScP ScP 12 52 00.9 +1.2
comp=Z,0.2nm,0.3s,baz=59,slow=7.2,SNR=3.7
MLAC Mammoth, Mammo 29.28 318 P P 12 45 30.5 +1.6
baz=127
NVAR Mina Array Bea 29.44 320 P P 12 45 32.8 +2.6
comp=Z,38nm,0.9s,baz=136,slow=9.1,SNR=219
NVAR PcP PcP 12 48 33.4 +1.0
comp=Z,3.9nm,0.9s,baz=129,slow=2.1,SNR=10.0
NVAR ScP ScP 12 52 01.8 +1.4
comp=Z,0.8nm,0.8s,baz=136,slow=4.5,SNR=6.9
NVAR LR LR 12 59 02.5
comp=Z,120nm,18.1s,baz=104,slow=40
YPP Pitchstone Pla 30.04 336 P P 12 45 35.0 -0.5
H17A Grant Village 30.06 337 P P 12 45 37.2 +1.5
H17A Grant Village 30.06 337 P P 12 45 36.8 +1.2
baz=148
BMN Battle Mountai 30.11 324 P P 12 45 37.7 +1.6
BMN IAmb IAmb 12 45 39.3
comp=Z,27nm,1.0s
BMN Battle Mountai 30.11 324 P P 12 45 37.7 +1.6
BMN pmax pmax
comp=Z,27nm,1.0s
WAKR Walker 30.19 319 P P 12 45 39.0 +2.2
WAKR IAmb IAmb 12 45 40.6
comp=Z,28nm,1.2s
SADO Sadowa 30.20 22 LR LR 13 00 17.6
comp=Z,84nm,19.4s,baz=259,slow=41
RLMT Red Lodge 30.22 339 P P 12 45 37.1 +0.1
RLMT IAmb IAmb 12 45 39.2
comp=Z,30nm,1.4s
RLMT Red Lodge 30.22 339 P P 12 45 37.5 +0.5
baz=151,SNR=12
YERR Yerington 30.36 320 P P 12 45 40.2 +1.9
YERR IAmb IAmb 12 45 41.8
comp=Z,19nm,0.9s
YHH Holmes Hill 30.50 337 P P 12 45 41.0 +1.5
CMB Columbia Colle 30.51 317 P P 12 45 40.5 +1.0
CMB Columbia Colle 30.51 317 P P 12 45 40.5 +1.0
CMB pmax pmax
comp=Z,11nm,1.1s
SAO San Andreas Ge 30.52 314 P P 12 45 40.5 +1.0
SAO IAmb IAmb 12 45 42.3
comp=Z,36nm,1.6s
SAO San Andreas Ge 30.52 314 P P 12 45 40.5 +1.0
SAO pmax pmax
comp=Z,36nm,1.6s
EYMN Ely 30.55 4 P P 12 45 38.6 -1.1
EYMN IAmb IAmb 12 45 39.7
comp=Z,15nm,0.6s
EYMN Ely 30.55 4 P P 12 45 38.9 -0.7
baz=186,SNR=12
MDND Maddock 30.62 353 P P 12 45 40.3 +0.1
MDND Maddock 30.62 353 P P 12 45 40.4 +0.1
baz=170,SNR=15
YHL Hebgen Lake 30.68 337 P P 12 45 42.8 +1.7
LAO LASA Array 30.72 344 P P 12 45 41.5 +0.2
baz=158
AGMN Agassiz Nation 30.81 358 P P 12 45 41.5 -0.4
baz=178,SNR=68
HLID Hailey 30.98 331 P P 12 45 44.7 +1.0
baz=141,SNR=21
BOZ Bozeman (W) 31.47 337 P P 12 45 49.2 +1.2
BOZ Bozeman (W) 31.47 337 P P 12 45 48.7 +0.8
baz=148,SNR=20
BOZ Bozeman (W) 31.47 337 P P 12 45 49.2 +1.2
BOZ pmax pmax
comp=Z,15nm,1.2s
MFID Camas Ranch 31.53 330 P P 12 45 49.3 +0.9
M65A Busby, Falmout 31.64 36 P P 12 45 48.4 -0.9
baz=228
DLMT Dillon 31.65 336 P P 12 45 50.8 +1.3
DLMT IAmb IAmb 12 45 52.6
comp=Z,42nm,1.1s
HRV Adam Dziewonsk 31.80 33 P P 12 45 50.4 -0.3
baz=225
LONY Lake Ozonia 31.91 28 P P 12 45 50.2 -1.4
baz=218
ULM Lac du Bonnet 32.76 359 P P 12 45 57.4 -1.5
comp=Z,16nm,0.5s,baz=172,slow=9.9,SNR=33
comp=Z,16nm,0.5s
LBNH Lisbon 32.86 31 P P 12 45 59.0 -0.9
baz=223
BPMT Black Pine Rid 32.87 336 P P 12 46 01.1 +0.8
LYMT Lyon Mountain 32.88 337 P P 12 46 00.6 +0.3
EGMT Eagleton 32.94 341 P P 12 46 01.3 +0.6
EGMT IAmb IAmb 12 46 49.8
comp=Z,25nm,1.1s
EGMT Eagleton 32.94 341 P P 12 46 01.3 +0.6
baz=153
MNTQ Montreal, Queb 33.03 28 P P 12 46 00.4 -0.9
MNTQ IAmb IAmb 12 46 00.6
comp=Z,16nm,0.7s
CZSB Cruzeiro do Su 33.07 137 P P 12 46 05.2 +3.2
TRQ Mont Tremblant 33.20 26 P P 12 46 02.1 -0.8
TRQ IAmb IAmb 12 46 02.3
comp=Z,31nm,1.3s
OVMT Ovando 33.22 337 P P 12 46 03.0 -0.2
BMO Blue Mountains 33.31 330 P P 12 46 03.9 0.0
BMO IAmb IAmb 12 46 05.7
comp=Z,26nm,1.4s
BMO Blue Mountains 33.31 330 P P 12 46 03.9 0.0
BMO pmax pmax
comp=Z,26nm,1.4s
MSO Missoula 33.39 336 P P 12 46 04.7 +0.1
MSO IAmb IAmb 12 46 06.7
comp=Z,28nm,1.1s
MSO Missoula 33.39 336 P P 12 46 05.3 +0.7
baz=145,SNR=24
YBH Yreka Blue Hor 34.13 321 LR LR 13 00 58.6
comp=Z,68nm,19.4s,baz=162,slow=37
G08A Pilot Rock 34.43 329 P P 12 46 14.1 +0.4
PKME Peaks-Kenny Pk 34.90 32 P P 12 46 16.4 -1.1
baz=225
I03D Drain, OR 35.70 323 P P 12 46 25.3 +0.9
HOOD Mount Hood Mea 35.82 327 P P 12 46 27.6 +2.1
NEW Newport 35.83 334 P P 12 46 25.6 +0.1
NEW Newport 35.83 334 P P 12 46 25.7 +0.2
baz=141,SNR=14
NEW Newport 35.83 334 LR LR 13 03 41.1
comp=Z,72nm,18.4s,baz=140,slow=40
NEW Newport 35.83 334 P P 12 46 25.6 +0.1
NEW pmax pmax
comp=Z,14nm,1.1s
E03A Lebam 37.63 327 P P 12 46 41.7 +1.1
FFC Flin Flon 37.66 353 P P 12 46 40.6 -0.2
FFC IAmb IAmb 12 46 42.0
comp=Z,12nm,0.7s
FFC Flin Flon 37.66 353 P P 12 46 40.6 -0.2
FFC pmax pmax
comp=Z,12nm,0.7s
FFC Flin Flon 37.66 353 P P 12 46 40.7 -0.1
GNW Green Mountain 37.93 329 P P 12 46 43.3 +0.1
GNW IAmb IAmb 12 46 44.5
comp=Z,20nm,1.1s
PGC Sidney 38.98 329 P P 12 46 53.0 +1.2
PGC IAmb IAmb 12 46 53.8
comp=Z,31nm,1.0s
ETMB Extrema 38.99 132 P P 12 46 52.3 -0.2
BRLDA Berland Lookou 40.63 339 P P 12 47 05.9 +0.4
BRLDA IAmb IAmb 12 47 07.0
comp=Z,28nm,1.1s
CBB Campbell River 40.84 330 P P 12 47 08.7 +1.5
CBB IAmb IAmb 12 47 10.4
comp=Z,24nm,1.1s
MDP Montagnes des 42.84 102 LR LR 13 09 11.6
comp=Z,66nm,18.1s,baz=280,slow=42
SCHQ Schefferville 43.00 23 P P 12 47 23.3 -1.4
SCHQ Schefferville 43.00 23 P P 12 47 22.4 -2.2
comp=Z,6.3nm,0.7s,baz=241,slow=8.4,SNR=8.5
SCHQ pP pP 12 47 55.5 -2.3
comp=Z,4.1nm,0.7s,baz=232,slow=6.3,SNR=3.5
SCHQ PcP PcP 12 49 12.1 -0.2
comp=Z,5.4nm,0.8s,baz=224,slow=4.0,SNR=4.3
SCHQ LR LR 13 08 17.3
comp=Z,186nm,18.9s,baz=250,slow=40
comp=Z,6.3nm,0.7s
BBB Bella Bella 43.56 330 P P 12 47 30.9 +1.7
comp=Z,12nm,0.9s,baz=142,slow=5.8,SNR=6.8
comp=Z,12nm,0.9s
TOAD Toad River Com 47.05 339 P P 12 47 56.7 0.0
baz=138,SNR=18
YKA Yellowknife Ar 47.15 347 P P 12 47 57.0 -0.3
comp=Z,5.3nm,0.7s,baz=154,slow=8.0,SNR=8.6
comp=Z,5.3nm,0.7s
YKA Yellowknife Ar 47.15 347 P P 12 47 57.0 -0.3
V35K Ketchikan 47.16 332 P P 12 47 58.9 +1.4
V35K IAmb IAmb 12 48 00.9
comp=Z,34nm,1.0s
V35K Ketchikan 47.16 332 P P 12 47 56.9 -0.6
baz=128,SNR=5.9
T35M Bob Quinn 47.63 334 P P 12 48 03.0 +1.8
T35M IAmb IAmb 12 48 04.8
comp=Z,31nm,0.9s
T35M Bob Quinn 47.63 334 P P 12 48 03.5 +2.3
baz=131,SNR=14
KOTAN Kotaneelee Air 47.64 341 P P 12 48 01.9 +0.8
baz=140
LIRD Liard River Hi 47.77 339 P P 12 48 02.8 +0.6
baz=138
PTLB Pontes e Lacer 47.86 131 P P 12 48 03.4 0.0
PTLB Pontes e Lacer 47.86 131 eP P 12 48 03.5 0.0
CRAG Craig 47.93 331 P P 12 48 04.4 +1.0
baz=127
WRAK Wrangell Islan 48.16 333 P P 12 48 06.4 +1.2
baz=128
U33K Whale Pass 48.32 332 P P 12 48 07.6 +1.2
baz=127
DLBC Dease Lake 48.52 336 P P 12 48 10.4 +2.3
DLBC Dease Lake 48.52 336 P P 12 48 10.0 +2.0
baz=132,SNR=40
DLBC Dease Lake 48.52 336 P P 12 48 10.3 +2.3
comp=Z,29nm,0.8s,baz=138,slow=6.0,SNR=58
comp=Z,29nm,0.8s
S34M Telegraph Cree 48.61 335 P P 12 48 10.4 +1.8
baz=131,SNR=11
WTLY Watson Lake, Y 49.22 338 P P 12 48 14.3 +1.0
baz=135,SNR=7.1
R33M Jennings River 49.52 337 P P 12 48 17.5 +1.8
baz=132,SNR=28
Q32M Nakina River 49.74 335 P P 12 48 19.5 +2.0
baz=130,SNR=25

S32K	Killisnoo	49.77 333	P	P	12 48 19.2 +1.7
	baz=126				
SIT	Sitka	49.86 332	P	P	12 48 19.8 +1.7
	baz=125				
WRGLY	Wrigley	49.91 343	P	P	12 48 18.9 +0.6
	baz=143				
TGTN	Hyland Airport	50.06 340	P	P	12 48 21.1 +1.4
	baz=136,SNR=9.1				
R32K	Eaglecrest	50.23 334	P	P	12 48 22.9 +2.0
	baz=127				
SALV	Santo Antonio	50.68 129	eP	P	12 48 25.5 +0.6
P32M	Atlin	50.72 336	P	P	12 48 26.4 +1.8
	baz=129,SNR=12				
P33M	Teslin, Yukon	50.77 337	P	P	12 48 26.2 +1.2
P33M			IAmb	IAmb	12 48 28.6
	comp=Z,33nm,1.1s				
P33M	Teslin, Yukon	50.77 337	P	P	12 48 26.8 +1.8
	baz=130,SNR=28				
S31K	Pelican	50.78 333	P	P	12 48 27.2 +2.2
	baz=125				
N32M	Quiet Lake	51.48 337	P	P	12 48 31.8 +1.6
	baz=130				
PLBC	Pleasant Camp	51.71 334	P	P	12 48 33.5 +1.5
	baz=126				
WHY	Whitehorse	51.84 336	P	P	12 48 33.4 +0.4
WHY	Whitehorse	51.84 336	P	P	12 48 33.9 +0.8
	baz=128				
FARO	Faro, Yukon	52.28 338	P	P	12 48 37.6 +1.4
FARO			IAmb	IAmb	12 48 38.6
	comp=Z,20nm,1.0s				
FARO	Faro, Yukon	52.28 338	P	P	12 48 37.4 +1.3
	baz=131,SNR=9.8				
P30M	Million Dollar	52.34 335	P	P	12 48 38.3 +1.6
	baz=126				
PP1B	Ponte de Pedra	52.36 130	eP	P	12 48 37.7 +0.4
P29M	Windy Craggy	52.38 334	P	P	12 48 38.7 +1.7
	baz=124,SNR=9.2				
O30N	Mendenhall	52.38 336	P	P	12 48 38.8 +1.8
O30N			IAmb	IAmb	12 48 39.9
	comp=Z,25nm,1.1s				
O30N	Mendenhall	52.38 336	P	P	12 48 38.1 +1.1
	baz=127,SNR=13				
M31M	Drury Creek, Y	52.64 338	P	P	12 48 39.9 +1.1
	baz=130,SNR=15				
N31M	Braeburn, Yuko	52.70 337	P	P	12 48 40.9 +1.7
	baz=128,SNR=20				
PNL	Peninsula	53.10 333	P	P	12 48 44.1 +1.8
	baz=123				
O29M	Mount Kennedy	53.11 334	P	P	12 48 43.8 +1.4
	baz=124				
N30M	Aishikik Lake	53.18 336	P	P	12 48 44.5 +1.7
	baz=126,SNR=14				
CO03	El Pedregal	53.22 154	P	P	12 48 44.2 +0.7
CO03			IAmb	IAmb	12 48 46.0
	comp=Z,34nm,1.1s				
SMTB	Santa Maria do	53.31 116	eP	P	12 48 45.1 +0.8
YUK6	Outpost Mounta	53.39 335	P	P	12 48 46.4 +1.9
	baz=125,SNR=7.7				
ARAG	Araguaiana, MT	53.52 126	eP	P	12 48 45.4 -0.5
AQDB	Aquidauana	53.63 133	eP	P	12 48 46.8 +0.2
PINM	Pinnacle	53.70 334	P	P	12 48 48.4 +1.8
	baz=122				
YUK4	Talbot Arm	53.73 335	P	P	12 48 48.8 +1.8
	baz=125				
M30M	Minto, Yukon	53.75 337	P	P	12 48 48.1 +1.3
M30M			IAmb	IAmb	12 48 49.4
	comp=Z,35nm,1.1s				
M30M	Minto, Yukon	53.75 337	P	P	12 48 48.2 +1.3
	baz=127,SNR=38				
DVLD	Doverlandia	53.80 127	eP	P	12 48 48.2 +0.3
O28M	Mount Upton	54.03 334	P	P	12 48 50.9 +1.6
	baz=122				
MAYO	Mayo, Yukon	54.05 339	P	P	12 48 50.8 +1.7
MAYO	Mayo, Yukon	54.05 339	P	P	12 48 50.3 +1.2
	baz=129,SNR=13				
YUK8	Steele Glacier	54.14 335	P	P	12 48 51.0 +1.0
	baz=123				
TABL	Table Mountain	54.26 334	P	P	12 48 52.3 +1.5
TABL			IAmb	IAmb	12 48 54.1
	comp=Z,28nm,1.1s				
M29M	Somme Creek	54.29 337	P	P	12 48 52.6 +1.7
M29M	Somme Creek	54.29 337	P	P	12 48 52.8 +1.9
	baz=125,SNR=76				
MESA	MESA	54.47 333	P	P	12 48 53.7 +1.4
	baz=120				
L29M	L29M	54.56 337	P	P	12 48 53.9 +1.1
	baz=126,SNR=42				
CTG	Chitna Glacier	54.62 334	P	P	12 48 55.2 +1.9
	baz=121,SNR=8.8				
YUK3	Moose Creek	54.69 335	P	P	12 48 55.0 +1.0
	baz=123,SNR=6.3				
K29M	Barlow Dome	54.78 338	P	P	12 48 54.9 +0.4
	baz=127,SNR=22				
J30M	Hart River	54.82 339	P	P	12 48 55.6 +0.9
	baz=129,SNR=18				
VA03	San Esteban	54.96 155	P	P	12 48 57.3 +1.2
VA03			IAmb	IAmb	12 48 58.9
	comp=Z,32nm,0.9s				
C36M	Paulatuk	55.03 348	P	P	12 48 57.7 +1.8
	baz=145				
TGL	Tana Glacier	55.13 333	P	P	12 48 58.2 +1.2
TGL			IAmb	IAmb	12 49 00.1
	comp=Z,32nm,1.0s				
CRQE	Cirque	55.24 333	P	P	12 48 59.8 +1.9
	baz=119,SNR=5.6				
I30M	Mount Dempster	55.25 340	P	P	12 48 58.3 +0.5
I30M			IAmb	IAmb	12 48 59.6
	comp=Z,19nm,1.1s				
I30M	Mount Dempster	55.25 340	P	P	12 48 58.5 +0.6
	baz=129,SNR=22				
CRQM	Cirque	55.27 333	P	P	12 49 00.3 +2.2
CRQM			IAmb	IAmb	12 49 00.9
	comp=Z,25nm,1.0s				
KAIM	Kayak Island	55.43 332	P	P	12 49 01.0 +2.0
	baz=118				
MCARA	McCarthy VSAT	55.53 334	P	P	12 49 01.8 +2.1
MCARA	McCarthy VSAT	55.53 334	P	P	12 49 01.5 +1.8
	baz=120,SNR=9.5				
M27K	Edge Creek, AK	55.57 335	P	P	12 49 00.9 +0.8
	baz=122,SNR=14				
DAWY	Dawson	55.58 338	P	P	12 49 00.0 -0.1
DAWY	Dawson	55.58 338	P	P	12 49 00.1 +0.1
	baz=125,SNR=19				
G31M	Satah River	55.72 342	P	P	12 49 01.3 +0.4
	baz=132,SNR=14				
AMBA	Amambai (Brazi	55.76 135	eP	P	12 49 01.9 0.0
BCAR	Beaver Creek A	55.91 336	P	P	12 49 03.5 +1.1
F31M	Tsiigehtchic	55.92 343	P	P	12 49 02.2 -0.2
	baz=133,SNR=12				
L27K	Beaver Creek,	55.92 336	P	P	12 49 03.6 +1.0
L27K			IAmb	IAmb	12 49 05.0
	comp=Z,27nm,1.0s				
L27K	Beaver Creek,	55.92 336	P	P	12 49 03.9 +1.4
	baz=122,SNR=36				
I29M	Ogilvie Camp,	55.97 340	P	P	12 49 03.4 +0.6
	baz=127				
BMRM	Bremner River	56.00 333	P	P	12 49 04.8 +1.7
	baz=118,SNR=8.6				
M26K	Nabesna, AK	56.03 335	P	P	12 49 04.8 +1.5
M26K			IAmb	IAmb	12 49 06.0
	comp=Z,29nm,1.1s				
M26K	Nabesna, AK	56.03 335	P	P	12 49 04.9 +1.5
	baz=120,SNR=19				
Q23K	Middleton Isla	56.08 331	P	P	12 49 05.1 +1.5
	baz=115				
EPYK	Eagle Plains	56.09 341	P	P	12 49 04.2 +0.5
	baz=129,SNR=7.1				
N25K	Chitina, Valde	56.30 334	P	P	12 49 07.1 +1.8
	baz=119,SNR=17				
EYAK	Cordova Ski Ar	56.30 332	P	P	12 49 07.2 +2.0
	baz=117,SNR=7.2				
G30M	tAoh Zraii Nji	56.33 342	P	P	12 49 06.7 +1.3
	baz=130				
SJPY	San Joaquin	56.44 137	eP	P	12 49 06.9 +0.2
INK	Inuvik	56.46 344	P	P	12 49 06.5 +0.3
INK			IAmb	IAmb	12 49 07.5
	comp=Z,17nm,0.8s				
INK	Inuvik	56.46 344	P	P	12 49 06.5 +0.3
	baz=134,SNR=17				
INK	Inuvik	56.46 344	P	P	12 49 06.5 +0.3
INK			pmax	pmax	
	comp=Z,17nm,0.9s				
BDFB	Brasilia	56.48 123	P	P	12 49 06.9 -0.4
	comp=Z,1.1nm,0.3s,baz=315,slow=6.3,SNR=3.4				
	comp=Z,1.1nm,0.3s				
BDFB	Brasilia	56.48 123	eP	P	12 49 07.6 +0.3
L26K	Log Cabin Wild	56.49 336	P	P	12 49 07.4 +0.8
L26K			IAmb	IAmb	12 49 09.2
	comp=Z,32nm,1.4s				
L26K	Log Cabin Wild	56.49 336	P	P	12 49 08.0 +1.4
	baz=120,SNR=11				
H29M	Whitestone	56.52 340	P	P	12 49 07.3 +0.6
H29M			IAmb	IAmb	12 49 08.3
	comp=Z,18nm,1.1s				
H29M	Whitestone	56.52 340	P	P	12 49 07.3 +0.6
	baz=128,SNR=15				
K27K	Chicken	56.54 337	P	P	12 49 07.7 +0.9
	baz=122				
I28M	Miner Creek	56.57 339	P	P	12 49 07.2 0.0
	baz=126,SNR=7.3				
CPUP	Villa Florida	56.61 139	P	P	12 49 07.0 -0.9
	comp=Z,3.3nm,0.7s,baz=325,slow=9.1,SNR=9.3				
	comp=Z,3.3nm,0.7s				
CPUP	Villa Florida	56.61 139	P	P	12 49 07.0 -0.9
CPUP	Villa Florida	56.61 139	P	P	12 49 07.5 -0.4
CPUP			pP	pP	12 49 42.6 -0.5
CPUP	Villa Florida	56.61 139	eP	P	12 49 07.4 -0.4
EGAK	Eagle	56.61 338	P	P	12 49 07.5 +0.2
	baz=124,SNR=18				
F30M	Barrier River	56.62 342	P	P	12 49 07.9 +0.5
	baz=131,SNR=17				
P23K	Montague Islan	56.81 331	P	P	12 49 09.6 +0.8
	baz=115				
KLU	Klutina	56.81 333	P	P	12 49 10.6 +1.7
	baz=117,SNR=14				
G29M	Pine Creek	56.84 341	P	P	12 49 09.4 +0.5
	baz=128,SNR=15				
HARP	HAARP	56.91 335	P	P	12 49 10.7 +1.2
	baz=118,SNR=7.0				
M24K	Tolsona, Glenn	57.20 334	P	P	12 49 12.9 +1.4
M24K	Tolsona, Glenn	57.20 334	P	P	12 49 13.4 +1.8
	baz=117,SNR=11				
SCRK	Sand Creek	57.23 337	P	P	12 49 12.7 +0.9
SCRK			IAmb	IAmb	12 49 14.3
	comp=Z,23nm,1.2s				
SCRK	Sand Creek	57.23 337	P	P	12 49 13.1 +1.2
	baz=120,SNR=23				
I27K	Kandik River	57.24 339	P	P	12 49 12.0 +0.2
	baz=124,SNR=21				
TRCB	Terra Rica	57.30 133	eP	P	12 49 13.5 +0.7
PAX	Paxson	57.31 335	P	P	12 49 13.4 +1.0
	baz=118,SNR=29				
J26L	Joseph Creek	57.34 337	P	P	12 49 13.8 +1.2
	baz=121,SNR=31				
PCMB	Pacaembu	57.52 131	eP	P	12 49 14.7 +0.3
H27K	Steamboat Moun	57.56 339	P	P	12 49 14.6 +0.6
	baz=124,SNR=13				
SCM	Sheep Creek Mo	57.56 333	P	P	12 49 15.5 +1.3
	baz=116,SNR=10				
PWL	Port Wells	57.59 332	P	P	12 49 14.7 +0.4
	baz=114				
I26K	Coal Creek Min	57.61 338	P	P	12 49 14.8 +0.5
	baz=122,SNR=9.5				
IPMB	Ipameri, GO	57.64 125	eP	P	12 49 15.3 0.0
M23K	Glacier View	57.71 333	P	P	12 49 16.1 +1.0
	baz=115,SNR=6.2				
E29M	Blow River	57.73 343	P	P	12 49 15.9 +0.8
	baz=129,SNR=18				
SEW	Seward	57.79 331	P	P	12 49 16.3 +0.6
	baz=113				
K24K	Donnelly Dome	57.83 336	P	P	12 49 17.2 +1.2
	baz=118,SNR=12				
F28M	Old Crow	57.84 341	P	P	12 49 16.8 +0.8
	baz=127,SNR=30				
KNK	Knik Glacier	57.87 333	P	P	12 49 17.3 +1.1
	baz=114				
G27K	Doyon Strip	57.93 340	P	P	12 49 16.6 0.0
	baz=124,SNR=19				
SML	Sawmill	57.98 333	P	P	12 49 17.5 +0.5
	baz=115,SNR=11				
WAT6	Susitna Watana	58.06 334	P	P	12 49 18.6 +0.9
	baz=116,SNR=34				
O22K	Cooper Landing	58.06 331	P	P	12 49 18.7 +1.1
	baz=113				
J25K	Salcha River,	58.07 337	P	P	12 49 18.1 +0.4
J25K			IAmb	IAmb	12 49 19.8
	comp=Z,20nm,1.1s				
J25K	Salcha River,	58.07 337	P	P	12 49 18.6 +1.0
	baz=119,SNR=24				
DHY	Denali Highway	58.13 335	P	P	12 49 18.5 +0.3
DHY	Denali Highway	58.13 335	P	P	12 49 19.0 +0.8
	baz=116,SNR=6.9				
PMR	Palmer	58.24 333	P	P	12 49 19.7 +1.0
PMR			IAmb	IAmb	12 49 20.8
	comp=Z,21nm,1.1s				
PMR	Palmer	58.24 333	P	P	12 49 19.3 +0.6
	baz=114,SNR=12				
PMR	Palmer	58.24 333	P	P	12 49 19.7 +1.0
PMR			pmax	pmax	
	comp=Z,21nm,1.1s				
BRSE	Bradley Lake S	58.26 330	P	P	12 49 20.0 +1.1
	baz=111,SNR=5.0				
RC01	Rabbit Creek A	58.30 332	P	P	12 49 20.4 +1.2
RC01			IAmb	IAmb	12 49 21.4
	comp=Z,25nm,1.1s				
RC01	Rabbit Creek A	58.30 332	P	P	12 49 20.6 +1.4
	baz=113				
BRLK	Bradley Lake	58.33 330	P	P	12 49 21.1 +1.6
E28M	Babbage River	58.34 342	P	P	12 49 19.6 +0.3
E28M			IAmb	IAmb	12 49 20.7
	comp=Z,15nm,1.2s				
E28M	Babbage River	58.34 342	P	P	12 49 19.7 +0.3
	baz=128,SNR=13				
KDAK	Kodiak Island	58.49 328	P	P	12 49 21.6 +1.0
KDAK			IAmb	IAmb	12 49 23.0
	comp=Z,26nm,1.1s				
KDAK	Kodiak Island	58.49 328	P	P	12 49 21.5 +1.0
	baz=108				
KDAK	Kodiak Island	58.49 328	P	P	12 49 21.6 +1.0
KDAK			pmax	pmax	
	comp=Z,26nm,1.2s				
KDAK	Kodiak Island	58.49 328	P	P	12 49 21.9 +1.4
KDAK			PcP	PcP	12 50 10.2 +0.7
WAT1	Susitna Watana	58.51 334	P	P	12 49 21.6 +0.9
	baz=115				
D28M	Stokes Point	58.56 343	P	P	12 49 21.7 +0.9
	baz=129				
HDA	Harding Lake	58.57 336	P	P	12 49 21.4 +0.4
HDA			IAmb	IAmb	12 49 22.6
	comp=Z,20nm,0.8s				
HDA	Harding Lake	58.57 336	P	P	12 49 21.5 +0.4
	baz=118,SNR=19				
PRP	Porcupine Dome	58.57 338	P	P	12 49 21.9 +0.7
PRP	Porcupine Dome	58.57 338	P	P	12 49 21.9 +0.7
	baz=120,SNR=25				
Q20K	Shuyak Island	58.66 329	P	P	12 49 23.2 +1.4
	baz=109				
OHAK	Old Harbor	58.68 327	P	P	12 49 22.9 +1.0
OHAK	Old Harbor	58.68 327	P	P	12 49 23.1 +1.2
	baz=107				
E27K	Coleen River	58.70 341	P	P	12 49 22.3 +0.4
E27K			IAmb	IAmb	12 49 23.4
	comp=Z,13nm,1.0s				
E27K	Coleen River	58.70 341	P	P	12 49 22.6 +0.7
	baz=125,SNR=17				
IL03	Eielson Array	58.70 337	P	P	12 49 22.4 +0.5
G26K	Porcupine Rive	58.71 340	P	P	12 49 22.6 +0.6
	baz=122,SNR=24				
IL31		58.72 337	P	P	12 49 22.4 +0.5
ILAR	Eielson Array	58.72 337	P	P	12 49 22.4 +0.3
	comp=Z,9.3nm,0.9s,baz=119,slow=5.8,SNR=85				
	comp=Z,9.3nm,0.9s				
M22K	Willow	58.73 333	P	P	12 49 23.3 +1.1
M22K	Willow	58.73 333	P	P	12 49 23.0 +0.9
	baz=113,SNR=6.0				
LDASE	Londrina, Braz	58.75 132	eP	P	12 49 23.0 0.0
RND	Reindeer	58.88 335	P	P	12 49 24.4 +1.1
RND	Reindeer	58.88 335	P	P	12 49 24.4 +1.1
RND			pmax	pmax	
	comp=Z,65nm,1.0s				
SUA	Susitna One	58.90 332	P	P	12 49 24.9 +1.4
	baz=112,SNR=12				
PTGB	Pitanga	58.95 134	eP	P	12 49 24.0 -0.3
SII	Sitkinak Islan	58.96 326	P	P	12 49 25.1 +1.2
	baz=106				
MCK	McKinley	59.05 335	P	P	12 49 25.0 +0.6
	baz=115,SNR=15				
H25L	Birch Creek	59.05 338	P	P	12 49 25.3 +1.0
	baz=120,SNR=26				
CUT	Chulitna	59.05 333	P	P	12 49 25.3 +0.9
	baz=113				
POKR	Poker Plat Res	59.08 337	P	P	12 49 24.9 +0.4
	baz=118,SNR=6.0				
COLA	College	59.13 337	P	P	12 49 25.1 +0.3
	baz=117				
COLA	College	59.13 337	*d* iP	P	12 49 25.1 +0.3
COLA			pmax	pmax	
	comp=Z,27nm,0.9s				
COLA	College	59.13 337	P	P	12 49 25.0 +0.1
COLA			pP	pP	12 50 00.5 +0.4
COLA			PcP	PcP	12 50 12.6 +0.8
COLA			sP	sP	12 50 17.4 +0.9
D27M	Malcolm River	59.14 343	P	P	12 49 24.9 -0.1
D27M	Malcolm River	59.14 343	P	P	12 49 25.6 +0.7
	baz=126,SNR=12				
BB19B	Bebedouro	59.20 128	eP	P	12 49 26.5 +0.4
F26K	Sheenjek River	59.23 340	P	P	12 49 26.6 +1.0
	baz=122,SNR=21				
BMAR	Burnt Mountain	59.23 340	P	P	12 49 26.4 +0.8
O20K	Slope Mountain	59.26 330	P	P	12 49 27.2 +1.3
	baz=110,SNR=5.4				
MDM	Murphy Dome	59.31 337	P	P	12 49 26.2 0.0
MDM			IAmb	IAmb	12 49 27.4
	comp=Z,7.5nm,0.7s				
SPU	Mount Spurr	59.38 332	P	P	12 49 27.4 +0.7
Q19K	Cape Douglas,	59.38 329	P	P	12 49 27.7 +0.9
	baz=108				
R18K	Karluk	59.39 327	P	P	12 49 27.8 +1.0
	baz=106				
G25K	Bearman Lake	59.40 339	P	P	12 49 27.7 +1.1
	baz=120,SNR=17				
P19K	Oil Pt	59.41 330	P	P	12 49 28.0 +1.1
	baz=109				
SKT	Skwentna	59.44 333	P	P	12 49 27.8 +0.7
SKT	Skwentna	59.44 333	P	P	12 49 27.9 +0.9
	baz=112,SNR=19				
ITQB	Itaqui	59.46 142	eP	P	12 49 27.7 +0.2
N20K	Mount Spurr	59.46 332	P	P	12 49 27.5 +0.2
	baz=110				
NEA2	Nenana	59.47 336	P	P	12 49 27.4 +0.2
NEA2			IAmb	IAmb	12 49 29.4
	comp=Z,11nm,1.0s				
NEA2	Nenana	59.47 336	P	P	12 49 27.5 +0.2
	baz=116,SNR=15				
H24K	Noodor Dome	59.58 338	P	P	12 49 28.8 +0.7
H24K	Noodor Dome	59.58 338	P	P	12 49 28.8 +0.7
	baz=117,SNR=49				
F25K	Christian Rive	59.66 340	P	P	12 49 29.7 +1.1
	baz=121,SNR=31				
I23K	Minto, Yukon-K	59.83 336	P	P	12 49 30.4 +0.7
I23K	Minto, Yukon-K	59.83 336	P	P	12 49 30.6 +0.9
	baz=116,SNR=43				
G24K	Hadweenzic Riv	59.84 338	P	P	12 49 30.8 +1.0
	baz=118,SNR=21				
PSAL	Palomas, Salto	59.92 143	eP	P	12 49 30.6 -0.1
UNIS	Unistalda (Bra	59.96 140	eP	P	12 49 30.9 -0.2
Q18K	Katmai Hardscr	59.98 328	P	P	12 49 32.1 +1.1
	baz=106,SNR=12				
BPAW	Bear Paw Mtn.	60.03 335	P	P	12 49 31.1 +0.1
BPAW	Bear Paw Mtn.	60.03 335	P	P	12 49 31.6 +0.5
	baz=113,SNR=40				
O19K	Port Alsworth	60.10 330	P	P	12 49 32.0 +0.4
	baz=108				
M20K	Styx River	60.11 332	P	P	12 49 32.0 +0.2
M20K			IAmb	IAmb	12 49 33.0
	comp=Z,18nm,1.1s				
M20K	Styx River	60.11 332	P	P	12 49 32.4 +0.7
	baz=110,SNR=14				
C27K	Jago River	60.15 342	P	P	12 49 32.8 +1.0
	baz=124,SNR=15				
H23K	Yukon River	60.19 337	P	P	12 49 32.7 +0.6
	baz=116,SNR=16				
P18K	Big Mountain,	60.30 329	P	P	12 49 33.8 +0.8
	baz=107				
MLY	Manley	60.31 336	P	P	12 49 33.5 +0.5
MLY	Manley	60.31 336	P	P	12 49 33.7 +0.7
	baz=114,SNR=52				
Q17K	Contact Creek	60.32 328	P	P	12 49 33.9 +0.7
	baz=105,SNR=7.6				
N19K	Bonanza Creek	60.37 331	P	P	12 49 34.0 +0.4
N19K	Bonanza Creek	60.37 331	P	P	12 49 34.2 +0.6
	baz=108,SNR=23				
F24K	Squaw Lake	60.38 339	P	P	12 49 34.6 +1.2
	baz=118,SNR=11				
R17L	Mt. Peulik Vol	60.40 327	P	P	12 49 34.8 +1.1
	baz=105				
NBMA	Muriti-CE	60.42 109	eP	P	12 49 34.5 -0.1
O18K	Koktuh Hills	60.43 330	P	P	12 49 34.0 +0.2
	baz=107,SNR=8.3				
ITAB	Concordia	60.57 136	eP	P	12 49 35.0 -0.3
L20K	Farewell, AK	60.65 333	P	P	12 49 35.5 +0.2
	baz=110,SNR=23				
NBPN	Ponto Novo - B	60.66 114	eP	P	12 49 36.2 +0.1
C26K	Camden Bay	60.66 342	P	P	12 49 36.2 +1.0
	baz=122,SNR=11				
M19K	Big River Lodg	60.68 332	P	P	12 49 36.3 +0.8
	baz=109				
G23K	Bananza Creek	60.75 338	P	P	12 49 36.8 +0.8
G23K			IAmb	IAmb	12 49 37.9
	comp=Z,22nm,1.0s				
G23K	Bananza Creek	60.75 338	P	P	12 49 36.7 +0.8
	baz=116,SNR=30				
D25K	Kavik River	60.78 341	P	P	12 49 37.0 +0.9
	baz=121,SNR=20				
Q16K	King Salmon	60.81 328	P	P	12 49 37.5 +1.0
	baz=105				
E24K	Your Creek	60.84 340	P	P	12 49 37.6 +1.1
E24K			IAmb	IAmb	12 49 38.9
	comp=Z,19nm,1.2s				
E24K	Your Creek	60.84 340	P	P	12 49 37.5 +0.9
	baz=118,SNR=19				
P17K	Kvichak River	60.84 329	P	P	12 49 37.6 +0.9
	baz=105,SNR=5.8				
H22K	Ishtalitna Cre	60.90 337	P	P	12 49 37.3 +0.3
	baz=114,SNR=30				
L19K	White Mountain	60.98 332	P	P	12 49 38.3 +0.7
L19K			IAmb	IAmb	12 49 39.1
	comp=Z,17nm,1.1s				
L19K	White Mountain	60.98 332	P	P	12 49 38.2 +0.7
	baz=108,SNR=8.3				
N18K	Kilae Creek	60.99 330	P	P	12 49 38.3 +0.6
	baz=107,SNR=11				
K20K	Telida	61.03 334	P	P	12 49 38.5 +0.6
	baz=110				
COLD	Coldfoot	61.04 338	P	P	12 49 39.1 +1.3
	baz=116,SNR=19				
CHGN	Chignik	61.18 325	P	P	12 49 39.3 +0.4
	baz=102				
M18K	Stony River	61.20 331	P	P	12 49 39.4 +0.3
	baz=107,SNR=15				
E23K	Chandalar	61.21 339	P	P	12 49 40.6 +1.5
	baz=117,SNR=26				
O17K	Koliganek Bris	61.32 329	P	P	12 49 40.3 +0.5
	baz=105,SNR=8.5				
TBOT	Tacuarembó	61.33 143	eP	P	12 49 40.2 -0.1
J20K	Nowinta River	61.34 335	P	P	12 49 40.1 +0.2
J20K	Nowinta River	61.34 335	P	P	12 49 40.2 +0.2
	baz=110,SNR=32				
H21K	Melozitna Rive	61.35 336	P	P	12 49 40.0 0.0
	baz=112,SNR=14				
G22K	Bettles	61.37 338	P	P	12 49 41.0 +0.9
	baz=114				
DIAM	Diamantina, MG	61.41 123	eP	P	12 49 40.7 -0.6
D24K	Happy Valley	61.46 341	P	P	12 49 41.5 +0.9
	baz=118,SNR=8.2				
TOLK	Toolik Lake Re	61.46 340	P	P	12 49 41.6 +0.9
TOLK			IAmb	IAmb	12 49 42.1
	comp=Z,14nm,0.9s				
TOLK	Toolik Lake Re	61.46 340	P	P	12 49 41.7 +0.9
	baz=117,SNR=8.9				
VAO	Valinhos	61.52 129	eP	P	12 49 41.6 -0.2
SPB	Sao Paulo	61.52 130	eP	P	12 49 41.6 -0.1
N17K	Nushagak Hills	61.56 330	P	P	12 49 41.9 +0.4
N17K			IAmb	IAmb	12 49 43.4
	comp=Z,19nm,0.9s				
N17K	Nushagak Hills	61.56 330	P	P	12 49 42.4 +0.9
	baz=105,SNR=8.2				
C24K	Franklin Bluff	61.69 341	P	P	12 49 43.1 +0.9
	baz=118				
I20K	Naaghedeneel	61.69 335	P	P	12 49 42.6 +0.5
I20K	Naaghedeneel	61.69 335	P	P	12 49 42.8 +0.5
	baz=110,SNR=23				
TTA	Tatalina	61.72 333	P	P	12 49 42.5 -0.1
TTA			IAmb	IAmb	12 49 43.8
	comp=Z,27nm,1.1s				
TTA	Tatalina	61.72 333	P	P	12 49 42.6 -0.1
	baz=108,SNR=19				
TTA	Tatalina	61.72 333	P	P	12 49 42.5 -0.1
TTA			pmax	pmax	
	comp=Z,27nm,1.1s				

O16K	**Kokwok River B**	61.76 329	P	P	12 49 43.4	+0.6
	baz=104,SNR=5.4					
L18K	**Granite Mounta**	61.81 332	P	P	12 49 43.5	+0.4
	baz=107,SNR=14					
IMAR	**Indian Mountai**	61.84 337	P	P	12 49 42.7	-0.5
F22K	**John River**	61.85 338	P	P	12 49 44.6	+1.3
	baz=114,SNR=21					
J19K	**Poorman**	61.89 334	P	P	12 49 43.7	+0.1
J19K	**Poorman**	61.89 334	P	P	12 49 43.8	+0.1
	baz=109,SNR=38					
M17K	**Holitna River**	61.92 331	P	P	12 49 44.3	+0.4
	baz=106,SNR=5.5					
G21K	**Allakaket**	61.94 337	P	P	12 49 44.5	+0.5
	baz=112					
D23K	**Nanushuk River**	61.97 340	P	P	12 49 45.5	+1.4
	baz=116,SNR=12					
PLCA	**Paso Flores**	62.03 159	P	P	12 49 46.0	+1.1
PLCA			IAmb	IAmb	12 49 47.3	
	comp=Z,23nm,1.1s					
PLCA	**Paso Flores**	62.03 159	P	P	12 49 44.9	0.0
	comp=Z,12nm,0.9s,baz=338,slow=7.9,SNR=14					
	comp=Z,12nm,0.9s					
PLCA	**Paso Flores**	62.03 159	P	P	12 49 46.0	+1.1
PLCA			pmax	pmax		
	comp=Z,23nm,1.1s					
PLCA	**Paso Flores**	62.03 159	P	P	12 49 46.1	+1.2
PLCA			pP	pP	12 50 20.9	+0.3
PLCA	**Paso Flores**	62.03 159	*e*P	P	12 49 44.8	-0.1
H20K	**Anotleneega Mo**	62.09 336	P	P	12 49 45.1	+0.2
	baz=110,SNR=14					
SDPT	**Sand Point**	62.14 324	P	P	12 49 46.1	+0.7
	baz=100					
J18K	**Innoko River**	62.19 333	P	P	12 49 46.0	+0.3
J18K			IAmb	IAmb	12 49 47.0	
	comp=Z,24nm,1.2s					
J18K	**Innoko River**	62.19 333	P	P	12 49 45.6	0.0
	baz=107,SNR=15					
F21K	**Alatna River**	62.20 338	P	P	12 49 46.9	+1.2
F21K	**Alatna River**	62.20 338	P	P	12 49 47.0	+1.3
	baz=112,SNR=60					
N16K	**Nishlik Lake**	62.31 330	P	P	12 49 47.5	+1.0
	baz=104,SNR=6.8					
C23K	**Itkillik River**	62.34 341	P	P	12 49 47.4	+0.9
	baz=117,SNR=32					
L17K	**Donlin**	62.51 332	P	P	12 49 48.2	+0.4
	baz=105,SNR=5.8					
O15K	**Ungalikthiuk R**	62.53 328	P	P	12 49 47.8	-0.2
	baz=102					
M16K	**Timber Creek**	62.53 330	P	P	12 49 48.6	+0.7
	baz=104,SNR=5.2					
D22K	**Ayikyak River**	62.59 340	P	P	12 49 49.5	+1.3
	baz=114,SNR=22					
K17K	**Iditarod**	62.67 332	P	P	12 49 49.0	+0.2
K17K			IAmb	IAmb	12 49 49.9	
	comp=Z,20nm,1.0s					
K17K	**Iditarod**	62.67 332	P	P	12 49 48.8	0.0
	baz=106,SNR=11					
H19K	**Roundabout Mou**	62.72 336	P	P	12 49 49.4	+0.3
	baz=109,SNR=24					
PLTB	**Pedras Altas**	62.76 141	*e*P	P	12 49 49.3	-0.6
E21K	**Killik River**	62.85 339	P	P	12 49 50.5	+0.6
	baz=112					
N15K	**Kwethluk River**	62.88 329	P	P	12 49 51.0	+0.7
	baz=102					
LL01	**San Ignacio de**	62.93 162	P	P	12 49 51.3	+0.6
LL01			IAmb	IAmb	12 49 53.0	
	comp=Z,32nm,1.1s					
L16K	**Owhat River**	62.94 331	P	P	12 49 51.2	+0.5
	baz=104					
F20K	**Avaraart Lake**	62.96 337	P	P	12 49 51.2	+0.6
F20K			IAmb	IAmb	12 49 52.7	
	comp=Z,25nm,0.9s					
F20K	**Avaraart Lake**	62.96 337	P	P	12 49 51.6	+1.0
	baz=110,SNR=35					
TRQA	**Tornquist**	63.13 151	P	P	12 49 52.8	+0.6
TRQA	**Tornquist**	63.13 151	P	P	12 49 52.8	+0.6
TRQA			pmax	pmax		
	comp=Z,45nm,1.4s					
G19K	**Purcell Mounta**	63.17 336	P	P	12 49 52.1	0.0
G19K			IAmb	IAmb	12 49 53.5	
	comp=Z,20nm,0.9s					
G19K	**Purcell Mounta**	63.17 336	P	P	12 49 52.4	+0.3
	baz=108,SNR=19					
J17K	**VABM Dome**	63.19 333	P	P	12 49 52.4	+0.2
	baz=105,SNR=5.6					
M15K	**Kasigluk River**	63.28 330	P	P	12 49 53.4	+0.6
	baz=102					
CMC01	**Camacan, BA**	63.34 118	*e*P	P	12 49 54.0	0.0
H18K	**Honhosa River**	63.37 335	P	P	12 49 54.1	+0.7
	baz=107					
C21K	**Knifeblade Rid**	63.39 340	P	P	12 49 54.5	+1.0
	baz=112,SNR=9.5					
TER01	**Tubaro-SC**	63.42 135	*e*P	P	12 49 54.2	0.0
B22K	**Teshekpuk Lake**	63.42 341	P	P	12 49 54.3	+0.7
	baz=114					
B21K	**Ikpikpuk River**	63.51 340	P	P	12 49 54.9	+0.7
	baz=112,SNR=6.2					
E20K	**Nigu River**	63.54 339	P	P	12 49 55.7	+1.1
	baz=110					
E19K	**Redstone River**	63.65 338	P	P	12 49 56.1	+1.0
	baz=109					
SUMG	**Summit**	63.65 16	P	P	12 49 54.9	-0.7
SUMG	**Summit**	63.65 16	P	P	12 49 54.9	-0.7
SUMG			pmax	pmax		
	comp=Z,6.0nm,0.7s					
F19K	**Shaleruckik Mo**	63.65 337	P	P	12 49 55.7	+0.6
F19K			IAmb	IAmb	12 49 57.0	
	comp=Z,27nm,1.0s					
F19K	**Shaleruckik Mo**	63.65 337	P	P	12 49 55.8	+0.7
	baz=108,SNR=27					
GUA01	**Guaratinga, BA**	63.70 119	*e*P	P	12 49 56.3	0.0
G18K	**Tagagawik**	63.70 336	P	P	12 49 55.9	+0.3
G18K			IAmb	IAmb	12 49 57.6	
	comp=Z,15nm,1.1s					
G18K	**Tagagawik**	63.70 336	P	P	12 49 56.5	+0.9
	baz=107,SNR=12					
FALS	**False Pass**	63.74 323	P	P	12 49 57.2	+1.3
	baz=97					
J16K	**Anvik River**	63.83 333	P	P	12 49 57.6	+1.3
J16K			IAmb	IAmb	12 49 58.8	
	comp=Z,25nm,1.1s					
J16K	**Anvik River**	63.83 333	P	P	12 49 57.7	+1.3
	baz=104,SNR=13					
D20K	**Etivluk River**	63.85 339	P	P	12 49 57.4	+0.9
	baz=110					
L15K	**Ungalak Mounta**	63.87 331	P	P	12 49 57.9	+1.2
	baz=102,SNR=8.9					
M14K	**Bethel**	63.91 330	P	P	12 49 57.4	+0.5
	baz=101,SNR=7.4					
H17K	**Granite Mounta**	63.95 334	P	P	12 49 58.0	+0.8
	baz=105,SNR=15					
BSFB	**Barra de Sao F**	63.97 122	*e*P	P	12 49 58.0	0.0
I17K	**Unalakleet**	64.01 333	P	P	12 49 58.7	+1.1
	baz=104,SNR=8.2					
K15K	**Wolf Creek Mou**	64.02 331	P	P	12 49 59.2	+1.5
	baz=102,SNR=8.4					
A22K	**Sinclair Lake**	64.16 342	P	P	12 49 59.5	+1.1
	baz=113					
F18K	**Selawik**	64.29 336	P	P	12 50 00.3	+0.9
	baz=106					
D19K	**Kuna River**	64.30 339	P	P	12 50 00.1	+0.6
	baz=108					
L14K	**Kuka Creek**	64.36 330	P	P	12 50 00.7	+0.7
	baz=101					
G17K	**Kiwalik Mounta**	64.39 335	P	P	12 50 01.4	+1.3
	baz=105,SNR=13					
B20K	**Meade River**	64.48 340	P	P	12 50 01.8	+1.3
	baz=110					
M13K	**Dall Lake**	64.52 329	P	P	12 50 02.3	+1.4
	baz=100					
RIB01	**Linhares ES**	64.58 122	*e*P	P	12 50 01.7	-0.3
H16K	**Elim**	64.84 334	P	P	12 50 04.3	+1.4
	baz=103,SNR=10					
F17K	**Baldwin Pennin**	64.87 336	P	P	12 50 03.7	+0.6
	baz=104					
E18K	**Tukpahlearik C**	64.88 337	P	P	12 50 03.8	+0.6
	baz=106					
CAM01	**Campos-RJ**	64.89 125	*e*P	P	12 50 03.8	-0.2
C19K	**Lookout Ridge**	64.99 339	P	P	12 50 04.6	+0.7
C19K			IAmb	IAmb	12 50 06.4	
	comp=Z,28nm,1.1s					
C19K	**Lookout Ridge**	64.99 339	P	P	12 50 05.1	+1.2
	baz=107,SNR=7.6					
J14K	**Nanvaranak Lak**	65.03 332	P	P	12 50 05.5	+1.3
J14K	**Nanvaranak Lak**	65.03 332	P	P	12 50 05.7	+1.5
	baz=100,SNR=10					
G16K	**Koyuk River**	65.06 335	P	P	12 50 05.7	+1.3
	baz=103,SNR=7.1					
E17K	**Hotham Inlet**	65.25 337	P	P	12 50 06.4	+0.8
	baz=104,SNR=41					
K13K	**Kusilvak Mount**	65.39 331	P	P	12 50 07.3	+0.7
	baz=99					
C18K	**Utukok River**	65.42 338	P	P	12 50 06.4	-0.4
C18K			IAmb	IAmb	12 50 08.2	
	comp=Z,17nm,1.0s					
C18K	**Utukok River**	65.42 338	P	P	12 50 07.1	+0.3
	baz=106,SNR=5.1					
UNV	**Unalaska Valle**	65.44 322	P	P	12 50 07.8	+0.7
	baz=94					
G15K	**Niukluk**	65.67 334	P	P	12 50 09.1	+0.8
	baz=101,SNR=5.3					
A19K	**Wainwright**	65.81 340	P	P	12 50 09.6	+0.5
	baz=106					
B18K	**Kokolik River**	65.83 339	P	P	12 50 10.1	+0.9
	baz=105					
D17K	**Noatak River**	65.87 337	P	P	12 50 10.2	+0.7
	baz=103,SNR=6.5					
RDOG	**Red Dog Mine**	65.89 338	P	P	12 50 10.3	+0.6
	baz=104					
COYC	**Coyhaique**	65.95 163	P	P	12 50 12.0	+1.7
COYC			pP	pP	12 50 46.6	+0.1
F15K	**North Star Dit**	66.06 335	P	P	12 50 12.4	+1.6
F15K	**North Star Dit**	66.06 335	P	P	12 50 12.2	+1.4
	baz=101,SNR=9.2					
C17K	**DeLong Mountai**	66.08 338	P	P	12 50 12.0	+1.1
	baz=104					
ANM	**Nome**	66.15 334	P	P	12 50 12.2	+0.8
	baz=100					
ALE	**Alert**	66.36 4	P	P	12 50 11.7	-0.7
ALE			pP	pP	12 50 47.5	-0.9
F14K	**Arctic Creek**	66.70 334	P	P	12 50 16.1	+1.2
	baz=99					
NIKH	**Nikolski High**	66.81 321	P	P	12 50 16.5	+0.7
	baz=92					
C16K	**Lisburne Hills**	66.83 338	P	P	12 50 16.0	+0.4
	baz=101					
P08K	**Saint George I**	67.34 325	P	P	12 50 20.8	+1.8
	baz=92					
TNA	**Tin City**	67.37 334	P	P	12 50 20.0	+0.9
	baz=98					
SPIA	**Saint Paul Isl**	67.75 325	P	P	12 50 23.1	+1.4
	baz=92					
ADK	**Adak**	71.62 320	P	P	12 50 45.7	+0.3
ADK	**Adak**	71.62 320	P	P	12 50 45.7	+0.3
ADK			pmax	pmax		
	comp=Z,46nm,0.9s					
ADK	**Adak**	71.62 320	P	P	12 50 45.6	+0.1
ADK			sP	sP	12 51 37.7	-0.2
BBTS	**Babate**	74.60 79	LR	LR	13 21 24.0	
	comp=Z,60nm,19.4s,baz=140,slow=34					
PCAS	**Casmilo, Conde**	76.09 52	*e*P	P	12 51 11.9	+0.1
	comp=Z,50nm,1.6s					
PCAB	**Cabril**	76.13 50	*e*P	P	12 51 12.2	+0.3
POLO	**Lamas de Olo**	76.36 51	*e*P	P	12 51 12.9	-0.5
PVIS	**Viseu**	76.42 51	*e*P	P	12 51 13.3	-0.3
	comp=Z,24nm,2.2s					
PVRL	**Vila Real**	76.44 51	*e*P	P	12 51 13.7	0.0
PNCL	**Nicolau / Gran**	76.45 54	*e*P	P	12 51 13.4	-0.4
	comp=Z,18nm,1.6s					
PMTG	**Montargil**	76.49 53	*e*P	P	12 51 14.1	+0.1
MORF	**Marmelete**	76.52 55	*e*P	P	12 51 14.8	+0.6
MORF	**Marmelete**	76.52 55	*e*P	P	12 51 15.0	+0.8
MORF			IAmb	IAmb	12 51 15.8	
	comp=Z,12nm,0.8s					
MORF	**Marmelete**	76.52 55	*e*P	P	12 51 15.0	+0.8
ESK	**Eskdalemuir**	76.66 36	P	P	12 51 13.9	-0.7
ESK			IAmb	IAmb	12 51 14.7	
	comp=Z,16nm,0.8s					
ESK	**Eskdalemuir**	76.66 36	P	P	12 51 13.9	-0.7
ESK			pmax	pmax		
	comp=Z,16nm,0.8s					
EKA	**Eskdalemuir Ar**	76.68 36	P	P	12 51 13.9	-0.8
	comp=Z,6.6nm,0.6s,baz=285,slow=5.6,SNR=55					
EKA			pP	pP	12 51 49.7	-1.8
	comp=Z,3.1nm,0.7s,baz=285,slow=6.8,SNR=3.0					
	comp=Z,6.6nm,0.6s					
MTE	**Manteigas**	76.74 52	*e*P	P	12 51 15.2	-0.3
	comp=Z,28nm,1.6s					
MESJ	**Messejana**	76.75 54	*e*P	P	12 51 15.5	0.0
MESJ	**Messejana**	76.75 54	*e*P	P	12 51 16.0	+0.6
MESJ			IAmb	IAmb	12 51 16.5	
	comp=Z,7.6nm,0.7s					
MESJ	**Messejana**	76.75 54	*e*P	P	12 51 16.0	+0.6
EVO	**Evora**	76.76 54	*e*P	P	12 51 15.9	+0.4
	comp=Z,23nm,1.6s					
PCBR	**Castelo Branco**	76.91 52	*e*P	P	12 51 16.5	+0.2
	comp=Z,20nm,1.4s					
PBEJ	**Beja**	76.98 54	*e*P	P	12 51 17.2	+0.4
	comp=Z,17nm,1.1s					
PESTR	**Estremoz**	77.02 53	P	P	12 51 15.9	-1.1
PESTR	**Estremoz**	77.02 53	*e*P	P	12 51 17.1	+0.1
	comp=Z,13nm,1.0s					
PBRG	**Braganca**	77.05 50	*e*P	P	12 51 17.4	+0.2
PMRV	**Marv??o**	77.06 53	*e*P	P	12 51 17.1	-0.1
SPITS	**Spitsbergen Ar**	77.25 11	LR	LR	13 29 40.8	
	comp=Z,54nm,18.3s,baz=260,slow=39					
BILL	**Bilibino**	77.36 338	*d* iP	P	12 51 18.9	+0.6
BILL			*e*		12 51 28.4	
BILL			*e**PP	pP	12 51 57.6	+2.4
BILL			*e**SP	sP	12 52 14.9	+3.8
BILL			*e*		12 54 10.2	
BILL			pmax	pmax		
	comp=Z,34nm,1.2s					
PBAR	**Barrancos**	77.59 54	*e*P	P	12 51 20.5	+0.4
	comp=Z,16nm,1.6s					
PAB	**San Pablo**	79.33 52	P	P	12 51 29.7	0.0
PAB			IAmb	IAmb	12 51 30.8	
	comp=Z,17nm,0.9s					
PAB	**San Pablo**	79.33 52	P	P	12 51 29.7	0.0
PAB			pmax	pmax		
	comp=Z,17nm,1.0s					
ESDC	**Sonseca Array**	79.58 52	P	P	12 51 30.9	-0.3
	comp=Z,8.7nm,0.9s,baz=291,slow=5.8,SNR=56					
	comp=Z,8.7nm,0.9s					
ESBB	**Sonseca Array**	79.58 52	P	P	12 51 31.3	+0.2
MFF	**Saint Martin d**	80.55 44	*e*P	P	12 51 37.8	+1.7
MFF			pmax	pmax		
	comp=Z,12nm,1.4s					
MDT	**Midelt**	80.77 59	LR	LR	13 23 22.4	
	comp=Z,93nm,19.2s,baz=170,slow=32					
LFF	**La Frestale**	81.59 46	*e*P	P	12 51 41.1	-0.5
LFF			pmax	pmax		
	comp=Z,12nm,1.0s					
NB2	**NORSAR Subarra**	82.34 28	P	P	12 51 45.7	+0.4
	comp=Z,7.5nm,0.8s,baz=293,slow=5.3					
NOA	**NORSAR Array B**	82.34 28	P	P	12 51 45.6	+0.3
	comp=Z,5.5nm,0.8s,baz=294,slow=5.3,SNR=26					
NOA			LR	LR	13 29 04.7	
	comp=Z,26nm,18.2s,baz=295,slow=36					
	comp=Z,5.5nm,0.8s					
CAF	**Calviac**	82.50 45	*e*P	P	12 51 46.4	0.0
CAF			pmax	pmax		
	comp=Z,5.0nm,1.0s					
NC405	**NORSAR Array S**	82.54 28	P	P	12 51 46.3	0.0
BMRD	**Maredsous**	82.62 40	*d*P	P	12 51 46.8	0.0
	comp=Z,4.8nm,0.9s					
BGES	**Gesves**	82.78 39	*d*P	P	12 51 47.5	-0.2
	comp=Z,8.9nm,1.0s					
BCLA	**Clavier**	82.91 39	*d*P	P	12 51 48.2	-0.2
	comp=Z,4.8nm,1.0s					
RCHB	**Rochefort**	82.94 40	*d*P	P	12 51 48.6	0.0
	comp=Z,4.6nm,0.9s					
SMF	**Signal de Mont**	83.17 43	*e*P	P	12 51 49.7	-0.1
SMF			pmax	pmax		
	comp=Z,4.0nm,1.0s					
MEM	**Membach**	83.27 39	*d*P	P	12 51 50.1	-0.1
	comp=Z,6.1nm,0.9s					
BHOU	**Houvegnez**	83.35 39	*d*P	P	12 51 51.5	+0.8
	comp=Z,2.9nm,1.1s					
WLF	**Walferdange**	83.67 40	*d*P	P	12 51 52.9	+0.6
	comp=Z,5.2nm,0.7s					
ARCES	**ARCESS Array B**	83.68 18	P	P	12 51 51.8	-0.1
	comp=Z,3.0nm,0.7s,baz=298,slow=5.2,SNR=12					
ARCES			pP	pP	12 52 28.4	-1.0
	comp=Z,2.6nm,0.8s,baz=330,slow=7.0,SNR=3.9					
	comp=Z,3.0nm,0.7s					
HFS	**Hagfors**	83.83 29	P	P	12 51 52.8	-0.1
	comp=Z,3.0nm,0.8s,baz=280,slow=4.4,SNR=5.3					
	comp=Z,3.0nm,0.8s					
SEY	**Seymchan**	84.61 335	*de*P	P	12 51 57.5	+0.8
SEY			pmax	pmax		
	comp=Z,9.0nm,1.1s					
ECH	**Echery**	84.78 41	P	P	12 51 57.4	-0.6
ECH	**Echery**	84.78 41	P	P	12 51 57.4	-0.6
ECH			pmax	pmax		
	comp=Z,9.0nm,1.3s					
PMSA	**Palmer Station**	85.22 167	*e*P	P	12 51 59.3	-0.1
LPL	**La Plagne**	85.44 44	*e*P	P	12 52 03.8	+2.2
LPL			pmax	pmax		
	comp=Z,12nm,1.5s					
SENIN	**Lac Senin/Sane**	85.52 43	P	P	12 52 02.3	+0.4
SENIN			IAmb	IAmb	12 52 05.2	
	comp=Z,30nm,0.9s					
TIXI	**Tiksi**	86.39 347	P	P	12 52 03.8	-1.6
TIXI	**Tiksi**	86.39 347⇑	*i*P	P	12 52 04.3	-1.1
TIXI			pmax	pmax		
	comp=Z,19nm,1.6s					
DAVA	**Damuels**	86.83 41	*i* P	P	12 52 09.1	+0.9
	comp=Z,5.3nm,0.9s					
DAVA			*i* pP	pP	12 52 45.3	-0.6
	comp=Z,7.9nm,1.1s					
MA2	**Magadan**	86.92 332	P	P	12 52 09.0	+0.8
MA2			IAmb	IAmb	12 52 10.2	
	comp=Z,19nm,1.0s					
MA2	**Magadan**	86.92 332	*d* iP	P	12 52 08.8	+0.6
MA2			pmax	pmax		
	comp=Z,22nm,1.1s					
MA2	**Magadan**	86.92 332	P	P	12 52 09.7	+1.5
DAVOX	**Davos/Dischmat**	87.02 42	P	P	12 52 09.6	+0.4
	comp=Z,4.4nm,0.8s,baz=316,slow=11,SNR=9.5					
	comp=Z,4.4nm,0.8s					
CLL	**Collm**	87.12 37	*i* P	P	12 52 09.9	+0.6
	comp=Z,6.0nm,1.4s					
CLL			*e*pP	pP	12 52 46.0	-1.0
CLL	**Collm**	87.12 37	*i* P	P	12 52 09.9	+0.6
CLL			*e**PP	pP	12 52 46.0	-1.0
CLL			pmax	pmax		
	comp=Z,6.0nm,1.4s					
RETA	**Reutte**	87.31 41	*i* P	P	12 52 11.4	+0.9
	comp=Z,6.0nm,1.1s					
RETA			*i* pP	pP	12 52 46.2	-1.9
	comp=Z,11nm,1.5s					
FUORN	**Ofenpass-Fuorn**	87.33 42	P	P	12 52 11.6	+0.8
FETA	**Feichten**	87.47 41	*i* P	P	12 52 12.3	+1.0
	comp=Z,3.1nm,0.9s					
FETA			*e*pP	pP	12 52 51.0	+2.0
	comp=Z,1.4nm,1.0s					
SQTA	**Sankt Quirin**	87.69 41	*i* PcP	PcP	12 52 14.3	+0.2
	comp=Z,1.2nm,0.5s					
SQTA			*e*pP	pP	12 52 50.0	-0.1
	comp=Z,5.8nm,1.2s					
DBIC	**Dimbokro**	87.81 84	P	P	12 52 12.8	-0.5
	comp=Z,8.0nm,1.0s,baz=296,slow=5.5,SNR=5.6					
	comp=Z,8.0nm,1.0s					
BRG	**Berggiesshubel**	87.84 37	*e*P	P	12 52 14.2	+1.4
BRG			Amp		12 52 15.5	
	comp=Z,1.7nm,0.6s					
BRG	**Berggiesshubel**	87.84 37	*e*P	P	12 52 14.1	+1.4
BRG					12 55 36.2	
BRG			pmax	pmax		
	comp=Z,2.0nm,0.6s					
BRG			MLR	MLR		
	comp=N,92nm,18.0s					
BRG			MLR	MLR		
	comp=E,85nm,15.2s					
BRG			MLR	MLR		
	comp=Z,183nm,20.9s					
WATA	**Walderalm**	87.88 41	*i* PcP	PcP	12 52 14.8	-0.1
	comp=Z,2.5nm,0.8s					
WATA			*i* pP	pP	12 52 52.4	+1.4
	comp=Z,6.8nm,1.4s					
KHC	**Kasperske Hory**	88.36 39⇓	*e*P	P	12 52 15.8	+0.4
KHC			pmax	pmax		
	comp=Z,3.0nm,0.9s					
FINES	**FINESS Array B**	88.46 24	P	P	12 52 15.0	-0.5
	comp=Z,2.3nm,1.0s,baz=216,slow=19,SNR=4.9					
	comp=Z,2.3nm,1.0s					
FINES	**FINESS Array B**	88.46 24	P	P	12 52 15.0	-0.5
GERES	**GERESS Array B**	88.56 39	P	P	12 52 16.2	-0.1
	comp=Z,0.6nm,0.7s,baz=335,slow=5.9,SNR=4.7					
GERES			pP	pP	12 52 52.4	-1.8
	comp=Z,0.8nm,0.8s,baz=352,slow=2.7,SNR=3.3					
	comp=Z,0.8nm,0.7s					
OBKA	**Obir**	90.07 41	*e*P	P	12 52 23.3	-0.2
	comp=Z,8.6nm,1.3s					
KEST	**Kesra**	90.83 52	P	P	12 52 27.0	-0.2
	comp=Z,8.0nm,0.9s,baz=243,slow=3.4,SNR=8.3					
	comp=Z,8.0nm,0.9s					
VYHS	**Vyhne**	91.75 38	*e*P	P	12 52 33.2	+2.1
VYHS	**Vyhne**	91.75 38	*e*P	P	12 52 33.2	+2.1
TORD	**Torodi Ar. Bea**	92.01 76	P	P	12 52 32.1	-0.8
	comp=Z,1.5nm,0.9s,baz=297,slow=4.8,SNR=6.3					
TORD			LR	LR	13 30 06.0	
	comp=Z,60nm,19.9s,baz=162,slow=33					
	comp=Z,1.5nm,0.9s					
TAM	**Tamanrasset**	92.32 65	P	P	12 52 36.5	+2.0
TAM			pmax	pmax		
	comp=Z,4.0nm,0.5s					
YAK	**Yakutsk**	93.42 341⇑	*e*P	P	12 52 39.2	+0.7
YAK			pmax	pmax		
	comp=Z,18nm,1.0s					
NRIK	**Noril'sk**	93.46 359	P	P	12 52 38.5	0.0
	comp=Z,3.6nm,0.9s,baz=53,slow=4.2,SNR=5.2					
	comp=Z,3.6nm,0.9s					
NRIK	**Noril'sk**	93.46 359	*d* iP	P	12 52 37.4	-1.1
NRIK			pmax	pmax		
	comp=Z,10.0nm,1.5s					
VAE	**Valguarnera**	93.86 49	LR	LR	13 34 15.5	
	comp=Z,88nm,18.9s,baz=169,slow=35					
OBN	**Obninsk**	96.75 26	LR	LR	13 36 28.1	
	comp=Z,57nm,21.5s,baz=174,slow=35					
OBN	**Obninsk**	96.75 26	*e*P	P	12 52 51.6	-2.2
OBN			*e**PP	pP	12 53 32.0	+0.2
OBN			*e**SP	sP	12 53 49.2	+1.7
OBN			*e*		12 56 46.3	
OBN			pmax	pmax		
	comp=Z,4.0nm,0.9s					
KURK	**Kurchatov**	111.90 5	*i* PKIKP	PKiKP	12 57 57.4	-0.2
KURBB	**Kurchatov Arra**	111.98 5	PKiKP	PKiKP	12 57 57.4	-0.4
	comp=Z,0.9nm,0.2s,baz=339,slow=0.6,SNR=4.4					
KURBB			PKKPbc	PKKPbc	13 08 49.6	-2.2
	comp=Z,0.8nm,0.8s,baz=189,slow=2.8,SNR=7.2					
SONM	**Songino Array**	112.37 345	PKiKP	PKiKP	12 57 58.8	0.0
	comp=Z,0.4nm,0.4s,baz=222,slow=1.9,SNR=2.3					
MK31	**Makanchi Array**	116.02 2	‖ *i* PKIKP	PKiKP	12 58 04.9	-0.8
MKAR	**Makanchi Array**	116.02 2	PKP	PKiKP	12 58 04.8	-1.0
	comp=Z,0.7nm,0.9s,baz=32,slow=4.8,SNR=4.9					
MKAR			PKKPbc	PKKPbc	13 08 33.9	-4.2
	comp=Z,0.2nm,0.7s,baz=145,slow=3.5,SNR=2.4					
MKAR			PKKPab	PKKPab	13 08 41.3	-3.1
	comp=Z,0.4nm,0.8s,baz=140,slow=4.7,SNR=3.5					
HHC	**Hu-ho-hao-te**	117.13 338	*e*P	PKiKP	12 58 09.3	+1.2
WMQ	**Urumqi**	119.02 358	*e*PKP	PKiKP	12 58 13.3	+1.6
NJ2	**Nanjing**	121.27 327	*e*P	PKiKP	12 58 18.4	+2.1
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.6s					
BOSA	**Boshof**	124.05 113	PKP	PKPdf	12 58 20.6	-1.1
	comp=Z,5.9nm,0.9s,baz=305,slow=3.1,SNR=8.0					
STKA	**Stephens Creek**	127.45 243	PKP	PKPdf	12 58 28.8	+0.8
	comp=Z,5.8nm,0.8s,baz=14,slow=1.8,SNR=7.5					
MAW	**Mawson**	127.80 169	PKP	PKPdf	12 58 28.0	+0.6
	comp=Z,8.2nm,1.0s,baz=252,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.16	56	Pg	Pg	12 41 51.4	+0.9
IDHR				Sg	Sg	12 41 54.2	+1.5
IGHG	Ghaleghazi	0.40	134	Pg	Pb	12 41 55.8	-1.5
IGHG				Sg	Sb	12 42 03.1	-0.8
KGS1	Ghasr-e-Shirin	0.53	259	Pg	Pb	12 41 58.4	-1.0
GLG1	Gilan-e-Gharb	0.56	208	Pg	Pb	12 41 58.7	-1.2
ILIN	Lien	0.68	63	Pg	Pb	12 42 00.6	-1.4
KCHF	Cheshme Sefid,	0.75	116	Pg	Pb	12 42 01.8	-1.4
ILBA	Ilam Banvizeh	0.98	181	Pg	Pb	12 42 06.7	-0.4
SNQR	Sonqor, Kerman	1.18	78	Pg	Pn	12 42 10.6	-0.5
IBZA	Bozab	1.36	95	Pg	Pg	12 42 13.6	+0.3
IBDR	Badra	1.52	189	*e*Pg	Pb	12 42 15.5	-0.6
IBDR				*e*Sg	Sg	12 42 37.0	+1.0
SDS1	Sardasht. Az.	1.65	339	Pg	Pg	12 42 18.7	-0.3
IKFM	Kafar-mosalman	1.73	128	Pg	Pg	12 42 19.6	-0.8
IKRK	Kirkuk	1.74	298	*e*Pn	Pg	12 42 20.0	-0.6
IKRK				*e*Sn	Sg	12 42 44.0	+0.9
IKRK				AML	AML	12 42 48.0	
	comp=N,638nm,0.2s						
IKRK				AML	AML	12 42 51.6	
	comp=E,949nm,0.3s						
HSAM	Samen	2.01	101	Pn	Pg	12 42 24.4	-1.4
MAHB	Mahabad	2.19	349	Pn	Pb	12 42 26.7	-1.1
RAFI	Al-Rafai	2.88	182	*e*Pn	Pb	12 42 36.0	-3.4
RAFI				*e*Sn	Sn	12 43 10.0	+0.6
IAZR	Azarshahr	3.07	356	Pn	Pb	12 42 39.0	-3.8
ISHB	Shabestar	3.70	353	Pn	Pn	12 42 47.5	+1.8
IPIR	Pirpir	4.34	115	Pn	Pn	12 42 55.3	+0.7
GRMI	Germi	4.40	17	Pn	Pn	12 42 57.4	+2.2
JHBN	Jahan bin	4.41	121	Pn	Pn	12 42 57.4	+1.9
IKLH	Kolahrood	4.63	105	Pn	Pn	12 43 00.6	+2.0
KRSH	Karshahi	4.94	96	Pn	Pn	12 43 04.8	+2.2
ISFB	Sefidab	4.98	91	Pn	Pn	12 43 04.7	+1.6
IZEF	Zefreh	5.37	107	Pn	Pn	12 43 10.3	+1.6
KLNJ	Kolanjah	5.77	127	Pn	Pn	12 43 15.7	+1.4

*IDC **22** 12:44:28.6±1.8,2˚.12N×127˚.79E,h0km,mb3.7/4,*
mbtmp3.8/4, Error ellipse: s-maj=135.7km s-min=21.8km
az=68.0
*DJA **22** 12:44:38.3±1.3,2˚N±5˚×12˚8E±1˚2,h127km±11km,M3.6/7,*
mb3.9/2,mB4.9/1,MLv3.4/7,Mw(mB)4.2/1
ISC 22 12:44:41.7±1.5,2˚.1N±0˚.1×127˚.6E±0˚.2,h112km,n8,
σ1°74/9,mb3.7/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.33	191	P	Pn	12 45 06.1	-0.5
TNTI				S	Sn	12 45 28.4	+2.9
SANI	Sanana	4.42	202	P	Pn	12 45 45.9	-0.9
GTOI	Gorontalo	4.84	253	P	Pn	12 45 51.3	-1.1
LUWI	Luwuk	5.76	237	P	Pn	12 46 04.1	-0.8
WRA	Warramunga Arr	22.86	164	P	P	12 49 34.1	-1.6
	1.5nm,0.5s,baz=344,slow=11,SNR=15						
	1.5nm,0.5s						
ASAR	Alice Springs	26.31	167	P	P	12 50 05.7	-1.5
	0.4nm,0.3s,baz=345,slow=7.4,SNR=27						
	0.4nm,0.3s						
MKAR	Makanchi Array	59.41	325	P	P	12 54 33.8	+1.2
	0.3nm,0.4s,baz=119,slow=7.8,SNR=5.5						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	63.60	327	P	P	12 55 01.5	+0.9
	0.6nm,0.3s,baz=119,slow=6.6,SNR=1.6						
	0.6nm,0.3s						

*TEH **22** 12:50:59.9,34˚.61N×46˚.26E,h5km,ML2.5*
*ISN **22** 12:51:00.4±1.5,34˚.62N×46˚.29E,h21km±28km,ML2.7*
ISC 22 12:50:59.9±1.1,34˚.62N±0˚.05×46˚.27E±0˚.05,h11km±11km,
n10,σ0°43/12,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.13	49	Pg	Pg	12 51 03.1	-0.1
IGHG	Ghaleghazi	0.38	139	Pg	Pg	12 51 08.1	+0.6
GLG1	Gilan-e-Gharb	0.58	211	Pg	Pb	12 51 12.2	0.0
ILIN	Lien	0.65	62	Pg	Pg	12 51 13.0	+0.5
KCHF	Cheshme Sefid,	0.72	118	Pg	Pb	12 51 14.7	+0.1
ILBA	Ilam Banvizeh	0.99	183	Pg	Pn	12 51 19.6	-0.2
IBDR	Badra	1.53	191	*e*Pg	Pn	12 51 27.0	-0.1
	baz=11						
IBDR				*e*Sg	Sg	12 51 49.0	-0.1
IKFM	Kafar-mosalman	1.70	129	Pg	Pg	12 51 32.0	-0.5
IKRK	Kirkuk	1.77	297	*e*Pn	Pb	12 51 32.0	-0.3
IKRK				*e*Sn	Sb	12 51 55.0	+0.6
IKRK				AML	AML	12 52 01.8	
	comp=N,140nm,0.6s						
IKRK				AML	AML	12 52 04.7	
	comp=Z,58nm,0.6s						
HSAM	Samen	1.97	101	Pn	Pg	12 51 37.4	-0.3

*TEH **22** 13:12:35.4,34˚.61N×46˚.23E,h10km±80km,ML2.8*
*ISN **22** 13:12:35.8±1.4,34˚.62N×46˚.26E,h23km±26km,ML2.5*
ISC 22 13:12:35.4±1.2,34˚.59N±0˚.04×46˚.23E±0˚.04,h10km±13km,
n11,σ0°38/13,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.17	49	Pg	Pg	13 12 39.3	0.0
KGS1	Ghasr-e-Shirin	0.53	262	Pg	Pb	13 12 46.7	-0.2
GLG1	Gilan-e-Gharb	0.54	209	Pg	Pg	13 12 45.5	-0.4
ILIN	Lien	0.69	61	Pg	Pg	13 12 48.5	-0.4
KCHF	Cheshme Sefid,	0.74	115	Pg	Pb	13 12 50.3	-0.2
ILBA	Ilam Banvizeh	0.96	181	Pg	Pn	13 12 54.8	-0.2
SNQR	Sonqor, Kerman	1.19	76	Pg	Pb	13 12 57.8	-0.4
IBZA	Bozab	1.35	94	Pg	Pg	13 13 01.7	+0.3
IBDR	Badra	1.49	190	*e*Pg	Pb	13 13 03.0	-0.2
	baz=10.0						
IBDR				*e*Sg	Sg	13 13 24.0	+0.6
IBDR				AML	AML	13 13 36.8	
	comp=E,89nm,0.4s						
IBDR				AML	AML	13 13 37.6	
	comp=N,65nm,0.7s						
IKFM	Kafar-mosalman	1.71	128	Pg	Pg	13 13 08.5	+0.3
IKRK	Kirkuk	1.75	298	*e*Pn	Pn	13 13 06.0	+0.2
IKRK				*e*Sn	Sb	13 13 30.0	+0.4

IDC 22 13:18:32.4±2.1,10˚.64S×119˚.08E,h0km,mb3.6/1,
mbtmp3.6/4,ML3.6/3,MS2.5/1,Error ellipse:
s-maj=66.0km s-min=25.1km az=62.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	5.63	7	Pn	Pn	13 19 57.4	0.0
	3.5nm,0.3s,baz=175,slow=16,SNR=2.8						
KAPI				Sn	Sn	13 21 04.0	+1.2
	2.3nm,0.3s,baz=189,slow=14,SNR=1.4						
KAPI				LR	LR	13 22 04.4	
	comp=Z,51nm,21.9s,baz=188,slow=38						
	7.5nm,0.3s						
WRA	Warramunga Arr	17.37	124	P	Pn	13 22 34.9	-1.6
	0.1nm,0.3s,baz=294,slow=13,SNR=9.8						
	0.3nm,0.5s						
ASAR	Alice Springs	19.17	134	P	Pn	13 22 58.8	+0.2
	0.3nm,0.3s,baz=311,slow=12,SNR=41						
	1.2nm,0.6s						
MKAR	Makanchi Array	65.94	333	P	P	13 29 20.3	-0.1
	0.4nm,0.6s,baz=146,slow=8.0,SNR=4.9						
	0.4nm,0.6s						

*TEH **22** 13:19:48.5,34˚.64N×46˚.30E,h10km±91km,ML2.6*
*ISN **22** 13:19:49.8±1.4,34˚.62N×46˚.26E,h23km±26km,ML2.2*
ISC 22 13:19:48.6±1.3,34˚.62N±0˚.05×46˚.27E±0˚.06,h6km±16km,
n8,σ0°27/10,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.12	51	Pg	Pg	13 19 51.3	0.0
IGHG	Ghaleghazi	0.38	140	Pg	Pg	13 19 56.4	+0.3
KGS1	Ghasr-e-Shirin	0.57	259	Sg	Sb	13 20 09.6	0.0
GLG1	Gilan-e-Gharb	0.59	211	Pg	Pg	13 20 00.0	+0.1
KCHF	Cheshme Sefid,	0.72	118	Pg	Pg	13 20 02.7	+0.1
IBDR	Badra	1.53	191	*e*Pg	Pb	13 20 17.0	-0.5
	baz=10.0						
IBDR				*e*Sg	Sg	13 20 38.0	+0.1
IBDR				AML	AML	13 20 39.3	
	comp=E,56nm,0.5s						
IBDR				AML	AML	13 20 43.6	
	comp=N,29nm,1.1s						
IKFM	Kafar-mosalman	1.71	129	Pg	Pg	13 20 21.4	0.0
IKRK	Kirkuk	1.77	297	*e*Pn	Pn	13 20 20.0	+0.2
IKRK				*e*Sn	Sb	13 20 44.0	+0.1

*IDC **22** 13:23:04.2±0.9,3˚.38S×145˚.65E,h0km,mb3.9/13,*
mbtmp4.0/15,ML4.3/1,MS3.6/9,Error ellipse:
s-maj=36.3km s-min=15.6km az=86.0
*NEIC **22** 13:23:06.4±1.1,3˚.48S±0˚.10×145˚.60E±0˚.06,h10km±1km,*
mb4.6/33,Error ellipse: s-maj=17.1km s-min=9.1km
az=190.0
ISC 22 13:23:07.7±0.6,3˚.42S±0˚.07×145˚.61E±0˚.09,h23km,n69,
σ1°14/62,mb4.5/27,MS3.7/9,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	Tabubil	4.75	247	P	Pn	13 24 20.7	+2.7
KAVG	Kavieng	5.25	81	P	Pb	13 24 56.9	+18
	3μm,0.9s						
PMG	Port Moresby	6.14	166	P	Pn	13 24 39.4	+2.3
PMG	Port Moresby	6.14	166	P	Pn	13 24 39.5	+2.3
PMG	Port Moresby	6.14	166	Pn	Pn	13 24 35.4	-1.8
PMG	Port Moresby	6.14	166	Pn	Pn	13 24 37.9	+0.8
	12nm,0.5s,baz=337,slow=13,SNR=7.9						
PMG				Sn	Sn	13 25 47.9	+1.2
	0.9nm,0.3s,baz=342,slow=6.4,SNR=1.7						
COEN	Coen	10.74	193	Pn	Pn	13 25 39.4	-0.9
KDU	Kakadu	15.93	234	P	Pn	13 26 50.0	-0.5
MTN	Manton Dam	17.11	236	Pn	Pn	13 27 04.6	-1.0
QIS	Mount Isa	18.01	198	P	Pn	13 27 16.1	-0.6
WB0	Warramunga Arr	19.59	213	P	P	13 27 33.5	-1.0
WB0				IAmb	IAmb	13 27 40.7	
	comp=Z,44nm,1.4s						
WR0	Warramunga Arr	19.67	212	P	P	13 27 34.1	-1.2
WR0				IAmb	IAmb	13 27 38.1	
	comp=Z,24nm,0.8s						
WRAB	Tennant Creek	19.75	213	P	P	13 27 35.0	-1.2
WRAB				IAmb	IAmb	13 27 39.2	
	comp=Z,31nm,0.9s						
WB2	Warramunga Arr	19.76	213	P	P	13 27 35.4	-0.9
WB2				IAmb	IAmb	13 27 39.3	
	comp=Z,30nm,0.9s						
WRA	Warramunga Arr	19.77	213	P	P	13 27 35.4	-1.0
	comp=Z,0.9nm,0.3s,baz=41,slow=12,SNR=38						
	comp=Z,20nm,0.9s						
KNRA	Kununurra	20.58	233	P	P	13 27 43.2	-2.0
SOEI	Soe	22.11	252	P	P	13 28 00.7	-1.1
DAV	Davao City (W)	22.55	298	LR	LR	13 37 30.5	
	comp=Z,57nm,18.1s,baz=132,slow=38						
AS31	Alice Springs	23.09	208	P	P	13 28 11.5	-0.5
ASAR	Alice Springs	23.09	208	P	P	13 28 11.4	-0.7
ASAR	Alice Springs	23.09	208	P	P	13 28 11.8	-0.3
	comp=Z,3.7nm,0.8s,baz=40,slow=6.1,SNR=31						
	comp=Z,3.7nm,0.8s						
FITZ	Fitzroy Crossi	24.40	232	P	P	13 28 22.7	-2.0
KOUNC	Koumac, New Ca	24.92	135	P	P	13 28 28.8	-0.5
TOLI2	Tolitoli	25.23	280	P	P	13 28 32.7	+0.6
TOLI2				IAmb	IAmb	13 28 39.2	
	comp=Z,15nm,0.9s						
BBOO	Buckleboo	30.58	196	P	P	13 29 19.3	-0.5
BBOO				IAmb	IAmb	13 29 37.4	
	comp=Z,24nm,1.5s						
FORT	Forrest	31.86	209	P	P	13 29 31.1	-0.1
JNU	Nakatsue	38.93	340	LR	LR	13 46 24.1	
	comp=Z,30nm,18.3s,baz=148,slow=36						
MJAR	Matsushiro Arr	40.35	351	P	P	13 30 42.5	-1.3
	comp=Z,0.9nm,0.9s,baz=160,slow=8.1,SNR=2.3						
	comp=Z,0.9nm,0.9s						
TOZ	Tahuroa Road	43.75	145	P	P	13 31 11.9	+0.4
KSRS	Korea Array	43.87	340	P	P	13 31 12.7	+0.3
	comp=Z,1.3nm,0.8s,baz=159,slow=9.7,SNR=5.5						
KSRS				LR	LR	13 46 58.7	
	comp=Z,39nm,20.6s,baz=180,slow=33						
	comp=Z,1.3nm,0.8s						
BKZ	Black Stump Fm	45.31	146	P	P	13 31 23.7	-0.3
CMAR	Chiang Mai Arr	50.84	297	P	P	13 32 06.0	-1.0
CMAR	Chiang Mai Arr	50.84	297	P	P	13 32 08.3	+1.3
	comp=Z,1.4nm,0.7s,baz=119,slow=5.6,SNR=10						
	comp=Z,1.4nm,0.7s						
KLR	Kul'dur	53.80	349	LR	LR	13 55 11.3	
	comp=Z,49nm,18.2s,baz=208,slow=36						
HEH	HeiHe	55.72	346	*e*P	P	13 32 47.1	+4.8
HEH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	Songino Array	61.49	331	P	P	13 33 22.4	-0.4
	comp=Z,0.4nm,0.7s,baz=146,slow=6.1,SNR=2.1						
SONM				LR	LR	14 00 58.1	
	comp=Z,54nm,19.2s,baz=190,slow=37						
	comp=Z,0.4nm,0.7s						
VNDA	Vanda	74.55	176	P	P	13 34 46.4	+2.2
	comp=Z,0.8nm,0.9s,baz=319,slow=6.2,SNR=3.6						
	comp=Z,0.8nm,0.9s						
MKAR	Makanchi Array	74.64	320	P	P	13 34 45.4	0.0
MKAR	Makanchi Array	74.64	320	P	P	13 34 45.6	+0.3
	comp=Z,0.2nm,0.7s,baz=110,slow=8.3,SNR=2.7						
	comp=Z,0.2nm,0.7s						
M13K	Dall Lake	74.93	24	P	P	13 34 47.3	+0.7
ZALV	Zalesovo Beam	76.11	328	P	P	13 34 54.2	+0.7
	comp=Z,0.3nm,0.4s,baz=123,slow=7.1,SNR=2.1						
ZALV				LR	LR	14 07 00.2	
	comp=Z,61nm,21.1s,baz=104,slow=35						
	comp=Z,0.3nm,0.4s						
KURBB	Kurchatov Arra	78.35	323	P	P	13 35 05.6	-0.6
	comp=Z,0.4nm,0.7s,baz=99,slow=4.1,SNR=4.5						
	comp=Z,0.4nm,0.7s						
AAK	Ala-Archa	78.56	315	LR	LR	14 09 04.4	
	comp=Z,44nm,20.9s,baz=126,slow=35						
CNPM	China Poot	79.70	28	P	P	13 35 14.7	+1.2
CNPM				IAmb	IAmb	13 35 43.8	
	comp=Z,12nm,1.1s						
M20K	Styx River	79.91	25	P	P	13 35 15.5	+0.9
H19K	Roundabout Mou	80.39	21	P	P	13 35 18.7	+1.7
H19K				IAmb	IAmb	13 35 28.3	
	comp=Z,9.1nm,1.5s						
E19K	Redstone River	81.14	19	P	P	13 35 22.4	+1.4
E19K				IAmb	IAmb	13 35 31.0	
	comp=Z,4.9nm,1.0s						
D19K	Kuna River	81.41	18	P	P	13 35 23.7	+1.2
D19K				IAmb	IAmb	13 35 44.6	
	comp=Z,7.7nm,1.1s						
IMAR	Indian Mountai	81.59	21	P	P	13 35 24.7	+1.2
SML	Sawmill	81.94	26	P	P	13 35 25.5	+0.1
SML				IAmb	IAmb	13 35 35.4	
	comp=Z,5.0nm,0.9s						
MLY	Manley	82.27	23	P	P	13 35 26.9	-0.2
RND	Reindeer	82.35	24	P	P	13 35 28.2	+0.7
NRIK	Noril'sk	82.41	342	P	P	13 35 27.0	-0.7
	comp=Z,1.7nm,0.4s,baz=113,slow=4.8,SNR=1.7						
	comp=Z,1.7nm,0.4s						
WRH	Wood River Hil	83.08	24	P	P	13 35 31.4	+0.2
WRH				IAmb	IAmb	13 35 40.2	
	comp=Z,4.4nm,1.1s						
CCB	Clear Creek Bu	83.26	23	P	P	13 35 32.6	+0.4
CCB				IAmb	IAmb	13 35 38.6	
	comp=Z,2.9nm,0.8s						
IL31		83.67	23	P	P	13 35 34.1	-0.1
IL31				IAmb	IAmb	13 35 40.3	
	comp=Z,3.1nm,0.8s						
ILAR	Eielson Array	83.67	23	P	P	13 35 34.3	0.0
ILAR	Eielson Array	83.67	23	P	P	13 35 34.2	-0.1
	comp=Z,1.7nm,0.7s,baz=253,slow=5.2,SNR=21						
	comp=Z,1.7nm,0.7s						
BVAR	Borovoye Array	83.88	324	P	P	13 35 35.5	-0.1
	comp=Z,2.2nm,0.7s,baz=112,slow=6.6,SNR=9.6						
	comp=Z,2.2nm,0.7s						
MAW	Mawson	84.08	202	LR	LR	14 11 54.4	
	comp=Z,152nm,18.7s,baz=20,slow=35						
J25K	Salcha River,	84.22	24	P	P	13 35 38.0	+0.8
J25K				IAmb	IAmb	13 35 44.1	
	comp=Z,5.1nm,0.8s						
EGAK	Eagle	85.99	24	P	P	13 35 47.6	+1.6
QSPA	South Pole Qui	86.53	180	P	P	13 35 48.5	-0.3
	comp=Z,1.7nm,1.0s,baz=360,slow=3.0,SNR=3.0						
	comp=Z,1.7nm,1.0s						
M29M	Somme Creek	86.53	27	P	P	13 35 50.0	+1.2
DAWY	Dawson	86.54	25	P	P	13 35 50.1	+1.4
DAWY				IAmb	IAmb	13 35 59.1	
	comp=Z,5.0nm,1.1s						
I28M	Miner Creek	86.68	24	P	P	13 35 50.4	+0.9
L29M	L29M	86.84	26	P	P	13 35 51.3	+1.1
L29M				IAmb	IAmb	13 35 58.9	
	comp=Z,3.4nm,0.8s						
ABKAR	Akbulak array	89.74	319	P	P	13 36 02.7	-1.6
KIRV	Kirov	96.14	328	LR	LR	14 19 31.0	
	comp=Z,60nm,21.9s,baz=85,slow=35						

*IDC **22** 13:25:47.3±0.9,14˚.13S×166˚.50E,h0km,mb4.2/11,*
mbtmp4.1/12,ML3.8/1,MS3.8/9,Error ellipse:
s-maj=29.9km s-min=18.4km az=103.0
*NEIC **22** 13:25:51.9±1.2,14˚.16S±0˚.05×166˚.6E±0˚.1,h26km±6km,*
mb4.7/30,Error ellipse: s-maj=18.3km s-min=6.7km
az=87.0
*NOU **22** 13:26:05.3,15˚.24S×166˚.43E,h0km,mb4.6/8,Vanuatu Islands*
ISC 22 13:25:53.8±0.6,14˚.21S±0˚.07×166˚.4E±0˚.1,h43km,n115,
σ0°89/110,mb4.6/29,MS3.8/9,3C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	6.58	173	P	Pn	13 27 30.3	+2.3
LIFNC	LIFOU	6.58	173	Pn	Pn	13 27 27.8	-0.3
KOUNC	Koumac, New Ca	6.63	198	P	Pn	13 27 30.1	+1.3
KOUNC	Koumac, New Ca	6.63	198	Pn	Pn	13 27 29.0	+0.2
DZM	Mont Dzumac	7.82	180	P	Pn	13 27 45.7	+0.5
DZM	Mont Dzumac	7.82	180		Pn	13 27 44.1	-1.1
DZM	Mont Dzumac	7.82	180	Pn	Pn	13 27 44.4	-0.8
	1.5nm,0.3s,baz=15,slow=20,SNR=25						
DZM				Sn	Sn	13 29 10.9	-1.6
	0.3nm,0.3s,baz=0.0,slow=20,SNR=1.0						
	5.4nm,0.4s						
YATNC	Mamie plateau,	7.82	177	P	Pn	13 27 46.2	+1.1
NOUC	Port Laguerre	7.85	181	P	Pn	13 27 46.7	+1.2
HNR	Honiara	7.93	306	Pn	Pn	13 27 45.9	-0.7
ONTNC	Ouen Toro	8.05	180		Pn	13 27 47.1	-1.3
PMG	Port Moresby	19.46	282	LR	LR	13 36 53.3	
	comp=Z,310nm,19.0s,baz=48,slow=34						
CTA	Charters Tower	20.15	250	P	P	13 30 25.2	+0.6
	0.7nm,0.9s,baz=86,slow=12,SNR=5.3						
CTA				LR	LR	13 37 12.2	
	comp=Z,21nm,20.2s,baz=74,slow=34						
CTAO	Charters Tower	20.15	250	P	P	13 30 25.5	+0.9
ARMA	Armidale	21.13	218	P	P	13 30 36.0	+0.8
MSWZ	Moikau Station	28.17	166	P	P	13 31 41.1	-1.1
STKA	Stephens Creek	28.73	228	P	P	13 31 48.0	+0.8
	2.5nm,0.8s,baz=8.4,slow=1.1,SNR=1.8						
STKA				LR	LR	13 43 16.1	
	comp=Z,222nm,18.6s,baz=20,slow=36						
	2.5nm,0.8s						
WB0	Warramunga Arr	31.11	255	P	P	13 32 07.4	-1.2
WB0				IAmb	IAmb	13 32 11.5	
	comp=Z,14nm,1.4s						
WRA	Warramunga Arr	31.18	255	P	P	13 32 07.8	-1.4
	comp=Z,1.8nm,1.0s,baz=85,slow=8.3,SNR=5.1						
	comp=Z,1.8nm,1.0s						
ASAR	Alice Springs	32.12	248	P	P	13 32 16.2	-1.1
	comp=Z,1.0nm,0.6s,baz=73,slow=9.3,SNR=9.5						
	comp=Z,1.0nm,0.6s						
GUMO	Guam	34.92	321	LR	LR	13 45 20.1	
	comp=Z,38nm,21.7s,baz=137,slow=34						
KNRA	Kununurra	36.40	263	P	P	13 32 54.2	-0.3
KNRA				IAmb	IAmb	13 32 56.4	
	comp=Z,10nm,1.0s						
FORT	Forrest	38.88	238	P	P	13 33 15.6	+0.3
FITZ	Fitzroy Crossi	39.33	259	P	P	13 33 18.9	-0.3
PPT	Papeete	42.37	101	LR	LR	13 47 22.8	
	comp=Z,101nm,21.0s,baz=157,slow=31						
MJAR	Matsushiro Arr	57.08	333	P	P	13 35 34.9	-0.9
	comp=Z,4.7nm,1.1s,baz=158,slow=7.3,SNR=9.7						
	comp=Z,4.7nm,1.1s						
KSRS	Korea Array	62.86	326	P	P	13 36 14.5	-1.0
	comp=Z,1.0nm,0.8s,baz=142,slow=8.5,SNR=3.1						
	comp=Z,1.0nm,0.8s						
USA0B	Ussuriysk Arra	66.06	334	P	P	13 36 36.1	-0.2
USRK	Ussuriysk Ar.	66.06	334	P	P	13 36 36.2	0.0
USRK	Ussuriysk Ar.	66.06	334	P	P	13 36 37.7	+1.5
	comp=Z,6.5nm,1.0s,baz=151,slow=6.3,SNR=7.2						
	comp=Z,6.5nm,1.0s						
HEH	HeiHe	72.75	335	*e*P	P	13 37 18.1	+0.7
HEH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,200nm,3.8s						
QSPA	South Pole Qui	75.81	180	P	P	13 37 35.8	+0.4
QSPA				IAmb	IAmb	13 38 03.6	
	comp=Z,18nm,1.4s						
QSPA	South Pole Qui	75.81	180	P	P	13 37 36.0	+0.7
	comp=Z,2.2nm,1.0s,baz=34,slow=2.7,SNR=7.0						
	comp=Z,2.2nm,1.0s						
K15K	Wolf Creek Mou	80.29	15	P	P	13 37 59.9	0.0
K15K				IAmb	IAmb	13 38 04.4	
	comp=Z,14nm,1.2s						
SONM	Songino Array	81.61	324	P	P	13 38 07.6	+0.2
	comp=Z,1.2nm,1.0s,baz=132,slow=4.1,SNR=6.6						
	comp=Z,1.2nm,1.0s						
J17K	VABM Dome	81.83	15	P	P	13 38 08.7	+0.7
L20K	Farewell, AK	82.49	17	P	P	13 38 13.4	+1.9
	baz=218						
J18K	Innoko River	82.49	16	P	P	13 38 12.9	+1.4
	baz=216						
J19K	Poorman	83.21	16	P	P	13 38 16.2	+1.0
	baz=217						
J20K	Nowinta River	83.75	16	P	P	13 38 18.5	+0.6
J20K	Nowinta River	83.75	16	P	P	13 38 18.8	+0.9
	baz=218						
I20K	Naaghedeneel	84.15	16	P	P	13 38 20.4	+0.5
	baz=218						
H19K	Roundabout Mou	84.24	15	P	P	13 38 20.1	-0.3
	baz=216						
WAT1	Susitna Watana	84.37	19	P	P	13 38 20.8	-0.5
	baz=223						
WAT6	Susitna Watana	84.45	19	P	P	13 38 21.7	-0.1
	baz=224						
BPAW	Bear Paw Mtn.	84.58	17	P	P	13 38 20.7	-1.5
	baz=221						
G19K	Purcell Mounta	84.58	14	P	P	13 38 22.6	+0.4
G19K				IAmb	IAmb	13 38 37.7	
	comp=Z,6.8nm,1.4s	

ILAR	**Eielson Array**	**86.28**	**18**	P	**P**	**13 38 29.1**	**-1.5**
	comp=Z,2.4nm,0.8s,baz=234,slow=5.7,SNR=21						
	comp=Z,2.4nm,0.8s						
F21K	**Alatna River**	**86.31**	**15**	P	**P**	**13 38 30.7**	**-0.2**
F21K				IAmb	IAmb	13 38 32.5	
	comp=Z,6.5nm,1.2s						
F21K	**Alatna River**	**86.31**	**15**	P	**P**	**13 38 31.3**	**+0.5**
	baz=219,SNR=5.7						
C19K	**Lookout Ridge**	**86.51**	**12**	P	**P**	**13 38 32.5**	**+0.7**
E20K	**Nigu River**	**86.51**	**13**	P	**P**	**13 38 33.1**	**+1.3**
	baz=216						
G22K	**Bettles**	**86.58**	**15**	P	**P**	**13 38 32.7**	**+0.7**
	baz=220						
J25K	**Salcha River,**	**86.64**	**19**	P	**P**	**13 38 31.2**	**-1.3**
J25K				IAmb	IAmb	13 38 33.1	
	comp=Z,3.8nm,0.8s						
J25K	**Salcha River,**	**86.64**	**19**	P	**P**	**13 38 31.8**	**-0.7**
	baz=226,SNR=7.6						
SCRK	**Sand Creek**	**86.64**	**20**	P	**P**	**13 38 32.0**	**-0.6**
SCRK	**Sand Creek**	**86.64**	**20**	P	**P**	**13 38 32.0**	**-0.6**
	baz=228,SNR=6.3						
D20K	**Etivluk River**	**86.79**	**13**	P	**P**	**13 38 33.8**	**+0.6**
	baz=216						
G23K	**Bananza Creek**	**86.80**	**16**	P	**P**	**13 38 33.7**	**+0.4**
G23K				IAmb	IAmb	13 38 34.5	
	comp=Z,5.3nm,0.9s						
G23K	**Bananza Creek**	**86.80**	**16**	P	**P**	**13 38 34.4**	**+1.1**
	baz=222,SNR=8.0						
F22K	**John River**	**86.86**	**15**	P	**P**	**13 38 33.4**	**0.0**
	baz=220						
COLD	**Coldfoot**	**87.14**	**16**	P	**P**	**13 38 35.5**	**+0.7**
	baz=222						
E21K	**Killik River**	**87.16**	**14**	P	**P**	**13 38 36.0**	**+1.1**
	baz=218						
K27K	**Chicken**	**87.31**	**20**	P	**P**	**13 38 35.7**	**0.0**
K27K	**Chicken**	**87.31**	**20**	P	**P**	**13 38 35.7**	**0.0**
	baz=229						
PFO	**Pinyon Flats O**	**87.35**	**55**	LR	LR	14 11 34.6	
	comp=Z,89nm,18.3s,baz=222,slow=32						
G24K	**Hadweenzic Riv**	**87.49**	**17**	P	**P**	**13 38 36.2**	**-0.3**
G24K				IAmb	IAmb	13 39 04.5	
	comp=Z,6.0nm,1.4s						
G24K	**Hadweenzic Riv**	**87.49**	**17**	P	**P**	**13 38 35.9**	**-0.7**
	baz=224						
C21K	**Knifeblade Rid**	**87.54**	**13**	P	**P**	**13 38 38.1**	**+1.3**
	baz=217,SNR=5.4						
H25L	**Birch Creek**	**87.65**	**17**	P	**P**	**13 38 36.7**	**-0.5**
	baz=226						
D22K	**Ayikyak River**	**87.80**	**14**	P	**P**	**13 38 39.7**	**+1.7**
	baz=219,SNR=5.4						
I26K	**Coal Creek Min**	**87.80**	**19**	P	**P**	**13 38 37.3**	**-0.8**
	baz=228						
E23K	**Chandalar**	**87.91**	**15**	P	**P**	**13 38 37.9**	**-0.7**
	baz=222						
EGAK	**Eagle**	**88.10**	**20**	P	**P**	**13 38 38.8**	**-0.6**
EGAK				IAmb	IAmb	13 38 56.3	
	comp=Z,5.3nm,1.4s						
EGAK	**Eagle**	**88.10**	**20**	P	**P**	**13 38 38.9**	**-0.5**
	baz=230						
D23K	**Nanushuk River**	**88.33**	**14**	P	**P**	**13 38 41.7**	**+1.2**
	baz=221						
G26K	**Porcupine Rive**	**88.72**	**18**	P	**P**	**13 38 43.3**	**+1.0**
	baz=228						
BMAR	**Burnt Mountain**	**88.81**	**17**	P	**P**	**13 38 42.9**	**+0.1**
C23K	**Itkillik River**	**89.00**	**14**	P	**P**	**13 38 45.7**	**+2.1**
	baz=221						
INK	**Inuvik**	**92.66**	**19**	LR	LR	14 15 48.2	
	comp=Z,71nm,19.8s,baz=182,slow=32						
TROLL	**Troll, Antarti**	**93.31**	**185**	⇑P	**P**	**13 39 04.3**	**+0.3**
	comp=Z,64nm,0.9s						
SNAA	**Sanae**	**94.02**	**183**	P	**P**	**13 39 08.0**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=185,slow=4.9,SNR=2.6						
SNAA				LR	LR	14 17 30.3	
	comp=Z,56nm,20.9s,baz=102,slow=33						
	comp=Z,0.4nm,0.9s						
VNA3	**Neumayer Olymp**	**94.72**	**181**	⇑P	**P**	**13 39 10.3**	**+0.1**
	comp=Z,0.4nm,0.7s						
VNA2	**Neumayer--Watz**	**94.97**	**182**	⇑P	**P**	**13 39 12.8**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=190,slow=3.8						
PDAR	**Pinedale Array**	**95.19**	**47**	LR	LR	14 15 30.3	
	comp=Z,30nm,20.9s,baz=290,slow=31						
ANMO	**Albuquerque**	**95.67**	**56**	LR	LR	14 16 44.7	
	comp=Z,60nm,18.6s,baz=319,slow=32						
MKAR	**Makanchi Array**	**96.28**	**317**	P	**P**	**13 39 17.9**	**+0.1**
	comp=Z,1.2nm,1.0s,baz=103,slow=5.4,SNR=6.2						
	comp=Z,1.2nm,1.0s						
ARCES	**ARCESS Array B**	**119.55**	**345**	PKP	**PKPdf**	**13 44 38.0**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=3.8,slow=2.7,SNR=5.7						
ESDC	**Sonseca Array**	**153.27**	**343**	PKPbc	**PKPbc**	**13 45 46.4**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=24,slow=2.6,SNR=5.0						
ESDC				PKPab	**pPKPbc**	**13 45 59.0**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=23,slow=5.7,SNR=4.2						

*ISN **22** 13:29:44.9±1.9, 34°.58N×46°.21E, h14km±13km, ML2.7*
*TEH **22** 13:29:44.5, 34°.59N×46°.29E, h8km±32km, ML2.8*
ISC 22 13:29:43.7±1.0,**34°.68N**±0°.05×**46°.32E**±0°.04,**h17**km±8km,
n13,σ0**93**/16,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.06**	**75**	Pg	**Pg**	**13 29 47.6**	**+0.4**
IGHG	**Ghaleghazi**	**0.41**	**149**	Pg	**Pb**	**13 29 52.0**	**-0.6**
ILIN	**Lien**	**0.58**	**66**	Pg	**Pn**	**13 29 57.0**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.62**	**254**	Pg	**Pb**	**13 29 56.3**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.66**	**211**	Pg	**Pg**	**13 29 55.4**	**-1.4**
KCHF	**Cheshme Sefid,**	**0.72**	**124**	Pg	**Pb**	**13 29 58.0**	**0.0**
ILBA	**Ilam Banvizeh**	**1.06**	**185**	Pg	**Pb**	**13 30 03.0**	**-0.6**
SNQR	**Sonqor, Kerman**	**1.09**	**80**	Pg	**Pn**	**13 30 04.5**	**0.0**
IBDR	**Badra**	**1.60**	**192**	*e*Pg	**Pb**	**13 30 13.0**	**+0.2**
IBDR				*e*Sg	**Sn**	**13 30 31.0**	**-0.4**
IBDR				AML	AML	13 30 46.6	
	comp=N,98nm,0.4s						
IKFM	**Kafar-mosalman**	**1.72**	**132**	Pg	**Pg**	**13 30 16.9**	**+0.1**
IKRK	**Kirkuk**	**1.77**	**294**	*e*Pn	**Pb**	**13 30 16.0**	**+0.3**
IKRK				AML	AML	13 30 19.4	
	comp=Z,104nm,0.9s						
IKRK				*e*Sn	**Sg**	**13 30 40.0**	**-0.8**
HSAM	**Samen**	**1.95**	**103**	Pn	**Pg**	**13 30 20.5**	**-0.7**
RAFI	**Al-Rafai**	**2.96**	**183**	*e*Pn	**Pn**	**13 30 31.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**13 31 07.0**	**+2.1**

*TEH **22** 13:33:44.0, 34°.66N×46°.22E, h10km±60km, ML2.7*
*ISN **22** 13:33:45.8±1.2, 34°.61N×46°.25E, h36km±24km, ML2.5*
ISC 22 13:33:44.0±1.3,**34°.66N**±0°.05×**46°.22E**±0°.05,**h7**km±15km,
n10,σ0**46**/12,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**75**	Pg	**Pg**	**13 33 47.2**	**+0.2**
IGHG	**Ghaleghazi**	**0.44**	**139**	Pg	**Pg**	**13 33 53.0**	**+0.4**
GLG1	**Gilan-e-Gharb**	**0.60**	**205**	Pg	**Pg**	**13 33 56.2**	**+0.5**
ILIN	**Lien**	**0.66**	**67**	Pg	**Pg**	**13 33 57.0**	**+0.2**
KCHF	**Cheshme Sefid,**	**0.78**	**119**	Pg	**Pg**	**13 33 59.0**	**0.0**
ILBA	**Ilam Banvizeh**	**1.04**	**180**	Pg	**Pg**	**13 34 03.6**	**-0.2**
SNQR	**Sonqor, Kerman**	**1.18**	**80**	Pg	**Pn**	**13 34 07.4**	**+0.2**
IBDR	**Badra**	**1.57**	**189**	*e*Pg	**Pb**	**13 34 13.0**	**-0.3**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**13 34 34.0**	**-0.3**
IBDR				AML	AML	13 34 40.4	
	comp=E,73nm,0.5s						
IBDR				AML	AML	13 34 48.5	
	comp=N,46nm,0.3s						
IKRK	**Kirkuk**	**1.71**	**296**	*e*Pn	**Pb**	**13 34 15.0**	**-0.7**
IKRK				*e*Sn	**Sb**	**13 34 38.0**	**+0.6**
IKRK				AML	AML	13 34 55.0	
	comp=N,91nm,0.3s						
IKRK				AML	AML	13 34 57.0	
	comp=E,81nm,0.4s						
IKFM	**Kafar-mosalman**	**1.77**	**130**	Pg	**Pg**	**13 34 17.9**	**+0.1**

*IDC **22** 13:39:53.1±1.4, 13°.10N×90°.92W, h0km, mb3.8/4, mbtmp4.0/7, ML3.9/3, MS3.6/10, Error ellipse: s-maj=24.7km s-min=17.0km az=40.0*
*CATAC **22** 13:39:54.8±0.5, 13°.12N×91°.03W, h15km, mb4.0, ML4.0*
*SNET **22** 13:39:57.7±1.4, 13°.33N×90°.86W, h16km±6km, ML3.4*
*GCG **22** 13:40:01.9±3.1, 13°.57N×91°.11W, h45km±736km, MD4.1*
*NEIC **22** 13:40:05.0±1.9, 13°.7N±0°.1×90°.90W±0°.06, h56km±11km, mb4.1/33, Error ellipse: s-maj=18.9km s-min=5.3km az=198.0*
ISC 22 13:39:54.8±3.3,**13°.17N**±0°.06×**90°.97W**±0°.04,**h8**km±20km,
n113,σ1**17**/118,**mb4.2**/18,**MS3.6**/9,**Near coast of**

Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**1.26**	**16**	*i* P	**Pb**	**13 40 19.5**	**+0.6**
FUG	**Fuego 3**	**1.27**	**5**	*i* P	**Pn**	**13 40 18.8**	**-0.3**
NUBE	**Las Nubes**	**1.36**	**58**	*e*P	**Pn**	**13 40 19.2**	**-1.0**
NUBE				*e*S	**Sn**	**13 40 35.0**	**-3.6**
NUBE				IAML		13 40 47.4	
	comp=Z,270nm,0.4s						
NUBE	**Las Nubes**	**1.36**	**58**	*i* P	**Pn**	**13 40 19.6**	**-0.7**
NUBE				*i* S	**Sn**	**13 40 39.0**	**+0.4**
NUBE				IAML		13 40 44.4	
	comp=Z,670nm,1.0s						
LOAL	**Lomas de Alarc**	**1.41**	**54**	*i* P	**Pn**	**13 40 20.6**	**-0.3**
LOAL				*i* S	**Sn**	**13 40 40.1**	**+0.4**
LOAL				IAML		13 40 45.9	
	comp=Z,3μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.43**	**53**	*e*P	**Pn**	**13 40 20.5**	**-0.6**
SLOZ				*e*S	**Sn**	**13 40 38.1**	**-2.0**
CEVE	**Cerro Verde**	**1.46**	**63**	*e*P	**Pn**	**13 40 20.9**	**-0.8**
CEVE				*e*S	**Sn**	**13 40 39.9**	**-1.2**
CEVE				IAML		13 40 56.1	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**1.46**	**63**	*i* P	**Pn**	**13 40 21.4**	**-0.3**
CEVE				IAML		13 40 55.6	
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	**1.46**	**63**	*e*P	**Pn**	**13 40 21.2**	**-0.5**
GCG4	**OSOP**	**1.47**	**17**	*i* P	**Pn**	**13 40 21.6**	**-0.1**
GCG4				IAML		13 40 52.0	
	comp=Z,2μm,1.0s						
RTR	**El Retiro**	**1.47**	**61**	*e*P	**Pn**	**13 40 21.0**	**-0.8**
GUMI	**Mixco**	**1.49**	**13**	*i* P	**Pn**	**13 40 22.1**	**0.0**
GUMI				*i* S	**Sb**	**13 40 42.9**	**+0.9**
GUMI				IAML		13 41 42.5	
	comp=Z,4μm,1.0s						
SNJE	**San Jose**	**1.49**	**62**	*e*P	**Pn**	**13 40 21.6**	**-0.5**
RTAL	**Retalhuleu**	**1.52**	**332**		**Pn**	**13 40 21.3**	**-1.0**
RTAL	**Retalhuleu**	**1.52**	**332**	*i* P	**Pn**	**13 40 21.1**	**-1.2**
RTAL				IAML		13 40 52.6	
	comp=Z,2μm,1.0s						
NBG	**Las Nubes**	**1.53**	**23**	*i* P	**Pb**	**13 40 23.8**	**+0.2**
JAYA	**Jayaque - finc**	**1.55**	**72**	*e*P	**Pn**	**13 40 22.4**	**-0.5**
JAYA				*e*S	**Sn**	**13 40 40.7**	**-2.6**
JAYA				IAML		13 40 53.9	
	comp=Z,649nm,0.2s						
JAYA	**Jayaque - finc**	**1.55**	**72**	*i* P	**Pn**	**13 40 22.6**	**-0.3**
JAYA				*i* S	**Sn**	**13 40 44.3**	**+1.0**
JAYA				IAML		13 40 45.5	
	comp=Z,2μm,1.0s						
CHTG	**Tecpan**	**1.58**	**359**	*i* P	**Pn**	**13 40 22.6**	**-0.8**
CHTG				*i* S	**Sn**	**13 40 43.9**	**-0.2**
CHTG				IAML		13 40 49.6	
	comp=Z,5μm,1.0s						
UNIC	**Universidad Ca**	**1.59**	**60**	*i* P	**Pn**	**13 40 23.1**	**-0.3**
UNIC				IAML		13 40 23.5	
	comp=Z,480nm,1.0s						
UNIC				*i* S	**Sn**	**13 40 45.4**	**+1.2**
LALI	**Alcalda de L**	**1.63**	**79**	*i* P	**Pn**	**13 40 23.2**	**-0.6**
LALI				IAML		13 41 00.6	
	comp=Z,310nm,1.0s						
STG3	**Santiaguito 3,**	**1.64**	**339**	*i* P	**Pn**	**13 40 23.0**	**-1.0**
CEDA	**San Andres**	**1.65**	**68**	*e*P	**Pn**	**13 40 24.3**	**+0.1**
CEDA	**San Andres**	**1.65**	**68**	*i* P	**Pn**	**13 40 24.3**	**+0.1**
CEDA				IAML		13 40 56.4	
	comp=Z,4μm,1.0s						
SOKI	**Kika Raxquin**	**1.69**	**346**	*i* P	**Pn**	**13 40 23.7**	**-1.3**
SOKI				IAML		13 41 07.5	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	**1.69**	**71**	*i* P	**Pn**	**13 40 24.9**	**+0.1**
PMON				IAML		13 41 05.6	
	comp=Z,2μm,1.0s						
ITCA	**Escuela Especi**	**1.71**	**73**	*i* P	**Pn**	**13 40 25.4**	**+0.3**
ITCA				IAML		13 40 54.5	
	comp=Z,3μm,1.0s						
BOQS	**Boqueron**	**1.73**	**71**	*e*P	**Pn**	**13 40 25.7**	**+0.3**
SNET	**Serv Nac Est T**	**1.76**	**73**	*i* P	**Pn**	**13 40 26.4**	**+0.7**
SNET				IAML		13 41 05.3	
	comp=Z,1μm,1.0s						
UEES	**Universidad Ev**	**1.76**	**72**	*e*P	**Pn**	**13 40 25.6**	**-0.2**
UEES				IAML		13 40 59.7	
	comp=Z,549nm,0.3s						
UEES	**Universidad Ev**	**1.76**	**72**	*i* P	**Pn**	**13 40 26.1**	**+0.4**
UEES				IAML		13 40 57.2	
	comp=Z,490nm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.77**	**68**	*i* P	**Pn**	**13 40 26.2**	**+0.4**
QUEZ				*i* S	**Sn**	**13 40 50.2**	**+1.6**
QUEZ				IAML		13 41 03.0	
	comp=Z,4μm,1.0s						
PANCS	**Alcalda de**	**1.79**	**76**	*i* P	**Pn**	**13 40 26.7**	**+0.6**
PANCS				*i* S	**Sn**	**13 40 50.5**	**+1.4**
PANCS				IAML		13 40 54.1	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**1.81**	**75**	*e*P	**Pn**	**13 40 25.9**	**-0.5**
LOMA	**Loma Larga**	**1.81**	**75**	*i* P	**Pn**	**13 40 26.4**	**0.0**
LOMA				IAML		13 41 00.1	
	comp=Z,1μm,1.0s						
APG	**El Apazote**	**1.88**	**15**	Pn	**Pn**	**13 40 27.9**	**+0.4**
	comp=Z,3.7nm,0.3s,baz=195,slow=14,SNR=157						
APG				Sn	**Sb**	**13 40 54.0**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=232,slow=19,SNR=7.2						
LFU	**La Fuente**	**1.89**	**72**	*e*P	**Pn**	**13 40 27.7**	**+0.2**
LFRS	**El Faro**	**1.91**	**76**	*e*P	**Pn**	**13 40 27.6**	**-0.1**
MTO3	**Montecristo**	**1.98**	**52**	Pn	**Pn**	**13 40 29.1**	**+0.2**
MTO3	**Montecristo**	**1.98**	**52**	*e*P	**Pn**	**13 40 28.8**	**-0.1**
MTO3				*e*S	**Sn**	**13 40 51.6**	**-2.3**
MTO3	**Montecristo**	**1.98**	**52**	*i* P	**Pn**	**13 40 29.0**	**+0.2**
MTO3				IAML		13 40 31.1	
	comp=Z,610nm,1.0s						
COEG	**Centro de Oper**	**2.08**	**77**	*e*P	**Pn**	**13 40 30.5**	**+0.5**
COEG	**Centro de Oper**	**2.08**	**77**	*i* P	**Pn**	**13 40 30.5**	**+0.5**
COEG				IAML		13 41 16.3	
	comp=Z,540nm,1.0s						
QUIS	**Sacapulas**	**2.11**	**357**	*i* P	**Pn**	**13 40 31.6**	**+1.1**
QUIS				IAML		13 40 59.2	
	comp=Z,1μm,1.0s						
TECO	**Alcaldia de Te**	**2.16**	**80**	*i* P	**Pn**	**13 40 31.4**	**+0.3**
TECO				IAML		13 41 12.6	
	comp=Z,220nm,1.0s						
UESV	**Universidad de**	**2.17**	**78**	*i* P	**Pn**	**13 40 31.5**	**+0.2**
UESV				IAML		13 41 16.0	
	comp=Z,600nm,1.0s						
HUEH	**Huehuetenango**	**2.19**	**346**	Pn	**Pn**	**13 40 32.1**	**+0.3**
SCLA	**Alcaldia de Sa**	**2.24**	**76**	*e*P	**Pn**	**13 40 33.1**	**+0.9**
SCLA				*e*S	**Sn**	**13 41 01.3**	**+1.2**
MRL	**Marmol**	**2.27**	**33**	*i* P	**Pn**	**13 40 34.3**	**+1.5**
TECA	**Tecapa**	**2.42**	**82**	*e*P	**Pn**	**13 40 35.3**	**+0.4**
LCY	**Lacayo**	**2.61**	**84**	*e*P	**Pn**	**13 40 37.7**	**+0.3**
VSM	**San Miguel**	**2.63**	**84**	*e*P	**Pn**	**13 40 38.2**	**+0.4**
LCND	**La Caada**	**3.00**	**87**	*e*P	**Pn**	**13 40 42.9**	**+0.3**
CCIG	**Comitan**	**3.29**	**340**	Pn	**Pn**	**13 40 47.5**	**+0.7**
LIMN	**Finca el Limon**	**4.48**	**91**	*i* P	**Pn**	**13 41 02.9**	**-0.3**
LIMN				IAML		13 41 03.7	
	comp=Z,91nm,1.0s						
BOAB	**BOACO BROADBAN**	**5.22**	**97**	*i* P	**Pn**	**13 41 12.6**	**-0.6**
BOAB				IAmb	IAmb	13 41 26.1	
	comp=Z,11nm,0.6s						
BOAB				IAML		13 43 20.0	
	comp=Z,38nm,1.0s						
CMIG	**Matias Romero**	**5.43**	**316**	Pn	**Pn**	**13 41 16.3**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=135,slow=10,SNR=11						
CMIG				Sn	**Sn**	**13 42 21.7**	**+2.9**
	comp=Z,2.7nm,0.3s,baz=70,slow=22,SNR=3.9						
	comp=Z,5.9nm,0.5s						
JTS	**Las Juntas de**	**6.55**	**115**	Pn	**Pn**	**13 41 30.9**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=306,slow=19,SNR=2.4						
JTS				Lg	Lg	13 43 20.5	
	comp=Z,0.4nm,0.3s,baz=294,slow=20,SNR=3.9						
	comp=Z,2.3nm,0.3s						
TEIG	**Tepich**	**7.47**	**20**	Pn	**Pn**	**13 41 45.1**	**+1.0**
TEIG	**Tepich**	**7.47**	**20**	Pn	**Pn**	**13 41 45.6**	**+1.4**
	comp=Z,7.5nm,0.3s,baz=198,slow=13,SNR=81						
TEIG				Sn	**Sn**	**13 43 10.8**	**+1.7**
	baz=172,slow=22						
TEIG				Lg	Lg	13 43 50.6	
	comp=Z,0.5nm,0.3s,baz=320,slow=21,SNR=2.1						
TEIG				LR	LR	13 45 09.0	
	comp=Z,612nm,18.4s,baz=214,slow=42						
	comp=Z,65nm,0.6s						
SAND	**Sanderson**	**19.64**	**330**	P	**Pn**	**13 44 24.2**	**-1.2**
TXAR	**Lajitas Array**	**19.94**	**326**	P	**P**	**13 44 27.3**	**-0.1**
TXAR	**Lajitas Array**	**19.94**	**326**	P	**Pn**	**13 44 28.7**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=150,slow=12,SNR=16						
	comp=Z,2.2nm,0.7s						
TX31	**Lajitas Ar. Si**	**19.94**	**326**	P	**P**	**13 44 27.2**	**-0.2**
FW13	**Cleburne**	**19.99**	**344**	P	Pn	13 44 28.2	-1.3
OZNA	**Ozona**	**20.00**	**334**	P	**P**	**13 44 27.9**	**0.0**
SDV	**Santo Domingo**	**20.40**	**100**	P	**P**	**13 44 30.4**	**-2.3**
	comp=Z,3.3nm,0.6s,baz=282,slow=18,SNR=5.2						
	comp=Z,3.3nm,0.6s						
ALPN	**Alpine**	**20.74**	**328**	P	Pn	13 44 36.8	-1.7
MNHN	**Monahans**	**21.09**	**331**	P	**P**	**13 44 39.9**	**0.0**
MNHN				IAmb	IAmb	13 44 44.2	
	comp=Z,12nm,1.0s						
PECS	**Pecos**	**21.66**	**329**	P	**P**	**13 44 43.3**	**-2.6**
APMT	**Aspermont**	**21.73**	**339**	P	**P**	**13 44 45.0**	**-1.7**
VHRN	**Van Horn**	**21.78**	**326**	P	**P**	**13 44 45.8**	**-1.5**
VHRN				IAmb	IAmb	13 44 51.0	
	comp=Z,6.0nm,0.9s						
WHAR	**Wooly Hollow**	**22.05**	**357**	P	**P**	**13 44 47.8**	**-2.2**
BAUV	**El Baul**	**22.88**	**98**	P	**P**	**13 45 03.4**	**+4.3**
BAUV				IAmb	IAmb	13 45 24.8	
	comp=Z,12nm,1.1s						
CPCT	**Cooper Cave**	**22.93**	**14**	P	**P**	**13 44 58.8**	**-0.6**
CPCT				IAmb	IAmb	13 45 35.2	
	comp=Z,6.5nm,1.1s						
TKL	**Tuckaleechee C**	**23.31**	**15**	P	**P**	**13 45 02.9**	**-0.3**
TKL				IAmb	IAmb	13 45 43.4	
	comp=Z,17nm,1.4s						
TKL	**Tuckaleechee C**	**23.31**	**15**	LR	LR	13 55 09.0	
	comp=Z,123nm,18.6s,baz=198,slow=39						
T47A	**Sharon Grove**	**23.96**	**8**	P	**P**	**13 45 07.8**	**-1.9**
T47A				IAmb	IAmb	13 45 09.8	
	comp=Z,6.5nm,0.8s						
TZTN	**Tazewell**	**24.20**	**15**	P	**P**	**13 45 10.4**	**-1.5**
S39A	**Bolivar**	**24.51**	**355**	P	**P**	**13 45 12.7**	**-2.0**
S39A				IAmb	IAmb	13 45 14.0	
	comp=Z,5.6nm,0.9s						
121A	**Cookes Peak, D**	**24.66**	**324**	P	**P**	**13 45 17.1**	**+0.8**
121A				IAmb	IAmb	13 45 25.2	
	comp=Z,7.6nm,1.1s						
ANMO	**Albuquerque**	**25.81**	**330**	P	**P**	**13 45 27.0**	**+0.2**
P48A	**Milroy**	**26.64**	**10**	P	**P**	**13 45 34.2**	**+0.3**
NNA	**Nana**	**28.66**	**150**	LR	LR	13 55 12.4	
	comp=Z,59nm,20.5s,baz=39,slow=32						
SADO	**Sadowa**	**33.07**	**16**	LR	LR	14 00 51.6	
	comp=Z,144nm,18.5s,baz=167,slow=38						
ETMB	**Extrema**	**33.55**	**132**	P	P	13 46 42.2	+6.7
ETMB				IAmb	IAmb	13 46 44.8	
	comp=Z,3.0nm,0.9s						
REDW	**Red Top Meadow**	**34.62**	**334**	P	**P**	**13 46 44.1**	**-0.6**
TPAW	**Teton Pass**	**34.76**	**334**	P	**P**	**13 46 46.0**	**0.0**
TPAW				IAmb	IAmb	13 46 54.4	
	comp=Z,5.6nm,1.4s						
NVAR	**Mina Array Bea**	**34.94**	**321**	P	**P**	**13 46 48.7**	**+1.1**
NVAR	**Mina Array Bea**	**34.94**	**321**	P	**P**	**13 46 49.0**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=132,slow=8.7,SNR=10						
	comp=Z,1.5nm,0.6s						
LHV	**Little Huntoon**	**34.95**	**321**	P	**P**	**13 46 48.4**	**+1.1**
LHV				IAmb	IAmb	13 46 55.6	
	comp=Z,4.5nm,1.2s						
F63A	**Nahmakanta, Br**	**37.34**	**25**	P	**P**	**13 47 08.3**	**+0.6**
LYMT	**Lyon Mountain**	**38.15**	**336**	P	**P**	**13 47 14.2**	**-0.7**
BPMT	**Black Pine Rid**	**38.19**	**335**	P	**P**	**13 47 14.6**	**-0.6**
J08A	**Circle Bar Ran**	**38.28**	**327**	P	**P**	**13 47 16.4**	**+0.6**
F10A	**Beach Ranch, E**	**39.51**	**331**	P	**P**	**13 47 25.7**	**-0.5**
F10A				IAmb	IAmb	13 47 26.4	
	comp=Z,3.9nm,0.9s						
HOOD	**Mount Hood Mea**	**41.28**	**327**	P	**P**	**13 47 41.3**	**+0.4**
SCHQ	**Schefferville**	**45.65**	**19**	LR	LR	14 08 30.3	
	comp=Z,83nm,18.7s,baz=263,slow=38						
SFJD	**Kangerlussuaq**	**60.00**	**17**	LR	LR	14 17 00.0	
	comp=Z,64nm,18.4s,baz=208,slow=37						
GHO	**Glory Hole Cre**	**63.58**	**333**	P	**P**	**13 50 25.5**	**-0.4**
PMR	**Palmer**	**63.60**	**333**	P	**P**	**13 50 25.9**	**-0.1**
PMR				IAmb	IAmb	13 50 49.4	
	comp=Z,2.8nm,1.1s						
ILAR	**Eielson Array**	**63.99**	**337**	P	**P**	**13 50 27.1**	**-1.4**
	comp=Z,0.8nm,1.0s,baz=142,slow=4.5,SNR=7.7						
	comp=Z,0.8nm,1.0s						
BMAR	**Burnt Mountain**	**64.41**	**340**	P	**P**	**13 50 30.5**	**-0.8**
MLY	**Manley**	**65.59**	**336**	P	**P**	**13 50 37.8**	**-1.2**
MLY				IAmb	IAmb	13 50 38.5	
	comp=Z,1.4nm,0.7s						
F21K	**Alatna River**	**67.44**	**338**	P	**P**	**13 50 50.5**	**-0.2**
F21K				IAmb	IAmb	13 50 50.8	
	comp=Z,2.0nm,0.8s						
**

60nm,0.7s,0.3nm
MMRI Maumere 7.07 261 P Pn 13 44 03.0 -0.9
60nm,0.7s,0.3nm
EDFI Ende, Flores 7.62 261 P Pn 13 44 13.1 +1.6
EDFI Ende, Flores 7.62 261 P Pn 13 44 12.6 +1.1
BASI Baing, Sumba 9.01 252 P Pn 13 44 29.9 -0.4
85nm,0.6s
BASI Baing, Sumba 9.01 252 P Pn 13 44 29.7 -0.6
86nm,0.6s
LUWI Luwuk 9.19 315 P Pn 13 44 34.3 +1.5
40nm,1.2s,860nm
BKSI Bulukumba 9.39 283 P Pn 13 44 37.7 +2.2
19nm,0.8s
BKSI Bulukumba 9.39 283 P Pn 13 44 36.4 +0.9
19nm,0.8s
FITZ Fitzroy Crossi 11.05 198 Pn Pn **13 44 55.9 -2.2**
PLAI Plampang 11.47 263 P Pn **13 45 05.2 +1.4**
29nm,0.7s
PLAI Plampang 11.47 263 P Pn 13 45 03.4 -0.4
23nm,0.6s
PLAI Plampang 11.47 263 P Pn 13 45 03.2 -0.6
23nm,0.6s
TABU Tabubil 12.07 80 P Pn 13 45 13.1 +1.3
3μm,0.6s
TWSI Taliwang, Sumb 12.35 264 P Pn 13 45 15.3 -0.1
WB0 Warramunga Arr 13.09 158 Pn Pn **13 45 23.0 -2.2**
WRAB Tennant Creek 13.22 159 P Pn 13 45 24.6 -2.4
WRA Warramunga Arr 13.23 159 Pn Pn **13 45 24.9 -2.1**
4.1nm,0.3s,baz=343,slow=13,SNR=194
WRA Sn **Sn 13 47 45.6 -7.0**
7.6nm,0.3s,baz=337,slow=22,SNR=18
12nm,0.5s
WB2 Warramunga Arr 13.23 159 Pn Pn **13 45 24.8 -2.3**
WR0 Warramunga Arr 13.32 158 P Pn 13 45 25.6 -2.6
COEN Coen 15.03 116 P Pn **13 45 51.4 +1.1**
25nm,0.9s
COEN Coen 15.03 116 Pn Pn **13 45 50.2 0.0**
COEN IAmb IAmb 13 45 57.4
comp=Z,22nm,1.1s
MBWA Marble Bar 16.37 213 P P 13 46 07.8 -0.2
comp=Z,9.9nm,1.0s
AS31 Alice Springs 16.60 165 Pn 13 46 08.6 -1.2
ASAR Alice Springs 16.60 165 P Pn 13 46 08.9 -0.9
ASAR Alice Springs 16.60 165 Pn Pn **13 46 10.1 +0.3**
comp=Z,1.3nm,0.3s,baz=346,slow=10,SNR=68
ASAR Sn **Sn 13 49 07.9 -6.2**
comp=Z,1.9nm,0.3s,baz=351,slow=28,SNR=7.0
comp=Z,4.2nm,0.6s
PSA00 Pilbara Seismi 16.64 212 P P 13 46 11.5 +0.5
comp=Z,26nm,0.9s
PSA00 Pilbara Seismi 16.64 212 Pn 13 46 07.5 -2.8
PSA00 IAmb IAmb 13 46 14.0
comp=Z,18nm,0.6s
MTSU Mount Surprise 18.00 127 P Pn 13 46 30.8 +3.9
comp=Z,6.3nm,0.9s
KKM Kota Kinabalu 18.80 316 Pn **P 13 46 35.9 +1.0**
KKM IAmb IAmb 13 46 44.2
comp=Z,36nm,1.4s
SBUM Sibu 19.74 300 P P 13 46 43.0 -2.0
CTA Charters Tower 20.61 129 LR LR 13 56 00.5
comp=Z,7.9nm,18.5s,baz=272,slow=40
OOD Oodnadatta 21.00 164 P P 13 47 02.2 +3.7
comp=Z,30nm,0.8s
MEEK Meekatharra 21.51 207 P P 13 47 08.9 +4.9
comp=Z,32nm,1.8s
INKA Innaminka 22.80 153 P P 13 47 23.1 +5.7
MULG Mulgathing 23.03 169 P P 13 47 23.2 +3.6
comp=Z,22nm,1.0s
FORT Forrest 23.11 183 P P 13 47 24.3 +3.8
comp=Z,36nm,1.1s
LCRK Leigh Creek 24.24 161 P P 13 47 34.4 +3.7
comp=Z,31nm,0.9s
BBOO Buckleboo 25.88 167 P P 13 47 50.2 +4.6
CMSA Cobar Meteorol 28.33 149 P P 13 48 11.3 +3.8
CMAR Chiang Mai Arr 39.58 311 P P 13 49 44.3 -0.5
comp=Z,0.6nm,0.5s,baz=134,slow=7.7,SNR=4.4
CMAR LR LR 14 06 54.9
comp=Z,26nm,18.2s,baz=240,slow=38
comp=Z,0.6nm,0.5s
JNU Nakatsue 40.50 2 LR LR 14 09 25.1
comp=Z,20nm,18.1s,baz=332,slow=40
PZH PanZhiHua 43.16 323 P P 13 50 15.5 +1.4
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,160nm,5.7s
MJAR Matsushiro Arr 44.67 10 P P 13 50 23.8 -2.2
comp=Z,0.8nm,0.6s,baz=187,slow=9.9,SNR=4.9
comp=Z,0.8nm,0.6s
KSRS Korea Array 44.81 358 P P 13 50 26.8 -0.2
comp=Z,0.6nm,0.7s,baz=176,slow=8.0,SNR=5.7
comp=Z,0.6nm,0.7s
HHC Hu-ho-hao-te 50.88 343 *e*P P 13 51 19.9 +6.0
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,120nm,4.5s
SONM Songjino Array 58.77 342 P P 13 52 12.0 +1.2
comp=Z,1.1nm,0.7s,baz=161,slow=7.3,SNR=5.6
comp=Z,1.1nm,0.7s
NIUE Niue 59.98 108 P P 13 52 18.2 -1.3
WMQ Urumqi 63.50 328 *e*P **P 13 52 42.0 -0.7**
WMQ PP **PP 13 55 00.3 -3.4**
WMQ pmax pmax
comp=Z,28nm,0.7s
MK31 Makanchi Array 68.33 327 P P 13 53 12.4 -1.1
MK31 IAmb IAmb 13 53 15.0
comp=Z,2.1nm,0.8s
MKAR Makanchi Array 68.33 327 P P 13 53 12.7 -0.9
MKAR Makanchi Array 68.33 327 P P 13 53 13.8 +0.2
comp=Z,1.9nm,0.7s,baz=129,slow=8.3,SNR=23
comp=Z,1.9nm,0.7s
ZAA0 Zalesovo Array 71.79 334 P P 13 53 33.0 -1.5
ZAA0 IAmb IAmb 13 53 34.3
comp=Z,1.9nm,0.7s
ZALV Zalesovo Beam 71.79 334 P P 13 53 33.2 -1.3
comp=Z,0.9nm,0.5s,baz=131,slow=6.4,SNR=6.7
comp=Z,0.9nm,0.5s
KURBB Kurchatov Arra 72.64 329 P P 13 53 39.5 -0.1
comp=Z,1.1nm,0.5s,baz=127,slow=5.3,SNR=14
comp=Z,1.1nm,0.5s
KURK Kurchatov 72.65 329 P P 13 53 39.1 -0.6
KURK IAmb IAmb 13 53 41.9
comp=Z,6.2nm,1.2s
BVAR Borovoye Array 78.18 328 P P 13 54 10.6 -0.7
comp=Z,0.9nm,0.7s,baz=132,slow=4.3,SNR=6.2
comp=Z,0.9nm,0.7s
TIXI Tiksi 79.06 360 P P 13 54 15.4 -0.4
TIXI IAmb IAmb 13 54 16.0
comp=Z,2.9nm,0.6s
ABKAR Akbulak array 82.53 322 P P 13 54 34.0 -0.7
TORD Torodi Ar. Bea 128.24 281 PKP **PKiKP 14 01 19.7 +0.3**
comp=Z,0.5nm,0.6s,baz=20,slow=2.7,SNR=3.6

IDC 22 13:45:21.8±9.9, 16°.99S×170°.87W, h0km, mb3.7/3, mbtmp3.7/3, MS3.2/1, Error ellipse: s-maj=433.2km s-min=41.3km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**11.30**	**114**	LR	LR	13 51 24.8	
	comp=Z,104nm,18.6s,baz=65,slow=32						
WRA	**Warramunga Arr**	**51.87**	**258**	P	P	13 54 31.9	-0.6
	0.6nm,0.8s,baz=96,slow=8.1,SNR=2.3						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**51.95**	**253**	P	P	13 54 33.4	+0.3
	1.6nm,0.6s,baz=89,slow=7.9,SNR=5.8						
	1.6nm,0.6s						
ILAR	**Eielson Array**	**83.55**	**10**	P	P	13 57 51.3	0.0
	0.3nm,0.8s,baz=203,slow=6.7,SNR=4.2						
	0.3nm,0.8s						

TEH ***22*** *14:01:49.6, 34°.62N×46°.30E, h8km±12km, ML3.1*
ISN ***22*** *14:01:49.7±1.2, 34°.64N×46°.22E, h14km±170km, ML3.1*
ISC 22 14:01:49.7±1.0, 34°.64N±0°.03×46°.27E±0°.03, h7km±9km, n16, σ0s84/23, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.12**	**56**	Pg	**Pg**	**14 01 52.4**	**+0.1**
IDHR				Sg	**Sg**	**14 01 54.9**	**+0.7**
IGHG	**Ghaleghazi**	**0.39**	**141**	Pg	**Pg**	**14 01 57.5**	**+0.1**
KGS1	**Ghasr-e-Shirin**	**0.58**	**257**	Pg	**Pb**	**14 02 01.2**	**-0.9**
GLG1	**Gilan-e-Gharb**	**0.60**	**210**	Pg	**Pg**	**14 02 01.5**	**+0.3**
GLG1				Sg	**Sb**	**14 02 10.5**	**-0.7**
ILIN	**Lien**	**0.64**	**63**	Pg	**Pg**	**14 02 01.4**	**-0.5**
KCHF	**Cheshme Sefid,**	**0.73**	**119**	Pg	**Pg**	**14 02 03.1**	**-0.7**
KCHF				Sg	**Sb**	**14 02 14.4**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.01**	**183**	Pg	**Pg**	**14 02 08.9**	**-0.1**
ILBA				Sg	**Sb**	**14 02 23.0**	**0.0**
SNQR	**Sonqor, Kerman**	**1.14**	**78**	Pg	**Pb**	**14 02 11.5**	**-0.4**
IBZA	**Bozab**	**1.32**	**97**	Pg	**Pn**	**14 02 14.1**	**-0.7**
IBDR	**Badra**	**1.55**	**191**	*e*Pn	**Pg**	**14 02 19.0**	**-0.3**
IBDR				*e*Sn	**Sg**	**14 02 39.0**	**-0.4**
IBDR				AML	AML	14 02 51.6	
	comp=N,282nm,0.5s						
IKFM	**Kafar-mosalman**	**1.71**	**130**	Pg	**Pb**	**14 02 21.8**	**+0.3**
IKRK	**Kirkuk**	**1.76**	**296**	*e*Pg	**Pb**	**14 02 21.0**	**-1.2**
IKRK				*e*Sg	**Sb**	**14 02 44.0**	**-0.5**
IKRK				AML	AML	14 02 54.5	
	comp=Z,320nm,0.3s						
HSAM	**Samen**	**1.97**	**102**	Pn	**Pb**	**14 02 25.5**	**-0.6**
MAHB	**Mahabad**	**2.18**	**348**	Pn	**Pb**	**14 02 28.7**	**-0.7**
RAFI	**Al-Rafai**	**2.91**	**183**	*e*Pn	**Pn**	**14 02 37.0**	**+0.7**
RAFI				*e*Sn	**Sn**	**14 03 13.0**	**+1.5**
IAZR	**Azarshahr**	**3.05**	**356**	Pn	**Pn**	**14 02 40.5**	**+2.0**

ISN ***22*** *14:06:55.7±2.5, 34°.64N×46°.24E, h25km, ML2.8*
TEH ***22*** *14:06:55.5, 34°.62N×46°.32E, h7km, ML2.7*
ISC 22 14:06:55.3±1.2, 34°.64N±0°.05×46°.29E±0°.04, h11km±10km, n12, σ0s56/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.10**	**54**	Pg	**Pg**	**14 06 58.1**	**-0.1**
IGHG	**Ghaleghazi**	**0.39**	**144**	Pg	**Pg**	**14 07 03.3**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.59**	**257**	Pg	**Pb**	**14 07 08.0**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.61**	**211**	Pg	**Pg**	**14 07 07.1**	**-0.1**
ILIN	**Lien**	**0.62**	**63**	Pg	**Pg**	**14 07 07.1**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.72**	**120**	Pg	**Pg**	**14 07 08.8**	**-0.4**
ILBA	**Ilam Banvizeh**	**1.02**	**184**	Pg	**Pg**	**14 07 14.6**	**-0.3**
SNQR	**Sonqor, Kerman**	**1.12**	**79**	Pg	**Pn**	**14 07 17.6**	**+0.4**
IBZA	**Bozab**	**1.31**	**97**	Pg	**Pn**	**14 07 19.5**	**-0.2**
IKFM	**Kafar-mosalman**	**1.71**	**130**	Pg	**Pg**	**14 07 27.7**	**-0.3**
IKRK	**Kirkuk**	**1.77**	**296**	*e*Pg	**Pn**	**14 07 25.0**	**-0.9**
	baz=116						
IKRK				*e*Sg	**Sb**	**14 07 51.0**	**+1.0**
IKRK				AML	AML	14 07 55.5	
	comp=E,123nm,0.6s						
IKRK				AML	AML	14 08 00.3	
	comp=N,128nm,0.6s						
HSAM	**Samen**	**1.96**	**102**	Pn	**Pg**	**14 07 32.3**	**-0.5**

TEH ***22*** *14:24:09.6, 34°.60N×46°.24E, h7km±15km, ML3.4*
ISN ***22*** *14:24:11.1±1.1, 34°.61N×46°.25E, h14km±7km, ML3.5*
ISC 22 14:24:10.5±1.2, 34°.58N±0°.03×46°.20E±0°.03, h7km±11km, n21, σ1s19/27, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.19**	**52**	Pg	**Pg**	**14 24 14.3**	**-0.2**
IGHG	**Ghaleghazi**	**0.39**	**130**	Pg	**Pg**	**14 24 18.5**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.51**	**262**	Pg	**Pb**	**14 24 21.6**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.53**	**208**	Pg	**Pb**	**14 24 21.4**	**-0.7**
GLG1				Sg	**Sb**	**14 24 30.1**	**+0.1**
ILIN	**Lien**	**0.71**	**62**	Pg	**Pg**	**14 24 23.4**	**-0.8**
KCHF	**Cheshme Sefid,**	**0.76**	**114**	Pg	**Pg**	**14 24 24.5**	**-0.6**
KCHF				Sg	**Sb**	**14 24 36.4**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.95**	**180**	Pg	**Pb**	**14 24 29.3**	**-0.1**
ILBA				Sg	**Sn**	**14 24 43.3**	**-1.0**
SNQR	**Sonqor, Kerman**	**1.21**	**76**	Pg	**Pn**	**14 24 33.7**	**-0.3**
IBZA	**Bozab**	**1.37**	**94**	Pg	**Pg**	**14 24 36.4**	**-0.5**
IBDR	**Badra**	**1.49**	**189**	*e*Pg	**Pg**	**14 24 39.0**	**0.0**
IBDR				*e*Sg	**Sg**	**14 24 59.0**	**+0.7**
IBDR				AML	AML	14 25 05.9	
	comp=E,826nm,0.9s						
IBDR				AML	AML	14 25 11.0	
	comp=N,772nm,0.6s						
SDS1	**Sardasht. Az.**	**1.67**	**340**	Pg	**Pb**	**14 24 41.3**	**-0.4**
IKFM	**Kafar-mosalman**	**1.73**	**127**	Pg	**Pg**	**14 24 43.2**	**-0.4**
IKRK	**Kirkuk**	**1.73**	**299**	*e*Pn	**Pg**	**14 24 43.0**	**-0.7**
IKRK				Sn	**Sg**	**14 25 06.0**	**-0.2**
IKRK				AML	AML	14 25 14.3	
	comp=N,590nm,0.3s						
HSAM	**Samen**	**2.02**	**100**	Pn	**Pb**	**14 24 47.4**	**-0.2**
MAHB	**Mahabad**	**2.22**	**350**	Pn	**Pb**	**14 24 50.5**	**-0.5**
RAFI	**Al-Rafai**	**2.85**	**182**	*e*Pn	**Pn**	**14 24 58.0**	**+1.6**
RAFI				Sn	**Sb**	**14 25 34.0**	**-2.8**
IAZR	**Azarshahr**	**3.10**	**357**	Pn	**Pn**	**14 25 02.3**	**+2.3**
ISRB	**Sarab**	**3.45**	**20**	Pn	**Pn**	**14 25 06.5**	**+1.7**
ISHB	**Shabestar**	**3.72**	**353**	Pn	**Pn**	**14 25 10.1**	**+1.4**
JHBN	**Jahan bin**	**4.41**	**121**	Pn	**Pn**	**14 25 20.2**	**+2.1**
ISFB	**Sefidab**	**4.99**	**91**	Pn	**Pn**	**14 25 27.5**	**+1.6**

RSNC 22 14:28:48.2±0.0, 5°N±1°×77°4W±°, h145km±2km, M2.9, mb4.2, ML2.9, MLv3.5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.57**	**316**	P	Pn	14 29 08.4	-1.1
SPBC				S	Sn	14 29 24.7	-1.0
CHIC	**Chingaza**	**0.61**	**186**	P	Pn	14 29 09.5	-0.6
CHIC				S	Sn	14 29 26.5	-0.3
ROSC	**El Rosal**	**0.76**	**238**	P	Pn	14 29 11.2	+0.1
ROSC				S	Sn	14 29 28.9	+0.5
CVER	**Cruz Verde, Cu**	**0.82**	**209**	P	Pn	14 29 11.5	-0.1
CVER				S	Sn	14 29 28.8	-0.6
VILC	**Villavicencio,**	**1.12**	**181**	P	Pn	14 29 12.8	-1.0
VILC				S	Sn	14 29 32.7	-0.6
NORC	**Norcasia**	**1.24**	**285**	P	Pn	14 29 13.1	-1.6
NORC				S	Sn	14 29 33.1	-1.9
PTBC	**PUERTO BERRIO,**	**1.51**	**329**	P	Pn	14 29 15.2	-2.3
PTBC				S	Sn	14 29 37.5	-2.5
GUY2C	**Guyana, Caldas**	**1.69**	**270**	P	Pn	14 29 18.4	-1.5
GUY2C				S	Sn	14 29 43.5	-0.6
RECRC	**Villamaria, Ca**	**1.70**	**261**	P	Pn	14 29 23.5	+3.4
RECRC				S	Sn	14 29 43.2	-1.3
PTGC	**Puerto Gaitan,**	**1.85**	**124**	P	Pn	14 29 20.7	-0.6
PTGC				S	Sn	14 29 44.8	-1.8
ANIL	**Santa Ana**	**1.88**	**247**	P	Pn	14 29 20.4	-1.5
ANIL				S	Sn	14 29 46.3	-1.4
PRAC	**Prado**	**1.94**	**219**	P	Pn	14 29 21.2	-1.2
PRAC				S	Sn	14 29 47.1	-1.6
ORTC	**Ortega, Tolima**	**2.05**	**230**	P	Pn	14 29 22.1	-1.6
ORTC				S	Sn	14 29 48.7	-2.3
TAMC	**Tame, Arauca**	**2.21**	**57**	P	Pn	14 29 25.3	-0.3
TAMC				S	Sn	14 29 52.2	-2.2
PAMC	**Pamplona, Colo**	**2.30**	**25**	P	Pn	14 29 26.6	-0.5
PAMC				S	Sn	14 29 56.7	-0.3
ZARC	**Zaragoza, Cauc**	**2.53**	**332**	P	Pn	14 29 26.0	-3.5
ZARC				S	Sn	14 29 57.7	-3.6
PLMC	**San Jos del P**	**2.62**	**263**	P	Pn	14 29 29.9	-0.8
PLMC				S	Sn	14 30 03.5	+0.1
YOTC	**Yotoco, Valle**	**2.94**	**245**	P	Pn	14 29 33.0	-1.8
OCAC	**Ocana**	**3.00**	**7**	P	Pn	14 29 33.9	-1.6
OCAC				S	Sn	14 30 10.5	-1.6
DBBC	**Dabeiba**	**3.08**	**305**	P	Pn	14 29 34.6	-1.9
DBBC				S	Sn	14 30 11.1	-2.7
BETC	**Betania**	**3.10**	**215**	P	Pn	14 29 34.1	-2.6
UREC	**San Jos de Ur**	**3.11**	**324**	P	Pn	14 29 32.7	-4.1
UREC				S	Sn	14 30 09.2	-5.2
GARC	**Garzon, Huila**	**3.54**	**211**	P	Pn	14 29 40.6	-2.0
GARC				S	Sn	14 30 21.4	-3.2
JAMC	**Jamundi, Valle**	**3.61**	**236**	P	Pn	14 29 41.4	-2.0
JAMC				S	Sn	14 30 20.7	-5.5
PIZC	**Pizarro, Choco**	**3.69**	**266**	P	Pn	14 29 44.8	+0.6
APAC	**Apartado, Choc**	**3.92**	**313**	P	Pn	14 29 44.9	-2.4
APAC				S	Sn	14 30 28.8	-4.3
POPC	**Popayan, Colom**	**4.02**	**228**	P	Pn	14 29 48.3	-0.6
POPC				S	Sn	14 30 36.5	+0.5
LCBC	**Los crdobas,**	**4.48**	**323**	P	Pn	14 29 51.0	-3.7
LCBC				S	Sn	14 30 40.4	-6.0
ARGC	**Ariguani, Magd**	**4.62**	**353**	P	Pn	14 29 53.3	-3.3
ARGC				S	Sn	14 30 47.7	-2.2
SDV	**Santo Domingo**	**4.71**	**40**	P	Pn	14 29 56.8	-1.1
SDV				S	Sn	14 30 50.2	-2.0
SJCC	**San Jacinto, C**	**4.86**	**342**	P	Pn	14 29 54.9	-4.9
SJCC				S	Sn	14 30 48.3	-7.3
CRJC	**Cerrejon, Guaj**	**5.80**	**8**	P	Pn	14 30 09.0	-3.3
	15nm,0.6s						
CRJC				S	Sn	14 31 11.9	-6.0
	15nm,0.6s						
SMRC	**Santa Marta, M**	**5.91**	**355**	P	Pn	14 30 11.0	-2.7
SMRC				S	Sn	14 31 13.8	-6.8

ISK ***22*** *14:42:55.1, 36°.95N×27°.61E, h7km, ML3.3/22*
ATH ***22*** *14:42:55.9, 36°.92N×27°.60E, h11km±1km, ML3.3/6, Error ellipse: s-maj=2.1km s-min=0.9km az=223.0*
AFAD ***22*** *14:42:55.0±0.0, 36°.93N×27°.61E, h11km±1km, MW3.6*
THE ***22*** *14:42:56.1, 36°.92N×27°.58E, h7km±1km, ML3.4/5, Error ellipse: s-maj=1.4km s-min=0.5km az=236.0*
ISC 22 14:42:55.7±0.8, 36°.94N±0°.02×27°.61E±0°.02, h14km±5km, n89, σ0s70/119, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.18**	**313**	P	**Pg**	**14 42 59.8**	**-0.1**
BDRM				S	**Sg**	**14 43 02.5**	**-0.3**
DATC	**Datca-Mugla**	**0.19**	**167**	Pg	**Pg**	**14 42 59.5**	**-0.5**
DATC				Sg	**Sg**	**14 43 02.9**	**-0.1**
DAT	**Datca**	**0.22**	**187**	Pg	**Pg**	**14 43 00.0**	**-0.5**
DAT				Sg	**Sg**	**14 43 03.7**	**-0.1**
DAT	**Datca**	**0.22**	**187**	P	**Pg**	**14 43 00.1**	**-0.5**
DAT				S	**Sg**	**14 43 03.0**	**-0.9**
DAT	**Datca**	**0.22**	**187**	P	**Pg**	**14 43 00.1**	**-0.5**
DAT				S	**Sg**	**14 43 03.9**	**+0.1**
BODT	**Bodrum**	**0.27**	**296**	Pg	**Pg**	**14 43 00.8**	**-0.6**
BODT				Sg	**Sg**	**14 43 05.2**	**0.0**
BODT	**Bodrum**	**0.27**	**296**	P	**Pg**	**14 43 01.3**	**-0.1**
BODT				S	**Sg**	**14 43 05.7**	**+0.5**
YAZI	**Mula-Dat§a-**	**0.29**	**206**	P	**Pg**	**14 43 01.3**	**-0.5**
YKAV	**Yalikavak-Bodr**	**0.32**	**305**	Pg	**Pg**	**14 43 01.8**	**-0.5**
YKAV				Sg	**Sg**	**14 43 06.9**	**+0.2**
MLSB	**Milas**	**0.38**	**21**	Pg	**Pg**	**14 43 02.8**	**-0.5**
MLSB				Sg	**Sg**	**14 43 08.5**	**0.0**
NISR	**Nisiros**	**0.51**	**229**	P	**Pg**	**14 43 05.6**	**-0.1**
NISR				S	**Sb**	**14 43 13.3**	**-0.4**
	7μm,0.2s						
NISR	**Nisiros**	**0.51**	**229**	P	**Pg**	**14 43 05.0**	**-0.7**
NISR				S	**Sg**	**14 43 12.3**	**-0.2**
KLNA	**Kalymnos**	**0.51**	**272**	P	**Pg**	**14 43 05.7**	**-0.1**
KLNA				S	**Sg**	**14 43 12.5**	**-0.1**
KLNA				AML	AML	14 43 17.3	
	comp=N,13509μm,0.2s						
KLNA				AML	AML	14 43 17.5	
	comp=E,16814μm,0.2s						
DIDI	**Didim-Aydin**	**0.52**	**326**	Pg	**Pg**	**14 43 05.6**	**-0.4**
TURN	**Turunc**	**0.54**	**108**	Pg	**Pg**	**14 43 05.8**	**-0.4**
TURN				Sg	**Sg**	**14 43 13.8**	**+0.4**
TURN	**Turunc**	**0.54**	**108**	P	**Pg**	**14 43 05.6**	**-0.7**
TURN				S	**Sg**	**14 43 13.0**	**-0.4**
DDIM	**Aydin, Didim**	**0.59**	**330**	P	**Pg**	**14 43 06.7**	**-0.6**
MULA	**Mugla, Merkez-**	**0.65**	**61**	P	**Pg**	**14 43 08.1**	**-0.3**
GCAM	**G?zelcaml?**	**0.81**	**338**	Pg	**Pg**	**14 43 11.2**	**-0.2**
GCAM	**G?zelcaml?**	**0.81**	**338**	P	**Pg**	**14 43 10.6**	**-0.8**
ARG	**Arkhangelos**	**0.84**	**150**	Pg	**Pg**	**14 43 11.5**	**-0.5**
ARG	**Arkhangelos**	**0.84**	**150**	P	**Pg**	**14 43 11.4**	**-0.5**
ARG				S	**Sb**	**14 43 24.3**	**+1.2**
	comp=E,4μm,0.4s						
ARG	**Arkhangelos**	**0.84**	**150**	P	**Pg**	**14 43 11.2**	**-0.7**
ARG				S	**Sb**	**14 43 23.5**	**+0.4**
ARG				AML	AML	14 43 26.1	
	comp=N,6293μm,0.4s						
ARG				AML	AML	14 43 28.8	
	comp=E,8276μm,0.3s						
SMG	**Samos**	**0.98**	**321**	P	**Pg**	**14 43 13.9**	**-0.7**
SMG				S	**Sb**	**14 43 28.6**	**+1.3**
	comp=E,3μm,0.4s						
SMG	**Samos**	**0.98**	**321**	P	**Pg**	**14 43 14.0**	**-0.7**
SMG				S	**Sb**	**14 43 29.0**	**+1.7**
SMG				AML	AML	14 43 30.1	
	comp=E,6614μm,0.3s						
SMG				AML	AML	14 43 34.0	
	comp=N,4819μm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**1.03**	**13**	Pg	**Pg**	**14 43 15.0**	**-0.5**
ESEN	**Aydn-Nazilli**	**1.04**	**34**	P	**Pg**	**14 43 14.8**	**-0.9**
ESEN				S	**Sg**	**14 43 27.1**	**-2.2**
SABU	**Mula-Dalaman**	**1.10**	**96**	P	**Pb**	**14 43 16.2**	**-0.3**
SABU				S	**Sg**	**14 43 30.2**	**-1.0**
NAZL	**Nazilli-Aydin**	**1.15**	**28**	Pn	**Pb**	**14 43 17.0**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.16**	**63**	P	**Pb**	**14 43 17.8**	**+0.2**
TAVA				S	**Sb**	**14 43 32.4**	**-0.3**
DNZT	**Denizli-Tavas-**	**1.18**	**73**	P	**Pb**	**14 43 18.5**	**+0.5**
IZMR	**zmir-demi**	**1.22**	**13**	P	**Pn**	**14 43 18.4**	**0.0**
IZMR				S	**Sb**	**14 43 35.4**	**+1.2**
FETY	**Fethiye**	**1.22**	**104**	Pn	**Pn**	**14 43 18.9**	**+0.5**
DGB	**zmir**	**1.25**	**333**	P	**Pn**	**14 43 18.1**	**-0.7**
GMLD	**Gumuldur**	**1.26**	**334**	Pn	**Pn**	**14 43 19.8**	**+0.9**
DNIZ	**Denizli-Tavas-**	**1.33**	**59**	P	**Pn**	**14 43 20.2**	**+0.2**
CAME	**Cameli-Denizli**	**1.36**	**90**	Pn	**Pn**	**14 43 21.1**	**+0.7**
ODEM	**Odemis-Izmir**	**1.38**	**15**	Pn	**Pn**	**14 43 20.7**	**+0.1**
IZZE	**Mula-Seydike**	**1.40**	**111**	P	**Pb**	**14 43 22.0**	**+0.4**
IZZE				S	**Sn**	**14 43 39.3**	**+0.3**
KIRA	**zmir-Kiraz**	**1.40**	**26**	P	**Pn**	**14 43 20.8**	**-0.1**
KIRA				S	**Sn**	**14 43 38.4**	**-0.9**
KARP	**Karpathos**	**1.44**	**195**	Pn	**Pb**	**14 43 22.3**	**0.0**
KARP	**Karpathos**	**1.44**	**195**	P	**Pn**	**14 43 20.9**	**-0.5**
KARP				S	**Sn**	**14 43 39.9**	**-0.3**
	comp=N,785nm,0.3s						
KARP	**Karpathos**	**1.44**	**195**	P	**Pn**	**14 43 20.8**	**-0.6**
KARP				S	**Sn**	**14 43 38.6**	**-1.6**
KARP				AML	AML	14 43 46.4	
	comp=E,1546μm,0.2s						
KARP				AML	AML	14 43 48.2	
	comp=N,1578μm,0.4s						
APMY	**Acipayam-Deniz**	**1.45**	**68**	Pn	**Pn**	**14 43 22.6**	**+1.0**
ZEYE	**Izmir, Urla-Ze**	**1.56**	**326**	P	**Pn**	**14 43 22.7**	**-0.4**
KNIK	**Mula-Seydike**	**1.58**	**93**	P	**Pb**	**14 43 24.8**	**+0.1**
GOLH	**Golhisar**	**1.59**	**79**	P	**Pb**	**14 43 25.4**	**+0.5**
GOLH				S	**Sn**	**14 43 44.6**	**+0.7**
URLA	**Izmir**	**1.63**	**331**	Pn	**Pn**	**14 43 24.9**	**+0.9**
URLA	**Izmir**	**1.63**	**331**	P	**Pn**	**14 43 22.2**	**-1.8**
APE	**Apeiranthos**	**1.67**	**275**	Pn	**Pn**	**14 43 24.4**	**-0.2**
APE	**Apeiranthos**	**1.67**	**275**	P	**Pn**	**14 43 24.4**	**-0.2**
APE				S	**Sn**	**14 43 45.3**	**-0.5**
	comp=N,145nm,0.5s						
APE	**Apeiran

KLV	**Kalavryta, Ach**	**4.48**	**286**	P	**Pn**	**14 44 03.6**	**+0.4**

*IDC **22** 14:45:24.0±1.1, 27.°66N×54.°76E, h0km, mb3.5/11, mbtmp3.5/12, ML3.2/1, MS3.0/1, Error ellipse: s-maj=24.1km s-min=21.1km az=122.0*
*TEH **22** 14:45:26.6, 27.°48N×54.°87E, h24km±23km, ML3.5*
ISC 22 14:45:26.7±0.7, 27.°49N±0.°06×54.°81E±0.°05, h20km±n29, σ1§11/32, mb3.5/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.42**	**296**	Pg	**Pb**	**14 45 36.5**	**+1.0**
GENO	**Geno**	**1.22**	**94**	Pg	**Pn**	**14 45 47.9**	**-0.8**
GENO				Sg	**Sn**	**14 46 05.8**	**+1.0**
LMD1	**Lamerd**	**1.47**	**265**	Pg	**Pb**	**14 45 54.2**	**+0.9**
JHRM	**Jahrom**	**1.48**	**313**	Pg	**Pb**	**14 45 54.1**	**+0.4**
IBND	**Bandar-abas**	**1.54**	**91**	Pg	**Pn**	**14 45 53.4**	**+0.3**
IBND				Sg	**Sb**	**14 46 14.5**	**+0.8**
NGRK	**Negar Kerman**	**2.74**	**38**	Pn	**Pn**	**14 46 09.2**	**-0.6**
TVBK	**TV Kerman**	**3.02**	**34**	Pn	**Pn**	**14 46 14.3**	**+0.5**
JASK	**Jask - Hormozg**	**3.18**	**120**	Pn	**Pn**	**14 46 15.5**	**-0.1**
KHGB	**Koh Gabri**	**3.23**	**27**	Pn	**Pn**	**14 46 17.4**	**+1.0**
CHMN	**Cheshme madani**	**3.37**	**45**	Pn	**Pn**	**14 46 19.5**	**+1.0**
KBAM	**BAM**	**3.61**	**62**	Pn	**Pn**	**14 46 22.3**	**+0.7**
ZRDN	**Zarand Kerman**	**3.78**	**23**	Pn	**Pn**	**14 46 25.3**	**+1.2**
IMEH	**Mehriz**	**3.89**	**358**	Pn	**Pn**	**14 46 26.9**	**+1.2**
IBAF	**Bafgh**	**4.14**	**9**	Pn	**Pn**	**14 46 29.6**	**+0.7**
KLNJ	**Kolanjah**	**4.49**	**322**	Pn	**Pn**	**14 46 34.7**	**+0.8**
ISAD	**Sadrabad**	**4.52**	**348**	Pn	**Pn**	**14 46 35.7**	**+1.4**
IRAM	**Ramesheh**	**4.79**	**334**	Pn	**Pn**	**14 46 39.7**	**+1.7**
WSAR	**Wadi Sarin**	**5.46**	**140**	Pn	**Pn**	**14 46 49.8**	**+2.7**
	0.8nm,0.3s,baz=314,slow=7.1,SNR=9.5						
WSAR				Sn	**Sn**	**14 47 49.8**	**+0.4**
	0.7nm,0.3s,baz=288,slow=20,SNR=2.4						
	3.0nm,0.5s						
BRTR	**Keskin Array B**	**21.38**	**310**	P	**P**	**14 50 12.1**	**-1.0**
	0.7nm,0.6s,baz=131,slow=13,SNR=4.4						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**28.02**	**20**	P	**P**	**14 51 15.0**	**-1.3**
	0.4nm,0.4s,baz=212,slow=5.1,SNR=3.4						
BVAR				LR	LR	15 03 12.5	
	comp=Z,28nm,18.7s,baz=240,slow=38						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**28.95**	**41**	P	**P**	**14 51 23.9**	**-0.7**
	0.2nm,0.5s,baz=225,slow=8.5,SNR=2.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**29.31**	**32**	P	**P**	**14 51 27.1**	**-0.6**
	0.3nm,0.7s,baz=232,slow=8.8,SNR=2.9						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**34.41**	**32**	P	**P**	**14 52 11.5**	**-0.9**
	0.5nm,0.5s,baz=239,slow=9.1,SNR=2.4						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**39.02**	**338**	P	**P**	**14 52 50.8**	**-0.8**
	0.4nm,0.4s,baz=145,slow=10.0,SNR=5.8						
	0.4nm,0.4s						
HFS	**Hagfors**	**42.91**	**331**	P	**P**	**14 53 23.2**	**-0.5**
	0.5nm,0.4s,baz=121,slow=6.9,SNR=6.8						
	0.5nm,0.4s						
NOA	**NORSAR Array B**	**44.42**	**331**	P	**P**	**14 53 34.6**	**-1.3**
	0.3nm,0.6s,baz=138,slow=7.1,SNR=2.6						
	0.3nm,0.6s						
ESDC	**Sonseca Array**	**49.65**	**300**	P	**P**	**14 54 15.2**	**-1.8**
	0.2nm,0.4s,baz=84,slow=6.6,SNR=2.4						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**51.45**	**265**	P	**P**	**14 54 31.6**	**+0.8**
	0.3nm,0.5s,baz=61,slow=8.7,SNR=4.4						
	0.3nm,0.5s						
BOSA	**Boshof**	**62.56**	**209**	P	**P**	**14 55 50.3**	**+0.9**
	1.2nm,0.8s,baz=26,slow=4.6,SNR=4.3						
	1.2nm,0.8s						

*IDC **22** 14:47:32.4±0.9, 6.°57S×143.°48E, h0km, mb4.1/10, mbtmp4.1/12, ML1.9/1, MS3.6/8, Error ellipse: s-maj=34.0km s-min=19.8km az=81.0*
*NEIC **22** 14:47:35.3±1.1, 6.°56S±0.°09×143.°26E±0.°06, h10km±1km, mb4.5/31, Error ellipse: s-maj=15.9km s-min=10.5km az=5.0*
ISC 22 14:47:37.8±0.5, 6.°76S±0.°06×143.°28E±0.°07, h35km, n62, σ1§53/57, mb4.5/30, MS3.7/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.66**	**125**	Pn	**Pn**	**14 48 45.1**	**-0.5**
	3.9nm,0.3s,baz=325,slow=13,SNR=13						
PMG				Sn	**Sn**	**14 49 34.4**	**-4.1**
	1.5nm,0.3s,baz=332,slow=13,SNR=2.3						
	20nm,0.5s						
COEN	**Coen**	**7.15**	**181**	Pn	**Pn**	**14 49 22.2**	**+2.3**
FAKI	**Fak Fak**	**11.63**	**289**	Pn	**Pn**	**14 50 18.4**	**-3.0**
MTN	**Manton Dam**	**13.40**	**242**		**Pn**	**14 50 44.1**	**-1.5**
WB0	**Warramunga Arr**	**15.54**	**213**		**Pn**	**14 51 12.8**	**-1.6**
WR0	**Warramunga Arr**	**15.62**	**212**		**Pn**	**14 51 13.4**	**-2.0**
WRAB	**Tennant Creek**	**15.70**	**213**		**Pn**	**14 51 14.2**	**-2.2**
WB2	**Warramunga Arr**	**15.71**	**213**	Pn	**Pn**	**14 51 14.3**	**-2.2**
WRA	**Warramunga Arr**	**15.71**	**213**	Pn	**Pn**	**14 51 14.7**	**-2.0**
	0.4nm,0.3s,baz=33,slow=13,SNR=20						
WRA				Sn	**Sn**	**14 54 05.9**	**-3.8**
	0.2nm,0.3s,baz=28,slow=26,SNR=2.5						
WRA				Lg	Lg	14 55 59.1	
	0.3nm,0.3s,baz=43,slow=29,SNR=11						
AS31	**Alice Springs**	**19.07**	**207**		**Pn**	**14 51 59.6**	**+1.3**
ASAR	**Alice Springs**	**19.07**	**207**		**Pn**	**14 51 59.6**	**+1.3**
ASAR	**Alice Springs**	**19.07**	**207**	P	**Pn**	**14 51 59.4**	**+1.0**
	13nm,0.9s,baz=36,slow=9.6,SNR=45						
ASAR				Lg	Lg	14 57 47.5	
	0.1nm,0.3s,baz=22,slow=28,SNR=2.9						
EIDS	**Eidsvold**	**19.95**	**159**	P	**P**	**14 52 09.2**	**+2.3**
EIDS				IAmb	IAmb	14 52 11.5	
	comp=Z,23nm,1.4s						
GUMO	**Guam**	**20.28**	**4**	LR	LR	15 00 11.2	
	comp=Z,34nm,18.9s,baz=214,slow=38						
FITZ	**Fitzroy Crossi**	**20.55**	**235**	P	**P**	**14 52 15.0**	**+1.4**
KAPI	**Kappang**	**23.46**	**273**	LR	LR	15 02 40.9	
	comp=Z,77nm,18.5s,baz=136,slow=38						
STKA	**Stephens Creek**	**25.04**	**183**	LR	LR	15 03 51.0	
	comp=Z,195nm,18.7s,baz=196,slow=39						
BBOO	**Buckleboo**	**26.77**	**194**	P	**P**	**14 53 16.7**	**+2.3**
BBOO				IAmb	IAmb	14 53 31.3	
	comp=Z,25nm,1.3s						
FORT	**Forrest**	**27.83**	**209**	P	**P**	**14 53 24.8**	**+0.8**
NWAO	**Narrogin (SRO)**	**35.54**	**219**	LR	LR	15 10 38.3	
	comp=Z,343nm,21.9s,baz=201,slow=39						
MJAR	**Matsushiro Arr**	**43.34**	**354**	P	**P**	**14 55 34.5**	**-2.0**
	comp=Z,1.4nm,0.7s,baz=181,slow=7.7,SNR=6.7						
	comp=Z,1.4nm,0.7s						
MAJO	**Matsushiro**	**43.34**	**354**	P	**P**	**14 55 34.9**	**-1.7**
MJB9	**Matsu-Tunnel**	**43.34**	**354**	P	**P**	**14 55 34.9**	**-1.7**
NJ2	**Nanjing**	**45.08**	**330**	*e*P	**P**	**14 55 51.1**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,300nm,4.3s						
KSRS	**Korea Array**	**46.27**	**343**	P	**P**	**14 55 59.1**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=163,slow=9.5,SNR=4.7						
	comp=Z,2.2nm,0.9s						
NIUE	**Niue**	**47.08**	**110**	P	**P**	**14 56 07.4**	**+0.8**
JTM	**Tenmabayashi**	**47.36**	**358**	P	**P**	**14 56 07.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**50.40**	**301**	P	**P**	**14 56 32.7**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=108,slow=5.9,SNR=2.0						
	comp=Z,0.4nm,0.4s						
CHTO	**Chiang Mai**	**50.55**	**301**	P	**P**	**14 56 32.5**	**-0.7**
CHTO				IAmb	IAmb	14 56 51.5	
	comp=Z,6.2nm,1.2s						
PZH	**PanZhiHua**	**52.10**	**311**	P	**P**	**14 56 47.9**	**+3.0**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,150nm,5.8s						
HHC	**Hu-ho-hao-te**	**55.62**	**331**	*e*P	**P**	**14 57 13.1**	**+2.8**
HHC				sP	pP	14 57 19.6	-1.4
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,82nm,4.7s						
SONM	**Songino Array**	**63.33**	**333**	P	**P**	**14 58 02.7**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=146,slow=4.4,SNR=4.9						
	comp=Z,0.5nm,0.6s						
SHEM	**Shemya Is, Ala**	**64.80**	**20**	LR	LR	15 20 30.8	
	comp=Z,51nm,21.0s,baz=272,slow=31						
YAK	**Yakutsk**	**69.39**	**353**	LR	LR	15 29 06.1	
	comp=Z,32nm,18.9s,baz=198,slow=36						
WMQ	**Urumqi**	**71.00**	**321**	*e*P	**P**	**14 58 52.6**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						

MK31	**Makanchi Array**	**75.76**	**322**	P	**P**	**14 59 20.0**	**-0.1**
MK31				IAmb	IAmb	14 59 21.2	
	comp=Z,5.7nm,1.4s						
MKAR	**Makanchi Array**	**75.76**	**322**	P	**P**	**14 59 19.9**	**-0.1**
MKAR	**Makanchi Array**	**75.76**	**322**	P	**P**	**14 59 20.2**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=103,slow=6.9,SNR=11						
	comp=Z,1.1nm,0.7s						
MAKZ	**Makanchi**	**75.96**	**322**	P	**P**	**14 59 20.8**	**-0.4**
KURBB	**Kurchatov Arra**	**79.65**	**324**	P	**P**	**14 59 41.4**	**-0.2**
	comp=Z,1.2nm,1.0s,baz=118,slow=4.5,SNR=6.4						
	comp=Z,1.2nm,1.0s						
K15K	**Wolf Creek Mou**	**80.70**	**23**	P	**P**	**14 59 47.7**	**+0.7**
L16K	**Owhat River**	**81.19**	**24**	P	**P**	**14 59 49.6**	**-0.1**
L16K				IAmb	IAmb	14 59 53.2	
	comp=Z,9.1nm,1.5s						
J16K	**Anvik River**	**81.61**	**22**	P	**P**	**14 59 52.4**	**+0.5**
J16K				IAmb	IAmb	14 59 56.2	
	comp=Z,4.9nm,1.1s						
J17K	**VABM Dome**	**82.25**	**23**	P	**P**	**14 59 55.9**	**+0.7**
J17K				IAmb	IAmb	15 00 22.9	
	comp=Z,5.9nm,1.2s						
KDAK	**Kodiak Island**	**82.34**	**29**	LR	LR	15 32 33.5	
	comp=Z,49nm,21.0s,baz=150,slow=33						
H17K	**Granite Mounta**	**82.78**	**21**	P	**P**	**14 59 58.4**	**+0.5**
H17K				IAmb	IAmb	14 59 58.7	
	comp=Z,2.6nm,0.8s						
QSPA	**South Pole Qui**	**83.21**	**180**	P	**P**	**15 00 01.0**	**+0.6**
	comp=Z,5.9nm,1.2s,baz=355,slow=1.1,SNR=7.5						
QSPA				LR	LR	15 36 38.2	
	comp=Z,47nm,18.7s,baz=308,slow=35						
	comp=Z,5.9nm,1.2s						
G18K	**Tagagawik**	**83.74**	**21**	P	**P**	**15 00 02.7**	**-0.1**
G18K				IAmb	IAmb	15 00 12.8	
	comp=Z,3.5nm,1.1s						
H19K	**Roundabout Mou**	**84.33**	**21**	P	**P**	**15 00 06.5**	**+0.7**
H19K				IAmb	IAmb	15 00 16.3	
	comp=Z,7.6nm,1.4s						
J20K	**Nowinta River**	**84.54**	**23**	P	**P**	**15 00 07.4**	**+0.5**
J20K				IAmb	IAmb	15 00 15.9	
	comp=Z,5.7nm,1.2s						
NRIK	**Noril'sk**	**84.89**	**343**	P	**P**	**15 00 08.5**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=33,slow=2.6,SNR=4.7						
	comp=Z,1.8nm,0.4s						
BVAR	**Borovoye Array**	**85.22**	**325**	P	**P**	**15 00 10.9**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=114,slow=6.5,SNR=7.2						
	comp=Z,1.3nm,0.6s						
F20K	**Avaraart Lake**	**85.34**	**20**	P	**P**	**15 00 11.3**	**+0.4**
F20K				IAmb	IAmb	15 00 23.4	
	comp=Z,3.3nm,1.1s						
IMAR	**Indian Mountai**	**85.53**	**21**	P	**P**	**15 00 11.7**	**-0.2**
MLY	**Manley**	**86.24**	**23**	P	**P**	**15 00 14.7**	**-0.8**
MLY				IAmb	IAmb	15 00 17.8	
	comp=Z,3.1nm,1.2s						
RND	**Reindeer**	**86.34**	**25**	P	**P**	**15 00 15.0**	**-1.1**
RND				IAmb	IAmb	15 00 23.0	
	comp=Z,4.9nm,1.2s						
DHY	**Denali Highway**	**86.83**	**25**	P	**P**	**15 00 18.4**	**-0.2**
DHY				IAmb	IAmb	15 00 29.5	
	comp=Z,2.7nm,0.9s						
H23K	**Yukon River**	**87.02**	**22**	P	**P**	**15 00 19.2**	**-0.1**
H23K				IAmb	IAmb	15 00 20.8	
	comp=Z,2.8nm,1.3s						
D22K	**Ayikyak River**	**87.22**	**19**	P	**P**	**15 00 20.8**	**+0.7**
ILAR	**Eielson Array**	**87.65**	**24**	P	**P**	**15 00 20.3**	**-2.0**
	comp=Z,1.2nm,1.0s,baz=255,slow=4.4,SNR=9.6						
	comp=Z,1.2nm,1.0s						
J26L	**Joseph Creek**	**88.91**	**24**	P	**P**	**15 00 28.6**	**+0.3**
J26L				IAmb	IAmb	15 00 30.4	
	comp=Z,5.1nm,1.4s						
BCAR	**Beaver Creek A**	**89.23**	**26**	P	**P**	**15 00 30.5**	**+0.6**

*ISN **22** 14:53:44.9±2.1, 34.°66N×46.°28E, h25km±10km, ML2.7*
*TEH **22** 14:53:44.3, 34.°66N×46.°28E, h12km±14km, ML2.8*
ISC 22 14:53:44.6±1.0, 34.°67N±0.°04×46.°28E±0.°05, h11km±8km, n12, σ0§85/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.09**	**72**	Pg	**Pg**	**14 53 47.5**	**+0.1**
IDHR				Sg	**Sg**	**14 53 49.9**	**+0.4**
IGHG	**Ghaleghazi**	**0.41**	**145**	Pg	**Pg**	**14 53 53.2**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.59**	**254**	Pg	**Pb**	**14 53 56.2**	**-0.8**
ILIN	**Lien**	**0.61**	**66**	Pg	**Pb**	**14 53 56.6**	**-0.8**
GLG1	**Gilan-e-Gharb**	**0.64**	**209**	Pg	**Pb**	**14 53 56.5**	**-1.2**
KCHF	**Cheshme Sefid,**	**0.74**	**122**	Pg	**Pb**	**14 53 58.7**	**-0.9**
ILBA	**Ilam Banvizeh**	**1.04**	**183**	Pg	**Pb**	**14 54 04.1**	**-0.6**
SNQR	**Sonqor, Kerman**	**1.12**	**80**	Pg	**Pg**	**14 54 06.2**	**0.0**
IBDR	**Badra**	**1.58**	**191**	*e*Pg	**Pb**	**14 54 13.0**	**-0.8**
IBDR				*e*Sg	**Sb**	**14 54 33.0**	**-0.8**
IBDR				AML	AML	14 54 55.5	
	comp=N,61nm,0.6s						
IBDR				AML	AML	14 54 58.4	
	comp=E,87nm,0.5s						
IKFM	**Kafar-mosalman**	**1.73**	**131**	Pg	**Pg**	**14 54 17.4**	**-0.3**
IKRK	**Kirkuk**	**1.75**	**295**	*e*Pn	**Pn**	**14 54 15.0**	**+0.1**
IKRK				*e*Sn	**Sb**	**14 54 39.0**	**+0.3**
IKRK				AML	AML	14 54 44.1	
	comp=N,201nm,0.4s						
IKRK				AML	AML	14 54 44.3	
	comp=E,141nm,0.6s						
RAFI	**Al-Rafai**	**2.94**	**183**	*e*Pn	**Pn**	**14 54 32.0**	**+0.8**
RAFI				*e*Sn	**Sn**	**14 55 08.0**	**+1.5**

*TEH **22** 14:56:37.8, 34.°62N×46.°22E, h10km±81km, ML2.6*
*ISN **22** 14:56:38.9±1.3, 34.°64N×46.°26E, h20km±24km, ML2.5*
ISC 22 14:56:38.1±1.2, 34.°63N±0.°04×46.°20E±0.°04, h6km±19km, n8, σ0§54/11, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.17**	**64**	Pg	**Pg**	**14 56 41.4**	**-0.3**
IDHR				Sg	**Sg**	**14 56 44.4**	**+0.3**
IGHG	**Ghaleghazi**	**0.42**	**134**	Pg	**Pg**	**14 56 46.0**	**-0.4**
GLG1	**Gilan-e-Gharb**	**0.56**	**205**	Pg	**Pg**	**14 56 48.8**	**-0.2**
ILBA	**Ilam Banvizeh**	**1.00**	**180**	Pg	**Pg**	**14 56 57.7**	**+0.5**
SNQR	**Sonqor, Kerman**	**1.20**	**78**	Pg	**Pg**	**14 57 01.4**	**+0.3**
IBDR	**Badra**	**1.53**	**188**	*e*Pg	**Pb**	**14 57 06.0**	**-0.8**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**14 57 28.0**	**+0.8**
IBDR				AML	AML	14 57 32.2	
	comp=E,84nm,0.9s						
IBDR				AML	AML	14 57 38.6	
	comp=N,70nm,0.4s						
IKRK	**Kirkuk**	**1.71**	**297**	*e*Pn	**Pb**	**14 57 10.0**	**+0.1**
IKRK				*e*Sn	**Sg**	**14 57 33.0**	**-0.1**
IKFM	**Kafar-mosalman**	**1.75**	**128**	Pg	**Pb**	**14 57 10.6**	**0.0**

JMA 22 15:03:07.2±0.3, 24.°1N±0.°8×12.°4E±.°, h17km±2km, MV1.6/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.20**	**88**	P	Pg	15 03 11.9	-0.1
HATJ				*e*S	Sg	15 03 15.0	-0.2
IRIF	**Iriomote-Funau**	**0.31**	**25**	*i* P	Pg	15 03 13.8	0.0
IRIF				*e*S	Sg	15 03 18.3	-0.1
JKRS	**Kuro-shima**	**0.43**	**64**	P	Pg	15 03 16.0	+0.1
JKRS				*e*S	Sg	15 03 22.0	+0.2
JIJ	**Ishigaki jima**	**0.59**	**58**	P	Pg	15 03 18.3	-0.7
JIJ				*e*S	Sg	15 03 26.7	-0.3
JISG	**Ishigakijimahi**	**0.85**	**51**	*e*P	Pb	15 03 23.1	-0.4

TAP 22 15:03:53.8, 24.°54N×121.°83E, h10km, ML1.0, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.04**	**20**	*i* P	Pg	15 03 56.4	+0.6
	baz=20						
ESAO				S	Sg	15 03 57.4	+0.2
	baz=20						
TWC	**Suao**	**0.07**	**15⇑**	*i* P	Pg	15 03 56.8	+0.7
	baz=22						
TWC				*i* S	Sg	15 03 58.1	+0.3
	baz=22						
EWUT	**Wuta**	**0.10**	**206**	*i* P	Pb	15 03 57.6	-0.3
	baz=206						
EWUT				*i* S	Sg	15 03 59.4	+1.0
	baz=206						
NDS	**Dongshan**	**0.14**	**312**	P	Pb	15 03 58.2	-0.2
	baz=312						
NDS				*i* S	Sg	15 04 00.8	+1.5
	baz=312						
EAHA	**Aohua**	**0.22**	**201**	*e*P	Pg	15 03 59.1	+0.7
	baz=201						
EAHA				*e*S	Sg	15 04 02.5	+1.0
	baz=201						
TWE	**Neicheng**	**0.23**	**321**	*i* P	Pg	15 03 59.1	+0.5
	baz=323						
TWE				*i* S	Sg	15 04 02.8	+0.9
	baz=323						
ENTT	**Nioudou**	**0.26**	**293**	*i* P	Pb	15 04 00.7	+0.1
	baz=293						
ENTT				S	Sb	15 04 03.9	-1.2
	baz=293						
LATG	**Datong**	**0.28**	**269**	P	Pb	15 04 00.9	0.0
	baz=269						
LATG				S	Sb	15 04 05.7	+0.1
	baz=269						
NDT	**Datong Townshi**	**0.29**	**282**	*e*P	Pb	15 04 00.8	-0.4
	baz=282						
NDT				*e*S	Sb	15 04 05.6	-0.5
	baz=282						
FUSB	**Fushanzhiwuyua**	**0.31**	**315**	P	Pb	15 04 02.1	+0.7
	baz=315						
FUSB				S	Sb	15 04 06.2	-0.4
	baz=315						
NWLT	**Wulai**	**0.38**	**309**	*e*P	Pb	15 04 02.5	-0.1
	baz=308						
NWLT				*e*S	Sb	15 04 07.7	-0.9
	baz=308						
NNSB	**Datong**	**0.42**	**255**	*e*P	Pb	15 04 03.4	+0.1
	baz=254						
NNSB				*e*S	Sg	15 04 08.7	+1.0
	baz=254						
NACB	**Ninganchiao**	**0.42**	**210**	*e*P	Pb	15 04 02.9	-0.4
	baz=210						
NACB				*e*S	Sb	15 04 08.7	-1.0
	baz=210						
TIPB	**Shuangxi**	**0.43**	**360**	*e*P	Pb	15 04 04.1	+0.6
	baz=359						
TIPB				*e*S	Sb	15 04 10.1	+0.1
	baz=359						
YHNB	**Yeheng**	**0.43**	**288**	*e*P	Pg	15 04 02.7	+0.4
	baz=287						
YHNB				*e*S	Sg	15 04 08.8	+0.7
	baz=287						
NSK	**Sanguang**	**0.45**	**288**	*e*S	Sb	15 04 10.2	-0.4
	baz=287						
ETLH	**Xiulin Townshi**	**0.46**	**224**	*e*P	Pb	15 04 04.2	+0.2
	baz=223						
ETLH				*e*S	Sg	15 04 09.6	+0.7
	baz=223						
EOS3	**EOS3**	**0.51**	**119**	*e*S	Sb	15 04 12.4	+0.3
	baz=119						
LXIB	**Xiulin Townshi**	**0.64**	**216**	*e*P	Pg	15 04 06.6	+0.4
	baz=216						
LXIB				*e*S	Sb	15 04 16.4	+0.3
	baz=216						

*ISN **22** 15:17:55.8±2.3, 34.°69N×46.°27E, h25km, ML2.5*
*TEH **22** 15:17:56.1, 34.°68N×46.°22E, h11km±18km, ML2.5*
ISC 22 15:17:55.8±1.7, 34.°68N±0.°09×46.°22E±0.°10, h15km±9km, n7, σ0§38/9, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**81**	Pg	**Pg**	**15 17 59.8**	**0.0**
IDHR				Sg	**Sg**	**15 18 02.5**	**0.0**
IGHG	**Ghaleghazi**	**0.45**	**140**	Pg	**Pb**	**15 18 05.5**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.62**	**205**	Pg	**Pb**	**15 18 08.5**	**+0.1**
ILIN	**Lien**	**0.66**	**68**	Pg	**Pb**	**15 18 08.9**	**-0.2**
SNQR	**Sonqor, Kerman**	**1.17**	**81**	Pg	**Pg**	**15 18 19.2**	**+0.7**
IBDR	**Badra**	**1.58**	**189**	*e*Pg	**Pn**	**15 18 23.0**	**-0.3**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**15 18 47.0**	**+0.2**
IBDR				AML	AML	15 19 00.1	
	comp=N,5.4nm,0.8s						
IKFM	**Kafar-mosalman**	**1.77**	**130**	Pg	**Pg**	**15 18 30.0**	**+0.1**

IDC 22 15:24:46.1±68.0, 15.°82S×166.°11E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1146.0km s-min=110.0km az=67.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.44**	**230**	P	P	15 30 33.2	-0.6
	0.7nm,0.4s,baz=85,slow=12,SNR=5.3						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**30.49**	**258**	P	P	15 31 01.4	+0.3
	1.7nm,1.2s,baz=86,slow=9.2,SNR=7.2						
	1.7nm,1.2s						
ASAR	**Alice Springs**	**31.25**	**250**	P	P	15 31 08.0	+0.2
	1.2nm,0.5s,baz=76,slow=9.9,SNR=61						
	1.2nm,0.5s						

*IDC **22** 15:37:49.2±0.7, 7.°50N×59.°59E, h0km, mb3.8/18, mbtmp3.8/18, MS3.6/32, Error ellipse: s-maj=22.8km s-min=16.7km az=49.0*
*NEIC **22** 15:37:52.1±2.0, 7.°5N±0.°1×59.°74E±0.°08, h10km±1km, mb4.5/22, Error ellipse: s-maj=20.9km s-min=13.3km az=190.0*
ISC 22 15:37:53.3±0.5, 7.°50N±0.°09×59.°70E±0.°10, h25km, n76, σ0§88/48, mb4.3/29, MS3.7/31, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**15.68**	**356**	LR	LR	15 46 53.7	
	comp=Z,86nm,18.4s,baz=306,slow=35						
ATD	**Arta Tunnel**	**17.09**	**285**	LR	LR	15 47 38.4	
	comp=Z,5.1nm,18.1s,baz=117,slow=35						
UOSS	**Minazif**	**17.66**	**350**	P	**P**	**15 41 58.5**	**0.0**
PALK	**Pallekele**	**20.83**	**89**	LR	LR	15 48 50.6	
	com

BRVK	Borovoye	46.23	9	P	P	15 46 17.4	+1.1
LBTB	Lobatse	46.34	225	LR	LR	16 02 22.3	
	comp=Z,100nm,21.1s,baz=92,slow=32						
MLR	Muntele Rosu	47.77	328	P	P	15 46 29.4	+0.8
MLR				IAmb	IAmb	15 46 38.3	
	comp=Z,5.0nm,1.1s						
AIS	Amsterdam Isla	48.05	161	P	P	15 46 30.9	+0.2
BOSA	Boshof	48.91	221	LR	LR	16 05 45.9	
	comp=Z,99nm,18.1s,baz=2.0,slow=34						
TSUM	Tsumeb	49.25	237	LR	LR	16 05 28.9	
	comp=Z,83nm,19.9s,baz=148,slow=34						
AKASG	Malin Array Be	49.94	335	P	P	15 46 43.8	-1.2
	comp=Z,0.1nm,0.2s,baz=139,slow=6.7,SNR=9.7						
	comp=Z,0.1nm,0.2s						
AKBB	Malin Array Si	49.94	335	P	P	15 46 44.5	-0.5
AKBB				IAmb	IAmb	15 46 53.1	
	comp=Z,8.7nm,1.2s						
KIEV	Kiev	49.95	335	P	P	15 46 44.5	-0.5
KIEV				IAmb	IAmb	15 46 53.1	
	comp=Z,7.8nm,1.2s						
ZALV	Zalesovo Beam	50.56	19	P	P	15 46 48.4	-1.2
	comp=Z,0.8nm,0.8s,baz=236,slow=10,SNR=3.6						
ZALV				LR	LR	16 11 23.7	
	comp=Z,24nm,18.3s,baz=240,slow=40						
	comp=Z,0.8nm,0.8s						
H04N1	CROZET ISLANDS	53.89	187	T	T	16 45 18.9	
	baz=10.0,slow=75,SNR=93						
H04N2	CROZET ISLANDS	53.89	187	T	T	16 45 17.6	
	baz=10.0,slow=75,SNR=88						
H04N3	CROZET ISLANDS	53.90	187	T	T	16 45 17.8	
	baz=10.0,slow=75,SNR=106						
SUR	Sutherland	54.27	221	LR	LR	16 09 12.7	
	comp=Z,81nm,18.3s,baz=121,slow=35						
MORC	Moravsky Berou	54.88	328	P	P	15 47 22.1	+0.3
MORC				IAmb	IAmb	15 47 30.1	
	comp=Z,4.0nm,1.0s						
VRAC	Vranov	55.12	327	LR	LR	16 13 19.7	
	comp=Z,20nm,18.2s,baz=142,slow=39						
SONM	Songino Array	56.36	36	P	P	15 47 33.2	+0.7
	comp=Z,0.6nm,0.7s,baz=256,slow=5.5,SNR=4.0						
SONM				LR	LR	16 11 51.9	
	comp=Z,51nm,21.6s,baz=202,slow=36						
	comp=Z,0.6nm,0.7s						
GERES	GERESS Array B	56.47	325	P	P	15 47 32.6	-0.6
	comp=Z,0.1nm,0.3s,baz=126,slow=9.9,SNR=1.3						
	comp=Z,0.1nm,0.3s						
KHC	Kasperske Hory	56.69	325	P	P	15 47 35.3	+0.6
KHC				IAmb	IAmb	15 47 35.9	
	comp=Z,5.9nm,1.4s						
TORD	Torodi Ar. Bea	57.24	281	P	P	15 47 38.5	-0.6
	comp=Z,0.7nm,0.8s,baz=78,slow=9.0,SNR=2.6						
TORD				LR	LR	16 11 58.7	
	comp=Z,79nm,20.7s,baz=111,slow=36						
	comp=Z,0.7nm,0.8s						
CLL	Collm	58.14	327	*e*P	P	15 47 46.0	+1.2
CLL				*i* x	x	15 47 52.1	
	comp=Z,6.0nm,1.3s						
SENIN	Lac Senin/Sane	59.17	320	P	P	15 47 52.6	+0.2
BFO	Black Forest	59.36	323	P	P	15 47 54.3	+0.9
BFO				IAmb	IAmb	15 48 01.6	
	comp=Z,7.0nm,1.3s						
ECH	Echery	60.02	322	P	P	15 47 56.9	-1.1
ECH				IAmb	IAmb	15 48 05.6	
	comp=Z,5.7nm,1.2s						
TPUB	Ta-pu	60.40	68	P	P	15 47 59.2	-1.8
SSLB	Suanglung	60.74	67	P	P	15 48 02.2	-1.1
SSLB				IAmb	IAmb	15 48 21.6	
	comp=Z,14nm,1.2s						
KAPI	Kappang	61.20	100	LR	LR	16 11 39.5	
	comp=Z,56nm,19.4s,baz=246,slow=33						
HFS	Hagfors	62.81	336	P	P	15 48 15.0	-1.5
	comp=Z,2.5nm,0.9s,baz=46,slow=4.6,SNR=2.9						
	comp=Z,2.5nm,0.9s						
DBIC	Dimbokro	64.01	274	LR	LR	16 15 55.6	
	comp=Z,68nm,19.6s,baz=114,slow=36						
ESDC	Sonseca Array	65.04	310	P	P	15 48 31.3	-0.4
ESDC				IAmb	IAmb	15 48 40.5	
	comp=Z,4.2nm,1.2s						
ESDC	Sonseca Array	65.04	310	P	P	15 48 31.1	-0.6
	comp=Z,2.2nm,1.1s,baz=80,slow=4.5,SNR=9.5						
	comp=Z,2.2nm,1.1s						
DAV	Davao City (W)	65.29	86	LR	LR	16 17 58.2	
	comp=Z,44nm,18.0s,baz=175,slow=37						
ARCES	ARCESS Array B	65.80	347	P	P	15 48 35.8	-0.3
	comp=Z,1.8nm,0.8s,baz=116,slow=4.1,SNR=2.9						
	comp=Z,1.8nm,0.8s						
NWAO	Narrogin (SRO)	67.82	130	P	P	15 48 48.4	-1.1
KSRS	Korea Array	68.21	53	P	P	15 48 52.0	+0.1
	comp=Z,1.7nm,1.1s,baz=265,slow=6.2,SNR=5.0						
	comp=Z,1.7nm,1.1s						
JNU	Nakatsue	70.19	58	LR	LR	16 20 10.3	
	comp=Z,50nm,20.2s,baz=238,slow=36						
KLR	Kul'dur	72.65	41	LR	LR	16 22 33.1	
	comp=Z,103nm,18.2s,baz=244,slow=37						
SAUI	Saumlaki	73.02	101	P	P	15 49 22.0	+0.3
YAK	Yakutsk	74.08	27	LR	LR	16 22 19.5	
	comp=Z,32nm,19.8s,baz=218,slow=36						
BBTS	Babate	74.87	283	LR	LR	16 22 11.5	
	comp=Z,67nm,19.3s,baz=326,slow=36						
MAW	Mawson	74.95	179	P	P	15 49 32.0	+0.1
	comp=Z,2.6nm,0.8s,baz=1.7,slow=3.6,SNR=6.7						
	comp=Z,2.6nm,0.8s						
MJAR	Matsushiro Arr	76.36	54	LR	LR	16 23 23.7	
	comp=Z,50nm,21.1s,baz=240,slow=36						
TIXI	Tiksi	76.43	18	LR	LR	16 25 13.7	
	comp=Z,33nm,18.1s,baz=214,slow=37						
WRA	Warramunga Arr	78.28	112	P	P	15 49 51.9	+0.1
	comp=Z,1.7nm,1.0s,baz=294,slow=4.7,SNR=7.6						
	comp=Z,1.7nm,1.0s						
WRAB	Tennant Creek	78.29	112	P	P	15 49 52.1	+0.3
WRAB				IAmb	IAmb	15 50 18.1	
	comp=Z,15nm,1.5s						
ASAR	Alice Springs	78.72	116	P	P	15 49 54.3	+0.2
	comp=Z,3.4nm,1.0s,baz=288,slow=5.2,SNR=29						
	comp=Z,3.4nm,1.0s						
ASAJ	Asahikawa	79.73	47	LR	LR	16 26 14.8	
	comp=Z,51nm,19.1s,baz=194,slow=36						
GUMO	Guam	83.60	77	LR	LR	16 26 40.1	
	comp=Z,11nm,18.8s,baz=224,slow=35						
STKA	Stephens Creek	87.09	123	LR	LR	16 26 53.7	
	comp=Z,49nm,19.0s,baz=212,slow=34						
SHEM	Shemya Is, Ala	98.41	34	LR	LR	16 40 32.9	
	comp=Z,50nm,18.1s,baz=230,slow=38						
PDAR	Pinedale Array	129.02	350	PKP	PKPdf	15 56 59.5	-0.2
	comp=Z,0.3nm,0.7s,baz=14,slow=4.0,SNR=4.1						
NVAR	Mina Array Bea	134.27	358	PKP	PKiKP	15 57 10.9	-0.2
	comp=Z,0.8nm,0.9s,baz=270,slow=0.3,SNR=3.7						
TXAR	Lajitas Array	140.03	337	PKP	PKPdf	15 57 19.2	-1.3
	comp=Z,0.1nm,0.5s,baz=3.8,slow=2.7,SNR=1.5						

*IDC **22** 16:14:17.5±7.2, 7°.47S×128°.30E, h101km±72km, mb3.5/6, mbtmp3.9/9, ML3.3/3, Error ellipse: s-maj=49.8km s-min=24.5km az=80.0*
*DJA **22** 16:14:21.0±0.4, 7°.5S×12°.9E±°, h173km±15km, M4.4/10, mb4.2/6, mB4.9/2, MLv4.5/10, Mw(mB)4.2/2*
*NEIC **22** 16:14:22.6±2.1, 7°.36S±0°.10×128°.70E±0°.04, h161km±9km, mb4.0/7, Error ellipse: s-maj=14.3km s-min=5.2km az=167.0*
ISC 22 16:14:21.6±0.6,**7°.39S**±0°.08×**128°.62E**±0°.06,**h151**km,**n48,** σ1§**55**/49,**mb3.8**/10,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.72	103	P	Pn	16 15 07.0	+1.5
SAUI	Saumlaki	2.72	103	Pn	Pn	16 15 06.7	+1.1
SAUI	Saumlaki	2.72	103	P	Pn	16 15 06.1	+0.6
SAUI				S	Sn	16 15 41.3	+1.8
SOEI	Soe	4.90	241	P	Pn	16 15 36.1	+2.2
SOEI	Soe	4.90	241	Pn	Pn	16 15 36.0	+2.1
SOEI	Soe	4.90	241	P	Pn	16 15 35.5	+1.6
DRS	Darwin Rock St	5.49	156	P	Pn	16 15 42.0	+0.5
BATI	Baumata	5.64	240	P	Pn	16 15 44.0	+0.4
	121nm,0.8s,2μm0.5nm						
FAKI	Fak Fak	5.73	39	P	Pn	16 15 44.5	-0.3
FAKI	Fak Fak	5.73	39	Pn	Pn	16 15 43.9	-0.8
FAKI	Fak Fak	5.73	39	P	Pn	16 15 43.2	-1.6
	61nm,1.6s,0.4nm						
MTN	Manton Dam	5.96	156	P	Pn	16 15 48.1	+0.3
MTN	Manton Dam	5.96	156	Pn	Pn	16 15 47.9	+0.1
KMPI	Kaimana, Papua	6.27	54	P	Pn	16 15 50.8	-1.2
MMRI	Maumere	6.44	258	Pn	Pn	16 15 55.8	+1.6
KDU	Kakadu	6.49	144	P	Pn	16 15 54.6	-0.3
EDFI	Ende, Flores	6.99	258	P	Pn	16 16 01.3	-0.4
	9.1nm,0.8s						
SWI	Sorong	7.00	22	P	Pn	16 16 00.4	-1.3
	9.0nm,0.8s,0.1nm						
KNRA	Kununurra	8.24	179	Pn	Pn	16 16 17.4	-0.8
BASI	Baing, Sumba	8.43	250	P	Pn	16 16 21.1	+0.4
PLAI	Plampang	10.83	262	P	Pn	16 16 52.7	+0.1
FITZ	Fitzroy Crossi	11.03	195	P	Pn	16 16 54.0	-1.2
	23nm,2.6s						
FITZ	Fitzroy Crossi	11.03	195	Pn	Pn	16 16 53.8	-1.4
WB0	Warramunga Arr	13.52	156	Pn	Pn	16 17 25.0	-2.4
WRAB	Tennant Creek	13.65	157	Pn	Pn	16 17 26.2	-2.9
WRA	Warramunga Arr	13.66	157	P	Pn	16 17 25.9	-3.3
	0.2nm,0.3s,baz=328,slow=14,SNR=18						
WRA				S	Sn	16 19 44.4	-16
	0.8nm,0.5s,baz=334,slow=22,SNR=4.6						
	0.6nm,0.5s						
WB2	Warramunga Arr	13.66	157	Pn	Pn	16 17 25.9	-3.4
WR0	Warramunga Arr	13.75	156	Pn	Pn	16 17 26.7	-3.7
COEN	Coen	15.72	116	P	P	16 17 53.8	-2.0
COEN	Coen	15.72	116	P	P	16 17 54.7	-1.1
AS31	Alice Springs	16.96	163		Pn	16 18 10.5	+0.4
ASAR	Alice Springs	16.96	163		Pn	16 18 10.7	+0.7
ASAR	Alice Springs	16.96	163	P	Pn	16 18 10.9	+0.9
	0.2nm,0.3s,baz=337,slow=10,SNR=29						
ASAR				S	S	16 21 05.6	-13
	0.3nm,0.4s,baz=344,slow=25,SNR=2.3						
	0.9nm,0.5s						
PMG	Port Moresby	18.45	98	P	Pn	16 18 30.0	+2.2
	0.9nm,0.3s,baz=284,slow=9.3,SNR=4.0						
	20nm,0.9s						
USRK	Ussuriysk Ar.	51.44	3	P	P	16 23 11.6	+0.4
	0.5nm,0.5s,baz=181,slow=7.7,SNR=5.0						
	0.5nm,0.5s						
SONM	Songino Array	58.39	343	P	P	16 24 03.4	+2.1
	0.5nm,0.6s,baz=145,slow=5.3,SNR=2.6						
	0.5nm,0.6s						
MK31	Makanchi Array	67.81	328	P	P	16 25 02.8	-0.5
MK31				IAmb	IAmb	16 25 11.6	
	comp=Z,1.6nm,1.4s						
MKAR	Makanchi Array	67.81	328	P	P	16 25 03.7	+0.4
MKAR	Makanchi Array	67.81	328	P	P	16 25 04.6	+1.3
	comp=Z,0.6nm,0.4s,baz=111,slow=8.2,SNR=16						
	comp=Z,0.6nm,0.4s						
ZALV	Zalesovo Beam	71.33	334	P	P	16 25 25.1	+0.4
	comp=Z,0.5nm,0.5s,baz=150,slow=5.2,SNR=3.6						
	comp=Z,0.5nm,0.5s						
KURBB	Kurchatov Arra	72.13	329	P	P	16 25 30.8	+1.2
	comp=Z,1.1nm,0.5s,baz=127,slow=5.2,SNR=17						
	comp=Z,1.1nm,0.5s						
KURK	Kurchatov	72.14	329	P	P	16 25 29.5	-0.1
KURK				IAmb	IAmb	16 25 32.8	
	comp=Z,4.3nm,1.4s						
KKAR	Karatay Array	72.73	319	P	P	16 25 34.3	+1.0
UOSS	Minazif	77.38	298	P	P	16 25 57.9	-2.4
UOSS				IAmb	IAmb	16 25 59.8	
	comp=Z,9.2nm,1.1s						
TIXI	Tiksi	78.88	0	P	P	16 26 07.3	-0.2
TIXI				IAmb	IAmb	16 26 34.7	
	comp=Z,3.6nm,1.1s						
ABKAR	Akbulak array	81.96	322	P	P	16 26 25.0	+0.5
QSPA	South Pole Qui	82.59	180	P	P	16 26 27.6	-0.1
QSPA				IAmb	IAmb	16 26 33.7	
	comp=Z,3.6nm,1.4s						
QSPA	South Pole Qui	82.59	180	P	P	16 26 28.5	+0.9
	comp=Z,1.1nm,0.8s,baz=187,slow=1.5,SNR=5.8						
	comp=Z,1.1nm,0.8s						

*TEH **22** 16:19:09.9, 34°.66N×46°.30E, h12km±18km, ML2.5*
*ISN **22** 16:19:10.3±0.9, 34°.67N×46°.28E, h17km±5km, ML2.5*
ISC 22 16:19:10.4±1.0,**34°.66N**±0°.04×**46°.28E**±0°.04,**h8**km±9km,
n10, σ0§**75**/14,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.10	65	Pg	Pg	16 19 12.9	+0.1
IDHR				Sg	Sg	16 19 15.2	+0.6
IGHG	Ghaleghazi	0.41	144	Pg	Pg	16 19 18.5	+0.2
KGS1	Ghasr-e-Shirin	0.59	255	Pg	Pg	16 19 21.9	+0.1
ILIN	Lien	0.62	65	Pg	Pg	16 19 22.0	-0.4
GLG1	Gilan-e-Gharb	0.63	210	Pg	Pg	16 19 22.3	-0.2
KCHF	Cheshme Sefid,	0.73	121	Pg	Pg	16 19 23.7	-0.8
SNQR	Sonqor, Kerman	1.13	79	Pg	Pg	16 19 31.8	-0.2
IBDR	Badra	1.57	191	*e*Pg	Pb	16 19 39.0	-0.7
IBDR				*e*Sg	Sg	16 20 00.0	-0.9
IBDR				AML	AML	16 20 05.6	
	comp=E,73nm,0.4s						
IBDR				AML	AML	16 20 05.7	
	comp=N,65nm,0.5s						
IKRK	Kirkuk	1.76	295	*e*Pn	Pb	16 19 42.0	-0.9
IKRK				*e*Sn	Sb	16 20 05.0	-0.1
RAFI	Al-Rafai	2.93	183	*e*Pn	Pn	16 19 58.0	+0.7
RAFI				*e*Sn	Sn	16 20 34.0	+1.3

*IDC **22** 16:19:46.5±1.1, 34°.70N×46°.18E, h0km, mb3.7/17, mbtmp3.7/24, ML3.5/7, MS3.3/1, Error ellipse: s-maj=23.1km s-min=13.4km az=175.0*
*TEH **22** 16:19:48.2, 34°.62N×46°.31E, h8km±11km, ML3.7*
*ISN **22** 16:19:48.0±0.7, 34°.64N×46°.31E, h14km±4km, ML3.7*
ISC 22 16:19:48.2±0.9,**34°.64N**±0°.03×**46°.29E**±0°.03,**h12**km±5km,
n64, σ1§**56**/68,**mb3.7**/21,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.10	50	Pg	Pg	16 19 50.8	-0.5
IDHR				Sg	Sg	16 19 53.3	-0.3
IGHG	Ghaleghazi	0.38	143	Pg	Pg	16 19 56.2	+0.2
KGS1	Ghasr-e-Shirin	0.59	258	Pg	Pg	16 19 59.9	0.0
GLG1	Gilan-e-Gharb	0.61	211	Pg	Pg	16 20 00.4	+0.2
ILIN	Lien	0.62	63	Pg	Pg	16 19 59.9	-0.5
ILIN				Sg	Sb	16 20 09.8	-0.1
KCHF	Cheshme Sefid,	0.71	120	Pg	Pg	16 20 01.7	-0.4
KCHF				Sg	Sb	16 20 12.5	0.0
ILBA	Ilam Banvizeh	1.01	184	Pg	Pb	16 20 07.7	0.0
ILBA				Sg	Sb	16 20 21.6	+0.6
SNQR	Sonqor, Kerman	1.12	78	Pg	Pg	16 20 09.5	-0.4
IBZA	Bozab	1.30	97	Pg	Pg	16 20 12.9	-0.4
IBDR	Badra	1.55	191	*e*Pg	Pn	16 20 16.0	+0.4
IBDR				*e*Sg	Sb	16 20 37.0	+0.6
IBDR				AML	AML	16 20 44.2	
	comp=N,1μm,0.7s						
SDS1	Sardasht. Az.	1.65	337	Pg	Pb	16 20 18.9	+0.3
IKFM	Kafar-mosalman	1.70	130	Pg	Pg	16 20 20.8	0.0
IKRK	Kirkuk	1.77	296	*e*Pn	Pn	16 20 20.0	+1.3
IKRK				Sn	Sb	16 20 44.0	+1.1
IKRK				AML	AML	16 20 55.1	
	comp=Z,758nm,0.8s						
HSAM	Samen	1.96	102	Pn	Pb	16 20 24.2	+0.3
MAHB	Mahabad	2.18	347	Pn	Pb	16 20 27.1	-0.5
IHSH	Hashtrud	2.78	16	Pn	Pn	16 20 35.4	+2.6
RAFI	Al-Rafai	2.91	183	*e*Pn	Pn	16 20 36.0	+1.7
RAFI				Sn	Sn	16 21 11.0	+1.9
IAZR	Azarshahr	3.05	355	Pn	Pn	16 20 39.6	+3.2
ISRB	Sarab	3.37	19	Pn	Pn	16 20 43.3	+2.4
ISHB	Shabestar	3.68	352	Pn	Pn	16 20 47.9	+2.8
IHRS	Heris	3.72	9	Pn	Pn	16 20 48.8	+3.1
IQOM	Qom	3.94	86	Pn	Pn	16 20 51.2	+2.5
IPIR	Pirpir	4.30	116	Pn	Pn	16 20 55.9	+2.1
QAMS	Qamsar	4.32	101	Pn	Pn	16 20 56.1	+2.1
GRMI	Germi	4.36	17	Pn	Pn	16 20 57.4	+3.1
IVRN	Varamin	4.49	84	Pn	Pn	16 20 58.5	+2.4
IDMV	Damavand	4.80	77	Pn	Pn	16 21 03.0	+2.5
KRSH	Karshahi	4.88	96	Pn	Pn	16 21 04.1	+2.6
ISFB	Sefidab	4.92	92	Pn	Pn	16 21 04.5	+2.4
IZEF	Zefreh	5.32	107	Pn	Pn	16 21 10.4	+2.7
GNI	Garni	5.64	348	Pn	Pn	16 21 11.9	-0.1
	comp=Z,0.2nm,0.3s,baz=137,slow=19,SNR=1.7						
	comp=Z,11nm,0.9s						
KLNJ	Kolanjah	5.74	128	Pn	Pn	16 21 16.0	+2.4
MMAI	Mount Meron Ar	9.20	263	Pn	Pn	16 21 59.8	-1.1
	comp=Z,2.1nm,0.3s,baz=74,slow=18,SNR=2.4						
MMAI				Lg	Lg	16 24 34.4	
	comp=Z,0.9nm,0.3s,baz=91,slow=34,SNR=1.4						
	comp=Z,4.0nm,0.6s						
EIL	Elat	10.81	246	Pn	Pn	16 22 22.4	-0.4
	comp=Z,0.3nm,0.3s,baz=23,slow=13,SNR=1.4						
	comp=Z,1.1nm,0.3s						
BRTR	Keskin Array B	11.30	300	Pn	Pn	16 22 31.1	+1.5
	comp=Z,0.1nm,0.3s,baz=131,slow=12,SNR=2.7						
	comp=Z,0.2nm,0.3s						
WSAR	Wadi Sarin	15.65	133	Pn	Pn	16 23 26.1	-2.6
	comp=Z,1.2nm,0.3s,baz=352,slow=15,SNR=13						
BELG	Belogornoye	17.78	3	P	Pn	16 23 54.6	-0.7
	comp=Z,0.1nm,0.3s,baz=265,slow=5.2,SNR=4.0						
	comp=Z,9.7nm,0.8s						
AKTO	Aktyubinsk	17.96	25	P	P	16 23 58.8	+0.6
	comp=Z,0.2nm,0.3s,baz=199,slow=9.5,SNR=4.9						
	comp=Z,1.7nm,0.6s						
MLR	Muntele Rosu	18.92	311	P	P	16 24 07.2	-1.7
	comp=Z,0.1nm,0.3s,baz=91,slow=23,SNR=4.0						
	comp=Z,1.2nm,0.6s						
AKASG	Malin Array Be	20.30	327	P	P	16 24 23.2	-0.5
	comp=Z,0.8nm,0.5s,baz=139,slow=8.8,SNR=6.3						
	comp=Z,0.8nm,0.5s						
KOLS	Kolonicke sedl	22.78	316	*e*P	P	16 24 53.7	+3.2
CRVS	Cervenica-Dubn	23.23	315	*e*PN	P	16 25 02.9	+7.8
BVAR	Borovoye Array	25.10	36	P	P	16 25 13.3	+0.7
	comp=Z,1.0nm,0.4s,baz=232,slow=8.4,SNR=8.2						
	comp=Z,1.0nm,0.4s						
RONA	Rosalia, Austr	25.90	309	*e*pP	pP	16 25 26.1	+2.0
	comp=Z,0.2nm,0.1s						
KURBB	Kurchatov Arra	28.31	46	P	P	16 25 43.2	+1.7
	comp=Z,0.9nm,0.7s,baz=252,slow=8.6,SNR=6.7						
	comp=Z,0.9nm,0.7s						
SQTA	Sankt Quirin	29.09	306	*i* P	P	16 25 48.5	-0.1
	comp=Z,1.3nm,0.3s						
FETA	Feichten	29.36	306	*i* P	P	16 25 51.8	+0.7
	comp=Z,0.2nm,0.2s						
RETA	Reutte	29.44	307	*i* P	P	16 25 52.1	+0.4
	comp=Z,0.3nm,0.2s						
MKAR	Makanchi Array	29.61	55	P	P	16 25 54.8	+1.6
	comp=Z,0.6nm,0.6s,baz=254,slow=8.1,SNR=7.6						
	comp=Z,0.6nm,0.6s						
FINES	FINESS Array B	29.78	340	P	P	16 25 53.4	-1.0
	comp=Z,0.7nm,0.4s,baz=144,slow=9.8,SNR=14						
	comp=Z,0.7nm,0.4s						
DAVA	Damuels	29.98	306	*e*P	P	16 25 56.1	-0.5
	comp=Z,1.1nm,0.3s						
ZALV	Zalesovo Beam	33.11	42	P	P	16 26 25.0	+1.2
	comp=Z,0.4nm,0.3s,baz=244,slow=9.5,SNR=3.9						
	comp=Z,0.4nm,0.3s						
HFS	Hagfors	33.12	330	P	P	16 26 23.2	-0.6
	comp=Z,2.0nm,0.6s,baz=111,slow=7.9,SNR=13						
	comp=Z,2.0nm,0.6s						
NOA	NORSAR Array B	34.65	331	P	P	16 26 36.7	-0.4
	comp=Z,0.4nm,0.6s,baz=135,slow=8.8,SNR=1.5						
	comp=Z,0.4nm,0.6s						
ARCES	ARCESS Array B	36.80	348	P	P	16 26 54.1	-1.3
	comp=Z,0.5nm,0.5s,baz=127,slow=6.9,SNR=4.6						
	comp=Z,0.5nm,0.5s						
EKA	Eskdalemuir Ar	39.59	317	P	P	16 27 18.4	-0.7
	comp=Z,0.6nm,0.5s,baz=106,slow=8.7,SNR=7.7						
	comp=Z,0.6nm,0.5s						
ESDC	Sonseca Array	39.95	292	P	P	16 27 21.8	-0.6
	comp=Z,0.6nm,0.7s,baz=69,slow=8.3,SNR=5.9						
	comp=Z,0.6nm,0.7s						
SPITS	Spitsbergen Ar	45.49	352	P	P	16 28 06.2	-0.7
	comp=Z,2.9nm,0.7s,baz=130,slow=7.8,SNR=1.8						
	comp=Z,2.9nm,0.7s						
TORD	Torodi Ar. Bea	45.59	253	P	P	16 28 09.2	+0.8
	comp=Z,0.3nm,0.5s,baz=64,slow=9.0,SNR=1.9						
	comp=Z,0.3nm,0.5s						
CMAR	Chiang Mai Arr	49.24	95	P	P	16 28 36.5	-0.3
	comp=Z,0.5nm,0.5s,baz=293,slow=9.7,SNR=4.7						
	comp=Z,0.5nm,0.5s						
BBTS	Babate	59.55	267	LR	LR	16 59 15.0	
	comp=Z,23nm,19.1s,baz=323,slow=40						
KSRS	Korea Array	64.02	61	P	P	16 30 21.4	-0.2
	comp=Z,0.5nm,0.6s,baz=271,slow=7.4,SNR=2.5						
	comp=Z,0.5nm,0.6s						
USRK	Ussuriysk Ar.	64.05	53	P	P	16 30 20.8	-1.0
	comp=Z,0.4nm,0.6s,baz=308,slow=7.1,SNR=2.5						
	comp=Z,0.4nm,0.6s						
ILAR	Eielson Array	80.38	6	P	P	16 31 57.8	-1.2
	comp=Z,0.3nm,0.7s,baz=327,slow=3.8,SNR=2.6						
	comp=Z,0.3nm,0.7s						

*IDC **22** 16:21:20.2±1.1, 55°.97N×157°.75W, h0km, mb4.0/18, mbtmp4.0/20, ML4.0/2, MS3.1/3, Error ellipse: s-maj=35.4km s-min=16.4km az=22.0*
*NEIC **22** 16:21:27.6±1.0, 55°.86N±0°.05×157°.42W±0°.06, h55km±8km, Error ellipse: s-maj=7.2km s-min=4.6km az=187.0*
*AEIC **22** 16:21:27.1±1.1, 55°.87N±0°.05×157°.42W±0°.06, h40km±7km, ML3.4, mb4.2/4(NEIC), ML3.5/56(NEIC), Error ellipse: s-maj=6.8km s-min=4.7km az=194.0*
ISC 22 16:21:27.6±0.8,**55°.87N**±0°.05×**157°.43W**±0°.03,**h57**km±8km,
n169, σ0§**81**/177,**mb4.0**/20,**Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	Chignik	0.70	308		Pn	16 21 41.0	-0.7
CHGN	Chignik	0.70	308		Sn	16 21 50.9	-1.1
CHGN	Chignik	0.70	308	P	Pn	16 21 41.1	-0.6
	baz=128					

PN7A	Pavlof North-7	2.63	262		Pn	16 22 08.3 +0.7
OHAK	Old Harbor	2.66	58	P	Pn	16 22 07.3 -0.6
OHAK	Old Harbor	2.66	58	Pn	Pn	16 22 07.4 -0.6
OHAK				IAML		16 22 38.8
	comp=N,154nm,0.3s					
OHAK	Old Harbor	2.66	58	P	Pn	16 22 07.5 -0.5
	baz=241					
KABU	Katmai Buttres	2.67	25		Pn	16 22 09.0 +0.7
Q18K	Katmai Hardscr	3.08	24	P	Pn	16 22 14.1 +0.3
	baz=206					
P16K	Nushagak River	3.18	355		Pn	16 22 15.6 +0.5
P16K	Nushagak River	3.18	355	P	Pn	16 22 15.6 +0.5
	baz=174					
KDAK	Kodiak Island	3.28	52	Pn	Pn	16 22 15.6 -0.8
	comp=N,18nm,0.3s,baz=265,slow=11,SNR=360					
KDAK				Sn	Sn	16 22 51.0 -3.2
	comp=N,14nm,0.3s,baz=53,slow=23,SNR=12					
KDAK				LR	LR	16 23 43.0
	comp=N,66nm,18.6s,baz=213,slow=42					
P17K	Kvichak River	3.38	9		Pn	16 22 17.8 +0.1
P17K	Kvichak River	3.38	9	P	Pn	16 22 17.8 +0.1
	baz=189					
O15K	Ungalikthiuk R	3.56	340	P	Pn	16 22 20.4 +0.1
	baz=158					
FALS	False Pass	3.57	256		Pn	16 22 20.8 +0.4
FALS	False Pass	3.57	256	P	Pn	16 22 20.8 +0.4
	baz=71					
Q19K	Cape Douglas,	3.69	32		Pn	16 22 22.2 +0.2
Q19K	Cape Douglas,	3.69	32	P	Pn	16 22 22.6 +0.6
	baz=215					
P18K	Big Mountain,	3.72	18	Pn	Pn	16 22 22.6 0.0
O16K	Kokwok River B	3.75	355	Pn	Pn	16 22 22.6 -0.3
O16K				IAML		16 23 21.2
	comp=N,55nm,0.7s					
O16K	Kokwok River B	3.75	355	P	Pn	16 22 22.7 -0.1
	baz=174					
Q20K	Shuyak Island	3.87	43	P	Pn	16 22 24.6 0.0
	baz=227					
SYI	Shuyak Island	3.88	43	Pn	Pn	16 22 24.4 -0.1
O17K	Koliganek Bris	3.92	2	P	Pn	16 22 25.4 +0.2
	baz=183					
O14K	Tigyukauivet M	3.97	330	Pn	Pn	16 22 25.8 -0.1
O14K				IAML		16 23 42.9
	comp=N,69nm,0.8s					
O14K				IAML		16 23 43.0
	comp=E,46nm,1.0s					
O14K	Tigyukauivet M	3.97	330	P	Pn	16 22 26.0 +0.1
	baz=147					
O18K	Koktuh Hills	4.17	16	Pn	Pn	16 22 28.8 +0.1
O18K				IAML		16 23 18.1
	comp=N,64nm,0.5s					
O18K				IAML		16 23 42.8
	comp=E,34nm,1.4s					
O18K	Koktuh Hills	4.17	16	P	Pn	16 22 29.4 +0.7
	baz=197					
WESE	West Dahl East	4.34	254		Pn	16 22 31.7 +0.7
WEBT	Westdahl Beart	4.39	256		Pn	16 22 32.3 +0.6
P19K	Oil Pt	4.41	29		Pn	16 22 31.8 -0.1
P19K				IAML		16 23 25.0
	comp=E,49nm,0.4s					
P19K				IAML		16 23 36.5
	comp=N,45nm,0.8s					
P19K	Oil Pt	4.41	29	P	Pn	16 22 32.7 +0.8
	baz=212					
N15K	Kwethluk River	4.54	343	Pn	Pn	16 22 34.1 +0.5
N15K				IAML		16 24 08.2
	comp=N,47nm,0.8s					
N15K	Kwethluk River	4.54	343	P	Pn	16 22 34.2 +0.5
	baz=161					
N14K	Kuskokwak Cree	4.66	333	P	Pn	16 22 35.5 +0.3
	baz=149					
N16K	Nishlik Lake	4.67	352	P	Pn	16 22 35.8 +0.3
	baz=171					
N17K	Nushagak Hills	4.67	1	Pn	Pn	16 22 35.6 +0.1
N17K	Nushagak Hills	4.67	1	P	Pn	16 22 35.5 +0.1
	baz=182					
ILSW	Iliamna Southw	4.71	27		Pn	16 22 36.2 0.0
ILSW				IAML		16 24 15.9
	comp=N,26nm,0.5s					
ILSW				IAML		16 24 17.7
	comp=E,33nm,0.5s					
N18K	Kilae Creek	4.89	9		Pn	16 22 38.7 +0.2
N18K	Kilae Creek	4.89	9	P	Pn	16 22 38.9 +0.4
	baz=190					
O20K	Slope Mountain	4.93	29		Pn	16 22 39.6 +0.5
O20K	Slope Mountain	4.93	29	P	Pn	16 22 39.6 +0.5
	baz=213					
CNPM	China Poot	4.94	40		Pn	16 22 38.9 -0.4
CNPM				IAML		16 23 44.1
	comp=N,27nm,0.4s					
CNPM				IAML		16 23 51.8
	comp=E,23nm,0.8s					
AKSA	Akutan Strait	5.07	253		Pn	16 22 41.3 +0.3
M15K	Kasigluk River	5.13	342	P	Pn	16 22 42.0 +0.2
	baz=159					
RED	Redoubt Volcan	5.18	26		Pn	16 22 43.4 +0.8
N19K	Bonanza Creek	5.19	16	Pn	Pn	16 22 42.9 +0.2
N19K				IAML		16 23 43.4
	comp=N,16nm,0.5s					
N19K				IAML		16 24 18.6
	comp=E,20nm,1.2s					
N19K	Bonanza Creek	5.19	16	P	Pn	16 22 43.5 +0.8
	baz=198					
RSO	Redoubt South	5.22	26		Pn	16 22 42.8 -0.5
M16K	Timber Creek	5.23	352	Pn	Pn	16 22 43.5 +0.4
M16K				IAML		16 24 29.6
	comp=N,29nm,1.4s					
M16K				IAML		16 24 37.9
	comp=E,22nm,1.1s					
M16K	Timber Creek	5.23	352	P	Pn	16 22 43.6 +0.5
	baz=170					
BRLK	Bradley Lake	5.24	39		Pn	16 22 42.3 -1.0
BRLK				IAML		16 23 39.1
	comp=N,29nm,0.2s					
BRLK				IAML		16 23 40.6
	comp=E,33nm,0.5s					
LVA	Lava Point	5.24	254	Pn	Pn	16 22 43.4 +0.1
M14K	Bethel	5.45	336	Pn	Pn	16 22 46.1 +0.1
M14K	Bethel	5.45	336	P	Pn	16 22 46.0 +0.1
	baz=152					
M13K	Dall Lake	5.53	328	Pn	Pn	16 22 47.7 +0.5
M13K	Dall Lake	5.53	328	P	Pn	16 22 48.0 +0.8
	baz=143					
M17K	Holitna River	5.55	360	Pn	Pn	16 22 47.6 +0.2
UNV	Unalaska Valle	5.62	253	P	Pn	16 22 47.9 -0.6
M18K	Stony River	5.70	8		Pn	16 22 49.9 +0.4
M18K	Stony River	5.70	8	P	Pn	16 22 49.9 +0.4
	baz=189					
MSW	Makushin Switc	5.74	254		Pn	16 22 49.7 -0.5
L16K	Owhat River	5.95	351		Pn	16 22 52.8 -0.3
L16K	Owhat River	5.95	351	P	Pn	16 22 53.4 +0.4
	baz=169					
SLKM	Skilak Lake	6.01	36		Pn	16 22 53.4 -0.4
SPU	Mount Spurr	6.02	26	Pn	Pn	16 22 54.5 +0.5
L14K	Kuka Creek	6.13	336	Pn	Pn	16 22 55.5 +0.1
M19K	Big River Lodg	6.25	13		Pn	16 22 57.9 +0.7
STLK	Strandline Lak	6.35	25		Pn	16 22 59.1 +0.5
L18K	Granite Mounta	6.38	3	Pn	Pn	16 22 58.8 0.0
L19K	White Mountain	6.47	11	Pn	Pn	16 23 00.4 +0.3
L19K	White Mountain	6.47	11	P	Pn	16 23 00.6 +0.5
	baz=193					
M11K	Mekoryuk	6.48	318		Pn	16 23 00.6 +0.3
M11K	Mekoryuk	6.48	318	P	Pn	16 23 00.6 +0.3
	baz=130					
SUA	Susitna One	6.60	29	Pn	Pn	16 23 01.8 -0.2
RC01	Rabbit Creek A	6.60	34	Pn	Pn	16 23 01.4 -0.5
K15K	Wolf Creek Mou	6.78	344		Pn	16 23 04.7 +0.4
K15K	Wolf Creek Mou	6.78	344	P	Pn	16 23 05.1 +0.8
	baz=160					
SKT	Skwentna	6.84	24		Pn	16 23 05.5 +0.3
SKT	Skwentna	6.84	24	P	Pn	16 23 05.8 +0.6
	baz=209					
L20K	Farewell, AK	6.87	14		Pn	16 23 06.7 +1.1
L20K	Farewell, AK	6.87	14	P	Pn	16 23 06.7 +1.1
	baz=197					
K17K	Iditarod	6.88	357	Pn	Pn	16 23 05.8 +0.1
PWL	Port Wells	6.92	40		Pn	16 23 04.8 -1.4
Q23K	Middleton Isla	6.93	54	Pn	Pn	16 23 06.3 0.0
MID	Middleton Isla	6.93	55	P	Pn	16 23 06.6 +0.2
MID	Middleton Isla	6.93	55	Pn	Pn	16 23 06.4 0.0
SPIA	Saint Paul Isl	7.21	286	P	Pn	16 23 11.8 +1.5
NIKH	Nikolski High	7.27	251	P	Pn	16 23 11.1 0.0
HIN	Hinchinbrook I	7.35	47	Pn	Pn	16 23 11.1 -1.0
EYAK	Cordova Ski Ar	7.74	48	P	Pn	16 23 17.2 -0.3
RAGM	Ragged Mountai	8.12	51		Pn	16 23 21.6 -1.1
KLU	Klutina	8.22	42		Pn	16 23 23.3 -0.8
H21K	Melozitna Rive	10.07	11	Pn	Pn	16 23 49.0 -0.3
G18K	Tagagawik	10.08	357	Pn	Pn	16 23 49.5 +0.1
ILAR	Eielson Array	10.33	26	Pn	Pn	16 23 49.8 -3.0
	comp=E,0.4nm,0.3s,baz=216,slow=13,SNR=11					
ILAR				Sn	Sn	16 25 34.9 -12
	comp=E,0.2nm,0.3s,baz=218,slow=17,SNR=2.5					
PNL	Peninsula	10.35	61	P	Pn	16 23 53.2 +0.1
ATKA	Atka Island	10.52	257	P	Pn	16 23 56.8 +1.3
	comp=E,18nm,1.2s					
J25K	Salcha River,	10.60	29	Pn	Pn	16 23 54.0 -2.6
M29M	Somme Creek	11.72	48	Pn	Pn	16 24 10.6 -1.3
ADK	Adak	12.04	259	P	Pn	16 24 17.6 +1.5
SIT	Sitka	12.27	75	P	Pn	16 24 19.2 -0.1
CRAG	Craig	13.70	82	P	Pn	16 24 38.7 -0.1
MMPY	Sheldon Lake,	14.91	52	Pn	Pn	16 24 55.1 +0.4
DLBC	Dease Lake	15.04	69	Pn	Pn	16 24 55.9 -0.6
	comp=E,0.3nm,0.3s,baz=270,slow=15,SNR=2.3					
	comp=E,0.8nm,0.5s					
G31M	Satah River	15.54	35	Pn	Pn	16 25 01.3 -1.5
INK	Inuvik	16.59	32	Pn	Pn	16 25 14.5 -1.4
	comp=E,0.4nm,0.3s,baz=225,slow=7.1,SNR=2.6					
	comp=E,1.2nm,0.3s					
BPMT	Black Pine Rid	28.70	90	P	P	16 27 21.8 +2.5
LYMT	Lyon Mountain	29.05	89	P	P	16 27 24.8 +2.4
NVAR	Mina Array Bea	31.27	107	P	P	16 27 42.0 -0.1
	comp=E,0.4nm,0.5s,baz=301,slow=9.3,SNR=3.0					
	comp=E,0.4nm,0.5s					
PDAR	Pinedale Array	33.15	93	P	P	16 28 00.8 +2.3
	comp=E,0.7nm,0.7s,baz=326,slow=4.4,SNR=7.1					
	comp=E,0.7nm,0.7s					
TIXI	Tiksi	33.53	327	LR	LR	16 42 56.1
	comp=E,44nm,18.3s,baz=150,slow=39					
TXAR	Lajitas Array	46.09	102	P	P	16 29 47.9 +2.0
	comp=E,0.6nm,0.7s,baz=285,slow=5.8,SNR=6.8					
	comp=E,0.6nm,0.7s					
NRIK	Noril'sk	46.55	334	P	P	16 29 47.7 -1.2
	comp=E,1.3nm,0.5s,baz=41,slow=8.3,SNR=4.3					
	comp=E,1.3nm,0.5s					
HPIG		46.87	106	P	P	16 29 53.5 +1.3
ARCES	ARCESS Array B	54.88	359	P	P	16 30 50.4 -1.1
	comp=E,1.2nm,0.7s,baz=16,slow=6.8,SNR=4.6					
	comp=E,1.2nm,0.7s					
SONM	Songino Array	55.28	305	P	P	16 30 54.1 -0.8
	comp=E,2.3nm,0.7s,baz=35,slow=5.3,SNR=14					
	comp=E,2.3nm,0.7s					
ZALV	Zalesovo Beam	59.26	323	P	P	16 31 22.1 -0.6
	comp=E,0.9nm,0.5s,baz=29,slow=6.6,SNR=3.8					
	comp=E,0.9nm,0.5s					
FINES	FINESS Array B	62.99	358	P	P	16 31 47.1 -0.6
	comp=E,1.2nm,0.7s,baz=1.0,slow=8.3,SNR=6.7					
	comp=E,1.2nm,0.7s					
KURK	Kurchatov	64.06	324		P	16 31 55.0 +0.1
KURK				IAmb	IAmb	16 31 56.1
	comp=Z,3.5nm,0.9s					
HFS	Hagfors	64.13	5	P	P	16 31 54.7 -0.5
	comp=Z,0.9nm,0.6s,baz=10,slow=3.2,SNR=6.6					
	comp=Z,0.9nm,0.6s					
KURBB	Kurchatov Arra	64.17	324	P	P	16 31 55.2 -0.5
	comp=Z,0.9nm,0.4s,baz=39,slow=7.3,SNR=10					
	comp=Z,0.9nm,0.4s					
BVAR	Borovoye Array	64.55	330	P	P	16 31 57.7 -0.5
	comp=Z,2.6nm,0.5s,baz=25,slow=5.1,SNR=15					
	comp=Z,2.6nm,0.5s					
MK31	Makanchi Array	66.11	320		P	16 32 07.7 -0.8
MK31				IAmb	IAmb	16 32 49.0
	comp=Z,2.0nm,1.4s					
MKAR	Makanchi Array	66.11	320	P	P	16 32 07.2 -1.2
	comp=Z,0.9nm,0.6s,baz=42,slow=7.1,SNR=13					
	comp=Z,0.9nm,0.6s					
EKA	Eskdalemuir Ar	67.18	16	P	P	16 32 15.7 +0.7
	comp=Z,0.7nm,0.5s,baz=330,slow=5.3,SNR=8.1					
	comp=Z,0.7nm,0.5s					
AKTO	Aktyubinsk	70.04	337	P	P	16 32 32.3 -0.6
	comp=Z,4.0nm,0.7s,baz=24,slow=6.9,SNR=9.5					
	comp=Z,4.0nm,0.7s					
ABKAR	Akbulak array	70.70	335	P	P	16 32 36.4 -0.5
AKASG	Malin Array Be	73.65	356	P	P	16 32 53.8 -0.7
	comp=Z,1.5nm,0.4s,baz=7.4,slow=5.4,SNR=12					
	comp=Z,1.5nm,0.4s					
DAVOX	Davos/Dischmat	77.16	9	LR	LR	17 10 22.3
	comp=Z,26nm,18.6s,baz=82,slow=38					
KBZ	Khabaz	79.29	345	P	P	16 33 26.4 -0.1
	comp=Z,1.7nm,0.7s,baz=46,slow=1.8,SNR=3.8					
	comp=Z,1.7nm,0.7s					
CMAR	Chiang Mai Arr	82.31	291	P	P	16 33 42.2 -0.8
	comp=Z,1.1nm,0.7s,baz=15,slow=5.1,SNR=7.2					
	comp=Z,1.1nm,0.7s					
BRTR	Keskin Array B	84.31	351	P	P	16 33 53.6 +0.5
	comp=Z,0.6nm,0.7s,baz=350,slow=5.9,SNR=3.3					
	comp=Z,0.6nm,0.7s					

TEH ***22*** *16:24:38.0,34.°62N×46.°25E,h10km±50km,ML2.7*
ISN ***22*** *16:24:38.8±1.4,34.°62N×46.°26E,h23km±26km,ML2.7*
ISC 22 16:24:36.6±1.0,34.°63N±0.°05×46.°21E±0.°05,h18km±8km,
n7,σ0°69/10,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.16	66	Pg	Pg	16 24 41.2	0.0
IDHR				Sg	Sg	16 24 44.0	-0.3
IGHG	Ghaleghazi	0.43	135	Pg	Pb	16 24 46.1	+0.3
KGS1	Ghasr-e-Shirin	0.53	256	Pg	Pn	16 24 49.2	-0.1
GLG1	Gilan-e-Gharb	0.57	205	Pg	Pn	16 24 49.4	-0.6
ILIN	Lien	0.68	65	Pg	Pn	16 24 51.6	-0.1
IBDR	Badra	1.54	189	*e*Pg	Pg	16 25 06.0	-0.2
	baz=10.0						
IBDR				*e*Sg	Sg	16 25 27.0	+0.7
IBDR				AML	AML	16 25 40.7	
	comp=N,8.1nm,0.7s						
IKRK	Kirkuk	1.71	297	*e*Pn	Pg	16 25 09.0	-0.6
IKRK				*e*Sn	Sg	16 25 33.0	+1.1

IDC ***22*** *16:26:34.2±2.0,10.°70S×111.°80E,h0km,mb3.7/6,*
mbtmp3.7/6,Error ellipse: s-maj=107.7km s-min=18.9km
az=48.0
DJA ***22*** *16:26:34.4±1.4,11.°S±10.°×11.°1E±.°,h36km±50km,M4.6/13,*
mb4.6/7,mB5.1/3,MLv4.6/13,Mw(mB)4.4/3
ISC 22 16:26:37.0±1.1,11.°19S±0.°10×111.°05E±0.°09,h35km,n15,
σ1°52/18,mb3.7/6,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	Pagerwojo	3.23	13	P	Pn	16 27 24.1	-1.2
PWJI				S	Sn	16 28 02.4	-0.1
UGM	Wanagama	3.30	351	P	Pn	16 27 24.4	-1.8
UGM				S	Sn	16 28 04.6	+0.4
YOGI	Yogyakarta	3.43	347	P	Pn	16 27 26.0	-2.0
YOGI				S	Sn	16 28 07.5	0.0
JAGI	Jajag, Banyuwa	4.08	49	P	Pn	16 27 36.0	-0.9
ABJI	Asem Bagus	4.60	43	P	Pn	16 27 43.5	-0.6
SRBI	Singaraja	5.13	53	P	Pn	16 27 50.9	-0.5
	61nm,0.5s,0.5nm						
CNJI	Cibinong	5.46	315	P	Pn	16 27 53.4	-2.6
	34nm,1.4s						
TWSI	Taliwang, Sumb	6.24	68	P	Pn	16 28 05.5	-1.1
PLAI	Plampang	7.02	71	P	Pn	16 28 15.5	-1.9
	43nm,0.6s,752nm0.2nm						
WRA	Warramunga Arr	24.04	114	P	P	16 31 47.5	-1.5
	1.0nm,0.7s,baz=289,slow=11,SNR=27						
	1.0nm,0.7s						
ASAR	Alice Springs	25.04	123	P	P	16 31 56.8	-1.4
	2.7nm,0.8s,baz=300,slow=9.5,SNR=47						
	2.7nm,0.8s						
CMAR	Chiang Mai Arr	31.79	338	P	P	16 33 01.0	+2.6
	0.2nm,0.3s,baz=177,slow=7.0,SNR=2.0						
	0.2nm,0.3s						
STKA	Stephens Creek	34.88	131	P	P	16 33 25.4	+0.1
	1.1nm,0.6s,baz=315,slow=8.6,SNR=3.0						
	1.1nm,0.6s						
MKAR	Makanchi Array	63.20	338	P	P	16 37 02.5	+0.8
	0.5nm,0.5s,baz=139,slow=7.5,SNR=7.8						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	67.77	338	P	P	16 37 32.0	+1.0
	0.1nm,0.3s,baz=159,slow=5.9,SNR=1.8						
	0.1nm,0.3s						

IDC ***22*** *16:27:41.4±2.1,15.°41S×71.°90W,h105km±19km,mb3.7/7,*
mbtmp4.1/11,MS3.3/1,Error ellipse: s-maj=20.5km
s-min=16.6km az=38.0
NEIC ***22*** *16:27:42.0±2.1,15.°57S±0.°06×72.°03W±0.°09,h105km±6km,*
mb4.3/12,Error ellipse: s-maj=12.4km s-min=8.6km
az=99.0

VAO ***22*** *16:27:46.5±0.6,15.°19S×71.°89W,h149km±5km,mb4.2*
ISC 22 16:27:43.0±0.5,15.°51S±0.°05×72.°04W±0.°06,h132km,n69,
σ2°23/72,mb4.1/9,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	Chacalluta	3.28	151	Pn	Pn	16 28 32.6	-0.7
PB16	IPOC Station P	3.71	140	Pn	Pn	16 28 39.4	-0.1
PB11	IPOC Station P	4.80	152		Pn	16 28 51.2	-2.4
GO01	Chusmiza	4.95	147	Pn	Pn	16 28 55.0	-0.9
TA02	Huaiquique	5.07	159	Pn	Pn	16 28 54.8	-2.3
HMBC	Humberstone	5.17	157	Pn	Pn	16 28 55.5	-3.0
TA01	Diego Aracena	5.33	161	Pn	Pn	16 28 57.5	-3.1
PATCX	Punta Patache	5.58	162	Pn	Pn	16 29 00.6	-3.4
NNA	Nana	5.83	306		Pn	16 29 06.0	-1.3
NNA	Nana	5.83	306	P	Pn	16 29 06.4	-1.0
	34nm,0.3s,baz=140,slow=15,SNR=30						
NNA				S	Sn	16 30 07.8	-5.4
	35nm,0.3s,baz=207,slow=14,SNR=3.8						
PB01	IPOC Station P	6.02	157		Pn	16 29 07.0	-2.9
PB09	IPOC Station P	6.79	157	Pn	Pn	16 29 18.3	-2.1
PB06	IPOC Station P	7.53	162	Pn	Pn	16 29 26.8	-3.5
LVC	Limon Verde	7.66	158	Pn	Pn	16 29 29.1	-3.1
LVC	Limon Verde	7.66	158	P	Pn	16 29 30.1	-2.1
	2.2nm,0.3s,baz=0.6,slow=8.8,SNR=15						
LVC				S	Sn	16 30 50.6	-7.1
	17nm,0.4s,baz=53,slow=22,SNR=15						
LVC	Limon Verde	7.66	158	*e*P	Pn	16 29 39.0	+6.8
CZSB	Cruzeiro do Su	7.76	355	Pn	Pn	16 29 31.6	-1.6
CZSB	Cruzeiro do Su	7.76	355	*e*P	Pn	16 29 31.5	-1.8
CZSB				*e*S	Sn	16 30 57.0	-2.7
ETMB	Extrema	8.02	46		Pn	16 29 37.2	+0.5
ETMB	Extrema	8.02	46	*e*P	Pn	16 29 35.8	-0.9
ETMB				*e*S	Sn	16 31 02.5	-3.4
PB15	IPOC Station P	8.04	163	Pn	Pn	16 29 34.0	-3.1
ATAH	Atahualpa	10.39	322	S	Sn	16 32 01.8	-2.2
	3.5nm,0.7s,baz=110,slow=14,SNR=2.1						
SIV	San Ignacio	10.57	94	P	Pn	16 30 08.7	-2.4
	4.8nm,0.5s,baz=282,slow=12,SNR=24						
SIV				S	Sn	16 32 02.7	-5.1
	2.3nm,0.6s,baz=320,slow=15,SNR=2.2						
SAML	Samuel	10.83	54		Pn	16 30 13.1	-1.4
SAML	Samuel	10.83	54	*e*P	Pn	16 30 13.1	-1.4
BBSD	Serra de San D	11.10	100	*e*P	Pn	16 30 17.0	-1.0
PTLB	Pontes e Lacer	12.44	91	*e*P	Pn	16 30 35.6	0.0
CO01	Juntas del Tor	14.51	173	P	P	16 31 04.5	-0.8
PDRB	Porto dos Gac	15.38	77	*e*P	Pn	16 31 13.5	+0.4
SALV	Santo Antonio	15.74	94	*e*P	P	16 31 18.7	-0.1
AQDB	Aquidauana	16.30	110	P	Pn	16 31 24.5	0.0
AQDB				IAmb	IAmb	16 31 25.7	
	comp=Z,17nm,1.1s						
RVDE	Rio Verde (Bra	16.70	105	*e*P	Pn	16 31 31.6	+2.2
CPUP	Villa Florida	17.44	131	P	Pn	16 31 38.6	+0.4
	comp=Z,1.7nm,0.7s,baz=307,slow=16,SNR=5.4						
MT09	Talagante	18.21	177	Pn	Pn	16 31 47.3	-0.2
MT09				IAmb	IAmb	16 32 19.4	
	comp=Z,45nm,1.5s						
MT01	Popeta	18.29	178	Pn	Pn	16 31 48.5	+0.2
MT01				IAmb	IAmb	16 32 02.2	
	comp=Z,24nm,1.4s						
NPGB	Novo Progresso	18.38	65	*e*P	P	16 31 47.9	0.0
ARAG	Araguaiana, MT	19.48	93	*e*P	P	16 32 01.5	+1.6
ITTB	Itaituba	19.48	57	*e*P	P	16 31 58.6	-1.3
PSAL	Palomas, Salto	20.36	142	*e*P	Pn	16 32 12.9	+0.4
SNDB	Serra Nova Dou	20.45	83	*e*P	P	16 32 11.3	+1.0
CRSM	Crissiumal (Br	20.52	128	*e*P	P	16 32 12.6	+1.6
PCMB	Pacaembu	20.60	110	*e*P	P	16 32 13.7	+1.9
ITRB	Iturama	21.08	105	*e*P	P	16 32 19.3	+2.3
LDASE	Londrina, Braz	21.21	115	*e*P	P	16 32 21.1	+2.7
RODS	Rosario do Sul	21.38	137	*e*P	P	16 32 23.1	+3.0
ITAB	Concordia	21.87	126	P	P	16 32 26.0	+0.7
CPSB	Cacapava Do Su	22.60	134	*e*P	P	16 32 36.8	+4.1
IPMB	Ipameri, GO	22.95	100	*e*P	P	16 32 37.3	+1.1
IPMB				*e*pP	pP	16 33 06.2	+3.7
BDFB	Brasilia	23.14	94	P	P	16 32 39.0	+1.0
BDFB	Brasilia	23.14	94	P	P	16 32 39.0	+1.0
	comp=Z,3.7nm,0.5s,baz=252,slow=12,SNR=8.9						
	comp=Z,3.7nm,0.5s						
GO06	Curarrehue	23.99	179	P	P	16 32 46.5	+1.0
GO06				IAmb	IAmb	16 32 48.2	
	comp=Z,8.1nm,0.8s						
SDV	Santo Domingo	24.28	3	LR	LR	16 42 06.7	
	comp=Z,63nm,18.6s,baz=240,slow=36						
PLCA	Paso Flores	25.17	177	P	P	16 32 57.6	+1.5
PLCA	Paso Flores	25.17	177	P	P	16 32 57.9	+1.8
	comp=Z,3.6nm,0.8s,baz=347,slow=13,SNR=7.4						
	comp=Z,3.6nm,0.8s						
TXAR	Lajitas Array	54.04	326	P	P	16 36 55.5	+1.5
	comp=Z,0.2nm,0.8s,baz=146,slow=8.3,SNR=2.0						
	comp=Z,0.2nm,0.8s						
D62A	Allapoint, All	62.36	2	P	P	16 37 53.6	+2.3
SNAA	Sanae	68.88	162	P	P	16 38 34.6	+1.5
SNAA				IAmb	IAmb	16 38 47.5	
	comp=Z,5.2nm,1.5s						
SNAA	Sanae	68.88	162	P	P	16 38 34.8	+1.7
	comp=Z,1.1nm,0.7s,baz=282,slow=8.9,SNR=11						
	comp=Z,1.1nm,0.7s						
DBIC	Dimbokro	70.08	77	P	P	16 38 41.9	+0.5
DBIC	Dimbokro	70.08	77	P	P	16 38 41.8	+0.4
	comp=Z,3.6nm,0.6s,baz=248,slow=6.8,SNR=5.5						
	comp=Z,3.6nm,0.6s						
QSPA	South Pole Qui	74.65	180	P	P	16 39 09.9	+2.1
TOA0	Torodi Ar. Sit	78.29	73	P	P	16 39 30.0	+1.0
TOA0				IAmb	IAmb	16 39 30.7	

ILIN	Lien	0.67 56	Pg	Pg	16 49 01.4	-0.9
KCHF	Cheshme Sefid,	0.67 113	Pg	Pg	16 49 02.4	0.0
ILBA	Ilam Banvizeh	0.92 185	Pg	Pg	16 49 07.5	+0.4
SNQR	Sonqor, Kerman	1.14 74	Pg	Pg	16 49 10.5	-0.8
IBZA	Bozab	1.29 93	Pg	Pn	16 49 13.6	+0.3
IBDR	Badra	1.46 192	*e*Pg	Pn	16 49 16.0	+0.7
IBDR			*e*Sg	Sb	16 49 37.0	+2.2
IBDR			AML	AML	16 49 52.6	
	comp=E,3µm,0.6s					
IBDR			AML	AML	16 49 56.7	
	comp=N,2µm,0.5s					
IKFM	Kafar-mosalman	1.64 128	Pg	Pb	16 49 20.2	+0.8
SDS1	Sardasht. Az.	1.73 338	Pg	Pn	16 49 19.3	+0.1
IKRK	Kirkuk	1.82 299	*e*Pn	Pn	16 49 20.0	-0.3
IKRK			*e*Sn	Sn	16 49 44.0	+0.8
HSAM	Samen	1.94 99	Pn	Pb	16 49 24.8	+0.2
MAHB	Mahabad	2.27 348	Pn	Pb	16 49 28.6	-1.6
RAFI	Al-Rafai	2.82 183	*e*Pn	Pn	16 49 37.0	+3.0
RAFI			*e*Sn	Sn	16 50 11.0	+3.2
IHSH	Hashtrud	2.87 16	Pn	Pn	16 49 37.3	+2.3
IAZR	Azarshahr	3.14 355	Pn	Pn	16 49 40.7	+2.0
ISRB	Sarab	3.46 18	Pn	Pn	16 49 45.5	+2.5
ITBZ	Tabriz	3.69 358	Pn	Pn	16 49 48.5	+2.4
ISHB	Shabestar	3.77 352	Pn	Pn	16 49 48.9	+1.5
IHRS	Heris	3.81 9	Pn	Pn	16 49 50.5	+2.5
IMRD	Marand	4.19 354	Pn	Pn	16 49 55.3	+2.3
IPIR	Pirpir	4.26 115	Pn	Pn	16 49 56.6	+2.5
QAMS	Qamsar	4.31 99	Pn	Pn	16 49 57.5	+2.8
JHBN	Jahan bin	4.32 121	Pn	Pn	16 49 57.7	+2.7
GAS1	Astara - Iran	4.35 27	Pn	Pn	16 49 57.6	+2.6
GRMI	Germi	4.45 16	Pn	Pn	16 49 58.9	+2.3
IVRN	Varamin	4.49 83	Pn	Pn	16 49 59.9	+2.7
ZNGN	Zangian	4.52 121	Pn	Pn	16 50 00.6	+2.9
IDMV	Damavand	4.82 76	Pn	Pn	16 50 04.1	+2.3
KRSH	Karshahi	4.87 95	Pn	Pn	16 50 05.0	+2.6
ISFB	Sefidab	4.92 91	Pn	Pn	16 50 05.3	+2.4
IBRJ	Brojen	4.92 121	Pn	Pn	16 50 05.3	+2.1
MAKU	Maku	4.97 345	Pn	Pn	16 50 06.3	+2.5
GURO	Guroymak-BITLI	5.27 321	Pn	Pn	16 50 06.4	-1.4
IZEF	Zefreh	5.29 106	Pn	Pn	16 50 11.1	+2.8
IFIR	Firoozkooh	5.41 76	Pn	Pn	16 50 11.7	+1.9
KBD	Kabd	5.48 167	P	Pn	16 50 13.0	+2.3
KBD			S	Sn	16 51 14.8	+1.2
ILAS	Lasjerd	5.54 79	Pn	Pn	16 50 13.9	+2.3
KLNJ	Kolanjah	5.69 127	Pn	Pn	16 50 16.1	+2.3
GNI	Garni	5.73 348	Pn	Pn	16 50 17.8	+3.6
	comp=N,0.9nm,0.3s,baz=261,slow=11,SNR=3.1					
GNI			Lg	Lg	16 51 49.8	
	comp=N,0.3nm,0.3s,baz=73,slow=14,SNR=0.9					
	comp=N,5.3nm,0.5s					
IRAM	Ramesheh	5.79 116	Pn	Pn	16 50 17.9	+2.9
DSBU	Dashti - Bushe	7.48 144	Pn	Pn	16 50 40.5	+2.3
GAZ	Gaziantep	7.83 292	Pn	Pn	16 50 42.6	-0.3
ARPR	Arapgir-MALATY	7.83 308	Pn	Pn	16 50 41.9	-1.2
MAK	Makhachkala	8.46 6	*e*P	Pn	16 50 48.2	-3.2
MAK			*e*S	Sn	16 52 23.4	-3.3
MAK			pmax	pmax		
	comp=Z,117nm,1.3s					
MAK			MLR	MLR		
	comp=Z,287nm,15.0s					
HSUJ	Al Zarqa	8.80 257	P	Pn	16 50 55.9	-0.3
NATI	Neve Ativ	8.87 265	P	Pn	16 50 56.2	-0.9
SHMJ	Saham	8.97 261	P	Pn	16 50 57.4	-1.1
MMAI	Mount Meron Ar	9.19 264	Pn	Pn	16 51 01.1	-0.6
	comp=Z,1.2nm,0.3s,baz=52,slow=15,SNR=1.5					
MMAI			Sn	Sn	16 52 44.7	-0.4
	comp=Z,1.3nm,0.3s,baz=77,slow=18,SNR=1.4					
MMAI			Lg	Lg	16 53 30.9	
	comp=Z,2.0nm,0.3s,baz=104,slow=33,SNR=2.9					
MMAI			LR	LR	16 55 29.1	
	comp=Z,151nm,18.3s,baz=20,slow=44					
	comp=Z,1.4nm,0.4s					
BALJ	Balqa	9.25 258	Pn	Pn	16 51 02.3	0.0
BALJ	Balqa	9.25 258	P	Pn	16 51 02.5	+0.2
HMDT	Nahal Hemdat	9.29 259	P	Pn	16 51 04.4	+1.5
KBZ	Khabaz	9.54 345	Pn	Pn	16 51 10.2	+3.9
	comp=Z,0.2nm,0.3s,baz=155,slow=8.3,SNR=3.3					
KBZ			LR	LR	16 55 37.5	
	comp=Z,84nm,20.8s,baz=153,slow=43					
	comp=Z,1.3nm,0.6s					
KARJ	KARJ	9.58 252	P	Pn	16 51 03.0	-3.9
ZFRI	Zfri	10.19 250	P	Pn	16 51 15.1	-0.1
SMRA	Abu-Samra	10.53 157	P	Pn	16 51 20.1	+0.2
SMRA			S	Sn	16 53 13.5	-4.1
TRNA	Turayna	10.67 155	P	Pn	16 51 23.0	+1.2
	SNR=5.8					
TRNA			S	Sn	16 53 17.6	-3.5
AQBJ	Aqaba	10.67 246	P	Pn	16 51 22.5	+0.7
EIL	Elat	10.77 246	Pn	Pn	16 51 23.3	0.0
	comp=Z,0.5nm,0.3s,baz=80,slow=7.1,SNR=2.1					
EIL			Sn	Sn	16 53 24.3	+0.5
	baz=57,slow=12					
EIL			Lg	Lg	16 54 27.1	
	comp=Z,0.3nm,0.3s,baz=311,slow=22,SNR=3.7					
	comp=Z,1.5nm,0.5s					
RAYN	Ar Rayn	11.00 184	Pn	Pn	16 51 24.7	-1.7
RAYN	Ar Rayn	11.00 184	*i* Pn	Pn	16 51 24.8	-1.7
	SNR=7.3					
RAYN	Ar Rayn	11.00 184	P	Pn	16 51 25.6	-0.9
RAYN			S	Sn	16 53 26.1	-3.4
RAYN	Ar Rayn	11.00 184	P	Pn	16 51 24.7	-1.7
BR104	Keskin Array S	11.34 301	P	Pn	16 51 31.8	+0.8
	comp=Z,3.7nm,0.9s,comp=Z,37nm					
BRTR	Keskin Array B	11.35 301	Pn	Pn	16 51 30.0	-1.2
BRTR	Keskin Array B	11.35 301	Pn	Pn	16 51 33.6	+2.4
	comp=Z,0.1nm,0.3s,baz=125,slow=10.0,SNR=19					
BRTR			LR	LR	16 56 54.6	
	comp=Z,62nm,20.6s,baz=121,slow=43					
	comp=Z,3.0nm,0.8s					
BR105	Keskin Array S	11.36 301	P	Pn	16 51 32.9	+1.6
	comp=Z,4.8nm,1.0s,comp=Z,39nm					
BR106	Keskin Array S	11.36 301	P	Pn	16 51 33.1	+1.7
	comp=Z,4.9nm,0.9s,comp=Z,35nm					
SLWR	Sila	11.45 154	P	Pn	16 51 32.8	+0.3
SLWR			S	Sn	16 53 35.4	-4.8
SHME	Shamm	11.99 132	Pn	Pn	16 51 39.8	-0.1
SHME	Shamm	11.99 132	P	Pn	16 51 41.8	+1.9
SHME			S	Sn	16 53 50.0	-3.7
GHWR	Ruwais	12.00 150	P	Pn	16 51 40.3	+0.3
GHWR			S	Sn	16 53 48.9	-4.9
BANOM	Banah	12.18 132	P	Pn	16 51 43.5	+0.9
BANOM			S	Sn	16 53 55.2	-3.1
AJN	Ajban	12.49 140	P	Pn	16 51 49.2	+2.5
MASF	Masafi	12.51 134	P	Pn	16 51 48.0	+0.9
MASF			P	Pn	16 51 48.0	+0.9
MASF			S	Sn	16 54 01.7	-4.6
MASF			S	Sn	16 54 01.7	-4.6
NAZ	Nazwa, Dubai	12.52 137	*i* Pn	Pn	16 51 49.0	+1.9
	SNR=14					
NAZ	Nazwa, Dubai	12.52 137	P	Pn	16 51 48.4	+1.3
	SNR=14					
NAZ			S	Sn	16 54 02.2	-4.2
ASUD	Al Ashush, Dub	12.62 139	Pn	Pn	16 51 49.4	+0.9
ASUD	Al Ashush, Dub	12.62 139	P	Pn	16 51 50.0	+1.5
ASUD			S	Sn	16 54 04.2	-4.8
MDH	Madha	12.65 134	Pn	Pn	16 51 48.6	-0.2
MDH	Madha	12.65 134	P	Pn	16 51 48.7	-0.2
MDH			P	Pn	16 51 48.7	-0.2
MDH			S	Sn	16 54 03.4	-6.2
MDH			S	Sn	16 54 03.4	-6.2
FAQ	Al Faqa, Dubai	12.67 138	Pn	Pn	16 51 49.8	+0.6
FAQ	Al Faqa, Dubai	12.67 138	P	Pn	16 51 51.0	+1.8
FAQ			P	Pn	16 51 51.0	+1.8
FAQ			S	Sn	16 54 05.3	-4.8
FAQ			S	Sn	16 54 05.3	-4.8
UOSS	Minazif	12.86 135		Pn	16 51 51.9	+0.1
UOSS	Minazif	12.86 135	*i* Pn	Pn	16 51 51.4	-0.4
	SNR=8.9					
UOSS	Minazif	12.86 135	P	Pn	16 51 51.8	0.0
UOSS			P	Pn	16 51 51.8	0.0
UOSS			S	Sn	16 54 07.2	-7.7
UOSS			S	Sn	16 54 07.2	-7.7
HATD	Hatta, Dubai	12.91 136	*i* Pn	Pn	16 51 52.4	-0.2
	SNR=15					
HATD			Sn	Sn	16 54 07.2	-8.9
HATD	Hatta, Dubai	12.91 136	P	Pn	16 51 52.7	+0.2
	SNR=15					
HATD			S	Sn	16 54 09.6	-6.5
ASHO	Ashiyiah	12.98 137	*i* Pn	Pn	16 51 53.6	+0.1
	SNR=33					
ASHO	Ashiyiah	12.98 137	P	Pn	16 51 53.9	+0.4
ASHO			S	Sn	16 54 12.2	-5.6
MZR	Muzera	13.11 149	*i* Pn	Pn	16 51 55.0	-0.2
	SNR=12					
MZR	Muzera	13.11 149	P	Pn	16 51 55.5	+0.3
	SNR=12					
MZR			S	Sn	16 54 15.5	-5.4
JASK	Jask - Hormozg	13.21 128	P	Pn	16 51 58.9	+2.3
JASK			S	Sn	16 54 19.7	-3.8
ALNE	Al Ain	13.30 139	*i* Pn	Pn	16 51 57.8	-0.1
	SNR=7.8					
ALNE	Al Ain	13.30 139	P	Pn	16 51 58.2	+0.3
	SNR=7.5					
ALNE			S	Sn	16 54 20.2	-5.6
SOHO	SOHO	13.68 137	*i* Pn	Pn	16 52 01.8	-1.1
	SNR=7.4					
SOHO	SOHO	13.68 137	P	Pn	16 52 03.1	+0.2
SOHO			S	Sn	16 54 27.5	-7.2
UMZA	Um Al Zommool	14.12 144	P	Pn	16 52 08.8	-0.1
UMZA			S	Sn	16 54 36.8	-8.7
ARQ	Araqi	14.30 139	P	Pn	16 52 12.2	+0.7
	SNR=7.1					
ARQ			S	Sn	16 54 43.5	-6.5
HOQ	Hoqain	14.55 136	P	Pn	16 52 15.6	+0.7
HOQ			S	Sn	16 54 49.9	-6.2
BSY	Bisya	15.15 138	P	Pn	16 52 23.5	+0.5
BSY			S	Sn	16 55 04.2	-6.5
SMDO	Samad	15.38 135	P	Pn	16 52 26.6	+0.4
SMDO			S	Sn	16 55 11.6	-4.9
WSAR	Wadi Sarin	15.59 133	Pn	Pn	16 52 27.9	-0.9
	comp=Z,1.2nm,0.3s,baz=351,slow=13,SNR=14					
WSAR			Sn	Sn	16 55 10.1	-11
	comp=Z,0.1nm,0.3s,baz=275,slow=16,SNR=1.3					
	comp=Z,8.1nm,0.7s					
JMDO	Jabal Madar	15.95 136	P	Pn	16 52 34.4	+0.9
JMDO			S	Sn	16 55 22.8	-7.4
WBK	Wadi Bani Khal	16.27 134	P	Pn	16 52 36.7	-0.9
WBK			S	Sn	16 55 34.0	-4.0
JLN	Jalan Bani Buh	16.88 134	P	Pn	16 52 46.3	+1.0
VRH	Novokhopyorsk	16.98 350	*e*P	Pn	16 52 44.9	-1.4
VRH			pmax	pmax		
	comp=Z,7.0nm,0.4s					
MHTO	MHTO	16.98 140	P	Pn	16 52 45.7	-0.8
	SNR=6.0					
MHTO			S	Sn	16 55 46.6	-8.6
TPGR	Topolog	17.15 312	⇓P	P	16 52 50.2	0.0
VORD	Divnogorie	17.19 345	*e*P	Pn	16 52 49.5	+0.6
VORD			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PURM	Purcari	17.25 319	P	P	16 52 51.4	+0.1
	comp=Z,59nm,0.8s,comp=Z,4µm					
DOK	Doka	17.33 154	P	Pn	16 52 49.4	-1.5
VSR	Storozhevoye	17.45 345	*e*P	Pn	16 52 50.1	-2.1
VSR			pmax	pmax		
	comp=Z,6.0nm,0.6s					
CFR	Carcaliu	17.49 313	⇓P	Pn	16 52 53.5	+0.8
CFR	Carcaliu	17.49 313	P	Pn	16 52 53.5	+0.8
IDI	Anoyia	17.57 279		Pn	16 52 54.9	+0.9
IDI			IAmb	IAmb	16 52 59.0	
	comp=Z,32nm,1.4s					
IDI	Anoyia	17.57 279	P	Pn	16 52 53.7	-0.2
	comp=Z,8.7nm,0.9s,baz=128,slow=13,SNR=3.5					
RDO	Rodhopi	17.65 298		Pn	16 52 54.6	-0.2
RDO			IAmb	IAmb	16 53 27.6	
	comp=Z,16nm,0.6s					
ABKAR	Akbulak array	17.83 30	Pn	Pn	16 52 56.2	-0.7
WHFO	Wadi Hawf	17.85 156	P	Pn	16 52 55.1	-2.4
BELG	Belogornoye	17.87 3	P	Pn	16 52 56.2	-1.2
	comp=Z,0.6nm,0.3s,baz=176,slow=0.6,SNR=4.5					
BELG			LR	LR	17 02 02.0	
	comp=Z,44nm,19.8s,baz=220,slow=44					
	comp=Z,11nm,0.8s					
ELND	Elena	17.97 304	⇓P	P	16 53 00.3	+1.1
AKTO	Aktyubinsk	18.04 25	P	P	16 53 00.9	+0.9
	comp=Z,0.2nm,0.3s,baz=213,slow=12,SNR=7.1					
AKTO			LR	LR	17 02 16.4	
	comp=Z,56nm,19.8s,baz=192,slow=45					
	comp=Z,2.3nm,0.6s					
ABTO	Aybut	18.23 158	P	Pn	16 52 59.6	-2.5
ABTO			S	Sn	16 56 16.5	-9.1
RBK	Rabkut	18.38 155	P	P	16 53 01.9	-2.1
SHAO	Shalim	18.44 151	P	P	16 53 04.2	-0.4
DMTO	DMTO	18.45 153	P	P	16 53 03.3	-1.4
VRI	Vrincioaia	18.69 313	⇑P	Pn	16 53 08.7	+1.1
VRI	Vrincioaia	18.69 313	P	Pn	16 53 08.6	+1.1
PLOR	Plostina	18.73 313	⇑P	Pn	16 53 09.4	+1.3
PLOR	Plostina	18.73 313	P	Pn	16 53 09.3	+1.3
PLOR3	Plostina Array	18.73 313	P	Pn	16 53 09.2	+1.1
	comp=Z,3.7nm,0.8s					
LPSR	Galich'ya Gora	18.80 346	*e*P	P	16 53 06.0	-2.3
LPSR			pmax	pmax		
	comp=Z,20nm,0.6s					
MLR	Muntele Rosu	18.98 311	P	P	16 53 10.4	-0.1
	comp=Z,0.2nm,0.3s,baz=270,slow=20,SNR=2.6					
	comp=Z,2.1nm,0.6s					
MLR	Muntele Rosu	18.98 311	⇑P	Pn	16 53 12.1	+0.9
MLR	Muntele Rosu	18.98 311	P	Pn	16 53 12.1	+0.9
COVR	Voineasa-Covas	19.00 312	⇓P	Pn	16 53 12.5	+1.2
SORM	Soroca	19.07 321	⇓P	Pn	16 53 12.4	+0.3
SORM	Soroca	19.07 321	P	Pn	16 53 12.3	+0.3
SORM	Soroca	19.07 321	P	Pn	16 53 12.1	+0.1
	comp=Z,13nm,0.8s					
TESR	Tescani	19.07 315	⇑P	P	16 53 12.0	+0.7
TESR	Tescani	19.07 315	P	P	16 53 11.3	0.0
	comp=Z,10nm,0.7s					
ONER	Baraj Valea Uz	19.13 314	⇑P	P	16 53 12.8	+0.8
TURR	Turia	19.21 313	⇑P	Pn	16 53 14.5	+0.6
OZUR		19.37 313	⇑P	P	16 53 15.6	+0.9
VOIR		19.52 310	⇓P	Pn	16 53 18.3	+0.7
VOIR		19.52 310	P	Pn	16 53 18.3	+0.7
VOIR		19.52 310	P	Pn	16 53 17.7	+0.1
	comp=Z,13nm,0.7s					
DOPR	Dopca	19.55 312	⇑P	P	16 53 17.4	+0.8
AGG	Agios Georgios	19.69 290	P	P	16 53 18.6	+0.4
AGG	Agios Georgios	19.69 290	P	P	16 53 18.6	+0.4
AGG			pmax	pmax		
	comp=Z,15nm,1.3s					
ITM	Ithomi	19.91 285	P	P	16 53 19.1	-1.5
ITM			IAmb	IAmb	16 53 20.6	
	comp=Z,13nm,0.8s					
TNR	Turnu Rosu	20.11 310	⇑P	Pn	16 53 24.6	+0.1
TNR	Turnu Rosu	20.11 310	P	Pn	16 53 24.5	0.0
AK07	Malin Array Si	20.28 327	P	P	16 53 23.6	-0.9
AK09	Malin Array Si	20.29 327	P	P	16 53 23.7	-0.9
KMPD	K-Podol'skiy	20.33 320	P	P	16 53 24.1	-0.9
AK05	Malin Array Si	20.33 327	P	P	16 53 25.8	+0.8
LOT	Lotru	20.34 309	⇓P	P	16 53 26.2	+0.9
AK02	Malin Array Si	20.36 327	P	P	16 53 25.7	+0.4
AK12	Malin Array Si	20.37 327	P	P	16 53 25.1	-0.3
AKASG	Malin Array Be	20.38 328	P	P	16 53 24.6	-0.9
AKASG	Malin Array Be	20.38 328	P	P	16 53 24.2	-1.4
	comp=Z,1.9nm,0.5s,baz=140,slow=8.9,SNR=14					
AKASG			LR	LR	17 02 58.6	
	comp=Z,60nm,19.2s,baz=114,slow=42					
	comp=Z,1.9nm,0.5s					
AKASG	Malin Array Be	20.38 328	*e*P	P	16 53 24.4	-1.1
AKASG			pmax	pmax		
	comp=Z,3.0nm,0.4s					
AKBB	Malin Array Si	20.38 328	P	P	16 53 24.6	-0.9
AKBB			IAmb	IAmb	16 53 33.3	
	comp=Z,8.7nm,0.7s					
AKBB	Malin Array Si	20.38 328	P	P	16 53 24.6	-0.9
AKBB			pmax	pmax		
	comp=Z,9.0nm,0.7s					
AKBB	Malin Array Si	20.38 328	P	P	16 53 25.4	-0.1
KIEV	Kiev	20.38 328	P	P	16 53 24.6	-0.9
KIEV	Kiev	20.38 328	P	P	16 53 24.6	-0.9
KIEV			pmax	pmax		
	comp=Z,8.0nm,0.7s					
KIEV	Kiev	20.38 328	P	P	16 53 25.4	-0.1
	comp=Z,44nm,0.7s					
BURAR	Bucovina Array	20.48 316	P	P	16 53 26.5	-0.3
BURAR			IAmb	IAmb	16 53 30.6	
	comp=Z,15nm,0.8s					
BURAR	Bucovina Array	20.48 316	⇑P	P	16 53 27.3	+0.4
BURAR	Bucovina Array	20.48 316	P	P	16 53 26.5	-0.3
BURAR			pmax	pmax		
	comp=Z,15nm,0.9s					
BUR08	Bucovina Ar. S	20.51 316		P	16 53 26.9	-0.3
LUBAR	Lubar, Ukraine	20.52 324	P	P	16 53 27.4	+0.3
FNA	Florina	20.65 295	P	P	16 53 28.6	-0.1
FNA	Florina	20.65 295	P	P	16 53 28.6	-0.1
FNA			pmax	pmax		
	comp=Z,9.0nm,0.9s					
MI30	MI30,Zelenitsa	20.88 326	P	P	16 53 29.9	-1.0
CJR	Cluj-Napoca	21.00 312	⇑P	P	16 53 33.7	+1.3
CJR	Cluj-Napoca	21.00 312	P	P	16 53 33.6	+1.3
HERR	Herculane	21.00 307	⇑P	P	16 53 33.8	+1.4
BOVS	Bovan	21.07 303	⇑P	P	16 53 33.9	+0.8
MI28	Mi28,Pidlybu	21.24 326	P	P	16 53 33.8	-1.1
MDVR	Moldovita	21.43 306	⇑P	P	16 53 38.2	+1.1
SURR	Surduc	21.52 309	⇓P	P	16 53 38.9	+1.0
DRGR		21.58 312	⇓P	P	16 53 39.2	+0.6
DRGR		21.58 312	P	P	16 53 39.2	+0.6
OBN	Obninsk	21.65 345	*e*P	P	16 53 39.0	-0.2
OBN			*e*PPP	PPP	16 54 06.8	
OBN			*e*		16 57 39.0	
OBN			pmax	pmax		
	comp=Z,7.0nm,0.5s					
PUK	Puka	21.98 298	P	P	16 53 42.1	-0.8
PUK			IAmb	IAmb	16 54 26.0	
	comp=Z,22nm,1.3s					
SIRR	Siria	22.02 310	⇑P	P	16 53 44.2	+0.9
RNPP5	Staryi Chortor	22.28 325	P	P	16 53 45.7	-0.3
RNPP9	Sopachiv	22.39 325	P	P	16 53 47.7	+0.5
KOLS	Kolonicke sedl	22.85 316	*e*P	P	16 53 53.4	+1.3
KOLS			pmax	pmax		
	comp=Z,12nm,0.8s					
KOLS	Kolonicke sedl	22.85 316	*e*P	P	16 53 53.4	+1.3
KWP	Kalwaria Pacla	22.97 318	P	P	16 53 53.8	+0.5
	comp=Z,19nm,0.4s,comp=Z,2µm					
CRVS	Cervenica-Dubn	23.30 316	*e*P	P	16 53 59.4	+2.6
CRVS			pmax	pmax		
	comp=Z,13nm,1.0s					
CRVS	Cervenica-Dubn	23.30 316	*e*P	P	16 53 59.4	+2.6
AAK	Ala-Archa	23.40 61	LR	LR	17 03 35.1	
	comp=Z,47nm,18.6s,baz=252,slow=38					
ARU	Arti	23.45 17	⇑*e*P	P	16 53 59.3	+1.2
ARU			pmax	pmax		
	comp=Z,4.0nm,0.7s					
ARU	Arti	23.45 17	P	P	16 53 59.8	+1.7
	comp=Z,5.2nm,0.9s					
KECS	Kecovo	23.68 314	*e*P	P	16 54 00.0	-0.5
KECS	Kecovo	23.68 314	*e*P	P	16 54 00.0	-0.5
PSZ	Piszkesteto	23.79 312	P	P	16 54 00.7	-1.0
PSZ	Piszkesteto	23.79 312	⇑P	P	16 54 02.2	+0.5
PSZ	Piszkesteto	23.79 312	P	P	16 54 00.7	-1.0
PSZ			pmax	pmax		
	comp=Z,5.0nm,0.7s					
MORH	Mrgy, Hungar	23.95 307	⇑P	P	16 54 03.5	+0.5
MORH	Mrgy, Hungar	23.95 307	P	P	16 54 03.8	+0.7
	comp=Z,6.4nm,1.4s					
KIRV	Kirov	24.14 4	LR	LR	17 04 58.6	
	comp=Z,50nm,20.0s,baz=191,slow=40					
KIRV	Kirov	24.14 4	⇓*e*P	P	16 54 03.2	-1.5
KSH	Kashi	24.15 69	P	P	16 54 05.3	+0.1
KSH			sP	sP	16 54 11.4	-0.1
KSH			pmax	pmax		
	comp=Z,2.0nm,0.8s					
NIE	Niedzica	24.22 316	P	P	16 54 06.5	+0.9
	comp=Z,3.5nm,0.8s					
LANS	Liptovska Anna	24.58 315	*e*P	P	16 54 11.3	+2.3
LANS			pmax	pmax		
	comp=Z,3.0nm,0.8s					
LANS	Liptovska Anna	24.58 315	*e*P	P	16 54 11.2	+2.3
VYHS	Vyhne	24.68 313	*e*P	P	16 54 11.5	+1.7
VYHS			pmax	pmax		
	comp=Z,3.0nm,0.8s					
VYHS	Vyhne	24.68 313	*e*P	P	16 54 11.5	+1.7
SRO	Srobarova	24.73 311	*e*P	P	16 54 11.7	+1.5
SRO			pmax	pmax		
	comp=Z,8.0nm,1.0s					
SRO	Srobarova	24.73 311	*e*P	P	16 54 11.7	+1.5
OJC	Ojcow	24.89 317		P	16 54 11.5	-0.1
OJC	Ojcow	24.89 317	P	P	16 54 11.5	-0.1
OJC			pmax	pmax		
	comp=Z,14nm,0.6s					
OJC	Ojcow	24.89 317	P	P	16 54 12.2	+0.6
	comp=Z,19nm,0.9s,comp=Z,209nm					
MPLH	Magyarpolny	24.99 309	P	P	16 54 13.1	+0.5
	comp=Z,29nm,1.0s					
BVAR	Borovoye Array	25.17 35	P	P	16 54 16.6	+2.5
	comp=Z,0.7nm,0.5s,baz=241,slow=9.3,SNR=6.4					
BVAR			LR	LR	17 06 11.0	
	comp=Z,49nm,19.5s,baz=207,slow=41					
	comp=Z,0.7nm,0.5s					
JAVC	Velka Javorina	25.53 313	*e*P	P	16 54 19.5	+2.0
MODS	Modra-Piesok	25.58 311	*e*P	P	16 54 19.9	+1.9
MODS			pmax	pmax		
	comp=Z,18nm,1.2s					
MODS	Modra-Piesok	25.58 311	*e*P	P	16 54 19.9	+1.9
ZST	Bratislava	25.62 311	*e*P	P	16 54 20.4	+2.1
ZST	Bratislava	25.62 311	*e*P	P	16 54 20.4	+2.1
MAUC	Maruska	25.64 314	*e*P	P	16 54 21.2	+2.7
RONA	Rosalia, Austr	25.96 310	*i* P	P	16 54 22.9	+1.5
	comp=Z,4.7nm,0.7s					
MORC	Moravsky Berou	25.98 315	P	P	16 54 20.9	-0.7
MORC	Moravsky Berou	25.98 315	*e*P	P	16 54 21.0	-0.6
MORC	Moravsky Berou	25.98 315	⇑P	P	16 54 22.2	+0.6
MORC	Moravsky Berou	25.98 315	P	P	16 54 20.9	-0.7
MORC			pmax	pmax		
	comp=Z,6.0nm,1.2s					
CONA	Conrad Observa	26.31 310	*e*P	P	16 54 24.7	+0.1
	comp=Z,3.6nm,1.3s					
ARSA	Arzberg	26.31 308	*e*pP	P	16 54 26.1	+1.5
	comp=Z,4.4nm,0.8s					
VRAC	Vranov	26.36 313	*e*P	P	16 54 24.7	-0.3
KRUC	Moravsky	26.38 312	*e*P	P	16 54 25.0	-0.2
FURI	Furi	26.47 197	LR	LR	17 05 58.4	
	comp=Z,83nm,18.6s,baz=156,slow=39					
SOKA	Soboth	26.47 307	*e*pP	P	16 54 28.2	+2.1
	comp=Z,4.5nm,1.4s					
KRLC	Kraliky	26.55 315	*e*P	P	16 54 27.7	+0.9
KRLC	Kraliky	26.55 315	*e*P	P	16 54 27.7	+0.9
OBKA	Obir

LPL La Plagne 31.92 302 *e*P **P 16 55 14.0 -0.7**
LPL pmax pmax
comp=Z,3.0nm,0.4s
WMQ Urumqi 33.11 61 *e*P **P 16 55 28.3 +3.3**
ZALV Zalesovo Beam 33.17 42 P **P 16 55 25.8 +0.5**
comp=Z,1.1nm,0.9s,baz=233,slow=14,SNR=2.0
comp=Z,1.1nm,0.9s
HFS Hagfors 33.20 331 P **P 16 55 24.7 -0.8**
comp=Z,2.6nm,0.5s,baz=135,slow=7.3,SNR=16
comp=Z,2.6nm,0.5s
SSB Saint Sauveur 33.44 301 P **P 16 55 26.8 -1.0**
SSB IAmb IAmb 16 56 06.2
comp=Z,3.8nm,1.0s
SSB Saint Sauveur 33.44 301 P **P 16 55 26.8 -1.0**
SSB pmax pmax
comp=Z,4.0nm,1.0s
SMF Signal de Mont 34.03 304 *e*P **P 16 55 34.0 +1.1**
SMF pmax pmax
comp=Z,2.0nm,0.6s
NC405 NORSAR Array S 34.57 331 P **P 16 55 37.8 +0.4**
NC405 IAmb IAmb 16 55 39.6
comp=Z,5.6nm,1.1s
NB2 NORSAR Subarra 34.73 331 P **P 16 55 37.8 -1.0**
comp=Z,1.1nm,0.7s,baz=125,slow=8.6
NOA NORSAR Array B 34.73 331 P **P 16 55 37.5 -1.3**
comp=Z,0.9nm,0.7s,baz=125,slow=8.7,SNR=6.4
comp=Z,0.9nm,0.7s
CAF Calviac 35.17 301 *e*P **P 16 55 40.6 -2.2**
CAF pmax pmax
comp=Z,1.0nm,0.2s
LFF La Frestale 36.11 301 *e*P **P 16 55 51.8 +1.0**
LFF pmax pmax
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 36.89 348 P **P 16 55 57.1 -0.1**
comp=Z,2.8nm,1.0s,baz=148,slow=8.6,SNR=5.1
ARCES LR LR 17 12 22.8
comp=Z,39nm,21.9s,baz=92,slow=38
comp=Z,2.8nm,1.0s
ARCES ARCESS Array B 36.89 348 *e*P **P 16 55 57.9 +0.7**
ARCES pmax pmax
comp=Z,3.0nm,1.0s
EKA Eskdalemuir Ar 39.66 317 P **P 16 56 19.4 -1.2**
comp=Z,2.7nm,0.5s,baz=107,slow=8.6,SNR=30
comp=Z,2.7nm,0.5s
EKB Eskdalemuir 39.68 317 P **P 16 56 21.0 +0.2**
EKB IAmb IAmb 16 56 59.0
comp=Z,12nm,1.2s
ESK Eskdalemuir 39.68 317 P **P 16 56 21.0 +0.2**
ESK Eskdalemuir 39.68 317 P **P 16 56 21.0 +0.2**
ESK pmax pmax
comp=Z,22nm,1.5s
ESDC Sonseca Array 39.98 293 P **P 16 56 22.4 -1.2**
comp=Z,2.3nm,0.9s,baz=68,slow=7.7,SNR=15
ESDC PcP **PcP 16 58 29.3 +0.6**
comp=Z,0.3nm,0.6s,baz=54,slow=3.8,SNR=4.7
ESDC LR LR 17 13 31.3
comp=Z,39nm,18.5s,baz=136,slow=37
comp=Z,2.3nm,0.9s
PAB San Pablo 40.30 292 P **P 16 56 26.1 -0.1**
PAB IAmb IAmb 16 56 27.0
comp=Z,13nm,1.4s
PAB San Pablo 40.30 292 P **P 16 56 26.2 -0.1**
PAB pmax pmax
comp=Z,13nm,1.5s
DSB Dublin 41.24 314 P **P 16 56 34.1 +0.4**
MTE Manteigas 42.58 294 P **P 16 56 44.8 -0.2**
MTE IAmb IAmb 16 56 44.9
comp=Z,8.5nm,1.1s
PESTR Estremoz 42.90 292 P **P 16 56 47.2 -0.4**
PESTR IAmb IAmb 16 56 50.3
comp=Z,10nm,1.3s
TORD Torodi Ar. Bea 45.56 253 P **P 16 57 08.9 -0.2**
comp=Z,1.3nm,1.0s,baz=44,slow=8.5,SNR=4.6
comp=Z,1.3nm,1.0s
PZH PanZhiHua 47.93 84 P **P 16 57 29.0 +1.3**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,140nm,4.6s
CMAR Chiang Mai Arr 49.23 95 P **P 16 57 37.9 +0.2**
comp=Z,1.1nm,0.7s,baz=291,slow=7.7,SNR=9.1
comp=Z,1.1nm,0.7s
CMAR Chiang Mai Arr 49.23 95 *e*P **P 16 57 38.9 +1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
HHC Hu-ho-hao-te 50.97 62 *e*P **P 16 57 49.4 -1.3**
HHC PP PP 16 59 57.5 +10
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,45nm,3.9s
SFJD Kangerlussuaq 61.32 334 LR LR 17 26 33.6
comp=Z,36nm,19.0s,baz=264,slow=37
EUNU Eureka 62.71 352 P **P 16 59 13.9 +0.6**
EUNU IAmb IAmb 16 59 51.7
comp=Z,5.7nm,1.3s
KSRS Korea Array 64.06 61 P **P 16 59 23.1 +0.3**
comp=Z,1.1nm,0.9s,baz=300,slow=6.5,SNR=4.4
comp=Z,1.1nm,0.9s
KSRS Korea Array 64.06 61 *e*P **P 16 59 25.2 +2.3**
KSRS pmax pmax
comp=Z,1.0nm,0.9s
SEY Seymchan 66.59 29 *e*P **P 16 59 40.0 +1.2**
SEY pmax pmax
comp=Z,10.0nm,2.6s
BILL Bilibino 68.42 21 *e*P **P 16 59 52.5 +2.2**
BILL *e* 17 00 18.0
BILL *e* 17 02 22.1
BILL *e*PPP PPP 17 04 01.6
BILL pmax pmax
comp=Z,2.0nm,1.3s
SCHQ Schefferville 74.17 326 P **P 17 00 26.3 +1.0**
SCHQ IAmb IAmb 17 00 28.2
comp=Z,3.0nm,0.7s
SCHQ Schefferville 74.17 326 P **P 17 00 26.1 +0.7**
comp=Z,3.2nm,0.7s,baz=52,slow=8.5,SNR=6.3
comp=Z,3.2nm,0.7s
C36M Paulatuk 76.17 356 P **P 17 00 38.0 +1.4**
E18K Tukpahlearik C 76.33 10 P **P 17 00 38.9 +1.4**
E18K IAmb IAmb 17 00 42.3
comp=Z,3.7nm,0.9s
F20K Avaraart Lake 77.34 9 P **P 17 00 44.0 +0.8**
F20K IAmb IAmb 17 01 04.8
comp=Z,3.8nm,1.2s
BMAR Burnt Mountain 78.01 4 P **P 17 00 47.6 +0.5**
G19K Purcell Mounta 78.03 9 P **P 17 00 47.7 +0.6**
G19K IAmb IAmb 17 00 50.0
comp=Z,2.6nm,0.7s
IMAR Indian Mountai 78.60 8 P **P 17 00 50.6 +0.3**
G30M tAoh Zraii Nji 78.78 1 P **P 17 00 51.7 +0.4**
G30M IAmb IAmb 17 01 22.3
comp=Z,7.9nm,1.4s
G29M Pine Creek 78.81 2 P **P 17 00 52.0 +0.6**
G29M IAmb IAmb 17 00 54.5
comp=Z,2.2nm,0.8s
G31M Satah River 78.85 0 P **P 17 00 51.9 +0.3**
H29M Whitestone 79.50 2 P **P 17 00 55.9 +0.7**
H29M IAmb IAmb 17 00 59.1
comp=Z,2.5nm,0.8s
I28M Miner Creek 80.22 3 P **P 17 00 59.9 +0.7**
I28M IAmb IAmb 17 01 02.8
comp=Z,2.5nm,0.8s
J19K Poorman 80.27 10 P **P 17 00 59.9 +0.5**
J19K IAmb IAmb 17 01 23.8
comp=Z,7.4nm,1.4s
J20K Nowinta River 80.29 9 P **P 17 01 00.1 +0.6**
ILAR Eielson Array 80.47 6 P **P 17 01 01.5 +1.0**
ILAR Eielson Array 80.47 6 P **P 17 01 01.4 +0.9**
comp=Z,0.5nm,0.9s,baz=306,slow=3.5,SNR=5.6
comp=Z,0.5nm,0.9s
ILAR Eielson Array 80.47 6 *e*P **P 17 01 01.6 +1.1**
BPAW Bear Paw Mtn. 80.74 8 P **P 17 01 03.0 +1.1**
K20K Telida 81.09 9 P **P 17 01 04.2 +0.4**
K20K IAmb IAmb 17 01 16.5
comp=Z,6.9nm,1.4s
SUA Susitna One 83.33 8 P **P 17 01 16.5 +0.8**

*IDC **22** 16:54:53.1±1.0, 4°.81N×125°.49E, h0km, mb3.9/6, mbtmp3.9/6, MS2.8/3, Error ellipse: s-maj=58.4km s-min=18.4km az=74.0*
*DJA **22** 16:54:58.1±1.6, 4°N±15°×12°5E±°, h31km±27km, M3.7/6, mb3.7/1, MLv3.7/6*
*NEIC **22** 16:54:59.6±1.5, 4°.6N±0°.1×124°.8E±0°.1, h35km±2km, mb4.1/7, Error ellipse: s-maj=26.0km s-min=17.9km az=39.0*
ISC 22 16:54:58.4±0.8, 4°.58N±0°.04×124°.84E±0°.07, h35km, n25, σ1§25/24, mb4.1/9, MS2.8/3, 4C-1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.43**	**6**	↓*i*P	**Pn**	**16 55 35.8**	**+0.1**
KCP				*i*S	**Sn**	**16 56 01.0**	**-3.3**
DMPH	**Davao City--Mi**	**2.58**	**15**	↑*i*P	**Pn**	**16 55 38.6**	**+0.9**
DMPH				*e*S	**Sn**	**16 56 07.8**	**0.0**
BUKP	**Musuan**	**3.29**	**4**	↑*i*P	**Pn**	**16 55 48.0**	**+0.5**
ZCP	**Zamboanga City**	**3.62**	**310**	↑*e*P	**Pn**	**16 55 52.8**	**+0.8**
ZCP				*e*S	**Sn**	**16 56 31.9**	**-1.5**
BIPH	**Bislig**	**3.89**	**23**	↑*e*P	**Pn**	**16 55 53.5**	**-2.2**
BIPH				*e*S	**Sn**	**16 56 40.5**	**+0.3**
GTOI	**Gorontalo**	**4.32**	**205**	P	**Pn**	**16 55 59.1**	**-2.6**
TNTI	**Ternate**	**4.54**	**146**	Pn	**Pn**	**16 56 05.7**	**+1.0**
MRSI	**Marisa**	**5.00**	**216**	P	Pn	16 55 52.0	-19
TOLI2	**Tolitoli**	**5.32**	**230**	Pn	**Pn**	**16 56 16.2**	**+0.9**
MTN	**Manton Dam**	**18.40**	**160**	P	**P**	**16 59 09.9**	**-0.8**
MTN				IAmb	IAmb	16 59 12.2	
	comp=Z,11nm,1.2s						
KNRA	**Kununurra**	**20.49**	**169**	P	**P**	**16 59 33.9**	**+0.4**
KNRA				IAmb	IAmb	16 59 53.3	
	comp=Z,6.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.54**	**178**	P	**P**	**16 59 56.6**	**+1.1**
WB0	**Warramunga Arr**	**25.95**	**159**	P	**P**	**17 00 27.6**	**-0.2**
WB0				IAmb	IAmb	17 00 54.1	
	comp=Z,8.1nm,1.0s						
WRAB	**Tennant Creek**	**26.09**	**159**	P	**P**	**17 00 28.9**	**-0.1**
WRAB				IAmb	IAmb	17 00 54.1	
	comp=Z,9.0nm,1.1s						
WRA	**Warramunga Arr**	**26.09**	**159**	P	**P**	**17 00 29.0**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=342,slow=9.7,SNR=32						
	comp=Z,2.3nm,0.6s						
WB2	**Warramunga Arr**	**26.10**	**159**	P	**P**	**17 00 28.9**	**-0.2**
WB2				IAmb	IAmb	17 00 55.6	
	comp=Z,6.4nm,0.9s						
JCJ	**Chichijima**	**27.85**	**35**	LR	LR	17 13 22.4	
	comp=Z,12nm,18.3s,baz=170,slow=41						
JNU	**Nakatsue**	**28.95**	**11**	LR	LR	17 14 27.9	
	comp=Z,24nm,18.0s,baz=214,slow=41						
ASAR	**Alice Springs**	**29.43**	**163**	P	**P**	**17 00 58.2**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=353,slow=7.3,SNR=11						
	comp=Z,0.6nm,0.8s						
KSRS	**Korea Array**	**32.84**	**5**	LR	LR	17 16 28.0	
	comp=Z,18nm,18.7s,baz=185,slow=40						
MJAR	**Matsushiro Arr**	**34.10**	**19**	P	P	17 01 36.1	-3.8
	comp=Z,2.0nm,0.8s,baz=186,slow=10.0,SNR=9.1						
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**39.60**	**157**	P	**P**	**17 02 27.5**	**+0.8**
STKA	**Stephens Creek**	**39.60**	**157**	P	**P**	**17 02 26.8**	**+0.2**
	comp=Z,3.3nm,1.0s,baz=317,slow=13,SNR=6.4						
	comp=Z,3.3nm,1.0s						
MKAR	**Makanchi Array**	**55.80**	**326**	P	**P**	**17 04 32.7**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=128,slow=7.8,SNR=4.4						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**60.02**	**328**	P	**P**	**17 05 02.9**	**+1.3**
	comp=Z,0.4nm,0.2s,baz=121,slow=6.7,SNR=1.8						
	comp=Z,0.4nm,0.2s						

*ISN **22** 17:12:43.5±1.2, 34°.66N×46°.26E, h23km±23km, ML2.4*
*TEH **22** 17:12:43.3, 34°.65N×46°.22E, h11km±14km, ML2.6*
ISC 22 17:12:43.3±1.3, 34°.65N±0°.06×46°.24E±0°.04, h16km±14km, n9, σ0§58/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.13**	**67**	Pg	**Pb**	**17 12 47.1**	**-0.4**
IDHR				Sg	**Sb**	**17 12 49.8**	**-0.5**
IGHG	**Ghaleghazi**	**0.42**	**140**	Pg	**Pg**	**17 12 52.1**	**+0.4**
GLG1	**Gilan-e-Gharb**	**0.60**	**207**	Pg	**Pg**	**17 12 55.3**	**+0.1**
ILIN	**Lien**	**0.65**	**65**	Pg	**Pg**	**17 12 56.3**	**+0.2**
ILBA	**Ilam Banvizeh**	**1.02**	**182**	Pg	**Pn**	**17 13 03.0**	**-0.1**
SNQR	**Sonqor, Kerman**	**1.16**	**79**	Pg	**Pg**	**17 13 06.3**	**+0.6**
IBDR	**Badra**	**1.56**	**190**	*e*Pg	**Pn**	**17 13 11.0**	**+0.7**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**17 13 33.0**	**-0.4**
IBDR				AML	AML	17 13 38.8	
	comp=E,82nm,0.2s						
IBDR				AML	AML	17 13 44.1	
	comp=N,35nm,0.2s						
IKRK	**Kirkuk**	**1.73**	**296**	*e*Pn	**Pb**	**17 13 14.0**	**-0.7**
IKRK				*e*Sn	**Sb**	**17 13 37.0**	**+0.7**
IKFM	**Kafar-mosalman**	**1.74**	**130**	Pg	**Pg**	**17 13 17.0**	**+0.3**

*AEIC **22** 17:13:22.2±2.2, 54°.38N±0°.06×160°.75W±0°.06, h28km±7km, Error ellipse: s-maj=9.1km s-min=4.7km az=170.0*
*NEIC **22** 17:13:22.0±2.3, 54°.46N±0°.05×160°.79W±0°.09, h12km±8km, mb3.8/12, ML3.6/26, ML3.5(AEIC), Error ellipse: s-maj=8.8km s-min=5.0km az=133.0*
*IDC **22** 17:13:26.1±1.2, 55°.87N×161°.43W, h0km, mb3.9/14, mbtmp3.9/15, ML3.3/1, MS3.1/3, Error ellipse: s-maj=29.8km s-min=17.5km az=2.0*
ISC 22 17:13:22.5±1.4, 54°.47N±0°.06×160°.79W±0°.03, h27km±10km, n180, σ1§53/183, mb3.9/15, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.78**	**63**	Pg	**Pb**	**17 13 36.7**	**-0.8**
CNBA				Sg	**Sn**	**17 13 49.5**	**+1.0**
CNBA				IAML		17 13 50.7	
	comp=N,2μm,0.6s						
CHNA	**Chernabura Isl**	**0.78**	**62**	P	**Pb**	**17 13 36.7**	**-0.8**
	baz=237						
CHNA				S	**Sn**	**17 13 49.2**	**+0.6**
	baz=237						
SDPT	**Sand Point**	**0.90**	**11**	P	**Pb**	**17 13 39.2**	**-0.3**
SDPT	**Sand Point**	**0.90**	**11**		**Pb**	**17 13 38.9**	**-0.6**
SDPT	**Sand Point**	**0.90**	**11**	IAML		17 13 58.4	
	comp=E,1μm,0.8s						
SDPT				IAML		17 14 00.7	
	comp=N,1μm,0.5s						
SDPT	**Sand Point**	**0.90**	**11**	P	**Pb**	**17 13 38.9**	**-0.6**
	baz=190						
HAG	**Hague Volcano**	**1.06**	**323**		**Pn**	**17 13 41.9**	**+0.2**
PS4A	**Pavlof South-4**	**1.07**	**325**		**Pn**	**17 13 41.8**	**0.0**
PS4A					**Sn**	**17 13 57.6**	**+1.8**
PS1A	**Pavlof South-1**	**1.10**	**330**		**Pn**	**17 13 42.3**	**+0.1**
PN7A	**Pavlof North-7**	**1.19**	**325**		**Pn**	**17 13 43.9**	**+0.4**
S12K	**Black Hills**	**1.44**	**330**	Pn	**Pb**	**17 13 47.8**	**-0.8**
S12K				Sg	**Sb**	**17 14 07.4**	**+0.9**
S12K	**Black Hills**	**1.44**	**330**	P	**Pb**	**17 13 47.8**	**-0.8**
	baz=150						
FALS	**False Pass**	**1.58**	**285**	P	**Pn**	**17 13 49.5**	**+0.8**
FALS	**False Pass**	**1.58**	**285**		**Pn**	**17 13 49.0**	**+0.4**
FALS	**False Pass**	**1.58**	**285**	P	**Pn**	**17 13 49.0**	**+0.4**
	baz=106						
ISLZ	**Isanotski Laza**	**1.72**	**280**		**Pn**	**17 13 51.1**	**+0.4**
ISLZ					**Sb**	**17 14 13.8**	**-0.8**
ISNN	**Isanotski Nort**	**1.77**	**283**		**Pn**	**17 13 52.7**	**+1.3**
VNWF	**Veniaminof 8**	**1.82**	**22**		**Pb**	**17 13 54.0**	**-1.3**
SSLS	**Shishaldin Sou**	**1.88**	**279**		**Pn**	**17 13 54.0**	**+1.0**
VNSS	**Veniaminof 8**	**1.92**	**23**		**Pb**	**17 13 55.6**	**-1.3**
S14K	**Fog Glacier**	**1.95**	**21**	P	**Pb**	**17 13 56.0**	**-1.4**
	baz=200						
S14K				S	**Sb**	**17 14 22.2**	**+0.9**
	baz=200						
VNFG	**Fog Glacier, M**	**1.95**	**21**		**Pb**	**17 13 56.0**	**-1.4**
VNFG					**Sb**	**17 14 22.1**	**+0.9**
WESE	**West Dahl East**	**2.22**	**272**		**Pn**	**17 13 58.4**	**+0.8**
CHGN	**Chignik**	**2.28**	**35**	Pn	**Pn**	**17 13 59.8**	**+1.4**
CHGN				IAML		17 14 32.5	
	comp=E,645nm,0.6s						
CHGN				IAML		17 14 35.3	
	comp=N,366nm,0.5s						
WEBT	**Westdahl Beart**	**2.31**	**275**		**Pn**	**17 13 59.6**	**+0.7**
AKSA	**Akutan Strait**	**2.90**	**265**		**Pn**	**17 14 07.5**	**+0.7**
AKSA	**Akutan Strait**	**2.90**	**265**		**Sn**	**17 14 41.7**	**+1.0**
AHB	**Akutan Harbor**	**2.97**	**265**		**Pn**	**17 14 08.5**	**+0.6**
HSB	**Akutan Spr's B**	**3.02**	**267**		**Pn**	**17 14 09.1**	**+0.6**
AKBBA	**Akutan Broad B**	**3.04**	**265**		**Pn**	**17 14 09.4**	**+0.6**
AKBBA					**Sn**	**17 14 44.5**	**+0.2**
AKV	**Akutan Volcano**	**3.05**	**266**		**Pn**	**17 14 09.7**	**+0.6**
AKGG	**Akutan Green G**	**3.06**	**267**		**Pn**	**17 14 09.7**	**+0.6**
LVA	**Lava Point**	**3.09**	**266**	Pn	**Pn**	**17 14 09.8**	**+0.3**
LVA				IAML		17 15 03.9	
	comp=N,317nm,0.8s						
LVA				IAML		17 15 04.8	
	comp=E,178nm,0.8s						
AKRB	**Akutan Reef Bi**	**3.11**	**266**		**Pn**	**17 14 10.6**	**+0.8**
CHIR	**Chirikof Islan**	**3.26**	**63**	Pn	**Pn**	**17 14 11.7**	**-0.1**
CHIR				IAML		17 15 11.6	
	comp=N,191nm,1.1s						
CHIR				IAML		17 15 12.3	
	comp=E,220nm,0.9s						
UNV	**Unalaska Valle**	**3.42**	**262**	P	**Pn**	**17 14 14.0**	**0.0**
UNV	**Unalaska Valle**	**3.42**	**262**	P	**Pn**	**17 14 14.0**	**0.0**
	baz=78						
R17L	**Mt. Peulik Vol**	**4.02**	**36**	P	**Pn**	**17 14 23.6**	**+1.3**
	baz=219						
PLK4	**Peulik 4**	**4.03**	**36**		**Pn**	**17 14 23.6**	**+1.2**
PLK4	**Peulik 4**	**4.03**	**36**	IAML		17 15 20.8	
	comp=E,141nm,0.9s						
PLK4				IAML		17 15 34.5	
	comp=N,106nm,0.8s						
PLK3	**Peulik 3**	**4.10**	**36**		**Pn**	**17 14 25.1**	**+1.8**
SII	**Sitkinak Islan**	**4.30**	**58**	P	**Pn**	**17 14 26.4**	**+0.3**
SII	**Sitkinak Islan**	**4.30**	**58**	Pn	**Pn**	**17 14 25.4**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**4.42**	**259**		**Pn**	**17 14 28.5**	**+0.6**
OKNC	**Okmok New Cone**	**4.45**	**260**		**Pn**	**17 14 28.2**	**0.0**
O15K	**Ungalikthiuk R**	**4.75**	**6**		**Pn**	**17 14 34.0**	**+1.8**
O15K	**Ungalikthiuk R**	**4.75**	**6**	P	**Pn**	**17 14 34.0**	**+1.8**
	baz=186						
ANCK	**Angle Creek**	**4.76**	**36**		**Pn**	**17 14 33.6**	**+1.1**
O14K	**Tigyukauivet M**	**4.80**	**357**	Pn	**Pn**	**17 14 34.4**	**+1.5**
O14K				IAML		17 16 15.1	
	comp=N,38nm,0.8s						
O14K	**Tigyukauivet M**	**4.80**	**357**	P	**Pn**	**17 14 34.5**	**+1.5**
	baz=176						
P16K	**Nushagak River**	**4.82**	**17**		**Pn**	**17 14 34.9**	**+1.6**
P16K	**Nushagak River**	**4.82**	**17**	P	**Pn**	**17 14 34.9**	**+1.6**
	baz=199						
ACHA	**Angle Creek He**	**4.82**	**37**		**Pn**	**17 14 34.1**	**+0.7**
NIKH	**Nikolski High**	**5.02**	**256**	P	**Pn**	**17 14 36.9**	**+0.9**
OHAK	**Old Harbor**	**5.04**	**54**	P	**Pn**	**17 14 36.7**	**+0.4**
OHAK	**Old Harbor**	**5.04**	**54**	Pn	**Pn**	**17 14 35.9**	**-0.4**
OHAK				IAML		17 16 08.5	
	comp=E,28nm,1.0s						
OHAK				IAML		17 16 14.9	
	comp=N,30nm,0.6s						
KAHC	**Katmai Hardscr**	**5.27**	**35**		**Pn**	**17 14 40.6**	**+1.1**
Q18K	**Katmai Hardscr**	**5.27**	**35**	P	**Pn**	**17 14 40.6**	**+1.1**
	baz=219						
P17K	**Kvichak River**	**5.30**	**25**		**Pn**	**17 14 41.8**	**+1.9**
P17K	**Kvichak River**	**5.30**	**25**	P	**Pn**	**17 14 41.8**	**+1.9**
	baz=208						
O16K	**Kokwok River B**	**5.34**	**15**		**Pn**	**17 14 42.4**	**+2.0**
O16K	**Kokwok River B**	**5.34**	**15**	P	**Pn**	**17 14 42.2**	**+1.8**
	baz=197						
N14K	**Kuskokwak Cree**	**5.49**	**355**	P	**Pn**	**17 14 44.2**	**+1.8**
	baz=174						
KDAK	**Kodiak Island**	**5.66**	**51**	Pn	**Pn**	**17 14 44.5**	**-0.3**
KDAK	**Kodiak Island**	**5.66**	**51**	Pn	**Pn**	**17 14 44.4**	**-0.4**
	comp=N,1.2nm,0.3s,baz=236,slow=5.4,SNR=25						
KDAK				Sn	**Sn**	**17 15 45.1**	**-3.7**
	comp=N,2.3nm,0.3s,baz=53,slow=22,SNR=9.0						
KDAK				Lg	Lg	17 16 10.2	
	comp=N,1.8nm,0.3s,baz=176,slow=21,SNR=2.4						
	comp=N,3.0nm,0.4s						
O17K	**Koliganek Bris**	**5.68**	**19**		**Pn**	**17 14 46.6**	**+1.5**
O17K	**Koliganek Bris**	**5.68**	**19**	P	**Pn**	**17 14 47.2**	**+2.1**
	baz=202						
N15K	**Kwethluk River**	**5.72**	**3**	Pn	**Pn**	**17 14 47.6**	**+1.9**
N15K	**Kwethluk River**	**5.72**	**3**	P	**Pn**	**17 14 47.2**	**+1.5**
	baz=184						
Q19K	**Cape Douglas,**	**5.95**	**38**		**Pn**	**17 14 49.6**	**+0.8**
SPIA	**Saint Paul Isl**	**5.98**	**301**	P	**Pn**	**17 14 50.8**	**+1.6**
SPIA	**Saint Paul Isl**	**5.98**	**301**		**Pn**	**17 14 50.6**	**+1.4**
SPIA	**Saint Paul Isl**	**5.98**	**301**	P	**Pn**	**17 14 50.6**	**+1.4**
	baz=114						
M13K	**Dall Lake**	**6.12**	**348**	Pn	**Pn**	**17 14 53.4**	**+2.4**
M13K	**Dall Lake**	**6.12**	**348**	P	**Pn**	**17 14 52.4**	**+1.4**
	baz=166						
N16K	**Nishlik Lake**	**6.12**	**9**		**Pn**	**17 14 53.1**	**+2.0**
N16K	**Nishlik Lake**	**6.12**	**9**	P	**Pn**	**17 14 53.1**	**+2.0**
	baz=191						
O18K	**Koktuh Hills**	**6.19**	**27**	Pn	**Pn**	**17 14 56.2**	**+4.1**
SYI	**Shuyak Island**	**6.22**	**45**	Pn	**Pn**	**17 14 54.2**	**+1.7**
M15K	**Kasigluk River**	**6.24**	**0**		**Pn**	**17 14 54.1**	**+1.4**
M15K	**Kasigluk River**	**6.24**	**0**	P	**Pn**	**17 14 54.1**	**+1.4**
	baz=180						
M14K	**Bethel**	**6.33**	**355**	Pn	**Pn**	**17 14 55.0**	**+1.1**
M14K	**Bethel**	**6.33**	**355**	P	**Pn**	**17 14 55.3**	**+1.4**
	baz=174						
N17K	**Nushagak Hills**	**6.37**	**16**		**Pn**	**17 14 56.6**	**+2.1**
N17K	**Nushagak Hills**	**6.37**	**16**	P	**Pn**	**17 14 56.6**	**+2.1**
	baz=199						
M11K	**Mekoryuk**	**6.61**	**336**		**Pn**	**17 14 59.0**	**+1.3**
M11K	**Mekoryuk**	**6.61**	**336**	P	**Pn**	**17 14 59.0**	**+1.3**
	baz=152						
M16K	**Timber Creek**	**6.64**	**8**	Pn	**Pn**	**17 14 59.7**	**+1.5**
M16K	**Timber Creek**	**6.64**	**8**	P	**Pn**	**17 14 59.7**	**+1.5**
	baz=189						
N18K	**Kilae Creek**	**6.76**	**21**	Pn	**Pn**	**17 15 02.9**	**+3.0**
ILSW	**Iliamna Southw**	**6.91**	**34**		**Pn**	**17 15 03.7**	**+1.7**
L14K	**Kuka Creek**	**6.96**	**352**		**Pn**	**17 15 03.7**	**+1.1**
M17K	**Holitna River**	**7.17**	**13**	Pn	**Pn**	**17 15 07.3**	**+1.8**
M17K	**Holitna River**	**7.17**	**13**	P	**Pn**	**17 15 06.9**	**+1.4**
	baz=196						
N19K	**Bonanza Creek**	**7.20**	**25**	Pn	**Pn**	**17 15 08.1**	**+2.1**
N19K	**Bonanza Creek**	**7.20**	**25**	P	**Pn**	**17 15 08.0**	**+2.0**
	baz=210						
CNPM	**China Poot**	**7.27**	**42**	Pn	**Pn**	**17 15 07.2**	**+0.3**
L16K	**Owhat River**	**7.29**	**5**	Pn	**Pn**	**17 15 09.1**	**+2.0**
L16K	**Owhat River**	**7.29**	**5**	P	**Pn**	**17 15 08.7**	**+1.5**
	baz=186						
M18K	**Stony River**	**7.51**	**19**		**Pn**	**17 15 12.2**	**+1.9**
M18K	**Stony River**	**7.51**	**19**	P	**Pn**	**17 15 12.1**	**+1.9**
	baz=202						
K15K	**Wolf Creek Mou**	**7.86**	**357**	Pn	**Pn**	**17 15 16.7**	**+1.9**
L18K	**Granite Mounta**	**8.06**	**14**	Pn	**Pn**	**17 15 19.2**	**+1.5**
M19K	**Big River Lodg**	**8.18**	**22**	Pn	**Pn**	**17 15 22.8**	**+3.4**
L19K	**White Mountain**	**8.33**	**20**	Pn	**Pn**	**17 15 23.8**	**+2.3**
ATKA	**Atka Island**	**8.34**	**260**	P	**Pn**	**17 15 22.4**	**+0.9**
TTA	**Tatalina**	**8.84**	**14**	Pn	**Pn**	**17 15 29.5**	**+1.1**
J16K	**Anvik River**	**8.84**	**1**		**Pn**	**17 15 30.1**	**+1.7**
J17K	**VABM Dome**	**9.00**	**5**	Pn	**Pn**	**17 15 31.6**	**+1.2**
PWL	**Port Wells**	**9.24**	**41**		**Pn**	**17 15 33.9**	**0.0**
J18K	**Innoko River**	**9.26**	**11**	Pn	**Pn**	**17 15 35.7**	**+1.6**
I17K	**Unalakleet**	**9.45**	**0**	Pn	**Pn**	**17 15 38.6**	**+2.0**
K20K	**Telida**	**9.56**	**19**		**Pn**	**17 15 40.7**	**+2.5**
GHO	**Glory Hole Cre**	**9.63**	**36**	Pn	**Pn**	**17 15 39.5**	**+0.3**
HIN	**Hinchinbrook I**	**9.71**	**47**	Pn	**Pn**	**17 15 40.4**	**+0.1**
GLI	**Glacier Island**	**9.73**	**43**	Pn	**Pn**	**17 15 40.2**	**-0.4**
ADK	**Adak**	**9.89**	**261**	P	**Pn**	**17 15 43.0**	**+0.2**
FID	**Port Fidalgo**	**9.91**	**45**	Pn	**Pn**	**17 15 42.0**	**-1.0**
KIWB	**Kanaga Island**	**10.17**	**262**	Pn

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I28M                                    IAmb    IAmb    17 17 02.4
    comp=Z,2.4nm,0.8s
K29M Barlow Dome      15.09  42  P       P       17 17 02.1 +3.4
BMAR Burnt Mountain   15.12  24  Pn      Pn      17 16 55.0 +1.1
G27K Doyon Strip      15.43  29  Pn      Pn      17 16 59.9 +1.9
B20K Meade River      15.68   5  P       P       17 17 05.3 +0.3
J30M Hart River       15.89  41  P       P       17 17 10.3 +2.7
J30M                                    IAmb    IAmb    17 17 15.9
    comp=Z,5.9nm,0.9s
H29M Whitestone       16.05  34          P       17 17 09.4 +0.2
I30M Mount Dempster   16.19  39  P       P       17 17 12.5 +1.6
I30M                                    IAmb    IAmb    17 17 14.1
    comp=Z,17nm,1.4s
G29M Pine Creek       16.58  32  IAmb    IAmb    17 17 18.2
    comp=Z,13nm,1.5s
EPYK Eagle Plains     16.68  35  IAmb    IAmb    17 17 32.9
    comp=Z,5.6nm,0.5s
G30M tAoh Zraii Nji   17.19  34  Pn      P       17 17 21.8 -0.1
G30M                                    IAmb    IAmb    17 18 02.0
    comp=Z,7.3nm,1.4s
BBB  Bella Bella      19.55  83  P       Pn      17 17 50.2 +0.9
TXAR Lajitas Array    47.74  98  P       P       17 22 09.5 +12
    comp=Z,0.9nm,0.8s,baz=298,slow=5.7,SNR=9.6
    comp=Z,0.9nm,0.8s
SONM Songino Array    54.50 304  P       P       17 22 46.8 -0.9
    comp=Z,0.5nm,0.6s,baz=62,slow=6.8,SNR=4.0
    comp=Z,0.5nm,0.6s
ARCES ARCESS Array B  56.22 357  P       P       17 22 57.7 -1.8
    comp=Z,0.5nm,0.5s,baz=13,slow=7.5,SNR=5.2
    comp=Z,0.5nm,0.5s
ZALV Zalesovo Beam    59.17 321  P       P       17 23 18.8 -1.8
    comp=Z,0.4nm,0.3s,baz=49,slow=6.8,SNR=2.9
    comp=Z,0.4nm,0.3s
KURBB Kurchatov Arra  64.14 322  P       P       17 23 53.3 -0.7
    comp=Z,2.1nm,0.2s,baz=27,slow=7.0,SNR=2.1
    comp=Z,2.1nm,0.2s
FINES FINESS Array B  64.30 356  P       P       17 23 53.9 -1.0
    comp=Z,0.8nm,0.5s,baz=13,slow=8.1,SNR=12
FINES                                   LR      LR      17 52 27.8
    comp=Z,22nm,19.2s,baz=52,slow=37
    comp=Z,0.8nm,0.5s
NB2  NORSAR Subarra   64.66   4  P       P       17 23 56.6 -0.7
    comp=Z,0.3nm,0.6s,baz=356,slow=6.5
NOA  NORSAR Array B   64.66   4  P       P       17 23 55.4 -1.9
    comp=Z,1.1nm,0.8s,baz=357,slow=6.8,SNR=4.3
    comp=Z,1.1nm,0.8s
BVAR Borovoye Array   64.78 329  P       P       17 23 57.7 -0.5
    comp=Z,1.0nm,0.5s,baz=40,slow=6.7,SNR=7.8
    comp=Z,1.0nm,0.5s
ARU  Arti             64.89 337  P       P       17 23 57.2 -1.6
    comp=Z,1.1nm,0.3s,baz=122,slow=19,SNR=1.8
    comp=Z,1.1nm,0.3s
HFS  Hagfors          65.66   3  P       P       17 24 03.0 -0.7
    comp=Z,1.4nm,0.5s,baz=0.0,slow=5.1,SNR=10
    comp=Z,1.4nm,0.5s
MKAR Makanchi Array   65.90 318  P       P       17 24 04.1 -1.5
    comp=Z,0.4nm,0.5s,baz=47,slow=5.0,SNR=6.4
    comp=Z,0.4nm,0.5s
EKA  Eskdalemuir Ar   69.03  13  P       P       17 24 25.3 +0.2
    comp=Z,0.6nm,0.6s,baz=341,slow=4.9,SNR=4.6
    comp=Z,0.6nm,0.6s
AKASG Malin Array Be  74.86 353  P       P       17 24 59.0 -1.2
    comp=Z,1.4nm,0.5s,baz=9.1,slow=5.6,SNR=12
    comp=Z,1.4nm,0.5s
CMAR Chiang Mai Arr   80.98 289  P       P       17 25 34.5 -0.3
    comp=Z,1.1nm,0.8s,baz=12,slow=6.9,SNR=6.9
CMAR                                    LR      LR      18 02 20.1
    comp=Z,14nm,18.8s,baz=200,slow=37
ESDC Sonseca Array    84.14  18  P       P       17 25 51.4 +0.5
    comp=Z,0.3nm,0.6s,baz=346,slow=9.3,SNR=2.8
    comp=Z,0.3nm,0.6s
QSPA South Pole Qui  144.25 180  PKPbc   PKiKP   17 33 04.2 +6.2
    comp=Z,0.6nm,0.6s,baz=100,slow=0.5,SNR=6.5
```

*DSN **22** 17:22:56.7±1.3,27°.83N×54°.94E,h15km,ML3.8/12,Error ellipse: s-maj=17.8km s-min=5.5km az=23.0*
*TEH **22** 17:22:58.7,27°.46N×54°.93E,h18km±23km,ML3.9*
*MOS **22** 17:22:59.0±1.1,27°.36N×54°.80E,h33km,mb4.3/10,Error ellipse: s-maj=13.3km s-min=7.8km az=95.4*
*IDC **22** 17:23:01.8±2.2,27°.49N×54°.92E,h42km±23km,mb3.7/22, mbtmp3.9/26,ML3.5/4,MS3.3/4,Error ellipse: s-maj=14.7km s-min=10.3km az=29.0*
*OMAN **22** 17:23:02.1±0.1,27°.48N×54°.97E,h22km,mb3.9/4, ml3.8/22,Error ellipse: s-maj=1.3km s-min=0.6km az=19.0*
ISC 22 17:23:00.0±0.4,**27°.53N**±0°.04×**54°.96E**±0°.03,**h20**km,**n132,** σ1§**80**/154,**mb4.0**/30,**MS3.0**/3,**8C-1D,Southern Iran**

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Code Station Name     Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
LAR1 LAR              0.54 285  Pg    Pb        17 23 09.3 -1.6
GENO Geno             1.08  96  Pg    Pb        17 23 19.7 -0.5
IBND Bandar-abas      1.40  93  Pg    Pn        17 23 25.6 +1.2
JHRM Jahrom           1.56 309  Pg    Pn        17 23 27.8 +1.0
LMD1 Lameird          1.61 264  Pg    Pn        17 23 28.7 +1.4
SHME Shamm            1.81 144  P     Pn        17 23 30.7 +0.6
SHME                            S     Sb        17 23 57.1 +2.4
SHME Shamm            1.81 144  P     Pn        17 23 30.9 +0.8
    SNR=36
SHME                            S     Sn        17 23 54.4 +2.0
BANOM Banah           2.00 143  P     Pn        17 23 33.2 +0.6
BANOM Banah           2.00 143  P     Pn        17 23 33.9 +1.3
MASF Masafi           2.40 153  P     Pn        17 23 40.3 +2.1
    SNR=6.4
MASF                            S     Sn        17 24 09.2 +2.1
MSFE Esma-Masafi      2.41 153  P     Pn        17 23 40.1 +1.7
KHNJ Kahnooj          2.47  80  Pn    Pn        17 23 39.8 +0.7
MDH  Madha            2.52 151  P     Pn        17 23 41.2 +1.3
MDH  Madha            2.52 151  P     Pn        17 23 41.8 +1.9
    SNR=5.7
NAZ  Nazwa, Dubai     2.60 166  P     Pn        17 23 43.8 +2.8
NGRK Negar Kerman     2.62  36  Pn    Pn        17 23 41.7 +0.2
UOSS Minazif          2.80 156  P     Pn        17 23 45.0 +1.3
UOSS Minazif          2.80 156  P     Pn        17 23 45.4 +1.6
FAQ  Al Faqa, Dubai   2.83 168  P     Pn        17 23 46.8 +2.7
FAQ  Al Faqa, Dubai   2.83 168  P     Pn        17 23 46.9 +2.9
HATD Hatta, Dubai     2.89 158  P     Pn        17 23 47.3 +2.4
HATD Hatta, Dubai     2.89 158  P     Pn        17 23 47.0 +2.1
ASUD Al Ashush, Dub   2.91 173  P     Pn        17 23 47.7 +2.5
ASUD Al Ashush, Dub   2.91 173  P     Pn        17 23 48.0 +2.9
TVBK TV Kerman        2.92  32  Pn    Pn        17 23 46.8 +1.2
AJN  Ajban            2.95 180  P     Pn        17 23 45.8  0.0
ASHO Ashiyiah         3.00 161  P     Pn        17 23 48.5 +2.1
ASHO Ashiyiah         3.00 161  P     Pn        17 23 48.6 +2.1
    SNR=17
JASK Jask - Hormozg   3.08 122  Pn    Pn        17 23 47.9 +0.3
JASK Jask - Hormozg   3.08 122  P     Pn        17 23 48.2 +0.6
    SNR=7.7
KHGB Koh Gabri        3.13  25  Pn    Pn        17 23 50.2 +1.7
JRN  Qarnain Island   3.20 217  P     Pn        17 23 52.8 +3.6
CHMN Cheshme madani   3.25  44  Pn    Pn        17 23 52.0 +1.9
KBAM BAM              3.47  62  Pn    Pn        17 23 54.5 +1.5
ALNE Al Ain           3.53 168  P     Pn        17 23 55.4 +1.6
ALNE Al Ain           3.53 168  P     Pn        17 23 55.6 +1.8
KRM1 Kerman Provinc   3.59  34  Pn    Pn        17 23 56.5 +1.7
SOHO SOHO             3.66 157  P     Pn        17 23 56.4 +0.8
SOHO SOHO             3.66 157  P     Pn        17 23 56.6 +1.0
IMEH Mehriz           3.86 356  Pn    Pn        17 23 59.8 +1.3
SHMA Al-Shehemyia     3.94 246  P     Pn        17 24 01.7 +2.3
    SNR=6.5
SHMA                            S     Sn        17 24 49.0 +3.9
    SNR=9.7
GHWR Ruwais           4.02 208  P     Pn        17 24 02.1 +1.7
GHWR                            S     Sn        17 24 50.1 +3.3
IBAF Bafgh            4.08   7  Pn    Pn        17 24 02.4 +0.9
SAKB Bahrain          4.25 250  P     Pn        17 24 06.1 +2.5
SAKB                            S     Sn        17 24 54.9 +2.4
TRNA Turayna          4.37 231  P     Pn        17 24 06.5 +1.3
    SNR=14
ARQ  Araqi            4.40 161  P     Pn        17 24 08.2 +2.4
    SNR=7.6
ARQ                             S     Sn        17 25 00.5 +3.9
HOQ  Hoqain           4.46 151  Pn    Pn        17 24 06.1 -0.5
HOQ  Hoqain           4.46 151  P     Pn        17 24 08.0 +1.4
ISAD Sadrabad         4.51 346  Pn    Pn        17 24 08.6 +1.2
SLWR Sila             4.53 221  P     Pn        17 24 09.4 +1.9
KLNJ Kolanjah         4.55 320  Pn    Pn        17 24 07.9 -0.1
SMRA Abu-Samra        4.64 234  P     Pn        17 24 10.9 +2.0
SMRA                            S     Sn        17 25 05.0 +2.8
MZR  Muzera           4.70 197  P     Pn        17 24 10.9 +1.0
MZR  Muzera           4.70 197  P     Pn        17 24 11.2 +1.3
MZR                             S     Sn        17 25 06.4 +2.6
ICHK Chekchek         4.73 354  Pn    Pn        17 24 12.4 +2.0
UMZA Um Al Zommool    4.80 178  P     Pn        17 24 13.0 +1.8
UMZA                            S     Sn        17 25 06.0 -0.1
IRAM Ramesheh         4.82 333  Pn    Pn        17 24 12.7 +1.0
BIDO Bidbid           4.91 144  P     Pn        17 24 15.2 +2.5
BIDO                            S     Sn        17 25 10.8 +1.9
BSY  Bisya            5.17 156  P     Pn        17 24 18.8 +2.4
BSY                             S     Sn        17 25 16.0 +0.5
SMDO Samad            5.25 147  P     Pn        17 24 19.9 +2.4
    SNR=7.7
SMDO                            S     Sn        17 25 19.8 +2.2
WSAR Wadi Sarin       5.41 141  P     Pn        17 24 19.9 +0.3
    2.8nm,0.3s,baz=329,slow=6.0,SNR=33
WSAR                            S     Sn        17 25 20.6 -0.6
    19nm,0.5s,baz=101,slow=23,SNR=6.2
    8.9nm,0.4s
TPRV Parvadeh(Tabas   5.68  15  Pn    Pn        17 24 24.7 +1.3
BSRN Basiran          5.71  38  Pn    Pn        17 24 25.0 +1.1
ANAR Anarak           5.74 350  Pn    Pn        17 24 25.5 +1.2
ZNGN Zangian          5.80 323  Pn    Pn        17 24 26.3 +1.1
IZEF Zefreh           5.81 338  Pn    Pn        17 24 26.4 +1.1
JMDO Jabal Madar      5.87 150  P     Pn        17 24 27.6 +1.6
JMDO                            S     Sn        17 25 33.4 +0.6
NGCH Negor - Chabah   5.94 110  Pn    Pn        17 24 27.4 +0.6
NGCH Negor - Chabah   5.94 110  P     Pn        17 24 27.9 +1.0
    SNR=7.0
JHBN Jahan bin        5.99 323  Pn    Pn        17 24 28.5 +0.7
WBK  Wadi Bani Khal   6.10 143  P     Pn        17 24 30.4 +1.4
    SNR=22
IPIR Pirpir           6.23 327  Pn    Pn        17 24 32.1 +1.0
TKDS Koohdasht(Taba   6.34  17  Pn    Pn        17 24 33.9 +1.4
SRVN Saravan          6.61  89  Pn    Pn        17 24 37.2 +1.0
KBD  Kabd             6.61 286  P     Pn        17 24 36.8 +0.7
KBD                             S     Sn        17 25 49.4 -1.4
JLN  Jalan Bani Buh   6.71 142  P     Pn        17 24 37.7 +0.3
JLN                             S     Sn        17 25 51.3 -2.0
AFRZ Afriz            6.84  30  Pn    Pn        17 24 40.6 +1.2
MHTO MHTO             7.07 157  P     Pn        17 24 43.5 +1.2
MHTO                            S     Sn        17 26 01.0 -1.1
ISFB Sefidab          7.19 342  Pn    Pn        17 24 45.5 +1.4
IKFM Kafar-mosalman   8.56 316  Pn    Pn        17 25 04.1 +1.2
HSAM Samen            8.62 322  Pn    Pn        17 25 04.9 +1.1
DOK  Doka             8.90 185  P     Pn        17 25 08.7 +1.1
RAYN Ar Rayn          9.43 247  P     Pn        17 25 13.1 -1.6
RAYN Ar Rayn          9.43 247  P     Pn        17 25 14.5 -0.3
WHFO Wadi Hawf        9.63 187  P     Pn        17 25 18.1 +0.6
WHFO                            S     Sn        17 27 04.9 -0.3
    SNR=6.7
DMTO DMTO             9.77 180  P     Pn        17 25 21.2 +1.8
ABTO Aybut           10.24 189  P     Pn        17 25 26.3 +0.3
ABTO                            S     Sn        17 27 17.8 -2.5
EIL  Elat            17.70 282  P     Pn        17 27 06.4 +1.0
    0.1nm,0.3s,baz=15,slow=22,SNR=1.7
EIL                             S     Sn        17 30 19.7 -2.5
    1.9nm,0.6s,baz=28,slow=14,SNR=1.9
EIL                             LR    LR        17 35 24.6
    comp=Z,78nm,18.1s,baz=251,slow=42
    1.9nm,0.8s
KBZ  Khabaz          18.87 332  P     Pn        17 27 20.6 +1.0
    0.1nm,0.3s,baz=130,slow=12,SNR=4.6
    1.7nm,0.6s
SHA1 Shidzhatmaz     18.98 332c iP     Pn        17 27 22.9 +1.7
KVAR Kislovodsk Arr  19.14 332  P     P         17 27 21.9 -0.2
    baz=259,slow=22
    1.0nm,0.4s
KIV  Kislovodsk      19.15 332  eP    Pn        17 27 23.6 +0.6
KIV                             pmax  pmax
    comp=Z,9.0nm,1.0s
KSH  Kashi           21.15  50  P     P         17 27 40.6 -3.4
KSH                             pP    pP        17 27 47.3 -2.6
KSH                             pmax  pmax
    comp=Z,2.0nm,0.6s
BR131 Keskin Array S 21.46 310⇑ eP    P         17 27 47.0 -0.3
BRTR Keskin Array B  21.46 310  P     P         17 27 47.4  0.0
    comp=Z,2.7nm,0.6s,baz=117,slow=12,SNR=15
    comp=Z,2.7nm,0.6s
AAK  Ala-Archa       21.89  41  P     P         17 27 52.6 +0.6
    comp=Z,1.9nm,0.4s,baz=245,slow=11,SNR=1.7
AAK                             LR    LR        17 37 59.9
    comp=Z,62nm,19.0s,baz=186,slow=41
    comp=Z,1.9nm,0.4s
AAK  Ala-Archa       21.89  41⇑ eP    P         17 27 55.3 +3.4
AAK                             pmax  pmax
    comp=Z,6.0nm,1.0s
AKTO Aktyubinsk      23.00   5  P     P         17 28 03.0 -0.4
    comp=Z,3.1nm,0.6s,baz=218,slow=7.7,SNR=7.4
    comp=Z,3.1nm,0.6s
AKTO Aktyubinsk      23.00   5  P     P         17 28 03.0 -0.4
BRVK Borovoye        27.93  20⇑ eP    P         17 28 51.5 +2.7
BRVK                            pmax  pmax
    comp=Z,3.0nm,0.9s
BVAR Borovoye Array  27.93  20  P     P         17 28 48.4 -0.4
    comp=Z,7.8nm,0.9s,baz=211,slow=8.4,SNR=18
    comp=Z,7.8nm,0.9s
MK31 Makanchi Array  28.82  41⇑ eP    P         17 28 56.2 -0.7
MKAR Makanchi Array  28.82  41  P     P         17 28 56.3 -0.6
    comp=Z,0.4nm,0.5s,baz=236,slow=8.6,SNR=7.6
    comp=Z,0.4nm,0.5s
ARU  Arti            29.00   4  LR    LR        17 41 54.5
    comp=Z,38nm,18.5s,baz=173,slow=39
ARU  Arti            29.00   4c iP     P         17 28 58.8 +0.6
ARU                                               17 29 50.7
ARU                             S     S         17 33 54.2 +6.1
ARU                             SS    SnSn      17 35 18.3 +6.6
ARU                             pmax  pmax
    comp=Z,3.0nm,1.5s
KURBB Kurchatov Arra 29.20  31  P     P         17 28 59.8 -0.3
    comp=Z,1.6nm,0.2s,baz=225,slow=9.1,SNR=1.6
    comp=Z,1.6nm,0.2s
KURK Kurchatov       29.31  31⇑ eP    P         17 29 04.3 +3.3
KURK                            pmax  pmax
    comp=Z,5.0nm,1.9s
AKASG Malin Array Be 30.29 327  P     P         17 29 07.7 -2.0
    comp=Z,0.4nm,0.5s,baz=137,slow=8.2,SNR=5.1
    comp=Z,0.4nm,0.5s
AKASG Malin Array Be 30.29 327  eP    P         17 29 09.0 -0.7
AKBB Malin Array Si  30.29 327⇓ eP    P         17 29 09.0 -0.7
AKBB                            pmax  pmax
    comp=Z,6.0nm,1.8s
OBN  Obninsk         30.64 339  eP    P         17 29 13.2 +0.5
OBN                             e                 17 30 13.6
OBN                             e                 17 32 10.7
OBN                             pmax  pmax
    comp=Z,4.0nm,1.1s
ZALV Zalesovo Beam   34.30  31  P     P         17 29 43.4 -1.4
    comp=Z,1.4nm,0.5s,baz=239,slow=9.0,SNR=10
    comp=Z,1.4nm,0.5s
ZALV Zalesovo Beam   34.30  31  eP    P         17 29 46.1 +1.3
ZALV                            pmax  pmax
    comp=Z,2.0nm,0.4s
FINES FINESS Array B 39.03 338  P     P         17 30 24.2 -0.8
    comp=Z,2.7nm,0.9s,baz=149,slow=9.1,SNR=11
    comp=Z,2.7nm,0.9s
CMAR Chiang Mai Arr  41.30  93  P     P         17 30 44.6 +0.1
    comp=Z,0.7nm,0.7s,baz=292,slow=12,SNR=2.6
    comp=Z,0.7nm,0.7s
HFS  Hagfors         42.94 331  P     P         17 30 56.0 -1.2
    comp=Z,1.7nm,0.5s,baz=128,slow=9.6,SNR=12
    comp=Z,1.7nm,0.5s
NB2  NORSAR Subarra  44.45 331  P     P         17 31 07.4 -2.1
    comp=Z,1.0nm,0.6s,baz=121,slow=8.6
NOA  NORSAR Array B  44.45 331  P     P         17 31 07.8 -1.6
    comp=Z,1.2nm,0.7s,baz=120,slow=8.1,SNR=6.0
    comp=Z,1.2nm,0.7s
SONM Songino Array   44.54  49  P     P         17 31 10.9 +0.4
    comp=Z,0.3nm,0.6s,baz=260,slow=8.6,SNR=3.8
    comp=Z,0.3nm,0.6s
SONM Songino Array   44.54  49  eP    P         17 31 11.9 +1.4
ESDC Sonseca Array   49.75 300  P     P         17 31 50.6 -0.6
    comp=Z,0.3nm,0.6s,baz=78,slow=7.3,SNR=6.1
    comp=Z,0.3nm,0.6s
EKA  Eskdalemuir Ar  49.81 321  P     P         17 31 49.8 -1.5
    comp=Z,0.2nm,0.4s,baz=108,slow=7.5,SNR=2.2
    comp=Z,0.2nm,0.4s
TORD Torodi Ar. Bea  51.59 265  P     P         17 32 04.1 -1.2
    comp=Z,1.3nm,0.7s,baz=59,slow=8.0,SNR=4.4
    comp=Z,1.3nm,0.7s
TIXI Tiksi           59.07  21  P     P         17 32 57.0 -1.2
    comp=Z,1.7nm,0.3s,baz=316,slow=8.5,SNR=3.1
TIXI                            LR    LR        18 00 30.9
    comp=Z,31nm,18.9s,baz=197,slow=38
    comp=Z,1.7nm,0.3s
KSRS Korea Array     60.96  60  P     P         17 33 10.5 -1.3
    comp=Z,1.5nm,0.5s,baz=278,slow=6.2,SNR=7.8
    comp=Z,1.5nm,0.5s
KSRS Korea Array     60.96  60  eP    P         17 33 12.6 +0.8
KSRS                            pmax  pmax
    comp=Z,2.0nm,0.5s
BOSA Boshof          62.67 209  P     P         17 33 22.5 -1.0
    comp=Z,1.3nm,0.6s,baz=48,slow=2.8,SNR=5.0
    comp=Z,1.3nm,0.6s
SEY  Seymchan        69.12  29⇑ eP    P         17 34 04.2 -0.3
SEY                             pmax  pmax
    comp=Z,5.0nm,1.0s
BILL Bilibino        72.27  22  eP    P         17 34 24.7 +1.1
BILL                            e                 17 34 42.5
BILL                            e                 17 37 03.3
BILL                            ePPP  PPP         17 38 46.8
BILL                            pmax  pmax
    comp=Z,2.0nm,1.2s
ILAR Eielson Array   86.44   9  P     P         17 35 39.1 -1.7
    comp=Z,0.2nm,0.7s,baz=340,slow=5.9,SNR=2.4
    comp=Z,0.2nm,0.7s
WRA  Warramunga Arr  90.11 112  P     P         17 35 57.3 -1.8
    comp=Z,0.6nm,0.8s,baz=301,slow=4.4,SNR=3.5
    comp=Z,0.6nm,0.8s
ASAR Alice Springs   91.57 116  P     P         17 36 04.3 -1.4
    comp=Z,0.3nm,0.7s,baz=299,slow=4.2,SNR=6.5
    comp=Z,0.3nm,0.7s
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*IDC **22** 17:25:44.0±1.3,44°.81N×106°.71W,h0km,mbtmp3.4/2, ML3.2/2,Error ellipse: s-maj=59.1km s-min=10.3km az=137.0*
*NEIC **22** 17:25:43.1±1.7,45°.13N±0°.06×106°.93W±0°.10,h0km±1km, ML2.5/28,Error ellipse: s-maj=13.6km s-min=8.7km az=51.0*
ISC 22 17:25:42.8±1.0,**45°.07N**±0°.05×**106°.95W**±0°.05,**h0**km,**n21,** σ1§**79**/20,**Montana**

```
Code Station Name     Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
RLMT Red Lodge        1.64 272  Pg    Pg        17 26 14.7 +0.4
RLMT                            IAML              17 26 43.1
    48nm,0.5s
RLMT                            IAML              17 26 43.2
    50nm,0.5s
LAO  LASA Array       1.69  17          Pb        17 26 14.0 -0.9
RSSD Black Hills      2.29 114          Pb        17 26 23.8 -1.3
YMP  Mirror Lake PI   2.30 263  Pn      Pn        17 26 23.5 +1.2
K22A Casper           2.44 173  Pn      Pn        17 26 25.0 +0.9
YNR  Norris Junctio   2.67 264  Pn      Pn        17 26 28.3 +0.9
YNR                             IAML              17 27 08.1
    comp=E,23nm,0.4s
YNR                             IAML              17 27 14.2
    comp=N,19nm,0.6s
YHH  Holmes Hill      2.79 265  Pn      Pn        17 26 28.8 -0.2
FLWY Flagg Ranch      2.86 251          Pb        17 26 33.3 -1.5
FLWY                            IAML              17 27 21.1
    comp=N,12nm,0.8s
FLWY                            IAML              17 27 36.7
    comp=N,16nm,1.0s
BW06 Boulder Array    2.98 220  Pn      Pb        17 26 34.7 -2.1
BW06                            IAML              17 27 17.6
    comp=N,11nm,0.6s
PD31 Pinedale Array   2.98 220  Pn      Pb        17 26 34.4 -2.5
PDAR Pinedale Array   2.98 220  Pn      Pb        17 26 34.8 -2.1
    comp=N,3.0nm,0.3s,baz=53,slow=18,SNR=64
PDAR                            Lg      Lg        17 27 14.3
    comp=N,2.5nm,0.3s,baz=50,slow=31,SNR=3.7
    comp=N,3.1nm,0.4s
IMW  Indian Meadow    3.09 249          Pn        17 26 35.8 +2.7
IMW                             IAML              17 27 29.5
    comp=N,22nm,0.6s
IMW                             IAML              17 27 32.6
    comp=N,12nm,0.6s
FXWY Fox Creek        3.26 245          Pn        17 26 37.4 +2.1
BOZ  Bozeman (W)      3.34 281          Pn        17 26 38.0 +1.5
EGMT Eagleton         3.53 328  Pn      Pn        17 26 39.7 +0.7
LRM  Limekiln Ridge   3.94 283  Pn      Pn        17 26 46.2 +1.3
LYMT Lyon Mountain    4.17 299  Pn      Pn        17 26 49.8 +1.8
BPMT Black Pine Rid   4.75 289  Pn      Pn        17 26 56.4 +0.6
BSUT Blindstream Ca   5.33 213  Pn      Pn        17 27 07.3 +3.4
BSUT                            IAML              17 29 16.2
    comp=N,5.2nm,4.0s
I56US NEWPORT INFRAS  7.69 298  I       I         18 12 40.0
    baz=112,slow=318,SNR=1.8
ULM  Lac du Bonnet    9.09  51  Pn      Pn        17 27 54.7 -0.4
    comp=N,0.5nm,0.3s,baz=239,slow=11,SNR=5.6
    comp=N,1.3nm,0.3s
```

*ISN **22** 17:32:38.9±1.3,34°.64N×46°.26E,h20km±24km,ML2.6*
*TEH **22** 17:32:38.6,34°.65N×46°.28E,h11km±5km,ML2.6*
ISC 22 17:32:38.4±1.0,**34°.64N**±0°.05×**46°.28E**±0°.04,**h13**km±8km, **n9,** σ0§**41**/12,**Western Iran**

```
Code Station Name     Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
IDHR Dehrash          0.11  58  Pg    Pg        17 32 41.7  0.0
IDHR                            Sg    Sg        17 32 44.1 +0.1
IGHG Ghaleghazi       0.40 142  Pg    Pg        17 32 46.8 +0.4
KGS1 Ghasr-e-Shirin   0.58 257  Pg    Pg        17 32 50.3 +0.4
GLG1 Gilan-e-Gharb    0.61 210  Pg    Pg        17 32 50.6 +0.3
ILIN Lien             0.63  64  Pg    Pg        17 32 51.0 +0.3
SNQR Sonqor, Kerman   1.13  79  Pg    Pn        17 33 00.5 +0.2
IBDR Badra            1.56 191  ePg   Pn        17 33 06.0 +0.1
    baz=10.0
IBDR                            eSg   Sg        17 33 28.0 -0.5
IBDR                            AML   AML       17 33 38.1
    comp=E,14nm,0.9s
IBDR                            AML   AML       17 33 43.7
    comp=N,9.8nm,0.8s
IKFM Kafar-mosalman   1.71 130  Pg    Pg        17 33 11.5 +0.1
IKRK Kirkuk           1.76 296  ePn   Pb        17 33 10.0 -0.6
IKRK                            eSn   Sb        17 33 33.0 +0.3
```

*NIED **22** 17:40:23.1,28°.65N×129°.25E,h66km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.28; $M_{\theta\theta}$-1.25; $M_{\phi\phi}$1.53; $M_{r\theta}$0.26; $M_{\theta\phi}$-1.02; $M_{\phi r}$-0.05; Fault plane solution: $M_0$1.75000×10^{15} NP1: ϕ_s297.00000°,δ85.00000°,λ-170.00000°. NP2: ϕ_s207.00000°,δ80.00000°,λ-5.00000°.*
*JMA **22** 17:40:23.1±0.3,28°.7N±0°.6×12°.9E±,h66km±3km, MV3.9/27,NEAR AMAMI-OSHIMA ISLAND*
JMA Felt I J1 at NEAR AMAMI-OSHIMA ISLAND.
*IDC **22** 17:40:24.1±0.9,28°.61N×129°.12E,h87km±10km,mb3.1/5, mbtmp3.7/9,MS3.0/1,Error ellipse: s-maj=24.9km s-min=8.0km az=109.0*
ISC 22 17:40:23.1±0.8,**28°.58N**±0°.03×**129°.36E**±0°.05,**h75**km±6km, **n36,** σ1§**27**/57,**mb3.5**/5,**Ryukyu Islands**

```
Code Station Name     Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
JAM  Amami Oshima     0.27 128  iP    Pn        17 40 34.2 -0.4
JAM                             S     Sn        17 40 42.7 -0.5
JAMN Amaminishikomi   0.37 206  iP    Pn        17 40 34.9 -0.4
JAMN                            S     Sn        17 40 44.0 -0.3
JTAJ Takarajima       0.59 346  iP    Pn        17 40 35.8 -1.5
JTAJ                            S     Sn        17 40 45.6 -2.1
JZK  Kikaishima       0.60 116  iP    Pn        17 40 38.7 +1.4
JZK                             S     Sn        17 40 50.9 +3.1
JTK  Tokunoshima      0.87 205  iP    Pn        17 40 40.3  0.0
JTK                             S     Sn        17 40 53.4 +0.3
JNN  Nakanoshima      1.34  19  P     Pn        17 40 45.8 -0.3
JNN                             eS    Sn        17 41 02.6 -0.8
JOKE Okinoerabujima   1.40 210  iP    Pn        17 40 47.4 +0.5
JOKE                            eS    Sn        17 41 04.9  0.0
JYRO Yoronjima        1.75 208  iP    Pn        17 40 51.9 +0.5
JYRO                            S     Sn        17 41 13.9 +0.9
JYAK Yakushimahirau   1.93  31  iP    Pn        17 40 53.5 -0.4
JYAK                            S     Sn        17 41 16.2 -1.2
JIH  Iheya            1.97 219  P     Pn        17 40 55.0 +0.5
JIH                             S     Sn        17 41 19.9 +1.6
JOW  Kunigami         1.99 209  P     Pn        17 40 55.2 +0.5
    224nm,0.3s,baz=91,slow=16,SNR=172
JOW                             S     Sn        17 41 19.2 +0.4
    327nm,0.3s,baz=50,slow=30,SNR=42
JOW  Kunigami         1.99 209  P     Pn        17 40 55.2 +0.5
JOW                             S     Sn        17 41 19.2 +0.4
JKC  Kuchinoerabu     2.01  21  P     Pn        17 40 55.0 +0.1
JKC                             S     Sn        17 41 19.5 +0.2
JMTN Minamitane       2.25  36  P     Pn        17 40 58.0 -0.2
JMTN                            S     Sn        17 41 25.6 +0.5
JNTH Nagotoyohara     2.37 210  P     Pn        17 41 00.3 +0.4
JNTH                            eS    Sn        17 41 28.2 +0.2
JTN  Tanegashima 3    2.50  34  P     Pn        17 41 02.3 +0.7
JTN                             S     Sn        17 41 31.4 +0.3
JAGN Aguni-jima       2.73 224  P     Pn        17 41 05.9 +1.2
```

JAGN eS **Sn** **17 41 38.4 +1.7**
JJT3 Tamagusuku3 2.80 210 P **Pn** **17 41 06.3 +0.6**
JJT3 eS **Sn** **17 41 39.3 +0.9**
JKDJ Kitadaitoujima 3.13 146 P **Pn** **17 41 10.0 -0.2**
JKDJ eS **Sn** **17 41 44.7 -1.7**
JKE Kume jima 2 3.21 226 P **Pn** **17 41 11.8 +0.7**
JKE S **Sn** **17 41 48.6 +0.4**
JMZ Minamidaito 2 3.21 148 P **Pn** **17 41 10.7 -0.5**
JMZ S **Sn** **17 41 45.8 -2.5**
JNU Nakatsue 4.71 16 P **Pn** **17 41 33.9 +2.2**
17nm,0.3s,baz=186,slow=7.9,SNR=66
JNU S **Sn** **17 42 27.3 +2.3**
18nm,0.7s,baz=178,slow=4.6,SNR=3.8
YHNB Yeheng 8.14 243 P **Pn** **17 42 20.6 +2.0**
NACB Ninganchiao 8.23 240 P **Pn** **17 42 18.7 -1.1**
YULB Yu-li 8.90 236 P **Pn** **17 42 26.4 -2.6**
SSLB Suanglung 8.93 240 P **Pn** **17 42 29.0 -0.4**
KSRS Korea Array 8.93 353 P **Pn** **17 42 30.5 +1.3**
2.6nm,0.6s,baz=177,slow=14,SNR=14
TWGBT Beinan 9.42 234 P **Pn** **17 42 35.9 0.0**
JHJ Hachijo jima 2 10.03 61 P **Pn** **17 42 47.7 +3.4**
148nm,0.9s,baz=231,slow=19,SNR=2.2
MJAR Matsushiro Arr 10.89 41 P **Pn** **17 42 57.2 +1.2**
0.3nm,0.3s,baz=224,slow=13,SNR=4.8
ASAJ Asahikawa 18.78 31 LR 17 51 45.4
comp=Z,44nm,18.3s,baz=170,slow=36
MKAR Makanchi Array 40.77 310 P **P** **17 47 55.4 -1.4**
0.2nm,0.4s,baz=90,slow=8.5,SNR=6.6
0.2nm,0.4s
WRA Warramunga Arr 48.48 174 P **P** **17 48 58.5 +0.2**
0.6nm,0.6s,baz=354,slow=8.1,SNR=11
0.6nm,0.6s
ASAR Alice Springs 52.13 175 P **P** **17 49 26.0 +0.2**
0.3nm,0.8s,baz=5.4,slow=15,SNR=6.5
0.3nm,0.8s
ILAR Eielson Array 61.90 29 P **P** **17 50 35.2 +0.9**
0.3nm,0.7s,baz=291,slow=8.3,SNR=5.1
0.3nm,0.7s
FINES FINESS Array B 71.32 330 P **P** **17 51 32.4 -2.0**
0.4nm,0.4s,baz=57,slow=7.0,SNR=8.6
0.4nm,0.4s

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*ISN **22** 17:43:48.7±0.8, 34°.65N×46°.27E, h14km±5km, ML2.7*
*TEH **22** 17:43:49.1, 34°.62N×46°.24E, h10km±21km, ML2.8*
ISC 22 17:43:49.8±1.3, 34°.62N±0°.04×46°.23E±0°.04, h5km±12km, n10, σ0§60/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.15**	**58**	Pg	**Pg**	**17 43 52.8**	**-0.1**
IDHR				Sg	**Sg**	**17 43 55.7**	**+0.7**
IGHG	**Ghaleghazi**	**0.40**	**136**	Pg	**Pg**	**17 43 57.3**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.54**	**258**	Pg	**Pg**	**17 44 00.2**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.57**	**208**	Pg	**Pg**	**17 44 00.3**	**-0.5**
ILIN	**Lien**	**0.67**	**63**	Pg	**Pg**	**17 44 02.2**	**-0.6**
SNQR	**Sonqor, Kerman**	**1.18**	**78**	Pg	**Pg**	**17 44 11.8**	**-0.6**
IBDR	**Badra**	**1.52**	**190**	ePg	**Pn**	**17 44 17.0**	**-0.8**
IBDR				eSg	**Sn**	**17 44 38.0**	**0.0**
IBDR				AML	AML	17 44 45.6	
	comp=N,74nm,0.6s						
IKFM	**Kafar-mosalman**	**1.73**	**129**	Pg	**Pb**	**17 44 22.4**	**+0.3**
IKRK	**Kirkuk**	**1.74**	**297**	ePn	**Pn**	**17 44 20.0**	**-0.7**
IKRK				eSn	**Sn**	**17 44 44.0**	**+0.7**
IKRK				AML	AML	17 44 50.0	
	comp=E,151nm,0.4s						
IKRK				AML	AML	17 44 50.1	
	comp=N,204nm,0.6s						
IKRK				AML	AML	17 44 55.8	
	comp=Z,47nm,0.6s						
RAFI	**Al-Rafai**	**2.89**	**182**	ePn	**Pn**	**17 44 37.0**	**+0.5**
RAFI				eSn	**Sn**	**17 45 12.0**	**+0.4**

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*SKHL **22** 17:44:15.9±0.6, 48°.20N×156°.10E, h57km±8km, mb5.1/6*
*KRSC **22** 17:44:16.1±1.8, 48°.48N×156°.01E, h54km±28km, Ml4.5*
*MOS **22** 17:44:17.5±1.3, 48°.52N×155°.59E, h54km, mb4.3/1, Error ellipse: s-maj=14.1km s-min=4.4km az=75.1*
*IDC **22** 17:44:18.4±2.4, 48°.54N×155°.75E, h44km±22km, mb3.4/14, mbtmp3.8/20, ML4.4/6, MS3.0/4, Error ellipse: s-maj=22.3km s-min=14.2km az=124.0*
ISC 22 17:44:18.1±0.6, 48°.40N±0°.07×155°.86E±0°.07, h50km, n88, σ1§38/100, mb3.5/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.30**	**4**	eP	**Pn**	**17 44 51.5**	**-2.0**
SKR				eS	**Sn**	**17 45 19.4**	**-1.1**
SKR	**Severo-Kuril's**	**2.30**	**4**	eP	**Pn**	**17 44 52.7**	**-0.8**
SKR				AMB	AMB	17 44 55.0	
	320nm,0.4s						
SKR				eS	**Sn**	**17 45 20.8**	**+0.3**
SKR				A	A	17 45 21.6	
	690nm,0.3s						
SKR				A	A	17 45 21.6	
	550nm,0.3s						
SKR	**Severo-Kuril's**	**2.30**	**4**	PN	**Pn**	**17 44 51.5**	**-2.0**
SKR				S	**Sn**	**17 45 19.4**	**-1.1**
KDTR	**Khodutka, Kamc**	**3.70**	**22**	eP	**Pn**	**17 45 12.1**	**-0.6**
KDTR				eS	**Sn**	**17 45 53.1**	**-1.9**
KDTR	**Khodutka, Kamc**	**3.70**	**22**	eP	**Pn**	**17 45 12.1**	**-0.6**
KDTR				eS	**Sn**	**17 45 53.1**	**-1.9**
KDTR	**Khodutka, Kamc**	**3.70**	**22**	PN	**Pn**	**17 45 12.1**	**-0.6**
KDTR				S	**Sn**	**17 45 53.1**	**-1.9**
ASAK	**Asacha**	**4.20**	**17**	eP	**Pn**	**17 45 20.4**	**+0.8**
ASAK	**Asacha**	**4.20**	**17**	PN	**Pn**	**17 45 20.4**	**+0.8**
MTVR	**Mutnovka**	**4.35**	**19**	eP	**Pn**	**17 45 22.1**	**+0.3**
MTVR				eS	**Sn**	**17 46 09.7**	**-1.6**
MTVR	**Mutnovka**	**4.35**	**19**	PN	**Pn**	**17 45 22.1**	**+0.3**
MTVR				S	**Sn**	**17 46 09.7**	**-1.6**
GRL	**Gorelyy**	**4.39**	**18**	eP	**Pn**	**17 45 23.2**	**+0.8**
GRL	**Gorelyy**	**4.39**	**18**	PN	**Pn**	**17 45 23.2**	**+0.8**
APC	**Apacha**	**4.61**	**10**	eP	**Pn**	**17 45 26.5**	**+1.3**
APC	**Apacha**	**4.61**	**10**	PN	**Pn**	**17 45 26.5**	**+1.3**
KRMR	**Karymshinskiy**	**4.67**	**17**	eP	**Pn**	**17 45 26.7**	**+0.7**
KRMR	**Karymshinskiy**	**4.67**	**17**	eP	**Pn**	**17 45 26.7**	**+0.7**
KRMR	**Karymshinskiy**	**4.67**	**17**	PN	**Pn**	**17 45 26.7**	**+0.7**
PET	**Petropavlovsk**	**4.96**	**20**	eP	**Pn**	**17 45 30.2**	**+0.2**
PET				eS	**Sn**	**17 46 25.5**	**-0.5**
PET	**Petropavlovsk**	**4.96**	**20**	eP	**Pn**	**17 45 30.0**	**0.0**
PET				AMB	AMB	17 45 30.6	
	20nm,0.5s						
PET				eS	**Sn**	**17 46 26.2**	**+0.2**
PET				A	A	17 46 27.4	
	60nm,0.5s						
PET				A	A	17 46 27.4	
	70nm,0.5s						
PET	**Petropavlovsk**	**4.96**	**20**	PN	**Pn**	**17 45 30.2**	**+0.2**
PET				S	**Sn**	**17 46 25.5**	**-0.5**
INSR	**Institute**	**4.99**	**19**	eS	**Sn**	**17 46 26.5**	**-0.2**
DALK	**Dalny**	**4.99**	**21**	eP	**Pn**	**17 45 30.4**	**0.0**
DALK				eS	**Sn**	**17 46 26.0**	**-0.7**
DALK	**Dalny**	**4.99**	**21**	PN	**Pn**	**17 45 30.4**	**0.0**
DALK				S	**Sn**	**17 46 26.0**	**-0.7**
UGLR	**Uglovaya**	**5.17**	**20**	eP	**Pn**	**17 45 33.7**	**+0.7**
UGLR	**Uglovaya**	**5.17**	**20**	PN	**Pn**	**17 45 33.7**	**+0.7**
AVH	**Avacha**	**5.21**	**19**	eP	**Pn**	**17 45 35.2**	**+1.8**
AVH	**Avacha**	**5.21**	**19**	eP	**Pn**	**17 45 35.2**	**+1.8**
AVH	**Avacha**	**5.21**	**19**	PN	**Pn**	**17 45 35.2**	**+1.8**
KOK	**Koryaka**	**5.21**	**19**	eP	**Pn**	**17 45 34.8**	**+1.3**
KOK	**Koryaka**	**5.21**	**19**	eP	**Pn**	**17 45 34.8**	**+1.3**
KOK	**Koryaka**	**5.21**	**19**	PN	**Pn**	**17 45 34.8**	**+1.3**
SMAR	**Somma**	**5.22**	**20**	eP	**Pn**	**17 45 35.5**	**+1.8**
SMAR	**Somma**	**5.22**	**20**	PN	**Pn**	**17 45 35.5**	**+1.8**
KRER	**Koryakskii**	**5.24**	**19**	eP	**Pn**	**17 45 35.5**	**+1.4**
KRER	**Koryakskii**	**5.24**	**19**	PN	**Pn**	**17 45 35.5**	**+1.4**
KRX	**Arik**	**5.27**	**18**	eP	**Pn**	**17 45 35.7**	**+1.3**
KRX	**Arik**	**5.27**	**18**	PN	**Pn**	**17 45 35.7**	**+1.3**
SPN	**Mys Shipunski**	**5.40**	**28**	eP	**Pn**	**17 45 36.1**	**+0.1**
SPN				eS	**Sn**	**17 46 35.1**	**-1.7**
SPN	**Mys Shipunski**	**5.40**	**28**	eP	**Pn**	**17 45 36.1**	**+0.1**
SPN	**Mys Shipunski**	**5.40**	**28**	PN	**Pn**	**17 45 36.1**	**+0.1**
GNL	**Ganaly**	**5.47**	**13**	eP	**Pn**	**17 45 38.5**	**+1.5**
GNL	**Ganaly**	**5.47**	**13**	PN	**Pn**	**17 45 38.5**	**+1.5**
KUR	**Kuril'sk**	**6.33**	**243**	eP	**Pn**	**17 45 51.0**	**+2.2**
KUR	**Kuril'sk**	**6.33**	**243**	eP	**Pn**	**17 45 50.0**	**+1.2**
KUR				AMB	AMB	17 45 52.8	
	170nm,0.4s						
KUR				eS	**Sn**	**17 46 57.8**	**-1.9**
KUR				A	A	17 47 08.5	
	90nm,0.6s						
KUR				A	A	17 47 08.5	
	100nm,0.6s						
KUR	**Kuril'sk**	**6.33**	**243**	ePN	**Pn**	**17 45 51.0**	**+2.2**
KUR				eS	**Sn**	**17 47 03.1**	**+3.4**
TUMR	**Tumrok**	**7.39**	**19**	eP	**Pn**	**17 46 04.4**	**+1.0**
TUMR	**Tumrok**	**7.39**	**19**	PN	**Pn**	**17 46 04.4**	**+1.0**
SHO	**Shikotan**	**7.73**	**238**	eP	**Pn**	**17 46 06.2**	**-1.8**
SHO				AMB	AMB	17 46 08.2	
	30nm,0.4s						
SHO				eS	**Sn**	**17 47 29.7**	**-4.4**
SHO	**Shikotan**	**7.73**	**238**	ePN	**Pn**	**17 46 05.2**	**-2.8**
SHO				pmax	pmax		
	comp=Z,17nm,0.3s						
SHO				pmax	pmax		
	comp=E,13nm,0.2s						
KMNR	**Kamenistaya**	**7.85**	**18**	eP	**Pn**	**17 46 11.9**	**+2.3**
KMNR	**Kamenistaya**	**7.85**	**18**	PN	**Pn**	**17 46 11.9**	**+2.3**
YUK	**Yuzh-Kuril'sk**	**8.19**	**242**	eP	**Pn**	**17 46 14.2**	**0.0**
YUK				AMB	AMB	17 46 16.9	
	comp=E,130nm,0.5s						
YUK				eS	**Sn**	**17 47 43.5**	**-1.8**
YUK				A	A	17 47 51.8	
	comp=E,90nm,0.5s						
YUK				A	A	17 47 51.8	
	comp=E,110nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**8.19**	**242**	ePN	**Pn**	**17 46 14.1**	**-0.1**
YUK				pmax	pmax		
	comp=E,46nm,0.3s						
YUK				pmax	pmax		
	comp=Z,105nm,0.3s						
YUK				pmax	pmax		
	comp=N,74nm,0.2s						
KBTR	**Krutoberegovo**	**8.91**	**26**	eP	**Pn**	**17 46 22.9**	**-1.1**
KBTR	**Krutoberegovo**	**8.91**	**26**	PN	**Pn**	**17 46 22.9**	**-1.1**
TYV	**Tymovskoe**	**8.92**	**291**	eP	**Pn**	**17 46 26.0**	**+1.8**
YSS	**Yuzh-Sakhalins**	**8.96**	**266**	eP	**Pn**	**17 46 25.1**	**+0.3**
YSS				eS	**Sn**	**17 48 03.3**	**-0.9**
YSS	**Yuzh-Sakhalins**	**8.96**	**266**	ePN	**Pn**	**17 46 24.7**	**-0.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JKA	**Kamikawa-asahi**	**10.13**	**250**	eP	**Pn**	**17 46 41.9**	**+1.1**
ASAJ	**Asahikawa**	**10.13**	**250**	P	**Pn**	**17 46 41.9**	**+1.1**
	comp=Z,4.1nm,0.3s,baz=68,slow=12,SNR=47						
	comp=Z,22nm,0.6s						
MA2	**Magadan**	**11.59**	**347**	P	**Pn**	**17 46 58.7**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=143,slow=19,SNR=1.5						
MA2				LR	LR	17 51 33.5	
	comp=Z,35nm,18.0s,baz=172,slow=38						
	comp=Z,1.8nm,0.5s						
SHEM	**Shemya Is, Ala**	**12.37**	**63**	P	**Pn**	**17 47 12.5**	**+1.1**
	comp=Z,8.1nm,0.3s,baz=265,slow=1.1,SNR=8.4						
SHEM				LR	LR	17 53 27.5	
	comp=Z,47nm,18.7s,baz=154,slow=44						
SEY	**Seymchan**	**14.70**	**354**	P	**Pn**	**17 47 41.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=169,slow=10.0,SNR=7.5						
	comp=Z,1.2nm,0.5s						
MJAR	**Matsushiro Arr**	**17.55**	**234**	P	**Pn**	**17 48 18.0**	**-1.1**
	comp=Z,3.0nm,1.1s,baz=31,slow=13,SNR=9.0						
JHJ	**Hachijo jima 2**	**19.46**	**224**	P	**Pn**	**17 48 40.2**	**-1.9**
	comp=Z,5.0nm,0.3s,baz=227,slow=23,SNR=1.7						
	comp=Z,82nm,0.9s						
YAK	**Yakutsk**	**20.04**	**323**	P	**P**	**17 48 45.0**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=108,slow=3.2,SNR=1.7						
	comp=Z,3.5nm,0.4s						
KSRS	**Korea Array**	**23.07**	**252**	P	**P**	**17 49 20.1**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=55,slow=10,SNR=5.7						
KSRS				LR	LR	17 58 53.3	
	comp=Z,25nm,18.6s,baz=135,slow=38						
	comp=Z,0.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.96**	**159**	T	T	18 22 19.8	
	baz=345,slow=77,SNR=26						
H11N1	**WAKE ISLAND Hy**	**29.97**	**159**	T	T	18 22 27.9	
	baz=345,slow=77,SNR=31						
H11N3	**WAKE ISLAND Hy**	**29.97**	**159**	T	T	18 22 21.1	
	baz=345,slow=77,SNR=20						
H11S1	**WAKE ISLAND Hy**	**31.09**	**160**	T	T	18 23 45.5	
	baz=345,slow=76,SNR=188						
H11S3	**WAKE ISLAND Hy**	**31.10**	**160**	T	T	18 23 50.6	
	baz=345,slow=76,SNR=232						
H11S2	**WAKE ISLAND Hy**	**31.11**	**160**	T	T	18 23 46.9	
	baz=345,slow=76,SNR=158						
KDAK	**Kodiak Island**	**31.62**	**53**	LR	LR	18 04 45.8	
	comp=Z,62nm,19.5s,baz=179,slow=39						
ILAR	**Eielson Array**	**34.10**	**40**	P	**P**	**17 50 57.5**	**0.0**
	comp=Z,0.3nm,0.7s,baz=276,slow=8.6,SNR=4.8						
	comp=Z,0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**54.55**	**257**	P	**P**	**17 53 42.4**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=35,slow=8.1,SNR=4.9						
	comp=Z,0.5nm,0.3s						
ARCES	**ARCESS Array B**	**56.90**	**341**	P	**P**	**17 53 55.8**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=36,slow=6.8,SNR=6.9						
	comp=Z,0.3nm,0.4s						
PDAR	**Pinedale Array**	**62.28**	**56**	P	**P**	**17 54 35.7**	**+0.7**
	comp=Z,0.1nm,0.6s,baz=313,slow=3.7,SNR=1.0						
	comp=Z,0.1nm,0.6s						
FINES	**FINESS Array B**	**63.33**	**336**	P	**P**	**17 54 41.1**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=38,slow=5.3,SNR=5.1						
	comp=Z,1.3nm,0.9s						
NOA	**NORSAR Array B**	**67.25**	**342**	P	**P**	**17 55 06.1**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=25,slow=6.5,SNR=3.3						
	comp=Z,0.5nm,0.8s						
HFS	**Hagfors**	**67.54**	**341**	P	**P**	**17 55 08.4**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=40,slow=4.5,SNR=6.6						
	comp=Z,2.1nm,0.9s						
WRA	**Warramunga Arr**	**70.70**	**201**	P	**P**	**17 55 30.6**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=16,slow=6.4,SNR=1.6						
	comp=Z,0.2nm,0.6s						
AKASG	**Malin Array Be**	**71.19**	**327**	P	**P**	**17 55 30.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=32,slow=6.1,SNR=3.1						
	comp=Z,0.2nm,0.3s						
ASAR	**Alice Springs**	**74.39**	**201**	P	**P**	**17 55 52.2**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=18,slow=5.4,SNR=6.9						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**75.07**	**63**	P	**P**	**17 55 55.0**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=308,slow=4.4,SNR=2.3						
	comp=Z,0.1nm,0.4s						
TXAR	**Lajitas Array**	**75.07**	**63**	P	**P**	**17 55 55.0**	**+0.2**
EKA	**Eskdalemuir Ar**	**75.15**	**348**	P	**P**	**17 55 55.7**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=20,slow=5.2,SNR=9.5						
	comp=Z,1.0nm,0.4s						
GERES	**GERESS Array B**	**77.76**	**336**	P	**P**	**17 56 10.2**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=24,slow=7.5,SNR=4.0						
	comp=Z,0.5nm,0.5s						

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*TEH **22** 17:47:37.8, 34°.69N×46°.23E, h7km±185km, ML2.5*
*ISN **22** 17:47:38.4±1.2, 34°.70N×46°.27E, h21km±22km, ML2.5*
ISC 22 17:47:38.0±1.1, 34°.68N±0°.05×46°.23E±0°.06, h9km±12km, n8, σ0§45/11, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.13**	**82**	Pg	**Pg**	**17 47 41.0**	**0.0**
IDHR				Sg	**Sg**	**17 47 43.5**	**+0.3**
IGHG	**Ghaleghazi**	**0.45**	**141**	Pg	**Pg**	**17 47 46.8**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.62**	**205**	Pg	**Pg**	**17 47 50.3**	**+0.1**
ILIN	**Lien**	**0.65**	**68**	Pg	**Pg**	**17 47 50.3**	**-0.3**
SNQR	**Sonqor, Kerman**	**1.16**	**81**	Pg	**Pg**	**17 48 00.9**	**+0.5**
IBDR	**Badra**	**1.59**	**189**	ePg	**Pn**	**17 48 06.5**	**+0.2**
	baz=10.0						
IBDR				eSg	**Sg**	**17 48 29.0**	**0.0**
IBDR				AML	AML	17 48 42.1	
	comp=N,9.8nm,0.9s						
IKRK	**Kirkuk**	**1.71**	**295**	ePn	**Pb**	**17 48 09.0**	**-0.7**
IKRK				eSn	**Sb**	**17 48 32.0**	**+0.7**
IKRK				AML	AML	17 48 38.4	
	comp=N,9.6nm,1.5s						
IKFM	**Kafar-mosalman**	**1.77**	**130**	Pg	**Pg**	**17 48 11.7**	**-0.2**

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*IDC **22** 18:10:17.9±2.6, 22°.93N×11°.52W, h0km, mb3.8/6, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=71.4km s-min=31.2km az=70.0*
ISC 22 18:10:16.6±1.5, 22°.5N±0°.1×11°.6W±0°.3, h10km, n12, σ1§34/12, mb3.8/6, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	**Midelt**	**12.02**	**30**	Lg	Lg	18 16 22.3	
	0.1nm,0.3s,baz=174,slow=17,SNR=1.5						
TORD	**Torodi Ar. Bea**	**15.69**	**124**	Pn	**P**	**18 14 02.0**	**+0.1**
	0.1nm,0.3s,baz=319,slow=13,SNR=4.8						
TORD				Sn	**Sn**	**18 16 52.7**	**+0.9**
	0.1nm,0.3s,baz=306,slow=24,SNR=4.0						
TORD				Lg	Lg	18 18 42.8	
	baz=172,slow=35						
	0.4nm,0.6s						
DBIC	**Dimbokro**	**17.01**	**156**	P	**P**	**18 14 18.1**	**+1.5**
	2.3nm,0.5s,baz=323,slow=11,SNR=9.7						
DBIC				S	**Sn**	**18 17 21.2**	**-2.8**
	2.9nm,0.9s,baz=263,slow=13,SNR=1.8						
I42PT	**GRACIOSA ISLAN**	**21.65**	**323**	I	I	20 17 40.0	
	baz=139,slow=328,SNR=1.7						
GERES	**GERESS Array B**	**33.10**	**31**	P	**P**	**18 16 52.0**	**-0.8**
	0.6nm,0.5s,baz=214,slow=9.3,SNR=4.7						
	0.6nm,0.5s						
HFS	**Hagfors**	**41.62**	**19**	P	**P**	**18 18 03.1**	**-1.5**
	2.4nm,1.0s,baz=189,slow=7.3,SNR=5.2						
	2.4nm,1.0s						
FINES	**FINESS Array B**	**46.76**	**24**	P	**P**	**18 18 45.2**	**-0.6**
	2.0nm,0.8s,baz=223,slow=9.5,SNR=6.5						
	2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**73.04**	**42**	P	**P**	**18 21 47.4**	**+0.6**
	0.7nm,0.7s,baz=286,slow=6.0,SNR=4.4						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**76.52**	**45**	P	**P**	**18 22 07.8**	**+0.7**
	0.4nm,0.7s,baz=282,slow=5.7,SNR=4.4						
	0.4nm,0.7s						
SONM	**Songino Array**	**90.67**	**37**	P	**P**	**18 23 20.8**	**+1.0**
	0.3nm,0.6s,baz=284,slow=5.8,SNR=2.4						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**148.19**	**92**	PKPbc	**PKiKP**	**18 30 05.7**	**+0.3**
	0.3nm,0.4s,baz=297,slow=1.7,SNR=4.7						
ASAR	**Alice Springs**	**148.29**	**99**	PKPbc	**PKPab**	**18 30 06.6**	**-0.3**
	0.7nm,0.7s,baz=290,slow=1.9,SNR=4.2						

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*KRNET **22** 18:10:36.0±0.1, 41°.63N×79°.15E, h18km, mb2.4*
*SOME **22** 18:10:36.1, 41°.68N×79°.10E, h5km*
*NNC **22** 18:10:38.3±1.5, 41°.74N×79°.15E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=10.6km s-min=5.8km az=155.0*
ISC 22 18:10:35.9±1.9, 41°.62N±0°.07×79°.11E±0°.04, h9km±12km, n46, σ1§28/75, 12C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.98**	**277**	⇑eP	**Pb**	**18 10 55.0**	**-0.3**
	baz=76						
TARG				⇑eS	**Sg**	**18 11 09.0**	**+1.4**
	baz=76						
PRZ	**Przheval'sk**	**1.01**	**329**	⇑eP	**Pb**	**18 10 55.3**	**-0.5**
	baz=28						
PRZ				⇑eS	**Sn**	**18 11 09.4**	**-1.6**
	baz=28						
KDJ	**Kajisay**	**1.53**	**290**	⇑eP	**Pb**	**18 11 04.4**	**-0.1**
	baz=89						
KDJ				⇑eS	**Sb**	**18 11 24.9**	**+0.8**
	baz=89						
UZB	**Uzynbulak**	**1.53**	**358**	eP	**Pb**	**18 11 04.1**	**-0.4**
	3.1nm,0.1s						
UZB				eS	**Sg**	**18 11 24.0**	**-1.1**
	24nm,0.4s						
UZB	**Uzynbulak**	**1.53**	**358**	P	**Pb**	**18 11 04.1**	**-0.4**
	3.1nm,0.1s						
UZB				S	**Sg**	**18 11 24.0**	**-1.1**
	24nm,0.4s						
SHLS	**Shalkode**	**1.56**	**10**	eP	**Pg**	**18 11 06.5**	**+0.7**
	12nm,0.2s						
SHLS				eS	**Sg**	**18 11 28.1**	**+2.0**
	32nm,0.3s						
SHLS	**Shalkode**	**1.56**	**10**	P	**Pg**	**18 11 06.5**	**+0.7**
	12nm,0.3s						
SHLS				S	**Sg**	**18 11 28.1**	**+2.0**
	32nm,0.3s						
PDGK	**Podgornoye**	**1.73**	**9**	P	**Pb**	**18 11 07.5**	**-0.5**
	2.4nm,0.4s						
PDGK				S	**Sb**	**18 11 29.4**	**-0.6**
	8.4nm,0.3s						
PDGK	**Podgornoye**	**1.73**	**9**	⇑P	**Pb**	**18 11 07.6**	**-0.5**
	2.3nm,0.4s						
PDGK				⇑S	**Sg**	**18 11 30.2**	**-1.5**
	6.0nm,0.3s						
KPKS	**Kokpek**	**1.87**	**351**	eP	**Pb**	**18 11 10.5**	**+0.1**
	19nm,0.2s						
KPKS				eS	**Sg**	**18 11 34.8**	**-1.4**
	33nm,0.2s						
KPKS	**Kokpek**	**1.87**	**351**	P	**Pb**	**18 11 10.6**	**+0.2**
	19nm,0.2s						
KPKS				S	**Sg**	**18 11 34.5**	**-1.6**
	33nm,0.2s						
KURS	**Kuram**	**1.99**	**340**	eP	**Pb**	**18 11 12.9**	**+0.5**
	12nm,0.2s						
KURS				eS	**Sg**	**18 11 39.1**	**-0.9**
	18nm,0.4s						
KURS	**Kuram**	**1.99**	**340**	Pg	**Pb**	**18 11 12.9**	**+0.5**
	12nm,0.2s						
KURS				Lg	Lg	18 11 39.1	
	18nm,0.4s						
KTMS	**Ketmen**	**2.05**	**26**	eP	**Pb**	**18 11 12.6**	**-0.8**
	0.7nm,0.1s						
KTMS				eS	**Sb**	**18 11 38.6**	**-0.4**
	3.5nm,0.2s						
KTMS	**Ketmen**	**2.05**	**26**	Pg	**Pb**	**18 11 12.7**	**-0.7**
	0.7nm,0.1s						
KTMS				Lg	Lg	18 11 38.6	
	3.5nm,0.2s						
TNSS	**Tian-Shan**	**2.14**	**312**	eP	**Pb**	**18 11 15.4**	**+0.3**
	17nm,0.3s						
TNSS				eS	**Sg**	**18 11 43.7**	**-1.0**
	14nm,0.2s						
TNSS	**Tian-Shan**	**2.14**	**312**	Pg	**Pb**	**18 11 15.4**	**+0.3**
	17nm,0.3s						
TNSS				Lg	Lg	18 11 43.7	
	14nm,0.2s						
MDOK	**Medeo**	**2.17**	**316**	eP	**Pb**	**18 11 15.8**	**+0.3**
	5.8nm,0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNOS	1.0nm,0.3s			Lg	Lg	18 12 00.3	
KTBS	7.3nm,0.2s **Karatobe**	2.75	320	*e*P	Pb	18 11 26.3	+0.9
KTBS	2.0nm,0.3s			*e*S	Sg	18 12 02.4	-1.9
KTBS	27nm,0.3s **Karatobe**	2.75	320	Pg	Pb	18 11 26.0	+0.7
KTBS	2.0nm,0.3s			Lg	Lg	18 12 02.4	
ARXS	28nm,0.5s **Arharly**	2.76	341	*e*P	Pb	18 11 26.4	+0.9
ARXS	0.6nm,0.3s			*e*S	Sg	18 12 02.4	-2.2
ARXS	25nm,0.4s **Arharly**	2.76	341	Pg	Pb	18 11 26.4	+0.9
ARXS	0.7nm,0.2s			Lg	Lg	18 12 02.4	
DJR	25nm,0.5s **Jarkent**	2.76	10	*e*P	Pb	18 11 25.4	0.0
DJR	0.9nm,0.1s			*e*S	Sg	18 12 01.1	-3.4
DJR	19nm,0.3s **Jarkent**	2.76	10	Pg	Pb	18 11 25.4	0.0
DJR	0.9nm,0.1s			Lg	Lg	18 12 00.6	
TKM2	19nm,0.3s **Tokmak 2**	2.91	298	⇓Pn	Pb	18 11 28.0	-0.1
TKM2	1.3nm,0.3s			⇓Sn	Sg	18 12 07.7	-1.7
TKM2	8.5nm,0.5s **Tokmak 2**	2.91	298	⇓*e*P	Pn	18 11 24.7	+2.1
TKM2	baz=97			⇓*e*S	Sb	18 12 00.5	-3.4
DGS	baz=97 **Degeres**	2.96	304	*e*P	Pb	18 11 29.6	+0.8
DGS	1.8nm,0.2s			*e*S	Sb	18 12 07.9	+2.9
DGS	5.0nm,0.3s **Degeres**	2.96	304	Pg	Pb	18 11 29.5	+0.8
DGS	1.9nm,0.3s			Lg	Lg	18 12 07.6	
KRBS	5.0nm,0.3s **Karabastau**	3.27	311	*e*P	Pb	18 11 35.2	+1.0
KRBS	1.0nm,0.5s			*e*S	Sg	18 12 17.9	-3.1
KRBS	9.8nm,0.4s **Karabastau**	3.27	311	Pg	Pb	18 11 35.2	+1.0
KRBS	1.0nm,0.5s			Lg	Lg	18 12 17.3	
MK31	9.8nm,0.4s **Makanchi Array**	5.66	23	⇓Pn	Pn	18 12 03.6	+3.4
MK31	baz=212,slow=16,SNR=4.7			⇑Lg	Lg	18 13 27.1	
OTUK	0.6nm,0.6s,baz=214,slow=28,SNR=3.9 **Ortayu**	8.18	326	⇑Lg	Lg	18 14 51.5	
	1.1nm,0.8s						

ISN ***22*** *18:16:26.2±0.9, 34.°68N×46.°34E, h16km±6km, ML2.9*
TEH ***22*** *18:16:27.6, 34.°64N×46.°27E, h10km±35km, ML2.8*
ISC 22 18:16:27.7±1.0, 34.°65N±0.°05×46.°26E±0.°04, h8km±10km, n9, σ0°47/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	0.12	64	Pg	Pg	18 16 30.5	-0.1
IDHR				Sg	Sg	18 16 32.8	+0.3
IGHG	**Ghaleghazi**	0.41	141	Pg	Pg	18 16 35.8	0.0
KGS1	**Ghasr-e-Shirin**	0.57	256	Pg	Pg	18 16 39.2	+0.4
GLG1	**Gilan-e-Gharb**	0.61	209	Pg	Pg	18 16 39.5	0.0
ILBA	**Ilam Banvizeh**	1.02	182	Pg	Pb	18 16 47.1	-0.6
SNQR	**Sonqor, Kerman**	1.15	79	Pg	Pg	18 16 50.1	+0.4
IBDR	**Badra**	1.56	190	*e*Pg	Pn	18 16 55.0	-0.7
IBDR				*e*Sg	Sb	18 17 17.0	+0.4
IBDR	comp=E,210nm,0.1s			AML	AML	18 17 29.9	
IBDR	comp=N,150nm,0.4s			AML	AML	18 17 32.2	
IKRK	**Kirkuk**	1.74	296	*e*Pn	Pn	18 16 58.0	-0.2
IKRK				*e*Sn	Sb	18 17 22.0	0.0
RAFI	**Al-Rafai**	2.92	182	*e*Pn	Pn	18 17 15.0	+0.6
RAFI				*e*Sn	Sn	18 17 50.0	+0.4

TEH ***22*** *18:18:37.9, 34.°66N×46.°23E, h9km±14km, ML2.5*
ISN ***22*** *18:18:38.5±1.2, 34.°66N×46.°26E, h23km±23km, ML2.5*
ISC 22 18:18:38.0±1.0, 34.°66N±0.°04×46.°23E±0.°06, h11km±10km, n9, σ0°44/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	0.13	74	Pg	Pg	18 18 41.4	+0.1
IDHR				Sg	Sg	18 18 43.8	+0.2
IGHG	**Ghaleghazi**	0.43	140	Pg	Pg	18 18 46.8	+0.2
GLG1	**Gilan-e-Gharb**	0.61	206	Pg	Pg	18 18 50.1	+0.2
ILIN	**Lien**	0.65	67	Pg	Pg	18 18 50.6	-0.1
KCHF	**Cheshme Sefid,**	0.77	120	Pg	Pg	18 18 53.1	+0.1
ILBA	**Ilam Banvizeh**	1.04	181	Pg	Pb	18 18 57.7	-0.3
SNQR	**Sonqor, Kerman**	1.17	80	Pg	Pg	18 19 00.7	+0.2
IBDR	**Badra**	1.57	189	*e*Pg	Pn	18 19 06.0	+0.1
IBDR	baz=10.0			*e*Sg	Sg	18 19 28.0	-0.5
IBDR	comp=N,7.2nm,1.0s			AML	AML	18 19 42.5	
IKRK	**Kirkuk**	1.72	296	*e*Pn	Pb	18 19 09.0	-0.6
IKRK				*e*Sn	Sb	18 19 32.0	+0.8
IKRK	comp=N,7.1nm,0.5s			AML	AML	18 19 43.0	

IDC ***22*** *18:19:38.5±0.7, 4.°77N×125.°28E, h0km, mb3.9/10, mbtmp3.9/11, ML3.3/1, MS3.8/2, Error ellipse: s-maj=35.4km s-min=12.3km az=73.0*
BJI ***22*** *18:19:39.1±0.0, 4.°20N×125.°07E, h22km, mb4.3/18, mB5.0/8, Ms4.8/1, Ms7 4.4/2*
NEIC ***22*** *18:19:40.9±2.1, 4.°68N±0.°07×125.°05E±0.°2, h10km±1km, mb4.7/23, Error ellipse: s-maj=29.4km s-min=10.4km az=260.0*
DJA ***22*** *18:19:41.8±2.6, 5.°N±5.°×12.°5E±.°, h26km±27km, M4.6/10, mb4.7/4, mB4.9/3, MLv4.6/10, Mw(mB)4.2/3*
ISC 22 18:19:40.3±0.5, 4.°67N±0.°04×125.°00E±0.°06, h10km, n79, σ1°61/77, mb4.5/25, 3C-6D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	2.32	2	⇓*i*P	Pn	18 20 20.6	+1.9
KCP				*i* S	Sn	18 20 48.9	+1.5
DAV	**Davao City (W)**	2.45	14	P	Pb	18 20 25.3	+0.8
DAV	**Davao City (W)**	2.45	14		Pn	18 20 22.1	+1.6
DAV	**Davao City (W)**	2.45	14	Pn	Pn	18 20 17.8	-2.6
DAV	8.4nm,0.3s,baz=293,slow=7.4,SNR=1.1			Sn	Sn	18 20 52.6	+2.1
DAV	51nm,0.3s,baz=320,slow=22,SNR=4.5			LR	LR	18 21 23.0	
DAV	comp=Z,2μm,20.6s,baz=131,slow=45 61nm,0.4s						
BUKP	**Musuan**	3.19	1	⇑*e*P	Pn	18 20 33.4	+2.8
CDOP	**Cateel, Davao**	3.41	25	⇑*i*P	Pb	18 20 37.8	-3.0
CDOP				*e*S	Sn	18 21 02.6	-11
PAGZ	**Pagadian**	3.54	333	⇓*e*P	Pn	18 20 35.8	+0.4
ZCP	**Zamboanga City**	3.67	308	⇓*i*P	Pn	18 20 37.5	+0.2
ZCP				*i* S	Sn	18 21 17.8	-2.9
BIPH	**Bislig**	3.74	21	⇑*e*P	Pn	18 20 38.0	-0.2
BIPH				*e*S	Sn	18 21 21.6	-0.7
KMSI	**Cibinong**	4.20	194	P	Pn	18 20 44.7	+0.3
GTOI	**Gorontalo**	4.47	206	P	Pn	18 20 46.7	-1.6
TNTI	**Ternate**	4.54	149	P	Pn	18 20 51.4	+2.2
TNTI	**Ternate**	4.54	149	Pn	Pn	18 20 50.5	+1.3
TNTI				Sn	Sn	18 21 42.5	+0.5
TNTI	**Ternate**	4.54	149	P	Pn	18 20 49.5	+0.3
TBP	**Tagbilaran**	5.11	347	*e*P	Pn	18 20 52.4	-4.6
MRSI	**Marisa**	5.17	216	P	Pn	18 20 57.7	-0.1
TABP	**Talibon, Bohol**	5.42	353	⇓*e*P	Pn	18 21 07.1	+5.8
TOLI2	**Tolitoli**	5.50	230	P	Pn	18 21 02.0	-0.4
TOLI2	**Tolitoli**	5.50	230	Pn	Pn	18 21 01.5	-0.9
LUWI	**Luwuk**	6.10	201	P	Pn	18 21 12.8	+2.2
LUWI	**Luwuk**	6.10	201	Pn	Pn	18 21 14.7	+4.2
LUWI	**Luwuk**	6.10	201	P	Pn	18 21 11.5	+0.9
MYLDM	117nm,0.5s,2μm1.0nm **Lahad Datu**	6.49	275	Pn	Pn	18 21 19.3	+3.3
MPSI	**Mapaga**	6.67	230	P	Pn	18 21 18.8	+0.3
SANI	**Sanana**	6.75	172	P	Pn	18 21 20.1	+0.5
KKM	**Kota Kinabalu**	8.85	279	Pn	Pn	18 21 51.7	+3.1
GQP	**Guinayangan**	9.51	345	⇓*i*P	Pn	18 22 03.8	+6.3
FAKI	**Fak Fak**	10.46	136	P	Pn	18 22 12.8	+2.3
KAPI	**Kappang**	10.96	209	LR	LR	18 27 04.5	
DRS	comp=Z,526nm,18.8s,baz=36,slow=40 **Darwin Rock St**	17.98	161	P	Pn	18 23 50.2	-0.3
MTN	**Manton Dam**	18.44	161	P	P	18 23 54.8	-1.4
MTN	**Manton Dam**	18.44	161	P	P	18 23 54.7	-1.4
MTN				IAmb	IAmb	18 24 25.6	
KDU	comp=Z,37nm,1.5s **Kakadu**	18.78	157	P	P	18 23 57.9	-2.0
SSLB	**Suanglung**	19.40	349	P	P	18 24 06.7	0.0
KNRA	**Kununurra**	20.56	170	P	P	18 24 18.9	-0.4
KNRA				IAmb	IAmb	18 24 36.3	
JMZ	comp=Z,42nm,1.4s **Minamidaito 2**	21.86	15	P	P	18 24 31.2	-2.1
FITZ	**Fitzroy Crossi**	22.64	178	P	P	18 24 41.0	-0.7
FITZ	**Fitzroy Crossi**	22.64	178	P	P	18 24 41.8	+0.2
WB0	**Warramunga Arr**	25.98	159	P	P	18 25 12.8	-0.7
WB0				IAmb	IAmb	18 25 37.0	
WRAB	comp=Z,26nm,0.9s **Tennant Creek**	26.12	160	P	P	18 25 14.3	-0.4
WRA	**Warramunga Arr**	26.13	160	P	P	18 25 15.1	+0.3
WRA	**Warramunga Arr**	26.13	160	P	P	18 25 14.2	-0.7
WRA	comp=Z,6.3nm,0.8s,baz=345,slow=8.8,SNR=51			S	S	18 29 48.1	+1.6
WB2	comp=Z,1.2nm,1.1s,baz=355,slow=18,SNR=3.8 **Warramunga Arr**	26.13	160	P	P	18 25 14.1	-0.7
WB2	comp=Z,6.3nm,0.8s			IAmb	IAmb	18 25 29.9	
WR0	comp=Z,45nm,1.2s **Warramunga Arr**	26.21	159	P	P	18 25 15.6	0.0
WR0				IAmb	IAmb	18 25 30.9	
PSA00	comp=Z,41nm,1.4s **Pilbara Seismi**	26.57	191	P	P	18 25 16.7	-2.0
PSA00				IAmb	IAmb	18 25 29.9	
NJ2	comp=Z,21nm,1.2s **Nanjing**	27.84	349	*e*P	P	18 25 34.0	+3.9
NJ2				pmax	pmax		
CMAR	comp=Z,5.0nm,0.5s **Chiang Mai Arr**	28.91	300	P	P	18 25 41.6	+1.8
	comp=Z,0.4nm,0.5s,baz=108,slow=7.7,SNR=2.2 comp=Z,0.4nm,0.5s						
AS31	**Alice Springs**	29.48	163	P	P	18 25 45.3	+0.6
ASAR	**Alice Springs**	29.48	163	P	P	18 25 45.2	+0.4
ASAR	**Alice Springs**	29.48	163	P	P	18 25 44.8	0.0
	comp=Z,0.9nm,0.6s,baz=350,slow=7.3,SNR=24 comp=Z,0.9nm,0.6s						
PZH	**PanZhiHua**	31.07	317	P	P	18 26 02.3	+3.3
PZH				pmax	pmax		
PZH	comp=Z,30nm,0.9s			pmax	pmax		
INU	comp=Z,140nm,6.3s **Inuyama**	32.48	18	P	P	18 26 10.8	-0.4
INU				IAmb	IAmb	18 26 13.7	
KSRS	comp=Z,26nm,1.5s **Korea Array**	32.74	4	P	P	18 26 11.9	-1.4
	comp=Z,0.3nm,0.5s,baz=180,slow=9.8,SNR=1.5 comp=Z,0.3nm,0.5s						
XAN	**Xi'an**	32.82	335	P	P	18 26 10.3	-3.9
XAN				pmax	pmax		
MAJO	comp=Z,9.0nm,1.0s **Matsushiro**	33.96	19	P	P	18 26 22.8	-1.3
MAJO				IAmb	IAmb	18 26 36.3	
MJAR	comp=Z,7.5nm,1.3s **Matsushiro Arr**	33.96	19	P	P	18 26 22.3	-1.8
	comp=Z,2.6nm,0.8s,baz=193,slow=9.5,SNR=13 comp=Z,2.6nm,0.8s						
MJB9	**Matsu-Tunnel**	33.96	19	P	P	18 26 23.0	-1.1
MJB9				IAmb	IAmb	18 26 43.3	
JMM	comp=Z,5.3nm,1.1s **Marumori**	36.05	21	P	P	18 26 41.6	-0.4
HHC	**Hu-ho-hao-te**	37.99	343	*e*P	P	18 27 04.8	+6.2
HHC				pP	pwP	18 27 11.6	+4.7
HHC				pmax	pmax		
HHC	comp=Z,15nm,0.5s			pmax	pmax		
BBOO	comp=Z,83nm,4.7s **Buckleboo**	38.73	165	P	P	18 27 05.5	+0.7
BBOO				IAmb	IAmb	18 27 08.7	
STKA	comp=Z,26nm,1.4s **Stephens Creek**	39.63	158	P	P	18 27 12.8	+0.4
STKA	**Stephens Creek**	39.63	158	P	P	18 27 12.0	-0.4
H11N1	comp=Z,2.9nm,0.5s,baz=330,slow=9.4,SNR=10 comp=Z,2.9nm,0.5s **WAKE ISLAND Hy**	43.44	66	T	T	19 13 35.8	
H11N2	baz=255 **WAKE ISLAND Hy**	43.45	66	T	T	19 13 36.4	
H11N3	baz=255 **WAKE ISLAND Hy**	43.45	66	T	T	19 13 35.7	
TOO	baz=255 **Toolangi**	46.16	157	P	P	18 28 04.2	-1.1
MK31	**Makanchi Array**	55.80	326	P	P	18 29 17.8	0.0
MKAR	**Makanchi Array**	55.80	326	P	P	18 29 18.6	+0.8
MKAR	**Makanchi Array**	55.80	326	P	P	18 29 18.0	+0.2
	comp=Z,0.6nm,0.6s,baz=118,slow=8.5,SNR=7.8 comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	60.02	328	P	P	18 29 47.2	-0.1
	comp=Z,1.4nm,0.8s,baz=124,slow=6.1,SNR=11 comp=Z,1.4nm,0.8s						
KKAR	**Karatay Array**	61.37	317	P	P	18 29 57.3	+0.7
BVAR	**Borovoye Array**	65.60	327	P	P	18 30 24.6	+0.2
	comp=Z,0.3nm,0.3s,baz=107,slow=6.2,SNR=3.7 comp=Z,0.3nm,0.3s						
H19K	**Roundabout Mou**	81.03	24	P	P	18 31 55.4	+0.2
H19K				IAmb	IAmb	18 31 57.7	
BPAW	comp=Z,7.0nm,1.1s **Bear Paw Mtn.**	83.20	26	P	P	18 32 07.6	+0.9
BPAW				IAmb	IAmb	18 32 19.8	
G24K	comp=Z,12nm,1.4s **Hadweenzic Riv**	84.76	24	P	P	18 32 14.4	-0.2
G24K				IAmb	IAmb	18 32 30.2	
ILAR	comp=Z,5.3nm,1.2s **Eielson Array**	85.00	25	P	P	18 32 14.2	-1.7
	comp=Z,0.5nm,0.9s,baz=254,slow=5.2,SNR=4.0 comp=Z,0.5nm,0.9s						
BMAR	**Burnt Mountain**	85.88	23	P	P	18 32 21.3	+1.0
TXAR	**Lajitas Array**	122.37	51	PKP	PKPdf	18 38 36.7	0.0
	comp=Z,0.2nm,0.7s,baz=228,slow=1.1,SNR=1.6						

TEH ***22*** *18:20:00.1, 34.°63N×46.°28E, h10km±25km, ML2.8*
ISN ***22*** *18:20:00.9±1.3, 34.°64N×46.°26E, h20km±24km, ML2.8*
ISC 22 18:20:00.3±1.0, 34.°64N±0.°04×46.°26E±0.°04, h11km±9km, n10, σ0°46/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	0.12	62	Pg	Pg	18 20 03.5	0.0
IDHR				Sg	Sg	18 20 05.9	+0.1
IGHG	**Ghaleghazi**	0.41	140	Pg	Pg	18 20 08.4	+0.1
GLG1	**Gilan-e-Gharb**	0.60	209	Pg	Pg	18 20 11.7	-0.2
ILIN	**Lien**	0.64	64	Pg	Pg	18 20 12.4	-0.4
KCHF	**Cheshme Sefid,**	0.74	119	Pg	Pg	18 20 14.0	-0.7
ILBA	**Ilam Banvizeh**	1.02	182	Pg	Pb	18 20 19.6	-0.4
SNQR	**Sonqor, Kerman**	1.15	79	Pg	Pb	18 20 22.1	-0.3
IBDR	**Badra**	1.55	190	*e*Pg	Pn	18 20 28.0	+0.2
IBDR	baz=10.0			*e*Sg	Sg	18 20 50.0	-0.2
IKFM	**Kafar-mosalman**	1.73	130	Pg	Pb	18 20 32.5	+0.6
IKRK	**Kirkuk**	1.75	296	*e*Pn	Pb	18 20 32.0	-0.3
IKRK				*e*Sn	Sb	18 20 55.0	+0.7
IKRK				AML	AML	18 21 03.2	
IKRK	comp=N,131nm,0.4s			AML	AML	18 21 05.0	
	comp=E,99nm,0.5s						

TEH ***22*** *18:28:05.8, 34.°68N×46.°21E, h10km±37km, ML2.5*
ISN ***22*** *18:28:06.6±1.2, 34.°69N×46.°27E, h28km±23km, ML2.5*
ISC 22 18:28:06.0±1.0, 34.°67N±0.°05×46.°23E±0.°05, h15km±9km, n9, σ0°28/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	0.14	76	Pg	Pg	18 28 09.8	-0.2
IDHR				Sg	Sg	18 28 12.8	+0.3
IGHG	**Ghaleghazi**	0.44	140	Pg	Pg	18 28 15.0	+0.1
GLG1	**Gilan-e-Gharb**	0.61	205	Pg	Pb	18 28 18.3	-0.2
ILIN	**Lien**	0.66	67	Pg	Pg	18 28 19.0	+0.1
ILBA	**Ilam Banvizeh**	1.04	181	Pg	Pn	18 28 26.0	-0.1
SNQR	**Sonqor, Kerman**	1.17	80	Pg	Pb	18 28 28.0	-0.1
IBDR	**Badra**	1.57	189	*e*Pg	Pb	18 28 34.5	-0.3
IBDR	baz=10.0			*e*Sg	Sg	18 28 57.0	+0.3
IKRK	**Kirkuk**	1.71	296	*e*Pn	Pb	18 28 37.0	-0.2
IKRK				*e*Sn	Sb	18 28 59.0	+0.4
IKRK				AML	AML	18 29 09.4	
IKFM	comp=N,3.7nm,0.8s **Kafar-mosalman**	1.76	130	Pg	Pg	18 28 39.9	0.0

IDC ***22*** *18:28:37.9±0.4, 4.°69N×124.°88E, h0km, mb4.6/26, mbtmp4.6/28, ML4.6/2, MS4.3/50, Error ellipse: s-maj=18.5km s-min=8.4km az=73.0*
BJI ***22*** *18:28:38.2±0.0, 4.°52N×125.°38E, h25km, mb4.9/77, mB5.2/31, Ms4.8/73, Ms7 4.6/69*
MOS ***22*** *18:28:39.3±1.1, 4.°72N×124.°98E, h20km, mb5.3/48, MS4.3/8, Error ellipse: s-maj=9.1km s-min=4.4km az=108.6*
NEIC ***22*** *18:28:40, 4.°67N×125.°09E, h16km*
MAN ***22*** *18:28:40.5, 4.°61N×124.°86E, h15km, mb5.8, ML4.8, MS5.2*
NEIC ***22*** *18:28:40.9±2.5, 4.°69N±0.°05×125.°10E±0.°07, h12km±3km, mb5.3/237, Mww5.2/36, Error ellipse: s-maj=9.9km s-min=7.5km az=81.0*
NEIC ***22*** *18:28:40, 4.°67N×125.°09E, h16km, Moment Tensor Solution. Duration: 1s1.0 Moment tensor: Scale 10¹⁶ Nm; M_{rr}=1.68; $M_{\theta\theta}$7.91; $M_{\phi\phi}$-6.23; $M_{r\theta}$2.57; $M_{r\phi}$0.38; $M_{\theta\phi}$1.82; Fault plane solution: $M_0$7.74000×10¹⁶ NP1: ϕ_s225.26000°, δ86.18000°, λ-154.94000°. NP2: ϕ_s133.47000°, δ65.00000°, λ-4.22000°. Principal axes: T 8.6000, Plg15.0000°, Azm357.0000°; N -1.7158, Plg65.0000°, Azm233.0000°; P -6.8842, Plg20.0000°, Azm92.0000°;*
GCMT ***22*** *18:28:42.9±0.1, 4.°72N±0.°01×125.°01E±0.°01, h18km, MW5.2/137, Moment Tensor Solution. s89,c129; s137,c232; Duration: 1s0 Moment tensor: Scale 10¹⁷ Nm; M_{rr}-0.12±.02; $M_{\theta\theta}$0.88±.01; $M_{\phi\phi}$-0.75±.01; $M_{r\theta}$0.25±.03; $M_{\theta\phi}$-0.17±.01; $M_{r\phi}$-0.10±.04; Best double couple: $M_0$0.86800×10¹⁷ NP1:ϕ_s141.00000°, δ85.00000°, λ15.00000°. NP2:ϕ_s50.00000°, δ75.00000°, λ175.00000°. Principal axes: T 0.9560, Plg14.0000°, Azm6.0000°; N -0.1750, Plg74.0000°, Azm157.0000°; P -0.7810, Plg7.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***22*** *18:28:42.2±0.3, 5.°N±2.°×12.°5E±.°, h19km±2km, M5.2/78, mb5.4/78, mB5.7/37, MLv5.6/12, Mw(mB)5.2/37, MwMwp5.0/6, Mwp5.3/6*
ISC 22 18:28:42.0±0.5, 4.°67N±0.°02×125.°02E±0.°03, h25km±2km, h24km:pP-P, n942, σ1°69/864, mb5.2/240, MS4.5/93, 62C-42D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	1.59	26	⇑*i*P	Pn	18 29 08.6	0.0
DDMP				*e*S	Sb	18 29 29.2	-1.1
SKMP	**Bagumbayan, Su**	1.90	346	⇑*e*P	Pn	18 29 12.6	-0.3
SKMP				*e*S	Sn	18 29 35.6	-0.4
KCP	**Kidapawan**	2.33	2	⇓*i*P	Pn	18 29 20.4	+1.6
KCP				*i* S	Sn	18 29 46.9	+0.2
PICP	**Pikit**	2.40	352	⇑*i*P	Pn	18 29 20.3	+0.5
PICP				*e*S	Sn	18 29 49.9	+1.5
DMPH	**Davao City--Mi**	2.45	12	⇑*i*P	Pn	18 29 22.2	+1.7
DMPH				*i* S	Sn	18 29 35.0	-15
DAV	**Davao City (W)**	2.45	13	P	Pb	18 29 22.9	-2.5
DAV	**Davao City (W)**	2.45	13	Pn	Pn	18 29 22.2	+1.8
DAV	**Davao City (W)**	2.45	13	Pn	Pn	18 29 21.4	+0.9
DAV	712nm,0.3s,baz=200,slow=1.9,SNR=72 315nm,0.3s,baz=242,slow=17,SNR=4.6			Sn	Sb	18 29 53.2	-2.0
DAV	comp=Z,13μm,21.8s,baz=127,slow=47 1μm,0.3s			LR	LR	18 30 33.9	
DAV	**Davao City (W)**	2.45	13	⇓*i*P	Pb	18 29 33.0	+7.6
MATI	**Mati**	2.58	29	⇑*e*P	Pn	18 29 21.4	-0.8
MATI				*e*S	Sn	18 29 51.4	-1.4
BUKP	**Musuan**	3.19	1	⇑*e*P	Pn	18 29 31.8	+1.1
BUKP				*e*S	Sn	18 30 11.0	+3.0
BUKP	**Musuan**	3.19	1	⇓*i*P	Pn	18 29 32.2	+1.5
MARW	**Marawi**	3.40	348	⇑*e*P	Pn	18 29 35.0	+1.4
MARW				*e*S	Sn	18 30 05.2	-8.0
CDOP	**Cateel, Davao**	3.40	24	⇑*e*P	Pn	18 29 33.0	-0.5
CDOP				*e*S	Sb	18 30 18.1	-4.5
CDOP	**Cateel, Davao**	3.40	24	⇓*e*P	Pn	18 29 33.5	0.0
PAGZ	**Pagadian**	3.55	333	*e*P	Pn	18 29 35.0	-0.6
PAGZ	**Pagadian**	3.55	333	⇑*e*P	Pn	18 29 35.1	-0.4
PAGZ				*e*S	Sn	18 30 15.0	-1.8
BLNP	**Bacolod Lanao**	3.60	344	⇑*e*P	Pn	18 29 37.3	+1.0
BLNP				*e*S	Sn	18 30 18.0	0.0
ZCP	**Zamboanga City**	3.69	308	⇓*i*P	Pn	18 29 37.1	-0.4
ZCP				*i* S	Sn	18 30 16.7	-3.6
BIPH	**Bislig**	3.74	21	⇑*i*P	Pn	18 29 21.6	-17
BIPH				*i* S	Sn	18 30 24.9	+3.5
TASP	**Talacogon, Agu**	3.84	12	⇑*e*P	Pn	18 29 41.4	+1.8
TASP				*e*S	Sn	18 30 26.5	+2.5
TASP	**Talacogon, Agu**	3.84	12	⇑*e*P	Pn	18 29 42.5	+2.9
KMSI	**Cibinong**	4.20	194	P	Pn	18 29 43.6	-0.9
DCPH	**Dipolog City**	4.22	337	⇑*e*P	Pn	18 29 47.8	+2.9
DCPH				*i* S	Sb	18 30 56.0	+10
BUTP	**Butuan**	4.32	8	⇓*e*P	Pn	18 29 48.5	+2.4
BUTP				*e*S	Sb	18 30 46.8	-2.1
GTOI	**Gorontalo**	4.48	207	P	Pn	18 29 46.7	-1.6
TNTI	**Ternate**	4.53	149	P	Pn	18 29 50.5	+1.5
TNTI	**Ternate**	4.53	149	Pn	Pn	18 29 49.9	+0.9
TNTI				Sn	Sn	18 30 41.4	+0.5
TNTI	**Ternate**	4.53	149	P	Pn	18 29 49.9	+0.9
LSIP	**Lazi, Siquijor**	4.64	343	⇑*i*P	Pn	18 29 52.2	+1.6
LSIP				*i* S	Sb	18 30 57.1	-1.2
LSIP	**Lazi, Siquijor**	4.64	343	⇑*e*P	Pn	18 29 52.2	+1.6
LSIP				*e*S	Sn	18 30 37.8	-5.9
SNPH	**Sibulan**	4.97	339	⇑*e*P	Pn	18 30 00.1	+5.0
SNPH				*e*S	Sn	18 30 55.0	+3.1
GHBP	**Garcia Hernand**	4.98	352	⇑*e*P	Pn	18 29 57.9	+2.7
GHBP				*e*S	Sn	18 30 59.3	+7.3
GHBP	**Garcia Hernand**	4.98	352	⇑*i*P	Pn	18 30 00.1	+4.9
GHBP				*i* S	Sb	18 31 00.5	-7.4
SCPH	**Surigao**	5.10	5	⇓*e*P	Pn	18 29 53.4	-3.5
TBP	**Tagbilaran**	5.12	347	⇑*e*P	Pn	18 29 57.0	-0.2
MRSI	**Marisa**	5.17	217	P	Pn	18 29 57.0	-0.9
GLSP	744nm,0.6s,10μm5.5nm **General Luna,**	5.20	12	⇑*i*P	Pn	18 29 58.8	+0.5
GLSP				*e*S	Sn	18 30 60.0	+2.5
BTTP	**Bongao, Tawi

BATP	Bataraza	8.26 300	⇑eP		Pn	18 30 42.9 +2.6
SWI	Sorong	8.31 131	P		Pn	18 30 42.0 +0.9
	137nm,0.7s,2μm					
ENPP	El Nido	8.53 320	⇑eP		Pn	18 30 44.7 +0.7
ENPP			eS		Sn	18 32 13.6 -6.1
SJMP	San Jose	8.65 334	⇓eP		Pn	18 30 45.6 0.0
KKM	Kota Kinabalu	8.87 279	P		Pn	18 30 51.5 +2.7
KKM	Kota Kinabalu	8.87 279	Pn		Pn	18 30 51.9 +3.1
AUQP	San Andres	8.90 345	⇓eP		Pn	18 30 52.1 +2.9
PVCP	Virac	8.91 355	⇓eP		Pn	18 30 54.8 +5.6
PVCP			eS		Sn	18 32 44.1 +15
GQP	Guinayangan	9.52 345	⇓iP		Pn	18 31 02.6 +5.0
JCNP	Jose Panganiba	9.83 347	⇓eP		Pn	18 31 05.0 +3.1
LQP	Lukban	9.99 340	⇓eP		Pn	18 31 08.9 +4.6
BKB	Balikpapan	10.03 234	Pn		Pn	18 31 04.5 0.0
LBLP	Los Banos, Lag	10.15 339	⇓eP		Pn	18 31 12.8 +6.5
BBSI	Bau Bau	10.38 194	P		Pn	18 31 10.2 +0.8
	140nm,1.1s,2μm					
FAKI	Fak Fak	10.44 136	P		Pn	18 31 10.9 +0.6
FAKI	Fak Fak	10.44 136	Pn		Pn	18 31 10.6 +0.3
FAKI	Fak Fak	10.44 136	P		Pn	18 31 11.5 +1.2
	138nm,0.9s					
QVP	Quezon City--P	10.65 339	⇑eP		Pn	18 31 20.0 +6.9
RTBP	Dona Remedios	10.95 340	⇓eP		Pn	18 31 23.0 +5.8
RTBP			eS		Sn	18 33 52.4 +33
KAPI	Kappang	10.96 209	P		Pn	18 31 20.6 +3.2
KAPI	Kappang	10.96 209	Pn		Pn	18 31 16.3 -1.0
	0.7nm,0.3s,baz=75,slow=16,SNR=1.8					
KAPI			Sn		Sn	18 33 18.5 -0.8
	baz=220,slow=19					
KAPI			LR		LR	18 36 04.3
	comp=Z,4μm,19.1s,baz=36,slow=41					
	7.3nm,0.4s					
KAPI	Kappang	10.96 209	ceP		Pn	18 31 19.1 +1.7
ABPP	Abucay Bataan	10.97 336	⇓eP		Pn	18 31 25.9 +8.3
BKSI	Bulukumba	11.06 206	P		Pn	18 31 20.3 +1.5
BALP	Baler	11.51 343	⇓eP		Pn	18 31 30.7 +5.9
MTKI	Muara Teweh, K	11.54 241	P		Pn	18 31 26.9 +1.5
	64nm,0.5s					
IBZP	Iba, Zambales	11.74 336	⇓eP		Pn	18 31 31.3 +3.3
CAAP	Casiguran, Aur	11.84 346	⇓eP		Pn	18 31 33.2 +3.9
SMPP	San Manuel, Pa	12.18 340	⇓eP		Pn	18 31 39.0 +5.0
CAUP	Cauayan	12.60 346	⇑eP		Pn	18 31 42.1 +2.4
SBUM	Sibu	12.96 261	Pn		Pn	18 31 46.9 +2.2
SAMP	Sagada Mountai	12.98 342	⇓eP		P	18 31 50.0 -5.2
SAMP			eS		Sn	18 34 07.2 -1.4
MMRI	Maumere	13.50 192	P		Pn	18 31 55.8 +3.6
MMRI	Maumere	13.50 192	P		Pn	18 31 53.3 +1.1
	154nm,0.7s,2μm					
ABRA	Dolores	13.57 342	⇑eP		P	18 32 02.6 +0.8
EDFI	Ende, Flores	13.74 194	P		Pn	18 31 56.1 +0.7
	78nm,0.7s					
SGCP	Gonzaga	13.80 348	⇓eP		Pn	18 31 58.2 +2.0
SAUI	Saumlaki	14.04 153	P		Pn	18 31 58.7 -0.8
SAUI	Saumlaki	14.04 153	Pn		Pn	18 31 57.2 -2.4
SAUI	Saumlaki	14.04 153	P		Pn	18 31 57.8 -1.7
PACPP	Pamplona Cagay	14.17 346	⇓iP		P	18 32 09.2 +0.8
STKI	Sintang	14.28 252	P		Pn	18 32 04.9 +2.2
SOEI	Soe	14.35 183	P		P	18 32 08.7 -1.9
SOEI	Soe	14.35 183	Pn		Pn	18 32 02.5 -1.3
SOEI	Soe	14.35 183	P		Pn	18 32 04.4 +0.6
BATI	Baumata	14.84 185	P		Pn	18 32 12.4 +2.0
CICP	Calayan Island	14.91 347	⇓eP		P	18 32 14.1 -2.6
PLAI	Plampang	15.23 208	P		P	18 32 18.9 -1.4
PLAI	Plampang	15.23 208	P		Pn	18 32 16.8 +1.3
	338nm,1.1s,3μm					
TWSI	Taliwang, Sumb	15.59 211	P		Pn	18 32 21.7 +1.4
	433nm,1.0s,4μm					
SRBI	Singaraja	16.00 218	P		P	18 32 30.3 +1.4
	96nm,1.2s					
GENI	Genyem	16.77 115	P		Pn	18 32 35.7 +0.3
GENI	Genyem	16.77 115	P		P	18 32 36.4 -1.0
	325nm,1.7s,4μm					
JAGI	Jajag, Banyuwa	16.96 220	P		P	18 32 42.2 +2.6
JAGI	Jajag, Banyuwa	16.96 220	P		P	18 32 40.5 +0.9
	114nm,1.0s,1μm					
JAY	Jayapura	17.22 114	P		P	18 32 43.3 +0.8
	83nm,1.2s,1μm					
DLV	T Lat	17.87 295	P		P	18 32 51.3 +1.5
PWJI	Pagerwojo	18.24 226	P		P	18 32 56.0 +2.4
	214nm,1.3s					
MTN	Manton Dam	18.43 161	P		P	18 32 53.4 -2.4
MTN			IAmb		IAmb	18 32 57.6
	comp=Z,274nm,1.2s					
MTN	Manton Dam	18.43 161	P		P	18 32 54.1 -1.6
	comp=Z,194nm,1.0s,SNR=27					
TWGBT	Beinan	18.44 348	P		Pn	18 32 57.2 +1.2
TWG	Pinlang	18.45 348	P		P	18 32 54.8 -1.0
SMRI	Semarang	18.63 231	P		Pn	18 33 01.6 +3.2
SMRI	Semarang	18.63 231	P		Pn	18 33 02.0 +3.6
	comp=Z,199nm,1.5s					
KDU	Kakadu	18.77 157	P		P	18 32 56.8 -2.7
	comp=Z,1.4nm,SNR=1.7					
YULB	Yu-li	18.96 349	P		Pn	18 33 02.5 +0.2
YULB	Yu-li	18.96 349	P		P	18 32 60.0 -1.6
TPUB	Ta-pu	19.00 348	P		Pn	18 33 03.4 +0.6
TPUB	Ta-pu	19.00 348	P		Pn	18 33 02.3 -0.6
TPUB			IAmb		IAmb	18 33 05.6
	comp=Z,279nm,1.0s					
UGM	Wanagama	19.11 229	P		Pn	18 33 05.2 +1.0
	comp=Z,133nm,1.3s					
SSLB	Suanglung	19.41 349	P		Pn	18 33 07.7 0.0
SSLB	Suanglung	19.41 349	P		P	18 33 06.1 -0.3
NACB	Ninganchiao	19.67 351	P		Pn	18 33 10.6 -0.2
PPBI	Pangkal Pinang	20.05 251	P		Pn	18 33 15.6 +0.2
	comp=Z,66nm,0.9s,comp=Z,5μm					
MMPI	Merauke	20.13 130	P		Pn	18 33 15.6 -0.7
	comp=Z,280nm,0.8s					
YHNB	Yeheng	20.19 350	P		P	18 33 15.2 +0.1
YHNB	Yeheng	20.19 350	P		P	18 33 15.5 +0.5
YHNB			IAmb		IAmb	18 33 19.7
	comp=Z,106nm,1.0s					
HKPS	Hong Kong Po S	20.43 330	P		Pn	18 33 19.1 -0.7
KNRA	Kununurra	20.55 170	P		P	18 33 18.6 -0.3
KNRA	Kununurra	20.55 170	P		P	18 33 18.2 -0.7
	comp=Z,324nm,0.8s,SNR=48					
QIZ	Qiongzhong	20.57 315	P		P	18 33 19.5 +0.4
QIZ	Qiongzhong	20.57 315	P		P	18 33 20.1 +1.0
QIZ			S		Sn	18 37 11.3 -1.6
QIZ			pmax		pmax	
	comp=Z,57nm,2.8s					
QIZ			LR		LR	
	comp=Z,800nm,10.9s					
QIZ			LR		LR	
	comp=Z,1μm,17.7s					
KNMB	Chin-men Tao	20.69 343	P		P	18 33 21.2 +0.8
KNMB			IAmb		IAmb	18 33 34.2
	comp=Z,117nm,0.8s					
LEM	Lembang	20.78 237	P		Pn	18 33 25.4 +1.2
LEM			pmax		pmax	
	comp=Z,150nm,1.1s					
QZH	Quanzhou	21.08 344	⇓iP		P	18 33 26.6 +2.0
QZH			S		S	18 37 17.4 -0.8
QZH			pmax		pmax	
	comp=Z,160nm,1.0s					
QZH			LR		LR	
	comp=Z,2μm,20.6s					
QZH			LR		LR	
	comp=Z,1μm,18.9s					
QZH			LR		LR	
	comp=Z,2μm,17.5s					
BBJI	Bungbulang	21.11 235	P		P	18 33 29.7 +4.6
DBJI	Dramaga	21.37 239	P		P	18 33 31.3 +3.4
	comp=Z,112nm,1.3s,comp=Z,3μm					
BTDF	Bukit Timah Da	21.46 262	P		P	18 33 31.5 +2.7
GUMO	Guam	21.49 64	P		P	18 33 30.1 +1.0
	comp=Z,38nm,0.7s,baz=230,slow=13,SNR=1.9					
	comp=Z,38nm,0.7s					
HAGN	Mount Hagen	21.90 118	P		P	18 33 34.6 +0.9
JOW	Kunigami	22.26 8	P		P	18 33 37.8 +0.5
JOW	Kunigami	22.26 8	P		P	18 33 36.6 -0.7
JOW			IAmb		IAmb	18 33 40.5
	comp=Z,136nm,0.9s					
JOW	Kunigami	22.26 8	P		P	18 33 36.7 -0.5
	comp=Z,121nm,0.9s,baz=196,slow=8.5,SNR=15					
JOW			LR		LR	18 41 23.4
	comp=Z,1μm,21.9s,baz=282,slow=34					
	comp=Z,121nm,0.9s					
FITZ	Fitzroy Crossi	22.63 178	P		P	18 33 40.3 -1.0
FITZ	Fitzroy Crossi	22.63 178	P		P	18 33 39.8 -1.5
KASI	Kota Agung	22.86 244	P		P	18 33 45.1 +1.4
	comp=Z,157nm,0.9s					
LWLI	Liwa	23.04 246	P		P	18 33 48.8 +3.1
	comp=Z,173nm,0.7s,comp=Z,2μm					

KULM	Kulim	24.28 273	P		P	18 33 58.4 +0.8
KULM			IAmb		IAmb	18 34 12.9
	comp=Z,66nm,1.0s					
BKNI	Bangkinang	24.33 260	P		P	18 34 00.8 +2.7
BKNI	Bangkinang	24.33 260	P		P	18 34 01.0 +2.9
	comp=Z,164nm,0.8s					
PDSI	Padang	25.15 258	P		P	18 34 07.5 +2.0
	comp=Z,205nm,1.2s,comp=Z,2μm					
NAYO	Nakonayok	25.23 294	P		P	18 34 08.2 +2.0
SRIT	Nakonsritamara	25.54 280	P		P	18 34 11.4 +2.4
SURA	Surathani	25.59 281	P		P	18 34 11.7 +2.2
COEN	Coen	25.83 136	P		P	18 34 13.0 +1.4
COEN	Coen	25.83 136	P		P	18 34 10.7 -0.9
COEN			IAmb		IAmb	18 34 42.0
	comp=Z,56nm,0.9s					
COEN	Coen	25.83 136	P		P	18 34 12.5 +0.8
	comp=Z,66nm,1.5s,SNR=6.8					
WB0	Warramunga Arr	25.98 159	P		P	18 34 12.7 -0.2
CNSH	ChangSha	26.06 335	P		P	18 34 15.0 +1.4
CNSH			S		S	18 38 47.3 +4.0
CNSH			pmax		pmax	
	comp=Z,35nm,1.3s					
CNSH			LR		LR	
	comp=Z,2μm,22.4s					
CNSH			LR		LR	
	comp=Z,1μm,19.2s					
CNSH			LR		LR	
	comp=Z,2μm,15.4s					
WRAB	Tennant Creek	26.11 160	P		P	18 34 13.6 -0.6
WRAB	Tennant Creek	26.11 160	ciP		P	18 34 13.7 -0.5
WRAB			pmax		pmax	
	comp=Z,168nm,0.9s					
WRA	Warramunga Arr	26.12 160	P		P	18 34 12.6 -1.6
WRA	Warramunga Arr	26.12 160	P		P	18 34 13.7 -0.6
	comp=Z,124nm,0.8s,baz=336,slow=10,SNR=301					
WRA			S		S	18 38 48.2 +3.8
	comp=Z,30nm,1.2s,baz=340,slow=17,SNR=9.0					
WRA			LR		LR	18 46 58.5
	comp=Z,208nm,19.3s,baz=120,slow=42					
WB2	Warramunga Arr	26.12 160	P		P	18 34 13.2 -1.1
WB2	Warramunga Arr	26.12 160	P		P	18 34 13.6 -0.7
PMG	Port Moresby	26.12 122	P		P	18 34 17.8 +3.5
PMG	Port Moresby	26.12 122	P		P	18 34 14.5 +0.2
PMG			IAmb		IAmb	18 34 22.7
	comp=Z,62nm,0.9s					
PMG	Port Moresby	26.12 122	P		P	18 34 15.3 +0.9
	comp=Z,46nm,0.9s,baz=59,slow=4.9,SNR=8.5					
PMG			LR		LR	18 47 53.3
	comp=Z,428nm,18.0s,baz=278,slow=44					
	comp=Z,46nm,0.9s					
PMG	Port Moresby	26.12 122	ceP		P	18 34 14.6 +0.2
PMG			pmax		pmax	
	comp=Z,58nm,1.0s					
MBWA	Marble Bar	26.18 191	P		P	18 34 14.8 0.0
MBWA	Marble Bar	26.18 191	P		P	18 34 14.5 -0.3
MBWA			IAmb		IAmb	18 34 16.6
	comp=Z,100nm,0.9s					
MBWA	Marble Bar	26.18 191	P		P	18 34 14.1 -0.6
	comp=Z,146nm,1.0s,SNR=8.5					
WR0	Warramunga Arr	26.20 159	P		P	18 34 14.6 -0.4
PSA00	Pilbara Seismi	26.57 191	P		P	18 34 18.2 0.0
PSA00	Pilbara Seismi	26.57 191	P		P	18 34 17.7 -0.5
PSA00	Pilbara Seismi	26.57 191	P		P	18 34 17.0 -1.2
PSA00			IAmb		IAmb	18 34 19.6
	comp=Z,74nm,1.1s					
SISI	Saibi	26.58 258	P		P	18 34 20.0 +1.5
	comp=Z,235nm,0.9s					
KCSI	Kotacane, Aceh	27.20 269	P		P	18 34 25.1 +1.0
	comp=Z,53nm,1.1s					
SRDT	SRDT	27.26 292	P		P	18 34 28.3 +3.7
GSI	Gunungsitoli	27.60 264	P		P	18 34 30.1 +2.4
GSI	Gunungsitoli	27.60 264	P		P	18 34 29.1 +1.4
GSI			IAmb		IAmb	18 35 02.8
	comp=Z,40nm,0.8s					
GSI	Gunungsitoli	27.60 264	P		P	18 34 28.6 +0.9
	comp=Z,44nm,1.0s					
WHN	Wuhan	27.63 340	⇓P		P	18 34 29.1 +1.4
WHN			S		S	18 39 13.6 +5.5
WHN			pmax		pmax	
	comp=Z,86nm,1.1s					
WHN			LR		LR	
	comp=Z,830nm,6.1s					
WHN			LR		LR	
	comp=Z,2μm,10.3s					
WHN			LR		LR	
	comp=Z,6μm,24.6s					
JCJ	Chichijima	27.68 35	P		P	18 34 26.6 -1.6
JCJ	Chichijima	27.68 35	LR		LR	18 46 12.1
	comp=Z,328nm,19.4s,baz=222,slow=38					
PHRA	Phrae	27.84 302	P		P	18 34 31.6 +1.9
NJ2	Nanjing	27.85 349	eP		P	18 34 32.1 +2.5
NJ2			pmax		pmax	
	comp=Z,22nm,1.1s					
NJ2			pmax		pmax	
	comp=Z,410nm,5.1s					
NJ2			LR		LR	
	comp=Z,1μm,17.8s					
NJ2			LR		LR	
	comp=Z,970nm,19.9s					
NJ2			LR		LR	
	comp=Z,1μm,16.9s					
GYA	Guiyang	27.88 323	⇓P		P	18 34 31.8 +1.6
GYA			S		S	18 39 10.8 -1.7
GYA			pmax		pmax	
	comp=Z,12nm,1.2s					
GYA			pmax		pmax	
	comp=Z,270nm,3.4s					
GYA			LR		LR	
	comp=Z,1μm,21.1s					
GYA			LR		LR	
	comp=Z,880nm,19.4s					
GYA			LR		LR	
	comp=Z,2μm,22.3s					
JNU	Nakatsue	28.83 10	P		P	18 34 38.2 -0.3
	comp=Z,98nm,1.1s					
JNU	Nakatsue	28.83 10	P		P	18 34 37.5 -0.9
JNU			IAmb		IAmb	18 34 42.1
	comp=Z,80nm,0.9s					
JNU	Nakatsue	28.83 10	LR		LR	18 48 50.6
	comp=Z,228nm,18.2s,baz=194,slow=42					
QIS	Mount Isa	28.87 151	P		P	18 34 39.4 +0.5
QIS	Mount Isa	28.87 151	P		P	18 34 38.7 -0.3
	comp=Z,71nm,0.8s,SNR=11					
CMAR	Chiang Mai Arr	28.93 300	P		P	18 34 41.6 +2.2
	comp=Z,4.3nm,0.8s,baz=113,slow=6.9,SNR=13					
CMAR			LR		LR	18 47 55.0
	comp=Z,584nm,18.6s,baz=110,slow=40					
CHTO	Chiang Mai	29.08 301	P		P	18 34 41.4 +0.6
CHTO	Chiang Mai	29.08 301	P		P	18 34 41.4 +0.6
CHTO			pmax		pmax	
	comp=Z,13nm,0.8s					
ENH	Enshi	29.38 332	P		P	18 34 44.6 +1.2
	comp=Z,73nm,1.1s					
ENH	Enshi	29.38 332	IAmb		IAmb	18 34 59.7
	comp=Z,78nm,1.1s					
AS31	Alice Springs	29.47 163	P		P	18 34 44.0 -0.2
ASAR	Alice Springs	29.47 163	P		P	18 34 43.9 -0.3
ASAR	Alice Springs	29.47 163	P		P	18 34 44.0 -0.1
	comp=Z,19nm,0.7s,baz=354,slow=7.5,SNR=234					
ASAR			S		S	18 39 33.1 -4.2
	comp=Z,2.3nm,0.8s,baz=348,slow=18,SNR=2.9					
	comp=Z,19nm,0.7s					
KMI	Kunming	29.52 316	⇑P		P	18 34 47.4 +2.6
KMI			S		S	18 39 35.3 -3.1
KMI			pmax		pmax	
	comp=Z,20nm,0.9s					
KMI			LR		LR	
	comp=Z,970nm,25.5s					
KMI			LR		LR	
	comp=Z,740nm,20.9s					
KMI			LR		LR	
	comp=Z,700nm,17.1s					
MTSU	Mount Surprise	29.59 140	P		P	18 34 49.9 +4.5
MTSU	Mount Surprise	29.59 140	P		P	18 34 45.7 +0.4
	comp=Z,20nm,0.7s,SNR=11					
WRKA	Warakurna	29.70 174	P		P	18 34 46.1 -0.1
WRKA	Warakurna	29.70 174	P		P	18 34 45.9 -0.3
	comp=Z,53nm,0.7s,SNR=4.0					
JMN	Monobe	30.07 15	P		P	18 34 49.9 +0.5
JMN	Monobe	30.07 15	P		P	18 34 49.5 +0.1
JHJ	Hachijo jima 2	31.48 24	LR		LR	18 48 28.3
	comp=Z,315nm,19.6s,baz=148,slow=38					
MEEK	Meekatharra	31.73 191	P		P	18 35 04.3 +0.2
MEEK	Meekatharra	31.73 191	P		P	18 35 03.6 -0.5
	comp=Z,157nm,0.9s,SNR=6.4					
LYN	LuoYang	31.93 340	eP		P	18 35 06.6 +0.8

LYN			PP		PnPn	18 36 09.1 -2.0
LYN			S		S	18 40 17.6 +2.0
LYN			pmax		pmax	
	comp=Z,44nm,0.5s					
LYN			pmax		pmax	
	comp=Z,220nm,7.0s					
LYN			LR		LR	
	comp=Z,880nm,18.9s					
LYN			LR		LR	
	comp=Z,2μm,17.8s					
LYN			LR		LR	
	comp=Z,2μm,24.1s					
TV1H	Townsville Har	32.02 139	P		P	18 35 07.8 +1.1
JSG	Sagara	32.26 21	P		P	18 35 10.0 +1.4
CTA	Charters Tower	32.26 140	P		P	18 35 10.0 +1.1
CTA	Charters Tower	32.26 140	P		P	18 35 10.6 +1.7
	comp=Z,0.6nm,0.7s,baz=322,slow=12,SNR=9.2					
CTA			LR		LR	18 50 46.8
	comp=Z,29nm,18.7s,baz=318,slow=41					
CTAO	Charters Tower	32.26 140	P		P	18 35 10.6 +1.7
CTAO	Charters Tower	32.26 140	P		P	18 35 08.2 -0.7
CTAO	Charters Tower	32.26 140	P		P	18 35 08.2 -0.7
CTAO			pmax		pmax	
	comp=Z,19nm,0.9s					
INU	Inuyama	32.48 18	P		P	18 35 10.3 -0.3
INU	Inuyama	32.48 18	P		P	18 35 10.2 -0.4
TNCH	TengChong	32.52 311	P		P	18 35 12.9 +1.6
TNCH			pP		pP	18 35 16.8 -0.6
TNCH			S		S	18 40 28.3 +3.0
TNCH			pmax		pmax	
	comp=Z,13nm,1.8s					
TNCH			pmax		pmax	
	comp=Z,110nm,3.2s					
TNCH			LR		LR	
	comp=Z,280nm,11.9s					
TNCH			LR		LR	
	comp=Z,230nm,13.9s					
TNCH			LR		LR	
	comp=Z,530nm,20.7s					
KSRS	Korea Array	32.74 4	P		P	18 35 12.6 -0.2
	comp=Z,8.9nm,0.8s,baz=184,slow=10.0,SNR=53					
KSRS			LR		LR	18 48 40.7
	comp=Z,499nm,22.0s,baz=185,slow=37					
	comp=Z,8.9nm,0.8s					
KS19	Wonju Array Si	32.78 4	P		P	18 35 12.2 -1.0
KS19			IAmb		IAmb	18 35 41.2
	comp=Z,136nm,2.0s					
JGF	Kuroka	32.82 19	P		P	18 35 12.9 -0.7
JGF	Kuroka	32.82 19	P		P	18 35 12.7 -1.0
XAN	Xi'an	32.83 335	⇑P		P	18 35 13.8 +0.1
XAN			PP		PnPn	18 36 22.0 -0.7
XAN			S		S	18 40 31.6 +1.9
XAN			SS		SnSn	18 42 36.8 +10
XAN			pmax		pmax	
	comp=Z,89nm,1.1s					
XAN			pmax		pmax	
	comp=Z,370nm,4.3s					
XAN			LR		LR	
	comp=Z,1μm,19.2s					
XAN			LR		LR	
	comp=Z,1μm,19.2s					
XAN			LR		LR	
	comp=Z,1μm,20.1s					
OOD	Oodnadatta	33.88 163	P		P	18 35 22.9 +0.1
HNS	HongShan	33.91 345	⇑P		P	18 35 22.4 -0.7
HNS			pmax		pmax	
	comp=Z,29nm,1.2s					
HNS			LR		LR	
	comp=Z,260nm,18.2s					
HNS			LR		LR	
	comp=Z,1μm,20.3s					
HNS			LR		LR	
	comp=Z,920nm,17.5s					
MAJO	Matsushiro	33.96 19	P		P	18 35 22.1 -1.4
MAJO	Matsushiro	33.96 19	P		P	18 35 22.2 -1.3
MAJO	Matsushiro	33.96 19	P		P	18 35 22.2 -1.3
MAJO			pmax		pmax	
	comp=Z,83nm,0.9s					
MJAR	Matsushiro Arr	33.96 19	P		P	18 35 21.9 -1.6
	comp=Z,72nm,0.8s,baz=195,slow=9.1,SNR=282					
MJAR			LR		LR	18 50 24.6
	comp=Z,570nm,18.6s,baz=217,slow=38					
MJB9	Matsu-Tunnel	33.96 19	P		P	18 35 22.3 -1.2
DL2	Dalian	34.22 355	P		P	18 35 31.6 +5.9
DL2			S		S	18 41 03.6 +13
DL2			pmax		pmax	
	comp=Z,47nm,0.9s					
DL2			pmax		pmax	
	comp=Z,200nm,5.0s					
DL2			LR		LR	
	comp=N,640nm,20.4s					
DL2			LR		LR	
	comp=E,1μm,17.7s					
DL2			LR		LR	
	comp=Z,1μm,25.6s					
MORW	Morawa	34.63 194	P		P	18 35 28.6 -0.8
MORW			IAmb		IAmb	18 35 30.8
	comp=Z,60nm,1.2s					
MORW	Morawa	34.63 194	P		P	18 35 28.6 -0.8
	comp=Z,51nm,1.1s,SNR=1.7					
FORT	Forrest	35.37 175	P		P	18 35 36.9 +1.2
FORT	Forrest	35.37 175	P		P	18 35 35.7 0.0
FORT	Forrest	35.37 175	P		P	18 35 35.4 -0.3
	comp=Z,124nm,0.8s,SNR=4.0					
INKA	Innaminka	35.62 156	P		P	18 35 39.3 +1.4
MULG	Mulgathing	35.81 167	P		P	18 35 40.0 +0.4
KMBL	Kambalda	35.96 185	P		P	18 35 40.5 -0.3
KMBL	Kambalda	35.96 185	P		P	18 35 39.7 -1.1
	comp=Z,109nm,0.8s,SNR=3.0					
BLDU	Ballidu	35.97 192	P		P	18 35 39.5 -1.4
	comp=Z,49nm,1.7s,SNR=1.1					
JMM	Marumori	36.05 21	P		P	18 35 41.5 0.0
JMM	Marumori	36.05 21	P		P	18 35 40.9 -0.6
BJT	Baijiatuau	36.09 348	P		P	18 35 41.6 -0.2
	comp=Z,38nm,0.9s					
BJT	Baijiatuau	36.09 348	P		P	18 35 40.1 -1.7
BJT			IAmb		IAmb	18 35 42.7
	comp=Z,27nm,0.8s					
BJT	Baijiatuau	36.09 348	P		P	18 35 40.1 -1.7
BJT			pmax		pmax	
	comp=Z,27nm,0.8s					
BJI	Beijing	36.11 348	P		P	18 35 40.6 -1.3
BJI			pP		sP	18 35 47.9 -2.3
BJI			sP		pwP	18 35 51.3 -3.8
BJI			S		S	18 41 19.1 -0.9
BJI			pmax		pmax	
	comp=Z,17nm,0.8s					
BJI			pmax		pmax	
	comp=Z,29nm,4.0s					
BJI			LR		LR	
	comp=Z,270nm,17.7s					
BJI			LR		LR	
	comp=Z,250nm,20.4s					
BJI			LR		LR	
	comp=Z,350nm,20.7s					
QLP	Quilpie	36.21 150	P		P	18 35 43.7 +0.7
QLP	Quilpie	36.21 150	P		P	18 35 42.9 -0.2
	comp=Z,58nm,1.1s,SNR=4.3					
KLBR	Kellerberrin	36.72 190	P		P	18 35 47.5 +0.2
	comp=Z,58nm,0.9s,SNR=1.6					
LZH	Lanzhou	36.84 331	⇑P		P	18 35 49.4 +0.9
LZH			sP		pwP	18 36 02.4 +0.7
LZH			S		S	18 41 37.1 +5.4
LZH			pmax		pmax	
	comp=Z,37nm,1.5s					
LZH			LR		LR	
	comp=Z,1μm,15.1s					
LZH			LR		LR	
	comp=Z,1μm,13.7s					
LZH			LR		LR	
	comp=Z,830nm,15.5s					
SNY	Shenyang	37.02 358	⇓P		P	18 35 48.8 -0.9
SNY			S		S	18 41 35.9 +2.0
SNY			pmax		pmax	
	comp=Z,13nm,0.8s					
SNY			pmax		pmax	
	comp=Z,180nm,3.4s					
SNY			LR		LR	
	comp=Z,720nm,18.0s					
SNY			LR		LR	
	comp=Z,650nm,21.0s					
SNY			LR		LR	
	comp=Z,950nm,23.5s					
LCRK	Leigh Creek	37.13 161	P		P	18 35 51.7 +0.9
RK1H	Rockhampton Ha	37.36 139	P		P	18 35 55.0 +2.2
	comp=Z,37nm,0.8s					

HNR Honiara 37.52 112 LR LR 18 50 51.8
comp=Z,5µm,20.7s,baz=287,slow=35
SHL Shillong 37.95 307 P **P** **18 35 59.7 +1.6**
SHL pmax pmax
comp=Z,97nm,0.8s
HHC Hu-ho-hao-te 38.00 343 *e*P P 18 36 03.0 +4.8
HHC sP pwP 18 36 13.4 +2.0
HHC PP **PnPn** **18 37 33.3 +6.6**
HHC SS SS 18 44 31.1 -5.4
HHC ScS **ScS** **18 46 07.8 -1.2**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,79nm,4.8s
HHC LR LR
comp=Z,500nm,16.5s
HHC LR LR
comp=Z,280nm,17.7s
HHC LR LR
comp=Z,570nm,18.5s
NWAO Narrogin (SRO) 38.11 191 P **P** **18 35 58.6 -0.5**
NWAO IAmb IAmb 18 36 22.4
comp=Z,150nm,1.4s
NWAO Narrogin (SRO) 38.11 191 LR LR 18 56 02.4
comp=Z,102nm,18.2s,baz=11,slow=43
NWAO Narrogin (SRO) 38.11 191 P **P** **18 35 58.6 -0.5**
NWAO pmax pmax
comp=Z,150nm,1.5s
MSHR Mys Shultsa 38.15 7*ce*P **P** **18 35 59.0 -0.2**
MSHR pmax pmax
comp=Z,55nm,0.9s
PSTR Posyet 38.17 7*de*P **P** **18 36 00.1 +0.7**
BTO Baotou 38.24 341 *e*P P 18 36 05.1 +4.9
BTO pP pwP 18 36 09.8 -3.6
BTO sP sP 18 36 13.4 +5.0
BTO PP **PnPn** **18 37 34.0 +4.4**
BTO pmax pmax
comp=Z,13nm,0.6s
BTO pmax pmax
comp=Z,570nm,5.6s
BTO LR LR
comp=Z,640nm,11.3s
BTO LR LR
comp=Z,2µm,12.8s
BTO LR LR
comp=Z,1µm,21.0s
BBOO Buckleboo 38.72 165 P **P** **18 36 04.3 +0.1**
BBOO Buckleboo 38.72 165 P **P** **18 36 04.5 +0.3**
BBOO Buckleboo 38.72 165 P **P** **18 36 03.4 -0.8**
comp=Z,122nm,0.9s,SNR=6.4
JTM Tenmabayashi 38.75 20 P **P** **18 36 05.7 +1.4**
JTM Tenmabayashi 38.75 20 P **P** **18 36 04.5 +0.2**
VLA Vladivostok 38.77 8 *i* P **P** **18 36 05.5 +1.0**
VLA pmax pmax
comp=Z,108nm,1.0s
CN2 Changchun 38.97 0 *e*P **P** **18 36 04.1 -2.1**
CN2 *e*S **S** **18 42 01.9 -1.5**
CN2 LR LR
comp=Z,120nm,13.0s
CN2 LR LR
comp=Z,280nm,13.0s
EIDS Eidsvold 39.15 141 P **P** **18 36 09.2 +1.3**
EIDS Eidsvold 39.15 141 P **P** **18 36 09.0 +1.1**
EIDS Eidsvold 39.15 141 P **P** **18 36 08.1 +0.2**
comp=Z,41nm,1.0s,SNR=5.9
WHYH Whyalla 39.34 163 P **P** **18 36 09.8 +0.4**
comp=Z,215nm,0.8s
STKA Stephens Creek 39.62 158 P **P** **18 36 12.6 +0.8**
STKA Stephens Creek 39.62 158 P **P** **18 36 12.6 +0.8**
STKA Stephens Creek 39.62 158 P **P** **18 36 12.2 +0.5**
comp=Z,29nm,0.9s,SNR=13
STKA Stephens Creek 39.62 158 P **P** **18 36 12.5 +0.8**
comp=Z,74nm,0.6s,baz=341,slow=8.0,SNR=223
STKA LR LR 18 54 57.6
comp=Z,130nm,19.0s,baz=342,slow=40
STKA Stephens Creek 39.62 158 P **P** **18 36 12.6 +0.8**
STKA pmax pmax
comp=Z,24nm,1.0s
USA0B Ussuriysk Arra 39.85 8 P **P** **18 36 13.6 +0.1**
USA0B Ussuriysk Arra 39.85 8 P **P** **18 36 13.6 +0.1**
USA0B pmax pmax
comp=Z,30nm,0.8s
USRK Ussuriysk Ar. 39.85 8 P **P** **18 36 13.4 0.0**
USRK Ussuriysk Ar. 39.85 8 P **P** **18 36 13.6 +0.2**
comp=Z,24nm,0.8s,baz=188,slow=8.5,SNR=35
USRK LR LR 18 50 46.5
comp=Z,350nm,21.6s,baz=198,slow=33
comp=Z,24nm,0.8s
XLT XiLinHaoTe 39.86 350 *e*P **P** **18 36 14.0 +0.3**
XLT pmax pmax
comp=Z,6.0nm,0.9s
XLT pmax pmax
comp=Z,130nm,5.6s
XLT LR LR
comp=Z,54nm,16.0s
XLT LR LR
comp=Z,410nm,19.3s
XLT LR LR
comp=Z,720nm,17.9s
MDJ Mudanjiang 39.99 5 P **P** **18 36 15.8 +1.2**
MDJ Mudanjiang 39.99 5 P **P** **18 36 13.3 -1.3**
MDJ pP pP 18 36 20.3 -0.3
MDJ sP pwP 18 36 25.4 -2.1
MDJ ScS ScS 18 46 17.6 -2.6
MDJ pmax pmax
comp=Z,9.0nm,1.3s
MDJ LR LR
comp=Z,830nm,20.6s
MDJ LR LR
comp=Z,760nm,19.9s
MDJ Mudanjiang 39.99 5 IAmb IAmb 18 36 16.7
comp=Z,42nm,0.9s
HTT Hallett 40.12 162 P **P** **18 36 17.2 +1.3**
HTT Hallett 40.12 162 P **P** **18 36 16.0 +0.1**
comp=Z,92nm,1.1s,SNR=6.3
AULRC Lightning Ridg 40.44 148 P **P** **18 36 19.7 +1.1**
LSA Lhasa 40.54 312 P **P** **18 36 22.4 +2.4**
LSA pmax pmax
comp=Z,6.0nm,0.9s
ERM Erimo 40.56 21 P **P** **18 36 20.6 +1.2**
ERM Erimo 40.56 21 P **P** **18 36 20.5 +1.2**
ERM IAmb IAmb 18 36 33.0
comp=Z,91nm,1.2s
ERM Erimo 40.56 21 P **P** **18 36 20.5 +1.2**
ERM pmax pmax
comp=Z,91nm,1.2s
JEM Erimo 40.56 21 P **P** **18 36 20.7 +1.3**
BNX BinXian 40.96 3 ⇑P **P** **18 36 23.0 +0.3**
BNX pmax pmax
comp=Z,18nm,1.1s
CMSA Cobar Meteorol 41.05 153 P **P** **18 36 24.8 +1.2**
comp=Z,35nm,0.9s
CMSA Cobar Meteorol 41.05 153 P **P** **18 36 24.1 +0.5**
comp=Z,34nm,0.9s,SNR=5.0
GTA Gaotai 41.43 330 *e*P **P** **18 36 27.4 +0.6**
GTA sP pwP 18 36 40.1 +0.1
GTA S **S** **18 42 39.1 -1.5**
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA LR LR
comp=Z,700nm,20.4s
GTA LR LR
comp=Z,520nm,18.5s
GTA LR LR
comp=Z,820nm,19.6s
TEY Ternei 41.47 12⇑*e*P **P** **18 36 27.0 +0.2**
TEY pmax pmax
comp=N,30nm,1.2s
TEY pmax pmax
comp=Z,50nm,1.2s
AUWSH Wavell State H 41.82 141 P **P** **18 36 31.2 +1.2**
GOMU GeErMu 41.90 322 P **P** **18 36 33.5 +2.5**
GOMU S **S** **18 42 49.5 +1.4**
GOMU pmax pmax
comp=Z,18nm,0.9s
GOMU LR LR
comp=Z,2µm,17.7s
GOMU LR LR
comp=Z,980nm,17.5s
GOMU LR LR
comp=Z,2µm,17.6s
ASAJ Asahikawa 42.23 19 LR LR 18 56 29.4
comp=Z,347nm,18.2s,baz=212,slow=40
ASAJ Asahikawa 42.23 19 P **P** **18 36 33.7 +0.6**
ASAJ pmax pmax
comp=Z,98nm,0.9s
JKA Kamikawa-asahi 42.23 19 P **P** **18 36 33.7 +0.6**
JKA IAmb IAmb 18 36 34.9
comp=Z,98nm,0.9s
AUDCS Dubbo College 43.02 150 P **P** **18 36 40.9 +1.2**
comp=Z,44nm,0.9s
ARMA Armidale 43.19 146 P **P** **18 36 43.5 +2.3**
ARMA Armidale 43.19 146 P **P** **18 36 42.0 +0.8**
ARMA IAmb IAmb 18 36 56.0
comp=Z,44nm,1.0s
ARMA Armidale 43.19 146 P **P** **18 36 42.0 +0.8**
comp=Z,46nm,1.1s,SNR=6.1
H11N1 WAKE ISLAND Hy 43.42 66 T T 19 22 31.0
baz=254,slow=75
H11N2 WAKE ISLAND Hy 43.43 66 T T 19 22 34.3
baz=254,slow=75
H11N3 WAKE ISLAND Hy 43.44 66 T T 19 22 34.8
baz=254,slow=75
ARPS Mount Arapiles 44.12 160 P **P** **18 36 49.7 +1.3**
ARPS Mount Arapiles 44.12 160 P **P** **18 36 49.4 +0.9**
comp=Z,241nm,0.8s,SNR=18
YNG Young 44.60 152 P **P** **18 36 53.7 +1.3**
YNG Young 44.60 152 P **P** **18 36 53.0 +0.7**
comp=Z,149nm,1.1s,SNR=4.3
KLR Kul'dur 44.77 6*ce*P **P** **18 36 52.3 -1.2**
KLR pmax pmax
comp=Z,21nm,0.9s
YSS Yuzh-Sakhalins 44.83 17 P **P** **18 36 54.2 +0.2**
YSS Yuzh-Sakhalins 44.83 17 P **P** **18 36 53.7 -0.2**
YSS IAmb IAmb 18 36 55.0
comp=Z,80nm,1.2s
YSS Yuzh-Sakhalins 44.83 17*oe*P **P** **18 36 53.8 -0.2**
YSS *e* 18 38 35.0
YSS *e*S **S** **18 43 24.9 -5.0**
YSS *e*SS **ScS** **18 46 41.0 -8.9**
YSS pmax pmax
comp=Z,40nm,1.2s
YSS pmax pmax
comp=Z,100nm,3.6s
YSS MLR MLR
comp=Z,400nm,17.0s
YSS MLR MLR
comp=E,300nm,16.0s
HEH HeiHe 45.47 2 *e*P **P** **18 36 57.6 -1.4**
HEH pP **sP** **18 37 05.4 -2.1**
HEH S **S** **18 43 38.1 -1.0**
HEH pmax pmax
comp=E,41nm,0.9s
HEH pmax pmax
comp=E,220nm,5.3s
HEH LR LR
comp=E,340nm,23.3s
HEH LR LR
comp=E,580nm,24.6s
HEH LR LR
comp=E,730nm,23.4s
BRAT Ballarat 45.55 159 P **P** **18 37 01.9 +2.1**
comp=E,38nm,0.8s
ULN Ulaanbaatar 45.72 343⇑*e*P **P** **18 37 00.4 -0.8**
ULN pmax pmax
comp=Z,13nm,1.2s
CAN Canberra 45.72 152 P **P** **18 37 03.3 +2.0**
CAN Canberra 45.72 152 P **P** **18 37 02.3 +1.0**
CAN IAmb IAmb 18 37 04.2
comp=Z,48nm,0.9s
CAN Canberra 45.72 152 P **P** **18 37 02.3 +1.0**
CAN pmax pmax
comp=Z,49nm,0.9s
SONM Songino Array 45.88 343 P **P** **18 37 01.6 -0.9**
SONM Songino Array 45.88 343 P **P** **18 37 01.8 -0.7**
comp=Z,2.7nm,0.8s,baz=164,slow=7.7,SNR=11
comp=Z,2.7nm,0.8s
SONM Songino Array 45.88 343 P **P** **18 37 01.6 -0.9**
SONM pmax pmax
comp=Z,6.0nm,1.0s
CNB Canberra Magne 45.88 152 P **P** **18 37 05.3 +2.7**
CNB Canberra Magne 45.88 152 P **P** **18 37 03.3 +0.7**
comp=Z,31nm,1.0s,SNR=4.0
KOUNC Koumac, New Ca 45.98 124 P **P** **18 37 04.8 +1.3**
TOO Toolangi 46.14 157 P **P** **18 37 06.7 +2.1**
TOO Toolangi 46.14 157 P **P** **18 37 03.7 -0.9**
TOO Toolangi 46.14 157 P **P** **18 37 05.7 +1.1**
comp=Z,69nm,0.9s,SNR=6.1
TOO Toolangi 46.14 157 P **P** **18 37 03.7 -0.9**
TOO pmax pmax
comp=Z,89nm,1.2s
GEXS Deakin Univers 46.25 159 P **P** **18 37 08.1 +2.8**
comp=Z,107nm,0.8s
UGL Uglegorsk 46.57 15 *e*P **P** **18 37 08.6 +0.9**
UGL pmax pmax
comp=Z,150nm,1.4s
GRNR Gornyy 46.93 10⇑*i*P **P** **18 37 10.6 +0.1**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,150nm,16.0s
GRNR MLR MLR
comp=Z,270nm,17.0s
HYB Hyderabad 47.19 289 *e*P **P** **18 37 13.5 +0.3**
TYV Tymovskoe 48.36 15 *e*P **P** **18 37 22.4 +0.8**
TYV pmax pmax
comp=Z,20nm,1.6s
TYV pmax pmax
comp=Z,100nm,3.6s
NOUC Port Laguerre 48.37 125 P **P** **18 37 22.7 +0.6**
DZM Mont Dzumac 48.47 125 P **P** **18 37 24.0 +1.0**
DZM Mont Dzumac 48.47 125 *e*P **P** **18 37 23.4 +0.4**
comp=Z,133nm,1.0s
DZM *e*S **S** **18 44 20.0 -3.0**
comp=Z,238nm,34.0s
DZM *e*LR LR 18 51 06.6
comp=Z,421nm,25.4s
DZM Mont Dzumac 48.47 125 P **P** **18 37 22.9 -0.1**
DZM Mont Dzumac 48.47 125 P **P** **18 37 23.8 +0.7**
comp=Z,12nm,0.8s,baz=314,slow=6.7,SNR=12
comp=Z,12nm,0.8s
LIFNC LIFOU 48.53 123 P **P** **18 37 25.8 +2.4**
ONTNC Ouen Toro 48.59 125 P **P** **18 37 24.7 +0.9**
YATNC Mamie plateau, 48.83 125 P **P** **18 37 27.0 +1.3**
ZEA Zeya 48.95 2 *e*P **P** **18 37 24.5 -1.6**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA MLR MLR
comp=N,200nm,14.0s
ZAK Zakamensk 49.09 342 *e*P **P** **18 37 25.9 -1.5**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
MOY Mondy 50.93 341 *e*P **P** **18 37 40.8 -0.6**
MOY pmax pmax
comp=Z,20nm,2.9s
WMQ Urumqi 50.98 326 *e*P **P** **18 37 44.8 +2.9**
WMQ LR LR
comp=Z,980nm,17.7s
WMQ LR LR
comp=Z,790nm,19.9s
WMQ LR LR
comp=Z,810nm,18.7s
TAU Tasmania Unive 51.49 159 P **P** **18 37 44.2 -1.2**
TAU IAmb IAmb 18 37 48.5
comp=Z,63nm,1.1s
TAU Tasmania Unive 51.49 159 P **P** **18 37 44.2 -1.2**
TAU pmax pmax
comp=Z,63nm,1.2s
BOD Bodaibo 53.71 353 *e*P **P** **18 38 00.6 -1.1**
BOD pmax pmax
comp=Z,10.0nm,1.4s
ZSN Zaisan 54.80 328 *e*P **P** **18 38 09.4 -0.6**
baz=328
ZSN Zaisan 54.80 328 *e*P **P** **18 38 09.3 -0.6**
SHLS Shalkode 55.54 321 *e*P **P** **18 38 13.5 -2.0**
baz=321
SHLS Shalkode 55.54 321 *e*P **P** **18 38 13.4 -2.0**
PET Petropavlovsk 55.55 24 P **P** **18 38 16.2 +1.1**
PET Petropavlovsk 55.55 24 *e*P **P** **18 38 15.9 +0.8**
PET *e*S **S** **18 46 00.1 +1.1**
PET pmax pmax
comp=Z,17nm,0.8s
PET pmax pmax
comp=Z,100nm,12.9s
PET MLR MLR
comp=Z,200nm,19.0s
PDGK Podgornoye 55.61 321 P **P** **18 38 16.1 +0.1**
UZB Uzynbulak 55.81 320 *e*P **P** **18 38 17.2 -0.3**
baz=320
UZB Uzynbulak 55.81 320 *e*P **P** **18 38 17.1 -0.3**
MK31 Makanchi Array 55.82 326 P **P** **18 38 17.6 +0.3**
MK31 Makanchi Array 55.82 326 P **P** **18 38 17.6 +0.3**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MKAR Makanchi Array 55.82 326 P **P** **18 38 17.5 +0.2**
MKAR Makanchi Array 55.82 326 P **P** **18 38 17.9 +0.6**
comp=Z,6.3nm,0.8s,baz=121,slow=8.0,SNR=48
MKAR LR LR 19 04 23.4
comp=Z,619nm,18.1s,baz=118,slow=38
comp=Z,6.3nm,0.8s
MKAR Makanchi Array 55.82 326 *i* P **P** **18 38 17.6 +0.3**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MAKZ Makanchi 56.00 326 P **P** **18 38 18.9 +0.3**
MAKZ IAmb IAmb 18 38 32.6
comp=Z,26nm,1.1s
MAKZ Makanchi 56.00 326 P **P** **18 38 18.9 +0.3**
MAKZ pmax pmax
comp=Z,26nm,1.2s
KSH Kashi 56.18 315 P **P** **18 38 22.6 +2.5**
KSH sP pwP 18 38 32.6 -0.1
KSH S **S** **18 46 10.8 +2.6**
KSH pmax pmax
comp=Z,11nm,1.1s
KSH LR LR
comp=Z,490nm,21.0s
KSH LR LR
comp=Z,510nm,20.3s
KSH LR LR
comp=Z,510nm,19.6s
KPKS Kokpek 56.19 321 *e*P **P** **18 38 19.9 -0.2**
comp=Z,12nm,0.8s,baz=321
KPKS Kokpek 56.19 321 *e*P **P** **18 38 19.8 -0.2**
KPKS pmax pmax
comp=Z,12nm,0.8s
MSVF Nonsavu 56.85 115 P **P** **18 38 26.2 +1.0**
MDOK Medeo 57.08 320 *e*P **P** **18 38 26.3 -0.2**
baz=320
MDOK Medeo 57.08 320 *e*P **P** **18 38 26.3 -0.2**
ARXS Arharly 57.09 321 *e*P **P** **18 38 25.8 -0.7**
TDK Taldyqorghan 57.13 322 *e*P **P** **18 38 26.6 0.0**
comp=Z,22nm,0.9s,baz=322
TDK Taldyqorghan 57.13 322 *e*P **P** **18 38 26.6 0.0**
TDK pmax pmax
comp=Z,22nm,0.9s
AAA Alma-Ata 57.19 320 *e*P **P** **18 38 26.9 -0.3**
comp=Z,12nm,0.7s,baz=320
AAA Alma-Ata 57.19 320 *e*P **P** **18 38 26.9 -0.3**
AAA pmax pmax
comp=Z,12nm,0.7s
YAK Yakutsk 57.34 3 P **P** **18 38 26.9 -0.9**
YAK Yakutsk 57.34 3 LR LR 19 07 10.2
comp=Z,284nm,18.0s,baz=184,slow=40
YAK Yakutsk 57.34 3 *e*P **P** **18 38 26.3 -1.4**
YAK *e**PP **sP** **18 38 35.0 -1.2**
YAK *e* 18 39 23.8
YAK *e* 18 40 33.7
YAK *e*S **S** **18 46 20.5 -2.0**
YAK *e**SS **sS** **18 46 37.5 +4.9**
YAK *e* 18 48 07.9
YAK *e*SS **SS** **18 50 18.9 +6.7**
YAK pmax pmax
comp=Z,99nm,0.9s
YAK pmax pmax
comp=N,28nm,1.1s
YAK pmax pmax
comp=E,13nm,1.3s
YAK pmax pmax
comp=Z,80nm,3.3s
YAK pmax pmax
comp=N,44nm,3.7s
YAK pmax pmax
comp=E,34nm,2.5s
YAK smax smax
comp=E,75nm,3.8s
YAK smax smax
comp=N,40nm,3.3s
YAK MLR MLR
comp=Z,451nm,22.0s
YAK MLR MLR
comp=N,313nm,22.0s
YAK MLR MLR
comp=E,82nm,15.0s
CHKK Chushkaly 57.45 320 *e*P **P** **18 38 28.9 -0.1**
baz=320
CHKK Chushkaly 57.45 320 *e*P **P** **18 38 28.8 -0.1**
BOOM Boomskoye usch 57.50 318 P **P** **18 38 30.9 +1.4**
TKM2 Tokmak 2 57.92 319 P **P** **18 38 33.4 +0.9**
SNR=12
MA2 Magadan 58.23 15 P **P** **18 38 34.9 +0.8**
MA2 Magadan 58.23 15 P **P** **18 38 34.3 +0.2**
MA2 Magadan 58.23 15*c* *i*P **P** **18 38 34.4 +0.3**
MA2 pmax pmax
comp=Z,136nm,1.3s
UCH Uchtor 58.33 318 P **P** **18 38 37.4 +1.7**
SNR=16
AAK Ala-Archa 58.52 318 LR LR 19 06 18.0
comp=Z,761nm,21.3s,baz=106,slow=39
AAK Ala-Archa 58.52 318*c* *i*P **P** **18 38 37.7 +1.1**
AAK pmax pmax
comp=Z,12nm,1.3s
SGDS Sogindy 58.79 319 *e*P **P** **18 38 38.0 -0.3**
baz=319
SGDS Sogindy 58.79 319 *e*P **P** **18 38 38.0 -0.3**
USP Ospenovka 58.79 319 P **P** **18 38 39.0 +0.7**
SNR=9.8
AML Almayashu 58.84 317 P **P** **18 38 41.1 +1.9**
SNR=13
ZALV Zalesovo Beam 58.99 334 P **P** **18 38 38.4 -1.0**
comp=Z,2.7nm,0.7s,baz=116,slow=6.8,SNR=16
ZALV LR LR 19 05 58.9
comp=Z,492nm,19.9s,baz=128,slow=38
comp=Z,2.7nm,0.7s
ZALV Zalesovo Beam 58.99 334 *i* P **P** **18 38 38.4 -1.0**
ZALV pmax pmax
comp=Z,4.0nm,0.9s
ARSB Arslanbob 59.00 316 P **P** **18 38 41.3 +1.3**
ARSB Arslanbob 59.00 316 P **P** **18 38 41.3 +1.3**
ARSB pmax pmax
comp=Z,4.0nm,0.9s
EKS2 Erkin-Say 59.01 318 P **P** **18 38 41.7 +1.7**
SNR=12
KBL Kabul 59.60 308 P **P** **18 38 45.7 +1.4**
KBL pmax pmax
comp=Z,109nm,0.8s
BTLS Baital 59.87 320 *e*P **P** **18 38 45.3 -0.5**
baz=320
BTLS Baital 59.87 320 *e*P **P** **18 38 45.2 -0.5**
KURBB Kurchatov Arra 60.03 328 P **P** **18 38 46.5 -0.2**
comp=Z,20nm,1.0s,baz=126,slow=6.0,SNR=110
comp=Z,20nm,1.0s
KURK Kurchatov 60.04 328 P **P** **18 38 46.6 -0.1**
KURK IAmb IAmb 18 38 47.8
comp=Z,36nm,1.1s
KURK Kurchatov 60.04 328 P **P** **18 38 46.6 -0.1**
KURK pmax pmax
comp=Z,36nm,1.1s
CHGR Chuyangaron 60.77 312 P **P** **18 38 53.2 +1.1**
IUG Iuzhnay 61.36 316 *e*P **P** **18 38 55.8 -0.2**
comp=Z,18nm,0.8s,baz=316
IUG Iuzhnay 61.36 316 *e*P **P** **18 38 55.8 -0.2**
IUG pmax pmax
comp=Z,18nm,0.8s
KK31 Karatay Array 61.38 317 *i* P **P** **18 38 54.0 -2.1**
KKAR Karatay Array 61.38 317 P **P** **18 38 57.2 +1.0**
KKAR Karatay Array 61.38 317 P **P** **18 38 56.8 +0.7**
KKAR Karatay Array 61.38 317 P **P** **18 38 56.8 +0.7**
KKAR pmax pmax
comp=Z,13nm,0.9s
SEY Seymchan 61.52 14*c* *i*P **P** **18 38 57.4 +0.8**
SEY pmax pmax
comp=Z,68nm,1.7s
CHM Chimkent 61.72 316 *e*P **P** **18 38 58.1 -0.3**
baz=316
CHM Chimkent 61.72 316 *e*P **P** **18 38 58.0 -0.3**
BRLS Boroldaу 61.82 317 *e*P **P** **18 38 59.1 +0.1**
baz=317
BRLS Boroldaу 61.82 317 *e*P **P** **18 38 59.1 +0.1**
SHEM Shemya Is, Ala 62.54 31 LR LR 19 01 01.3
comp=Z,73nm,21.8s,baz=274,slow=31
LBZ Lake Benmore 63.42 145 P **P** **18 39 10.8 +1.1**
RPZ Rata Peaks 63.51 144 LR LR 19 06 59.4
comp=Z,314nm,21.2s,baz=311,slow=36
KHZ Kahutara 64.25 142 P **P** **18 39 15.6 +0.5**
URZ Urewera 64.39 136 P **P** **18 39 16.8 +0.7**
comp=Z,4.4nm,0.7s,baz=307,slow=10,SNR=1.3

comp=Z,4.4nm,0.7s
BKZ Black Stump Fm 64.42 138 P **P 18 39 17.6 +1.2**
BKZ Black Stump Fm 64.42 138 P **P 18 39 17.6 +1.2**
RTZ Ruatahuna 64.48 137 P **P 18 39 17.6 +0.8**
AMKA Amchitka 64.68 34 P **P 18 39 18.2 +0.4**
HRA Herat 65.00 306 IAmb IAmb 18 39 35.5
comp=Z,21nm,0.9s
BFZ Birch Farm 65.03 139 P **P 18 39 23.2 +2.9**
BVA0 Borovoye Array 65.61 327 *e*P **P 18 39 23.7 -0.1**
BVAR Borovoye Array 65.61 327 P **P 18 39 23.8 0.0**
comp=Z,12nm,1.0s,baz=125,slow=7.4,SNR=35
BVAR LR LR 19 09 42.4
comp=Z,352nm,20.3s,baz=114,slow=38
comp=Z,12nm,1.0s
BRVK Borovoye 65.68 327*c i*P **P 18 39 23.7 -0.6**
BRVK pmax pmax
comp=Z,23nm,1.2s
WSAR Wadi Sarin 66.48 293 LR LR 19 10 57.6
comp=Z,52nm,19.7s,baz=106,slow=38
TIXI Tiksi 66.94 1 P **P 18 39 31.2 -0.8**
TIXI IAmb IAmb 18 39 32.6
comp=Z,22nm,0.9s
TIXI Tiksi 66.94 1 LR LR 19 09 35.2
comp=Z,322nm,21.9s,baz=206,slow=37
TIXI Tiksi 66.94 1⇑*e*P **P 18 39 29.8 -2.2**
TIXI pmax pmax
comp=Z,29nm,1.1s
GSTR Great Sitkin T 67.60 35 P **P 18 39 35.8 -0.8**
ATKA Atka Island 68.71 35 P **P 18 39 44.7 +1.2**
ATKA Atka Island 68.71 35 P **P 18 39 43.5 +0.1**
BILL Bilibino 69.10 15 P **P 18 39 44.9 -0.7**
BILL IAmb IAmb 18 39 46.4
comp=Z,25nm,1.1s
BILL Bilibino 69.10 15*c i*P **P 18 39 44.9 -0.7**
BILL *e* 18 40 09.3
BILL *e* 18 42 15.6
BILL pmax pmax
comp=Z,42nm,1.7s
BILL MLR MLR
comp=Z,234nm,24.0s
NRIK Noril'sk 69.12 347 P **P 18 39 45.3 -0.4**
comp=Z,5.1nm,0.7s,baz=126,slow=6.7,SNR=7.2
NRIK LR LR 19 11 53.4
comp=Z,376nm,21.9s,baz=148,slow=38
comp=Z,5.1nm,0.7s
NRIK Noril'sk 69.12 347*de*P **P 18 39 45.9 +0.2**
NRIK pmax pmax
comp=Z,6.0nm,0.8s
AB31 Akbulak array 70.35 321 *i*P **P 18 39 53.4 -0.3**
ABKAR Akbulak array 70.35 321 P **P 18 39 53.2 -0.4**
ABKAR Akbulak array 70.35 321 P **P 18 39 53.7 0.0**
ABKAR IAmb IAmb 18 40 09.1
comp=Z,9.8nm,0.8s
AKTO Aktyubinsk 71.87 322 LR LR 19 14 15.5
comp=Z,685nm,20.8s,baz=84,slow=38
NIKH Nikolski High 72.04 36 P **P 18 40 03.8 -0.1**
baz=253
SVE Sverdlovsk 72.27 329 *e*P **P 18 40 04.8 -0.4**
SVE pmax pmax
comp=Z,19nm,1.1s
P08K Saint George I 72.75 32 P **P 18 40 08.5 +0.6**
baz=252
ARU Arti 73.24 328 P **P 18 40 09.4 -1.5**
ARU Arti 73.24 328 LR LR 19 14 22.9
comp=Z,368nm,21.0s,baz=103,slow=38
ARU Arti 73.24 328*c i*P **P 18 40 09.2 -1.7**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 73.24 328 P **P 18 40 10.1 -0.8**
comp=Z,11nm,1.4s
UNV Unalaska Valle 73.63 35 P **P 18 40 13.6 +0.4**
baz=255
M11K Mekoryuk 75.56 29 P **P 18 40 25.1 +0.8**
baz=254
FALS False Pass 75.63 34 P **P 18 40 25.5 +0.7**
baz=257
TNA Tin City 76.40 23 P **P 18 40 29.7 +0.8**
baz=251
S12K Black Hills 76.57 34 P **P 18 40 30.3 +0.1**
baz=258
K13K Kusilvak Mount 76.71 27 IAmb IAmb 18 40 33.5
comp=Z,58nm,1.6s
K13K Kusilvak Mount 76.71 27 P **P 18 40 31.5 +0.7**
baz=255,SNR=7.2
M13K Dall Lake 76.94 29 P **P 18 40 32.9 +0.8**
baz=256
F14K Arctic Creek 77.00 24 P **P 18 40 33.3 +0.8**
baz=252
ANM Nome 77.12 25 P **P 18 40 33.9 +0.8**
baz=253
SDPT Sand Point 77.38 34 P **P 18 40 35.2 +0.5**
baz=260
J14K Nanvaranak Lak 77.42 27 IAmb IAmb 18 40 36.8
comp=Z,31nm,1.4s
J14K Nanvaranak Lak 77.42 27 P **P 18 40 35.5 +0.8**
baz=255
L14K Kuka Creek 77.47 28 IAmb IAmb 18 40 37.4
comp=Z,44nm,1.1s
L14K Kuka Creek 77.47 28 P **P 18 40 35.9 +0.8**
baz=256,SNR=12
N14K Kuskokwak Cree 77.64 30 P **P 18 40 36.6 +0.5**
baz=258
M14K Bethel 77.68 29 IAmb IAmb 18 40 38.3
comp=Z,32nm,0.9s
M14K Bethel 77.68 29 P **P 18 40 37.3 +1.0**
baz=257,SNR=9.7
MAK Makhachkala 77.69 313 *e*P **P 18 40 33.1 -3.7**
MAK *e* 18 43 27.9
MAK *e*PPP PPP 18 45 15.2
MAK *e*S **S 18 50 21.1 -6.4**
MAK *e*SS **SS 18 55 34.7 +7.1**
MAK *e*SSS SSS 18 58 49.3
MAK pmax pmax
comp=Z,101nm,1.5s
O14K Tigyukauivet M 77.71 30 P **P 18 40 36.9 +0.4**
baz=258
F15K North Star Dit 77.74 23 IAmb IAmb 18 40 38.4
comp=Z,27nm,1.2s
F15K North Star Dit 77.74 23 P **P 18 40 37.2 +0.7**
baz=254,SNR=5.3
G15K Niukluk 77.79 24 P **P 18 40 37.2 +0.4**
baz=254
CHNA Chernabura Isl 77.80 35 P **P 18 40 38.0 +0.9**
baz=261
RAR Rarotonga 77.98 113 LR LR 19 14 13.1
comp=Z,49nm,18.2s,baz=309,slow=35
S14K Fog Glacier 78.06 33 P **P 18 40 38.6 0.0**
baz=260
L15K Ungalak Mounta 78.11 28 P **P 18 40 39.3 +0.6**
baz=258,SNR=6.5
K15K Wolf Creek Mou 78.22 27 IAmb IAmb 18 40 41.6
comp=Z,35nm,1.2s
K15K Wolf Creek Mou 78.22 27 P **P 18 40 40.0 +0.7**
baz=257,SNR=8.5
C16K Lisburne Hills 78.22 21 P **P 18 40 39.5 +0.4**
baz=253
M15K Kasigluk River 78.28 29 P **P 18 40 40.1 +0.4**
baz=258,SNR=6.3
O15K Ungalikthiuk R 78.42 31 P **P 18 40 40.8 +0.3**
baz=260
H16K Elim 78.44 25 P **P 18 40 41.1 +0.6**
baz=256
N15K Kwethluk River 78.47 30 IAmb IAmb 18 40 42.8
comp=Z,44nm,1.2s
N15K Kwethluk River 78.47 30 P **P 18 40 41.3 +0.6**
baz=259,SNR=5.8
KIRV Kirov 78.54 329 LR LR 19 18 54.8
comp=Z,306nm,21.8s,baz=98,slow=38
KIRV Kirov 78.54 329*c i*P **P 18 40 39.4 -1.7**
RAYN Ar Rayn 78.54 293 P **P 18 40 43.0 +1.0**
RAYN IAmb IAmb 18 40 58.3
comp=Z,19nm,0.8s
RAYN Ar Rayn 78.54 293 P **P 18 40 43.0 +1.0**
RAYN pmax pmax
comp=Z,19nm,0.8s
G16K Koyuk River 78.58 24 P **P 18 40 41.6 +0.4**
baz=256,SNR=6.1
BELG Belogornoye 78.62 322 LR LR 19 19 57.3
comp=Z,158nm,18.6s,baz=108,slow=39
CHGN Chignik 78.69 34 P **P 18 40 42.6 +0.7**
baz=261
J16K Anvik River 78.85 26 IAmb IAmb 18 40 45.0
comp=Z,27nm,1.1s
J16K Anvik River 78.85 26 P **P 18 40 43.6 +0.9**
baz=258,SNR=10.0
D17K Noatak River 78.88 22 P **P 18 40 43.5 +0.7**
baz=255,SNR=17

I17K Unalakleet 78.93 26 IAmb IAmb 18 40 45.6
comp=Z,67nm,1.4s
I17K Unalakleet 78.93 26 P **P 18 40 43.7 +0.6**
baz=258
RDOG Red Dog Mine 79.03 21 IAmb IAmb 18 40 46.2
comp=Z,35nm,1.2s
RDOG Red Dog Mine 79.03 21 P **P 18 40 44.1 +0.4**
baz=255
C17K DeLong Mountai 79.05 21 P **P 18 40 44.2 +0.4**
baz=255
L16K Owhat River 79.05 28 IAmb IAmb 18 40 45.9
comp=Z,52nm,1.3s
L16K Owhat River 79.05 28 P **P 18 40 44.5 +0.6**
baz=259,SNR=13
N16K Nishlik Lake 79.17 29 P **P 18 40 45.7 +1.1**
baz=260,SNR=8.4
M16K Timber Creek 79.17 29 IAmb IAmb 18 40 46.6
comp=Z,33nm,0.9s
M16K Timber Creek 79.17 29 P **P 18 40 45.4 +0.8**
baz=260,SNR=11
E17K Hotham Inlet 79.19 22 P **P 18 40 45.6 +1.0**
baz=256,SNR=9.9
F17K Baldwin Pennin 79.27 23 IAmb IAmb 18 40 47.0
comp=Z,38nm,1.4s
F17K Baldwin Pennin 79.27 23 P **P 18 40 45.8 +0.9**
baz=257
G17K Kiwalik Mounta 79.30 24 P **P 18 40 45.9 +0.7**
baz=258,SNR=19
O16K Kokwok River B 79.36 30 IAmb IAmb 18 40 47.5
comp=Z,34nm,1.3s
O16K Kokwok River B 79.36 30 P **P 18 40 46.2 +0.6**
baz=261,SNR=6.9
H17K Granite Mounta 79.48 25 IAmb IAmb 18 40 48.3
comp=Z,28nm,1.0s
H17K Granite Mounta 79.48 25 P **P 18 40 47.3 +1.1**
baz=258,SNR=22
J17K VABM Dome 79.55 26 P **P 18 40 47.8 +1.3**
baz=259,SNR=11
GNI Garni 79.57 310 LR LR 19 21 25.5
comp=Z,87nm,20.1s,baz=97,slow=40
L17K Donlin 79.68 28 P **P 18 40 48.7 +1.4**
baz=260,SNR=16
E18K Tukpahlearik C 79.73 22 IAmb IAmb 18 40 49.6
comp=Z,30nm,1.1s
E18K Tukpahlearik C 79.73 22 P **P 18 40 48.3 +0.8**
baz=257,SNR=13
B18K Kokolik River 79.76 20 P **P 18 40 49.0 +1.5**
baz=256
K17K Iditarod 79.77 27 IAmb IAmb 18 40 50.3
comp=Z,44nm,1.0s
K17K Iditarod 79.77 27 P **P 18 40 49.2 +1.4**
baz=260,SNR=20
C18K Utukok River 79.80 21 P **P 18 40 48.2 +0.3**
baz=256
O17K Koliganek Bris 79.89 30 P **P 18 40 49.2 +0.8**
baz=262,SNR=5.5
F18K Selawik 79.93 23 P **P 18 40 49.2 +0.7**
baz=258,SNR=7.3
N17K Nushagak Hills 79.95 29 P **P 18 40 49.9 +1.0**
baz=262
M17K Holitna River 79.96 28 IAmb IAmb 18 40 51.5
comp=Z,42nm,1.3s
M17K Holitna River 79.96 28 P **P 18 40 50.1 +1.3**
baz=261,SNR=7.0
R17L Mt. Peulik Vol 79.98 32 P **P 18 40 49.9 +0.8**
baz=263
P17K Kvichak River 80.14 31 P **P 18 40 50.3 +0.5**
baz=262
H18K Honhosa River 80.17 25 IAmb IAmb 18 40 51.6
comp=Z,85nm,1.9s
H18K Honhosa River 80.17 25 P **P 18 40 50.6 +0.7**
baz=260,SNR=14
CHIR Chirikof Islan 80.18 34 P **P 18 40 50.8 +0.7**
baz=264
G18K Tagagawik 80.19 24 P **P 18 40 50.4 +0.4**
baz=259,SNR=10.0
A19K Wainwright 80.21 19 P **P 18 40 51.3 +1.3**
baz=256
Q17K Contact Creek 80.31 32 P **P 18 40 51.6 +0.7**
baz=263,SNR=5.2
L18K Granite Mounta 80.44 28 IAmb IAmb 18 40 53.8
comp=Z,56nm,1.4s
L18K Granite Mounta 80.44 28 P **P 18 40 52.4 +1.1**
baz=262,SNR=15
C19K Lookout Ridge 80.47 21 IAmb IAmb 18 40 54.6
comp=Z,43nm,1.1s
C19K Lookout Ridge 80.47 21 P **P 18 40 52.8 +1.3**
baz=258,SNR=11
J18K Innoko River 80.60 26 P **P 18 40 53.0 +0.7**
baz=262,SNR=16
N18K Kilae Creek 80.61 29 IAmb IAmb 18 40 54.8
comp=Z,33nm,1.4s
N18K Kilae Creek 80.61 29 P **P 18 40 53.2 +0.8**
baz=263,SNR=6.6
F19K Shaleruckik Mo 80.70 23 P **P 18 40 52.9 +0.2**
baz=260,SNR=8.7
GCSA Galena City Sc 80.73 25 P **P 18 40 53.5 +0.7**
baz=261,SNR=19
M18K Stony River 80.74 29 P **P 18 40 54.4 +1.3**
baz=263,SNR=18
P18K Big Mountain, 80.78 31 P **P 18 40 53.5 +0.1**
baz=264
Q18K Katmai Hardscr 80.81 31 P **P 18 40 53.0 -0.6**
baz=264
TTA Tatalina 80.84 27 P **P 18 40 54.5 +0.8**
TTA Tatalina 80.84 27 IAmb IAmb 18 40 55.6
comp=Z,47nm,1.5s
TTA Tatalina 80.84 27 P **P 18 40 54.2 +0.5**
baz=262,SNR=15
O18K Koktuh Hills 80.85 30 IAmb IAmb 18 40 55.8
comp=Z,28nm,1.0s
O18K Koktuh Hills 80.85 30 P **P 18 40 54.4 +0.7**
baz=263,SNR=5.4
G19K Purcell Mounta 80.86 24 IAmb IAmb 18 40 55.5
comp=Z,35nm,1.1s
G19K Purcell Mounta 80.86 24 P **P 18 40 54.5 +0.9**
baz=261,SNR=24
D19K Kuna River 80.87 21 P **P 18 40 54.4 +0.7**
baz=259,SNR=18
R18K Karluk 81.00 33 P **P 18 40 55.4 +0.9**
baz=264
E19K Redstone River 81.02 22 IAmb IAmb 18 40 56.5
comp=Z,42nm,0.9s
E19K Redstone River 81.02 22 P **P 18 40 55.4 +0.9**
baz=260,SNR=24
H19K Roundabout Mou 81.02 24 IAmb IAmb 18 40 56.7
comp=Z,43nm,0.9s
H19K Roundabout Mou 81.02 24 P **P 18 40 55.5 +1.1**
baz=261
SII Sitkinak Islan 81.05 34 P **P 18 40 55.6 +0.8**
baz=265
KBZ Khabaz 81.10 313 P **P 18 40 55.3 0.0**
comp=Z,1.1nm,0.6s,baz=68,slow=6.1,SNR=5.3
KBZ LR LR 19 21 53.7
comp=Z,217nm,19.1s,baz=77,slow=40
comp=Z,1.1nm,0.6s
KBZ Khabaz 81.10 313⇑*e*P **P 18 40 54.5 -0.8**
KBZ pmax pmax
comp=Z,13nm,1.4s
J19K Poorman 81.16 26 IAmb IAmb 18 40 57.4
comp=Z,32nm,1.1s
J19K Poorman 81.16 26 P **P 18 40 56.1 +0.9**
baz=262,SNR=24
KIV Kislovodsk 81.26 314 *e*P **P 18 40 55.1 -1.2**
KIV *e*S **S 18 51 04.7 -0.8**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,115nm,19.0s
L19K White Mountain 81.28 28 IAmb IAmb 18 40 58.2
comp=Z,30nm,1.0s
L19K White Mountain 81.28 28 P **P 18 40 57.2 +1.2**
baz=263,SNR=21
N19K Bonanza Creek 81.31 29 IAmb IAmb 18 40 58.5
comp=Z,32nm,1.0s
N19K Bonanza Creek 81.31 29 P **P 18 40 56.9 +0.7**
baz=264,SNR=12
D20K Etivluk River 81.45 21 P **P 18 40 57.3 +0.5**
baz=261
M19K Big River Lodg 81.47 28 IAmb IAmb 18 41 12.0
comp=Z,20nm,0.9s
M19K Big River Lodg 81.47 28 P **P 18 40 58.3 +1.3**
baz=264
B20K Meade River 81.48 20 IAmb IAmb 18 40 58.8
comp=Z,28nm,0.8s
B20K Meade River 81.48 20 P **P 18 40 57.5 +0.7**
baz=260,SNR=5.5
F20K Avaraart Lake 81.53 23 P **P 18 40 58.2 +1.0**

baz=262,SNR=21
E20K Nigu River 81.54 22 P **P 18 40 58.2 +1.0**
baz=261,SNR=25
Q19K Cape Douglas, 81.55 31 P **P 18 40 57.8 +0.3**
baz=265
OHAK Old Harbor 81.60 33 P **P 18 40 57.9 +0.2**
baz=266
GURO Guroymak-BITLI 81.62 308 IAmb IAmb 18 41 12.7
comp=Z,25nm,0.9s
H20K Anotleneega Mo 81.67 25 P **P 18 40 59.0 +1.1**
baz=263,SNR=25
I20K Naaghedeneel 81.75 25 P **P 18 40 59.4 +1.1**
baz=263,SNR=15
L20K Farewell, AK 81.77 28 P **P 18 40 59.5 +1.0**
baz=264,SNR=11
K20K Telida 81.77 27 IAmb IAmb 18 41 01.0
comp=Z,29nm,1.1s
K20K Telida 81.77 27 P **P 18 40 59.5 +1.0**
baz=264
J20K Nowinta River 81.83 26 P **P 18 40 59.6 +0.9**
baz=264,SNR=23
KDAK Kodiak Island 82.02 32 P **P 18 41 00.5 +0.7**
baz=266
KDAK Kodiak Island 82.02 32 LR LR 19 24 08.9
comp=Z,60nm,18.1s,baz=262,slow=41
M20K Styx River 82.06 28 IAmb IAmb 18 41 02.5
comp=Z,36nm,1.0s
M20K Styx River 82.06 28 P **P 18 41 01.4 +1.2**
baz=265
C21K Knifeblade Rid 82.17 21 P **P 18 41 01.5 +1.1**
baz=262,SNR=6.3
Q20K Shuyak Island 82.17 32 P **P 18 41 01.2 +0.6**
baz=266
VRH Novokhopyorsk 82.18 321 *e*P **P 18 40 59.9 -0.9**
VRH pmax pmax
comp=Z,16nm,1.5s
IMAR Indian Mountai 82.19 24 P **P 18 41 01.3 +0.7**
B21K Ikpikpuk River 82.29 20 IAmb IAmb 18 41 03.1
comp=Z,43nm,0.9s
B21K Ikpikpuk River 82.29 20 P **P 18 41 01.8 +0.8**
baz=262,SNR=9.9
G21K Allakaket 82.34 24 IAmb IAmb 18 41 03.5
comp=Z,20nm,0.9s
G21K Allakaket 82.34 24 P **P 18 41 02.5 +1.0**
baz=264,SNR=24
A22K Sinclair Lake 82.36 19 P **P 18 41 02.4 +1.1**
baz=262
E21K Killik River 82.38 22 IAmb IAmb 18 41 03.4
comp=Z,32nm,0.9s
E21K Killik River 82.38 22 P **P 18 41 02.2 +0.6**
baz=263,SNR=12
F21K Alatna River 82.42 23 P **P 18 41 02.4 +0.5**
baz=264,SNR=7.5
N20K Mount Spurr 82.45 29 P **P 18 41 02.2 +0.1**
baz=266
SPCR Spurr Chakacha 82.45 29 P P 18 40 52.6 -10
baz=266
SPU Mount Spurr 82.52 29 IAmb IAmb 18 41 04.2
comp=Z,33nm,1.2s
H21K Melozitna Rive 82.54 24 IAmb IAmb 18 41 04.8
comp=Z,70nm,1.7s
H21K Melozitna Rive 82.54 24 P **P 18 41 03.6 +1.1**
baz=265,SNR=23
B22K Teshekpuk Lake 82.79 20 P **P 18 41 04.2 +0.6**
baz=264
SKT Skwentna 82.82 28 IAmb IAmb 18 41 04.8
comp=Z,41nm,1.1s
SKT Skwentna 82.82 28 P **P 18 41 04.0 0.0**
baz=266,SNR=22
CNPM China Poot 82.83 31 IAmb IAmb 18 41 17.5
comp=Z,25nm,0.9s
D22K Ayikyak River 82.89 21 IAmb IAmb 18 41 21.2
comp=Z,47nm,1.8s
D22K Ayikyak River 82.89 21 P **P 18 41 05.2 +0.9**
baz=264
F22K John River 82.95 23 P **P 18 41 06.0 +1.3**
baz=265,SNR=19
BRLK Bradley Lake 83.02 30 IAmb IAmb 18 41 17.2
comp=Z,26nm,0.8s
BRSE Bradley Lake S 83.09 31 P **P 18 41 05.5 +0.1**
baz=267,SNR=6.3
H22K Ishtalitna Cre 83.15 24 P **P 18 41 07.0 +1.3**
baz=266,SNR=33
SUA Susitna One 83.17 29 P **P 18 41 05.7 -0.2**
baz=267,SNR=29
G22K Bettles 83.17 23 P **P 18 41 06.3 +0.7**
baz=266
BPAW Bear Paw Mtn. 83.20 26 P **P 18 41 06.5 +0.5**
baz=267,SNR=59
MLY Manley 83.36 25 IAmb IAmb 18 41 08.7
comp=Z,37nm,1.0s
MLY Manley 83.36 25 P **P 18 41 07.7 +0.9**
baz=267,SNR=52
SOC Sochi 83.40 313 *e*P **P 18 41 04.4 -3.0**
SOC *e* 18 44 17.1
SOC *e*S **S 18 51 23.9 -3.4**
CUT Chulitna 83.44 28 P **P 18 41 06.7 -0.4**
baz=267
M22K Willow 83.48 28 P **P 18 41 06.8 -0.5**
baz=268,SNR=17
D23K Nanushuk River 83.62 21 P **P 18 41 09.7 +1.7**
baz=266
O22K Cooper Landing 83.62 30 P **P 18 41 08.2 +0.1**
baz=268
RC01 Rabbit Creek A 83.64 29 P **P 18 41 08.2 -0.1**
baz=268,SNR=20
COLD Coldfoot 83.70 23 P **P 18 41 09.5 +1.1**
baz=267,SNR=34
C23K Itkillik River 83.70 20 P **P 18 41 09.5 +1.2**
baz=266
VORD Divnogorie 83.70 321 *e*P **P 18 41 07.5 -1.3**
VORD pmax pmax
comp=Z,10.0nm,0.6s
G23K Bananza Creek 83.74 23 P **P 18 41 10.1 +1.3**
baz=267,SNR=48
SEW Seward 83.75 30 P **P 18 41 08.8 0.0**
baz=268,SNR=13
VSR Storozhevoye 83.79 321 *e*P **P 18 41 07.5 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.6s
H23K Yukon River 83.90 24 P **P 18 41 10.8 +1.3**
baz=268,SNR=44
LPSR Galich'ya Gora 83.94 322 *e*P **P 18 41 08.2 -1.7**
LPSR pmax pmax
comp=Z,20nm,1.4s
PMR Palmer 83.95 29 P **P 18 41 11.2 +1.4**
PMR Palmer 83.95 29 P **P 18 41 09.6 -0.2**
baz=268,SNR=13
I23K Minto, Yukon-K 83.95 25 P **P 18 41 10.6 +0.9**
baz=268,SNR=13
E23K Chandalar 83.96 22 P **P 18 41 11.2 +1.4**
baz=267,SNR=50
TOLK Toolik Lake Re 84.00 22 IAmb IAmb 18 41 12.3
comp=Z,36nm,1.0s
TOLK Toolik Lake Re 84.00 22 P **P 18 41 11.2 +1.1**
baz=267,SNR=29
MAW Mawson 84.04 200 P **P 18 41 09.9 -0.2**
comp=Z,1.7nm,1.2s,SNR=1.8
MAW Mawson 84.04 200 P **P 18 41 10.3 +0.3**
comp=Z,4.1nm,1.0s,baz=31,slow=9.0,SNR=5.7
comp=Z,4.1nm,1.0s
GHO Glory Hole Cre 84.05 28 IAmb IAmb 18 41 45.1
comp=Z,19nm,1.0s
NEA2 Nenana 84.06 26 P **P 18 41 11.0 +0.7**
baz=268,SNR=34
MCK McKinley 84.09 27 P **P 18 41 10.4 -0.1**
baz=268,SNR=23
WAT1 Susitna Watana 84.24 27 P **P 18 41 11.2 -0.2**
baz=269
KNK Knik Glacier 84.27 29 P **P 18 41 11.8 +0.4**
baz=269,SNR=12
D24K Happy Valley 84.30 21 P **P 18 41 12.8 +1.3**
baz=268,SNR=26
PWL Port Wells 84.32 29 P **P 18 41 12.0 +0.3**
baz=269,SNR=19
SML Sawmill 84.33 28 P **P 18 41 12.0 +0.2**
baz=269,SNR=21
C24K Franklin Bluff 84.36 20 P **P 18 41 12.7 +1.0**
baz=268
E24K Your Creek 84.39 22 IAmb IAmb 18 41 14.2
comp=Z,21nm,1.0s
E24K Your Creek 84.39 22 P **P 18 41 13.1 +1.0**
baz=268,SNR=20
MDM Murphy Dome 84.42 25 IAmb IAmb 18 41 14.9
comp=Z,21nm,1.0s
WRH Wood River Hil 84.48 26 IAmb IAmb 18 41 13.3
comp=Z,39nm,1.1s
VNDA Vanda 84.57 172 P **P 18 41 12.9 +0.3**

VNDA	Vanda	84.57	172	P	P	18 41 13.1	+0.5
	comp=Z,2.7nm,0.9s,baz=321,slow=4.3,SNR=7.6						
VNDA				LR	LR	19 17 05.4	
	comp=Z,136nm,20.8s,baz=326,slow=34						
	comp=Z,2.7nm,0.9s						
VNDA	Vanda	84.57	172	P	P	18 41 12.9	+0.3
VNDA				pmax	pmax		
	comp=Z,13nm,1.3s						
H24K	Noodor Dome	84.58	24	IAmb	IAmb	18 41 16.2	
	comp=Z,28nm,1.0s						
H24K	Noodor Dome	84.58	24	P	P	18 41 14.0	+1.0
	baz=269,SNR=33						
COLA	College	84.58	25	P	P	18 41 13.1	+0.2
	comp=Z,6.7nm,1.1s						
COLA	College	84.58	25c	iP	P	18 41 12.3	-0.6
COLA				pmax	pmax		
	comp=Z,15nm,1.0s						
CCB	Clear Creek Bu	84.60	26	IAmb	IAmb	18 41 14.3	
	comp=Z,35nm,1.2s						
F24K	Squaw Lake	84.60	23	IAmb	IAmb	18 41 15.6	
	comp=Z,24nm,0.9s						
F24K	Squaw Lake	84.60	23	P	P	18 41 14.3	+1.3
	baz=269						
WAT6	Susitna Watana	84.61	28	P	P	18 41 13.4	0.0
	baz=270,SNR=38						
M23K	Glacier View	84.62	28	P	P	18 41 13.3	+0.1
	baz=270,SNR=8.7						
MOS	Moscow	84.70	325	eP	P	18 41 10.6	-3.1
G24K	Hadweenzic Riv	84.75	24	P	P	18 41 15.0	+1.2
	baz=270,SNR=35						
POKR	Poker Plat Res	84.76	25	IAmb	IAmb	18 41 16.6	
	comp=Z,16nm,1.0s						
POKR	Poker Plat Res	84.76	25	P	P	18 41 15.1	+1.2
	baz=270						
P23K	Montague Islan	84.78	30	P	P	18 41 14.7	+0.7
	baz=270,SNR=11						
DHY	Denali Highway	84.78	27	P	P	18 41 14.2	0.0
	baz=270,SNR=7.1						
SCM	Sheep Creek Mo	84.81	28	P	P	18 41 14.5	+0.3
	baz=270,SNR=18						
GLI	Glacier Island	84.92	29	IAmb	IAmb	18 41 34.9	
	comp=Z,21nm,0.7s						
GLI	Glacier Island	84.92	29	P	P	18 41 14.9	+0.1
	baz=270,SNR=5.2						
HDA	Harding Lake	84.97	26	IAmb	IAmb	18 41 15.2	
	comp=Z,21nm,1.0s						
HDA	Harding Lake	84.97	26	P	P	18 41 14.2	-0.8
	baz=270,SNR=21						
IL31		85.00	25	IAmb	IAmb	18 41 15.7	
	comp=Z,18nm,1.2s						
ILAR	Eielson Array	85.00	25	P	P	18 41 13.3	-1.7
ILAR	Eielson Array	85.00	25	P	P	18 41 14.0	-1.1
	comp=Z,7.4nm,0.9s,baz=248,slow=4.2,SNR=48						
ILAR				LR	LR	19 18 01.2	
	comp=Z,64nm,21.9s,baz=272,slow=35						
	comp=Z,7.4nm,0.9s						
D25K	Kavik River	85.17	21	IAmb	IAmb	18 41 18.5	
	comp=Z,38nm,1.3s						
D25K	Kavik River	85.17	21	P	P	18 41 16.7	+0.7
	baz=270						
HIN	Hinchinbrook I	85.22	30	IAmb	IAmb	18 41 17.9	
	comp=Z,40nm,1.2s						
FID	Port Fidalgo	85.23	30	IAmb	IAmb	18 41 17.7	
	comp=Z,28nm,1.1s						
G25K	Bearman Lake	85.30	23	P	P	18 41 17.9	+1.4
	baz=271						
OBN	Obninsk	85.31	325	LR	LR	19 21 47.8	
	comp=Z,281nm,18.8s,baz=64,slow=37						
OBN	Obninsk	85.31	325d	iP	P	18 41 16.2	-0.6
OBN			e			18 44 34.2	
OBN				ePPP	PPP	18 46 27.2	
OBN				pmax	pmax		
	comp=Z,36nm,1.7s						
OBN				MLR	MLR		
	comp=Z,272nm,19.0s						
OBN	Obninsk	85.31	325	P	P	18 41 16.2	-0.6
	comp=Z,28nm,1.4s,comp=Z,465nm						
M24K	Tolsona, Glenn	85.35	28	P	P	18 41 17.7	+0.8
	baz=271,SNR=9.9						
H25L	Birch Creek	85.42	24	P	P	18 41 18.2	+1.1
	baz=271						
F25K	Christian Rive	85.47	23	P	P	18 41 18.6	+1.1
	baz=271,SNR=20						
KLU	Klutina	85.48	29	IAmb	IAmb	18 41 35.4	
	comp=Z,12nm,0.8s						
KLU	Klutina	85.48	29	P	P	18 41 18.0	+0.4
	baz=271,SNR=7.3						
K24K	Donnelly Dome	85.49	26	P	P	18 41 17.6	0.0
	baz=271,SNR=6.4						
SBA	Scott Base	85.50	172	P	P	18 41 19.2	+2.0
SBA				IAmb	IAmb	18 43 04.1	
	comp=Z,32nm,1.8s						
SBA	Scott Base	85.50	172	P	P	18 41 19.2	+2.0
SBA				pmax	pmax		
	comp=Z,32nm,1.8s						
EYAK	Cordova Ski Ar	85.59	30	P	P	18 41 19.9	+1.8
	comp=Z,17nm,1.2s						
EYAK	Cordova Ski Ar	85.59	30	P	P	18 41 18.5	+0.4
	baz=272						
J25K	Salcha River,	85.65	26	P	P	18 41 17.5	-0.9
	baz=272,SNR=12						
PAX	Paxson	85.65	27	P	P	18 41 18.9	+0.4
	baz=272,SNR=13						
C26K	Camden Bay	85.67	20	P	P	18 41 19.8	+1.5
	baz=272,SNR=44						
FURI	Furi	85.68	279	LR	LR	19 18 26.1	
	comp=Z,133nm,20.6s,baz=76,slow=35						
HARP	HAARP	85.82	28	P	P	18 41 19.9	+0.7
	baz=272						
BMAR	Burnt Mountain	85.88	23	P	P	18 41 20.3	+0.8
F26K	Sheenjek River	86.03	22	P	P	18 41 21.2	+0.9
	baz=272						
C27K	Jago River	86.10	21	P	P	18 41 21.3	+0.8
	baz=273,SNR=14						
N25K	Chitina, Valde	86.11	29	P	P	18 41 21.6	+0.8
	baz=272,SNR=6.5						
RAGM	Ragged Mountai	86.13	30	IAmb	IAmb	18 41 23.5	
	comp=Z,28nm,1.2s						
BMRM	Bremner River	86.14	29	P	P	18 41 21.3	+0.4
	baz=272,SNR=5.4						
G26K	Porcupine Rive	86.21	23	P	P	18 41 22.0	+1.0
	baz=273,SNR=12						
KAIM	Kayak Island	86.28	30	P	P	18 41 22.2	+0.7
	baz=273						
SCRK	Sand Creek	86.28	26	P	P	18 41 22.1	+0.5
	baz=273,SNR=9.8						
APA	Apatity	86.34	337 ‖	iP	P	18 41 22.9	+1.3
APA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
J26L	Joseph Creek	86.44	26	P	P	18 41 22.4	+0.1
	baz=273						
MENT	Mentasta	86.45	27	P	P	18 41 24.5	+2.1
	comp=Z,7.2nm,1.0s						
GLB	Gilahina Butte	86.50	29	IAmb	IAmb	18 42 02.1	
	comp=Z,16nm,1.2s						
I26K	Coal Creek Min	86.56	25	IAmb	IAmb	18 41 24.8	
	comp=Z,17nm,1.1s						
I26K	Coal Creek Min	86.56	25	P	P	18 41 22.8	0.0
	baz=274,SNR=16						
M26K	Nabesna, AK	86.82	28	P	P	18 41 24.2	0.0
	baz=274						
CRQE	Cirque	86.89	29	P	P	18 41 24.8	+0.1
	baz=274						
E27K	Coleen River	86.96	22	P	P	18 41 25.3	+0.5
	baz=275,SNR=18						
PPT	Papeete	87.03	108	LR	LR	19 11 14.1	
	comp=Z,79nm,21.6s,baz=318,slow=29						
PPT2	Papeete2	87.03	108	eSS	SS	18 57 47.7	0.0
	comp=Z,119nm,24.8s						
PPT2	Papeete2	87.03	108	eLR	LR	19 09 00.5	
PPT2				eLR	LR	19 09 04.1	
	comp=Z,255nm,25.8s						
G27K	Doyon Strip	87.06	23	P	P	18 41 26.0	+0.8
	baz=275,SNR=14						
D27M	Malcolm River	87.10	21	P	P	18 41 25.9	+0.4
	baz=275,SNR=15						
K27K	Chicken	87.11	26	IAmb	IAmb	18 41 40.2	
	comp=Z,40nm,1.8s						
K27K	Chicken	87.11	26	P	P	18 41 26.5	+1.0
	baz=275						
H27K	Steamboat Moun	87.16	24	P	P	18 41 26.7	+0.9
	baz=275,SNR=10						
MMAI	Mount Meron Ar	87.16	303	LR	LR	19 25 15.5	
	comp=Z,72nm,21.5s,baz=31,slow=39						
I27K	Kandik River	87.18	25	P	P	18 41 26.7	+0.8
	baz=275,SNR=33						
L27K	Beaver Creek,	87.31	27	P	P	18 41 27.0	+0.4
	baz=275						
BCAR	Beaver Creek A	87.33	27	P	P	18 41 27.0	+0.3
M27K	Edge Creek, AK	87.34	28	P	P	18 41 27.1	+0.3
	baz=275						
EGAK	Eagle	87.45	25	P	P	18 41 27.4	+0.2
	baz=275,SNR=6.1						
MESA	MESA	87.50	30	P	P	18 41 27.9	+0.2
	baz=275						
F28M	Old Crow	87.67	22	IAmb	IAmb	18 42 04.6	
	comp=Z,14nm,0.8s						
F28M	Old Crow	87.67	22	P	P	18 41 28.6	+0.4
	baz=276,SNR=10						
E28M	Babbage River	87.68	21	IAmb	IAmb	18 41 43.3	
	comp=Z,12nm,0.8s						
E28M	Babbage River	87.68	21	P	P	18 41 28.6	+0.4
	baz=277,SNR=14						
CTG	Chitna Glacier	87.73	29	P	P	18 41 29.3	+0.5
	baz=275						
TBI	Tubuai	87.73	114	eSS	SS	18 58 00.1	+2.5
	comp=Z,495nm,26.0s						
TBI	Tubuai	87.73	114	eLR	LR	19 09 12.8	
	comp=Z,2μm,31.2s						
CTGM	Chitina Glacie	87.73	29	IAmb	IAmb	18 41 53.6	
	comp=Z,15nm,0.9s						
EIL	Elat	87.77	299	LR	LR	19 27 37.5	
	comp=Z,108nm,18.4s,baz=69,slow=40						
D28M	Stokes Point	87.88	21	P	P	18 41 29.6	+0.6
	baz=277						
I28M	Miner Creek	87.89	25	IAmb	IAmb	18 41 58.5	
	comp=Z,16nm,1.0s						
I28M	Miner Creek	87.89	25	P	P	18 41 29.9	+0.5
	baz=276,SNR=18						
YUK3	Moose Creek	88.07	28	P	P	18 41 30.5	0.0
	baz=276						
BR131	Keskin Array S	88.11	310⇑	eP	P	18 41 31.6	+0.6
BRTR	Keskin Array B	88.11	310	P	P	18 41 31.7	+0.7
BRTR	Keskin Array B	88.11	310	P	P	18 41 29.6	-1.4
	comp=Z,1.1nm,1.0s,baz=74,slow=5.1,SNR=6.2						
BRTR				LR	LR	19 26 07.1	
	comp=Z,110nm,21.0s,baz=83,slow=39						
	comp=Z,1.1nm,1.0s						
BRTR	Keskin Array B	88.11	310	P	P	18 41 31.7	+0.7
DAWY	Dawson	88.29	26	P	P	18 41 31.6	+0.4
	baz=277						
O28M	Mount Upton	88.31	29	P	P	18 41 31.8	+0.2
	baz=276						
E29M	Blow River	88.31	22	P	P	18 41 30.9	-0.2
	baz=278,SNR=7.4						
PINM	Pinnacle	88.35	30	P	P	18 41 31.6	0.0
	baz=276						
H29M	Whitestone	88.43	24	IAmb	IAmb	18 41 57.6	
	comp=Z,12nm,0.9s						
H29M	Whitestone	88.43	24	P	P	18 41 31.9	+0.1
	baz=278,SNR=13						
YUK8	Steele Glacier	88.45	29	P	P	18 41 32.3	0.0
	baz=277						
G29M	Pine Creek	88.47	23	IAmb	IAmb	18 41 46.8	
	comp=Z,22nm,0.9s						
G29M	Pine Creek	88.47	23	P	P	18 41 32.1	+0.1
	baz=278,SNR=21						
I29M	Ogilvie Camp,	88.58	25	IAmb	IAmb	18 41 34.8	
	comp=Z,19nm,1.2s						
I29M	Ogilvie Camp,	88.58	25	P	P	18 41 32.5	0.0
	baz=278,SNR=18						
PNL	Peninsula	88.83	30	P	P	18 41 34.3	+0.5
	baz=277						
M29M	Somme Creek	88.92	28	P	P	18 41 34.9	+0.6
	baz=278						
L29M	L29M	88.97	27	IAmb	IAmb	18 42 03.2	
	comp=Z,12nm,1.0s						
L29M	L29M	88.97	27	P	P	18 41 35.3	+0.8
	baz=278						
ARCES	ARCESS Array B	88.98	340	P	P	18 41 32.6	-1.8
	comp=Z,2.1nm,0.8s,baz=69,slow=7.9,SNR=5.0						
ARCES				LR	LR	19 26 15.6	
	comp=Z,214nm,18.9s,baz=86,slow=39						
	comp=Z,2.1nm,0.8s						
EPYK	Eagle Plains	89.07	24	IAmb	IAmb	18 41 35.6	
	comp=Z,15nm,1.0s						
EPYK	Eagle Plains	89.07	24	P	P	18 41 34.6	-0.2
	baz=279,SNR=12						
K29M	Barlow Dome	89.14	26	P	P	18 41 35.8	+0.5
	baz=279						
O29M	Mount Kennedy	89.16	30	P	P	18 41 35.8	+0.3
	baz=278						
G30M	tAoh Zraii Nji	89.16	23	P	P	18 41 34.7	-0.6
	baz=280,SNR=8.2						
YUK6	Outpost Mounta	89.17	29	P	P	18 41 35.7	0.0
	baz=278						
F30M	Barrier River	89.22	22	P	P	18 41 35.5	0.0
	baz=280,SNR=7.0						
SPITS	Spitsbergen Ar	89.23	349	P	P	18 41 34.9	-0.4
	comp=Z,3.6nm,0.8s,baz=74,slow=8.1,SNR=1.5						
SPITS				LR	LR	19 28 28.0	
	comp=Z,175nm,18.9s,baz=36,slow=40						
	comp=Z,3.6nm,0.8s						
I30M	Mount Dempster	89.40	25	P	P	18 41 36.4	-0.2
	baz=280,SNR=13						
J30M	Hart River	89.53	25	P	P	18 41 37.5	+0.3
	baz=280,SNR=11						
M30M	Mito, Yukon	89.66	27	P	P	18 41 38.2	+0.5
	baz=279						
P29M	Windy Craggy	89.67	30	P	P	18 41 38.6	+0.8
	baz=278						
N30M	Aishikik Lake	89.70	28	P	P	18 41 38.4	+0.4
	baz=279						
INK	Inuvik	89.92	21	P	P	18 41 38.6	-0.1
	baz=282,SNR=6.7						
G31M	Satah River	89.93	23	IAmb	IAmb	18 41 39.2	
	comp=Z,15nm,1.1s						
G31M	Satah River	89.93	23	P	P	18 41 38.6	-0.2
	baz=282,SNR=7.3						
P30M	Million Dollar	89.98	30	P	P	18 41 39.0	-0.3
	baz=279						
F31M	Tsiigehtchic	90.02	22	IAmb	IAmb	18 41 39.6	
	comp=Z,20nm,1.4s						
F31M	Tsiigehtchic	90.02	22	P	P	18 41 38.5	-0.7
	baz=282,SNR=7.1						
AKASG	Malin Array Be	90.09	321	P	P	18 41 38.3	-1.5
	comp=Z,0.3nm,0.5s,baz=70,slow=4.3,SNR=5.0						
AKASG				LR	LR	19 27 01.5	
	comp=Z,236nm,19.5s,baz=76,slow=39						
	comp=Z,0.3nm,0.5s						
AKASG	Malin Array Be	90.09	321	iP	P	18 41 38.2	-1.7
AKBB	Malin Array Si	90.09	321⇑	eP	P	18 41 39.9	0.0
AKBB				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIEV	Kiev	90.10	321	P	P	18 41 40.5	+0.6
AK18	Malin Array Si	90.19	321	P	P	18 41 39.6	-0.7
FINES	FINESS Array B	90.20	332	P	P	18 41 38.9	-1.3
	comp=Z,1.0nm,0.7s,baz=57,slow=7.0,SNR=9.0						
FINES				LR	LR	19 26 37.0	
	comp=Z,288nm,19.9s,baz=72,slow=39						
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	90.20	332	iP	P	18 41 42.0	+1.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
O30N	Menenhall	90.30	29	P	P	18 41 41.2	+0.5
	baz=280						
N31M	Braeburn, Yuko	90.32	28	IAmb	IAmb	18 41 55.4	
	comp=Z,15nm,1.1s						
N31M	Braeburn, Yuko	90.32	28	P	P	18 41 41.5	+0.7
	baz=280						
MNK	Minsk	90.37	325	iP	P	18 41 37.3	-3.8
	comp=E,6.0nm,0.8s						
MNK				iP	P	18 41 37.3	-3.8
	comp=N,9.0nm,0.7s						
MNK				iP	P	18 41 37.3	-3.8
	comp=Z,8.0nm,0.7s,baz=82						
MNK				iPP	PP	18 45 10.9	-4.4
MNK				iPPP	PPP	18 47 09.6	
MNK				iSKS	S	18 51 55.6	-39
MNK				iS	SKSac	18 52 06.8	-4.0
MNK				iPS	PS	18 53 40.2	-3.7
MNK				iSS	SS	18 58 31.9	-2.4
MNK				iSSS	SSS	19 02 24.9	
MNK				iLQ	LQ	19 16 13.7	
MNK				iLR	LR	19 21 05.7	
MNK				iLRM	MLR	19 24 59.0	
	comp=Z,258nm,17.6s						
MNK				iLRM	MLR	19 25 05.5	
	comp=E,88nm,16.9s						
MNK				iLRM	MLR	19 25 27.4	
	comp=N,95nm,15.5s						
MNK	Minsk	90.37	325	iP	P	18 41 37.3	-3.8
MNK				i		18 45 10.8	
MNK				iPPP	PPP	18 47 09.6	
MNK				iS	SKSac	18 52 06.8	-4.0
MNK				iPS	PnS	18 53 40.2	-3.7
MNK				iSS	SS	18 58 31.8	-2.4
MNK				pmax	pmax		
	comp=E,6.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MNK				pmax	pmax		
	comp=N,9.0nm,0.7s						
MNK				MLR	MLR		
	comp=Z,258nm,18.0s						
MNK				MLR	MLR		
	comp=E,88nm,17.0s						
MNK				MLR	MLR		
	comp=N,95nm,16.0s						
PLBC	Pleasant Camp	90.39	30	P	P	18 41 42.2	+1.1
	baz=280						
S31K	Pelican	90.71	32	P	P	18 41 43.5	+0.9
	baz=280						
M31M	Drury Creek, Y	90.83	27	P	P	18 41 44.1	+0.9
	baz=282						
WHY	Whitehorse	90.90	29	IAmb	IAmb	18 41 45.2	
	comp=Z,18nm,1.2s						
WHY	Whitehorse	90.90	29	P	P	18 41 44.3	+0.7
	baz=281						
SKAG	Skagway	90.91	30	P	P	18 41 44.4	+0.9
	baz=281						
NACGM	Naroch	90.94	325	eP	P	18 41 41.8	-2.0
	baz=81						
FARO	Faro, Yukon	91.30	27	IAmb	IAmb	18 41 46.8	
	comp=Z,17nm,1.1s						
FARO	Faro, Yukon	91.30	27	P	P	18 41 46.4	+1.0
	baz=282,SNR=6.9						
JIS	Juneau Island	91.62	31	P	P	18 41 49.2	+2.4
	comp=Z,14nm,1.4s						
N32M	Quiet Lake	91.66	28	IAmb	IAmb	18 42 03.6	
	comp=Z,18nm,0.8s						
N32M	Quiet Lake	91.66	28	P	P	18 41 47.5	+0.5
	baz=283,SNR=8.3						
P32M	Atlin	91.69	30	IAmb	IAmb	18 41 48.9	
	comp=Z,14nm,1.5s						
P32M	Atlin	91.69	30	P	P	18 41 47.5	+0.3
	baz=282						
P33M	Teslin, Yukon	92.00	29	P	P	18 41 48.9	+0.3
	baz=283,SNR=5.1						
MMPY	Sheldon Lake,	92.16	27	IAmb	IAmb	18 41 51.0	
	comp=Z,12nm,1.2s						
MMPY	Sheldon Lake,	92.16	27	P	P	18 41 49.9	+0.5
	baz=284,SNR=9.0						
Q32M	Nakina River	92.55	30	P	P	18 41 51.7	+0.3
	baz=283						
C36M	Paulatuk	92.90	19	P	P	18 41 53.4	+0.8
	baz=291						
R33M	Jennings River	93.10	30	IAmb	IAmb	18 41 56.4	
	comp=Z,14nm,1.3s						
R33M	Jennings River	93.10	30	P	P	18 41 54.4	+0.6
	baz=284,SNR=7.5						
BURAR	Bucovina Array	93.17	318	P	P	18 41 53.9	-0.5
S34M	Telegraph Cree	93.38	31	IAmb	IAmb	18 41 56.9	
	comp=Z,11nm,1.1s						
S34M	Telegraph Cree	93.38	31	P	P	18 41 55.7	+0.7
	baz=284						
V35K	Ketchikan	93.75	34	P	P	18 41 57.3	+0.6
	baz=284						
TGTN	Hyland Airport	93.81	27	P	P	18 41 57.5	+0.6
	baz=287						
DLBC	Dease Lake	93.82	31	IAmb	IAmb	18 41 58.9	
	comp=Z,16nm,1.3s						
DLBC	Dease Lake	93.82	31	P	P	18 41 57.8	+0.7
	baz=285,SNR=5.9						
DLBC	Dease Lake	93.82	31	P	P	18 41 57.5	+0.4
	comp=Z,4.1nm,0.9s,baz=254,slow=5.3,SNR=6.7						
DLBC				LR	LR	19 20 40.3	
	comp=Z,82nm,21.9s,baz=290,slow=33						
	comp=Z,4.1nm,0.9s						
WTLY	Watson Lake, Y	93.97	29	P	P	18 41 58.1	+0.4
	baz=286						
T35M	Bob Quinn	94.08	32	IAmb	IAmb	18 42 00.7	
	comp=Z,12nm,1.2s						
T35M	Bob Quinn	94.08	32	P	P	18 41 59.2	+0.9
	baz=285						
QSPA	South Pole Qui	94.57	180	P	P	18 42 01.0	+0.6
QSPA				IAmb	IAmb	18 42 29.3	
	comp=Z,15nm,1.1s						
QSPA	South Pole Qui	94.57	180	P	P	18 42 01.2	+0.8
	comp=Z,4.2nm,1.0s,baz=265,slow=0.4,SNR=11						
QSPA				LR	LR	19 22 54.1	
	comp=Z,108nm,21.7s,baz=351,slow=34						
	comp=Z,4.2nm,1.0s						
KOLS	Kolonicke sedl	94.83	320	iP	P	18 42 15.0	+13
KOLS	Kolonicke sedl	94.83	320	ePDIFF	P	18 42 15.0	+13
WRGLY	Wrigley	95.37	25	P	P	18 42 04.8	+0.8
	baz=291						
TOAD	Toad River Com	96.09	29	P	P	18 42 07.7	+0.3
	baz=289						
KOTAN	Kotaneelee Air	96.21	28	P	P	18 42 08.6	+0.7
	baz=290						
HFS	Hagfors	96.39	332	LR	LR	19 30 41.2	
	comp=Z,187nm,18.2s,baz=66,slow=39						
NB2	NORSAR Subarra	97.19	333	P	P	18 42 09.4	-3.0
	comp=Z,2.9nm,0.9s,baz=66,slow=4.6						
NB2	NORSAR Subarra	97.19	333	P	P	18 42 09.4	-3.0
	baz=66,slow=4.6						
NOA	NORSAR Array B	97.19	333	P	P	18 42 10.1	-2.2
	comp=Z,0.6nm,0.7s,baz=67,slow=4.5,SNR=3.5						
	comp=Z,0.6nm,0.7s						
RES	Resolute Bay	97.19	10	LR	LR	19 27 30.6	
	comp=Z,98nm,22.0s,baz=326,slow=36						
OKC	Ostrava-Krasne	97.22	321	AMS	AMS	19 32 00.0	
	comp=Z,200nm,21.8s						
KRLC	Kraliky	98.00	322	AMS	AMS	19 29 10.0	
	comp=Z,200nm,20.9s						
MODS	Modra-Piesok	98.18	320	iP	Pdif	18 42 25.3	+8.2
MODS	Modra-Piesok	98.18	320	ePDIFF	Pdif	18 42 25.3	+8.2
DPC	Dobruska-Polom	98.20	322	AMS	AMS	19 31 10.0	
	comp=Z,200nm,18.0s						
OSTC	Ostas	98.20	322	AMS	AMS	19 29 30.0	
	comp=Z,300nm,20.4s						
JMIC	Jan Mayen	98.54	346	LR	LR	19 32 10.3	
	comp=Z,156nm,20.7s,baz=56,slow=39						
TREC	Trest	99.03	321	AMS	AMS	19 33 00.0	
	comp=Z,200nm,20.9s						
PVCC	Panska Ves	99.21	323	AMS	AMS	19 30 00.0	
	comp=Z,200nm,19.7s						
PRU	Pruhonice	99.40	322	AMS	AMS	19 30 20.0	
	comp=Z,300nm,20.3s						
HSKC	Hora Svate Kat	99.86	323	AMS	AMS	19 30 20.0	
	comp=Z,200nm,18.2s						
CLL	Collm	99.88	324	ePdif	Pdif	18 42 27.0	+2.4
CLL				eSdif	S	18 53 54.0	-3.3
CLL				ePS	PS	18 55 24.0	-4.2
CLL				ePPS	PPS	18 56 12.0	
CLL				eSS	SS	19 00 54.0	+4.7
CLL				eSSSS		19 07 42.0	
CLL				AMS	AMS	19 32 00.0	
	comp=Z,200nm,20.5s						
CLL	Collm	99.88	324	eP	Pdif	18 42 27.0	+2.4
CKRC	Cesky Krumlov	99.92	321	AMS	AMS	19 35 10.0	
	comp=Z,200nm,19.4s						
KHC	Kasperske Hory	100.27	322	AMS	AMS	19 32 20.0	
	comp=Z,300nm,22.8s						
NEW	Newport	104.54	38	P	Pdif	18 42 45.3	-0.1
	baz=294						
MPMC	Manual Prospec	109.00	49	P	PKiKP	18 47 10.1	-0.1
	baz=291						
CIS	Catalina Islan	109.19	52	P	PKiKP	18 47 10.4	0.0
	baz=289						
TPNV	Topopah Spring	109.60	48	P	PKiKP	18 47 11.4	0.0
	baz=292						
PFO	Pinyon Flats O	110.65	52	P	PKiKP	18 47 13.3	0.0
	baz=291						
TPFO	Pinon Flats	110.66	52	P	PKiKP	18 47 13.3	0.0
	baz=291						
ANMO	Albuquerque	117.64	47	PKP	PKiKP	18 47 28

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCT	Junction City	124.72	48	PKIKP	PKiKP	18 47 41.1	+0.5
S39A	Bolivar	124.82	37	PKPdf	PKPdf	18 47 40.2	0.0
BRDY	Brady	124.88	46	PKPdf	PKiKP	18 47 41.5	+0.6
WHTX	Lake Whitney, baz=304	125.60	45	P	PKPdf	18 47 41.9	0.0
CCM	Cathedral Cave baz=313	125.79	35	P	PKPdf	18 47 42.2	+0.2
833A	Chaparral WMA, baz=300	126.13	50	P	PKPdf	18 47 42.7	-0.3
MIAR	Mount Ida baz=309	126.69	40	P	PKPdf	18 47 43.7	-0.2
O48B	Farmland baz=321	127.40	29	P	PKPdf	18 47 44.9	-0.2
ACSO	Alum Creek Sta baz=323	128.44	27	P	PKPdf	18 47 47.2	+0.1
M53A	WI Miller and baz=326	128.46	25	P	PKPdf	18 47 47.1	0.0
PKME	Peaks-Kenny Pk baz=342	128.67	13	P	PKPdf	18 47 47.6	+0.3
LBNH	Lisbon baz=338	128.98	16	P	PKPdf	18 47 48.0	0.0
WVT	Waverly baz=316	129.08	34	P	PKPdf	18 47 48.3	-0.1
O53A	New Philadelph baz=325	129.22	26	P	PKPdf	18 47 48.7	+0.1
P52A	Corning baz=324	129.31	27	P	PKPdf	18 47 48.9	+0.1
SSPA	Standing Stone baz=330	130.26	23	P	PKPdf	18 47 50.7	+0.2
MCWV	Mont Chateau baz=327	130.30	25	P	PKPdf	18 47 51.0	+0.4
L61B	Northampton baz=336	130.42	17	P	PKPdf	18 47 51.2	+0.4
HRV	Adam Dziewonsk baz=338	130.69	16	P	PKPdf	18 47 51.7	+0.5
TZTN	Tazewell baz=321	131.07	31	P	PKPdf	18 47 52.6	+0.4
PAL	Palisades baz=334	131.35	19	P	PKiKP	18 47 53.2	-0.4
TEIG	Tepich comp=Z,6.3nm,0.9s,baz=338,slow=1.9,SNR=3.3	138.99	52	PKP	PKPdf	18 48 06.5	-0.8
PLCA	Paso Flores comp=Z,2.2nm,0.9s,baz=75,slow=5.8,SNR=1.8	141.46	161	PKP	PKPdf	18 48 10.9	-0.4
PLCA	Paso Flores	141.46	161	PKIKP	PKPdf	18 48 11.0	-0.4
BI02	San Fabin de	144.82	157	PKPdf	PKPdf	18 48 17.2	-0.3
JTS	Las Juntas de comp=Z,23nm,1.1s,baz=232,slow=8.5,SNR=3.6	146.66	63	PKPbc	PKPbc	18 48 23.2	+0.5
NMDO	Nuevo Mundo	148.15	37	PKPab	PKiKP	18 48 28.3	-0.1
VA03	San Esteban	148.49	154		PKiKP	18 48 28.4	-0.6
LCO	Las Campanas	151.57	150		PKPab	18 48 40.6	-3.0
LCO	Las Campanas	151.57	150	PKIKP	PKPab	18 48 40.6	-3.0
ARNL	Arenillas	154.96	88		PKPab	18 48 55.1	-3.0
ATAH	Atahualpa comp=Z,3.3nm,0.7s,baz=312,slow=14,SNR=2.5	156.59	97	PKPab	PKPab	18 49 05.2	-0.4
CPUP	Villa Florida comp=Z,0.9nm,0.7s,baz=270,slow=2.0,SNR=1.7	158.34	174	PKP	PKPdf	18 48 37.3	-0.6
CPUP				PKPab	PKPab	18 49 11.5	-0.5
SDV	comp=Z,4.7nm,1.0s,baz=254,slow=1.9,SNR=4.0 Santo Domingo	159.39	49	PKP	PKPdf	18 48 39.2	-0.5
SDV	comp=Z,4.8nm,0.9s,baz=327,slow=7.7,SNR=3.9			PKPab	PKPab	18 49 17.6	+0.3
	comp=Z,2.4nm,0.7s,baz=303,slow=8.2,SNR=1.4						

*IDC **22** 18:41:15.4±2.9,2°.88N×82°.98W, h0km, mb3.8/6, mbtmp3.9/8, ML2.6/2, MS3.7/2, Error ellipse: s-maj=88.2km s-min=26.6km az=16.0*

ISC 22 18:41:17.1±1.7,2°.9N±0°.3×83°.0W±0°.1, h10km, n14, σ0°77/9, mb3.9/6, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	Las Juntas de comp=Z,220nm,19.9s,baz=126,slow=33	7.58	345	LR	LR	18 45 25.3	
ROSC	El Rosal 1.9nm,0.3s,baz=286,slow=22,SNR=1.7 4.4nm,0.3s	8.84	77	Pn	Pn	18 43 26.0	+0.5
SDV	Santo Domingo 0.1nm,0.3s,baz=251,slow=18,SNR=1.4 0.7nm,0.3s	13.63	64	Pn	Pn	18 44 30.2	-0.6
H03N2	Juan Fernandez baz=354	36.37	174	T	T	19 27 30.5	
H03N1	Juan Fernandez baz=354	36.37	174	T	T	19 27 26.0	
H03N3	Juan Fernandez baz=354	36.39	174	T	T	19 27 30.2	
PDAR	Pinedale Array 0.2nm,0.5s,baz=135,slow=10,SNR=2.4 0.2nm,0.5s	46.21	333	P	P	18 49 42.0	-0.7
NVAR	Mina Array Bea 1.7nm,0.9s,baz=136,slow=7.7,SNR=7.7 1.7nm,0.9s	47.83	322	P	P	18 49 56.1	+0.7
DLBC	Dease Lake 3.2nm,0.9s,baz=86,slow=9.5,SNR=4.4 3.2nm,0.9s	66.36	335	P	P	18 52 06.7	+0.6
INK	Inuvik comp=Z,150nm,20.2s,baz=346,slow=38	73.56	343	LR	LR	19 28 05.3	
ILAR	Eielson Array 0.7nm,1.0s,baz=118,slow=3.2,SNR=6.6 0.7nm,1.0s	76.47	337	P	P	18 53 06.9	0.0
ESDC	Sonseca Array 0.8nm,0.9s,baz=279,slow=5.2,SNR=5.0 0.8nm,0.9s	79.68	50	P	P	18 53 25.4	+0.1
TORD	Torodi Ar. Bea 1.3nm,1.1s,baz=237,slow=5.0,SNR=3.5 1.3nm,1.1s	84.16	77	P	P	18 53 49.5	+0.2
WRA	Warramunga Arr 0.4nm,0.9s,baz=102,slow=2.3,SNR=2.0	139.85	242	PKP	PKPdf	19 00 45.4	-1.2

IDC 22 18:46:46.0±2.1,9°.50S×125°.75E, h0km, mb3.3/1, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=166.3km s-min=33.7km az=58.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.3nm,0.3s,baz=315,slow=13,SNR=17	13.29	142	Pn	Pn	18 49 55.2	-1.0
WRA	0.5nm,0.3s,baz=317,slow=24,SNR=4.8 0.5nm,0.4s			Sn	Sn	18 52 20.3	-4.6
ASAR	Alice Springs 0.2nm,0.3s,baz=328,slow=10,SNR=14	16.10	152	Pn	Pn	18 50 35.1	+1.1
ASAR	0.1nm,0.3s,baz=330,slow=24,SNR=4.4 0.3nm,0.5s			Sn	Sn	18 53 30.1	-3.2
MKAR	Makanchi Array 0.3nm,0.7s,baz=141,slow=7.8,SNR=2.7 0.3nm,0.7s	68.11	329	P	P	18 57 47.8	0.0

*IDC **22** 19:03:07.6±0.6, 15°.65S×173°.84W, h0km, mb4.2/10, mbtmp4.3/11, ML3.8/1, Error ellipse: s-maj=26.2km s-min=17.1km az=135.0*

*NEIC **22** 19:03:16.3±1.7, 15°.75S±0°.10×173°.86W±0°.07, h60km±6km, mb4.6/19, Error ellipse: s-maj=14.4km s-min=9.2km az=161.0*

ISC 22 19:03:14.9±0.5,15°.78S±0°.09×173°.83W±0°.08, h50km, n55, σ1°21/54, mb4.5/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.72	47		Pn	19 03 57.6	+1.4
NIUE	Niue	4.96	132		Pn	19 04 29.2	+2.4
RAR	Rarotonga 4.2nm,0.3s,baz=297,slow=22,SNR=6.3 44nm,0.7s	14.38	114	Pn	Pn	19 06 33.7	-1.9
DZM	Mont Dzumac 2.0nm,0.5s,baz=151,slow=16,SNR=2.1	19.67	248	P	P	19 07 41.6	+1.6
URZ	Urewera 5.5nm,0.3s,baz=342,slow=1.7,SNR=11 5.5nm,0.3s	23.77	198	P	P	19 08 22.8	+0.1
H11N3	WAKE ISLAND Hy baz=147	40.04	331	T	T	19 53 06.1	
H11N1	WAKE ISLAND Hy baz=147,slow=74	40.05	331	T	T	19 52 29.6	
H11N2	WAKE ISLAND Hy baz=147,slow=74	40.06	331	T	T	19 52 52.5	
COEN	Coen	41.55	267	P	P	19 10 58.5	+0.6
COEN	comp=Z,26nm,1.4s			IAmb	IAmb	19 11 08.5	
STKA	Stephens Creek comp=Z,4.3nm,0.8s,baz=105,slow=12,SNR=6.2 comp=Z,4.3nm,0.8s	43.49	240	P	P	19 11 13.3	-0.2
BBOO	Buckleboo	48.27	240	P	P	19 11 50.6	-0.6
WR0	Warramunga Arr	49.17	257	P	P	19 11 57.5	-0.8
WR0	comp=Z,9.8nm,1.4s			IAmb	IAmb	19 12 30.6	
WB0	Warramunga Arr	49.32	257	P	P	19 11 59.5	0.0
WB0	comp=Z,5.0nm,1.1s			IAmb	IAmb	19 12 23.6	
WB2	Warramunga Arr	49.35	257	P	P	19 11 59.2	-0.5
WB2	comp=Z,4.9nm,1.1s			IAmb	IAmb	19 12 16.9	
WRAB	Tennant Creek	49.35	257	P	P	19 11 58.8	-0.8
WRAB	comp=Z,7.2nm,1.2s			IAmb	IAmb	19 11 59.9	
WRA	Warramunga Arr	49.36	257	P	P	19 11 58.5	-1.2
WRA	Warramunga Arr comp=Z,0.9nm,0.3s,baz=98,slow=5.9,SNR=78	49.36	257	P	P	19 11 59.3	-0.4
WRA				PcP	PcP	19 13 20.5	-1.2
	comp=Z,0.3nm,0.5s,baz=98,slow=8.1,SNR=2.1 comp=Z,0.9nm,0.3s						
AS31	Alice Springs	49.60	252	P	P	19 12 01.5	-0.1
ASAR	Alice Springs	49.60	252	P	P	19 12 00.9	-0.7
ASAR	Alice Springs comp=Z,11nm,0.5s,baz=89,slow=7.4,SNR=368	49.60	252	P	P	19 12 01.5	0.0
ASAR				PcP	PcP	19 13 21.8	-0.9
	comp=Z,0.6nm,0.8s,baz=90,slow=7.4,SNR=0.6 comp=Z,11nm,0.5s						
KNRA	Kununurra	55.10	262	P	P	19 12 42.7	+0.3
KNRA	comp=Z,8.6nm,1.1s			IAmb	IAmb	19 13 02.8	
PSA00	Pilbara Seismi	62.70	254	P	P	19 13 34.1	-1.0
VNDA	Vanda comp=Z,2.9nm,1.0s,baz=0.6,slow=7.3,SNR=5.8	62.95	186	P	P	19 13 37.6	+1.8
CASY	Casey comp=Z,2.9nm,1.0s	69.89	205	P	P	19 14 17.2	-3.1
KMRM	Mail Ridge	72.61	38	P	P	19 14 36.4	-0.8
QSPA	South Pole Qui	74.26	180	P	P	19 14 46.7	+0.1
QSPA	comp=Z,7.0nm,1.1s			IAmb	IAmb	19 14 48.9	
QSPA	South Pole Qui comp=Z,4.8nm,1.0s,baz=28,slow=2.5,SNR=8.7 comp=Z,4.8nm,1.0s	74.26	180	P	P	19 14 47.2	+0.6
NVAR	Mina Array Bea comp=Z,0.5nm,0.7s,baz=232,slow=9.3,SNR=4.9 comp=Z,0.5nm,0.7s	74.89	42	P	P	19 14 50.6	-0.2
SCM	Sheep Creek Mo	80.16	12	P	P	19 15 18.2	-1.3
SCM	comp=Z,9.8nm,1.4s			IAmb	IAmb	19 15 47.4	
VHRN	Van Horn	80.71	54	P	P	19 15 22.5	-0.7
O29M	Mount Kennedy	80.96	17	P	P	19 15 25.5	+1.6
O29M	comp=Z,14nm,0.7s			IAmb	IAmb	19 15 30.4	
TXAR	Lajitas Array	81.17	56	P	P	19 15 25.2	-0.4
TXAR	Lajitas Array comp=Z,1.1nm,1.0s,baz=225,slow=7.9,SNR=8.4 comp=Z,1.1nm,1.0s	81.17	56	P	P	19 15 26.1	+0.5
G18K	Tagagawik	82.23	6	P	P	19 15 29.5	-0.8
G18K	comp=Z,6.3nm,1.4s			IAmb	IAmb	19 15 30.8	
SCRK	Sand Creek	82.77	13	P	P	19 15 32.6	-0.7
PDAR	Pinedale Array comp=Z,0.7nm,0.7s,baz=206,slow=2.2,SNR=5.6 comp=Z,0.7nm,0.7s	82.82	42	P	P	19 15 33.8	-0.5
ILAR	Eielson Array comp=Z,1.0nm,1.0s,baz=223,slow=5.8,SNR=8.6 comp=Z,1.0nm,1.0s	82.90	11	P	P	19 15 32.8	-1.0
IMAR	Indian Mountai	82.91	8	P	P	19 15 33.2	-0.6
E19K	Redstone River	83.90	6	P	P	19 15 38.9	+0.1
E19K	comp=Z,5.2nm,1.0s			IAmb	IAmb	19 15 39.8	
FINES	FINESS Array B	132.23	347	PKP	PKPdf	19 22 23.4	+0.6
	comp=Z,0.6nm,0.6s,baz=69,slow=4.6,SNR=3.8						
BRTR	Keskin Array B	146.19	320		PKPbc	19 22 51.2	+1.0
BRTR	Keskin Array B comp=Z,2.7nm,0.8s,baz=98,slow=2.1,SNR=14	146.19	320	PKPbc	PKPdf	19 22 49.3	+0.2
GERES	GERESS Array B	146.46	351	PKPbc	PKPdf	19 22 49.2	0.0
CONA	Conrad Observa comp=Z,2.2nm,0.9s	146.96	348	*e*PKiKP	PKiKP	19 22 56.4	+1.8
RONA	Rosalia, Austr comp=Z,3.9nm,0.7s	147.09	347	*e*PKiKP	PKiKP	19 22 56.2	+1.4
BIOA	Bad Ischl, Aus comp=Z,1.3nm,0.8s	147.59	351	*e*PKiKP	PKiKP	19 22 56.2	+0.4
ARSA	Arzberg comp=Z,1.6nm,0.7s	147.68	348	*i* PKP	PKPdf	19 22 51.2	0.0
LESA	Schwarzleotal comp=Z,0.5nm,0.5s	147.99	352	*e*PKP	PKPbc	19 22 56.7	+1.8
WATA	Walderalm comp=Z,1.1nm,0.7s	148.22	353	*e*PKP	PKPdf	19 22 54.8	+2.5
WTTA	Wattenberg comp=Z,1.5nm,0.5s	148.29	353	*e*PKP	PKPdf	19 22 55.3	+2.9
SQTA	Sankt Quirin comp=Z,3.4nm,1.0s	148.38	353	*e*PKP	PKiKP	19 22 58.7	+1.1
DAVA	Damuels comp=Z,5.7nm,1.4s	148.44	355	*i* PKP	PKPdf	19 22 51.8	-0.8
FETA	Feichten comp=Z,3.7nm,1.4s	148.62	354	*e*PKiKP	PKPbc	19 22 57.5	+0.8
FUORN	Ofenpass-Fuorn	149.07	355		PKPbc	19 22 57.9	0.0
TORD	Torodi Ar. Bea comp=Z,1.6nm,1.1s,baz=235,slow=5.1,SNR=3.6	174.93	121	PKPab	PKPab	19 24 53.0	-2.1

*IDC **22** 19:03:24.2±0.8, 56°.76S×26°.21W, h0km, mb4.1/8, mbtmp4.1/9, ML3.7/1, Error ellipse: s-maj=35.2km s-min=18.4km az=76.0*

ISC 22 19:03:32.1±0.7, 56°.85±0°.1×26°.1W±0°.2, h61km, n21, σ1°23/16, mb4.1/8, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat comp=Z,2.1nm,0.6s	15.84	158	⇑P	P	19 07 13.8	+0.3
VNA3	Neumayer Olymp comp=Z,2.0nm,0.2s	16.04	161	⇑P	Pn	19 07 12.6	-0.8
VNA2	Neumayer--Watz comp=Z,0.8nm,0.4s,baz=322,slow=14	16.23	158	⇑P	Pn	19 07 12.4	-3.3
SNAA	Sanae comp=Z,14nm,0.3s	17.77	156	⇑P	P	19 07 36.1	+1.2
SNAA	Sanae comp=Z,0.2nm,0.3s,baz=44,slow=12,SNR=12 comp=Z,0.7nm,0.4s	17.77	156	P	Pn	19 07 34.1	-0.8
TROLL	Troll, Antarti comp=Z,13nm,0.4s	19.27	153	⇑P	P	19 07 50.5	-0.9
QSPA	South Pole Qui comp=Z,5.0nm,0.5s,baz=203,slow=1.3,SNR=102 comp=Z,5.0nm,0.5s	33.40	180	P	P	19 10 04.9	+0.4
CPUP	Villa Florida comp=Z,0.7nm,0.6s,baz=156,slow=10.0,SNR=1.7 comp=Z,0.7nm,0.6s	37.78	311	P	P	19 10 41.5	-0.6
MAW	Mawson comp=Z,0.9nm,0.6s,baz=238,slow=9.0,SNR=2.0 comp=Z,0.9nm,0.6s	39.16	143	P	P	19 10 53.7	+0.5
BDFB	Brasilia comp=Z,1.2nm,0.5s,baz=153,slow=6.8,SNR=2.0 comp=Z,1.2nm,0.5s	44.35	329	P	P	19 11 35.9	-0.4
VNDA	Vanda comp=Z,0.7nm,0.6s,baz=168,slow=6.1,SNR=2.7 comp=Z,0.7nm,0.6s	45.80	182	P	P	19 11 48.2	+1.2
H10S2	ASCENSION HYDR baz=189,slow=74,SNR=12	48.60	15	T	T	20 04 47.1	
H10S3	ASCENSION HYDR baz=31,slow=74,SNR=17	48.60	15	T	T	20 04 47.3	
H10N1	ASCENSION HYDR baz=188,slow=75,SNR=3.7	49.72	15	T	T	20 06 11.4	
H10N3	ASCENSION HYDR baz=188,slow=75,SNR=9.0	49.72	15	T	T	20 06 10.7	
H10N2	ASCENSION HYDR baz=188,slow=75,SNR=6.1	49.74	15	T	T	20 06 10.7	
DBIC	Dimbokro comp=Z,2.0nm,0.8s,baz=185,slow=5.9,SNR=0.9 comp=Z,2.0nm,0.8s	65.65	23	P	P	19 14 09.3	-0.4
TORD	Torodi Ar. Bea comp=Z,1.2nm,0.4s,baz=215,slow=5.9,SNR=24 comp=Z,1.2nm,0.4s	73.47	28	P	P	19 14 58.7	+0.9
TEIG	Tepich comp=Z,2.0nm,0.5s,baz=135,slow=7.1,SNR=2.0 comp=Z,2.0nm,0.5s	92.64	304	P	P	19 16 37.3	+0.5
SONM	Songino Array comp=Z,1.5nm,0.5s,baz=219,slow=3.6,SNR=12	150.18	87	PKPbc	PKPbc	19 23 15.4	+0.3
ILAR	Eielson Array comp=Z,1.7nm,1.0s,baz=121,slow=1.5,SNR=11	151.09	310	PKPbc	PKPbc	19 23 15.4	-1.1

*IDC **22** 19:08:56.1±3.6, 34°.69N×45°.87E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=77.9km s-min=23.4km az=178.0*

*TEH **22** 19:08:56.0, 34°.61N×46°.24E, h7km±23km, ML3.7*

*ISN **22** 19:08:56.5±1.9, 34°.60N×46°.28E, h25km±10km, ML3.9*

ISC 22 19:08:55.8±1.3, 34°.58N±0°.03×46°.19E±0°.03, h2km±9km, n58, σ1°42/64, mb3.5/7, 7C-4D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.20	54	Pg	Pg	19 08 59.6	-0.2
IDHR				Sg	Sg	19 09 02.7	+0.2
IGHG	Ghaleghazi	0.40	128	Pg	Pg	19 09 04.0	+0.5
IGHG				Sg	Sb	19 09 11.2	-1.2
KGS1	Ghasr-e-Shirin	0.50	262	Pg	Pb	19 09 06.8	-0.5
GLG1	Gilan-e-Gharb	0.52	206	Pg	Pb	19 09 06.6	-1.0
ILIN	Lien	0.72	62	Pg	Pg	19 09 08.9	-0.8
ILIN				Sg	Sg	19 09 19.1	0.0
KCHF	Cheshme Sefid,	0.77	113	Pg	Pg	19 09 10.3	-0.3
KCHF				Sg	Sb	19 09 21.7	-1.2
ILBA	Ilam Banvizeh	0.95	179	Pg	Pb	19 09 14.7	-0.3
SNQR	Sonqor, Kerman	1.22	76	Pg	Pg	19 09 18.3	-0.9
IBZA	Bozab	1.39	94	Pg	Pg	19 09 21.6	-0.8
IBDR	Badra	1.48	188	*e*Pg	Pb	19 09 23.0	-1.0
IBDR				*e*Sg	Sn	19 09 43.0	-0.3
SDS1	Sardasht. Az.	1.67	340	Pg	Pn	19 09 26.7	+0.5
IKRK	Kirkuk	1.72	299	*e*Pn	Pn	19 09 27.0	+0.3
IKRK				*e*Sn	Sg	19 09 51.0	-0.1
IKRK				AML	AML	19 09 57.2	
IKRK	comp=E,2μm,0.7s			AML	AML	19 09 59.6	
	comp=N,1μm,0.6s						
IKFM	Kafar-mosalman	1.73	127	Pg	Pb	19 09 28.0	-0.3
HSAM	Samen	2.03	100	Pn	Pb	19 09 32.5	-1.1
MAHB	Mahabad	2.22	350	Pn	Pb	19 09 35.5	-1.2
RAFI	Al-Rafai	2.85	181	*e*Pn	Pn	19 09 43.0	+0.8
RAFI				*e*Sn	Sn	19 10 18.0	+0.9
IHSH	Hashtrud	2.86	18	Pn	Pn	19 09 43.6	+1.0
IAZR	Azarshahr	3.10	357	Pn	Pn	19 09 47.8	+1.9
ISRB	Sarab	3.45	20	Pn	Pn	19 09 52.6	+1.9
ISHB	Shabestar	3.72	353	Pn	Pn	19 09 56.4	+1.9
IHRS	Heris	3.79	10	Pn	Pn	19 09 56.9	+1.5
IQOM	Qom	4.03	85	Pn	Pn	19 09 59.2	+0.5
IMRD	Marand	4.14	355	Pn	Pn	19 10 03.0	+2.8
IPIR	Pirpir	4.36	114	Pn	Pn	19 10 03.9	+0.6
JHBN	Jahan bin	4.42	121	Pn	Pn	19 10 05.6	+1.5
GRMI	Germi	4.44	18	Pn	Pn	19 10 05.3	+1.1
IVRN	Varamin	4.58	83	Pn	Pn	19 10 07.3	+1.2
ZNGN	Zangian	4.62	121	Pn	Pn	19 10 07.8	+1.1
IDMV	Damavand	4.90	77	Pn	Pn	19 10 12.0	+1.3
MAKU	Maku	4.92	346	Pn	Pn	19 10 13.3	+2.5
KRSH	Karshahi	4.96	95	Pn	Pn	19 10 13.0	+1.5
ISFB	Sefidab	5.01	91	Pn	Pn	19 10 12.9	+0.9
IBRJ	Brojen	5.02	121	Pn	Pn	19 10 13.9	+1.6
IGAR	Gharneh	5.35	112	Pn	Pn	19 10 17.8	+0.9
IZEF	Zefreh	5.39	106	Pn	Pn	19 10 18.6	+1.2
IFIR	Firoozkooh	5.49	77	Pn	Pn	19 10 20.1	+1.4
KLNJ	Kolanjah	5.78	127	Pn	Pn	19 10 23.2	+0.3
IRAM	Ramesheh	5.88	116	Pn	Pn	19 10 25.2	+1.1
BRTR	Keskin Array B comp=N,0.1nm,0.3s,baz=116,slow=13,SNR=10	11.25	301	Pn	Pn	19 11 41.7	+4.1
CFR	Carcaliu	17.39	313	⇑P	P	19 13 02.6	+1.8
TESR	Tescani	18.98	315	⇑P	Pn	19 13 18.8	-0.1
VOIR		19.43	310	⇓P	Pn	19 13 25.2	+0.7
DOPR	Dopca	19.46	312	⇑P	Pn	19 13 25.3	+0.5
AKASG	Malin Array Be comp=N,0.2nm,0.2s,baz=141,slow=11,SNR=5.2 comp=N,0.2nm,0.2s	20.30	328	P	P	19 13 31.6	-1.1
KIEV	Kiev	20.30	328	⇓P	P	19 13 32.3	-0.4
BURAR	Bucovina Array	20.39	316	⇑P	Pn	19 13 35.5	-0.4
BOVS	Bovan	20.98	303	⇑P	P	19 13 40.7	+0.6
MDVR	Moldovita	21.34	306	⇑P	P	19 13 44.6	+0.6
SURR	Surduc	21.43	309	⇓P	P	19 13 41.2	-3.7
DRGR		21.49	312	⇓P	P	19 13 46.1	+0.5
SIRR	Siria	21.93	310	⇑P	P	19 13 51.8	+1.5
BVAR	Borovoye Array comp=N,1.0nm,0.7s,baz=231,slow=9.4,SNR=5.9 comp=N,1.0nm,0.7s	25.20	36	P	P	19 14 25.1	+2.6
KURBB	Kurchatov Arra comp=N,0.3nm,0.5s,baz=253,slow=8.9,SNR=3.8 comp=N,0.3nm,0.5s	28.41	46	P	P	19 14 52.1	+0.6
MKAR	Makanchi Array comp=N,0.5nm,0.7s,baz=242,slow=9.3,SNR=5.2 comp=N,0.5nm,0.7s	29.71	55	P	P	19 15 05.2	+2.1
FINES	FINESS Array B comp=N,0.7nm,0.6s,baz=146,slow=10,SNR=1.3 comp=N,0.7nm,0.6s	29.80	341	P	P	19 15 01.9	-1.8
HFS	Hagfors comp=N,1.0nm,0.6s,baz=133,slow=10.0,SNR=4.0 comp=N,1.0nm,0.6s	33.13	331	P	P	19 15 32.3	-0.7
EKA	Eskdalemuir Ar comp=N,0.7nm,0.5s,baz=107,slow=8.1,SNR=7.8 comp=N,0.7nm,0.5s	39.57	317	P	P	19 16 25.9	-2.2
ESDC	Sonseca Array comp=N,0.4nm,0.7s,baz=53,slow=9.1,SNR=5.8 comp=N,0.4nm,0.7s	39.89	292	P	P	19 16 29.7	-1.3

*IDC **22** 19:16:09.6±6.4, 1°.20S×90°.76W, h0km, mb3.9/5, mbtmp3.9/5, MS3.5/1, Error ellipse: s-maj=149.8km s-min=36.7km az=10.0*

*IGQ **22** 19:16:12.1±0.0, 0°.8S±0°.2×91°.1W±0°.2, h0km, M4.5/15*

*NEIC **22** 19:16:16.8±2.3, 0°.4S±0°.1×90°.76W±0°.10, h10km±2km, mb4.3/28, Error ellipse: s-maj=28.4km s-min=8.0km az=212.0*

ISC 22 19:16:12.5±1.3, 0°.86S±0°.07×91°.04W±0°.05, h3km±9km, n51, σ1°34/40, mb4.3/18, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCH1	Volcn Chico	0.10	323	P	Pg	19 16 13.4	-1.0
PVIL	Puerto Villami	0.12	135	S	Sg	19 16 17.0	+0.7
PVIL				P	Pg	19 16 14.7	-0.1
CEAZ	Cerra Azul, Ca	0.38	279	P	Pg	19 16 19.1	-0.6
FER2	Fernandina2, P	0.54	317	P	Pg	19 16 22.8	-0.1
FER1	Fernandina1, P	0.56	312	P	Pg	19 16 25.4	+2.3
I20EC	Galapagos baz=270,slow=32	0.71	69	Pg	Pn	19 16 30.0	+0.4
PAYG	Puerto Ayora	0.77	76	Pg	Pg	19 16 27.7	+0.4
PAYG	Puerto Ayora	0.77	76	P	Pg	19 16 27.6	+0.3
ALCE	Alcedo, Punta	1.02	294	S	Sg	19 16 35.0	-10
ALCE				P	Pg	19 16 21.2	-11
ATAH	Atahualpa comp=Z,203nm,18.8s,baz=289,slow=34	14.06	117	LR	LR	19 24 01.6	
ESPN	Las Esperanzas	14.60	27	Pn	Pn	19 19 34.9	-5.2
SDV	Santo Domingo	22.52	64	P	P	19 21 11.5	-2.4
SDV	comp=Z,26nm,1.5s			IAmb	IAmb	19 21 35.7	
SDV	Santo Domingo comp=Z,3.7nm,0.3s,baz=248,slow=11,SNR=6.1 comp=Z,3.7nm,0.3s	22.52	64	P	P	19 21 10.5	-3.4
ETMB	Extrema	26.24	111	P	P	19 21 50.0	+0.8
ETMB	comp=Z,9.7nm,1.4s			IAmb	IAmb	19 21 52.8	
TXAR	Lajitas Array comp=Z,0.9nm,0.9s,baz=150,slow=12,SNR=8.7 comp=Z,0.9nm,0.9s	32.37	339	P	P	19 22 45.0	+1.5
VHRN	Van Horn	34.16	338	P	P	19 22 58.9	-0.3
H03N2	Juan Fernandez baz=339,slow=77,SNR=12	34.34	162	T	T	19 59 02.8	
H03N1	Juan Fernandez baz=339,slow=77,SNR=14	34.35	162	T	T	19 59 04.6	
H03N3	Juan Fernandez baz=339,slow=77,SNR=9.4	34.36	162	T	T	19 59 00.7	
APMT	Aspermont	35.07	347	P	P	19 23 06.7	-0.3
APMT	comp=Z,5.5nm,0.9s			IAmb	IAmb	19 23 09.2	
POST	Post	35.16	345	P	P	19 23 07.6	-0.2
DKNS	Dickens

comp=Z,1.6nm,0.8s
PDAR Pinedale Array 46.52 341 P P 19 24 41.6 -0.1
comp=Z,0.7nm,0.8s,baz=143,slow=7.9,SNR=4.1
comp=Z,0.7nm,0.8s
TPAW Teton Pass 47.63 340 P P 19 24 47.8 -2.5
TPAW IAmb IAmb 19 24 51.8
comp=Z,2.1nm,0.8s
HLID Hailey 48.94 338 P P 19 24 58.5 -1.8
HLID IAmb IAmb 19 25 01.9
comp=Z,4.5nm,1.2s
M27K Edge Creek, AK 73.67 338 P P 19 27 47.9 +0.4
M27K IAmb IAmb 19 27 50.3
comp=Z,3.0nm,1.0s
GLB Gilahina Butte 73.89 337 P P 19 27 49.1 +0.3
BCAR Beaver Creek A 74.05 338 P P 19 27 50.5 +0.9
N25K Chitina, Valde 74.29 336 P P 19 27 51.2 0.0
N25K IAmb IAmb 19 27 53.0
comp=Z,3.2nm,0.8s
K27K Chicken 74.73 339 P P 19 27 54.7 +1.2
K27K IAmb IAmb 19 27 56.5
comp=Z,5.8nm,1.3s
G29M Pine Creek 75.21 343 P P 19 27 55.9 -0.3
J26L Joseph Creek 75.53 339 P P 19 27 58.4 +0.1
F28M Old Crow 76.22 343 P P 19 28 02.4 +0.3
F28M IAmb IAmb 19 28 04.7
comp=Z,2.6nm,0.8s
ILAR Eielson Array 76.88 339 P P 19 28 05.7 -0.1
comp=Z,1.6nm,0.9s,baz=148,slow=4.5,SNR=17
comp=Z,1.6nm,0.9s
H11S2 WAKE ISLAND Hyl 01.90 289 T T 21 23 17.6
baz=87
H11S1 WAKE ISLAND Hyl 01.90 289 T T 21 23 17.9
baz=87
H11S3 WAKE ISLAND Hyl 01.92 289 T T 21 23 19.8
baz=87
H01W1 Cape Leeuwin H 137.33 211 T T 22 08 01.6
baz=137,slow=75,SNR=9.0
H01W2 Cape Leeuwin H 137.33 211 T T 22 08 02.0
baz=137,slow=75,SNR=8.9
H01W3 Cape Leeuwin H 137.34 211 T T 22 08 02.8
baz=137,slow=75,SNR=8.4

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*TEH **22** 19:35:16.9, 34.°60N×46.°26E, h8km±35km, ML2.9*
*ISN **22** 19:35:17.2±0.5, 34.°63N×46.°25E, h14km±3km, ML3.0*
ISC 22 19:35:16.9±1.3, 34.°62N±0.°03×46.°25E±0.°03, h3km±13km, n15, σ0.°68/18, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**56**	Pg	**Pg**	**19 35 20.2**	**+0.6**
IGHG	**Ghaleghazi**	**0.39**	**138**	Pg	**Pg**	**19 35 25.0**	**+0.5**
KGS1	**Ghasr-e-Shirin**	**0.56**	**258**	Pg	**Pg**	**19 35 27.8**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.58**	**209**	Pg	**Pg**	**19 35 28.1**	**+0.1**
ILIN	**Lien**	**0.66**	**63**	Pg	**Pg**	**19 35 29.7**	**+0.2**
KCHF	**Cheshme Sefid,**	**0.74**	**118**	Pg	**Pg**	**19 35 30.7**	**-0.4**
ILBA	**Ilam Banvizeh**	**1.00**	**182**	Pg	**Pb**	**19 35 35.8**	**-1.0**
SNQR	**Sonqor, Kerman**	**1.16**	**78**	Pg	**Pn**	**19 35 39.3**	**-1.0**
IBZA	**Bozab**	**1.34**	**96**	Pg	**Pb**	**19 35 42.5**	**-0.2**
IBDR	**Badra**	**1.53**	**190**	*e*Pg	**Pb**	**19 35 45.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**19 36 06.0**	**-0.1**
IKFM	**Kafar-mosalman**	**1.72**	**129**	Pg	**Pg**	**19 35 50.0**	**+0.2**
IKRK	**Kirkuk**	**1.75**	**297**	*e*Pn	**Pb**	**19 35 49.0**	**-0.6**
IKRK				*e*Sn	**Sb**	**19 36 12.0**	**0.0**
IKRK				AML	AML	19 36 18.4	
	comp=E,206nm,0.7s						
IKRK				AML	AML	19 36 20.4	
	comp=N,228nm,0.6s						
HSAM	**Samen**	**1.99**	**101**	Pn	**Pb**	**19 35 53.8**	**0.0**
MAHB	**Mahabad**	**2.18**	**348**	Pn	**Pb**	**19 35 56.7**	**-0.4**
RAFI	**Al-Rafai**	**2.90**	**182**	*e*Pn	**Pn**	**19 36 05.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**19 36 40.0**	**+0.9**

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*GUC **22** 19:40:16.8±0.6, 22.°32S×67.°92W, h172km±5km, ML3.6*
*SCB **22** 19:40:16.7±1.2, 22.°37S×67.°85W, h157km±13km, ML3.4/4, MW4.2, Error ellipse: s-maj=5.0km s-min=3.4km az=0.0*
ISC 22 19:40:16.0±1.7, 22.°37S±0.°05×67.°87W±0.°05, h170km±14km, n25, σ0.°75/37, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.64**	**206**	*e*P	**Pn**	**19 40 41.3**	**+0.6**
AF01	**San Pedro de A**	**0.64**	**206**	Pg	**Pn**	**19 40 40.4**	**-0.3**
LVC	**Limon Verde**	**0.99**	**256**	*i* P	**Pn**	**19 40 43.0**	**-0.1**
LVC				*i* S	**Sn**	**19 41 03.1**	**-0.7**
LVC				IAML		19 41 04.7	
	comp=Z,1μm,0.5s						
PB09	**IPOC Station P**	**1.39**	**294**	⇑*i* P	**Pn**	**19 40 47.5**	**+1.2**
PB09				*i* S	**Sn**	**19 41 09.4**	**-0.2**
PB09	**IPOC Station P**	**1.39**	**294**	Pg	**Pn**	**19 40 47.6**	**+1.3**
PB06	**IPOC Station P**	**1.60**	**258**	*i* S	**Sn**	**19 41 13.3**	**0.0**
PB06				IAML		19 41 14.9	
	comp=N,631nm,0.2s						
PB15	**IPOC Station P**	**1.69**	**240**	⇑*i* P	**Pn**	**19 40 50.1**	**+0.8**
PB15				*i* S	**Sn**	**19 41 15.3**	**+0.3**
PB15	**IPOC Station P**	**1.69**	**240**	Pg	**Pn**	**19 40 50.1**	**+0.8**
PB01	**IPOC Station P**	**2.00**	**311**	*i* P	**Pn**	**19 40 52.6**	**+0.1**
PB01				*i* S	**Sn**	**19 41 20.6**	**-0.2**
PB01				IAML		19 41 22.9	
	comp=E,327nm,0.2s						
PB01	**IPOC Station P**	**2.00**	**311**	Pg	**Pn**	**19 40 53.0**	**+0.5**
PB01				Sg	**Sn**	**19 41 20.5**	**-0.2**
PB01				IAML		19 41 23.1	
	comp=E,204nm,0.2s						
PB04	**IPOC Station P**	**2.11**	**271**	⇑*i* P	**Pn**	**19 40 54.3**	**+0.6**
PB04				*i* S	**Sn**	**19 41 22.2**	**-0.8**
PB04				IAML		19 41 25.6	
	comp=N,300nm,0.2s						
MOCB	**Mochara**	**2.36**	**62**	Pg	**Pn**	**19 40 57.7**	**+0.8**
MOCB				Sg	**Sn**	**19 41 27.9**	**-0.7**
MOCB				IAML		19 41 29.4	
	comp=N,252nm,0.7s						
PATCX	**Punta Patache**	**2.62**	**306**	*i* P	**Pn**	**19 40 59.8**	**+0.1**
PATCX				*i* S	**Sn**	**19 41 32.7**	**-0.9**
PATCX				IAML		19 41 36.8	
	comp=E,158nm,0.2s						
TA01	**Diego Aracena**	**2.80**	**309**	*i* P	**Pn**	**19 41 01.6**	**-0.2**
HMBC	**Humberstone**	**2.81**	**318**	*i* P	**Pn**	**19 41 01.6**	**-0.4**
HMBC				*i* S	**Sn**	**19 41 36.2**	**-1.4**
HMBC				IAML		19 41 40.7	
	comp=E,181nm,0.3s						
GO01	**Chusmiza**	**2.96**	**335**	⇑*i* P	**Pn**	**19 41 04.9**	**+0.7**
GO01	**Chusmiza**	**2.96**	**335**	Pg	**Pn**	**19 41 05.1**	**+0.9**
AOVT	**TarijaAcel**	**3.06**	**75**	Pg	**Pn**	**19 41 05.4**	**+0.3**
PB11	**IPOC Station P**	**3.08**	**327**	*i* P	**Pn**	**19 41 05.4**	**-0.1**
PB11	**IPOC Station P**	**3.08**	**327**	Pg	**Pn**	**19 41 05.8**	**+0.3**
PB11				Sg	**Sn**	**19 41 43.3**	**-0.6**
PB11				IAML		19 41 46.7	
	comp=E,89nm,0.3s						
GO02	**Mina Guanaco**	**3.19**	**209**	⇑*i* P	**Pn**	**19 41 07.2**	**+0.4**
GO02				*i* S	**Sn**	**19 41 45.8**	**-0.7**
SOEO	**Opoqueri**	**3.79**	**360**	Pg	**Pn**	**19 41 16.3**	**+1.7**
SOET	**ToroToro**	**4.66**	**25**	Pg	**Pn**	**19 41 26.9**	**+1.2**
SOET				Sg	**Sn**	**19 42 19.0**	**-1.1**
SOET				IAML		19 42 21.9	
	comp=E,11nm,0.5s						
SOTI	**Planta Incahua**	**4.68**	**58**	Pg	**Pn**	**19 41 25.8**	**0.0**
AOEA	**Aiquile**	**4.85**	**31**	Pg	**Pn**	**19 41 28.6**	**+0.4**

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*IDC **22** 19:49:03.3±2.1, 3.°05S×130.°03E, h0km, mb3.6/3, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=154.1km s-min=25.4km az=71.0*
*DJA **22** 19:49:07.0±2.1, 3.°S±4.°×13.°0E±.°, h18km±17km, M3.6/5, MLv3.6/5*
ISC 22 19:49:06.4±0.9, 3.°08S±0.°06×130.°21E±0.°06, h25km, n10, σ2.°12/13, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.47**	**192**	P	**Pb**	**19 49 35.6**	**+2.5**
FAKI	**Fak Fak**	**2.04**	**86**	P	**Pb**	**19 49 42.4**	**-0.4**
FAKI				S	**Sb**	**19 50 09.4**	**+1.6**
SWI	**Sorong**	**2.43**	**26**	P	**Pn**	**19 49 44.6**	**0.0**
SWI				S	**Sn**	**19 50 14.4**	**+0.8**
NLAI	**Namlea**	**3.11**	**267**	P	**Pn**	**19 49 53.6**	**-0.3**
KMPI	**Kaimana, Papua**	**3.54**	**100**	P	Pn	19 49 52.1	-7.6
SANI	**Sanana**	**4.34**	**283**	P	**Pn**	**19 50 08.8**	**-2.0**
WRA	**Warramunga Arr**	**17.24**	**167**	P	**Pn**	**19 53 04.8**	**-0.9**
	0.3nm,0.3s,baz=346,slow=12,SNR=24						
WRA				S	**Sn**	**19 56 11.6**	**-5.3**
	1.2nm,0.9s,baz=351,slow=24,SNR=4.1						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**20.78**	**170**	P	**P**	**19 53 47.2**	**+1.4**
	4.7nm,0.8s,baz=351,slow=10,SNR=51						
ASAR				S	**S**	**19 57 36.8**	**+0.1**
	0.6nm,0.7s,baz=349,slow=19,SNR=4.1						
	4.7nm,0.8s						
MKAR	**Makanchi Array**	**65.10**	**326**	P	**P**	**19 59 45.1**	**+0.1**
	0.2nm,0.7s,baz=126,slow=7.7,SNR=2.4						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**69.31**	**328**	P	**P**	**20 00 11.8**	**+0.2**
	0.4nm,0.5s,baz=128,slow=6.0,SNR=6.4						
	0.4nm,0.5s						

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*IDC **22** 19:49:14.6±0.9, 0.°93S×91.°19W, h0km, mb4.1/12, mbtmp4.1/14, ML3.0/3, MS3.9/26, Error ellipse: s-maj=35.2km s-min=17.1km az=54.0*
*IGQ **22** 19:49:15.3±0.0, 1.°S±2.°×9.°1W±.°, h0km, M5.1/5*
*NEIC **22** 19:49:18.8±1.8, 0.°7S±0.°1×90.°93W±0.°05, h10km±5km, mb4.6/99, Error ellipse: s-maj=19.2km s-min=7.2km az=177.0*
ISC 22 19:49:16.0±1.4, 0.°88S±0.°06×91.°07W±0.°04, h1km±8km, n423, σ1.°04/356, mb4.6/61, MS3.8/22, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCH1	**Volcn Chico**	**0.10**	**345**	P	**Pg**	**19 49 17.1**	**-0.8**
VCH1				S	**Sg**	**19 49 20.0**	**+0.8**
PVIL	**Puerto Villami**	**0.14**	**121**	P	**Pg**	**19 49 18.4**	**-0.2**
CEAZ	**Cerra Azul, Ca**	**0.34**	**282**	P	**Pg**	**19 49 22.1**	**-0.5**
FER2	**Fernandina2, P**	**0.53**	**320**	P	**Pg**	**19 49 25.7**	**-0.5**
FER1	**Fernandina1, P**	**0.54**	**316**	P	**Pb**	**19 49 28.4**	**+0.2**
I20EC	**Galapagos**	**0.75**	**69**	Pg	**Pn**	**19 49 35.7**	**+2.0**
	baz=275,slow=31						
PAYG	**Puerto Ayora**	**0.81**	**76**		**Pg**	**19 49 31.3**	**-0.3**
ALCE	**Alcedo, Punta**	**1.00**	**296**	P	Pg	19 49 25.0	-10
PULU	**Pululahua**	**12.60**	**86**	Pn	**Pn**	**19 52 20.4**	**+3.6**
JTS	**Las Juntas de**	**12.65**	**29**	LR	LR	19 56 10.5	
	comp=Z,854nm,18.5s,baz=171,slow=33						
OTAV	**Otavalo**	**12.67**	**85**	Pn	**Pn**	**19 52 14.3**	**-3.6**
LCR2	**La Lucha 2**	**12.68**	**34**	Pn	**Pn**	**19 52 13.9**	**-3.9**
ATAH	**Atahualpa**	**14.09**	**117**	Pn	**Pn**	**19 52 36.7**	**-0.5**
	0.1nm,0.3s,baz=299,slow=19,SNR=2.2						
ATAH				LR	LR	19 57 04.8	
	comp=Z,861nm,18.0s,baz=305,slow=33						
	3.9nm,0.7s						
BOAB	**BOACO BROADBAN**	**14.29**	**22**	P	**P**	**19 52 47.0**	**0.0**
APG	**El Apazote**	**15.79**	**2**	Pn	**Pn**	**19 53 01.0**	**+1.1**
	baz=184,slow=13,SNR=1.0						
APG				LR	LR	19 57 49.9	
	comp=Z,33nm,22.0s,baz=206,slow=32						
ROSC	**El Rosal**	**17.67**	**71**	Pn	**Pn**	**19 53 20.7**	**-3.3**
ROSC	**El Rosal**	**17.67**	**71**	P	**P**	**19 53 26.1**	**+1.1**
	1.9nm,0.3s,baz=277,slow=17,SNR=4.7						
	4.8nm,0.4s						
NNA	**Nana**	**17.92**	**129**	LR	LR	19 59 08.7	
	comp=Z,442nm,18.6s,baz=300,slow=33						
CMIG	**Matias Romero**	**18.25**	**348**	LR	LR	19 59 10.1	
	comp=Z,306nm,18.4s,baz=190,slow=33						
CZSB	**Cruzeiro do Su**	**19.53**	**111**	*e*P	**Pn**	**19 53 47.5**	**+1.2**
TLIG	**Tlapa**	**19.75**	**338**	P	**P**	**19 53 43.9**	**-3.7**
TEIG	**Tepich**	**21.15**	**7**	P	**P**	**19 54 00.8**	**-1.8**
	12nm,1.1s,baz=180,slow=16,SNR=4.6						
TEIG				LR	LR	20 01 23.1	
	comp=Z,167nm,20.3s,baz=247,slow=34						
	12nm,1.1s						
TBTG	**Tabatinga, AM**	**21.39**	**99**	P	**P**	**19 54 06.6**	**+1.3**
TBTG	**Tabatinga, AM**	**21.39**	**99**	*e*P	**P**	**19 54 07.1**	**+1.7**
SDV	**Santo Domingo**	**22.55**	**64**	P	**P**	**19 54 18.9**	**+0.9**
SDV				IAmb	IAmb	19 54 29.9	
	comp=Z,19nm,1.1s						
SDV	**Santo Domingo**	**22.55**	**64**	*e*P	**P**	**19 54 19.5**	**+1.5**
BAUV	**El Baul**	**24.93**	**66**	P	**P**	**19 54 41.4**	**+0.4**
ETMB	**Extrema**	**26.27**	**111**	P	**P**	**19 54 52.8**	**-0.3**
ETMB				IAmb	IAmb	19 55 01.8	
	comp=Z,19nm,1.5s						
ETMB	**Extrema**	**26.27**	**111**	*e*P	**P**	**19 54 53.5**	**+0.3**
NMDO	**Nuevo Mundo**	**26.50**	**36**	P	**P**	**19 54 55.2**	**+0.1**
NMDO				IAmb	IAmb	19 55 06.9	
	comp=Z,28nm,1.4s						
SAML	**Samuel**	**28.90**	**107**	*e*P	**P**	**19 55 16.3**	**-0.4**
833A	**Chaparral WMA,**	**30.11**	**345**	P	**P**	**19 55 29.8**	**+2.5**
	baz=163						
DWPF	**Disney Wildern**	**30.27**	**17**	P	**P**	**19 55 31.1**	**+2.4**
	baz=199						
SJG	**San Juan**	**30.94**	**51**	P	**P**	**19 55 34.8**	**0.0**
SJG	**San Juan**	**30.94**	**51**	LR	LR	20 08 17.6	
	comp=Z,133nm,18.2s,baz=254,slow=37						
LPIG	**La Paz**	**31.07**	**324**	LR	LR	20 05 01.8	
	comp=Z,116nm,18.7s,baz=192,slow=30						
DRIO	**Del Rio**	**31.48**	**344**	P	**P**	**19 55 40.0**	**+0.6**
435B	**Jarrell**	**32.09**	**349**	P	**P**	**19 55 47.8**	**+3.1**
	baz=167						
BRAL	**Brewton**	**32.10**	**6**	P	**P**	**19 55 47.5**	**+2.8**
	baz=187						
JCT	**Junction City**	**32.27**	**346**	P	**P**	**19 55 49.3**	**+2.9**
	baz=163						
TXAR	**Lajitas Array**	**32.36**	**339**	P	**P**	**19 55 47.0**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=153,slow=8.4,SNR=8.2						
TXAR				LR	LR	20 07 55.7	
	comp=Z,189nm,19.5s,baz=146,slow=35						
	comp=Z,1.1nm,1.0s						
NATX	**Nacogdoches**	**32.64**	**354**	P	**P**	**19 55 52.0**	**+2.5**
	baz=173						
TIGA	**Tifton**	**32.91**	**12**	P	**P**	**19 55 54.3**	**+2.4**
	baz=194						
VBMS	**Vicksburg**	**32.92**	**1**	P	**P**	**19 55 53.7**	**+1.8**
	baz=181						
SIV	**San Ignacio**	**33.17**	**118**	LR	LR	20 08 40.2	
	comp=Z,302nm,20.8s,baz=302,slow=35						
WHTX	**Lake Whitney,**	**33.24**	**350**	P	**P**	**19 55 56.8**	**+2.0**
	baz=168						
LRAL	**Lakeview Retre**	**33.95**	**6**	P	**P**	**19 56 02.7**	**+1.8**
	baz=187						
BBSD	**Serra de San D**	**34.07**	**120**	*e*P	**P**	**19 56 02.5**	**+0.2**
VHRN	**Van Horn**	**34.16**	**338**	P	**P**	**19 56 02.8**	**-0.1**
VHRN				IAmb	IAmb	19 56 05.3	
	comp=Z,9.2nm,1.4s						
ABTX	**Abilene, Hawle**	**34.29**	**347**	P	**P**	**19 56 05.5**	**+1.5**
	baz=164						
H03N2	**Juan Fernandez**	**34.34**	**162**	T	T	20 32 06.6	
	baz=338,slow=77,SNR=79						
H03N1	**Juan Fernandez**	**34.35**	**162**	T	T	20 32 09.2	
	baz=338,slow=77,SNR=153						
H03N3	**Juan Fernandez**	**34.36**	**162**	T	T	20 32 07.8	
	baz=338,slow=77,SNR=100						
FW03	**Perrin-Whitt E**	**34.37**	**350**	P	**P**	**19 56 03.9**	**-0.8**
ODSA	**Odessa**	**34.57**	**343**	P	**P**	**19 56 06.1**	**-0.4**
PTLB	**Pontes e Lacer**	**34.68**	**116**	P	**P**	**19 56 07.4**	**-0.1**
GOGA	**Godfrey**	**34.85**	**11**	P	**P**	**19 56 10.5**	**+1.7**
	baz=193						
APMT	**Aspermont**	**35.07**	**347**	P	**P**	**19 56 11.1**	**+0.4**
APMT				IAmb	IAmb	19 56 12.9	
	comp=Z,18nm,1.4s						
MNTX	**Cornudas Mount**	**35.12**	**339**	P	**P**	**19 56 11.8**	**+0.7**
	baz=154						
MIAR	**Mount Ida**	**35.31**	**356**	P	**P**	**19 56 14.2**	**+1.4**
	baz=175						
X34A	**Smith Ranch, M**	**35.86**	**350**	P	**P**	**19 56 16.9**	**-0.5**
NPGB	**Novo Progresso**	**36.13**	**101**	*e*P	**P**	**19 56 20.2**	**+0.1**
WMOK	**Wichita Mounta**	**36.16**	**349**	P	**P**	**19 56 19.9**	**-0.1**
WMOK				IAmb	IAmb	19 56 21.9	
	comp=Z,18nm,1.4s						
WMOK	**Wichita Mounta**	**36.16**	**349**	P	**P**	**19 56 21.2**	**+1.1**
	baz=167						
MSTX	**Muleshoe**	**36.37**	**343**	P	**P**	**19 56 21.9**	**0.0**
MSTX	**Muleshoe**	**36.37**	**343**	P	**P**	**19 56 23.2**	**+1.3**
	baz=160						
121A	**Cookes Peak, D**	**36.79**	**336**	P	**P**	**19 56 27.5**	**+1.8**
	baz=151						
SMWD	**Samnorwood**	**36.81**	**347**	P	**P**	**19 56 25.8**	**+0.2**
AMTX	**Amarillo**	**36.94**	**345**	P	**P**	**19 56 26.2**	**-0.6**
AMTX				IAmb	IAmb	19 56 29.1	
	comp=Z,21nm,1.4s						
AMTX	**Amarillo**	**36.94**	**345**	P	**P**	**19 56 28.0**	**+1.3**
	baz=162						
WVT	**Waverly**	**36.94**	**4**	P	**P**	**19 56 28.4**	**+1.7**
	baz=185						
KMSC	**Kings Mountain**	**36.97**	**13**	P	**P**	**19 56 27.3**	**+0.4**
	baz=196						
ELIS	**Ellis County**	**37.57**	**349**	P	**P**	**19 56 31.1**	**-0.9**
ELIS				IAmb	IAmb	19 56 34.6	
	comp=Z,20nm,1.2s						
TZTN	**Tazewell**	**37.88**	**10**	P	**P**	**19 56 32.9**	**-1.7**
	baz=192						
TUC	**Tucson**	**37.91**	**332**	P	**P**	**19 56 36.1**	**+1.0**
	baz=146						
SALV	**Santo Antonio**	**37.95**	**115**	*e*P	**P**	**19 56 36.5**	**+1.0**
ANMO	**Albuquerque**	**38.44**	**339**	P	**P**	**19 56 40.3**	**+0.7**
ANMO	**Albuquerque**	**38.44**	**339**	P	**P**	**19 56 40.8**	**+1.3**
	baz=155						
ANMO	**Albuquerque**	**38.44**	**339**	LR	LR	20 11 51.4	
	comp=Z,327nm,18.8s,baz=252,slow=35						
214A	**Organ Pipe Nat**	**38.60**	**330**	P	**P**	**19 56 42.3**	**+1.5**
	baz=143						
CCM	**Cathedral Cave**	**38.74**	**360**	P	**P**	**19 56 42.2**	**+0.4**
	baz=180						
MDP	**Montagnes des**	**38.84**	**81**	LR	LR	20 12 58.1	
	comp=Z,577nm,18.1s,baz=270,slow=36						
MCPB	**Macapa, AP**	**39.02**	**89**	*e*P	**P**	**19 56 42.6**	**-1.9**
BLA	**Blacksburg**	**39.16**	**14**	P	**P**	**19 56 45.8**	**+0.4**
	baz=197						
WCI	**Wyandotte Cave**	**39.16**	**6**	P	**P**	**19 56 45.9**	**+0.6**
	baz=187						
AQDB	**Aquidauana**	**39.67**	**122**	P	**P**	**19 56 49.4**	**-0.5**
AQDB				IAmb	IAmb	19 56 52.9	
	comp=Z,21nm,1.4s						
T25A	**Trinidad**	**39.80**	**343**	IAmb	IAmb	19 56 54.0	
	comp=Z,12nm,1.1s						
T25A	**Trinidad**	**39.80**	**343**	P	**P**	**19 56 52.7**	**+1.8**
	baz=159						
W18A	**Petrified Fore**	**39.84**	**336**	P	**P**	**19 56 52.0**	**+0.7**
	baz=150						
KSU1	**Kansas State U**	**40.11**	**353**	P	**P**	**19 56 54.6**	**+1.3**
	baz=171						
CBKS	**Cedar Bluff**	**40.29**	**350**	P	**P**	**19 56 55.7**	**+0.9**
	baz=166						
GLA	**Glamis**	**40.50**	**329**	P	**P**	**19 56 58.0**	**+1.3**
	baz=142						
P49A	**Miami Univ. Ec**	**40.64**	**8**	P	**P**	**19 56 58.4**	**+0.8**
	baz=190						
SDCO	**Great Sand Dun**	**40.68**	**342**	P	**P**	**19 56 58.9**	**+0.5**
SDCO	**Great Sand Dun**	**40.68**	**342**	P	**P**	**19 56 59.5**	**+1.1**
	baz=157						
WUAZ	**Wupatki**	**40.87**	**334**	P	**P**	**19 57 00.5**	**+0.7**
WUAZ	**Wupatki**	**40.87**	**334**	P	**P**	**19 57 00.8**	**+1.0**
	baz=148						
IKP	**In-Ko-Pah, Jac**	**40.88**	**327**	P	**P**	**19 57 00.4**	**+0.6**
	baz=140						
SNDB	**Serra Nova Dou**	**40.97**	**107**	*e*P	**P**	**19 57 00.8**	**+0.1**
P52A	**Corning**	**41.14**	**11**	P	**P**	**19 57 01.9**	**+0.1**
	baz=193						
CPUP	**Villa Florida**	**41.16**	**131**	P	**P**	**19 57 02.1**	**-0.1**
	comp=Z,7.0nm,1.2s,baz=306,slow=6.7,SNR=4.0						
	comp=Z,7.0nm,1.2s						
MVCO	**Mesa Verde**	**41.19**	**339**	P	**P**	**19 57 02.6**	**+0.1**
	baz=153						
SFIN	**Lafayette**	**41.22**	**5**	P	**P**	**19 57 01.9**	**-0.5**
	baz=186						
HDIL	**Hopedale**	**41.27**	**2**	P	**P**	**19 57 03.2**	**+0.4**
	baz=182						
BC3	**Big Chuckawall**	**41.30**	**329**	P	**P**	**19 57 04.6**	**+1.3**
	baz=141						
Q24A	**Divide**	**41.70**	**343**	P	**P**	**19 57 08.0**	**+1.2**
	baz=158						
TPFO	**Pinon Flats**	**41.79**	**328**	P	**P**	**19 57 08.6**	**+1.2**
	baz=140						
PFO	**Pinyon Flats O**	**41.80**	**328**	P	**P**	**19 57 08.2**	**+0.8**
	baz=140						
PFO	**Pinyon Flats O**	**41.80**	**328**	LR	LR	20 11 42.4	
	comp=Z,171nm,18.1s,baz=179,slow=32						
BELC	**Belle Mtn. Jos**	**41.85**	**328**	P	**P**	**19 57 08.9**	**+1.0**
	baz=141						
O53A	**New Philadelph**	**41.91**	**11**	P	**P**	**19 57 08.1**	**0.0**
	baz=195						
ISCO	**Idaho Springs**	**42.61**	**343**	P	**P**	**19 57 14.7**	**+0.4**
	baz=158,SNR=8.1						
SCIA	**State Center**	**42.63**	**358**	P	**P**	**19 57 15.0**	**+1.0**
	baz=177						
HEC	**Hector,Ludlow**	**42.67**	**329**	P	**P**	**19 57 15.3**	**+0.8**
	baz=141						
HMU	**Henry Mountain**	**42.68**	**337**	IAmb	IAmb	19 57 17.8	
	comp=Z,17nm,1.3s						
BFSC	**Mount Baldy Ra**	**42.92**	**327**	P	**P**	**19 57 17.3**	**+0.6**
	baz=139						
TUQ	**Turquoise Moun**	**42.94**	**330**	P	**P**	**19 57 18.1**	**+1.4**
	baz=142						
L44A	**Lake County Fo**	**42.95**	**3**	P	**P**	**19 57 17.3**	**+0.8**
	baz=184						
SSPA	**Standing Stone**	**43.03**	**15**	P	**P**	**19 57 17.7**	**+0.6**
	baz=199						
GSC	**Goldstone, Bar**	**43.28**	**329**	P	**P**	**19 57 20.2**	**+0.7**
	baz=141						
EDW2	**Edwards Air Fo**	**43.59**	**327**	P	**P**	**19 57 23.5**	**+1.6**
	baz=139						
JFWS	**Jewell Farm**	**43.60**	**1**	P	**P**	**19 57 22.8**	**+1.0**
	baz=181						
PSAL	**Palomas, Salto**	**43.66**	**137**	*e*P	**P**	**19 57 23.3**	**+0.8**
N23A	**Red Feather La**	**43.72**	**344**	P	**P**	**19 57 24.1**	**+1.0**
	baz=158						
O20A	**White River Ci**	**43.73**	**341**	P	**P**	**19 57 23.8**	**+0.7**
	baz=155						
PLCA	**Paso Flores**	**43.82**	**157**	LR	LR	20 12 26.7	
	comp=Z,284nm,18.2s,baz=346,slow=32						
LRMC	**Laurel Mtn Rad**	**43.88**	**328**	P	**P**	**19 57 25.3**	**+1.0**
	baz=140						
PCMB	**Pacaembu**	**43.92**	**121**	*e*P	**P**	**19 57 24.8**	**0.0**
P18A	**Preston Nutter**	**43.97**	**339**	IAmb	IAmb	19 57 27.7	
	comp=Z,11nm,1.5s						
FURC	**Furnace Creek,**	**44.22**	**330**	P	**P**	**19 57 27.8**	**+1.0**
	baz=141						
MPMC	**Manual Prospec**	**44.22**	**329**	P	**P**	**19 57 28.8**	**+1.7**
	baz=140						
ARVC	**Arvin**	**44.23**	**327**	P	**P**	**19 57 28.1**	**+1.1**
	baz=138					

	baz=174					
BOZ	Bozeman (W)	49.72 341	P	P	19 58 11.1	+1.1
	baz=152					
ULM	Lac du Bonnet	51.10 356	IAmb	IAmb	19 58 20.6	
	comp=Z,9.3nm,1.2s					
ULM	Lac du Bonnet	51.10 356	P	P	19 58 19.1	-1.0
	comp=Z,5.7nm,1.1s,baz=195,slow=4.0,SNR=4.6					
ULM			LR	LR	20 21 53.4	
	comp=Z,64nm,18.7s,baz=234,slow=38					
	comp=Z,5.7nm,1.1s					
EGMT	Eagleton	51.35 344	P	P	19 58 22.8	+0.7
	baz=156					
MSO	Missoula	51.57 340	P	P	19 58 25.0	+1.2
	baz=150					
G08A	Pilot Rock	52.19 335	IAmb	IAmb	19 58 30.7	
	comp=Z,12nm,1.5s					
GUA01	Guaratinga, BA	52.83 110	eP	P	19 58 33.1	-0.4
E09A	Wood Farm, Sta	52.85 337	IAmb	IAmb	19 58 33.5	
	comp=Z,8.7nm,1.1s					
NEW	Newport	53.92 339	LR	LR	20 21 40.7	
	comp=Z,153nm,18.3s,baz=158,slow=36					
SCHQ	Schefferville	58.99 16	P	P	19 59 16.0	-1.2
	comp=Z,2.3nm,0.8s,baz=176,slow=5.2,SNR=2.9					
SCHQ			LR	LR	20 23 37.4	
	comp=Z,70nm,19.5s,baz=240,slow=35					
	comp=Z,2.3nm,0.8s					
PPT	Papeete	59.81 250	LR	LR	20 18 23.3	
	comp=Z,73nm,18.1s,baz=57,slow=29					
V35K	Ketchikan	65.06 336	P	P	19 59 59.5	+1.7
	baz=134					
TOAD	Toad River Com	65.35 341	P	P	20 00 00.8	+1.0
	baz=142					
YKA	Yellowknife Ar	65.66 348	P	P	19 59 59.5	-2.1
	comp=Z,1.4nm,0.9s,baz=142,slow=6.2,SNR=2.2					
YKA			LR	LR	20 29 14.5	
	comp=Z,61nm,18.8s,baz=132,slow=37					
	comp=Z,1.4nm,0.9s					
CRAG	Craig	65.78 335	P	P	20 00 03.5	+1.0
	baz=133					
KOTAN	Kotaneelee Air	66.00 343	P	P	20 00 04.8	+0.8
	baz=143					
WRAK	Wrangell Islan	66.11 336	P	P	20 00 06.3	+1.7
	baz=134					
FRB	Frobisher Bay	66.60 11	LR	LR	20 28 30.7	
	comp=Z,60nm,20.3s,baz=192,slow=35					
DLBC	Dease Lake	66.67 339	P	P	20 00 09.2	+0.9
	baz=137					
R33M	Jennings River	67.70 339	P	P	20 00 15.5	+0.5
	baz=136					
S32K	Killisnoo	67.72 336	P	P	20 00 15.4	+0.5
	baz=132					
SIT	Sitka	67.75 336	P	P	20 00 15.5	+0.4
	baz=131					
Q32M	Nakina River	67.86 338	P	P	20 00 16.4	+0.4
	baz=134					
R32K	Eaglecrest	68.24 337	P	P	20 00 17.4	-0.7
	baz=132					
P32M	Atlin	68.83 338	P	P	20 00 21.6	-0.3
	baz=133					
P33M	Teslin, Yukon	68.94 339	IAmb	IAmb	20 00 24.9	
	comp=Z,7.5nm,1.4s					
P33M	Teslin, Yukon	68.94 339	P	P	20 00 23.3	+0.7
	baz=134					
PLBC	Pleasant Camp	69.75 337	P	P	20 00 28.3	+0.8
	baz=131					
WHY	Whitehorse	69.99 339	P	P	20 00 29.9	+0.8
	baz=132					
MMPY	Sheldon Lake,	70.14 342	IAmb	IAmb	20 00 32.3	
	comp=Z,6.9nm,1.4s					
MMPY	Sheldon Lake,	70.14 342	P	P	20 00 30.4	+0.5
	baz=136					
P29M	Windy Craggy	70.39 337	P	P	20 00 32.5	+1.0
	baz=129					
P30M	Million Dollar	70.41 338	P	P	20 00 32.8	+1.2
	baz=130					
O30N	Mendenhall	70.51 338	P	P	20 00 33.4	+1.2
	baz=131					
N31M	Braeburn, Yuko	70.87 339	P	P	20 00 34.9	+0.5
	baz=132					
PNL	Peninsula	71.08 336	P	P	20 00 36.5	+0.9
	baz=128					
O29M	Mount Kennedy	71.15 337	P	P	20 00 37.2	+0.9
	baz=129					
N30M	Aishikik Lake	71.33 339	IAmb	IAmb	20 00 40.6	
	comp=Z,5.8nm,1.1s					
N30M	Aishikik Lake	71.33 339	P	P	20 00 38.1	+0.9
	baz=130					
YUK6	Outpost Mounta	71.47 338	P	P	20 00 39.3	+1.0
	baz=129					
YUK4	Talbot Arm	71.83 338	P	P	20 00 41.0	+0.6
	baz=129					
M30M	Minto, Yukon	71.96 340	P	P	20 00 42.4	+1.5
	baz=131					
MESA	MESA	72.41 336	P	P	20 00 44.2	+0.3
	baz=125					
M29M	Somme Creek	72.46 339	IAmb	IAmb	20 00 54.6	
	comp=Z,5.4nm,1.2s					
M29M	Somme Creek	72.46 339	P	P	20 00 44.4	+0.4
	baz=129					
GRNC	Granite Creek	72.66 337	IAmb	IAmb	20 01 00.9	
	comp=Z,6.3nm,0.8s					
L29M	L29M	72.77 340	IAmb	IAmb	20 00 47.2	
	comp=Z,10nm,1.3s					
L29M	L29M	72.77 340	P	P	20 00 45.9	+0.1
	baz=130					
YUK3	Moose Creek	72.78 338	P	P	20 00 46.2	+0.1
	baz=127					
K29M	Barlow Dome	73.04 340	P	P	20 00 47.4	-0.1
	baz=131					
J30M	Hart River	73.14 341	P	P	20 00 49.0	+1.0
	baz=132					
KAIM	Kayak Island	73.29 335	P	P	20 00 49.2	+0.3
	baz=123					
SFJD	Kangerlussuaq	73.44 15	LR	LR	20 32 21.6	
	comp=Z,57nm,19.3s,baz=208,slow=35					
MCARA	McCarthy VSAT	73.54 337	P	P	20 00 51.3	+0.9
	baz=125					
C36M	Paulatuk	73.54 348	P	P	20 00 50.7	+0.5
	baz=145					
I30M	Mount Dempster	73.58 342	IAmb	IAmb	20 00 52.5	
	comp=Z,7.9nm,1.4s					
I30M	Mount Dempster	73.58 342	P	P	20 00 50.7	0.0
	baz=132					
M27K	Edge Creek, AK	73.66 338	P	P	20 00 50.1	-1.2
	baz=126					
DAWY	Dawson	73.82 340	IAmb	IAmb	20 00 54.1	
	comp=Z,5.0nm,1.2s					
DAWY	Dawson	73.82 340	P	P	20 00 51.0	-0.9
	baz=129					
BMRM	Bremner River	73.94 336	P	P	20 00 51.9	-0.8
	baz=123					
BCAR	Beaver Creek A	74.05 338	P	P	20 00 53.2	-0.2
L27K	Beaver Creek,	74.06 338	IAmb	IAmb	20 00 55.8	
	comp=Z,5.8nm,1.3s					
L27K	Beaver Creek,	74.06 338	P	P	20 00 52.6	-0.8
	baz=126					
M26K	Nabesna, AK	74.11 338	IAmb	IAmb	20 00 55.1	
	comp=Z,8.5nm,1.4s					
M26K	Nabesna, AK	74.11 338	P	P	20 00 53.0	-0.7
	baz=125					
G31M	Satah River	74.14 344	P	P	20 00 54.1	+0.5
G31M	Satah River	74.14 344	P	P	20 00 53.1	-0.6
	baz=134					
EYAK	Cordova Ski Ar	74.19 335	P	P	20 00 53.0	-1.1
	baz=122					
I29M	Ogilvie Camp,	74.29 341	P	P	20 00 53.9	-0.8
	baz=130					
N25K	Chitina, Valde	74.29 336	IAmb	IAmb	20 00 57.9	
	comp=Z,12nm,1.5s					
N25K	Chitina, Valde	74.29 336	P	P	20 00 53.7	-1.1
	baz=123					
F31M	Tsiigehtchic	74.36 344	P	P	20 00 54.9	0.0
	baz=135					
EPYK	Eagle Plains	74.46 343	P	P	20 00 55.2	-0.5
	baz=132					
P23K	Montague Islan	74.61 334	P	P	20 00 56.5	-0.1
	baz=120					
K27K	Chicken	74.73 339	P	P	20 00 57.4	+0.1
	baz=126					
G30M	tAoh Zraii Nji	74.73 343	P	P	20 00 57.1	-0.1
	baz=133					
KLU	Klutina	74.76 336	P	P	20 00 57.4	-0.2
	baz=122					
EGAK	Eagle	74.86 340	P	P	20 00 57.4	-0.5
	baz=127					
H29M	Whitestone	74.86 342	P	P	20 00 58.3	+0.3
H29M			IAmb	IAmb	20 00 58.9	
	comp=Z,6.8nm,1.1s					
H29M	Whitestone	74.86 342	P	P	20 00 57.9	-0.1
	baz=130					
I28M	Miner Creek	74.87 341	P	P	20 00 58.0	-0.1
	baz=129					
INK	Inuvik	74.92 345	P	P	20 00 58.4	+0.2
INK	Inuvik	74.92 345	P	P	20 00 58.2	0.0
	baz=136					
INK	Inuvik	74.92 345	LR	LR	20 35 06.6	
	comp=Z,90nm,18.4s,baz=192,slow=37					
F30M	Barrier River	75.04 344	P	P	20 00 58.9	-0.1
	baz=133					
M24K	Tolsona, Glenn	75.19 336	P	P	20 00 59.3	-0.8
	baz=122					
G29M	Pine Creek	75.21 343	P	P	20 00 59.0	-1.0
	baz=131,SNR=16					
PAX	Paxson	75.38 337	P	P	20 01 00.1	-1.0
	baz=123					
SCRK	Sand Creek	75.38 339	P	P	20 01 00.0	-1.2
	baz=124					
PWL	Port Wells	75.44 335	P	P	20 01 00.9	-0.5
	baz=120					
RES	Resolute Bay	75.49 359	LR	LR	20 35 34.1	
	comp=Z,37nm,18.7s,baz=281,slow=37					
SCM	Sheep Creek Mo	75.51 336	P	P	20 01 01.3	-0.6
	baz=121					
I27K	Kandik River	75.52 341	P	P	20 01 01.2	-0.6
	baz=127,SNR=9.0					
J26L	Joseph Creek	75.53 339	IAmb	IAmb	20 01 03.9	
	comp=Z,8.9nm,1.2s					
J26L	Joseph Creek	75.53 339	P	P	20 01 01.8	-0.2
	baz=125,SNR=8.0					
SEW	Seward	75.56 334	P	P	20 01 02.0	-0.1
	baz=118					
M23K	Glacier View	75.65 336	P	P	20 01 02.7	+0.1
	baz=120					
KNK	Knik Glacier	75.77 335	P	P	20 01 03.0	-0.3
	baz=120					
I26K	Coal Creek Min	75.86 340	P	P	20 01 03.4	-0.3
	baz=125					
H27K	Steamboat Moun	75.87 341	P	P	20 01 03.0	-0.9
	baz=127					
SML	Sawmill	75.91 336	P	P	20 01 03.2	-1.0
	baz=120					
A36M	Sachs Harbour	75.94 350	P	P	20 01 03.2	-0.8
	baz=144					
K24K	Donnelly Dome	75.95 338	P	P	20 01 03.1	-1.2
	baz=123					
KDAK	Kodiak Island	75.96 331	P	P	20 01 03.0	-1.4
	baz=115					
BRSE	Bradley Lake S	75.96 333	P	P	20 01 03.2	-1.2
	baz=117					
WAT6	Susitna Watana	76.06 337	P	P	20 01 03.5	-1.6
	baz=120,SNR=7.3					
RC01	Rabbit Creek A	76.15 335	P	P	20 01 04.6	-0.8
	baz=118					
E29M	Blow River	76.15 344	P	P	20 01 05.0	-0.3
	baz=131					
DHY	Denali Highway	76.17 337	P	P	20 01 05.0	-0.8
	baz=121					
Q20K	Shuyak Island	76.22 332	P	P	20 01 05.4	-0.5
	baz=115					
J25K	Salcha River,	76.24 339	IAmb	IAmb	20 01 07.9	
	comp=Z,6.0nm,1.4s					
J25K	Salcha River,	76.24 339	P	P	20 01 06.0	0.0
	baz=123					
G27K	Doyon Strip	76.26 342	P	P	20 01 05.6	-0.4
	baz=127					
WAT1	Susitna Watana	76.51 337	P	P	20 01 07.3	-0.2
	baz=120					
CAPN	Captain Cook N	76.61 334	P	P	20 01 08.5	+0.5
	baz=117					
M22K	Willow	76.63 335	P	P	20 01 08.4	+0.3
	baz=118					
CHIR	Chirikof Islan	76.71 328	P	P	20 01 08.3	-0.4
	baz=112					
HDA	Harding Lake	76.71 338	P	P	20 01 08.8	+0.2
	baz=122					
E28M	Babbage River	76.75 344	IAmb	IAmb	20 01 09.3	
	comp=Z,11nm,1.4s					
E28M	Babbage River	76.75 344	P	P	20 01 07.8	-0.9
	baz=130					
SUA	Susitna One	76.76 335	P	P	20 01 07.6	-1.4
	baz=117					
PRP	Porcupine Dome	76.80 340	IAmb	IAmb	20 01 10.8	
	comp=Z,10nm,1.4s					
PRP	Porcupine Dome	76.80 340	P	P	20 01 08.1	-1.1
	baz=123,SNR=6.2					
ILAR	Eielson Array	76.88 339	P	P	20 01 08.6	-1.0
	comp=Z,2.6nm,0.9s,baz=148,slow=3.7,SNR=18					
	comp=Z,2.6nm,0.9s					
Q19K	Cape Douglas,	76.94 332	P	P	20 01 09.6	-0.4
	baz=114					
O20K	Slope Mountain	76.96 333	P	P	20 01 09.5	-0.7
	baz=115					
D28M	Stokes Point	77.00 344	P	P	20 01 09.6	-0.4
	baz=130					
G26K	Porcupine Rive	77.02 341	P	P	20 01 09.7	-0.6
	baz=125					
E27K	Coleen River	77.08 343	P	P	20 01 09.5	-1.2
	baz=128,SNR=10.0					
MCK	McKinley	77.11 337	P	P	20 01 10.4	-0.5
	baz=120					
POKR	Poker Plat Res	77.26 339	P	P	20 01 11.4	-0.3
	baz=121					
N20K	Mount Spurr	77.27 334	P	P	20 01 11.6	-0.3
	baz=116					
FYU	Fort Yukon	77.28 341	IAmb	IAmb	20 01 17.9	
	comp=Z,5.5nm,1.3s					
H25L	Birch Creek	77.31 340	P	P	20 01 12.0	+0.1
	baz=123					
SKT	Skwentna	77.33 335	P	P	20 01 11.7	-0.4
	baz=117,SNR=5.5					
Q18K	Katmai Hardscr	77.48 331	P	P	20 01 13.1	-0.1
	baz=113					
BMAR	Burnt Mountain	77.55 341	P	P	20 01 13.4	+0.1
D27M	Malcolm River	77.56 344	IAmb	IAmb	20 01 15.9	
	comp=Z,4.3nm,0.9s					
D27M	Malcolm River	77.56 344	P	P	20 01 12.8	-0.6
	baz=128,SNR=8.4					
F26K	Sheenjek River	77.57 342	P	P	20 01 13.2	-0.2
	baz=125,SNR=8.9					
NEA2	Nenana	77.59 338	P	P	20 01 12.5	-1.0
NEA2			IAmb	IAmb	20 01 15.5	
	comp=Z,8.8nm,1.2s					
NEA2	Nenana	77.59 338	P	P	20 01 12.7	-0.8
	baz=120,SNR=8.1					
G25K	Bearman Lake	77.68 341	P	P	20 01 13.4	-0.5
	baz=123					
R17L	Mt. Peulik Vol	77.76 330	P	P	20 01 14.0	-0.6
	baz=112					
H24K	Noodor Dome	77.79 339	P	P	20 01 14.1	-0.6
	baz=121,SNR=8.2					
M20K	Styx River	77.96 335	P	P	20 01 14.6	-1.2
	baz=115					
I23K	Minto, Yukon-K	77.97 338	P	P	20 01 15.3	-0.4
	baz=119					
F25K	Christian Rive	77.98 341	P	P	20 01 15.3	-0.5
	baz=123,SNR=7.9					
BPAW	Bear Paw Mtn.	78.08 337	IAmb	IAmb	20 01 17.4	
	comp=Z,11nm,1.4s					
BPAW	Bear Paw Mtn.	78.08 337	P	P	20 01 15.9	-0.4
	baz=118					
G24K	Hadweenzic Riv	78.10 340	P	P	20 01 15.7	-0.6
	baz=122,SNR=9.7					
N19K	Bonanza Creek	78.11 333	P	P	20 01 15.8	-0.8
	baz=114					
H23K	Yukon River	78.38 339	P	P	20 01 17.2	-0.7
	baz=119					
MLY	Manley	78.43 338	IAmb	IAmb	20 01 19.8	
	comp=Z,5.0nm,1.2s					
MLY	Manley	78.43 338	P	P	20 01 17.4	-0.8
	baz=118					
M19K	Big River Lodg	78.51 334	P	P	20 01 18.1	-0.6
	baz=114					
L20K	Farewell, AK	78.53 335	P	P	20 01 17.8	-1.0
	baz=115					
C27K	Jago River	78.56 344	P	P	20 01 18.1	-0.8
	baz=126,SNR=9.2					
F24K	Squaw Lake	78.67 341	P	P	20 01 18.9	-0.6
	baz=121					
N18K	Kilae Creek	78.69 333	P	P	20 01 19.1	-0.6
	baz=112					
L19K	White Mountain	78.83 335	P	P	20 01 19.2	-1.3
	baz=114					
O17K	Koliganek Bris	78.90 332	P	P	20 01 19.6	-1.2
	baz=111					
S14K	Fog Glacier	78.94 328	P	P	20 01 19.9	-1.4
	baz=108					
M18K	Stony River	78.97 334	P	P	20 01 20.7	-0.5
	baz=113					
G23K	Bananza Creek	78.98 340	IAmb	IAmb	20 01 22.6	
	comp=Z,11nm,1.4s					
G23K	Bananza Creek	78.98 340	P	P	20 01 20.7	-0.6
	baz=119,SNR=7.2					
K20K	Telida	78.98 336	P	P	20 01 20.6	-0.7
	baz=115					
H22K	Ishtalitna Cre	79.07 339	P	P	20 01 21.5	-0.2
	baz=118					
C26K	Camden Bay	79.08 343	P	P	20 01 21.2	-0.4
	baz=124,SNR=12					
SDPT	Sand Point	79.14 327	P	P	20 01 22.3	0.0
	baz=108					
E24K	Your Creek	79.16 341	P	P	20 01 21.3	-0.8
	baz=121					
D25K	Kavik River	79.17 343	P	P	20 01 21.7	-0.5
	baz=123,SNR=11					
N17K	Nushagak Hills	79.22 333	P	P	20 01 22.6	0.0
	baz=111					
COLD	Coldfoot	79.30 340	P	P	20 01 23.3	+0.4
	baz=119					
O16K	Kokwok River B	79.31 332	P	P	20 01 23.6	+0.5
	baz=110					
J20K	Nowinta River	79.36 337	IAmb	IAmb	20 01 25.0	
	comp=Z,8.0nm,1.2s					
J20K	Nowinta River	79.36 337	P	P	20 01 22.3	-1.0
	baz=115					
H21K	Melozitna Rive	79.49 338	P	P	20 01 23.4	-0.6
	baz=116					
E23K	Chandalar	79.51 341	P	P	20 01 23.7	-0.4
	baz=120					
G22K	Bettles	79.60 340	P	P	20 01 25.1	+0.6
	baz=118					
TTA	Tatalina	79.62 335	P	P	20 01 24.9	+0.1
	baz=113					
L18K	Granite Mounta	79.63 334	P	P	20 01 25.0	+0.2
	baz=112					
M17K	Holitna River	79.66 333	P	P	20 01 25.2	+0.2
	baz=111					
I20K	Naaghedeneel	79.75 337	P	P	20 01 26.0	+0.6
	baz=114					
TOLK	Toolik Lake Re	79.79 341	P	P	20 01 26.4	+0.7
	baz=120					
J19K	Poorman	79.88 336	P	P	20 01 26.9	+0.8
	baz=113					
C24K	Franklin Bluff	80.07 343	P	P	20 01 27.2	+0.2
	baz=121					
F22K	John River	80.10 340	P	P	20 01 27.5	+0.2
	baz=117					
G21K	Allakaket	80.12 339	P	P	20 01 28.1	+0.7
	baz=116,SNR=7.2					
H20K	Anotleneega Mo	80.20 338	P	P	20 01 28.0	+0.2
	baz=114					
M16K	Timber Creek	80.21 333	P	P	20 01 28.1	+0.2
	baz=110					
D23K	Nanushuk River	80.30 342	P	P	20 01 28.8	+0.4
	baz=119					
L17K	Donlin	80.30 334	P	P	20 01 28.7	+0.2
	baz=111					
F21K	Alatna River	80.43 340	IAmb	IAmb	20 01 31.9	
	comp=Z,9.3nm,1.3s					
F21K	Alatna River	80.43 340	P	P	20 01 29.4	+0.3
	baz=116					
N15K	Kwethluk River	80.45 332	P	P	20 01 30.0	+0.6
	baz=109					
K17K	Iditarod	80.51 334	P	P	20 01 29.5	0.0
	baz=111					
GCSA	Galena City Sc	80.67 337	P	P	20 01 30.5	+0.1
	baz=112					
L16K	Owhat River	80.68 333	IAmb	IAmb	20 01 34.1	
	comp=Z,9.7nm,1.1s					
L16K	Owhat River	80.68 333	P	P	20 01 31.0	+0.6
	baz=109					
C23K	Itkillik River	80.71 342	IAmb	IAmb	20 01 33.0	
	comp=Z,8.3nm,1.1s					
C23K	Itkillik River	80.71 342	P	P	20 01 31.4	+0.9
	baz=119					
H19K	Roundabout Mou	80.81 337	IAmb	IAmb	20 01 32.1	
	comp=Z,10nm,1.4s					
H19K	Roundabout Mou	80.81 337	P	P	20 01 31.2	+0.1
	baz=113					
D22K	Ayikyak River	80.90 341	IAmb	IAmb	20 01 34.3	
	comp=Z,9.4nm,1.2s					
D22K	Ayikyak River	80.90 341	P	P	20 01 32.3	+0.7
	baz=117					
M15K	Kasigluk River	80.90 332	P	P	20 01 32.7	+1.0
	baz=108					
J17K	VABM Dome	81.08 335	P	P	20 01 33.6	+1.0
	baz=110					
E21K	Killik River	81.13 341	P	P	20 01 33.6	+0.8
	baz=116					
N14K	Kuskokwak Cree	81.14 331	P	P	20 01 33.0	+0.1
	baz=107					
F20K	Avaraart Lake	81.15 339	IAmb	IAmb	20 01 34.9	
	comp=Z,9.9nm,1.4s					
F20K	Avaraart Lake	81.15 339	P	P	20 01 33.3	+0.5
	baz=114					
G19K	Purcell Mounta	81.29 338	IAmb	IAmb	20 01 34.9	
	comp=Z,12nm,1.4s					
G19K	Purcell Mounta	81.29 338	P	P	20 01 33.6	0.0
	baz=112					
H18K	Honhosa River	81.41 337	P	P	20 01 34.9	+0.5
	baz=111					
M14K	Bethel	81.52 332	P	P	20 01 35.1	+0.2
	baz=107					
L15K	Ungalak Mounta	81.58 333	P	P	20 01 36.0	+0.8
	baz=108					
C21K	Knifeblade Rid	81.70 341	P	P	20 01 36.2	+0.4
	baz=115					
K15K	Wolf Creek Mou	81.78 334	P	P	20 01 36.5	+0.2
	baz=108					
G18K	Tagagawik	81.79 337	IAmb	IAmb	20 01 38.8	
	comp=Z,9.2nm,1.4s					
G18K	Tagagawik	81.79 337	P	P	20 01 36.6	+0.3
	baz=111					
E20K	Nigu River	81.80 340	P	P	20 01 36.8	+0.4
	baz=113					
F19K	Shaleruckik Mo	81.81 338	P	P	20 01 36.2	-0.1
	baz=112					
B21K	Ikpikpuk River	81.85 342	P	P	20 01 36.8	+0.3
	baz=115					
E19K	Redstone River	81.85 339	P	P	20 01 37.3	+0.7
	baz=112					
L14K	Kuka Creek	82.03 332	P	P	20 01 38.5	+0.9
	baz=106					
F18K	Selawik	82.42 338	P	P	20 01 40.2	+0.7
	baz=110					
G17K	Kiwalik Mounta	82.43 337	P	P	20 01 40.3	+0.6
	baz=109					
A22K	Sinclair Lake	82.55 343	P	P	20 01 42.1	+1.9
	baz=115					
D19K	Kuna River	82.55 340	P	P	20 01 42.1	+1.8
	baz=112					
H16K	Elim	82.80 336	P	P	20 01 41.9	+0.3
	baz=107					
B20K	Meade River	82.81 342	P	P	20 01 42.7	+1.1
	baz=113					
J14K	Nanvaranak Lak	82.82 334	P	P	20 01 43.0	+1.3
	baz=106					
F17K	Baldwin Pennin	82.97 338	P	P	20 01 43.9	+1.4
	baz=108					
E18K	Tukpahlearik C	83.05 339	P	P	20 01 43.9	+1.1
	baz=109					
G16K	Koyuk River	83.08 336	P	P	20 01 43.4	+0.4
	baz=107					
K13K	Kusilvak Mount	83.09 333	P	P	20 01 44.8	+1.6
	baz=105					
C19K	Lookout Ridge	83.27 340	P	P	20 01 45.0	+1.0
	baz=110					
NIKH	Nikolski High	83.35 323	P	P	20 01 45.7	+1.0
	baz=100					
E17K	Hotham Inlet	83.39 338	P	P	20 01 45.9	+1.3
	baz=108					
G15K	Niukluk	83.64 336	P	P	20 01 47.2	+1.3
	baz=106					
C18K	Utukok River	83.66 340	P	P	20 01 46.5	+0.4
	baz=109					
D17K	Noatak River	84.04 339	P	P	20 01 48.3	+0.4
	baz=107					
ANM	Nome	84.08 335	P	P	20 01 48.8	+0.6
	baz=104					
F15K	North Star Dit	84.08 336	P	P	20 01 48.5	+0.3
	baz=105					
RDOG	Red Dog Mine	84.08 339	P	P	20 01 48.7	+0.5
	baz=107					
B18K	Kokolik River	84.10 340	P	P	20 01 48.9	+0.7
	baz=108					

C17K	DeLong Mountai	84.30	339	P	P	20 01 49.8	+0.5
	baz=107						
P08K	Saint George I	84.39	327	P	P	20 01 50.7	+0.8
	baz=100						
F14K	Arctic Creek	84.70	336	P	P	20 01 52.0	+0.7
	baz=104						
ESDC	Sonseca Array	88.32	50	P	P	20 02 09.9	+0.2
	comp=Z,1.2nm,1.1s,baz=284,slow=5.2,SNR=5.2						
	comp=Z,1.2nm,1.1s						
SNAA	Sanae	88.61	162	P	P	20 02 08.7	-1.8
	comp=Z,2.0nm,1.1s,baz=225,slow=1.4,SNR=3.7						
	comp=Z,2.0nm,1.1s						
H11N3	WAKE ISLAND Hyl	01.61	290	T	T	21 56 01.9	
	baz=95,slow=75,SNR=6.8						
H11N2	WAKE ISLAND Hyl	01.62	290	T	T	21 56 03.0	
	baz=95,slow=75,SNR=6.1						
H11N1	WAKE ISLAND Hyl	01.63	290	T	T	21 56 03.2	
	baz=95,slow=75,SNR=3.8						
H11S2	WAKE ISLAND Hyl	01.87	289	T	T	21 56 22.0	
	baz=85,slow=74,SNR=30						
H11S1	WAKE ISLAND Hyl	01.87	289	T	T	21 56 22.2	
	baz=85,slow=74,SNR=19						
H11S3	WAKE ISLAND Hyl	01.89	289	T	T	21 56 23.1	
	baz=85,slow=74,SNR=17						
KSRS	Korea Array	128.88	320	PKP	PKPdf	20 08 25.1	-0.7
	comp=Z,0.7nm,0.7s,baz=191,slow=33,SNR=4.1						
KURBB	Kurchatov Arra	129.65	9	PKP	PKPdf	20 08 25.1	-1.9
	comp=Z,0.5nm,0.2s,baz=340,slow=2.5,SNR=2.6						
SONM	Songino Array	130.83	344	PKP	PKPdf	20 08 26.0	-3.5
	comp=Z,0.8nm,0.9s,baz=151,slow=3.3,SNR=4.5						
H01W1	Cape Leeuwin H	137.30	211	T	T	22 41 04.2	
	baz=138,slow=75,SNR=52						
H01W2	Cape Leeuwin H	137.30	211	T	T	22 41 05.6	
	baz=138,slow=75,SNR=68						
H01W3	Cape Leeuwin H	137.31	211	T	T	22 41 05.9	
	baz=138,slow=75,SNR=57						
CMAR	Chiang Mai Arr	159.95	331	PKPab	PKPab	20 09 56.7	-0.5
	comp=Z,0.3nm,0.8s,baz=57,slow=3.3,SNR=5.4						

*IDC **22** 19:54:20.4±3.4, 9°.79S×112°.44E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=185.9km s-min=29.2km az=47.0*
*DJA **22** 19:54:27.9±1.0, 10°.S±6°.×113°.3E±°, h33km±19km, M3.9/10, mb4.4/1, MLv3.7/10*
ISC 22 19:54:27.5±1.3, 9°.6S±0°.1×112°.85E±0°.05, h36km, n11, σ1°.63/16, mb3.1/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.74	48	P	Pn	19 54 54.6	-0.5
JAGI				S	Sn	19 55 15.0	-1.0
PWJI	Pagerwojo	1.91	327	P	Pn	19 54 57.3	-0.2
PWJI				S	Sn	19 55 18.9	-1.4
ABJI	Asem Bagus	2.29	37	P	Pn	19 55 02.0	-0.7
ABJI				S	Sn	19 55 33.3	+3.7
DNP	Denpasar	2.52	68	P	Pn	19 55 05.1	-0.8
UGM	Wanagama	2.87	307	P	Pn	19 55 11.1	+0.4
UGM				S	Sn	19 55 45.0	+1.0
TWSI	Taliwang, Sumb	4.08	78	P	Pn	19 55 27.2	-0.2
TWSI				S	Sn	19 56 14.3	+0.3
PLAI	Plampang	4.93	81	P	Pn	19 55 42.0	+2.9
CNJI	Cibinong	6.11	292	P	Pn	19 55 57.2	+1.9
WRA	Warramunga Arr	23.14	119	P	P	19 59 31.0	+0.2
	0.4nm,0.8s,baz=289,slow=12,SNR=1.2						
	0.4nm,0.8s						
ASAR	Alice Springs	24.48	127	P	P	19 59 44.0	+0.6
	0.4nm,0.7s,baz=309,slow=8.3,SNR=4.8						
	0.4nm,0.7s						
MKAR	Makanchi Array	62.45	337	P	P	20 04 45.3	-1.7
	0.2nm,0.4s,baz=139,slow=7.5,SNR=4.1						
	0.2nm,0.4s						

*TEH **22** 19:59:01.2, 34°.60N×46°.26E, h8km±45km, ML2.6*
*ISN **22** 19:59:02.1±1.3, 34°.60N×46°.25E, h23km±25km, ML2.7*
ISC 22 19:59:01.0±1.3, 34°.62N±0°.04×46°.23E±0°.04, h7km±14km, n13, σ0°.41/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.15	57	Pg	Pg	19 59 04.3	+0.1
IGHG	Ghaleghazi	0.40	136	Pg	Pg	19 59 09.1	+0.3
KGS1	Ghasr-e-Shirin	0.54	258	Pg	Pb	19 59 12.9	+0.1
GLG1	Gilan-e-Gharb	0.57	208	Pg	Pg	19 59 12.0	0.0
ILIN	Lien	0.67	63	Pg	Pg	19 59 13.4	-0.5
KCHF	Cheshme Sefid,	0.75	117	Pg	Pg	19 59 15.4	0.0
ILBA	Ilam Banvizeh	0.99	181	Pg	Pb	19 59 19.8	-0.8
SNQR	Sonqor, Kerman	1.17	78	Pg	Pb	19 59 23.8	+0.1
IBZA	Bozab	1.35	96	Pg	Pb	19 59 26.9	+0.1
IBDR	Badra	1.52	190	*e*Pg	Pn	19 59 28.5	-0.1
	baz=10.0						
IBDR				*e*Sg	Sg	19 59 50.0	0.0
IBDR				AML	AML	19 59 55.9	
	comp=E,122nm,0.3s						
IBDR				AML	AML	20 00 01.7	
	comp=N,88nm,0.6s						
IKFM	Kafar-mosalman	1.73	129	Pg	Pb	19 59 33.5	+0.4
IKRK	Kirkuk	1.74	297	*e*Pn	Pb	19 59 33.0	-0.2
IKRK				*e*Sn	Sb	19 59 56.0	+0.7
IKRK				AML	AML	20 00 01.4	
	comp=E,137nm,0.8s						
IKRK				AML	AML	20 00 05.3	
	comp=N,118nm,0.2s						
HSAM	Samen	2.00	101	Pn	Pb	19 59 37.6	-0.2

*NEIC **22** 20:03:11.0±0.9, 34°.97N±0°.02×97°.55W±0°.02, h5km±1km, Error ellipse: s-maj=3.1km s-min=2.7km az=143.0*
TUL 22 20:03:11.2±0.8, 34°.99N±0°.02×97°.55W±0°.02, h5km±3km, ML2.6, mb_Lg2.7/91(NEIC), ML2.8/38(NEIC), Error ellipse: s-maj=2.5km s-min=2.0km az=121.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.30	24		Pg	20 03 17.8	+0.7
FNO				Sg	Sg	20 03 22.4	+1.4
FNO				IAML		20 03 25.7	
	comp=E,1μm,0.5s						
FNO				IAML		20 03 26.0	
	comp=N,939nm,0.8s						
OKCSW	OKLAHOMA CITY	0.43	12	Pg	Pg	20 03 19.7	+0.1
OKCSW				IAML		20 03 29.9	
	comp=N,583nm,0.8s						
X34A	Smith Ranch, M	0.45	211		Pb	20 03 20.8	-0.8
X34A				IAML		20 03 31.7	
	comp=E,597nm,0.6s						
X34A				IAML		20 03 34.6	
	comp=N,585nm,0.5s						
W35A	Tecumseh	0.58	73		Pg	20 03 22.7	+0.3
OK029	Liberty Lake	0.81	6	Pg	Pg	20 03 26.3	-0.6
OK029				Sg	Sg	20 03 38.2	+0.8
OK029				IAML		20 03 41.5	
	comp=N,523nm,0.6s						
LOOK	Love County	1.04	163		Pb	20 03 31.4	-0.2
LOOK				IAML		20 03 51.9	
	comp=E,265nm,0.2s						
LOOK				IAML		20 03 54.5	
	comp=N,380nm,0.3s						
WMOK	Wichita Mounta	1.04	257		Pg	20 03 30.4	-0.8
CSTR	Hydro, Custer	1.14	306		Pg	20 03 33.1	+0.1
OK052	Battle Ridge R	1.18	31	Pg	Pg	20 03 33.0	-0.8
DEOK	Depew	1.21	45		Pg	20 03 33.6	-0.9
DEOK				IAML		20 03 55.1	
	comp=E,234nm,0.1s						
DEOK				IAML		20 04 01.5	
	comp=N,173nm,0.2s						
QUOK	Quay	1.37	30		Pn	20 03 36.2	-0.8
WTFS	Witchita Falls	1.43	212		Pn	20 03 37.4	-0.5
OK048	Pawnee Station	1.51	19		Pn	20 03 38.7	-0.2
CROK	Carrier	1.56	347		Pn	20 03 39.6	0.0
OK051	E0350 and S346	1.62	21		Pn	20 03 40.6	+0.1
Z35A	Perchaven, San	1.67	171		Pn	20 03 41.0	-0.1
TUL3	Leonard	1.71	57		Pn	20 03 42.1	+0.5
TUL3				IAmb_Lg		20 04 08.0	
	comp=Z,51nm,0.8s						
U32A	Winter Ranch,	1.82	320		Pn	20 03 44.0	+0.8
X37A	Clayton	1.84	102		Pb	20 03 44.4	-0.9
GC02	Grant County #	1.88	352		Pb	20 03 45.1	-0.9
OK032	Salt Plains WL	1.89	344		Pn	20 03 44.9	+0.7
OK032				IAmb_Lg		20 04 11.9	
	comp=Z,59nm,0.8s						
FW03	Perrin-Whitt E	1.99	193		Pn	20 03 46.4	+1.0
NOKA	Waynoka	1.99	326		Pn	20 03 46.5	+1.0
FW06	Azle	2.01	180		Pb	20 03 47.5	-0.7
KAN13	South Haven SW	2.02	2		Pb	20 03 47.6	-0.9
T35A	Sooner Cattle	2.10	23		Pn	20 03 48.0	+0.9
T35A				IAmb_Lg		20 04 19.3	
	comp=Z,41nm,1.0s						
SMWD	Samnorwood	2.21	274		Pn	20 03 49.8	+1.2
SMWD				IAmb_Lg		20 04 26.9	
	comp=Z,36nm,0.8s						
PLPT	Palo Pinto	2.26	197		Pn	20 03 50.7	+1.5
PLPT				IAmb_Lg		20 04 28.5	
	comp=Z,26nm,0.9s						
FW07	Weatherford	2.29	185	IAmb_Lg		20 04 23.9	
	comp=Z,46nm,0.9s						
RLO	Rose Lookout	2.37	60		Pn	20 03 51.6	+0.8
TREL	Terrell	2.56	151	IAmb_Lg		20 04 38.3	
	comp=Z,53nm,1.1s						
FW14	Alvarado	2.60	173	IAmb_Lg		20 04 40.0	
	comp=Z,46nm,1.0s						
FW13	Cleburne	2.63	178	IAmb_Lg		20 04 40.9	
	comp=Z,27nm,0.9s						
APMT	Aspermont	2.70	233		Pn	20 03 57.0	+1.7
Z38A	Mt. Pleasant	2.74	128	IAmb_Lg		20 04 41.2	
	comp=Z,29nm,0.7s						
ABTX	Abilene, Hawle	2.93	217		Pn	20 03 59.5	+1.1
ABTX				IAmb_Lg		20 04 45.5	
	comp=Z,19nm,0.8s						
U38A	Gravette	2.96	60		Pn	20 03 59.9	+1.1
WHTX	Lake Whitney,	2.99	178		Pn	20 04 00.8	+1.6
WHTX				IAmb_Lg		20 04 52.3	
	comp=Z,22nm,1.0s						
DKNS	Dickens	3.08	246		Pn	20 04 02.6	+2.0
DKNS				IAmb_Lg		20 04 53.4	
	comp=Z,24nm,1.0s						
HHAR	Hobbs	3.21	65		Pn	20 04 03.0	+0.6
MIAR	Mount Ida	3.30	96		Pn	20 04 05.3	+1.8
MIAR				IAmb_Lg		20 05 00.5	
	comp=Z,27nm,0.9s						
237A	Washetta, Mont	3.31	153	IAmb_Lg		20 05 04.2	
	comp=Z,22nm,0.8s						
SN07	Snyder 07	3.35	237		Pn	20 04 05.3	+1.0
AMTX	Amarillo	3.39	269	IAmb_Lg		20 05 02.9	
	comp=Z,26nm,0.9s						
R32A	Long Quarter,	3.56	345	Pn	Pn	20 04 07.8	+0.7
R32A				IAmb_Lg		20 05 07.8	
	comp=Z,23nm,0.8s						
POST	Post	3.80	241		Pn	20 04 11.6	+1.2
BRDY	Brady	3.88	199	Pn	Pn	20 04 11.8	+0.3
BRDY				IAmb_Lg		20 05 22.1	
	comp=Z,19nm,1.0s						
WLAR	White Oak Lake	3.90	108	IAmb_Lg		20 05 14.7	
	comp=Z,17nm,0.9s						
CBKS	Cedar Bluff	4.20	336	IAmb_Lg		20 05 25.0	
	comp=Z,17nm,0.8s						
SGCY	Sterling City	4.28	225		Pn	20 04 17.4	+0.3
SGCY				IAmb_Lg		20 05 27.7	
	comp=Z,13nm,0.8s						
UALR	University of	4.29	91	IAmb_Lg		20 05 38.2	
	comp=Z,30nm,0.8s						
WHAR	Wooly Hollow	4.32	84	IAmb_Lg		20 05 37.4	
	comp=Z,18nm,0.7s						
S39A	Bolivar	4.35	50		Pn	20 04 18.4	+0.3
S39A				IAmb_Lg		20 05 34.6	
	comp=Z,18nm,0.8s						
MSTX	Muleshoe	4.43	258	Pn	Pn	20 04 19.7	+0.5
FCAR	Ozark Folk Cen	4.52	77	IAmb_Lg		20 05 42.0	
	comp=Z,18nm,0.9s						
MGMO	Mountain Grove	4.80	62	IAmb_Lg		20 05 53.8	
	comp=Z,20nm,0.7s						
OZNA	Ozona	5.04	218		Pn	20 04 27.4	-0.2
OZNA				IAmb_Lg		20 05 54.8	
	comp=Z,11nm,0.8s						
LCAR	Lake Charles	5.33	76	IAmb_Lg		20 06 07.1	
	comp=Z,10nm,0.9s						
R40A	Maddies Statio	5.38	51	IAmb_Lg		20 06 14.3	
	comp=Z,14nm,0.9s						
T42A	Van Buren	5.62	67	IAmb_Lg		20 06 11.9	
	comp=Z,12nm,0.8s						
P38A	Dawn	5.63	33	IAmb_Lg		20 06 13.8	
	comp=Z,18nm,1.0s						
HNDO	Hondo	5.63	196	Pn	Pn	20 04 36.0	+0.4
MNHN	Monahans	5.68	232	Pn	Pn	20 04 36.5	+0.1
T25A	Trinidad	5.96	293	IAmb_Lg		20 06 21.0	
	comp=Z,14nm,0.8s						
DRIO	Del Rio	6.12	206	IAmb_Lg		20 06 33.3	
	comp=Z,13nm,0.8s						
P40A	Paris	6.31	42	IAmb_Lg		20 06 35.9	
	comp=Z,13nm,0.8s						
SAND	Sanderson	6.33	219	IAmb_Lg		20 06 38.5	
	comp=Z,12nm,1.0s						
PECS	Pecos	6.40	238	Pn	Pn	20 04 46.4	+0.1
FVM	French Village	6.47	60	IAmb_Lg		20 06 49.2	
	comp=Z,11nm,0.8s						
CGM3	Cape Girardeau	6.79	68	IAmb_Lg		20 06 44.6	
	comp=Z,13nm,0.8s						
Q24A	Divide	7.26	305	IAmb_Lg		20 07 11.4	
	comp=Z,13nm,0.8s						
VHRN	Van Horn	7.52	238	IAmb_Lg		20 07 14.5	
	comp=Z,7.3nm,1.1s						
ISCO	Idaho Springs	8.02	309	IAmb_Lg		20 07 42.4	
	comp=Z,5.5nm,0.8s						
ECSD	EROS Data Cent	8.77	4	IAmb_Lg		20 07 59.3	
	comp=Z,7.4nm,0.9s						
PHWY	Pilot Hill	8.86	318	IAmb_Lg		20 08 17.4	
	comp=Z,4.9nm,0.8s						
N23A	Red Feather La	8.87	314	IAmb_Lg		20 08 02.1	
	comp=Z,8.0nm,0.7s						

*IDC **22** 20:03:51.7±1.5, 38°.43N×69°.94E, h0km, mb3.6/5, mbtmp3.5/8, ML2.8/2, Error ellipse: s-maj=29.3km s-min=23.6km az=148.0*
*NNC **22** 20:03:53.7±2.6, 38°.59N×69°.64E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=19.9km s-min=16.2km az=178.0*
ISC 22 20:03:53.3±1.2, 38°.5N±0°.1×69°.7E±0°.1, h10km, n13, σ1°.46/16, mb3.6/5, 6C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.69	7	⇑Pn	Pn	20 05 04.2	+0.2
	1.0nm,0.3s,baz=199,slow=14,SNR=27						
KK31				⇑Pg	Pb	20 05 17.2	+1.6
	1.6nm,0.2s,baz=200,slow=18,SNR=7.0						
KK31				⇑Sn	Sn	20 05 59.3	+0.8
	4.6nm,0.4s						
KK31				Lg	Lg	20 06 14.9	
	12nm,0.5s,baz=192,slow=30,SNR=6.4						
AAK	Ala-Archa	5.55	40	⇑Pn	Pn	20 05 16.4	+0.3
	2.7nm,0.4s						
AAK				⇓Sn	Sn	20 06 22.3	+2.2
	5.0nm,0.6s						
TKM2	Tokmak 2	6.33	43	⇓Pn	Pn	20 05 27.8	+1.0
	3.8nm,0.4s						
TKM2				⇑Sn	Sn	20 06 39.7	+0.5
	6.3nm,0.7s						
MKAR	Makanchi Array	12.46	44	Pn	Pn	20 06 48.0	-2.6
	0.1nm,0.5s,baz=227,slow=9.7,SNR=1.4						
AB31	Akbulak array	12.87	330	⇑P	Pn	20 06 54.7	-1.5
	0.6nm,0.4s						
BVAR	Borovoye Array	14.58	2	Pn	Pn	20 07 16.1	-3.4
	baz=158,slow=13,SNR=5.8						
	0.5nm,0.5s						
ZALV	Zalesovo Beam	18.64	29	P	P	20 08 09.1	-1.8
	0.2nm,0.3s,baz=208,slow=12,SNR=3.1						
	0.5nm,0.4s						
FINES	FINESS Array B	35.28	325	P	P	20 10 48.5	+0.6
	0.6nm,0.5s,baz=116,slow=9.6,SNR=4.6						
	0.6nm,0.5s						
HFS	Hagfors	40.89	321	P	P	20 11 36.1	+0.8
	1.2nm,0.4s,baz=97,slow=11,SNR=16						
	1.2nm,0.4s						
NB2	NORSAR Subarra	42.20	322	P	P	20 11 46.5	+0.5
	comp=Z,0.2nm,0.3s,baz=94,slow=7.9						
NOA	NORSAR Array B	42.20	322	P	P	20 11 46.3	+0.3
	comp=Z,0.4nm,0.5s,baz=95,slow=8.1,SNR=3.4						
	comp=Z,0.4nm,0.5s						
TORD	Torodi Ar. Bea	64.75	267	P	P	20 14 34.1	+1.9
	comp=Z,0.1nm,0.5s,baz=72,slow=4.7,SNR=1.3						
	comp=Z,0.1nm,0.5s						
WRA	Warramunga Arr	83.90	121	P	P	20 16 22.7	-0.8
	comp=Z,0.3nm,0.8s,baz=321,slow=4.6,SNR=1.3						
	comp=Z,0.3nm,0.8s						

*TEH **22** 20:07:47.9, 34°.65N×46°.26E, h8km±34km, ML2.9*
*ISN **22** 20:07:48.3±1.3, 34°.65N±0°.04×46°.29E, h20km±9km, ML3.1*
ISC 22 20:07:48.2±1.3, 34°.65N±0°.04×46°.27E±0°.04, h7km±12km, n14, σ0°.46/17, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.11	64	Pg	Pg	20 07 50.9	+0.1
IGHG	Ghaleghazi	0.41	142	Pg	Pg	20 07 56.6	+0.4
KGS1	Ghasr-e-Shirin	0.58	256	Pg	Pg	20 07 59.2	-0.1
GLG1	Gilan-e-Gharb	0.61	209	Pg	Pg	20 07 59.9	-0.2
ILIN	Lien	0.63	65	Pg	Pg	20 08 00.3	-0.2
KCHF	Cheshme Sefid,	0.74	120	Pg	Pg	20 08 02.1	-0.4
ILBA	Ilam Banvizeh	1.02	183	Pg	Pb	20 08 07.5	-0.8
SNQR	Sonqor, Kerman	1.14	79	Pg	Pg	20 08 09.9	-0.2
IBZA	Bozab	1.33	97	Pg	Pg	20 08 13.3	-0.4
IBDR	Badra	1.56	190	*e*Pg	Pb	20 08 17.5	0.0
IBDR				*e*Sg	Sb	20 08 37.0	-0.4
IBDR				AML	AML	20 08 48.8	
	comp=N,116nm,0.4s						
IBDR				AML	AML	20 09 29.4	
	comp=E,311nm,0.6s						
IKFM	Kafar-mosalman	1.73	130	Pg	Pg	20 08 20.8	-0.5
IKRK	Kirkuk	1.75	296	*e*Pn	Pn	20 08 19.0	0.0
IKRK				*e*Sn	Sb	20 08 43.0	+0.1
IKRK				AML	AML	20 08 48.4	
	comp=N,326nm,0.3s						
IKRK				AML	AML	20 08 50.4	
	comp=E,327nm,0.3s						
HSAM	Samen	1.98	102	Pn	Pb	20 08 24.7	0.0
RAFI	Al-Rafai	2.92	183	*e*Pn	Pn	20 08 36.0	+0.9
RAFI				*e*Sn	Sn	20 09 11.0	+0.5

IDC 22 20:17:25.0±6.0, 30°.62S×178°.82W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=232.7km s-min=58.8km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.39	268	P	P	20 25 20.6	-0.7
	0.4nm,0.6s,baz=111,slow=8.0,SNR=8.8						
	0.4nm,0.6s						
WRA	Warramunga Arr	43.40	273	P	P	20 25 30.0	+0.5
	0.7nm,0.3s,baz=113,slow=7.9,SNR=32						
	0.7nm,0.3s						
FINES	FINESS Array B	145.10	339	PKPbc	PKPbc	20 37 02.1	-1.0
	0.9nm,0.7s,baz=64,slow=4.4,SNR=4.7						

*IDC **22** 20:23:04.0±1.4, 39°.79N×77°.20E, h0km, mb3.7/12, mbtmp3.7/18, ML3.1/6, Error ellipse: s-maj=23.0km s-min=17.4km az=155.0*
*MOS **22** 20:23:07.1±1.0, 39°.99N×77°.16E, h16km, mb4.1/5, Error ellipse: s-maj=8.4km s-min=4.4km az=115.3*
*KRNET **22** 20:23:07.2±0.1, 40°.11N×77°.07E, mb4.0*
*BJI **22** 20:23:08.0±0.0, 39°.80N×77°.10E, h10km, mb3.7/3, ML3.9/7*
*SOME **22** 20:23:08.2, 40°.23N×77°.05E, h5km*
*NNC **22** 20:23:09.8±1.4, 40°.27N×77°.08E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=9.9km s-min=7.5km az=161.0*
ISC 22 20:23:08.3±0.6, 40°.12N±0°.03×76°.98E±0°.02, h10km, n152, σ2°.37/221, mb3.8/14, 40C-29D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.98	232	Pg	Sg	20 23 36.9	-3.2
KSH				smax	smax		
	comp=N,5μm,0.6s						
KSH				smax	smax		
	comp=E,3μm,0.5s						
NRN	Naryn	1.50	331	⇑*e*P	Pb	20 23 35.9	-0.6
NRN	baz=28						
				⇑*e*S	Sg	20 23 57.1	+0.3
NRN	Naryn	1.50	331	*e*PN	Pb	20 23 35.9	-0.6
NRN				*e*S	Sg	20 23 57.1	+0.3
KDJ	Kajisay	2.01	4	⇑*e*P	Pb	20 23 44.0	-1.1
KDJ	baz=3.0						
				⇑*e*S	Sb	20 24 10.7	+0.5
KDJ	Kajisay	2.01	4	*e*PN	Pb	20 23 44.0	-1.1
KDJ				*e*S	Sb	20 24 10.7	+0.5
ULHL	Ulahol	2.19	346	P	Pb	20 23 47.9	-0.3
ULHL	SNR=143						
				⇓*e*P	Pb	20 23 46.9	-1.3
ULHL	Ulahol	2.19	346				
ULHL	baz=44						
				⇓*e*S	Sb	20 24 15.8	+0.3
ULHL	Ulahol	2.19	346	*e*PN	Pb	20 23 46.9	-1.3
ULHL				*e*S	Sb	20 24 15.8	+0.3
PRZ	Przheval'sk	2.59	24	⇑*e*P	Pb	20 23 52.0	-2.9
PRZ	baz=22						
				⇑*e*S	Sb	20 24 24.5	-2.4
PRZ	Przheval'sk	2.59	24	*e*PN	Pb	20 23 52.0	-2.9
PRZ				*e*S	Sb	20 24 24.5	-2.4
ARLS	Aral	2.66	312	⇑*e*P	Pb	20 23 53.5	-2.6
ARLS	baz=11						
				⇑*e*S	Sb	20 24 27.3	-1.5
ARLS	Aral	2.66	312	*e*PN	Pb	20 23 53.5	-2.6
ARLS				*e*S	Sb	20 24 27.3	-1.5
SFK	Sufi-Kurgan	2.67	269	⇑*e*P	Pb	20 23 54.1	-2.2
SFK	baz=69						
				⇑*e*S	Sb	20 24 28.4	-0.8
SFK	Sufi-Kurgan	2.67	269	*e*PN	Pb	20 23 54.1	-2.2
SFK				*e*S	Sb	20 24 28.4	-0.8
UCH	Uchtor	2.81	319	P	Pb	20 23 58.0	-0.8
UCH	SNR=39						
				⇓*e*P	Pn	20 23 55.9	+2.2
UCH	Uchtor	2.81	319				
UCH	baz=18						
				⇓*e*S	Sb	20 24 31.4	-2.0
UCH	Uchtor	2.81	319	*e*PN	Pn	20 23 55.9	+2.2
UCH				*e*S	Sb	20 24 31.4	-2.0
TNSS	Tian-Shan	2.91	360	*e*P	Pb	20 24 00.1	-0.5
TNSS	77nm,0.3s						
				*e*S	Sb	20 24 37.4	+1.0
TNSS	Tian-Shan	2.91	360	Pg	Pb	20 24 00.4	-0.2
TNSS	62nm,0.5s						
				Lg	Lg	20 24 37.3	
TNSS	Tian-Shan	2.91	360	Pg	Pb	20 24 00.4	-0.2
TNSS	77nm,0.4s						
				Lg	Lg	20 24 37.3	
KBK	Karagaybulak	2.96	330	P	Pb	20 23 59.9	-1.2
KBK	SNR=84						
				⇓*e*P	Pn	20 23 57.7	+2.2
KBK	Karagaybulak	2.96	330				
KBK	baz=29						
				⇓*e*S	Sb	20 24 34.4	-3.0
KBK	Karagaybulak	2.96	330	*e*PN	Pn	20 23 57.7	+2.2
KBK				*e*S	Sb	20 24 34.4	-3.0
TKM2	Tokmak 2	2.98	340	P	Pb	20 23 59.4	-2.2
TKM2	SNR=146						
				⇑Pg	Pb	20 23 59.7	-1.9
TKM2	Tokmak 2	2.98	340				
TKM2	44nm,0.3s			

48nm,0.4s
MDOK ⇑Lg Lg 20 24 42.2
348nm,0.6s
MDOK Lg Lg 20 24 42.8
246nm,0.7s
MDOK Medeo 3.04 1 PN Pb 20 23 59.9 -2.7
AAA Alma-Ata 3.08 359 *eP* **Pb 20 24 04.1 +0.8**
129nm,0.2s
AAA *e*S **Sg 20 24 44.2 -3.1**
652nm,0.8s
AAA Alma-Ata 3.08 359 Pg **Pb 20 24 04.1 +0.8**
127nm,0.7s
AAA Lg Lg 20 24 44.3
656nm,1.1s
KNDC Almaty 3.09 360 ⇓Pg **Pb 20 24 03.7 +0.3**
166nm,0.7s
KNDC ⇓Lg Lg 20 24 44.5
536nm,0.6s
KOTS Kotyrbulak 3.11 2 *eP* **Pg 20 24 05.2 -2.7**
65nm,0.2s
KOTS *e*S **Sg 20 24 45.6 -2.6**
1μm,0.7s
KOTS Kotyrbulak 3.11 2 Pg **Pg 20 24 05.4 -2.5**
65nm,0.3s
KOTS Lg Lg 20 24 45.6
1μm,0.7s
AAK Ala-Archa 3.13 324 P **Pb 20 24 02.5 -1.6**
SNR=10
AAK Ala-Archa 3.13 324 Pn **Pb 20 24 02.7 -1.4**
8.2nm,0.3s,baz=133,slow=15,SNR=20
AAK Pg **Pg 20 24 08.2 -0.1**
9.5nm,0.3s,baz=157,slow=15,SNR=19
AAK Lg Lg 20 24 45.9
18nm,0.3s,baz=291,slow=18,SNR=13
13nm,0.2s
AAK Ala-Archa 3.13 324 ⇓Pn **Pb 20 24 01.5 -2.7**
90nm,0.9s
AAK Lg Lg 20 24 46.1
192nm,0.7s
AAK Ala-Archa 3.13 324⇑*eP* **Pn 20 24 00.2 +2.3**
baz=23
AAK ⇑*e*S **Sn 20 24 38.7 +3.3**
baz=23
AAK Ala-Archa 3.13 324 *e*PN **Pn 20 24 00.2 +2.3**
AAK *e*S **Sn 20 24 38.7 +3.3**
AML Almayashu 3.19 310 P **Pb 20 24 03.5 -1.8**
SNR=93
AML Almayashu 3.19 310⇓*eP* **Pn 20 24 01.3 +2.4**
baz=9.0
AML ⇓*e*S **Sn 20 24 40.8 +3.6**
baz=9.0
AML Almayashu 3.19 310 *e*PN **Pn 20 24 01.3 +2.4**
AML *e*S **Sn 20 24 40.8 +3.6**
FRU1 Bishkek 3.21 327⇑*eP* **Pn 20 24 01.5 +2.6**
baz=27
FRU1 ⇑*e*S **Sn 20 24 41.1 +3.8**
baz=27
FRU1 Bishkek 3.21 327 *e*PN **Pn 20 24 01.5 +2.6**
FRU1 *e*S **Sn 20 24 41.1 +3.8**
OHH Osh 3.23 278⇓*eP* **Pn 20 24 01.7 +2.5**
baz=79
OHH ⇓*e*S **Sn 20 24 41.4 +3.7**
baz=79
OHH Osh 3.23 278 *e*PN **Pn 20 24 01.7 +2.5**
OHH *e*S **Sn 20 24 41.4 +3.7**
DGS Degeres 3.24 344 *eP* **Pg 20 24 07.9 -2.6**
268nm,0.6s
DGS *e*S **Sg 20 24 50.2 -2.3**
328nm,0.5s
DGS Degeres 3.24 344 Pg **Pg 20 24 07.9 -2.6**
268nm,0.6s
DGS Lg Lg 20 24 50.2
328nm,0.5s
ARSB Arslanbob 3.27 293⇑*eP* **Pn 20 24 02.3 +2.6**
baz=93
ARSB ⇑*e*S **Sn 20 24 42.4 +3.7**
baz=93
ARSB Arslanbob 3.27 293 *e*PN **Pn 20 24 02.3 +2.6**
ARSB *e*S **Sn 20 24 42.4 +3.7**
CHMS Chumysh 3.32 331 P **Pb 20 24 04.7 -2.7**
SNR=21
CHMS Chumysh 3.32 331⇓*eP* **Pn 20 24 02.6 +2.2**
baz=30
CHMS ⇓*e*S **Sn 20 24 43.0 +3.1**
baz=30
CHMS Chumysh 3.32 331 *e*PN **Pn 20 24 02.6 +2.2**
CHMS *e*S **Sn 20 24 43.0 +3.1**
UZB Uzynbulak 3.39 26 *eP* **Pb 20 24 08.7 +0.2**
121nm,0.7s
UZB *e*S **Sg 20 24 52.3 -4.7**
207nm,0.9s
UZB Uzynbulak 3.39 26 Pg **Pb 20 24 08.7 +0.2**
121nm,0.7s
UZB Lg Lg 20 24 52.3
207nm,0.9s
UZB Uzynbulak 3.39 26 PN **Pb 20 24 08.8 +0.3**
KURS Kuram 3.48 14 *eP* **Pb 20 24 10.3 +0.3**
98nm,0.8s
KURS *e*S **Sb 20 24 54.8 +2.5**
186nm,0.7s
KURS Kuram 3.48 14 Pg **Pb 20 24 10.2 +0.2**
98nm,1.1s
KURS Lg Lg 20 24 54.8
187nm,0.6s
EKS2 Erkin-Say 3.50 318 P **Pb 20 24 07.8 -2.6**
SNR=77
EKS2 Erkin-Say 3.50 318⇑*eP* **Pn 20 24 05.3 +2.4**
baz=17
EKS2 ⇑*e*S **Sn 20 24 47.6 +3.2**
baz=17
EKS2 Erkin-Say 3.50 318 *e*PN **Pn 20 24 05.3 +2.4**
EKS2 *e*S **Sn 20 24 47.6 +3.2**
SHLS Shalkode 3.56 31 *eP* **Pg 20 24 15.5 -1.0**
92nm,0.5s
SHLS *e*S **Sg 20 25 03.4 +0.9**
309nm,0.7s
SHLS Shalkode 3.56 31 Pg **Pg 20 24 15.5 -1.0**
92nm,0.7s
SHLS Lg Lg 20 25 02.5
309nm,0.7s
SHLS Shalkode 3.56 31 *e*PN **Pg 20 24 14.5 -1.9**
KPKS Kokpek 3.57 20 *eP* **Pb 20 24 11.9 +0.3**
62nm,0.4s
KPKS *e*S **Sg 20 24 57.8 -5.3**
553nm,0.7s
KPKS Kokpek 3.57 20 Pg **Pg 20 24 13.0 -3.8**
63nm,0.4s
KPKS Lg Lg 20 24 58.4
553nm,0.7s
KTBS Karatobe 3.59 357 *eP* **Pb 20 24 12.5 +0.6**
64nm,0.5s
KTBS *e*S **Sb 20 24 58.7 +3.1**
229nm,0.6s
KTBS Karatobe 3.59 357 Pg **Pb 20 24 12.5 +0.6**
61nm,0.6s
KTBS Lg Lg 20 24 59.8
229nm,0.6s
USP Ospenovka 3.65 330 P **Pb 20 24 09.9 -3.0**
SNR=14
USP Ospenovka 3.65 330⇓*eP* **Pn 20 24 07.1 +2.2**
baz=29
USP ⇓*i*S **Sn 20 24 50.9 +2.9**
baz=29
USP Ospenovka 3.65 330 *e*PN **Pn 20 24 07.1 +2.2**
USP *e*S **Sn 20 24 50.9 +2.9**
KRBS Karabastau 3.70 345 *eP* **Pb 20 24 15.2 +1.5**
72nm,0.4s
KRBS *e*S **Sg 20 25 03.3 -3.8**
187nm,0.6s
KRBS Karabastau 3.70 345 Pg **Pb 20 24 15.2 +1.5**
72nm,0.4s
KRBS Lg Lg 20 25 03.3
187nm,0.6s
PDGK Podgornoye 3.71 30 Pg **Pb 20 24 14.5 +0.4**
52nm,0.6s
PDGK Lg Lg 20 25 01.3
108nm,0.6s
PDGK Podgornoye 3.71 30 ⇑Pg **Pb 20 24 14.3 +0.2**
71nm,0.5s
PDGK ⇓Lg Lg 20 25 01.4
286nm,0.8s
PDGK Podgornoye 3.71 30 PN **Pb 20 24 12.0 -2.1**
CHKK Chushkaly 3.73 0 *eP* **Pb 20 24 15.7 +1.5**
17nm,0.4s
CHKK *e*S **Sg 20 25 03.8 -4.2**
172nm,0.6s
CHKK Chushkaly 3.73 0 Pg **Pb 20 24 15.7 +1.5**
17nm,0.4s
CHKK Lg Lg 20 25 03.1
172nm,0.6s
SGDS Sogindy 3.76 333 Pg **Pb 20 24 16.5 +1.7**
26nm,0.5s
SGDS Lg Lg 20 25 05.1
69nm,0.8s
SGDS Sogindy 3.76 333 *e*PN **Pb 20 24 16.6 +1.7**
MRKS Merke 3.85 314 *eP* **Pg 20 24 19.4 -2.6**
19nm,0.5s
MRKS *e*S **Sg 20 25 10.2 -1.7**
113nm,0.5s
MRKS Merke 3.85 314 Pg **Pg 20 24 19.8 -2.3**
19nm,0.5s
MRKS Lg Lg 20 25 10.2
113nm,0.5s
DRK Karamyk 4.04 262⇑*eP* **Pn 20 24 12.8 +2.3**
baz=63
DRK ⇑*e*S **Sn 20 25 01.1 +3.1**
baz=63
MNAS Manas 4.11 306⇑*eP* **Pn 20 24 14.0 +2.6**
baz=6.0
MNAS ⇑*e*S **Sn 20 25 02.7 +3.1**
baz=6.0
MNAS Manas 4.11 306 *e*PN **Pn 20 24 14.0 +2.6**
MNAS *e*S **Sn 20 25 02.7 +3.1**
BLB Baldybastay 4.12 15 Pg **Pb 20 24 22.2 +1.1**
109nm,0.4s
BLB Lg Lg 20 25 14.2
186nm,0.8s
ARXS Arharly 4.13 8 *eP* **Pb 20 24 22.8 +1.6**
35nm,0.6s
ARXS *e*S **Sg 20 25 16.3 -4.7**
163nm,0.6s
ARXS Arharly 4.13 8 Pg **Pb 20 24 22.7 +1.6**
35nm,0.6s
ARXS Lg Lg 20 25 16.3
163nm,0.6s
ARXS Arharly 4.13 8 *e*PN **Pb 20 24 22.7 +1.5**
ARK Arkit 4.15 295⇑*eP* **Pn 20 24 14.5 +2.7**
baz=95
ARK ⇑*e*S **Sn 20 25 03.5 +3.0**
baz=95
ARK Arkit 4.15 295 *e*PN **Pn 20 24 14.5 +2.7**
ARK *e*S **Sn 20 25 03.5 +3.0**
KTMS Ketmen 4.17 36 *eP* **Pb 20 24 22.9 +1.1**
7.0nm,0.4s
KTMS *e*S **Sg 20 25 16.1 -6.0**
65nm,0.7s
KTMS Ketmen 4.17 36 Pg **Pb 20 24 22.9 +1.1**
6.8nm,0.4s
KTMS Lg Lg 20 25 16.1
65nm,0.7s
KNOS Konyrlen 4.54 20 Pg **Pb 20 24 29.6 +1.5**
1.0nm,0.4s
KNOS Lg Lg 20 25 26.5
31nm,0.7s
TRKS Terek-Say 4.65 289⇓*eP* **Pn 20 24 20.9 +2.2**
baz=89
TRKS ⇓*e*S **Sn 20 25 14.6 +1.8**
baz=89
TRKS Terek-Say 4.65 289 *e*PN **Pn 20 24 20.9 +2.2**
TRKS *e*S **Sn 20 25 14.6 +1.8**
DJR Jarkent 4.69 25 *eP* **Pb 20 24 32.3 +1.5**
23nm,0.5s
DJR *e*S **Sg 20 25 32.0 -7.0**
70nm,0.7s
BTK Batken 4.72 271⇓*eP* **Pn 20 24 22.7 +3.0**
baz=71
BTK ⇓*e*S **Sn 20 25 17.5 +2.9**
baz=71
TDK Taldyqorghan 4.99 12 *eP* **Pb 20 24 37.5 +1.8**
31nm,0.6s
TDK *e*S **Sg 20 25 41.2 -7.2**
184nm,0.5s
TDK Taldyqorghan 4.99 12 Pg **Pb 20 24 37.5 +1.8**
31nm,0.7s
TDK Lg Lg 20 25 41.2
186nm,0.5s
GAR Garm 5.27 260⇑*eP* **Pn 20 24 29.3 +2.1**
baz=60
GAR ⇑*e*S **Sn 20 25 30.2 +2.1**
baz=60
GAR Garm 5.27 260 *e*PN **Pn 20 24 29.3 +2.1**
GAR *e*S **Sn 20 25 30.2 +2.1**
BTLS Baital 5.37 337 *eP* **Pb 20 24 46.0 +3.8**
17nm,0.5s
BTLS *e*S **Sg 20 25 56.2 -4.4**
48nm,0.7s
BTLS Baital 5.37 337 Pg **Pb 20 24 46.0 +3.8**
17nm,0.5s
BTLS Lg Lg 20 25 56.2
48nm,0.7s
IUG luzhnay 5.62 293 *eP* **Pg 20 24 53.5 -2.5**
21nm,0.3s
IUG *e*S **Sg 20 26 09.1 +0.4**
100nm,0.7s
IUG luzhnay 5.62 293 *e*PN **Pn 20 24 35.2 +3.2**
KK31 Karatay Array 5.69 304 Pn **Pn 20 24 35.7 +2.8**
1.1nm,0.5s,baz=121,slow=12,SNR=14
KK31 ⇑Pg **Pb 20 24 46.0 -1.7**
5.3nm,0.6s,baz=121,slow=15,SNR=8.4
KK31 ⇑Lg Lg 20 26 09.4
34nm,0.8s,baz=124,slow=25,SNR=4.5
KK31 Karatay Array 5.69 304 PN **Pn 20 24 35.7 +2.8**
KKAR Karatay Array 5.69 304⇑*eP* **Pn 20 24 35.6 +2.7**
baz=3.0
KKAR ⇑*e*S **Sn 20 25 40.0 +1.8**
baz=3.0
KKAR Karatay Array 5.69 304 *e*PN **Pn 20 24 35.6 +2.7**
BRLS Borolday 6.09 301 *eP* **Pg 20 25 01.5 -3.4**
4.1nm,0.8s
BRLS *e*S **Sg 20 26 22.7 -1.2**
18nm,0.7s
BRLS Borolday 6.09 301 Pg **Pg 20 25 01.7 -3.2**
4.1nm,0.8s
BRLS Lg Lg 20 26 22.2
19nm,1.1s
MK31 Makanchi Array 7.70 28 ⇑Pn **Pn** 20 24 52.8 -7.7
4.1nm,0.8s
MK31 ⇓Pg **Pb 20 25 22.2 +0.2**
3.8nm,0.7s
MK31 ⇓Lg Lg 20 27 07.4
22nm,1.0s
MK31 Makanchi Array 7.70 28 *c iP* **Pn 20 25 01.9 +1.4**
MKAR Makanchi Array 7.70 28 Pn **Pn 20 25 02.1 +1.6**
0.3nm,0.3s,baz=202,slow=15,SNR=11
MKAR Lg Lg 20 27 06.9
0.7nm,0.3s,baz=218,slow=29,SNR=7.7
0.4nm,0.3s
MKAR Makanchi Array 7.70 28 *i P* **Pn 20 25 02.4 +1.9**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
WMQ Urumqi 8.79 62 P **Pn 20 25 18.4 +2.8**
WMQ S **Sn 20 26 59.9 +5.2**
WMQ smax smax
comp=Z,19nm,0.9s
WMQ smax smax
comp=Z,22nm,1.3s
KURBB Kurchatov Arra 10.55 5 Pn **Pn 20 25 40.2 +0.6**
comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=4.1
KURBB Lg Lg 20 28 34.5
comp=Z,0.1nm,0.3s,baz=191,slow=29,SNR=9.5
comp=Z,0.7nm,0.3s
KURK Kurchatov 10.65 6⇓*eP* **Pn 20 25 42.0 +1.1**
BVA0 Borovoye Array 13.67 343 P **Pn 20 26 21.8 -0.3**
BVAR Borovoye Array 13.67 343 Pn **Pn 20 26 21.9 -0.2**
baz=158,slow=13,SNR=13
BVAR Lg Lg 20 30 13.9
baz=156,slow=31,SNR=4.1
comp=Z,2.0nm,0.7s
BRVK Borovoye 13.72 343⇓*eP* **Pn 20 26 23.8 +1.0**
ZALV Zalesovo Beam 14.81 18 Pn **Pn 20 26 37.6 -0.1**
comp=Z,0.1nm,0.3s,baz=211,slow=12,SNR=1.7
ZALV Lg Lg 20 30 57.1
comp=Z,0.1nm,0.3s,baz=225,slow=30,SNR=1.7
comp=Z,0.6nm,0.6s
AB31 Akbulak array 15.14 313 ⇑P **Pn 20 26 42.2 +0.1**
comp=Z,1.1nm,0.6s
AB31 Akbulak array 15.14 313 P **Pn 20 26 42.2 +0.1**
AKTO Aktyubinsk 16.82 314 P **P 20 27 06.3 +0.4**
comp=Z,0.3nm,0.3s,baz=119,slow=10.0,SNR=5.7
comp=Z,1.8nm,0.6s
GTA Gaotai 17.57 85 *eP* **P 20 27 14.8 +0.4**
GTA pmax pmax
comp=Z,2.0nm,1.2s
ARU Arti 20.30 330 P Pn 20 27 46.6 +0.5
comp=Z,1.4nm,0.4s,baz=90,slow=6.6,SNR=4.0
comp=Z,1.4nm,0.4s
ARU Arti 20.30 330⇓*iP* Pn 20 27 48.9 +2.8
ARU pmax pmax
comp=Z,5.0nm,1.3s
SONM Songino Array 22.43 60 P **P 20 28 05.9 -1.3**
comp=Z,1.4nm,0.7s,baz=258,slow=11,SNR=10
comp=Z,1.4nm,0.7s
ULN Ulaanbaatar 22.87 60⇑*iP* **P 20 28 12.6 +0.6**
ULN pmax pmax
comp=Z,3.0nm,0.8s
KIRV Kirov 25.46 326⇓*eP* **P 20 28 36.9 +0.7**
OBN Obninsk 30.59 313 *eP* **P 20 29 22.4 +0.4**
OBN *e* 20 30 24.2
OBN *e*PPP PPP 20 30 33.6
OBN *e* 20 32 20.1
OBN pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 32.99 284 P **P 20 29 43.8 +0.2**
comp=Z,0.5nm,0.7s,baz=115,slow=8.7,SNR=5.0
comp=Z,0.5nm,0.7s
BRTR Keskin Array B 32.99 284 *eP* **P 20 29 44.7 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 37.31 322 P **P 20 30 20.5 +0.2**
comp=Z,1.6nm,0.9s,baz=92,slow=14,SNR=5.9
comp=Z,1.6nm,0.9s
ARCES ARCESS Array B 39.75 335 P **P 20 30 40.8 +0.1**
comp=Z,1.4nm,0.8s,baz=103,slow=8.1,SNR=5.9
comp=Z,1.4nm,0.8s
ARCES ARCESS Array B 39.75 335 *eP* **P 20 30 41.4 +0.7**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 40.65 22 P **P 20 30 46.9 -1.2**
comp=Z,1.2nm,0.3s,baz=291,slow=4.9,SNR=3.1
comp=Z,1.2nm,0.3s
HFS Hagfors 43.26 319 P **P 20 31 08.7 -0.8**
comp=Z,1.1nm,0.7s,baz=68,slow=13,SNR=1.9
comp=Z,1.1nm,0.7s
NOA NORSAR Array B 44.44 321 P **P 20 31 18.2 -0.9**
comp=Z,0.3nm,0.6s,baz=110,slow=6.0,SNR=1.9
comp=Z,0.3nm,0.6s
GERES GERESS Array B 44.79 303 P **P 20 31 22.4 +0.2**
comp=Z,0.7nm,0.5s,baz=120,slow=5.4,SNR=4.6
comp=Z,0.7nm,0.5s
GERES GERESS Array B 44.79 303 *eP* **P 20 31 22.7 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.6s
BILL Bilibino 53.25 28 *eP* **P 20 32 26.9 +0.3**
BILL *e* 20 33 30.9
BILL *e* 20 34 25.3
BILL pmax pmax
comp=Z,2.0nm,1.0s
ESDC Sonseca Array 59.91 298 P **P 20 33 13.7 -0.8**
comp=Z,0.2nm,0.5s,baz=49,slow=7.0,SNR=4.3
comp=Z,0.2nm,0.5s
ILAR Eielson Array 69.94 18 P **P 20 34 16.8 -2.5**
comp=Z,0.3nm,0.7s,baz=303,slow=4.3,SNR=4.2
comp=Z,0.3nm,0.7s
ILAR Eielson Array 69.94 18 *eP* **P 20 34 18.8 -0.5**
TORD Torodi Ar. Bea 70.44 271 P **P 20 34 21.7 -1.4**
comp=Z,1.0nm,0.4s,baz=41,slow=5.5,SNR=21
comp=Z,1.0nm,0.4s

IDC ***22*** *20:26:53.0±0.8, 18°.92N×121°.16E, h0km, mb3.6/13, mbtmp3.7/16, ML3.5/3, MS2.8/2, Error ellipse: s-maj=23.8km s-min=17.9km az=74.0*
ISC 22 20:26:59.4±0.8, 19°.11N±0°.04×121°.07E±0°.07, h39km±3km, n31, σ1°33/32, mb3.6/12, 5C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICP	**Calayan Island**	**0.41**	**68**	⇓*iP*	**Pn**	**20 27 08.6**	**-0.2**
CICP				*i* S	**Sn**	**20 27 15.6**	**0.0**
PACPP	**Pamplona Cagay**	**0.70**	**158**	⇑*iP*	**Pn**	**20 27 12.2**	**-0.6**
PACPP				*i* S	**Sn**	**20 27 22.4**	**-0.1**
PIP	**Pasuquin**	**0.89**	**209**	⇑*iP*	**Pn**	**20 27 14.6**	**-0.8**
PIP				*i* S	**Sn**	**20 27 26.5**	**-0.7**
SGCP	**Gonzaga**	**1.26**	**133**	⇓*iP*	**Pn**	**20 27 20.4**	**-0.1**
SGCP				*i* S	**Sn**	**20 27 38.2**	**+1.9**
BBP	**Basco**	**1.57**	**32**	⇑*eP*	**Pn**	**20 27 24.9**	**+0.3**
BBP				*i* S	**Sn**	**20 27 42.8**	**-1.0**
BBP	**Basco**	**1.57**	**32**	⇓*eP*	**Pn**	**20 27 26.1**	**+1.5**
BBP				*e*S	**Sn**	**20 27 42.5**	**-1.3**
LQP	**Lukban**	**4.99**	**175**	⇑*eP*	**Pn**	**20 28 14.7**	**+2.7**
GQP	**Guinayangan**	**5.34**	**166**	⇑*eP*	**Pn**	**20 28 16.2**	**-0.4**
JOW	**Kunigami**	**10.15**	**39**	Pn	**Pn**	**20 29 22.2**	**-0.3**
	2.0nm,0.3s,baz=220,slow=19,SNR=1.4						
	5.0nm,0.3s						
DAV	**Davao City (W)**	**12.75**	**159**	LR	LR	20 34 14.4	
	comp=Z,46nm,19.8s,baz=355,slow=35						
JNU	**Nakatsue**	**16.48**	**30**	Pn	**Pn**	**20 30 47.9**	**0.0**
	0.1nm,0.3s,baz=204,slow=12,SNR=3.4						
JNU				LR	LR	20 36 32.9	
	comp=Z,38nm,19.9s,baz=262,slow=35						
	5.6nm,1.0s						
KSRS	**Korea Array**	**19.23**	**17**	P	**P**	**20 31 19.6**	**-0.7**
	0.2nm,0.3s,baz=196,slow=11,SNR=4.5						
	0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**20.96**	**272**	P	**P**	**20 31 40.2**	**+0.9**
	1.0nm,0.8s,baz=78,slow=9.5,SNR=6.9						
	1.0nm,0.8s						
MJAR	**Matsushiro Arr**	**22.98**	**37**	P	**P**	**20 32 00.2**	**-0.6**
	0.3nm,0.4s,baz=216,slow=7.6,SNR=1.3						
	0.3nm,0.4s						
SONM	**Songino Array**	**31.04**	**341**	P	**P**	**20 33 14.7**	**+1.1**
	0.8nm,0.8s,baz=164,slow=8.1,SNR=4.7						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**40.93**	**161**	P	**P**	**20 34 33.9**	**-4.4**
	0.5nm,0.8s,baz=348,slow=8.8,SNR=4.9						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**42.02**	**320**	P	**P**	**20 34 48.2**	**+1.1**
	1.1nm,0.8s,baz=117,slow=9.9,SNR=8.6						
MKAR				PcP	**PcP**	**20 36 41.5**	**0.0**
	0.4nm,0.8s,baz=90,slow=8.5,SNR=3.1						
	1.1nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**43.09**	**83**	T	T	21 20 44.0	
	baz=277,slow=75,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**43.10**	**83**	T	T	21 20 40.3	
	baz=277,slow=75,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**43.11**	**83**	T	T	21 20 39.2	
	baz=277,slow=75,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**43.12**	**81**	T	T	21 20 38.8	
	baz=277,slow=75,SNR=22						
H11N2	**WAKE ISLAND Hy**	**43.12**	**81**	T	T	21 20 39.0	
	baz=277,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**43.13**	**81**	T	T	21 20 37.1	
	baz=277,slow=75,SNR=13						
ASAR	**Alice Springs**	**44.32**	**163**	P	**P**	**20 35 04.7**	**-1.2**
	0.3nm,0.5s,baz=342,slow=6.9,SNR=6.8						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**44.50**	**330**	P	**P**	**20 35 07.6**	**+0.7**
	0.5nm,0.4s,baz=103,slow=6.2,SNR=2.6						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**46.00**	**323**	P	**P**	**20 35 19.9**	**+1.0**
	0.9nm,0.4s,baz=120,slow=8.3,SNR=5.8						
	0.9nm,0.4s						
BVAR	**Borovoye Array**	**51.59**	**323**	P	**P**	**20 36 02.5**	**+0.8**
	0.7nm,0.7s,baz=112,slow=10,SNR=3.8						
BVAR				PcP	**PcP**	**20 37 14.3**	**-0.9**
	0.6nm,0.6s,baz=108,slow=4.8,SNR=3.9						
	0.7nm,0.7s						
ARU	**Arti**	**59.13**	**325**	P	**P**	**20 36 56.0**	**+0.1**
	2.2nm,0.4s,baz=18,slow=3.2,SNR=4.3						
	2.2nm,0.4s						
ILAR	**Eielson Array**	**73.76**	**26**	P	**P**	**20 38 31.2**	**+1.9**
	0.1nm,0.5s,baz=96,slow=2.9,SNR=1.8						
	0.1nm,0.5s						
ARCES	**ARCESS Array B**	**74.19**	**339**	P	**P**	**20 38 31.6**	**-0.2**
	2.1nm,0.9s,baz=66,slow=5.9,SNR=4.8						
	2.1nm,0.9s						
BRTR	**Keskin Array B**	**76.12**	**307**	P	**P**	**20 38 43.4**	**-0.3**
	0.2nm,0.5s,baz=130,slow=5.5,SNR=1.7						
	0.2nm,0.5s						

TEH ***22*** *20:39:14.6, 30°.35N×57°.50E, h7km±45km, ML5.8*
BJI ***22*** *20:39:14.3±0.0, 30°.22N×57°.38E, h15km, mb5.2/88, mB5.4/62, Ms5.7/90, Ms7 5.4/87*
IDC ***22*** *20:39:14.7±0.4, 30°.32N×57°.46E, h0km, mb5.1/37, mbtmp5.1/43, ML4.3/6, MS5.2/72, Error ellipse: s-maj=11.3km s-min=9.2km az=12.0*
THR ***22*** *20:39:15.6±0.7, 30°.36N×57°.48E, h14km±5km, ML5.8*
GCMT ***22*** *20:39:16.4±0.1, 30°.22N±0°.01×57°.44E±0°.01, h15km, MW5.5/146, Moment Tensor Solution. s132,c230;*

s146,c301; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}0.19±.02; $M_{\theta\theta}$-2.27±.03; $M_{\phi\phi}$2.08±.03; $M_{r\theta}$-0.43±.07; $M_{r\phi}$0.94±.02; $M_{\theta r}$-0.23±.06; Best double couple: $M_0$2.42000×10^{17} NP1:ϕ_s237.00000°,δ90.00000°, λ12.00000°. NP2:ϕ_s147.00000°,δ78.00000°,λ180.00000°. Principal axes: T 2.3210, Plg8.0000°, Azm102.0000°; N 0.1980, Plg78.0000°, Azm238.0000°; P -2.5190, Plg8.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC **22** 20:39:17.6, 30°.47N×57°.47E, $h10^{km}$

NEIC **22** 20:39:17.4±1.8, 30°.43N±0°.09×57°.5E±0°.1, $h10^{km}$±1^{km}, mb5.6/332, Ms_20 5.3/854, Mwb5.4/48, Mww5.6/25, Error ellipse: s-maj=15.9km s-min=14.9km az=151.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.21; $M_{\theta\theta}$-1.56; $M_{r\phi}$1.36; $M_{r\theta}$-0.52; $M_{\theta\phi}$0.20; $M_{\phi r}$-0.38; Fault plane solution: $M_0$1.62000×10^{17} NP1: ϕ_s229.95000°,δ87.33000°,λ23.97000°. NP2: ϕ_s138.76000°,δ66.05000°,λ177.08000°. Principal axes: T 1.5099, Plg19.0000°, Azm97.0000°; N 0.1965, Plg66.0000°, Azm236.0000°; P -1.7064, Plg15.0000°, Azm2.0000°;

NEIC **22** 20:39:17.6, 30°.47N×57°.47E, $h26^{km}$, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^{17}Nm; M_{rr}0.41; $M_{\theta\theta}$-2.80; $M_{\phi\phi}$2.39; $M_{r\theta}$0.19; $M_{\theta\phi}$1.11; $M_{\phi r}$0.75; Fault plane solution: $M_0$2.94000×10^{17} NP1:ϕ_s57.97000°, δ78.18000°,λ13.00000°. NP2:ϕ_s325.26000°,δ77.28000°, λ167.87000°. Principal axes: T 2.8599, Plg17.0000°, Azm282.0000°; N 0.1690, Plg72.0000°, Azm100.0000°; P -3.0289, Plg1.0000°, Azm192.0000°;

NEIC **22** 20:39:17.6, 30°.47N×57°.47E, $h26^{km}$

DSN **22** 20:39:18.2±0.8, 30°.37N×57°.30E, $h15^{km}$, mb5.8/4, ML5.2/16, Error ellipse: s-maj=15.7km s-min=7.9km az=92.0

MOS **22** 20:39:18.4±1.1, 30°.41N×57°.51E, $h33^{km}$, mb5.7/76, MS5.1/58, Error ellipse: s-maj=4.4km s-min=3.2km az=108.4

OMAN **22** 20:39:18.1±0.1, 30°.32N×57°.39E, $h11^{km}$, mb6.0/49, ml5.2/5, ms5.0/12, Mwp5.7/25, Error ellipse: s-maj=0.9km s-min=0.6km az=286.0

SGS **22** 20:39:45.1, 30°.57N×57°.51E, $h10^{km}$, Ml6.2

ISC 22 20:39:17.2±0.4, **30°.35N**±0°.02×**57°.49E**±0°.02, **h12**^{km}±2^{km}, **h12**^{km}:**pP-P**, **n1963**, σ**1948**/1729, **mb5.5**/439, **MS5.3**/566, **44C-59D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.24**	**310**	Pg	**Pg**	**20 39 20.3**	**-2.1**
CHMN	**Cheshme madani**	**0.49**	**175**	Pg	**Pg**	**20 39 24.5**	**-2.3**
CHMN				Sg	**Sg**	**20 39 31.4**	**-1.9**
TVBK	**TV Kerman**	**0.72**	**240**	Pg	**Pg**	**20 39 29.6**	**-1.7**
KRBR	**Kerman**	**0.73**	**240**	*e*Pg	**Pg**	**20 39 29.7**	**-1.6**
KHGB	**Koh Gabri**	**0.87**	**272**	Pg	**Pg**	**20 39 31.7**	**-2.4**
KHGB				Sg	**Sg**	**20 39 42.7**	**-2.9**
NGRK	**Negar Kerman**	**0.96**	**223**	Pg	**Pg**	**20 39 33.7**	**-2.0**
ZRDN	**Zarand Kerman**	**1.03**	**307**	Pg	**Pb**	**20 39 34.4**	**-2.7**
KBAM	**BAM**	**1.47**	**145**	Pg	**Pn**	**20 39 42.8**	**-0.8**
IBAF	**Bafgh**	**2.06**	**307**	Pn	**Pn**	**20 39 52.2**	**+0.4**
BSRN	**Basiran**	**2.14**	**41**	*e*Pn	**Pn**	**20 39 52.5**	**-0.3**
BSRN				*e*Sg	**Sb**	**20 40 22.8**	**+0.2**
BSRN				IAML		20 40 25.0	
	comp=E,49μm,0.8s						
BSRN				IAML		20 40 25.4	
	comp=N,57μm,0.5s						
BSRN	**Basiran**	**2.14**	**41**	Pn	**Pn**	**20 39 52.5**	**-0.3**
KHNJ	**Kahnooj**	**2.40**	**175**	Pn	**Pn**	**20 39 56.9**	**+0.6**
IKOO	**Kooshah**	**2.44**	**32**	Pn	**Pn**	**20 39 57.1**	**-0.1**
IMEH	**Mehriz**	**2.68**	**294**	Pn	**Pn**	**20 40 00.9**	**+0.5**
TPRV	**Parvadeh(Tabas**	**2.76**	**346**	Pn	**Pn**	**20 40 01.3**	**0.0**
ITEG	**Tejag**	**2.76**	**23**	Pn	**Pn**	**20 40 01.3**	**-0.1**
ZHSF	**Zahedan**	**2.95**	**104**	*e*Pn	**Pn**	**20 40 04.3**	**+0.4**
ZHSF				*e*Sg	**Sb**	**20 40 47.9**	**+2.2**
ZHSF	**Zahedan**	**2.95**	**104**	Pn	**Pn**	**20 40 04.3**	**+0.4**
IBND	**Bandar-abas**	**3.00**	**196**	Pn	**Pn**	**20 40 06.0**	**+1.5**
IDAH	**Dahanechah**	**3.13**	**40**	Pn	**Pn**	**20 40 06.4**	**-0.2**
GENO	**Geno**	**3.15**	**202**	Pn	**Pn**	**20 40 07.8**	**+1.0**
BNDS	**Bandar-Abbas**	**3.16**	**202**	*e*Pn	**Pb**	**20 40 10.2**	**-3.1**
ICHK	**Chekchek**	**3.24**	**306**	Pn	**Pn**	**20 40 08.4**	**+0.3**
TKDS	**Koohdasht(Taba**	**3.27**	**355**	Pn	**Pn**	**20 40 08.4**	**0.0**
TABS	**Tabas**	**3.31**	**355**	*e*Pn	**Pn**	**20 40 08.8**	**0.0**
TABS				IAML		20 41 13.7	
	comp=N,21μm,0.6s						
AFRZ	**Afriz**	**3.33**	**23**	Pn	**Pn**	**20 40 09.0**	**-0.3**
ISAD	**Sadrabad**	**3.61**	**297**	Pn	**Pn**	**20 40 14.0**	**+0.7**
TNSJ	**Nastanj**	**3.68**	**349**	Pn	**Pn**	**20 40 14.1**	**0.0**
LAR1	**LAR**	**3.81**	**226**	Pn	**Pn**	**20 40 17.0**	**+1.2**
JHRM	**Jahrom**	**3.87**	**243**	Pn	**Pn**	**20 40 17.4**	**+0.7**
SHRT	**Shahrakht**	**4.06**	**35**	*e*Pn	**Pn**	**20 40 19.9**	**+0.7**
SHRT	**Shahrakht**	**4.06**	**35**	Pn	**Pn**	**20 40 19.7**	**+0.5**
ANAR	**Anarak**	**4.27**	**312**	Pn	**Pn**	**20 40 22.2**	**0.0**
QIR1	**Qir**	**4.30**	**245**	Pn	**Pn**	**20 40 23.0**	**+0.6**
GHIR	**Ghir-Karzin**	**4.43**	**244**	*e*Pn	**Pn**	**20 40 24.8**	**+0.4**
SHME	**Shamm**	**4.44**	**196**	*i* P	**Pn**	**20 40 25.9**	**+1.5**
	SNR=108						
SHME				S	**Sn**	**20 41 17.1**	**+1.1**
SHME	**Shamm**	**4.44**	**196**	P	**Pn**	**20 40 26.1**	**+1.7**
	SNR=223						
SHME				P	**Pn**	**20 40 26.1**	**+1.7**
	SNR=223						
SHME				S	**Sn**	**20 41 17.6**	**+1.6**
SHME				S	**Sn**	**20 41 17.6**	**+1.6**
JASK	**Jask - Hormozg**	**4.48**	**176**	Pn	**Pn**	**20 40 25.6**	**+0.7**
JASK	**Jask - Hormozg**	**4.48**	**176**	P	**Pn**	**20 40 26.4**	**+1.6**
	SNR=249						
BANOM	**Banah**	**4.53**	**194**	*i* P	**Pn**	**20 40 27.9**	**+2.3**
	SNR=31						
BANOM	**Banah**	**4.53**	**194**	P	**Pn**	**20 40 28.4**	**+2.8**
BANOM				S	**Sn**	**20 41 20.1**	**+1.9**
IRAM	**Ramesheh**	**4.62**	**290**	Pn	**Pn**	**20 40 27.9**	**+0.9**
NASN	**Na'in**	**4.68**	**303**	*e*Pn	**Pn**	**20 40 28.3**	**+0.3**
LMD1	**Lamerd**	**4.83**	**233**	Pn	**Pn**	**20 40 30.2**	**+0.4**
UMQ	**Umm Al-Quwin**	**5.07**	**199**	*i* P	**Pn**	**20 40 35.5**	**+2.5**
	SNR=26						
UMQ	**Umm Al-Quwin**	**5.07**	**199**	P	**Pn**	**20 40 36.3**	**+3.3**
	SNR=26						
UMQ				P	**Pn**	**20 40 36.3**	**+3.3**
	SNR=26						
IZEF	**Zefreh**	**5.08**	**301**	Pn	**Pn**	**20 40 33.6**	**+0.2**
IGAR	**Gharneh**	**5.09**	**295**	Pn	**Pn**	**20 40 34.5**	**+1.1**
MASF	**Masafi**	**5.09**	**194**	P	**Pn**	**20 40 35.7**	**+2.3**
	SNR=215						
MASF				P	**Pn**	**20 40 35.7**	**+2.3**
	SNR=215						
MSFE	**Esma-Masafi**	**5.11**	**194**	*i* P	**Pn**	**20 40 35.2**	**+1.7**
	SNR=218						
KLNJ	**Kolanjah**	**5.12**	**279**	Pn	**Pn**	**20 40 35.2**	**+1.2**
MDH	**Madha**	**5.14**	**192**	*i* P	**Pn**	**20 40 35.5**	**+1.6**
	SNR=55						
MDH	**Madha**	**5.14**	**192**	P	**Pn**	**20 40 36.1**	**+2.1**
	SNR=15						
MDH				P	**Pn**	**20 40 36.1**	**+2.1**
	SNR=15						
SRVN	**Saravan**	**5.21**	**123**	Pn	**Pn**	**20 40 35.3**	**+0.2**
TBHD	**Torbat heydari**	**5.26**	**16**	Pn	**Pn**	**20 40 35.5**	**-0.3**
TBJM	**Torbat-e-JAM**	**5.46**	**25**	Pn	**Pn**	**20 40 38.6**	**0.0**
UOSS	**Minazif**	**5.50**	**192**	Pn	**Pn**	**20 40 40.2**	**+1.2**
UOSS	**Minazif**	**5.50**	**192**	*i* P	**Pn**	**20 40 40.3**	**+1.4**
	SNR=55						
UOSS	**Minazif**	**5.50**	**192**	P	**Pn**	**20 40 40.9**	**+2.0**
UOSS				P	**Pn**	**20 40 40.9**	**+2.0**
IBRJ	**Brojen**	**5.56**	**288**	Pn	**Pn**	**20 40 40.9**	**+0.9**
NAZ	**Nazwa, Dubai**	**5.58**	**197**	*i* P	**Pn**	**20 40 42.4**	**+2.4**
	SNR=204						
NAZ	**Nazwa, Dubai**	**5.58**	**197**	P	**Pn**	**20 40 42.6**	**+2.6**
	SNR=204						
NAZ				P	**Pn**	**20 40 42.6**	**+2.6**
	SNR=204						
AHBU	**AHRAM**	**5.59**	**256**	Pn	**Pn**	**20 40 39.9**	**-0.2**
HATD	**Hatta, Dubai**	**5.63**	**193**	*i* P	**Pn**	**20 40 41.6**	**+0.9**
	SNR=48						
HATD	**Hatta, Dubai**	**5.63**	**193**	P	**Pn**	**20 40 43.3**	**+2.6**
	SNR=44						
HATD				P	**Pn**	**20 40 43.3**	**+2.6**
	SNR=44						
HATD				S	**Sn**	**20 41 46.4**	**+1.0**
HATD				S	**Sn**	**20 41 46.4**	**+1.0**
HRA	**Herat**	**5.69**	**44**	Pn	**Pn**	**20 40 42.0**	**+0.2**
SHRO	**Shahrood**	**5.76**	**348**	*e*Pn	**Pn**	**20 40 43.0**	**+0.4**
ASHO	**Ashiyiah**	**5.78**	**193**	*i* P	**Pn**	**20 40 44.4**	**+1.6**
	SNR=100						
ASHO	**Ashiyiah**	**5.78**	**193**	P	**Pn**	**20 40 45.2**	**+2.3**
	SNR=74						
ASHO				P	**Pn**	**20 40 45.2**	**+2.3**
	SNR=74						
ASHO				S	**Sn**	**20 41 51.2**	**+2.1**
ASHO				S	**Sn**	**20 41 51.2**	**+2.1**
DSBU	**Dashti - Bushe**	**5.78**	**252**	Pn	**Pn**	**20 40 42.8**	**-0.1**
KRSH	**Karshahi**	**5.80**	**310**	Pn	**Pn**	**20 40 43.8**	**+0.7**
FAQ	**Al Faqa, Dubai**	**5.83**	**197**	*i* P	**Pn**	**20 40 44.2**	**+0.8**
	SNR=108						
FAQ	**Al Faqa, Dubai**	**5.83**	**197**	P	**Pn**	**20 40 45.8**	**+2.4**
	SNR=108						
FAQ				P	**Pn**	**20 40 45.8**	**+2.4**
	SNR=108						
FAQ				S	**Sn**	**20 41 52.2**	**+2.0**
FAQ				S	**Sn**	**20 41 52.2**	**+2.0**
IKLH	**Kolahrood**	**5.83**	**302**	Pn	**Pn**	**20 40 44.4**	**+0.7**
IANJ	**Anjilo**	**5.92**	**330**	Pn	**Pn**	**20 40 44.9**	**0.0**
NGCH	**Negor - Chabah**	**5.93**	**146**	Pn	**Pn**	**20 40 44.7**	**-0.1**
NGCH	**Negor - Chabah**	**5.93**	**146**	P	**Pn**	**20 40 44.2**	**-0.5**
	SNR=19						
ZNGN	**Zangian**	**5.95**	**289**	Pn	**Pn**	**20 40 45.6**	**+0.3**
IMOG	**Moghan**	**5.95**	**15**	Pn	**Pn**	**20 40 45.3**	**0.0**
ISFB	**Sefidab**	**5.97**	**313**	Pn	**Pn**	**20 40 45.8**	**+0.4**
ASUD	**Al Ashush, Dub**	**6.01**	**199**	*i* P	**Pn**	**20 40 47.3**	**+1.4**
	SNR=85						
ASUD	**Al Ashush, Dub**	**6.01**	**199**	P	**Pn**	**20 40 48.4**	**+2.5**
	SNR=85						
ASUD				P	**Pn**	**20 40 48.4**	**+2.5**
	SNR=85						
SBZV	**Sabzevar**	**6.03**	**1**	Pn	**Pn**	**20 40 46.3**	**-0.1**
IPIR	**Pirpir**	**6.09**	**294**	Pn	**Pn**	**20 40 47.4**	**0.0**
JHBN	**Jahan bin**	**6.13**	**290**	Pn	**Pn**	**20 40 48.8**	**+0.9**
AJN	**Ajban**	**6.17**	**202**	*i* P	**Pn**	**20 40 49.2**	**+1.0**
	SNR=139						
AJN	**Ajban**	**6.17**	**202**	P	**Pn**	**20 40 50.4**	**+2.2**
	SNR=139						
AJN				P	**Pn**	**20 40 50.4**	**+2.2**
	SNR=139						
AJN				S	**Sn**	**20 41 59.3**	**+0.6**
AJN				S	**Sn**	**20 41 59.3**	**+0.6**
QAMS	**Qamsar**	**6.18**	**305**	Pn	**Pn**	**20 40 49.4**	**+0.9**
SOHO	**SOHO**	**6.25**	**188**	*i* P	**Pn**	**20 40 48.7**	**-0.4**
	SNR=24						
SOHO	**SOHO**	**6.25**	**188**	P	**Pn**	**20 40 49.3**	**+0.1**
SOHO				P	**Pn**	**20 40 49.3**	**+0.1**
ABEH	**Behbahan**	**6.25**	**274**	Pn	**Pn**	**20 40 49.6**	**+0.4**
IAKL	**Akhelmad**	**6.33**	**9**	Pn	**Pn**	**20 40 50.8**	**+0.3**
IMYA	**Miami**	**6.37**	**19**	Pn	**Pn**	**20 40 51.2**	**+0.3**
ALNE	**Al Ain**	**6.45**	**194**	*i* P	**Pn**	**20 40 52.5**	**+0.4**
	SNR=60						
ALNE	**Al Ain**	**6.45**	**194**	P	**Pn**	**20 40 53.7**	**+1.7**
	SNR=83						
IFIR	**Firoozkooh**	**6.61**	**324**	Pn	**Pn**	**20 40 54.5**	**+0.1**
IKRD	**Kardeh**	**6.63**	**14**	Pn	**Pn**	**20 40 55.8**	**+1.1**
GHVR	**GHOM**	**6.66**	**310**	*e*Pn	**Pn**	**20 40 55.1**	**+0.2**
IVRN	**Varamin**	**6.71**	**315**	Pn	**Pn**	**20 40 56.2**	**+0.5**
HOQ	**Hoqain**	**6.74**	**181**	P	**Pn**	**20 40 56.0**	**0.0**
	SNR=78						
HOQ				P	**Pn**	**20 40 56.0**	**0.0**
	SNR=78						
JRN	**Qarnain Island**	**6.77**	**218**	P	**Pn**	**20 40 57.4**	**+0.9**
	SNR=14						
JRN				S	**Sn**	**20 42 15.2**	**+1.7**
BIDO	**Bidbid**	**6.82**	**175**	P	**Pn**	**20 40 57.3**	**+0.2**
	SNR=41						
IGLO	**Ghaloghah**	**6.86**	**335**	Pn	**Pn**	**20 40 58.3**	**+0.5**
IDMV	**Damavand**	**6.94**	**320**	Pn	**Pn**	**20 40 59.5**	**+0.5**
DAMV	**Damavand**	**7.01**	**320**	*e*Pn	**Pn**	**20 41 00.6**	**+0.7**
IQOM	**Qom**	**7.03**	**311**	Pn	**Pn**	**20 41 00.2**	**+0.1**
ARQ	**Araqi**	**7.04**	**187**	P	**Pn**	**20 41 02.4**	**+2.3**
	SNR=97						
ARQ				P	**Pn**	**20 41 02.4**	**+2.3**
	SNR=97						
ARQ				P	**Pn**	**20 41 02.4**	**+2.3**
	SNR=97						
IMND	**Minoodasht**	**7.11**	**346**	Pn	**Pn**	**20 41 01.6**	**+0.7**
IEMG	**Emamgholi**	**7.12**	**8**	Pn	**Pn**	**20 41 01.8**	**+0.4**
WSAR	**Wadi Sarin**	**7.15**	**172**	Pn	**Pn**	**20 41 01.2**	**-0.4**
	comp=N,20nm,0.3s,baz=2.1,slow=12,SNR=112						
WSAR				Sn	**Sn**	**20 42 20.8**	**-2.1**
	comp=N,8.3nm,0.3s,baz=307,slow=20,SNR=2.1						
WSAR				LR	LR	20 44 00.6	
	comp=N,11μm,21.8s,baz=3.0,slow=40 comp=N,126nm,0.5s						
KHMZ	**Khomeyn**	**7.23**	**300**	*e*Pn	**Pn**	**20 41 02.4**	**-0.5**
SMDO	**Samad**	**7.28**	**176**	P	**Pn**	**20 41 04.0**	**+0.6**
	SNR=36						
SMDO				P	**Pn**	**20 41 04.0**	**+0.6**
	SNR=36						
SMDO				P	**Pn**	**20 41 04.0**	**+0.6**
	SNR=36						
IHSB	**Hasanabad**	**7.28**	**316**	Pn	**Pn**	**20 41 04.3**	**+0.8**
IPRN	**Peran**	**7.29**	**325**	Pn	**Pn**	**20 41 04.5**	**+0.9**
SHMA	**Al-Shehemyia**	**7.29**	**234**	P	**Pn**	**20 41 04.3**	**+0.8**
	SNR=35						
SHMA				S	**Sn**	**20 42 26.0**	**-0.3**
MZWR	**Madinat Zayed**	**7.30**	**207**	P	**Pn**	**20 41 04.4**	**+0.7**
MZWR				P	**Pn**	**20 41 04.4**	**+0.7**
MZWR				S	**Sn**	**20 42 26.8**	**+0.2**
MZWR				S	**Sn**	**20 42 26.8**	**+0.2**
BJRD	**Bojnurd**	**7.33**	**360**	*e*Pn	**Pn**	**20 41 04.5**	**+0.2**
MRVT	**Maraveh tapeh**	**7.38**	**351**	*e*Pn	**Pn**	**20 41 05.6**	**+0.7**
MRVT	**Maraveh tapeh**	**7.38**	**351**	Pn	**Pn**	**20 41 05.8**	**+1.0**
TEH	**Tehran**	**7.42**	**318**	Pn	**Pn**	**20 41 06.1**	**+0.6**
TEHA	**Amirabad Tehra**	**7.43**	**318**	Pn	**Pn**	**20 41 06.3**	**+0.7**
SAKB	**Bahrain**	**7.52**	**236**	P	**Pn**	**20 41 06.6**	**-0.1**
GHWR	**Ruwais**	**7.57**	**214**	P	**Pn**	**20 41 09.1**	**+1.8**
GHWR				P	**Pn**	**20 41 09.1**	**+1.8**
GHWR				S	**Sn**	**20 42 33.5**	**+0.4**
GHWR				S	**Sn**	**20 42 33.5**	**+0.4**
ASAO	**Ashtian**	**7.57**	**306**	*e*Pn	**Pn**	**20 41 08.7**	**+1.1**
BSY	**Bisya**	**7.58**	**182**	P	**Pn**	**20 41 10.0**	**+2.5**
	SNR=67						
BSY				P	**Pn**	**20 41 10.0**	**+2.5**
	SNR=67						
BSY				P	**Pn**	**20 41 10.0**	**+2.5**
	SNR=67						
CHTH	**Charan**	**7.69**	**318**	*e*Pn	**Pn**	**20 41 10.2**	**+0.9**
WBK	**Wadi Bani Khal**	**7.82**	**170**	P	**Pn**	**20 41 10.3**	**-0.5**
	SNR=36						
THKV	**Tehran--Karaj**	**7.84**	**317**	*e*Pn	**Pn**	**20 41 12.3**	**+1.1**
UMZA	**Um Al Zommool**	**7.88**	**196**	P	**Pn**	**20 41 12.4**	**+0.8**
UMZA				P	**Pn**	**20 41 12.4**	**+0.8**
UMZA				P	**Pn**	**20 41 12.4**	**+0.8**
TRNA	**Turayna**	**7.89**	**226**	P	**Pn**	**20 41 11.5**	**-0.2**
	SNR=72						
TRNA				S	**Sn**	**20 42 42.0**	**+1.0**
JMDO	**Jabal Madar**	**7.96**	**176**	P	**Pn**	**20 41 13.8**	**+1.0**
	SNR=19						
JMDO				P	**Pn**	**20 41 13.8**	**+1.0**
	SNR=19						
SLWR	**Sila**	**8.11**	**221**	P	**Pn**	**20 41 14.5**	**-0.1**
SLWR				S	**Sn**	**20 42 47.0**	**+0.7**
SMRA	**Abu-Samra**	**8.13**	**228**	P	**Pn**	**20 41 14.8**	**-0.2**
	SNR=80						
SMRA				S	**Sn**	**20 42 47.0**	**+0.2**
MZR	**Muzera**	**8.14**	**207**	*i* P	**Pn**	**20 41 14.7**	**-0.6**
	SNR=70						
MZR	**Muzera**	**8.14**	**207**	P	**Pn**	**20 41 16.0**	**+0.7**
	SNR=68						
HOFOF	**Al Hofuf**	**8.32**	**236**	S	**Sn**	**20 42 49.1**	**-2.5**
HOFOF	**Al Hofuf**	**8.32**	**236**	P	**Pn**	**20 41 18.0**	**+0.3**
JLN	**Jalan Bani Buh**	**8.34**	**168**	P	**Pn**	**20 41 17.1**	**-0.9**
	SNR=14						
JLN				P	**Pn**	**20 41 17.1**	**-0.9**
	SNR=14						
HSAM	**Samen**	**8.45**	**299**	Pn	**Pn**	**20 41 20.5**	**+0.8**
KBD	**Kabd**	**8.59**	**265**	P	**Pn**	**20 41 21.5**	**+0.1**
SHBH1	**SHBH1**	**8.60**	**219**	P	**Pn**	**20 41 20.2**	**-1.4**
SHBH1	**SHBH1**	**8.60**	**219**	S	**Sn**	**20 42 56.2**	**-2.3**
IKFM	**Kafar-mosalman**	**8.78**	**294**	Pn	**Pn**	**20 41 24.7**	**+0.8**
GIDE	**GILAN DEYLAMAN**	**9.10**	**318**	*e*Pn	**Pn**	**20 41 29.4**	**+0.9**
MHTO	**MHTO**	**9.33**	**177**	P	**Pn**	**20 41 32.8**	**+1.2**
MHTO				P	**Pn**	**20 41 32.8**	**+1.2**
NHRD	**Haradh**	**9.38**	**235**	P	**Pn**	**20 41 31.1**	**-1.0**
QYSM	**Um Kedad**	**9.61**	**258**	P	**Pn**	**20 41 33.4**	**-2.0**
KCHF	**Cheshme Sefid,**	**9.67**	**297**	Pn	**Pn**	**20 41 37.8**	**+1.5**
ZNJK	**Zanjan**	**9.68**	**313**	*e*Pn	**Pn**	**20 41 36.9**	**+0.4**
KURES	**Khurais**	**9.69**	**240**	P	**Pn**	**20 41 35.4**	**-1.0**
SNGE	**Sanandaj**	**9.76**	**302**	*e*Pn	**Pn**	**20 41 39.4**	**+1.8**
ILBA	**Ilam Banvizeh**	**10.12**	**292**	*e*Pn	**Pn**	**20 41 42.2**	**-0.1**
ILBA	**Ilam Banvizeh**	**10.12**	**292**	Pn	**Pn**	**20 41 43.0**	**+0.7**
DQM	**DQM**	**10.37**	**180**	P	**Pn**	**20 41 45.6**	**-0.2**
DQM				P	**Pn**	**20 41 45.6**	**-0.2**
GLG1	**Gilan-e-Gharb**	**10.50**	**294**	Pn	**Pn**	**20 41 47.5**	**0.0**
KBL	**Kabul**	**10.62**	**64**	Pn	**Pn**	**20 41 51.4**	**+2.0**
KBL	**Kabul**	**10.62**	**64**	P	**Pn**	**20 41 53.8**	**+4.4**
	SNR=22						
KBL	**Kabul**	**10.62**	**64**	P	**Pn**	**20 41 51.4**	**+2.0**
RMAH	**Rumah**	**10.62**	**245**	P	**Pn**	**20 41 46.8**	**-2.5**
KGS1	**Ghasr-e-Shirin**	**10.87**	**296**	Pn	**Pn**	**20 41 53.6**	**+1.0**
KHRJ	**Al Kharj**	**10.88**	**236**	P	**Pn**	**20 41 50.5**	**-2.3**
IHSH	**Hashtrud**	**10.97**	**312**	Pn	**Pn**	**20 41 54.8**	**+0.6**
LKRN	**Lenkeran, Azer**	**11.00**	**322**	P	**Pn**	**20 41 56.8**	**+2.5**
ISRB	**Sarab**	**11.04**	**315**	Pn	**Pn**	**20 41 56.0**	**+1.0**
GRMI	**Germi**	**11.56**	**319**	*e*Pn	**Pn**	**20 42 02.6**	**+0.5**
GRMI	**Germi**	**11.56**	**319**	Pn	**Pn**	**20 42 03.1**	**+1.1**
IHRS	**Heris**	**11.73**	**315**	Pn	**Pn**	**20 42 06.0**	**+1.4**
DOK	**Doka**	**12.07**	**195**	P	**Pn**	**20 42 07.8**	**-1.2**
	SNR=28						
DOK				P	P	20 42 12.0	-10
	SNR=8.7						
DOK				S	**Sn**	**20 44 25.7**	**+2.1**
SHAO	**Shalim**	**12.39**	**188**	*i* P	**Pn**	**20 42 11.6**	**-1.8**
	SNR=11						
SHAO	**Shalim**	**12.39**	**188**	P	**Pn**	**20 42 12.5**	**-0.9**
	SNR=12						
SHAO				S	**Sn**	**20 44 32.5**	**+1.1**
SIMJ	**Simiganj**	**12.60**	**46**	Pn	**Pn**	**20 42 16.6**	**+0.2**
RAYN	**Ar Rayn**	**12.66**	**240**	Pn	**Pn**	**20 42 12.8**	**-4.4**
RAYN	**Ar Rayn**	**12.66**	**240**	*i* P	Pn	20 42 12.3	-4.9
	SNR=22						
RAYN	**Ar Rayn**	**12.66**	**240**	P	**Pn**	**20 42 13.4**	**-3.8**
RAYN				S	**Sn**	**20 44 36.0**	**-2.1**
RAYN	**Ar Rayn**	**12.66**	**240**	P	Pn	20 42 12.0	-5.2
CHGR	**Chuyangaron**	**12.69**	**46**	Pn	**Pn**	**20 42 17.6**	**0.0**
CHGR	**Chuyangaron**	**12.69**	**46**	P	**Pn**	**20 42 17.6**	**0.0**
DMTO	**DMTO**	**12.79**	**191**	P	**Pn**	**20 42 17.2**	**-1.7**
	SNR=9.2						
IMRD	**Marand**	**12.80**	**314**	Pn	**Pn**	**20 42 20.6**	**+1.5**
WHFO	**Wadi Hawf**	**12.83**	**196**	P	**Pn**	**20 42 17.6**	**-1.8**
	SNR=26						
WHFO				P	**Pn**	**20 42 17.6**	**-1.8**
	SNR=26						
RBK	**Rabkut**	**13.13**	**194**	P	**Pn**	**20 42 21.8**	**-1.9**
	SNR=14						
MNGR	**Mingechevir, A**	**13.40**	**324**	P	P	20 42 31.7	-4.9
ABTO	**Aybut**	**13.49**	**197**	P	**Pn**	**20 42 26.3**	**-2.2**
	SNR=17						
GAR	**Garm**	**13.63**	**47**	Pn	**Pn**	**20 42 30.4**	**0.0**
SEKA	**Sheki**	**13.67**	**325**	P	**Pn**	**20 42 32.4**	**+1.5**
GANJ	**Ganja**	**13.71**	**322**	P	**Pn**	**20 42 33.5**	**+2.1**
NIL	**Nilore**	**13.78**	**72**	P	**Pn**	**20 42 36.0**	**+3.7**
MAKU	**Maku**	**13.82**	**314**	*e*Pn	**Pn**	**20 42 34.8**	**+1.8**
CLDR	**Caldiran**	**14.18**	**312**	*e*P	**Pn**	**20 42 38.3**	**+0.3**
VANB	**Van**	**14.23**	**309**	*e*P	**Pn**	**20 42 38.3**	**-0.3**
GNI	**Garni**	**14.27**	**317**	Pn	**Pn**	**20 42 40.0**	**+0.8**
	comp=N,0.2nm,0.3s,baz=139,slow=0.6,SNR=14						
GNI				LR	LR	20 48 51.0	
	comp=N,14μm,18.9s,baz=116,slow=40 comp=N,10nm,0.8s						
GNI	**Garni**	**14.27**	**317**	P	**Pn**	**20 42 41.6**	**+2.4**
GNI				P	**Pn**	**20 42 41.6**	**+2.4**
GNI				P	**Pn**	**20 42 41.6**	**+2.4**
GNI	**Garni**	**14.27**	**317**	*d i* P	**Pn**	**20 42 41.5**	**+2.4**
GNI				pmax	pmax		
	comp=Z,159nm,1.7s						
AKDM	**Akdamar-Van**	**14.38**	**307**	*e*P	**P

AAK Ala-Archa 18.33 43 P **Pn 20 43 31.0 -0.4**
SNR=37
AAK Ala-Archa 18.33 43 P **P 20 43 31.7 +0.2**
AAK Ala-Archa 18.33 43 P **Pn 20 43 31.2 -0.1**
comp=Z,1.3nm,0.3s,baz=235,slow=11,SNR=81
AAK LR LR 20 51 35.1
comp=Z,14μm,18.2s,baz=245,slow=40
comp=Z,160nm,1.1s
AAK Ala-Archa 18.33 43 P **P 20 43 31.5 +0.1**
DARE Darende-Malaty 18.40 302 *eP* **Pn 20 43 33.9 +1.7**
SWQJ Swaqa 18.43 278 P **Pn 20 43 32.8 +0.2**
KMRS Kahramanmaras 18.50 298 *eP* **Pn 20 43 34.3 +1.0**
ESPY Espiye-Giresun 18.50 310 *eP* **Pn 20 43 35.3 +1.9**
FRU1 Bishkek 18.51 43 P **Pn 20 43 35.6 +2.1**
FRU1 Bishkek 18.51 43 P **Pn 20 43 35.6 +2.1**
FRU1 pmax pmax
comp=Z,117nm,0.9s
GOF Gofitskoye 18.57 326*d iP* **P 20 43 33.4 -0.4**
KBK Karagaybulak 18.61 44 P **P 20 43 34.4 -0.1**
SNR=38
HWQ Hawqa 18.62 288 *eP* **Pn 20 43 36.6 +1.7**
SHMJ Saham 18.67 283 P **Pn 20 43 38.3 +2.9**
CHMS Chumysh 18.70 43 P **P 20 43 35.0 -0.3**
SNR=30
NATI Neve Ativ 18.71 285 P **Pn 20 43 37.6 +1.7**
USP Ospenovka 18.71 42 P **P 20 43 33.9 -1.7**
SNR=21
BALJ Balqa 18.77 281 P **Pn 20 43 38.8 +2.2**
TAHT Tahtakopru-Hat 18.77 294 *eP* **Pn 20 43 38.1 +1.5**
GEM Giv'at Ha'Em 18.77 284 P **Pn 20 43 38.8 +2.2**
KARJ KARJ 18.79 278 P **Pn 20 43 40.4 +3.6**
QRNJ Al-Qirein 18.82 282 P **Pn 20 43 39.8 +2.6**
BHL Bhannes 18.82 287 *eP* **Pn 20 43 39.0 +1.6**
HSNJ Maan 18.82 275 P **Pn 20 43 40.4 +2.9**
GHAJ Ghor Haditha 18.85 278 P **Pn 20 43 38.9 +1.3**
HMDT Nahal Hemdat 18.86 281 P **Pn 20 43 40.0 +2.3**
SGDS Sogindy 18.90 42 *eP* **P 20 43 36.8 -0.9**
baz=41
SGDS *eS* **Sn 20 47 08.8 -0.9**
baz=41
SGDS Sogindy 18.90 42 *eP* **P 20 43 36.7 -0.9**
SGDS *eS* **Sn 20 47 08.8 -0.9**
UJAP Al Uja 18.92 281 P **Pn 20 43 39.8 +1.4**
LISJ El Lísan 18.93 278 P **Pn 20 43 40.3 +1.8**
MMLI Mount Malkishu 18.95 282 *eP* **Pn 20 43 41.4 +2.5**
MMLI Mount Malkishu 18.95 282 P **Pn 20 43 41.7 +2.8**
ABKAR Abkulak array 18.98 5 P **P 20 43 37.8 -0.5**
MMA0 Mount Meron ar 18.98 284 P **Pn 20 43 42.4 +3.2**
MMAI Mount Meron Ar 18.98 284 P **Pn 20 43 39.4 +0.2**
comp=Z,1.9nm,0.3s,baz=93,slow=14,SNR=26
MMAI LR LR 20 52 26.5
comp=Z,8μm,21.5s,baz=30,slow=42
comp=Z,36nm,0.8s
DSI Dead Sea 19.00 279 P **Pn 20 43 42.5 +3.1**
MSBI Mazada 19.03 279 P **Pn 20 43 42.0 +2.3**
VSLR Vesyoloye 19.09 318*d iP* **Pn 20 43 41.2 +0.8**
VSLR pmax pmax
comp=Z,542nm,1.1s
BOOM Boomskoye usch 19.12 46 P **P 20 43 39.7 -0.5**
BOOM Boomskoye usch 19.12 46 P **P 20 43 39.7 -0.5**
BOOM pmax pmax
comp=Z,92nm,1.0s
SARI SarD1z-Kayseri 19.13 300 *eP* **Pn 20 43 42.0 +0.8**
BLGI Bet Lehem HaGe 19.15 283 P **Pn 20 43 44.0 +2.8**
TKM2 Tokmak 2 19.15 44 P **P 20 43 40.9 +0.3**
SNR=74
HNTI Hanita 19.17 284 P **Pn 20 43 44.1 +2.6**
ULHL Ulahol 19.18 47 P **P 20 43 41.1 +0.3**
SNR=17
RSDY Resadiye-TOKAT 19.22 307 *eP* **Pn 20 43 42.7 +0.7**
YTIR Yattir 19.23 279 P **Pn 20 43 44.0 +1.7**
ZFRI Zfri 19.23 276 P **Pn 20 43 42.9 +0.7**
SVSK Karacayir 19.25 305 *eP* **Pn 20 43 43.1 +0.8**
SLTI Sal'it 19.27 281 P **Pn 20 43 45.0 +2.3**
KOZT Kozan 19.31 297 *eP* **Pn 20 43 43.8 +0.7**
OFRI `Ofer 19.32 283 P **Pn 20 43 45.4 +2.1**
SOC Sochi 19.34 318 *eP* **P 20 43 41.9 -0.5**
SOC *e* 20 47 19.3
SOC pmax pmax
comp=Z,271nm,0.9s
SOC MLR MLR
comp=Z,5μm,14.0s
AMAZ Amatzia 19.40 279 P **Pn 20 43 46.0 +1.8**
PRNI Paran 19.40 276 P **Pn 20 43 44.8 +0.5**
HRFI Mount Harif 19.41 275 *eP* **Pn 20 43 45.4 +1.0**
HRFI Mount Harif 19.41 275 P **Pn 20 43 45.4 +1.0**
AQBJ Aqaba 19.43 274 P **Pn 20 43 45.7 +1.0**
LABN Labinsk 19.45 322 *eP* **Pn 20 43 45.9 +1.1**
LABN pmax pmax
comp=Z,482nm,1.2s
LABN MLR MLR
comp=Z,3μm,9.0s
LABN MLR MLR
comp=N,811nm,7.0s
LABN MLR MLR
comp=E,3μm,8.0s
EIL Elat 19.53 274 P **P 20 43 44.7 +0.2**
comp=E,1.3nm,0.3s,baz=71,slow=2.7,SNR=84
EIL LR LR 20 52 39.2
comp=E,6μm,19.4s,baz=82,slow=41
comp=E,179nm,1.1s
MBRI Mt Berech 19.54 274 P **Pn 20 43 46.4 +0.3**
BTLS Baital 19.61 37 *eP* **P 20 43 44.9 -0.4**
baz=37
BTLS *eS* **S 20 47 25.4 -1.0**
baz=37
BTLS Baital 19.61 37 *eP* **P 20 43 44.9 -0.4**
BTLS *eS* **S 20 47 25.4 -1.0**
BNN Bunyan 19.70 301 *eP* **Pn 20 43 47.8 -0.1**
TOKT Tokat 19.73 306 *eP* **Pn 20 43 48.2 0.0**
KZIT Kziot 19.88 277 P **Pn 20 43 50.8 +0.9**
CMRD Camardi-Nigde 20.00 297 *eP* **Pn 20 43 52.1 +0.6**
AKTO Aktyubinsk 20.07 1 P **P 20 43 50.0 -0.3**
comp=E,201nm,1.0s,baz=183,slow=9.4,SNR=313
AKTO LR LR 20 53 03.4
comp=E,14μm,19.5s,baz=178,slow=41
comp=E,201nm,1.0s
AAA Alma-Ata 20.11 45 *eP* **P 20 43 50.9 -0.1**
baz=45
AAA LR LR 20 51 24.3
comp=E,3μm,11.4s,baz=45
AAA Alma-Ata 20.11 45 *eP* **P 20 43 50.8 -0.1**
AAA MLR MLR
comp=Z,3μm,11.0s
MDOK Medeo 20.17 45 *eP* **P 20 43 51.4 -0.3**
baz=45
MDOK *eS* **S 20 47 37.9 -0.1**
baz=45
MDOK LR LR 20 51 34.4
comp=Z,2μm,9.0s,baz=45
MDOK Medeo 20.17 45 *eP* **P 20 43 51.3 -0.3**
MDOK *eS* **S 20 47 37.8 -0.1**
MDOK MLR MLR
comp=Z,2μm,9.0s
EREN Erenkoy 20.22 291 *eP* Pn 20 43 54.2 +0.2
ERBR Yeremizino-Bor 20.30 324 *eP* Pn 20 43 54.3 -0.5
ERBR pmax pmax
comp=Z,1μm,1.6s
ERBR MLR MLR
comp=E,7μm,11.0s
ERBR MLR MLR
comp=Z,3μm,13.0s
ERBR MLR MLR
comp=N,3μm,9.0s
YOZ Yozgat 20.35 303 *eP* Pn 20 43 54.6 -1.0
KVT Kavak 20.39 308 *eP* Pn 20 43 55.3 -0.6
KIZK Mersin 20.40 294 *eP* Pn 20 43 55.4 -0.7
CHKK Chushkaly 20.52 44 *eP* **P 20 43 55.3 0.0**
baz=44
CHKK Chushkaly 20.52 44 *eP* **P 20 43 55.2 0.0**
KOZK Kozakli-Nevseh 20.54 302 *eP* Pn 20 43 56.8 -0.9
SILI Silifke-Mersin 20.55 293 *eP* Pn 20 43 56.8 -1.1
IKL Isikli 20.72 293 *eP* **P 20 43 58.1 +0.6**
KEBE Keben-Mersin 20.73 293 *eP* Pn 20 43 59.2 -0.9
AKKU Akkuyu-Mersin 20.82 292 *eP* **P 20 43 59.2 +0.7**
CSS Mathiatis 20.84 289 *eP* Pn 20 44 00.3 -0.9
CSS Mathiatis 20.84 289 P **P 20 43 59.0 +0.2**
CSS Mathiatis 20.84 289 P Pn 20 44 00.2 -1.0
CSS Mathiatis 20.84 289 P Pn 20 44 00.2 -1.0
comp=N,770nm,1.8s,comp=N,13μm
YESY Yesilyurt 20.99 297 *eP* Pn 20 44 01.7 -1.4
CORM Corum 21.03 304 *eP* **P 20 44 01.8 +0.9**
TEKE Tekeli-Mersin 21.16 292 *eP* **P 20 44 03.1 +0.9**
DIKM Dikmen 21.17 308 *eP* **P 20 44 02.8 +0.6**
DIKM Dikmen 21.17 308 ⇓P **P 20 44 03.1 +0.9**
DIKM Dikmen 21.17 308 P **P 20 44 03.7 +1.5**
comp=N,220nm,1.7s,comp=N,4μm
LEF Lefka 21.21 289 *eP* **P 20 44 04.5 +1.8**
ARXS Arharly 21.22 44 *eP* **P 20 44 02.4 -0.5**
KRMN Karaman 21.23 295 *eP* **P 20 44 04.2 +1.2**
YAYX Yaylak 21.24 300 *eP* **P 20 44 03.5 +0.4**
SULT Sultanhani-AKS 21.26 298 *eP* **P 20 44 04.9 +1.5**
KPKS Kokpek 21.34 46 *eP* **P 20 44 03.9 -0.3**
baz=46
KPKS *eS* **S 20 48 00.1 -1.0**
baz=46
KPKS Kokpek 21.34 46 *eP* **P 20 44 03.9 -0.3**
KPKS *eS* **S 20 48 00.1 -1.0**
SNOP Sinop 21.36 309 P **P 20 44 03.1 -1.2**
ANN Anapa 21.39 318 *eP* **P 20 44 04.9 +0.4**
ANN *eS* Sn 20 48 05.0 -4.3
ANN pmax pmax
comp=Z,552nm,1.8s
ANN MLR MLR
comp=Z,3μm,16.0s
ANN MLR MLR
comp=E,3μm,12.0s
UZB Uzynbulak 21.40 47 *eP* **P 20 44 04.6 -0.3**
baz=47
UZB Uzynbulak 21.40 47 *eP* **P 20 44 04.5 -0.3**
SERE Sereflikochisa 21.42 300 *eP* **P 20 44 06.0 +0.9**
BR104 Keskin Array S 21.59 302 P **P 20 44 07.0 0.0**
comp=E,175nm,1.1s,comp=E,2μm
BR131 Keskin Array S 21.60 302 *eP* **P 20 44 07.1 0.0**
BR131 Keskin Array S 21.60 302 P **P 20 44 07.2 +0.1**
BR131 Keskin Array S 21.60 302 P **P 20 44 07.2 +0.1**
BR131 pmax pmax
comp=Z,2μm,2.0s
BRTR Keskin Array B 21.60 302 P **P 20 44 04.5 -2.5**
BRTR Keskin Array B 21.60 302 P **P 20 44 07.0 -0.1**
comp=Z,100nm,0.8s,baz=120,slow=13,SNR=223
BRTR PcP **PcP 20 48 07.9 -0.9**
comp=Z,7.6nm,1.1s,baz=101,slow=3.3,SNR=1.8
BRTR LR LR 20 53 13.8
comp=Z,9μm,18.1s,baz=108,slow=39
BRTR PKiKP **PKiKP 20 55 54.2 -1.1**
comp=Z,0.9nm,0.9s,baz=92,slow=4.3,SNR=3.5
comp=Z,100nm,0.8s
BR105 Keskin Array S 21.61 302 P **P 20 44 07.3 +0.1**
comp=Z,254nm,1.1s,comp=Z,3μm
BR106 Keskin Array S 21.62 302 P **P 20 44 07.3 +0.1**
comp=Z,250nm,1.1s,comp=Z,3μm
SHLS Shalkode 21.68 48 *eP* **P 20 44 10.7 +2.7**
baz=48
SHLS Shalkode 21.68 48 *eP* **P 20 44 10.6 +2.7**
PDGK Podgornoye 21.78 47 *i P* **P 20 44 08.7 -0.3**
PDGK pmax pmax
comp=Z,245nm,1.2s
HDMB Hadim 21.80 294 *eP* **P 20 44 10.3 +1.0**
GAZI Gazipasa 21.82 292 *eP* **P 20 44 10.3 +1.0**
CHBY Cihanbeyli 21.83 299 *eP* **P 20 44 10.6 +1.1**
KULU Kulu 21.87 300 *eP* **P 20 44 09.9 0.0**
CANT Cankiri 21.91 304 *eP* **P 20 44 10.6 +0.4**
AFSR Afar-Bala (An 21.93 301 *eP* **P 20 44 10.8 +0.2**
TDK Taldyqorghan 22.00 43 *eP* **P 20 44 11.0 -0.2**
baz=42
TDK LR LR 20 52 58.2
comp=Z,5μm,11.7s,baz=42
TDK Taldyqorghan 22.00 43 *eP* **P 20 44 11.0 -0.2**
TDK MLR MLR
comp=Z,5μm,12.0s
KONT Konya--Tatoy 22.09 297 *eP* **P 20 44 13.5 +1.3**
LADK Ladik-KONYA 22.14 297 *eP* **P 20 44 14.2 +1.3**
BZK Bozkurt 22.15 308 *eP* **P 20 44 13.8 +1.1**
BZK Bozkurt 22.15 308 ⇑P **P 20 44 14.1 +1.3**
BZK Bozkurt 22.15 308 P **P 20 44 14.7 +2.0**
comp=Z,246nm,1.0s,comp=Z,4μm
ANTO Ankara 22.26 302 P **P 20 44 14.3 +0.2**
ANTO IAmb IAmb 20 44 25.0
comp=Z,159nm,0.9s
ANTO Ankara 22.26 302 P **P 20 44 14.3 +0.2**
ANTO Ankara 22.26 302 ⇓P **P 20 44 15.1 +1.0**
ANTO Ankara 22.26 302 P **P 20 44 14.3 +0.2**
ANTO pmax pmax
comp=Z,159nm,1.0s
ANTO MLR MLR
comp=Z,8μm,20.0s
ANTO Ankara 22.26 302 P **P 20 44 13.9 -0.2**
comp=Z,89nm,1.4s,comp=Z,2μm
SEYD Seydisehir-KON 22.39 295 *eP* **P 20 44 15.8 +0.3**
KIZT Kizilcal 22.67 299 *eP* **P 20 44 18.3 -0.2**
KURC Kurucasile-Bar 22.97 307 *eP* **P 20 44 21.5 0.0**
SVRH Sivrihisar-ESK 23.09 300 *eP* **P 20 44 21.2 -1.6**
HYB Hyderabad 23.12 119 *eP* **P 20 44 23.8 +0.6**
HYB IVmB_BB 20 44 28.5
comp=Z,3μm,1.6s
HYB IVMs_BB IVMs_BB 20 55 27.0
comp=Z,3μm,10.2s
ATD Arta Tunnel 23.14 219 IAMs_20 IAMs_20 20 54 50.7
comp=Z,8μm,18.0s
ATD Arta Tunnel 23.14 219 LR LR 20 55 02.3
comp=Z,328nm,19.0s,baz=36,slow=41
BELG Belogornoye 23.19 345 P **P 20 44 23.2 -0.4**
comp=Z,728nm,1.0s,baz=93,slow=0.8,SNR=57
BELG LR LR 20 56 11.7
comp=Z,7μm,19.8s,baz=162,slow=44
BELG Belogornoye 23.19 345*d iP* **P 20 44 22.6 -1.0**
BELG pmax pmax
comp=Z,121nm,0.9s
YUVA Yuva-Kibriscik 23.23 303 *eP* **P 20 44 25.6 +1.3**
BCK Bucak 23.38 295 *eP* **P 20 44 26.5 +0.7**
CIFT Cifteler, Eski 23.41 300 *eP* **P 20 44 25.9 -0.2**
SIM Simferopol' 23.44 315*ceP* **P 20 44 26.7 +0.4**
ISP Isparta 23.49 296 IAMs_20 IAMs_20 20 54 32.1
comp=Z,9μm,21.0s
KORT Korkueli 23.49 294 *eP* **P 20 44 27.3 +0.3**
MDUB Mudurnu 23.61 302 *eP* **P 20 44 27.5 -0.6**
MDUB Mudurnu 23.61 302 P **P 20 44 29.0 +0.9**
SHUT Suhut-Afyon 23.61 298 *eP* **P 20 44 26.2 -1.9**
ELL Elmali 23.81 293 *eP* **P 20 44 30.5 +0.5**
ELL Elmali 23.81 293 P **P 20 44 30.3 +0.3**
ELL Elmali 23.81 293 P **P 20 44 30.3 +0.3**
ELL pmax pmax
comp=Z,1μm,1.0s
SRCK Saricakaya, Es 23.91 301 *eP* **P 20 44 29.9 -1.0**
VRH Novokhopyorsk 23.91 335 *eP* **P 20 44 29.0 -1.7**
VRH *eS* **S 20 48 43.3 -3.4**
VRH pmax pmax
comp=Z,750nm,2.2s
VRH smax smax
comp=N,3μm,10.7s
VRH MLR MLR
comp=Z,3μm,16.0s
AKAS Kas 23.99 292 *eP* **P 20 44 34.1 +2.3**
GULT Gulveren 24.10 302 *eP* **P 20 44 31.8 -0.9**
CAME Cameli-Denizli 24.31 293 *eP* **P 20 44 35.2 +0.4**
SAUV Serdivan-Sakar 24.32 303 *eP* **P 20 44 35.0 +0.3**
APMY Acipayam-Deniz 24.39 294 *eP* **P 20 44 35.5 +0.1**
FETY Fethiye 24.45 292 *eP* **P 20 44 38.6 +2.7**
CAVI Cavuskoy 24.53 301 *eP* **P 20 44 37.6 +1.0**
BRVK Borovoye 24.55 19 P **P 20 44 36.6 +0.1**
BRVK IAmb IAmb 20 44 41.9
comp=Z,178nm,0.9s
BRVK Borovoye 24.55 19 P **P 20 44 37.2 +0.7**
BRVK P **P 20 44 37.2 +0.7**
BRVK P **P 20 44 37.2 +0.7**
BRVK Borovoye 24.55 19*d iP* **P 20 44 36.7 +0.1**
BVAR Borovoye Array 24.55 19 P **P 20 44 36.8 +0.2**
comp=Z,317nm,0.8s,baz=201,slow=7.0,SNR=658
BVAR PcP **PcP 20 48 14.0 -0.5**
comp=Z,6.8nm,0.9s,baz=132,slow=4.3,SNR=1.4
BVAR LR LR 20 55 41.1
comp=Z,11μm,18.0s,baz=208,slow=40
BVAR P3KPbc 21 17 48.8
comp=Z,1.8nm,0.8s,baz=29,slow=3.4,SNR=8.3
comp=Z,317nm,0.8s
GEDZ Gediz 24.59 298 *eP* **P 20 44 40.8 +3.6**
VORD Divnogorie 24.67 332 *eP* **P 20 44 36.9 -0.8**
VORD *eS* **S 20 48 57.6 -1.2**
VORD pmax pmax
comp=Z,480nm,1.3s
VORD smax smax
comp=N,2μm,8.5s
ADVT Abdulvahap 24.67 302 *eP* **P 20 44 36.8 -1.0**
HRT Hereke 24.83 302 *eP* **P 20 44 38.3 -1.0**
VSR Storozhevoye 24.91 332 *eP* **P 20 44 38.7 -1.2**
VSR *eS* **S 20 48 53.8 -9.0**
VSR pmax pmax
comp=Z,270nm,1.1s
VSR smax smax
comp=N,2μm,10.0s
VSR MLR MLR
comp=Z,4μm,20.0s
SIMA Simav-Kutahya 24.92 298 *eP* **P 20 44 42.0 +1.8**
SILT Sile 24.94 303 *eP* **P 20 44 33.1 -7.1**
YLV Yalova 24.97 302 *eP* **P 20 44 41.4 +0.7**
YLV Yalova 24.97 302 P **P 20 44 39.5 -1.2**
comp=Z,107nm,1.1s,comp=Z,2μm
KULA Kula-Manisa 25.06 297 *eP* **P 20 44 40.7 -0.8**
GEMT Gemlik 25.07 301 *eP* **P 20 44 41.0 -0.5**
MAKZ Makanchi 25.08 42 P **P 20 44 41.9 +0.4**
MAKZ IAMs_20 IAMs_20 20 56 09.4
comp=Z,8μm,18.0s
MAKZ Makanchi 25.08 42 P **P 20 44 41.9 +0.4**
MAKZ pmax pmax
comp=Z,242nm,1.0s
MAKZ MLR MLR
comp=Z,8μm,18.0s
ARG Arkhangelos 25.18 291 P **P 20 44 43.1 +0.6**
ARG Arkhangelos 25.18 291 P **P 20 44 43.1 +0.6**
ARG pmax pmax
comp=Z,188nm,0.9s
MK31 Makanchi Array 25.26 42 P **P 20 44 42.4 -0.7**
MK31 Makanchi Array 25.26 42 P **P 20 44 42.4 -0.7**
MK31 pmax pmax
comp=Z,68nm,0.9s
MKAR Makanchi Array 25.26 42 P **P 20 44 43.1 0.0**
MKAR Makanchi Array 25.26 42 P **P 20 44 43.5 +0.4**
comp=Z,79nm,0.8s,baz=230,slow=8.0,SNR=335
MKAR LR LR 20 54 41.7
comp=Z,4μm,18.0s,baz=259,slow=37
MKAR P3KPbc 21 17 42.9
comp=Z,1.9nm,0.9s,baz=41,slow=6.4,SNR=8.6
comp=Z,79nm,0.8s
MDNY Mudanya-Bursa 25.28 301 *eP* **P 20 44 44.2 +0.8**
KAVV Kandilli-Istan 25.34 303 *eP* **P 20 44 43.2 -0.6**
ISK Istanbul-Kandi 25.34 303 *eP* **P 20 44 42.8 -1.0**
ARMT Armutlu 25.35 302 *eP* **P 20 44 42.8 -1.2**
KLYT Kilyos 25.40 303 *eP* **P 20 44 43.5 -0.9**
KLYT Kilyos 25.40 303 P **P 20 44 44.9 +0.5**
comp=Z,109nm,1.8s,comp=Z,2μm
ODEM Odemis-Izmir 25.47 296 *eP* **P 20 44 46.9 +1.7**
AYDB Zeytinkoy-Aydi 25.57 295 *eP* **P 20 44 47.2 +1.1**
MLSB Milas 25.57 294 *eP* **P 20 44 45.9 -0.1**
KCTX Karacabey (Bur 25.65 301 *eP* **P 20 44 46.3 -0.4**
KURBB Kurchatov Arra 25.65 32 P **P 20 44 47.0 +0.5**
comp=Z,68nm,1.1s,baz=230,slow=9.8,SNR=129
KURBB LR LR 20 55 45.7
comp=Z,7μm,19.1s,baz=230,slow=39
KURBB P3KPbc 21 17 41.5
comp=Z,0.7nm,0.7s,baz=48,slow=4.2,SNR=8.5
comp=Z,68nm,1.1s
DAT Datca 25.66 292 *eP* **P 20 44 48.6 +1.6**
KURK Kurchatov 25.76 32 P **P 20 44 48.1 +0.6**
KURK IAmb IAmb 20 44 55.5
comp=Z,97nm,1.0s
KURK Kurchatov 25.76 32 IAMs_20 IAMs_20 20 55 35.8
comp=Z,8μm,18.0s
KURK Kurchatov 25.76 32 P **P 20 44 48.2 +0.7**
KURK Kurchatov 25.76 32 P **P 20 44 48.1 +0.6**
KURK pmax pmax
comp=Z,97nm,1.0s
KURK MLR MLR
comp=Z,8μm,18.0s
CTKS Kestanelik-??a 25.78 303 *eP* **P 20 44 47.4 -0.5**
SUSR Susurluk-Balik 25.79 300 *eP* **P 20 44 47.0 -1.0**
BODT Bodrum 25.91 293 *eP* **P 20 44 50.8 +1.7**
KARP Karpathos 25.91 290 P **P 20 44 48.9 -0.3**
KARP Karpathos 25.91 290 P **P 20 44 50.8 +1.6**
KARP Karpathos 25.91 290 P **P 20 44 51.3 +2.1**
comp=Z,348nm,0.9s,comp=Z,4μm
SLVT Silivri 26.00 303 *eP* **P 20 44 47.0 -2.8**
CTYL Yalikoy Yolu 26.01 303 *eP* **P 20 44 50.6 +0.7**
CTYL Yalikoy Yolu 26.01 303 P **P 20 44 50.8 +0.9**
comp=Z,108nm,0.8s,comp=Z,2μm
EDC Edincik 26.04 301 *eP* **P 20 44 50.6 +0.4**
SOMA Soma-Manisa 26.04 298 *eP* **P 20 44 51.5 +1.2**
GCAM G?zelcaml? 26.05 294 *eP* **P 20 44 50.6 +0.3**
LPSR Galich'ya Gora 26.07 334 *eP* **P 20 44 49.3 -1.1**
LPSR *eS* **S 20 49 22.4 +1.2**
LPSR pmax pmax
comp=Z,230nm,0.9s
LPSR smax smax
comp=N,3μm,12.2s
LPSR MLR MLR
comp=Z,3μm,14.0s
ARU Arti 26.08 1 P **P 20 44 50.6 +0.2**
ARU Arti 26.08 1 LR LR 20 55 55.5
comp=Z,5μm,21.5s,baz=175,slow=38
ARU Arti 26.08 1*d iP* **P 20 44 50.4 0.0**
ARU 20 45 27.3
ARU PPP PPP 20 45 36.5
ARU 20 48 11.9
ARU S **S 20 49 23.6 +2.3**
ARU SS **SnSn 20 50 19.7 +0.5**
ARU pmax pmax
comp=Z,354nm,1.2s
ARU MLR MLR
comp=Z,4μm,18.0s
ARU Arti 26.08 1 P **P 20 44 50.6 +0.2**
comp=Z,330nm,1.1s,comp=Z,3μm
CRLT Corlu 26.32 302 *eP* **P 20 44 53.2 +0.5**
KRBG Karabiga-Canak 26.47 300 *eP* **P 20 44 53.8 -0.3**
DKL Dikili 26.51 297 *eP* **P 20 44 54.5 +0.1**
SVE Sverdlovsk 26.56 4*c iP* **P 20 44 55.1 +0.3**
SVE *eS* **S 20 49 33.1 +4.2**
SVE pmax pmax
comp=Z,306nm,1.5s
SVE MLR MLR
comp=Z,6μm,14.0s
RKY Sarkoy-Tekirda 26.62 301 *eP* **P 20 44 53.5 -2.1**
URLA Izmir 26.64 296 *eP* **P 20 44 55.3 -0.4**
JURR Jurilovca 26.69 311 ⇑P **P 20 44 57.2 +1.1**
MFTR Murfatlar 26.77 309 ⇓P **P 20 44 59.0 +2.1**
PSN Preselentsi 26.78 308 P **P 20 44 56.0 -0.9**
PURM Purcari 26.81 315 ⇑P **P 20 44 58.8 +1.7**
PURM Purcari 26.81 315 P **P 20 44 58.1 +1.0**
comp=Z,258nm,0.9s,comp=Z,4μm
LPK Lapseki 26.86 300 *eP* **P 20 44 56.3 -1.4**
TLCR 26.90 311 ⇑P **P 20 44 59.5 +1.5**
TLCR 26.90 311 P **P 20 44 59.4 +1.5**
TPGR Topolog 27.03 311 ⇑P **P 20 45 01.0 +1.8**
CHOS Chios island 27.06 296 *eP* **P 20 45 01.9 +2.3**
EZN Ezine 27.08 299 *eP* **P 20 44 59.9 +0.3**
EZN Ezine 27.08 299 P **P 20 45 00.1 +0.5**
EZN Ezine 27.08 299 P **P 20 44 58.5 -1.1**
comp=Z,63nm,0.9s,comp=Z,1μm
GELI Tayfur-Gelibol 27.08 300 *eP* **P 20 44 58.5 -1.1**
ZSN Zaisan 27.10 43 *eP* **P 20 44 59.8 0.0**
baz=43
ZSN Zaisan 27.10 43 *eP* **P 20 44 59.8 0.0**
ERIK Erikli-Kesan 27.11 301 *eP* **P 20 44 59.5 -0.4**
PRD Provadia 27.12 306 P **P 20 45 01.0 +1.0**
UKOP Uzunkopru-Edir 27.13 302 *eP* **P 20 45 00.0 0.0**
TLBR Topalu 27.16 310 ⇑P **P 20 45 02.4 +2.2**
ICOR Ion Corvin 27.17 309 ⇑P **P 20 45 01.9 +1.6**
EDRB Edirne 27.22 303 *eP* **P 20 45 01.3 +0.4**
HARR Harsova 27.29 310 ⇑P **P 20 45 02.3 +0.9**
HARR Harsova 27.29 310 P **P 20 45 02.3 +0.9**
APE Apeiranthos 27.33 293 *eP* **P 20 45 02.8 +0.8**
CFR Carcaliu 27.34 311 ⇓P **P 20 45 02.7 +0.9**
CFR Carcaliu 27.34 311 P **P 20 45 02.7 +0.9**
ENEZ Enez 27.39 301 *eP* **P 20 45 01.7 -0.7**
WMQ Urumqi 27.43 52 *eP* **P 20 45 04.9 +2.1**
WMQ PP **PnPn 20 45 48.0 +0.9**
WMQ S **S 20 49 46.0 +3.0**
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ pmax pmax
comp=Z,240nm,3.8s
WMQ LR LR
comp=Z,22μm,22.3s
WMQ LR LR
comp=Z,7μm,14.9s
WMQ LR LR
comp=Z,6μm,22.3s
GADA Gvkgeada 27.47 300 *eP* **P 20 45 05.6 +2.5**
JMB Yambol 27.55 305 P **P 20 45 04.0 +0.2**
SCTR Scanteiesti 27.62 312 ⇑P **P 20 45 06.5 +2.1**
MILM Milestii Mici 27.64 315⇓*iP* **P 20 45 03.0 -1.5**
comp=Z,260nm,2.9s
MILM M M 20 45 08.0

comp=Z,540nm,2.6s
MILM Milestii Mici 27.64 315 ⇑P **P 20 45 05.8 +1.3**
MILM Milestii Mici 27.64 315 *d* P **P 20 45 03.0 -1.5**
MILM *i* 20 45 48.0
MILM *e*S **S 20 49 44.0 -2.0**
MILM pmax pmax
comp=Z,260nm,2.9s
MILM smax smax
comp=E,3μm,12.5s
MILM MLR MLR
comp=Z,2μm,14.0s
VLDR Vladesti 27.64 312 ⇑P **P 20 45 05.3 +0.7**
FURI Furi 27.65 223 LR LR 20 56 38.6
comp=Z,3μm,18.7s,baz=32,slow=38
SCHLR Schela 27.65 311 ⇑P **P 20 45 06.3 +1.6**
KIS Kishinev 27.67 315 ⇓ *e*P **P 20 45 03.0 -1.8**
comp=Z,360nm,2.8s
KIS Kishinev 27.67 315 *de*P **P 20 45 03.0 -1.8**
KIS pmax pmax
comp=Z,360nm,2.8s
KIS MLR MLR
comp=Z,800nm,13.0s
SLCR Slobozia Conac 27.73 312 ⇑P **P 20 45 07.4 +1.9**
IDI Anoyia 27.76 289 *e*P **P 20 45 07.0 +1.1**
IDI Anoyia 27.76 289 P **P 20 45 06.2 +0.3**
IDI IAmb IAmb 20 45 44.0
comp=Z,143nm,0.9s
IDI Anoyia 27.76 289 P **P 20 45 06.1 +0.2**
comp=Z,21nm,0.9s,baz=124,slow=6.1,SNR=11
IDI LR LR 20 59 55.5
comp=Z,1μm,18.7s,baz=86,slow=45
comp=Z,21nm,0.9s
RDO Rodhopi 27.94 301 *e*P **P 20 45 06.4 -0.9**
RDO Rodhopi 27.94 301 P **P 20 45 06.7 -0.6**
GHRR 28.15 312 P **P 20 45 10.0 +0.8**
SZH Strazhitsa 28.16 306 P **P 20 45 08.0 -1.2**
SULR 28.40 309 ⇓P **P 20 45 12.9 +1.5**
GVD Gavdhos 28.41 288 *e*P **P 20 45 14.2 +2.6**
SORM Soroca 28.47 317 P **P 20 45 11.0 -1.0**
comp=Z,55nm,1.6s,comp=Z,1μm
IMMV Iera Moni Meta 28.50 289 *e*P **P 20 45 14.2 +1.8**
VRI Vrincioaia 28.52 312 ⇓P **P 20 45 13.6 +1.1**
VRI Vrincioaia 28.52 312 P **P 20 45 13.5 +1.1**
PLOR5 Plostina Array 28.55 311 P **P 20 45 14.1 +1.3**
comp=Z,50nm,1.4s,comp=Z,1μm
PLOR Plostina 28.56 311 ⇑P **P 20 45 13.8 +0.9**
PLOR Plostina 28.56 311 P **P 20 45 13.7 +0.9**
PLOR3 Plostina Array 28.56 311 P **P 20 45 13.9 +1.0**
comp=Z,42nm,1.3s,comp=Z,1μm
PLD Plovdiv 28.74 303 *e*P **P 20 45 15.2 +0.8**
KIRV Kirov 28.77 351 LR LR 20 59 15.1
comp=Z,11μm,18.6s,baz=170,slow=42
KIRV Kirov 28.77 351 *d i*P **P 20 45 14.2 -0.3**
TESR Tescani 28.82 313 ⇑P **P 20 45 16.5 +1.5**
TESR Tescani 28.82 313 P **P 20 45 14.7 -0.4**
comp=Z,41nm,1.3s,comp=Z,1μm
COVR Voineasa-Covas 28.85 311 ⇑P **P 20 45 16.1 +0.6**
MLR Muntele Rosu 28.89 310 *e*P **P 20 45 16.8 +0.9**
MLR Muntele Rosu 28.89 310 P **P 20 45 17.0 +1.1**
MLR IAmb IAmb 20 46 02.0
comp=Z,118nm,1.0s
MLR Muntele Rosu 28.89 310 P **P 20 45 15.8 -0.1**
comp=Z,9.8nm,0.9s,baz=82,slow=7.0,SNR=16
MLR PcP **PcP 20 48 24.2 -0.8**
comp=Z,20nm,1.1s,baz=124,slow=11,SNR=1.5
comp=Z,9.8nm,0.9s
MLR Muntele Rosu 28.89 310 ⇓P **P 20 45 18.0 +2.0**
MLR Muntele Rosu 28.89 310 P **P 20 45 17.0 +1.1**
MLR pmax pmax
comp=Z,118nm,1.0s
MLR MLR MLR
comp=Z,3μm,18.0s
MLR Muntele Rosu 28.89 310 P **P 20 45 17.4 +1.5**
comp=Z,68nm,0.9s,comp=Z,2μm
OBN Obninsk 28.91 335 P **P 20 45 15.8 0.0**
OBN Obninsk 28.91 335 P **P 20 45 15.8 0.0**
comp=Z,70nm,0.9s,baz=116,slow=3.9,SNR=21
OBN LR LR 20 58 53.0
comp=Z,3μm,19.1s,baz=134,slow=41
comp=Z,70nm,0.9s
OBN Obninsk 28.91 335 *d i*P **P 20 45 15.5 -0.2**
OBN *e* 20 46 07.2
OBN *e*PPP PPP 20 46 16.1
OBN *e* 20 48 23.7
OBN *e*S **S 20 50 08.6 +2.8**
OBN pmax pmax
comp=Z,177nm,1.3s
OBN MLR MLR
comp=Z,3μm,17.0s
OBN Obninsk 28.91 335 P **P 20 45 15.9 +0.1**
comp=Z,156nm,1.6s,comp=Z,2μm
ONER Baraj Valea Uz 28.91 312 ⇑P **P 20 45 16.2 +0.3**
OUR Ouranopolis 28.94 299 *e*P **P 20 45 17.4 +1.2**
MOS Moscow 29.02 337 *e*P **P 20 45 14.5 -2.3**
MOS *e*PPP PPP 20 46 15.7
MOS *e* 20 48 22.1
MOS *e*S **S 20 50 03.8 -3.8**
MOS pmax pmax
comp=Z,206nm,2.0s
MOS pmax pmax
comp=Z,700nm,2.4s
MOS MLR MLR
comp=Z,2μm,14.0s
TURR Turia 29.05 312 ⇑P **P 20 45 17.6 +0.4**
LSA Lhasa 29.10 83 P **P 20 45 19.0 +0.7**
LSA pmax pmax
comp=Z,17nm,1.3s
LSA LR LR
comp=Z,4μm,15.1s
LSA LR LR
comp=Z,6μm,18.4s
LSA LR LR
comp=Z,9μm,17.8s
LSA Lhasa 29.10 83 IAMs_20 IAMs_20 20 58 00.6
comp=Z,9μm,18.0s
PAIG Paliouri 29.11 298 *e*P **P 20 45 15.6 -2.1**
AK09 Malin Array Si 29.21 322 P **P 20 45 18.0 -0.5**
PGB Panagyurishte 29.24 304 P **P 20 45 18.0 -0.9**
AK05 Malin Array Si 29.26 322 P **P 20 45 18.5 -0.4**
AK02 Malin Array Si 29.27 322 P **P 20 45 18.7 -0.4**
AK01 Malin Array Si 29.29 322 P **P 20 45 18.8 -0.4**
AKASG Malin Array Be 29.29 322 P **P 20 45 18.8 -0.4**
AKASG IAmb IAmb 20 45 26.3
comp=Z,70nm,0.9s
AKASG Malin Array Be 29.29 322 P **P 20 45 18.6 -0.6**
comp=Z,23nm,0.8s,baz=127,slow=8.2,SNR=59
AKASG PcP **PcP 20 48 24.4 -1.3**
comp=Z,11nm,0.8s,baz=98,slow=2.5,SNR=5.4
AKASG LR LR 20 59 23.6
comp=Z,2μm,18.1s,baz=118,slow=41
comp=Z,23nm,0.8s
AKASG Malin Array Be 29.29 322 P **P 20 45 18.8 -0.4**
AKASG pmax pmax
comp=Z,70nm,1.0s
AKBB Malin Array Si 29.29 322 P **P 20 45 19.1 -0.1**
AKBB IAmb IAmb 20 45 26.3
comp=Z,93nm,0.9s
AKBB Malin Array Si 29.29 322 P **P 20 45 19.1 -0.1**
AKBB pmax pmax
comp=Z,93nm,0.9s
AKBB Malin Array Si 29.29 322 P **P 20 45 18.8 -0.4**
KIEV Kiev 29.29 322 P **P 20 45 18.9 -0.4**
KIEV IAmb IAmb 20 45 26.3
comp=Z,83nm,0.9s
KIEV Kiev 29.29 322 *i* P **P 20 45 18.8 -0.4**
SNR=66
KIEV Kiev 29.29 322 P **P 20 45 18.9 -0.4**
KIEV pmax pmax
comp=Z,83nm,0.9s
KIEV MLR MLR
comp=Z,2μm,18.0s
KIEV Kiev 29.29 322 P **P 20 45 18.9 -0.4**
comp=Z,426nm,1.1s,comp=Z,6μm
MMB Musomishta 29.34 302 P **P 20 45 16.0 -3.8**
STFAR Stefanesti-Arg 29.34 309 ⇓P **P 20 45 19.9 +0.1**
AK18 Malin Array Si 29.38 322 P **P 20 45 19.6 -0.5**
DOPR Dopca 29.42 311 ⇑P **P 20 45 20.6 +0.1**
VOIR 29.46 310 ⇑P **P 20 45 22.1 +1.1**
VOIR 29.46 310 P **P 20 45 22.0 +1.1**
VOIR 29.46 310 P **P 20 45 20.6 -0.3**
comp=Z,41nm,1.6s,comp=Z,942nm
HORT Hortiatis 29.65 300 *e*P **P 20 45 22.2 -0.4**
LUBAR Lubar, Ukraine 29.68 320 P **P 20 45 21.8 -0.9**
ARR Arges 29.72 310 ⇑P **P 20 45 23.8 +0.7**
MPEP Malo Peshtene 29.75 305 P **P 20 45 22.0 -1.4**

PLNA Plana 29.77 303 P **P 20 45 23.0 -0.7**
KMPD K-Podol'skiy 29.79 316 P **P 20 45 22.7 -1.0**
KKB Krupnik 29.85 302 P **P 20 45 22.0 -2.3**
MI30 MI30,Zelenitsa 29.87 321 P **P 20 45 23.8 -0.5**
MI29 MI29, Kamyanyy 29.88 321 P **P 20 45 24.6 +0.1**
VTS Vitosha 29.94 304 P **P 20 45 22.0 -3.2**
AGG Agios Georgios 30.03 296 P **P 20 45 25.3 -0.7**
AGG IAmb IAmb 20 46 26.5
comp=Z,122nm,1.4s
AGG Agios Georgios 30.03 296 P **P 20 45 25.3 -0.7**
AGG pmax pmax
comp=Z,122nm,1.4s
AGG MLR MLR
comp=Z,3μm,22.0s
VALD Valchedram 30.05 306 P **P 20 45 26.0 0.0**
BURAR Bucovina Array 30.15 314 P **P 20 45 26.7 -0.3**
BURAR Bucovina Array 30.15 314 ⇑P **P 20 45 28.9 +1.8**
BURAR Bucovina Array 30.15 314 P **P 20 45 30.0 +3.0**
BUR08 Bucovina Ar. S 30.17 314 P **P 20 45 26.9 -0.4**
ITM Ithomi 30.21 293 *e*P **P 20 45 27.7 +0.1**
MI28 Mi28,Pidlybu 30.25 321 P **P 20 45 27.3 -0.4**
LOT Lotru 30.32 309 *e*P **P 20 45 28.7 +0.1**
ARCR ARCALIA 30.49 313 ⇑P **P 20 45 31.3 +1.4**
SHL Shillong 30.68 90 P **P 20 45 32.3 +0.3**
SHL IAmb IAmb 20 45 35.1
comp=Z,152nm,1.8s
SHL Shillong 30.68 90 P **P 20 45 31.3 -0.7**
SNR=14
SHL Shillong 30.68 90 P **P 20 45 32.3 +0.3**
SHL pmax pmax
comp=Z,152nm,1.8s
SHL MLR MLR
comp=Z,10μm,18.0s
ZAA0 Zalesovo Array 30.75 32 P **P 20 45 31.7 -0.4**
ZAA0 IAmb IAmb 20 45 39.5
comp=Z,47nm,0.8s
ZALV Zalesovo Beam 30.75 32 P **P 20 45 30.6 -1.4**
ZALV Zalesovo Beam 30.75 32 P **P 20 45 31.7 -0.4**
comp=Z,42nm,0.9s,baz=240,slow=9.1,SNR=122
ZALV PcP **PcP 20 48 29.0 -0.4**
comp=Z,8.9nm,1.0s,baz=228,slow=6.5,SNR=1.3
ZALV LR LR 20 59 31.6
comp=Z,6μm,18.5s,baz=231,slow=40
ZALV P3KPbc 21 17 20.4
comp=Z,2.3nm,1.0s,baz=46,slow=6.4,SNR=4.2
comp=Z,42nm,0.9s
BMR Baia Mare 31.25 313 ⇑P **P 20 45 38.4 +1.8**
BMR Baia Mare 31.25 313 P **P 20 45 38.3 +1.8**
BOVS Bovan 31.25 305 ⇓P **P 20 45 37.8 +1.1**
RNPP5 Staryi Chortor 31.37 321 P **P 20 45 37.3 -0.3**
RNPP8 Varash 31.44 321 P **P 20 45 37.9 -0.3**
DRGR 31.45 311 ⇑P **P 20 45 38.4 0.0**
DRGR 31.45 311 P **P 20 45 38.4 0.0**
RNPP9 Sopachiv 31.45 321 P **P 20 45 38.2 -0.1**
SURR Surduc 31.51 309 ⇓P **P 20 45 40.6 +1.6**
MDVR Moldovita 31.53 307 ⇑P **P 20 45 40.4 +1.3**
GOMU GeErMu 31.61 69 P **P 20 45 41.1 +0.7**
GOMU S **S 20 50 49.5 0.0**
GOMU pmax pmax
comp=Z,54nm,1.1s
GOMU LR LR
comp=Z,3μm,12.9s
GOMU LR LR
comp=Z,4μm,13.0s
GOMU LR LR
comp=Z,6μm,12.9s
PALK Pallekele 31.64 132 P **P 20 45 40.6 +0.3**
PALK IAmb IAmb 20 45 45.1
comp=Z,80nm,1.6s
PALK Pallekele 31.64 132 LR LR 21 00 19.4
comp=Z,4μm,18.7s,baz=65,slow=40
PALK Pallekele 31.64 132 P **P 20 45 40.7 +0.3**
PALK pmax pmax
comp=Z,80nm,1.6s
PALK MLR MLR
comp=Z,4μm,18.0s
LVV L'vov 31.77 317 *e*P **P 20 45 40.3 -0.9**
LVV *e* 20 46 43.6
LVV *e*PPP PPP 20 47 05.4
LVV *e*S **S 20 50 48.3 -2.6**
LVV *e*SSS SSS 20 52 59.6
LVV MLR MLR
comp=E,2μm,16.0s
LVV MLR MLR
comp=N,2μm,13.0s
LVV MLR MLR
comp=Z,5μm,15.0s
BZS Buzias 31.82 309 ⇑P **P 20 45 42.5 +0.9**
BZS Buzias 31.82 309 P **P 20 45 42.5 +0.9**
SIRR Siria 31.97 310 ⇑P **P 20 45 43.3 +0.3**
MNK Minsk 32.14 327 *i* P **P 20 45 44.7 +0.3**
comp=E,50nm,1.0s
MNK *i* P **P 20 45 44.7 +0.3**
comp=N,86nm,0.9s
MNK *i* P **P 20 45 44.7 +0.3**
comp=Z,133nm,0.8s,baz=126
MNK *i* PP **PnPn 20 46 47.3 -2.7**
MNK *i* PPP PPP 20 46 58.3
MNK *i* PcP **PcP 20 48 33.6 +0.5**
MNK *i* S **S 20 50 56.7 +0.1**
MNK *i* SS **SnSn 20 52 46.3 -0.5**
MNK *i* LQ LQ 20 55 53.3
MNK *i* LR LR 20 58 02.2
MNK *i* LRM MLR 20 59 29.8
comp=N,1μm,13.2s
MNK *i* LRM MLR 21 01 22.0
comp=Z,2μm,14.6s
MNK *i* LRM MLR 21 02 21.3
comp=E,1μm,15.6s
MNK Minsk 32.14 327 *i* P **P 20 45 44.6 +0.3**
MNK *i* 20 46 47.3
MNK *i* 20 48 33.5
MNK *i* S **S 20 50 56.6 +0.1**
MNK *i* SS **SnSn 20 52 46.3 -0.5**
MNK pmax pmax
comp=Z,133nm,0.9s
MNK pmax pmax
comp=N,86nm,0.9s
MNK pmax pmax
comp=E,50nm,1.0s
MNK MLR MLR
comp=N,1μm,13.0s
MNK MLR MLR
comp=Z,2μm,15.0s
MNK MLR MLR
comp=E,1μm,16.0s
TIR Tirane 32.18 300 IAmb IAmb 20 45 56.1
comp=Z,56nm,0.8s
TIR Tirane 32.18 300 P **P 20 45 45.8 +0.9**
comp=Z,86nm,0.9s,comp=Z,1μm
PUK Puka 32.26 302 P **P 20 45 43.9 -1.8**
PUK IAmb IAmb 20 46 57.0
comp=Z,108nm,1.9s
VLO Vlora 32.35 299 IAMs_20 IAMs_20 21 00 33.1
comp=Z,7μm,20.0s
KOLS Kolonicke sedl 32.47 315 *e*P **P 20 45 48.3 +1.0**
KOLS Kolonicke sedl 32.47 315 *e*P **P 20 45 48.3 +1.0**
KWP Kalwaria Pacla 32.48 316 *e*P **P 20 45 47.3 -0.1**
NACGM Naroch 32.90 327 ⇑ *i*P **P 20 45 50.8 -0.1**
comp=E,3μm,1.4s,baz=126
RUDO Rudo 32.91 304 *e*P **P 20 45 46.8 -4.5**
FRGS Fruska Gora 32.93 307 ⇓P **P 20 45 52.9 +1.5**
CRVS Cervenica-Dubn 32.96 314 *e*P **P 20 45 51.9 +0.3**
CRVS Cervenica-Dubn 32.96 314 *e*P **P 20 45 51.9 +0.3**
HAPS Han Pijesak,BI 33.30 305 *e*P **P 20 45 52.8 -2.0**
BRY Bratogost 33.38 303 *e*P **P 20 45 52.1 -3.5**
TREB Trebinje 33.49 303 *e*P P 20 45 47.0 -9.3
ISAL Salakas 33.59 328 *e*P **P 20 45 59.1 +2.1**
PSZ Piszkesteto 33.62 312 IAmb IAmb 20 46 03.8
comp=Z,96nm,1.8s
PSZ Piszkesteto 33.62 312 ⇓P **P 20 45 58.0 +0.6**
PSZ Piszkesteto 33.62 312 P **P 20 45 58.0 +0.6**
IZAR Zarasai 33.64 328 *e*P **P 20 45 59.4 +2.0**
NIE Niedzica 33.85 315 *e*P **P 20 45 58.8 -0.7**
NIE Niedzica 33.85 315 P **P 20 46 00.7 +1.3**
comp=Z,11nm,1.0s,comp=Z,530nm
MORH Mrgy, Hungar 33.98 309 *e*P **P 20 45 59.3 -1.2**
MORH Mrgy, Hungar 33.98 309 ⇑P **P 20 46 01.8 +1.3**
MORH Mrgy, Hungar 33.98 309 P **P 20 46 00.2 -0.3**
comp=Z,23nm,1.6s,comp=Z,726nm
LODK Lodwar 33.98 222 P **P 20 46 03.5 +2.6**
SNR=8.2
STON Ston 33.99 303 *e*P **P 20 45 57.5 -3.1**
SUW Suwalki 34.18 324 *e*P **P 20 46 01.6 -0.5**

SUW Suwalki 34.18 324 *e*P **P 20 46 02.8 +0.6**
OJC Ojcow 34.44 316 *e*P **P 20 46 04.0 -0.5**
OJC Ojcow 34.44 316 P **P 20 46 04.4 -0.1**
OJC IAmb IAmb 20 46 11.9
comp=Z,95nm,1.2s
OJC Ojcow 34.44 316 P **P 20 46 04.4 -0.1**
OJC pmax pmax
comp=Z,95nm,1.2s
OJC Ojcow 34.44 316 P **P 20 46 04.3 -0.1**
comp=Z,69nm,1.2s,comp=Z,2μm
VYHS Vyhne 34.47 313 *e*P **P 20 46 04.6 -0.2**
VYHS Vyhne 34.47 313 *e*P **P 20 46 04.6 -0.2**
BEL Belsk 34.48 319 *e*P **P 20 46 04.8 +0.1**
PABE Paberze 34.57 326 *e*P **P 20 46 06.4 +0.9**
SRO Srobarova 34.61 311 *e*P **P 20 46 08.3 +2.4**
SRO Srobarova 34.61 311 *e*P **P 20 46 08.3 +2.4**
PUL Pulkovo 34.64 336 ⇓ *e*P **P 20 46 06.7 +0.7**
PUL pmax pmax
comp=Z,90nm,0.8s
BLY Banja Luka 34.67 306 *e*P **P 20 46 07.7 +1.2**
MGRS Mrkonjic Grad 34.68 305 *e*P **P 20 46 05.7 -0.9**
VSVD Vaisvydziai 34.85 327 *e*P **P 20 46 08.8 +0.9**
MSEY Mahe Island 34.88 184 P **P 20 46 11.0 +2.4**
MSEY P **P 20 46 11.0 +2.4**
MPLH Magyarpolny 34.95 310 P **P 20 46 08.3 -0.6**
comp=Z,142nm,1.3s,comp=Z,3μm
CEL Celeste 35.02 294 P **P 20 46 11.2 +1.5**
comp=Z,44nm,0.9s,comp=Z,888nm
A050A Klekovaca 35.08 305 *e*P **P 20 46 08.2 -2.0**
VSU Vasula 35.10 332 *d i*P **P 20 46 09.2 -0.8**
VSU pmax pmax
comp=Z,91nm,1.2s
CUC Castrocucco 35.13 297 P **P 20 46 09.9 -0.7**
CUC IAMs_20 IAMs_20 21 02 47.6
comp=Z,5μm,19.0s
BEHE Becsehely 35.29 309 *e*P **P 20 46 13.4 +1.5**
JAVC Velka Javorina 35.31 313 *e*P **P 20 46 12.2 +0.1**
JAVC *e*PP **PP 20 47 35.6 +3.4**
JAVC *e*S **S 20 51 41.2 -4.7**
JAVC *e*SS **SS 20 54 31.9 +13**
OKC Ostrava-Krasne 35.31 315 *e*P **P 20 46 14.2 +2.2**
OKC Ostrava-Krasne 35.31 315 *e*P **P 20 46 14.2 +2.2**
MAUC Maruska 35.37 314 *e*P **P 20 46 14.1 +1.6**
MODS Modra-Piesok 35.43 312 *e*P **P 20 46 15.0 +1.9**
MODS Modra-Piesok 35.43 312 *e*P **P 20 46 15.0 +1.9**
GTA Gaotai 35.61 64 ⇑P **P 20 46 15.4 +0.5**
GTA S **S 20 51 53.4 +2.5**
GTA sS sS 20 51 58.1 +0.4
GTA PcS **PcS 20 52 32.8 +2.0**
GTA SS **SnSn 20 54 07.1 -4.5**
GTA pmax pmax
comp=Z,59nm,1.1s
GTA pmax pmax
comp=Z,320nm,4.0s
GTA LR LR
comp=Z,7μm,16.7s
GTA LR LR
comp=Z,3μm,18.5s
GTA LR LR
comp=Z,5μm,18.9s
VALR Valaam 35.62 338 *c i*P **P 20 46 14.1 -0.3**
VALR pmax pmax
comp=Z,60nm,1.0s
MORC Moravsky Berou 35.67 314 P **P 20 46 14.1 -1.0**
MORC Moravsky Berou 35.67 314 *e*P **P 20 46 13.5 -1.6**
MORC *e*PP **PnPn 20 47 29.8 -4.8**
MORC *e*S **S 20 51 52.3 +1.0**
MORC *e*SS SS 20 54 48.2 +22
MORC Moravsky Berou 35.67 314 P **P 20 46 14.1 -1.0**
MORC pmax pmax
comp=Z,44nm,1.4s
MORC MLR MLR
comp=Z,2μm,22.0s
ADZR Andozero 35.74 346 *e*P **P 20 46 14.4 -1.0**
ADZR *e* 20 47 34.3
ADZR pmax pmax
comp=Z,102nm,1.3s
PBUR Paburge 35.82 326 *e*P **P 20 46 16.7 +0.5**
RONA Rosalia, Austr 35.89 311 *i* P **P 20 46 16.5 -0.6**
comp=Z,61nm,1.9s,SNR=8.3
RONA *e*PcP **PcP 20 48 42.9 -1.2**
comp=Z,21nm,1.3s
ARBE Arbavere 36.02 333 *e*P **P 20 46 18.4 +0.4**
CRES Cresnjev 36.06 307 *i* P **P 20 46 17.5 -1.0**
CRES Cresnjev 36.06 307 *e*P **P 20 46 17.3 -1.2**
VRAC Vranov 36.12 313 *e*P **P 20 46 17.9 -1.1**
VRAC *e*PP **PP 20 47 43.7 +2.7**
VRAC *e*S **S 20 51 58.1 -0.1**
VRAC *e*SS SS 20 54 55.7 +20
VRAC Vranov 36.12 313 P **P 20 46 18.7 -0.2**
comp=Z,9.1nm,1.0s,baz=105,slow=8.4,SNR=17
VRAC LR LR 21 04 05.1
comp=Z,2μm,18.6s,baz=106,slow=41
comp=Z,9.1nm,1.0s
PAOL Paolisi 36.13 299 P **P 20 46 18.2 -1.0**
PAOL IAmb IAmb 20 46 45.7
comp=Z,145nm,1.3s
BOJS Bojanci 36.15 307 *e*P **P 20 46 18.2 -1.0**
KRUC Moravsky 36.18 313 *e*P **P 20 46 18.2 -1.2**
KRUC *e*PP **PP 20 47 44.9 +3.3**
KRUC *e*S **S 20 51 58.1 -1.0**
KRUC *e*SS SS 20 55 03.9 +27
VAE Valguarnera 36.20 293 LR LR 21 03 43.5
comp=Z,2μm,18.1s,baz=64,slow=40
KRLC Kraliky 36.23 315 *e*P **P 20 46 18.9 -1.0**
KRLC AMS AMS 21 05 10.0
comp=Z,2μm,13.2s
KRLC Kraliky 36.23 315 *e*P **P 20 46 18.9 -1.0**
KRLC MLR MLR
comp=Z,2μm,13.2s
CONA Conrad Observa 36.23 311 *i* P **P 20 46 19.0 -1.0**
comp=Z,30nm,1.8s,SNR=7.8
RAFF Raffo Rosso 36.25 293 P **P 20 46 19.6 -0.6**
RAFF IAmb IAmb 20 46 48.9
comp=Z,85nm,1.1s
ARSA Arzberg 36.30 310 *e*P **P 20 46 19.9 -0.7**
comp=Z,16nm,1.1s,SNR=16
ARSA *e*PcP **PcP 20 48 46.8 +1.5**
comp=Z,16nm,1.2s
PERS Pernice 36.45 309 *e*P **P 20 46 20.1 -1.8**
PERS *e*PP **PP 20 47 49.7 +5.0**
MTSE Matsula 36.46 331 *e*P **P 20 46 22.0 +0.3**
SOKA Soboth 36.51 309 *e*pP **P 20 46 23.4 +0.9**
comp=Z,21nm,1.8s,SNR=13
SOKA *i* PcP **PcP 20 48 47.1 +1.2**
comp=Z,25nm,1.2s
TNCH TengChong 36.58 88 ⇑P **P 20 46 23.8 +0.5**
TNCH pP pP 20 46 26.8 -0.7
TNCH PP **PP 20 47 46.8 +0.2**
TNCH S **S 20 52 05.5 -0.5**
TNCH SS **SnSn 20 54 31.3 -4.0**
TNCH ScS **ScS 20 56 40.3 +0.2**
TNCH pmax pmax
comp=Z,120nm,1.4s
TNCH pmax pmax
comp=Z,680nm,4.7s
TNCH LR LR
comp=Z,2μm,13.9s
TNCH LR LR
comp=Z,3μm,15.2s
TNCH LR LR
comp=Z,4μm,15.1s
DPC Dobruska-Polom 36.59 315 *e*P **P 20 46 22.1 -0.9**
DPC *e*PP **PnPn 20 47 43.5 -2.4**
DPC Dobruska-Polom 36.59 315 *e*P **P 20 46 22.1 -0.9**
DPC *e* 20 47 43.5
DPC Dobruska-Polom 36.59 315 P **P 20 46 22.5 -0.5**
comp=Z,17nm,0.9s,comp=Z,639nm
VNDS Vrh nad Dolski 36.63 308 *e*P **P 20 46 22.4 -1.0**
JOF Joensuu 36.67 340 *e*P **P 20 46 24.0 +0.5**
OSTC Ostas 36.72 315 *e*P **P 20 46 23.9 -0.2**
OSTC *e*PP **PP 20 47 48.1 +0.5**
OSTC Ostas 36.72 315 *e*P **P 20 46 23.9 -0.2**
OSTC *e* 20 47 48.1
CEY Cerknica 36.76 307 *e*P **P 20 46 23.0 -1.5**
KSP Ksiaz 36.76 316 *e*P **P 20 46 24.3 0.0**
KSP Ksiaz 36.76 316 P **P 20 46 24.2 -0.2**
comp=Z,43nm,1.1s,comp=Z,906nm
KMBO Kilima Mbogo 36.76 215 P **P 20 46 26.1 +1.1**
KMBO Kilima Mbogo 36.76 215 *i* P **P 20 46 26.3 +1.3**
SNR=16
KMBO Kilima Mbogo 36.76 215 *e*P **P 20 46 26.0 +1.1**
KMBO IAmb IAmb 20 46 34.9
comp=Z,82nm,0.9s

KMBO	**Kilima Mbogo**	**36.76 215**	P	**P**	**20 46 26.8 +1.8**	
KMBO	**Kilima Mbogo**	**36.76 215**	P	**P**	**20 46 26.1 +1.1**	
KMBO			pmax	pmax		
	comp=Z,24nm,0.9s					
KMBO			MLR	MLR		
	comp=Z,4μm,20.0s					
OBKA	**Obir**	**36.81 308**	*i* P	**P**	**20 46 25.1 +0.2**	
	comp=Z,13nm,1.1s,SNR=5.8					
TREC	**Trest**	**36.81 313**	*e*PP	**PP**	**20 47 49.2 +0.5**	
TREC			AMS	AMS	21 04 50.0	
	comp=Z,2μm,14.7s					
GKP	**Gorka Klasztor**	**37.04 320**	*e*P	**P**	**20 46 29.1 +2.5**	
MEF	**Metsahovi**	**37.14 333**	*e*P	**P**	**20 46 28.0 +0.5**	
GUMA	**Gualdo di Mace**	**37.19 302**	IAmb	IAmb	20 47 16.2	
	comp=Z,83nm,1.1s					
GUMA			IAMs_20	IAMs_20	21 03 39.0	
	comp=Z,2μm,19.0s					
MOA	**Molln**	**37.26 310**	*e*P	**P**	**20 46 27.7 -1.0**	
	comp=Z,50nm,1.9s,SNR=24					
MOA			*e*PcP	**PcP**	**20 48 48.9 +0.8**	
	comp=Z,16nm,1.2s					
FIA1	**FINESS Array S**	**37.31 336**	P	**P**	**20 46 28.6 -0.2**	
FIA1			IAmb	IAmb	20 47 41.4	
	comp=Z,104nm,0.9s					
FINES	**FINESS Array B**	**37.31 336**	P	**P**	**20 46 28.2 -0.7**	
FINES	**FINESS Array B**	**37.31 336**	P	**P**	**20 46 28.3 -0.6**	
	comp=Z,12nm,0.6s,baz=128,slow=9.6,SNR=40					
FINES			PP	**PP**	**20 47 53.5 -0.4**	
	comp=Z,58nm,1.0s,baz=116,slow=11,SNR=8.1					
FINES			LR	LR	21 03 54.0	
	comp=Z,2μm,18.2s,baz=136,slow=40					
	comp=Z,12nm,0.6s					
NRCA	**Norcia**	**37.34 302**	P	**P**	**20 46 28.3 -1.2**	
SABO	**M.te Sabotino**	**37.37 307**	IAmb	IAmb	20 46 32.0	
	comp=Z,192nm,1.9s					
SABO			IAMs_20	IAMs_20	21 04 31.7	
	comp=Z,3μm,19.0s					
GOPC	**GO Pecny, Ondr**	**37.42 314**	AMS	AMS	21 05 10.0	
	comp=Z,3μm,17.2s					
KIBK	**Kibwezi**	**37.43 213**	P	**P**	**20 46 31.6 +1.1**	
KIBK	**Kibwezi**	**37.43 213**	P	**P**	**20 46 31.4 +0.9**	
	SNR=9.4					
MYKA	**Terra Mystica**	**37.45 308**	*i* pP	**P**	**20 46 31.4 +1.1**	
	comp=Z,18nm,1.1s,SNR=8.4					
CKRC	**Cesky Krumlov**	**37.45 312**	*e*P	**P**	**20 46 29.3 -1.0**	
CKRC			*e*PP	**PP**	**20 47 49.6 -6.0**	
CKRC			*e*S	**S**	**20 52 19.1 +0.6**	
CKRC			AMS	AMS	21 07 10.0	
	comp=Z,2μm,15.3s					
CKRC	**Cesky Krumlov**	**37.45 312**	*e*P	**P**	**20 46 29.3 -1.0**	
CKRC			*e*S	**S**	**20 52 19.1 +0.6**	
CKRC			MLR	MLR		
	comp=Z,2μm,15.3s					
PBA	**Port Blair**	**37.59 112**	IAMs_20	IAMs_20	21 03 09.1	
	comp=Z,5μm,20.0s					
PRU	**Pruhonice**	**37.59 314**	*e*P	**P**	**20 46 35.3 +3.9**	
PRU			AMS	AMS	21 05 10.0	
	comp=Z,3μm,15.8s					
PRU	**Pruhonice**	**37.59 314**	*e*P	**P**	**20 46 35.3 +3.9**	
PRU			MLR	MLR		
	comp=Z,3μm,15.8s					
BIOA	**Bad Ischl, Aus**	**37.64 310**	*e*P	**P**	**20 46 31.0 -1.0**	
	comp=Z,68nm,1.8s,SNR=23					
PRA	**Prague**	**37.68 314**	AMS	AMS	21 05 20.0	
	comp=Z,3μm,16.0s					
PVCC	**Panska Ves**	**37.72 315**	*e*P	**P**	**20 46 34.5 +2.0**	
PVCC			AMS	AMS	21 06 00.0	
	comp=Z,2μm,20.1s					
PVCC	**Panska Ves**	**37.72 315**	*e*P	**P**	**20 46 34.5 +2.0**	
PVCC			MLR	MLR		
	comp=Z,2μm,20.1s					
KBA	**Koelnbreinsper**	**37.73 309**	*i* P	**P**	**20 46 31.9 -1.0**	
	comp=Z,50nm,1.3s,SNR=13					
KBA			*e*PcP	**PcP**	**20 48 50.1 +0.3**	
	comp=Z,24nm,1.7s					
GERES	**GERESS Array B**	**37.84 312**	P	**P**	**20 46 32.7 -1.0**	
	comp=Z,6.2nm,0.7s,baz=99,slow=8.2,SNR=25					
GERES			PP	**PnPn**	**20 48 02.2 +1.0**	
	comp=Z,5.4nm,0.8s,baz=123,slow=4.9,SNR=1.5					
GERES			PcP	**PcP**	**20 48 47.7 -2.4**	
	comp=Z,10nm,1.0s,baz=104,slow=4.3,SNR=2.0					
	comp=Z,6.2nm,0.7s					
KHC	**Kasperske Hory**	**37.99 312**	IAmb	IAmb	20 46 37.9	
	comp=Z,188nm,1.9s					
KHC	**Kasperske Hory**	**37.99 312**	*e*P	**P**	**20 46 33.6 -1.3**	
KHC			*e*PP	**PP**	**20 48 00.4 -1.2**	
KHC			*e*S	**S**	**20 52 28.1 +1.4**	
KHC			AMS	AMS	21 06 40.0	
	comp=Z,2μm,17.0s					
KHC	**Kasperske Hory**	**37.99 312**	*e*P	**P**	**20 46 33.6 -1.3**	
KHC			*e*		20 48 00.4	
KHC			*e*S	**S**	**20 52 28.1 +1.4**	
KHC			MLR	MLR		
	comp=Z,2μm,17.0s					
KHC	**Kasperske Hory**	**37.99 312**	P	**P**	**20 46 33.9 -1.0**	
	comp=Z,44nm,1.3s,comp=Z,1μm					
RICC	**Richard**	**38.01 315**	AMS	AMS	21 03 40.0	
	comp=Z,2μm,20.7s					
BRG	**Berggiesshubel**	**38.19 315**	*e*P	**P**	**20 46 36.0 -0.6**	
BRG			Amp		20 46 39.1	
	comp=Z,7.4nm,1.0s					
BRG	**Berggiesshubel**	**38.19 315**	P	P	20 46 42.7 +6.2	
BRG			Amp		20 46 43.6	
	comp=Z,12nm,1.0s					
BRG			PP	**PnPn**	**20 48 10.1 +4.8**	
BRG			Amp		20 48 11.3	
	comp=Z,32nm,1.4s					
BRG	**Berggiesshubel**	**38.19 315**	SS	SS	20 55 21.0 +3.6	
BRG	**Berggiesshubel**	**38.19 315**	*e*P	**P**	**20 46 35.9 -0.6**	
BRG					20 46 42.6	
BRG					20 48 10.1	
BRG					20 48 30.4	
BRG			S	**S**	**20 52 31.0 +1.3**	
BRG			pmax	pmax		
	comp=Z,7.0nm,1.0s					
BRG			pmax	pmax		
	comp=Z,32nm,1.4s					
BRG			MLR	MLR		
	comp=Z,2μm,16.9s					
BRG			MLR	MLR		
	comp=N,869nm,14.1s					
KEF	**Keuruu**	**38.22 336**	*e*P	**P**	**20 46 36.8 +0.2**	
ABTA	**Abfaltersbach**	**38.23 308**	*i* P	**P**	**20 46 35.7 -1.4**	
	comp=N,41nm,1.0s,SNR=27					
LESA	**Schwarzleotal**	**38.23 309**	*i* P	**P**	**20 46 35.6 -1.5**	
	comp=N,4.4nm,0.7s					
MOY	**Mondy**	**38.39 44**	*e*P	**P**	**20 46 39.4 +1.1**	
MOY			pmax	pmax		
	comp=Z,95nm,1.2s					
HSKC	**Hora Svate Kat**	**38.44 315**	AMS	AMS	21 06 30.0	
	comp=Z,2μm,16.9s					
RAF	**Rauma**	**38.66 333**	*e*P	**P**	**20 46 40.2 -0.1**	
RUE	**Ruedersdorf**	**38.75 318**	*e*P	**P**	**20 46 41.6 +0.5**	
CLL	**Collm**	**38.88 316**	⇓*i*P	**P**	**20 46 41.9 -0.4**	
	comp=Z,57nm,1.2s					
CLL			*i* (pP)	**pP**	**20 46 47.4 +0.8**	
	comp=Z,70nm,1.0s					
CLL			*e*PP	**PP**	**20 48 06.0 -5.2**	
CLL			*i* x	x	20 48 22.4	
CLL			*e*PPP	PPP	20 48 33.0	
CLL			*e*PcP	**PcP**	**20 48 55.0 +2.0**	
	comp=Z,25nm,1.1s					
CLL			*e*S	**S**	**20 52 45.0 +5.0**	
CLL			*e*SS	**SS**	**20 55 35.0 +3.8**	
CLL			AMS	AMS	21 06 00.0	
	comp=Z,3μm,19.5s					
CLL	**Collm**	**38.88 316**	⇓*i*P	**P**	**20 46 41.9 -0.4**	
CLL			*e*S	**S**	**20 52 45.0 +5.0**	
CLL			pmax	pmax		
	comp=Z,57nm,1.2s					
CLL			MLR	MLR		
	comp=Z,3μm,19.5s					
WTTA	**Wattenberg**	**38.91 309**	*i* P	**P**	**20 46 41.1 -1.7**	
	comp=Z,116nm,1.1s,SNR=64					
WTTA			*e*PcP	**PcP**	**20 48 55.9 +2.4**	
	comp=Z,47nm,1.3s					
LZH	**Lanzhou**	**38.92 69**	*e*P	**P**	**20 46 43.1 +0.1**	
LZH			sP	sP	20 46 51.3 +2.6	
LZH			S	**S**	**20 52 43.3 +2.0**	
LZH			pmax	pmax		
	comp=Z,57nm,1.5s					
LZH			pmax	pmax		
	comp=Z,390nm,5.8s					
LZH			LR	LR		
	comp=Z,4μm,15.1s					
LZH			LR	LR		
	comp=Z,3μm,13.7s					
LZH			LR	LR		
	comp=Z,6μm,13.7s					
PZH	**PanZhiHua**	**38.93 84**	P	**P**	**20 46 42.8 -0.4**	
PZH			S	**S**	**20 52 41.8 +0.2**	
PZH			SS	**SnSn**	**20 55 24.6 -7.4**	
PZH			pmax	pmax		
	comp=Z,50nm,1.4s					
PZH			pmax	pmax		
	comp=Z,350nm,7.5s					
PZH			LR	LR		
	comp=Z,2μm,13.1s					
PZH			LR	LR		
	comp=Z,2μm,15.9s					
PZH			LR	LR		
	comp=Z,3μm,14.7s					
WATA	**Walderalm**	**38.96 309**	*e*P	**P**	**20 46 41.2 -1.9**	
	comp=Z,75nm,1.1s,SNR=40					
WATA			*e*PcP	**PcP**	**20 48 55.0 +1.5**	
	comp=Z,49nm,1.4s					
BSD	**Bornholm Skovb**	**38.99 322**	*e*P	**P**	**20 46 42.0 -1.2**	
BSD	**Bornholm Skovb**	**38.99 322**	*i* P	**P**	**20 46 41.0 -2.2**	
SQTA	**Sankt Quirin**	**39.19 309**	*i* P	**P**	**20 46 43.1 -1.9**	
	comp=Z,7.9nm,0.7s,SNR=41					
SQTA			*e*PcP	**PcP**	**20 48 54.9 +0.6**	
	comp=Z,60nm,1.5s					
CHTO	**Chiang Mai**	**39.21 97**	P	**P**	**20 46 44.8 -0.6**	
CHTO	**Chiang Mai**	**39.21 97**	P	**P**	**20 46 44.8 -0.6**	
CHTO			pmax	pmax		
	comp=Z,74nm,1.4s					
CHTO			MLR	MLR		
	comp=Z,2μm,22.0s					
CMAR	**Chiang Mai Arr**	**39.36 98**	P	**P**	**20 46 44.7 -2.0**	
CMAR	**Chiang Mai Arr**	**39.36 98**	P	**P**	**20 46 45.9 -0.8**	
	comp=Z,4.0nm,0.9s,baz=302,slow=7.7,SNR=20					
CMAR			PcP	**PcP**	**20 48 52.6 -2.5**	
	comp=Z,1.8nm,0.4s,baz=283,slow=4.1,SNR=2.1					
CMAR			LR	LR	21 07 06.0	
	comp=Z,2μm,18.2s,baz=295,slow=42					
	comp=Z,4.0nm,0.9s					
ZAK	**Zakamensk**	**39.46 46**	*e*P	**P**	**20 46 47.3 0.0**	
ZAK			pmax	pmax		
	comp=Z,26nm,1.2s					
FETA	**Feichten**	**39.48 308**	*i* P	**P**	**20 46 45.9 -1.7**	
	comp=Z,13nm,0.9s,SNR=39					
RETA	**Reutte**	**39.53 309**	*e*P	**P**	**20 46 45.7 -2.1**	
	comp=Z,9.7nm,0.6s,SNR=23					
RETA			*e*PcP	**PcP**	**20 48 56.1 +0.8**	
	comp=Z,35nm,1.3s					
VAF	**Ylistaro**	**39.56 336**	*e*P	**P**	**20 46 48.4 +0.6**	
CD2	**Chengdu**	**39.60 77**	P	**P**	**20 46 50.1 +1.5**	
CD2			pP	sP	20 46 55.5 +1.2	
CD2			PP	**PnPn**	**20 48 25.3 +2.8**	
CD2			S	**S**	**20 52 49.9 -1.5**	
CD2			sS	sS	20 52 58.8 +0.5	
CD2			pmax	pmax		
	comp=Z,50nm,0.8s					
CD2			pmax	pmax		
	comp=Z,140nm,3.8s					
CD2			LR	LR		
	comp=Z,6μm,14.3s					
CD2			LR	LR		
	comp=Z,4μm,17.1s					
CD2			LR	LR		
	comp=Z,2μm,12.0s					
GRFO	**Grafenberg**	**39.61 313**	P	**P**	**20 46 47.6 -0.8**	
GRFO	**Grafenberg**	**39.61 313**	P	**P**	**20 46 47.6 -0.8**	
GRFO			pmax	pmax		
	comp=Z,52nm,1.2s					
GRFO			MLR	MLR		
	comp=Z,1μm,20.0s					
RGN	**Rugen**	**39.66 321**	*e*P	**P**	**20 46 49.4 +0.7**	
FUORN	**Ofenpass-Fuorn**	**39.75 308**	P	**P**	**20 46 49.1 -0.8**	
APA	**Apatity**	**39.91 346**	⇓*i*P	**P**	**20 46 52.2 +1.6**	
APA			*i*		20 48 19.6	
APA			*i* PPP	PPP	20 49 02.0	
APA			*i* S	**S**	**20 52 56.0 +1.0**	
APA			pmax	pmax		
	comp=Z,60nm,1.0s					
APA			MLR	MLR		
	comp=Z,3μm,13.0s					
LVZ	**Lovozero**	**39.93 347**	⇑*e*P	**P**	**20 46 50.4 -0.5**	
LVZ			pmax	pmax		
	comp=Z,39nm,1.1s					
LVZ	**Lovozero**	**39.93 347**	P	**P**	**20 46 52.3 +1.4**	
	comp=Z,35nm,0.9s,comp=Z,813nm					
MBAR	**Mbarara**	**39.95 225**	P	**P**	**20 46 53.4 +1.7**	
MBAR	**Mbarara**	**39.95 225**	*e*P	**P**	**20 46 52.2 +0.5**	
MBAR			IAmb	IAmb	20 47 00.9	
	comp=Z,33nm,0.8s					
MBAR	**Mbarara**	**39.95 225**	P	**P**	**20 46 52.9 +1.1**	
MBAR	**Mbarara**	**39.95 225**	P	**P**	**20 46 53.4 +1.7**	
MBAR			pmax	pmax		
	comp=Z,32nm,0.8s					
MBAR			MLR	MLR		
	comp=Z,6μm,18.0s					
LUNU	**Lund**	**39.96 322**	*i* P	**P**	**20 46 50.1 -1.1**	
DAVOX	**Davos/Dischmat**	**40.03 308**	P	**P**	**20 46 50.4 -1.7**	
	comp=Z,12nm,0.7s,baz=127,slow=9.2,SNR=26					
DAVOX			PcP	**PcP**	**20 48 55.9 -1.2**	
	comp=Z,23nm,1.0s,baz=16,slow=7.4,SNR=4.0					
	comp=Z,12nm,0.7s					
DEL	**Delary**	**40.05 323**	*i* P	**P**	**20 46 50.0 -2.0**	
DAVA	**Damuels**	**40.09 309**	*i* P	**P**	**20 46 50.7 -1.9**	
	comp=Z,83nm,0.9s,SNR=43					
KMI	**Kunming**	**40.19 86**	⇑P	**P**	**20 46 53.8 0.0**	
KMI			PP	**PnPn**	**20 48 30.8 +1.0**	
KMI			S	**S**	**20 52 58.3 -2.4**	
KMI			SS	**SS**	**20 55 50.4 -8.2**	
KMI			pmax	pmax		
	comp=Z,130nm,1.4s					
KMI			LR	LR		
	comp=Z,4μm,18.2s					
KMI			LR	LR		
	comp=Z,3μm,17.0s					
KMI			LR	LR		
	comp=Z,3μm,17.7s					
BJUU	**Bjuv**	**40.34 323**	*i* P	**P**	**20 46 54.1 -0.3**	
TUE	**Stuetta**	**40.36 307**	P	**P**	**20 46 53.5 -1.4**	
TUE			IAmb	IAmb	20 46 58.1	
	comp=Z,156nm,1.9s					
TUE	**Stuetta**	**40.36 307**	P	**P**	**20 46 53.2 -1.7**	
	comp=Z,142nm,1.2s,comp=Z,4μm					
KEST	**Kesra**	**40.39 291**	P	**P**	**20 46 54.8 -0.4**	
	comp=Z,26nm,1.0s,baz=36,slow=2.3,SNR=14					
KEST			LR	LR	21 07 58.6	
	comp=Z,1μm,18.3s,baz=28,slow=43					
	comp=Z,26nm,1.0s					
PHRA	**Phrae**	**40.45 97**	P	**P**	**20 46 55.6 -0.1**	
IRK	**Irkutsk**	**40.50 44**	*e*P	**P**	**20 46 55.8 0.0**	
IRK			*e*S	**S**	**20 53 02.7 -1.6**	
IRK			pmax	pmax		
	comp=Z,87nm,2.0s					
COP	**Copenhagen**	**40.52 322**	*i* P	**P**	**20 46 55.6 -0.2**	
FABU	**Falkenberg**	**40.83 324**	*i* P	**P**	**20 46 57.4 -1.0**	
SONM	**Songino Array**	**41.04 51**	P	**P**	**20 47 01.3 +0.9**	
SONM	**Songino Array**	**41.04 51**	P	**P**	**20 47 00.8 +0.4**	
	comp=Z,39nm,0.9s,baz=267,slow=8.4,SNR=73					
SONM			LR	LR	21 04 50.6	
	comp=Z,8μm,19.0s,baz=264,slow=37					
	comp=Z,39nm,0.9s					
SONM	**Songino Array**	**41.04 51**	P	**P**	**20 47 01.3 +0.9**	
SONM			pmax	pmax		
	comp=Z,51nm,1.0s					
BORU	**Boraas**	**41.04 325**	*i* P	**P**	**20 46 59.3 -0.8**	
ONAU	**Onsala**	**41.38 324**	*i* P	**P**	**20 47 03.7 +0.8**	
SRDT	**SRDT**	**41.41 103**	P	**P**	**20 47 04.9 +1.2**	
ULN	**Ulaanbaatar**	**41.48 51**	P	**P**	**20 47 04.4 +0.3**	
ULN	**Ulaanbaatar**	**41.48 51**	P	**P**	**20 47 05.0 +0.9**	
ULN			P	**P**	**20 47 05.0 +0.9**	
ULN	**Ulaanbaatar**	**41.48 51**	P	**P**	**20 47 04.4 +0.3**	
ULN			pmax	pmax		
	comp=Z,57nm,1.0s					
ULN			MLR	MLR		
	comp=Z,8μm,19.0s					
HFS	**Hagfors**	**41.62 329**	P	**P**	**20 47 04.1 -0.8**	
	comp=Z,28nm,0.8s,baz=120,slow=8.8,SNR=37					
HFS			PP	**PP**	**20 48 41.5 +0.5**	
	comp=Z,22nm,0.9s,baz=114,slow=6.6,SNR=2.7					
HFS			LR	LR	21 07 04.1	
	comp=Z,2μm,18.0s,baz=117,slow=40					
	comp=Z,28nm,0.8s					
SENIN	**Lac Senin/Sane**	**41.76 307**	P	**P**	**20 47 04.2 -2.2**	
SENIN			IAmb	IAmb	20 47 13.0	
	comp=Z,78nm,0.9s					
SENIN			IAMs_20	IAMs_20	21 06 34.5	
	comp=Z,5μm,22.0s					
SSRD	**Sdr. Stenderup**	**41.97 321**	*e*P	**P**	**20 47 08.7 +0.9**	
SSRD			IAmb	IAmb	20 47 12.2	
	comp=Z,119nm,1.0s					
LPL	**La Plagne**	**42.10 306**	*e*P	**P**	**20 47 06.2 -3.1**	
LPL			pmax	pmax		
	comp=Z,37nm,1.1s					
MUD	**Monsted U'grnd**	**42.50 322**	*e*P	**P**	**20 47 12.0 -0.1**	
MUD			IAmb	IAmb	20 47 16.5	
	comp=Z,111nm,1.4s					
NRIK	**Noril'sk**	**42.65 15**	P	**P**	**20 47 12.7 -0.4**	
	comp=Z,45nm,0.9s,baz=211,slow=6.2,SNR=30					
NRIK			PP	**PP**	**20 48 55.1 +3.2**	
	comp=Z,26nm,1.0s,baz=210,slow=7.6,SNR=4.4					
NRIK			LR	LR	21 08 19.2	
	comp=Z,4μm,19.2s,baz=218,slow=41					
	comp=Z,45nm,0.9s					
NRIK	**Noril'sk**	**42.65 15**	*d i*P	**P**	**20 47 13.1 0.0**	
NRIK			pmax	pmax		
	comp=Z,70nm,1.0s					
NC602	**NORSAR Array S**	**42.84 329**	IAmb	IAmb	20 47 19.2	
	comp=Z,18nm,0.9s					
NC602	**NORSAR Array S**	**42.84 329**	*e*P	**P**	**20 47 13.2 -1.6**	
NC602			IAmb	IAmb	20 47 19.0	
	comp=Z,21nm,0.9s					
NC602			*e*PP	**PP**	**20 48 53.8 -0.4**	
NC602			*e*S	**S**	**20 53 41.3 +2.5**	
NC602			IAMs_20	IAMs_20	21 10 36.5	
	comp=Z,3μm,13.4s					
VADS	**Vadso**	**42.85 346**	*e*P	**P**	**20 47 14.8 +0.1**	
WLF	**Walferdange**	**42.86 312**	*d*P	**P**	**20 47 15.0 -0.1**	
OSL	**Oslo**	**42.91 327**	*e*P	**P**	**20 47 14.7 -0.6**	
NC405	**NORSAR Array S**	**42.92 329**	P	**P**	**20 47 14.4 -1.1**	
BTNL	**Ternell**	**42.99 313**	*d*P	**P**	**20 47 16.4 +0.1**	
	comp=Z,27nm,1.0s					
BHOU	**Houvegnez**	**43.04 313**	*d*P	**P**	**20 47 16.9 +0.3**	
	comp=Z,14nm,1.0s					
KEV	**Kevo**	**43.06 345**	P	**P**	**20 47 15.6 -0.9**	
KEV	**Kevo**	**43.06 345**	P	**P**	**20 47 15.6 -0.9**	
KEV			pmax	pmax		
	comp=Z,34nm,0.9s					
KEV			MLR	MLR		
	comp=Z,2μm,22.0s					
MEM	**Membach**	**43.07 313**	*d*P	**P**	**20 47 16.5 -0.4**	
	comp=Z,31nm,1.0s					
NB2	**NORSAR Subarra**	**43.12 329**	P	**P**	**20 47 15.4 -1.7**	
	comp=Z,80nm,1.4s,baz=114,slow=8.6					
NB2			PP	**PP**	**20 48 55.0 -2.1**	
	comp=Z,20nm,1.1s,baz=147,slow=6.9					
NB2	**NORSAR Subarra**	**43.12 329**	P	**P**	**20 47 15.4 -1.7**	
	baz=114,slow=8.6					
NOA	**NORSAR Array B**	**43.12 329**	P	**P**	**20 47 15.8 -1.3**	
	comp=Z,13nm,1.0s,baz=115,slow=8.0,SNR=19					
NOA			PP	**PP**	**20 48 56.7 -0.4**	
	comp=Z,27nm,1.0s,baz=110,slow=11,SNR=5.9					
NOA			LR	LR	21 07 50.1	
	comp=Z,2μm,19.8s,baz=105,slow=40					
	comp=Z,13nm,1.0s					
GYA	**Guiyang**	**43.17 83**	⇓P	**P**	**20 47 17.6 -0.5**	
GYA			sP	sP	20 47 26.9 +3.1	
GYA			S	**S**	**20 53 42.4 -2.2**	
GYA			sS	sS	20 53 57.8 +6.3	
GYA			pmax	pmax		
	comp=Z,25nm,1.3s					
GYA			pmax	pmax		
	comp=Z,510nm,6.0s					
GYA			LR	LR		
	comp=Z,5μm,17.2s					
GYA			LR	LR		
	comp=Z,3μm,19.4s					
GYA			LR	LR		
	comp=Z,820nm,26.2s					
ARCES	**ARCESS Array B**	**43.24 344**	P	**P**	**20 47 17.6 -0.3**	
ARCES	**ARCESS Array B**	**43.24 344**	P	**P**	**20 47 17.4 -0.6**	
	comp=Z,8.3nm,0.8s,baz=132,slow=8.3,SNR=16					
ARCES			PP	**PP**	**20 48 58.6 +0.4**	
	comp=Z,28nm,1.1s,baz=130,slow=11,SNR=6.6					
ARCES			LR	LR	21 07 41.9	
	comp=Z,3μm,19.8s,baz=134,slow=40					
	comp=Z,8.3nm,0.8s					
ARCES	**ARCESS Array B**	**43.24 344**	P	**P**	**20 47 17.6 -0.3**	
ARCES			pmax	pmax		
	comp=Z,72nm,1.6s					
NAYO	**Nakonayok**	**43.28 102**	P	**P**	**20 47 20.7 +1.8**	
BEBN	**Eben Emael**	**43.31 313**	*d*P	**P**	**20 47 18.4 -0.3**	
BEBN			*d*PP	**PP**	**20 48 56.6 -2.6**	
NBO00	**NORSAR Array S**	**43.31 329**	P	**P**	**20 47 17.1 -1.5**	
XAN	**Xi'an**	**43.31 71**	⇑P	**P**	**20 47 18.6 -0.5**	
XAN			pP	pP	20 47 24.5 +1.2	
XAN			PP	**PP**	**20 49 03.1 +3.4**	
XAN			S	**S**	**20 53 46.5 0.0**	
XAN			SS	**SS**	**20 56 54.3 -5.6**	
XAN			ScS	**ScS**	**20 57 18.6 -0.8**	
XAN			pmax	pmax		
	comp=Z,62nm,1.3s					
XAN			pmax	pmax		
	comp=Z,600nm,5.7s					
XAN			LR	LR		
	comp=Z,6μm,13.7s					
XAN			LR	LR		
	comp=Z,4μm,15.6s					
XAN			LR	LR		
	comp=Z,7μm,14.6s					
KONO	**Kongsberg**	**43.33 327**	P	**P**	**20 47 17.9 -0.9**	
KONO	**Kongsberg**	**43.33 327**	*e*P	**P**	**20 47 17.6 -1.1**	
KONO			IAmb	IAmb	20 47 22.7	
	comp=Z,35nm,1.1s					
KONO			*e*S	**S**	**20 53 46.1 +0.2**	
KONO			*e*SS	**SS**	**20 57 01.1 +1.9**	
KONO	**Kongsberg**	**43.33 327**	P	**P**	**20 47 17.9 -0.9**	
KONO			pmax	pmax		
	comp=Z,35nm,1.1s					
KTK1	**Kautokeino**	**43.41 343**	*e*P	**P**	**20 47 18.4 -0.9**	
KTK1			IAmb	IAmb	20 47 19.0	
	comp=Z,36nm,1.4s					
KTK1			*e*PP	**PcP**	**20 49 04.8 -2.7**	
KTK1			*e*S	**S**	**20 53 44.2 -2.8**	
KTK1			*e*SS	**SS**	**20 56 58.2 -2.5**	
KTK1			IAMs_20	IAMs_20	21 08 19.3	
	comp=Z,5μm,15.3s					
BTO	**Baotou**	**43.42 62**	*e*P	**P**	**20 47 19.6 -0.4**	
BTO			pP	**pP**	**20 47 23.8 -0.4**	
BTO			sP	**sP**	**20 47 26.3 +0.6**	
BTO			PP	**PcP**	**20 49 06.4 -1.8**	
BTO			S	**S**	**20 53 48.6 +0.5**	
BTO			SS	**SS**	**20 56 59.3 -2.6**	
BTO			pmax	pmax		
	comp=Z,100nm,1.1s					
BTO			pmax	pmax		
	comp=Z,390nm,5.0s					
BTO			LR	LR		
	comp=Z,18μm,17.2s					
BTO			LR	LR		
	comp=Z,6μm,16.2s					
BTO			LR	LR		
	comp=Z,12μm,15.9s					
BCLA	**Clavier**	**43.49 313**	*d*P	**P**	**20 47 20.3 0.0**	
	comp=Z,19nm,1.1s					
RCHB	**Rochefort**	**43.51 312**	*d*P	**P**	**20 47 19.9 -0.4**	
	comp=Z,24nm,1.0s					
BGES	**Gesves**	**43.63 313**	*d*P	**P**	**20 47 20.9 -0.4**	
	comp=Z,19nm,1.3s					
BGES			*d*PP	**PP**	**20 49 02.9 +0.2**	
SSB	**Saint Sauveur**	**43.63 305**	P	**P**	**20 47 18.9 -2.6**	
SSB	**Saint Sauveur**	**43.63 305**	P	**P**	**20 47 18.9 -2.6**	
SSB			pmax	pmax		
	comp=Z,24nm,0.9s					
SSB			MLR	MLR		
	comp=Z,1μm,22.0s					
BMRD	**Maredsous**	**43.82 313**	*d*P	**P**	**20 47 22.1 -0.8**	
	comp=Z,22nm,1.1s					
DOU	**Dourbes**	**43.91 312**	*d*P	**P**	**20 47 23.1 -0.4**	
	comp=Z,26nm,1.1s					
SNART	**Snartemo**	**44.07 324**	*e*P	**P**	**20 47 24.6 -0.1**	
SNART			IAmb	IAmb

NSS				IAmb	IAmb	20 47 28.8	
	comp=Z,82nm,1.2s						
NSS				*e*PP	**PP**	**20 49 10.1**	**+0.1**
NSS				*e*S	**S**	**20 53 59.8**	**-0.8**
NSS				IAMs_20	IAMs_20	21 08 51.4	
	comp=Z,3μm,15.7s						
SSF	**Saint Saulge**	**44.40**	**308**	*e*P	**P**	**20 47 24.9**	**-2.7**
SSF				pmax	pmax		
	comp=Z,58nm,1.2s						
TBLU	**Trondheim**	**44.44**	**332**	*e*P	**P**	**20 47 26.1**	**-1.6**
TBLU				IAmb	IAmb	20 47 30.2	
	comp=Z,33nm,1.1s						
TBLU				*e*S	**S**	**20 54 01.8**	**-0.3**
TBLU				*e*SS	**ScS**	**20 57 22.8**	**-2.5**
DOMB	**Dombas**	**44.46**	**330**	*e*P	**P**	**20 47 26.7**	**-1.2**
DOMB				IAmb	IAmb	20 47 35.0	
	comp=Z,39nm,1.0s						
DOMB				*e*PP	**PP**	**20 49 10.9**	**-0.5**
DOMB				*e*S	**S**	**20 54 04.0**	**+1.6**
HAMF	**Hammerfest**	**44.48**	**345**	*e*P	**P**	**20 47 27.8**	**0.0**
HAMF				IAmb	IAmb	20 47 32.0	
	comp=Z,33nm,1.0s						
HAMF				*e*S	**S**	**20 54 01.6**	**-0.8**
HAMF				*e*SS	**ScS**	**20 57 23.6**	**-1.7**
HAMF				IAMs_20	IAMs_20	21 09 18.8	
	comp=Z,4μm,13.9s						
ENH	**Enshi**	**44.56**	**76**	P	**P**	**20 47 29.8**	**+0.7**
ENH	**Enshi**	**44.56**	**76**	IAMs_20	IAMs_20	21 07 04.3	
	comp=Z,4μm,21.0s						
SURA	**Surathani**	**44.57**	**109**	P	**P**	**20 47 29.9**	**+0.7**
HHC	**Hu-ho-hao-te**	**44.58**	**61**	⇑/P	**P**	**20 47 30.5**	**+1.3**
HHC				pP	pP	20 47 34.4	+1.0
HHC				sP	sP	20 47 38.0	+3.0
HHC				S	**S**	**20 54 06.6**	**+1.7**
HHC				sS	sS	20 54 19.6	+7.8
HHC				ScS	**ScS**	**20 57 27.8**	**+0.6**
HHC				pmax	pmax		
	comp=Z,29nm,0.8s						
HHC				pmax	pmax		
	comp=Z,330nm,4.7s						
HHC				LR	LR		
	comp=Z,6μm,18.6s						
HHC				LR	LR		
	comp=Z,2μm,18.6s						
HHC				LR	LR		
	comp=Z,4μm,17.1s						
FAUS	**Fauske**	**44.66**	**338**	*e*P	**P**	**20 47 28.2**	**-1.2**
FAUS				IAmb	IAmb	20 47 37.3	
	comp=Z,65nm,1.2s						
FAUS				*e*PP	**PP**	**20 49 12.9**	**-0.5**
FAUS				*e*S	**S**	**20 54 05.4**	**+0.3**
FAUS				*e*SS	**ScS**	**20 57 26.6**	**+0.1**
FAUS				IAMs_20	IAMs_20	21 08 57.5	
	comp=Z,3μm,16.5s						
BLS5	**Blasjo**	**44.77**	**326**	*e*P	**P**	**20 47 29.8**	**-0.5**
BLS5				*e*pP	**pP**	**20 47 33.4**	**-1.3**
BLS5				IAmb	IAmb	20 47 34.1	
	comp=Z,132nm,1.5s						
BLS5				*e*S	**S**	**20 54 09.1**	**+2.2**
ODD1	**Odda**	**44.83**	**326**	*e*P	**P**	**20 47 31.1**	**+0.2**
ODD1				*e*pP	**pP**	**20 47 34.2**	**-1.1**
ODD1				IAmb	IAmb	20 47 35.1	
	comp=Z,54nm,1.2s						
ODD1				*e*PP	**PP**	**20 49 14.9**	**-0.6**
ODD1				*e*S	**S**	**20 54 08.0**	**0.0**
ODD1				*e*SS	**SS**	**20 57 29.7**	**+1.0**
ODD1				IAMs_20	IAMs_20	21 10 25.9	
	comp=Z,4μm,15.9s						
STOK	**Stokkvaagen**	**44.85**	**336**	*e*P	**P**	**20 47 29.8**	**-1.0**
STOK				IAmb	IAmb	20 47 32.7	
	comp=Z,143nm,1.3s						
STOK				*e*PP	**PP**	**20 49 15.4**	**0.0**
STOK				*e*S	**S**	**20 54 09.7**	**+1.9**
STOK				*e*SS	**SS**	**20 57 31.4**	**+2.7**
SRIT	**Nakonsritamara**	**44.86**	**110**	P	**P**	**20 47 31.9**	**+0.3**
KONS	**Konsvik**	**44.90**	**337**	*e*P	**P**	**20 47 30.6**	**-0.6**
KONS				*e*PP	**PP**	**20 49 14.6**	**-1.4**
TRO	**Tromso**	**44.96**	**342**	*e*P	**P**	**20 47 31.0**	**-0.7**
TRO				IAmb	IAmb	20 47 33.7	
	comp=Z,151nm,1.6s						
TRO				*e*S	**S**	**20 54 10.8**	**+1.4**
TRO				*e*SS	**SS**	**20 57 32.5**	**+1.8**
STEI	**Steigen**	**44.99**	**339**	*e*P	**P**	**20 47 30.7**	**-1.2**
STEI				IAmb	IAmb	20 47 33.7	
	comp=Z,41nm,1.4s						
STEI				*e*PP	**PP**	**20 49 16.0**	**-0.8**
STEI				*e*S	**S**	**20 54 09.8**	**0.0**
STEI				*e*SS	**SS**	**20 57 33.7**	**+2.5**
STEI				IAMs_20	IAMs_20	21 09 14.7	
	comp=Z,5μm,15.2s						
KMY	**Karmoy**	**45.30**	**325**	*e*P	**P**	**20 47 34.2**	**-0.3**
MOL	**Molde**	**45.31**	**330**	*e*P	**P**	**20 47 34.7**	**+0.1**
CAF	**Calviac**	**45.39**	**305**	P	**P**	**20 47 32.9**	**-2.6**
CAF				pmax	pmax		
	comp=Z,117nm,1.9s						
HYA	**Hoyanger**	**45.44**	**328**	*e*P	**P**	**20 47 35.4**	**-0.1**
HYA				IAmb	IAmb	20 47 43.2	
	comp=Z,108nm,1.1s						
HYA				*e*PP	**PP**	**20 49 21.1**	**-0.6**
HYA				*e*S	**S**	**20 54 15.5**	**-1.0**
HYA				*e*SS	**SS**	**20 57 42.3**	**+2.8**
HYA				IAMs_20	IAMs_20	21 10 48.3	
	comp=Z,3μm,15.3s						
TIY	**Taiyuan**	**45.58**	**65**	*e*P	**P**	**20 47 39.1**	**+1.9**
TIY				S	**S**	**20 54 20.3**	**+1.0**
TIY				pmax	pmax		
	comp=Z,260nm,5.5s						
TIY				LR	LR		
	comp=Z,6μm,19.2s						
TIY				LR	LR		
	comp=Z,2μm,19.2s						
TIY				LR	LR		
	comp=Z,3μm,19.9s						
BER	**Bergen**	**45.59**	**327**	*e*P	**P**	**20 47 36.9**	**0.0**
BER				IAmb	IAmb	20 47 44.5	
	comp=Z,86nm,1.0s						
BER				*e*S	**S**	**20 54 21.4**	**+2.7**
BER				*e*SS	**SS**	**20 57 41.8**	**-0.5**
BER				IAMs_20	IAMs_20	21 11 43.3	
	comp=Z,4μm,14.4s						
LOF	**Lofoten**	**45.63**	**339**	*e*P	**P**	**20 47 37.2**	**+0.2**
LOF				*e*PP	**PP**	**20 49 21.8**	**-1.9**
LOF				*e*S	**S**	**20 54 19.0**	**-0.1**
LOF				*e*SS	**SS**	**20 57 45.7**	**+3.0**
ASK	**Askoy**	**45.69**	**327**	*e*P	**P**	**20 47 37.6**	**+0.1**
ASK				*e*S	**S**	**20 54 21.0**	**+0.9**
SUE	**Sulen**	**46.06**	**327**	*e*P	**P**	**20 47 39.9**	**-0.6**
SUE				IAmb	IAmb	20 47 43.6	
	comp=Z,232nm,1.8s						
SUE				*e*PP	**PP**	**20 49 27.6**	**-0.8**
SUE				*e*S	**S**	**20 54 26.7**	**+1.2**
SUE				*e*SS	**SS**	**20 57 50.0**	**-0.2**
CEST	**Esterri de Car**	**46.07**	**302**	IAmb	IAmb	20 48 09.7	
	comp=Z,34nm,1.1s						
CEST				IAMs_20	IAMs_20	21 09 47.9	
	comp=Z,2μm,18.0s						
FOO	**Floro**	**46.09**	**328**	*e*P	**P**	**20 47 40.1**	**-0.6**
FOO				IAmb	IAmb	20 47 52.7	
	comp=Z,32nm,1.0s						
FOO				*e*PP	**PP**	**20 49 27.2**	**-1.5**
FOO				*e*S	**S**	**20 54 31.4**	**+5.5**
FOO				*e*SS	**SS**	**20 57 53.8**	**+3.0**
FOO				IAMs_20	IAMs_20	21 09 34.6	
	comp=Z,3μm,16.2s						
CIT	**Chita**	**46.10**	**45**	*e*P	**P**	**20 47 41.2**	**+0.2**
CIT				*e*		20 47 49.9	
CIT				*e*		20 49 18.9	
CIT				*e*		20 54 28.9	
CIT				pmax	pmax		
	comp=Z,125nm,2.4s						
LYN	**LuoYang**	**46.11**	**70**	P	**P**	**20 47 41.8**	**+0.5**
LYN				pP	pP	20 47 45.6	+0.1
LYN				sP	sP	20 47 51.6	+4.5
LYN				S	**S**	**20 54 29.3**	**+2.3**
LYN				pmax	pmax		
	comp=Z,71nm,1.1s						
LYN				pmax	pmax		
	comp=Z,420nm,3.6s						
LYN				LR	LR		
	comp=Z,6μm,17.0s						
LYN				LR	LR		
	comp=Z,4μm,15.8s						
LYN				LR	LR		
	comp=Z,5μm,15.9s						
LFF	**La Frestale**	**46.33**	**305**	*e*P	**P**	**20 47 40.4**	**-2.5**
WACR	**West Acre**	**46.65**	**316**	*e*P	**P**	**20 47 43.8**	**-1.5**
WACR				IAmb	IAmb	20 47 48.8	
	comp=Z,65nm,0.8s						
WACR				IAMs_20	IAMs_20	21 12 07.9	
	comp=Z,2μm,20.9s						
TAM	**Tamanrasset**	**46.75**	**274**	P	**P**	**20 47 47.1**	**+0.4**
TAM	**Tamanrasset**	**46.75**	**274**	P	**P**	**20 47 47.1**	**+0.4**
TAM				pmax	pmax		
	comp=Z,160nm,1.6s						
TAM				MLR	MLR		
	comp=Z,2μm,18.0s						
BOD	**Bodaibo**	**47.16**	**37**	*e*P	**P**	**20 47 49.1**	**-0.1**
BOD				pmax	pmax		
	comp=Z,104nm,1.6s						
HNS	**HongShan**	**47.41**	**65**	⇓P	**P**	**20 47 52.0**	**+0.6**
HNS				S	**S**	**20 54 48.6**	**+3.2**
HNS				ScS	**ScS**	**20 57 46.6**	**+1.2**
HNS				pmax	pmax		
	comp=Z,26nm,1.5s						
HNS				pmax	pmax		
	comp=Z,370nm,5.0s						
HNS				LR	LR		
	comp=Z,6μm,19.2s						
HNS				LR	LR		
	comp=Z,2μm,20.8s						
HNS				LR	LR		
	comp=Z,4μm,21.4s						
KULM	**Kulim**	**47.63**	**113**	P	**P**	**20 47 53.9**	**+0.5**
KULM				IAmb	IAmb	20 47 58.7	
	comp=Z,83nm,1.4s						
XLT	**XiLinHaoTe**	**47.70**	**57**	*e*P	**P**	**20 47 55.5**	**+1.7**
XLT				pP	pP	20 47 58.3	+0.3
XLT				S	**S**	**20 54 52.8**	**+3.2**
XLT				pmax	pmax		
	comp=Z,38nm,1.2s						
XLT				pmax	pmax		
	comp=Z,270nm,3.6s						
XLT				LR	LR		
	comp=Z,670nm,19.1s						
XLT				LR	LR		
	comp=Z,1μm,14.3s						
XLT				LR	LR		
	comp=Z,4μm,17.3s						
GSI	**Gunungsitoli**	**47.74**	**120**	P	**P**	**20 47 54.2**	**0.0**
GSI	**Gunungsitoli**	**47.74**	**120**	P	**P**	**20 47 53.5**	**-0.7**
CWF	**Charnwood Fore**	**47.82**	**315**	*e*P	**P**	**20 47 53.1**	**-1.3**
CWF				IAMs_20	IAMs_20	21 12 35.5	
	comp=Z,2μm,17.7s						
CNSH	**ChangSha**	**48.01**	**78**	P	**P**	**20 47 56.0**	**-0.2**
CNSH				S	**S**	**20 54 54.4**	**+0.2**
CNSH				pmax	pmax		
	comp=Z,51nm,1.4s						
CNSH				LR	LR		
	comp=Z,3μm,17.8s						
CNSH				LR	LR		
	comp=Z,3μm,17.1s						
CNSH				LR	LR		
	comp=Z,4μm,15.8s						
SWN1	**Swindon**	**48.06**	**314**	*e*P	**P**	**20 47 54.2**	**-2.1**
SWN1				IAmb	IAmb	20 47 58.8	
	comp=Z,255nm,1.4s						
HPK	**Haverah Park**	**48.10**	**317**	*e*P	**P**	**20 47 55.8**	**-0.7**
HPK				IAMs_20	IAMs_20	21 15 01.3	
	comp=Z,3μm,17.0s						
LBWR	**Ladybower, Pea**	**48.12**	**316**	*e*P	**P**	**20 47 55.8**	**-1.0**
LBWR				IAmb	IAmb	20 47 58.9	
	comp=Z,53nm,1.1s						
LBWR				IAMs_20	IAMs_20	21 14 57.2	
	comp=Z,2μm,16.0s						
BJT	**Baijiatuau**	**48.16**	**62**	P	**P**	**20 47 58.3**	**+1.1**
BJT	**Baijiatuau**	**48.16**	**62**	IAmb	IAmb	20 49 29.6	
	comp=Z,63nm,1.2s						
BJI	**Beijing**	**48.16**	**62**	P	**P**	**20 47 58.1**	**+0.9**
BJI				pP	**pP**	**20 48 02.8**	**+1.3**
BJI				sP	**sP**	**20 48 05.8**	**+2.8**
BJI				S	**S**	**20 54 57.3**	**+1.3**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.4s						
BJI				pmax	pmax		
	comp=Z,110nm,4.9s						
BJI				LR	LR		
	comp=Z,2μm,15.1s						
BJI				LR	LR		
	comp=Z,950nm,14.6s						
BJI				LR	LR		
	comp=Z,2μm,16.6s						
BJO1	**Bjornoya**	**48.23**	**347**	*e*P	**P**	**20 47 57.4**	**+0.2**
BJO1				*e*PP	**PP**	**20 49 49.4**	**0.0**
BJO1				*e*S	**S**	**20 54 57.6**	**+1.5**
BJO1				*e*SS	**SS**	**20 58 27.1**	**+2.1**
JSA	**Saint Aubin**	**48.25**	**311**	*e*P	**P**	**20 47 54.7**	**-3.1**
JSA				IAmb	IAmb	20 47 59.3	
	comp=Z,130nm,1.9s						
JSA				IAMs_20	IAMs_20	21 10 11.3	
	comp=Z,2μm,19.6s						
EDMD	**Edmundbyers**	**48.38**	**318**	*e*P	**P**	**20 47 58.0**	**-0.7**
EDMD				IAMs_20	IAMs_20	21 14 15.0	
	comp=Z,2μm,16.6s						
QIZ	**Qiongzhong**	**48.52**	**91**	P	**P**	**20 47 59.8**	**-0.5**
QIZ				S	**S**	**20 55 02.4**	**+0.8**
QIZ				LR	LR		
	comp=Z,2μm,16.4s						
QIZ				LR	LR		
	comp=Z,3μm,14.8s						
QIZ				LR	LR		
	comp=Z,2μm,13.1s						
WHN	**Wuhan**	**48.56**	**75**	P	**P**	**20 48 02.9**	**+2.5**
WHN				pP	**pP**	**20 48 05.5**	**+0.9**
WHN				S	**S**	**20 55 02.0**	**+0.1**
WHN				pmax	pmax		
	comp=Z,52nm,0.9s						
WHN				LR	LR		
	comp=Z,5μm,11.3s						
WHN				LR	LR		
	comp=Z,10μm,19.8s						
WHN				LR	LR		
	comp=Z,12μm,16.2s						
LRW	**Lerwick**	**48.68**	**325**	*e*P	**P**	**20 48 00.2**	**-0.7**
MONM	**Monmouth**	**48.70**	**314**	*e*P	**P**	**20 47 58.7**	**-2.4**
MONM				IAmb	IAmb	20 48 05.8	
	comp=Z,46nm,0.9s						
MONM				IAMs_20	IAMs_20	21 15 18.8	
	comp=Z,1μm,17.1s						
HOPEN	**Hopen**	**48.71**	**350**	*e*P	**P**	**20 48 02.0**	**+1.1**
HOPEN				IAmb	IAmb	20 48 05.1	
	comp=Z,484nm,2.2s						
HOPEN				*e*PP	**PP**	**20 49 54.2**	**+0.4**
HOPEN				*e*S	**S**	**20 55 02.9**	**0.0**
HOPEN				*e*SS	**SS**	**20 58 29.8**	**-2.9**
ESY	**Stoneypath**	**48.85**	**320**	*e*P	**P**	**20 48 01.2**	**-1.1**
DRUM	**Mains of Drumt**	**48.88**	**321**	*e*P	**P**	**20 48 01.4**	**-1.1**
DRUM				IAmb	IAmb	20 48 05.4	
	comp=Z,128nm,1.1s						
FOEL	**Foel Wylfa**	**48.98**	**316**	*e*P	**P**	**20 48 02.5**	**-0.9**
FOEL				IAmb	IAmb	20 48 08.8	
	comp=Z,74nm,1.0s						
FOEL				IAMs_20	IAMs_20	21 13 29.2	
	comp=Z,2μm,20.5s						
KESW	**Keswick, Cumbr**	**49.02**	**318**	*e*P	**P**	**20 48 02.3**	**-1.4**
KESW				IAMs_20	IAMs_20	21 15 47.8	
	comp=Z,2μm,16.6s						
EKA	**Eskdalemuir Ar**	**49.10**	**319**	P	**P**	**20 48 03.0**	**-1.3**
	comp=Z,1.7nm,0.4s,baz=103,slow=7.0,SNR=15						
EKA				PcP	**PcP**	**20 49 28.2**	**+0.5**
	comp=Z,7.9nm,0.8s,baz=97,slow=5.4,SNR=3.9						
	comp=Z,1.7nm,0.4s						
ESK	**Eskdalemuir**	**49.13**	**319**	P	**P**	**20 48 02.9**	**-1.6**
ESK				IAmb	IAmb	20 48 12.4	
	comp=Z,45nm,1.1s						
ESK	**Eskdalemuir**	**49.13**	**319**	*e*P	**P**	**20 48 03.2**	**-1.2**
ESK				IAMs_20	IAMs_20	21 16 08.1	
	comp=Z,2μm,14.4s						
ESK	**Eskdalemuir**	**49.13**	**319**	P	**P**	**20 48 02.9**	**-1.6**
ESK				pmax	pmax		
	comp=Z,45nm,1.1s						
ESK				MLR	MLR		
	comp=Z,1μm,19.0s						
DYA	**Yadsworthy**	**49.39**	**312**	*e*P	**P**	**20 48 04.3**	**-2.2**
DYA				IAmb	IAmb	20 48 08.4	
	comp=Z,67nm,1.3s						
TIA	**Tai'an**	**49.53**	**67**	P	**P**	**20 48 08.3**	**+0.5**
TIA				S	**S**	**20 55 15.6**	**+0.1**
TIA				pmax	pmax		
	comp=Z,39nm,1.5s						
TIA				pmax	pmax		
	comp=Z,510nm,5.4s						
TIA				LR	LR		
	comp=Z,7μm,16.9s						
TIA				LR	LR		
	comp=Z,2μm,20.7s						
TIA				LR	LR		
	comp=Z,5μm,17.1s						
OPO	**Ambohidratompo**	**49.63**	**193**	LR	LR	21 07 29.7	
	comp=Z,1μm,20.3s,baz=178,slow=34						
WME	**Myndd Eilian**	**49.66**	**316**	*e*P	**P**	**20 48 06.8**	**-1.8**
WLF1	**Llynfaes**	**49.71**	**316**	*e*P	**P**	**20 48 07.1**	**-1.8**
WPS	**Cemaes, Angles**	**49.78**	**316**	*e*P	**P**	**20 48 07.4**	**-2.0**
WPS				IAmb	IAmb	20 48 11.9	
	comp=Z,52nm,1.1s						
PGBU	**Glenifferbraes**	**49.89**	**319**	*e*P	**P**	**20 48 08.9**	**-1.3**
PGBU				IAmb	IAmb	20 48 13.2	
	comp=Z,153nm,1.5s						
HIA	**Hailar**	**49.95**	**49**	P	**P**	**20 48 12.2**	**+1.4**
HIA	**Hailar**	**49.95**	**49**	P	**P**	**20 48 12.3**	**+1.4**
HIA				IAmb	IAmb	20 48 16.6	
	comp=Z,66nm,0.9s						
HIA	**Hailar**	**49.95**	**49**	P	**P**	**20 48 12.3**	**+1.4**
HIA				pmax	pmax		
	comp=Z,66nm,0.9s						
HIA				MLR	MLR		
	comp=Z,6μm,20.0s						
ABPO	**Ambohimpanom**	**50.06**	**193**	P	**P**	**20 48 11.7**	**-0.4**
ABPO	**Ambohimpanom**	**50.06**	**193**	*e*P	**P**	**20 48 14.5**	**+2.4**
ABPO				IAmb	IAmb	20 48 15.9	
	comp=Z,245nm,1.6s						
ABPO	**Ambohimpanom**	**50.06**	**193**	P	**P**	**20 48 11.7**	**-0.4**
ABPO				pmax	pmax		
	comp=Z,228nm,1.6s						
ABPO				MLR	MLR		
	comp=Z,2μm,21.0s						
ESBB	**Sonseca Array**	**50.32**	**298**	P	**P**	**20 48 11.7**	**-2.2**
ESBB				IAmb	IAmb	20 48 15.9	
	comp=Z,66nm,1.5s						
ESDC	**Sonseca Array**	**50.32**	**298**	P	**P**	**20 48 12.1**	**-1.8**
ESDC	**Sonseca Array**	**50.32**	**298**	P	**P**	**20 48 12.1**	**-1.8**
	comp=Z,16nm,1.0s,baz=64,slow=7.4,SNR=52						
ESDC				PcP	**PcP**	**20 49 32.4**	**-0.2**
	comp=Z,7.0nm,1.0s,baz=73,slow=3.6,SNR=4.2						
ESDC				LR	LR	21 11 51.3	
	comp=Z,909nm,18.3s,baz=71,slow=39						
	comp=Z,16nm,1.0s						
LAWE	**Loch Awe, Argy**	**50.43**	**320**	*e*P	**P**	**20 48 13.8**	**-0.6**
LAWE				IAmb	IAmb	20 48 22.1	
	comp=Z,64nm,1.0s						
LAWE				IAMs_20	IAMs_20	21 14 25.0	
	comp=Z,3μm,17.3s						
LINV	**Loch Inver, As**	**50.46**	**322**	*e*P	**P**	**20 48 13.5**	**-1.0**
LINV				IAmb	IAmb	20 48 17.2	
	comp=Z,177nm,1.4s						
PAB	**San Pablo**	**50.63**	**298**	P	**P**	**20 48 14.4**	**-1.9**
PAB				IAmb	IAmb	20 48 18.3	
	comp=Z,70nm,1.4s						
PAB	**San Pablo**	**50.63**	**298**	P	**P**	**20 48 14.4**	**-1.9**
PAB				pmax	pmax		
	comp=Z,70nm,1.4s						
PAB				MLR	MLR		
	comp=Z,800nm,22.0s						
KPL	**Plockton**	**50.64**	**321**	*e*P	**P**	**20 48 15.2**	**-0.7**
KPL				IAmb	IAmb	20 48 18.5	
	comp=Z,103nm,1.4s						
HKPS	**Hong Kong Po S**	**50.98**	**85**	P	**P**	**20 48 19.6**	**+0.6**
BKNI	**Bangkinang**	**51.00**	**118**	IAMs_20	IAMs_20	21 12 02.8	
	comp=Z,2μm,20.0s						
IWEX	**Carrickbyrne,**	**51.15**	**315**	*e*P	**P**	**20 48 18.7**	**-1.1**
SPB2	**Spitsbergen Ar**	**51.23**	**350**	IAmb	IAmb	20 48 30.5	
	comp=Z,80nm,1.3s						
SPA0	**Spitsbergen Ar**	**51.23**	**350**	*e*P	**P**	**20 48 19.8**	**-0.3**
SPA0				IAmb	IAmb	20 48 21.4	
	comp=Z,84nm,1.4s						
SPA0				*e*PP	**PP**	**20 50 17.0**	**+0.3**
SPA0				*e*S	**S**	**20 55 39.9**	**+1.8**
SPITS	**Spitsbergen Ar**	**51.23**	**350**	P	**P**	**20 48 19.1**	**-1.0**
	comp=Z,10.0nm,0.7s,baz=134,slow=14,SNR=6.6						
SPITS				LR	LR	21 13 52.2	
	comp=Z,5μm,18.3s,baz=114,slow=40						
	comp=Z,10.0nm,0.7s						
SPITS	**Spitsbergen Ar**	**51.23**	**350**	P	**P**	**20 48 19.3**	**-0.8**
SPITS				pmax	pmax		
	comp=Z,90nm,1.4s						
RER	**Riviere de l'E**	**51.24**	**182**	P	**P**	**20 48 21.4**	**+0.6**
PDSI	**Padang**	**51.36**	**119**	P	**P**	**20 48 19.6**	**-2.3**
	comp=Z,25nm,1.3s						
NJ2	**Nanjing**	**51.88**	**71**	*e*P	**P**	**20 48 25.4**	**-0.2**
NJ2				sP	**sP**	**20 48 33.9**	**+2.5**
NJ2				S	**S**	**20 55 52.3**	**+4.1**
NJ2				pmax	pmax		
	comp=Z,15nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,220nm,3.6s						
NJ2				LR	LR		
	comp=Z,3μm,18.9s						
NJ2				LR	LR		
	comp=Z,4μm,15.6s						
NJ2				LR	LR		
	comp=Z,3μm,21.3s						
PBRG	**Braganca**	**52.06**	**301**	*e*P	**P**	**20 48 25.2**	**-1.7**
	comp=Z,29nm,2.3s						
PBRG				*e*S	**S**	**20 55 51.9**	**+1.4**
MDT	**Midelt**	**52.28**	**290**	LR	LR	21 15 38.5	
	comp=Z,1μm,18.2s,baz=81,slow=42						
KBS	**Kingsbay**	**52.39**	**350**	P	**P**	**20 48 28.7**	**0.0**
KBS				IAmb	IAmb	20 48 31.1	
	comp=Z,98nm,1.5s						
KBS	**Kingsbay**	**52.39**	**350**	*e*P	**P**	**20 48 29.7**	**+0.9**
KBS				IAmb	IAmb	20 48 30.6	
	comp=Z,94nm,1.5s						
KBS				*e*PP	**PP**	**20 50 26.9**	**-0.2**
KBS				*e*ScP	**ScP**	**20 53 37.0**	**+0.5**
KBS				*e*S	**S**	**20 55 54.0**	**+0.1**
KBS				*e*SS	**SS**	**20 59 34.2**	**+2.9**
KBS				IAMs_20	IAMs_20	21 14 29.5	
	comp=Z,4μm,16.4s						
KBS	**Kingsbay**	**52.39**	**350**	P	**P**	**20 48 28.7**	**0.0**
KBS				pmax	pmax		
	comp=Z,98nm,1.5s						
KBS				MLR	MLR		
	comp=Z,4μm,19.0s						
DL2	**Dalian**	**52.51**	**62**	P	**P**	**20 48 29.3**	**-0.9**
DL2				S	**S**	**20 55 58.4**	**+1.8**
DL2				pmax	pmax		
	comp=Z,50nm,1.3s						
DL2				pmax	pmax		
	comp=Z,190nm,6.5s						
DL2				LR	LR		
	comp=Z,7μm,18.4s						
DL2				LR	LR		
	comp=Z,3μm,20.6s						
DL2				LR	LR		
	comp=Z,3μm,19.2s						
IGLA	**Glengowla, Co**	**52.70**	**316**	*e*P	**P**	**20 48 30.6**	**-0.7**
PVRL	**Vila Real**	**52.87**	**301**	*e*P	**P**	**20 48 31.6**	**-1.3**
	comp=Z,64nm,1.5s						
MTE	**Manteigas**	**52.90**	**300**	*e*P	**P**	**20 48 32.1**	**-1.1**
	comp=Z,68nm,2.1s						
MTE				*e*S	**S**	**20 56 03.5**	**+1.4**
MTE				A	A	21 18 13.5	
	comp=Z,846nm,20.0s						
POLO	**Lamas de Olo**	**52.91**	**301**	*e*P	**P**	**20 48 31.7**	**-1.6**
	comp=Z,24nm,1.3s						
POLO	**Lamas de Olo**	**52.91**	**301**	*e*PP	**PP**	**20 50 37.5**	**+4.8**
POLO				*e*S	**S**	**20 56 05.8**	**+3.6**
PBAR	**Barrancos**	**52.95**	**297**	*e*P	**P**	**20 48 32.0**	**-1.5**
	comp=Z,100nm,1.4s						
PBAR	**Barrancos**	**52.95**	**297**	*e*PP	**PP**	**20 50 36.2**	**+3.2**
PBAR				*e*S	**S**	**20 56 03.4**	**+0.7**
PCBR	**Castelo Branco**	**52.95**	**299**	*e*P	**P**	**20 48 32.3**	**-1.2**
	comp=Z,132nm,1.4s						
VOI	**Vohitsoka**	**52.96**	**192**	P	**P**	**20 48 34.6**	**+0.9**
VOI	**Vohitsoka**	**52.96**	**192

PESTR	**Estremoz**	**53.23**	**298**	*e*PP	**PP**		**20 50 39.2 +3.7**
PESTR				*e*S	**S**		**20 56 07.9 +1.4**
LSZ	**Lusaka**	**53.42**	**216**	P	**P**		**20 48 38.8 +1.6**
SNY	**Shenyang**	**53.43**	**58**	⇑P	**P**		**20 48 37.0 +0.1**
SNY				S	**S**		**20 56 09.8 +0.8**
SNY				pmax	pmax		
	comp=Z,7.0nm,0.4s						
SNY				pmax	pmax		
	comp=Z,250nm,4.4s						
SNY				LR	LR		
	comp=Z,2μm,14.7s						
SNY				LR	LR		
	comp=Z,2μm,15.1s						
SNY				LR	LR		
	comp=Z,2μm,18.2s						
COI	**Coimbra**	**53.59**	**300**	*e*S	**S**		**20 56 13.1 +1.9**
PBEJ	**Beja**	**53.62**	**297**	*e*P	**P**		**20 48 39.1 +0.7**
	comp=Z,63nm,1.9s						
EVO	**Evora**	**53.63**	**298**	*e*P	**P**		**20 48 37.2 -1.3**
	comp=Z,53nm,1.4s						
PMTG	**Montargil**	**53.68**	**298**	*e*P	**P**		**20 48 39.2 +0.4**
	comp=Z,45nm,2.0s						
PMTG	**Montargil**	**53.68**	**298**	*e*PP	**PP**		**20 50 41.9 +2.4**
PMTG				*e*S	**S**		**20 56 13.9 +1.4**
PCAS	**Casmilo, Conde**	**53.68**	**300**	*e*P	**P**		**20 48 39.1 +0.3**
	comp=Z,54nm,1.5s						
PCAS	**Casmilo, Conde**	**53.68**	**300**	*e*PP	**PP**		**20 50 42.1 +2.5**
PCAS				*e*S	**S**		**20 56 13.8 +1.2**
JMIC	**Jan Mayen**	**53.83**	**338**	LR	LR		21 13 55.0
	comp=Z,1μm,18.3s,baz=82,slow=39						
KNMB	**Chin-men Tao**	**53.84**	**81**	IAMs_20	IAMs_20		21 16 05.2
	comp=Z,3μm,19.0s						
QZH	**Quanzhou**	**53.84**	**80**	*e*P	P		20 48 49.3 +9.1
QZH				S	**S**		**20 56 16.3 +1.2**
QZH				LR	LR		
	comp=N,2μm,19.9s						
QZH				LR	LR		
	comp=E,4μm,16.8s						
QZH				LR	LR		
	comp=Z,5μm,16.1s						
PCVE	**Castro Verde**	**53.84**	**296**	*e*P	**P**		**20 48 38.1 -2.0**
	comp=Z,76nm,1.5s						
PCVE				*e*S	**S**		**20 56 15.7 +0.9**
PBDV	**Barranco-do-Ve**	**53.85**	**296**	*e*PP	**PP**		**20 50 42.4 +1.3**
PBDV				*e*S	**S**		**20 56 17.3 +2.3**
JMI	**Jan Mayen**	**53.89**	**338**	*e*P	**P**		**20 48 41.2 +1.3**
MESJ	**Messejana**	**53.94**	**297**	*e*P	**P**		**20 48 42.0 +1.3**
	comp=Z,58nm,1.4s						
MESJ	**Messejana**	**53.94**	**297**	*e*P	**P**		**20 48 40.8 +0.1**
MESJ				IAmb	IAmb		20 48 45.6
	comp=Z,63nm,1.4s						
MESJ				*e*S	**S**		**20 56 16.7 +0.6**
MESJ	**Messejana**	**53.94**	**297**	*e*P	**P**		**20 48 40.8 +0.1**
MESJ				*e*S	**S**		**20 56 16.7 +0.6**
PSBE	**So Bento**	**54.02**	**299**	*e*P	**P**		**20 48 41.4 +0.1**
	comp=Z,102nm,2.2s						
PSBE	**So Bento**	**54.02**	**299**	*e*PP	**PP**		**20 50 44.2 +1.6**
PSBE				*e*S	**S**		**20 56 18.3 +1.1**
KRI	**Karoi**	**54.04**	**214**	*e*P	**P**		**20 48 42.6 +0.8**
TOA0	**Torodi Ar. Sit**	**54.05**	**264**	P	**P**		**20 48 40.9 -0.9**
TORD	**Torodi Ar. Bea**	**54.05**	**264**	P	**P**		**20 48 41.0 -0.9**
TORD	**Torodi Ar. Bea**	**54.05**	**264**	P	**P**		**20 48 40.6 -1.2**
	comp=Z,130nm,0.8s,baz=51,slow=7.1,SNR=107						
TORD				LR	LR		21 13 50.6
	comp=Z,3μm,18.9s,baz=64,slow=38						
	comp=Z,130nm,0.8s						
PNCL	**Nicolau / Gran**	**54.11**	**297**	*e*P	**P**		**20 48 42.4 +0.4**
	comp=Z,82nm,1.3s						
PNCL	**Nicolau / Gran**	**54.11**	**297**	*e*PP	**PP**		**20 50 47.6 +4.1**
PNCL				*e*S	**S**		**20 56 22.3 +3.9**
MORF	**Marmelete**	**54.39**	**296**	*e*P	**P**		**20 48 44.2 +0.1**
MORF				IAmb	IAmb		20 48 51.0
	comp=Z,45nm,1.3s						
MORF	**Marmelete**	**54.39**	**296**	*e*P	**P**		**20 48 44.2 +0.1**
ZEA	**Zeya**	**54.41**	**43**	*e*P	**P**		**20 48 44.6 +0.7**
ZEA				*e*S	**S**		**20 56 26.2 +4.3**
ZEA				pmax	pmax		
	comp=N,20nm,1.1s						
ZEA				pmax	pmax		
	comp=E,20nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,40nm,1.1s						
ZEA				pmax	pmax		
	comp=E,100nm,4.1s						
ZEA				pmax	pmax		
	comp=Z,200nm,4.2s						
ZEA				smax	smax		
	comp=N,700nm,7.4s						
ZEA				smax	smax		
	comp=E,200nm,7.4s						
ZEA				MLR	MLR		
	comp=N,1μm,12.0s						
ZEA				MLR	MLR		
	comp=E,2μm,12.0s						
ZEA				MLR	MLR		
	comp=Z,3μm,13.0s						
CN2	**Changchun**	**54.44**	**56**	*e*P	**P**		**20 48 44.3 0.0**
CN2				*es*P	sP		20 48 51.3 +1.2
CN2				*e*S	**S**		**20 56 18.9 -3.8**
CN2				ScS	**ScS**		**20 58 29.1 -4.4**
CN2				pmax	pmax		
	comp=Z,50nm,1.3s						
CN2				LR	LR		
	comp=Z,3μm,15.0s						
CN2				LR	LR		
	comp=Z,800nm,15.0s						
SUJ	**Sinuiju**	**54.44**	**60**	P	**P**		**20 48 43.2 -1.1**
SUJ				S	**S**		**20 56 20.0 -2.7**
SUJ				AmB			
	comp=Z,445nm,3.5s						
SUJ				AMS	AMS		
	comp=Z,3μm,14.2s						
LIS	**Lisbon**	**54.46**	**298**	*e*P	**P**		**20 48 44.5 0.0**
LIS				IAmb	IAmb		20 48 46.8
	comp=Z,53nm,0.8s						
LIS	**Lisbon**	**54.46**	**298**	*e*P	**P**		**20 48 44.5 0.0**
PFVI	**Vila Bisbo**	**54.57**	**296**	IAmb	IAmb		20 48 47.4
	comp=Z,51nm,0.9s						
PFVI	**Vila Bisbo**	**54.57**	**296**	*e*P	**P**		**20 48 46.4 +1.1**
	comp=Z,92nm,1.3s						
HEH	**HeiHe**	**54.84**	**48**	*e*P	**P**		**20 48 46.4 -0.7**
HEH				S	**S**		**20 56 26.8 -1.0**
HEH				ScS	**ScS**		**20 58 32.0 -4.1**
HEH				SS	**SS**		**21 00 11.3 +0.6**
HEH				pmax	pmax		
	comp=Z,83nm,1.0s						
HEH				pmax	pmax		
	comp=Z,220nm,3.5s						
HEH				LR	LR		
	comp=Z,4μm,12.5s						
HEH				LR	LR		
	comp=Z,5μm,13.8s						
HEH				LR	LR		
	comp=Z,8μm,13.6s						
YAK	**Yakutsk**	**55.39**	**33**	P	**P**		**20 48 50.1 -0.7**
YAK				IAmb	IAmb		20 48 54.3
	comp=Z,62nm,0.9s						
YAK	**Yakutsk**	**55.39**	**33**	LR	LR		21 12 05.7
	comp=Z,1μm,20.3s,baz=262,slow=36						
YAK	**Yakutsk**	**55.39**	**33**	*d i*P	**P**		**20 48 49.1 -1.8**
YAK				*e*			20 49 48.8
YAK				*e*			20 50 53.0
YAK				*e*PPP	PPP		20 52 03.1
YAK				*e*S	**S**		**20 56 33.8 -1.1**
YAK				*e**SS	**pS**		**20 56 40.7 +0.5**
YAK				*e*			20 58 37.5
YAK				*e*SS	**SS**		**21 00 19.0 0.0**
YAK				*e*SSS	SSS		21 02 25.6
YAK				pmax	pmax		
	comp=Z,39nm,1.1s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,23nm,1.4s						
YAK				pmax	pmax		
	comp=Z,83nm,3.3s						
YAK				pmax	pmax		
	comp=N,72nm,3.5s						
YAK				pmax	pmax		
	comp=E,123nm,3.3s						
YAK				smax	smax		
	comp=N,521nm,5.1s						
YAK				smax	smax		
	comp=E,174nm,3.2s						
YAK				MLR	MLR		
	comp=Z,3μm,20.0s						
YAK				MLR	MLR		
	comp=N,703nm,18.0s						
YAK				MLR	MLR		
	comp=E,4μm,18.0s						
BNX	**BinXian**	**55.48**	**53**	⇑P	**P**		**20 48 52.3 +0.5**
BNX				S	**S**		**20 56 38.5 +1.9**
BNX				SS	**SS**		**21 00 21.8 +0.8**
BNX				pmax	pmax		
	comp=E,57nm,1.3s						
BNX				LR	LR		
	comp=E,9μm,23.9s						
BNX				LR	LR		
	comp=E,2μm,15.2s						
BNX				LR	LR		
	comp=E,4μm,12.3s						
PYAG	**Pyongyang**	**55.62**	**61**	P	**P**		**20 48 52.3 -0.6**
PYAG				S	**S**		**20 56 35.7 -3.0**
PYAG				AmB			
	comp=Z,235nm,1.2s						
PYAG				AMS	AMS		
	comp=Z,1μm,12.6s						
TIXI	**Tiksi**	**55.65**	**21**	P	**P**		**20 48 51.7 -0.9**
TIXI				IAmb	IAmb		20 49 55.6
	comp=Z,58nm,1.1s						
TIXI	**Tiksi**	**55.65**	**21**	IAMs_20	IAMs_20		21 15 41.5
	comp=Z,3μm,18.0s						
TIXI	**Tiksi**	**55.65**	**21**	LR	LR		21 15 52.6
	comp=Z,3μm,18.0s,baz=280,slow=40						
TIXI	**Tiksi**	**55.65**	**21**	P	**P**		**20 48 51.7 -0.9**
TIXI				pmax	pmax		
	comp=Z,58nm,1.1s						
TIXI				MLR	MLR		
	comp=Z,3μm,18.0s						
HJU	**Haeju**	**55.84**	**62**	P	**P**		**20 48 53.9 -0.6**
HJU				S	**S**		**20 56 38.7 -2.9**
HJU				AmB			
	comp=Z,642nm,2.4s						
PMBI	**Palembang**	**55.93**	**118**	IAMs_20	IAMs_20		21 13 50.8
	comp=Z,2μm,21.0s						
TPUB	**Ta-pu**	**56.17**	**81**	IAMs_20	IAMs_20		21 17 17.0
	comp=Z,2μm,18.0s						
SSLB	**Suanglung**	**56.26**	**80**	IAMs_20	IAMs_20		21 14 51.6
	comp=Z,3μm,19.0s						
YHNB	**Yeheng**	**56.30**	**79**	IAMs_20	IAMs_20		21 15 35.5
	comp=Z,2μm,19.0s						
NACB	**Ninganchiao**	**56.67**	**80**	P	**P**		**20 49 01.5 +0.9**
INCN	**Inchon**	**56.67**	**63**	P	**P**		**20 49 01.1 +0.6**
INCN	**Inchon**	**56.67**	**63**	IAMs_20	IAMs_20		21 16 10.6
	comp=Z,3μm,18.0s						
TWG	**Pinlang**	**56.72**	**81**	IAMs_20	IAMs_20		21 18 05.0
	comp=Z,2μm,18.0s						
TWGBT	**Beinan**	**56.73**	**81**	P	**P**		**20 49 03.3 +2.2**
LWLI	**Liwa**	**56.75**	**120**	P	**P**		**20 49 00.2 -1.2**
MDJ	**Mudanjiang**	**57.21**	**54**	P	**P**		**20 49 05.5 +1.4**
MDJ	**Mudanjiang**	**57.21**	**54**	P	**P**		**20 49 04.6 +0.5**
MDJ				S	**S**		**20 56 59.9 +0.3**
MDJ				ScS	**ScS**		**20 58 54.3 +0.9**
MDJ				SS	**SS**		**21 00 52.0 +3.7**
MDJ				pmax	pmax		
	comp=Z,11nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,190nm,3.6s						
MDJ				LR	LR		
	comp=Z,6μm,13.7s						
MDJ				LR	LR		
	comp=Z,5μm,15.8s						
MDJ				LR	LR		
	comp=Z,6μm,17.7s						
KASI	**Kota Agung**	**57.41**	**120**	P	**P**		**20 49 07.7 +1.8**
DAG	**Danmarks Havn**	**57.53**	**345**	*i* P	**P**		**20 49 01.6 -4.3**
DAG				IAmb	IAmb		20 49 06.0
	comp=Z,47nm,1.4s						
MATP	**Matopo**	**57.67**	**213**	LR	LR		21 14 10.7
	comp=Z,2μm,21.4s,baz=36,slow=36						
KSRS	**Korea Array**	**57.67**	**63**	P	**P**		**20 49 06.5 -0.9**
	comp=Z,5.4nm,0.8s,baz=276,slow=7.2,SNR=24						
KSRS				LR	LR		21 16 05.4
	comp=Z,2μm,19.4s,baz=265,slow=38						
	comp=Z,5.4nm,0.8s						
DBG	**Daneborg**	**57.73**	**342**	*i* P	**P**		**20 49 04.5 -2.8**
DBG				IAmb	IAmb		20 49 12.3
	comp=Z,31nm,1.4s						
KLR	**Kul'dur**	**57.77**	**48**	LR	LR		21 15 23.2
	comp=Z,4μm,20.1s,baz=281,slow=38						
KLR	**Kul'dur**	**57.77**	**48**	*d i*P	**P**		**20 49 07.3 -0.7**
KLR				pmax	pmax		
	comp=Z,48nm,1.0s						
NOR	**Nord**	**57.86**	**350**	*i* P	**P**		**20 49 06.5 -1.7**
NOR				IAmb	IAmb		20 49 07.8
	comp=Z,22nm,1.2s						
BORG	**Borgarnes**	**58.26**	**330**	LR	LR		21 17 12.0
	comp=Z,721nm,18.1s,baz=96,slow=39						
SBUM	**Sibu**	**58.67**	**107**	P	**P**		**20 49 13.6 -1.2**
MUSN	**Musina, Limpop**	**58.68**	**210**	*e*P	**P**		**20 49 13.7 -1.0**
MUSN				IAmb	IAmb		20 49 17.7
	comp=Z,91nm,1.3s						
USRK	**Ussuriysk Ar.**	**58.98**	**54**	P	**P**		**20 49 16.1 -0.4**
	comp=Z,13nm,0.8s,baz=277,slow=6.8,SNR=12						
USRK				PcP	**PcP**		**20 50 05.8 +0.3**
	comp=Z,2.5nm,0.6s,baz=286,slow=5.2,SNR=2.9						
USRK				LR	LR		21 16 44.1
	comp=Z,5μm,18.9s,baz=278,slow=38						
	comp=Z,13nm,0.8s						
MPHEP	**Siloam, Limpop**	**59.09**	**210**	*e*P	**P**		**20 49 17.4 -0.2**
MPHEP				IAmb	IAmb		20 49 20.9
	comp=Z,72nm,1.2s						
MOPA	**Mopani**	**59.12**	**208**	*e*P	**P**		**20 49 18.4 +0.7**
MOPA				IAmb	IAmb		20 49 21.0
	comp=Z,389nm,1.3s						
VLA	**Vladivostok**	**59.16**	**55**	*e*P	**P**		**20 49 13.8 -4.0**
VLA				pmax	pmax		
	comp=Z,52nm,2.0s						
STKI	**Sintang**	**59.42**	**110**	P	**P**		**20 49 18.4 -1.6**
	comp=Z,33nm,1.2s,comp=Z,3μm						
CRAIL	**Swartwater, Li**	**59.85**	**211**	*e*P	**P**		**20 49 23.4 +0.6**
HOED	**Hoedspruit, Li**	**60.11**	**208**	*e*P	**P**		**20 49 24.5 0.0**
HOED				IAmb	IAmb		20 49 27.7
	comp=Z,146nm,1.2s						
GRNR	**Gornyy**	**60.42**	**46**	⇓*i*P	**P**		**20 49 29.4 +3.0**
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,1μm,13.0s						
GRNR				MLR	MLR		
	comp=N,930nm,11.0s						
GRNR				MLR	MLR		
	comp=Z,2μm,14.0s						
PILG	**Pilgrimsrest,**	**60.66**	**208**	*e*P	**P**		**20 49 28.9 +0.4**
PILG				IAmb	IAmb		20 49 32.6
	comp=Z,39nm,1.0s						
WTBG	**Waterberg Wild**	**60.79**	**210**	*e*P	**P**		**20 49 29.2 -0.1**
WTBG				IAmb	IAmb		20 49 32.8
	comp=Z,74nm,1.6s						
LEPH	**Lephalale, Lim**	**60.96**	**211**	*e*P	**P**		**20 49 30.1 -0.4**
LEPH				IAmb	IAmb		20 49 33.4
	comp=Z,124nm,1.3s						
MTLB	**Matlabas, Limp**	**61.26**	**212**	*e*P	**P**		**20 49 32.0 -0.5**
MTLB				IAmb	IAmb		20 49 35.5
	comp=Z,105nm,1.4s						
JNU	**Nakatsue**	**61.27**	**67**	IAMs_20	IAMs_20		21 20 12.7
	comp=Z,2μm,18.0s						
JNU	**Nakatsue**	**61.27**	**67**	LR	LR		21 20 23.4
	comp=Z,2μm,18.4s,baz=296,slow=40						
DULL	**Dullstroom, Mp**	**61.27**	**208**	*e*P	**P**		**20 49 33.1 +0.5**
DULL				IAmb	IAmb		20 49 36.0
	comp=Z,102nm,1.1s						
JOW	**Kunigami**	**61.32**	**74**	IAMs_20	IAMs_20		21 18 20.9
	comp=Z,2μm,20.0s						
JOW	**Kunigami**	**61.32**	**74**	LR	LR		21 18 31.8
	comp=Z,2μm,19.8s,baz=290,slow=38						
SOEG	**Soedalen**	**61.79**	**335**	*i* P	**P**		**20 49 37.4 +2.1**
SOEG				IAmb	IAmb		20 49 38.4
	comp=Z,45nm,1.1s						
RUST	**Rust De Winter**	**61.85**	**210**	*e*P	**P**		**20 49 36.1 -0.3**
RUST				IAmb	IAmb		20 49 40.3
	comp=Z,488nm,2.2s						
CRLN	**Carolina, Mapu**	**61.89**	**208**	*e*P	**P**		**20 49 36.5 -0.2**
CRLN				IAmb	IAmb		20 49 40.1
	comp=Z,60nm,1.1s						
NHAM	**Northam, North**	**62.10**	**211**	*e*P	**P**		**20 49 37.6 -0.4**
NHAM				IAmb	IAmb		20 49 42.6
	comp=Z,56nm,1.0s						
TSWA	**Tswaing Meteor**	**62.20**	**210**	*e*P	**P**		**20 49 38.9 +0.2**
TSWA				IAmb	IAmb		20 49 42.2
	comp=Z,115nm,1.4s						
NYAT	**Nyati, Northwe**	**62.38**	**211**	*e*P	**P**		**20 49 40.6 +0.6**
NYAT				IAmb	IAmb		20 49 43.5
	comp=Z,171nm,1.2s						
PMOZ	**Porto Moniz, M**	**62.39**	**294**	*e*P	**P**		**20 49 42.0 +1.9**
PMOZ	**Porto Moniz, M**	**62.39**	**294**	*e*PP	**PP**		**20 51 58.9 +1.7**
PMOZ				*e*S	**S**		**20 58 12.1 +5.2**
PMOZ	**Porto Moniz, M**	**62.39**	**294**	A	A		21 33 22.4
	comp=Z,351nm,18.0s						
POGA	**Pongola**	**62.44**	**206**	*e*P	**P**		**20 49 40.1 -0.1**
POGA				IAmb	IAmb		20 49 43.3
	comp=Z,199nm,1.5s						
TSUM	**Tsumeb**	**62.46**	**223**	P	**P**		**20 49 41.3 +0.7**
TSUM				IAmb	IAmb		20 49 44.6
	comp=Z,41nm,1.1s						
TSUM	**Tsumeb**	**62.46**	**223**	*e*P	**P**		**20 49 40.7 0.0**
TSUM				IAmb	IAmb		20 49 44.4
	comp=Z,46nm,1.1s						
TSUM	**Tsumeb**	**62.46**	**223**	LR	LR		21 18 21.5
	comp=Z,2μm,21.1s,baz=37,slow=38						
MYLDM	**Lahad Datu**	**62.46**	**101**	IAmb	IAmb		20 49 45.3
	comp=Z,80nm,1.5s						
HRAO	**HartRAO**	**62.78**	**210**	*e*P	**P**		**20 49 42.9 +0.2**
DBIC	**Dimbokro**	**62.83**	**261**	P	**P**		**20 49 42.6 -0.6**
DBIC	**Dimbokro**	**62.83**	**261**	*e*P	**P**		**20 49 41.5 -1.7**
DBIC	**Dimbokro**	**62.83**	**261**	P	**P**		**20 49 42.4 -0.8**
	comp=Z,143nm,1.1s,baz=51,slow=6.8,SNR=23						
DBIC				LR	LR		21 17 26.6
	comp=Z,2μm,19.6s,baz=44,slow=36						
	comp=Z,143nm,1.1s						
DBIC	**Dimbokro**	**62.83**	**261**	P	**P**		**20 49 42.6 -0.6**
DBIC				pmax	pmax		
	comp=Z,184nm,1.0s						
KIC	**Kosan Boka**	**62.89**	**261**	⇓*i*P	**P**		**20 49 42.8 -0.8**
	comp=Z,301nm,1.0s						
LBTB	**Lobatse**	**62.97**	**213**	P	**P**		**20 49 44.4 +0.5**
LBTB	**Lobatse**	**62.97**	**213**	*e*P	**P**		**20 49 44.6 +0.7**
LBTB				IAmb	IAmb		20 49 47.9
	comp=Z,678nm,2.4s						
LBTB	**Lobatse**	**62.97**	**213**	LR	LR		21 16 44.1
	comp=Z,2μm,22.0s,baz=16,slow=36						
LBTB	**Lobatse**	**62.97**	**213**	P	**P**		**20 49 44.4 +0.5**
LBTB				pmax	pmax		
	comp=Z,103nm,1.3s						
TIC	**Toumodi**	**62.98**	**262**	⇓*i*P	**P**		**20 49 43.3 -0.9**
	comp=Z,3.4nm,0.2s						
MRCO	**Marico , North**	**62.99**	**212**	*e*P	**P**		**20 49 43.7 -0.3**
MRCO				IAmb	IAmb		20 49 47.4
	comp=Z,126nm,1.3s						
SUMG	**Summit**	**63.10**	**340**	P	**P**		**20 49 44.1 -0.5**
SUMG				IAmb	IAmb		20 49 48.3
	comp=Z,58nm,1.1s						
SUMG	**Summit**	**63.10**	**340**	P	**P**		**20 49 44.1 -0.5**
SUMG				pmax	pmax		
	comp=Z,58nm,1.1s						
SUMG				MLR	MLR		
	comp=Z,1μm,20.0s						
SUMG	**Summit**	**63.10**	**340**	*i* P	**P**		**20 49 43.4 -1.2**
SUMG				IAmb	IAmb		20 49 47.3
	comp=Z,85nm,1.3s						
LIC	**Lamto**	**63.20**	**261**	⇓*i*P	**P**		**20 49 44.8 -0.9**
	comp=Z,321nm,1.0s						
JMN	**Monobe**	**63.43**	**65**	P	**P**		**20 49 50.2 +3.2**
JMN	**Monobe**	**63.43**	**65**	IAMs_20	IAMs_20		21 21 30.7
	comp=Z,2μm,19.0s						
NWCL	**Newcastle**	**63.49**	**207**	*e*P	**P**		**20 49 47.7 +0.4**
NWCL				IAmb	IAmb		20 49 50.2
	comp=Z,92nm,1.3s						
PRYS	**Parys**	**63.83**	**210**	*e*P	**P**		**20 49 50.2 +0.7**
PRYS				IAmb	IAmb		20 49 52.8
	comp=Z,11nm,0.8s						
TYV	**Tymovskoe**	**64.21**	**45**	*e*P	**P**		**20 49 55.1 +3.3**
TYV				pmax	pmax		
	comp=Z,19nm,0.9s						
TYV				pmax	pmax		
	comp=Z,200nm,3.8s						
UGL	**Uglegorsk**	**64.38**	**47**	*e*P	P		20 50 05.1 +12
UGL				*e*S	**S**		**20 58 29.7 -1.2**
UGL				smax	smax		
	comp=E,300nm,2.1s						
UGL				smax	smax		
	comp=N,1μm,7.2s						
UGL				MLR	MLR		
	comp=E,3μm,12.0s						
UGL				MLR	MLR		
	comp=N,2μm,10.0s						
UGL				MLR	MLR		
	comp=Z,3μm,15.0s						
ICESG	**Greenland Ices**	**64.49**	**337**	*i* P	**P**		**20 49 52.4 -1.3**
ICESG				IAmb	IAmb		20 49 58.8
	comp=Z,55nm,1.0s						
NEEM	**North Greenlan**	**64.51**	**347**	*i* P	**P**		**20 49 51.4 -2.3**
NEEM				IAmb	IAmb		20 49 54.0
	comp=Z,42nm,1.1s						
ANGG	**Ammassalik, Gr**	**64.83**	**333**	IAmb	IAmb		20 49 56.5
	comp=Z,37nm,1.2s						
SNKL	**Senekal, Frees**	**64.83**	**209**	*e*P	**P**		**20 49 55.1 -1.1**
SNKL				IAmb	IAmb		20 49 59.1
	comp=Z,161nm,1.1s						
SWZ	**Schweizer**	**64.94**	**212**	*e*P	**P**		**20 49 56.9 0.0**
SWZ				IAmb	IAmb		20 49 59.8
	comp=Z,142nm,1.2s						
INU	**Inuyama**	**65.30**	**62**	P	**P**		**20 49 59.1 0.0**
INU	**Inuyama**	**65.30**	**62**	P	**P**		**20 49 58.9 -0.2**
INU				IAmb	IAmb		20 50 03.5
	comp=Z,48nm,1.0s						
WIN	**Windhoek**	**65.37**	**221**	IAmb	IAmb		20 50 05.5
	comp=Z,44nm,1.3s						
JGF	**Kuroka**	**65.47**	**62**	P	**P**		**20 50 03.2 +2.9**
YSS	**Yuzh-Sakhalins**	**65.48**	**49**	P	**P**		**20 50 02.5 +2.5**
YSS	**Yuzh-Sakhalins**	**65.48**	**49**	⇓*e*P	**P**		**20 50 00.1 +0.1**
YSS				pmax	pmax		
	comp=Z,99nm,0.9s						
SEY	**Seymchan**	**65.59**	**30**	LR	LR		21 21 39.3
	comp=Z,7μm,18.1s,baz=290,slow=39						
SEY	**Seymchan**	**65.59**	**30**	*d i*P	**P**		**20 49 59.9 -0.6**
SEY				pmax	pmax		
	comp=Z,77nm,0.9s						
MAJO	**Matsushiro**	**65.78**	**61**	P	**P**		**20 50 02.2 0.0**
MAJO	**Matsushiro**	**65.78**	**61**	⇓*e*P	**P**		**20 50 01.2 -1.0**
MAJO				pmax	pmax		
	comp=Z,28nm,1.0s						
MJAR	**Matsushiro Arr**	**65.78**	**61**	P	**P**		**20 50 02.0 -0.3**
	comp=Z,13nm,0.9s,baz=296,slow=8.7,SNR=22						
MJAR				PcP	**PcP**		**20 50 33.7 +0.3**
	comp=Z,9.3nm,1.0s,baz=292,slow=6.2,SNR=4.5						
MJAR				LR	LR		21 22 01.6
	comp=Z,1μm,18.7s,baz=302,slow=39						
	comp=Z,13nm,0.9s						
MA2	**Magadan**	**65.95**	**34**	P	**P**		**20 50 03.0 +0.1**
MA2	**Magadan**	**65.95**	**34**	LR	LR		21 21 20.6
	comp=Z,3μm,18.8s,baz=284,slow=38						
MA2	**Magadan**	**65.95**	**34**	*d i*P	**P**		**20 50 01.7 -1.2**
MA2				pmax	pmax		
	comp=Z,46nm,1.0s						
MA2	**Magadan**	**65.95**	**34**	P	**P**		**20 50 02.8 -0.1**
	comp=Z,51nm,1.1s						
BOSA	**Boshof**	**66.21**	**211**	P	**P**		**20 50 04.6 -0.4**
BOSA	**Boshof**	**66.21**	**211**	*e*P	**P**		**20 50 03.6 -1.4**
BOSA				IAmb	IAmb		20 50 07.9
	comp=Z,110nm,1.2s						
BOSA	**Boshof**	**66.21**	**211**	P	**P**		**20 50 04.4 -0.6**
	comp=Z,33nm,0.9s,baz=37,slow=6.6,SNR=22						
BOSA				LR	LR	

ERM	**Erimo**	**67.43**	**54**	P	**P**	**20 50 12.0**	**-0.6**	
ERM				IAmb	IAmb	20 50 27.3		
	comp=Z,35nm,1.0s							
ERM	**Erimo**	**67.43**	**54**	P	**P**	**20 50 12.0**	**-0.6**	
ERM				pmax	pmax			
	comp=Z,35nm,1.0s							
ERM				MLR	MLR			
	comp=Z,4µm,20.0s							
DAV	**Davao City (W)**	**67.57**	**95**	LR	LR	21 22 32.0		
	comp=Z,981nm,20.9s,baz=342,slow=38							
NUUG	**Nuugaatsiaq**	**67.71**	**341**	*i* P	**P**	**20 50 11.3**	**-2.6**	
NUUG				IAmb	IAmb	20 50 14.2		
	comp=Z,32nm,1.4s							
DY2G	**Dye2**	**67.79**	**335**	*i* P	**P**	**20 50 14.3**	**-0.5**	
DY2G				IAmb	IAmb	20 50 16.1		
	comp=Z,85nm,1.2s							
UMMG	**Uummannaq**	**67.82**	**340**	*i* P	**P**	**20 50 14.1**	**-0.5**	
UMMG				IAmb	IAmb	20 50 17.4		
	comp=Z,42nm,1.0s							
HVD	**Garlep Dam**	**67.82**	**210**	*e*P	**P**	**20 50 15.2**	**-0.1**	
HVD				IAmb	IAmb	20 50 18.2		
	comp=Z,106nm,1.2s							
UPI	**Upington**	**67.86**	**214**	*e*P	**P**	**20 50 15.6**	**+0.2**	
UPI				IAmb	IAmb	20 50 18.9		
	comp=Z,77nm,1.2s							
MRSI	**Marisa**	**67.86**	**103**	P	**P**	**20 50 16.1**	**+0.4**	
	comp=Z,42nm,1.1s,comp=Z,773nm							
UPNV	**Upernavik**	**67.87**	**343**	*i* P	**P**	**20 50 13.8**	**-1.1**	
UPNV				IAmb	IAmb	20 50 15.2		
	comp=Z,25nm,0.9s							
EUNU	**Eureka**	**68.06**	**354**	IAmb	IAmb	20 50 17.3		
	comp=Z,27nm,1.1s							
JHJ	**Hachijo jima 2**	**68.25**	**64**	LR	LR	21 22 43.3		
	comp=Z,1µm,18.2s,baz=280,slow=38							
KEIM	**Keimoes**	**68.28**	**214**	*e*P	**P**	**20 50 18.5**	**+0.4**	
KEIM				IAmb	IAmb	20 50 21.7		
	comp=Z,125nm,1.5s							
TULEG	**Thule**	**68.36**	**348**	IAMs_20	IAMs_20	21 24 26.7		
	comp=Z,1µm,19.0s							
BILL	**Bilibino**	**68.83**	**22**	IAMs_20	IAMs_20	21 22 55.2		
	comp=Z,1µm,18.0s							
BILL	**Bilibino**	**68.83**	**22**	*d* P	**P**	**20 50 20.8**	**-0.2**	
BILL				*e*		20 50 46.4		
BILL				*e*		20 52 52.4		
BILL				*e*S	**S**	**20 59 26.6**	**+2.3**	
BILL				*e*SS	**SS**	**21 03 53.2**	**+4.6**	
BILL				pmax	pmax			
	comp=Z,46nm,1.0s							
BILL				MLR	MLR			
	comp=Z,2µm,17.0s							
KAPI	**Kappang**	**69.08**	**109**	LR	LR	21 24 57.4		
	comp=Z,1µm,18.5s,baz=294,slow=40							
BBTS	**Babate**	**69.10**	**275**	LR	LR	21 24 19.0		
	comp=Z,2µm,18.0s,baz=316,slow=39							
SFJD	**Kangerlussuaq**	**69.11**	**336**	IAMs_20	IAMs_20	21 23 08.8		
	comp=Z,2µm,18.0s							
SFJD	**Kangerlussuaq**	**69.11**	**336**	LR	LR	21 21 59.2		
	comp=Z,1µm,19.8s,baz=60,slow=37							
MBO	**M'Bour**	**69.58**	**275**	IAMs_20	IAMs_20	21 26 03.0		
	comp=Z,2µm,21.0s							
BFON	**Badsfontein, M**	**69.63**	**210**	*e*P	**P**	**20 50 27.1**	**+0.6**	
BFON				IAmb	IAmb	20 50 30.1		
	comp=Z,444nm,2.1s							
GRAF	**Camdeboo Natio**	**69.70**	**209**	*e*P	**P**	**20 50 26.3**	**-0.6**	
GRAF				IAmb	IAmb	20 50 30.5		
	comp=Z,153nm,1.5s							
NRS	**Narsarsuaq**	**69.75**	**330**	IAMs_20	IAMs_20	21 23 53.4		
	comp=Z,2µm,21.0s							
GRHM	**Grahamstown, E**	**69.79**	**207**	*e*P	**P**	**20 50 27.8**	**+0.5**	
GRHM				IAmb	IAmb	20 50 30.7		
	comp=Z,148nm,1.2s							
BRAK	**Brakfontein**	**69.97**	**211**	*e*P	**P**	**20 50 29.1**	**+0.5**	
BRAK				IAmb	IAmb	20 50 32.1		
	comp=Z,198nm,1.7s							
ROOI	**Rooidraai Farm**	**70.29**	**210**	*e*P	**P**	**20 50 29.5**	**-1.0**	
ROOI				IAmb	IAmb	20 50 34.3		
	comp=Z,104nm,1.2s							
NMMU	**Nelson Mandela**	**70.71**	**208**	*e*P	**P**	**20 50 35.3**	**+2.4**	
GRAN	**Grantham**	**70.73**	**211**	*e*P	**P**	**20 50 33.1**	**-0.1**	
GRAN				IAmb	IAmb	20 50 37.3		
	comp=Z,44nm,1.5s							
FRAZ	**Fraserburg**	**70.76**	**212**	*e*P	**P**	**20 50 33.3**	**-0.2**	
FRAZ				IAmb	IAmb	20 50 37.2		
	comp=Z,191nm,1.6s							
KOMG	**Komaggas**	**70.91**	**216**	*e*P	**P**	**20 50 33.6**	**-0.7**	
KOMG				IAmb	IAmb	20 50 37.9		
	comp=Z,130nm,1.6s							
IVI	**Ivigtut**	**70.92**	**330**	IAMs_20	IAMs_20	21 23 01.1		
	comp=Z,2µm,22.0s							
CVNA	**Calvinia**	**71.16**	**214**	*e*P	**P**	**20 50 36.3**	**+0.5**	
CVNA				IAmb	IAmb	20 50 39.2		
	comp=Z,130nm,1.6s							
BUFB	**Buffelsbos**	**71.21**	**208**	*e*P	**P**	**20 50 35.4**	**-0.5**	
BUFB				IAmb	IAmb	20 50 39.3		
	comp=Z,18nm,1.1s							
MERW	**Merweville**	**71.34**	**212**	*e*P	**P**	**20 50 37.8**	**+0.9**	
MERW				IAmb	IAmb	20 50 40.6		
	comp=Z,127nm,1.5s							
SUR	**Sutherland**	**71.42**	**212**	P	**P**	**20 50 38.6**	**+1.1**	
SUR				IAMs_20	IAMs_20	21 24 25.4		
	comp=Z,2µm,20.0s							
SUR	**Sutherland**	**71.42**	**212**	*e*P	**P**	**20 50 38.0**	**+0.6**	
SUR				IAmb	IAmb	20 50 41.3		
	comp=Z,174nm,1.7s							
SUR	**Sutherland**	**71.42**	**212**	LR	LR	21 22 33.7		
	comp=Z,1µm,18.3s,baz=22,slow=36							
SUR	**Sutherland**	**71.42**	**212**	P	**P**	**20 50 39.5**	**+2.0**	
SUR				P	**P**	**20 50 39.5**	**+2.0**	
BBSI	**Bau Bau**	**71.65**	**108**	P	**P**	**20 50 40.2**	**+1.1**	
	comp=Z,46nm,1.3s							
TNTI	**Ternate**	**72.30**	**100**	P	**P**	**20 50 43.8**	**+0.8**	
TNTI	**Ternate**	**72.30**	**100**	P	**P**	**20 50 43.1**	**+0.1**	
	comp=Z,79nm,1.3s,comp=Z,1µm							
PET	**Petropavlovsk**	**72.57**	**38**	IAMs_20	IAMs_20	21 22 27.0		
	comp=Z,2µm,21.0s							
PET	**Petropavlovsk**	**72.57**	**38**	*e*P	**P**	**20 50 44.5**	**+0.5**	
PET				*e*S	**S**	**21 00 05.8**	**-2.5**	
PET				*e*		21 00 43.8		
PET				pmax	pmax			
	comp=Z,100nm,9.4s							
PET				MLR	MLR			
	comp=Z,2µm,16.0s							
PET				MLR	MLR			
	comp=Z,2µm,16.0s							
JCJ	**Chichijima**	**72.61**	**68**	LR	LR	21 25 23.7		
	comp=Z,917nm,19.4s,baz=298,slow=38							
SANI	**Sanana**	**72.62**	**103**	P	**P**	**20 50 44.0**	**-0.9**	
SANI	**Sanana**	**72.62**	**103**	P	**P**	**20 50 44.9**	**0.0**	
	comp=Z,43nm,1.1s,comp=Z,860nm							
PRTV	**Porterville,We**	**72.79**	**213**	*e*P	**P**	**20 50 47.3**	**+1.7**	
PRTV				IAmb	IAmb	20 50 53.2		
	comp=Z,338nm,2.3s							
CER	**Ceres**	**72.94**	**213**	*e*P	**P**	**20 50 47.2**	**+0.8**	
CER				IAmb	IAmb	20 50 51.2		
	comp=Z,353nm,2.2s							
RES	**Resolute Bay**	**73.68**	**353**	LR	LR	21 26 42.9		
	comp=Z,3µm,21.6s,baz=18,slow=39							
SACV	**Santiago Islan**	**75.03**	**279**	IAMs_20	IAMs_20	21 27 02.8		
	comp=Z,2µm,19.0s							
SOEI	**Soe**	**75.44**	**111**	P	**P**	**20 51 01.9**	**+0.3**	
SOEI	**Soe**	**75.44**	**111**	IAmb	IAmb	20 51 26.4		
	comp=Z,92nm,1.2s							
SOEI				IAMs_20	IAMs_20	21 29 12.3		
	comp=Z,2µm,19.0s							
SOEI	**Soe**	**75.44**	**111**	P	**P**	**20 51 00.6**	**-1.0**	
	comp=Z,66nm,1.8s							
A21K	**Barrow**	**75.80**	**11**	P	**P**	**20 51 01.1**	**-1.4**	
	baz=330							
A19K	**Wainwright**	**75.97**	**13**	P	**P**	**20 51 02.0**	**-1.5**	
	baz=326							
A22K	**Sinclair Lake**	**76.34**	**10**	P	**P**	**20 51 04.2**	**-1.4**	
	baz=332							
SWI	**Sorong**	**76.47**	**99**	P	**P**	**20 51 06.0**	**-1.3**	
	comp=Z,61nm,1.0s,comp=Z,1µm							
B18K	**Kokolik River**	**76.53**	**13**	P	**P**	**20 51 07.0**	**+0.3**	
	baz=326,SNR=12							
C16K	**Lisburne Hills**	**76.67**	**15**	IAmb	IAmb	20 51 11.2		
	comp=Z,35nm,0.9s							
C16K				IAMs_20	IAMs_20	21 28 33.7		
	comp=Z,1µm,19.0s							
C16K	**Lisburne Hills**	**76.67**	**15**	P	**P**	**20 51 06.6**	**-0.9**	
	baz=323							
B20K	**Meade River**	**76.85**	**12**	IAmb	IAmb	20 51 12.9		
	comp=Z,43nm,0.9s							
B20K				IAMs_20	IAMs_20	21 30 03.3		
	comp=Z,1µm,21.0s							
B20K	**Meade River**	**76.85**	**12**	P	**P**	**20 51 08.1**	**-0.4**	
	baz=330							
C17K	**DeLong Mountai**	**76.98**	**14**	P	**P**	**20 51 08.7**	**-0.6**	
	baz=325,SNR=12							
B22K	**Teshekpuk Lake**	**77.17**	**10**	IAMs_20	IAMs_20	21 30 12.7		
	comp=Z,1µm,19.0s							
B22K	**Teshekpuk Lake**	**77.17**	**10**	P	**P**	**20 51 10.4**	**+0.1**	
	baz=333,SNR=18							
C19K	**Lookout Ridge**	**77.19**	**13**	IAmb	IAmb	20 51 14.5		
	comp=Z,35nm,1.1s							
C19K	**Lookout Ridge**	**77.19**	**13**	P	**P**	**20 51 10.5**	**0.0**	
	baz=328,SNR=6.3							
C18K	**Utukok River**	**77.25**	**14**	IAmb	IAmb	20 51 14.9		
	comp=Z,78nm,1.1s							
C18K	**Utukok River**	**77.25**	**14**	P	**P**	**20 51 10.4**	**-0.5**	
	baz=326							
RDOG	**Red Dog Mine**	**77.39**	**14**	IAmb	IAmb	20 51 14.7		
	comp=Z,75nm,1.3s							
RDOG	**Red Dog Mine**	**77.39**	**14**	P	**P**	**20 51 10.8**	**-0.8**	
	baz=325							
B21K	**Ikpikpuk River**	**77.62**	**11**	IAMs_20	IAMs_20	21 32 02.7		
	comp=Z,1µm,18.0s							
B21K	**Ikpikpuk River**	**77.62**	**11**	P	**P**	**20 51 13.0**	**+0.2**	
	baz=332,SNR=21							
D17K	**Noatak River**	**77.64**	**15**	P	**P**	**20 51 12.6**	**-0.4**	
	baz=325,SNR=24							
A36M	**Sachs Harbour**	**77.93**	**1**	P	**P**	**20 51 14.1**	**-0.4**	
	baz=358,SNR=29							
D19K	**Kuna River**	**77.99**	**13**	IAmb	IAmb	20 51 19.0		
	comp=Z,64nm,1.0s							
D19K				IAMs_20	IAMs_20	21 31 20.4		
	comp=Z,1µm,20.0s							
D19K	**Kuna River**	**77.99**	**13**	P	**P**	**20 51 14.8**	**-0.2**	
	baz=329,SNR=23							
C21K	**Knifeblade Rid**	**78.01**	**11**	P	**P**	**20 51 15.2**	**+0.1**	
	baz=332,SNR=19							
C23K	**Itkillik River**	**78.05**	**10**	IAMs_20	IAMs_20	21 30 10.8		
	comp=Z,2µm,19.0s							
C23K	**Itkillik River**	**78.05**	**10**	P	**P**	**20 51 15.8**	**+0.6**	
	baz=336,SNR=43							
D20K	**Etivluk River**	**78.08**	**12**	P	**P**	**20 51 15.4**	**0.0**	
	baz=330,SNR=13							
TNA	**Tin City**	**78.19**	**18**	P	**P**	**20 51 15.9**	**-0.2**	
	baz=321							
FAKI	**Fak Fak**	**78.38**	**100**	P	**P**	**20 51 18.1**	**+0.1**	
FAKI	**Fak Fak**	**78.38**	**100**	P	**P**	**20 51 17.8**	**-0.2**	
	comp=Z,106nm,2.0s,comp=Z,2µm							
E18K	**Tukpahlearik C**	**78.41**	**14**	IAmb	IAmb	20 51 21.2		
	comp=Z,56nm,0.9s							
E18K	**Tukpahlearik C**	**78.41**	**14**	P	**P**	**20 51 17.0**	**-0.2**	
	baz=327,SNR=24							
C24K	**Franklin Bluff**	**78.42**	**9**	P	**P**	**20 51 17.7**	**+0.4**	
	baz=337							
E17K	**Hotham Inlet**	**78.43**	**15**	P	**P**	**20 51 16.9**	**-0.5**	
	baz=326,SNR=12							
E20K	**Nigu River**	**78.55**	**12**	P	**P**	**20 51 17.8**	**-0.3**	
	baz=331,SNR=24							
D22K	**Ayikyak River**	**78.60**	**11**	IAmb	IAmb	20 51 23.8		
	comp=Z,63nm,1.0s							
D22K	**Ayikyak River**	**78.60**	**11**	P	**P**	**20 51 18.5**	**+0.1**	
	baz=334,SNR=40							
F14K	**Arctic Creek**	**78.67**	**17**	P	**P**	**20 51 18.7**	**-0.1**	
	baz=322							
C26K	**Camden Bay**	**78.71**	**8**	P	**P**	**20 51 19.1**	**+0.2**	
	baz=340,SNR=22							
E21K	**Killik River**	**78.78**	**11**	IAmb	IAmb	20 51 23.2		
	comp=Z,35nm,1.0s							
E21K				IAMs_20	IAMs_20	21 31 49.2		
	comp=Z,1µm,19.0s							
E21K	**Killik River**	**78.78**	**11**	P	**P**	**20 51 18.9**	**-0.5**	
	baz=333							
D23K	**Nanushuk River**	**78.83**	**10**	P	**P**	**20 51 19.8**	**+0.2**	
	baz=336							
F15K	**North Star Dit**	**78.90**	**16**	IAmb	IAmb	20 51 24.4		
	comp=Z,62nm,1.1s							
F15K				IAMs_20	IAMs_20	21 32 02.7		
	comp=Z,1µm,20.0s							
F15K	**North Star Dit**	**78.90**	**16**	P	**P**	**20 51 20.1**	**+0.1**	
	baz=324,SNR=21							
D24K	**Happy Valley**	**78.93**	**9**	IAmb	IAmb	20 51 24.0		
	comp=Z,49nm,1.1s							
D24K				IAMs_20	IAMs_20	21 30 25.1		
	comp=Z,2µm,20.0s							
D24K	**Happy Valley**	**78.93**	**9**	P	**P**	**20 51 20.3**	**+0.2**	
	baz=337,SNR=21							
E19K	**Redstone River**	**79.06**	**13**	IAmb	IAmb	20 51 24.0		
	comp=Z,49nm,1.1s							
E19K				IAMs_20	IAMs_20	21 32 07.6		
	comp=Z,2µm,19.0s							
E19K	**Redstone River**	**79.06**	**13**	P	**P**	**20 51 20.4**	**-0.5**	
	baz=330,SNR=29							
F17K	**Baldwin Pennin**	**79.09**	**15**	IAmb	IAmb	20 51 25.1		
	comp=Z,47nm,0.9s							
F17K	**Baldwin Pennin**	**79.09**	**15**	P	**P**	**20 51 20.9**	**-0.1**	
	baz=327,SNR=19							
D25K	**Kavik River**	**79.10**	**8**	IAmb	IAmb	20 51 25.6		
	comp=Z,60nm,1.0s							
D25K	**Kavik River**	**79.10**	**8**	P	**P**	**20 51 21.4**	**+0.2**	
	baz=339,SNR=67							
C27K	**Jago River**	**79.13**	**7**	P	**P**	**20 51 21.6**	**+0.3**	
	baz=342,SNR=53							
TOLK	**Toolik Lake Re**	**79.30**	**10**	IAmb	IAmb	20 51 26.7		
	comp=Z,79nm,0.9s							
TOLK				IAMs_20	IAMs_20	21 33 10.8		
	comp=Z,1µm,20.0s							
TOLK	**Toolik Lake Re**	**79.30**	**10**	P	**P**	**20 51 22.5**	**+0.3**	
	baz=336,SNR=67							
F18K	**Selawik**	**79.30**	**14**	P	**P**	**20 51 21.7**	**-0.4**	
	baz=328,SNR=43							
F19K	**Shaleruckik Mo**	**79.49**	**13**	IAmb	IAmb	20 51 26.5		
	comp=Z,57nm,1.1s							
F19K				IAMs_20	IAMs_20	21 30 55.1		
	comp=Z,1µm,20.0s							
F19K	**Shaleruckik Mo**	**79.49**	**13**	P	**P**	**20 51 22.1**	**-1.1**	
	baz=330,SNR=38							
G15K	**Niukluk**	**79.63**	**17**	P	**P**	**20 51 23.6**	**-0.4**	
	baz=324							
ANM	**Nome**	**79.64**	**17**	IAmb	IAmb	20 51 28.7		
	comp=Z,51nm,1.0s							
ANM	**Nome**	**79.64**	**17**	P	**P**	**20 51 23.8**	**-0.3**	
	baz=323,SNR=8.1							
F20K	**Avaraart Lake**	**79.70**	**13**	IAMs_20	IAMs_20	21 30 09.6		
	comp=Z,2µm,19.0s							
F20K	**Avaraart Lake**	**79.70**	**13**	P	**P**	**20 51 23.8**	**-0.5**	
	baz=331,SNR=28							
G16K	**Koyuk River**	**79.71**	**16**	IAmb	IAmb	20 51 28.8		
	comp=Z,62nm,1.1s							
G16K				IAMs_20	IAMs_20	21 33 16.1		
	comp=Z,1µm,19.0s							
G16K	**Koyuk River**	**79.71**	**16**	P	**P**	**20 51 24.4**	**0.0**	
	baz=326,SNR=26							
D27M	**Malcolm River**	**79.78**	**7**	IAmb	IAmb	20 51 28.8		
	comp=Z,43nm,1.1s							
D27M				IAMs_20	IAMs_20	21 30 18.6		
	comp=Z,2µm,22.0s							
D27M	**Malcolm River**	**79.78**	**7**	P	**P**	**20 51 25.0**	**+0.1**	
	baz=344,SNR=43							
E23K	**Chandalar**	**79.83**	**10**	P	**P**	**20 51 25.3**	**+0.2**	
	baz=336,SNR=78							
D28M	**Stokes Point**	**79.91**	**6**	P	**P**	**20 51 25.6**	**+0.2**	
	baz=346							
F22K	**John River**	**79.92**	**11**	P	**P**	**20 51 25.9**	**+0.3**	
	baz=334,SNR=70							
F21K	**Alatna River**	**79.95**	**12**	IAMs_20	IAMs_20	21 31 36.3		
	comp=Z,2µm,20.0s							
F21K	**Alatna River**	**79.95**	**12**	P	**P**	**20 51 25.6**	**-0.2**	
	baz=333,SNR=32							
E24K	**Your Creek**	**79.98**	**10**	IAmb	IAmb	20 51 30.5		
	comp=Z,92nm,1.1s							
E24K				IAMs_20	IAMs_20	21 30 34.8		
	comp=Z,2µm,22.0s							
E24K	**Your Creek**	**79.98**	**10**	P	**P**	**20 51 26.0**	**+0.1**	
	baz=337,SNR=109							
G17K	**Kiwalik Mounta**	**80.01**	**15**	P	**P**	**20 51 25.7**	**-0.4**	
	baz=327,SNR=22							
G18K	**Tagagawik**	**80.12**	**14**	P	**P**	**20 51 25.7**	**-1.0**	
	baz=329							
G19K	**Purcell Mounta**	**80.23**	**14**	IAmb	IAmb	20 51 31.1		
	comp=Z,70nm,1.0s							
G19K				IAMs_20	IAMs_20	21 31 06.6		
	comp=Z,2µm,19.0s							
G19K	**Purcell Mounta**	**80.23**	**14**	P	**P**	**20 51 26.8**	**-0.4**	
	baz=330,SNR=63							
H16K	**Elim**	**80.37**	**16**	P	**P**	**20 51 27.5**	**-0.5**	
	baz=326							
COLD	**Coldfoot**	**80.50**	**11**	P	**P**	**20 51 28.8**	**+0.1**	
	baz=336,SNR=43							
E28M	**Babbage River**	**80.54**	**6**	IAMs_20	IAMs_20	21 30 53.6		
	comp=Z,2µm,22.0s							
E28M	**Babbage River**	**80.54**	**6**	P	**P**	**20 51 29.0**	**+0.1**	
	baz=345,SNR=52							
G22K	**Bettles**	**80.57**	**11**	P	**P**	**20 51 28.8**	**-0.3**	
	baz=335,SNR=28							
F24K	**Squaw Lake**	**80.58**	**10**	IAMs_20	IAMs_20	21 33 28.8		
	comp=Z,1µm,20.0s							
F24K	**Squaw Lake**	**80.58**	**10**	P	**P**	**20 51 29.3**	**+0.2**	
	baz=338,SNR=25							
G21K	**Allakaket**	**80.58**	**12**	IAMs_20	IAMs_20	21 31 28.0		
	comp=Z,1µm,19.0s							
G21K	**Allakaket**	**80.58**	**12**	P	**P**	**20 51 28.5**	**-0.7**	
	baz=333,SNR=32							
SHEM	**Shemya Is, Ala**	**80.59**	**33**	LR	LR	21 30 35.3		
	comp=Z,1µm,18.1s,baz=291,slow=38							
C36M	**Paulatuk**	**80.59**	**1**	IAmb	IAmb	20 51 32.1		
	comp=Z,63nm,0.9s							
C36M	**Paulatuk**	**80.59**	**1**	P	**P**	**20 51 27.9**	**-1.2**	
	baz=359,SNR=20							
H17K	**Granite Mounta**	**80.66**	**15**	P	**P**	**20 51 29.1**	**-0.5**	
	baz=328,SNR=17							
E27K	**Coleen River**	**80.74**	**7**	IAmb	IAmb	20 51 34.4		
	comp=Z,58nm,1.1s							
E27K	**Coleen River**	**80.74**	**7**	P	**P**	**20 51 30.1**	**+0.1**	
	baz=343,SNR=67							
H18K	**Honhosa River**	**80.82**	**15**	IAmb	IAmb	20 51 34.4		
	comp=Z,60nm,1.1s							
H18K				IAMs_20	IAMs_20	21 31 48.3		
	comp=Z,2µm,21.0s							
H18K	**Honhosa River**	**80.82**	**15**	P	**P**	**20 51 30.1**	**-0.3**	
	baz=329,SNR=26							
F25K	**Christian Rive**	**80.82**	**9**	P	**P**	**20 51 30.9**	**+0.4**	
	baz=340,SNR=24							
H19K	**Roundabout Mou**	**80.89**	**14**	IAMs_20	IAMs_20	21 33 09.2		
	comp=Z,2µm,21.0s							
H19K	**Roundabout Mou**	**80.89**	**14**	P	**P**	**20 51 30.4**	**-0.3**	
	baz=331,SNR=23							
E29M	**Blow River**	**80.90**	**6**	P	**P**	**20 51 30.7**	**-0.1**	
	baz=347,SNR=47							
F26K	**Sheenjek River**	**80.92**	**8**	P	**P**	**20 51 31.1**	**+0.2**	
	baz=341,SNR=33							
G23K	**Bananza Creek**	**81.00**	**11**	IAmb	IAmb	20 51 35.8		
	comp=Z,39nm,1.0s							
G23K	**Bananza Creek**	**81.00**	**11**	P	**P**	**20 51 31.5**	**0.0**	
	baz=336,SNR=50							
IMAR	**Indian Mountai**	**81.02**	**12**	P	**P**	**20 51 30.7**	**-0.8**	
BMAR	**Burnt Mountain**	**81.11**	**8**	P	**P**	**20 51 32.3**	**+0.3**	
H20K	**Anotleneega Mo**	**81.24**	**13**	P	**P**	**20 51 32.1**	**-0.6**	
	baz=332,SNR=28							
INK	**Inuvik**	**81.30**	**4**	IAmb	IAmb	20 51 36.0		
	comp=Z,51nm,1.1s							
INK				IAMs_20	IAMs_20	21 32 55.7		
	comp=Z,2µm,21.0s							
INK	**Inuvik**	**81.30**	**4**	P	**P**	**20 51 32.5**	**-0.5**	
	baz=350,SNR=33							
INK	**Inuvik**	**81.30**	**4**	LR	LR	21 33 37.2		
	comp=Z,758nm,20.0s,baz=360,slow=40							
FITZ	**Fitzroy Crossi**	**81.33**	**117**	P	**P**	**20 51 32.8**	**-1.0**	
I17K	**Unalakleet**	**81.37**	**16**	IAmb	IAmb	20 51 38.0		
	comp=Z,80nm,1.1s							
I17K				IAMs_20	IAMs_20	21 32 40.9		
	comp=Z,2µm,21.0s							
I17K	**Unalakleet**	**81.37**	**16**	P	**P**	**20 51 33.6**	**+0.2**	
	baz=327,SNR=18							
G24K	**Hadweenzic Riv**	**81.40**	**10**	IAMs_20	IAMs_20	21 34 27.5		
	comp=Z,1µm,20.0s							
G24K	**Hadweenzic Riv**	**81.40**	**10**	P	**P**	**20 51 34.0**	**+0.5**	
	baz=338,SNR=177							
F28M	**Old Crow**	**81.47**	**7**	IAmb	IAmb	20 51 38.0		
	comp=Z,39nm,1.0s							
F28M				IAMs_20	IAMs_20	21 33 00.2		
	comp=Z,1µm,20.0s							
F28M	**Old Crow**	**81.47**	**7**	P	**P**	**20 51 33.7**	**-0.2**	
	baz=345,SNR=27							
H21K	**Melozitna Rive**	**81.48**	**12**	IAmb	IAmb	20 51 38.3		
	comp=Z,68nm,1.1s							
H21K				IAMs_20	IAMs_20	21 31 43.7		
	comp=Z,1µm,22.0s							
H21K	**Melozitna Rive**	**81.48**	**12**	P	**P**	**20 51 33.9**	**-0.1**	
	baz=334,SNR=64							
GCSA	**Galena City Sc**	**81.49**	**14**	P	**P**	**20 51 33.8**	**-0.2**	
	baz=330,SNR=11							
H22K	**Ishtalitna Cre**	**81.52**	**12**	P	**P**	**20 51 34.6**	**+0.4**	
	baz=335,SNR=98							
G25K	**Bearman Lake**	**81.54**	**9**	P	**P**	**20 51 34.7**	**+0.5**	
	baz=340,SNR=32							
J14K	**Nanvaranak Lak**	**81.60**	**18**	IAmb	IAmb	20 51 39.0		
	comp=Z,53nm,1.1s							
J14K	**Nanvaranak Lak**	**81.60**	**18**	P	**P**	**20 51 34.7**	**+0.2**	
	baz=325,SNR=11							
G26K	**Porcupine Rive**	**81.67**	**8**	P	**P**	**20 51 35.2**	**+0.3**	
	baz=342,SNR=26							
F30M	**Barrier River**	**81.83**	**5**	P	**P**	**20 51 35.5**	**-0.2**	
	baz=348,SNR=45							
FYU	**Fort Yukon**	**81.84**	**9**	IAmb	IAmb	20 51 40.6		
	comp=Z,76nm,1.2s							
H23K	**Yukon River**	**81.89**	**11**	IAmb	IAmb	20 51 41.0		
	comp=Z,70nm,1.0s							
H23K				IAMs_20	IAMs_20	21 33 27.5		
	comp=Z,2µm,20.0s							
H23K	**Yukon River**	**81.89**	**11

baz=327,SNR=16
I23K Minto, Yukon-K 82.55 11 IAmb IAmb 20 51 45.5
comp=Z,45nm,1.1s
I23K IAMs_20 IAMs_20 21 33 57.9
comp=Z,2µm,19.0s
I23K Minto, Yukon-K 82.55 11 P **P** **20 51 39.7 +0.1**
baz=337,SNR=55
J20K Nowinta River 82.56 13 IAmb IAmb 20 51 45.5
comp=Z,40nm,1.0s
J20K IAMs_20 IAMs_20 21 32 19.1
comp=Z,1µm,19.0s
J20K Nowinta River 82.56 13 P **P** **20 51 39.6 0.0**
baz=333,SNR=50
G31M Satah River 82.62 5 IAmb IAmb 20 51 43.5
comp=Z,68nm,0.9s
G31M IAMs_20 IAMs_20 21 33 37.6
comp=Z,1µm,21.0s
G31M Satah River 82.62 5 P **P** **20 51 39.3 -0.6**
baz=350,SNR=60
H27K Steamboat Moun 82.63 8 P **P** **20 51 40.3 +0.3**
baz=344,SNR=76
SCHQ Schefferville 82.64 331 P **P** **20 51 39.2 -1.1**
comp=Z,19nm,0.8s,baz=44,slow=6.1,SNR=14
SCHQ LR LR 21 29 55.9
comp=Z,567nm,21.6s,baz=45,slow=37
comp=Z,19nm,0.8s
J18K Innoko River 82.64 15 IAmb IAmb 20 51 44.4
comp=Z,47nm,1.2s
J18K IAMs_20 IAMs_20 21 30 22.5
comp=Z,2µm,21.0s
J18K Innoko River 82.64 15 P **P** **20 51 40.0 -0.2**
baz=331,SNR=33
MTN Manton Dam 82.74 109 P **P** **20 51 43.1 +1.8**
MTN Manton Dam 82.74 109 IAmb IAmb 20 51 44.7
comp=Z,41nm,1.1s
M11K Mekoryuk 82.77 20 P **P** **20 51 41.0 +0.2**
baz=323
PRP Porcupine Dome 82.80 9 IAmb IAmb 20 51 45.5
comp=Z,37nm,1.0s
PRP Porcupine Dome 82.80 9 P **P** **20 51 41.2 +0.1**
baz=340,SNR=52
POKR Poker Plat Res 82.89 10 IAMs_20 IAMs_20 21 33 26.8
comp=Z,1µm,19.0s
POKR Poker Plat Res 82.89 10 P **P** **20 51 41.5 +0.2**
baz=338,SNR=37
K17K Iditarod 82.94 16 IAMs_20 IAMs_20 21 33 14.3
comp=Z,2µm,21.0s
K17K Iditarod 82.94 16 P **P** **20 51 41.7 +0.1**
baz=330,SNR=40
H29M Whitestone 82.97 6 IAmb IAmb 20 51 45.7
comp=Z,51nm,1.0s
H29M IAMs_20 IAMs_20 21 31 55.9
comp=Z,1µm,21.0s
H29M Whitestone 82.97 6 P **P** **20 51 41.4 -0.4**
baz=346,SNR=58
EPYK Eagle Plains 82.98 6 IAmb IAmb 20 51 45.2
comp=Z,37nm,1.1s
EPYK IAMs_20 IAMs_20 21 33 59.0
comp=Z,1µm,20.0s
EPYK Eagle Plains 82.98 6 P **P** **20 51 41.0 -0.9**
baz=348,SNR=27
L14K Kuka Creek 82.99 18 IAmb IAmb 20 51 46.4
comp=Z,38nm,0.9s
L14K Kuka Creek 82.99 18 P **P** **20 51 42.0 +0.1**
baz=326,SNR=16
L15K Ungalak Mounta 83.03 18 P **P** **20 51 42.0 -0.2**
baz=327
COLA College 83.05 11 P **P** **20 51 41.8 -0.3**
COLA College 83.05 11 P **P** **20 51 41.4 -0.7**
baz=338
COLA College 83.05 11 *d i* P **P** **20 51 41.1 -1.0**
COLA pmax pmax
comp=Z,53nm,0.9s
NEA2 Nenana 83.11 11 IAmb IAmb 20 51 46.0
comp=Z,34nm,0.9s
NEA2 IAMs_20 IAMs_20 21 35 36.7
comp=Z,2µm,19.0s
NEA2 Nenana 83.11 11 P **P** **20 51 41.8 -0.7**
baz=337,SNR=44
I27K Kandik River 83.22 8 P **P** **20 51 43.0 -0.2**
baz=344,SNR=46
BPAW Bear Paw Mtn. 83.23 12 P **P** **20 51 42.6 -0.6**
baz=336,SNR=65
CCB Clear Creek Bu 83.27 11 IAMs_20 IAMs_20 21 34 08.9
comp=Z,2µm,20.0s
TTA Tatalina 83.27 15 P **P** **20 51 43.0 -0.4**
TTA Tatalina 83.27 15 IAmb IAmb 20 51 47.7
comp=Z,51nm,1.2s
TTA Tatalina 83.27 15 P **P** **20 51 43.3 -0.1**
baz=331,SNR=30
ILAR Eielson Array 83.30 10 P **P** **20 51 41.9 -1.6**
ILAR Eielson Array 83.30 10 P **P** **20 51 42.3 -1.2**
comp=Z,16nm,0.9s,baz=329,slow=4.0,SNR=84
ILAR PP **PP** **20 54 57.5 +3.2**
comp=Z,3.2nm,1.0s,baz=340,slow=7.8,SNR=4.2
ILAR PKKPbc **PKKPbc** **21 10 02.5 -1.6**
comp=Z,0.1nm,0.5s,baz=202,slow=4.6,SNR=3.7
ILAR LR LR 21 33 49.8
comp=Z,828nm,18.7s,baz=317,slow=39
comp=Z,16nm,0.9s
K20K Telida 83.30 14 IAMs_20 IAMs_20 21 29 34.9
comp=Z,1µm,22.0s
K20K Telida 83.30 14 P **P** **20 51 43.5 0.0**
baz=333,SNR=75
I26K Coal Creek Min 83.32 9 IAmb IAmb 20 51 48.5
comp=Z,28nm,0.9s
I26K IAMs_20 IAMs_20 21 32 22.1
comp=Z,1µm,20.0s
I26K Coal Creek Min 83.32 9 P **P** **20 51 43.3 -0.2**
baz=342
BWN Browne 83.43 12 IAmb IAmb 20 51 49.4
comp=Z,37nm,0.9s
L17K Donlin 83.44 16 P **P** **20 51 44.5 +0.2**
baz=330,SNR=31
L16K Owhat River 83.52 17 IAmb IAmb 20 51 49.3
comp=Z,64nm,1.1s
L16K IAMs_20 IAMs_20 21 30 23.7
comp=Z,1µm,19.0s
L16K Owhat River 83.52 17 P **P** **20 51 44.8 +0.2**
baz=329,SNR=28
I28M Miner Creek 83.56 7 IAmb IAmb 20 51 48.4
comp=Z,26nm,0.8s
I28M IAMs_20 IAMs_20 21 31 54.5
comp=Z,1µm,22.0s
I28M Miner Creek 83.56 7 P **P** **20 51 44.3 -0.7**
baz=345,SNR=58
M13K Dall Lake 83.58 19 IAMs_20 IAMs_20 21 31 33.4
comp=Z,2µm,21.0s
M13K Dall Lake 83.58 19 P **P** **20 51 45.5 +0.6**
baz=325,SNR=7.0
HDA Harding Lake 83.63 10 IAmb IAmb 20 51 48.1
comp=Z,22nm,0.9s
HDA IAMs_20 IAMs_20 21 32 38.3
comp=Z,1µm,19.0s
HDA Harding Lake 83.63 10 P **P** **20 51 43.5 -1.6**
baz=339,SNR=17
J25K Salcha River, 83.67 10 IAmb IAmb 20 51 48.6
comp=Z,58nm,1.1s
J25K IAMs_20 IAMs_20 21 35 36.5
comp=Z,2µm,18.0s
J25K Salcha River, 83.67 10 P **P** **20 51 44.9 -0.6**
baz=340,SNR=59
M14K Bethel 83.68 18 P **P** **20 51 45.9 +0.5**
baz=327,SNR=15
L18K Granite Mounta 83.74 15 IAmb IAmb 20 51 50.1
comp=Z,47nm,1.1s
L18K IAMs_20 IAMs_20 21 29 45.6
comp=Z,2µm,22.0s
L18K Granite Mounta 83.74 15 P **P** **20 51 45.8 0.0**
baz=331,SNR=23
KDU Kakadu 83.75 109 P **P** **20 51 45.5 -1.0**
I29M Ogilvie Camp, 83.82 7 IAmb IAmb 20 51 49.5
comp=Z,50nm,1.0s
I29M Ogilvie Camp, 83.82 7 P **P** **20 51 45.2 -0.9**
baz=346,SNR=94
MCK McKinley 83.93 11 P **P** **20 51 45.7 -1.1**
baz=337,SNR=32
SPIA Saint Paul Isl 83.97 24 P **P** **20 51 47.0 -0.1**
baz=320
J26L Joseph Creek 84.03 9 P **P** **20 51 46.9 -0.5**
baz=342,SNR=138
M15K Kasigluk River 84.07 18 P **P** **20 51 47.6 +0.1**
baz=328,SNR=14
EGAK Eagle 84.07 8 IAMs_20 IAMs_20 21 33 45.0
comp=Z,1µm,19.0s
EGAK Eagle 84.07 8 P **P** **20 51 47.1 -0.3**
baz=344,SNR=21
L20K Farewell, AK 84.13 14 P **P** **20 51 47.7 -0.1**
baz=333,SNR=46
I30M Mount Dempster 84.13 6 IAmb IAmb 20 51 52.1
comp=Z,37nm,0.8s
I30M IAMs_20 IAMs_20 21 32 10.6
comp=Z,1µm,22.0s
I30M Mount Dempster 84.13 6 P **P** **20 51 47.2 -0.7**
baz=348,SNR=68
L19K White Mountain 84.18 15 IAmb IAmb 20 51 52.4
comp=Z,62nm,1.2s
L19K White Mountain 84.18 15 P **P** **20 51 48.0 -0.1**
baz=332,SNR=35
M16K Timber Creek 84.23 17 IAmb IAmb 20 51 53.1
comp=Z,37nm,1.1s
M16K Timber Creek 84.23 17 P **P** **20 51 48.7 +0.3**
baz=329,SNR=9.1
M17K Holitna River 84.28 16 IAMs_20 IAMs_20 21 29 37.9
comp=Z,2µm,20.0s
M17K Holitna River 84.28 16 P **P** **20 51 48.9 +0.3**
baz=330,SNR=32
K24K Donnelly Dome 84.38 10 P **P** **20 51 48.2 -0.9**
baz=340,SNR=24
N14K Kuskokwak Cree 84.45 19 P **P** **20 51 49.6 +0.2**
baz=327,SNR=11
SCRK Sand Creek 84.47 9 IAMs_20 IAMs_20 21 36 10.7
comp=Z,981nm,18.0s
SCRK Sand Creek 84.47 9 P **P** **20 51 49.5 -0.1**
baz=342,SNR=128
M19K Big River Lodg 84.53 15 IAmb IAmb 20 51 53.8
comp=Z,35nm,1.2s
M19K Big River Lodg 84.53 15 P **P** **20 51 49.9 +0.1**
baz=333
M18K Stony River 84.58 15 P **P** **20 51 50.2 +0.2**
baz=332,SNR=31
P08K Saint George I 84.66 24 P **P** **20 51 51.1 +0.6**
baz=321
N15K Kwethluk River 84.67 18 P **P** **20 51 50.8 +0.2**
baz=328
K27K Chicken 84.68 9 IAMs_20 IAMs_20 21 33 58.1
comp=Z,1µm,20.0s
K27K Chicken 84.68 9 P **P** **20 51 50.6 0.0**
baz=343
J29N Klondike Camp 84.71 7 IAmb IAmb 20 51 54.4
comp=Z,45nm,1.1s
J29N Klondike Camp 84.71 7 P **P** **20 51 50.5 -0.2**
baz=346
N16K Nishlik Lake 84.75 17 P **P** **20 51 51.3 +0.3**
baz=329,SNR=17
J30M Hart River 84.77 6 IAmb IAmb 20 51 54.6
comp=Z,55nm,1.3s
J30M IAMs_20 IAMs_20 21 32 52.5
comp=Z,2µm,22.0s
J30M Hart River 84.77 6 P **P** **20 51 50.7 -0.5**
baz=348,SNR=32
DHY Denali Highway 84.81 11 IAmb IAmb 20 51 54.0
comp=Z,70nm,1.6s
DHY IAMs_20 IAMs_20 21 34 59.5
comp=Z,1µm,20.0s
DHY Denali Highway 84.81 11 P **P** **20 51 50.4 -1.0**
baz=339,SNR=25
M20K Styx River 84.82 14 IAmb IAmb 20 51 56.9
comp=Z,58nm,1.8s
M20K Styx River 84.82 14 P **P** **20 51 50.2 -1.2**
baz=334,SNR=6.2
WAT1 Susitna Watana 84.83 12 P **P** **20 51 49.9 -1.5**
baz=338
CUT Chulitna 84.91 13 IAMs_20 IAMs_20 21 34 00.4
comp=Z,1µm,20.0s
CUT Chulitna 84.91 13 P **P** **20 51 50.5 -1.2**
baz=336
DAWY Dawson 84.97 7 P **P** **20 51 51.7 -0.3**
baz=346,SNR=71
SVW2 Sparrevohn 84.98 15 P **P** **20 51 52.6 +0.5**
GENI Genyem 84.98 96 P **P** **20 51 52.5 -0.4**
GENI Genyem 84.98 96 P **P** **20 51 53.6 +0.7**
comp=Z,106nm,1.7s
SKT Skwentna 85.06 13 IAMs_20 IAMs_20 21 31 53.3
comp=Z,1µm,22.0s
SKT Skwentna 85.06 13 P **P** **20 51 51.4 -1.1**
baz=335,SNR=68
N17K Nushagak Hills 85.10 16 IAmb IAmb 20 51 57.5
comp=Z,34nm,1.1s
N17K IAMs_20 IAMs_20 21 34 45.6
comp=Z,1µm,21.0s
N17K Nushagak Hills 85.10 16 P **P** **20 51 53.0 +0.3**
baz=330,SNR=14
O14K Tigyukauivet M 85.13 19 P **P** **20 51 52.2 -0.7**
baz=327,SNR=7.6
WAT6 Susitna Watana 85.21 11 P **P** **20 51 52.5 -0.9**
baz=338,SNR=40
PAX Paxson 85.21 10 P **P** **20 51 52.7 -0.7**
baz=340,SNR=36
N18K Kilae Creek 85.28 16 IAmb IAmb 20 51 58.2
comp=Z,67nm,1.1s
N18K Kilae Creek 85.28 16 P **P** **20 51 53.5 -0.1**
baz=332,SNR=25
ADK Adak 85.36 30 IAMs_20 IAMs_20 21 32 36.6
comp=Z,2µm,20.0s
K29M Barlow Dome 85.38 7 IAmb IAmb 20 51 58.3
comp=Z,54nm,1.0s
K29M Barlow Dome 85.38 7 P **P** **20 51 53.8 -0.4**
baz=327,SNR=70
JAY Jayapura 85.41 96 P **P** **20 51 54.8 -0.3**
comp=Z,27nm,1.3s
L26K Log Cabin Wild 85.47 9 IAmb IAmb 20 51 59.0
comp=Z,68nm,1.2s
L26K Log Cabin Wild 85.47 9 P **P** **20 51 54.6 0.0**
baz=342,SNR=47
N19K Bonanza Creek 85.48 15 IAmb IAmb 20 52 00.3
comp=Z,49nm,0.8s
N19K IAMs_20 IAMs_20 21 36 06.6
comp=Z,1µm,18.0s
N19K Bonanza Creek 85.48 15 P **P** **20 51 54.7 0.0**
baz=333,SNR=26
MENT Mentasta 85.50 10 P **P** **20 51 54.5 -0.2**
MENT Mentasta 85.50 10 IAmb IAmb 20 51 59.1
comp=Z,45nm,1.0s
M22K Willow 85.54 13 P **P** **20 51 53.9 -0.9**
baz=336,SNR=33
O15K Ungalikthiuk R 85.59 18 P **P** **20 51 55.1 0.0**
baz=328,SNR=8.0
N20K Mount Spurr 85.63 14 P **P** **20 51 54.3 -1.1**
baz=335
SPCR Spurr Chakacha 85.63 14 P **P** **20 51 54.0 -1.4**
baz=335
L27K Beaver Creek, 85.64 9 P **P** **20 51 55.5 +0.1**
baz=343,SNR=147
BCAR Beaver Creek A 85.64 9 P **P** **20 51 55.5 0.0**
SUA Susitna One 85.69 13 IAMs_20 IAMs_20 21 33 37.8
comp=Z,1µm,19.0s
SUA Susitna One 85.69 13 P **P** **20 51 55.3 -0.5**
baz=336,SNR=114
O16K Kokwok River B 85.69 17 IAmb IAmb 20 52 00.2
comp=Z,59nm,1.1s
O16K Kokwok River B 85.69 17 P **P** **20 51 55.1 -0.5**
baz=330,SNR=15
MAYO Mayo, Yukon 85.78 6 P **P** **20 51 55.8 -0.3**
baz=348,SNR=13
O17K Koliganek Bris 85.78 17 P **P** **20 51 56.1 0.0**
baz=331
HARP HAARP 85.80 10 P **P** **20 51 56.4 +0.2**
baz=341,SNR=22
SML Sawmill 85.82 12 IAMs_20 IAMs_20 21 34 42.4
comp=Z,1µm,20.0s
SML Sawmill 85.82 12 P **P** **20 51 55.8 -0.6**
baz=338,SNR=54
PMR Palmer 85.88 12 P **P** **20 51 55.8 -0.7**
PMR Palmer 85.88 12 IAMs_20 IAMs_20 21 36 06.9
comp=Z,1µm,19.0s
PMR Palmer 85.88 12 P **P** **20 51 55.9 -0.6**
baz=337,SNR=47
M24K Tolsona, Glenn 85.91 11 IAMs_20 IAMs_20 21 35 02.7
comp=Z,1µm,18.0s
M24K Tolsona, Glenn 85.91 11 P **P** **20 51 57.1 +0.3**
baz=340,SNR=63
M23K Glacier View 85.94 12 P **P** **20 51 56.3 -0.6**
baz=338,SNR=20
SCM Sheep Creek Mo 85.97 12 IAmb IAmb 20 52 20.1
comp=Z,43nm,1.0s
SCM IAMs_20 IAMs_20 21 34 21.4
comp=Z,1µm,20.0s
SCM Sheep Creek Mo 85.97 12 P **P** **20 51 56.7 -0.4**
baz=339,SNR=14
L29M L29M 86.03 7 IAMs_20 IAMs_20 21 33 17.8
comp=Z,1µm,22.0s
L29M L29M 86.03 7 P **P** **20 51 57.4 0.0**
baz=347,SNR=97
O19K Port Alsworth 86.07 15 IAmb IAmb 20 52 03.0
comp=Z,38nm,1.2s
O19K Port Alsworth 86.07 15 P **P** **20 51 57.1 -0.4**
baz=333
M26K Nabesna, AK 86.12 9 IAmb IAmb 20 52 02.0
comp=Z,53nm,1.1s
M26K Nabesna, AK 86.12 9 P **P** **20 51 57.5 -0.3**
baz=342,SNR=55
KNK Knik Glacier 86.17 12 P **P** **20 51 57.9 -0.1**
baz=338,SNR=24
O18K Koktuh Hills 86.17 16 IAMs_20 IAMs_20 21 32 44.8
comp=Z,1µm,21.0s
O18K Koktuh Hills 86.17 16 P **P** **20 51 58.0 -0.1**
baz=332,SNR=12
P16K Nushagak River 86.20 18 P **P** **20 51 58.3 +0.2**
baz=330
RC01 Rabbit Creek A 86.23 13 IAMs_20 IAMs_20 21 34 38.1
comp=Z,1µm,19.0s
RC01 Rabbit Creek A 86.23 13 P **P** **20 51 57.6 -0.7**
baz=337,SNR=61
CAPN Captain Cook N 86.24 14 P **P** **20 51 58.4 +0.1**
baz=336
M27K Edge Creek, AK 86.31 9 IAMs_20 IAMs_20 21 34 48.2
comp=Z,2µm,20.0s
M27K Edge Creek, AK 86.31 9 P **P** **20 51 59.2 +0.3**
baz=343,SNR=132
P17K Kvichak River 86.45 17 P **P** **20 51 59.7 +0.3**
baz=331
KLU Klutina 86.53 11 IAMs_20 IAMs_20 21 32 08.1
comp=Z,1µm,22.0s
KLU Klutina 86.53 11 P **P** **20 52 00.1 +0.2**
baz=340,SNR=54
O20K Slope Mountain 86.55 15 P **P** **20 51 58.8 -1.3**
baz=334
P18K Big Mountain, 86.58 16 IAmb IAmb 20 52 03.6
comp=Z,38nm,1.2s
P18K IAMs_20 IAMs_20 21 32 06.5
comp=Z,1µm,22.0s
P18K Big Mountain, 86.58 16 P **P** **20 51 59.2 -0.8**
baz=332
N25K Chitina, Valde 86.64 10 IAmb IAmb 20 52 04.5
comp=Z,54nm,1.3s
N25K IAMs_20 IAMs_20 21 37 40.9
comp=Z,1µm,20.0s
N25K Chitina, Valde 86.64 10 P **P** **20 52 00.1 -0.3**
baz=341,SNR=27
M29M Somme Creek 86.65 7 IAMs_20 IAMs_20 21 34 00.0
comp=Z,1µm,21.0s
M29M Somme Creek 86.65 7 P **P** **20 52 00.5 0.0**
baz=346,SNR=91
M30M Minto, Yukon 86.69 7 IAmb IAmb 20 52 04.3
comp=Z,24nm,0.9s
M30M IAMs_20 IAMs_20 21 37 44.2
comp=Z,1µm,20.0s
PWL Port Wells 86.70 12 P **P** **20 52 00.2 -0.4**
baz=338,SNR=27
WRGLY Wrigley 86.74 0 P **P** **20 52 01.1 +0.3**
baz=359,SNR=22
O22K Cooper Landing 86.79 13 P **P** **20 52 00.5 -0.6**
baz=337
P19K Oil Pt 86.81 15 P **P** **20 51 59.8 -1.4**
baz=334
Q16K King Salmon 86.85 17 P **P** **20 52 00.8 -0.5**
baz=331
GLI Glacier Island 86.91 12 IAmb IAmb 20 52 05.4
comp=Z,8nm,1.0s
GLI Glacier Island 86.91 12 P **P** **20 52 01.1 -0.6**
baz=339,SNR=13
GLB Gilahina Butte 86.91 10 IAMs_20 IAMs_20 21 37 42.2
comp=Z,1µm,21.0s
YUK3 Moose Creek 87.06 8 P **P** **20 52 02.6 0.0**
baz=345,SNR=60
MCARA McCarthy VSAT 87.09 10 IAmb IAmb 20 52 08.4
comp=Z,38nm,1.0s
MCARA IAMs_20 IAMs_20 21 36 13.7
comp=Z,1µm,20.0s
MCARA McCarthy VSAT 87.09 10 P **P** **20 52 02.3 -0.2**
baz=342,SNR=9.0
MMPY Sheldon Lake, 87.09 4 IAmb IAmb 20 52 07.2
comp=Z,39nm,0.9s
MMPY IAMs_20 IAMs_20 21 37 46.7
comp=Z,1µm,18.0s
MMPY Sheldon Lake, 87.09 4 P **P** **20 52 02.8 +0.2**
baz=352,SNR=52
FID Port Fidalgo 87.14 12 IAmb IAmb 20 52 06.9
comp=Z,61nm,1.1s
HOM Homer 87.15 14 IAMs_20 IAMs_20 21 38 42.6
comp=Z,1µm,18.0s
HOM Homer 87.15 14 P **P** **20 52 01.4 -1.4**
baz=335
VRDI Verde Repeater 87.17 10 IAmb IAmb 20 52 06.9
comp=Z,28nm,1.0s
VRDI IAMs_20 IAMs_20 21 37 50.0
comp=Z,1µm,20.0s
SEW Seward 87.19 13 P **P** **20 52 02.5 -0.5**
baz=337,SNR=14
BRLK Bradley Lake 87.21 14 IAMs_20 IAMs_20 21 34 43.5
comp=Z,1µm,20.0s
BMRM Bremner River 87.24 11 P **P** **20 52 03.2 -0.1**
baz=341,SNR=53
BRSE Bradley Lake S 87.26 14 P **P** **20 52 02.4 -1.0**
baz=336
YKA Yellowknife Ar 87.27 356 P **P** **20 52 02.5 -0.8**
comp=Z,47nm,1.0s,baz=1.0,slow=4.9,SNR=36
YKA LR LR 21 34 53.4
comp=Z,1µm,21.9s,baz=360,slow=38
comp=Z,47nm,1.0s
YKA Yellowknife Ar 87.27 356 *i* P **P** **20 52 02.7 -0.6**
YKA pmax pmax
comp=Z,39nm,0.9s
M31M Drury Creek, Y 87.28 6 IAmb IAmb 20 52 07.2
comp=Z,58nm,1.1s
M31M IAMs_20 IAMs_20 21 36 44.7
comp=Z,2µm,20.0s
M31M Drury Creek, Y 87.28 6 P **P** **20 52 03.0 -0.5**
baz=350,SNR=52
Q18K Katmai Hardscr 87.29 16 P **P** **20 52 01.9 -1.8**
baz=332
FARO Faro, Yukon 87.34 5 IAMs_20 IAMs_20 21 36 12.2
comp=Z,1µm,20.0s
FARO Faro, Yukon 87.34 5 P **P** **20 52 03.6 -0.2**
baz=351,SNR=64
WRKA Warakurna 87.35 121 P **P** **20 52 05.9 +1.5**
CNPM China Poot 87.36 14 IAMs_20 IAMs_20 21 38 51.1
comp=Z,1µm,18.0s
Q19K Cape Douglas, 87.36 16 IAMs_20 IAMs_20 21 31 44.3
comp=Z,2µm,22.0s
Q19K Cape Douglas, 87.36 16 P **P** **20 52 03.7 -0.2**
baz=334
Q17K Contact Creek 87.41 17 P **P** **20 52 02.9 -1.3**
baz=332
EYAK Cordova Ski Ar 87.45 11 P **P** **20 52 04.3 +0.1**
EYAK Cordova Ski Ar 87.45 11 P **P** **20 52 04.5 +0.2**
baz=340,SNR=20
HIN Hinchinbrook I 87.46 12 IAmb IAmb 20 52 08.5
comp=Z,65nm,1.2s
YUK8 Steele Glacier 87.62 8 P **P** **20 52 05.0 -0.4**
baz=345
P23K Montague Islan 87.68 12 P **P** **20 52 05.3 -0.1**
baz=339,SNR=22
CRQE Cirque 87.68 10 P **P** **20 52 05.0 -0.6**
baz=342,SNR=22
YUK4 Talbot Arm 87.70 8 P **P** **20 52 05.7 -0.1**
baz=346,SNR=74
TGL Tana Glacier 87.72 10 IAmb IAmb 20 52 14.3
comp=Z,27nm,1.1s
TGL IAMs_20 IAMs_20 21 36 21.4
comp=Z,1µm,19.0s
CTG Chitna Glacier 87.73 9 P **P** **20 52 05.9 +0.2**
baz=344,SNR=29
CTGM Chitina Glacie 87.73 9 IAMs_20 IAMs_20 21 34 44.6
comp=Z,1µm,20.0s
NIKH Nikolski High 87.74 26 P **P** **20 52 05.6 -0.2**
baz=321
N30M Aishikik Lake 87.76 7 IAmb IAmb 20 52 09.9
comp=Z,36nm,0.9s
N30M IAMs_20 IAMs_20 21 39 11.4
comp=Z,1µm,18.0s
N30M Aishikik Lake 87.76 7 P **P** **20 52 05.7 -0.1**
baz=348,SNR=34
R17L Mt. Peulik Vol 87.85 17 P **P** **20 52 05.2 -1.1**
baz=331
N31M Braeburn, Yuko 87.86 6 P **P** **20 52 05.6 -0.7**
baz=349,SNR=34
S12K Black Hills 87.88 21 P **P** **20 52 06.3 -0.1**
baz=327
GRNC Granite Creek 87.89 9 IAmb IAmb 20 52 10.8
comp=Z,40nm,1.0s
GRNC IAMs_20 IAMs_20 21 36 13.0
comp=Z,1µm,21.0s

HMT	Hamilton	87.90	11	IAMs_20	IAMs_20	21 38 21.2		
	comp=Z,1µm,19.0s							
LOGN	Logan Glacier	87.91	9	IAMs_20	IAMs_20	21 35 28.4		
	comp=Z,1µm,22.0s							
UNV	Unalaska Valle	87.91	24	P	P	20 52 05.9	-0.6	
	baz=323							
ISLE	Juniper Island	87.93	10	IAmb	IAmb	20 52 10.6		
	comp=Z,31nm,1.0s							
Q20K	Shuyak Island	87.94	15	P	P	20 52 05.8	-0.8	
	baz=335,SNR=5.8							
SYI	Shuyak Island	87.94	15	IAMs_20	IAMs_20	21 38 06.4		
	comp=Z,1µm,18.0s							
WAX	Waxell Ridge	88.00	10	IAmb	IAmb	20 52 10.8		
	comp=Z,38nm,1.2s							
WAX				IAMs_20	IAMs_20	21 38 15.1		
	comp=Z,1µm,19.0s							
O28M	Mount Upton	88.06	9	P	P	20 52 07.6	0.0	
	baz=345,SNR=22							
FCC	Fort Churchill	88.12	346	IAMs_20	IAMs_20	21 38 15.0		
	comp=Z,1µm,18.0s							
YUK6	Outpost Mounta	88.12	8	P	P	20 52 08.0	+0.2	
	baz=346,SNR=20							
S14K	Fog Glacier	88.14	20	P	P	20 52 07.6	-0.1	
	baz=329							
FALS	False Pass	88.14	22	P	P	20 52 07.2	-0.4	
	baz=326							
TABL	Table Mountain	88.26	9	IAMs_20	IAMs_20	21 38 46.7		
	comp=Z,1µm,19.0s							
KAIM	Kayak Island	88.26	11	P	P	20 52 07.7	-0.4	
	baz=341							
SNH	Sunshine Point	88.27	10	IAMs_20	IAMs_20	21 37 11.9		
	comp=Z,1µm,21.0s							
TGTN	Hyland Airport	88.33	3	P	P	20 52 09.1	+0.6	
	baz=355,SNR=17							
R18K	Karluk	88.39	17	P	P	20 52 07.3	-1.5	
	baz=333							
MESA	MESA	88.40	10	IAmb	IAmb	20 52 13.5		
	comp=Z,45nm,1.0s							
MESA	MESA	88.40	10	P	P	20 52 07.9	-1.1	
	baz=343							
Q23K	Middleton Isla	88.40	12	P	P	20 52 08.7	-0.1	
	baz=340							
N32M	Quiet Lake	88.42	5	IAmb	IAmb	20 52 12.3		
	comp=Z,42nm,1.0s							
N32M	Quiet Lake	88.42	5	P	P	20 52 08.1	-0.8	
	baz=351							
CHGN	Chignik	88.45	19	P	P	20 52 08.4	-0.7	
	baz=330							
O30N	Mendenhall	88.53	7	IAmb	IAmb	20 52 13.3		
	comp=Z,42nm,1.0s							
O30N	Mendenhall	88.53	7	P	P	20 52 08.2	-1.3	
	baz=348,SNR=30							
KDAK	Kodiak Island	88.64	16	P	P	20 52 09.4	-0.5	
KDAK	Kodiak Island	88.64	16	IAMs_20	IAMs_20	21 36 25.1		
	comp=Z,2µm,21.0s							
KDAK	Kodiak Island	88.64	16	P	P	20 52 08.9	-1.1	
	baz=334							
KDAK	Kodiak Island	88.64	16	LR	LR	21 36 36.4		
	comp=Z,1µm,20.5s,baz=344,slow=39							
KDAK	Kodiak Island	88.64	16	P	P	20 52 09.4	-0.5	
KDAK				pmax	pmax			
	comp=Z,81nm,1.0s							
KDAK				MLR	MLR			
	comp=Z,2µm,21.0s							
SDPT	Sand Point	88.66	21	P	P	20 52 09.3	-0.8	
	baz=328							
PINM	Pinnacle	88.71	9	P	P	20 52 10.3	-0.1	
	baz=345							
O29M	Mount Kennedy	88.72	8	IAMs_20	IAMs_20	21 37 24.9		
	comp=Z,1µm,19.0s							
O29M	Mount Kennedy	88.72	8	P	P	20 52 09.8	-0.7	
	baz=346							
WHY	Whitehorse	88.76	6	IAmb	IAmb	20 52 13.3		
	comp=Z,29nm,1.1s							
WHY	Whitehorse	88.76	6	P	P	20 52 09.3	-1.4	
	baz=349							
BCPM	Bancas Point	88.93	9	IAMs_20	IAMs_20	21 37 00.4		
	comp=Z,1µm,20.0s							
OHAK	Old Harbor	88.98	16	P	P	20 52 12.4	+0.9	
OHAK	Old Harbor	88.98	16	IAMs_20	IAMs_20	21 33 06.1		
	comp=Z,1µm,21.0s							
OHAK	Old Harbor	88.98	16	P	P	20 52 10.6	-0.9	
	baz=334							
P30M	Million Dollar	89.08	7	P	P	20 52 11.4	-0.7	
	baz=348							
WB0	Warramunga Arr	89.12	113	IAmb	IAmb	20 52 19.7		
	comp=Z,28nm,0.9s							
D62A	Allapoint, All	89.12	327	IAMs_20	IAMs_20	21 34 29.9		
	comp=Z,1µm,19.0s							
WRA	Warramunga Arr	89.17	114	P	P	20 52 11.8	-1.2	
WRA	Warramunga Arr	89.17	114	P	P	20 52 11.5	-1.6	
	comp=Z,19nm,0.8s,baz=320,slow=3.5,SNR=58							
	comp=Z,19nm,0.8s							
WRA	Warramunga Arr	89.17	114	P	P	20 52 11.8	-1.2	
WRA				pmax	pmax			
	comp=Z,11nm,1.7s							
WRAB	Tennant Creek	89.17	114	P	P	20 52 11.9	-1.2	
WRAB				IAmb	IAmb	20 52 19.6		
	comp=Z,44nm,0.8s							
WRAB	Tennant Creek	89.17	114	P	P	20 52 11.9	-1.2	
WRAB				pmax	pmax			
	comp=Z,44nm,0.8s							
WB2	Warramunga Arr	89.18	114	IAmb	IAmb	20 52 19.6		
	comp=Z,43nm,0.8s							
PNL	Peninsula	89.24	8	P	P	20 52 13.1	+0.3	
PNL	Peninsula	89.24	8	P	P	20 52 11.8	-1.0	
	baz=346,SNR=12							
WR0	Warramunga Arr	89.34	114	IAmb	IAmb	20 52 34.7		
	comp=Z,26nm,0.6s							
SII	Sitkinak Islan	89.35	17	P	P	20 52 12.2	-1.2	
	baz=333							
YKU2	Yakutat	89.35	9	IAMs_20	IAMs_20	21 37 35.6		
	comp=Z,1µm,19.0s							
CHNA	Chernabura Isl	89.37	20	P	P	20 52 12.5	-0.9	
	baz=329							
P33M	Teslin, Yukon	89.38	5	IAmb	IAmb	20 52 17.0		
	comp=Z,46nm,1.1s							
P33M				IAMs_20	IAMs_20	21 36 11.1		
	comp=Z,994nm,20.0s							
P33M	Teslin, Yukon	89.38	5	P	P	20 52 12.6	-0.9	
	baz=351,SNR=38							
P29M	Windy Craggy	89.47	8	P	P	20 52 13.3	-0.6	
	baz=347							
LDAQ	Lac Daran	89.50	328	IAMs_20	IAMs_20	21 36 33.7		
	comp=Z,1µm,20.0s							
F64A	Sherman	89.66	325	IAMs_20	IAMs_20	21 33 54.2		
	comp=Z,1µm,21.0s							
WTLY	Watson Lake, Y	89.72	3	IAmb	IAmb	20 52 18.5		
	comp=Z,34nm,1.2s							
WTLY				IAMs_20	IAMs_20	21 36 04.3		
	comp=Z,1µm,22.0s							
WTLY	Watson Lake, Y	89.72	3	P	P	20 52 14.8	-0.3	
	baz=355,SNR=12							
PLBC	Pleasant Camp	89.80	7	P	P	20 52 15.4	0.0	
	baz=348							
KOTAN	Kotaneelee Air	89.85	1	P	P	20 52 15.2	-0.4	
	baz=359							
SKAG	Skagway	89.90	7	P	P	20 52 16.4	+0.6	
SKAG	Skagway	89.90	7	IAmb	IAmb	20 52 20.3		
	comp=Z,35nm,1.1s							
SKAG	Skagway	89.90	7	P	P	20 52 15.9	+0.1	
	baz=349,SNR=5.1							
P32M	Atlin	89.92	6	IAmb	IAmb	20 52 19.7		
	comp=Z,29nm,1.1s							
P32M				IAMs_20	IAMs_20	21 40 07.5		
	comp=Z,1µm,18.0s							
P32M	Atlin	89.92	6	P	P	20 52 15.5	-0.5	
	baz=350,SNR=19							
R33M	Jennings River	90.32	4	IAMs_20	IAMs_20	21 39 37.0		
	comp=Z,1µm,20.0s							
R33M	Jennings River	90.32	4	P	P	20 52 17.6	-0.4	
	baz=353,SNR=16							
LIRD	Liard River Hi	90.53	2	P	P	20 52 18.5	-0.3	
	baz=357							
PKME	Peaks-Kenny Pk	90.55	326	P	P	20 52 18.4	-0.8	
	baz=44							
Q32M	Nakina River	90.66	5	IAmb	IAmb	20 52 23.2		
	comp=Z,31nm,1.3s							
Q32M				IAMs_20	IAMs_20	21 40 28.0		
	comp=Z,1µm,18.0s							
Q32M	Nakina River	90.66	5	P	P	20 52 19.5	-0.2	
	baz=352,SNR=11							
ASAR	Alice Springs	90.83	117	P	P	20 52 19.6	-1.2	
ASAR	Alice Springs	90.83	117	P	P	20 52 19.2	-1.5	
	comp=Z,13nm,0.8s,baz=306,slow=3.9,SNR=32							
ASAR				PKKPbc	PKKPbc	21 09 45.0	-0.9	
	comp=Z,0.7nm,0.9s,baz=120,slow=3.7,SNR=4.0							
	comp=Z,13nm,0.8s							

ASAR	Alice Springs	90.83	117	P	P	20 52 19.6	-1.2	
TOAD	Toad River Com	91.11	1	P	P	20 52 21.3	-0.2	
	baz=358,SNR=43							
R32K	Eaglecrest	91.15	6	IAMs_20	IAMs_20	21 37 13.9		
	comp=Z,1µm,18.0s							
R32K	Eaglecrest	91.15	6	P	P	20 52 21.4	-0.3	
	baz=350							
JIS	Juneau Island	91.16	6	P	P	20 52 22.8	+1.1	
JIS	Juneau Island	91.16	6	IAMs_20	IAMs_20	21 37 16.2		
	comp=Z,8um,20.0s							
WVL	Waterville	91.23	325	IAMs_20	IAMs_20	21 35 00.9		
	comp=Z,1µm,20.0s							
S31K	Pelican	91.28	7	IAMs_20	IAMs_20	21 39 32.5		
	comp=Z,1µm,21.0s							
S31K	Pelican	91.28	7	P	P	20 52 21.9	-0.3	
	baz=348							
DLBC	Dease Lake	91.33	4	IAMs_20	IAMs_20	21 40 25.8		
	comp=Z,1µm,20.0s							
DLBC	Dease Lake	91.33	4	LR	LR	21 38 21.7		
	comp=Z,545nm,19.7s,baz=338,slow=39							
S34M	Telegraph Cree	91.78	5	IAMs_20	IAMs_20	21 38 43.7		
	comp=Z,1µm,18.0s							
S34M	Telegraph Cree	91.78	5	P	P	20 52 24.2	-0.4	
	baz=353							
S32K	Killisnoo	91.94	6	IAmb	IAmb	20 52 29.8		
	comp=Z,24nm,1.1s							
S32K				IAMs_20	IAMs_20	21 39 50.8		
	comp=Z,1µm,20.0s							
S32K	Killisnoo	91.94	6	P	P	20 52 25.1	-0.2	
	baz=350,SNR=5.5							
H62A	Milan	91.96	326	IAMs_20	IAMs_20	21 35 16.0		
	comp=Z,1µm,22.0s							
VLDQ	Val d'Or	92.07	332	IAmb	IAmb	20 52 30.4		
	comp=Z,29nm,1.2s							
SIT	Sitka	92.27	7	P	P	20 52 28.3	+1.5	
SIT	Sitka	92.27	7	IAmb	IAmb	20 52 30.9		
	comp=Z,41nm,1.2s							
SIT				IAMs_20	IAMs_20	21 36 38.6		
	comp=Z,1µm,22.0s							
SIT	Sitka	92.27	7	P	P	20 52 26.6	-0.2	
	baz=349							
I62A	Tamworth	92.56	326	IAMs_20	IAMs_20	21 35 43.0		
	comp=Z,984nm,20.0s							
LBNH	Lisbon	92.58	326	IAmb	IAmb	20 52 32.2		
	comp=Z,54nm,1.3s							
LBNH				IAMs_20	IAMs_20	21 37 38.3		
	comp=Z,926nm,20.0s							
LBNH	Lisbon	92.58	326	P	P	20 52 28.8	+0.1	
	baz=42							
T35M	Bob Quinn	92.77	4	IAMs_20	IAMs_20	21 39 37.8		
	comp=Z,1µm,20.0s							
T35M	Bob Quinn	92.77	4	P	P	20 52 29.5	+0.3	
	baz=353,SNR=9.7							
WRAK	Wrangell Islan	93.17	5	P	P	20 52 30.6	-0.4	
	baz=352							
U33K	Whale Pass	93.41	6	IAmb	IAmb	20 52 39.1		
	comp=Z,31nm,1.1s							
U33K	Whale Pass	93.41	6	P	P	20 52 31.8	-0.3	
	baz=351							
FFC	Flin Flon	93.45	348	IAMs_20	IAMs_20	21 39 24.8		
	comp=Z,1µm,20.0s							
LONY	Lake Ozonia	93.54	328	P	P	20 52 32.2	-0.8	
	baz=40							
WES	Weston	93.66	325	IAMs_20	IAMs_20	21 36 32.0		
	comp=Z,1µm,21.0s							
HRV	Adam Dziewonsk	93.68	325	P	P	20 52 32.5	-1.2	
	baz=42							
QIS	Mount Isa	93.69	112	P	P	20 52 33.2	-0.9	
L64A	Middleborough	93.74	324	IAMs_20	IAMs_20	21 38 23.3		
	comp=Z,1µm,21.0s							
U35K	Hyder	93.84	4	IAMs_20	IAMs_20	21 41 30.2		
	comp=Z,1µm,20.0s							
U35K	Hyder	93.84	4	P	P	20 52 33.8	-0.3	
	baz=354							
K62A	Roxalston	93.90	325	IAMs_20	IAMs_20	21 36 22.4		
	comp=Z,997nm,22.0s							
M65A	Busby, Falmout	93.92	324	P	P	20 52 34.2	-0.6	
	baz=43							
CRAG	Craig	94.05	6	IAMs_20	IAMs_20	21 41 05.7		
	comp=Z,945nm,19.0s							
CRAG	Craig	94.05	6	P	P	20 52 34.5	-0.6	
	baz=351							
L61B	Northampton	94.28	325	P	P	20 52 35.5	-0.9	
	baz=41							
V35K	Ketchikan	94.31	5	IAMs_20	IAMs_20	21 42 36.7		
	comp=Z,1µm,21.0s							
V35K	Ketchikan	94.31	5	P	P	20 52 35.6	-0.7	
	baz=352							
OOD	Oodnadatta	94.39	120	P	P	20 52 36.3	-0.8	
PMG	Port Moresby	94.40	98	P	P	20 52 37.7	+0.3	
PMG	Port Moresby	94.40	98	P	P	20 52 37.5	+0.1	
UCCT	U. Connecticut	94.54	325	IAMs_20	IAMs_20	21 36 57.5		
	comp=Z,963nm,19.0s							
DELO	Deloro Mine	94.98	330	IAMs_20	IAMs_20	21 37 12.6		
	comp=Z,972nm,20.0s							
RUBB	Prince Rupert	95.41	5	IAmb	IAmb	20 52 45.6		
	comp=Z,43nm,1.3s							
SADO	Sadowa	95.44	331	IAMs_20	IAMs_20	21 40 14.6		
	comp=Z,1µm,18.0s							
SADO	Sadowa	95.44	331	LR	LR	21 38 36.8		
	comp=Z,837nm,18.5s,baz=47,slow=37							
L59A	Walton	95.62	327	IAMs_20	IAMs_20	21 39 10.7		
	comp=Z,1µm,20.0s							
BRLDA	Berland Lookou	95.80	357	IAmb	IAmb	20 52 47.4		
	comp=Z,17nm,0.8s							
BRLDA				IAMs_20	IAMs_20	21 41 23.7		
	comp=Z,1µm,20.0s							
RCBR	Riachuelo	95.83	267	IAMs_20	IAMs_20	21 38 17.3		
	comp=Z,1µm,20.0s							
RCBR	Riachuelo	95.83	267	LR	LR	21 38 28.3		
	comp=Z,979nm,19.1s,baz=61,slow=37							
GRNB	Grenville Isla	95.91	4	IAmb	IAmb	20 52 48.1		
	comp=Z,26nm,0.9s							
PAL	Palisades	95.97	325	P	P	20 52 43.1	-1.1	
	baz=41							
BINY	Binghamton	96.06	327	IAMs_20	IAMs_20	21 38 32.3		
	comp=Z,868nm,20.0s							
J55A	Hilton	96.06	329	IAMs_20	IAMs_20	21 37 38.2		
	comp=Z,899nm,21.0s							
E46A	Sault Ste Mari	96.18	334	IAMs_20	IAMs_20	21 39 26.0		
	comp=Z,1µm,20.0s							
ULM	Lac du Bonnet	96.35	343	IAmb	IAmb	20 52 50.7		
	comp=Z,20nm,0.8s							
ULM	Lac du Bonnet	96.35	343	P	P	20 52 45.9	+0.1	
	comp=Z,19nm,0.8s,baz=20,slow=4.6,SNR=12							
ULM				LR	LR	21 39 09.5		
	comp=Z,884nm,19.1s,baz=22,slow=37							
	comp=Z,19nm,0.8s							
J54A	Appleton	96.42	329	IAMs_20	IAMs_20	21 39 22.6		
	comp=Z,1000nm,21.0s							
KSPA	Keystone Colle	96.45	327	IAMs_20	IAMs_20	21 39 44.8		
	comp=Z,1µm,20.0s							
L56A	Greenwood	96.83	328	IAMs_20	IAMs_20	21 38 40.8		
	comp=Z,952nm,22.0s							
E43A	Lone Tree Farm	97.15	336	IAMs_20	IAMs_20	21 38 31.3		
	comp=Z,1µm,21.0s							
EYMN	Ely	97.23	340	P	Pdif	20 52 49.7	-0.2	
EYMN				IAmb	IAmb	20 52 55.0		
	comp=Z,18nm,1.2s							
EYMN	Ely	97.23	340	P	P	20 52 48.7	-1.2	
	baz=27							
M57A	Sunshine Farm,	97.26	327	IAMs_20	IAMs_20	21 40 02.2		
	comp=Z,1µm,20.0s							
HG4B	Hotspring	97.36	5	IAMs_20	IAMs_20	21 43 12.3		
	comp=Z,1µm,19.0s							
N58A	Sunbury	97.46	327	IAMs_20	IAMs_20	21 38 24.4		
	comp=Z,1µm,21.0s							
GLMI	Grayling	97.60	334	IAMs_20	IAMs_20	21 39 36.5		
	comp=Z,1µm,20.0s							
BBB	Bella Bella	97.67	3	IAMs_20	IAMs_20	21 44 49.5		
	comp=Z,904nm,19.0s							
BBB	Bella Bella	97.67	3	LR	LR	21 41 17.8		
	comp=Z,399nm,18.5s,baz=350,slow=38							
MAW	Mawson	97.73	178	P	Pdif	20 52 52.4	+1.1	
	comp=Z,4.7nm,0.9s,baz=346,slow=5.8,SNR=6.5							
MAW				LR	LR	21 32 11.4		
	comp=Z,694nm,19.1s,baz=19,slow=32							
	comp=Z,4.7nm,0.9s							
G45A	Suttons Bay	97.81	335	IAMs_20	IAMs_20	21 40 24.0		
	comp=Z,1µm,20.0s							
M55A	Ridgway	97.91	328	IAMs_20	IAMs_20	21 39 34.3		
	comp=Z,972nm,20.0s							
MVL	Millersville	97.94	326	IAMs_20	IAMs_20	21 39 07.1		
	comp=Z,839nm,19.0s							
ERPA	Erie	97.94	329	P	P	20 52 51.8	-1.3	
	baz=36							
COWI	Conover	98.12	337	IAMs_20	IAMs_20	21 40 16.0		
	comp=Z,989nm,20.0s							

AGMN	Agassiz Nation	98.15	342	IAMs_20	IAMs_20	21 39 23.4		
	comp=Z,898nm,21.0s							
AGMN	Agassiz Nation	98.15	342	P	P	20 52 52.8	-1.1	
	baz=23							
SSPA	Standing Stone	98.17	327	IAMs_20	IAMs_20	21 40 30.2		
	comp=Z,879nm,20.0s							
SSPA	Standing Stone	98.17	327	P	P	20 52 53.5	-0.6	
	baz=38							
INKA	Innaminka	98.21	117	P	P	20 52 53.0	-1.4	
ALLY	Alegheny Colle	98.39	329	IAMs_20	IAMs_20	21 37 30.7		
	comp=Z,913nm,20.0s							
E38A	The Farm, Brul	98.45	339	IAMs_20	IAMs_20	21 40 21.6		
	comp=Z,1µm,21.0s							
K50A	Casco	98.52	331	IAMs_20	IAMs_20	21 39 54.1		
	comp=Z,977nm,22.0s							
M53A	WI Miller and	98.79	330	IAMs_20	IAMs_20	21 37 52.3		
	comp=Z,903nm,22.0s							
CTA	Charters Tower	98.87	108	P	Pdif	20 52 58.3	+0.7	
	comp=Z,0.4nm,0.9s,baz=211,slow=5.5,SNR=3.5							
I45A	Fountain	98.88	334	IAMs_20	IAMs_20	21 43 51.4		
	comp=Z,1µm,20.0s							
M52A	Chesterland	99.00	330	IAMs_20	IAMs_20	21 43 03.0		
	comp=Z,942nm,21.0s							
J47A	Sunmer	99.02	333	IAMs_20	IAMs_20	21 39 23.1		
	comp=Z,1µm,22.0s							
H43A	Windswept, Lux	99.07	336	IAMs_20	IAMs_20	21 45 20.2		
	comp=Z,1µm,19.0s							
P57A	Homestead Farm	99.14	327	IAMs_20	IAMs_20	21 39 36.8		
	comp=Z,1µm,21.0s							
G40A	Rib Lake	99.20	338	IAMs_20	IAMs_20	21 40 59.7		
	comp=Z,1µm,21.0s							
HOLB	Holberg	99.22	4	IAMs_20	IAMs_20	21 44 00.3		
	comp=Z,1µm,20.0s							
AAM	Ann Arbor	99.34	332	IAMs_20	IAMs_20	21 40 59.8		
	comp=Z,870nm,20.0s							
N53A	Lisbon	99.37	329	IAMs_20	IAMs_20	21 37 57.9		
	comp=Z,921nm,22.0s							
MDND	Maddock	99.48	345	IAMs_20	IAMs_20	21 45 15.7		
	comp=Z,1µm,18.0s							
O54A	Avella	99.67	329	IAMs_20	IAMs_20	21 41 34.9		
	comp=Z,1µm,20.0s							
MCWV	Mont Chateau	99.85	328	IAMs_20	IAMs_20	21 40 20.7		
	comp=Z,1µm,22.0s							
N51A	Ashland	99.95	330	IAMs_20	IAMs_20	21 43 01.1		
	comp=Z,772nm,18.0s							
L48A	N Adams	99.95	332	IAMs_20	IAMs_20	21 42 42.0		
	comp=Z,881nm,20.0s							
I42A	Draeger Farm,	99.98	336	IAMs_20	IAMs_20	21 40 18.3		
	comp=Z,1µm,22.0s							
O53A	New Philadelph	99.99	329	IAMs_20	IAMs_20	21 44 30.3		
	comp=Z,851nm,20.0s							
Q56A	Snyder Ridge,	100.04	327	IAMs_20	IAMs_20	21 41 36.8		
	comp=Z,948nm,20.0s							
R58B	Mineral	100.27	326	IAMs_20	IAMs_20	21 34 55.9		
	comp=Z,835nm,20.0s							
O52A	Adamsville	100.38	329	IAMs_20	IAMs_20	21 44 06.4		
	comp=Z,1µm,21.0s							
F33A	5 Mile Ranch,	100.53	342	IAMs_20	IAMs_20	21 43 49.4		
	comp=Z,1µm,20.0s							
I40A	Norwalk	100.56	337	IAMs_20	IAMs_20	21 40 49.6		
	comp=Z,970nm,20.0s							
L46A	Eue Claire	100.63	333	IAMs_20	IAMs_20	21 46 08.8		
	comp=Z,1µm,20.0s							
P53A	Whipple	100.69	329	IAMs_20	IAMs_20	21 42 03.8		
	comp=Z,1µm,21.0s							
N49A	Columbus Grove	100.71	331	IAMs_20	IAMs_20	21 41 21.0		
	comp=Z,936nm,20.0s							
K43A	Burlington	100.80	335	IAMs_20	IAMs_20	21 40 55.2		
	comp=Z,1µm,21.0s							
Q54A	Coxs Mills	100.85	328	IAMs_20	IAMs_20	21 41 13.0		
	comp=Z,1µm,21.0s							
STKA	Stephens Creek	100.88	120	P	Pdif	20 53 06.5	+0.3	
	comp=Z,2.0nm,0.9s,baz=286,slow=10,SNR=2.2							
E28A	Huff	100.93	345	IAMs_20	IAMs_20	21 41 44.0		
	comp=Z,791nm,18.0s							
S57A	Dark Hollow, R	100.95	326	IAMs_20	IAMs_20	21 41 22.9		
	comp=Z,917nm,21.0s							
L44A	Lake County Fo	101.10	335	IAMs_20	IAMs_20	21 41 52.2		
	comp=Z,1µm,19.0s							
EGMT	Eagleton	101.15	351	IAMs_20	IAMs_20	21 44 21.5		
	comp=Z,1µm,20.0s							
JFWS	Jewell Farm	101.30	336	IAMs_20	IAMs_20	21 41 00.2		
	comp=Z,1µm,22.0s							
PGC	Sidney	101.36	1	IAMs_20	IAMs_20	21 45 52.9		
	comp=Z,1µm,19.0s							
N47A	Urbana	101.36	332	IAMs_20	IAMs_20	21 45 45.2		
	comp=Z,949nm,19.0s							
O49A	Covington	101.39	331	IAMs_20	IAMs_20	21 41 09.0		
	comp=Z,1µm,22.0s							
HQIL	Hanson Quary C	101.41	334	IAMs_20	IAMs_20	21 44 17.3		
	comp=Z,1µm,20.0s							
Q52A	Bidwell	101.51	329	IAMs_20	IAMs_20	21 39 37.5		
	comp=Z,888nm,22.0s							
NEW	Newport	101.60	356	P	Pdif	20 53 08.3	-1.0	
	baz=4.8							
O48B	Farmland	101.67	332	IAMs_20	IAMs_20	21 42 08.4		
	comp=Z,875nm,19.0s							
T57A	Hurt	101.70	326	IAMs_20	IAMs_20	21 41 46.8		
	comp=Z,958nm,22.0s							
M44A	Midewin, Midew	101.84	334	IAMs_20	IAMs_20	21 42 14.6		
	comp=Z,973nm,21.0s							
L42A	Oliver, Polo	101.90	336	IAMs_20	IAMs_20	21 41 50.1		
	comp=Z,1µm,22.0s							
LAO	LASA Array	101.92	349	IAMs_20	IAMs_20	21 45 20.0		
	comp=Z,1µm,21.0s							
S54A	Dingess, Beckl	102.03	328	IAMs_20	IAMs_20	21 45 14.3		
	comp=Z,973nm,20.0s							
BLA	Blacksburg	102.09	327	IAMs_20	IAMs_20

comp=Z,1μm,20.0s
OLIL Olney 104.15 333 IAMs_20 IAMs_20 21 48 27.0
comp=Z,1μm,20.0s
KMSC Kings Mountain 104.19 326 IAMs_20 IAMs_20 21 45 20.7
comp=Z,1μm,20.0s
N38A Joes South For 104.20 337 IAMs_20 IAMs_20 21 46 01.9
comp=Z,1μm,21.0s
K30B Basset 104.34 343 IAMs_20 IAMs_20 21 44 41.4
comp=Z,1μm,20.0s
Q44A Meyer Farm, Va 104.36 334 IAMs_20 IAMs_20 21 46 59.5
comp=Z,767nm,19.0s
V53A Saluda 104.46 328 IAMs_20 IAMs_20 21 44 02.7
comp=Z,955nm,20.0s
Y57A Sumter 104.63 325 IAMs_20 IAMs_20 21 44 53.6
comp=Z,979nm,21.0s
G08A Pilot Rock 104.65 357 IAMs_20 IAMs_20 21 45 23.1
comp=Z,1μm,20.0s
V52A Seiverville 104.68 328 IAMs_20 IAMs_20 21 49 59.4
comp=Z,934nm,20.0s
PAULI Pauline 104.68 326 IAMs_20 IAMs_20 21 45 25.7
comp=Z,863nm,20.0s
ELIB Princess Elisa 104.75 190 *d*PKiKP **PKiKP 20 57 39.8 +1.8**
G06A Carlson Farm, 104.76 359 IAMs_20 IAMs_20 21 45 41.8
comp=Z,933nm,21.0s
G05A Wamic 104.76 359 IAMs_20 IAMs_20 21 48 32.0
comp=Z,1μm,21.0s
G03D McMinnville, O 104.80 1 IAMs_20 IAMs_20 21 44 33.9
comp=Z,1μm,22.0s
P40A Paris 104.93 336 IAMs_20 IAMs_20 21 43 22.2
comp=Z,1μm,22.0s
BMO Blue Mountains 105.01 356 IAMs_20 IAMs_20 21 45 28.5
comp=Z,1μm,20.0s
BG3 Lake Jocassee 105.07 327 IAMs_20 IAMs_20 21 43 35.9
comp=Z,886nm,19.0s
U49A Red Boiling Sp 105.09 330 IAMs_20 IAMs_20 21 44 45.1
comp=Z,788nm,18.0s
BGNE Belgrade 105.14 341 IAMs_20 IAMs_20 21 43 39.4
comp=Z,1μm,21.0s
T47A Sharon Grove 105.25 331 IAMs_20 IAMs_20 21 45 31.2
comp=Z,1μm,18.0s
P38A Dawn 105.35 337 IAMs_20 IAMs_20 21 43 37.4
comp=Z,949nm,19.0s
HODGE Hodges 105.37 326 IAMs_20 IAMs_20 21 46 05.0
comp=Z,781nm,19.0s
COR Corvallis 105.42 1 IAMs_20 IAMs_20 21 43 53.5
comp=Z,1μm,22.0s
CPCT Cooper Cave 105.42 329 IAMs_20 IAMs_20 21 43 08.1
comp=Z,852nm,21.0s
H04D Lebanon 105.49 0 IAMs_20 IAMs_20 21 44 31.2
comp=Z,976nm,22.0s
S44A Carbondale 105.51 333 IAMs_20 IAMs_20 21 43 12.8
comp=Z,1μm,22.0s
I05D Terrebonne, OR 105.67 359 IAMs_20 IAMs_20 21 48 32.9
comp=Z,1μm,19.0s
CLTN Cedars of Leba 105.68 330 IAMs_20 IAMs_20 21 45 02.8
comp=Z,786nm,19.0s
FVM French Village 105.70 334 IAMs_20 IAMs_20 21 49 18.0
comp=Z,1μm,19.0s
T45A Paducah 105.85 332 IAMs_20 IAMs_20 21 44 11.1
comp=Z,933nm,21.0s
CGM3 Cape Girardeau 106.01 333 IAMs_20 IAMs_20 21 51 08.1
comp=Z,763nm,19.0s
HLID Hailey 106.08 354 IAMs_20 IAMs_20 21 50 55.8
comp=Z,926nm,18.0s
R40A Maddies Statio 106.11 336 IAMs_20 IAMs_20 21 43 58.5
comp=Z,1μm,22.0s
V48A Smith Brothers 106.19 330 IAMs_20 IAMs_20 21 48 34.2
comp=Z,803nm,19.0s
PINE Pine Mountain 106.21 359 IAMs_20 IAMs_20 21 46 06.2
comp=Z,1μm,20.0s
I04A Tendick Farm, 106.22 360 IAMs_20 IAMs_20 21 47 27.5
comp=Z,1μm,22.0s
SWET Sewanee 106.25 329 IAMs_20 IAMs_20 21 45 40.8
comp=Z,901nm,19.0s
PDAR Pinedale Array 106.28 350 PKKPbc PKKPbc 21 09 02.0 -1.2
comp=Z,0.5nm,0.8s,baz=144,slow=5.3,SNR=3.5
WVT Waverly 106.28 331 IAMs_20 IAMs_20 21 46 01.5
comp=Z,969nm,20.0s
I03D Drain, OR 106.31 1 IAMs_20 IAMs_20 21 46 18.0
comp=Z,1μm,21.0s
X51A Calhoun 106.31 328 IAMs_20 IAMs_20 21 45 37.6
comp=Z,836nm,21.0s
HICK Hickman 106.50 333 IAMs_20 IAMs_20 21 49 57.1
comp=Z,827nm,18.0s
Y52A Lilburn 106.53 327 IAMs_20 IAMs_20 21 44 49.5
comp=Z,1μm,20.0s
J08A Circle Bar Ran 106.56 357 IAMs_20 IAMs_20 21 46 19.6
comp=Z,1μm,20.0s
OGNE Ogallala 106.57 344 IAMs_20 IAMs_20 21 47 33.3
comp=Z,782nm,20.0s
257A Skidaway Islan 106.58 324 IAMs_20 IAMs_20 21 46 04.3
comp=Z,872nm,20.0s
PARMO Parma 106.60 333 IAMs_20 IAMs_20 21 43 54.7
comp=Z,1μm,22.0s
GOGA Godfrey 106.62 327 IAMs_20 IAMs_20 21 45 47.0
comp=Z,876nm,19.0s
FPAL Fort Paine 106.67 329 IAMs_20 IAMs_20 21 45 05.1
comp=Z,758nm,21.0s
J05D Fort Rock, OR 106.72 359 IAMs_20 IAMs_20 21 49 14.7
comp=Z,938nm,20.0s
PBMO Poplar Bluff 106.76 334 IAMs_20 IAMs_20 21 44 11.0
comp=Z,1μm,22.0s
T42A Van Buren 106.79 334 IAMs_20 IAMs_20 21 49 59.8
comp=Z,1μm,20.0s
PVMO Portageville 106.79 333 IAMs_20 IAMs_20 21 51 36.9
comp=Z,934nm,18.0s
J01E Myrtle Point 106.84 1 IAMs_20 IAMs_20 21 48 11.9
comp=Z,1μm,19.0s
RWWY Rawlins 106.94 348 IAMs_20 IAMs_20 21 46 23.9
comp=Z,1μm,22.0s
LNXT Lenox 106.98 333 IAMs_20 IAMs_20 21 50 12.0
comp=Z,888nm,18.0s
HALT Halls 107.09 332 IAMs_20 IAMs_20 21 47 18.8
comp=Z,911nm,19.0s
154A Montrose 107.10 326 IAMs_20 IAMs_20 21 45 58.8
comp=Z,708nm,19.0s
PEBM Pemiscott Bayo 107.12 333 IAMs_20 IAMs_20 21 50 14.6
comp=Z,778nm,19.0s
PLAL Pickwick Lake 107.37 331 IAMs_20 IAMs_20 21 48 48.3
comp=Z,958nm,22.0s
X48A Hartselle 107.38 330 IAMs_20 IAMs_20 21 44 12.8
comp=Z,1μm,22.0s
K04D Chiloquin, OR 107.38 359 IAMs_20 IAMs_20 21 47 46.3
comp=Z,828nm,20.0s
WVOR Wild Horse Val 107.49 357 IAMs_20 IAMs_20 21 46 59.1
comp=Z,1μm,21.0s
Y49A Blount Mountai 107.60 329 IAMs_20 IAMs_20 21 46 32.8
comp=Z,986nm,22.0s
LCAR Lake Charles 107.66 334 IAMs_20 IAMs_20 21 44 27.8
comp=Z,1μm,21.0s
152A Waverly Hall 107.82 327 IAMs_20 IAMs_20 21 46 05.8
comp=Z,924nm,19.0s
L02F Cave Junction 107.88 1 IAMs_20 IAMs_20 21 46 35.6
comp=Z,1μm,22.0s
456A Hilliard 108.09 324 IAMs_20 IAMs_20 21 47 09.3
comp=Z,819nm,21.0s
TCUT Toone Canyon 108.15 351 IAMs_20 IAMs_20 21 48 39.8
comp=Z,965nm,20.0s
FCAR Ozark Folk Cen 108.19 334 IAMs_20 IAMs_20 21 48 53.6
comp=Z,954nm,21.0s
YBH Yreka Blue Hor 108.28 0 IAMs_20 IAMs_20 21 48 03.0
comp=Z,967nm,21.0s
TIGA Tifton 108.30 326 IAMs_20 IAMs_20 21 51 17.5
comp=Z,888nm,20.0s
OXF Oxford 108.33 332 IAMs_20 IAMs_20 21 51 00.7
comp=Z,976nm,20.0s
ISCO Idaho Springs 108.46 346 IAMs_20 IAMs_20 21 49 54.2
comp=Z,1μm,19.0s
HHAR Hobbs 108.50 336 IAMs_20 IAMs_20 21 46 06.7
comp=Z,996nm,21.0s
BGU Big Grassy Mou 108.54 352 IAMs_20 IAMs_20 21 47 25.2
comp=Z,1μm,21.0s
LRAL Lakeview Retre 108.56 329 IAMs_20 IAMs_20 21 49 09.0
comp=Z,921nm,20.0s
CTU Camp Tracy 108.62 351 IAMs_20 IAMs_20 21 45 57.1
comp=Z,1μm,22.0s
JLU Jordanelle 108.67 351 IAMs_20 IAMs_20 21 48 45.4
comp=Z,1μm,21.0s
WHAR Wooly Hollow 108.78 334 IAMs_20 IAMs_20 21 45 13.4
comp=Z,1μm,22.0s
Z47A Carrollton 108.89 330 IAMs_20 IAMs_20 21 46 06.8
comp=Z,1μm,22.0s
352A Blakely 108.91 327 IAMs_20 IAMs_20 21 45 43.6
comp=Z,830nm,20.0s
ELK Elko 108.94 354 IAMs_20 IAMs_20 21 47 24.7
comp=Z,912nm,22.0s
250A Grady 109.12 328 IAMs_20 IAMs_20 21 46 31.0
comp=Z,955nm,19.0s
HATC Hat Creek Radi 109.19 359 IAMs_20 IAMs_20 21 47 35.1
comp=Z,822nm,19.0s
NLU North Lily Min 109.39 352 IAMs_20 IAMs_20 21 49 19.4
comp=Z,1μm,20.0s
X40A Basin Creek Fa 109.70 334 IAMs_20 IAMs_20 21 51 37.7
comp=Z,826nm,19.0s
OK052 Battle Ridge R 109.72 338 IAMs_20 IAMs_20 21 49 57.1
comp=Z,1μm,19.0s
553A Crawfordville 109.73 325 IAMs_20 IAMs_20 21 52 21.5
comp=Z,853nm,20.0s
NOKA Waynoka 109.79 340 IAMs_20 IAMs_20 21 28 52.7
comp=Z,882nm,20.0s
CCAR Cane Creek 109.79 333 IAMs_20 IAMs_20 21 50 56.3
comp=Z,1μm,20.0s
146A Union 109.80 330 IAMs_20 IAMs_20 21 52 04.7
comp=Z,816nm,21.0s
SNAA Sanae 109.97 197 PKiKP **PKiKP 20 57 46.2 -1.3**
comp=Z,1.7nm,1.1s,baz=271,slow=9.4,SNR=3.0
SNAA PKKPbc **PKKPbc 21 08 50.0 -2.2**
comp=Z,2.1nm,1.2s,baz=149,slow=5.9,SNR=2.9
SRU San Rafael Swe 110.00 350 IAMs_20 IAMs_20 21 49 54.7
comp=Z,998nm,20.0s
451A Vernon 110.01 327 IAMs_20 IAMs_20 21 46 28.8
comp=Z,922nm,18.0s
U32A Winter Ranch, 110.05 340 IAMs_20 IAMs_20 21 47 44.5
comp=Z,1μm,20.0s
BRAL Brewton 110.16 328 IAMs_20 IAMs_20 21 47 12.5
comp=Z,975nm,21.0s
PAHR Pah Rah Range 110.24 357 IAMs_20 IAMs_20 21 50 53.9
comp=Z,885nm,20.0s
Q16A Castle Valley 110.28 351 IAMs_20 IAMs_20 21 52 58.2
comp=Z,1μm,20.0s
Q12A Willow Creek R 110.60 354 IAMs_20 IAMs_20 21 53 40.4
comp=Z,758nm,18.0s
VBMS Vicksburg 110.77 331 IAMs_20 IAMs_20 21 52 35.5
comp=Z,897nm,19.0s
KVN Kaserville 110.83 356 IAMs_20 IAMs_20 21 53 32.8
comp=Z,893nm,19.0s
PNTR Pine Nut 110.87 358 IAMs_20 IAMs_20 21 48 18.5
comp=Z,1μm,20.0s
Q09A Carvers 111.00 356 IAMs_20 IAMs_20 21 52 07.9
comp=Z,746nm,19.0s
PSUT Pine Spring 111.00 353 IAMs_20 IAMs_20 21 48 53.1
comp=Z,746nm,21.0s
HOPS Hopland Field 111.01 0 IAMs_20 IAMs_20 21 49 53.4
comp=Z,1μm,19.0s
346A Big Creek Wild 111.05 330 IAMs_20 IAMs_20 21 48 40.8
comp=Z,961nm,22.0s
HMU Henry Mountain 111.18 350 IAMs_20 IAMs_20 21 49 40.0
comp=Z,1μm,22.0s
RYN Ryan 111.28 357 IAMs_20 IAMs_20 21 50 56.4
comp=Z,1μm,21.0s
R11B Troy Canyon, C 111.35 354 IAMs_20 IAMs_20 21 50 51.4
comp=Z,869nm,19.0s
WAKR Walker 111.44 357 IAMs_20 IAMs_20 21 47 35.8
comp=Z,1μm,21.0s
NVAR Mina Array Bea 111.47 356 PKiKP **PKiKP 20 57 51.5 -0.3**
comp=Z,1.9nm,0.8s,baz=262,slow=0.9,SNR=6.6
MVCO Mesa Verde 111.52 348 IAMs_20 IAMs_20 21 47 06.4
comp=Z,1μm,22.0s
LHV Little Huntoon 111.65 357 IAMs_20 IAMs_20 21 51 06.3
comp=Z,1μm,20.0s
NMDO Nuevo Mundo 111.80 312 IAMs_20 IAMs_20 21 50 59.1
comp=Z,460nm,18.0s
MCCM Marconi Confer 111.86 0 IAMs_20 IAMs_20 21 45 58.7
comp=Z,746nm,19.0s
CCUT Cedar City 111.92 352 IAMs_20 IAMs_20 21 48 28.3
comp=Z,1μm,20.0s
S11A Rachel 112.07 354 IAMs_20 IAMs_20 21 49 30.3
comp=Z,851nm,19.0s
PRN Pahroc Range 112.24 354 IAMs_20 IAMs_20 21 52 54.9
comp=Z,968nm,19.0s
MDPB Devils Postpil 112.30 357 IAMs_20 IAMs_20 21 49 13.4
comp=Z,882nm,21.0s
Z35A Perchaven, San 112.31 337 IAMs_20 IAMs_20 21 49 15.5
comp=Z,830nm,20.0s
LCMT Little Creek M 112.43 352 IAMs_20 IAMs_20 21 53 37.0
comp=Z,725nm,19.0s
DSP Deep Springs 112.50 356 IAMs_20 IAMs_20 21 49 13.9
comp=Z,804nm,20.0s
BOAV Boa Vista 112.63 287 IAMs_20 IAMs_20 21 44 29.4
comp=Z,766nm,21.0s
NATX Nacogdoches 112.81 334 IAMs_20 IAMs_20 21 47 59.2
comp=Z,901nm,20.0s
GRAC Grapevine Rang 112.83 356 IAMs_20 IAMs_20 21 53 24.6
comp=Z,848nm,20.0s
FW03 Perrin-Whitt E 112.84 338 IAMs_20 IAMs_20 21 51 56.7
comp=Z,770nm,21.0s
441A DeRidder 113.15 333 IAMs_20 IAMs_20 21 54 01.2
comp=Z,926nm,21.0s
ANMO Albuquerque 113.31 346 IAMs_20 IAMs_20 21 51 47.6
comp=Z,1μm,21.0s
WHTX Lake Whitney, 113.60 337 IAMs_20 IAMs_20 21 48 54.8
comp=Z,1μm,22.0s
WUAZ Wupatki 113.65 350 IAMs_20 IAMs_20 21 53 32.4
comp=Z,923nm,20.0s
V12A Nelson 113.88 353 IAMs_20 IAMs_20 21 54 10.4
comp=Z,699nm,20.0s
ISA Isabella, Lake 114.23 356 IAMs_20 IAMs_20 21 54 34.5
comp=Z,978nm,20.0s
X18A Snowflake 114.39 349 IAMs_20 IAMs_20 21 52 16.0
comp=Z,748nm,19.0s
GSC Goldstone, Bar 114.48 355 IAMs_20 IAMs_20 21 51 12.2
comp=Z,851nm,20.0s
CCAC Calif City Air 114.71 356 IAMs_20 IAMs_20 21 47 07.3
comp=Z,886nm,22.0s
HKT Hockley 114.88 335 IAMs_20 IAMs_20 21 52 15.5
comp=Z,828nm,18.0s
SOR Soroa 114.95 320 IAMs_20 IAMs_20 21 56 34.5
comp=Z,631nm,20.0s
JCT Junction City 115.77 338 IAMs_20 IAMs_20 21 52 18.0
comp=Z,992nm,20.0s
PFO Pinyon Flats O 116.13 354 P **PKiKP 20 58 00.6 -0.1**
baz=5.8
TPFO Pinon Flats 116.13 354 P **PKiKP 20 58 00.2 -0.5**
baz=5.8
ELS Elsinore Mount 116.17 355 IAMs_20 IAMs_20 21 56 13.9
comp=Z,894nm,19.0s
EPT El Paso 116.38 345 IAMs_20 IAMs_20 21 56 25.8
comp=Z,811nm,19.0s
DZM Mont Dzumac 116.64 101 *e*SS SS 21 15 13.4 -2.7
comp=Z,673nm,35.9s
DZM Mont Dzumac 116.64 101 *e*LR LR 21 33 18.4
comp=Z,824nm,24.1s
TUC Tucson 116.70 349 IAMs_20 IAMs_20 21 55 11.1
comp=Z,961nm,20.0s
TUC Tucson 116.70 349 P **PKPdf 20 58 01.6 -0.2**
baz=11
MONP2 Monument Peak 116.84 354 P **PKPdf 20 58 01.9 -0.3**
baz=5.9
IKP In-Ko-Pah, Jac 117.05 354 P **PKPdf 20 58 02.3 -0.2**
baz=6.2
RMX La Rumorosa 117.10 354 IAMs_20 IAMs_20 21 47 23.6
comp=Z,756nm,20.0s
ESJX Sierra Juarez 117.68 354 IAMs_20 IAMs_20 21 57 47.8
comp=Z,797nm,19.0s
TXAR Lajitas Array 117.99 341 PKP **PKPdf 20 58 03.0 -1.3**
comp=Z,1.8nm,0.9s,baz=151,slow=0.9,SNR=8.7
TXAR PP **PP 20 59 20.1 +2.8**
comp=Z,2.8nm,1.2s,baz=107,slow=1.3,SNR=3.9
TXAR PKKPbc **PKKPbc 21 08 22.4 -1.5**
comp=Z,0.6nm,1.0s,baz=200,slow=7.7,SNR=3.6
VTX Valle De La Tr 118.27 353 IAMs_20 IAMs_20 21 58 43.5
comp=Z,668nm,20.0s
SFX San Felipe 118.52 353 IAMs_20 IAMs_20 21 56 26.2
comp=Z,749nm,22.0s
TEIG Tepich 119.89 322 IAMs_20 IAMs_20 21 53 41.0
comp=Z,659nm,18.0s
QSPA South Pole Qui 120.18 180 PKP **PKPdf 20 58 06.7 -0.6**
comp=Z,4.8nm,0.7s,baz=284,slow=2.6,SNR=6.2
QSPA PP **PP 20 59 31.5 -1.5**
comp=Z,7.2nm,1.0s,baz=81,slow=1.8,SNR=3.9
QSPA PKKPbc **PKKPbc 21 08 17.0 -0.1**
comp=Z,2.5nm,0.9s,baz=216,slow=1.4,SNR=5.7
ROSC El Rosal 122.15 299 PKP **PKPdf 20 58 12.3 -0.8**
comp=Z,14nm,0.7s,baz=84,slow=10,SNR=2.7
VNDA Vanda 122.50 166 PKP **PKPdf 20 58 11.1 -0.3**
comp=Z,0.5nm,0.8s,baz=281,slow=12,SNR=2.2
CPUP Villa Florida 123.19 257 PKP **PKPdf 20 58 14.0 -0.2**
comp=Z,4.5nm,0.9s,baz=58,slow=1.2,SNR=7.5
CPUP PP **PP 20 59 55.4 +0.8**
comp=Z,3.7nm,1.0s,baz=31,slow=3.3,SNR=3.5
CPUP Villa Florida 123.19 257 PKiKP **PKPdf 20 58 14.0 -0.2**
LCR2 La Lucha 2 125.61 311 IAMs_20 IAMs_20 22 01 13.2
comp=Z,520nm,19.0s
PLCA Paso Flores 137.02 241 PKP **PKPdf 20 58 40.2 +0.2**
comp=Z,4.6nm,1.1s,baz=45,slow=7.1,SNR=2.9
PPT Papeete 152.27 69 PKPbc **PKiKP 20 59 14.0 +0.2**
comp=Z,49nm,0.9s,baz=59,slow=4.5,SNR=4.4
PPT Papeete 152.27 69 PKIKP **PKiKP 20 59 14.0 +0.2**
PPT2 Papeete2 152.28 69 *e*SS SS 21 22 21.9 -3.0
comp=Z,242nm,20.5s
PPT2 Papeete2 152.28 69 *e*LR LR 21 49 54.1
comp=Z,844nm,25.5s
PPT2 *e*LR LR 21 49 54.3
comp=Z,677nm,26.8s
TBI Tubuai 155.00 80 *e*SS SS 21 22 54.0 -0.9
comp=Z,2μm,30.8s
TBI Tubuai 155.00 80 *e*LR LR 21 51 06.3
comp=Z,3μm,24.2s
TBI *e*LR LR 21 51 06.8
comp=Z,1μm,28.5s

IDC ***22*** *20:40:01.3±2.4, 5°.39S×147°.07E, h129km±29km, mb3.6/2, mbtmp4.1/4, Error ellipse: s-maj=69.2km s-min=14.8km az=109.0*
NEIC ***22*** *20:40:07.1±1.6, 6°.1S±0°.1×147°.8E±0°.2, h171km±12km, mb4.2/12, Error ellipse: s-maj=27.4km s-min=11.6km az=119.0*
ISC 22 20:40:02.5±1.2, 5°.7S±0°.1×147°.9E±0°.2, h167km, n29, σ1§24/30, mb4.1/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.75**	**192**	P	**Pn**	**20 40 59.3**	**-0.8**
PMG	**Port Moresby**	**3.75**	**192**	P	**Pn**	**20 40 59.2**	**-0.8**
	29nm,0.3s,baz=337,slow=7.7,SNR=34						
PMG				S	**Sn**	**20 41 42.6**	**-2.4**
	124nm,0.3s,baz=342,slow=19,SNR=19						
COEN	**Coen**	**9.44**	**209**	P	**Pn**	**20 42 17.7**	**+2.8**
COEN	**Coen**	**9.44**	**209**	Pn	**Pn**	**20 42 15.2**	**+0.3**
KDU	**Kakadu**	**16.75**	**244**	P	**P**	**20 43 46.0**	**-0.9**
QIS	**Mount Isa**	**16.83**	**208**	P	**P**	**20 43 49.4**	**+1.6**
MTN	**Manton Dam**	**18.02**	**246**	P	**P**	**20 44 00.7**	**-0.2**
MTN	**Manton Dam**	**18.02**	**246**	P	**P**	**20 44 00.3**	**-0.5**
WB0	**Warramunga Arr**	**19.20**	**222**	P	**P**	**20 44 13.8**	**0.0**
WB0				IAmb	IAmb	20 44 17.0	
	comp=Z,6.5nm,0.8s						
WR0	**Warramunga Arr**	**19.24**	**221**	P	**P**	**20 44 14.3**	**+0.2**
WR0				IAmb	IAmb	20 44 15.5	
	comp=Z,6.1nm,0.8s						
WRAB	**Tennant Creek**	**19.34**	**222**	P	**P**	**20 44 15.5**	**+0.3**
WRAB				IAmb	IAmb	20 44 16.5	
	comp=Z,8.0nm,0.8s						
WB2	**Warramunga Arr**	**19.35**	**222**	P	**P**	**20 44 15.7**	**+0.3**
WB2				IAmb	IAmb	20 44 16.4	
	comp=Z,8.0nm,0.6s						
WRA	**Warramunga Arr**	**19.36**	**222**	P	**P**	**20 44 13.9**	**-1.5**
WRA	**Warramunga Arr**	**19.36**	**222**	P	**P**	**20 44 15.5**	**0.0**
	comp=Z,4.9nm,0.4s,baz=42,slow=11,SNR=116						
WRA				S	**S**	**20 47 43.4**	**-2.2**
	comp=Z,1.4nm,1.2s,baz=38,slow=23,SNR=3.6						
EIDS	**Eidsvold**	**19.79**	**172**	P	**P**	**20 44 20.9**	**+1.0**
EIDS				IAmb	IAmb	20 44 25.9	
	comp=Z,6.4nm,1.0s						
KNRA	**Kununurra**	**21.25**	**241**	P	**P**	**20 44 34.8**	**-0.9**
AS31	**Alice Springs**	**22.38**	**216**	P	**P**	**20 44 47.8**	**+0.6**
AS31				IAmb	IAmb	20 44 48.6	
	comp=Z,5.6nm,0.2s						
ASAR	**Alice Springs**	**22.38**	**216**	P	**P**	**20 44 47.5**	**+0.3**
ASAR	**Alice Springs**	**22.38**	**216**	P	**P**	**20 44 47.6**	**+0.4**
	comp=Z,3.1nm,0.4s,baz=46,slow=8.9,SNR=74						
ASAR				S	**S**	**20 48 43.0**	**+2.2**
	comp=Z,1.5nm,0.8s,baz=31,slow=25,SNR=6.0						
	comp=Z,3.1nm,0.4s						
INKA	**Innaminka**	**22.95**	**196**	P	**P**	**20 44 54.0**	**+1.7**
OOD	**Oodnadatta**	**24.86**	**207**	P	**P**	**20 45 11.5**	**+1.9**
FITZ	**Fitzroy Crossi**	**25.00**	**239**	P	**P**	**20 45 10.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**25.00**	**239**	P	**P**	**20 45 11.2**	**+0.1**
WRKA	**Warakurna**	**26.90**	**222**	P	**P**	**20 45 28.7**	**+0.6**
MJAR	**Matsushiro Arr**	**43.00**	**349**	P	**P**	**20 47 44.6**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=170,slow=8.7,SNR=5.4						
	comp=Z,1.0nm,0.7s						
MAJO	**Matsushiro**	**43.00**	**349**	P	P	20 47 51.3	+5.9
MJB9	**Matsu-Tunnel**	**43.00**	**349**	P	P	20 47 51.3	+5.9
QSPA	**South Pole Qui**	**84.26**	**180**	P	**P**	**20 52 15.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**145.90**	**285**	PKPbc	**PKPdf**	**20 59 21.4**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=65,slow=4.1,SNR=8.9						

BJI ***22*** *20:59:48.0±0.0, 27°.50N×54°.90E, h10km, mb4.6/57, mB5.5/8, Ms5.2/6, Ms7 5.0/6*
IDC ***22*** *20:59:49.1±0.4, 27°.56N×54°.93E, h0km, mb4.6/31, mbtmp4.6/36, ML3.9/6, MS4.1/1, Error ellipse: s-maj=12.3km s-min=9.6km az=3.0*
NEIC ***22*** *20:59:51.8±1.3, 27°.66N±0°.07×54°.91E±0°.10, h10km±1km, mb4.9/146, Error ellipse: s-maj=14.6km s-min=12.4km az=249.0*
GII ***22*** *20:59:51.7±0.5, 27°.63N×54°.88E, h10km, confirmed*
THR ***22*** *20:59:51.2±0.8, 27°.48N×54°.94E, h14km±7km, ML4.8*
TEH ***22*** *20:59:51.3, 27°.50N×54°.90E, h19km±16km, ML4.9*
OMAN ***22*** *20:59:52.5±0.0, 27°.54N×54°.96E, h10km, mb5.3/22, ml4.7/25, Mwp5.0/3, Error ellipse: s-maj=0.5km s-min=0.4km az=258.0*
MOS ***22*** *20:59:52.5±0.9, 27°.59N×54°.91E, h33km, mb5.0/57, Error ellipse: s-maj=4.9km s-min=3.5km az=96.9*
SGS ***22*** *20:59:52.1, 27°.63N×55°.18E, h14km, Ml5.4*
DSN ***22*** *20:59:52.3±3.2, 27°.61N×54°.86E, h10km±23km, mb4.9/5, ML4.6/15, Error ellipse: s-maj=14.2km s-min=7.9km az=54.0*
ISC 22 20:59:52.6±0.7, 27°.62N±0°.03×54°.95E±0°.02, h20km±3km, n919, σ1§29/948, mb4.8/224, MS4.1/7, 35C-26D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.51**	**275**	Pg	**Pg**	**21 00 01.2**	**-1.9**
BNDS	**Bandar-Abbas**	**1.11**	**101**	*e*Pg	**Pn**	**21 00 14.6**	**+1.4**
BNDS				*e*Sg	**Sg**	**21 00 26.7**	**-2.2**
GENO	**Geno**	**1.11**	**101**	Pg	**Pb**	**21 00 13.4**	**+0.1**
IBND	**Bandar-abas**	**1.42**	**97**	Pg	**Pn**	**21 00 18.4**	**+1.0**
JHRM	**Jahrom**	**1.50**	**306**	Pg	**Pg**	**21 00 20.1**	**-1.4**
LMD1	**Lamerd**	**1.61**	**260**	Pg	**Pb**	**21 00 21.0**	**-0.8**
GHIR	**Ghir-Karzin**	**1.86**	**291**	*e*Pn	**Pb**	**21 00 25.7**	**-0.3**
QIR1	**Qir**	**1.89**	**297**	Pn	**Pb**	**21 00 26.2**	**-0.3**
SHME	**Shamm**	**1.90**	**146**	*e*P	**Pn**	**21 00 23.9**	**0.0**
	SNR=178						
SHME				S	**Sb**	**21 00 50.6**	**+0.7**
SHME	**Shamm**	**1.90**	**146**	P	**Pn**	**21 00 23.9**	**0.0**
	SNR=177						
SHME				S	**Sn**	**21 00 48.2**	**+0.9**
BANOM	**Banah**	**2.08**	**144**	*e*P	**Pn**	**21 00 26.8**	**+0.4**
	SNR=13						
BANOM	**Banah**	**2.08**	**144**	P	**Pn**	**21 00 26.9**	**+0.4**
UMQ	**Umm Al-Quwin**	**2.19**	**163**	P	**Pn**	**21 00 28.3**	**+0.4**
	SNR=28						
KHNJ	**Kahnooj**	**2.46**	**82**	Pn	**Pn**	**21 00 33.0**	**+1.2**
MASF	**Masafi**	**2.49**	**154**	P	**Pn**	**21 00 33.5**	**+1.4**
	SNR=23						
MASF				S	**Sn**	**21 01 02.5**	**+0.5**
MSFE	**Esma-Masafi**	**2.50**	**154**	*e*P	**Pn**	**21 00 32.8**	**+0.5**
	SNR=23						
NGRK	**Negar Kerman**	**2.55**	**37**	Pn	**Pn**	**21 00 35.1**	**+1.8**
MDH	**Madha**	**2.61**	**152**	*e*P	**Pn**	**21 00 34.2**	**+0.4**
	SNR=66						
MDH	**Madha**	**2.61**	**152**	P	**Pn**	**21 00 34.8**	**+1.0**
	SNR=65						
NAZ	**Nazwa, Dubai**	**2.70**	**166**	*e*P	**Pg**	**21 00 42.0**	**-2.5**
	SNR=30						
NAZ	**Nazwa, Dubai**	**2.70**	**166**	P	**Pn**	**21 00 36.9**	**+1.8**
	SNR=16						
KRBR	**Kerman**	**2.84**	**34**	*e*Pn	**Pn**	**21 00 40.2**	**+3.1**
KRBR				*e*S	**Sb**	**21 01 16.6**	**-0.7**
KRBR				IAML		21 01 27.9	
	comp=E,2μm,0.7s						
KRBR				IAML		21 01 28.6	
	comp=N,3μm,0.3s						
TVBK	**TV Kerman**	**2.84**	**34**	Pn	**Pn**	**21 00 39.5**	**+2.3**
UOSS	**Minazif**	**2.90**	**157**	Pn	**Pn**	**21 00 38.2**	**+0.5**
UOSS	**Minazif**	**2.90**	**157**	*e*P	**Pn**	**21 00 38.4**	**+0.7**
	SNR=49						
UOSS	**Minazif**	**2.90**	**157**	Pn	**Pn**	**21 00 38.2**	**+0.5**
UOSS	**Minazif**	**2.90**	**157**	P	**Pn**	**21 00 38.5**	**+0.8**
FAQ	**Al Faqa, Dubai**	**2.92**	**168**	*e*P	**Pn**	**21 00 39.6**	**+1.5**
	SNR=18						
FAQ	**Al Faqa, Dubai**	**2.92**	**168**	P	**Pn**	**21 00 40.2**	**+2.1**
	SNR=18						
HATD	**Hatta, Dubai**	**2.98**	**159**	*i* P	**Pn**	**21 00 38.8**	**-0.1**
	SNR=65						

HATD	Hatta, Dubai	2.98 159	P	Pn	Pn	21 00 40.1 +1.2
	SNR=65					
ASUD	Al Ashush, Dub	3.00 173	*i* P	Pn	Pn	21 00 41.4 +2.2
	SNR=62					
ASUD	Al Ashush, Dub	3.00 173	P	Pn	Pn	21 00 41.6 +2.4
	SNR=62					
AJN	Ajban	3.05 179	*i* P	Pn	Pn	21 00 42.0 +2.2
	SNR=23					
AJN	Ajban	3.05 179	P	Pn	Pn	21 00 42.0 +2.2
	SNR=23					
AJN			P	Pn	Pn	21 00 42.0 +2.2
	SNR=23					
KHGB	Koh Gabri	3.05 26	Pn	Pn	Pn	21 00 42.7 +2.6
ASHO	Ashiyiah	3.09 161	*i* P	Pn	Pn	21 00 41.3 +0.9
	SNR=173					
ASHO	Ashiyiah	3.09 161	P	Pn	Pn	21 00 41.7 +1.3
	SNR=173					
JASK	Jask - Hormozg	3.14 123	Pn	Pn	Pn	21 00 41.1 0.0
JASK	Jask - Hormozg	3.14 123	P	Pn	Pn	21 00 41.3 +0.2
	SNR=67					
CHMN	Cheshme madani	3.19 45	Pn	Pn	Pn	21 00 44.4 +2.4
JRN	Qarnain Island	3.27 216	P	Pn	Pn	21 00 44.4 +1.6
	SNR=6.7					
JRN			P	Pn	Pn	21 00 44.4 +1.6
	SNR=6.7					
DSBU	Dashti - Bushe	3.34 284	Pn	Pn	Pn	21 00 44.8 +0.9
KBAM	BAM	3.44 63	Pn	Pn	Pn	21 00 47.4 +2.2
AHBU	AHRAM	3.45 292	Pn	Pn	Pn	21 00 46.2 +0.9
KRM1	Kerman Provinc	3.52 35	Pn	Pn	Pn	21 00 49.2 +2.7
ZRDN	Zarand Kerman	3.61 22	Pn	Pn	Pn	21 00 50.1 +2.4
ALNE	Al Ain	3.62 168	*i* P	Pn	Pn	21 00 49.0 +1.3
	SNR=11					
ALNE	Al Ain	3.62 168	P	Pn	Pn	21 00 49.2 +1.4
	SNR=11					
SOHO	SOHO	3.76 157	*i* P	Pn	Pn	21 00 49.1 -0.4
	SNR=21					
SOHO	SOHO	3.76 157	P	Pn	Pn	21 00 49.6 +0.1
IMEH	Mehriz	3.77 356	Pn	Pn	Pn	21 00 52.2 +2.3
MZWR	Madinat Zayed	3.96 194	P	Pn	Pn	21 00 53.8 +1.4
MZWR			S	Sn	Pn	21 01 39.9 +1.5
SHMA	Al-Shehemyia	3.97 245	P	Pn	Pn	21 00 54.6 +2.1
	SNR=159					
SHMA			S	Sn	Pn	21 01 41.1 +2.5
IBAF	Bafgh	3.99 8	Pn	Pn	Pn	21 00 55.2 +2.3
GHWR	Ruwais	4.10 208	P	Pn	Pn	21 00 55.1 +0.9
GHWR			S	Sn	Pn	21 01 42.7 +1.1
SAKB	Bahrain	4.27 248	P	Pn	Pn	21 00 58.6 +2.0
SAKB			S	Sn	Pn	21 01 49.2 +3.3
ISAD	Sadrabad	4.41 346	Pn	Pn	Pn	21 01 01.2 +2.3
TRNA	Turayna	4.42 230	P	Pn	Pn	21 00 59.8 +1.1
	SNR=190					
TRNA			S	Sn	Pn	21 01 50.7 +1.1
KLNJ	Kolanjah	4.47 320	Pn	Pn	Pn	21 01 00.9 +1.2
ARQ	Araqi	4.50 161	P	Pn	Pn	21 01 00.9 +1.1
	SNR=58					
ARQ			S	Sn	Pn	21 01 53.2 +1.6
HOQ	Hoqain	4.55 152	Pn	Pn	Pn	21 00 59.2 -1.4
HOQ	Hoqain	4.55 152	P	Pn	Pn	21 00 59.2 -1.4
	SNR=20					
SLWR	Sila	4.60 220	P	Pn	Pn	21 01 01.7 +0.7
SLWR			S	Sn	Pn	21 01 54.3 +0.3
ICHK	Chekchek	4.63 354	Pn	Pn	Pn	21 01 04.3 +2.5
SMRA	Abu-Samra	4.69 233	P	Pn	Pn	21 01 03.7 +1.4
	SNR=32					
SMRA			S	Sn	Pn	21 01 57.0 +0.9
IRAM	Ramesheh	4.73 332	Pn	Pn	Pn	21 01 05.0 +1.8
MZR	Muzera	4.79 196	*i* P	Pn	Pn	21 01 04.0 +0.3
	SNR=25					
MZR	Muzera	4.79 196	P	Pn	Pn	21 01 04.2 +0.4
	SNR=22					
MZR			S	Sn	Pn	21 01 59.9 +1.1
SHBH2	SHBH2	4.81 224	P	Pn	Pn	21 01 04.2 +0.2
SHBH2	SHBH2	4.81 224	S	Sn	Pn	21 01 56.7 -2.5
UMZA	Um Al Zommool	4.89 178	P	Pn	Pn	21 01 06.1 +0.9
UMZA			S	Sn	Pn	21 02 01.0 -0.3
BIDO	Bidbid	4.99 144	P	Pn	Pn	21 01 06.4 -0.2
	SNR=16					
HOFOF	Al Hofuf	5.03 245	P	Pn	Pn	21 01 08.4 +1.3
HOFOF	Al Hofuf	5.03 245	S	Sn	Pn	21 02 05.6 +0.9
SHBH1	SHBH1	5.10 217	S	Sn	Pn	21 02 05.4 -0.8
SHBH1	SHBH1	5.10 217	P	Pn	Pn	21 01 07.5 -0.5
BSY	Bisya	5.27 157	P	Pn	Pn	21 01 11.7 +1.4
	SNR=8.8					
BSY			S	Sn	Pn	21 02 12.2 +1.7
BOQSS		5.28 252	S	Sn	Pn	21 02 11.9 +1.1
BOQSS		5.28 252	P	Pn	Pn	21 01 12.1 +1.6
IBRJ	Brojen	5.34 324	Pn	Pn	Pn	21 01 13.1 +1.6
SMDO	Samad	5.34 148	P	Pn	Pn	21 01 12.0 +0.5
	SNR=48					
SMDO			S	Sn	Pn	21 02 13.2 +0.7
IGAR	Gharneh	5.39 333	Pn	Pn	Pn	21 01 14.6 +2.4
NASN	Na'in	5.48 341	*e*Pn	Pn	Pn	21 01 16.1 +2.6
WSAR	Wadi Sarin	5.49 142	Pn	Pn	Pn	21 01 13.6 +0.2
	comp=N,10nm,0.3s,baz=319,slow=4.5,SNR=174					
WSAR			Sn	Sn	Pn	21 02 13.1 -2.9
	comp=N,22nm,0.3s,baz=215,slow=14,SNR=5.3					
WSAR			LR	LR		21 03 55.4
	comp=N,2µm,19.2s,baz=359,slow=45					
	comp=N,108nm,0.5s					
ZHSF	Zahedan	5.49 67	*e*Pn	Pn	Pn	21 01 15.7 +2.1
TPRV	Parvadeh(Tabas	5.59 15	Pn	Pn	Pn	21 01 17.1 +2.2
ANAR	Anarak	5.65 350	Pn	Pn	Pn	21 01 18.1 +2.4
BSRN	Basiran	5.65 39	*e*Pn	Pn	Pn	21 01 18.0 +2.4
BSRN			*e*Sg	Sg	Pn	21 02 49.0 -4.9
BSRN	Basiran	5.65 39	Pn	Pn	Pn	21 01 18.2 +2.5
ZNGN	Zangian	5.72 323	Pn	Pn	Pn	21 01 18.4 +1.6
IZEF	Zefreh	5.72 337	Pn	Pn	Pn	21 01 17.8 +1.0
WANAN	Al Wanan	5.80 264	P	Pn	Pn	21 01 18.5 +0.8
KFJS2	Khafji	5.84 279	P	Pn	Pn	21 01 19.8 +1.7
JHBN	Jahan bin	5.91 322	Pn	Pn	Pn	21 01 20.4 +1.1
IKOO	Kooshah	5.94 35	Pn	Pn	Pn	21 01 21.8 +2.1
JMDO	Jabal Madar	5.96 151	P	Pn	Pn	21 01 20.3 +0.4
	SNR=16					
JMDO			S	Sn	Pn	21 02 28.1 +0.4
NGCH	Negor - Chabah	5.99 111	Pn	Pn	Pn	21 01 21.0 +0.8
NGCH	Negor - Chabah	5.99 111	P	Pn	Pn	21 01 21.0 +0.8
	SNR=24					
NHRD	Haradh	6.06 243	P	Pn	Pn	21 01 22.6 +1.3
NHRD	Haradh	6.06 243	S	Sn	Pn	21 02 29.8 -0.3
IPIR	Pirpir	6.15 326	Pn	Pn	Pn	21 01 24.0 +1.3
WBK	Wadi Bani Khal	6.18 143	Pn	Pn	Pn	21 01 22.7 -0.2
WBK	Wadi Bani Khal	6.18 143	P	Pn	Pn	21 01 22.7 -0.2
	SNR=142					
WBK			P	Pn	Pn	21 01 22.7 -0.2
	SNR=142					
WBK			S	Sn	Pn	21 02 30.8 -2.3
WBK			S	Sn	Pn	21 02 30.8 -2.3
TKDS	Koohdasht(Taba	6.26 17	Pn	Pn	Pn	21 01 26.5 +2.5
TABS	Tabas	6.29 17	*e*Pn	Pn	Pn	21 01 27.4 +3.0
IKLH	Kolahrood	6.38 334	Pn	Pn	Pn	21 01 27.5 +1.7
TNSJ	Nastanj	6.48 12	Pn	Pn	Pn	21 01 29.2 +2.1
KURES	Khurais	6.50 249	P	Pn	Pn	21 01 28.4 +1.2
KBD	Kabd	6.58 285	P	Pn	Pn	21 01 28.5 +0.3
KBD			S	Sn	Pn	21 02 42.8 +0.1
SRVN	Saravan	6.62 90	Pn	Pn	Pn	21 01 30.8 +1.8
IDAH	Dahanechah	6.64 39	Pn	Pn	Pn	21 01 31.8 +2.3
AFRZ	Afriz	6.76 30	Pn	Pn	Pn	21 01 33.5 +2.5
JLN	Jalan Bani Buh	6.79 142	P	Pn	Pn	21 01 30.7 -0.6
	SNR=35					
JLN			S	Sn	Pn	21 02 47.9 -0.1
ISFB	Sefidab	7.10 342	Pn	Pn	Pn	21 01 37.7 +2.2
MHTO	MHTO	7.16 157	P	Pn	Pn	21 01 36.4 +0.1
MHTO			S	Sn	Pn	21 02 54.5 -2.6
	SNR=7.3					
QYSM	Um Kedad	7.16 274	P	Pn	Pn	21 01 36.4 +0.1
KHMZ	Khomeyn	7.46 326	*e*Pn	Pn	Pn	21 01 42.9 +2.3
GHVR	GHOM	7.52 336	*e*Pn	Pn	Pn	21 01 45.0 +3.7
KHRJ	Al Kharj	7.56 242	P	Pn	Pn	21 01 41.6 -0.2
SHRT	Shahrakht	7.56 36	*e*Pn	Pn	Pn	21 01 44.9 +3.0
SHRT	Shahrakht	7.56 36	Pn	Pn	Pn	21 01 44.8 +2.9
IVRN	Varamin	7.85 340	Pn	Pn	Pn	21 01 47.5 +1.7
ILAS	Lasjerd	7.92 348	Pn	Pn	Pn	21 01 49.2 +2.2
DQM	DQM	8.02 162	P	Pn	Pn	21 01 47.6 -0.5
DQM			S	Sn	Pn	21 03 13.1 -5.2
	SNR=5.4					
ASAO	Ashtian	8.09 330	*e*Pn	Pn	Pn	21 01 51.9 +2.6
IDMV	Damavand	8.31 343	Pn	Pn	Pn	21 01 54.8 +2.4
DAMV	Damavand	8.38 343	*e*Pn	Pn	Pn	21 01 56.5 +3.3
IKFM	Kafar-mosalman	8.49 316	Pn	Pn	Pn	21 01 56.0 +1.5
IALA	Alasht	8.63 348	Pn	Pn	Pn	21 01 59.3 +2.6
IPRN	Peran	8.87 346	Pn	Pn	Pn	21 02 02.0 +2.1
CHTH	Charan	8.88 339	*e*Pn	Pn	Pn	21 02 03.2 +3.1
TBJM	Torbat-e-JAM	8.90 30	Pn	Pn	Pn	21 02 03.2 +2.9
IGLO	Ghaloghah	8.90 354	Pn	Pn	Pn	21 02 03.5 +3.1
THKV	Tehran--Karaj	8.96 338	*e*Pn	Pn	Pn	21 02 04.2 +3.0
DOK	Doka	8.99 185	P	Pn	Pn	21 02 00.6 -0.9
	SNR=19					
DOK			S	Sn	Pn	21 03 43.4 +1.1
HRA	Herat	9.20 41	Pn	Pn	Pn	21 02 06.9 +2.4
IPAY	Payeh	9.45 20	Pn	Pn	Pn	21 02 10.4 +2.5
RAYN	Ar Rayn	9.45 247	Pn	Pn	Pn	21 02 05.4 -2.4
RAYN	Ar Rayn	9.45 247	*i* P	Pn	Pn	21 02 06.0 -1.9
	SNR=122					
RAYN	Ar Rayn	9.45 247	Pn	Pn	Pn	21 02 05.4 -2.4
RAYN	Ar Rayn	9.45 247	P	Pn	Pn	21 02 06.3 -1.6
RAYN	Ar Rayn	9.45 247	P	Pn	Pn	21 02 05.9 -1.9
IAKL	Akhelmad	9.52 19	Pn	Pn	Pn	21 02 11.5 +2.6
SHAO	Shalim	9.58 176	*i* P	Pn	Pn	21 02 09.5 0.0
	SNR=11					
SHAO	Shalim	9.58 176	P	Pn	Pn	21 02 10.2 +0.7
SHAO			S	Sn	Pn	21 03 54.3 -2.3
ILBA	Ilam Banvizeh	9.61 311	*e*Pn	Pn	Pn	21 02 10.5 +0.5
ILBA	Ilam Banvizeh	9.61 311	Pn	Pn	Pn	21 02 10.5 +0.5
WHFO	Wadi Hawf	9.72 187	P	Pn	Pn	21 02 11.0 -0.5
	SNR=46					
WHFO			S	Sn	Pn	21 03 58.0 -2.2
	SNR=15					
IMYA	Miami	9.73 25	Pn	Pn	Pn	21 02 14.9 +3.2
IGHG	Ghaleghazi	9.82 315	Pn	Pn	Pn	21 02 13.5 +0.5
DMTO	DMTO	9.86 180	P	Pn	Pn	21 02 12.0 -1.3
	SNR=5.1					
DMTO			S	Sn	Pn	21 04 02.6 -0.9
SNGE	Sanandaj	9.88 321	*e*Pn	Pn	Pn	21 02 14.6 +0.8
MRVT	Maraveh tapeh	10.05 5	*e*Pn	Pn	Pn	21 02 19.6 +3.5
RBK	Rabkut	10.10 184	P	Pn	Pn	21 02 15.0 -1.7
RBK			S	Sn	Pn	21 04 09.4 0.0
GIDE	GILAN DEYLAMAN	10.20 337	*e*Pn	Pn	Pn	21 02 21.3 +3.1
BJRD	Bojnurd	10.26 11	*e*Pn	Pn	Pn	21 02 22.2 +3.3
ABTO	Aybut	10.33 189	P	Pn	Pn	21 02 18.6 -1.3
	SNR=13					
ABTO			S	Sn	Pn	21 04 10.5 -4.8
ZNJK	Zanjan	10.46 331	*e*Pn	Pn	Pn	21 02 24.9 +3.1
ISRB	Sarab	11.87 331	Pn	Pn	Pn	21 02 43.0 +1.9
GRMI	Germi	12.62 334	*e*Pn	Pn	Pn	21 02 53.8 +2.7
GRMI	Germi	12.62 334	Pn	Pn	Pn	21 02 53.0 +1.9
KBL	Kabul	13.90 57	P	Pn	Pn	21 03 10.1 +1.4
	SNR=12					
NAX	Nakhchivan	13.95 328	P	P	Pn	21 03 14.6 -2.7
MAKU	Maku	14.49 326	*e*Pn	Pn	Pn	21 03 18.6 +1.9
MNGR	Mingechevir, A	14.63 336	P	P	Pn	21 03 25.2 +0.5
GANJ	Ganja	14.81 333	P	P	Pn	21 03 27.5 +0.7
SEKA	Sheki	14.97 337	P	P	Pn	21 03 28.1 -0.6
GNI	Garni	15.08 329	P	Pn	Pn	21 03 26.3 +1.5
GNI	Garni	15.08 329	Pn	Pn	Pn	21 03 26.2 +1.5
	comp=N,0.3nm,0.3s,baz=135,slow=9.0,SNR=7.2					
	comp=N,9.8nm,1.0s					
GNI	Garni	15.08 329	P	Pn	Pn	21 03 27.0 +2.2
GNI	Garni	15.08 329	P	Pn	Pn	21 03 26.3 +1.5
GNI			pmax	pmax		
	comp=Z,27nm,1.3s					
GNI	Garni	15.08 329	P	P	Pn	21 03 28.8 -1.2
	comp=Z,69nm,0.9s					
GURO	Guroymak-BITLI	15.34 319	Pn	Pn	Pn	21 03 26.4 -1.8
SIMJ	Simiganj	16.10 43		Pn	Pn	21 03 38.0 +0.1
CHGR	Chuyangaron	16.19 44	Pn	Pn	Pn	21 03 38.5 -0.6
CHGR	Chuyangaron	16.19 44	P	Pn	Pn	21 03 38.5 -0.6
CHGR			pmax	pmax		
	comp=Z,22nm,0.9s					
MAK	Makhachkala	16.45 340	*e*P	Pn	Pn	21 03 43.1 +0.8
MAK			*e*S	Sn	Pn	21 06 49.0 +4.7
MAK			pmax	pmax		
	comp=Z,199nm,1.3s					
MAK			MLR	MLR		
	comp=Z,641nm,15.0s					
SWQJ	Swaqa	16.84 287	P	Pn	Pn	21 03 46.8 -0.7
NIL	Nilore	16.85 65		Pn	Pn	21 03 47.0 -0.5
NIL	Nilore	16.85 65	P	P	Pn	21 03 50.0 +0.5
NIL	Nilore	16.85 65	P	Pn	Pn	21 03 47.0 -0.5
NIL			pmax	pmax		
	comp=Z,47nm,0.9s					
HSUJ	Al Zarqa	16.87 290	P	Pn	Pn	21 03 47.3 -0.4
HSNJ	Maan	17.06 283	P	P	Pn	21 03 51.3 -0.7
GAR	Garm	17.11 45	P	Pn	Pn	21 03 52.2 +1.4
KARJ	KARJ	17.18 286	P	P	Pn	21 03 53.7 +0.7
GHAJ	Ghor Haditha	17.27 287	P	Pn	Pn	21 03 51.9 -0.8
GHAJ	Ghor Haditha	17.27 287	P	Pn	Pn	21 03 51.5 -1.2
BALJ	Balqa	17.33 290	P	Pn	Pn	21 03 53.1 -0.4
BALJ			IAmb	IAmb		21 03 55.7
	comp=Z,93nm,1.0s					
BALJ	Balqa	17.33 290	P	Pn	Pn	21 03 53.5 +0.1
LISJ	El Lisan	17.34 287	P	Pn	Pn	21 03 53.1 -0.4
SHMJ	Saham	17.34 292	P	Pn	Pn	21 03 53.8 +0.1
KSHT	Keshet	17.36 293	P	Pn	Pn	21 03 53.6 -0.3
QRNJ	Al-Qirein	17.43 290	P	Pn	Pn	21 03 54.9 +0.3
MSBI	Mazada	17.45 287	P	Pn	Pn	21 03 54.1 -0.8
MSBI	Mazada	17.45 287	P	Pn	Pn	21 03 54.3 -0.6
HMDT	Nahal Hemdat	17.45 290	P	Pn	Pn	21 03 54.2 -0.8
HMDT	Nahal Hemdat	17.45 290	P	Pn	Pn	21 03 54.0 -0.9
UJAP	Al Uja	17.45 289	P	Pn	Pn	21 03 53.6 -1.3
DSI	Dead Sea	17.46 288	P	P	Pn	21 03 56.0 -0.3
DSI	Dead Sea	17.46 288	P	Pn	Pn	21 03 54.5 -0.6
NATI	Neve Ativ	17.49 293	P	Pn	Pn	21 03 54.9 -0.5
NATI	Neve Ativ	17.49 293	P	Pn	Pn	21 03 54.5 -0.8
ZFRI	Zfri	17.52 284	P	Pn	Pn	21 03 55.7 -0.2
GEM	Giv'at Ha'Em	17.53 293	P	Pn	Pn	21 03 56.5 +0.5
GEM	Giv'at Ha'Em	17.53 293	P	Pn	Pn	21 03 55.3 -0.7
MMLI	Mount Malkishu	17.57 291	P	Pn	Pn	21 03 56.6 +0.1
AQBJ	Aqaba	17.59 282	P	Pn	Pn	21 03 56.6 -0.1
BCA	Borcka	17.59 325	⇓P	Pn	Pn	21 03 57.1 +0.4
HRFI	Mount Harif	17.61 283	P	Pn	Pn	21 03 55.6 -1.5
PRNI	Paran	17.66 284	P	Pn	Pn	21 03 57.7 +0.1
PRNI	Paran	17.66 284	P	Pn	Pn	21 03 56.1 -1.5
YTIR	Yattir	17.66 287	P	Pn	Pn	21 03 57.7 0.0
YTIR	Yattir	17.66 287	P	Pn	Pn	21 03 57.1 -0.6
EIL	Elat	17.67 281	P	Pn	Pn	21 03 56.5 -1.2
	comp=Z,0.3nm,0.3s,baz=38,slow=6.2,SNR=8.6					
EIL			S	Sn	Pn	21 07 15.5 +1.3
	comp=Z,14nm,1.0s,baz=46,slow=7.5,SNR=2.0					
	comp=Z,17nm,0.9s					
EIL	Elat	17.67 281	P	Pn	Pn	21 03 58.1 +0.4
MMAI	Mount Meron Ar	17.70 292	P	Pn	Pn	21 03 57.7 -0.5
	comp=Z,1.6nm,0.3s,baz=102,slow=14,SNR=8.4					
MMAI			S	Sn	Pn	21 07 09.6 -5.3
	comp=Z,1.7nm,0.4s,baz=114,slow=25,SNR=2.0					
	comp=Z,10nm,0.7s					
MBRI	Mt Berech	17.71 282	P	P	Pn	21 03 58.8 -0.3
GAZ	Gaziantep	17.72 307	P	Pn	Pn	21 03 58.5 +0.1
BLGI	Bet Lehem HaGe	17.82 291	P	Pn	Pn	21 03 59.0 -0.5
AMAZ	Amatzia	17.85 287	P	P	Pn	21 04 00.8 +0.2
AMAZ	Amatzia	17.85 287	P	Pn	Pn	21 03 59.8 -0.1
SLTI	Sal'it	17.85 290	P	Pn	Pn	21 03 58.7 -1.3
SLTI	Sal'it	17.85 290	P	Pn	Pn	21 04 00.1 +0.1
KRMI	Paran Flat	17.89 283	P	Pn	Pn	21 03 59.4 -1.0
HNTI	Hanita	17.91 293	P	Pn	Pn	21 04 00.1 -0.5
ARPR	Arapgir-MALATY	17.95 314	P	P	Pn	21 04 02.4 +0.6
KZIT	Kziot	18.23 285	P	Pn	Pn	21 04 04.5 0.0
KZIT	Kziot	18.23 285	P	P	Pn	21 04 04.8 +0.1
NCK	Nalchik	18.30 333	⇓*e*P	P	Pn	21 04 07.9 +2.5
NCK			pmax	pmax		
	comp=Z,38nm,0.7s					
KBZ	Khabaz	18.78 332	P	Pn	Pn	21 04 12.2 +1.0
	comp=Z,0.6nm,0.3s,baz=144,slow=9.1,SNR=22					
	comp=Z,12nm,0.7s					
KBZ	Khabaz	18.78 332	*d i* P	Pn	Pn	21 04 13.1 +1.9
KBZ			pmax	pmax		
	comp=Z,35nm,0.9s					
SHA1	Shidzhatmaz	18.89 332	*ce*P	Pn	Pn	21 04 15.1 +2.3
IUG	Iuzhnay	19.01 36	*e*P	P	Pn	21 04 13.6 +0.3
	comp=Z,23nm,0.5s,baz=36					
IUG	Iuzhnay	19.01 36	*e*P	P	Pn	21 04 13.6 +0.3
IUG			pmax	pmax		
	comp=Z,23nm,0.5s					
KVAR	Kislovodsk Arr	19.05 332	P	Pn	Pn	21 04 16.2 +1.6
	comp=Z,8.3nm,0.7s,baz=80,slow=17,SNR=15					
KIV	Kislovodsk	19.06 332	P	Pn	Pn	21 04 15.9 +1.3
KIV			IAmb	IAmb		21 04 25.5
	comp=Z,102nm,1.1s					
KIV	Kislovodsk	19.06 332	*i* P	Pn	Pn	21 04 15.3 +0.7
	SNR=39					
KIV	Kislovodsk	19.06 332	P	Pn	Pn	21 04 16.6 +1.9
KIV	Kislovodsk	19.06 332	⇑P	Pn	Pn	21 04 15.6 +1.0
KIV	Kislovodsk	19.06 332	*e*P	Pn	Pn	21 04 15.7 +1.1
KIV			pmax	pmax		
	comp=Z,75nm,1.1s					
KIV	Kislovodsk	19.06 332	P	Pn	Pn	21 04 16.2 +1.6
	comp=Z,75nm,1.0s					
TRKS	Terek-Say	19.20 40	P	P	Pn	21 04 15.7 +0.3
BRLS	Borolday	19.54 34	*e*P	P	Pn	21 04 16.7 -2.4
	baz=34					
BRLS			*e*S	S	Pn	21 07 54.1 -4.9
	baz=34					
BRLS	Borolday	19.54 34	*e*P	P	Pn	21 04 16.6 -2.4
BRLS			*e*S	S	Pn	21 07 54.1 -4.9
OHH	Osh	19.55 44	P	Pn	Pn	21 04 21.6 +1.1
ATD	Arta Tunnel	19.63 218	P	P	Pn	21 04 20.1 -0.1
	comp=Z,0.1nm,0.3s,baz=339,slow=14,SNR=5.1					
ARK	Arkit	19.84 40	P	Pn	Pn	21 04 25.3 +1.3
VSLR	Vesyoloye	19.88 327	*d i* P	Pn	Pn	21 04 24.1 -0.2
VSLR			pmax	pmax		
	comp=Z,82nm,1.1s					
KK31	Karatay Array	19.94 35	P	P	Pn	21 04 23.1 -0.3
KK31			IAmb	IAmb		21 04 34.0
	comp=Z,38nm,0.8s					
KK31	Karatay Array	19.94 35	P	P	Pn	21 04 23.1 -0.3
KK31			pmax	pmax		
	comp=Z,38nm,0.8s					
KKAR	Karatay Array	19.94 35	P	P	Pn	21 04 23.2 -0.1
KKAR			IAmb	IAmb		21 04 34.0
	comp=Z,38nm,0.8s					
KKAR	Karatay Array	19.94 35	P	P	Pn	21 04 22.8 -0.6
KKAR	Karatay Array	19.94 35	P	P	Pn	21 04 22.8 -0.6
SOC	Sochi	20.12 326	*e*P	P	Pn	21 04 24.2 -1.1
SOC			*e*			21 04 40.8
SOC			*e*PPP	PPP		21 04 46.9
SOC			*e*S	S		21 08 10.5 +0.1
SOC			*e*SSS	SSS		21 08 36.8
SOC			pmax	pmax		
	comp=Z,24nm,0.6s					
SOC			MLR	MLR		
	comp=Z,250nm,16.0s					
ARSB	Arslanbob	20.14 43	P	P	Pn	21 04 25.8 +0.1
ARSB	Arslanbob	20.14 43	P	P	Pn	21 04 25.8 +0.1
ARSB			pmax	pmax		
	comp=Z,8.0nm,0.9s					
AML	Almayashu	21.05 42	P	P	Pn	21 04 36.1 +0.3
	SNR=30					
KSH	Kashi	21.10 50	P	P	Pn	21 04 30.6 -5.5
KSH			pP	pP		21 04 33.4 -8.5
KSH			pmax	pmax		
	comp=Z,5.0nm,0.5s					
ARLS	Aral	21.27 43	P	P	Pn	21 04 38.5 +0.6
BR131	Keskin Array S	21.39 310	P	P	Pn	21 04 39.8 +0.5
BR131			IAmb	IAmb		21 04 44.7
	comp=Z,34nm,0.7s					
BR131	Keskin Array S	21.39 310	P	P	Pn	21 04 39.8 +0.5
BR131			pmax	pmax		
	comp=Z,34nm,0.7s					
BRTR	Keskin Array B	21.39 310	P	P	Pn	21 04 39.5 +0.3
BRTR	Keskin Array B	21.39 310	P	P	Pn	21 04 40.1 +0.8
	comp=Z,25nm,0.7s,baz=130,slow=13,SNR=156					
BRTR			PcP	PcP	Pn	21 08 41.2 -1.4
	comp=Z,1.4nm,0.9s,baz=121,slow=2.9,SNR=3.3					
	comp=Z,25nm,0.7s					
BR105	Keskin Array S	21.40 310	P	P	Pn	21 04 40.1 +0.7
	comp=Z,43nm,0.7s,comp=Z,357nm					
BR106	Keskin Array S	21.41 310	P	P	Pn	21 04 40.0 +0.5
	comp=Z,47nm,0.8s,comp=Z,384nm					
EKS2	Erkin-Say	21.43 41	P	P	Pn	21 04 40.5 +0.9
	SNR=31					
UCH	Uchtor	21.60 43	P	P	Pn	21 04 42.3 +0.5
	SNR=11					
AAK	Ala-Archa	21.83 42	P	P	Pn	21 04 45.4 +1.4
AAK			IAmb	IAmb		21 04 53.6
	comp=Z,71nm,1.3s					
AAK	Ala-Archa	21.83 42	P	P	Pn	21 04 45.1 +1.1
	comp=Z,9.0nm,0.6s,baz=210,slow=8.4,SNR=8.1					
	comp=Z,9.0nm,0.6s					
AAK	Ala-Archa	21.83 42	P	P	Pn	21 04 45.7 +1.7
AAK	Ala-Archa	21.83 42	*de*P	P	Pn	21 04 45.3 +1.4
AAK			pmax	pmax		
	comp=Z,38nm,0.9s					
ABKAR	Akbulak array	21.94 9	P	P	Pn	21 04 45.2 +0.3
ABKAR	Akbulak array	21.94 9	IAmb	IAmb		21 04 53.8
	comp=Z,45nm,0.9s					
FRU1	Bishkek	22.02 41	P	P	Pn	21 04 50.2 +4.4
ANTO	Ankara	22.04 309	P	P	Pn	21 04 47.0 +0.9
ANTO	Ankara	22.04 309	P	P	Pn	21 04 47.4 +1.3
ANTO	Ankara	22.04 309	⇑P	P	Pn	21 04 46.6 +0.5
ANTO	Ankara	22.04 309	P	P	Pn	21 04 47.0 +0.9
ANTO			pmax	pmax		
	comp=Z,158nm,1.5s					
ANTO	Ankara	22.04 309	P	P	Pn	21 04 47.0 +0.9
	comp=Z,33nm,1.0s

RDO Rodhopi 27.62 307 P **P** **21 05 39.1 +0.3**
LPSR Galich'ya Gora 27.67 339 *e*P **P** **21 05 38.1 -1.0**
LPSR pmax pmax
comp=Z,20nm,0.9s
BRVK Borovoye 27.84 20 P **P** **21 05 40.8 +0.1**
BRVK IAmb IAmb 21 05 47.3
comp=Z,18nm,0.6s
BRVK Borovoye 27.84 20 P **P** **21 05 41.5 +0.8**
BRVK Borovoye 27.84 20*ce*P **P** **21 05 41.1 +0.4**
BRVK pmax pmax
comp=Z,23nm,1.3s
BVAR Borovoye Array 27.85 20 P **P** **21 05 41.4 +0.6**
comp=Z,39nm,0.9s,baz=208,slow=6.8,SNR=58
BVAR PcP **PcP** **21 08 56.5 +0.2**
comp=Z,1.9nm,0.5s,baz=216,slow=2.3,SNR=5.3
comp=Z,39nm,0.9s
VLDR Vladesti 27.98 318 ⇑P **P** **21 05 42.0 0.0**
MAKZ Makanchi 28.59 41 P **P** **21 05 48.1 +0.6**
MAKZ IAmb IAmb 21 05 57.8
comp=Z,16nm,1.0s
MAKZ Makanchi 28.59 41 P **P** **21 05 48.1 +0.6**
MAKZ pmax pmax
comp=Z,15nm,1.0s
MK31 Makanchi Array 28.76 41 P **P** **21 05 49.2 +0.2**
MK31 Makanchi Array 28.76 41 P **P** **21 05 49.2 +0.2**
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 28.76 41 P **P** **21 05 49.2 +0.2**
MKAR Makanchi Array 28.76 41 P **P** **21 05 49.4 +0.4**
comp=Z,2.7nm,0.6s,baz=229,slow=8.6,SNR=28
MKAR PcP **PcP** **21 08 57.8 -1.0**
comp=Z,0.9nm,0.6s,baz=244,slow=3.6,SNR=2.0
comp=Z,2.7nm,0.6s
VRI Vrincioaia 28.81 317 ⇑P **P** **21 05 50.3 +0.8**
VRI Vrincioaia 28.81 317 P **P** **21 05 50.2 +0.8**
VRI Vrincioaia 28.81 317 P **P** **21 05 52.2 +2.8**
comp=Z,3.3nm,0.7s
PLOR5 Plostina Array 28.84 317 P **P** **21 05 52.6 +2.9**
comp=Z,16nm,1.2s
PLOR Plostina 28.85 317 ⇑P **P** **21 05 50.6 +0.7**
PLOR Plostina 28.85 317 P **P** **21 05 50.5 +0.7**
PLOR3 Plostina Array 28.85 317 P **P** **21 05 51.6 +1.8**
comp=Z,5.4nm,0.7s
ARU Arti 28.90 4 P **P** **21 05 50.9 +0.8**
ARU Arti 28.90 4*c i*P **P** **21 05 50.6 +0.5**
ARU S **S** **21 10 38.2 -1.2**
ARU pmax pmax
comp=Z,7.0nm,1.1s
ARU Arti 28.90 4 P **P** **21 05 52.2 +2.1**
comp=Z,11nm,0.9s
SORM Soroca 29.08 322 P **P** **21 05 51.1 -0.7**
comp=Z,10nm,0.5s
MLR Muntele Rosu 29.11 315 ⇓P **P** **21 05 52.4 +0.1**
MLR Muntele Rosu 29.11 315 P **P** **21 05 52.3 +0.1**
MLR Muntele Rosu 29.11 315 P **P** **21 05 54.7 +2.5**
comp=Z,8.0nm,1.3s
COVR Voineasa-Covas 29.12 316 ⇓P **P** **21 05 52.7 +0.6**
KURBB Kurchatov Arra 29.13 32 P **P** **21 05 52.9 +0.7**
comp=Z,9.9nm,1.0s,baz=230,slow=8.4,SNR=19
KURBB PcP **PcP** **21 08 58.9 -0.7**
comp=Z,2.8nm,0.9s,baz=224,slow=2.3,SNR=3.6
comp=Z,9.9nm,1.0s
TESR Tescani 29.18 318 ⇓P **P** **21 05 53.0 +0.3**
TESR Tescani 29.18 318 P **P** **21 05 55.0 +2.3**
comp=Z,19nm,0.8s
KURK Kurchatov 29.23 32 P **P** **21 05 53.6 +0.6**
KURK Kurchatov 29.23 32 P **P** **21 05 54.6 +1.5**
KURK Kurchatov 29.23 32*de*P **P** **21 05 54.0 +0.9**
KURK pmax pmax
comp=Z,31nm,2.5s
TURR Turia 29.34 317 ⇑P **P** **21 05 54.4 +0.3**
AGG Agios Georgios 29.38 301 P **P** **21 05 53.5 -1.1**
AGG Agios Georgios 29.38 301 P **P** **21 05 53.5 -1.1**
AGG pmax pmax
comp=Z,17nm,1.3s
SVE Sverdlovsk 29.47 6 *e*P **P** **21 05 56.1 +1.0**
VOIR 29.65 315 ⇓P **P** **21 05 57.7 +0.8**
VOIR 29.65 315 P **P** **21 05 57.7 +0.8**
VOIR 29.65 315 P P 21 06 03.4 +6.5
DOPR Dopca 29.68 316 ⇑P **P** **21 05 56.7 -0.4**
AKASG Malin Array Be 30.20 327 P **P** **21 05 59.8 -1.9**
AKASG Malin Array Be 30.20 327 P **P** **21 06 01.0 -0.6**
comp=Z,5.0nm,0.6s,baz=137,slow=8.4,SNR=38
AKASG PcP **PcP** **21 09 01.4 -0.9**
comp=Z,0.9nm,0.5s,baz=96,slow=2.5,SNR=3.7
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 30.20 327 P **P** **21 05 59.8 -1.9**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKBB Malin Array Si 30.20 327*ce*P **P** **21 06 00.8 -0.8**
KIEV Kiev 30.20 327 P **P** **21 06 01.0 -0.7**
KIEV IAmb IAmb 21 06 01.8
comp=Z,18nm,1.1s
KIEV Kiev 30.20 327 *i* P **P** **21 06 01.1 -0.7**
SNR=14
KIEV Kiev 30.20 327 P **P** **21 06 01.0 -0.7**
KIEV pmax pmax
comp=Z,18nm,1.1s
KIEV Kiev 30.20 327 P **P** **21 06 00.8 -0.9**
comp=Z,60nm,0.8s
LODK Lodwar 30.48 221 P **P** **21 06 06.4 +1.9**
SRE Strehaia 30.51 312 ⇑P **P** **21 06 04.1 -0.4**
SRE Strehaia 30.51 312 P **P** **21 06 04.0 -0.4**
FNA Florina 30.52 304 P **P** **21 06 04.8 +0.1**
FNA IAmb IAmb 21 06 14.3
comp=Z,16nm,0.9s
FNA Florina 30.52 304 P **P** **21 06 04.8 +0.1**
FNA pmax pmax
comp=Z,16nm,0.9s
OBN Obninsk 30.54 339 P **P** **21 06 04.9 +0.3**
OBN Obninsk 30.54 339 ⇓P **P** **21 06 05.2 +0.7**
OBN Obninsk 30.54 339*c i*P **P** **21 06 05.1 +0.5**
OBN *e* 21 07 00.7
OBN *e*PPP PPP 21 07 13.7
OBN *e* 21 09 02.6
OBN pmax pmax
comp=Z,62nm,1.3s
OBN MLR MLR
comp=Z,249nm,14.0s
OBN Obninsk 30.54 339 P **P** **21 06 06.0 +1.4**
comp=Z,52nm,0.7s
BURAR Bucovina Array 30.58 319 P **P** **21 06 04.8 -0.3**
BURAR Bucovina Array 30.58 319 ⇑P **P** **21 06 05.3 +0.1**
BUR08 Bucovina Ar. S 30.61 319 P **P** **21 06 04.9 -0.5**
ZSN Zaisan 30.61 42 *e*P **P** **21 06 06.2 +0.8**
baz=42
ZSN Zaisan 30.61 42 *e*P **P** **21 06 06.1 +0.8**
MOS Moscow 30.75 341 *e*P **P** **21 06 06.7 +0.3**
WMQ Urumqi 30.86 50 *e*P **P** **21 06 12.4 +4.7**
WMQ pmax pmax
comp=Z,20nm,0.7s
HERR Herculane 31.11 312 ⇑P **P** **21 06 09.4 -0.4**
KIRV Kirov 31.19 354*d i*P **P** **21 06 11.2 +1.0**
MDVR Moldovita 31.54 312 ⇑P **P** **21 06 13.8 +0.2**
PALK Pallekele 31.70 125 P **P** **21 06 18.7 +3.4**
DRGR 31.70 316 ⇑P **P** **21 06 15.4 +0.3**
DRGR 31.70 316 P **P** **21 06 15.4 +0.3**
TIR Tirane 31.77 305 ⇑P **P** **21 06 14.4 -1.2**
TIR Tirane 31.77 305 P **P** **21 06 14.3 -1.2**
BZS Buzias 31.91 313 ⇑P **P** **21 06 16.8 0.0**
BZS Buzias 31.91 313 P **P** **21 06 16.8 0.0**
PUK Puka 31.92 306 P **P** **21 06 16.4 -0.7**
SIRR Siria 32.14 314 ⇑P **P** **21 06 19.2 +0.3**
FRGS Fruska Gora 32.93 311 P **P** **21 06 29.1 +3.3**
comp=Z,8.2nm,1.2s
KOLS Kolonicke sedl 32.94 319 *e*P **P** **21 06 27.0 +1.2**
KOLS pmax pmax
comp=Z,20nm,1.1s
KOLS Kolonicke sedl 32.94 319 *e*P **P** **21 06 27.0 +1.2**
SHL Shillong 33.01 85 P **P** **21 06 26.0 -0.9**
SHL IAmb IAmb 21 06 30.2
comp=Z,17nm,0.7s
SHL Shillong 33.01 85 P **P** **21 06 26.3 -0.6**
SNR=9.3
SHL Shillong 33.01 85 P **P** **21 06 26.0 -0.9**
SHL pmax pmax
comp=Z,17nm,0.7s
KMBO Kilima Mbogo 33.27 214 P **P** **21 06 29.4 +0.2**
KMBO Kilima Mbogo 33.27 214 *i* P **P** **21 06 31.1 +1.9**
SNR=7.4
KMBO Kilima Mbogo 33.27 214 P **P** **21 06 31.1 +1.9**
KMBO Kilima Mbogo 33.27 214 P **P** **21 06 29.4 +0.2**
KMBO pmax pmax
comp=Z,11nm,1.1s

MNK Minsk 33.33 331 *i* P **P** **21 06 29.0 -0.2**
comp=E,4.0nm,0.9s
MNK *i* P **P** **21 06 29.0 -0.2**
comp=N,11nm,0.8s
MNK *i* P **P** **21 06 29.0 -0.2**
comp=Z,15nm,0.8s,baz=133
MNK *i* PP **PnPn** **21 07 39.9 +0.1**
MNK *i* PPP PPP 21 07 50.8
MNK *i* PcP **PcP** **21 09 10.5 -0.2**
MNK *i* S **S** **21 11 51.0 +2.2**
MNK *i* SS **SnSn** **21 13 41.5 -8.4**
MNK *i* LQ LQ 21 17 48.5
MNK *i* LR LR 21 19 34.7
MNK *i* LRM MLR 21 21 21.9
comp=E,108nm,12.2s
MNK *i* LRM MLR 21 21 35.4
comp=Z,229nm,12.2s
MNK *i* LRM MLR 21 21 38.0
comp=N,268nm,12.9s
MNK Minsk 33.33 331 *i* P **P** **21 06 28.9 -0.2**
MNK *i* 21 07 39.8
MNK *i* 21 09 10.4
MNK *i* S **S** **21 11 50.9 +2.2**
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=N,11nm,0.9s
MNK MLR MLR
comp=E,108nm,12.0s
MNK MLR MLR
comp=Z,229nm,12.0s
MNK MLR MLR
comp=N,268nm,13.0s
CRVS Cervenica-Dubn 33.40 319 *e*P **P** **21 06 30.3 +0.4**
CRVS pmax pmax
comp=Z,20nm,1.4s
CRVS Cervenica-Dubn 33.40 319 *e*P **P** **21 06 30.2 +0.4**
TIP Timpagrande 33.67 300 P **P** **21 06 32.0 -0.3**
TIP IAmb IAmb 21 06 34.6
comp=Z,26nm,1.1s
TIP Timpagrande 33.67 300 ⇑P **P** **21 06 30.9 -1.5**
STON Ston 33.71 307 *i* P **P** **21 06 30.2 -2.3**
PSZ Piszkesteto 33.92 316 ⇑P **P** **21 06 34.9 +0.4**
PSZ Piszkesteto 33.92 316 P **P** **21 06 34.8 +0.4**
KIBK Kibwezi 33.95 211 P **P** **21 06 36.6 +1.6**
MORH Mrgy, Hungar 34.06 313 ⇑P **P** **21 06 35.6 0.0**
MORH Mrgy, Hungar 34.06 313 P **P** **21 06 35.8 +0.2**
comp=Z,6.4nm,1.1s
NACGM Naroch 34.08 331 *e*P **P** **21 06 39.7 +4.1**
comp=E,1μm,1.1s,baz=132
ZAA0 Zalesovo Array 34.23 32 P **P** **21 06 36.9 0.0**
ZAA0 IAmb IAmb 21 06 47.5
comp=Z,16nm,0.8s
ZALV Zalesovo Beam 34.23 32 P **P** **21 06 37.0 +0.1**
ZALV Zalesovo Beam 34.23 32 P **P** **21 06 36.9 0.0**
comp=Z,13nm,0.6s,baz=243,slow=9.4,SNR=36
ZALV PcP **PcP** **21 09 12.3 -1.0**
comp=Z,1.5nm,0.6s,baz=234,slow=1.8,SNR=1.7
comp=Z,13nm,0.6s
RICI Ricice 34.27 308 *i* P **P** **21 06 35.8 -1.6**
LANS Liptovska Anna 34.69 318 *e*P **P** **21 06 41.7 +0.7**
LANS pmax pmax
comp=Z,8.0nm,1.0s
LANS Liptovska Anna 34.69 318 *e*P **P** **21 06 41.7 +0.7**
VYHS Vyhne 34.80 317 *e*P **P** **21 06 41.9 -0.1**
VYHS pmax pmax
comp=Z,7.0nm,1.2s
VYHS Vyhne 34.80 317 *e*P **P** **21 06 41.9 -0.1**
ISAL Salakas 34.80 331 *e*P **P** **21 06 43.5 +1.7**
SRO Srobarova 34.85 315 *e*P **P** **21 06 43.2 +0.8**
SRO pmax pmax
comp=Z,10.0nm,0.9s
SRO Srobarova 34.85 315 *e*P **P** **21 06 43.2 +0.8**
KIJV Kijevo 34.91 308 *i* P **P** **21 06 42.0 -0.9**
OJC Ojcow 34.96 320 P **P** **21 06 43.2 -0.2**
comp=Z,15nm,1.2s
SUW Suwalki 35.16 327 *e*P **P** **21 06 45.3 +0.3**
MORI Morici 35.36 308 *i* P **P** **21 06 46.0 -0.9**
JAVC Velka Javorina 35.65 317 *e*P **P** **21 06 49.9 +0.5**
SMOL Smolenice 35.67 316 *e*P **P** **21 06 50.3 +0.9**
PABE Paberze 35.70 330 P **P** **21 06 49.7 +0.1**
PABE Paberze 35.70 330 *e*P **P** **21 06 49.9 +0.3**
MODS Modra-Piesok 35.71 316 *e*P **P** **21 06 50.3 +0.5**
MODS pmax pmax
comp=Z,18nm,1.3s
MODS Modra-Piesok 35.71 316 *e*P **P** **21 06 50.3 +0.5**
MAUC Maruska 35.75 318 *e*P **P** **21 06 50.5 +0.3**
DUGI Dugi Otok 35.85 308 *i* P **P** **21 06 49.9 -1.1**
VIRC Vir 35.92 308 *i* P **P** **21 06 50.8 -0.8**
RONA Rosalia, Austr 36.08 314 *e*P **P** **21 06 52.8 -0.2**
comp=Z,4.1nm,0.6s
MORC Moravsky Berou 36.09 318 *e*P **P** **21 06 52.5 -0.6**
MORC Moravsky Berou 36.09 318 ⇑P **P** **21 06 52.4 -0.6**
MORC Moravsky Berou 36.09 318 P **P** **21 06 52.4 -0.6**
INTR Introdacqua 36.27 304 IAmb IAmb 21 06 56.8
comp=Z,31nm,1.3s
ARSA Arzberg 36.43 313 *i* pP **P** **21 06 57.4 +1.3**
comp=Z,3.7nm,1.0s
CONA Conrad Observa 36.44 314 *e*P **P** **21 06 56.5 +0.4**
comp=Z,4.9nm,1.1s
MBAR Mbarara 36.45 224 P **P** **21 06 57.5 +0.9**
MBAR Mbarara 36.45 224*ce*P **P** **21 06 57.9 +1.3**
MBAR pmax pmax
comp=Z,11nm,1.7s
VRAC Vranov 36.48 317 *e*P **P** **21 06 55.9 -0.5**
KRUC Moravsky 36.51 316 *e*P **P** **21 06 56.3 -0.3**
VSU Vasula 36.55 335*c i*P **P** **21 06 56.8 0.0**
VSU pmax pmax
comp=Z,44nm,0.8s
SOKA Soboth 36.58 312 *e*P **P** **21 06 57.3 -0.1**
comp=Z,3.4nm,1.3s
KRLC Kraliky 36.66 318 *e*P **P** **21 06 57.4 -0.6**
KRLC Kraliky 36.66 318 *e*P **P** **21 06 57.4 -0.6**
OBKA Obir 36.85 312 *i* P **P** **21 07 00.5 +0.8**
comp=Z,5.1nm,1.2s
PBUR Paburge 36.93 329 *e*P **P** **21 07 00.2 +0.2**
BRJN Brijuni 36.97 309 *i* P **P** **21 07 00.2 -0.3**
NRCA Norcia 36.99 305 P **P** **21 07 00.8 -0.1**
NRCA IAmb IAmb 21 07 39.2
comp=Z,17nm,0.9s
DPC Dobruska-Polom 37.04 318 *e*P **P** **21 07 00.9 -0.3**
DPC Dobruska-Polom 37.04 318 *e*P **P** **21 07 00.9 -0.3**
DPC Dobruska-Polom 37.04 318 P **P** **21 07 01.1 -0.1**
comp=Z,7.6nm,1.1s
OSTC Ostas 37.18 319 *e*P **P** **21 07 02.1 -0.3**
OSTC Ostas 37.18 319 *e*P **P** **21 07 02.1 -0.3**
KSP Ksiaz 37.25 319 P **P** **21 07 03.1 +0.2**
CESX Cesi 37.34 305 IAmb IAmb 21 07 05.1
comp=Z,25nm,1.2s
MOA Molln 37.43 314 *i* P **P** **21 07 04.1 -0.4**
comp=Z,8.0nm,1.3s
MOA *e*S **S** **21 12 54.5 +2.6**
comp=Z,1.5nm,1.1s
MYKA Terra Mystica 37.48 312 *e*P **P** **21 07 04.0 -1.0**
comp=Z,0.6nm,0.3s
ARBE Arbavere 37.52 336 *e*P **P** **21 07 05.6 +0.6**
CKRC Cesky Krumlov 37.71 315 *e*P **P** **21 07 06.4 -0.5**
CKRC Cesky Krumlov 37.71 315 *e*P **P** **21 07 06.4 -0.5**
BIOA Bad Ischl, Aus 37.78 313 *i* P **P** **21 07 06.8 -0.7**
comp=Z,5.9nm,1.1s,SNR=5.7
KBA Koelnbreinsper 37.80 312 *i* P **P** **21 07 07.7 -0.1**
comp=Z,9.9nm,0.8s,SNR=7.1
MTSE Matsula 37.84 334 *e*P **P** **21 07 08.3 +0.6**
ADZR Andozero 37.88 348 *e*P **P** **21 07 07.7 -0.3**
ADZR pmax pmax
comp=Z,12nm,0.6s
GERES GERESS Array B 38.10 315 P **P** **21 07 09.6 -0.7**
comp=Z,0.7nm,0.4s,baz=125,slow=8.8,SNR=7.6
GERES PcP **PcP** **21 09 24.6 -0.4**
comp=Z,1.1nm,0.7s,baz=107,slow=3.3,SNR=3.3
comp=Z,0.7nm,0.4s
ABTA Abfaltersbach 38.26 311 *e*P **P** **21 07 11.4 -0.2**
comp=Z,11nm,1.2s,SNR=6.1
KHC Kasperske Hory 38.27 315 P **P** **21 07 11.2 -0.4**
KHC Kasperske Hory 38.27 315 *e*P **P** **21 07 11.1 -0.4**
KHC Kasperske Hory 38.27 315 ⇑*e*P **P** **21 07 10.7 -0.9**
KHC pmax pmax
comp=Z,34nm,1.5s
LESA Schwarzleotal 38.33 313 *i* P **P** **21 07 11.2 -1.1**
comp=Z,2.6nm,0.4s
JOF Joensuu 38.55 343 *e*P **P** **21 07 14.4 +0.8**
MEF Metsahovi 38.64 336 *e*P **P** **21 07 14.8 +0.3**

BRG Berggiesshubel 38.64 318 *e*P **P** **21 07 14.4 -0.2**
BRG Amp 21 07 16.0
comp=Z,5.3nm,0.9s
BRG Berggiesshubel 38.64 318 P P 21 07 23.1 +8.5
BRG Amp 21 07 23.9
comp=Z,4.0nm,0.8s
BRG ⇑PP **PcP** **21 09 26.5 0.0**
BRG Amp 21 09 27.2
comp=Z,3.2nm,0.9s
BRG Berggiesshubel 38.64 318 *e*P **P** **21 07 14.4 -0.2**
BRG 21 07 23.1
BRG 21 09 26.5
BRG pmax pmax
comp=Z,5.0nm,0.9s
GTA Gaotai 38.85 61 *e*P **P** **21 07 17.4 +0.7**
GTA pmax pmax
comp=Z,15nm,1.1s
FIA1 FINESS Array S 38.94 338 P **P** **21 07 17.1 +0.2**
FINES FINESS Array B 38.94 338 P **P** **21 07 17.0 0.0**
FINES FINESS Array B 38.94 338 P **P** **21 07 17.0 0.0**
comp=Z,11nm,0.5s,baz=141,slow=9.3,SNR=135
comp=Z,11nm,0.5s
WTTA Wattenberg 38.98 312 *i* P **P** **21 07 17.0 -0.7**
comp=Z,16nm,0.8s,SNR=9.7
WTTA *i* S **S** **21 13 13.9 -1.6**
comp=Z,4.5nm,0.9s
TNCH TengChong 38.99 84 P **P** **21 07 19.6 +1.5**
TNCH pP pP 21 07 22.8 -1.6
TNCH pmax pmax
comp=Z,74nm,0.9s
WATA Walderalm 39.03 312 *i* P **P** **21 07 17.4 -0.8**
comp=Z,14nm,0.8s,SNR=10
WATA *e*S **S** **21 13 16.9 +0.5**
comp=Z,3.0nm,1.0s
KRAR Krasnoyarsk 39.22 33⇓*e*P **P** **21 07 21.0 +1.6**
SQTA Sankt Quirin 39.25 312 *i* P **P** **21 07 19.0 -0.9**
comp=Z,7.8nm,0.4s,SNR=15
SQTA *e*ScP **ScP** **21 13 17.6 +1.4**
comp=Z,4.3nm,1.5s
CLL Collm 39.35 319 *i* P **P** **21 07 20.2 -0.4**
comp=Z,15nm,1.2s
CLL Collm 39.35 319 *i* P **P** **21 07 20.2 -0.4**
CLL pmax pmax
comp=Z,15nm,1.2s
KEST Kesra 39.36 294 P **P** **21 07 21.6 +0.7**
comp=Z,13nm,0.9s,baz=35,slow=3.1,SNR=17
comp=Z,13nm,0.9s
FETA Feichten 39.52 311 *i* P **P** **21 07 21.6 -0.6**
comp=Z,18nm,0.8s,SNR=14
FETA *i* S **S** **21 13 22.8 -0.9**
comp=Z,5.5nm,1.4s
RETA Reutte 39.61 312 *i* P **P** **21 07 21.3 -1.5**
comp=Z,2.2nm,0.5s,SNR=5.2
RETA *i* ScP **ScP** **21 13 21.2 +3.6**
comp=Z,0.2nm,0.3s
FUORN Ofenpass-Fuorn 39.74 311 P **P** **21 07 24.1 -0.1**
BSD Bornholm Skovb 39.84 325 *e*P **P** **21 07 23.5 -1.1**
KEF Keuruu 39.86 338 *e*P **P** **21 07 25.2 +0.6**
GRFO Grafenberg 39.90 316 P **P** **21 07 24.2 -0.9**
GRFO Grafenberg 39.90 316 P **P** **21 07 24.3 -0.9**
GRFO pmax pmax
comp=Z,12nm,0.9s
DAVA Damuels 40.14 312 *i* P **P** **21 07 26.5 -1.0**
comp=Z,17nm,0.4s,SNR=26
DAVA *i* S **S** **21 13 34.9 +1.8**
comp=Z,2.0nm,0.8s
RAF Rauma 40.14 336 *e*P **P** **21 07 27.0 0.0**
CHTO Chiang Mai 41.20 93 P **P** **21 07 37.2 +1.0**
CHTO Chiang Mai 41.20 93 P **P** **21 07 37.3 +1.0**
CHTO pmax pmax
comp=Z,21nm,1.3s
VAF Ylistaro 41.20 338 *e*P **P** **21 07 35.8 +0.1**
CMAR Chiang Mai Arr 41.32 93 P **P** **21 07 38.1 +0.8**
comp=Z,3.9nm,0.8s,baz=290,slow=9.3,SNR=13
CMAR PcP **PcP** **21 09 35.4 -0.3**
comp=Z,2.0nm,0.8s,baz=281,slow=5.2,SNR=5.1
comp=Z,3.9nm,0.8s
PZH PanZhiHua 41.49 80 P **P** **21 07 40.8 +2.0**
PZH pmax pmax
comp=Z,20nm,0.9s
MSF Maaselka 41.57 344 P **P** **21 07 38.2 -0.5**
SENIN Lac Senin/Sane 41.70 310 P **P** **21 07 38.9 -1.5**
SENIN IAmb IAmb 21 07 48.8
comp=Z,31nm,0.9s
MOY Mondy 41.89 42 *e*P **P** **21 07 43.2 +1.5**
BNI Bardonecchia 41.93 308 P **P** **21 07 40.9 -1.3**
BNI Bardonecchia 41.93 308 P **P** **21 07 40.9 -1.3**
BNI pmax pmax
comp=Z,10.0nm,0.9s
LPL La Plagne 41.96 308 *e*P **P** **21 07 40.4 -2.1**
LPL pmax pmax
comp=Z,9.0nm,0.6s
LZH Lanzhou 42.02 66 *e*P **P** **21 07 43.9 +0.9**
LZH sP sP 21 07 52.4 +0.6
LZH pmax pmax
comp=Z,20nm,1.5s
LVZ Lovozero 42.11 349 P **P** **21 07 42.8 -0.4**
LVZ IAmb IAmb 21 08 20.4
comp=Z,64nm,1.9s
LVZ Lovozero 42.11 349 P **P** **21 07 42.8 -0.4**
LVZ pmax pmax
comp=Z,65nm,1.9s
PHRA Phrae 42.45 92 P **P** **21 07 47.6 +1.2**
KMI Kunming 42.68 82 ⇓P **P** **21 07 49.8 +1.1**
KMI pmax pmax
comp=Z,21nm,1.0s
HFS Hagfors 42.85 331 P **P** **21 07 48.9 -0.3**
comp=Z,12nm,0.4s,baz=120,slow=8.8,SNR=130
comp=Z,12nm,0.4s
ZAK Zakamensk 42.95 45 *e*P **P** **21 07 50.0 -0.3**
ZAK pmax pmax
comp=Z,3.0nm,1.5s
WLF Walferdange 43.08 314 *d*P **P** **21 07 49.6 -1.7**
comp=Z,6.6nm,1.0s
BTNL Ternell 43.30 316 *d*P **P** **21 07 54.8 +1.8**
MEM Membach 43.38 316 *d*P **P** **21 07 54.3 +0.7**
comp=Z,4.2nm,1.1s
SSB Saint Sauveur 43.46 308 P **P** **21 07 52.6 -1.8**
SSB Saint Sauveur 43.46 308 P **P** **21 07 52.6 -1.8**
SSB pmax pmax
comp=Z,16nm,1.5s
RCHB Rochefort 43.77 315 *d*P **P** **21 07 55.1 -1.7**
comp=Z,3.8nm,0.7s
BCLA Clavier 43.78 315 *d*P **P** **21 07 56.5 -0.3**
comp=Z,4.5nm,1.1s
BGES Gesves 43.91 315 *d*P **P** **21 07 58.2 +0.3**
comp=Z,5.1nm,1.0s
OSL Oslo 44.06 330 *e*P **P** **21 07 59.0 +0.1**
OSL IAmb IAmb 21 07 59.6
comp=Z,59nm,1.3s
NC602 NORSAR Array S 44.08 331 P **P** **21 07 58.2 -0.9**
NC602 IAmb IAmb 21 08 08.8
comp=Z,32nm,1.6s
NC602 NORSAR Array S 44.08 331 *e*P **P** **21 07 58.5 -0.6**
NC602 IAmb IAmb 21 07 59.1
comp=Z,8.3nm,0.8s
BMRD Maredsous 44.09 315 *d*P **P** **21 07 59.8 +0.5**
SMF Signal de Mont 44.10 310 *e*P **P** **21 07 57.7 -1.9**
SMF pmax pmax
comp=Z,16nm,0.9s
DOU Dourbes 44.16 315 *d*P **P** **21 08 00.0 +0.1**
comp=Z,8.4nm,1.0s
NC405 NORSAR Array S 44.19 331 P **P** **21 07 59.4 -0.6**
NB201 NORSAR Array S 44.33 331 P **P** **21 08 00.5 -0.7**
NB2 NORSAR Subarra 44.36 331 P **P** **21 08 00.4 -1.1**
comp=Z,2.1nm,0.4s,baz=113,slow=7.9
NB2 NORSAR Subarra 44.36 331 P **P** **21 08 00.4 -1.1**
baz=113,slow=7.9
NOA NORSAR Array B 44.36 331 P **P** **21 08 00.7 -0.8**
comp=Z,9.1nm,0.6s,baz=120,slow=7.5,SNR=51
comp=Z,9.1nm,0.6s
KONO Kongsberg 44.44 329 *e*P **P** **21 08 01.8 -0.3**
SONM Songino Array 44.49 49 P **P** **21 08 02.9 +0.2**
comp=Z,2.9nm,0.9s,baz=259,slow=9.0,SNR=16
comp=Z,2.9nm,0.9s
NBO00 NORSAR Array S 44.55 331 P **P** **21 08 02.1 -0.8**
NBO00 IAmb IAmb 21 08 03.8
comp=Z,25nm,1.4s
NC204 NORSAR Array S 44.67 331 P **P** **21 08 03.3 -0.6**
NC204 IAmb IAmb 21 08 04.8
comp=Z,11nm,0.9s
TAM Tamanrasset 44.74 275 P **P** **21 08 04.9 -0.3**
TAM IAmb IAmb 21 08 06.6
comp=Z,12nm,0.9s
TAM Tamanrasset 44.74 275 P **P** **21 08 04.9 -0.3**
TAM pmax pmax

comp=Z,12nm,0.9s
ULN Ulaanbaatar 44.93 49 P P 21 08 06.6 +0.2
ULN Ulaanbaatar 44.93 49⇓ eP P 21 08 07.1 +0.8
ULN pmax pmax
comp=Z,29nm,3.4s
VADS Vadso 45.00 348 eP P 21 08 07.1 +0.8
NAYO Nakonayok 45.03 97 P P 21 08 09.8 +2.5
KEV Kevo 45.15 347 P P 21 08 07.7 +0.1
KEV Kevo 45.15 347 P P 21 08 07.7 +0.1
KEV pmax pmax
comp=Z,92nm,1.8s
CAF Calviac 45.17 307 eP P 21 08 06.8 -1.4
CAF pmax pmax
comp=Z,6.0nm,0.6s
ARCES ARCESS Array B 45.29 346 P P 21 08 08.8 +0.1
ARCES IAmb IAmb 21 08 59.9
comp=Z,31nm,1.6s
ARCES ARCESS Array B 45.29 346 P P 21 08 09.1 +0.3
comp=Z,1.4nm,0.5s,baz=146,slow=9.9,SNR=20
comp=Z,1.4nm,0.5s
ARCES ARCESS Array B 45.29 346 P P 21 08 08.8 +0.1
ARCES pmax pmax
comp=Z,31nm,1.6s
KTK1 Kautokeino 45.40 345 eP P 21 08 09.5 -0.1
KTK1 IAmb IAmb 21 08 10.5
comp=Z,17nm,1.2s
CEST Esterri de Car 45.66 304 P P 21 08 12.2 0.0
CEST IAmb IAmb 21 08 13.3
comp=Z,33nm,1.6s
DOMB Dombas 45.74 332 eP P 21 08 11.0 -1.4
GYA Guiyang 45.80 79 ⇓P P 21 08 15.3 +1.8
GYA pmax pmax
comp=Z,9.0nm,1.6s
BLS5 Blasjo 45.81 328 eP P 21 08 13.4 +0.4
TBLU Trondheim 45.83 334 eP P 21 08 13.6 +0.6
NSS Namsos 45.85 336 eP P 21 08 11.1 -2.0
NRIK Noril'sk 45.86 15 P P 21 08 13.5 +0.3
comp=Z,6.3nm,0.7s,baz=219,slow=6.6,SNR=5.7
comp=Z,6.3nm,0.7s
NRIK Noril'sk 45.86 15⇑ eP P 21 08 13.7 +0.6
NRIK pmax pmax
comp=Z,17nm,0.9s
ODD1 Odda 45.92 328 eP P 21 08 14.6 +0.7
XAN Xi'an 46.34 68 P P 21 08 17.0 -0.6
XAN pmax pmax
comp=Z,14nm,1.0s
FAUS Fauske 46.41 340 eP P 21 08 17.4 -0.1
STOK Stokkvaagen 46.49 338 eP P 21 08 18.0 -0.1
HAMF Hammerfest 46.55 346 eP P 21 08 18.7 +0.1
HAMF IAmb IAmb 21 08 18.9
comp=Z,32nm,1.2s
KONS Konsvik 46.56 338 eP P 21 08 18.7 0.0
KONS IAmb IAmb 21 08 19.7
comp=Z,28nm,1.2s
HYA Hoyanger 46.61 330 eP P 21 08 19.7 +0.5
HYA IAmb IAmb 21 08 21.4
comp=Z,16nm,1.1s
BTO Baotou 46.70 59 eP P 21 08 20.3 -0.1
BTO pP sP 21 08 31.4 +2.2
BTO PP PP 21 10 08.6 -1.6
BTO S S 21 15 06.9 -2.2
BTO SS SS 21 18 29.0 -6.3
BTO pmax pmax
comp=Z,12nm,0.7s
BTO pmax pmax
comp=Z,2μm,11.9s
BTO LR LR
comp=Z,1μm,15.8s
BTO LR LR
comp=Z,1μm,20.6s
BTO LR LR
comp=Z,1μm,15.3s
STEI Steigen 46.77 341 eP P 21 08 20.0 -0.3
STEI IAmb IAmb 21 08 30.7
comp=Z,9.7nm,0.8s
MFF Saint Martin d 46.83 309 eP P 21 08 19.5 -1.7
MFF pmax pmax
comp=Z,19nm,1.4s
TRO Tromso 46.90 344 eP P 21 08 21.3 0.0
TRO IAmb IAmb 21 08 22.2
comp=Z,20nm,1.1s
LOF Lofoten 47.39 340 eP P 21 08 24.0 -1.2
HHC Hu-ho-hao-te 47.87 59 eP P 21 08 30.4 +1.0
HHC sP sP 21 08 37.6 -0.7
HHC pmax pmax
comp=Z,16nm,0.5s
LYN LuoYang 49.18 67 P P 21 08 40.5 +1.0
LYN pmax pmax
comp=Z,22nm,1.0s
LYN LR LR
comp=Z,770nm,11.8s
LYN LR LR
comp=Z,1μm,12.9s
LYN LR LR
comp=Z,1μm,15.8s
ESBB Sonseca Array 49.69 300 P P 21 08 43.2 -0.2
ESBB IAmb IAmb 21 08 44.3
comp=Z,26nm,1.6s
ESDC Sonseca Array 49.69 300 P P 21 08 43.0 -0.4
ESDC Sonseca Array 49.69 300 P P 21 08 43.2 -0.2
comp=Z,4.6nm,0.4s,baz=77,slow=7.2,SNR=174
comp=Z,4.6nm,0.4s
EKA Eskdalemuir Ar 49.73 321 P P 21 08 42.6 -0.8
comp=Z,1.4nm,0.3s,baz=101,slow=7.1,SNR=22
comp=Z,1.4nm,0.3s
VOI Vohitsoka 49.87 190 P P 21 08 45.9 +1.0
LSZ Lusaka 49.92 215 P P 21 08 46.2 +0.8
PAB San Pablo 50.00 300 P P 21 08 45.4 -0.4
PAB San Pablo 50.00 300 P P 21 08 45.4 -0.4
PAB pmax pmax
comp=Z,52nm,1.6s
BJO1 Bjornoya 50.41 348 eP P 21 08 48.3 +0.1
KRI Karoi 50.56 212 i P P 21 08 51.1 +0.9
BOD Bodaibo 50.67 36 eP P 21 08 50.4 -0.1
BOD pmax pmax
comp=Z,23nm,1.3s
DSB Dublin 51.35 318 P P 21 08 55.5 -0.2
DSB IAmb IAmb 21 10 28.6
comp=Z,30nm,1.5s
WHN Wuhan 51.47 72 P P 21 09 00.1 +3.2
TOA0 Torodi Ar. Sit 51.59 265 P P 21 08 57.0 -0.9
TOA0 IAmb IAmb 21 08 58.1
comp=Z,17nm,0.8s
TORD Torodi Ar. Bea 51.59 265 P P 21 08 56.9 -1.0
TORD IAmb IAmb 21 08 58.1
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 51.59 265 P P 21 08 57.1 -0.8
comp=Z,14nm,0.7s,baz=58,slow=8.5,SNR=97
comp=Z,14nm,0.7s
PBRG Braganca 51.62 303 eP P 21 08 57.7 -0.2
comp=Z,16nm,1.5s
PBAR Barrancos 52.24 298 eP P 21 09 02.3 -0.3
comp=Z,35nm,1.2s
PMRV Marv??o 52.35 300 eP P 21 09 03.2 -0.2
MTE Manteigas 52.36 301 eP P 21 09 04.2 +0.7
comp=Z,18nm,1.6s
PCBR Castelo Branco 52.37 300 eP P 21 09 03.4 -0.1
comp=Z,25nm,1.3s
PVRL Vila Real 52.40 302 eP P 21 09 03.8 +0.1
comp=Z,25nm,1.8s
POLO Lamas de Olo 52.44 302 eP P 21 09 04.2 +0.1
comp=Z,15nm,1.6s
PESTR Estremoz 52.58 299 P P 21 09 04.3 -0.8
PESTR Estremoz 52.58 299 eP P 21 09 04.5 -0.6
comp=Z,12nm,1.4s
PVIS Viseu 52.59 302 eP P 21 09 05.5 +0.3
comp=Z,22nm,1.6s
TIA Tai'an 52.68 64 P P 21 09 06.1 +0.2
TIA pmax pmax
comp=Z,25nm,1.1s
PBEJ Beja 52.91 298 eP P 21 09 07.1 -0.4
EVO Evora 52.95 299 eP P 21 09 07.7 -0.1
comp=Z,22nm,1.2s
COI Coimbra 53.04 301 eP P 21 09 09.2 +0.8
PMTG Montargil 53.04 300 eP P 21 09 07.8 -0.7
comp=Z,15nm,1.8s
PCVE Castro Verde 53.10 298 eP P 21 09 08.5 -0.5
comp=Z,24nm,1.9s
PCAS Casmilo, Conde 53.12 301 eP P 21 09 09.3 +0.2
comp=Z,32nm,1.7s
MESJ Messejana 53.21 298 eP P 21 09 09.4 -0.4
PNCL Nicolau / Gran 53.41 298 eP P 21 09 11.3 +0.1
comp=Z,25nm,1.6s
SPA0 Spitsbergen Ar 53.53 351 eP P 21 09 11.9 +0.4
SPITS Spitsbergen Ar 53.53 351 P P 21 09 11.8 +0.2
comp=Z,1.1nm,0.4s,baz=124,slow=12,SNR=6.4
comp=Z,1.1nm,0.4s
SPITS Spitsbergen Ar 53.53 351 P P 21 09 11.7 +0.2
SPITS pmax pmax
comp=Z,32nm,1.3s
MATP Matopo 54.19 211 i P P 21 09 18.0 +0.8
KBS Kingsbay 54.69 351 P P 21 09 19.6 -0.3
KBS Kingsbay 54.69 351 eP P 21 09 20.4 +0.4
KBS IAmb IAmb 21 09 21.1
comp=Z,50nm,1.5s
KBS Kingsbay 54.69 351 P P 21 09 19.6 -0.3
KBS pmax pmax
comp=Z,26nm,1.2s
NJ2 Nanjing 54.90 69 eP P 21 09 21.1 -1.0
NJ2 pmax pmax
comp=Z,13nm,0.8s
MUSN Musina, Limpop 55.23 209 i P P 21 09 24.7 +0.2
MOPA Mopani 55.69 206 i P P 21 09 28.7 +0.9
CN2 Changchun 57.82 54 eP P 21 09 42.8 0.0
CN2 pmax pmax
comp=Z,10.0nm,1.3s
ZEA Zeya 57.91 42 eP P 21 09 44.4 +1.1
HEH HeiHe 58.31 46 eP P 21 09 45.4 -0.7
HEH pmax pmax
comp=Z,7.0nm,1.2s
YAK Yakutsk 58.88 32 eP P 21 09 49.2 -0.6
YAK pmax pmax
comp=Z,23nm,1.5s
YAK pmax pmax
comp=N,5.0nm,1.6s
YAK pmax pmax
comp=E,6.0nm,1.2s
TIXI Tiksi 58.98 21 P P 21 09 49.2 -1.2
TIXI IAmb IAmb 21 10 39.3
comp=Z,6.9nm,0.8s
TIXI Tiksi 58.98 21⇓ eP P 21 09 50.3 -0.1
TIXI pmax pmax
comp=Z,16nm,1.8s
POGA Pongola 59.04 204 P P 21 09 51.3 0.0
LBTB Lobatse 59.49 211 P P 21 09 55.0 +0.4
LBTB Lobatse 59.49 211 P P 21 09 55.1 +0.4
LBTB pmax pmax
comp=Z,19nm,1.0s
LBTB Lobatse 59.49 211 i P P 21 09 55.9 +1.2
DBG Daneborg 59.63 342 eP P 21 09 51.5 -3.3
DBG IAmb IAmb 21 09 56.1
comp=Z,8.8nm,1.2s
NOR Nord 60.18 351 eP P 21 09 55.5 -3.0
NOR IAmb IAmb 21 10 04.6
comp=Z,9.2nm,1.2s
DBIC Dimbokro 60.23 262 P P 21 09 59.3 -0.6
DBIC Dimbokro 60.23 262 P P 21 09 58.8 -1.1
comp=Z,13nm,0.7s,baz=55,slow=7.7,SNR=14
comp=Z,13nm,0.7s
DBIC Dimbokro 60.23 262 P P 21 09 59.3 -0.6
DBIC pmax pmax
comp=Z,18nm,0.9s
TJN Taejon 60.75 62 P P 21 10 03.0 -0.1
TJN Taejon 60.75 62 P P 21 10 03.0 -0.1
KSRS Korea Array 60.92 61 P P 21 10 03.7 -0.6
comp=Z,8.7nm,0.6s,baz=278,slow=6.7,SNR=24
comp=Z,8.7nm,0.6s
KLR Kul'dur 61.24 47 ceP P 21 10 05.4 -0.9
KLR pmax pmax
comp=Z,9.0nm,1.1s
USA0B Ussuriysk Arra 62.38 52 P P 21 10 14.1 0.0
USA0B IAmb IAmb 21 11 26.8
comp=Z,9.4nm,0.7s
USA0B Ussuriysk Arra 62.38 52 P P 21 10 14.1 0.0
USA0B pmax pmax
comp=Z,9.0nm,0.7s
USRK Ussuriysk Ar. 62.38 52 P P 21 10 12.7 -1.4
USRK Ussuriysk Ar. 62.38 52 P P 21 10 13.1 -1.0
comp=Z,3.1nm,0.6s,baz=272,slow=6.8,SNR=8.9
comp=Z,3.1nm,0.6s
VLA Vladivostok 62.55 53 eP P 21 10 14.5 -0.7
VLA pmax pmax
comp=Z,73nm,2.6s
BOSA Boshof 62.74 209 P P 21 10 16.7 0.0
BOSA Boshof 62.74 209 P P 21 10 16.6 -0.1
comp=Z,17nm,0.5s,baz=23,slow=6.3,SNR=105
comp=Z,17nm,0.5s
BOSA Boshof 62.74 209 P P 21 10 16.7 0.0
BOSA pmax pmax
comp=Z,135nm,2.0s
BOSA Boshof 62.74 209 i P P 21 10 17.2 +0.5
MYLDM Lahad Datu 64.22 98 P P 21 10 27.1 +0.5
SUMG Summit 64.92 341 P P 21 10 31.8 +1.0
SUMG Summit 64.92 341 P P 21 10 31.8 +1.0
SUMG pmax pmax
comp=Z,20nm,1.1s
SUMG Summit 64.92 341 i P P 21 10 31.0 +0.2
SUMG IAmb IAmb 21 10 32.4
comp=Z,24nm,1.2s
ICESG Greenland Ices 66.11 337 i P P 21 10 38.4 -0.2
GRHM Grahamstown, E 66.37 206 P P 21 10 40.5 +0.3
NEEM North Greenlan 66.64 347 i P P 21 10 41.8 0.0
NEEM IAmb IAmb 21 10 42.9
comp=Z,17nm,1.1s
SUR Sutherland 67.94 211 P P 21 10 50.5 +0.1
SUR Sutherland 67.94 211 P P 21 10 50.3 0.0
YSS Yuzh-Sakhalins 68.94 47 P P 21 10 56.8 +0.4
YSS Yuzh-Sakhalins 68.94 47 eP P 21 10 55.6 -0.8
YSS eS S 21 19 59.4 -0.5
YSS pmax pmax
comp=Z,29nm,1.3s
SEY Seymchan 69.05 29⇑ iP P 21 10 57.3 +0.6
SEY pmax pmax
comp=Z,18nm,0.6s
MAJO Matsushiro 69.06 59⇓ eP P 21 10 56.4 -1.0
MAJO pmax pmax
comp=Z,16nm,2.4s
MJAR Matsushiro Arr 69.07 59 P P 21 10 56.1 -1.2
comp=Z,1.9nm,0.7s,baz=291,slow=10,SNR=6.9
comp=Z,1.9nm,0.7s
DY2G Dye2 69.32 335 i P P 21 10 58.6 0.0
DY2G IAmb IAmb 21 10 59.9
comp=Z,11nm,0.7s
MA2 Magadan 69.44 33 P P 21 10 59.8 +0.6
EUNU Eureka 70.51 353 P P 21 11 04.6 -1.0
EUNU IAmb IAmb 21 11 07.4
comp=Z,14nm,1.1s
TULEG Thule 70.56 348 P P 21 11 05.1 -0.7
BILL Bilibino 72.18 22 ceP P 21 11 16.3 +0.5
BILL i 21 11 34.1
BILL e 21 13 57.1
BILL pmax pmax
comp=Z,18nm,1.1s
BILL MLR MLR
comp=Z,348nm,16.0s
SOEI Soe 76.63 109 P P 21 11 50.7 +8.1
A22K Sinclair Lake 79.40 10 P P 21 11 56.2 -0.7
baz=333
B18K Kokolik River 79.67 12 P P 21 11 57.9 -0.6
baz=327
B20K Meade River 79.94 11 P P 21 11 59.7 -0.2
baz=331
C17K DeLong Mountai 80.15 13 P P 21 12 01.2 +0.1
baz=326
B22K Teshekpuk Lake 80.23 9 P P 21 12 01.5 +0.1
baz=335
C19K Lookout Ridge 80.31 12 P P 21 12 02.2 +0.2
baz=329
C18K Utukok River 80.40 13 P P 21 12 02.9 +0.4
baz=328
A36M Sachs Harbour 80.66 0 P P 21 12 04.1 +0.4
baz=360
B21K Ikpikpuk River 80.70 10 P P 21 12 04.2 +0.3
baz=334
D17K Noatak River 80.82 14 P P 21 12 04.2 -0.4
baz=326
C23K Itkillik River 81.08 9 IAmb IAmb 21 12 08.2
comp=Z,17nm,0.9s
C23K Itkillik River 81.08 9 P P 21 12 06.1 +0.1
baz=337,SNR=8.2
C21K Knifeblade Rid 81.09 10 P P 21 12 06.3 +0.2
baz=334
D19K Kuna River 81.11 12 P P 21 12 06.0 -0.2
baz=331
D20K Etivluk River 81.18 11 P P 21 12 06.3 -0.3
baz=332
E18K Tukpahlearik C 81.57 13 IAmb IAmb 21 12 13.1
comp=Z,7.4nm,0.9s
E18K Tukpahlearik C 81.57 13 P P 21 12 08.6 -0.1
baz=329
E17K Hotham Inlet 81.60 14 P P 21 12 09.1 +0.2
baz=328
E20K Nigu River 81.66 11 P P 21 12 09.1 -0.2
baz=332
D22K Ayikyak River 81.67 10 IAmb IAmb 21 12 13.9
comp=Z,13nm,1.0s
D22K Ayikyak River 81.67 10 P P 21 12 09.6 +0.4
baz=336,SNR=6.4
C26K Camden Bay 81.69 7 P P 21 12 09.9 +0.7
baz=342
E21K Killik River 81.86 10 P P 21 12 10.6 +0.3
baz=334
D23K Nanushuk River 81.88 9 P P 21 12 10.9 +0.6
baz=337
F14K Arctic Creek 81.91 16 P P 21 12 10.9 +0.5
baz=324
D24K Happy Valley 81.95 8 P P 21 12 11.3 +0.6
baz=339
C27K Jago River 82.09 6 P P 21 12 12.0 +0.6
baz=343,SNR=15
D25K Kavik River 82.09 7 P P 21 12 12.0 +0.5
baz=341,SNR=12
F15K North Star Dit 82.12 15 IAmb IAmb 21 12 45.9
comp=Z,10nm,1.1s
F15K North Star Dit 82.12 15 P P 21 12 12.1 +0.4
baz=325
E19K Redstone River 82.18 12 IAmb IAmb 21 12 25.6
comp=Z,19nm,1.6s
E19K Redstone River 82.18 12 P P 21 12 11.8 -0.1
baz=332,SNR=6.6
F17K Baldwin Pennin 82.27 14 P P 21 12 12.6 +0.2
baz=328
TOLK Toolik Lake Re 82.33 9 IAmb IAmb 21 12 14.4
comp=Z,12nm,1.0s
TOLK Toolik Lake Re 82.33 9 P P 21 12 12.6 -0.2
baz=338
F18K Selawik 82.47 13 P P 21 12 13.1 -0.3
baz=330
F19K Shaleruckik Mo 82.63 12 IAmb IAmb 21 12 15.3
comp=Z,9.5nm,1.1s
F19K Shaleruckik Mo 82.63 12 P P 21 12 13.7 -0.5
baz=331,SNR=9.7
D27M Malcolm River 82.72 6 IAmb IAmb 21 12 19.8
comp=Z,9.0nm,1.2s
D27M Malcolm River 82.72 6 P P 21 12 14.3 -0.5
baz=346
F20K Avaraart Lake 82.82 12 P P 21 12 14.7 -0.5
baz=333
G15K Niukluk 82.86 16 P P 21 12 15.6 +0.1
baz=326
E23K Chandalar 82.87 9 P P 21 12 16.0 +0.4
baz=338,SNR=9.3
G16K Koyuk River 82.92 15 P P 21 12 16.2 +0.5
baz=327
F22K John River 83.00 10 P P 21 12 16.9 +0.7
baz=336,SNR=13
E24K Your Creek 83.01 9 IAmb IAmb 21 12 18.1
comp=Z,9.8nm,1.1s
E24K Your Creek 83.01 9 P P 21 12 16.4 +0.1
baz=339,SNR=10
F21K Alatna River 83.05 11 IAmb IAmb 21 12 21.5
comp=Z,6.2nm,0.9s
F21K Alatna River 83.05 11 P P 21 12 16.6 +0.1
baz=335,SNR=6.9
G17K Kiwalik Mounta 83.20 14 P P 21 12 17.6 +0.4
baz=329
G18K Tagagawik 83.28 13 IAmb IAmb 21 12 21.7
comp=Z,7.3nm,1.2s
G18K Tagagawik 83.28 13 P P 21 12 17.3 -0.4
baz=330
C36M Paulatuk 83.31 360 P P 21 12 16.4 -1.3
C36M Paulatuk 83.31 360 P P 21 12 17.3 -0.4
baz=0.9,SNR=6.8
G19K Purcell Mounta 83.37 13 IAmb IAmb 21 12 19.1
comp=Z,9.3nm,1.0s
G19K Purcell Mounta 83.37 13 P P 21 12 18.2 +0.1
baz=332,SNR=8.1
E28M Babbage River 83.47 5 IAmb IAmb 21 12 20.2
comp=Z,7.1nm,1.0s
E28M Babbage River 83.47 5 P P 21 12 18.9 +0.3
baz=347,SNR=9.2
COLD Coldfoot 83.56 10 P P 21 12 19.5 +0.5
baz=338,SNR=9.9
F24K Squaw Lake 83.61 9 P P 21 12 19.7 +0.3
baz=340
G22K Bettles 83.64 10 P P 21 12 20.1 +0.6
baz=337,SNR=5.5
G21K Allakaket 83.69 11 P P 21 12 19.1 -0.6
G21K IAmb IAmb 21 12 20.6
comp=Z,5.6nm,0.9s
G21K Allakaket 83.69 11 P P 21 12 19.6 -0.2
baz=335,SNR=5.7
E27K Coleen River 83.69 6 IAmb IAmb 21 12 22.1
comp=Z,6.6nm,1.1s
E27K Coleen River 83.69 6 P P 21 12 20.2 +0.4
baz=345,SNR=10
E29M Blow River 83.80 5 IAmb IAmb 21 12 21.8
comp=Z,9.0nm,1.1s
E29M Blow River 83.80 5 P P 21 12 20.3 +0.1
baz=349,SNR=10.0
F25K Christian Rive 83.83 8 P P 21 12 21.0 +0.5
baz=342
H17K Granite Mounta 83.85 14 IAmb IAmb 21 12 21.6
comp=Z,11nm,1.2s
H17K Granite Mounta 83.85 14 P P 21 12 20.7 +0.1
baz=329
F26K Sheenjek River 83.90 7 P P 21 12 20.9 +0.1
baz=343
SCHQ Schefferville 83.93 330 P P 21 12 20.5 -0.7
SCHQ IAmb IAmb 21 12 21.9
comp=Z,15nm,1.3s
SCHQ Schefferville 83.93 330 P P 21 12 20.8 -0.4
comp=Z,4.9nm,0.6s,baz=41,slow=4.3,SNR=8.0
comp=Z,4.9nm,0.6s
H18K Honhosa River 83.99 13 P P 21 12 21.4 +0.1
baz=331
H19K Roundabout Mou 84.04 13 P P 21 12 21.7 +0.2
baz=332
G23K Bananza Creek 84.07 10 IAmb IAmb 21 12 24.0
comp=Z,9.9nm,1.1s
G23K Bananza Creek 84.07 10 P P 21 12 22.1 +0.4
baz=338,SNR=8.6
BMAR Burnt Mountain 84.11 7 P P 21 12 22.9 +1.0
IMAR Indian Mountai 84.13 11 P P 21 12 21.9 -0.1
INK Inuvik 84.15 3 IAmb IAmb 21 12 26.4
comp=Z,6.7nm,1.0s
INK Inuvik 84.15 3 P P 21 12 22.0 0.0
baz=352
H20K Anotleneega Mo 84.37 12 P P 21 12 23.4 +0.2
baz=334,SNR=5.9
F28M Old Crow 84.41 6 IAmb IAmb 21 12 24.9
comp=Z,9.4nm,1.1s
F28M Old Crow 84.41 6 P P 21 12 23.7 +0.3
baz=347,SNR=9.2
G24K Hadweenzic Riv 84.44 9 P P 21 12 23.8 +0.2
G24K Hadweenzic Riv 84.44 9 P P 21 12 24.5 +0.9
baz=340,SNR=18
G25K Bearman Lake 84.56 8 P P 21 12 25.0 +0.9
baz=341
I17K Unalakleet 84.58 15 P P 21 12 24.7 +0.5
baz=329
H21K Melozitna Rive 84.59 11 IAmb IAmb 21 12 26.0
comp=Z,13nm,1.2s
H21K Melozitna Rive 84.59 11 P P 21 12 24.9 +0.5
baz=336,SNR=8.1
H22K Ishtalitna Cre 84.61 11 P P 21 12 25.1 +0.7
baz=337,SNR=17
GCSA Galena City Sc 84.65 13 P P 21 12 24.5 -0.1
baz=332
G26K Porcupine Rive 84.66 7 P P 21 12 25.0 +0.4
baz=343
F30M Barrier River 84.72 4 P P 21 12 25.4 +0.4
baz=350,SNR=9.5
J14K Nanvaranak Lak 84.85 17 P P 21 12 26.1 +0.5
baz=326
H23K Yukon River 84.97 10 P P 21 12 26.0 -0.2
H23K Yukon River 84.97 10 P P 21 12 26.8 +0.5
baz=338,SNR=13
F31M Tsiigehtchic 85.00 3 P P 21 12 26.7 +0.4
baz=352
G27K Doyon Strip 85.02 7 P P 21 12 27.5 +0.9
G27K IAmb IAmb 21 12 28.5
comp=Z,10nm,1.0s
G27K Doyon Strip 85.02 7 P P 21 12 27.1 +0.6
baz=345,SNR=18
H25L Birch Creek 85.07 8 P P 21 12 27.7 +1.0
baz=342
I20K Naaghedeneel 85.07 12 P P 21 12 27.3 +0.6
baz=334
J16K Anvik River 85.12 15 P P 21 12 27.3 +0.3

baz=329
H24K Noodor Dome 85.20 9 IAmb IAmb 21 12 32.6
comp=Z,5.5nm,1.0s
H24K Noodor Dome 85.20 9 P **P** **21 12 27.7 +0.2**
baz=340,SNR=10
K13K Kusilvak Mount 85.24 18 P **P** **21 12 27.6 0.0**
baz=326
G29M Pine Creek 85.25 5 IAmb IAmb 21 12 28.8
comp=Z,9.7nm,1.1s
G29M Pine Creek 85.25 5 P **P** **21 12 27.9 +0.3**
baz=348,SNR=8.1
G30M tAoh Zraii Nji 85.31 4 P **P** **21 12 27.9 -0.1**
baz=350,SNR=8.7
J17K VABM Dome 85.37 15 P **P** **21 12 27.9 -0.3**
baz=330
G31M Satah River 85.49 4 P **P** **21 12 28.6 -0.1**
baz=352,SNR=16
MLY Manley 85.52 11 IAmb IAmb 21 12 33.6
comp=Z,8.6nm,1.1s
MLY Manley 85.52 11 P **P** **21 12 28.9 -0.1**
baz=337,SNR=9.2
J19K Poorman 85.57 13 IAmb IAmb 21 12 34.2
comp=Z,13nm,1.0s
J19K Poorman 85.57 13 P **P** **21 12 29.9 +0.6**
baz=333,SNR=10
H27K Steamboat Moun 85.60 7 P **P** **21 12 29.6 +0.1**
baz=345,SNR=19
I23K Minto, Yukon-K 85.62 10 P **P** **21 12 29.8 +0.3**
baz=339,SNR=8.2
J20K Nowinta River 85.69 12 IAmb IAmb 21 12 31.5
comp=Z,13nm,1.1s
J20K Nowinta River 85.69 12 P **P** **21 12 30.0 +0.1**
baz=334,SNR=11
K15K Wolf Creek Mou 85.74 16 P **P** **21 12 30.4 +0.3**
baz=328
J18K Innoko River 85.82 14 IAmb IAmb 21 12 51.0
comp=Z,19nm,1.6s
J18K Innoko River 85.82 14 P **P** **21 12 30.8 +0.3**
baz=332
PRP Porcupine Dome 85.82 8 IAmb IAmb 21 12 32.9
comp=Z,9.6nm,1.0s
PRP Porcupine Dome 85.82 8 P **P** **21 12 30.8 +0.1**
baz=342,SNR=16
EPYK Eagle Plains 85.88 5 P **P** **21 12 30.5 -0.3**
baz=350,SNR=7.3
H29M Whitestone 85.90 5 P **P** **21 12 30.8 -0.1**
baz=348,SNR=15
POKR Poker Plat Res 85.94 9 P **P** **21 12 31.3 +0.2**
baz=340
M11K Mekoryuk 86.07 19 P **P** **21 12 31.8 0.0**
baz=324
COLA College 86.11 10*ce*P **P** **21 12 31.2 -0.7**
COLA pmax pmax
comp=Z,6.0nm,1.0s
K17K Iditarod 86.14 15 P **P** **21 12 32.1 0.0**
baz=331
NEA2 Nenana 86.19 10 P **P** **21 12 32.4 +0.1**
baz=339
I27K Kandik River 86.20 7 P **P** **21 12 32.6 +0.2**
baz=345,SNR=13
L14K Kuka Creek 86.25 17 IAmb IAmb 21 12 35.4
comp=Z,11nm,1.1s
L14K Kuka Creek 86.25 17 P **P** **21 12 32.2 -0.4**
baz=327
L15K Ungalak Mounta 86.28 16 P **P** **21 12 32.1 -0.7**
baz=328
I26K Coal Creek Min 86.32 8 P **P** **21 12 32.4 -0.6**
baz=344
BPAW Bear Paw Mtn. 86.33 11 P **P** **21 12 32.9 -0.2**
baz=337,SNR=26
ILAR Eielson Array 86.35 9 P **P** **21 12 32.5 -0.6**
comp=Z,2.4nm,0.9s,baz=328,slow=3.9,SNR=17
comp=Z,2.4nm,0.9s
TTA Tatalina 86.44 14 P **P** **21 12 34.3 +0.6**
TTA Tatalina 86.44 14 P **P** **21 12 33.1 -0.6**
baz=333
K20K Telida 86.45 13 P **P** **21 12 33.2 -0.5**
baz=334
I28M Miner Creek 86.52 6 IAmb IAmb 21 12 34.9
comp=Z,5.4nm,0.8s
I28M Miner Creek 86.52 6 P **P** **21 12 33.7 -0.4**
baz=347,SNR=9.2
L17K Donlin 86.65 15 P **P** **21 12 34.6 -0.1**
baz=331
HDA Harding Lake 86.68 9 P **P** **21 12 33.9 -0.8**
baz=341
J25K Salcha River, 86.71 9 IAmb IAmb 21 12 35.9
comp=Z,12nm,1.1s
J25K Salcha River, 86.71 9 P **P** **21 12 34.5 -0.5**
baz=342,SNR=14
L16K Owhat River 86.74 16 P **P** **21 12 35.4 +0.3**
baz=330
I29M Ogilvie Camp, 86.75 6 P **P** **21 12 34.9 -0.2**
baz=348,SNR=15
M13K Dall Lake 86.86 18 P **P** **21 12 35.9 +0.3**
baz=327
L18K Granite Mounta 86.93 14 P **P** **21 12 36.3 +0.3**
baz=332
M14K Bethel 86.94 17 P **P** **21 12 35.8 -0.3**
baz=328
MCK McKinley 87.02 10 P **P** **21 12 36.2 -0.2**
baz=339
I30M Mount Dempster 87.04 5 IAmb IAmb 21 12 37.5
comp=Z,9.5nm,0.8s
I30M Mount Dempster 87.04 5 P **P** **21 12 36.6 -0.1**
baz=350,SNR=19
J26L Joseph Creek 87.04 8 P **P** **21 12 36.4 -0.2**
baz=344,SNR=25
EGAK Eagle 87.05 7 P **P** **21 12 36.9 +0.3**
baz=346,SNR=14
L20K Farewell, AK 87.29 13 P **P** **21 12 38.3 +0.5**
baz=335
RND Reindeer 87.34 10 IAmb IAmb 21 12 38.2
comp=Z,9.4nm,1.2s
SPIA Saint Paul Isl 87.35 23 P **P** **21 12 38.3 +0.2**
baz=321
L19K White Mountain 87.36 13 IAmb IAmb 21 12 40.7
comp=Z,10.0nm,1.1s
L19K White Mountain 87.36 13 P **P** **21 12 38.5 +0.3**
baz=334,SNR=7.0
K24K Donnelly Dome 87.42 9 P **P** **21 12 38.4 0.0**
baz=342
M16K Timber Creek 87.46 16 P **P** **21 12 39.0 +0.4**
baz=330
M17K Holitna River 87.49 15 P **P** **21 12 39.5 +0.8**
baz=332
SCRK Sand Creek 87.50 8 P **P** **21 12 38.8 -0.1**
baz=343,SNR=21
J29N Klondike Camp 87.65 6 P **P** **21 12 39.6 +0.1**
baz=348
K27K Chicken 87.68 7 P **P** **21 12 40.1 +0.5**
baz=345
J30M Hart River 87.69 5 IAmb IAmb 21 12 41.0
comp=Z,12nm,1.4s
J30M Hart River 87.69 5 P **P** **21 12 40.1 +0.3**
baz=350,SNR=6.7
M19K Big River Lodg 87.70 13 P **P** **21 12 39.7 0.0**
baz=334
N14K Kuskokwak Cree 87.72 18 P **P** **21 12 39.9 +0.1**
baz=328
M18K Stony River 87.77 14 P **P** **21 12 39.8 -0.3**
baz=333
DHY Denali Highway 87.88 10 IAmb IAmb 21 12 55.2
comp=Z,12nm,1.6s
DHY Denali Highway 87.88 10 P **P** **21 12 40.2 -0.6**
baz=340
DAWY Dawson 87.92 6 P **P** **21 12 40.5 -0.4**
baz=347,SNR=7.6
N15K Kwethluk River 87.92 17 P **P** **21 12 41.0 +0.2**
baz=329
N16K Nishlik Lake 87.99 16 P **P** **21 12 40.9 -0.3**
baz=331
P08K Saint George I 88.04 23 P **P** **21 12 41.1 -0.3**
baz=322
SKT Skwentna 88.19 12 P **P** **21 12 41.6 -0.5**
baz=337,SNR=7.7
PAX Paxson 88.26 9 P **P** **21 12 42.4 -0.1**
baz=342
WAT6 Susitna Watana 88.29 10 P **P** **21 12 42.2 -0.5**
baz=340
K29M Barlow Dome 88.31 5 IAmb IAmb 21 12 44.0
comp=Z,6.2nm,0.9s
K29M Barlow Dome 88.31 5 P **P** **21 12 42.5 -0.3**
baz=349,SNR=8.4
N17K Nushagak Hills 88.32 15 P **P** **21 12 41.9 -0.8**
baz=332
O14K Tigyukauivet M 88.40 18 P **P** **21 12 42.8 -0.3**
baz=328
N18K Kilae Creek 88.48 15 P **P** **21 12 43.6 +0.1**
baz=333
L26K Log Cabin Wild 88.49 8 P **P** **21 12 43.9 +0.4**
baz=344
MENT Mentasta 88.53 8 P **P** **21 12 44.6 +0.9**
L27K Beaver Creek, 88.64 8 P **P** **21 12 44.9 +0.6**
baz=345,SNR=11
BCAR Beaver Creek A 88.64 8 P **P** **21 12 44.6 +0.3**
N19K Bonanza Creek 88.67 14 P **P** **21 12 44.7 +0.2**
N19K Bonanza Creek 88.67 14 P **P** **21 12 44.4 -0.1**
baz=334
SUA Susitna One 88.82 12 P **P** **21 12 45.2 0.0**
baz=337,SNR=7.0
SML Sawmill 88.92 11 P **P** **21 12 45.1 -0.5**
baz=340
O16K Kokwok River B 88.92 16 P **P** **21 12 45.6 +0.1**
baz=331
L29M L29M 88.98 6 IAmb IAmb 21 12 47.8
comp=Z,5.8nm,1.1s
L29M L29M 88.98 6 P **P** **21 12 45.8 -0.1**
baz=348,SNR=6.1
M24K Tolsona, Glenn 88.98 10 P **P** **21 12 46.1 +0.2**
baz=341
PMR Palmer 88.99 11 P **P** **21 12 45.5 -0.3**
baz=339
O17K Koliganek Bris 89.01 16 P **P** **21 12 45.3 -0.6**
baz=332
SCM Sheep Creek Mo 89.06 10 P **P** **21 12 45.8 -0.5**
baz=340
M26K Nabesna, AK 89.14 8 P **P** **21 12 46.3 -0.3**
baz=344
M27K Edge Creek, AK 89.32 8 P **P** **21 12 47.1 -0.5**
baz=345,SNR=7.3
RC01 Rabbit Creek A 89.35 12 P **P** **21 12 46.7 -0.9**
baz=338
O18K Koktuh Hills 89.37 15 P **P** **21 12 47.0 -0.7**
baz=334
P16K Nushagak River 89.44 16 P **P** **21 12 47.8 -0.2**
baz=331
KLU Klutina 89.60 10 P **P** **21 12 48.6 -0.3**
baz=342
M29M Somme Creek 89.60 6 P **P** **21 12 48.6 -0.2**
baz=348
M30M Minto, Yukon 89.62 5 P **P** **21 12 48.1 -0.8**
baz=350
P17K Kvichak River 89.68 16 P **P** **21 12 48.3 -0.7**
baz=333
O20K Slope Mountain 89.72 13 P **P** **21 12 48.6 -0.8**
baz=336
YKA Yellowknife Ar 89.81 355 P **P** **21 12 50.0 +0.4**
comp=Z,3.6nm,0.9s,baz=7.7,slow=5.1,SNR=5.9
comp=Z,3.6nm,0.9s
PWL Port Wells 89.81 11 P **P** **21 12 49.2 -0.5**
baz=340
MMPY Sheldon Lake, 89.94 3 P **P** **21 12 50.3 0.0**
baz=354
YUK3 Moose Creek 90.05 7 P **P** **21 12 50.6 -0.5**
baz=346
Q16K King Salmon 90.09 16 P **P** **21 12 51.0 +0.1**
baz=332
WRA Warramunga Arr 90.15 112 P **P** **21 12 51.2 -0.8**
comp=Z,2.2nm,0.8s,baz=314,slow=4.0,SNR=39
comp=Z,2.2nm,0.8s
M31M Drury Creek, Y 90.17 4 P **P** **21 12 51.5 +0.1**
baz=352
FARO Faro, Yukon 90.22 4 P **P** **21 12 51.7 +0.1**
baz=353
BMRM Bremner River 90.30 9 P **P** **21 12 51.9 -0.1**
baz=343
N30M Aishikik Lake 90.70 6 P **P** **21 12 53.6 -0.3**
baz=349
CTG Chitna Glacier 90.74 8 P **P** **21 12 53.9 -0.3**
baz=346
Q20K Shuyak Island 91.12 14 P **P** **21 12 55.4 -0.4**
baz=336
NIKH Nikolski High 91.14 25 P **P** **21 12 55.8 -0.2**
baz=322
O30N Mendenhall 91.47 5 P **P** **21 12 57.0 -0.5**
baz=350
ASAR Alice Springs 91.62 116 P **P** **21 12 58.0 -0.7**
comp=Z,2.6nm,0.9s,baz=304,slow=4.7,SNR=19
comp=Z,2.6nm,0.9s
CHGN Chignik 91.73 18 P **P** **21 12 58.3 -0.4**
baz=331
SDPT Sand Point 91.97 19 P **P** **21 13 00.1 +0.3**
baz=329
P33M Teslin, Yukon 92.26 4 P **P** **21 13 01.1 -0.1**
baz=353
R33M Jennings River 93.17 3 P **P** **21 13 05.5 0.0**
baz=355
Q32M Nakina River 93.53 4 P **P** **21 13 06.9 -0.3**
baz=354
TOAD Toad River Com 93.86 0 P **P** **21 13 08.5 0.0**
baz=360
DLBC Dease Lake 94.17 3 P **P** **21 13 09.8 -0.3**
baz=356
LONY Lake Ozonia 94.61 326 P **P** **21 13 11.9 -0.4**
baz=43
MAW Mawson 95.12 177 P **P** **21 13 14.1 +0.4**
comp=Z,1.8nm,0.8s,baz=354,slow=10,SNR=3.8
comp=Z,1.8nm,0.8s
NVAR Mina Array Bea 113.99 354 PKP **PKiKP** **21 18 31.6 +0.7**
comp=Z,0.3nm,0.5s,baz=48,slow=2.2,SNR=4.9
GSC Goldstone, Bar 116.93 352 P **PKPdf** **21 18 36.2 -0.2**
baz=8.2
QSPA South Pole Qui 117.47 180 PKP **PKPdf** **21 18 35.0 -1.3**
comp=Z,2.7nm,0.9s,baz=316,slow=1.7,SNR=10
MNTX Cornudas Mount 118.10 341 P **PKPdf** **21 18 37.9 -0.8**
baz=20
TXAR Lajitas Array 119.78 338 PKP **PKPdf** **21 18 41.0 -1.1**
comp=Z,0.5nm,0.8s,baz=122,slow=1.0,SNR=4.3
CPUP Villa Florida 120.35 254 PKP **PKPdf** **21 18 41.6 -1.4**
comp=Z,12nm,1.4s,baz=98,slow=1.6,SNR=4.5

IDC ***22*** *21:21:53.4±1.2, 18°.87S×168°.95E, h88km±9km, mb5.4/26, mbtmp5.7/28, MS4.3/32, Error ellipse: s-maj=11.5km s-min=10.8km az=106.0*
MOS ***22*** *21:21:54.2±1.0, 18°.91S×168°.98E, h98km, mb5.8/35, Error ellipse: s-maj=7.6km s-min=6.2km az=118.6*
NOU ***22*** *21:21:56.6, 18°.89S×168°.96E, h101km, mb5.7/104, Vanuatu Islands*
BJI ***22*** *21:21:56.7±0.0, 18°.30S×168°.98E, h101km, mb5.5/83, mB5.6/31*
NEIC ***22*** *21:21:57.5, 18°.75S×168°.89E, h110km, Moment Tensor Solution. Duration: 2s9 Moment tensor: Scale 10^17 Nm; Mrr=1.94; Mθθ=1.18; Mφφ=0.76; Mrθ=-1.05; Mθφ=-0.56; Mφr=0.46; Fault plane solution: M0=2.09000×10^17 NP1: φs=119.21000°, δ=61.55000°, λ=-94.28000°. NP2: φs=308.13000°, δ=28.74000°, λ=-82.16000°. Principal axes: T 1.9040, Plg=16.0000°, Azm=212.0000°; N 0.3814, Plg=4.0000°, Azm=121.0000°; P -2.2854, Plg=73.0000°, Azm=19.0000°;*
NEIC ***22*** *21:21:57.6±1.4, 18°.96S±0°.07×168°.89E±0°.07, h103km±4km, mb5.8/545, Mww5.5/35 Error ellipse: s-maj=11.5km s-min=8.8km az=146.0*
NEIC ***22*** *21:21:57.5, 18°.95S×168°.89E, h110km*
GCMT ***22*** *21:21:58.5±0.1, 18°.90S±0°.01×168°.87E±0°.01, h118km, MW5.5/162, Moment Tensor Solution. s143,c254; s162,c323; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr=2.19±.02; Mθθ=1.35±.03; Mφφ=0.84±.03; Mrθ=-1.09±.02; Mθφ=-0.69±.03; Mφr=0.70±.02; Best double couple: M0=2.39000×10^17 NP1:φs=124.00000°, δ=61.00000°, λ=-91.00000°. NP2:φs=306.00000°, δ=29.00000°, λ=-88.00000°. Principal axes: T 2.2090, Plg=16.0000°, Azm=214.0000°; N 0.3670, Plg=1.0000°, Azm=124.0000°; P -2.5710, Plg=74.0000°, Azm=32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 22 21:21:56.0±0.2, 18°.95S±0°.03×168°.96E±0°.03, h105km±1km, h105km:pP-P, n1482, σ1s42/1318, mb5.8/366, 76C-108D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	2.44	221	P	Pn	21 22 33.9	-0.5
LIFNC	LIFOU	2.44	221	Pn	Pn	21 22 33.7	-0.7
MARNC	Mare, Loyalty	2.67	199	P	Pn	21 22 37.2	-0.3
YATNC	Mamie plateau,	3.65	212	P	Pn	21 22 51.1	+0.5
DZM	Mont Dzumac	3.90	217	P	Pn	21 22 54.8	+0.8
DZM	Mont Dzumac	3.90	217	*e*Pn	Pn	21 22 53.5	-0.5
DZM				*e*Sn	Sn	21 23 37.2	-1.8
	38μm,0.9s						
DZM	Mont Dzumac	3.90	217	Pn	Pn	21 22 53.8	-0.3
DZM				Sn	Sn	21 23 37.1	-1.8
DZM	Mont Dzumac	3.90	217	P	Pn	21 22 50.9	-3.2
	5μm,0.6s,baz=58,slow=16,SNR=2645						
DZM				LR	LR	21 23 34.8	
	comp=Z,4μm,20.7s,baz=332,slow=26						
DZM				S	Sn	21 23 37.9	-1.1
	8μm,0.7s,baz=133,slow=19,SNR=10.0						
NOUC	Port Laguerre	4.01	218	P	Pn	21 22 56.6	+1.3
ONTNC	Ouen Toro	4.08	215	P	Pn	21 22 57.9	+1.5
ONTNC	Ouen Toro	4.08	215		Pn	21 22 57.2	+0.8
KOUNC	Koumac, New Ca	4.68	249	P	Pn	21 23 04.6	+0.2
KOUNC	Koumac, New Ca	4.68	249	Pn	Pn	21 23 05.0	+0.5
MSVF	Nonsavu	8.72	83	Pn	Pn	21 24 02.5	+3.2
MSVF	Nonsavu	8.72	83	P	Pn	21 24 02.5	+3.2
NFK	Norfolk Island	10.10	185	P	Pn	21 24 20.0	+2.1
NFK	Norfolk Island	10.10	185	P	Pn	21 24 18.9	+1.0
	7μm,0.9s,SNR=62						
HNR	Honiara	12.87	316		Pn	21 24 55.9	+0.8
HNR	Honiara	12.87	316	LR	LR	21 29 19.6	
	comp=Z,11μm,20.0s,baz=165,slow=35						
HNR	Honiara	12.87	316	P	Pn	21 24 55.9	+0.8
FUNA	Funafuti	14.35	45	P	P	21 25 17.9	-0.3
RAO	Raoul Island	15.76	133	P	Pn	21 25 30.7	-1.3
	232nm,0.3s,baz=256,slow=23,SNR=4.8						
OUZ	Omahuta	16.72	167	P	P	21 25 46.2	+1.9
EIDS	Eidsvold	17.74	246	P	Pn	21 25 58.8	+2.5
EIDS	Eidsvold	17.74	246	Pn	Pn	21 25 58.8	+2.5
EIDS	Eidsvold	17.74	246	P	Pn	21 25 58.9	+2.5
	498nm,1.1s,SNR=75						
RK1H	Rockhampton Ha	17.78	252	P	Pn	21 25 58.6	+1.9
KUZ	Kuaotunu	18.70	163	P	Pn	21 26 07.8	+0.1
AFI	Afiamalu	19.14	78	P	P	21 26 09.9	-1.2
AFI	Afiamalu	19.14	78	P	P	21 26 09.9	-1.2
ARMA	Armidale	19.43	231	P	Pn	21 26 17.1	+0.7
ARMA	Armidale	19.43	231	P	Pn	21 26 15.7	-0.7
ARMA	Armidale	19.43	231	P	Pn	21 26 17.5	+1.1
	467nm,1.2s,SNR=72						
TOZ	Tahuroa Road	19.57	164	P	Pn	21 26 17.7	-0.2
NIUE	Niue	19.96	94	P	P	21 26 21.3	+1.3
NIUE	Niue	19.96	94	P	P	21 26 21.1	+1.1
NIUE	Niue	19.96	94	P	Pn	21 26 21.9	-0.7
	463nm,1.5s,SNR=3.6						
RMQ	Roma	20.07	244	P	Pn	21 26 24.4	+0.6
	151nm,1.5s,SNR=10.0						
HIZ	Hauiti	20.16	166	P	Pn	21 26 25.2	+0.5
HIZ	Hauiti	20.16	166	P	Pn	21 26 24.9	+0.1
MXZ	Matakaoa Point	20.27	158	P	Pn	21 26 25.5	-0.5
MXZ	Matakaoa Point	20.27	158	P	Pn	21 26 25.4	-0.6
URZ	Urewera	20.51	161	P	Pn	21 26 28.1	-0.7
URZ	Urewera	20.51	161	P	P	21 26 24.9	-0.8
	112nm,0.7s,baz=54,slow=4.6,SNR=61						
URZ				S	S	21 30 09.3	-0.1
	12nm,0.9s,baz=323,slow=5.1,SNR=1.4						
	112nm,0.7s						
TARA	Tarawa	20.55	11	P	P	21 26 26.7	+0.5
RTZ	Ruatahuna	20.80	162	P	P	21 26 30.0	+1.1
TV1H	Townsville Har	20.95	266	P	P	21 26 32.0	+1.5
BKZ	Black Stump Fm	21.18	164	P	P	21 26 34.7	+1.8
BKZ	Black Stump Fm	21.18	164	P	P	21 26 34.7	+1.8
CTA	Charters Tower	21.43	263	P	P	21 26 38.1	+2.3
CTA	Charters Tower	21.43	263	P	P	21 26 34.4	-1.4
	4.6nm,0.5s,baz=91,slow=11,SNR=93						
CTA				S	S	21 30 21.5	-6.2
	0.5nm,0.8s,baz=57,slow=19,SNR=1.1						
CTA				P3KPbc		22 00 18.6	
	0.1nm,0.8s,baz=225,slow=2.9,SNR=1.5						
CTAO	Charters Tower	21.43	263	P	P	21 26 38.0	+2.3
CTAO	Charters Tower	21.43	263	P	P	21 26 36.0	+0.3
CTAO	Charters Tower	21.43	263	P	P	21 26 36.1	+0.3
QRZ	Quartz Range	22.02	173	P	P	21 26 43.2	+1.4
TKNZ	Takaka Hill	22.28	172	P	P	21 26 45.8	+1.3
MRZ	Mangatainoka R	22.38	167	P	P	21 26 47.2	+1.8
NNZ	Nelson	22.52	171	P	P	21 26 48.8	+1.9
BFZ	Birch Farm	22.55	165	P	P	21 26 47.4	+0.2
MRNZ	Matariki Terra	22.61	173	P	P	21 26 48.1	+0.2
TCW	Tory Channel	22.65	170	P	P	21 26 49.2	+0.9
TUWZ	Tuamarina	22.81	170	P	P	21 26 50.0	+0.1
SNZO	South Karori	22.83	169	P	P	21 26 51.1	+1.1
SNZO	South Karori	22.83	169	P	P	21 26 51.2	+1.3
BHW	Baring Head	22.95	169	P	P	21 26 52.8	+1.6
THZ	Tophouse	22.99	172	P	P	21 26 53.4	+1.7
BSWZ	Blackbirch Sta	23.08	171	P	P	21 26 54.3	+1.8
PMG	Port Moresby	23.14	291	P	P	21 26 54.3	+1.0
PMG	Port Moresby	23.14	291	S	S	21 30 57.5	+0.8
	12nm,0.8s,baz=203,slow=23,SNR=1.3						
PMG	Port Moresby	23.14	291	P	P	21 26 54.3	+1.0
PLWZ	Palliser	23.18	168	P	P	21 26 54.1	+0.6
MTSU	Mount Surprise	23.38	268	P	P	21 26 56.9	+1.4
KHZ	Kahutara	23.72	172	P	P	21 26 58.4	+0.1
KHZ	Kahutara	23.72	172	P	P	21 26 58.4	+0.1
INZ	Inchbonnie	23.80	175	P	P	21 26 59.8	+0.8
CNB	Canberra Magne	23.80	223	P	P	21 27 01.2	+2.0
YNG	Young	23.84	226	P	P	21 27 01.5	+2.0
LTZ	Lake Taylor	23.93	174	P	P	21 27 01.7	+1.5
QLP	Quilpie	24.00	247	P	P	21 27 02.2	+1.2
CAN	Canberra	24.04	223	P	P	21 27 03.1	+1.8
CAN	Canberra	24.04	223	P	P	21 27 03.4	+2.1
CAN	Canberra	24.04	223	P	P	21 27 03.4	+2.1
GVZ	Greta Valley S	24.19	173	P	P	21 27 03.3	+0.7
AMCZ	Amberley	24.36	173	P	P	21 27 05.5	+1.5
CMSA	Cobar Meteorol	24.44	235	P	P	21 27 06.0	+1.1
OXZ	Oxford	24.44	175	P	P	21 27 06.0	+1.2
FOZ	Fox Glacier	24.52	178	P	P	21 27 06.8	+1.3
RPZ	Rata Peaks	24.76	176	P	P	21 27 09.8	+2.1
RPZ	Rata Peaks	24.76	176	LR	LR	21 36 41.9	
	comp=Z,1μm,18.3s,baz=336,slow=36						
MQZ	McQueen's Vall	24.88	174	P	P	21 27 09.4	+0.7
MILA	Mila	25.04	220	P	P	21 27 12.2	+1.8
COEN	Coen	25.21	277	P	P	21 27 13.6	+1.5
COEN	Coen	25.21	277	P	P	21 27 12.9	+0.8
LBZ	Lake Benmore	25.39	178	P	P	21 27 14.7	+1.3
ODZ	Otahua Downs	26.06	177	P	P	21 27 19.9	+0.5
MLZ	Mavora Lakes	26.36	181	P	P	21 27 22.4	+0.2
DCZ	Deep Cove	26.49	183	P	P	21 27 23.8	+0.5
WHZ	Wether Hill Ro	26.89	182	P	P	21 27 26.6	-0.3
INKA	Innaminka	27.29	246	P	P	21 27 32.1	+1.4
CTZ	Chatham Island	27.53	157	P	P	21 27 33.9	+1.3
TOO	Toolangi	27.65	223	P	P	21 27 35.6	+1.7
TOO	Toolangi	27.65	223	P	P	21 27 35.8	+1.9
TOO	Toolangi	27.65	223	P	P	21 27 35.8	+1.9
TOO				pmax	pmax		
	comp=Z,77nm,0.8s						
QIS	Mount Isa	27.66	262	P	P	21 27 35.2	+1.1
STKA	Stephens Creek	27.78	237	P	P	21 27 36.4	+1.4
STKA	Stephens Creek	27.78	237	P	P	21 27 36.5	+1.4
STKA	Stephens Creek	27.78	237	P	P	21 27 34.2	-0.8
	comp=Z,104nm,0.8s,baz=68,slow=9.2,SNR=148						
STKA				PcP	PcP	21 30 50.4	+1.3
	comp=Z,35nm,0.8s,baz=120,slow=21,SNR=5.5						
STKA				ScP	ScP	21 34 21.6	+1.4
	comp=Z,22nm,1.0s,baz=18,slow=4.2,SNR=6.7						
STKA				LR	LR	21 39 13.2	
	comp=Z,715nm,18.8s,baz=352,slow=37						
STKA				P3KPbc		21 59 59.2	
	comp=Z,13nm,1.0s,baz=249,slow=4.0,SNR=10						
	comp=Z,104nm,0.8s						
STKA	Stephens Creek	27.78	237	P	P	21 27 36.5	+1.4
STKA				pmax	pmax		
	comp=Z,98nm,1.6s						
GLAD	Gladstone	28.35	215	P	P	21 27 41.7	+1.7
RAR	Rarotonga	29.43	100	LR	LR	21 39 21.7	
	comp=Z,144nm,18.1s,baz=278,slow=36						
ARPS	Mount Arapiles	29.68	228	P	P	21 27 53.4	+1.5
MOO	Moorlands	29.82	214	P	P	21 27 54.5	+1.5
TAU	Tasmania Unive	30.08	213	P	P	21 27 56.3	+1.0
TAU	Tasmania Unive	30.08	213	P	P	21 27 56.3	+1.0
TAU				pmax	pmax		
	comp=Z,152nm,1.4s						
TAU	Tasmania Unive	30.08	213	P	P	21 27 56.3	+1.0
TAU				pP	pP	21 28 19.6	+1.9
LCRK	Leigh Creek	30.09	242	P	P	21 27 56.6	+1.0
HTT	Hallett	30.44	236	P	P	21 27 59.7	+1.0
OOD	Oodnadatta	31.70	248	P	P	21 28 11.0	+1.2
JAY	Jayapura	32.11	297	P	P	21 28 15.5	+1.9
	comp=Z,38nm,0.8s,comp=Z,946nm						
WR0	Warramunga Arr	32.44	262	P	P	21 28 16.1	-0.2
BBOO	Buckleboo	32.51	238	P	P	21 28 17.6	+0.8
BBOO	Buckleboo	32.51	238	P	P	21 28 17.8	+0.9
BBOO				IAmb	IAmb	21 28 19.1	
	comp=Z,253nm,1.2s						

GENI Genyem 32.53 297 P **P** **21 28 18.3 +1.2**
WB0 Warramunga Arr 32.59 263 P **P** **21 28 17.4 -0.2**
WB2 Warramunga Arr 32.62 262 P **P** **21 28 17.5 -0.4**
WRAB Tennant Creek 32.62 262 P **P** **21 28 17.3 -0.6**
WRAB Tennant Creek 32.62 262 *ce*P **P** **21 28 17.5 -0.4**
WRAB pmax pmax
comp=Z,87nm,1.4s
WRA Warramunga Arr 32.63 262 P **P** **21 28 16.2 -1.8**
WRA Warramunga Arr 32.63 262 P **P** **21 28 16.5 -1.5**
comp=Z,23nm,0.6s,baz=89,slow=8.3,SNR=602
WRA pP **pP** **21 28 33.7 -6.9**
comp=Z,17nm,0.9s,baz=102,slow=8.9,SNR=4.6
WRA sP **pwP** **21 28 40.3 -4.3**
comp=Z,18nm,0.8s,baz=92,slow=8.5,SNR=6.9
WRA PcP **PcP** **21 31 01.9 0.0**
comp=Z,11nm,0.8s,baz=86,slow=2.7,SNR=4.6
WRA S **S** **21 33 20.3 -6.1**
comp=Z,2.5nm,1.0s,baz=146,slow=15,SNR=2.2
WRA ScP **ScP** **21 34 38.1 +1.8**
comp=Z,9.1nm,0.9s,baz=92,slow=3.1,SNR=7.0
WRA PKiKP **PKiKP** **21 38 28.0 -0.9**
comp=Z,3.5nm,0.8s,baz=358,slow=0.4,SNR=16
WRA P3KPbc 21 59 39.5
comp=Z,6.5nm,0.9s,baz=294,slow=3.1,SNR=29
comp=Z,23nm,0.6s
WRA Warramunga Arr 32.63 262 *i*P **P** **21 28 17.2 -0.8**
WRA pmax pmax
comp=Z,15nm,0.3s
AS31 Alice Springs 32.94 256 P **P** **21 28 21.2 +0.5**
AS31 IAmb IAmb 21 28 22.0
comp=Z,85nm,0.7s
ASAR Alice Springs 32.94 256 P **P** **21 28 21.3 +0.6**
ASAR Alice Springs 32.94 256 P **P** **21 28 20.0 -0.7**
comp=Z,175nm,0.6s,baz=84,slow=8.8,SNR=2741
ASAR PcP **PcP** **21 31 02.9 +0.2**
comp=Z,9.7nm,0.8s,baz=78,slow=7.8,SNR=3.3
ASAR S **S** **21 33 27.3 -4.0**
comp=Z,10nm,1.0s,baz=87,slow=18,SNR=5.7
ASAR ScP **ScP** **21 34 38.8 +1.3**
comp=Z,8.3nm,1.1s,baz=108,slow=4.3,SNR=6.4
ASAR PKiKP **PKiKP** **21 38 28.1 -1.0**
comp=Z,2.1nm,0.8s,baz=120,slow=1.5,SNR=10.0
ASAR LR LR 21 40 39.0
comp=Z,1μm,20.0s,baz=96,slow=34
ASAR P3KPbc 21 59 38.1
comp=Z,5.9nm,0.9s,baz=272,slow=4.2,SNR=30
comp=Z,175nm,0.6s
MULG Mulgathing 33.55 244 P **P** **21 28 26.9 +1.0**
KDU Kakadu 35.60 275 P **P** **21 28 44.2 +0.5**
MTN Manton Dam 36.83 274 P **P** **21 28 55.0 +0.8**
MTN Manton Dam 36.83 274 P **P** **21 28 55.0 +0.8**
DRS Darwin Rock St 37.15 274 P **P** **21 28 57.7 +0.8**
WRKA Warakurna 38.08 253 P **P** **21 29 04.9 +0.1**
FORT Forrest 38.73 244 P **P** **21 29 10.9 +0.8**
FORT Forrest 38.73 244 P **P** **21 29 10.7 +0.6**
TBI Tubuai 38.93 104 *e*P **P** **21 29 11.6 -0.2**
comp=Z,344nm,1.2s
TBI Tubuai 38.93 104 *e*P **P** **21 29 13.9 +2.1**
comp=Z,849nm,28.5s
TBI *e*S **S** **21 35 01.1 -1.6**
comp=Z,841nm,27.0s
TBI *e*SS **SS** **21 37 57.7 -0.8**
comp=Z,2μm,23.5s
TBI *e*LR LR 21 39 54.2
comp=Z,3μm,28.8s
TBI *e*LR LR 21 39 56.8
comp=Z,2μm,33.8s
TBI *e*LR LR 21 39 59.5
comp=Z,9μm,33.8s
XMAS Kiritimati 39.06 61 P **P** **21 29 14.2 +1.3**
XMAS IAmb IAmb 21 29 19.8
comp=Z,226nm,1.1s
FAKI Fak Fak 39.27 289 P **P** **21 29 15.1 +0.4**
FAKI Fak Fak 39.27 289 P **P** **21 29 14.2 -0.6**
FAKI IAmb IAmb 21 29 23.8
comp=Z,145nm,1.1s
FAKI Fak Fak 39.27 289 P **P** **21 29 15.6 +0.9**
comp=Z,111nm,0.9s,comp=Z,1μm
PAE Paea 39.32 95 *e*P **P** **21 29 14.8 -0.3**
comp=Z,40nm,1.2s
PAE *e*pP **pP** **21 29 42.7 +3.9**
comp=Z,40nm,1.3s
PPT2 Papeete2 39.34 95 *e*P **P** **21 29 14.5 -0.8**
comp=Z,141nm,1.2s
PPT2 *e*pP **sP** **21 29 45.8 -5.1**
comp=Z,120nm,1.1s
PPT2 *e*S **S** **21 35 07.9 -1.1**
comp=Z,343nm,28.5s
PPT2 *e*SS **SS** **21 38 05.7 -1.1**
comp=Z,553nm,24.5s
PPT2 *e*LR LR 21 40 11.1
comp=Z,1μm,33.8s
PPT2 *e*LR LR 21 40 12.4
comp=Z,3μm,35.2s
PPT2 *e*LR LR 21 40 13.2
comp=Z,1μm,38.2s
PPT Papeete 39.34 95 P **P** **21 29 14.4 -0.8**
comp=Z,96nm,0.9s,baz=72,slow=15,SNR=7.6
PPT LR LR 21 44 41.8
comp=Z,179nm,18.2s,baz=302,slow=35
comp=Z,96nm,0.9s
PPTF Pamatai, Papee 39.34 95 P **P** **21 29 16.7 +1.3**
PPTF IAmb IAmb 21 29 17.6
comp=Z,173nm,1.1s
PPTF Pamatai, Papee 39.34 95 P **P** **21 29 16.3 +0.9**
PPTF ScP **ScP** **21 35 00.9 -0.1**
GUMO Guam 40.11 322 LR LR 21 45 40.2
comp=Z,116nm,18.7s,baz=134,slow=36
FITZ Fitzroy Crossi 41.01 264 P **P** **21 29 29.7 +0.6**
SWI Sorong 41.09 292 P **P** **21 29 30.3 +0.6**
comp=Z,180nm,0.8s,comp=Z,2μm
JOHN Johnston Islan 41.29 32 P **P** **21 29 32.3 +1.1**
JOHN Johnston Islan 41.29 32 P **P** **21 29 32.5 +1.3**
PMOR Pomariorio Ree 41.38 91 *e*P **P** **21 29 31.4 -0.7**
comp=Z,362nm,1.2s
PMOR *e*pP **pwP** **21 29 57.3 -0.9**
comp=Z,244nm,1.2s
PMOR Pomariorio Ree 41.38 91 *e*LR LR 21 41 09.7
comp=Z,3μm,27.5s
VAH Vaihoa 41.59 92 *e*P **P** **21 29 33.9 +0.2**
comp=Z,243nm,1.1s
VAH *e*pP **pwP** **21 30 00.8 +0.8**
comp=Z,157nm,1.0s
NLAI Namlea 43.79 286 P **P** **21 29 53.0 +1.4**
comp=Z,66nm,1.3s,comp=Z,2μm
KMBL Kambalda 44.07 244 P **P** **21 29 53.9 +0.2**
SOEI Soe 44.15 276 P **P** **21 29 56.2 +1.6**
SOEI Soe 44.15 276 P **P** **21 29 55.2 +0.7**
SOEI IAmb IAmb 21 30 40.0
comp=Z,283nm,1.2s
SOEI Soe 44.15 276 P **P** **21 29 56.5 +1.9**
comp=Z,174nm,1.1s,comp=Z,3μm
BATI Baumata 44.58 275 P **P** **21 30 00.4 +2.4**
comp=Z,211nm,1.0s,comp=Z,3μm
SANI Sanana 45.29 287 P **P** **21 30 04.4 +0.9**
SANI Sanana 45.29 287 P **P** **21 30 04.5 +0.9**
comp=Z,123nm,1.0s,comp=Z,2μm
PSA00 Pilbara Seismi 46.00 258 P **P** **21 30 09.8 +0.7**
PSA00 Pilbara Seismi 46.00 258 P **P** **21 30 10.0 +0.9**
PSA00 IAmb IAmb 21 30 11.8
comp=Z,190nm,0.7s
PSA00 Pilbara Seismi 46.00 258 P **P** **21 30 09.6 +0.5**
PSA00 IAmb IAmb 21 30 11.8
comp=Z,63nm,0.8s
MBWA Marble Bar 46.15 259 P **P** **21 30 11.0 +0.7**
MBWA Marble Bar 46.15 259 P **P** **21 30 11.2 +0.9**
MBWA IAmb IAmb 21 30 13.1
comp=Z,227nm,1.0s
MBWA Marble Bar 46.15 259 P **P** **21 30 11.2 +0.9**
MBWA pP **pP** **21 30 35.0 +0.9**
MBWA sP **sP** **21 30 46.9 +1.3**
MBWA ScP **ScP** **21 35 29.8 +1.4**
MMRI Maumere 46.39 276 P **P** **21 30 12.7 +0.4**
MMRI Maumere 46.39 276 P **P** **21 30 13.1 +0.9**
comp=Z,94nm,0.8s,comp=Z,4μm
MEEK Meekatharra 46.80 251 P **P** **21 30 16.1 +0.8**
EDFI Ende, Flores 46.87 276 P **P** **21 30 17.0 +0.9**
comp=Z,36nm,1.2s
BBSI Bau Bau 47.11 280 P P 21 30 24.6 +6.8
KLBR Kellerberrin 47.60 244 P **P** **21 30 21.5 +0.1**
NWAO Narrogin (SRO) 48.11 242 P **P** **21 30 25.9 +0.6**
NWAO Narrogin (SRO) 48.11 242 P **P** **21 30 26.0 +0.6**
NWAO IAmb IAmb 21 30 27.6
comp=Z,234nm,1.2s
NWAO Narrogin (SRO) 48.11 242 LR LR 21 51 24.6
comp=Z,738nm,18.3s,baz=100,slow=37
NWAO Narrogin (SRO) 48.11 242 P **P** **21 30 26.0 +0.6**
NWAO pmax pmax
comp=Z,234nm,1.2s
NWAO Narrogin (SRO) 48.11 242 P **P** **21 30 25.7 +0.4**
NWAO pP **pP** **21 30 50.8 +1.2**
BLDU Ballidu 48.46 246 P **P** **21 30 28.1 0.0**
LUWI Luwuk 48.62 286 P **P** **21 30 30.8 +1.3**
LUWI Luwuk 48.62 286 P **P** **21 30 30.1 +0.6**
LUWI IAmb IAmb 21 31 22.3
comp=Z,129nm,1.1s
LUWI Luwuk 48.62 286 P **P** **21 30 31.0 +1.5**
comp=Z,109nm,0.9s,comp=Z,2μm
MUN Mundaring 48.93 244 P **P** **21 30 32.7 +1.0**
MORW Morawa 49.04 248 P **P** **21 30 33.1 +0.6**
MORW Morawa 49.04 248 P **P** **21 30 33.0 +0.6**
MORW IAmb IAmb 21 30 34.8
comp=Z,76nm,0.8s
BKSI Bulukumba 49.45 279 P **P** **21 30 36.6 +0.8**
comp=Z,45nm,0.8s
BIPH Bislig 49.90 299⇑ *e*P **P** **21 30 39.0 -0.2**
KAPI Kappang 49.91 280 P **P** **21 30 40.5 +1.2**
KAPI IAmb IAmb 21 30 41.5
comp=Z,67nm,0.8s
KAPI Kappang 49.91 280 P **P** **21 30 40.5 +1.2**
KAPI pmax pmax
comp=Z,67nm,0.8s
MRSI Marisa 50.02 287 P **P** **21 30 43.5 +3.4**
comp=Z,41nm,0.9s
PLAI Plampang 50.54 274 P **P** **21 30 44.9 +0.9**
PLAI Plampang 50.54 274 P **P** **21 30 45.2 +1.2**
comp=Z,177nm,0.7s
KEKH Kekaha 50.93 38 P **P** **21 30 48.0 +1.2**
DRV Dumont d'Urvil 51.25 194 P **P** **21 30 48.8 +0.3**
DRV pP **pP** **21 31 13.7 +0.4**
TOLI2 Tolitoli 51.33 287 P **P** **21 30 50.8 +0.8**
TOLI2 Tolitoli 51.33 287 P **P** **21 30 50.0 +0.1**
TOLI2 IAmb IAmb 21 30 51.5
comp=Z,63nm,0.8s
TWSI Taliwang, Sumb 51.41 274 P **P** **21 30 51.8 +1.2**
comp=Z,151nm,1.1s,comp=Z,2μm
KHU Kahuku 51.47 44 P **P** **21 30 52.4 +1.3**
KHU Kahuku 51.47 44 P **P** **21 30 52.4 +1.3**
KHU pmax pmax
comp=Z,405nm,0.9s
SCPH Surigao 51.50 300⇑ *e*P **P** **21 30 52.2 +1.1**
KIP Kipapa 51.52 40 P **P** **21 30 52.4 +1.2**
KIP Kipapa 51.52 40 P **P** **21 30 52.4 +1.2**
KIP pmax pmax
comp=Z,187nm,0.8s
KIP Kipapa 51.52 40 P **P** **21 30 51.9 +0.7**
KIP PcP **PcP** **21 32 06.7 +2.7**
DHH Diamond Head 51.54 41 P **P** **21 30 53.0 +1.7**
DHH Diamond Head 51.54 41 P **P** **21 30 53.0 +1.7**
HUH Hualalai 51.63 44 P **P** **21 30 53.7 +1.3**
MWH Moku'aweowe 51.65 44 P **P** **21 30 54.1 +1.3**
MLOA Mauna Loa Obse 51.70 44 **P** **21 30 54.5 +1.4**
HLP Hilina Pali 51.71 45 P **P** **21 30 53.9 +1.2**
MLH Mauna Loa 51.80 44 P **P** **21 30 54.7 +1.1**
UWE Uwekahuna 51.81 45 P **P** **21 30 51.9 -1.6**
MPSI Mapaga 51.81 286 P **P** **21 30 54.0 +0.5**
comp=Z,81nm,0.9s,comp=Z,985nm
HMH Humu'ula Sheep 51.81 44 P **P** **21 30 55.2 +1.5**
POHA Pohakuloa 51.89 44 P **P** **21 30 55.4 +1.1**
POHA Pohakuloa 51.89 44 P **P** **21 30 55.5 +1.3**
STCH Steam Cracks 51.89 45 P **P** **21 30 54.2 +0.1**
MHA Mahukona 51.95 43 **P** **21 30 55.9 +1.5**
MHA Mahukona 51.95 43 P **P** **21 30 55.9 +1.5**
HPAH Hawaii Prepara 51.97 44 **P** **21 30 55.9 +1.3**
JOKA Jonika Flow 52.01 45 P **P** **21 30 56.5 +1.6**
PAH Pahoa 52.09 45 **P** **21 30 57.0 +1.6**
KHLH Kahului Airpor 52.13 42 **P** **21 30 57.4 +1.7**
HLK Haleakala 52.14 43 **P** **21 30 57.5 +1.4**
JCJ Chichijima 52.62 330 P **P** **21 30 59.5 +0.2**
JCJ Chichijima 52.62 330 P **P** **21 30 59.5 +0.2**
JCJ Chichijima 52.62 330 LR LR 21 51 41.2
comp=Z,84nm,21.8s,baz=127,slow=34
PLP Palo 52.68 301⇑ *e*P **P** **21 30 59.9 -0.1**
TBP Tagbilaran 52.79 299⇓ *e*P **P** **21 31 01.0 +0.3**
DNP Denpasar 53.01 273 P **P** **21 31 04.1 +1.7**
SRBI Singaraja 53.18 274 P **P** **21 31 05.9 +2.2**
comp=Z,149nm,1.0s,comp=Z,2μm
JAGI Jajag, Banyuwa 54.07 273 P **P** **21 31 09.9 -0.2**
JAGI Jajag, Banyuwa 54.07 273 P **P** **21 31 09.5 -0.6**
JAGI IAmb IAmb 21 31 18.9
comp=Z,131nm,1.1s
JAGI Jajag, Banyuwa 54.07 273 P **P** **21 31 10.0 -0.2**
comp=Z,110nm,0.8s
ABJI Asem Bagus 54.19 274 P **P** **21 31 13.4 +2.4**
comp=Z,134nm,0.9s
RCP Roxas 54.72 300⇑ *e*P **P** **21 31 15.7 +0.9**
PWJI Pagerwojo 56.42 273 P **P** **21 31 27.9 +0.9**
comp=Z,64nm,0.7s
LQP Lukban 57.10 302⇓ *e*P **P** **21 31 31.9 -0.1**
UGM Wanagama 57.66 273 P **P** **21 31 36.7 +0.8**
UGM Wanagama 57.66 273 P **P** **21 31 36.4 +0.6**
SMRI Semarang 58.00 274 IAmb IAmb 21 31 40.4
comp=Z,86nm,0.8s
SMRI Semarang 58.00 274 P **P** **21 31 40.3 +2.1**
comp=Z,128nm,0.8s
VNDA Vanda 58.71 182 P **P** **21 31 43.1 +0.9**
VNDA Vanda 58.71 182 P **P** **21 31 41.6 -0.5**
comp=Z,5.9nm,0.5s,baz=358,slow=7.1,SNR=42
VNDA S **S** **21 39 39.6 +1.2**
comp=Z,2.3nm,0.3s,baz=70,slow=22,SNR=2.2
comp=Z,5.9nm,0.5s
VNDA Vanda 58.71 182 P **P** **21 31 43.1 +0.9**
VNDA pmax pmax
comp=Z,41nm,1.3s
VNDA Vanda 58.71 182 P **P** **21 31 43.0 +0.9**
VNDA pP **pP** **21 32 08.9 +1.3**
VNDA PcP **PcP** **21 32 30.8 0.0**
SBA Scott Base 58.95 181 P **P** **21 31 45.8 +2.1**
SBA IAmb IAmb 21 31 49.5
comp=Z,69nm,0.8s
SBA Scott Base 58.95 181 P **P** **21 31 45.8 +2.1**
SBA pmax pmax
comp=Z,69nm,0.8s
SBA Scott Base 58.95 181 P **P** **21 31 45.9 +2.1**
SBA pP **pP** **21 32 10.2 +1.0**
STKI Sintang 59.44 282 P **P** **21 31 49.9 +1.7**
comp=Z,64nm,1.1s
SBUM Sibu 59.67 285 P **P** **21 31 50.7 +1.0**
PACPP Pamplona Cagay 59.73 306⇑ *i*P **P** **21 31 49.6 -0.3**
JCJI Jatiwangi 60.22 273 P **P** **21 31 54.9 +1.4**
comp=Z,233nm,0.8s
JOW Kunigami 60.24 318 P **P** **21 31 54.7 +1.4**
JOW IAmb IAmb 21 31 55.9
comp=Z,90nm,0.8s
BBJI Bungbulang 60.51 272 P **P** **21 31 56.0 +0.4**
CCD Concordia, Ant 61.13 192 P **P** **21 31 59.7 +0.5**
CCD pP **pP** **21 32 24.7 0.0**
CCD sP **sP** **21 32 36.5 +0.3**
CCD PcP **PcP** **21 32 40.0 -1.1**
DBJI Dramaga 61.64 273 P **P** **21 32 03.9 +0.8**
comp=Z,251nm,1.1s
INU Inuyama 61.92 331 P **P** **21 32 05.6 +1.1**
INU IAmb IAmb 21 32 06.7
comp=Z,205nm,1.5s
INU Inuyama 61.92 331 P **P** **21 32 05.0 +0.5**
INU sP **sP** **21 32 40.3 -1.2**
INU PcP **PcP** **21 32 45.8 +1.5**
JGF Kuroka 61.97 331 P **P** **21 32 05.6 +0.7**
JGF Kuroka 61.97 331 P **P** **21 32 04.6 -0.3**
JGF IAmb IAmb 21 32 06.9
comp=Z,268nm,1.9s
JMN Monobe 62.15 327 P **P** **21 32 07.6 +1.5**
JMN Monobe 62.15 327 P **P** **21 32 07.5 +1.3**
JMN IAmb IAmb 21 32 08.6
comp=Z,182nm,1.1s
YOJ Yonaguni jima 62.17 312 P **P** **21 32 07.7 +1.3**
YOJ Yonaguni jima 62.17 312 P **P** **21 32 07.3 +0.9**
YOJ Yonaguni jima 62.17 312 P **P** **21 32 07.3 +0.9**
YOJ pmax pmax
comp=Z,243nm,0.7s
SBJI Serang 62.36 273 P P 21 32 17.2 +9.3
MJAR Matsushiro Arr 62.37 332 P **P** **21 32 05.9 -1.6**
comp=Z,110nm,1.0s,baz=162,slow=7.0,SNR=132
MJAR PKP2bc **P'P'df** **22 01 13.2 +2.2**
comp=Z,1.9nm,0.9s,baz=334,slow=2.8,SNR=6.9
comp=Z,110nm,1.0s
MAJO Matsushiro 62.37 332 P **P** **21 32 08.3 +0.8**
MAJO Matsushiro 62.37 332 *ce*P **P** **21 32 07.0 -0.5**
MAJO pmax pmax
comp=Z,160nm,1.1s
MAJO Matsushiro 62.37 332 P **P** **21 32 07.9 +0.3**
MAJO PcP **PcP** **21 32 47.5 +1.4**
JMM Marumori 62.41 335 P **P** **21 32 09.2 +1.5**
JMM Marumori 62.41 335 P **P** **21 32 08.6 +0.8**
JMM IAmb IAmb 21 32 10.1
comp=Z,187nm,1.1s
TWGBT Beinan 62.53 310 P **P** **21 32 10.0 +1.1**
TWG Pinlang 62.54 310 P **P** **21 32 09.1 +0.2**
YULB Yu-li 62.72 310 P **P** **21 32 10.2 +0.1**
YULB Yu-li 62.72 310 P **P** **21 32 10.3 +0.1**
NACB Ninganchiao 62.99 311 P **P** **21 32 12.7 +0.8**
NACB Ninganchiao 62.99 311 P **P** **21 32 12.5 +0.6**
NACB IAmb IAmb 21 32 13.4
comp=Z,133nm,0.8s
TPUB Ta-pu 63.15 310 P **P** **21 32 13.3 +0.3**
TPUB Ta-pu 63.15 310 P **P** **21 32 13.1 +0.1**
SSLB Suanglung 63.21 310 P **P** **21 32 13.6 +0.2**
SSLB Suanglung 63.21 310 P **P** **21 32 13.5 +0.1**
SSLB IAmb IAmb 21 32 14.3
comp=Z,133nm,0.7s
JNU Nakatsue 63.28 325 P **P** **21 32 14.4 +0.8**
JNU Nakatsue 63.28 325 P **P** **21 32 14.2 +0.5**
JNU IAmb IAmb 21 32 15.5
comp=Z,167nm,1.1s
JNU Nakatsue 63.28 325 LR LR 21 55 39.6
comp=Z,192nm,21.4s,baz=132,slow=32
YHNB Yeheng 63.46 311 P **P** **21 32 16.3 +1.3**
YHNB Yeheng 63.46 311 P **P** **21 32 15.9 +0.8**
YHNB IAmb IAmb 21 32 16.9
comp=Z,171nm,0.8s
TATO Taipei 63.57 312 P **P** **21 32 16.1 +0.5**
TATO Taipei 63.57 312 P **P** **21 32 16.1 +0.5**
KASI Kota Agung 64.09 273 P **P** **21 32 19.4 +0.1**
comp=Z,136nm,0.8s
LWLI Liwa 64.66 273 P **P** **21 32 26.7 +3.5**
comp=Z,223nm,0.8s,comp=Z,2μm
JTM Tenmabayashi 64.84 337 P **P** **21 32 25.0 +1.4**
JTM IAmb IAmb 21 32 25.9
comp=Z,189nm,1.0s
JTU Tsushima 65.14 325 P **P** **21 32 27.7 +2.0**
ERM Erimo 65.18 339 P **P** **21 32 27.1 +1.3**
ERM Erimo 65.18 339 P **P** **21 32 27.3 +1.5**
ERM Erimo 65.18 339 P **P** **21 32 27.3 +1.5**
ERM pmax pmax
comp=Z,47nm,0.9s
ERM Erimo 65.18 339 P **P** **21 32 26.8 +1.0**
JEM Erimo 65.18 339 P **P** **21 32 27.8 +2.0**
QZH Quanzhou 65.62 310⇓ *i*P **P** **21 32 29.9 +0.9**
QZH S **S** **21 41 05.9 -0.7**
QZH pmax pmax
comp=Z,94nm,0.7s
TPRI Tanjung Pinang 66.22 280 P **P** **21 32 37.3 +4.2**
comp=Z,47nm,1.3s
KUR Kuril'sk 66.69 344 *c i*P **P** **21 32 37.7 +2.3**
KUR pmax pmax
comp=Z,791nm,1.1s
JKA Kamikawa-asahi 67.23 340 P **P** **21 32 40.9 +2.0**
ASAJ Asahikawa 67.23 340 LR LR 21 57 01.4
comp=Z,293nm,21.7s,baz=171,slow=31
ASAJ Asahikawa 67.23 340 P **P** **21 32 40.9 +2.0**
ASAJ pmax pmax
comp=Z,268nm,1.0s
HKPS Hong Kong Po S 67.45 305 P **P** **21 32 41.8 +1.1**
TJN Taejon 67.62 325 P **P** **21 32 42.6 +1.1**
TJN Taejon 67.62 325 P **P** **21 32 42.6 +1.1**
TJN pmax pmax
comp=Z,634nm,1.3s
KSRS Korea Array 68.12 326 P **P** **21 32 42.9 -1.6**
comp=Z,25nm,1.0s,baz=144,slow=6.4,SNR=62
KSRS PKPPKP **P'P'df** **22 01 00.5 -1.3**
comp=Z,3.6nm,0.9s,baz=306,slow=2.4,SNR=12
comp=Z,25nm,1.0s
KSAR Wonju Array Be 68.13 326 P **P** **21 32 45.4 +0.8**
KSAR Wonju Array Be 68.13 326 P **P** **21 32 45.4 +0.8**
KS19 Wonju Array Si 68.18 326 P **P** **21 32 46.7 +1.7**
INCN Inchon 68.83 325 P **P** **21 32 50.5 +1.4**
INCN IAmb IAmb 21 32 51.4
comp=Z,215nm,1.2s
INCN Inchon 68.83 325 P **P** **21 32 50.5 +1.4**
INCN pmax pmax
comp=Z,215nm,1.2s
INCN Inchon 68.83 325 P **P** **21 32 50.3 +1.2**
QIZ Qiongzhong 69.21 300 P **P** **21 32 53.8 +2.0**
QIZ S **S** **21 41 54.3 +4.6**
QIZ pmax pmax
comp=Z,61nm,1.4s
QIZ LR LR
comp=Z,490nm,15.1s
QIZ LR LR
comp=Z,410nm,13.5s
QIZ LR LR
comp=Z,400nm,31.1s
QIZ Qiongzhong 69.21 300 P **P** **21 32 53.5 +1.7**
QIZ pP **pP** **21 33 18.5 +0.5**
PDSI Padang 69.39 276 P **P** **21 32 52.3 -0.8**
comp=Z,51nm,0.8s
YSS Yuzh-Sakhalins 69.72 341 P **P** **21 32 56.0 +1.7**
YSS Yuzh-Sakhalins 69.72 341 P **P** **21 32 56.0 +1.7**
YSS IAmb IAmb 21 32 57.4
comp=Z,171nm,1.0s
YSS Yuzh-Sakhalins 69.72 341 *k i*P **P** **21 32 56.3 +2.0**
YSS *e**PP **pP** **21 33 23.4 +3.0**
YSS *e*S **S** **21 41 57.3 +2.7**
YSS pmax pmax
comp=Z,300nm,3.7s
YSS pmax pmax
comp=Z,100nm,1.3s
YSS Yuzh-Sakhalins 69.72 341 P **P** **21 32 56.1 +1.7**
YSS PcP **PcP** **21 33 18.2 +1.9**
NJ2 Nanjing 69.81 316 ⇓P **P** **21 32 56.0 +0.8**
NJ2 PcP **PcP** **21 33 18.8 +1.6**
NJ2 sP **sP** **21 33 34.6 +1.8**
NJ2 S **S** **21 41 58.6 +2.2**
NJ2 pmax pmax
comp=Z,51nm,1.3s
NJ2 pmax pmax
comp=Z,320nm,3.5s
SKR Severo-Kuril's 70.24 351 *de*P **P** **21 32 58.1 +0.7**
MSHR Mys Shultsa 70.44 331 *d i*P **P** **21 33 00.0 +1.2**
MSHR pmax pmax
comp=Z,86nm,1.2s
VLA Vladivostok 70.54 332 *e*P **P** **21 33 00.9 +1.5**
VLA pmax pmax
comp=Z,180nm,1.6s
AMKA Amchitka 70.61 7 P **P** **21 33 00.6 +1.1**
PSTR Posyet 70.66 331 *d i*P **P** **21 33 01.4 +1.3**
QSPA South Pole Qui 71.11 180 P **P** **21 33 03.8 +1.0**
QSPA IAmb IAmb 21 33 06.2
comp=Z,194nm,1.1s
QSPA South Pole Qui 71.11 180 P **P** **21 33 02.7 -0.1**
comp=Z,129nm,0.9s,baz=330,slow=0.6,SNR=328
QSPA S **S** **21 42 10.1 -0.7**
comp=Z,1.0nm,0.9s,baz=299,slow=18,SNR=6.1
QSPA LR LR 22 00 52.7
comp=Z,184nm,18.6s,baz=329,slow=33
comp=Z,129nm,0.9s
QSPA South Pole Qui 71.11 180 P **P** **21 33 03.8 +1.0**
QSPA pP **pP** **21 33 29.3 +0.2**
USA0B Ussuriysk Arra 71.36 333 IAmb IAmb 21 33 06.9
comp=Z,156nm,1.1s
USA0B Ussuriysk Arra 71.36 333 *d i*P **P** **21 33 05.4 +1.1**
USRK Ussuriysk Ar. 71.36 333 P **P** **21 33 05.7 +1.4**
USRK Ussuriysk Ar. 71.36 333 P **P** **21 33 05.0 +0.7**
comp=Z,98nm,0.9s,baz=139,slow=4.6,SNR=115
comp=Z,98nm,0.9s
USRK Ussuriysk Ar. 71.36 333 P **P** **21 33 05.7 +1.4**
SHEM Shemya Is, Ala 71.51 3 LR LR 21 59 24.7
comp=Z,281nm,20.1s,baz=192,slow=32
KIWB Kanaga Island 71.53 9 P **P** **21 33 05.7 +0.4**
CNSH ChangSha 71.62 310 P **P** **21 33 07.3 +1.0**
CNSH S **S** **21 42 18.9 +1.4**
CNSH pmax pmax
comp=Z,33nm,0.9s
CNSH LR LR
comp=Z,270nm,11.4s
CNSH LR LR
comp=Z,210nm,11.8s
CNSH LR LR
comp=Z,330nm,14.3s
ADK Adak 71.63 9 P **P** **21 33 05.8 0.0**
ADK Adak 71.63 9 P **P** **21 33 06.2 +0.4**
ADK IAmb IAmb 21 33 07.1
comp=Z,185nm,1.0s
ADK Adak 71.63 9 P **P** **21 33 06.2 +0.4**

ADK pmax pmax
comp=Z,185nm,1.0s
ADK Adak 71.63 9 P **P 21 33 05.6 -0.1**
WHN Wuhan 71.96 312 ⇓*i*P **P 21 33 08.8 +0.6**
WHN pmax pmax
comp=Z,170nm,1.0s
PET Petropavlovsk 72.22 353 P **P 21 33 10.6 +1.4**
PET IAmb IAmb 21 33 11.1
comp=Z,278nm,1.4s
PET Petropavlovsk 72.22 353 ⇓*i*P **P 21 33 09.7 +0.4**
PET pmax pmax
comp=Z,156nm,1.4s
PET MLR MLR
comp=Z,100nm,16.0s
ATKA Atka Island 72.35 11 P **P 21 33 10.3 +0.2**
DL2 Dalian 72.62 323 P **P 21 33 12.5 +0.5**
DL2 pP **pP 21 33 40.8 +2.5**
DL2 sP **sP 21 33 45.6 -3.9**
DL2 S **S 21 42 26.8 -1.7**
DL2 pmax pmax
comp=Z,300nm,1.0s
DL2 pmax pmax
comp=Z,370nm,7.6s
MDJ Mudanjiang 72.74 332 P **P 21 33 13.4 +0.8**
MDJ pmax pmax
comp=Z,210nm,0.9s
MDJ Mudanjiang 72.74 332 IAmb IAmb 21 33 15.1
comp=Z,222nm,1.0s
GSI Gunungsitoli 72.86 277 P **P 21 33 14.4 +0.4**
GSI Gunungsitoli 72.86 277 P **P 21 33 14.5 +0.5**
comp=Z,120nm,1.1s
TYV Tymovskoe 73.26 343 *e*P **P 21 33 17.1 +1.6**
TYV pmax pmax
comp=Z,55nm,1.5s
TYV pmax pmax
comp=Z,200nm,3.1s
TIA Tai'an 73.55 318 P **P 21 33 18.3 +0.7**
TIA pmax pmax
comp=Z,81nm,1.3s
SNY Shenyang 73.59 326 ⇓P **P 21 33 18.1 +0.5**
SNY pmax pmax
comp=Z,40nm,1.1s
CN2 Changchun 74.07 329 *e*P **P 21 33 20.9 +0.5**
CN2 *e*S **S 21 42 45.0 +0.3**
CN2 *es*S sS 21 43 28.5 -1.5
CN2 pmax pmax
comp=Z,180nm,1.0s
NIKH Nikolski High 74.16 14 P **P 21 33 21.0 +0.3**
NIKH Nikolski High 74.16 14 P **P 21 33 20.7 0.0**
baz=202,SNR=88
BNX BinXian 74.59 331 ⇓P **P 21 33 23.5 +0.1**
BNX pmax pmax
comp=Z,220nm,0.9s
GRNR Gornyy 75.09 339 ⇓*i*P **P 21 33 28.0 +1.9**
GRNR pmax pmax
comp=N,40nm,1.0s
GRNR pmax pmax
comp=E,30nm,1.0s
GRNR pmax pmax
comp=Z,150nm,1.0s
GYA Guiyang 75.44 305 ⇓P **P 21 33 29.5 +0.7**
GYA pP pP 21 33 56.1 +0.7
GYA S **S 21 42 58.5 -2.4**
GYA SKS **SKSac 21 43 24.6 -4.8**
GYA pmax pmax
comp=Z,43nm,1.4s
GYA pmax pmax
comp=Z,370nm,7.9s
GYA LR LR
comp=Z,260nm,9.9s
GYA LR LR
comp=Z,220nm,7.9s
GYA LR LR
comp=Z,170nm,11.4s
KLR Kul'dur 75.50 336 P **P 21 33 28.6 +0.1**
comp=Z,83nm,1.0s,baz=136,slow=5.4,SNR=108
KLR LR LR 22 01 13.5
comp=Z,149nm,22.0s,baz=106,slow=31
comp=Z,83nm,1.0s
KLR Kul'dur 75.50 336 *d i*P **P 21 33 29.5 +1.0**
KLR pmax pmax
comp=Z,224nm,1.7s
UNV Unalaska Valle 75.51 15 P **P 21 33 28.3 -0.1**
UNV Unalaska Valle 75.51 15 P **P 21 33 27.8 -0.6**
baz=204,SNR=30
LYN LuoYang 75.58 315 P **P 21 33 30.3 +1.0**
LYN pP pP 21 33 56.9 +0.9
LYN sP sP 21 34 09.4 +2.1
LYN S **S 21 43 03.4 +1.6**
LYN SKS **SKSac 21 43 22.4 -7.4**
LYN pmax pmax
comp=Z,150nm,0.8s
LYN pmax pmax
comp=Z,390nm,3.5s
HNS HongShan 75.81 318 ⇓P **P 21 33 31.8 +1.3**
HNS pmax pmax
comp=Z,84nm,1.4s
LVA Lava Point 75.91 15 IAmb IAmb 21 33 33.8
comp=Z,166nm,0.9s
SRDT SRDT 76.31 291 P **P 21 33 36.3 +2.5**
BJT Baijiatuau 76.53 321 IAmb IAmb 21 33 37.0
comp=Z,217nm,1.5s
BJI Beijing 76.55 321 P **P 21 33 35.5 +0.9**
BJI S **S 21 43 15.0 +2.8**
BJI pmax pmax
comp=Z,45nm,1.2s
BJI pmax pmax
comp=Z,260nm,7.2s
BJI LR LR
comp=Z,160nm,14.0s
BJI LR LR
comp=Z,120nm,15.4s
BJI LR LR
comp=Z,140nm,17.1s
FALS False Pass 77.20 16 P **P 21 33 37.2 -0.7**
baz=207,SNR=6.4
P08K Saint George I 77.40 12 P **P 21 33 39.1 +0.1**
baz=201
TIY Taiyuan 77.44 317 *e*P **P 21 33 41.3 +1.4**
TIY pmax pmax
comp=Z,48nm,1.4s
XAN Xi'an 77.72 313 ⇓P **P 21 33 42.4 +0.9**
XAN pP pP 21 34 06.3 -1.9
XAN sP sP 21 34 19.4 0.0
XAN S **S 21 43 28.9 +3.6**
XAN sS sS 21 44 10.9 +0.9
XAN pmax pmax
comp=Z,100nm,0.8s
XAN pmax pmax
comp=Z,720nm,4.5s
XAN LR LR
comp=Z,480nm,18.0s
XAN LR LR
comp=Z,350nm,16.2s
XAN LR LR
comp=Z,530nm,18.2s
SPIA Saint Paul Isl 77.81 11 P **P 21 33 41.9 +0.6**
SPIA Saint Paul Isl 77.81 11 P **P 21 33 41.5 +0.2**
baz=200,SNR=5.1
KMI Kunming 77.89 302 ⇓P **P 21 33 44.5 +1.7**
KMI pP pP 21 34 10.5 +1.0
KMI sP sP 21 34 22.8 +2.1
KMI S **S 21 43 31.3 +3.4**
KMI pmax pmax
comp=Z,140nm,0.8s
KMI LR LR
comp=Z,340nm,32.0s
HEH HeiHe 78.04 334 *e*P **P 21 33 42.8 +0.1**
HEH pmax pmax
comp=Z,76nm,1.2s
CMAR Chiang Mai Arr 78.14 294 P **P 21 33 46.0 +1.9**
CMAR Chiang Mai Arr 78.14 294 P **P 21 33 45.1 +1.0**
comp=Z,52nm,0.8s,baz=132,slow=4.3,SNR=255
CMAR PKKP **PKKPdf 21 52 29.9 -1.3**
comp=Z,0.8nm,1.0s,baz=317,slow=7.8,SNR=4.1
CMAR PKKPbc **PKKPbc 21 52 42.6 -0.1**
comp=Z,1.6nm,0.7s,baz=291,slow=4.3,SNR=8.8
CMAR PKPPKP **P'P'df 22 00 44.0 -2.4**
comp=Z,1.2nm,0.9s,baz=294,slow=2.5,SNR=5.9
comp=Z,52nm,0.8s
CMAR Chiang Mai Arr 78.14 294 P **P 21 33 46.0 +1.9**
CNBA Chernabura Isl 78.22 18 IAmb IAmb 21 33 44.5
comp=Z,136nm,1.1s
CHNA Chernabura Isl 78.23 18 P **P 21 33 43.4 -0.2**
baz=210,SNR=10
CHTO Chiang Mai 78.29 295 P **P 21 33 46.1 +1.3**

CHTO Chiang Mai 78.29 295 P **P 21 33 46.2 +1.3**
CHTO pmax pmax
comp=Z,71nm,0.8s
S12K Black Hills 78.31 16 IAmb IAmb 21 33 44.8
comp=Z,215nm,0.8s
S12K Black Hills 78.31 16 P **P 21 33 43.8 -0.4**
baz=208,SNR=18
SDPT Sand Point 78.43 17 P **P 21 33 44.9 +0.1**
SDPT Sand Point 78.43 17 P **P 21 33 44.2 -0.6**
baz=209,SNR=16
MAW Mawson 78.61 202 P **P 21 33 46.2 +0.5**
comp=Z,64nm,0.9s,baz=116,slow=6.2,SNR=78
MAW LR LR 22 05 04.3
comp=Z,510nm,18.9s,baz=79,slow=33
comp=Z,64nm,0.9s
XLT XiLinHaoTe 79.05 324 *e*P **P 21 33 49.4 +0.8**
XLT pmax pmax
comp=Z,80nm,1.3s
PZH PanZhiHua 79.33 303 P **P 21 33 51.8 +1.2**
PZH pP **pP 21 34 18.9 +1.6**
PZH S **S 21 43 43.3 +0.3**
PZH pmax pmax
comp=Z,50nm,0.8s
PZH pmax pmax
comp=Z,280nm,4.1s
S14K Fog Glacier 79.50 17 P **P 21 33 51.2 +0.4**
baz=210,SNR=16
MA2 Magadan 79.64 351 P **P 21 33 52.2 +0.9**
MA2 IAmb IAmb 21 33 53.2
comp=Z,135nm,1.0s
MA2 Magadan 79.64 351 LR LR 22 04 32.8
comp=Z,205nm,21.6s,baz=151,slow=32
MA2 Magadan 79.64 351 *d i*P **P 21 33 50.9 -0.4**
MA2 pmax pmax
comp=Z,138nm,1.0s
HHC Hu-ho-hao-te 79.83 320 ⇓*i*P **P 21 33 54.3 +1.4**
HHC sP sP 21 34 28.4 -2.4
HHC pmax pmax
comp=Z,75nm,1.1s
HHC LR LR
comp=Z,200nm,19.6s
HHC LR LR
comp=Z,190nm,16.2s
HHC LR LR
comp=Z,300nm,19.4s
CHGN Chignik 79.84 18 IAmb IAmb 21 33 53.2
comp=Z,128nm,0.8s
CHGN Chignik 79.84 18 P **P 21 33 52.1 -0.3**
baz=211,SNR=9.5
CD2 Chengdu 79.85 308 P **P 21 33 53.5 +0.3**
CD2 S **S 21 43 49.8 +1.7**
CD2 sS sS 21 44 37.9 +5.0
CD2 pmax pmax
comp=Z,830nm,4.3s
CHIR Chirikof Islan 80.28 19 P **P 21 33 55.2 +0.4**
baz=214
BTO Baotou 80.64 319 *e*P **P 21 33 59.1 +1.8**
BTO pP **pP 21 34 21.8 -2.3**
BTO sP **sP 21 34 32.3 -2.9**
BTO PP **PP 21 37 05.0 +2.3**
BTO S **S 21 43 56.5 +0.3**
BTO pmax pmax
comp=Z,58nm,1.0s
BTO pmax pmax
comp=Z,260nm,6.1s
BTO LR LR
comp=Z,370nm,10.5s
BTO LR LR
comp=Z,310nm,7.6s
BTO LR LR
comp=Z,480nm,13.1s
HIA Hailar 80.73 330 *d i*P **P 21 33 57.6 +0.2**
HIA pmax pmax
comp=Z,81nm,1.1s
ZEA Zeya 80.78 336 *e*P **P 21 33 59.0 +1.4**
ZEA pmax pmax
comp=E,20nm,1.4s
ZEA pmax pmax
comp=N,40nm,1.1s
ZEA pmax pmax
comp=Z,70nm,1.1s
TNCH TengChong 81.28 300 ⇓P **P 21 34 02.3 +1.2**
TNCH pP pP 21 34 28.9 +0.9
TNCH sP sP 21 34 41.0 +1.8
TNCH S **S 21 44 03.3 -0.2**
TNCH SKS **SKSac 21 44 07.8 -3.5**
TNCH pmax pmax
comp=Z,40nm,0.9s
TNCH pmax pmax
comp=Z,270nm,4.7s
TNCH LR LR
comp=Z,260nm,15.7s
SII Sitkinak Islan 81.34 20 P **P 21 34 01.6 +1.1**
SII Sitkinak Islan 81.34 20 IAmb IAmb 21 34 02.3
comp=Z,195nm,0.8s
SII Sitkinak Islan 81.34 20 P **P 21 34 01.2 +0.7**
baz=215,SNR=11
R17L Mt. Peulik Vol 81.57 18 P **P 21 34 02.2 +0.5**
baz=213,SNR=16
M11K Mekoryuk 81.58 12 P **P 21 34 02.9 +1.3**
baz=204
O14K Tigyukauivet M 81.65 15 IAmb IAmb 21 34 04.7
comp=Z,76nm,0.7s
O14K Tigyukauivet M 81.65 15 P **P 21 34 02.5 +0.5**
baz=208,SNR=10
O15K Ungalikthiuk R 81.94 16 P **P 21 34 03.6 0.0**
baz=210,SNR=9.8
R18K Karluk 82.09 19 P **P 21 34 04.8 +0.5**
baz=215,SNR=18
N14K Kuskokwak Cree 82.14 14 P **P 21 34 05.3 +0.7**
baz=208,SNR=15
OHAK Old Harbor 82.17 20 P **P 21 34 06.0 +1.2**
OHAK Old Harbor 82.17 20 IAmb IAmb 21 34 07.4
comp=Z,186nm,0.8s
OHAK Old Harbor 82.17 20 P **P 21 34 05.5 +0.8**
baz=216,SNR=33
M13K Dall Lake 82.20 13 P **P 21 34 06.1 +1.2**
baz=206,SNR=8.9
Q17K Contact Creek 82.24 18 P **P 21 34 05.5 +0.2**
baz=213,SNR=51
P16K Nushagak River 82.30 17 P **P 21 34 05.5 +0.1**
baz=211,SNR=6.8
LZH Lanzhou 82.34 312 P **P 21 34 08.4 +2.0**
LZH sP sP 21 34 40.4 -4.0
LZH pmax pmax
comp=Z,93nm,1.6s
ACHA Angle Creek He 82.36 18 IAmb IAmb 21 34 08.1
comp=Z,127nm,1.0s
Q16K King Salmon 82.36 17 P **P 21 34 06.1 +0.4**
baz=213,SNR=30
BELA Belgrano 2 82.41 175 IAmb IAmb 21 34 34.5
comp=Z,94nm,1.0s
SEY Seymchan 82.64 352 *d i*P **P 21 34 07.3 +0.2**
SEY pmax pmax
comp=Z,92nm,0.9s
N15K Kwethluk River 82.74 15 IAmb IAmb 21 34 10.3
comp=Z,250nm,1.4s
N15K Kwethluk River 82.74 15 P **P 21 34 09.1 +1.3**
baz=209,SNR=29
O16K Kokwok River B 82.75 16 P **P 21 34 07.4 -0.4**
baz=211,SNR=21
M14K Bethel 82.81 14 IAmb IAmb 21 34 13.2
comp=Z,129nm,0.8s
M14K Bethel 82.81 14 P **P 21 34 09.0 +1.0**
baz=208,SNR=32
Q18K Katmai Hardscr 82.81 18 P **P 21 34 08.5 +0.2**
baz=214,SNR=90
KDAK Kodiak Island 82.85 20 P **P 21 34 09.6 +1.3**
KDAK IAmb IAmb 21 34 10.4
comp=Z,190nm,1.0s
KDAK Kodiak Island 82.85 20 P **P 21 34 09.1 +0.8**
baz=216
KDAK Kodiak Island 82.85 20 LR LR 22 02 52.7
comp=Z,283nm,22.0s,baz=249,slow=30
KDAK Kodiak Island 82.85 20 P **P 21 34 09.6 +1.3**
KDAK pmax pmax
comp=Z,191nm,1.0s
P17K Kvichak River 82.86 17 P **P 21 34 08.3 0.0**
baz=213,SNR=25
M15K Kasigluk River 83.06 15 P **P 21 34 10.2 +0.8**
baz=209,SNR=34
O17K Koliganek Bris 83.17 17 P **P 21 34 10.0 +0.1**
baz=212
L14K Kuka Creek 83.18 13 IAmb IAmb 21 34 12.1
comp=Z,88nm,0.8s
L14K Kuka Creek 83.18 13 P **P 21 34 10.9 +1.0**
baz=207,SNR=60

K13K Kusilvak Mount 83.30 12 P **P 21 34 11.8 +1.2**
baz=205,SNR=23
N16K Nishlik Lake 83.34 15 P **P 21 34 12.4 +1.6**
baz=211,SNR=52
P18K Big Mountain, 83.37 18 P **P 21 34 11.1 +0.1**
baz=214,SNR=52
Q19K Cape Douglas, 83.45 18 P **P 21 34 11.9 +0.4**
baz=215,SNR=62
Q20K Shuyak Island 83.57 19 P **P 21 34 12.9 +0.9**
baz=216,SNR=52
L15K Ungalak Mounta 83.74 14 P **P 21 34 13.5 +0.7**
baz=208,SNR=27
O18K Koktuh Hills 83.76 17 P **P 21 34 13.2 +0.2**
baz=214,SNR=41
M16K Timber Creek 83.76 15 P **P 21 34 14.6 +1.7**
baz=210,SNR=72
N17K Nushagak Hills 83.79 16 IAmb IAmb 21 34 16.2
comp=Z,137nm,0.9s
N17K Nushagak Hills 83.79 16 P **P 21 34 14.0 +0.9**
baz=212,SNR=36
P19K Oil Pt 84.16 18 P **P 21 34 15.4 +0.3**
baz=216,SNR=57
SMAI San Martin Ant 84.19 162 IAmb IAmb 21 34 44.8
comp=Z,143nm,1.2s
L16K Owhat River 84.24 15 IAmb IAmb 21 34 17.8
comp=Z,256nm,1.2s
L16K Owhat River 84.24 15 P **P 21 34 16.4 +1.1**
baz=210,SNR=63
J14K Nanvaranak Lak 84.26 12 IAmb IAmb 21 34 18.0
comp=Z,359nm,1.8s
J14K Nanvaranak Lak 84.26 12 P **P 21 34 16.7 +1.3**
baz=206,SNR=32
N18K Kilae Creek 84.26 17 IAmb IAmb 21 34 17.4
comp=Z,113nm,0.8s
N18K Kilae Creek 84.26 17 P **P 21 34 16.2 +0.7**
baz=213,SNR=60
K15K Wolf Creek Mou 84.28 13 P **P 21 34 16.9 +1.4**
baz=208,SNR=120
M17K Holitna River 84.47 16 P **P 21 34 18.2 +1.7**
baz=212,SNR=113
HOM Homer 84.65 19 P **P 21 34 18.6 +1.1**
baz=217,SNR=13
O20K Slope Mountain 84.69 18 P **P 21 34 18.1 +0.4**
baz=216,SNR=25
SVW2 Sparrevohn 84.69 16 IAmb IAmb 21 34 19.9
comp=Z,90nm,1.1s
N19K Bonanza Creek 84.76 17 IAmb IAmb 21 34 19.4
comp=Z,106nm,0.8s
N19K Bonanza Creek 84.76 17 P **P 21 34 18.2 +0.1**
baz=214,SNR=53
L17K Donlin 84.88 15 P **P 21 34 20.3 +1.7**
baz=211,SNR=127
M18K Stony River 84.96 16 P **P 21 34 20.2 +1.2**
baz=213,SNR=373
BRLK Bradley Lake 84.97 19 IAmb IAmb 21 34 20.8
comp=Z,163nm,1.0s
BRSE Bradley Lake S 84.99 19 P **P 21 34 19.7 +0.4**
baz=218,SNR=25
L18K Granite Mounta 85.35 15 IAmb IAmb 21 34 23.8
comp=Z,88nm,0.9s
L18K Granite Mounta 85.35 15 P **P 21 34 22.1 +1.2**
baz=212,SNR=59
J16K Anvik River 85.36 13 P **P 21 34 22.3 +1.4**
baz=209,SNR=195
K17K Iditarod 85.38 14 P **P 21 34 22.1 +1.1**
baz=211,SNR=101
MCCM Marconi Confer 85.46 47 IAmb IAmb 21 34 24.2
comp=Z,143nm,0.8s
CIT Chita 85.51 329 P **P 21 34 22.2 +0.2**
ANM Nome 85.56 11 IAmb IAmb 21 34 24.5
comp=Z,118nm,1.0s
ANM Nome 85.56 11 P **P 21 34 23.3 +1.4**
baz=204,SNR=17
SNCC San Nicolas Is 85.68 53 IAmb IAmb 21 34 25.8
comp=Z,134nm,0.8s
SNCC San Nicolas Is 85.68 53 P **P 21 34 24.4 +1.1**
baz=244,SNR=5.9
CAPN Captain Cook N 85.68 18 P **P 21 34 23.1 +0.5**
baz=218
SEW Seward 85.68 19 P **P 21 34 22.2 -0.4**
baz=219
M19K Big River Lodg 85.69 16 IAmb IAmb 21 34 25.6
comp=Z,49nm,0.7s
M19K Big River Lodg 85.69 16 P **P 21 34 22.9 +0.3**
baz=214
N20K Mount Spurr 85.72 18 P **P 21 34 21.9 -1.0**
baz=216
HOPS Hopland Field 85.73 46 IAmb IAmb 21 34 25.9
comp=Z,138nm,0.9s
J17K VABM Dome 85.79 14 IAmb IAmb 21 34 25.8
comp=Z,144nm,0.8s
J17K VABM Dome 85.79 14 P **P 21 34 24.4 +1.3**
baz=210,SNR=102
L19K White Mountain 85.79 16 IAmb IAmb 21 34 27.2
comp=Z,119nm,0.8s
L19K White Mountain 85.79 16 P **P 21 34 23.7 +0.5**
baz=214,SNR=113
SAO San Andreas Ge 85.83 49 IAmb IAmb 21 34 27.0
comp=Z,104nm,0.9s
GDXM Geysers 85.83 47 IAmb IAmb 21 34 26.9
comp=Z,85nm,1.1s
I17K Unalakleet 85.87 13 IAmb IAmb 21 34 26.3
comp=Z,68nm,0.9s
I17K Unalakleet 85.87 13 P **P 21 34 24.7 +1.3**
baz=209,SNR=21
O22K Cooper Landing 85.89 19 IAmb IAmb 21 34 36.9
comp=Z,121nm,0.8s
O22K Cooper Landing 85.89 19 P **P 21 34 23.9 +0.3**
baz=219,SNR=8.6
SCZ2 Santa Cruz Isl 85.92 52 P **P 21 34 25.3 +0.8**
baz=244,SNR=5.5
JCC Jacoby Creek, 85.96 44 IAmb IAmb 21 34 27.3
comp=Z,152nm,0.9s
M20K Styx River 86.01 17 P **P 21 34 24.3 0.0**
baz=216,SNR=42
BBGB Big Mountain B 86.04 49 IAmb IAmb 21 34 33.0
comp=Z,115nm,0.8s
PMPB Monarch Peak 86.05 50 IAmb IAmb 21 34 29.9
comp=Z,166nm,1.1s
SBC Santa Barbara 86.06 52 P **P 21 34 25.3 +0.2**
baz=244
TNA Tin City 86.06 9 P **P 21 34 25.6 +1.2**
baz=202,SNR=23
TTA Tatalina 86.12 15 P **P 21 34 25.5 +0.7**
baz=213,SNR=39
PKM Mcpherson Peak 86.18 51 P **P 21 34 27.3 +1.4**
baz=244,SNR=36
Q23K Middleton Isla 86.19 21 IAmb IAmb 21 34 27.4
comp=Z,141nm,0.9s
Q23K Middleton Isla 86.19 21 P **P 21 34 25.7 +0.7**
baz=222
MID Middleton Isla 86.19 21 IAmb IAmb 21 34 27.4
comp=Z,128nm,0.9s
G15K Niukluk 86.20 11 P **P 21 34 26.2 +1.2**
baz=206,SNR=43
H16K Elim 86.22 12 P **P 21 34 26.2 +1.1**
baz=207,SNR=28
F14K Arctic Creek 86.24 10 P **P 21 34 26.4 +1.2**
baz=203,SNR=40
P23K Montague Islan 86.26 20 P **P 21 34 24.9 -0.6**
baz=221,SNR=16
L20K Farewell, AK 86.30 16 P **P 21 34 26.0 +0.4**
baz=215,SNR=120
SUA Susitna One 86.36 18 IAmb IAmb 21 34 29.1
comp=Z,89nm,0.9s
SUA Susitna One 86.36 18 P **P 21 34 25.2 -0.9**
baz=218,SNR=54
RC01 Rabbit Creek A 86.36 19 P **P 21 34 25.4 -0.5**
baz=219,SNR=28
ELIB Princess Elisa 86.38 190 *d*P **P 21 34 25.8 -0.5**
comp=Z,22nm,1.0s
KRMB Red Mountain 86.39 44 IAmb IAmb 21 34 29.6
comp=Z,116nm,1.0s
J18K Innoko River 86.40 15 IAmb IAmb 21 34 28.0
comp=Z,55nm,0.7s
J18K Innoko River 86.40 15 P **P 21 34 26.3 +0.2**
baz=212,SNR=87
ULN Ulaanbaatar 86.47 323 P **P 21 34 28.0 +1.0**
ULN IAmb IAmb 21 34 29.2
comp=Z,176nm,1.1s
ULN Ulaanbaatar 86.47 323 P **P 21 34 28.0 +1.0**
ULN pmax pmax
comp=Z,176nm,1.1s
KBO Bosley Butte 86.51 43 IAmb IAmb 21 34 30.2
comp=Z,136nm,1.1s
YAK Yakutsk 86.51 343 P **P 21 34 28.0 +1.3**
YAK Yakutsk 86.51 343 LR LR 22 08 59.2
comp=Z,50nm,20.9s,baz=156,slow=33

YAK	Yakutsk	86.51	343	*d iP	P	21 34 26.7	+0.1
YAK				*e*PP	pP	21 34 54.7	+0.9
YAK				*e*		21 37 49.3	
YAK				*e*PPP	PPP	21 39 44.2	
YAK				*e*S	SKSac	21 44 42.0	-1.1
YAK				*e*		21 45 01.8	
YAK				*e*SS	SS	21 50 36.7	-0.6
YAK				*e*SSS	SSS	21 54 10.3	
YAK				pmax	pmax		
	comp=Z,432nm,1.0s						
YAK				pmax	pmax		
	comp=N,76nm,1.3s						
YAK				pmax	pmax		
	comp=E,33nm,1.5s						
YAK				pmax	pmax		
	comp=Z,101nm,3.3s						
YAK				pmax	pmax		
	comp=N,64nm,3.0s						
YAK				pmax	pmax		
	comp=E,56nm,3.0s						
YAK				smax	smax		
	comp=N,59nm,2.2s						
YAK				smax	smax		
	comp=E,31nm,2.1s						
SKT	Skwentna	86.54	18	P	P	21 34 24.6	-2.2
	baz=217,SNR=15						
KSXB	Camp Six Broad	86.56	44	IAmb	IAmb	21 34 30.8	
	comp=Z,113nm,0.9s						
CIS	Catalina Islan	86.58	53	P	P	21 34 28.2	+0.5
	baz=245,SNR=5.4						
PWL	Port Wells	86.62	19	IAmb	IAmb	21 34 29.9	
	comp=Z,133nm,0.8s						
PWL	Port Wells	86.62	19	P	P	21 34 26.5	-0.7
	baz=220,SNR=60						
GTA	Gaotai	86.73	314	⇓P	P	21 34 29.4	+0.9
GTA				pP	pP	21 34 55.8	+0.2
GTA				sP	sP	21 35 05.9	-0.7
GTA				pmax	pmax		
	comp=Z,57nm,1.0s						
F15K	North Star Dit	86.74	11	P	P	21 34 28.7	+1.0
	baz=205,SNR=19						
BILL	Bilibino	86.75	359	P	P	21 34 29.0	+1.3
BILL	Bilibino	86.75	359	*d iP*	P	21 34 27.9	+0.2
BILL				*e*PP	pP	21 34 52.6	-2.5
BILL				*e*		21 37 53.6	
BILL				pmax	pmax		
	comp=Z,380nm,1.3s						
M22K	Willow	86.77	18	P	P	21 34 27.2	-0.7
	baz=218,SNR=23						
FMP	Fort Macarthur	86.81	53	P	P	21 34 29.5	+0.8
	baz=245						
SONM	Songino Array	86.83	323	P	P	21 34 29.6	+0.9
SONM				IAmb	IAmb	21 34 30.7	
	comp=Z,120nm,1.0s						
SONM	Songino Array	86.83	323	P	P	21 34 28.8	+0.1
	comp=Z,89nm,1.0s,baz=140,slow=4.7,SNR=294						
SONM				PKKPbc	PKKPdf	21 52 21.1	+3.0
	comp=Z,2.9nm,0.7s,baz=271,slow=3.0,SNR=10						
SONM				PKPPKP	P'P'df	22 00 24.8	-3.8
	comp=Z,1.7nm,1.1s,baz=270,slow=1.9,SNR=5.1						
SONM				LR	LR	22 12 18.8	
	comp=Z,65nm,20.4s,baz=118,slow=35						
	comp=Z,89nm,1.0s						
SONM	Songino Array	86.83	323	P	P	21 34 29.6	+0.9
SONM				pmax	pmax		
	comp=Z,120nm,1.0s						
HIN	Hinchinbrook I	86.86	20	IAmb	IAmb	21 34 30.4	
	comp=Z,100nm,0.9s						
OSI	Osito Audit: C	86.87	52	P	P	21 34 30.1	+1.0
	baz=244						
G16K	Koyuk River	86.87	12	IAmb	IAmb	21 34 30.9	
	comp=Z,105nm,0.8s						
G16K	Koyuk River	86.87	12	P	P	21 34 29.1	+0.8
	baz=207,SNR=62						
PMR	Palmer	86.94	19	P	P	21 34 28.0	-0.7
	baz=219,SNR=22						
H17K	Granite Mounta	86.95	13	IAmb	IAmb	21 34 31.6	
	comp=Z,72nm,0.9s						
H17K	Granite Mounta	86.95	13	P	P	21 34 29.4	+0.6
	baz=209,SNR=70						
K20K	Telida	86.97	16	P	P	21 34 29.0	+0.1
	baz=215						
SHL	Shillong	86.98	298	IAmb	IAmb	21 34 33.2	
	comp=Z,96nm,1.4s						
KNK	Knik Glacier	87.00	19	P	P	21 34 28.7	-0.4
	baz=220,SNR=14						
DECC	Green Verdugo	87.01	52	P	P	21 34 30.3	+0.5
	baz=245,SNR=9.0						
ARVC	Arvin	87.01	51	P	P	21 34 30.9	+1.2
	baz=244,SNR=22						
GLI	Glacier Island	87.03	20	IAmb	IAmb	21 34 30.6	
	comp=Z,79nm,0.9s						
GLI	Glacier Island	87.03	20	P	P	21 34 28.5	-0.7
	baz=221,SNR=29						
ORV	Oroville	87.07	46	IAmb	IAmb	21 34 32.2	
	comp=Z,130nm,0.9s						
PASC	Pasadena Art C	87.08	52	IAmb	IAmb	21 34 31.9	
	comp=Z,83nm,0.8s						
J19K	Poorman	87.11	15	P	P	21 34 30.2	+0.7
	baz=213,SNR=65						
VOG	Valley Oaks Go	87.12	50	P	P	21 34 30.9	+0.7
	baz=244						
FID	Port Fidalgo	87.13	20	IAmb	IAmb	21 34 31.5	
	comp=Z,94nm,1.0s						
VES	Vestal, Richgr	87.13	51	P	P	21 34 31.0	+0.7
	baz=244,SNR=40						
CMB	Columbia Colle	87.16	48	IAmb	IAmb	21 34 33.1	
	comp=Z,120nm,0.8s						
AFDM	Forest Hills D	87.16	47	IAmb	IAmb	21 34 32.7	
	comp=Z,156nm,0.9s						
KAIM	Kayak Island	87.22	21	IAmb	IAmb	21 34 32.8	
	comp=Z,150nm,0.9s						
KAIM	Kayak Island	87.22	21	P	P	21 34 30.0	-0.1
	baz=224,SNR=17						
EYAK	Cordova Ski Ar	87.22	21	P	P	21 34 31.0	+0.9
EYAK	Cordova Ski Ar	87.22	21	P	P	21 34 29.7	-0.4
	baz=222,SNR=14						
CUT	Chulitna	87.24	18	IAmb	IAmb	21 34 33.2	
	comp=Z,86nm,0.7s						
CUT	Chulitna	87.24	18	P	P	21 34 29.4	-0.7
	baz=218						
YBH	Yreka Blue Hor	87.27	44	IAmb	IAmb	21 34 33.7	
	comp=Z,135nm,0.9s						
YBH	Yreka Blue Hor	87.27	44	P	P	21 34 29.4	-1.6
	comp=Z,105nm,0.9s,baz=190,slow=0.7,SNR=154						
YBH				PP	PP	21 37 56.9	+0.1
	comp=Z,2.9nm,0.7s,baz=186,slow=5.3,SNR=3.2						
YBH				LR	LR	22 06 05.0	
	comp=Z,291nm,20.9s,baz=290,slow=30						
	comp=Z,105nm,0.9s						
PMSA	Palmer Station	87.28	160	P	P	21 34 31.9	+1.4
CCX	Cicese	87.29	55	IAmb	IAmb	21 34 33.9	
	comp=Z,77nm,0.9s						
G17K	Kiwalik Mounta	87.30	12	P	P	21 34 31.4	+1.0
	baz=209,SNR=45						
SML	Sawmill	87.35	19	P	P	21 34 30.3	-0.5
	baz=220,SNR=32						
109C	Camp Elliot, M	87.37	54	IAmb	IAmb	21 34 33.6	
	comp=Z,78nm,0.9s						
109C	Camp Elliot, M	87.37	54	P	P	21 34 32.4	+0.9
	baz=246,SNR=13						
GCSA	Galena City Sc	87.45	14	P	P	21 34 31.8	+0.7
	baz=212,SNR=22						
RAGM	Ragged Mountai	87.46	21	IAmb	IAmb	21 34 33.2	
	comp=Z,90nm,1.1s						
CBX	Cerro Bola	87.47	55	IAmb	IAmb	21 34 34.5	
	comp=Z,132nm,0.9s						
H18K	Honhosa River	87.47	13	P	P	21 34 31.4	+0.2
	baz=211,SNR=19						
ISA	Isabella, Lake	87.50	51	IAmb	IAmb	21 34 34.6	
	comp=Z,94nm,0.9s						
ISA	Isabella, Lake	87.50	51	P	P	21 34 33.2	+1.0
	baz=245,SNR=54						
BFSC	Mount Baldy Ra	87.51	53	P	P	21 34 33.1	+0.8
	baz=245,SNR=30						
M23K	Glacier View	87.52	19	P	P	21 34 30.8	-0.8
	baz=220,SNR=12						
EDW2	Edwards Air Fo	87.53	52	P	P	21 34 33.3	+1.0
	baz=245,SNR=50						
HUMO	Hull Mountain	87.53	43	IAmb	IAmb	21 34 35.0	
	comp=Z,144nm,0.9s						
HMT	Hamilton	87.57	21	IAmb	IAmb	21 34 33.6	
	comp=Z,95nm,1.0s						
DBO	Dodson Butte	87.59	43	IAmb	IAmb	21 34 35.0	
	comp=Z,82nm,0.9s						
MURC	Murrieta	87.59	53	P	P	21 34 33.5	+0.9
	baz=245,SNR=29						
J20K	Nowinta River	87.63	15	P	P	21 34 32.1	+0.1
	baz=215,SNR=58						
SCM	Sheep Creek Mo	87.68	19	P	P	21 34 32.0	-0.3
	baz=221,SNR=33						
VTX	Valle De La Tr	87.78	56	IAmb	IAmb	21 34 36.2	
	comp=Z,80nm,1.1s						
I03D	Drain, OR	87.80	42	IAmb	IAmb	21 34 35.7	
	comp=Z,86nm,0.9s						
HG4B	Hotspring	87.86	32	IAmb	IAmb	21 34 35.9	
	comp=Z,116nm,1.0s						
KLU	Klutina	87.86	20	P	P	21 34 33.0	-0.3
	baz=222,SNR=38						
MONP2	Monument Peak	87.89	54	P	P	21 34 35.6	+1.3
	baz=246,SNR=44						
MDPB	Devils Postpil	87.91	49	IAmb	IAmb	21 34 36.7	
	comp=Z,91nm,1.0s						
BMRM	Bremner River	87.91	21	P	P	21 34 32.9	-0.6
	baz=223,SNR=25						
SNH	Sunshine Point	87.95	22	IAmb	IAmb	21 34 35.9	
	comp=Z,106nm,1.1s						
OMMB	Old Mammoth Mi	87.96	49	IAmb	IAmb	21 34 37.1	
	comp=Z,77nm,1.2s						
MPK	Martis Peak	87.97	47	IAmb	IAmb	21 34 38.2	
	comp=Z,208nm,1.3s						
LRMC	Laurel Mtn Rad	88.01	51	P	P	21 34 35.9	+1.2
	baz=245,SNR=24						
F17K	Baldwin Pennin	88.02	12	IAmb	IAmb	21 34 37.0	
	comp=Z,92nm,0.8s						
F17K	Baldwin Pennin	88.02	12	P	P	21 34 34.8	+1.1
	baz=208,SNR=47						
IKP	In-Ko-Pah, Jac	88.03	55	P	P	21 34 36.1	+1.3
	baz=246,SNR=28						
WAKR	Walker	88.04	48	IAmb	IAmb	21 34 37.5	
	comp=Z,123nm,1.0s						
RMX	La Rumorosa	88.04	55	IAmb	IAmb	21 34 37.5	
	comp=Z,108nm,0.9s						
G18K	Tagagawik	88.05	13	IAmb	IAmb	21 34 37.0	
	comp=Z,87nm,1.1s						
G18K	Tagagawik	88.05	13	P	P	21 34 34.2	+0.3
	baz=210,SNR=65						
I20K	Naaghedeneel	88.06	15	IAmb	IAmb	21 34 36.8	
	comp=Z,100nm,0.9s						
I20K	Naaghedeneel	88.06	15	P	P	21 34 34.7	+0.7
	baz=214,SNR=30						
WAT1	Susitna Watana	88.07	18	P	P	21 34 33.6	-0.6
	baz=220						
BBRC	Big Bear Solar	88.07	53	P	P	21 34 35.7	+0.6
	baz=246						
MLAC	Mammoth, Mammo	88.08	49	P	P	21 34 36.3	+1.2
	baz=244,SNR=7.8						
WAT6	Susitna Watana	88.12	19	P	P	21 34 33.8	-0.8
	baz=220,SNR=36						
CWC	Cottonwood Cre	88.12	50	P	P	21 34 36.1	+0.9
	baz=245						
WAX	Waxell Ridge	88.14	22	IAmb	IAmb	21 34 35.5	
	comp=Z,64nm,0.9s						
PFO	Pinyon Flats O	88.16	54	P	P	21 34 36.9	+1.5
PFO	Pinyon Flats O	88.16	54	P	P	21 34 36.1	+0.7
	baz=246,SNR=24						
PFO	Pinyon Flats O	88.16	54	P	P	21 34 34.2	-1.2
	comp=Z,37nm,0.8s,baz=262,slow=4.4,SNR=50						
PFO				LR	LR	22 05 00.1	
	comp=Z,358nm,21.9s,baz=324,slow=29						
	comp=Z,37nm,0.8s						
PFO	Pinyon Flats O	88.16	54	P	P	21 34 36.9	+1.5
PFO				pmax	pmax		
	comp=Z,49nm,0.9s						
TPFO	Pinon Flats	88.16	54	P	P	21 34 36.3	+0.9
	baz=246,SNR=19						
YUH	Yuha Desert	88.18	55	IAmb	IAmb	21 34 37.8	
	comp=Z,72nm,0.9s						
PNTR	Pine Nut	88.18	48	IAmb	IAmb	21 34 38.1	
	comp=Z,112nm,0.9s						
H19K	Roundabout Mou	88.21	14	IAmb	IAmb	21 34 37.4	
	comp=Z,54nm,0.9s						
H19K	Roundabout Mou	88.21	14	P	P	21 34 35.3	+0.6
	baz=212,SNR=53						
M24K	Tolsona, Glenn	88.24	19	IAmb	IAmb	21 34 38.0	
	comp=Z,139nm,1.3s						
M24K	Tolsona, Glenn	88.24	19	P	P	21 34 34.9	-0.1
	baz=222,SNR=18						
COR	Corvallis	88.25	41	P	P	21 34 37.0	+1.6
COR				IAmb	IAmb	21 34 38.3	
	comp=Z,141nm,1.1s						
COR	Corvallis	88.25	41	P	P	21 34 37.0	+1.6
COR				pmax	pmax		
	comp=Z,141nm,1.2s						
CRQM	Cirque	88.26	21	IAmb	IAmb	21 34 37.0	
	comp=Z,63nm,1.0s						
MESA	MESA	88.27	22	IAmb	IAmb	21 34 36.4	
	comp=Z,55nm,0.8s						
MESA	MESA	88.27	22	P	P	21 34 35.4	0.0
	baz=226,SNR=14						
BUCK	Buck Mountain	88.27	42	IAmb	IAmb	21 34 38.3	
	comp=Z,142nm,1.0s						
RRX	Edison Barstow	88.27	52	P	P	21 34 36.6	+0.8
	baz=246						
CRQE	Cirque	88.27	21	P	P	21 34 35.0	-0.3
	baz=225,SNR=19						
TIN	Tinemaha, Big	88.27	50	P	P	21 34 37.2	+1.3
	baz=245,SNR=6.5						
N25K	Chitina, Valde	88.38	20	IAmb	IAmb	21 34 38.8	
	comp=Z,48nm,0.8s						
N25K	Chitina, Valde	88.38	20	P	P	21 34 34.9	-0.8
	baz=223,SNR=56						
BPAW	Bear Paw Mtn.	88.38	16	P	P	21 34 34.1	-1.5
	baz=218,SNR=22						
YERR	Yerington	88.39	48	IAmb	IAmb	21 34 38.9	
	comp=Z,125nm,1.2s						
SWSC	Sam W. Stewart	88.39	54	P	P	21 34 37.7	+1.3
	baz=246,SNR=51						
MPMC	Manual Prospec	88.39	51	P	P	21 34 37.5	+1.0
	baz=245,SNR=96						
ISLE	Juniper Island	88.42	22	IAmb	IAmb	21 34 37.1	
	comp=Z,60nm,1.0s						
I04A	Tendick Farm,	88.44	42	IAmb	IAmb	21 34 38.5	
	comp=Z,98nm,0.8s						
F18K	Selawik	88.46	12	P	P	21 34 36.1	+0.3
	baz=210,SNR=32						
E17K	Hotham Inlet	88.48	11	P	P	21 34 37.0	+1.0
	baz=208,SNR=37						
H20K	Anotleneega Mo	88.54	14	P	P	21 34 36.8	+0.4
	baz=214,SNR=57						
H04D	Lebanon	88.58	42	IAmb	IAmb	21 34 39.7	
	comp=Z,147nm,1.1s						
G03D	McMinnville, O	88.58	41	IAmb	IAmb	21 34 39.6	
	comp=Z,133nm,1.0s						
GSC	Goldstone, Bar	88.59	52	IAmb	IAmb	21 34 39.8	
	comp=Z,10nm,1.5s						
GSC	Goldstone, Bar	88.59	52	P	P	21 34 38.2	+0.8
	baz=246,SNR=29						
LHV	Little Huntoon	88.59	49	IAmb	IAmb	21 34 40.0	
	comp=Z,138nm,1.2s						
DSP	Deep Springs	88.59	50	IAmb	IAmb	21 34 39.9	
	comp=Z,88nm,1.0s						
G19K	Purcell Mounta	88.60	13	IAmb	IAmb	21 34 40.0	
	comp=Z,86nm,1.0s						
G19K	Purcell Mounta	88.60	13	P	P	21 34 37.2	+0.6
	baz=212,SNR=107						
DHY	Denali Highway	88.61	18	P	P	21 34 36.1	-0.8
	baz=221,SNR=35						
MCK	McKinley	88.66	17	P	P	21 34 36.0	-0.9
	baz=219,SNR=30						
BELC	Belle Mtn. Jos	88.66	53	P	P	21 34 38.9	+1.1
	baz=246,SNR=133						
RYN	Ryan	88.74	48	IAmb	IAmb	21 34 40.4	
	comp=Z,83nm,1.0s						
TABL	Table Mountain	88.74	22	IAmb	IAmb	21 34 38.4	
	comp=Z,60nm,0.8s						
MCARA	McCarthy VSAT	88.74	21	IAmb	IAmb	21 34 39.7	
	comp=Z,82nm,1.1s						
MCARA	McCarthy VSAT	88.74	21	P	P	21 34 37.0	-0.4
	baz=225,SNR=22						
HEC	Hector,Ludlow	88.75	53	P	P	21 34 38.9	+0.8
	baz=246,SNR=69						
HARP	HAARP	88.78	20	P	P	21 34 37.2	-0.3
	baz=223,SNR=6.4						
SIT	Sitka	88.80	27	P	P	21 34 37.7	+0.1
	baz=231						
CRAG	Craig	88.80	29	IAmb	IAmb	21 34 40.1	
	comp=Z,121nm,1.5s						
CRAG	Craig	88.80	29	P	P	21 34 38.2	+0.6
	baz=233						
NVAR	Mina Array Bea	88.81	49	P	P	21 34 40.0	+1.5
NVAR	Mina Array Bea	88.81	49	P	P	21 34 38.2	-0.3
	comp=Z,39nm,0.8s,baz=227,slow=8.0,SNR=192						
NVAR				PKKPbc	PKKPbc	21 52 16.9	-2.2
	comp=Z,1.1nm,0.7s,baz=79,slow=4.2,SNR=6.3						
NVAR				PKPPKP	P'P'df	22 00 26.1	+0.1
	comp=Z,0.8nm,0.7s,baz=40,slow=3.6,SNR=4.5						
NVAR				LR	LR	22 09 44.5	
	comp=Z,198nm,18.6s,baz=274,slow=32						
	comp=Z,39nm,0.8s						
TROLL	Troll, Antarti	88.81	184	⇑P	P	21 34 37.9	0.0
	comp=Z,980nm,1.1s						
TROLL				⇑pP	pP	21 35 05.2	+0.1
	comp=Z,7μm,1.1s						
TROLL				⇑SKSac	SKSac	21 44 57.3	-0.2
	comp=Z,46nm,0.9s						
D17K	Noatak River	88.81	10	P	P	21 34 38.8	+1.3
	baz=206,SNR=16						
PINM	Pinnacle	88.82	23	P	P	21 34 37.5	-0.3
	baz=227,SNR=15						
RADR	Rader Ridge	88.84	40	IAmb	IAmb	21 34 41.0	
	comp=Z,121nm,1.0s						
PNL	Peninsula	88.85	23	P	P	21 34 37.6	-0.3
	baz=228,SNR=7.6						
GRAC	Grapevine Rang	88.88	50	IAmb	IAmb	21 34 41.2	
	comp=Z,87nm,0.9s						
GRAC	Grapevine Rang	88.88	50	P	P	21 34 40.1	+1.5
	baz=245,SNR=22						
GOMU	GeErMu	88.89	309	P	P	21 34 40.8	+1.7
GOMU				pmax	pmax		
	comp=Z,31nm,0.7s						
NV11	Mina Array Sit	88.91	49	IAmb	IAmb	21 34 41.3	
	comp=Z,92nm,1.0s						
BC3	Big Chuckawall	88.94	54	P	P	21 34 40.2	+1.2
	baz=246,SNR=48						
BCPM	Bancas Point	88.95	23	IAmb	IAmb	21 35 40.1	
	comp=Z,50nm,0.8s						
BOD	Bodaibo	88.95	334	*e*P	P	21 34 38.5	+0.1
BOD				pmax	pmax		
	comp=Z,132nm,1.4s						
C16K	Lisburne Hills	88.97	9	P	P	21 34 38.9	+0.7
	baz=204,SNR=5.0						
S31K	Pelican	88.98	26	IAmb	IAmb	21 34 40.9	
	comp=Z,79nm,0.9s						
S31K	Pelican	88.98	26	P	P	21 34 39.0	+0.5
	baz=231,SNR=21						
E18K	Tukpahlearik C	89.00	11	IAmb	IAmb	21 34 41.3	
	comp=Z,62nm,0.9s						
E18K	Tukpahlearik C	89.00	11	P	P	21 34 39.1	+0.7
	baz=209,SNR=41						
FURC	Furnace Creek,	89.02	51	P	P	21 34 40.6	+1.4
	baz=246,SNR=29						
CTG	Chitna Glacier	89.03	22	P	P	21 34 38.5	-0.3
	baz=226,SNR=24						
CTGM	Chitina Glacie	89.03	22	IAmb	IAmb	21 34 40.1	
	comp=Z,54nm,0.8s						
F19K	Shaleruckik Mo	89.04	13	IAmb	IAmb	21 34 41.3	
	comp=Z,69nm,1.1s						
F19K	Shaleruckik Mo	89.04	13	P	P	21 34 39.0	+0.4
	baz=211,SNR=54						
GWY	Greenwater Val	89.05	51	IAmb	IAmb	21 34 42.3	
	comp=Z,136nm,1.2s						
SRIG	Santa Rosalia	89.07	61	IAmb	IAmb	21 34 42.1	
	comp=Z,123nm,0.9s						
PAX	Paxson	89.10	19	P	P	21 34 38.2	-1.0
	baz=222,SNR=14						
OZB	Mount Ozzard	89.11	37	IAmb	IAmb	21 34 41.8	
	comp=Z,75nm,1.0s						
NVL	N'lazarevskaya	89.11	187	⇑*i*P	P	21 34 41.4	+2.3
NVL				*e*PP	pP	21 35 06.2	-0.2
NVL				*e*S	SKSac	21 45 02.8	+3.8
NVL				pmax	pmax		
	comp=Z,40nm,0.9s						
LSA	Lhasa	89.15	302	P	P	21 34 42.3	+1.7
LSA				pmax	pmax		
	comp=Z,21nm,0.8s						
LSA	Lhasa	89.15	302	*i* P	P	21 34 41.7	+1.1
	SNR=9.5						
RDOG	Red Dog Mine	89.16	10	P	P	21 34 40.1	+1.0
	baz=206,SNR=5.2						
H21K	Melozitna Rive	89.17	15	P	P	21 34 39.7	+0.4
	baz=216,SNR=66						
GLA	Glamis	89.18	55	IAmb	IAmb	21 34 43.1	
	comp=Z,130nm,0.9s						
GLA	Glamis	89.18	55	P	P	21 34 41.9	+1.7
	baz=247,SNR=42						
U33K	Whale Pass	89.19	28	IAmb	IAmb	21 34 41.6	
	comp=Z,73nm,1.0s						
U33K	Whale Pass	89.19	28	P	P	21 34 40.7	+1.2
	baz=233,SNR=16						
MLY	Manley	89.19	16	P	P	21 34 38.6	-0.8
	baz=218,SNR=29						
IMAR	Indian Mountai	89.21	14	P	P	21 34 40.1	+0.7
KVN	Kaiserville	89.22	48	IAmb	IAmb	21 34 42.6	
	comp=Z,88nm,0.9s						
SHOC	Shoshone, Teco	89.22	52	P	P	21 34 41.2	+0.9
	baz=246,SNR=47						
GMRC	Granite Mounta	89.23	53	P	P	21 34 41.3	+0.8
	baz=246,SNR=48						
NEA2	Nenana	89.29	17	P	P	21 34 38.5	-1.3
	baz=219,SNR=18						
TUQ	Turquoise Moun	89.30	52	P	P	21 34 41.9	+1.2
	baz=246,SNR=41						
O28M	Mount Upton	89.31	22	P	P	21 34 40.2	-0.2
	baz=227,SNR=32						
WCT	Wildcat Mounta	89.33	51	IAmb	IAmb	21 34 43.2	
	comp=Z,98nm,1.0s						
S32K	Killisnoo	89.37	27	IAmb	IAmb	21 34 42.1	
	comp=Z,56nm,1.1s						
S32K	Killisnoo	89.37	27	P	P	21 34 40.8	+0.5
	baz=232,SNR=15						
BBB	Bella Bella	89.38	33	LR	LR	22 04 22.1	
	comp=Z,172nm,22.0s,baz=242,slow=28						
IRM	Iron Mountain	89.38	54	P	P	21 34 42.3	+1.3
	baz=247,SNR=87						
V35K	Ketchikan	89.41	29	P	P	21 34 41.6	+1.0
	baz=235,SNR=27						
SNAA	Sanae	89.44	183	P	P	21 34 40.6	-0.1
SNAA				IAmb	IAmb	21 35 09.7	
	comp=Z,77nm,1.2s						
SNAA	Sanae	89.44	183	⇑P	P	21 34 40.6	-0.1
	comp=Z,323nm,1.0s						
SNAA				⇑pP	pP	21 35 07.5	-0.5
	comp=Z,982nm,0.9s						
SNAA				⇑SKSac	SKSac	21 44 56.1	-5.0
	comp=Z,14nm,0.9s						
SNAA	Sanae	89.44	183	P	P	21 34 39.2	-1.6
	comp=Z,17nm,1.0s,baz=188,slow=4.7,SNR=47						
SNAA				LR	LR	22 11 50.0	
	comp=Z,238nm,19.5s,baz=144,slow=34						
	comp=Z,17nm,1.0s						
SNAA	Sanae	89.44	183	P	P	21 34 40.7	-0.1
SNAA				pmax	pmax		
	comp=Z,77nm,1.2s						
P29M	Windy Craggy	89.46	24	IAmb	IAmb	21 34 42.0	
	comp=Z,42nm,0.8s						
P29M	Windy Craggy	89.46	24	P	P	21 34 40.8	+0.1
	baz=229,SNR=20						
WRH	Wood River Hil	89.47	17	IAmb	IAmb	21 34 42.5	
	comp=Z,90nm,1.3s						
M26K	Nabesna, AK	89.48	20	P	P	21 34 40.5	-0.3
	baz=225,SNR=42						
RUBB	Prince Rupert	89.48	31	IAmb	IAmb	21 34 43.6	
	comp=Z,122nm,1.1s						
C17K	DeLong Mountai	89.49	10	P	P	21 34 41.4	+0.7
	baz=206,SNR=11						
LPIG	La Paz	89.53	64	P	P	21 34 42.7	+0.8
	comp=Z,302nm,1.1s,baz=308,slow=0.7,SNR=23						
	comp=Z,302nm,1.1s						
O29M	Mount Kennedy	89.58	23	P	P	21 34 41.0	-0.5
	baz=229						
K24K	Donnelly Dome	89.63	18	P	P	21 34 40.9	-0.6
	baz=222,SN

WRAK	Wrangell Islan	89.72	28	P	P	21 34 42.6	+0.7
	baz=234						
HDA	Harding Lake	89.74	18	IAmb	IAmb	21 34 44.8	
	comp=Z,62nm,0.8s						
HDA	Harding Lake	89.74	18	P	P	21 34 41.2	-0.7
	baz=221,SNR=34						
YUK8	Steele Glacier	89.81	22	P	P	21 34 42.6	0.0
	baz=228,SNR=23						
L26K	Log Cabin Wild	89.81	20	P	P	21 34 42.2	-0.1
	baz=224,SNR=29						
M27K	Edge Creek, AK	89.82	21	P	P	21 34 42.4	-0.2
	baz=226,SNR=47						
CLRS	Cowichan Lake	89.82	37	IAmb	IAmb	21 34 45.7	
	comp=Z,136nm,1.0s						
COLA	College	89.84	17	P	P	21 34 41.5	-0.9
	baz=220						
COLA	College	89.84	17	*d iP*	P	21 34 40.9	-1.4
COLA				pmax	pmax		
	comp=Z,77nm,0.9s						
PLBC	Pleasant Camp	89.88	25	P	P	21 34 42.8	+0.1
	baz=231,SNR=42						
R32K	Eaglecrest	89.89	26	P	P	21 34 43.4	+0.6
	baz=232,SNR=8.8						
113A	Mohawk Valley,	89.90	55	IAmb	IAmb	21 34 46.0	
	comp=Z,91nm,1.1s						
YUK3	Moose Creek	89.90	22	P	P	21 34 42.5	-0.5
	baz=227,SNR=54						
ZAK	Zakamensk	89.91	324	*eP*	P	21 34 42.7	-0.5
ZAK				pmax	pmax		
	comp=Z,50nm,1.3s						
JIS	Juneau Island	89.95	26	IAmb	IAmb	21 34 44.8	
	comp=Z,66nm,1.0s						
C18K	Utukok River	89.98	11	P	P	21 34 43.5	+0.5
	baz=208						
NEE2	Needles Airpor	90.02	53	P	P	21 34 45.5	+1.5
	baz=247,SNR=26						
IL31		90.03	17	IAmb	IAmb	21 34 45.7	
	comp=Z,44nm,0.8s						
ILAR	Eielson Array	90.03	17	P	P	21 34 41.5	-1.8
	comp=Z,32nm,0.8s,baz=236,slow=5.4,SNR=227						
ILAR				SKP	SKiKP	21 43 00.1	-3.5
	comp=Z,0.6nm,0.8s,baz=38,slow=4.5,SNR=5.1						
ILAR				PKKP	PKKPdf	21 52 09.2	-3.6
	comp=Z,0.6nm,0.8s,baz=0.5,slow=1.9,SNR=6.2						
	comp=Z,32nm,0.8s						
VNA3	Neumayer Olymp	90.04	180	⇑P	P	21 34 43.4	-0.1
	comp=Z,46nm,0.7s						
VNA3				⇑pP	pP	21 35 11.5	+0.8
	comp=Z,58nm,0.8s						
VNA3				⇓SKSac	SKSac	21 45 00.3	-4.2
	comp=Z,0.2nm,0.3s						
P30M	Million Dollar	90.08	24	P	P	21 34 43.7	+0.1
	baz=230						
YUK6	Outpost Mounta	90.09	23	P	P	21 34 43.6	-0.3
	baz=229,SNR=12						
H23K	Yukon River	90.12	16	P	P	21 34 43.1	-0.6
	baz=219,SNR=26						
POKR	Poker Plat Res	90.14	17	P	P	21 34 42.5	-1.3
	baz=221,SNR=14						
PDMCI	Parker Dam,Lak	90.20	54	P	P	21 34 46.3	+1.5
	baz=247,SNR=54						
LON	Longmire	90.20	40	IAmb	IAmb	21 34 46.5	
	comp=Z,77nm,1.0s						
V12A	Nelson	90.22	52	IAmb	IAmb	21 34 47.5	
	comp=Z,74nm,1.0s						
G06A	Carlson Farm,	90.23	42	IAmb	IAmb	21 34 46.9	
	comp=Z,110nm,1.0s						
YUK4	Talbot Arm	90.25	22	P	P	21 34 45.0	+0.3
	baz=229,SNR=19						
F21K	Alatna River	90.29	14	P	P	21 34 44.7	+0.2
	baz=215,SNR=44						
SHPR	Sheep Range	90.29	51	IAmb	IAmb	21 34 48.1	
	comp=Z,47nm,1.0s						
SCRK	Sand Creek	90.30	19	IAmb	IAmb	21 34 46.8	
	comp=Z,43nm,0.8s						
SCRK	Sand Creek	90.30	19	P	P	21 34 44.1	-0.6
	baz=224,SNR=94						
SKAG	Skagway	90.30	25	IAmb	IAmb	21 34 47.0	
	comp=Z,131nm,1.0s						
SKAG	Skagway	90.30	25	P	P	21 34 45.2	+0.6
	baz=231,SNR=42						
IRK	Irkutsk	90.33	326	*eP*	P	21 34 44.0	-1.0
IRK				pmax	pmax		
	comp=Z,61nm,1.0s						
L27K	Beaver Creek,	90.33	20	P	P	21 34 44.4	-0.3
	baz=226,SNR=37						
VNA2	Neumayer--Watz	90.33	181	⇑P	P	21 34 44.9	+0.1
	comp=Z,28nm,0.8s,baz=200,slow=3.7						
VNA2				⇑pP	pP	21 35 11.9	-0.2
	comp=Z,67μm,0.0s,baz=192,slow=2.6						
VNA2				⇑SKSac	SKSac	21 45 03.0	-3.2
	comp=Z,0.7nm,0.6s,baz=211,slow=30						
214A	Organ Pipe Nat	90.34	56	IAmb	IAmb	21 34 48.4	
	comp=Z,122nm,1.1s						
214A	Organ Pipe Nat	90.34	56	P	P	21 34 47.4	+1.9
	baz=248,SNR=72						
BCAR	Beaver Creek A	90.34	20	P	P	21 34 44.9	+0.1
J25K	Salcha River,	90.35	18	P	P	21 34 44.2	-0.7
	baz=223,SNR=54						
D19K	Kuna River	90.40	12	P	P	21 34 45.6	+0.6
	baz=211,SNR=10						
U35K	Hyder	90.49	30	P	P	21 34 46.4	+0.9
	baz=236						
G22K	Bettles	90.50	15	P	P	21 34 46.0	+0.5
	baz=217						
B18K	Kokolik River	90.52	10	P	P	21 34 46.5	+1.0
	baz=208						
H24K	Noodor Dome	90.57	16	P	P	21 34 44.5	-1.4
	baz=220,SNR=18						
E20K	Nigu River	90.58	12	P	P	21 34 46.8	+0.9
	baz=213,SNR=38						
VNA1	Neumayer--Stat	90.62	181	⇑P	P	21 34 45.6	-0.5
	comp=Z,29nm,0.9s						
VNA1				⇑pP	pP	21 35 13.3	-0.2
	comp=Z,60nm,1.0s						
C19K	Lookout Ridge	90.66	11	IAmb	IAmb	21 34 49.9	
	comp=Z,148nm,2.0s						
C19K	Lookout Ridge	90.66	11	P	P	21 34 47.5	+1.3
	baz=210,SNR=5.8						
PALK	Pallekele	90.69	277	LR	LR	22 17 01.0	
	comp=Z,130nm,19.5s,baz=216,slow=36						
G23K	Bananza Creek	90.70	15	P	P	21 34 46.8	+0.4
	baz=218,SNR=34						
W13A	Hualapai Mount	90.70	53	IAmb	IAmb	21 34 49.9	
	comp=Z,94nm,0.9s						
R11B	Troy Canyon, C	90.72	50	P	P	21 34 48.0	+0.7
	baz=246,SNR=80						
J26L	Joseph Creek	90.80	19	IAmb	IAmb	21 34 49.6	
	comp=Z,37nm,0.8s						
J26L	Joseph Creek	90.80	19	P	P	21 34 46.9	-0.1
	baz=224,SNR=70						
F22K	John River	90.82	14	P	P	21 34 47.7	+0.7
	baz=216,SNR=36						
O30N	Mendenhall	90.83	24	IAmb	IAmb	21 34 48.1	
	comp=Z,46nm,1.0s						
O30N	Mendenhall	90.83	24	P	P	21 34 47.1	-0.1
	baz=231,SNR=29						
D20K	Etivluk River	90.88	12	P	P	21 34 48.1	+0.9
	baz=212,SNR=14						
N30M	Aishikik Lake	90.89	23	P	P	21 34 47.1	-0.4
	baz=230,SNR=22						
K27K	Chicken	90.93	19	IAmb	IAmb	21 34 49.8	
	comp=Z,38nm,0.8s						
K27K	Chicken	90.93	19	P	P	21 34 47.9	+0.4
	baz=226						
Y14A	Wickenburg	90.93	54	IAmb	IAmb	21 34 50.6	
	comp=Z,56nm,0.9s						
PRP	Porcupine Dome	90.97	17	P	P	21 34 47.0	-0.8
	baz=222,SNR=30						
T35M	Bob Quinn	90.98	29	IAmb	IAmb	21 34 50.3	
	comp=Z,73nm,1.1s						
T35M	Bob Quinn	90.98	29	P	P	21 34 49.4	+1.5
	baz=236,SNR=33						
P32M	Atlin	91.03	25	IAmb	IAmb	21 34 49.7	
	comp=Z,92nm,0.9s						
P32M	Atlin	91.03	25	P	P	21 34 48.5	+0.4
	baz=233,SNR=59						
M29M	Somme Creek	91.04	22	P	P	21 34 47.8	-0.4
	baz=229,SNR=36						
COLD	Coldfoot	91.06	15	P	P	21 34 48.8	+0.8
	baz=218,SNR=67						
S34M	Telegraph Cree	91.12	28	P	P	21 34 49.9	+1.4
	baz=235,SNR=11						
E21K	Killik River	91.19	13	IAmb	IAmb	21 34 50.3	
	comp=Z,52nm,1.0s						
E21K	Killik River	91.19	13	P	P	21 34 49.3	+0.6
	baz=215						
WHY	Whitehorse	91.22	24	IAmb	IAmb	21 34 50.0	
	comp=Z,55nm,1.0s						
WHY	Whitehorse	91.22	24	P	P	21 34 48.9	-0.1
	baz=232						
Q32M	Nakina River	91.25	26	IAmb	IAmb	21 34 51.2	
	comp=Z,84nm,1.0s						
Q32M	Nakina River	91.25	26	P	P	21 34 49.7	+0.4
	baz=234,SNR=63						
G24K	Hadweenzic Riv	91.33	16	P	P	21 34 49.0	-0.3
	baz=221,SNR=26						
A19K	Wainwright	91.38	10	P	P	21 34 49.1	-0.3
	baz=208						
N31M	Braeburn, Yuko	91.39	23	IAmb	IAmb	21 34 50.9	
	comp=Z,92nm,1.1s						
N31M	Braeburn, Yuko	91.39	23	P	P	21 34 49.6	-0.1
	baz=231,SNR=47						
H25L	Birch Creek	91.45	17	P	P	21 34 50.1	+0.3
	baz=222						
I26K	Coal Creek Min	91.50	18	IAmb	IAmb	21 34 52.0	
	comp=Z,31nm,0.8s						
I26K	Coal Creek Min	91.50	18	P	P	21 34 50.0	-0.1
	baz=225						
Q12A	Willow Creek R	91.53	49	IAmb	IAmb	21 34 53.5	
	comp=Z,80nm,0.9s						
GO10	Punta Arenas	91.56	149	P	P	21 34 52.5	+1.6
L29M	L29M	91.60	21	IAmb	IAmb	21 34 54.2	
	comp=Z,38nm,1.1s						
L29M	L29M	91.60	21	P	P	21 34 50.7	0.0
	baz=229,SNR=37						
C21K	Knifeblade Rid	91.61	12	P	P	21 34 51.7	+1.1
	baz=214,SNR=24						
MG05	Puerto Natales	91.66	147	P	P	21 34 52.5	+1.1
M30M	Minto, Yukon	91.72	22	IAmb	IAmb	21 34 53.0	
	comp=Z,54nm,1.1s						
M30M	Minto, Yukon	91.72	22	P	P	21 34 51.1	-0.1
	baz=230						
EGAK	Eagle	91.73	19	IAmb	IAmb	21 34 52.8	
	comp=Z,54nm,0.8s						
EGAK	Eagle	91.73	19	P	P	21 34 51.1	-0.1
	baz=226,SNR=78						
G25K	Bearman Lake	91.74	16	P	P	21 34 50.7	-0.4
	baz=222,SNR=16						
P33M	Teslin, Yukon	91.76	25	IAmb	IAmb	21 34 52.6	
	comp=Z,56nm,0.9s						
P33M	Teslin, Yukon	91.76	25	P	P	21 34 51.2	-0.3
	baz=234,SNR=70						
MOY	Mondy	91.80	325	*eP*	P	21 34 52.2	+0.3
MOY				pmax	pmax		
	comp=Z,75nm,2.3s						
DAWY	Dawson	91.81	20	IAmb	IAmb	21 34 54.4	
	comp=Z,32nm,0.9s						
DAWY	Dawson	91.81	20	P	P	21 34 51.3	-0.3
	baz=228,SNR=44						
D22K	Ayikyak River	91.82	13	IAmb	IAmb	21 34 53.8	
	comp=Z,40nm,0.8s						
D22K	Ayikyak River	91.82	13	P	P	21 34 52.5	+1.0
	baz=216,SNR=25						
E23K	Chandalar	91.85	14	P	P	21 34 52.5	+0.7
	baz=219,SNR=39						
F24K	Squaw Lake	91.85	15	IAmb	IAmb	21 34 53.6	
	comp=Z,37nm,0.8s						
F24K	Squaw Lake	91.85	15	P	P	21 34 52.5	+0.7
	baz=220,SNR=43						
SPR3	Spring Creek 3	91.88	49	IAmb	IAmb	21 34 54.9	
	comp=Z,44nm,1.0s						
B20K	Meade River	91.88	11	IAmb	IAmb	21 34 55.0	
	comp=Z,30nm,0.8s						
B20K	Meade River	91.88	11	P	P	21 34 52.5	+0.8
	baz=212						
DLBC	Dease Lake	91.90	27	P	P	21 34 52.9	+0.6
	baz=236,SNR=122						
DLBC	Dease Lake	91.90	27	LR	LR	22 07 43.6	
	comp=Z,240nm,20.9s,baz=276,slow=30						
ELK	Elko	91.92	47	IAmb	IAmb	21 34 55.1	
	comp=Z,43nm,0.9s						
ELK	Elko	91.92	47	P	P	21 34 52.0	-0.9
	comp=Z,35nm,0.9s,baz=244,slow=4.2,SNR=92						
ELK				PP	PP	21 38 30.7	-3.2
	comp=Z,4.8nm,1.0s,baz=212,slow=13,SNR=5.0						
	comp=Z,35nm,0.9s						
GO09	Cerro Castillo	91.97	147	IAmb	IAmb	21 34 55.6	
	comp=Z,76nm,1.1s						
B21K	Ikpikpuk River	92.03	12	IAmb	IAmb	21 34 54.6	
	comp=Z,34nm,0.9s						
B21K	Ikpikpuk River	92.03	12	P	P	21 34 53.3	+0.9
	baz=214,SNR=7.4						
R33M	Jennings River	92.05	26	P	P	21 34 53.4	+0.4
	baz=235,SNR=123						
TUC	Tucson	92.06	57	P	P	21 34 55.1	+1.5
TUC	Tucson	92.06	57	P	P	21 34 55.3	+1.7
	baz=249						
TUC	Tucson	92.06	57	P	P	21 34 55.1	+1.5
TUC				pmax	pmax		
	comp=Z,141nm,1.1s						
D08A	Wollman Farm,	92.11	41	IAmb	IAmb	21 34 55.6	
	comp=Z,65nm,0.9s						
E24K	Your Creek	92.14	15	P	P	21 34 53.5	+0.5
	baz=220,SNR=19						
I27K	Kandik River	92.17	18	P	P	21 34 53.1	-0.1
	baz=226,SNR=30						
BMO	Blue Mountains	92.19	43	IAmb	IAmb	21 34 55.8	
	comp=Z,43nm,1.1s						
N32M	Quiet Lake	92.22	24	P	P	21 34 53.8	+0.2
	baz=233						
SZCU	Shurtz Canyon	92.24	51	IAmb	IAmb	21 34 57.1	
	comp=Z,78nm,1.0s						
K29M	Barlow Dome	92.29	21	IAmb	IAmb	21 34 56.1	
	comp=Z,54nm,1.4s						
K29M	Barlow Dome	92.29	21	P	P	21 34 53.6	-0.3
	baz=230,SNR=21						
TOLK	Toolik Lake Re	92.32	14	P	P	21 34 54.5	+0.6
	baz=219,SNR=13						
D23K	Nanushuk River	92.33	14	P	P	21 34 55.0	+1.1
	baz=218						
M31M	Drury Creek, Y	92.36	23	IAmb	IAmb	21 34 54.5	
	comp=Z,41nm,1.0s						
M31M	Drury Creek, Y	92.36	23	P	P	21 34 53.4	-0.8
	baz=232,SNR=33						
E09A	Wood Farm, Sta	92.36	41	IAmb	IAmb	21 34 57.2	
	comp=Z,83nm,1.2s						
B08A	Colville Reser	92.43	39	IAmb	IAmb	21 34 56.5	
	comp=Z,71nm,1.0s						
J29N	Klondike Camp	92.45	20	IAmb	IAmb	21 34 57.3	
	comp=Z,34nm,0.6s						
J29N	Klondike Camp	92.45	20	P	P	21 34 54.6	0.0
	baz=229						
F25K	Christian Rive	92.48	16	P	P	21 34 55.2	+0.5
	baz=222,SNR=23						
G26K	Porcupine Rive	92.50	17	P	P	21 34 55.2	+0.5
	baz=224,SNR=52						
I28M	Miner Creek	92.57	19	P	P	21 34 54.7	-0.5
	baz=228,SNR=46						
MFID	Camas Ranch	92.58	45	IAmb	IAmb	21 34 58.3	
	comp=Z,61nm,0.8s						
H27K	Steamboat Moun	92.63	18	P	P	21 34 55.4	+0.1
	baz=226,SNR=21						
BMAR	Burnt Mountain	92.64	16	P	P	21 34 56.0	+0.6
MAYO	Mayo, Yukon	92.69	22	P	P	21 34 56.0	+0.3
	baz=231						
F10A	Beach Ranch, E	92.71	42	IAmb	IAmb	21 35 00.5	
	comp=Z,53nm,0.8s						
WUAZ	Wupatki	92.76	53	P	P	21 34 58.3	+1.4
	baz=249,SNR=51						
FARO	Faro, Yukon	92.76	23	IAmb	IAmb	21 34 56.6	
	comp=Z,48nm,1.3s						
FARO	Faro, Yukon	92.76	23	P	P	21 34 55.4	-0.7
	baz=233,SNR=25						
C09A	Chrisman Ranch	92.83	40	IAmb	IAmb	21 34 58.5	
	comp=Z,32nm,1.0s						
B22K	Teshekpuk Lake	92.86	12	IAmb	IAmb	21 35 01.1	
	comp=Z,40nm,0.9s						
B22K	Teshekpuk Lake	92.86	12	P	P	21 34 56.8	+0.6
	baz=215						
D24K	Happy Valley	92.89	14	IAmb	IAmb	21 34 58.4	
	comp=Z,32nm,0.8s						
D24K	Happy Valley	92.89	14	P	P	21 34 57.6	+1.1
	baz=220,SNR=19						
F26K	Sheenjek River	92.95	16	P	P	21 34 57.5	+0.7
	baz=224,SNR=17						
G27K	Doyon Strip	93.00	18	P	P	21 34 57.3	+0.3
	baz=226,SNR=24						
I29M	Ogilvie Camp,	93.02	20	IAmb	IAmb	21 34 58.8	
	comp=Z,52nm,1.2s						
I29M	Ogilvie Camp,	93.02	20	P	P	21 34 56.5	-0.7
	baz=229,SNR=49						
C23K	Itkillik River	93.03	13	IAmb	IAmb	21 34 59.3	
	comp=Z,64nm,1.1s						
C23K	Itkillik River	93.03	13	P	P	21 34 57.9	+0.8
	baz=218,SNR=24						
MTPU	Mount Pierson	93.07	51	IAmb	IAmb	21 35 01.5	
	comp=Z,61nm,0.9s						
TCRU	Three Creeks R	93.09	50	IAmb	IAmb	21 35 01.6	
	comp=Z,43nm,0.9s						
A21K	Barrow	93.09	11	P	P	21 34 57.8	+0.5
	baz=212						
A22K	Sinclair Lake	93.12	11	P	P	21 34 58.3	+0.9
	baz=214						
J30M	Hart River	93.16	21	P	P	21 34 57.8	-0.2
	baz=231,SNR=16						
C24K	Franklin Bluff	93.36	14	P	P	21 34 59.5	+1.0
	baz=220						
WTLY	Watson Lake, Y	93.36	26	P	P	21 34 59.5	+0.7
	baz=237,SNR=34						
DUG	Dugway, Tooele	93.41	49	IAmb	IAmb	21 35 01.7	
	comp=Z,48nm,1.5s						
DUG	Dugway, Tooele	93.41	49	P	P	21 35 00.6	+0.8
	baz=248,SNR=22						
I30M	Mount Dempster	93.55	20	IAmb	IAmb	21 35 01.2	
	comp=Z,39nm,0.8s						
I30M	Mount Dempster	93.55	20	P	P	21 34 59.1	-0.6
	baz=231,SNR=76						
H29M	Whitestone	93.57	19	P	P	21 34 59.4	-0.3
	baz=229,SNR=23						
HLID	Hailey	93.58	45	P	P	21 35 01.4	+0.9
	baz=247,SNR=81						
D25K	Kavik River	93.59	14	P	P	21 34 59.9	+0.1
	baz=222,SNR=28						
NEW	Newport	93.72	40	IAmb	IAmb	21 35 03.9	
	comp=Z,31nm,0.9s						
NEW	Newport	93.72	40	P	P	21 35 00.9	+0.1
	baz=246,SNR=33						
NEW	Newport	93.72	40	P	P	21 34 60.0	-0.8
	comp=Z,27nm,0.9s,baz=241,slow=4.0,SNR=25						
NEW				PP	PP	21 38 43.0	-4.6
	comp=Z,2.1nm,0.7s,baz=297,slow=8.7,SNR=3.4						
NEW				LR	LR	22 09 17.8	
	comp=Z,142nm,21.0s,baz=278,slow=30						
	comp=Z,27nm,0.9s						
NEW	Newport	93.72	40	P	P	21 35 00.0	-0.8
MMPY	Sheldon Lake,	93.78	24	IAmb	IAmb	21 35 02.0	
	comp=Z,71nm,1.0s						
MMPY	Sheldon Lake,	93.78	24	P	P	21 35 00.7	-0.1
	baz=235,SNR=71						
W18A	Petrified Fore	93.87	54	IAmb	IAmb	21 35 04.4	
	comp=Z,56nm,0.9s						
W18A	Petrified Fore	93.87	54	P	P	21 35 03.1	+1.1
	baz=250,SNR=18						
E27K	Coleen River	93.98	17	IAmb	IAmb	21 35 04.3	
	comp=Z,66nm,1.6s						
E27K	Coleen River	93.98	17	P	P	21 35 02.1	+0.6
	baz=226,SNR=34						
HVU	Hansel Valley	94.03	47	IAmb	IAmb	21 35 05.0	
	comp=Z,42nm,0.8s						
F28M	Old Crow	94.06	17	P	P	21 35 01.9	0.0
	baz=228,SNR=22						
SPUT	South Promonto	94.08	48	IAmb	IAmb	21 35 04.7	
	comp=Z,22nm,0.8s						
HMU	Henry Mountain	94.10	51	IAmb	IAmb	21 35 07.5	
	comp=Z,29nm,0.9s						
G29M	Pine Creek	94.13	18	IAmb	IAmb	21 35 04.1	
	comp=Z,38nm,0.9s						
G29M	Pine Creek	94.13	18	P	P	21 35 01.9	-0.4
	baz=229,SNR=30						
Q16A	Castle Valley	94.13	50	IAmb	IAmb	21 35 05.8	
	comp=Z,58nm,1.1s						
LIRD	Liard River Hi	94.15	28	P	P	21 35 03.2	+0.7
	baz=239,SNR=39						
EPYK	Eagle Plains	94.18	19	P	P	21 35 02.2	-0.3
	baz=230,SNR=38						
MPU	Maple Canyon	94.19	49	IAmb	IAmb	21 35 05.5	
	comp=Z,28nm,1.0s						
TMUT	Trail Mountain	94.24	50	IAmb	IAmb	21 35 14.5	
	comp=Z,25nm,0.8s						
TOAD	Toad River Com	94.25	28	P	P	21 35 03.2	+0.2
	baz=240,SNR=201						
TGTN	Hyland Airport	94.34	25	P	P	21 35 04.0	+0.6
	baz=238,SNR=14						
CTU	Camp Tracy	94.35	49	IAmb	IAmb	21 35 05.9	
	comp=Z,26nm,0.9s						
C26K	Camden Bay	94.38	14	P	P	21 35 04.5	+1.2
	baz=223,SNR=79						
TIXI	Tiksi	94.40	348	P	P	21 35 02.3	-1.0
TIXI	Tiksi	94.40	348	LR	LR	22 15 14.1	
	comp=Z,118nm,19.8s,baz=150,slow=34						
TIXI	Tiksi	94.40	348	⇓*eP*	P	21 35 02.0	-1.3
TIXI				pmax	pmax		
	comp=Z,27nm,1.1s						
C27K	Jago River	94.45	15	P	P	21 35 04.3	+0.7
	baz=224,SNR=53						
121A	Cookes Peak, D	94.52	57	IAmb	IAmb	21 35 08.3	
	comp=Z,63nm,1.1s						
121A	Cookes Peak, D	94.52	57	P	P	21 35 06.6	+1.5
	baz=250,SNR=31						
SRU	San Rafael Swe	94.67	50	IAmb	IAmb	21 35 11.8	
	comp=Z,32nm,0.8s						
G30M	tAoh Zraii Nji	94.72	19	P	P	21 35 04.5	-0.4
	baz=231,SNR=106						
TCUT	Toone Canyon	94.75	48	IAmb	IAmb	21 35 09.0	
	comp=Z,41nm,0.8s						
E28M	Babbage River	94.82	17	IAmb	IAmb	21 35 07.2	
	comp=Z,43nm,0.8s						
E28M	Babbage River	94.82	17	P	P	21 35 05.6	+0.2
	baz=228,SNR=86						
D27M	Malcolm River	94.88	16	IAmb	IAmb	21 35 07.8	
	comp=Z,47nm,1.0s						
D27M	Malcolm River	94.88	16	P	P	21 35 06.3	+0.7
	baz=227,SNR=33						
BSUT	Blindstream Ca	95.00	49	IAmb	IAmb	21 35 09.2	
	comp=Z,34nm,0.8s						
E29M	Blow River	95.13	17	P	P	21 35 06.3	-0.5
	baz=230,SNR=29						
MSO	Missoula	95.14	42	P	P	21 35 07.0	-0.4
	baz=248,SNR=9.2						
F30M	Barrier River	95.25	18	P	P	21 35 06.8	-0.5
	baz=231,SNR=36						
G31M	Satah River	95.29	19	P	P	21 35 07.0	-0.5
	baz=233,SNR=60						
COYC	Coyhaique	95.29	142	IAmb	IAmb	21 35 11.5	
	comp=Z,44nm,1.0s						
KOTAN	Kotaneelee Air	95.40	28	P	P	21 35 08.7	+0.6
	baz=241,SNR=16						
DLMT	Dillon	95.46	44	IAmb	IAmb	21 35 11.4	
	comp=Z,48nm,1.1s						
D28M	Stokes Point	95.52	16	P	P	21 35 08.9	+0.5
	baz=229						
MVCO	Mesa Verde	95.52	53	P	P	21 35 10.3	+0.7
	baz=250						
Y22D	IRIS PASSCAL I	95.71	56	P	P	21 35 10.2	-0.2
	baz=251						
F31M	Tsiigehtchic	95.76	19	P	P	21 35 09.3	-0.3
	baz=233,SNR=68						
ZAIG	Zacatecas	95.79	68	IAmb	IAmb	21 35 14.2	
	comp=Z,33nm,1.0s						
HYB	Hyderabad	95.88	286	*eP*	P	21 35 12.0	+0.6
IMW	Indian Meadow	96.05	46	IAmb	IAmb	21 35 13.8	
	comp=Z,25nm,0.9s						
YHB	Horse Butte	96.17	45	IAmb	IAmb	21 35 11.7	
	comp=Z,32nm,1.0s						
BOZ	Bozeman (W)	96.18	44	IAmb	IAmb	21 35 14.7	
	comp=Z,26nm,1.1s						
BOZ	Bozeman (W)	96.18	44	P	P	21 35 13.3	+1.0

BW06	Boulder Array	96.61	47	P	P	21 35 14.1	-0.3	
baz=250								
PDAR	Pinedale Array	96.61	47	P	P	21 35 14.7	+0.3	
PDAR	Pinedale Array	96.61	47	P	P	21 35 12.8	-1.6	
comp=Z,11nm,1.0s,baz=222,slow=2.0,SNR=23								
PDAR				PP	PP	21 39 03.2	-7.2	
comp=Z,3.0nm,1.1s,baz=243,slow=6.0,SNR=7.9								
PDAR				PKKP	PKKPbc	21 51 55.9	-3.1	
comp=Z,0.6nm,0.7s,baz=104,slow=4.9,SNR=4.3								
PDAR				PKPPKP	P'P'df	22 00 11.6	+0.4	
comp=Z,1.1nm,1.0s,baz=96,slow=3.0,SNR=4.4								
PDAR				LR	LR	22 12 49.5		
comp=Z,132nm,20.6s,baz=340,slow=32								
comp=Z,11nm,1.0s								
O20A	White River Ci	96.68	50	IAmb	IAmb	21 35 16.5		
comp=Z,25nm,1.1s								
O20A	White River Ci	96.68	50	P	P	21 35 15.4	+0.7	
baz=251,SNR=11								
WMQ	Urumqi	96.81	314	eP	P	21 35 17.6	+2.5	
WMQ				pmax	pmax			
comp=Z,31nm,1.7s								
LL01	San Ignacio de	96.85	139	IAmb	IAmb	21 35 16.4		
comp=Z,27nm,1.1s								
TX31	Lajitas Ar. Si	96.86	61	IAmb	IAmb	21 35 18.1		
comp=Z,49nm,0.9s								
TXAR	Lajitas Array	96.86	61	P	P	21 35 16.9	+1.2	
TXAR	Lajitas Array	96.86	61	P	P	21 35 15.1	-0.6	
comp=Z,33nm,0.8s,baz=225,slow=5.1,SNR=210								
TXAR				PP	PP	21 39 09.0	-3.5	
comp=Z,0.9nm,0.9s,baz=180,slow=2.5,SNR=3.3								
TXAR				PKKPbc	PKKPdf	21 51 58.9	-0.6	
comp=Z,1.5nm,0.8s,baz=109,slow=3.8,SNR=11								
TXAR				PKKPab	PKKPab	21 52 28.9		
comp=Z,0.6nm,0.8s,baz=129,slow=1.3,SNR=3.9								
TXAR				PKPPKP	P'P'df	22 00 07.2	-4.5	
comp=Z,0.3nm,1.0s,baz=270,slow=5.0,SNR=4.0								
TXAR				LR	LR	22 11 15.0		
comp=Z,175nm,20.3s,baz=318,slow=31								
comp=Z,33nm,0.8s								
TXAR	Lajitas Array	96.86	61	P	P	21 35 16.9	+1.2	
S22A	4UR Ranch, Cre	96.95	53	P	P	21 35 17.3	+1.2	
baz=252,SNR=16								
WRGLY	Wrigley	97.14	25	P	Pdif	21 35 16.2	+0.2	
baz=242,SNR=14								
ALPN	Alpine	97.20	60	IAmb	IAmb	21 35 19.2		
comp=Z,35nm,0.9s								
PECS	Pecos	97.31	59	IAmb	IAmb	21 35 19.2		
comp=Z,33nm,1.2s								
RLMT	Red Lodge	97.59	45	P	Pdif	21 35 20.0	+1.2	
baz=251,SNR=11								
LL04	Puerto Octay	97.66	138	IAmb	IAmb	21 35 20.2		
comp=Z,23nm,0.8s								
RWWY	Rawlins	97.91	49	IAmb	IAmb	21 35 21.6		
comp=Z,30nm,1.1s								
SDCO	Great Sand Dun	97.95	53	P	Pdif	21 35 21.4	+0.7	
baz=252,SNR=20								
MNHN	Monahans	98.20	60	IAmb	IAmb	21 35 23.1		
comp=Z,24nm,0.9s								
SAND	Sanderson	98.33	61	IAmb	IAmb	21 35 24.7		
comp=Z,21nm,0.8s								
N23A	Red Feather La	98.58	50	IAmb	IAmb	21 35 29.3		
comp=Z,20nm,0.8s								
N23A	Red Feather La	98.58	50	P	Pdif	21 35 24.1	+0.7	
baz=252,SNR=12								
Q24A	Divide	98.58	52	P	Pdif	21 35 24.0	+0.5	
baz=253,SNR=7.6								
T25A	Trinidad	98.60	54	P	Pdif	21 35 23.9	+0.4	
baz=253,SNR=6.1								
ODSA	Odessa	98.61	59	IAmb	IAmb	21 35 26.7		
comp=Z,31nm,0.9s								
K22A	Casper	98.69	48	IAmb	IAmb	21 39 25.7		
comp=Z,58nm,1.8s								
K22A	Casper	98.69	48	P	Pdif	21 35 24.0	+0.3	
baz=252								
PLCA	Paso Flores	98.93	138	P	P	21 35 24.6	-0.3	
comp=Z,6.1nm,0.9s,baz=203,slow=9.2,SNR=6.8								
PLCA				PKKPbc	PKKPbc	21 51 48.9	-2.9	
comp=Z,4.9nm,1.1s,baz=114,slow=9.0,SNR=4.0								
comp=Z,6.1nm,0.9s								
MSTX	Muleshoe	98.96	57	IAmb	IAmb	21 35 26.4		
comp=Z,36nm,0.9s								
MSTX	Muleshoe	98.96	57	P	Pdif	21 35 25.3	+0.2	
baz=253								
GO06	Curarrehue	98.98	137	P	Pdif	21 35 26.0	+0.8	
GO06				IAmb	IAmb	21 35 27.2		
comp=Z,15nm,0.9s								
PHWY	Pilot Hill	99.05	50	IAmb	IAmb	21 39 29.8		
comp=Z,29nm,1.2s								
C36M	Paulatuk	99.81	19	P	Pdif	21 35 27.7	-0.1	
baz=242								
ZSN	Zaisan	99.84	317	eP	Pdif	21 35 27.1	-1.4	
baz=317								
ZSN				ePP	PP	21 39 33.8	-0.9	
baz=317								
ZSN	Zaisan	99.84	317	eP	Pdif	21 35 27.9	-0.6	
ZSN				e		21 39 33.7		
AMTX	Amarillo	100.08	57	P	Pdif	21 35 30.1	+0.2	
baz=254								
LAO	LASA Array	100.09	44	P	Pdif	21 35 30.8	+1.1	
baz=253								
833A	Chaparral WMA,	100.15	64	P	Pdif	21 35 31.0	+0.7	
baz=254								
JCT	Junction City	100.40	61	P	Pdif	21 35 31.7	+0.3	
baz=254								
YKA	Yellowknife Ar	100.53	27	Pdiff	Pdif	21 35 30.8	-0.4	
comp=Z,19nm,0.7s,baz=254,slow=4.5,SNR=33								
A36M	Sachs Harbour	100.72	17	P	Pdif	21 35 32.2	+0.5	
baz=242								
RSSD	Black Hills	100.85	47	P	Pdif	21 35 33.1	-0.2	
baz=254								
CMIG	Matias Romero	101.03	76	Pdiff	Pdif	21 35 33.1	-1.3	
comp=Z,4.1nm,0.6s,baz=292,slow=10,SNR=5.3								
ABTX	Abilene, Hawle	101.11	59	P	Pdif	21 35 34.8	+0.3	
baz=255								
MK31	Makanchi Array	101.34	316	d iP	Pdif	21 35 35.4	+0.2	
MKAR	Makanchi Array	101.34	316	Pdiff	Pdif	21 35 34.4	-0.8	
comp=Z,6.8nm,0.6s,baz=94,slow=6.0,SNR=62								
MKAR				PP	PP	21 39 43.0	-3.1	
comp=Z,3.2nm,1.0s,baz=98,slow=8.7,SNR=4.2								
MKAR				PKIKP	PKiKP	21 39 58.7	-0.4	
comp=Z,4.5nm,0.9s,baz=123,slow=1.5,SNR=7.6								
MKAR				PKKPbc	PKKPbc	21 51 40.9	-4.7	
comp=Z,2.2nm,0.7s,baz=279,slow=3.3,SNR=15								
MKAR				PKKPab	PKKPab	21 52 07.0		
comp=Z,2.2nm,0.8s,baz=305,slow=4.3,SNR=6.8								
MKAR	Makanchi Array	101.34	316	i P	Pdif	21 35 35.9	+0.7	
MKAR				pmax	pmax			
comp=Z,7.0nm,0.6s								
ZALV	Zalesovo Beam	101.72	323	Pdiff	Pdif	21 35 35.1	-1.5	
comp=Z,6.0nm,0.8s,baz=109,slow=3.6,SNR=22								
ZALV				PP	PP	21 39 48.3	-0.4	
comp=Z,3.7nm,0.9s,baz=97,slow=6.1,SNR=4.1								
ZALV				PKiKP	PKiKP	21 40 00.0	+0.5	
comp=Z,3.0nm,0.8s,baz=184,slow=1.4,SNR=6.3								
ZALV				PKKPbc	PKKPbc	21 51 42.5	-2.2	
comp=Z,1.7nm,0.6s,baz=304,slow=2.7,SNR=7.3								
ZALV	Zalesovo Beam	101.72	323	i P	Pdif	21 35 36.5	-0.1	
ZALV				pmax	pmax			
comp=Z,6.0nm,0.8s								
WMOK	Wichita Mounta	102.34	57	P	Pdif	21 35 40.0	0.0	
baz=256								
SHLS	Shalkode	102.35	311	eP	Pdif	21 35 37.6	-2.4	
baz=312								
SHLS				ePP	PP	21 39 50.0	-3.9	
baz=312								
SHLS	Shalkode	102.35	311	eP	Pdif	21 35 37.5	-2.4	
SHLS				e		21 39 50.0		
UZB	Uzynbulak	102.66	311	eP	Pdif	21 35 40.4	-1.0	
baz=311								
UZB				ePP	PP	21 39 54.6	-1.7	
baz=311								
UZB	Uzynbulak	102.66	311	eP	Pdif	21 35 40.3	-1.0	
UZB				e		21 39 54.5		
WHTX	Lake Whitney,	102.73	60	P	Pdif	21 35 42.3	+0.6	
baz=256								
KPKS	Kokpek	102.98	312	eP	Pdif	21 35 42.1	-0.5	
baz=312								
KPKS				ePP	PP	21 39 56.8	-1.7	
baz=312								
KPKS	Kokpek	102.98	312	eP	Pdif	21 35 42.1	-0.5	
KPKS				e		21 39 56.8		
TDK	Taldyqorghan	103.53	313	ePdif	Pdif	21 35 44.5	-0.4	
baz=313								
TDK				ePP	PP	21 40 01.4	-1.2	
baz=313								
TDK	Taldyqorghan	103.53	313	i P	Pdif	21 35 44.5	-0.4	
TDK				e		21 40 01.3		
SEM	Semipalatinsk	103.56	319	ePdif	Pdif	21 35 44.9	-0.4	
baz=319								
SEM	Semipalatinsk	103.56	319	i P	Pdif	21 35 44.8	-0.4	
MDOK	Medeo	104.07	311	ePdif	Pdif	21 35 46.8	-0.8	
baz=311								
MDOK				ePP	PP	21 40 05.2	-1.5	
baz=311								
MDOK	Medeo	104.07	311	i P	Pdif	21 35 46.8	-0.8	
MDOK				e		21 40 05.1		
NRIK	Noril'sk	104.57	339	Pdiff	Pdif	21 35 47.7	-1.3	
comp=Z,17nm,0.9s,baz=115,slow=4.6,SNR=20								
NRIK	Noril'sk	104.57	339	d iP	Pdif	21 35 48.4	-0.5	
KURK	Kurchatov	104.64	319	⇓iP	Pdif	21 35 49.3	-0.4	
KURBB	Kurchatov Arra	104.67	319	Pdiff	Pdif	21 35 48.3	-1.5	
comp=Z,2.5nm,0.8s,baz=105,slow=4.6,SNR=14								
KURBB				PKiKP	PKiKP	21 40 05.0	+0.1	
comp=Z,6.1nm,1.0s,baz=106,slow=1.8,SNR=17								
KURBB				PKKPbc	PKKPbc	21 51 33.4	-2.4	
comp=Z,4.3nm,0.7s,baz=283,slow=3.3,SNR=5.1								
KURBB				PKKP	PKKPab	21 51 52.0	+0.6	
comp=Z,5.0nm,0.9s,baz=282,slow=4.8,SNR=15								
SGDS	Sogindy	105.86	311	ePdif	Pdif	21 35 54.5	-0.9	
baz=311								
SGDS				ePP	PP	21 40 18.1	-1.8	
baz=311								
SGDS	Sogindy	105.86	311	i P	Pdif	21 35 54.5	-0.9	
SGDS				e		21 40 18.0		
BTLS	Baital	106.56	313	ePdif	Pdif	21 35 57.9	-0.5	
baz=312								
BTLS				ePP	PP	21 40 23.9	-1.0	
baz=312								
BTLS	Baital	106.56	313	i P	Pdif	21 35 57.9	-0.5	
BTLS				e		21 40 23.8		
ULM	Lac du Bonnet	107.59	42	PKiKP	PKiKP	21 40 08.0	-2.4	
comp=Z,6.6nm,1.0s,baz=253,slow=3.2,SNR=3.9								
IUG	Iuzhnay	108.97	309	ePdif	Pdif	21 36 08.4	-0.9	
baz=309								
IUG				ePP	PP	21 40 41.1	-1.5	
baz=309								
IUG	Iuzhnay	108.97	309	i P	Pdif	21 36 08.4	-0.9	
IUG				e		21 40 41.1		
BRLS	Borolday	109.24	310	ePdif	Pdif	21 36 09.6	-0.8	
baz=310								
BRLS				ePP	PP	21 40 43.5	-1.0	
baz=310								
BRLS	Borolday	109.24	310	i P	Pdif	21 36 09.6	-0.8	
BRLS				e		21 40 43.4		
BVAR	Borovoye Array	110.02	321	Pdiff	Pdif	21 36 12.6	-1.1	
comp=Z,2.2nm,0.8s,baz=105,slow=5.1,SNR=7.8								
BVAR				PKiKP	PKiKP	21 40 14.7	-0.2	
comp=Z,5.7nm,0.8s,baz=124,slow=0.5,SNR=17								
BVAR				PP	PP	21 40 44.3	-5.6	
comp=Z,3.7nm,1.0s,baz=118,slow=8.6,SNR=3.9								
BVAR				PKKPbc	PKKPbc	21 51 16.2	-2.9	
comp=Z,4.5nm,0.8s,baz=298,slow=3.2,SNR=14								
TKL	Tuckaleechee C	114.59	59	PKP	PKPdf	21 40 22.2	-1.9	
comp=Z,5.4nm,0.8s,baz=177,slow=3.0,SNR=5.7								
SVE	Sverdlovsk	115.67	325	ePKIKP	PKPdf	21 40 25.7	+0.2	
SVE				pmax	pmax			
comp=Z,27nm,1.0s								
CPUP	Villa Florida	116.40	134	PKP	PKPdf	21 40 27.6	-0.4	
comp=Z,5.1nm,0.8s,baz=335,slow=0.2,SNR=13								
CPUP				PKKPbc	PKKPbc	21 50 55.5	-1.3	
comp=Z,3.5nm,0.9s,baz=36,slow=1.6,SNR=7.2								
ABKAR	Akbulak array	116.48	316		PKiKP	21 40 27.3	0.0	
ARU	Arti	116.85	324		PKPdf	21 40 27.6	-0.2	
ARU	Arti	116.85	324	d iPKIKP	PKPdf	21 40 26.9	-0.9	
SOHO	SOHO	117.46	288	i P	PKPdf	21 40 29.5	-0.4	
SNR=9.2								
UOSS	Minazif	117.89	289		PKPdf	21 40 30.2	-0.6	
UOSS	Minazif	117.89	289	P	PKPdf	21 40 29.8	-1.0	
HATD	Hatta, Dubai	117.93	289	i P	PKPdf	21 40 30.6	-0.3	
SNR=6.6								
ASHO	Ashiyiah	117.97	288	i P	PKPdf	21 40 30.4	-0.6	
SNR=5.8								
MSFE	Esma-Masafi	117.99	289	P	PKPdf	21 40 30.6	-0.4	
ALNE	Al Ain	118.15	288	P	PKPdf	21 40 31.3	0.0	
NEEM	North Greenlan	118.26	9	i P	PKPdf	21 40 29.7	-0.7	
NAZ	Nazwa, Dubai	118.38	289	P	PKPdf	21 40 31.5	-0.2	
FAQ	Al Faqa, Dubai	118.40	288	P	PKPdf	21 40 31.3	-0.5	
ASUD	Al Ashush, Dub	118.62	288	P	PKiKP	21 40 32.2	0.0	
MZR	Muzera	120.04	286	i P	PKiKP	21 40 35.6	+0.5	
SNR=18								
SUR	Sutherland	120.55	211		PKiKP	21 40 37.1	+0.9	
SUR	Sutherland	120.55	211	PKP	PKiKP	21 40 36.3	+0.2	
comp=Z,15nm,0.8s,baz=166,slow=2.8,SNR=12								
BOSA	Boshof	121.13	217	PKP	PKiKP	21 40 37.7	+0.4	
comp=Z,26nm,0.9s,baz=126,slow=2.3,SNR=30								
BOSA				PKKPbc	PKKPbc	21 50 38.3	-1.7	
comp=Z,12nm,1.0s,baz=328,slow=5.3,SNR=11								
AQDB	Aquidauana	121.27	130	eP	PKiKP	21 40 41.5	+3.9	
KIRV	Kirov	121.29	328	d iPKIKP	PKPdf	21 40 35.7	-0.5	
PTLB	Pontes e Lacer	121.61	123		PKPdf	21 40 37.8	-0.4	
SDDR	Presa de Saban	123.29	79		PKPdf	21 40 41.2	-0.2	
LVZ	Lovozero	123.29	341	⇑iPKIKP	PKPdf	21 40 38.7	-1.2	
LBTB	Lobatse	123.60	221	PKP	PKiKP	21 40 42.4	+0.1	
comp=Z,25nm,0.8s,baz=163,slow=3.3,SNR=38								
BELG	Belogornoye	123.83	321	d iPKIKP	PKPdf	21 40 41.0	-0.3	
APA	Apatity	123.87	341	⇓iPKIKP	PKPdf	21 40 36.8	-4.2	
APA				i		21 41 02.0		
APA				pmax	pmax			
comp=Z,17nm,0.9s								
SUMG	Summit	124.12	10		PKPdf	21 40 42.0	+0.1	
SUMG	Summit	124.12	10	PKIKP	PKPdf	21 40 42.0	+0.1	
SUMG	Summit	124.12	10	i P	PKPdf	21 40 39.4	-2.5	
KEV	Kevo	124.19	345		PKPdf	21 40 41.6	+0.1	
KEV	Kevo	124.19	345	PKIKP	PKPdf	21 40 41.6	+0.1	
ADZR	Andozero	124.20	336	ePKIKP	PKPdf	21 40 39.7	-2.0	
ADZR				pmax	pmax			
comp=Z,23nm,0.8s								
DBG	Daneborg	124.39	3	i P	PKPdf	21 40 40.1	-1.8	
ARCES	ARCESS Array B	124.72	345		PKPdf	21 40 42.5	-0.1	
ARCES	ARCESS Array B	124.72	345	PKP	PKPdf	21 40 41.8	-0.8	
comp=Z,14nm,0.7s,baz=79,slow=1.9,SNR=49								
ARCES				PP	PP	21 42 25.4	-5.7	
comp=Z,4.4nm,1.0s,baz=108,slow=4.0,SNR=2.0								
ARCES	ARCESS Array B	124.72	345	PKIKP	PKPdf	21 40 42.5	-0.1	
SCHQ	Schefferville	124.83	36	PKP	PKPdf	21 40 42.0	-1.3	
comp=Z,11nm,1.0s,baz=359,slow=3.8,SNR=9.5								
SCHQ				PKKPbc	PKKPab	21 50 24.4	+1.5	
comp=Z,2.0nm,0.6s,baz=90,slow=7.1,SNR=4.7								
LKRN	Lenkeran, Azer	124.98	304	PKIKP	PKiKP	21 40 44.7	+0.4	
VAO	Valinhos	125.51	138		PKiKP	21 40 45.9	-0.2	
MAK	Makhachkala	125.57	310	i P	Pdif	21 37 21.1	-1.8	
MAK				i		21 40 45.5		
MAK				e		21 41 13.2		
MAK				e		21 42 37.7		
MAK				ePPP	PPP	21 45 19.7		
MAK				e		21 47 37.7		
MAK				ePS	PS	21 52 36.9	-3.8	
MAK				eSS	SS	21 59 30.0	+0.9	
MAK				eSSS	SSS	22 04 11.7		
MAK				pmax	pmax			
comp=Z,93nm,0.9s								
SEKA	Sheki	126.00	308	PKIKP	PKiKP	21 40 46.4	0.0	
MNGR	Mingechevir, A	126.12	307	PKIKP	PKiKP	21 40 47.2	+0.7	
GANJ	Ganja	126.71	307	PKIKP	PKiKP	21 40 47.9	+0.1	
ICESG	Greenland Ices	126.83	12	i P	PKPdf	21 40 45.9	-1.2	
DY2G	Dye2	127.30	17	i P	PKPdf	21 40 44.4	-3.5	
RAYN	Ar Rayn	127.38	285		PKiKP	21 40 49.6	0.0	
RAYN	Ar Rayn	127.38	285	i P	PKiKP	21 40 49.8	+0.1	
SNR=18								
RAYN	Ar Rayn	127.38	285	⇑PKIKP	PKiKP	21 40 50.0	+0.4	
NAX	Nakhchivan	127.50	305	PKIKP	PKiKP	21 40 51.4	+1.9	
EMPR	Esperanza - Ma	127.63	81		PKiKP	21 40 50.0	-0.2	
VRH	Novokhopyorsk	127.67	321	ePKIKP	PKPdf	21 40 48.1	-0.6	
VRH				pmax	pmax			
comp=Z,59nm,1.4s								
SJG	San Juan	127.92	81		PKPdf	21 40 50.1	-0.1	
SJG	San Juan	127.92	81	PKIKP	PKPdf	21 40 50.1	-0.1	
IGPR	Interuniversit	127.94	82		PKPdf	21 40 49.8	-0.4	
GNI	Garni	127.97	306		PKiKP	21 40 50.5	0.0	
GNI	Garni	127.97	306	P	PKiKP	21 40 50.5	0.0	
GNI	Garni	127.97	306	d iPKIKP	PKiKP	21 40 50.3	-0.2	
MOS	Moscow	128.29	327	i PKIKP	PKPdf	21 40 48.7	-1.1	
MOS				e		21 41 15.8		
MOS				e		21 42 52.3		
MOS				ePPP	PPP	21 45 40.1		
MOS				pmax	pmax			
comp=Z,71nm,1.0s								
NCK	Nalchik	128.32	311	⇑iPKIKP	PKiKP	21 40 51.1	+0.2	
GOF	Gofitskoye	128.40	313	cePKIKP	PKPdf	21 40 50.6	+0.2	
VALR	Valaam	128.47	336	c iPKIKP	PKPdf	21 40 49.4	-0.5	
LSZ	Lusaka	128.54	231		PKiKP	21 40 52.0	-0.3	
LSZ	Lusaka	128.54	231	PKIKP	PKiKP	21 40 52.0	-0.3	
KMBO	Kilima Mbogo	128.56	253		PKiKP	21 40 52.8	+0.2	
KMBO	Kilima Mbogo	128.56	253	i P	PKiKP	21 40 53.7	+1.2	
SNR=6.8								
KMBO	Kilima Mbogo	128.56	253	PKIKP	PKiKP	21 40 52.8	+0.2	
KBZ	Khabaz	128.77	311	PKP	PKPdf	21 40 50.1	-0.9	
comp=Z,8.6nm,1.0s,baz=117,slow=1.6,SNR=11								
KBZ	Khabaz	128.77	311	d iPKIKP	PKPdf	21 40 51.0	0.0	
LPSR	Galich'ya Gora	128.83	323	ePKIKP	PKPdf	21 40 50.5	-0.4	
LPSR				pmax	pmax			
comp=Z,130nm,1.0s								
KIV	Kislovodsk	128.88	312		PKiKP	21 40 52.0	-0.1	
KIV	Kislovodsk	128.88	312	i P	PKiKP	21 40 51.8	-0.3	
SNR=11								
KIV	Kislovodsk	128.88	312	⇑P	PKPdf	21 40 51.4	-0.1	
KIV	Kislovodsk	128.88	312	i PKIKP	PKPdf	21 40 51.2	-0.2	
KIV				e		21 42 59.0		
KIV				ePS	PS	21 53 03.8	-6.0	
KIV				pmax	pmax			
comp=Z,22nm,1.1s								
BOAV	Boa Vista	128.89	103		PKPdf	21 40 52.0	-0.2	
OBN	Obninsk	129.11	327		PKPdf	21 40 51.5	+0.1	
OBN	Obninsk	129.11	327	d iPKIKP	PKPdf	21 40 50.6	-0.7	
OBN				e		21 41 19.1		
OBN				e		21 43 00.9		
OBN				ePPP	PPP	21 45 44.4		
OBN				pmax	pmax			
comp=Z,64nm,1.2s								
VSR	Storozhevoye	129.19	321	ePKIKP	PKPdf	21 40 51.2	-0.4	
VSR				pmax	pmax			
comp=Z,60nm,1.3s								
VORD	Divnogorie	129.20	321	ePKIKP	PKPdf	21 40 51.6	0.0	
VORD				pmax	pmax			
comp=Z,40nm,1.1s								
PUL	Pulkovo	129.63	334	⇓ePKIKP	PKiKP	21 40 53.4	+0.5	
BDFB	Brasilia	129.94	131		PKPdf	21 40 54.5	+0.2	
BDFB	Brasilia	129.94	131	PKhKP	PKPpre	21 40 44.2		
comp=Z,1.3nm,0.5s,baz=172,slow=11,SNR=2.3								
BDFB				PKP	PKPdf	21 40 53.9	-0.4	
comp=Z,24nm,0.8s,baz=231,slow=0.8,SNR=32								
BDFB				SKPbc	SKPab	21 44 06.2	-0.9	
comp=Z,4.9nm,0.8s,baz=175,slow=5.2,SNR=5.1								
BCA	Borcka	130.12	309	⇑P	PKiKP	21 40 54.3	-0.3	
FINES	FINESS Array B	130.22	338	PKhKP	PKPpre	21 40 41.4		
comp=Z,2.9nm,0.9s,baz=151,slow=4.4,SNR=5.4								
FINES				PKP	PKPdf	21 40 52.3	-1.0	
comp=Z,20nm,1.0s,baz=55,slow=2.4,SNR=17								
FINES				SKPbc	SKPab	21 44 05.4	-1.2	
comp=Z,8.6nm,0.8s,baz=96,slow=5.7,SNR=8.2								
GBN	Guysborough	130.80	46		PKPdf	21 40 54.6	-0.2	
VSLR	Vesyoloye	130.86	311	c iPKIKP	PKPdf	21 40 55.3	+0.2	
SOC	Sochi	131.06	312	i PKIKP	PKPdf	21 40 54.5	-0.9	
SOC				ePPP	PPP	21 46 01.5		
SOC				ePS	PS	21 53 21.5	-7.0	
SOC				eSS	SS	22 00 30.8	-6.1	
SOC				eSSS	SSS	22 05 23.9		
SOC				pmax	pmax			
comp=Z,24nm,0.9s								
VSU	Vasula	131.90	334	d iPKIKP	PKPdf	21 40 55.7	-0.8	
ANN	Anapa	132.33	314	i PKIKP	PKPdf	21 40 56.2	-1.6	
ANN				e		21 41 22.9		
ANN				e		21 43 19.2		
ANN				e		21 47 56.0		
ANN				pmax	pmax			
comp=Z,29nm,0.8s								
TSUM	Tsumeb	132.82	218		PKPdf	21 41 00.1	+0.4	
TSUM	Tsumeb	132.82	218	PKP	PKPdf	21 41 00.0	+0.3	
comp=Z,20nm,0.9s,baz=118,slow=2.9,SNR=24								
JANB	Januaria	132.94	134	eP	PKiKP	21 41 03.7	+2.6	
MNK	Minsk	133.76	330	ePKIKP	PKPdf	21 41 00.0	-0.2	
NACGM	Naroch	134.05	330	ePKP	PKiKP	21 41 03.5	+1.5	
ABR01	Abrolhos, BA	134.35	142	eP	PKiKP	21 41 05.1	+1.3	
SIM	Simferopol'	134.52	315	ePKIKP	PKPdf	21 41 02.4	+0.5	
SIM				pmax	pmax			
comp=Z,35nm,1.0s								
NB2	NORSAR Subarra	135.09	345	PKPdf	PKPpre	21 40 52.8		
comp=Z,13nm,1.1s,baz=27,slow=1.8								
NB2	NORSAR Subarra	135.09	345	PKPdf	PKPpre	21 40 52.8		
baz=27,slow=1.8								
NOA	NORSAR Array B	135.09	345	PKhKP	PKPpre	21 40 50.4		
comp=Z,2.3nm,0.8s,baz=60,slow=1.9,SNR=9

CJR	Cluj-Napoca	140.35 322	⇑PKIKP	PKPpre	21 41 08.3		
ARR	Arges	140.44 320	⇑P	PKPpre	21 41 08.3		
MESR	Meseseni	140.49 323	⇓P	PKPpre	21 41 08.4		
NIE	Niedzica	140.56 328	*e*PKP	**PKPdf**	**21 41 13.6**	**+0.7**	
HUMR	Humele	140.63 318	⇑P	PKPpre	21 41 07.9		
ELND	Elena	140.79 316	⇑P	PKPpre	21 41 09.0		
DRGR		140.82 323	⇑P	PKPpre	21 41 07.1		
DRGR		140.82 323	⇑PKHKP	PKPpre	21 41 07.1		
LOT	Lotru	140.92 320	⇑P	PKPpre	21 41 09.5		
LANS	Liptovska Anna	141.15 328	*e*PKIKP	**PKPdf**	**21 41 11.3**	**-2.8**	
LANS	Liptovska Anna	141.15 328	*e*PKP	**PKPdf**	**21 41 11.3**	**-2.8**	
LANS	Liptovska Anna	141.15 328	*e*		21 53 08.4		
BSEG	Bad Segeberg	141.40 340	*e*PKPdf		21 41 09.3		
	baz=38,slow=3.2						
BSEG			*e*L		22 41 33.4		
	comp=Z,166nm,21.5s						
KSP	Ksiaz	141.50 332	*e*PKP	PKPpre	21 41 08.9		
GZR	Gura Zlata	141.54 321	⇑P	PKPpre	21 41 10.0		
GZR	Gura Zlata	141.54 321	⇑PKHKP	PKPpre	21 41 10.0		
MORC	Moravsky Berou	141.68 330	*e*		21 53 04.8		
MORC			*e*PKP	PKPpre	21 41 10.7		
MORC	Moravsky Berou	141.68 330	⇑P	PKPpre	21 41 11.0		
MORC	Moravsky Berou	141.68 330	⇑PKIKP	PKPpre	21 41 11.0		
PSZ	Piszkesteto	141.71 326	⇑P	PKPpre	21 41 11.8		
PSZ	Piszkesteto	141.71 326	⇑PKIKP	PKPpre	21 41 11.8		
SIRR	Siria	141.72 323	⇑P	PKPpre	21 41 11.7		
SURR	Surduc	141.74 322	⇑P	PKPpre	21 41 10.6		
OSTC	Ostas	141.74 332	*e*PKP	PKPpre	21 41 10.2		
OSTC	Ostas	141.74 332	*e*PKHKP	PKPpre	21 41 10.2		
MAUC	Maruska	141.82 329	*e*PKP	PKPpre	21 41 12.1		
KRLC	Kraliky	141.83 331	*e*PKP	PKPpre	21 41 10.2		
KRLC	Kraliky	141.83 331	*e*PKHKP	PKPpre	21 41 10.2		
GORT1	Trebel	141.84 338	*e*PKPdf		21 41 11.1		
	baz=38,slow=3.2						
DPC	Dobruska-Polom	141.84 332	*e*PKP	PKPpre	21 41 10.6		
DPC	Dobruska-Polom	141.84 332	*e*PKHKP	PKPpre	21 41 10.6		
VYHS	Vyhne	141.90 328	*e*PKIKP	PKPpre	21 41 11.6		
VYHS	Vyhne	141.90 328	*e*PKP	PKPpre	21 41 11.6		
VYHS	Vyhne	141.90 328	*e*	PKPpre	21 53 03.4		
HERR	Herculane	142.03 320	⇑P	PKPpre	21 41 10.9		
BZS	Buzias	142.11 322	⇑P	PKPpre	21 41 11.7		
BZS	Buzias	142.11 322	⇑PKIKP	PKPpre	21 41 11.7		
JAVC	Velka Javorina	142.24 329	*e*		21 53 03.1		
JAVC			*e*PKP	PKPpre	21 41 11.9		
FLTG	Flechtingen	142.40 338	*e*PKPdf		21 41 12.1		
	baz=38,slow=3.2						
VRAC	Vranov	142.45 330	*e*		21 53 00.9		
VRAC			*e*PKP	PKPpre	21 41 12.4		
VRAC	Vranov	142.45 330	PKP	PKPpre	21 41 12.8		
	comp=Z,21nm,1.0s,baz=59,slow=3.8,SNR=22						
VRAC	Vranov	142.45 330	⇓P	PKPpre	21 41 13.1		
VRAC	Vranov	142.45 330	⇓PKIKP	PKPpre	21 41 13.1		
BRG	Berggiesshubel	142.49 334	Amp		21 41 15.8		
	comp=Z,23nm,0.8s						
BRG			*e*PKP	PKPpre	21 41 12.2		
BRG			x	x	21 42 59.5		
BRG			Amp		21 43 06.7		
	comp=Z,6.6nm,0.8s						
BRG			SKP	**SKPbc**	**21 44 45.5**	**+0.8**	
BRG			Amp		21 44 46.4		
	comp=Z,7.7nm,0.9s						
BRG	Berggiesshubel	142.49 334	*e*PKIKP	PKPpre	21 41 12.2		
BRG			pmax	pmax			
	comp=Z,23nm,0.8s						
BRG			MLR	MLR			
	comp=E,123nm,20.7s						
BRG			MLR	MLR			
	comp=N,129nm,24.2s						
BRG			MLR	MLR			
	comp=Z,140nm,25.4s						
BRG	Berggiesshubel	142.49 334	*e*PKPdf		21 41 12.3		
	baz=38,slow=3.2						
LAWE	Loch Awe, Argy	142.50 355	*e*P	PKPpre	21 41 11.8		
MDVR	Moldovita	142.51 321	⇓P	PKPpre	21 41 13.4		
BANR	Banloc	142.52 322	⇑P	**PKPdf**	**21 41 13.9**	**-2.6**	
CLL	Collm	142.54 335	*i* PKPpre	PKPpre	21 41 12.0		
	comp=Z,27nm,1.1s						
CLL			*i* PKPdf	**PKPdf**	**21 41 16.9**	**+0.5**	
CLL			*i* x	x	21 41 18.8		
	comp=Z,36nm,1.0s						
CLL			*ep*PKPdf	pPKPdf	21 41 47.0	+2.1	
CLL			*e*PP	**PP**	**21 44 23.0**	**-1.6**	
CLL			*e*SKPdf	**SKPdf**	**21 44 42.0**	**+0.6**	
	comp=Z,20nm,1.2s						
CLL			*e*SKSac	**SKSac**	**21 48 24.0**	**+0.7**	
CLL	Collm	142.54 335	*i* PKHKP	PKPpre	21 41 12.0		
CLL			pmax	pmax			
	comp=Z,27nm,1.1s						
CLL	Collm	142.54 335	*e*PKPdf		21 41 12.3		
	baz=38,slow=3.2						
CLL			*e*L		22 45 57.5		
	comp=Z,113nm,21.3s						
SRO	Srobarova	142.60 327	*e*PKIKP	**PKPdf**	**21 41 14.5**	**-2.1**	
SRO	Srobarova	142.60 327	*e*PKP	**PKPdf**	**21 41 14.5**	**-2.1**	
NRDL	Niedersach Rie	142.66 339	*e*PKPdf		21 41 12.8		
	baz=38,slow=3.2						
RICC	Richard	142.67 333	*e*PKP	**PKPdf**	**21 41 13.9**	**-2.8**	
KRUC	Moravsky	142.71 330	*e*PKP	**PKPdf**	**21 41 13.1**	**-3.7**	
KRUC			*e*		21 52 59.5		
RETH	Rethem/Aller,	142.71 340	*e*PKPdf		21 41 13.3		
	baz=38,slow=3.2						
MODS	Modra-Piesok	142.76 328	*e*PKIKP	**PKPdf**	**21 41 14.6**	**-2.3**	
MODS	Modra-Piesok	142.76 328	*e*PKP	**PKPdf**	**21 41 14.6**	**-2.3**	
GOPC	GO Pecny, Ondr	142.84 332	*e*PKP	**PKPdf**	**21 41 13.3**	**-3.7**	
GOPC	GO Pecny, Ondr	142.84 332	*e*PKIKP	**PKPdf**	**21 41 13.3**	**-3.7**	
PRA	Prague	142.88 333	*e*PKP	**PKPdf**	**21 41 14.4**	**-2.6**	
PRA	Prague	142.88 333	*e*PKIKP	**PKPdf**	**21 41 14.4**	**-2.6**	
PRU	Pruhonice	142.90 332	*e*PKP	**PKPdf**	**21 41 14.1**	**-3.0**	
PRU	Pruhonice	142.90 332	*e*PKIKP	**PKPdf**	**21 41 14.1**	**-3.0**	
HSKC	Hora Svate Kat	142.91 334	*e*PKP	**PKPdf**	**21 41 14.1**	**-3.0**	
ZST	Bratislava	142.96 328	*e*PKIKP	**PKPdf**	**21 41 16.0**	**-1.2**	
ZST	Bratislava	142.96 328	*e*PKP	**PKPdf**	**21 41 16.0**	**-1.2**	
NEUB	Neuenburg	143.10 336	*e*PKPdf		21 41 14.3		
	baz=38,slow=3.2						
CLZ	Clausthal	143.11 338	*e*PKPdf		21 41 14.9		
	baz=38,slow=3.2						
BOVS	Bovan	143.12 319	⇓P	PKPab	21 41 13.8	+0.4	
EKA	Eskdalemuir Ar	143.18 352	PKP	PKPab	21 41 13.8	+0.6	
	comp=Z,14nm,0.8s,baz=2.9,slow=2.7,SNR=28						
FRGS	Fruska Gora	143.42 322	⇑P	PKPbc	21 41 16.3	+0.6	
MORH	Mrgy, Hungar	143.44 325	⇓*i*P	PKPbc	21 41 15.2	-0.4	
MORH	Mrgy, Hungar	143.44 325	⇑P	PKPbc	21 41 16.0	+0.4	
TANN	Tannenbergstha	143.45 335	*e*PKPdf		21 41 15.6		
	baz=38,slow=3.2						
GTTG	Gottingen	143.50 338	*e*PKPdf		21 41 16.0		
	baz=38,slow=3.2						
EDMD	Edmundbyers	143.51 351	*e*P	PKPab	21 41 14.6	0.0	
PLN	Plauen	143.52 335	*e*PKPdf		21 41 15.8		
	baz=38,slow=3.2						
IBBN	Ibbenburen	143.60 341	*e*PKPdf		21 41 16.1		
	baz=38,slow=3.2						
MOX	Moxa	143.61 336	*e*PKPdf		21 41 16.0		
	baz=38,slow=3.2						
MOX			*e*L		22 31 10.9		
	comp=Z,102nm,21.8s						
RONA	Rosalia, Austr	143.70 328	*i* PKP	**PKPdf**	**21 41 17.5**	**-1.1**	
	comp=Z,150nm,0.9s,SNR=74						
RONA			*i* SKKP	**SKKPab**	**21 52 57.0**	**+0.7**	
	comp=Z,13nm,1.5s						
VAY	Valandovo	143.71 315	*i* P	PKPbc	21 41 16.2	-0.4	
CONA	Conrad Observa	143.75 329	*i* PKP	**PKPdf**	**21 41 17.7**	**-1.0**	
	comp=Z,134nm,0.9s,SNR=135						
CONA			*e*SKKP	**SKKPab**	**21 52 56.8**	**+0.6**	
	comp=Z,9.5nm,1.3s						
CKRC	Cesky Krumlov	143.85 331	*e*PKP	PKPbc	21 41 17.6	+0.8	
CKRC	Cesky Krumlov	143.85 331	*e*PKIKP	PKPbc	21 41 17.6	+0.8	
KESW	Keswick, Cumbr	143.91 352	*e*P	PKPab	21 41 16.3	+0.2	
MANZ	Manzenberg	143.93 334	*e*PKPdf		21 41 17.6		
	baz=38,slow=3.2						
KHC	Kasperske Hory	143.95 332	*e*PKP	PKPbc	21 41 17.5	+0.4	
KHC	Kasperske Hory	143.95 332	*e*PKIKP	PKPbc	21 41 17.5	+0.4	
ROTZ	Rotzenmuhle	144.06 334	*e*PKPdf		21 41 17.9		
	baz=38,slow=3.2						
UBBA	Unterbreizbach	144.08 337	*e*PKPdf		21 41 17.7		
	baz=38,slow=3.2						
GERES	GERESS Array B	144.11 332	PKP	**PKPab**	**21 41 17.2**	**0.0**	
	comp=Z,56nm,0.8s,baz=28,slow=3.2,SNR=276						
GEC2	GERESS Array S	144.11 332	*e*PKPdf		21 41 17.9		
	baz=38,slow=3.2						
WET	Wettzell	144.25 333	*e*PKPdf		21 41 18.3		
	baz=38,slow=3.2						
WET			*e*L		22 43 51.6		
	comp=Z,114nm,21.8s						
BEHE	Becsehely	144.27 326	⇓*i*P	PKPbc	21 41 18.4	+0.3	

HPK	Haverah Park	144.31 350	⇓*e*P	**PKPab**	**21 41 17.2**	**-0.3**	
KASTN	Kahler Asten	144.32 339	*e*PKPdf		21 41 18.5		
	baz=38,slow=3.2						
IDI	Anoyia	144.35 305	PKP	**PKPab**	**21 41 17.4**	**-1.1**	
	comp=Z,92nm,0.7s,baz=18,slow=9.4,SNR=72						
ARSA	Arzberg	144.39 328	*i* PKP	**PKPdf**	**21 41 19.4**	**-0.4**	
	comp=Z,203nm,1.4s,SNR=110						
ARSA			*i* SKKP	**SKKPab**	**21 52 53.1**	**-0.2**	
	comp=Z,7.3nm,1.4s						
BUG	Bochum--Univer	144.50 340	*e*PKPdf		21 41 18.7		
	baz=38,slow=3.2						
GRF	Grafenberg Arr	144.51 335	*e*PKPdf		21 41 19.6		
	baz=38,slow=3.2						
GRF			*e*L		22 40 50.7		
	comp=Z,97nm,21.8s						
GRFO	Grafenberg	144.52 335		**PKPdf**	**21 41 19.5**	**-0.4**	
GRFO	Grafenberg	144.52 335	PKIKP	**PKPdf**	**21 41 19.5**	**-0.4**	
WIM	Isle of Man	144.52 354	⇓*e*P	**PKPab**	**21 41 18.0**	**-0.4**	
HAPS	Han Pijesak,Bl	144.54 322	⇓*i*P	**PKPdf**	**21 41 19.9**	**-0.4**	
RUDO	Rudo	144.56 321	*e*P	PKPbc	21 41 19.1	0.0	
LMK	Market Rasen	144.57 349	⇓*e*P	**PKPab**	**21 41 17.2**	**-1.4**	
MOA	Molln	144.57 330	*i* PKP	**PKPdf**	**21 41 20.3**	**+0.1**	
	comp=Z,433nm,0.9s,SNR=316						
MOA			*e*SKKP	**SKKPab**	**21 52 52.6**	**+0.1**	
	comp=Z,6.7nm,1.3s						
DOB	Doboj	144.65 323	*e*P	PKPbc	21 41 19.6	+0.3	
KALN	Kalnik	144.66 326	*i* P	PKPbc	21 41 19.4	0.0	
ILTH	Belurgan, Co L	144.80 355	⇓*e*P	**PKPab**	**21 41 18.3**	**-1.1**	
MOSL	Moslavina	144.84 325	*i* P	**PKPab**	**21 41 19.7**	**-0.2**	
LBWR	Ladybower, Pea	144.86 350	⇓*e*P	**PKPab**	**21 41 19.2**	**-0.5**	
LBWR			IAmb	IAmb	21 41 20.6		
	comp=Z,216nm,0.9s						
OHR	Ohrid	144.98 316	*i* P	**PKPdf**	**21 41 21.4**	**+0.3**	
BIOA	Bad Ischl, Aus	144.98 331	*i* PKP	**PKPdf**	**21 41 20.8**	**0.0**	
	comp=Z,187nm,0.8s,SNR=152						
BIOA			*e*SKKP	**SKKPab**	**21 52 49.9**	**-0.8**	
	comp=Z,6.8nm,1.4s						
SOKA	Soboth	145.03 328	*i* PKP	**PKPdf**	**21 41 21.2**	**+0.2**	
	comp=Z,367nm,1.0s,SNR=237						
SOKA			*e*SKKP	**SKKPab**	**21 52 50.7**	**+0.2**	
	comp=Z,12nm,1.3s						
PTJ	Puntijarka	145.07 326	*i* P	**PKPab**	**21 41 20.9**	**0.0**	
UPM	Unac-Piva	145.07 320	⇓*i*P	**PKPab**	**21 41 21.1**	**0.0**	
WACR	West Acre	145.08 348	⇓*e*P	**PKPbc**	**21 41 19.9**	**-0.5**	
WACR			IAmb	IAmb	21 41 21.8		
	comp=Z,508nm,0.9s						
ZAG	Zagreb	145.11 326	*i* P	**PKPdf**	**21 41 21.4**	**+0.3**	
TNS	Taunus Mts	145.13 338	*e*PKPdf		21 41 21.5		
	baz=38,slow=3.2						
TNS			*e*L		22 42 20.1		
	comp=Z,152nm,21.6s						
BLY	Banja Luka	145.15 324	⇓*i*P	**PKPbc**	**21 41 20.9**	**0.0**	
WME	Myndd Eilian	145.22 353	⇓*e*P	**PKPbc**	**21 41 20.1**	**-0.7**	
STNC	Stoke	145.24 351	⇓*e*P	**PKPbc**	**21 41 20.7**	**-0.2**	
STNC			IAmb	IAmb	21 41 22.2		
	comp=Z,363nm,0.9s						
WPS	Cemaes, Angles	145.24 353	⇓*e*P	**PKPbc**	**21 41 20.3**	**-0.6**	
WPS			IAmb	IAmb	21 41 21.5		
	comp=Z,94nm,0.9s						
PRIJ	Prijedor	145.27 325	⇓*i*P	**PKPab**	**21 41 22.3**	**+0.8**	
RCBR	Riachuelo	145.27 133		**PKPbc**	**21 41 21.8**	**-0.4**	
RCBR	Riachuelo	145.27 133	PKIKP	**PKPbc**	**21 41 21.8**	**-0.4**	
KLINJ	Klinje	145.28 321	⇑*i*P	**PKPab**	**21 41 22.0**	**+0.2**	
PDG	Podgorica	145.28 319	⇑P	**PKPab**	**21 41 22.2**	**+0.6**	
AHRW	Bad Neuenahr-A	145.33 340	*e*PKPdf		21 41 22.0		
	baz=38,slow=3.2						
WLF1	Llynfaes	145.34 353	⇓*e*P	**PKPdf**	**21 41 20.5**	**-0.6**	
WLF1			IAmb	IAmb	21 41 22.1		
	comp=Z,489nm,0.9s						
OBKA	Obir	145.38 328	*i* PKP	**PKPbc**	**21 41 21.9**	**+0.1**	
	comp=Z,233nm,1.0s,SNR=108						
OBKA			*e*SKKP	**SKKPab**	**21 52 47.0**	**-1.9**	
	comp=Z,5.7nm,1.5s						
CRES	Cresnjev	145.39 327	⇓*i*P	**PKPab**	**21 41 21.9**	**0.0**	
YRC	Rhoscolyn	145.40 353	*e*P	**PKPdf**	**21 41 21.2**	**0.0**	
MGRS	Mrkonjic Grad	145.41 323	⇓*i*P	**PKPab**	**21 41 22.1**	**0.0**	
CWF	Charnwood Fore	145.43 350	⇓*e*P	**PKPdf**	**21 41 20.6**	**-0.8**	
YLL	Llanberis	145.46 353	*e*P	**PKPdf**	**21 41 20.8**	**-0.7**	
BRY	Bratogost	145.46 320	⇓*i*P	**PKPdf**	**21 41 21.9**	**-0.1**	
OZLJ	Ozalj	145.52 326	*i* P	**PKPbc**	**21 41 22.1**	**+0.1**	
BEBN	Eben Emael	145.56 341	*d*PKPdf	**PKPdf**	**21 41 21.1**	**-0.5**	
KBA	Koelnbreinsper	145.56 330	*i* PKP	**PKPdf**	**21 41 21.9**	**-0.1**	
	comp=Z,233nm,1.0s,SNR=146						
KBA			*e*SKKP	**SKKPab**	**21 52 45.8**	**-2.5**	
	comp=Z,2.6nm,0.9s						
IGLA	Glengowla, Co	145.57 358	*e*P	**PKPdf**	**21 41 19.8**	**-1.8**	
ELMS	Elmsett, Ipswi	145.60 347	⇓*e*P	**PKPbc**	**21 41 22.1**	**0.0**	
BTNL	Ternell	145.60 341	*d*PKPdf	**PKPdf**	**21 41 21.4**	**-0.4**	
BTNL			*dp*PKP	pPKPab	21 41 50.5	0.0	
MEM	Membach	145.62 341	*d*PKPdf	**PKPdf**	**21 41 21.8**	**0.0**	
LESA	Schwarzleotal	145.62 331	*i* PKP	**PKPbc**	**21 41 22.6**	**+0.1**	
	comp=Z,356nm,1.1s						
LESA			*i* SKKP	**SKKPab**	**21 52 47.6**	**-0.3**	
	comp=Z,6.5nm,1.5s						
TREB	Trebinje	145.68 320	*e*P	**PKPbc**	**21 41 22.7**	**0.0**	
FUR	Furstenfeldbru	145.68 333	*e*PKPdf		21 41 23.2		
	baz=38,slow=3.2						
FUR			*e*L		22 46 02.6		
	comp=Z,97nm,21.9s						
A050A	Klekovaca	145.68 324	*e*P	**PKPdf**	**21 41 22.1**	**-0.1**	
BOJS	Bojanci	145.71 326	⇓*i*P	**PKPdf**	**21 41 21.9**	**-0.2**	
MYKA	Terra Mystica	145.74 329	*i* PKP	**PKPdf**	**21 41 21.8**	**-0.4**	
	comp=Z,120nm,1.2s,SNR=58						
MYKA			*e*SKKP	**SKKPab**	**21 52 48.3**	**+0.9**	
	comp=Z,8.5nm,1.5s						
BSTI	Sart Tilman	145.78 341	*d*PKPdf	**PKPbc**	**21 41 22.4**	**-0.3**	
BHOU	Houvegnez	145.84 340	*d*PKPdf	**PKPdf**	**21 41 21.8**	**-0.4**	
HLM1	Long Mynd	145.89 351	*e*P	**PKPdf**	**21 41 21.2**	**-1.0**	
PLIT	Plitvice	145.93 325	*i* P	**PKPbc**	**21 41 23.5**	**+0.1**	
RICI	Ricice	145.95 322	*i* P	**PKPdf**	**21 41 21.5**	**-1.1**	
CEY	Cerknica	145.98 327	⇓*i*P	**PKPdf**	**21 41 21.9**	**-0.7**	
STON	Ston	145.98 321	*i* P	**PKPdf**	**21 41 20.4**	**-2.2**	
STON	Ston	145.98 321	*e*P	**PKPdf**	**21 41 22.6**	**0.0**	
BCLA	Clavier	146.00 341	*d*PKPdf	**PKPdf**	**21 41 22.0**	**-0.5**	
BCLA			*dp*PKP	**pPKPdf**	**21 41 50.4**	**-0.8**	
STU	Stuttgart	146.05 336	*e*PKPdf		21 41 23.5		
	baz=38,slow=3.2						
UDBI	Udbina	146.08 325	*i* P	**PKPdf**	**21 41 22.1**	**-0.8**	
BGES	Gesves	146.10 341	*d*PKPdf	**PKPdf**	**21 41 21.2**	**-1.4**	
MAKA	Makarska	146.14 322	*i* P	**PKPdf**	**21 41 22.4**	**-0.4**	
WATA	Walderalm	146.19 332	*i* PKP	**PKPdf**	**21 41 22.6**	**-0.4**	
	comp=Z,124nm,0.9s,SNR=82						
ABTA	Abfaltersbach	146.20 330	*i* PKP	**PKPdf**	**21 41 22.2**	**-0.8**	
	comp=Z,100nm,0.8s,SNR=76						
ABTA			*e*SKKP	**SKKPab**	**21 52 45.1**	**-0.3**	
	comp=Z,6.8nm,1.2s						
WTTA	Wattenberg	146.21 332	*i* PKP	**PKPdf**	**21 41 22.7**	**-0.5**	
	comp=Z,199nm,1.0s,SNR=90						
RIY	Rijeka	146.23 327	*i* P	**PKPbc**	**21 41 23.8**	**-0.5**	
RCHB	Rochefort	146.26 341	*d*PKP	**PKPdf**	**21 41 22.9**	**0.0**	
BMRD	Maredsous	146.27 342	*d*PKPdf	**PKPdf**	**21 41 21.9**	**-1.0**	
WLF	Walferdange	146.39 340	*d*PKP	**PKPbc**	**21 41 24.1**	**-0.4**	
WLF	Walferdange	146.39 340	*e*PKPdf		21 41 25.7		
	baz=38,slow=3.2						
RETA	Reutte	146.43 333	*i* PKP	**PKPdf**	**21 41 23.3**	**-0.1**	
	comp=Z,107nm,0.9s,SNR=87						
SQTA	Sankt Quirin	146.44 332	*i* PKP	**PKPdf**	**21 41 23.9**	**+0.4**	
	comp=Z,219nm,0.8s,SNR=186						
RABC	Rab	146.46 326	*i* P	**PKPbc**	**21 41 24.9**	**0.0**	
DOU	Dourbes	146.50 342	*d*PKPdf	**PKPdf**	**21 41 23.5**	**+0.2**	
MORI	Morici	146.53 324	*i* P	**PKPbc**	**21 41 24.6**	**-0.5**	
NVLJ	Novalja	146.54 325	*i* P	**PKPdf**	**21 41 22.8**	**-0.8**	
MONM	Monmouth	146.54 351	⇓*e*P	**PKPbc**	**21 41 24.6**	**-0.3**	
UBR	Ueberruh	146.55 334	*e*PKPdf		21 41 25.2		
	baz=38,slow=3.2						
SMRN	Sveta Marina	146.60 327	*i* P	**PKPbc**	**21 41 24.9**	**-0.4**	
VIRC	Vir	146.62 325	*i* P	**PKPdf**	**21 41 22.6**	**-1.0**	
RSBS	Rosebush, Pemb	146.69 353	⇓*e*P	**PKPbc**	**21 41 24.9**	**-0.5**	
RSBS			IAmb	IAmb	21 41 27.1		
	comp=Z,154nm,1.0s						
SWN1	Swindon	146.69 349	⇓*e*P	**PKPbc**	**21 41 25.3**	**0.0**	
SWN1			IAmb	IAmb	21 41 26.6		
	comp=Z,447nm,0.9s						
BFO	Black Forest	146.74 336		**PKPdf**	**21 41 23.0**	**-0.8**	
BFO	Black Forest	146.74 336	PKIKP	**PKPdf**	**21 41 23.0**	**-0.8**	
BFO	Black Forest	146.74 336	*e*PKPdf		21 41 26.0		
	baz=38,slow=3.2						
BFO			*e*L		22 53 55.7		
	comp=Z,69nm,21.7s						
WOL	Wolverton	146.78 349	*e*P	**PKPbc**	**21 41 25.2**	**-0.4**	
FETA	Feichten	146.80 332	*i* PKP	**PKPdf**	**21 41 24.0**	**-0.2**	
	comp=Z,193nm,0.8s,SNR=172						
FETA			*e*SKKP	**SKKPab**	**21 52 42.9**	**+0.1**	
	comp=Z,5.0nm,1.2s						

DUGI	Dugi Otok	146.81 325	*i* P	**PKPbc**	**21 41 25.4**	**-0.5**	
HMNX	Herstmonceux	146.89 347	⇓*e*P	**PKPbc**	**21 41 25.9**	**0.0**	
BRJN	Brijuni	146.90 327	*i* P	**PKPbc**	**21 41 25.3**	**-0.8**	
DAVA	Damuels	146.96 334	*i* PKP	**PKPdf**	**21 41 25.2**	**+0.8**	
	comp=Z,137nm,0.9s,SNR=133						
DAVOX	Davos/Dischmat	147.35 333	PKPbc	**PKPdf**	**21 41 24.6**	**-0.5**	
	comp=Z,241nm,0.8s,baz=35,slow=5.0,SNR=343						
DAVOX			PKPab	**PKPbc**	**21 41 28.6**	**+1.0**	
	comp=Z,241nm,0.8s,baz=48,slow=1.3,SNR=216						
HTL	Hartland	147.60 352	⇓*e*P	**PKPbc**	**21 41 27.2**	**-0.6**	
MATE	Matera	147.86 318	⇑P	**PKPbc**	**21 41 29.7**	**+0.8**	
SBD	Saint Breward	148.05 352	⇓*e*P	**PKPbc**	**21 41 28.6**	**-0.5**	
TIP	Timpagrande	148.63 316	⇓P	**PKiKP**	**21 41 32.2**	**-0.3**	
JSA	Saint Aubin	148.99 349	⇓*e*P	**PKPbc**	**21 41 31.0**	**-0.5**	
JSA			IAmb	IAmb	21 41 32.6		
	comp=Z,234nm,1.3s						
SSF	Saint Saulge	149.53 340	*e*PKHKP	PKPpre	21 41 28.4		
SSF			pmax	pmax			
	comp=Z,258nm,1.0s						
MFF	Saint Martin d	151.00 344	*e*PKIKP	**PKPdf**	**21 41 29.7**	**-1.0**	
MFF			pmax	pmax			
	comp=Z,119nm,1.0s						
VAE	Valguarnera	151.10 315	PKPbc	**PKPbc**	**21 41 34.2**	**-3.0**	
	comp=Z,8.9nm,1.0s,baz=66,slow=9.3,SNR=2.2						
VAE			PKPab	**PKPab**	**21 41 43.5**	**-1.6**	
	comp=Z,87nm,0.8s,baz=73,slow=14,SNR=21						
CAF	Calviac	151.88 340	*e*PKIKP	**PKPdf**	**21 41 32.6**	**+0.5**	
CAF			pmax	pmax			
	comp=Z,36nm,1.1s						
LFF	La Frestale	152.28 342	*e*PKIKP	**PKPdf**	**21 41 32.8**	**+0.1**	
LFF			pmax	pmax			
	comp=Z,52nm,0.9s						
ROSA	Rosais	155.28 34	*e*PKPab	**PKPab**	**21 42 03.2**	**+0.6**	
PMAN	Manadas	155.42 34	*e*PKPab	**PKPab**	**21 42 04.3**	**+1.1**	
KEST	Kesra	155.43 317	PKP	**PKPdf**	**21 41 35.5**	**-2.1**	
	comp=Z,7.4nm,1.0s,baz=350,slow=9.2,SNR=6.0						
KEST			PKPab	**PKPab**	**21 42 03.6**	**+0.1**	
	comp=Z,37nm,1.0s,baz=117,slow=2.3,SNR=9.6						
PID	Ribeirinha	155.55 34	*e*PKPab	**PKPab**	**21 42 04.4**	**+0.6**	
PAGU	Agualva, Azore	155.78 32	*e*PKPab	**PKPab**	**21 42 05.6**	**+0.8**	
ADH	Angra Heroismo	155.84 32	*e*PKPab	**PKPab**	**21 42 05.5**	**+0.5**	
PBRG	Braganca	156.92 352	*e*PKPab	**PKPab**	**21 42 09.9**	**+0.3**	
PBRG	Braganca	156.92 352	*e*PP	**PP**	**21 45 50.1**	**+2.8**	
PCAB	Cabril	157.16 354	*e*PKPab	**PKPab**	**21 42 11.2**	**+0.6**	
PSET	Sete Cidades	157.24 31	*e*PKPab	**PKPab**	**21 42 12.1**	**+1.0**	
PCALD	Caldeiras da R	157.37 31	*e*PKPab	**PKPab**	**21 42 12.7**	**+1.1**	
CMLA	Cha da Macela	157.38 31		**PKPab**	**21 42 12.6**	**+0.9**	
CMLA	Cha da Macela	157.38 31	PKP2	**PKPab**	**21 42 12.6**	**+0.9**	
PGRON	Lagoa das Cont	157.45 31	*e*PKPab	**PKPab**	**21 42 13.2**	**+1.2**	
POLO	Lamas de Olo	157.47 354	*e*PKPdf	**PKPdf**	**21 41 39.5**	**-0.5**	
POLO	Lamas de Olo	157.47 354	*e*PKPab	**PKPab**	**21 42 12.5**	**+0.5**	
POLO	Lamas de Olo	157.47

IBDR AML AML 21 41 39.9
comp=E,143nm,0.8s
IBDR AML AML 21 41 41.9
comp=N,70nm,0.3s
IKFM Kafar-mosalman 1.71 130 Pg **Pg 21 41 16.0 -0.3**
IKRK Kirkuk 1.77 296 *e*Pn **Pn 21 41 15.0 +0.1**
IKRK Sn **Sb 21 41 39.0 -0.1**
IKRK AML AML 21 41 44.1
comp=N,190nm,0.6s
IKRK AML AML 21 41 44.2
comp=E,201nm,0.9s
HSAM Samen 1.96 102 Pn **Pb 21 41 20.0 +0.1**
MAHB Mahabad 2.17 347 Pn **Pb 21 41 23.0 -0.5**
RAFI Al-Rafai 2.91 183 *e*Pn **Pn 21 41 31.0 +0.4**
RAFI Sn **Sn 21 42 07.0 +1.0**

*IDC **22** 21:43:25.3±2.1,3°.25N×126°.53E,h45km±19km,mb4.3/24, mbtmp4.5/25,ML4.1/1,MS4.0/11,Error ellipse: s-maj=23.1km s-min=10.5km az=80.0*
*NEIC **22** 21:43:26.7±1.0,3°.32N±0°.06×126°.65E±0°.09,h50km±7km, mb4.7/50,Error ellipse: s-maj=13.3km s-min=8.8km az=74.0*
*DJA **22** 21:43:27.1±0.3,3°N±3°×12°7E±°,h49km±5km,M4.8/11, mb5.0/11,mB5.5/7,MLv4.7/11,Mw(mB)4.9/7*
ISC 22 21:43:26.6±0.3,3°28N±0°.04×126°60E±0°.06,h53km,n119, σ1°46/122,mb4.6/47,MS4.1/12,4C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.60 163**		P	**Pn**	**21 44 08.0**	**+1.8**
TNTI	**Ternate**	**2.60 163**			**Pn**	**21 44 06.8**	**+0.6**
TNTI	**Ternate**	**2.60 163**		P	**Pn**	**21 44 07.3**	**+1.1**
TNTI				S	**Sn**	**21 44 39.4**	**+2.8**
KMSI	**Cibinong**	**3.75 224**		P	**Pn**	**21 44 24.9**	**+3.0**
DAV	**Davao City (W)**	**3.91 345**		Pn	**Pn**	**21 44 23.7**	**-0.4**
KCP	**Kidapawan**	**4.00 338**		⇑*i*P	**Pn**	**21 44 28.1**	**+2.6**
KCP				*i*S	**Sn**	**21 45 15.2**	**+3.9**
GTOI	**Gorontalo**	**4.45 234**		P	**Pn**	**21 44 33.3**	**+1.8**
CDOP	**Cateel, Davao**	**4.48 358**		⇑*e*P	**Pn**	**21 44 35.0**	**+2.9**
BUKP	**Musuan**	**4.82 342**		⇑*e*P	**Pn**	**21 44 39.5**	**+2.7**
BIPH	**Bislig**	**4.88 357**		⇓*e*P	**Pn**	**21 44 40.8**	**+3.3**
BIPH				*e*S	**Sn**	**21 45 37.2**	**+4.5**
MRSI	**Marisa**	**5.42 239**		P	**Pn**	**21 44 47.6**	**+2.7**
LUWI	**Luwuk**	**5.75 222**		P	Pn	21 44 55.1	+5.7
LUWI	**Luwuk**	**5.75 222**		Pn	**Pn**	**21 44 50.9**	**+1.5**
LUWI	**Luwuk**	**5.75 222**		P	**Pn**	**21 44 53.3**	**+3.9**
ZCP	**Zamboanga City**	**5.79 309**		⇑*i*P	**Pn**	**21 44 51.2**	**+1.2**
TOLI2	**Tolitoli**	**6.20 250**		Pn	**Pn**	**21 44 56.1**	**+0.5**
SWI	**Sorong**	**6.21 131**		P	**Pn**	**21 44 56.7**	**+1.0**
	56nm,0.6s,0.2nm						
MPSI	**Mapaga**	**7.31 247**		P	**Pn**	**21 45 12.8**	**+2.0**
	50nm,0.8s,0.2nm						
MYLDM	**Lahad Datu**	**8.30 283**		Pn	**Pn**	**21 45 24.9**	**+0.5**
KAPI	**Kappang**	**10.71 220**		P	**Pn**	**21 45 56.8**	**-0.5**
	1.6nm,0.3s,baz=140,slow=16,SNR=1.7						
KAPI				S	**Sn**	**21 47 54.4**	**-1.4**
	2.5nm,0.3s,baz=75,slow=23,SNR=1.2						
	3.4nm,0.3s						
MTKI	**Muara Teweh, K**	**12.43 250**		P	**Pn**	**21 46 23.3**	**+2.4**
SBUM	**Sibu**	**14.39 267**		Pn	**Pn**	**21 46 48.2**	**+0.8**
GENI	**Genyem**	**14.76 113**		P	**Pn**	**21 46 52.5**	**+0.2**
PLAI	**Plampang**	**14.90 216**		P	**P**	**21 47 00.6**	**+1.9**
PLAI	**Plampang**	**14.90 216**		P	**P**	**21 46 57.3**	**-1.4**
	85nm,0.9s						
STKI	**Sintang**	**15.45 258**		P	**P**	**21 47 04.3**	**-0.5**
	26nm,1.0s,3μm						
MTN	**Manton Dam**	**16.63 164**		Pn	**Pn**	**21 47 13.2**	**-3.1**
KDU	**Kakadu**	**16.90 160**		P	**P**	**21 47 21.7**	**+0.9**
YULB	**Yu-li**	**20.65 346**		P	**P**	**21 47 59.2**	**-2.7**
TPUB	**Ta-pu**	**20.73 344**		P	**P**	**21 48 00.4**	**-2.4**
TPUB				IAmb	IAmb	21 48 08.3	
	comp=Z,33nm,0.8s						
SSLB	**Suanglung**	**21.11 346**		P	**P**	**21 48 04.7**	**-2.2**
FITZ	**Fitzroy Crossi**	**21.26 183**		P	**P**	**21 48 13.1**	**+4.6**
FITZ	**Fitzroy Crossi**	**21.26 183**		P	**P**	**21 48 08.2**	**-0.3**
PMG	**Port Moresby**	**24.05 122**		LR	LR	22 00 12.8	
	comp=Z,150nm,21.1s,baz=328,slow=42						
WB0	**Warramunga Arr**	**24.14 162**		P	**P**	**21 48 37.4**	**-0.4**
WB0				IAmb	IAmb	21 48 46.2	
	comp=Z,15nm,0.6s						
WRAB	**Tennant Creek**	**24.29 162**		P	**P**	**21 48 38.9**	**-0.2**
WRAB				IAmb	IAmb	21 48 58.9	
	comp=Z,34nm,1.4s						
WRA	**Warramunga Arr**	**24.29 162**		P	**P**	**21 48 37.2**	**-2.0**
WRA	**Warramunga Arr**	**24.29 162**		P	**P**	**21 48 37.5**	**-1.7**
	comp=Z,4.8nm,0.5s,baz=336,slow=11,SNR=63						
WRA				PcP	**PcP**	**21 52 19.6**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=344,slow=2.2,SNR=2.2						
WRA				S	**S**	**21 52 53.5**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=344,slow=18,SNR=5.1						
WRA				ScP	**ScP**	**21 55 53.3**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=338,slow=3.3,SNR=3.5						
	comp=Z,4.8nm,0.5s						
WB2	**Warramunga Arr**	**24.30 162**		P	**P**	**21 48 38.9**	**-0.3**
WB2				IAmb	IAmb	21 48 58.9	
	comp=Z,32nm,1.3s						
WR0	**Warramunga Arr**	**24.37 162**		P	**P**	**21 48 39.5**	**-0.4**
QIS	**Mount Isa**	**26.90 152**		P	**P**	**21 49 04.1**	**+1.2**
AS31	**Alice Springs**	**27.71 165**		P	**P**	**21 49 10.5**	**+0.4**
ASAR	**Alice Springs**	**27.71 165**		P	**P**	**21 49 09.4**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=351,slow=7.4,SNR=20						
ASAR				S	**S**	**21 53 46.5**	**-2.3**
	comp=Z,0.5nm,0.8s,baz=330,slow=12,SNR=3.3						
ASAR				ScP	**ScP**	**21 56 03.0**	**+0.5**
	comp=Z,1.2nm,1.0s,baz=9.5,slow=1.5,SNR=4.1						
	comp=Z,0.8nm,0.3s						
JNU	**Nakatsue**	**29.96 7**		P	**P**	**21 49 30.6**	**+0.7**
	comp=Z,5.9nm,0.8s,baz=187,slow=2.1,SNR=4.5						
	comp=Z,5.9nm,0.8s						
CM31	**Chiang Mai Arr**	**30.99 301**		P	**P**	**21 49 38.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**30.99 301**		P	**P**	**21 49 39.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**30.99 301**		P	**P**	**21 49 39.0**	**-0.2**
	comp=Z,5.0nm,0.9s,baz=114,slow=6.8,SNR=30						
	comp=Z,5.0nm,0.9s						
CHTO	**Chiang Mai**	**31.15 302**		P	**P**	**21 49 41.1**	**+0.5**
CHTO				IAmb	IAmb	21 49 42.9	
	comp=Z,7.0nm,0.8s						
MORW	**Morawa**	**33.72 197**		P	**P**	**21 50 03.1**	**+0.1**
FORT	**Forrest**	**33.89 178**		P	**P**	**21 50 04.6**	**+0.1**
KSRS	**Korea Array**	**34.04 2**		P	**P**	**21 50 06.5**	**+0.9**
	comp=Z,4.6nm,0.8s,baz=180,slow=10,SNR=16						
	comp=Z,4.6nm,0.8s						
XAN	**Xi'an**	**34.76 334**		P	**P**	**21 50 11.1**	**-1.0**
XAN				pmax	pmax		
	comp=Z,17nm,0.8s						
MJAR	**Matsushiro Arr**	**34.79 16**		P	**P**	**21 50 11.5**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=246,slow=17,SNR=2.6						
	comp=Z,0.5nm,0.4s						
BBOO	**Buckleboo**	**36.99 167**		P	**P**	**21 50 31.8**	**+0.7**
BBOO				IAmb	IAmb	21 51 12.1	
	comp=Z,32nm,1.4s						
STKA	**Stephens Creek**	**37.75 159**		P	**P**	**21 50 37.6**	**+0.1**
STKA	**Stephens Creek**	**37.75 159**		P	**P**	**21 50 37.1**	**-0.4**
	comp=Z,4.4nm,0.7s,baz=319,slow=11,SNR=9.0						
	comp=Z,4.4nm,0.7s						
BJT	**Baijiatuau**	**37.78 347**		P	**P**	**21 50 35.8**	**-1.8**
BJT				IAmb	IAmb	21 50 39.2	
	comp=Z,6.5nm,0.7s						
BJI	**Beijing**	**37.80 347**		P	**P**	**21 50 38.9**	**+1.1**
BJI				pP	**pP**	**21 50 50.0**	**-0.8**
BJI				sP	**sP**	**21 50 56.8**	**+0.1**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SHL	**Shillong**	**40.04 307**		P	**P**	**21 50 55.7**	**-1.4**
SHL				IAmb	IAmb	21 50 57.5	
	comp=Z,8.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**41.03 6**		P	**P**	**21 51 06.1**	**+1.4**
USRK	**Ussuriysk Ar.**	**41.03 6**		P	**P**	**21 51 04.6**	**0.0**
	comp=Z,6.8nm,0.7s,baz=199,slow=7.8,SNR=12						
	comp=Z,6.8nm,0.7s						
GTA	**Gaotai**	**43.42 329**		*e*P	**P**	**21 51 25.4**	**+1.0**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**47.51 342**		P	**P**	**21 51 56.2**	**-0.4**
ULN				IAmb	IAmb	21 51 59.6	
	comp=Z,7.2nm,1.0s						
SONM	**Songino Array**	**47.69 342**		P	**P**	**21 51 58.6**	**+0.7**
SONM	**Songino Array**	**47.69 342**		P	**P**	**21 51 57.8**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=164,slow=7.9,SNR=13						
SONM				PcP	**PcP**	**21 53 27.1**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=180,slow=3.0,SNR=3.0						
	comp=Z,2.5nm,0.8s						
WMQ	**Urumqi**	**53.02 325**		*e*P	**P**	**21 52 40.6**	**+2.3**
WMQ				LR	LR		
	comp=Z,190nm,23.7s						
MK31	**Makanchi Array**	**57.85 325**		P	**P**	**21 53 12.0**	**-1.0**
MK31				IAmb	IAmb	21 53 14.6	
	comp=Z,3.1nm,0.6s						
MKAR	**Makanchi Array**	**57.85 325**		P	**P**	**21 53 12.4**	**-0.6**
	comp=Z,4.1nm,0.5s,baz=119,slow=7.7,SNR=62						
MKAR				PcP	**PcP**	**21 54 05.6**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=141,slow=2.8,SNR=4.8						
	comp=Z,4.1nm,0.5s						
MAKZ	**Makanchi**	**58.04 325**		P	**P**	**21 53 14.1**	**-0.1**
MAKZ				IAmb	IAmb	21 53 15.9	
	comp=Z,3.6nm,0.6s						
NIL	**Nilore**	**58.10 308**		P	**P**	**21 53 14.2**	**-0.7**
KSH	**Kashi**	**58.27 315**		P	**P**	**21 53 17.1**	**+1.0**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.2s						
AAK	**Ala-Archa**	**60.61 318**		LR	LR	22 23 51.4	
	comp=Z,76nm,19.1s,baz=62,slow=40						
ZAA0	**Zalesovo Array**	**60.93 333**		P	**P**	**21 53 33.4**	**-0.6**
ZAA0				IAmb	IAmb	21 53 35.6	
	comp=Z,5.0nm,0.9s						
ZALV	**Zalesovo Beam**	**60.93 333**		P	**P**	**21 53 34.1**	**+0.1**
ZALV	**Zalesovo Beam**	**60.93 333**		P	**P**	**21 53 32.1**	**-1.9**
	comp=Z,3.1nm,0.6s,baz=116,slow=6.8,SNR=12						
	comp=Z,3.1nm,0.6s						
KURBB	**Kurchatov Arra**	**62.05 328**		P	**P**	**21 53 40.9**	**-0.7**
	comp=Z,5.0nm,0.5s,baz=127,slow=6.8,SNR=45						
KURBB				LR	LR	22 21 12.8	
	comp=Z,159nm,20.0s,baz=158,slow=37						
	comp=Z,5.0nm,0.5s						
KURK	**Kurchatov**	**62.05 328**		P	**P**	**21 53 41.5**	**-0.1**
GAR	**Garm**	**62.14 313**		P	**P**	**21 53 42.3**	**-0.3**
SIMJ	**Simiganj**	**62.99 312**		P	**P**	**21 53 48.2**	**-0.1**
SIMJ				IAmb	IAmb	21 53 49.3	
	comp=Z,5.9nm,0.9s						
KKAR	**Karatay Array**	**63.48 317**		P	**P**	**21 53 50.3**	**-1.0**
BVAR	**Borovoye Array**	**67.63 327**		P	**P**	**21 54 17.1**	**-0.8**
	comp=Z,5.5nm,0.7s,baz=116,slow=6.8,SNR=24						
BVAR				LR	LR	22 24 10.8	
	comp=Z,183nm,21.8s,baz=86,slow=36						
	comp=Z,5.5nm,0.7s						
BRVK	**Borovoye**	**67.70 327**		P	**P**	**21 54 17.8**	**-0.5**
BRVK				IAmb	IAmb	21 54 19.5	
	comp=Z,9.1nm,0.9s						
NRIK	**Noril'sk**	**70.84 346**		P	**P**	**21 54 36.6**	**-0.8**
	comp=Z,4.4nm,0.5s,baz=114,slow=5.3,SNR=4.1						
	comp=Z,4.4nm,0.5s						
ABKAR	**Akbulak array**	**72.42 321**		P	**P**	**21 54 47.0**	**-0.2**
ABKAR	**Akbulak array**	**72.42 321**		P	**P**	**21 54 46.9**	**-0.4**
AKTO	**Aktyubinsk**	**73.94 322**		LR	LR	22 30 37.3	
	comp=Z,79nm,19.0s,baz=68,slow=38						
ARU	**Arti**	**75.25 328**		P	**P**	**21 55 03.3**	**-0.4**
ARU				IAmb	IAmb	21 55 04.4	
	comp=Z,16nm,1.3s						
ARU	**Arti**	**75.25 328**		LR	LR	22 29 45.7	
	comp=Z,134nm,19.6s,baz=70,slow=37						
RAYN	**Ar Rayn**	**80.54 293**		P	**P**	**21 55 33.6**	**-0.3**
BELG	**Belogorsk**	**80.69 322**		LR	LR	22 34 17.3	
	comp=Z,88nm,19.4s,baz=28,slow=38						
G19K	**Purcell Mounta**	**81.49 24**		P	**P**	**21 55 38.4**	**+0.4**
VNDA	**Vanda**	**82.99 173**		P	**P**	**21 55 45.4**	**-0.2**
VNDA	**Vanda**	**82.99 173**		P	**P**	**21 55 44.8**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=314,slow=6.3,SNR=8.0						
	comp=Z,1.3nm,0.5s						
KBZ	**Khabaz**	**83.20 313**		P	**P**	**21 55 47.9**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=163,slow=5.8,SNR=2.4						
	comp=Z,1.5nm,0.7s						
MAW	**Mawson**	**83.29 200**		P	**P**	**21 55 47.6**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=49,slow=6.3,SNR=4.2						
	comp=Z,1.8nm,0.8s						
SUA	**Susitna One**	**83.62 29**		P	**P**	**21 55 49.1**	**-0.2**
SUA				IAmb	IAmb	21 55 52.4	
	comp=Z,6.8nm,0.8s						
GURO	**Guroymak-BITLI**	**83.73 308**		P	**P**	**21 55 50.3**	**0.0**
GURO				IAmb	IAmb	21 55 52.2	
	comp=Z,4.4nm,0.8s						
C23K	**Itkillik River**	**84.45 20**		P	**P**	**21 55 53.6**	**+0.4**
C23K				IAmb	IAmb	21 56 18.1	
	comp=Z,11nm,1.1s						
SCM	**Sheep Creek Mo**	**85.27 28**		P	**P**	**21 55 57.5**	**-0.1**
SCM				IAmb	IAmb	21 56 17.4	
	comp=Z,6.6nm,0.6s						
ILAR	**Eielson Array**	**85.57 25**		P	**P**	**21 55 58.6**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=245,slow=5.3,SNR=5.8						
ARPR	**Arapgir-MALATY**	**86.61 309**		P	**P**	**21 56 04.8**	**0.0**
OBN	**Obninsk**	**87.36 325**		LR	LR	22 36 15.0	
	comp=Z,68nm,20.1s,baz=10,slow=36						
FURI	**Furi**	**87.45 279**		LR	LR	22 35 45.7	
	comp=Z,63nm,18.4s,baz=110,slow=36						
BNN	**Bunyan**	**88.56 309**		P	**P**	**21 56 13.9**	**-0.3**
KMBO	**Kilima Mbogo**	**89.42 269**		P	**P**	**21 56 18.3**	**-0.5**
KMBO				IAmb	IAmb	21 56 29.8	
	comp=Z,5.2nm,1.2s						
EIL	**Elat**	**89.83 300**		LR	LR	22 44 43.2	
	comp=Z,108nm,18.2s,baz=72,slow=41						
BR131	**Keskin Array S**	**90.21 310**		P	**P**	**21 56 21.3**	**-0.6**
BR131				IAmb	IAmb	21 56 22.9	
	comp=Z,4.5nm,0.8s						
BRTR	**Keskin Array B**	**90.21 310**		P	**P**	**21 56 21.1**	**-0.8**
BRTR	**Keskin Array B**	**90.21 310**		P	**P**	**21 56 19.7**	**-2.2**
	comp=Z,4.0nm,0.9s,baz=116,slow=5.1,SNR=21						
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**90.83 340**		P	**P**	**21 56 22.9**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=79,slow=6.3,SNR=3.9						
	comp=Z,1.9nm,0.9s						
AKASG	**Malin Array Be**	**92.16 321**		P	**P**	**21 56 28.6**	**-1.9**
	comp=Z,2.2nm,0.6s,baz=71,slow=4.2,SNR=9.3						
	comp=Z,2.2nm,0.6s						
FINES	**FINESS Array B**	**92.17 332**		P	**P**	**21 56 29.2**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=69,slow=5.5,SNR=14						
	comp=Z,1.4nm,0.6s						
QSPA	**South Pole Qui**	**93.18 180**		P	**P**	**21 56 34.8**	**-0.2**
	comp=Z,1.9nm,1.1s,baz=254,slow=0.3,SNR=7.4						
	comp=Z,1.9nm,1.1s						
MLR	**Muntele Rosu**	**95.14 316**		P	**P**	**21 56 44.3**	**-0.2**
MLR	**Muntele Rosu**	**95.14 316**		P	**P**	**21 56 44.0**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=343,slow=11,SNR=12						
MLR				LR	LR	22 47 06.0	
	comp=Z,90nm,18.5s,baz=62,slow=40						
	comp=Z,4.8nm,0.7s						
BURAR	**Bucovina Array**	**95.25 318**		P	**P**	**21 56 45.1**	**+0.2**
BUR08	**Bucovina Ar. S**	**95.26 318**		P	**P**	**21 56 45.0**	**+0.1**
HFS	**Hagfors**	**98.36 332**		P	Pdif	21 56 58.6	+0.1
	comp=Z,5.2nm,1.1s,baz=114,slow=6.6,SNR=4.9						
	comp=Z,5.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**122.94 288**		PKP	**PKPdf**	**22 02 17.0**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=70,slow=2.3,SNR=12						

PRU 22 21:44:03.6,49°.76N×18°.53E,h0km,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.26 288**		*e*PG	Pg	21 44 08.4	-0.2
OKC				*e*SG	Sg	21 44 12.2	+0.3
	comp=Z,18nm,0.9s						
MORC	**Moravsky Berou**	**0.64 272**		*e*PG	Pg	21 44 15.7	-0.2
MORC				*e*SG	Sg	21 44 23.5	-0.7
LANS	**Liptovska Anna**	**0.86 135**		*e*PG	Pg	21 44 19.9	-0.2
LANS				*e*SG	Sb	21 44 34.1	+0.5
KRLC	**Kraliky**	**1.17 286**		*e*PG	Pg	21 44 24.7	-1.4
KRLC				*e*SG	Sg	21 44 41.0	-0.3
	comp=Z,3.7nm,0.3s						
KRLC	**Kraliky**	**1.17 286**		*e*	Pg	21 44 24.7	-1.4
VYHS	**Vyhne**	**1.28 171**		*e*PG	Pg	21 44 27.8	-0.4
VYHS				*e*SG	Sn	21 44 48.1	+1.4
VRAC	**Vranov**	**1.34 251**		*e*PG	Pg	21 44 28.2	-1.1
VRAC				*e*SG	Sg	21 44 46.2	-0.4
DPC	**Dobruska-Polom**	**1.54 293**		*e*PG	Pn	21 44 30.8	-1.6
DPC				*e*SG	Sg	21 44 51.6	-1.5
DPC	**Dobruska-Polom**	**1.54 293**		*e*	Pn	21 44 30.8	-1.6
KRUC	**Moravsky**	**1.56 244**		*e*PG	Pn	21 44 31.6	-1.0
KRUC				*e*SG	Sn	21 44 53.0	-0.5
KHC	**Kasperske Hory**	**3.29 261**		*e*SG	Sg	21 45 48.2	-1.1

IDC 22 21:47:09.1±1.9,2°.96S×144°.49E,h0km,mb3.4/2, mbtmp3.5/3,ML3.7/1,Error ellipse: s-maj=155.0km s-min=32.4km az=116.0,Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.57 210**		P	P	21 51 39.1	+0.4
	0.2nm,0.3s,baz=32,slow=10,SNR=6.7						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**22.98 206**		P	P	21 52 15.4	-0.2
	0.6nm,0.5s,baz=29,slow=12,SNR=3.1						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**83.71 24**		P	P	21 59 39.5	-0.1
	0.4nm,0.9s,baz=264,slow=5.7,SNR=3.1						
	0.4nm,0.9s						

*ISN **22** 22:16:24.9±1.3,34°.64N×46°.26E,h20km±24km,ML2.6*
*TEH **22** 22:16:24.1,34°.63N×46°.29E,h8km±37km,ML2.6*
ISC 22 22:16:24.1±1.1,34°.64N±0°.04×46°.28E±0°.03,h10km±11km, n13,σ0°32/15,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.10 57**		Pg	**Pg**	**22 16 26.9**	**0.0**
IGHG	**Ghaleghazi**	**0.39 143**		Pg	**Pg**	**22 16 32.2**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.59 257**		Pg	**Pg**	**22 16 35.8**	**+0.4**
GLG1	**Gilan-e-Gharb**	**0.61 210**		Pg	**Pg**	**22 16 35.9**	**-0.1**
ILIN	**Lien**	**0.62 64**		Pg	**Pg**	**22 16 36.1**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.73 120**		Pg	**Pg**	**22 16 37.9**	**-0.3**
ILBA	**Ilam Banvizeh**	**1.02 183**		Pg	**Pb**	**22 16 43.5**	**-0.4**
SNQR	**Sonqor, Kerman**	**1.13 79**		Pg	**Pb**	**22 16 45.8**	**-0.1**
IBZA	**Bozab**	**1.32 97**		Pg	**Pb**	**22 16 49.0**	**0.0**
IBDR	**Badra**	**1.56 191**		*e*Pg	**Pn**	**22 16 52.0**	**+0.2**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**22 17 14.0**	**-0.1**
IBDR				AML	AML	22 17 19.6	
	comp=N,32nm,0.4s						
IBDR				AML	AML	22 17 23.7	
	comp=E,52nm,0.7s						
IKFM	**Kafar-mosalman**	**1.71 130**		Pg	**Pg**	**22 16 56.7**	**-0.2**
IKRK	**Kirkuk**	**1.76 296**		*e*Pn	**Pb**	**22 16 56.0**	**-0.5**
IKRK				*e*Sn	**Sb**	**22 17 19.0**	**+0.3**
HSAM	**Samen**	**1.97 102**		Pn	**Pb**	**22 17 00.6**	**+0.4**

GUC 22 22:17:29.0±0.6,24°.01S×67°.50W,h212km±8km,ML3.5, 4C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.90 317**		⇑*i*P	Pn	22 18 07.3	-0.6
LVC				*i*S	S	22 18 36.4	-1.3
LVC				IAML		22 18 38.1	
	370nm,0.3s						
PB15	**IPOC Station P**	**1.97 293**		⇑*i*P	Pn	22 18 08.7	+0.3
PB15				*i*S	S	22 18 38.1	-0.5
GO02	**Mina Guanaco**	**2.22 238**		⇑*i*P	Pn	22 18 11.0	0.0
GO02				*i*S	S	22 18 43.1	-0.2
GO02				IAML		22 18 45.5	
	comp=N,217nm,0.1s						
PB06	**IPOC Station P**	**2.30 304**		⇑*i*P	Pn	22 18 11.9	+0.2
PB06				*i*S	S	22 18 44.1	-0.5
PB14	**IPOC Station P**	**2.72 256**		*e*P	Pn	22 18 16.6	+0.3
PB14				*i*S	S	22 18 53.1	+0.2
PB14				IAML		22 18 55.4	
	comp=E,32nm,0.2s						
PB09	**IPOC Station P**	**2.72 324**		⇓*e*P	Pn	22 18 16.6	+0.3
PB09				*i*S	S	22 18 52.6	-0.3
PB09				IAML		22 18 53.8	
	comp=E,54nm,0.3s						
PB04	**IPOC Station P**	**2.95 304**		*i*P	Pn	22 18 19.0	+0.1
PB04				*i*S	S	22 18 56.8	-0.6
PB04				IAML		22 19 01.2	
	comp=E,102nm,0.2s						
PATCX	**Punta Patache**	**4.01 322**		*e*P	Pn	22 18 31.4	0.0
PATCX				*i*S	S	22 19 19.4	-0.7
AC06	**Mina Casimiro**	**4.21 217**		*e*P	Pn	22 18 32.5	-1.3
AC06				*i*S	S	22 19 22.7	-1.9
TA01	**Diego Aracena**	**4.23 324**		*i*S	S	22 19 23.5	-1.5
HMBC	**Humberstone**	**4.32 329**		*e*P	Pn	22 18 34.2	-1.1
HMBC				*i*S	S	22 19 24.7	-2.6
GO03	**Copiap**	**4.34 214**		*i*S	S	22 19 24.8	-2.7

*IDC **22** 22:22:24.3±1.1,3°.40S×127°.89E,h0km,mb3.6/5, mbtmp3.7/6,ML3.6/1,Error ellipse: s-maj=110.9km s-min=22.1km az=73.0*
ISC 22 22:22:34.7±1.0,3°5S±0°.2×128°4E±0°.6,h91km,n6,σ2°24/7, mb3.5/4,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.40 161**		P	**P**	**22 26 29.4**	**-2.4**
	0.2nm,0.3s,baz=340,slow=12,SNR=20						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**20.80 166**		P	**P**	**22 27 09.7**	**+0.8**
	9.5nm,0.8s,baz=345,slow=11,SNR=57						
ASAR				PcP	**PcP**	**22 31 17.6**	**+3.0**

0.2nm,0.4s,baz=114,slow=13,SNR=2.6
0.2nm,0.4s
WRA Warramunga Arr 56.85 146 P **P 22 53 33.6 -0.7**
1.4nm,0.9s,baz=337,slow=8.3,SNR=6.9
1.4nm,0.9s
FINES FINESS Array B 59.20 327 P **P 22 53 50.6 +0.4**
1.5nm,1.0s,baz=82,slow=14,SNR=3.9
1.5nm,1.0s
ASAR Alice Springs 59.85 149 P **P 22 53 55.2 0.0**
0.6nm,0.7s,baz=324,slow=6.9,SNR=5.1
0.6nm,0.7s
NOA NORSAR Array B 66.29 328 P **P 22 54 37.4 -0.1**
0.8nm,1.0s,baz=75,slow=5.4,SNR=2.0
0.8nm,1.0s
ILAR Eielson Array 70.93 26 P **P 22 55 06.5 +0.1**
0.4nm,0.9s,baz=294,slow=4.1,SNR=4.7
0.4nm,0.9s
YKA Yellowknife Ar 82.95 17 LR LR 23 40 28.4
comp=Z,44nm,18.2s,baz=156,slow=41
NEW Newport 93.86 27 LR LR 23 41 17.0
comp=Z,39nm,20.0s,baz=121,slow=37

*SOME **22** 22:44:20.1,40.°12N×77.°07E,h15km*
*NNC **22** 22:44:21.4±1.0,40.°19N×77.°07E,h0km,mb3.7,mpv3.4,*
Error ellipse: s-maj=6.7km s-min=4.9km az=174.0
*KRNET **22** 22:44:22.7±0.1,40.°27N×77.°14E,h19km,mb3.0*
ISC 22 22:44:23.3±1.4,40.°25N±0.°06×77.°02E±0.°03,h10km,n70,
σ2ˢ11/105,30C-15D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.41**	**327**	⇓*e*P	**Pb**	**22 44 49.9**	**-0.1**
NRN	baz=23			⇓*e*S	**Sg**	**22 45 09.8**	**+0.9**
TARG	**Taragay, Kyrgy**	**1.59**	**22**	⇓*e*P	**Pb**	**22 44 51.6**	**-1.5**
TARG	baz=19			⇓*e*S	**Sg**	**22 45 12.7**	**-1.9**
KDJ	**Kajisay**	**1.88**	**4**	⇓*e*P	**Pb**	**22 44 57.1**	**-0.8**
KDJ	baz=1.0			⇓*e*S	**Sg**	**22 45 22.1**	**-1.8**
ULHL	**Ulahol**	**2.08**	**344**	P	**Pb**	**22 45 01.3**	**0.0**
ULHL	SNR=9.3 **Ulahol**	**2.08**	**344**	⇑*e*P	**Pb**	**22 45 00.6**	**-0.7**
ULHL	baz=41			⇑*e*S	**Sb**	**22 45 28.2**	**+1.0**
BOOM	**Boomskoye usch**	**2.38**	**340**	⇑*e*P	**Pb**	**22 45 04.8**	**-1.6**
BOOM	baz=38			⇑*e*S	**Sb**	**22 45 35.6**	**-0.3**
PRZ	**Przheval'sk**	**2.46**	**24**	⇑*e*P	**Pb**	**22 45 05.1**	**-2.7**
PRZ	baz=23			⇑*e*S	**Sb**	**22 45 36.2**	**-2.0**
ARLS	**Aral**	**2.60**	**309**	⇑*e*P	**Pb**	**22 45 08.3**	**-1.8**
ARLS	baz=8.0			⇑*e*S	**Sb**	**22 45 41.6**	**-0.5**
SFK	**Sufi-Kurgan**	**2.71**	**266**	⇓*e*P	**Pb**	**22 45 10.4**	**-1.6**
SFK	baz=66			⇓*e*S	**Sb**	**22 45 45.3**	**0.0**
UCH	**Uchtor**	**2.73**	**317**	P	**Pb**	**22 45 10.7**	**-1.9**
UCH	SNR=9.0 **Uchtor**	**2.73**	**317**	⇓*e*P	**Pb**	**22 45 10.4**	**-2.2**
UCH	baz=16			⇓*e*S	**Sb**	**22 45 45.3**	**-1.1**
TNSS	**Tian-Shan**	**2.79**	**359**	*e*P	**Pb**	**22 45 13.7**	**+0.3**
TNSS	12nm,0.3s			*e*S	**Sg**	**22 45 52.3**	**-0.5**
TNSS	**Tian-Shan**	**2.79**	**359**	Pg	**Pb**	**22 45 13.7**	**+0.3**
TNSS	13nm,0.4s			Lg	Lg	22 45 52.3	
KBK	**Karagaybulak**	**2.87**	**328**	P	**Pb**	**22 45 16.3**	**+1.6**
KBK	SNR=8.2 **Karagaybulak**	**2.87**	**328**	⇑*e*P	**Pn**	**22 45 11.8**	**+2.6**
KBK	baz=26			⇑*e*S	**Sb**	**22 45 47.8**	**-2.0**
TKM2	**Tokmak 2**	**2.88**	**339**	P	**Pb**	**22 45 13.2**	**-1.6**
TKM2	SNR=19 **Tokmak 2**	**2.88**	**339**	⇑Pg	**Pb**	**22 45 12.9**	**-1.9**
TKM2	5.4nm,0.3s			⇑Lg	Lg	22 45 55.7	
TKM2	**Tokmak 2**	**2.88**	**339**	⇑*e*P	**Pn**	**22 45 11.7**	**+2.3**
TKM2	baz=37			⇑*e*S	**Sb**	**22 45 47.6**	**-2.5**
KST	**Kastek**	**2.90**	**344**	*e*P	**Pb**	**22 45 16.5**	**+1.2**
KST	10nm,0.4s			*e*S	**Sg**	**22 45 57.1**	**+0.6**
KST	**Kastek**	**2.90**	**344**	Pg	**Pb**	**22 45 16.5**	**+1.2**
KST	10nm,0.4s			Lg	Lg	22 45 56.5	
MDOK	**Medeo**	**2.91**	**0**	*e*P	**Pb**	**22 45 15.9**	**+0.5**
MDOK	19nm,0.7s			*e*S	**Sg**	**22 45 55.6**	**-1.3**
MDOK	**Medeo**	**2.91**	**0**	Pg	**Pb**	**22 45 15.1**	**-0.3**
MDOK	3.8nm,0.3s			⇓Pg	**Pg**	**22 45 15.4**	**-3.7**
MDOK	5.4nm,0.6s			Lg	Lg	22 45 55.6	
MDOK	24nm,0.6s			Lg	Lg	22 45 56.2	
MTBS	**Maitube**	**2.91**	**351**	*e*P	**Pb**	**22 45 16.1**	**+0.7**
MTBS	22nm,0.6s 2.8nm,0.2s			*e*S	**Sg**	**22 45 56.1**	**-0.8**
MTBS	**Maitube**	**2.91**	**351**	Pg	**Pb**	**22 45 16.1**	**+0.7**
MTBS	2.8nm,0.2s			Lg	Lg	22 45 56.1	
AAA	**Alma-Ata**	**2.96**	**359**	*e*P	**Pg**	**22 45 17.6**	**-2.4**
AAA	8.6nm,0.2s			*e*S	**Sg**	**22 45 58.4**	**+0.1**
AAA	**Alma-Ata**	**2.96**	**359**	Pg	**Pg**	**22 45 17.6**	**-2.4**
AAA	8.6nm,0.2s			Lg	Lg	22 45 58.4	
KNDC	**Almaty**	**2.96**	**359**	⇑Pg	**Pb**	**22 45 15.9**	**-0.4**
KNDC	23nm,0.7s			⇑Lg	Lg	22 45 58.7	
KOTS	**Kotyrbulak**	**2.98**	**1**	*e*P	**Pb**	**22 45 17.6**	**+1.0**
KOTS	4.6nm,0.3s			*e*S	**Sg**	**22 45 59.0**	**-0.1**
KOTS	**Kotyrbulak**	**2.98**	**1**	Pg	**Pb**	**22 45 17.6**	**+1.0**
KOTS	4.7nm,0.5s			Lg	Lg	22 45 59.2	
AAK	**Ala-Archa**	**3.05**	**322**	⇑Pg	**Pb**	**22 45 18.7**	**+0.9**
AAK	3.7nm,0.3s			⇓Lg	Lg	22 46 00.6	
AAK	**Ala-Archa**	**3.05**	**322**	⇑*e*P	**Pn**	**22 45 14.4**	**+2.6**
AAK	baz=21			⇑*e*S	**Sn**	**22 45 52.3**	**+3.9**
DGS	**Degeres**	**3.13**	**343**	*e*P	**Pb**	**22 45 20.7**	**+1.5**
DGS	25nm,0.5s			*e*S	**Sg**	**22 46 04.1**	**+0.2**
DGS	**Degeres**	**3.13**	**343**	Pg	**Pb**	**22 45 20.3**	**+1.1**
DGS	25nm,0.6s			Lg	Lg	22 46 04.1	
AML	**Almayashu**	**3.14**	**308**	P	**Pb**	**22 45 16.7**	**-2.7**
AML	SNR=12 **Almayashu**	**3.14**	**308**	⇑*e*P	**Pn**	**22 45 16.2**	**+3.0**
AML	baz=7.0			⇑*e*S	**Sn**	**22 45 55.2**	**+4.3**
CHMS	**Chumysh**	**3.23**	**329**	P	**Pb**	**22 45 17.9**	**-2.9**
	SNR=7.9						
CHMS	**Chumysh**	**3.23**	**329**	⇑Pg	**Pb**	**22 45 17.5**	**-3.3**
CHMS	7.5nm,0.7s			⇓Lg	Lg	22 46 05.7	
CHMS	**Chumysh**	**3.23**	**329**	⇑*e*P	**Pn**	**22 45 16.8**	**+2.7**
CHMS	5.2nm,0.7s baz=28			⇑*e*S	**Sn**	**22 45 56.2**	**+3.5**
UZB	**Uzynbulak**	**3.26**	**27**	*e*P	**Pg**	**22 45 22.0**	**-3.7**
UZB	8.2nm,0.6s			*e*S	**Sg**	**22 46 06.0**	**-2.0**
UZB	**Uzynbulak**	**3.26**	**27**	Pg	**Pg**	**22 45 22.0**	**-3.7**
UZB	8.2nm,0.6s			Lg	Lg	22 46 06.0	
KURS	**Kuram**	**3.35**	**14**	*e*P	**Pg**	**22 45 23.8**	**-3.6**
KURS	7.8nm,0.7s			*e*S	**Sg**	**22 46 09.1**	**-1.7**
KURS	**Kuram**	**3.35**	**14**	Pg	**Pb**	**22 45 23.3**	**+0.5**
KURS	7.8nm,0.7s			Lg	Lg	22 46 09.1	
EKS2	**Erkin-Say**	**3.43**	**316**	P	**Pb**	**22 45 21.7**	**-2.5**
EKS2	SNR=5.2 **Erkin-Say**	**3.43**	**316**	⇑*e*P	**Pn**	**22 45 19.8**	**+2.9**
EKS2	baz=15			⇑*e*S	**Sn**	**22 46 01.5**	**+3.8**
SHLS	**Shalkode**	**3.43**	**31**	*e*P	**Pg**	**22 45 28.6**	**-0.4**
SHLS	8.1nm,0.3s			*e*S	**Sg**	**22 46 17.4**	**+3.9**
SHLS	**Shalkode**	**3.43**	**31**	Pg	**Pg**	**22 45 28.6**	**-0.4**
SHLS	8.1nm,0.4s			Lg	Lg	22 46 17.5	
KPKS	**Kokpek**	**3.44**	**21**	*e*P	**Pb**	**22 45 25.2**	**+0.7**
KPKS	4.8nm,0.3s			*e*S	**Sg**	**22 46 11.6**	**-2.4**
KPKS	**Kokpek**	**3.44**	**21**	Pg	**Pb**	**22 45 24.6**	**+0.1**
KPKS	3.5nm,0.3s			Lg	Lg	22 46 11.6	
KTBS	**Karatobe**	**3.47**	**356**	*e*P	**Pb**	**22 45 25.3**	**+0.5**
KTBS	6.2nm,0.4s			*e*S	**Sg**	**22 46 11.9**	**-2.8**
KTBS	**Karatobe**	**3.47**	**356**	Pg	**Pb**	**22 45 25.5**	**+0.6**
KTBS	6.2nm,0.4s			Lg	Lg	22 46 13.0	
USP	**Ospenovka**	**3.56**	**329**	P	**Sg**	**22 46 15.8**	**-1.7**
USP	SNR=5.6 **Ospenovka**	**3.56**	**329**	⇓*e*P	**Pn**	**22 45 21.2**	**+2.6**
USP	baz=27			⇓*e*S	**Sn**	**22 46 04.0**	**+3.3**
KRBS	**Karabastau**	**3.59**	**344**	*e*P	**Pb**	**22 45 28.4**	**+1.5**
KRBS	7.9nm,0.3s			*e*S	**Sg**	**22 46 17.2**	**-1.2**
KRBS	**Karabastau**	**3.59**	**344**	Pg	**Pb**	**22 45 27.9**	**+1.0**
KRBS	5.1nm,0.5s			Lg	Lg	22 46 17.2	
PDGK	**Podgornoye**	**3.59**	**30**	Pg	**Pb**	**22 45 27.3**	**+0.4**
PDGK	2.8nm,0.7s			Lg	Lg	22 46 15.4	
PDGK	**Podgornoye**	**3.59**	**30**	⇑Pg	**Pb**	**22 45 27.6**	**+0.6**
PDGK	4.9nm,0.7s			⇑Lg	Lg	22 46 16.2	
CHKK	**Chushkaly**	**3.60**	**360**	*e*P	**Pb**	**22 45 28.6**	**+1.5**
CHKK	3.6nm,0.3s			*e*S	**Sg**	**22 46 17.4**	**-1.6**
CHKK	**Chushkaly**	**3.60**	**360**	Pg	**Pb**	**22 45 28.6**	**+1.5**
CHKK	3.6nm,0.3s			Lg	Lg	22 46 17.4	
SGDS	**Sogindy**	**3.66**	**332**	Pg	**Pb**	**22 45 29.4**	**+1.2**
SGDS	1.2nm,0.3s			Lg	Lg	22 46 18.7	
MRKS	**Merke**	**3.79**	**312**	*e*P	**Pb**	**22 45 32.5**	**+2.2**
MRKS	1.2nm,0.1s			*e*S	**Sg**	**22 46 24.1**	**-0.9**
MRKS	**Merke**	**3.79**	**312**	Pg	**Pb**	**22 45 32.5**	**+2.2**
MRKS	1.2nm,0.1s			Lg	Lg	22 46 24.0	
BLB	**Baldybastay**	**3.99**	**15**	Pg	**Pb**	**22 45 35.1**	**+1.2**
BLB	9.6nm,0.4s			Lg	Lg	22 46 28.2	
ARXS	**Arharly**	**4.00**	**8**	*e*P	**Pb**	**22 45 35.2**	**+1.2**
ARXS	3.4nm,0.4s			*e*S	**Sg**	**22 46 28.4**	**-3.5**
ARXS	**Arharly**	**4.00**	**8**	Pg	**Pb**	**22 45 35.2**	**+1.2**
ARXS	3.4nm,0.8s			Lg	Lg	22 46 28.4	
KTMS	**Ketmen**	**4.05**	**37**	*e*P	**Pb**	**22 45 35.2**	**+0.4**
KTMS	0.6nm,0.2s			*e*S	**Sg**	**22 46 28.9**	**-4.4**
KTMS	**Ketmen**	**4.05**	**37**	Pg	**Pb**	**22 45 35.2**	**+0.4**
KTMS	0.6nm,0.2s			Lg	Lg	22 46 28.9	
KNOS	**Konyrlen**	**4.41**	**21**	Pg	**Pb**	**22 45 42.8**	**+1.9**
KNOS	1.1nm,0.3s			Lg	Lg	22 46 42.4	
BTLS	**Baital**	**5.27**	**336**	*e*P	**Pg**	**22 45 59.8**	**-4.3**
BTLS	1.6nm,0.3s			*e*S	**Sg**	**22 47 11.2**	**-1.2**
BTLS	**Baital**	**5.27**	**336**	Pg	**Pg**	**22 45 60.0**	**-4.2**
BTLS	1.6nm,0.4s			Lg	Lg	22 47 10.8	
KK31	**Karatay Array**	**5.65**	**302**	⇑Pg	**Pg**	**22 46 07.7**	**-3.7**
KK31	0.2nm,0.3s			⇑Lg	Lg	22 47 22.6	
	0.9nm,0.5s,baz=138,slow=31,SNR=4.5						

*TEH **22** 22:54:42.1,34.°64N×46.°28E,h10km±55km,ML2.6*
*ISN **22** 22:54:44.2±1.2,34.°63N×46.°26E,h30km±23km,ML2.8*
ISC 22 22:54:42.2±1.2,34.°65N±0.°05×46.°28E±0.°04,h9km±12km,
n11,σ0ˢ44/13,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.10**	**59**	Pg	**Pg**	**22 54 44.6**	**-0.4**
IGHG	**Ghaleghazi**	**0.40**	**143**	Pg	**Pg**	**22 54 50.1**	**+0.1**
KGS1	**Ghasr-e-Shirin**	**0.58**	**256**	Pg	**Pg**	**22 54 53.9**	**+0.4**
GLG1	**Gilan-e-Gharb**	**0.61**	**210**	Pg	**Pg**	**22 54 54.1**	**0.0**
ILIN	**Lien**	**0.63**	**64**	Pg	**Pg**	**22 54 54.6**	**+0.2**
ILBA	**Ilam Banvizeh**	**1.02**	**183**	Pg	**Pg**	**22 55 01.7**	**-0.1**
SNQR	**Sonqor, Kerman**	**1.13**	**79**	Pg	**Pn**	**22 55 04.8**	**+0.3**
IBZA	**Bozab**	**1.32**	**97**	Pg	**Pg**	**22 55 07.4**	**-0.2**
IBDR	**Badra**	**1.56**	**191**	*e*Pg	**Pg**	**22 55 11.5**	**-0.6**
IBDR	baz=10.0			*e*Sg	**Sg**	**22 55 33.0**	**+0.7**
IKFM	**Kafar-mosalman**	**1.72**	**130**	Pg	**Pg**	**22 55 15.2**	**+0.1**
IKRK	**Kirkuk**	**1.76**	**296**	*e*Pn	**Pb**	**22 55 14.0**	**-0.6**
IKRK				*e*Sn	**Sb**	**22 55 37.0**	**+0.2**
IKRK	comp=N,105nm,0.7s			AML	AML	22 55 42.6	
IKRK	comp=E,116nm,0.9s			AML	AML	22 55 43.7	

*DSN **22** 22:55:30.9±1.6,28.°25N×55.°47E,h10km,ML3.0/8,Error ellipse: s-maj=34.5km s-min=13.5km az=65.0*
*TEH **22** 22:55:37.0,27.°48N×54.°98E,h14km±23km,ML3.4*
ISC 22 22:55:39.8±1.1,27.°45N±0.°04×54.°94E±0.°04,h20km,n22,
σ1ˢ78/23,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.55**	**294**	Pg	**Pb**	**22 55 48.6**	**-2.2**
GENO	**Geno**	**1.10**	**92**	Pg	**Pb**	**22 55 58.7**	**-1.6**
IBND	**Bandar-abas**	**1.42**	**90**	Pg	**Pb**	**22 56 04.4**	**-1.3**
LMD1	**Lamerd**	**1.58**	**267**	Pg	**Pb**	**22 56 07.9**	**-0.5**
JHRM	**Jahrom**	**1.60**	**312**	Pg	**Pb**	**22 56 07.8**	**-1.0**
SHME	**Shamm**	**1.76**	**142**	P	**Pb**	**22 56 09.9**	**-1.6**
SHME				S	**Sb**	**22 56 37.7**	**+4.6**
BANOM	**Banah**	**1.95**	**141**	P	**Pn**	**22 56 10.5**	**-1.3**
QIR1	**Qir**	**1.96**	**302**	Pn	**Pb**	**22 56 13.3**	**-1.6**
MSFE	**Esma-Masafi**	**2.35**	**152**	P	**Pn**	**22 56 16.8**	**-0.6**
MDH	**Madha**	**2.46**	**150**	P	**Pn**	**22 56 18.5**	**-0.4**
UOSS	**Minazif**	**2.74**	**155**	P	**Pn**	**22 56 23.9**	**+1.2**
FAQ	**Al Faqa, Dubai**	**2.75**	**168**	P	**Pb**	**22 56 26.0**	**-2.5**
HATD	**Hatta, Dubai**	**2.82**	**157**	P	**Pn**	**22 56 25.6**	**+1.7**
ASUD	**Al Ashush, Dub**	**2.83**	**173**	P	**Pb**	**22 56 26.6**	**-3.1**
ASHO	**Ashiyiah**	**2.93**	**160**	P	**Pn**	**22 56 27.2**	**+1.8**
TVBK	**TV Kerman**	**2.99**	**32**	Pn	**Pn**	**22 56 26.4**	**-0.1**
JASK	**Jask - Hormozg**	**3.06**	**120**	Pn	**Pn**	**22 56 27.0**	**-0.1**
KHGB	**Koh Gabri**	**3.21**	**24**	Pn	**Pn**	**22 56 29.8**	**+0.3**
CHMN	**Cheshme madani**	**3.32**	**43**	Pn	**Pn**	**22 56 31.4**	**+0.5**
KBAM	**BAM**	**3.53**	**61**	Pn	**Pn**	**22 56 33.5**	**-0.1**
IMEH	**Mehriz**	**3.94**	**356**	Pn	**Pn**	**22 56 39.5**	**0.0**
ISAD	**Sadrabad**	**4.58**	**347**	Pn	**Pn**	**22 56 49.1**	**+0.9**

*IDC **22** 23:02:00.9±0.7,29.°50N×104.°60E,h0km,mb4.1/21,*
mbtmp4.1/23,ML3.8/2,MS3.6/14,Error ellipse:
s-maj=19.5km s-min=13.5km az=44.0
*MOS **22** 23:02:01.3±1.0,29.°42N×104.°64E,h13km,mb4.7/28,Error ellipse: s-maj=8.0km s-min=6.1km az=94.2*
*NEIC **22** 23:02:03.5±0.9,29.°52N±0.°08×104.°55E±0.°09,h10km±1km,*
mb4.7/123,Error ellipse: s-maj=14.1km s-min=12.3km az=155.0
*BJI **22** 23:02:04.3±0.0,29.°55N×104.°55E,h14km,mb4.5/44,*
mB4.9/21,ML4.5/27,Ms4.2/42,Ms7 3.9/41
ISC 22 23:02:03.5±0.3,29.°51N±0.°03×104.°52E±0.°04,h10km,n475,
σ1ˢ36/494,mb4.7/111,MS3.6/15,9C-6D,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.55**	**335**	Pn	**Pn**	**23 02 31.3**	**+0.2**
CD2				Pg	**Pb**	**23 02 32.3**	**+0.1**
CD2				Sn	**Sb**	**23 02 52.1**	**+0.2**
CD2				Sg	**Sg**	**23 02 53.6**	**+0.4**
CD2				smax	smax		
CD2	comp=N,14μm,0.5s			smax	smax		
GYA	comp=E,27μm,0.5s **Guiyang**	**3.58**	**147**	⇑Pn	**Pn**	**23 03 00.5**	**+1.3**
GYA				Pg	**Pg**	**23 03 12.8**	**+0.7**
GYA				Sn	**Sn**	**23 03 45.0**	**+3.4**
GYA				smax	smax		
GYA	comp=N,890nm,1.0s			smax	smax		
GYA	comp=E,710nm,1.5s			LR	LR		
GYA	comp=N,3μm,3.8s			LR	LR		
GYA	comp=E,3μm,3.8s			LR	LR		
GYA	comp=Z,2μm,5.2s						
PZH	**PanZhiHua**	**3.87**	**220**	Pn	**Pb**	**23 03 09.4**	**-2.5**
PZH				Sn	**Sb**	**23 03 54.8**	**-4.0**
PZH				Sg	**Sg**	**23 04 08.6**	**+0.9**
PZH				smax	smax		
PZH	comp=N,370nm,0.8s			smax	smax		
ENH	comp=E,350nm,0.9s **Enshi**	**4.38**	**79**	P	**Pn**	**23 03 11.0**	**+0.8**
ENH	**Enshi**	**4.38**	**79**		**Pn**	**23 03 09.7**	**-0.4**
KMI	**Kunming**	**4.64**	**200**	⇓Pn	**Pn**	**23 03 16.9**	**+3.0**
KMI				Sn	**Sn**	**23 04 12.0**	**+4.0**
KMI				Sg	**Sg**	**23 04 35.3**	**+2.7**
KMI				smax	smax		
KMI	comp=N,110nm,1.0s			smax	smax		
KMI	comp=E,120nm,1.4s			LR	LR		
KMI	comp=Z,780nm,6.6s						
XAN	**Xi'an**	**5.87**	**39**	Pn	**Pn**	**23 03 29.6**	**-1.0**
XAN				Pg	**Pb**	**23 03 49.6**	**+3.6**
XAN				Sn	**Sn**	**23 04 37.9**	**-0.2**
XAN				Sg	**Sb**	**23 05 03.1**	**+6.6**
XAN				smax	smax		
XAN	comp=N,2μm,0.9s			smax	smax		
XAN	comp=E,1μm,0.9s			LR	LR		
XAN	comp=N,2μm,3.8s			LR	LR		
XAN	comp=E,2μm,4.0s			LR	LR		
XAN	comp=Z,920nm,4.6s						
LZH	**Lanzhou**	**6.59**	**355**	Pn	**Pn**	**23 03 42.5**	**+2.0**
LZH				Pg	Pb	23 04 03.5	+5.3
LZH				Sn	**Sn**	**23 04 53.8**	**-2.0**
LZH				Sg	**Sg**	**23 05 26.9**	**-8.0**
LZH				smax	smax		
LZH	comp=N,170nm,1.5s			smax	smax		
LZH	comp=E,510nm,1.6s			LR	LR		
LZH	comp=N,1μm,5.8s			LR	LR		
LZH	comp=E,1μm,7.2s			LR	LR		
LZH	comp=Z,380nm,6.2s						
TNCH	**TengChong**	**6.95**	**232**	*e*Pn	**Pn**	**23 03 47.4**	**+1.8**
TNCH				Sg	**Sg**	**23 05 52.0**	**+5.3**
TNCH				smax	smax		
TNCH	comp=N,280nm,1.7s			smax	smax		
TNCH	comp=E,170nm,1.6s			LR	LR		
TNCH	comp=N,2μm,7.8s			LR	LR		
TNCH	comp=E,2μm,7.4s			LR	LR		
TNCH	comp=Z,1μm,10.2s						
CNSH	**ChangSha**	**7.50**	**98**	Pg	**Pn**	**23 03 53.4**	**+0.5**
CNSH				Sg	**Sn**	**23 05 09.8**	**-8.2**
CNSH				smax	smax		
CNSH	comp=N,230nm,1.0s			smax	smax		
SLVN	comp=E,180nm,0.9s **Son La**	**8.15**	**184**	Pn	**Pn**	**23 04 01.9**	**-0.1**
LYN	**LuoYang**	**8.42**	**51**	P	**Pn**	**23 04 04.4**	**-1.1**
LYN				S	**Sn**	**23 05 36.8**	**-3.8**
LYN				pmax	pmax		
LYN	comp=E,59nm,0.8s			pmax	pmax		
LYN	comp=E,280nm,4.5s			smax	smax		
LYN	comp=E,670nm,1.4s			smax	smax		
LYN	comp=E,230nm,1.2s			LR	LR		
LYN	comp=E,1μm,6.4s			LR	LR		
LYN	comp=E,800nm,4.0s			LR	LR		
LYN	comp=E,1μm,9.1s						
WHN	**Wuhan**	**8.59**	**81**	P	**Pn**	**23 04 07.4**	**-0.5**
WHN				S	**Sn**	**23 05 44.3**	**-0.5**
WHN				pmax	pmax		
WHN	comp=E,110nm,0.8s			LR	LR		
WHN	comp=E,3μm,5.6s			LR	LR		
WHN	comp=E,2μm,5.0s						
GOMU	**GeErMu**	**10.54**	**312**	P	**Pn**	**23 04 32.4**	**-2.5**
GOMU				S	Sn	23 05 57.0	-36
GOMU				pmax	pmax		
GOMU	comp=Z,9.0nm,0.4s			LR	LR		
GOMU	comp=N,1μm,9.4s			LR	LR		
GOMU	comp=E,1μm,9.4s			LR	LR		
GOMU	comp=Z,2μm,10.4s						
GTA	**Gaotai**	**10.61**	**340**	*e*P	**Pn**	**23 04 38.8**	**+3.1**

GTA sP 23 04 52.0
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA LR LR
comp=Z,480nm,13.5s
GTA LR LR
comp=Z,630nm,12.0s
GTA LR LR
comp=Z,570nm,13.1s
QIZ Qiongzhong 11.50 154 P **Pn 23 04 48.1 +0.3**
QIZ S **Sn 23 06 59.6 +3.2**
QIZ LR LR
comp=Z,810nm,9.3s
QIZ LR LR
comp=Z,640nm,10.9s
QIZ LR LR
comp=Z,780nm,10.1s
HNS HongShan 11.59 45 ⇑P **Pn 23 04 52.0 +3.1**
HNS S **Sn 23 07 00.0 +1.7**
HNS pmax pmax
comp=Z,10.0nm,1.1s
HNS LR LR
comp=Z,510nm,7.5s
HNS LR LR
comp=Z,290nm,10.6s
LSA Lhasa 11.63 274 Pn **Pn 23 04 49.9 -0.1**
LSA Lhasa 11.63 274 P **Pn 23 04 49.9 -0.1**
SHL Shillong 11.88 254 **Pn 23 04 53.4 +0.3**
SHL Shillong 11.88 254 P **Pn 23 04 53.4 +0.3**
BTO Baotou 11.95 21 *eP* **Pn 23 04 53.9 -0.1**
BTO pP 23 04 56.8
BTO sP 23 05 00.9
BTO PP **PnPn 23 05 06.4 +4.5**
BTO S **Sn 23 07 09.0 +1.5**
BTO pmax pmax
comp=Z,38nm,0.8s
BTO pmax pmax
comp=Z,220nm,4.9s
BTO LR LR
comp=Z,430nm,8.4s
CMAR Chiang Mai Arr 12.12 206 Pn **Pn 23 04 56.7 +0.4**
comp=Z,0.3nm,0.3s,baz=70,slow=16,SNR=1.7
CMAR LR LR 23 10 09.6
comp=Z,104nm,18.7s,baz=10.0,slow=40
comp=Z,0.7nm,0.5s
TIA Tai'an 12.53 54 P **Pn 23 05 01.6 -0.2**
TIA pmax pmax
comp=Z,33nm,1.0s
NJ2 Nanjing 12.59 75 *eP* **Pn 23 05 02.3 -0.3**
NJ2 S **Sn 23 07 22.4 -0.5**
NJ2 pmax pmax
comp=Z,16nm,1.1s
NJ2 pmax pmax
comp=Z,270nm,4.0s
NJ2 LR LR
comp=Z,870nm,8.5s
NJ2 LR LR
comp=Z,710nm,12.3s
NJ2 LR LR
comp=Z,850nm,11.8s
HHC Hu-ho-hao-te 12.70 25 *eP* **Pn 23 05 02.9 -1.3**
HHC PP **PnPn 23 05 16.4 +4.3**
HHC S **Sn 23 07 24.5 -1.1**
HHC SS **SnSn 23 07 46.3 +8.3**
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,69nm,4.1s
HHC LR LR
comp=Z,350nm,8.2s
HHC LR LR
comp=Z,410nm,8.6s
HHC LR LR
comp=Z,320nm,10.8s
BJT Baijiatuau 14.19 39 Pn **Pn 23 05 24.4 -0.1**
BJT Baijiatuau 14.19 39 P **Pn 23 05 24.4 -0.1**
BJI Beijing 14.21 39 P **Pn 23 05 25.1 +0.4**
BJI S **Sn 23 08 03.3 +0.9**
BJI pmax pmax
comp=Z,5.0nm,1.0s
BJI pmax pmax
comp=Z,27nm,3.6s
BJI LR LR
comp=Z,160nm,9.6s
BJI LR LR
comp=Z,96nm,9.6s
BJI LR LR
comp=Z,160nm,11.5s
TPUB Ta-pu 15.70 109 Pn **Pn 23 05 43.3 -1.5**
SSLB Suanglung 15.76 107 P **Pn 23 05 46.7 +1.1**
SSLB Suanglung 15.76 107 **Pn 23 05 43.8 -1.8**
DL2 Dalian 16.96 52 P **Pn 23 06 00.9 +0.1**
DL2 *eS* **Sn 23 09 07.5 -1.7**
DL2 pmax pmax
comp=Z,40nm,1.3s
DL2 pmax pmax
comp=Z,310nm,3.7s
DL2 LR LR
comp=Z,430nm,15.4s
DL2 LR LR
comp=Z,320nm,17.5s
DL2 LR LR
comp=Z,400nm,10.7s
SONM Songino Array 18.36 4 **Pn 23 06 16.7 -1.5**
SONM Songino Array 18.36 4 P **Pn 23 06 17.1 -1.1**
comp=Z,0.2nm,0.3s,baz=185,slow=9.7,SNR=26
comp=Z,4.8nm,0.8s
SONM Songino Array 18.36 4 P **Pn 23 06 16.7 -1.5**
SONM pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 18.44 5 P **P 23 06 18.1 -1.1**
ULN Ulaanbaatar 18.44 5⇓*eP* **Pn 23 06 19.0 -0.2**
ULN pmax pmax
comp=Z,5.0nm,0.8s
WMQ Urumqi 19.60 321 *eP* **Pn 23 06 35.1 +1.9**
WMQ LR LR
comp=Z,370nm,15.7s
WMQ LR LR
comp=Z,260nm,14.5s
WMQ LR LR
comp=Z,110nm,18.1s
TJN Taejon 20.34 64 P **P 23 06 38.2 -1.7**
TJN Taejon 20.34 64 P **P 23 06 38.2 -1.7**
TJN pmax pmax
comp=Z,186nm,1.3s
ZAK Zakamensk 20.87 358 *eP* **P 23 06 45.8 +0.1**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
KSAR Wonju Array Be 21.00 62 P **P 23 06 46.3 -0.8**
KSAR Wonju Array Be 21.00 62 P **P 23 06 46.3 -0.8**
KS19 Wonju Array Si 21.01 62 P **P 23 06 46.4 -0.7**
KSRS Korea Array 21.04 62 P **P 23 06 46.2 -1.2**
comp=Z,12nm,0.8s,baz=245,slow=10.0,SNR=41
KSRS LR LR 23 15 42.2
comp=Z,167nm,18.4s,baz=245,slow=39
comp=Z,12nm,0.8s
KSRS Korea Array 21.04 62 *eP* **P 23 06 47.0 -0.4**
KSRS pmax pmax
comp=Z,12nm,0.8s
JOW Kunigami 21.11 91 LR LR 23 15 41.1
comp=Z,141nm,19.5s,baz=59,slow=39
SRIT Nakonsritamara 21.31 193 P **P 23 06 49.7 -0.8**
CN2 Changchun 21.95 44 *eP* **P 23 06 56.8 -0.4**
CN2 *eP*P **PnPn 23 07 22.6 +3.8**
CN2 *eS* **S 23 10 54.3 -5.3**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 LR LR
comp=Z,180nm,12.0s
CN2 LR LR
comp=Z,140nm,12.0s
MOY Mondy 22.29 354 *eP* **P 23 07 06.4 +5.4**
MOY pmax pmax
comp=Z,14nm,1.9s
IRK Irkutsk 22.72 360 *eP* **P 23 07 01.2 -4.1**
IRK *eS* **S 23 11 16.5 +2.7**
IRK pmax pmax
comp=Z,34nm,1.1s
JNU Nakatsue 22.79 74 P **P 23 07 06.8 +0.5**
JNU Nakatsue 22.79 74 P **P 23 07 05.4 -1.0**
JNU Nakatsue 22.79 74 LR LR 23 16 56.4
comp=Z,186nm,19.1s,baz=278,slow=39
HIA Hailar 22.90 26 P **P 23 07 09.0 +1.7**
HIA Hailar 22.90 26 P **P 23 07 06.3 -0.9**
HIA IAmb IAmb 23 07 09.2
comp=Z,20nm,1.0s
HIA Hailar 22.90 26*eP* **P 23 07 08.1 +0.8**
HIA pmax pmax
comp=Z,24nm,1.1s
JMZ Minamidaito 2 23.92 92 P **P 23 07 17.1 -0.5**
BNX BinXian 24.19 42 ⇑P **P 23 07 19.6 -0.4**
BNX pmax pmax
comp=Z,23nm,1.2s
MK31 Makanchi Array 24.43 321 **P 23 07 23.0 +0.7**
MK31 Makanchi Array 24.43 321 P **P 23 07 23.0 +0.7**
MK31 pmax pmax
comp=Z,15nm,1.4s
MKAR Makanchi Array 24.43 321 **P 23 07 22.4 +0.2**
MKAR Makanchi Array 24.43 321 P **P 23 07 22.1 -0.1**
comp=Z,4.2nm,0.5s,baz=117,slow=10,SNR=28
MKAR LR LR 23 17 41.8
comp=Z,188nm,19.1s,baz=236,slow=38
comp=Z,4.2nm,0.5s
MKAR Makanchi Array 24.43 321 *eP* **P 23 07 23.1 +0.8**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MAKZ Makanchi 24.61 321 P **P 23 07 24.1 +0.2**
MAKZ IAmb IAmb 23 07 27.5
comp=Z,27nm,1.4s
MAKZ Makanchi 24.61 321 P **P 23 07 24.1 +0.2**
MAKZ pmax pmax
comp=Z,27nm,1.4s
PRZ Przheval'sk 24.67 309 P **P 23 07 24.6 -0.1**
PRZ Przheval'sk 24.67 309 P **P 23 07 24.6 -0.1**
PRZ pmax pmax
comp=Z,38nm,0.7s
MDJ Mudanjiang 24.92 46 P **P 23 07 27.4 +0.7**
MDJ Mudanjiang 24.92 46 P **P 23 07 26.4 -0.3**
MDJ pmax pmax
comp=Z,14nm,1.3s
MDJ Mudanjiang 24.92 46 P **P 23 07 26.0 -0.7**
USA0B Ussuriysk Arra 26.27 49 P **P 23 07 37.9 -1.0**
USA0B IAmb IAmb 23 07 39.6
comp=Z,13nm,0.9s
USA0B Ussuriysk Arra 26.27 49 P **P 23 07 37.9 -1.0**
USA0B pmax pmax
comp=Z,13nm,0.9s
USRK Ussuriysk Ar. 26.27 49 P **P 23 07 37.4 -1.5**
USRK Ussuriysk Ar. 26.27 49 P **P 23 07 37.6 -1.3**
comp=Z,6.9nm,0.8s,baz=255,slow=5.7,SNR=10
comp=Z,6.9nm,0.8s
HEH HeiHe 26.98 33 *eP* **P 23 07 45.0 -0.2**
HEH pmax pmax
comp=Z,10.0nm,1.2s
HEH pmax pmax
comp=Z,170nm,6.7s
AAK Ala-Archa 27.42 307 LR LR 23 20 29.1
comp=Z,185nm,20.4s,baz=95,slow=40
INU Inuyama 27.97 69 P **P 23 07 53.1 -1.1**
INU IAmb IAmb 23 07 58.9
comp=Z,29nm,1.3s
ZAA0 Zalesovo Array 28.31 335 P **P 23 07 56.9 -0.3**
ZALV Zalesovo Beam 28.31 335 P **P 23 07 56.5 -0.6**
comp=Z,2.9nm,0.8s,baz=131,slow=8.1,SNR=8.9
comp=Z,2.9nm,0.8s
ZALV Zalesovo Beam 28.31 335 *eP* **P 23 07 57.3 +0.2**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
KLR Kul'dur 28.58 39 LR LR 23 20 45.1
comp=Z,113nm,18.2s,baz=117,slow=39
KLR Kul'dur 28.58 39*c iP* **P 23 07 58.9 -0.7**
KLR pmax pmax
comp=Z,9.0nm,1.1s
KURBB Kurchatov Arra 28.73 325 P **P 23 08 00.5 -0.4**
comp=Z,1.8nm,0.7s,baz=127,slow=9.8,SNR=25
KURBB LR LR 23 21 13.7
comp=Z,141nm,19.3s,baz=178,slow=40
comp=Z,1.8nm,0.7s
KURK Kurchatov 28.75 325 P **P 23 08 00.8 -0.1**
KURK Kurchatov 28.75 325⇑*iP* **P 23 08 01.0 0.0**
KURK pmax pmax
comp=Z,5.0nm,1.3s
MJAR Matsushiro Arr 29.00 67 P **P 23 08 01.8 -1.7**
comp=Z,1.7nm,0.3s,baz=266,slow=9.0,SNR=18
comp=Z,1.7nm,0.3s
MJA0 Matsu Arr-Jizo 29.04 67 *eP* **P 23 08 02.2 -1.6**
MJA0 pmax pmax
comp=Z,2.0nm,0.3s
ZEA Zeya 29.33 28 *eP* **P 23 08 07.8 +1.6**
DAV Davao City (W) 29.86 134 LR LR 23 19 50.7
comp=Z,97nm,19.3s,baz=352,slow=36
KK31 Karatay Array 30.36 306 P **P 23 08 15.4 0.0**
KK31 Karatay Array 30.36 306 P **P 23 08 15.4 0.0**
KKAR Karatay Array 30.36 306 P **P 23 08 15.2 -0.2**
KKAR Karatay Array 30.36 306 P **P 23 08 15.2 -0.2**
JCJ Chichijima 33.16 85 LR LR 23 23 14.1
comp=Z,50nm,18.0s,baz=108,slow=38
BVAR Borovoye Array 34.27 323 P **P 23 08 49.5 -0.1**
comp=Z,0.5nm,0.4s,baz=111,slow=8.1,SNR=4.5
BVAR LR LR 23 23 52.6
comp=Z,150nm,19.5s,baz=99,slow=38
comp=Z,0.5nm,0.4s
BRVK Borovoye 34.34 323⇑*eP* **P 23 08 52.6 +2.4**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
YAK Yakutsk 36.48 20⇓*eP* **P 23 09 08.3 -0.1**
YAK pmax pmax
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 39.01 313 P **P 23 09 25.9 -4.1**
SVE Sverdlovsk 41.00 324 *eP* **P 23 09 47.9 +1.5**
NRIK Noril'sk 41.06 351 P **P 23 09 47.1 +0.3**
NRIK Noril'sk 41.06 351 P **P 23 09 45.6 -1.1**
comp=Z,7.3nm,0.9s,baz=161,slow=4.6,SNR=8.0
comp=Z,7.3nm,0.9s
NRIK Noril'sk 41.06 351 P **P 23 09 47.1 +0.3**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
ARU Arti 41.92 323 P **P 23 09 54.3 +0.4**
ARU Arti 41.92 323 P **P 23 09 52.0 -2.0**
comp=Z,1.9nm,0.4s,baz=194,slow=4.8,SNR=5.8
ARU LR LR 23 28 33.8
comp=Z,131nm,19.1s,baz=33,slow=38
comp=Z,1.9nm,0.4s
ARU Arti 41.92 323*d iP* **P 23 09 54.6 +0.6**
ARU 23 11 30.9
ARU S **S 23 16 13.2 +1.1**
ARU SS **SS 23 19 18.7 +0.3**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU MLR MLR
comp=Z,123nm,18.0s
SEY Seymchan 45.31 29⇓*eP* **P 23 10 20.1 -1.1**
SEY pmax pmax
comp=Z,5.0nm,1.4s
KIV Kislovodsk 50.49 304 P **P 23 11 02.2 +0.4**
KIV IAmb IAmb 23 11 36.4
comp=Z,9.7nm,0.7s
KIV Kislovodsk 50.49 304 *eP* **P 23 11 03.2 +1.4**
KIV pmax pmax
comp=Z,7.0nm,1.1s
BILL Bilibino 52.47 25*deP* **P 23 11 15.8 -0.3**
BILL *e* 23 12 27.1
BILL *e* 23 13 16.7
BILL pmax pmax
comp=Z,12nm,1.7s
OBN Obninsk 53.91 319 LR LR 23 35 40.5
comp=Z,86nm,18.3s,baz=0.5,slow=37
OBN Obninsk 53.91 319 *eP* **P 23 11 25.6 -1.2**
OBN *e* 23 13 29.1
OBN *e*PPP PPP 23 14 35.9
OBN pmax pmax
comp=Z,3.0nm,0.8s
WB0 Warramunga Arr 56.83 146 P **P 23 11 47.3 -1.0**
WB0 IAmb IAmb 23 11 48.6
comp=Z,11nm,1.1s
WRAB Tennant Creek 56.95 146 P **P 23 11 48.9 -0.3**
WRAB IAmb IAmb 23 11 49.7
comp=Z,7.2nm,1.1s
WRAB Tennant Creek 56.95 146 P **P 23 11 48.9 -0.3**
WRAB pmax pmax
comp=Z,7.0nm,1.1s
WRA Warramunga Arr 56.95 146 P **P 23 11 48.7 -0.5**
WRA Warramunga Arr 56.95 146 P **P 23 11 47.4 -1.8**
comp=Z,3.6nm,0.9s,baz=337,slow=8.2,SNR=20
comp=Z,3.6nm,0.9s
WRA Warramunga Arr 56.95 146 *eP* **P 23 11 48.6 -0.6**
WRA pmax pmax
comp=Z,4.0nm,0.9s
WB2 Warramunga Arr 56.96 146 P **P 23 11 48.9 -0.3**
WB2 IAmb IAmb 23 11 51.4
comp=Z,10.0nm,1.1s
WR0 Warramunga Arr 57.06 146 P **P 23 11 49.8 -0.2**
WR0 IAmb IAmb 23 12 30.1
comp=Z,12nm,1.4s
BR131 Keskin Array S 57.85 301⇑*eP* **P 23 11 57.4 +1.8**
BRTR Keskin Array B 57.85 301 P **P 23 11 54.6 -0.9**
comp=Z,1.1nm,0.8s,baz=104,slow=5.3,SNR=8.3
comp=Z,1.1nm,0.8s
BRTR Keskin Array B 57.85 301 *eP* **P 23 11 55.8 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 58.74 314 P **P 23 11 59.5 -1.9**
comp=Z,0.5nm,0.4s,baz=69,slow=7.0,SNR=3.4
comp=Z,0.5nm,0.4s
AKASG Malin Array Be 58.74 314 *eP* **P 23 12 04.1 +2.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 58.74 314⇑*eP* **P 23 12 03.4 +2.0**
AKBB pmax pmax
comp=Z,6.0nm,1.3s
ARCES ARCESS Array B 58.86 336 P **P 23 12 01.8 -0.2**
comp=Z,2.4nm,0.9s,baz=46,slow=5.2,SNR=3.4
comp=Z,2.4nm,0.9s
FINES FINESS Array B 59.09 327 P **P 23 12 02.9 -0.8**
comp=Z,1.9nm,0.8s,baz=101,slow=7.9,SNR=8.0
comp=Z,1.9nm,0.8s
FINES FINESS Array B 59.09 327 *eP* **P 23 12 06.2 +2.5**
FINES pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 59.95 149 P **P 23 12 08.8 -1.2**
comp=Z,1.4nm,0.5s,baz=327,slow=6.5,SNR=15
comp=Z,1.4nm,0.5s
TNA Tin City 62.55 28 P **P 23 12 26.3 -0.8**
baz=281
C16K Lisburne Hills 63.00 25 P **P 23 12 30.4 +0.3**
baz=282
KWP Kalwaria Pacla 63.06 314 P **P 23 12 30.6 -0.3**
KWP IAmb IAmb 23 12 33.6
comp=Z,8.7nm,1.0s
KWP Kalwaria Pacla 63.06 314 P **P 23 12 30.6 -0.3**
KWP pmax pmax
comp=Z,9.0nm,1.0s
F14K Arctic Creek 63.22 28 P **P 23 12 31.1 -0.5**
baz=282
C17K DeLong Mountai 63.74 24 P **P 23 12 33.9 -1.1**
baz=284
P08K Saint George I 63.74 38 P **P 23 12 34.6 -0.6**
baz=284
ANM Nome 63.82 29 P **P 23 12 35.0 -0.6**
baz=284
F15K North Star Dit 63.84 27 P **P 23 12 35.0 -0.7**
baz=284
D17K Noatak River 63.96 25 P **P 23 12 35.4 -1.1**
baz=284
B18K Kokolik River 64.00 23 P **P 23 12 36.1 -0.6**
baz=285
A19K Wainwright 64.03 22 P **P 23 12 35.5 -1.4**
baz=285
G15K Niukluk 64.27 28 P **P 23 12 36.3 -2.2**
baz=285
C18K Utukok River 64.40 24 P **P 23 12 37.2 -2.3**
baz=285
M11K Mekoryuk 64.49 33 P **P 23 12 39.3 -0.7**
baz=285
E17K Hotham Inlet 64.59 26 P **P 23 12 40.8 +0.2**
baz=286,SNR=6.2
K13K Kusilvak Mount 64.80 32 P **P 23 12 42.1 0.0**
baz=286
C19K Lookout Ridge 64.83 23 P **P 23 12 41.5 -0.7**
baz=287
G16K Koyuk River 64.85 28 P **P 23 12 42.7 +0.5**
G16K Koyuk River 64.85 28 P **P 23 12 41.6 -0.7**
baz=286
E18K Tukpahlearik C 64.95 25 P **P 23 12 41.9 -1.1**
baz=286
F17K Baldwin Pennin 64.99 26 P **P 23 12 43.7 +0.5**
F17K Baldwin Pennin 64.99 26 P **P 23 12 41.6 -1.6**
baz=286
J14K Nanvaranak Lak 65.07 30 P **P 23 12 42.4 -1.4**
baz=286
NIKH Nikolski High 65.09 42 P **P 23 12 43.8 -0.3**
baz=286
HFS Hagfors 65.29 327 P **P 23 12 44.8 -0.5**
comp=Z,1.6nm,0.5s,baz=91,slow=5.9,SNR=14
comp=Z,1.6nm,0.5s
B20K Meade River 65.37 22 P **P 23 12 45.1 -0.5**
baz=288
G17K Kiwalik Mounta 65.50 27 P **P 23 12 45.5 -1.0**
baz=287
D19K Kuna River 65.53 24 P **P 23 12 46.5 -0.3**
D19K Kuna River 65.53 24 P **P 23 12 45.5 -1.3**
baz=288,SNR=6.7
F18K Selawik 65.55 26 P **P 23 12 45.3 -1.6**
baz=288
A22K Sinclair Lake 65.74 21 P **P 23 12 47.6 -0.4**
baz=290
VYHS Vyhne 65.82 313 *eP* **P 23 12 50.5 +1.5**
VYHS Vyhne 65.82 313 *eP* **P 23 12 50.5 +1.5**
M13K Dall Lake 65.84 33 P **P 23 12 48.1 -0.7**
baz=287
L14K Kuka Creek 65.87 32 P **P 23 12 48.8 -0.1**
L14K Kuka Creek 65.87 32 P **P 23 12 48.9 -0.1**
baz=287
HNR Honiara 65.91 117 LR LR 23 41 33.9
comp=Z,861nm,18.2s,baz=207,slow=36
H17K Granite Mounta 65.97 28 P **P 23 12 49.5 -0.1**
H17K IAmb IAmb 23 12 50.8
comp=Z,5.5nm,1.0s
H17K Granite Mounta 65.97 28 P **P 23 12 49.5 -0.1**
baz=288
I17K Unalakleet 65.97 29 P **P 23 12 49.1 -0.5**
baz=288
D20K Etivluk River 65.98 23 P **P 23 12 49.1 -0.6**
baz=289,SNR=7.0
K15K Wolf Creek Mou 66.10 31 P **P 23 12 49.9 -0.6**
baz=288
G18K Tagagawik 66.16 26 P **P 23 12 50.7 -0.2**
baz=289
E19K Redstone River 66.18 25 P **P 23 12 50.5 -0.4**
E19K IAmb IAmb 23 12 51.8
comp=Z,5.2nm,1.0s
E19K Redstone River 66.18 25 P **P 23 12 50.6 -0.4**
baz=289
F19K Shaleruckik Mo 66.19 25 P **P 23 12 50.4 -0.5**
F19K IAmb IAmb 23 12 51.4
comp=Z,7.6nm,1.0s
F19K Shaleruckik Mo 66.19 25 P **P 23 12 50.8 -0.1**
baz=289,SNR=6.1
NB2 NORSAR Subarra 66.19 328 P **P 23 12 50.0 -1.2**
comp=Z,1.0nm,0.7s,baz=74,slow=6.9
NOA NORSAR Array B 66.19 328 P **P 23 12 50.2 -1.0**
comp=Z,0.9nm,0.8s,baz=73,slow=6.7,SNR=4.6
comp=Z,0.9nm,0.8s
NOA NORSAR Array B 66.19 328 *eP* **P 23 12 54.0 +2.8**
NOA pmax pmax
comp=Z,1.0nm,0.5s
J16K Anvik River 66.20 29 P **P 23 12 51.1 0.0**
baz=288
E20K Nigu River 66.28 24 P **P 23 12 51.7 +0.1**
baz=290,SNR=6.1
L15K Ungalak Mounta 66.31 31 P **P 23 12 51.9 0.0**
baz=288
B21K Ikpikpuk River 66.34 22 P **P 23 12 52.0 +0.1**
baz=291
M14K Bethel 66.39 32 P **P 23 12 51.3 -1.0**
baz=288
C21K Knifeblade Rid 66.45 23 P **P 23 12 52.0 -0.6**
baz=291
H18K Honhosa River 66.52 27 P **P 23 12 52.9 -0.3**
H18K IAmb IAmb 23 12 54.9
comp=Z,12nm,1.3s
H18K Honhosa River 66.52 27 P **P 23 12 53.0 -0.2**
baz=289
G19K Purcell Mounta 66.68 26 P **P 23 12 54.0 -0.1**
G19K IAmb IAmb 23 12 54.9
comp=Z,6.4nm,1.1s
G19K Purcell Mounta 66.68 26 P **P 23 12 53.8 -0.3**
baz=290
N14K Kuskokwak Cree 66.78 33 P **P 23 12 53.4 -1.5**
baz=289
J17K VABM Dome 66.81 29 P **P 23 12 55.0 0.0**
baz=290
F20K Avaraart Lake 66.87 25 P **P 23 12 54.9 -0.4**
F20K IAmb IAmb 23 12 56.0
comp=Z,6.2nm,1.1s
F20K Avaraart Lake 66.87 25 P **P 23 12 55.5 +0.2**
baz=291,SNR=6.2
E21K Killik River 66.98 23 P **P 23 12 55.9 -0.2**
E21K IAmb IAmb 23 12 56.9
comp=Z,6.6nm,0.9s

E21K	Killik River	66.98	23	P	P	23 12 55.5	-0.6
	baz=292						
M15K	Kasigluk River	67.00	32	P	P	23 12 55.9	-0.3
	baz=289						
H19K	Roundabout Mou	67.14	27	P	P	23 12 56.0	-1.1
H19K	Roundabout Mou	67.14	27	P	P	23 12 56.5	-0.6
	baz=291,SNR=14						
O14K	Tigyukauivet M	67.21	34	P	P	23 12 56.9	-0.6
	baz=289						
L16K	Owhat River	67.21	31	P	P	23 12 57.6	0.0
	baz=290						
D22K	Ayikyak River	67.25	23	P	P	23 12 57.9	+0.1
D22K	Ayikyak River	67.25	23	P	P	23 12 58.2	+0.5
	baz=293,SNR=5.2						
GCSA	Galena City Sc	67.25	27	P	P	23 12 58.2	+0.4
	baz=291						
K17K	Iditarod	67.38	30	P	P	23 12 58.8	+0.1
K17K	Iditarod	67.38	30	P	P	23 12 58.3	-0.3
	baz=290,SNR=5.2						
C23K	Itkillik River	67.54	21	P	P	23 12 59.8	+0.3
C23K	Itkillik River	67.54	21	P	P	23 13 00.0	+0.5
	baz=294,SNR=7.3						
L17K	Donlin	67.59	30	P	P	23 12 59.9	0.0
	baz=291						
F21K	Alatna River	67.62	24	P	P	23 12 59.8	-0.3
F21K				IAmb	IAmb	23 13 01.0	
	comp=Z,7.8nm,1.1s						
F21K	Alatna River	67.62	24	P	P	23 13 00.5	+0.3
	baz=293,SNR=6.1						
M16K	Timber Creek	67.68	32	P	P	23 13 00.2	-0.4
	baz=291						
RONA	Rosalia, Austr	67.69	313	*e*P	P	23 12 59.4	-1.5
	comp=Z,2.6nm,0.6s						
H20K	Anotleneega Mo	67.76	26	P	P	23 13 01.0	0.0
	baz=292,SNR=7.2						
J18K	Innoko River	67.78	29	P	P	23 13 00.6	-0.6
J18K				IAmb	IAmb	23 13 02.0	
	comp=Z,5.6nm,0.9s						
J18K	Innoko River	67.78	29	P	P	23 13 01.2	0.0
	baz=292,SNR=6.6						
D23K	Nanushuk River	67.88	22	P	P	23 13 01.9	+0.2
	baz=294						
G21K	Allakaket	67.89	25	P	P	23 13 01.4	-0.4
G21K				IAmb	IAmb	23 13 02.6	
	comp=Z,7.4nm,0.9s						
G21K	Allakaket	67.89	25	P	P	23 13 02.0	+0.2
	baz=293,SNR=6.4						
O15K	Ungalikthiuk R	67.93	34	P	P	23 13 01.5	-0.7
	baz=291						
N16K	Nishlik Lake	67.97	32	P	P	23 13 02.9	+0.5
	baz=291						
F22K	John River	67.97	24	P	P	23 13 01.9	-0.5
	baz=294						
IMAR	Indian Mountai	68.01	26	P	P	23 13 01.8	-0.7
J19K	Poorman	68.04	28	P	P	23 13 01.3	-1.5
	baz=292						
C24K	Franklin Bluff	68.19	21	P	P	23 13 04.3	+0.6
	baz=296						
M17K	Holitna River	68.23	31	P	P	23 13 04.5	+0.5
M17K	Holitna River	68.23	31	P	P	23 13 03.4	-0.7
	baz=292						
L18K	Granite Mounta	68.26	30	P	P	23 13 02.8	-1.4
	baz=292						
TTA	Tatalina	68.28	29	P	P	23 13 04.5	+0.1
	baz=292						
ARSA	Arzberg	68.34	313	*e*pP	pP	23 13 07.7	-0.7
	comp=Z,1.4nm,0.7s						
TOLK	Toolik Lake Re	68.38	22	P	P	23 13 04.3	-0.6
TOLK	Toolik Lake Re	68.38	22	P	P	23 13 04.7	-0.2
	baz=296,SNR=6.4						
D24K	Happy Valley	68.40	22	P	P	23 13 04.9	-0.1
D24K	Happy Valley	68.40	22	P	P	23 13 05.0	+0.1
	baz=296						
G22K	Bettles	68.45	24	P	P	23 13 05.0	-0.3
	baz=295						
CLL	Collm	68.47	318	*e*P	P	23 13 09.0	+3.3
CLL				pmax	pmax		
	comp=Z,6.0nm,1.3s						
H21K	Melozitna Rive	68.49	26	P	P	23 13 05.0	-0.6
H21K	Melozitna Rive	68.49	26	P	P	23 13 05.7	+0.1
	baz=294,SNR=7.1						
J20K	Nowinta River	68.56	27	P	P	23 13 05.9	-0.2
J20K				IAmb	IAmb	23 13 07.4	
	comp=Z,6.2nm,0.9s						
J20K	Nowinta River	68.56	27	P	P	23 13 06.2	+0.1
	baz=293,SNR=5.7						
O16K	Kokwok River B	68.60	33	P	P	23 13 06.5	+0.2
O16K	Kokwok River B	68.60	33	P	P	23 13 06.5	+0.2
	baz=292						
E23K	Chandalar	68.62	23	P	P	23 13 06.7	+0.2
	baz=296,SNR=6.0						
N17K	Nushagak Hills	68.67	32	P	P	23 13 07.0	+0.2
	baz=292						
COLD	Coldfoot	68.78	24	P	P	23 13 06.9	-0.5
	baz=296,SNR=5.2						
SOKA	Soboth	68.85	312	*i* pP	P	23 13 09.1	+0.9
	comp=Z,3.2nm,1.2s						
M18K	Stony River	68.92	30	P	P	23 13 08.8	+0.5
	baz=293						
GERES	GERESS Array B	68.92	315	P	P	23 13 08.0	-0.7
GERES	GERESS Array B	68.92	315	P	P	23 13 08.8	+0.1
	comp=Z,0.6nm,0.8s,baz=28,slow=6.0,SNR=5.7						
	comp=Z,0.6nm,0.8s						
GERES	GERESS Array B	68.92	315	*e*P	P	23 13 09.7	+1.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MOA	Molln	68.92	314	*e*pP	pP	23 13 10.6	-1.5
	comp=Z,3.9nm,1.6s						
K20K	Telida	68.92	28	P	P	23 13 08.7	+0.4
	baz=294						
H22K	Ishtalitna Cre	68.93	25	P	P	23 13 09.1	+0.7
	baz=295						
E24K	Your Creek	69.00	23	P	P	23 13 08.3	-0.5
E24K				IAmb	IAmb	23 13 10.0	
	comp=Z,8.4nm,0.9s						
E24K	Your Creek	69.00	23	P	P	23 13 09.1	+0.3
	baz=297,SNR=10						
O17K	Koliganek Bris	69.00	32	P	P	23 13 09.6	+0.7
	baz=292						
L19K	White Mountain	69.07	30	P	P	23 13 09.6	+0.3
L19K				IAmb	IAmb	23 13 10.9	
	comp=Z,6.4nm,1.0s						
L19K	White Mountain	69.07	30	P	P	23 13 09.6	+0.3
	baz=294						
G23K	Bananza Creek	69.07	24	P	P	23 13 08.6	-0.6
G23K				IAmb	IAmb	23 13 10.3	
	comp=Z,5.2nm,1.0s						
G23K	Bananza Creek	69.07	24	P	P	23 13 09.7	+0.5
	baz=296,SNR=5.8						
D25K	Kavik River	69.10	21	P	P	23 13 08.7	-0.7
D25K				IAmb	IAmb	23 13 10.5	
	comp=Z,7.1nm,1.0s						
D25K	Kavik River	69.10	21	P	P	23 13 09.8	+0.3
	baz=298,SNR=6.0						
N18K	Kilae Creek	69.20	31	P	P	23 13 10.6	+0.5
	baz=293						
C26K	Camden Bay	69.27	20	P	P	23 13 11.1	+0.8
	baz=299						
L20K	Farewell, AK	69.36	29	P	P	23 13 12.1	+1.0
	baz=294						
BIOA	Bad Ischl, Aus	69.38	314	*e*P	P	23 13 11.6	+0.2
	comp=Z,2.1nm,0.8s						
M19K	Big River Lodg	69.38	30	P	P	23 13 11.8	+0.7
	baz=294						
P17K	Kvichak River	69.54	33	P	P	23 13 12.9	+0.7
	baz=293						
MLY	Manley	69.54	26	P	P	23 13 11.2	-1.0
MLY				IAmb	IAmb	23 13 13.4	
	comp=Z,6.4nm,1.0s						
MLY	Manley	69.54	26	P	P	23 13 12.5	+0.3
	baz=296,SNR=8.8						
H23K	Yukon River	69.64	25	P	P	23 13 12.3	-0.5
H23K				IAmb	IAmb	23 13 15.0	
	comp=Z,12nm,1.4s						
H23K	Yukon River	69.64	25	P	P	23 13 13.4	+0.7
	baz=297,SNR=6.6						
CHGN	Chignik	69.70	36	P	P	23 13 13.1	-0.1
	baz=293						
C27K	Jago River	69.77	20	P	P	23 13 13.9	+0.5
	baz=300,SNR=17						
N19K	Bonanza Creek	69.78	31	P	P	23 13 13.3	-0.5
N19K				IAmb	IAmb	23 13 15.5	
	comp=Z,8.4nm,0.9s						
N19K	Bonanza Creek	69.78	31	P	P	23 13 13.9	+0.1
	baz=294						
KBA	KoeInbreinsper	69.79	313	*e*pP	pP	23 13 16.2	-1.4
	comp=Z,1.9nm,0.5s						
O18K	Koktuh Hills	69.85	32	P	P	23 13 14.2	+0.1
	baz=294						
BPAW	Bear Paw Mtn.	69.86	27	P	P	23 13 14.2	+0.1
BPAW				IAmb	IAmb	23 13 15.2	
	comp=Z,7.5nm,1.0s						
BPAW	Bear Paw Mtn.	69.86	27	P	P	23 13 14.2	+0.1
	baz=296,SNR=9.3						
M20K	Styx River	69.93	30	P	P	23 13 15.1	+0.4
M20K	Styx River	69.93	30	P	P	23 13 14.6	0.0
	baz=295						
G24K	Hadweenzic Riv	69.98	24	P	P	23 13 14.6	-0.2
G24K				IAmb	IAmb	23 13 19.5	
	comp=Z,6.5nm,1.1s						
G24K	Hadweenzic Riv	69.98	24	P	P	23 13 14.3	-0.5
	baz=298,SNR=5.5						
P18K	Big Mountain,	70.03	32	P	P	23 13 14.5	-0.7
	baz=294						
LESA	Schwarzleotal	70.08	314	*i* P	P	23 13 15.9	0.0
	comp=Z,2.6nm,0.9s						
F25K	Christian Rive	70.18	23	P	P	23 13 15.5	-0.5
	baz=299,SNR=6.4						
H24K	Noodor Dome	70.24	25	P	P	23 13 16.5	0.0
H24K				IAmb	IAmb	23 13 17.8	
	comp=Z,6.0nm,1.1s						
H24K	Noodor Dome	70.24	25	P	P	23 13 15.9	-0.6
	baz=298,SNR=5.6						
NEA2	Nenana	70.38	26	P	P	23 13 17.3	0.0
NEA2	Nenana	70.38	26	P	P	23 13 16.0	-1.3
	baz=297,SNR=10						
G25K	Bearman Lake	70.43	23	P	P	23 13 16.9	-0.6
	baz=299						
MDM	Murphy Dome	70.53	26	P	P	23 13 18.3	0.0
SKT	Skwentna	70.57	29	P	P	23 13 18.5	0.0
SKT				IAmb	IAmb	23 13 19.7	
	comp=Z,7.4nm,1.0s						
SKT	Skwentna	70.57	29	P	P	23 13 17.8	-0.7
	baz=296,SNR=5.1						
BMAR	Burnt Mountain	70.61	22	P	P	23 13 18.4	-0.3
F26K	Sheenjek River	70.62	22	P	P	23 13 18.9	+0.1
	baz=301						
POKR	Poker Plat Res	70.75	25	P	P	23 13 18.6	-1.0
	baz=299						
H25L	Birch Creek	70.77	24	P	P	23 13 18.3	-1.3
	baz=300						
D27M	Malcolm River	70.80	20	P	P	23 13 19.9	0.0
D27M				IAmb	IAmb	23 13 21.2	
	comp=Z,5.4nm,1.0s						
D27M	Malcolm River	70.80	20	P	P	23 13 19.6	-0.3
	baz=303						
WRH	Wood River Hil	70.81	26	P	P	23 13 19.6	-0.3
MCK	McKinley	70.83	27	P	P	23 13 20.4	+0.3
	baz=298						
CCB	Clear Creek Bu	70.84	26	P	P	23 13 19.0	-1.1
Q19K	Cape Douglas,	70.96	32	P	P	23 13 20.7	-0.3
	baz=296						
SQTA	Sankt Quirin	71.08	314	*e*pP	P	23 13 23.1	+1.1
	comp=Z,2.6nm,0.8s						
ILAR	Eielson Array	71.12	25	P	P	23 13 20.1	-1.6
	comp=Z,2.0nm,0.9s,baz=285,slow=4.9,SNR=15						
	comp=Z,2.0nm,0.9s						
ILAR	Eielson Array	71.12	25	*e*P	P	23 13 20.7	-1.1
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
G26K	Porcupine Rive	71.13	23	P	P	23 13 22.1	+0.4
	baz=301						
IL03	Eielson Array	71.14	25	P	P	23 13 20.6	-1.3
SUA	Susitna One	71.14	29	P	P	23 13 21.4	-0.7
SUA	Susitna One	71.14	29	P	P	23 13 21.7	-0.3
	baz=297,SNR=8.3						
R18K	Karluk	71.16	34	P	P	23 13 22.4	+0.3
	baz=295						
E27K	Coleen River	71.18	21	P	P	23 13 21.9	-0.2
E27K				IAmb	IAmb	23 13 25.1	
	comp=Z,5.5nm,1.1s						
E27K	Coleen River	71.18	21	P	P	23 13 20.7	-1.4
	baz=303						
PRP	Porcupine Dome	71.25	24	P	P	23 13 22.5	-0.3
PRP	Porcupine Dome	71.25	24	P	P	23 13 22.2	-0.5
	baz=300,SNR=23						
M22K	Willow	71.27	29	P	P	23 13 22.7	0.0
	baz=297						
WAT1	Susitna Watana	71.41	28	P	P	23 13 23.0	-0.7
	baz=298						
FETA	Feichten	71.46	314	*e*pP	pP	23 13 27.9	0.0
	comp=Z,2.5nm,1.1s						
HOM	Homer	71.56	31	P	P	23 13 23.9	-0.6
	baz=297						
E28M	Babbage River	71.59	20	P	P	23 13 24.5	0.0
E28M				IAmb	IAmb	23 13 25.8	
	comp=Z,5.4nm,1.0s						
E28M	Babbage River	71.59	20	P	P	23 13 24.7	+0.1
	baz=304,SNR=5.9						
RC01	Rabbit Creek A	71.74	30	P	P	23 13 24.6	-1.0
RC01				IAmb	IAmb	23 13 25.9	
	comp=Z,6.9nm,1.1s						
RC01	Rabbit Creek A	71.74	30	P	P	23 13 25.0	-0.6
	baz=298						
PMR	Palmer	71.76	29	P	P	23 13 25.4	-0.3
PMR	Palmer	71.76	29	P	P	23 13 25.6	0.0
	baz=298						
PMR	Palmer	71.76	29	P	P	23 13 25.4	-0.3
PMR				pmax	pmax		
	comp=Z,11nm,0.8s						
GHO	Glory Hole Cre	71.76	29	P	P	23 13 25.3	-0.5
GHO				IAmb	IAmb	23 13 26.5	
	comp=Z,9.3nm,1.3s						
DHY	Denali Highway	71.76	27	P	P	23 13 25.1	-0.8
	baz=299						
J25K	Salcha River,	71.77	25	P	P	23 13 24.8	-1.0
J25K	Salcha River,	71.77	25	P	P	23 13 24.5	-1.3
	baz=300						
WAT6	Susitna Watana	71.86	28	P	P	23 13 26.4	-0.1
	baz=299						
OHAK	Old Harbor	71.88	34	P	P	23 13 26.8	+0.3
	baz=296						
G27K	Doyon Strip	71.91	22	P	P	23 13 26.9	+0.3
G27K	Doyon Strip	71.91	22	P	P	23 13 26.6	+0.1
	baz=303,SNR=6.9						
KDAK	Kodiak Island	71.97	33	P	P	23 13 26.8	-0.2
	baz=297						
SML	Sawmill	71.99	28	P	P	23 13 26.9	-0.2
SML	Sawmill	71.99	28	P	P	23 13 26.6	-0.6
	baz=299,SNR=8.2						
SML	Sawmill	71.99	28	P	P	23 13 26.0	-1.2
SML				pmax	pmax		
	comp=Z,14nm,0.9s						
K24K	Donnelly Dome	72.02	26	P	P	23 13 26.9	-0.5
	baz=300,SNR=6.2						
F28M	Old Crow	72.04	21	P	P	23 13 26.8	-0.5
F28M	Old Crow	72.04	21	P	P	23 13 28.0	+0.7
	baz=304						
KNK	Knik Glacier	72.13	29	P	P	23 13 27.6	-0.3
KNK				IAmb	IAmb	23 13 28.7	
	comp=Z,7.2nm,0.8s						
KNK	Knik Glacier	72.13	29	P	P	23 13 28.6	+0.6
	baz=299						
E29M	Blow River	72.21	20	P	P	23 13 28.0	-0.3
E29M				IAmb	IAmb	23 13 29.6	
	comp=Z,8.1nm,1.0s						
E29M	Blow River	72.21	20	P	P	23 13 28.2	0.0
	baz=306,SNR=8.0						
I26K	Coal Creek Min	72.21	24	P	P	23 13 27.6	-0.7
I26K				IAmb	IAmb	23 13 29.1	
	comp=Z,6.9nm,0.9s						
I26K	Coal Creek Min	72.21	24	P	P	23 13 28.1	-0.2
	baz=302						
M23K	Glacier View	72.25	28	P	P	23 13 28.9	+0.3
	baz=299						
H27K	Steamboat Moun	72.27	23	P	P	23 13 29.2	+0.5
	baz=303,SNR=13						
SEW	Seward	72.33	30	P	P	23 13 28.5	-0.7
	baz=298						
SCM	Sheep Creek Mo	72.40	28	P	P	23 13 29.2	-0.4
SCM				IAmb	IAmb	23 13 30.5	
	comp=Z,11nm,1.1s						
SCM	Sheep Creek Mo	72.40	28	P	P	23 13 29.4	-0.2
	baz=300						
SCM	Sheep Creek Mo	72.40	28	P	P	23 13 29.2	-0.4
SCM				pmax	pmax		
	comp=Z,11nm,1.1s						
PWL	Port Wells	72.45	29	P	P	23 13 28.9	-1.0
PWL				IAmb	IAmb	23 13 30.4	
	comp=Z,9.3nm,1.0s						
PWL	Port Wells	72.45	29	P	P	23 13 29.6	-0.3
	baz=299						
J26L	Joseph Creek	72.49	25	P	P	23 13 29.2	-1.0
J26L	Joseph Creek	72.49	25	P	P	23 13 29.4	-0.8
	baz=302,SNR=23						
PAX	Paxson	72.57	27	P	P	23 13 30.5	-0.2
	baz=301						
I27K	Kandik River	72.59	23	P	P	23 13 29.5	-1.2
	baz=303,SNR=7.7						
SCRK	Sand Creek	72.61	25	P	P	23 13 30.0	-0.9
SCRK				IAmb	IAmb	23 13 31.3	
	comp=Z,6.6nm,1.0s						
SCRK	Sand Creek	72.61	25	P	P	23 13 30.3	-0.6
	baz=302,SNR=10.0						
M24K	Tolsona, Glenn	72.73	28	P	P	23 13 31.8	+0.2
M24K	Tolsona, Glenn	72.73	28	P	P	23 13 32.0	+0.4
	baz=300						
GLI	Glacier Island	72.97	29	P	P	23 13 33.6	+0.7
GLI				IAmb	IAmb	23 13 37.0	
	comp=Z,5.3nm,0.8s						
GLI	Glacier Island	72.97	29	P	P	23 13 32.5	-0.4
	baz=300						
HARP	HAARP	72.99	27	P	P	23 13 32.5	-0.6
	baz=301						
G29M	Pine Creek	73.04	21	P	P	23 13 32.8	-0.5
G29M	Pine Creek	73.04	21	P	P	23 13 33.4	+0.1
	baz=306						
OPO	Ambohidratompo	73.07	237	LR	LR	23 44 51.4	
	comp=Z,40nm,18.2s,baz=182,slow=35						
A36M	Sachs Harbour	73.11	14	P	P	23 13 33.5	-0.1
A36M				IAmb	IAmb	23 13 37.9	
	comp=Z,5.9nm,0.8s						
A36M	Sachs Harbour	73.11	14	P	P	23 13 33.4	-0.1
	baz=316						
KLU	Klutina	73.15	28	P	P	23 13 33.7	-0.4
KLU	Klutina	73.15	28	P	P	23 13 33.9	-0.2
	baz=301,SNR=6.8						
EGAK	Eagle	73.21	24	P	P	23 13 33.7	-0.6
	baz=304						
I28M	Miner Creek	73.26	23	P	P	23 13 34.3	-0.4
I28M				IAmb	IAmb	23 13 35.7	
	comp=Z,5.0nm,0.9s						
I28M	Miner Creek	73.26	23	P	P	23 13 35.1	+0.4
	baz=305,SNR=6.4						
P23K	Montague Islan	73.28	30	P	P	23 13 35.1	+0.3
	baz=300						
K27K	Chicken	73.29	25	P	P	23 13 34.6	-0.2
K27K				IAmb	IAmb	23 13 36.1	
	comp=Z,7.8nm,0.9s						
K27K	Chicken	73.29	25	P	P	23 13 35.1	+0.3
	baz=303						
FID	Port Fidalgo	73.30	29	P	P	23 13 34.5	-0.4
FID				IAmb	IAmb	23 13 35.6	
	comp=Z,8.4nm,1.0s						
F30M	Barrier River	73.31	20	P	P	23 13 35.7	+0.9
	baz=308						
H29M	Whitestone	73.33	22	P	P	23 13 34.6	-0.4
	baz=306						
INK	Inuvik	73.54	19	P	P	23 13 35.3	-0.8
INK				IAmb	IAmb	23 13 36.8	
	comp=Z,7.9nm,0.9s						
INK	Inuvik	73.54	19	P	P	23 13 35.5	-0.6
	baz=310,SNR=6.3						
INK	Inuvik	73.54	19	P	P	23 13 35.3	-0.8
INK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
G30M	tAoh Zraii Nji	73.56	21	P	P	23 13 35.5	-0.9
G30M				IAmb	IAmb	23 13 40.0	
	comp=Z,13nm,1.1s						
G30M	tAoh Zraii Nji	73.56	21	P	P	23 13 35.1	-1.3
	baz=308,SNR=11						
N25K	Chitina, Valde	73.63	28	P	P	23 13 36.6	-0.3
N25K				IAmb	IAmb	23 13 38.4	
	comp=Z,6.8nm,0.9s						
N25K	Chitina, Valde	73.63	28	P	P	23 13 35.5	-1.4
	baz=302,SNR=8.0						
EYAK	Cordova Ski Ar	73.71	29	P	P	23 13 35.8	-1.4
	baz=301						
EPYK	Eagle Plains	73.78	22	P	P	23 13 36.8	-0.9
	baz=307						
M26K	Nabesna, AK	73.84	27	P	P	23 13 37.6	-0.5
M26K				IAmb	IAmb	23 13 40.0	
	comp=Z,9.4nm,1.4s						
M26K	Nabesna, AK	73.84	27	P	P	23 13 37.2	-0.9
	baz=303,SNR=5.7						
I29M	Ogilvie Camp,	73.86	23	P	P	23 13 37.7	-0.4
	baz=306						
L27K	Beaver Creek,	73.92	26	P	P	23 13 38.7	+0.1
L27K				IAmb	IAmb	23 13 40.1	
	comp=Z,8.3nm,1.1s						
L27K	Beaver Creek,	73.92	26	P	P	23 13 37.7	-0.9
	baz=304,SNR=12						
BCAR	Beaver Creek A	73.94	26	P	P	23 13 38.5	-0.2
BMRM	Bremner River	73.97	28	P	P	23 13 38.1	-0.8
	baz=302,SNR=5.7						
F31M	Tsiigehtchic	74.03	20	P	P	23 13 38.5	-0.5
F31M	Tsiigehtchic	74.03	20	P	P	23 13 38.6	-0.5
	baz=310						
Q23K	Middleton Isla	74.03	30	P	P	23 13 39.0	-0.2
	baz=301						
GLB	Gilahina Butte	74.04	28	P	P	23 13 38.8	-0.5
GLB				IAmb	IAmb	23 13 40.3	
	comp=Z,6.2nm,0.9s						
G31M	Satah River	74.20	21	P	P	23 13 39.3	-0.8
G31M	Satah River	74.20	21	P	P	23 13 39.9	-0.2
	baz=309						
DAWY	Dawson	74.25	24	P	P	23 13 39.8	-0.6
DAWY	Dawson	74.25	24	P	P	23 13 40.3	-0.1
	baz=306						
RAGM	Ragged Mountai	74.25	29	P	P	23 13 40.7	+0.2
RAGM				IAmb	IAmb	23 13 48.2	
	comp=Z,9.4nm,1.2s						
M27K	Edge Creek, AK	74.30	26	P	P	23 13 40.4	-0.5
M27K				IAmb	IAmb	23 13 42.4	
	comp=Z,7.2nm,1.1s						
M27K	Edge Creek, AK	74.30	26	P	P	23 13 40.2	-0.7
	baz=304,SNR=6.3						
VRDI	Verde Repeater	74.30	28	P	P	23 13 39.6	-1.4
MCARA	McCarthy VSAT	74.39	28	P	P	23 13 41.7	+0.5
	baz=303						
I30M	Mount Dempster	74.59	22	P	P	23 13 42.2	-0.4
I30M	Mount Dempster	74.59	22	P	P	23 13 42.2	-0.4
	baz=308,SNR=5.4						
CRQE	Cirque	74.71	28	P	P	23 13 42.4	-0.9
	baz=303						
J30M	Hart River	75.01	23	P	P	23 13 44.2	-0.8
J30M	Hart River	75.01	23	P	P	23 13 44.0	-1.0
	baz=308						
K29M	Barlow Dome	75.05	24	P	P	23 13 45.0	-0.2
K29M	Barlow Dome	75.05	24	P	P	23 13 44.0	-1.2
	baz=307,SNR=8.8						
YUK3	Moose Creek	75.18	26	P	P	23 13 45.7	-0.4
	baz=305						
GRNC	Granite Creek	75.26	28	P	P	23 13 44.2	-2.5
L29M	L29M	75.27	25	P	P	23 13 46.8	+0.4
L29M				IAmb	IAmb	23 13 47.8	
	comp=Z,8.3nm,0.9s						
L29M	L29M	75.27	25	P	P	23 13 46.1	-0.3
	baz=307,SNR=10						
CTG	Chitna Glacier	75.30	27	P	P	23 13 46.4	-0.3
	baz=305						
C36M	Paulatuk	75.31	16	P	P	23 13 46.0	-0.4
C36M				IAmb	IAmb	23 13 47.7	
	comp=Z,15nm,1.4s						
C36M	Paulatuk	75.31	16	P	P	23 13 46.4	0.0
	baz=318						
M29M	Somme Creek	75.55	25	P	P	23 13 48.6	+0.5
M29M	Somme Creek	75.55	25	P	P	23 13 47.4	-0.7
	baz=307						
M30M	Minto, Yukon	76.08	25	P	P	23 13 50.4	-0.7
M30M	Minto, Yukon	76.08	25	P	P	23 13 50.6	-0.5
	baz=308						
YUK6	Outpost Mounta	76.49	27	P	P	23 13 54.0	+0.3
	baz=307						
N30M	Aishikik Lake	76.66	26	P	P	23 13 54.1	-0.3
N30M				IAmb	IAmb	23 13 55.8	
	comp=Z,5.1nm,0.9s						
N30M	Aishikik Lake	76.66	26	P	P

O30N	**Mendenhall**	**77.47**	**26**	P	**P**	**23 13 57.8**	**-1.1**
	baz=309						
P29M	**Windy Craggy**	**77.54**	**27**	P	**P**	**23 13 58.5**	**-0.8**
	baz=308						
FARO	**Faro, Yukon**	**77.54**	**24**	P	**P**	**23 13 58.7**	**-0.5**
	baz=311						
WHY	**Whitehorse**	**78.00**	**26**	P	**P**	**23 14 01.2**	**-0.8**
	baz=310						
MMPY	**Sheldon Lake,**	**78.01**	**23**	P	**P**	**23 14 01.8**	**-0.1**
MMPY	**Sheldon Lake,**	**78.01**	**23**	P	**P**	**23 14 01.1**	**-0.8**
	baz=313						
PLBC	**Pleasant Camp**	**78.19**	**27**	P	**P**	**23 14 02.0**	**-0.9**
	baz=309						
N32M	**Quiet Lake**	**78.35**	**25**	P	**P**	**23 14 03.1**	**-0.7**
N32M				IAmb	IAmb	23 14 07.8	
	comp=Z,7.4nm,0.8s						
N32M	**Quiet Lake**	**78.35**	**25**	P	**P**	**23 14 02.4**	**-1.4**
	baz=311						
P33M	**Teslin, Yukon**	**79.07**	**25**	P	**P**	**23 14 06.5**	**-1.3**
	baz=312						
S31K	**Pelican**	**79.19**	**28**	P	**P**	**23 14 08.4**	**0.0**
	baz=309						
R32K	**Eaglecrest**	**79.69**	**27**	P	**P**	**23 14 10.9**	**-0.2**
	baz=311						
DLBC	**Dease Lake**	**81.33**	**26**	P	**P**	**23 14 19.0**	**-1.1**
	baz=314						
U33K	**Whale Pass**	**81.69**	**29**	P	**P**	**23 14 21.7**	**-0.2**
	baz=312						
CRAG	**Craig**	**82.12**	**29**	P	**P**	**23 14 24.4**	**+0.3**
	baz=312						
TOAD	**Toad River Com**	**82.77**	**24**	P	**P**	**23 14 27.3**	**-0.3**
	baz=318						
YKA	**Yellowknife Ar**	**83.11**	**17**	P	**P**	**23 14 29.2**	**0.0**
	comp=Z,1.6nm,0.7s,baz=329,slow=3.9,SNR=4.2						
	comp=Z,1.6nm,0.7s						
ESDC	**Sonseca Array**	**84.36**	**313**	P	**P**	**23 14 37.2**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=46,slow=5.5,SNR=2.5						
	comp=Z,0.3nm,0.8s						
NEW	**Newport**	**94.06**	**26**	P	**P**	**23 15 21.3**	**-0.7**
	baz=325						
BOZ	**Bozeman (W)**	**98.36**	**25**	P	**P**	**23 15 41.1**	**-0.7**
	baz=329						
HLID	**Hailey**	**99.00**	**28**	P	Pdif	23 15 43.8	-0.9
	baz=326						
MDND	**Maddock**	**100.01**	**16**	P	**Pdif**	**23 15 47.2**	**-1.7**
	baz=339						
AGMN	**Agassiz Nation**	**100.42**	**14**	P	**Pdif**	**23 15 49.7**	**-1.1**
	baz=342						
BW06	**Boulder Array**	**101.55**	**25**	P	**Pdif**	**23 15 54.3**	**-1.9**
	baz=330						
EYMN	**Ely**	**101.57**	**11**	P	**Pdif**	**23 15 53.4**	**-2.5**
	baz=346						
DUG	**Dugway, Tooele**	**102.47**	**28**	P	**Pdif**	**23 15 58.1**	**-2.1**
	baz=327						
ISA	**Isabella, Lake**	**103.58**	**35**	P	**Pdif**	**23 16 02.8**	**-2.4**
	baz=322						
EDW2	**Edwards Air Fo**	**104.44**	**35**	P	**Pdif**	**23 16 06.2**	**-2.8**
	baz=323						
N23A	**Red Feather La**	**104.48**	**23**	P	**Pdif**	**23 16 06.3**	**-3.0**
	baz=333						
ECSD	**EROS Data Cent**	**104.59**	**16**	P	**Pdif**	**23 16 07.9**	**-1.5**
	baz=341						
SWSC	**Sam W. Stewart**	**107.08**	**35**	P	**PKiKP**	**23 20 28.8**	**-1.2**
	baz=324						
IKP	**In-Ko-Pah, Jac**	**107.16**	**35**	P	**PKiKP**	**23 20 27.9**	**-2.5**
	baz=324						
QSPA	**South Pole Qui**	**119.28**	**180**	PKP	**PKPdf**	**23 20 50.9**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=320,slow=5.8,SNR=3.1						
ROSC	**El Rosal**	**145.83**	**358**	PKPbc	**PKPab**	**23 21 45.0**	**+0.4**
	comp=Z,9.1nm,0.8s,baz=305,slow=17,SNR=5.3						

*IDC **22** 23:06:05.4±1.0, 38.°88N×73.°48E, h0km, mb3.6/14, mbtmp3.7/20, ML3.4/5, Error ellipse: s-maj=17.8km s-min=14.7km az=129.0*
*SOME **22** 23:06:07.0, 38.°97N×73.°73E, h10km*
*KRNET **22** 23:06:09.3±0.1, 39.°18N×73.°42E, h15km, mb4.2*
*MOS **22** 23:06:09.9±0.9, 39.°04N×73.°52E, h17km, mb4.1/9, Error ellipse: s-maj=8.8km s-min=4.4km az=88.2*
*NNC **22** 23:06:11.0±2.3, 39.°17N×73.°54E, h0km, mb4.7, mpv4.3, Error ellipse: s-maj=17.3km s-min=10.0km az=172.0*
ISC 22 23:06:09.9±1.5, 39.°17N±0.°04×73.°41E±0.°02, h1km±8km, n143, σ2§39/204, mb3.7/18, 37C-30D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.84**	**5**	⇓*e*P	**Pg**	**23 06 25.6**	**-0.5**
	baz=4.0						
SFK				⇓*e*S	**Sg**	**23 06 37.7**	**+0.6**
	baz=4.0						
SFK	**Sufi-Kurgan**	**0.84**	**5**	*e*PG	**Pg**	**23 06 25.6**	**-0.5**
SFK				*e*S	**Sg**	**23 06 37.7**	**+0.6**
DRK	**Karamyk**	**1.28**	**284**	⇑*e*P	**Pn**	**23 06 33.8**	**-1.5**
	baz=84						
DRK				⇑*e*S	**Sb**	**23 06 52.2**	**0.0**
	baz=84						
OHH	**Osh**	**1.43**	**341**	⇑*e*P	**Pn**	**23 06 36.2**	**-1.0**
	baz=40						
OHH				⇑*e*S	**Sn**	**23 06 56.0**	**-0.7**
	baz=40						
OHH	**Osh**	**1.43**	**341**	*e*PN	**Pn**	**23 06 36.2**	**-1.0**
OHH				*e*S	**Sn**	**23 06 56.0**	**-0.7**
KSH	**Kashi**	**2.02**	**79**	Pg	Pn	23 06 40.1	-5.2
KSH				Sg	Sn	23 07 01.5	-10
KSH				smax	smax		
	comp=N,3μm,0.7s						
KSH				smax	smax		
	comp=E,2μm,0.6s						
ARSB	**Arslanbob**	**2.17**	**352**	⇑*e*P	**Pn**	**23 06 48.7**	**+1.3**
	baz=51						
ARSB				⇑*e*S	**Sb**	**23 07 17.6**	**-0.1**
	baz=51						
ARSB	**Arslanbob**	**2.17**	**352**	*e*PN	**Pn**	**23 06 48.7**	**+1.3**
ARSB				*e*S	**Sb**	**23 07 17.8**	**+0.1**
BTK	**Batken**	**2.19**	**295**	⇑*e*P	**Pn**	**23 06 49.3**	**+1.8**
	baz=94						
BTK				⇑*e*S	**Sb**	**23 07 18.2**	**+0.2**
	baz=94						
GAR	**Garm**	**2.41**	**267**	⇓*e*P	**Pn**	**23 06 51.6**	**+1.0**
	baz=67						
GAR				⇓*e*S	**Sn**	**23 07 22.7**	**+1.8**
	baz=67						
GAR	**Garm**	**2.41**	**267**	*e*PN	**Pn**	**23 06 51.6**	**+1.0**
GAR				*e*S	**Sn**	**23 07 22.7**	**+1.8**
ARLS	**Aral**	**2.77**	**14**	⇓*e*P	**Pn**	**23 06 57.0**	**+1.3**
	baz=14						
ARLS				⇓*e*S	**Sn**	**23 07 32.0**	**+2.1**
	baz=14						
ARLS	**Aral**	**2.77**	**14**	*e*PN	**Pn**	**23 06 57.0**	**+1.3**
ARLS				*e*S	**Sn**	**23 07 32.0**	**+2.1**
ARK	**Arkit**	**2.84**	**338**	⇑*e*P	**Pn**	**23 06 58.0**	**+1.4**
	baz=38						
ARK				⇑*e*S	**Sn**	**23 07 33.7**	**+2.1**
	baz=38						
ARK	**Arkit**	**2.84**	**338**	*e*PN	**Pn**	**23 06 58.0**	**+1.4**
ARK				*e*S	**Sn**	**23 07 33.7**	**+2.1**
TRKS	**Terek-Say**	**2.92**	**324**	⇓*e*P	**Pn**	**23 06 58.1**	**+0.4**
	baz=24						
TRKS				⇓*e*S	**Sn**	**23 07 33.8**	**+0.2**
	baz=24						
TRKS	**Terek-Say**	**2.92**	**324**	*e*PN	**Pn**	**23 06 58.1**	**+0.4**
TRKS				*e*S	**Sn**	**23 07 33.8**	**+0.2**
AML	**Almayashu**	**2.96**	**4**	P	**Pn**	**23 07 01.1**	**+2.6**
	SNR=196						
AML	**Almayashu**	**2.96**	**4**	⇓*e*P	**Pn**	**23 07 00.0**	**+1.5**
	baz=4.0						
AML				⇓*e*S	**Sn**	**23 07 37.0**	**+2.1**
	baz=4.0						
AML	**Almayashu**	**2.96**	**4**	*e*PN	**Pn**	**23 07 00.0**	**+1.5**
AML				*e*S	**Sn**	**23 07 37.0**	**+2.1**
NRN	**Naryn**	**3.01**	**40**	⇓*e*P	**Pn**	**23 07 00.1**	**+1.1**
	baz=40						
NRN				⇓*e*S	**Sn**	**23 07 37.3**	**+1.5**
	baz=40						
NRN	**Naryn**	**3.01**	**40**	*e*PN	**Pn**	**23 07 00.1**	**+1.1**
NRN				*e*S	**Sn**	**23 07 37.3**	**+1.5**
UCH	**Uchtor**	**3.17**	**15**	P	**Pn**	**23 07 04.4**	**+3.1**
	SNR=105						
UCH	**Uchtor**	**3.17**	**15**	⇑*e*P	**Pn**	**23 07 02.8**	**+1.5**
	baz=15						
UCH				⇑*i*S	**Sn**	**23 07 42.0**	**+2.0**
	baz=15						
UCH	**Uchtor**	**3.17**	**15**	*e*PN	**Pn**	**23 07 02.8**	**+1.5**
UCH				*e*S	**Sn**	**23 07 42.0**	**+2.0**
MNAS	**Manas**	**3.38**	**349**	⇑*e*P	**Pn**	**23 07 05.5**	**+1.5**
	baz=48						
MNAS				⇑*e*S	**Sn**	**23 07 46.7**	**+1.8**
	baz=48						
MNAS	**Manas**	**3.38**	**349**	*e*PN	**Pn**	**23 07 05.5**	**+1.5**
MNAS				*e*S	**Sn**	**23 07 46.7**	**+1.8**
EKS2	**Erkin-Say**	**3.50**	**4**	P	**Pn**	**23 07 08.6**	**+3.0**
	SNR=62						
EKS2	**Erkin-Say**	**3.50**	**4**	⇑*e*P	**Pn**	**23 07 07.1**	**+1.5**
	baz=4.0						
EKS2				⇑*e*S	**Sn**	**23 07 49.4**	**+1.7**
	baz=4.0						
EKS2	**Erkin-Say**	**3.50**	**4**	*e*PN	**Pn**	**23 07 07.1**	**+1.5**
EKS2				*e*S	**Sn**	**23 07 49.4**	**+1.7**
AAK	**Ala-Archa**	**3.56**	**13**	P	**Pn**	**23 07 09.9**	**+3.4**
	SNR=32						
AAK	**Ala-Archa**	**3.56**	**13**	Pn	**Pn**	**23 07 09.5**	**+3.1**
	comp=E,17nm,0.3s,baz=180,slow=6.6,SNR=39						
AAK				Sn	**Sb**	**23 07 56.7**	**-0.8**
	comp=E,12nm,0.3s,baz=102,slow=20,SNR=10						
	comp=E,34nm,0.3s						
AAK	**Ala-Archa**	**3.56**	**13**	⇑Pg	**Pn**	**23 07 10.1**	**+3.6**
	comp=E,68nm,0.5s						
AAK				⇑Lg	Lg	23 07 57.5	
	comp=E,263nm,0.8s						
AAK	**Ala-Archa**	**3.56**	**13**	⇓*e*P	**Pn**	**23 07 08.0**	**+1.5**
	baz=13						
AAK				⇓*e*S	**Sn**	**23 07 51.1**	**+1.8**
	baz=13						
AAK	**Ala-Archa**	**3.56**	**13**	*e*PN	**Pn**	**23 07 08.0**	**+1.5**
AAK				*e*S	**Sn**	**23 07 51.1**	**+1.8**
MRKS	**Merke**	**3.57**	**358**	*e*P	**Pb**	**23 07 15.8**	**+1.8**
	comp=E,92nm,0.4s						
MRKS				*e*S	**Sg**	**23 08 04.6**	**-0.1**
	comp=E,180nm,0.5s						
MRKS	**Merke**	**3.57**	**358**	Pg	**Pb**	**23 07 15.8**	**+1.8**
	comp=E,92nm,0.4s						
MRKS				Lg	Lg	23 08 04.6	
	comp=E,180nm,0.5s						
KBK	**Karagaybulak**	**3.67**	**18**	P	**Pn**	**23 07 12.2**	**+4.1**
	SNR=22						
KBK	**Karagaybulak**	**3.67**	**18**	⇑*e*P	**Pn**	**23 07 09.6**	**+1.6**
	baz=18						
KBK				⇑*i*S	**Sn**	**23 07 53.8**	**+1.7**
	baz=18						
KBK	**Karagaybulak**	**3.67**	**18**	*e*PN	**Pn**	**23 07 09.6**	**+1.6**
KBK				*e*S	**Sn**	**23 07 53.8**	**+1.7**
FRU1	**Bishkek**	**3.75**	**14**	⇓*e*P	**Pn**	**23 07 10.9**	**+1.9**
	baz=14						
FRU1				⇓*i*S	**Sn**	**23 07 55.9**	**+2.1**
	baz=14						
FRU1	**Bishkek**	**3.75**	**14**	*e*PN	**Pn**	**23 07 10.9**	**+1.9**
FRU1				*e*S	**Sn**	**23 07 55.9**	**+2.1**
ULHL	**Ulahol**	**3.75**	**34**	P	**Pn**	**23 07 12.0**	**+2.8**
	SNR=17						
ULHL	**Ulahol**	**3.75**	**34**	⇑*e*P	**Pn**	**23 07 10.8**	**+1.6**
	baz=34						
ULHL				⇑*e*S	**Sn**	**23 07 55.7**	**+1.6**
	baz=34						
ULHL	**Ulahol**	**3.75**	**34**	*e*PN	**Pn**	**23 07 10.8**	**+1.6**
ULHL				*e*S	**Sn**	**23 07 55.7**	**+1.6**
BOOM	**Boomskoye usch**	**3.83**	**29**	⇓*e*P	**Pn**	**23 07 11.9**	**+1.7**
	baz=29						
BOOM				⇓*i*S	**Sn**	**23 07 57.8**	**+1.8**
	baz=29						
BOOM	**Boomskoye usch**	**3.83**	**29**	*e*PN	**Pn**	**23 07 11.9**	**+1.7**
BOOM				*e*S	**Sn**	**23 07 57.8**	**+1.8**
IUG	**Iuzhnay**	**3.93**	**320**	*e*P	**Pb**	**23 07 24.6**	**+4.6**
	comp=E,222nm,0.4s						
IUG				*e*S	**Sg**	**23 08 20.1**	**+4.0**
	comp=E,187nm,0.4s						
CHMS	**Chumysh**	**3.96**	**14**	P	**Pn**	**23 07 15.7**	**+3.9**
	SNR=42						
CHMS	**Chumysh**	**3.96**	**14**	⇓*e*P	**Pn**	**23 07 13.4**	**+1.6**
	baz=14						
CHMS				⇓*e*S	**Sn**	**23 08 00.4**	**+1.5**
	baz=14						
CHMS	**Chumysh**	**3.96**	**14**	*e*PN	**Pn**	**23 07 13.4**	**+1.6**
CHMS				*e*S	**Sn**	**23 08 00.4**	**+1.5**
TKM2	**Tokmak 2**	**4.09**	**23**	P	**Pn**	**23 07 17.8**	**+3.9**
	SNR=40						
TKM2	**Tokmak 2**	**4.09**	**23**	⇓Pn	**Pn**	**23 07 17.8**	**+3.9**
	comp=E,36nm,0.6s						
TKM2				⇓Lg	Lg	23 08 19.4	
	comp=E,123nm,0.7s						
TKM2	**Tokmak 2**	**4.09**	**23**	⇓*e*P	**Pn**	**23 07 15.5**	**+1.6**
	baz=23						
TKM2				⇓*e*S	**Sn**	**23 08 04.1**	**+1.6**
	baz=23						
TKM2	**Tokmak 2**	**4.09**	**23**	*e*PN	**Pn**	**23 07 15.5**	**+1.6**
TKM2				*e*S	**Sn**	**23 08 04.1**	**+1.6**
KDJ	**Kajisay**	**4.12**	**43**	⇑*e*P	**Pn**	**23 07 16.0**	**+1.8**
	baz=43						
KDJ				⇑*e*S	**Sn**	**23 08 04.7**	**+1.6**
	baz=43						
KDJ	**Kajisay**	**4.12**	**43**	*e*PN	**Pn**	**23 07 16.0**	**+1.8**
KDJ				*e*S	**Sn**	**23 08 04.7**	**+1.6**
USP	**Ospenovka**	**4.17**	**11**	P	**Pn**	**23 07 18.3**	**+3.5**
	SNR=45						
USP	**Ospenovka**	**4.17**	**11**	⇓*e*P	**Pn**	**23 07 16.5**	**+1.7**
	baz=11						
USP				⇓*e*S	**Sn**	**23 08 05.6**	**+1.4**
	baz=11						
USP	**Ospenovka**	**4.17**	**11**	*e*PN	**Pn**	**23 07 16.5**	**+1.7**
USP				*e*S	**Sn**	**23 08 05.6**	**+1.4**
CHM	**Chimkent**	**4.27**	**319**	*e*P	**Pg**	**23 07 31.9**	**+0.1**
	comp=E,137nm,0.2s						
CHM				*e*S	**Sg**	**23 08 32.4**	**+5.3**
	comp=E,281nm,0.4s						
KST	**Kastek**	**4.32**	**26**	*e*P	**Pb**	**23 07 29.3**	**+2.5**
	comp=E,22nm,0.5s						
KST				*e*S	**Sg**	**23 08 27.9**	**-0.9**
	comp=E,209nm,0.7s						
KST	**Kastek**	**4.32**	**26**	Pg	**Pb**	**23 07 29.3**	**+2.5**
	comp=E,22nm,0.7s						
KST				Lg	Lg	23 08 27.9	
	comp=E,209nm,0.9s						
SGDS	**Sogindy**	**4.37**	**12**	Pg	**Pb**	**23 07 29.9**	**+2.3**
	comp=E,9.7nm,0.4s						
SGDS				Lg	Lg	23 08 28.2	
	comp=E,82nm,0.9s						
DGS	**Degeres**	**4.44**	**23**	*e*P	**Pb**	**23 07 31.1**	**+2.3**
	comp=E,53nm,0.7s						
DGS				*e*S	**Sg**	**23 08 31.4**	**-1.2**
	comp=E,74nm,0.6s						
DGS	**Degeres**	**4.44**	**23**	Pg	**Pb**	**23 07 31.1**	**+2.3**
	comp=E,53nm,0.8s						
DGS				Lg	Lg	23 08 31.4	
	comp=E,74nm,0.6s						
KK31	**Karatay Array**	**4.49**	**332**	⇑Pn	**Pn**	**23 07 21.3**	**+2.1**
	comp=E,43nm,0.6s,baz=145,slow=14,SNR=393						
KK31				⇑Pg	**Pb**	**23 07 29.0**	**-0.6**
	comp=E,18nm,0.4s,baz=195,slow=17,SNR=8.0						
KK31				⇑Sn	**Sb**	**23 08 18.4**	**-5.9**
	comp=E,36nm,0.5s						
KK31	**Karatay Array**	**4.49**	**332**	PN	**Pn**	**23 07 21.3**	**+2.1**
KK31				S	**Sb**	**23 08 18.4**	**-5.9**
KKAR	**Karatay Array**	**4.49**	**332**	⇑*i*P	**Pn**	**23 07 20.8**	**+1.6**
	baz=32						
KKAR				⇑*e*S	**Sn**	**23 08 13.0**	**+0.9**
	baz=32						
KKAR	**Karatay Array**	**4.49**	**332**	*e*PN	**Pn**	**23 07 20.8**	**+1.6**
MTBS	**Maitube**	**4.56**	**29**	*e*P	**Pb**	**23 07 33.2**	**+2.3**
	comp=E,19nm,0.4s						
MTBS				*e*S	**Sg**	**23 08 34.3**	**-2.3**
	comp=E,71nm,0.5s						
MTBS	**Maitube**	**4.56**	**29**	Pg	**Pb**	**23 07 34.0**	**+3.1**
	comp=E,18nm,0.5s						
MTBS				Lg	Lg	23 08 35.9	
	comp=E,71nm,0.5s						
TNSS	**Tian-Shan**	**4.70**	**34**	*e*P	**Pb**	**23 07 33.4**	**0.0**
	comp=E,35nm,0.3s						
TNSS				*e*S	**Sb**	**23 08 34.7**	**+4.2**
	comp=E,18nm,0.6s						
BRLS	**Borolday**	**4.70**	**326**	*e*P	**Pb**	**23 07 35.9**	**+2.6**
	comp=E,22nm,0.3s						
BRLS				*e*S	**Sg**	**23 08 39.1**	**-2.0**
	comp=E,57nm,0.5s						
BRLS	**Borolday**	**4.70**	**326**	Pg	**Pb**	**23 07 35.9**	**+2.6**
	comp=E,22nm,0.3s						
BRLS				Lg	Lg	23 08 38.9	
	comp=E,58nm,0.7s						
AAA	**Alma-Ata**	**4.82**	**32**	*e*P	**Pb**	**23 07 38.7**	**+3.4**
	comp=E,61nm,0.3s						
AAA				*e*S	**Sg**	**23 08 44.0**	**-0.8**
	comp=E,320nm,1.0s						
AAA	**Alma-Ata**	**4.82**	**32**	Pg	**Pb**	**23 07 38.8**	**+3.4**
	comp=E,60nm,0.3s						
AAA				Lg	Lg	23 08 44.3	
	comp=E,320nm,1.0s						
KRBS	**Karabastau**	**4.83**	**20**	*e*P	**Pb**	**23 07 38.1**	**+2.7**
	comp=E,21nm,0.3s						
KRBS				*e*S	**Sg**	**23 08 43.2**	**-1.9**
	comp=E,65nm,0.6s						
KRBS	**Karabastau**	**4.83**	**20**	Pg	**Pb**	**23 07 38.1**	**+2.7**
	comp=E,21nm,0.4s						
KRBS				Lg	Lg	23 08 43.2	
	comp=E,59nm,0.7s						
MDOK	**Medeo**	**4.84**	**33**	*e*P	**Pb**	**23 07 37.8**	**+2.1**
	comp=E,27nm,0.5s						
MDOK				*e*S	**Sg**	**23 08 42.4**	**-3.1**
	comp=E,81nm,1.1s						
MDOK	**Medeo**	**4.84**	**33**	⇓Pg	**Pb**	**23 07 37.6**	**+2.0**
	comp=E,49nm,0.8s						
MDOK				Pg	Pg	23 07 37.8	-5.0
	comp=E,27nm,0.6s						
MDOK				Lg	Lg	23 08 42.4	
	comp=E,81nm,1.1s						
MDOK				⇑Lg	Lg	23 08 43.3	
	comp=E,259nm,1.4s						
KNDC	**Almaty**	**4.85**	**32**	⇑Pg	**Pb**	**23 07 38.1**	**+2.3**
	comp=E,152nm,0.7s						
KNDC				⇓Lg	Lg	23 08 45.7	
	comp=E,369nm,0.8s						
KOTS	**Kotyrbulak**	**4.93**	**33**	*e*P	**Pb**	**23 07 39.9**	**+2.8**
	comp=E,42nm,0.7s						
KOTS				*e*S	**Sg**	**23 08 46.3**	**-1.9**
	comp=E,166nm,0.7s						
KOTS	**Kotyrbulak**	**4.93**	**33**	Pg	**Pb**	**23 07 39.9**	**+2.8**
	comp=E,42nm,0.7s						
KOTS				Lg	Lg	23 08 46.3	
	comp=E,166nm,0.9s						
PRZ	**Przheval'sk**	**5.03**	**47**	⇑*e*P	**Pn**	**23 07 28.8**	**+2.1**
	baz=47						
PRZ				⇑*e*S	**Sn**	**23 08 26.1**	**+0.6**
	baz=47						
KTBS	**Karatobe**	**5.16**	**27**	*e*P	**Pb**	**23 07 44.4**	**+3.4**
	comp=E,34nm,0.4s						
KTBS				*e*S	**Sg**	**23 08 53.4**	**-2.3**
	comp=E,92nm,0.7s						
KTBS	**Karatobe**	**5.16**	**27**	Pg	**Pb**	**23 07 43.5**	**+2.5**
	comp=E,35nm,0.6s						
KTBS				Lg	Lg	23 08 53.4	
	comp=E,92nm,0.7s						
KURS	**Kuram**	**5.61**	**38**	*e*P	**Pb**	**23 07 50.8**	**+2.1**
	comp=E,30nm,0.9s						
KURS				*e*S	**Sb**	**23 09 04.8**	**+8.4**
	comp=E,25nm,1.4s						
KURS	**Kuram**	**5.61**	**38**	Pg	**Pb**	**23 07 53.3**	**+4.7**
	comp=E,30nm,1.2s						
KURS				Lg	Lg	23 09 08.9	
	comp=E,25nm,1.4s						
UZB	**Uzynbulak**	**5.81**	**45**	*e*P	**Pb**	**23 07 54.6**	**+2.5**
	comp=E,14nm,0.5s						
UZB				*e*S	**Sg**	**23 09 11.7**	**-4.7**
	comp=E,14nm,0.5s						
KPKS	**Kokpek**	**5.85**	**41**	*e*P	**Pb**	**23 07 55.4**	**+2.6**
	comp=E,11nm,0.6s						
KPKS				*e*S	**Sg**	**23 09 13.0**	**-4.7**
	comp=E,24nm,0.5s						
KPKS	**Kokpek**	**5.85**	**41**	Pg	**Pb**	**23 07 55.4**	**+2.6**
	comp=E,11nm,0.6s						
KPKS				Lg	Lg	23 09 13.0	
	comp=E,24nm,0.8s						
BTLS	**Baital**	**5.88**	**4**	*e*P	**Pg**	**23 08 00.5**	**-2.1**
	comp=E,10nm,0.5s						
BTLS				*e*S	**Sg**	**23 09 22.7**	**+3.8**
	comp=E,26nm,0.6s						
BTLS	**Baital**	**5.88**	**4**	Pg	**Pg**	**23 08 00.5**	**-2.1**
	comp=E,9.6nm,0.6s						
BTLS				Lg	Lg	23 09 22.7	
	comp=E,26nm,0.7s						
ARXS	**Arharly**	**6.03**	**32**	*e*P	**Pb**	**23 07 60.0**	**+4.2**
	comp=E,16nm,0.6s						
ARXS				*e*S	**Sg**	**23 09 20.2**	**-3.2**
	comp=E,73nm,0.8s						
ARXS	**Arharly**	**6.03**	**32**	Pg	**Pb**	**23 07 59.5**	**+3.7**
	comp=E,16nm,0.6s						
ARXS				Lg	Lg	23 09 20.2	
	comp=E,73nm,0.9s						
PDGK	**Podgornoye**	**6.18**	**46**	Pg	**Pb**	**23 08 02.5**	**+4.0**
	comp=E,8.0nm,0.7s						
PDGK				Lg	Lg	23 09 24.6	
	comp=E,12nm,0.7s						
BLB	**Baldybastay**	**6.22**	**36**	Pg	**Pb**	**23 08 03.4**	**+4.3**
	comp=E,63nm,0.7s						
BLB				Lg	Lg	23 09 26.5	
	comp=E,34nm,0.8s						
KNOS	**Konyrlen**	**6.74**	**38**	Pg	**Pb**	**23 08 11.9**	**+3.9**
	comp=E,1.2nm,0.5s						
KNOS				Lg	Lg	23 09 42.1	
	comp=E,19nm,1.0s						
KTMS	**Ketmen**	**6.75**	**49**	*e*P	Pb	23 08 14.1	+6.0
	comp=E,6.5nm,0.8s						
KTMS				*e*S	**Sg**	**23 09 45.3**	**-1.4**
	comp=E,5.5nm,0.5s						
KTMS	**Ketmen**	**6.75**	**49**	Pg	Pb	23 08 13.4	+5.3
	comp=E,4.6nm,0.8s						
KTMS				Lg	Lg	23 09 45.3	
	comp=E,5.5nm,0.5s						
MKAR	**Makanchi Array**	**10.01**	**38**	Pn	**Pn**	**23 08 35.0**	**+0.1**
	comp=E,0.9nm,0.8s,baz=222,slow=18,SNR=1.2						
WMQ	**Urumqi**	**11.68**	**62**	*e*P	**Pn**	**23 08 58.9**	**+1.2**
WMQ				smax	smax		
	comp=N,26nm,0.9s						
WMQ				smax	smax		
	comp=E,19nm,0.9s						
WMQ				LR	LR		
	comp=N,370nm,16.1s						
WMQ				LR	LR		
	comp=E,240nm,12.7s						
WMQ				LR	LR		
	comp=Z,100nm,16.1s						
KURBB	**Kurchatov Arra**	**12.01**	**16**	Pn	**Pn**	**23 09 01.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=132,slow=9.1,SNR=4.9						
	comp=Z,0.4nm,0.6s						
KURK	**Kurchatov**	**12.11**	**16**	P	**Pn**	**23 09 01.3**	**-2.3**
AB31	**Akbulak array**	**13.94**	**321**	⇓P	**Pn**	**23 09 25.8**	**-2.7**
	comp=Z,1.4nm,0.4s						
AB31	**Akbulak array**	**13.94**	**321**	P	**Pn**	**23 09 25.8**	**-2.7**
BVAR	**Borovoye Array**	**14.01**	**352**	Pn	**Pn**	**23 09 27.1**	**-2.4**

SONM Songino Array 25.29 59 *e*P **P 23 11 40.8 +2.9**
SONM pmax pmax
comp=Z,2.0nm,1.0s
OBN Obninsk 29.27 315 *e*P **P 23 12 15.0 +1.6**
OBN *e* 23 13 07.5
OBN *e* 23 15 22.0
OBN pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 32.86 305 P P 23 12 41.8 -3.3
comp=Z,0.2nm,0.3s,baz=73,slow=7.0,SNR=2.6
comp=Z,0.2nm,0.3s
FINES FINESS Array B 36.40 323 P **P 23 13 13.5 -2.1**
comp=Z,1.0nm,0.4s,baz=110,slow=8.3,SNR=2.5
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 39.45 336 P **P 23 13 39.6 -1.7**
comp=Z,0.9nm,0.6s,baz=106,slow=8.9,SNR=6.4
comp=Z,0.9nm,0.6s
ARCES ARCESS Array B 39.45 336 *e*P **P 23 13 42.9 +1.7**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
HFS Hagfors 42.20 320 P **P 23 14 01.3 -2.7**
comp=Z,2.0nm,0.5s,baz=94,slow=11,SNR=8.7
comp=Z,2.0nm,0.5s
CLL Collm 43.05 307 *e*P **P 23 14 12.0 +0.9**
NB2 NORSAR Subarra 43.44 321 P **P 23 14 11.7 -2.5**
comp=Z,1.0nm,0.6s,baz=91,slow=8.6
NOA NORSAR Array B 43.44 321 P **P 23 14 11.1 -3.0**
comp=Z,0.6nm,0.5s,baz=92,slow=7.8,SNR=5.2
comp=Z,0.6nm,0.5s
EKA Eskdalemuir Ar 51.72 315 P **P 23 15 16.5 -2.0**
comp=Z,0.4nm,0.5s,baz=95,slow=8.5,SNR=1.7
comp=Z,0.4nm,0.5s
BILL Bilibino 55.37 27 *e*P **P 23 15 46.0 +0.9**
BILL *e* 23 16 47.8
BILL *e* 23 17 52.0
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL Bilibino 55.37 27 *e*PPP PPP 23 19 02.4
ESDC Sonseca Array 57.91 297 P **P 23 16 01.3 -2.4**
comp=Z,0.3nm,0.6s,baz=52,slow=7.2,SNR=5.8
comp=Z,0.3nm,0.6s
TORD Torodi Ar. Bea 67.68 269 P P 23 17 05.2 -3.9
comp=Z,0.5nm,0.5s,baz=34,slow=5.3,SNR=13
comp=Z,0.5nm,0.5s
ILAR Eielson Array 71.68 17 P **P 23 17 30.6 -2.4**
comp=Z,0.2nm,0.8s,baz=316,slow=5.0,SNR=3.6
comp=Z,0.2nm,0.8s
WRA Warramunga Arr 81.84 124 P P 23 18 24.6 -6.3
comp=Z,0.4nm,0.6s,baz=326,slow=5.2,SNR=2.5
comp=Z,0.4nm,0.6s
ASAR Alice Springs 84.27 127 P P 23 18 39.1 -4.3
comp=Z,0.1nm,0.3s,baz=309,slow=5.9,SNR=1.4
comp=Z,0.1nm,0.3s

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*CATAC **22** 23:22:14.1±0.5, 12°.81N×88°.97W, h10km±2km, ML3.5*
*SNET **22** 23:22:16.2±1.2, 12°.89N×88°.90W, h31km±3km, ML2.9*
ISC 22 23:22:14.4±2.0, 12°.80N±0°.09×88°.94W±0°.03, h24km±13km, n49, σ0s43/81, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.75**	**12**	*e*P	**Pn**	**23 22 29.4**	**-0.2**
TECO	**Alcaldia de Te**	**0.75**	**12**	*i* P	**Pn**	**23 22 29.5**	**-0.2**
TECO				*i* S	**Sn**	**23 22 39.5**	**-0.8**
TECO				IAML		23 22 40.8	
comp=Z,710nm,1.0s							
LALI	**Alcalda de L**	**0.78**	**332**	*i* P	**Pb**	**23 22 28.5**	**-0.9**
LALI				*i* S	**Sb**	**23 22 40.0**	**+0.5**
LALI				IAML		23 22 40.4	
comp=Z,510nm,1.0s							
JUCU	**Jucuarın**	**0.82**	**56**	*e*P	**Pb**	**23 22 30.2**	**+0.1**
JUCU				*e*S	**Sb**	**23 22 40.8**	**+0.1**
JUCU	**Jucuarın**	**0.82**	**56**	*i* P	**Pb**	**23 22 30.1**	**+0.1**
JUCU				*i* S	**Sb**	**23 22 41.1**	**+0.4**
JUCU				IAML		23 22 50.0	
comp=Z,560nm,1.0s							
TECA	**Tecapa**	**0.82**	**32**	*e*P	**Pn**	**23 22 30.6**	**-0.1**
COEG	**Centro de Oper**	**0.82**	**4**	*e*P	**Pb**	**23 22 30.0**	**-0.1**
COEG				*e*S	**Sb**	**23 22 40.6**	**-0.2**
COEG	**Centro de Oper**	**0.82**	**4**	*i* P	**Pn**	**23 22 30.5**	**-0.1**
COEG				*i* S	**Sn**	**23 22 41.1**	**-1.0**
COEG				IAML		23 22 46.6	
comp=Z,430nm,1.0s							
LFRS	**El Faro**	**0.83**	**352**	*e*P	**Pn**	**23 22 30.9**	**+0.1**
PANCS	**Alcalda de**	**0.84**	**344**	*i* P	**Pb**	**23 22 30.1**	**-0.4**
PANCS				*i* S	**Sb**	**23 22 41.5**	**+0.1**
PANCS				IAML		23 22 43.2	
comp=Z,3μm,1.0s							
UESV	**Universidad de**	**0.85**	**10**	*i* P	**Pn**	**23 22 30.8**	**-0.2**
UESV				*i* S	**Sn**	**23 22 42.2**	**-0.5**
UESV				IAML		23 22 45.1	
comp=Z,1μm,1.0s							
LOMA	**Loma Larga**	**0.87**	**345**	*e*P	**Pn**	**23 22 31.4**	**+0.1**
LOMA	**Loma Larga**	**0.87**	**345**	*i* P	**Pn**	**23 22 31.4**	**+0.1**
LOMA				*i* S	**Sn**	**23 22 43.0**	**-0.4**
LOMA				IAML		23 22 44.1	
comp=Z,2μm,1.0s							
LCY	**Lacayo**	**0.89**	**45**	*e*P	**Pn**	**23 22 31.6**	**+0.1**
RANC	**El Ranchito**	**0.90**	**45**	*i* P	**Pb**	**23 22 31.6**	**+0.1**
RANC				IAML		23 22 50.6	
comp=Z,560nm,1.0s							
PACA	**Pacayal**	**0.90**	**42**	*e*P	**Pn**	**23 22 32.0**	**+0.2**
PACA	**Pacayal**	**0.90**	**42**	*i* P	**Pn**	**23 22 32.2**	**+0.4**
PACA				*i* S	**Sn**	**23 22 45.2**	**+1.1**
PACA				IAML		23 22 45.6	
comp=Z,6μm,1.0s							
PQSS	**Presa 15 de Se**	**0.90**	**24**	*e*P	**Pn**	**23 22 32.1**	**+0.4**
PQSS				*e*S	**Sn**	**23 22 44.0**	**0.0**
PQSS	**Presa 15 de Se**	**0.90**	**24**	*i* P	**Pn**	**23 22 32.1**	**+0.4**
PQSS				*i* S	**Sn**	**23 22 44.3**	**+0.3**
PQSS				IAML		23 22 44.9	
comp=Z,2μm,1.0s							
VSM	**San Miguel**	**0.91**	**46**	*e*P	**Pn**	**23 22 32.1**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.93**	**13**	*e*P	**Pn**	**23 22 32.4**	**+0.4**
SCLA				*e*S	**Sn**	**23 22 44.7**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.93**	**13**	*i* P	**Pn**	**23 22 32.2**	**+0.2**
SCLA				*i* S	**Sn**	**23 22 44.8**	**+0.2**
SCLA				IAML		23 22 45.4	
comp=Z,410nm,1.0s							
SNET	**Serv Nac Est T**	**0.93**	**343**	*i* P	**Pb**	**23 22 32.0**	**0.0**
SNET				*i* S	**Sn**	**23 22 44.1**	**-0.6**
SNET				IAML		23 22 47.2	
comp=Z,3μm,1.0s							
ITCA	**Escuela Especi**	**0.93**	**340**	*i* P	**Pb**	**23 22 31.8**	**-0.2**
ITCA				*i* S	**Sn**	**23 22 44.4**	**-0.4**
ITCA				IAML		23 22 45.3	
comp=Z,4μm,1.0s							
UDBS	**Universidad Do**	**0.94**	**347**	*i* P	**Pb**	**23 22 31.6**	**-0.5**
UDBS				*i* S	**Sn**	**23 22 44.3**	**-0.6**
UDBS				IAML		23 22 48.1	
comp=Z,890nm,1.0s							
IGN	**Direccin Gen**	**0.94**	**346**	*i* P	**Pb**	**23 22 32.1**	**0.0**
IGN				*i* S	**Sn**	**23 22 44.6**	**-0.3**
IGN				IAML		23 22 47.9	
comp=Z,6μm,1.0s							
BLLM	**Bellamira**	**0.94**	**47**	*e*P	**Pb**	**23 22 32.2**	**+0.1**
UEES	**Universidad Ev**	**0.96**	**343**	*i* P	**Pb**	**23 22 32.5**	**0.0**
UEES				*i* S	**Sn**	**23 22 45.2**	**-0.3**
UEES				IAML		23 22 48.3	
comp=Z,680nm,1.0s							
PMON	**Piamonte**	**0.98**	**338**	*i* P	**Pb**	**23 22 32.9**	**+0.1**
PMON				*i* S	**Sb**	**23 22 45.4**	**0.0**
PMON				IAML		23 22 45.9	
comp=Z,2μm,1.0s							
JAYA	**Jayaque - finc**	**0.98**	**330**	*e*P	**Pb**	**23 22 33.0**	**0.0**
JAYA	**Jayaque - finc**	**0.98**	**330**	*i* P	**Pb**	**23 22 33.1**	**+0.2**
JAYA				*i* S	**Sn**	**23 22 45.8**	**-0.4**
JAYA				IAML		23 22 46.2	
comp=Z,10μm,1.0s							
BOQS	**Boqueron**	**0.99**	**341**	*e*P	**Pn**	**23 22 33.3**	**+0.2**
CNRM	**Centro Naciona**	**1.01**	**48**	*i* P	**Pb**	**23 22 33.2**	**-0.1**
CNRM				*i* S	**Sn**	**23 22 46.4**	**-0.2**
CNRM				IAML		23 22 50.9	
comp=Z,3μm,1.0s							
QUEZ	**Alcaldia de Qu**	**1.08**	**343**	*i* P	**Pb**	**23 22 34.0**	**-0.5**
QUEZ				*i* S	**Sn**	**23 22 48.6**	**+0.2**
QUEZ				IAML		23 22 49.3	
comp=Z,3μm,1.0s							
CEDA	**San Andres**	**1.09**	**336**	*i* S	**Sn**	**23 22 48.8**	**+0.1**
LCND	**La Caada**	**1.15**	**63**	*e*P	**Pn**	**23 22 35.0**	**0.0**
LCND				*e*S	**Sb**	**23 22 49.0**	**-1.1**
LCND	**La Caada**	**1.15**	**63**	*i* P	**Pn**	**23 22 35.0**	**0.0**
LCND				IAML		23 22 51.6	
comp=Z,600nm,1.0s							

CNCH	**Conchagua**	**1.18**	**66**	*e*P	**Pn**	**23 22 35.5**	**-0.1**
CNCH	**Conchagua**	**1.18**	**66**	*i* P	**Pn**	**23 22 35.8**	**+0.2**
CNCH				IAML		23 22 54.0	
comp=Z,1μm,1.0s							
CEVE	**Cerro Verde**	**1.22**	**327**	*i* S	**Sn**	**23 22 52.3**	**+0.1**
UNIC	**Universidad Ca**	**1.32**	**334**	*i* P	**Pn**	**23 22 37.9**	**+0.5**
UNIC				*i* S	**Sb**	**23 22 54.7**	**-0.4**
UNIC				IAML		23 22 56.1	
comp=Z,380nm,1.0s							
LLGN	**La Laguna**	**1.36**	**360**	IAML		23 22 33.3	
comp=Z,380nm,1.0s							
LLGN				*i* P	**Pn**	**23 22 38.3**	**+0.3**
LLGN				*i* S	**Sb**	**23 22 56.7**	**+0.4**
NUBE	**Las Nubes**	**1.37**	**324**	*e*P	**Pn**	**23 22 38.7**	**+0.5**
NUBE				*e*S	**Sn**	**23 22 55.2**	**-0.5**
NUBE	**Las Nubes**	**1.37**	**324**	*i* P	**Pn**	**23 22 38.6**	**+0.4**
NUBE				*i* S	**Sn**	**23 22 55.1**	**-0.6**
NUBE				IAML		23 22 56.5	
comp=Z,960nm,1.0s							
LOAL	**Lomas de Alarc**	**1.45**	**326**	*i* P	**Pn**	**23 22 39.7**	**+0.5**
LOAL				*i* S	**Sb**	**23 22 59.6**	**+0.8**
LOAL				IAML		23 23 18.9	
comp=Z,1μm,1.0s							
MARCA	**Marcala la Paz**	**1.62**	**33**	*i* P	**Pn**	**23 22 42.2**	**+0.6**
MARCA				*i* S	**Sb**	**23 23 04.6**	**+0.8**
MTO3	**Montecristo**	**1.64**	**346**	*i* P	**Pn**	**23 22 42.4**	**+0.3**
MTO3				IAML		23 23 06.1	
comp=Z,89nm,1.0s							
TGUH	**Tegucigalpa,Un**	**2.05**	**52**	*i* P	**Pn**	**23 22 48.1**	**+0.5**
TGUH				IAML		23 22 48.4	
comp=Z,93nm,1.0s							
TGUH				*i* S	**Sb**	**23 23 16.2**	**-0.1**
YUSH	**Yuscaran**	**2.35**	**60**	*i* P	**Pn**	**23 22 52.0**	**+0.4**
YUSH				*i* S	**Sb**	**23 23 23.6**	**-1.1**

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*AFAD **22** 23:23:30.2±0.0, 38°.58N×40°.69E, h7km±1km, ML2.5*
*ISK **22** 23:23:30.2, 38°.57N×40°.67E, h15km, ML2.4/12*
ISC 22 23:23:29.9±1.1, 38°.57N±0°.02×40°.68E±0°.02, h9km±11km, n24, σ0s62/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HANI	**Diyarbakir_Han**	**0.27**	**235**	P	**Pg**	**23 23 35.4**	**+0.1**
BNGB	**Bingl**	**0.42**	**0**	Pg	**Pg**	**23 23 38.9**	**+0.7**
BNGB				Sg	**Sb**	**23 23 45.6**	**-0.7**
SLHN	**Bingol, Solhan**	**0.47**	**35**	P	**Pg**	**23 23 39.3**	**+0.1**
SLHN				S	**Sg**	**23 23 46.1**	**+0.6**
SLHN				*i* AML	AML	23 23 48.0	
comp=E,304nm,0.5s							
SVAN	**Silvan-Diyarba**	**0.58**	**135**	Pg	**Pb**	**23 23 42.4**	**0.0**
SVAN				Sg	**Sb**	**23 23 50.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**0.58**	**135**	P	**Pg**	**23 23 41.6**	**+0.4**
MUSM	**Mu-Merkez**	**0.67**	**76**	P	**Pg**	**23 23 41.8**	**-1.1**
KOVA	**Elazig, Kovanc**	**0.69**	**282**	P	**Pg**	**23 23 43.6**	**+0.3**
KOVA				S	**Sb**	**23 23 54.3**	**+0.4**
DYBB	**Diyarbakir**	**0.75**	**215**	Pg	**Pb**	**23 23 45.3**	**+0.1**
DYBB				Sg	**Sb**	**23 23 56.0**	**+0.5**
DIYA	**Diyarbakir**	**0.78**	**214**	P	**Pg**	**23 23 45.4**	**+0.5**
DIYA				S	**Sb**	**23 23 57.3**	**+0.9**
DIYA				*i* AML	AML	23 24 01.0	
comp=N,135nm,0.3s							
KARO	**Karliova-Bingo**	**0.80**	**21**	Pg	**Pb**	**23 23 46.1**	**0.0**
KARO				Sg	**Sb**	**23 23 57.4**	**+0.3**
BTMN	**Batman**	**0.82**	**145**	P	**Pg**	**23 23 46.3**	**+0.5**
VRTB	**Varto-Mus**	**0.85**	**46**	Pg	**Pb**	**23 23 47.3**	**+0.3**
VRTB				Sg	**Sb**	**23 23 58.9**	**+0.3**
YEDI	**Yedisu-Bingol**	**0.88**	**353**	Pg	**Pb**	**23 23 47.5**	**+0.1**
TNCL	**Tunceli-Merkez**	**1.04**	**302**	P	**Pg**	**23 23 48.7**	**-1.3**
TNCL				S	**Sg**	**23 24 02.4**	**-1.1**
PTK	**Pertek**	**1.06**	**288**	Pg	**Pg**	**23 23 50.3**	**+0.1**
GURO	**Guroymak-BITLI**	**1.06**	**90**	Pg	**Pb**	**23 23 50.7**	**+0.1**
MAZI	**Mazidag**	**1.12**	**189**	Pn	**Pb**	**23 23 51.7**	**+0.1**
SRTM	**Siirt_Merkez**	**1.14**	**120**	P	**Pb**	**23 23 50.9**	**-1.0**
SRTM				S	**Sn**	**23 24 08.7**	**+0.7**
SRTM				*i* AML	AML	23 24 10.0	
comp=N,123nm,0.5s							
BLIS	**Bitlis-Merkez**	**1.14**	**97**	P	**Pb**	**23 23 51.7**	**-0.3**
BLIS				S	**Sb**	**23 24 06.8**	**-0.2**
BLIS				*i* AML	AML	23 24 10.0	
comp=N,78nm,0.4s							
MARD	**Mardin**	**1.25**	**176**	P	**Pn**	**23 23 53.2**	**-0.6**
MARD				S	**Sb**	**23 24 08.8**	**-1.4**
MARD				*i* AML	AML	23 24 12.0	
comp=E,150nm,0.4s							
MIDY	**Mardin/Midyat-**	**1.29**	**154**	P	**Pn**	**23 23 53.9**	**-0.4**
MLAZ	**Malazgirt-MUS**	**1.57**	**68**	Pn	**Pn**	**23 23 58.1**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.69**	**32**	Pn	**Pn**	**23 24 00.2**	**+0.3**
AKDM	**Akdamar-Van**	**1.82**	**97**	Pn	**Pn**	**23 24 02.1**	**+0.4**

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*ISN **22** 23:28:48.9±1.1, 34°.62N×46°.29E, h16km±6km, ML2.8*
*TEH **22** 23:28:49.0, 34°.61N×46°.26E, h8km±24km, ML2.7*
ISC 22 23:28:49.1±1.0, 34°.62N±0°.04×46°.26E±0°.03, h9km±9km, n13, σ0s81/18, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.13**	**52**	Pg	**Pg**	**23 28 52.0**	**-0.3**
IDHR				Sg	**Sg**	**23 28 55.3**	**+0.8**
IGHG	**Ghaleghazi**	**0.38**	**139**	Pg	**Pg**	**23 28 57.0**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.57**	**259**	Pg	**Pg**	**23 29 00.5**	**+0.4**
GLG1	**Gilan-e-Gharb**	**0.58**	**210**	Pg	**Pg**	**23 29 00.3**	**-0.2**
ILIN	**Lien**	**0.65**	**62**	Pg	**Pb**	**23 29 01.9**	**-0.9**
ILBA	**Ilam Banvizeh**	**0.99**	**183**	Pg	**Pg**	**23 29 07.8**	**-0.4**
SNQR	**Sonqor, Kerman**	**1.15**	**78**	Pg	**Pn**	**23 29 11.5**	**-0.1**
IBZA	**Bozab**	**1.33**	**96**	Pg	**Pg**	**23 29 14.6**	**-0.1**
IBDR	**Badra**	**1.53**	**190**	*e*Pg	**Pn**	**23 29 16.5**	**-0.1**
IBDR				*e*Sg	**Sb**	**23 29 37.0**	**-0.1**
IKFM	**Kafar-mosalman**	**1.71**	**129**	Pg	**Pg**	**23 29 22.0**	**+0.1**
IKRK	**Kirkuk**	**1.76**	**297**	*e*Pn	**Pb**	**23 29 21.0**	**-0.6**
IKRK				*e*Sn	**Sb**	**23 29 44.0**	**+0.3**
IKRK				AML	AML	23 29 50.6	
comp=E,119nm,0.7s							
IKRK				AML	AML	23 29 56.7	
comp=N,110nm,0.3s							
BHD	**Baghdad**	**2.06**	**230**	*e*Pn	**Pb**	**23 29 25.0**	**-1.7**
BHD				*e*Sn	**Sb**	**23 29 52.0**	**-0.4**
RAFI	**Al-Rafai**	**2.89**	**183**	*e*Pn	**Pn**	**23 29 37.0**	**+1.7**
RAFI				*e*Sn	**Sn**	**23 30 11.0**	**+0.9**

IDC 22 23:42:24.3±1.8, 1°.52N×126°.49E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=182.7km s-min=21.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.67**	**161**	P	P	23 47 28.1	+0.5
0.5nm,0.3s,baz=340,slow=11,SNR=10							
0.5nm,0.3s							
ASAR	**Alice Springs**	**26.05**	**164**	P	P	23 47 59.6	0.0
0.2nm,0.3s,baz=339,slow=7.4,SNR=1.4							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**59.24**	**326**	P	P	23 52 28.5	+0.8
0.3nm,0.3s,baz=114,slow=7.6,SNR=9.9							
0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**63.47**	**328**	P	P	23 52 56.0	-0.1
0.4nm,0.5s,baz=128,slow=6.5,SNR=6.9							
0.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**123.35**	**287**	PKP	PKPdf	00 01 22.8	-1.8
0.2nm,0.6s,baz=83,slow=2.6,SNR=5.6							

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*IDC **22** 23:43:40.8±5.2, 18°.33S×178°.11W, h393km±53km, mb3.5/9, mbtmp4.2/10, Error ellipse: s-maj=22.2km s-min=20.9km az=161.0*
*NEIC **22** 23:43:48.3±2.0, 18°.5S±0°.2×178°.2W±0°.2, h457km±9km, mb4.1/9, Error ellipse: s-maj=30.6km s-min=21.8km az=147.0*
ISC 22 23:43:46.4±0.6, 18°.4S±0°.1×178°.1W±0°.1, h450km, n58, σ1s27/57, mb4.0/15, 3C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.70**	**280**	P	**P**	**23 45 00.5**	**+1.4**
DZM	**Mont Dzumac**	**14.93**	**253**		**P**	**23 46 56.5**	**-0.4**
DZM	**Mont Dzumac**	**14.93**	**253**	P	**P**	**23 46 54.5**	**-2.5**
4.8nm,0.6s,baz=348,slow=22,SNR=3.6							
ONTNC	**Ouen Toro**	**14.97**	**252**	P	**P**	**23 46 58.6**	**+1.4**
URZ	**Urewera**	**20.21**	**191**	P	**P**	**23 47 46.9**	**-2.6**
2.5nm,0.3s,baz=56,slow=11,SNR=1.9							
2.5nm,0.3s							

ARMA	**Armidale**	**29.92**	**241**	P	**P**	**23 49 17.6**	**+1.2**
CTAO	**Charters Tower**	**33.63**	**261**	P	**P**	**23 49 48.4**	**+0.1**
CTAO				IAmb	IAmb	23 49 49.7	
comp=Z,17nm,1.1s							
STKA	**Stephens Creek**	**38.62**	**242**	P	**P**	**23 50 30.5**	**+0.9**
STKA	**Stephens Creek**	**38.62**	**242**	P	**P**	**23 50 28.4**	**-1.3**
comp=Z,7.0nm,0.5s,baz=88,slow=9.0,SNR=18							
comp=Z,7.0nm,0.5s							
WRA	**Warramunga Arr**	**44.80**	**260**	P	**P**	**23 51 17.9**	**-1.1**
WRA	**Warramunga Arr**	**44.80**	**260**	P	**P**	**23 51 17.6**	**-1.5**
comp=Z,2.5nm,0.3s,baz=98,slow=6.7,SNR=126							
comp=Z,2.5nm,0.3s							
AS31	**Alice Springs**	**44.91**	**255**	P	**P**	**23 51 19.8**	**-0.1**
ASAR	**Alice Springs**	**44.91**	**255**	P	**P**	**23 51 19.8**	**0.0**
ASAR	**Alice Springs**	**44.91**	**255**	P	**P**	**23 51 19.6**	**-0.2**
comp=Z,34nm,0.4s,baz=90,slow=8.5,SNR=327							
ASAR				PcP	**PcP**	**23 52 52.1**	**-0.1**
comp=Z,0.5nm,0.6s,baz=90,slow=7.4,SNR=1.2							
QSPA	**South Pole Qui**	**71.64**	**180**	P	**P**	**23 54 22.3**	**+1.1**
QSPA				IAmb	IAmb	23 54 24.0	
comp=Z,4.2nm,1.0s							
QSPA	**South Pole Qui**	**71.64**	**180**	P	**P**	**23 54 22.0**	**+0.8**
comp=Z,3.1nm,0.9s,baz=349,slow=2.7,SNR=14							
comp=Z,3.1nm,0.9s							
NVAR	**Mina Array Bea**	**79.60**	**44**	P	**P**	**23 55 05.6**	**-0.5**
comp=Z,0.9nm,0.7s,baz=225,slow=8.4,SNR=5.8							
comp=Z,0.9nm,0.7s							
BELA	**Belgrano 2**	**81.63**	**173**	IAmb	IAmb	23 55 16.9	
comp=Z,4.8nm,1.1s							
BELA				P	**P**	**23 55 16.9**	**+1.1**
U15A	**North Rim**	**82.66**	**48**	P	**P**	**23 55 23.3**	**+1.2**
U15A				IAmb	IAmb	23 55 25.3	
comp=Z,2.5nm,0.7s							
TXAR	**Lajitas Array**	**86.04**	**57**	P	**P**	**23 55 39.2**	**+0.5**
comp=Z,1.2nm,0.7s,baz=221,slow=7.2,SNR=19							
comp=Z,1.2nm,0.7s							
ILAR	**Eielson Array**	**86.32**	**13**	P	**P**	**23 55 37.0**	**-2.0**
comp=Z,0.6nm,0.8s,baz=221,slow=5.9,SNR=5.6							
comp=Z,0.6nm,0.8s							
PDAR	**Pinedale Array**	**87.53**	**43**	P	**P**	**23 55 45.5**	**-0.2**
comp=Z,0.6nm,0.7s,baz=201,slow=2.7,SNR=6.2							
comp=Z,0.6nm,0.7s							
G24K	**Hadweenzic Riv**	**87.89**	**12**	P	**P**	**23 55 44.0**	**-2.5**
G24K				IAmb	IAmb	23 56 22.1	
comp=Z,6.7nm,1.4s							
SNAA	**Sanae**	**90.09**	**179**	⇑P	**P**	**23 55 56.5**	**-0.4**
comp=Z,11nm,0.7s							
SNAA	**Sanae**	**90.09**	**179**	P	**P**	**23 55 56.2**	**-0.8**
comp=Z,0.9nm,1.0s,baz=197,slow=14,SNR=1.4							
comp=Z,0.9nm,1.0s							
VNA3	**Neumayer Olymp**	**90.22**	**176**	⇑P	**P**	**23 55 56.9**	**-0.6**
comp=Z,1.8nm,0.5s							
VNA2	**Neumayer--Watz**	**90.66**	**177**	⇑P	**P**	**23 55 59.3**	**-0.2**
comp=Z,0.9nm,0.6s,baz=191,slow=4.2							
ARCES	**ARCESS Array B**	**126.86**	**350**	PKP	**PKPdf**	**00 01 57.2**	**-0.2**
comp=Z,1.3nm,0.9s,baz=48,slow=1.8,SNR=6.9							
FINES	**FINESS Array B**	**133.74**	**344**	PKP	**PKPdf**	**00 02 08.3**	**-2.3**
comp=Z,1.9nm,1.0s,baz=28,slow=6.3,SNR=2.3							
HFS	**Hagfors**	**137.47**	**351**	PKhKP	PKPpre	00 02 08.2	
comp=Z,4.2nm,1.1s,baz=116,slow=3.4,SNR=4.1							
EKA	**Eskdalemuir Ar**	**142.94**	**5**	PKhKP	PKPpre	00 02 23.2	
comp=Z,0.2nm,0.4s,baz=20,slow=2.2,SNR=4.0							
BUR08	**Bucovina Ar. S**	**145.17**	**332**		**PKPdf**	**00 02 33.6**	**+1.7**
RETH	**Rethem/Aller,**	**145.25**	**352**	*e*PKPbc		00 02 32.7	
baz=17,slow=2.7							
BRTR	**Keskin Array B**	**145.32**	**314**	PKPbc	**PKPdf**	**00 02 32.5**	**0.0**
comp=Z,1.1nm,0.6s,baz=140,slow=4.5,SNR=10.0							
FLTG	**Flechtingen**	**145.36**	**350**	*e*PKPbc		00 02 32.7	
baz=17,slow=2.7							
IBBN	**Ibbenburen**	**145.86**	**354**	*e*PKPbc		00 02 34.5	
baz=17,slow=2.7							
OSTC	**Ostas**	**145.95**	**344**	*e*PKP	**PKPdf**	**00 02 35.5**	**+2.5**
CLZ	**Clausthal**	**145.97**	**351**	*e*PKPbc		00 02 35.2	
baz=17,slow=2.7							
CLL	**Collm**	**146.01**	**347**		**PKPdf**	**00 02 34.9**	**+1.8**
CLL	**Collm**	**146.01**	**347**	*e*PKPbc		00 02 34.9	
baz=17,slow=2.7							
DPC	**Dobruska-Polom**	**146.10**	**343**	*e*PKP	**PKPdf**	**00 02 35.8**	**+2.5**
BRG	**Berggiesshubel**	**146.22**	**346**	*e*PKPbc		00 02 35.6	
baz=17,slow=2.7							
KRLC	**Kraliky**	**146.22**	**343**	*e*PKP	**PKPdf**	**00 02 36.2**	**+2.7**
GTTG	**Gottingen**	**146.32**	**351**	*e*PKPbc		00 02 36.3	
baz=17,slow=2.7							
PVCC	**Panska Ves**	**146.39**	**345**	*e*PKP	**PKPdf**	**00 02 36.7**	**+3.0**
KASTN	**Kahler Asten**	**146.87**	**352**	*e*PKPbc		00 02 37.4	
baz=17,slow=2.7							
PRU	**Pruhonice**	**146.90**	**345**	*e*PKP	**PKPbc**	**00 02 38.0**	**+0.7**
PLN	**Plauen**	**146.96**	**348**	*e*PKPbc		00 02 38.1	
baz=17,slow=2.7							
TANN	**Tannenbergstha**	**146.97**	**348**	*e*PKPbc		00 02 38.0	
baz=17,slow=2.7							
MANZ	**Manzenberg**	**147.45**	**348**	*e*PKPbc		00 02 39.3	
baz=17,slow=2.7							
ROTZ	**Rotzenmuhle**	**147.63**	**347**	*e*PKPbc		00 02 39.9	
baz=17,slow=2.7

*IDC **22** 23:58:04.8±0.8, 6°.99S×67°.92E, h0km, mb3.9/16, mbtmp3.9/16, MS3.7/25, Error ellipse: s-maj=25.5km s-min=20.7km az=43.0*
*NEIC **22** 23:58:06.2±0.9, 7°.4S±0°.2×68°.0E±0°.1, h10km±2km, mb4.7/23, Error ellipse: s-maj=30.9km s-min=11.4km az=212.0*
*BGR **22** 23:58:13.5, 6°.17S×68°.28E, h33km, mb4.7, Ms3.5, Hypocentre not reviewed by the ISC*
ISC 22 23:58:06.7±0.7, 7°.2S±0°.1×67°.98E±0°.08, h12km, n95, σ1§12/68, mb4.4/44, MS3.7/25, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**4.48**	**96**	Pn	**Pn**	**23 59 13.7**	**-0.6**
	baz=302,slow=18						
H08S1				T	T	00 04 20.5	
	baz=290,slow=78						
H08S3	**Diego Garcia H**	**4.49**	**96**	Pn	**Pn**	**23 59 13.8**	**-0.6**
	baz=302,slow=18						
H08S3				T	T	00 04 23.4	
	baz=290,slow=78						
H08S2	**Diego Garcia H**	**4.50**	**96**	Pn	**Pn**	**23 59 14.0**	**-0.6**
	baz=302,slow=18						
H08S2				T	T	00 04 23.5	
	baz=290,slow=78						
MSEY	**Mahe Island**	**12.68**	**281**	Pn	**Pn**	**00 01 06.2**	**-0.9**
PALK	**Pallekele**	**19.17**	**42**	LR	LR	00 08 19.2	
	comp=Z,300nm,18.8s,baz=319,slow=32						
OPO	**Ambohidratompo**	**23.18**	**239**	LR	LR	00 09 53.9	
	comp=Z,172nm,20.0s,baz=206,slow=30						
GSI	**Gunungsitoli**	**30.71**	**75**	P	**P**	**00 04 20.8**	**-1.1**
GSI				IAmb	IAmb	00 04 22.7	
	comp=Z,24nm,1.2s						
FURI	**Furi**	**33.29**	**298**	LR	LR	00 16 57.4	
	comp=Z,75nm,18.1s,baz=146,slow=34						
CMAR	**Chiang Mai Arr**	**39.78**	**50**	P	**P**	**00 05 39.5**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=241,slow=9.4,SNR=5.3						
CMAR				LR	LR	00 19 57.5	
	comp=Z,34nm,20.0s,baz=225,slow=33						
	comp=Z,1.1nm,0.3s						
H04N2	**CROZET ISLANDS**	**41.26**	**197**	T	T	00 50 14.1	
	baz=25,slow=75,SNR=6.0						
H04N1	**CROZET ISLANDS**	**41.27**	**197**	T	T	00 50 17.8	
	baz=25,slow=75,SNR=5.4						
H04N3	**CROZET ISLANDS**	**41.28**	**197**	T	T	00 50 05.5	
	baz=25,slow=75,SNR=4.9						
LBTB	**Lobatse**	**44.17**	**241**	LR	LR	00 22 53.3	
	comp=Z,126nm,18.3s,baz=75,slow=34						
BOSA	**Boshof**	**45.56**	**237**	LR	LR	00 22 39.3	
	comp=Z,89nm,18.2s,baz=44,slow=32						
GAR	**Garm**	**46.00**	**3**	P	**P**	**00 06 30.5**	**+0.3**
KSH	**Kashi**	**47.05**	**8**	P	**P**	**00 06 37.0**	**-1.5**
KSH				sP	pwP	00 06 44.1	-1.9
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AAK	**Ala-Archa**	**49.94**	**6**	LR	LR	00 28 02.6	
	comp=Z,44nm,18.1s,baz=188,slow=36						
KKAR	**Karatay Array**	**50.10**	**2**	P	**P**	**00 07 02.6**	**+0.9**
TSUM	**Tsumeb**	**50.33**	**251**	LR	LR	00 27 07.3	
	comp=Z,96nm,18.0s,baz=142,slow=35						
SUR	**Sutherland**	**50.43**	**234**	LR	LR	00 25 13.8	
	comp=Z,70nm,20.3s,baz=93,slow=32						
H01W3	**Cape Leeuwin H**	**50.52**	**130**	T	T	01 01 25.6	
	baz=292,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**50.52**	**130**	T	T	01 01 25.9	
	baz=292,slow=75,SNR=9.8						
H01W1	**Cape Leeuwin H**	**50.54**	**130**	T	T	01 01 27.0	
	baz=292,slow=75,SNR=10						
KAPI	**Kappang**	**51.51**	**91**	LR	LR	00 27 56.9	
	comp=Z,111nm,18.4s,baz=256,slow=35						
WMQ	**Urumqi**	**53.82**	**18**	*e*P	**P**	**00 07 33.5**	**+4.0**
WMQ				LR	LR		
	comp=Z,110nm,23.7s						
MAKZ	**Makanchi**	**55.18**	**12**	P	**P**	**00 07 40.4**	**+1.1**
MAKZ				IAmb	IAmb	00 07 48.4	
	comp=Z,5.0nm,0.9s						
MK31	**Makanchi Array**	**55.23**	**12**	P	**P**	**00 07 40.2**	**+0.6**
MKAR	**Makanchi Array**	**55.23**	**12**	P	**P**	**00 07 40.4**	**+0.7**
MKAR	**Makanchi Array**	**55.23**	**12**	P	**P**	**00 07 39.6**	**0.0**
	comp=Z,1.1nm,0.7s,baz=208,slow=8.2,SNR=9.3						
MKAR				LR	LR	00 28 59.2	
	comp=Z,46nm,20.1s,baz=210,slow=34						
	comp=Z,1.1nm,0.7s						
BR131	**Keskin Array S**	**56.45**	**329**	P	**P**	**00 07 48.9**	**+0.3**
BRTR	**Keskin Array B**	**56.45**	**329**	P	**P**	**00 07 46.6**	**-2.0**
	comp=Z,1.5nm,0.9s,baz=138,slow=8.6,SNR=8.0						
	comp=Z,1.5nm,0.9s						
ABKAR	**Akbulak array**	**56.65**	**354**	P	**P**	**00 07 50.9**	**+1.2**
ISP	**Isparta**	**56.78**	**325**	P	**P**	**00 07 52.3**	**+1.3**
ISP				IAmb	IAmb	00 08 02.3	
	comp=Z,7.2nm,1.1s						
AKTO	**Aktyubinsk**	**58.03**	**353**	LR	LR	00 30 11.9	
	comp=Z,26nm,21.8s,baz=337,slow=33						
MDUB	**Mudurnu**	**58.27**	**328**	P	**P**	**00 08 02.2**	**+0.7**
KURBB	**Kurchatov Arra**	**58.30**	**8**	P	**P**	**00 07 59.4**	**-1.9**
	comp=Z,4.3nm,1.0s,baz=212,slow=7.1,SNR=6.1						
	comp=Z,4.3nm,1.0s						
KURK	**Kurchatov**	**58.40**	**8**	P	**P**	**00 08 03.2**	**+1.2**
KURK				IAmb	IAmb	00 08 11.1	
	comp=Z,8.2nm,0.9s						
DAV	**Davao City (W)**	**59.17**	**77**	LR	LR	00 34 21.5	
	comp=Z,53nm,18.3s,baz=225,slow=37						
BVAR	**Borovoye Array**	**60.02**	**2**	P	**P**	**00 08 11.6**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=145,slow=5.4,SNR=5.3						
	comp=Z,1.0nm,0.8s						
MAW	**Mawson**	**60.43**	**182**	LR	LR	00 27 40.0	
	comp=Z,99nm,18.6s,baz=352,slow=29						
NJ2	**Nanjing**	**62.22**	**48**	*e*P	**P**	**00 08 29.1**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZAA0	**Zalesovo Array**	**62.54**	**11**	P	**P**	**00 08 31.0**	**+0.7**
ZAA0				IAmb	IAmb	00 08 38.8	
	comp=Z,3.3nm,0.9s						
ZALV	**Zalesovo Beam**	**62.54**	**11**	P	**P**	**00 08 30.8**	**+0.5**
ZALV	**Zalesovo Beam**	**62.54**	**11**	P	**P**	**00 08 28.9**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=205,slow=6.7,SNR=7.3						
	comp=Z,1.3nm,0.6s						
ARU	**Arti**	**63.87**	**354**	P	**P**	**00 08 39.6**	**+0.6**
ARU				IAmb	IAmb	00 08 48.0	
	comp=Z,5.2nm,1.0s						
FNA	**Florina**	**64.10**	**322**	P	**P**	**00 08 41.2**	**+0.2**
FNA				IAmb	IAmb	00 08 44.0	
	comp=Z,14nm,1.4s						
SONM	**Songino Array**	**64.41**	**28**	P	**P**	**00 08 43.6**	**+0.7**
SONM				IAmb	IAmb	00 08 54.0	
	comp=Z,7.8nm,1.4s						
SONM	**Songino Array**	**64.41**	**28**	P	**P**	**00 08 40.2**	**-2.7**
	comp=Z,0.3nm,0.5s,baz=282,slow=7.2,SNR=1.4						
SONM				LR	LR	00 35 11.7	
	comp=Z,58nm,21.9s,baz=209,slow=35						
	comp=Z,0.3nm,0.5s						
MLR	**Muntele Rosu**	**64.53**	**329**	P	**P**	**00 08 43.2**	**-0.6**
MLR				IAmb	IAmb	00 08 56.7	
	comp=Z,4.2nm,1.1s						
ASAR	**Alice Springs**	**65.12**	**113**	P	**P**	**00 08 48.3**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=285,slow=5.7,SNR=2.9						
	comp=Z,0.6nm,0.7s						
WRA	**Warramunga Arr**	**65.39**	**109**	P	**P**	**00 08 50.5**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=280,slow=6.1,SNR=7.2						
	comp=Z,0.9nm,0.8s						
AKASG	**Malin Array Be**	**66.66**	**334**	P	**P**	**00 08 55.6**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=137,slow=5.7,SNR=3.1						
	comp=Z,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**68.86**	**287**	P	**P**	**00 09 11.5**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=91,slow=8.6,SNR=4.4						
TORD				LR	LR	00 37 22.3	
	comp=Z,49nm,20.0s,baz=134,slow=34						
	comp=Z,1.1nm,1.0s						
SOKA	**Soboth**	**71.25**	**325**	*i* P	**P**	**00 09 26.9**	**+0.9**
	comp=Z,4.2nm,1.5s						
ARSA	**Arzberg**	**71.28**	**325**	*i* P	**P**	**00 09 28.8**	**+2.6**
	comp=Z,4.1nm,1.1s						
KSRS	**Korea Array**	**71.33**	**47**	LR	LR	00 41 25.8	
	comp=Z,50nm,18.5s,baz=240,slow=36						
OBKA	**Obir**	**71.43**	**324**	*i* P	**P**	**00 09 27.2**	**0.0**
	comp=Z,4.2nm,1.2s						
CONA	**Conrad Observa**	**71.47**	**326**	*i* P	**P**	**00 09 27.9**	**+0.6**
	comp=Z,5.7nm,1.6s						
MOA	**Molln**	**72.32**	**325**	*e*P	**P**	**00 09 32.6**	**+0.2**
	comp=Z,3.2nm,0.8s						
BIOA	**Bad Ischl, Aus**	**72.59**	**325**	*i* P	**P**	**00 09 34.9**	**+0.9**
	comp=Z,3.9nm,1.3s						
ABTA	**Abfaltersbach**	**72.75**	**324**	*e*P	**P**	**00 09 35.8**	**+0.8**
	comp=Z,8.0nm,1.6s						
LESA	**Schwarzleotal**	**73.00**	**324**	*i* P	**P**	**00 09 36.9**	**+0.3**
	comp=Z,2.5nm,0.8s						
KHC	**Kasperske Hory**	**73.40**	**326**	*e*P	**P**	**00 09 39.0**	**+0.2**
WTTA	**Wattenberg**	**73.53**	**324**	*i* P	**P**	**00 09 40.2**	**+0.5**
	comp=Z,5.1nm,0.7s						
WATA	**Walderalm**	**73.60**	**324**	*i* P	**P**	**00 09 40.5**	**+0.4**
	comp=Z,8.2nm,1.3s						
SQTA	**Sankt Quirin**	**73.76**	**324**	*i* P	**P**	**00 09 41.6**	**+0.6**
	comp=Z,5.4nm,0.8s						
FETA	**Feichten**	**73.94**	**323**	*i* P	**P**	**00 09 43.0**	**+0.8**
	comp=Z,3.5nm,0.8s						
DBIC	**Dimbokro**	**73.95**	**279**	LR	LR	00 39 47.8	
	comp=Z,34nm,19.9s,baz=101,slow=34						
FUORN	**Ofenpass-Fuorn**	**74.02**	**323**	P	**P**	**00 09 43.6**	**+0.9**
RETA	**Reutte**	**74.16**	**324**	*i* P	**P**	**00 09 43.8**	**+0.5**
	comp=Z,2.9nm,0.9s						
JMN	**Monobe**	**74.40**	**52**	P	**P**	**00 09 45.3**	**+0.4**
TUE	**Stuetta**	**74.51**	**322**	P	**P**	**00 09 46.6**	**+1.1**
TUE				IAmb	IAmb	00 10 00.6	
	comp=Z,8.4nm,1.2s						
DAVA	**Damuels**	**74.58**	**323**	*i* P	**P**	**00 09 46.6**	**+0.8**
	comp=Z,4.0nm,0.7s						
CLL	**Collm**	**74.89**	**328**	P	**P**	**00 09 48.1**	**+0.8**
CLL				IAmb	IAmb	00 09 57.1	
	comp=Z,4.3nm,0.9s						
CLL	**Collm**	**74.89**	**328**	*i* P	**P**	**00 09 48.1**	**+0.8**
	comp=Z,6.0nm,1.3s						
CLL				*i* x	x	00 09 55.8	
	comp=Z,12nm,1.6s						
GRF	**Grafenberg Arr**	**75.00**	**326**	*e*P		00 09 49.0	
	comp=Z,6.9nm,0.9s,baz=121,slow=7.0						
GRF				*e*L		00 47 16.8	
	comp=Z,26nm,21.4s						
GRA1	**Grafenberg Arr**	**75.01**	**326**	P	**P**	**00 09 48.1**	**+0.1**
GRA1				IAmb	IAmb	00 09 57.2	
	comp=Z,11nm,1.2s						
GRFO	**Grafenberg**	**75.01**	**326**	P	**P**	**00 09 48.0**	**-0.1**
GRFO				IAmb	IAmb	00 09 57.2	
	comp=Z,12nm,1.3s						
MOX	**Moxa**	**75.28**	**327**	*e*L		00 45 38.2	
	comp=Z,25nm,18.1s						
SENIN	**Lac Senin/Sane**	**75.71**	**321**	P	**P**	**00 09 52.6**	**+0.1**
FIA1	**FINESS Array S**	**75.77**	**341**	P	**P**	**00 09 53.0**	**+0.9**
FINES	**FINESS Array B**	**75.77**	**341**	P	**P**	**00 09 53.2**	**+1.0**
FINES	**FINESS Array B**	**75.77**	**341**	P	**P**	**00 09 51.4**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=145,slow=7.0,SNR=4.5						
	comp=Z,1.3nm,0.8s						
BFO	**Black Forest**	**76.00**	**324**	P	**P**	**00 09 54.5**	**+0.7**
SNAA	**Sanae**	**77.23**	**198**	P	**P**	**00 10 01.8**	**+1.3**
	comp=Z,1.2nm,1.0s,baz=349,slow=5.3,SNR=3.1						
SNAA				LR	LR	00 37 06.5	
	comp=Z,81nm,19.4s,baz=100,slow=30						
	comp=Z,1.2nm,1.0s						
PMG	**Port Moresby**	**78.23**	**98**	LR	LR	00 42 49.8	
	comp=Z,100nm,18.6s,baz=146,slow=34						
KLR	**Kul'dur**	**78.84**	**37**	LR	LR	00 49 36.5	
	comp=Z,32nm,18.2s,baz=212,slow=39						
GUMO	**Guam**	**79.06**	**75**	LR	LR	00 42 42.4	
	comp=Z,19nm,21.6s,baz=241,slow=34						
HFS	**Hagfors**	**79.50**	**336**	P	**P**	**00 10 11.6**	**-1.5**
	comp=Z,1.8nm,0.8s,baz=114,slow=9.7,SNR=5.4						
	comp=Z,1.8nm,0.8s						
ESDC	**Sonseca Array**	**80.89**	**312**	P	**P**	**00 10 21.3**	**+0.2**
ESDC	**Sonseca Array**	**80.89**	**312**	P	**P**	**00 10 19.3**	**-1.8**
	comp=Z,1.0nm,0.8s,baz=97,slow=4.3,SNR=7.1						
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**81.89**	**346**	LR	LR	00 46 45.8	
	comp=Z,25nm,20.2s,baz=326,slow=36						
EKA	**Eskdalemuir Ar**	**85.34**	**327**	P	**P**	**00 10 43.5**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=110,slow=6.1,SNR=3.7						
	comp=Z,0.5nm,0.5s						
TIXI	**Tiksi**	**87.99**	**16**	LR	LR	00 51 17.4	
	comp=Z,46nm,19.4s,baz=190,slow=36						
RPZ	**Rata Peaks**	**94.43**	**135**	LR	LR	00 47 38.8	
	comp=Z,68nm,19.8s,baz=132,slow=31						
PDAR	**Pinedale Array**	**144.50**	**357**	PKP	PKPbc	00 17 42.2	0.0
	comp=Z,0.4nm,0.5s,baz=104,slow=3.1,SNR=5.6						
NVAR	**Mina Array Bea**	**148.38**	**9**	PKPbc	**PKiKP**	**00 17 54.5**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=350,slow=1.8,SNR=7.9						

*HVO **23** 00:17:25.7±1.0, 19°.413N±0°.004×155°.275W±0°.008, h0km±3km, ML3.6/44, ML3.4/33(NEIC), Error ellipse: s-maj=1.0km s-min=0.6km az=109.0*
*NEIC **23** 00:17:26.1±0.8, 19°.423N±0°.007×155°.285W±0°.007, h2km±2km, Error ellipse: s-maj=1.1km s-min=0.9km az=143.0*
*IDC **23** 00:17:28.0±1.9, 19°.71N×155°.37W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=67.5km s-min=15.9km az=160.0*
ISC 23 00:17:26.7±1.2, 19°.43N±0°.03×155°.29W±0°.03, h2km±5km, n33, σ0§88/30, mb3.6/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.01**	**227**	Pg	**Pg**	**00 17 26.9**	**-0.5**
OBL	**Observatory Le**	**0.01**	**155**		**Pg**	**00 17 26.7**	**-0.7**
UWB	**Uwekahuna B**	**0.01**	**95**		**Pg**	**00 17 27.0**	**-0.4**
SBLHI	**Steaming Bluff**	**0.02**	**86**		**Pg**	**00 17 27.1**	**-0.4**
WRMHI	**West Mtn**	**0.02**	**211**		**Pg**	**00 17 26.9**	**-0.6**
HATHI	**Halema'uma'u T**	**0.03**	**96**	Pg	**Pg**	**00 17 26.9**	**-0.6**
BYL	**Byron's Ledge**	**0.03**	**117**	Pg	**Pg**	**00 17 26.8**	**-0.8**
RIM	**Rim**	**0.03**	**156**		**Pg**	**00 17 27.3**	**-0.3**
KKO	**Keanakako`i**	**0.03**	**143**		**Pg**	**00 17 27.3**	**-0.3**
SDHHI	**Sand Hill**	**0.04**	**189**		**Pg**	**00 17 27.1**	**-0.6**
RSD	**Rainshed**	**0.04**	**14**	Pg	**Pg**	**00 17 27.4**	**-0.3**
RSD				IAML		00 17 28.2	
	comp=N,37μm,0.3s						
PUH	**Pauahi**	**0.09**	**127**		**Pg**	**00 17 28.4**	**-0.1**
PUH				IAML		00 17 29.2	
	comp=E,15μm,1.6s						
MLH	**Mauna Loa**	**0.12**	**306**	Pg	**Pg**	**00 17 28.9**	**-0.2**
MLH				IAML		00 17 32.1	
	comp=N,14μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.12**	**112**	Pg	**Pg**	**00 17 28.6**	**-0.6**
HLP	**Hilina Pali**	**0.13**	**188**		**Pg**	**00 17 27.9**	**-1.4**
HLP				IAML		00 17 32.1	
	comp=N,9μm,0.5s						
STCH	**Steam Cracks**	**0.16**	**105**	Pg	**Pg**	**00 17 29.2**	**-0.7**
STCH				IAML		00 17 32.4	
	comp=E,9μm,1.3s						
STCH				IAML		00 17 32.9	
	comp=N,15μm,0.9s						
HMH	**Humu'ula Sheep**	**0.26**	**314**	Pg	**Pg**	**00 17 31.0**	**-0.7**
HMH				IAML		00 17 36.5	
	comp=E,5μm,0.5s						
HMH				IAML		00 17 39.1	
	comp=N,8μm,0.9s						
JOKA	**Jonika Flow**	**0.27**	**88**		**Pg**	**00 17 30.8**	**-1.2**
JOKA				IAML		00 17 36.4	
	comp=N,8μm,1.3s						
JOKA				IAML		00 17 36.7	
	comp=E,4μm,1.3s						
MLOA	**Mauna Loa Obse**	**0.29**	**292**	Pg	**Pg**	**00 17 32.0**	**-0.5**
MLOA				IAML		00 17 40.2	
	comp=E,6μm,0.8s						
MWH	**Moku'aweowe**	**0.30**	**282**	Pg	**Pg**	**00 17 31.9**	**-0.7**
PAH	**Pahoa**	**0.33**	**78**	Pg	**Pg**	**00 17 31.7**	**-1.4**
KHU	**Kahuku**	**0.36**	**240**	Pg	**Pg**	**00 17 32.7**	**-1.0**
KHU				IAML		00 17 41.0	
	comp=E,4μm,0.7s						
KHU				IAML		00 17 41.9	
	comp=N,4μm,0.7s						
POHA	**Pohakuloa**	**0.40**	**325**	Pg	**Pg**	**00 17 33.4**	**-1.2**
HPO	**Honuapo**	**0.42**	**217**		**Pg**	**00 17 34.0**	**-0.8**
HUH	**Hualalai**	**0.58**	**297**	Pg	**Pg**	**00 17 37.6**	**-0.3**
I59US	**HAWAII INFRASO**	**0.59**	**286**	Pg	**Pg**	**00 17 37.8**	**-0.4**
	baz=119,slow=51						
HPAH	**Hawaii Prepara**	**0.71**	**327**	Pg	**Pg**	**00 17 38.9**	**-1.6**
H11N3	**WAKE ISLAND Hy**	**35.57**	**277**	T	T	01 01 28.5	
	baz=84,slow=73,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	01 01 30.8	
	baz=84,slow=73,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	01 01 30.4	
	baz=84,slow=73,SNR=6.9						
PDAR	**Pinedale Array**	**44.86**	**48**	P	**P**	**00 25 44.4**	**+1.6**
	comp=N,0.2nm,0.6s,baz=243,slow=10.0,SNR=1.8						
	comp=N,0.2nm,0.6s						
ILAR	**Eielson Array**	**45.67**	**5**	P	**P**	**00 25 47.6**	**-1.0**
	comp=N,0.6nm,0.8s,baz=196,slow=7.8,SNR=7.0						
	comp=N,0.6nm,0.8s						
TXAR	**Lajitas Array**	**47.72**	**68**	P	**P**	**00 26 06.0**	**+0.7**
	comp=N,0.7nm,0.8s,baz=259,slow=8.5,SNR=9.2						
	comp=N,0.7nm,0.8s						

*LDG **23** 00:23:25.7±0.1, 46°.40N×2°.08E, h2km, Md1.4/2, Ml2.5/10, Error ellipse: s-maj=1.7km s-min=1.2km az=145.0*

*STR **23** 00:23:26.6±0.8, 46°N±5°×2°±°, h13km±4km, MLv1.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=22.2, preliminary*
ISC 23 00:23:24.5±1.0, 46°.39N±0°.03×2°.13E±0°.02, h18km±4km, n21, σ0§84/42, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCF	**Toulx Ste Croi**	**0.11**	**150**	*e*Pg	**Pg**	**00 23 28.9**	**+0.5**
TCF				*e*Sg	**Sg**	**00 23 30.5**	**-0.5**
	100nm,0.2s						
BGF	**Bois d'Agland**	**0.53**	**71**	*e*Pg	**Pn**	**00 23 36.4**	**-0.7**
BGF				*e*Sg	**Sn**	**00 23 42.9**	**-2.7**
	80nm,0.3s						
VERF	**Verneugheol**	**0.68**	**159**	Pg	**Pn**	**00 23 39.1**	**-0.3**
VERF				Sg	**Sg**	**00 23 47.9**	**+0.7**
AGO	**Saint Agoulin**	**0.77**	**115**	Pg	**Pn**	**00 23 40.9**	**+0.3**
AGO				Sg	**Sn**	**00 23 51.0**	**-0.7**
AVF	**Avril sur Loir**	**0.94**	**64**	*e*Pg	**Pg**	**00 23 43.8**	**+1.0**
AVF				*e*Sg	**Sn**	**00 23 55.1**	**-0.6**
	7.7nm,0.3s						
HYF	**Humbligny**	**0.95**	**22**	*e*Sg	**Sn**	**00 23 55.4**	**-0.7**
	15nm,0.2s						
FRNF	**Fournols**	**1.04**	**163**	Pg	**Pg**	**00 23 45.8**	**+1.0**
FRNF				Sg	**Sg**	**00 23 59.3**	**+0.7**
RJF	**Les Rejaudoux**	**1.16**	**202**	*e*Pg	**Pg**	**00 23 47.1**	**0.0**
RJF				*e*Sg	**Sn**	**00 24 02.0**	**+0.7**
	21nm,0.2s						
SSF	**Saint Saulge**	**1.16**	**54**	*e*Pg	**Pg**	**00 23 47.8**	**+0.7**
SSF				*e*Sg	**Sg**	**00 24 02.3**	**0.0**
	8.2nm,0.2s						
SMF	**Signal de Mont**	**1.21**	**77**	*e*Pg	**Pg**	**00 23 49.0**	**+1.0**
SMF				*e*Sg	**Sg**	**00 24 03.6**	**-0.2**
	8.0nm,0.2s						
LBL	**Lubilhac**	**1.40**	**145**	Pn	**Pg**	**00 23 51.0**	**-0.4**
LBL				Sn	**Sg**	**00 24 09.0**	**-0.6**
COLF	**Collangettes**	**1.40**	**128**	P	**Pg**	**00 23 50.7**	**-0.8**
COLF				Pn	**Pb**	**00 23 51.3**	**+1.2**
COLF				Sn	**Sg**	**00 24 10.1**	**+0.5**
CAF	**Calviac**	**1.46**	**182**	*e*Pn	**Pb**	**00 23 51.0**	**-0.2**
CAF	**Calviac**	**1.46**	**182**	*e*Pg	**Pg**	**00 23 53.1**	**+0.4**
CAF				*e*Sn	**Sb**	**00 24 09.7**	**+0.3**
CAF				*e*Sg	**Sg**	**00 24 11.2**	**-0.6**
	9.2nm,0.2s						
LOR	**Lormes**	**1.48**	**53**	*e*Pg	**Pg**	**00 23 53.5**	**+0.4**
	baz=237						
LOR				*e*Sg	**Sg**	**00 24 12.2**	**-0.2**
	16nm,0.2s						
MFF	**Saint Martin d**	**1.59**	**279**	*e*Pg	**Pg**	**00 23 55.0**	**-0.1**
MFF				*e*Sg	**Sb**	**00 24 14.7**	**+1.7**
	5.1nm,0.2s						
MFF	**Saint Martin d**	**1.59**	**279**	Pn	**Pg**	**00 23 54.8**	**-0.2**
MFF				Sn	**Sg**	**00 24 15.2**	**-0.5**
LFF	**La Frestale**	**1.74**	**214**	*e*Pg	**Pg**	**00 23 58.0**	**-0.1**
LFF				*e*Sg	**Sg**	**00 24 19.8**	**-0.9**
	1.4nm,0.2s						
CHIF	**Chize**	**1.78**	**263**	Pn	**Pb**	**00 23 56.8**	**+0.2**
CHIF				Sn	**Sb**	**00 24 19.1**	**+0.7**
SSB	**Saint Sauveur**	**2.02**	**122**	Pn	**Pb**	**00 23 59.8**	**-0.9**
MONQ	**Montcuq**	**2.12**	**198**	P	**Pn**	**00 24 00.0**	**+0.9**
MONQ				Pn	**Pb**	**00 24 01.0**	**-1.4**
MONQ				Sn	**Sn**	**00 24 25.0**	**0.0**

*TEH **23** 00:39:10.9, 34°.61N×46°.26E, h10km±18km, ML2.7*
*ISN **23** 00:39:11.3±1.6, 34°.64N×46°.26E, h18km±19km, ML2.6*
ISC 23 00:39:11.2±1.0, 34°.62N±0°.04×46°.27E±0°.03, h13km±9km, n12, σ0§38/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.12**	**53**	Pg	**Pg**	**00 39 14.4**	**-0.2**
IDHR				Sg	**Sg**	**00 39 17.3**	**+0.2**
IGHG	**Ghaleghazi**	**0.39**	**140**	Pg	**Pg**	**00 39 19.2**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.57**	**258**	Pg	**Pg**	**00 39 22.2**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.59**	**210**	Pg	**Pg**	**00 39 22.3**	**-0.4**
ILIN	**Lien**	**0.64**	**63**	Pg	**Pg**	**00 39 23.7**	**-0.1**
KCHF	**Cheshme Sefid,**	**0.73**	**118**	Pg	**Pg**	**00 39 25.3**	**-0.1**
ILBA	**Ilam Banvizeh**	**1.00**	**183**	Pg	**Pb**	**00 39 30.0**	**-0.4**
SNQR	**Sonqor, Kerman**	**1.15**	**78**	Pg	**Pb**	**00 39 32.9**	**-0.1**
IBZA	**Bozab**	**1.32**	**96**	Pg	**Pg**	**00 39 36.5**	**-0.1**
IBDR	**Badra**	**1.54**	**191**	*e*Pg	**Pn**	**00 39 38.5**	**+0.2**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**00 40 01.0**	**+0.4**
IKRK	**Kirkuk**	**1.76**	**297**	*e*Pn	**Pb**	**00 39 43.0**	**-0.4**
IKRK				*e*Sn	**Sb**	**00 40 06.0**	**+0.6**
IKRK				AML	AML	00 40 11

FNO	Franklin	1.60	148		Pn	00 48 43.6	+0.1
DEOK	Depew	1.75	116	Pn	Pn	00 48 45.7	+0.2
R32A	Long Quarter,	1.81	353		Pn	00 48 46.6	+0.3
WMOK	Wichita Mounta	1.90	188		Pn	00 48 48.0	+0.5
W35A	Tecumseh	1.94	139	Pn	Pn	00 48 47.5	-0.6
X34A	Smith Ranch, M	2.08	166		Pn	00 48 50.6	+0.6
SMWD	Samnorwood	2.11	224		Pn	00 48 50.6	+0.2
TUL3	Leonard	2.26	108	Pn	Pn	00 48 52.9	+0.5
CBKS	Cedar Bluff	2.42	335	Pn	Pn	00 48 54.9	+0.3
RLO	Rose Lookout	2.80	98		Pg	00 49 07.2	-0.8
LOOK	Love County	2.82	158		Pn	00 49 00.1	-0.1
LOOK				IAmb_Lg		00 49 49.1	
	comp=Z,14nm,0.8s						
WTFS	Witchita Falls	2.85	180	Pn	Pn	00 48 59.6	-1.0
WTFS				Pg	Pb	00 49 06.7	+0.9
AMTX	Amarillo	3.15	238		Pb	00 49 12.3	+1.3
AMTX				IAmb_Lg		00 49 57.3	
	comp=Z,13nm,1.1s						
X37A	Clayton	3.22	128		Pn	00 49 05.5	-0.2
X37A				IAmb_Lg		00 50 04.8	
	comp=Z,13nm,0.7s						
U38A	Gravette	3.27	92		Pg	00 49 16.1	-1.0
Z35A	Perchaven, San	3.43	163	Pn	Pn	00 49 09.3	+0.8
RTBA	Rita Blanca	3.46	268		Pn	00 49 07.8	-1.3
APMT	Aspermont	3.57	203		Pg	00 49 21.8	-1.0
APMT				IAmb_Lg		00 50 13.2	
	comp=Z,14nm,1.2s						
DKNS	Dickens	3.58	215		Pb	00 49 19.5	+1.2
HHAR	Hobbs	3.65	94		Pb	00 49 21.4	+2.0
FW06	Azle	3.71	168		Pb	00 49 21.8	+1.2
PLPT	Palo Pinto	3.80	178	Pn	Pn	00 49 13.8	+0.1
KSCO	Kaye Shedlock'	4.08	307	Pn	Pn	00 49 18.0	+0.3
ABTX	Abilene, Hawle	4.11	194	IAmb_Lg		00 50 25.6	
	comp=Z,12nm,1.1s						
MIAR	Mount Ida	4.47	116	IAmb_Lg		00 50 44.0	
	comp=Z,8.8nm,0.8s						
MGMO	Mountain Grove	4.98	82	IAmb_Lg		00 50 53.1	
	comp=Z,7.5nm,0.7s						
X40A	Basin Creek Fa	5.04	113	IAmb_Lg		00 50 59.3	
	comp=Z,7.0nm,0.8s						
FCAR	Ozark Folk Cen	5.16	96	IAmb_Lg		00 51 06.4	
	comp=Z,8.4nm,0.7s						
SGCY	Sterling City	5.20	206	IAmb_Lg		00 51 13.3	
	comp=Z,8.2nm,0.8s						
BRDY	Brady	5.34	185	IAmb_Lg		00 51 06.2	
	comp=Z,8.7nm,1.2s						
SDCO	Great Sand Dun	5.75	283	IAmb_Lg		00 51 21.9	
	comp=Z,5.4nm,1.1s						
Q24A	Divide	5.80	296	IAmb_Lg		00 51 24.4	
	comp=Z,7.5nm,0.8s						
P40A	Paris	5.82	58	IAmb_Lg		00 51 23.7	
	comp=Z,6.6nm,0.8s						
435B	Jarrell	5.87	173	IAmb_Lg		00 51 24.9	
	comp=Z,7.6nm,0.7s						
LCAR	Lake Charles	5.91	93	IAmb_Lg		00 51 20.4	
	comp=Z,6.8nm,0.7s						
T42A	Van Buren	5.91	84	IAmb_Lg		00 51 26.1	
	comp=Z,6.2nm,0.7s						
CCM	Cathedral Cave	5.91	74	IAmb_Lg		00 51 26.1	
	comp=Z,11nm,0.8s						
JCT	Junction City	6.23	191	IAmb_Lg		00 51 39.6	
	comp=Z,7.6nm,0.8s						
ISCO	Idaho Springs	6.47	301	IAmb_Lg		00 51 45.1	
	comp=Z,4.7nm,0.8s						
CGM3	Cape Girardeau	7.07	82	IAmb_Lg		00 52 00.2	
	comp=Z,6.8nm,0.7s						
N23A	Red Feather La	7.25	308	IAmb_Lg		00 52 07.1	
	comp=Z,7.0nm,0.8s						

*IDC **23** 00:51:48.7±1.4, 1°.15N×127°.98E, h0km, mb3.6/5, mbtmp3.7/5, Error ellipse: s-maj=117.3km s-min=20.1km az=69.0*
*DJA **23** 00:51:50.0±0.6, 1°.N±4°×12°.8E±°, h11km±6km, M3.6/5, MLv3.6/5*
ISC 23 00:51:50.1±1.2, **1°.06N**±0°.09×**127°.8E**±0°.2, **h10**km, **n7**, σ0°.**70**/8, **mb3.7**/5, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.55	239	P	Pg	00 52 01.0	+0.1
LBMI	Labuha	1.72	191	P	Pn	00 52 19.5	-0.7
LBMI				S	Sn	00 52 42.7	+0.5
WRA	Warramunga Arr	21.82	163	P	P	00 56 42.5	-0.4
	0.9nm,0.5s,baz=344,slow=11,SNR=11						
	0.9nm,0.5s						
ASAR	Alice Springs	25.27	167	P	P	00 57 18.1	+1.2
	1.1nm,0.6s,baz=347,slow=11,SNR=10						
	1.1nm,0.6s						
SONM	Songino Array	50.17	341	P	P	01 00 46.1	+0.1
	0.2nm,0.5s,baz=151,slow=9.9,SNR=2.1						
	0.2nm,0.5s						
MKAR	Makanchi Array	60.37	326	P	P	01 01 59.8	+0.2
	0.5nm,0.4s,baz=121,slow=8.0,SNR=8.5						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	64.57	328	P	P	01 02 27.2	-0.4
	0.5nm,0.4s,baz=126,slow=6.1,SNR=5.0						
	0.5nm,0.4s						

IDC 23 00:53:49.4±1.7, **6°.93S**×**128°.85E**, **h0**km, **mb3.7**/2, **mbtmp3.6**/4, **ML3.7**/2, **Error ellipse: s-maj=117.4km s-min=29.7km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.99	158	Pn	Pn	00 57 09.3	+0.2
	0.4nm,0.3s,baz=337,slow=13,SNR=21						
WRA				Sn	Sn	00 59 30.2	-15
	1.2nm,0.3s,baz=332,slow=23,SNR=11						
	0.5nm,0.4s						
ASAR	Alice Springs	17.34	164	P	Pn	00 57 52.9	-0.2
	0.3nm,0.3s,baz=344,slow=11,SNR=8.7						
	1.0nm,0.6s						
MKAR	Makanchi Array	67.55	327	P	P	01 04 48.3	+0.7
	0.5nm,0.5s,baz=124,slow=8.2,SNR=7.1						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	71.86	329	P	P	01 05 13.4	-0.7
	0.3nm,0.4s,baz=128,slow=5.4,SNR=5.4						
	0.3nm,0.4s						

*NAO **23** 00:59:31.0, 32°.32N×47°.23E, h33km, mb3.9*
*BGR **23** 00:59:39.6, 32°.33N×45°.93E, h33km, mb4.5, Hypocentre not reviewed by the ISC*
*ISN **23** 00:59:47.8±1.0, 34°.66N×46°.30E, h17km±5km, ML4.5*
*TEH **23** 00:59:47.6, 34°.61N×46°.30E, h6km±35km, ML4.4*
*IDC **23** 00:59:48.0±0.8, 34°.67N×46°.14E, h0km, mb4.1/20, mbtmp4.1/27, ML3.8/5, MS3.6/46, Error ellipse: s-maj=17.8km s-min=12.0km az=165.0*
*NEIC **23** 00:59:49.7±2.2, 34°.56N±0°.05×46°.22E±0°.08, h10km±1km, mb4.3/57, Error ellipse: s-maj=12.3km s-min=6.0km az=235.0*
*MOS **23** 00:59:49.1±1.2, 34°.66N×46°.21E, h15km, mb4.5/44, Error ellipse: s-maj=6.6km s-min=3.3km az=122.2*
*SGS **23** 00:59:53.0, 34°.62N×46°.15E, h19km, Ml5.2*
ISC 23 00:59:48.9±0.3, **34°.57N**±0°.02×**46°.30E**±0°.03, **h10**km, **n511**, σ1.**91**/495, **mb4.4**/93, **MS3.6**/57, **33C-34D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.15	30	Pg	Pg	00 59 51.3	-1.0
IGHG	Ghaleghazi	0.33	137	Pg	Pb	00 59 56.6	-0.4
GLG1	Gilan-e-Gharb	0.56	215	Pg	Pb	00 59 59.6	-1.1
KGS1	Ghasr-e-Shirin	0.59	264	Pg	Pb	00 59 59.8	-1.4
ILIN	Lien	0.65	57	Pg	Pb	01 00 00.6	-1.8
KCHF	Cheshme Sefid,	0.68	115	Pg	Pb	01 00 02.2	-0.8
ILBA	Ilam Banvizeh	0.95	184	Pg	Pn	01 00 07.8	-0.5
SNQR	Sonqor, Kerman	1.13	75	Pg	Pn	01 00 10.5	-0.6
IBZA	Bozab	1.30	94	Pg	Pg	01 00 13.8	0.0
IBDR	Badra	1.49	192	ePg	Pg	01 00 16.5	-0.9
IBDR				eSg	Sg	01 00 37.0	+0.3
IKFM	Kafar-mosalman	1.66	129	Pg	Pg	01 00 19.8	-0.9
IKRK	Kirkuk	1.81	298	ePn	Pn	01 00 19.0	-1.1
IKRK				eSn	Sb	01 00 43.0	-1.8
IKRK				AML	AML	01 00 49.3	
	comp=N,7μm,0.7s						
IKRK				AML	AML	01 00 52.4	
	comp=E,5μm,0.8s						
HSAM	Samen	1.94	100	Pn	Pg	01 00 24.3	-1.8
BHD	Baghdad	2.05	231	ePn	Pb	01 00 24.0	-2.2
BHD				eSn	Sb	01 00 51.0	-0.8
MAHB	Mahabad	2.24	348	Pn	Pb	01 00 27.8	-1.8
IHSH	Hashtrud	2.84	16	Pn	Pb	01 00 36.5	-3.4
RAFI	Al-Rafai	2.84	183	ePn	Pn	01 00 36.0	+1.7
RAFI				eSn	Sn	01 01 11.0	+2.4
IAZR	Azarshahr	3.11	355	Pn	Pb	01 00 40.4	-4.0
ISRB	Sarab	3.43	18	Pn	Pb	01 00 44.5	-5.4
ITBZ	Tabriz	3.66	358	Pn	Pn	01 00 47.7	+2.1
IHRS	Heris	3.79	9	Pn	Pn	01 00 49.7	+2.1
IQOM	Qom	3.94	85	Pn	Pn	01 00 51.7	+2.0
LHJ2	Lahijan - Gila	4.01	49	Pn	Pn	01 00 52.5	+2.2
IMRD	Marand	4.16	354	Pn	Pn	01 00 54.6	+2.0
IPIR	Pirpir	4.27	115	Pn	Pn	01 00 56.4	+2.2
JHBN	Jahan bin	4.34	121	Pn	Pn	01 00 57.3	+2.2
GRMI	Germi	4.42	16	Pn	Pn	01 00 58.4	+2.2
IVRN	Varamin	4.49	83	Pn	Pn	01 00 59.2	+2.2
IKLH	Kolahrood	4.56	104	Pn	Pn	01 01 00.9	+2.7
IDMV	Damavand	4.81	76	Pn	Pn	01 01 04.0	+2.4
KRSH	Karsahi	4.87	95	Pn	Pn	01 01 04.9	+2.5
ISFB	Sefidab	4.92	91	Pn	Pn	01 01 05.1	+2.2
IBRJ	Brojen	4.93	121	Pn	Pn	01 01 04.9	+1.6
MAKU	Maku	4.95	345	Pn	Pn	01 01 05.3	+1.9
GURO	Guroymak-BITLI	5.25	320	Pn	Pn	01 01 08.2	+0.7
IZEF	Zefreh	5.30	107	Pn	Pn	01 01 11.0	+2.7
IFIR	Firoozkooh	5.40	77	Pn	Pn	01 01 12.0	+2.3
KBD	Kabd	5.51	167	P	Pn	01 01 13.3	+2.4
KBD				S	Sn	01 02 17.1	+2.7
ILAS	Lasjerd	5.53	80	Pn	Pn	01 01 13.9	+2.4
GNI	Garni	5.71	348	Pn	Pn	01 01 18.1	+4.3
	comp=E,1.3nm,0.3s,baz=177,slow=3.3,SNR=6.5						
GNI				Sn	Sn	01 02 17.8	-1.6
	comp=E,1.8nm,0.3s,baz=253,slow=8.2,SNR=4.4						
GNI				Lg	Lg	01 02 53.2	
	comp=E,0.4nm,0.3s,baz=311,slow=13,SNR=3.6						
GNI	Garni	5.71	348	dePn	Pn	01 01 17.5	+3.7
IRAM	Ramesheh	5.80	117	Pn	Pn	01 01 17.1	+2.0
KFJS2	Khafji	6.46	163	P	Pn	01 01 26.0	+2.0
KARS	Kars	6.56	338	Pn	Pn	01 01 25.4	-0.2
KARS	Kars	6.56	338	P	Pn	01 01 25.4	-0.2
QYSM	Um Kedad	6.71	176	P	Pn	01 01 29.7	+2.1
ISAD	Sadrabad	6.73	111	Pn	Pn	01 01 30.3	+2.2
ARPR	Arapgir-MALATY	7.82	308		Pn	01 01 43.0	+0.2
GAZ	Gaziantep	7.82	292	Pn	Pn	01 01 42.5	-0.2
WANAN	Al Wanan	7.87	166	P	Pn	01 01 45.2	+1.8
MAK	Makhachkala	8.43	6	diP	Pn	01 01 51.6	+0.6
MAK				eS	Sn	01 03 29.1	+2.9
MAK				pmax	pmax		
	comp=Z,93nm,1.1s						
MAK				MLR	MLR		
	comp=Z,777nm,14.0s						
TPRV	Parvadeh(Tabas	8.78	97	Pn	Pn	01 01 58.7	+2.7
NATI	Neve Ativ	8.87	265	P	Pn	01 01 57.3	+0.2
SHMJ	Saham	8.97	261	P	Pn	01 02 00.8	+2.3
BOQSS		9.07	162	P	Pn	01 02 00.4	+0.6
NCK	Nalchik	9.16	348	⇓eP	Pn	01 02 06.5	+5.5
NCK				pmax	pmax		
	comp=Z,28nm,2.3s						
MMAI	Mount Meron Ar	9.20	263	Pn	Pn	01 02 02.5	+0.9
	comp=Z,2.5nm,0.3s,baz=73,slow=17,SNR=7.4						
MMAI				Lg	Lg	01 04 37.0	
	comp=Z,2.6nm,0.3s,baz=76,slow=40,SNR=2.5						
MMAI				LR	LR	01 06 20.5	
	comp=Z,449nm,19.5s,baz=20,slow=43						
	comp=Z,1.2nm,0.3s						
RMAH	Rumah	9.21	177	P	Pn	01 02 03.4	+1.5
SWQJ	Swaqa	9.22	252	P	Pn	01 02 07.2	+5.2
QRNJ	Al-Qirein	9.23	259	P	Pn	01 02 03.7	+1.7
SBZV	Sabzevar	9.40	76	Pn	Pn	01 02 06.5	+1.9
BNN	Bunyan	9.41	300	Pn	Pn	01 02 04.9	+0.2
BLGI	Bet Lehem HaGe	9.44	262	P	Pn	01 02 06.9	+2.0
UJAP	Al Uja	9.44	257	P	Pn	01 02 07.8	+3.0
KBZ	Khabaz	9.52	345	Pn	Pn	01 02 11.1	+5.2
	comp=Z,0.1nm,0.3s,baz=131,slow=8.0,SNR=11						
KBZ				LR	LR	01 05 59.9	
	comp=Z,213nm,19.6s,baz=152,slow=40						
KBZ	Khabaz	9.52	345	diP	Pn	01 02 11.7	+5.8
KBZ				pmax	pmax		
	comp=Z,12nm,1.5s						
KURES	Khurais	9.58	169	P	Pn	01 02 08.4	+1.7
SHA1	Shidzhatmaz	9.58	344	dePn	Pn	01 02 13.0	+6.0
KARJ	KARJ	9.59	252	P	Pn	01 02 06.2	-0.8
DSI	Dead Sea	9.64	255	P	Pn	01 02 11.7	+4.1
HOFOF	Al Hofuf	9.66	160	P	Pn	01 02 09.9	+2.0
SLTI	Sal'it	9.69	259	P	Pn	01 02 10.5	+2.1
KVAR	Kislovodsk Arr	9.78	345	LR	LR	01 05 34.1	
	comp=Z,636nm,20.8s,baz=64,slow=36						
KIV	Kislovodsk	9.78	344	eP	Pn	01 02 15.6	+6.0
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,95nm,12.0s						
YTIR	Yattir	9.92	254	P	Pn	01 02 15.4	+3.8
AMAZ	Amatzia	10.02	256	P	Pn	01 02 15.9	+3.0
NHRD	Haradh	10.10	166	P	Pn	01 02 14.2	+0.3
ZFRI	Zfri	10.20	250	P	Pn	01 02 21.1	+5.8
SOC	Sochi	10.35	332	eP	Pn	01 02 18.4	+1.1
SOC				e		01 04 17.5	
SOC				pmax	pmax		
	comp=Z,11nm,0.7s						
SOC				MLR	MLR		
	comp=Z,334nm,17.0s						
SMRA	Abu-Samra	10.55	157	P	Pn	01 02 20.1	-0.1
SMRA				S	Sn	01 04 13.3	-5.1
AQBJ	Aqaba	10.68	246	P	Pn	01 02 28.3	+6.4
TRNA	Turayna	10.69	155	P	Pn	01 02 23.5	+1.5
TRNA				S	Sn	01 04 18.5	-3.3
KHRJ	Al Kharj	10.76	173	P	Pn	01 02 22.9	-0.2
GOF	Gofitskoye	10.77	348	cePn	Pn	01 02 20.0	-3.1
EIL	Elat	10.79	246	Pn	Pn	01 02 22.5	-0.8
	comp=Z,0.5nm,0.3s,baz=126,slow=5.2,SNR=4.9						
EIL				Lg	Lg	01 05 34.5	
	comp=Z,0.9nm,0.3s,baz=98,slow=21,SNR=4.5						
EIL				LR	LR	01 06 50.0	
	comp=Z,120nm,19.1s,baz=68,slow=39						
	comp=Z,2.8nm,0.6s						
LABN	Labinsk	10.93	339	eP	Pn	01 02 27.2	+1.9
LABN				eS	Sn	01 04 32.3	+4.6
LABN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
LABN				MLR	MLR		
	comp=Z,394nm,10.0s						
RAYN	Ar Rayn	11.03	184	Pn	Pn	01 02 25.2	-1.6
RAYN	Ar Rayn	11.03	184	iPn	Pn	01 02 24.8	-2.0
	SNR=9.5						
RAYN	Ar Rayn	11.03	184	P	Pn	01 02 25.6	-1.2
RAYN	Ar Rayn	11.03	184	P	Pn	01 02 25.2	-1.6
BR104	Keskin Array S	11.32	301	P	Pn	01 02 34.8	+4.0
	comp=Z,8.3nm,0.9s,comp=Z,65nm						
BR131	Keskin Array S	11.33	301		Pn	01 02 32.8	+1.8
BR131	Keskin Array S	11.33	301	cePn	Pn	01 02 34.6	+3.7
BRTR	Keskin Array B	11.33	301	Pn	Pn	01 02 33.0	+2.1
BRTR	Keskin Array B	11.33	301	Pn	Pn	01 02 33.5	+2.6
	comp=Z,0.1nm,0.3s,baz=121,slow=12,SNR=38						
BRTR				Lg	Lg	01 05 56.2	
	baz=240,slow=43,SNR=2.3						
BRTR				LR	LR	01 07 53.4	
	comp=Z,248nm,21.4s,baz=120,slow=43						
	comp=Z,6.2nm,0.8s						
BRTR	Keskin Array B	11.33	301	P	Pn	01 02 33.0	+2.1
BR105	Keskin Array S	11.35	301	P	Pn	01 02 35.2	+4.1
	comp=Z,9.5nm,1.1s,comp=Z,76nm						
SLWR	Sila	11.47	154	P	Pn	01 02 33.4	+0.7
SLWR				S	Sn	01 04 35.7	-5.3
ERBR	Yeremizino-Bor	11.98	340	eP	Pn	01 02 39.0	-0.7
ERBR				eS	Sn	01 04 54.7	+1.4
ERBR				pmax	pmax		
	comp=Z,48nm,1.7s						
ERBR				MLR	MLR		
	comp=Z,285nm,16.0s						
ANTO	Ankara	11.99	300	Pn	Pn	01 02 42.9	+3.1
ANTO	Ankara	11.99	300	⇑P	Pn	01 02 44.7	+4.8
ANTO	Ankara	11.99	300	P	Pn	01 02 42.9	+3.1
ANTO	Ankara	11.99	300	P	Pn	01 02 44.4	+4.5
	comp=Z,7.0nm,1.0s,comp=Z,185nm						
BR231	Keskin MP Arra	11.99	300	Pn	Pn	01 02 44.1	+4.2
SHME	Shamm	12.01	132	iPn	Pn	01 02 39.4	-0.8
	SNR=13						
SHME	Shamm	12.01	132	P	Pn	01 02 40.2	0.0
SHME				P	Pn	01 02 40.2	0.0
SHME				S	Sn	01 04 51.5	-2.7
SHME				S	Sn	01 04 51.5	-2.7
GHWR	Ruwais	12.02	150	P	Pn	01 02 42.8	+2.4
GHWR				S	Sn	01 04 53.7	-0.8
UMQ	Umm Al-Quwin	12.12	136	P	Pn	01 02 43.5	+1.9
BANOM	Banah	12.20	132	Pn	Pn	01 02 41.0	-1.8
BANOM	Banah	12.20	132	P	Pn	01 02 42.2	-0.6
ANN	Anapa	12.28	329	eP	Pn	01 02 43.7	0.0
ANN				pmax	pmax		
	comp=Z,38nm,0.8s						
ANN				MLR	MLR		
	comp=Z,468nm,15.0s						
AJN	Ajban	12.51	141	iPn	Pn	01 02 47.5	+0.5
	SNR=7.8						
AJN	Ajban	12.51	141	P	Pn	01 02 48.9	+1.9
AJN				P	Pn	01 02 48.9	+1.9
AJN				S	Sn	01 05 02.3	-4.0
AJN				S	Sn	01 05 02.3	-4.0
MASF	Masafi	12.53	134	P	Pn	01 02 47.1	-0.1
	SNR=6.9						
MASF				P	Pn	01 02 47.1	-0.1
	SNR=6.9						
MASF				S	Sn	01 05 04.8	-2.1
MASF				S	Sn	01 05 04.8	-2.1
NAZ	Nazwa, Dubai	12.54	137	iPn	Pn	01 02 47.7	+0.3
	SNR=29						
NAZ	Nazwa, Dubai	12.54	137	P	Pn	01 02 48.4	+1.1
	SNR=16						
NAZ				S	Sn	01 05 04.0	-3.0
MSFE	Esma-Masafi	12.54	134	iPn	Pn	01 02 45.9	-1.5
	SNR=8.2						
MSFE				Sn	Sn	01 04 57.1	-10
ASUD	Al Ashush, Dub	12.64	139	iPn	Pn	01 02 48.8	0.0
	SNR=23						
ASUD	Al Ashush, Dub	12.64	139	P	Pn	01 02 49.8	+1.0
ASUD				S	Sn	01 05 06.4	-3.2
MDH	Madha	12.66	134	iPn	Pn	01 02 47.7	-1.4
	SNR=6.6						
MDH	Madha	12.66	134	P	Pn	01 02 49.2	+0.2
MDH				P	Pn	01 02 49.2	+0.2
MDH				S	Sn	01 05 04.6	-5.6
MDH				S	Sn	01 05 04.6	-5.6
FAQ	Al Faqa, Dubai	12.69	138	iPn	Pn	01 02 49.5	+0.1
	SNR=6.6						
FAQ	Al Faqa, Dubai	12.69	138	P	Pn	01 02 50.0	+0.6
	SNR=6.6						
FAQ				S	Sn	01 05 05.3	-5.5
UOSS	Minazif	12.88	136	Pn	Pn	01 02 50.5	-1.5
UOSS	Minazif	12.88	136	iPn	Pn	01 02 50.6	-1.5
	SNR=13						
UOSS	Minazif	12.88	136	P	Pn	01 02 51.9	-0.2
UOSS				P	Pn	01 02 51.9	-0.2
UOSS				S	Sn	01 05 09.4	-6.0
UOSS				S	Sn	01 05 09.4	-6.0
HATD	Hatta, Dubai	12.93	136	iPn	Pn	01 02 52.0	-0.7
	SNR=26						
HATD	Hatta, Dubai	12.93	136	P	Pn	01 02 52.8	+0.1
	SNR=10						
HATD				S	Sn	01 05 11.8	-4.9
ASHO	Ashiyiah	13.00	137	iPn	Pn	01 02 52.5	-1.2
	SNR=31						
ASHO	Ashiyiah	13.00	137	P	Pn	01 02 53.8	+0.2
	SNR=14						
ASHO				S	Sn	01 05 12.3	-6.1
MZR	Muzera	13.13	150	iPn	Pn	01 02 53.9	-1.5
	SNR=31						
MZR	Muzera	13.13	150	P	Pn	01 02 55.5	+0.1
	SNR=7.5						
MZR				S	Sn	01 05 15.7	-5.8
ISP	Isparta	13.15	289	Pn	Pn	01 02 58.5	+2.7
ISP	Isparta	13.15	289	P	Pn	01 02 58.5	+2.7
ALNE	Al Ain	13.32	139	iPn	Pn	01 02 57.4	-0.8
	SNR=13						
ALNE	Al Ain	13.32	139	P	Pn	01 02 58.2	+0.1
	SNR=5.5						
ALNE				S	Sn	01 05 22.0	-4.4
MDUB	Mudurnu	13.35	301		Pn	01 03 00.3	+1.9
SOHO	SOHO	13.70	137	iPn	Pn	01 03 00.7	-2.4
	SNR=11						
SOHO	SOHO	13.70	137	P	Pn	01 03 02.0	-1.2
SOHO				S	Sn	01 05 28.6	-6.8
ARQ	Araqi	14.32	139	P	Pn	01 03 10.5	-1.2
ARQ				S	Sn	01 05 44.5	-6.2
HOQ	Hoqain	14.57	136	P	Pn	01 03 13.1	-2.0
HOQ				P	Pn	01 03 13.1	-2.0
HOQ				S	Sn	01 05 48.7	-8.0
HOQ				S	Sn	01 05 48.7	-8.0
BIDO	Bidbid	15.09	134	P	Pn	01 03 20.7	-1.5
BIDO				P	Pn	01 03 20.7	-1.5
KLYT	Kilyos	15.15	301	P	P	01 03 27.3	-0.7
	comp=Z,43nm,1.1s,comp=Z,608nm						
BSY	Bisya	15.16	138	P	Pn	01 03 21.8	-1.4
BSY				S	Sn	01 06 06.3	-5.0
SMDO	Samad	15.40	135	P	Pn	01 03 25.1	-1.3
SMDO				S	Sn	01 06 10.0	-7.1
WSAR	Wadi Sarin	15.61	133	Pn	Pn	01 03 27.5	-1.5
	comp=Z,3.9nm,0.3s,baz=306,slow=10,SNR=33						
WSAR				Sn	Sn	01 06 15.8	-6.3
	comp=Z,1.3nm,0.3s,baz=228,slow=9.8,SNR=4.6						
JMDO	Jabal Madar	15.97	136	P	Pn	01 03 32.7	-0.9
WBK	Wadi Bani Khal	16.29	134	P	Pn	01 03 37.0	-0.8
EZN	Ezine	16.75	294	P	P	01 03 48.4	+2.7
MFTR	Murfatlar	16.79	310	⇑P	P	01 03 45.5	-0.7
JURR	Jurilovca	16.81	312	⇓P	P	01 03 46.1	-0.2
VRH	Novokhopyorsk	16.95	350	eP	P	01 03 45.8	-2.1
VRH				pmax	pmax		
	comp=Z,20nm,1.5s						
MHTO	MHTO	17.00	140	P	Pn	01 03 45.5	-1.4
MHTO				S	Sn	01 06 47.6	-8.3
TPGR	Topolog	17.13	312	⇓P	P	01 03 49.7	-0.3
ICOR	Ion Corvin	17.16	309	⇓P	P	01 03 51.2	+0.9
VORD	Divnogorie	17.16	345	eP	P	01 03 49.0	-1.2
VORD				pmax	pmax		
	comp=Z

PLOR Plostina 18.71 313 ⇑P Pn 01 04 07.6 -0.2
PLOR Plostina 18.71 313 P Pn 01 04 07.6 -0.2
KBL Kabul 18.73 84 P Pn 01 04 08.9 +0.5
KBL Kabul 18.73 84 P Pn 01 04 08.9 +0.5
KBL pmax pmax
comp=Z,12nm,1.2s
LPSR Galich'ya Gora 18.78 346 eP P 01 04 06.3 -1.8
LPSR pmax pmax
comp=Z,20nm,0.7s
MLR Muntele Rosu 18.97 311 P Pn 01 04 10.9 -0.2
MLR IAmb IAmb 01 04 25.7
comp=Z,12nm,0.8s
MLR Muntele Rosu 18.97 311 P Pn 01 04 09.9 -1.1
comp=Z,6.0nm,1.2s,baz=15,slow=5.7
MLR Muntele Rosu 18.97 311 ⇑P Pn 01 04 11.5 +0.5
MLR Muntele Rosu 18.97 311 P Pn 01 04 10.9 -0.2
MLR pmax pmax
comp=Z,12nm,0.8s
MMB Musomishta 19.04 298 P Pn 01 04 11.0 -0.9
SORM Soroca 19.05 321 ⇓P Pn 01 04 10.6 -1.2
SORM Soroca 19.05 321 P Pn 01 04 10.5 -1.2
SORM Soroca 19.05 321 P P 01 04 09.7 -1.3
comp=Z,8.9nm,0.5s
TESR Tescani 19.05 315 ⇓P Pn 01 04 11.2 -0.7
TESR Tescani 19.05 315 P Pn 01 04 10.9 -1.0
TURR Turia 19.20 313 ⇑P Pn 01 04 14.4 +0.7
OZUR 19.36 313 ⇑P Pn 01 04 14.9 -0.7
BOSR Bodos 19.42 312 ⇓P Pn 01 04 16.2 -0.1
VOIR 19.50 310 ⇓P Pn 01 04 18.0 +0.5
VOIR 19.50 310 P Pn 01 04 17.9 +0.5
VOIR 19.50 310 P Pn 01 04 18.0 +0.5
comp=Z,38nm,0.9s,comp=Z,345nm
PLNA Plana 19.52 301 P Pn 01 04 17.0 -0.7
DOPR Dopca 19.54 312 ⇓P Pn 01 04 17.6 -0.1
KKB Krupnik 19.57 299 P Pn 01 04 17.0 -1.1
MPEP Malo Peshtene 19.57 303 P Pn 01 04 18.0 -0.1
AGG Agios Georgios 19.68 290 P Pn 01 04 20.2 +0.6
AGG IAmb IAmb 01 04 20.9
comp=Z,23nm,1.1s
AGG Agios Georgios 19.68 290 P Pn 01 04 20.2 +0.6
AGG pmax pmax
comp=Z,23nm,1.1s
VTS Vitosha 19.69 301 P Pn 01 04 19.0 -0.8
GAR Garm 19.72 70 P Pn 01 04 21.3 +1.2
ARR Arges 19.74 310 ⇑P Pn 01 04 20.4 +0.2
PRAR RASCA 19.75 316 ⇑P Pn 01 04 19.2 -1.1
VALD Valchedram 19.89 304 P Pn 01 04 21.0 -0.9
ITM Ithomi 19.91 285 P Pn 01 04 23.3 +1.1
ITM IAmb IAmb 01 04 40.4
comp=Z,12nm,1.0s
TNR Turnu Rosu 20.09 310 ⇑P Pn 01 04 23.4 -0.9
TNR Turnu Rosu 20.09 310 P Pn 01 04 23.3 -1.0
MDB Medias 20.24 311 ⇑P Pn 01 04 25.6 -0.5
MDB Medias 20.24 311 P Pn 01 04 25.5 -0.6
AK07 Malin Array Si 20.26 327 P P 01 04 23.0 -1.2
AK09 Malin Array Si 20.27 327 P P 01 04 23.3 -1.0
KMPD K-Podol'skiy 20.31 319 P P 01 04 23.2 -1.6
LOT Lotru 20.32 309 ⇓P Pn 01 04 26.0 -1.2
AKASG Malin Array Be 20.36 328 P P 01 04 24.0 -1.3
AKASG Malin Array Be 20.36 328 P P 01 04 24.0 -1.3
comp=Z,1.8nm,0.4s,baz=140,slow=8.9,SNR=15
AKASG LR LR 01 13 36.3
comp=Z,170nm,18.8s,baz=124,slow=41
comp=Z,1.8nm,0.4s
AKBB Malin Array Si 20.36 328 P P 01 04 24.2 -1.1
AKBB IAmb IAmb 01 04 29.6
comp=Z,10nm,0.8s
AKBB Malin Array Si 20.36 328c iP P 01 04 24.7 -0.6
AKBB pmax pmax
comp=Z,13nm,0.9s
AKBB Malin Array Si 20.36 328 P P 01 04 24.2 -1.1
AK14 Malin Array Si 20.36 327 P P 01 04 24.1 -1.2
KIEV Kiev 20.36 328 P P 01 04 24.5 -0.8
KIEV IAmb IAmb 01 04 29.6
comp=Z,9.4nm,0.8s
KIEV Kiev 20.36 328 ⇓P Pn 01 04 25.2 -2.2
KIEV Kiev 20.36 328 P P 01 04 24.5 -0.8
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 20.36 328 P P 01 04 24.1 -1.2
comp=Z,54nm,0.8s
SRE Strehaia 20.38 307 ⇓P Pn 01 04 27.4 -0.3
SRE Strehaia 20.38 307 P Pn 01 04 27.4 -0.4
BURAR Bucovina Array 20.47 316 P Pn 01 04 26.3 -2.5
BURAR IAmb IAmb 01 04 31.9
comp=Z,16nm,0.7s
BURAR Bucovina Array 20.47 316 ⇑P Pn 01 04 27.1 -1.7
BURAR Bucovina Array 20.47 316 P Pn 01 04 26.3 -2.5
BURAR pmax pmax
comp=Z,16nm,0.7s
BUR08 Bucovina Ar. S 20.49 316 P P 01 04 26.1 -0.9
BUR08 IAmb IAmb 01 04 34.1
comp=Z,13nm,1.1s
LUBAR Lubar, Ukraine 20.50 324 P P 01 04 25.7 -1.2
FNA Florina 20.64 295 P P 01 04 28.1 -0.5
FNA IAmb IAmb 01 04 29.6
comp=Z,25nm,1.0s
FNA Florina 20.64 295 P P 01 04 28.1 -0.5
FNA pmax pmax
comp=Z,25nm,1.0s
KK31 Karatay Array 20.64 58 P Pn 01 04 30.2 -0.7
KK31 Karatay Array 20.64 58 P Pn 01 04 30.2 -0.7
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 20.64 58 P Pn 01 04 28.8 -2.0
KKAR Karatay Array 20.64 58 P Pn 01 04 30.3 -0.6
KKAR IAmb IAmb 01 04 45.6
comp=Z,4.3nm,1.0s
KKAR Karatay Array 20.64 58 P Pn 01 04 30.3 -0.6
KKAR pmax pmax
comp=Z,4.0nm,1.0s
ARCR ARCALIA 20.70 314 ⇓P Pn 01 04 30.3 -1.2
DJES Djerdap 20.84 306 ⇓P Pn 01 04 32.6 -0.5
MI30 MI30,Zelenitsa 20.85 326 P P 01 04 29.4 -1.3
GZR Gura Zlata 20.94 308 ⇓P Pn 01 04 32.1 -2.2
CJR Cluj-Napoca 20.98 312 ⇓P Pn 01 04 33.2 -1.6
CJR Cluj-Napoca 20.98 312 P Pn 01 04 33.1 -1.7
HERR Herculane 20.99 307 ⇑P Pn 01 04 33.5 -1.3
DEV Deva 21.05 309 ⇑P P 01 04 33.2 +0.2
DEV Deva 21.05 309 P P 01 04 33.1 +0.2
BOVS Bovan 21.06 303 ⇓P P 01 04 33.5 +0.5
MI28 Mi28,Pidlybu 21.22 326 P P 01 04 33.5 -1.2
MDVR Moldovita 21.42 306 ⇑P P 01 04 38.0 +1.0
BMR Baia Mare 21.50 314 ⇑P P 01 04 38.6 +0.9
BMR Baia Mare 21.50 314 P P 01 04 38.5 +0.9
SURR Surduc 21.50 309 ⇓P P 01 04 37.9 +0.1
DRGR 21.56 312 ⇑P P 01 04 38.4 -0.1
DRGR 21.56 312 P P 01 04 38.4 -0.1
MESR Meseseni 21.58 313 ⇑P P 01 04 39.4 +0.9
OBN Obninsk 21.63 345 P P 01 04 38.4 -0.6
OBN IAmb IAmb 01 04 49.1
comp=Z,13nm,0.7s
OBN Obninsk 21.63 345 P P 01 04 38.2 -0.8
comp=Z,11nm,0.6s,baz=98,slow=7.1,SNR=4.2
comp=Z,11nm,0.6s
OBN Obninsk 21.63 345 ⇑P P 01 04 38.9 -0.1
OBN Obninsk 21.63 345⇓ eP P 01 04 39.0 0.0
OBN i 01 05 04.4
OBN eS S 01 08 35.9 -2.4
OBN pmax pmax
comp=Z,12nm,0.7s
OBN MLR MLR
comp=Z,111nm,26.0s
BZS Buzias 21.78 308 ⇓P P 01 04 40.6 -0.1
BZS Buzias 21.78 308 P P 01 04 40.6 -0.1
PUK Puka 21.96 298 P P 01 04 43.6 +0.8
PUK IAmb IAmb 01 04 49.9
comp=Z,19nm,1.3s
MOS Moscow 22.00 347 eP P 01 04 42.3 -0.7
MOS e 01 05 18.4
MOS eS S 01 08 46.4 +0.9
MOS pmax pmax
comp=Z,33nm,1.1s
SIRR Siria 22.00 309 ⇓P P 01 04 43.7 +0.5
ARSB Arslanbob 22.05 64 P P 01 04 45.3 +1.5
ARSB Arslanbob 22.05 64 P P 01 04 45.3 +1.5
ARSB pmax pmax
comp=Z,1.0nm,1.0s
RNPP5 Staryi Chortor 22.26 325 P P 01 04 45.2 -0.6
NIL Nilore 22.32 85 P P 01 04 49.1 +2.4
NIL IAmb IAmb 01 04 51.8
comp=Z,23nm,1.2s
NIL Nilore 22.32 85 P P 01 04 49.1 +2.4
NIL pmax pmax
comp=Z,23nm,1.2s
LVV L'vov 22.33 320 eP P 01 04 46.6 0.0
LVV eS S 01 08 46.5 -5.6
LVV pmax pmax
comp=Z,50nm,1.7s
LVV MLR MLR
comp=Z,200nm,14.0s
RUDO Rudo 22.69 301 eP P 01 04 49.4 -1.1
KOLS Kolonicke sedl 22.83 316 eP P 01 04 52.8 +0.8
KOLS pmax pmax
comp=Z,32nm,0.8s
KOLS Kolonicke sedl 22.83 316 eP P 01 04 52.8 +0.8
KWP Kalwaria Pacla 22.95 318 P P 01 04 52.7 -0.5
KWP Kalwaria Pacla 22.95 318 P P 01 04 52.7 -0.5
KWP pmax pmax
comp=Z,43nm,1.2s
KWP Kalwaria Pacla 22.95 318 P P 01 04 53.0 -0.2
comp=Z,31nm,1.3s
HAPS Han Pijesak,BI 23.10 302 eP P 01 04 53.9 -1.0
BRY Bratogost 23.12 299 eP P 01 04 52.6 -2.5
ATD Arta Tunnel 23.15 189 LR LR 01 14 26.5
comp=Z,4.8nm,21.2s,baz=345,slow=38
CRVS Cervenica-Dubn 23.28 315 eP P 01 04 59.1 +2.5
CRVS pmax pmax
comp=Z,28nm,1.0s
CRVS Cervenica-Dubn 23.28 315 eP P 01 04 59.1 +2.5
AAK Ala-Archa 23.38 61 LR LR 01 16 01.9
comp=Z,101nm,20.4s,baz=260,slow=42
ARU Arti 23.42 17 P P 01 04 58.1 +0.2
ARU IAmb IAmb 01 05 07.9
comp=Z,11nm,1.0s
ARU Arti 23.42 17 LR LR 01 17 51.9
comp=Z,62nm,18.1s,baz=213,slow=46
ARU Arti 23.42 17c iP P 01 04 58.7 +0.8
ARU 01 05 24.3
ARU S S 01 09 13.8 +2.9
ARU SS SnSn 01 09 48.5 +2.4
ARU pmax pmax
comp=Z,22nm,2.8s
ARU MLR MLR
comp=Z,229nm,17.0s
ARU Arti 23.42 17 P P 01 04 58.5 +0.6
comp=Z,14nm,1.1s
STON Ston 23.72 299 iP P 01 04 59.2 -1.7
STON Ston 23.72 299 eP P 01 04 59.9 -1.0
MNK Minsk 23.73 333 iP P 01 05 00.3 -0.6
comp=E,2.0nm,0.7s
MNK iP P 01 05 00.3 -0.6
comp=N,5.0nm,0.8s
MNK iP P 01 05 00.3 -0.6
comp=Z,5.0nm,0.8s,baz=140
MNK iPP PnPn 01 05 28.5 +0.2
MNK iPPP PPP 01 05 36.4
MNK iS S 01 09 17.7 +1.8
MNK iSS SnSn 01 09 58.4 +4.7
MNK iSSS SSS 01 10 11.8
MNK iLQ LQ 01 12 17.4
MNK iLR LR 01 13 08.3
MNK iLRM MLR 01 14 26.9
comp=Z,68nm,21.8s
MNK iLRM MLR 01 14 34.0
comp=N,134nm,18.1s
MNK iLRM MLR 01 14 35.3
comp=E,100nm,16.0s
MNK Minsk 23.73 333 iP P 01 05 00.3 -0.6
MNK iPPP PPP 01 05 36.3
MNK iS S 01 09 17.7 +1.8
MNK iSS SnSn 01 09 58.3 +4.7
MNK iSSS SSS 01 10 11.8
MNK pmax pmax
comp=E,2.0nm,0.6s
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=N,5.0nm,0.8s
MNK MLR MLR
comp=Z,68nm,22.0s
MNK MLR MLR
comp=N,134nm,18.0s
MNK MLR MLR
comp=E,100nm,16.0s
PSZ Piszkesteto 23.77 312 IAmb IAmb 01 05 04.9
comp=Z,9.1nm,0.8s
PSZ Piszkesteto 23.77 312 ⇑P P 01 05 01.8 +0.2
PSZ Piszkesteto 23.77 312 P P 01 05 01.7 +0.2
MORH Mrgy, Hungar 23.93 307 eP P 01 05 04.2 +1.2
MORH Mrgy, Hungar 23.93 307 ⇑P P 01 05 03.6 +0.6
MORH Mrgy, Hungar 23.93 307 P P 01 05 03.0 0.0
comp=Z,15nm,1.3s,comp=Z,185nm
KIRV Kirov 24.11 4 LR LR 01 16 18.7
comp=Z,163nm,18.4s,baz=185,slow=41
KIRV Kirov 24.11 4d iP P 01 05 05.4 +0.9
KSH Kashi 24.14 69 P P 01 05 00.1 -5.0
KSH sP sP 01 05 09.3 -0.9
KSH LR LR
comp=N,340nm,16.8s
KSH LR LR
comp=E,310nm,14.8s
KSH LR LR
comp=Z,340nm,14.4s
NIE Niedzica 24.20 316 P P 01 05 07.0 +1.5
comp=Z,5.6nm,1.6s
RICI Ricice 24.24 300 iP P 01 05 05.5 -0.4
MAKA Makarska 24.28 300 iP P 01 05 07.1 +0.8
SVE Sverdlovsk 24.31 19 eP P 01 05 08.3 +1.9
SVE pmax pmax
comp=Z,17nm,1.3s
NRN Naryn 24.31 65 P P 01 05 08.3 +1.4
NRN Naryn 24.31 65 P P 01 05 08.3 +1.4
NRN pmax pmax
comp=Z,5.0nm,0.9s
NACGM Naroch 24.45 332 eP P 01 05 10.1 +2.5
comp=N,502nm,1.1s,baz=140
MGRS Mrkonjic Grad 24.48 302 eP P 01 05 08.1 0.0
BLY Banja Luka 24.49 303 eP P 01 05 07.2 -1.0
LANS Liptovska Anna 24.56 315 eP P 01 05 11.8 +3.0
LANS pmax pmax
comp=Z,8.0nm,0.9s
LANS Liptovska Anna 24.56 315 eP P 01 05 11.8 +3.0
VYHS Vyhne 24.66 313 eP P 01 05 11.2 +1.6
VYHS pmax pmax
comp=Z,15nm,1.5s
VYHS Vyhne 24.66 313 eP P 01 05 11.2 +1.6
SRO Srobarova 24.71 311 eP P 01 05 13.4 +3.3
SRO pmax pmax
comp=Z,10.0nm,0.9s
SRO Srobarova 24.71 311 eP P 01 05 13.4 +3.3
KIJV Kijevo 24.87 301 iP P 01 05 10.7 -0.8
OJC Ojcow 24.87 317 P P 01 05 11.5 0.0
comp=Z,33nm,0.7s,comp=Z,423nm
A050A Klekovaca 24.88 302 eP P 01 05 11.6 -0.2
MPLH Magyarpolny 24.97 309 P P 01 05 13.1 +0.6
comp=Z,66nm,1.3s,comp=Z,614nm
MOSL Moslavina 25.01 305 iP P 01 05 14.0 +1.2
BRVK Borovoye 25.12 35 P P 01 05 15.5 +1.8
BRVK IAmb IAmb 01 05 18.8
comp=Z,5.3nm,0.9s
BRVK Borovoye 25.12 35 P P 01 05 15.5 +1.8
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 25.15 35 P P 01 05 16.5 +2.5
comp=Z,4.2nm,0.7s,baz=231,slow=9.0,SNR=15
BVAR LR LR 01 17 10.5
comp=Z,127nm,18.9s,baz=220,slow=42
comp=Z,4.2nm,0.7s
BEHE Becsehely 25.24 307 eP P 01 05 13.1 -1.8
SUW Suwalki 25.32 327 P P 01 05 16.0 +0.4
SUW Suwalki 25.32 327 P P 01 05 16.0 +0.4
SUW pmax pmax
comp=Z,38nm,1.1s
MORI Morici 25.33 301 iP P 01 05 14.7 -1.1
KALN Kalnik 25.36 306 iP P 01 05 15.8 -0.2
JAVC Velka Javorina 25.51 313 eP P 01 05 18.8 +1.4
KOGS Kog 25.58 307 eP P 01 05 18.1 +0.1
ZST Bratislava 25.61 311 eP P 01 05 20.9 +2.7
ZST pmax pmax
comp=Z,131nm,1.6s
ZST Bratislava 25.61 311 eP P 01 05 20.9 +2.7
OKC Ostrava-Krasne 25.64 315 eP P 01 05 19.7 +1.2
OKC AMS AMS 01 17 20.0
comp=Z,100nm,22.1s
OKC Ostrava-Krasne 25.64 315 eP P 01 05 19.7 +1.2
OKC MLR MLR
comp=Z,100nm,22.1s
RAFF Raffo Rosso 25.94 285 P P 01 05 21.6 +0.2
RONA Rosalia, Austr 25.94 309 eP P 01 05 22.6 +1.3
comp=Z,12nm,0.7s
CRES Cresnjev 25.94 305 eP P 01 05 20.8 -0.5
MORC Moravsky Berou 25.96 315 P P 01 05 21.8 +0.3
MORC IAmb IAmb 01 05 26.0
comp=Z,9.4nm,1.1s
MORC Moravsky Berou 25.96 315 eP P 01 05 20.8 -0.7
MORC Moravsky Berou 25.96 315 ⇓P P 01 05 22.4 +0.9
MORC Moravsky Berou 25.96 315 P P 01 05 21.8 +0.3
MORC pmax pmax
comp=Z,9.0nm,1.1s
PABE Paberze 26.00 330 P P 01 05 20.6 -1.1
BOJS Bojanci 26.00 304 eP P 01 05 21.3 -0.5
CONA Conrad Observa 26.30 310 iP P 01 05 25.3 +0.8
comp=Z,6.6nm,1.2s
ARSA Arzberg 26.30 308 eP P 01 05 25.9 +1.3
comp=Z,7.1nm,0.8s
VRAC Vranov 26.34 313 eP P 01 05 25.5 +0.7
VRAC Vranov 26.34 313 LR LR 01 17 03.9
comp=Z,100nm,21.5s,baz=99,slow=40
VRAC Vranov 26.34 313 ⇑P P 01 05 25.6 +0.7
VRAC Vranov 26.34 313 P P 01 05 25.6 +0.7
KRUC Moravsky 26.36 312 eP P 01 05 24.9 -0.2
INTR Introdacqua 26.37 296 P P 01 05 24.6 -0.8
INTR IAmb IAmb 01 05 40.1
comp=Z,7.4nm,1.0s
SOKA Soboth 26.45 307 eP P 01 05 26.5 +0.5
comp=Z,2.6nm,1.0s
FURI Furi 26.49 197 LR LR 01 16 40.3
comp=Z,203nm,18.2s,baz=2.5,slow=38
KRLC Kraliky 26.54 315 eP P 01 05 25.7 -1.0
KRLC AMS AMS 01 18 00.0
comp=Z,200nm,13.9s
KRLC Kraliky 26.54 315 eP P 01 05 25.7 -1.0
KRLC MLR MLR
comp=Z,200nm,13.9s
CEY Cerknica 26.62 304 eP P 01 05 28.7 +1.2
OBKA Obir 26.73 306 iP P 01 05 30.3 +1.8
comp=Z,4.2nm,0.8s
CRNS Crni Vrh 26.82 305 eP P 01 05 29.1 -0.1
GUMA Gualdo di Mace 26.91 298 P P 01 05 29.2 -0.9
GUMA IAmb IAmb 01 05 32.6
comp=Z,30nm,1.4s
DPC Dobruska-Polom 26.92 315 eP P 01 05 29.8 -0.3
DPC AMS AMS 01 18 00.0
comp=Z,100nm,13.8s
DPC Dobruska-Polom 26.92 315 eP P 01 05 29.8 -0.3
DPC MLR MLR
comp=Z,100nm,13.8s
DPC Dobruska-Polom 26.92 315 P P 01 05 30.3 +0.2
comp=Z,8.0nm,1.3s
TREC Trest 27.00 312 eP P 01 05 31.6 +0.7
TREC AMS AMS 01 18 00.0
comp=Z,200nm,19.5s
TREC Trest 27.00 312 eP P 01 05 31.6 +0.7
TREC MLR MLR
comp=Z,200nm,19.5s
OSTC Ostas 27.07 315 eP P 01 05 31.1 -0.3
OSTC AMS AMS 01 18 10.0
comp=Z,100nm,12.1s
OSTC Ostas 27.07 315 eP P 01 05 31.1 -0.3
OSTC MLR MLR
comp=Z,100nm,12.1s
SABO M.te Sabotino 27.24 305 P P 01 05 32.8 -0.3
SABO IAmb IAmb 01 05 48.9
comp=Z,20nm,1.4s
MOA Molln 27.29 309 iP P 01 05 33.3 -0.2
comp=Z,4.4nm,0.6s
CKRC Cesky Krumlov 27.57 311 eP P 01 05 36.4 +0.5
CKRC AMS AMS 01 19 20.0
comp=Z,100nm,11.0s
CKRC Cesky Krumlov 27.57 311 eP P 01 05 36.4 +0.5
CKRC MLR MLR
comp=Z,100nm,11.0s
BIOA Bad Ischl, Aus 27.65 308 iP P 01 05 36.5 -0.2
comp=Z,6.0nm,0.8s
GOPC GO Pecny, Ondr 27.66 313 AMS AMS 01 18 30.0
comp=Z,100nm,20.4s
KBA Koelnbreinsper 27.68 307 eP P 01 05 37.6 +0.5
comp=Z,4.5nm,0.5s
PRU Pruhonice 27.83 313 AMS AMS 01 18 30.0
comp=Z,100nm,11.9s
PRA Prague 27.93 313 AMS AMS 01 19 20.0
comp=Z,100nm,11.4s
GERES GERESS Array B 27.95 311 P P 01 05 39.7 +0.2
GERES GERESS Array B 27.95 311 P P 01 05 40.2 +0.8
comp=Z,0.4nm,0.5s,baz=108,slow=8.6,SNR=4.5
comp=Z,0.4nm,0.5s
GERES GERESS Array B 27.95 311 eP P 01 05 41.7 +2.2
GERES pmax pmax
comp=Z,1.0nm,0.5s
PVCC Panska Ves 28.02 314 AMS AMS 01 19 10.0
comp=Z,100nm,13.5s
KHC Kasperske Hory 28.12 311 P P 01 05 40.9 -0.1
KHC Kasperske Hory 28.12 311 eP P 01 05 42.9 +2.0
KHC AMS AMS 01 19 40.0
comp=Z,100nm,14.9s
KHC Kasperske Hory 28.12 311ceP P 01 05 42.6 +1.7
KHC pmax pmax
comp=Z,18nm,1.6s
KHC Kasperske Hory 28.12 311 P P 01 05 42.4 +1.5
comp=Z,4.4nm,1.5s
ABTA Abfaltersbach 28.15 306 eP P 01 05 41.3 +0.1
comp=Z,3.5nm,0.7s
LESA Schwarzleotal 28.20 307 iP P 01 05 41.2 -0.6
comp=Z,3.0nm,0.6s
KURBB Kurchatov Arra 28.35 46 P P 01 05 44.6 +1.7
comp=Z,1.6nm,0.9s,baz=252,slow=8.9,SNR=11
KURBB LR LR 01 18 37.6
comp=Z,99nm,19.1s,baz=165,slow=40
comp=Z,1.6nm,0.9s
KURK Kurchatov 28.44 46⇓ eP P 01 05 45.9 +2.2
KURK pmax pmax
comp=Z,2.0nm,0.9s
BRG Berggiesshubel 28.52 315 eP P 01 05 44.6 +0.2
BRG Amp 01 05 46.7
comp=Z,2.6nm,0.8s
BRG Berggiesshubel 28.52 315 eP P 01 05 44.5 +0.2
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG MLR MLR
comp=Z,117nm,22.1s
BRG MLR MLR
comp=N,130nm,26.5s
BRG MLR MLR
comp=E,41nm,22.1s
BRG Berggiesshubel 28.52 315 eP 01 05 44.0
comp=E,2.6nm,0.8s,baz=111,slow=8.8
WET Wettzell 28.56 311 eP 01 05 44.7
comp=E,16nm,1.9s,baz=111,slow=8.8
WET eL 01 20 47.6
comp=E,96nm,18.5s
HSKC Hora Svate Kat 28.72 314 AMS AMS 01 19 50.0
comp=E,100nm,16.8s
ZCCA Zocca 28.77 300 P P 01 05 48.8 +2.0
WTTA Wattenberg 28.85 307 iP P 01 05 46.8 -0.8
comp=E,4.4nm,0.6s
WATA Walderalm 28.91 307 iP P 01 05 48.2 +0.2
comp=E,3.4nm,0.6s
SQTA Sankt Quirin 29.13 306 iP P 01 05 49.2 -0.8
comp=E,7.1nm,0.5s
ROTZ Rotzenmuhle 29.18 312 eP 01 05 50.1
comp=E,1.1nm,0.8s,baz=111,slow=8.8
CLL Collm 29.23 315 P P 01 05 51.8 +1.1
CLL IAmb IAmb 01 05 53.0
comp=Z,3.9nm,0.9s
CLL Collm 29.23 315⇑ iP P 01 05 52.3 +1.6
comp=Z,7.0nm,1.3s
CLL ePPP PPP 01 06 52.0
CLL eS S 01 10 42.0 -1.2
CLL ex x 01 11 28.0
CLL e(SS) 01 12 42.0
CLL Collm 29.23 315⇑ iP P 01 05 52.3 +1.6
CLL eS S 01 10 42.0 -1.2
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL Collm 29.23 315 P P 01 05 52.2 +1.6
comp=Z,4.8nm,1.6s
CLL Collm 29.23 315 eP 01 05 51.7
comp=Z,4.0nm,0.9s,baz=111,slow=8.8
CLL eL 01 18 35.7
comp=Z,68nm,19.2s
MANZ Manzenberg 29.31 312 eP 01 05 52.0
comp=Z,0.4nm,0.8s,baz=111,slow=8.8
FUR Furstenfeldbru 29.31 308 eP 01 05 50.7

comp=Z,12nm,0.7s,baz=111,slow=8.8
FUR eL 01 18 52.6
comp=Z,103nm,19.6s
FETA Feichten 29.40 306 *i* P **P 01 05 51.6 -0.9**
comp=Z,4.0nm,0.6s
RETA Reutte 29.48 307 *i* P **P 01 05 52.1 -0.9**
comp=Z,1.8nm,0.4s
FUORN Ofenpass-Fuorn 29.64 305 P **P 01 05 54.7 0.0**
FUORN IAmb IAmb 01 05 58.3
comp=Z,2.4nm,0.6s
MK31 Makanchi Array 29.64 55 P **P 01 05 55.9 +1.5**
MK31 Makanchi Array 29.64 55 P **P 01 05 55.9 +1.5**
MK31 pmax pmax
comp=Z,2.0nm,1.1s
MKAR Makanchi Array 29.64 55 P **P 01 05 56.5 +2.0**
comp=Z,1.3nm,0.6s,baz=252,slow=7.5,SNR=9.8
MKAR LR LR 01 19 14.3
comp=Z,160nm,18.2s,baz=266,slow=39
comp=Z,1.3nm,0.6s
MKAR Makanchi Array 29.64 55 *e*P **P 01 05 56.2 +1.8**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
GRA1 Grafenberg Arr 29.76 311 P **P 01 05 54.6 -0.9**
GRF Grafenberg Arr 29.76 311 P **P 01 05 54.6 -0.9**
GRF pmax pmax
comp=Z,18nm,1.4s
GRF Grafenberg Arr 29.76 311 *e*P 01 05 54.5
comp=Z,18nm,1.4s,baz=111,slow=8.8
GRF eL 01 20 59.3
comp=Z,55nm,21.8s
GRFO Grafenberg 29.76 311 P **P 01 05 55.2 -0.2**
GRFO Grafenberg 29.76 311 P **P 01 05 55.3 -0.2**
GRFO pmax pmax
comp=Z,17nm,1.4s
MOX Moxa 29.82 313 *e*P 01 05 56.6
comp=Z,2.4nm,1.1s,baz=111,slow=8.8
MOX eL 01 18 33.6
comp=Z,65nm,21.2s
FINES FINESS Array B 29.84 341 P **P 01 05 55.1 -0.8**
comp=Z,1.3nm,0.5s,baz=158,slow=8.8,SNR=9.7
FINES LR LR 01 18 15.4
comp=Z,124nm,20.0s,baz=140,slow=37
comp=Z,1.3nm,0.5s
FINES FINESS Array B 29.84 341 *e*P **P 01 05 57.4 +1.5**
FINES pmax pmax
comp=Z,1.0nm,0.5s
BSD Bornholm Skovb 29.88 323 *e*P **P 01 05 54.2 -2.2**
DAVOX Davos/Dischmat 29.93 305 LR LR 01 19 39.8
comp=Z,80nm,18.1s,baz=92,slow=40
UBR Ueberruh 29.96 307 *e*P 01 05 56.1
comp=Z,6.2nm,0.6s,baz=111,slow=8.8
DAVA Damuels 30.02 306 *i* P **P 01 05 57.0 -0.9**
comp=Z,6.2nm,0.6s
FLTG Flechtingen 30.63 316 *e*P 01 06 03.8
comp=Z,4.3nm,0.7s,baz=111,slow=8.8
KEF Keuruu 30.76 340 *e*P P 01 05 58.7 -5.4
GORT1 Trebel 30.84 317 *e*P 01 06 05.2
comp=Z,24nm,1.1s,baz=111,slow=8.8
UBBA Unterbreizbach 30.85 313 *e*P 01 06 05.9
comp=Z,2.7nm,0.9s,baz=111,slow=8.8
CLZ Clausthal 30.95 315 *e*P 01 06 06.0
comp=Z,5.9nm,0.7s,baz=111,slow=8.8
BFO Black Forest 31.26 308 P **P 01 06 08.7 0.0**
BFO IAmb IAmb 01 06 13.0
comp=Z,6.8nm,1.4s
BFO Black Forest 31.26 308 P **P 01 06 08.7 0.0**
BFO pmax pmax
comp=Z,7.0nm,1.4s
BFO Black Forest 31.26 308 *e*L 01 20 14.7
comp=Z,84nm,20.0s
NRDL Niedersach Rie 31.33 316 *e*P 01 06 09.6
comp=Z,7.0nm,0.8s,baz=111,slow=8.8
SENIN Lac Senin/Sane 31.61 304 P **P 01 06 11.7 -0.3**
TNS Taunus Mts 31.63 311 *e*P 01 06 12.8
comp=Z,9.4nm,1.2s,baz=111,slow=8.8
TNS eL 01 19 25.0
comp=Z,50nm,21.0s
BSEG Bad Segeberg 31.75 319 *e*P 01 06 14.3
comp=Z,6.9nm,1.1s,baz=111,slow=8.8
BSEG eL 01 20 45.2
comp=Z,194nm,19.1s
RETH Rethem/Aller, 31.84 316 *e*P 01 06 14.6
comp=Z,20nm,1.2s,baz=111,slow=8.8
BNI Bardonecchia 31.90 301 P **P 01 06 13.9 -0.6**
BNI Bardonecchia 31.90 301 P **P 01 06 13.9 -0.6**
BNI pmax pmax
comp=Z,57nm,1.4s
LPL La Plagne 31.90 302 *e*P **P 01 06 17.0 +2.4**
LPL pmax pmax
comp=Z,8.0nm,0.6s
KASTN Kahler Asten 31.92 313 *e*P 01 06 14.2
comp=Z,16nm,1.5s,baz=111,slow=8.8
ECH Echery 32.01 307 P **P 01 06 14.7 -0.6**
ECH IAmb IAmb 01 06 16.8
comp=Z,3.7nm,0.9s
ECH Echery 32.01 307 P **P 01 06 14.7 -0.6**
ECH pmax pmax
comp=Z,4.0nm,0.9s
VAF Ylistaro 32.08 340 *e*P P 01 06 10.2 -5.4
IBBN Ibbenburen 32.63 315 *e*P 01 06 21.3
comp=Z,11nm,0.6s,baz=111,slow=8.8
BUG Bochum--Univer 32.67 313 *e*P 01 06 20.9
comp=Z,19nm,1.6s,baz=111,slow=8.8
WLF Walferdange 32.94 310 P **P 01 06 23.4 0.0**
WLF IAmb IAmb 01 06 25.8
comp=Z,6.5nm,1.0s
WLF Walferdange 32.94 310 P **P 01 06 23.4 0.0**
WLF pmax pmax
comp=Z,7.0nm,1.0s
WLF Walferdange 32.94 310 *e*P 01 06 22.1
comp=Z,24nm,1.7s,baz=111,slow=8.8
ZAA0 Zalesovo Array 33.15 42 P **P 01 06 26.6 +1.4**
ZALV Zalesovo Beam 33.15 42 P **P 01 06 26.1 +0.9**
comp=Z,0.5nm,0.5s,baz=260,slow=8.7,SNR=3.8
ZALV LR LR 01 22 47.1
comp=Z,138nm,19.7s,baz=248,slow=42
comp=Z,0.5nm,0.5s
ZALV Zalesovo Beam 33.15 42 *e*P **P 01 06 25.4 +0.2**
HFS Hagfors 33.18 330 P **P 01 06 24.3 -1.1**
comp=Z,3.8nm,0.5s,baz=136,slow=7.1,SNR=18
HFS LR LR 01 21 38.6
comp=Z,90nm,20.9s,baz=120,slow=40
comp=Z,3.8nm,0.5s
SSB Saint Sauveur 33.42 301 P **P 01 06 26.5 -1.2**
SSB Saint Sauveur 33.42 301 P **P 01 06 26.5 -1.2**
SSB pmax pmax
comp=Z,20nm,1.5s
SMF Signal de Mont 34.02 304 *e*P **P 01 06 31.8 -1.1**
SMF pmax pmax
comp=Z,7.0nm,0.7s
SSF Saint Saulge 34.29 304 *e*P **P 01 06 35.9 +0.7**
SSF pmax pmax
comp=Z,4.0nm,0.7s
NC405 NORSAR Array S 34.55 331 P **P 01 06 37.0 -0.3**
NC405 IAmb IAmb 01 06 56.3
comp=Z,7.0nm,0.9s
NB2 NORSAR Subarra 34.71 331 P **P 01 06 37.4 -1.3**
comp=Z,1.9nm,0.9s,baz=124,slow=8.6
NOA NORSAR Array B 34.71 331 P **P 01 06 36.1 -2.5**
comp=Z,0.8nm,0.7s,baz=125,slow=8.7,SNR=5.1
NOA LR LR 01 22 03.7
comp=Z,51nm,19.9s,baz=140,slow=39
comp=Z,0.8nm,0.7s
LFF La Frestale 36.10 301 *e*P **P 01 06 51.1 +0.3**
LFF pmax pmax
comp=Z,6.0nm,0.6s
MFF Saint Martin d 36.76 303 *e*P **P 01 06 54.9 -1.5**
MFF pmax pmax
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 36.86 348 P **P 01 06 56.2 -0.8**
comp=Z,2.6nm,0.9s,baz=152,slow=5.5,SNR=5.2
ARCES LR LR 01 23 11.7
comp=Z,129nm,19.7s,baz=138,slow=38
comp=Z,2.6nm,0.9s
ARCES ARCESS Array B 36.86 348 *e*P **P 01 07 00.1 +3.1**
ARCES pmax pmax
comp=Z,1.0nm,0.7s
TAM Tamanrasset 37.41 263 P **P 01 07 03.8 +1.4**
TAM IAmb IAmb 01 07 07.7
comp=Z,7.6nm,1.4s
TAM Tamanrasset 37.41 263 P **P 01 07 03.8 +1.4**
TAM pmax pmax
comp=Z,8.0nm,1.4s
EKA Eskdalemuir Ar 39.64 317 P **P 01 07 19.6 -0.9**
comp=Z,4.9nm,0.5s,baz=106,slow=8.7,SNR=32
comp=Z,4.9nm,0.5s
ESBB Sonseca Array 39.97 293 P **P 01 07 23.5 -0.1**
ESBB IAmb IAmb 01 07 26.9
comp=Z,9.5nm,1.1s
ESDC Sonseca Array 39.97 293 P **P 01 07 23.0 -0.7**
ESDC IAmb IAmb 01 07 26.8
comp=Z,7.6nm,1.2s
ESDC Sonseca Array 39.97 293 P **P 01 07 22.9 -0.7**
comp=Z,4.0nm,0.9s,baz=64,slow=7.9,SNR=23
ESDC PcP **PcP 01 09 29.6 +0.8**
comp=Z,0.7nm,0.9s,baz=42,slow=3.8,SNR=6.6
ESDC LR LR 01 27 12.3
comp=Z,40nm,18.0s,baz=74,slow=41
comp=Z,4.0nm,0.9s
PAB San Pablo 40.29 292 P **P 01 07 25.7 -0.6**
PAB IAmb IAmb 01 07 29.6
comp=Z,8.3nm,1.1s
PAB San Pablo 40.29 292 P **P 01 07 25.7 -0.6**
PAB pmax pmax
comp=Z,8.0nm,1.1s
MDT Midelt 42.02 283 LR LR 01 28 12.9
comp=Z,53nm,18.1s,baz=142,slow=41
PVRL Vila Real 42.55 296 *e*P **P 01 07 45.8 +1.0**
MTE Manteigas 42.57 294 *e*P **P 01 07 46.6 +1.7**
PBAR Barrancos 42.61 291 *e*P **P 01 07 45.7 +0.5**
comp=Z,19nm,1.8s
PCBR Castelo Branco 42.62 293 *e*P **P 01 07 45.2 -0.1**
PMRV Marv??o 42.63 293 *e*P **P 01 07 47.5 +2.1**
PESTR Estremoz 42.89 292 *e*P **P 01 07 48.4 +0.9**
PMTG Montargil 43.33 293 *e*P **P 01 07 52.4 +1.3**
PCAS Casmilo, Conde 43.35 294 *e*P **P 01 07 53.1 +1.9**
PTEO Sao Teotonio 44.05 290 *e*pP pP 01 08 02.7 +2.3
TOA0 Torodi Ar. Sit 45.57 253 P **P 01 08 09.8 +0.6**
TOA0 IAmb IAmb 01 08 13.4
comp=Z,4.1nm,0.9s
TORD Torodi Ar. Bea 45.57 253 P **P 01 08 09.4 +0.2**
TORD IAmb IAmb 01 08 12.1
comp=Z,5.5nm,1.4s
TORD Torodi Ar. Bea 45.57 253 P **P 01 08 09.8 +0.5**
comp=Z,2.7nm,1.0s,baz=62,slow=10,SNR=10
TORD LR LR 01 28 33.3
comp=Z,40nm,19.1s,baz=60,slow=38
comp=Z,2.7nm,1.0s
SONM Songino Array 46.01 54 LR LR 01 31 22.9
comp=Z,95nm,19.5s,baz=264,slow=41
LZH Lanzhou 46.38 71 *e*P **P 01 08 14.5 -1.1**
LZH pP sP 01 08 19.6 -1.0
LZH pmax pmax
comp=Z,10.0nm,1.3s
ULN Ulaanbaatar 46.45 54⇓*e*P P 01 08 19.8 +3.8
ULN pmax pmax
comp=Z,1.0nm,0.7s
PZH PanZhiHua 47.92 84 P P 01 08 31.6 +3.9
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,160nm,6.1s
CMAR Chiang Mai Arr 49.23 95 P **P 01 08 39.4 +1.6**
comp=Z,1.1nm,0.4s,baz=296,slow=8.2,SNR=7.4
CMAR LR LR 01 33 29.2
comp=Z,67nm,18.9s,baz=285,slow=41
comp=Z,1.1nm,0.4s
BORG Borgarnes 49.84 329 LR LR 01 31 21.5
comp=Z,47nm,19.2s,baz=88,slow=38
HHC Hu-ho-hao-te 50.96 63 *e*P **P 01 08 50.0 -0.7**
HHC sP sP 01 08 57.3 +1.5
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,56nm,4.5s
XAN Xi'an 50.97 72 P **P 01 08 53.5 +2.7**
XAN pmax pmax
comp=Z,9.0nm,0.9s
OPO Ambohidratompo 52.85 179 LR LR 01 31 30.2
comp=Z,90nm,19.6s,baz=178,slow=36
DBIC Dimbokro 54.60 252 P **P 01 09 17.9 +0.1**
comp=Z,1.9nm,0.6s,baz=45,slow=4.3,SNR=3.6
DBIC LR LR 01 33 25.4
comp=Z,88nm,18.1s,baz=90,slow=37
comp=Z,1.9nm,0.6s
TIXI Tiksi 55.28 22 LR LR 01 38 15.9
comp=Z,39nm,18.5s,baz=228,slow=42
SUMG Summit 55.85 339 P **P 01 09 27.0 +0.5**
SUMG IAmb IAmb 01 09 32.2
comp=Z,5.3nm,1.1s
SUMG Summit 55.85 339 P **P 01 09 27.0 +0.5**
SUMG pmax pmax
comp=Z,5.0nm,1.1s
YAK Yakutsk 57.12 34 LR LR 01 38 09.4
comp=Z,90nm,18.8s,baz=286,slow=40
SFJD Kangerlussuaq 61.29 334 LR LR 01 36 40.2
comp=Z,61nm,21.9s,baz=56,slow=36
KLR Kul'dur 62.00 48 LR LR 01 40 59.0
comp=Z,70nm,18.2s,baz=254,slow=40
LBTB Lobatse 62.43 201 LR LR 01 37 53.1
comp=Z,93nm,19.4s,baz=21,slow=37
KSRS Korea Array 64.05 61 P **P 01 10 23.1 +0.3**
comp=Z,0.9nm,0.6s,baz=285,slow=7.2,SNR=4.1
comp=Z,0.9nm,0.6s
KSRS Korea Array 64.05 61 *e*P **P 01 10 23.4 +0.6**
KSRS pmax pmax
comp=Z,1.0nm,0.4s
BOSA Boshof 65.92 200 P **P 01 10 34.9 -0.2**
comp=Z,1.7nm,0.7s,baz=228,slow=3.9,SNR=3.1
BOSA LR LR 01 41 33.7
comp=Z,81nm,20.1s,baz=26,slow=38
comp=Z,1.7nm,0.7s
SEY Seymchan 66.57 29⇑*e*P **P 01 10 40.5 +1.7**
SEY pmax pmax
comp=Z,7.0nm,1.4s
MA2 Magadan 67.59 32 LR LR 01 45 37.9
comp=Z,38nm,18.1s,baz=286,slow=41
MA2 Magadan 67.59 32⇓*e*P **P 01 10 47.1 +1.8**
MA2 pmax pmax
comp=Z,16nm,1.7s
JNU Nakatsue 68.13 64 LR LR 01 41 57.9
comp=Z,45nm,18.9s,baz=268,slow=37
FRB Frobisher Bay 69.41 334 LR LR 01 41 12.5
comp=Z,57nm,21.1s,baz=179,slow=36
SUR Sutherland 70.78 203 LR LR 01 42 56.2
comp=Z,84nm,19.1s,baz=32,slow=36
ASAJ Asahikawa 70.94 49 LR LR 01 45 45.6
comp=Z,46nm,18.9s,baz=332,slow=39
MJAR Matsushiro Arr 71.78 58 LR LR 01 45 01.5
comp=Z,53nm,19.1s,baz=265,slow=38
SCHQ Schefferville 74.15 326 P **P 01 11 25.0 -0.3**
comp=Z,3.7nm,0.8s,baz=47,slow=6.8,SNR=8.1
comp=Z,3.7nm,0.8s
ILAR Eielson Array 80.45 6 P **P 01 11 59.6 -0.8**
comp=Z,0.4nm,0.8s,baz=321,slow=4.1,SNR=5.0
comp=Z,0.4nm,0.8s
ILAR Eielson Array 80.45 6 *e*P **P 01 12 00.7 +0.3**
SHEM Shemya Is, Ala 81.91 29 LR LR 01 52 08.3
comp=Z,41nm,19.2s,baz=113,slow=38
TKL Tuckaleechee C 96.02 321 LR LR 01 57 54.8
comp=Z,35nm,18.8s,baz=232,slow=36
NEW Newport 96.21 349 LR LR 01 58 23.8
comp=Z,31nm,19.9s,baz=168,slow=37
PDAR Pinedale Array 99.93 342 LR LR 01 59 02.6
comp=Z,28nm,20.5s,baz=134,slow=36

*ISN **23** 01:13:44.8±1.0, 34°.66N×46°.30E, h17km±5km, ML3.5*
*TEH **23** 01:13:44.8, 34°.65N×46°.26E, h8km±23km, ML3.3*
ISC 23 01:13:45.0±1.4, 34°.63N±0°.03×46°.24E±0°.03, h1km±13km,
n23, σ0°86/28, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**59**	Pg	**Pg**	**01 13 48.2**	**+0.4**
IGHG	**Ghaleghazi**	**0.40**	**138**	Pg	**Pg**	**01 13 53.5**	**+0.7**
KGS1	**Ghasr-e-Shirin**	**0.55**	**257**	Pg	**Pg**	**01 13 56.4**	**+0.8**
GLG1	**Gilan-e-Gharb**	**0.58**	**208**	Pg	**Pg**	**01 13 56.6**	**+0.5**
ILIN	**Lien**	**0.66**	**64**	Pg	**Pg**	**01 13 57.3**	**-0.4**
KCHF	**Cheshme Sefid,**	**0.75**	**118**	Pg	**Pg**	**01 13 58.9**	**-0.5**
KCHF				Sg	**Sb**	**01 14 10.6**	**-1.1**
ILBA	**Ilam Banvizeh**	**1.00**	**182**	Pg	**Pg**	**01 14 04.5**	**+0.3**
SNQR	**Sonqor, Kerman**	**1.17**	**78**	Pg	**Pb**	**01 14 07.1**	**-1.0**
IBZA	**Bozab**	**1.35**	**96**	Pg	**Pb**	**01 14 10.5**	**-0.7**
IBDR	**Badra**	**1.54**	**190**	*e*Pg	**Pb**	**01 14 13.5**	**-0.7**
IBDR				*e*Sg	**Sg**	**01 14 34.0**	**-0.4**
SDS1	**Sardasht. Az.**	**1.64**	**338**	Pg	**Pb**	**01 14 15.3**	**-0.8**
IKFM	**Kafar-mosalman**	**1.73**	**129**	Pg	**Pg**	**01 14 18.1**	**0.0**
IKRK	**Kirkuk**	**1.74**	**297**	*e*Pn	**Pn**	**01 14 16.0**	**-0.4**
IKRK				*e*Sn	**Sb**	**01 14 40.0**	**-0.1**
IKRK				AML	AML	01 14 45.6	
	comp=N,880nm,0.4s						
IKRK				AML	AML	01 14 47.3	
	comp=E,524nm,0.3s						
HSAM	**Samen**	**2.00**	**101**	Pn	**Pb**	**01 14 21.7**	**-0.6**
BHD	**Baghdad**	**2.06**	**229**	*e*Pn	**Pn**	**01 14 21.0**	**+0.3**
BHD				*e*Sn	**Sb**	**01 14 48.0**	**-1.2**
MAHB	**Mahabad**	**2.18**	**349**	Pn	**Pb**	**01 14 25.3**	**0.0**
IHSH	**Hashtrud**	**2.80**	**17**	Pn	**Pn**	**01 14 32.1**	**+0.9**
RAFI	**Al-Rafai**	**2.90**	**182**	*e*Pn	**Pn**	**01 14 33.0**	**+0.7**
RAFI				*e*Sn	**Sn**	**01 15 08.0**	**+0.3**
IPIR	**Pirpir**	**4.34**	**115**	Pn	**Pn**	**01 14 53.6**	**+1.3**
IKLH	**Kolahrood**	**4.62**	**105**	Pn	**Pn**	**01 14 57.5**	**+1.3**
KRSH	**Karshahi**	**4.92**	**96**	Pn	**Pn**	**01 15 01.5**	**+1.3**
ISFB	**Sefidab**	**4.96**	**91**	Pn	**Pn**	**01 15 02.2**	**+1.5**
KLNJ	**Kolanjah**	**5.77**	**127**	Pn	**Pn**	**01 15 13.3**	**+1.2**

*ISN **23** 01:34:46.3±1.1, 34°.04N×45°.80E, h10km±15km, ML2.9*
*TEH **23** 01:34:47.4, 34°.03N×45°.80E, h10km±65km, ML2.8*
ISC 23 01:34:47.3±1.1, 34°.02N±0°.05×45°.80E±0°.04, h11km±11km,
n9, σ0°44/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.13**	**42**	Pg	**Pg**	**01 34 50.4**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.52**	**139**	Pg	**Pb**	**01 34 58.1**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.52**	**340**	Pg	**Pg**	**01 34 57.0**	**-0.5**
KGS1				Sg	**Sb**	**01 35 05.7**	**-0.3**
IGHG	**Ghaleghazi**	**0.71**	**63**	Pg	**Pb**	**01 35 02.0**	**+0.3**
IBDR	**Badra**	**0.91**	**173**	*e*Pg	**Pb**	**01 35 05.0**	**0.0**
IBDR				*e*Sg	**Sg**	**01 35 17.0**	**+0.4**
BHD	**Baghdad**	**1.40**	**238**	*e*Pg	**Pb**	**01 35 13.0**	**-0.4**
BHD				*e*Sg	**Sg**	**01 35 33.0**	**+0.7**
SNQR	**Sonqor, Kerman**	**1.73**	**60**	Pg	**Pg**	**01 35 20.1**	**-0.3**
IBZA	**Bozab**	**1.76**	**75**	Pg	**Pg**	**01 35 20.7**	**-0.5**
IKRK	**Kirkuk**	**1.83**	**319**	*e*Pn	**Pn**	**01 35 19.0**	**+0.3**
IKRK				*e*Sn	**Sb**	**01 35 44.0**	**+0.3**
IKRK				AML	AML	01 35 48.0	
	comp=N,120nm,0.5s						
IKRK				AML	AML	01 35 48.4	
	comp=E,153nm,0.5s						

*TEH **23** 01:55:21.9, 34°.62N×46°.27E, h8km±12km, ML2.9*
*ISN **23** 01:55:22.0±1.2, 34°.67N×46°.28E, h15km±7km, ML3.2*
ISC 23 01:55:22.1±1.3, 34°.62N±0°.03×46°.27E±0°.03, h3km±13km,
n20, σ0°92/25, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.13**	**51**	Pg	**Pg**	**01 55 25.3**	**+0.6**
IGHG	**Ghaleghazi**	**0.38**	**139**	Pg	**Pg**	**01 55 29.9**	**+0.4**
KGS1	**Ghasr-e-Shirin**	**0.57**	**259**	Pg	**Pg**	**01 55 33.4**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.58**	**210**	Pg	**Pg**	**01 55 33.3**	**0.0**
ILIN	**Lien**	**0.65**	**62**	Pg	**Pg**	**01 55 34.4**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.73**	**118**	Pg	**Pg**	**01 55 36.3**	**+0.2**
KCHF				Sg	**Sb**	**01 55 47.2**	**-0.7**
ILBA	**Ilam Banvizeh**	**0.99**	**183**	Pg	**Pb**	**01 55 41.2**	**-0.8**
SNQR	**Sonqor, Kerman**	**1.15**	**78**	Pg	**Pn**	**01 55 44.1**	**-1.3**
IBZA	**Bozab**	**1.32**	**96**	Pg	**Pg**	**01 55 47.5**	**0.0**
IBDR	**Badra**	**1.53**	**191**	*e*Pg	**Pn**	**01 55 50.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**01 56 12.0**	**+0.7**
IKFM	**Kafar-mosalman**	**1.71**	**129**	Pg	**Pg**	**01 55 54.6**	**-0.3**
IKRK	**Kirkuk**	**1.76**	**297**	*e*Pn	**Pb**	**01 55 54.0**	**-1.1**
IKRK				*e*Sn	**Sb**	**01 56 17.0**	**-0.7**
IKRK				AML	AML	01 56 26.1	
	comp=N,334nm,0.5s						
IKRK				AML	AML	01 56 27.6	
	comp=E,227nm,0.4s						
HSAM	**Samen**	**1.97**	**101**	Pn	**Pb**	**01 55 58.4**	**-0.4**
BHD	**Baghdad**	**2.07**	**230**	*e*Pn	**Pn**	**01 55 58.0**	**+0.3**
BHD				*e*Sn	**Sb**	**01 56 25.0**	**-1.3**
MAHB	**Mahabad**	**2.19**	**348**	Pn	**Pb**	**01 56 01.2**	**-1.3**
RAFI	**Al-Rafai**	**2.89**	**183**	*e*Pn	**Pn**	**01 56 10.0**	**+1.0**
RAFI				*e*Sn	**Sn**	**01 56 46.0**	**+1.7**
IAZR	**Azarshahr**	**3.06**	**356**	Pn	**Pn**	**01 56 12.6**	**+0.9**
ISRB	**Sarab**	**3.40**	**19**	Pn	**Pn**	**01 56 17.3**	**+1.1**
ISHB	**Shabestar**	**3.69**	**352**	Pn	**Pn**	**01 56 21.6**	**+1.3**
ISFB	**Sefidab**	**4.94**	**91**	Pn	**Pn**	**01 56 38.2**	**+0.8**

*TEH **23** 02:00:46.3, 34°.60N×46°.25E, h8km±23km, ML2.9*
*ISN **23** 02:00:46.5±1.2, 34°.61N×46°.25E, h17km±7km, ML3.1*
ISC 23 02:00:46.2±1.3, 34°.59N±0°.03×46°.23E±0°.03, h1km±13km,
n18, σ0°90/26, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.17**	**49**	Pg	**Pg**	**02 00 49.7**	**+0.1**
IDHR				Sg	**Sg**	**02 00 52.7**	**+0.9**
IGHG	**Ghaleghazi**	**0.38**	**132**	Pg	**Pg**	**02 00 53.9**	**+0.5**
IGHG				Sg	**Sb**	**02 01 01.3**	**-1.0**
KGS1	**Ghasr-e-Shirin**	**0.53**	**262**	Pg	**Pg**	**02 00 56.8**	**+0.4**
KGS1				Sg	**Sb**	**02 01 06.0**	**-0.5**
GLG1	**Gilan-e-Gharb**	**0.54**	**209**	Pg	**Pg**	**02 00 57.0**	**+0.5**
ILIN	**Lien**	**0.69**	**61**	Pg	**Pg**	**02 00 59.1**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.74**	**114**	Pg	**Pg**	**02 01 00.0**	**-0.3**
KCHF				Sg	**Sb**	**02 01 11.8**	**-0.8**
ILBA	**Ilam Banvizeh**	**0.96**	**181**	Pg	**Pb**	**02 01 04.9**	**-0.7**
SNQR	**Sonqor, Kerman**	**1.19**	**76**	Pg	**Pg**	**02 01 08.9**	**0.0**
IBZA	**Bozab**	**1.35**	**94**	Pg	**Pb**	**02 01 11.7**	**-0.8**
IBDR	**Badra**	**1.49**	**190**	*e*Pg	**Pb**	**02 01 14.5**	**-0.2**
IBDR				*e*Sg	**Sb**	**02 01 34.0**	**-0.1**
IKFM	**Kafar-mosalman**	**1.71**	**128**	Pg	**Pg**	**02 01 19.1**	**+0.1**
IKRK	**Kirkuk**	**1.75**	**298**	*e*Pn	**Pb**	**02 01 18.0**	**-1.1**
IKRK				*e*Sn	**Sb**	**02 01 41.0**	**-0.6**
IKRK				AML	AML	02 01 46.8	
	comp=N,199nm,0.4s						
IKRK				AML	AML	02 01 50.6	
	comp=E,247nm,0.6s						
HSAM	**Samen**	**2.00**	**100**	Pn	**Pb**	**02 01 22.7**	**-0.8**
BHD	**Baghdad**	**2.02**	**230**	*e*Pn	**Pb**	**02 01 22.0**	**-1.7**
BHD				*e*Sn	**Sb**	**02 01 48.0**	**-1.3**
MAHB	**Mahabad**	**2.22**	**349**	Pn	**Pb**	**02 01 26.0**	**-1.2**
RAFI	**Al-Rafai**	**2.85**	**182**	*e*Pn	**Pn**	**02 01 33.0**	**+0.1**
RAFI				*e*Sn	**Sn**	**02 02 09.0**	**+1.1**
IAZR	**Azarshahr**	**3.09**	**356**	Pn	**Pn**	**02 01 37.7**	**+1.3**
ISHB	**Shabestar**	**3.72**	**353**	Pn	**Pn**	**02 01 46.4**	**+1.4**

*SOME **23** 02:02:39.7, 42°.75N×78°.03E, h20km*
*KRNET **23** 02:02:40.9±0.1, 42°.81N×77°.91E, h18km, mb3.2*
*NNC **23** 02:02:40.4±0.4, 42°.87N×77°.98E, h0km, mb3.8, mpv3.8,*
Error ellipse: s-maj=4.5km s-min=1.4km az=176.0
*KNET **23** 02:02:40.9±0.7, 42°.81N×77°.81E, h3km±4km, ml3.2, Error*
ellipse: s-maj=9.0km s-min=4.3km az=158.0
ISC 23 02:02:40.7±0.7, 42°.85N±0°.02×77°.92E±0°.01, h10km, n81,
σ1°50/149, 42C-26D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.41**	**60**	*e*P	**Pg**	**02 02 48.4**	**-0.5**
	132nm,0.4s						
SATY				*e*S	**Sg**	**02 02 54.8**	**+0.4**
	3μm,0.1s						
SATY	**Saty**	**0.41**	**60**	P	**Pg**	**02 02 48.4**	**-0.5**
	132nm,0.4s						
SATY				S	**Sg**	**02 02 54.8**	**+0.4**
	3μm,0.1s						
PRZ	**Przheval'sk**	**0.51**	**136**	⇓*i*P	**Pg**	**02 02 50.3**	**-0.4**
	baz=31						
PRZ				⇓*e*S	**Sg**	**02 02 57.2**	**-0.3**
	baz=31						
KURS	**Kuram**	**0.66**	**16**	*e*P	**Pg**	**02 02 53.3**	**-0.3**
	169nm,0.2s						
KURS				*e*S	**Sb**	**02 03 03.1**	**-0.6**
	250nm,0.4s						
KURS	**Kuram**	**0.66**	**16**	P	**Pg**	**02 02 53.3**	**-0.3**
	169nm,0.2s						
KURS				S	**Sb**	**02 03 03.1**	**-0.6**
	250nm,0.4s						
KOTS	**Kotyrbulak**	**0.70**	**303**	*e*P	**Pb**	**02 02 55.0**	**-0.3**
	85nm,0.2s						
KOTS				*e*S	**Sb**	**02 03 05.9**	**+0.8**
	431nm,0.2s						
KOTS	**Kotyrbulak**	**0.70**	**303**	P	**Pb**	**02 02 55.0**	**-0.3**
	85nm,0.2s						
KOTS				S	**Sb**	**02 03 05.9**	**+0.8**
	431nm,0.2s						
MDOK	**Medeo**	**0.71**	**296**	*e*P	**Pg**	**02 02 54.5**	**0.0**
	112nm,0.2s						
MDOK				*e*S	**Sb**	**02 03 05.2**	**-0.1**
	632nm,0.3s						
MDOK	**Medeo**	**0.71**	**296**	Pg	**Pg**	**02 02 54.5**	**0.0**
	112nm,0.2s						

MDOK			⇑P	Pb	02 02 54.7	-0.6
	23nm,0.3s					
MDOK			S	Sb	02 03 05.2	-0.1
	141nm,0.5s					
MDOK			Lg	Lg	02 03 05.2	
	632nm,0.3s					
TNSS	**Tian-Shan**	**0.74 285**	*e*P	**Pg**	**02 02 55.2**	**+0.2**
	72nm,0.1s					
TNSS			*e*S	**Sb**	**02 03 06.5**	**+0.2**
	227nm,0.2s					
TNSS	**Tian-Shan**	**0.74 285**	P	**Pg**	**02 02 55.2**	**+0.2**
	72nm,0.1s					
TNSS			S	**Sb**	**02 03 06.4**	**+0.2**
	227nm,0.2s					
KNDC	**Almaty**	**0.79 298**	⇑P	**Pn**	**02 02 57.3**	**-0.7**
	28nm,0.3s					
KNDC			⇓S	**Sg**	**02 03 06.9**	**+0.6**
	283nm,0.8s					
AAA	**Alma-Ata**	**0.82 296**	*e*P	**Pb**	**02 02 57.1**	**0.0**
	194nm,0.2s					
AAA			*e*S	**Sb**	**02 03 09.4**	**+1.2**
	627nm,0.2s					
AAA	**Alma-Ata**	**0.82 296**	P	**Pb**	**02 02 57.2**	**0.0**
	194nm,0.2s					
AAA			S	**Sb**	**02 03 09.4**	**+1.2**
	627nm,0.2s					
KPKS	**Kokpek**	**0.83 42**	*e*P	**Pg**	**02 02 55.7**	**-1.1**
	309nm,0.2s					
KPKS			*e*S	**Sg**	**02 03 07.1**	**-0.5**
	1μm,0.2s					
KPKS	**Kokpek**	**0.83 42**	P	**Pg**	**02 02 55.7**	**-1.1**
	309nm,0.2s					
KPKS			S	**Sg**	**02 03 07.1**	**-0.5**
	930nm,0.3s					
UZB	**Uzynbulak**	**0.86 70**	*e*P	**Pg**	**02 02 55.6**	**-1.7**
	58nm,0.1s					
UZB			*e*S	**Sg**	**02 03 07.1**	**-1.5**
	393nm,0.2s					
UZB	**Uzynbulak**	**0.86 70**	P	**Pg**	**02 02 55.6**	**-1.7**
	125nm,0.2s					
UZB			S	**Sg**	**02 03 07.1**	**-1.5**
	393nm,0.2s					
KDJ	**Kajisay**	**0.91 217**	⇑*e*P	**Pg**	**02 02 57.2**	**-1.0**
	baz=18					
KDJ			⇑*i*S	**Sg**	**02 03 09.0**	**-1.0**
	baz=18					
KASK	**Kaskelen**	**1.01 292**	⇓P	**Pn**	**02 03 01.6**	**+0.6**
KASK			⇓S	**Sn**	**02 03 15.0**	**-0.3**
MTBS	**Maitube**	**1.13 285**	*e*P	**Pb**	**02 03 02.1**	**-0.4**
	20nm,0.1s					
MTBS			*e*S	**Sn**	**02 03 18.1**	**-0.2**
	280nm,0.2s					
MTBS	**Maitube**	**1.13 285**	P	**Pb**	**02 03 02.1**	**-0.4**
	33nm,0.2s					
MTBS			S	**Sn**	**02 03 18.1**	**-0.2**
	280nm,0.2s					
SHLS	**Shalkode**	**1.17 74**	*e*P	**Pn**	**02 03 06.8**	**+3.4**
	100nm,0.5s					
SHLS			*e*S	**Sn**	**02 03 26.2**	**+6.8**
	430nm,0.3s					
SHLS	**Shalkode**	**1.17 74**	P	**Pn**	**02 03 06.8**	**+3.4**
	100nm,0.5s					
SHLS			S	**Sn**	**02 03 26.6**	**+7.2**
	430nm,0.3s					
CHKK	**Chushkaly**	**1.21 326**	*e*P	**Pn**	**02 03 03.6**	**-0.1**
	233nm,0.1s					
CHKK			*e*S	**Sn**	**02 03 20.9**	**+0.6**
	766nm,0.2s					
CHKK	**Chushkaly**	**1.21 326**	P	**Pn**	**02 03 03.6**	**-0.1**
	266nm,0.2s					
CHKK			S	**Sn**	**02 03 20.9**	**+0.6**
	430nm,0.2s					
PDGK	**Podgornoye**	**1.25 67**	P	**Pn**	**02 03 02.3**	**-2.1**
	18nm,0.2s					
PDGK			S	**Sb**	**02 03 18.5**	**-2.0**
	72nm,0.3s					
PDGK	**Podgornoye**	**1.25 67**	P	**Pn**	**02 03 02.1**	**-2.2**
	9.0nm,0.4s					
PDGK			S	**Sb**	**02 03 18.7**	**-1.9**
	98nm,0.5s					
KTBS	**Karatobe**	**1.25 314**	*e*P	**Pn**	**02 03 04.2**	**-0.1**
	205nm,0.1s					
KTBS			*e*S	**Sn**	**02 03 21.8**	**+0.6**
	388nm,0.2s					
KTBS	**Karatobe**	**1.25 314**	P	**Pn**	**02 03 04.2**	**-0.1**
	216nm,0.2s					
KTBS			S	**Sn**	**02 03 21.8**	**+0.6**
	388nm,0.2s					
BLB	**Baldybastay**	**1.31 18**	P	**Pn**	**02 03 04.8**	**-0.5**
	603nm,0.3s					
BLB			S	**Sn**	**02 03 22.6**	**-0.3**
	800nm,0.2s					
ARXS	**Arharly**	**1.36 357**	*e*P	**Pb**	**02 03 06.1**	**-0.3**
	466nm,0.2s					
ARXS			*e*S	**Sg**	**02 03 25.0**	**+0.4**
	385nm,0.1s					
ARXS	**Arharly**	**1.36 357**	P	**Pb**	**02 03 06.1**	**-0.3**
	466nm,0.2s					
ARXS			S	**Sg**	**02 03 25.0**	**+0.4**
	408nm,0.2s					
ULHL	**Ulahol**	**1.38 245**	⇓P	**Pn**	**02 03 05.5**	**-0.7**
	33nm,0.1s,SNR=29					
ULHL			⇑S	**Sn**	**02 03 24.8**	**+0.1**
	299nm,0.2s					
ULHL	**Ulahol**	**1.38 245**	⇑*e*P	**Pn**	**02 03 05.9**	**-0.4**
	baz=46					
ULHL			⇑*e*S	**Sb**	**02 03 24.2**	**-0.3**
	baz=46					
KST	**Kastek**	**1.45 278**	*e*P	**Pb**	**02 03 08.0**	**+0.1**
	49nm,0.2s					
KST			*e*S	**Sg**	**02 03 28.4**	**+1.0**
	128nm,0.2s					
KST	**Kastek**	**1.45 278**	P	**Pb**	**02 03 08.0**	**+0.1**
	49nm,0.2s					
KST			S	**Sg**	**02 03 28.4**	**+1.0**
	122nm,0.3s					
BOOM	**Boomskoye usch**	**1.50 257**	⇑*e*P	**Pn**	**02 03 08.0**	**+0.1**
	baz=58					
BOOM			⇑*i*S	**Sb**	**02 03 27.9**	**-0.2**
	baz=58					
DGS	**Degeres**	**1.62 285**	*e*P	**Pb**	**02 03 11.0**	**+0.2**
	67nm,0.1s					
DGS			*e*S	**Sg**	**02 03 33.4**	**+0.4**
	220nm,0.4s					
DGS	**Degeres**	**1.62 285**	P	**Pb**	**02 03 11.0**	**+0.2**
	67nm,0.3s					
DGS			S	**Sg**	**02 03 33.4**	**+0.4**
	220nm,0.4s					
TKM2	**Tokmak 2**	**1.71 273**	⇑P	**Pb**	**02 03 12.2**	**-0.2**
	28nm,0.1s,SNR=70					
TKM2			⇑S	**Sg**	**02 03 36.1**	**+0.4**
	206nm,0.1s					
TKM2	**Tokmak 2**	**1.71 273**	⇑Pn	**Pb**	**02 03 12.8**	**+0.4**
	12nm,0.5s					
TKM2			⇑Sn	**Sg**	**02 03 37.3**	**+1.6**
	156nm,0.5s					
TKM2	**Tokmak 2**	**1.71 273**	⇓*e*P	**Pb**	**02 03 12.1**	**-0.3**
	baz=74					
TKM2			⇓*i*S	**Sb**	**02 03 34.7**	**+0.7**
	baz=74					
KNOS	**Konyrlen**	**1.76 31**	P	**Pb**	**02 03 12.5**	**-0.8**
	0.8nm,0.4s					
KNOS			S	**Sb**	**02 03 35.9**	**+0.4**
	214nm,0.3s					
KRBS	**Karabastau**	**1.84 298**	*e*P	**Pb**	**02 03 14.3**	**-0.3**
	31nm,0.3s					
KRBS			*e*S	**Sg**	**02 03 39.3**	**-0.7**
	241nm,0.3s					
KRBS	**Karabastau**	**1.84 298**	P	**Pb**	**02 03 14.3**	**-0.3**
	31nm,0.3s					
KRBS			S	**Sg**	**02 03 39.3**	**-0.7**
	241nm,0.3s					
KTMS	**Ketmen**	**1.88 71**	*e*P	**Pn**	**02 03 13.4**	**+0.4**
	19nm,0.3s					
KTMS			*e*S	**Sb**	**02 03 37.5**	**-1.2**
	177nm,0.2s					
KTMS	**Ketmen**	**1.88 71**	P	**Pn**	**02 03 12.8**	**-0.2**
	19nm,0.3s					
KTMS			S	**Sb**	**02 03 37.5**	**-1.2**
	177nm,0.2s					
DJR	**Jarkent**	**2.01 42**	*e*P	**Pb**	**02 03 16.3**	**-1.1**
	45nm,0.2s					
DJR			*e*S	**Sb**	**02 03 42.6**	**+0.1**
	393nm,0.1s					
DJR	**Jarkent**	**2.01 42**	Pg	**Pn**	**02 03 15.5**	**+0.7**
	45nm,0.2s					
DJR			Lg	Lg	02 03 42.7	
	373nm,0.5s					
NRN	**Naryn**	**2.01 226**	⇑*i*P	**Pb**	**02 03 16.6**	**-1.0**
	baz=27					
NRN			⇑*e*S	**Sb**	**02 03 42.5**	**-0.3**
	baz=27					
TDK	**Taldyqorghan**	**2.18 9**	*e*P	**Pb**	**02 03 19.3**	**-1.0**
	46nm,0.1s					
TDK			*e*S	**Sb**	**02 03 47.6**	**+0.3**
	564nm,0.4s					
TDK	**Taldyqorghan**	**2.18 9**	Pg	**Pb**	**02 03 19.3**	**-1.0**
	62nm,0.3s					
TDK			Lg	Lg	02 03 47.6	
	564nm,0.4s					
KBK	**Karagaybulak**	**2.20 266**	⇓*e*P	**Pb**	**02 03 19.1**	**-1.6**
	baz=67					
KBK			⇓*e*S	**Sb**	**02 03 46.9**	**-1.1**
	baz=67					
CHMS	**Chumysh**	**2.33 275**	⇓P	**Pb**	**02 03 22.3**	**-0.6**
	13nm,0.2s,SNR=12					
CHMS			⇓S	**Sg**	**02 03 54.3**	**-1.3**
	60nm,0.2s					
CHMS	**Chumysh**	**2.33 275**	⇓Pn	**Pb**	**02 03 22.1**	**-0.8**
	5.7nm,0.3s					
CHMS			⇑Lg	Lg	02 03 54.6	
	50nm,0.6s					
CHMS	**Chumysh**	**2.33 275**	⇓*e*P	**Pn**	**02 03 20.9**	**+1.7**
	baz=76					
CHMS			⇓*e*S	**Sb**	**02 03 50.0**	**-1.8**
	baz=76					
FRU1	**Bishkek**	**2.42 270**	⇑*e*P	**Pb**	**02 03 22.3**	**-2.1**
	baz=71					
FRU1			⇑*i*S	**Sb**	**02 03 52.3**	**-2.0**
	baz=71					
SGDS	**Sogindy**	**2.48 285**	Pg	**Pb**	**02 03 24.1**	**-1.4**
	8.8nm,0.2s					
SGDS			Lg	Lg	02 03 55.8	
	36nm,0.3s					
AAK	**Ala-Archa**	**2.53 266**	⇓P	**Pb**	**02 03 24.9**	**-1.5**
	16nm,0.2s					
AAK			⇓S	**Sb**	**02 03 59.1**	**+1.5**
	66nm,0.4s					
AAK	**Ala-Archa**	**2.53 266**	⇑Pn	**Pb**	**02 03 25.6**	**-0.8**
	3.4nm,0.3s					
AAK			⇑Lg	Lg	02 04 03.2	
	62nm,1.1s					
AAK	**Ala-Archa**	**2.53 266**	⇑*e*P	**Pn**	**02 03 23.8**	**+1.7**
	baz=67					
AAK			⇑*e*S	**Sn**	**02 03 54.9**	**+1.8**
	baz=67					
USP	**Ospenovka**	**2.54 281**	⇑P	**Pb**	**02 03 24.2**	**-2.3**
	12nm,0.2s,SNR=14					
USP			⇓S	**Sb**	**02 03 58.4**	**+0.6**
	74nm,0.2s					
USP	**Ospenovka**	**2.54 281**	⇑*e*P	**Pn**	**02 03 24.0**	**+1.9**
	baz=81					
USP			⇑*e*S	**Sn**	**02 03 55.2**	**+2.1**
	baz=81					
UCH	**Uchtor**	**2.59 257**	⇑P	**Pb**	**02 03 25.9**	**-1.7**
	10nm,0.2s,SNR=19					
UCH	**Uchtor**	**2.59 257**	⇓*e*P	**Pn**	**02 03 24.8**	**+1.6**
	baz=58					
UCH			⇓*i*S	**Sn**	**02 03 56.7**	**+1.7**
	baz=58					
ARLS	**Aral**	**2.84 251**	⇑*e*P	**Pn**	**02 03 28.0**	**+1.6**
	baz=51					
ARLS			⇑*e*S	**Sn**	**02 04 02.1**	**+1.4**
	baz=51					
EKS2	**Erkin-Say**	**3.06 268**	⇑*e*P	**Pn**	**02 03 31.1**	**+1.9**
	baz=69					
EKS2			⇑*e*S	**Sn**	**02 04 07.5**	**+1.6**
	baz=69					
AML	**Almayashu**	**3.21 258**	⇑*e*P	**Pn**	**02 03 33.3**	**+1.7**
	baz=59					
AML			⇑*e*S	**Sn**	**02 04 11.4**	**+1.4**
	baz=59					
MRKS	**Merke**	**3.46 270**	*e*P	**Pb**	**02 03 43.5**	**+1.4**
	4.9nm,0.3s					
MRKS			*e*S	**Sg**	**02 04 29.2**	**-2.6**
	36nm,0.3s					
MRKS	**Merke**	**3.46 270**	Pg	**Pb**	**02 03 43.5**	**+1.4**
	4.9nm,0.3s					
MRKS			Lg	Lg	02 04 29.2	
	36nm,0.3s					
BTLS	**Baital**	**3.55 309**	*e*P	**Pb**	**02 03 44.9**	**+1.3**
	6.2nm,0.3s					
BTLS			*e*S	**Sg**	**02 04 31.6**	**-3.1**
	9.2nm,0.4s					
BTLS	**Baital**	**3.55 309**	Pg	**Pb**	**02 03 44.9**	**+1.3**
	6.2nm,0.3s					
BTLS			Lg	Lg	02 04 31.6	
	9.2nm,0.4s					
MNAS	**Manas**	**4.01 267**	⇓*i*P	**Pn**	**02 04 44.3**	**+1.9**
	baz=67					
MNAS			⇓*e*S	**Sn**	**02 04 30.3**	**+0.8**
	baz=67					
MAKZ	**Makanchi**	**4.89 35**	⇑Pn	**Pn**	**02 03 55.4**	**+1.0**
	0.4nm,0.3s					
MAKZ			⇑Lg	Lg	02 05 08.5	
	5.5nm,0.5s					
MK31	**Makanchi Array**	**5.02 37**	⇓Pn	**Pn**	**02 03 56.3**	**+0.2**
	2.5nm,0.3s,baz=218,slow=10,SNR=74					
MK31			⇓Lg	Lg	02 05 11.6	
	7.4nm,0.7s,baz=221,slow=26,SNR=5.5					
KK31	**Karatay Array**	**5.44 275**	⇑Pg	**Pg**	**02 04 22.2**	**-2.7**
	0.9nm,0.4s,baz=90,slow=16,SNR=16					
KK31			⇑Lg	Lg	02 05 35.1	
	6.6nm,0.5s,baz=93,slow=27,SNR=4.1					
KKAR	**Karatay Array**	**5.44 275**	⇓*e*P	**Pn**	**02 04 03.9**	**+2.0**
	baz=76					
KKAR			⇓*i*S	**Sn**	**02 05 04.5**	**-0.1**
	baz=76					
OTUK	**Ortayu**	**6.67 326**	⇑Pn	**Pn**	**02 04 15.2**	**-3.5**
	0.6nm,0.4s					
OTUK			⇑Lg	Lg	02 06 10.1	
	8.9nm,1.1s					
KURBB	**Kurchatov Arra**	**7.79 3**	⇑Pn	**Pn**	**02 04 38.0**	**+4.0**
	0.4nm,0.5s					
KURBB			⇑Lg	Lg	02 06 46.9	
	13nm,0.9s					
KURK	**Kurchatov**	**7.88 3**	⇑Pn	**Pn**	**02 04 37.5**	**+2.2**
	0.9nm,0.4s					
KURK			⇑Lg	Lg	02 06 45.3	
	11nm,0.7s					

SNET ***23*** *02:39:18.9±0.6, 13°.65N×89°.07W, h8km±3km, ML2.9*
CATAC ***23*** *02:39:19.1±0.6, 13°.68N×89°.06W, h7km±3km, ML2.2*
ISC 23 02:39:18.5±0.9, 13°.71N±0°.07×89°.05W±0°.03, h16km±5km, n19, σ0°.59/35, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AEIL	**Aeropuerto Ilo**	**0.07**	**256**	*e*P	**Pg**	**02 39 21.6**	**-0.1**
AEIL				*e*S	**Sg**	**02 39 23.5**	**-0.3**
AEIL				IAML		02 39 27.1	
	comp=Z,1μm,0.2s						
LFU	**La Fuente**	**0.07**	**298**	*e*P	**Pg**	**02 39 21.8**	**+0.1**
UDBS	**Universidad Do**	**0.10**	**271**	*i* P	**Pg**	**02 39 22.0**	**0.0**
UDBS				*i* S	**Sg**	**02 39 24.1**	**-0.2**
UDBS				IAML		02 39 26.2	
	comp=Z,880nm,1.0s						
PAVA	**Las Pavas**	**0.11**	**90**	*e*P	**Pg**	**02 39 22.7**	**+0.6**
IGN	**Direccin Gen**	**0.12**	**270**	*i* P	**Pg**	**02 39 22.4**	**+0.2**
IGN				*i* S	**Sg**	**02 39 24.7**	**+0.1**
IGN				IAML		02 39 27.4	
	comp=Z,4μm,1.0s						
LOMA	**Loma Larga**	**0.14**	**240**	*i* P	**Pg**	**02 39 22.4**	**-0.1**
LOMA				IAML		02 39 22.8	
	comp=Z,650nm,1.0s						
LOMA				*i* S	**Sg**	**02 39 24.7**	**-0.4**
PANCS	**Alcalda de**	**0.16**	**232**	*i* P	**Pg**	**02 39 22.6**	**-0.2**
PANCS				IAML		02 39 22.7	
	comp=Z,2μm,1.0s						
PANCS				*i* S	**Sg**	**02 39 25.0**	**-0.6**
SNET	**Serv Nac Est T**	**0.18**	**262**	*i* P	**Pg**	**02 39 23.3**	**+0.3**
SNET				*i* S	**Sg**	**02 39 26.2**	**+0.2**
SNET				IAML		02 39 26.8	
	comp=Z,930nm,1.0s						
UEES	**Universidad Ev**	**0.19**	**271**	*i* P	**Pg**	**02 39 23.4**	**+0.3**
UEES				*i* S	**Sg**	**02 39 26.6**	**+0.4**
UEES				IAML		02 39 28.0	
	comp=Z,450nm,1.0s						
PIC2	**El Picacho**	**0.20**	**279**	*e*P	**Pb**	**02 39 24.5**	**+0.5**
PIC2				*e*S	**Sb**	**02 39 28.5**	**+0.7**
ITCA	**Escuela Especi**	**0.23**	**260**	*i* P	**Pg**	**02 39 24.1**	**+0.4**
ITCA				*i* S	**Sg**	**02 39 27.8**	**+0.5**
ITCA				IAML		02 39 29.9	
	comp=Z,1μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.25**	**299**	*i* P	**Pb**	**02 39 24.8**	**+0.1**
QUEZ				*i* S	**Sb**	**02 39 29.1**	**+0.2**
QUEZ				IAML		02 39 55.9	
	comp=Z,2μm,1.0s						
PMON	**Piamonte**	**0.26**	**270**	*e*P	**Pg**	**02 39 25.1**	**+0.8**
PMON				IAML		02 39 25.6	
	comp=Z,11μm,0.1s						
PMON				*e*S	**Sg**	**02 39 29.2**	**+0.9**
PMON				*e*S		02 39 29.3	
PMON	**Piamonte**	**0.26**	**270**	*i* P	**Pg**	**02 39 25.0**	**+0.8**
PMON				*i* S	**Sg**	**02 39 29.1**	**+0.9**
PMON				IAML		02 39 29.9	
	comp=Z,940nm,1.0s						
SCLA	**Alcaldia de Sa**	**0.31**	**92**	*i* P	**Pb**	**02 39 26.3**	**+0.6**
SCLA				*i* S	**Sb**	**02 39 31.3**	**+0.7**
SCLA				IAML		02 39 36.0	
	comp=Z,26nm,1.0s						
JAYA	**Jayaque - finc**	**0.40**	**261**	*i* P	**Pg**	**02 39 27.0**	**+0.4**
JAYA				*i* S	**Sg**	**02 39 32.4**	**+0.3**
JAYA				IAML		02 39 33.9	
	comp=Z,360nm,1.0s						
UNIC	**Universidad Ca**	**0.56**	**299**	*i* S	**Sb**	**02 39 38.2**	**+0.5**
NUBE	**Las Nubes**	**0.74**	**285**	*i* P	**Pb**	**02 39 33.7**	**+0.6**
NUBE				*i* S	**Sn**	**02 39 44.1**	**-1.3**
NUBE				IAML		02 39 52.1	
	comp=Z,84nm,1.0s						
MTO3	**Montecristo**	**0.75**	**336**	*i* P	**Pn**	**02 39 33.6**	**-1.0**
MTO3				IAML		02 39 33.9	
	comp=Z,30nm,1.0s						
MTO3				*i* S	**Sn**	**02 39 44.9**	**-0.9**

IDC ***23*** *02:40:22.9±0.5, 37°.55N×29°.87E, h0km, mb4.4/26, mbtmp4.4/38, ML4.4/10, MS3.9/56, Error ellipse: s-maj=11.2km s-min=9.7km az=156.0*
ISK ***23*** *02:40:22.8, 37°.55N×29°.82E, h5km, ML4.7/33*
MED_RC ***23*** *02:40:24.0±0.2, 37°.34N×29°.83E, h16km, MW4.9/65, Moment Tensor Solution. Body waves: s4,c4;Mantle waves: s65,c101; Duration: 1s1 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.15±.12; $M_{\theta\theta}$0.77±.08; $M_{\phi\phi}$2.38±.07; $M_{r\theta}$-0.05±.25; $M_{\theta\phi}$0.32±.06; $M_{\phi r}$0.11±.15; Best double couple: $M_0$2.80000×10^{16} NP1:ϕ_s190.00000°, δ46.00000°, λ-91.00000°. NP2:ϕ_s12.00000°, δ44.00000°, λ-89.00000°. Principal axes: T 2.4400, Plg1.0000°, Azm281.0000°; N 0.7100, Plg1.0000°, Azm191.0000°; P -3.1500, Plg89.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
MOS ***23*** *02:40:24.1±0.9, 37°.58N×29°.91E, h17km, mb5.0/46, MS4.2/19 Error ellipse: s-maj=4.4km s-min=2.7km az=92.3*
AFAD ***23*** *02:40:24.0±0.0, 37°.53N×29°.85E, h18km±1km, MW4.6*
NEIC ***23*** *02:40:24.6±1.6, 37°.53N±0°.05×29°.91E±0°.06, h10km±1km, mb4.9/205, Error ellipse: s-maj=8.7km s-min=8.1km az=177.0*
HLW ***23*** *02:40:25.8, 37°.65N×29°.92E, h27km±52km, Md4.3, Ml4.9*
PDG ***23*** *02:40:25.0±0.6, 37°.61N×29°.85E, h14km±1km, ML4.7/6, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
THE ***23*** *02:40:26.4, 37°.75N×30°.12E, h25km±31km, ML4.7/3, Error ellipse: s-maj=31.6km s-min=0.6km az=0.0*
GCMT ***23*** *02:40:27.6±0.2, 37°.45N±0°.02×29°.83E±0°.02, h18km, MW4.9/117, Moment Tensor Solution. s59,c68; s117,c179; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.28±.13; $M_{\theta\theta}$0.73±.08; $M_{\phi\phi}$2.55±.09; $M_{r\theta}$0.58±.23; $M_{\theta\phi}$0.50±.05; $M_{\phi r}$0.43±.18; Best double couple: $M_0$3.05800×10^{16} NP1:ϕ_s201.00000°, δ51.00000°, λ-82.00000°. NP2:ϕ_s8.00000°, δ40.00000°, λ-100.00000°. Principal axes: T 2.7310, Plg5.0000°, Azm286.0000°; N 0.6560, Plg6.0000°, Azm16.0000°; P -3.3850, Plg82.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
GII ***23*** *02:40:27.2±0.2, 37°.284N±0°.001×29°.775E±0°.001, h7km, Mws4.5, confirmed*
NAO ***23*** *02:40:48.4, 39°.78N×29°.55E, h33km, mb4.3*
ISC 23 02:40:24.7±0.5, 37°.56N±0°.01×29°.85E±0°.01, h12km±3km, n1168, σ1°.41/1189, mb4.9/163, MS4.0/53, 94C-54D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDR	**BURDUR-Merkez**	**0.22**	**50**	P	**Pg**	**02 40 29.5**	**0.0**
BRDR				S	**Sg**	**02 40 33.5**	**+0.8**
BRDR				*i* AML	AML	02 40 35.0	
	comp=E,22μm,0.8s						
BRDR				*i* AML	AML	02 40 36.0	
	comp=N,19μm,0.4s						
INCE	**Denizli-Bozkur**	**0.27**	**305**	P	**Pg**	**02 40 30.1**	**-0.2**
INCE				S	**Sg**	**02 40 34.9**	**+0.8**
GOLH	**Golhisar**	**0.39**	**216**	P	**Pg**	**02 40 31.9**	**-0.6**
GOLH				S	**Sg**	**02 40 38.0**	**+0.2**
BASM	**Basmaki-Afyon**	**0.40**	**24**	Pg	**Pg**	**02 40 32.4**	**-0.2**
BASM				Sg	**Sb**	**02 40 39.0**	**-0.8**
APMY	**Acipayam-Deniz**	**0.44**	**259**	Pg	**Pg**	**02 40 33.0**	**-0.5**
BCK	**Bucak**	**0.60**	**99**	Pg	**Pg**	**02 40 35.5**	**-0.8**
BCK				Sg	**Sb**	**02 40 45.6**	**+0.1**
BCK	**Bucak**	**0.60**	**99**	P	**Pg**	**02 40 36.1**	**-0.2**
BCK				SG	**Sb**	**02 40 46.0**	**+0.5**
ISP	**Isparta**	**0.60**	**63**	Pg	**Pg**	**02 40 35.9**	**-0.5**
ISP				Sg	**Sb**	**02 40 45.6**	**0.0**
ISP	**Isparta**	**0.60**	**63**		**Pg**	**02 40 35.7**	**-0.6**
ISP	**Isparta**	**0.60**	**63**	P	**Pg**	**02 40 35.8**	**-0.6**
ISP				SG	**Sb**	**02 40 45.6**	**0.0**
CAEL	**Denizli, Camel**	**0.60**	**225**	P	**Pg**	**02 40 34.6**	**-1.9**
BUCA	**Burdur, Bucak-**	**0.61**	**112**	P	**Pg**	**02 40 35.9**	**-0.6**
BUCA				S	**Sn**	**02 40 47.1**	**-1.9**
BUCA				*i* AML	AML	02 40 48.0	
	comp=N,3μm,0.6s						
DNIZ	**Denizli-Tavas-**	**0.65**	**277**	P	**Pg**	**02 40 36.6**	**-0.7**
DNIZ				S	**Sb**	**02 40 47.1**	**0.0**
DNIZ				*i* AML	AML	02 40 49.0	
	comp=E,6μm,0.5s						
DNIZ				*i* AML	AML	02 40 52.0	
	comp=N,5μm,0.4s						
KORT	**Korkueli**	**0.68**	**144**	Pg	**Pg**	**02 40 37.3**	**-0.7**
KORT	**Korkueli**	**0.68**	**144**	P	**Pg**	**02 40 37.2**	**-0.8**
KORT				S	**Sn**	**02 40 50.3**	**-0.6**
DNZT	**Denizli-Tavas-**	**0.71**	**247**	P	**Pg**	**02 40 37.1**	**-1.3**
DNZT				P	**Pg**	**02 40 37.2**	**-1.3**
DNZT				S	**Sb**	**02 40 48.9**	**+0.1**
DNZT				S	**Sg**	**02 40 49.3**	**+1.5**
DNZT				*i* AML	AML	02 40 50.0	
	comp=N,2μm,1.0s						
DNZT				*i* AML	AML	02 40 50.0	
	comp=N,2μm,1.0s						
KZIL	**AFYON_Kizioren**	**0.74**	**18**	P	**Pg**	**02 40 38.3**	**-0.7**
KZIL				S	**Sn**	**02 40 51.6**	**-0.7**
KNIK	**Mula-Seydike**	**0.74**	**197**	P	**Pg**	**02 40 38.0**	**-1.1**
KNIK				S	**Sg**	**02 40 48.8**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.75**	**263**	P	**Pg**	**02 40 38.2**	**-1.0**
TAVA				S	**Sb**	**02 40 50.2**	**+0.2**
TAVA				*i* AML	AML	02 40 51.0	
	comp=E,2μm,0.5s						
CAME	**Cameli-Denizli**	**0.75**	**216**	Pg	**Pg**	**02 40 38.1**	**-1.1**
ELL	**Elmali**	**0.81**	**177**	Pg	**Pb**	**02 40 38.8**	**-1.9**
ELL	**Elmali**	**0.81**	**177**	Pg	**Pb**	**02 40 39.1**	**-1.7**
ELL	**Elmali**	**0.81**	**177**	P	**Pb**	**02 40 39.6**	**-1.1**
ELL				S	**Sn**	**02 40 52.8**	**-1.2**
KHL	**Karahalli**	**0.81**	**342**	Pg	**Pb**	**02 40 39.7**	**-1.1**
PASA	**Karahalli, USA**	**0.84**	**340**	P	**Pb**	**02 40 40

IZZE	Mula-Seydike	1.22 204	P	Pg	02 40 49.6	+1.4
IZZE			S	Sg	02 41 09.7	+5.6
IZZE			*i* AML	AML	02 41 11.0	
	comp=E,2µm,0.5s					
IZZE			*i* AML	AML	02 41 12.0	
	comp=N,2µm,0.5s					
MULA	Mugla, Merkez-	1.25 257	P	Pb	02 40 48.0	-0.3
MULA			S	Sg	02 41 08.3	+3.2
AFYO	Afyonkarahisar	1.28 16	P	Pb	02 40 48.4	-0.4
AFYO			S	Sg	02 41 07.8	+1.8
AKUM	Antalya-Kumluc	1.29 162	P	Pb	02 40 48.5	-0.4
NAZL	Nazilli-Aydin	1.30 289	Pn	Pn	02 40 48.3	-0.4
YVAC	Isparta, Yalva	1.31 57	P	Pn	02 40 47.5	-1.4
YVAC			S	Sg	02 41 07.6	+0.6
KIRA	zmir-Kiraz	1.31 300	P	Pn	02 40 48.5	-0.5
KIRA			S	Sg	02 41 09.3	+2.3
DEMR	Demre-Antalya	1.32 178	Pn	Pb	02 40 49.3	0.0
USAK	Uak-Merkez	1.33 331	P	Pb	02 40 49.2	-0.4
AKAS	Kas	1.33 188	Pn	Pb	02 40 49.5	-0.2
AKAS	Kas	1.33 188	P	Pb	02 40 49.2	-0.5
KULA	Kula-Manisa	1.34 316	Pn	Pn	02 40 49.1	-0.2
KULA	Kula-Manisa	1.34 316	P	Pn	02 40 48.6	-0.7
KULA			S	Sb	02 41 06.6	-0.4
MANT	Manisa	1.38 313	P	Pn	02 40 49.7	-0.3
MANT			S	Sg	02 41 10.0	+0.7
KSL	Kastellorizon	1.42 189	P	Pg	02 40 52.8	+0.9
KSL			S	Sg	02 41 12.9	+2.6
KURO	Afyon-Bolvadin	1.46 36	P	Pb	02 40 51.1	-0.7
KURO			S	Sg	02 41 12.1	+0.5
MNVG	Manavgat-Antal	1.46 121	Pn	Pb	02 40 51.8	0.0
TURN	Turunc	1.50 239	Pn	Pb	02 40 51.6	-0.8
TURN	Turunc	1.50 239	P	Pn	02 40 50.9	-0.5
TURN			S	Sg	02 41 13.5	+0.5
SEDI	Konya, Seydise	1.52 93	P	Pb	02 40 52.5	-0.4
SEDI			S	Sg	02 41 13.6	0.0
GEDZ	Gediz	1.53 347	Pn	Pb	02 40 52.3	-0.7
DOGA	KONYA_Doganhis	1.54 69	P	Pb	02 40 52.8	-0.5
DOGA			S	Sg	02 41 13.7	-0.7
DOGA			*i* AML	AML	02 41 24.0	
	comp=N,7µm,0.8s					
SHAP	Saphane-Kutahy	1.55 342	Pn	Pn	02 40 52.4	+0.2
GDZ	Gediz	1.56 349	P	Pn	02 40 52.2	-0.1
GDZ			S	Sg	02 41 16.9	+2.1
ODEM	Odemis-Izmir	1.58 298	Pn	Pn	02 40 52.6	+0.1
SEYD	Seydisehir-KON	1.59 95	Pn	Pb	02 40 53.7	-0.4
AYDB	Zeytinkoy-Aydi	1.60 285	Pn	Pn	02 40 52.9	0.0
IZMR	zmir-demi	1.61 292	P	Pn	02 40 52.8	-0.1
IZMR			P	Pb	02 40 53.0	-1.3
UCKU	Afyonkarahisar	1.65 49	P	Pb	02 40 54.3	-0.8
UCKU			S	Sg	02 41 21.4	+3.8
BYAT	Afyon-Bayat	1.65 32	P	Pb	02 40 54.6	-0.5
BYAT			S	Sg	02 41 17.8	0.0
MLSB	Milas	1.67 262	Pn	Pb	02 40 54.2	-1.2
SIMA	Simav-Kutahya	1.67 336	Pn	Pn	02 40 54.1	+0.2
SMAA	Simav-Kutahya	1.69 336	Pn	Pn	02 40 54.5	+0.4
AUKIR	Kırka- Seyitga	1.80 17	P	Pn	02 40 56.0	+0.3
EMET	Ktahya-Emet	1.86 347	P	Pn	02 40 56.3	-0.2
EMET			S	Sg	02 41 26.1	+1.5
GOMA	Golmarmara-Man	1.91 308	Pn	Pn	02 40 57.5	+0.5
ARG	Arkhangelos	1.92 226		Pb	02 40 58.7	-0.9
ARG	Arkhangelos	1.92 226	P	Pg	02 41 00.5	-1.0
ARG			S	Sg	02 41 27.0	+0.5
	8µm,0.7s					
ARG	Arkhangelos	1.92 226	P	Pb	02 40 58.7	-0.9
ARG			S	Sb	02 41 24.5	+0.9
ANDZ	Kutahya, Merke	1.95 1	P	Pn	02 40 58.2	+0.5
BDRM	Kayabasi	1.98 256	P	Pb	02 40 59.2	-1.4
BDRM			S	Sg	02 41 30.5	+2.2
DAT	Datca	1.99 246	P	Pb	02 40 59.8	-1.2
DAT			S	Sg	02 41 27.4	-1.4
DAT	Datca	1.99 246	P	Pb	02 41 00.7	-0.2
DAT			S	Sg	02 41 28.2	-0.6
ALAN	Alanya-ANTALYA	2.01 119	Pn	Pb	02 40 59.5	-1.7
KONT	Konya--Tatoy	2.03 78	Pn	Pb	02 41 00.3	-1.2
KONT	Konya--Tatoy	2.03 78	P	Pb	02 40 59.8	-1.7
KONT			S	Sb	02 41 26.8	+0.1
KDHN	Kadinhani	2.03 61	P	Pn	02 40 58.7	-0.1
KDHN			S	Sg	02 41 32.0	+2.0
CTIK	Konya-Celtik	2.04 43	P	Pn	02 40 59.1	+0.2
CTIK			S	Sb	02 41 26.7	-0.4
CIFT	Cifteler, Eski	2.04 27	Pn	Pn	02 40 59.5	+0.6
DDIM	Aydin, Didim	2.08 268	P	Pn	02 40 59.1	-0.2
KIZT	Kizilcal	2.08 50	Pn	Pn	02 41 00.3	+0.8
AKS	Akhisar	2.08 310	Pn	Pn	02 40 59.9	+0.5
GCAM	G?zelcaml?	2.08 275	Pn	Pn	02 40 59.8	+0.4
GCAM	G?zelcaml?	2.08 275	P	Pn	02 40 59.4	0.0
BODT	Bodrum	2.08 257	P	Pb	02 41 02.2	-0.2
BODT			S	Sb	02 41 29.7	+1.4
LADK	Ladik-KONYA	2.09 71	Pn	Pb	02 41 00.7	-1.9
YAZI	Mula-Datça-	2.10 246	P	Pb	02 41 01.7	-1.1
SGAZ	Eskisehir, Sey	2.12 21	P	Pn	02 40 59.9	-0.1
HDMB	Hadim	2.19 105	Pn	Pn	02 41 01.9	+0.9
DOMA	Ktahya-Doman	2.23 357	P	Pn	02 41 01.3	-0.2
DOMA			S	Sg	02 41 35.2	-1.3
DST	Dursunbey	2.26 335	Pn	Pn	02 41 02.5	+0.6
SVRH	Sivrihisar-ESK	2.30 34	Pn	Pn	02 41 03.5	+1.0
DURS	Dursunbey	2.31 333	P	Pn	02 41 02.4	-0.3
AUBOZ	BOZOYUK	2.36 3	P	Pn	02 41 03.1	-0.2
BORA	Eskisehir	2.37 11	P	Pn	02 41 03.1	-0.4
NISR	Nisiros	2.37 247	P	Pb	02 41 06.1	-1.2
NISR			S	Sb	02 41 36.4	-0.1
	9µm,1.1s					
GAZI	Gazipasa	2.38 123	P	Pn	02 41 03.1	-0.4
GAZI			S	Sg	02 41 42.6	+1.6
SMG	Samos	2.40 275	P	Pb	02 41 08.1	-2.1
SMG			S	Sb	02 41 36.0	-1.3
	4µm,1.0s					
AUKUT	KUTAHYA	2.40 3	P	Pn	02 40 56.6	-7.3
AUKUT			S	Sn	02 41 23.8	-1.0
DGB	zmir	2.40 283	P	Pn	02 41 03.9	+0.1
STEP	BALIKESIR_Sava	2.47 318	P	Pn	02 41 05.1	+0.3
KKBE	Karaman, Kazim	2.48 97	P	Pn	02 41 06.5	+1.5
ALIN	Konya, Altinte	2.51 72	P	Pn	02 41 05.5	+0.1
SRCK	Saricakaya, Es	2.56 13	Pn	Pn	02 41 06.9	+0.9
CBEY	Konya-Cihanbey	2.58 63	P	Pn	02 41 07.0	+0.7
ZEDA	zmir-Bergama	2.60 304	P	Pn	02 41 06.4	-0.1
ZEDA			S	Sb	02 41 43.8	+0.8
BILE	Bilecik/Merkez	2.60 0	P	Pn	02 41 06.9	+0.2
BKES	Balkesir-Mer	2.64 326	P	Pn	02 41 07.4	+0.2
URLA	Izmir	2.69 288	P	Pn	02 41 08.1	+0.2
ZEYE	Izmir, Urla-Ze	2.73 285	P	Pn	02 41 06.0	-2.3
IGD	Bursa	2.75 350	P	Pn	02 41 08.6	0.0
KARB	zmir-Karabur	2.93 293	P	Pn	02 41 11.4	+0.3
KARB			S	Sn	02 41 46.8	+0.7
KARP	Karpathos	2.95 228	Pn	Pn	02 41 12.1	+0.7
KARP	Karpathos	2.95 228	P	Pb	02 41 13.8	-3.4
KARP	Karpathos	2.95 228	P	Pn	02 41 13.3	+1.9
MDUB	Mudurnu	3.10 19	Pn	Pn	02 41 13.9	+0.5
BR231	Keskin MP Arra	3.23 44	Pn	Pn	02 41 16.2	+0.8
ANTO	Ankara	3.26 44	Pn	Pn	02 41 16.7	+1.0
ANTO	Ankara	3.26 44 ⇓P		Pn	02 41 17.5	+1.8
ANTO	Ankara	3.26 44	P	Pn	02 41 16.7	+1.0
GULN	MERSIN_Gulnar	3.26 114	P	Pn	02 41 18.0	+2.3
PRK	Paraskevi	3.28 302	P	Pn	02 41 16.9	+1.0
BAYC	CANAKKALE_Bayr	3.38 311	P	Pn	02 41 17.3	0.0
KERG	Konya-Eregli	3.40 91	P	Pn	02 41 19.0	+1.3
LEF	Lefka	3.46 134	P	Pn	02 41 19.5	+1.3
APE	Apeiranthos	3.48 263	P	Pn	02 41 20.3	+1.7
APE	Apeiranthos	3.48 263 ⇓P		Pb	02 41 23.1	-3.1
APE	Apeiranthos	3.48 263 *de*P		Pn	02 41 19.6	+1.0
KOCA	Canakkale, Ayv	3.50 305	P	Pn	02 41 19.2	+0.3
SIGR	SIGRI	3.55 299	P	Pn	02 41 20.4	+0.9
ISK	Istanbul-Kandi	3.56 350	P	Pn	02 41 20.1	+0.4
KIRS	Kirsehir-Merke	3.56 63	P	Pn	02 41 20.6	+0.7
EZN	Ezine	3.57 311	P	Pn	02 41 19.7	-0.1
EZN	Ezine	3.57 311	P	Pn	02 41 19.7	-0.1
BSIR	Belisirma, Guz	3.58 77	P	Pn	02 41 21.3	+1.1
KIZK	Mersin	3.60 106	P	Pb	02 41 24.2	-4.0
BRTR	Keskin Array B	3.67 53	Pn	Pn	02 41 22.4	+1.0
	34nm,0.3s,baz=240,slow=17,SNR=1097					
BRTR			Sn	Sn	02 42 06.6	+1.8
	21nm,0.3s,baz=219,slow=25,SNR=9.3					
	187nm,0.7s					
BR131	Keskin Array S	3.67 53	Pn	Pn	02 41 21.7	+0.3
BR131	Keskin Array S	3.67 53 *de*P		Pn	02 41 22.5	+1.0
THR8	Santorini-Mono	3.68 253	P	Pn	02 41 23.3	+1.9
SANT	Santorini	3.71 253	Pn	Pn	02 41 23.1	+1.3
SANT	Santorini	3.71 253	P	Pn	02 41 24.1	+2.3
THR3	Thira Island,	3.74 254	P	Pn	02 41 24.2	+2.0
SART	Tekirdag	3.75 327	P	Pn	02 41 22.7	+0.2

ECEA	Canakkale, Ece	3.80 312	P	Pn	02 41 23.9	+0.9
ZKR	Zakros	3.81 231	P	Pn	02 41 25.4	+2.2
CSS	Mathiatis	3.82 132	Pn	Pn	02 41 23.4	0.0
CSS	Mathiatis	3.82 132	P	Pn	02 41 25.4	+2.0
DERS	Karabk-Eskip	3.90 32	P	Pn	02 41 26.0	+1.4
DEVR	Zonguldak/Devr	3.94 24	P	Pn	02 41 26.0	+1.0
DELI	KIRİKKALE	4.01 51	P	Pn	02 41 26.8	+0.8
KBUK	KARABUK-Merkez	4.26 29	P	Pn	02 41 28.9	-0.5
ENEZ	Enez	4.28 319	P	Pn	02 41 28.3	-1.4
VIZE	Kirklareli, Vi	4.31 340	P	Pn	02 41 30.0	-0.1
SUNG	orum-Sungurl	4.32 51	P	Pn	02 41 32.0	+1.8
LIA	Limnos Island	4.33 304	P	Pn	02 41 30.1	-0.3
MHLO	Agia Marina, M	4.44 260	P	Pn	02 41 34.4	+2.6
SMTH	Samothraki Isl	4.45 312	P	Pn	02 41 30.6	-1.4
BTIN	Bartın	4.48 24	P	Pn	02 41 33.3	+0.9
IDI	Anoyia	4.59 242	Pn	Pn	02 41 35.2	+1.2
IDI	Anoyia	4.59 242	P	Pn	02 41 36.8	+2.8
IDI	Anoyia	4.59 242	Pn	Pn	02 41 35.9	+1.9
	93nm,0.5s,baz=56,slow=12,SNR=97					
IDI			Sn	Sn	02 42 28.3	+0.9
	12nm,0.3s,baz=329,slow=22,SNR=3.2					
KYMI	Kymi, Euboea I	4.66 285	P	Pn	02 41 35.4	+0.5
PTL	Penteli	4.76 278	P	Pn	02 41 38.0	+1.7
TMBK	Timbaki Herakl	4.79 240	P	Pn	02 41 40.0	+3.3
VLY	Voula,Athens	4.81 275	P	Pn	02 41 39.0	+2.1
PRNS	Prines Rethymn	4.83 245	P	Pn	02 41 40.9	+3.7
ATH	Athens Observa	4.88 277	P	Pn	02 41 39.6	+1.8
ATH	Athens Observa	4.88 277	P	Pn	02 41 39.6	+1.8
BNN	Bunyan	4.90 73	Pn	Pn	02 41 38.9	+0.7
RDO	Rodhopi	4.90 318	Pn	Pn	02 41 39.1	+1.0
RDO	Rodhopi	4.90 318	P	Pn	02 41 36.5	-1.7
EDRB	Edirne	4.91 332	P	Pn	02 41 35.9	-2.4
THAS	Thassos island	5.02 309	P	Pn	02 41 39.6	-0.2
IMMV	Iera Moni Meta	5.17 248	P	Pn	02 41 44.2	+2.4
VILL	Villia	5.21 279	P	Pn	02 41 44.7	+2.3
KRND	KRANIDI	5.33 270	P	Pn	02 41 46.2	+2.1
OUR	Ouranopolis	5.35 303	P	Pn	02 41 44.4	+0.1
PAIG	Paliouri	5.37 298	P	Pn	02 41 45.2	+0.6
KAVA	Kavala	5.38 311	P	Pn	02 41 44.1	-0.6
BZK	Bozkurt	5.44 35	Pn	Pn	02 41 46.8	+1.3
BZK	Bozkurt	5.44 35 ⇑P		Pn	02 41 48.0	+2.5
ANKY	Antikythira Is	5.52 254	P	Pn	02 41 49.4	+2.7
VLI	Veliai	5.58 263	P	Pn	02 41 49.8	+2.2
KOKK	Kokkinochori,	5.59 307	P	Pn	02 41 47.6	0.0
DIKM	Dikmen	5.84 44 ⇑P		Pn	02 41 55.8	+4.7
GAZ	Gaziantep	5.88 91	Pn	Pn	02 41 52.0	+0.3
HWQ	Hawqa	5.93 122	*eP*	Pn	02 41 54.7	+2.3
BEIL	Beino	5.95 118	*eP*	Pn	02 41 54.6	+2.0
GUR	Goura	5.96 276	P	Pn	02 41 55.0	+2.2
BHL	Bhannes	5.96 126	*eP*	Pn	02 41 56.1	+3.2
HORT	Hortiatis	6.07 302	P	Pn	02 41 54.8	+0.5
SNOP	Sinop	6.07 41	Pn	Pn	02 41 54.6	+0.3
AGG	Agios Georgios	6.09 286	Pn	Pn	02 41 56.1	+1.5
AGG	Agios Georgios	6.09 286	P	Pn	02 41 56.1	+1.5
ZAHL	Zahle	6.14 125	*eP*	Pn	02 41 57.2	+1.9
ELND	Elena	6.17 332 ⇑P		Pn	02 41 56.7	+1.1
QRWL	Qaraoun	6.21 128	*eP*	Pn	02 41 58.2	+1.9
HNTI	Hanita	6.23 134	P	Pn	02 41 58.8	+2.3
HNTI	Hanita	6.23 134	S	Sn	02 43 08.2	+0.6
HNTI	Hanita	6.23 134	P	Pn	02 41 57.9	+1.4
TSMN	Mangalia Port-	6.31 352 ⇓P		Pg	02 42 23.0	-2.5
ITM	Ithomi	6.32 269	Pn	Pn	02 42 01.3	+3.6
TYRN	Tyrnavos	6.34 292	P	Pn	02 42 00.0	+2.1
RCY	Rachaya	6.34 128	*eP*	Pn	02 42 00.3	+2.2
MMC7	Mount Meron ar	6.40 133	P	Pn	02 42 00.6	+1.7
MMA0	Mount Meron ar	6.41 133	P	Pn	02 42 00.6	+1.6
MMA0B	Mount Meron ar	6.41 133	S	Sn	02 43 12.9	+0.7
MMA0B	Mount Meron ar	6.41 133	P	Pn	02 42 00.7	+1.7
MMAI	Mount Meron Ar	6.41 133	Pn	Pn	02 42 00.2	+1.2
	48nm,0.3s,baz=316,slow=13,SNR=115					
MMAI			Sn	Sn	02 43 11.5	-0.7
	25nm,0.3s,baz=305,slow=20,SNR=6.8					
	78nm,0.5s					
GEM	Giv'at Ha'Em	6.43 131	P	Pn	02 42 01.1	+1.9
GEM	Giv'at Ha'Em	6.43 131	S	Sn	02 43 13.0	+0.5
GEM	Giv'at Ha'Em	6.43 131	P	Pn	02 42 01.1	+1.9
NATI	Neve Ativ	6.44 130	P	Pn	02 42 01.4	+2.1
NATI	Neve Ativ	6.44 130	S	Sn	02 43 13.9	+1.2
NATI	Neve Ativ	6.44 130	P	Pn	02 42 01.3	+2.1
THL	Klokotos Trika	6.46 291	P	Pn	02 42 01.3	+1.7
DRO	Drossia	6.46 276	P	Pn	02 42 02.1	+2.5
OFRI	`Ofer	6.48 138	P	Pn	02 42 00.9	+1.0
OFRI	`Ofer	6.48 138	S	Sn	02 43 13.7	0.0
OFRI	`Ofer	6.48 138	P	Pn	02 42 00.9	+1.0
BLGI	Bet Lehem HaGe	6.50 136	P	Pn	02 42 02.1	+1.9
BLGI	Bet Lehem HaGe	6.50 136	S	Sn	02 43 14.3	0.0
BLGI	Bet Lehem HaGe	6.50 136	P	Pn	02 42 01.7	+1.5
MATC	Matruh	6.56 200	P	Pn	02 42 02.8	+1.8
	baz=201					
DB3	El Dabaa	6.59 190	P	Pn	02 42 02.5	+1.2
	baz=191					
KSHT	Keshet	6.68 131	P	Pn	02 42 04.3	+1.7
KSHT	Keshet	6.68 131	S	Sn	02 43 19.4	+0.7
MFTR	Murfatlar	6.70 351 ⇑P		Pn	02 42 04.7	+1.8
ICOR	Ion Corvin	6.74 347 ⇑P		Pn	02 42 04.6	+1.3
VAY	Valandovo	6.77 306 *i* Pn		Pn	02 42 07.2	+3.4
SLTI	Sal'it	6.80 140	P	Pn	02 42 05.1	+0.8
SLTI	Sal'it	6.80 140	P	Pn	02 42 05.4	+1.1
SLTI	Sal'it	6.80 140	S	Sn	02 43 21.7	0.0
SHMJ	Saham	6.83 133	P	Pn	02 42 06.8	+2.1
ARPR	Arapgir-MALATY	6.85 74	Pn	Pn	02 42 07.7	+2.7
MMLI	Mount Malkishu	6.85 137	P	Pn	02 42 06.3	+1.3
MMLI	Mount Malkishu	6.85 137	S	Sn	02 43 22.9	0.0
QRNJ	Al-Qirein	7.01 136	P	Pn	02 42 08.8	+1.6
HMDT	Nahal Hemdat	7.05 137	P	Pn	02 42 09.2	+1.5
HMDT	Nahal Hemdat	7.05 137	S	Sn	02 43 27.9	+0.1
HMDT	Nahal Hemdat	7.05 137	P	Pn	02 42 09.3	+1.5
TLBR	Topalu	7.11 350 ⇑P		Pn	02 42 10.9	+2.4
SLUM	Salum	7.16 214	P	Pn	02 42 11.0	+1.8
	baz=214					
SLUM			S	Sn	02 43 25.5	-4.9
	baz=214					
BALJ	Balqa	7.24 137	Pn	Pn	02 42 12.0	+1.6
BALJ	Balqa	7.24 137	P	Pn	02 42 11.9	+1.6
JURR	Jurilovca	7.24 354 ⇑P		Pn	02 42 11.4	+1.2
UJAP	Al Uja	7.25 139	P	Pn	02 42 11.6	+1.2
HARR	Harsova	7.27 349 ⇑P		Pn	02 42 11.8	+1.1
HARR	Harsova	7.27 349 ⇑P		Pn	02 42 11.8	+1.1
SGRR	Singureni	7.28 337 ⇓P		Pn	02 42 12.9	+2.1
LEHL	Lehliu	7.28 343 ⇓P		Pn	02 42 13.5	+2.7
AMAZ	Amatzia	7.32 144	P	Pn	02 42 13.2	+1.8
AMAZ	Amatzia	7.32 144	P	Pn	02 42 13.2	+1.1
AMAZ	Amatzia	7.32 144	S	Sn	02 43 34.0	-0.4
FNA	Florina	7.33 299	Pn	Pn	02 42 13.4	+1.8
FNA	Florina	7.33 299	P	Pn	02 42 13.4	+1.8
TPGR	Topolog	7.37 352 ⇑P		Pn	02 42 13.2	+1.0
DSI	Dead Sea	7.51 141	P	Pn	02 42 15.3	+1.3
DSI	Dead Sea	7.51 141	S	Sn	02 43 38.7	-0.4
DSI	Dead Sea	7.51 141	P	Pn	02 42 15.1	+1.1
HSUJ	Al Zarqa	7.53 134	P	Pn	02 42 18.0	+3.6
YTIR	Yattir	7.55 143	P	Pn	02 42 16.8	+2.1
YTIR	Yattir	7.55 143	S	Sn	02 43 40.1	-0.2
YTIR	Yattir	7.55 143	P	Pn	02 42 15.9	+1.2
SEV	Sevastopol'	7.55 21	*eP*	Pn	02 42 14.8	+0.2
SEV			*eS*	Sn	02 43 37.0	-3.1
KZIT	Kziot	7.62 149	P	Pn	02 42 15.9	+0.3
KZIT	Kziot	7.62 149	S	Sn	02 43 41.0	-0.9
KZIT	Kziot	7.62 149	P	Pn	02 42 16.5	+0.9
VLAD	Vladila	7.65 329 ⇑P		Pn	02 42 17.7	+1.8
YAL	Yalta	7.65 24 ⇑*i*P		Pn	02 42 16.9	+1.0
YAL			*eS*	Sn	02 43 42.4	0.0
TLCR		7.66 355 ⇑P		Pn	02 42 17.3	+1.3
TLCR		7.66 355 ⇑P		Pn	02 42 17.3	+1.3
MDBI	Mazsada	7.71 142	P	Pn	02 42 18.5	+1.8
MSBI	Mazada	7.71 142	P	Pn	02 42 18.0	+1.3
MSBI	Mazada	7.71 142	S	Sn	02 43 43.7	-0.3
MSBI	Mazada	7.71 142	P	Pn	02 42 17.8	+1.1
CFR	Carcaliu	7.72 351 ⇑P		Pn	02 42 18.3	+1.4
CFR	Carcaliu	7.72 351 ⇑P		Pn	02 42 18.3	+1.4
HMYD	Mayadein	7.78 174	P	Pn	02 42 19.8	+2.0
	baz=174					
KOT	Kottamia'	7.78 167	P	Pn	02 42 19.1	+1.2
	baz=167					
GHAJ	Ghor Haditha	7.82 141	Pn	Pn	02 42 19.7	+1.5
GHAJ	Ghor Haditha	7.82 141	P	Pn	02 42 21.4	+3.1
GHAJ	Ghor Haditha	7.82 141	P	Pn	02 42 19.4	+1.2
LISJ	El Lisan	7.83 142	P	Pn	02 42 20.9	+2.5
HUMR	Humele	7.88 334 ⇑P		Pn	02 42 20.3	+1.3
ALU	Alushta	7.91 24	*eP*	Pn	02 42 20.1	+0.7
HNAT	Natroun	7.93 175	P	Pn	02 42 21.7	+1.9

	baz=175					
ISR	Istrita	7.96 343 ⇑P		Pn	02 42 22.8	+2.6
ISR	Istrita	7.96 343 ⇑P		Pn	02 42 22.8	+2.6
KARJ	KARJ	8.01 142	P	Pn	02 42 12.2	-8.7
GIUM	Giurgiulesti	8.02 352 ⇑P		Pn	02 42 23.4	+2.5
SIM	Simferopol'	8.05 22 ⇑*i*P		Pn	02 42 23.3	+1.9
SIM			*eS*	Sn	02 43 53.4	+1.0
SCHL	Schela	8.08 350 ⇑P		Pn	02 42 23.8	+2.0
SUZ	Suez	8.09 161	P	Pn	02 42 23.6	+1.7
	baz=161					
NEGRR	Negrea	8.11 350 ⇑P		Pn	02 42 24.8	+2.6
SWQJ	Swaqa	8.12 139	P	Pn	02 42 23.0	+0.5
IZVR	Izvoarele	8.13 350 ⇑P		Pn	02 42 24.0	+1.6
SCTR	Scanteiesti	8.23 351 ⇓P		Pn	02 42 26.0	+2.2
ZFRI	Zfri	8.26 146	P	Pn	02 42 25.0	+0.7
SUDU	Sudak	8.29 26	*eP*	Pn	02 42 26.1	+1.4
SUDU			*e*		02 43 55.8	
NEHR	Nehoiu	8.30 342 ⇑P		Pn	02 42 27.2	+2.3
BISRR	Bisoca	8.32 345 ⇓P		Pn	02 42 28.1	+2.9
PRNI	Paran	8.36 148	P	Pn	02 42 26.5	+0.8
PRNI	Paran	8.36 148	S	Sn	02 43 59.3	-0.8
PRNI	Paran	8.36 148	P	Pn	02 42 26.6	+0.9
VLDR	Vladesti	8.39 351 ⇑P		Pn	02 42 28.0	+2.0
MLR	Muntele Rosu	8.45 341	Pn	Pn	02 42 27.8	+0.8
MLR	Muntele Rosu	8.45 341	Pn	Pn	02 42 28.7	+1.7
	0.9nm,0.3s,baz=122,slow=6.5,SNR=19					
	20nm,0.9s					
MLR	Muntele Rosu	8.45 341 ⇓P		Pn	02 42 29.4	+2.4
MLR	Muntele Rosu	8.45 341 ⇓P		Pn	02 42 29.4	+2.4
KRMI	Paran Flat	8.45 150	S	Sn	02 44 01.6	-0.8
KRMI	Paran Flat	8.45 150	P	Pn	02 42 27.1	+0.1
RYAN	Fayoum	8.46 177	P	Pn	02 42 27.8	+0.8
	baz=177					
RYAN			S	Sn	02 43 58.2	-4.2
	baz=177					
ODBI	Odobesti	8.46 347 ⇑P		Pn	02 42 29.7	+2.7
MTUR	Matau	8.46 336 ⇑P		Pn	02 42 29.0	+1.8
MTUR	Matau	8.46 336 ⇑P		Pn	02 42 29.0	+1.8
VARL	Varlezi	8.47 350 ⇑P		Pn	02 42 29.5	+2.3
FEO	Feodosiya	8.54 27	*eP*	Pn	02 42 30.7	+2.6
PANC	Panciu	8.55 347 ⇑P		Pn	02 42 30.9	+2.6
ZAF	Zafarana	8.55 164	P	Pn	02 42 30.3	+2.0
	baz=164					
ZAF			S	Sn	02 44 00.2	-4.5
	baz=164					
TIR	Tirane	8.60 299	Pn	Pn	02 42 29.6	+0.6
TIR	Tirane	8.60 299	P	Pn	02 42 29.6	+0.6
VRI	Vrincioaia	8.62 345 ⇓P		Pn	02 42 31.0	+1.7
VRI	Vrincioaia	8.62 345 ⇓P		Pn	02 42 31.0	+1.7
PLOR	Plostina	8.63 345 ⇑P		Pn	02 42 31.6	+2.3
PLOR	Plostina	8.63 345 ⇑P		Pn	02 42 31.6	+2.3
HRFI	Mount Harif	8.65 149	P	Pn	02 42 30.2	+0.5
HRFI	Mount Harif	8.65 149	S	Sn	02 44 06.4	-0.8
VOIR		8.66 337 ⇓P		Pn	02 42 31.2	+1.4
VOIR		8.66 337 ⇓P		Pn	02 42 31.2	+1.4
BOVS	Bovan	8.67 317 ⇑P		Pn	02 42 31.5	+1.6
GHRR		8.69 349 ⇑P		Pn	02 42 32.3	+2.1
COVR	Voineasa-Covas	8.72 343 ⇑P		Pn	02 42 33.2	+2.6
ARR	Arges	8.73 335 ⇑P		Pn	02 42 32.5	+1.7
HSNJ	Maan	8.75 145	P	Pn	02 42 32.7	+1.6
MBRI	Mt Berech	8.81 150	P	Pn	02 42 31.8	-0.2
MBRI	Mt Berech	8.81 150	P	Pn	02 42 32.7	+0

comp=Z,24nm,0.8s
LABN MLR MLR
comp=Z,1μm,10.0s
CEL Celeste 11.05 278 Pn **Pn 02 43 04.7 +2.2**
BMR Baia Mare 11.14 337 ⇑P **Pn 02 43 05.8 +2.1**
BMR Baia Mare 11.14 337 ⇑P **Pn 02 43 05.8 +2.1**
CUC Castrocucco 11.22 287 Pn **Pn 02 43 06.7 +1.8**
MAKA Makarska 11.33 304 *i* P **Pn 02 43 09.8 +3.6**
RICI Ricice 11.35 305 *i* P Pn 02 43 11.9 +5.3
ERBR Yeremizino-Bor 11.38 41 *e*P **Pn 02 43 05.0 -2.0**
ERBR *e*S **Sn 02 45 14.0 -0.1**
ERBR pmax pmax
comp=Z,57nm,1.5s
ERBR MLR MLR
comp=Z,1μm,22.0s
KIV Kislovodsk 11.64 53 ⇑P **Pn 02 43 14.2 +3.5**
KIV Kislovodsk 11.64 53 *e*P **Pn 02 43 11.2 +0.5**
KIV *e*S **Sn 02 45 22.0 +1.4**
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,344nm,12.0s
KBZ Khabaz 11.67 54 Pn Pn 02 43 15.7 +4.8
comp=Z,2.9nm,0.9s,baz=256,slow=12,SNR=5.6
KBZ LR LR 02 47 44.1
comp=Z,243nm,20.9s,baz=258,slow=38
MORH Mrgy, Hungar 12.01 320 ⇓P **Pn 02 43 17.5 +1.9**
KIJV Kijevo 12.05 307 *i* P Pn 02 43 20.5 +4.4
RAFF Raffo Rosso 12.33 273 Pn **Pn 02 43 20.8 +0.8**
PAOL Paolisi 12.34 291 Pn **Pn 02 43 21.4 +1.2**
ZIRJ Zirje 12.39 304 *i* P **Pn 02 43 23.7 +2.9**
GOF Gofitskoye 12.42 49 *o*eP Pn 02 43 25.8 +4.5
MORI Morici 12.44 305 *i* P **Pn 02 43 25.4 +3.9**
KOLS Kolonicke sedl 12.63 337 *e*P **Pn 02 43 26.7 +2.6**
KOLS Kolonicke sedl 12.63 337 *e*P **Pn 02 43 26.7 +2.6**
PSZ Piszkesteto 12.67 328 ⇑P **Pn 02 43 27.1 +2.4**
PSZ Piszkesteto 12.67 328 ⇑P **Pn 02 43 27.1 +2.4**
CRVS Cervenica-Dubn 12.88 334 *e*P Pn 02 43 32.1 +4.7
CRVS Cervenica-Dubn 12.88 334 *e*P Pn 02 43 32.1 +4.7
LVV L'vov 12.96 343 *e*P **Pn 02 43 30.5 +2.0**
LVV *e*S **Sn 02 45 54.3 +1.8**
LVV pmax pmax
comp=Z,20nm,1.0s
LVV MLR MLR
comp=E,400nm,9.0s
LVV MLR MLR
comp=N,1μm,10.0s
LVV MLR MLR
comp=Z,2μm,10.0s
KIEV Kiev 13.14 358 Pn **Pn 02 43 29.2 -1.9**
KIEV Kiev 13.14 358 ⇑P **Pn 02 43 31.4 +0.3**
KIEV Kiev 13.14 358 ⇑P **Pn 02 43 31.4 +0.3**
AKASG Malin Array Be 13.15 358 Pn **Pn 02 43 29.7 -1.4**
AKASG Malin Array Be 13.15 358 Pn **Pn 02 43 30.6 -0.5**
comp=Z,1.3nm,0.3s,baz=178,slow=13,SNR=11
AKASG LR LR 02 49 25.9
comp=Z,703nm,18.7s,baz=178,slow=41
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 13.15 358 *i* P **Pn 02 43 31.0 -0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 13.15 358 Pn **Pn 02 43 30.5 -0.6**
AKBB Malin Array Si 13.15 358 *de*P **Pn 02 43 30.9 -0.2**
VYHS Vyhne 13.56 327 *e*P **Pn 02 43 39.4 +2.6**
VYHS Vyhne 13.56 327 *e*P **Pn 02 43 39.4 +2.6**
NRCA Norcia 13.83 298 Pn **Pn 02 43 41.4 +0.8**
CESX Cesi 14.15 296 Pn **Pn 02 43 44.6 -0.3**
MODS Modra-Piesok 14.18 324 *e*P **P 02 43 55.0 +2.3**
MODS Modra-Piesok 14.18 324 *e*P **P 02 43 55.0 +2.3**
RONA Rosalia, Austr 14.20 320 *e*Pn **Pn 02 43 47.2 +1.6**
comp=Z,11nm,1.1s
SOKA Soboth 14.26 314 *i* Pn **Pn 02 43 48.1 +1.6**
comp=Z,4.5nm,0.9s
ARSA Arzberg 14.33 317 *e*Pn **Pn 02 43 49.9 +2.6**
comp=Z,11nm,1.5s
JAVC Velka Javorina 14.35 326 *e*PN **Pn 02 43 46.9 -0.7**
OBKA Obir 14.45 313 *e*Pn **P 02 43 53.5 -2.3**
comp=Z,5.7nm,1.0s
MAK Makhachkala 14.52 63 *e*P **Pn 02 43 45.9 -3.9**
MAK *e*S **Sn 02 46 26.0 -4.6**
MAK pmax pmax
comp=Z,84nm,1.1s
MAK MLR MLR
comp=Z,271nm,11.0s
OJC Ojcow 14.57 334 *e*P **P 02 43 53.8 -3.2**
OJC Ojcow 14.57 334 Pn **Pn 02 43 51.1 +0.6**
OJC Ojcow 14.57 334 P **Pn 02 43 51.2 +0.6**
CONA Conrad Observa 14.57 320 *i* Pn **P 02 43 54.0 -3.2**
comp=Z,4.7nm,1.1s
SABO M.te Sabotino 14.74 310 Pn **Pn 02 43 51.8 -1.2**
OKC Ostrava-Krasne 14.89 329 *e*P **P 02 44 04.1 +3.5**
OKC AMS AMS 02 50 40.0
comp=Z,2μm,15.0s
OKC Ostrava-Krasne 14.89 329 *e*P **P 02 44 04.1 +3.5**
OKC MLR MLR
comp=Z,2μm,15.0s
LKRN Lenkeran, Azer 14.95 80 P P 02 44 06.4 +5.1
MYKA Terra Mystica 15.04 312 *i* Pn **P 02 43 59.9 -2.5**
comp=Z,8.3nm,1.0s
KRUC Moravsky 15.08 324 *e*P **P 02 44 02.9 +0.2**
MORC Moravsky Berou 15.09 328 Pn **Pn 02 43 58.6 +1.0**
MORC Moravsky Berou 15.09 328 *e*P **P 02 44 02.6 -0.3**
MORC Moravsky Berou 15.09 328 ⇑P **Pn 02 43 58.5 +0.8**
MORC Moravsky Berou 15.09 328 P **Pn 02 43 58.7 +1.0**
MORC pmax pmax
comp=Z,7.0nm,1.6s
VRAC Vranov 15.16 325 *e*P **P 02 44 02.5 -1.2**
VRAC Vranov 15.16 325 Pn **Pn 02 43 59.7 +1.2**
comp=Z,0.3nm,0.3s,baz=167,slow=19,SNR=2.0
VRAC LR LR 02 50 56.0
comp=Z,347nm,20.3s,baz=143,slow=42
comp=Z,1.0nm,0.4s
VSR Storozhevoye 15.18 23 *e*P **Pn 02 43 58.6 -0.1**
VSR pmax pmax
comp=Z,30nm,1.6s
OSSC Osservatorio P 15.34 299 Pn **Pn 02 44 02.5 +1.6**
MOA Molln 15.37 317 *i* Pn **P 02 44 05.9 -0.1**
comp=Z,12nm,0.9s
KBA Koelnbreinsper 15.45 313 *e*Pn **P 02 44 06.7 -0.4**
comp=Z,5.6nm,0.6s
BIOA Bad Ischl, Aus 15.62 316 *i* Pn **P 02 44 11.3 +2.5**
comp=Z,9.5nm,0.8s,SNR=12
KRLC Kraliky 15.64 327 *e*P **P 02 44 10.5 +1.5**
KRLC AMS AMS 02 51 30.0
comp=Z,1μm,11.6s
KRLC Kraliky 15.64 327 *e*P **P 02 44 10.5 +1.5**
KRLC MLR MLR
comp=Z,1μm,11.6s
TREC Trest 15.67 323 *e*P **P 02 44 11.6 +2.3**
TREC AMS AMS 02 51 00.0
comp=Z,2μm,10.8s
TREC Trest 15.67 323 *e*P **P 02 44 11.6 +2.3**
TREC MLR MLR
comp=Z,2μm,10.8s
TEOL Teolo 15.68 306 **P 02 44 08.1 -1.3**
ABTA Abfaltersbach 15.77 311 *i* Pn **P 02 44 10.6 +0.1**
comp=Z,14nm,1.6s
ZCCA Zocca 15.78 301 Pn **Pn 02 44 07.7 +1.0**
CKRC Cesky Krumlov 15.94 320 *e*P **P 02 44 13.7 +1.4**
CKRC AMS AMS 02 51 00.0
comp=Z,1μm,11.9s
CKRC Cesky Krumlov 15.94 320 *e*P **P 02 44 13.7 +1.4**
CKRC MLR MLR
comp=Z,1μm,11.9s
LESA Schwarzleotal 16.02 313 *i* Pn **P 02 44 13.5 +0.2**
comp=Z,4.0nm,0.6s
VRH Novokhopyorsk 16.04 28 *e*P **P 02 44 12.8 -0.5**
VRH pmax pmax
comp=Z,70nm,2.2s
DPC Dobruska-Polom 16.04 327 *e*P **P 02 44 15.9 +2.4**
DPC AMS AMS 02 51 40.0
comp=Z,1μm,13.0s
DPC Dobruska-Polom 16.04 327 *e*P **P 02 44 15.9 +2.4**
DPC MLR MLR
comp=Z,1μm,13.0s
OSTC Ostas 16.24 327 *e*P **P 02 44 16.4 +0.8**
OSTC AMS AMS 02 51 30.0
comp=Z,1μm,11.0s
OSTC Ostas 16.24 327 *e*P **P 02 44 16.4 +0.8**
OSTC MLR MLR
comp=Z,1μm,11.0s
GEC2 GERESS Array S 16.27 319 **P 02 44 15.2 -0.8**
GEC2 GERESS Array S 16.27 319 *e*P 02 44 16.6
comp=Z,78nm,1.6s,baz=125,slow=11
GERES GERESS Array B 16.27 319 Pn **P 02 44 14.5 -1.5**
GERES GERESS Array B 16.27 319 Pn **P 02 44 16.1 0.0**
comp=Z,0.8nm,0.3s,baz=132,slow=12,SNR=36
GERES LR LR 02 50 03.0
comp=Z,226nm,20.4s,baz=126,slow=36
comp=Z,6.9nm,0.7s
GERES GERESS Array B 16.27 319 P **P 02 44 14.5 -1.5**
LPSR Galich'ya Gora 16.33 20 *e*P **P 02 44 17.8 +1.2**
LPSR pmax pmax
comp=Z,20nm,0.7s
KSP Ksiaz 16.42 328 *e*P **P 02 44 19.6 +1.9**
GOPC GO Pecny, Ondr 16.43 324 *e*P **P 02 44 23.4 +5.7**
GOPC AMS AMS 02 51 30.0
comp=Z,2μm,11.0s
GOPC GO Pecny, Ondr 16.43 324 *e*P **P 02 44 23.4 +5.7**
GOPC MLR MLR
comp=Z,2μm,11.0s
KHC Kasperske Hory 16.51 320 Pn **Pn 02 44 16.2 +0.2**
KHC Kasperske Hory 16.51 320 *e*P **P 02 44 20.6 +1.9**
KHC AMS AMS 02 51 30.0
comp=Z,2μm,11.5s
KHC Kasperske Hory 16.51 320 ⇓*e*P **P 02 44 17.9 -0.8**
KHC pmax pmax
comp=Z,56nm,1.8s
WTTA Wattenberg 16.55 312 *i* Pn **P 02 44 19.3 0.0**
comp=Z,23nm,0.8s,SNR=8.0
KEST Kesra 16.56 270 Pn **Pn 02 44 17.3 +0.5**
KEST Kesra 16.56 270 Pn **P 02 44 17.8 -1.5**
comp=Z,0.2nm,0.3s,baz=200,slow=2.3,SNR=7.8
KEST LR LR 02 51 46.6
comp=Z,177nm,20.9s,baz=299,slow=41
comp=Z,16nm,0.9s
TATN Tataouine 16.57 258 Pn **Pn 02 44 14.8 -2.1**
TATN IAmb IAmb 02 44 22.2
comp=Z,214nm,1.7s
PRU Pruhonice 16.59 323 *e*P **P 02 44 21.7 +2.2**
PRU AMS AMS 02 51 30.0
comp=Z,2μm,10.4s
PRU Pruhonice 16.59 323 *e*P **P 02 44 21.7 +2.2**
PRU MLR MLR
comp=Z,2μm,10.4s
WATA Walderalm 16.62 312 *i* Pn **P 02 44 23.0 +3.0**
comp=Z,8.4nm,0.9s
PRA Prague 16.70 323 *e*P **P 02 44 23.4 +2.7**
PRA AMS AMS 02 51 40.0
comp=Z,2μm,11.3s
PRA Prague 16.70 323 *e*P **P 02 44 23.4 +2.7**
PRA MLR MLR
comp=Z,2μm,11.3s
SQTA Sankt Quirin 16.78 311 *i* Pn **P 02 44 24.3 +2.5**
comp=Z,18nm,0.8s,SNR=9.8
WET Wettzell 16.88 319 *e*P 02 44 23.4
comp=Z,109nm,1.8s,baz=125,slow=11
WET *e*L 02 51 16.4
comp=Z,483nm,20.0s
PVCC Panska Ves 16.95 325 *e*P **P 02 44 26.6 +3.1**
PVCC AMS AMS 02 51 50.0
comp=Z,2μm,11.2s
PVCC Panska Ves 16.95 325 *e*P **P 02 44 26.6 +3.1**
PVCC MLR MLR
comp=Z,2μm,11.2s
FETA Feichten 16.98 310 *i* Pn **P 02 44 25.7 +1.7**
comp=Z,2.8nm,0.9s,SNR=20
MNK Minsk 17.00 356 *i* P **Pn 02 44 20.0 -2.2**
comp=E,6.0nm,0.9s
MNK *i* P **Pn 02 44 20.0 -2.2**
comp=N,26nm,1.1s
MNK *i* P **Pn 02 44 20.0 -2.2**
comp=Z,21nm,1.1s,baz=174
MNK *i* PP **sP 02 44 29.6 +0.1**
MNK *i* PPP PPP 02 44 37.4
MNK *i* S **Sn 02 47 29.8 -1.2**
MNK *i* SS **SnSn 02 47 44.4 +0.1**
MNK *i* SSS SSS 02 47 57.1
MNK *i* LQ LQ 02 49 21.9
MNK *i* LR LR 02 50 39.4
MNK *i* LRM MLR 02 51 29.5
comp=E,150nm,16.4s
MNK *i* LRM MLR 02 51 51.3
comp=N,376nm,16.2s
MNK *i* LRM MLR 02 51 51.3
comp=Z,468nm,16.1s
MNK Minsk 17.00 356 *i* P **Pn 02 44 19.9 -2.2**
MNK *i* S **Sn 02 47 29.7 -1.2**
MNK pmax pmax
comp=N,26nm,1.0s
MNK pmax pmax
comp=Z,21nm,1.0s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK MLR MLR
comp=E,150nm,16.0s
MNK MLR MLR
comp=N,376nm,16.0s
MNK MLR MLR
comp=Z,468nm,16.0s
SUW Suwalki 17.09 347 **P 02 44 24.1 -0.9**
SUW Suwalki 17.09 347 *e*P **P 02 44 25.8 +0.8**
SUW Suwalki 17.09 347 P **P 02 44 24.1 -0.9**
SUW pmax pmax
comp=Z,32nm,1.1s
FUORN Ofenpass-Fuorn 17.09 308 **P 02 44 26.6 +1.2**
RETA Reutte 17.18 311 *i* Pn **P 02 44 26.9 +0.8**
comp=Z,9.4nm,0.7s,SNR=11
RICC Richard 17.18 324 *e*P **P 02 44 27.4 +1.4**
RICC AMS AMS 02 52 00.0
comp=Z,1μm,11.1s
FUR Furstenfeldbru 17.21 314 *e*L 02 51 53.0
comp=Z,530nm,18.7s
DAVOX Davos/Dischmat 17.40 308 P **P 02 44 31.6 +3.0**
comp=Z,6.0nm,0.7s,baz=150,slow=17,SNR=12
DAVOX LR LR 02 52 18.6
comp=Z,922nm,18.6s,baz=109,slow=41
BRG Berggiesshubel 17.48 325 *e*P **P 02 44 31.2 +1.9**
BRG Amp 02 44 38.6
comp=Z,60nm,1.7s
BRG Berggiesshubel 17.48 325 S **S 02 47 57.0 +6.4**
BRG Berggiesshubel 17.48 325 *e*P **P 02 44 31.2 +1.9**
BRG pmax pmax
comp=Z,60nm,1.7s
BRG MLR MLR
comp=Z,2μm,11.2s
BRG MLR MLR
comp=N,813nm,11.7s
BRG Berggiesshubel 17.48 325 *e*P 02 44 30.3
comp=N,60nm,1.7s,baz=125,slow=11
NACGM Naroch 17.48 354 ⇓*i*P **P 02 44 31.1 +1.8**
comp=E,2μm,1.2s
HSKC Hora Svate Kat 17.54 323 *e*P **P 02 44 31.6 +1.6**
HSKC AMS AMS 02 52 00.0
comp=E,1μm,10.8s
ROTZ Rotzenmuhle 17.61 319 *e*P 02 44 32.4
comp=E,20nm,2.0s,baz=125,slow=11
TUE Stuetta 17.61 307 **P 02 44 31.4 +0.4**
DAVA Damals 17.62 310 *i* Pn **P 02 44 33.2 +2.2**
comp=E,10nm,0.7s,SNR=12
UBR Ueberruh 17.66 311 *e*P 02 44 33.0
comp=E,139nm,1.9s,baz=125,slow=11
MANZ Manzenberg 17.79 320 *e*P 02 44 33.6
comp=E,30nm,2.5s,baz=125,slow=11
TANN Tannenbergstha 17.88 321 *e*P 02 44 33.4
comp=E,54nm,1.9s,baz=125,slow=11
PLN Plauen 18.08 321 *e*P 02 44 37.0
comp=E,115nm,2.6s,baz=125,slow=11
GRA1 Grafenberg Arr 18.08 318 Pn **Pn 02 44 34.1 -1.5**
GRF Grafenberg Arr 18.08 318 P **Pn 02 44 34.1 -1.5**
GRF pmax pmax
comp=Z,40nm,1.6s
GRF Grafenberg Arr 18.08 318 *e*L 02 53 10.8
comp=Z,426nm,18.3s
GRFO Grafenberg 18.08 318 **P 02 44 36.6 +0.7**
GRFO Grafenberg 18.08 318 P **P 02 44 36.6 +0.7**
GRFO pmax pmax
comp=Z,31nm,1.5s
OBN Obninsk 18.15 12 **Pn 02 44 35.6 -0.7**
OBN Obninsk 18.15 12 P **P 02 44 36.4 -0.2**
comp=Z,2.5nm,0.3s,baz=346,slow=7.5,SNR=7.2
OBN LR LR 02 52 18.1
comp=Z,190nm,19.5s,baz=178,slow=39
comp=Z,6.4nm,0.4s
OBN Obninsk 18.15 12 *d*/*i*P **Pn 02 44 35.7 -0.7**
OBN *i* S **S 02 48 01.6 -2.6**
OBN pmax pmax
comp=Z,57nm,2.1s
OBN MLR MLR
comp=Z,200nm,15.0s
CLL Collm 18.21 324 **P 02 44 37.7 +0.4**
CLL Collm 18.21 324 *e*P **P 02 44 38.0 +0.7**
CLL *i* pP **pP 02 44 40.0 -1.1**
CLL *i* sP **sP 02 44 41.8 -1.0**
comp=Z,79nm,2.2s
CLL *e*PP **PnPn 02 44 50.0 +1.7**
CLL *i* sPP 02 44 54.2
CLL *e*S **S 02 48 07.0 +1.6**
CLL AMS AMS 02 52 00.0
CLL Collm 18.21 324 *e*P **P 02 44 38.0 +0.7**
CLL *e*S **S 02 48 07.0 +1.6**
CLL Collm 18.21 324 *e*P 02 44 38.9
comp=Z,26nm,1.4s,baz=125,slow=11
CLL *e*L 02 54 18.1
comp=Z,305nm,18.1s
IZAR Zarasai 18.36 354 *e*P **Pn 02 44 39.0 0.0**
PABE Paberze 18.39 349 P **P 02 44 36.8 -2.5**
PABE Paberze 18.39 349 *e*P **Pn 02 44 39.0 -0.3**
MOX Moxa 18.45 321 P **Pn 02 44 42.4 +2.3**
MOX pmax pmax
comp=Z,22nm,1.8s
MOX Moxa 18.45 321 *e*P 02 44 42.3
comp=Z,85nm,1.8s,baz=125,slow=11
MOX *e*L 02 52 04.1
comp=Z,189nm,21.9s
STU Stuttgart 18.72 313 P **Pn 02 44 43.8 +0.4**
STU Stuttgart 18.72 313 P **Pn 02 44 43.8 +0.4**
STU pmax pmax
comp=Z,27nm,0.9s
SENIN Lac Senin/Sane 18.89 305 P **Pn 02 44 46.6 +1.0**
SENIN IAmb IAmb 02 44 55.7
comp=Z,62nm,0.7s
BNI Bardonecchia 18.91 301 P **Pn 02 44 47.4 +1.5**
BNI Bardonecchia 18.91 301 P **Pn 02 44 47.4 +1.5**
BNI pmax pmax
comp=Z,12nm,0.9s
MOS Moscow 18.93 14 *e*P **P 02 44 44.1 -1.2**
MOS *e*S **S 02 48 21.3 +1.3**
MOS pmax pmax
comp=Z,39nm,1.3s
BFO Black Forest 19.02 311 P **Pn 02 44 47.2 +0.2**
BFO Black Forest 19.02 311 P **Pn 02 44 47.2 +0.2**
BFO pmax pmax
comp=Z,62nm,1.2s
BFO Black Forest 19.02 311 *e*P 02 44 49.0
comp=Z,55nm,1.1s,baz=125,slow=11
BFO *e*L 02 53 46.6
comp=Z,225nm,18.3s
PBUR Paburge 19.23 346 *e*P **Pn 02 44 52.8 +3.3**
BELG Belogornoye 19.37 34 P **Pn 02 44 51.2 +0.1**
comp=Z,1.2nm,0.3s,baz=318,slow=3.2,SNR=12
BELG LR LR 02 54 27.8
comp=Z,180nm,19.0s,baz=226,slow=44
comp=Z,21nm,0.9s
BELG Belogornoye 19.37 34 *c*/*i*P **Pn 02 44 51.0 -0.1**
BELG pmax pmax
comp=Z,24nm,1.3s
RAYN Ar Rayn 19.39 132 P **Pn 02 44 50.9 -0.8**
RAYN Ar Rayn 19.39 132 P **Pn 02 44 50.9 -0.8**
RAYN pmax pmax
comp=Z,54nm,1.8s
ECH Echery 19.68 310 P **Pn 02 44 54.8 -0.1**
ECH IAmb IAmb 02 45 01.9
comp=Z,95nm,1.7s
ECH Echery 19.68 310 P **Pn 02 44 54.8 -0.1**
ECH pmax pmax
comp=Z,95nm,1.7s
FLTG Flechtingen 19.71 324 *e*P 02 44 54.4
comp=Z,88nm,2.0s,baz=125,slow=11
CLZ Clausthal 19.80 322 *e*P 02 44 55.5
comp=Z,24nm,1.2s,baz=125,slow=11
GTTG Gottingen 19.82 321 *e*P 02 44 57.2
comp=Z,123nm,1.8s,baz=125,slow=11
TNS Taunus Mts 19.87 316 *e*P 02 44 58.3
comp=Z,126nm,1.7s,baz=125,slow=11
TNS *e*L 02 53 00.8
comp=Z,321nm,18.5s
BSD Bornholm Skovb 20.29 335 *e*P **P 02 44 59.6 -0.4**
BSD Bornholm Skovb 20.29 335 *i* P **P 02 44 59.0 -1.0**
BSD *i* S **S 02 48 47.2 +0.1**
BSD IAML 02 48 52.6
comp=Z,2.8nm,0.9s
NRDL Niedersach Rie 20.34 324 *e*P 02 45 02.0
comp=Z,80nm,1.6s,baz=125,slow=11
KASTN Kahler Asten 20.41 319 *e*P 02 45 02.9
comp=Z,20nm,1.4s,baz=125,slow=11
SSB Saint Sauveur 20.43 300 P Pn 02 45 03.9 0.0
SSB Saint Sauveur 20.43 300 P Pn 02 45 03.9 0.0
SSB pmax pmax
comp=Z,12nm,0.8s
RETH Rethem/Aller, 20.85 323 *e*P 02 45 07.6
comp=Z,67nm,1.6s,baz=125,slow=11
WLF Walferdange 20.90 313 P **P 02 45 07.4 +0.7**
WLF Walferdange 20.90 313 *d*P Pn 02 45 08.4 -0.8
comp=Z,13nm,1.1s
WLF Walferdange 20.90 313 P **P 02 45 07.4 +0.7**
WLF pmax pmax
comp=Z,27nm,1.1s
BLEU Blekinge 20.99 338 *i* P **P 02 45 07.4 -0.2**
VSU Vasula 21.02 355 *c*/*i*P **P 02 45 08.6 +0.7**
VSU pmax pmax
comp=Z,100nm,1.1s
BSEG Bad Segeberg 21.20 327 *e*L 02 53 50.7
comp=Z,312nm,21.5s
LUNU Lund 21.21 334 *i* P **P 02 45 09.4 -0.6**
BHOU Houvegnez 21.30 315 *d*P **P 02 45 15.6 +4.6**
IBBN Ibbenburen 21.38 321 *e*P 02 45 13.5
comp=Z,44nm,1.3s,baz=125,slow=11
MEM Membach 21.42 315 *d*P **P 02 45 14.5 +2.2**
MEM Membach 21.42 315 P **P 02 45 17.2 +4.9**
MEM pmax pmax
comp=Z,21nm,2.0s
MTSE Matsula 21.54 351 *e*P **P 02 45 13.8 +0.4**
COP Copenhagen 21.61 333 *i* P **P 02 45 14.3 0.0**
COP IAmb IAmb 02 45 16.6
comp=Z,36nm,0.7s
COP *i* S **S 02 49 16.5 +3.2**
BSTI Sart Tilman 21.65 315 *d*P **P 02 45 16.3 +1.5**
RCHB Rochefort 21.65 313 *d*P **P 02 45 16.5 +1.7**
BJUU Bjuv 21.70 334 *i* P **P 02 45 15.8 +0.4**
BCLA Clavier 21.73 314 *d*P **P 02 45 18.2 +2.5**
DEL Delary 21.73 336 *i* P **P 02 45 15.0 -0.6**
BGES Gesves 21.83 314 *d*P **P 02 45 18.6 +1.9**
BMRD Maredsous 21.98 313 *d*P **P 02 45 19.0 +0.7**
DOU Dourbes 21.99 313 *d*P **P 02 45 18.8 +0.3**
PUL Pulkovo 22.24 1 *de*P **P 02 45 22.7 +1.7**
PUL pmax pmax
comp=Z,97nm,1.0s
CLF Chambon-Foret 22.68 306 P **P 02 45 27.4 +1.6**
MEF Metsahovi 22.95 353 *e*P **P 02 45 29.6 +1.1**
MFF Saint Martin d 23.91 302 P **P 02 45 39.1 +0.9**
MFF pmax pmax
comp=Z,55nm,1.1s
FINES FINESS Array B 24.03 356 P **P 02 45 39.1 -0.1**
comp=Z,6.8nm,0.6s,baz=157,slow=10,SNR=30
FINES PcP **PcP 02 49 20.2 -0.4**
comp=Z,1.9nm,0.7s,baz=248,slow=2.1,SNR=5.2
comp=Z,6.8nm,0.6s
FINES FINESS Array B 24.03 356 *i* P **P 02 45 39.5 +0.3**
FINES pmax pmax
comp=Z,7.0nm,0.6s
FIA1 FINESS Array S 24.03 356 P **P 02 45 39.1 -0.1**
KIRV Kirov 24.60 25 *de*P **P 02 45 43.3 -1.1**
AB31 Akbulak array 24.63 52 *e*P **P 02 45 45.1 +0.3**
ABKAR Akbulak array 24.63 52 P **P 02 45 44.3 -0.5**
KEF Keuruu 24.83 354 *e*P **P 02 45 47.8 +1.2**
HFS Hagfors 24.84 341 P **P 02 45 47.2 +0.6**
comp=Z,7.4nm,0.8s,baz=142,slow=12,SNR=20
HFS LR LR 02 57 20.9
comp=Z,567nm,19.5s,baz=161,slow=41
comp=Z,7.4nm,0.8s
JOF Joensuu 25.41 2 *e*P **P 02 45 52.7 +1.0**
TAM Tamanrasset 25.57 242 P **P 02 45 55.3 +1.6**
TAM IAmb IAmb 02 46 06.4
comp=Z,20nm,1.0s
TAM Tamanrasset 25.57 242 P **P 02 45 55.3 +1.6**
TAM pmax pmax
comp=Z,20nm,1.0s
UOSS Minazif 25.70 112 P **P 02 45 53.5 -1.3**
VAF Ylistaro 25.89 353 *e*P **P 02 45 56.7 +0.6**
NC602 NORSAR Array S 25.93 339 P **P 02 45 57.3 +0.8**
NC602 IAmb IAmb 02 45 58.4
comp=Z,48nm,1.9s
NAO01 NORSAR Array S 26.20 339 P **P 02 45 59.8 +0.8**
NAO01 IAmb IAmb 02 46 05.4

comp=Z,18nm,0.8s
NB2 NORSAR Subarra 26.27 339 P **P 02 46 00.1 +0.5**
comp=Z,14nm,1.2s,baz=144,slow=10
NOA NORSAR Array B 26.27 339 P **P 02 45 59.3 -0.3**
comp=Z,2.1nm,0.8s,baz=143,slow=9.6,SNR=10
NOA PcP **PcP 02 49 24.8 -0.8**
comp=Z,0.8nm,0.8s,baz=120,slow=4.2,SNR=3.5
NOA LR LR 02 58 47.5
comp=Z,281nm,19.6s,baz=160,slow=42
comp=Z,2.1nm,0.8s
HRA Herat 26.34 87 P **P 02 46 00.2 -0.6**
NC303 NORSAR Array S 26.38 340 P **P 02 46 01.8 +1.2**
ESBB Sonseca Array 26.42 285 P **P 02 46 01.5 +0.3**
ESDC Sonseca Array 26.42 285 P **P 02 46 01.1 -0.1**
ESDC Sonseca Array 26.42 285 P **P 02 46 01.4 +0.2**
comp=Z,3.1nm,0.8s,baz=73,slow=10,SNR=32
comp=Z,3.1nm,0.8s
NC204 NORSAR Array S 26.59 339 P **P 02 46 02.4 -0.1**
PAB San Pablo 26.73 285 P **P 02 46 06.0 +1.9**
PAB San Pablo 26.73 285 P **P 02 46 06.0 +1.9**
PAB pmax pmax
comp=Z,11nm,1.1s
ARU Arti 26.89 36 P **P 02 46 04.9 -0.3**
ARU Arti 26.89 36*d iP* **P 02 46 04.8 -0.3**
ARU 02 46 45.4
ARU S **S 02 50 40.0 -1.5**
ARU pmax pmax
comp=Z,20nm,1.2s
ARU MLR MLR
comp=Z,160nm,14.0s
ADZR Andozero 26.89 8 *e*P **P 02 46 08.1 +3.0**
ADZR pmax pmax
comp=Z,9.0nm,0.6s
SVE Sverdlovsk 28.07 37 *e*P **P 02 46 17.1 +1.3**
SVE pmax pmax
comp=Z,15nm,1.0s
PBRG Braganca 28.34 290 A A 03 00 43.6
comp=Z,173nm,16.0s
EKA Eskdalemuir Ar 28.49 319 P **P 02 46 19.3 -0.2**
comp=Z,0.6nm,0.5s,baz=119,slow=10,SNR=5.5
EKA PcP **PcP 02 49 30.8 -0.2**
comp=Z,1.6nm,0.8s,baz=104,slow=3.0,SNR=3.9
comp=Z,0.6nm,0.5s
WSAR Wadi Sarin 28.50 112 P **P 02 46 19.2 -0.7**
comp=Z,4.9nm,0.8s,baz=253,slow=19,SNR=1.7
comp=Z,4.9nm,0.8s
PBAR Barrancos 29.01 283 *e*S S 02 51 27.9 +13
MTE Manteigas 29.07 287 *e*S S 02 51 34.7 +18
MTE A A 02 59 41.0
comp=Z,258nm,16.0s
PMRV Marv??o 29.08 285 *e*S S 02 51 37.0 +21
PMRV A A 02 59 31.4
comp=Z,175nm,16.0s
POLO Lamas de Olo 29.16 289 A A 02 52 33.1
comp=Z,61nm,20.0s
PESTR Estremoz 29.32 284 *e*S S 02 51 38.8 +19
FURI Furi 29.63 162 LR LR 03 00 17.9
comp=Z,186nm,20.1s,baz=354,slow=40
COI Coimbra 29.75 287 A A 03 00 10.5
comp=Z,280nm,16.0s
PMTG Montargil 29.77 285 *e*S S 02 51 45.0 +18
PMTG A A 02 59 54.1
comp=Z,170nm,18.0s
PCAS Casmilo, Conde 29.84 287 *e*S S 02 51 51.4 +23
PCAS A A 03 00 07.3
comp=Z,222nm,16.0s
PBDV Barranco-do-Ve 29.89 281 *e*S S 02 51 48.2 +19
PBDV A A 02 53 01.6
comp=Z,110nm,20.0s
APA Apatity 30.13 3⇓ *i*P **P 02 46 36.0 +2.1**
APA pmax pmax
comp=Z,7.0nm,0.7s
APA MLR MLR
comp=Z,500nm,14.0s
PSBE So Bento 30.14 286 *e*S S 02 51 54.2 +21
PNCL Nicolau / Gran 30.17 283 *e*S S 02 51 54.2 +21
PNCL A A 02 59 46.8
comp=Z,167nm,18.0s
SIMJ Simiganj 30.68 76 P **P 02 46 38.7 -0.6**
SIMJ IAmb IAmb 02 46 51.6
comp=Z,15nm,1.1s
BRLS Borolday 30.77 67 *e*P **P 02 46 38.9 -1.2**
baz=68
BRLS Borolday 30.77 67 *e*P **P 02 46 38.8 -1.2**
CHGR Chuyangaron 30.79 76 P **P 02 46 39.4 -0.8**
CHGR Chuyangaron 30.79 76 P **P 02 46 39.4 -0.8**
CHGR pmax pmax
comp=Z,31nm,0.9s
KK31 Karatay Array 31.26 67 P **P 02 46 44.2 -0.1**
KK31 IAmb IAmb 02 46 46.3
comp=Z,16nm,0.9s
KK31 Karatay Array 31.26 67 P **P 02 46 44.2 -0.1**
KK31 pmax pmax
comp=Z,16nm,1.0s
KKAR Karatay Array 31.26 67 P **P 02 46 44.5 +0.2**
KKAR Karatay Array 31.26 67 P **P 02 46 44.5 +0.2**
GAR Garm 31.62 75 P **P 02 46 48.2 +0.6**
GAR IAmb IAmb 02 47 22.9
comp=Z,17nm,1.0s
BRVK Borovoye 31.89 48 P **P 02 46 49.3 -0.4**
BRVK IAmb IAmb 02 46 55.3
comp=Z,23nm,1.6s
BRVK Borovoye 31.89 48*d iP* **P 02 46 50.3 +0.6**
BRVK pmax pmax
comp=Z,16nm,1.6s
BVA0 Borovoye Array 31.95 48 *i* P **P 02 46 49.9 -0.3**
BVAR Borovoye Array 31.95 48 P **P 02 46 51.1 +0.9**
comp=Z,2.7nm,0.8s,baz=256,slow=6.0,SNR=18
BVAR LR LR 03 02 40.1
comp=Z,307nm,20.1s,baz=270,slow=42
comp=Z,2.7nm,0.8s
ARCES ARCESS Array B 32.13 357 P **P 02 46 51.5 0.0**
ARCES IAmb IAmb 02 46 56.3
comp=Z,17nm,1.1s
ARCES ARCESS Array B 32.13 357 P **P 02 46 52.1 +0.6**
comp=Z,8.2nm,0.8s,baz=168,slow=6.2,SNR=18
ARCES PcP **PcP 02 49 40.1 -0.2**
comp=Z,1.4nm,0.5s,baz=178,slow=3.6,SNR=11
ARCES LR LR 03 00 46.8
comp=Z,316nm,18.6s,baz=167,slow=38
comp=Z,8.2nm,0.8s
ARCES ARCESS Array B 32.13 357 P **P 02 46 51.5 0.0**
ARCES pmax pmax
comp=Z,17nm,1.1s
ARSB Arslanbob 33.27 70 P **P 02 46 59.5 -2.6**
ARSB IAmb IAmb 02 47 10.5
comp=Z,21nm,1.8s
ARSB Arslanbob 33.27 70 P **P 02 46 59.5 -2.6**
ARSB pmax pmax
comp=Z,21nm,1.8s
EKS2 Erkin-Say 33.69 67 P **P 02 47 06.4 +0.7**
SNR=7.0
BTLS Baital 33.70 63 *e*P **P 02 47 06.1 +0.5**
comp=Z,8.2nm,1.1s,baz=63
BTLS Baital 33.70 63 *e*P **P 02 47 06.0 +0.5**
BTLS pmax pmax
comp=Z,8.0nm,1.1s
AAK Ala-Archa 34.22 67 P **P 02 47 12.3 +2.0**
SNR=5.2
AAK Ala-Archa 34.22 67 P **P 02 47 10.5 +0.2**
AAK IAmb IAmb 02 47 23.2
comp=Z,14nm,0.9s
AAK Ala-Archa 34.22 67 LR LR 03 04 18.3
comp=Z,245nm,18.5s,baz=287,slow=42
AAK Ala-Archa 34.22 67*de*P **P 02 47 11.6 +1.3**
AAK pmax pmax
comp=Z,24nm,1.3s
SGDS Sogindy 34.23 66 *e*P **P 02 47 10.6 +0.3**
baz=66
SGDS Sogindy 34.23 66 *e*P **P 02 47 10.6 +0.3**
FRU1 Bishkek 34.30 67 P **P 02 47 12.0 +1.1**
FRU1 Bishkek 34.30 67 P **P 02 47 12.0 +1.1**
FRU1 pmax pmax
comp=Z,35nm,0.5s
CHMS Chumysh 34.37 67 P **P 02 47 12.8 +1.4**
SNR=8.0
TOA0 Torodi Ar. Sit 34.94 233 P **P 02 47 16.4 -0.2**
TOA0 IAmb IAmb 02 47 19.6
comp=Z,10.0nm,0.8s
TORD Torodi Ar. Bea 34.94 233 P **P 02 47 16.9 +0.4**
comp=Z,8.5nm,0.8s,baz=45,slow=11,SNR=49
TORD PcP **PcP 02 49 49.5 +0.4**
comp=Z,0.7nm,0.5s,baz=48,slow=2.1,SNR=2.5
comp=Z,8.5nm,0.8s
TKM2 Tokmak 2 34.99 67 P **P 02 47 18.2 +1.1**
SNR=10

BOOM Boomskoye usch 35.30 67 P **P 02 47 21.0 +1.3**
BOOM IAmb IAmb 02 47 22.6
comp=Z,13nm,1.0s
BOOM Boomskoye usch 35.30 67 P **P 02 47 21.0 +1.3**
BOOM pmax pmax
comp=Z,13nm,1.0s
NRN Naryn 35.50 69 P **P 02 47 22.8 +1.2**
NRN IAmb IAmb 02 47 34.5
comp=Z,20nm,1.2s
NRN Naryn 35.50 69 P **P 02 47 22.8 +1.2**
NRN pmax pmax
comp=Z,20nm,1.2s
ULHL Ulahol 35.55 68 P **P 02 47 24.0 +2.1**
SNR=8.9
KSH Kashi 35.83 72 P **P 02 47 24.0 -0.2**
KSH pmax pmax
comp=Z,3.0nm,1.3s
CHKK Chushkaly 35.89 65 *e*P **P 02 47 25.4 +0.8**
baz=65
CHKK Chushkaly 35.89 65 *e*P **P 02 47 25.3 +0.8**
AAA Alma-Ata 35.92 66 *e*P **P 02 47 25.8 +0.9**
comp=Z,14nm,0.6s,baz=66
AAA Alma-Ata 35.92 66 *e*P **P 02 47 25.7 +0.9**
AAA pmax pmax
comp=Z,14nm,0.6s
TNSS Tian-Shan 35.96 66 *e*P **P 02 47 25.9 +0.3**
baz=66
TNSS Tian-Shan 35.96 66 *e*P **P 02 47 25.9 +0.3**
MDOK Medeo 36.02 66 *e*P **P 02 47 26.5 +0.7**
baz=66
MDOK Medeo 36.02 66 *e*P **P 02 47 26.5 +0.7**
KURBB Kurchatov Arra 36.67 53 P **P 02 47 31.8 +0.7**
comp=Z,22nm,0.6s,baz=276,slow=8.6,SNR=130
KURBB PcP **PcP 02 49 54.0 +0.3**
comp=Z,1.0nm,0.5s,baz=261,slow=3.7,SNR=2.6
KURBB LR LR 03 06 29.1
comp=Z,210nm,18.1s,baz=183,slow=43
comp=Z,22nm,0.6s
KURK Kurchatov 36.73 53 P **P 02 47 31.3 -0.3**
KURK IAmb IAmb 02 47 33.4
comp=Z,31nm,1.0s
KURK Kurchatov 36.73 53*d iP* **P 02 47 32.2 +0.7**
KURK pmax pmax
comp=Z,43nm,1.3s
TDK Taldyqorghan 36.78 63 *e*P **P 02 47 32.7 +0.5**
comp=Z,12nm,0.6s,baz=63
TDK Taldyqorghan 36.78 63 *e*P **P 02 47 32.6 +0.5**
TDK pmax pmax
comp=Z,12nm,0.6s
PRZ Przheval'sk 37.10 67 P **P 02 47 35.1 0.0**
PRZ IAmb IAmb 02 47 38.2
comp=Z,36nm,1.3s
PRZ Przheval'sk 37.10 67 P **P 02 47 35.1 0.0**
PRZ pmax pmax
comp=Z,36nm,1.3s
KPKS Kokpek 37.16 65 *e*P **P 02 47 36.2 +0.6**
baz=65
KPKS Kokpek 37.16 65 *e*P **P 02 47 36.1 +0.6**
UZB Uzynbulak 37.45 66 *e*P **P 02 47 38.4 +0.3**
baz=66
UZB Uzynbulak 37.45 66 *e*P **P 02 47 38.3 +0.3**
SHLS Shalkode 37.77 66 *e*P **P 02 47 44.0 +3.3**
baz=66
SHLS Shalkode 37.77 66 *e*P **P 02 47 43.9 +3.3**
JMIC Jan Mayen 38.95 341 LR LR 03 05 50.7
comp=Z,149nm,18.8s,baz=348,slow=39
MAKZ Makanchi 39.08 59 P **P 02 47 51.8 +0.3**
MAKZ Makanchi 39.08 59 P **P 02 47 51.8 +0.3**
MAKZ pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 39.30 59 P **P 02 47 54.2 +0.8**
MK31 Makanchi Array 39.30 59 P **P 02 47 54.2 +0.8**
MK31 pmax pmax
comp=Z,13nm,0.8s
MKAR Makanchi Array 39.30 59 P **P 02 47 53.9 +0.5**
MKAR Makanchi Array 39.30 59 P **P 02 47 54.2 +0.8**
comp=Z,14nm,0.7s,baz=281,slow=6.9,SNR=90
comp=Z,14nm,0.7s
BORG Borgarnes 40.36 329 LR LR 03 06 02.5
comp=Z,107nm,19.7s,baz=119,slow=38
ZAA0 Zalesovo Array 40.60 48 P **P 02 48 03.6 -0.4**
ZALV Zalesovo Beam 40.60 48 P **P 02 48 03.8 -0.3**
comp=Z,5.9nm,0.7s,baz=267,slow=9.1,SNR=26
ZALV LR LR 03 08 03.2
comp=Z,146nm,20.5s,baz=257,slow=41
comp=Z,5.9nm,0.7s
ZALV Zalesovo Beam 40.60 48 *i* P **P 02 48 04.1 0.0**
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZSN Zaisan 40.97 58 *e*P **P 02 48 07.7 +0.5**
baz=58
ZSN Zaisan 40.97 58 *e*P **P 02 48 07.7 +0.5**
WMQ Urumqi 43.54 63 *e*P **P 02 48 29.1 +0.9**
WMQ pP sP 02 48 34.4 +0.3
WMQ pmax pmax
comp=Z,28nm,1.7s
WMQ LR LR
comp=Z,140nm,17.3s
DBIC Dimbokro 44.03 234 P **P 02 48 32.3 -0.1**
DBIC IAmb IAmb 02 48 38.3
comp=Z,28nm,1.4s
DBIC Dimbokro 44.03 234 P **P 02 48 32.6 +0.3**
comp=Z,10nm,0.7s,baz=35,slow=8.6,SNR=11
DBIC LR LR 03 11 10.7
comp=Z,100nm,18.5s,baz=40,slow=42
comp=Z,10nm,0.7s
DBIC Dimbokro 44.03 234 P **P 02 48 32.3 -0.1**
DBIC pmax pmax
comp=Z,28nm,1.4s
NRIK Noril'sk 44.10 26 P **P 02 48 32.4 +0.1**
NRIK IAmb IAmb 02 48 38.1
comp=Z,30nm,1.5s
NRIK Noril'sk 44.10 26 P **P 02 48 31.6 -0.7**
comp=Z,2.9nm,0.6s,baz=266,slow=8.7,SNR=7.3
comp=Z,2.9nm,0.6s
NRIK Noril'sk 44.10 26*c iP* **P 02 48 34.0 +1.7**
NRIK pmax pmax
comp=Z,26nm,1.7s
TIC Toumodi 44.15 235⇓ *i P* **P 02 48 33.6 +0.2**
comp=Z,12nm,0.6s
KIC Kosan Boka 44.19 234⇓ *i P* **P 02 48 34.0 +0.4**
comp=Z,28nm,0.7s
LIC Lamto 44.47 234⇓ *i P* **P 02 48 36.3 +0.4**
comp=Z,59nm,0.9s
BBTS Babate 46.90 254 LR LR 03 11 54.0
comp=Z,187nm,18.1s,baz=323,slow=40
MOY Mondy 50.59 50 *e*P **P 02 49 24.5 +1.2**
MOY pmax pmax
comp=Z,17nm,2.1s
ZAK Zakamensk 52.31 51 *e*P **P 02 49 36.5 +0.4**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
SFJD Kangerlussuaq 52.42 331 LR LR 03 13 32.7
comp=Z,148nm,19.0s,baz=104,slow=38
GTA Gaotai 53.51 65 *e*P **P 02 49 45.6 +0.4**
GTA pmax pmax
comp=Z,10.0nm,0.8s
GTA LR LR
comp=N,140nm,16.7s
GTA LR LR
comp=E,130nm,18.5s
GTA LR LR
comp=Z,140nm,15.3s
SONM Songino Array 55.03 53 P **P 02 49 54.9 -1.3**
SONM Songino Array 55.03 53 P **P 02 49 56.8 +0.6**
comp=Z,2.7nm,0.6s,baz=288,slow=8.0,SNR=15
SONM LR LR 03 17 37.8
comp=Z,151nm,19.1s,baz=256,slow=41
comp=Z,2.7nm,0.6s
SONM Songino Array 55.03 53 P **P 02 49 54.9 -1.3**
SONM pmax pmax
comp=Z,11nm,1.5s
ULN Ulaanbaatar 55.44 53 P **P 02 49 59.4 +0.2**
ULN Ulaanbaatar 55.44 53*d iP* **P 02 49 59.2 +0.1**
ULN pmax pmax
comp=Z,20nm,2.5s
BOD Bodaibo 56.22 40 *e*P **P 02 50 01.9 -2.4**
BOD pmax pmax
comp=Z,17nm,2.0s
TIXI Tiksi 57.57 22 LR LR 03 18 16.4
comp=Z,78nm,18.9s,baz=276,slow=40
LZH Lanzhou 57.76 67⇑ P **P 02 50 16.3 +0.5**
LZH pP pP 02 50 20.8 +0.7
LZH sP sP 02 50 23.8 +2.1
LZH pmax pmax
comp=Z,22nm,1.4s

FRB Frobisher Bay 60.53 330 LR LR 03 19 01.9
comp=Z,118nm,18.2s,baz=94,slow=38
PZH PanZhiHua 60.61 78 P **P 02 50 35.4 -0.2**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,130nm,7.5s
HHC Hu-ho-hao-te 61.16 59 *e*P **P 02 50 39.5 +0.3**
HHC pP pP 02 50 44.1 +0.6
HHC *e*S **S 02 58 55.0 -3.5**
HHC sS sS 02 59 07.6 +2.0
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,93nm,4.8s
HHC LR LR
comp=N,190nm,17.1s
HHC LR LR
comp=E,200nm,14.3s
HHC LR LR
comp=Z,250nm,15.6s
YAK Yakutsk 61.88 32 LR LR 03 22 50.2
comp=Z,178nm,18.3s,baz=286,slow=41
YAK Yakutsk 61.88 32⇑ *e*P **P 02 50 45.9 +2.4**
YAK pmax pmax
comp=Z,19nm,0.5s
RES Resolute Bay 62.31 346 LR LR 03 18 13.6
comp=Z,95nm,18.0s,baz=19,slow=36
XAN Xi'an 62.40 67 P **P 02 50 47.3 -0.2**
XAN pmax pmax
comp=Z,12nm,1.2s
CMAR Chiang Mai Arr 62.60 87 P **P 02 50 47.9 -1.1**
CMAR Chiang Mai Arr 62.60 87 P **P 02 50 47.8 -1.3**
comp=Z,1.5nm,0.4s,baz=304,slow=8.2,SNR=9.8
CMAR LR LR 03 24 15.8
comp=Z,81nm,20.1s,baz=285,slow=42
comp=Z,1.5nm,0.4s
CMAR Chiang Mai Arr 62.60 87*ce*P **P 02 50 48.0 -1.1**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
SCHQ Schefferville 63.80 320 P **P 02 50 55.7 -0.7**
SCHQ IAmb IAmb 02 51 00.8
comp=Z,8.5nm,0.7s
SCHQ Schefferville 63.80 320 P **P 02 50 56.4 -0.1**
comp=Z,7.6nm,0.7s,baz=55,slow=5.5,SNR=13
SCHQ LR LR 03 18 14.3
comp=Z,54nm,19.4s,baz=52,slow=36
comp=Z,7.6nm,0.7s
HNS HongShan 64.93 61⇑ P **P 02 51 04.6 +0.5**
BOSA Boshof 65.96 184 P **P 02 51 11.6 +0.8**
comp=Z,2.9nm,0.8s,baz=13,slow=10,SNR=4.7
BOSA LR LR 03 19 18.6
comp=Z,70nm,19.8s,baz=3.5,slow=35
comp=Z,2.9nm,0.8s
HEH HeiHe 66.53 44 *e*P **P 02 51 14.3 +0.1**
HEH pmax pmax
comp=Z,7.0nm,0.8s
CN2 Changchun 68.75 51 *e*P **P 02 51 27.8 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
A36M Sachs Harbour 69.36 352 P **P 02 51 31.9 +0.3**
A36M IAmb IAmb 02 51 41.4
comp=Z,10nm,0.8s
A36M Sachs Harbour 69.36 352 P **P 02 51 32.5 +0.9**
baz=21
KLR Kul'dur 69.46 43 LR LR 03 26 45.6
comp=Z,87nm,20.6s,baz=306,slow=40
KLR Kul'dur 69.46 43⇓ *e*P **P 02 51 32.4 -0.2**
KLR pmax pmax
comp=Z,5.0nm,1.2s
SEY Seymchan 69.87 24⇑ *e*P **P 02 51 36.2 +1.3**
SEY pmax pmax
comp=Z,14nm,1.6s
SUR Sutherland 70.08 188 LR LR 03 22 54.9
comp=Z,102nm,21.0s,baz=12,slow=36
NJ2 Nanjing 70.59 64 *e*P **P 02 51 38.9 -1.0**
NJ2 sP **pP 02 51 44.0 -0.3**
NJ2 pmax pmax
comp=Z,14nm,0.6s
MDJ Mudanjiang 70.81 48 P **P 02 51 37.3 -3.7**
MDJ pmax pmax
comp=Z,6.0nm,0.9s
MA2 Magadan 71.66 27 LR LR 03 28 21.6
comp=Z,124nm,18.3s,baz=286,slow=40
MA2 Magadan 71.66 27*ce*P **P 02 51 47.0 +1.1**
MA2 pmax pmax
comp=Z,22nm,1.6s
C36M Paulatuk 71.69 351 P **P 02 51 45.9 +0.1**
baz=22
USRK Ussuriysk Ar. 72.45 48 P **P 02 51 50.3 -0.6**
comp=Z,2.6nm,0.6s,baz=291,slow=6.8,SNR=12
comp=Z,2.6nm,0.6s
B20K Meade River 72.62 3 P **P 02 51 51.9 +0.4**
baz=354
C26K Camden Bay 72.77 358 P **P 02 51 52.7 +0.4**
baz=4.3
MSHR Mys Shultsa 72.90 49⇑ *e*P **P 02 51 51.3 -2.3**
MSHR pmax pmax
comp=Z,16nm,1.4s
C23K Itkillik River 72.92 0 P **P 02 51 54.6 +1.4**
C23K Itkillik River 72.92 0 P **P 02 51 55.6 +2.3**
baz=360,SNR=8.6
HRV Adam Dziewonsk 73.00 311 P **P 02 51 55.8 +1.5**
baz=54
C27K Jago River 73.03 358 P **P 02 51 55.2 +1.3**
baz=5.3,SNR=9.9
B18K Kokolik River 73.05 4 P **P 02 51 55.1 +1.1**
baz=350
B21K Ikpikpuk River 73.08 2 P **P 02 51 55.2 +1.0**
B21K IAmb IAmb 02 51 56.8
comp=Z,12nm,0.8s
B21K Ikpikpuk River 73.08 2 P **P 02 51 54.5 +0.3**
baz=356
D27M Malcolm River 73.30 357 P **P 02 51 56.2 +0.6**
baz=7.6
D25K Kavik River 73.40 359 P **P 02 51 57.1 +0.9**
baz=3.1
C19K Lookout Ridge 73.42 4 P **P 02 51 56.5 +0.2**
baz=352
LONY Lake Ozonia 73.54 314 P **P 02 51 58.3 +0.9**
baz=53
C21K Knifeblade Rid 73.55 2 P **P 02 51 57.5 +0.6**
baz=356
D24K Happy Valley 73.60 360 P **P 02 51 58.1 +0.8**
D24K IAmb IAmb 02 52 04.0
comp=Z,13nm,1.1s
D24K Happy Valley 73.60 360 P **P 02 51 58.4 +1.1**
baz=1.1
L61B Northampton 73.71 311 P **P 02 51 58.9 +0.5**
baz=54
INK Inuvik 73.72 354 P **P 02 51 58.2 +0.2**
baz=14
INK Inuvik 73.72 354 LR LR 03 28 17.5
comp=Z,45nm,20.3s,baz=154,slow=39
C18K Utukok River 73.79 4 P **P 02 51 59.4 +0.9**
baz=351
D23K Nanushuk River 73.79 0 P **P 02 51 59.3 +0.9**
baz=360
KSAR Wonju Array Be 73.80 55 P **P 02 51 57.9 -1.1**
KSAR Wonju Array Be 73.80 55 P **P 02 51 57.9 -1.1**
KSRS Korea Array 73.82 55 P **P 02 51 57.9 -1.2**
comp=Z,1.4nm,0.7s,baz=303,slow=4.5,SNR=3.2
KSRS LR LR 03 27 32.6
comp=Z,72nm,19.8s,baz=310,slow=38
comp=Z,1.4nm,0.7s
C17K DeLong Mountai 73.84 5 P **P 02 51 58.8 +0.1**
baz=349
E28M Babbage River 73.86 356 P **P 02 51 59.1 +0.2**
E28M Babbage River 73.86 356 P **P 02 51 59.9 +1.0**
baz=8.7,SNR=7.9
D22K Ayikyak River 73.86 1 P **P 02 51 59.2 +0.3**
D22K IAmb IAmb 02 52 05.2
comp=Z,17nm,1.1s
D22K Ayikyak River 73.86 1 P **P 02 51 59.7 +0.8**
baz=358
C16K Lisburne Hills 73.87 6 P **P 02 51 59.9 +1.1**
baz=347
D20K Etivluk River 73.94 2 P **P 02 52 00.3 +1.0**
baz=355
E29M Blow River 73.97 355 P **P 02 51 59.9 +0.4**
E29M IAmb IAmb 02 52 05.2
comp=Z,17nm,0.9s
E29M Blow River 73.97 355 P **P 02 52 00.4 +0.9**
baz=10,SNR=22
D19K Kuna River 74.10 3 P **P 02 51 59.6 -0.7**
D19K IAmb IAmb 02 52 17.6
comp=Z,20nm,1.2s

D19K	Kuna River	74.10	3	P	P	02 52 01.5	+1.2
	baz=353						
TOLK	Toolik Lake Re	74.12	360	P	P	02 52 01.0	+0.6
TOLK	Toolik Lake Re	74.12	360	P	P	02 52 01.6	+1.2
	baz=0.4						
RDOG	Red Dog Mine	74.27	5	P	P	02 52 01.6	+0.4
	baz=349						
E21K	Killik River	74.28	1	P	P	02 52 01.9	+0.5
	baz=357						
E27K	Coleen River	74.38	357	P	P	02 52 02.9	+1.0
	baz=7.0						
E20K	Nigu River	74.41	2	P	P	02 52 02.9	+0.8
	baz=355						
F31M	Tsiigehtchic	74.59	354	P	P	02 52 03.7	+0.7
	baz=13						
F30M	Barrier River	74.59	354	P	P	02 52 03.6	+0.5
	baz=12,SNR=7.9						
D17K	Noatak River	74.61	5	P	P	02 52 03.7	+0.6
	baz=349						
E24K	Your Creek	74.68	359	P	P	02 52 04.3	+0.6
	baz=1.3						
E23K	Chandalar	74.71	360	P	P	02 52 05.1	+1.2
	baz=0.4,SNR=7.4						
F28M	Old Crow	74.86	356	P	P	02 52 04.5	-0.2
F28M	Old Crow	74.86	356	P	P	02 52 05.5	+0.8
	baz=8.4						
F26K	Sheenjek River	74.97	358	P	P	02 52 06.4	+1.0
	baz=4.9,SNR=18						
E18K	Tukpahlearik C	75.05	4	P	P	02 52 05.9	+0.2
E18K	Tukpahlearik C	75.05	4	P	P	02 52 06.7	+1.0
	baz=351						
F25K	Christian Rive	75.12	358	P	P	02 52 07.4	+1.2
	baz=3.6,SNR=11						
G31M	Satah River	75.14	354	P	P	02 52 05.7	-0.5
G31M				IAmb	IAmb	02 52 08.7	
	comp=Z,34nm,1.8s						
G31M	Satah River	75.14	354	P	P	02 52 06.3	0.0
	baz=13,SNR=7.4						
E19K	Redstone River	75.17	3	P	P	02 52 07.2	+0.7
E19K				IAmb	IAmb	02 52 12.8	
	comp=Z,9.8nm,1.1s						
E19K	Redstone River	75.17	3	P	P	02 52 07.2	+0.7
	baz=354,SNR=7.9						
F24K	Squaw Lake	75.23	359	P	P	02 52 07.6	+0.7
F24K				IAmb	IAmb	02 52 13.4	
	comp=Z,12nm,0.9s						
F24K	Squaw Lake	75.23	359	P	P	02 52 08.2	+1.3
	baz=1.8,SNR=14						
G30M	tAoh Zraii Nji	75.25	354	P	P	02 52 07.0	0.0
G30M				IAmb	IAmb	02 52 12.0	
	comp=Z,9.4nm,0.9s						
G30M	tAoh Zraii Nji	75.25	354	P	P	02 52 07.1	+0.1
	baz=11,SNR=6.6						
F22K	John River	75.25	1	P	P	02 52 08.0	+1.1
	baz=358						
BMAR	Burnt Mountain	75.25	358	P	P	02 52 07.8	+0.8
E17K	Hotham Inlet	75.31	5	P	P	02 52 07.3	+0.1
	baz=350						
G29M	Pine Creek	75.44	355	P	P	02 52 08.2	+0.2
G29M				IAmb	IAmb	02 52 13.4	
	comp=Z,13nm,1.1s						
G29M	Pine Creek	75.44	355	P	P	02 52 08.2	+0.2
	baz=9.9,SNR=12						
F21K	Alatna River	75.52	1	P	P	02 52 09.6	+1.1
F21K				IAmb	IAmb	02 52 15.2	
	comp=Z,11nm,1.0s						
F21K	Alatna River	75.52	1	P	P	02 52 09.5	+1.1
	baz=357,SNR=14						
COLD	Coldfoot	75.54	0	P	P	02 52 09.6	+1.0
	baz=360,SNR=5.6						
F20K	Avaraart Lake	75.63	2	P	P	02 52 10.0	+0.9
	baz=355						
G26K	Porcupine Rive	75.71	357	P	P	02 52 10.6	+1.1
	baz=5.2,SNR=14						
G27K	Doyon Strip	75.76	357	P	P	02 52 10.2	+0.3
G27K	Doyon Strip	75.76	357	P	P	02 52 11.0	+1.1
	baz=6.9,SNR=10						
F19K	Shaleruckik Mo	75.77	3	P	P	02 52 09.8	-0.1
F19K				IAmb	IAmb	02 52 15.2	
	comp=Z,9.9nm,1.2s						
F19K	Shaleruckik Mo	75.77	3	P	P	02 52 10.2	+0.3
	baz=354						
BINY	Binghamton	75.81	312	P	P	02 52 11.3	+0.7
	baz=52						
G22K	Bettles	75.84	1	P	P	02 52 11.2	+0.9
	baz=359,SNR=7.0						
EPYK	Eagle Plains	75.89	354	P	P	02 52 10.8	+0.2
	baz=11,SNR=8.2						
F18K	Selawik	75.91	4	P	P	02 52 11.3	+0.6
	baz=352						
G25K	Bearman Lake	75.96	358	P	P	02 52 12.3	+1.3
	baz=3.3						
F17K	Baldwin Pennin	75.98	5	P	P	02 52 11.9	+0.8
	baz=351						
SADO	Sadowa	76.01	316	LR	LR	03 26 04.3	
	comp=Z,74nm,18.1s,baz=49,slow=36						
G24K	Hadweenzic Riv	76.05	359	P	P	02 52 12.2	+0.7
G24K				IAmb	IAmb	02 52 17.7	
	comp=Z,13nm,1.3s						
G24K	Hadweenzic Riv	76.05	359	P	P	02 52 12.8	+1.2
	baz=2.1						
G23K	Bananza Creek	76.06	360	P	P	02 52 12.3	+0.7
G23K				IAmb	IAmb	02 52 17.8	
	comp=Z,11nm,1.2s						
G23K	Bananza Creek	76.06	360	P	P	02 52 12.8	+1.2
	baz=0.1,SNR=9.5						
H29M	Whitestone	76.15	355	P	P	02 52 12.0	-0.1
H29M				IAmb	IAmb	02 52 17.4	
	comp=Z,6.5nm,0.8s						
H29M	Whitestone	76.15	355	P	P	02 52 12.8	+0.7
	baz=9.6,SNR=6.9						
G21K	Allakaket	76.22	1	P	P	02 52 13.5	+1.0
G21K				IAmb	IAmb	02 52 18.9	
	comp=Z,11nm,1.0s						
G21K	Allakaket	76.22	1	P	P	02 52 13.3	+0.8
	baz=357,SNR=10.0						
YKA	Yellowknife Ar	76.27	344	P	P	02 52 13.8	+1.1
YKA	Yellowknife Ar	76.27	344	P	P	02 52 12.9	+0.1
	comp=Z,2.3nm,0.8s,baz=31,slow=6.0,SNR=7.7						
YKA				LR	LR	03 25 57.1	
	comp=Z,68nm,19.0s,baz=80,slow=36						
	comp=Z,2.3nm,0.8s						
YKA	Yellowknife Ar	76.27	344	*i* P	P	02 52 15.3	+2.5
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
H27K	Steamboat Moun	76.33	356	P	P	02 52 14.3	+1.1
	baz=7.0,SNR=18						
F15K	North Star Dit	76.45	6	P	P	02 52 14.1	+0.3
	baz=348						
H25L	Birch Creek	76.45	358	P	P	02 52 13.7	-0.1
	baz=3.5,SNR=16						
G19K	Purcell Mounta	76.49	3	P	P	02 52 14.6	+0.6
G19K				IAmb	IAmb	02 52 16.1	
	comp=Z,31nm,1.8s						
G19K	Purcell Mounta	76.49	3	P	P	02 52 14.8	+0.8
	baz=354,SNR=7.2						
F14K	Arctic Creek	76.53	7	P	P	02 52 14.9	+0.6
	baz=347						
G18K	Tagagawik	76.67	4	P	P	02 52 15.3	+0.3
G18K				IAmb	IAmb	02 52 16.7	
	comp=Z,29nm,1.7s						
G18K	Tagagawik	76.67	4	P	P	02 52 15.3	+0.3
	baz=353,SNR=9.7						
YSS	Yuzh-Sakhalins	76.69	40	‖ *e* P	P	02 52 15.6	+0.2
YSS				pmax	pmax		
	comp=Z,23nm,1.2s						
IMAR	Indian Mountai	76.75	2	P	P	02 52 16.4	+0.9
H22K	Ishtalitna Cre	76.88	1	P	P	02 52 17.3	+1.1
	baz=359,SNR=7.3						
H24K	Noodor Dome	76.92	359	P	P	02 52 17.9	+1.4
H24K	Noodor Dome	76.92	359	P	P	02 52 17.6	+1.1
	baz=1.8						
G16K	Koyuk River	76.94	5	P	P	02 52 17.5	+1.0
	baz=350						
G17K	Kiwalik Mounta	76.95	4	P	P	02 52 17.1	+0.5
	baz=351						
H23K	Yukon River	76.95	360	P	P	02 52 18.0	+1.3
	baz=0.5,SNR=12						
I27K	Kandik River	76.96	356	P	P	02 52 17.1	+0.4
	baz=6.9,SNR=17						
I30M	Mount Dempster	76.99	354	P	P	02 52 16.9	-0.1
I30M				IAmb	IAmb	02 52 22.3	
	comp=Z,12nm,0.8s						
I30M	Mount Dempster	76.99	354	P	P	02 52 17.6	+0.6
	baz=11,SNR=23						
I29M	Ogilvie Camp,	77.00	355	P	P	02 52 16.8	-0.1
I29M				IAmb	IAmb	02 52 18.5	
	comp=Z,12nm,0.8s						
I29M	Ogilvie Camp,	77.00	355	P	P	02 52 17.4	+0.5
	baz=9.6,SNR=17						
I28M	Miner Creek	77.02	356	P	P	02 52 16.9	-0.2
I28M				IAmb	IAmb	02 52 20.0	
	comp=Z,25nm,1.8s						
I28M	Miner Creek	77.02	356	P	P	02 52 17.6	+0.4
	baz=8.3,SNR=8.3						
H21K	Melozitna Rive	77.10	1	P	P	02 52 18.3	+0.8
H21K	Melozitna Rive	77.10	1	P	P	02 52 19.0	+1.5
	baz=358,SNR=11						
H19K	Roundabout Mou	77.13	3	P	P	02 52 18.2	+0.6
H19K				IAmb	IAmb	02 52 23.4	
	comp=Z,12nm,1.2s						
H19K	Roundabout Mou	77.13	3	P	P	02 52 18.7	+1.1
	baz=355,SNR=7.7						
PRP	Porcupine Dome	77.20	358	P	P	02 52 19.1	+1.0
PRP				IAmb	IAmb	02 52 24.1	
	comp=Z,15nm,1.4s						
PRP	Porcupine Dome	77.20	358	P	P	02 52 19.5	+1.3
	baz=3.7,SNR=8.3						
G15K	Niukluk	77.20	6	P	P	02 52 18.7	+0.6
	baz=349						
H20K	Anotleneega Mo	77.22	2	P	P	02 52 19.0	+0.8
	baz=356,SNR=6.5						
WRGLY	Wrigley	77.31	348	P	P	02 52 19.3	+0.7
WRGLY	Wrigley	77.31	348	P	P	02 52 19.8	+1.2
	baz=21						
I26K	Coal Creek Min	77.33	357	P	P	02 52 19.7	+0.9
	baz=5.6						
H18K	Honhosa River	77.42	4	P	P	02 52 20.2	+0.9
	baz=353						
ANM	Nome	77.51	7	P	P	02 52 21.2	+1.4
	baz=348						
H17K	Granite Mounta	77.56	4	P	P	02 52 21.0	+0.9
	baz=352						
J30M	Hart River	77.62	354	P	P	02 52 21.4	+0.8
	baz=11,SNR=26						
I23K	Minto, Yukon-K	77.63	360	P	P	02 52 21.0	+0.6
I23K				IAmb	IAmb	02 52 28.6	
	comp=Z,11nm,1.4s						
I23K	Minto, Yukon-K	77.63	360	P	P	02 52 21.5	+1.1
	baz=0.6						
POKR	Poker Plat Res	77.64	359	P	P	02 52 20.8	+0.3
POKR				IAmb	IAmb	02 52 26.6	
	comp=Z,10nm,1.1s						
POKR	Poker Plat Res	77.64	359	P	P	02 52 21.6	+1.1
	baz=2.2						
H16K	Elim	77.70	5	P	P	02 52 21.2	+0.4
	baz=350						
MLY	Manley	77.75	0	P	P	02 52 22.5	+1.3
MLY				IAmb	IAmb	02 52 27.2	
	comp=Z,8.6nm,1.1s						
MLY	Manley	77.75	0	P	P	02 52 22.3	+1.2
	baz=360,SNR=7.4						
EGAK	Eagle	77.76	356	P	P	02 52 22.4	+1.3
	baz=7.2,SNR=7.1						
MDM	Murphy Dome	77.81	359	P	P	02 52 22.1	+0.7
COLA	College	77.89	359	P	P	02 52 21.6	-0.2
COLA	College	77.89	359	*c i* P	P	02 52 23.5	+1.7
COLA				pmax	pmax		
	comp=Z,16nm,1.6s						
J29N	Klondike Camp	77.89	355	P	P	02 52 23.1	+1.1
J29N				IAmb	IAmb	02 52 31.5	
	comp=Z,8.6nm,0.9s						
SSPA	Standing Stone	77.91	312	P	P	02 52 23.2	+0.8
	baz=51						
I20K	Naaghedeneel	77.93	2	P	P	02 52 22.9	+0.8
	baz=356						
ILAR	Eielson Array	77.98	359	P	P	02 52 22.0	-0.4
ILAR	Eielson Array	77.98	359	P	P	02 52 22.6	+0.3
	comp=Z,1.0nm,0.6s,baz=341,slow=3.8,SNR=21						
	comp=Z,1.0nm,0.6s						
J25K	Salcha River,	78.10	358	P	P	02 52 23.6	+0.4
	baz=3.8						
CCB	Clear Creek Bu	78.12	359	P	P	02 52 23.1	-0.1
CCB				IAmb	IAmb	02 52 28.4	
	comp=Z,10nm,1.2s						
J26L	Joseph Creek	78.15	357	P	P	02 52 24.0	+0.5
	baz=5.3,SNR=9.8						
NEA2	Nenana	78.18	360	P	P	02 52 23.0	-0.5
NEA2				IAmb	IAmb	02 52 29.0	
	comp=Z,9.5nm,1.2s						
NEA2	Nenana	78.18	360	P	P	02 52 24.0	+0.4
	baz=0.8						
HDA	Harding Lake	78.34	359	P	P	02 52 24.8	+0.4
	baz=2.5,SNR=6.1						
DAWY	Dawson	78.36	355	P	P	02 52 24.7	+0.1
DAWY	Dawson	78.36	355	P	P	02 52 25.2	+0.6
	baz=8.7,SNR=9.6						
K29M	Barlow Dome	78.44	354	P	P	02 52 26.0	+0.9
	baz=10,SNR=8.3						
ASAJ	Asahikawa	78.48	43	LR	LR	03 31 56.5	
	comp=Z,123nm,20.1s,baz=315,slow=39						
MAYO	Mayo, Yukon	78.55	354	P	P	02 52 26.8	+1.2
	baz=12						
K27K	Chicken	78.55	356	P	P	02 52 26.7	+1.1
	baz=6.5						
J20K	Nowinta River	78.56	2	P	P	02 52 25.1	-0.5
J20K	Nowinta River	78.56	2	P	P	02 52 26.3	+0.8
	baz=357,SNR=9.1						
BPAW	Bear Paw Mtn.	78.68	0	P	P	02 52 25.9	-0.4
BPAW	Bear Paw Mtn.	78.68	0	P	P	02 52 27.3	+1.0
	baz=359,SNR=7.8						
SCRK	Sand Creek	78.69	357	P	P	02 52 27.4	+0.9
	baz=4.9,SNR=11						
J19K	Poorman	78.70	2	P	P	02 52 27.5	+1.1
	baz=356,SNR=8.4						
K24K	Donnelly Dome	78.92	358	P	P	02 52 28.6	+0.9
	baz=3.5,SNR=7.5						
M53A	WI Miller and	79.01	314	P	P	02 52 28.7	+0.2
	baz=49						
MMPY	Sheldon Lake,	79.02	351	P	P	02 52 29.8	+1.6
	baz=15,SNR=13						
MCK	McKinley	79.05	359	P	P	02 52 28.7	+0.4
	baz=0.9						
J17K	VABM Dome	79.14	4	P	P	02 52 29.3	+0.5
	baz=353,SNR=5.7						
J16K	Anvik River	79.15	5	P	P	02 52 29.6	+0.7
	baz=352						
J18K	Innoko River	79.18	3	P	P	02 52 29.5	+0.4
J18K				IAmb	IAmb	02 52 31.4	
	comp=Z,31nm,1.9s						
J18K	Innoko River	79.18	3	P	P	02 52 29.7	+0.6
	baz=355						
L29M	L29M	79.22	354	P	P	02 52 29.3	0.0
	baz=9.6,SNR=6.3						
TRF	Thorofare Moun	79.33	0	P	P	02 52 30.5	+0.4
	baz=360						
K20K	Telida	79.38	2	P	P	02 52 30.5	+0.4
K20K				IAmb	IAmb	02 52 32.2	
	comp=Z,28nm,1.8s						
K20K	Telida	79.38	2	P	P	02 52 31.2	+1.0
	baz=357,SNR=5.8						
J14K	Nanvaranak Lak	79.46	6	P	P	02 52 31.4	+0.9
	baz=349						
BCAR	Beaver Creek A	79.50	356	P	P	02 52 31.8	+0.9
L27K	Beaver Creek,	79.50	356	P	P	02 52 30.7	-0.2
L27K	Beaver Creek,	79.50	356	P	P	02 52 32.1	+1.2
	baz=6.7,SNR=8.6						
L26K	Log Cabin Wild	79.61	357	P	P	02 52 31.1	-0.3
L26K	Log Cabin Wild	79.61	357	P	P	02 52 32.7	+1.3
	baz=5.4						
M30M	Minto, Yukon	79.63	354	P	P	02 52 32.6	+1.0
	baz=11						
FARO	Faro, Yukon	79.64	352	P	P	02 52 32.2	+0.7
FARO				IAmb	IAmb	02 52 38.0	
	comp=Z,11nm,1.1s						
FARO	Faro, Yukon	79.64	352	P	P	02 52 32.8	+1.3
	baz=13,SNR=9.7						
TGTN	Hyland Airport	79.67	350	P	P	02 52 33.3	+1.5
	baz=17						
MCWV	Mont Chateau	79.69	312	P	P	02 52 33.2	+1.0
	baz=49						
DHY	Denali Highway	79.69	359	P	P	02 52 32.4	+0.4
DHY				IAmb	IAmb	02 52 37.4	
	comp=Z,15nm,1.3s						
DHY	Denali Highway	79.69	359	P	P	02 52 32.7	+0.7
	baz=2.2,SNR=9.8						
MENT	Mentasta	79.72	357	P	P	02 52 32.9	+0.9
PAX	Paxson	79.75	358	P	P	02 52 33.0	+0.7
	baz=3.7						
TTA	Tatalina	79.75	3	P	P	02 52 33.2	+1.0
	baz=355						
M31M	Drury Creek, Y	79.77	353	P	P	02 52 33.1	+0.8
M31M				IAmb	IAmb	02 52 35.0	
	comp=Z,27nm,1.6s						
M31M	Drury Creek, Y	79.77	353	P	P	02 52 33.7	+1.4
	baz=13,SNR=10						
K17K	Iditarod	79.86	4	P	P	02 52 33.4	+0.7
	baz=353						
M29M	Somme Creek	79.90	355	P	P	02 52 33.8	+0.7
M29M				IAmb	IAmb	02 52 39.8	
	comp=Z,17nm,0.8s						
M29M	Somme Creek	79.90	355	P	P	02 52 34.1	+1.0
	baz=9.3,SNR=38						
K15K	Wolf Creek Mou	80.07	5	P	P	02 52 34.1	+0.2
	baz=351						
O53A	New Philadelph	80.09	314	P	P	02 52 34.9	+0.4
	baz=49						
AAM	Ann Arbor	80.11	316	P	P	02 52 34.8	+0.4
	baz=48						
EYMN	Ely	80.13	324	P	P	02 52 34.7	+0.2
	baz=43						
K13K	Kusilvak Mount	80.16	7	P	P	02 52 34.5	+0.1
	baz=348						
WAT6	Susitna Watana	80.19	359	P	P	02 52 34.8	+0.1
	baz=1.9						
M27K	Edge Creek, AK	80.21	356	P	P	02 52 35.6	+0.8
M27K				IAmb	IAmb	02 52 37.6	
	comp=Z,24nm,1.4s						
M27K	Edge Creek, AK	80.21	356	P	P	02 52 35.0	+0.2
	baz=6.6,SNR=9.1						
M26K	Nabesna, AK	80.22	357	P	P	02 52 35.0	+0.2
M26K				IAmb	IAmb	02 52 40.7	
	comp=Z,38nm,2.0s						
M26K	Nabesna, AK	80.22	357	P	P	02 52 35.5	+0.7
	baz=5.7,SNR=6.6						
L20K	Farewell, AK	80.27	2	P	P	02 52 36.0	+1.0
	baz=357						
JOW	Kunigami	80.30	64	LR	LR	03 31 42.0	
	comp=Z,118nm,19.7s,baz=132,slow=38						
HARP	HAARP	80.31	358	P	P	02 52 35.6	+0.4
	baz=4.0						
KOTAN	Kotaneelee Air	80.32	347	P	P	02 52 36.4	+1.1
	baz=21						
ULM	Lac du Bonnet	80.36	328	P	P	02 52 35.0	-0.7
ULM				IAmb	IAmb	02 52 40.3	
	comp=Z,14nm,1.1s						
ULM	Lac du Bonnet	80.36	328	P	P	02 52 35.7	0.0
	comp=Z,7.4nm,0.9s,baz=26,slow=4.3,SNR=7.5						
ULM				LR	LR	03 29 33.1	
	comp=Z,179nm,19.0s,baz=50,slow=37						
	comp=Z,7.4nm,0.9s						
ULM	Lac du Bonnet	80.36	328	P	P	02 52 35.0	-0.7
ULM				pmax	pmax		
	comp=Z,14nm,1.1s						
L18K	Granite Mounta	80.43	3	P	P	02 52 36.9	+1.0
	baz=355						
L17K	Donlin	80.44	4	P	P	02 52 36.2	+0.3
	baz=353						
L19K	White Mountain	80.54	2	P	P	02 52 36.0	-0.5
	baz=356						
N31M	Braeburn, Yuko	80.61	353	P	P	02 52 36.8	0.0
N31M				IAmb	IAmb	02 52 42.1	
	comp=Z,13nm,1.1s						
N31M	Braeburn, Yuko	80.61	353	P	P	02 52 37.1	+0.2
	baz=12						
M24K	Tolsona, Glenn	80.63	358	P	P	02 52 37.3	+0.3
	baz=3.1						
N32M	Quiet Lake	80.66	352	P	P	02 52 38.1	+1.0
	baz=14						
L15K	Ungalak Mounta	80.69	5	P	P	02 52 38.0	+0.8
	baz=351						
YUK3	Moose Creek	80.70	355	P	P	02 52 38.4	+0.8
	baz=7.7,SNR=14						
N30M	Aishikik Lake	80.76	354	P	P	02 52 37.9	+0.2
N30M	Aishikik Lake	80.76	354	P	P	02 52 38.3	+0.6
	baz=10						
L16K	Owhat River	80.79	4	P	P	02 52 37.3	-0.4
	baz=352						
SKT	Skwentna	80.81	1	P	P	02 52 36.7	-1.1
SKT	Skwentna	80.81	1	P	P	02 52 37.8	0.0
	baz=359,SNR=8.5						
M19K	Big River Lodg	80.83	2	P	P	02 52 38.5	+0.5
	baz=356						
M20K	Styx River	80.88	1	P	P	02 52 38.6	+0.3
	baz=358						
MJAR	Matsushiro Arr	80.90	51	P	P	02 52 38.2	-0.6
	comp=Z,0.5nm,0.3s,baz=307,slow=5.4,SNR=5.5						
MJAR				LR	LR	03 33 47.8	
	comp=Z,65nm,18.6s,baz=274,slow=40						
	comp=Z,0.5nm,0.3s						
L14K	Kuka Creek	80.92	6	P	P	02 52 38.9	+0.5
	baz=350						
SCM	Sheep Creek Mo	80.93	359	P	P	02 52 38.7	+0.1
SCM	Sheep Creek Mo	80.93	359	P	P	02 52 39.4	+0.8
	baz=2.2,SNR=8.9						
SCM	Sheep Creek Mo	80.93	359	P	P	02 52 38.7	+0.1
SCM				pmax	pmax		
	comp=Z,22nm,0.9s						
MDP	Montagnes des	80.96	269	LR	LR	03 29 54.3	
	comp=Z,38nm,18.1s,baz=260,slow=37						
SML	Sawmill	80.97	359	P	P	02 52 37.5	-1.3
SML				IAmb	IAmb	02 52 44.0	
	comp=Z,11nm,0.9s						
SML	Sawmill	80.97	359	P	P	02 52 39.3	+0.5
	baz=1.4						
SML	Sawmill	80.97	359	P	P	02 52 37.5	-1.3
SML				pmax	pmax		
	comp=Z,11nm,0.9s						
M23K	Glacier View	80.98	359	P	P	02 52 39.4	+0.6
	baz=1.9						
YUK4	Talbot Arm	81.00	354	P	P	02 52 39.3	+0.1
	baz=9.3						
P52A	Corning	81.03	314	P	P	02 52 39.5	0.0
	baz=48						
M22K	Willow	81.04	360	P	P	02 52 38.0	-1.1
M22K	Willow	81.04	360	P	P	02 52 40.1	+1.1
	baz=360						
N25K	Chitina, Valde	81.08	357	P	P	02 52 39.2	-0.3
N25K				IAmb	IAmb	02 52 41.1	
	comp=Z,29nm,1.8s						
N25K	Chitina, Valde	81.08	357	P	P	02 52 39.1	-0.4
	baz=4.4						
WTLY	Watson Lake, Y	81.10	349	P	P	02 52 39.7	+0.2
WTLY				IAmb	IAmb	02 52 46.3	
	comp=Z,16nm,0.9s						
ACSO	Alum Creek Sta	81.12	314	P	P	02 52 40.2	+0.3
	baz=48						
M18K	Stony River	81.19	3	P	P	02 52 39.8	-0.1
	baz=355						
PMR	Palmer	81.20	360	P	P	02 52 40.2	+0.3
PMR	Palmer	81.20	360	P	P	02 52 40.3	+0.4
	baz=0.8						
PMR	Palmer	81.20	360	P	P	02 52 40.2	+0.3
PMR				pmax	pmax		
	comp=Z,40nm,1.9s						
M17K	Holitna River	81.21	4	P	P	02 52 40.0	0.0
M17K				IAmb	IAmb	02 52 46.7	
	comp=Z,12nm,0.8s						
M17K	Holitna River	81.21	4	P	P	02 52 40.8	+0.8
	baz=354						
MCARA	McCarthy VSAT	81.24	357	P	P	02 52 40.6	+0.5
	baz=5.7						
KLU	Klutina	81.24	358	P	P	02 52 40.4	+0.2
KLU				IAmb	IAmb	02 52 58.7	
	comp=Z,21nm,1.6s						
KLU	Klutina	81.24	358	P	P	02 52 40.2	-0.1
	baz=3.4						
SUA	Susitna One	81.33	0	P	P	02 52 41.2	+0.4
	baz=360,SNR=10						
WHY	Whitehorse	81.34	352	P	P	02 52 40.6	-0.2
	baz=12						
O30N	Mendenhall	81.35	353	P	P	02 52 39.9	-0.9
O30N				IAmb	IAmb	02 52 43.7	
	comp=Z,24nm,1.6s						
O30N	Mendenhall	81.35	353	P	P	02 52 41.4	+0.5
	baz=11,SNR=6.4						
KNK	Knik Glacier	81.37	359	P	P	02 52 41.0	+0.1
KNK				IAmb	IAmb	02 52 46.6	
	comp=Z,20nm,1.1s						
KNK	Knik Glacier	81.37	359	P	P	02 52

P33M	Teslin, Yukon	81.54 351	P	P	02 52 42.3	+0.4
	baz=14,SNR=6.7					
M14K	Bethel	81.57 6	P	P	02 52 41.9	0.0
	baz=350					
N20K	Mount Spurr	81.58 1	P	P	02 52 42.3	+0.2
	baz=358					
O28M	Mount Upton	81.68 355	P	P	02 52 43.8	+0.9
	baz=7.9					
LOGN	Logan Glacier	81.68 355	P	P	02 52 42.5	-0.2
RC01	Rabbit Creek A	81.70 360	P	P	02 52 43.6	+0.9
	baz=0.3					
M15K	Kasigluk River	81.72 5	P	P	02 52 43.7	+1.0
	baz=352					
BMRM	Bremner River	81.72 357	P	P	02 52 43.1	+0.3
	baz=4.4					
TOAD	Toad River Com	81.73 347	P	P	02 52 43.8	+0.9
	baz=20,SNR=14					
M13K	Dall Lake	81.78 7	P	P	02 52 43.8	+0.8
	baz=349					
AGMN	Agassiz Nation	81.83 327	P	P	02 52 43.4	-0.2
	baz=41					
CRQM	Cirque	81.87 357	P	P	02 52 43.1	-0.7
CRQE	Cirque	81.87 357	P	P	02 52 44.6	+0.9
	baz=5.6					
GLI	Glacier Island	81.88 358	P	P	02 52 44.1	+0.5
	baz=2.4					
N19K	Bonanza Creek	81.92 2	P	P	02 52 44.0	+0.1
N19K			IAmb	IAmb	02 52 50.1	
	comp=Z,14nm,0.8s					
N19K	Bonanza Creek	81.92 2	P	P	02 52 44.5	+0.6
	baz=356					
PWL	Port Wells	81.92 359	P	P	02 52 44.2	+0.4
PWL	Port Wells	81.92 359	P	P	02 52 43.4	-0.4
	baz=1.4					
ISLE	Juniper Island	81.98 356	P	P	02 52 43.3	-1.0
FID	Port Fidalgo	82.00 358	P	P	02 52 44.4	+0.2
N18K	Kilae Creek	82.00 3	P	P	02 52 45.0	+0.8
	baz=355					
O29M	Mount Kennedy	82.03 354	P	P	02 52 44.5	0.0
O29M			IAmb	IAmb	02 52 50.0	
	comp=Z,30nm,1.7s					
O29M	Mount Kennedy	82.03 354	P	P	02 52 45.1	+0.6
	baz=9.2					
N16K	Nishlik Lake	82.06 4	P	P	02 52 45.0	+0.4
	baz=353					
P30M	Million Dollar	82.07 353	P	P	02 52 45.1	+0.5
	baz=10					
N17K	Nushagak Hills	82.10 4	P	P	02 52 45.2	+0.5
	baz=354					
R33M	Jennings River	82.10 350	P	P	02 52 44.9	0.0
	baz=15,SNR=18					
Q51A	Peebles	82.14 314	P	P	02 52 45.6	+0.3
WAX	Waxell Ridge	82.16 356	P	P	02 52 45.2	0.0
EYAK	Cordova Ski Ar	82.18 358	P	P	02 52 45.9	+0.8
	baz=3.5					
P32M	Atlin	82.25 352	P	P	02 52 45.6	-0.1
	baz=13					
N15K	Kwethluk River	82.28 5	P	P	02 52 46.2	+0.5
	baz=352					
O48B	Farmland	82.32 316	P	P	02 52 46.1	-0.2
	baz=46					
L44A	Lake County Fo	82.48 318	P	P	02 52 48.0	+0.9
	baz=45					
BGLC	Bering Glacier	82.51 357	P	P	02 52 46.7	-0.1
	baz=5.4					
P29M	Windy Craggy	82.62 354	P	P	02 52 48.3	+0.7
	baz=9.9					
PLBC	Pleasant Camp	82.67 353	P	P	02 52 48.5	+0.9
	baz=11					
SEW	Seward	82.69 360	P	P	02 52 48.3	+0.5
	baz=0.5					
Q32M	Nakina River	82.69 351	P	P	02 52 46.6	-1.5
O20K	Slope Mountain	82.69 1	P	P	02 52 47.9	0.0
	baz=358					
SPMN	Marine on St.	82.74 323	P	P	02 52 48.8	+0.4
	baz=42					
KAIM	Kayak Island	82.76 357	P	P	02 52 49.1	+0.9
	baz=4.5					
P23K	Montague Islan	82.77 359	P	P	02 52 48.7	+0.4
	baz=2.1					
O18K	Koktuh Hills	82.85 3	P	P	02 52 48.0	-0.7
	baz=356					
DLBC	Dease Lake	82.89 349	LR	LR	03 33 29.6	
	comp=Z,84nm,19.1s,baz=92,slow=38					
O16K	Kokwok River B	82.98 4	P	P	02 52 48.7	-0.6
	baz=354					
JFWS	Jewell Farm	83.17 320	P	P	02 52 49.5	-1.1
	baz=44					
KMSC	Kings Mountain	83.54 310	P	P	02 52 53.2	+0.5
	baz=48					
S34M	Telegraph Cree	83.56 350	P	P	02 52 53.4	+1.1
S34M			IAmb	IAmb	02 52 59.0	
	comp=Z,12nm,0.9s					
S34M	Telegraph Cree	83.56 350	P	P	02 52 53.3	+0.9
	baz=15,SNR=7.9					
SJG	San Juan	83.77 288	LR	LR	03 28 02.9	
	comp=Z,33nm,19.9s,baz=66,slow=34					
I37A	Lemond, Waseca	83.92 323	P	P	02 52 54.1	-0.4
TZTN	Tazewell	83.93 312	P	P	02 52 54.8	+0.1
	baz=47					
Q16K	King Salmon	83.97 3	P	P	02 52 54.2	-0.2
	baz=355					
S31K	Pelican	84.13 353	P	P	02 52 54.2	-1.0
	baz=11					
WCI	Wyandotte Cave	84.36 315	P	P	02 52 56.5	-0.4
	baz=46					
HDIL	Hopedale	84.36 318	P	P	02 52 56.5	-0.3
	baz=44					
T50A	Nancy	84.36 313	IAmb	IAmb	02 52 58.0	
	comp=Z,7.4nm,0.8s					
TKL	Tuckaleechee C	84.67 311	LR	LR	03 30 43.0	
	comp=Z,53nm,19.0s,baz=166,slow=36					
SHEM	Shemya Is, Ala	84.86 21	LR	LR	03 35 06.4	
	comp=Z,56nm,19.3s,baz=312,slow=39					
SIT	Sitka	84.92 352	P	P	02 52 59.3	+0.1
	baz=12					
DGMT	Dagmar	85.11 331	P	P	02 53 01.2	+0.8
	baz=35					
U49A	Red Boiling Sp	85.26 313	IAmb	IAmb	02 53 02.7	
	comp=Z,14nm,1.0s					
ECSD	EROS Data Cent	85.66 324	P	P	02 53 02.6	-0.7
ECSD			IAmb	IAmb	02 53 04.0	
	comp=Z,5.1nm,0.8s					
ECSD	EROS Data Cent	85.66 324	P	P	02 53 02.9	-0.3
	baz=40					
T47A	Sharon Grove	85.69 314	IAmb	IAmb	02 53 04.3	
	comp=Z,12nm,0.8s					
CLTN	Cedars of Leba	85.87 313	IAmb	IAmb	02 53 12.3	
	comp=Z,17nm,1.3s					
GOGA	Godfrey	86.01 310	P	P	02 53 05.3	+0.1
	baz=47					
V35K	Ketchikan	86.13 350	P	P	02 53 04.7	-0.6
	baz=15					
SUSD	Miller	86.17 326	P	P	02 53 05.4	-0.4
	baz=38					
P40A	Paris	86.56 319	IAmb	IAmb	02 53 15.4	
	comp=Z,9.1nm,0.9s					
WVT	Waverly	86.71 314	P	P	02 53 06.7	-1.9
WVT	Waverly	86.71 314	P	P	02 53 08.1	-0.4
	baz=45					
WVT	Waverly	86.71 314	P	P	02 53 06.7	-1.9
FVM	French Village	86.83 317	IAmb	IAmb	02 53 14.0	
	comp=Z,10nm,1.0s					
CHIR	Chirikof Islan	86.87 3	P	P	02 53 08.1	-0.9
	baz=356					
CCM	Cathedral Cave	87.22 317	P	P	02 53 10.4	-0.5
CCM	Cathedral Cave	87.22 317	P	P	02 53 10.7	-0.3
	baz=43					
CCM	Cathedral Cave	87.22 317	P	P	02 53 10.5	-0.5
CCM			pmax	pmax		
	comp=Z,9.0nm,0.7s					
LAO	LASA Array	87.35 331	P	P	02 53 12.3	+0.8
	baz=33					
EGMT	Eagleton	87.50 334	P	P	02 53 13.0	+0.7
	baz=31					
BGNE	Belgrade	88.17 324	P	P	02 53 15.5	-0.1
	baz=39					
DWPF	Disney Wildern	88.30 305	P	P	02 53 16.1	-0.2
DWPF	Disney Wildern	88.30 305	P	P	02 53 16.8	+0.5
	baz=48					
LRAL	Lakeview Retre	88.41 311	P	P	02 53 16.8	+0.1
	baz=45					
MGMO	Mountain Grove	88.43 317	IAmb	IAmb	02 53 17.4	
	comp=Z,5.5nm,0.7s					
BBB	Bella Bella	88.58 347	LR	LR	03 34 28.1	
	comp=Z,86nm,18.8s,baz=130,slow=37					
RSSD	Black Hills	88.61 329	P	P	02 53 16.6	-1.1
RSSD			IAmb	IAmb	02 53 24.1	
	comp=Z,5.8nm,1.0s					
RSSD	Black Hills	88.61 329	P	P	02 53 18.1	+0.3
	baz=35					
RSSD	Black Hills	88.61 329	P	P	02 53 16.7	-1.1
RSSD			pmax	pmax		
	comp=Z,6.0nm,1.0s					
NEW	Newport	89.64 339	IAmb	IAmb	02 53 27.6	
	comp=Z,7.1nm,0.9s					
NEW	Newport	89.64 339	P	P	02 53 22.8	+0.4
	baz=26					
NEW	Newport	89.64 339	LR	LR	03 34 30.6	
	comp=Z,85nm,19.8s,baz=33,slow=36					
JCJ	Chichijima	89.67 56	LR	LR	03 38 12.1	
	comp=Z,48nm,18.6s,baz=80,slow=39					
BRAL	Brewton	89.75 310	P	P	02 53 23.7	+0.6
	baz=45					
RLMT	Red Lodge	89.81 332	IAmb	IAmb	02 53 29.2	
	comp=Z,9.5nm,0.8s					
RLMT	Red Lodge	89.81 332	P	P	02 53 23.6	+0.1
	baz=31					
MSO	Missoula	89.94 336	P	P	02 53 23.8	-0.1
	baz=28					
U38A	Gravette	90.09 318	IAmb	IAmb	02 53 24.9	
	comp=Z,5.7nm,0.6s					
BDFB	Brasilia	90.09 250	P	P	02 53 25.2	+0.3
	comp=Z,3.2nm,1.0s,baz=54,slow=7.1,SNR=5.0					
BDFB			LR	LR	03 35 59.8	
	comp=Z,108nm,18.1s,baz=72,slow=37					
	comp=Z,3.2nm,1.0s					
BOZ	Bozeman (W)	90.25 334	IAmb	IAmb	02 53 27.3	
	comp=Z,13nm,1.6s					
BOZ	Bozeman (W)	90.25 334	P	P	02 53 25.4	0.0
	baz=30					
DAV	Davao City (W)	90.26 81	LR	LR	03 40 13.3	
	comp=Z,65nm,18.4s,baz=348,slow=40					
OGNE	Ogallala	90.33 326	P	P	02 53 25.5	-0.3
	baz=36					
C09A	Chrisman Ranch	90.39 339	IAmb	IAmb	02 53 31.2	
	comp=Z,7.5nm,0.9s					
YHL	Hebgen Lake	90.74 333	IAmb	IAmb	02 53 33.8	
	comp=Z,7.5nm,1.0s					
K22A	Casper	90.84 329	IAmb	IAmb	02 53 32.6	
	comp=Z,8.2nm,0.9s					
K22A	Casper	90.84 329	P	P	02 53 28.2	0.0
	baz=33					
H17A	Grant Village	90.92 333	P	P	02 53 28.2	-0.4
H17A			IAmb	IAmb	02 53 36.6	
	comp=Z,7.1nm,0.9s					
H17A	Grant Village	90.92 333	P	P	02 53 28.2	-0.4
	baz=30					
MIAR	Mount Ida	91.08 316	P	P	02 53 29.4	+0.1
	baz=41					
FLWY	Flagg Ranch	91.23 333	IAmb	IAmb	02 53 36.6	
	comp=Z,6.4nm,0.9s					
TUL3	Leonard	91.23 319	P	P	02 53 29.9	0.0
	baz=40					
IMW	Indian Meadow	91.48 333	IAmb	IAmb	02 53 37.5	
	comp=Z,9.0nm,1.1s					
FXWY	Fox Creek	91.73 333	IAmb	IAmb	02 53 38.8	
	comp=Z,3.8nm,0.8s					
TPAW	Teton Pass	91.83 333	IAmb	IAmb	02 53 34.7	
	comp=Z,4.3nm,0.7s					
PDAR	Pinedale Array	91.94 331	P	P	02 53 31.4	-1.9
PDAR	Pinedale Array	91.94 331	P	P	02 53 32.9	-0.5
	comp=Z,1.9nm,0.6s,baz=67,slow=4.9,SNR=21					
PDAR			LR	LR	03 37 16.0	
	comp=Z,60nm,18.6s,baz=185,slow=37					
	comp=Z,1.9nm,0.6s					
BW06	Boulder Array	91.94 331	P	P	02 53 32.6	-0.8
	baz=31					
N23A	Red Feather La	92.07 328	IAmb	IAmb	02 53 38.7	
	comp=Z,3.9nm,0.8s					
N23A	Red Feather La	92.07 328	P	P	02 53 33.4	-0.7
	baz=34					
BMO	Blue Mountains	92.77 337	IAmb	IAmb	02 53 41.5	
	comp=Z,3.9nm,0.8s					
ISCO	Idaho Springs	92.83 327	P	P	02 53 36.5	-1.2
	baz=34					
HLID	Hailey	92.99 335	P	P	02 53 37.4	-0.8
	baz=28					
WMOK	Wichita Mounta	93.69 320	IAmb	IAmb	02 53 45.9	
	comp=Z,3.7nm,0.9s					
WMOK	Wichita Mounta	93.69 320	P	P	02 53 40.6	-0.7
	baz=38					
HVU	Hansel Valley	93.98 333	IAmb	IAmb	02 53 47.9	
	comp=Z,6.4nm,0.9s					
SDCO	Great Sand Dun	94.49 326	P	P	02 53 44.1	-1.2
	baz=34					
T25A	Trinidad	94.50 325	P	P	02 53 44.7	-0.5
	baz=35					
S22A	4UR Ranch, Cre	95.07 327	P	P	02 53 47.0	-1.0
	baz=33					
WHTX	Lake Whitney,	95.12 317	P	P	02 53 47.3	-0.6
	baz=39					
WVOR	Wild Horse Val	95.37 337	P	P	02 53 49.4	+0.4
WVOR	Wild Horse Val	95.37 337	P	P	02 53 49.4	+0.4
WVOR			pmax	pmax		
	comp=Z,20nm,1.9s					
DUG	Dugway, Tooele	95.38 332	IAmb	IAmb	02 53 54.6	
	comp=Z,0.7nm,0.9s					
DUG	Dugway, Tooele	95.38 332	P	P	02 53 48.8	-0.3
	baz=29					
ELK	Elko	95.77 334	LR	LR	03 39 25.8	
	comp=Z,64nm,20.5s,baz=88,slow=37					
ABTX	Abilene, Hawle	95.79 319	P	P	02 53 50.8	-0.2
	baz=38					
SPR3	Spring Creek 3	96.99 333	IAmb	IAmb	02 54 02.8	
	comp=Z,3.9nm,1.1s					
YBH	Yreka Blue Hor	97.20 340	LR	LR	03 40 49.1	
	comp=Z,66nm,18.7s,baz=256,slow=37					
ANMO	Albuquerque	97.24 325	LR	LR	03 40 29.2	
	comp=Z,120nm,18.5s,baz=181,slow=37					
R11B	Troy Canyon, C	98.02 333	P	Pdif	02 54 00.6	-0.7
	baz=27					
TEIG	Tepich	98.23 303	LR	LR	03 34 57.4	
	comp=Z,37nm,21.9s,baz=222,slow=33					
NVAR	Mina Array Bea	98.89 335	LR	LR	03 41 11.2	
	comp=Z,91nm,19.1s,baz=90,slow=37					
TXAR	Lajitas Array	100.49 320	P	Pdif	02 54 12.3	0.0
	comp=Z,0.7nm,0.7s,baz=63,slow=4.8,SNR=13					
QSPA	South Pole Qui	127.40 180	PKP	PKPdf	02 59 27.7	-0.7
	comp=Z,1.5nm,0.9s,baz=194,slow=2.8,SNR=3.5					

DSN ***23*** *02:50:14.5±1.1,28°.05N×55°.24E,h10km,ML3.5/7,Error ellipse: s-maj=19.6km s-min=8.5km az=54.0*
IDC ***23*** *02:50:15.3±1.1,27°.57N×54°.88E,h0km,mb3.7/12, mbtmp3.7/13,ML3.6/1,Error ellipse: s-maj=23.0km s-min=20.8km az=138.0*
TEH ***23*** *02:50:17.0,27°.52N×54°.94E,h19km,ML3.7*
SGS ***23*** *02:50:18.1,27°.73N×55°.23E,h14km,Ml3.5*
OMAN ***23*** *02:50:21.6±1.3,27°.30N×54°.82E,h10km,mb4.9/1, ml3.5/11,Error ellipse: s-maj=13.4km s-min=6.5km az=11.0*

ISC 23 02:50:18.9±0.6,**27°.57N**±0°.04×**54°.92E**±0°.04,**h20km**,**n71**, σ1§**97**/85,**mb3.6**/12,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.50	282	Pg	Pb	02 50 28.1	-0.9
GENO	Geno	1.12	98	Pg	Pb	02 50 39.4	-0.3
IBND	Bandar-abas	1.44	94	Pg	Pn	02 50 45.1	+1.3
JHRM	Jahrom	1.51	309	Pg	Pb	02 50 47.5	+1.2
LMD1	Lamerd	1.58	262	Pg	Pn	02 50 48.1	+2.4
SHME	Shamm	1.86	144	P	Pn	02 50 50.3	+0.7
SHME				S	Sb	02 51 18.2	+3.2
SHME	Shamm	1.86	144	P	Pn	02 50 51.0	+1.4
SHME				S	Sb	02 51 16.6	+1.6
QIR1	Qir	1.89	299	Pn	Pn	02 50 51.8	+1.7
BANOM	Banah	2.05	143	P	Pn	02 50 53.7	+1.4
BANOM	Banah	2.05	143	P	Pn	02 50 54.1	+1.9
MASF	Masafi	2.45	153	P	Pn	02 50 59.9	+2.1
MSFE	Esma-Masafi	2.46	153	P	Pn	02 50 59.6	+1.7
MDH	Madha	2.57	151	P	Pn	02 51 00.7	+1.3
MDH	Madha	2.57	151	P	Pn	02 51 01.6	+2.1
NGRK	Negar Kerman	2.61	37	Pn	Pn	02 51 01.4	+1.1
UOSS	Minazif	2.85	156	P	Pn	02 51 04.6	+1.4
UOSS	Minazif	2.85	156	P	Pn	02 51 06.7	+3.4
FAQ	Al Faqa, Dubai	2.87	168	P	Pn	02 51 06.8	+3.3
FAQ	Al Faqa, Dubai	2.87	168	P	Pn	02 51 06.4	+2.8
TVBK	TV Kerman	2.90	33	Pn	Pn	02 51 06.1	+1.8
HATD	Hatta, Dubai	2.94	158	P	Pn	02 51 06.1	+1.7
HATD	Hatta, Dubai	2.94	158	P	Pn	02 51 07.9	+3.5
ASUD	Al Ashush, Dub	2.95	173	P	Pn	02 51 08.1	+3.5
ASUD	Al Ashush, Dub	2.95	173	P	Pn	02 51 08.3	+3.7
ASHO	Ashiyiah	3.04	160	P	Pn	02 51 08.0	+2.0
	SNR=29						
KHGB	Koh Gabri	3.11	26	Pn	Pn	02 51 08.7	+1.6
JASK	Jask - Hormozg	3.13	122	Pn	Pn	02 51 07.5	+0.4
JASK	Jask - Hormozg	3.13	122	P	Pn	02 51 07.6	+0.5
JASK				S	Sn	02 51 46.1	+2.2
CHMN	Cheshme madani	3.24	45	Pn	Pn	02 51 10.9	+2.0
ZRDN	Zarand Kerman	3.67	22	Pn	Pn	02 51 16.9	+2.1
SOHO	SOHO	3.71	157	P	Pn	02 51 17.8	+2.7
IMEH	Mehriz	3.82	356	Pn	Pn	02 51 18.5	+1.7
IBAF	Bafgh	4.05	8	Pn	Pn	02 51 21.3	+1.4
TRNA	Turayna	4.37	231	P	Pn	02 51 26.4	+2.3
	SNR=7.7						
TRNA				S	Sn	02 52 17.5	+3.1
KLNJ	Kolanjah	4.50	320	Pn	Pn	02 51 27.3	+1.0
SMRA	Abu-Samra	4.63	234	P	Pn	02 51 30.1	+2.4
SMRA				S	Sn	02 52 23.7	+2.8
IRAM	Ramesheh	4.77	333	Pn	Pn	02 51 31.9	+2.0
HOFOF	Al Hofuf	4.99	246	P	Pn	02 51 35.1	+2.5
BSY	Bisya	5.22	156	P	Pn	02 51 38.4	+2.5
BSY				S	Sn	02 52 36.0	+0.4
BOQSS		5.24	252	P	Pn	02 51 38.1	+2.0
SMDO	Samad	5.30	147	P	Pn	02 51 39.8	+2.7
SMDO				S	Sn	02 52 38.9	+1.2
IBRJ	Brojen	5.37	325	Pn	Pn	02 51 40.1	+1.9
WSAR	Wadi Sarin	5.46	141	Pn	Pn	02 51 39.9	+0.8
	1.8nm,0.3s,baz=322,slow=6.1,SNR=22						
WSAR				Sn	Sn	02 52 40.0	-1.4
	1.1nm,0.3s,baz=225,slow=17,SNR=3.0						
	4.7nm,0.3s						
ANAR	Anarak	5.70	350	Pn	Pn	02 51 44.6	+2.1
WANAN	Al Wanan	5.78	265	P	Pn	02 51 45.3	+1.8
WANAN	Al Wanan	5.78	265	S	Sn	02 52 50.6	+1.4
JMDO	Jabal Madar	5.92	150	P	Pn	02 51 47.2	+1.7
JMDO				S	Sn	02 52 53.9	+1.0
NHRD	Haradh	6.02	243	P	Pn	02 51 49.2	+2.4
WBK	Wadi Bani Khal	6.15	142	P	Pn	02 51 49.7	+1.1
	SNR=12						
IPIR	Pirpir	6.18	327	Pn	Pn	02 51 51.3	+2.0
KBD	Kabd	6.57	286	P	Pn	02 51 56.3	+2.0
JLN	Jalan Bani Buh	6.76	142	P	Pn	02 51 56.9	0.0
JLN				S	Sn	02 53 16.9	+3.5
MHTO	MHTO	7.11	156	P	Pn	02 52 04.3	+2.5
MHTO				S	Sn	02 53 23.6	+1.5
KHRJ	Al Kharj	7.51	242	P	Pn	02 52 08.5	+1.1
DOK	Doka	8.94	185	P	Pn	02 52 27.7	+0.8
RAYN	Ar Rayn	9.41	247	P	Pn	02 52 33.7	+0.2
RAYN				S	Sn	02 54 15.4	-3.3
WHFO	Wadi Hawf	9.66	187	P	Pn	02 52 37.1	+0.2
	SNR=6.4						
WHFO				S	Sn	02 54 21.4	-3.4
ABTO	Aybut	10.27	189	P	Pn	02 52 44.6	-0.7
ABTO				S	Sn	02 54 37.2	-2.7
BRTR	Keskin Array B	21.41	310	P	P	02 55 06.4	+0.8
	1.6nm,0.7s,baz=133,slow=14,SNR=17						
	1.6nm,0.7s						
BVAR	Borovoye Array	27.91	20	P	P	02 56 08.0	+0.5
	1.1nm,0.7s,baz=207,slow=6.2,SNR=5.5						
	1.1nm,0.7s						
MKAR	Makanchi Array	28.82	41	P	P	02 56 16.1	+0.4
	0.4nm,0.7s,baz=231,slow=11,SNR=1.9						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	29.19	32	P	P	02 56 17.7	-1.1
	0.3nm,0.5s,baz=224,slow=10,SNR=2.1						
	0.3nm,0.5s						
AKASG	Malin Array Be	30.24	327	P	P	02 56 27.6	-0.5
	0.1nm,0.3s,baz=142,slow=9.1,SNR=1.9						
	0.1nm,0.3s						
ZALV	Zalesovo Beam	34.29	32	P	P	02 57 02.4	-1.2
	1.4nm,0.6s,baz=253,slow=9.4,SNR=5.6						
	1.4nm,0.6s						
FINES	FINESS Array B	38.98	338	P	P	02 57 43.5	+0.1
	1.5nm,0.8s,baz=146,slow=12,SNR=5.1						
	1.5nm,0.8s						
HFS	Hagfors	42.89	331	P	P	02 58 14.0	-1.7
	1.0nm,0.6s,baz=117,slow=9.0,SNR=4.8						
	1.0nm,0.6s						
NB2	NORSAR Subarra	44.40	331	P	P	02 58 26.8	-1.1
	comp=Z,0.4nm,0.6s,baz=114,slow=7.9						
NOA	NORSAR Array B	44.40	331	P	P	02 58 25.8	-2.2
	comp=Z,0.5nm,0.6s,baz=120,slow=7.4,SNR=4.1						
	comp=Z,0.5nm,0.6s						
ESDC	Sonseca Array	49.70	300	P	P	02 59 08.7	-1.0
	comp=Z,0.2nm,0.4s,baz=68,slow=7.4,SNR=7.4						
	comp=Z,0.2nm,0.4s						
TORD	Torodi Ar. Bea	51.56	265	P	P	02 59 23.6	-0.3
	comp=Z,0.7nm,0.6s,baz=70,slow=10,SNR=5.8						
	comp=Z,0.7nm,0.6s						
BOSA	Boshof	62.68	209	P	P	03 00 41.1	-1.4
	comp=Z,3.4nm,1.0s,baz=23,slow=7.7,SNR=3.0						
	comp=Z,3.4nm,1.0s						

AFAD ***23*** *02:54:17.3±0.0,35°.92N×30°.83E,h31km±2km,MW3.5*
ISK ***23*** *02:54:17.1,35°.93N×30°.77E,h11km,ML3.2/38*
NIC ***23*** *02:54:19.8,35°.74N×30°.61E,h18km±1km,Ml2.8/11*
IDC ***23*** *02:54:24.0±3.2,36°.01N×31°.24E,h102km±40km,mb3.2/3, mbtmp3.4/5,Error ellipse: s-maj=40.8km s-min=13.0km az=84.0*

ISC 23 02:54:16.8±1.3,**35°.98N**±0°.03×**30°.77E**±0°.02,**h7**km±10km, **n77**,σ1§**36**/100,**mb3.5**/3,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	Antalya-Kumluc	0.49	315	P	Pn	02 54 29.6	-0.6
AKUM				S	Sb	02 54 37.8	+2.8
AKUM				*i* AML	AML	02 54 41.0	
	comp=N,2μm,0.6s						
AKUM				*i* AML	AML	02 54 41.0	
	comp=E,2μm,0.7s						
ANTB	Antalya	0.92	354	Pg	Pb	02 54 36.0	+0.9
ANTB				Sg	Sn	02 54 50.5	+0.8
MNVG	Manavgat-Antal	0.97	33	Pg	Pn	02 54 37.1	+0.3
AKAS	Kas	0.97	285	Pg	Pn	02 54 37.3	+0.3
AKAS				Sg	Sn	02 54 51.1	0.0
AKAS	Kas	0.97	285	P	Pb	02 54 36.7	+0.6
KSL	Kastellorizon	0.97	280	P	Pn	02 54 37.5	+0.7
KSL				S	Sn	02 54 51.3	+0.4
KSL				AML	AML	02 55 05.0	
	0.4nm,0.6s						
KSL				AML	AML	02 55 07.4	
	0.9nm,0.6s						
ELL	Elmali	1.03	318	Pg	Pn	02 54 37.9	+0.1
ELL				Sg	Sn	02 54 53.4	+0.8
ELL	Elmali	1.03	318	S	Sn	02 54 57.5	+4.9
ELL				AML	AML	02 55 00.5	
	3.6nm,0.8s						
ELL				AML	AML	02 55 03.2	
	3.6nm,1.0s						
KORT	Korkueli	1.07	342	Pn	Pn	02 54 38.8	+0.4
KORT				Sn	Sn	02 54 54.8	+1.2
KORT	Korkueli	1.07	342	P	Pn	02 54 39.2	+0.8
ALAN	Alanya-ANTALYA	1.17	60	Pn	Pb	02 54 40.1	+0.7
GAZI	Gazipasa	1.28	78	Pn	Pg	02 54 41.1	-0.3
GAZI	Gazipasa	1.28	78	P	Pg	02 54 40.3	-1.1
GAZI				S	Sg	02 54 56.8	-1.1
GAZI				*i* AML	AML	02 54 58.0	
	comp=N,440nm,0.8s						
KNIK	Mula-Seydike	1.29	312	P	Pn	02 54 42.8	+1.4
KNIK				S	Sb	02 54 58.4

ALFC S **Sg** **02 55 11.8 +0.2**
ALFC AML AML 02 55 23.1
0.6nm,0.3s
ALFC AML AML 02 55 25.1
0.6nm,0.7s
BOZY Bozyazi-Mersin 1.79 85 Pn **Pn** **02 54 48.8 +0.7**
NATA Nata 1.90 129 S **Sn** **02 55 15.4 +1.6**
NATA AML AML 02 55 31.0
1.5nm,0.7s
NATA AML AML 02 55 35.2
1.9nm,1.0s
APMY Acipayam-Deniz 1.90 322 Pn **Pn** **02 54 50.9 +1.2**
APMY Sn **Sb** **02 55 15.7 -0.1**
TEKE Tekeli-Mersin 1.91 84 Pn **Pn** **02 54 50.6 +0.9**
TEKE Sn **Sn** **02 55 15.2 +1.2**
DNZT Denizli-Tavas- 1.91 313 P **Pn** **02 54 50.1 +0.2**
DNZT P **Pb** **02 54 51.1 -0.9**
AKDN Akdeniz- Kıbrı 1.92 110 Pn **Pn** **02 54 50.4 +0.6**
LEF Lefka 1.93 116 Pn **Pn** **02 54 49.9 -0.1**
TROD Troodos 2.00 120 P **Pn** **02 54 51.9 +0.8**
TROD S **Sn** **02 55 18.1 +1.6**
TROD AML AML 02 55 34.1
0.3nm,0.5s
TROD AML AML 02 55 37.4
0.3nm,0.9s
TAVA DENIZLI_Tavas 2.10 315 P **Pb** **02 54 55.0 -0.3**
DNIZ Denizli-Tavas- 2.15 320 P **Pn** **02 54 52.9 -0.2**
DNIZ S **Sn** **02 55 19.9 -0.2**
DNIZ *i* AML AML 02 55 28.0
comp=N,230nm,0.6s
DNIZ *i* AML AML 02 55 31.0
comp=E,300nm,0.3s
ARG Arkhangelos 2.15 277 Pn **Pn** **02 54 54.1 +1.0**
ARG Arkhangelos 2.15 277 P **Pn** **02 54 53.6 +0.6**
ARG S **Sn** **02 55 19.7 -0.3**
ARG AML AML 02 55 50.9
0.2nm,0.9s
TURN Turunc 2.19 292 Pn **Pn** **02 54 54.6 +1.1**
TURN Turunc 2.19 292 P **Pn** **02 54 54.3 +0.8**
TEVE Tevekalti-Mers 2.21 77 Pn **Pn** **02 54 55.3 +1.3**
DOGA KONYA_Doganhis 2.24 18 P **Pn** **02 54 56.3 +1.8**
AKKU Akkuyu-Mersin 2.26 85 Pn **Pn** **02 54 56.1 +1.5**
AFYN Afyon-Dinar-K 2.30 355 P **Pn** **02 54 56.8 +1.5**
AFYN S **Sn** **02 55 23.3 -0.5**
AFYN *i* AML AML 02 55 27.0
comp=N,60nm,0.8s
ATHAL Athalassa 2.30 111 S **Sn** **02 55 26.7 +3.1**
ATHAL AML AML 02 55 37.1
0.6nm,0.5s
ATHAL AML AML 02 55 47.9
0.4nm,0.6s
YVAC Isparta, Yalva 2.32 9 P **Pn** **02 54 57.0 +1.5**
YVAC S **Sn** **02 55 24.0 -0.3**
YVAC *i* AML AML 02 55 28.0
comp=E,46nm,0.8s
CSS Mathiatis 2.33 115 Pn **Pn** **02 54 55.5 0.0**
CSS Mathiatis 2.33 115 P **Pn** **02 54 55.5 0.0**
CSS AML AML 02 55 45.8
0.2nm,0.8s
CSS AML AML 02 55 49.8
0.2nm,0.9s
KZIL AFYON_Kizioren 2.33 348 P **Pn** **02 54 56.4 +0.8**
KRMN Karaman 2.34 59 Pn **Pn** **02 54 57.5 +1.8**
KRMN Sn **Sn** **02 55 26.2 +1.5**
ASGA Asgata 2.35 120 P **Pn** **02 54 57.9 +2.1**
ASGA AML AML 02 55 42.9
0.2nm,0.8s
ASGA AML AML 02 55 45.3
0.2nm,0.6s
IKL Isikli 2.38 83 Pn **Pn** **02 54 57.7 +1.5**
KEBE Keben-Mersin 2.43 78 Pn **Pn** **02 54 58.2 +1.3**
MVOU Mavrovouni 2.53 112 P **Pn** **02 54 58.3 +0.1**
MVOU AML AML 02 55 44.9
0.2nm,0.9s
MVOU AML AML 02 55 46.9
0.2nm,0.6s
PASA Karahalli, USA 2.58 337 P **Pn** **02 54 59.9 +0.9**
SILI Silifke-Mersin 2.58 80 Pn **Pn** **02 55 00.4 +1.4**
DATC Datca-Mugla 2.63 288 Pn **Pn** **02 55 00.9 +1.3**
DAT Datca 2.68 287 Pn **Pn** **02 55 01.4 +0.9**
KIZK Mersin 2.77 79 Pn **Pn** **02 55 03.1 +1.5**
EREN Erenkoy 2.80 98 Pn **Pn** **02 55 03.3 +1.3**
KARP Karpathos 2.96 263 Pn **Pn** **02 55 05.6 +1.3**
KARP Karpathos 2.96 263 P **Pn** **02 55 04.9 +0.6**
BODT Bodrum 2.99 292 Pn **Pn** **02 55 05.7 +1.1**
YESY Yesilyurt 2.99 52 Pn **Pn** **02 55 06.5 +1.8**
GCAM G?zelcaml? 3.31 302 Pn **Pn** **02 55 10.8 +1.8**
CMRD Camardi-Nigde 3.78 62 Pn **Pn** **02 55 17.5 +1.9**
ZKR Zakros 3.81 258 Pn **Pn** **02 55 17.4 +1.5**
ZKR Zakros 3.81 258 P **Pn** **02 55 17.2 +1.3**
KOZT Kozan 4.33 68 Pn **Pn** **02 55 25.2 +2.1**
BRTR Keskin Array B 4.38 30 P **Pn** **02 55 24.7 +0.9**
1.6nm,0.4s,baz=212,slow=16,SNR=14
BRTR S **Sn** **02 56 14.2 -0.8**
5.6nm,0.5s,baz=200,slow=23,SNR=9.9
TAHT Tahtakopru-Hat 4.40 83 Pn **Pn** **02 55 26.0 +2.0**
MMAI Mount Meron Ar 4.84 126 P **Pn** **02 55 30.3 +0.3**
1.5nm,0.3s,baz=302,slow=12,SNR=8.4
MMAI S **Sn** **02 56 23.6 -2.8**
0.8nm,0.3s,baz=304,slow=14,SNR=1.2
FINES FINESS Array B 25.66 355 P **P** **02 59 43.5 -3.4**
0.6nm,0.4s,baz=151,slow=12,SNR=6.2
0.6nm,0.4s
ARCES ARCESS Array B 33.74 357 P **P** **03 00 55.5 -3.0**
0.2nm,0.3s,baz=172,slow=9.1,SNR=5.7
0.2nm,0.3s
TORD Torodi Ar. Bea 34.64 236 P **P** **03 01 06.5 -0.3**
0.4nm,0.8s,baz=40,slow=8.0,SNR=1.4
0.4nm,0.8s

*IDC **23** 03:05:12.0±1.9,8°.87N×76°.60W,h0km,mb3.7/6,*
mbtmp3.7/6,MS3.3/1,Error ellipse: s-maj=85.8km
s-min=23.8km az=41.0
*RSNC **23** 03:05:19.0±0.0,9°.N±1°×7°.6W±°,h21km±3km,M3.0,mb4.8,*
mB4.8,ML3.0,Mw(mB)4.1
ISC 23 03:05:15.1±2.0,9°.21N±0°.03×76°.17W±0°.03,h15km±13km,
n31,σ1°35/51,mb3.7/6,Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCBC	**Los crdobas,**	**0.40**	**208**	P	**Pn**	**03 05 26.0**	**-0.4**
LCBC				S	**Sn**	**03 05 35.0**	**+1.4**
SJCC	**San Jacinto, C**	**1.19**	**55**	P	**Pn**	**03 05 37.6**	**+0.3**
SJCC				S	**Sn**	**03 05 53.6**	**+0.3**
CAPC	**Capurgana**	**1.30**	**244**	P	**Pn**	**03 05 37.9**	**-0.8**
CAPC				S	**Sn**	**03 05 55.1**	**-0.7**
APAC	**Apartado, Choc**	**1.36**	**197**	P	**Pn**	**03 05 40.0**	**+0.4**
APAC				S	**Sg**	**03 05 59.9**	**+0.7**
UREC	**San Jos de Ur**	**1.58**	**156**	P	**Pn**	**03 05 42.3**	**-0.4**
UREC				S	**Sb**	**03 06 04.3**	**+0.3**
ARGC	**Ariguani, Magd**	**2.01**	**71**	P	**Pn**	**03 05 49.2**	**+0.7**
ARGC				S	**Sn**	**03 06 14.3**	**+1.0**
ZARC	**Zaragoza, Cauc**	**2.15**	**143**	P	**Pn**	**03 05 50.7**	**+0.3**
ZARC				S	**Sn**	**03 06 16.9**	**+0.1**
ZARC				S	**Sn**	**03 06 16.9**	**+0.1**
DBBC	**Dabeiba**	**2.18**	**181**	P	**Pn**	**03 05 49.9**	**-1.0**
DBBC				S	**Sn**	**03 06 15.8**	**-1.9**
PTAC	**Punta Ardita,**	**2.61**	**218**	P	**Pb**	**03 06 01.4**	**-0.3**
PTAC				S	**Sn**	**03 06 29.1**	**+0.8**
SMRC	**Santa Marta, M**	**2.73**	**45**	P	**Pb**	**03 06 01.6**	**-2.0**
SMRC				S	**Sn**	**03 06 30.9**	**-0.2**
OCAC	**Ocana**	**2.98**	**109**	P	**Pn**	**03 06 02.6**	**+0.6**
OCAC				S	**Sn**	**03 06 37.5**	**-0.2**
PTBC	**PUERTO BERRIO,**	**3.15**	**147**	P	**Pn**	**03 06 04.1**	**-0.2**
PTBC				S	**Sn**	**03 06 40.6**	**-1.1**
BCIP	**Isla Barro Col**	**3.62**	**270**	P	**Pn**	**03 06 11.5**	**+0.9**
BCIP				S	**Sn**	**03 06 53.0**	**-0.1**
CRJC	**Cerrejon, Guaj**	**3.71**	**61**	P	**Pn**	**03 06 12.2**	**+0.3**
CRJC				S	**Sn**	**03 06 53.6**	**-1.8**
NORC	**Norcasia**	**3.85**	**160**	P	**Pn**	**03 06 13.6**	**-0.3**
NORC				S	**Sn**	**03 06 59.2**	**+0.3**
PAMC	**Pamplona, Colo**	**3.91**	**118**	P	**Pn**	**03 06 16.0**	**+0.9**
PAMC				S	**Sn**	**03 07 01.4**	**+0.4**
SPBC	**San Pablo de B**	**4.11**	**149**	P	**Pn**	**03 06 19.6**	**+2.2**
SPBC				S	**Sn**	**03 07 03.9**	**-1.4**
PLMC	**San Jos del P**	**4.28**	**181**	P	**Pn**	**03 06 21.4**	**+1.6**
ROSC	**El Rosal**	**4.72**	**157**	Pn	**Pn**	**03 06 28.6**	**+2.5**
	1.4nm,0.3s,baz=102,slow=19,SNR=1.7						
ROSC				Lg	Lg	03 07 40.2	
	5.7nm,0.3s,baz=0.0,slow=20,SNR=2.5						
URIC	**Uribia, Colomb**	**4.80**	**59**	P	**Pn**	**03 06 31.2**	**+4.3**
URIC				S	**Sn**	**03 07 20.2**	**-2.1**
TAMC	**Tame, Arauca**	**5.14**	**122**	P	**Pn**	**03 06 32.5**	**+0.8**
	48nm,0.7s,1μm						
SDV	**Santo Domingo**	**5.48**	**93**	P	**Pn**	**03 06 36.6**	**+0.1**
	101nm,0.7s,1μm						
SDV				S	**Sn**	**03 07 36.8**	**-2.6**
	101nm,0.7s,1μm						
VILC	**Villavicencio,**	**5.63**	**154**	P	**Pn**	**03 06 38.6**	**+0.1**
PTGC	**Puerto Gaitan,**	**6.40**	**141**	P	**Pn**	**03 06 48.8**	**-0.1**
PTGC				S	**Sn**	**03 08 00.6**	**-1.1**
TXAR	**Lajitas Array**	**32.62**	**312**	P	**P**	**03 11 46.0**	**-0.6**
	0.6nm,0.9s,baz=131,slow=4.9,SNR=4.7						
	0.6nm,0.9s						
BDFB	**Brasilia**	**37.25**	**131**	P	**P**	**03 12 25.4**	**-1.3**
	1.4nm,0.6s,baz=299,slow=6.4,SNR=3.0						
	1.4nm,0.6s						
ULM	**Lac du Bonnet**	**44.06**	**342**	P	**P**	**03 13 21.2**	**-1.1**
	1.3nm,0.6s,baz=143,slow=7.7,SNR=2.2						
	1.3nm,0.6s						
PDAR	**Pinedale Array**	**44.38**	**325**	P	**P**	**03 13 25.7**	**+0.3**
	0.4nm,0.6s,baz=120,slow=8.8,SNR=4.7						
	0.4nm,0.6s						
BBTS	**Babate**	**58.47**	**78**	LR	LR	03 41 43.5	
	comp=Z,23nm,18.6s,baz=324,slow=37						
YKA	**Yellowknife Ar**	**60.00**	**341**	P	**P**	**03 15 20.3**	**-0.6**
	1.2nm,0.8s,baz=137,slow=10,SNR=4.6						
	1.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.23**	**79**	P	**P**	**03 17 07.2**	**+3.6**
	0.2nm,0.5s,baz=278,slow=4.2,SNR=5.1						
	0.2nm,0.5s						

IDC 23 03:06:54.3±12.0,25°.09S×178°.71W,h398km±119km,
mb2.9/3,mbtmp3.7/4,Error ellipse: s-maj=77.3km
s-min=45.9km az=39.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.60**	**194**	P	P	03 09 51.6	+0.1
	1.2nm,0.3s,baz=345,slow=4.3,SNR=9.3						
URZ				S	S	03 12 14.5	-3.6
	5.0nm,0.7s,baz=53,slow=18,SNR=2.2						
STKA	**Stephens Creek**	**35.40**	**250**	P	P	03 13 15.4	+1.0
	1.3nm,0.5s,baz=75,slow=12,SNR=3.0						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**43.02**	**262**	P	P	03 14 16.8	-0.1
	0.2nm,0.4s,baz=99,slow=7.4,SNR=5.1						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.51**	**267**	P	P	03 14 20.1	-0.6
	0.4nm,0.4s,baz=100,slow=6.9,SNR=22						
	0.4nm,0.4s						
HFS	**Hagfors**	**143.93**	**349**	PKP	PKPdf	03 25 42.0	-0.4
	1.8nm,0.9s,baz=29,slow=3.3,SNR=4.8						

*IDC **23** 03:10:20.5±1.7,20°.53S×169°.36E,h0km,mb3.7/3,*
mbtmp3.7/4,ML3.3/1,MS3.2/3,Error ellipse: s-maj=46.2km
s-min=37.4km az=171.0
*NOU **23** 03:10:21.1,20°.55S×169°.29E,h0km,MLv4.0/8,Vanuatu*
Islands
ISC 23 03:10:26.5±1.4,20°.6S±0°.1×169°.2E±0°.1,h35km,n15,
σ1°04/14,mb3.5/3,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.35**	**231**	P	**Pn**	**03 10 48.2**	**-0.7**
LIFNC	**LIFOU**	**1.81**	**265**	P	**Pn**	**03 10 53.9**	**-1.2**
YATNC	**Mamie plateau,**	**2.55**	**236**	P	**Pn**	**03 11 05.1**	**-0.2**
DZM	**Mont Dzumac**	**2.91**	**240**	P	**Pn**	**03 11 10.3**	**-0.1**
DZM	**Mont Dzumac**	**2.91**	**240**	Pn	**Pn**	**03 11 10.2**	**-0.2**
	4.0nm,0.3s,baz=99,slow=12,SNR=33						
DZM				Sn	**Sn**	**03 11 43.3**	**-0.9**
	41nm,0.3s,baz=179,slow=22,SNR=14						
DZM				LR	LR	03 11 55.7	
	comp=Z,132nm,21.7s,baz=126,slow=30						
	12nm,0.4s						
ONTNC	**Ouen Toro**	**3.02**	**236**	P	**Pn**	**03 11 12.9**	**+1.0**
NOUC	**Port Laguerre**	**3.04**	**241**	P	**Pn**	**03 11 12.5**	**+0.4**
KOUNC	**Koumac, New Ca**	**4.57**	**270**	P	**Pn**	**03 11 34.3**	**+1.2**
URZ	**Urewera**	**18.86**	**160**	LR	LR	03 20 57.4	
	comp=Z,91nm,18.6s,baz=32,slow=34						
WRA	**Warramunga Arr**	**32.64**	**265**	P	**P**	**03 16 55.2**	**-0.1**
	0.3nm,0.8s,baz=92,slow=8.1,SNR=1.9						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**32.75**	**258**	P	**P**	**03 16 58.1**	**+1.9**
	0.5nm,0.8s,baz=85,slow=7.9,SNR=4.1						
	0.5nm,0.8s						
QSPA	**South Pole Qui**	**69.42**	**180**	P	**P**	**03 21 31.0**	**+0.1**
	3.7nm,1.1s,baz=29,slow=1.5,SNR=5.9						
	3.7nm,1.1s						
TIXI	**Tiksi**	**96.09**	**348**	LR	LR	04 07 10.1	
	comp=Z,27nm,18.4s,baz=182,slow=36						
EKA	**Eskdalemuir Ar**	**144.88**	**352**	PKP	**PKPab**	**03 29 56.9**	**-1.7**
	0.2nm,0.3s,baz=358,slow=2.6,SNR=6.2						
GERES	**GERESS Array B**	**145.68**	**331**	PKPbc	**PKPdf**	**03 30 01.5**	**+0.3**
	0.4nm,0.8s,baz=36,slow=1.8,SNR=4.2						

NEIC 23 03:19:57.9±1.1,32°.32N±0°.02×97°.492W±0°.009,h5km±1km,
mb_Lg2.4/34,ML2.3/18,Error ellipse: s-maj=2.9km
s-min=2.6km az=183.0,Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FW13	**Cleburne**	**0.06**	**55**	Pg	Pg	03 19 58.8	-0.6
FW13				Sg	Sg	03 20 00.0	-0.4
FW14	**Alvarado**	**0.27**	**72**	Pg	Pg	03 20 02.6	-0.5
FW14				Sg	Sg	03 20 06.0	-0.6
WHTX	**Lake Whitney,**	**0.33**	**175**	Pg	Pg	03 20 03.4	-0.8
WHTX				Sg	Sg	03 20 07.7	-0.8
WHTX				IAML		03 20 10.3	
comp=N,266nm,0.6s							
FW07	**Weatherford**	**0.46**	**327**	Pg	Pg	03 20 06.3	-0.5
FW07				Sg	Sg	03 20 12.8	+0.1
FW07				IAML		03 20 13.9	
comp=N,353nm,0.1s							
FW07				IAML		03 20 21.1	
comp=N,376nm,0.6s							
FW16	**Waxahatchie**	**0.53**	**72**	Pg	Pg	03 20 07.3	-0.8
FW16				Sg	Sg	03 20 14.8	-0.2
FW16				IAML		03 20 24.4	
comp=N,120nm,0.8s							
FW16				IAML		03 20 26.5	
comp=N,175nm,1.1s							
FW06	**Azle**	**0.66**	**355**	Pg	Pg	03 20 09.3	-1.2
FW06				Sg	Sg	03 20 18.8	-0.3
FW06				IAML		03 20 31.4	
comp=N,116nm,0.6s							
PLPT	**Palo Pinto**	**0.85**	**306**	Pg	Pg	03 20 13.5	-0.8
PLPT				Sg	Sg	03 20 24.4	-1.0
FW03	**Perrin-Whitt E**	**0.87**	**326**	Pg	Pg	03 20 14.2	-0.4
FW03				Sg	Sg	03 20 25.6	-0.3
FW03				IAML		03 20 27.9	
comp=N,136nm,0.4s							
FW03				IAML		03 20 30.3	
comp=N,97nm,0.4s							
Z35A	**Perchaven, San**	**1.03**	**11**	Pg	Pg	03 20 16.7	-1.0
Z35A				Sg	Sg	03 20 30.3	-0.8
Z35A				IAML		03 20 35.4	
comp=N,60nm,0.3s							
Z35A				IAML		03 20 35.5	
comp=E,77nm,0.5s							
TREL	**Terrell**	**1.25**	**70**	Pg	Pg	03 20 20.7	-1.2
237A	**Washetta, Mont**	**1.46**	**102**	Pg	Pn	03 20 24.4	-0.6
237A				IAmb_Lg		03 20 45.4	
comp=Z,22nm,0.8s							
435B	**Jarrell**	**1.53**	**183**		Pn	03 20 25.4	-0.5
BRDY	**Brady**	**1.64**	**232**	Pn	Pn	03 20 26.7	-0.8
WTFS	**Witchita Falls**	**1.66**	**331**	Pn	Pn	03 20 27.6	-0.1
LOOK	**Love County**	**1.69**	**9**	Pn	Pn	03 20 28.4	+0.3
LOOK				IAmb_Lg		03 20 51.8	
comp=Z,17nm,1.2s							
ABTX	**Abilene, Hawle**	**1.84**	**280**	Pn	Pn	03 20 30.6	+0.4
X34A	**Smith Ranch, M**	**2.30**	**353**	Pn	Pn	03 20 34.4	-2.0
APMT	**Aspermont**	**2.43**	**295**	Pn	Pn	03 20 38.1	-0.2
APMT				IAmb_Lg		03 21 19.7	
comp=Z,14nm,0.9s							
MLDN	**Muldoon**	**2.55**	**172**	IAmb_Lg		03 21 24.5	
comp=Z,14nm,0.7s							
WMOK	**Wichita Mounta**	**2.65**	**336**	Pn	Pn	03 20 40.9	-0.4
JCT	**Junction City**	**2.69**	**228**	Pn	Pn	03 20 41.8	-0.2
JCT				IAmb_Lg		03 21 22.4	
comp=Z,16nm,0.8s							
W35A	**Tecumseh**	**2.88**	**10**	IAmb_Lg		03 21 36.9	
comp=Z,10nm,1.1s							
X37A	**Clayton**	**2.88**	**37**	Pn	Pn	03 20 43.8	-0.6
SN07	**Snyder 07**	**2.97**	**286**	Pn	Pn	03 20 46.0	+0.3
SN07				IAmb_Lg		03 21 36.7	
comp=Z,11nm,0.7s							
HNDO	**Hondo**	**3.17**	**209**	Pn	Pn	03 20 48.3	-0.2
HNDO				IAmb_Lg		03 21 43.7	
comp=Z,11nm,0.7s							
DKNS	**Dickens**	**3.18**	**296**	Pn	Pn	03 20 48.6	-0.1
POST	**Post**	**3.46**	**284**	Pn	Pn	03 20 52.7	+0.2
POST				IAmb_Lg		03 21 50.9	
comp=Z,10nm,0.9s							
SMWD	**Samnorwood**	**3.60**	**321**	IAmb_Lg		03 21 56.4	
comp=Z,8.3nm,0.9s							
WLAR	**White Oak Lake**	**3.93**	**68**	Pn	Pn	03 20 58.2	-0.6
WLAR				IAmb_Lg		03 22 07.6	
comp=Z,10nm,1.1s							
DRIO	**Del Rio**	**3.94**	**224**	Pn	Pn	03 20 59.3	+0.2
DRIO				IAmb_Lg		03 22 06.7	
comp=Z,8.0nm,0.8s							
MIAR	**Mount Ida**	**3.96**	**55**	Pn	Pn	03 20 58.8	-0.5
833A	**Chaparral WMA,**	**4.30**	**203**	Pn	Pn	03 21 03.9	-0.1
833A				IAmb_Lg		03 22 13.4	
comp=Z,7.1nm,0.9s							
AMTX	**Amarillo**	**4.33**	**307**	IAmb_Lg		03 22 23.1	
comp=Z,6.5nm,0.8s							
MNHN	**Monahans**	**4.59**	**259**	Pn	Pn	03 21 05.1	-2.9
MNHN				IAmb_Lg		03 22 31.1	
comp=Z,7.0nm,0.8s							
MSTX	**Muleshoe**	**4.73**	**292**	Pn	Pn	03 21 08.9	-1.0
HHAR	**Hobbs**	**4.93**	**36**	Pn	Pn	03 21 10.2	-2.5
WHAR	**Wooly Hollow**	**5.25**	**54**	Pn	Pn	03 21 16.9	-0.1
PECS	**Pecos**	**5.51**	**262**	Pn	Pn	03 21 17.8	-2.8
ALPN	**Alpine**	**5.60**	**251**	IAmb_Lg		03 23 03.9	
comp=Z,5.4nm,0.7s							
TX31	**Lajitas Ar. Si**	**6.09**	**242**	Pn	Pn	03 21 28.3	-0.3
TXAR	**Lajitas Array**	**6.09**	**242**	Pn	Pn	03 21 27.0	-1.6
MGMO	**Mountain Grove**	**6.46**	**40**	IAmb_Lg		03 23 30.6	
comp=Z,4.0nm,1.2s							

*CNRM **23** 03:27:42.7,36°.78N×11°.17W,h57km,ML3.5*
*LDG **23** 03:27:43.3±0.2,36°.92N×11°.11W,h10km,Ml3.3/6,Error*
ellipse: s-maj=4.4km s-min=3.8km az=53.0
*MDD **23** 03:27:43.0±0.4,36°.84N×11°.21W,h36km±16km,*
mb_Lg3.6/55,Error ellipse: s-maj=6.6km s-min=2.7km
az=68.0
*IGIL **23** 03:27:44.0,36°.82N×11°.16W,h40km,ML3.2*
*INMG **23** 03:27:44.3±1.2,36°.83N×11°.17W,h32km±15km,ML3.0,*
Error ellipse: s-maj=3.2km s-min=2.4km az=102.0
ISC 23 03:27:41.5±0.9,36°.84N±0°.04×11°.17W±0°.05,h35km,n130,
σ2°43/216,7C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.90**	**80**	*e*P	**Pn**	**03 28 13.0**	**+1.6**
PFVI				*e*S	**Sn**	**03 28 34.0**	**-0.1**
PFVI				A	A	03 28 35.0	
182nm,0.2s							
PFVI	**Vila Bisbo**	**1.90**	**80**	Sn	**Sn**	**03 28 33.5**	**-0.6**
PFVI	**Vila Bisbo**	**1.90**	**80**	P	**Pn**	**03 28 12.6**	**+1.2**
MORF	**Marmelete**	**2.07**	**76**	*e*P	**Pn**	**03 28 15.3**	**+1.6**
MORF				*e*S	**Sn**	**03 28 38.2**	**-0.1**
MORF				A	A	03 28 39.3	
199nm,0.1s							
MORF	**Marmelete**	**2.07**	**76**	*e*P	**Pn**	**03 28 15.4**	**+1.6**
MORF				*e*S	**Sn**	**03 28 38.2**	**-0.1**
MORF				IAML		03 28 40.8	
comp=N,415nm,0.4s							
PTEO	**Sao Teotonio**	**2.08**	**69⇑**	*i*P	**Pn**	**03 28 15.5**	**+1.6**
PTEO				*e*S	**Sn**	**03 28 38.6**	**+0.1**
PTEO				A	A	03 28 40.7	
comp=N,80nm,0.9s							
PNCL	**Nicolau / Gran**	**2.46**	**58**	*e*P	**Pn**	**03 28 20.8**	**+1.7**
PNCL				*e*S	**Sn**	**03 28 48.0**	**+0.1**
PNCL				A	A	03 28 51.7	
comp=N,37nm,0.1s							
PNCL	**Nicolau / Gran**	**2.46**	**58**	Pn	**Pn**	**03 28 20.7**	**+1.7**
PNCL				Sn	**Sn**	**03 28 47.7**	**-0.2**
LIS	**Lisbon**	**2.47**	**40**	*e*S	**Sn**	**03 28 47.9**	**-0.2**
LIS				IAML		03 28 51.8	
comp=E,191nm,0.3s							
MESJ	**Messejana**	**2.56**	**66**	*e*P	**Pn**	**03 28 22.0**	**+1.5**
MESJ				*e*S	**Sn**	**03 28 50.1**	**-0.2**
MESJ				A	A	03 28 54.0	
comp=E,31nm,0.1s							
MESJ	**Messejana**	**2.56**	**66**	*e*P	**Pn**	**03 28 22.0**	**+1.5**
MESJ				*e*S	**Sn**	**03 28 49.9**	**-0.4**
MESJ				IAML		03 28 51.3	
comp=E,26nm,0.1s							
PMAFR	**Mafra**	**2.59**	**35⇑**	*i*P	**Pn**	**03 28 22.2**	**+1.3**
PMAFR				*e*S	**Sn**	**03 28 50.9**	**-0.3**
PMAFR				A	A	03 28 53.2	
comp=E,157nm,0.2s							
PMAFR	**Mafra**	**2.59**	**35**	Pn	**Pn**	**03 28 22.2**	**+1.3**
PMAFR				Sn	**Sn**	**03 28 50.5**	**-0.7**
PCVE	**Castro Verde**	**2.62**	**71**	*e*P	**Pn**	**03 28 23.1**	**+1.7**
PCVE				*e*S	**Sn**	**03 28 51.7**	**-0.3**
PCVE				A	A	03 28 54.8	
comp=E,39nm,0.2s							
PCVE	**Castro Verde**	**2.62**	**71**	Pn	**Pn**	**03 28 23.0**	**+1.7**
PCVE				Sn	**Sn**	**03 28 50.9**	**-1.0**
PBDV	**Barranco-do-Ve**	**2.62**	**80**	*e*P	**Pn**	**03 28 23.4**	**+2.0**
PBDV				*e*S	**Sn**	**03 28 51.7**	**-0.3**
PBDV				A	A	03 28 54.7	
comp=E,65nm,0.2s							
PBDV	**Barranco-do-Ve**	**2.62**	**80**	Pn	**Pn**	**03 28 23.4**	**+2.0**
PBDV				Sn	**Sn**	**03 28 51.7**	**-0.3**
PBEJ	**Beja**	**2.89**	**65**	*e*P	**Pn**	**03 28 26.4**	**+1.4**
PBEJ				*e*S	**Sn**	**03 28 57.8**	**-0.7**
PBEJ				A	A	03 29 02.0	
comp=E,17nm,0.3s							
EVO	**Evora**	**3.02**	**55**	*e*P	**Pn**	**03 28 28.3**	**+1.4**
EVO				*e*S	**Sn**	**03 29 01.5**	**-0.4**
EVO				A	A	03 29 04.5	
comp=E,82nm,0.1s							
EVO	**Evora**	**3.02**	**55**	Pn	**Pn**	**03 28 27.9**	**+1.1**
EVO				Sn	**Sn**	**03 29 00.5**	**-1.3**
EGRO	**El Granado**	**3.02**	**76**	Pn	**Pn**	**03 28 28.5**	**+1.6**
EGRO				Sn	**Sn**	**03 29 00.9**	**-1.0**
EGRO	**El Granado**	**3.02**	**76**	⇑P	**Pn**	**03 28 28.5**	**+1.6**
EGRO				S	**Sn**	**03 29 01.6**	**-0.3**
EGRO				*i* Vmb_Lg		03 29 07.0	
PMTG	**Montargil**	**3.22**	**45⇑**	*e*P	**Pn**	**03 28 30.6**	**+1.0**
PMTG				*e*S	**Sn**	**03 29 06.8**	**0.0**
PMTG				A	A	03 29 08.7	
comp=E,16nm,0.3s							
PSBE	**So Bento**	**3.26**	**34⇑**	*i*P	**Pn**	**03 28 31.7**	**+1.5**
PSBE				*e*S	**Sn**	**03 29 07.9**	**+0.1**
PSBE	

COI				A	A	03 29 27.1	
	comp=E,36nm,0.4s						
PCBR	**Castelo Branco**	**4.17**	**43**	*e*P	**Pn**	**03 28 44.3**	**+1.6**
PCBR				*e*S	**Sn**	**03 29 29.1**	**-1.1**
PCBR				A	A	03 29 29.4	
	comp=E,7.9nm,0.2s						
ESPR	**Espera**	**4.26**	**88**	Pn	**Pn**	**03 28 45.9**	**+2.0**
ESPR				Sn	**Sn**	**03 29 31.5**	**-0.9**
ESPR	**Espera**	**4.26**	**88**	⇑P	**Pn**	**03 28 45.9**	**+2.0**
ESPR				S	**Sn**	**03 29 31.2**	**-1.2**
ESPR				*i* Vmb_Lg		03 29 33.7	
MTE	**Manteigas**	**4.55**	**37**	*e*P	**Pn**	**03 28 49.0**	**+1.0**
MTE				*e*S	**Sn**	**03 29 38.0**	**-1.7**
MTE				A	A	03 29 43.9	
	comp=E,13nm,0.7s						
EJIF	**Jimena Fronter**	**4.60**	**93**	P	**Pn**	**03 28 50.3**	**+1.7**
EJIF				S	**Sn**	**03 29 38.9**	**-1.9**
PVIS	**Viseu**	**4.64**	**32**	*e*P	**Pn**	**03 28 50.5**	**+1.3**
PVIS				*e*S	**Sn**	**03 29 40.8**	**-1.1**
PVIS				A	A	03 29 42.2	
	comp=E,21nm,0.3s						
AVE	**Averroes**	**4.68**	**138**	Sn	**Sn**	**03 29 40.8**	**-2.0**
AVE				Pn	**Pn**	**03 28 51.1**	**+1.4**
ECAB	**El Cabril**	**4.74**	**73**	Pn	**Pn**	**03 28 51.9**	**+1.4**
ECAB				Sn	**Sn**	**03 29 42.1**	**-2.2**
ECAB	**El Cabril**	**4.74**	**73**	P	**Pn**	**03 28 51.7**	**+1.2**
ECAB				S	**Sn**	**03 29 41.3**	**-2.9**
ECAB				*i* Vmb_Lg		03 29 44.5	
ECEU	**Ceuta**	**4.77**	**100**	P	**Pn**	**03 28 52.0**	**+1.2**
ECEU				S	**Sn**	**03 29 46.4**	**+1.5**
ZHG	**ZHG**	**5.02**	**131**	P	**Pn**	**03 28 55.1**	**+0.7**
ZHG	**ZHG**	**5.02**	**131**	S	**Sn**	**03 29 54.0**	**+2.8**
SRHM	**Skhour des Reh**	**5.12**	**147**	P	**Pn**	**03 28 58.0**	**+2.3**
EPLA	**Plasencia**	**5.13**	**50**	P	**Pn**	**03 28 57.0**	**+1.1**
EPLA				S	**Sn**	**03 29 51.7**	**-2.2**
EPLA				*i* Vmb_Lg		03 29 55.1	
PVRL	**Vila Real**	**5.18**	**30**	*e*P	**Pn**	**03 28 57.7**	**+1.1**
PVRL				*e*S	**Sn**	**03 29 52.6**	**-2.6**
PVRL				A	A	03 29 56.4	
	comp=E,16nm,0.1s						
POLO	**Lamas de Olo**	**5.24**	**29**	*e*P	**Pn**	**03 28 58.5**	**+1.1**
POLO				*e*S	**Sn**	**03 29 53.8**	**-2.8**
POLO				A	A	03 29 55.9	
	comp=E,5.8nm,0.2s						
EADA	**Adamuz**	**5.41**	**74**	Pn	**Pn**	**03 29 00.9**	**+1.2**
EADA				Sn	**Sn**	**03 29 57.8**	**-2.9**
EADA	**Adamuz**	**5.41**	**74**	P	**Pn**	**03 29 00.9**	**+1.2**
EADA				S	**Sn**	**03 29 58.4**	**-2.3**
EADA				*i* Vmb_Lg		03 30 02.1	
PCAB	**Cabril**	**5.45**	**26**	*e*P	**Pn**	**03 29 01.3**	**+1.1**
PCAB				*e*S	**Sn**	**03 29 58.6**	**-3.0**
PCAB				A	A	03 30 05.0	
	comp=E,20nm,0.3s						
ELOB	**Lobios**	**5.57**	**25**	P	**Pn**	**03 29 02.7**	**+0.7**
ELOB				S	**Sn**	**03 30 01.9**	**-3.0**
ELOB				*i* Vmb_Lg		03 30 04.5	
EZAM	**Zamans**	**5.64**	**19**	P	**Pn**	**03 29 03.2**	**+0.3**
EZAM				S	**Sn**	**03 30 03.0**	**-3.4**
EZAM				*i* Vmb_Lg		03 30 05.9	
PMPST	**Porto Santo, M**	**5.66**	**230**	*e*P	**Pn**	**03 29 02.9**	**-0.2**
PMPST				*e*S	**Sn**	**03 29 59.3**	**-7.6**
EGOR	**Sierra Gorda,**	**5.66**	**85**	Pn	**Pn**	**03 29 05.5**	**+2.2**
EGOR				Sn	**Sn**	**03 30 04.9**	**-2.2**
EGOR	**Sierra Gorda,**	**5.66**	**85**	P	**Pn**	**03 29 05.2**	**+1.9**
EGOR				S	**Sn**	**03 30 04.1**	**-3.0**
EGOR				*i* Vmb_Lg		03 30 12.2	
PMPS	**Porto Santo**	**5.67**	**230**	*e*P	**Pn**	**03 29 01.8**	**-1.5**
PMPS				*e*S	Sn	03 29 58.4	-8.8
IFR	**Ifrane**	**5.95**	**122**	Pn	**Pn**	**03 29 07.8**	**+0.5**
IFR				Sn	**Sn**	**03 30 08.5**	**-5.8**
PAB	**San Pablo**	**6.01**	**61**	P	**Pn**	**03 29 09.2**	**+1.1**
PAB				S	**Sn**	**03 30 12.5**	**-3.3**
PAB				*i* Vmb_Lg		03 30 15.9	
PBRG	**Braganca**	**6.03**	**33**	*e*P	**Pn**	**03 29 09.1**	**+0.8**
PBRG				*e*S	**Sn**	**03 30 12.8**	**-3.3**
PBRG				A	A	03 30 14.6	
	comp=E,11nm,0.2s						
LCRM	**LCR**	**6.04**	**119**	P	**Pn**	**03 29 09.1**	**+0.6**
LCRM				P		03 29 09.6	
LCRM	**LCR**	**6.04**	**119**	S	**Sn**	**03 30 16.3**	**-0.3**
ELGU	**Los Guajares,**	**6.05**	**87**	Sn	**Sn**	**03 30 12.5**	**-4.1**
ELGU				Pn	**Pn**	**03 29 10.1**	**+1.6**
ELGU	**Los Guajares,**	**6.05**	**87**	P	**Pn**	**03 29 10.3**	**+1.8**
ELGU				S	**Sn**	**03 30 13.2**	**-3.3**
ELGU				*i* Vmb_Lg		03 30 23.6	
PALE	**Palemas**	**6.08**	**103**	P	**Pn**	**03 29 08.9**	**0.0**
PALE	**Palemas**	**6.08**	**103**	S	**Sn**	**03 30 17.0**	**-0.2**
ECAL	**Calabor**	**6.15**	**33**	Pn	**Pn**	**03 29 10.9**	**+1.0**
ECAL				Sn	**Sn**	**03 30 14.8**	**-4.1**
ECAL	**Calabor**	**6.15**	**33**	P	**Pn**	**03 29 10.9**	**+1.0**
ECAL				S	**Sn**	**03 30 14.4**	**-4.6**
ECAL				*i* Vmb_Lg		03 30 19.9	
PSIM	**Granatula de C**	**6.19**	**69**	P	**Pn**	**03 29 11.5**	**+1.1**
PSIM				S	**Sn**	**03 30 16.3**	**-3.8**
EQUE	**Quentar**	**6.20**	**84**	P	**Pn**	**03 29 12.1**	**+1.5**
EQUE				S	**Sn**	**03 30 17.7**	**-2.5**
EQUE				*i* Vmb_Lg		03 30 23.9	
PMAR	**Madeira**	**6.26**	**231**	*e*P	**Pn**	**03 29 12.0**	**+0.5**
PMAR				*e*S	**Sn**	**03 30 16.0**	**-5.9**
PMAR				A	A	03 30 22.7	
	comp=E,12nm,0.2s						
PMAR	**Madeira**	**6.26**	**231**	P	**Pn**	**03 29 11.7**	**+0.2**
PMAR	**Madeira**	**6.26**	**231**	S	**Sn**	**03 30 21.3**	**-0.6**
FUL	**Funchal**	**6.29**	**230**	*e*P	**Pn**	**03 29 12.2**	**+0.4**
FUL				*e*S	**Sn**	**03 30 15.5**	**-7.0**
CZD	**Col de Zad**	**6.30**	**125**	P	**Pn**	**03 29 12.8**	**+0.6**
CZD	**Col de Zad**	**6.30**	**125**	S	**Sn**	**03 30 23.6**	**+0.5**
E0802	**Ubeda,Jaen**	**6.32**	**77**	P	**Pn**	**03 29 13.7**	**+1.5**
E0802				S	**Sn**	**03 30 19.3**	**-3.8**
EMAZ	**Mazaricos**	**6.33**	**15**	P	**Pn**	**03 29 12.4**	**+0.1**
EMAZ				S	**Sn**	**03 30 17.2**	**-6.3**
EMAZ				*i* Vmb_Lg		03 30 21.4	
ESDC	**Sonseca Array**	**6.34**	**61**	P	**Pn**	**03 29 12.8**	**+0.3**
ESDC				S	**Sn**	**03 30 20.0**	**-3.7**
PMOZ	**Porto Moniz, M**	**6.37**	**233**	*e*P	**Pn**	**03 29 13.6**	**+0.6**
PMOZ	**Porto Moniz, M**	**6.37**	**233**	Pn	**Pn**	**03 29 13.0**	**0.0**
PMOZ				Sn	**Sn**	**03 30 17.3**	**-7.2**
PMOZ	**Porto Moniz, M**	**6.37**	**233**	P	**Pn**	**03 29 13.4**	**+0.4**
PMOZ	**Porto Moniz, M**	**6.37**	**233**	S	**Sn**	**03 30 26.0**	**+1.4**
AKLM	**AKL**	**6.38**	**109**	P	**Pn**	**03 29 14.7**	**+1.6**
AKLM	**AKL**	**6.38**	**109**	S	**Sn**	**03 30 24.0**	**-0.8**
EAGO	**Agolada(Pontev**	**6.41**	**21**	P	**Pn**	**03 29 14.0**	**+0.6**
EAGO				S	**Sn**	**03 30 21.5**	**-3.9**
EAGO				*i* Vmb_Lg		03 30 25.1	
TISM	**Timmit**	**6.43**	**141**	P	**Pn**	**03 29 12.3**	**-1.3**
EQES	**Quesada**	**6.53**	**79**	P	**Pn**	**03 29 15.9**	**+0.8**
EQES				S	**Sn**	**03 30 26.0**	**-2.3**
EQES				*i* Vmb_Lg		03 30 28.2	
MD31	**MD31**	**6.59**	**125**	P	**Pn**	**03 29 16.5**	**+0.5**
EBER	**Berja**	**6.64**	**87**	P	**Pn**	**03 29 18.0**	**+1.3**
EBER				S	**Sn**	**03 30 29.8**	**-1.4**
EBER				*i* Vmb_Lg		03 30 41.5	
TTIG	**Tnine Tigouga,**	**6.67**	**159**	P	**Pn**	**03 29 15.3**	**-1.8**
GUD	**Guadarrama**	**6.67**	**53**	P	**Pn**	**03 29 18.3**	**+1.2**
GUD				S	**Sn**	**03 30 28.2**	**-3.7**
GUD				*i* Vmb_Lg		03 30 32.3	
MDT	**Midelt**	**6.72**	**125**	P	**Pn**	**03 29 18.0**	**+0.2**
TIO	**Tiouine**	**6.73**	**150**	Pn	**Pn**	**03 29 19.1**	**+1.2**
TIO				Sn	**Sn**	**03 30 28.0**	**-5.4**
TIO	**Tiouine**	**6.73**	**150**	P	**Pn**	**03 29 19.7**	**+1.7**
GOG	**Mont Gurugu**	**6.81**	**101**	P	**Pn**	**03 29 20.1**	**+1.0**
OUZM	**OUZ**	**6.95**	**147**	P	**Pn**	**03 29 22.9**	**+1.9**
UCM	**Universidad Co**	**7.11**	**58**	Pn	**Pn**	**03 29 24.6**	**+1.5**
UCM				Sn	**Sn**	**03 30 38.8**	**-3.8**
EPON	**Pontenova**	**7.18**	**24**	P	**Pn**	**03 29 24.6**	**+0.7**
EPON				S	**Sn**	**03 30 40.3**	**-4.0**
EPON				*i* Vmb_Lg		03 30 45.9	
GOLM	**Goulmima**	**7.26**	**133**	P	**Pn**	**03 29 27.2**	**+2.0**
EZAR	**Zarzadilla de**	**7.62**	**79**	P	**Pn**	**03 29 31.3**	**+1.3**
EZAR				S	**Sn**	**03 30 51.2**	**-4.0**
EZAR				*i* Vmb_Lg		03 31 04.5	
ETOB	**Tobarra**	**7.83**	**74**	Pn	**Pn**	**03 29 33.7**	**+0.7**
ETOB	**Tobarra**	**7.83**	**74**	P	**Pn**	**03 29 33.5**	**+0.5**
ETOB				S	**Sn**	**03 30 55.6**	**-4.9**
EARI	**Arriondas**	**7.91**	**33**	P	**Pn**	**03 29 35.4**	**+1.4**
EARI				*i* Vmb_Lg		03 30 53.3	
EARI				S	**Sn**	**03 30 57.1**	**-5.1**
ZGR	**Zagora**	**8.14**	**144**	P	**Pn**	**03 29 38.9**	**+1.6**
ETOR	**Torete**	**8.15**	**58**	P	**Pn**	**03 29 38.3**	**+0.9**
ETOR				S	**Sn**	**03 31 02.5**	**-5.7**
ETOR				*i* Vmb_Lg		03 31 19.2	
EVIV	**Cofrentes, Val**	**8.29**	**70**	P	**Pn**	**03 29 40.3**	**+1.1**
EVIV				S	**Sn**	**03 31 06.2**	**-5.5**
EVIV				*i* Vmb_Lg		03 31 11.6	
ECHE	**Chera**	**8.49**	**68**	Pn	**Pn**	**03 29 43.7**	**+1.7**
ECHE	**Chera**	**8.49**	**68**	P	**Pn**	**03 29 43.4**	**+1.5**
ECHE				*i* Vmb_Lg		03 31 08.3	
ECHE				S	**Sn**	**03 31 10.3**	**-6.2**
AFON	**Font Roja**	**8.62**	**75**	P	**Pn**	**03 29 44.1**	**+0.4**
E0901	**Celadas (Terue**	**8.66**	**62**	P	**Pn**	**03 29 46.0**	**+1.7**
E0901				S	**Sn**	**03 31 15.2**	**-5.6**
E0901				*i* Vmb_Lg		03 31 26.1	
ELAN	**Lanestosa**	**8.72**	**40**	P	**Pn**	**03 29 46.5**	**+1.4**
ELAN				S	**Sn**	**03 31 16.5**	**-5.6**
ELAN				*i* Vmb_Lg		03 31 28.8	
EMOS	**Mosqueruela**	**9.09**	**64**	P	**Pn**	**03 29 51.7**	**+1.4**
EMOS				S	**Sn**	**03 31 25.6**	**-5.7**
SJPF	**Ste Jean**	**9.87**	**48**	*e*Pn	**Pn**	**03 30 02.0**	**+1.1**
SJPF				*e*Sn	**Sn**	**03 31 45.1**	**-5.4**
	comp=E,1.4nm,0.4s						
ETSF	**Etsaut**	**10.15**	**50**	*e*Pn	**Pn**	**03 30 07.0**	**+2.2**
ETSF				*e*Sn	**Sn**	**03 31 52.1**	**-5.3**
	comp=E,0.9nm,0.3s						
EPF	**Esparros**	**10.78**	**51**	*e*Pn	**Pn**	**03 30 14.5**	**+1.1**
EPF				*e*Sn	**Sn**	**03 32 07.0**	**-5.8**
	comp=E,1.5nm,0.4s						
LFF	**La Frestale**	**12.11**	**44**	*e*Pn	**Pn**	**03 30 31.8**	**+0.4**
QUIF	**Quistinic**	**12.55**	**26**	*e*Pn	**Pn**	**03 30 37.7**	**+0.3**
QUIF				*e*Sn	Sn	03 32 44.9	-11
	comp=E,1.2nm,0.4s						
RJF	**Les Rejaudoux**	**12.76**	**45**	*e*Pn	**Pn**	**03 30 39.7**	**-0.7**
CAF	**Calviac**	**12.86**	**47**	*e*Pn	**Pn**	**03 30 41.9**	**+0.2**
ROSF	**Rostrenen**	**12.87**	**24**	*e*Pn	**Pn**	**03 30 42.5**	**+0.6**
ROSF				*e*Sn	Sn	03 32 51.9	-12
	comp=E,0.6nm,0.3s						
SGMF	**Saint Gilles**	**13.05**	**26**	*e*Pn	**Pn**	**03 30 44.4**	**+0.1**
TCF	**Toulx Ste Croi**	**13.75**	**42**	*e*Pn	**Pn**	**03 30 54.0**	**+0.1**
FLN	**La Foliniere**	**14.25**	**30**	*e*Sn	Sn	03 33 26.1	-11
	comp=E,0.9nm,0.3s						
PAGF	**Fort de Pagny**	**17.03**	**41**	*e*Pn	**P**	**03 31 45.2**	**+6.9**

ISN ***23*** *04:00:28.0±1.3, 34°.66N×46°.26E, h18km±16km, ML2.8*
TEH ***23*** *04:00:28.2, 34°.62N×46°.25E, h8km±31km, ML2.7*
ISC 23 04:00:29.0±1.6, 34°.62N±0°.05×46°.26E±0°.06, h15km±19km, n9, σ0ˢ53/11, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.13**	**54**	Pg	**Pb**	**04 00 32.4**	**-0.9**
IGHG	**Ghaleghazi**	**0.39**	**139**	Pg	**Pb**	**04 00 37.7**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.58**	**210**	Pg	**Pb**	**04 00 40.5**	**-0.5**
ILIN	**Lien**	**0.65**	**63**	Pg	**Pb**	**04 00 42.1**	**-0.1**
KCHF	**Cheshme Sefid,**	**0.73**	**118**	Pg	**Pb**	**04 00 43.0**	**-0.5**
SNQR	**Sonqor, Kerman**	**1.15**	**78**	Pg	**Pg**	**04 00 51.9**	**+0.6**
IBZA	**Bozab**	**1.33**	**96**	Pg	**Pg**	**04 00 54.7**	**0.0**
IBDR	**Badra**	**1.53**	**190**	*e*Pg	**Pn**	**04 00 56.0**	**+0.2**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**04 01 18.0**	**-0.4**
IKRK	**Kirkuk**	**1.75**	**297**	*e*Pn	**Pn**	**04 00 59.0**	**+0.2**
IKRK				*e*Sn	**Sb**	**04 01 23.0**	**+0.3**
IKRK				AML	AML	04 01 29.8	
	comp=E,144nm,1.4s						
IKRK				AML	AML	04 01 30.3	
	comp=N,101nm,0.3s						

CATAC ***23*** *04:05:58.6±0.6, 13°.93N×91°.49W, h17km±6km, ML3.7*
GCG ***23*** *04:05:59.4±1.5, 14°.06N×91°.61W, h62km±28km, MD3.7*
ISC 23 04:05:57.1±2.2, 13°.94N±0°.07×91°.48W±0°.07, h5km±15km, n26, σ0ˢ87/47, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.38**	**347**	*i* P	**Pn**	**04 06 09.9**	**+0.6**
RTAL	**Retalhuleu**	**0.62**	**340**	*i* P	**Pb**	**04 06 10.8**	**+0.3**
RTAL				*i* S	**Sb**	**04 06 20.2**	**+0.7**
RTAL				IAML		04 06 32.1	
	comp=Z,1μm,1.0s						
STG3	**Santiaguito 3,**	**0.77**	**353**	*i* P	**Pb**	**04 06 13.5**	**+0.3**
FUG	**Fuego 3**	**0.80**	**51**	*i* P	**Pn**	**04 06 15.4**	**+0.2**
SOKI	**Kika Raxquin**	**0.88**	**5**	*i* P	**Pb**	**04 06 15.0**	**-0.2**
SOKI				*i* S	**Sb**	**04 06 27.1**	**-0.3**
SOKI				IAML		04 06 29.4	
	comp=Z,2μm,1.0s						
CHTG	**Tecpan**	**0.95**	**30**	*i* P	**Pn**	**04 06 16.8**	**-0.6**
CHTG				*i* S	**Sn**	**04 06 30.3**	**-1.2**
CHTG				IAML		04 06 32.1	
	comp=Z,4μm,1.0s						
PCG	**Pacaya**	**0.96**	**62**	*i* P	**Pn**	**04 06 18.4**	**+0.9**
PCG				*i* S	**Sn**	**04 06 33.3**	**+1.6**
GUMI	**Mixco**	**1.09**	**50**	*i* P	**Pn**	**04 06 19.4**	**+0.2**
GUMI				*i* S	**Sn**	**04 06 34.1**	**-0.7**
GUMI				IAML		04 06 37.0	
	comp=Z,8μm,1.0s						
GCG4	**OSOP**	**1.12**	**55**	*i* P	**Pn**	**04 06 19.9**	**+0.2**
GCG4				*i* S	**Sn**	**04 06 36.2**	**+0.6**
GCG4				IAML		04 06 38.3	
	comp=Z,1μm,1.0s						
NBG	**Las Nubes**	**1.27**	**59**	*i* P	**Pn**	**04 06 23.9**	**+2.1**
NBG				*i* S	**Sn**	**04 06 41.9**	**+2.4**
HUEH	**Huehuetenango**	**1.37**	**359**	*i* P	**Pn**	**04 06 22.3**	**-0.9**
HUEH				*i* S	**Sn**	**04 06 40.9**	**-1.0**
HUEH				IAML		04 06 49.2	
	comp=Z,970nm,1.0s						
QUIS	**Sacapulas**	**1.40**	**16**	*i* P	**Pg**	**04 06 23.7**	**-0.2**
QUIS				IAML		04 06 24.3	
	comp=Z,2μm,1.0s						
QUIS				*i* S	**Sn**	**04 06 42.6**	**+0.2**
LOAL	**Lomas de Alarc**	**1.65**	**88**	*i* P	**Pn**	**04 06 26.8**	**0.0**
LOAL				IAML		04 06 34.7	
	comp=Z,2μm,1.0s						
LOAL				*i* S	**Sb**	**04 06 48.4**	**-0.8**
NUBE	**Las Nubes**	**1.65**	**91**	*i* P	**Pn**	**04 06 26.6**	**-0.3**
NUBE				*i* S	**Sn**	**04 06 46.8**	**-1.8**
NUBE				IAML		04 06 48.2	
	comp=Z,350nm,1.0s						
CEVE	**Cerro Verde**	**1.80**	**93**	*i* P	**Pn**	**04 06 29.2**	**+0.1**
CEVE				*i* S	**Sn**	**04 06 52.2**	**-0.4**
CEVE				IAML		04 06 55.5	
	comp=Z,450nm,1.0s						
UNIC	**Universidad Ca**	**1.87**	**88**	*i* P	**Pn**	**04 06 30.2**	**+0.3**
UNIC				*i* S	**Sb**	**04 06 54.6**	**-1.1**
UNIC				IAML		04 07 07.6	
	comp=Z,190nm,1.0s						
JAYA	**Jayaque - finc**	**1.99**	**98**	*i* P	**Pn**	**04 06 31.5**	**-0.1**
JAYA				*i* S	**Sn**	**04 06 55.6**	**-1.5**
JAYA				IAML		04 06 59.7	
	comp=Z,1μm,1.0s						
MTO3	**Montecristo**	**2.10**	**77**	*i* P	**Pn**	**04 06 33.3**	**0.0**
MTO3				IAML		04 07 03.9	
	comp=Z,140nm,1.0s						
PMON	**Piamonte**	**2.11**	**96**	*i* P	**Pn**	**04 06 33.7**	**+0.4**
PMON				*i* S	**Sn**	**04 06 59.6**	**-0.4**
PMON				IAML		04 07 11.5	
	comp=Z,450nm,1.0s						
QUEZ	**Alcaldia de Qu**	**2.15**	**92**	*i* P	**Pn**	**04 06 33.9**	**+0.3**
QUEZ				*i* S	**Sn**	**04 07 01.0**	**+0.3**
QUEZ				IAML		04 07 32.0	
	comp=Z,2μm,1.0s						
UEES	**Universidad Ev**	**2.19**	**96**	*i* P	**Pn**	**04 06 34.8**	**+0.5**
UEES				*i* S	**Sn**	**04 07 01.7**	**-0.1**
UEES				IAML		04 07 13.8	
	comp=Z,220nm,1.0s						
SNET	**Serv Nac Est T**	**2.20**	**96**	*i* P	**Pn**	**04 06 34.3**	**-0.1**
SNET				*i* S	**Sn**	**04 07 01.7**	**-0.4**
SNET				IAML		04 07 05.8	
	comp=Z,620nm,1.0s						
CCIG	**Comitan**	**2.42**	**345**	*i* P	**Pn**	**04 06 37.7**	**+0.2**
CCIG				IAML		04 07 17.9	
	comp=Z,180nm,1.0s						
COEG	**Centro de Oper**	**2.54**	**97**	*i* P	**Pn**	**04 06 40.2**	**+1.0**
COEG				*i* S	**Sn**	**04 07 11.5**	**+0.9**
COEG				IAML		04 07 20.9	
	comp=Z,120nm,1.0s						
TECO	**Alcaldia de Te**	**2.65**	**98**	*i* P	**Pn**	**04 06 40.9**	**+0.3**
TECO				*i* S	**Sn**	**04 07 12.5**	**-0.7**
TECO				IAML		04 07 24.2	
	comp=Z,79nm,1.0s						
LCND	**La Caada**	**3.54**	**100**	*i* P	**Pn**	**04 06 54.3**	**+1.4**
LCND				*i* S	**Sn**	**04 07 35.6**	**+0.4**
LCND				IAML		04 07 49.7	
	comp=Z,63nm,1.0s						

NOU ***23*** *04:06:47.2, 26°.93S×177°.46W, h341km, mb4.5/12, South of Fiji Islands*
IDC ***23*** *04:06:50.4±1.7, 26°.85S×178°.53W, h298km±17km, mb3.7/10, mbtmp4.2/10, Error ellipse: s-maj=19.2km s-min=17.0km az=168.0*
NEIC ***23*** *04:06:50.5±1.1, 27°.13S±0°.10×178°.4W±0°.1, h302km±8km, mb4.5/40, Error ellipse: s-maj=17.0km s-min=14.3km az=95.0*
ISC 23 04:06:49.6±0.4, 27°.09S±0°.05×178°.28W±0°.08, h300km, n131, σ1ˢ54/138, mb4.4/36, 10C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.18**	**172**	P	**Pn**	**04 07 40.4**	**+2.7**
RAO	**Raoul Island**	**2.18**	**172**	Pn	**Pn**	**04 07 40.1**	**+2.3**
RAO	**Raoul Island**	**2.18**	**172**	P	**Pn**	**04 07 40.6**	**+2.9**
	2μm,0.3s,baz=65,slow=4.0,SNR=37						
RAO				S	**S**	**04 08 17.4**	**+1.3**
	5μm,0.5s,baz=98,slow=21,SNR=11						
MSVF	**Nonsavu**	**9.91**	**339**	P	**Pn**	**04 09 05.7**	**-1.1**
MSVF	**Nonsavu**	**9.91**	**339**	Pn	**Pn**	**04 09 05.6**	**-1.2**
OUZ	**Omahuta**	**10.68**	**219**	P	**P**	**04 09 20.4**	**+1.7**
	59nm,0.9s						
MXZ	**Matakaoa Point**	**10.83**	**195**	P	**P**	**04 09 19.8**	**-0.6**
MXZ	**Matakaoa Point**	**10.83**	**195**	Pn	**Pn**	**04 09 14.0**	**-3.7**
NIUE	**Niue**	**11.08**	**46**	Pn	**Pn**	**04 09 19.9**	**-1.1**
HAZ	**Te Kaha**	**11.14**	**196**	P	**Pn**	**04 09 18.7**	**-2.8**
RUGZ	**Raukumara Rang**	**11.37**	**196**	P	**Pn**	**04 09 22.4**	**-2.0**
TWGZ	**Tauwhareparae**	**11.49**	**195**	P	**Pn**	**04 09 26.8**	**+0.9**
MWZ	**Matawai**	**11.75**	**196**	P	**Pn**	**04 09 27.8**	**-1.2**
TKGZ	**Te Karaka**	**11.77**	**195**	P	**Pn**	**04 09 29.6**	**+0.4**
URZ	**Urewera**	**11.79**	**198**	P	**Pn**	**04 09 29.5**	**+0.1**
URZ	**Urewera**	**11.79**	**198**	P	**Pn**	**04 09 27.1**	**-2.3**
	10.0nm,0.3s,baz=336,slow=3.0,SNR=22						
URZ				S	**S**	**04 11 34.3**	**-6.4**
	46nm,0.6s,baz=152,slow=24,SNR=19						
URZ	**Urewera**	**11.79**	**198**	P	**Pn**	**04 09 27.4**	**-2.0**
RAGZ	**Rawiri**	**11.93**	**197**	P	**Pn**	**04 09 27.6**	**-3.6**
RTZ	**Ruatahuna**	**12.16**	**198**	Pn	**Pn**	**04 09 30.0**	**-4.0**
PRGZ	**Paritu Road**	**12.23**	**194**	P	**P**	**04 09 36.1**	**+0.2**
TLZ	**Tolley Road**	**12.35**	**203**	P	**P**	**04 09 39.0**	**+1.7**
MTHZ	**Maungataniwha**	**12.42**	**198**	P	**Pn**	**04 09 36.6**	**-0.5**
NMHZ	**Naumai**	**12.66**	**198**	P	**Pn**	**04 09 39.1**	**-0.9**
RATZ	**Rangitukua**	**12.76**	**201**	P	**Pn**	**04 09 41.5**	**+0.4**
ARHZ	**Aropaoanui**	**12.76**	**197**	P	**Pn**	**04 09 39.5**	**-1.7**
BKZ	**Black Stump Fm**	**12.81**	**199**	P	**Pn**	**04 09 42.0**	**+0.2**
BKZ	**Black Stump Fm**	**12.81**	**199**	Pn	**Pn**	**04 09 39.7**	**-2.1**
BKZ	**Black Stump Fm**	**12.81**	**199**	P	**Pn**	**04 09 41.6**	**-0.2**
KRVZ	**Karewarewa**	**13.00**	**201**	P	**Pn**	**04 09 43.3**	**-0.9**
TWVZ	**Taurewa**	**13.05**	**202**	P	**Pn**	**04 09 45.0**	**+0.2**
OTVZ	**Oturere**	**13.06**	**201**	P	**Pn**	**04 09 44.3**	**-0.6**
KWHZ	**Kaweka Forest**	**13.07**	**198**	P	**Pn**	**04 09 43.3**	**-1.7**
FWVZ	**Far West T-bar**	**13.18**	**201**	P	**Pn**	**04 09 45.6**	**-0.9**
MAVZ	**Matarangi**	**13.19**	**201**	P	**Pn**	**04 09 46.4**	**-0.2**
WHVZ	**Whangaehu Hut**	**13.19**	**201**	P	**Pn**	**04 09 46.0**	**-0.6**
WNVZ	**Wahianoa**	**13.23**	**201**	P	**Pn**	**04 09 45.9**	**-1.1**
MOVZ	**Moawhango**	**13.25**	**201**	P	**Pn**	**04 09 45.0**	**-2.1**
KRHZ	**Kereru**	**13.29**	**198**	P	**Pn**	**04 09 45.1**	**-2.5**
KAHZ	**Kahuranaki**	**13.29**	**196**	P	**Pn**	**04 09 46.8**	**-0.9**
VRZ	**Vera Road**	**13.34**	**204**	P	**P**	**04 09 49.8**	**+1.6**
PXZ	**Pawanui**	**13.52**	**196**	P	**P**	**04 09 48.7**	**-1.5**
PNHZ	**Pukenui**	**13.59**	**198**	P	**P**	**04 09 49.0**	**-1.9**
TSZ	**Takapari Road**	**13.79**	**198**	P	**P**	**04 09 51.1**	**-2.1**
PRHZ	**Porangahau**	**13.80**	**197**	P	**P**	**04 09 51.6**	**-1.7**
PRWZ	**Pori Road**	**14.

WAKR	**Walker**	**85.35**	**42**	P	**P**	**04 18 54.9**	**+1.4**
WAKR				IAmb	IAmb	04 18 56.1	
	comp=Z,9.0nm,1.3s						
DSP	**Deep Springs**	**85.53**	**44**	P	**P**	**04 18 55.2**	**+1.1**
MDJ	**Mudanjiang**	**85.76**	**326**	P	**P**	**04 18 56.1**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GMN	**Gold Mountain**	**85.92**	**44**	P	**P**	**04 18 57.4**	**+1.0**
NVAR	**Mina Array Bea**	**85.99**	**43**	P	**P**	**04 18 57.7**	**+1.1**
NVAR	**Mina Array Bea**	**85.99**	**43**	P	**P**	**04 18 58.0**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=222,slow=8.8,SNR=14						
	comp=Z,1.8nm,0.8s						
NV11	**Mina Array Sit**	**86.08**	**43**	P	**P**	**04 18 58.0**	**+1.0**
NV11				IAmb	IAmb	04 18 59.2	
	comp=Z,6.8nm,1.1s						
TPH	**Tonopah**	**86.43**	**44**	P	**P**	**04 18 58.9**	**+0.1**
TUC	**Tucson**	**87.25**	**52**	P	**P**	**04 19 04.2**	**+1.5**
TUC				IAmb	IAmb	04 19 06.2	
	comp=Z,5.1nm,1.0s						
X16A	**Lo Mia Camp, P**	**88.00**	**50**	P	**P**	**04 19 07.8**	**+1.6**
X16A				IAmb	IAmb	04 19 09.5	
	comp=Z,6.0nm,1.2s						
I07A	**Izee**	**88.91**	**38**	P	**P**	**04 19 11.1**	**+0.9**
I07A				IAmb	IAmb	04 19 12.7	
	comp=Z,7.8nm,1.1s						
J08A	**Circle Bar Ran**	**89.02**	**39**	P	**P**	**04 19 11.3**	**+0.6**
J08A				IAmb	IAmb	04 19 13.0	
	comp=Z,11nm,1.3s						
GNW	**Green Mountain**	**89.48**	**34**	P	**P**	**04 19 13.4**	**+0.8**
G08A	**Pilot Rock**	**89.99**	**37**	P	**P**	**04 19 16.2**	**+1.0**
E07A	**Sunnyside**	**90.33**	**36**	P	**P**	**04 19 17.5**	**+0.9**
E07A				IAmb	IAmb	04 19 19.1	
	comp=Z,8.0nm,0.9s						
MFID	**Camas Ranch**	**90.56**	**40**	P	**P**	**04 19 18.2**	**+0.3**
MFID				IAmb	IAmb	04 19 20.1	
	comp=Z,4.9nm,0.8s						
TXAR	**Lajitas Array**	**90.82**	**57**	P	**P**	**04 19 21.1**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=221,slow=5.0,SNR=7.8						
	comp=Z,0.8nm,0.8s						
HVU	**Hansel Valley**	**91.39**	**43**	P	**P**	**04 19 21.8**	**-0.1**
HVU				IAmb	IAmb	04 19 24.0	
	comp=Z,3.8nm,0.9s						
PZH	**PanZhiHua**	**93.55**	**298**	P	**P**	**04 19 32.3**	**+0.1**
PZH				pmax	pmax		
	comp=Z,20nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.9s						
HHC	**Hu-ho-hao-te**	**93.76**	**314**	*e*P	**P**	**04 19 33.6**	**+0.9**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,70nm,4.2s						
M27K	**Edge Creek, AK**	**93.79**	**16**	P	**P**	**04 19 32.7**	**+0.4**
M27K				IAmb	IAmb	04 19 36.9	
	comp=Z,3.0nm,0.9s						
PDAR	**Pinedale Array**	**93.91**	**43**	P	**P**	**04 19 34.1**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=202,slow=3.2,SNR=8.2						
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**94.77**	**13**	P	**P**	**04 19 35.9**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=228,slow=5.1,SNR=7.1						
	comp=Z,0.7nm,0.8s						
J26L	**Joseph Creek**	**95.23**	**14**	P	**P**	**04 19 39.2**	**+0.3**
J26L				IAmb	IAmb	04 19 40.3	
	comp=Z,4.2nm,0.8s						
MKAR	**Makanchi Array**	**115.43**	**311**	PKP	**PKPdf**	**04 24 55.5**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=118,slow=2.1,SNR=3.1						
KURBB	**Kurchatov Arra**	**118.60**	**315**	PKP	**PKPdf**	**04 25 00.8**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=104,slow=2.0,SNR=8.3						
ARCES	**ARCESS Array B**	**135.31**	**348**	PKhKP	PKPpre	04 25 27.6	
	comp=Z,0.6nm,0.6s,baz=54,slow=2.3,SNR=3.8						
ARCES				PKP	**PKPdf**	**04 25 32.5**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=46,slow=3.0,SNR=2.2						
FINES	**FINESS Array B**	**141.95**	**341**	PKhKP	PKPpre	04 25 39.7	
	comp=Z,2.0nm,0.7s,baz=48,slow=2.8,SNR=6.6						
NB201	**NORSAR Array S**	**145.43**	**352**	PKPdf	**PKPdf**	**04 25 50.9**	**-0.4**
NB2	**NORSAR Subarra**	**145.45**	**352**	PKP	**PKPbc**	**04 25 52.0**	**0.0**
	comp=Z,4.2nm,0.8s,baz=11,slow=3.1						
NOA	**NORSAR Array B**	**145.45**	**352**	PKPbc	**PKPbc**	**04 25 52.0**	**0.0**
	comp=Z,2.4nm,0.7s,baz=14,slow=3.1,SNR=10						
HFS	**Hagfors**	**145.96**	**349**	PKPbc	**PKPdf**	**04 25 52.7**	**+0.6**
	comp=Z,4.7nm,0.6s,baz=48,slow=4.4,SNR=24						
AKASG	**Malin Array Be**	**148.48**	**326**	PKPbc	**PKPbc**	**04 26 00.3**	**-0.3**
	comp=Z,4.4nm,0.6s,baz=44,slow=3.6,SNR=34						
MMAI	**Mount Meron Ar**	**150.33**	**290**	PKPbc	**PKiKP**	**04 26 07.1**	**+0.6**
	comp=Z,5.8nm,0.6s,baz=66,slow=7.1,SNR=3.9						
BR131	**Keskin Array S**	**150.68**	**304**		**PKPbc**	**04 26 06.4**	**-0.1**
BRTR	**Keskin Array B**	**150.68**	**304**	PKPbc	**PKPbc**	**04 26 06.5**	**0.0**
	comp=Z,1.2nm,0.7s,baz=134,slow=4.5,SNR=7.9						
EKA	**Eskdalemuir Ar**	**151.56**	**6**	PKPbc	**PKPbc**	**04 26 07.4**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=339,slow=2.1,SNR=7.7						
EKA				PKPab	**PKPab**	**04 26 16.9**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=359,slow=3.3,SNR=6.1						
KHC	**Kasperske Hory**	**156.15**	**340**	*e*PKPAB	**PKPab**	**04 26 37.5**	**+0.1**

IDC 23 04:10:47.5±1.2, 20°.20N×120°.68E, h0km, mb3.9/4, mbtmp3.8/5, ML3.7/1, MS3.0/3, Error ellipse: s-maj=67.3km s-min=21.0km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**13.89**	**159**	LR	LR	04 20 25.5	
	comp=Z,51nm,21.5s,baz=335,slow=42						
KSRS	**Korea Array**	**18.32**	**19**	P	P	04 15 03.1	-0.1
	0.2nm,0.3s,baz=202,slow=12,SNR=5.2						
	1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.58**	**269**	LR	LR	04 24 18.1	
	comp=Z,26nm,19.4s,baz=145,slow=39						
WRA	**Warramunga Arr**	**42.08**	**161**	P	P	04 18 40.9	-0.4
	2.4nm,1.0s,baz=342,slow=9.1,SNR=8.7						
	2.4nm,1.0s						
ZALV	**Zalesovo Beam**	**43.38**	**330**	P	P	04 18 50.8	-0.8
	1.9nm,0.6s,baz=127,slow=6.3,SNR=5.9						
ZALV				LR	LR	04 38 59.5	
	comp=Z,26nm,18.3s,baz=114,slow=39						
	1.9nm,0.6s						
KURBB	**Kurchatov Arra**	**44.91**	**323**	P	P	04 19 04.2	+0.3
	1.2nm,0.8s,baz=122,slow=8.0,SNR=9.5						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**45.46**	**163**	P	P	04 19 09.0	+0.4
	0.6nm,0.8s,baz=349,slow=7.5,SNR=3.5						
	0.6nm,0.8s						

*TEH **23** 04:12:50.7, 34°.64N×46°.25E, h9km±48km, ML2.8*
*ISN **23** 04:12:52.2±1.4, 34°.65N×46°.26E, h24km±26km, ML2.7*
ISC 23 04:12:51.2±1.3, 34°.63N±0°.05×46°.26E±0°.05, h8km±14km, n10, σ0°.41/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.13**	**56**	Pg	**Pg**	**04 12 53.9**	**-0.1**
IGHG	**Ghaleghazi**	**0.39**	**139**	Pg	**Pg**	**04 12 59.5**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.59**	**209**	Pg	**Pg**	**04 13 02.3**	**-0.3**
ILIN	**Lien**	**0.65**	**63**	Pg	**Pg**	**04 13 03.5**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.74**	**118**	Pg	**Pg**	**04 13 04.7**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.00**	**182**	Pg	**Pb**	**04 13 10.4**	**-0.5**
SNQR	**Sonqor, Kerman**	**1.15**	**78**	Pg	**Pg**	**04 13 13.5**	**+0.2**
IBZA	**Bozab**	**1.33**	**96**	Pg	**Pb**	**04 13 16.5**	**-0.1**
IBDR	**Badra**	**1.54**	**190**	*e*Pg	**Pb**	**04 13 20.0**	**0.0**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**04 13 41.0**	**+0.3**
IKRK	**Kirkuk**	**1.75**	**297**	*e*Pn	**Pn**	**04 13 22.0**	**+0.1**
IKRK				*e*Sn	**Sb**	**04 13 46.0**	**+0.2**
IKRK				AML	AML	04 13 52.2	
	comp=N,95nm,0.6s						
IKRK				AML	AML	04 13 53.9	
	comp=E,100nm,0.4s						

IDC 23 04:14:56.7±17.0, 64°.34S×172°.03E, h0km, mb4.0/2, mbtmp3.8/3, ML3.1/1, MS3.8/21, Error ellipse: s-maj=518.2km s-min=43.8km az=79.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.61**	**189**	Pn	Pn	04 18 10.9	+0.3
	0.1nm,0.3s,baz=20,slow=16,SNR=8.1						
VNDA				LR	LR	04 22 25.9	
	comp=Z,368nm,18.9s,baz=19,slow=33						
	0.5nm,0.5s						
RPZ	**Rata Peaks**	**20.68**	**358**	LR	LR	04 27 07.1	
	comp=Z,304nm,18.3s,baz=167,slow=35						
QSPA	**South Pole Qui**	**25.74**	**180**	LR	LR	04 29 23.3	
	comp=Z,255nm,18.1s,baz=33,slow=34						
URZ	**Urewera**	**26.30**	**9**	LR	LR	04 28 41.1	
	comp=Z,166nm,21.1s,baz=215,slow=31						
RAO	**Raoul Island**	**35.68**	**15**	LR	LR	04 34 11.3	
	comp=Z,141nm,20.6s,baz=25,slow=32						
STKA	**Stephens Creek**	**37.59**	**315**	LR	LR	04 36 16.7	
	comp=Z,110nm,18.4s,baz=203,slow=34						
MAW	**Mawson**	**39.03**	**215**	LR	LR	04 38 48.2	
	comp=Z,187nm,18.6s,baz=119,slow=37						
DZM	**Mont Dzumac**	**42.42**	**352**	LR	LR	04 38 24.4	
	comp=Z,181nm,18.5s,baz=234,slow=33						
SNAA	**Sanae**	**44.21**	**182**	LR	LR	04 41 08.3	
	comp=Z,148nm,18.2s,baz=236,slow=36						
H01W1	**Cape Leeuwin H**	**45.34**	**282**	T	T	05 13 20.8	
	baz=147,slow=76,SNR=26						
H01W2	**Cape Leeuwin H**	**45.34**	**282**	T	T	05 13 20.8	
	baz=147,slow=76,SNR=24						
H01W3	**Cape Leeuwin H**	**45.35**	**282**	T	T	05 13 22.0	
	baz=147,slow=76,SNR=27						
RAR	**Rarotonga**	**47.01**	**37**	LR	LR	04 39 07.7	
	comp=Z,89nm,19.4s,baz=284,slow=31						
CTA	**Charters Tower**	**47.48**	**326**	LR	LR	04 42 01.5	
	comp=Z,13nm,18.1s,baz=250,slow=34						
ASAR	**Alice Springs**	**47.68**	**310**	P	P	04 23 35.3	+0.6
	2.0nm,0.9s,baz=155,slow=9.1,SNR=9.6						
	2.0nm,0.9s						
WRA	**Warramunga Arr**	**51.00**	**312**	P	P	04 23 59.2	-0.9
	1.9nm,1.0s,baz=163,slow=6.4,SNR=7.3						
WRA				LR	LR	04 44 33.5	
	comp=Z,292nm,18.2s,baz=186,slow=35						
	1.9nm,1.0s						
PPT	**Papeete**	**53.45**	**48**	LR	LR	04 43 19.6	
	comp=Z,42nm,19.7s,baz=218,slow=32						
PMG	**Port Moresby**	**57.60**	**331**	LR	LR	04 47 41.0	
	comp=Z,95nm,19.1s,baz=153,slow=34						
RPN	**Rapa Nui**	**61.00**	**93**	LR	LR	04 44 21.8	
	comp=Z,82nm,18.0s,baz=193,slow=29						
KAPI	**Kappang**	**69.91**	**303**	LR	LR	04 53 31.6	
	comp=Z,104nm,18.4s,baz=168,slow=33						
SUR	**Sutherland**	**80.97**	**204**	LR	LR	05 00 33.1	
	comp=Z,97nm,21.4s,baz=140,slow=34						
BOSA	**Boshof**	**83.76**	**209**	LR	LR	05 03 41.2	
	comp=Z,62nm,19.1s,baz=170,slow=35						
H08S2	**Diego Garcia H**	**87.28**	**258**	T	T	06 06 03.5	
	baz=153,slow=76,SNR=47						
H08S1	**Diego Garcia H**	**87.29**	**258**	T	T	06 06 04.5	
	baz=153,slow=76,SNR=43						
H08S3	**Diego Garcia H**	**87.30**	**258**	T	T	06 06 07.0	
	baz=153,slow=76,SNR=44						
NNA	**Nana**	**88.15**	**114**	LR	LR	04 56 08.4	
	comp=Z,54nm,21.8s,baz=318,slow=28						
TSUM	**Tsumeb**	**94.41**	**204**	LR	LR	05 10 12.8	
	comp=Z,113nm,18.9s,baz=154,slow=35						
CMAR	**Chiang Mai Arr**	**99.39**	**293**	LR	LR	05 12 29.2	
	comp=Z,36nm,18.7s,baz=190,slow=35						

*SJA **23** 04:38:28.6±0.8, 22°.24S×68°.76W, h120km±5km, ML3.5, MW3.5*
*GUC **23** 04:38:30.1±0.8, 22°.17S×68°.71W, h117km±5km, ML3.5*
ISC 23 04:38:31.4±1.4, 22°.19S±0°.03×68°.77W±0°.05, h106km±9km, n26, σ0°.99/49, 8C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.44**	**197**	*e*P	**Pn**	**04 38 46.9**	**-1.1**
LVC				*e*S	**Sn**	**04 39 00.6**	**+0.3**
LVC	**Limon Verde**	**0.44**	**197**	⇓*e*P	**Pn**	**04 38 46.8**	**-1.1**
LVC				*e*S	**Sn**	**04 38 59.9**	**-0.4**
LVC				IAML		04 39 01.1	
	4μm,0.2s						
PB09	**IPOC Station P**	**0.58**	**312**	*e*P	**Pn**	**04 38 48.1**	**-0.5**
PB09				*e*S	**Sn**	**04 39 02.8**	**+1.2**
PB09				IAML		04 39 04.0	
	comp=Z,1μm,0.3s						
PB09	**IPOC Station P**	**0.58**	**312**	⇑*e*P	**Pn**	**04 38 48.9**	**+0.2**
PB09				*e*S	**Sn**	**04 39 02.6**	**+1.0**
PB09				IAML		04 39 04.1	
	comp=E,2μm,0.2s						
PB06	**IPOC Station P**	**0.90**	**235**	⇑*e*P	**Pn**	**04 38 51.4**	**-0.1**
PB06				*e*S	**Sn**	**04 39 07.2**	**+0.6**
PB06				IAML		04 39 08.2	
	comp=N,1μm,0.4s						
AF01	**San Pedro de A**	**0.94**	**144**	*e*P	**Pn**	**04 38 51.6**	**-0.4**
AF01				*e*S	Sn	04 38 52.4	-15
AF01				*e*S		04 39 02.8	
AF01				IAML		04 39 23.5	
	comp=Z,489nm,0.6s						
AF01	**San Pedro de A**	**0.94**	**144**	*e*P	**Pn**	**04 38 50.7**	**-1.3**
AF01				*e*S	**Sn**	**04 39 07.1**	**-0.4**
AF01				IAML		04 39 08.6	
	comp=N,887nm,0.3s						
PB15	**IPOC Station P**	**1.20**	**212**	*e*P	**Pn**	**04 38 53.2**	**-1.6**
PB15				*e*S	**Sn**	**04 39 13.7**	**+1.3**
PB15				IAML		04 39 15.4	
	comp=Z,2μm,0.2s						
PB15	**IPOC Station P**	**1.20**	**212**	⇑*e*P	**Pn**	**04 38 54.8**	**0.0**
PB15				*e*S	**Sn**	**04 39 13.3**	**+0.9**
PB04	**IPOC Station P**	**1.28**	**263**	*e*P	**Pn**	**04 38 54.7**	**-0.9**
PB04				*e*S	**Sn**	**04 39 15.9**	**+2.0**
PB04				IAML		04 39 16.6	
	comp=Z,725nm,0.2s						
PB04	**IPOC Station P**	**1.28**	**263**	⇑*e*P	**Pn**	**04 38 55.4**	**-0.2**
PB04				*e*S	**Sn**	**04 39 14.8**	**+0.8**
PB04				IAML		04 39 16.5	
	comp=N,527nm,0.2s						
PATCX	**Punta Patache**	**1.87**	**316**	*e*P	**Pn**	**04 39 02.1**	**-0.5**
PATCX				*e*S	**Sn**	**04 39 29.2**	**+2.7**
PATCX				IAML		04 39 34.1	
	comp=Z,179nm,0.3s						
PATCX	**Punta Patache**	**1.87**	**316**	*e*P	**Pn**	**04 39 01.9**	**-0.8**
PATCX				*e*S	**Sn**	**04 39 26.6**	**+0.1**
PATCX				IAML		04 39 31.2	
	comp=N,361nm,0.2s						
TA01	**Diego Aracena**	**2.08**	**321**	*e*P	**Pn**	**04 39 04.3**	**-0.9**
TA01				*e*S	**Sn**	**04 39 31.6**	**+0.5**
TA01				IAML		04 39 37.3	
	comp=Z,132nm,0.3s						
TA01	**Diego Aracena**	**2.08**	**321**	⇑*e*P	**Pn**	**04 39 04.0**	**-1.3**
TA01				*e*S	**Sn**	**04 39 31.1**	**-0.1**
TA01				IAML		04 39 33.2	
	comp=N,302nm,0.4s						
HMBC	**Humberstone**	**2.17**	**331**	*e*P	**Pn**	**04 39 05.3**	**-1.2**
HMBC				*e*S	**Sn**	**04 39 33.3**	**0.0**
HMBC				IAML		04 39 39.4	
	comp=Z,392nm,0.4s						
HMBC	**Humberstone**	**2.17**	**331**	⇑*e*P	**Pn**	**04 39 05.3**	**-1.2**
HMBC				*e*S	**Sn**	**04 39 32.9**	**-0.5**
HMBC				IAML		04 39 37.4	
	comp=E,408nm,0.3s						
TA02	**Huaiquique**	**2.29**	**326**	*e*P	**Pn**	**04 39 08.1**	**+0.1**
TA02				*e*S	**Sn**	**04 39 37.1**	**+1.1**
TA02				IAML		04 39 40.4	
	comp=Z,159nm,0.1s						
TA02	**Huaiquique**	**2.29**	**326**	⇓*e*P	**Pn**	**04 39 07.2**	**-0.8**
TA02				*e*S	**Sn**	**04 39 35.5**	**-0.4**
TA02				IAML		04 39 40.5	
	comp=N,147nm,0.1s						
GO01	**Chusmiza**	**2.54**	**351**	*e*P	**Pn**	**04 39 11.0**	**-0.7**
GO01				*e*S	**Sn**	**04 39 43.8**	**+1.3**
GO01				IAML		04 39 47.3	
	comp=Z,118nm,0.4s						
GO01	**Chusmiza**	**2.54**	**351**	⇑*e*P	**Pn**	**04 39 11.4**	**-0.3**
GO01				*e*S	**Sn**	**04 39 43.5**	**+1.0**
PB11	**IPOC Station P**	**2.55**	**341**	*e*P	**Pn**	**04 39 10.3**	**-1.2**
PB11				*e*S	**Sn**	**04 39 42.8**	**+0.5**
PB11				IAML		04 39 45.3	
	comp=Z,128nm,0.3s						
PB11	**IPOC Station P**	**2.55**	**341**	⇑*e*P	**Pn**	**04 39 10.4**	**-1.2**
PB11				*e*S	**Sn**	**04 39 41.6**	**-0.8**
PB11				IAML		04 39 43.6	
	comp=E,268nm,0.2s						
YJA	**Yavi**	**3.02**	**90**	*e*P	**Pn**	**04 39 18.8**	**+0.9**
GO02	**Mina Guanaco**	**3.06**	**194**	*e*P	**Pn**	**04 39 17.6**	**-0.8**
GO02				*e*S	**Sn**	**04 39 54.8**	**+0.4**
GO02				IAML		04 40 24.3	
	comp=Z,51nm,1.2s						
AZAP	**Zapla**	**3.97**	**121**	*e*P	**Pn**	**04 39 30.4**	**-0.1**

*TAP **23** 04:54:09.9, 23°.71N×121°.66E, h38km, ML3.5, B*
*JMA **23** 04:54:09.7±0.1, 23°.7N±0°.2×121°.7E±0°.6, h36km±1km, MV3.0/11, TAIWAN REGION*
ISC 23 04:54:09.9±0.9, 23°.70N±0°.02×121°.69E±0°.02, h34km±5km, n135, σ1°.12/235, 6C-20D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUL	**Shoufeng**	**0.15**	**308**	⇑*i*P	**Pn**	**04 54 16.6**	**+3.0**
	baz=312						
SHUL				*i* S	**Sn**	**04 54 21.7**	**+8.3**
	baz=312						
TEYL	**Yanliau Villag**	**0.19**	**334**	⇑*i*P	**Pn**	**04 54 17.1**	**+2.0**
	baz=352						
TEYL				*e*S	**Sn**	**04 54 22.8**	**+6.3**
	baz=352						
EGFH	**Guangfu**	**0.24**	**264**	*i* P	**Pb**	**04 54 17.2**	**+0.2**
	baz=269						
EGFH				S	**Sn**	**04 54 22.4**	**+2.9**
	baz=269						
ESL	**Shilin**	**0.26**	**297**	⇓*i*P	**Pb**	**04 54 17.1**	**-0.2**
	baz=288						
ESL				S	**Sb**	**04 54 22.5**	**+0.1**
	baz=288						
WARBT	**Fenglin Townsh**	**0.28**	**274**	⇓*i*P	**Pb**	**04 54 17.2**	**-0.3**
	baz=272						
WARBT				S	**Sb**	**04 54 22.4**	**-0.4**
	baz=272						
HWA	**Hwalien**	**0.29**	**344**	*i* P	**Pb**	**04 54 17.9**	**+0.3**
	baz=357						
HWA				*i* S	**Sn**	**04 54 24.2**	**+2.3**
	baz=357						
HGSD	**Ruisui**	**0.32**	**230**	P	**Pb**	**04 54 18.2**	**+0.3**
	baz=229						
HGSD				S	**Sn**	**04 54 24.8**	**+1.8**
	baz=229						
ETM	**Tongmen**	**0.32**	**326**	⇓*i*P	**Pb**	**04 54 17.9**	**-0.2**
	baz=319						
ETM				*e*S	**Sb**	**04 54 23.6**	**0.0**
	baz=319						
EHYH	**Wanrong**	**0.38**	**238**	*e*P	**Pb**	**04 54 18.6**	**-0.2**
	baz=245						
EHYH				S	**Sb**	**04 54 24.8**	**0.0**
	baz=245						
EHY	**Hungye**	**0.39**	**241**	⇑*i*P	**Pb**	**04 54 18.5**	**-0.4**
	baz=246						
EHY				S	**Sb**	**04 54 24.7**	**-0.4**
	baz=246						
TWD	**Chiawan**	**0.39**	**347**	⇓*i*P	**Pb**	**04 54 18.6**	**-0.4**
	baz=1.0						
TWD				*e*S	**Sb**	**04 54 24.8**	**-0.3**
	baz=1.0						
LXIB	**Xiulin Townshi**	**0.41**	**322**	⇓*i*P	**Pb**	**04 54 18.7**	**-0.7**
	baz=318						
LXIB				S	**Sb**	**04 54 25.1**	**-0.8**
	baz=318						
ECBN	**Changbin**	**0.44**	**210**	*e*P	**Pb**	**04 54 19.8**	**+0.2**
	baz=196						
ECBN				*e*S	**Sn**	**04 54 27.2**	**+0.7**
	baz=196						
ETL	**Fush Village**	**0.47**	**352**	*e*P	**Pb**	**04 54 19.6**	**-0.5**
	baz=1.0						
ETL				S	**Sb**	**04 54 27.1**	**+0.1**
	baz=1.0						
YULB	**Yu-li**	**0.47**	**230**	P	**Pb**	**04 54 19.9**	**-0.2**
YULB	**Yu-li**	**0.47**	**230**	⇑*i*P	**Pb**	**04 54 19.7**	**-0.4**
	baz=236						
YULB				S	**Sb**	**04 54 26.7**	**-0.4**
	baz=236						
NACB	**Ninganchiao**	**0.48**	**350**	P	**Pb**	**04 54 20.1**	**-0.2**
NACB	**Ninganchiao**	**0.48**	**350**	⇓*i*P	**Pb**	**04 54 19.8**	**-0.6**
	baz=356						
NACB				S	**Sb**	**04 54 27.2**	**-0.3**
	baz=356						
EYUL	**Yuli**	**0.49**	**224**	*e*P	**Pb**	**04 54 20.3**	**-0.1**
	baz=233						
EYUL				*e*S	**Sb**	**04 54 27.1**	**-0.5**
	baz=233						
VWDT	**VWDT**	**0.51**	**277**	⇓*i*P	**Pb**	**04 54 20.5**	**-0.1**
	baz=275						
VWDT				*e*S	**Sb**	**04 54 28.1**	**0.0**
	baz=275						
OWD	**Renai**	**0.54**	**299**	⇓*i*P	**Pb**	**04 54 20.7**	**-0.6**
	baz=299						
OWD				*e*S	**Sb**	**04 54 28.2**	**-0.8**
	baz=299						
ETLH	**Xiulin Townshi**	**0.54**	**340**	⇓P	**Pb**	**04 54 20.5**	**-0.8**
	baz=333						
ETLH				*e*S	**Sb**	**04 54 27.8**	**-1.4**
	baz=333						
CHKH	**Chenggong**	**0.57**	**208**	P	**Pb**	**04 54 21.5**	**-0.2**
	baz=194						
CHKH				*e*S	**Sb**	**04 54 30.1**	**+0.4**
	baz=194						
WHF	**Hehuan Shan**	**0.59**	**319**	⇓*i*P	**Pb**	**04 54 21.4**	**-1.0**
	baz=314						
WHF				*e*S	**Sb**	**04 54 29.5**	**-1.4**
	baz=314						
CHGB	**Renai**	**0.59**	**308**	⇓*i*P	**Pb**	**04 54 21.7**	**-0.5**
	baz=308						
CHGB				S	**Sb**	**04 54 30.0**	**-0.7**
	baz=308						
WUSB	**Renai**	**0.60**	**299**	⇓*i*P	**Pb**	**04 54 21.7**	**-0.6**
	baz=300						
WUSB				S	**Sb**	**04 54 29.9**	**-0.8**
	baz=300						
FULB	**Fuli**	**0.61**	**216**	*e*P	**Pb**	**04 54 22.3**	**-0.2**
	baz=225						
FULB				*i* S	**Sn**	**04 54 31.9**	**+1.0**
	baz=225						
EAHA	**Aohua**	**0.63**	**4**	*e*P	**Pb**	**04 54 22.1**	**-0.6**
	baz=16						
EAHA				*i* S	**Sb**	**04 54 31.3**	**-0.1**
	baz=16						
CHKT	**Chengkung**	**0.67**	**207**	⇓*i*P	**Pb**	**04 54 22.2**	**-1.0**
	baz=193						
CHKT				*e*S	**Sb**	**04 54 31.5**	**-0.8**
	baz=193						
SSLB	**Suanglung**	**0.68**	**278**	P	**Pb**	**04 54 22.4**	**-1.1**
SSLB	**Suanglung**	**0.68**	**278**	⇓*i*P	**Pb**	**04 54 22.6**	**-0.9**
	baz=277						
SSLB				S	**Sb**	**04 54 31.1**	**-1.7**
	baz=277						
FUSS	**Fushou**	**0.68

	baz=342						
ELDTW	Lidau	0.80	231	⇑P	Pn	04 54 24.1	-0.8
	baz=228						
ELDTW				*i* S	Sb	04 54 34.6	-1.5
	baz=228						
WCS	Beigang Elemen	0.80	297	⇓P	Pn	04 54 24.7	0.0
	baz=305						
EOS3	EOS3	0.82	44	⇑*i*P	Pn	04 54 25.4	+0.5
	baz=42						
EOS3				*e*S	Sn	04 54 36.8	+0.9
	baz=42						
LATG	Datong	0.85	350	P	Pn	04 54 24.9	-0.7
	baz=352						
EOS2	EOS2	0.87	34	*e*P	Pn	04 54 26.6	+0.9
	baz=39						
ESAO	Su ao	0.89	9	*e*P	Pn	04 54 25.9	-0.1
	baz=11						
ESAO				*e*S	Sn	04 54 37.4	-0.3
	baz=11						
WJS	Zhushan	0.89	278	*e*P	Pb	04 54 28.1	+1.2
	baz=278						
WJS				*e*S	Sb	04 54 39.3	+0.7
	baz=278						
WHP	Taichung City	0.89	311	*e*P	Pn	04 54 26.4	+0.3
	baz=311						
NDT	Datong Townshi	0.92	350	*e*P	Pn	04 54 26.2	-0.2
	baz=345						
NDT				*e*S	Sn	04 54 38.1	-0.3
	baz=345						
TWC	Suao	0.92	9	*e*P	Pn	04 54 26.6	+0.2
	baz=12						
TWC				S	Sn	04 54 39.1	+0.6
	baz=12						
CHN5	Tsauling	0.93	264	*e*P	Pn	04 54 27.6	+0.9
	baz=263						
CHN5				*e*S	Sn	04 54 39.8	+0.9
	baz=263						
NDS	Dongshan	0.93	1	*e*P	Pn	04 54 26.5	-0.2
	baz=353						
NDS				*e*S	Sn	04 54 38.6	-0.2
	baz=353						
WNT	Mingjian	0.94	281	*e*P	Pn	04 54 27.7	+1.0
	baz=281						
WNT				*e*S	Sb	04 54 40.5	+0.5
	baz=281						
LONT	Longtian	0.94	213	*e*P	Pn	04 54 25.1	-1.6
	baz=211						
LONT				*e*S	Sn	04 54 38.5	-0.5
	baz=211						
ENTT	Nioudou	0.95	353	*e*P	Pn	04 54 26.6	-0.3
	baz=348						
ENTT				*e*S	Sn	04 54 39.2	0.0
	baz=348						
STYH	Taoyuan	0.99	238	*i* P	Pn	04 54 28.0	+0.6
	baz=232						
STYH				*e*S	Sn	04 54 40.9	+0.7
	baz=232						
YHNB	Yeheng	1.01	344	P	Pn	04 54 28.1	+0.3
YHNB	Yeheng	1.01	344	*e*P	Pn	04 54 27.8	0.0
	baz=355						
YHNB				*i* S	Sn	04 54 40.7	-0.2
	baz=355						
NSK	Sanguang	1.02	343	*i* P	Pn	04 54 28.0	+0.1
	baz=355						
NSK				*i* S	Sn	04 54 40.7	-0.4
	baz=355						
TWE	Neicheng	1.02	359	*e*P	Pn	04 54 27.9	+0.1
	baz=352						
WCKO	Fanlu	1.03	256	*e*P	Pn	04 54 29.2	+1.2
	baz=255						
WCKO				*i* S	Sb	04 54 43.0	+0.5
	baz=255						
TCU	Taichung	1.03	296	*e*P	Pb	04 54 29.2	-0.1
	baz=296						
TCU				*e*S	Sb	04 54 42.6	0.0
	baz=296						
WGK	Gukeng	1.03	270	*e*P	Pn	04 54 29.2	+1.2
	baz=269						
WGK				*i* S	Sb	04 54 43.0	+0.3
	baz=269						
LDUT	Ludao	1.04	191	*e*P	Pn	04 54 26.9	-1.2
	baz=183						
LDUT				*e*S	Sn	04 54 40.1	-1.3
	baz=183						
TWGBT	Beinan	1.04	213	P	Pn	04 54 28.7	+0.6
TWGBT	Beinan	1.04	213	*e*P	Pn	04 54 26.8	-1.3
	baz=211						
TWGBT				*e*S	Sn	04 54 39.7	-1.8
	baz=211						
TWG	Pinlang	1.04	213	*e*P	Pn	04 54 27.0	-1.1
	baz=211						
TWG				*e*S	Sn	04 54 39.6	-1.9
	baz=211						
TPUB	Ta-pu	1.05	248	P	Pn	04 54 29.0	+0.7
TPUB	Ta-pu	1.05	248	P	Pn	04 54 29.4	+1.1
	baz=247						
TPUB				*e*S	Sn	04 54 43.0	+1.3
	baz=247						
WDLH	Douliu	1.06	270	*e*P	Pb	04 54 29.6	-0.1
	baz=269						
WDLH				S	Sb	04 54 43.5	+0.2
	baz=269						
FUSB	Fushanzhiwuyua	1.06	355	*e*P	Pn	04 54 28.5	0.0
	baz=358						
FUSB				*e*S	Sn	04 54 42.6	+0.4
	baz=358						
NFF	Wufeng Townshi	1.07	331	*e*P	Pn	04 54 29.2	+0.7
	baz=332						
WTP	Ta-pu	1.08	246	*e*P	Pn	04 54 29.7	+1.0
	baz=244						
WTP				S	Sb	04 54 44.5	+0.3
	baz=244						
NWLT	Wulai	1.09	351	*e*P	Pn	04 54 28.7	-0.2
	baz=347						
NWLT				*e*S	Sn	04 54 42.1	-0.7
	baz=347						
NSTT	Nanjuang	1.12	326	P	Pn	04 54 30.3	+1.0
	baz=328						
NSTT				*e*S	Sn	04 54 44.6	+1.0
	baz=328						
LIOB	Emei	1.13	327	P	Pb	04 54 30.7	-0.3
	baz=329						
LIOB				*e*S	Sn	04 54 43.5	-0.2
	baz=329						
WDJ	Dajia District	1.16	304	*e*P	Pb	04 54 31.3	-0.2
	baz=305						
WDJ				*e*S	Sn	04 54 44.6	+0.2
	baz=305						
EGS		1.17	11	*e*P	Pb	04 54 31.6	+0.1
	baz=13						
NMLH	Miaoli	1.17	316	*e*P	Pn	04 54 31.0	+1.1
	baz=317						
NMLH				*e*S	Sn	04 54 46.1	+1.3
	baz=317						
CHN1	Nanshi	1.18	245	P	Pn	04 54 31.5	+1.4
	baz=243						
CHN1				*e*S	Sb	04 54 47.0	+0.1
	baz=243						
TWK	Hsinying	1.18	249	*e*P	Pn	04 54 31.4	+1.3
	baz=247						
TWK				*e*S	Sb	04 54 47.0	0.0
	baz=247						
SGST	Jiashian	1.19	239	*e*P	Pn	04 54 30.5	+0.3
	baz=238						
SGST				S	Sb	04 54 47.1	+0.1
	baz=238						
SLGT	Liugui	1.19	234	*i* P	Pn	04 54 31.3	+1.2
	baz=233						
SLGT				*e*S	Sb	04 54 47.0	0.0
	baz=233						
SNST	Tainan City	1.19	247	*e*P	Pb	04 54 31.8	-0.2
	baz=246						
SNST				S	Sb	04 54 47.5	+0.3
	baz=246						
WRL	Guolierlin Hig	1.22	280	*e*P	Pn	04 54 31.7	+1.1
	baz=279						
WRL				*e*S	Sn	04 54 47.3	+1.4
	baz=279						
SBCB	Hsinchu	1.27	330	*e*P	Pn	04 54 32.5	+1.3
	baz=331						
NHDH	Xindian Distri	1.27	353	*e*P	Pn	04 54 32.6	+1.3
	baz=357						
NHDH				*e*S	Sn	04 54 47.5	+0.3
	baz=357						
TIPB	Shuangxi	1.28	6	*e*P	Pn	04 54 32.5	+1.1
	baz=358						
TIPB				*e*S	Sn	04 54 47.3	0.0
	baz=358						
TWA	Mucha	1.28	356	*e*P	Pn	04 54 31.4	-0.1
	baz=358						
ECL	Taimali	1.29	212	*e*P	Pn	04 54 30.4	-1.1
	baz=210						
TATO	Taipei	1.29	352	P	Pb	04 54 33.6	0.0
TWB1	Santiao Chiao	1.33	12	*e*P	Pn	04 54 33.0	+0.9
	baz=16						
TWB1				*e*S	Sn	04 54 49.9	+1.1
	baz=16						
ICHU	Yijhu	1.34	256	*e*P	Pn	04 54 33.2	+1.0
	baz=255						
ICHU				*i* S	Sn	04 54 50.2	+1.4
	baz=255						
WSF	Szhu	1.35	268	*e*P	Pn	04 54 32.6	+0.3
	baz=267						
WSF				*e*S	Sn	04 54 50.5	+1.4
	baz=267						
WSL	Shuilin Townsh	1.35	263	*e*P	Pn	04 54 33.3	+0.9
	baz=262						
WSL				*e*S	Sb	04 54 51.0	-0.7
	baz=262						
SCST	Cishan	1.36	234	*i* P	Pb	04 54 34.8	-0.1
	baz=245						
SCST				*i* S	Sb	04 54 53.8	+1.8
	baz=245						
NWF	Wu-fen Shan	1.37	3	*e*P	Pn	04 54 33.0	+0.3
	baz=355						
NWF				*e*S	Sn	04 54 50.6	+0.8
	baz=355						
WFSB	Wu-fen Shan	1.37	3	*e*P	Pn	04 54 32.8	+0.1
	baz=355						
WFSB				*e*S	Sn	04 54 50.8	+1.2
	baz=355						
JYNG	Yonagunijimaku	1.37	57	*e*P	Pn	04 54 33.4	+0.7
JYNG				*e*S	Sn	04 54 50.5	+0.8
TSMG	Majia	1.38	224	*e*P	Pn	04 54 33.7	+0.9
	baz=223						
TWS1	Kuangyinshan	1.42	350	*e*P	Pn	04 54 34.4	+1.0
	baz=352						
YOJ	Yonaguni jima	1.43	57	P	Pn	04 54 34.8	+1.3
YOJ	Yonaguni jima	1.43	57	P	Pn	04 54 34.7	+1.3
	baz=57						
YOJ				S	Sn	04 54 51.9	+0.8
	baz=57						
YOJ	Yonaguni jima	1.43	57	*e*P	Pn	04 54 34.3	+0.9
YOJ				*e*S	Sn	04 54 51.7	+0.6
YM01	YM01	1.45	356	*e*P	Pn	04 54 33.9	+0.1
	baz=358						
TNOU	National Taiwa	1.45	3	*e*P	Pn	04 54 35.1	+1.4
	baz=350						
MASBT	Mashibuluo	1.45	222	*e*P	Pn	04 54 33.9	+0.1
	baz=221						
YM08	YM08	1.49	356	*e*P	Pn	04 54 34.5	+0.2
	baz=359						
EAST	Anshuo	1.52	211	*e*P	Pn	04 54 34.6	-0.1
	baz=202						
TSCK	Chigu Township	1.57	250	*i* P	Pn	04 54 36.5	+1.1
	baz=249						
TSCK				*i* S	Sn	04 54 56.2	+1.6
	baz=249						
SCZT	Fangliau	1.65	217	*e*P	Pn	04 54 37.6	+1.1
	baz=215						
SCZT				*e*S	Sn	04 54 58.1	+1.7
	baz=215						
LAY	Lan-yu	1.66	184	*i* P	Pn	04 54 35.5	-1.1
	baz=182						
SLIU	Shizi	1.69	209	*e*P	Pn	04 54 37.5	+0.5
	baz=201						
HEN	Hengchun	1.90	208	*e*P	Pn	04 54 41.1	+1.2
	baz=196						
WDGT	Dungji	1.91	257	*e*P	Pn	04 54 40.3	+0.2
	baz=256						
WDGT				S	Sn	04 55 02.6	-0.4
	baz=256						
TWKBT	Hengchun	1.93	205	*e*P	Pn	04 54 42.4	+2.1
	baz=204						
TWKBT				*e*S	Sn	04 55 03.6	+0.3
	baz=204						
PHUB	P'eng-hu	1.95	265	*e*P	Pn	04 54 40.4	-0.2
	baz=252						
PHUB				S	Sn	04 55 03.4	-0.6
	baz=252						
PNG	Penghu	1.96	267	*i* P	Pn	04 54 41.1	+0.3
	baz=253						
PNG				*e*S	Sn	04 55 04.2	0.0
	baz=253						
HATJ	Hateruma jima	1.97	79	*e*P	Pn	04 54 41.5	+0.7
HATJ				*e*S	Sn	04 55 05.3	+0.9
IRIF	Iriomote-Funau	1.97	71	*e*P	Pn	04 54 41.8	+0.9
IRIF				*e*S	Sn	04 55 05.8	+1.3
VCHM	Qimei	2.13	257	*e*P	Pn	04 54 43.4	+0.3
	baz=257						
VCHM				*i* S	Sn	04 55 07.4	-1.0
	baz=257						
JIJ	Ishigaki jima	2.34	73	*e*P	Pn	04 54 46.4	+0.4
JIJ				*e*S	Sn	04 55 13.2	-0.3
VWUC	VWUC	2.42	303	*i* P	Pn	04 54 46.7	-0.4
	baz=303						
JISG	Ishigakijimahi	2.55	69	*e*P	Pn	04 54 49.3	+0.4
JISG				*e*S	Sn	04 55 18.4	-0.5
PTMZ	Houxiangcun	2.70	300	*e*P	Pn	04 54 50.7	-0.2
	baz=300						
PTMZ				*e*S	Sn	04 55 21.6	-0.8
	baz=300						
MATB	Ma-tsu	2.91	327	*e*P	Pn	04 54 52.6	-1.3
	baz=327						
KNM	Kinmen	3.06	284	*e*P	Pn	04 54 57.6	+1.7
	baz=284						
KNMB	Chin-men Tao	3.11	285	*e*P	Pn	04 54 55.5	-1.2
	baz=285						
LYJJ	Jianjiangzhen	3.34	329	*e*P	Pn	04 54 59.3	-0.4
	baz=329						
MHZQ	Yeshan	3.40	315	*e*P	Pn	04 54 59.2	-1.4
	baz=316						
XPSS	Dashiqiu	3.49	337	*e*P	Pn	04 55 01.0	-0.8
	baz=349						

IDC 23 05:00:21.9±2.7, 54°.15N×86°.51E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=22.7km s-min=13.6km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.02	259	I	I	05 05 20.0	
	baz=79,slow=314,SNR=3.1						
ZALV	Zalesovo Beam	1.02	259	Pg	Pg	05 00 39.5	-1.9
	0.9nm,0.3s,baz=78,slow=17,SNR=10						
ZALV				Lg	Lg	05 00 56.4	
	2.9nm,0.3s,baz=77,slow=29,SNR=18						
KURBB	Kurchatov Arra	6.03	237	Pn	Pn	05 01 53.3	+1.1
	0.1nm,0.3s,baz=55,slow=13,SNR=7.5						
	0.7nm,0.4s						
MKAR	Makanchi Array	7.84	202	Pn	Pn	05 02 18.1	+1.0
	0.2nm,0.3s,baz=24,slow=13,SNR=8.8						
	0.3nm,0.3s						

IDC 23 05:04:52.4±2.8, 53°.63N×86°.88E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=27.0km s-min=15.0km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.26	285	I	I	05 11 20.0	
	baz=104,slow=315,SNR=2.4						
ZALV	Zalesovo Beam	1.26	285	Pg	Pg	05 05 15.5	-1.1
	1.2nm,0.3s,baz=102,slow=17,SNR=13						
ZALV				Lg	Lg	05 05 33.2	
	1.2nm,0.3s,baz=108,slow=28,SNR=8.8						
KURBB	Kurchatov Arra	5.96	243	Pn	Pn	05 06 23.4	+1.6
	0.1nm,0.3s,baz=61,slow=14,SNR=2.2						
	0.3nm,0.3s						
MKAR	Makanchi Array	7.45	205	Pn	Pn	05 06 43.4	+1.0
	0.2nm,0.3s,baz=27,slow=14,SNR=7.2						
	0.2nm,0.3s						

*TEH **23** 05:29:09.8, 34°.65N×46°.23E, h9km, ML2.7*
*ISN **23** 05:29:10.5±1.2, 34°.66N×46°.26E, h23km±23km, ML2.8*
ISC 23 05:29:09.8±1.2, **34°.65N**±0°.04×**46°.24E**±0°.04, **h11**km±12km, **n10**, σ0**9**47/13, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.14	68	Pg	**Pg**	**05 29 13.4**	**+0.1**
IGHG	Ghaleghazi	0.42	139	Pg	**Pg**	**05 29 18.7**	**+0.4**
GLG1	Gilan-e-Gharb	0.60	207	Pg	**Pg**	**05 29 21.6**	**+0.1**
ILIN	Lien	0.66	66	Pg	**Pg**	**05 29 22.5**	**-0.1**
ILIN				Sg	**Sb**	**05 29 32.8**	**+0.1**
KCHF	Cheshme Sefid,	0.76	119	Pg	**Pg**	**05 29 24.4**	**-0.2**
ILBA	Ilam Banvizeh	1.02	181	Pg	**Pb**	**05 29 29.4**	**-0.2**
SNQR	Sonqor, Kerman	1.17	79	Pg	**Pg**	**05 29 32.9**	**+0.6**
IBZA	Bozab	1.35	97	Pg	**Pg**	**05 29 36.1**	**+0.2**
IBDR	Badra	1.56	189	*e*Pg	**Pb**	**05 29 38.0**	**-0.6**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**05 30 00.0**	**+0.1**
IKRK	Kirkuk	1.73	296	*e*Pn	**Pb**	**05 29 41.0**	**-0.5**
IKRK				*e*Sn	**Sb**	**05 30 04.0**	**+0.8**
IKRK				AML	AML	05 30 14.4	
	comp=N,142nm,0.4s						
IKRK				AML	AML	05 30 14.8	
	comp=E,94nm,0.3s						

*TEH **23** 05:47:16.5, 34°.64N×46°.30E, h10km±41km, ML2.8*
*ISN **23** 05:47:16.0±1.8, 34°.68N×46°.36E, h25km±40km, ML2.8*
ISC 23 05:47:16.3±1.1, **34°.66N**±0°.04×**46°.30E**±0°.04, **h14**km±10km, **n12**, σ0**8**50/15, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.08	64	Pg	**Pg**	**05 47 19.5**	**+0.1**
IGHG	Ghaleghazi	0.40	146	Pg	**Pb**	**05 47 24.9**	**-0.5**
ILIN	Lien	0.60	65	Pg	**Pb**	**05 47 28.8**	**0.0**
KGS1	Ghasr-e-Shirin	0.60	255	Pg	**Pg**	**05 47 28.3**	**+0.1**
GLG1	Gilan-e-Gharb	0.64	210	Pg	**Pg**	**05 47 28.9**	**+0.1**
KCHF	Cheshme Sefid,	0.73	122	Pg	**Pb**	**05 47 30.3**	**-0.6**
ILBA	Ilam Banvizeh	1.04	184	Pg	**Pg**	**05 47 36.4**	**+0.1**
SNQR	Sonqor, Kerman	1.11	80	Pg	**Pg**	**05 47 38.5**	**+0.7**
IBZA	Bozab	1.30	98	Pg	**Pg**	**05 47 41.1**	**-0.4**
IBDR	Badra	1.58	191	*e*Pg	**Pb**	**05 47 45.5**	**+0.2**
IBDR				*e*Sg	**Sb**	**05 48 05.0**	**-0.1**
IKRK	Kirkuk	1.77	295	*e*Pn	**Pb**	**05 47 48.0**	**-0.5**
IKRK				*e*Sn	**Sb**	**05 48 10.0**	**-0.5**
IKRK				AML	AML	05 48 17.5	
	comp=N,211nm,0.2s						
IKRK				AML	AML	05 48 22.5	
	comp=E,223nm,0.6s						
BHD	Baghdad	2.11	229	*e*Pn	**Pn**	**05 47 52.0**	**+0.7**
BHD				*e*Sn	**Sb**	**05 48 20.0**	**-0.5**

IDC 23 05:48:25.8±3.4, **54°.48N**×**87°.00E, h0**km, **mbtmp2.9**/2, **ML2.7**/2, **Error ellipse: s-maj=31.3km s-min=20.9km az=48.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.39	248	I	I	05 56 00.0	
	baz=67,slow=313,SNR=2.3						
ZALV	Zalesovo Beam	1.39	248	Pg	Pg	05 48 50.6	-1.8
	1.6nm,0.3s,baz=66,slow=16,SNR=11						
ZALV				Lg	Lg	05 49 10.1	
	1.2nm,0.3s,baz=64,slow=24,SNR=7.4						
KURBB	Kurchatov Arra	6.45	237	Pn	Pn	05 50 03.1	+1.2
	0.1nm,0.3s,baz=55,slow=14,SNR=8.3						
	0.7nm,0.4s						
MKAR	Makanchi Array	8.26	203	Pn	Pn	05 50 27.4	+0.6
	0.1nm,0.3s,baz=20,slow=13,SNR=2.4						
	0.2nm,0.4s						

IDC 23 05:58:20.6±3.0, **54°.15N**×**86°.57E, h0**km, **mbtmp2.7**/2, **ML2.5**/2, **Error ellipse: s-maj=25.1km s-min=15.2km az=51.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.05	260	I	I	06 03 20.0	
	baz=79,slow=317,SNR=3.5						
ZALV	Zalesovo Beam	1.05	260	Pg	Pg	05 58 39.9	-0.8
	0.4nm,0.3s,baz=77,slow=18,SNR=3.9						
ZALV				Lg	Lg	05 58 55.6	
	1.7nm,0.3s,baz=76,slow=27,SNR=9.0						
KURBB	Kurchatov Arra	6.06	238	Pn	Pn	05 59 52.2	+0.9
	0.1nm,0.3s,baz=56,slow=13,SNR=5.2						
	0.3nm,0.4s						
MKAR	Makanchi Array	7.85	202	Pn	Pn	06 00 16.9	+0.9
	0.1nm,0.3s,baz=24,slow=13,SNR=6.3						
	0.2nm,0.3s						

IDC 23 06:00:24.7±2.7, **54°.29N**×**86°.64E, h0**km, **mbtmp2.9**/3, **ML2.4**/3, **Error ellipse: s-maj=23.8km s-min=15.2km az=57.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.13	253	I	I	06 07 40.0	
	baz=68,slow=314,SNR=5.9						
ZALV	Zalesovo Beam	1.13	253	Pg	Pg	06 00 44.6	-1.7
	1.2nm,0.3s,baz=73,slow=18,SNR=12						
ZALV				Lg	Lg	06 01 01.9	
	1.7nm,0.3s,baz=71,slow=30,SNR=7.1						
KURBB	Kurchatov Arra	6.17	237	Pn	Pn	06 01 57.5	+0.6
	0.1nm,0.3s,baz=54,slow=14,SNR=8.7						
KURBB				Lg	Lg	06 03 41.7	
	baz=41,slow=30,SNR=1.7						
	1.4nm,0.7s						
MKAR	Makanchi Array	8.00	202	Pn	Pn	06 02 22.6	+0.5
	0.1nm,0.3s,baz=25,slow=14,SNR=5.1						
	0.2nm,0.4s						
BVAR	Borovoye Array	9.73	269	Pn	Pn	06 02 46.3	+0.5
	baz=61,slow=17,SNR=2.3						
	0.3nm,0.4s						

IDC 23 06:05:33.1±2.8, **53°.58N**×**86°.85E, h0**km, **mbtmp2.6**/2, **ML2.3**/2, **Error ellipse: s-maj=27.1km s-min=13.5km az=68.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.26	288	I	I	06 12 00.0	
	baz=105,slow=319,SNR=11						
ZALV	Zalesovo Beam	1.26	288	Pg	Pg	06 05 57.0	-0.3
	1.0nm,0.3s,baz=108,slow=12,SNR=9.5						
ZALV				Lg	Lg	06 06 13.8	
	1.9nm,0.3s,baz=106,slow=26,SNR=11						
KURBB	Kurchatov Arra	5.92	243	Pn	Pn	06 07 03.3	+1.3
	baz=62,slow=14,SNR=1.5						
	0.2nm,0.3s						
MKAR	Makanchi Array	7.40	205	Pn	Pn	06 07 23.5	+1.2
	0.1nm,0.3s,baz=25,slow=13,SNR=9.0						
MKAR				Sn	Sn	06 08 46.1	-0.8
	0.1nm,0.3s,baz=15,slow=20,SNR=1.9						
	0.1nm,0.3s						

*IDC **23** 06:10:15.6±2.9, 5°.91S×148°.74E, h86km±26km, mb3.8/2, mbtmp4.3/4, Error ellipse: s-maj=87.4km s-min=17.6km az=122.0*
*NEIC **23** 06:10:17.5±1.2, 6°.0S±0°.2×148°.5E±0°.3, h78km±8km, mb4.4/24, Error ellipse: s-maj=50.8km s-min=11.1km az=127.0*
ISC 23 06:10:16.0±1.1, **5°.9S**±0°.1×**148°.3E**±0°.3, **h65**km, **n33**, σ1**9**04/35, **mb4.4**/12, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.71	198		**Pn**	**06 11 11.6**	**+0.7**
PMG	Port Moresby	3.71	198	P	**Pn**	**06 11 12.2**	**+1.3**
	55nm,0.8s,baz=30,slow=12,SNR=13						
PMG				S	**Sn**	**06 11 52.6**	**-0.9**
	524nm,0.7s,baz=38,slow=10.0,SNR=20						
COEN	Coen	9.52	212	Pn	**Pn**	**06 12 30.8**	**+0.5**
WB0	Warramunga Arr	19.36	223	P	**P**	**06 14 36.9**	**+0.3**
WR0	Warramunga Arr	19.40	222	P	**P**	**06 14 37.4**	**+0.5**
WR0				IAmb	IAmb	06 14 38.0	
	comp=Z,11nm,0.8s						
WRAB	Tennant Creek	19.51	223	P	**P**	**06 14 38.3**	**+0.2**
WRAB				IAmb	IAmb	06 14 39.2	
	comp=Z,18nm,0.7s						
WB2	Warramunga Arr	19.52	223	P	**P**	**06 14 38.5**	**+0.3**
WRA	Warramunga Arr	19.52	223	P	**P**	**06 14 37.1**	**-1.2**
WRA	Warramunga Arr	19.52	223	P	**P**	**06 14 38.8**	**+0.6**
	comp=Z,13nm,0.6s,baz=49,slow=11,SNR=146						
KNRA	Kununurra	21.54	242	P	**P**	**06 15 00.8**	**+0.8**
AS31	Alice Springs	22.50	217	P	**P**	**06 15 10.2**	**-0.2**
ASAR	Alice Springs	22.50	217	P	**P**	**06 15 10.2**	**-0.2**
ASAR	Alice Springs	22.50	217	P	**P**	**06 15 10.0**	**-0.4**
	comp=Z,3.2nm,0.6s,baz=50,slow=9.5,SNR=57						
ASAR				S	**S**	**06 19 13.2**	**+0.2**

comp=Z,1.5nm,1.0s,baz=28,slow=24,SNR=5.2
comp=Z,3.2nm,0.6s
FITZ Fitzroy Crossi 25.27 239 P **P 06 15 37.1 +0.7**
MBWA Marble Bar 31.61 238 P **P 06 16 32.0 -0.9**
K15K Wolf Creek Mou 77.97 22 P **P 06 22 07.6 +0.7**
L16K Owhat River 78.38 23 P **P 06 22 09.9 +0.7**
L16K IAmb IAmb 06 22 19.4
comp=Z,9.2nm,1.4s
J16K Anvik River 78.92 21 P **P 06 22 13.2 +1.1**
J17K VABM Dome 79.54 21 P **P 06 22 16.1 +0.6**
J17K IAmb IAmb 06 22 23.9
comp=Z,6.8nm,1.5s
G16K Koyuk River 79.66 19 P **P 06 22 16.3 +0.2**
G16K IAmb IAmb 06 22 19.8
comp=Z,4.6nm,1.2s
L18K Granite Mounta 79.75 23 P **P 06 22 17.2 +0.6**
L18K IAmb IAmb 06 22 53.5
comp=Z,9.9nm,1.5s
CNPM China Poot 80.62 27 P **P 06 22 21.2 -0.3**
G18K Tagagawik 81.17 19 P **P 06 22 24.2 0.0**
G18K IAmb IAmb 06 22 59.5
comp=Z,6.1nm,1.5s
H19K Roundabout Mou 81.70 20 P **P 06 22 27.0 0.0**
H19K IAmb IAmb 06 22 29.1
comp=Z,5.9nm,1.5s
E19K Redstone River 82.55 18 P **P 06 22 32.3 +0.8**
E19K IAmb IAmb 06 22 32.4
comp=Z,2.9nm,0.6s
IMAR Indian Mountai 82.89 20 P **P 06 22 32.5 -0.7**
D19K Kuna River 82.89 17 P **P 06 22 33.4 +0.1**
D19K IAmb IAmb 06 22 53.8
comp=Z,7.4nm,1.5s
SML Sawmill 82.94 25 P **P 06 22 33.7 0.0**
SML IAmb IAmb 06 22 33.8
comp=Z,3.3nm,0.7s
RND Reindeer 83.45 24 P **P 06 22 34.9 -1.3**
RND IAmb IAmb 06 22 35.7
comp=Z,3.9nm,0.6s
B20K Meade River 84.06 16 P **P 06 22 38.7 -0.4**
CCB Clear Creek Bu 84.42 23 P **P 06 22 39.2 -1.8**
ILAR Eielson Array 84.83 23 P **P 06 22 39.0 -4.2**
comp=Z,1.5nm,0.6s,baz=250,slow=5.0,SNR=29
comp=Z,1.5nm,0.6s
TORD Torodi Ar. Bea 146.34 285 PKPbc **PKPdf 06 29 49.7 +0.5**
comp=Z,0.3nm,0.4s,baz=56,slow=2.8,SNR=6.0

*IDC **23** 06:10:49.4±0.8, 2°.68N×84°.01W, h0km, mb3.9/10, mbtmp3.9/12, ML3.3/2, MS3.7/30, Error ellipse: s-maj=36.4km s-min=16.9km az=63.0*
*RSNC **23** 06:10:53.8±0.9, 3°N±6°×8°4W±°, h10km±15km, M4.6, mB5.5, mb4.3, mBc6.2, Mw(mB)5.0, MwMwp7.0, Mwp6.8*
*NEIC **23** 06:10:53.4±2.2, 2°.72N±0°.07×84°.15W±0°.08, h10km±1km, mb4.4/27, Error ellipse: s-maj=14.0km s-min=12.0km az=237.0*
*GCMT **23** 06:10:55.4±0.3, 2°.62N±0°.02×84°.47W±0°.03, h14km±1km, MW4.7/72, Moment Tensor Solution. s10,c10; s72,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.72±.11; Mθθ0.70±.08; Mφφ0.01±.08; Mrθ-0.15±.15; Mφθ1.31±.06; Mφr-0.31±.15; Best double couple: M0 1.41000×10^16 NP1:φs=11.00000°, δ78.00000°, λ-156.00000°. NP2: φs=276.00000°, δ67.00000°, λ-14.00000°. Principal axes: T 1.7530, Plg7.0000°, Azm142.0000°; N -0.6850, Plg63.0000°, Azm37.0000°; P -1.0670, Plg25.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*CATAC **23** 06:10:59.4±0.8, 3°.13N×84°.10W, h10km, mb5.3, MB5.3, ML5.2*

ISC 23 06:10:55.3±0.5, 2°.73N±0°.05×84°.17W±0°.06, h35km, n148, σ1 s46/132, mb4.2/20, MS3.7/23, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**6.23**	**113**		**Pn**	**06 12 25.8**	**+0.7**
OTAV	**Otavalo**	**6.23**	**113**	*eP*	**Pn**	**06 12 26.1**	**+0.9**
PULU	**Pululahua**	**6.27**	**115**		**Pn**	**06 12 27.1**	**+1.4**
IMBA	**Imbabura, San**	**6.44**	**112**	Pn	**Pn**	**06 12 30.8**	**+2.6**
EDBA	**Buenos Aires**	**6.46**	**8**	*eP*	**Pn**	**06 12 28.7**	**+0.8**
BURE	**Buenos Aires**	**6.46**	**7**	*eP*	**Pn**	**06 12 28.4**	**+0.4**
SLOR	**San Lorenzo -**	**6.63**	**121**		**Pn**	**06 12 32.3**	**+1.6**
TULM	**Tulcn-Chalpat**	**6.68**	**107**		**Pn**	**06 12 34.3**	**+2.9**
ANTS	**Antisana-Sarah**	**6.80**	**118**		**Pn**	**06 12 35.5**	**+2.4**
ABE2	**San Pablo**	**6.94**	**1**	*eP*	**Pn**	**06 12 35.0**	**+0.4**
LCR2	**La Lucha 2**	**6.97**	**1**	Pn	**Pn**	**06 12 35.4**	**+0.2**
LCR2	**La Lucha 2**	**6.97**	**1**	*iP*	**Pn**	**06 12 34.9**	**-0.3**
LCR2				IAML		06 12 37.1	
	comp=Z,81nm,1.0s						
LCR2				IAmb	IAmb	06 12 37.2	
	comp=Z,74nm,0.9s						
LCR2				*iS*	**Sn**	**06 13 51.8**	**-1.6**
LCR2	**La Lucha 2**	**6.97**	**1**	*eP*	**Pn**	**06 12 34.7**	**-0.5**
PAYG	**Puerto Ayora**	**6.99**	**241**	Pn	**Pn**	**06 12 33.5**	**-1.7**
ACOS	**Acosta**	**7.03**	**0**	*eP*	**Pn**	**06 12 35.4**	**-0.4**
TRB2	**Turrubares**	**7.15**	**358**	*eP*	**Pn**	**06 12 37.0**	**-0.4**
PCAYA	**Pacayas**	**7.15**	**3**	*eP*	**Pn**	**06 12 38.2**	**+0.5**
VERB	**Verbena**	**7.19**	**4**	*eP*	**Pn**	**06 12 38.6**	**+0.5**
RAFA	**San Farael, Vo**	**7.20**	**3**	*iP*	**Pn**	**06 12 39.4**	**+1.1**
RAFA				IAML		06 12 41.8	
	comp=Z,730nm,1.0s						
RAFA				IAmb	IAmb	06 12 41.9	
	comp=Z,590nm,0.7s						
RAFA	**San Farael, Vo**	**7.20**	**3**	*eP*	**Pn**	**06 12 38.8**	**+0.5**
BELE	**Belen**	**7.20**	**360**	*eP*	**Pn**	**06 12 37.5**	**-0.8**
INDI	**Punta indio, G**	**7.22**	**349**	*iP*	**Pn**	**06 12 37.1**	**-1.3**
INDI				IAML		06 12 38.7	
	comp=Z,120nm,1.0s						
INDI				IAmb	IAmb	06 12 39.2	
	comp=Z,76nm,0.9s						
HDC	**Heredia**	**7.23**	**0**		**Pn**	**06 12 39.5**	**+0.8**
HDC	**Heredia**	**7.23**	**0**	*iP*	**Pn**	**06 12 39.4**	**+0.8**
HDC				IAML		06 12 40.4	
	comp=Z,140nm,1.0s						
HDC				IAmb	IAmb	06 12 49.0	
	comp=Z,120nm,0.6s						
HDC				*iS*	**Sn**	**06 13 58.6**	**-1.0**
HDC	**Heredia**	**7.23**	**0**	*eP*	**Pn**	**06 12 39.4**	**+0.8**
HDC3	**Heredia 3**	**7.23**	**0**	*iP*	**Pn**	**06 12 39.2**	**+0.5**
HDC3				IAML		06 12 40.3	
	comp=Z,150nm,1.0s						
HDC3				IAmb	IAmb	06 12 49.0	
	comp=Z,120nm,0.6s						
HDC3				*iS*	**Sn**	**06 13 58.8**	**-0.9**
CVIMO	**Finca Echandi**	**7.25**	**2**	*eP*	**Pn**	**06 12 38.8**	**-0.3**
TCS1	**Tacares**	**7.27**	**359**	*iP*	**Pn**	**06 12 40.1**	**+0.9**
TCS1				IAML		06 12 42.0	
	comp=Z,950nm,1.0s						
TCS1				IAmb	IAmb	06 12 44.7	
	comp=Z,620nm,0.5s						
TCS1	**Tacares**	**7.27**	**359**	*eP*	**Pn**	**06 12 40.5**	**+1.3**
JUNT	**Juntas**	**7.55**	**354**	*eP*	**Pn**	**06 12 43.0**	**+0.1**
JTS	**Las Juntas de**	**7.56**	**354**	Pn	**Pn**	**06 12 43.4**	**+0.3**
	comp=Z,18nm,0.3s,baz=90,slow=10.0,SNR=75						
JTS				Sn	**Sn**	**06 14 02.9**	**-4.6**
	comp=Z,0.9nm,0.3s,baz=306,slow=19,SNR=1.3						
JTS				LR	LR	06 15 07.5	
	comp=Z,1μm,19.9s,baz=173,slow=34						
JTS	**Las Juntas de**	**7.56**	**354**	*eP*	**Pn**	**06 12 42.2**	**-0.8**
MTEVE	**Monteverde**	**7.57**	**355**	*eP*	**Pn**	**06 12 44.9**	**+1.5**
SOCE	**Pocosol**	**7.62**	**357**		**Pn**	**06 12 45.8**	**+1.8**
SOCE	**Pocosol**	**7.62**	**357**	*iP*	**Pn**	**06 12 45.8**	**+1.8**
SOCE				IAML		06 12 47.2	
	comp=Z,500nm,1.0s						
SOCE				IVmB_BB		06 12 47.2	
	comp=Z,4μm,1.0s						
SOCE				IAmb	IAmb	06 12 47.3	
	comp=Z,300nm,0.7s						
SOCE				*iS*	**Sn**	**06 14 08.2**	**-1.0**
SOCE	**Pocosol**	**7.62**	**357**	*eP*	**Pn**	**06 12 45.6**	**+1.7**
ARE1	**Arenal 1**	**7.71**	**356**	*eP*	**Pn**	**06 12 46.3**	**+1.2**
VACR	**Volcan Arenal**	**7.71**	**356**	*eP*	**Pn**	**06 12 46.9**	**+1.6**
CEDE	**Laguna Cedeo**	**7.73**	**356**	*eP*	**Pn**	**06 12 47.2**	**+1.7**
CUI	**Cuipilapa**	**7.94**	**353**	*eP*	**Pn**	**06 12 49.1**	**+0.8**
COVE	**Coope Vega, Sa**	**7.95**	**358**	*iP*	**Pn**	**06 12 50.0**	**+1.6**
COVE				IVmB_BB		06 12 50.9	
	comp=Z,3μm,1.0s						
COVE				IAML		06 12 51.0	
	comp=Z,310nm,1.0s						
COVE				IAmb	IAmb	06 12 51.1	
	comp=Z,250nm,0.6s						
COVE				*iS*	**Sn**	**06 14 19.1**	**+2.0**
VERA	**Finca Concepci**	**8.11**	**355**	*eP*	**Pn**	**06 12 52.1**	**+1.6**
LCHIL	**Los Chiles**	**8.28**	**356**	*eP*	**Pn**	**06 12 55.3**	**+2.4**
ACON	**Acoyapa**	**9.24**	**354**		**Pn**	**06 13 07.9**	**+1.8**
ACON	**Acoyapa**	**9.24**	**354**	*eP*	**Pn**	**06 13 06.8**	**+0.7**
ESPN	**Las Esperanzas**	**9.41**	**359**		**Pn**	**06 13 09.6**	**+1.1**
COPN	**Copaltepe**	**9.70**	**346**	*iP*	**Pn**	**06 13 13.7**	**+1.3**
COPN				IAmb	IAmb	06 13 15.3	
	comp=Z,46nm,0.8s						
BOAB	**BOACO BROADBAN**	**9.78**	**351**	Pn	**Pn**	**06 13 14.4**	**+1.0**
MACN	**El Madrono**	**9.99**	**346**	*iP*	**Pn**	**06 13 18.8**	**+2.3**
MACN				*iS*	**Sn**	**06 15 05.2**	**-2.2**
CNGN	**Cerro Negro**	**10.03**	**346**		**Pn**	**06 13 18.2**	**+1.2**
ROSC	**El Rosal**	**10.05**	**78**	Pn	**Pn**	**06 13 15.5**	**-2.0**
ROSC	**El Rosal**	**10.05**	**78**	Pn	Pn	06 13 23.4	+5.9
	comp=Z,0.7nm,0.3s,baz=130,slow=12,SNR=6.0						
LIMN	**Finca el Limon**	**10.50**	**348**	*iP*	**Pn**	**06 13 24.2**	**+0.7**
LIMN				IAmb	IAmb	06 13 32.7	
	comp=Z,18nm,0.6s						
CNCH	**Conchagua**	**11.09**	**341**	*iP*	**Pn**	**06 13 33.4**	**+1.8**
CNCH				IVmB_BB		06 13 34.9	
	comp=Z,4μm,1.0s						
CNCH				IAmb	IAmb	06 13 35.3	
	comp=Z,280nm,0.7s						
LCND	**La Caada**	**11.14**	**341**	*iP*	**Pn**	**06 13 34.1**	**+1.9**
LCND				IVmB_BB		06 13 35.3	
	comp=Z,650nm,1.0s						
LCND				IAmb	IAmb	06 13 35.4	
	comp=Z,65nm,0.6s						
JUCU	**Jucuarı́n**	**11.21**	**339**	*iP*	**Pn**	**06 13 34.2**	**+1.0**
JUCU				IVmB_BB		06 13 37.8	
	comp=Z,550nm,1.0s						
JUCU				IAmb	IAmb	06 13 43.2	
	comp=Z,32nm,0.5s						
ATAH	**Atahualpa**	**11.36**	**150**	Pn	**Pn**	**06 13 34.0**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=323,slow=20,SNR=1.7						
ATAH				LR	LR	06 17 34.0	
	comp=Z,646nm,18.4s,baz=325,slow=36						
	comp=Z,2.5nm,0.6s						
TGUH	**Tegucigalpa,Un**	**11.67**	**345**	Pn	**Pn**	**06 13 41.6**	**+2.1**
TECO	**Alcaldia de Te**	**11.67**	**337**	*iP*	**Pn**	**06 13 40.1**	**+0.6**
TECO				IVmB_BB		06 13 41.6	
	comp=Z,1μm,1.0s						
TECO				IAmb	IAmb	06 13 44.0	
	comp=Z,30nm,0.9s						
SCLA	**Alcaldia de Sa**	**11.80**	**338**	*iP*	**Pn**	**06 13 44.3**	**+3.0**
SCLA				IVmB_BB		06 13 44.9	
	comp=Z,760nm,1.0s						
SCLA				IAmb	IAmb	06 13 45.4	
	comp=Z,95nm,0.6s						
LOMA	**Loma Larga**	**11.92**	**336**	*iP*	**Pn**	**06 13 46.4**	**+3.4**
LOMA				IVmB_BB		06 14 44.0	
	comp=Z,2μm,1.0s						
SNET	**Serv Nac Est T**	**11.99**	**336**	Pn	**Pn**	**06 13 46.0**	**+2.2**
PMON	**Piamonte**	**12.04**	**335**	*iP*	**Pn**	**06 13 47.1**	**+2.5**
PMON				IVmB_BB		06 13 47.7	
	comp=Z,2μm,1.0s						
PMON				IAmb	IAmb	06 13 47.8	
	comp=Z,130nm,0.5s						
JAYA	**Jayaque - finc**	**12.05**	**335**	*iP*	**Pn**	**06 13 46.7**	**+1.9**
JAYA				IAmb	IAmb	06 13 48.8	
	comp=Z,160nm,0.5s						
NUBE	**Las Nubes**	**12.41**	**334**	*iP*	**Pn**	**06 13 51.9**	**+2.2**
NUBE				IAmb	IAmb	06 13 55.0	
	comp=Z,70nm,0.4s						
MTO3	**Montecristo**	**12.68**	**336**		**Pn**	**06 13 55.1**	**+1.6**
MTO3	**Montecristo**	**12.68**	**336**	*iP*	**Pn**	**06 13 56.0**	**+2.5**
MTO3				IAmb	IAmb	06 13 58.4	
	comp=Z,47nm,0.6s						
APG	**El Apazote**	**13.69**	**333**	Pn	**Pn**	**06 14 10.4**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=163,slow=11,SNR=5.9						
APG				LR	LR	06 18 28.5	
	comp=Z,58nm,18.7s,baz=244,slow=33						
RTAL	**Retalhuleu**	**13.88**	**328**	Pn	**Pn**	**06 14 10.2**	**+0.5**
HUEH	**Huehuetenango**	**14.45**	**330**	Pn	**Pn**	**06 14 18.7**	**+1.1**
SDV	**Santo Domingo**	**14.79**	**65**	Pn	**Pn**	**06 14 20.6**	**-1.6**
SDV	**Santo Domingo**	**14.79**	**65**	Pn	**Pn**	**06 14 23.0**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=81,slow=19,SNR=1.9						
SDV				LR	LR	06 19 50.9	
	comp=Z,197nm,18.6s,baz=255,slow=37						
SDV	**Santo Domingo**	**14.79**	**65**	*eP*	**P**	**06 14 27.5**	**-0.2**
PETF	**Flores**	**15.17**	**339**	Pn	**Pn**	**06 14 27.5**	**+0.4**
PETF				IAmb	IAmb	06 14 33.7	
	comp=Z,9.7nm,0.6s						
CZSB	**Cruzeiro do Su**	**15.45**	**132**	Pn	**Pn**	**06 14 30.0**	**-0.7**
CZSB				IAmb	IAmb	06 14 38.5	
	comp=Z,24nm,0.8s						
CZSB	**Cruzeiro do Su**	**15.45**	**132**	*eP*	**Pn**	**06 14 29.8**	**-0.9**
TBTG	**Tabatinga, AM**	**15.82**	**116**		**Pn**	**06 14 36.1**	**+0.6**
TBTG				IAmb	IAmb	06 14 37.2	
	comp=Z,26nm,1.1s						
TBTG	**Tabatinga, AM**	**15.82**	**116**	*eP*	**Pn**	**06 14 36.0**	**+0.6**
NNA	**Nana**	**16.33**	**154**	LR	LR	06 20 34.1	
	comp=Z,144nm,18.8s,baz=317,slow=36						
BAUV	**El Baul**	**17.18**	**68**		**Pn**	**06 14 52.3**	**-0.5**
BAUV				IAmb	IAmb	06 15 06.6	
	comp=Z,32nm,1.2s						
CMIG	**Matias Romero**	**17.74**	**324**	P	**P**	**06 15 00.3**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=150,slow=10,SNR=3.8						
CMIG				LR	LR	06 20 25.5	
	comp=Z,370nm,21.5s,baz=146,slow=32						
	comp=Z,5.7nm,1.1s						
TEIG	**Tepich**	**17.85**	**347**	LR	LR	06 21 18.4	
	comp=Z,497nm,19.0s,baz=191,slow=35						
TEFE	**Tefe**	**20.48**	**107**	*eP*	Pn	06 15 31.8	-0.8
PCRV	**Puerto La Cruz**	**20.76**	**68**	P	**P**	**06 15 32.1**	**-1.3**
	comp=Z,5.4nm,0.8s,baz=299,slow=10,SNR=3.1						
PCRV				LR	LR	06 24 41.7	
	comp=Z,106nm,18.0s,slow=40						
	comp=Z,5.4nm,0.8s						
ETMB	**Extrema**	**21.80**	**125**	P	**P**	**06 15 44.9**	**+0.4**
ETMB	**Extrema**	**21.80**	**125**	*eP*	**P**	**06 15 45.2**	**+0.7**
OBIP	**Obispado Ponce**	**22.98**	**47**	P	**P**	**06 15 54.4**	**-2.7**
SJG	**San Juan**	**23.36**	**48**	LR	LR	06 24 49.9	
	comp=Z,103nm,21.9s,baz=239,slow=36						
GCPR	**Guaynabo City**	**23.54**	**48**	P	**P**	**06 16 01.7**	**-0.8**
BOAV	**Boa Vista**	**23.62**	**90**	*eP*	**P**	**06 16 04.4**	**+0.9**
SAML	**Samuel**	**23.92**	**119**	P	**P**	**06 16 06.8**	**+0.6**
SAML				IAmb	IAmb	06 16 09.8	
	comp=Z,11nm,1.2s						
SAML	**Samuel**	**23.92**	**119**	*eP*	**P**	**06 16 06.9**	**+0.7**
PB11	**IPOC Station P**	**26.50**	**148**	P	**P**	**06 16 31.1**	**+1.2**
LVC	**Limon Verde**	**29.26**	**150**	LR	LR	06 29 35.0	
	comp=Z,167nm,18.1s,baz=304,slow=39						
SIV	**San Ignacio**	**29.45**	**130**	LR	LR	06 29 11.0	
	comp=Z,574nm,20.1s,baz=294,slow=38						
NPGB	**Novo Progresso**	**30.35**	**109**	*eP*	**P**	**06 17 03.6**	**-0.4**
MDP	**Montagnes des**	**31.54**	**85**	LR	LR	06 30 31.2	
	comp=Z,92nm,18.1s,baz=266,slow=38						
TXAR	**Lajitas Array**	**32.31**	**327**	P	**P**	**06 17 20.3**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=147,slow=8.5,SNR=2.1						
TXAR				LR	LR	06 29 01.8	
	comp=Z,54nm,21.7s,baz=164,slow=34						
	comp=Z,0.4nm,0.9s						
TKL	**Tuckaleechee C**	**32.77**	**1**	LR	LR	06 29 58.4	
	comp=Z,114nm,19.3s,baz=186,slow=35						
LPIG	**La Paz**	**33.00**	**312**	LR	LR	06 29 39.2	
	comp=Z,66nm,18.3s,baz=172,slow=34						
VHRN	**Van Horn**	**34.15**	**327**	P	**P**	**06 17 39.1**	**+1.7**
VHRN				IAmb	IAmb	06 17 39.3	
	comp=Z,4.3nm,0.9s						
H03N2	**Juan Fernandez**	**36.31**	**173**	T	T	06 56 16.7	
	baz=351,slow=76,SNR=23						
H03N1	**Juan Fernandez**	**36.31**	**173**	T	T	06 56 21.4	
	baz=351,slow=76,SNR=27						
H03N3	**Juan Fernandez**	**36.33**	**173**	T	T	06 56 16.7	
	baz=351,slow=76,SNR=25						
DVLD	**Doverlandia**	**37.00**	**122**	*eP*	**P**	**06 18 02.3**	**+0.4**
ANMO	**Albuquerque**	**38.17**	**330**	P	**P**	**06 18 12.4**	**+0.7**
ANMO	**Albuquerque**	**38.17**	**330**	P	**P**	**06 18 12.2**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=239,slow=6.8,SNR=8.4						
	comp=Z,2.6nm,0.9s						
RPN	**Rapa Nui**	**38.34**	**218**	LR	LR	06 30 03.7	
	comp=Z,60nm,21.4s,baz=31,slow=30						
CPUP	**Villa Florida**	**38.83**	**140**	LR	LR	06 36 25.9	
	comp=Z,187nm,19.4s,baz=334,slow=40						
BDFB	**Brasilia**	**40.15**	**118**	LR	LR	06 35 24.0	
	comp=Z,120nm,21.8s,baz=322,slow=37						
MVCO	**Mesa Verde**	**40.97**	**330**	P	**P**	**06 18 36.8**	**+1.7**
IPMB	**Ipameri, GO**	**40.97**	**122**	*eP*	**P**	**06 18 35.2**	**+0.1**
SMCO	**Snowmass**	**41.81**	**333**	P	**P**	**06 18 43.1**	**+1.0**
SMCO				IAmb	IAmb	06 18 45.2	
	comp=Z,3.8nm,0.9s						
SADO	**Sadowa**	**42.10**	**5**	LR	LR	06 36 01.1	
	comp=Z,162nm,19.1s,baz=191,slow=36						
PFO	**Pinyon Flats O**	**43.06**	**319**	LR	LR	06 35 05.3	
	comp=Z,128nm,20.9s,baz=148,slow=34						
V12A	**Nelson**	**43.41**	**323**	P	**P**	**06 18 55.2**	**+0.3**
CCUT	**Cedar City**	**43.80**	**326**	P	**P**	**06 18 59.6**	**+1.5**
MSU	**Marysvale**	**43.85**	**328**	P	**P**	**06 18 59.9**	**+1.3**
RWWY	**Rawlins**	**43.97**	**335**	P	**P**	**06 19 00.2**	**+0.8**
RWWY				IAmb	IAmb	06 19 02.3	
	comp=Z,4.4nm,0.9s						
PLCA	**Paso Flores**	**45.01**	**165**	P	**P**	**06 19 05.4**	**-2.1**
	comp=Z,1.1nm,0.8s,baz=342,slow=6.4,SNR=1.3						
	comp=Z,1.1nm,0.8s						
PDAR	**Pinedale Array**	**45.85**	**334**	P	**P**	**06 19 14.9**	**+0.4**
PDAR	**Pinedale Array**	**45.85**	**334**	P	**P**	**06 19 14.7**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=134,slow=8.6,SNR=7.6						
PDAR				PcP	**PcP**	**06 20 51.4**	**0.0**
	comp=Z,0.5nm,0.7s,baz=139,slow=7.0,SNR=4.2						
PDAR				LR	LR	06 39 06.6	
	comp=Z,166nm,20.0s,baz=152,slow=37						
	comp=Z,1.1nm,0.9s						
HWUT	**Hardware Ranch**	**45.87**	**331**	P	**P**	**06 19 14.8**	**+0.3**
HWUT				IAmb	IAmb	06 19 21.0	
	comp=Z,4.2nm,0.9s						
TPH	**Tonopah**	**46.39**	**324**	P	**P**	**06 19 19.7**	**+1.0**
AGMN	**Agassiz Nation**	**46.50**	**349**	P	**P**	**06 19 19.6**	**+0.4**
AGMN				IAmb	IAmb	06 19 26.9	
	comp=Z,5.3nm,1.1s						
TPAW	**Teton Pass**	**47.05**	**333**	P	**P**	**06 19 25.5**	**+1.7**
TPAW				IAmb	IAmb	06 19 30.0	
	comp=Z,5.7nm,1.4s						
ELK	**Elko**	**47.10**	**328**	P	**P**	**06 19 24.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=117,slow=4.5,SNR=2.6						
ELK				LR	LR	06 39 04.9	
	comp=Z,249nm,18.7s,baz=140,slow=36						
	comp=Z,0.2nm,0.3s						
OMMB	**Old Mammoth Mi**	**47.17**	**322**	P	**P**	**06 19 25.3**	**+0.4**
OMMB				IAmb	IAmb	06 19 39.5	
	comp=Z,2.6nm,1.0s						
MDPB	**Devils Postpil**	**47.23**	**322**	P	**P**	**06 19 25.8**	**+0.4**
MDPB				IAmb	IAmb	06 19 40.4	
	comp=Z,4.6nm,1.3s						
NVAR	**Mina Array Bea**	**47.27**	**323**	P	**P**	**06 19 26.3**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=139,slow=7.4,SNR=7.6						
NVAR				PcP	**PcP**	**06 20 56.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=139,slow=4.3,SNR=4.4						
NVAR				LR	LR	06 38 27.2	
	comp=Z,100nm,20.4s,baz=146,slow=35						
	comp=Z,1.0nm,0.8s						
YNM	**Yellowstone No**	**47.92**	**335**	P	**P**	**06 19 30.5**	**-0.1**
ULM	**Lac du Bonnet**	**48.38**	**350**	LR	LR	06 41 01.6	
	comp=Z,33nm,18.6s,baz=136,slow=37						
BPMT	**Black Pine Rid**	**50.46**	**334**	P	**P**	**06 19 49.9**	**-0.1**
YBH	**Yreka Blue Hor**	**51.97**	**324**	LR	LR	06 42 20.0	
	comp=Z,85nm,18.5s,baz=162,slow=36						
E08A	**Dider Farm, El**	**53.12**	**330**	P	**P**	**06 20 10.1**	**+0.7**
E08A				IAmb	IAmb	06 20 19.6	
	comp=Z,2.6nm,0.5s						
NEW	**Newport**	**53.47**	**333**	LR	LR	06 45 59.8	
	comp=Z,66nm,18.2s,baz=142,slow=39						
FRB	**Frobisher Bay**	**61.96**	**8**	LR	LR	06 48 02.7	
	comp=Z,121nm,18.1s,baz=190,slow=36						
SFJD	**Kangerlussuaq**	**68.25**	**14**	LR	LR	06 52 10.2	
	comp=Z,33nm,20.2s,baz=224,slow=36						
PMSA	**Palmer Station**	**68.94**	**171**	LR	LR	06 48 04.5	
	comp=Z,73nm,20.4s,baz=70,slow=32						
MDT	**Midelt**	**79.75**	**57**	LR	LR	06 57 24.5	
	comp=Z,30nm,18.7s,baz=247,slow=35						
EKA	**Eskdalemuir Ar**	**82.65**	**35**	P	**P**	**06 23 13.3**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=252,slow=5.2,SNR=4.3						
	comp=Z,1.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**85.36**	**77**	P	**P**	**06 23 31.5**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=288,slow=8.6,SNR=2.4						
SNAA	**Sanae**	**89.84**	**162**	P	**P**	**06 23 49.7**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=299,slow=4.9,SNR=1.6						
	comp=Z,0.6nm,0.9s						
QSPA	**South Pole Qui**	**92.75**	**180**	P	**P**	**06 24 03.8**	**0.0**
	comp=Z,1.8nm,0.9s,baz=160,slow=1.6,SNR=6.4						
	comp=Z,1.8nm,0.9s						
KURBB	**Kurchatov Arra**	**124.82**	**13**	PKP	**PKPdf**	**06 29 50.1**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=347,slow=3.8,SNR=2.3						
HHC	**Hu-ho-hao-te**	**134.31**	**343**	*eP*	**PKPdf**	**06 30 09.5**	**-0.6**
WRA	**Warramunga Arr**	**138.71**	**243**	PKP	**PKPdf**	**06 30 17.6**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=99,slow=2.2,SNR=6.9						
PZH	**PanZhiHua**	**150.39**	**349**	PKPbc	**PKPab**	**06 30 54.9**	**+4.6**

*NEIC **23** 06:13:44.9±0.7, 35°.656N±0°.010×97°.41W±0°.01, h6km±1km, Error ellipse: s-maj=1.6km s-min=1.4km az=85.0*

TUL 23 06:13:45±0.7, 35°.658N±0°.009×97°.42W±0°.01, h4km±2km, ML2.0, mb_Lg1.6/7(NEIC), ML2.1/48(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=88.0, Oklahoma

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

FW06	Azle	2.68	183	Pn	Pn	06 14 30.6	+1.7
CCM	Cathedral Cave	5.50	62	Pn	Pn	06 15 04.7	-2.9
SDCO	Great Sand Dun	6.82	290	IAmb_Lg		06 17 37.8	
	comp=Z,2.3nm,1.1s						

IDC 23 06:30:39.9±2.0, 2°.05N×127°.35E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=152.2km s-min=24.6km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.91	163	P	P	06 35 44.8	-0.8
	0.9nm,0.4s,baz=342,slow=11,SNR=33 0.9nm,0.4s						
ASAR	Alice Springs	26.35	166	P	P	06 36 18.4	+0.5
	0.4nm,0.4s,baz=349,slow=13,SNR=14 0.4nm,0.4s						
MKAR	Makanchi Array	59.28	326	P	P	06 40 43.4	0.0
	0.2nm,0.3s,baz=120,slow=8.3,SNR=6.9 0.2nm,0.3s						

IDC 23 06:49:23.5±3.4, 54°.40N×86°.65E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=28.9km s-min=17.2km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.17	248	I	I	06 56 25.0	
	baz=68,slow=312,SNR=15						
ZALV	Zalesovo Beam	1.17	248	Pg	Pg	06 49 44.8	-1.1
	0.5nm,0.3s,baz=62,slow=16,SNR=5.5						
ZALV				Lg	Lg	06 50 01.9	
	0.5nm,0.3s,baz=65,slow=28,SNR=7.5						
KURBB	Kurchatov Arra	6.23	236	Pn	Pn	06 50 57.6	+1.0
	baz=55,slow=14,SNR=9.2 1.2nm,0.8s						
MKAR	Makanchi Array	8.10	202	Pn	Pn	06 51 23.1	+0.7
	0.1nm,0.3s,baz=28,slow=14,SNR=1.6 0.1nm,0.4s						

*NEIC **23** 06:50:05.0±0.8, 19°.405N±0°.008×155°.295W±0°.005, h4km±1km, Error ellipse: s-maj=1.2km s-min=0.6km az=166.0*

HVO 23 06:50:04.3±0.8, 19°.405N±0°.006×155°.287W±0°.007, h1km±4km, ML3.6/29, ML3.1/32(NEIC), Error ellipse: s-maj=1.0km s-min=0.8km az=214.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	West Rim	0.01	278		Pg	06 50 06.0	+1.1
OBL	Observatory Le	0.01	13		Pg	06 50 06.1	+1.2
RIM	Rim	0.01	128		Pg	06 50 06.0	+1.1
SDHHI	Sand Hill	0.02	203		Pg	06 50 06.1	+1.2
UWE	Uwekahuna	0.02	341		Pg	06 50 05.3	+0.3
UWE				Sg	Sg	06 50 06.0	+0.7
KKO	Keanakako`i	0.02	109		Pg	06 50 06.0	+1.1
UWB	Uwekahuna B	0.02	23		Pg	06 50 06.4	+1.5
BYL	Byron's Ledge	0.03	74	Sg	Sg	06 50 05.9	+0.6
SBLHI	Steaming Bluff	0.03	39		Pg	06 50 06.7	+1.7
HATHI	Halema'uma'u T	0.03	54	Pg	Pg	06 50 05.6	+0.6
HATHI				Sg	Sg	06 50 06.4	+1.0
RSD	Rainshed	0.06	8		Pg	06 50 06.1	+0.6
RSD				Sg	Sg	06 50 07.5	+1.1
PUH	Pauahi	0.07	115	Pg	Pg	06 50 06.7	+0.8
PUH				Sg	Sg	06 50 07.5	+0.7
PUH				IAML		06 50 07.7	
	comp=E,6μm,1.5s						
PUH				IAML		06 50 07.8	
	comp=N,6μm,0.4s						
HLP	Hilina Pali	0.11	190	Pg	Pg	06 50 07.3	+0.8
HLP				Sg	Sg	06 50 09.0	+1.1
HLP				IAML		06 50 09.8	
	comp=E,9μm,0.7s						
HLP				IAML		06 50 09.8	
	comp=N,5μm,0.6s						
MLH	Mauna Loa	0.13	314		Pg	06 50 10.6	+3.7
MLH				IAML		06 50 11.0	
	comp=N,7μm,0.3s						
STCH	Steam Cracks	0.15	97	Pg	Pg	06 50 08.1	+0.7
STCH				Sg	Sg	06 50 10.4	+1.0
STCH				IAML		06 50 10.8	
	comp=E,8μm,0.7s						
STCH				IAML		06 50 12.1	
	comp=N,5μm,0.7s						
NPOC	North of Pu'u	0.17	94		Pg	06 50 08.2	+0.6
HTC	Hot Caves	0.20	212		Pg	06 50 08.9	+0.7
JOKA	Jonika Flow	0.27	84	Pg	Pg	06 50 09.8	+0.3
JOKA				IAML		06 50 15.2	
	comp=E,4μm,1.1s						
HMH	Humu'ula Sheep	0.27	317		Pg	06 50 10.1	+0.5
HMH				Sg	Sg	06 50 14.7	+1.6
HMH				IAML		06 50 15.9	
	comp=E,3μm,1.0s						
HMH				IAML		06 50 19.0	
	comp=N,5μm,0.4s						
MLOA	Mauna Loa Obse	0.30	296	Pg	Pg	06 50 10.8	+0.7
MLOA				Sg	Sg	06 50 13.5	-0.7
MLOA				IAML		06 50 18.4	
	comp=E,4μm,1.2s						
MWH	Moku'aweowe	0.30	285	Pg	Pg	06 50 10.6	+0.4
MWH				Sg	Sg	06 50 14.4	+0.2
KHU	Kahuku	0.35	243		Pg	06 50 11.4	+0.4
KHU				IAML		06 50 14.3	
	comp=E,3μm,1.7s						
KHU				IAML		06 50 16.1	
	comp=N,3μm,1.5s						
KHU				Sg	Sb	06 50 18.2	-1.3
ALEP	Alea Permanent	0.36	292		Pg	06 50 11.8	+0.5
POHA	Pohakuloa	0.42	327	Pg	Pg	06 50 12.6	+0.1
HPAH	Hawaii Prepara	0.73	328	Pg	Pg	06 50 17.6	-0.8

*NEIC **23** 06:53:38.8, 19°.41N×155°.28W, h12km*
*HVO **23** 06:53:38.8±3.0, 19°.4N±0°.2×155°.3W±0°.1, h1km±4km, ML4.1/49, mb4.7/128(NEIC), ML3.6/39(NEIC), Mww5.3/29(NEIC), Error ellipse: s-maj=26.4km s-min=13.8km az=171.0*
*NEIC **23** 06:53:38.8±2.8, 19°.54N±0°.03×155°.3W±0°.1, h5km±1km, Error ellipse: s-maj=23.2km s-min=3.1km az=101.0*
*NEIC **23** 06:53:38.8, 19°.31N×155°.39W, h12km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^17^Nm; Mrr=0.99; Mθθ0.53; Mφφ0.45; Mrθ-0.30; Mθφ0.47; Mφr0.09; Fault plane solution: M0 1.02000×10^17^ NP1:φs61.05000°, δ51.28000°, λ-72.45000°. NP2:φs214.22000°, δ41.94000°, λ-110.61000°. Principal axes: T 0.9782, Plg5.0000°, Azm139.0000°; N 0.0864, Plg14.0000°, Azm230.0000°; P -1.0645, Plg76.0000°, Azm30.0000°;*
*IDC **23** 06:53:39.1±0.9, 19°.41N×155°.26W, h0km, mb3.8/8, mbtmp3.8/8, MS4.5/46 Error ellipse: s-maj=15.9km s-min=11.8km az=141.0*
*GCMT **23** 06:53:47.8±0.1, 19°.38N±0°.01×155°.19W±0°.01, h12km, MW5.2/150, Moment Tensor Solution. s84,c119; s150,c260; Duration: 1s0 Moment tensor: Scale 10^17^ Nm; Mrr-0.99±.01; Mθθ0.50±.01; Mφφ0.49±.01; Mrθ0.27±.04; Mφφ0.34±.01; Mφr0.04±.04; Best double couple: M0 0.95100×10^17^ NP1:φs234.00000°, δ52.00000°, λ-81.00000°. NP2:φs39.00000°, δ39.00000°, λ-102.00000°. Principal axes: T 0.8630, Plg7.0000°, Azm317.0000°; N 0.1750, Plg7.0000°, Azm48.0000°; P -1.0390, Plg80.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 06:53:40.2±0.4, 19°.41N±0°.03×155°.28W±0°.03, h10km, n669, σ1§79/586, mb4.7/81, MS4.6/57, 2C, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	Observatory Le	0.01	345		Pg	06 53 40.0	-2.2
UWB	Uwekahuna B	0.01	18		Pg	06 53 40.3	-1.9
UWE	Uwekahuna	0.01	313		Pg	06 53 39.7	-2.5
WRMHI	West Rim	0.02	252		Pg	06 53 40.2	-2.0
RIM	Rim	0.02	154		Pg	06 53 40.4	-1.8
SBLHI	Steaming Bluff	0.02	42		Pg	06 53 40.7	-1.5
BYL	Byron's Ledge	0.02	89		Pg	06 53 39.9	-2.3
KKO	Keanakako`i	0.02	132		Pg	06 53 40.6	-1.6
HATHI	Halema'uma'u T	0.02	61		Pg	06 53 40.1	-2.1
SDHHI	Sand Hill	0.03	206		Pg	06 53 40.6	-1.7
RSD	Rainshed	0.05	5		Pg	06 53 40.6	-1.9
RSD				IAML		06 53 41.5	
	comp=N,15μm,0.3s						
PUH	Pauahi	0.07	121		Pg	06 53 41.3	-1.3
PUH				IAML		06 53 42.2	
	comp=N,10μm,0.9s						
PUH				IAML		06 53 42.2	
	comp=E,15μm,0.9s						
KNHH	Kane Nui o Ham	0.11	107		Pg	06 53 42.0	-1.1
HLP	Hilina Pali	0.12	192		Pg	06 53 42.5	-0.6
HLP				IAML		06 53 44.1	
	comp=E,11μm,0.9s						
HLP				IAML		06 53 44.3	
	comp=N,13μm,1.1s						
MLH	Mauna Loa	0.13	310	Pg	Pg	06 53 42.5	-1.0
MLH				IAML		06 53 45.1	
	comp=E,17μm,0.6s						
MLH				IAML		06 53 46.1	
	comp=N,47μm,0.5s						
STCH	Steam Cracks	0.15	100		Pg	06 53 42.5	-1.1
STCH				IAML		06 53 46.5	
	comp=E,43μm,1.0s						
STCH				IAML		06 53 46.7	
	comp=N,29μm,1.0s						
NPOC	North of Pu'u	0.16	97		Pg	06 53 42.8	-1.1
NPOC					Sg	06 53 46.0	-0.4
JCUZ	Jacuzzi	0.17	99		Pg	06 53 43.0	-1.0
JCUZ					Sg	06 53 46.6	0.0
JOKA	Jonika Flow	0.26	85		Pg	06 53 44.8	-0.8
JOKA				IAML		06 53 52.1	
	comp=N,10μm,0.6s						
JOKA				IAML		06 53 53.1	
	comp=E,17μm,1.1s						
HMH	Humu'ula Sheep	0.27	315	Pg	Pg	06 53 45.0	-0.8
HMH				IAML		06 53 53.0	
	comp=E,23μm,0.9s						
HMH				IAML		06 53 53.2	
	comp=N,18μm,0.3s						
MLOA	Mauna Loa Obse	0.30	294	Pg	Pg	06 53 45.4	-1.1
MLOA				IAML		06 53 54.0	
	comp=E,32μm,0.8s						
MLOA				IAML		06 53 54.6	
	comp=N,24μm,1.0s						
MWH	Moku'aweowe	0.31	284	Pg	Pg	06 53 45.5	-1.1
PAH	Pahoa	0.33	75	Pg	Pb	06 53 46.1	-2.1
KHU	Kahuku	0.35	242	Pg	Pg	06 53 46.5	-0.9
KHU				IAML		06 53 54.9	
	comp=N,10μm,0.6s						
KHU				IAML		06 53 55.8	
	comp=E,11μm,0.7s						
HPO	Honuapo	0.41	219		Pb	06 53 47.7	-1.9
POHA	Pohakuloa	0.42	326	Pg	Pg	06 53 47.4	-1.1
HUH	Hualalai	0.59	298		Pb	06 53 51.2	-1.6
I59US	HAWAII INFRASO	0.60	287	Pg	Pb	06 53 51.4	-1.6
I59US	baz=111,slow=32			I	I	06 56 55.4	
	comp=E,0.3nm,1.0s,baz=106,slow=318,SNR=17						
HPAH	Hawaii Prepara	0.73	328	Pg	Pg	06 53 52.3	-2.1
SNCC	San Nicolas Is	34.70	59	P	P	07 00 32.1	+1.7
	baz=256						
SCZ2	Santa Cruz Isl	34.80	58	P	P	07 00 32.6	+1.3
	baz=254						
SBC	Santa Barbara	34.86	57	P	P	07 00 31.6	-0.2
	baz=254						
SMMC	Simmler	34.90	56	P	P	07 00 32.1	0.0
	baz=252						
PKM	Mcpherson Peak	34.91	56	P	P	07 00 33.5	+1.1
	baz=253						
NIKH	Nikolski High	35.12	346	P	P	07 00 34.6	+0.9
	baz=157						
AFDM	Forest Hills D	35.44	49	P	P	07 00 34.3	-2.4
SCI2	San Clemente I	35.44	60	P	P	07 00 36.7	0.0
	baz=257						
UNV	Unalaska Valle	35.44	349	P	P	07 00 37.2	+0.7
	baz=162						
YBH	Yreka Blue Hor	35.47	44	P	P	07 00 34.8	-2.2
YBH				IAmb	IAmb	07 00 56.7	
	comp=Z,12nm,1.4s						
YBH	Yreka Blue Hor	35.47	44	LR	LR	07 11 10.4	
	comp=Z,234nm,21.2s,baz=262,slow=30						
CHNA	Chernabura Isl	35.51	356	P	P	07 00 38.5	+1.5
	baz=173						
H11N3	WAKE ISLAND Hy	35.58	277	T	T	07 37 48.5	
	baz=84,slow=73,SNR=67						
H11N2	WAKE ISLAND Hy	35.59	277	T	T	07 37 50.5	
	baz=84,slow=73,SNR=40						
H11N1	WAKE ISLAND Hy	35.60	277	T	T	07 37 51.6	
	baz=84,slow=73,SNR=39						
CIS	Catalina Islan	35.64	59	P	P	07 00 38.5	-0.1
	baz=256						
LVA	Lava Point	35.66	349	P	P	07 00 35.0	-3.3
VOG	Valley Oaks Go	35.68	54	P	P	07 00 38.4	-0.4
	baz=252						
OSI	Osito Audit: C	35.70	57	P	P	07 00 37.7	-1.4
	baz=254						
HUMO	Hull Mountain	35.74	43	P	P	07 00 37.9	-1.4
HUMO				IAmb	IAmb	07 01 37.9	
	comp=Z,36nm,1.9s						
ARVC	Arvin	35.75	56	P	P	07 00 39.0	-0.4
	baz=254						
VES	Vestal, Richgr	35.76	55	P	P	07 00 40.4	+0.9
	baz=252						
FMP	Fort Macarthur	35.81	59	P	P	07 00 40.8	+0.8
	baz=256						
ATKA	Atka Island	35.91	340	P	P	07 00 38.5	-2.1
DECC	Green Verdugo	35.91	58	P	P	07 00 41.3	+0.4
	baz=255						
H11S2	WAKE ISLAND Hy	35.92	275	T	T	07 38 12.4	
	baz=83,slow=74,SNR=14						
H11S1	WAKE ISLAND Hy	35.92	275	T	T	07 38 11.6	
	baz=83,slow=74,SNR=7.2						
FALS	False Pass	35.92	352	P	P	07 00 41.1	+0.5
	baz=167						
H11S3	WAKE ISLAND Hy	35.93	275	T	T	07 38 14.7	
	baz=83,slow=74,SNR=8.4						
SDPT	Sand Point	36.09	355	P	P	07 00 42.6	+0.5
	baz=172						
ISA	Isabella, Lake	36.18	56	P	P	07 00 40.2	-3.1
ISA				IAmb	IAmb	07 01 04.1	
	comp=Z,20nm,1.5s						
ISA	Isabella, Lake	36.18	56	P	P	07 00 43.2	-0.1
	baz=253						
MPK	Martis Peak	36.25	49	P	P	07 00 41.1	-2.9
EDW2	Edwards Air Fo	36.35	57	P	P	07 00 43.7	-1.0
	baz=255						
WAKR	Walker	36.38	51	P	P	07 00 43.2	-1.8
BFSC	Mount Baldy Ra	36.45	58	P	P	07 00 44.1	-1.5
	baz=256						
ELS	Elsinore Mount	36.50	59	P	P	07 00 44.5	-1.4
ELS				IAmb	IAmb	07 00 51.0	
	comp=Z,11nm,1.1s						
S12K	Black Hills	36.59	354	P	P	07 00 47.2	+0.9
	baz=169						
109C	Camp Elliot, M	36.60	61	P	P	07 00 45.8	-0.9
	baz=258						
MURC	Murrieta	36.68	60	P	P	07 00 47.3	-0.1
	baz=257						
CWC	Cottonwood Cre	36.72	55	P	P	07 00 46.8	-1.0
	baz=253						
LRMC	Laurel Mtn Rad	36.75	56	P	P	07 00 48.0	-0.2
	baz=254						
TIN	Tinemaha, Big	36.79	54	P	P	07 00 49.2	+0.8
	baz=252						
PAHR	Pah Rah Range	36.87	49	P	P	07 00 47.1	-2.0
PAHR				IAmb	IAmb	07 01 11.7	
	comp=Z,22nm,1.8s						
CHGN	Chignik	36.91	357	P	P	07 00 50.2	+1.2
	baz=175						
BBRC	Big Bear Solar	37.05	59	P	P	07 00 50.0	-0.8
	baz=256						
MPMC	Manual Prospec	37.06	55	P	P	07 00 51.5	+0.6
	baz=254						
DSP	Deep Springs	37.09	53	P	P	07 00 47.7	-3.1
DSP				IAmb	IAmb	07 01 16.3	
	comp=Z,18nm,1.8s						
SII	Sitkinak Islan	37.10	1	P	P	07 00 50.7	0.0
	baz=182						
RRX	Edison Barstow	37.14	58	P	P	07 00 51.2	-0.1
	baz=256						
MONP2	Monument Peak	37.16	61	P	P	07 00 50.6	-1.2
	baz=259						
PPT	Papeete	37.17	171	LR	LR	07 12 25.7	
	comp=Z,1μm,20.3s,baz=334,slow=30						
NVAR	Mina Array Bea	37.19	51	P	P	07 00 48.2	-3.7
NVAR	Mina Array Bea	37.19	51	P	P	07 00 52.0	+0.1
	comp=Z,1.4nm,1.0s,baz=245,slow=10,SNR=9.1						
	comp=Z,1.4nm,1.0s						
PPT2	Papeete2	37.20	171	eP	P	07 00 54.5	+2.6
	comp=Z,93nm,27.8s						
PPT2				eS	S	07 06 41.3	+2.4
	comp=Z,406nm,25.0s						
PPT2				eLQ	LQ	07 09 08.5	
	comp=Z,481nm,21.2s						
PPT2				eLR	LR	07 10 49.0	
	comp=Z,3μm,27.0s						
PPT2				eLR	LR	07 10 50.4	
	comp=Z,4μm,25.2s						
PFO	Pinyon Flats O	37.28	60	P	P	07 00 51.6	-1.1
	baz=258						
TPFO	Pinon Flats	37.28	60	P	P	07 00 51.0	-1.7
	baz=258						
NV11	Mina Array Sit	37.30	51	P	P	07 00 48.9	-3.9
NV11				IAmb	IAmb	07 01 13.5	
	comp=Z,21nm,1.9s						
IKP	In-Ko-Pah, Jac	37.38	61	P	P	07 00 51.3	-2.1
	baz=259						
GSC	Goldstone, Bar	37.40	57	P	P	07 00 53.0	-0.6
	baz=255						
GRAC	Grapevine Rang	37.43	54	P	P	07 00 53.3	-0.5
	baz=252						
YUH	Yuha Desert	37.53	61	P	P	07 00 51.4	-3.2
YUH				IAmb	IAmb	07 01 07.2	
	comp=Z,19nm,1.6s						
KVN	Kaiserville	37.55	51	P	P	07 00 50.9	-4.1
MZP	Montezuma Peak	37.63	53	P	P	07 00 56.8	+1.0
HEC	Hector,Ludlow	37.66	58	P	P	07 00 54.4	-1.3
	baz=256						
FURC	Furnace Creek,	37.66	55	P	P	07 00 57.0	+1.3
	baz=254						
SWSC	Sam W. Stewart	37.69	61	P	P	07 00 56.6	+0.6
	baz=259						
GWY	Greenwater Val	37.74	56	P	P	07 00 53.2	-3.3
BELC	Belle Mtn. Jos	37.74	59	P	P	07 00 57.3	+0.7
	baz=258						
OHAK	Old Harbor	37.78	2	P	P	07 00 56.6	+0.2
	baz=183						
NLWA	Neilton Lookou	37.84	35	P	P	07 00 54.2	-2.9
WCT	Wildcat Mounta	37.94	55	P	P	07 00 56.1	-2.1
SHOC	Shoshone, Teco	37.97	56	P	P	07 00 57.1	-1.2
	baz=255						
BC3	Big Chuckawall	38.11	60	P	P	07 00 59.0	-0.7
	baz=258						
TUQ	Turquoise Moun	38.13	57	P	P	07 01 00.5	+0.6
	baz=256						
R17L	Mt. Peulik Vol	38.17	359	P	P	07 01 00.6	+0.9
	baz=178						
GMRC	Granite Mounta	38.19	58	P	P	07 01 00.5	+0.2
	baz=257						
TPNV	Topopah Spring	38.27	55	P	P	07 01 01.3	+0.3
	baz=254						
KDAK	Kodiak Island	38.37	2	P	P	07 01 02.3	+0.9
	baz=184						
KDAK	Kodiak Island	38.37	2	LR	LR	07 13 09.1	
	comp=Z,1μm,21.4s,baz=205,slow=30						
IRM	Iron Mountain	38.46	59	P	P	07 01 01.0	-1.6
	baz=258						
GLA	Glamis	38.51	61	P	P	07 01 03.5	+0.5
	baz=260						
P08K	Saint George I	38.63	347	P	P	07 01 04.0	+0.4
	baz=158						
Q17K	Contact Creek	38.80	359	P	P	07 01 05.7	+0.5
	baz=179						
S11A	Rachel	38.85	54	P	P	07 01 02.4	-3.5
BBB	Bella Bella	38.98	27	LR	LR	07 13 14.9	
	comp=Z,291nm,20.0s,baz=241,slow=30						
J08A	Circle Bar Ran	39.00	44	P	P	07 01 04.2	-2.7
SHPR	Sheep Range	39.00	56	P	P	07 01 04.8	-2.4
NEE2	Needles Airpor	39.02	58	P	P	07 01 07.1	-0.1
	baz=258						
V12A	Nelson	39.05	57	P	P	07 01 04.7	-2.9
R11B	Troy Canyon, C	39.18	53	P	P	07 01 06.9	-1.8
R11B	Troy Canyon, C	39.18	53	P	P	07 01 08.3	-0.4
	baz=252						
Q18K	Katmai Hardscr	39.19	0	P	P	07 01 09.1	+0.8
	baz=180						
Q20K	Shuyak Island	39.20	2	P	P	07 01 09.5	+1.2
	baz=184						
Q16K	King Salmon	39.23	359	P	P	07 01 10.7	+2.2
	baz=178						
PDMCI	Parker Dam,Lak	39.31	59	P	P	07 01 10.8	+1.2
	baz=258						
SPIA	Saint Paul Isl	39.31	347	P	P	07 01 11.0	+1.7
	baz=157						
PIX	Pinacate	39.42	64	P	P	07 01 09.7	-0.8
Q19K	Cape Douglas,	39.48	1	P	P	07 01 12.4	+1.7
	baz=182						
G08A	Pilot Rock	39.57	41	P	P	07 01 10.4	-1.4
P16K	Nushagak River	39.62	358	P	P	07 01 13.5	+1.8
	baz=176						
CRAG	Craig	39.70	20	P	P	07 01 13.7	+1.2
	baz=214						
P17K	Kvichak River	39.74	359	P	P	07 01 14.1	+1.3
	baz=178						
O15K	Ungalikthiuk R	39.85	356	P	P	07 01 15.5	+1.7
	baz=173						
P18K	Big Mountain,	39.93	0	P	P	07 01 15.3	+0.8
	baz=180						
Q12A	Willow Creek R	39.95	52	P	P	07 01 12.5	-2.6
214A	Organ Pipe Nat	40.02	63	P	P	07 01 13.9	-1.7
214A	Organ Pipe Nat	40.02	63	P	P	07 01 15.4	-0.2
	baz=262						
O14K	Tigyukauivet M	40.03	355	P	P	07 01 16.9	+1.8
	baz=171						
V35K	Ketchikan	40.08	21	P	P	07 01 16.4	+0.7
	baz=216						
O16K	Kokwok River B	40.19	358	P	P	07 01 17.8	+1.3
	baz=176						
P19K	Oil Pt	40.22	2	P	P	07 01 18.1	+1.3
	baz=183						
U33K	Whale Pass	40.24	19	P	P	07 01 18.2	+1.2
	baz=213						
HOM	Homer	40.28	3	P	P	07 01 18.4	+1.1
	baz=185						
O17K	Koliganek Bris	40.34	359	P	P	07 01 18.1	+0.4
	baz=177						
O18K	Koktuh Hills	40.40	0	P	P	07 01 19.4	+1.1
	baz=180						
SIT	Sitka	40.41	17	P	P	07 01 19.6	+1.3
	baz=210						
BRSE	Bradley Lake S	40.41	4	P	P	07 01 19.3	+0.8
	baz=187						
Q23K	Middleton Isla	40.49	7	P	P	07 01 22.5	+3.5
	baz=193						
RAR	Rarotonga	40.61	186	LR	LR	07 13 43.3	
	comp=Z,655nm,19.9s,baz=357,slow=30						
O20K	Slope Mountain	40.67	2	P	P	07 01 23.1	+2.5
	baz=184						
N14K	Kuskokwak Cree	40.73	355	P	P	07 01 23.5	+2.6
	baz=171						
WRAK	Wrangell Islan	40.74	19	P	P	07 01 23.6	+2.5
	baz=214						
O19K	Port Alsworth	40.74	1	P	P	07 01 23.7	+2.6
	baz=181						
N15K	Kwethluk River	40.86	356	P	P	07 01 22.7	+0.6
	baz=173						
SEW	Seward	40.86	4	P	P	07 01 23.4	+1.4
	baz=188						
SHEM	Shemya Is, Ala	40.87	332	LR	LR	07 14 55.4	
	comp=Z,1μm,21.6s,baz=144,slow=31						
T33K	Petersburg	40.88	19	P	P	07 01 23.5	+1.2
	baz=213						
P23K	Montague Islan	40.93	6	P	P	07 01 23.5	+0.9
	baz=191						
S31K	Pelican	40.97	15	P	P	07 01 25.0	+2.1
	baz=208						
S32K	Killisnoo	40.97	17	P	P	07 01 24.5	+1.5
	baz=211						
N16K	Nishlik Lake	41.09	357	P	P	07 01 26.1	+2.1
	baz=175						
N17K	Nushagak Hills	41.09	359	P	P	07 01 25.1	+1.1
	baz=177						
U35K	Hyder	41.09	21	P	P	07 01 25.2	+1.2
	baz=218						
KAIM	Kayak Island	41.22	8	P	P	07 01 27.5	+2.5
	baz=196						
O22K	Cooper Landing	41.22	4	P	P	07 01 28.0	+3.0
	baz=188						
U15A	North Rim	41.23	57	P	P	07 01 22.6	-3.2
N18K	Kilae Creek	41.23	360	P	P	07 01 27.1	+2.0
	baz=179						
M13K	Dall Lake	41.36	354	P	P	07 01 27.5	+1.4
	baz=168						
N19K	Bonanza Creek	41.36	1	P	P	07 01 26.1	-0.2

N19K	Bonanza Creek	41.36	1	P	P	07 01 28.8	+2.4
	baz=181,SNR=11						
CAPN	Captain Cook N	41.42	3	P	P	07 01 28.0	+1.4
	baz=186						
M15K	Kasigluk River	41.42	356	P	P	07 01 28.2	+1.6
	baz=172						
PKCU	Pink Cliffs	41.44	55	P	P	07 01 26.4	-1.2
PKCU				IAmb	IAmb	07 02 40.3	
	comp=Z,36nm,1.9s						
R31K	City Hall, Gus	41.49	15	P	P	07 01 28.7	+1.5
	baz=208						
X16A	Lo Mia Camp, P	41.52	60	P	P	07 01 26.5	-1.7
BGLC	Bering Glacier	41.56	9	P	P	07 01 28.4	+0.6
	baz=197						
M14K	Bethel	41.57	355	P	P	07 01 29.0	+1.1
	baz=170						
HMT	Hamilton	41.63	8	P	P	07 01 25.6	-2.9
M16K	Timber Creek	41.65	357	P	P	07 01 31.1	+2.6
	baz=175						
EYAK	Cordova Ski Ar	41.65	7	P	P	07 01 29.9	+1.3
	baz=194						
M11K	Mekoryuk	41.66	352	P	P	07 01 29.3	+0.6
	baz=164						
R32K	Eaglecrest	41.68	16	P	P	07 01 29.4	+0.5
	baz=210						
PWL	Port Wells	41.70	5	P	P	07 01 26.6	-2.4
PWL				IAmb	IAmb	07 01 40.2	
	comp=Z,12nm,0.9s						
PWL	Port Wells	41.70	5	P	P	07 01 29.5	+0.6
	baz=190						
FID	Port Fidalgo	41.77	6	P	P	07 01 25.3	-4.2
FID				IAmb	IAmb	07 01 37.4	
	comp=Z,9.4nm,1.0s						
MVU	Marysvale	41.77	54	P	P	07 01 27.9	-2.4
TUC	Tucson	41.77	63	P	P	07 01 26.7	-3.4
TUC	Tucson	41.77	63	P	P	07 01 29.5	-0.6
	baz=263						
WUAZ	Wupatki	41.77	58	P	P	07 01 27.1	-3.0
WUAZ				IAmb	IAmb	07 01 41.8	
	comp=Z,34nm,1.9s						
WUAZ	Wupatki	41.77	58	P	P	07 01 29.8	-0.3
	baz=259						
HLID	Hailey	41.78	46	P	P	07 01 29.1	-1.0
HLID				IAmb	IAmb	07 01 52.9	
	comp=Z,24nm,2.0s						
HLID	Hailey	41.78	46	P	P	07 01 28.8	-1.3
	baz=248						
DUG	Dugway, Tooele	41.78	51	P	P	07 01 29.7	-0.4
	baz=253						
MSU	Marysvale	41.80	54	P	P	07 01 26.0	-4.4
N20K	Mount Spurr	41.80	2	P	P	07 01 29.7	-0.2
	baz=184						
SPCR	Spurr Chakacha	41.80	2	P	P	07 01 21.8	-8.1
	baz=184						
PNL	Peninsula	41.81	12	P	P	07 01 30.6	+0.7
	baz=203						
RC01	Rabbit Creek A	41.82	4	P	P	07 01 30.1	+0.1
	baz=188						
MESA	MESA	41.83	10	P	P	07 01 32.1	+1.8
	baz=199						
GLI	Glacier Island	41.83	6	P	P	07 01 27.5	-2.5
GLI				IAmb	IAmb	07 01 38.0	
	comp=Z,11nm,1.0s						
GLI	Glacier Island	41.83	6	P	P	07 01 30.9	+0.8
	baz=192						
T35M	Bob Quinn	41.87	20	P	P	07 01 33.7	+3.2
	baz=217						
M17K	Holitna River	41.98	358	P	P	07 01 34.6	+3.4
	baz=177						
M18K	Stony River	42.04	360	P	P	07 01 34.0	+2.3
	baz=179						
PINM	Pinnacle	42.04	11	P	P	07 01 33.5	+1.6
	baz=201						
P29M	Windy Craggy	42.11	13	P	P	07 01 33.4	+1.0
	baz=205						
NEW	Newport	42.12	38	P	P	07 01 30.2	-2.5
NEW	Newport	42.12	38	P	P	07 01 33.9	+1.2
	baz=240						
SUA	Susitna One	42.13	3	P	P	07 01 29.7	-2.9
SUA				IAmb	IAmb	07 01 43.8	
	comp=Z,15nm,1.0s						
SUA	Susitna One	42.13	3	P	P	07 01 33.6	+0.9
	baz=186						
CRQM	Cirque	42.19	9	P	P	07 01 29.4	-3.8
CRQM				IAmb	IAmb	07 02 21.3	
	comp=Z,10nm,0.5s						
CRQE	Cirque	42.20	9	P	P	07 01 34.3	+1.1
	baz=197						
BMRM	Bremner River	42.20	8	P	P	07 01 34.3	+1.2
	baz=195						
L14K	Kuka Creek	42.21	355	P	P	07 01 34.2	+1.1
	baz=170						
KNK	Knik Glacier	42.23	5	P	P	07 01 29.7	-3.6
KNK				IAmb	IAmb	07 01 40.9	
	comp=Z,9.2nm,0.6s						
KNK	Knik Glacier	42.23	5	P	P	07 01 34.9	+1.5
	baz=190						
NLU	North Lily Min	42.26	51	P	P	07 01 30.4	-3.7
NLU				IAmb	IAmb	07 01 47.0	
	comp=Z,28nm,1.9s						
PLBC	Pleasant Camp	42.27	14	P	P	07 01 35.1	+1.5
	baz=207						
HVU	Hansel Valley	42.29	49	P	P	07 01 31.4	-3.0
S34M	Telegraph Cree	42.35	19	P	P	07 01 31.0	-3.3
S34M	Telegraph Cree	42.35	19	P	P	07 01 36.7	+2.4
	baz=215						
L16K	Owhat River	42.36	357	P	P	07 01 36.5	+2.1
	baz=174						
PMR	Palmer	42.36	4	P	P	07 01 30.2	-4.1
PMR				IAmb	IAmb	07 01 45.5	
	comp=Z,19nm,1.5s						
PMR	Palmer	42.36	4	P	P	07 01 36.5	+2.2
	baz=189						
GRNC	Granite Creek	42.38	10	P	P	07 01 30.7	-4.2
L15K	Ungalak Mounta	42.45	356	P	P	07 01 37.2	+2.1
	baz=171						
M22K	Willow	42.46	4	P	P	07 01 38.1	+3.0
	baz=187						
M19K	Big River Lodg	42.46	1	P	P	07 01 38.1	+3.0
	baz=181						
M20K	Styx River	42.46	2	P	P	07 01 38.8	+3.6
	baz=183						
SKAG	Skagway	42.51	15	P	P	07 01 38.0	+2.4
	baz=208						
KLU	Klutina	42.55	7	P	P	07 01 37.0	+0.9
	baz=193						
O29M	Mount Kennedy	42.55	12	P	P	07 01 37.0	+0.8
	baz=204						
SKT	Skwentna	42.61	3	P	P	07 01 38.9	+2.5
	baz=185						
SML	Sawmill	42.63	5	P	P	07 01 38.1	+1.5
	baz=190						
CTG	Chitna Glacier	42.67	10	P	P	07 01 39.4	+2.3
	baz=200						
M23K	Glacier View	42.67	5	P	P	07 01 38.9	+2.0
	baz=190						
O28M	Mount Upton	42.68	11	P	P	07 01 39.9	+2.6
	baz=201						
P30M	Million Dollar	42.73	13	P	P	07 01 39.4	+2.0
	baz=206						
L19K	White Mountain	42.73	0	P	P	07 01 38.9	+1.5
	baz=181						
L17K	Donlin	42.73	358	P	P	07 01 39.2	+1.8
	baz=176						
SCM	Sheep Creek Mo	42.75	6	P	P	07 01 40.9	+3.3
	baz=191						
L18K	Granite Mounta	42.78	359	P	P	07 01 38.8	+1.1
	baz=178						
MCARA	McCarthy VSAT	42.81	9	P	P	07 01 40.7	+2.7
	baz=197						
N25K	Chitina, Valde	42.82	7	P	P	07 01 39.3	+1.2
	baz=195						
TBI	Tubuai	42.88	172	*e*P	P	07 01 36.1	-2.8
	comp=Z,290nm,23.8s						
TBI				*e*S	S	07 08 04.8	+1.1
	comp=Z,2μm,26.8s						
TBI				*e*LQ	LQ	07 11 38.1	
	comp=Z,3μm,27.2s						
TBI				*e*LR	LR	07 13 25.0	
	comp=Z,13μm,28.5s						
TBI				*e*LR	LR	07 13 29.4	
	comp=Z,2μm,27.2s						
Q32M	Nakina River	42.88	17	P	P	07 01 38.9	0.0
	baz=213						
K13K	Kusilvak Mount	42.98	354	P	P	07 01 41.4	+2.0
	baz=167						
W18A	Petrified Fore	43.02	59	P	P	07 01 40.9	+0.5
	baz=261						
P32M	Atlin	43.03	16	P	P	07 01 40.1	+0.2
	baz=210						
L20K	Farewell, AK	43.04	1	P	P	07 01 40.7	+0.8
	baz=182						
K15K	Wolf Creek Mou	43.06	356	P	P	07 01 41.3	+1.3
	baz=171						
CUT	Chulitna	43.10	3	P	P	07 01 42.3	+2.0
	baz=187						
DLBC	Dease Lake	43.12	19	P	P	07 01 42.6	+2.0
	baz=216						
DLBC	Dease Lake	43.12	19	LR	LR	07 15 41.0	
	comp=Z,517nm,20.8s,baz=236,slow=31						
M24K	Tolsona, Glenn	43.13	6	P	P	07 01 42.3	+1.7
	baz=193						
YUK6	Outpost Mounta	43.19	12	P	P	07 01 44.0	+2.6
	baz=204						
YUK8	Steele Glacier	43.24	11	P	P	07 01 43.4	+1.6
	baz=202						
K17K	Iditarod	43.32	358	P	P	07 01 43.6	+1.5
	baz=176						
MSO	Missoula	43.39	41	P	P	07 01 44.1	+1.0
	baz=245						
WAT6	Susitna Watana	43.45	5	P	P	07 01 45.4	+2.1
	baz=190,SNR=7.8						
TTA	Tatalina	43.48	360	P	P	07 01 45.0	+1.4
	baz=179						
YUK4	Talbot Arm	43.50	12	P	P	07 01 45.6	+1.8
	baz=203						
O30N	Mendenhall	43.50	14	P	P	07 01 45.3	+1.6
	baz=207						
HARP	HAARP	43.52	7	P	P	07 01 45.7	+1.9
	baz=194						
BPMT	Black Pine Rid	43.53	42	P	P	07 01 42.5	-1.9
YUK3	Moose Creek	43.58	10	P	P	07 01 45.7	+1.2
	baz=200						
R33M	Jennings River	43.62	18	P	P	07 01 43.9	-0.8
R33M	Jennings River	43.62	18	P	P	07 01 46.2	+1.5
	baz=214						
WAT1	Susitna Watana	43.63	4	P	P	07 01 46.4	+1.7
	baz=189						
J14K	Nanvaranak Lak	43.68	354	P	P	07 01 45.8	+0.8
	baz=169						
WHY	Whitehorse	43.68	14	P	P	07 01 46.7	+1.5
	baz=208						
M26K	Nabesna, AK	43.79	8	P	P	07 01 47.8	+1.8
	baz=197,SNR=18						
P33M	Teslin, Yukon	43.80	16	P	P	07 01 47.4	+1.3
	baz=211						
M27K	Edge Creek, AK	43.91	9	P	P	07 01 47.9	+0.8
	baz=198,SNR=8.0						
N30M	Aishikik Lake	43.91	12	P	P	07 01 48.4	+1.4
	baz=205						
K20K	Telida	43.92	1	P	P	07 01 47.0	+0.1
	baz=182						
DHY	Denali Highway	43.97	5	P	P	07 01 48.8	+1.3
	baz=191						
J16K	Anvik River	43.99	357	P	P	07 01 49.7	+2.2
	baz=173						
J17K	VABM Dome	44.03	358	P	P	07 01 49.3	+1.5
	baz=175						
J18K	Innoko River	44.03	359	P	P	07 01 50.3	+2.5
	baz=178						
PAX	Paxson	44.05	6	P	P	07 01 50.5	+2.4
	baz=193,SNR=15						
N31M	Braeburn, Yuko	44.21	13	P	P	07 01 51.7	+2.3
	baz=207						
121A	Cookes Peak, D	44.32	63	P	P	07 01 48.6	-2.3
121A	Cookes Peak, D	44.32	63	P	P	07 01 52.0	+1.2
	baz=265						
L26K	Log Cabin Wild	44.35	8	P	P	07 01 47.7	-2.7
L26K				IAmb	IAmb	07 02 02.1	
	comp=Z,13nm,1.3s						
L26K	Log Cabin Wild	44.35	8	P	P	07 01 52.4	+2.0
	baz=196						
MVCO	Mesa Verde	44.36	56	P	P	07 01 51.5	+0.3
	baz=260						
BOZ	Bozeman (W)	44.38	44	P	P	07 01 52.5	+1.4
	baz=249						
MCK	McKinley	44.50	4	P	P	07 01 53.1	+1.5
	baz=189						
N32M	Quiet Lake	44.54	15	P	P	07 01 52.7	+0.6
	baz=210						
M29M	Somme Creek	44.55	11	P	P	07 01 53.2	+1.1
	baz=203,SNR=18						
J19K	Poorman	44.55	360	P	P	07 01 53.3	+1.3
	baz=180						
L27K	Beaver Creek,	44.59	9	P	P	07 01 51.4	-0.9
L27K				IAmb	IAmb	07 02 01.3	
	comp=Z,6.3nm,0.9s						
L27K	Beaver Creek,	44.59	9	P	P	07 01 50.9	-1.4
	baz=198,SNR=12						
I17K	Unalakleet	44.59	357	P	P	07 01 52.7	+0.4
	baz=173						
BCAR	Beaver Creek A	44.60	9	P	P	07 01 51.3	-1.1
H17A	Grant Village	44.66	46	P	P	07 01 53.7	+0.2
	baz=251						
J20K	Nowinta River	44.74	1	P	P	07 01 55.1	+1.6
	baz=182						
BPAW	Bear Paw Mtn.	44.75	3	P	P	07 01 55.7	+2.0
	baz=186						
K24K	Donnelly Dome	44.83	6	P	P	07 01 55.4	+1.1
	baz=193						
WTLY	Watson Lake, Y	44.84	18	P	P	07 01 55.5	+1.0
	baz=217						
BW06	Boulder Array	44.87	48	P	P	07 01 55.3	+0.1
	baz=253						
PD31	Pinedale Array	44.87	48	P	P	07 01 53.9	-1.2
PD31				IAmb	IAmb	07 02 32.9	
	comp=Z,17nm,1.8s						
PDAR	Pinedale Array	44.87	48	P	P	07 01 54.1	-1.1
PDAR	Pinedale Array	44.87	48	P	P	07 01 54.6	-0.5
	comp=Z,2.5nm,1.1s,baz=255,slow=5.8,SNR=11						
	comp=Z,2.5nm,1.1s						
M30M	Minto, Yukon	44.99	12	P	P	07 01 57.1	+1.5
	baz=205						
TOAD	Toad River Com	45.02	22	P	P	07 01 57.6	+1.8
	baz=222						
LIRD	Liard River Hi	45.14	21	P	P	07 01 58.1	+1.3
	baz=220						
O20A	White River Ci	45.15	52	P	P	07 01 57.8	+0.4
	baz=257						
M31M	Drury Creek, Y	45.15	14	P	P	07 01 55.8	-1.1
M31M	Drury Creek, Y	45.15	14	P	P	07 01 59.2	+2.4
	baz=208						
Y22D	IRIS PASSCAL I	45.19	61	P	P	07 01 57.5	-0.2
	baz=264						
SCRK	Sand Creek	45.19	7	P	P	07 01 55.2	-2.0
SCRK				IAmb	IAmb	07 02 08.1	
	comp=Z,6.4nm,1.1s						
SCRK	Sand Creek	45.19	7	P	P	07 01 58.3	+1.1
	baz=195						
L29M	L29M	45.22	11	P	P	07 01 56.3	-1.2
L29M				IAmb	IAmb	07 02 10.0	
	comp=Z,13nm,1.6s						
L29M	L29M	45.22	11	P	P	07 01 57.6	+0.2
	baz=203						
WRH	Wood River Hil	45.29	4	P	P	07 01 56.3	-1.5
HDA	Harding Lake	45.32	5	P	P	07 01 58.9	+0.8
	baz=191						
GCSA	Galena City Sc	45.32	359	P	P	07 01 58.9	+0.8
	baz=178						
NEA2	Nenana	45.34	4	P	P	07 01 59.3	+1.0
	baz=188						
I20K	Naaghedeneel	45.36	0	P	P	07 01 58.5	+0.1
	baz=181						
FARO	Faro, Yukon	45.41	14	P	P	07 02 00.9	+1.9
	baz=210						
H16K	Elim	45.44	356	P	P	07 02 00.1	+1.0
	baz=171						
K27K	Chicken	45.48	8	P	P	07 02 01.8	+2.5
	baz=198						
H17K	Granite Mounta	45.60	357	P	P	07 02 02.3	+2.0
	baz=174						
ANM	Nome	45.63	354	P	P	07 02 00.6	0.0
	baz=167						
J25K	Salcha River,	45.66	6	P	P	07 02 01.8	+0.8
	baz=193,SNR=19						
ANMO	Albuquerque	45.66	60	P	P	07 02 00.2	-1.4
ANMO	Albuquerque	45.66	60	P	P	07 02 02.8	+1.2
	baz=263						
ILAR	Eielson Array	45.68	5	P	P	07 02 00.8	-0.2
ILAR	Eielson Array	45.68	5	P	P	07 02 01.6	+0.7
	comp=Z,2.5nm,0.9s,baz=197,slow=7.0,SNR=23						
ILAR				LR	LR	07 18 04.8	
	comp=Z,493nm,19.5s,baz=178,slow=32						
	comp=Z,2.5nm,0.9s						
MLY	Manley	45.69	3	P	P	07 02 00.8	-0.4
MLY				IAmb	IAmb	07 02 14.9	
	comp=Z,11nm,1.2s						
MLY	Manley	45.69	3	P	P	07 02 02.1	+0.9
	baz=186						
COLA	College	45.71	4	P	P	07 02 01.7	+0.6
	baz=190						
J26L	Joseph Creek	45.74	7	P	P	07 02 03.4	+1.8
	baz=196,SNR=11						
H18K	Honhosa River	45.76	358	P	P	07 02 03.6	+2.0
	baz=176						
S22A	4UR Ranch, Cre	45.76	56	P	P	07 02 02.1	-0.3
	baz=260						
RLMT	Red Lodge	45.78	45	P	P	07 02 02.1	-0.2
	baz=251						
I23K	Minto, Yukon-K	45.88	3	P	P	07 02 03.8	+1.3
	baz=188						
DAWY	Dawson	45.90	10	P	P	07 02 04.1	+1.3
	baz=201,SNR=12						
SMCO	Snowmass	45.91	54	P	P	07 02 02.1	-1.6
SMCO				IAmb	IAmb	07 02 11.7	
	comp=Z,7.3nm,1.0s						
G15K	Niukluk	45.93	355	P	P	07 02 04.2	+1.2
	baz=168						
POKR	Poker Plat Res	45.98	5	P	P	07 02 04.3	+1.0
	baz=190						
K29M	Barlow Dome	46.01	11	P	P	07 02 01.9	-1.8
K29M	Barlow Dome	46.01	11	P	P	07 02 05.6	+1.8
	baz=204						
H20K	Anotleneega Mo	46.06	0	P	P	07 02 04.7	+0.7
	baz=180						
MAYO	Mayo, Yukon	46.09	12	P	P	07 02 04.9	+0.7
	baz=206						
H19K	Roundabout Mou	46.10	359	P	P	07 02 05.2	+1.0
	baz=178						
TGTN	Hyland Airport	46.14	18	P	P	07 02 06.2	+1.5
	baz=216						
G16K	Koyuk River	46.20	356	P	P	07 02 07.4	+2.5
	baz=171						
G17K	Kiwalik Mounta	46.20	357	P	P	07 02 07.1	+2.0
	baz=173						
H21K	Melozitna Rive	46.25	1	P	P	07 02 07.9	+2.4
	baz=183						
MNTX	Cornudas Mount	46.29	64	P	P	07 02 07.3	+1.0
	baz=267						
EGAK	Eagle	46.31	8	P	P	07 02 07.9	+1.9
	baz=199,SNR=14						
KOTAN	Kotaneelee Air	46.37	21	P	P	07 02 08.3	+1.9
	baz=222						
J29N	Klondike Camp	46.45	10	P	P	07 02 09.5	+2.3
	baz=202						
EGMT	Eagleton	46.47	41	P	P	07 02 08.4	+0.9
	baz=248						
G18K	Tagagawik	46.51	358	P	P	07 02 09.5	+2.0
	baz=176						
H22K	Ishtalitna Cre	46.53	2	P	P	07 02 08.4	+0.7
	baz=185						
PRP	Porcupine Dome	46.53	6	P	P	07 02 09.6	+1.8
	baz=193						
H23K	Yukon River	46.54	3	P	P	07 02 09.9	+2.1
	baz=188						
IMAR	Indian Mountai	46.56	1	P	P	07 02 06.4	-1.5
I26K	Coal Creek Min	46.57	7	P	P	07 02 05.6	-2.3
I26K	Coal Creek Min	46.57	7	P	P	07 02 09.8	+1.9
	baz=196,SNR=10						
VHRN	Van Horn	46.60	66	P	P	07 02 07.3	-1.6
F14K	Arctic Creek	46.62	354	P	P	07 02 10.8	+2.5
	baz=166						
H24K	Noodor Dome	46.66	4	P	P	07 02 08.2	-0.5
H24K				IAmb	IAmb	07 02 19.2	
	comp=Z,14nm,1.4s						
H24K	Noodor Dome	46.66	4	P	P	07 02 10.7	+2.0
	baz=190						
F15K	North Star Dit	46.68	355	P	P	07 02 11.5	+2.6
	baz=168						
G19K	Purcell Mounta	46.72	359	P	P	07 02 09.2	0.0
G19K				IAmb	IAmb	07 02 17.4	
	comp=Z,5.0nm,0.9s						
G19K	Purcell Mounta	46.72	359	P	P	07 02 11.6	+2.5
	baz=178						
SDCO	Great Sand Dun	46.80	56	P	P	07 02 10.9	+0.3
	baz=261						
TNA	Tin City	46.88	353	P	P	07 02 12.4	+2.0
	baz=164						
J30M	Hart River	46.89	11	P	P	07 02 09.2	-1.4
J30M				IAmb	IAmb	07 02 23.0	
	comp=Z,8.6nm,1.2s						
J30M	Hart River	46.89	11	P	P	07 02 12.1	+1.4
	baz=205						
K22A	Casper	46.99	49	P	P	07 02 11.6	-0.3
	baz=256						
N23A	Red Feather La	47.02	52	P	P	07 02 13.5	+1.3
	baz=258						
I27K	Kandik River	47.04	8	P	P	07 02 12.6	+0.9
	baz=198						
ISCO	Idaho Springs	47.06	53	P	P	07 02 13.3	+0.7
	baz=259						
G21K	Allakaket	47.10	1	P	P	07 02 14.5	+2.4
	baz=182						
I28M	Miner Creek	47.12	9	P	P	07 02 11.2	-1.2
I28M				IAmb	IAmb	07 02 19.4	
	comp=Z,6.2nm,1.1s						
I28M	Miner Creek	47.12	9	P	P	07 02 13.6	+1.2
	baz=200,SNR=8.3						
F17K	Baldwin Pennin	47.17	357	P	P	07 02 16.0	+3.4
	baz=172						
H25L	Birch Creek	47.24	5	P	P	07 02 14.4	+1.2
	baz=192,SNR=11						
F18K	Selawik	47.25	358	P	P	07 02 15.7	+2.5
	baz=174						
Q24A	Divide	47.27	55	P	P	07 02 12.6	-1.7
Q24A				IAmb	IAmb	07 03 34.4	
	comp=Z,7.3nm,0.8s						
Q24A	Divide	47.27	55	P	P	07 02 15.4	+1.1
	baz=260						
I29M	Ogilvie Camp,	47.28	10	P	P	07 02 11.7	-1.8
I29M	Ogilvie Camp,	47.28	10	P	P	07 02 15.5	+1.9
	baz=202						
G23K	Bananza Creek	47.40	3	P	P	07 02 14.4	-0.1
G23K				IAmb	IAmb	07 02 35.4	
	comp=Z,6.8nm,1.3s						
G23K	Bananza Creek	47.40	3	P	P	07 02 16.9	+2.4
	baz=187						
F19K	Shaleruckik Mo	47.43	359	P	P	07 02 17.5	+2.9
	baz=177						
I30M	Mount Dempster	47.48	11	P	P	07 02 14.3	-0.9
I30M	Mount Dempster	47.48	11	P	P	07 02 16.6	+1.4
	baz=204,SNR=18						
G24K	Hadweenzic Riv	47.54	4	P	P	07 02 15.2	-0.3
G24K	Hadweenzic Riv	47.54	4	P	P	07 02 18.4	+2.9
	baz=190						
G22K	Bettles	47.55	2	P	P	07 02 19.8	+4.2
	baz=185						
T25A	Trinidad	47.58	57	P	P	07 02 15.8	-0.7
T25A	Trinidad	47.58	57	P	P	07 02 17.7	+1.2
	baz=263						
FYU	Fort Yukon	47.59	5	P	P	07 02 16.7	+0.9
F20K	Avaraart Lake	47.62	360	P	P	07 02 19.0	+2.9
	baz=179						
H27K	Steamboat Moun	47.65	7	P	P	07 02 17.6	+1.1
	baz=198,SNR=13						
G25K	Bearman Lake	47.71	5	P	P	07 02 18.8	+2.0
	baz=192						
TXAR	Lajitas Array	47.72	68	P	P	07 02 14.6	-3.0
TXAR	Lajitas Array	47.72	68	P	P	07 02 18.3	+0.7
	comp=Z,3.9nm,0.8s,baz=259,slow=7.7,SNR=41						
	comp=Z,3.9nm,0.8s						
ALPN	Alpine	47.75	66	P	P	07 02 15.0	-2.9
ALPN				IAmb	IAmb	07 02 25.7	
	comp=Z,6.6nm,0.8s						
F21K	Alatna River	47.81	1	P	P	07 02 16.1	-1.5
F21K	Alatna River	47.81	1	P	P	07 02 20.0	+2.4
	baz=182						
E17K	Hotham Inlet	47.84	357	P	P	07 02 20.3	+2.5
	baz=172						
COLD	Coldfoot	47.91	3	P	P	07 02 20.8	+2.4
	baz=186						
E19K	Redstone River	48.05	359	P	P	07 02 16.7	-2.7
E19K				IAmb	IAmb	07 02 40.9	
	comp=Z,9.5nm,1.2s						
E19K	Redstone River	48.05	359	P	P	07 02 21.9	+2.4
	baz=178						
H29M	Whitestone	48.07	9	P	P	07 02 18.2	-1.4
H29M	Whitestone	48.07	9	P	P	07 02 20.9	+1.2
	baz=202,SNR=13						
G26K	Porcupine Rive	48.10	6	P	P	07 02 21.0	+1.2
	baz=195,SNR=11						
E18K	Tukpahlearik C	48.11	357	P	P	07 02 22.8	+2.9

baz=173
F22K John River 48.12 2 P P 07 02 22.9 +2.8
baz=184
G27K Doyon Strip 48.19 7 P P 07 02 19.6 -1.0
G27K IAmb IAmb 07 02 31.7
comp=Z,6.4nm,1.6s
G27K Doyon Strip 48.19 7 P P 07 02 23.4 +2.8
baz=197
LAO LASA Array 48.29 44 P P 07 02 24.3 +2.5
baz=253
F24K Squaw Lake 48.32 4 P P 07 02 24.9 +3.2
baz=189
EPYK Eagle Plains 48.47 10 P P 07 02 25.5 +2.8
baz=204
BMAR Burnt Mountain 48.49 5 P P 07 02 22.3 -0.6
MNHN Monahans 48.52 65 P P 07 02 22.8 -0.9
MNHN IAmb IAmb 07 02 30.9
comp=Z,4.7nm,0.7s
D17K Noatak River 48.53 356 P P 07 02 26.4 +3.3
baz=170
F25K Christian Rive 48.56 5 P P 07 02 26.0 +2.5
baz=192
MSTX Muleshoe 48.61 62 P P 07 02 22.5 -2.0
MSTX Muleshoe 48.61 62 P P 07 02 26.6 +2.1
baz=267
ODSA Odessa 48.72 64 P P 07 02 23.5 -1.8
E22K Anaktuvuk Pass 48.76 2 P P 07 02 27.1 +2.1
baz=184
E23K Chandalar 48.77 3 P P 07 02 27.6 +2.5
baz=187
G29M Pine Creek 48.77 9 P P 07 02 24.1 -1.0
G29M Pine Creek 48.77 9 P P 07 02 26.3 +1.2
baz=202,SNR=12
F26K Sheenjek River 48.79 6 P P 07 02 26.8 +1.6
baz=194
PET Petropavlovsk 48.79 325 P P 07 02 24.3 -1.0
RTBA Rita Blanca 48.83 58 P P 07 02 25.5 -0.7
RTBA IAmb IAmb 07 02 33.3
comp=Z,7.8nm,1.0s
E20K Nigu River 48.84 360 P P 07 02 27.7 +2.1
baz=179
E24K Your Creek 48.84 3 P P 07 02 27.4 +1.8
baz=188
RDOG Red Dog Mine 48.87 356 P P 07 02 29.9 +4.1
baz=170
WRGLY Wrigley 48.87 18 P P 07 02 29.0 +3.2
baz=221
E21K Killik River 49.02 1 P P 07 02 30.3 +3.3
baz=182
RSSD Black Hills 49.10 48 P P 07 02 30.5 +2.3
baz=257
D19K Kuna River 49.10 359 P P 07 02 29.2 +1.6
baz=176
G30M tAoh Zraii Nji 49.11 10 P P 07 02 26.9 -0.8
G30M IAmb IAmb 07 02 38.1
comp=Z,14nm,1.2s
G30M tAoh Zraii Nji 49.11 10 P P 07 02 30.5 +2.8
baz=204
F28M Old Crow 49.18 8 P P 07 02 28.0 -0.2
F28M IAmb IAmb 07 02 36.1
comp=Z,7.4nm,1.1s
F28M Old Crow 49.18 8 P P 07 02 30.5 +2.4
baz=199
KSCO Kaye Shedlock' 49.22 55 P P 07 02 30.4 +1.4
baz=262
C16K Lisburne Hills 49.26 355 P P 07 02 29.7 +1.0
baz=167
D20K Ettiluk River 49.30 359 P P 07 02 30.7 +1.6
baz=178
C17K DeLong Mountai 49.30 356 P P 07 02 30.6 +1.5
baz=170
C18K Utukok River 49.37 357 P P 07 02 30.5 +0.9
baz=173
G31M Satah River 49.39 11 P P 07 02 29.5 -0.2
G31M IAmb IAmb 07 02 36.4
comp=Z,9.4nm,0.9s
G31M Satah River 49.39 11 P P 07 02 30.6 +0.9
baz=206,SNR=10
D22K Ayikyak River 49.48 1 P P 07 02 31.7 +1.1
baz=183
E27K Coleen River 49.52 7 P P 07 02 30.1 -0.7
E27K Coleen River 49.52 7 P P 07 02 32.1 +1.3
baz=197
AMTX Amarillo 49.57 60 P P 07 02 30.6 -1.2
AMTX IAmb IAmb 07 03 21.4
comp=Z,6.5nm,0.8s
AMTX Amarillo 49.57 60 P P 07 02 31.9 +0.1
baz=266
D23K Nanushuk River 49.63 2 P P 07 02 34.4 +2.8
baz=186
POST Post 49.63 63 P P 07 02 30.0 -2.3
POST IAmb IAmb 07 02 39.1
comp=Z,8.1nm,0.8s
C21K Knifeblade Rid 49.74 0 P P 07 02 35.2 +2.8
baz=181
C19K Lookout Ridge 49.76 358 P P 07 02 34.4 +1.8
baz=175
F30M Barrier River 49.76 10 P P 07 02 34.7 +2.1
baz=204
D24K Happy Valley 49.89 3 P P 07 02 32.3 -1.3
D24K Happy Valley 49.89 3 P P 07 02 35.5 +1.9
baz=188
OZNA Ozona 49.91 66 P P 07 02 33.1 -1.3
OZNA IAmb IAmb 07 02 41.9
comp=Z,6.4nm,0.8s
F31M Tsiigehtchic 49.94 11 P P 07 02 33.4 -0.6
F31M Tsiigehtchic 49.94 11 P P 07 02 34.9 +0.9
baz=207,SNR=9.2
OGNE Ogallala 49.95 52 P P 07 02 34.8 +0.2
baz=261
B18K Kokolik River 50.11 357 P P 07 02 37.2 +2.0
baz=172
DGMT Dagmar 50.12 42 P P 07 02 37.4 +1.7
baz=253
E28M Babbage River 50.16 7 P P 07 02 35.0 -0.7
E28M Babbage River 50.16 7 P P 07 02 38.5 +2.9
baz=200,SNR=8.1
E29M Blow River 50.17 8 P P 07 02 34.6 -1.1
E29M IAmb IAmb 07 02 46.3
comp=Z,13nm,1.4s
E29M Blow River 50.17 8 P P 07 02 37.6 +1.9
baz=202
B21K Ikpikpuk River 50.20 0 P P 07 02 37.3 +1.4
baz=181
D25K Kavik River 50.20 4 P P 07 02 35.6 -0.5
D25K IAmb IAmb 07 02 47.0
comp=Z,14nm,1.4s
D25K Kavik River 50.20 4 P P 07 02 37.6 +1.6
baz=191
DRIO Del Rio 50.38 68 P P 07 02 36.5 -1.4
DRIO IAmb IAmb 07 02 45.2
comp=Z,5.9nm,0.9s
C24K Franklin Bluff 50.46 3 P P 07 02 39.8 +1.9
baz=188
C23K Itkillik River 50.50 2 P P 07 02 39.8 +1.7
baz=186,SNR=5.6
D27M Malcolm River 50.60 7 P P 07 02 41.3 +2.3
baz=198
B20K Meade River 50.60 359 P P 07 02 41.1 +2.2
baz=178
C27K Jago River 50.71 5 P P 07 02 42.1 +2.4
baz=194
INK Inuvik 50.76 10 P P 07 02 39.1 -0.9
INK IAmb IAmb 07 02 47.0
comp=Z,9.8nm,0.9s
INK Inuvik 50.76 10 P P 07 02 41.0 +0.9
baz=207,SNR=14
INK Inuvik 50.76 10 LR LR 07 22 16.9
comp=Z,520nm,18.8s,baz=182,slow=34
C26K Camden Bay 50.90 5 P P 07 02 43.0 +1.9
baz=193
A19K Wainwright 50.91 357 P P 07 02 41.9 +0.7
baz=173
B22K Teshekpuk Lake 50.94 1 P P 07 02 45.2 +3.8
baz=182
D28M Stokes Point 50.94 7 P P 07 02 44.3 +2.8
baz=200
JCT Junction City 51.06 66 P P 07 02 44.8 +1.7
baz=271
ABTX Abilene, Hawle 51.19 63 P P 07 02 43.1 -0.9
ABTX Abilene, Hawle 51.19 63 P P 07 02 44.3 +0.3
baz=270
YKA Yellowknife Ar 51.32 23 P P 07 02 45.5 +1.1
comp=Z,1.6nm,0.9s,baz=231,slow=8.1,SNR=6.2
comp=Z,1.6nm,0.9s
CBKS Cedar Bluff 51.44 55 P P 07 02 44.3 -1.5
CBKS IAmb IAmb 07 02 53.2
comp=Z,12nm,1.1s
CBKS Cedar Bluff 51.44 55 P P 07 02 45.1 -0.7
baz=264
833A Chaparral WMA, 51.49 69 P P 07 02 45.4 -0.9
833A IAmb IAmb 07 02 53.8
comp=Z,9.0nm,0.9s
833A Chaparral WMA, 51.49 69 P P 07 02 47.6 +1.3
baz=273
A22K Sinclair Lake 51.59 0 P P 07 02 47.3 +1.0
baz=180
BRDY Brady 51.74 65 P P 07 02 46.7 -1.4
A21K Barrow 51.92 359 P P 07 02 49.0 +0.3
baz=178
WMOK Wichita Mounta 51.95 61 P P 07 02 49.5 -0.1
baz=268
PLPT Palo Pinto 52.30 63 P P 07 02 50.8 -1.5
PLPT IAmb IAmb 07 02 57.6
comp=Z,13nm,1.3s
SUSD Miller 52.74 48 P P 07 02 55.2 -0.1
baz=261
BGNE Belgrade 52.91 52 P P 07 02 56.5 -0.2
baz=264
MDND Maddock 52.94 44 P P 07 02 56.7 0.0
baz=258
435B Jarrell 52.96 66 P P 07 02 57.7 +0.5
baz=272
WHTX Lake Whitney, 53.04 64 P P 07 02 57.4 -0.4
baz=271
RAO Raoul Island 53.08 205 LR LR 07 21 38.2
comp=Z,174nm,20.7s,baz=26,slow=32
C36M Paulatuk 53.47 13 P P 07 03 00.8 +0.6
baz=218
QUOK Quay 53.68 59 P P 07 03 01.3 -1.0
KSU1 Kansas State U 53.89 55 P P 07 03 03.2 -0.7
baz=266
ECSD EROS Data Cent 54.31 50 P P 07 03 05.9 -1.0
baz=263
TUL3 Leonard 54.41 59 P P 07 03 06.2 -1.6
baz=269
A36M Sachs Harbour 55.38 11 P P 07 03 15.5 +1.4
baz=215
NATX Nacogdoches 55.42 64 P P 07 03 14.8 -0.4
baz=273
MA2 Magadan 55.45 330 LR LR 07 22 42.9
comp=Z,945nm,21.8s,baz=118,slow=31
AGMN Agassiz Nation 55.49 44 P P 07 03 12.7 -2.7
AGMN IAmb IAmb 07 03 24.9
comp=Z,11nm,1.4s
AGMN Agassiz Nation 55.49 44 P P 07 03 15.7 +0.4
baz=260
DZM Mont Dzumac 55.67 224 *e*P **P 07 03 17.8 +0.8**
DZM comp=Z,127nm,25.2s
DZM comp=Z,227nm,24.8s *e*S **S 07 11 01.9 -1.7**
DZM comp=Z,186nm,26.4s *e*SS **SS 07 14 49.0 -0.3**
DZM comp=Z,495nm,31.6s *e*LR LR 07 19 29.5
DZM Mont Dzumac 55.67 224 LR LR 07 25 04.7
comp=Z,127nm,18.4s,baz=35,slow=34
ULM Lac du Bonnet 55.83 42 P P 07 03 15.3 -2.4
HHAR Hobbs 55.92 59 P P 07 03 17.2 -1.5
HHAR IAmb IAmb 07 03 27.6
comp=Z,5.8nm,1.1s
MIAR Mount Ida 56.24 61 P P 07 03 21.0 +0.1
baz=271
P38A Dawn 56.30 55 P P 07 03 18.5 -2.8
P38A IAmb IAmb 07 03 28.3
comp=Z,9.3nm,1.1s
S39A Bolivar 56.42 57 P P 07 03 20.5 -1.7
S39A IAmb IAmb 07 03 31.9
comp=Z,11nm,1.4s
SCIA State Center 56.64 52 P P 07 03 23.5 -0.2
baz=267
SPMN Marine on St. 57.18 48 P P 07 03 25.6 -1.9
SPMN IAmb IAmb 07 03 35.0
comp=Z,6.1nm,0.9s
SPMN Marine on St. 57.18 48 P P 07 03 26.5 -1.0
baz=265
UALR University of 57.24 61 P P 07 03 25.8 -2.3
R40A Maddies Statio 57.26 56 P P 07 03 26.3 -1.8
R40A IAmb IAmb 07 03 34.3
comp=Z,5.7nm,0.8s
P40A Paris 57.44 55 P P 07 03 27.7 -1.7
GUMO Guam 57.45 274 P P 07 03 26.6 -3.1
GUMO Guam 57.45 274 LR LR 07 22 56.2
comp=Z,342nm,21.8s,baz=76,slow=31
JCJ Chichijima 57.47 290 LR LR 07 23 20.2
comp=Z,268nm,20.8s,baz=87,slow=31
CCM Cathedral Cave 58.06 57 P P 07 03 33.9 +0.1
baz=270
E38A The Farm, Brul 58.17 47 P P 07 03 32.3 -2.1
E38A IAmb IAmb 07 03 39.8
comp=Z,11nm,1.1s
LCAR Lake Charles 58.17 59 P P 07 03 32.9 -1.7
LCAR IAmb IAmb 07 03 40.6
comp=Z,6.4nm,1.2s
T42A Van Buren 58.20 58 P P 07 03 32.2 -2.5
EYMN Ely 58.34 45 P P 07 03 35.9 +0.3
baz=264
PBMO Poplar Bluff 58.74 58 P P 07 03 36.7 -1.9
PBMO IAmb IAmb 07 03 40.6
comp=Z,7.1nm,1.1s
JFWS Jewell Farm 58.88 51 P P 07 03 39.6 +0.2
baz=268
VBMS Vicksburg 58.91 64 P P 07 03 39.9 +0.1
baz=274
JHJ Hachijo jima 2 58.99 298 LR LR 07 28 54.3
comp=Z,312nm,18.0s,baz=118,slow=36
G40A Rib Lake 59.02 48 P P 07 03 39.2 -1.2
HDIL Hopedale 59.56 54 P P 07 03 43.5 -0.7
baz=270
OXF Oxford 59.67 61 P P 07 03 44.3 -0.8
baz=274
MJAR Matsushiro Arr 60.08 302 LR LR 07 25 09.6
comp=Z,272nm,21.5s,baz=76,slow=32
L44A Lake County Fo 60.60 52 P P 07 03 50.6 -0.7
baz=270
WVT Waverly 60.86 59 P P 07 03 52.4 -0.8
baz=274
SFIN Lafayette 61.24 54 P P 07 03 55.0 -0.7
baz=272
LRAL Lakeview Retre 61.80 62 P P 07 03 58.7 -0.8
baz=276
BRAL Brewton 61.95 64 P P 07 03 58.9 -1.7
baz=277
WCI Wyandotte Cave 61.96 56 P P 07 03 59.8 -0.7
baz=273
O48B Farmland 62.73 54 P P 07 04 05.8 +0.1
baz=273
URZ Urewera 62.95 204 LR LR 07 26 54.7
comp=Z,331nm,19.8s,baz=122,slow=32
GLMI Grayling 62.97 49 P P 07 04 07.4 +0.2
baz=271
P49A Miami Univ. Ec 63.11 55 P P 07 04 08.3 +0.1
baz=274
E46A Sault Ste Mari 63.17 47 P P 07 04 07.0 -1.4
PMG Port Moresby 63.52 248 LR LR 07 31 30.9
comp=Z,171nm,18.1s,baz=65,slow=36
AAM Ann Arbor 63.75 52 P P 07 04 12.6 +0.2
baz=273
RPN Rapa Nui 64.21 135 LR LR 07 26 04.0
comp=Z,473nm,18.6s,baz=325,slow=30
TZTN Tazewell 64.27 58 P P 07 04 16.0 +0.1
baz=276
ACSO Alum Creek Sta 64.39 54 P P 07 04 16.8 +0.1
baz=274
USRK Ussuriysk Ar. 64.46 310 LR LR 07 27 36.4
comp=Z,568nm,20.7s,baz=136,slow=32
KLR Kul'dur 64.49 316 LR LR 07 27 59.1
comp=Z,401nm,20.6s,baz=116,slow=32
GOGA Godfrey 64.69 62 P P 07 04 18.2 -0.6
baz=277
P52A Corning 65.09 55 P P 07 04 23.1 +1.8
baz=275
O53A New Philadelph 65.74 54 P P 07 04 26.8 +1.4
baz=275
M53A WI Miller and 66.03 52 P P 07 04 28.7 +1.4
baz=275
MDJ Mudanjiang 66.15 311 P P 07 04 33.8 +5.8
MDJ PcP **PcP 07 05 04.3 +6.0**
MDJ S **S 07 13 23.8 +7.0**
KMSC Kings Mountain 66.22 59 P P 07 04 30.0 +1.3
baz=278
JNU Nakatsue 66.41 298 LR LR 07 33 34.7
comp=Z,328nm,18.0s,baz=84,slow=36
ERPA Erie 66.48 52 P P 07 04 31.6 +1.4
baz=275
BLA Blacksburg 66.69 57 P P 07 04 31.7 +0.1
baz=277
MCWV Mont Chateau 66.84 54 P P 07 04 33.2 +0.6
baz=276
TIXI Tiksi 67.27 341 LR LR 07 33 39.9
comp=Z,356nm,19.5s,baz=126,slow=36
NHSC New Hope 67.47 61 P P 07 04 35.0 -1.5
baz=279
KSRS Korea Array 68.18 303 LR LR 07 33 05.2
comp=Z,285nm,18.8s,baz=75,slow=35
SSPA Standing Stone 68.22 53 P P 07 04 39.9 -1.3
baz=277
CBN Corbin Frederi 68.95 56 P P 07 04 44.3 -1.5
baz=279
CNNC Cliffs of the 69.00 59 P P 07 04 44.6 -1.5
baz=279
BINY Binghamton 69.43 51 P P 07 04 47.5 -1.3
baz=278
CTA Charters Tower 69.44 239 LR LR 07 33 19.0
comp=Z,14nm,18.2s,baz=130,slow=34
JOW Kunigami 69.76 292 LR LR 07 30 52.2
comp=Z,169nm,20.7s,baz=96,slow=32
RPZ Rata Peaks 69.99 205 LR LR 07 30 12.7
comp=Z,272nm,21.9s,baz=50,slow=31
LONY Lake Ozonia 70.11 49 P P 07 04 52.4 -0.5
baz=278
TULEG Thule 70.44 14 *e*P P 07 05 00.9 +6.6
SNY Shenyang 70.84 309 ⇑P P 07 05 04.6 +7.2
SNY S S 07 14 23.5 +11
SNY pmax pmax
comp=Z,340nm,7.9s
SNY LR LR
comp=N,210nm,15.6s
SNY LR LR
comp=E,440nm,24.2s
SNY LR LR
comp=Z,540nm,24.6s
PAL Palisades 71.15 52 P P 07 04 58.7 -0.5
baz=280
L61B Northampton 71.81 51 P P 07 05 03.9 +0.6
baz=280
LBNH Lisbon 72.05 49 P P 07 05 05.5 +0.9
baz=280
HRV Adam Dziewonsk 72.62 50 P P 07 05 08.2 +0.2
baz=281
DL2 Dalian 72.83 306 P P 07 05 02.9 -6.5
DL2 *e*S **S 07 14 29.3 -6.3**
DL2 pmax pmax
comp=Z,21nm,0.8s
DL2 pmax pmax
comp=Z,560nm,6.6s
DL2 LR LR
comp=N,750nm,21.8s
DL2 LR LR
comp=E,400nm,22.3s
DL2 LR LR
comp=Z,820nm,29.9s
KULLO Kullorsuaq 73.57 16 *e*P P 07 05 19.9 +6.8
KULLO Kullorsuaq 73.57 16 *i*P P 07 05 18.4 +5.3
KULLO IAmb IAmb 07 05 42.4
comp=Z,48nm,1.4s
PKME Peaks-Kenny Pk 73.71 47 P P 07 05 16.6 +2.1
baz=281
NEEM North Greenlan 74.24 13 *e*P P 07 05 23.8 +6.4
NEEM North Greenlan 74.24 13 *i*P P 07 05 21.7 +4.3
NEEM IAmb IAmb 07 05 24.1
comp=Z,184nm,2.8s
UPNV Upernavik 74.29 18 *e*P P 07 05 23.4 +6.1
NUUG Nuugaatsiaq 75.51 19 *e*P P 07 05 30.5 +6.1
NUUG Nuugaatsiaq 75.51 19 *i*P **P 07 05 27.7 +3.3**
NUUG IAmb IAmb 07 05 47.2
comp=Z,19nm,0.7s
UMMG Uummannaq 76.11 20 *e*P P 07 05 34.1 +6.3
UMMG Uummannaq 76.11 20 *i*P P 07 05 32.3 +4.5
UMMG IAmb IAmb 07 05 36.2
comp=Z,8.6nm,1.1s
NJ2 Nanjing 76.57 299 *e*P **P 07 05 31.1 -0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NOR Nord 77.13 6 *e*P P 07 05 40.1 +6.6
NOR Nord 77.13 6 *i*P P 07 05 39.0 +5.4
NOR IAmb IAmb 07 05 46.6
comp=Z,26nm,1.7s
DAV Davao City (W) 77.47 273 LR LR 07 33 58.8
comp=Z,232nm,20.5s,baz=76,slow=31
SFJD Kangerlussuaq 77.88 23 LR LR 07 35 59.5
comp=Z,320nm,21.6s,baz=248,slow=33
SFJD Kangerlussuaq 77.88 23 *e*P P 07 05 44.8 +7.0
SFJD IVmB_BB 07 05 48.6
comp=Z,525nm,4.6s
SFJD Kangerlussuaq 77.88 23 *i*P P 07 05 43.6 +5.7
NUUK Nuuk 78.45 26 *i*P P 07 05 46.9 +5.9
NUUK IAmb IAmb 07 05 49.7
comp=Z,67nm,2.0s
HNS HongShan 78.48 306 ⇑P P 07 05 49.4 +7.6
HNS PP PP 07 08 46.5 +7.5
QZH Quanzhou 78.67 293 P P 07 05 52.0 +8.9
STKA Stephens Creek 79.08 231 LR LR 07 37 49.2
comp=Z,198nm,18.1s,baz=50,slow=34
SUMG Summit 79.24 16 P **P 07 05 45.4 -0.4**
SUMG IAmb IAmb 07 05 54.2
comp=Z,6.3nm,1.0s
SUMG Summit 79.24 16 *e*P P 07 05 52.6 +6.8
SUMG IVmB_BB 07 05 56.5
comp=Z,570nm,4.8s
SUMG Summit 79.24 16 *i*P **P 07 05 48.9 +3.1**
SUMG IAmb IAmb 07 06 01.5
comp=Z,187nm,3.1s
WRA Warramunga Arr 79.27 244 P **P 07 05 47.5 +1.1**
comp=Z,0.2nm,0.8s,baz=68,slow=6.6,SNR=1.6
WRA LR LR 07 34 48.5
comp=Z,295nm,21.0s,baz=57,slow=31
comp=Z,0.2nm,0.8s
DY2G Dye2 79.68 23 *i*P P 07 05 52.3 +4.1
DY2G IAmb IAmb 07 05 55.0
comp=Z,9.3nm,0.9s
HHC Hu-ho-hao-te 79.87 310 *e*P **P 07 05 49.0 -0.5**
HHC sP PcP 07 05 56.0 -1.1
HHC PP PP 07 08 37.8 -13
HHC Hu-ho-hao-te 79.87 310 *e*S **S 07 15 54.6 +1.4**
HHC Hu-ho-hao-te 79.87 310 SS SS 07 21 03.0 +1.0
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,350nm,6.6s
HHC LR LR
comp=N,210nm,14.1s
HHC LR LR
comp=E,390nm,19.1s
HHC LR LR
comp=Z,560nm,18.8s
TIY Taiyuan 80.13 306 P P 07 05 56.6 +5.7
TIY Taiyuan 80.13 306 S **S 07 16 00.3 +4.4**
TIY Taiyuan 80.13 306 SS SS 07 21 11.6 +5.6
TIY pmax pmax
comp=Z,330nm,6.7s
TIY LR LR
comp=N,260nm,17.2s
TIY LR LR
comp=E,150nm,8.2s
TIY LR LR
comp=Z,180nm,17.2s
DAG Danmarks Havn 80.59 9 *e*P P 07 05 59.0 +6.4
DAG IVmB_BB 07 06 02.4
comp=Z,368nm,4.0s
DAG Danmarks Havn 80.59 9 *i*P P 07 05 58.2 +5.7
DAG IAmb IAmb 07 06 20.8
comp=Z,7.3nm,0.9s
WHN Wuhan 80.69 299 P P 07 05 59.0 +5.1
NRIK Noril'sk 81.03 341 LR LR 07 40 12.0
comp=Z,316nm,21.8s,baz=52,slow=34
LYN LuoYang 81.03 303 P **P 07 05 59.0 +3.3**
LYN LuoYang 81.03 303 ScS S 07 16 24.3 +19
BTO Baotou 81.06 310 *e*P P 07 05 47.9 -8.0
BTO pP pP 07 05 52.4 -7.3
BTO sP sP 07 05 55.6 -5.4
BTO PP PP 07 08 47.9 -13
BTO Baotou 81.06 310 S S 07 15 52.8 -13
BTO Baotou 81.06 310 SS SS 07 21 09.3 -10
BTO pmax pmax
comp=Z,19nm,0.6s
BTO pmax pmax
comp=Z,200nm,4.4s
BTO LR LR
comp=N,640nm,13.8s

BTO LR LR
comp=E,540nm,12.2s
BTO LR LR
comp=Z,1μm,19.6s
ASAR Alice Springs 81.23 241 P **P 07 05 56.8 -0.1**
comp=Z,0.4nm,0.7s,baz=97,slow=7.6,SNR=3.4
ASAR LR LR 07 39 51.9
comp=Z,146nm,18.3s,baz=70,slow=34
comp=Z,0.4nm,0.7s
SONM Songino Array 81.25 318 P **P 07 05 56.5 -0.3**
comp=Z,0.3nm,0.4s,baz=112,slow=3.9,SNR=2.6
SONM LR LR 07 39 56.3
comp=Z,481nm,20.8s,baz=64,slow=34
comp=Z,0.3nm,0.4s
KBS Kingsbay 81.59 2 *i P* P 07 06 02.9 +5.0
DBG Daneborg 82.18 11 *eP* P 07 06 07.4 +6.4
DBG IVmB_BB 07 06 11.7
comp=Z,530nm,4.3s
DBG Daneborg 82.18 11 *i P* P 07 06 04.9 +3.9
DBG IAmb IAmb 07 06 20.7
comp=Z,10nm,1.4s
LUWI Luwuk 82.75 266 P **P 07 06 02.1 -3.0**
NNA Nana 83.29 105 LR LR 07 34 05.3
comp=Z,325nm,21.7s,baz=314,slow=29
XAN Xi'an 83.98 304 P P 07 06 16.9 +5.7
KAPI Kappang 86.92 264 LR LR 07 39 53.6
comp=Z,138nm,20.2s,baz=66,slow=32
JMIC Jan Mayen 86.94 10 LR LR 07 43 23.9
comp=Z,111nm,20.3s,baz=276,slow=34
QIZ Qiongzhong 88.21 289 P **P 07 06 31.1 -1.2**
QIZ Qiongzhong 88.21 289 S **S 07 17 15.4 -2.0**
QIZ LR LR
comp=N,640nm,21.0s
QIZ LR LR
comp=E,550nm,23.6s
QIZ LR LR
comp=Z,590nm,20.2s
GYA Guiyang 88.40 297 P **P 07 06 34.0 +0.8**
GYA Guiyang 88.40 297 S **S 07 17 17.4 -1.9**
GYA Guiyang 88.40 297 SS SS 07 23 15.3 +6.5
GYA LR LR
comp=Z,740nm,28.7s
CD2 Chengdu 89.16 302 P **P 07 06 39.8 +3.2**
CD2 Chengdu 89.16 302 S **S 07 17 23.8 -2.3**
CD2 pmax pmax
comp=Z,400nm,4.1s
CD2 LR LR
comp=N,270nm,12.0s
CD2 LR LR
comp=E,490nm,15.2s
CD2 LR LR
comp=Z,490nm,17.1s
ZALV Zalesovo Beam 90.67 329 LR LR 07 45 25.6
comp=Z,509nm,20.5s,baz=67,slow=34
PZH PanZhiHua 92.48 299 P **P 07 06 51.3 -0.9**
PZH PanZhiHua 92.48 299 S **S 07 17 59.8 +3.0**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,240nm,8.2s
PZH LR LR
comp=N,230nm,19.1s
PZH LR LR
comp=E,300nm,20.1s
PZH LR LR
comp=Z,380nm,24.0s
LVC Limon Verde 94.08 112 LR LR 07 40 14.9
comp=Z,388nm,20.1s,baz=304,slow=30
WMQ Urumqi 94.73 320 *eP* **P 07 07 03.3 +1.1**
WMQ LR LR
comp=N,720nm,15.5s
WMQ LR LR
comp=E,550nm,24.0s
WMQ LR LR
comp=Z,330nm,17.7s
KURBB Kurchatov Arra 95.76 329 LR LR 07 48 06.7
comp=Z,496nm,22.0s,baz=101,slow=34
MKAR Makanchi Array 96.18 324 LR LR 07 47 40.6
comp=Z,398nm,22.0s,baz=61,slow=34
BVAR Borovoye Array 97.77 334 LR LR 07 51 54.8
comp=Z,180nm,20.2s,baz=37,slow=36
CMAR Chiang Mai Arr 98.02 293 LR LR 07 51 03.7
comp=Z,159nm,19.2s,baz=70,slow=35
PLCA Paso Flores 98.56 130 LR LR 07 41 53.5
comp=Z,424nm,20.9s,baz=307,slow=29
NOA NORSAR Array B 99.09 7 LR LR 07 49 41.7
comp=Z,124nm,20.8s,baz=330,slow=34
KIRV Kirov 99.66 347 LR LR 07 55 05.7
comp=Z,342nm,19.8s,baz=18,slow=37
VNDA Vanda 99.90 189 LR LR 07 45 49.4
comp=Z,174nm,19.1s,baz=24,slow=31
TARG Taragay, Kyrgy 101.84 322 Pdif **Pdif 07 07 33.3 -1.4**
TORD Torodi Ar. Bea 140.49 37 PKP **PKiKP 07 13 11.3 -2.1**
comp=Z,0.6nm,0.9s,baz=288,slow=5.9,SNR=2.9

IDC 23 07:00:29.3±3.0, 54°20N×86°35E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=22.4km s-min=13.4km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**255**	I	I	07 05 20.0	
	baz=73,slow=311,SNR=2.9						
ZALV	**Zalesovo Beam**	**0.94**	**255**	Pg	Pg	07 00 46.0	-1.3
	1.3nm,0.3s,baz=73,slow=17,SNR=12						
ZALV				Lg	Lg	07 01 01.2	
	2.4nm,0.3s,baz=77,slow=29,SNR=14						
KURBB	**Kurchatov Arra**	**5.98**	**236**	Pn	Pn	07 01 59.7	+0.7
	0.1nm,0.3s,baz=54,slow=13,SNR=3.7						
	0.3nm,0.2s						
MKAR	**Makanchi Array**	**7.85**	**201**	Pn	Pn	07 02 26.0	+1.3
	0.1nm,0.3s,baz=21,slow=14,SNR=2.1						
	0.2nm,0.4s						

IDC 23 07:01:35.7±3.2, 54°36N×87°15E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=27.3km s-min=17.9km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**254**	I	I	07 10 20.0	
	0.1nm,1.0s,baz=74,slow=309,SNR=14						
ZALV	**Zalesovo Beam**	**1.43**	**254**	Pg	Pn	07 02 01.2	-1.7
	1.4nm,0.3s,baz=74,slow=14,SNR=7.6						
ZALV				Lg	Lg	07 02 21.4	
	1.0nm,0.3s,baz=69,slow=32,SNR=2.9						
KURBB	**Kurchatov Arra**	**6.46**	**238**	Pn	Pn	07 03 12.6	+0.7
	0.1nm,0.3s,baz=56,slow=14,SNR=8.2						
KURBB				Lg	Lg	07 04 59.5	
	baz=53,slow=32						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**8.18**	**204**	Pn	Pn	07 03 36.8	+1.2
	0.1nm,0.3s,baz=26,slow=14,SNR=2.1						
MKAR				Sn	Sn	07 05 08.6	-0.1
	0.1nm,0.3s,baz=23,slow=19,SNR=2.2						
MKAR				Lg	Lg	07 05 55.0	
	0.1nm,0.3s,baz=26,slow=28,SNR=5.3						
	0.3nm,0.6s						

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*IDC **23** 07:02:49.2±5.4, 21°77S×179°01W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=279.5km s-min=58.4km az=153.0*
*NEIC **23** 07:03:44.1±1.5, 23°8S±0°1×179°6W±0°2, h520km±12km, mb4.3/16, Error ellipse: s-maj=24.7km s-min=17.6km az=120.0*
ISC 23 07:03:43.5±0.8, 23°8S±0°1×179°7W±0°1, h500km, n24, σ0°99/23, mb4.1/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.39**	**340**	P	**P**	**07 05 25.7**	**+1.9**
AFI	**Afiamalu**	**12.38**	**39**	P	**P**	**07 06 25.0**	**-1.3**
RTZ	**Ruatahuna**	**15.03**	**190**	P	**P**	**07 06 55.8**	**+1.9**
RTZ				IAmb	IAmb	07 07 09.6	
	comp=Z,36nm,1.5s						
BKZ	**Black Stump Fm**	**15.65**	**191**	P	**P**	**07 06 59.7**	**-0.6**
BKZ				IAmb	IAmb	07 07 04.3	
	comp=Z,18nm,1.3s						
NNZ	**Nelson**	**18.30**	**197**	P	**P**	**07 07 26.0**	**-0.4**
TUWZ	**Tuamarina**	**18.36**	**195**	P	**P**	**07 07 26.7**	**-0.2**
LTZ	**Lake Taylor**	**20.06**	**197**	P	**P**	**07 07 42.3**	**-0.2**
ARMA	**Armidale**	**26.30**	**249**	P	**P**	**07 08 39.3**	**+0.6**
ARMA				IAmb	IAmb	07 09 02.8	
	comp=Z,6.5nm,1.2s						

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CAN	**Canberra**	**29.42**	**240**	P	**P**	**07 09 06.2**	**+0.4**
CAN				IAmb	IAmb	07 09 07.4	
	comp=Z,5.3nm,0.8s						
CTAO	**Charters Tower**	**31.74**	**270**	P	**P**	**07 09 25.6**	**-0.3**
CTAO				IAmb	IAmb	07 10 01.0	
	comp=Z,11nm,1.2s						
TOO	**Toolangi**	**32.72**	**237**	P	**P**	**07 09 33.7**	**-0.5**
TOO				IAmb	IAmb	07 09 59.1	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**35.00**	**248**	P	**P**	**07 09 53.0**	**-0.5**
AS31	**Alice Springs**	**42.31**	**260**	P	**P**	**07 10 52.3**	**-0.7**
ASAR	**Alice Springs**	**42.31**	**260**	P	**P**	**07 10 52.4**	**-0.6**
ASAR	**Alice Springs**	**42.31**	**260**	P	**P**	**07 10 52.6**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=98,slow=7.8,SNR=16						
	comp=Z,1.0nm,0.6s						
WR0	**Warramunga Arr**	**42.49**	**266**	P	**P**	**07 10 53.1**	**-1.3**
WR0				IAmb	IAmb	07 11 05.6	
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**42.68**	**266**	P	**P**	**07 10 54.3**	**-1.6**
WRA	**Warramunga Arr**	**42.68**	**266**	P	**P**	**07 10 55.1**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=97,slow=8.3,SNR=117						
	comp=Z,0.8nm,0.3s						
FORT	**Forrest**	**46.59**	**249**	P	**P**	**07 11 24.7**	**-1.3**
QSPA	**South Pole Qui**	**66.28**	**180**	P	**P**	**07 13 42.3**	**+0.8**
ADK	**Adak**	**75.41**	**2**	P	**P**	**07 14 34.9**	**-0.2**
ADK				IAmb	IAmb	07 14 54.6	
	comp=Z,14nm,1.0s						
HFS	**Hagfors**	**142.50**	**349**	PKhKP	PKPpre	07 22 15.0	
	comp=Z,1.1nm,0.4s,baz=64,slow=3.4,SNR=12						
AKASG	**Malin Array Be**	**145.03**	**328**	PKP	**PKPdf**	**07 22 23.0**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=40,slow=4.3,SNR=7.2						
BRTR	**Keskin Array B**	**147.73**	**307**	PKPbc	**PKiKP**	**07 22 34.4**	**+1.0**
	comp=Z,1.3nm,0.9s,baz=73,slow=5.8,SNR=3.9						

IDC 23 07:04:56.0±7.9, 23°66S×178°47W, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=417.3km s-min=74.4km az=155.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.45**	**260**	P	P	07 13 01.1	0.0
	0.4nm,0.7s,baz=104,slow=8.0,SNR=2.3						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**43.82**	**265**	P	P	07 13 03.9	-0.2
	0.2nm,0.4s,baz=102,slow=8.5,SNR=6.7						
	0.2nm,0.4s						
HFS	**Hagfors**	**142.57**	**350**	PKhKP	PKPpre	07 24 23.4	
	1.0nm,0.7s,baz=44,slow=5.8,SNR=4.8						
BRTR	**Keskin Array B**	**148.54**	**308**	PKPbc	PKPbc	07 24 44.6	-0.7
	0.3nm,0.3s,baz=51,slow=4.6,SNR=1.8						

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*TEH **23** 07:09:50.8, 34°64N×46°23E, h11km±13km, ML2.5*
*ISN **23** 07:09:52.8±1.2, 34°61N×46°25E, h36km±24km, ML2.5*
ISC 23 07:09:51.5±1.1, 34°62N±0°05×46°25E±0°07, h9km±11km, n7, σ0°35/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**55**	Pg	**Pg**	**07 09 54.6**	**-0.1**
IDHR				Sg	**Sg**	**07 09 57.4**	**+0.4**
IGHG	**Ghaleghazi**	**0.39**	**138**	Pg	**Pg**	**07 09 59.4**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.58**	**209**	Pg	**Pg**	**07 10 02.5**	**-0.4**
ILIN	**Lien**	**0.65**	**63**	Pg	**Pg**	**07 10 03.9**	**-0.3**
SNQR	**Sonqor, Kerman**	**1.16**	**78**	Pg	**Pb**	**07 10 13.7**	**-0.1**
IBDR	**Badra**	**1.53**	**190**	*e*Pg	**Pb**	**07 10 20.0**	**-0.1**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**07 10 41.0**	**+0.2**
IKRK	**Kirkuk**	**1.75**	**297**	*e*Pn	**Pn**	**07 10 22.0**	**-0.1**
IKRK				*e*Sn	**Sn**	**07 10 45.0**	**+0.5**
IKRK				AML	AML	07 10 55.6	
	comp=N,9.5nm,0.6s						

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*IDC **23** 07:17:09.0±0.7, 19°71N×109°44W, h0km, mb4.2/11, mbtmp4.3/17, ML3.8/6, MS4.4/44, Error ellipse: s-maj=15.9km s-min=13.6km az=108.0*
*MEX **23** 07:17:11.4±0.6, 19°68N×109°29W, h10km, MD4.7*
*NEIC **23** 07:17:11.3±1.9, 19°67N±0°07×109°45W±0°07, h10km±1km, mb4.6/100, Error ellipse: s-maj=12.6km s-min=10.1km az=160.0*
*GCMT **23** 07:17:12.3±0.2, 19°85N±0°01×109°19W±0°01, h24km, MW5.3/142, Moment Tensor Solution. s85,c111; s142,c232; Duration: 1§1 Moment tensor: Scale 10^17 Nm; M_{rr}=0.19±.02; $M_{\theta\theta}$=0.95±.02; $M_{\phi\phi}$=1.15±.02; $M_{r\theta}$=0.04±.03; $M_{\theta\phi}$=0.19±.02; $M_{\phi r}$=0.00±.03; Best double couple: M_0=1.07000×10^17 NP1:ϕ_s=130.00000°, δ88.00000°, λ=178.00000°. NP2:ϕ_s=40.00000°, δ88.00000°, λ=-2.00000°. Principal axes: T 1.1670, Plg0.0000°, Azm265.0000°; N -0.1900, Plg87.0000°, Azm173.0000°; P -0.9730, Plg3.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 07:17:11.2±0.4, 19°72N±0°05×109°29W±0°04, h10km, n604, σ1§03/559, mb4.5/35, MS4.3/40, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E		**1.80**	**239**	*e*P	Pn	07 17 39.3	-3.0
H06E				*e*S	Sn	07 17 59.7	-5.4
H06E1	**SOCORRO T-PHAS**	**1.80**	**239**	Pn	Pn	07 17 39.2	-3.1
H06E1				T	T	07 19 46.6	
	SNR=19						
H06N1	**SOCORRO T-PHAS**	**1.81**	**242**	Pn	Pn	07 17 39.2	-3.2
H06N1				T	T	07 19 46.7	
	SNR=402						
H06N	**Isla Socorro**	**1.81**	**242**	*e*P	Pn	07 17 39.2	-3.3
H06N				*e*S	**Sn**	**07 18 00.8**	**-4.8**
H06S1	**SOCORRO T**	**1.85**	**238**	Pn	Pn	07 17 41.2	-1.8
H06S1				T	T	07 19 44.0	
	SNR=19						
H06S		**1.85**	**238**	*e*P	Pn	07 17 40.3	-2.7
H06S				*e*S	Sn	07 18 01.1	-5.5
SLBS	**Sierra La Lagu**	**4.00**	**351**	*e*P	Pn	07 18 10.3	-2.3
SLBS				*e*S	Sn	07 18 50.6	-9.0
CJM	**Chamela**	**4.01**	**92**	*e*P	Pn	07 18 08.8	-3.9
CJM				*e*S	Sn	07 18 50.9	-8.9
MAIG	**Mazatlaan**	**4.37**	**37**	*e*P	Pn	07 18 13.7	-3.9
MAIG				*e*S	Sn	07 18 58.9	-10
LPIG	**La Paz**	**4.46**	**348**	Pn	**Pn**	**07 18 17.5**	**-1.5**
	16nm,0.3s,baz=217,slow=1.3,SNR=16						
LPIG				LR	LR	07 19 45.0	
	comp=Z,6μm,21.4s,baz=148,slow=35						
	76nm,0.5s						
LPIG	**La Paz**	**4.46**	**348**	*e*P	**Pn**	**07 18 17.3**	**-1.7**
ANIG	**Ahuacatlan**	**4.67**	**73**	*e*P	Pn	07 18 19.6	-2.3
ANIG				*e*S	Sn	07 19 09.4	-6.9
CDAR	**Ciudad de Arme**	**5.05**	**98**	*e*P	Pn	07 18 24.0	-3.0
CDAR				*e*S	**Sn**	**07 19 21.4**	**-4.1**
CEGR	**Campo Tres**	**5.14**	**93**	*e*P	Pn	07 18 26.4	-2.0
CEGR				*e*S	**Sn**	**07 19 23.8**	**-4.1**
COIG	**Colima**	**5.32**	**95**	*e*P	Pn	07 18 28.6	-2.2
COIG				*e*S	**Sn**	**07 19 27.9**	**-4.2**
SOMAC	**Volcano de Col**	**5.34**	**91**	*e*P	**Pn**	**07 18 30.7**	**-0.7**
SOMAC				*e*S	**Sn**	**07 19 30.4**	**-2.8**
MNGA	**Volcan de Coli**	**5.36**	**92**	*e*P	**Pn**	**07 18 30.5**	**-1.0**
MNGA				*e*S	**Sn**	**07 19 30.1**	**-3.2**
JUBC	**Volcan de Coli**	**5.40**	**91**	*e*P	**Pn**	**07 18 31.2**	**-0.9**
JUBC				*e*S	**Sn**	**07 19 32.9**	**-1.6**
SSIG	**Sanalona**	**5.46**	**21**	*e*P	**Pn**	**07 18 31.4**	**-1.3**
SSIG				*e*S	**Sn**	**07 19 35.9**	**+0.4**
MMIG	**Aquila**	**5.80**	**103**	*e*P	Pn	07 18 35.6	-1.8
MMIG				*e*S	**Sn**	**07 19 42.0**	**-2.0**
TSIG	**Topolobambo**	**5.86**	**2**	*e*P	**Pn**	**07 18 37.2**	**-1.0**
PDIG	**Papasquiaro**	**6.41**	**34**	*e*P	**Pn**	**07 18 45.5**	**-0.4**
PDIG				*e*S	**Sn**	**07 19 55.4**	**-3.9**
AAIG	**Aguscalientes**	**6.84**	**70**	*e*P	Pn	07 18 49.6	-2.3
AAIG				*e*S	Sn	07 20 03.5	-6.5
ZAIG	**Zacatecas**	**6.97**	**63**	Pn	**Pn**	**07 18 53.6**	**-0.1**
ZAIG	**Zacatecas**	**6.97**	**63**	*e*P	**Pn**	**07 18 53.2**	**-0.5**
ZAIG				*e*S	**Sn**	**07 20 16.5**	**+3.3**
CSIG	**Choix**	**7.13**	**7**	*e*P	**Pn**	**07 18 56.1**	**+0.5**
CSIG				*e*S	**Sn**	**07 20 14.5**	**-2.3**
MOIG	**Morelia**	**7.64**	**89**	Pn	**Pn**	**07 19 04.4**	**+1.6**
MOIG	**Morelia**	**7.64**	**89**	*e*P	Pn	07 18 55.7	-7.1
MOIG				*e*S	Sn	07 20 18.9	-11
ZIIG	**Zihuatanejo**	**7.71**	**105**	*e*P	**Pn**	**07 19 04.2**	**+0.6**
ZIIG				*e*S	**Sn**	**07 20 34.3**	**+3.2**
HPIG		**7.92**	**24**	Pn	**Pn**	**07 19 07.3**	**+0.7**
HPIG		**7.92**	**24**	*e*P	**Pn**	**07 19 07.2**	**+0.5**
SRIG	**Santa Rosalia**	**8.04**	**341**	Pn	**Pn**	**07 19 08.6**	**+0.6**
GUYB	**Guaymas**	**8.27**	**350**	*e*P	Pn	07 19 08.8	-2.5
JRQG	**Juriquilla Cam**	**8.37**	**82**		**Pn**	**07 19 13.7**	**+0.9**
JRQG	**Juriquilla Cam**	**8.37**	**82**	*e*P	**Pn**	**07 19 13.5**	**+0.7**
JRQG				*e*S	Sn	07 20 38.7	-8.8
BCIG	**La Boquilla**	**8.57**	**24**	*e*P	**Pn**	**07 19 15.1**	**-0.4**
ACIG	**Acambay**	**8.86**	**87**	*e*P	**Pn**	**07 19 18.1**	**-1.5**
CAIG	**El Cayaco**	**8.97**	**106**	*e*P	**Pn**	**07 19 21.1**	**+0.2**
TOVM	**TOLUCA**	**9.08**	**91**	*e*P	**Pn**	**07 19 23.9**	**+1.2**
MAVM	**Malinalco, Edo**	**9.28**	**93**	*e*P	**Pn**	**07 19 26.3**	**+0.9**
MEIG	**Mezcala**	**9.33**	**99**	*e*P	**Pn**	**07 19 25.8**	**-0.1**
PLIG	**Platanillo**	**9.35**	**96**	*e*P	**Pn**	**07 19 27.4**	**+1.1**
PLIG				*e*S	**Sn**	**07 21 09.8**	**-1.8**
AOVM	**Tlapan**	**9.42**	**91**	*e*P	Pn	07 19 24.5	-3.0
DAIG	**Los Arroyos**	**9.54**	**105**	*e*P	Pn	07 19 21.0	-7.7
DAIG				*e*S	**Sn**	**07 21 18.8**	**+2.7**
DEIG	**Demacu**	**9.66**	**85**	*e*P	**Pn**	**07 19 31.6**	**+1.0**
YAIG	**Yautepec**	**9.70**	**93**	*e*P	**Pn**	**07 19 32.6**	**+1.6**
GTIG	**Gomez Farias**	**10.00**	**69**	*e*P	**Pn**	**07 19 34.6**	**-0.5**
PBXN	**Popocatepetl**	**10.07**	**92**	*e*P	**Pn**	**07 19 36.8**	**+0.4**
PBXN				*e*P		07 19 37.4	
PPM	**Popocatepetl**	**10.09**	**92**	*e*P	**Pn**	**07 19 38.7**	**+2.0**
PBPN	**Popocatepetl**	**10.09**	**92**	*e*P	**Pn**	**07 19 37.1**	**+0.3**
CRIG	**Cruz Grande**	**10.10**	**105**	*e*P	**Pn**	**07 19 35.5**	**-1.0**
PBCV	**Popocatepetl**	**10.16**	**92**	*e*P	**Pn**	**07 19 36.4**	**-1.1**
MNIG	**Monterrey**	**10.17**	**53**	*e*P	Pn	07 19 29.1	-8.3
TLIG	**Tlapa**	**10.39**	**100**	Pn	**Pn**	**07 19 40.9**	**+0.4**
TLIG	**Tlapa**	**10.39**	**100**	*e*P	**Pn**	**07 19 40.9**	**+0.4**
CTUV	**Llano Grande**	**10.39**	**78**	*e*P	**Pn**	**07 19 43.2**	**+2.8**
LNIG	**Linares**	**10.46**	**59**	*e*P	**Pn**	**07 19 39.9**	**-1.4**
CGIG		**10.67**	**6**	*i* P	**Pn**	**07 19 46.6**	**+2.3**
FTIG	**Fresnillo de T**	**10.72**	**98**	*e*P	**Pn**	**07 19 45.9**	**+0.8**
MCIG	**Muzquiz**	**10.82**	**40**	*e*P	**Pn**	**07 19 45.0**	**-1.2**
TX31	**Lajitas Ar. Si**	**10.86**	**27**	Pn	**Pn**	**07 19 47.3**	**+0.4**
TXAR	**Lajitas Array**	**10.86**	**27**	Pn	**Pn**	**07 19 47.2**	**+0.3**
	0.3nm,0.3s,baz=201,slow=10,SNR=97						
TXAR				LR	LR	07 23 31.2	
	comp=Z,2μm,18.2s,baz=206,slow=35						
	8.7nm,0.8s						
CXUV	**Coxquihui**	**11.02**	**86**	*e*P	**Pn**	**07 19 50.2**	**+1.2**
HLIG	**Huajuapan de L**	**11.04**	**98**	*e*P	**Pn**	**07 19 49.7**	**+0.1**
LAPR	**La Primavera**	**11.08**	**346**	*e*P	**Pn**	**07 19 51.4**	**+1.6**
TXIG	**Tlaxiaco**	**11.21**	**101**	*e*P	**Pn**	**07 19 52.6**	**+0.8**
TPIG	**Tehuac#an**	**11.36**	**95**	*e*P	**Pn**	**07 19 54.0**	**+0.2**
TPIG				*e*S	**Sn**	**07 21 57.4**	**-3.5**
YOIG	**Yosondua**	**11.52**	**102**	*e*P	**Pn**	**07 19 56.9**	**+0.9**
319A	**Douglas**	**11.61**	**0**	Pn	**Pn**	**07 19 59.3**	**+2.1**
TOIG	**Toxpalan**	**11.69**	**96**	*e*P	**Pn**	**07 19 58.0**	**-0.3**
TOIG				*e*S	**Sn**	**07 22 09.1**	**+0.1**
VHRN	**Van Horn**	**11.69**	**19**	Pn	**Pn**	**07 19 59.8**	**+1.6**
ALPN	**Alpine**	**11.78**	**25**		**Pn**	**07 20 01.0**	**+1.4**
JAUV	**Jalcomulco**	**11.78**	**90**	*e*P	**Pn**	**07 19 59.5**	**0.0**
SAND	**Sanderson**	**12.09**	**31**	Pn	**Pn**	**07 20 03.9**	**+0.2**
PEIG	**Puerto Escondi**	**12.14**	**106**	*e*	Pn	07 19 50.0	-14
HBVL	**Hebbronville**	**12.19**	**51**		**Pn**	**07 20 06.7**	**+1.7**
VHO	**Vista Hermosa**	**12.21**	**100**	*e*P	**Pn**	**07 20 06.0**	**+0.5**
EPT	**El Paso**	**12.26**	**11**	Pn	**Pn**	**07 20 08.5**	**+2.4**
SFX	**San Felipe**	**12.34**	**337**	Pn	**Pn**	**07 20 07.8**	**+0.8**
PIX	**Pinacate**	**12.38**	**343**	Pn	**Pn**	**07 20 08.3**	**+0.8**
MNTX	**Cornudas Mount**	**12.44**	**16**	Pn	**Pn**	**07 20 10.2**	**+1.8**
MNTX	**Cornudas Mount**	**12.44**	**16**	P	**Pn**	**07 20 10.4**	**+2.0**
	baz=197,SNR=18						
MNTX	**Cornudas Mount**	**12.44**	**16**	*e*P	**Pn**	**07 20 09.5**	**+1.1**
833A	**Chaparral WMA,**	**12.45**	**45**		**Pn**	**07 20 09.5**	**+0.9**
833A	**Chaparral WMA,**	**12.45**	**45**	P	**Pn**	**07 20 10.4**	**+1.8**
	baz=229						
DRIO	**Del Rio**	**12.47**	**38**	Pn	**Pn**	**07 20 09.5**	**+0.6**
214A	**Organ Pipe Nat**	**12.59**	**346**	Pn	**Pn**	**07 20 12.3**	**+1.7**
214A	**Organ Pipe Nat**	**12.59**	**346**	P	**Pn**	**07 20 12.5**	**+2.0**
	baz=165						
214A	**Organ Pipe Nat**	**12.59**	**346**	*e*P	**Pn**	**07 20 09.8**	**-0.7**
PECS	**Pecos**	**12.59**	**22**		**Pn**	**07 20 12.9**	**+2.3**
TUC	**Tucson**	**12.61**	**354**	Pn	**Pn**	**07 20 12.8**	**+2.0**
TUC	**Tucson**	**12.61**	**354**	P	**Pn**	**07 20 12.3**	**+1.5**
	baz=174						
TUC	**Tucson**	**12.61**	**354**	*e*P	**Pn**	**07 20 11.8**	**+0.9**
DUN6	**Lazy B Ranch**	**12.79**	**1**		**Pn**	**07 20 14.7**	**+1.4**
121A	**Cookes Peak, D**	**12.84**	**6**	Pn	**Pn**	**07 20 15.8**	**+1.8**
121A	**Cookes Peak, D**	**12.84**	**6**	P	**Pn**	**07 20 16.0**	**+2.0**
	baz=186,SNR=29						
121A	**Cookes Peak, D**	**12.84**	**6**	*e*P	**Pn**	**07 20 15.5**	**+1.6**
NEUV	**Arroyo Zacate**	**12.94**	**97**	*e*P	Pn	07 20 13.7	-1.6
MNHN	**Monahans**	**12.98**	**26**		**Pn**	**07 20 15.8**	**-0.1**
VTX	**Valle De La Tr**	**13.01**	**335**		**Pn**	**07 20 16.8**	**+0.5**
HNDO	**Hondo**	**13.35**	**41**		**Pn**	**07 20 23.1**	**+2.3**
OZNA	**Ozona**	**13.37**	**32**	Pn	**Pn**	**07 20 22.9**	**+1.7**
PMUV	**Sontecomapan**	**13.45**	**93**	*e*P	Pn	07 20 20.5	-1.8
JCT	**Junction City**	**13.73**	**37**	Pn	**Pn**	**07 20 26.1**	**+0.1**
JCT	**Junction City**	**13.73**	**37**	P	**Pn**	**07 20 28.7**	**+2.6**
	baz=221						
ODSA	**Odessa**	**13.76**	**25**	Pn	**Pn**	**07 20 27.2**	**+0.7**
735A	**Kenedy**	**13.86**	**47**		**Pn**	**07 20 28.7**	**+0.8**
CMIG	**Matias Romero**	**13.92**	**98**	Pn	**Pn**	**07 20 29.3**	**+0.6**
	0.6nm,0.3s,baz=291,slow=11,SNR=15						
CMIG				LR	LR	07 25 32.5	
	comp=Z,3μm,18.6s,baz=277,slow=36						
	16nm,0.9s						
CMIG	**Matias Romero**	**13.92**	**98**	*e*P	Pn	07 20 26.6	-2.2
GLA	**Glamis**	**14.17**	**341**		**Pn**	**07 20 32.7**	**+0.6**
GLA	**Glamis**	**14.17**	**341**	P	**Pn**	**07 20 33.4**	**+1.3**
	baz=158,SNR=5.6						
YUH	**Yuha Desert**	**14.18**	**337**		**Pn**	**07 20 32.2**	**0.0**
SGCY	**Sterling City**	**14.19**	**30**	Pn	**Pn**	**07 20 33.1**	**+0.7**
IKP	**In-Ko-Pah, Jac**	**14.25**	**336**	P	**Pn**	**07 20 34.7**	**+1.5**
	baz=153						
TJIG	**Tijuana**	**14.29**	**334**	*e*P	**Pn**	**07 20 32.8**	**-0.9**
SWSC	**Sam W. Stewart**	**14.40**

baz=161
PCIG 15.82 102 eP Pn 07 20 55.3 +1.1
WUAZ Wupatki 15.85 354 P Pn 07 20 55.5 +0.9
baz=173,SNR=22
CIS Catalina Islan 15.87 331 P Pn 07 20 55.5 +0.7
baz=147
HKT Hockley 15.89 48 Pn Pn 07 20 56.7 +1.7
HKT IAmb IAmb 07 21 10.4
comp=Z,106nm,1.5s
BBRC Big Bear Solar 15.99 336 P Pn 07 20 57.7 +1.1
baz=153
GMRC Granite Mounta 16.03 341 P Pn 07 20 57.8 +0.8
baz=158,SNR=16
FMP Fort Macarthur 16.08 332 P Pn 07 20 58.0 +0.5
baz=148
WHTX Lake Whitney, 16.20 39 P Pn 07 21 00.4 +1.4
baz=224
BFSC Mount Baldy Ra 16.26 335 P Pn 07 21 00.7 +0.8
baz=151
HEC Hector,Ludlow 16.29 339 P Pn 07 21 00.9 +0.6
baz=156
AMTX Amarillo 16.54 22 P Pn 07 21 03.7 +0.2
baz=206
DECC Green Verdugo 16.56 333 P Pn 07 21 04.5 +1.0
baz=149
RRX Edison Barstow 16.57 337 P Pn 07 21 04.0 +0.3
baz=154
CCIG Comitan 16.67 99 Pn 07 21 05.5 +0.2
CCIG IAmb IAmb 07 21 10.5
comp=Z,71nm,1.3s
TUQ Turquoise Moun 16.72 341 P Pn 07 21 06.7 +1.0
baz=158,SNR=17
U15A North Rim 16.86 352 Pn 07 21 09.4 +1.8
U15A IAmb IAmb 07 21 14.5
comp=Z,58nm,1.4s
FW06 Azle 16.86 36 P Pn 07 21 09.1 +1.7
FW06 IAmb IAmb 07 21 13.8
comp=Z,62nm,1.5s
GSC Goldstone, Bar 16.88 338 Pn 07 21 07.4 -0.4
GSC Goldstone, Bar 16.88 338 P Pn 07 21 08.8 +1.0
baz=155,SNR=6.6
PAVE Pavencul 16.94 103 eP Pn 07 21 10.3 +1.6
EDW2 Edwards Air Fo 16.96 335 P Pn 07 21 09.9 +1.3
baz=151
WTFS Witchita Falls 16.99 32 Pn 07 21 10.0 +0.9
WTFS IAmb IAmb 07 21 19.0
comp=Z,59nm,1.2s
CHUJ Union Juarez 17.03 103 eP Pn 07 21 09.6 -0.2
OSI Osito Audit: C 17.03 333 P Pn 07 21 10.2 +0.6
baz=148
SMWD Samnorwood 17.29 26 P Pn 07 21 12.9 0.0
Z35A Perchaven, San 17.30 36 P Pn 07 21 14.6 +1.7
LRMC Laurel Mtn Rad 17.36 336 P Pn 07 21 13.7 -0.1
baz=153
MVCO Mesa Verde 17.45 2 P Pn 07 21 15.5 +0.5
baz=183,SNR=28
KNB Kanab 17.51 351 P Pn 07 21 16.5 +0.8
KNB IAmb IAmb 07 21 19.1
comp=Z,46nm,1.2s
ARVC Arvin 17.51 333 P Pn 07 21 16.2 +0.7
baz=149
LCMT Little Creek M 17.58 349 P Pn 07 21 17.4 +0.9
WMOK Wichita Mounta 17.62 30 Pn 07 21 16.2 -0.8
WMOK Wichita Mounta 17.62 30 P Pn 07 21 16.5 -0.4
baz=215,SNR=16
RTBA Rita Blanca 17.63 18 Pn 07 21 17.4 +0.3
RTBA IAmb IAmb 07 21 46.7
comp=Z,55nm,1.5s
PKM Mcpherson Peak 17.75 331 P Pn 07 21 18.3 -0.4
baz=146
NATX Nacogdoches 17.80 45 P Pn 07 21 19.8 +0.7
baz=231
MPMC Manual Prospec 17.80 338 P Pn 07 21 19.2 -0.1
baz=154,SNR=7.9
ISA Isabella, Lake 17.83 335 P Pn 07 21 19.6 +0.1
baz=151
LOOK Love County 17.84 35 Pn 07 21 19.4 -0.1
LOOK IAmb IAmb 07 21 56.6
comp=Z,64nm,1.5s
T25A Trinidad 17.88 13 Pn 07 21 21.3 +1.0
T25A Trinidad 17.88 13 P Pn 07 21 21.3 +1.0
baz=195,SNR=17
FURC Furnace Creek, 17.96 340 P Pn 07 21 22.2 +1.2
baz=156
S22A 4UR Ranch, Cre 18.09 6 P Pn 07 21 24.4 +1.4
baz=188,SNR=23
SMMC Simmler 18.19 331 P Pn 07 21 24.3 +0.4
baz=146
TPNV Topopah Spring 18.22 342 P Pn 07 21 25.0 +0.5
baz=159,SNR=28
VES Vestal, Richgr 18.23 334 P Pn 07 21 24.8 +0.4
baz=149,SNR=7.2
SDCO Great Sand Dun 18.27 10 P Pn 07 21 25.4 +0.3
baz=192,SNR=8.0
CWC Cottonwood Cre 18.36 337 P Pn 07 21 26.2 0.0
baz=153
APG El Apazote 18.57 102 P P 07 21 31.1 +2.4
baz=150,slow=11,SNR=4.7
GRAC Grapevine Rang 18.61 339 P P 07 21 29.4 +0.6
baz=156
S11A Rachel 18.73 344 P P 07 21 30.1 -0.2
VOG Valley Oaks Go 18.77 334 P P 07 21 31.8 +1.3
baz=149
DSP Deep Springs 19.15 339 P P 07 21 35.8 +1.1
R11B Troy Canyon, C 19.35 345 P P 07 21 37.7 +0.5
baz=162,SNR=11
Q24A Divide 19.51 10 P P 07 21 39.2 +0.2
Q24A Divide 19.51 10 P P 07 21 39.3 +0.3
baz=192,SNR=9.8
OK031 S. Brethren Rd 19.54 32 P 07 21 39.9 +0.9
OK031 IAmb IAmb 07 22 08.7
comp=Z,26nm,1.0s
TPH Tonopah 19.55 341 P P 07 21 39.3 0.0
OK052 Battle Ridge R 19.59 32 P 07 21 39.6 +0.1
OK052 IAmb IAmb 07 22 09.4
comp=Z,51nm,1.3s
SPR3 Spring Creek 3 19.70 348 P P 07 21 40.9 -0.3
OMMB Old Mammoth Mi 19.74 337 P 07 21 42.2 +0.7
TEIG Tepich 19.76 85 P P 07 21 41.7 +0.2
TEIG IAmb IAmb 07 21 47.4
comp=Z,30nm,1.1s
TEIG Tepich 19.76 85 P P 07 21 42.9 +1.4
comp=Z,0.2nm,0.3s,baz=267,slow=8.8,SNR=7.9
TEIG LR LR 07 29 37.6
comp=Z,1µm,20.2s,baz=248,slow=38
comp=Z,16nm,1.0s
MTO3 Montecristo 19.77 102 P P 07 21 43.4 +1.5
MTO3 IAmb IAmb 07 21 49.0
comp=Z,33nm,1.2s
Q12A Willow Creek R 19.84 347 P P 07 21 42.8 +0.3
Q12A IAmb IAmb 07 21 44.6
comp=Z,30nm,1.1s
OK048 Pawnee Station 19.86 31 P 07 21 43.0 +0.5
OK048 IAmb IAmb 07 21 50.4
comp=Z,42nm,1.3s
TUL3 Leonard 20.04 34 P P 07 21 45.6 +1.1
baz=220
KSCO Kaye Shedlock' 20.07 15 P P 07 21 45.5 +0.5
baz=199
LHV Little Huntoon 20.13 339 P P 07 21 46.8 +1.4
LHV IAmb IAmb 07 21 50.8
comp=Z,35nm,1.1s
NVAR Mina Array Bea 20.22 339 P P 07 21 47.5 +0.8
NVAR Mina Array Bea 20.22 339 P P 07 21 47.3 +0.7
comp=Z,17nm,1.1s,baz=166,slow=13,SNR=32
NVAR LR LR 07 28 46.8
comp=Z,1µm,20.6s,baz=149,slow=35
comp=Z,17nm,1.1s
ISCO Idaho Springs 20.27 8 P P 07 21 46.9 -0.4
baz=190,SNR=6.5
MIAR Mount Ida 20.30 40 P P 07 21 48.5 +1.2
baz=227
NLU North Lily Min 20.31 354 P P 07 21 48.1 +0.4
NLU IAmb IAmb 07 21 56.4
comp=Z,31nm,1.2s
MPU Maple Canyon 20.33 355 P P 07 21 47.9 +0.1
O20A White River Ci 20.37 2 P P 07 21 47.9 -0.4
baz=183,SNR=18
DUG Dugway, Tooele 20.63 352 P P 07 21 51.1 +0.1
baz=171,SNR=48
CBKS Cedar Bluff 20.75 21 P P 07 21 51.9 -0.3
CBKS IAmb IAmb 07 22 09.0
comp=Z,36nm,1.1s
CBKS Cedar Bluff 20.75 21 P P 07 21 51.5 -0.7
baz=206
R32A Long Quarter, 20.78 24 P P 07 21 51.5 -1.0
VBMS Vicksburg 20.93 50 P P 07 21 54.5 +0.3
baz=238
CTU Camp Tracy 21.01 355 P P 07 21 55.1 -0.1
CTU IAmb IAmb 07 22 04.4
comp=Z,37nm,1.2s
UALR University of 21.21 42 P P 07 21 58.1 +0.9
UALR IAmb IAmb 07 22 30.6
comp=Z,27nm,1.3s
PNTR Pine Nut 21.26 337 P P 07 21 59.0 +1.1
PNTR IAmb IAmb 07 22 04.6
comp=Z,28nm,1.0s
N23A Red Feather La 21.30 7 P P 07 21 59.1 +0.7
baz=189,SNR=22
BGU Big Grassy Mou 21.38 352 P P 07 21 58.7 -0.4
BGU IAmb IAmb 07 22 07.8
comp=Z,30nm,1.3s
TCUT Toone Canyon 21.41 356 P P 07 22 00.4 +0.9
TCUT IAmb IAmb 07 22 03.7
comp=Z,40nm,1.0s
ELK Elko 21.57 348 P P 07 22 01.9 +0.7
comp=Z,7.1nm,1.0s,baz=178,slow=8.2,SNR=17
ELK LR LR 07 30 30.3
comp=Z,587nm,18.1s,baz=158,slow=37
comp=Z,7.1nm,1.0s
WHAR Wooly Hollow 21.59 41 P P 07 22 01.6 +0.5
WHAR IAmb IAmb 07 22 23.8
comp=Z,39nm,1.2s
MPK Martis Peak 21.60 337 P P 07 22 02.8 +1.2
MPK IAmb IAmb 07 22 16.1
comp=Z,31nm,1.0s
TGUH Tegucigalpa,Un 21.80 102 P P 07 22 04.2 +0.4
OGNE Ogallala 22.05 15 P P 07 22 05.9 -0.3
OGNE Ogallala 22.05 15 P P 07 22 05.9 -0.3
baz=198
HVU Hansel Valley 22.19 353 P P 07 22 07.4 -0.4
KSU1 Kansas State U 22.21 27 P P 07 22 07.9 +0.1
baz=213
LCAR Lake Charles 22.79 41 P P 07 22 13.1 -1.0
LCAR IAmb IAmb 07 22 36.6
comp=Z,23nm,1.3s
OXF Oxford 22.97 46 P P 07 22 14.6 -1.3
baz=235
BW06 Boulder Array 22.98 360 P P 07 22 15.3 -1.0
BW06 Boulder Array 22.98 360 P P 07 22 15.5 -0.7
baz=179,SNR=8.0
PDAR Pinedale Array 22.98 360 P P 07 22 15.0 -1.3
PDAR Pinedale Array 22.98 360 P P 07 22 15.8 -0.5
comp=Z,4.4nm,0.9s,baz=162,slow=8.8,SNR=20
PDAR LR LR 07 31 20.1
comp=Z,426nm,18.9s,baz=146,slow=37
comp=Z,4.4nm,0.9s
K22A Casper 22.98 5 P P 07 22 15.8 -0.4
baz=187,SNR=27
BRAL Brewton 23.05 56 P P 07 22 15.0 -1.8
baz=246
REDW Red Top Meadow 23.61 357 P P 07 22 22.2 -0.4
BOAB BOACO BROADBAND 23.81 104 P P 07 22 25.7 +1.2
FXWY Fox Creek 23.90 357 P P 07 22 24.9 -0.5
FXWY IAmb IAmb 07 22 28.9
comp=Z,12nm,0.9s
LRAL Lakeview Retre 23.91 52 P P 07 22 23.3 -2.0
baz=242
WVOR Wild Horse Val 23.99 343 P P 07 22 26.2 +0.1
WVOR IAmb IAmb 07 22 30.5
comp=Z,28nm,1.2s
MOOW Moose Ponds 23.99 357 P P 07 22 25.9 -0.4
250A Grady 23.99 55 P P 07 22 25.6 -0.6
PARMO Parma 24.04 41 P P 07 22 26.7 +0.2
CCM Cathedral Cave 24.08 37 P P 07 22 25.4 -1.5
baz=226
HLID Hailey 24.16 351 P P 07 22 28.1 +0.3
baz=168,SNR=23
H17A Grant Village 24.63 358 P P 07 22 32.5 +0.3
baz=177
P40A Paris 24.71 33 P P 07 22 33.3 +0.7
P40A IAmb IAmb 07 22 39.3
comp=Z,18nm,1.1s
RSSD Black Hills 24.73 9 P P 07 22 31.4 -1.6
RSSD IAmb IAmb 07 22 36.7
comp=Z,10nm,1.0s
RSSD Black Hills 24.73 9 P P 07 22 33.7 +0.7
baz=192
YBH Yreka Blue Hor 24.73 335 LR LR 07 31 40.1
comp=Z,759nm,19.4s,baz=158,slow=35
J08A Circle Bar Ran 24.80 344 P P 07 22 33.0 -0.5
J08A IAmb IAmb 07 22 37.1
comp=Z,19nm,1.2s
WVT Waverly 24.95 45 P P 07 22 35.9 +1.0
WVT IAmb IAmb 07 22 43.5
comp=Z,15nm,1.2s
WVT Waverly 24.95 45 P P 07 22 35.1 +0.3
baz=235
YHH Holmes Hill 25.04 357 P P 07 22 35.4 -0.4
RLMT Red Lodge 25.34 0 P P 07 22 39.2 +0.7
baz=180
BOZ Bozeman (W) 25.88 356 P P 07 22 42.9 -0.5
BOZ Bozeman (W) 25.88 356 P P 07 22 43.4 0.0
baz=175,SNR=14
TIGA Tifton 25.89 58 P P 07 22 43.5 +0.1
baz=249
BMO Blue Mountains 25.94 347 P P 07 22 44.0 +0.2
SUSD Miller 26.12 17 P P 07 22 45.8 +0.5
baz=203
ECSD EROS Data Cent 26.20 21 P P 07 22 45.7 -0.4
baz=208
DWPF Disney Wildern 26.76 66 P P 07 22 50.6 -0.7
baz=258
HDIL Hopedale 26.91 35 P P 07 22 52.6 +0.1
baz=225
LAO LASA Array 27.02 5 P P 07 22 53.7 +0.2
baz=186
WCI Wyandotte Cave 27.17 42 P P 07 22 54.5 -0.4
baz=234
LYMT Lyon Mountain 27.29 356 P P 07 22 55.3 -0.8
OVMT Ovando 27.45 355 P P 07 22 56.4 -1.0
SFIN Lafayette 28.02 38 P P 07 23 02.4 -0.1
baz=229
TZTN Tazewell 28.09 48 P P 07 23 02.6 -0.6
baz=240
JFWS Jewell Farm 28.15 31 P P 07 23 03.7 +0.1
baz=221
NEW Newport 29.18 349 P P 07 23 11.9 -0.9
baz=165
NEW Newport 29.18 349 P P 07 23 11.8 -0.9
comp=Z,3.0nm,0.8s,baz=156,slow=10,SNR=6.4
NEW LR LR 07 34 51.5
comp=Z,562nm,18.1s,baz=170,slow=36
comp=Z,3.0nm,0.8s
AGMN Agassiz Nation 30.51 18 P P 07 23 24.1 -0.4
baz=206
P52A Corning 30.64 44 P P 07 23 26.0 +0.2
baz=238
O53A New Philadelph 31.57 43 P P 07 23 33.5 -0.5
baz=238
EYMN Ely 31.64 23 P P 07 23 33.7 -0.8
baz=213
MCWV Mont Chateau 32.17 45 P P 07 23 38.6 -0.7
baz=240
ULM Lac du Bonnet 32.28 16 P P 07 23 38.4 -1.6
comp=Z,6.1nm,0.9s,baz=216,slow=8.0,SNR=7.4
ULM LR LR 07 36 02.2
comp=Z,700nm,18.2s,baz=198,slow=35
comp=Z,6.1nm,0.9s
M53A Wi Miller and 32.55 42 P P 07 23 42.0 -0.6
baz=237
CBN Corbin Frederi 33.23 49 P P 07 23 48.1 -0.4
baz=245
SSPA Standing Stone 33.96 45 P P 07 23 54.5 -0.3
baz=242
SADO Sadowa 35.35 38 LR LR 07 38 05.0
comp=Z,586nm,21.8s,baz=246,slow=35
BBB Bella Bella 35.58 340 LR LR 07 38 10.4
comp=Z,584nm,19.4s,baz=161,slow=36
BINY Binghamton 35.96 44 P P 07 24 11.2 -1.0
baz=242
SLOR San Lorenzo - 36.40 120 P P 07 24 17.6 +1.0
SLOR IAmb IAmb 07 24 29.0
comp=Z,17nm,1.2s
ANTS Antisana-Sarah 36.53 120 P P 07 24 18.5 +0.5
PAL Palisades 36.82 47 P P 07 24 17.9 -1.5
baz=246
L61B Northampton 38.26 45 P P 07 24 29.7 -1.9
baz=245
SDV Santo Domingo 38.89 100 P P 07 24 38.4 +0.9
SDV IAmb IAmb 07 24 46.9
comp=Z,19nm,0.9s
SDV Santo Domingo 38.89 100 LR LR 07 41 25.6
comp=Z,319nm,21.3s,baz=268,slow=37
HRV Adam Dziewonsk 39.04 46 P P 07 24 36.2 -2.0
baz=246
V35K Ketchikan 39.35 340 P P 07 24 40.9 +0.3
baz=146
LBNH Lisbon 39.53 43 P P 07 24 41.9 -0.4
baz=244
T35M Bob Quinn 40.33 342 P P 07 24 49.1 +0.3
T35M Bob Quinn 40.33 342 P P 07 24 47.1 -1.7
baz=149
CELP Cerrillos 40.37 85 P P 07 24 49.6 0.0
U33K Whale Pass 40.49 340 P P 07 24 48.7 -1.3
baz=144
WRAK Wrangell Islan 40.49 340 P P 07 24 49.1 -0.9
baz=146
TOAD Toad River Com 40.77 347 P P 07 24 52.3 -0.1
baz=157,SNR=11
SJG San Juan 40.77 85 LR LR 07 42 35.4
comp=Z,172nm,20.6s,baz=292,slow=37
BAUV El Baul 41.27 99 P P 07 24 57.1 +0.1
S34M Telegraph Cree 41.38 343 P P 07 24 56.8 -0.5
baz=148
LIRD Liard River Hi 41.46 347 P P 07 24 55.6 -2.4
baz=156
DLBC Dease Lake 41.53 344 P P 07 24 59.2 +0.5
DLBC Dease Lake 41.53 344 P P 07 24 56.5 -2.2
baz=150
DLBC Dease Lake 41.53 344 LR LR 07 43 13.9
comp=Z,1µm,18.7s,baz=164,slow=38
KOTAN Kotaneelee Air 41.73 349 P P 07 24 57.4 -2.8
baz=159,SNR=5.1
SIT Sitka 41.98 339 P P 07 25 02.0 -0.3
baz=142
S32K Killisnoo 42.06 340 P P 07 25 02.8 -0.1
baz=143
Q32M Nakina River 42.59 343 P P 07 25 07.1 -0.4
baz=147
R33M Jennings River 42.60 344 P P 07 25 07.4 -0.1
baz=149,SNR=9.5
R32K Eaglecrest 42.69 341 P P 07 25 08.2 +0.2
baz=144
WTLY Watson Lake, Y 42.69 346 P P 07 25 07.7 -0.4
baz=152
YKA Yellowknife Ar 42.90 356 P P 07 25 08.3 -1.4
comp=Z,3.0nm,0.8s,baz=172,slow=8.0,SNR=17
YKA LR LR 07 43 21.4
comp=Z,769nm,18.3s,baz=167,slow=37
comp=Z,3.0nm,0.8s
P32M Atlin 43.52 342 P P 07 25 15.0 +0.1
baz=146
P33M Teslin, Yukon 43.79 343 P P 07 25 17.1 +0.1
baz=147
TGTN Hyland Airport 43.84 347 P P 07 25 17.9 +0.5
baz=154
SKAG Skagway 43.90 341 P P 07 25 17.9 +0.2
baz=144
PCRV Puerto La Cruz 44.06 96 LR LR 07 45 06.8
comp=Z,213nm,18.9s,slow=38
PLBC Pleasant Camp 44.21 341 P P 07 25 21.0 +0.6
baz=142
WRGLY Wrigley 44.55 351 P P 07 25 24.6 +1.6
baz=161
N32M Quiet Lake 44.65 344 P P 07 25 24.5 +0.6
baz=147
WHY Whitehorse 44.74 342 P P 07 25 24.7 0.0
baz=145
P29M Windy Craggy 44.79 340 P P 07 25 24.7 -0.2
baz=140
P30M Million Dollar 44.92 341 P P 07 25 24.8 -1.2
baz=142
O30N Mendenhall 45.18 342 P P 07 25 28.3 +0.2
baz=143,SNR=9.6
CZSB Cruzeiro do Su 45.18 124 P P 07 25 29.8 +1.1
O29M Mount Kennedy 45.57 340 P P 07 25 32.3 +0.9
baz=140
FARO Faro, Yukon 45.63 345 P P 07 25 32.8 +1.1
baz=148
N31M Braeburn, Yuko 45.67 343 P P 07 25 32.2 +0.3
N31M Braeburn, Yuko 45.67 343 P P 07 25 32.3 +0.3
baz=144,SNR=7.8
M31M Drury Creek, Y 45.88 344 P P 07 25 34.9 +1.3
baz=146
PINM Pinnacle 45.97 339 P P 07 25 34.7 +0.3
baz=138
YUK6 Outpost Mounta 46.00 341 P P 07 25 35.0 +0.1
baz=141
N30M Aishikik Lake 46.02 342 P P 07 25 35.6 +0.9
baz=142
YUK4 Talbot Arm 46.40 341 P P 07 25 38.1 +0.2
baz=141
O28M Mount Upton 46.45 340 P P 07 25 39.1 +0.6
baz=138,SNR=7.9
RPN Rapa Nui 46.56 180 LR LR 07 40 33.2
comp=Z,294nm,20.6s,baz=3.0,slow=30
MESA MESA 46.62 338 P P 07 25 39.4 -0.2
baz=136
YUK8 Steele Glacier 46.70 340 P P 07 25 40.5 +0.1
baz=139
M30M Minto, Yukon 46.83 343 P P 07 25 41.3 +0.2
baz=143
CTG Chitna Glacier 46.98 339 P P 07 25 43.2 +0.9
baz=137
BGLC Bering Glacier 47.05 338 P P 07 25 43.5 +0.7
baz=134
M29M Somme Creek 47.20 342 P P 07 25 45.2 +1.2
baz=141,SNR=9.5
YUK3 Moose Creek 47.29 340 P P 07 25 44.6 -0.4
baz=138
KAIM Kayak Island 47.33 337 P P 07 25 45.6 +0.7
baz=133
MAYO Mayo, Yukon 47.42 344 P P 07 25 46.2 +0.5
MAYO Mayo, Yukon 47.42 344 P P 07 25 45.8 +0.1
baz=145
CRQE Cirque 47.42 338 P P 07 25 46.7 +0.9
baz=135
SCHQ Schefferville 47.50 32 P P 07 25 46.1 -0.3
comp=Z,1.8nm,0.8s,baz=243,slow=13,SNR=2.3
SCHQ LR LR 07 45 27.8
comp=Z,415nm,19.4s,baz=246,slow=36
comp=Z,1.8nm,0.8s
L29M L29M 47.63 343 P P 07 25 47.8 +0.5
baz=142,SNR=18
Q23K Middleton Isla 47.74 335 P P 07 25 47.1 -1.0
baz=130
MCARA McCarthy VSAT 47.84 339 P P 07 25 49.0 0.0
MCARA McCarthy VSAT 47.84 339 P P 07 25 48.3 -0.6
baz=135
K29M Barlow Dome 48.05 344 P P 07 25 51.4 +0.7
baz=143,SNR=21
BMRM Bremner River 48.11 338 P P 07 25 51.8 +0.8
baz=133
M27K Edge Creek, AK 48.17 340 P P 07 25 51.7 0.0
M27K IAmb IAmb 07 26 01.8
comp=Z,7.5nm,1.1s
M27K Edge Creek, AK 48.17 340 P P 07 25 51.2 -0.4
baz=137,SNR=6.0
EYAK Cordova Ski Ar 48.24 337 P P 07 25 52.0 0.0
baz=131
J30M Hart River 48.34 345 P P 07 25 53.6 +0.8
baz=145,SNR=7.2
P23K Montague Islan 48.51 336 P P 07 25 52.9 -1.2
baz=129
N25K Chitina, Valde 48.54 338 P P 07 25 53.4 -1.1
baz=134,SNR=5.6
M26K Nabesna, AK 48.56 340 P P 07 25 54.0 -0.5
baz=136
L27K Beaver Creek, 48.68 341 P P 07 25 55.7 +0.3
baz=138
DAWY Dawson 48.73 343 P P 07 25 55.5 -0.3
baz=141,SNR=9.6
I30M Mount Dempster 48.88 345 P P 07 25 57.0 0.0
baz=145,SNR=6.4
KLU Klutina 48.93 338 P P 07 25 57.2 -0.3
baz=132
GLI Glacier Island 48.96 337 P P 07 25 57.2 -0.4
baz=130
L26K Log Cabin Wild 49.13 340 P P 07 25 58.5 -0.3
baz=136
HARP HAARP 49.28 339 P P 07 25 59.7 -0.3
baz=133
SEW Seward 49.39 335 P P 07 25 60.0 -0.8
baz=127
PWL Port Wells 49.41 336 P P 07 26 00.7 -0.4
baz=129
KDAK Kodiak Island 49.42 331 P P 07 26 01.5 +0.4
baz=122
KDAK Kodiak Island 49.42 331 LR LR 07 43 11.3
comp=Z,307nm,20.6s,baz=166,slow=32
M24K Tolsona, Glenn 49.43 338 P P 07 26 01.1 -0.1

baz=132
OHAK Old Harbor 49.45 330 P P 07 26 01.7 +0.4
baz=121
I29M Ogilvie Camp, 49.47 344 P P 07 26 01.2 -0.2
baz=143,SNR=12
K27K Chicken 49.47 342 P P 07 26 01.6 +0.2
K27K IAmb IAmb 07 26 05.8
comp=Z,7.8nm,0.9s
K27K Chicken 49.47 342 P P 07 26 01.8 +0.4
baz=138
SCM Sheep Creek Mo 49.66 337 P P 07 26 03.4 +0.4
baz=130
BRSE Bradley Lake S 49.70 334 P P 07 26 03.5 +0.2
baz=125
EGAK Eagle 49.77 343 P P 07 26 03.4 -0.3
baz=139,SNR=8.8
PAX Paxson 49.78 339 P P 07 26 04.2 +0.3
baz=133,SNR=6.5
M23K Glacier View 49.78 337 P P 07 26 03.5 -0.4
baz=130
KNK Knik Glacier 49.81 337 P P 07 26 04.0 -0.1
baz=129
G31M Satah River 49.85 347 P P 07 26 04.1 -0.1
baz=149,SNR=16
EPYK Eagle Plains 49.91 346 P P 07 26 04.8 0.0
baz=146,SNR=5.3
I28M Miner Creek 49.96 344 P P 07 26 04.8 -0.5
baz=141,SNR=8.5
SCRK Sand Creek 50.01 341 P P 07 26 05.4 -0.3
baz=136,SNR=10
SML Sawmill 50.01 337 P P 07 26 05.2 -0.4
baz=129
PMR Palmer 50.17 336 P P 07 26 07.2 +0.5
baz=128
H29M Whitestone 50.18 345 P P 07 26 06.7 -0.1
baz=144,SNR=9.5
F31M Tsiigehtchic 50.19 348 P P 07 26 06.8 +0.1
baz=150,SNR=15
J26L Joseph Creek 50.26 342 P P 07 26 07.1 -0.4
baz=136,SNR=15
WAT6 Susitna Watana 50.30 338 P P 07 26 07.7 -0.2
baz=130
G30M tAoh Zraii Nji 50.31 347 P P 07 26 07.4 -0.4
baz=146
C36M Paulatuk 50.45 353 P P 07 26 08.0 -0.7
baz=162
K24K Donnelly Dome 50.45 340 P P 07 26 07.9 -1.0
baz=134
DHY Denali Highway 50.49 339 P P 07 26 08.7 -0.7
baz=131
I27K Kandik River 50.53 343 P P 07 26 08.5 -1.0
baz=139,SNR=8.3
M22K Willow 50.65 336 P P 07 26 09.0 -1.3
baz=127
G29M Pine Creek 50.66 346 P P 07 26 10.3 -0.1
baz=144,SNR=6.7
O20K Slope Mountain 50.68 334 P P 07 26 10.5 -0.2
baz=123
P19K Oil Pt 50.70 333 P P 07 26 10.8 0.0
baz=122
SUA Susitna One 50.71 336 P P 07 26 10.5 -0.5
baz=126
I26K Coal Creek Min 50.73 342 P P 07 26 12.0 +1.0
baz=137
WAT1 Susitna Watana 50.74 338 P P 07 26 11.4 +0.2
baz=130
F30M Barrier River 50.74 347 P P 07 26 11.2 +0.1
baz=147
J25K Salcha River, 50.89 341 P P 07 26 12.7 +0.5
baz=134,SNR=7.8
INK Inuvik 50.90 349 P P 07 26 11.6 -0.5
INK Inuvik 50.90 349 P P 07 26 11.4 -0.7
baz=150,SNR=18
INK Inuvik 50.90 349 LR LR 07 48 01.8
comp=Z,286nm,20.3s,baz=172,slow=36
H27K Steamboat Moun 50.98 344 P P 07 26 11.9 -1.0
baz=140,SNR=10
R17L Mt. Peulik Vol 51.10 330 P P 07 26 13.0 -0.9
baz=118
Q17K Contact Creek 51.18 330 P P 07 26 13.3 -1.3
baz=119
HDA Harding Lake 51.24 340 P P 07 26 14.0 -0.8
baz=132
SKT Skwentna 51.32 336 P P 07 26 14.9 -0.6
baz=126
O19K Port Alsworth 51.45 333 P P 07 26 16.8 +0.4
baz=122
MCK McKinley 51.45 339 P P 07 26 15.4 -1.0
baz=130
G27K Doyon Strip 51.46 344 P P 07 26 15.8 -0.7
baz=140,SNR=12
ILAR Eielson Array 51.47 340 P P 07 26 16.1 -0.5
ILAR Eielson Array 51.47 340 P P 07 26 16.2 -0.3
comp=Z,3.9nm,0.7s,baz=151,slow=6.7,SNR=59
ILAR LR LR 07 46 17.9
comp=Z,227nm,21.0s,baz=131,slow=34
comp=Z,3.9nm,0.7s
CHNA Chernabura Isl 51.56 325 P P 07 26 16.0 -1.2
baz=112
PRP Porcupine Dome 51.57 342 P P 07 26 17.6 +0.2
PRP IAmb IAmb 07 26 25.6
comp=Z,6.9nm,0.9s
PRP Porcupine Dome 51.57 342 P P 07 26 16.9 -0.5
baz=135,SNR=6.9
ETMB Extrema 51.59 121 P P 07 26 17.4 -0.7
ETMB IAmb IAmb 07 26 18.0
comp=Z,7.6nm,1.1s
F28M Old Crow 51.65 346 P P 07 26 17.8 0.0
baz=142,SNR=25
O18K Koktuh Hills 51.66 332 P P 07 26 17.5 -0.5
baz=120
E29M Blow River 51.84 347 P P 07 26 19.8 +0.5
E29M Blow River 51.84 347 P P 07 26 18.7 -0.5
baz=145,SNR=14
FRB Frobisher Bay 51.85 22 LR LR 07 50 04.0
comp=Z,206nm,18.9s,baz=224,slow=38
N19K Bonanza Creek 51.85 334 P P 07 26 19.8 +0.3
N19K Bonanza Creek 51.85 334 P P 07 26 18.9 -0.6
baz=122
POKR Poker Plat Res 51.88 341 P P 07 26 19.6 0.0
baz=132
M20K Styx River 51.88 335 P P 07 26 18.6 -1.2
baz=124
NEA2 Nenana 52.05 340 P P 07 26 20.1 -0.8
baz=130,SNR=22
S14K Fog Glacier 52.10 327 P P 07 26 21.3 -0.2
baz=113
G26K Porcupine Rive 52.12 344 P P 07 26 21.5 +0.2
baz=138,SNR=14
H25L Birch Creek 52.19 342 P P 07 26 21.7 -0.1
baz=135,SNR=9.0
E28M Babbage River 52.37 347 P P 07 26 22.1 -1.1
baz=143,SNR=11
N18K Kilae Creek 52.37 333 P P 07 26 23.1 -0.2
baz=120
BPAW Bear Paw Mtn. 52.39 338 P P 07 26 22.9 -0.6
baz=128
M19K Big River Lodg 52.39 335 P P 07 26 23.3 -0.1
baz=123
O17K Koliganek Bris 52.45 332 P P 07 26 23.2 -0.6
baz=118
H24K Noodor Dome 52.50 341 P P 07 26 23.0 -1.2
baz=132,SNR=10
E27K Coleen River 52.51 345 P P 07 26 23.0 -1.3
baz=141,SNR=16
L20K Farewell, AK 52.51 336 P P 07 26 22.9 -1.5
baz=124,SNR=9.0
I23K Minto, Yukon-K 52.51 340 P P 07 26 24.5 +0.3
baz=130,SNR=14
G25K Bearman Lake 52.62 343 P P 07 26 24.3 -0.8
baz=135
BMAR Burnt Mountain 52.68 344 P P 07 26 25.7 +0.1
L19K White Mountain 52.73 335 P P 07 26 25.8 -0.1
L19K White Mountain 52.73 335 P P 07 26 25.1 -0.8
baz=122
M18K Stony River 52.76 334 P P 07 26 25.3 -0.8
baz=121
F26K Sheenjek River 52.77 344 P P 07 26 26.2 +0.1
baz=138,SNR=13
D28M Stokes Point 52.78 347 P P 07 26 26.0 -0.2
baz=144
O16K Kokwok River B 52.82 331 P P 07 26 25.8 -0.8
baz=117
N17K Nushagak Hills 52.85 333 P P 07 26 27.8 +0.9
N17K Nushagak Hills 52.85 333 P P 07 26 26.2 -0.7
baz=119
MLY Manley 52.89 339 P P 07 26 27.1 0.0
MLY IAmb IAmb 07 26 27.7
comp=Z,12nm,1.5s
MLY Manley 52.89 339 P P 07 26 27.2 0.0
baz=129
G24K Hadweenzic Riv 52.97 342 P P 07 26 28.0 +0.3
baz=133
H23K Yukon River 53.01 341 P P 07 26 28.1 +0.1
baz=130,SNR=6.3
K20K Telida 53.07 337 P P 07 26 28.1 -0.3
baz=124,SNR=9.6
F25K Christian Rive 53.09 343 P P 07 26 28.9 +0.4
baz=136,SNR=11
D27M Malcolm River 53.19 346 P P 07 26 29.1 -0.2
D27M Malcolm River 53.19 346 P P 07 26 28.8 -0.5
baz=142
M17K Holitna River 53.38 333 P P 07 26 30.3 -0.5
baz=119
L18K Granite Mounta 53.48 335 P P 07 26 31.5 0.0
baz=120
N16K Nishlik Lake 53.52 332 P P 07 26 31.9 +0.1
baz=117
J20K Nowinta River 53.56 337 P P 07 26 31.4 -0.6
baz=124,SNR=13
TTA Tatalina 53.58 336 P P 07 26 31.4 -0.9
baz=122
SAML Samuel 53.60 118 P P 07 26 31.8 -1.2
SAML IAmb IAmb 07 26 36.2
comp=Z,6.1nm,1.2s
H22K Ishlatina Cre 53.63 340 P P 07 26 31.5 -1.1
baz=128,SNR=8.4
FALS False Pass 53.64 324 P P 07 26 31.4 -1.3
baz=109
F24K Squaw Lake 53.65 343 P P 07 26 32.5 -0.2
baz=133
G23K Bananza Creek 53.73 341 P P 07 26 33.0 -0.3
G23K Bananza Creek 53.73 341 P P 07 26 33.0 -0.3
baz=130
M16K Timber Creek 53.85 333 P P 07 26 33.9 -0.4
baz=117
H21K Melozitna Rive 53.96 339 P P 07 26 34.2 -0.8
H21K Melozitna Rive 53.96 339 P P 07 26 34.4 -0.6
baz=127,SNR=19
J19K Poorman 54.00 337 P P 07 26 35.1 -0.1
baz=123
I20K Naaghedeneel 54.03 338 P P 07 26 34.7 -0.7
baz=124
L17K Donlin 54.10 334 P P 07 26 35.8 -0.2
baz=119
C27K Jago River 54.11 346 P P 07 26 35.7 -0.2
baz=139,SNR=8.4
COLD Coldfoot 54.12 342 P P 07 26 36.5 +0.4
baz=130,SNR=6.1
J18K Innoko River 54.13 336 P P 07 26 35.6 -0.7
baz=121,SNR=8.9
O14K Tigyukauivet M 54.13 330 P P 07 26 36.4 +0.1
baz=114
E24K Your Creek 54.20 343 P P 07 26 36.3 -0.4
baz=133
PPT Papeete 54.20 230 LR LR 07 43 50.8
comp=Z,349nm,18.3s,baz=360,slow=30
PPT2 Papeete2 54.21 229 *e*S **S** 07 34 16.8 +1.8
comp=Z,159nm,26.2s
PPT2 *e*SS **SS** 07 38 00.3 +3.0
comp=Z,69nm,25.5s
PPT2 *e*LR LR 07 42 18.4
comp=Z,600nm,23.5s
PPT2 *e*LR LR 07 42 19.6
comp=Z,539nm,25.8s
G22K Bettles 54.32 341 P P 07 26 37.2 -0.3
baz=129
K17K Iditarod 54.38 335 P P 07 26 37.4 -0.6
baz=119
L16K Owhat River 54.39 333 P P 07 26 37.6 -0.5
baz=117
IMAR Indian Mountai 54.46 339 P P 07 26 37.5 -1.1
M15K Kasigluk River 54.47 332 P P 07 26 39.1 +0.5
baz=115
E23K Chandalar 54.50 343 P P 07 26 39.0 0.0
baz=132,SNR=19
D25K Kavik River 54.52 345 P P 07 26 39.1 +0.1
baz=136,SNR=11
H20K Anotleneega Mo 54.56 339 P P 07 26 38.7 -0.7
baz=124,SNR=9.7
N14K Kuskokwak Cree 54.60 331 P P 07 26 39.1 -0.5
baz=114
C26K Camden Bay 54.60 346 P P 07 26 39.6 +0.1
baz=138
G21K Allakaket 54.70 340 P P 07 26 39.6 -0.7
G21K IAmb IAmb 07 26 47.2
comp=Z,5.1nm,1.1s
G21K Allakaket 54.70 340 P P 07 26 40.9 +0.6
baz=126
GCSA Galena City Sc 54.86 337 P P 07 26 41.4 -0.1
baz=122
TOLK Toolik Lake Re 54.88 343 P P 07 26 41.4 -0.2
TOLK IAmb IAmb 07 26 42.2
comp=Z,6.7nm,0.8s
TOLK Toolik Lake Re 54.88 343 P P 07 26 41.7 +0.1
baz=132,SNR=5.5
F22K John River 54.89 341 P P 07 26 42.0 +0.3
baz=128
J17K VABM Dome 55.02 335 P P 07 26 43.2 +0.5
baz=119
D24K Happy Valley 55.02 344 P P 07 26 43.9 +1.3
baz=133
M14K Bethel 55.06 332 P P 07 26 43.8 +0.8
baz=114
UNV Unalaska Valle 55.08 323 P P 07 26 42.5 -0.7
baz=105
F21K Alatna River 55.12 341 P P 07 26 42.7 -0.6
baz=127
H19K Roundabout Mou 55.13 338 P P 07 26 44.0 +0.6
baz=123
E22K Anaktuvuk Pass 55.18 342 P P 07 26 44.0 +0.2
baz=129
L15K Ungalak Mounta 55.24 333 P P 07 26 44.4 +0.1
baz=115
C24K Franklin Bluff 55.38 344 P P 07 26 46.0 +0.8
baz=133
D23K Nanushuk River 55.40 343 P P 07 26 45.9 +0.6
baz=131
K15K Wolf Creek Mou 55.52 333 P P 07 26 46.2 0.0
baz=115
RES Resolute Bay 55.54 5 LR LR 07 51 11.3
comp=Z,935nm,18.1s,baz=192,slow=37
M13K Dall Lake 55.56 331 P P 07 26 47.1 +0.6
baz=112
J16K Anvik River 55.58 335 P P 07 26 47.1 +0.5
baz=117
H18K Honhosa River 55.62 337 P P 07 26 47.5 +0.5
baz=120
L14K Kuka Creek 55.62 332 P P 07 26 47.5 +0.5
baz=114
G19K Purcell Mounta 55.68 339 P P 07 26 47.9 +0.5
baz=122
F20K Avaraart Lake 55.73 340 P P 07 26 48.3 +0.6
baz=124
I17K Unalakleet 55.89 335 P P 07 26 49.2 +0.4
baz=117
D22K Ayikyak River 55.90 343 P P 07 26 49.0 +0.1
baz=129
C23K Itkillik River 55.95 344 P P 07 26 49.6 +0.3
baz=131
E21K Killik River 56.00 342 P P 07 26 49.9 +0.2
baz=127
H17K Granite Mounta 56.08 337 P P 07 26 49.5 -0.7
baz=119,SNR=8.4
G18K Tagagawik 56.10 338 P P 07 26 48.9 -1.5
baz=121
NIKH Nikolski High 56.24 321 P P 07 26 51.8 +0.2
baz=102
F19K Shaleruckik Mo 56.28 339 P P 07 26 51.4 -0.3
baz=122,SNR=9.2
E19K Redstone River 56.44 340 P P 07 26 52.3 -0.6
baz=123,SNR=6.3
E20K Nigu River 56.56 341 P P 07 26 54.2 +0.5
baz=124
J14K Nanvaranak Lak 56.56 333 P P 07 26 53.4 -0.3
baz=114
G17K Kiwalik Mounta 56.62 337 P P 07 26 54.6 +0.5
baz=118
C21K Knifeblade Rid 56.67 342 P P 07 26 55.0 +0.6
baz=126
K13K Kusilvak Mount 56.72 332 P P 07 26 55.6 +0.7
baz=112
F18K Selawik 56.80 338 P P 07 26 56.1 +0.7
baz=120
H16K Elim 56.83 336 P P 07 26 55.9 +0.3
baz=116
B21K Ikpikpuk River 56.90 343 P P 07 26 55.3 -0.7
baz=127
MDP Montagnes des 56.94 97 LR LR 07 52 20.6
comp=Z,260nm,21.2s,baz=287,slow=37
D20K Etivluk River 56.95 341 P P 07 26 56.5 0.0
baz=124
B22K Teshekpuk Lake 57.01 344 P P 07 26 57.1 +0.3
baz=129
G16K Koyuk River 57.21 337 P P 07 26 58.4 +0.2
baz=116
D19K Kuna River 57.29 341 P P 07 26 57.5 -1.3
baz=123,SNR=7.2
F17K Baldwin Pennin 57.29 338 P P 07 26 58.3 -0.4
baz=118
E18K Tukpahlearik C 57.54 339 P P 07 26 59.8 -0.8
baz=119
G15K Niukluk 57.68 336 P P 07 27 00.7 -0.8
baz=114
E17K Hotham Inlet 57.79 338 P P 07 27 02.9 +0.5
baz=118
A22K Sinclair Lake 57.83 344 P P 07 27 03.2 +0.7
baz=127
B20K Meade River 57.84 342 P P 07 27 03.6 +0.9
baz=124
ANM Nome 58.03 335 P P 07 27 05.5 +1.4
baz=113
TBI Tubuai 58.03 224 *e*S **S** 07 35 08.1 +2.6
TBI comp=Z,1µm,31.8s *e*SS **SS** 07 38 55.8 -1.3
TBI comp=Z,2µm,41.0s *e*LR LR 07 44 01.3
comp=Z,1µm,23.5s
C19K Lookout Ridge 58.06 341 P P 07 27 05.5 +1.1
baz=121
F15K North Star Dit 58.20 336 P P 07 27 04.9 -0.4
baz=114
VILB Vilhena 58.22 120 P P 07 27 06.0 -0.1
C18K Utukok River 58.34 340 P P 07 27 07.0 +0.8
baz=120
D17K Noatak River 58.51 339 P P 07 27 08.2 +0.8
baz=117
RDOG Red Dog Mine 58.61 339 P P 07 27 08.9 +0.8
baz=117
F14K Arctic Creek 58.75 336 P P 07 27 10.7 +1.6
baz=112
B18K Kokolik River 58.88 341 P P 07 27 10.1 +0.2
baz=119
C17K DeLong Mountai 58.90 340 P P 07 27 10.9 +0.8
baz=117
A19K Wainwright 59.08 342 P P 07 27 11.0 -0.2
baz=120
C16K Lisburne Hills 59.53 339 P P 07 27 14.8 +0.4
baz=115
H03N2 Juan Fernandez 60.28 151 T T 08 32 53.4
baz=329,slow=77,SNR=70
H03N1 Juan Fernandez 60.29 151 T T 08 32 52.7
baz=329,slow=77,SNR=108
H03N3 Juan Fernandez 60.30 151 T T 08 32 44.3
baz=329,slow=77,SNR=112
PTLB Pontes e Lacer 60.44 122 P P 07 27 21.6 +0.1
PTLB IAmb IAmb 07 27 25.0
comp=Z,4.9nm,1.1s
RAR Rarotonga 63.98 233 LR LR 07 48 18.1
comp=Z,290nm,19.2s,baz=40,slow=29
BI02 San Fabin de 66.59 147 P P 07 28 01.7 -0.1
CPUP Villa Florida 68.10 130 P P 07 28 12.3 +0.8
comp=Z,2.1nm,0.8s,baz=310,slow=8.7,SNR=6.8
comp=Z,2.1nm,0.8s
BDFB Brasilia 69.74 116 P P 07 28 21.9 -0.2
comp=Z,4.3nm,0.9s,baz=328,slow=2.2,SNR=5.4
comp=Z,4.3nm,0.9s
PLCA Paso Flores 70.10 150 LR LR 07 52 20.7
comp=Z,505nm,18.6s,baz=320,slow=30
RAO Raoul Island 82.12 235 LR LR 07 56 04.7
comp=Z,126nm,21.9s,baz=13,slow=28
ARCES ARCESS Array B 85.39 14 P P 07 29 47.2 -1.3
comp=Z,2.3nm,0.8s,baz=316,slow=3.3,SNR=10
ARCES LR LR 08 07 54.0
comp=Z,190nm,20.3s,baz=306,slow=36
comp=Z,2.3nm,0.8s
NOA NORSAR Array B 86.55 25 LR LR 08 08 52.7
comp=Z,118nm,18.1s,baz=315,slow=36
BBTS Babate 87.68 75 LR LR 08 04 27.4
comp=Z,188nm,21.3s,baz=147,slow=32
ESDC Sonseca Array 88.80 48 LR LR 08 08 48.9
comp=Z,148nm,19.6s,baz=307,slow=35
URZ Urewera 89.85 229 LR LR 08 00 42.6
comp=Z,298nm,21.8s,baz=128,slow=29
PMSA Palmer Station 91.08 162 LR LR 08 03 22.6
comp=Z,98nm,19.6s,baz=26,slow=30
MDT Midelt 91.16 55 LR LR 08 08 11.6
comp=Z,124nm,19.8s,baz=323,slow=34
DZM Mont Dzumac 92.17 247 *e*LR LR 07 59 53.8
comp=Z,1µm,30.6s
DZM Mont Dzumac 92.17 247 LR LR 08 04 55.7
comp=Z,151nm,18.1s,baz=42,slow=31
HNR Honiara 93.84 261 LR LR 08 03 28.4
comp=Z,3µm,21.9s,baz=58,slow=30
DAVOX Davos/Dischmat 94.13 37 LR LR 08 11 35.0
comp=Z,234nm,18.9s,baz=292,slow=35
MJAR Matsushiro Arr 95.25 117 LR LR 08 06 08.8
comp=Z,135nm,21.0s,baz=68,slow=31
USRK Ussuriysk Ar. 95.31 321 LR LR 08 08 21.3
comp=Z,71nm,20.4s,baz=62,slow=32
JHJ Hachijo jima 2 95.74 308 LR LR 08 08 22.6
comp=Z,157nm,19.2s,baz=48,slow=32
JCJ Chichijima 96.59 302 LR LR 08 04 17.3
comp=Z,235nm,21.0s,baz=99,slow=29
GUMO Guam 99.89 288 LR LR 08 05 33.0
comp=Z,109nm,21.6s,baz=66,slow=29
WRA Warramunga Arr 120.49 258 PKP **PKPdf** 07 36 02.6 -1.3
comp=Z,0.6nm,0.8s,baz=73,slow=2.2,SNR=7.2
ASAR Alice Springs 121.56 254 PKP **PKPdf** 07 36 04.4 -1.5
comp=Z,0.6nm,0.9s,baz=96,slow=1.9,SNR=3.1

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*IDC **23** 07:19:17.1±3.9,3.98S×101.85E,h0km,mb3.8/6,*
mbtmp3.8/6,MS4.1/3,Error ellipse: s-maj=173.5km
s-min=22.5km az=54.0
*DJA **23** 07:19:23.3±0.3,4.S±3.×10.2E±.,h10km,M4.3/7,mb4.5/1,*
MLv4.2/7
ISC 23 07:19:26.5±1.3,3.8S±0.2×102.3E±0.2,h65km,n21,
σ19 38/13,mb4.0/6,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.87**	**130**	P	**Pn**	**07 19 39.6**	**-3.5**
LWLI	**Liwa**	**2.14**	**124**	P	**Pn**	**07 20 00.3**	**+0.2**
KASI	**Kota Agung**	**2.79**	**128**	P	**Pn**	**07 20 08.7**	**-0.1**
KASI				S	**Sn**	**07 20 41.9**	**+0.6**
PDSI	**Padang**	**3.40**	**328**	P	**Pn**	**07 20 15.7**	**-1.5**
SISI	**Saibi**	**4.03**	**308**	P	**Pn**	**07 20 25.7**	**0.0**
PALK	**Pallekele**	**24.19**	**297**	LR	LR	07 34 02.8	
	comp=Z,99nm,18.5s,baz=256,slow=37						
H01W3	**Cape Leeuwin H**	**32.82**	**162**	T	T	07 59 56.8	
	baz=339,slow=76,SNR=3.1						
H01W2	**Cape Leeuwin H**	**32.84**	**162**	T	T	07 59 56.0	
	baz=339,slow=76,SNR=9.1						
H01W1	**Cape Leeuwin H**	**32.84**	**162**	T	T	07 59 58.4	
	baz=339,slow=76,SNR=12						
WRA	**Warramunga Arr**	**35.12**	**120**	P	**P**	**07 26 15.7**	**+1.6**
	0.6nm,0.5s,baz=300,slow=8.9,SNR=2.5						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**36.35**	**126**	P	**P**	**07 26 25.1**	**+0.5**
	1.9nm,0.8s,baz=299,slow=7.7,SNR=6.5						
	1.9nm,0.8s						
SONM	**Songino Array**	**51.55**	**4**	P	**P**	**07 28 26.4**	**+0.4**
	0.9nm,0.6s,baz=186,slow=11,SNR=4.6						
	0.9nm,0.6s						
AAK	**Ala-Archa**	**52.63**	**334**	LR	LR	07 54 41.2	
	comp=Z,396nm,20.1s,baz=66,slow=40						
MKAR	**Makanchi Array**	**53.39**	**343**	P	**P**	**07 28 39.5**	**0.0**
	0.6nm,0.5s,baz=170,slow=8.5,SNR=4.7						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**57.93**	**342**	P	**P**	**07 29 11.0**	**-0.9**
	0.3nm,0.4s,baz=156,slow=6.9,SNR=2.5						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**59.37**	**348**	P	**P**	**07 29 21.4**	**-0.4**
	1.1nm,0.6s,baz=163,slow=5.6,SNR=2.6						
	1.1nm,0.6s						
H04N2	**CROZET ISLANDS**	**60.75**	**218**	T	T	08 34 47.0	
	baz=60,slow=75,SNR=13						
H04N1	**CROZET ISLANDS**	**60.76**	**218**	T	T	08 34 47.6	
	baz=60,slow=75,SNR=9.3						
H04N3	**CROZET ISLANDS**	**60.77**	**218**	T	T	08 34 47.4	
	baz=60,slow=75,SNR=9.1						
GNI	**Garni**	**68.40**	**316**	LR	LR	08 03 47.5	
	comp=Z,218nm,21.7s,baz=5.0,slow=39						

TXAR Lajitas Array 144.64 41 PKPbc **PKPab 07 38 55.5 +0.2**
0.1nm,0.7s,baz=290,slow=2.7,SNR=1.8

*IDC **23** 07:20:28.0±1.4,2°.54S×140°.21E,h0km,mb4.0/7,*
mbtmp4.1/8,ML4.2/1,MS4.0/5,Error ellipse: s-maj=51.0km
s-min=23.9km az=91.0
*DJA **23** 07:20:32.5±1.9,3°.S±9°×14°.0E±°,h10km,M3.9/2,MLv3.9/2*
*NEIC **23** 07:20:35.8±2.0,2°.5S±0°.1×139°.9E±0°.1,h40km±8km,*
mb4.5/22,Error ellipse: s-maj=17.8km s-min=13.3km
az=224.0
ISC 23 07:20:33.8±0.5,**2°.56S**±0°.07×**140°.02E**±0°.05,**h25**km,**n54,**
σ1§35/51,mb4.5/25,MS4.1/5,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.15**	**104**	P	**Pn**	**07 20 39.6**	**-1.0**
GENI				S	**Sb**	**07 20 45.6**	**+3.2**
JAY	**Jayapura**	**0.69**	**87**	P	**Pb**	**07 20 45.8**	**-1.4**
JAY				S	**Sb**	**07 20 54.7**	**-1.6**
FAKI	**Fak Fak**	**7.77**	**267**	Pn	**Pn**	**07 22 25.0**	**-0.4**
COEN	**Coen**	**11.75**	**165**	Pn	**Pn**	**07 23 21.9**	**+2.0**
MTN	**Manton Dam**	**13.48**	**220**	Pn	**Pn**	**07 23 41.8**	**-1.8**
SOEI	**Soe**	**17.21**	**245**		**P**	**07 24 33.5**	**-0.6**
WR0	**Warramunga Arr**	**18.11**	**197**	P	**P**	**07 24 42.9**	**-1.1**
WB2	**Warramunga Arr**	**18.15**	**197**	P	**Pn**	**07 24 42.8**	**-1.4**
WRA	**Warramunga Arr**	**18.15**	**197**		**Pn**	**07 24 43.1**	**-1.1**
WRA	**Warramunga Arr**	**18.15**	**197**	P	**Pn**	**07 24 43.3**	**-1.0**
	0.8nm,0.3s,baz=19,slow=12,SNR=33						
	6.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.91**	**221**	P	**P**	**07 25 13.8**	**-0.8**
HNR	**Honiara**	**20.95**	**110**	LR	LR	07 33 02.1	
	comp=Z,2μm,18.3s,baz=317,slow=36						
AS31	**Alice Springs**	**21.80**	**195**	P	**P**	**07 25 23.0**	**-1.2**
ASAR	**Alice Springs**	**21.80**	**195**	P	**P**	**07 25 23.7**	**-0.5**
ASAR	**Alice Springs**	**21.80**	**195**	P	**P**	**07 25 22.3**	**-1.9**
	3.0nm,0.6s,baz=20,slow=9.4,SNR=26						
	3.0nm,0.6s						
EIDS	**Eidsvold**	**25.06**	**156**	P	**P**	**07 25 58.1**	**+1.8**
JMZ	**Minamidaito 2**	**29.47**	**344**	P	**P**	**07 26 34.8**	**-1.1**
KOUNC	**Koumac, New Ca**	**29.66**	**129**	P	**P**	**07 26 38.8**	**+1.1**
KOUNC				IAmb	IAmb	07 27 02.4	
	comp=Z,17nm,1.1s						
NJ2	**Nanjing**	**39.85**	**331**	*e*P	**P**	**07 28 06.3**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PHRA	**Phrae**	**44.40**	**300**	P	**P**	**07 28 42.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**45.50**	**299**	P	**P**	**07 28 50.3**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=120,slow=5.4,SNR=9.2						
	comp=Z,0.7nm,0.3s						
PZH	**PanZhiHua**	**46.91**	**311**	P	**P**	**07 29 02.9**	**+0.2**
PZH				PKP		07 36 11.3	
PZH				pmax	pmax		
	comp=Z,20nm,1.2s						
PZH				pmax	pmax		
	comp=Z,150nm,4.9s						
USRK	**Ussuriysk Ar.**	**47.10**	**352**	P	**P**	**07 29 04.7**	**+1.1**
TUWZ	**Tuamarina**	**49.27**	**146**	P	**P**	**07 29 21.1**	**+0.6**
HHC	**Hu-ho-hao-te**	**50.40**	**332**	*e*P	**P**	**07 29 33.4**	**+4.2**
HHC				pP	sP	07 29 46.3	+6.3
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,98nm,5.0s						
LZH	**Lanzhou**	**51.15**	**322**	*e*P	**P**	**07 29 35.0**	**-0.1**
LZH				pP	sP	07 29 48.8	+2.9
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
PALK	**Pallekele**	**59.99**	**280**	LR	LR	07 59 00.6	
	comp=Z,128nm,18.4s,baz=171,slow=38						
WMQ	**Urumqi**	**65.71**	**321**	*e*P	**P**	**07 31 16.6**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
MK31	**Makanchi Array**	**70.47**	**322**	P	**P**	**07 31 46.9**	**+0.6**
MK31				IAmb	IAmb	07 31 47.0	
	comp=Z,4.8nm,1.2s						
MKAR	**Makanchi Array**	**70.47**	**322**	P	**P**	**07 31 45.8**	**-0.5**
MKAR	**Makanchi Array**	**70.47**	**322**	P	**P**	**07 31 45.7**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=115,slow=8.4,SNR=9.9						
	comp=Z,1.9nm,0.8s						
KSH	**Kashi**	**71.93**	**313**	P	**P**	**07 31 56.6**	**+1.2**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZALV	**Zalesovo Beam**	**72.47**	**329**	P	**P**	**07 31 56.6**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=114,slow=7.2,SNR=3.9						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**74.36**	**324**	P	**P**	**07 32 08.2**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=116,slow=5.7,SNR=6.5						
	comp=Z,0.8nm,0.6s						
BVAR	**Borovoye Array**	**79.94**	**325**	P	**P**	**07 32 39.5**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=104,slow=6.3,SNR=7.7						
	comp=Z,1.7nm,0.6s						
BRVK	**Borovoye**	**80.01**	**325**	P	**P**	**07 32 40.5**	**-0.5**
BRVK				IAmb	IAmb	07 32 42.4	
	comp=Z,6.3nm,1.4s						
G18K	**Tagagawik**	**81.00**	**21**	P	**P**	**07 32 45.8**	**-0.3**
J20K	**Nowinta River**	**81.99**	**24**	P	**P**	**07 32 51.6**	**+0.2**
J20K				IAmb	IAmb	07 33 19.7	
	comp=Z,4.1nm,1.4s						
WSAR	**Wadi Sarin**	**83.09**	**294**	LR	LR	08 14 31.0	
	comp=Z,142nm,19.0s,baz=36,slow=39						
CCB	**Clear Creek Bu**	**84.74**	**24**	P	**P**	**07 33 03.8**	**-1.7**
CCB				IAmb	IAmb	07 33 06.2	
	comp=Z,4.1nm,1.2s						
ILAR	**Eielson Array**	**85.15**	**24**	P	**P**	**07 33 05.7**	**-1.9**
ILAR	**Eielson Array**	**85.15**	**24**	P	**P**	**07 33 05.2**	**-2.4**
	comp=Z,0.8nm,0.9s,baz=242,slow=4.7,SNR=6.5						
	comp=Z,0.8nm,0.9s						
ABKAR	**Akbulak array**	**85.45**	**320**	P	**P**	**07 33 07.9**	**-1.5**
BMAR	**Burnt Mountain**	**86.77**	**22**	P	**P**	**07 33 16.0**	**+0.4**
BCAR	**Beaver Creek A**	**86.93**	**27**	P	**P**	**07 33 15.7**	**-0.8**
EGAK	**Eagle**	**87.54**	**25**	P	**P**	**07 33 18.5**	**-0.8**
EGAK				IAmb	IAmb	07 33 20.0	
	comp=Z,2.5nm,1.2s						
G27K	**Doyon Strip**	**87.74**	**23**	P	**P**	**07 33 19.0**	**-1.2**
G27K				IAmb	IAmb	07 33 21.2	
	comp=Z,2.8nm,1.2s						
DAWY	**Dawson**	**88.16**	**26**	P	**P**	**07 33 21.9**	**-0.5**
DAWY				IAmb	IAmb	07 33 22.9	
	comp=Z,4.3nm,1.1s						
I28M	**Miner Creek**	**88.17**	**24**	P	**P**	**07 33 22.2**	**-0.2**
I28M				IAmb	IAmb	07 33 23.6	
	comp=Z,6.6nm,1.4s						
L29M	**L29M**	**88.57**	**27**	P	**P**	**07 33 24.4**	**+0.1**
L29M				IAmb	IAmb	07 33 25.2	
	comp=Z,5.0nm,1.2s						
I29M	**Ogilvie Camp,**	**88.83**	**25**	P	**P**	**07 33 24.6**	**-0.8**
I29M				IAmb	IAmb	07 33 59.5	
	comp=Z,1.9nm,0.6s						
K29M	**Barlow Dome**	**88.95**	**26**	P	**P**	**07 33 25.3**	**-0.9**
K29M				IAmb	IAmb	07 33 26.1	
	comp=Z,5.5nm,1.4s						
BELG	**Belogornoye**	**93.47**	**322**	LR	LR	08 18 40.4	
	comp=Z,57nm,19.0s,baz=354,slow=37						
ATD	**Arta Tunnel**	**97.53**	**281**	LR	LR	08 20 20.7	
	comp=Z,7.0nm,20.3s,baz=16,slow=37						

*TEH **23** 07:30:55.0,34°.68N×46°.22E,h13km±37km,ML2.6*
*ISN **23** 07:30:56.0±1.4,34°.67N×46°.27E,h41km±27km,ML2.6*
ISC 23 07:30:55.6±1.2,**34°.70N**±0°.05×**46°.17E**±0°.05,**h11**km±10km,
n9, σ0§58/12,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.18**	**91**	Pg	**Pg**	**07 30 58.9**	**-0.7**
IDHR				Sg	**Sb**	**07 31 03.5**	**+1.1**
IGHG	**Ghaleghazi**	**0.50**	**139**	Pg	**Pg**	**07 31 05.2**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.63**	**200**	Pg	**Pb**	**07 31 08.2**	**-0.4**
ILIN	**Lien**	**0.69**	**72**	Pg	**Pb**	**07 31 09.3**	**-0.4**
KCHF	**Cheshme Sefid,**	**0.84**	**121**	Pg	**Pg**	**07 31 11.2**	**-0.6**
SNQR	**Sonqor, Kerman**	**1.21**	**82**	Pg	**Pg**	**07 31 18.8**	**0.0**
IBZA	**Bozab**	**1.41**	**99**	Pg	**Pb**	**07 31 22.1**	**-0.1**
IBDR	**Badra**	**1.60**	**187**	*e*Pg	**Pn**	**07 31 24.0**	**+0.1**
	baz=10.0						
IBDR				*e*Sg	**Sb**	**07 31 46.0**	**+0.5**
IKRK	**Kirkuk**	**1.65**	**295**	*e*Pn	**Pb**	**07 31 26.0**	**-0.1**
IKRK				*e*Sn	**Sn**	**07 31 46.0**	**+0.1**
IKRK				AML	AML	07 31 56.5	
	comp=N,9.6nm,0.8s						
IKRK				AML	AML	07 31 57.5	
	comp=E,10nm,0.8s						

*JMA **23** 07:35:55.8±0.2,44°.N±1°.1×14°.8E±°,h0km,MV3.6/21,SE*
OFF ETOROFU
*SKHL **23** 07:35:57.7±0.3,44°.00N×148°.40E,h43km±7km,mb4.3/3*
ISC 23 07:35:54.2±2.9,**43°.91N**±0°.09×**148°.7E**±0°.2,**h47**km,**n15,**
σ1§91/25,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.34**	**269**	*e*P	**Pn**	**07 36 17.2**	**+0.7**
SHO				AMB	AMB	07 36 17.9	
	20nm,0.2s						
SHO				*e*S	**Sn**	**07 36 31.7**	**-1.5**
SHO				A	A	07 36 33.9	
	380nm,0.3s						
SHO				A	A	07 36 33.9	
	230nm,0.3s						
KUR	**Kuril'sk**	**1.45**	**336**	*i* P	**Pn**	**07 36 18.5**	**+0.6**
KUR				AMB	AMB	07 36 18.6	
	210nm,0.3s						
KUR				*i* S	**Sn**	**07 36 34.3**	**-1.4**
KUR				A	A	07 36 35.4	
	360nm,0.4s						
KUR				A	A	07 36 35.4	
	230nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.04**	**274**	*e*P	**Pn**	**07 36 26.8**	**+0.7**
YUK				AMB	AMB	07 36 26.9	
	100nm,0.2s						
YUK				*e*S	**Sn**	**07 36 48.5**	**-1.8**
YUK				A	A	07 36 49.2	
	200nm,0.3s						
YUK				A	A	07 36 49.2	
	210nm,0.3s						
NEM2	**Nemuro 2**	**2.20**	**257**	*e*P	**Pn**	**07 36 29.3**	**+1.0**
NEM2				*e*S	**Sn**	**07 36 53.7**	**-0.7**
JRA	**Rausu**	**2.57**	**272**	*e*P	**Pn**	**07 36 35.4**	**+2.0**
JRA				*e*S	**Sn**	**07 37 03.2**	**-0.2**
JNSB	**Nemuroshibetsu**	**2.67**	**268**	*e*P	**Pn**	**07 36 36.3**	**+1.7**
JNSB				*e*S	**Sn**	**07 37 06.0**	**+0.3**
JKHN	**Kushirohamanak**	**2.69**	**253**	*e*P	**Pn**	**07 36 36.4**	**+1.4**
JKHN				*e*S	**Sn**	**07 37 05.8**	**-0.5**
JNK	**Nakash**	**2.89**	**265**	*e*P	**Pn**	**07 36 39.2**	**+1.5**
JNK				*e*S	**Sn**	**07 37 10.9**	**-0.4**
JAK	**Akkeshi**	**3.04**	**254**	*e*P	**Pn**	**07 36 41.1**	**+1.2**
JAK				*e*S	**Sn**	**07 37 14.2**	**-0.8**
JTKR	**Abashiri--Toko**	**3.45**	**273**	*e*P	**Pn**	**07 36 48.0**	**+2.5**
JAR	**Ashorobuto**	**3.62**	**262**	*e*P	**Pn**	**07 36 50.2**	**+2.4**
JCH	**Churui**	**4.10**	**253**	*e*P	**Pn**	**07 36 56.7**	**+2.4**
JSE	**Soyaes**	**4.49**	**286**	*e*S	**Sn**	**07 37 47.8**	**-2.9**
JNBK	**Urakawa-nobuka**	**4.64**	**251**	*e*P	**Pn**	**07 37 03.5**	**+1.8**
JANG	**Nango**	**6.39**	**239**	*e*P	**Pn**	**07 37 26.4**	**+0.6**
JANG				*e*S	**Sn**	**07 38 32.3**	**-5.2**

*IDC **23** 07:45:36.5±1.0,21°.79N×121°.03E,h0km,mb3.8/6,*
mbtmp3.8/8,ML3.6/2,Error ellipse: s-maj=32.1km
s-min=20.1km az=76.0
*NEIC **23** 07:45:37.7±1.8,21°.83N±0°.06×121°.14E±0°.09,h10km±2km,*
mb4.1/3,Error ellipse: s-maj=13.5km s-min=9.6km
az=267.0
*ASIES **23** 07:45:43.0,22°.11N×121°.17E,h49km,ML4.2,Mw3.9,*
Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm;
M_{rr}=8.79; $M_{\theta\theta}$=4.24; $M_{\phi\phi}$=4.55; $M_{r\theta}$=2.51; $M_{\theta\phi}$=-4.36; $M_{\phi r}$=-4.26;
Fault plane solution: M_0=10.07190×10^{21} NP1:
ϕ_s=322.54000°,δ=59.67000°,λ=-83.44000°. NP2:
ϕ_s=129.71000°,δ=30.96000°,λ=-101.05000°. Principal axes:
T Plg=14.4390°, Azm=47.7550°; N Plg=5.6590°,
Azm=139.2170°; P Plg=74.4470°, Azm=250.0720°;
*JMA **23** 07:45:43.1±0.2,22°.N±1°.1×12°.1E±°,h59km±3km,MV4.4/14,*
TAIWAN REGION
*TAP **23** 07:45:43.0,22°.11N×121°.17E,h49km,ML4.2,C*
ISC 23 07:45:42.9±0.8,**22°.08N**±0°.03×**121°.19E**±0°.03,**h50**km±6km,
n180, σ1§**37**/242,**mb3.8**/8,**8C-13D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.34**	**97**	⇓*i*P	**Pn**	**07 45 52.7**	**+0.4**
	baz=95						
LAY				S	**Sn**	**07 45 59.7**	**+0.7**
	baz=95						
SMST	**Manzhou Townsh**	**0.34**	**260**	⇑*i*P	**Pn**	**07 45 52.5**	**+0.2**
	baz=254						
SMST				*i* S	**Sn**	**07 45 59.1**	**+0.1**
	baz=254						
LYUB	**Lan-yu**	**0.37**	**102**	⇓*i*P	**Pn**	**07 45 52.2**	**-0.5**
	baz=99						
LYUB				*e*S	**Sn**	**07 45 58.7**	**-0.9**
	baz=99						
TWKBT	**Hengchun**	**0.38**	**248**	⇑*i*P	**Pn**	**07 45 53.1**	**+0.3**
	baz=243						
TWKBT				*i* S	**Sn**	**07 46 00.4**	**+0.6**
	baz=243						
TAWH	**Dawu Township**	**0.38**	**312**	⇓*i*P	**Pn**	**07 45 52.7**	**-0.1**
	baz=312						
TAWH				S	**Sn**	**07 45 59.4**	**-0.4**
	baz=312						
TWK1	**Hengchun**	**0.39**	**249**	⇑*i*P	**Pn**	**07 45 53.1**	**+0.3**
	baz=243						
TWK1				*i* S	**Sn**	**07 46 00.5**	**+0.6**
	baz=243						
SLIU	**Shizi**	**0.39**	**290**	⇓*i*P	**Pn**	**07 45 52.8**	**0.0**
	baz=294						
SLIU				S	**Sn**	**07 46 00.1**	**+0.1**
	baz=294						
TAW	**Tawu**	**0.39**	**315**	⇓*i*P	**Pn**	**07 45 52.6**	**-0.3**
	baz=315						
TAW				*i* S	**Sn**	**07 45 59.6**	**-0.4**
	baz=315						
HEN	**Hengchun**	**0.43**	**260**	⇑*i*P	**Pn**	**07 45 53.6**	**+0.3**
	baz=262						
HEN				*i* S	**Sn**	**07 46 02.1**	**+1.4**
	baz=262						
SNW	**Nanwan**	**0.43**	**254**	P	**Pn**	**07 45 54.2**	**+0.9**
	baz=249						
SNW				*i* S	**Sn**	**07 46 02.5**	**+1.7**
	baz=249						
EAST	**Anshuo**	**0.44**	**313**	⇓*i*P	**Pn**	**07 45 53.3**	**-0.2**
	baz=320						
EAST				*i* S	**Sn**	**07 46 00.7**	**-0.3**
	baz=320						
ECL	**Taimali**	**0.56**	**337**	⇓*i*P	**Pn**	**07 45 54.3**	**-0.6**
	baz=344						
ECL				S	**Sn**	**07 46 02.1**	**-1.3**
	baz=344						
SCZT	**Fangliau**	**0.60**	**299**	⇑*i*P	**Pn**	**07 45 55.3**	**-0.1**
	baz=298						
SCZT				*e*S	**Sn**	**07 46 04.0**	**-0.4**
	baz=298						
LDUT	**Ludao**	**0.64**	**23**	*e*P	**Pn**	**07 45 55.7**	**-0.2**
	baz=33						
LDUT				*e*S	**Sn**	**07 46 05.6**	**+0.4**
	baz=33						
TTN	**Taitung**	**0.67**	**356**	*e*P	**Pn**	**07 45 57.0**	**+0.7**
	baz=359						
TTN				*e*S	**Sn**	**07 46 07.7**	**+1.8**
	baz=359						
MASBT	**Mashibuluo**	**0.74**	**316**	⇑P	**Pn**	**07 45 57.1**	**0.0**
	baz=315						
MASBT				*e*S	**Sn**	**07 46 07.4**	**-0.1**
	baz=315						
TWGBT	**Beinan**	**0.74**	**352**	P	**Pn**	**07 45 56.1**	**-1.1**
TWGBT	**Beinan**	**0.74**	**352**	P	**Pn**	**07 45 56.3**	**-0.9**
TWGBT	**Beinan**	**0.74**	**352**	⇓*i*P	**Pn**	**07 45 56.6**	**-0.5**
	baz=353						
TWGBT				S	**Sn**	**07 46 06.4**	**-1.2**
	baz=353						
TWG	**Pinlang**	**0.74**	**351**		**Pn**	**07 45 56.4**	**-0.9**
TWG	**Pinlang**	**0.74**	**351**	⇓*i*P	**Pn**	**07 45 56.6**	**-0.6**
	baz=353						
TWG				S	**Sn**	**07 46 06.2**	**-1.4**
	baz=353						
TSMG	**Majia**	**0.80**	**321**	⇓P	**Pn**	**07 45 58.5**	**+0.5**
	baz=327						
TWP	**Hsiaoliuchiu**	**0.81**	**289**	P	**Pn**	**07 45 58.8**	**+0.7**
	baz=288						
TWP				S	**Sn**	**07 46 10.8**	**+1.6**
	baz=288						
LONT	**Longtian**	**0.82**	**356**	P	**Pn**	**07 45 57.7**	**-0.6**
	baz=357						
LONT				*e*S	**Sn**	**07 46 08.5**	**-1.0**
	baz=357						
SSD	**Sandimen**	**0.84**	**322**	P	**Pn**	**07 45 58.9**	**+0.4**
	baz=329						
SSD				*e*S	**Sn**	**07 46 10.8**	**+0.9**
	baz=329						
SGLT	**Jiouru**	**0.91**	**315**	*e*P	**Pn**	**07 46 01.7**	**+2.3**
	baz=324						
ECS	**Chishang**	**1.01**	**1**	⇓P	**Pn**	**07 46 00.7**	**0.0**
	baz=3.0						
ECS				S	**Sn**	**07 46 13.8**	**-0.2**
	baz=3.0						
CHKT	**Chengkung**	**1.03**	**9**	P	**Pn**	**07 46 00.8**	**-0.2**
	baz=3.0						
CHKT				S	**Sn**	**07 46 14.1**	**-0.2**
	baz=3.0						
TWM1	**Shoushan**	**1.03**	**316**	*e*P	**Pn**	**07 46 02.3**	**+1.4**
	baz=316						
SCST	**Cishan**	**1.03**	**321**	*e*P	**Pn**	**07 46 03.2**	**+2.2**
	baz=321						
SLGT	**Liugui**	**1.04**	**331**	*e*P	**Pn**	**07 46 01.4**	**+0.3**
	baz=331						
EHD	**Haiduan**	**1.06**	**1**	P	**Pn**	**07 46 00.8**	**-0.7**
	baz=2.0						
EHD				S	**Sn**	**07 46 13.4**	**-1.8**
	baz=2.0						
ELDTW	**Lidau**	**1.11**	**352**	⇓*i*P	**Pn**	**07 46 01.9**	**-0.3**
	baz=359						
ELDTW				*i* S	**Sn**	**07 46 15.1**	**-1.5**
	baz=359						
FULB	**Fuli**	**1.12**	**5**	P	**Pn**	**07 46 02.2**	**0.0**
	baz=358						
FULB				*e*S	**Sn**	**07 46 16.5**	**0.0**
	baz=358						
CHKH	**Chenggong**	**1.12**	**10**	P	**Pn**	**07 46 02.3**	**0.0**
	baz=3.0						
CHKH				S	**Sn**	**07 46 16.6**	**0.0**
	baz=3.0						
SGST	**Jiashian**	**1.14**	**331**	*e*P	**Pn**	**07 46 02.9**	**+0.3**
	baz=331						
STYT	**Tauyuan**	**1.15**	**340**	*e*P	**Pn**	**07 46 03.3**	**+0.6**
	baz=340						
STYH	**Taoyuan**	**1.15**	**341**	*e*P	**Pn**	**07 46 03.6**	**+1.0**
	baz=341						
ECBN	**Changbin**	**1.25**	**11**	*e*P	**Pn**	**07 46 04.4**	**+0.4**
	baz=12						
ECBN				S	**Sn**	**07 46 20.4**	**+0.7**
	baz=12						
CHN1	**Nanshi**	**1.26**	**331**	*e*P	**Pn**	**07 46 04.2**	**+0.1**
	baz=331						
EYUL	**Yuli**	**1.27**	**5**	*e*P	**Pn**	**07 46 04.4**	**+0.2**
	baz=1.0						
TWF1	**Yuli**	**1.27**	**4**	*e*P	**Pn**	**07 46 03.6**	**-0.6**
	baz=1.0						
TWF1				*e*S	**Sn**	**07 46 17.9**	**-2.3**
	baz=1.0						
WTP	**Ta-pu**	**1.28**	**335**	*e*P	**Pn**	**07 46 04.9**	**+0.4**
	baz=336						
WTP				*e*S	**Sn**	**07 46 23.8**	**+3.3**
	baz=336						
SNST	**Tainan City**	**1.30**	**331**	*e*P	**Pn**	**07 46 06.9**	**+2.2**
	baz=331						
YULB	**Yu-li**	**1.31**	**4**	P	**Pn**	**07 46 04.2**	**-0.6**
YULB	**Yu-li**	**1.31**	**4**		**Pn**	**07 46 04.1**	**-0.8**
YULB	**Yu-li**	**1.31**	**4**	P	**Pn**	**07 46 04.0**	**-0.8**
	baz=1.0						
YULB				*e*S	**Sn**	**07 46 18.2**	**-3.0**
	baz=1.0						
TPUB	**Ta-pu**	**1.32**	**337**	P	**Pn**	**07 46 06.5**	**+1.5**
TPUB	**Ta-pu**	**1.32**	**337**	P	**Pn**	**07 46 07.1**	**+2.1**
TPUB	**Ta-pu**	**1.32**	**337**		**Pn**	**07 46 06.0**	**+1.1**
TPUB	**Ta-pu**	**1.32**	**337**	*e*P	**Pn**	**07 46 05.7**	**+0.7**
	baz=337						
TPUB				*e*S	**Sn**	**07 46 25.1**	**+3.6**
	baz=337						
TWK	**Hsinying**	**1.35**	**331**	*e*P	**Pn**	**07 46 05.7**	**+0.3**
	baz=332						
EHYH	**Wanrong**	**1.41**	**6**	*e*P	**Pn**	**07 46 05.5**	**-0.8**
	baz=359						
EHYH				*e*S	**Sn**	**07 46 21.9**	**-1.8**
	baz=359						
YUS	**Yu-Shan**	**1.42**	**351**	*e*P	**Pn**	**07 46 07.0**	**+0.3**
	baz=355						
HGSD	**Ruisui**	**1.42**	**9**	*e*P	**Pn**	**07 46 06.5**	**+0.2**
	baz=10.0						
HGSD				*e*S	**Sn**	**07 46 24.0**	**+0.1**
	baz=10.0						
EHY	**Hungye**	**1.42**	**5**	P	**Pn**	**07 46 05.8**	**-0.6**
	baz=6.0						
EHY				*e*S	**Sn**	**07 46 21.5**	**-2.5**
	baz=6.0						
WCKO	**Fanlu**	**1.46**	**338**	*e*P	**Pn**	**07 46 07.9**	**+1.1**
	baz=327						
TSCK	**Chigu Township**	**1.47**	**316**	*e*P	**Pn**	**07 46 06.8**	**-0.2**
	baz=303						
ICHU	**Yijhu**	**1.53**	**327**	*e*P	**Pn**	**07 46 08.1**	**+0.3**
	baz=327						
WHYT	**Xinyi Township**	**1.64**	**349**	*e*P	**Pn**	**07 46 10.3**	**+0.9**
	baz=337						
WARBT	**Fenglin Townsh**	**1.64**	**6**	*e*P	**Pn**	**07 46 08.4**	**-0.9**
	baz=7.0						
WARBT				*e*S	**Sn**	**07 46 26.4**	**-2.8**
	baz=7.0						
VWDT	**VWDT**	**1.67**	**358**	⇑*i*P	**Pn**	**07 46 10.5**	**+0.8**
	baz=359						
VWDT				S	**Sn**	**07 46 30.1**	**+0.3**
	baz=359						
WDLH	**Douliu**	**1.71**	**339**	*e*P	**Pn**	**07 46 11.5**	**+1.3**
	baz=340						
SSLB	**Suanglung**	**1.71**	**353**	P	**Pn**	**07 46 11.4**	**+1.1**
SSLB	**Suanglung**	**1.71**	**353**	P	**Pn**	**07 46 12.2**	**+1.9**
SSLB	**Suanglung**	**1.71**	**353**		**Pn**	**07 46 11.5**	**+1.2**
SSLB	**Suanglung**	**1.71**	**353**	*e*P	**Pn**	**07 46 10.9**	**+0.6**
	baz=353						
SHUL	**Shoufeng**	**1.73**	**11**	*e*P	**Pn**	**07 46 10.8**	**+0.3**
	baz=5.0						
ESL	**Shilin**	**1.74**	**7**	*e*P	**Pn**	**07 46 10.7**	**0.0**
	baz=8.0						
ESL				*e*S	**Sn**	**07 46 29.1**	**-2.6**
	baz=8.0						
SMLT	**Sun Moon Lake**	**1.81**	**352**	*e*P	**Pn**	**07 46 12.4**	**+0.6**
	baz=353						
SMLT				*e*S	**Sn**	**07 46 37.1**	**+3.5**
	baz=353						
TEYL	**Yanliau Villag**	**1.82**	**12**	*e*P	**Pn**	**07 46 12.6**	**+0.9**
	baz=4.0						
TEYL				*e*S	**Sn**	**07 46 35.9**	**+2.3**
	baz=4.0						
WDGT	**Dungji**	**1.84**	**310**	*e*P	**Pn**	**07 46 10.7**	**-1.3**
	baz=309						
WDGT				*e*S	**Sn**	**07 46 30.8**	**-3.3**
	baz=309						
TYC	**Yuchr**	**1.84**	**350**	*e*P	**Pn**	**07 46 12.4**	**+0.3**
	baz=351				

baz=2.0
PHUB P'eng-hu 2.07 314 *e*P Pn 07 46 13.4 -1.7
baz=305
ETL Fush Village 2.11 11 *e*P Pn 07 46 14.9 -0.9
baz=5.0
TCU Taichung 2.11 347 *e*P Pn 07 46 17.0 +1.3
baz=347
PNG Penghu 2.11 315 *e*P Pn 07 46 15.1 -0.7
baz=315
NACB Ninganchiao 2.12 10 P Pn 07 46 15.4 -0.4
NACB Ninganchiao 2.12 10 Pn 07 46 15.2 -0.7
NACB Ninganchiao 2.12 10 P Pn 07 46 15.2 -0.7
baz=10.0
NACB *e*S **Sn 07 46 38.9 -2.1**
baz=10.0
ETLH Xiulin Townshi 2.13 7 *e*P Pn 07 46 16.1 -0.1
baz=14
FUSS Fushou 2.16 1 *e*P Pn 07 46 17.8 +1.2
baz=351
FUSS *e*S **Sn 07 46 42.5 +0.2**
baz=351
TDCB Techi 2.16 359 *e*P Pn 07 46 17.6 +1.0
baz=360
TDCB *e*S **Sn 07 46 42.5 +0.2**
baz=360
TWT Tachien 2.16 360 *e*P Pn 07 46 17.6 +1.0
baz=360
TWT *e*S **Sn 07 46 43.2 +0.9**
baz=360
WHP Taichung City 2.20 354 *e*P Pn 07 46 17.6 +0.6
baz=354
EOS4 EOS4 2.28 27 *e*P Pn 07 46 18.8 +1.1
baz=35
EOS4 *e*S **Sn 07 46 45.6 +1.2**
baz=35
TWQ1 Liyutan 2.29 350 *e*P Pn 07 46 19.7 +1.5
baz=351
TWQ1 *e*S **Sn 07 46 49.3 +4.1**
baz=351
EAHA Aohua 2.29 13 *e*P Pn 07 46 17.6 -0.7
baz=3.0
NNSB Datong 2.34 4 *e*P Pn 07 46 19.5 +0.4
baz=11
NNSB *e*S **Sn 07 46 46.4 -0.3**
baz=11
NNSH Datong 2.34 4 *e*P Pn 07 46 19.8 +0.8
baz=13
NNS Nan Shan 2.35 4 *e*P Pn 07 46 20.2 +1.0
baz=13
NSY Sanyi 2.36 350 *e*P Pn 07 46 21.4 +2.3
baz=350
ENA Nanau 2.39 12 *e*P Pn 07 46 19.7 +0.1
baz=2.0
ENA *e*S **Sn 07 46 48.3 +0.6**
baz=2.0
EWUT Wuta 2.41 13 *e*P Pn 07 46 19.9 0.0
baz=4.0
EOS3 EOS3 2.43 25 *e*P Pn 07 46 21.3 +1.4
baz=14
LATG Datong 2.46 7 *e*P Pn 07 46 21.2 +0.5
baz=15
LATG *e*S **Sn 07 46 51.8 +2.2**
baz=15
NMLH Miaoli 2.47 351 *e*P Pn 07 46 24.5 +3.7
baz=351
EOS2 EOS2 2.52 22 *e*P Pn 07 46 22.7 +1.5
baz=19
NDT Datong Townshi 2.53 7 *e*P Pn 07 46 22.5 +1.0
baz=14
NFF Wufeng Townshi 2.54 358 *e*P Pn 07 46 24.8 +3.1
baz=345
NSTT Nanjuang 2.54 356 *e*P Pn 07 46 24.7 +3.0
baz=356
ESAO Su ao 2.55 13 *e*P Pn 07 46 23.0 +1.1
baz=4.0
LIOB Emei 2.56 356 *e*P Pn 07 46 24.8 +2.9
baz=356
ENTT Nioudou 2.57 8 *e*P Pn 07 46 22.4 +0.3
baz=14
ENTT *e*S **Sn 07 46 51.5 -0.6**
baz=14
YHNB Yeheng 2.58 4 P Pn 07 46 23.9 +1.6
YHNB Yeheng 2.58 4 P Pn 07 46 23.4 +1.1
YHNB Yeheng 2.58 4 Pn 07 46 23.5 +1.1
YHNB Yeheng 2.58 4 ⇓*i*P Pn 07 46 23.9 +1.6
baz=351
YHNB S **Sn 07 46 52.4 -0.1**
baz=351
NSK Sanguang 2.59 3 *e*P Pn 07 46 23.8 +1.4
baz=351
NSK *e*S **Sn 07 46 52.4 -0.3**
baz=351
TWC Suao 2.59 13 *e*P Pn 07 46 22.7 +0.4
baz=5.0
TWE Neicheng 2.66 9 *e*P Pn 07 46 24.1 +0.7
baz=9.0
FUSB Fushanzhiwuyua 2.69 8 *e*P Pn 07 46 24.8 +1.0
baz=14
NWLT Wulai 2.70 6 *e*P Pn 07 46 25.2 +1.4
baz=12
EGS 2.83 14 *e*P Pn 07 46 27.7 +2.0
baz=5.0
TATO Taipei 2.89 5 P Pn 07 46 28.4 +1.9
TATO Taipei 2.89 5 Pn 07 46 27.8 +1.4
TATO Taipei 2.89 5 *e*P Pn 07 46 28.2 +1.7
baz=12
TATO S **Sn 07 47 01.8 +1.7**
baz=12
YOJ Yonaguni jima 2.90 35 P Pn 07 46 28.4 +1.8
YOJ Yonaguni jima 2.90 35 Pn 07 46 28.1 +1.6
YOJ Yonaguni jima 2.90 35 P Pn 07 46 27.9 +1.4
baz=45
YOJ S **Sn 07 47 01.8 +1.6**
baz=45
YOJ Yonaguni jima 2.90 35 *e*P Pn 07 46 28.3 +1.7
YOJ *e*S **Sn 07 47 01.0 +0.8**
TWA Mucha 2.91 7 *e*P Pn 07 46 27.8 +1.1
baz=5.0
TWA *e*S **Sn 07 47 02.0 +1.6**
baz=5.0
TIPB Shuangxi 2.94 11 *e*P Pn 07 46 28.5 +1.4
baz=10.0
TWB1 Santiao Chiao 3.00 14 *e*P Pn 07 46 30.0 +2.0
baz=6.0
NWF Wu-fen Shan 3.02 10 *e*P Pn 07 46 30.0 +1.6
baz=8.0
WFSB Wu-fen Shan 3.02 10 *e*P Pn 07 46 29.9 +1.7
baz=9.0
YM01 YM01 3.07 6 *e*P Pn 07 46 28.0 -1.0
baz=351
TNOU National Taiwa 3.10 10 *e*P Pn 07 46 30.6 +1.2
baz=8.0
HATJ Hateruma jima 3.11 50 *e*P Pn 07 46 30.2 +0.8
HATJ *e*S **Sn 07 47 04.5 -0.8**
YM08 YM08 3.11 7 *e*P Pn 07 46 30.7 +1.1
baz=4.0
IRIF Iriomote-Funau 3.24 46 *e*P Pn 07 46 32.3 +1.1
IRIF *e*S **Sn 07 47 08.7 +0.2**
VWUC VWUC 3.31 331 *e*P Pn 07 46 30.3 -1.9
baz=332
JKRS Kuro-shima 3.37 50 *e*P Pn 07 46 34.2 +1.3
JKRS *e*S **Sn 07 47 11.4 -0.2**
KNM Kinmen 3.44 313 *e*P Pn 07 46 34.4 +0.4
baz=303
KNMB Chin-men Tao 3.50 313 Pn Pn 07 46 32.2 -2.6
KNMB Chin-men Tao 3.50 313 *e*P Pn 07 46 34.3 -0.6
baz=314
PTMZ Houxiangcun 3.51 328 *e*P Pn 07 46 33.8 -1.1
baz=336
JIJ Ishigaki jima 3.54 50 *e*P Pn 07 46 36.2 +0.9
JIJ *e*S **Sn 07 47 15.0 -1.0**
ZPLA Ao Xicun 3.67 301 *e*P Pn 07 46 35.7 -1.4
baz=300
JISG Ishigakijimahi 3.80 48 *e*P Pn 07 46 39.4 +0.5
JISG *e*S **Sn 07 47 21.7 -0.6**
JTJ Tarama 4.11 51 *e*P Pn 07 46 44.3 +1.1
MATB Ma-tsu 4.21 345 *e*P Pn 07 46 42.8 -1.7
baz=343
VDOS Pratas Island 4.38 253 *e*P Pn 07 46 47.0 +0.1
baz=254
MHZQ Yeshan 4.46 334 *e*P Pn 07 46 47.4 -0.6
baz=334
JMJ Miyako jima 2 4.65 53 P Pn 07 46 52.4 +1.9
JMJ Miyako jima 2 4.65 53 *e*P Pn 07 46 51.5 +1.0
baz=57
XPSS Dashiqiu 4.91 349 *e*P Pn 07 46 53.8 -0.4
baz=347

SXFK Yanhouchang 5.38 324 *e*P Pn 07 46 59.2 -1.4
baz=325
JOW Kunigami 8.00 52 Pn Pn 07 47 36.2 -0.3
3.3nm,0.3s,baz=126,slow=24,SNR=23
JOW Sn **Sn 07 49 03.3 -2.4**
1.1nm,0.3s,baz=108,slow=20,SNR=2.0
5.9nm,0.3s
KSRS Korea Array 16.39 19 Pn P 07 49 31.4 -0.3
0.1nm,0.3s,baz=193,slow=10.0,SNR=1.6
1.3nm,0.9s
MJAR Matsushiro Arr 20.64 42 P Pn 07 50 22.5 +1.5
1.5nm,0.3s,baz=234,slow=9.9,SNR=5.6
1.5nm,0.3s
MK31 Makanchi Array 39.87 318 P P 07 53 11.6 -0.1
MK31 IAmb IAmb 07 53 13.2
comp=Z,2.5nm,1.1s
MKAR Makanchi Array 39.87 318 P P 07 53 12.2 +0.4
MKAR Makanchi Array 39.87 318 P P 07 53 12.3 +0.6
comp=Z,0.9nm,0.8s,baz=110,slow=10,SNR=5.1
comp=Z,0.9nm,0.8s
H11N1 WAKE ISLAND Hy 42.64 84 T T 08 39 07.5
baz=282,slow=75,SNR=13
H11N2 WAKE ISLAND Hy 42.64 84 T T 08 39 07.7
baz=282,slow=75,SNR=21
H11N3 WAKE ISLAND Hy 42.66 84 T T 08 39 07.6
baz=282,slow=75,SNR=16
H11S3 WAKE ISLAND Hy 42.70 86 T T 08 39 02.8
baz=284,slow=74,SNR=20
H11S1 WAKE ISLAND Hy 42.71 86 T T 08 39 02.5
baz=284,slow=74,SNR=20
H11S2 WAKE ISLAND Hy 42.72 86 T T 08 39 03.4
baz=284,slow=74,SNR=14
WB0 Warramunga Arr 43.55 162 P P 07 53 39.7 -2.3
WB0 IAmb IAmb 07 54 21.8
comp=Z,11nm,1.4s
WRA Warramunga Arr 43.70 162 P P 07 53 41.0 -2.2
comp=Z,0.9nm,0.7s,baz=344,slow=8.8,SNR=8.7
comp=Z,0.9nm,0.7s
KURBB Kurchatov Arra 43.73 321 P P 07 53 44.1 +0.9
comp=Z,0.5nm,0.4s,baz=136,slow=5.7,SNR=2.0
comp=Z,0.5nm,0.4s
AS31 Alice Springs 47.12 164 P P 07 54 07.6 -2.7
AS31 IAmb IAmb 07 54 08.5
comp=Z,2.4nm,1.4s
ASAR Alice Springs 47.12 164 P P 07 54 09.1 -1.3
comp=Z,0.4nm,0.4s,baz=348,slow=8.2,SNR=7.4
comp=Z,0.4nm,0.4s
ARCES ARCESS Array B 71.48 338 P P 07 57 00.6 +2.6
comp=Z,1.3nm,1.0s,baz=62,slow=9.6,SNR=3.6
comp=Z,1.3nm,1.0s

*IDC **23** 07:56:48.0±1.2,2°.77N×128°.06E,h0km,mb4.0/7,*
mbtmp4.0/7,Error ellipse: s-maj=53.1km s-min=23.3km
az=76.0
*DJA **23** 07:56:58.9±1.4,2°.N±8°×12°.9E±°,h238km±15km,M4.1/8,*
mb4.0/3,mB4.0/1,MLv4.1/8,Mw(mB)3.0/1
ISC 23 07:56:58.1±1.0,2°.6N±0°.1×128°.7E±0°.2,h100km,n12,
σ1§67/11,mb4.1/7,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.29**	**217**	P	Pn	07 57 43.2	+8.8
LBMI	**Labuha**	**3.46**	**201**	P	**Pn**	**07 57 49.7**	**-0.3**
KMSI	**Cibinong**	**5.17**	**247**	P	**Pn**	**07 58 12.1**	**-1.1**
SANI	**Sanana**	**5.39**	**211**	P	**Pn**	**07 58 14.4**	**-1.7**
21nm,0.8s,0.2nm							
GTOI	**Gorontalo**	**6.06**	**251**	P	**Pn**	**07 58 27.5**	**+2.3**
19nm,0.5s,292nm0.1nm							
WRA	**Warramunga Arr**	**23.08**	**166**	P	**P**	**08 01 58.2**	**+2.9**
1.4nm,0.7s,baz=344,slow=10,SNR=13							
1.4nm,0.7s							
KSRS	**Korea Array**	**34.68**	**359**	P	**P**	**08 03 37.7**	**-0.4**
1.2nm,0.5s,baz=178,slow=10,SNR=6.9							
1.2nm,0.5s							
MJAR	**Matsushiro Arr**	**34.87**	**13**	P	**P**	**08 03 40.9**	**+1.0**
1.6nm,0.6s,baz=186,slow=9.7,SNR=5.0							
1.6nm,0.6s							
SONM	**Songino Array**	**49.01**	**340**	P	**P**	**08 05 34.7**	**-0.1**
1.3nm,0.5s,baz=156,slow=7.4,SNR=6.6							
1.3nm,0.5s							
MKAR	**Makanchi Array**	**59.62**	**325**	P	**P**	**08 06 50.5**	**-1.2**
1.1nm,0.4s,baz=115,slow=8.4,SNR=15							
1.1nm,0.4s							
KURBB	**Kurchatov Arra**	**63.76**	**327**	P	**P**	**08 07 18.2**	**-1.1**
1.3nm,0.5s,baz=125,slow=6.7,SNR=7.5							
1.3nm,0.5s							
BVAR	**Borovoye Array**	**69.35**	**327**	P	**P**	**08 07 54.0**	**-0.8**
0.5nm,0.4s,baz=149,slow=6.7,SNR=4.3							
0.5nm,0.4s							

*TEH **23** 08:01:48.1,34°.61N×46°.26E,h18km±42km,ML2.9*
*ISN **23** 08:01:48.2±1.5,34°.62N×46°.26E,h18km±18km,ML3.0*
ISC 23 08:01:48.6±1.0,34°.59N±0°.05×46°.23E±0°.04,h10km,n10,
σ0§52/12,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.17**	**50**	Pg	**Pg**	**08 01 53.2**	**+0.9**
IGHG	**Ghaleghazi**	**0.38**	**133**	Pg	**Pb**	**08 01 57.5**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.54**	**261**	Pg	**Pb**	**08 02 00.3**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.55**	**209**	Pg	**Pb**	**08 02 00.3**	**0.0**
ILIN	**Lien**	**0.68**	**61**	Pg	**Pb**	**08 02 02.5**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.74**	**115**	Pg	**Pb**	**08 02 03.1**	**-0.6**
SNQR	**Sonqor, Kerman**	**1.18**	**77**	Pg	**Pn**	**08 02 11.1**	**-0.3**
IBZA	**Bozab**	**1.35**	**95**	Pg	**Pg**	**08 02 15.0**	**+0.4**
IBDR	**Badra**	**1.50**	**190**	*e*Pg	**Pn**	**08 02 15.0**	**-0.6**
baz=10.0							
IBDR				*e*Sg	**Sg**	**08 02 37.0**	**+0.1**
IBDR				AML	AML	08 02 46.5	
comp=N,112nm,0.3s							
IBDR				AML	AML	08 02 54.1	
comp=E,129nm,0.8s							
IKRK	**Kirkuk**	**1.75**	**298**	*e*Pn	**Pb**	**08 02 20.0**	**-0.8**
IKRK				Sn	**Sb**	**08 02 43.0**	**+0.2**
IKRK				AML	AML	08 02 49.4	
comp=E,238nm,0.5s							
IKRK				AML	AML	08 02 53.2	
comp=N,489nm,0.7s							

IDC 23 08:09:01.5±3.6,53°.74N×87°.99E,h0km,mbtmp2.9/2,
ML2.5/2,Error ellipse: s-maj=36.7km s-min=22.3km
az=83.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**278**	I	I	08 21 20.0	
0.3nm,1.0s,baz=91,slow=307,SNR=21							
ZALV	**Zalesovo Beam**	**1.89**	**278**	Pn	Pn	08 09 35.0	0.0
1.7nm,0.3s,baz=93,slow=15,SNR=22							
ZALV				Sn	Sg	08 10 01.7	-0.6
3.8nm,0.3s,baz=96,slow=28,SNR=19							
KURBB	**Kurchatov Arra**	**6.60**	**246**	Pn	Pn	08 10 40.2	+0.5
0.1nm,0.3s,baz=63,slow=15,SNR=4.4							
KURBB				Lg	Lg	08 12 30.7	
0.1nm,0.3s,baz=59,slow=32,SNR=7.3							
0.7nm,0.4s							
MKAR	**Makanchi Array**	**7.85**	**210**	Pn	Pn	08 10 58.3	+1.4
0.1nm,0.3s,baz=27,slow=16,SNR=2.5							
MKAR				Lg	Lg	08 13 07.4	
baz=22,slow=25,SNR=3.8							
0.3nm,0.6s							

*IDC **23** 08:11:51.6±1.0,29°.06S×12°.98W,h0km,mb4.1/5,*
mbtmp4.1/5,MS3.8/12,Error ellipse: s-maj=29.7km
s-min=28.5km az=130.0
ISC 23 08:11:54.3±0.9,28°.8S±0°.2×12°.9W±0°.2,h11km,n25,
σ2§80/9,mb4.1/6,MS3.8/12,3C,Southern Mid-Atlantic
Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**19.76**	**355**	T	T	08 36 57.7	
baz=175,slow=74,SNR=62							
H10S3	**ASCENSION HYDR**	**19.77**	**355**	T	T	08 36 58.5	
baz=45,slow=74,SNR=66							
H10N1	**ASCENSION HYDR**	**20.85**	**356**	T	T	08 38 25.7	
baz=180							
H10N3	**ASCENSION HYDR**	**20.86**	**356**	T	T	08 38 26.5	
baz=180,SNR=8.0							
H10N2	**ASCENSION HYDR**	**20.87**	**356**	T	T	08 38 26.8	
baz=180							
RCBR	**Riachuelo**	**31.50**	**312**	LR	LR	08 28 47.4	
comp=Z,79nm,19.6s,baz=332,slow=32							

BOSA Boshof 33.41 99 P P 08 18 30.5 -2.8
4.8nm,1.1s,baz=249,slow=8.6,SNR=4.0
4.8nm,1.1s
BDFB Brasilia 34.86 284 P P 08 18 44.5 -1.4
4.7nm,0.8s,baz=90,slow=10,SNR=7.6
BDFB LR LR 08 30 11.0
comp=Z,134nm,20.7s,baz=133,slow=32
4.7nm,0.8s
CPUP Villa Florida 39.27 263 LR LR 08 33 01.0
comp=Z,138nm,19.5s,baz=98,slow=32
VNA2 Neumayer--Watz 42.33 177 ⇑P P 08 19 50.6 +2.7
comp=Z,0.8nm,0.7s,baz=336,slow=9.1
SNAA Sanae 43.32 175 ⇑P P 08 19 57.5 +1.5
comp=Z,18nm,1.1s
TORD Torodi Ar. Bea 43.99 21 P P 08 20 02.4 +0.5
comp=Z,0.7nm,0.6s,baz=195,slow=6.0,SNR=5.4
comp=Z,0.7nm,0.6s
TROLL Troll, Antarti 44.12 173 ⇑P P 08 20 06.3 +3.8
comp=Z,166nm,1.1s
SIV San Ignacio 46.00 275 LR LR 08 37 59.3
comp=Z,128nm,20.2s,baz=105,slow=34
PLCA Paso Flores 48.05 240 LR LR 08 38 52.7
comp=Z,44nm,19.4s,baz=89,slow=34
LVC Limon Verde 50.43 263 LR LR 08 41 39.8
comp=Z,89nm,18.6s,baz=156,slow=36
MDP Montagnes des 50.90 305 LR LR 08 40 25.7
comp=Z,59nm,19.9s,baz=158,slow=34
QSPA South Pole Qui 61.47 180 P P 08 22 08.1 -2.7
comp=Z,3.3nm,0.9s,baz=234,slow=3.2,SNR=10
comp=Z,3.3nm,0.9s
PCRV Puerto La Cruz 63.14 300 LR LR 08 47 45.3
comp=Z,117nm,20.5s,slow=34
SDV Santo Domingo 67.03 295 LR LR 08 50 55.3
comp=Z,100nm,18.5s,baz=114,slow=35
ROSC El Rosal 67.73 289 LR LR 08 51 42.4
comp=Z,130nm,18.1s,baz=82,slow=35
JTS Las Juntas de 79.52 288 LR LR 08 57 53.4
comp=Z,81nm,19.3s,baz=300,slow=35
BRTR Keskin Array B 80.75 35 P P 08 24 10.0 +2.2
comp=Z,1.2nm,1.0s,baz=214,slow=0.5,SNR=4.7
comp=Z,1.2nm,1.0s
TEIG Tepich 87.46 295 LR LR 09 04 23.1
comp=Z,34nm,19.8s,baz=172,slow=36
KSRS Korea Array 146.28 65 PKPbc **PKPdf 08 31 34.3 +0.4**
comp=Z,2.9nm,0.9s,baz=273,slow=2.7,SNR=10

*DJA **23** 08:17:10.7±0.4,4°.S±3°×13°.0E±°,h10km,M4.5/7,MLv4.5/7*
*IDC **23** 08:17:11.8±0.8,4°.15S×129°.46E,h30km±4km,mb4.0/12,*
mbtmp4.1/13,ML4.2/1,MS3.8/3,Error ellipse:
s-maj=39.7km s-min=16.4km az=75.0
*NEIC **23** 08:17:15.8±2.1,4°.16S±0°.08×129°.6E±0°.1,h68km±9km,*
mb4.4/16,Error ellipse: s-maj=17.3km s-min=7.7km
az=124.0
ISC 23 08:17:12.2±0.5,4°.13S±0°.05×129°.47E±0°.05,h36km,n46,
σ1§22/54,mb4.3/16,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.59**	**132**	P	**Pn**	**08 17 23.3**	**-0.9**
BNDI				S	**Sn**	**08 17 32.4**	**-0.1**
NLAI	**Namlea**	**2.52**	**290**	P	**Pn**	**08 17 51.9**	**+1.3**
FAKI	**Fak Fak**	**3.02**	**67**		**Pn**	**08 17 58.6**	**+1.1**
FAKI	**Fak Fak**	**3.02**	**67**	P	**Pn**	**08 17 58.9**	**+1.3**
SWI	**Sorong**	**3.70**	**29**	P	**Pn**	**08 18 07.6**	**+0.7**
SWI				S	**Sn**	**08 18 47.9**	**-1.4**
SANI	**Sanana**	**4.04**	**301**	P	**Pn**	**08 18 11.5**	**0.0**
SAUI	**Saumlaki**	**4.24**	**155**	Pn	**Pn**	**08 18 16.5**	**+2.2**
KMPI	**Kaimana, Papua**	**4.25**	**84**	P	**Pn**	**08 18 15.6**	**+1.1**
MTN	**Manton Dam**	**8.82**	**169**		**Pn**	**08 19 19.4**	**+2.2**
KAPI	**Kappang**	**9.72**	**264**	LR	LR	08 23 02.1	
comp=Z,228nm,18.9s,baz=68,slow=36							
KNRA	**Kununurra**	**11.50**	**183**	Pn	**Pn**	**08 19 53.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**14.38**	**195**	Pn	**Pn**	**08 20 35.0**	**+1.7**
WB0	**Warramunga Arr**	**16.27**	**163**	Pn	**Pn**	**08 20 55.2**	**-2.9**
WRA	**Warramunga Arr**	**16.42**	**164**	Pn	**Pn**	**08 20 56.4**	**-3.7**
WRA	**Warramunga Arr**	**16.42**	**164**	Pn	**Pn**	**08 20 56.8**	**-3.3**
0.3nm,0.3s,baz=346,slow=13,SNR=21							
COEN	**Coen**	**16.68**	**127**	Pn	**Pn**	**08 21 01.5**	**-1.9**
COEN				IAmb	IAmb	08 21 36.4	
comp=Z,19nm,1.4s							
MBWA	**Marble Bar**	**19.40**	**208**	P	**Pn**	**08 21 36.1**	**-0.5**
MBWA				IAmb	IAmb	08 21 57.3	
comp=Z,31nm,1.4s							
PSA00	**Pilbara Seismi**	**19.70**	**207**	P	**Pn**	**08 21 39.6**	**-0.6**
PSA00				IAmb	IAmb	08 21 51.1	
comp=Z,35nm,1.5s							
AS31	**Alice Springs**	**19.89**	**168**	P	**Pn**	**08 21 41.9**	**-0.6**
ASAR	**Alice Springs**	**19.89**	**168**	P	**Pn**	**08 21 41.4**	**-1.1**
ASAR	**Alice Springs**	**19.89**	**168**	P	**Pn**	**08 21 41.6**	**-0.9**
comp=Z,0.7nm,0.3s,baz=347,slow=10,SNR=36							
comp=Z,4.5nm,0.6s							
STKA	**Stephens Creek**	**29.86**	**159**	P	**P**	**08 23 16.9**	**+0.5**
comp=Z,1.0nm,0.6s,baz=333,slow=8.1,SNR=4.8							
STKA				LR	LR	08 35 19.1	
comp=Z,185nm,18.1s,baz=219,slow=36							
comp=Z,1.0nm,0.6s							
MJAR	**Matsushiro Arr**	**41.27**	**11**	P	**P**	**08 24 54.0**	**0.0**
comp=Z,2.0nm,0.8s,baz=178,slow=9.0,SNR=5.6							
MJAR				pP	**pP**	**08 25 03.1**	**-0.2**
comp=Z,4.8nm,0.8s,baz=182,slow=9.2,SNR=8.6							
comp=Z,2.0nm,0.8s							
MJB9	**Matsu-Tunnel**	**41.28**	**11**	P	**P**	**08 24 54.1**	**0.0**
MJB9				IAmb	IAmb	08 25 05.0	
comp=Z,7.9nm,0.6s							
KSRS	**Korea Array**	**41.39**	**358**	P	**P**	**08 24 56.4**	**+1.4**
comp=Z,0.7nm,0.5s,baz=172,slow=9.5,SNR=2.4							
KSRS				pP	**pP**	**08 25 05.8**	**+1.4**
comp=Z,1.0nm,0.6s,baz=178,slow=9.2,SNR=3.4							
comp=Z,0.7nm,0.5s							
SONM	**Songino Array**	**55.56**	**341**	P	**P**	**08 26 45.0**	**+0.8**
comp=Z,0.5nm,0.5s,baz=157,slow=8.0,SNR=3.8							
SONM				PcP	**PcP**	**08 27 44.4**	**+0.7**
comp=Z,2.7nm,0.8s,baz=160,slow=6.0,SNR=5.2							
comp=Z,0.5nm,0.5s							
MK31	**Makanchi Array**	**65.55**	**326**	P	**P**	**08 27 52.4**	**+0.2**
MKAR	**Makanchi Array**	**65.55**	**326**	P	**P**	**08 27 52.5**	**+0.3**
MKAR	**Makanchi Array**	**65.55**	**326**	P	**P**	**08 27 53.0**	**+0.8**
comp=Z,2.7nm,0.4s,baz=113,slow=7.6,SNR=35							
MKAR				pP	**pP**	**08 28 02.4**	**+0.5**
comp=Z,8.7nm,0.3s,baz=127,slow=7.7,SNR=9.6							
comp=Z,2.7nm,0.4s							
ZALV	**Zalesovo Beam**	**68.79**	**334**	P	**P**	**08 28 12.8**	**+0.3**
comp=Z,2.3nm,0.7s,baz=108,slow=5.3,SNR=10							
comp=Z,2.3nm,0.7s							
KURBB	**Kurchatov Arra**	**69.80**	**328**	P	**P**	**08 28 19.3**	**+0.4**
comp=Z,6.3nm,0.6s,baz=128,slow=5.7,SNR=43							
KURBB				pP	**pP**	**08 28 29.1**	**+0.5**
comp=Z,3.6nm,0.5s,baz=125,slow=5.8,SNR=5.2							
comp=Z,6.3nm,0.6s							
VNDA	**Vanda**	**75.35**	**173**	P	**P**	**08 28 50.7**	**-0.8**
BVAR	**Borovoye Array**	**75.36**	**328**	P	**P**	**08 28 52.4**	**+0.4**
comp=Z,2.0nm,0.5s,baz=123,slow=7.3,SNR=13							
BVAR				pP	**pP**	**08 29 01.8**	**0.0**
comp=Z,2.3nm,0.8s,baz=116,slow=6.9,SNR=4.7							
comp=Z,2.0nm,0.5s							
BRVK	**Borovoye**	**75.44**	**328**	P	**P**	**08 28 52.2**	**-0.2**
BRVK				IAmb	IAmb	08 28 53.7	
comp=Z,5.9nm,0.8s							
AKTO	**Aktyubinsk**	**81.49**	**322**	P	**P**	**08 29 25.6**	**-0.3**
comp=Z,1.5nm,0.5s,baz=133,slow=4.7,SNR=2.1							
AKTO				LR	LR	09 08 55.0	
comp=Z,76nm,19.9s,baz=308,slow=38							
comp=Z,1.5nm,0.5s							
QSPA	**South Pole Qui**	**85.83**	**180**	P	**P**	**08 29 48.7**	**+0.8**
QSPA				IAmb	IAmb	08 30 10.7	
comp=Z,3.5nm,1.3s							
QSPA	**South Pole Qui**	**85.83**	**180**	P	**P**	**08 29 47.5**	**-0.4**
comp=Z,1.1nm,0.9s,baz=135,slow=7.1,SNR=2.8							
comp=Z,1.1nm,0.9s							
L18K	**Granite Mounta**	**86.16**	**27**	P	**P**	**08 29 51.1**	**+1.6**
C18K	**Utukok River**	**86.42**	**20**	P	**P**	**08 29 51.5**	**+0.8**
G18K	**Tagagawik**	**86.43**	**23**	P	**P**	**08 29 51.1**	**+0.4**
G18K				IAmb	IAmb	08 30 34.2	
comp=Z,3.0nm,1.3s							
G19K	**Purcell Mounta**	**87.12**	**23**	P	**P**	**08 29 54.8**	**+0.7**
G19K				IAmb	IAmb	08 29 57.7	
comp=Z,1.5nm,1.0s							
ILAR	**Eielson Array**	**90.99**	**25**	P	**P**	**08 30 12.0**	**-0.3**
comp=Z,0.2nm,0.7s,baz=259,slow=4.1,SNR=3.1							
comp=Z,0.2nm,0.7s							
BELA	**Belgrano 2**	**97.64**	**183**	P	**P**	**08 30 41.8**	**-0.9**
ARCES	**ARCESS Array B**	**98.72**	**340**	P	**P**	**08 30 47.1**	**-0.4**
comp=Z,0.2nm,0.4s,baz=79,slow=6.8,SNR=5.2							
ARCES				pP	**pP**	**08 30 56.4**	**-1.2**
comp=Z,1.1nm,0.8s,baz=64,slow=5.5,SNR=2.2							
comp=Z,0.2nm,0.4s							

TORD Torodi Ar. Bea 127.68 283 PKP **PKPdf 08 36 14.8 0.0**
comp=Z,0.4nm,0.6s,baz=43,slow=2.5,SNR=3.2
CPUP Villa Florida 149.02 168 PKPbc **PKPbc 08 36 56.4 -0.9**
comp=Z,1.1nm,0.8s,baz=194,slow=4.2,SNR=4.0

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*NEIC **23** 08:18:34.1±1.3, 0.27N±0.08×122.04E±0.08, h182km±7km, mb4.7/90, Error ellipse: s-maj=12.3km s-min=11.1km az=66.0*
*DJA **23** 08:18:34.9±0.3, 0.7N±3.3×12.2E±.7, h166km±4km, M4.8/13, mb4.8/7, mB5.1/5, MLv4.8/13, Mw(mB)4.4/5*
*IDC **23** 08:18:35.2±1.6, 0.26N×122.09E, h200km±14km, mb4.1/22, mbtmp4.6/23, Error ellipse: s-maj=20.4km s-min=7.2km az=66.0*
ISC 23 08:18:34.0±0.6, 0.28N±0.04×122.08E±0.05, h188km±5km, n469, σ0.96/483, mb4.6/76, 3C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.00**	**69**	P	**Pn**	**08 19 01.6**	**-0.9**
GTOI				S	**Sn**	**08 19 21.9**	**-2.6**
LUWI	**Luwuk**	**1.49**	**152**		**Pn**	**08 19 05.8**	**-0.7**
LUWI	**Luwuk**	**1.49**	**152**	P	**Pn**	**08 19 06.4**	**-0.1**
LUWI				S	**Sn**	**08 19 30.1**	**-1.8**
TOLI2	**Tolitoli**	**1.53**	**302**		**Pn**	**08 19 06.3**	**-0.6**
KMSI	**Cibinong**	**1.93**	**81**	P	**Pn**	**08 19 11.5**	**+0.7**
KMSI				S	**Sn**	**08 19 38.8**	**-0.6**
MPSI	**Mapaga**	**2.18**	**271**	P	**Pn**	**08 19 13.3**	**-0.2**
SANI	**Sanana**	**4.55**	**121**	P	**Pn**	**08 19 39.8**	**-2.5**
TNTI	**Ternate**	**5.31**	**85**	Pn	**Pn**	**08 19 52.4**	**+0.2**
TNTI	**Ternate**	**5.31**	**85**	P	**Pn**	**08 19 52.4**	**+0.2**
KAPI	**Kappang**	**5.75**	**204**	Pn	**Pn**	**08 19 58.1**	**+0.3**
KAPI	**Kappang**	**5.75**	**204**	P	**Pn**	**08 19 58.5**	**+0.6**
	89nm,0.7s,baz=358,slow=6.5,SNR=22						
BBSI	**Bau Bau**	**5.75**	**175**	P	**Pn**	**08 19 59.0**	**+1.1**
	229nm,0.9s,2μm0.7nm						
BKSI	**Bulukumba**	**5.90**	**199**	P	**Pn**	**08 20 00.2**	**+0.4**
BSSI	**Bau Bau, Buton**	**6.58**	**194**	P	**Pn**	**08 20 07.8**	**-0.9**
	188nm,1.4s,3μm						
EDFI	**Ende, Flores**	**8.98**	**182**	P	**Pn**	**08 20 40.9**	**+0.6**
	31nm,0.6s						
SOEI	**Soe**	**10.21**	**168**	Pn	**Pn**	**08 20 56.0**	**-0.3**
SOEI	**Soe**	**10.21**	**168**	P	**P**	**08 21 08.5**	**+3.9**
MTN	**Manton Dam**	**15.84**	**146**	P	**P**	**08 22 06.9**	**-0.1**
KNRA	**Kununurra**	**17.18**	**158**	P	**P**	**08 22 21.9**	**+0.2**
KNRA				IAmb	IAmb	08 22 23.0	
	comp=Z,48nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.60**	**169**	P	**P**	**08 22 36.8**	**-0.4**
MNAI	**Manna**	**19.65**	**256**	P	**P**	**08 22 48.6**	**-0.1**
MBWA	**Marble Bar**	**21.43**	**186**	P	**P**	**08 23 05.4**	**-2.1**
MBWA				IAmb	IAmb	08 23 07.2	
	comp=Z,17nm,0.7s						
PSA00	**Pilbara Seismi**	**21.83**	**186**	P	**P**	**08 23 09.8**	**-1.8**
PSA00				IAmb	IAmb	08 23 10.7	
	comp=Z,18nm,0.7s						
TWG	**Pinlang**	**22.42**	**358**	P	**P**	**08 23 17.9**	**+0.7**
TPUB	**Ta-pu**	**22.92**	**357**	P	**P**	**08 23 22.9**	**+1.1**
TPUB				IAmb	IAmb	08 23 31.2	
	comp=Z,29nm,0.6s						
YULB	**Yu-li**	**22.98**	**358**	P	**P**	**08 23 22.4**	**+0.1**
YULB				IAmb	IAmb	08 23 25.3	
	comp=Z,15nm,0.6s						
SSLB	**Suanglung**	**23.39**	**357**	P	**P**	**08 23 27.0**	**+1.0**
SSLB				IAmb	IAmb	08 23 31.2	
	comp=Z,22nm,0.5s						
WRA	**Warramunga Arr**	**23.42**	**150**	P	**P**	**08 23 25.1**	**-1.2**
WRA	**Warramunga Arr**	**23.42**	**150**	P	**P**	**08 23 25.7**	**-0.6**
	comp=Z,29nm,0.7s,baz=325,slow=11,SNR=171						
WRA				PP	**PnPn**	**08 24 11.4**	**+4.9**
	comp=Z,12nm,0.6s,baz=331,slow=9.9,SNR=7.5						
WRA				PcP	**PcP**	**08 27 06.7**	**-0.6**
	comp=Z,2.5nm,0.5s,baz=327,slow=2.2,SNR=8.6						
WRA				S	**S**	**08 27 25.8**	**+0.2**
	comp=Z,4.1nm,0.9s,baz=327,slow=19,SNR=5.6						
	comp=Z,29nm,0.7s						
WR0	**Warramunga Arr**	**23.54**	**149**	P	**P**	**08 23 26.4**	**-1.0**
GIRL	**Giralia**	**24.03**	**198**	P	**P**	**08 23 31.4**	**-0.4**
YHNB	**Yeheng**	**24.25**	**358**	P	**P**	**08 23 35.8**	**+1.9**
YHNB				IAmb	IAmb	08 23 46.0	
	comp=Z,51nm,1.4s						
GSI	**Gunungsitoli**	**24.52**	**273**	P	**P**	**08 23 36.0**	**-0.4**
GSI				IAmb	IAmb	08 23 38.3	
	comp=Z,28nm,0.9s						
COEN	**Coen**	**25.23**	**125**	P	**P**	**08 23 44.0**	**+1.2**
COEN				IAmb	IAmb	08 23 45.5	
	comp=Z,14nm,0.9s						
AS31	**Alice Springs**	**26.43**	**155**	P	**P**	**08 23 53.2**	**-0.4**
AS31				IAmb	IAmb	08 23 54.4	
	comp=Z,7.3nm,0.5s						
AS31					**PcP**	**08 27 13.7**	**-0.3**
ASAR	**Alice Springs**	**26.43**	**155**	P	**P**	**08 23 53.5**	**-0.1**
	comp=Z,13nm,0.6s,baz=343,slow=14,SNR=40						
ASAR				PcP	**PcP**	**08 27 13.7**	**-0.4**
	comp=Z,7.1nm,0.4s,baz=350,slow=2.1,SNR=24						
ASAR				ScP	**ScP**	**08 30 34.6**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=341,slow=2.9,SNR=7.4						
	comp=Z,13nm,0.6s						
CMAR	**Chiang Mai Arr**	**29.02**	**310**	P	**P**	**08 24 18.6**	**+2.0**
	comp=Z,3.5nm,0.6s,baz=135,slow=7.1,SNR=14						
CMAR				PcP	**PcP**	**08 27 21.4**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=144,slow=1.9,SNR=4.6						
CMAR				ScP	**ScP**	**08 30 43.5**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=146,slow=1.8,SNR=4.1						
	comp=Z,3.5nm,0.6s						
CHTO	**Chiang Mai**	**29.23**	**310**	P	**P**	**08 24 18.0**	**-0.5**
CHTO				IAmb	IAmb	08 24 26.4	
	comp=Z,8.5nm,0.6s						
MORW	**Morawa**	**29.75**	**191**	P	**P**	**08 24 22.5**	**-0.4**
MORW				IAmb	IAmb	08 24 22.6	
	comp=Z,17nm,0.7s						
KMI	**Kunming**	**30.97**	**324**	⇑P	**P**	**08 24 33.0**	**-1.0**
KMI				pmax	pmax		
	comp=Z,18nm,0.6s						
WHN	**Wuhan**	**30.98**	**347**	P	P	08 24 38.5	+4.9
CTA	**Charters Tower**	**31.16**	**132**	P	**P**	**08 24 36.0**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=225,slow=24,SNR=6.2						
CTA				PcP	**PcP**	**08 27 26.8**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=309,slow=3.0,SNR=8.9						
CTAO	**Charters Tower**	**31.16**	**132**	P	**P**	**08 24 36.0**	**+0.6**
FORT	**Forrest**	**31.41**	**170**	P	**P**	**08 24 37.2**	**-0.3**
NJ2	**Nanjing**	**31.74**	**355**	*e*P	**P**	**08 24 43.4**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PZH	**PanZhiHua**	**32.60**	**325**	P	**P**	**08 24 51.3**	**+3.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,200nm,7.7s						
JCJ	**Chichijima**	**32.93**	**34**	P	**P**	**08 24 50.5**	**-0.3**
NWAO	**Narrogin (SRO)**	**33.35**	**187**	P	**P**	**08 24 53.1**	**-1.2**
LYN	**LuoYang**	**35.26**	**346**	P	**P**	**08 25 12.6**	**+1.9**
LYN				pmax	pmax		
	comp=Z,18nm,0.8s						
BBOO	**Buckleboo**	**35.46**	**159**	P	**P**	**08 25 12.5**	**0.0**
XAN	**Xi'an**	**35.77**	**341**	P	**P**	**08 25 14.3**	**-0.9**
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	**36.94**	**152**	P	**P**	**08 25 25.0**	**-0.1**
STKA	**Stephens Creek**	**36.94**	**152**	P	**P**	**08 25 25.4**	**+0.4**
	comp=Z,34nm,0.8s,baz=325,slow=8.8,SNR=39						
STKA				PcP	**PcP**	**08 27 41.7**	**-0.6**
	comp=Z,3.7nm,0.5s,baz=331,slow=5.3,SNR=3.3						
	comp=Z,34nm,0.8s						
KSRS	**Korea Array**	**37.38**	**8**	PcP	**PcP**	**08 27 43.6**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=190,slow=4.2,SNR=4.7						
SHL	**Shillong**	**38.48**	**313**	P	**P**	**08 25 38.0**	**-0.3**
SHL				IAmb	IAmb	08 25 42.0	
	comp=Z,19nm,0.8s						
MJAR	**Matsushiro Arr**	**39.06**	**21**	P	**P**	**08 25 42.0**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=190,slow=8.4,SNR=2.0						
MJAR				PcP	**PcP**	**08 27 48.9**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=125,slow=6.1,SNR=4.4						
	comp=Z,1.8nm,0.8s						
LZH	**Lanzhou**	**39.45**	**336**	*e*P	**P**	**08 25 47.9**	**+1.8**
LZH				pP	pP	08 26 26.9	+1.1
LZH				pmax	pmax		
	comp=Z,31nm,1.4s						
HHC	**Hu-ho-hao-te**	**41.49**	**348**	*e*P	**P**	**08 26 06.0**	**+3.3**
HHC				pP	pP	08 26 43.9	+1.4
HHC				PP	**PnPn**	**08 27 48.1**	**-1.2**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,84nm,4.9s						
ARMA	**Armidale**	**41.50**	**140**	P	**P**	**08 26 04.0**	**+1.0**
ARMA				IAmb	IAmb	08 26 05.4	
	comp=Z,13nm,0.8s						
LSA	**Lhasa**	**41.52**	**318**	P	**P**	**08 26 05.2**	**+1.7**
LSA				IAmb	IAmb	08 26 06.9	
	comp=Z,21nm,0.5s						
CAN	**Canberra**	**43.42**	**147**	P	**P**	**08 26 19.5**	**+1.2**
TOO	**Toolangi**	**43.44**	**153**	P	**P**	**08 26 19.6**	**+1.2**
TOO				IAmb	IAmb	08 26 21.1	
	comp=Z,33nm,1.4s						
GOMU	**GeErMu**	**43.79**	**328**	P	**P**	**08 26 24.4**	**+2.8**
GOMU				pmax	pmax		
	comp=Z,15nm,0.9s						
GTA	**Gaotai**	**43.94**	**335**	*e*P	**P**	**08 26 24.5**	**+2.0**
GTA				PcP	**PcP**	**08 28 05.3**	**+0.3**
GTA				pmax	pmax		
	comp=Z,22nm,0.7s						
USRK	**Ussuriysk Ar.**	**44.61**	**10**	P	**P**	**08 26 28.0**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=189,slow=7.3,SNR=2.6						
	comp=Z,1.8nm,0.6s						
DZM	**Mont Dzumac**	**48.60**	**120**	P	**P**	**08 26 59.6**	**+0.5**
SONM	**Songino Array**	**49.28**	**346**	P	**P**	**08 27 04.8**	**+1.0**
SONM	**Songino Array**	**49.28**	**346**	P	**P**	**08 27 05.4**	**+1.5**
	comp=Z,12nm,0.8s,baz=166,slow=9.0,SNR=36						
SONM				PcP	**PcP**	**08 28 23.3**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=151,slow=4.0,SNR=5.9						
	comp=Z,12nm,0.8s						
WMQ	**Urumqi**	**53.08**	**329**	*e*P	**P**	**08 27 32.4**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,24nm,0.7s						
NIL	**Nilore**	**56.50**	**311**	P	**P**	**08 27 57.0**	**+0.2**
NIL				IAmb	IAmb	08 27 58.2	
	comp=Z,12nm,0.5s						
KSH	**Kashi**	**57.35**	**319**	P	**P**	**08 28 04.1**	**+1.3**
KSH				PcP	**PcP**	**08 28 55.4**	**+0.7**
KSH				pmax	pmax		
	comp=Z,12nm,0.7s						
TARG	**Taragay, Kyrgy**	**57.37**	**322**	P	**P**	**08 28 02.9**	**-0.3**
TARG				IAmb	IAmb	08 28 07.5	
	comp=Z,5.1nm,0.6s						
PRZ	**Przheval'sk**	**57.43**	**323**	P	**P**	**08 28 04.4**	**+1.0**
MK31	**Makanchi Array**	**57.89**	**329**	P	**P**	**08 28 07.2**	**+1.0**
MK31				IAmb	IAmb	08 28 07.9	
	comp=Z,14nm,0.5s						
MKAR	**Makanchi Array**	**57.89**	**329**	P	**P**	**08 28 07.6**	**+1.3**
MKAR	**Makanchi Array**	**57.89**	**329**	P	**P**	**08 28 07.7**	**+1.4**
	comp=Z,14nm,0.4s,baz=127,slow=8.6,SNR=88						
	comp=Z,14nm,0.4s						
MAKZ	**Makanchi**	**58.06**	**329**	P	**P**	**08 28 08.5**	**+1.1**
MAKZ				IAmb	IAmb	08 28 09.0	
	comp=Z,9.5nm,0.6s						
NRN	**Naryn**	**58.34**	**320**	P	**P**	**08 28 11.0**	**+1.1**
AAK	**Ala-Archa**	**59.93**	**321**	P	**P**	**08 28 21.5**	**+0.9**
AAK				IAmb	IAmb	08 28 22.6	
	comp=Z,7.3nm,0.7s						
KBL	**Kabul**	**60.05**	**310**	P	**P**	**08 28 21.9**	**+0.3**
DRK	**Karamyk**	**60.15**	**317**	P	**P**	**08 28 23.3**	**+1.0**
GAR	**Garm**	**60.96**	**316**	P	**P**	**08 28 27.1**	**-0.5**
BTK	**Batken**	**61.09**	**317**	P	**P**	**08 28 29.3**	**+0.9**
CHGR	**Chuyangaron**	**61.63**	**315**	P	**P**	**08 28 31.8**	**-0.3**
ZAA0	**Zalesovo Array**	**61.68**	**336**	P	**P**	**08 28 30.9**	**-1.0**
ZALV	**Zalesovo Beam**	**61.68**	**336**	P	**P**	**08 28 31.2**	**-0.7**
ZALV	**Zalesovo Beam**	**61.68**	**336**	P	**P**	**08 28 31.4**	**-0.5**
	comp=Z,3.6nm,0.5s,baz=130,slow=5.9,SNR=11						
ZALV				PcP	**PcP**	**08 29 10.3**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=113,slow=4.5,SNR=1.2						
	comp=Z,3.6nm,0.5s						
SIMJ	**Simiganj**	**61.74**	**315**	P	**P**	**08 28 32.7**	**-0.1**
SIMJ				IAmb	IAmb	08 28 33.5	
	comp=Z,7.7nm,1.0s						
RPZ	**Rata Peaks**	**61.80**	**142**	P	**P**	**08 28 33.5**	**+0.6**
KURBB	**Kurchatov Arra**	**62.26**	**330**	P	**P**	**08 28 36.2**	**+0.3**
	comp=Z,3.3nm,0.4s,baz=115,slow=6.0,SNR=12						
KURBB				PcP	**PcP**	**08 29 12.9**	**-1.0**
	comp=Z,0.9nm,0.2s,baz=126,slow=3.9,SNR=4.7						
	comp=Z,3.3nm,0.4s						
KKAR	**Karatay Array**	**62.70**	**320**	P	**P**	**08 28 39.2**	**+0.2**
RTZ	**Ruatahuna**	**63.43**	**134**	P	**P**	**08 28 44.1**	**+0.2**
BVAR	**Borovoye Array**	**67.77**	**329**	P	**P**	**08 29 10.9**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=119,slow=9.3,SNR=7.2						
	comp=Z,2.0nm,0.4s						
TIXI	**Tiksi**	**71.39**	**2**	P	**P**	**08 29 32.3**	**-0.8**
TIXI				IAmb	IAmb	08 29 33.3	
	comp=Z,18nm,1.1s						
KIWB	**Kanaga Island**	**72.14**	**35**	P	**P**	**08 29 39.2**	**+1.2**
NRIK	**Noril'sk**	**72.72**	**348**	P	**P**	**08 29 40.9**	**-0.1**
	comp=Z,4.7nm,0.5s,baz=147,slow=5.4,SNR=5.3						
	comp=Z,4.7nm,0.5s						
AKTO	**Aktyubinsk**	**73.53**	**323**	P	**P**	**08 29 45.2**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=94,slow=7.3,SNR=4.3						
	comp=Z,2.4nm,0.6s						
NIKH	**Nikolski High**	**77.29**	**35**	P	**P**	**08 30 08.7**	**+1.2**
	baz=253						
SPIA	**Saint Paul Isl**	**77.82**	**31**	P	**P**	**08 30 11.4**	**+1.1**
	baz=251						
P08K	**Saint George I**	**78.00**	**32**	P	**P**	**08 30 12.7**	**+1.3**
	baz=252						
UNV	**Unalaska Valle**	**78.89**	**35**	P	**P**	**08 30 17.7**	**+1.4**
	baz=255						
VNDA	**Vanda**	**80.65**	**172**	P	**P**	**08 30 24.9**	**-0.5**
VNDA	**Vanda**	**80.65**	**172**	P	**P**	**08 30 25.1**	**-0.3**
	comp=Z,5.0nm,0.7s,baz=315,slow=6.4,SNR=22						
	comp=Z,5.0nm,0.7s						
M11K	**Mekoryuk**	**80.79**	**29**	P	**P**	**08 30 28.2**	**+1.9**
	baz=254						
FALS	**False Pass**	**80.88**	**34**	P	**P**	**08 30 27.4**	**+0.5**
	baz=257						
TNA	**Tin City**	**81.56**	**23**	P	**P**	**08 30 31.6**	**+1.3**
	baz=252						
S12K	**Black Hills**	**81.82**	**34**	P	**P**	**08 30 33.3**	**+1.4**
	baz=258						
K13K	**Kusilvak Mount**	**81.92**	**27**	P	**P**	**08 30 33.9**	**+1.6**
	baz=255						
KBZ	**Khabaz**	**81.98**	**314**	P	**P**	**08 30 32.9**	**-0.1**
	comp=Z,3.8nm,0.8s,baz=114,slow=4.1,SNR=9.0						
	comp=Z,3.8nm,0.8s						
M13K	**Dall Lake**	**82.17**	**29**	P	**P**	**08 30 34.1**	**+0.5**
	baz=257						
F14K	**Arctic Creek**	**82.17**	**24**	P	**P**	**08 30 34.2**	**+0.7**
	baz=253						
ANM	**Nome**	**82.30**	**25**	P	**P**	**08 30 35.2**	**+0.9**
	baz=254						
J14K	**Nanvaranak Lak**	**82.62**	**27**	P	**P**	**08 30 36.9**	**+1.0**
	baz=256						
SDPT	**Sand Point**	**82.64**	**34**	P	**P**	**08 30 36.6**	**+0.5**
	baz=260						
L14K	**Kuka Creek**	**82.70**	**28**	P	**P**	**08 30 37.2**	**+1.0**
L14K				IAmb	IAmb	08 30 38.8	
	comp=Z,15nm,1.0s						
L14K	**Kuka Creek**	**82.70**	**28**	P	**P**	**08 30 37.4**	**+1.1**
	baz=257,SNR=5.7						
N14K	**Kuskokwak Cree**	**82.88**	**30**	P	**P**	**08 30 38.3**	**+1.1**
	baz=258						
F15K	**North Star Dit**	**82.91**	**24**	P	**P**	**08 30 38.3**	**+1.0**
	baz=255						
M14K	**Bethel**	**82.91**	**29**	P	**P**	**08 30 38.6**	**+1.1**
M14K				IAmb	IAmb	08 30 39.8	
	comp=Z,15nm,0.8s						
M14K	**Bethel**	**82.91**	**29**	P	**P**	**08 30 38.5**	**+1.1**
	baz=258						
O14K	**Tigyukauivet M**	**82.95**	**30**	P	**P**	**08 30 39.2**	**+1.6**
	baz=259						
G15K	**Niukluk**	**82.97**	**24**	P	**P**	**08 30 38.3**	**+0.7**
	baz=256						
CHNA	**Chernabura Isl**	**83.05**	**35**	P	**P**	**08 30 39.1**	**+0.8**
	baz=261						
S14K	**Fog Glacier**	**83.31**	**33**	P	**P**	**08 30 40.5**	**+0.8**
	baz=260						
L15K	**Ungalak Mounta**	**83.33**	**28**	P	**P**	**08 30 40.7**	**+1.2**
	baz=258						
C16K	**Lisburne Hills**	**83.34**	**21**	P	**P**	**08 30 40.9**	**+1.4**
	baz=254						
K15K	**Wolf Creek Mou**	**83.44**	**27**	P	**P**	**08 30 41.3**	**+1.2**
K15K				IAmb	IAmb	08 30 42.2	
	comp=Z,14nm,1.2s						
K15K	**Wolf Creek Mou**	**83.44**	**27**	P	**P**	**08 30 40.8**	**+0.7**
	baz=258						
M15K	**Kasigluk River**	**83.51**	**29**	P	**P**	**08 30 41.8**	**+1.3**
	baz=259						
H16K	**Elim**	**83.63**	**25**	P	**P**	**08 30 42.4**	**+1.3**
	baz=257						
O15K	**Ungalikthiuk R**	**83.66**	**30**	P	**P**	**08 30 41.9**	**+0.6**
	baz=260						
N15K	**Kwethluk River**	**83.71**	**29**	P	**P**	**08 30 42.6**	**+1.1**
N15K				IAmb	IAmb	08 30 44.2	
	comp=Z,14nm,0.9s						
N15K	**Kwethluk River**	**83.71**	**29**	P	**P**	**08 30 43.1**	**+1.5**
	baz=260						
G16K	**Koyuk River**	**83.75**	**24**	P	**P**	**08 30 42.6**	**+1.0**
G16K	**Koyuk River**	**83.75**	**24**	P	**P**	**08 30 43.0**	**+1.3**
	baz=257						
CHGN	**Chignik**	**83.94**	**33**	P	**P**	**08 30 43.5**	**+0.7**
	baz=261						
D17K	**Noatak River**	**84.01**	**22**	P	**P**	**08 30 44.0**	**+1.1**
	baz=256						
J16K	**Anvik River**	**84.06**	**26**	P	**P**	**08 30 44.3**	**+1.0**
	baz=259						
I17K	**Unalakleet**	**84.13**	**26**	P	**P**	**08 30 45.0**	**+1.4**
	baz=259						
RDOG	**Red Dog Mine**	**84.16**	**21**	P	**P**	**08 30 45.6**	**+1.9**
	baz=256						
C17K	**DeLong Mountai**	**84.17**	**21**	P	**P**	**08 30 45.5**	**+1.8**
	baz=256						
L16K	**Owhat River**	**84.28**	**28**	P	**P**	**08 30 45.8**	**+1.5**
	baz=260						
E17K	**Hotham Inlet**	**84.34**	**22**	P	**P**	**08 30 46.1**	**+1.6**
	baz=257						
M16K	**Timber Creek**	**84.41**	**29**	P	**P**	**08 30 46.6**	**+1.5**
	baz=260						
N16K	**Nishlik Lake**	**84.41**	**29**	P	**P**	**08 30 46.5**	**+1.4**
	baz=261						
F17K	**Baldwin Pennin**	**84.43**	**23**	P	**P**	**08 30 46.6**	**+1.6**
	baz=258						
G17K	**Kiwalik Mounta**	**84.47**	**24**	P	**P**	**08 30 46.5**	**+1.2**
	baz=258						
O16K	**Kokwok River B**	**84.61**	**30**	P	**P**	**08 30 47.0**	**+1.0**
	baz=261						
H17K	**Granite Mounta**	**84.67**	**25**	P	**P**	**08 30 47.2**	**+0.9**
H17K	**Granite Mounta**	**84.67**	**25**	P	**P**	**08 30 46.9**	**+0.6**
	baz=259,SNR=7.2						
J17K	**VABM Dome**	**84.75**	**26**	P	**P**	**08 30 48.4**	**+1.7**
	baz=260						
B18K	**Kokolik River**	**84.86**	**20**	P	**P**	**08 30 48.2**	**+1.1**
	baz=257						
E18K	**Tukpahlearik C**	**84.88**	**22**	P	**P**	**08 30 48.9**	**+1.6**
	baz=258						
L17K	**Donlin**	**84.90**	**28**	P	**P**	**08 30 48.5**	**+1.0**
	baz=261						
C18K	**Utukok River**	**84.92**	**21**	P	**P**	**08 30 48.9**	**+1.4**
	baz=258						
K17K	**Iditarod**	**84.99**	**27**	P	**P**	**08 30 49.4**	**+1.4**
	baz=261						
F18K	**Selawik**	**85.09**	**23**	P	**P**	**08 30 50.1**	**+1.8**
	baz=259						
N17K	**Nushagak Hills**	**85.19**	**29**	P	**P**	**08 30 50.1**	**+1.2**
	baz=262						
M17K	**Holitna River**	**85.19**	**28**	P	**P**	**08 30 50.1**	**+1.2**
	baz=262						
R17L	**Mt. Peulik Vol**	**85.24**	**32**	P	**P**	**08 30 49.6**	**+0.3**
	baz=263						
A19K	**Wainwright**	**85.29**	**19**	P	**P**	**08 30 50.6**	**+1.4**
	baz=258						
H18K	**Honhosa River**	**85.35**	**25**	P	**P**	**08 30 50.8**	**+1.1**
	baz=261						
G18K	**Tagagawik**	**85.36**	**24**	P	**P**	**08 30 51.1**	**+1.3**
	baz=260						
P17K	**Kvichak River**	**85.39**	**31**	P	**P**	**08 30 51.0**	**+1.1**
	baz=263						
CHIR	**Chirikof Islan**	**85.43**	**34**	P	**P**	**08 30 50.6**	**+0.4**
	baz=264						
Q17K	**Contact Creek**	**85.56**	**32**	P	**P**	**08 30 51.4**	**+0.4**
	baz=263						
C19K	**Lookout Ridge**	**85.58**	**21**	P	**P**	**08 30 51.8**	**+1.0**
	baz=259						
L18K	**Granite Mounta**	**85.66**	**28**	P	**P**	**08 30 52.3**	**+1.1**
	baz=262						
J18K	**Innoko River**	**85.81**	**26**	P	**P**	**08 30 52.6**	**+0.6**
	baz=262						
N18K	**Kilae Creek**	**85.84**	**29**	P	**P**	**08 30 52.6**	**+0.4**
	baz=263						
M18K	**Stony River**	**85.97**	**28**	P	**P**	**08 30 53.3**	**+0.5**
	baz=263						
D19K	**Kuna River**	**86.00**	**21**	P	**P**	**08 30 53.3**	**+0.4**
	baz=261						
P18K	**Big Mountain,**	**86.03**	**31**	P	**P**	**08 30 52.9**	**-0.3**
	baz=264						
G19K	**Purcell Mounta**	**86.03**	**24**	P	**P**	**08 30 53.2**	**+0.2**
	baz=262,SNR=7.1						
Q18K	**Katmai Hardscr**	**86.06**	**31**	P	**P**	**08 30 54.0**	**+0.6**
	baz=264						
O18K	**Koktuh Hills**	**86.09**	**30**	P	**P**	**08 30 53.5**	**+0.1**
	baz=264						
E19K	**Redstone River**	**86.17**	**22**	P	**P**	**08 30 54.5**	**+0.9**
E19K	**Redstone River**	**86.17**	**22**	P	**P**	**08 30 54.2**	**+0.5**
	baz=262						
H19K	**Roundabout Mou**	**86.20**	**24**	P	**P**	**08 30 55.0**	**+1.2**
H19K				IAmb	IAmb	08 30 56.0	
	comp=Z,7.4nm,0.7s						
H19K	**Roundabout Mou**	**86.20**	**24**	P	**P**	**08 30 54.0**	**+0.2**
	baz=262,SNR=10						
R18K	**Karluk**	**86.25**	**32**	P	**P**	**08 30 55.4**	**+1.2**
	baz=265						
SII	**Sitkinak Islan**	**86.31**	**33**	P	**P**	**08 30 55.1**	**+0.5**
SII	**Sitkinak Islan**	**86.31**	**33**	P	**P**	**08 30 54.8**	**+0.2**
	baz=265						
J19K	**Poorman**	**86.36**	**26**	P	**P**	**08 30 55.1**	**+0.5**
J19K	**Poorman**	**86.36**	**26**	P	**P**	**08 30 54.9**	**+0.3**
	baz=263						
L19K	**White Mountain**	**86.51**	**28**	P	**P**	**08 30 55.9

E22K	Anaktuvuk Pass	88.28	22	P	P	08 31 04.4	+0.5
E22K	Anaktuvuk Pass	88.28	22	P	P	08 31 04.6	+0.7
	baz=266						
H22K	Ishtalitna Cre	88.33	24	P	P	08 31 05.1	+1.1
	baz=267						
G22K	Bettles	88.33	23	P	P	08 31 04.8	+0.8
	baz=267						
BRSE	Bradley Lake S	88.33	30	P	P	08 31 04.9	+0.7
	baz=268						
SUA	Susitna One	88.40	29	P	P	08 31 04.2	-0.4
	baz=268						
BPAW	Bear Paw Mtn.	88.40	26	P	P	08 31 04.8	+0.4
	baz=267						
MLY	Manley	88.55	25	P	P	08 31 05.5	+0.3
	baz=268						
BRTR	Keskin Array B	88.61	310	P	P	08 31 05.0	-1.1
	comp=Z,1.8nm,0.8s,baz=116,slow=5.6,SNR=7.7						
	comp=Z,1.8nm,0.8s						
D23K	Nanushuk River	88.74	21	P	P	08 31 06.7	+0.8
	baz=268						
C23K	Itkillik River	88.81	20	P	P	08 31 07.2	+1.1
	baz=268						
COLD	Coldfoot	88.86	23	P	P	08 31 07.9	+1.5
	baz=268						
O22K	Cooper Landing	88.86	30	P	P	08 31 07.6	+1.0
	baz=269						
RC01	Rabbit Creek A	88.87	29	P	P	08 31 07.7	+1.0
	baz=269						
G23K	Bananza Creek	88.91	23	P	P	08 31 07.7	+0.9
G23K	Bananza Creek	88.91	23	P	P	08 31 07.9	+1.1
	baz=268,SNR=7.0						
SEW	Seward	88.99	30	P	P	08 31 08.3	+1.1
	baz=269						
H23K	Yukon River	89.08	24	P	P	08 31 08.0	+0.4
H23K				IAmb	IAmb	08 31 09.4	
	comp=Z,4.1nm,0.8s						
H23K	Yukon River	89.08	24	P	P	08 31 08.4	+0.9
	baz=269,SNR=8.0						
E23K	Chandalar	89.10	22	P	P	08 31 08.6	+0.9
	baz=269						
TOLK	Toolik Lake Re	89.14	21	P	P	08 31 08.8	+0.9
	baz=269						
I23K	Minto, Yukon-K	89.14	25	P	P	08 31 08.0	+0.2
I23K				IAmb	IAmb	08 31 09.0	
	comp=Z,7.9nm,0.9s						
I23K	Minto, Yukon-K	89.14	25	P	P	08 31 08.7	+0.9
	baz=269						
PMR	Palmer	89.18	29	P	P	08 31 08.4	+0.4
	baz=269						
NEA2	Nenana	89.25	26	P	P	08 31 08.7	+0.4
	baz=269						
MCK	McKinley	89.30	26	P	P	08 31 08.4	-0.3
	baz=269						
D24K	Happy Valley	89.42	21	P	P	08 31 09.8	+0.8
	baz=269						
WAT1	Susitna Watana	89.46	27	P	P	08 31 10.3	+0.8
	baz=270						
C24K	Franklin Bluff	89.47	20	P	P	08 31 09.8	+0.6
	baz=269						
KNK	Knik Glacier	89.50	29	P	P	08 31 10.3	+0.7
	baz=270						
E24K	Your Creek	89.53	22	P	P	08 31 10.0	+0.3
	baz=270						
SML	Sawmill	89.56	28	P	P	08 31 10.4	+0.5
	baz=270						
F24K	Squaw Lake	89.75	23	P	P	08 31 11.4	+0.7
	baz=270						
H24K	Noodor Dome	89.76	24	P	P	08 31 11.4	+0.6
H24K	Noodor Dome	89.76	24	P	P	08 31 11.5	+0.7
	baz=270,SNR=5.5						
CCB	Clear Creek Bu	89.80	26	P	P	08 31 10.4	-0.5
WAT6	Susitna Watana	89.84	28	P	P	08 31 11.3	0.0
	baz=270						
M23K	Glacier View	89.85	28	P	P	08 31 11.3	0.0
	baz=270						
G24K	Hadweenzic Riv	89.92	23	P	P	08 31 11.9	+0.4
G24K	Hadweenzic Riv	89.92	23	P	P	08 31 12.1	+0.6
	baz=271						
POKR	Poker Plat Res	89.95	25	P	P	08 31 11.3	-0.3
	baz=271						
DHY	Denali Highway	90.00	27	P	P	08 31 12.5	+0.5
	baz=271						
P23K	Montague Islan	90.02	30	P	P	08 31 12.6	+0.6
	baz=271						
SCM	Sheep Creek Mo	90.04	28	P	P	08 31 12.1	0.0
	baz=271						
GLI	Glacier Island	90.16	29	P	P	08 31 12.4	-0.3
	baz=271						
HDA	Harding Lake	90.17	26	P	P	08 31 11.7	-0.9
	baz=271						
ILAR	Eielson Array	90.19	25	P	P	08 31 11.2	-1.6
	comp=Z,0.5nm,0.6s,baz=234,slow=5.4,SNR=12						
	comp=Z,0.5nm,0.6s						
QSPA	South Pole Qui	90.21	180	P	P	08 31 12.5	-0.5
QSPA				IAmb	IAmb	08 31 13.1	
	comp=Z,4.2nm,0.7s						
QSPA	South Pole Qui	90.21	180	P	P	08 31 12.5	-0.5
	comp=Z,2.8nm,0.5s,baz=253,slow=0.9,SNR=24						
	comp=Z,2.8nm,0.5s						
D25K	Kavik River	90.29	21	P	P	08 31 13.7	+0.6
	baz=272						
G25K	Bearman Lake	90.47	23	P	P	08 31 14.9	+1.0
	baz=272						
Q23K	Middleton Isla	90.56	31	P	P	08 31 15.3	+0.8
	baz=272						
M24K	Tolsona, Glenn	90.58	28	P	P	08 31 15.3	+0.7
	baz=272						
H25L	Birch Creek	90.59	24	P	P	08 31 15.2	+0.6
	baz=272						
F25K	Christian Rive	90.61	23	P	P	08 31 15.4	+0.6
	baz=272						
K24K	Donnelly Dome	90.70	26	P	P	08 31 15.3	+0.1
	baz=272						
KLU	Klutina	90.71	29	P	P	08 31 15.4	0.0
KLU				IAmb	IAmb	08 31 16.2	
	comp=Z,3.5nm,0.8s						
KLU	Klutina	90.71	29	P	P	08 31 15.4	0.0
	baz=272						
PRP	Porcupine Dome	90.75	25	P	P	08 31 15.2	-0.3
	baz=272						
J25K	Salcha River,	90.85	26	P	P	08 31 15.5	-0.3
	baz=272						
PAX	Paxson	90.87	27	P	P	08 31 16.5	+0.4
	baz=272						
BMAR	Burnt Mountain	91.03	23	P	P	08 31 18.1	+1.5
HARP	HAARP	91.04	28	P	P	08 31 17.0	+0.2
	baz=273						
F26K	Sheenjek River	91.18	22	P	P	08 31 17.5	+0.2
	baz=274						
C27K	Jago River	91.21	20	P	P	08 31 18.4	+1.1
	baz=274						
N25K	Chitina, Valde	91.34	29	P	P	08 31 19.0	+0.7
	baz=273						
G26K	Porcupine Rive	91.37	23	P	P	08 31 19.0	+0.8
	baz=274						
BMRM	Bremner River	91.37	29	P	P	08 31 18.7	+0.3
	baz=273						
SCRK	Sand Creek	91.48	26	P	P	08 31 19.4	+0.4
	baz=274						
AKASG	Malin Array Be	91.59	321	P	P	08 31 17.8	-1.8
	comp=Z,0.5nm,0.4s,baz=73,slow=4.6,SNR=5.5						
	comp=Z,0.5nm,0.4s						
J26L	Joseph Creek	91.63	26	P	P	08 31 19.6	0.0
J26L	Joseph Creek	91.63	26	P	P	08 31 19.8	+0.3
	baz=274						
GLB	Gilahina Butte	91.73	29	P	P	08 31 20.0	0.0
GLB				IAmb	IAmb	08 31 21.1	
	comp=Z,4.9nm,1.1s						
I26K	Coal Creek Min	91.75	25	P	P	08 31 21.3	+1.3
	baz=274						
L26K	Log Cabin Wild	91.83	27	P	P	08 31 20.6	+0.2
	baz=274						
ARCES	ARCESS Array B	92.04	340	P	P	08 31 19.7	-1.6
	comp=Z,0.4nm,0.4s,baz=86,slow=3.6,SNR=9.5						
ARCES				PKKP	PKKPdf	08 48 35.9	-0.8
	comp=Z,0.4nm,0.5s,baz=321,slow=1.3,SNR=5.0						
	comp=Z,0.4nm,0.4s						
M26K	Nabesna, AK	92.04	28	P	P	08 31 22.2	+0.7
	baz=274						
E27K	Coleen River	92.10	22	P	P	08 31 21.9	+0.3
E27K	Coleen River	92.10	22	P	P	08 31 22.4	+0.8
	baz=276						
MCARA	McCarthy VSAT	92.11	29	P	P	08 31 22.5	+0.8
	baz=274						
CRQE	Cirque	92.13	29	P	P	08 31 23.0	+1.1
	baz=274						
D27M	Malcolm River	92.21	21	P	P	08 31 22.7	+0.6
	baz=277						
G27K	Doyon Strip	92.22	23	P	P	08 31 22.7	+0.6
	baz=276						
K27K	Chicken	92.32	26	P	P	08 31 23.5	+0.9
	baz=275						
H27K	Steamboat Moun	92.33	24	P	P	08 31 23.5	+0.8
	baz=276						
I27K	Kandik River	92.36	24	P	P	08 31 23.4	+0.5
	baz=276,SNR=9.6						
L27K	Beaver Creek,	92.52	27	P	P	08 31 24.6	+1.0
L27K				IAmb	IAmb	08 31 25.4	
	comp=Z,5.1nm,0.9s						
L27K	Beaver Creek,	92.52	27	P	P	08 31 24.4	+0.7
	baz=276						
BCAR	Beaver Creek A	92.54	27	P	P	08 31 24.3	+0.6
M27K	Edge Creek, AK	92.57	28	P	P	08 31 24.3	+0.4
	baz=276						
FINES	FINESS Array B	92.63	331	P	P	08 31 22.9	-1.2
	comp=Z,0.9nm,0.7s,baz=31,slow=4.4,SNR=4.6						
	comp=Z,0.9nm,0.7s						
EGAK	Eagle	92.64	25	P	P	08 31 24.4	+0.4
	baz=276						
E28M	Babbage River	92.81	21	P	P	08 31 24.7	-0.1
	baz=278						
F28M	Old Crow	92.82	22	P	P	08 31 25.5	+0.6
	baz=278						
CTG	Chitna Glacier	92.96	29	P	P	08 31 26.1	+0.3
	baz=276						
D28M	Stokes Point	92.99	21	P	P	08 31 26.1	+0.6
	baz=279						
I28M	Miner Creek	93.07	24	P	P	08 31 26.2	0.0
	baz=277,SNR=9.2						
YUK3	Moose Creek	93.29	28	P	P	08 31 27.2	-0.2
	baz=277						
E29M	Blow River	93.44	21	P	P	08 31 28.3	+0.6
	baz=280						
DAWY	Dawson	93.49	26	P	P	08 31 28.4	+0.3
DAWY	Dawson	93.49	26	P	P	08 31 28.5	+0.5
	baz=278						
O28M	Mount Upton	93.54	29	P	P	08 31 29.2	+0.6
	baz=277						
PINM	Pinnacle	93.59	30	P	P	08 31 29.5	+0.8
	baz=277						
H29M	Whitestone	93.60	24	P	P	08 31 29.3	+0.8
H29M				IAmb	IAmb	08 31 29.5	
	comp=Z,4.2nm,0.8s						
H29M	Whitestone	93.60	24	P	P	08 31 28.7	+0.2
	baz=279						
G29M	Pine Creek	93.63	23	P	P	08 31 29.2	+0.6
G29M				IAmb	IAmb	08 31 29.7	
	comp=Z,8.7nm,1.1s						
G29M	Pine Creek	93.63	23	P	P	08 31 28.9	+0.3
	baz=279						
YUK8	Steele Glacier	93.68	29	P	P	08 31 29.7	+0.4
	baz=277						
I29M	Ogilvie Camp,	93.76	24	P	P	08 31 29.5	+0.3
	baz=279,SNR=6.0						
PNL	Peninsula	94.07	30	P	P	08 31 31.0	+0.2
	baz=278						
M29M	Somme Creek	94.14	27	P	P	08 31 31.9	+0.7
M29M				IAmb	IAmb	08 31 33.0	
	comp=Z,7.4nm,0.7s						
M29M	Somme Creek	94.14	27	P	P	08 31 31.8	+0.7
	baz=279,SNR=15						
L29M	L29M	94.19	27	P	P	08 31 32.4	+1.1
	baz=279,SNR=12						
YUK4	Talbot Arm	94.21	28	P	P	08 31 32.7	+1.0
	baz=278						
EPYK	Eagle Plains	94.23	23	P	P	08 31 31.8	+0.4
	baz=280						
G30M	tAoh Zraii Nji	94.32	23	P	P	08 31 32.3	+0.5
	baz=281						
K29M	Barlow Dome	94.34	26	P	P	08 31 32.6	+0.5
K29M				IAmb	IAmb	08 31 33.4	
	comp=Z,4.9nm,0.8s						
K29M	Barlow Dome	94.34	26	P	P	08 31 32.7	+0.6
	baz=280,SNR=7.5						
F30M	Barrier River	94.36	22	P	P	08 31 32.5	+0.5
	baz=281						
O29M	Mount Kennedy	94.39	30	P	P	08 31 32.7	+0.3
	baz=278						
YUK6	Outpost Mounta	94.41	29	P	P	08 31 33.3	+0.7
	baz=278						
BURAR	Bucovina Array	94.43	318	P	P	08 31 31.7	-1.1
BUR08	Bucovina Ar. S	94.43	318	P	P	08 31 32.6	-0.3
BUR08				IAmb	IAmb	08 31 32.9	
	comp=Z,2.8nm,0.7s						
I30M	Mount Dempster	94.58	24	P	P	08 31 33.4	+0.2
I30M				IAmb	IAmb	08 31 33.9	
	comp=Z,2.7nm,0.8s						
I30M	Mount Dempster	94.58	24	P	P	08 31 33.4	+0.2
	baz=281,SNR=5.2						
J30M	Hart River	94.72	25	P	P	08 31 34.4	+0.5
	baz=281						
M30M	Minto, Yukon	94.88	27	P	P	08 31 34.8	+0.4
	baz=280,SNR=6.7						
P29M	Windy Craggy	94.91	30	P	P	08 31 35.2	+0.6
	baz=279						
N30M	Aishikik Lake	94.93	28	P	P	08 31 36.0	+1.2
N30M				IAmb	IAmb	08 31 36.5	
	comp=Z,6.6nm,0.8s						
N30M	Aishikik Lake	94.93	28	P	P	08 31 35.1	+0.3
	baz=280,SNR=8.8						
INK	Inuvik	95.04	21	P	P	08 31 35.2	+0.2
	baz=284						
G31M	Satah River	95.08	23	P	P	08 31 35.0	-0.2
G31M				IAmb	IAmb	08 31 35.0	
	comp=Z,3.5nm,1.1s						
G31M	Satah River	95.08	23	P	P	08 31 35.4	+0.2
	baz=283						
MAYO	Mayo, Yukon	95.10	26	P	P	08 31 35.6	+0.2
	baz=281						
F31M	Tsiigehtchic	95.16	22	P	P	08 31 35.6	+0.1
	baz=283						
P30M	Million Dollar	95.22	30	P	P	08 31 36.8	+0.8
	baz=280						
O30N	Mendenhall	95.53	29	P	P	08 31 37.9	+0.4
	baz=280,SNR=5.3						
N31M	Braeburn, Yuko	95.55	28	P	P	08 31 37.9	+0.3
	baz=281,SNR=9.5						
PLBC	Pleasant Camp	95.63	30	P	P	08 31 38.0	+0.1
	baz=280						
S31K	Pelican	95.96	32	P	P	08 31 40.2	+0.8
	baz=280						
M31M	Drury Creek, Y	96.05	27	P	P	08 31 39.8	0.0
M31M				IAmb	IAmb	08 31 40.9	
	comp=Z,2.6nm,0.8s						
M31M	Drury Creek, Y	96.05	27	P	P	08 31 40.2	+0.4
	baz=282						
WHY	Whitehorse	96.14	29	P	P	08 31 40.7	+0.4
	baz=282						
SKAG	Skagway	96.15	30	P	P	08 31 40.8	+0.6
	baz=281						
FARO	Faro, Yukon	96.52	27	P	P	08 31 42.8	+0.9
FARO	Faro, Yukon	96.52	27	P	P	08 31 42.2	+0.3
	baz=283,SNR=15						
SIT	Sitka	96.61	32	P	P	08 31 43.8	+1.4
	baz=281						
R32K	Eaglecrest	96.80	31	P	P	08 31 44.0	+0.8
	baz=282						
N32M	Quiet Lake	96.89	28	P	P	08 31 44.6	+0.9
N32M	Quiet Lake	96.89	28	P	P	08 31 43.9	+0.2
	baz=283,SNR=9.5						
S32K	Killisnoo	96.93	32	P	P	08 31 44.6	+0.9
	baz=282						
P32M	Atlin	96.93	30	P	P	08 31 44.6	+0.8
	baz=282						
P33M	Teslin, Yukon	97.23	29	P	Pdif	08 31 45.9	+0.6
P33M				IAmb	IAmb	08 31 46.7	
	comp=Z,3.6nm,1.1s						
P33M	Teslin, Yukon	97.23	29	P	Pdif	08 31 45.9	+0.6
	baz=283						
C36M	Paulatuk	97.98	19	P	P	08 31 48.5	+0.3
	baz=293						
CRAG	Craig	98.13	34	P	Pdif	08 31 50.0	+0.7
	baz=282						
R33M	Jennings River	98.34	30	P	P	08 31 50.4	+0.1
	baz=285						
WRAK	Wrangell Islan	98.35	33	P	P	08 31 50.6	+0.4
	baz=283						
HFS	Hagfors	98.83	331	P	P	08 31 50.5	-1.8
	comp=Z,0.4nm,0.4s,baz=100,slow=3.5,SNR=4.9						
	comp=Z,0.4nm,0.4s						
V35K	Ketchikan	99.00	34	P	Pdif	08 31 53.9	+0.8
	baz=284						
TROLL	Troll, Antarti	99.08	196	⇑Pdiff	Pdif	08 31 52.5	-0.8
	comp=Z,32nm,0.7s						
SNAA	Sanae	100.70	195	⇑Pdiff	Pdif	08 31 56.4	-4.1
	comp=Z,17nm,0.7s						
SNAA	Sanae	100.70	195	P	Pdif	08 31 59.7	-0.8
	comp=Z,0.7nm,0.7s,baz=182,slow=3.6,SNR=6.0						
SNAA				PKKPbc	PKKPbc	08 48 12.0	-4.8
	comp=Z,0.6nm,1.1s,baz=315,slow=2.9,SNR=6.6						
MSO	Missoula	112.35	38	P	PKiKP	08 36 47.8	0.0
	baz=296						
PKM	Mcpherson Peak	112.62	52	P	PKiKP	08 36 48.1	-0.7
	baz=287						
NVAR	Mina Array Bea	112.65	48	PKiKP	PKiKP	08 36 49.2	+0.4
	comp=Z,0.3nm,0.6s,baz=270,slow=0.8,SNR=3.9						
SBC	Santa Barbara	112.83	52	P	PKiKP	08 36 48.6	-0.3
	baz=287						
VES	Vestal, Richgr	112.90	51	P	PKiKP	08 36 48.8	-0.3
	baz=288						
SCZ2	Santa Cruz Isl	113.02	53	P	PKiKP	08 36 48.5	-0.9
	baz=287						
SNCC	San Nicolas Is	113.32	53	P	PKiKP	08 36 49.3	-0.7
	baz=287						
ISA	Isabella, Lake	113.42	51	P	PKiKP	08 36 49.3	-0.8
	baz=288						
HLID	Hailey	113.45	41	P	PKiKP	08 36 49.3	-0.8
	baz=295						
CWC	Cottonwood Cre	113.48	50	P	PKiKP	08 36 50.1	-0.3
	baz=289						
MPMC	Manual Prospec	114.05	50	P	PKPdf	08 36 50.9	-0.7
	baz=289						
CIS	Catalina Islan	114.17	53	P	PKPdf	08 36 51.1	-0.5
	baz=288						
EGMT	Eagleton	114.28	35	P	PKPdf	08 36 50.7	-0.8
	baz=300						
BOZ	Bozeman (W)	114.34	38	P	PKPdf	08 36 51.8	+0.1
	baz=298						
FURC	Furnace Creek,	114.39	49	P	PKiKP	08 36 52.3	+0.5
	baz=290						
BFSC	Mount Baldy Ra	114.51	52	P	PKiKP	08 36 52.7	+0.3
	baz=288						
R11B	Troy Canyon, C	114.68	47	P	PKiKP	08 36 52.2	-0.5
	baz=292						
TPNV	Topopah Spring	114.69	49	P	PKiKP	08 36 52.2	-0.5
	baz=291						
HEC	Hector,Ludlow	115.35	51	P	PKiKP	08 36 53.8	-0.1
	baz=290						
H17A	Grant Village	115.56	39	P	PKiKP	08 36 54.7	+0.5
	baz=298						
PFO	Pinyon Flats O	115.65	52	P	PKPdf	08 36 54.5	-0.1
	baz=289						
TPFO	Pinon Flats	115.66	52	P	PKPdf	08 36 54.2	-0.4
	baz=289						
BELC	Belle Mtn. Jos	115.89	52	P	PKPdf	08 36 54.6	-0.4
	baz=289						
MONP2	Monument Peak	115.91	53	P	PKiKP	08 36 55.5	+0.3
	baz=289						
DUG	Dugway, Tooele	115.94	44	P	PKiKP	08 36 55.4	+0.4
	baz=295						
ESDC	Sonseca Array	116.80	316	PKKPab	PKKPab	08 47 28.6	+0.2
	comp=Z,0.2nm,0.4s,baz=319,slow=3.7,SNR=4.4						
BW06	Boulder Array	116.98	40	P	PKPdf	08 36 57.1	+0.1
	baz=298						
PDAR	Pinedale Array	116.98	40	PKKPab	PKKPab	08 47 25.4	-2.4
	comp=Z,0.5nm,0.6s,baz=120,slow=6.4,SNR=6.7						
LAO	LASA Array	117.03	35	P	PKiKP	08 36 57.0	+0.3
	baz=303						
DGMT	Dagmar	117.15	33	P	PKiKP	08 36 57.3	+0.4
	baz=306						
PDMCI	Parker Dam,Lak	117.23	51	P	PKiKP	08 36 57.6	+0.2
	baz=291						
WUAZ	Wupatki	118.88	48	P	PKPdf	08 37 00.9	+0.1
	baz=294						
K22A	Casper	118.98	39	P	PKPdf	08 37 00.8	0.0
	baz=301						
214A	Organ Pipe Nat	119.10	53	P	PKPdf	08 37 01.0	-0.2
	baz=291						
O20A	White River Ci	119.10	42	P	PKPdf	08 37 00.5	-0.7
	baz=298						
TORD	Torodi Ar. Bea	119.44	285	PKP	PKPdf	08 37 00.7	-1.5
	comp=Z,1.7nm,0.4s,baz=99,slow=2.7,SNR=25						
TORD				PKKPbc	PKKPab	08 47 18.0	+1.1
	comp=Z,0.5nm,1.1s,baz=270,slow=0.1,SNR=3.8						
RSSD	Black Hills	119.73	37	P	PKPdf	08 37 01.5	-0.7
	baz=304						
ULM	Lac du Bonnet	120.16	27	PKP	PKPdf	08 37 01.2	-1.3
	comp=Z,1.7nm,0.7s,baz=0.0,slow=5.1,SNR=2.6						
N23A	Red Feather La	120.26	41	P	PKPdf	08 37 02.8	-0.6
	baz=301						
MVCO	Mesa Verde	120.27	46	P	PKPdf	08 37 03.1	-0.4
	baz=297						
TUC	Tucson	120.57	52	P	PKPdf	08 37 03.3	-0.7
	baz=292						
ISCO	Idaho Springs	121.03	42	P	PKPdf	08 37 05.2	+0.2
	baz=300						
S22A	4UR Ranch, Cre	121.20	44	P	PKiKP	08 37 05.6	+0.1
	baz=298						
AGMN	Agassiz Nation	121.53	29	P	PKPdf	08 37 05.3	0.0
	baz=314						
ANMO	Albuquerque	122.77	47	P	PKPdf	08 37 08.3	0.0
	baz=297						
121A	Cookes Peak, D	122.81	50	P	PKPdf	08 37 07.8	-0.6
	baz=295						
T25A	Trinidad	123.18	44	P	PKPdf	08 37 08.9	-0.1
	baz=300						
EYMN	Ely	123.82	27	P	PKPdf	08 37 09.4	-0.3
	baz=318						
ECSD	EROS Data Cent	124.22	33	P	PKPdf	08 37 10.3	-0.3
	baz=311						
SCHQ	Schefferville	124.58	6	PKP	PKPdf	08 37 10.8	-0.2
	comp=Z,3.0nm,0.6s,baz=256,slow=0.4,SNR=7.5						
MNTX	Cornudas Mount	125.01	50	P	PKPdf	08 37 12.6	+0.1
	baz=296						
SPMN	Marine on St.	125.19	30	P	PKiKP	08 37 12.8	0.0
	baz=316						
CBKS	Cedar Bluff	125.39	40	P	PKiKP	08 37 13.6	+0.1
	baz=305						
MSTX	Muleshoe	125.91	46	P	PKPdf	08 37 14.6	+0.3
	baz=300						
KIC	Kosan Boka	126.52	278	⇓iPKIKP	PKPdf	08 37 15.0	-0.8
	comp=Z,10nm,0.6s						
DBIC	Dimbokro	126.60	278	PKP	PKPdf	08 37 15.4	-0.6
	comp=Z,3.3nm,0.4s,baz=81,slow=2.0,SNR=13						
TIC	Toumodi	126.77	278	⇓iPKIKP	PKPdf	08 37 15.4	-0.9
	comp=Z,7.3nm,0.3s						
LIC	Lamto	126.81	278	⇓iPKIKP	PKPdf	08 37 15.4	-1.0
	comp=Z,16nm,0.3s						
TXAR	Lajitas Array	127.37	52	PKP	PKiKP	08 37 17.8	+0.1
	comp=Z,0.5nm,0.7s,baz=275,slow=0.6,SNR=7.2						
JFWS	Jewell Farm	128.13	30	P	PKPdf	08 37 17.8	-0.3
	baz=317						
WMOK	Wichita Mounta	128.32	43	P	PKPdf	08 37 19.2	+0.4
	baz=304						
GLMI	Grayling	129.22	24	P	PKiKP	08 37 21.0	+0.1
	baz=325						
TUL3	Leonard	129.64	40	P	PKPdf	08 37 21.2	0.0
	baz=307						
JCT	Junction City	129.81	49	P	PKPdf	08 37 21.8	+0.1
	baz=300						
L44A	Lake County Fo	129.83	29	P	PKiKP	08 37 21.9	-0.2
	baz=320						
HDIL	Hopedale	130.34	31	P	PKPdf	08 37 22.5	+0.2
	baz=317						
WHTX	Lake Whitney,	130.75	46	P	PKPdf	08 37 23.2	-0.2
	baz=303						
CCM	Cathedral Cave	131.04	35	P	PKPdf	08 37 24.0	+0.2
	baz=313						
833A	Chaparral WMA,	131.17	51	P	PKPdf	08 37 23.6	-0.6
	baz=298						
MIAR	Mount Ida	131.91	40	P	PKPdf	08 37 25.1	-0.4
	baz=309						
O48B	Farmland	132.63	28	P	PKPdf	08 37 26.5	-0.2
	baz=322						
LONY	Lake Ozonia	132.90	16	P	PKPdf	08 37 27.0	-0.1
	baz=337						
ERPA	Erie	133.33	23	P	PKiKP	08 37 28.8	-0.4
	baz=329						
P49A	Miami Univ. Ec	133.41

SSPA	Standing Stone	135.41	22	P	PKiKP	08 37 33.3	-0.2
	baz=331						
L61B	Northampton	135.43	16	P	PKiKP	08 37 33.4	0.0
	baz=339						
PAL	Palisades	136.41	18	P	PKPdf	08 37 34.7	+0.9
	baz=337						
BLA	Blacksburg	137.28	27	P	PKiKP	08 37 36.8	-0.7
	baz=326						
PLCA	Paso Flores	138.14	166	PKP	PKPdf	08 37 37.1	+0.1
	comp=Z,1.4nm,0.8s,baz=203,slow=7.7,SNR=3.5						
CPUP	Villa Florida	154.10	181	PKPbc	PKPbc	08 38 11.9	-0.3
	comp=Z,1.2nm,0.6s,baz=179,slow=2.7,SNR=3.7						
CPUP				PKPab	PKPab	08 38 25.7	-0.6
	comp=Z,1.8nm,0.6s,baz=163,slow=5.1,SNR=4.4						
BDFB	Brasilia	161.87	212	PKPab	PKPab	08 39 00.2	-0.2
	comp=Z,0.8nm,0.3s,baz=121,slow=4.5,SNR=4.5						

IDC ***23*** *08:30:53.9±1.0, 27°.27N×128°.19E, h45km±11km, mb3.6/11, mbtmp3.9/12, ML4.1/1, MS3.2/5, Error ellipse: s-maj=36.9km s-min=14.8km az=76.0*
NIED ***23*** *08:30:54.2, 27°.30N×128°.45E, h48km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.28; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-0.27; $M_{r\theta}$1.46; $M_{\theta\phi}$-0.59; $M_{\phi r}$0.88; Fault plane solution: $M_0$1.81000×10^{15} NP1:ϕ_s61.00000°, δ83.00000°, λ103.00000°. NP2:ϕ_s178.00000°, δ15.00000°, λ27.00000°.*
JMA ***23*** *08:30:54.2±0.1, 27°.3N±0°.5×128°.5E±0°.8, h48km, MD3.9/13, MV4.1/13, NEAR OKINAWAJIMA ISLAND*
JMA Felt II J1 at NEAR OKINAWAJIMA ISLAND .
ISC 23 08:30:54.1±0.7,**27°.29N**±0°.06×**128°.45E**±0°.07,**h49**km±6km,
n40,σ1^{s}**13**/37,**mb3.8**/12,**MS3.1**/4,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	Okinoerabujima	0.13	55	*i* P	Pn	08 31 01.8	-0.1
JOKE				*e*S	Sn	08 31 07.0	-0.5
JOKE	Okinoerabujima	0.13	55	A	A	08 31 01.8	
	comp=E,39nm,0.2s,comp=N,110nm,0.2s						
JYRO	Yoronjima	0.26	181	*i* P	Pn	08 31 02.7	-0.1
JYRO				S	Sn	08 31 08.5	-0.5
JYRO	Yoronjima	0.26	181	A	A	08 31 02.7	
	comp=E,15nm,0.6s,comp=N,38nm,1.1s						
JOW	Kunigami	0.48	199	P	Pn	08 31 05.2	0.0
	comp=N,4μm,0.3s,baz=122,slow=16,SNR=7911						
JOW				S	Sn	08 31 13.1	+0.1
	comp=N,8μm,0.3s,baz=195,slow=20,SNR=26						
JOW	Kunigami	0.48	199	*i* P	Pn	08 31 05.1	0.0
JOW				S	Sn	08 31 13.0	0.0
JOW	Kunigami	0.48	199	A	A	08 31 05.1	
	comp=E,18nm,0.6s,comp=N,27nm,0.4s						
JIH	Iheya	0.50	240	*i* P	Pn	08 31 05.3	0.0
JIH				*e*S	Sn	08 31 13.0	-0.3
JIH	Iheya	0.50	240	A	A	08 31 05.3	
	comp=E,20nm,0.6s,comp=N,17nm,0.5s						
JTK	Tokunoshima	0.66	42	*i* P	Pn	08 31 07.2	-0.1
JTK				S	Sn	08 31 16.3	-0.6
JTK	Tokunoshima	0.66	42	A	A	08 31 07.2	
	comp=E,12nm,0.7s,comp=N,25nm,0.4s						
JNTH	Nagotoyohara	0.86	207	*i* P	Pn	08 31 10.0	+0.1
JNTH	Nagotoyohara	0.86	207	A	A	08 31 10.0	
	comp=E,5.0nm,4.0s,comp=N,4.0nm,1.9s						
JAMN	Amaminishikomi	1.15	34	*i* P	Pn	08 31 13.4	-0.3
JAMN	Amaminishikomi	1.15	34	A	A	08 31 13.4	
	comp=E,4.0nm,0.2s,comp=N,4.0nm,0.4s						
JAGN	Aguni-jima	1.29	237	P	Pn	08 31 15.8	+0.1
JAGN				*e*S	Sn	08 31 31.7	-0.1
JJT3	Tamagusuku3	1.29	208	*e*P	Pn	08 31 17.1	+1.4
JAM	Amami Oshima	1.51	42	P	Pn	08 31 19.1	+0.4
JNU	Nakatsue	6.18	19	P	Pn	08 32 25.2	+2.4
	comp=N,4.1nm,0.3s,baz=179,slow=6.4,SNR=14						
	comp=N,9.9nm,0.4s						
NACB	Ninganchiao	6.92	245	P	Pn	08 32 31.8	-1.1
YULB	Yu-li	7.55	241	P	Pn	08 32 38.8	-2.8
SSLB	Suanglung	7.62	244	P	Pn	08 32 42.3	-0.3
TPUB	Ta-pu	8.12	242	P	Pn	08 32 48.8	-0.6
KSRS	Korea Array	10.15	358	P	Pn	08 33 20.4	+3.4
	comp=N,1.9nm,0.6s,baz=178,slow=14,SNR=14						
KSRS				LR	LR	08 37 19.9	
	comp=N,94nm,20.8s,baz=205,slow=38						
MJAR	Matsushiro Arr	12.39	39	P	P	08 33 57.2	-1.3
	comp=N,2.1nm,0.6s,baz=227,slow=8.6,SNR=2.1						
DAV	Davao City (W)	20.29	188	LR	LR	08 45 25.2	
	comp=N,57nm,18.1s,baz=344,slow=43						
GUMO	Guam	20.52	128	LR	LR	08 41 36.2	
	comp=N,57nm,21.7s,baz=330,slow=31						
KLR	Kul'dur	22.05	6	LR	LR	08 44 08.1	
	comp=N,83nm,18.1s,baz=291,slow=36						
SONM	Songino Array	26.78	326	P	P	08 36 31.3	+1.8
	comp=N,1.5nm,0.6s,baz=138,slow=11,SNR=7.4						
MKAR	Makanchi Array	40.99	311	P	P	08 38 31.6	-0.6
	comp=N,0.4nm,0.4s,baz=97,slow=7.4,SNR=7.8						
	comp=N,0.4nm,0.4s						
KURBB	Kurchatov Arra	44.23	316	P	P	08 38 58.3	-0.1
	comp=N,0.7nm,0.3s,baz=100,slow=9.3,SNR=3.5						
	comp=N,0.7nm,0.3s						
WRA	Warramunga Arr	47.30	172	P	P	08 39 23.1	+0.2
	comp=N,1.4nm,0.5s,baz=352,slow=8.4,SNR=24						
	comp=N,1.4nm,0.5s						
BVAR	Borovoye Array	49.62	318	P	P	08 39 38.7	-1.7
	comp=N,0.6nm,0.4s,baz=89,slow=10,SNR=4.6						
	comp=N,0.6nm,0.4s						
ASAR	Alice Springs	50.93	174	P	P	08 39 51.4	+0.8
	comp=N,1.3nm,0.8s,baz=6.5,slow=14,SNR=13						
	comp=N,1.3nm,0.8s						
STKA	Stephens Creek	60.16	167	P	P	08 40 57.0	+0.2
	comp=N,1.9nm,0.7s,baz=353,slow=7.8,SNR=3.0						
	comp=N,1.9nm,0.7s						
ILAR	Eielson Array	63.41	29	P	P	08 41 19.2	+0.9
	comp=N,0.2nm,0.6s,baz=256,slow=3.6,SNR=2.0						
	comp=N,0.2nm,0.6s						
ARCES	ARCESS Array B	69.10	338	P	P	08 41 53.9	-0.7
	comp=N,1.1nm,1.0s,baz=33,slow=28,SNR=2.0						
	comp=N,1.1nm,1.0s						
AKASG	Malin Array Be	74.86	319	P	P	08 42 28.6	-0.8
	comp=N,0.3nm,0.3s,baz=59,slow=6.6,SNR=2.9						
	comp=N,0.3nm,0.3s						
HFS	Hagfors	77.98	332	P	P	08 42 45.8	-1.1
	comp=N,0.9nm,0.6s,baz=86,slow=4.5,SNR=1.6						
	comp=N,0.9nm,0.6s						
NOA	NORSAR Array B	78.45	334	P	P	08 42 48.9	-0.7
	comp=N,0.4nm,0.6s,baz=51,slow=5.6,SNR=3.2						
NOA				LR	LR	09 19 22.9	
	comp=N,18nm,20.2s,baz=165,slow=37						
	comp=N,0.4nm,0.6s						

TEH ***23*** *08:37:30.7, 34°.63N×46°.25E, h11km, ML2.8*
ISN ***23*** *08:37:31.3±1.4, 34°.63N×46°.26E, h18km±26km, ML2.8*
ISC 23 08:37:30.9±1.0,**34°.63N**±0°.05×**46°.26E**±0°.05,**h12**km±9km,
n10,σ0^{s}**59**/13,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.13	56	Pg	Pg	08 37 34.4	0.0
IDHR				Sg	Sg	08 37 37.1	+0.2
IGHG	Ghaleghazi	0.39	139	Pg	Pg	08 37 39.4	+0.6
GLG1	Gilan-e-Gharb	0.59	209	Pg	Pg	08 37 42.3	-0.1
ILIN	Lien	0.65	63	Pg	Pg	08 37 43.5	-0.1
KCHF	Cheshme Sefid,	0.74	118	Pg	Pg	08 37 44.9	-0.4
SNQR	Sonqor, Kerman	1.15	78	Pg	Pg	08 37 53.3	+0.2
IBZA	Bozab	1.33	96	Pg	Pg	08 37 56.4	-0.2
IBDR	Badra	1.54	190	*e*Pg	Pn	08 37 58.5	+0.4
	baz=10.0						
IBDR				*e*Sg	Sg	08 38 20.0	-0.4
IKFM	Kafar-mosalman	1.72	129	Pg	Pg	08 38 03.7	-0.2
IKRK	Kirkuk	1.75	297	*e*Pn	Pb	08 38 02.0	-0.9
IKRK				*e*Sn	Sb	08 38 26.0	+1.1
IKRK				AML	AML	08 38 35.1	
	comp=E,13nm,0.8s						
IKRK				AML	AML	08 38 35.5	
	comp=N,26nm,0.6s						

BNS ***23*** *08:38:04.6±0.5, 50°.91N×5°.97E, h2km±4km, ML2.2*
LDG ***23*** *08:38:04.5±0.2, 50°.89N×6°.03E, h5km, Ml2.9/14, Error ellipse: s-maj=2.7km s-min=1.8km az=37.0*
BGR ***23*** *08:38:05.7±0.3, 50°.89N×6°.06E, h10km, ML2.4/7, Error ellipse: s-maj=4.4km s-min=2.2km az=96.0*
UCC ***23*** *08:38:05.1±0.8, 50°.90N×5°.99E, h6km±2km, ML2.2*
STR ***23*** *08:38:05.6±1.0, 51°N±7°×±°, h5km, MLv2.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=6.5, preliminary*
ISC 23 08:38:04.2±0.8,**50°.92N**±0°.02×**5°.96E**±0°.02,**h17**km±5km,
n79,σ1^{s}**45**/129,**15C-34D,Belgium**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BA12	Beaesweiler	0.14	92	↓*e*Pg	Pg	08 38 07.5	-0.7
BA01	Aachen	0.15	154	*e*Pg	Pg	08 38 07.6	-0.8
BA01				*e*Sg	Sg	08 38 09.9	-1.3
	2μm,0.6s						
BA13	Heinsberg	0.17	25	↑*e*Pg	Pg	08 38 08.6	-0.1
BEBN	Eben Emael	0.21	236	*bP*	Pg	08 38 09.1	-0.2
BEBN				*dS*	Sg	08 38 12.5	-0.2
	comp=N,353nm,0.3s						
BA02	Stolberg	0.22	131	*e*Pg	Pg	08 38 08.8	-0.5
RODG	Roetgen-Dahlhe	0.27	31	↑*i*Pg	Pb	08 38 10.0	-0.5
RODG				*e*Sg	Sb	08 38 14.5	-0.3
	comp=N,429nm,0.4s						
BOPT	Opiter	0.28	314	*dP*	Pb	08 38 10.8	+0.1
DREG	Dreilaegerbach	0.31	145	↓*e*Pg	Pg	08 38 10.4	-0.4
DREG				*e*Sg	Sg	08 38 14.5	-0.8
	comp=N,250nm,0.2s						
MEM	Membach	0.31	174	*bP*	Pg	08 38 10.4	-0.3
MEM				*dS*	Sg	08 38 14.8	-0.5
	comp=Z,123nm,0.5s						
MEM	Membach	0.31	174	*e*Pg	Pg	08 38 10.5	-0.3
MEM				*e*Sg	Sg	08 38 14.4	-0.8
GSH	Grosshau	0.32	124	*e*Pg	Pg	08 38 10.8	-0.2
GSH				*e*Sg	Sg	08 38 15.2	-0.5
	comp=Z,242nm,0.3s						
KLL	Kalltalsperre	0.35	140	*e*Pg	Pg	08 38 11.2	-0.3
BLCH	La Chartreuse	0.36	220	*bP*	Pg	08 38 11.5	-0.1
BLCH				*dS*	Sg	08 38 17.0	+0.3
	comp=E,82nm,0.2s						
BSTI	Sart Tilman	0.41	217	*bP*	Pg	08 38 12.0	-0.7
OLFT	Oleftalsperre	0.51	145	*e*Pg	Pg	08 38 14.1	-0.3
OLFT				*e*Sg	Sg	08 38 20.9	-0.5
PLH	Pulheim	0.55	80	*e*Pg	Pb	08 38 15.1	-0.2
PLH				*e*Sg	Sg	08 38 22.2	-0.4
BHOU	Houvegnez	0.56	177	*bP*	Pg	08 38 15.5	+0.1
BHOU				*dS*	Sg	08 38 22.9	0.0
	comp=E,55nm,0.2s						
BMOL	Mol	0.63	299	κP	Pb	08 38 17.5	+0.9
BMOL				*dS*	Sb	08 38 26.6	+1.6
BCLA	Clavier	0.65	220	*bP*	Pg	08 38 17.1	+0.2
BCLA				*dS*	Sb	08 38 26.5	+0.8
	comp=N,47nm,0.3s						
OPLO	Oploo	0.68	352	*e*Sg	Sb	08 38 28.5	+1.9
LAUG	Laupendahl	0.76	55	*e*Pg	Pb	08 38 19.1	+0.2
AHRW	Bad Neuenahr-A	0.80	117	*e*Pg	Pb	08 38 20.2	+0.6
AHRW				*e*Sg	Sb	08 38 30.6	+0.5
HES	Velbert-Hesper	0.82	56	*e*Pg	Pb	08 38 20.4	+0.4
HES				*e*Sg	Sb	08 38 31.5	+0.9
	comp=N,95nm,0.2s						
LOH	Wallersheim-Lo	0.82	153	*e*Pg	Pg	08 38 19.8	-0.3
LOH				*e*Sg	Sg	08 38 30.7	-0.3
	comp=N,38nm,0.5s						
LKLB	Kalborn	0.82	173	*bP*	Pb	08 38 20.3	+0.4
LKLB				*dS*	Sg	08 38 30.5	-0.6
	comp=E,19nm,0.3s						
WBS	Wahnbachtalspe	0.85	97	*e*Pg	Pb	08 38 20.4	0.0
WBS				*e*Sg	Sb	08 38 31.5	+0.1
	comp=E,74nm,0.3s						
HOBG	Hohbusch	0.87	85	*e*Pg	Pb	08 38 21.5	+0.6
RCHB	Rochefort	0.89	212	*bP*	Pb	08 38 22.2	+1.1
RCHB				*dS*	Sg	08 38 33.1	-0.2
RCHB	Rochefort	0.89	212	Pg	Pb	08 38 22.2	+1.1
RCHB	Rochefort	0.89	212	Sg	Sb	08 38 34.7	+2.1
BHE	Schloss Buerre	0.96	125	*e*Pg	Pb	08 38 22.7	+0.4
BHE				*e*Sg	Sb	08 38 35.2	+0.5
	comp=E,29nm,0.2s						
ENTS	Ennepetalsperr	0.97	70	*e*Pg	Pn	08 38 23.2	+0.2
ENTS				*e*Sg	Sb	08 38 35.9	+0.8
BMRD	Maredsous	0.97	232	*bP*	Pn	08 38 23.9	+0.8
BMRD				*dS*	Sb	08 38 37.1	+2.0
	comp=Z,29nm,0.2s						
BUG	Bochum--Univer	0.98	57	*e*Pg	Pn	08 38 23.6	+0.5
LVIA	Vianden	0.99	171	*bP*	Pn	08 38 23.8	+0.5
LVIA				*dS*	Sg	08 38 35.9	-0.6
	comp=E,26nm,0.2s						
GIVF	Givet	1.09	222	*e*Pg	Pb	08 38 25.4	+0.9
GIVF				*e*Sg	Sg	08 38 39.7	+0.2
	comp=E,60nm,0.2s						
BGG	Burgeitz	1.13	128	*e*Pg	Pn	08 38 25.8	+0.7
BRQR	Ronquire	1.14	255	*bP*	Pn	08 38 26.7	+1.4
WTSB	Winterswijk	1.18	26	*e*Pg	Pn	08 38 27.1	+1.3
WTSB				*e*Sg	Sn	08 38 43.5	+2.1
DOU	Dourbes	1.20	227	*bP*	Pg	08 38 27.4	+0.1
DOU				*dS*	Sn	08 38 43.6	+1.8
	comp=N,62nm,0.2s						
DOU	Dourbes	1.20	227	Pg	Pg	08 38 27.5	+0.2
DOU				Sg	Sn	08 38 44.0	+2.2
BSKQ	Steenkerk	1.22	258	*dP*	Pn	08 38 27.4	+1.1
BSKQ				*dS*	Sb	08 38 42.4	+0.2
	comp=N,58nm,0.3s						
WLF	Walferdange	1.26	174	*bP*	Pg	08 38 28.5	0.0
WLF				*dS*	Sb	08 38 44.2	+0.9
	comp=N,68nm,0.4s						
WLF	Walferdange	1.26	174	Sn	Sg	08 38 44.7	-0.1
WLF	Walferdange	1.26	174	Pn	Pg	08 38 28.4	0.0
WLF	Walferdange	1.26	174	*e*Pg	Pg	08 38 29.2	+0.7
WLF				*e*Sg	Sb	08 38 44.3	+1.0
RIVT	Riveris	1.31	157	*e*Pn	Pg	08 38 29.3	-0.2
RIVT				*e*Pg	Pb	08 38 31.3	+3.0
RIVT				*e*Sg	Sg	08 38 46.5	-0.2
SORT	Sorpetalsperre	1.34	70	*e*Pg	Pb	08 38 28.9	0.0
SORT				*e*Sg	Sb	08 38 46.1	+0.4
	comp=N,23nm,0.3s						
BBOU	Bougnies	1.39	248	κP	Pg	08 38 31.4	+0.5
BAIF	Baives	1.41	233	*e*Pg	Pg	08 38 31.2	-0.1
BAIF				*e*Sg	Sn	08 38 48.8	+1.7
	comp=N,32nm,0.2s						
ABH	Alteburg	1.45	135	Sn	Sg	08 38 50.2	-0.9
ABH	Alteburg	1.45	135	Pn	Pb	08 38 31.0	+0.3
ABH	Alteburg	1.45	135	*e*Pn	Pb	08 38 31.1	+0.4
ABH				*e*Pg	Pg	08 38 32.4	+0.3
ABH				*e*Sg	Sg	08 38 50.2	-0.9
KASTN	Kahler Asten	1.58	79	*e*Pn	Pb	08 38 33.0	+0.1
KASTN				*e*Pg	Pg	08 38 35.6	+1.0
KASTN				*e*Sg	Sg	08 38 53.8	-1.3
TNS	Taunus Mts	1.73	113	*e*Pg	Pg	08 38 36.5	-0.9
TNS				*e*Sg	Sb	08 38 57.7	+0.7
IBBN	Ibbenburen	1.79	38	*e*Sg	Sg	08 39 01.1	-0.7
MANO	Manonville	2.09	181	Pg	Pg	08 38 45.1	+0.9
MANO				Sn	Sb	08 39 07.3	+0.1
VOEL	Voellerdingen	2.09	158	Pn	Pn	08 38 39.5	+1.1
VOEL				Sn	Sn	08 39 05.1	+1.2
KTD	Kalmit	2.10	139	*e*Sg	Sb	08 39 09.7	+2.1
PAGF	Fort de Pagny	2.37	184	*e*Pg	Pb	08 38 48.1	+1.8
CDF	Champ du Feu	2.65	161	*e*Sg	Sb	08 39 26.4	+3.1
SFTF	Sexfontaines	2.78	193	*e*Pg	Pg	08 38 55.8	-1.6
SFTF				*e*Sg	Sg	08 39 31.1	-2.3
	comp=N,12nm,0.3s						
ECH	Echery	2.81	163	*e*Sg	Sg	08 39 32.0	-2.5
CLZ	Clausthal	2.92	70	*e*Sg	Sg	08 39 34.9	-3.0
HAU	Haudompre	2.92	175	*e*Pg	Pg	08 38 58.4	-1.8
HAU				*e*Sg	Sg	08 39 35.6	-2.5
	comp=N,13nm,0.4s						
HINF	Hinteralfeld	3.16	169	*e*Sg	Sb	08 39 41.6	+3.7
	comp=N,4.8nm,0.3s						
LOR	Lormes	3.90	202	*e*Pn	Pn	08 39 02.8	-0.5
LOR	Lormes	3.90	202	*e*Pg	Pg	08 39 16.5	-2.4
LOR				*e*Sn	Sn	08 39 47.0	-1.6
LOR				*e*Sg	Sg	08 40 06.3	-3.1
	comp=N,5.9nm,0.3s						
AVF	Avril sur Loir	4.47	204	*e*Pn	Pn	08 39 10.6	-0.5
AVF	Avril sur Loir	4.47	204	*e*Pg	Pg	08 39 26.6	-3.2
AVF				*e*Sg	Sg	08 40 24.2	-3.4
	comp=N,3.3nm,0.5s						
SMF	Signal de Mont	4.50	199	*e*Pn	Pn	08 39 10.8	-0.6
SMF	Signal de Mont	4.50	199	*e*Pg	Pg	08 39 27.1	-3.1
SMF				*e*Sg	Sg	08 40 24.9	-3.5
	comp=N,4.8nm,0.3s						
LDF	La Druitiere	4.58	242	*e*Pn	Pn	08 39 12.1	-0.4
LDF				*e*Sn	Sn	08 40 03.3	-1.9
LDF				*e*Sg	Sg	08 40 28.4	-2.6
	comp=N,2.9nm,0.3s						
FLN	La Foliniere	4.69	245	*e*Pn	Pn	08 39 14.3	+0.2
FLN				*e*Sn	Sn	08 40 06.2	-1.8
	comp=N,4.7nm,0.2s						
FLN				*e*Sg	Sg	08 40 32.4	-2.3
	comp=N,6.7nm,0.4s						
BGF	Bois d'Agland	4.82	206	*e*Sn	Sn	08 40 08.5	-2.8
BGF				*e*Sg	Sg	08 40 35.3	-3.6
	comp=N,10nm,0.5s						
TCF	Toulx Ste Croi	5.25	210	*e*Sg	Sg	08 40 48.4	-4.4
	comp=N,2.6nm,0.4s						
MORC	Moravsky Berou	7.50	94	*e*PG	Pb	08 40 08.0	-5.8
JAVC	Velka Javorina	7.84	101	*e*PG	Pn	08 39 59.1	+1.7
JAVC	Velka Javorina	7.84	101	*e*PG		08 40 44.0	

NIED ***23*** *08:38:55.9, 36°.53N×140°.97E, h20km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.33; $M_{\theta\theta}$-2.57; $M_{\phi\phi}$2.90; $M_{r\theta}$1.72; $M_{\theta\phi}$0.11; $M_{\phi r}$1.06; Fault plane solution: $M_0$3.40000×10^{14} NP1: ϕ_s224.00000°, δ84.00000°, λ-36.00000°. NP2: ϕ_s319.00000°, δ55.00000°, λ-172.00000°.*
JMA ***23*** *08:38:55.9±0.1, 36°.5N±0°.2×141°.0E±0°.4, h20km±1km, MD4.1/38, MV4.1/38, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .
IDC ***23*** *08:38:59.3±3.9, 35°.67N×140°.17E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=129.9km s-min=23.2km az=59.0*
ISC 23 08:38:53.9±2.0,**36°.52N**±0°.04×**141°.04E**±0°.07,**h13**km±13km,
n30,σ0^{s}**65**/24,**mb3.7**/4,**4D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.39	284	P	Pb	08 39 02.8	+0.1
JHYU	Hitachinakayam	0.40	244	*i* P	Pb	08 39 03.4	+0.5
JHYU				*e*S	Sb	08 39 09.0	0.0
ONAJ	Iwakimizuishiy	0.61	342	↓P	Pb	08 39 07.0	+0.4
ONAJ				↓*e*S	Sb	08 39 15.3	0.0
JFFD	Fukushimafurud	0.69	327	↓*i*P	Pb	08 39 08.2	+0.3
JFFD				↓S	Sb	08 39 16.8	-0.5
JYT	Yasato	0.74	247	*i* P	Pb	08 39 09.1	+0.5
JYT				S	Sb	08 39 18.9	+0.3
JYT	Yasato	0.74	247	A	A	08 39 09.1	
	comp=E,18nm,0.3s,comp=N,18nm,0.4s						
JFK	Kawauchi	0.86	351	P	Pb	08 39 10.7	-0.1
JFK				*e*S	Sb	08 39 21.9	-0.3
JSMT	Sammumatsuo	0.99	209	P	Pn	08 39 14.3	+0.7
JSMT	Sammumatsuo	0.99	209	A	A	08 39 14.3	
	comp=E,13nm,2.0s,comp=N,8.0nm,0.6s						
JSB	Shiboa	1.00	297	*i* P	Pn	08 39 14.0	+0.1
JSB				S	Sn	08 39 27.2	-0.7
JSB	Shiboa	1.00	297	A	A	08 39 14.0	
	comp=E,12nm,0.9s,comp=N,8.0nm,0.4s						
JOTO	OTAMA OYAMA	1.18	332	P	Pg	08 39 16.6	-0.1
JOTO				S	Sn	08 39 32.1	-0.2
JAG	Ashikaga	1.28	266	*i* P	Pn	08 39 17.3	-0.3
JAG				*e*S	Sb	08 39 33.2	-1.1
MJAR	Matsushiro Arr	2.28	271	Pn	Pn	08 39 31.6	+0.2
	comp=N,1.9nm,0.3s,baz=91,slow=14,SNR=43						
MJAR				Sn	Sb	08 40 02.6	-0.4
	comp=N,4.9nm,0.3s,baz=23,slow=7.0,SNR=13						
MJAR				LR	LR	08 40 27.9	
	comp=N,91nm,18.1s,baz=11,slow=49						
JHJ	Hachijo jima 2	3.54	197	Pn	Pn	08 39 47.0	-1.6
	comp=N,5.4nm,0.3s,baz=53,slow=20,SNR=1.8						
JHJ				Sn	Sn	08 40 29.6	-0.9
	comp=N,8.4nm,0.3s,baz=279,slow=19,SNR=1.8						
JCJ	Chichijima	9.44	174	Pn	Pn	08 41 03.1	-6.7
	comp=N,4.6nm,0.3s,baz=312,slow=23,SNR=5.5						
KSRS	Korea Array	10.53	279	Pn	Pn	08 41 31.9	+7.3
	comp=N,0.4nm,0.3s,baz=93,slow=14,SNR=12						
H11N2	WAKE ISLAND Hy 28.15 119			T	T	09 14 16.2	
	baz=313,slow=75,SNR=116						
H11N1	WAKE ISLAND Hy 28.16 119			T	T	09 14 18.9	
	baz=313,slow=75,SNR=169						
H11N3	WAKE ISLAND Hy 28.17 119			T	T	09 14 16.8	
	baz=313,slow=75,SNR=106						
H11S1	WAKE ISLAND Hy 28.84 122			T	T	09 15 03.5	
	baz=313,slow=76,SNR=508						
H11S3	WAKE ISLAND Hy 28.84 122			T	T	09 15 04.7	
	baz=313,slow=76,SNR=274						
H11S2	WAKE ISLAND Hy 28.86 122			T	T	09 15 07.0	
	baz=313,slow=76,SNR=188						
MKAR	Makanchi Array	44.14	302	P	P	08 47 09.3	+7.1
	comp=N,0.3nm,0.6s,baz=98,slow=6.0,SNR=4.2						
	comp=N,0.3nm,0.6s						
KURBB	Kurchatov Arra	46.08	308	P	P	08 47 23.6	+6.1
	comp=N,1.0nm,0.2s,baz=85,slow=8.6,SNR=7.6						
	comp=N,1.0nm,0.2s						
WRA	Warramunga Arr	56.51	188	P	P	08 48 36.6	+0.7
	comp=N,0.3nm,0.5s,baz=2.8,slow=7.5,SNR=7.6						
	comp=N,0.3nm,0.5s						
ASAR	Alice Springs	60.23	188	P	P	08 49 02.9	+0.9
	comp=N,0.8nm,1.1s,baz=8.3,slow=14,SNR=1.9

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.05**	**280**	P	**Pn**	**09 01 45.8**	**-0.5**
LIFNC	**LIFOU**	**2.96**	**291**	P	**Pn**	**09 01 58.4**	**-0.4**
YATNC	**Mamie plateau,**	**3.07**	**266**	P	**Pn**	**09 01 59.5**	**-0.9**
DZM	**Mont Dzumac**	**3.49**	**266**	P	**Pn**	**09 02 05.7**	**-0.5**
ONTNC	**Ouen Toro**	**3.50**	**262**	P	**Pn**	**09 02 05.8**	**-0.4**
NOUC	**Port Laguerre**	**3.62**	**265**	P	**Pn**	**09 02 07.7**	**-0.2**
KOUNC	**Koumac, New Ca**	**5.67**	**282**	P	**Pn**	**09 02 36.4**	**+0.4**
STKA	**Stephens Creek**	**27.32**	**243**	P	P	09 07 05.7	+10
	3.2nm,0.8s,baz=86,slow=13,SNR=4.6						
	3.2nm,0.8s						
ASAR	**Alice Springs**	**33.46**	**260**	P	**P**	**09 07 51.8**	**+1.4**
	0.5nm,0.8s,baz=90,slow=9.3,SNR=2.5						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**33.51**	**267**	P	**P**	**09 07 50.5**	**-0.2**
	0.2nm,0.4s,baz=98,slow=8.4,SNR=5.9						
	0.2nm,0.4s						
EKA	**Eskdalemuir Ar**	**146.21**	**353**	PKP	**PKPab**	**09 20 50.8**	**-0.6**
	0.4nm,0.4s,baz=358,slow=2.4,SNR=3.7						

ISC 23 09:17:41.3±1.1, 48°.65N±0°.09×18°.05E±0°.04, h10km, n5, σ0°49/8, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.33**	**310**	*e*PG	**Pb**	**09 17 48.6**	**-0.7**
JAVC				*e*SG	**Sg**	09 17 52.9	+0.6
VYHS	**Vyhne**	**0.54**	**106**	*e*PG	**Pg**	**09 17 51.7**	**-0.1**
VYHS				*e*SG	**Sb**	**09 18 01.2**	**+0.5**
MODS	**Modra-Piesok**	**0.58**	**242**	*e*PG	**Pg**	**09 17 52.8**	**+0.2**
MODS				*e*SG	**Sb**	**09 18 01.7**	**-0.2**
VRAC	**Vranov**	**1.17**	**305**	*e*PG	**Pb**	**09 18 03.4**	**-0.1**
MORC	**Moravsky Berou**	**1.18**	**344**	*e*PG	**Pn**	**09 18 03.9**	**0.0**

*IDC **23** 09:37:31.0±3.3, 19°.57S×176°.44W, h323km±33km, mb3.1/6, mbtmp3.8/7, Error ellipse: s-maj=39.8km s-min=15.0km az=152.0*

ISC 23 09:37:29.0±0.9, 19°.5S±0°.2×176°.4W±0°.2, h300km, n11, σ1°83/11, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.27**	**258**	P	**Pn**	**09 41 06.1**	**+3.8**
	3.0nm,0.6s,baz=83,slow=18,SNR=2.1						
URZ	**Urewera**	**19.52**	**196**	P	**P**	**09 41 34.3**	**-0.3**
	3.1nm,0.4s,baz=332,slow=1.8,SNR=1.6						
CTA	**Charters Tower**	**35.12**	**263**	P	**P**	**09 43 55.3**	**+0.4**
	0.2nm,0.3s,baz=87,slow=10,SNR=2.8						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**46.24**	**256**	P	**P**	**09 45 24.1**	**-1.0**
	2.2nm,0.6s,baz=91,slow=8.2,SNR=19						
ASAR				S	**S**	**09 51 46.5**	**-2.2**
	0.5nm,0.7s,baz=90,slow=15,SNR=4.3						
	2.2nm,0.6s						
WRA	**Warramunga Arr**	**46.26**	**261**	P	**P**	**09 45 24.6**	**-0.8**
	0.7nm,0.3s,baz=97,slow=7.0,SNR=11						
	0.7nm,0.3s						
NVAR	**Mina Array Bea**	**79.27**	**43**	P	**P**	**09 49 02.3**	**+0.5**
	0.5nm,0.7s,baz=226,slow=7.5,SNR=5.8						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**85.24**	**57**	P	**P**	**09 49 34.0**	**+1.5**
	0.6nm,1.1s,baz=220,slow=6.9,SNR=3.7						
	0.6nm,1.1s						
ILAR	**Eielson Array**	**87.03**	**12**	P	**P**	**09 49 39.0**	**-1.3**
	0.3nm,0.6s,baz=227,slow=5.8,SNR=6.5						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**119.31**	**320**	PKP	**PKPdf**	**09 55 41.4**	**-1.0**
	1.1nm,0.4s,baz=163,slow=1.5,SNR=5.2						
ARCES	**ARCESS Array B**	**128.22**	**350**	PKP	**PKPdf**	**09 55 58.2**	**-0.8**
	1.5nm,1.0s,baz=0.0,slow=2.0,SNR=5.1						
EKA	**Eskdalemuir Ar**	**143.88**	**7**	PKP	PKPab	09 56 25.6	-0.7
	0.8nm,0.6s,baz=284,slow=3.9,SNR=3.7						

*NEIC **23** 09:38:43.9±1.1, 8°.5S±0°.1×159°.27E±0°.07, h78km±7km, mb4.2/21, Error ellipse: s-maj=17.6km s-min=6.9km az=203.0*

*IDC **23** 09:38:53.0±7.3, 8°.66S×159°.21E, h170km±67km, mb3.8/10, mbtmp4.2/11, MS3.8/1, Error ellipse: s-maj=29.7km s-min=26.4km az=108.0*

ISC 23 09:38:45.2±0.7, 8°.56S±0°.10×159°.4E±0°.1, h100km, n42, σ0°96/36, mb4.1/18, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.04**	**147**	Pn	**Pn**	**09 39 04.6**	**-1.5**
HNR				Sn	**Sn**	**09 39 20.4**	**-1.3**
DZM	**Mont Dzumac**	**15.06**	**154**	P	**P**	**09 42 17.9**	**+2.2**
	2.0nm,0.7s,baz=300,slow=20,SNR=1.1						
COEN	**Coen**	**16.76**	**250**		**Pn**	**09 42 33.6**	**-0.4**
CTA	**Charters Tower**	**17.10**	**227**	P	**P**	**09 42 40.6**	**+2.3**
	0.4nm,0.6s,baz=54,slow=12,SNR=12						
CTAO	**Charters Tower**	**17.10**	**227**		**Pn**	**09 42 38.4**	**+0.3**
CTAO				IAmb	IAmb	09 42 48.8	
	comp=Z,15nm,1.3s						
EIDS	**Eidsvold**	**18.49**	**204**	P	**P**	**09 42 54.4**	**+0.9**
EIDS				IAmb	IAmb	09 42 56.7	
	comp=Z,13nm,0.9s						
MSVF	**Nonsavu**	**20.33**	**119**	P	Pn	09 43 16.2	-0.4
MSVF				IAmb	IAmb	09 43 34.6	
	comp=Z,21nm,1.4s						
ARMA	**Armidale**	**22.92**	**197**	P	**P**	**09 43 41.7**	**+0.8**
ARMA				IAmb	IAmb	09 43 43.5	
	comp=Z,10nm,0.9s						
WR0	**Warramunga Arr**	**26.55**	**242**	P	**P**	**09 44 13.7**	**-0.3**
WR0				IAmb	IAmb	09 44 16.9	
	comp=Z,10nm,1.1s						
WB0	**Warramunga Arr**	**26.61**	**243**	P	**P**	**09 44 14.2**	**-0.3**
WB0				IAmb	IAmb	09 44 15.2	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**26.71**	**242**	P	**P**	**09 44 15.2**	**-0.2**
WRAB				IAmb	IAmb	09 44 44.2	
	comp=Z,10nm,1.3s						
WB2	**Warramunga Arr**	**26.71**	**242**	P	**P**	**09 44 15.3**	**-0.2**
WB2				IAmb	IAmb	09 44 16.9	
	comp=Z,9.5nm,1.2s						
WRA	**Warramunga Arr**	**26.73**	**242**	P	**P**	**09 44 14.8**	**-0.7**
WRA	**Warramunga Arr**	**26.73**	**242**	P	**P**	**09 44 15.2**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=66,slow=8.9,SNR=41						
WRA				LR	LR	09 53 08.7	
	comp=Z,187nm,19.5s,baz=194,slow=32						
	comp=Z,2.4nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**27.83**	**15**	T	T	10 13 01.8	
	baz=195,slow=76,SNR=280						
H11S2	**WAKE ISLAND Hy**	**27.84**	**15**	T	T	10 13 08.7	
	baz=195,slow=76,SNR=288						
H11S1	**WAKE ISLAND Hy**	**27.85**	**15**	T	T	10 13 03.0	
	baz=195,slow=76,SNR=192						
CAN	**Canberra**	**28.28**	**198**	P	**P**	**09 44 30.2**	**+0.9**
STKA	**Stephens Creek**	**28.48**	**213**	P	**P**	**09 44 31.3**	**+0.2**
STKA	**Stephens Creek**	**28.48**	**213**	P	**P**	**09 44 31.1**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=49,slow=15,SNR=8.6						
	comp=Z,3.2nm,0.8s						
AS31	**Alice Springs**	**28.63**	**235**	P	**P**	**09 44 31.5**	**-1.0**
ASAR	**Alice Springs**	**28.63**	**235**	P	**P**	**09 44 31.4**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=64,slow=10,SNR=30						
	comp=Z,0.9nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**29.05**	**15**	T	T	10 14 46.4	
	baz=195,slow=76,SNR=226						
H11N3	**WAKE ISLAND Hy**	**29.06**	**15**	T	T	10 14 50.7	
	baz=195,slow=76,SNR=182						
H11N2	**WAKE ISLAND Hy**	**29.07**	**15**	T	T	10 14 47.8	
	baz=195,slow=76,SNR=207						
KNRA	**Kununurra**	**30.72**	**254**	P	**P**	**09 44 50.6**	**-0.4**
KNRA				IAmb	IAmb	09 45 04.9	
	comp=Z,5.7nm,0.8s						
BBOO	**Buckleboo**	**32.37**	**218**	P	**P**	**09 45 05.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**34.11**	**250**	P	**P**	**09 45 19.8**	**-0.8**
PSA00	**Pilbara Seismi**	**40.17**	**247**	P	**P**	**09 46 11.2**	**-0.7**
SONM	**Songino Array**	**73.02**	**326**	P	**P**	**09 50 04.9**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=146,slow=7.0,SNR=7.6						
	comp=Z,1.8nm,0.6s						
QSPA	**South Pole Qui**	**81.43**	**180**	P	**P**	**09 50 50.8**	**-0.3**
QSPA	**South Pole Qui**	**81.43**	**180**	P	**P**	**09 50 50.3**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=258,slow=2.2,SNR=5.7						
	comp=Z,1.3nm,1.0s						
IMAR	**Indian Mountai**	**81.85**	**18**	P	**P**	**09 50 53.5**	**+0.5**
CCB	**Clear Creek Bu**	**82.89**	**20**	P	**P**	**09 50 58.4**	**0.0**
CCB				IAmb	IAmb	09 51 19.2	
	comp=Z,3.0nm,1.2s						
ILAR	**Eielson Array**	**83.28**	**20**	P	**P**	**09 51 00.1**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=250,slow=5.3,SNR=7.0						
	comp=Z,0.3nm,0.5s						
J25K	**Salcha River,**	**83.71**	**21**	P	**P**	**09 51 02.9**	**+0.2**
J25K				IAmb	IAmb	09 51 03.8	
	comp=Z,2.9nm,1.4s						
D22K	**Ayikyak River**	**84.13**	**16**	P	**P**	**09 51 06.9**	**+2.2**
MKAR	**Makanchi Array**	**87.45**	**318**	P	**P**	**09 51 21.9**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=98,slow=6.2,SNR=23						
	comp=Z,3.0nm,0.5s						
ZALV	**Zalesovo Beam**	**87.91**	**325**	P	**P**	**09 51 22.2**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=90,slow=5.9,SNR=4.2						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**90.78**	**321**	P	**P**	**09 51 36.1**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=103,slow=3.6,SNR=7.0						
	comp=Z,0.7nm,0.6s						
BVAR	**Borovoye Array**	**96.15**	**323**	P	**P**	**09 52 01.2**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=104,slow=3.8,SNR=7.8						
	comp=Z,2.2nm,0.7s						
ESDC	**Sonseca Array**	**145.61**	**337**	PKPbc	**PKPdf**	**09 58 12.8**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=19,slow=3.8,SNR=6.2						

*NOU **23** 09:38:49.3, 44°.60S×172°.79E, h314km, MLv4.3/5, Off E. Coast of S. Island, N.Z.*

*WEL **23** 09:39:24.0, 42°.5S°.×17°.4E°., h17km±6km, M2.4/16, ML2.7/24, MLv2.4/16, Error ellipse: s-maj=0.0km s-min=0.0km az=125.5*

ISC 23 09:39:23.7±1.0, 41°.81S±0°.04×174°.21E±0°.03, h10km, n42, σ0°81/42, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**2**	P	**Pg**	**09 39 27.4**	**+1.6**
BSWZ	**Blackbirch Sta**	**0.27**	**291**	P	**Pb**	**09 39 30.2**	**-0.5**
TUWZ	**Tuamarina**	**0.43**	**332**	P	**Pb**	**09 39 33.1**	**-0.2**
TCW	**Tory Channel**	**0.60**	**5**	P	**Pg**	**09 39 35.8**	**+0.4**
BHW	**Baring Head**	**0.64**	**51**	P	**Pb**	**09 39 37.1**	**+0.2**
WEL	**Wellington**	**0.67**	**39**	P	**Pb**	**09 39 37.5**	**0.0**
KHZ	**Kahutara**	**0.79**	**219**	P	**Pb**	**09 39 39.8**	**+0.4**
KHZ	**Kahutara**	**0.79**	**219**	P	**Pb**	**09 39 40.0**	**+0.5**
PLWZ	**Palliser**	**0.82**	**73**	P	**Pg**	**09 39 39.9**	**+0.4**
NNZ	**Nelson**	**0.86**	**313**	P	**Pg**	**09 39 40.6**	**+0.3**
CAW	**Cannon Point**	**0.95**	**43**	P	**Pb**	**09 39 42.3**	**0.0**
THZ	**Tophouse**	**0.98**	**272**	P	**Pb**	**09 39 43.1**	**+0.3**
PAWZ	**Paruwai Farm**	**1.01**	**65**	P	**Pg**	**09 39 42.6**	**-0.5**
DUWZ	**D'Urville Isla**	**1.03**	**348**	P	**Pg**	**09 39 43.4**	**-0.1**
KIW	**Kapiti Island**	**1.08**	**29**	P	**Pg**	**09 39 44.5**	**-0.1**
MRNZ	**Matariki Terra**	**1.17**	**290**	P	**Pg**	**09 39 46.3**	**+0.2**
MTW	**Mount Morrison**	**1.17**	**57**	P	**Pb**	**09 39 44.9**	**-1.0**
TKNZ	**Takaka Hill**	**1.22**	**309**	P	**Pn**	**09 39 46.8**	**0.0**
OGWZ	**Otaki Gorge**	**1.23**	**36**	P	**Pn**	**09 39 46.3**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.34**	**48**	P	**Pn**	**09 39 47.5**	**-1.0**
TMWZ	**Te Maipa**	**1.44**	**61**	P	**Pn**	**09 39 48.3**	**-1.6**
GVZ	**Greta Valley S**	**1.45**	**217**	P	**Pn**	**09 39 49.0**	**-0.9**
MRZ	**Mangatainoka R**	**1.54**	**42**	P	**Pn**	**09 39 50.2**	**-1.1**
QRZ	**Quartz Range**	**1.60**	**307**	P	**Pb**	**09 39 53.5**	**+0.1**
QRZ	**Quartz Range**	**1.60**	**307**	P	**Pb**	**09 39 53.1**	**-0.3**
TIWZ	**Tintock**	**1.63**	**51**	P	**Pn**	**09 39 52.1**	**-0.4**
LTZ	**Lake Taylor**	**1.74**	**235**	P	**Pn**	**09 39 53.3**	**-0.6**
DSZ	**Denniston Nort**	**1.80**	**271**	P	**Pb**	**09 39 56.4**	**-0.4**
BFZ	**Birch Farm**	**1.90**	**54**	P	**Pg**	**09 40 02.8**	**+2.6**
BFZ	**Birch Farm**	**1.90**	**54**	P	**Pg**	**09 40 00.6**	**+0.5**
DVHZ	**Dannevirke**	**2.11**	**45**	P	**Pg**	**09 40 03.8**	**-0.4**
WAZ	**Wanganui**	**2.14**	**16**	P	**Pb**	**09 40 02.9**	**+0.4**
TSZ	**Takapari Road**	**2.19**	**38**	P	**Pb**	**09 40 04.4**	**+0.9**
WNVZ	**Wahianoa**	**2.70**	**24**	P	**Pb**	**09 40 11.4**	**-0.7**
TUVZ	**Tukino**	**2.77**	**24**	P	**Pn**	**09 40 09.9**	**+1.7**
NGZ	**Ngauruhoe**	**2.84**	**22**	P	**Pb**	**09 40 14.9**	**+0.4**
OTVZ	**Oturere**	**2.87**	**23**	P	**Pb**	**09 40 14.4**	**-0.7**
NNVZ	**North Ngauruho**	**2.88**	**22**	P	**Pb**	**09 40 15.0**	**-0.3**
ETVZ	**East Tongariro**	**2.91**	**24**	P	**Pb**	**09 40 15.9**	**+0.2**
BKZ	**Black Stump Fm**	**3.16**	**34**	P	**Pb**	**09 40 20.8**	**+0.8**
HIZ	**Hauiti**	**3.33**	**9**	P	**Pb**	**09 40 22.4**	**-0.5**
HIZ	**Hauiti**	**3.33**	**9**	P	**Pb**	**09 40 22.3**	**-0.5**

IDC 23 09:56:11.9±2.9, 53°.53N×87°.88E, h0km, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=24.3km s-min=17.4km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**284**	I	I	10 07 50.0	
	0.1nm,0.8s,baz=98,slow=306,SNR=11						
ZALV	**Zalesovo Beam**	**1.86**	**284**	Pn	Pn	09 56 44.3	-0.7
	1.4nm,0.3s,baz=106,slow=16,SNR=19						
ZALV				Lg	Lg	09 57 11.4	
	4.0nm,0.3s,baz=104,slow=25,SNR=27						
KURBB	**Kurchatov Arra**	**6.45**	**247**	Pn	Pn	09 57 49.0	+1.0
	baz=63,slow=14,SNR=3.1						
KURBB				Sn	Sn	09 59 00.2	-2.1
	baz=62,slow=27,SNR=1.8						
KURBB				Lg	Lg	09 59 38.8	
	0.1nm,0.3s,baz=60,slow=31,SNR=5.4						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**7.63**	**210**	Pn	Pn	09 58 05.7	+1.4
	0.1nm,0.3s,baz=31,slow=15,SNR=4.3						
MKAR				Lg	Lg	10 00 12.7	
	0.1nm,0.3s,baz=32,slow=27,SNR=2.1						
	0.2nm,0.3s						

*SJA **23** 09:56:40.2±0.6, 24°.24S×67°.16W, h213km±5km, ML3.6, MW3.4*

*GUC **23** 09:56:43.5±0.7, 24°.19S×67°.50W, h216km±7km, ML3.7*

ISC 23 09:56:40.2±1.6, 24°.20S±0°.04×67°.28W±0°.04, h218km±14km, n30, σ2°04/54, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.49**	**326**	*e*P	**Pn**	**09 57 16.5**	**+0.7**
AF01	**San Pedro de A**	**1.49**	**326**	⇓*i*P	**Pn**	**09 57 17.1**	**+1.3**
AF01				*e*S	**Sn**	**09 57 43.7**	**+0.2**
AF01				IAML		09 57 44.1	
	comp=N,378nm,1.0s						
SLA	**San Lorenzo**	**1.70**	**108**	*e*P	**Pn**	**09 57 16.7**	**-0.7**
SLA				*e*S	**Sn**	**09 57 43.3**	**-3.1**
AZAP	**Zapla**	**2.02**	**91**	*e*P	**Pn**	**09 57 19.6**	**-0.9**
AZAP				*e*S	**Sn**	**09 57 49.1**	**-2.8**
LVC	**Limon Verde**	**2.18**	**316**	*e*P	**Pn**	**09 57 23.8**	**+1.5**
LVC				*e*S	**Sn**	**09 57 55.4**	**+0.3**
LVC	**Limon Verde**	**2.18**	**316**	*e*P	**Pn**	**09 57 23.6**	**+1.4**
LVC				*i*S	**Sn**	**09 57 53.9**	**-1.2**
LVC				IAML		09 57 56.4	
	comp=N,448nm,0.4s						
PB15	**IPOC Station P**	**2.24**	**296**	*e*P	**Pn**	**09 57 24.4**	**+1.6**
PB15				*e*S	**Sn**	**09 57 55.6**	**-0.2**
PB15	**IPOC Station P**	**2.24**	**296**	⇑*i*P	**Pn**	**09 57 24.3**	**+1.6**
PB15				*e*S	**Sn**	**09 57 54.8**	**-1.0**
FSA	**Cafayete**	**2.24**	**149**	*e*P	**Pn**	**09 57 22.2**	**-0.4**
GO02	**Mina Guanaco**	**2.31**	**245**	*e*P	**Pn**	**09 57 24.9**	**+1.4**
GO02				*e*S	**Sn**	**09 57 57.2**	**-0.3**
GO02	**Mina Guanaco**	**2.31**	**245**	⇑*i*P	**Pn**	**09 57 24.9**	**+1.3**
GO02				*e*S	**Sn**	**09 57 56.9**	**-0.5**
GO02				IAML		09 57 57.6	
	comp=N,346nm,0.3s						
PB06	**IPOC Station P**	**2.58**	**305**	*e*P	**Pn**	**09 57 27.9**	**+1.7**
PB06				IAML		09 58 06.8	
	comp=Z,151nm,0.4s						
PB06	**IPOC Station P**	**2.58**	**305**	⇑*i*P	**Pn**	**09 57 27.9**	**+1.7**
PB06				*e*S	**Sn**	**09 58 00.9**	**-1.4**
PB06				IAML		09 58 03.1	
	comp=N,237nm,0.3s						
YJA	**Yavi**	**2.58**	**39**	*e*P	**Pn**	**09 57 27.1**	**+0.5**
YJA				*e*S	**Sn**	**09 58 02.9**	**0.0**
PB14	**IPOC Station P**	**2.88**	**261**	*e*P	**Pn**	**09 57 31.1**	**+1.3**
PB14				*e*S	**Sn**	**09 58 07.6**	**-1.0**
PB14				IAML		09 58 14.1	
	comp=Z,48nm,0.9s						
PB14	**IPOC Station P**	**2.88**	**261**	*e*P	**Pn**	**09 57 31.0**	**+1.3**
PB14				*e*S	**Sn**	**09 58 07.0**	**-1.6**
PB14				IAML		09 58 10.6	
	comp=E,67nm,0.2s						
AHML	**Horco Molle**	**3.12**	**146**	*e*P	**Pn**	**09 57 33.2**	**+1.1**
AHML				*e*S	**Sn**	**09 58 20.9**	**+7.8**
PB04	**IPOC Station P**	**3.23**	**304**	*e*P	Pn	09 57 26.8	-6.8
PB04				IAML		09 58 17.6	
	comp=Z,112nm,0.2s						
PB04	**IPOC Station P**	**3.23**	**304**	*e*P	**Pn**	**09 57 35.4**	**+1.8**
PB04				*e*S	**Sn**	**09 58 13.8**	**-1.7**
AC06	**Mina Casimiro**	**4.20**	**221**	*e*P	**Pn**	**09 57 45.8**	**+0.8**
AC06				*e*S	**Sn**	**09 58 34.2**	**-2.1**
PATCX	**Punta Patache**	**4.28**	**321**	*e*P	**Pn**	**09 57 47.8**	**+1.5**
PATCX				*e*S	**Sn**	**09 58 33.2**	**-5.2**
PATCX				IAML		09 58 47.9	
	comp=Z,37nm,0.6s						
PATCX	**Punta Patache**	**4.28**	**321**	*e*P	**Pn**	**09 57 48.2**	**+1.9**
PATCX				*e*S	**Sn**	**09 58 35.1**	**-3.3**
GO03	**Copiap**	**4.31**	**218**	*e*P	**Pn**	**09 57 47.2**	**+0.8**
GO03				*e*S	**Sn**	**09 58 37.1**	**-1.6**
GO03	**Copiap**	**4.31**	**218**	*e*P	**Pn**	**09 57 47.0**	**+0.6**
GO03				*e*S	**Sn**	**09 58 36.9**	**-1.9**
TA01	**Diego Aracena**	**4.50**	**323**	*e*P	**Pn**	**09 57 50.3**	**+1.4**
TA01				*e*S	**Sn**	**09 58 43.1**	**0.0**
TA01				IAML		09 58 53.8	
	comp=Z,30nm,3.9s						
GO01	**Chusmiza**	**4.84**	**338**	*e*P	**Pn**	**09 57 56.5**	**+2.9**
GO01				*e*S	**Sn**	**09 58 52.9**	**+1.3**
PB11	**IPOC Station P**	**4.94**	**333**	*e*P	**Pn**	**09 57 55.1**	**+0.7**
PB11				*e*S	**Sn**	**09 58 51.8**	**-1.3**
PB11				IAML		09 58 59.4	
	comp=Z,23nm,1.1s						
ACLC	**CERRO LA CRUZ**	**5.22**	**177**	*e*P	**Pn**	**09 57 59.7**	**+1.8**
AC04	**Llanos de Chal**	**5.25**	**220**	*e*P	**Pn**	**09 57 58.4**	**+0.2**
AC04				*e*S	**Sn**	**09 58 58.1**	**-1.9**
AC04				IAML		09 59 04.8	
	comp=Z,55nm,1.5s						
AC05	**El Transito**	**5.34**	**210**	*e*P	**Pn**	**09 57 59.7**	**+0.2**
AC05				*e*S	**Sn**	**09 58 59.1**	**-3.2**
AC05				IAML		09 59 04.9	
	comp=Z,22nm,1.6s						

*IDC **23** 10:04:24.5±1.5, 23°.56N×121°.15E, h0km, mb3.6/4, mbtmp3.6/5, ML3.3/1, MS3.5/1, Error ellipse: s-maj=77.1km s-min=25.2km az=66.0*

*JMA **23** 10:04:29.6±0.1, 24°.0N±0°.6×12°.2E±°., h41km±1km, MV3.1/14, TAIWAN REGION*

*ASIES **23** 10:04:30.5, 24°.01N×121°.69E, h36km, ML3.9, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}2.97; $M_{\theta\theta}$-1.37; $M_{\phi\phi}$-1.60; $M_{r\theta}$-0.34; $M_{\theta\phi}$-1.16; $M_{\theta r}$-0.90; Fault plane solution: $M_0$2.98373×10^{21} NP1: ϕ_s216.00000°, δ54.18000°, λ83.24000°. NP2:ϕ_s47.44000°, δ36.37000°, λ99.25000°. Principal axes: T Plg79.4910°, Azm98.8920°; N Plg5.4700°, Azm219.9690°; P Plg8.9460°, Azm310.8330°;*

*TAP **23** 10:04:30.5, 24°.01N×121°.69E, h36km, ML3.9, B*

ISC 23 10:04:30.0±0.8, 23°.99N±0°.02×121°.73E±0°.02, h35km, n143, σ1°21/228, mb3.6/4, 20C-22D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.11**	**263**	⇑*i*P	**Pn**	**10 04 37.0**	**+0.9**
	baz=245						
HWA				*i*S	**Sn**	**10 04 40.9**	**+0.6**
	baz=245						
TWD	**Chiawan**	**0.15**	**307**	⇑*i*P	**Pn**	**10 04 36.9**	**+0.5**
	baz=314						
TWD				S	**Sn**	**10 04 41.6**	**+0.8**
	baz=314						
TEYL	**Yanliau Villag**	**0.17**	**224**	⇑P	**Pn**	**10 04 37.1**	**+0.6**
	baz=218						
TEYL				*i*S	**Sn**	**10 04 41.7**	**+0.6**
	baz=218						
ETL	**Fush Village**	**0.19**	**331**	*e*P	**Pn**	**10 04 37.2**	**+0.4**
	baz=338						
ETL				*e*S	**Sn**	**10 04 41.8**	**+0.3**
	baz=338						
ETM	**Tongmen**	**0.21**	**263**	⇑*i*P	**Pn**	**10 04 37.4**	**+0.4**
	baz=257						
ETM				*e*S	**Sn**	**10 04 42.5**	**+0.7**
	baz=257						
NACB	**Ninganchiao**	**0.22**	**327**	⇑*i*P	**Pn**	**10 04 37.4**	**+0.3**
	baz=322						
NACB				S	**Sn**	**10 04 42.6**	**+0.8**
	baz=322						
SHUL	**Shoufeng**	**0.25**	**216**	⇑P	**Pn**	**10 04 38.2**	**+0.8**
	baz=203						
SHUL				*e*S	**Sn**	**10 04 42.5**	**+0.1**
	baz=203						
LXIB	**Xiulin Townshi**	**0.29**	**276**	⇑*i*P	**Pn**	**10 04 37.9**	**0.0**
	baz=273						
LXIB				S	**Sn**	**10 04 43.4**	**0.0**
	baz=273						
ETLH	**Xiulin Townshi**	**0.31**	**314**	⇑*i*P	**Pn**	**10 04 38.2**	**+0.1**
	baz=308						
ETLH				*i*S	**Sn**	**10 04 44.0**	**+0.2**
	baz=308						
ESL	**Shilin**	**0.32**	**237**	⇑*i*P	**Pn**	**10 04 38.2**	**0.0**
	baz=238						
ESL				*e*S	**Sn**	**10 04 43.9**	**0.0**
	baz=238						
EAHA	**Aohua**	**0.34**	**2**	⇑P	**Pn**	**10 04 38.6**	**+0.1**
	baz=16						
EAHA				*e*S	**Sn**	**10 04 44.7**	**+0.5**
	baz=16						
WARBT	**Fenglin Townsh**	**0.41**	**229**	⇑*i*P	**Pn**	**10 04 39.2**	**-0.3**
	baz=231						
WARBT				*e*S	**Sn**	**10 04 46.0**	**0.0**
	baz=231						
EGFH	**Guangfu**	**0.42**	**220**	*e*P	**Pn**	**10 04 39.4**	**-0.2**
	baz=226						
EGFH				*e*S	**Sn**	**10 04 46.4**	**+0.3**

EHY				*e*S	**Sn**	**10 04 50.9**	**+0.1**
	baz=213						
EOS3	**EOS3**	**0.61**	**61**	*e*P	**Pn**	**10 04 43.3**	**+1.2**
	baz=70						
TWC	**Suao**	**0.62**	**10**	*e*P	**Pn**	**10 04 42.9**	**+0.5**
	baz=12						
EOS2	**EOS2**	**0.63**	**47**	*e*P	**Pn**	**10 04 43.7**	**+1.4**
	baz=56						
NDS	**Dongshan**	**0.64**	**359**	*e*P	**Pn**	**10 04 42.9**	**+0.3**
	baz=352						
NDS				*e*S	**Sn**	**10 04 51.9**	**+0.3**
	baz=352						
NDT	**Datong Townshi**	**0.64**	**342**	⇓*i*P	**Pn**	**10 04 42.9**	**+0.2**
	baz=345						
NDT				S	**Sn**	**10 04 51.7**	**+0.1**
	baz=345						
ENTT	**Nioudou**	**0.66**	**347**	⇓*i*P	**Pn**	**10 04 43.2**	**+0.2**
	baz=351						
ENTT				S	**Sn**	**10 04 52.2**	**0.0**
	baz=351						
YULB	**Yu-li**	**0.71**	**213**	*i* P	**Pn**	**10 04 43.0**	**-0.7**
	baz=211						
YULB				*e*S	**Sn**	**10 04 53.2**	**-0.2**
	baz=211						
ECBN	**Changbin**	**0.72**	**201**	P	**Pn**	**10 04 43.9**	**+0.3**
	baz=210						
ECBN				*e*S	**Sn**	**10 04 53.8**	**+0.3**
	baz=210						
TWE	**Neicheng**	**0.73**	**356**	⇓*i*P	**Pn**	**10 04 44.2**	**+0.4**
	baz=352						
TWE				*e*S	**Sn**	**10 04 53.9**	**+0.1**
	baz=352						
SSLB	**Suanglung**	**0.73**	**254**	⇑*i*P	**Pn**	**10 04 44.0**	**+0.1**
	baz=244						
EYUL	**Yuli**	**0.74**	**210**	*e*P	**Pn**	**10 04 43.8**	**-0.2**
	baz=218						
YHNB	**Yeheng**	**0.75**	**335**	⇓*i*P	**Pn**	**10 04 44.6**	**+0.4**
	baz=337						
YHNB				S	**Sn**	**10 04 54.1**	**-0.2**
	baz=337						
TWF1	**Yuli**	**0.75**	**212**	*e*P	**Pn**	**10 04 43.5**	**-0.7**
	baz=219						
WCS	**Beigang Elemen**	**0.75**	**275**	*e*P	**Pn**	**10 04 44.7**	**+0.6**
	baz=274						
WCS				*e*S	**Sn**	**10 04 54.3**	**+0.1**
	baz=274						
NSK	**Sanguang**	**0.76**	**334**	⇓*i*P	**Pn**	**10 04 44.7**	**+0.4**
	baz=336						
NSK				*e*S	**Sn**	**10 04 53.9**	**-0.7**
	baz=336						
SMLT	**Sun Moon Lake**	**0.76**	**262**	*e*P	**Pn**	**10 04 44.7**	**+0.3**
	baz=258						
SMLT				S	**Sn**	**10 04 55.1**	**+0.3**
	baz=258						
WHP	**Taichung City**	**0.77**	**292**	*e*P	**Pn**	**10 04 45.3**	**+0.8**
	baz=292						
WHP				*e*S	**Sn**	**10 04 55.4**	**+0.6**
	baz=292						
FUSB	**Fushanzhiwuyua**	**0.78**	**351**	⇓*i*P	**Pn**	**10 04 44.8**	**+0.3**
	baz=353						
FUSB				S	**Sn**	**10 04 55.4**	**+0.4**
	baz=353						
NWLT	**Wulai**	**0.81**	**345**	⇓*e*P	**Pn**	**10 04 45.4**	**+0.4**
	baz=348						
NWLT				*e*S	**Sn**	**10 04 56.0**	**+0.2**
	baz=348						
NFF	**Wufeng Townshi**	**0.84**	**319**	⇓*i*P	**Pn**	**10 04 46.4**	**+0.9**
	baz=320						
NFF				S	**Sn**	**10 04 57.4**	**+0.7**
	baz=320						
CHKH	**Chenggong**	**0.85**	**201**	*e*P	**Pn**	**10 04 45.5**	**-0.1**
	baz=210						
CHKH				*e*S	**Sn**	**10 04 58.1**	**+1.4**
	baz=210						
WHYT	**Xinyi Township**	**0.85**	**250**	*e*P	**Pn**	**10 04 46.5**	**+0.9**
	baz=246						
WHYT				*i* S	**Sn**	**10 04 57.7**	**+0.8**
	baz=246						
EGS		**0.87**	**12**	*e*P	**Pn**	**10 04 47.4**	**+1.6**
	baz=22						
EGS				*e*S	**Sn**	**10 04 59.0**	**+1.8**
	baz=22						
FULB	**Fuli**	**0.88**	**207**	*e*P	**Pn**	**10 04 46.3**	**+0.3**
	baz=216						
FULB				*e*S	**Sn**	**10 04 58.7**	**+1.1**
	baz=216						
NSTT	**Nanjuang**	**0.92**	**314**	⇓*i*P	**Pn**	**10 04 47.8**	**+1.4**
	baz=315						
NSTT				*e*S	**Sn**	**10 04 59.0**	**+0.5**
	baz=315						
LIOB	**Emei**	**0.92**	**315**	⇓*i*P	**Pn**	**10 04 48.0**	**+1.6**
	baz=316						
LIOB				S	**Sn**	**10 04 59.8**	**+1.3**
	baz=316						
WJS	**Zhushan**	**0.93**	**260**	*e*P	**Pn**	**10 04 48.7**	**+2.1**
	baz=258						
WJS				*e*S	**Sn**	**10 05 01.8**	**+3.1**
	baz=258						
TWQ1	**Liyutan**	**0.94**	**292**	⇓*i*P	**Pn**	**10 04 48.1**	**+1.4**
	baz=292						
TWQ1				S	**Sn**	**10 05 01.0**	**+2.0**
	baz=292						
CHKT	**Chengkung**	**0.95**	**201**	*e*P	**Pn**	**10 04 46.5**	**-0.3**
	baz=210						
WNT	**Mingjian**	**0.96**	**263**	*e*P	**Pn**	**10 04 48.6**	**+1.6**
	baz=262						
WNT				*e*S	**Sn**	**10 05 01.7**	**+2.3**
	baz=262						
EHD	**Haiduan**	**0.96**	**210**	*e*P	**Pn**	**10 04 46.5**	**-0.6**
	baz=216						
TCU	**Taichung**	**0.97**	**279**	⇑P	**Pn**	**10 04 49.0**	**+1.8**
	baz=278						
TCU				S	**Sn**	**10 05 02.1**	**+2.4**
	baz=278						
NSY	**Sanyi**	**0.98**	**296**	⇓*e*P	**Pn**	**10 04 48.8**	**+1.5**
	baz=295						
NSY				*e*S	**Sn**	**10 05 01.3**	**+1.4**
	baz=295						
TIPB	**Shuangxi**	**0.98**	**5**	*e*P	**Pn**	**10 04 48.5**	**+1.2**
	baz=357						
TIPB				*e*S	**Sn**	**10 05 00.9**	**+0.8**
	baz=357						
NHDH	**Xindian Distri**	**0.98**	**349**	*e*P	**Pn**	**10 04 48.3**	**+0.9**
	baz=342						
NHDH				*e*S	**Sn**	**10 05 00.8**	**+0.7**
	baz=342						
TWA	**Mucha**	**0.99**	**353**	⇓*i*P	**Pn**	**10 04 48.5**	**+1.0**
	baz=347						
TWA				*i* S	**Sn**	**10 05 01.3**	**+1.0**
	baz=347						
ECS	**Chishang**	**1.01**	**208**	*e*P	**Pn**	**10 04 48.2**	**+0.6**
	baz=214						
NMLH	**Miaoli**	**1.01**	**303**	⇓P	**Pn**	**10 04 49.3**	**+1.5**
	baz=302						
NMLH				S	**Sn**	**10 05 02.9**	**+2.1**
	baz=302						
ELDTW	**Lidau**	**1.03**	**219**	*e*P	**Pn**	**10 04 48.2**	**+0.1**
	baz=218						
ELDTW				*e*S	**Sn**	**10 05 01.2**	**-0.2**
	baz=218						
TWB1	**Santiao Chiao**	**1.04**	**13**	*e*P	**Pn**	**10 04 49.8**	**+1.7**
	baz=16						
SBCB	**Hsinchu**	**1.04**	**320**	*e*P	**Pn**	**10 04 49.5**	**+1.4**
	baz=337						
WDJ	**Dajia District**	**1.05**	**290**	*e*P	**Pn**	**10 04 49.8**	**+1.5**
	baz=289						
WDJ				*e*S	**Sn**	**10 05 04.1**	**+2.3**
	baz=289						
HSN	**Hsinchu**	**1.06**	**320**	*e*P	**Pn**	**10 04 50.0**	**+1.6**
	baz=323						
HSN				*e*S	**Sn**	**10 05 04.0**	**+2.0**
	baz=323						
WFSB	**Wu-fen Shan**	**1.08**	**3**	P	**Pn**	**10 04 49.8**	**+1.2**
	baz=353						
WFSB				*e*S	**Sn**	**10 05 03.2**	**+0.8**
	baz=353						
NCUH	**Zhongli**	**1.09**	**333**	*e*P	**Pn**	**10 04 50.1**	**+1.3**
	baz=335						
SXI1	**Grass Mountain**	**1.11**	**7**	⇓*i*P	**Pn**	**10 04 50.3**	**+1.1**
	baz=356						
WGK	**Gukeng**	**1.11**	**254**	*e*P	**Pn**	**10 04 50.7**	**+1.6**
	baz=252						
WDLH	**Douliu**	**1.13**	**255**	P	**Pn**	**10 04 51.2**	**+1.9**
	baz=253						
WDLH				*e*S	**Sn**	**10 05 06.3**	**+2.7**
	baz=253						
TWS1	**Kuangyinshan**	**1.14**	**346**	*e*P	**Pn**	**10 04 50.4**	**+0.9**
	baz=357						
TWS1				S	**Sn**	**10 05 06.3**	**+2.4**
	baz=357						
TNOU	**National Taiwa**	**1.15**	**2**	⇑P	**Pn**	**10 04 50.5**	**+0.8**
	baz=353						
TNOU				*e*S	**Sn**	**10 05 05.3**	**+1.0**
	baz=353						
YM01	**YM01**	**1.16**	**353**	⇓*i*P	**Pn**	**10 04 50.3**	**+0.5**
	baz=345						
YM01				*e*S	**Sn**	**10 04 05.9**	**+0.5**
	baz=345						
WCKO	**Fanlu**	**1.17**	**242**	*e*P	**Pn**	**10 04 52.0**	**+2.1**
	baz=241						
WCKO				*e*S	**Sn**	**10 05 06.7**	**+2.2**
	baz=241						
NTST	**Danshui**	**1.20**	**348**	*e*P	**Pn**	**10 04 51.0**	**+0.8**
	baz=350						
STYH	**Taoyuan**	**1.20**	**227**	P	**Pn**	**10 04 51.6**	**+1.4**
	baz=226						
STYH				*e*S	**Sn**	**10 05 07.1**	**+1.9**
	baz=226						
YM08	**YM08**	**1.20**	**354**	⇓P	**Pn**	**10 04 50.5**	**+0.1**
	baz=343						
JYNG	**Yonagunijimaku**	**1.20**	**67**	P	**Pn**	**10 04 51.2**	**+0.9**
JYNG				S	**Sn**	**10 05 07.3**	**+1.9**
ANP	**Anpu**	**1.21**	**351**	*e*P	**Pn**	**10 04 50.9**	**+0.4**
	baz=354						
LONT	**Longtian**	**1.21**	**207**	*e*P	**Pn**	**10 04 50.4**	**-0.1**
	baz=193						
TPUB	**Ta-pu**	**1.22**	**236**	*e*P	**Pn**	**10 04 52.3**	**+1.7**
	baz=229						
TPUB				*e*S	**Sn**	**10 05 07.3**	**+1.5**
	baz=229						
CHN2	**Minshiung**	**1.23**	**249**	*e*P	**Pn**	**10 04 53.4**	**+2.6**
	baz=247						
WRL	**Guolierlin Hig**	**1.24**	**266**	*e*P	**Pn**	**10 04 52.4**	**+1.6**
	baz=276						
WRL				*i* S	**Sn**	**10 05 08.4**	**+2.1**
	baz=276						
WTP	**Ta-pu**	**1.26**	**234**	*e*P	**Pn**	**10 04 53.0**	**+1.8**
	baz=233						
WTP				*e*S	**Sn**	**10 05 09.3**	**+2.3**
	baz=233						
WTK	**Tuku**	**1.26**	**256**	*e*P	**Pn**	**10 04 53.1**	**+2.0**
	baz=254						
YOJ	**Yonaguni jima**	**1.26**	**68**	*e*P	**Pn**	**10 04 51.8**	**+0.7**
	baz=69						
YOJ	**Yonaguni jima**	**1.26**	**68**	*e*S	**Sn**	**10 05 07.6**	**+0.7**
TWG	**Pinlang**	**1.31**	**207**	*e*P	**Pn**	**10 04 51.2**	**-0.7**
	baz=207						
TWG				*e*S	**Sn**	**10 05 07.4**	**-0.7**
	baz=207						
TWGBT	**Beinan**	**1.31**	**207**	*e*P	**Pn**	**10 04 50.8**	**-1.1**
	baz=207						
TWGBT				*e*S	**Sn**	**10 05 07.7**	**-0.4**
	baz=207						
WTCT	**Ta-ch'eng**	**1.33**	**265**	*e*P	**Pn**	**10 04 54.0**	**+1.9**
	baz=263						
LDUT	**Ludao**	**1.33**	**190**	*e*P	**Pn**	**10 04 51.2**	**-1.0**
	baz=179						
TTN	**Taitung**	**1.34**	**203**	*e*P	**Pn**	**10 04 53.4**	**+1.2**
	baz=202						
CHN1	**Nanshi**	**1.36**	**234**	P	**Pn**	**10 04 54.6**	**+2.0**
	baz=232						
SNST	**Tainan City**	**1.36**	**236**	*e*P	**Pn**	**10 04 55.0**	**+2.4**
	baz=234						
SGST	**Jiashian**	**1.39**	**229**	*e*P	**Pn**	**10 04 54.3**	**+1.4**
	baz=219						
SGST				*e*S	**Sn**	**10 05 12.4**	**+2.4**
	baz=219						
SLGT	**Liugui**	**1.40**	**225**	P	**Pn**	**10 04 55.4**	**+2.3**
	baz=225						
SLGT				*e*S	**Sn**	**10 05 13.3**	**+2.8**
	baz=225						
WSF	**Szhu**	**1.42**	**256**	*e*P	**Pn**	**10 04 54.3**	**+1.0**
	baz=254						
WSL	**Shuilin Townsh**	**1.45**	**252**	*e*P	**Pn**	**10 04 55.8**	**+2.0**
	baz=250						
ICHU	**Yijhu**	**1.47**	**245**	*e*P	**Pn**	**10 04 56.3**	**+2.3**
	baz=244						
ICHU				*e*S	**Sn**	**10 05 14.6**	**+2.6**
	baz=244						
ECL	**Taimali**	**1.56**	**207**	*e*P	**Pn**	**10 04 55.6**	**+0.4**
	baz=197						
SCST	**Cishan**	**1.58**	**226**	*e*P	Pn	10 04 58.7	+3.1
	baz=237						
TSMG	**Majia**	**1.62**	**218**	*e*P	**Pn**	**10 04 58.4**	**+2.3**
	baz=217						
PCYT	**Pengchaiyu**	**1.66**	**11**	*e*P	**Pn**	**10 04 58.2**	**+1.6**
	baz=358						
PCYT				*e*S	**Sn**	**10 05 18.4**	**+1.6**
	baz=358						
MASBT	**Mashibuluo**	**1.70**	**216**	*e*P	**Pn**	**10 04 58.0**	**+0.8**
	baz=217						
MASBT				*e*S	**Sn**	**10 05 20.3**	**+2.5**
	baz=217						
TSCK	**Chigu Township**	**1.72**	**241**	*e*P	**Pn**	**10 04 59.4**	**+1.9**
	baz=241						
TSCK				*i* S	**Sn**	**10 05 20.3**	**+2.0**
	baz=241						
EAST	**Anshuo**	**1.79**	**207**	*e*P	**Pn**	**10 04 58.1**	**-0.4**
	baz=199						
TAWH	**Dawu Township**	**1.82**	**205**	*e*P	**Pn**	**10 04 59.9**	**+1.1**
	baz=197						
IRIF	**Iriomote-Funau**	**1.86**	**79**	P	**Pn**	**10 05 00.6**	**+1.2**
IRIF				*e*S	**Sn**	**10 05 22.1**	**+0.4**
HATJ	**Hateruma jima**	**1.90**	**88**	*e*S	**Sn**	**10 05 24.2**	**+1.5**
SCZT	**Fangliau**	**1.91**	**212**	*e*P	**Pn**	**10 05 02.4**	**+2.4**
	baz=212						
LAY	**Lan-yu**	**1.95**	**185**	*e*P	**Pn**	**10 04 59.7**	**-1.0**
	baz=184						
SLIU	**Shizi**	**1.96**	**206**	*e*P	**Pn**	**10 05 02.9**	**+2.0**
	baz=200						
LYUB	**Lan-yu**	**1.98**	**184**	*e*P	**Pn**	**10 04 59.1**	**-2.0**
	baz=183						
PHUB	**P'eng-hu**	**2.03**	**257**	P	**Pn**	**10 05 02.8**	**+1.1**
	baz=256						
PHUB				*i* S	**Sn**	**10 05 26.0**	**+0.1**
	baz=256						
WDGT	**Dungji**	**2.03**	**249**	*e*P	**Pn**	**10 05 03.2**	**+1.4**
	baz=249						
WDGT				*e*S	**Sn**	**10 05 27.2**	**+1.4**
	baz=249						
JKRS	**Kuro-shima**	**2.10**	**83**	P	**Pn**	**10 05 04.3**	**+1.6**
JKRS				*e*S	**Sn**	**10 05 29.7**	**+2.1**
TWKBT	**Hengchun**	**2.21**	**203**	*e*P	**Pn**	**10 05 06.3**	**+2.1**
	baz=193						
JIJ	**Ishigaki jima**	**2.24**	**80**	P	**Pn**	**10 05 05.5**	**+0.9**
JIJ				S	**Sn**	**10 05 31.1**	**0.0**
VCHM	**Qimei**	**2.25**	**250**	P	**Pn**	**10 05 06.1**	**+1.4**
	baz=238						
VCHM				*i* S	**Sn**	**10 05 32.5**	**+1.3**
	baz=238						
VWUC	**VWUC**	**2.30**	**296**	*e*P	**Pn**	**10 05 04.9**	**-0.5**
	baz=295						
JISG	**Ishigakijimahi**	**2.43**	**75**	P	**Pn**	**10 05 08.2**	**+0.9**
JISG				*e*S	**Sn**	**10 05 35.8**	**+0.1**
PTMZ	**Houxiangcun**	**2.59**	**294**	*e*P	**Pn**	**10 05 09.1**	**-0.3**
	baz=292						
MATB	**Ma-tsu**	**2.69**	**323**	*e*P	**Pn**	**10 05 10.1**	**-0.7**
	baz=322						
KNM	**Kinmen**	**3.04**	**279**	*e*P	**Pn**	**10 05 16.8**	**+1.3**
	baz=276						
KNMB	**Chin-men Tao**	**3.08**	**279**	*e*P	**Pn**	**10 05 15.8**	**-0.4**
	baz=277						
XPSS	**Dashiqiu**	**3.24**	**335**	*e*P	**Pn**	**10 05 17.6**	**-0.8**
	baz=333						
ZPLA	**Ao Xicun**	**3.64**	**270**	*e*P	**Pn**	**10 05 23.7**	**-0.1**
	baz=268						
DSXP	**Dongshan**	**3.95**	**267**	*e*P	**Pn**	**10 05 27.3**	**-0.8**
	baz=265						
SXFK	**Yanhouchang**	**4.41**	**304**	*e*P	**Pn**	**10 05 33.9**	**-0.6**
	baz=303						
KSRS	**Korea Array**	**14.43**	**20**	Pn	**P**	**10 07 58.3**	**+0.2**
	0.1nm,0.3s,baz=201,slow=11,SNR=4.9						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**40.67**	**327**	P	**P**	**10 12 06.8**	**0.0**
	0.5nm,0.4s,baz=122,slow=7.2,SNR=2.7						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**42.57**	**320**	P	**P**	**10 12 21.9**	**-0.5**
	0.2nm,0.4s,baz=106,slow=10.0,SNR=2.3						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**45.37**	**163**	P	**P**	**10 12 42.6**	**-2.5**
	0.3nm,0.4s,baz=345,slow=8.6,SNR=8.9						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**48.14**	**321**	P	**P**	**10 13 06.1**	**-0.4**
	0.5nm,0.4s,baz=99,slow=9.3,SNR=2.9						
	0.5nm,0.4s						
NRIK	**Noril'sk**	**49.72**	**345**	LR	LR	10 36 26.7	
	comp=Z,52nm,20.0s,baz=280,slow=38						

SOME ***23*** *10:09:28.2,41°.20N×77°.03E,h0km*
KRNET ***23*** *10:09:28.8±0.1,41°.19N×76°.96E,h13km,mb3.2*
NNC ***23*** *10:09:31.8±1.5,41°.21N×77°.07E,h0km,mb4.0,mpv3.7,*
Error ellipse: s-maj=11.1km s-min=6.4km az=169.0
KNET ***23*** *10:09:32.7±0.7,41°.24N×76°.70E,h7km±4km,ml3.0,Error ellipse: s-maj=7.8km s-min=4.3km az=81.0*

ISC 23 10:09:28.8±1.4,41°.18N±0°.05×76°.89E±0°.02,h3km±11km, n70,σ1.9±45/117,41C-27D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.71**	**291**	⇑*i*P	**Pb**	**10 09 43.6**	**-0.5**
	baz=88						
NRN				⇑*i*S	**Sb**	**10 09 54.8**	**+0.3**
	baz=88						
TARG	**Taragay, Kyrgy**	**0.88**	**51**	⇓*i*P	**Pg**	**10 09 44.8**	**-0.9**
	baz=49						
TARG				⇓*i*S	**Sg**	**10 09 56.4**	**-0.7**
	baz=49						
KDJ	**Kajisay**	**0.97**	**13**	⇑*i*P	**Pg**	**10 09 47.2**	**-0.3**
	baz=11						
KDJ				⇑*i*S	**Sb**	**10 10 00.5**	**-1.2**
	baz=11						
ULHL	**Ulahol**	**1.17**	**336**	⇑P	**Pn**	**10 09 52.0**	**-0.2**
	12nm,0.1s,SNR=7.9						
ULHL				⇑S	**Sn**	**10 10 09.1**	**+0.3**
	144nm,0.2s						
ULHL	**Ulahol**	**1.17**	**336**	⇑*i*P	**Pn**	**10 09 51.7**	**-0.5**
	baz=33						
ULHL				⇑*i*S	**Sn**	**10 10 07.9**	**-0.9**
	baz=33						
BOOM	**Boomskoye usch**	**1.49**	**332**	⇓*i*P	**Pg**	**10 09 57.1**	**-0.2**
	baz=30						
BOOM				⇓*i*S	**Sg**	**10 10 17.9**	**+1.3**
	baz=30						
PRZ	**Przheval'sk**	**1.72**	**40**	⇑*i*P	**Pb**	**10 10 00.6**	**-0.6**
	baz=39						
PRZ				⇑*i*S	**Sg**	**10 10 23.6**	**-0.5**
	baz=39						
TNSS	**Tian-Shan**	**1.85**	**1**	*e*P	**Pg**	**10 10 04.2**	**-0.2**
	24nm,0.2s						
TNSS				*e*S	**Sg**	**10 10 30.1**	**+1.8**
	53nm,0.7s						
TNSS	**Tian-Shan**	**1.85**	**1**	Pg	**Pg**	**10 10 04.2**	**-0.2**
	25nm,0.4s						
TNSS				Lg	Lg	10 10 30.1	
	53nm,0.7s						
MTBS	**Maitube**	**1.98**	**350**	*e*P	**Pg**	**10 10 06.6**	**-0.1**
	63nm,0.1s						
MTBS				*e*S	**Sg**	**10 10 34.3**	**+2.0**
	65nm,0.2s						
MTBS	**Maitube**	**1.98**	**350**	Pg	**Pg**	**10 10 06.6**	**-0.1**
	64nm,0.3s						
MTBS				Lg	Lg	10 10 34.3	
	65nm,0.2s						
MDOK	**Medeo**	**1.98**	**3**	*e*P	**Pg**	**10 10 06.3**	**-0.5**
	23nm,0.2s						
MDOK				*e*S	**Sg**	**10 10 33.8**	**+1.3**
	77nm,0.7s						
MDOK	**Medeo**	**1.98**	**3**	⇑Pn	**Pg**	**10 10 06.1**	**-0.7**
	17nm,0.5s						
MDOK				Pg	**Pg**	**10 10 06.3**	**-0.5**
	24nm,0.5s						
MDOK				⇓Sn	**Sg**	**10 10 34.0**	**+1.4**
	70nm,0.6s						
MDOK				Lg	Lg	10 10 34.1	
	77nm,0.7s						
TKM2	**Tokmak 2**	**1.98**	**331**	⇑P	**Pg**	**10 10 07.6**	**+0.7**
	11nm,0.2s,SNR=6.1						
TKM2				⇓S	**Sg**	**10 10 34.8**	**+2.2**
	39nm,0.2s						
TKM2	**Tokmak 2**	**1.98**	**331**	⇑Pn	**Pg**	**10 10 07.2**	**+0.3**
	5.6nm,0.3s						
TKM2				⇓Sn	**Sg**	**10 10 34.5**	**+1.8**
	81nm,0.7s						
TKM2	**Tokmak 2**	**1.98**	**331**	⇑*i*P	**Pg**	**10 10 06.0**	**-0.9**
	baz=30						
TKM2				⇑*i*S	**Sg**	**10 10 33.1**	**+0.5**
	baz=30						
KNDC	**Almaty**	**2.03**	**2**	⇑Pn	**Pg**	**10 10 06.9**	**-0.9**
	34nm,0.4s						
KNDC				⇑Sn	**Sg**	**10 10 35.6**	**+1.4**
	71nm,0.3s						
ARLS	**Aral**	**2.04**	**290**	⇑*i*P	**Pb**	**10 10 07.1**	**+0.4**
	baz=89						
ARLS				⇑*i*S	**Sg**	**10 10 34.9**	**+0.4**
	baz=89						
KOTS	**Kotyrbulak**	**2.06**	**5**	*e*P	**Pg**	**10 10 07.7**	**-0.5**
	32nm,0.2s						
KOTS				*e*S	**Sg**	**10 10 36.4**	**+1.5**
	345nm,0.4s						
KOTS	**Kotyrbulak**	**2.06**	**5**	Pg	**Pg**	**10 10 07.7**	**-0.5**
	32nm,0.2s						
KOTS				Lg	Lg	10 10 36.4	
	323nm,0.6s						
UCH	**Uchtor**	**2.06**	**301**	⇓P	**Pg**	**10 10 07.8**	**-0.5**
	9.4nm,0.2s,SNR=44						
UCH				⇑S	**Sg**	**10 10 35.8**	**+0.7**
	17nm,0.2s						
UCH	**Uchtor**	**2.06**	**301**	⇑*i*P	**Pg**	**10 10 07.7**	**-0.7**
	baz=0.0						
UCH				⇑*i*S	**Sg**	**10 10 35.7**	**+0.6**
	baz=0.0						
KBK	**Karagaybulak**	**2.07**	**316**	⇑P	**Pg**	**10 10 09.0**	**+0.6**
	28nm,0.2s,SNR=14						
KBK				⇑S	**Sg**	**10 10 37.5**	**+2.3**
	131nm,0.3s						
KBK	**Karagaybulak**	**2.07**	**316**	⇑*i*P	**Pb**	**10 10 07.3**	**+0.2**
	baz=15						
KBK				⇑*i*S	**Sg**	**10 10 35.2**	**0.0**
	baz=15						
SATY	**Saty**	**2.19**	**31**	*e*P	**Pb**	**10 10 09.2**	**0.0**
	33nm,0.2s						
SATY				*e*S	**Sg**	**10 10 38.8**	**-0.3**
	98nm,0.2s						
SATY	**Saty**	**2.19**	**31**	Pg	**Pb**	**10 10 09.0**	**-0.1**
	35nm,0.5s						
SATY				Lg	Lg	10 10 39.3	
	98nm,0.2s						
DGS	**Degeres**	**2.22**	**338**	*e*P	**Pg**	**10 10 10.8**	**-0.5**
	7.2nm,0.4s						
DGS				*e*S	**Sg**	**10 10 41.8**	**+1.7**
	181nm,0.4s						
DGS	**Degeres**	**2.22**	**338**	Pg	**Pg**	**10 10 11.2**	**-0.1**
	7.2nm,0.4s						
DGS				Lg	Lg	10 10 42.0	
	181nm,0.4s						
AAK	**Ala-Archa**	**2.30**	**310**	⇑P	**Pg**	**10 10 12.8**	**-0.2**
	38nm,0.4s,SNR=13						
AAK				⇓S	**Sg**	**10 10 42.9**	**+0.1**
	35nm,0.2s						
AAK	**Ala-Archa**	**2.30**	**310**	⇓Pn	**Pg**	**10 10 12.3**	**-0.7**
	18nm,0.4s						
AAK				⇑Sn	**Sg**	**10 10 43.9**	**+1.1**
	36nm,0.5s						
AAK	**Ala-Archa**	**2.30**	**310**	⇓*i*P	**Pb**	**10 10 10.8**	**-0.3**
	baz=9.0						
AAK				⇓*i*S	**Sg**	**10 10 40.9**	**-2.0**
	baz=9.0						
FRU1	**Bishkek**	**2.34**	**315**	⇑*i*P	**Pb**	**10 10 11.2**	**-0.5**
	baz=14						
FRU1				⇑*i*S	**Sg**	**10 10 42.4**	**-1.6**
	baz=14						
CHMS	**Chumysh**	**2.41**	**319**	⇓P	**Pg**	**10 10 13.8**	**-1.3**
	31nm,0.3s,SNR=8.5						
CHMS				⇓S	**Sg**	**

UZB	**Uzynbulak**	**2.52**	**38**	*e*P		**Pb**	**10 10 14.7 -0.1**
	24nm,0.3s						
UZB				*e*S		**Sg**	**10 10 48.2 -1.7**
	58nm,0.6s						
UZB	**Uzynbulak**	**2.52**	**38**	Pg		**Pb**	**10 10 14.7 -0.1**
	24nm,0.3s						
UZB				Lg		Lg	10 10 48.2
	58nm,0.6s						
KTBS	**Karatobe**	**2.53**	**357**	*e*P		**Pg**	**10 10 16.0 -1.4**
	54nm,0.4s						
KTBS				*e*S		**Sg**	**10 10 50.2 +0.1**
	51nm,0.6s						
KTBS	**Karatobe**	**2.53**	**357**	Pg		**Pg**	**10 10 16.0 -1.4**
	54nm,0.4s						
KTBS				Lg		Lg	10 10 51.2
	51nm,0.6s						
AML	**Almayashu**	**2.58**	**293**	⇓P		**Pb**	**10 10 15.3 -0.6**
	36nm,0.3s,SNR=13						
AML	**Almayashu**	**2.58**	**293**	⇓*i*P		**Pb**	**10 10 14.8 -1.1**
	baz=92						
AML				⇓*i*S		**Sb**	**10 10 48.1 0.0**
	baz=92						
KPKS	**Kokpek**	**2.64**	**30**	*e*P		**Pb**	**10 10 16.7 -0.1**
	34nm,0.4s						
KPKS				*e*S		**Sg**	**10 10 51.4 -2.2**
	113nm,0.4s						
KPKS	**Kokpek**	**2.64**	**30**	Pg		**Pb**	**10 10 16.7 -0.1**
	34nm,0.4s						
KPKS				Lg		Lg	10 10 52.5
	113nm,0.4s						
KRBS	**Karabastau**	**2.67**	**341**	*e*P		**Pg**	**10 10 19.0 -1.0**
	8.2nm,0.4s						
KRBS				*e*S		**Sg**	**10 10 55.5 +1.0**
	81nm,0.3s						
KRBS	**Karabastau**	**2.67**	**341**	Pg		**Pg**	**10 10 19.3 -0.6**
	8.2nm,0.4s						
KRBS				Lg		Lg	10 10 55.8
	74nm,0.5s						
CHKK	**Chushkaly**	**2.67**	**2**	*e*P		**Pg**	**10 10 18.2 -1.8**
	33nm,0.4s						
CHKK				*e*S		**Sg**	**10 10 54.4 -0.2**
	41nm,0.3s						
CHKK	**Chushkaly**	**2.67**	**2**	Pg		**Pg**	**10 10 18.2 -1.8**
	33nm,0.4s						
CHKK				Lg		Lg	10 10 53.7
	41nm,0.3s						
USP	**Ospenovka**	**2.74**	**320**	⇑*i*P		**Pb**	**10 10 16.5 -1.9**
	baz=19						
USP				⇑*i*S		**Sb**	**10 10 51.2 -1.1**
	baz=19						
SHLS	**Shalkode**	**2.75**	**43**	*e*P		**Pg**	**10 10 22.9 +1.4**
	29nm,0.2s						
SHLS				*e*S		**Sg**	**10 11 02.1 +5.0**
	183nm,0.6s						
SHLS	**Shalkode**	**2.75**	**43**	Pg		**Pg**	**10 10 22.9 +1.4**
	29nm,0.5s						
SHLS				Lg		Lg	10 11 02.7
	183nm,0.6s						
EKS2	**Erkin-Say**	**2.75**	**303**	⇑P		**Pb**	**10 10 18.3 -0.4**
	18nm,0.4s,SNR=12						
EKS2	**Erkin-Say**	**2.75**	**303**	⇑*i*P		**Pb**	**10 10 17.0 -1.7**
	baz=3.0						
EKS2				⇑*i*S		**Sb**	**10 10 51.9 -1.0**
	baz=3.0						
PDGK	**Podgornoye**	**2.88**	**41**	Pg		**Pb**	**10 10 21.1 +0.1**
	5.9nm,0.3s						
PDGK				Lg		Lg	10 10 59.1
	39nm,0.5s						
PDGK	**Podgornoye**	**2.88**	**41**	⇑Pn		**Pb**	**10 10 19.3 -1.6**
	8.7nm,0.6s						
PDGK				⇓Sn		**Sg**	**10 10 59.1 -2.4**
	60nm,0.6s						
ARSB	**Arslanbob**	**2.95**	**274**	⇓*e*P		**Pb**	**10 10 19.5 -2.6**
	baz=74						
ARSB				⇓*e*S		**Sb**	**10 10 56.9 -1.7**
	baz=74						
ARXS	**Arharly**	**3.11**	**13**	*e*P		**Pb**	**10 10 26.0 +1.2**
	20nm,0.6s						
ARXS				*e*S		**Sg**	**10 11 07.6 -1.0**
	37nm,0.4s						
ARXS	**Arharly**	**3.11**	**13**	Pg		**Pb**	**10 10 26.0 +1.2**
	20nm,0.6s						
ARXS				Lg		Lg	10 11 07.6
	37nm,0.4s						
BLB	**Baldybastay**	**3.14**	**21**	Pg		**Pb**	**10 10 25.8 +0.4**
	40nm,0.2s						
BLB				Lg		Lg	10 11 08.1
	82nm,0.4s						
MRKS	**Merke**	**3.15**	**301**	*e*P		**Pg**	**10 10 28.3 -0.8**
	19nm,0.6s						
MRKS				*e*S		**Sg**	**10 11 11.4 +1.5**
	28nm,0.2s						
MRKS	**Merke**	**3.15**	**301**	Pg		**Pg**	**10 10 28.3 -0.8**
	19nm,0.6s						
MRKS				Lg		Lg	10 11 12.0
	27nm,0.5s						
MNAS	**Manas**	**3.53**	**293**	⇓*i*P		**Pn**	**10 10 27.7 +3.1**
	baz=93						
MNAS				⇓*i*S		**Sb**	**10 11 10.8 -4.4**
	baz=93						
DJR	**Jarkent**	**3.80**	**33**	*e*P		**Pb**	**10 10 37.3 +0.7**
	1.9nm,0.1s						
DJR				*e*S		**Sg**	**10 11 26.9 -4.1**
	22nm,0.4s						
DJR	**Jarkent**	**3.80**	**33**	Pg		**Pb**	**10 10 37.4 +0.7**
	6.0nm,0.6s						
DJR				Lg		Lg	10 11 26.9
	22nm,0.4s						
KK31	**Karatay Array**	**5.12**	**294**	⇓Pn		**Pb**	**10 10 55.4 -3.5**
	0.5nm,0.4s,baz=99,slow=19,SNR=14						
KK31				⇑Lg		Lg	10 12 15.6
	3.3nm,0.5s,baz=109,slow=29,SNR=6.9						
IUG	**Iuzhnay**	**5.23**	**283**	*e*P		**Pg**	**10 11 08.8 -0.2**
	12nm,0.2s						
IUG				*e*S		**Sg**	**10 12 21.3 +4.6**
	23nm,0.7s						
IUG	**Iuzhnay**	**5.23**	**283**	Pg		**Pg**	**10 11 09.8 +0.9**
	11nm,0.7s						
IUG				Lg		Lg	10 12 22.4
	23nm,0.7s						
MAKZ	**Makanchi**	**6.71**	**31**	⇓Pn		Pn	10 11 12.9 +4.7
	6.5nm,0.6s						
MAKZ				⇓Lg		Lg	10 13 08.1
	3.5nm,0.9s						
MK31	**Makanchi Array**	**6.83**	**33**	⇑Pn		**Pn**	**10 11 13.1 +3.3**
	0.2nm,0.4s						
MK31				⇑Lg		Lg	10 13 07.1
	6.3nm,1.1s,baz=214,slow=27,SNR=4.2						

*TIR **23** 10:15:18.0,41.°50N×19.°68E,h24km±19km,Md2.6,MI1.9*
ISC 23 10:15:17.3±1.5,41.°5N±0.°1×19.°58E±0.°09,h18km±7km,n8,σ0.°62/13,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.24**	**116**	P		**Pg**	**10 15 23.0 +0.1**
	baz=136						
TIR				S		**Sg**	**10 15 27.4 +0.7**
	baz=136						
TIR				AMP			
	comp=E,0.7nm,0.1s,baz=136						
PUK	**Puka**	**0.64**	**22**	P		**Pb**	**10 15 29.6 -0.3**
	baz=16						
PUK				S		**Sb**	**10 15 38.5 +0.1**
	baz=16						
PUK				AMP			
	comp=E,0.2nm,0.3s,baz=16						
BCI	**Bajram Curri**	**0.98**	**22**	P		**Pb**	**10 15 34.9 -0.9**
	baz=18						
BCI				S		**Sb**	**10 15 49.3 +0.9**
	baz=18						
BCI				AMP			
	comp=E,0.1nm,0.2s,baz=18						
FNA	**Florina**	**1.52**	**116**	P		**Pg**	**10 15 46.0 -0.5**
	baz=118						
FNA				S		**Sg**	**10 16 06.2 0.0**
	baz=118						
FNA				AMP			
	comp=E,0.1nm,0.2s,baz=118						
DBRK	**Dubrovnik**	**1.62**	**319**	*e*Pn		**Pg**	**10 15 48.1 -0.3**
DBRK				Sn		**Sg**	**10 16 09.6 +0.1**
STON	**Ston**	**1.99**	**316**	Sn		**Sn**	**10 16 15.1 +0.6**
MAKA	**Makarska**	**2.64**	**315**	Sn		**Sn**	**10 16 30.4 0.0**
RICI	**Ricice**	**2.73**	**319**	Sn		**Sn**	**10 16 33.4 +0.8**

*DSN **23** 10:18:14.4±1.7,28.°40N×55.°59E,h15km,ML3.3/9,Error ellipse: s-maj=42.2km s-min=14.5km az=69.0*
*TEH **23** 10:18:22.1,27.°48N×54.°94E,h18km±20km,ML3.5*
ISC 23 10:18:23.8±1.1,27.°47N±0.°04×54.°96E±0.°04,h20km,n26,σ2.°25/28,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.56**	**292**	Pg		**Pb**	**10 18 32.7 -2.3**
GENO	**Geno**	**1.08**	**93**	Pg		**Pn**	**10 18 43.0 -0.9**
IBND	**Bandar-abas**	**1.41**	**90**	Pg		**Pb**	**10 18 48.5 -0.8**
IBND				Sg		**Sb**	**10 19 08.8 +2.0**
LMD1	**Lamerd**	**1.60**	**266**	Pg		**Pb**	**10 18 52.1 -0.5**
JHRM	**Jahrom**	**1.60**	**311**	Pg		**Pb**	**10 18 51.7 -1.1**
SHME	**Shamm**	**1.76**	**143**	P		**Pb**	**10 18 53.2 -2.2**
SHME				S		**Sb**	**10 19 23.2 +6.0**
MSFE	**Esma-Masafi**	**2.36**	**153**	P		**Pb**	**10 19 02.9 -2.7**
MDH	**Madha**	**2.47**	**151**	P		**Pb**	**10 19 04.5 -3.0**
KHNJ	**Kahnooj**	**2.48**	**78**	Pn		**Pn**	**10 19 02.9 -0.2**
NAZ	**Nazwa, Dubai**	**2.55**	**165**	P		**Pb**	**10 19 07.8 -1.0**
UOSS	**Minazif**	**2.75**	**156**	P		**Pb**	**10 19 08.4 -3.9**
HATD	**Hatta, Dubai**	**2.83**	**158**	P		**Pb**	**10 19 10.4 -3.3**
ASUD	**Al Ashush, Dub**	**2.85**	**173**	P		**Pb**	**10 19 12.2 -1.8**
ASHO	**Ashiyiah**	**2.94**	**160**	P		**Pb**	**10 19 11.1 -4.5**
TVBK	**TV Kerman**	**2.97**	**32**	Pn		**Pn**	**10 19 10.1 0.0**
JASK	**Jask - Hormozg**	**3.05**	**121**	Pn		**Pn**	**10 19 11.2 +0.3**
KHGB	**Koh Gabri**	**3.19**	**24**	Pn		**Pn**	**10 19 13.1 +0.1**
CHMN	**Cheshme madani**	**3.29**	**43**	Pn		**Pn**	**10 19 15.1 +0.5**
ALNE	**Al Ain**	**3.47**	**168**	P		**Pn**	**10 19 18.8 +2.1**
KBAM	**BAM**	**3.50**	**61**	Pn		**Pn**	**10 19 17.6 +0.4**
SOHO	**SOHO**	**3.61**	**156**	P		**Pn**	**10 19 18.5 -0.1**
ZRDN	**Zarand Kerman**	**3.75**	**21**	Pn		**Pn**	**10 19 21.4 +0.6**
ISAD	**Sadrabad**	**4.57**	**346**	Pn		**Pn**	**10 19 31.8 -0.2**
KLNJ	**Kolanjah**	**4.59**	**321**	Pn		**Pn**	**10 19 32.0 -0.4**
IRAM	**Ramesheh**	**4.88**	**333**	Pn		**Pn**	**10 19 35.7 -0.5**
TPRV	**Parvadeh(Tabas**	**5.74**	**15**	Pn		**Pn**	**10 19 48.1 +0.1**

IDC 23 10:30:09.6±4.6,5.°79S×128.°94E,h321km±53km,mb2.9/1,mbtmp3.9/3,Error ellipse: s-maj=115.3km s-min=17.0km az=70.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.01**	**160**	P		P	10 33 25.0 -0.8
	1.5nm,0.3s,baz=341,slow=12,SNR=57						
WRA				S		S	10 36 04.5 -4.2
	1.2nm,0.9s,baz=337,slow=22,SNR=5.6						
ASAR	**Alice Springs**	**18.40**	**165**	P		P	10 34 03.3 +0.8
	2.4nm,0.6s,baz=347,slow=11,SNR=37						
ASAR				S		S	10 37 16.4 +0.6
	0.8nm,0.6s,baz=348,slow=26,SNR=5.9						
MKAR	**Makanchi Array**	**66.65**	**327**	P		P	10 40 26.4 0.0
	0.2nm,0.4s,baz=138,slow=5.6,SNR=1.7						
	0.2nm,0.4s						

*MDD **23** 10:30:18.6±0.9,30.°11N×15.°27W,h0km,mb_Lg3.7/20, Error ellipse: s-maj=7.2km s-min=5.1km az=3.0*
*CNRM **23** 10:30:21.3,31.°10N×14.°76W,h21km*
ISC 23 10:30:09.4±1.4,30.°37N±0.°04×15.°36W±0.°05,h23km±16km,n50,σ2.°30/70,Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBAJ	**Bajamar**	**2.02**	**205**	P		**Pb**	**10 30 48.0 +2.5**
EBAJ				S		**Sb**	**10 31 09.6 -0.6**
EBAJ				*i* Vmb_Lg			10 31 10.4
CFUE	**Fuerteventura**	**2.12**	**144**	P		**Pb**	**10 30 48.3 +1.1**
CFUE				S		**Sn**	**10 31 08.2 -0.9**
CFUE				*i* Vmb_Lg			10 31 10.0
CFTV	**Fuerteventura**	**2.25**	**150**	S		**Sn**	**10 31 12.7 +0.4**
CFTV				*i* Vmb_Lg			10 31 15.3
CGUI	**Guimar, Teneri**	**2.25**	**205**	P		**Pb**	**10 30 51.1 +1.6**
CGUI				S		**Sb**	**10 31 15.4 -1.6**
CGUI				*i* Vmb_Lg			10 31 16.5
GGC	**Guia, Gran Can**	**2.26**	**186**	S		**Sn**	**10 31 13.4 +0.8**
GGC				*i* Vmb_Lg			10 31 15.2
CREA	**Los Realejos,**	**2.28**	**208**	S		**Sb**	**10 31 16.0 -1.8**
CREA				*i* Vmb_Lg			10 31 19.2
EOSO	**Osorio**	**2.30**	**184**	P		**Pb**	**10 30 51.2 +0.9**
EOSO				S		**Sn**	**10 31 14.4 +0.7**
EOSO				*i* Vmb_Lg			10 31 15.1
CFOR	**Fortaleza, Los**	**2.32**	**208**	P		**Pb**	**10 30 52.9 +2.1**
CFOR				S		**Sb**	**10 31 18.4 -0.6**
CFOR				*i* Vmb_Lg			10 31 21.3
CDIE	**La Orotava (Te**	**2.33**	**207**	P		**Pb**	**10 30 53.3 +2.4**
CDIE				S		**Sb**	**10 31 17.8 -1.5**
MACI	**Morro de la Ar**	**2.34**	**206**	P		**Pb**	**10 30 52.1 +1.0**
MACI				S		**Sb**	**10 31 18.0 -1.7**
MACI				*i* Vmb_Lg			10 31 21.2
CNOR	**Icod de los Vi**	**2.35**	**209**	P		**Pb**	**10 30 52.4 +1.2**
CNOR				S		**Sb**	**10 31 17.7 -2.0**
CRAJ	**Montana Rajada**	**2.36**	**208**	S		**Sb**	**10 31 18.1 -2.3**
CRAJ				*i* Vmb_Lg			10 31 21.7
CDOS	**Garachico, Isl**	**2.40**	**211**	P		**Pb**	**10 30 53.6 +1.6**
CDOS				S		**Sb**	**10 31 19.7 -1.5**
CDOS				*i* Vmb_Lg			10 31 23.8
CCAN	**Las Canadas**	**2.40**	**207**	P		**Pb**	**10 30 53.3 +1.2**
CCAN				S		**Sb**	**10 31 19.3 -2.2**
CBOL	**Buenavista del**	**2.42**	**212**	P		**Pb**	**10 30 53.2 +0.8**
CBOL				S		**Sb**	**10 31 19.5 -2.3**
CBOL				*i* Vmb_Lg			10 31 21.7
GUIA	**Guia de Isora,**	**2.43**	**210**	P		**Pb**	**10 30 54.3 +1.7**
GUIA				S		**Sb**	**10 31 20.1 -2.1**
GUIA				*i* Vmb_Lg			10 31 28.6
CVIL	**Vilaflor**	**2.48**	**207**	P		**Pb**	**10 30 54.6 +1.2**
CVIL				S		**Sb**	**10 31 20.7 -2.8**
CADE	**Adeje, Tenerif**	**2.52**	**209**	P		**Pb**	**10 30 54.9 +1.0**
CADE				S		**Sb**	**10 31 21.9 -2.6**
CTFS	**San Miguel de**	**2.54**	**206**	P		**Pb**	**10 30 56.5 +2.1**
CTFS				S		**Sb**	**10 31 22.5 -2.7**
CTFS				*i* Vmb_Lg			10 31 23.4
CPUN	**Puntallana, La**	**2.65**	**233**	P		**Pb**	**10 30 58.2 +1.9**
CPUN				S		**Sb**	**10 31 27.3 -1.1**
CROM	**Garafia, La Pa**	**2.73**	**234**	S		**Sb**	**10 31 29.7 -1.0**
CROM				*i* Vmb_Lg			10 31 29.9
EGOM	**La Gomera**	**2.74**	**217**	P		**Pb**	**10 30 57.1 -0.6**
EGOM				S		**Sb**	**10 31 26.7 -4.1**
EGOM				*i* Vmb_Lg			10 31 30.3
CBRE	**Brena Baja,La**	**2.74**	**231**	S		**Sb**	**10 31 29.8 -1.2**
CMIR	**El Paso, La Pa**	**2.75**	**233**	P		**Pb**	**10 30 58.9 +0.9**
CMIR				S		**Sb**	**10 31 27.8 -3.5**
CENR	**El Paso, La Pa**	**2.78**	**232**	P		**Pb**	**10 30 59.7 +1.2**
CENR				S		**Sb**	**10 31 30.2 -2.0**
CVIE	**Villa de Mazo,**	**2.79**	**231**	P		**Pb**	**10 30 61.0 +1.4**
CVIE				S		**Sb**	**10 31 30.2 -2.3**
CGOR	**Puntagorda, La**	**2.79**	**236**	S		**Sb**	**10 31 31.4 -1.1**
CGOR				*i* Vmb_Lg			10 31 33.8
TBT	**Taburiente**	**2.80**	**233**	P		**Pb**	**10 30 59.4 +0.7**
TBT				S		**Sb**	**10 31 29.5 -3.0**
TBT				*i* Vmb_Lg			10 31 30.5
EHIG	**Higuera**	**2.80**	**230**	S		**Sb**	**10 31 30.2 -2.5**
EHIG				*i* Vmb_Lg			10 31 35.6
CLLA	**Los LLanos de**	**2.83**	**232**	S		**Sb**	**10 31 31.9 -1.7**
PMOZ	**Porto Moniz, M**	**2.90**	**328**	P		**Pb**	**10 31 01.6 +1.0**
PMOZ	**Porto Moniz, M**	**2.90**	**328**	S		**Sb**	**10 31 35.0 -0.7**
CMCL	**Mercadel, El H**	**3.53**	**222**	P		**Pb**	**10 31 09.7 -1.5**
CMCL				S		**Sb**	**10 31 48.2 -5.6**
CJUL	**El Julan, El H**	**3.55**	**223**	S		**Sn**	**10 31 47.9 +3.1**
CJUL				*i* Vmb_Lg			10 31 52.6
TTIG	**Tnine Tigouga,**	**5.97**	**87**	P		Pn	10 31 41.7 +5.1
TTIG	**Tnine Tigouga,**	**5.97**	**87**	S		**Sn**	**10 32 43.7 -0.6**
TIO	**Tiouine**	**7.00**	**83**	P		**Pn**	**10 31 54.8 +4.1**
TIO	**Tiouine**	**7.00**	**83**	S		**Sn**	**10 33 09.1 -0.5**
OUZM	**OUZ**	**7.43**	**84**	P		**Pn**	**10 31 59.2 +2.6**
OUZM	**OUZ**	**7.43**	**84**	S		**Sn**	**10 33 16.5 -3.7**
TISM	**Timmit**	**7.77**	**78**	P		**Pn**	**10 32 04.7 +3.6**
TISM	**Timmit**	**7.77**	**78**	S		**Sn**	**10 33 26.3 -2.0**
ZHG	**ZHG**	**8.02**	**65**	P		**Pn**	**10 32 04.6 +0.1**
ZHG	**ZHG**	**8.02**	**65**	S		Sn	10 33 26.0 -8.6
CZD	**Col de Zad**	**9.18**	**71**	P		**Pn**	**10 32 22.6 +1.8**
CZD	**Col de Zad**	**9.18**	**71**	S		**Sn**	**10 33 59.1 -4.4**
MD31	**MD31**	**9.37**	**72**	P		**Pn**	**10 32 25.8 +2.6**
MD31	**MD31**	**9.37**	**72**	S		**Sn**	**10 34 03.9 -4.0**
MDT	**Midelt**	**9.49**	**72**	P		**Pn**	**10 32 27.4 +2.7**
MDT	**Midelt**	**9.49**	**72**	S		**Sn**	**10 34 05.5 -5.2**

*MOS **23** 10:35:57.5±1.2,0.°30S×19.°27W,h10km,mb5.8/64, MS5.5/51,Error ellipse: s-maj=8.9km s-min=3.9km az=56.3*
*IDC **23** 10:35:57.1±0.4,0.°34S×19.°21W,h0km,mb5.2/37, mbtmp5.2/38,ML5.6/1,MS5.4/77,Error ellipse: s-maj=16.3km s-min=10.7km az=127.0*
*BJI **23** 10:35:58.9±0.0,0.°25S×19.°36W,h9km,mb5.4/4,mB6.0/10, Ms5.9/33,Ms7 5.7/31*
*NEIC **23** 10:35:59.6±2.8,0.°30S±0.°07×19.°25W±0.°08,h10km±1km, mb5.5/598,Ms_20 5.6/555,Mwb5.8/90,Mww6.0/35,Error ellipse: s-maj=12.9km s-min=12.5km az=283.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.48; $M_{\theta\theta}$2.76; $M_{\phi\phi}$-2.28; $M_{r\theta}$-0.08; $M_{\theta\phi}$-6.42; $M_{\phi r}$0.59; Fault plane solution: $M_0$6.93000×10^{17} NP1: ϕ_s259.31000°,δ85.03000°,λ-179.22000°. NP2: ϕ_s169.24000°,δ89.23000°,λ-4.97000°. Principal axes: T 7.1534, Plg3.0000°, Azm214.0000°; N -0.4703, Plg85.0000°, Azm340.0000°; P -6.6831, Plg4.0000°, Azm124.0000°;*
*NEIC **23** 10:36:00.3,0.°33S×19.°22W,h22km,Moment Tensor Solution. Duration: 5s0 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.19; $M_{\theta\theta}$0.44; $M_{\phi\phi}$-0.25; $M_{r\theta}$0.55; $M_{\theta\phi}$-0.97; $M_{\phi r}$-0.49; Fault plane solution: $M_0$1.20000×10^{18} NP1: ϕ_s171.04000°,δ80.24000°,λ24.41000°. NP2:ϕ_s76.64000°, δ65.97000°,λ169.30000°. Principal axes: T 1.4502, Plg24.0000°, Azm36.0000°; N -0.5012, Plg64.0000°, Azm192.0000°; P -0.9490, Plg10.0000°, Azm302.0000°;*
*IPGP **23** 10:36:00.0,0.°35S×19.°23W,h7km,Mw6.0,Fault plane solution: NP1:ϕ_s348.00000°,δ88.00000°,λ-6.00000°. NP2:ϕ_s79.00000°,δ84.00000°,λ-178.00000°.*
*NEIC **23** 10:36:00.3,0.°36S×19.°22W,h10km*
*NEIC **23** 10:36:00.3,0.°33S×19.°22W,h22km*
*BGR **23** 10:36:01.6,0.°22S×19.°60W,h33km,mb5.6,Ms5.3, Hypocentre not reviewed by the ISC*
*GCMT **23** 10:36:02.6±0.1,0.°18S×19.°18W,h12km,MW6.0/170, Moment Tensor Solution. s156,c327; s170,c593; Duration: 2s3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.12±.01; $M_{\theta\theta}$0.37±.01; $M_{\phi\phi}$-0.24±.01; $M_{r\theta}$0.27±.01; $M_{\theta\phi}$-0.97±.01; $M_{\phi r}$0.02±.01; Best double couple: $M_0$1.05300×10^{18} NP1:ϕ_s262.00000°,δ88.00000°, λ-165.00000°. NP2:ϕ_s171.00000°,δ75.00000°, λ-2.00000°. Principal axes: T 1.1130, Plg10.0000°, Azm35.0000°; N -0.1200, Plg75.0000°, Azm267.0000°; P -0.9930, Plg12.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 23 10:35:59.9±0.2,0.°29S±0.°04×19.°27W±0.°04,h13km,n1531,σ1.°79/1137,mb5.5/473,MS5.6/408,83C-46D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.88**	**148**	Pn		**Pn**	**10 38 04.7 -3.0**
	baz=331,slow=14						
H10N2				T		T	10 47 17.6
	baz=328,slow=73,SNR=1618						
H10N3	**ASCENSION HYDR**	**8.88**	**148**	Pn		**Pn**	**10 38 05.1 -2.7**
	baz=331,slow=14						
H10N3				T		T	10 47 11.1
	baz=328,slow=73,SNR=2079						
H10N1	**ASCENSION HYDR**	**8.89**	**148**	Pn		**Pn**	**10 38 04.9 -3.1**
	baz=331,slow=14						
H10N1				T		T	10 47 10.5
	baz=328,slow=73,SNR=3980						
ASCN	**Ascension**	**9.03**	**147**			**Pn**	**10 38 06.8 -3.4**
H10S3	**ASCENSION HYDR**	**9.75**	**152**	Pn		**Pn**	**10 38 16.7 -3.1**
H10S3				T		T	10 48 22.7
	baz=331,slow=74,SNR=1964						
H10S2	**ASCENSION HYDR**	**9.76**	**152**	Pn		**Pn**	**10 38 16.9 -3.0**
H10S2				T		T	10 48 25.1
	baz=249,slow=74,SNR=2131						
MBO	**M'Bour**	**14.77**	**9**	Pn		**Pn**	**10 39 25.0 -3.6**
BBTS	**Babate**	**15.10**	**10**	Pn		**Pn**	**10 39 29.1 -4.0**
	54nm,0.3s,baz=65,slow=2.7,SNR=34						
BBTS				Sn		Sn	10 42 04.2 -16
	22nm,0.3s,baz=338,slow=1.9,SNR=8.1						
BBTS				LR		LR	10 44 35.3
	comp=Z,15μm,19.9s,baz=74,slow=34						
LIC	**Lamto**	**15.62**	**65**	⇑*i*P		**Pn**	**10 39 40.3 +0.3**
	140nm,0.3s						
SACV	**Santiago Islan**	**15.76**	**344**	Pn		**Pn**	**10 39 38.8 -3.0**
TIC	**Toumodi**	**15.80**	**64**	⇑*i*P		**Pn**	**10 39 40.6 -1.7**
	74nm,0.3s						
KIC	**Kosan Boka**	**15.94**	**65**	⇑*i*P		**Pn**	**10 39 42.8 -1.3**
	173nm,0.5s						
DBIC	**Dimbokro**	**15.96**	**64**	Pn		**Pn**	**10 39 41.4 -2.9**
DBIC	**Dimbokro**	**15.96**	**64**	*e*P		**Pn**	**10 39 41.6 -2.7**
DBIC	**Dimbokro**	**15.96**	**64**	Pn		**Pn**	**10 39 41.5 -2.9**
	25nm,0.3s,baz=243,slow=14,SNR=193						
DBIC				Sn		Sn	10 42 24.9 -16
	5.9nm,0.3s,baz=137,slow=11,SNR=3.8						
DBIC				LR		LR	10 44 43.3
	comp=Z,14μm,19.8s,baz=226,slow=33						
	297nm,0.6s						
RCBR	**Riachuelo**	**17.49**	**251**	Pn		**Pn**	**10 39 59.7 -4.1**
RCBR	**Riachuelo**	**17.49**	**251**	Pn		**Pn**	**10 39 59.5 -4.3**
	6.6nm,0.3s,baz=63,slow=16,SNR=34						
RCBR				Sn		Sn	10 43 00.8 -18
	2.1nm,0.3s,baz=243,slow=3.1,SNR=4.3						
RCBR				LR		LR	10 44 52.3
	comp=Z,10μm,20.5s,baz=152,slow=30						
RCBR	**Riachuelo**	**17.49**	**251**	P		**Pn**	**10 39 59.7 -4.1**
RCBR				pmax	pmax		
	comp=Z,52nm,0.6s						
SHEL	**Horse Pasture**	**20.50**	**140**	*e*P		**P**	**10 40 36.0 -2.0**
SHEL	**Horse Pasture**	**20.50**	**140**	P		**P**	**10 40 37.3 -0.7**
SHEL				pmax	pmax		
	comp=Z,283nm,1.0s						
TOA0	**Torodi Ar. Sit**	**24.70**	**57**	P		**P**	**10 41 18.6 -2.4**
TOA0				IAmb	IAmb		10 41 31.9
	comp=Z,142nm,0.8s						
TORD	**Torodi Ar. Bea**	**24.70**	**57**	P		**P**	**10 41 18.7

comp=Z,5µm,21.4s,baz=93,slow=32
SNDB Serra Nova Dou 33.84 249 *eP* **P 10 42 41.8 -0.6**
PARB Paraibuna 34.35 226 *eP* **P 10 42 48.8 +2.0**
VAO Valinhos 35.13 228 *eP* **P 10 42 55.1 +1.6**
AVE Averroes 35.23 17 P **P 10 42 55.1 +1.0**
AVE IAmb IAmb 10 42 57.4
comp=Z,78nm,0.8s
AVE IAMs_20 IAMs_20 10 56 40.3
comp=Z,12µm,19.0s
BB19B Bebedouro 35.25 232 *eP* **P 10 42 55.5 +1.0**
ARAG Araguaiana, MT 35.58 243 *eP* **P 10 42 57.6 +0.2**
MDT Midelt 35.72 21 P **P 10 42 59.2 +0.7**
comp=Z,18nm,0.7s,baz=229,slow=5.6,SNR=38
MDT LR LR 10 57 22.5
comp=Z,13µm,19.5s,baz=226,slow=36
comp=Z,18nm,0.7s
SPB Sao Paulo 35.83 228 P **P 10 43 00.5 +1.1**
SPB Sao Paulo 35.83 228 *eP* **P 10 43 00.5 +1.1**
ITRB Iturama 36.05 236 *eP* **P 10 43 01.9 +0.5**
PET01 Itanhaem-SP 36.13 227 *eP* **P 10 43 02.4 +0.4**
PSMN Pico do Norte, 37.49 352 *eP* **P 10 43 15.2 +1.7**
comp=Z,59nm,1.4s
PSMN *eS* S 10 49 12.7 +11
PSMN *eLQ* LQ 10 51 34.6
PSMN *eLR* LR 10 53 02.8
comp=Z,3µm,18.0s
PSMN Pico do Norte, 37.49 352 *eT* T 11 22 14.1
PSMA Santa Maria 37.50 352 *eT* T 11 22 13.7
PCMB Pacaembu 37.71 234 *eP* **P 10 43 16.1 +0.5**
CLDB Colider 37.79 253 *eP* **P 10 43 15.8 -0.5**
BART Pico Bartolome 38.27 352 *eP* **P 10 43 24.6 +4.5**
comp=Z,71nm,0.8s
BART *eLQ* LQ 10 52 01.6
BART *eLR* LR 10 53 56.4
comp=Z,2µm,20.0s
BART Pico Bartolome 38.27 352 *eT* T 11 23 19.4
CMLA Cha da Macela 38.31 352 *eP* P 10 43 27.5 +7.2
comp=Z,80nm,0.8s
PSET Sete Cidades 38.39 352 *eP* P 10 43 29.7 +8.6
comp=Z,68nm,0.8s
PSET *eLQ* LQ 10 52 06.3
PSET *eLR* LR 10 53 37.5
comp=Z,4µm,18.0s
PFVI Vila Bisbo 38.47 13 P **P 10 43 22.7 +1.0**
PFVI IAMs_20 IAMs_20 10 58 13.3
comp=Z,8µm,19.0s
PFVI Vila Bisbo 38.47 13 *eP* **P 10 43 23.0 +1.3**
comp=Z,63nm,1.4s
PFVI Vila Bisbo 38.47 13 *ePP* PP 10 44 56.6 +6.7
LDASE Londrina, Braz 38.52 231 *eP* **P 10 43 23.6 +1.2**
MORF Marmelete 38.68 14 P **P 10 43 24.0 +0.5**
MORF IAMs_20 IAMs_20 10 58 20.7
comp=Z,9µm,21.0s
MORF Marmelete 38.68 14 *eP* **P 10 43 24.0 +0.5**
comp=Z,61nm,1.4s
MORF Marmelete 38.68 14 *ePP* PP 10 44 53.3 +1.1
MORF Marmelete 38.68 14 *eP* **P 10 43 24.2 +0.7**
MORF *ePP* **PP 10 44 52.7 +0.5**
MORF *eS* **S 10 49 22.5 +2.5**
MORF IAMs_20 IAMs_20 10 58 22.3
comp=Z,8µm,15.4s
MORF Marmelete 38.68 14 *eP* **P 10 43 24.2 +0.7**
MORF *e* 10 44 52.7
MORF *eS* **S 10 49 22.5 +2.5**
PBDV Barranco-do-Ve 38.80 15 *eP* **P 10 43 26.5 +2.0**
comp=Z,106nm,1.7s
PBDV Barranco-do-Ve 38.80 15 *ePP* PP 10 44 54.4 +0.9
PTEO Sao Teotonio 38.89 13 *eP* **P 10 43 27.2 +2.0**
comp=Z,160nm,1.1s
PTEO Sao Teotonio 38.89 13 *ePP* PP 10 45 03.0 +8.5
PCVE Castro Verde 39.14 14 *eP* **P 10 43 28.8 +1.5**
comp=Z,65nm,1.9s
PCVE Castro Verde 39.14 14 *ePP* PP 10 44 57.6 +0.4
MESJ Messejana 39.29 14 P **P 10 43 28.3 -0.3**
MESJ IAmb IAmb 10 43 32.5
comp=Z,100nm,1.0s
MESJ IAMs_20 IAMs_20 10 59 06.9
comp=Z,8µm,19.0s
MESJ Messejana 39.29 14 *eP* **P 10 43 29.0 +0.4**
comp=Z,102nm,1.0s
MESJ Messejana 39.29 14 *ePP* PP 10 45 05.7 +6.9
MESJ Messejana 39.29 14 *eP* **P 10 43 29.3 +0.7**
MESJ *ePP* **PP 10 44 59.5 +0.7**
MESJ *eS* **S 10 49 31.7 +2.5**
MESJ IAMs_20 IAMs_20 10 59 10.8
comp=Z,8µm,20.1s
MESJ Messejana 39.29 14 *eP* **P 10 43 29.3 +0.7**
MESJ *e* 10 44 59.5
MESJ *eS* **S 10 49 31.7 +2.5**
TRCB Terra Rica 39.41 233 P **P 10 43 28.2 -1.6**
TRCB IAmb IAmb 10 43 36.4
comp=Z,147nm,1.6s
TRCB Terra Rica 39.41 233 *eP* **P 10 43 32.3 +2.5**
PNCL Nicolau / Gran 39.48 13 *eP* **P 10 43 32.0 +1.9**
comp=Z,57nm,1.9s
PNCL Nicolau / Gran 39.48 13 *ePP* PP 10 45 07.8 +6.9
PICO Pico 39.51 349 *eP* P 10 43 36.0 +5.5
comp=Z,103nm,1.6s
PICO *eS* **S 10 49 39.1 +6.5**
PICO *eLQ* LQ 10 52 26.3
PAGU Agualva, Azore 39.55 350 *eP* **P 10 43 34.1 +3.4**
comp=Z,29nm,0.8s
PAGU *eLQ* LQ 10 52 28.0
PAGU *eLR* LR 10 54 24.0
comp=Z,2µm,18.0s
PBEJ Beja 39.55 14 *eP* **P 10 43 32.7 +1.9**
comp=Z,54nm,1.9s
RVDE Rio Verde (Bra 39.63 240 *eP* **P 10 43 31.5 -0.2**
CALA Caldeira 39.65 348 *eP* P 10 43 37.2 +5.6
CALA *eLQ* LQ 10 52 35.4
CALA *eLR* LR 10 53 51.8
CALA A A 10 54 22.7
comp=Z,713nm,0.9s
ROSA Rosais 39.69 349 *eLQ* LQ 10 52 25.6
ROSA *eLR* LR 10 53 49.9
comp=Z,2µm,16.0s
PBAR Barrancos 39.90 15 *eP* **P 10 43 35.0 +1.3**
comp=Z,45nm,1.5s
PBAR Barrancos 39.90 15 *ePP* PP 10 45 12.6 +7.1
LIS Lisbon 39.92 12 *eP* **P 10 43 34.6 +0.8**
LIS *eS* **S 10 49 41.0 +2.5**
LIS IAMs_20 IAMs_20 10 59 24.6
comp=Z,14µm,19.5s
LIS Lisbon 39.92 12 *eP* **P 10 43 34.6 +0.8**
LIS *eS* **S 10 49 41.0 +2.5**
PGRA Graciosa 39.94 349 *eLR* LR 10 53 08.7
PTGB Pitanga 39.95 230 *eP* **P 10 43 34.2 -0.1**
EVO Evora 40.00 14 *eP* **P 10 43 32.8 -1.7**
comp=Z,99nm,1.5s
EVO Evora 40.00 14 *ePP* PP 10 45 14.7 +8.1
PMAFR Mafra 40.12 12 P **P 10 43 38.2 +2.7**
PESTR Estremoz 40.42 14 P **P 10 43 39.2 +1.3**
PESTR IAMs_20 IAMs_20 10 58 49.8
comp=Z,10µm,21.0s
PESTR Estremoz 40.42 14 *eP* **P 10 43 38.8 +0.8**
comp=Z,44nm,1.5s
PESTR Estremoz 40.42 14 *ePP* PP 10 45 18.9 +7.7
PMTG Montargil 40.46 13 *eP* **P 10 43 39.8 +1.5**
comp=Z,61nm,1.6s
PMTG Montargil 40.46 13 *ePP* PP 10 45 19.6 +8.0
TSUM Tsumeb 40.73 120 P **P 10 43 41.0 +0.1**
TSUM Tsumeb 40.73 120 IAMs_20 IAMs_20 10 56 45.4
comp=Z,9µm,21.0s
TSUM Tsumeb 40.73 120 *eP* **P 10 43 40.6 -0.3**
TSUM IAmb IAmb 10 43 44.8
comp=Z,23nm,0.9s
TSUM Tsumeb 40.73 120 LR LR 10 56 57.1
comp=Z,9µm,21.2s,baz=324,slow=31
PSBE So Bento 40.76 12 *eP* **P 10 43 43.8 +3.0**
PSBE So Bento 40.76 12 *ePP* PP 10 45 22.6 +7.7
AQDB Aquidauana 40.88 238 P **P 10 43 42.3 +0.3**
AQDB Aquidauana 40.88 238 *eP* **P 10 43 42.2 +0.2**
PMRV Marv??o 41.00 14 *eP* **P 10 43 44.7 +1.9**
comp=Z,62nm,1.9s
PMRV Marv??o 41.00 14 *ePP* PP 10 45 25.4 +7.9
PMRV *eS* **S 10 50 02.2 +7.5**
PMRV *eLQ* LQ 10 52 42.9
PMRV *eLR* LR 10 55 14.8
comp=Z,9µm,20.0s
CART Cartagena 41.30 22 P **P 10 43 45.0 -0.2**
CART IAmb IAmb 10 43 47.6
comp=Z,65nm,0.9s
CART IAMs_20 IAMs_20 10 59 43.8
comp=Z,7µm,20.0s

BOAV Boa Vista 41.33 274 P **P 10 43 44.1 -1.7**
BOAV IAmb IAmb 10 43 48.4
comp=Z,140nm,1.2s
PCAS Casmilo, Conde 41.34 13 *eP* **P 10 43 47.3 +1.8**
comp=Z,99nm,1.4s
PCAS Casmilo, Conde 41.34 13 *ePP* PP 10 45 21.6 +0.5
PCBR Castelo Branco 41.37 14 *eP* **P 10 43 46.6 +0.8**
comp=Z,38nm,1.5s
PCBR Castelo Branco 41.37 14 *ePP* PP 10 45 21.4 0.0
ITAB Concordia 41.39 227 P **P 10 43 45.5 -0.6**
ITAB IAMs_20 IAMs_20 10 58 04.5
comp=Z,10µm,21.0s
ITAB Concordia 41.39 227 *eP* **P 10 43 46.0 -0.2**
MACA Manacapuru-AM 41.49 266 P **P 10 43 46.8 -0.4**
MACA IAmb IAmb 10 43 49.5
comp=Z,100nm,1.1s
MACA Manacapuru-AM 41.49 266 *eP* **P 10 43 47.3 +0.1**
COI Coimbra 41.51 13 P **P 10 43 46.1 -0.8**
COI IAmb IAmb 10 43 51.0
comp=Z,109nm,1.0s
COI Coimbra 41.51 13 *eP* **P 10 43 49.1 +2.2**
comp=Z,104nm,1.3s
COI Coimbra 41.51 13 *ePP* PP 10 45 31.1 +8.2
COI Coimbra 41.51 13 P **P 10 43 46.1 -0.8**
COI pmax pmax
comp=Z,109nm,1.0s
COI MLR MLR
comp=Z,12µm,19.0s
WIN Windhoek 41.74 125 P **P 10 43 49.3 0.0**
WIN IAMs_20 IAMs_20 10 57 30.0
comp=Z,8µm,20.0s
WIN Windhoek 41.74 125 P **P 10 43 49.3 0.0**
WIN pmax pmax
comp=Z,51nm,1.2s
MTE Manteigas 41.89 13 IAmb IAmb 10 43 53.7
comp=Z,72nm,0.9s
MTE Manteigas 41.89 13 *eP* **P 10 43 51.9 +1.8**
comp=Z,76nm,1.7s
MTE Manteigas 41.89 13 *ePP* PP 10 45 34.6 +7.5
MTE *eS* **S 10 50 11.6 +3.6**
MTE *eLQ* LQ 10 53 05.3
MTE *eLR* LR 10 55 51.3
comp=Z,11µm,18.0s
PAB San Pablo 41.93 17 P **P 10 43 51.8 +1.3**
PAB San Pablo 41.93 17 P **P 10 43 51.8 +1.3**
PAB pmax pmax
comp=Z,61nm,1.1s
PAB MLR MLR
comp=Z,5µm,21.0s
PVIS Viseu 42.11 13 *eP* **P 10 43 52.8 +0.9**
comp=Z,55nm,1.6s
PVIS Viseu 42.11 13 *ePP* PP 10 45 36.9 +7.4
PTLB Pontes e Lacer 42.14 247 P **P 10 43 52.8 +0.4**
PTLB Pontes e Lacer 42.14 247 *eP* **P 10 43 52.8 +0.4**
ESDC Sonseca Array 42.17 18 P **P 10 43 51.5 -0.8**
ESDC Sonseca Array 42.17 18 P **P 10 43 52.5 +0.1**
comp=Z,21nm,0.9s,baz=208,slow=9.4,SNR=89
ESDC PP **PP 10 45 28.6 -1.5**
comp=Z,11nm,1.0s,baz=210,slow=8.4,SNR=4.6
ESDC LR LR 11 02 07.6
comp=Z,6µm,19.3s,baz=206,slow=37
comp=Z,21nm,0.9s
VILB Vilhena 42.47 251 *eP* **P 10 43 56.5 +1.3**
POLO Lamas de Olo 42.76 13 *eP* **P 10 43 58.4 +1.2**
comp=Z,27nm,1.6s
POLO Lamas de Olo 42.76 13 *ePP* PP 10 45 36.7 +0.2
ALGR Alto Alegre (B 42.94 226 *eP* **P 10 44 01.4 +2.6**
CRSM Crissiumal (Br 42.95 228 *eP* **P 10 44 00.1 +1.2**
MURT Porto Murtinho 42.99 238 *eP* **P 10 44 00.9 +1.7**
PCAB Cabril 43.03 12 *eP* **P 10 44 00.8 +1.5**
comp=Z,58nm,1.4s
PBRG Braganca 43.41 14 *eP* **P 10 44 02.8 +0.4**
comp=Z,62nm,1.9s
PBRG Braganca 43.41 14 *ePP* PP 10 45 43.7 +0.2
H05S1 Guadeloupe/Mar 43.65 291 T T 11 30 38.5
SNR=6.3
BBSD Serra de San D 44.01 245 *eP* **P 10 44 06.1 -1.6**
SIV San Ignacio 44.08 247 LR LR 11 01 43.2
comp=Z,4µm,18.2s,baz=92,slow=35
CPSB Cacapava Do Su 44.16 224 *eP* **P 10 44 10.2 +1.6**
GDSD La Dsirade Is 44.40 294 IAMs_20 IAMs_20 10 57 23.8
comp=Z,6µm,21.0s
SAML Samuel 44.56 258 P **P 10 44 09.9 -2.1**
SAML IAmb IAmb 10 44 17.9
comp=Z,56nm,1.0s
SAML Samuel 44.56 258 P **P 10 44 09.9 -2.1**
SAML pmax pmax
comp=Z,56nm,1.0s
SAML Samuel 44.56 258 *eP* **P 10 44 10.0 -2.1**
KEST Kesra 44.66 34 P **P 10 44 12.0 -0.6**
comp=Z,111nm,0.8s,baz=225,slow=1.6,SNR=51
KEST PP **PcP 10 45 53.5 -1.7**
comp=Z,32nm,0.9s,baz=179,slow=7.7,SNR=3.8
KEST LR LR 11 04 31.7
comp=Z,39µm,18.4s,baz=196,slow=38
comp=Z,111nm,0.8s
CPUP Vila Florida 44.86 232 P **P 10 44 12.0 -2.2**
comp=Z,13nm,0.8s,baz=68,slow=7.8,SNR=14
CPUP LR LR 11 01 46.9
comp=Z,7µm,18.7s,baz=66,slow=34
comp=Z,13nm,0.8s
CPUP Vila Florida 44.86 232 P **P 10 44 12.0 -2.2**
CPUP Vila Florida 44.86 232 *eP* **P 10 44 14.9 +0.7**
PLTB Pedras Altas 45.09 223 *eP* **P 10 44 18.5 +2.5**
RODS Rosario do Sul 45.37 225 *eP* **P 10 44 21.0 +2.8**
TEFE Tefe 45.45 265 *eP* **P 10 44 19.5 +0.4**
KOMG Komaggas 45.66 133 *eP* **P 10 44 20.7 +0.2**
KOMG IAmb IAmb 10 44 34.9
comp=Z,35nm,1.1s
ITQB Itaqui 46.03 227 P **P 10 44 22.4 -1.1**
ITQB IAmb IAmb 10 44 29.0
comp=Z,103nm,1.2s
ITQB Itaqui 46.03 227 *eP* **P 10 44 23.0 -0.4**
PCRV Puerto La Cruz 46.31 284 LR LR 11 02 56.2
comp=Z,1µm,19.9s,slow=35
SEUS St. Eustatius 46.51 295 IAMs_20 IAMs_20 10 59 09.5
comp=Z,5µm,20.0s
CEST Esterri de Car 46.52 21 IAmb IAmb 10 44 31.0
comp=Z,66nm,1.2s
CEST IAMs_20 IAMs_20 11 02 37.1
comp=Z,9µm,22.0s
TBOT Tacuaremb 46.65 224 *eP* **P 10 44 30.6 +2.3**
SMRT St. Maarten 46.76 295 IAMs_20 IAMs_20 10 58 42.3
comp=Z,5µm,21.0s
AUGR Augrabies 47.16 130 *eP* **P 10 44 32.5 +0.1**
AUGR IAmb IAmb 10 44 38.1
comp=Z,404nm,2.8s
PSAL Palomas, Salto 47.50 226 *eP* **P 10 44 37.3 +2.3**
ETMB Extrema 47.65 257 IAmb IAmb 10 44 41.7
comp=Z,48nm,1.0s
ETMB Extrema 47.65 257 *eP* **P 10 44 34.2 -2.2**
UPI Upington 47.76 129 *eP* **P 10 44 36.8 -0.3**
UPI IAmb IAmb 10 45 08.2
comp=Z,214nm,2.4s
CVNA Calvinia 48.22 134 *eP* **P 10 44 40.3 -0.4**
CVNA IAmb IAmb 10 44 54.7
comp=Z,92nm,1.3s
PRTV Porterville,We 48.61 136 *eP* **P 10 44 43.9 +0.3**
PRTV IAmb IAmb 10 44 45.1
comp=Z,632nm,2.6s
VAE Valguarnera 48.78 36 LR LR 11 07 01.3
comp=Z,14µm,18.0s,baz=138,slow=38
CER Ceres 48.92 136 *eP* **P 10 44 42.2 -3.7**
CER IAmb IAmb 10 45 07.4
comp=Z,462nm,2.6s
LSZ Lusaka 49.17 110 P **P 10 44 48.1 -0.1**
LSZ Lusaka 49.17 110 P **P 10 44 49.6 +1.4**
LSZ P **P 10 44 49.6 +1.4**
LSZ S **S 10 51 54.5 +0.6**
LSZ S **S 10 51 54.5 +0.6**
LSZ Lusaka 49.17 110 P **P 10 44 48.1 -0.1**
LSZ pmax pmax
comp=Z,27nm,0.8s
HUMP Col San Antoni 49.31 294 IAmb IAmb 10 45 05.6
comp=Z,45nm,0.9s
SUR Sutherland 49.45 134 P **P 10 44 51.0 +0.7**
SUR IAmb IAmb 10 45 04.6
comp=Z,57nm,1.1s
SUR Sutherland 49.45 134 IAMs_20 IAMs_20 11 00 47.4
comp=Z,6µm,20.0s
SUR Sutherland 49.45 134 *eP* **P 10 44 49.3 -1.0**
SUR IAmb IAmb 10 44 56.3
comp=Z,414nm,2.2s
SUR Sutherland 49.45 134 LR LR 11 02 40.6
comp=Z,6µm,18.3s,baz=293,slow=32

SUR Sutherland 49.45 134 P **P 10 44 51.9 +1.6**
SUR P **P 10 44 51.9 +1.6**
SUR S **S 10 51 58.3 +0.7**
SUR S **S 10 51 58.3 +0.7**
IGPR InterUniversit 49.49 294 P **P 10 44 51.4 +0.9**
IGPR IAmb IAmb 10 45 06.7
comp=Z,36nm,0.9s
SJG San Juan 49.57 294 IAMs_20 IAMs_20 11 00 53.7
comp=Z,6µm,21.0s
SJG San Juan 49.57 294 LR LR 11 01 04.9
comp=Z,6µm,21.0s,baz=100,slow=30
FRAZ Fraserburg 49.65 133 *eP* **P 10 44 52.2 +0.6**
FRAZ IAmb IAmb 10 45 05.5
comp=Z,74nm,1.2s
MATJ Matjiesfontein 49.76 135 *eP* **P 10 44 51.4 -1.1**
MATJ IAmb IAmb 10 45 06.9
comp=Z,142nm,1.3s
LBTB Lobatse 49.82 123 IAmb IAmb 10 44 57.7
comp=Z,60nm,0.9s
LBTB Lobatse 49.82 123 *eP* **P 10 44 51.5 -1.6**
LBTB IAmb IAmb 10 44 57.4
comp=Z,64nm,0.9s
LBTB Lobatse 49.82 123 LR LR 11 03 34.2
comp=Z,5µm,18.5s,baz=284,slow=33
OBIP Obispado Ponce 49.97 294 P **P 10 44 53.5 -0.7**
MBAR Mbarara 50.01 91 P **P 10 44 55.0 +0.2**
MBAR IAmb IAmb 10 45 01.4
comp=Z,71nm,1.0s
MBAR Mbarara 50.01 91 *eP* **P 10 44 55.5 +0.7**
MBAR IAmb IAmb 10 45 01.2
comp=Z,72nm,1.0s
MBAR Mbarara 50.01 91 P **P 10 44 56.3 +1.6**
MBAR S **S 10 52 10.7 +4.9**
MBAR Mbarara 50.01 91 *eP* P 10 45 00.4 +5.6
MBAR *eS* **S 10 51 59.0 -6.9**
MBAR Mbarara 50.01 91 P **P 10 44 55.0 +0.2**
MBAR pmax pmax
comp=Z,71nm,1.0s
UUPR Utuado, UPR, P 50.13 294 IAmb IAmb 10 45 00.9
comp=Z,121nm,1.4s
AOPR Arecibo Observ 50.19 294 IAmb IAmb 10 44 57.9
comp=Z,90nm,1.2s
GRAN Grantham 50.39 133 *eP* **P 10 44 55.2 -2.1**
GRAN IAmb IAmb 10 45 09.3
comp=Z,19nm,0.6s
SWZ Schweizer 50.47 126 *eP* **P 10 44 55.7 -2.3**
SWZ IAmb IAmb 10 45 10.9
comp=Z,334nm,2.1s
MTLB Matlabas, Limp 50.62 121 *eP* **P 10 44 59.7 +0.6**
MTLB IAmb IAmb 10 45 10.8
comp=Z,384nm,2.4s
BRAK Brakfontein 50.66 132 *eP* **P 10 44 57.4 -1.9**
BRAK IAmb IAmb 10 45 13.1
comp=Z,276nm,1.9s
BNI Bardonecchia 50.67 24 IAmb IAmb 10 45 08.7
comp=Z,70nm,1.0s
BNI IAMs_20 IAMs_20 11 06 22.8
comp=Z,4µm,19.0s
MATP Matopo 50.79 116 LR LR 11 03 27.7
comp=Z,2µm,20.0s,baz=285,slow=32
KRI Karoi 50.86 112 *eP* **P 10 45 01.0 -0.2**
BOSA Boshof 51.01 128 P **P 10 44 59.6 -2.4**
BOSA IAmb IAmb 10 45 06.3
comp=Z,41nm,0.9s
BOSA Boshof 51.01 128 *eP* **P 10 45 00.2 -1.9**
BOSA IAmb IAmb 10 45 06.1
comp=Z,47nm,0.9s
BOSA Boshof 51.01 128 P **P 10 45 00.1 -1.9**
comp=Z,21nm,0.8s,baz=299,slow=8.1,SNR=24
BOSA LR LR 11 03 08.6
comp=Z,5µm,19.8s,baz=288,slow=32
comp=Z,21nm,0.8s
BOSA Boshof 51.01 128 P **P 10 44 59.6 -2.4**
BOSA pmax pmax
comp=Z,41nm,0.9s
NHAM Northam, North 51.23 122 *eP* **P 10 45 01.2 -2.6**
NHAM IAmb IAmb 10 45 23.7
comp=Z,742nm,2.9s
BFON Badsfontein, M 51.26 132 *eP* **P 10 45 02.3 -1.6**
BFON IAmb IAmb 10 45 04.7
comp=Z,300nm,2.2s
LEPH Lephalale, Lim 51.27 121 *eP* **P 10 45 03.4 -0.7**
LEPH IAmb IAmb 10 45 15.6
comp=Z,297nm,2.3s
MSSA Maissana 51.27 26 IAmb IAmb 10 45 07.2
comp=Z,105nm,1.2s
MSSA IAMs_20 IAMs_20 11 04 55.8
comp=Z,5µm,22.0s
CUC Castrocucco 51.29 34 IAmb IAmb 10 45 06.6
comp=Z,64nm,1.0s
TIP Timpagrande 51.29 36 ⇓P **P 10 45 03.9 0.0**
CRAIL Swartwater, Li 51.30 119 *eP* **P 10 45 03.5 -0.8**
CRAIL IAmb IAmb 10 45 34.2
comp=Z,7µm,2.2s
JSA Saint Aubin 51.45 14 *eP* **P 10 45 05.5 +0.8**
JSA IAmb IAmb 10 45 07.6
comp=Z,49nm,1.1s
JSA IAMs_20 IAMs_20 11 07 14.9
comp=Z,5µm,16.5s
OSSC Osservatorio P 51.45 28 IAmb IAmb 10 45 13.1
comp=Z,72nm,1.2s
ROOI Rooidraai Farm 51.50 133 *eP* **P 10 45 05.7 +0.1**
ROOI IAmb IAmb 10 45 20.0
comp=Z,75nm,1.2s
NYAT Nyati, Northwe 51.61 123 *eP* **P 10 45 06.7 +0.1**
NYAT IAmb IAmb 10 45 27.8
comp=Z,79nm,1.4s
CLF Chambon-Foret 51.63 18 IAmb IAmb 10 45 09.9
comp=Z,117nm,1.1s
CCA1 Carnmenellis 51.70 11 *eP* **P 10 45 07.8 +1.1**
CCA1 IAmb IAmb 10 45 09.3
comp=Z,42nm,0.9s
CCA1 IAMs_20 IAMs_20 11 02 52.8
comp=Z,3µm,14.8s
CAMP Campotosto 51.78 31 IAmb IAmb 10 45 17.9
comp=Z,56nm,0.8s
HRAO HartRAO 51.90 123 *eP* **P 10 45 07.9 -0.9**
ZCCA Zocca 51.96 27 IAMs_20 IAMs_20 11 08 52.9
comp=Z,5µm,20.0s
SDV Santo Domingo 51.96 281 P **P 10 45 08.3 -1.1**
SDV Santo Domingo 51.96 281 LR LR 11 04 39.9
comp=Z,3µm,20.6s,baz=100,slow=33
SDV Santo Domingo 51.96 281 *eP* **P 10 45 08.5 -1.0**
PRYS Parys 52.02 125 *eP* **P 10 45 09.2 -0.5**
PRYS IAmb IAmb 10 45 10.7
comp=Z,357nm,3.0s
TSWA Tswaing Meteor 52.06 123 *eP* **P 10 45 06.8 -3.2**
TSWA IAmb IAmb 10 45 30.5
comp=Z,265nm,1.9s
HVD Gariep Dam 52.07 130 *eP* **P 10 45 10.3 +0.3**
HVD IAmb IAmb 10 45 23.6
comp=Z,68nm,1.1s
GRAF Camdeboo Natio 52.09 132 *eP* **P 10 45 07.5 -2.5**
GRAF IAmb IAmb 10 45 14.8
comp=Z,70nm,0.9s
GUMA Gualdo di Mace 52.13 30 IAmb IAmb 10 45 15.2
comp=Z,160nm,0.9s
MATE Matera 52.23 34 ⇓P **P 10 45 10.7 0.0**
PB18 Visviri 52.27 248 IAmb IAmb 10 45 22.9
comp=Z,100nm,1.5s
WTBG Waterberg Wild 52.32 121 *eP* **P 10 45 11.4 -0.6**
WTBG IAmb IAmb 10 45 31.5
comp=Z,70nm,1.6s
RUST Rust De Winter 52.37 122 *eP* **P 10 45 10.6 -1.7**
RUST IAmb IAmb 10 45 32.8
comp=Z,58nm,1.0s
GO01 Chusmiza 52.53 245 IAMs_20 IAMs_20 11 06 11.5
comp=Z,5µm,19.0s
MUSN Musina, Limpop 52.56 118 *eP* **P 10 45 11.7 -2.0**
MUSN IAmb IAmb 10 45 34.0
comp=Z,81nm,1.5s
VAL Valentia 52.60 7 P **P 10 45 14.7 +1.4**
HTL Hartland 52.62 12 *eP* **P 10 45 15.2 +1.7**
HTL IAmb IAmb 10 45 16.3
comp=Z,41nm,0.8s
HTL IAMs_20 IAMs_20 11 01 13.7
comp=Z,5µm,32.0s
SNKL Senekal, Frees 52.88 126 *eP* **P 10 45 15.1 -1.0**
SNKL IAmb IAmb 10 45 36.2
comp=Z,128nm,1.4s
TUE Stuetta 52.91 25 IAMs_20 IAMs_20 11 08 23.9
comp=Z,5µm,20.0s
PYL PYLOS 53.00 41 P **P 10 45 18.0 +1.5**
VLS Valsamata 53.00 39 P **P 10 45 17.8 +1.2**
MPHEP Siloam, Limpop 53.03 119 *eP* **P 10 45 16.7 -0.4**
MPHEP IAmb IAmb 10 45 26.6

comp=Z,24nm,0.8s
LVC Limon Verde 53.11 242 P **P 10 45 18.7 +0.7**
LVC IAmb IAmb 10 45 23.1
comp=Z,115nm,1.9s
LVC Limon Verde 53.11 242 IAMs_20 IAMs_20 11 07 08.7
comp=Z,4µm,19.0s
LVC Limon Verde 53.11 242 LR LR 11 07 30.0
comp=Z,3µm,20.2s,baz=74,slow=36
LVC Limon Verde 53.11 242 P **P 10 45 18.7 +0.7**
LVC pmax pmax
comp=Z,115nm,1.9s
LVC Limon Verde 53.11 242 *eP* **P 10 45 19.7 +1.7**
PB09 IPOC Station P 53.16 243 IAMs_20 IAMs_20 11 06 45.5
comp=Z,5µm,19.0s
AP01 Chacalluta 53.25 247 IAMs_20 IAMs_20 11 07 13.8
comp=Z,4µm,20.0s
ITM Ithomi 53.28 41 IAMs_20 IAMs_20 11 08 38.3
comp=Z,6µm,20.0s
ITM Ithomi 53.28 41 P **P 10 45 20.2 +1.5**
EVGI Lefkada island 53.30 39 P **P 10 45 20.2 +1.4**
DAVOX Davos/Dischmat 53.38 25 LR LR 11 08 59.3
comp=Z,4µm,18.5s,baz=241,slow=37
LKD2 Lefkada island 53.41 39 P **P 10 45 21.1 +1.5**
FUORN Ofenpass-Fuorn 53.41 25 IAMs_20 IAMs_20 11 06 41.2
comp=Z,5µm,21.0s
ECH Echery 53.48 22 IAmb IAmb 10 45 22.8
comp=Z,110nm,1.6s
RLS Riolos of Patr 53.49 40 P **P 10 45 22.6 +2.5**
IWEX Carrickbyrne, 53.52 9 P **P 10 45 21.2 +1.1**
DRO Drossia 53.58 40 P **P 10 45 23.5 +2.6**
HMNX Herstmonceux 53.63 15 *eP* **P 10 45 22.3 +1.5**
HMNX IAmb IAmb 10 45 23.7
comp=Z,104nm,0.8s
HMNX IAMs_20 IAMs_20 11 04 49.2
comp=Z,7µm,25.3s
TA01 Diego Aracena 53.66 245 IAMs_20 IAMs_20 11 07 08.4
comp=Z,4µm,19.0s
SRN Sarande 53.67 37 P **P 10 45 23.0 +1.6**
BRJN Brijuni 53.68 29 *i P* **P 10 45 21.0 -0.4**
VLI Veliai 53.69 42 P **P 10 45 24.1 +2.4**
PATCX Punta Patache 53.70 244 IAmb IAmb 10 45 26.5
comp=Z,88nm,1.1s
PATCX IAMs_20 IAMs_20 11 07 50.6
comp=Z,6µm,19.0s
PB06 IPOC Station P 53.72 242 IAmb IAmb 10 45 33.8
comp=Z,67nm,1.1s
PB06 IAMs_20 IAMs_20 11 07 27.9
comp=Z,4µm,18.0s
IMMV Iera Moni Meta 53.73 44 P **P 10 45 23.6 +1.7**
BBSR BB Station 53.76 312 IAMs_20 IAMs_20 11 02 25.3
comp=Z,4µm,21.0s
CZSB Cruzeiro do Su 53.77 261 IAmb IAmb 10 45 33.9
comp=Z,91nm,1.7s
CZSB IAMs_20 IAMs_20 11 06 14.1
comp=Z,5µm,20.0s
CZSB Cruzeiro do Su 53.77 261 *eP* **P 10 45 22.0 -0.7**
DAVA Damuels 53.78 24 *i P* **P 10 45 22.3 0.0**
comp=Z,163nm,0.7s,SNR=76
DULL Dullstroom, Mp 53.82 122 *eP* **P 10 45 21.4 -1.7**
DULL IAmb IAmb 10 45 43.6
comp=Z,62nm,1.2s
PVO Paravola 53.85 39 P **P 10 45 25.0 +2.2**
VIRC Vir 53.88 30 *i P* **P 10 45 23.3 +0.5**
CRLN Carolina, Mapu 53.90 122 *eP* **P 10 45 21.1 -2.5**
CRLN IAmb IAmb 10 45 43.3
comp=Z,172nm,2.3s
MORI Morici 53.90 31 *i P* **P 10 45 22.7 -0.3**
FETA Feichten 53.93 25 *i P* **P 10 45 23.4 0.0**
comp=Z,77nm,0.9s,SNR=39
GRHM Grahamstown, E 53.96 132 IAMs_20 IAMs_20 11 03 28.0
comp=Z,5µm,20.0s
GRHM Grahamstown, E 53.96 132 *eP* **P 10 45 24.4 +0.7**
GRHM IAmb IAmb 10 45 28.3
comp=Z,70nm,0.8s
SMRN Sveta Marina 53.97 29 *i P* **P 10 45 24.1 +0.6**
NVLJ Novalja 53.98 30 *i P* **P 10 45 23.5 -0.1**
GUR Goura 53.98 40 P **P 10 45 25.8 +1.9**
EFP Efpalio 53.98 40 P **P 10 45 25.9 +2.2**
BFO Black Forest 54.01 22 *eP* 10 45 24.6
comp=Z,57nm,0.9s,baz=217,slow=7.6
BFO *eL* 11 00 32.5
comp=Z,988nm,21.8s
BFO Black Forest 54.01 22 P **P 10 45 22.2 -1.6**
BFO IAmb IAmb 10 45 26.6
comp=Z,61nm,0.9s
BFO Black Forest 54.01 22 P **P 10 45 22.2 -1.6**
BFO pmax pmax
comp=Z,61nm,0.9s
JAN Janina 54.05 38 P **P 10 45 28.6 +4.3**
ANX Ano Chora 54.09 40 P **P 10 45 27.2 +2.5**
KALE Kalithea 54.11 40 P **P 10 45 27.0 +2.2**
PB04 IPOC Station P 54.12 242 IAmb IAmb 10 45 36.6
comp=Z,64nm,1.0s
PILG Pilgrimsrest, 54.13 121 *eP* **P 10 45 23.3 -2.1**
PILG IAmb IAmb 10 45 44.4
comp=Z,36nm,1.1s
HOED Hoedspruit, Li 54.16 120 *eP* **P 10 45 24.5 -0.9**
HOED IAmb IAmb 10 45 46.0
comp=Z,34nm,1.0s
MAKA Makarska 54.19 32 *i P* **P 10 45 25.1 -0.1**
UBR Ueberruh 54.19 24 *eP* 10 45 26.0
comp=Z,132nm,1.2s,baz=217,slow=7.6
DOU Dourbes 54.19 19 *dP* **P 10 45 25.5 +0.5**
comp=Z,51nm,0.9s
LSK Leskovik 54.20 37 P **P 10 45 27.4 +2.0**
KRND KRANIDI 54.20 41 P **P 10 45 26.7 +1.3**
STAL STALIGIAL 54.21 27 IAmb IAmb 10 45 28.3
comp=Z,77nm,1.1s
IDI Anoyia 54.27 45 P **P 10 45 26.1 +0.1**
IDI Anoyia 54.27 45 P **P 10 45 28.2 +2.2**
MOPA Mopani 54.28 119 *eP* **P 10 45 24.6 -1.6**
MOPA IAmb IAmb 10 46 03.2
comp=Z,89nm,1.5s
SQTA Sankt Quirin 54.29 25 *eP* **P 10 45 26.0 0.0**
comp=Z,89nm,0.8s,SNR=30
RETA Reutte 54.31 25 *i P* **P 10 45 25.8 -0.3**
comp=Z,52nm,1.0s,SNR=25
TRQA Tornquist 54.33 221 P **P 10 45 25.2 -1.1**
TRQA IAMs_20 IAMs_20 11 04 59.9
comp=Z,6µm,21.0s
TRQA Tornquist 54.33 221 P **P 10 45 25.3 -1.1**
TRQA pmax pmax
comp=Z,36nm,1.2s
WLF Walferdange 54.34 20 IAmb IAmb 10 45 29.3
comp=Z,67nm,1.4s
WLF IAMs_20 IAMs_20 11 09 21.6
comp=Z,5µm,18.0s
WLF Walferdange 54.34 20 *dP* **P 10 45 27.9 +1.8**
RIY Rijeka 54.34 29 *i P* **P 10 45 27.3 +1.1**
RICI Ricice 54.39 32 *i P* **P 10 45 26.9 +0.2**
HLM1 Long Mynd 54.39 12 *eP* **P 10 45 26.8 +0.3**
HLM1 IAmb IAmb 10 45 28.8
comp=Z,72nm,1.5s
HLM1 IAMs_20 IAMs_20 11 02 54.2
comp=Z,4µm,24.4s
UDBI Udbina 54.40 30 *i P* **P 10 45 28.4 +1.6**
SABO M.te Sabotino 54.41 28 IAmb IAmb 10 45 30.2
comp=Z,290nm,1.5s
NWCL Newcastle 54.41 124 *eP* **P 10 45 24.1 -3.2**
NWCL IAmb IAmb 10 45 47.5
comp=Z,29nm,0.9s
BMRD Maredsous 54.42 19 *dP* **P 10 45 27.6 +0.8**
DSB Dublin 54.43 9 P **P 10 45 26.2 -0.5**
DSB Dublin 54.43 9 IAmb IAmb 10 45 29.2
comp=Z,40nm,0.9s
RCHB Rochefort 54.45 19 *dP* **P 10 45 27.3 +0.4**
comp=Z,45nm,0.9s
MAKR Makrakomi, Fth 54.47 39 P **P 10 45 29.3 +2.0**
CHIPN CHIPINGE 54.48 115 *eP* **P 10 45 26.3 -1.6**
ABTA Abfaltersbach 54.49 26 *eP* **P 10 45 29.1 +1.7**
comp=Z,126nm,1.6s,SNR=23
GO02 Mina Guanaco 54.50 239 IAMs_20 IAMs_20 11 06 16.4
comp=Z,5µm,19.0s
SDDR Presa de Saban 54.50 294 IAmb IAmb 10 45 34.5
comp=Z,56nm,1.0s
TIR Tirane 54.50 36 ⇑P **P 10 45 28.5 +1.0**
TIR Tirane 54.50 36 P **P 10 45 28.5 +1.0**
WTTA Wattenberg 54.50 25 *i P* **P 10 45 28.0 +0.3**
comp=Z,39nm,0.7s,SNR=26
WATA Walderalm 54.53 25 *eP* **P 10 45 28.1 +0.3**
comp=Z,68nm,1.1s,SNR=14
KPRO Kipourio 54.54 38 P **P 10 45 30.5 +2.6**
BUM Brajici-Budva 54.56 34 ⇑*iP* **P 10 45 29.8 +1.8**
AGG Agios Georgios 54.60 39 P **P 10 45 29.2 +0.9**
BGES Gesves 54.60 19 *dP* **P 10 45 28.6 +0.6**
comp=Z,42nm,0.9s
CEY Cerknica 54.62 28 *i* P **P 10 45 29.4 +1.1**
CEY *eS* **S 10 53 10.8 +3.0**
CEY Cerknica 54.62 28 ⇑*iP* **P 10 45 29.3 +1.0**
NEST Nestorio 54.63 37 P **P 10 45 31.2 +2.6**
DRME Dracevica, Mon 54.65 35 ⇑*iP* **P 10 45 30.4 +1.9**
DRME Dracevica, Mon 54.65 35 ⇑*iP* **P 10 45 30.6 +2.1**
AXAR Agios Charalam 54.66 40 P **P 10 45 30.3 +1.6**
FOEL Foel Wylfa 54.67 12 *eP* **P 10 45 29.4 +0.8**
FOEL IAmb IAmb 10 45 30.6
comp=Z,34nm,0.9s
FOEL IAMs_20 IAMs_20 11 02 09.7
comp=Z,5µm,40.5s
BCLA Clavier 54.70 19 *dP* **P 10 45 29.2 +0.5**
comp=Z,32nm,0.9s
STU Stuttgart 54.70 23 *eP* 10 45 29.4
comp=Z,144nm,0.9s,baz=217,slow=7.6
STU Stuttgart 54.71 23 IAmb IAmb 10 45 30.7
comp=Z,54nm,0.9s
STU IAMs_20 IAMs_20 11 08 31.4
comp=Z,3µm,18.0s
THL Klokotos Trika 54.72 39 P **P 10 45 30.9 +1.8**
YLL Llanberis 54.72 11 *eP* **P 10 45 29.0 +0.2**
LODK Lodwar 54.73 86 IAmb IAmb 10 45 43.4
comp=Z,104nm,1.7s
LODK Lodwar 54.73 86 P **P 10 45 31.1 +1.4**
SNR=9.2
CEME Cevo 54.73 34 ⇑*iP* **P 10 45 30.8 +1.6**
VILL Villia 54.74 41 P **P 10 45 30.5 +1.1**
BRY Bratogost 54.75 33 ⇑*iP* **P 10 45 30.5 +1.1**
BRY Bratogost 54.75 33 ⇑*iP* **P 10 45 30.6 +1.1**
A050A Klekovaca 54.76 31 ⇑*iP* **P 10 45 30.4 +1.0**
BOJS Bojanci 54.84 29 ⇑*iP* **P 10 45 31.3 +1.4**
PDG Podgorica 54.84 34 IAMs_20 IAMs_20 11 09 17.3
comp=Z,5µm,20.0s
PDG Podgorica 54.84 34 ⇑*iP* **P 10 45 31.8 +1.9**
PDG Podgorica 54.84 34 ⇑*iP* **P 10 45 31.9 +2.0**
VLY Voula,Athens 54.88 41 P **P 10 45 31.6 +1.3**
LJU Ljubljana 54.89 28 *i P* **P 10 45 31.7 +1.5**
LJU *i* S **S 10 53 14.4 +3.1**
NKME Niksic 54.90 34 ⇑*iP* **P 10 45 31.9 +1.5**
OHR Ohrid 54.91 36 *i P* **P 10 45 32.6 +2.1**
MYKA Terra Mystica 54.91 27 *eP* **P 10 45 32.2 +1.8**
comp=Z,158nm,2.0s,SNR=22
BSTI Sart Tilman 54.93 19 *dP* **P 10 45 31.8 +1.4**
comp=Z,5.5nm,1.0s
TYRN Tyrnavos 54.94 39 P **P 10 45 32.3 +1.6**
WME Myndd Eilian 54.94 11 *eP* **P 10 45 31.3 +0.9**
ATHU Athens Univers 54.94 41 P **P 10 45 32.1 +1.3**
MGRS Mrkonjic Grad 55.00 31 ⇑*iP* **P 10 45 32.7 +1.6**
OZLJ Ozalj 55.03 29 *i P* **P 10 45 32.2 +1.0**
PTL Penteli 55.04 41 P **P 10 45 33.0 +1.5**
FNA Florina 55.05 37 P **P 10 45 33.4 +1.8**
FUR Furstenfeldbru 55.05 25 *eP* 10 45 32.2
comp=Z,168nm,1.1s,baz=217,slow=7.6
FUR *eL* 11 07 49.6
comp=Z,6µm,21.0s
LESA Schwarzleotal 55.08 26 *i P* **P 10 45 31.6 -0.1**
comp=Z,99nm,0.8s
MEM Membach 55.09 19 *dP* **P 10 45 33.2 +1.6**
comp=Z,33nm,0.9s
DION Dionisos Attik 55.10 41 P **P 10 45 34.4 +2.5**
KBA Koelnbreinsper 55.11 27 *eP* **P 10 45 33.0 +1.0**
comp=Z,20nm,0.6s,SNR=11
BTNL Ternell 55.12 19 *dP* **P 10 45 33.8 +2.0**
comp=Z,40nm,0.9s
ZKR Zakros 55.12 45 P **P 10 45 33.6 +1.5**
UPM Unac-Piva 55.15 33 ⇑*iP* **P 10 45 34.0 +1.6**
UPM Unac-Piva 55.15 33 ⇑*iP* **P 10 45 34.1 +1.6**
CRES Cresnjev 55.18 29 ⇑*iP* **P 10 45 33.4 +1.1**
ILTH Belurgan, Co L 55.19 9 P **P 10 45 33.7 +1.5**
ROSC El Rosal 55.22 276 P **P 10 45 34.7 +1.1**
comp=Z,24nm,0.7s,baz=340,slow=6.4,SNR=12
ROSC LR LR 11 07 27.4
comp=Z,5µm,19.2s,baz=116,slow=34
comp=Z,24nm,0.7s
SANT Santorini 55.22 44 P **P 10 45 31.8 -1.1**
SANT IAMs_20 IAMs_20 11 09 13.8
comp=Z,4µm,18.0s
SNT1 Gialos, Santor 55.22 44 P **P 10 45 33.6 +0.8**
OBKA Obir 55.24 28 *i P* **P 10 45 33.7 +0.9**
comp=Z,18nm,0.7s,SNR=7.9
OBKA Obir 55.24 28 ⇑*iP* **P 10 45 33.8 +0.9**
KOME Kolasin 55.26 34 ⇑*iP* **P 10 45 34.5 +1.4**
BLY Banja Luka 55.28 31 ⇑*iP* **P 10 45 34.1 +1.0**
RJOB Jochberg 55.37 26 *eP* 10 45 33.9
comp=Z,96nm,0.9s,baz=217,slow=7.6
AHRW Bad Neuenahr-A 55.40 20 *eP* 10 45 35.5
comp=Z,49nm,0.9s,baz=217,slow=7.6
WACR West Acre 55.40 15 *eP* **P 10 45 34.3 +0.6**
WACR IAmb IAmb 10 45 36.0
comp=Z,282nm,0.9s
WACR IAMs_20 IAMs_20 11 09 13.5
comp=Z,4µm,22.4s
LBWR Ladybower, Pea 55.47 13 *eP* **P 10 45 35.1 +0.9**
LBWR IAmb IAmb 10 45 36.3
comp=Z,38nm,0.8s
LBWR IAMs_20 IAMs_20 11 09 29.3
comp=Z,3µm,18.9s
PTJ Puntijarka 55.48 29 *i P* **P 10 45 35.9 +1.3**
IVA Berane 55.49 34 ⇑*iP* **P 10 45 36.0 +1.3**
PLE Pljevlja 55.50 34 ⇑*iP* **P 10 45 36.4 +1.5**
KYMI Kymi, Euboea I 55.52 41 P **P 10 45 36.6 +1.7**
SOKA Soboth 55.59 28 *eP* **P 10 45 36.0 +0.6**
comp=Z,110nm,1.1s,SNR=27
PERS Pernice 55.60 28 *i P* **P 10 45 36.5 +1.1**
PERS *e* 10 48 41.5
PERS *i* S **S 10 53 24.3 +3.3**
PERS *e* 10 59 24.2
TNS Taunus Mts 55.62 21 *eP* 10 45 36.5
comp=Z,58nm,0.9s,baz=217,slow=7.6
TNS *eL* 11 07 00.0
comp=Z,3µm,19.0s
APE Apeiranthos 55.63 43 P **P 10 45 36.8 +1.0**
APE Apeiranthos 55.63 43 ⇓P **P 10 45 35.9 +0.1**
APE Apeiranthos 55.63 43 *c iP* **P 10 45 34.0 -1.8**
APE pmax pmax
comp=Z,146nm,0.9s
MOSL Moslavina 55.66 30 *i P* **P 10 45 37.1 +1.2**
RUDO Rudo 55.68 33 ⇑*iP* **P 10 45 36.5 +0.5**
BIOA Bad Ischl, Aus 55.71 26 *i P* **P 10 45 35.5 -0.6**
comp=Z,18nm,0.7s,SNR=11
IOMK Kirk Michael 55.71 10 *eP* **P 10 45 36.6 +0.6**
IOMK IAmb IAmb 10 45 38.0
comp=Z,55nm,0.9s
IOMK IAMs_20 IAMs_20 11 06 10.9
comp=Z,8µm,20.1s
HAPS Han Pijesak,Bl 55.76 33 ⇑*iP* **P 10 45 38.0 +1.3**
POGA Pongola 55.78 123 *eP* **P 10 45 37.1 +0.1**
POGA IAmb IAmb 10 45 49.9
comp=Z,328nm,2.1s
SJES Sjenica 55.78 34 ⇑*iP* **P 10 45 37.7 +0.8**
GO03 Copiap 55.85 236 IAMs_20 IAMs_20 11 07 32.2
comp=Z,5µm,19.0s
BBLS Lazi&#263i 55.86 33 ⇑*iP* **P 10 45 38.6 +1.2**
AC06 Mina Casimiro 55.87 237 IAmb IAmb 10 45 43.0
comp=Z,41nm,1.1s
AC06 IAMs_20 IAMs_20 11 08 08.7
comp=Z,5µm,19.0s
KALN Kalnik 55.88 29 *i P* **P 10 45 38.1 +0.7**
THE Thessaloniki 55.93 38 P **P 10 45 38.9 +1.1**
SKY Skiros Island 55.94 41 P **P 10 45 39.3 +1.3**
PAIG Paliouri 55.97 39 P **P 10 45 39.2 +1.1**
HORT Hortiatis 55.99 38 P **P 10 45 39.5 +1.1**
IDGL Inch Island, C 56.02 8 P **P 10 45 39.2 +1.1**
PLG Polygyros 56.08 39 P **P 10 45 40.4 +1.4**
VAY Valandovo 56.09 37 *i P* **P 10 45 40.1 +1.1**
MOA Molln 56.10 27 *eP* **P 10 45 38.4 -0.5**
comp=Z,26nm,0.7s,SNR=17
KNT Kendrikon 56.20 38 P **P 10 45 41.1 +1.3**
BUG Bochum–Univer 56.22 20 *eP* 10 45 40.8
comp=Z,50nm,0.9s,baz=217,slow=7.6
GRFO Grafenberg 56.24 23 P **P 10 45 40.6 +0.8**
GRFO IAmb IAmb 10 45 42.4
comp=Z,79nm,1.1s
GRFO IAMs_20 IAMs_20 11 09 36.9
comp=Z,4µm,19.0s
GRFO Grafenberg 56.24 23 P **P 10 45 40.6 +0.8**
GRFO pmax pmax
comp=Z,79nm,1.1s
GRFO MLR MLR
comp=Z,4µm,19.0s
GRF Grafenberg Arr 56.24 23 *eP* 10 45 40.5
comp=Z,69nm,1.0s,baz=217,slow=7.6
GRF *eL* 11 09 28.7
comp=Z,4µm,19.3s
GRA1 Grafenberg Arr 56.24 23 IAMs_20 IAMs_20 11 09 28.9
comp=Z,4µm,19.0s
ARSA Arzberg 56.24 28 *i P* **P 10 45 40.1 +0.1**
comp=Z,56nm,1.0s,SNR=21
GAL1 Galloway 56.26 10 *eP* **P 10 45 40.6 +0.7**
GAL1 IAmb IAmb 10 45 41.8
comp=Z,29nm,0.8s
GAL1 IAMs_20 IAMs_20 11 02 51.6
comp=Z,6µm,35.8s
SOH Sokhos 56.28 38 P **P 10 45 42.0 +1.6**
AC05 El Transito 56.32 235 IAmb IAmb 10 45 47.2
comp=Z,73nm,1.1s
TEKS Tekeris 56.38 33 *eP* **P 10 45 42.1 +1.1**
OUR Ouranopolis 56.39 39 P **P 10 45 42.8 +1.7**
KASTN Kahler Asten 56.42 21 *eP* 10 45 42.3
comp=Z,21nm,1.0s,baz=217,slow=7.6
WET Wettzell 56.48 25 *eP* 10 45 42.4
comp=Z,80nm,0.9s,baz=217,slow=7.6
WET *eL* 11 08 30.1
comp=Z,4µm,21.8s
KMBO Kilima Mbogo 56.52 91 IAMs_20 IAMs_20 11 07 45.4
comp=Z,4µm,18.0s
KMBO Kilima Mbogo 56.52 91 *eP* **P 10 45 46.4 +3.5**
KMBO IAmb IAmb 10 46 08.1
comp=Z,70nm,1.1s
KMBO Kilima Mbogo 56.52 91 P **P 10 45 46.9 +4.1**
CO01 Juntas del Tor 56.59 234 IAmb IAmb 10 45 56.5
comp=Z,51nm,0.9s
SRS Serrai 56.60 38 P **P 10 45 44.2 +1.6**
GEC2 GERESS Array S 56.60 26 *eP* 10 45 43.2
comp=Z,405nm,2.1s,baz=217,slow=7.6
GEC2 *eL* 11 08 37.0
comp=Z,2µm,21.4s
GEC2 GERESS Array S 56.61 26 IAmb IAmb 10 45 44.5
comp=Z,39nm,0.8s
GERES GERESS Array B 56.61 26 P **P 10 45 41.0 -1.6**
GERES GERESS Array B 56.61 26 P **P 10 45 41.3 -1.3**
comp=Z,22nm,0.8s,baz=219,slow=6.2,SNR=60
GERES PP **PP 10 47 46.1 -2.6**
comp=Z,10.0nm,0.8s,baz=201,slow=6.8,SNR=4.4
GERES LR LR 11 11 06.2
comp=Z,2µm,18.5s,baz=244,slow=37
comp=Z,22nm,0.8s
UBBA Unterbreizbach 56.67 22 *eP* 10 45 44.1
comp=Z,121nm,1.7s,baz=217,slow=7.6
CHOS Chios island 56.67 42 P **P 10 45 45.1 +1.8**
KOKK Kokkinochori, 56.68 39 P **P 10 45 44.7 +1.5**
ROTZ Rotzenmuhle 56.69 24 *eP* 10 45 43.6
comp=Z,11nm,1.1s,baz=217,slow=7.6
LCO Las Campanas 56.73 235 P **P 10 45 44.2 +0.2**
LCO Las Campanas 56.73 235 P **P 10 45 44.3 +0.2**
LCO pmax pmax
comp=Z,133nm,1.6s
KHC Kasperske Hory 56.77 25 IAmb IAmb 10 45 46.4
comp=Z,43nm,1.0s
KHC Kasperske Hory 56.77 25 *eP* **P 10 45 44.4 +0.7**
KHC *ex* x 10 49 07.8
KHC *eS* **S 10 53 34.0 -2.4**
KHC AMS AMS 11 06 40.0
comp=Z,4µm,22.3s
KHC Kasperske Hory 56.77 25 *eP* **P 10 45 44.4 +0.7**
KHC *e* 10 49 07.8
KHC *eS* **S 10 53 34.0 -2.4**
KHC MLR MLR
comp=Z,4µm,22.3s
MANZ Manzenberg 56.82 24 *eP* 10 45 44.7
comp=Z,15nm,0.9s,baz=217,slow=7.6
CKRC Cesky Krumlov 56.85 26 *eP* **P 10 45 44.8 +0.5**
CKRC *ex* x 10 49 11.7
CKRC *eS* **S 10 53 35.8 -1.7**
CKRC AMS AMS 11 10 40.0
comp=Z,3µm,14.7s
CKRC Cesky Krumlov 56.85 26 *eP* **P 10 45 44.8 +0.5**
CKRC *e* 10 49 11.7
CKRC *eS* **S 10 53 35.8 -1.7**
CKRC MLR MLR
comp=Z,3µm,14.7s
SMG Samos 56.85 43 P **P 10 45 45.8 +1.3**
BODT Bodrum 56.85 44 P **P 10 45 45.2 +0.7**
DAT Datca 56.88 44 P **P 10 45 45.3 +0.5**
CONA Conrad Observa 56.89 28 *eP* **P 10 45 44.7 0.0**
comp=Z,62nm,1.1s,SNR=29
NVR Nevrokopi 56.90 38 P **P 10 45 47.5 +2.7**
LIA Limnos Island 56.91 40 P **P 10 45 46.5 +1.7**
RONA Rosalia, Austr 56.93 28 *i P* **P 10 45 45.3 +0.5**
comp=Z,61nm,0.8s,SNR=46
FRGS Fruska Gora 56.93 32 ⇑*iP* **P 10 45 46.2 +1.3**
FRGS Fruska Gora 56.93 32 ⇑P **P 10 45 45.9 +0.9**
ESK Eskdalemuir 56.97 11 P **P 10 45 44.1 -0.7**
ESK IAmb IAmb 10 45 46.9
comp=Z,35nm,0.8s
ESK Eskdalemuir 56.97 11 *eP* **P 10 45 45.4 +0.4**
ESK IAmb IAmb 10 45 46.7
comp=Z,36nm,0.8s
ESK IAMs_20 IAMs_20 11 07 09.8
comp=Z,4µm,18.5s
ESK Eskdalemuir 56.97 11 P **P 10 45 44.2 -0.7**
ESK pmax pmax
comp=Z,35nm,0.8s
SIGR SIGRI 56.98 41 P **P 10 45 47.1 +1.8**
EKA Eskdalemuir Ar 56.99 11 P **P 10 45 43.2 -1.9**
comp=Z,18nm,0.8s,baz=198,slow=7.6,SNR=59
comp=Z,18nm,0.8s
BOVS Bovan 57.00 35 ⇑P **P 10 45 46.2 +0.9**
ARG Arkhangelos 57.01 45 P **P 10 45 46.6 +1.0**
MORH Mrgy, Hungar 57.03 31 ⇓P **P 10 45 46.5 +0.9**
KAVA Kavala 57.10 39 P **P 10 45 47.8 +1.7**
IBBN Ibbenburen 57.12 19 *eP* 10 45 47.4
comp=Z,58nm,0.9s,baz=217,slow=7.6
MOX Moxa 57.15 23 *eP* 10 45 47.3
comp=Z,45nm,0.8s,baz=217,slow=7.6
MOX *eL* 11 09 43.0
comp=Z,3µm,18.7s
GO04 Tololo Observa 57.23 234 IAMs_20 IAMs_20 11 08 38.5
comp=Z,4µm,20.0s
PLN Plauen 57.23 23 *eP* 10 45 47.6
comp=Z,42nm,0.8s,baz=217,slow=7.6
GTTG Gottingen 57.25 21 *eP* 10 45 48.5
comp=Z,38nm,1.2s,baz=217,slow=7.6
PRK Paraskevi 57.27 41 P **P 10 45 49.2 +1.8**
TANN Tannenbergstha 57.30 24 *eP* 10 45 48.2
comp=Z,56nm,0.8s,baz=217,slow=7.6
KIBK Kibwezi 57.33 93 IAMs_20 IAMs_20 11 07 23.8
comp=Z,4µm,19.0s
SMTH Samothraki Isl 57.45 40 P **P 10 45 50.0 +1.3**
EZN Ezine 57.61 41 P **P 10 45 51.2 +1.4**
CLZ Clausthal 57.64 21 *eP* 10 45 50.9
comp=Z,18nm,1.1s,baz=217,slow=7.6
ESY Stoneypath 57.65 11 *eP* **P 10 45 50.6 +0.9**
NEUB Neuenburg 57.66 23 *eP* 10 45 50.9
comp=Z,95nm,0.8s,baz=217,slow=7.6
ZST Bratislava 57.66 28 *eP* **P 10 45 51.1 +1.2**
ZST pmax pmax
comp=Z,406nm,1.2s
ZST Bratislava 57.66 28 *eP* **P 10 45 51.1 +1.2**
MDVR Moldovita 57.72 34 ⇑P **P 10 45 52.0 +1.5**
TREC Trest 57.72 26 *eP* **P 10 45 51.1 +0.7**
TREC *eS* **S 10 53 53.5 +4.6**
TREC AMS AMS 11 09 20.0
comp=Z,4µm,18.6s
TREC Trest 57.72 26 *eP* **P 10 45 51.1 +0.7**
TREC *eS* **S 10 53 53.5 +4.6**
TREC MLR MLR
comp=Z,4µm,18.6s
CO02 Combarbal 57.77 233 IAMs_20 IAMs_20 11 08 03.7
comp=Z,6µm,21.0s
RDO Rodhopi 57.83 39 IAmb IAmb 10 45 54.3
comp=Z,84nm,1.1s
RDO IAMs_20 IAMs_20 11 11 19.7
comp=Z,4µm,20.0s
RDO Rodhopi 57.83 39 P **P 10 45 52.7 +1.4**
PRU Pruhonice 57.83 25 *eP* **P 10 45 51.9 +0.8**
PRU *ex* x 10 49 02.9
PRU *eS* **S 10 53 49.0 -1.3**
PRU AMS AMS 11 08 40.0
comp=Z,4µm,21.2s
PRU Pruhonice 57.83 25 *eP* **P 10 45 51.9 +0.8**
PRU *eS* **S 10 53 49.0 -1.3**
PRU MLR MLR
comp=Z,4µm,21.2s
HSKC Hora Svate Kat 57.84 24 *eP* **P 10 45 52.3 +1.1**
HSKC *ex* x 10 49 04.5
HSKC *eS* **S 10 53 51.0 +0.5**

HSKC AMS AMS 11 12 10.0
comp=Z,4μm,16.1s
PRA Prague 57.85 25 *e*P **P 10 45 52.2 +1.0**
PRA *ex* x 10 49 02.8
PRA *e*S **S 10 53 49.5 -0.9**
PRA AMS AMS 11 08 50.0
comp=Z,4μm,22.5s
PRA Prague 57.85 25 *e*P **P 10 45 52.2 +1.0**
PRA *e*S **S 10 53 49.5 -0.9**
PRA MLR MLR
comp=Z,4μm,22.5s
MODS Modra-Piesok 57.87 28 *e*P **P 10 45 52.3 +0.8**
MODS pmax pmax
comp=Z,278nm,1.3s
MODS Modra-Piesok 57.87 28 *e*P **P 10 45 52.3 +0.8**
GOPC GO Pecny, Ondr 57.88 25 *e*P **P 10 45 52.1 +0.6**
GOPC *ex* x 10 49 03.8
GOPC *e*S **S 10 53 54.4 +3.4**
GOPC AMS AMS 11 11 30.0
comp=Z,4μm,17.0s
GOPC GO Pecny, Ondr 57.88 25 *e*P **P 10 45 52.1 +0.6**
GOPC *e*S **S 10 53 54.4 +3.4**
GOPC MLR MLR
comp=Z,4μm,17.0s
KRUC Moravsky 57.96 27 *e*P **P 10 45 50.2 -1.8**
KRUC *e*S **S 10 53 52.6 +0.6**
SRO Srobarova 57.97 29 *e*P **P 10 45 53.7 +1.6**
SRO pmax pmax
comp=Z,168nm,1.4s
SRO Srobarova 57.97 29 *e*P **P 10 45 53.6 +1.5**
ASSE Asse, Remlinge 57.98 21 *e*P 10 44 57.4
baz=217,slow=7.6
ENEZ Enez 57.99 40 P **P 10 45 54.1 +1.7**
VA03 San Esteban 58.01 231 P **P 10 45 52.6 -0.3**
VA03 IAmb IAmb 10 46 06.0
comp=Z,76nm,1.1s
RETH Rethem/Aller, 58.02 20 *e*P 10 45 54.1
comp=Z,36nm,0.9s,baz=217,slow=7.6
SMOL Smolenice 58.04 28 *e*P **P 10 45 54.3 +1.7**
SMOL pmax pmax
comp=Z,29nm,0.9s
RICC Richard 58.07 24 *e*P **P 10 45 53.9 +1.1**
RICC *e*S **S 10 53 58.9 +5.6**
RICC AMS AMS 11 09 50.0
comp=Z,3μm,18.6s
NRDL Niedersach Rie 58.08 21 *e*P 10 45 54.4
comp=Z,56nm,1.2s,baz=217,slow=7.6
CO06 Fray Jorge 58.08 233 IAMs_20 IAMs_20 11 10 28.1
comp=Z,5μm,20.0s
DJES Djerdap 58.10 34 ⇑P **P 10 45 53.5 +0.4**
HERR Herculane 58.17 34 ⇑P **P 10 45 55.3 +1.7**
BZS Buzias 58.20 33 ⇑P **P 10 45 55.1 +1.3**
BZS Buzias 58.20 33 P **P 10 45 55.1 +1.3**
CLL Collm 58.21 23 IAmb IAmb 10 45 56.5
comp=Z,49nm,1.3s
CLL IAMs_20 IAMs_20 11 10 53.1
comp=Z,3μm,19.0s
CLL Collm 58.21 23 *i* P **P 10 45 54.7 +0.9**
CLL *i* 10 46 00.0
CLL *e*S **S 10 53 58.0 +2.8**
CLL pmax pmax
comp=Z,134nm,2.0s
CLL Collm 58.21 23 *e*P 10 45 54.6
comp=Z,47nm,1.3s,baz=217,slow=7.6
CLL *e*L 11 10 06.3
comp=Z,2μm,20.2s
VRAC Vranov 58.23 27 *e*P **P 10 45 52.2 -1.7**
VRAC *e*S **S 10 53 54.2 -1.3**
VRAC Vranov 58.23 27 LR LR 11 12 04.7
comp=Z,3μm,18.9s,baz=232,slow=37
VRAC Vranov 58.23 27 ⇓P **P 10 45 54.2 +0.2**
VRAC Vranov 58.23 27 P **P 10 45 54.1 +0.2**
PVCC Panska Ves 58.25 25 *e*P **P 10 45 53.8 -0.3**
PVCC *e*S **S 10 53 54.5 -1.2**
PVCC AMS AMS 11 09 50.0
comp=Z,3μm,16.6s
PVCC Panska Ves 58.25 25 *e*P **P 10 45 53.8 -0.3**
PVCC *e*S **S 10 53 54.5 -1.2**
PVCC MLR MLR
comp=Z,3μm,16.6s
BRG Berggiesshubel 58.25 24 *e*P 10 45 54.7
comp=Z,24nm,0.9s,baz=217,slow=7.6
BRG Berggiesshubel 58.25 24 *i* P **P 10 45 55.0 +0.9**
BRG Amp 10 45 58.3
comp=Z,24nm,0.9s
BRG Berggiesshubel 58.25 24 *i* P **P 10 45 54.9 +0.9**
BRG 10 48 02.4
BRG S **S 10 53 57.0 +1.2**
BRG pmax pmax
comp=Z,24nm,0.9s
BRG pmax pmax
comp=Z,139nm,1.7s
BRG smax smax
comp=Z,3μm,17.4s
NMDO Nuevo Mundo 58.26 294 IAmb IAmb 10 45 57.3
comp=Z,49nm,1.1s
PEL Peldehue 58.27 230 IAmb IAmb 10 46 07.1
comp=Z,81nm,1.1s
MT03 Universidad Ad 58.27 230 P **P 10 45 54.0 -0.6**
NNA Nana 58.28 256 LR LR 11 09 34.0
comp=Z,6μm,21.4s,baz=72,slow=35
FLTG Flechtingen 58.35 21 *e*P 10 45 55.7
comp=Z,43nm,1.0s,baz=217,slow=7.6
JAVC Velka Javorina 58.40 28 *e*P **P 10 45 53.6 -1.6**
JAVC *e*S **S 10 53 56.9 -1.0**
MT05 Renca 58.40 230 IAMs_20 IAMs_20 11 09 53.3
comp=Z,6μm,22.0s
FURI Furi 58.43 79 P **P 10 45 52.9 -3.5**
FURI Furi 58.43 79 *e*P **P 10 45 57.5 +1.1**
FURI *e*S S 10 54 22.2 +22
SRE Strehaia 58.48 34 ⇑P **P 10 45 57.5 +1.6**
SRE Strehaia 58.48 34 P **P 10 45 57.4 +1.6**
SURR Surduc 58.56 33 ⇓P **P 10 45 57.4 +1.1**
DRUM Mains of Drumt 58.61 11 *e*P **P 10 45 56.6 +0.2**
DRUM IAmb IAmb 10 45 58.0
comp=Z,64nm,0.8s
DRUM IAMs_20 IAMs_20 11 04 05.8
comp=Z,4μm,21.5s
SIRR Siria 58.64 32 ⇑P **P 10 45 58.3 +1.4**
GZR Gura Zlata 58.69 34 ⇓P **P 10 45 58.6 +1.3**
GZR Gura Zlata 58.69 34 P **P 10 45 58.6 +1.3**
VYHS Vyhne 58.69 29 *e*P **P 10 45 55.8 -1.4**
VYHS pmax pmax
comp=Z,170nm,1.1s
VYHS Vyhne 58.69 29 *e*P **P 10 45 55.8 -1.4**
MT09 Talagante 58.75 230 IAmb IAmb 10 46 03.3
comp=Z,54nm,0.9s
VLAD Vladila 58.77 36 ⇑P **P 10 45 58.9 +1.1**
GBN Guysborough 58.81 326 P **P 10 45 57.4 -0.6**
GBN IAmb IAmb 10 46 01.0
comp=Z,50nm,1.3s
PSZ Piszkesteto 58.82 30 IAMs_20 IAMs_20 11 12 18.2
comp=Z,6μm,20.0s
PSZ Piszkesteto 58.82 30 ⇑P **P 10 45 59.2 +1.0**
PSZ Piszkesteto 58.82 30 P **P 10 45 59.1 +1.0**
DPC Dobruska-Polom 58.87 26 *e*P **P 10 45 59.0 +0.6**
DPC *ex* x 10 49 30.8
DPC *e*S **S 10 54 06.3 +2.4**
DPC AMS AMS 11 07 50.0
comp=Z,4μm,23.7s
DPC Dobruska-Polom 58.87 26 *e*P **P 10 45 59.0 +0.6**
DPC *e* 10 49 30.8
DPC *e*S **S 10 54 06.3 +2.4**
DPC MLR MLR
comp=Z,4μm,23.7s
KRLC Kraliky 58.87 26 *e*P **P 10 45 59.2 +0.8**
KRLC *ex* x 10 49 31.8
KRLC *e*S **S 10 54 06.2 +2.3**
KRLC AMS AMS 11 09 50.0
comp=Z,3μm,16.5s
KRLC Kraliky 58.87 26 *e*P **P 10 45 59.2 +0.8**
KRLC *e* 10 49 31.8
KRLC *e*S **S 10 54 06.2 +2.3**
KRLC MLR MLR
comp=Z,3μm,16.5s
GORT1 Trebel 58.91 21 *e*P 10 46 31.5
baz=217,slow=7.6
CHVC Chvalec 58.92 25 *e*P **P 10 45 59.3 +0.5**
CHVC *e*S **S 10 54 13.2 +8.6**
CHVC AMS AMS 11 10 00.0
comp=Z,4μm,17.2s
CHVC Chvalec 58.92 25 *e*P **P 10 45 59.3 +0.5**
CHVC *e*S **S 10 54 13.2 +8.6**
CHVC MLR MLR
comp=Z,4μm,17.2s
EDRB Edirne 58.97 39 P **P 10 46 00.5 +1.3**
OSTC Ostas 58.97 26 *e*P **P 10 46 00.7 +1.6**
OSTC *ex* x 10 49 33.2
OSTC *e*S **S 10 54 06.7 +1.5**
OSTC AMS AMS 11 07 40.0
comp=Z,4μm,21.2s
OSTC Ostas 58.97 26 *e*P **P 10 46 00.7 +1.6**
OSTC *e* 10 49 33.2
OSTC *e*S **S 10 54 06.7 +1.5**
OSTC MLR MLR
comp=Z,4μm,21.2s
MORC Moravsky Berou 58.99 27 *e*P **P 10 45 55.8 -3.5**
MORC *e*S **S 10 53 58.6 -6.9**
MORC Moravsky Berou 58.99 27 ⇓P **P 10 45 59.6 +0.3**
MORC Moravsky Berou 58.99 27 P **P 10 45 59.6 +0.3**
BO02 Sierra Bellavi 59.00 229 IAMs_20 IAMs_20 11 09 34.0
comp=Z,4μm,18.0s
DEV Deva 59.06 33 ⇓P **P 10 46 01.1 +1.2**
DEV Deva 59.06 33 P **P 10 46 01.0 +1.2**
OTAV Otavalo 59.18 270 P **P 10 45 59.9 -1.9**
OTAV Otavalo 59.18 270 P **P 10 45 59.9 -1.9**
OTAV pmax pmax
comp=Z,14nm,1.1s
OTAV Otavalo 59.18 270 *e*P **P 10 46 01.6 -0.2**
KSP Ksiaz 59.22 25 *e*P **P 10 46 02.2 +1.5**
BORR Bors 59.23 31 ⇓P **P 10 46 02.8 +1.8**
LOT Lotru 59.28 34 ⇑P **P 10 46 02.6 +1.1**
OKC Ostrava-Krasne 59.31 27 *e*P **P 10 46 02.6 +1.2**
OKC *ex* x 10 49 35.0
OKC *e*S **S 10 54 14.8 +5.3**
OKC AMS AMS 11 14 50.0
comp=Z,3μm,17.2s
OKC Ostrava-Krasne 59.31 27 *e*P **P 10 46 02.6 +1.2**
OKC *e* 10 49 35.0
OKC *e*S **S 10 54 14.8 +5.3**
OKC MLR MLR
comp=Z,3μm,17.2s
COPA Copaceanca 59.33 36 ⇑P **P 10 46 03.1 +1.5**
BSEG Bad Segeberg 59.33 20 *e*P 10 46 02.4
comp=Z,103nm,0.8s,baz=217,slow=7.6
BSEG *e*L 11 09 06.4
comp=Z,1μm,22.0s
ATAH Atahualpa 59.34 262 LR LR 11 11 17.4
comp=Z,6μm,18.3s,baz=91,slow=36
HUMR Humele 59.42 35 ⇓P **P 10 46 03.3 +1.1**
RUE Ruedersdorf 59.43 23 *e*P 10 46 03.3
comp=Z,108nm,0.9s,baz=217,slow=7.6
CHIV Chivirico 59.43 293 IAmb IAmb 10 46 08.4
comp=Z,31nm,1.2s
LANS Liptovska Anna 59.45 28 *e*P **P 10 46 04.4 +1.9**
LANS pmax pmax
comp=Z,19nm,0.9s
LANS Liptovska Anna 59.45 28 *e*P **P 10 46 04.4 +1.9**
ISP Isparta 59.46 45 IAMs_20 IAMs_20 11 16 21.0
comp=Z,4μm,19.0s
KECS Kecovo 59.49 30 *e*P **P 10 46 04.1 +1.4**
KECS pmax pmax
comp=Z,61nm,1.0s
KECS Kecovo 59.49 30 *e*P **P 10 46 04.1 +1.4**
HAL Halifax 59.52 325 P **P 10 46 03.6 +0.6**
HAL IAmb IAmb 10 46 05.2
comp=Z,30nm,1.0s
HAL Halifax 59.52 325 P **P 10 46 03.6 +0.6**
HAL pmax pmax
comp=Z,30nm,1.0s
DRGR 59.53 32 ⇑P **P 10 46 04.1 +0.9**
DRGR 59.53 32 P **P 10 46 04.0 +0.9**
MARR Marisel-Cluj 59.68 33 ⇑P **P 10 46 05.0 +0.9**
TNR Turnu Rosu 59.68 34 ⇑P **P 10 46 04.8 +0.7**
TNR Turnu Rosu 59.68 34 P **P 10 46 04.8 +0.7**
ARR Arges 59.71 34 ⇓P **P 10 46 05.5 +1.1**
SGRR Singureni 59.82 36 ⇓P **P 10 46 06.5 +1.4**
BIGH Upper Bighouse 59.86 9 *e*P **P 10 46 04.9 -0.1**
BIGH IAmb IAmb 10 46 06.9
comp=Z,48nm,0.8s
BIGH IAMs_20 IAMs_20 11 04 33.0
comp=Z,3μm,23.6s
ML02 Panimavida 59.87 228 IAMs_20 IAMs_20 11 12 10.7
comp=Z,4μm,18.0s
GO05 Huala 59.95 229 IAMs_20 IAMs_20 11 10 06.0
comp=Z,4μm,20.0s
CJR Cluj-Napoca 59.96 33 ⇓P **P 10 46 07.6 +1.6**
CJR Cluj-Napoca 59.96 33 P **P 10 46 07.6 +1.6**
VOIR 59.99 35 ⇑P **P 10 46 07.0 +0.6**
VOIR 59.99 35 P **P 10 46 06.9 +0.6**
NIE Niedzica 60.03 29 *e*P **P 10 46 07.8 +1.3**
NIE *e*S **S 10 54 22.9 +4.0**
BI02 San Fabin de 60.13 227 IAmb IAmb 10 46 20.1
comp=Z,57nm,1.2s
BI02 IAMs_20 IAMs_20 11 08 44.7
comp=Z,5μm,21.0s
CRVS Cervenica-Dubn 60.25 30 *e*P **P 10 46 09.2 +1.2**
CRVS pmax pmax
comp=Z,154nm,1.4s
CRVS Cervenica-Dubn 60.25 30 *e*P **P 10 46 09.2 +1.2**
CSS Mathiatis 60.27 49 P **P 10 46 07.8 -0.5**
OJC Ojcow 60.34 28 *e*P **P 10 46 09.4 +0.9**
OJC *e*S **S 10 54 25.8 +3.0**
SSRD Sdr. Stenderup 60.38 18 *i* P **P 10 46 09.7 +1.1**
SSRD IAmb IAmb 10 46 14.3
comp=Z,86nm,0.8s
DOPR Dopca 60.50 34 ⇑P **P 10 46 10.5 +0.8**
BMR Baia Mare 60.50 32 ⇓P **P 10 46 11.0 +1.3**
BMR Baia Mare 60.50 32 P **P 10 46 11.0 +1.3**
MLR Muntele Rosu 60.53 35 P **P 10 46 08.6 -1.5**
MLR Muntele Rosu 60.53 35 LR LR 11 13 19.8
comp=Z,9μm,21.8s,baz=224,slow=37
MLR Muntele Rosu 60.53 35 ⇓P **P 10 46 10.8 +0.7**
MLR Muntele Rosu 60.53 35 P **P 10 46 08.6 -1.5**
MLR pmax pmax
comp=Z,285nm,1.3s
MLR MLR MLR
comp=Z,10μm,22.0s
ARCR ARCALIA 60.60 33 ⇑P **P 10 46 11.2 +0.8**
GHAJ Ghor Haditha 60.64 53 IAMs_20 IAMs_20 11 12 47.2
comp=Z,4μm,20.0s
ISR Istrita 60.67 36 ⇓P **P 10 46 11.9 +0.9**
ISR Istrita 60.67 36 P **P 10 46 11.8 +0.9**
KOLS Kolonicke sedl 60.68 30 *e*P **P 10 46 12.5 +1.6**
KOLS pmax pmax
comp=Z,39nm,1.1s
KOLS Kolonicke sedl 60.68 30 *e*P **P 10 46 12.5 +1.6**
BOSR Bodos 60.71 34 ⇓P **P 10 46 12.8 +1.6**
OZUR 60.80 34 ⇓P **P 10 46 12.6 +0.8**
PGOR Pogoanele 60.80 36 ⇓P **P 10 46 12.7 +0.9**
ICOR Ion Corvin 60.85 37 ⇓P **P 10 46 13.1 +1.0**
RGN Rugen 60.87 21 IAMs_20 IAMs_20 11 14 36.7
comp=Z,5μm,20.0s
COVR Voineasa-Covas 60.89 35 ⇓P **P 10 46 12.2 -0.2**
TURR Turia 60.90 34 ⇓P **P 10 46 13.3 +0.8**
LMN Caledonia Moun 60.93 325 P **P 10 46 12.2 -0.4**
LMN IAmb IAmb 10 46 14.8
comp=Z,30nm,1.0s
BALJ Balqa 60.97 53 P **P 10 46 12.3 -0.9**
BALJ IAMs_20 IAMs_20 11 13 32.1
comp=Z,5μm,22.0s
MUD Monsted U'grnd 61.06 18 *i* P **P 10 46 13.8 +0.5**
MUD IAmb IAmb 10 46 15.5
comp=Z,78nm,0.9s
MMAI Mount Meron Ar 61.11 52 P **P 10 46 15.1 +0.9**
comp=Z,38nm,0.8s,baz=248,slow=4.0,SNR=24
MMAI LR LR 11 14 30.0
comp=Z,6μm,19.7s,baz=236,slow=38
comp=Z,38nm,0.8s
PLOR Plostina 61.15 35 ⇓P **P 10 46 13.9 -0.3**
PLOR Plostina 61.15 35 P **P 10 46 13.8 -0.3**
VRI Vrincioaia 61.20 35 ⇑P **P 10 46 14.4 -0.1**
VRI Vrincioaia 61.20 35 P **P 10 46 14.4 -0.1**
TLBR Topalu 61.23 37 ⇑P **P 10 46 15.3 +0.6**
HARR Harsova 61.24 37 ⇓P **P 10 46 15.5 +0.7**
HARR Harsova 61.24 37 P **P 10 46 15.5 +0.7**
MFTR Murfatlar 61.26 37 ⇓P **P 10 46 15.8 +0.8**
ONER Baraj Valea Uz 61.28 34 ⇑P **P 10 46 16.5 +1.4**
ODBI Odobesti 61.33 35 ⇓P **P 10 46 16.7 +1.4**
KWP Kalwaria Pacla 61.35 30 IAMs_20 IAMs_20 11 12 50.2
comp=Z,5μm,21.0s
BURAR Bucovina Array 61.38 33 P **P 10 46 14.9 -1.0**
BURAR IAmb IAmb 10 46 18.9
comp=Z,34nm,0.9s
BURAR Bucovina Array 61.38 33 ⇓P **P 10 46 16.9 +1.0**
BUR08 Bucovina Ar. S 61.39 33 P **P 10 46 15.4 -0.4**
GKP Gorka Klasztor 61.40 24 *e*P **P 10 46 17.3 +1.7**
PLCA Paso Flores 61.40 222 P **P 10 46 16.1 0.0**
PLCA IAmb IAmb 10 46 28.5
comp=Z,39nm,1.4s
PLCA Paso Flores 61.40 222 P **P 10 46 16.4 +0.3**
comp=Z,6.0nm,1.1s,baz=85,slow=5.9,SNR=5.1
PLCA LR LR 11 09 00.3
comp=Z,4μm,21.6s,baz=78,slow=32
comp=Z,6.0nm,1.1s
PLCA Paso Flores 61.40 222 P **P 10 46 16.1 0.0**
PLCA pmax pmax
comp=Z,39nm,1.5s
PANC Panciu 61.44 35 ⇑P **P 10 46 16.5 +0.4**
COP Copenhagen 61.47 20 *i* P **P 10 46 16.6 +0.5**
GO06 Curarrehue 61.52 224 P **P 10 46 16.2 -0.7**
GO06 IAmb IAmb 10 46 46.0
comp=Z,60nm,1.4s
TESR Tescani 61.52 34 ⇓P **P 10 46 16.9 +0.3**
TPGR Topolog 61.63 37 ⇑P **P 10 46 17.6 +0.2**
CFR Carcaliu 61.63 36 ⇑P **P 10 46 16.9 -0.5**
CFR Carcaliu 61.63 36 P **P 10 46 16.9 -0.5**
NEGRR Negrea 61.68 36 ⇓P **P 10 46 17.4 -0.3**
GHRR 61.70 35 ⇑P **P 10 46 18.1 +0.3**
LUNU Lund 61.77 20 *i* P **P 10 46 18.5 +0.4**
SCTR Scanteiesti 61.82 36 ⇑P **P 10 46 19.0 +0.3**
EMMW East Machias 61.85 323 IAMs_20 IAMs_20 11 08 30.1
comp=Z,3μm,18.0s
BSD Bornholm Skovb 61.89 21 *e*P **P 10 46 18.8 -0.1**
BSD Bornholm Skovb 61.89 21 *i* P **P 10 46 17.9 -1.0**
VLDR Vladesti 61.97 36 ⇑P **P 10 46 19.2 -0.5**
ANTO Ankara 61.97 43 P **P 10 46 19.3 -0.6**
ANTO Ankara 61.97 43 IAMs_20 IAMs_20 11 13 16.6
comp=Z,4μm,21.0s
ANTO Ankara 61.97 43 P **P 10 46 19.4 -0.5**
ANTO P **P 10 46 19.4 -0.5**
ANTO S **S 10 54 46.8 +2.7**
ANTO S **S 10 54 46.8 +2.7**
ANTO Ankara 61.97 43 ⇓P **P 10 46 20.6 +0.7**
ANTO Ankara 61.97 43 P **P 10 46 19.3 -0.6**
ANTO pmax pmax
comp=Z,127nm,1.2s
ANTO MLR MLR
comp=Z,4μm,21.0s
BJUU Bjuv 61.98 20 *i* P **P 10 46 19.7 +0.2**
TLCR 62.04 37 ⇑P **P 10 46 20.0 -0.2**
TLCR 62.04 37 P **P 10 46 19.9 -0.2**
SNART Snartemo 62.11 15 *i* P **P 10 46 20.7 +0.4**
LVV L'vov 62.13 30 *e*P **P 10 46 21.1 +0.5**
LVV *e* 10 47 02.1
LVV *e* 10 48 37.3
LVV *e*PPP PPP 10 50 06.9
LVV *e*S **S 10 54 43.0 -2.6**
LVV *e*PS **PnS 10 55 03.8 +3.1**
LVV pmax pmax
comp=Z,210nm,1.6s
LR03 Panguipulli 62.15 224 IAMs_20 IAMs_20 11 13 15.0
comp=Z,4μm,20.0s
LR05 Currie 62.17 224 P **P 10 46 20.3 -0.9**
LR05 IAmb IAmb 10 46 33.1
comp=Z,58nm,1.2s
LR05 IAMs_20 IAMs_20 11 10 31.5
comp=Z,4μm,20.0s
M65A Busby, Falmout 62.28 319 IAMs_20 IAMs_20 11 06 48.8
comp=Z,4μm,20.0s
M65A Busby, Falmout 62.28 319 P **P 10 46 23.0 +1.2**
baz=118
BATG Bathurst New B 62.45 326 IAmb IAmb 10 46 29.0
comp=Z,59nm,1.2s
BR131 Keskin Array S 62.49 44 *i* P **P 10 46 23.0 -0.5**
BRTR Keskin Array B 62.49 44 P **P 10 46 22.9 -0.6**
BRTR Keskin Array B 62.49 44 P **P 10 46 22.6 -0.9**
comp=Z,26nm,0.8s,baz=235,slow=4.8,SNR=83
BRTR LR LR 11 17 53.6
comp=Z,2μm,18.1s,baz=222,slow=40
comp=Z,26nm,0.8s
BRTR Keskin Array B 62.49 44 P **P 10 46 22.9 -0.6**
DEL Delary 62.58 20 *e*P **P 10 46 24.9 +1.4**
DEL Delary 62.58 20 *i* P **P 10 46 23.5 0.0**
FABU Falkenberg 62.62 19 *i* P **P 10 46 23.6 -0.1**
ONAU Onsala 62.69 18 *i* P **P 10 46 24.6 +0.4**
LL04 Puerto Octay 62.74 223 IAMs_20 IAMs_20 11 10 35.6
comp=Z,4μm,20.0s
LL03 Petrohue 62.84 223 IAMs_20 IAMs_20 11 09 25.1
comp=Z,4μm,22.0s
MILM Milestii Mici 62.98 35 ⇑*i*P **P 10 46 25.8 -0.6**
comp=Z,240nm,1.5s
MILM Milestii Mici 62.98 35 *e*PP PP 10 48 47.0 +1.9
MILM *e*S **S 10 54 53.0 -3.4**
MILM *e*L L 11 06 14.0
MILM LRM MLR 11 14 44.0
comp=Z,4μm,20.0s
MILM Milestii Mici 62.98 35*c i*P **P 10 46 25.8 -0.6**
MILM *e* 10 48 47.0
MILM *e*S **S 10 54 53.0 -3.4**
MILM pmax pmax
comp=Z,340nm,1.5s
LR04 Corral 63.01 224 IAMs_20 IAMs_20 11 13 58.7
comp=Z,4μm,18.0s
KIS Kishinev 63.03 35 *e*P **P 10 46 25.7 -1.0**
comp=Z,105nm,0.7s
KIS Kishinev 63.03 35 *e*PcP PcP 10 46 55.0 -10
KIS *e*S **S 10 54 52.0 -5.0**
KIS *e*L L 11 07 43.0
KIS LRM MLR 11 14 36.0
comp=Z,1μm,20.0s
KIS Kishinev 63.03 35 *e*P **P 10 46 26.0 -0.7**
KIS *e*S **S 10 54 52.0 -5.0**
KIS pmax pmax
comp=Z,105nm,0.7s
TJOU Tjoern 63.11 18 *i* P **P 10 46 27.3 +0.3**
WVL Waterville 63.12 322 IAMs_20 IAMs_20 11 08 04.7
comp=Z,4μm,21.0s
BLEU Blekinge 63.13 21 *i* P **P 10 46 27.2 0.0**
BORU Boraas 63.15 19 *i* P **P 10 46 27.8 +0.5**
PQI Presque Isle 63.23 325 IAMs_20 IAMs_20 11 07 59.7
comp=Z,5μm,21.0s
PKME Peaks-Kenny Pk 63.25 323 P **P 10 46 30.0 +1.8**
baz=121
HRV Adam Dziewonsk 63.33 319 P **P 10 46 30.1 +1.3**
baz=118
LL05 Los Muermos 63.68 223 IAMs_20 IAMs_20 11 10 35.5
comp=Z,4μm,20.0s
I62A Tamworth 63.83 321 IAmb IAmb 10 46 35.6
comp=Z,65nm,1.1s
KONO Kongsberg 63.87 16 P **P 10 46 32.9 +0.8**
KONO IAmb IAmb 10 46 34.6
comp=Z,38nm,1.1s
KONO Kongsberg 63.87 16 P **P 10 46 32.9 +0.8**
KONO pmax pmax
comp=Z,38nm,1.1s
KONO MLR MLR
comp=Z,6μm,20.0s
RNPP5 Staryi Chortor 63.93 30 P **P 10 46 32.3 -0.3**
F62A Pittston Farm, 63.98 323 IAmb IAmb 10 46 39.5
comp=Z,70nm,1.8s
GAZ Gaziantep 64.02 48 IAMs_20 IAMs_20 11 15 45.9
comp=Z,4μm,19.0s
L61B Northampton 64.04 319 IAMs_20 IAMs_20 11 08 12.2
comp=Z,3μm,21.0s
L61B Northampton 64.04 319 P **P 10 46 34.9 +1.4**
baz=117
H62A Milan 64.05 321 IAmb IAmb 10 46 44.0
comp=Z,65nm,1.5s
PAL Palisades 64.23 317 P **P 10 46 35.8 +1.0**
baz=115
HNH Hanover 64.36 320 IAMs_20 IAMs_20 11 10 02.6
comp=Z,4μm,20.0s
J61A Chester 64.36 320 IAmb IAmb 10 46 39.2
comp=Z,54nm,1.2s
LBNH Lisbon 64.38 321 IAmb IAmb 10 46 39.2
comp=Z,31nm,1.2s
LBNH IAMs_20 IAMs_20 11 09 26.1
comp=Z,4μm,20.0s
LBNH Lisbon 64.38 321 P **P 10 46 36.8 +1.1**
baz=118
ICQ Pointe Anglais 64.39 328 P **P 10 46 35.2 -0.5**
ICQ IAmb IAmb 10 46 38.6
comp=Z,41nm,1.2s
DIKM Dikmen 64.44 43 ⇓P **P 10 46 37.2 +1.0**
SUW Suwalki 64.44 26 *e*P **P 10 46 36.3 +0.4**
CAMR Camarioca 64.60 296 P **P 10 46 38.1 +0.6**
CAMR IAmb IAmb 10 46 40.6
comp=Z,76nm,1.1s
BORG Borgarnes 64.91 359 LR LR 11 09 38.9
comp=Z,2μm,19.5s,baz=149,slow=31
VT1 Waterbury 64.94 320 IAMs_20 IAMs_20 11 09 42.9

comp=Z,4μm,20.0s
CNNC Cliffs of the 64.95 310 P **P** 10 46 40.8 +1.1
baz=110
WUPA West Chester U 64.98 315 IAmb IAmb 10 46 42.9
comp=Z,37nm,1.5s
LMQ La Malbaie 65.03 324 IAmb IAmb 10 46 42.6
comp=Z,34nm,1.2s
ACCN Adirondack Com 65.11 319 IAmb IAmb 10 46 50.6
comp=Z,42nm,1.4s
VIKU Vikbolandet 65.13 20 *e*P **P** 10 46 41.5 +1.3
SIM Simferopol' 65.17 39 *e*P **P** 10 46 37.9 -2.9
SIM *e*S **S** 10 55 19.9 -3.7
SIM *e*SS **SS** 10 59 39.3 +3.0
SIM pmax pmax
comp=Z,16nm,0.5s
SIM smax smax
comp=E,733nm,16.5s
LCR2 La Lucha 2 65.17 281 IAmb IAmb 10 47 16.6
comp=Z,32nm,0.7s
IVI Ivigtut 65.20 345 *i* P **P** 10 46 40.3 -0.4
IVI IAmb IAmb 10 46 45.4
comp=Z,38nm,1.4s
NAO01 NORSAR Array S 65.23 16 IAmb IAmb 10 46 43.5
comp=Z,48nm,1.3s
PBUR Paburge 65.28 24 *e*P **P** 10 46 42.2 +0.9
T59A Double "B" Far 65.29 311 IAmb IAmb 10 46 45.2
comp=Z,68nm,1.5s
HDC Heredia 65.30 281 *e*P **P** 10 46 42.4 0.0
KIEV Kiev 65.31 32 P **P** 10 46 39.6 -2.0
KIEV Kiev 65.31 32 IAMs_20 IAMs_20 11 14 22.8
comp=Z,4μm,21.0s
KIEV Kiev 65.31 32 P **P** 10 46 40.8 -0.8
KIEV Kiev 65.31 32 P **P** 10 46 39.6 -2.0
KIEV pmax pmax
comp=Z,173nm,0.9s
AKASG Malin Array Be 65.32 32 P **P** 10 46 39.7 -2.0
AKASG Malin Array Be 65.32 32 P **P** 10 46 39.8 -1.9
comp=Z,84nm,0.8s,baz=236,slow=7.0,SNR=160
AKASG PP **PP** 10 49 00.3 -5.2
comp=Z,18nm,0.8s,baz=234,slow=9.1,SNR=7.6
AKASG LR LR 11 17 18.4
comp=Z,3μm,18.4s,baz=228,slow=38
comp=Z,84nm,0.8s
AKASG Malin Array Be 65.32 32 P **P** 10 46 39.7 -2.0
AKASG pmax pmax
comp=Z,137nm,0.9s
AKBB Malin Array Si 65.32 32*ce*P **P** 10 46 41.2 -0.5
AKBB pmax pmax
comp=Z,220nm,0.9s
NBO00 NORSAR Array S 65.36 16 IAmb IAmb 10 46 44.6
comp=Z,56nm,1.1s
HFS Hagfors 65.45 17 P **P** 10 46 41.4 -0.9
comp=Z,41nm,1.0s,baz=198,slow=4.2,SNR=41
HFS LR LR 11 15 04.3
comp=Z,4μm,21.9s,baz=212,slow=36
comp=Z,41nm,1.0s
NB2 NORSAR Subarra 65.48 16 P **P** 10 46 42.7 +0.1
comp=Z,61nm,1.2s,baz=210,slow=6.9
NB2 NORSAR Subarra 65.48 16 P **P** 10 46 42.7 +0.1
baz=210,slow=6.9
NOA NORSAR Array B 65.48 16 P **P** 10 46 41.2 -1.4
comp=Z,20nm,0.9s,baz=212,slow=6.5,SNR=51
NOA LR LR 11 16 27.3
comp=Z,3μm,20.4s,baz=215,slow=37
comp=Z,20nm,0.9s
L59A Walton 65.50 318 IAmb IAmb 10 46 46.0
comp=Z,37nm,1.1s
NB201 NORSAR Array S 65.51 16 IAmb IAmb 10 46 45.7
comp=Z,45nm,1.4s
NC204 NORSAR Array S 65.56 15 IAmb IAmb 10 46 46.2
comp=Z,42nm,1.1s
ARPR Arapgir-MALATY 65.56 46 IAMs_20 IAMs_20 11 20 39.6
comp=Z,3μm,18.0s
CBN Corbin Frederi 65.60 313 IAMs_20 IAMs_20 11 08 47.7
comp=Z,4μm,20.0s
CBN Corbin Frederi 65.60 313 P **P** 10 46 44.8 +1.1
baz=111
NC303 NORSAR Array S 65.68 16 IAmb IAmb 10 46 46.9
comp=Z,59nm,1.2s
NC405 NORSAR Array S 65.68 16 IAmb IAmb 10 46 45.9
comp=Z,22nm,0.8s
J59A Piesco 65.69 319 IAmb IAmb 10 46 54.4
comp=Z,48nm,1.6s
PABE Paberze 65.78 25 IAMs_20 IAMs_20 11 15 51.4
comp=Z,3μm,19.0s
PABE Paberze 65.78 25 *e*P **P** 10 46 45.4 +0.9
LDAQ Lac Daran 65.78 325 P **P** 10 46 44.7 -0.1
LDAQ IAmb IAmb 10 46 47.6
comp=Z,68nm,1.3s
DWPF Disney Wildern 65.79 301 IAMs_20 IAMs_20 11 08 55.2
comp=Z,3μm,21.0s
DWPF Disney Wildern 65.79 301 P **P** 10 46 46.0 +0.8
baz=104
R58B Mineral 65.88 312 IAmb IAmb 10 46 49.0
comp=Z,27nm,1.1s
SOR Soroa 66.02 295 IAmb IAmb 10 46 49.5
comp=Z,35nm,1.0s
VSVD Vaisvydziai 66.08 25 *e*P **P** 10 46 47.8 +1.3
V58A Windy Hill, Pi 66.08 310 IAmb IAmb 10 46 50.4
comp=Z,38nm,1.1s
NHSC New Hope 66.09 307 P **P** 10 46 48.0 +1.0
NHSC IAMs_20 IAMs_20 11 08 40.9
comp=Z,3μm,20.0s
NHSC New Hope 66.09 307 P **P** 10 46 47.7 +0.7
baz=107
N58A Sunbury 66.11 316 IAmb IAmb 10 46 50.1
comp=Z,36nm,1.1s
BINY Binghamton 66.15 317 IAmb IAmb 10 46 51.0
comp=Z,62nm,1.1s
BINY Binghamton 66.15 317 P **P** 10 46 48.4 +1.1
baz=114
JTS Las Juntas de 66.15 281 LR LR 11 15 43.8
comp=Z,1μm,18.9s,baz=94,slow=36
J58A Remsen 66.16 319 IAmb IAmb 10 46 50.5
comp=Z,61nm,1.2s
LONY Lake Ozonia 66.24 320 IAMs_20 IAMs_20 11 15 00.5
comp=Z,3μm,18.0s
LONY Lake Ozonia 66.24 320 P **P** 10 46 49.2 +1.3
baz=116
GO08 Villa O'Higgin 66.32 216 IAMs_20 IAMs_20 11 11 42.7
comp=Z,5μm,20.0s
UPP Uppsala 66.47 19 *e*P **P** 10 46 50.0 +1.1
S57A Dark Hollow, R 66.61 312 IAmb IAmb 10 46 54.5
comp=Z,36nm,1.2s
ISAL Salakas 66.76 26 *e*P **P** 10 46 53.0 +2.2
WBO Williamsburg 66.85 320 IAmb IAmb 10 46 54.8
comp=Z,32nm,1.3s
SSPA Standing Stone 66.86 315 P **P** 10 46 52.6 +0.8
SSPA IAmb IAmb 10 47 03.0
comp=Z,43nm,1.2s
SSPA Standing Stone 66.86 315 IAMs_20 IAMs_20 11 08 57.0
comp=Z,3μm,22.0s
SSPA Standing Stone 66.86 315 P **P** 10 46 53.2 +1.3
baz=112
MNK Minsk 66.89 28 *i* P **P** 10 46 50.5 -1.2
MNK *i* 10 47 19.0
MNK *i* 10 49 17.6
MNK *i* PPP PPP 10 50 53.3
MNK *i* S **S** 10 55 43.9 -0.3
MNK *i* 10 56 47.8
MNK *i* SS **SS** 11 00 03.0 +0.3
MNK pmax pmax
comp=Z,80nm,0.8s
MNK pmax pmax
comp=N,29nm,0.9s
MNK pmax pmax
comp=E,17nm,0.8s
MNK MLR MLR
comp=N,3μm,19.0s
MNK MLR MLR
comp=Z,4μm,19.0s
MNK MLR MLR
comp=E,767nm,17.0s
TRQ Mont Tremblant 66.94 322 IAmb IAmb 10 46 55.7
comp=Z,41nm,1.1s
RAYN Ar Rayn 67.10 64 P **P** 10 46 52.5 -1.2
RAYN IAmb IAmb 10 46 57.3
comp=Z,49nm,1.1s
RAYN Ar Rayn 67.10 64 IAMs_20 IAMs_20 11 13 25.3
comp=Z,4μm,19.0s
RAYN Ar Rayn 67.10 64 *i* P **P** 10 46 55.4 +1.7
SNR=9.1
RAYN Ar Rayn 67.10 64 P **P** 10 46 54.0 +0.2
RAYN S **S** 10 55 54.0 +6.0
RAYN Ar Rayn 67.10 64 P **P** 10 46 52.5 -1.2
RAYN pmax pmax
comp=Z,49nm,1.1s

J56A Wolcott 67.17 318 IAmb IAmb 10 46 56.3
comp=Z,37nm,1.0s
L56A Greenwood 67.20 317 IAmb IAmb 10 46 58.6
comp=Z,33nm,1.1s
ANN Anapa 67.22 40 *e*P **P** 10 46 52.2 -1.7
ANN *e*PPP PPP 10 50 54.9
ANN *i* S **S** 10 55 46.9 -1.6
ANN pmax pmax
comp=Z,221nm,1.0s
ANN MLR MLR
comp=Z,2μm,18.0s
SCHQ Schefferville 67.28 332 P **P** 10 46 55.0 +0.8
comp=Z,12nm,1.0s,baz=123,slow=8.2,SNR=11
comp=Z,12nm,1.0s
JSC Jenkinsville 67.29 308 IAmb IAmb 10 46 58.3
comp=Z,58nm,1.3s
AAL Aland 67.51 20 *e*P **P** 10 46 56.2 +0.7
USHA Ushuaia 67.51 208 LR LR 11 11 45.0
comp=Z,3μm,21.0s,baz=45,slow=32
BLA Blacksburg 67.53 311 IAmb IAmb 10 46 59.3
comp=Z,30nm,1.0s
BLA IAMs_20 IAMs_20 11 11 04.0
comp=Z,4μm,20.0s
BLA Blacksburg 67.53 311 P **P** 10 46 57.1 +0.8
baz=109
KMSC Kings Mountain 67.60 308 IAmb IAmb 10 46 59.6
comp=Z,25nm,0.9s
KMSC Kings Mountain 67.60 308 P **P** 10 46 57.5 +0.8
baz=107
V55A Taylorsville 67.72 309 IAmb IAmb 10 47 01.4
comp=Z,62nm,1.2s
VOI Vohitsoka 67.75 113 IAMs_20 IAMs_20 11 13 22.7
comp=Z,3μm,20.0s
J55A Hilton 67.81 318 IAmb IAmb 10 47 00.9
comp=Z,72nm,1.4s
MTSE Matsula 67.86 23 *e*P **P** 10 46 58.9 +1.1
PAULI Pauline 67.89 308 IAmb IAmb 10 47 00.4
comp=Z,30nm,1.2s
MCWV Mont Chateau 67.91 313 IAMs_20 IAMs_20 11 09 27.0
comp=Z,3μm,21.0s
MCWV Mont Chateau 67.91 313 P **P** 10 46 59.7 +1.2
baz=110
HODGE Hodges 68.07 307 IAmb IAmb 10 47 03.2
comp=Z,67nm,1.4s
DELO Deloro Mine 68.17 319 IAmb IAmb 10 47 02.9
comp=Z,32nm,1.1s
SOC Sochi 68.23 42 *e*P **P** 10 46 58.9 -1.5
SOC *e* 10 49 29.0
SOC *e*PPP PPP 10 51 06.8
SOC *e*S **S** 10 55 59.8 -0.9
SOC *e*SS **SS** 11 00 21.3 -2.6
SOC pmax pmax
comp=Z,92nm,0.8s
SOC MLR MLR
comp=Z,860nm,12.0s
U54A Nelsons Funny 68.39 310 IAmb IAmb 10 47 05.4
comp=Z,63nm,1.4s
VSLR Vesyoloye 68.39 42 *e*P **P** 10 47 01.9 +0.4
VSLR pmax pmax
comp=Z,184nm,1.1s
VSLR MLR MLR
comp=Z,580nm,10.0s
Q54A Coxs Mills 68.41 313 IAmb IAmb 10 47 05.4
comp=Z,59nm,1.2s
TIGA Tifton 68.42 304 P **P** 10 47 02.7 +0.8
baz=104
FOMA Nahampoana Res 68.43 117 IAMs_20 IAMs_20 11 12 54.6
comp=Z,3μm,20.0s
O54A Avella 68.47 314 IAmb IAmb 10 47 05.6
comp=Z,29nm,1.1s
RAF Rauma 68.72 20 *e*P **P** 10 47 03.9 +0.8
BCA Borcka 68.75 45 ⇑P **P** 10 47 03.7 -0.1
BG3 Lake Jocassee 68.82 308 IAmb IAmb 10 47 07.6
comp=Z,37nm,0.9s
GOGA Godfrey 68.82 306 P **P** 10 47 05.1 +0.8
baz=105
VSU Vasula 68.85 24*ce*P **P** 10 47 04.3 +0.4
VSU pmax pmax
comp=Z,57nm,0.8s
VSU MLR MLR
comp=Z,4μm,18.0s
ERPA Erie 68.87 316 P **P** 10 47 05.1 +0.7
baz=111
SOEG Soedalen 68.87 355 *i* P **P** 10 47 04.2 +0.3
SOEG IAmb IAmb 10 47 07.3
comp=Z,19nm,0.9s
V53A Saluda 68.91 309 IAmb IAmb 10 47 08.4
comp=Z,59nm,1.4s
P53A Whipple 68.98 313 IAmb IAmb 10 47 08.5
comp=Z,35nm,1.1s
N53A Lisbon 69.02 314 IAmb IAmb 10 47 16.6
comp=Z,40nm,1.2s
MEF Metsahovi 69.10 22 *e*P **P** 10 47 06.4 +1.0
O53A New Philadelph 69.10 314 IAmb IAmb 10 47 09.6
comp=Z,71nm,1.3s
O53A IAMs_20 IAMs_20 11 10 16.4
comp=Z,3μm,22.0s
O53A New Philadelph 69.10 314 P **P** 10 47 06.3 +0.4
baz=109
M53A WI Miller and 69.11 315 IAmb IAmb 10 47 20.5
comp=Z,83nm,1.6s
M53A IAMs_20 IAMs_20 11 10 17.7
comp=Z,3μm,22.0s
M53A WI Miller and 69.11 315 P **P** 10 47 06.5 +0.5
baz=110
ARBE Arbavere 69.18 23 *e*P **P** 10 47 07.1 +1.1
SADO Sadowa 69.27 319 IAmb IAmb 10 47 09.5
comp=Z,41nm,1.3s
SADO Sadowa 69.27 319 LR LR 11 11 22.7
comp=Z,3μm,21.5s,baz=126,slow=31
LABN Labinsk 69.30 41 *e*P **P** 10 47 07.8 +0.7
LABN *e*S **S** 10 56 14.7 +1.3
LABN pmax pmax
comp=Z,256nm,1.0s
LABN MLR MLR
comp=Z,2μm,15.0s
DY2G Dye2 69.33 349 *e*P **P** 10 47 08.9 +1.8
DY2G IAmb IAmb 10 47 13.1
comp=Z,115nm,1.7s
Y52A Lilburn 69.42 306 IAmb IAmb 10 47 11.9
comp=Z,76nm,1.4s
Q52A Bidwell 69.46 312 IAmb IAmb 10 47 11.7
comp=Z,50nm,1.2s
O52A Adamsville 69.51 313 IAmb IAmb 10 47 12.2
comp=Z,68nm,1.1s
VLDQ Val d'Or 69.54 323 IAmb IAmb 10 47 12.5
comp=Z,36nm,1.3s
ERBR Yeremizino-Bor 69.56 40 *e*P **P** 10 47 07.1 -1.5
ERBR *e* 10 49 42.4
ERBR *e*S **S** 10 56 15.4 -1.0
ERBR pmax pmax
comp=Z,208nm,1.1s
ERBR MLR MLR
comp=Z,3μm,21.0s
V52A Sevierville 69.57 309 IAmb IAmb 10 47 12.3
comp=Z,32nm,1.1s
P52A Corning 69.57 313 IAMs_20 IAMs_20 11 11 41.9
comp=Z,3μm,20.0s
P52A Corning 69.57 313 P **P** 10 47 09.6 +0.7
baz=108
W52A Murphy 69.63 308 IAmb IAmb 10 47 12.9
comp=Z,69nm,1.4s
TKL Tuckaleechee C 69.66 308 IAmb IAmb 10 47 12.7
comp=Z,47nm,1.3s
TKL Tuckaleechee C 69.66 308 LR LR 11 11 02.1
comp=Z,3μm,21.2s,baz=121,slow=30
TZTN Tazewell 69.73 309 IAMs_20 IAMs_20 11 10 12.2
comp=Z,3μm,22.0s
TZTN Tazewell 69.73 309 P **P** 10 47 10.7 +0.8
baz=106
SSFO Shawnee State 70.08 312 IAmb IAmb 10 47 15.6
comp=Z,58nm,1.3s
KBD Kabd 70.14 59 P **P** 10 47 15.0 +2.4
KBD S **S** 10 56 28.3 +4.4
N51A Ashland 70.15 314 IAmb IAmb 10 47 16.5
comp=Z,46nm,0.9s
P51A Williamsport 70.21 312 IAmb IAmb 10 47 16.2
comp=Z,61nm,1.1s
SHA1 Shidzhatmaz 70.27 43*ce*P **P** 10 47 12.4 -1.0
Q51A Peebles 70.28 312 IAmb IAmb 10 47 16.5
comp=Z,50nm,1.2s
KIV Kislovodsk 70.36 43 P **P** 10 47 13.3 -0.5
KIV Kislovodsk 70.36 43 *i* P **P** 10 47 13.8 0.0
SNR=22
KIV Kislovodsk 70.36 43 P **P** 10 47 13.4 -0.3
KIV S **S** 10 56 27.3 +1.1
KIV Kislovodsk 70.36 43 *e*P **P** 10 47 13.6 -0.2

KIV *e*PPP PPP 10 51 31.4
KIV *e*S **S** 10 56 26.5 +0.3
KIV *e*SS **SS** 11 00 57.7 +0.7
KIV pmax pmax
comp=Z,75nm,3.5s
KIV pmax pmax
comp=Z,94nm,1.1s
KIV MLR MLR
comp=Z,1μm,18.0s
KVAR Kislovodsk Arr 70.37 43 LR LR 11 19 38.2
comp=Z,762nm,21.9s,baz=143,slow=37
ACSO Alum Creek Sta 70.38 313 IAmb IAmb 10 47 17.2
comp=Z,60nm,1.1s
ACSO IAMs_20 IAMs_20 11 11 48.3
comp=Z,3μm,21.0s
ACSO Alum Creek Sta 70.38 313 P **P** 10 47 14.9 +1.1
baz=108,SNR=10
KBZ Khabaz 70.43 43 P **P** 10 47 15.0 +1.0
comp=Z,111nm,0.9s,baz=252,slow=4.5,SNR=135
KBZ LR LR 11 19 50.2
comp=Z,2μm,21.7s,baz=266,slow=37
KBZ Khabaz 70.43 43*ce*P **P** 10 47 14.4 +0.4
KBZ pmax pmax
comp=Z,133nm,0.9s
KBZ MLR MLR
comp=Z,4μm,25.0s
TEIG Tepich 70.45 292 P **P** 10 47 13.7 -0.9
TEIG IAmb IAmb 10 47 28.4
comp=Z,67nm,1.6s
TEIG Tepich 70.45 292 LR LR 11 14 10.4
comp=Z,2μm,21.0s,baz=92,slow=32
VAF Ylistaro 70.46 19 *e*P **P** 10 47 15.5 +1.7
FINES FINESS Array B 70.53 21 P **P** 10 47 13.7 -0.6
FINES FINESS Array B 70.53 21 P **P** 10 47 15.0 +0.8
comp=Z,42nm,0.8s,baz=208,slow=3.7,SNR=98
comp=Z,42nm,0.8s
TRLG Trialeti 70.54 45 P **P** 10 47 15.7 +0.7
GNI Garni 70.57 47 P **P** 10 47 14.9 -0.3
GNI Garni 70.57 47 LR LR 11 19 59.3
comp=Z,1μm,21.8s,baz=279,slow=37
GNI Garni 70.57 47 P **P** 10 47 14.9 -0.3
GNI P **P** 10 47 14.9 -0.3
GNI S **S** 10 56 33.8 +4.9
GNI S **S** 10 56 33.8 +4.9
GNI Garni 70.57 47*ce*P **P** 10 47 14.1 -1.1
GNI pmax pmax
comp=Z,112nm,1.1s
GNI MLR MLR
comp=Z,2μm,19.0s
KEF Keuruu 70.59 20 *e*P **P** 10 47 15.8 +1.2
VNA1 Neumayer--Stat 70.61 176 ⇑P **P** 10 47 16.8 +2.2
comp=Z,13nm,1.0s
ICESG Greenland Ices 70.62 352 *e*P **P** 10 47 15.5 +0.4
ICESG IAmb IAmb 10 47 19.6
comp=Z,24nm,1.2s
SFJD Kangerlussuaq 70.67 347 IAMs_20 IAMs_20 11 09 51.7
comp=Z,3μm,19.0s
SFJD Kangerlussuaq 70.67 347 LR LR 11 12 14.5
comp=Z,1μm,20.2s,baz=158,slow=31
M50A Fremont 70.78 314 IAmb IAmb 10 47 20.1
comp=Z,38nm,0.8s
R50A Paris 70.81 311 IAmb IAmb 10 47 20.1
comp=Z,71nm,1.2s
FPAL Fort Paine 70.83 307 IAmb IAmb 10 47 20.2
comp=Z,46nm,1.0s
NAX Nakhchivan 70.84 48 P **P** 10 47 17.5 +0.7
T50A Nancy 70.85 310 IAmb IAmb 10 47 20.6
comp=Z,106nm,1.6s
VNA2 Neumayer--Watz 70.94 176 ⇑P **P** 10 47 15.8 -0.9
comp=Z,22nm,0.7s,baz=337,slow=6.5
VNA2 ⇑S **S** 10 56 36.5 +4.8
comp=Z,0.7nm,0.6s,baz=50,slow=16
VORD Divnogorie 70.98 35 *e*P **P** 10 47 14.5 -2.7
VORD *e*S **S** 10 56 24.3 -8.5
VORD pmax pmax
comp=Z,150nm,0.8s
VORD smax smax
comp=E,10.0nm,2.6s
VORD MLR MLR
comp=Z,3μm,19.0s
GOF Gofitskoye 70.99 42*ce*P **P** 10 47 17.6 +0.2
GOF *e*S **S** 10 56 34.5 +1.3
VSR Storozhevoye 71.02 35 *e*P **P** 10 47 15.0 -2.4
VSR *e*S **S** 10 56 27.1 -6.2
VSR pmax pmax
comp=Z,120nm,0.7s
VSR smax smax
comp=N,230nm,6.6s
VSR MLR MLR
comp=Z,4μm,18.0s
VNA3 Neumayer Olymp 71.11 177 ⇑P **P** 10 47 17.1 -0.6
comp=Z,9.8nm,0.8s
VNA3 ⇓S **S** 10 56 39.8 +6.1
comp=Z,0.0nm,0.2s
PUL Pulkovo 71.12 24 *i* P **P** 10 47 18.8 +0.9
PUL pmax pmax
comp=Z,64nm,0.9s
PUL MLR MLR
comp=Z,3μm,16.0s
BRAL Brewton 71.24 303 IAMs_20 IAMs_20 11 11 55.6
comp=Z,4μm,22.0s
BRAL Brewton 71.24 303 P **P** 10 47 19.8 +0.5
baz=102
O49A Covington 71.36 313 IAmb IAmb 10 47 22.9
comp=Z,44nm,1.1s
OBN Obninsk 71.43 30 P **P** 10 47 18.9 -0.9
OBN IAMs_20 IAMs_20 11 20 12.9
comp=Z,3μm,20.0s
OBN Obninsk 71.43 30 P **P** 10 47 19.8 0.0
comp=Z,34nm,0.5s,baz=237,slow=0.2,SNR=17
OBN LR LR 11 20 36.7
comp=Z,3μm,19.5s,baz=234,slow=38
comp=Z,34nm,0.5s
OBN Obninsk 71.43 30*c* *i*P **P** 10 47 19.5 -0.3
OBN *e* 10 50 02.4
OBN *e*PPP PPP 10 51 39.8
OBN *i* S **S** 10 56 33.9 -3.9
OBN pmax pmax
comp=Z,90nm,1.1s
OBN MLR MLR
comp=Z,3μm,15.0s
R49A Shelbyville 71.45 311 IAmb IAmb 10 47 35.0
comp=Z,139nm,2.0s
P49A Miami Univ. Ec 71.45 312 IAmb IAmb 10 47 23.4
comp=Z,37nm,1.2s
P49A IAMs_20 IAMs_20 11 12 58.6
comp=Z,4μm,20.0s
P49A Miami Univ. Ec 71.45 312 P **P** 10 47 21.1 +0.7
baz=106
LPSR Galich'ya Gora 71.49 33 *e*P **P** 10 47 18.4 -1.9
LPSR *e*S **S** 10 56 31.9 -6.8
LPSR pmax pmax
comp=Z,130nm,0.8s
LPSR smax smax
comp=E,610nm,13.2s
LPSR MLR MLR
comp=Z,3μm,19.0s
AAM Ann Arbor 71.50 315 IAMs_20 IAMs_20 11 11 41.8
comp=Z,3μm,22.0s
AAM Ann Arbor 71.50 315 P **P** 10 47 21.1 +0.6
baz=108
JMIC Jan Mayen 71.51 4 LR LR 11 14 28.5
comp=Z,1μm,20.6s,baz=184,slow=32
PETF Flores 71.55 288 IAmb IAmb 10 47 22.9
comp=Z,50nm,1.4s
LRAL Lakeview Retre 71.60 305 P **P** 10 47 21.6 +0.2
baz=103
CLTN Cedars of Leba 71.78 308 IAmb IAmb 10 47 25.4
comp=Z,69nm,1.1s
GANJ Ganja 71.87 47 P **P** 10 47 23.6 +0.7
APG El Apazote 71.93 286 LR LR 11 17 02.1
comp=Z,98nm,21.8s,baz=80,slow=34
P48A Milroy 71.96 312 IAmb IAmb 10 47 33.0
comp=Z,122nm,1.8s
X48A Hartselle 71.96 306 IAmb IAmb 10 47 25.9
comp=Z,43nm,0.8s
O48B Farmland 71.98 313 IAMs_20 IAMs_20 11 12 55.6
comp=Z,4μm,20.0s
O48B Farmland 71.98 313 P **P** 10 47 24.0 +0.5
baz=106
PMSA Palmer Station 72.02 199 LR LR 11 11 41.1
comp=Z,4μm,21.9s,baz=38,slow=30
PMSA Palmer Station 72.02 199 *e*P **P** 10 47 27.6 +4.4
SAKB Bahrain 72.03 63 P **P** 10 47 25.6 +1.5
SAKB S **S** 10 56 48.4 +2.5
SNAA Sanae 72.05 175 P **P** 10 47 24.6 +1.2

SNAA IAmb IAmb 10 47 39.5
comp=Z,32nm,1.0s
SNAA Sanae 72.05 175 *e*P **P 10 47 21.7 -1.7**
SNAA IAmb IAmb 10 47 39.2
comp=Z,2µm,1.0s
SNAA Sanae 72.05 175 ⇑P **P 10 47 25.2 +1.9**
comp=Z,186nm,0.8s
SNAA ⇓S **S 10 56 48.4 +3.8**
comp=Z,9.3nm,1.0s
SNAA Sanae 72.05 175 P **P 10 47 22.7 -0.6**
comp=Z,8.6nm,0.9s,baz=344,slow=6.0,SNR=32
SNAA LR LR 11 11 56.3
comp=Z,1µm,19.8s,baz=339,slow=30
comp=Z,8.6nm,0.9s
SNAA Sanae 72.05 175 *i* P **P 10 47 23.8 +0.4**
SNAA pmax pmax
comp=Z,13nm,1.0s
SNAA MLR MLR
comp=Z,322nm,9.0s
SMRA Abu-Samra 72.09 64 P **P 10 47 26.0 +1.6**
SMRA S **S 10 56 49.9 +3.2**
MOS Moscow 72.26 30 *e*P **P 10 47 21.7 -3.1**
MOS *e* 10 47 43.2
MOS *e*S **S 10 56 44.3 -3.1**
MOS *e* 10 57 27.6
MOS pmax pmax
comp=Z,500nm,1.5s
MOS pmax pmax
comp=Z,259nm,1.2s
MOS smax smax
comp=N,1µm,4.3s
MOS MLR MLR
comp=Z,3µm,19.0s
WCI Wyandotte Cave 72.28 310 P **P 10 47 24.8 -0.6**
WCI IAmb IAmb 10 47 28.5
comp=Z,51nm,1.2s
WCI Wyandotte Cave 72.28 310 IAMs_20 IAMs_20 11 12 03.8
comp=Z,3µm,22.0s
WCI Wyandotte Cave 72.28 310 P **P 10 47 26.0 +0.6**
baz=105
WCI Wyandotte Cave 72.28 310 P **P 10 47 24.8 -0.6**
WCI pmax pmax
comp=Z,51nm,1.3s
VALR Valaam 72.29 23 *i* P **P 10 47 25.4 +0.6**
VALR pmax pmax
comp=Z,101nm,0.9s
VALR MLR MLR
comp=Z,3µm,15.0s
SHMA Al-Shehemyia 72.39 63 P **P 10 47 27.9 +1.7**
SHMA S **S 10 56 52.1 +2.0**
TRNA Turayna 72.44 64 P **P 10 47 26.9 +0.3**
TRNA S **S 10 56 52.3 +1.7**
MNGR Mingechevir, A 72.47 47 P **P 10 47 27.8 +1.4**
VRH Novokhopyorsk 72.47 35 *e*P **P 10 47 24.5 -1.7**
VRH *e*S **S 10 56 43.3 -6.7**
VRH pmax pmax
comp=Z,70nm,1.2s
VRH smax smax
comp=N,240nm,6.9s
VRH MLR MLR
comp=Z,3µm,18.0s
T47A Sharon Grove 72.60 309 IAmb IAmb 10 47 30.2
comp=Z,88nm,1.4s
SEKA Sheki 72.67 46 P **P 10 47 28.4 +0.7**
BLO Bloomington 72.70 311 IAmb IAmb 10 47 31.0
comp=Z,56nm,1.1s
SLWR Sila 72.78 65 P **P 10 47 30.3 +1.7**
SLWR S **S 10 56 56.2 +1.7**
PLAL Pickwick Lake 72.90 307 IAmb IAmb 10 47 31.6
comp=Z,58nm,1.3s
TROLL Troll, Antarti 72.94 173 ⇑P **P 10 47 31.3 +2.5**
comp=Z,414nm,0.8s
TROLL ⇓S **S 10 56 56.3 +1.3**
comp=Z,11nm,0.3s
GLMI Grayling 72.95 317 IAMs_20 IAMs_20 11 16 19.0
comp=Z,3µm,19.0s
GLMI Grayling 72.95 317 P **P 10 47 29.7 +0.5**
baz=108
WVT Waverly 72.97 308 P **P 10 47 28.7 -0.8**
WVT IAmb IAmb 10 47 31.2
comp=Z,38nm,0.9s
WVT Waverly 72.97 308 IAMs_20 IAMs_20 11 12 54.0
comp=Z,3µm,20.0s
WVT Waverly 72.97 308 P **P 10 47 29.9 +0.4**
baz=103
WVT Waverly 72.97 308 P **P 10 47 28.7 -0.8**
WVT pmax pmax
comp=Z,38nm,0.9s
LKRN Lenkeran, Azer 73.18 49 P **P 10 47 31.5 +0.8**
146A Union 73.21 304 IAmb IAmb 10 47 33.6
comp=Z,66nm,0.9s
NVL N'lazarevskaya 73.23 170 *e*P **P 10 47 35.0 +4.7**
NVL *e*SSS SSS 11 04 53.5
NVL pmax pmax
comp=Z,15nm,1.0s
USIN University of 73.27 310 IAmb IAmb 10 47 33.0
comp=Z,53nm,1.1s
JOF Joensuu 73.38 22 *e*P **P 10 47 32.8 +1.5**
MAK Makhachkala 73.38 45 *e*P **P 10 47 28.0 -3.7**
MAK *e* 10 50 13.3
MAK *e*PPP PPP 10 52 00.6
MAK *e*S **S 10 56 54.7 -5.9**
MAK *e*SS **SS 11 01 39.7 -3.3**
MAK pmax pmax
comp=Z,199nm,1.2s
MAK MLR MLR
comp=Z,2µm,15.0s
FRB Frobisher Bay 73.41 339 LR LR 11 11 44.5
comp=Z,696nm,20.5s,baz=132,slow=29
SFIN Lafayette 73.44 312 IAmb IAmb 10 47 34.7
comp=Z,68nm,1.3s
SFIN Lafayette 73.44 312 P **P 10 47 32.4 +0.3**
baz=105
SUMG Summit 73.76 354 IAmb IAmb 10 48 16.9
comp=Z,50nm,1.3s
SUMG Summit 73.76 354 *i* P **P 10 47 34.1 +0.2**
GHWR Ruwais 73.83 65 P **P 10 47 35.1 +0.3**
GHWR S **S 10 57 08.5 +2.0**
Y45A Yeager Farm, C 73.86 305 IAmb IAmb 10 47 37.3
comp=Z,71nm,1.1s
OXF Oxford 73.88 306 P **P 10 47 34.5 -0.4**
baz=102
JRN Qarnain Island 73.94 64 P **P 10 47 36.9 +1.5**
JRN S **S 10 57 09.6 +1.9**
WHFO Wadi Hawf 73.97 71 P **P 10 47 37.2 +1.4**
MZR Muzera 74.26 66 *i* P **P 10 47 38.6 +1.2**
SNR=7.8
MZR Muzera 74.26 66 P **P 10 47 38.6 +1.2**
MZR S **S 10 57 14.8 +3.4**
RBK Rabkut 74.34 72 P **P 10 47 40.0 +2.1**
VBMS Vicksburg 74.35 304 IAmb IAmb 10 47 40.2
comp=Z,58nm,1.1s
VBMS IAMs_20 IAMs_20 11 14 43.8
comp=Z,3µm,20.0s
VBMS Vicksburg 74.35 304 P **P 10 47 37.3 -0.3**
baz=100
HQIL Hanson Quary C 74.36 314 IAMs_20 IAMs_20 11 12 19.5
comp=Z,3µm,20.0s
DOK Doka 74.38 71 P **P 10 47 39.0 +0.9**
S44A Carbondale 74.43 309 IAmb IAmb 10 47 40.0
comp=Z,82nm,1.1s
L44A Lake County Fo 74.50 314 IAMs_20 IAMs_20 11 13 34.2
comp=Z,4µm,21.0s
L44A Lake County Fo 74.50 314 P **P 10 47 38.3 -0.1**
baz=105
Q44A Meyer Farm, Va 74.52 311 IAmb IAmb 10 47 40.1
comp=Z,65nm,1.2s
PEBM Pemiscott Bayo 74.57 308 IAmb IAmb 10 47 40.6
comp=Z,65nm,1.0s
MZWR Madinat Zayed 74.72 65 P **P 10 47 41.4 +1.4**
MZWR S **S 10 57 20.8 +4.3**
MSEY Mahe Island 74.78 95 IAMs_20 IAMs_20 11 16 21.5
comp=Z,3µm,19.0s
K43A Burlington 74.93 315 IAmb IAmb 10 47 43.2
comp=Z,107nm,1.4s
P43A Skaggs, Pawnee 75.07 311 IAmb IAmb 10 47 43.8
comp=Z,39nm,1.1s
HDIL Hopedale 75.11 312 IAmb IAmb 10 47 43.9
comp=Z,83nm,1.2s
HDIL Hopedale 75.11 312 P **P 10 47 41.6 -0.3**
baz=104
PBMO Poplar Bluff 75.15 308 IAmb IAmb 10 47 44.3
comp=Z,47nm,1.4s
SLM Saint Louis 75.39 310 IAmb IAmb 10 47 45.3
comp=Z,74nm,1.3s
FVM French Village 75.40 309 IAmb IAmb 10 47 45.6
comp=Z,80nm,1.2s
I42A Draeger Farm, 75.64 316 IAmb IAmb 10 47 47.5
comp=Z,75nm,1.4s
L42A Oliver, Polo 75.72 314 IAmb IAmb 10 47 48.2
comp=Z,59nm,1.1s
T42A Van Buren 75.72 308 IAmb IAmb 10 47 47.2
comp=Z,45nm,1.4s
UMZA Um Al Zommool 75.77 67 P **P 10 47 47.4 +1.3**
UMZA S **S 10 57 31.1 +3.0**
AJN Ajban 75.82 65 P **P 10 47 46.3 0.0**
AJN Ajban 75.82 65 P **P 10 47 47.5 +1.2**
AJN S **S 10 57 31.0 +2.4**
ARCES ARCESS Array B 75.82 15 P **P 10 47 44.5 -0.9**
ARCES ARCESS Array B 75.82 15 P **P 10 47 43.9 -1.6**
comp=Z,9.0nm,0.8s,baz=224,slow=5.1,SNR=25
ARCES LR LR 11 20 55.1
comp=Z,3µm,21.8s,baz=234,slow=36
comp=Z,9.0nm,0.8s
ARCES ARCESS Array B 75.82 15 P **P 10 47 44.5 -0.9**
ARCES pmax pmax
comp=Z,41nm,1.5s
CCM Cathedral Cave 76.05 309 P **P 10 47 45.7 -1.7**
CCM Cathedral Cave 76.05 309 IAMs_20 IAMs_20 11 15 23.4
comp=Z,3µm,20.0s
CCM Cathedral Cave 76.05 309 P **P 10 47 47.2 -0.2**
baz=102
CCM Cathedral Cave 76.05 309 P **P 10 47 45.7 -1.7**
CCM pmax pmax
comp=Z,113nm,1.2s
ASUD Al Ashush, Dub 76.14 65 P **P 10 47 48.6 +0.5**
ASUD Al Ashush, Dub 76.14 65 P **P 10 47 49.6 +1.4**
ASUD S **S 10 57 34.2 +2.0**
UALR University of 76.30 306 IAmb IAmb 10 47 51.2
comp=Z,78nm,1.2s
BELG Belogornoye 76.32 35 P **P 10 47 47.9 -0.7**
comp=Z,83nm,0.9s,baz=201,slow=0.7,SNR=13
BELG LR LR 11 24 10.4
comp=Z,1µm,18.1s,baz=273,slow=38
comp=Z,83nm,0.9s
BELG Belogornoye 76.32 35 *i* P **P 10 47 48.3 -0.3**
BELG pmax pmax
comp=Z,18nm,1.0s
BELG MLR MLR
comp=Z,280nm,17.0s
CMIG Matias Romero 76.34 288 LR LR 11 20 13.7
comp=Z,512nm,20.5s,baz=95,slow=35
JFWS Jewell Farm 76.35 314 IAmb IAmb 10 47 51.2
comp=Z,65nm,1.1s
JFWS Jewell Farm 76.35 314 IAMs_20 IAMs_20 11 15 33.2
comp=Z,3µm,20.0s
JFWS Jewell Farm 76.35 314 P **P 10 47 48.8 -0.2**
baz=103
WHAR Wooly Hollow 76.35 306 IAmb IAmb 10 47 51.1
comp=Z,45nm,1.2s
COWI Conover 76.36 318 IAmb IAmb 10 47 51.3
comp=Z,47nm,1.4s
COWI IAMs_20 IAMs_20 11 15 36.2
comp=Z,2µm,20.0s
KEV Kevo 76.36 15 P **P 10 47 47.0 -1.5**
KEV IAmb IAmb 10 47 50.5
comp=Z,32nm,0.9s
KEV IAMs_20 IAMs_20 11 21 00.2
comp=Z,2µm,21.0s
KEV Kevo 76.36 15 P **P 10 47 47.0 -1.5**
KEV pmax pmax
comp=Z,32nm,0.9s
KEV MLR MLR
comp=Z,2µm,21.0s
FAQ Al Faqa, Dubai 76.39 65 *i* P **P 10 47 49.6 0.0**
SNR=6.4
FAQ Al Faqa, Dubai 76.39 65 P **P 10 47 50.4 +0.8**
FAQ S **S 10 57 36.1 +1.2**
ELIB Princess Elisa 76.45 167 *d*P **P 10 47 47.8 -1.4**
comp=Z,19nm,1.1s
ALNE Al Ain 76.45 65 *i* P **P 10 47 50.4 +0.4**
SNR=8.8
ALNE Al Ain 76.45 65 P **P 10 47 50.8 +0.8**
SNR=5.7
ALNE S **S 10 57 40.8 +5.1**
NAZ Nazwa, Dubai 76.48 64 *i* P **P 10 47 50.3 +0.2**
SNR=7.6
NAZ Nazwa, Dubai 76.48 64 P **P 10 47 50.1 0.0**
NAZ P **P 10 47 50.1 0.0**
NAZ S **S 10 57 39.5 +3.6**
NAZ S **S 10 57 39.5 +3.6**
UMQ Umm Al-Quwin 76.54 64 P **P 10 47 51.7 +1.3**
UMQ S **S 10 57 40.9 +4.3**
ADZR Andozero 76.56 23 *e*P **P 10 47 49.3 -0.3**
ADZR pmax pmax
comp=Z,28nm,1.0s
ASHO Ashiyiah 76.80 65 *i* P **P 10 47 52.1 +0.1**
SNR=14
ASHO Ashiyiah 76.80 65 P **P 10 47 52.1 +0.1**
ASHO S **S 10 57 40.7 +1.1**
APA Apatity 76.82 18 ⇓*i* P **P 10 47 51.2 +0.1**
APA *i* 10 48 05.0
APA *i* PPP PPP 10 52 28.0
APA *i* S **S 10 57 34.0 -4.0**
APA *i* PS **PnS 10 58 08.0 -8.8**
APA pmax pmax
comp=Z,17nm,0.8s
L40A Anamosa 76.86 313 IAmb IAmb 10 47 53.7
comp=Z,54nm,1.2s
R40A Maddies Statio 76.88 309 IAmb IAmb 10 47 54.2
comp=Z,57nm,1.1s
HATD Hatta, Dubai 76.89 65 *i* P **P 10 47 52.3 -0.1**
SNR=31
HATD Hatta, Dubai 76.89 65 P **P 10 47 52.6 +0.2**
SNR=12
HATD S **S 10 57 41.6 +1.2**
P40A Paris 76.95 311 IAmb IAmb 10 47 54.4
comp=Z,47nm,1.2s
UOSS Minazif 76.96 64 P **P 10 47 51.0 -1.9**
UOSS Minazif 76.96 64 IAMs_20 IAMs_20 11 21 41.7
comp=Z,3µm,20.0s
UOSS Minazif 76.96 64 *i* P **P 10 47 52.2 -0.7**
SNR=50
UOSS Minazif 76.96 64 P **P 10 47 52.7 -0.1**
UOSS S **S 10 57 41.6 +0.3**
MSFE Esma-Masafi 76.97 64 *i* P **P 10 47 52.6 -0.4**
SNR=6.2
MASF Masafi 76.97 64 P **P 10 47 53.6 +0.7**
MASF S **S 10 57 42.1 +0.7**
SHME Shamm 77.03 63 *i* P **P 10 47 52.5 -0.7**
SNR=5.4
SHME Shamm 77.03 63 P **P 10 47 52.8 -0.4**
SHME P **P 10 47 52.8 -0.4**
SHME S **S 10 57 42.5 +0.5**
SHME S **S 10 57 42.5 +0.5**
ARQ Araqi 77.08 66 P **P 10 47 54.1 +0.6**
SNR=7.2
ARQ P **P 10 47 54.1 +0.6**
SNR=7.2
ARQ S **S 10 57 44.7 +2.1**
ARQ S **S 10 57 44.7 +2.1**
MDH Madha 77.09 64 *i* P **P 10 47 52.8 -0.7**
SNR=10
MDH Madha 77.09 64 P **P 10 47 53.1 -0.4**
SNR=5.3
MDH P **P 10 47 53.1 -0.4**
SNR=5.3
MDH S **S 10 57 44.8 +2.2**
MDH S **S 10 57 44.8 +2.2**
BANOM Banah 77.16 63 P **P 10 47 55.0 +1.0**
SOHO SOHO 77.17 65 *i* P **P 10 47 54.0 0.0**
SNR=27
SOHO SOHO 77.17 65 P **P 10 47 54.2 +0.2**
SOHO S **S 10 57 44.7 +1.2**
MIAR Mount Ida 77.27 305 P **P 10 47 54.6 +0.2**
baz=99
LVZ Lovozero 77.40 18 P **P 10 47 54.9 +0.4**
LVZ IAmb IAmb 10 47 57.5
comp=Z,66nm,1.1s
LVZ Lovozero 77.40 18 *ce*P **P 10 47 56.2 +1.8**
LVZ pmax pmax
comp=Z,50nm,1.0s
LVZ MLR MLR
comp=Z,4µm,18.0s
BSY Bisya 77.64 67 P **P 10 47 57.2 +0.5**
NATX Nacogdoches 77.75 302 IAmb IAmb 10 47 59.2
comp=Z,58nm,0.9s
NATX IAMs_20 IAMs_20 11 16 43.9
comp=Z,3µm,22.0s
NATX Nacogdoches 77.75 302 P **P 10 47 57.4 +0.3**
baz=98
HOQ Hoqain 77.83 66 P **P 10 47 57.4 -0.3**
HOQ P **P 10 47 57.4 -0.3**
HHAR Hobbs 77.84 307 IAmb IAmb 10 47 59.5
comp=Z,35nm,1.1s
BELA Belgrano 2 77.95 183 P **P 10 47 56.8 -0.5**
N38A Joes South For 78.09 312 IAmb IAmb 10 48 00.9
comp=Z,43nm,1.1s
MHTO MHTO 78.19 69 P **P 10 48 00.3 +0.6**
MHTO S **S 10 57 55.3 +0.7**
U38A Gravette 78.22 307 IAmb IAmb 10 48 01.8
comp=Z,68nm,1.3s
SCIA State Center 78.28 313 IAmb IAmb 10 48 02.2
comp=Z,53nm,1.3s
SCIA State Center 78.28 313 P **P 10 48 00.2 +0.3**
baz=101
EYMN Ely 78.38 319 IAMs_20 IAMs_20 11 17 52.6
comp=Z,2µm,20.0s
EYMN Ely 78.38 319 P **P 10 48 00.5 +0.3**
baz=104,SNR=17
JMDO Jabal Madar 78.44 67 P **P 10 48 01.3 +0.1**
JMDO S **S 10 58 04.2 +6.8**
SMDO Samad 78.45 67 P **P 10 48 01.3 0.0**
SNR=6.4
SMDO P **P 10 48 01.3 0.0**
SNR=6.4
SMDO S **S 10 57 58.3 +0.7**
SMDO S **S 10 57 58.3 +0.7**
HKT Hockley 78.51 301 P **P 10 48 00.5 -0.8**
HKT Hockley 78.51 301 P **P 10 48 00.5 -0.8**
HKT pmax pmax
comp=Z,40nm,1.6s
JASK Jask - Hormozg 78.56 64 P **P 10 48 03.5 +1.8**
JASK S **S 10 58 00.9 +2.4**
SPMN Marine on St. 78.65 316 P **P 10 48 01.6 -0.3**
baz=102,SNR=5.8
RLO Rose Lookout 78.69 307 IAmb IAmb 10 48 03.8
comp=Z,44nm,1.0s
237A Washetta, Mont 78.75 303 IAmb IAmb 10 48 05.6
comp=Z,42nm,1.1s
I37A Lemond, Waseca 78.83 315 IAmb IAmb 10 48 05.5
comp=Z,75nm,1.1s
WSAR Wadi Sarin 79.00 66 LR LR 11 23 30.7
comp=Z,2µm,19.3s,baz=285,slow=36
TREL Terrell 79.08 303 IAmb IAmb 10 48 06.7
comp=Z,61nm,0.9s
WBK Wadi Bani Khal 79.26 67 P **P 10 48 06.6 +0.9**
TUL3 Leonard 79.27 307 IAmb IAmb 10 48 08.7
comp=Z,48nm,0.9s
TUL3 Leonard 79.27 307 P **P 10 48 05.2 -0.2**
baz=98
KIRV Kirov 79.28 30 P **P 10 48 04.0 -0.9**
comp=Z,35nm,0.7s,baz=182,slow=1.5,SNR=17
KIRV LR LR 11 25 46.7
comp=Z,4µm,19.0s,baz=261,slow=38
comp=Z,35nm,0.7s
KIRV Kirov 79.28 30 *ce*P **P 10 48 04.8 -0.1**
NEEM North Greenlan 79.57 353 *i* P **P 10 48 08.0 +1.4**
NEEM IAmb IAmb 10 48 11.3
comp=Z,14nm,0.9s
JLN Jalan Bani Buh 79.63 68 P **P 10 48 08.1 +0.4**
DEOK Depew 79.83 306 IAmb IAmb 10 48 10.8
comp=Z,91nm,1.4s
N35A Tabor 79.90 312 IAmb IAmb 10 48 11.6
comp=Z,80nm,1.1s
FW14 Alvarado 79.96 303 IAmb IAmb 10 48 11.1
comp=Z,40nm,0.8s
QUOK Quay 80.04 307 IAmb IAmb 10 48 11.4
comp=Z,48nm,0.9s
OK052 Battle Ridge R 80.09 307 IAmb IAmb 10 48 13.0
comp=Z,94nm,1.1s
435B Jarrell 80.11 301 IAmb IAmb 10 48 12.8
comp=Z,110nm,1.6s
435B Jarrell 80.11 301 P **P 10 48 09.9 -0.2**
baz=96
OK031 S. Brethren Rd 80.11 306 IAmb IAmb 10 48 13.2
comp=Z,84nm,1.1s
Z35A Perchaven, San 80.12 304 IAmb IAmb 10 48 12.1
comp=Z,81nm,1.0s
WHTX Lake Whitney, 80.14 302 IAmb IAmb 10 48 12.7
comp=Z,80nm,1.5s
WHTX Lake Whitney, 80.14 302 P **P 10 48 10.1 -0.1**
baz=97,SNR=12
LOOK Love County 80.14 304 IAmb IAmb 10 48 12.8
comp=Z,104nm,1.3s
FW13 Cleburne 80.16 303 IAmb IAmb 10 48 12.5
comp=Z,97nm,1.7s
OK051 E0350 and S346 80.18 307 IAmb IAmb 10 48 12.3
comp=Z,42nm,0.9s
OK051 IAMs_20 IAMs_20 11 17 45.1
comp=Z,2µm,20.0s
OK048 Pawnee Station 80.26 307 IAmb IAmb 10 48 12.8
comp=Z,64nm,1.0s
KSU1 Kansas State U 80.37 310 IAmb IAmb 10 48 12.7
comp=Z,44nm,1.0s
KSU1 IAMs_20 IAMs_20 11 17 56.8
comp=Z,3µm,20.0s
KSU1 Kansas State U 80.37 310 P **P 10 48 11.2 -0.1**
baz=98
FNO Franklin 80.48 306 IAmb IAmb 10 51 15.4
comp=Z,29nm,0.6s
BLOK Blackwell 80.52 307 IAmb IAmb 10 48 14.9
comp=Z,106nm,1.2s
OK029 Liberty Lake 80.59 306 IAmb IAmb 10 48 14.6
comp=Z,45nm,0.9s
OK029 IAMs_20 IAMs_20 11 17 27.9
comp=Z,2µm,22.0s
L34A Svendsen Farm, 80.62 313 IAmb IAmb 10 48 15.2
comp=Z,61nm,1.1s
HBVL Hebbronville 80.69 297 IAmb IAmb 10 48 17.1
comp=Z,101nm,1.5s
KAN13 South Haven SW 80.76 307 IAmb IAmb 10 48 16.0
comp=Z,115nm,1.4s
KAN09 Caldwell North 80.89 308 IAmb IAmb 10 48 16.7
comp=Z,88nm,1.2s
PLPT Palo Pinto 80.95 303 IAmb IAmb 10 48 16.4
comp=Z,32nm,0.9s
KAN17 Caldwell West 80.99 307 IAmb IAmb 10 48 17.2
comp=Z,93nm,1.2s
ECSD EROS Data Cent 81.06 314 IAmb IAmb 10 48 17.2
comp=Z,68nm,1.3s
ECSD EROS Data Cent 81.06 314 IAMs_20 IAMs_20 11 18 49.0
comp=Z,3µm,19.0s
ECSD EROS Data Cent 81.06 314 P **P 10 48 15.0 0.0**
baz=99
CROK Carrier 81.10 307 IAmb IAmb 10 48 17.3
comp=Z,65nm,0.9s
WTFS Witchita Falls 81.18 304 IAmb IAmb 10 48 17.6
comp=Z,59nm,0.9s
KAN08 Anthony NE Sta 81.18 308 IAmb IAmb 10 48 17.6
comp=Z,74nm,1.0s
KAN12 Harper NE Stat 81.21 308 IAmb IAmb 10 48 18.2
comp=Z,85nm,1.4s
AGMN Agassiz Nation 81.31 319 IAmb IAmb 10 48 18.6
comp=Z,44nm,1.2s
AGMN IAMs_20 IAMs_20 11 18 51.2
comp=Z,3µm,20.0s
AGMN Agassiz Nation 81.31 319 P **P 10 48 16.3 +0.2**
baz=100,SNR=18
OK032 Salt Plains WL 81.32 307 IAmb IAmb 10 48 18.9
comp=Z,82nm,1.2s
BRDY Brady 81.37 302 IAmb IAmb 10 48 19.4
comp=Z,50nm,1.3s
833A Chaparral WMA, 81.44 299 IAmb IAmb 10 48 20.4
comp=Z,85nm,1.2s
833A Chaparral WMA, 81.44 299 P **P 10 48 17.9 +0.6**
baz=95
HNDO Hondo 81.45 300 IAmb IAmb 10 48 20.6
comp=Z,47nm,1.2s
WMOK Wichita Mounta 81.54 305 IAMs_20 IAMs_20 11 17 10.2
comp=Z,2µm,22.0s
WMOK Wichita Mounta 81.54 305 P **P 10 48 17.7 0.0**
baz=96
ULM Lac du Bonnet 81.67 321 P **P 10 48 16.8 -1.2**
comp=Z,7.8nm,0.6s,baz=118,slow=6.6,SNR=13
ULM LR LR 11 18 44.9
comp=Z,3µm,21.8s,baz=90,slow=31
comp=Z,7.8nm,0.6s
OK038 West end E0370 81.70 307 IAmb IAmb 10 48 20.7
comp=Z,72nm,1.0s
OK038 IAMs_20 IAMs_20 11 17 39.4
comp=Z,2µm,22.0s
NOR Nord 81.84 0 *i* P **P 10 48 19.3 +1.0**
NOR IAmb IAmb 10 48 22.1
comp=Z,14nm,1.1s
BGNE Belgrade 81.85 312 IAmb IAmb 10 48 21.4
comp=Z,70nm,1.1s
BGNE Belgrade 81.85 312 P **P 10 48 19.3 +0.1**
baz=98,SNR=9.1
U32A Winter Ranch, 81.90 307 IAmb IAmb 10 48 22.6

comp=Z,90nm,1.5s
R32A Long Quarter, 81.91 309 IAmb IAmb 10 48 22.0
comp=Z,62nm,1.1s
JCT Junction City 81.98 301 IAmb IAmb 10 48 23.6
comp=Z,42nm,0.9s
JCT Junction City 81.98 301 P **P** **10 48 20.4 +0.3**
baz=95
ABTX Abilene, Hawle 82.05 303 IAmb IAmb 10 48 24.1
comp=Z,38nm,1.0s
ABTX Abilene, Hawle 82.05 303 P **P** **10 48 20.9 +0.5**
baz=96,SNR=14
AKTO Aktyubinsk 82.14 39 P **P** **10 48 18.9 -1.6**
comp=Z,22nm,0.8s,baz=264,slow=3.7,SNR=46
AKTO LR LR 11 29 06.2
comp=Z,2µm,20.3s,baz=262,slow=39
comp=Z,22nm,0.8s
APMT Aspermont 82.51 304 IAmb IAmb 10 48 26.6
comp=Z,50nm,1.0s
DRIO Del Rio 82.60 300 IAmb IAmb 10 48 26.1
comp=Z,87nm,1.4s
CBKS Cedar Bluff 82.75 309 IAMs_20 IAMs_20 11 18 27.9
comp=Z,3µm,22.0s
CBKS Cedar Bluff 82.75 309 P **P** **10 48 24.5 +0.5**
baz=96
SUSD Miller 82.84 315 IAmb IAmb 10 48 26.4
comp=Z,54nm,1.1s
SUSD Miller 82.84 315 P **P** **10 48 24.5 +0.2**
baz=98
SN05 Snyder 5 83.11 303 IAmb IAmb 10 48 32.3
comp=Z,30nm,0.8s
SN07 Snyder 07 83.13 303 IAmb IAmb 10 48 29.3
comp=Z,43nm,1.2s
HRA Herat 83.16 55 IAmb IAmb 10 49 05.3
comp=Z,103nm,1.8s
OZNA Ozona 83.16 301 IAmb IAmb 10 48 28.5
comp=Z,32nm,0.9s
ABKAR Abkulak array 83.18 40 P **P** **10 48 24.4 -1.5**
ABKAR Abkulak array 83.18 40 IAmb IAmb 10 48 28.6
comp=Z,227nm,1.9s
SGCY Sterling City 83.23 302 IAmb IAmb 10 48 28.9
comp=Z,44nm,1.0s
ARU Arti 83.52 33 P **P** **10 48 28.0 +0.5**
ARU IAmb IAmb 10 48 29.6
comp=Z,44nm,0.8s
ARU IAMs_20 IAMs_20 11 26 55.6
comp=Z,3µm,20.0s
ARU Arti 83.52 33 P **P** **10 48 26.5 -1.0**
comp=Z,34nm,0.6s,baz=264,slow=3.5,SNR=50
ARU LR LR 11 27 19.2
comp=Z,3µm,20.4s,baz=256,slow=37
comp=Z,34nm,0.6s
ARU Arti 83.52 33*c iP* **P** **10 48 28.1 +0.6**
ARU 10 51 39.2
ARU PPP PPP 10 53 29.7
ARU S **SKSac** **10 58 50.1 +0.4**
ARU SS **SS** **11 04 10.0 -4.9**
ARU pmax pmax
comp=Z,116nm,1.8s
ARU MLR MLR
comp=Z,3µm,19.0s
POST Post 83.64 303 IAmb IAmb 10 48 31.2
comp=Z,39nm,0.9s
MDND Maddock 83.72 318 P **P** **10 48 29.3 +0.5**
baz=97,SNR=11
ZAIG Zacatecas 83.93 293 IAmb IAmb 10 48 34.1
comp=Z,22nm,0.9s
AMTX Amarillo 83.93 305 IAmb IAmb 10 48 33.1
comp=Z,25nm,1.1s
AMTX Amarillo 83.93 305 P **P** **10 48 30.7 +0.5**
baz=95
SAND Sanderson 83.95 300 IAmb IAmb 10 48 32.3
comp=Z,23nm,0.9s
MNHN Monahans 84.58 301 IAmb IAmb 10 48 40.8
comp=Z,77nm,1.9s
OGNE Ogallala 84.71 311 P **P** **10 48 34.8 +0.8**
baz=95
SVE Sverdlovsk 84.72 33 *eP* **P** **10 48 35.2 +1.6**
SVE *eS* **SKSac** **10 58 59.2 +1.8**
SVE pmax pmax
comp=Z,57nm,1.0s
SVE MLR MLR
comp=Z,2µm,21.0s
MSTX Muleshoe 84.77 304 P **P** **10 48 35.6 +1.1**
baz=94,SNR=60
RTBA Rita Blanca 84.91 306 IAmb IAmb 10 48 38.2
comp=Z,38nm,1.1s
KSCO Kaye Shedlock' 85.01 309 P **P** **10 48 37.0 +1.4**
baz=94,SNR=27
TXAR Lajitas Array 85.25 299 P **P** **10 48 34.8 -2.3**
TXAR Lajitas Array 85.25 299 P **P** **10 48 35.7 -1.3**
comp=Z,15nm,0.8s,baz=120,slow=6.5,SNR=46
TXAR LR LR 11 26 03.9
comp=Z,394nm,18.5s,baz=74,slow=35
comp=Z,15nm,0.8s
TX31 Lajitas Ar. Si 85.25 299 IAmb IAmb 10 48 40.3
comp=Z,28nm,1.0s
ALPN Alpine 85.28 300 IAmb IAmb 10 48 50.7
comp=Z,33nm,1.1s
FFC Flin Flon 86.02 325 P **P** **10 48 40.1 0.0**
FFC Flin Flon 86.02 325 P **P** **10 48 40.1 0.0**
FFC pmax pmax
comp=Z,19nm,1.2s
T25A Trinidad 86.29 307 P **P** **10 48 43.0 +0.9**
baz=93,SNR=20
BRIGG Briggsdale 86.42 311 IAmb IAmb 10 48 46.1
comp=Z,48nm,1.2s
RSSD Black Hills 86.44 314 P **P** **10 48 43.1 +0.4**
RSSD Black Hills 86.44 314 IAMs_20 IAMs_20 11 22 46.1
comp=Z,3µm,20.0s
RSSD Black Hills 86.44 314 P **P** **10 48 43.3 +0.6**
baz=94
RSSD Black Hills 86.44 314 P **P** **10 48 43.1 +0.4**
RSSD pmax pmax
comp=Z,12nm,1.0s
RES Resolute Bay 86.50 345 LR LR 11 19 26.0
comp=Z,868nm,21.6s,baz=106,slow=30
MAW Mawson 86.73 158 P **P** **10 48 43.6 +0.3**
comp=Z,3.9nm,1.0s,baz=329,slow=3.5,SNR=6.5
MAW LR LR 11 20 07.8
comp=Z,3µm,19.6s,baz=293,slow=31
comp=Z,3.9nm,1.0s
MNTX Cornudas Mount 86.84 302 P **P** **10 48 45.2 +0.4**
baz=92
DGMT Dagmar 86.84 318 IAmb IAmb 10 48 51.5
comp=Z,73nm,1.4s
DGMT Dagmar 86.84 318 IAMs_20 IAMs_20 11 22 32.6
comp=Z,2µm,19.0s
DGMT Dagmar 86.84 318 P **P** **10 48 45.2 +0.8**
baz=94
HPIG 86.91 297 IAmb IAmb 10 48 47.8
comp=Z,28nm,1.1s
Q24A Divide 86.97 309 IAmb IAmb 10 48 49.3
comp=Z,56nm,1.2s
Q24A Divide 86.97 309 P **P** **10 48 46.5 +0.9**
baz=93,SNR=10
SDCO Great Sand Dun 87.19 308 IAmb IAmb 10 48 50.2
comp=Z,46nm,1.2s
SDCO IAMs_20 IAMs_20 11 21 27.6
comp=Z,2µm,22.0s
SDCO Great Sand Dun 87.19 308 P **P** **10 48 47.8 +1.2**
baz=93,SNR=17
ISCO Idaho Springs 87.37 310 IAmb IAmb 10 48 59.0
comp=Z,30nm,1.2s
ISCO Idaho Springs 87.37 310 P **P** **10 48 48.9 +1.4**
baz=93,SNR=15
N23A Red Feather La 87.67 311 P **P** **10 48 50.2 +1.4**
baz=92,SNR=36
EPT El Paso 87.80 302 IAmb IAmb 10 48 51.8
comp=Z,18nm,0.7s
ANMO Albuquerque 87.86 305 P **P** **10 48 50.0 +0.2**
ANMO Albuquerque 87.86 305 P **P** **10 48 50.6 +0.8**
baz=92
ANMO Albuquerque 87.86 305 LR LR 11 21 23.6
comp=Z,1µm,21.9s,baz=191,slow=31
ANMO Albuquerque 87.86 305 P **P** **10 48 50.0 +0.2**
ANMO pmax pmax
comp=Z,19nm,1.1s
LAO LASA Array 88.11 317 IAMs_20 IAMs_20 11 22 31.4
comp=Z,3µm,21.0s
LAO LASA Array 88.11 317 P **P** **10 48 51.5 +0.9**
baz=92
K22A Casper 88.17 312 IAmb IAmb 10 49 34.6
comp=Z,47nm,1.4s
K22A Casper 88.17 312 P **P** **10 48 51.7 +0.6**
baz=92,SNR=8.4
Y22D IRIS PASSCAL I 88.21 304 IAMs_20 IAMs_20 11 23 17.9
comp=Z,2µm,21.0s
Y22D IRIS PASSCAL I 88.21 304 P **P** **10 48 52.0 +0.6**
baz=92
S22A 4UR Ranch, Cre 88.24 308 IAmb IAmb 10 48 55.4
comp=Z,24nm,1.3s
S22A 4UR Ranch, Cre 88.24 308 P **P** **10 48 52.4 +0.7**
baz=92,SNR=29
SMCO Snowmass 88.40 309 IAmb IAmb 10 49 17.1
comp=Z,28nm,1.0s
SMCO IAMs_20 IAMs_20 11 24 05.4
comp=Z,3µm,21.0s
RWWY Rawlins 88.65 312 IAmb IAmb 10 49 08.3
comp=Z,63nm,1.5s
KBL Kabul 88.77 56 P **P** **10 48 54.9 +0.8**
SNR=6.0
KBL P **P** **10 48 54.9 +0.8**
SNR=6.0
SIMJ Simiganj 88.83 52 P **P** **10 48 54.2 0.0**
SIMJ IAmb IAmb 10 48 57.4
comp=Z,47nm,1.4s
SIMJ IAMs_20 IAMs_20 11 28 59.8
comp=Z,2µm,19.0s
121A Cookes Peak, D 88.90 302 IAmb IAmb 10 49 43.7
comp=Z,42nm,1.4s
121A Cookes Peak, D 88.90 302 P **P** **10 48 55.8 +1.1**
baz=91
O20A White River Ci 89.40 310 IAmb IAmb 10 49 20.6
comp=Z,37nm,1.1s
O20A White River Ci 89.40 310 P **P** **10 48 58.4 +1.5**
baz=91
BRLS Borolday 89.54 47 *eP* **P** **10 48 56.7 -0.6**
baz=47
BRLS *eS* **SKSac** **10 59 26.3 -1.5**
baz=47
BRLS Borolday 89.54 47 *eP* **P** **10 48 56.7 -0.6**
BRLS *eS* **SKSac** **10 59 26.2 -1.5**
MVCO Mesa Verde 89.56 307 IAmb IAmb 10 49 02.3
comp=Z,37nm,1.1s
MVCO Mesa Verde 89.56 307 P **P** **10 48 59.2 +1.4**
baz=91,SNR=25
IUG luzhnay 89.67 48 *eP* **P** **10 48 58.8 +0.6**
comp=Z,36nm,1.1s,baz=48
IUG luzhnay 89.67 48 *eP* **P** **10 48 58.7 +0.6**
IUG pmax pmax
comp=Z,36nm,1.1s
QSPA South Pole Qui 89.78 180 P **P** **10 48 59.2 +1.1**
QSPA South Pole Qui 89.78 180 P **P** **10 48 57.1 -0.9**
comp=Z,12nm,0.9s,baz=212,slow=2.5,SNR=24
QSPA LR LR 11 25 15.2
comp=Z,1µm,18.4s,baz=188,slow=33
comp=Z,12nm,0.9s
RPN Rapa Nui 89.92 243 LR LR 11 25 59.5
comp=Z,2µm,19.8s,baz=90,slow=33
BRVK Borovoye 89.96 37 P **P** **10 49 00.0 +1.0**
BRVK IAmb IAmb 10 49 02.0
comp=Z,21nm,0.9s
BRVK Borovoye 89.96 37 IAMs_20 IAMs_20 11 32 59.2
comp=Z,2µm,19.0s
BRVK Borovoye 89.96 37 P **P** **10 49 00.2 +1.2**
BRVK P **P** **10 49 00.2 +1.2**
BRVK Borovoye 89.96 37*ceP* **P** **10 49 00.0 +1.0**
BRVK pmax pmax
comp=Z,21nm,0.8s
BRVK MLR MLR
comp=Z,2µm,18.0s
BVAR Borovoye Array 90.03 37 P **P** **10 48 58.3 -1.0**
comp=Z,20nm,0.8s,baz=270,slow=4.4,SNR=71
BVAR LR LR 11 34 31.6
comp=Z,783nm,18.2s,baz=266,slow=39
comp=Z,20nm,0.8s
KKAR Karatay Array 90.04 47 P **P** **10 48 59.8 +0.2**
KKAR Karatay Array 90.04 47 P **P** **10 48 59.8 +0.2**
RLMT Red Lodge 90.20 315 IAMs_20 IAMs_20 11 24 53.8
comp=Z,2µm,19.0s
RLMT Red Lodge 90.20 315 P **P** **10 49 00.7 0.0**
baz=90
BTK Batken 90.25 50 IAmb IAmb 10 49 04.6
comp=Z,29nm,1.2s
PDAR Pinedale Array 90.41 313 P **P** **10 49 00.8 -0.9**
PDAR Pinedale Array 90.41 313 P **P** **10 49 01.6 -0.1**
comp=Z,3.5nm,0.9s,baz=100,slow=5.5,SNR=26
PDAR LR LR 11 25 36.0
comp=Z,2µm,19.0s,baz=87,slow=33
comp=Z,3.5nm,0.9s
BW06 Boulder Array 90.41 313 P **P** **10 49 01.2 -0.5**
baz=90
EGMT Eagleton 90.54 318 IAMs_20 IAMs_20 11 23 41.5
comp=Z,3µm,21.0s
EGMT Eagleton 90.54 318 P **P** **10 49 02.2 +0.2**
baz=90
W18A Petrified Fore 90.55 305 P **P** **10 49 02.5 +0.1**
baz=90
LPIG La Paz 91.07 294 LR LR 11 27 37.2
comp=Z,538nm,19.2s,baz=86,slow=34
H17A Grant Village 91.14 314 P **P** **10 49 05.5 +0.4**
baz=89
FLWY Flagg Ranch 91.23 314 IAMs_20 IAMs_20 11 24 21.0
comp=Z,3µm,21.0s
SNOW Snow King Moun 91.28 313 IAmb IAmb 10 49 20.1
comp=Z,20nm,1.0s
TUC Tucson 91.44 302 P **P** **10 49 07.3 +0.8**
TUC Tucson 91.44 302 P **P** **10 49 07.0 +0.5**
baz=90
TUC Tucson 91.44 302 P **P** **10 49 07.3 +0.8**
TUC pmax pmax
comp=Z,7.0nm,1.1s
AHID Auburn Hatcher 91.54 313 IAmb IAmb 10 49 17.0
comp=Z,18nm,0.9s
AHID IAMs_20 IAMs_20 11 25 44.4
comp=Z,2µm,20.0s
YHL Hebgen Lake 91.56 315 IAmb IAmb 10 49 10.6
comp=Z,21nm,1.2s
YHB Horse Butte 91.58 315 IAmb IAmb 10 49 07.1
comp=Z,17nm,0.9s
TCUT Toone Canyon 91.81 311 IAmb IAmb 10 49 11.8
comp=Z,27nm,1.1s
BOZ Bozeman (W) 91.86 315 P **P** **10 49 08.4 +0.1**
baz=88
WUAZ Wupatki 91.88 305 IAMs_20 IAMs_20 11 25 23.0
comp=Z,2µm,22.0s
WUAZ Wupatki 91.88 305 P **P** **10 49 08.6 0.0**
baz=89,SNR=11
HWUT Hardware Ranch 91.91 311 IAmb IAmb 10 49 32.6
comp=Z,26nm,1.5s
NIL Nilore 92.26 57 P **P** **10 49 10.0 -0.2**
NIL Nilore 92.26 57 IAMs_20 IAMs_20 11 33 33.6
comp=Z,3µm,20.0s
NIL Nilore 92.26 57 P **P** **10 49 10.0 -0.2**
NIL pmax pmax
comp=Z,10.0nm,0.9s
NIL MLR MLR
comp=Z,3µm,20.0s
MTPU Mount Pierson 92.48 308 IAmb IAmb 10 49 18.7
comp=Z,44nm,1.9s
MVU Marysvale 92.49 308 IAmb IAmb 10 49 24.3
comp=Z,32nm,1.2s
DLMT Dillon 92.55 315 IAmb IAmb 10 49 57.1
comp=Z,35nm,1.9s
BTLS Baital 92.56 45 *eP* **P** **10 49 11.8 +0.6**
baz=45
BTLS *eS* **SKSac** **10 59 44.9 0.0**
baz=45
BTLS Baital 92.56 45 *eP* **P** **10 49 11.8 +0.6**
BTLS *eS* **SKSac** **10 59 44.8 0.0**
PKCU Pink Cliffs 92.60 307 IAmb IAmb 10 49 59.9
comp=Z,25nm,1.5s
YKA Yellowknife Ar 92.73 332 P **P** **10 49 10.1 -1.5**
YKA Yellowknife Ar 92.73 332 P **P** **10 49 11.6 0.0**
comp=Z,8.7nm,1.1s,baz=90,slow=5.2,SNR=19
YKA LR LR 11 27 42.8
comp=Z,840nm,18.0s,baz=84,slow=34
comp=Z,8.7nm,1.1s
YKA Yellowknife Ar 92.73 332 *i P* **P** **10 49 12.3 +0.6**
YKA pmax pmax
comp=Z,9.0nm,1.1s
DUG Dugway, Tooele 92.90 310 P **P** **10 49 13.0 -0.2**
baz=88
AAK Ala-Archa 92.97 48 P **P** **10 49 14.2 +0.7**
AAK IAmb IAmb 10 49 15.9
comp=Z,16nm,0.8s
AAK Ala-Archa 92.97 48 P **P** **10 49 14.5 +1.1**
AAK Ala-Archa 92.97 48 P **P** **10 49 14.5 +1.1**
comp=Z,15nm,0.8s,baz=250,slow=3.8,SNR=5.6
AAK LR LR 11 34 34.1
comp=Z,2µm,21.7s,baz=286,slow=38
comp=Z,15nm,0.8s
AAK Ala-Archa 92.97 48 P **P** **10 49 14.9 +1.5**
AAK P **P** **10 49 14.9 +1.5**
AAK Ala-Archa 92.97 48 P **P** **10 49 14.2 +0.7**
AAK pmax pmax
AAK MLR MLR
comp=Z,3µm,21.0s
SGDS Sogindy 93.04 47 *eP* **P** **10 49 14.0 +0.3**
baz=47
SGDS Sogindy 93.04 47 *eP* **P** **10 49 13.9 +0.3**
FRU1 Bishkek 93.07 47 IAMs_20 IAMs_20 11 36 24.6
comp=Z,2µm,19.0s
214A Organ Pipe Nat 93.16 302 P **P** **10 49 14.8 +0.4**
baz=88
MSO Missoula 93.42 317 IAMs_20 IAMs_20 11 27 33.6
comp=Z,2µm,19.0s
MSO Missoula 93.42 317 P **P** **10 49 15.6 +0.2**
baz=87
HLID Hailey 93.94 313 P **P** **10 49 18.2 +0.3**
baz=87
NRN Naryn 94.15 49 IAmb IAmb 10 49 21.6
comp=Z,17nm,0.9s
PDMCI Parker Dam,Lak 94.19 304 P **P** **10 49 19.4 +0.3**
baz=88
KSH Kashi 94.24 51 P **P** **10 49 19.5 +0.2**
KSH pP sP 10 49 23.8 +0.9
KSH sP pwP 10 49 29.4 +0.6
KSH SKS **SKSac** **10 59 56.8 +2.2**
KSH S **S** **11 00 27.8 -3.1**
KSH SS **SS** **11 06 54.5 +2.6**
KSH pmax pmax
comp=Z,24nm,0.9s
KSH LR LR
comp=Z,3µm,23.7s
KSH LR LR
comp=Z,1µm,21.3s
KSH LR LR
comp=Z,2µm,23.4s
NEE2 Needles Airpor 94.57 305 P **P** **10 49 20.5 -0.3**
baz=87
AAA Alma-Ata 94.72 47 *eP* **P** **10 49 21.2 -0.2**
comp=Z,17nm,0.4s,baz=47
AAA Alma-Ata 94.72 47 *eP* **P** **10 49 21.1 -0.2**
AAA pmax pmax
comp=Z,17nm,0.4s
ELK Elko 94.72 311 LR LR 11 26 21.0
comp=Z,4µm,21.9s,baz=94,slow=32
TNSS Tian-Shan 94.75 47 *eP* **P** **10 49 21.9 -0.1**
baz=47
TNSS Tian-Shan 94.75 47 *eP* **P** **10 49 21.9 -0.1**
MDOK Medeo 94.82 47 *eP* **P** **10 49 22.2 +0.3**
baz=47
MDOK *eS* **SKSac** **10 59 57.3 -0.4**
baz=47
MDOK LR LR 11 35 03.2
comp=Z,852nm,17.0s,baz=47
MDOK Medeo 94.82 47 *eP* **P** **10 49 22.2 +0.3**
MDOK *eS* **SKSac** **10 59 57.2 -0.4**
GLA Glamis 94.82 303 P **P** **10 49 22.7 +0.6**
baz=87
BRLDA Berland Lookou 95.02 324 IAmb IAmb 10 49 29.1
comp=Z,28nm,1.2s
IRM Iron Mountain 95.03 304 P **P** **10 49 23.4 +0.4**
baz=87
R11B Troy Canyon, C 95.14 308 P **P** **10 49 23.4 -0.1**
baz=86
KURBB Kurchatov Arra 95.18 39 P **P** **10 49 23.6 +0.3**
comp=Z,3.0nm,0.8s,baz=279,slow=4.9,SNR=17
KURBB PP PP 10 53 04.8 -8.1
comp=Z,4.0nm,0.8s,baz=284,slow=7.8,SNR=2.1
KURBB LR LR 11 38 38.4
comp=Z,2µm,18.0s,baz=297,slow=40
comp=Z,3.0nm,0.8s
A36M Sachs Harbour 95.19 343 P **P** **10 49 23.6 +0.8**
baz=75
KURK Kurchatov 95.23 39 P **P** **10 49 22.7 -0.7**
KURK Kurchatov 95.23 39 IAMs_20 IAMs_20 11 34 22.6
comp=Z,2µm,22.0s
KURK Kurchatov 95.23 39 P **P** **10 49 24.6 +1.2**
KURK Kurchatov 95.23 39*ceP* **P** **10 49 24.4 +1.0**
KURK pmax pmax
comp=Z,8.0nm,1.7s
KURK MLR MLR
comp=Z,2µm,21.0s
BC3 Big Chuckawall 95.31 304 P **P** **10 49 24.6 +0.2**
baz=87
GMRC Granite Mounta 95.42 305 P **P** **10 49 25.4 +0.5**
baz=87
NEW Newport 95.45 318 P **P** **10 49 24.3 -0.3**
baz=84
NEW Newport 95.45 318 LR LR 11 26 45.2
comp=Z,3µm,21.8s,baz=78,slow=32
C36M Paulatuk 95.47 340 IAMs_20 IAMs_20 11 24 57.3
comp=Z,2µm,20.0s
C36M Paulatuk 95.47 340 P **P** **10 49 24.9 +0.8**
baz=76
TARG Taragay, Kyrgy 95.48 48 IAmb IAmb 10 49 28.0
comp=Z,14nm,0.8s
TARG IAMs_20 IAMs_20 11 36 53.7
comp=Z,2µm,19.0s
TUQ Turquoise Moun 95.60 305 P **P** **10 49 25.6 -0.1**
baz=86
TDK Taldyqorghan 95.64 45 *eP* **P** **10 49 26.1 +0.5**
baz=45
TDK LR LR 11 35 04.3
comp=Z,1µm,17.7s,baz=45
TDK Taldyqorghan 95.64 45 *eP* **P** **10 49 26.0 +0.5**
BELC Belle Mtn. Jos 95.75 304 P **P** **10 49 26.0 -0.4**
baz=86
TPNV Topopah Spring 95.76 307 P **P** **10 49 26.0 -0.4**
baz=86
SATY Saty 95.82 47 *eP* **P** **10 49 26.8 +0.3**
baz=47
SATY Saty 95.82 47 *eP* **P** **10 49 26.8 +0.3**
PRZ Przheval'sk 95.86 47 IAMs_20 IAMs_20 11 36 27.7
comp=Z,2µm,21.0s
IKP In-Ko-Pah, Jac 95.92 303 P **P** **10 49 27.3 +0.2**
baz=87
KPKS Kokpek 95.98 46 *eP* **P** **10 49 26.8 -0.4**
baz=46
KPKS Kokpek 95.98 46 *eP* **P** **10 49 26.7 -0.4**
TPFO Pinon Flats 96.15 304 P **P** **10 49 28.4 +0.2**
baz=86
PFO Pinyon Flats O 96.16 304 P **P** **10 49 28.6 +0.4**
baz=86
PFO Pinyon Flats O 96.16 304 LR LR 11 27 56.2
comp=Z,1µm,21.8s,baz=96,slow=32
NRIK Noril'sk 96.17 20 LR LR 11 35 48.7
comp=Z,2µm,20.2s,baz=289,slow=37
NRIK Noril'sk 96.17 20 *i P* **P** **10 49 28.1 +0.8**
NRIK pmax pmax
comp=Z,4.0nm,1.2s
NRIK MLR MLR
comp=Z,2µm,20.0s
MONP2 Monument Peak 96.17 303 P **P** **10 49 28.1 -0.3**
baz=86
UZB Uzynbulak 96.26 47 *eP* **P** **10 49 28.2 -0.3**
baz=47
UZB Uzynbulak 96.26 47 *eP* **P** **10 49 28.2 -0.3**
SEM Semipalatinsk 96.30 39 *eP* **P** **10 49 28.5 -0.2**
baz=39
SEM LR LR 11 34 55.3
comp=Z,841nm,20.4s,baz=39
SEM Semipalatinsk 96.30 39 *eP* **P** **10 49 28.4 -0.2**
SEM MLR MLR
comp=Z,841nm,20.0s
TPH Tonopah 96.45 308 IAmb IAmb 10 49 31.1
comp=Z,19nm,0.9s
BBRC Big Bear Solar 96.49 304 P **P** **10 49 29.4 -0.5**
baz=86
SHLS Shalkode 96.58 47 *eP* **P** **10 49 31.8 +1.8**
baz=47
SHLS Shalkode 96.58 47 *eP* **P** **10 49 31.7 +1.8**
GRAC Grapevine Rang 96.65 307 P **P** **10 49 31.1 +0.8**
baz=85
J08A Circle Bar Ran 96.90 314 IAmb IAmb 10 49 34.2
comp=Z,16nm,1.2s
BFSC Mount Baldy Ra 97.11 304 P Pdif 10 49 33.4 +0.8
baz=86
WVOR Wild Horse Val 97.12 313 IAmb IAmb 10 49 39.5
comp=Z,12nm,1.1s
NVAR Mina Array Bea 97.27 309 P Pdif 10 49 33.8 +0.5
comp=Z,2.6nm,1.0s,baz=97,slow=5.1,SNR=14
NVAR LR LR 11 28 34.0
comp=Z,1µm,21.5s,baz=88,slow=32
comp=Z,2.6nm,1.0s
HAWA Hanford 97.29 317 IAMs_20 IAMs_20 11 34 42.3
comp=Z,1µm,18.0s
EDW2 Edwards Air Fo 97.33 305 P Pdif 10 49 34.2 +0.7
baz=85

LHV	Little Huntoon	97.44	308	IAmb	IAmb	10 49 41.4	
	comp=Z,10nm,1.1s						
F07A	Phinny Hill Vi	97.63	316	IAmb	IAmb	10 49 37.0	
	comp=Z,13nm,1.3s						
MXC	Moxie City	97.79	317	IAmb	IAmb	10 49 48.0	
	comp=Z,29nm,1.8s						
CIS	Catalina Islan	97.80	304	P	Pdif	10 49 36.6	+1.0
	baz=85						
MAKZ	Makanchi	97.91	43	IAms_20	IAms_20	11 36 09.7	
	comp=Z,2μm,22.0s						
MDPB	Devils Postpil	97.95	308	IAmb	IAmb	10 50 23.0	
	comp=Z,11nm,0.8s						
MKAR	Makanchi Array	98.13	43	P	P	10 49 34.9	-1.8
	comp=Z,2.0nm,0.7s,baz=285,slow=2.9,SNR=9.9						
MKAR				PP	PP	10 53 28.6	-7.2
	comp=Z,7.6nm,0.8s,baz=292,slow=4.9,SNR=5.3						
MKAR				LR	LR	11 39 59.0	
	comp=Z,2μm,19.4s,baz=300,slow=39						
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	98.13	43	*i* P	P	10 49 36.7	0.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PNTR	Pine Nut	98.21	309	IAmb	IAmb	10 49 44.4	
	comp=Z,26nm,1.7s						
TOAD	Toad River Com	98.47	330	P	Pdif	10 49 38.8	+0.8
	baz=76						
ZALV	Zalesovo Beam	98.51	35	P	P	10 49 38.4	+0.2
	comp=Z,0.5nm,0.4s,baz=290,slow=4.2,SNR=2.3						
ZALV				PP	PP	10 53 27.3	-11
	comp=Z,1.7nm,0.7s,baz=270,slow=8.6,SNR=2.3						
ZALV				LR	LR	11 38 13.8	
	comp=Z,2μm,18.9s,baz=291,slow=38						
	comp=Z,0.5nm,0.4s						
SCZ2	Santa Cruz Isl	98.76	304	P	Pdif	10 49 40.9	+1.1
	baz=84						
LIRD	Liard River Hi	98.77	330	P	Pdif	10 49 40.2	+1.0
	baz=76						
SBC	Santa Barbara	98.78	305	P	Pdif	10 49 41.0	+1.1
	baz=84						
PKM	Mcpherson Peak	98.82	305	P	Pdif	10 49 41.3	+1.0
	baz=84						
SMMC	Simmler	98.92	306	P	P	10 49 40.7	+0.1
	baz=84						
CMB	Columbia Colle	98.94	308	IAms_20	IAms_20	11 30 52.4	
	comp=Z,2μm,21.0s						
INK	Inuvik	99.06	340	P	Pdif	10 49 41.9	+1.6
	baz=67						
INK	Inuvik	99.06	340	LR	LR	11 28 00.4	
	comp=Z,1μm,21.1s,baz=61,slow=32						
TGTN	Hyland Airport	99.23	333	P	Pdif	10 49 42.8	+1.4
	baz=73						
HATC	Hat Creek Radi	99.41	311	IAms_20	IAms_20	11 29 19.8	
	comp=Z,2μm,21.0s						
F31M	Tsiigehtchic	99.47	339	IAms_20	IAms_20	11 27 36.0	
	comp=Z,2μm,20.0s						
F31M	Tsiigehtchic	99.47	339	P	Pdif	10 49 43.7	+1.5
	baz=67						
ORV	Oroville	99.61	310	IAms_20	IAms_20	11 31 54.2	
	comp=Z,2μm,20.0s						
ZSN	Zaisan	99.76	42	*e*P	Pdif	10 49 44.2	+0.2
	baz=42						
ZSN	Zaisan	99.76	42	*e*P	Pdif	10 49 44.1	+0.2
G31M	Satah River	99.86	339	IAms_20	IAms_20	11 28 39.4	
	comp=Z,1μm,20.0s						
G31M	Satah River	99.86	339	P	Pdif	10 49 45.3	+1.4
	baz=67						
WTLY	Watson Lake, Y	99.89	331	P	Pdif	10 49 45.9	+1.6
	baz=73						
SAO	San Andreas Ge	99.93	307	IAms_20	IAms_20	11 30 12.8	
	comp=Z,1μm,20.0s						
PALK	Pallekele	99.93	83	IAms_20	IAms_20	11 38 42.5	
	comp=Z,2μm,18.0s						
PALK	Pallekele	99.93	83	LR	LR	11 30 11.4	
	comp=Z,971nm,20.2s,baz=23,slow=33						
F30M	Barrier River	100.12	340	P	Pdif	10 49 46.9	+1.8
	baz=65						
COR	Corvallis	100.18	315	IAms_20	IAms_20	11 35 40.9	
	comp=Z,2μm,18.0s						
HUMO	Hull Mountain	100.26	313	IAms_20	IAms_20	11 28 44.0	
	comp=Z,2μm,22.0s						
D28M	Stokes Point	100.33	342	P	Pdif	10 49 48.0	+2.1
	baz=62						
E29M	Blow River	100.50	341	P	Pdif	10 49 49.0	+2.2
	baz=63						
G30M	tAoh Zraii Nji	100.54	339	IAms_20	IAms_20	11 30 05.3	
	comp=Z,2μm,20.0s						
G30M	tAoh Zraii Nji	100.54	339	P	Pdif	10 49 48.9	+1.9
	baz=65						
MCCM	Marconi Confer	100.87	309	IAms_20	IAms_20	11 33 13.7	
	comp=Z,2μm,20.0s						
E28M	Babbage River	100.93	341	IAms_20	IAms_20	11 30 50.5	
	comp=Z,1μm,20.0s						
E28M	Babbage River	100.93	341	P	Pdif	10 49 49.7	+1.0
	baz=62						
EPYK	Eagle Plains	100.98	339	IAms_20	IAms_20	11 29 23.9	
	comp=Z,2μm,21.0s						
EPYK	Eagle Plains	100.98	339	P	Pdif	10 49 51.0	+2.0
	baz=65						
DLBC	Dease Lake	101.00	330	P	Pdif	10 49 50.3	+1.0
	baz=72						
G29M	Pine Creek	101.21	339	IAms_20	IAms_20	11 28 40.9	
	comp=Z,2μm,19.0s						
I30M	Mount Dempster	101.34	338	P	Pdif	10 49 52.4	+1.6
	baz=65						
JCC	Jacoby Creek,	101.34	312	IAms_20	IAms_20	11 30 22.8	
	comp=Z,2μm,20.0s						
F28M	Old Crow	101.52	340	P	Pdif	10 49 53.1	+1.8
	baz=61						
N32M	Quiet Lake	101.55	333	IAms_20	IAms_20	11 31 11.4	
	comp=Z,1μm,20.0s						
T35M	Bob Quinn	101.55	329	IAms_20	IAms_20	11 30 03.8	
	comp=Z,3μm,22.0s						
J30M	Hart River	101.59	337	IAms_20	IAms_20	11 35 17.3	
	comp=Z,2μm,20.0s						
J30M	Hart River	101.59	337	P	Pdif	10 49 53.1	+1.2
	baz=65						
H29M	Whitestone	101.64	339	IAms_20	IAms_20	11 29 53.5	
	comp=Z,2μm,20.0s						
M31M	Drury Creek, Y	101.74	334	IAms_20	IAms_20	11 31 56.4	
	comp=Z,2μm,21.0s						
C26K	Camden Bay	101.89	343	P	Pdif	10 49 55.1	+2.2
	baz=56						
I29M	Ogilvie Camp,	102.01	338	IAms_20	IAms_20	11 31 43.2	
	comp=Z,2μm,18.0s						
WMQ	Urumqi	102.40	45	*e*P	Pdif	10 49 58.1	+2.2
WMQ				LR	LR		
	comp=Z,2μm,21.1s						
WMQ				LR	LR		
	comp=Z,2μm,14.1s						
WMQ				LR	LR		
	comp=Z,2μm,21.1s						
G27K	Doyon Strip	102.52	340	IAms_20	IAms_20	11 29 23.6	
	comp=Z,2μm,22.0s						
I28M	Miner Creek	102.57	338	IAms_20	IAms_20	11 30 22.1	
	comp=Z,2μm,21.0s						
M30M	Minto, Yukon	102.62	335	IAms_20	IAms_20	11 32 26.5	
	comp=Z,2μm,20.0s						
N31M	Braeburn, Yuko	102.63	334	IAms_20	IAms_20	11 32 22.9	
	comp=Z,2μm,20.0s						
N31M	Braeburn, Yuko	102.63	334	P	Pdif	10 49 58.0	+1.6
	baz=66						
V35K	Ketchikan	102.79	327	IAms_20	IAms_20	11 30 28.7	
	comp=Z,3μm,22.0s						
WRAK	Wrangell Islan	102.83	328	IAms_20	IAms_20	11 38 53.2	
	comp=Z,2μm,18.0s						
O30N	Mendenhall	103.05	333	IAms_20	IAms_20	11 34 39.2	
	comp=Z,2μm,20.0s						
N30M	Aishikik Lake	103.21	334	IAms_20	IAms_20	11 32 42.3	
	comp=Z,2μm,21.0s						
U33K	Whale Pass	103.34	328	IAms_20	IAms_20	11 33 40.1	
	comp=Z,1μm,19.0s						
M29M	Somme Creek	103.38	335	IAms_20	IAms_20	11 37 56.5	
	comp=Z,1μm,18.0s						
D24K	Happy Valley	103.45	344	IAms_20	IAms_20	11 38 17.1	
	comp=Z,1μm,19.0s						
I26K	Coal Creek Min	103.82	339	IAms_20	IAms_20	11 32 26.9	
	comp=Z,1μm,19.0s						
FYU	Fort Yukon	103.86	341	IAms_20	IAms_20	11 30 17.9	
	comp=Z,2μm,22.0s						
K27K	Chicken	104.07	338	IAms_20	IAms_20	11 31 31.7	
	comp=Z,2μm,20.0s						
O29M	Mount Kennedy	104.37	333	IAms_20	IAms_20	11 35 21.8	
	comp=Z,2μm,19.0s						
L27K	Beaver Creek,	104.45	337	IAms_20	IAms_20	11 32 26.9	
	comp=Z,2μm,20.0s						
PRP	Porcupine Dome	104.54	340	IAms_20	IAms_20	11 30 47.0	
	comp=Z,2μm,20.0s						
CASY	Casey	104.73	161	IAms_20	IAms_20	11 31 06.9	
	comp=Z,2μm,18.0s						
SCRK	Sand Creek	104.82	338	IAms_20	IAms_20	11 40 43.5	
	comp=Z,2μm,19.0s						
M27K	Edge Creek, AK	104.82	336	IAms_20	IAms_20	11 36 20.7	
	comp=Z,2μm,19.0s						
J25K	Salcha River,	104.98	339	IAms_20	IAms_20	11 33 20.8	
	comp=Z,1μm,19.0s						
BCPM	Bancas Point	105.00	333	IAms_20	IAms_20	11 37 28.5	
	comp=Z,2μm,19.0s						
L26K	Log Cabin Wild	105.07	337	IAms_20	IAms_20	11 36 56.2	
	comp=Z,2μm,19.0s						
H24K	Noodor Dome	105.16	341	IAms_20	IAms_20	11 31 09.2	
	comp=Z,2μm,20.0s						
POKR	Poker Plat Res	105.43	340	IAms_20	IAms_20	11 31 24.4	
	comp=Z,2μm,20.0s						
TABL	Table Mountain	105.44	334	IAms_20	IAms_20	11 36 02.2	
	comp=Z,2μm,20.0s						
HDA	Harding Lake	105.67	339	IAms_20	IAms_20	11 33 05.8	
	comp=Z,1μm,19.0s						
H23K	Yukon River	105.71	341	IAms_20	IAms_20	11 31 26.9	
	comp=Z,1μm,22.0s						
COLA	College	105.71	340	IAms_20	IAms_20	11 31 32.1	
	comp=Z,2μm,19.0s						
MDM	Murphy Dome	105.80	340	IAms_20	IAms_20	11 31 35.1	
	comp=Z,2μm,20.0s						
CCB	Clear Creek Bu	105.83	340	IAms_20	IAms_20	11 33 39.1	
	comp=Z,1μm,19.0s						
TIXI	Tiksi	105.89	10	IAms_20	IAms_20	11 41 41.9	
	comp=Z,2μm,22.0s						
MESA	MESA	105.92	334	IAms_20	IAms_20	11 35 38.8	
	comp=Z,2μm,20.0s						
WRH	Wood River Hil	106.03	339	IAms_20	IAms_20	11 33 46.5	
	comp=Z,1μm,19.0s						
I23K	Minto, Yukon-K	106.07	340	IAms_20	IAms_20	11 31 45.3	
	comp=Z,1μm,20.0s						
GLB	Gilahina Butte	106.08	336	IAms_20	IAms_20	11 39 40.9	
	comp=Z,1μm,18.0s						
NEA2	Nenana	106.30	340	IAms_20	IAms_20	11 31 50.6	
	comp=Z,1μm,20.0s						
C19K	Lookout Ridge	106.31	346	IAms_20	IAms_20	11 35 44.3	
	comp=Z,2μm,21.0s						
N25K	Chitina, Valde	106.31	336	IAms_20	IAms_20	11 33 38.1	
	comp=Z,2μm,21.0s						
D19K	Kuna River	106.40	345	IAms_20	IAms_20	11 37 58.8	
	comp=Z,1μm,20.0s						
DHY	Denali Highway	106.58	338	IAms_20	IAms_20	11 34 13.2	
	comp=Z,1μm,20.0s						
MLY	Manley	106.60	341	IAms_20	IAms_20	11 32 03.4	
	comp=Z,1μm,21.0s						
BWN	Browne	106.69	340	IAms_20	IAms_20	11 34 14.4	
	comp=Z,1μm,19.0s						
F20K	Avaraart Lake	106.79	344	IAms_20	IAms_20	11 36 29.3	
	comp=Z,1μm,20.0s						
KLU	Klutina	106.91	336	IAms_20	IAms_20	11 33 56.8	
	comp=Z,2μm,21.0s						
E19K	Redstone River	106.92	344	IAms_20	IAms_20	11 35 11.6	
	comp=Z,1μm,20.0s						
RND	Reindeer	106.94	339	IAms_20	IAms_20	11 34 17.4	
	comp=Z,1μm,20.0s						
RAGM	Ragged Mountai	106.98	335	IAms_20	IAms_20	11 32 59.0	
	comp=Z,2μm,20.0s						
C18K	Utukok River	107.04	346	IAms_20	IAms_20	11 37 55.6	
	comp=Z,1μm,20.0s						
BPAW	Bear Paw Mtn.	107.27	340	IAms_20	IAms_20	11 34 34.0	
	comp=Z,1μm,20.0s						
SCM	Sheep Creek Mo	107.28	337	IAms_20	IAms_20	11 38 15.5	
	comp=Z,2μm,19.0s						
FID	Port Fidalgo	107.54	336	IAms_20	IAms_20	11 35 42.2	
	comp=Z,2μm,20.0s						
SML	Sawmill	107.68	337	IAms_20	IAms_20	11 32 24.2	
	comp=Z,1μm,21.0s						
GLI	Glacier Island	107.72	336	IAms_20	IAms_20	11 34 23.3	
	comp=Z,1μm,21.0s						
HIN	Hinchinbrook I	107.75	335	IAms_20	IAms_20	11 34 47.1	
	comp=Z,2μm,21.0s						
E18K	Tukpahlearik C	107.83	345	IAms_20	IAms_20	11 33 04.6	
	comp=Z,1μm,22.0s						
GHO	Glory Hole Cre	107.93	337	IAms_20	IAms_20	11 38 19.8	
	comp=Z,1μm,19.0s						
KNK	Knik Glacier	107.96	337	IAms_20	IAms_20	11 40 23.6	
	comp=Z,2μm,19.0s						
CUT	Chulitna	108.06	338	IAms_20	IAms_20	11 38 06.0	
	comp=Z,1μm,20.0s						
PWL	Port Wells	108.23	336	IAms_20	IAms_20	11 41 14.8	
	comp=Z,1μm,18.0s						
RC01	Rabbit Creek A	108.65	337	IAms_20	IAms_20	11 39 26.9	
	comp=Z,2μm,20.0s						
SKT	Skwentna	108.79	338	IAms_20	IAms_20	11 42 25.3	
	comp=Z,1μm,19.0s						
FIS	Fire Island	108.81	337	IAms_20	IAms_20	11 39 42.9	
	comp=Z,2μm,20.0s						
O22K	Cooper Landing	109.01	337	IAms_20	IAms_20	11 41 17.3	
	comp=Z,2μm,18.0s						
SHL	Shillong	109.15	63	IAms_20	IAms_20	11 44 43.1	
	comp=Z,1μm,19.0s						
CAPN	Captain Cook N	109.40	337	IAms_20	IAms_20	11 39 16.5	
	comp=Z,2μm,18.0s						
M20K	Styx River	109.43	339	IAms_20	IAms_20	11 36 04.4	
	comp=Z,1μm,19.0s						
M19K	Big River Lodg	109.87	339	IAms_20	IAms_20	11 38 07.0	
	comp=Z,1μm,21.0s						
BRLK	Bradley Lake	109.91	336	IAms_20	IAms_20	11 38 52.5	
	comp=Z,2μm,20.0s						
F15K	North Star Dit	110.18	345	IAms_20	IAms_20	11 38 04.8	
	comp=Z,1μm,19.0s						
HOM	Homer	110.27	336	IAms_20	IAms_20	11 39 02.9	
	comp=Z,2μm,20.0s						
L18K	Granite Mounta	110.45	340	IAms_20	IAms_20	11 41 21.3	
	comp=Z,1μm,19.0s						
N19K	Bonanza Creek	110.63	338	IAms_20	IAms_20	11 42 36.0	
	comp=Z,1μm,19.0s						
J16K	Anvik River	110.94	342	IAms_20	IAms_20	11 34 37.0	
	comp=Z,1μm,21.0s						
O19K	Port Alsworth	110.97	338	IAms_20	IAms_20	11 41 06.2	
	comp=Z,2μm,20.0s						
N18K	Kilae Creek	111.23	339	IAms_20	IAms_20	11 37 09.9	
	comp=Z,2μm,19.0s						
M17K	Holitna River	111.28	340	IAms_20	IAms_20	11 40 16.2	
	comp=Z,1μm,20.0s						
O18K	Koktuh Hills	111.53	338	IAms_20	IAms_20	11 41 11.0	
	comp=Z,2μm,20.0s						
L16K	Owhat River	111.75	341	IAms_20	IAms_20	11 38 43.4	
	comp=Z,2μm,22.0s						
N17K	Nushagak Hills	111.80	339	IAms_20	IAms_20	11 37 37.0	
	comp=Z,1μm,19.0s						
M16K	Timber Creek	112.07	340	IAms_20	IAms_20	11 44 13.0	
	comp=Z,1μm,19.0s						
J14K	Nanvaranak Lak	112.22	343	IAms_20	IAms_20	11 40 12.9	
	comp=Z,1μm,19.0s						
BILL	Bilibino	112.28	358	⇑*i*PKIKP	PKiKP	10 54 35.8	+0.7
BILL				*e*		10 55 22.1	
BILL				*i* SS	SS	11 10 57.0	-0.7
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s						
O16K	Kokwok River B	112.78	339	IAms_20	IAms_20	11 43 45.9	
	comp=Z,2μm,19.0s						
N15K	Kwethluk River	113.08	340	IAms_20	IAms_20	11 42 45.6	
	comp=Z,1μm,20.0s						
M14K	Bethel	113.27	341	IAms_20	IAms_20	11 45 33.6	
	comp=Z,1μm,19.0s						
SONM	Songino Array	113.36	37	PP	PP	10 55 16.0	-12
	comp=Z,0.6nm,0.5s,baz=285,slow=5.5,SNR=4.7						
PLK4	Peulik 4	113.47	336	IAms_20	IAms_20	11 43 17.3	
	comp=Z,2μm,19.0s						
M13K	Dall Lake	113.97	341	IAms_20	IAms_20	11 41 01.2	
	comp=Z,1μm,20.0s						
YAK	Yakutsk	114.10	15	IAms_20	IAms_20	11 49 12.2	
	comp=Z,2μm,19.0s						
O14K	Tigyukauivet M	114.15	340	IAms_20	IAms_20	11 42 07.1	
	comp=Z,1μm,20.0s						
TNCH	TengChong	115.16	62	*e*PKP	PKPdf	10 54 42.1	0.0
TNCH				PP	PP	10 55 47.4	+5.4
TNCH				SS	SS	11 11 38.4	-1.0
TNCH				AMB	AMB		
	comp=Z,220nm,3.7s						
TNCH				LR	LR		
	comp=Z,440nm,15.0s						
TNCH				LR	LR		
	comp=Z,400nm,14.2s						
TNCH				LR	LR		
	comp=Z,1μm,21.4s						
CMAR	Chiang Mai Arr	116.76	70	PKP	PKiKP	10 54 45.9	+0.7
	comp=Z,0.6nm,0.3s,baz=286,slow=2.9,SNR=4.7						
PZH	PanZhiHua	117.64	60	PKP	PKiKP	10 54 47.5	+0.7
PZH				AMB	AMB		
	comp=Z,160nm,4.3s						
PZH				LR	LR		
	comp=Z,510nm,20.0s						
PZH				LR	LR		
	comp=Z,530nm,19.6s						
PZH				LR	LR		
	comp=Z,610nm,21.0s						
BTO	Baotou	119.04	42	*e*PKP	PKPdf	10 54 44.1	-4.9
BTO				sPKP		10 54 56.0	
BTO				LR	LR		
	comp=Z,3μm,21.2s						
BTO				LR	LR		
	comp=Z,2μm,21.4s						
BTO				LR	LR		
	comp=Z,4μm,24.5s						
HHC	Hu-ho-hao-te	119.95	41	*e*PKP	PKPdf	10 54 47.9	-2.9
HHC				PKS	PKSdf	10 58 30.3	+2.7
HHC				AMB	AMB		
	comp=Z,120nm,8.2s						
HHC				LR	LR		
	comp=Z,940nm,22.2s						
HHC				LR	LR		
	comp=Z,2μm,19.8s						
HHC				LR	LR		
	comp=Z,3μm,21.6s						
MA2	Magadan	120.37	6	IAms_20	IAms_20	11 57 18.6	
	comp=Z,1μm,20.0s						
XAN	Xi'an	121.08	50	PKP	PKiKP	10 54 54.8	+1.6
XAN				PP	PP	10 56 26.6	+4.1
XAN				LR	LR		
	comp=Z,2μm,18.9s						
XAN				LR	LR		
	comp=Z,2μm,17.0s						
XAN				LR	LR		
	comp=Z,2μm,19.6s						
GYA	Guiyang	121.89	59	PKP	PKPdf	10 54 53.3	-1.6
GYA				PP	PP	10 56 37.3	+8.9
GYA				SKKS		11 03 22.9	
GYA				SS	SS	11 13 09.3	+3.0
GYA				AMB	AMB		
	comp=Z,290nm,8.8s						
GYA				LR	LR		
	comp=Z,780nm,17.8s						
GYA				LR	LR		
	comp=Z,830nm,25.9s						
GYA				LR	LR		
	comp=Z,930nm,20.6s						
HEH	HeiHe	122.70	25	*e*PKP	PKPdf	10 54 56.0	+0.4
ENH	Enshi	122.96	54	IAms_20	IAms_20	11 53 57.7	
	comp=Z,1μm,22.0s						
UBPT	Khong Chiam	123.45	72	IAms_20	IAms_20	11 45 45.1	
	comp=Z,1μm,20.0s						
HNS	HongShan	123.78	44	*e*PKP	PKiKP	10 55 01.0	+2.7
HNS				PP	PP	10 56 48.8	+8.4
HNS				LR	LR		
	comp=Z,1μm,18.4s						
HNS				LR	LR		
	comp=Z,970nm,19.2s						
HNS				LR	LR		
	comp=Z,2μm,21.6s						
ATKA	Atka Island	124.15	342	IAms_20	IAms_20	11 47 28.5	
	comp=Z,1μm,20.0s						
ADK	Adak	125.19	343	IAms_20	IAms_20	11 46 13.7	
	comp=Z,2μm,22.0s						
KLR	Kul'dur	125.26	23	*e*PKIKP	PKPdf	10 54 59.8	-0.8
KLR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TBI	Tubuai	126.23	241	*e*P	PKPpre	10 54 51.0	
	comp=Z,399nm,40.0s						
TBI	Tubuai	126.23	241	*e*PP	PP	10 56 54.5	-3.0
	comp=Z,511nm,26.5s						
TBI	Tubuai	126.23	241	*e*SS	SS	11 14 01.1	+0.1
	comp=Z,4μm,26.2s						
TBI	Tubuai	126.23	241	*e*LQ	LQ	11 28 55.5	
	comp=Z,11μm,35.5s						
TBI				*e*LR	LR	11 34 21.0	
	comp=Z,2μm,24.5s						
TBI				*e*LR	LR	11 34 23.8	
	comp=Z,6μm,24.5s						
QIZ	Qiongzhong	126.76	66	PKP	PKiKP	10 55 05.6	+0.8
QIZ				PP	PP	10 56 59.3	-1.9
QIZ				SS	SS	11 14 07.3	-0.7
QIZ				LR	LR		
	comp=Z,620nm,18.5s						
QIZ				LR	LR		
	comp=Z,780nm,15.1s						
QIZ				LR	LR		
	comp=Z,1μm,18.5s						
PET	Petropavlovsk	127.42	2	IAms_20	IAms_20	11 56 43.1	
	comp=Z,930nm,20.0s						
DL2	Dalian	127.49	38	SS	SS	11 14 11.6	-3.4
DL2				AMB	AMB		
	comp=Z,310nm,9.3s						
DL2				LR	LR		
	comp=N,2μm,18.3s						
DL2				LR	LR		
	comp=E,1μm,14.6s						
DL2				LR	LR		
	comp=Z,3μm,19.7s						
MDJ	Mudanjiang	127.94	28	PKP	PKiKP	10 55 11.1	+4.7
MDJ				PP	PP	10 57 08.9	+1.4
MDJ				SS	SS	11 14 22.0	+2.1
MDJ				AMB	AMB		
	comp=Z,310nm,5.5s						
MDJ				LR	LR		
	comp=Z,680nm,22.3s						
MDJ				LR	LR		
	comp=Z,800nm,24.7s						
MDJ				LR	LR		
	comp=Z,2μm,24.7s						
PPT2	Papeete2	127.99	247	*e*PP	PP	10 57 04.9	-4.5
	comp=Z,154nm,26.0s						
PPT2	Papeete2	127.99	247	*e*SS	SS	11 14 16.3	-7.1
	comp=Z,2μm,28.2s						
PPT2	Papeete2	127.99	247	*e*LQ	LQ	11 29 43.4	
	comp=Z,2μm,30.2s						
PPT2				*e*LR	LR	11 35 09.0	
	comp=Z,2μm,25.0s						
PPT2				*e*LR	LR	11 35 23.0	
	comp=Z,2μm,23.8s						
USRK	Ussuriysk Ar.	129.36	27	PP	PP	10 57 15.7	-1.1
	comp=Z,1.9nm,0.7s,baz=328,slow=6.8,SNR=6.9						
NJ2	Nanjing	129.42	47	*e*PKP	PKPdf	10 55 09.1	+0.1
NJ2				PKS	PKSdf	10 58 41.4	-4.2
NJ2				SS	SS	11 14 36.6	-3.0
NJ2				LR	LR		
	comp=Z,960nm,15.2s						
NJ2				LR	LR		
	comp=Z,1μm,17.5s						
NJ2				LR	LR		
	comp=Z,2μm,18.6s						
HKPS	Hong Kong Po S	129.68	61	IAms_20	IAms_20	11 59 48.3	
	comp=Z,1μm,20.0s						
YSS	Yuzh-Sakhalins	130.94	16	*e*PKHKP	PKPpre	10 54 54.4	
YSS				*e*		10 57 31.9	
YSS				*e*PPP	PPP	11 00 24.9	
YSS				*e*PS	PS	11 07 38.3	-2.1
YSS				*e*PPS	PPS	11 09 15.4	
YSS				*e*SS	SS	11 15 02.5	+6.2
SSE	Sheshan	131.61	47	PKP	PKPdf	10 55 10.3	-2.9
SSE				PP	PP	10 57 34.6	+2.4
SSE				SS	SS	11 15 04.4	-2.1
SSE				AMB	AMB		
	comp=Z,200nm,3.4s						
SSE				LR	LR		
	comp=Z,500nm,19.5s						
SSE				LR	LR		
	comp=Z,670nm,19.5s						
KSRS	Korea Array	132.22	36	PP	PP	10 57 31.6	-4.0
	comp=

TOLI2 Tolitoli 140.05 89 IAMs_20 IAMs_20 11 51 50.0
comp=Z,990nm,21.0s
MMRI Maumere 140.64 104 IAMs_20 IAMs_20 11 45 18.9
comp=Z,1µm,20.0s
LUWI Luwuk 142.02 92 IAMs_20 IAMs_20 11 52 10.2
comp=Z,963nm,22.0s
STKA Stephens Creek 143.23 152 PKP PKPbc 10 55 32.8 +1.3
comp=Z,3.2nm,0.5s,baz=163,slow=4.0,SNR=6.2
ASAR Alice Springs 144.70 134 PKPdf **PKPab 10 55 33.3 -2.8**
ASAR Alice Springs 144.70 134 PKP **PKPab 10 55 34.0 -2.2**
comp=Z,34nm,0.7s,baz=230,slow=2.6,SNR=73
ASAR Alice Springs 144.70 134 PKIKP **PKPab 10 55 34.0 -2.2**
SANI Sanana 145.19 94 PKP **PKPdf 10 55 39.9 +1.4**
SANI PKP **sPKPdf 10 55 42.2 0.0**
WRA Warramunga Arr 147.25 129 **PKPdf 10 55 42.2 +0.4**
WRA Warramunga Arr 147.25 129 PKPbc **PKPdf 10 55 42.1 +0.3**
comp=Z,12nm,0.8s,baz=245,slow=2.8,SNR=33
WRA Warramunga Arr 147.25 129 PKP2 **PKPdf 10 55 42.3 +0.4**
WB2 Warramunga Arr 147.25 129 **PKPdf 10 55 42.7 +0.9**
MSVF Nonsavu 155.27 223 IAMs_20 IAMs_20 12 06 48.3
comp=Z,953nm,20.0s
DZM Mont Dzumac 157.08 194 *e*PP **PP 11 00 03.4 -0.2**
comp=Z,146nm,27.1s
DZM Mont Dzumac 157.08 194 *e*SS SS 11 19 58.3 +1.5
comp=Z,2µm,27.1s
DZM Mont Dzumac 157.08 194 *e*LQ LQ 11 42 10.1
DZM *e*LR LR 11 48 42.4
comp=Z,4µm,33.5s
LIFNC LIFOU 158.11 197 IAMs_20 IAMs_20 12 02 51.1
comp=Z,1µm,20.0s

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*IDC **23** 10:44:53.1±7.2, 0°.03N×123°.36E, h150km±72km, mb3.5/8, mbtmp3.9/8, Error ellipse: s-maj=36.2km s-min=14.8km az=69.0*
*DJA **23** 10:44:54.0±0.7, 0°.S±7°.×12°.3E±°., h103km±16km, M4.0/6, MLv4.0/6*
ISC 23 10:44:53.2±0.8, **0°.13S**±0°.09×**123°.22E**±0°.09, **h162**km, **n13**, σ1§**63**/15, **mb3.7**/8, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.79**	**345**	P	**Pn**	**10 45 16.4**	**-1.1**
GTOI				S	**Sn**	**10 45 33.0**	**-3.3**
LUWI	**Luwuk**	**1.01**	**206**	P	**Pn**	**10 45 16.9**	**-2.3**
KMSI	**Cibinong**	**1.04**	**48**	P	**Pn**	**10 45 18.8**	**-0.6**
MPSI	**Mapaga**	**3.35**	**278**	P	**Pn**	**10 45 44.6**	**-0.8**
SANI	**Sanana**	**3.36**	**125**	P	**Pn**	**10 45 44.1**	**-1.5**
WRA	**Warramunga Arr**	**22.50**	**152**	P	**P**	**10 49 41.0**	**+1.6**
	1.4nm,0.5s,baz=330,slow=10,SNR=64						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**25.59**	**157**	P	**P**	**10 50 09.2**	**+1.6**
	0.4nm,0.5s,baz=332,slow=8.4,SNR=10						
ASAR				PcP	**PcP**	**10 53 35.8**	**+1.4**
	0.5nm,0.5s,baz=350,slow=2.0,SNR=11						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.17**	**309**	P	**P**	**10 50 49.8**	**+1.5**
	0.7nm,0.3s,baz=139,slow=7.8,SNR=6.0						
	0.7nm,0.3s						
MJAR	**Matsushiro Arr**	**39.05**	**19**	P	**P**	**10 52 03.0**	**-1.3**
	2.0nm,0.8s,baz=194,slow=9.2,SNR=6.3						
	2.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**44.82**	**9**	P	**P**	**10 52 51.5**	**+0.6**
	1.4nm,0.6s,baz=189,slow=7.3,SNR=4.7						
	1.4nm,0.6s						
SONM	**Songino Array**	**49.97**	**345**	P	**P**	**10 53 31.2**	**+0.4**
	1.0nm,0.5s,baz=163,slow=8.4,SNR=5.8						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**58.84**	**328**	P	**P**	**10 54 35.1**	**+0.4**
	1.7nm,0.8s,baz=126,slow=9.0,SNR=5.0						
	1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**63.18**	**330**	P	**P**	**10 55 03.7**	**-0.2**
	0.6nm,0.6s,baz=135,slow=6.5,SNR=2.7						
	0.6nm,0.6s						

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*TEH **23** 10:47:34.8, 34°.62N×46°.28E, h10km±17km, ML3.0*
*ISN **23** 10:47:37.3±1.6, 34°.62N×46°.32E, h25km±40km, ML3.2*
ISC 23 10:47:35.9±1.0, **34°.66N**±0°.04×**46°.26E**±0°.03, **h14**km±9km, **n14**, σ0§**70**/21, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.11**	**68**	Pg	**Pg**	**10 47 39.1**	**-0.4**
IDHR				Sg	**Sb**	**10 47 41.8**	**-0.9**
IGHG	**Ghaleghazi**	**0.41**	**142**	Pg	**Pg**	**10 47 43.9**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.57**	**255**	Pg	**Pg**	**10 47 47.3**	**+0.1**
KGS1				Sg	**Sb**	**10 47 56.3**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.61**	**208**	Pg	**Pg**	**10 47 47.0**	**-1.0**
ILIN	**Lien**	**0.64**	**65**	Pg	**Pg**	**10 47 48.2**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.75**	**120**	Pg	**Pg**	**10 47 49.6**	**-0.9**
ILBA	**Ilam Banvizeh**	**1.03**	**182**	Pg	**Pb**	**10 47 54.8**	**-0.7**
ILBA				Sg	**Sb**	**10 48 08.9**	**+0.1**
SNQR	**Sonqor, Kerman**	**1.15**	**79**	Pg	**Pn**	**10 47 57.9**	**+0.2**
SNQR				Sg	**Sg**	**10 48 14.7**	**+1.7**
IBDR	**Badra**	**1.57**	**190**	*e*Pg	**Pg**	**10 48 06.0**	**0.0**
IBDR				*e*Sg	**Sb**	**10 48 24.5**	**+0.3**
IKFM	**Kafar-mosalman**	**1.74**	**130**	Pg	**Pb**	**10 48 07.9**	**+0.5**
IKRK	**Kirkuk**	**1.74**	**296**	*e*Pn	**Pb**	**10 48 08.0**	**+0.4**
IKRK				*e*Sn	**Sg**	**10 48 32.0**	**+0.1**
IKRK				AML	AML	10 48 37.8	
	comp=E,345nm,0.4s						
IKRK				AML	AML	10 48 41.2	
	comp=N,232nm,0.8s						
HSAM	**Samen**	**1.99**	**102**	Pn	**Pb**	**10 48 12.0**	**+0.1**
BHD	**Baghdad**	**2.08**	**229**	*e*Pn	**Pb**	**10 48 13.0**	**-0.4**
BHD				*e*Sn	**Sb**	**10 48 39.0**	**-0.2**
MAHB	**Mahabad**	**2.15**	**348**	Pn	**Pb**	**10 48 13.8**	**-0.9**

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*IDC **23** 10:51:03.7±11.0, 18°.36S×178°.19W, h422km±122km, mb3.0/8, mbtmp3.8/8, Error ellipse: s-maj=35.9km s-min=23.9km az=83.0*
ISC 23 10:51:14.8±0.9, **18°.4S**±0°.2×**178°.5W**±0°.2, **h550**km, **n9**, σ0§**98**/9, **mb3.4**/8, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.31**	**261**	P	**P**	**10 57 07.2**	**-0.5**
	0.3nm,1.0s,baz=83,slow=8.1,SNR=1.1						
	0.3nm,1.0s						
WRA	**Warramunga Arr**	**44.49**	**260**	P	**P**	**10 58 37.4**	**-0.6**
	0.5nm,0.4s,baz=91,slow=8.4,SNR=12						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**44.61**	**255**	P	**P**	**10 58 39.1**	**+0.3**
	3.2nm,0.4s,baz=89,slow=8.8,SNR=43						
	3.2nm,0.4s						
MJAR	**Matsushiro Arr**	**68.26**	**323**	P	**P**	**11 01 21.9**	**+0.8**
	1.2nm,0.7s,baz=146,slow=6.0,SNR=4.7						
	1.2nm,0.7s						
QSPA	**South Pole Qui**	**71.66**	**180**	P	**P**	**11 01 41.1**	**+0.1**
	1.1nm,0.7s,baz=315,slow=0.4,SNR=12						
	1.1nm,0.7s						
NVAR	**Mina Array Bea**	**79.81**	**44**	P	**P**	**11 02 27.2**	**+0.5**
	0.3nm,0.6s,baz=225,slow=8.7,SNR=4.7						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**86.30**	**58**	P	**P**	**11 02 59.1**	**0.0**
	0.3nm,0.6s,baz=219,slow=7.0,SNR=4.9						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**86.37**	**13**	P	**P**	**11 02 56.9**	**-1.6**
	0.3nm,0.5s,baz=224,slow=5.0,SNR=13						
	0.3nm,0.5s						
BRTR	**Keskin Array B**	**145.08**	**314**	PKPbc	**PKPab**	**11 09 53.3**	**+1.2**
	0.8nm,0.5s,baz=165,slow=5.1,SNR=3.9						

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*IDC **23** 11:09:44.0±1.5, 9°.86N×126°.13E, h0km, mb3.8/6, mbtmp3.8/6, MS3.0/1, Error ellipse: s-maj=157.7km s-min=21.0km az=68.0*
*NEIC **23** 11:09:48.3±1.5, 9°.9N±0°.1×126°.0E±0°.3, h30km±7km, mb4.5/14, Error ellipse: s-maj=43.0km s-min=14.7km az=92.0*
ISC 23 11:09:52.0±0.7, **9°.7N**±0°.1×**125°.9E**±0°.3, **h67**km, **n30**, σ1§**24**/23, **mb4.2**/13, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.61**	**187**	Pn	**Pn**	**11 10 29.3**	**-2.7**
DAV	**Davao City (W)**	**2.61**	**187**	LR	LR	11 11 43.5	
	comp=Z,243nm,19.3s,baz=352,slow=42						
KNRA	**Kununurra**	**25.35**	**174**	P	**P**	**11 15 14.1**	**+1.1**
KNRA				IAmb	IAmb	11 15 23.3	
	comp=Z,5.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.60**	**181**	P	**P**	**11 15 34.1**	**+0.9**

WB0	**Warramunga Arr**	**30.44**	**164**	P	**P**	**11 15 58.8**	**+0.4**
WB0				IAmb	IAmb	11 16 04.8	
	comp=Z,10nm,1.4s						
WRAB	**Tennant Creek**	**30.58**	**164**	P	**P**	**11 15 58.8**	**-0.9**
WRAB				IAmb	IAmb	11 16 15.2	
	comp=Z,6.3nm,1.2s						
WRA	**Warramunga Arr**	**30.59**	**164**	P	**P**	**11 16 00.3**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=346,slow=9.0,SNR=1.9						
	comp=Z,0.4nm,0.7s						
WR0	**Warramunga Arr**	**30.66**	**164**	P	**P**	**11 15 59.2**	**-1.1**
WR0				IAmb	IAmb	11 15 59.9	
	comp=Z,15nm,1.5s						
AS31	**Alice Springs**	**34.05**	**167**	P	**P**	**11 16 30.4**	**+0.3**
ASAR	**Alice Springs**	**34.06**	**167**	P	**P**	**11 16 31.3**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=354,slow=7.1,SNR=14						
	comp=Z,0.5nm,0.6s						
CTAO	**Charters Tower**	**35.73**	**146**	P	**P**	**11 16 44.9**	**+0.3**
CTAO				IAmb	IAmb	11 16 53.3	
	comp=Z,16nm,1.4s						
FORT	**Forrest**	**40.28**	**177**	P	**P**	**11 17 24.7**	**+2.0**
FORT				IAmb	IAmb	11 17 38.5	
	comp=Z,49nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**40.45**	**73**	T	T	12 00 10.5	
	baz=261,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hy**	**40.46**	**73**	T	T	12 00 18.7	
	baz=261,slow=74,SNR=9.7						
H11S2	**WAKE ISLAND Hy**	**40.46**	**73**	T	T	12 00 12.0	
	baz=261,slow=74,SNR=9.1						
H11N1	**WAKE ISLAND Hy**	**40.79**	**71**	T	T	12 00 39.2	
	baz=264,slow=74,SNR=29						
H11N2	**WAKE ISLAND Hy**	**40.80**	**71**	T	T	12 00 39.4	
	baz=264,slow=74,SNR=20						
H11N3	**WAKE ISLAND Hy**	**40.81**	**71**	T	T	12 00 40.6	
	baz=264,slow=74,SNR=29						
NWAO	**Narrogin (SRO)**	**43.17**	**191**	P	**P**	**11 17 45.9**	**-0.4**
BBOO	**Buckleboo**	**43.35**	**167**	P	**P**	**11 17 49.2**	**+1.5**
STKA	**Stephens Creek**	**43.97**	**161**	P	**P**	**11 17 53.7**	**+1.0**
MKAR	**Makanchi Array**	**52.27**	**323**	P	**P**	**11 18 57.1**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=129,slow=8.3,SNR=5.5						
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**56.35**	**326**	P	**P**	**11 19 26.0**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=125,slow=7.1,SNR=6.1						
	comp=Z,0.8nm,0.7s						
IMAR	**Indian Mountai**	**77.29**	**24**	P	**P**	**11 21 37.1**	**-1.8**
B22K	**Teshekpuk Lake**	**77.81**	**20**	P	**P**	**11 21 40.0**	**-1.7**
B22K				IAmb	IAmb	11 21 47.4	
	comp=Z,5.3nm,1.1s						
I28M	**Miner Creek**	**83.00**	**25**	P	**P**	**11 22 09.4**	**-0.5**
ARCES	**ARCESS Array B**	**84.61**	**340**		**P**	**11 22 17.7**	**-0.2**
ARCES				IAmb	IAmb	11 22 43.0	
	comp=Z,3.0nm,1.1s						
ARCES	**ARCESS Array B**	**84.61**	**340**	P	**P**	**11 22 18.6**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=71,slow=6.8,SNR=4.4						
	comp=Z,1.5nm,0.7s						
FINES	**FINESS Array B**	**86.23**	**332**		**P**	**11 22 26.0**	**0.0**
FINES	**FINESS Array B**	**86.23**	**332**	P	**P**	**11 22 27.7**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=78,slow=6.1,SNR=6.9						
	comp=Z,0.6nm,0.4s						

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*IDC **23** 11:11:34.9±0.8, 27°.06N×143°.44E, h0km, mb4.1/17, mbtmp4.2/20, ML3.8/3, Error ellipse: s-maj=26.9km s-min=16.3km az=82.0*
*MOS **23** 11:11:35.9±1.0, 27°.13N×143°.45E, h20km, mb4.9/9, Error ellipse: s-maj=18.0km s-min=7.7km az=117.8*
*NEIC **23** 11:11:37.1±1.4, 27°.12N±0°.08×143°.4E±0°.1, h10km±1km, mb4.8/43, Error ellipse: s-maj=16.4km s-min=13.4km az=121.0*
*JMA **23** 11:11:39.0±0.1, 27°.3N±0°.5×143°.3E±0°.5, h79km, MD3.9/31, MV4.5/31, NEAR CHICHIJIMA ISLAND*
ISC 23 11:11:40.5±0.6, **27°.28N**±0°.06×**143°.41E**±0°.08, **h35**km, **n129**, σ1§**84**/137, **mb4.6**/41, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.10**	**261**	P	**Pn**	**11 11 58.4**	**-1.1**
CBIJ				*e*S	**Sn**	**11 12 12.9**	**-0.6**
CBIJ	**Chichi jima**	**1.10**	**261**	A	A	11 11 58.4	
	comp=E,7.0nm,0.4s,comp=N,5.0nm,3.0s						
JCJ	**Chichijima**	**1.10**	**261**	P	**Pn**	**11 11 58.6**	**-0.9**
JCJ	**Chichijima**	**1.10**	**261**		**Pn**	**11 11 58.1**	**-1.4**
JCJ	**Chichijima**	**1.10**	**261**	Pn	Pn	11 11 53.8	-5.7
	comp=N,135nm,0.3s,baz=308,slow=23,SNR=281						
JCJ				Sn	**Sn**	**11 12 08.3**	**-5.1**
	comp=N,592nm,0.3s,baz=270,slow=20,SNR=17						
JHH2	**Haha-jima-NKT2**	**1.27**	**240**	P	**Pn**	**11 12 00.4**	**-1.4**
JHH2				*e*S	**Sn**	**11 12 16.5**	**-1.2**
JHH2	**Haha-jima-NKT2**	**1.27**	**240**	A	A	11 12 00.4	
	comp=E,9.0nm,0.4s,comp=N,8.0nm,0.4s						
JHJ2	**Mitsune**	**6.59**	**333**	P	**Pn**	**11 13 15.3**	**+0.4**
JHJ2	**Mitsune**	**6.59**	**333**	Pn	**Pn**	**11 13 16.3**	**+1.4**
JHJ2	**Mitsune**	**6.59**	**333**	P	**Pn**	**11 13 15.3**	**+0.4**
JHJ2				*e*S	**Sn**	**11 14 27.7**	**-1.1**
JHJ	**Hachijo jima 2**	**6.61**	**333**	Pn	**Pn**	**11 13 15.0**	**-0.2**
	comp=N,5.4nm,0.3s,baz=68,slow=23,SNR=19						
JHJ				Sn	**Sn**	**11 14 25.9**	**-3.4**
	comp=N,24nm,0.3s,baz=73,slow=20,SNR=3.5						
	comp=N,50nm,0.7s						
JMKN	**Mikurajimanish**	**7.37**	**334**	*e*S	**Sn**	**11 14 46.2**	**-1.7**
JMYK	**Miyake Tsubota**	**7.53**	**335**	*e*S	**Sn**	**11 14 50.8**	**-1.2**
BSO1	**Boso 1**	**7.64**	**345**	P	**Pn**	**11 13 27.9**	**-0.9**
BSO1				*e*S	**Sn**	**11 14 52.4**	**-1.5**
BSO3	**Boso 3**	**7.90**	**342**	P	**Pn**	**11 13 32.8**	**+0.2**
BSO3				*e*S	**Sn**	**11 15 00.8**	**+0.2**
BSO4	**Boso 4**	**8.12**	**342**	P	**Pn**	**11 13 36.5**	**+0.6**
BSO4				*e*S	**Sn**	**11 15 06.1**	**-0.3**
JSG	**Sagara**	**8.62**	**330**	Pn	**Pn**	**11 13 43.2**	**+0.3**
JOD2	**Odawara 2**	**8.77**	**336**	P	**Pn**	**11 13 45.4**	**+0.5**
JHU	**Hanno**	**9.24**	**339**	P	**Pn**	**11 13 51.3**	**0.0**
JHU				*e*S	**Sn**	**11 15 30.6**	**-3.4**
JYT	**Yasato**	**9.33**	**344**	*e*P	**Pn**	**11 13 52.8**	**+0.3**
JYT				*e*S	**Sn**	**11 15 35.1**	**-1.0**
JRY	**Ryogami san**	**9.52**	**337**	P	**Pn**	**11 13 55.4**	**+0.3**
JRY				*e*S	**Sn**	**11 15 39.5**	**-1.3**
JHO	**Hitachi**	**9.61**	**346**	P	**Pn**	**11 13 55.1**	**-1.2**
JHO				*e*S	**Sn**	**11 15 38.6**	**-4.5**
JAG	**Ashikaga**	**9.72**	**341**	*e*P	**Pn**	**11 13 56.9**	**-0.9**
JAG				*e*S	**Sn**	**11 15 42.1**	**-3.6**
MJAR	**Matsushiro Arr**	**10.23**	**336**	Pn	**Pn**	**11 14 05.2**	**+0.2**
	comp=N,0.6nm,0.3s,baz=161,slow=12,SNR=26						
MJAR				Sn	**Sn**	**11 15 56.5**	**-1.9**
	comp=N,0.2nm,0.3s,baz=165,slow=19,SNR=3.3						
	comp=N,4.1nm,0.4s						
MAJO	**Matsushiro**	**10.23**	**336**	P	**Pn**	**11 14 05.8**	**+0.9**
MAJO	**Matsushiro**	**10.23**	**336**	Pn	**Pn**	**11 14 06.0**	**+1.1**
MAJO	**Matsushiro**	**10.23**	**336**	P	**Pn**	**11 14 06.0**	**+1.1**
MJB9	**Matsu-Tunnel**	**10.24**	**336**	Pn	**Pn**	**11 14 06.0**	**+1.0**
JFK	**Kawauchi**	**10.28**	**349**	*e*P	**Pn**	**11 14 03.2**	**-2.4**
JFK				*e*S	**Sn**	**11 15 52.2**	**-7.4**
JMM	**Marumori**	**10.78**	**349**	P	**Pn**	**11 14 10.2**	**-2.2**
JMM	**Marumori**	**10.78**	**349**	Pn	**Pn**	**11 14 10.9**	**-1.5**
JMK	**Ichinoseki**	**11.78**	**352**	P	**Pn**	**11 14 23.5**	**-2.6**
JMK				*e*S	**Sn**	**11 16 29.1**	**-7.2**
JTM	**Tenmabayashi**	**13.61**	**352**	P	**Pn**	**11 14 48.5**	**-2.6**
JTM	**Tenmabayashi**	**13.61**	**352**	Pn	**Pn**	**11 14 48.4**	**-2.6**
ERM	**Erimo**	**14.70**	**359**	P	Pn	11 15 01.0	-4.9
ERM	**Erimo**	**14.70**	**359**	Pn	**Pn**	**11 15 01.2**	**-4.7**
ERM	**Erimo**	**14.70**	**359**	P	**Pn**	**11 15 01.2**	**-4.7**
JEM	**Erimo**	**14.70**	**359**	P	Pn	11 15 01.0	-4.9
KSRS	**Korea Array**	**16.53**	**312**	Pn	**P**	**11 15 33.2**	**+1.3**
	comp=N,0.5nm,0.3s,baz=125,slow=9.9,SNR=13						
JKA	**Kamikawa-asahi**	**16.81**	**358**	Pn	**Pn**	**11 15 31.4**	**-1.7**
ASAJ	**Asahikawa**	**16.81**	**358**	P	**Pn**	**11 15 30.8**	**-2.4**
	comp=N,3.2nm,0.5s,baz=222,slow=14,SNR=8.8						
ASAJ				S	Sn	11 18 26.2	-13
	comp=N,4.0nm,1.0s,baz=218,slow=14,SNR=2.3						
ASAJ	**Asahikawa**	**16.81**	**358**	P	**Pn**	**11 15 31.4**	**-1.7**
ASAJ				pmax	pmax		
	comp=Z,31nm,1.8s						
INCN	**Inchon**	**17.42**	**310**		**Pn**	**11 15 40.7**	**-0.1**
INCN	**Inchon**	**17.42**	**310**	P	**Pn**	**11 15 40.7**	**-0.1**
INCN				pmax	pmax		
	comp=Z,39nm,1.5s						
USRK	**Ussuriysk Ar.**	**19.23**	**334**	P	**Pn**	**11 16 04.3**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=118,slow=9.7,SNR=7.3						
	comp=Z,2.9nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**22.79**	**104**	T	T	11 38 50.5	
	baz=295,slow=75,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**22.79**	**104**	T	T	11 38 55.0	
	baz=295,slow=75,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**22.81**	**104**	T	T	11 38 56.1	
	baz=295,slow=75,SNR=4.6						
KLR	**Kul'dur**	**23.70**	**341**	P	**P**	**11 16 51.3**	**+2.3**
	comp=Z,2.6nm,0.5s,baz=164,slow=8.7,SNR=14						
	comp=Z,2.6nm,0.5s						
KLR	**Kul'dur**	**23.70**	**341**	*e*P	**P**	**11 16 50.7**	**+1.7**
KLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FAKI	**Fak Fak**	**31.89**	**201**	P	**P**	**11 18 00.0**	**-2.7**
SONM	**Songino Array**	**35.34**	**315**	P	**P**	**11 18 33.3**	**+0.7**
SONM	**Songino Array**	**35.34**	**315**	P	**P**	**11 18 34.5**	**+1.9**
	comp=Z,1.4nm,0.5s,baz=113,slow=8.8,SNR=5.5						
	comp=Z,1.4nm,0.5s						
SONM	**Songino Array**	**35.34**	**315**	P	**P**	**11 18 33.3**	**+0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAK	**Zakamensk**	**38.19**	**318**	*e*P	**P**	**11 18 58.0**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
PHRA	**Phrae**	**40.56**	**267**	P	**P**	**11 19 16.1**	**-0.8**
CHTO	**Chiang Mai**	**41.59**	**268**	P	**P**	**11 19 23.4**	**-1.9**
CHTO	**Chiang Mai**	**41.59**	**268**	P	**P**	**11 19 23.4**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MTN	**Manton Dam**	**41.62**	**198**	P	**P**	**11 19 23.6**	**-1.9**
CMAR	**Chiang Mai Arr**	**41.72**	**268**	P	**P**	**11 19 25.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**41.72**	**268**	P	**P**	**11 19 25.9**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=54,slow=8.2,SNR=9.6						
	comp=Z,1.9nm,0.8s						
KNRA	**Kununurra**	**45.00**	**200**	P	**P**	**11 19 50.6**	**-2.1**
KNRA				IAmb	IAmb	11 20 16.2	
	comp=Z,31nm,1.8s						
WB0	**Warramunga Arr**	**47.58**	**192**	P	**P**	**11 20 10.7**	**-2.2**
WR0	**Warramunga Arr**	**47.74**	**191**	P	**P**	**11 20 12.2**	**-1.9**
WRAB	**Tennant Creek**	**47.75**	**192**	P	**P**	**11 20 12.1**	**-2.2**
WRAB				IAmb	IAmb	11 20 27.9	
	comp=Z,15nm,1.2s						
WRAB	**Tennant Creek**	**47.75**	**192**	P	**P**	**11 20 12.1**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,15nm,1.2s						
WB2	**Warramunga Arr**	**47.76**	**192**	P	**P**	**11 20 12.6**	**-1.7**
WB2				IAmb	IAmb	11 20 27.1	
	comp=Z,8.1nm,0.7s						
WRA	**Warramunga Arr**	**47.76**	**192**	P	**P**	**11 20 12.4**	**-1.9**
WRA	**Warramunga Arr**	**47.76**	**192**	P	**P**	**11 20 12.7**	**-1.6**
	comp=Z,6.2nm,0.7s,baz=12,slow=8.7,SNR=55						
	comp=Z,6.2nm,0.7s						
WRA	**Warramunga Arr**	**47.76**	**192**	P	**P**	**11 20 12.4**	**-1.9**
FITZ	**Fitzroy Crossi**	**48.29**	**203**	P	**P**	**11 20 17.1**	**-1.3**
F15K	**North Star Dit**	**50.06**	**25**	P	**P**	**11 20 32.9**	**+1.4**
F15K				IAmb	IAmb	11 22 24.2	
	comp=Z,8.1nm,1.4s						
ZALV	**Zalesovo Beam**	**50.06**	**319**	P	**P**	**11 20 33.3**	**+1.6**
ZALV	**Zalesovo Beam**	**50.06**	**319**	P	**P**	**11 20 32.7**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=95,slow=9.0,SNR=5.8						
	comp=Z,1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**50.06**	**319**	P	**P**	**11 20 33.3**	**+1.6**
MKAR	**Makanchi Array**	**51.20**	**309**	P	**P**	**11 20 40.9**	**+0.5**
MKAR	**Makanchi Array**	**51.20**	**309**	P	**P**	**11 20 41.2**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=86,slow=10,SNR=11						
	comp=Z,0.7nm,0.4s						
AS31	**Alice Springs**	**51.47**	**191**	P	**P**	**11 20 40.5**	**-2.1**
ASAR	**Alice Springs**	**51.47**	**191**	P	**P**	**11 20 40.5**	**-2.1**
ASAR	**Alice Springs**	**51.47**	**191**	P	**P**	**11 20 40.4**	**-2.2**
	comp=Z,0.8nm,0.6s,baz=5.8,slow=5.9,SNR=15						
	comp=Z,0.8nm,0.6s						
H18K	**Honhosa River**	**52.32**	**27**	P	**P**	**11 20 49.7**	**+1.2**
H18K				IAmb	IAmb	11 21 17.9	
	comp=Z,10nm,1.4s						
C19K	**Lookout Ridge**	**53.17**	**22**	P	**P**	**11 20 56.0**	**+1.2**
E19K	**Redstone River**	**53.45**	**24**	P	**P**	**11 20 58.2**	**+1.5**
E19K				IAmb	IAmb	11 21 21.3	
	comp=Z,8.9nm,1.7s						
KURK	**Kurchatov**	**53.63**	**314**	P	**P**	**11 20 59.2**	**+0.9**
KURK				IAmb	IAmb	11 20 59.9	
	comp=Z,10nm,0.6s						
KURK	**Kurchatov**	**53.63**	**314**	P	**P**	**11 20 59.2**	**+0.9**
KURK				pmax	pmax		
	comp=Z,11nm,0.6s						
KURBB	**Kurchatov Arra**	**53.69**	**314**	P	**P**	**11 20 59.8**	**+1.1**
	comp=Z,12nm,0.5s,baz=91,slow=8.4,SNR=114						
	comp=Z,12nm,0.5s						
K20K	**Telida**	**53.70**	**30**	P	**P**	**11 21 00.2**	**+1.6**
K20K				IAmb	IAmb	11 21 17.6	
	comp=Z,9.4nm,1.6s						
J20K	**Nowinta River**	**53.83**	**29**	P	**P**	**11 21 01.3**	**+1.7**
J20

comp=Z,0.2nm,0.6s,baz=298,slow=7.7,SNR=3.1
comp=Z,0.2nm,0.6s
AKASG Malin Array Be 83.11 324 P **P 11 24 02.8 +0.2**
comp=Z,1.4nm,0.5s,baz=53,slow=5.3,SNR=14
comp=Z,1.4nm,0.5s
HFS Hagfors 83.68 337 P **P 11 24 05.8 +0.5**
comp=Z,1.2nm,0.6s,baz=108,slow=4.8,SNR=5.1
comp=Z,1.2nm,0.6s
RAYN Ar Rayn 86.07 294 P **P 11 24 19.0 +0.8**
RAYN IAmb IAmb 11 24 20.2
comp=Z,8.9nm,0.8s
RAYN Ar Rayn 86.07 294 P **P 11 24 19.0 +0.8**
RAYN pmax pmax
comp=Z,9.0nm,0.8s
BRTR Keskin Array B 86.67 313 P **P 11 24 20.9 -0.1**
comp=Z,0.7nm,0.7s,baz=64,slow=6.6,SNR=2.5
comp=Z,0.7nm,0.7s

JMA 23 11:13:05.1±0.1,36°.6N±0°.1×140°.6E±0°.2,h9km,MV0.6/20,
NORTHERN IBARAKI PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.04**	**283**	*i* P	Pg	11 13 06.8	0.0
JHO				S	Sg	11 13 08.0	0.0
ONAJ	**Iwakimizuishiy**	**0.52**	**16**	*e*S	Sg	11 13 22.3	+0.3

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*IDC **23** 11:20:23.4±3.6,22°.03N×143°.97E,h60km±32km,mb3.4/8,*
mbtmp3.7/9,ML3.7/1,Error ellipse: s-maj=36.5km
s-min=16.7km az=88.0
ISC 23 11:20:28.2±1.0,22°.2N±0°.1×143°.8E±0°.3,h105km,n10,
σ1ϑ59/10,mb3.4/8,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.12**	**344**	P	**Pn**	**11 21 41.7**	**-1.0**
	2.4nm,0.3s,baz=3.4,slow=22,SNR=6.3						
JCJ				S	**Sn**	**11 22 39.3**	**-1.3**
	41nm,0.4s,baz=311,slow=21,SNR=9.4						
	13nm,0.6s						
KSRS	**Korea Array**	**20.48**	**322**	P	Pn	11 25 04.6	+3.9
	1.8nm,0.6s,baz=150,slow=8.4,SNR=9.7						
WRA	**Warramunga Arr**	**42.84**	**193**	P	**P**	**11 28 15.0**	**-1.1**
	0.2nm,0.3s,baz=16,slow=9.1,SNR=18						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**46.55**	**192**	P	**P**	**11 28 44.1**	**-1.4**
	0.2nm,0.6s,baz=12,slow=6.7,SNR=8.2						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**54.19**	**321**	P	**P**	**11 29 44.5**	**+1.8**
	1.3nm,0.5s,baz=98,slow=10,SNR=4.5						
	1.3nm,0.5s						
KURBB	**Kurchatov Arra**	**57.56**	**317**	P	**P**	**11 30 08.8**	**+2.0**
	0.7nm,0.4s,baz=94,slow=7.5,SNR=6.7						
	0.7nm,0.4s						
ILAR	**Eielson Array**	**61.39**	**27**	P	**P**	**11 30 32.8**	**-0.2**
	0.2nm,0.7s,baz=248,slow=4.8,SNR=4.3						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**62.67**	**319**	P	**P**	**11 30 43.6**	**+1.9**
	0.7nm,0.4s,baz=85,slow=7.1,SNR=4.9						
	0.7nm,0.4s						
NVAR	**Mina Array Bea**	**82.44**	**52**	P	**P**	**11 32 40.1**	**+0.7**
	0.2nm,0.5s,baz=58,slow=26,SNR=3.8						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**83.00**	**335**	P	**P**	**11 32 41.4**	**-0.2**
	0.3nm,0.5s,baz=64,slow=9.4,SNR=3.7						
	0.3nm,0.5s						

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*MOS **23** 11:22:18.7±0.8,32°.40N×138°.12E,h347km,mb4.1/11,*
Error ellipse: s-maj=18.3km s-min=7.5km az=106.2
*JMA **23** 11:22:19.8±0.3,32°.N±1°.×138°.1E±0°.8,h352km±2km,*
MV3.9/40,FAR S OFF TOKAI DISTRICT
*IDC **23** 11:22:21.4±0.9,32°.65N×138°.16E,h347km±7km,mb3.7/13,*
mbtmp4.3/19,Error ellipse: s-maj=20.3km s-min=18.5km
az=34.0
ISC 23 11:22:21.1±0.8,32°.57N±0°.08×138°.14E±0°.07,h348km±5km,
n61,σ0ϑ81/72,mb3.9/21,12C-1D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.38**	**94**	P	**Pn**	**11 23 08.0**	**-0.4**
TTO3	**TONANKAI O.B.S**	**1.43**	**334**	*e*P	**Pn**	**11 23 09.1**	**+0.8**
JHCJ	**Hachijojimakas**	**1.48**	**70**	*e*P	**Pn**	**11 23 08.1**	**-0.8**
TTO2	**TONANKAI O.B.S**	**1.49**	**322**	P	**Pn**	**11 23 09.2**	**+0.7**
JHJ	**Hachijo jima 2**	**1.49**	**68**	P	**Pn**	**11 23 08.9**	**0.0**
	104nm,0.3s,baz=339,slow=19,SNR=43						
JHJ				S	**S**	**11 23 47.6**	**+0.3**
	85nm,0.3s,baz=235,slow=24,SNR=11						
JHJ2	**Mitsune**	**1.51**	**69**	P	**Pn**	**11 23 08.7**	**-0.3**
JHJ2				*e*S	**S**	**11 23 48.9**	**+1.4**
TTO1	**TONANKAI O.B.S**	**1.54**	**313**	P	**Pn**	**11 23 09.3**	**+0.4**
TTO5	**TONANKAI O.B.S**	**1.71**	**348**	P	**Pn**	**11 23 10.5**	**+0.6**
JIE	**Ise**	**2.17**	**327**	*i* P	**Pn**	**11 23 13.5**	**+0.2**
JIE				S	**S**	**11 23 55.0**	**-0.3**
JKN2	**Miekihoku**	**2.28**	**317**	P	**Pn**	**11 23 13.8**	**-0.3**
JKN2				*e*S	**S**	**11 23 55.6**	**-1.2**
HMMJ	**Hamamatsu 2**	**2.30**	**351**	P	**Pn**	**11 23 14.6**	**+0.3**
HMMJ				S	**S**	**11 23 57.1**	**-0.1**
JTNC	**Tanabenakahech**	**2.46**	**301**	*i* P	**Pn**	**11 23 15.0**	**-0.6**
INU	**Inuyama**	**2.92**	**342**	P	**Pn**	**11 23 19.9**	**+0.4**
JGF	**Kuroka**	**3.09**	**348**	P	**Pn**	**11 23 21.2**	**+0.2**
JMN	**Monobe**	**3.75**	**289**	P	**Pn**	**11 23 27.0**	**-0.5**
MJAR	**Matsushiro Arr**	**3.96**	**1**	P	**Pn**	**11 23 29.0**	**-0.5**
	7.5nm,0.5s,baz=173,slow=11,SNR=33						
MJAR				S	**S**	**11 24 22.8**	**-1.8**
	1.9nm,0.5s,baz=157,slow=16,SNR=2.0						
MAJO	**Matsushiro**	**3.96**	**1**	P	**Pn**	**11 23 29.3**	**-0.2**
MAJO	**Matsushiro**	**3.96**	**1**	*c i* P	**Pn**	**11 23 29.0**	**-0.5**
JMM	**Marumori**	**5.71**	**22**	P	**Pn**	**11 23 47.0**	**-1.4**
JNU	**Nakatsue**	**6.13**	**277**	P	**Pn**	**11 23 53.1**	**-0.2**
	20nm,0.7s,baz=121,slow=3.2,SNR=23						
JTU	**Tsushima**	**7.55**	**287**	P	**Pn**	**11 24 09.8**	**0.0**
JTM	**Tenmabayashi**	**8.53**	**15**	P	**P**	**11 24 23.1**	**-1.0**
KSRS	**Korea Array**	**9.69**	**303**	P	**P**	**11 24 36.0**	**-1.0**
	4.9nm,0.8s,baz=117,slow=11,SNR=26						
ERM	**Erimo**	**10.24**	**22**	P	**P**	**11 24 42.8**	**-0.2**
ERM	**Erimo**	**10.24**	**22**	*i* P	**P**	**11 24 43.0**	**0.0**
JEM	**Erimo**	**10.24**	**22**	P	**P**	**11 24 42.9**	**-0.1**
ASAJ	**Asahikawa**	**12.04**	**16**	P	**P**	**11 25 02.9**	**-0.2**
	1.7nm,0.3s,baz=237,slow=11,SNR=13						
ASAJ				S	**S**	**11 27 13.7**	**-3.2**
	3.2nm,0.7s,baz=273,slow=8.7,SNR=2.5						
USRK	**Ussuriysk Ar.**	**12.56**	**339**	P	**Pn**	**11 25 09.8**	**+0.5**
	5.9nm,0.5s,baz=159,slow=10,SNR=20						
YSS	**Yuzh-Sakhalins**	**14.79**	**12**	*ce*P	**Pn**	**11 25 36.8**	**+1.5**
YSS				pmax	pmax		
	comp=Z,25nm,2.5s						
KLR	**Kul'dur**	**17.32**	**346**	P	**P**	**11 26 00.4**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=160,slow=5.7,SNR=11						
KLR	**Kul'dur**	**17.32**	**346**	*ce*P	**P**	**11 26 00.2**	**-0.4**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZEA	**Zeya**	**22.55**	**343**	*e*P	**P**	**11 26 52.9**	**+0.8**
ULN	**Ulaanbaatar**	**27.99**	**312**	*ce*P	**P**	**11 27 41.1**	**+0.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SONM	**Songino Array**	**28.39**	**312**	P	**P**	**11 27 45.4**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=111,slow=7.5,SNR=8.1						
	comp=Z,2.5nm,0.8s						
BILL	**Bilibino**	**39.06**	**16**	⇑*e*P	**P**	**11 29 16.4**	**+1.3**
BILL				*e**PP	**pP**	**11 30 23.4**	**+0.3**
BILL				*e*		11 30 55.1	
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**43.09**	**316**	P	**P**	**11 29 47.3**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=126,slow=8.5,SNR=6.3						
	comp=Z,1.3nm,0.5s						
MKAR	**Makanchi Array**	**44.36**	**306**	P	**P**	**11 29 57.8**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=86,slow=9.8,SNR=24						
	comp=Z,2.9nm,0.5s						
NRIK	**Noril'sk**	**46.27**	**338**	*i* P	**P**	**11 30 12.4**	**-0.1**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**46.69**	**311**	*ce*P	**P**	**11 30 15.8**	**-0.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KURBB	**Kurchatov Arra**	**46.75**	**311**	P	**P**	**11 30 16.2**	**-0.2**
	comp=Z,3.3nm,0.5s,baz=90,slow=9.2,SNR=36						
	comp=Z,3.3nm,0.5s						
BVAR	**Borovoye Array**	**51.67**	**315**	P	**P**	**11 30 53.2**	**0.0**
	comp=Z,4.3nm,0.7s,baz=94,slow=9.4,SNR=17						
BVAR				PcP	**PcP**	**11 32 01.4**	**0.0**
	comp=Z,1.4nm,0.5s,baz=123,slow=5.5,SNR=5.0						
	comp=Z,4.3nm,0.7s						
WRA	**Warramunga Arr**	**52.34**	**185**	*i* P	**P**	**11 30 56.5**	**-2.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARU	**Arti**	**57.97**	**320**	P	**P**	**11 31 37.7**	**-0.2**
	comp=Z,6.0nm,0.2s,baz=286,slow=7.4,SNR=1.3						
	comp=Z,6.0nm,0.2s						
ARU	**Arti**	**57.97**	**320**	*d i* P	**P**	**11 31 37.5**	**-0.4**
ARU				S	**S**	**11 39 12.1**	**+2.1**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KIRV	**Kirov**	**62.21**	**324**	*ce*P	**P**	**11 32 07.3**	**+1.0**
ARCES	**ARCESS Array B**	**67.21**	**339**	P	**P**	**11 32 38.8**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=65,slow=8.6,SNR=15						
	comp=Z,0.9nm,0.4s						
OBN	**Obninsk**	**70.05**	**323**	⇑*e*P	**P**	**11 32 56.5**	**+0.7**
OBN				*e**PP	**pwP**	**11 34 13.8**	**+1.1**
OBN				*e*		11 35 36.2	
OBN				*e*PPP	PPP	11 37 26.5	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.4s						
FINES	**FINESS Array B**	**71.49**	**332**	P	**P**	**11 33 03.6**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=64,slow=5.4,SNR=17						
	comp=Z,1.1nm,0.4s						
FINES	**FINESS Array B**	**71.49**	**332**	*ce*P	**P**	**11 33 04.3**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KBZ	**Khabaz**	**71.75**	**311**	P	**P**	**11 33 06.9**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=68,slow=4.2,SNR=9.9						
	comp=Z,4.8nm,0.8s						
KBZ	**Khabaz**	**71.75**	**311**	*ce*P	**P**	**11 33 06.2**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV	**Kislovodsk**	**71.78**	**311**	*e*P	**P**	**11 33 06.4**	**-0.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
VSU	**Vasula**	**72.91**	**329**	*i* P	**P**	**11 33 12.3**	**-0.4**
VSU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AKASG	**Malin Array Be**	**76.14**	**322**	P	**P**	**11 33 31.0**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=51,slow=5.9,SNR=8.3						
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**76.14**	**322**	P	**P**	**11 33 31.0**	**-0.3**
AKBB	**Malin Array Si**	**76.14**	**322**	*ce*P	**P**	**11 33 31.1**	**-0.2**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HFS	**Hagfors**	**77.01**	**335**	P	**P**	**11 33 35.7**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=67,slow=3.9,SNR=12						
	comp=Z,1.7nm,0.5s						
NB2	**NORSAR Subarra**	**77.22**	**336**	P	**P**	**11 33 36.5**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=43,slow=5.3						
NOA	**NORSAR Array B**	**77.22**	**336**	P	**P**	**11 33 37.1**	**0.0**
	comp=Z,1.1nm,0.6s,baz=44,slow=5.5,SNR=7.4						
	comp=Z,1.1nm,0.6s						
BRTR	**Keskin Array B**	**79.74**	**311**	P	**P**	**11 33 51.5**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=108,slow=4.8,SNR=8.5						
	comp=Z,2.3nm,0.8s						
BRTR	**Keskin Array B**	**79.74**	**311**	*ce*P	**P**	**11 33 51.9**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.5s						

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*IDC **23** 11:26:27.7±1.6,4°.53S×144°.38E,h0km,mb3.7/3,*
mbtmp3.8/5,ML3.9/1,Error ellipse: s-maj=58.2km
s-min=29.4km az=110.0
*NEIC **23** 11:26:32.4±1.9,4°.33S±0°.08×144°.4E±0°.1,h52km±13km,*
mb4.0/11,Error ellipse: s-maj=21.8km s-min=11.4km
az=100.0
ISC 23 11:26:33.0±1.0,4°.5S±0°.1×144°.3E±0°.2,h50km,n18,
σ1ϑ24/18,mb3.8/4,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.64**	**150**	Pn	**Pn**	**11 27 52.8**	**-1.5**
	7.8nm,0.5s,baz=322,slow=7.3,SNR=6.6						
PMG				Sn	Sn	11 28 47.5	-10
	1.3nm,0.3s,baz=299,slow=19,SNR=1.5						
COEN	**Coen**	**9.48**	**187**	Pn	**Pn**	**11 28 47.1**	**+0.1**
MTN	**Manton Dam**	**15.45**	**237**	Pn	**Pn**	**11 30 06.3**	**-1.6**
MTN				IAmb	IAmb	11 30 43.0	
	comp=Z,16nm,1.4s						
WB0	**Warramunga Arr**	**18.01**	**212**	P	**P**	**11 30 41.0**	**+1.1**
WB0				IAmb	IAmb	11 30 43.0	
	comp=Z,5.3nm,0.8s						
WR0	**Warramunga Arr**	**18.09**	**211**	P	**P**	**11 30 41.2**	**+0.5**
WR0				IAmb	IAmb	11 30 43.5	
	comp=Z,17nm,1.4s						
WRAB	**Tennant Creek**	**18.17**	**211**	P	**P**	**11 30 42.5**	**+0.8**
WRAB				IAmb	IAmb	11 30 45.2	
	comp=Z,8.0nm,1.0s						
WB2	**Warramunga Arr**	**18.18**	**211**	P	**P**	**11 30 42.8**	**+1.1**
WB2				IAmb	IAmb	11 31 22.3	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**18.18**	**212**	P	**P**	**11 30 41.1**	**-0.6**
WRA	**Warramunga Arr**	**18.18**	**212**	P	**P**	**11 30 42.9**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=38,slow=12,SNR=36						
	comp=Z,5.2nm,0.8s						
AS31	**Alice Springs**	**21.56**	**207**	P	**P**	**11 31 17.9**	**-0.5**
ASAR	**Alice Springs**	**21.56**	**207**	P	**P**	**11 31 18.3**	**-0.1**
ASAR	**Alice Springs**	**21.56**	**207**	P	**P**	**11 31 18.9**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=34,slow=11,SNR=23						
	comp=Z,1.5nm,0.7s						
EIDS	**Eidsvold**	**21.76**	**163**	P	**P**	**11 31 21.2**	**+0.7**
EIDS				IAmb	IAmb	11 31 37.7	
	comp=Z,9.8nm,1.4s						
FITZ	**Fitzroy Crossi**	**22.74**	**232**	P	**P**	**11 31 31.9**	**+0.8**
USA0B	**Ussuriysk Arra**	**49.72**	**348**	P	**P**	**11 35 18.0**	**-2.2**
ILAR	**Eielson Array**	**85.16**	**24**	P	**P**	**11 39 06.2**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=260,slow=5.0,SNR=4.7						
	comp=Z,0.3nm,0.7s						
QSPA	**South Pole Qui**	**85.47**	**180**	P	**P**	**11 39 05.4**	**0.0**
QSPA				IAmb	IAmb	11 39 41.8	
	comp=Z,5.2nm,1.5s						
QSPA	**South Pole Qui**	**85.47**	**180**	P	**P**	**11 39 05.9**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=84,slow=1.0,SNR=6.0						
	comp=Z,0.9nm,0.8s						

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*DJA **23** 11:30:56.5±0.6,1°.N±4°.×12°.3E±°.,h188km±5km,M4.1/7,*
mb5.0/1,mB5.0/1,MLv3.7/7,Mw(mB)4.3/1
*IDC **23** 11:30:59.1±10.0,0°.06N×122°.03E,h170km±99km,mb2.9/4,*
mbtmp3.4/4,Error ellipse: s-maj=147.4km s-min=21.3km
az=65.0
ISC 23 11:30:58.7±1.2,0°.3N±0°.1×122°.43E±0°.09,h200km,n9,
σ3ϑ48/10,mb3.3/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.68**	**59**	P	**Pn**	**11 31 25.0**	**-1.6**
GTOI				S	**Sn**	**11 31 43.0**	**-5.1**
LUWI	**Luwuk**	**1.35**	**165**	P	**Pn**	**11 31 29.7**	**-1.5**
LUWI				S	**Sn**	**11 31 51.9**	**-4.6**
KMSI	**Cibinong**	**1.58**	**79**	P	**Pn**	**11 31 33.6**	**+0.5**
MPSI	**Mapaga**	**2.53**	**271**	P	**Pn**	**11 31 42.2**	**-0.7**
SANI	**Sanana**	**4.24**	**123**	P	**Pn**	**11 32 02.7**	**-0.8**
WRA	**Warramunga Arr**	**23.24**	**151**	P	**P**	**11 35 50.9**	**+2.5**
	0.7nm,1.0s,baz=326,slow=10,SNR=2.9						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**26.28**	**156**	P	**P**	**11 36 19.5**	**+3.6**
	0.3nm,0.9s,baz=342,slow=15,SNR=1.7						
ASAR				PcP	**PcP**	**11 39 40.5**	**+3.5**
	0.2nm,0.3s,baz=348,slow=2.2,SNR=6.9						
	0.3nm,0.9s						
SONM	**Songino Array**	**49.38**	**346**	P	P	11 39 32.6	+4.5
	0.5nm,0.5s,baz=164,slow=7.5,SNR=2.5						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**58.08**	**329**	P	P	11 40 34.3	+3.2
	0.3nm,0.4s,baz=131,slow=8.8,SNR=5.6						
	0.3nm,0.4s						

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*AFAD **23** 11:35:58.4±0.0,38°.82N×44°.67E,h2km±2km,MW3.8*
*IDC **23** 11:36:00.9±2.5,38°.93N×44°.42E,h0km,mb3.6/3,*
mbtmp3.5/5,ML3.0/2,MS3.8/1,Error ellipse: s-maj=40.6km
s-min=15.7km az=147.0
*TEH **23** 11:36:00.0,38°.73N×44°.61E,h5km±59km,ML3.6*
*ISK **23** 11:36:01.7,38°.81N×44°.39E,h5km,ML3.5/19*
*NSSP **23** 11:36:58.2,38°.73N×44°.73E,h10km,Ms3.8*
ISC 23 11:36:00.7±1.1,38°.76N±0°.02×44°.60E±0°.02,h5km±9km,
n73,σ1ϑ37/94,mb3.5/3,3C-1D,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.49**	**259**	P	**Pg**	**11 36 10.1**	**0.0**
OZAP				S	**Sg**	**11 36 18.4**	**+2.0**
MAKU	**Maku**	**0.60**	**6**	Pg	**Pg**	**11 36 11.8**	**-0.5**
MAKU				Sg	**Sb**	**11 36 21.1**	**-1.6**
CLDR	**Caldiran**	**0.66**	**306**	Pg	**Pg**	**11 36 11.1**	**-2.4**
CLDR				Sg	**Sg**	**11 36 20.8**	**-1.3**
CLDR	**Caldiran**	**0.66**	**306**	P	**Pg**	**11 36 11.4**	**-2.0**
CLDR				S	**Sg**	**11 36 21.6**	**-0.4**
NAX	**Nakhchivan**	**0.81**	**59**	Pg	**Pg**	**11 36 16.4**	**+0.1**
IMRD	**Marand**	**0.86**	**92**	Pg	**Pg**	**11 36 16.4**	**-0.8**
ISHB	**Shabestar**	**0.93**	**120**	Pg	**Pg**	**11 36 16.5**	**-2.0**
VANB	**Van**	**0.96**	**261**	Pg	**Pg**	**11 36 18.6**	**-0.7**
VANB	**Van**	**0.96**	**261**	Pg	**Pg**	**11 36 18.5**	**-0.7**
SBZ	**Shahbuz**	**0.98**	**49**	Pg	**Pg**	**11 36 19.1**	**-0.4**
HYR	**Heyderabad**	**0.98**	**11**	Pg	**Pb**	**11 36 19.2**	**-1.1**
ERCV	**ERCIS-VAN**	**1.02**	**285**	Pg	**Pg**	**11 36 19.2**	**-1.1**
ERCV	**ERCIS-VAN**	**1.02**	**285**	Pg	**Pg**	**11 36 18.7**	**-1.6**
IGDI	**IGDIR**	**1.18**	**340**	P	**Pg**	**11 36 22.2**	**-1.2**
IGDI				S	**Sn**	**11 36 40.1**	**-0.4**
IGDI	**IGDIR**	**1.18**	**340**	Pg	**Pg**	**11 36 22.2**	**-1.2**
YOVA	**Hakkari_Yksek**	**1.19**	**192**	P	**Pg**	**11 36 22.4**	**-1.2**
YOVA				S	**Sn**	**11 36 43.3**	**+2.5**
YOVA	**Hakkari_Yksek**	**1.19**	**192**	Pg	**Pg**	**11 36 22.3**	**-1.2**
NRKZ	**NAREK**	**1.24**	**2**	*e*P	**Pb**	**11 36 24.1**	**-0.6**
NRKZ				*e*S	**Sn**	**11 36 42.8**	**+0.7**
TASB	**TASBURUN-IGDIR**	**1.26**	**347**	Pn	**Pn**	**11 36 25.5**	**+0.5**
TASB				Sn	**Sn**	**11 36 42.9**	**+0.5**
AKDM	**Akdamar-Van**	**1.34**	**252**	Pn	**Pn**	**11 36 25.7**	**-0.5**
AKDM	**Akdamar-Van**	**1.34**	**252**	Pg	**Pn**	**11 36 25.3**	**-0.9**
GNI	**Garni**	**1.40**	**4**	*e*P	**Pn**	**11 36 26.4**	**-0.7**
GNI				*e*S	**Sn**	**11 36 48.6**	**+2.7**
GNI	**Garni**	**1.40**	**4**	Pg	**Pn**	**11 36 26.2**	**-0.8**
	33nm,0.3s,baz=212,slow=4.0,SNR=84						
GNI				Lg	Lg	11 36 50.0	
	93nm,0.3s,baz=187,slow=21,SNR=14						
METS	**Metsamor**	**1.45**	**344**	*e*P	**Pg**	**11 36 28.5**	**0.0**
METS				*e*S	**Sn**	**11 36 49.9**	**+2.8**
ADCV	**BITLIS_Adilcev**	**1.47**	**273**	P	**Pn**	**11 36 28.3**	**+0.3**
ADCV				S	**Sg**	**11 36 49.5**	**+1.5**
ADCV	**BITLIS_Adilcev**	**1.47**	**273**	Pg	**Pn**	**11 36 28.3**	**+0.3**
VNNZ	**Vanand**	**1.48**	**336**	*e*P	**Pg**	**11 36 29.2**	**+0.2**
VNNZ				*e*S	**Sg**	**11 36 51.2**	**+3.1**
AGRB	**Hanur-Agry**	**1.50**	**304**	Pn	**Pn**	**11 36 28.3**	**-0.1**
AGRB				Sn	**Sb**	**11 36 47.6**	**-0.8**
AGRB	**Hanur-Agry**	**1.50**	**304**	Pg	**Pn**	**11 36 28.2**	**-0.1**
KOTA	**Agri, Merkez-K**	**1.51**	**314**	P	**Pg**	**11 36 29.4**	**-0.3**
IAZR	**Azarshahr**	**1.53**	**134**	Pg	**Pn**	**11 36 28.0**	**-0.8**
GRS	**Goris**	**1.54**	**61**	⇑*i* P	**Pn**	**11 36 27.0**	**-1.9**
GRS				⇑*i* S	**Sn**	**11 36 48.0**	**-1.3**
DORK	**Agr/Tutak/Do**	**1.55**	**295**	P	**Pn**	**11 36 28.4**	**-0.8**
KAPZ	**Kaputan**	**1.57**	**3**	*e*P	**Pg**	**11 36 30.4**	**-0.4**
KAPZ				*e*S	**Sg**	**11 36 53.5**	**+2.4**
ARUZ	**Aruch**	**1.58**	**346**	*e*P	**Pg**	**11 36 30.9**	**-0.1**
ARUZ				*e*S	**Sg**	**11 36 53.8**	**+2.3**
MLAZ	**Malazgirt-MUS**	**1.65**	**284**	Pn	**Pn**	**11 36 30.4**	**0.0**
AMBZ	**Amberd**	**1.65**	**351**	⇑*i* P	**Pg**	**11 36 31.5**	**-0.9**
AMBZ				⇑S	**Sg**	**11 36 54.6**	**+0.7**
PERV	**Siirt/Pervari-**	**1.81**	**244**	P	**Pb**	**11 36 35.5**	**+1.1**
PERV				S	**Sg**	**11 37 01.2**	**+2.3**
IHRS	**Heris**	**1.96**	**102**	Pn	**Pb**	**11 36 36.3**	**-0.8**
BLIS	**Bitlis-Merkez**	**1.98**	**261**	P	**Pb**	**11 36 36.6**	**-0.7**
BLIS				S	**Sg**	**11 37 05.8**	**+1.5**
GURO	**Guroymak-BITLI**	**2.02**	**265**	Pn	**Pn**	**11 36 35.9**	**+0.3**
MAHB	**Mahabad**	**2.17**	**156**	Pn	**Pn**	**11 36 38.7**	**+1.1**
KARS	**Kars**	**2.21**	**328**	Pn	**Pn**	**11 36 38.9**	**+0.8**
SRTM	**Siirt_Merkez**	**2.24**	**251**	P	**Pb**	**11 36 41.6**	**-0.1**
SRTM				S	**Sg**	**11 37 13.2**	**+0.5**
MUSM	**Mu-Merkez**	**2.42**	**270**	P	**Pb**	**11 36 44.1**	**-0.6**
KOPR	**Koprukoy-ERZUR**	**2.46**	**301**	Pn	**Pn**	**11 36 42.1**	**+0.4**
VRTB	**Varto-Mus**	**2.49**	**280**	Pn	**Pn**	**11 36 42.4**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.50**	**317**	Pn	**Pn**	**11 36 43.1**	**+0.8**
IHSH	**Hashtrud**	**2.55**	**124**	Pn	**Pn**	**11 36 43.6**	**+0.6**
GRMI	**Germi**	**2.57**	**88**	Pn	**Pn**	**11 36 44.4**	**+1.2**
ISRB	**Sarab**	**2.58**	**110**	Pn	**Pn**	**11 36 43.8**	**+0.4**
DMNI	**Dmanisi**	**2.59**	**353**	P	**Pg**	**11 36 48.7**	**-1.7**
SVAN	**Silvan-Diyarba**	**2.74**	**258**	Pn	**Pn**	**11 36 46.5**	**+1.2**
DGRG	**David-gareji**	**2.76**	**12**	P	**Pb**	**11 36 50.7**	**+0.2**
DGRG				S	**Sg**

KSH					Sn	Sn	13 26 46.8	-6.8
KSH					smax	smax		
	comp=N,130nm,0.7s							
KSH					smax	smax		
	comp=E,85nm,0.8s							
JMU	**Jammu**	5.05	140	*e*S		**Sn**	13 26 54.5	-3.3
THN	**Thein Dam**	5.71	136	*e*P		**Pn**	13 26 09.6	+2.5
THN				IAML			13 27 14.3	
	comp=E,171nm,0.3s							
THN				*ex*		x	13 27 24.8	
THN				IAML			13 27 25.7	
	comp=E,200nm,0.5s							
AML	**Almayashu**	5.87	20	P		**Pn**	13 26 11.5	+2.0
	SNR=84							
NRN	**Naryn**	6.17	37	Pn		**Pn**	13 26 14.7	+1.5
DHRM	**DHARAMSHALA**	6.18	133	*e*P		**Pn**	13 26 15.9	+2.5
DHRM				*ex*		x	13 27 22.7	
DHRM				IAML			13 27 26.2	
	comp=N,295nm,0.4s							
DHRM				IAML			13 27 26.4	
	comp=E,462nm,0.3s							
UCH	**Uchtor**	6.21	25	P		**Pn**	13 26 16.1	+2.2
	SNR=48							
EKS2	**Erkin-Say**	6.39	19	P		**Pn**	13 26 18.1	+2.2
	SNR=8.5							
KK31	**Karatay Array**	6.47	357	Pn		**Pn**	13 26 18.2	+1.3
KK31	**Karatay Array**	6.47	357	⇓P		**Pn**	13 26 18.0	+1.1
	comp=E,4.1nm,0.4s,baz=176,slow=12,SNR=69							
KK31				⇑S		**Sn**	13 27 29.0	-2.0
	comp=E,19nm,0.7s,baz=185,slow=23,SNR=5.9							
KKAR	**Karatay Array**	6.47	357	Pn		**Pn**	13 26 18.2	+1.3
AAK	**Ala-Archa**	6.57	23	P		**Pn**	13 26 20.9	+2.6
	SNR=10.0							
AAK	**Ala-Archa**	6.57	23	P		**Pn**	13 26 20.7	+2.4
	comp=E,21nm,0.3s,baz=237,slow=23,SNR=18							
AAK				S		**Sn**	13 27 29.8	-3.6
	comp=E,5.4nm,0.3s,baz=227,slow=16,SNR=3.6							
AAK	**Ala-Archa**	6.57	23	⇑P		**Pn**	13 26 20.0	+1.7
	comp=E,15nm,0.4s							
AAK				⇑S		**Sn**	13 27 34.0	+0.6
	comp=E,39nm,0.8s							
BHK	**Bhakra**	6.87	138	*e*S		**Sn**	13 27 41.8	+1.5
BHK				IAML			13 27 45.2	
	comp=E,73nm,0.2s							
BHK				IAML			13 27 52.6	
	comp=E,100nm,0.3s							
BOOM	**Boomskoye usch**	6.98	32			**Pn**	13 26 26.1	+2.5
CHMS	**Chumysh**	6.98	23	P		**Pn**	13 26 26.1	+2.6
	SNR=5.8							
CHMS	**Chumysh**	6.98	23	⇑P		**Pn**	13 26 25.2	+1.7
	comp=E,5.0nm,0.3s							
CHMS				⇓S		**Sn**	13 27 41.6	-1.2
	comp=E,14nm,0.8s							
USP	**Ospenovka**	7.15	21	P		**Pn**	13 26 26.9	+1.2
	SNR=7.6							
TKM2	**Tokmak 2**	7.21	28	P		**Pn**	13 26 28.8	+2.2
	SNR=16							
TKM2	**Tokmak 2**	7.21	28	⇑P		**Pn**	13 26 28.0	+1.4
	comp=E,7.9nm,0.6s							
TKM2				⇑S		**Sn**	13 27 47.0	-1.4
	comp=E,15nm,0.8s							
SMLA	**Simla**	7.50	135	*e*P		**Pn**	13 26 31.8	+1.5
SMLA				IAML			13 27 55.3	
	comp=E,176nm,0.3s							
SMLA				*e*S		**Sn**	13 27 56.0	+0.8
SMLA				IAML			13 27 58.9	
	comp=E,104nm,0.2s							
KUDL	**Kundal**	9.64	150	*e*P		**Pn**	13 26 57.3	-0.9
KUDL				*e*S		**Sn**	13 28 39.4	-6.7
MKAR	**Makanchi Array**	13.18	36	P		**P**	13 27 46.2	+0.1
	comp=E,0.5nm,0.6s,baz=225,slow=15,SNR=2.9							
BHPL	**Bhopal**	14.45	156	*e*P		**P**	13 28 02.8	+2.3
WMQ	**Urumqi**	14.62	55	*e*P		**P**	13 28 02.3	+0.2
WMQ				pmax		pmax		
	comp=Z,34nm,0.7s							
ABKAR	**Akbulak array**	14.97	331			**Pn**	13 28 04.6	-0.7
KURBB	**Kurchatov Arra**	14.99	19	P		**P**	13 28 05.6	-0.6
	comp=Z,0.6nm,0.2s,baz=208,slow=11,SNR=4.5							
BVAR	**Borovoye Array**	16.40	359	P		**Pn**	13 28 24.1	+1.7
	comp=Z,1.8nm,0.6s,baz=165,slow=12,SNR=6.7							
BRVK	**Borovoye**	16.43	358	Pn		**Pn**	13 28 24.6	+1.7
AKTO	**Aktyubinsk**	16.67	330	P		**Pn**	13 28 25.9	+0.1
	comp=Z,4.0nm,0.7s,baz=144,slow=6.3,SNR=12							
ZALV	**Zalesovo Beam**	19.79	25	P		**P**	13 28 58.9	+0.5
	comp=Z,0.9nm,0.3s,baz=218,slow=9.4,SNR=4.7							
	comp=Z,0.9nm,0.3s							
PZH	**PanZhiHua**	27.96	102	P		**P**	13 30 18.0	+2.3
PZH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PZH				pmax		pmax		
	comp=Z,130nm,4.9s							
HHC	**Hu-ho-hao-te**	31.71	70	*e*P		**P**	13 30 49.0	+0.4
HHC				pmax		pmax		
	comp=Z,9.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,160nm,6.9s							
FINES	**FINESS Array B**	37.38	326	P		**P**	13 31 36.3	-0.4
FINES	**FINESS Array B**	37.38	326	P		**P**	13 31 37.1	+0.4
	comp=Z,1.0nm,0.6s,baz=111,slow=10,SNR=5.5							
	comp=Z,1.0nm,0.6s							
ARCES	**ARCESS Array B**	41.03	338	P		**P**	13 32 07.6	+0.9
	comp=Z,3.6nm,0.3s,baz=104,slow=7.5,SNR=2.3							
	comp=Z,3.6nm,0.3s							
HFS	**Hagfors**	42.97	322	P		**P**	13 32 22.4	-0.2
	comp=Z,0.6nm,0.5s,baz=88,slow=13,SNR=2.0							
	comp=Z,0.6nm,0.5s							
NB2	**NORSAR Subarra**	44.28	323	P		**P**	13 32 32.6	-0.5
	comp=Z,0.4nm,0.6s,baz=96,slow=7.9							
NOA	**NORSAR Array B**	44.28	323	P		**P**	13 32 32.2	-0.8
	comp=Z,0.8nm,0.8s,baz=97,slow=7.7,SNR=4.2							
	comp=Z,0.8nm,0.8s							
TOA0	**Torodi Ar. Sit**	65.73	269	P		**P**	13 35 04.3	-2.8
TOA0				IAmb		IAmb	13 35 29.4	
	comp=Z,3.0nm,1.2s							
TORD	**Torodi Ar. Bea**	65.73	269	P		**P**	13 35 04.4	-2.7
	comp=Z,0.6nm,0.4s,baz=45,slow=6.3,SNR=12							
	comp=Z,0.6nm,0.4s							
C19K	**Lookout Ridge**	68.20	17	P		**P**	13 35 22.4	+0.5
F15K	**North Star Dit**	69.32	21	P		**P**	13 35 29.7	+0.9
F15K				IAmb		IAmb	13 36 02.7	
	comp=Z,5.3nm,1.3s							
C23K	**Itkillik River**	69.59	14	P		**P**	13 35 31.3	+0.9
C23K				IAmb		IAmb	13 35 58.3	
	comp=Z,4.8nm,1.4s							
G19K	**Purcell Mounta**	71.08	19	P		**P**	13 35 39.6	+0.1
H19K	**Roundabout Mou**	71.73	19	P		**P**	13 35 43.5	+0.2
H19K				IAmb		IAmb	13 35 49.1	
	comp=Z,3.8nm,1.5s							
IMAR	**Indian Mountai**	72.05	18	P		**P**	13 35 44.9	-0.3
J16K	**Anvik River**	72.29	22	P		**P**	13 35 47.6	+0.9
E28M	**Babbage River**	72.64	11	P		**P**	13 35 49.6	+0.9
BMAR	**Burnt Mountain**	72.81	14	P		**P**	13 35 50.9	+1.0
G24K	**Hadweenzic Riv**	72.87	15	P		**P**	13 35 50.8	+0.7
G24K				IAmb		IAmb	13 36 34.0	
	comp=Z,3.0nm,1.4s							
J19K	**Poorman**	73.16	20	P		**P**	13 35 52.3	+0.5
J19K				IAmb		IAmb	13 36 19.2	
	comp=Z,3.0nm,1.2s							
J20K	**Nowinta River**	73.40	19	P		**P**	13 35 53.8	+0.5
J20K				IAmb		IAmb	13 36 15.4	
	comp=Z,4.6nm,1.4s							
C36M	**Paulatuk**	73.75	6	P		**P**	13 35 55.1	-0.1
C36M				IAmb		IAmb	13 35 55.3	
	comp=Z,2.6nm,0.7s							
BPAW	**Bear Paw Mtn.**	74.27	18	PcP		**PcP**	13 36 12.0	-0.2
F31M	**Tsiigehtchic**	74.56	10	P		**P**	13 36 00.1	+0.2
F31M				IAmb		IAmb	13 36 42.5	
	comp=Z,5.0nm,1.4s							
ILAR	**Eielson Array**	74.65	16	P		**P**	13 35 59.9	-0.6
	comp=Z,0.2nm,0.8s,baz=322,slow=5.7,SNR=2.3							
	comp=Z,0.2nm,0.8s							
H29M	**Whitestone**	75.00	12	P		**P**	13 36 02.9	+0.4
H29M				IAmb		IAmb	13 36 30.7	
	comp=Z,6.1nm,1.5s							
I28M	**Miner Creek**	75.44	13	P		**P**	13 36 05.0	-0.1
SCRK	**Sand Creek**	75.97	15	P		**P**	13 36 08.1	-0.1
SCRK				IAmb		IAmb	13 36 39.1	
	comp=Z,3.1nm,1.5s							
WRA	**Warramunga Arr**	82.05	122	P		**P**	13 36 40.0	-1.7
	comp=Z,0.2nm,0.4s,baz=324,slow=5.0,SNR=11							
	comp=Z,0.2nm,0.4s							
WRAB	**Tennant Creek**	82.05	122	P		**P**	13 36 40.2	-1.5
WB2	**Warramunga Arr**	82.06	122	P		**P**	13 36 39.8	-1.9
ASAR	**Alice Springs**	84.32	125	P		**P**	13 36 51.7	-1.5
	comp=Z,0.3nm,0.7s,baz=312,slow=4.7,SNR=10							
	comp=Z,0.3nm,0.7s							

ANF ***23*** *13:40:33.9±0.1,33°.91N×116°.82W,h14km±1km,ML3.0/30, Error ellipse: s-maj=1.0km s-min=0.8km az=74.0*
NEIC ***23*** *13:40:34.1±0.7,33°.91N±0°.01×116°.82W±0°.01,h19km±3km, Error ellipse: s-maj=2.0km s-min=0.5km az=219.0*
PAS ***23*** *13:40:34.8±1.2,33°.93N±0°.01×116°.82W±0°.01,h6km±4km, ML3.0/197,ML2.8/70(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=183.0*

ISC 23 13:40:34.3±0.9,33°.92N±0°.01×116°.82W±0°.01,h19km±2km, n105,σ0°82/152,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSC	**Beaumont Base**	0.14	271		**Pg**	13 40 37.9	-0.7
POB	**Polly Butte**	0.25	201		**Pg**	13 40 40.0	-0.1
POB					**Sb**	13 40 43.6	-0.3
HMTC	**Hemet**	0.26	217		**Pb**	13 40 40.1	-0.2
HMTC					**Sb**	13 40 43.9	-0.4
CFT	**Crafton Hills**	0.27	295		**Pn**	13 40 44.6	+1.2
GVDA	**Garner Valley**	0.28	154		**Pg**	13 40 40.2	-0.3
GVDA					**Sb**	13 40 44.5	-0.4
SVD	**Seven Oaks Dam**	0.30	309		**Sg**	13 40 44.8	-0.6
EW2	**E Wide Canyon**	0.34	86		**Pn**	13 40 46.3	+2.0
BBRC	**Big Bear Solar**	0.35	346	P	**Pg**	13 40 41.4	-0.6
	baz=166,SNR=262						
BBRC				S	**Sg**	13 40 46.2	-0.8
	baz=166						
CRY	**Cary Ranch**	0.36	169		**Sb**	13 40 47.0	-0.5
BLAC	**Blackrock camp**	0.39	67		**Sg**	13 40 47.7	-0.2
HLNC	**Highland**	0.39	301		**Pg**	13 40 42.2	-0.3
HLNC					**Sg**	13 40 48.1	+0.2
SNDA	**J Saunders Pla**	0.40	155		**Sb**	13 40 48.6	-0.4
RSBC	**Riverside Bore**	0.43	277		**Pg**	13 40 42.7	-0.4
RSBC					**Sg**	13 40 48.2	-0.8
RSBC	**Riverside Bore**	0.43	277		**Pg**	13 40 42.8	-0.4
RSBC					**Sg**	13 40 48.6	-0.4
PFO	**Pinyon Flats O**	0.43	136		**Pg**	13 40 42.8	-0.3
PFO				IAML		13 40 49.5	
	909nm,0.4s						
PFO	**Pinyon Flats O**	0.43	136		**Sg**	13 40 48.9	-0.3
PFO	**Pinyon Flats O**	0.43	136	P	**Pb**	13 40 43.0	-0.4
	baz=317,SNR=109						
PFO				S	**Sg**	13 40 48.7	-0.4
	baz=317						
CFSC	**Central Fire S**	0.43	296		**Pg**	13 40 42.9	-0.2
CFSC					**Sg**	13 40 49.1	+0.1
XPFO	**Pion Flat**	0.43	136		**Sg**	13 40 48.7	-0.5
BZNA	**Buzz No.'s Pla**	0.45	164		**Sb**	13 40 50.1	+0.1
MURC	**Murrieta**	0.45	225		**Pb**	13 40 43.4	-0.3
MURC					**Sg**	13 40 49.5	-0.1
MURC	**Murrieta**	0.45	225	P	**Pb**	13 40 43.3	-0.3
	baz=43,SNR=59						
MURC				S	**Sg**	13 40 49.5	-0.1
	baz=43						
CLTC	**Calectric**	0.45	293		**Pg**	13 40 43.2	-0.3
CLTC					**Sb**	13 40 50.5	+0.4
PMD	**Palm Desert**	0.46	126		**Pg**	13 40 43.4	-0.2
PMD					**Sg**	13 40 49.5	-0.3
FRD	**Ford Ranch, An**	0.46	157		**Sb**	13 40 50.2	-0.2
FRD	**Ford Ranch, An**	0.46	157		**Sb**	13 40 50.2	-0.2
RVR	**Riverside**	0.47	279		**Pg**	13 40 43.4	-0.4
RVR					**Sg**	13 40 49.5	-0.8
GTM	**Goat Mountain**	0.54	46		**Pg**	13 40 44.6	-0.5
GTM					**Sg**	13 40 51.6	-0.7
FON	**Fontana**	0.55	289		**Pb**	13 40 44.8	-0.4
FON					**Sg**	13 40 52.2	-0.5
PLM	**Palomar**	0.57	184		**Sb**	13 40 53.5	+0.2
ELS	**Elsinore Mount**	0.58	242	Pg	**Pb**	13 40 45.5	-0.3
ELS				IAML		13 40 53.5	
	comp=E,619nm,0.2s						
ELS	**Elsinore Mount**	0.58	242		**Sb**	13 40 53.2	-0.4
CRNC	**Corona**	0.62	266		**Pb**	13 40 46.2	-0.3
CRNC					**Sb**	13 40 54.0	-0.7
BELC	**Belle Mtn. Jos**	0.69	83		**Sg**	13 40 56.9	-0.2
BELC	**Belle Mtn. Jos**	0.69	83	P	**Pg**	13 40 47.7	-0.1
	baz=264,SNR=121						
BELC				S	**Sb**	13 40 56.7	-0.2
	baz=264						
CHNC	**Chino**	0.72	277		**Pb**	13 40 48.0	-0.2
CHNC					**Sb**	13 40 57.8	0.0
BORC	**Borrego Spring**	0.73	153		**Sg**	13 40 58.2	-0.2
MATG	**Mataguay Scout**	0.73	169		**Pg**	13 40 48.8	+0.1
MATG					**Sg**	13 40 58.5	+0.1
CTCC	**Cactus City**	0.74	111		**Pg**	13 40 48.9	+0.1
CTCC					**Sg**	13 40 59.2	+0.6
BFSC	**Mount Baldy Ra**	0.77	295		**Pb**	13 40 48.8	-0.4
BFSC					**Sb**	13 40 58.7	-0.5
BFSC	**Mount Baldy Ra**	0.77	295	P	**Pb**	13 40 48.8	-0.4
	baz=114,SNR=99						
BFSC				S	**Sb**	13 40 59.0	-0.2
	baz=114						
VTV	**Victorville**	0.77	327		**Pb**	13 40 48.7	-0.4
ADO	**Adelanto Recei**	0.81	321		**Sg**	13 41 00.8	-0.1
CTW	**Cottonwood Mou**	0.82	107		**Pg**	13 40 50.3	-0.1
CTW					**Sg**	13 41 01.5	+0.2
GORC	**Green Oak Ranc**	0.84	204		**Pb**	13 40 49.9	-0.4
GORC					**Sb**	13 41 00.9	-0.2
PSRC	**Puddingstone R**	0.84	282		**Sb**	13 41 00.9	-0.4
SLH	**Sleepy Hollow**	0.86	147		**Pn**	13 40 51.3	-0.2
SLH					**Sn**	13 41 02.7	-0.9
RRX	**Edison Barstow**	0.96	351	P	**Pn**	13 40 52.6	-0.3
	baz=171,SNR=13						
RRX				S	**Sg**	13 41 05.7	-0.1
	baz=171						
HEC	**Hector,Ludlow**	0.99	24		**Pn**	13 40 53.1	-0.3
HEC	**Hector,Ludlow**	0.99	24	P	**Pn**	13 40 53.0	-0.3
	baz=204,SNR=30						
HEC				S	**Sn**	13 41 06.8	-0.1
	baz=204						
HOLC	**Holcomb Ridge**	1.01	303		**Pb**	13 40 53.0	-0.2
109C	**Camp Elliot, M**	1.06	193		**Pb**	13 40 53.5	-0.4
109C				IAML		13 41 07.8	
	comp=N,231nm,0.3s						
109C				IAML		13 41 08.1	
	comp=E,252nm,0.4s						
109C	**Camp Elliot, M**	1.06	193	P	**Pb**	13 40 53.7	-0.3
	baz=13,SNR=18						
109C				S	**Sb**	13 41 07.4	0.0
	baz=13						
MONP2	**Monument Peak**	1.08	162	P	**Pg**	13 40 54.8	-0.4
	baz=342,SNR=33						
MONP2				S	**Sg**	13 41 09.4	+0.1
	baz=342						
GVRC	**Garvey Reservo**	1.09	277		**Pg**	13 40 55.7	+0.3
PASC	**Pasadena Art C**	1.16	283		**Pn**	13 40 55.2	-0.4
PASC				IAML		13 41 12.8	
	comp=N,160nm,0.4s						
PASC				IAML		13 41 13.0	
	comp=E,141nm,0.3s						
BC3	**Big Chuckawall**	1.17	103	P	**Pb**	13 40 56.1	+0.2
	baz=284,SNR=107						
BC3				S	**Sg**	13 41 12.0	-0.2
	baz=284						
BAR	**Barrett**	1.24	174		**Pb**	13 40 57.0	-0.1
BAR				IAML		13 41 14.1	
	comp=N,197nm,0.3s						
FMP	**Fort Macarthur**	1.25	261	P	**Pb**	13 40 56.9	-0.3
	baz=80						
FMP				S	**Sg**	13 41 13.8	-0.9
	baz=80						
GMRC	**Granite Mounta**	1.29	48	Pb	**Pb**	13 40 58.1	0.0
	baz=229,SNR=48						
GMRC				S	**Sg**	13 41 15.6	-0.6
	baz=229						
SWSC	**Sam W. Stewart**	1.29	139	P	**Pb**	13 40 57.4	-0.6
	baz=319,SNR=26						
SWSC				S	**Sb**	13 41 14.6	+0.4
	baz=319						
DECC	**Green Verdugo**	1.30	285	Pb	**Pb**	13 40 58.2	0.0
	baz=104,SNR=11						
DECC				S	**Sb**	13 41 15.4	+0.8
	baz=104						
TKX	**Tecate**	1.36	173		**Pb**	13 40 58.8	-0.3
TKX				IAML		13 41 20.7	
	comp=N,158nm,0.2s						
EDW2	**Edwards Air Fo**	1.37	315	Pb	**Pb**	13 40 59.5	+0.2
	baz=134,SNR=89						
EDW2				S	**Sb**	13 41 17.4	+0.9
	baz=134						
GSC	**Goldstone, Bar**	1.38	0		**Pb**	13 40 59.5	0.0
GSC				IAML		13 41 18.9	
	comp=N,180nm,0.4s						
GSC	**Goldstone, Bar**	1.38	0	Pb	**Pb**	13 40 59.9	+0.3
	baz=181,SNR=129						
GSC				S	**Sg**	13 41 18.2	-0.7
	baz=181						
IKP	**In-Ko-Pah, Jac**	1.40	155	P	**Pb**	13 40 59.4	-0.5
	baz=335,SNR=14						
IKP				Sb	**Sg**	13 41 19.1	-0.4
	baz=335						
IRM	**Iron Mountain**	1.41	80	P	**Pb**	13 40 59.4	-0.6
	baz=261,SNR=71						
IRM				S	**Sg**	13 41 18.6	-1.2
	baz=261						
TJX	**Tijuana**	1.42	188		**Pb**	13 40 59.8	-0.4
CIS	**Catalina Islan**	1.43	249	P	**Pn**	13 40 59.6	+0.3
	baz=68,SNR=6.9						
CIS				S	**Sb**	13 41 18.8	+0.6
	baz=68						
RMX	**La Rumorosa**	1.45	155		**Pg**	13 41 02.2	-0.1
RMX				IAML		13 41 23.9	
	comp=E,141nm,0.5s						
RMX				IAML		13 41 24.6	
	comp=N,91nm,0.4s						
YUH	**Yuha Desert**	1.47	149	Pg	**Pb**	13 41 01.3	+0.2
CCAC	**Calif City Air**	1.58	322		**Pb**	13 41 02.4	-0.6
CBX	**Cerro Bola**	1.61	175	Pg	**Pb**	13 41 03.1	-0.3
TUQ	**Turquoise Moun**	1.68	26	Pb	**Pb**	13 41 05.3	+0.5
	baz=206						
TUQ				Sb	**Sg**	13 41 27.7	-0.9
	baz=206						
LRMC	**Laurel Mtn Rad**	1.71	336	Pg	**Pg**	13 41 06.7	-0.6
	baz=155						
LRMC				Sb	**Sg**	13 41 28.4	-1.2
	baz=155						
OSI	**Osito Audit: C**	1.72	294	Sb	**Sb**	13 41 28.2	+1.4
	baz=113						
GLA	**Glamis**	1.88	117		**Pn**	13 41 05.9	+0.5
GLA				IAML		13 41 30.2	
	comp=N,85nm,0.4s						
GLA	**Glamis**	1.88	117	Pg	**Pg**	13 41 09.6	-0.7
	baz=298						
GLA				S	**Sn**	13 41 29.0	+0.4
	baz=298						
BLYC	**Blythe**	1.92	94		**Pn**	13 41 06.2	+0.2
BLYC				IAML		13 41 37.4	
	comp=E,100nm,0.5s						
BLYC				IAML		13 41 38.7	
	comp=N,102nm,0.6s						
CPBX	**Cerro Prieto**	1.96	139	Pn	**Pb**	13 41 07.8	-1.6
NEE2	**Needles Airpor**	2.01	64	Pg	**Pg**	13 41 11.7	-1.1
	baz=246						
NEE2				Sb	**Sg**	13 41 37.6	-1.3
	baz=246						
SHOC	**Shoshone, Teco**	2.02	13	Sb	**Sg**	13 41 39.0	-0.5
	baz=193						
ESJX	**Sierra Juarez**	2.04	159		**Pb**	13 41 09.1	-1.8
ESJX				IAML		13 41 39.5	
	comp=E,61nm,0.5s						
ESJX				IAML		13 41 40.1	
	comp=N,45nm,0.3s						
ARVC	**Arvin**	2.05	306	P	**Pn**	13 41 08.9	+1.1
	baz=125						
ARVC				Sb	**Sb**	13 41 38.1	+1.9
	baz=125						
MPMC	**Manual Prospec**	2.20	346	P	**Pn**	13 41 11.3	+1.2
	baz=165,SNR=25						
MPMC				Sb	**Sg**	13 41 43.7	-1.5
	baz=165						
ISA	**Isabella, Lake**	2.21	322		**Pn**	13 41 10.9	+0.9
ISA				IAML		13 41 50.3	
	comp=E,55nm,0.8s						
ISA	**Isabella, Lake**	2.21	322	P	**Pn**	13 41 11.1	+1.1
	baz=142,SNR=19						
ISA				Sb	**Sg**	13 41 43.2	-2.3
	baz=142						
GWY	**Greenwater Val**	2.26	3	Pn	**Pn**	13 41 11.8	+0.9
BCW	**Bitter Crk WRg**	2.38	296		**Pn**	13 41 13.8	+1.4
BCW				IAML		13 41 53.7	
	comp=N,62nm,0.6s						
V12A	**Nelson**	2.42	41		**Pn**	13 41 14.3	+1.3
V12A				IAML		13 41 52.5	
	comp=E,29nm,0.3s						
PKM	**Mcpherson Peak**	2.66	292	P	**Pn**	13 41 18.2	+1.9
	baz=110,SNR=8.6						
VTX	**Valle De La Tr**	2.67	161	Pn	**Pn**	13 41 18.0	+1.7
VTX				IAML		13 41 59.6	
	comp=N,38nm,1.0s						
VTX				IAML		13 42 01.3	
	comp=E,38nm,0.8s						
W13A	**Hualapai Mount**	2.69	63	Pn	**Pn**	13 41 17.2	+0.4
CWC	**Cottonwood Cre**	2.72	338	Sb	**Sg**	13 41 59.3	-2.4
	baz=157						
113A	**Mohawk Valley,**	2.80	113	Pn	**Pn**	13 41 19.8	+1.7
WCT	**Wildcat Mounta**	2.87	3	Pn	**Pn**	13 41 20.2	+1.0
WCT				IAML		13 42 08.1	
	comp=E,23nm,0.4s						
SHPR	**Sheep Range**	2.92	27	Pn	**Pn**	13 41 21.4	+1.6
Y14A	**Wickenburg**	3.17	89	Pn	**Pn**	13 41 24.5	+1.3
Y14A				IAML		13 42 16.0	
	comp=N,23nm,0.3s						
Y14A				IAML		13 42 21.3	
	comp=E,22nm,0.3s						
DSP	**Deep Springs**	3.57	345	Pn	**Pn**	13 41 30.9	+2.2
PIX	**Pinacate**	3.68	129	Pn	**Pn**	13 41 31.7	+1.5
MZP	**Montezuma Peak**	3.80	353		**Pn**	13 41 33.9	+1.7
MDPB	**Devils Postpil**	4.14	334		**Pn**	13 41 38.2	+1.5

comp=Z,31nm,0.6s
DKNS Dickens 3.16 41 IAmb_Lg 13 43 17.5
comp=Z,18nm,1.0s
JCT Junction City 3.20 104 IAmb_Lg 13 43 22.3
comp=Z,12nm,0.7s
APMT Aspermont 3.43 53 IAmb_Lg 13 43 26.7
comp=Z,10nm,1.0s
ABTX Abilene, Hawle 3.46 67 IAmb_Lg 13 43 24.6
comp=Z,10.0nm,0.8s
AMTX Amarillo 3.85 22 Pn Pn 13 42 33.0 0.0
AMTX IAmb_Lg 13 43 43.1
comp=Z,7.5nm,0.8s
ANMO Albuquerque 4.45 326 IAmb_Lg 13 44 01.0
comp=Z,4.9nm,0.8s
SMWD Samnorwood 4.63 34 Pn Pn 13 42 43.7 +0.1
SMWD IAmb_Lg 13 44 12.6
comp=Z,9.6nm,0.8s
FW03 Perrin-Whitt E 4.85 68 IAmb_Lg 13 44 18.6
comp=Z,11nm,0.9s
RTBA Rita Blanca 5.16 6 IAmb_Lg 13 44 23.9
comp=Z,5.6nm,0.8s
WMOK Wichita Mounta 5.18 47 Pn Pn 13 42 51.2 +0.1
WMOK IAML 13 44 29.5
comp=Z,6.1nm,0.7s
W18A Petrified Fore 6.53 307 IAmb_Lg 13 44 54.8
comp=Z,5.0nm,0.8s

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*NEIC **23** 13:48:30.2±2.3, 36.°0S±0.°1×144.°2E±0.°1, h10km±2km, ML3.0/6, Error ellipse: s-maj=23.6km s-min=8.1km az=220.0*
*AUST **23** 13:48:32.1±0.2, 36.°03S×144.°25E, h10km, mb4.2/7, Mjma4.4/19, ML3.3/15, MLv3.9/18, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NOU **23** 13:48:32.2, 36.°01S×144.°26E, h0km, MLv3.9/8, Victoria, Australia*
ISC 23 13:48:31.8±3.5, 35.°99S±0.°04×144.°24E±0.°04, h13km±25km, n31, σ1s49/42, New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRAT	**Ballarat**	**1.57**	**189**	P	**Pn**	**13 48 59.7**	**+0.3**
BRAT	0.2nm,SNR=21			S	**Sn**	**13 49 20.3**	**+0.8**
GVL	**Greenvale**	**1.71**	**162**	P	**Pn**	**13 49 01.5**	**+0.3**
GVL	0.3nm,SNR=38			S	**Sn**	**13 49 22.2**	**-0.7**
TOO	**Toolangi**	**1.87**	**148**	P	**Pn**	**13 49 04.8**	**+1.3**
TOO	**Toolangi**	**1.87**	**148**	Pn	**Pn**	**13 49 04.0**	**+0.6**
TOO				Sn	**Sn**	**13 49 25.5**	**-1.4**
TOO				IAML		13 49 30.0	
TOO	**Toolangi**	**1.87**	**148**	P	**Pn**	**13 49 03.9**	**+0.4**
TOO	comp=N,0.4nm,SNR=5.8			S	**Sn**	**13 49 27.3**	**+0.4**
ARPS	**Mount Arapiles**	**2.08**	**248**	P	**Pn**	**13 49 07.7**	**+1.3**
ARPS	**Mount Arapiles**	**2.08**	**248**	P	**Pn**	**13 49 07.1**	**+0.8**
ARPS	comp=N,0.5nm,SNR=18			S	**Sn**	**13 49 33.4**	**+1.2**
GEXS	**Deakin Univers**	**2.20**	**179**	P	**Pb**	**13 49 10.5**	**-0.9**
GEXS	**Deakin Univers**	**2.20**	**179**	P	**Pn**	**13 49 08.3**	**+0.3**
GEXS	comp=N,0.8nm,SNR=15			S	**Sn**	**13 49 36.7**	**+1.7**
CAN	**Canberra**	**3.94**	**82**	P	**Pn**	**13 49 33.4**	**+1.5**
CAN	**Canberra**	**3.94**	**82**	Pn	**Pn**	**13 49 30.5**	**-1.4**
CAN				Sn	**Sn**	**13 50 15.6**	**-2.3**
CAN				IAML		13 50 34.0	
CAN	comp=N,24nm,0.5s			IAML		13 51 26.9	
CAN	**Canberra**	**3.94**	**82**	P	**Pn**	**13 49 32.2**	**+0.3**
CAN	comp=E,21nm,5.0s comp=E,0.1nm,SNR=1.6			S	**Sn**	**13 50 16.2**	**-1.8**
AUMTS	**Mt Stromlo**	**3.94**	**82**	P	**Pn**	**13 49 32.4**	**+0.5**
MILA	**Mila**	**4.10**	**106**	P	**Pn**	**13 49 33.8**	**-0.4**
CNB	**Canberra Magne**	**4.23**	**82**	P	**Pn**	**13 49 37.2**	**+1.3**
CNB	**Canberra Magne**	**4.23**	**82**	P	**Pn**	**13 49 36.2**	**+0.2**
CNB	comp=E,0.1nm,SNR=1.6			S	**Sn**	**13 50 28.9**	**+3.7**
DLN	**Dalton (NSW)**	**4.23**	**74**	P	**Pn**	**13 49 35.9**	**-0.1**
SDAN	comp=E,0.1nm,SNR=7.0 **Sedan**	**4.28**	**289**	P	**Pn**	**13 49 37.2**	**+0.8**
CMSA	SNR=1.7 **Cobar Meteorol**	**4.61**	**16**	P	**Pn**	**13 49 43.0**	**+1.9**
CMSA	**Cobar Meteorol**	**4.61**	**16**	P	**Pn**	**13 49 41.1**	**+0.1**
STKA	comp=E,0.1nm,SNR=1.8 **Stephens Creek**	**4.66**	**331**	P	**Pn**	**13 49 44.6**	**+2.8**
STKA	**Stephens Creek**	**4.66**	**331**	Pn	**Pn**	**13 49 42.1**	**+0.3**
STKA				IAML		13 50 32.9	
STKA	comp=E,4.6nm,3.9s			Sn	**Sn**	**13 50 33.9**	**-1.8**
STKA	**Stephens Creek**	**4.66**	**331**	P	**Pn**	**13 49 43.3**	**+1.5**
HTT	SNR=1.3 **Hallett**	**5.07**	**299**	P	**Pn**	**13 49 49.6**	**+2.1**
HTT	**Hallett**	**5.07**	**299**	P	**Pn**	**13 49 49.0**	**+1.5**
NAPP	comp=E,0.1nm,SNR=1.1 **Napperby**	**5.75**	**297**	P	**Pn**	**13 49 58.8**	**+2.0**
KELC	SNR=2.5 **Kelly Hill Cav**	**5.94**	**268**	P	**Pn**	**13 50 00.7**	**+1.3**
BBOO	comp=E,0.1nm,SNR=1.6 **Buckleboo**	**7.47**	**293**	Pn	**Pn**	**13 50 18.8**	**-1.6**
BBOO				Sn	**Sn**	**13 51 42.0**	**-2.9**
BBOO	**Buckleboo**	**7.47**	**293**	P	**Pn**	**13 50 21.3**	**+0.9**
LCRK	comp=E,0.2nm,SNR=1.7 **Leigh Creek**	**7.49**	**316**	P	**Pn**	**13 50 21.7**	**+1.1**
OOD	comp=E,0.2nm,SNR=1.8 **Oodnadatta**	**10.93**	**316**	P	**Pn**	**13 51 08.2**	**+0.4**
	comp=E,0.1nm,SNR=1.8						

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*IDC **23** 13:57:25.5±0.7, 9.°34S×112.°91E, h0km, mb4.5/17, mbtmp4.5/17, MS3.7/23, Error ellipse: s-maj=28.4km s-min=13.8km az=60.0*
*DJA **23** 13:57:29.6±0.8, 10.°S±3.°×11.°3E±.°, h21km±8km, M4.9/17, mb4.9/16, mB5.9/2, MLv4.9/17, Mw(mB)5.5/2*
*NEIC **23** 13:57:29.8±2.2, 9.°61S±0.°08×112.°89E±0.°06, h35km±2km, mb4.8/36, Error ellipse: s-maj=14.1km s-min=10.2km az=173.0*
ISC 23 13:57:29.3±0.6, 9.°56S±0.°05×112.°87E±0.°04, h31km±3km, n155, σ1s61/146, mb4.8/49, MS3.8/24, 1C-1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.67**	**50**	P	**Pb**	**13 57 58.7**	**-0.7**
JAGI	**Jajag, Banyuwa**	**1.67**	**50**		**Pb**	**13 57 57.7**	**-1.7**
JAGI	**Jajag, Banyuwa**	**1.67**	**50**	P	**Pb**	**13 57 58.9**	**-0.5**
JAGI				S	**Sb**	**13 58 19.1**	**-0.9**
PWJI	**Pagerwojo**	**1.86**	**325**	P	**Pn**	**13 58 01.2**	**+2.2**
PWJI				S	**Sb**	**13 58 26.1**	**+0.6**
ABJI	**Asem Bagus**	**2.21**	**38**	P	**Pb**	**13 58 08.0**	**-0.7**
ABJI				S	**Sb**	**13 58 36.8**	**+1.1**
DNP	**Denpasar**	**2.47**	**69**	P	**Pb**	**13 58 10.3**	**-2.8**
DNP				S	**Sb**	**13 58 41.8**	**-1.3**
GRJI	**Gresik**	**2.66**	**352**	P	**Pb**	**13 58 13.7**	**-2.6**
GRJI				S	**Sb**	**13 58 46.9**	**-1.6**
SRBI	**Singaraja**	**2.74**	**58**	P	**Pb**	**13 58 14.4**	**-3.3**
SRBI				S	**Sb**	**13 58 49.6**	**-1.3**
UGM	**Wanagama**	**2.84**	**305**	P	**Pn**	**13 58 15.7**	**+3.1**
UGM	**Wanagama**	**2.84**	**305**		**Pn**	**13 58 14.2**	**+1.6**
UGM	**Wanagama**	**2.84**	**305**	P	**Pn**	**13 58 15.1**	**+2.5**
UGM				S	**Sb**	**13 58 51.5**	**-2.3**
YOGI	**Yogyakarta**	**3.08**	**304**	P	**Pn**	**13 58 17.7**	**+1.8**
SMRI	**Semarang**	**3.46**	**316**	P	**Pn**	**13 58 25.0**	**+3.8**
SMRI	**Semarang**	**3.46**	**316**		**Pn**	**13 58 23.5**	**+2.3**
SMRI	**Semarang**	**3.46**	**316**	P	**Pn**	**13 58 24.2**	**+3.0**
TWSI	**Taliwang, Sumb**	**4.04**	**79**	P	**Pn**	**13 58 32.0**	**+2.8**
CMJI	**Cimerak**	**4.71**	**292**	P	**Pn**	**13 58 40.8**	**+2.4**
CMJI				S	**Sn**	**13 59 29.6**	**-2.4**
PLAI	**Plampang**	**4.90**	**82**	P	**Pn**	**13 58 44.3**	**+3.4**
PLAI	**Plampang**	**4.90**	**82**	P	**Pn**	**13 58 43.6**	**+2.7**
BBJI	**Bungbulang**	**5.57**	**292**	P	**Pn**	**13 58 53.6**	**+3.4**
CNJI	**Cibinong**	**6.10**	**291**	P	Pn	13 58 53.1	-4.4
XMI	**Christmas Isla**	**7.13**	**262**	P	**Pn**	**13 59 12.3**	**+0.7**
XMIS	**Christmas Isla**	**7.17**	**262**	P	**Pn**	**13 59 12.3**	**+0.1**
XMIS	**Christmas Isla**	**7.17**	**262**	Pn	**Pn**	**13 59 12.2**	**+0.1**
SBJI	**Serang**	**7.50**	**297**	P	**Pn**	**13 59 17.9**	**+1.2**
BASI	**Baing, Sumba**	**7.62**	**96**	P	**Pn**	**13 59 21.1**	**+2.7**
	115nm,1.3s						
BSSI	**Bau Bau, Buton**	**8.28**	**66**	P	**Pn**	**13 59 30.1**	**+2.7**
	52nm,0.9s						
BKSI	**Bulukumba**	**8.33**	**60**	P	**Pn**	**13 59 30.8**	**+2.7**
	32nm,0.7s						
EDFI	**Ende, Flores**	**8.75**	**85**	P	**Pn**	**13 59 34.0**	**+0.1**
	20nm,0.5s						
KASI	**Kota Agung**	**9.22**	**295**	P	**Pn**	**13 59 41.6**	**+1.3**
	47nm,0.6s						
MMRI	**Maumere**	**9.30**	**85**	P	**Pn**	**13 59 43.7**	**+2.4**
	56nm,1.1s,4μm						
LWLI	**Liwa**	**9.84**	**297**	P	**Pn**	**13 59 50.4**	**+1.6**
PPBI	**Pangkal Pinang**	**9.94**	**317**	P	**Pn**	**13 59 52.4**	**+2.2**
BATI	**Baumata**	**10.65**	**94**	P	**Pn**	**14 00 02.1**	**+2.1**
	41nm,0.8s						
SOEI	**Soe**	**11.24**	**92**	P	**Pn**	**14 00 09.8**	**+1.7**
SOEI	**Soe**	**11.24**	**92**	Pn	**Pn**	**14 00 06.9**	**-1.2**
SOEI	**Soe**	**11.24**	**92**	P	**Pn**	**14 00 10.2**	**+2.1**
	49nm,0.8s						
MBWA	**Marble Bar**	**13.29**	**151**	P	**Pn**	**14 00 33.2**	**-2.8**
MBWA	**Marble Bar**	**13.29**	**151**		**Pn**	**14 00 33.1**	**-2.8**
PSA00	**Pilbara Seismi**	**13.70**	**151**	P	**Pn**	**14 00 39.0**	**-2.6**
PSA00	**Pilbara Seismi**	**13.70**	**151**	Pn	**Pn**	**14 00 38.1**	**-3.5**
GTOI	**Gorontalo**	**14.30**	**45**	P	**P**	**14 00 54.8**	**-1.8**
FITZ	**Fitzroy Crossi**	**15.02**	**126**	Pn	**Pn**	**14 00 57.4**	**-2.1**
MEEK	**Meekatharra**	**17.84**	**163**	P	**Pn**	**14 01 35.5**	**+0.2**
MTN	**Manton Dam**	**18.21**	**102**	P	**P**	**14 01 40.4**	**+0.4**
GSI	**Gunungsitoli**	**18.67**	**305**	P	**P**	**14 01 41.4**	**-3.6**
KDU	**Kakadu**	**19.48**	**101**	P	**Pn**	**14 01 55.7**	**+0.4**
MORW	**Morawa**	**19.63**	**172**	P	**P**	**14 01 54.4**	**-1.1**
MORW				IAmb	IAmb	14 01 59.2	
	comp=Z,92nm,1.6s						
FAKI	**Fak Fak**	**20.35**	**72**	P	Pn	14 02 05.3	-0.3
FAKI	**Fak Fak**	**20.35**	**72**	P	**P**	**14 02 01.1**	**-2.4**
FAKI				IAmb	IAmb	14 02 20.0	
	comp=Z,119nm,1.7s						
DAV	**Davao City (W)**	**20.81**	**38**	LR	LR	14 10 52.9	
	comp=Z,132nm,20.9s,baz=248,slow=39						
WRKA	**Warakurna**	**21.27**	**138**	P	**P**	**14 02 13.3**	**0.0**
WB0	**Warramunga Arr**	**23.13**	**118**	P	**P**	**14 02 33.6**	**+0.4**
WB0				IAmb	IAmb	14 02 44.0	
	comp=Z,48nm,1.9s						
WRA	**Warramunga Arr**	**23.16**	**119**	P	**P**	**14 02 33.7**	**+0.2**
WRA	**Warramunga Arr**	**23.16**	**119**	P	**P**	**14 02 34.3**	**+0.9**
	comp=Z,3.0nm,0.6s,baz=290,slow=11,SNR=36						
	comp=Z,3.0nm,0.6s						
WRAB	**Tennant Creek**	**23.16**	**119**	P	**P**	**14 02 33.0**	**-0.5**
WB2	**Warramunga Arr**	**23.17**	**119**	P	**P**	**14 02 33.9**	**+0.4**
WR0	**Warramunga Arr**	**23.34**	**119**	P	**P**	**14 02 35.7**	**+0.5**
NWAO	**Narrogin (SRO)**	**23.60**	**171**	LR	LR	14 12 49.7	
	comp=Z,272nm,18.1s,baz=228,slow=39						
AS31	**Alice Springs**	**24.51**	**127**	P	**P**	**14 02 46.0**	**-0.2**
ASAR	**Alice Springs**	**24.51**	**127**	P	**P**	**14 02 47.7**	**+1.5**
	comp=Z,8.7nm,0.6s,baz=304,slow=8.7,SNR=53						
ASAR				LR	LR	14 13 20.0	
	comp=Z,233nm,19.0s,baz=264,slow=39						
	comp=Z,8.7nm,0.6s						
AS01	**Alice Springs**	**24.54**	**127**	P	**P**	**14 02 47.8**	**+1.3**
	comp=Z,15nm,0.8s						
FORT	**Forrest**	**25.42**	**148**	P	**P**	**14 02 55.4**	**+1.1**
OOD	**Oodnadatta**	**28.12**	**133**	P	**P**	**14 03 19.6**	**+0.9**
	comp=Z,19nm,2.4s						
CM31	**Chiang Mai Arr**	**31.05**	**334**	P	**P**	**14 03 45.0**	**+0.2**
CM31				IAmb	IAmb	14 03 47.0	
	comp=Z,12nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.05**	**334**		**P**	**14 03 45.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**31.05**	**334**	P	**P**	**14 03 43.3**	**-1.4**
	comp=Z,7.4nm,0.9s,baz=169,slow=8.2,SNR=12						
CMAR				LR	LR	14 17 43.3	
	comp=Z,124nm,18.2s,baz=160,slow=39						
	comp=Z,7.4nm,0.9s						
PMG	**Port Moresby**	**33.81**	**93**	LR	LR	14 22 58.2	
	comp=Z,175nm,18.1s,baz=248,slow=45						
STKA	**Stephens Creek**	**34.66**	**134**	P	**P**	**14 04 18.6**	**+2.4**
	comp=Z,4.0nm,0.7s,baz=314,slow=9.8,SNR=5.3						
STKA				LR	LR	14 19 22.7	
	comp=Z,283nm,19.6s,baz=233,slow=38						
	comp=Z,4.0nm,0.7s						
TNCH	**TengChong**	**37.12**	**338**	P	**P**	**14 04 38.4**	**+0.9**
TNCH				pP	sP	14 04 50.8	+1.9
TNCH				pmax	pmax		
	comp=Z,14nm,1.0s						
TNCH				pmax	pmax		
	comp=Z,110nm,4.9s						
PZH	**PanZhiHua**	**37.44**	**343**	P	**P**	**14 04 42.6**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,7.3s						
JOW	**Kunigami**	**39.14**	**22**	LR	LR	14 23 36.3	
	comp=Z,38nm,19.0s,baz=29,slow=40						
GUMO	**Guam**	**39.21**	**55**	LR	LR	14 21 12.6	
	comp=Z,37nm,20.5s,baz=234,slow=36						
H08S2	**Diego Garcia H**	**39.95**	**269**	T	T	14 47 53.4	
	baz=95,slow=75,SNR=5.7						
H08S3	**Diego Garcia H**	**39.96**	**270**	T	T	14 48 09.2	
	baz=95,slow=75,SNR=5.5						
H08S1	**Diego Garcia H**	**39.97**	**269**	T	T	14 48 08.3	
	baz=95,slow=75,SNR=6.1						
SHL	**Shillong**	**40.45**	**330**	P	**P**	**14 05 05.3**	**-0.2**
SHL				IAmb	IAmb	14 05 06.2	
	comp=Z,22nm,0.8s						
CD2	**Chengdu**	**41.18**	**348**	P	**P**	**14 05 12.3**	**+1.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
NJ2	**Nanjing**	**41.77**	**8**	*e*P	**P**	**14 05 19.1**	**+3.2**
NJ2				pmax	pmax		
	comp=Z,14nm,1.2s						
XAN	**Xi'an**	**43.52**	**355**	P	**P**	**14 05 30.3**	**+0.1**
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
TIA	**Tai'an**	**45.70**	**5**	P	**P**	**14 05 47.1**	**-0.4**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LZH	**Lanzhou**	**46.19**	**350**	*e*P	**P**	**14 05 52.5**	**+0.9**
LZH				pP	pwP	14 06 02.8	-1.1
LZH				pmax	pmax		
	comp=Z,16nm,1.4s						
HNR	**Honiara**	**46.40**	**94**	LR	LR	14 28 42.3	
	comp=Z,1μm,18.1s,baz=226,slow=40						
HNS	**HongShan**	**46.74**	**2**	⇑P	**P**	**14 05 55.4**	**-0.3**
HNS				pmax	pmax		
	comp=Z,16nm,0.7s						
KSAR	**Wonju Array Be**	**48.83**	**16**	P	**P**	**14 06 11.9**	**0.0**
KSRS	**Korea Array**	**48.85**	**16**	P	**P**	**14 06 12.5**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=196,slow=7.0,SNR=12						
	comp=Z,2.7nm,0.9s						
BJI	**Beijing**	**49.44**	**3**	P	**P**	**14 06 16.4**	**-0.1**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
JHJ	**Hachijo jima 2**	**49.58**	**30**	LR	LR	14 29 35.4	
	comp=Z,32nm,18.1s,baz=133,slow=39						
BTO	**Baotou**	**49.98**	**357**	*e*P	**P**	**14 06 21.9**	**+1.1**
BTO				pmax	pmax		
	comp=Z,69nm,0.7s						
BTO				pmax	pmax		
	comp=Z,200nm,5.1s						
INU	**Inuyama**	**50.16**	**26**	P	**P**	**14 06 20.2**	**-1.8**
INU	**Inuyama**	**50.16**	**26**	P	**P**	**14 06 20.9**	**-1.1**
HHC	**Hu-ho-hao-te**	**50.17**	**359**	*e*P	P	14 06 26.9	+4.7
HHC				sP	sP	14 06 49.4	+15
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,120nm,5.6s						
GTA	**Gaotai**	**50.21**	**347**	*e*P	**P**	**14 06 23.4**	**+0.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
JGF	**Kuroka**	**50.52**	**26**	P	**P**	**14 06 23.1**	**-1.7**
JGF				IAmb	IAmb	14 06 24.6	
	comp=Z,11nm,0.8s						
MAJO	**Matsushiro**	**51.68**	**26**	P	**P**	**14 06 31.4**	**-2.2**
MAJO				IAmb	IAmb	14 06 32.8	
	comp=Z,6.2nm,0.8s						
MAJO	**Matsushiro**	**51.68**	**26**	P	**P**	**14 06 31.8**	**-1.8**
MAJO				pP	**pP**	**14 06 40.9**	**-1.1**
MJAR	**Matsushiro Arr**	**51.68**	**26**	P	**P**	**14 06 31.6**	**-1.9**
	comp=Z,8.7nm,0.9s,baz=196,slow=7.4,SNR=16						
MJAR				LR	LR	14 30 32.9	
	comp=Z,45nm,18.9s,baz=230,slow=39						
	comp=Z,8.7nm,0.9s						
MJB9	**Matsu-Tunnel**	**51.68**	**26**	P	**P**	**14 06 31.4**	**-2.1**
MJB9				IAmb	IAmb	14 06 32.7	
	comp=Z,6.1nm,0.8s						
XLT	**XiLinHaoTe**	**53.28**	**3**	*e*P	**P**	**14 06 45.5**	**+0.1**
XLT				pmax	pmax		
	comp=Z,14nm,1.2s						
MDJ	**Mudanjiang**	**56.01**	**14**	P	**P**	**14 07 04.5**	**-0.5**
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,220nm,4.8s						
USA0B	**Ussuriysk Arra**	**56.25**	**16**	P	**P**	**14 07 05.6**	**-1.1**
USA0B				IAmb	IAmb	14 07 07.4	
	comp=Z,12nm,1.1s						
USRK	**Ussuriysk Ar.**	**56.25**	**16**	P	**P**	**14 07 05.6**	**-1.1**
USRK	**Ussuriysk Ar.**	**56.25**	**16**	P	**P**	**14 07 05.4**	**-1.3**
	comp=Z,7.9nm,1.0s,baz=211,slow=5.8,SNR=13						
	comp=Z,7.9nm,1.0s						
JTM	**Tenmabayashi**	**56.45**	**26**	P	**P**	**14 07 07.0**	**-1.2**
BNX	**BinXian**	**56.58**	**12**	⇓P	**P**	**14 07 09.3**	**+0.3**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NIL	**Nilore**	**57.13**	**321**	P	**P**	**14 07 11.2**	**-2.1**
ULN	**Ulaanbaatar**	**57.40**	**355**	P	**P**	**14 07 15.3**	**+0.2**
ULN				sP	**sP**	**14 07 28.6**	**+1.7**
SONM	**Songino Array**	**57.43**	**355**	P	**P**	**14 07 15.0**	**-0.2**
SONM				IAmb	IAmb	14 07 16.3	
	comp=Z,9.9nm,0.8s						
SONM	**Songino Array**	**57.43**	**355**	P	**P**	**14 07 15.4**	**+0.2**
	comp=Z,10nm,0.7s,baz=172,slow=8.5,SNR=40						
SONM				PcP	**PcP**	**14 08 09.1**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=183,slow=5.8,SNR=1.5						
	comp=Z,10nm,0.7s						
ERM	**Erimo**	**58.36**	**26**	P	**P**	**14 07 21.1**	**-0.6**
KSH	**Kashi**	**59.63**	**327**	P	**P**	**14 07 29.6**	**-1.1**
KSH				sP	pwP	14 07 44.3	+0.8
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
JKA	**Kamikawa-asahi**	**59.84**	**24**	P	**P**	**14 07 31.3**	**-0.6**
KLR	**Kul'dur**	**60.84**	**14**	LR	LR	14 34 35.1	
	comp=Z,27nm,19.4s,baz=194,slow=37						
HEH	**HeiHe**	**60.90**	**11**	*e*P	**P**	**14 07 38.3**	**-0.7**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NRN	**Naryn**	**61.02**	**329**	P	**P**	**14 07 40.0**	**-0.5**
NRN				IAmb	IAmb	14 07 41.0	
	comp=Z,9.3nm,1.2s						
BOOM	**Boomskoye usch**	**61.83**	**330**	P	**P**	**14 07 45.6**	**-0.1**
BOOM				IAmb	IAmb	14 07 46.6	
	comp=Z,9.1nm,1.0s						
YSS	**Yuzh-Sakhalins**	**62.25**	**23**	P	**P**	**14 07 47.5**	**-0.6**
YSS	**Yuzh-Sakhalins**	**62.25**	**23**	P	**P**	**14 07 47.9**	**-0.3**
YSS				pP	**pP**	**14 07 56.7**	**-0.1**
YSS				sP	**pwP**	**14 08 01.1**	**+0.4**
MK31	**Makanchi Array**	**62.39**	**337**	P	**P**	**14 07 48.9**	**-0.3**
MK31				IAmb	IAmb	14 07 49.5	
	comp=Z,5.3nm,0.6s						
MKAR	**Makanchi Array**	**62.39**	**337**	P	**P**	**14 07 49.0**	**-0.2**
MKAR	**Makanchi Array**	**62.39**	**337**	P	**P**	**14 07 49.0**	**-0.2**
	comp=Z,8.6nm,0.4s,baz=150,slow=7.5,SNR=171						
	comp=Z,8.6nm,0.4s						
MAKZ	**Makanchi**	**62.52**	**337**	P	**P**	**14 07 50.0**	**-0.1**
MAKZ				pP	**pP**	**14 07 59.2**	**+0.6**
AAK	**Ala-Archa**	**62.66**	**329**	P	**P**	**14 07 51.0**	**-0.3**
AAK				IAmb	IAmb	14 07 52.6	
	comp=Z,11nm,1.1s						
SIMJ	**Simiganj**	**62.99**	**322**	P	**P**	**14 07 53.7**	**+0.2**
SIMJ				pP	**pP**	**14 08 03.4**	**+1.3**
URZ	**Urewera**	**63.95**	**128**	LR	LR	14 36 44.7	
	comp=Z,103nm,19.6s,baz=30,slow=37						
KK31	**Karatay Array**	**65.07**	**327**	P	**P**	**14 08 06.2**	**-0.8**
KKAR	**Karatay Array**	**65.07**	**327**	P	**P**	**14 08 05.6**	**-1.3**
KKAR	**Karatay Array**	**65.07**	**327**	P	**P**	**14 08 06.0**	**-1.0**
KKAR				IAmb	IAmb	14 08 08.4	
	comp=Z,3.0nm,0.8s						
CCD	**Concordia, Ant**	**65.78**	**177**	P	**P**	**14 08 13.7**	**+2.1**
KURBB	**Kurchatov Arra**	**66.95**	**337**	P	**P**	**14 08 18.6**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=149,slow=5.1,SNR=19						
	comp=Z,4.2nm,0.8s						
ZAA0	**Zalesovo Array**	**67.58**	**342**	P	**P**	**14 08 21.6**	**-1.2**
ZALV	**Zalesovo Beam**	**67.58**	**342**	P	**P**	**14 08 21.6**	**-1.1**
ZALV	**Zalesovo Beam**	**67.58**	**342**	P	**P**	**14 08 22.1**	**-0.7**
	comp=Z,7.1nm,0.4s,baz=144,slow=4.8,SNR=40						
	comp=Z,7.1nm,0.4s						
BVAR	**Borovoye Array**	**72.07**	**335**	P	**P**	**14 08 50.2**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=146,slow=8.2,SNR=15						
BVAR				LR	LR	14 45 19.8	
	comp=Z,44nm,18.9s,baz=126,slow=40						
	comp=Z,3.1nm,0.8s						
VNDA	**Vanda**	**72.43**	**170**	P	**P**	**14 08 54.1**	**+1.9**
	comp=Z,1.0nm,1.0s,baz=340,slow=5.4,SNR=2.8						
VNDA				LR	LR	14 39 25.1	
	comp=Z,64nm,19.3s,baz=329,slow=35						
	comp=Z,1.0nm,1.0s						
ABKAR	**Akbulak array**	**74.64**	**327**	P	**P**	**14 09 05.7**	**+0.1**
ABKAR	**Akbulak array**	**74.64**	**327**	P	**P**	**14 09 05.5**	**-0.1**
MA2	**Magadan**	**75.28**	**19**	P	**P**	**14 09 08.9**	**-0.2**
MA2				IAmb	IAmb	14 09 10.2	
	comp=Z,8.0nm,0.9s						
AKTO	**Aktyubinsk**	**76.33**	**327**	P	**P**	**14 09 15.8**	**+0.4**
	comp=Z,7.1nm,0.7s,baz=111,slow=4.5,SNR=24						
	comp=Z,7.1nm,0.7s						
ARU	**Arti**	**79.49**	**333**	P	**P**	**14 09 32.3**	**-0.4**
ARU				IAmb	IAmb	14 09 33.7	
	comp=Z,22nm,1.3s						
ARU	**Arti**	**79.49**	**333**	LR	LR	14 51 19.7	
	comp=Z,26nm,18.6s,baz=84,slow=41						
GNI	**Garni**	**79.88**	**314**	LR	LR	14 47 42.3	
	comp=Z,22nm,19.8s,baz=120,slow=38						
NRIK	**Noril'sk**	**80.67**	**351**	P	**P**	**14 09 38.4**	**-0.5**
	comp=Z,2.2nm,0.4s,baz=100,slow=5.1,SNR=4.1						
	comp=Z,2.2nm,0.4s						
TIXI

MK31	**Makanchi Array**	**62.30 337**	P	**P**	**14 12 01.2**	**-0.1**
MK31			IAmb	IAmb	14 12 02.2	
	comp=Z,5.5nm,1.4s					
MKAR	**Makanchi Array**	**62.30 337**	P	**P**	**14 12 01.3**	**0.0**
MKAR	**Makanchi Array**	**62.30 337**	P	**P**	**14 12 01.8**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=148,slow=7.5,SNR=17					
	comp=Z,0.9nm,0.4s					
ZALV	**Zalesovo Beam**	**67.48 342**	P	**P**	**14 12 35.0**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=136,slow=7.8,SNR=4.9					
	comp=Z,0.9nm,0.5s					
ABKAR	**Akbulak array**	**74.58 327**	P	**P**	**14 13 17.5**	**-0.5**

*IDC **23** 14:41:45.2±1.0, 26°.73N×141°.94E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=32.9km s-min=14.9km az=115.0*

ISC 23 14:41:50.8±1.2, 26°.7N±0°.2×141°.9E±0°.2, h40km, n6, σ2§49/7, mb3.9/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.48**	**30**	Pn	**Pn**	**14 41 58.5**	**-2.8**
	14nm,0.3s,baz=86,slow=23,SNR=25						
JCJ				Sn	**Sn**	**14 42 11.8**	**+3.0**
	43nm,0.3s,baz=270,slow=20,SNR=8.4						
WRA	**Warramunga Arr**	**46.92**	**190**	P	**P**	**14 50 18.9**	**+1.3**
	1.1nm,0.7s,baz=12,slow=8.6,SNR=12						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**50.64**	**190**	P	**P**	**14 50 45.5**	**-0.6**
	0.6nm,1.1s,baz=17,slow=14,SNR=5.3						
	0.6nm,1.1s						
KURBB	**Kurchatov Arra**	**53.16**	**315**	P	**P**	**14 51 04.4**	**-0.2**
	1.1nm,0.5s,baz=92,slow=8.4,SNR=9.6						
	1.1nm,0.5s						
BVAR	**Borovoye Array**	**58.19**	**318**	P	**P**	**14 51 39.3**	**-1.4**
	0.4nm,0.5s,baz=96,slow=6.5,SNR=2.9						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**78.22**	**334**	P	**P**	**14 53 47.8**	**+1.9**
	0.4nm,0.3s,baz=64,slow=4.4,SNR=3.9						
	0.4nm,0.3s						

*OTT **23** 14:45:49.7±0.2, 73°.65N×72°.52W, h18km, ML2.8/3, 206km northeast from Pond Inlet, Nu Baffin Bay Seismic Zone.*
*DNK **23** 14:45:54.4±3.0, 73°.71N×72°.14W, h24km±67km, ML2.0*

ISC 23 14:45:47.6±1.2, 73°.64N±0°.05×72°.64W±0°.07, h10km, n9, σ2§81/16, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULEG	**Thule**	**3.08**	**17**	*i* P	**Pn**	**14 46 38.3**	**+2.1**
TULEG				*i* S	**Sn**	**14 47 12.7**	**-0.3**
TULEG				IAML		14 47 14.9	
	comp=Z,14nm,0.4s						
CLRN	**Clyde River**	**3.42**	**156**	PN	**Pn**	**14 46 41.4**	**+0.5**
CLRN				SN	**Sn**	**14 47 20.4**	**-1.0**
CLRN				Trac		14 47 35.8	
	comp=Z,8.3nm,0.1s						
KULLO	**Kullorsuaq**	**4.34**	**70**	PN	**Pn**	**14 46 55.4**	**+1.9**
KULLO				SN	**Sn**	**14 47 41.1**	**-2.9**
KULLO				Trac		14 47 44.3	
	comp=Z,3.7nm,0.1s						
KULLO	**Kullorsuaq**	**4.34**	**70**	*i* P	**Pn**	**14 46 55.8**	**+2.3**
KULLO				*e*S	**Sn**	**14 47 40.8**	**-3.3**
KULLO				IAML		14 47 43.5	
	comp=Z,10nm,0.7s						
UPNV	**Upernavik**	**4.86**	**92**	*e*P	**Pn**	**14 47 03.0**	**+2.4**
UPNV				*e*S	**Sn**	**14 47 53.1**	**-3.7**
UPNV				IAML		14 47 58.2	
	comp=Z,6.3nm,0.3s						
RES	**Resolute Bay**	**6.16**	**290**	PN	**Pn**	**14 47 20.6**	**+2.1**
RES				SN	**Sn**	**14 48 25.8**	**-3.1**
RES				Trac		14 48 28.4	
	comp=Z,1.4nm,0.1s						
NUUG	**Nuugaatsiaq**	**6.19**	**100**	*e*P	**Pn**	**14 47 22.0**	**+3.1**
NEEM	**North Greenlan**	**6.58**	**45**	*e*P	**Pn**	**14 47 27.4**	**+2.9**
NEEM				*e*S	**Sn**	**14 48 37.3**	**-2.1**
NEEM				IAML		14 48 39.2	
	comp=Z,3.3nm,0.3s						
UMMG	**Uummannaq**	**6.95**	**105**	*e*P	**Pn**	**14 47 32.9**	**+3.7**

*IDC **23** 14:52:09.1±2.4, 9°.77S×112°.40E, h0km, mb3.6/5, mbtmp3.6/5, MS3.5/1, Error ellipse: s-maj=116.2km s-min=21.8km az=50.0*
*DJA **23** 14:52:16.2±0.6, 10°.5±5°.×11°.3E±°, h10km, M4.0/8, MLv4.0/8*

ISC 23 14:52:16.7±1.2, 9°.7S±0°.1×112°.79E±0°.05, h35km, n13, σ1§43/17, mb3.8/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.78**	**49**	P	**Pn**	**14 52 45.0**	**-0.1**
JAGI				S	**Sn**	**14 53 06.8**	**+0.3**
PWJI	**Pagerwojo**	**1.89**	**329**	P	**Pn**	**14 52 47.1**	**+0.6**
PWJI				S	**Sn**	**14 53 09.4**	**+0.2**
ABJI	**Asem Bagus**	**2.33**	**38**	P	**Pn**	**14 52 53.2**	**+0.6**
ABJI				S	**Sn**	**14 53 22.1**	**+2.1**
GRJI	**Gresik**	**2.73**	**353**	P	**Pn**	**14 52 58.3**	**+0.1**
UGM	**Wanagama**	**2.83**	**307**	P	**Pn**	**14 53 00.6**	**+1.1**
UGM				S	**Sn**	**14 53 35.5**	**+3.0**
SRBI	**Singaraja**	**2.85**	**57**	P	**Pn**	**14 52 59.6**	**-0.2**
SRBI				S	**Sn**	**14 53 34.4**	**+1.5**
TWSI	**Taliwang, Sumb**	**4.14**	**78**	P	**Pn**	**14 53 19.3**	**+1.8**
TWSI				S	**Sn**	**14 54 06.3**	**+1.6**
WRA	**Warramunga Arr**	**23.18**	**119**	P	**P**	**14 57 19.9**	**-0.6**
	0.5nm,0.9s,baz=291,slow=11,SNR=5.4						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**24.51**	**127**	P	**P**	**14 57 33.1**	**0.0**
	1.2nm,0.7s,baz=305,slow=8.8,SNR=20						
	1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.09**	**334**	LR	LR	15 13 16.2	
	comp=Z,87nm,18.2s,baz=245,slow=41						
SONM	**Songino Array**	**57.51**	**355**	P	**P**	**15 02 01.3**	**-1.3**
	0.4nm,0.5s,baz=187,slow=5.8,SNR=1.9						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**62.44**	**337**	P	**P**	**15 02 34.8**	**-1.6**
	0.5nm,0.5s,baz=152,slow=7.1,SNR=7.8						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**67.64**	**343**	P	P	15 03 05.7	-4.2
	0.5nm,0.4s,baz=145,slow=5.3,SNR=2.6						
	0.5nm,0.4s						

IDC 23 14:55:01.5±2.9, 9°.74S×112°.46E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=150.3km s-min=26.6km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.43**	**118**	P	P	15 00 12.6	0.0
	0.3nm,0.6s,baz=292,slow=11,SNR=9.1						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**24.72**	**127**	P	P	15 00 24.7	-0.1
	0.5nm,0.8s,baz=302,slow=9.3,SNR=4.4						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**62.39**	**337**	P	P	15 05 26.2	0.0
	0.3nm,0.4s,baz=144,slow=7.8,SNR=6.8						
	0.3nm,0.4s						

IDC 23 14:57:48.6±3.2, 9°.90S×112°.27E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=174.0km s-min=24.4km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.52**	**118**	P	P	15 03 00.5	-0.1
	0.3nm,0.7s,baz=290,slow=11,SNR=2.4						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**24.78**	**126**	P	P	15 03 12.5	+0.1
	0.6nm,0.9s,baz=303,slow=9.5,SNR=5.5						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**62.46**	**337**	P	P	15 08 14.4	+0.7
	0.4nm,0.4s,baz=153,slow=7.5,SNR=8.4						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**67.72**	**343**	P	P	15 08 46.6	-1.1
	0.3nm,0.4s,baz=144,slow=6.2,SNR=1.7						
	0.3nm,0.4s						

*TEH **23** 15:00:19.3, 34°.65N×46°.19E, h10km±77km, ML2.5*
*ISN **23** 15:00:19.7±1.2, 34°.65N×46°.26E, h30km±23km, ML2.4*

ISC 23 15:00:19.5±1.5, 34°.64N±0°.05×46°.18E±0°.06, h7km±17km, n8, σ0§60/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.18**	**70**	Pg	**Pg**	**15 00 23.3**	**+0.1**
IGHG	**Ghaleghazi**	**0.44**	**134**	Pg	**Pg**	**15 00 27.9**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.57**	**204**	Pg	**Pg**	**15 00 30.8**	**+0.3**
ILIN	**Lien**	**0.70**	**66**	Pg	**Pg**	**15 00 33.0**	**-0.1**
ILBA	**Ilam Banvizeh**	**1.01**	**179**	Pg	**Pb**	**15 00 38.8**	**-0.6**
IBDR	**Badra**	**1.54**	**188**	*e*Pg	**Pn**	**15 00 47.0**	**-0.4**
	baz=10.0						
IBDR				*e*Sg	**Sb**	**15 01 09.0**	**+0.9**
IBDR				AML	AML	15 01 15.0	
	comp=E,68nm,0.4s						
IBDR				AML	AML	15 01 15.6	
	comp=N,55nm,0.7s						
IKRK	**Kirkuk**	**1.69**	**297**	*e*Pn	**Pn**	**15 00 50.0**	**+0.4**
IKRK				*e*Sn	**Sb**	**15 01 12.0**	**-0.6**
IKFM	**Kafar-mosalman**	**1.77**	**128**	Pg	**Pb**	**15 00 52.6**	**+0.3**

*IDC **23** 15:11:35.4±7.4, 19°.56S×178°.02W, h490km±87km, mb2.9/7, mbtmp3.8/8, Error ellipse: s-maj=30.7km s-min=21.6km az=53.0*
*NEIC **23** 15:11:43.0±3.0, 19°.6S±0°.2×177°.9W±0°.2, h585km±12km, mb4.4/13, Error ellipse: s-maj=27.7km s-min=21.6km az=143.0*

ISC 23 15:11:41.1±0.6, 19°.8S±0°.1×177°.9W±0°.1, h550km, n29, σ1§64/28, mb4.1/15, 4C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.38**	**298**	P	**P**	**15 13 10.5**	**+4.5**
AFI	**Afiamalu**	**8.29**	**46**	P	**P**	**15 13 43.4**	**+1.4**
PINNC	**Pines Island,**	**13.96**	**256**	P	**P**	**15 14 39.9**	**+0.1**
URZ	**Urewera**	**18.87**	**192**	P	**P**	**15 15 26.1**	**-0.6**
	2.8nm,0.3s,baz=351,slow=2.7,SNR=8.0						
BKZ	**Black Stump Fm**	**19.87**	**193**	P	**P**	**15 15 35.8**	**-0.1**
BKZ				IAmb	IAmb	15 16 15.1	
	comp=Z,33nm,1.5s						
MRZ	**Mangatainoka R**	**21.50**	**194**	P	**P**	**15 15 50.6**	**+0.1**
THZ	**Tophouse**	**23.22**	**198**	P	**P**	**15 16 05.4**	**-0.6**
KHZ	**Kahutara**	**23.66**	**196**	P	**P**	**15 16 09.6**	**-0.1**
LTZ	**Lake Taylor**	**24.34**	**198**	P	**P**	**15 16 14.8**	**-1.1**
LTZ				IAmb	IAmb	15 16 23.8	
	comp=Z,35nm,1.4s						
AS31	**Alice Springs**	**44.78**	**256**	P	**P**	**15 19 04.6**	**-1.9**
ASAR	**Alice Springs**	**44.78**	**256**	P	**P**	**15 19 04.7**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=85,slow=7.5,SNR=14						
	comp=Z,0.4nm,0.4s						
WRA	**Warramunga Arr**	**44.80**	**261**	P	**P**	**15 19 04.1**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=97,slow=7.4,SNR=15						
	comp=Z,0.2nm,0.3s						
SBA	**Scott Base**	**58.54**	**184**	P	**P**	**15 20 46.8**	**+2.2**
VNDA	**Vanda**	**58.58**	**185**	P	**P**	**15 20 46.4**	**+1.5**
VNDA	**Vanda**	**58.58**	**185**	P	**P**	**15 20 46.2**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=358,slow=5.2,SNR=7.3						
	comp=Z,0.6nm,0.6s						
QSPA	**South Pole Qui**	**70.23**	**180**	P	**P**	**15 21 59.5**	**+0.6**
QSPA				IAmb	IAmb	15 22 00.1	
	comp=Z,4.2nm,0.7s						
QSPA	**South Pole Qui**	**70.23**	**180**	P	**P**	**15 21 59.6**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=340,slow=0.3,SNR=29						
	comp=Z,4.2nm,0.7s						
ADK	**Adak**	**71.41**	**1**	P	**P**	**15 22 02.7**	**-3.0**
ADK				IAmb	IAmb	15 22 43.8	
	comp=Z,40nm,1.4s						
SMAI	**San Martin Ant**	**79.19**	**159**	P	**P**	**15 22 50.0**	**+1.1**
SMAI				IAmb	IAmb	15 22 52.5	
	comp=Z,26nm,1.3s						
BELA	**Belgrano 2**	**80.20**	**173**	P	**P**	**15 22 53.3**	**-0.7**
BELA				IAmb	IAmb	15 22 54.4	
	comp=Z,3.3nm,1.1s						
NVAR	**Mina Array Bea**	**80.47**	**43**	P	**P**	**15 22 55.8**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=224,slow=7.3,SNR=2.8						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**86.60**	**57**	P	**P**	**15 23 27.4**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=211,slow=3.2,SNR=1.9						
	comp=Z,0.1nm,0.5s						
ELIB	**Princess Elisa**	**87.32**	**186**	*d*P	**P**	**15 23 28.5**	**-1.0**
	comp=Z,2.9nm,0.7s						
TROLL	**Troll, Antarti**	**88.40**	**180**	⇑P	**P**	**15 23 33.8**	**-0.7**
	comp=Z,82nm,0.6s						
PDAR	**Pinedale Array**	**88.40**	**43**	P	**P**	**15 23 33.2**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=252,slow=1.8,SNR=2.6						
	comp=Z,0.3nm,0.7s						
SNAA	**Sanae**	**88.67**	**178**	P	**P**	**15 23 34.4**	**-1.3**
SNAA				IAmb	IAmb	15 23 39.8	
	comp=Z,6.5nm,1.5s						
SNAA	**Sanae**	**88.67**	**178**	⇑P	P	15 23 33.6	-2.1
	comp=Z,16nm,0.8s						
VNA3	**Neumayer Olymp**	**88.80**	**176**	⇑P	**P**	**15 23 34.9**	**-1.4**
	comp=Z,5.4nm,0.6s						
VNA2	**Neumayer--Watz**	**89.24**	**177**	⇑P	**P**	**15 23 37.7**	**-0.6**
	comp=Z,4.6nm,0.6s,baz=202,slow=4.8						

*TEH **23** 15:13:32.3, 34°.65N×46°.27E, h10km±69km, ML2.5*
*ISN **23** 15:13:33.2±1.4, 34°.65N×46°.26E, h24km±26km, ML2.5*

ISC 23 15:13:32.4±1.1, 34°.64N±0°.05×46°.27E±0°.06, h10km, n7, σ0§36/9, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.11**	**58**	Pg	**Pg**	**15 13 35.7**	**+0.3**
IGHG	**Ghaleghazi**	**0.40**	**142**	Pg	**Pg**	**15 13 40.9**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.60**	**210**	Pg	**Pg**	**15 13 44.6**	**+0.4**
ILIN	**Lien**	**0.63**	**64**	Pg	**Pg**	**15 13 44.7**	**0.0**
ILBA	**Ilam Banvizeh**	**1.01**	**183**	Pg	**Pg**	**15 13 51.8**	**-0.1**
IBDR	**Badra**	**1.55**	**191**	*e*Pg	**Pb**	**15 14 01.0**	**-0.2**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**15 14 22.0**	**-0.3**
IBDR				AML	AML	15 14 28.9	
	comp=E,7.7nm,0.9s						
IBDR				AML	AML	15 14 29.5	
	comp=N,6.5nm,0.7s						
IKRK	**Kirkuk**	**1.76**	**296**	*e*Pn	**Pn**	**15 14 03.0**	**0.0**
IKRK				Sn	**Sb**	**15 14 27.0**	**+0.1**

*TEH **23** 15:39:26.2, 36°.12N×53°.49E, h9km±22km, ML3.5*

ISC 23 15:39:26.8±0.8, 36°.13N±0°.04×53°.50E±0°.03, h10km, n35, σ1§29/39, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**0.46**	**36**	Pg	**Pg**	**15 39 35.2**	**-0.8**
IGLO				Sg	**Sb**	**15 39 44.0**	**-0.3**
IALA	**Alasht**	**0.56**	**266**	Pg	**Pg**	**15 39 37.2**	**-0.5**
IALA				Sg	**Sb**	**15 39 46.6**	**-0.4**
IANJ	**Anjilo**	**0.74**	**152**	Pg	**Pg**	**15 39 40.3**	**-0.8**
IFIR	**Firoozkooh**	**0.77**	**232**	Pg	**Pg**	**15 39 40.6**	**-1.1**
ILAS	**Lasjerd**	**0.86**	**211**	Pg	**Pg**	**15 39 42.6**	**-0.8**
IPRN	**Peran**	**0.94**	**277**	Pg	**Pb**	**15 39 44.6**	**-0.8**
IDMV	**Damavand**	**1.31**	**246**	Pg	**Pb**	**15 39 50.8**	**-0.9**
MZPU	**Pul - Mazandar**	**1.59**	**282**	Pg	**Pb**	**15 39 55.7**	**-0.8**
TEHA	**Amirabad Tehra**	**1.75**	**258**	Pg	**Pb**	**15 39 58.6**	**-0.6**
IVRN	**Varamin**	**1.83**	**233**	Pn	**Pb**	**15 39 59.8**	**-0.7**
IMND	**Minoodasht**	**1.91**	**53**	Pn	**Pb**	**15 40 00.3**	**-1.4**
IHSB	**Hasanabad**	**1.93**	**250**	Pn	**Pb**	**15 40 01.5**	**-0.7**
KLST	**Kelardasht - M**	**2.01**	**282**	Pn	**Pb**	**15 40 02.6**	**-1.0**
ISFB	**Sefidab**	**2.05**	**211**	Pn	**Pb**	**15 40 02.8**	**-1.3**
IQOM	**Qom**	**2.36**	**238**	Pn	**Pn**	**15 40 06.7**	**+0.9**
MRVT	**Maraveh tapeh**	**2.58**	**53**	Pn	**Pn**	**15 40 10.2**	**+1.5**
ANAR	**Anarak**	**2.94**	**176**	Pn	**Pn**	**15 40 15.3**	**+1.6**
QABG	**Abgarm-Qazvin**	**3.20**	**264**	Pn	**Pn**	**15 40 18.8**	**+1.4**
IKLH	**Kolahrood**	**3.21**	**210**	Pn	**Pn**	**15 40 19.2**	**+1.6**
SBZV	**Sabzevar**	**3.34**	**84**	Pn	**Pn**	**15 40 21.1**	**+1.8**
TNSJ	**Nastanj**	**3.34**	**129**	Pn	**Pn**	**15 40 21.2**	**+1.9**
IZEF	**Zefreh**	**3.36**	**197**	Pn	**Pn**	**15 40 21.0**	**+1.3**
TKDS	**Koohdasht(Taba**	**3.89**	**129**	Pn	**Pn**	**15 40 28.2**	**+1.3**
IGAR	**Garneh**	**3.90**	**198**	Pn	**Pn**	**15 40 28.7**	**+1.6**
TPRV	**Parvadeh(Tabas**	**4.06**	**139**	Pn	**Pn**	**15 40 31.3**	**+2.3**
GAS1	**Astara - Iran**	**4.35**	**303**	Pn	**Pn**	**15 40 33.8**	**+0.9**
IRAM	**Ramesheh**	**4.40**	**192**	Pn	**Pn**	**15 40 36.3**	**+2.4**
IKRD	**Kardeh**	**4.89**	**81**	Pn	**Pn**	**15 40 42.4**	**+1.6**
ISRB	**Sarab**	**4.97**	**292**	Pn	**Pn**	**15 40 43.4**	**+1.8**
GRMI	**Germi**	**5.20**	**303**	Pn	**Pn**	**15 40 45.8**	**+1.1**
VSHL	**Vashlovani**	**7.53**	**315**	P	**Pn**	**15 41 17.9**	**+1.1**
VSHL				S	**Sn**	**15 42 41.6**	**-0.6**
LGD	**Lagodekhi**	**8.02**	**317**	P	**Pn**	**15 41 24.6**	**+1.1**
LGD				S	**Sn**	**15 42 54.0**	**-0.2**
DGRG	**David-gareji**	**8.28**	**312**	P	**Pn**	**15 41 28.2**	**+1.3**
CHRG	**Chargali**	**9.09**	**316**	P	**Pn**	**15 41 38.5**	**+0.4**
SHTL	**Shatili**	**9.18**	**318**	P	**Pn**	**15 41 40.6**	**+1.3**

IGQ 23 15:52:49.8±1.2, 4°S±4°.×8°1W±°, h4km, M4.3/16, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAMO	**ALAMOR**	**0.96**	**108**	P	Pb	15 53 09.2	+0.1
LAMO				S	Sg	15 53 20.0	-0.7
ISPG	**Isla Puna-Puer**	**1.06**	**46**	P	Pb	15 53 11.1	+0.2
ISPG				S	Sb	15 53 25.6	+0.4
MCRA	**Macar, Loja**	**1.17**	**124**	P	Pg	15 53 12.0	-0.3
MCRA				S	Sg	15 53 25.2	-2.3
MORR	**Playas El Morr**	**1.22**	**29**	P	Pg	15 53 12.2	-1.1
MORR				S	Sg	15 53 26.0	-3.1
PCRA	**Pucara 2**	**1.52**	**71**	P	Pn	15 53 16.7	-1.4
SALI	**Salinas**	**1.52**	**358**	P	Pn	15 53 17.2	-0.6
SALI				S	Sn	15 53 34.4	-3.7
GONZ	**Gonzanam**	**1.62**	**109**	P	Pn	15 53 18.7	-0.8
AGUAY	**Guayaquil**	**1.92**	**31**	P	Pn	15 53 21.0	-2.3
MILO	**Milagro-Astudi**	**1.98**	**44**	P	Pn	15 53 23.6	-0.6
ZUMB	**Zumba**	**2.12**	**123**	P	Pn	15 53 26.9	+0.7
PPLP	**Puerto Lpez**	**2.16**	**4**	P	Pn	15 53 25.6	-1.1
BOSC	**San Juan Bosco**	**2.50**	**77**	P	Pn	15 53 30.9	-0.5
CHSH	**Refugio Sur-Vo**	**3.02**	**43**	P	Pn	15 53 37.6	-1.4
TAMH	**Tambohuasha Ch**	**3.05**	**45**	P	Pn	15 53 38.2	-1.1
PORT	**Chimborazo Vol**	**3.11**	**44**	P	Pn	15 53 39.2	-1.0
BMAS	**Trigal station**	**3.29**	**48**	P	Pn	15 53 41.5	-1.1
BBIL	**Ulba Tungurahu**	**3.32**	**47**	P	Pn	15 53 43.8	+0.9
BULB	**Ulba Tungurahu**	**3.39**	**48**	P	Pn	15 53 43.4	-0.5
FLF1	**Flavio Alfaro-**	**3.51**	**18**	P	Pn	15 53 42.4	-2.8
BRRN	**Barrancas-Volc**	**3.81**	**40**	P	Pn	15 53 50.4	+0.6
CAMI	**Rancho Maria**	**3.87**	**39**	P	Pn	15 53 50.9	+0.3
BNAS	**Cotopaxi Volca**	**3.89**	**39**	P	Pn	15 53 50.8	-0.1
BTAM	**Cotopaxi Volca**	**3.94**	**40**	P	Pn	15 53 51.8	+0.1
BVC2	**Cotopaxi Volca**	**3.95**	**40**	P	Pn	15 53 51.9	+0.1
GGPT	**Toaza - Volcan**	**4.17**	**34**	P	Pn	15 53 54.7	+0.1
PINO	**Pino**	**4.23**	**33**	P	Pn	15 53 55.3	-0.4
OTAV	**Otavalo**	**4.64**	**32**	P	Pn	15 54 00.6	-0.6
CUSE	**Cuicocha Este**	**4.73**	**32**	P	Pn	15 54 03.2	+0.8

*TEH **23** 16:00:21.6, 34°.60N×46°.23E, h7km±76km, ML3.4*
*ISN **23** 16:00:38.5±0.8, 34°.66N×46°.28E, h25km±20km, ML3.8*

ISC 23 16:00:21.4±1.3, 34°.61N±0°.04×46°.23E±0°.04, h14km±14km, n16, σ0§38/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.16**	**57**	Pg	**Pg**	**16 00 25.5**	**-0.1**
IGHG	**Ghaleghazi**	**0.40**	**135**	Pg	**Pb**	**16 00 30.1**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.54**	**259**	Pg	**Pg**	**16 00 32.1**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.56**	**208**	Pg	**Pg**	**16 00 32.4**	**-0.1**
ILIN	**Lien**	**0.68**	**63**	Pg	**Pg**	**16 00 34.5**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.75**	**116**	Pg	**Pb**	**16 00 36.6**	**+0.2**
ILBA	**Ilam Banvizeh**	**0.99**	**181**	Pg	**Pg**	**16 00 40.6**	**+0.1**
SNQR	**Sonqor, Kerman**	**1.18**	**78**	Pg	**Pb**	**16 00 44.4**	**+0.6**
IBZA	**Bozab**	**1.36**	**96**	Pg	**Pb**	**16 00 47.3**	**+0.5**
IBDR	**Badra**	**1.52**	**189**	*e*Pg	Pg	16 01 07.0	+16
IBDR				*e*Sg	Sg	16 01 27.0	+17
IBDR				AML	AML	16 01 33.0	
	comp=E,2µm,0.4s						
IBDR				AML	AML	16 01 40.1	
	comp=N,652nm,0.6s						
SDS1	**Sardasht. Az.**	**1.65**	**339**	Pg	**Pg**	**16 00 53.0**	**-0.1**
IKFM	**Kafar-mosalman**	**1.73**	**128**	Pg	**Pg**	**16 00 54.1**	**-0.5**
IKRK	**Kirkuk**	**1.74**	**297**	*e*Pn	Pg	16 01 09.0	+14
IKRK				*e*Sn	Sg	16 01 32.0	+15
IKRK				AML	AML	16 01 36.9	
	comp=E,2µm,0.8s						
IKRK				AML	AML	16 01 37.4	
	comp=N,1µm,0.4s						
HSAM	**Samen**	**2.00**	**101**	Pn	**Pb**	**16 00 58.2**	**+0.4**
BHD	**Baghdad**	**2.04**	**229**	*e*Pn	Pg	16 01 14.5	+14
BHD				*e*Sn	Sg	16 01 40.0	+13
MAHB	**Mahabad**	**2.19**	**349**	Pn	**Pb**	**16 01 00.6**	**-0.3**

IDC 23 16:11:07.0±4.8, 47°.53N×92°.36W, h0km, mbtmp2.6/1, ML0.5/1, Error ellipse: s-maj=82.9km s-min=30.4km az=51.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.57**	**321**	Pn	Pn	16 12 02.5	-1.1
	0.1nm,0.3s,baz=144,slow=8.7,SNR=1.9						
ULM				Sn	Sn	16 12 44.2	-2.3
	0.2nm,0.3s,baz=63,slow=20,SNR=1.6						
ULM				Lg	Lg	16 12 57.3	
	0.5nm,0.3s,baz=51,slow=4.0,SNR=8.2						
	1.6nm,0.7s						
I10CA	**LAC DU BONNET**	**3.60**	**319**	I	I	16 32 10.0	
	baz=137,slow=321,SNR=3.3						
I56US	**NEWPORT INFRASI**	**6.61**	**282**	I	I	17 53 50.0	
	baz=85,slow=304,SNR=2.5						

*TEH **23** 16:14:38.2, 34°.64N×46°.30E, h10km±48km, ML2.

CPUP	Villa Florida	35.42	313	P	P	16 40 39.1 +0.1
CPUP	Villa Florida	35.42	313	P	P	16 40 39.1 +0.1
	comp=Z,1.5nm,0.5s,baz=155,slow=7.3,SNR=4.1					
	comp=Z,1.5nm,0.5s					
MT09	Talagante	35.92	289	P	P	16 40 43.7 +0.2
MT02	Curacav	36.40	290	P	P	16 40 48.1 +0.7
VA06	Catapilco	37.02	290	P	P	16 40 53.8 +1.1
VA06				IAmb	IAmb	16 40 54.4
	comp=Z,28nm,0.8s					
CO02	Combarbal	37.91	292	P	P	16 41 01.2 +0.8
AQDB	Aquidauana	40.05	320	P	P	16 41 19.2 +1.1
PB09	IPOC Station P	44.73	302	P	P	16 41 56.9 +0.4
PB01	IPOC Station P	45.49	302	P	P	16 42 03.0 +0.6
PB01				IAmb	IAmb	16 42 04.6
	comp=Z,9.1nm,0.7s					
PTLB	Pontes e Lacer	45.93	318	P	P	16 42 06.1 +0.3
PTLB				IAmb	IAmb	16 42 07.1
	comp=Z,6.4nm,0.9s					
HMBC	Humberstone	46.34	302	P	P	16 42 09.1 0.0
GO01	Chusmiza	46.53	304	P	P	16 42 11.9 +0.9
GO01				IAmb	IAmb	16 42 13.4
	comp=Z,9.3nm,0.7s					
VNDA	Vanda	47.23	183	P	P	16 42 15.9 +0.6
VNDA				IAmb	IAmb	16 43 10.4
	comp=Z,12nm,1.9s					
VNDA	Vanda	47.23	183	P	P	16 42 15.5 +0.2
	comp=Z,0.4nm,0.6s,baz=213,slow=4.8,SNR=2.4					
	comp=Z,0.4nm,0.6s					
H10N1	ASCENSION HYDR	48.81	20	T	T	17 35 00.5
	baz=190					
H10N3	ASCENSION HYDR	48.81	20	T	T	17 35 08.0
	baz=190					
H10N2	ASCENSION HYDR	48.83	20	T	T	17 35 10.4
	baz=190					
H04S2	CROZET ISLANDS	48.96	116	T	T	17 36 08.1
	baz=230					
H04S3	CROZET ISLANDS	48.97	116	T	T	17 36 12.1
	baz=230					
H04S1	CROZET ISLANDS	48.98	116	T	T	17 36 06.6
	baz=230					
SAML	Samuel	53.43	317	P	P	16 43 03.2 +0.3
ETMB	Extrema	53.87	313	P	P	16 43 05.7 -0.5
BOAV	Boa Vista	62.97	325	P	P	16 44 09.5 -0.1
BOAV				IAmb	IAmb	16 45 15.6
	comp=Z,26nm,2.0s					
TOA0	Torodi Ar. Sit	73.06	32	P	P	16 45 13.2 +0.4
TOA0				IAmb	IAmb	16 45 36.2
	comp=Z,17nm,1.9s					
TORD	Torodi Ar. Bea	73.06	32	P	P	16 45 13.3 +0.5
TORD				IAmb	IAmb	16 45 49.1
	comp=Z,8.6nm,1.8s					
TORD	Torodi Ar. Bea	73.06	32	P	P	16 45 12.8 0.0
	comp=Z,1.5nm,0.8s,baz=213,slow=6.5,SNR=9.2					
	comp=Z,1.5nm,0.8s					
ASAR	Alice Springs	100.03	164	P	Pdif	16 47 29.6 +1.4
	comp=Z,0.9nm,1.2s,baz=179,slow=4.4,SNR=1.4					
PDAR	Pinedale Array	118.92	304	PKP	PKPdf	16 52 29.8 -1.1
	comp=Z,0.2nm,0.6s,baz=111,slow=4.9,SNR=2.2					
FINES	FINESS Array B	124.32	29	PKP	PKPdf	16 52 39.7 -0.5
	comp=Z,0.8nm,0.8s,baz=122,slow=2.1,SNR=5.0					
YKA	Yellowknife Ar	134.82	319	PKP	PKPdf	16 52 59.5 -0.6
	comp=Z,0.2nm,0.4s,baz=129,slow=2.1,SNR=2.1					
KURBB	Kurchatov Arra	138.10	65	PKP	PKPdf	16 53 05.4 -1.2
	comp=Z,0.2nm,0.9s,baz=234,slow=2.9,SNR=4.3					
N30M	Aishikik Lake	143.46	310	P	PKPbc	16 53 14.1 +0.7
	baz=114					
M30M	Minto, Yukon	143.77	312	P	PKPbc	16 53 14.7 +0.4
	baz=113					
YUK4	Talbot Arm	144.10	309	P	PKPdf	16 53 16.5 -0.8
	baz=113					
G31M	Satah River	144.31	319		PKPbc	16 53 16.0 +0.3
G31M	Satah River	144.31	319	P	PKPdf	16 53 16.3 -1.0
	baz=109					
J30M	Hart River	144.32	315	P	PKPdf	16 53 16.6 -0.9
	baz=111					
M29M	Somme Creek	144.44	311		PKPdf	16 53 17.5 -0.3
M29M	Somme Creek	144.44	311	P	PKPdf	16 53 17.8 0.0
	baz=112					
L29M	L29M	144.54	312		PKPdf	16 53 17.2 -0.6
L29M	L29M	144.54	312	P	PKPdf	16 53 18.1 +0.2
	baz=111					
K29M	Barlow Dome	144.55	313	P	PKPdf	16 53 18.0 0.0
	baz=111					
I30M	Mount Dempster	144.56	316	P	PKPdf	16 53 17.2 -0.7
	baz=110					
O28M	Mount Upton	144.57	308	P	PKPdf	16 53 18.4 +0.1
	baz=113					
YUK8	Steele Glacier	144.57	309	P	PKPdf	16 53 18.2 -0.1
	baz=113					
G30M	tAoh Zraii Nji	145.06	319		PKPdf	16 53 18.4 -0.3
G30M	tAoh Zraii Nji	145.06	319	P	PKPdf	16 53 19.4 +0.8
	baz=107,SNR=6.7					
EPYK	Eagle Plains	145.06	318	P	PKPdf	16 53 18.6 -0.1
	baz=108					
F30M	Barrier River	145.08	320	P	PKPdf	16 53 18.9 +0.3
	baz=107,SNR=8.8					
I29M	Ogilvie Camp,	145.37	316		PKPdf	16 53 19.0 -0.2
I29M	Ogilvie Camp,	145.37	316	P	PKPab	16 53 20.2 +0.8
	baz=108					
H29M	Whitestone	145.66	317		PKPbc	16 53 19.6 -0.4
H29M	Whitestone	145.66	317	P	PKPab	16 53 21.4 +1.0
	baz=107					
G29M	Pine Creek	145.72	318	P	PKPab	16 53 21.1 +0.4
	baz=106,SNR=5.2					
M27K	Edge Creek, AK	145.90	310	P	PKPab	16 53 22.0 +0.4
	baz=110					
I28M	Miner Creek	146.05	316		PKPbc	16 53 21.4 0.0
I28M	Miner Creek	146.05	316	P	PKPbc	16 53 20.7 -0.7
	baz=107					
E29M	Blow River	146.06	321		PKPbc	16 53 21.0 -0.2
E29M	Blow River	146.06	321	P	PKPab	16 53 21.9 +0.1
	baz=104,SNR=9.3					
BCAR	Beaver Creek A	146.09	311		PKPbc	16 53 21.4 -0.1
EGAK	Eagle	146.35	314	P	PKPab	16 53 22.6 -0.5
	baz=107					
K27K	Chicken	146.51	313	P	PKPab	16 53 23.8 +0.1
	baz=107					
F28M	Old Crow	146.59	319	PKPdf	PKPab	16 53 23.4 -0.6
F28M	Old Crow	146.59	319	P	PKPab	16 53 23.7 -0.3
	baz=104,SNR=14					
E28M	Babbage River	146.69	321	P	PKPab	16 53 24.4 +0.1
	baz=102					
I27K	Kandik River	146.77	315	P	PKPab	16 53 23.9 -0.8
	baz=105,SNR=6.2					
H27K	Steamboat Moun	146.89	317	P	PKPab	16 53 24.8 -0.4
	baz=104,SNR=10					
G27K	Doyon Strip	147.08	318	P	PKPbc	16 53 24.7 +0.4
	baz=104					
J26L	Joseph Creek	147.27	313	PKPdf	PKPbc	16 53 24.3 -0.7
J26L	Joseph Creek	147.27	313	P	PKPab	16 53 26.0 -0.8
	baz=106,SNR=6.7					
SCRK	Sand Creek	147.31	312	P	PKPab	16 53 25.9 -1.1
	baz=106,SNR=6.9					
I26K	Coal Creek Min	147.31	315	PKPdf	PKPbc	16 53 25.2 +0.3
I26K	Coal Creek Min	147.31	315	P	PKPab	16 53 25.6 -1.2
	baz=105					
D27M	Malcolm River	147.33	322	P	PKPab	16 53 26.3 -0.6
	baz=100					
E27K	Coleen River	147.35	320	PKPdf	PKPbc	16 53 25.2 +0.2
E27K	Coleen River	147.35	320	P	PKPab	16 53 25.8 -1.2
	baz=102,SNR=7.7					
PAX	Paxson	147.66	310	P	PKPbc	16 53 24.5 -1.6
	baz=107					
G26K	Porcupine Rive	147.93	318	P	PKiKP	16 53 27.7 -0.6
	baz=102,SNR=5.7					
F26K	Sheenjek River	148.21	319	P	PKiKP	16 53 29.0 +0.1
	baz=100,SNR=8.0					
BMAR	Burnt Mountain	148.33	318		PKiKP	16 53 29.0 -0.2
C27K	Jago River	148.34	323	P	PKiKP	16 53 29.2 0.0
	baz=97					
FYU	Fort Yukon	148.42	317		PKiKP	16 53 29.3 0.0
H25L	Birch Creek	148.59	316	P	PKiKP	16 53 29.7 0.0
	baz=101					
IL03	Eielson Array	148.71	313		PKiKP	16 53 29.6 -0.5
IL31		148.72	313		PKiKP	16 53 29.5 -0.5
ILAR	Eielson Array	148.72	313		PKiKP	16 53 29.6 -0.4
ILAR	Eielson Array	148.72	313	PKPbc	PKiKP	16 53 29.3 -0.8
	comp=Z,6.6nm,0.7s,baz=122,slow=1.6,SNR=62					
F25K	Christian Rive	148.76	318	P	PKiKP	16 53 30.1 0.0
	baz=99,SNR=5.8					
G25K	Bearman Lake	148.80	317	P	PKiKP	16 53 30.2 +0.1
	baz=100,SNR=7.2					
CCB	Clear Creek Bu	149.08	313		PKiKP	16 53 30.1 -0.7
WRH	Wood River Hil	149.17	312		PKiKP	16 53 30.2 -0.8
D25K	Kavik River	149.25	322	P	PKiKP	16 53 31.6 +0.5
	baz=96					
G24K	Hadweenzic Riv	149.32	317		PKiKP	16 53 31.3 +0.1
G24K	Hadweenzic Riv	149.32	317	P	PKiKP	16 53 31.4 +0.1
	baz=99,SNR=6.2					
H24K	Noodor Dome	149.34	315	P	PKiKP	16 53 30.8 -0.6
	baz=100					
F24K	Squaw Lake	149.60	318		PKiKP	16 53 32.4 +0.6
F24K	Squaw Lake	149.60	318	P	PKiKP	16 53 32.2 +0.4
	baz=97					
NEA2	Nenana	149.61	312		PKiKP	16 53 32.0 +0.1
NEA2	Nenana	149.61	312	P	PKiKP	16 53 31.7 -0.2
	baz=101					
I23K	Minto, Yukon-K	149.83	313		PKiKP	16 53 32.0 -0.3
I23K	Minto, Yukon-K	149.83	313	P	PKiKP	16 53 32.0 -0.3
	baz=100					
E24K	Your Creek	149.89	319		PKiKP	16 53 33.0 +0.5
E24K	Your Creek	149.89	319	P	PKiKP	16 53 33.2 +0.7
	baz=96,SNR=6.8					
H23K	Yukon River	150.02	315		PKiKP	16 53 32.8 +0.1
H23K	Yukon River	150.02	315	P	PKiKP	16 53 32.2 -0.5
	baz=99					
D24K	Happy Valley	150.10	321	P	PKiKP	16 53 32.8 0.0
	baz=94					
G23K	Bananza Creek	150.33	316		PKiKP	16 53 34.1 +0.7
G23K	Bananza Creek	150.33	316	P	PKiKP	16 53 34.2 +0.9
	baz=97,SNR=9.0					
BPAW	Bear Paw Mtn.	150.33	311		PKiKP	16 53 33.6 +0.2
BPAW	Bear Paw Mtn.	150.33	311	P	PKiKP	16 53 33.4 0.0
	baz=101,SNR=6.6					
TOLK	Toolik Lake Re	150.34	320		PKiKP	16 53 33.7 +0.3
TOLK	Toolik Lake Re	150.34	320	P	PKiKP	16 53 34.0 +0.7
	baz=94,SNR=12					
MLY	Manley	150.39	313		PKiKP	16 53 33.9 +0.4
MLY	Manley	150.39	313	P	PKiKP	16 53 33.5 0.0
	baz=99					
C23K	Itkillik River	150.76	323	P	PKiKP	16 53 34.4 +0.4
	baz=91					
G22K	Bettles	150.94	317	P	PKiKP	16 53 35.9 +1.4
	baz=95					
F22K	John River	151.24	318	P	PKiKP	16 53 36.5 +1.3
	baz=94,SNR=5.8					
H21K	Melozitna Rive	151.33	314		PKiKP	16 53 36.0 +0.6
H21K	Melozitna Rive	151.33	314	P	PKiKP	16 53 35.9 +0.5
	baz=96					
D22K	Ayikyak River	151.48	321		PKiKP	16 53 36.5 +0.9
D22K	Ayikyak River	151.48	321	P	PKiKP	16 53 36.7 +1.1
	baz=91					
G21K	Allakaket	151.69	316		PKiKP	16 53 36.8 +0.7
G21K	Allakaket	151.69	316	P	PKiKP	16 53 36.9 +0.7
	baz=94					
F21K	Alatna River	151.73	317	P	PKiKP	16 53 37.2 +1.0
	baz=93					
IMAR	Indian Mountai	151.75	314		PKiKP	16 53 37.2 +0.9
SONM	Songino Array	151.91	87	PKPbc	PKPbc	16 53 36.8 -0.2
	comp=Z,1.0nm,0.5s,baz=245,slow=1.4,SNR=5.8					
E21K	Killik River	151.95	320	P	PKiKP	16 53 36.4 -0.2
	baz=90					
B21K	Ikpikpuk River	152.16	322	P	PKiKP	16 53 38.3 +1.4
	baz=88					
H20K	Anotleneega Mo	152.17	313	P	PKiKP	16 53 38.2 +1.0
	baz=95					
E20K	Nigu River	152.77	319	P	PKiKP	16 53 39.1 +0.7
	baz=89					
H19K	Roundabout Mou	152.83	313	P	PKiKP	16 53 39.1 +0.7
	baz=94					
G19K	Purcell Mounta	153.12	315		PKiKP	16 53 40.1 +1.1
G19K	Purcell Mounta	153.12	315	P	PKiKP	16 53 40.5 +1.5
	baz=92					

RSNC 23 16:36:34.1±0.0, 8°N±2°×7°7W±°, h17km±3km, M2.3, mb4.1, ML2.3, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APAC	Apartado, Choc	0.59	56	P	Pg	16 36 44.3	-1.4
APAC				S	Sg	16 36 52.6	-1.0
DBBC	Dabeiba	1.01	123	P	Pb	16 36 51.3	-2.0
DBBC				S	Sb	16 37 05.2	-1.2
CAPC	Capurgana	1.09	345	P	Pb	16 36 52.9	-1.7
CAPC				S	Sb	16 37 06.8	-1.8
LCBC	Los crdobas,	1.46	28	P	Pn	16 36 58.8	-0.8
LCBC				S	Sn	16 37 18.2	-0.1
UREC	San Jos de Ur	1.53	83	P	Pn	16 36 57.2	-3.5
UREC				S	Sn	16 37 18.2	-2.1
ZARC	Zaragoza, Cauc	2.19	92	P	Pn	16 37 09.6	-0.2
ZARC				S	Sn	16 37 32.2	-4.4
PTBC	PUERTO BERRIO,	2.79	111	P	Pn	16 37 17.4	-0.6
PTBC				S	Sn	16 37 49.8	-1.5
GUY2C	Guyana, Caldas	2.88	144	P	Pn	16 37 20.4	+0.7
GUY2C				S	Sn	16 37 56.1	+1.9
NORC	Norcasia	2.96	132	P	Pn	16 37 21.2	+0.8
SJCC	San Jacinto, C	2.97	39	P	Pn	16 37 18.9	-1.7
SJCC				S	Sn	16 37 51.5	-4.4
SPBC	San Pablo de B	3.54	122	P	Pn	16 37 28.8	+0.4
YOTC	Yotoco, Valle	3.63	169	P	Pn	16 37 27.3	-2.5
YOTC				S	Sn	16 38 07.8	-4.6
CRJC	Cerrejon, Guaj	5.37	50	P	Pn	16 37 52.6	-1.0

*WEL **23** 17:20:00.7, 38°S±25°×17°8E±1°3, h47km±15km, M2.4/20, ML2.0/12, MLv2.4/20, Error ellipse: s-maj=0.0km s-min=0.0km az=169.2*

ISC 23 17:19:58.3±2.0, 37°4S±0°1×177°97E±0°06, h50km, n49, σ1°85/48, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.30	116	P	Pn	17 20 08.8	+1.3
MXZ	Matakaoa Point	0.30	116	P	Pn	17 20 09.1	+1.7
HAZ	Te Kaha	0.36	204	P	Pn	17 20 09.3	+1.3
PKGZ	Pakihiroa	0.45	168	P	Pn	17 20 09.0	0.0
WMGZ	Waiomatatini S	0.53	138	P	Pn	17 20 08.2	-1.7
RUGZ	Raukumara Rang	0.58	203	P	Pn	17 20 12.2	+1.5
PUZ	Puketiti	0.68	160	P	Pn	17 20 10.3	-1.6
TWGZ	Tauwhareparae	0.75	179	P	Pn	17 20 18.4	+5.6
MWZ	Matawai	0.97	201	P	Pn	17 20 15.9	+0.2
TKGZ	Te Karaka	1.01	185	P	Pn	17 20 17.6	+1.4
CNGZ	Carnagh Statio	1.07	170	P	Pn	17 20 18.3	+1.3
URZ	Urewera	1.07	219	P	Pn	17 20 20.6	+3.6
URZ	Urewera	1.07	219	P	Pn	17 20 17.4	+0.4
RAGZ	Rawiri	1.15	202	P	Pn	17 20 18.3	+0.1
MARZ	Manawahe	1.17	241	P	Pn	17 20 21.6	+3.3
RIGZ	Rimuhau	1.28	187	P	Pn	17 20 21.6	+1.6
LIRZ	Lichensteins R	1.38	245	P	Pn	17 20 25.2	+4.0
MUGZ	Murupara	1.41	222	P	Pn	17 20 22.4	+0.7
RTZ	Ruatahuna	1.42	213	P	Pn	17 20 22.8	+1.0
SNGZ	Shannon Statio	1.44	200	P	Pn	17 20 21.1	-0.9
RRRZ	Republican Roa	1.46	231	P	Pn	17 20 24.6	+2.2
PRGZ	Paritu Road	1.49	182	P	Pn	17 20 26.8	+4.0
KNZ	Kokohu	1.61	189	P	Pn	17 20 26.1	+1.8
PRRZ	Plateau Road	1.64	229	P	Pn	17 20 25.8	+1.1
RAHZ	Arahi	1.64	205	P	Pn	17 20 26.0	+1.3
MTHZ	Maungataniwha	1.68	212	P	Pn	17 20 26.6	+1.3
MHGZ	Mahia Peninsul	1.72	182	P	Pn	17 20 27.7	+1.8
MRHZ	Matea Rd	1.86	221	P	Pn	17 20 28.3	+0.5
NMHZ	Naumai	1.90	208	P	Pn	17 20 29.6	+1.2
ARHZ	Aropaoanui	1.98	202	P	Pn	17 20 30.5	+1.0
BKZ	Black Stump Fm	2.09	213	P	Pn	17 20 31.5	+0.6
BKZ	Black Stump Fm	2.09	213	P	Pn	17 20 30.3	-0.6
TLZ	Tolley Road	2.12	244	P	Pn	17 20 29.8	-1.6
MCHZ	McNeill Hill	2.25	206	P	Pn	17 20 34.2	+1.2
CKHZ	Cape Kidnapper	2.33	197	P	Pn	17 20 35.7	+1.4
KWHZ	Kaweka Forest	2.33	211	P	Pn	17 20 33.9	-0.4
TMVZ	Te Maari	2.45	226	P	Pn	17 20 35.4	-0.6
NTVZ	North Tongarir	2.46	227	P	Pn	17 20 35.3	-0.8
ETVZ	East Tongariro	2.46	225	P	Pn	17 20 34.7	-1.4
OTVZ	Oturere	2.50	226	P	Pn	17 20 34.4	-2.3
KAHZ	Kahuranaki	2.51	200	P	Pn	17 20 36.3	-0.5
NNVZ	South Ngauruho	2.51	227	P	Pn	17 20 35.4	-1.4
SNVZ	South Ngauruho	2.54	225	P	Pn	17 20 35.1	-2.0
NGZ	Ngauruhoe	2.55	226	P	Pn	17 20 36.1	-1.2
TWVZ	Taurewa	2.58	230	P	Pn	17 20 35.4	-2.2
TUVZ	Tukino	2.58	224	P	Pn	17 20 35.9	-1.9
FWVZ	Far West T-bar	2.63	225	P	Pn	17 20 36.6	-2.0
HIZ	Hauiti	2.69	245	P	Pn	17 20 35.6	-3.5
BFZ	Birch Farm	3.51	202	P	Pn	17 20 47.3	-3.1

IDC 23 17:31:43.5±874.0, 55°36N×39°51E, h0km, Error ellipse: s-maj=325.6km s-min=48.9km az=137.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	1.88	318	I	I	17 43 10.0	
	0.1nm,0.8s,baz=135,slow=312,SNR=1.4						
I37NO	I37NO	16.71	334	I	I	19 14 40.0	
	baz=136,slow=321,SNR=1.3						
I26DE	FREYUNG INFRAS	17.07	258	I	I	19 11 50.0	
	baz=58,slow=337,SNR=0.4						

*JMA **23** 17:32:19.5±0.3, 22°N±1°×122°4E±0°7, h40km, MV2.9/10, FAR S OFF ISHIGAKIJIMA*

*TAP **23** 17:32:19.6, 22°23N×122°36E, h57km±1km, ML2.6, D*

ISC 23 17:32:17.3±1.4, 22°40N±0°04×122°41E±0°04, h9km±10km, n49, σ0°70/79, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	Lan-yu	0.86	243	P	Pg	17 32 34.2	+0.3
	baz=258						
LYUB				S	Sg	17 32 44.6	-0.5
	baz=258						
LAY	Lan-yu	0.87	246	P	Pg	17 32 34.0	-0.1
	baz=261						
LAY				eS	Sg	17 32 44.8	-0.7
	baz=261						
LDUT	Ludao	0.91	288	eP	Pb	17 32 35.7	+0.3
	baz=298						
LDUT				eS	Sg	17 32 46.9	+0.2
	baz=298						
EDH	Donghe	1.17	299	eP	Pg	17 32 40.0	+0.2
	baz=302						
EDH				eS	Sn	17 32 55.8	-0.3
	baz=302						
CHKT	Chengkung	1.19	306	eS	Sg	17 32 55.8	+0.1
	baz=319						
CHKH	Chenggong	1.23	310	eS	Sb	17 32 56.5	-0.2
	baz=322						
ECBN	Changbin	1.27	316	eS	Sg	17 32 58.5	+0.2
	baz=322						
LONT	Longtian	1.29	293	P	Pg	17 32 42.7	+0.6
	baz=303						
LONT				S	Sg	17 32 59.3	+0.5
	baz=303						
TWGBT	Beinan	1.30	289	P	Pg	17 32 42.6	+0.4
	baz=300						
TWGBT				S	Sb	17 32 58.9	+0.1
	baz=300						
FULB	Fuli	1.30	308	eP	Pg	17 32 42.4	+0.1
	baz=320						
FULB				eS	Sg	17 32 59.5	+0.2
	baz=320						
TWG	Pinlang	1.31	289	P	Pb	17 32 42.3	+0.2
	baz=300						
TWG				S	Sb	17 32 58.6	-0.4
	baz=300						
EHD	Haiduan	1.34	304	eS	Sg	17 33 01.0	+0.5
	baz=316						
ECL	Taimali	1.36	279	P	Pb	17 32 42.8	-0.2
	baz=286						
ECL				S	Sb	17 32 59.6	-0.9
	baz=286						
EYUL	Yuli	1.38	313	eS	Sb	17 33 01.3	+0.2
	baz=322						
TWF1	Yuli	1.40	313	eS	Sg	17 33 02.2	-0.2
	baz=323						
HGSD	Ruisui	1.42	320	eP	Pb	17 32 43.8	-0.2
	baz=333						
HGSD				S	Sn	17 33 01.2	-1.0
	baz=333						
YULB	Yu-li	1.43	314	eP	Pb	17 32 44.1	-0.1
	baz=325						
YULB				eS	Sg	17 33 03.0	-0.3
	baz=325						
EAST	Anshuo	1.45	270	eP	Pn	17 32 44.0	+0.2
	baz=276						
EHY	Hungye	1.49	318	eP	Pg	17 32 46.2	+0.2
	baz=328						
SLIU	Shizi	1.50	263	eP	Pn	17 32 44.3	-0.2
	baz=269						
ELDTW	Lidau	1.51	302	eP	Pb	17 32 45.2	-0.4
	baz=308						
ELDTW				eS	Sn	17 33 04.1	-0.5
	baz=308						
SHUL	Shoufeng	1.59	331	eP	Pb	17 32 47.1	+0.2
	baz=334						
SHUL				eS	Sb	17 33 07.3	+0.2
	baz=334						
WARBT	Fenglin Townsh	1.62	325	P	Pb	17 32 47.0	-0.4
	baz=334						
WARBT				eS	Sb	17 33 07.8	-0.2
	baz=334						
MASBT	Mashibuluo	1.66	278	P	Pb	17 32 48.0	0.0
	baz=292						
SCZT	Fangliau	1.66	269	eP	Pb	17 32 47.4	-0.7
	baz=275						
ESL	Shilin	1.67	328	eP	Pb	17 32 48.0	-0.3
	baz=340						
ESL				S	Sb	17 33 08.9	-0.6
	baz=340						
EOS4	EOS4	1.72	357	S	Sb	17 33 10.6	+0.1
	baz=359						
VWDT	VWDT	1.79	319	eP	Pb	17 32 50.4	+0.1
	baz=329						
LXIB	Xiulin Townshi	1.86	331	eP	Pb	17 32 51.0	-0.6
	baz=341						
LXIB				eS	Sn	17 33 13.2	0.0
	baz=341						
WTP	Ta-pu	1.86	297	eP	Pg	17 32 52.9	-0.1
	baz=302						
WTP				eS	Sg	17 33 17.0	-0.2
	baz=302						
TPUB	Ta-pu	1.87	299	eP	Pb	17 32 52.6	+0.8
	baz=310						
TPUB				eS	Sb	17 33 16.1	+0.8
	baz=310						
EOS3	EOS3	1.88	357	eS	Sb	17 33 15.8	+0.4
	baz=356						
CHN1	Nanshi	1.91	295	eP	Pg	17 32 53.7	-0.2
	baz=288						
CHN1				eS	Sg	17 33 19.6	+0.9
	baz=288						
NACB	Ninganchiao	1.92	337	eP	Pb	17 32 51.3	-1.2
	baz=347						
NACB				eS	Sn	17 33 13.9	-0.7
	baz=347						
WCKO	Fanlu	1.96	302	eS	Sg	17 33 20.0	-0.4
	baz=294						
TWK	Hsinying	1.97	296	eP	Pb	17 32 54.2	+0.7
	baz=287						
TWK				eS	Sg	17 33 20.1	-0.8
	baz=287						
WUSB	Renai	1.98	323	eP	Pb	17 32 53.2	-0.5
	baz=334						
WUSB				eS	Sn	17 33 16.6	+0.2
	baz=334						
ETLH	Xiulin Townshi	1.99	335	eS	Sn	17 33 17.2	+0.7
	baz=345						
CHGB	Renai	2.01	326	P	Pb	17 32 53.3	-0.9
	baz=337						
CHGB				eS	Sb	17 33 18.2	-1.2
	baz=337						
ENA	Nanau	2.11	343	eP	Pb	17 32 54.5	-1.4
	baz=345						
ENA				eS

*TEH **23** 17:51:57.9, 34.39N×45.59E, h11km±20km, ML3.3*
*ISN **23** 17:51:58.0±0.7, 34.41N×45.56E, h14km±26km, ML3.1*
ISC 23 17:51:58.6±1.0, 34.40N±0.03×45.59E±0.04, h9km±10km, n18, σ0.93/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.10	1	Pg	Pg	17 52 01.2	+0.1
GLG1	Gilan-e-Gharb	0.39	137	Pg	Pg	17 52 05.8	-0.5
IDHR	Dehrash	0.72	66	Pg	Pg	17 52 11.6	-1.0
IGHG	Ghaleghazi	0.82	95	Pg	Pg	17 52 13.7	-0.6
IGHG				Sg	Sb	17 52 26.6	+0.4
ILBA	Ilam Banvizeh	0.93	146	Pg	Pg	17 52 15.9	-0.6
KCHF	Cheshme Sefid,	1.21	96	Pg	Pb	17 52 21.2	-0.5
ILIN	Lien	1.25	65	Pg	Pb	17 52 22.0	-0.4
IBDR	Badra	1.32	167	ePg	Pg	17 52 24.0	+0.1
IBDR				eSg	Sg	17 52 42.0	+0.9
IBDR				AML	AML	17 52 47.4	
	comp=N,444nm,0.9s						
IBDR				AML	AML	17 53 05.8	
	comp=E,343nm,0.5s						
IKRK	Kirkuk	1.43	315	ePn	Pg	17 52 25.0	-1.0
IKRK				eSn	Sg	17 52 45.0	+0.5
BHD	Baghdad	1.51	222	ePn	Pb	17 52 26.0	-0.7
BHD				eSn	Sg	17 52 47.0	-0.2
SDS1	Sardasht. Az.	1.74	357	Pg	Pg	17 52 31.0	-1.0
SNQR	Sonqor, Kerman	1.74	74	Pg	Pb	17 52 30.2	-0.7
IBZA	Bozab	1.88	87	Pn	Pb	17 52 32.4	-0.9
IKFM	Kafar-mosalman	2.07	114	Pn	Pb	17 52 34.7	-1.6
MAHB	Mahabad	2.36	2	Pn	Pn	17 52 38.3	+0.7
HSAM	Samen	2.50	94	Pn	Pn	17 52 40.3	+0.6
QABG	Abgarm-Qazvin	3.53	67	Pn	Pn	17 52 54.8	+1.1
ISRB	Sarab	3.81	26	Pn	Pn	17 52 59.4	+1.8

*IDC **23** 17:52:14.1±2.3, 38.79N×142.24E, h63km±22km, mb3.1/5, mbtmp3.5/10, Error ellipse: s-maj=30.1km s-min=14.3km az=100.0*
*NIED **23** 17:52:15.1, 38.73N×141.92E, h53km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.56; $M_{\theta\theta}$1.25; $M_{\phi\phi}$-2.81; $M_{r\theta}$-1.41; $M_{\theta\phi}$0.51; $M_{\phi r}$-0.01; Fault plane solution: $M_0$2.86000×10^{14} NP1: ϕ_s319.00000°, δ60.00000°, λ39.00000°. NP2: ϕ_s207.00000°, δ57.00000°, λ144.00000°.*
*JMA **23** 17:52:15.1±0.1, 38.7N±0.2×141.9E±0.6, h53km, MV3.9/37, KINKAZAN REGION*
JMA Felt II J1 at KINKAZAN REGION .
ISC 23 17:52:13.3±1.4, 38.70N±0.06×142.1E±0.1, h54km±12km, n25, σ1.39/27, mb3.3/5, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	Kesennumamotoy	0.53	283	P	Pn	17 52 25.2	+0.1
JKMT				eS	Sn	17 52 32.0	-1.7
OFUJ	Ofunato	0.53	317	P	Pn	17 52 25.6	+0.5
OFUJ				eS	Sn	17 52 33.0	-0.7
JIO	Ouri	0.66	249	⇓P	Pn	17 52 26.9	+0.2
JIO				⇓eS	Sn	17 52 35.0	-1.5
JMK	Ichinoseki	0.76	290	P	Pn	17 52 27.8	-0.2
JMK				eS	Sn	17 52 36.7	-2.0
JOM	Ohasama	1.02	320	P	Pn	17 52 31.5	+0.2
JOM				eS	Sn	17 52 43.4	-1.2
JOU	Okura	1.20	255	⇓P	Pn	17 52 33.6	-0.2
JOU				⇓eS	Sn	17 52 47.7	-1.3
JMM	Marumori	1.34	232	⇓P	Pn	17 52 35.6	-0.1
JRG	Rokugo	1.36	301	⇓P	Pn	17 52 35.6	-0.3
JYK	Kaneyama	1.40	280	⇓P	Pn	17 52 36.0	-0.5
MJAR	Matsushiro Arr	3.79	237	P	Pn	17 53 11.0	+1.9
	9.5nm,0.7s,baz=39,slow=12,SNR=40						
ASAJ	Asahikawa	5.43	4	P	Pn	17 53 32.7	+1.1
	1.1nm,0.4s,baz=145,slow=30,SNR=2.0						
ASAJ				S	Sn	17 54 32.0	-0.6
	1.8nm,0.3s,baz=247,slow=21,SNR=1.1						
JHJ	Hachijo jima 2	5.88	200	P	Pn	17 53 38.2	+0.4
	14nm,0.3s,baz=323,slow=21,SNR=11						
JHJ				S	Sn	17 54 41.5	-2.4
	46nm,0.8s,baz=52,slow=17,SNR=2.0						
USRK	Ussuriysk Arr.	9.39	309	P	Pn	17 54 26.1	+0.3
	2.0nm,0.6s,baz=121,slow=14,SNR=3.0						
KSRS	Korea Array	11.27	268	P	Pn	17 54 55.3	+3.8
	1.0nm,0.4s,baz=77,slow=14,SNR=6.1						
H11N2	WAKE ISLAND Hy 28.56	124		T	T	18 28 34.3	
	baz=317,slow=76,SNR=164						
H11N1	WAKE ISLAND Hy 28.57	124		T	T	18 28 35.2	
	baz=317,slow=76,SNR=127						
H11N3	WAKE ISLAND Hy 28.58	124		T	T	18 28 35.7	
	baz=317,slow=76,SNR=137						
H11S1	WAKE ISLAND Hy 29.33	126		T	T	18 29 33.6	
	baz=318,slow=76,SNR=57						
H11S3	WAKE ISLAND Hy 29.34	126		T	T	18 29 33.8	
	baz=318,slow=76,SNR=74						
H11S2	WAKE ISLAND Hy 29.35	126		T	T	18 29 34.9	
	baz=318,slow=76,SNR=54						
MKAR	Makanchi Array	43.74	301	P	P	18 00 12.4	-0.7
	0.2nm,0.6s,baz=63,slow=9.9,SNR=2.3						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	45.45	307	P	P	18 00 26.4	-0.2
	0.3nm,0.3s,baz=83,slow=8.4,SNR=4.4						
	0.3nm,0.3s						
WRA	Warramunga Arr	58.78	189	P	P	18 02 06.6	+0.7
	0.5nm,0.5s,baz=4.8,slow=7.0,SNR=11						
	0.5nm,0.5s						
ASAR	Alice Springs	62.51	189	P	P	18 02 32.6	+1.4
	0.2nm,0.7s,baz=14,slow=9.3,SNR=6.3						
	0.2nm,0.7s						
PDAR	Pinedale Array	76.10	46	P	P	18 03 53.7	-1.7
	0.1nm,0.5s,baz=351,slow=5.0,SNR=1.3						
	0.1nm,0.5s						

*TEH **23** 17:56:45.5, 34.65N×46.28E, h8km±26km, ML2.5*
*ISN **23** 17:56:46.2±1.4, 34.65N×46.26E, h24km±26km, ML2.4*
ISC 23 17:56:45.4±1.2, 34.66N±0.05×46.28E±0.05, h10km±11km, n7, σ0.43/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.10	65	Pg	Pg	17 56 48.3	+0.1
IGHG	Ghaleghazi	0.41	144	Pg	Pg	17 56 53.6	+0.1
ILIN	Lien	0.62	65	Pg	Pg	17 56 57.5	+0.1
ILIN				Sg	Sb	17 57 07.2	-0.2
GLG1	Gilan-e-Gharb	0.62	210	Pg	Pg	17 56 57.8	+0.2
SNQR	Sonqor, Kerman	1.13	79	Pg	Pg	17 57 07.7	+0.6
IBDR	Badra	1.57	191	ePg	Pb	17 57 14.0	-0.6
	baz=10.0						
IBDR				eSg	Sb	17 57 35.0	+0.5
IKRK	Kirkuk	1.76	295	ePn	Pn	17 57 16.0	+0.1
IKRK				eSn	Sb	17 57 40.0	+0.1
IKRK				AML	AML	17 57 46.7	
	comp=N,53nm,0.1s						
IKRK				AML	AML	17 57 46.7	
	comp=E,48nm,0.7s						

*SNET **23** 18:20:34.6±1.3, 12.83N×88.85W, h15km±999km, ML2.5*
*CATAC **23** 18:20:37.2±0.8, 13.01N×88.73W, h36km±7km, ML2.7*
ISC 23 18:20:34.8±2.2, 12.84N±0.10×88.78W±0.05, h25km±14km, n24, σ0.55/37, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	Jucuarı¡n	0.66	52	eS	Sn	18 20 59.0	+0.9
TECO	Alcaldia de Te	0.69	360	eP	Pb	18 20 48.3	+0.1
TECO	Alcaldia de Te	0.69	360	i P	Pn	18 20 48.8	-0.1
TECO				i S	Sb	18 20 58.1	+0.7
TECO				IAML		18 21 00.4	
	comp=Z,270nm,1.0s						
TECA	Tecapa	0.70	22	eP	Pn	18 20 49.4	+0.2
TECA				eS	Sb	18 20 57.9	+0.1
TECA	Tecapa	0.70	22	eP	Pb	18 20 48.5	0.0
PACA	Pacayal	0.76	35	eP	Pn	18 20 50.5	+0.5
PACA	Pacayal	0.76	35	i P	Pn	18 20 50.5	+0.5
PACA				i S	Sn	18 21 00.9	+0.1
PACA				IAML		18 21 42.7	
	comp=Z,1μm,1.0s						
COEG	Centro de Oper	0.78	353	eP	Pn	18 20 50.3	+0.1
COEG				eS	Sb	18 20 59.8	-0.1
COEG				IAML		18 21 04.6	
	comp=Z,225nm,0.3s						
COEG	Centro de Oper	0.78	353	IAML		18 21 05.8	
	comp=Z,181nm,0.3s						
COEG	Centro de Oper	0.78	353	i P	Pn	18 20 50.9	+0.7
COEG				i S	Sb	18 21 00.2	+0.3
COEG				IAML		18 21 08.8	
	comp=Z,220nm,1.0s						
PQSS	Presa 15 de Se	0.80	15	eP	Pb	18 20 50.1	0.0
PQSS				eS	Sb	18 20 00.1	-0.5
PQSS				IAML		18 21 02.6	
	comp=Z,94nm,0.1s						
PQSS	Presa 15 de Se	0.80	15	eP	Pn	18 20 50.4	-0.1
PQSS				i P	Pn	18 20 50.5	-0.1
PQSS	Presa 15 de Se	0.80	15	i P	Pn	18 20 50.4	-0.1
PQSS				i S	Sb	18 21 01.0	+0.4
PQSS				IAML		18 21 02.5	
	comp=Z,210nm,1.0s						
LFRS	El Faro	0.82	340	eS	Sb	18 21 01.3	0.0
SCLA	Alcaldia de Sa	0.85	3	eP	Pb	18 20 51.1	+0.1
SCLA				eS	Sb	18 21 01.8	-0.3
SCLA	Alcaldia de Sa	0.85	3	eP	Pb	18 20 51.1	+0.1
LOMA	Loma Larga	0.88	334	i P	Pn	18 20 52.5	+0.8
LOMA				i S	Sb	18 21 02.9	-0.1
LOMA				IAML		18 21 04.9	
	comp=Z,220nm,1.0s						
CNCH	Conchagua	1.01	65	eP	Pb	18 20 53.4	-0.4
CNCH				eS	Sb	18 21 06.9	+0.1
CNCH	Conchagua	1.01	65	eP	Pb	18 20 53.6	-0.2
CNCH	Conchagua	1.01	65	i P	Pb	18 20 53.4	-0.4
CNCH				i S	Sb	18 21 06.2	-0.6
CNCH				IAML		18 21 13.1	
	comp=Z,160nm,1.0s						
JAYA	Jayaque - finc	1.04	321	eP	Pn	18 20 53.8	-0.1
JAYA				eS	Sb	18 21 07.3	-0.1
JAYA	Jayaque - finc	1.04	321	IAML		18 21 10.7	
	comp=Z,154nm,0.1s						
JAYA	Jayaque - finc	1.04	321	i P	Pn	18 20 55.5	+1.6
JAYA				i S	Sb	18 21 06.8	-0.6
JAYA				IAML		18 21 09.1	
	comp=Z,440nm,1.0s						
MTO3	Montecristo	1.65	340	i P	Pn	18 21 01.3	-1.0
MTO3				i S	Sn	18 21 21.5	-1.3
MTO3				IAML		18 22 24.8	
	comp=Z,37nm,1.0s						

*TIR **23** 18:20:48.7, 39.15N×20.50E, h29km±1km, Md3.5, Ml3.0*
*IDC **23** 18:20:49.2±3.6, 39.23N×21.10E, h0km, mb3.5/5, mbtmp3.5/7, ML1.8/2, Error ellipse: s-maj=68.5km s-min=25.2km az=58.0*
*ATH **23** 18:20:49.8, 39.15N×20.54E, h15km±2km, ML2.9/15, Error ellipse: s-maj=3.8km s-min=0.8km az=253.0*
*THE **23** 18:20:50.4, 39.18N×20.51E, h0km±2km, ML2.7/4, Error ellipse: s-maj=2.1km s-min=0.6km az=285.0*
ISC 23 18:20:49.7±0.9, 39.17N±0.02×20.53E±0.03, h17km±6km, n71, σ1.09/97, mb3.5/5, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	Tsoukalades, L	0.36	163	P	Pg	18 20 57.1	-0.1
TSLK				S	Sb	18 21 03.4	+0.5
	2μm,0.4s						
TSLK	Tsoukalades, L	0.36	163	P	Pg	18 20 56.9	-0.3
TSLK				S	Sg	18 21 01.6	-0.6
TSLK				AML	AML	18 21 11.6	
	comp=N,5298μm,0.4s						
TSLK				AML	AML	18 21 12.1	
	comp=E,3439μm,0.6s						
LKD2	Lefkada island	0.39	165	P	Pg	18 20 57.4	-0.5
	baz=160						
LKD2				S	Sb	18 21 04.3	+0.4
	baz=160						
LKD2				AMP			
	comp=E,4.4nm,0.2s,baz=160						
LKD2	Lefkada island	0.39	165	P	Pg	18 20 57.5	-0.3
LKD2				S	Sg	18 21 03.7	+0.4
	comp=E,2μm,0.2s						
LKD2	Lefkada island	0.39	165	P	Pg	18 20 57.3	-0.5
LKD2				S	Sg	18 21 02.8	-0.5
LKD2				AML	AML	18 21 07.7	
	comp=E,3313μm,0.3s						
LKD2				AML	AML	18 21 12.8	
	comp=N,3830μm,0.5s						
IGT	Igoumenitsa	0.39	338	P	Pg	18 20 57.6	-0.3
	baz=342						
IGT				S	Sb	18 21 04.8	+0.7
	baz=342						
IGT				AMP			
	comp=E,5.6nm,0.1s,baz=342						
IGT	Igoumenitsa	0.39	338	P	Pg	18 20 58.0	+0.1
IGT				S	Sg	18 21 03.4	0.0
	comp=E,1μm,0.2s						
IGT	Igoumenitsa	0.39	338	P	Pg	18 20 57.5	-0.4
IGT				S	Sb	18 21 04.6	+0.5
NYDR	Nydri-Lefkada	0.47	163	P	Pg	18 20 59.0	-0.2
NYDR				S	Sb	18 21 07.0	+0.8
	comp=E,1μm,0.3s						
NYDR	Nydri-Lefkada	0.47	163	P	Pg	18 20 58.5	-0.7
JAN	Janina	0.55	27	P	Pb	18 21 01.6	+0.7
JAN	Janina	0.55	27	P	Pb	18 21 01.2	+0.3
JAN				AML	AML	18 21 11.9	
	comp=E,4393μm,0.3s						
JAN				AML	AML	18 21 16.6	
	comp=N,2079μm,0.4s						
EVGI	Lefkada island	0.56	169	P	Pg	18 21 00.9	+0.1
EVGI				S	Sb	18 21 10.5	+1.9
EVGI	Lefkada island	0.56	169	P	Pg	18 20 59.8	-1.0
EVGI				S	Sg	18 21 08.0	-0.2
FSK	Fiskardo	0.71	178	P	Pg	18 21 03.6	0.0
FSK				S	Sb	18 21 14.9	+1.9
FSK	Fiskardo	0.71	178	P	Pg	18 21 02.2	-1.4
FSK				AML	AML	18 21 20.0	
	comp=N,1125μm,0.3s						
FSK				AML	AML	18 21 20.2	
	comp=E,1885μm,0.2s						
KASA	Kassiopi	0.74	322	P	Pg	18 21 04.2	0.0
KASA				AML	AML	18 21 21.4	
	comp=E,2726μm,0.3s						
KASA				AML	AML	18 21 21.8	
	comp=N,2289μm,0.5s						
SRN	Sarande	0.82	331	P	Pg	18 21 05.3	-0.4
	baz=333						
SRN				S	Sn	18 21 18.5	+0.3
	baz=333						
SRN				AMP			
	comp=N,1.9nm,0.2s,baz=333						
SRN	Sarande	0.82	331	P	Pg	18 21 05.7	0.0
DMLN	Damoulianata-K	0.94	187	P	Pn	18 21 08.5	+0.5
PVO	Paravola	0.95	125	P	Pb	18 21 07.6	-0.2
PVO				S	Sn	18 21 23.2	+1.7
PVO	Paravola	0.95	125	P	Pb	18 21 06.8	-1.0
LSK	Leskovik	0.98	3	P	Pb	18 21 08.4	+0.1
	baz=4.0						
LSK				S	Sn	18 21 23.6	+1.2
	baz=4.0						
LSK				AMP			
	comp=E,2.5nm,0.5s,baz=4.0						
LSK	Leskovik	0.98	3	P	Pn	18 21 09.1	+0.3
KPRO	Kipourio	1.02	39	P	Pb	18 21 08.7	-0.2
KPRO	Kipourio	1.02	39	P	Pb	18 21 07.9	-1.1
KPRO				AML	AML	18 21 30.0	
	comp=E,1546μm,0.3s						
KPRO				AML	AML	18 21 30.0	
	comp=N,1717μm,0.5s						
EVR	Evrytania	1.03	104	P	Pg	18 21 09.6	-0.1
EVR	Evrytania	1.03	104	P	Pb	18 21 08.7	-0.5
EVR				AML	AML	18 21 31.0	
	comp=N,823μm,0.5s						
EVR				AML	AML	18 21 32.8	
	comp=E,686μm,0.3s						
PSDA	Pessada-Kefalo	1.05	177	P	Pb	18 21 09.6	+0.2
PSDA				S	Sn	18 21 26.2	+2.3
PSDA	Pessada-Kefalo	1.05	177	P	Pb	18 21 08.9	-0.6
RTZL	Ratzakli, Kefa	1.11	170	P	Pn	18 21 11.0	+0.6
PENT	Pentalofos	1.13	25	P	Pb	18 21 10.3	-0.6
THL	Klokotos Trika	1.22	71	P	Pb	18 21 12.6	+0.3
THL				S	Sg	18 21 31.5	+2.2
THL	Klokotos Trika	1.22	71	P	Pn	18 21 11.1	-0.8
THL				AML	AML	18 21 34.2	
	comp=N,857μm,0.5s						
THL				AML	AML	18 21 34.4	
	comp=E,2063μm,0.7s						
ANX	Ano Chora	1.23	117	P	Pg	18 21 13.7	+0.2
ANX				S	Sg	18 21 32.2	+2.6
ANX	Ano Chora	1.23	117	P	Pn	18 21 11.7	-0.5
ANX				AML	AML	18 21 37.0	
	comp=N,1511μm,0.6s						
ANX				AML	AML	18 21 37.8	
	comp=E,996μm,0.5s						
MAKR	Makrakomi, Fth	1.26	97	P	Pn	18 21 12.2	-0.4
MAKR				AML	AML	18 21 35.7	
	comp=E,4185μm,0.4s						
MAKR				AML	AML	18 21 38.1	
	comp=N,2620μm,0.4s						
EFP	Efpalio	1.31	124	P	Pg	18 21 14.7	-0.3
EFP				S	Sg	18 21 35.2	+3.2
EFP	Efpalio	1.31	124	P	Pn	18 21 12.6	-0.5
EFP				AML	AML	18 21 38.4	
	comp=N,1289μm,0.6s						
EFP				AML	AML	18 21 42.0	
	comp=E,771μm,0.7s						
NEST	Nestorio	1.31	18	P	Pb	18 21 14.1	+0.2
UPR	University Cam	1.32	131	P	Pg	18 21 14.9	-0.4
RLS	Riolos of Patr	1.33	146	P	Pb	18 21 14.9	+0.7
RLS	Riolos of Patr	1.33	146	P	Pn	18 21 13.1	-0.4
RLS				AML	AML	18 21 39.8	
	comp=N,503μm,0.8s						
RLS				AML	AML	18 21 45.1	
	comp=E,453μm,0.6s						
DRO	Drossia	1.53	142	P	Pb	18 21 17.6	0.0
DRO				S	Sg	18 21 40.3	+1.2
DRO	Drossia	1.53	142	P	Pn	18 21 15.9	-0.3
DRO				AML	AML	18 21 46.8	
	comp=E,860μm,0.3s						
DRO				AML	AML	18 21 49.8	
	comp=N,903μm,0.4s						
KLV	Kalavryta, Ach	1.70	131	P	Pn	18 21 18.7	+0.1
FNA	Florina	1.74	22	P	Pb	18 21 21.3	+0.1
	baz=22						
FNA				S	Sg	18 21 44.4	-1.6
	baz=22						
FNA				AMP			
	comp=E,0.5nm,0.5s,baz=22						
FNA	Florina	1.74	22	P	Pb	18 21 21.3	+0.1
FNA				S	Sg	18 21 45.0	-0.9
FNA	Florina	1.74	22	P	Pb	18 21 20.5	-0.7
FNA				AML	AML	18 21 49.1	
	comp=N,507μm,0.4s						
FNA				AML	AML	18 21 53.1	
	comp=E,614μm,0.6s						
SCTE	Santa Cesarea	1.83	300	P	Pb	18 21 22.0	-0.7
	baz=302						
SCTE				S	Sb	18 21 46.1	+0.8
	baz=302						
GUR	Goura	1.88	130	P	Pn	18 21 20.5	-0.7
GUR				AML	AML	18 21 58.3	
	comp=E,649μm,0.5s						
GUR				AML	AML	18 21 59.8	
	comp=N,662μm,0.5s						
PUK	Puka	2.91	351	P	Pn	18 21 37.7	+2.4
	baz=352						
BCI	Bajram Curri	3.21	354	P	Pn	18 21 42.0	+2.6
	baz=355						
DBRK	Dubrovnik	3.94	334	ePn	Pn	18 21 49.6	+0.3
STON	Ston	4.27	331	ePn	Pn	18 21 54.0	+0.1
STON				Sn	Sn	18 22 41.6	-1.7
SGRT	San Giovanni R	4.47	307	P	Pn	18 21 57.7	+1.0
	baz=308						
MAKA	Makarska	4.89	328	ePn	Pn	18 22 03.3	+0.9
RICI	Ricice	5.02	331	i Pn	Pn	18 22 04.5	+0.3
RICI				Sn	Sn	18 22 59.8	-2.0
HVAR	Hvar	5.05	324	ePn	Pn	18 22 05.6	+1.0
IDI	Anoyia	5.21	137	Pn	Pn	18 22 04.5	-2.3
	comp=N,0.3nm,0.3s,baz=312,slow=14,SNR=1.5						
IDI				Sn	Sn	18 23 04.6	-1.9
	comp=N,0.9nm,0.3s,baz=16,slow=18,SNR=1.2						
	comp=N,10nm,1.0s						
KIJV	Kijevo	5.74	329	ePn	Pn	18 22 15.0	+1.0
ZIRJ	Zirje	5.79	322	ePn	Pn	18 22 14.9	+0.1
DUGI	Dugi Otok	6.33	321	ePn	Pn	18 22 22.8	+0.7
UDBI	Udbina	6.43	328	ePn	Pn	18 22 25.8	+2.2
VIRC	Vir	6.55	323	ePn	Pn	18 22 26.3	+1.1
BRTR	Keskin Array B	10.16	83	Pn	Pn	18 23 12.3	-2.5
	comp=N,0.1nm,0.3s,baz=277,slow=15,SNR=2.0						
	comp=N,0.2nm,0.5s						
HFS	Hagfors	21.43	351	P	P	18 25 38.2	+1.6
	comp=N,1.5nm,0.7s,baz=168,slow=16,SNR=2.6						
	comp=N,1.5nm,0.7s						
FINES	FINESS Array B	22.57	7	P	P	18 25 49.6	+0.8
	comp=N,0.6nm,0.6s,baz=185,slow=9.8,SNR=1.8						
	comp=N,0.6nm,0.6s						
KURBB	Kurchatov Arra	41.65	54	P	P	18 28 35.7	-1.1
	comp=N,0.1nm,0.3s,baz=282,slow=9.4,SNR=2.3						
	comp=N,0.1nm,0.3s						
MKAR	Makanchi Array	44.79	59	P	P	18 29 01.3	-1.1
	comp=N,0.4nm,0.4s,baz=280,slow=7.1,SNR=7.6						
	comp=N,0.4nm,0.4s						
ZALV	Zalesovo Beam	45.03	49	P	P	18 29 03.4	-0.7
	comp=N,1.4nm,0.4s,baz=277,slow=8.2,SNR=7.3						
	comp=N,1.4nm,0.4s						

*CNRM **23** 18:36:24.8, 36.80N×9.36W, h55km, ML1.9*
*MDD **23** 18:36:27.8±0.9, 36.83N×9.19W, h26km±4km, mb_Lg2.6/13, Error ellipse: s-maj=6.9km s-min=5.1km az=43.0*
*INMG **23** 18:36:28.7±1.2, 36.84N×9.19W, h28km±3km, ML2.1, Error ellipse: s-maj=4.3km s-min=2.6km az=82.0*
*IGIL **23** 18:36:28.5, 36.83N×9.19W, h26km, ML2.1*
*SFS **23** 18:36:28.4, 36.84N×9.18W, h41km, ML2.7/15, ML2.5/12, MLv2.2/15*
ISC 23 18:36:26.5±1.8, 36.81N±0.06×9.20W±0.07, h54km±9km, n59, σ1.12/99, 3C-2D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	0.44	43	⇑i P	Pn	18 36 37.4	+0.1
PFVI				eS	Sn	18 36 43.6	-1.4
PFVI				A	A	18 36 44.4	
	71nm,0.1s						
PFVI	Vila Bisbo	0.44	43	Pg	Pn	18 36 37.4	+0.1
PFVI	Vila Bisbo	0.44	43	P	Pn	18 36 37.4	+0.1
PFVI	Vila Bisbo	0.44	43	S	Sn	18 36 45.5	+0.5
MORF	Marmelete	0.66	41	⇓i P	Pn	18 36 40.5	+0.6
MORF				eS	Sn	18 36 49.2	-0.4
MORF				A	A	18 36 49.5	
	59nm,0.2s						
MORF	Marmelete	0.66	41	eP	Pn	18 36 40.3	+0.4
MORF				eS	Sn	18 36 48.8	-0.8
MORF				IAML		18 36 49.5	
	comp=N,107nm,0.2s						
PTEO	Sao Teotonio	0.82	27	⇓eP	Pn	18 36 42.6	+0.6
PTEO				eS	Sn	18 36 53.2	-0.1
PTEO				A	A	18 36 54.9	
	comp=N,32nm,0.2s						
PBDV	Barranco-do-Ve	1.10	67	⇑i P	Pn	18 36 46.8	+1.1
PBDV				eS	Sn	18 36 59.9	0.0
PBDV				A	A	18 37 07.9	
	comp=N,7.6nm,0.1s						
PBDV	Barranco-do-Ve	1.10	67	Pn	Pn	18 36 46.8	+1.1
PBDV				Sn	Sn	18 36 59.8	0.0
PCVE	Castro Verde	1.23	48	eP	Pn	18 36 48.7	+1.3
PCVE				eS	Sn	18 37 03.7	+0.6
PCVE				A	A	18 37 04.8	
	comp=N,8.4nm,0.1s						
PCVE	Castro Verde	1.23	48	Pn	Pn	18 36 48.7	+1.3
PCVE				Sn	Sn	18 37 03.3	+0.2
MESJ	Messejana	1.29	37	eP	Pn	18 36 49.0	+0.8
MESJ				eS	Sn	18 37 04.6	+0.2
MESJ				A	A	18

EGRO	**El Granado**	**1.55**	**62**	Pn	**Pn**	**18 36 52.4**	**+0.7**
EGRO				Sn	**Sn**	**18 37 10.4**	**-0.2**
EGRO				*i* Vmb_Lg		18 37 14.1	
PBEJ	**Beja**	**1.61**	**41**	*e*S	**Sn**	**18 37 12.1**	**-0.1**
PBEJ				A	A	18 37 20.6	
	comp=N,6.4nm,0.2s						
EVO	**Evora**	**1.96**	**28**	*e*P	**Pn**	**18 36 58.0**	**+0.7**
EVO				*e*S	**Sn**	**18 37 20.4**	**-0.3**
EVO				A	A	18 37 21.2	
	comp=N,22nm,0.1s						
EVO	**Evora**	**1.96**	**28**	Pn	**Pn**	**18 36 57.9**	**+0.7**
EVO				Sn	**Sn**	**18 37 19.3**	**-1.3**
PMAFR	**Mafra**	**2.14**	**358**	*e*P	**Pn**	**18 37 00.9**	**+1.1**
PMAFR				*e*S	**Sn**	**18 37 25.7**	**+0.5**
PMAFR				A	A	18 37 27.5	
	comp=N,9.6nm,0.2s						
PMAFR	**Mafra**	**2.14**	**358**	Pn	**Pn**	**18 37 00.9**	**+1.1**
PBAR	**Barrancos**	**2.19**	**51**	*e*P	**Pn**	**18 37 01.5**	**+1.1**
PBAR				*e*S	**Sn**	**18 37 26.3**	**-0.1**
PBAR				A	A	18 37 29.9	
	comp=N,3.3nm,0.3s						
PBAR	**Barrancos**	**2.19**	**51**	Pn	**Pn**	**18 37 01.6**	**+1.2**
PBAR				Sn	**Sn**	**18 37 25.2**	**-1.1**
EMIN	**Mina Concepcio**	**2.23**	**64**	Pn	**Pn**	**18 37 01.5**	**+0.6**
EMIN				Sn	**Sn**	**18 37 27.2**	**-0.1**
EMIN				*i* Vmb_Lg		18 37 29.7	
PMTG	**Montargil**	**2.38**	**19**	*e*P	**Pn**	**18 37 03.6**	**+0.6**
PMTG				*e*S	**Sn**	**18 37 30.1**	**-0.9**
PMTG				A	A	18 37 32.2	
	comp=N,4.7nm,0.8s						
PESTR	**Estremoz**	**2.41**	**31**	*e*S	**Sn**	**18 37 31.5**	**-0.4**
PESTR				A	A	18 37 33.0	
	comp=N,3.4nm,0.5s						
PESTR	**Estremoz**	**2.41**	**31**	Sn	**Sn**	**18 37 29.7**	**-2.2**
PESTR	**Estremoz**	**2.41**	**31**	P	**Pn**	**18 37 02.8**	**-0.7**
PESTR	**Estremoz**	**2.41**	**31**	S	**Sn**	**18 37 32.2**	**+0.3**
EBAD	**Badajoz**	**2.60**	**41**	Pn	**Pn**	**18 37 08.7**	**+1.8**
EBAD				Sn	**Sn**	**18 37 35.9**	**-0.5**
EBAD	**Badajoz**	**2.60**	**41**	Pn	**Pn**	**18 37 07.3**	**+1.2**
EBAD				Sn	**Sn**	**18 37 35.6**	**-0.8**
EBAD				*i* Vmb_Lg		18 37 37.8	
ESPR	**Espera**	**2.68**	**88**	Pn	**Pn**	**18 37 08.6**	**+1.5**
ESPR				Sn	**Sn**	**18 37 37.8**	**-0.6**
ESPR	**Espera**	**2.68**	**88**	Pn	**Pn**	**18 37 08.5**	**+1.3**
ESPR				Sn	**Sn**	**18 37 38.2**	**-0.2**
ESPR				*i* Vmb_Lg		18 37 42.3	
PSBE	**So Bento**	**2.72**	**7**	*e*P	**Pn**	**18 37 09.4**	**+1.7**
PSBE				*e*S	**Sn**	**18 37 39.3**	**0.0**
PMRV	**Marv??o**	**2.98**	**28**	*e*P	**Pn**	**18 37 11.9**	**+0.7**
PMRV				*e*S	**Sn**	**18 37 44.5**	**-1.1**
PMRV				A	A	18 37 46.6	
	comp=N,12nm,0.2s						
ECAB	**El Cabril**	**3.26**	**66**	Pn	**Pn**	**18 37 16.3**	**+1.2**
ECAB				Sn	**Sn**	**18 37 50.5**	**-2.2**
ECAB	**El Cabril**	**3.26**	**66**	Pn	**Pn**	**18 37 16.6**	**+1.5**
ECAB				Sn	**Sn**	**18 37 51.4**	**-1.3**
ECAB				*i* Vmb_Lg		18 37 54.7	
PCBR	**Castelo Branco**	**3.31**	**24**	*e*P	**Pn**	**18 37 16.7**	**+0.9**
PCBR				*e*S	**Sn**	**18 37 52.1**	**-1.8**
PCBR				A	A	18 37 54.4	
	comp=N,4.1nm,0.2s						
MTE	**Manteigas**	**3.81**	**19**	*e*P	**Pn**	**18 37 23.8**	**+1.1**
MTE				*e*S	**Sn**	**18 38 04.1**	**-2.1**
MTE				A	A	18 38 06.8	
	comp=N,5.2nm,0.2s						
EADA	**Adamuz**	**3.92**	**68**	Pn	**Pn**	**18 37 25.6**	**+1.5**
EADA				Sn	**Sn**	**18 38 06.4**	**-2.4**
EADA	**Adamuz**	**3.92**	**68**	Pn	**Pn**	**18 37 25.2**	**+1.2**
EADA				Sn	**Sn**	**18 38 07.2**	**-1.6**
EADA				*i* Vmb_Lg		18 38 10.8	
EPLA	**Plasencia**	**4.07**	**36**	Pn	**Pn**	**18 37 26.3**	**+0.1**
EPLA				Sn	**Sn**	**18 38 11.0**	**-1.4**
EPLA				*i* Vmb_Lg		18 38 12.9	
PAB	**San Pablo**	**4.70**	**53**	Pn	**Pn**	**18 37 35.8**	**+1.0**
PAB				Sn	**Sn**	**18 38 25.4**	**-2.6**
PAB				*i* Vmb_Lg		18 38 28.0	
PSIM	**Granatula de C**	**4.75**	**63**	Pn	**Pn**	**18 37 37.2**	**+1.6**
PSIM				Sn	**Sn**	**18 38 27.5**	**-1.9**
PCAB	**Cabril**	**4.97**	**10**	*e*P	Pn	18 37 31.3	-7.3
EQES	**Quesada**	**4.98**	**77**	Pn	**Pn**	**18 37 39.6**	**+0.8**
EQES				Sn	**Sn**	**18 38 34.1**	**-1.0**
EQES				*i* Vmb_Lg		18 38 35.8	
ELOB	**Lobios**	**5.12**	**10**	Pn	**Pn**	**18 37 41.8**	**+1.1**
ELOB				Sn	**Sn**	**18 38 37.3**	**-1.2**
ELOB				*i* Vmb_Lg		18 38 49.1	
MD31	**MD31**	**5.37**	**136**	P	**Pn**	**18 37 44.2**	**+0.2**
ECAL	**Calabor**	**5.47**	**20**	Pn	**Pn**	**18 37 46.1**	**+0.8**
ECAL				Sn	**Sn**	**18 38 45.1**	**-1.8**
ECAL				*i* Vmb_Lg		18 38 52.3	
MDT	**Midelt**	**5.49**	**135**	P	**Pn**	**18 37 44.9**	**-0.8**
GUD	**Guadarrama**	**5.49**	**44**	Sn	**Sn**	**18 38 45.6**	**-2.1**
GUD				*i* Vmb_Lg		18 38 57.7	
TISM	**Timmit**	**5.57**	**155**	P	**Pn**	**18 37 44.8**	**-1.9**
TIO	**Tiouine**	**6.09**	**164**	Pn	**Pn**	**18 37 54.6**	**+0.6**
OUZM	**OUZ**	**6.23**	**160**	P	**Pn**	**18 37 56.1**	**+0.2**

*IDC **23** 18:42:56.2±1.0, 37°.29N×142°.14E, h0km, mb3.7/11, mbtmp3.7/18, ML3.3/6, MS2.9/1, Error ellipse: s-maj=23.4km s-min=15.4km az=90.0*
*NIED **23** 18:43:00.9, 37°.35N×141°.88E, h45km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr-0.80; Mθθ0.52; Mφφ0.28; Mrθ4.37; Mrφ2.03; Mθφ0.94; Fault plane solution: M0 4.93000×10^14^ NP1: φs=259.00000°, δ84.00000°, λ-68.00000°. NP2: φs=4.00000°, δ22.00000°, λ-164.00000°.*
*JMA **23** 18:43:00.9±0.2, 37°.4N±0°.6×14°.2E±°, h45km±4km, MV3.6/26, E OFF FUKUSHIMA PREF*
ISC 23 18:42:59.9±0.8, 37°.31N±0°.05×141°.96E±0°.06, h24km, n37, σ1§53/35, mb3.7/11, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.86**	**274**	*i* P	**Pn**	**18 43 15.9**	**-0.7**
JFK				*e*S	**Sb**	**18 43 26.4**	**-1.0**
JMST	**Minamisoumatoc**	**0.95**	**296**	P	**Pb**	**18 43 17.0**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.95**	**258**	P	**Pb**	**18 43 17.0**	**-0.7**
ONAJ				S	**Sb**	**18 43 28.5**	**-1.3**
JIKH	**Ishinomakikobu**	**1.07**	**339**	⇓P	**Pb**	**18 43 18.8**	**-1.1**
JMM	**Marumori**	**1.08**	**301**	P	**Pb**	**18 43 19.1**	**-0.8**
JMM	**Marumori**	**1.08**	**301**	P	**Pb**	**18 43 19.1**	**-0.8**
JMM				S	**Sb**	**18 43 30.8**	**-2.8**
JIO	**Ouri**	**1.24**	**337**	⇓*i*P	**Pb**	**18 43 21.4**	**-1.3**
JIO				⇓S	**Sb**	**18 43 35.9**	**-2.4**
JOTO	**OTAMA OYAMA**	**1.31**	**282**	P	**Pb**	**18 43 23.3**	**-0.7**
MJAR	**Matsushiro Arr**	**3.10**	**257**	Pn	**Pn**	**18 43 48.7**	**+1.4**
	0.4nm,0.3s,baz=90,slow=16,SNR=17						
MJAR				Sn	**Sn**	**18 44 26.8**	**+3.2**
	0.6nm,0.3s,baz=90,slow=29,SNR=4.1						
	2.0nm,0.3s						
MAJO	**Matsushiro**	**3.10**	**257**	P	**Pb**	**18 43 51.2**	**-3.2**
JGF	**Kuroka**	**4.08**	**247**	P	Pb	18 44 05.5	-5.6
INU	**Inuyama**	**4.44**	**245**	P	Pn	18 44 09.9	+4.1
JHJ2	**Mitsune**	**4.54**	**203**	P	**Pn**	**18 44 07.8**	**+0.7**
JHJ	**Hachijo jima 2**	**4.54**	**204**	Pn	**Pn**	**18 44 07.5**	**+0.3**
	13nm,0.3s,baz=262,slow=19,SNR=20						
JHJ				Sn	**Sn**	**18 44 58.3**	**-0.9**
	17nm,0.3s,baz=235,slow=21,SNR=6.8						
	32nm,0.3s						
ASAJ	**Asahikawa**	**6.82**	**4**	Pn	**Pn**	**18 44 38.9**	**+0.5**
	1.5nm,0.3s,baz=203,slow=14,SNR=14						
ASAJ				Sn	**Sn**	**18 45 55.9**	**+0.6**
	0.5nm,0.3s,baz=62,slow=28,SNR=2.2						
	3.7nm,0.4s						
JCJ	**Chichijima**	**10.18**	**179**	Pn	Pn	18 45 18.4	-6.2
	4.4nm,0.3s,baz=5.3,slow=16,SNR=7.3						
JCJ				Sn	Sn	18 47 03.9	-14
	2.0nm,0.3s,baz=302,slow=22,SNR=1.6						
USRK	**Ussuriysk Ar.**	**10.22**	**315**	Pn	**Pn**	**18 45 26.8**	**+1.8**
	0.1nm,0.3s,baz=118,slow=15,SNR=2.7						
	0.8nm,0.5s						
KSRS	**Korea Array**	**11.17**	**275**	Pn	**Pn**	**18 45 41.3**	**+3.3**
	0.1nm,0.3s,baz=86,slow=14,SNR=2.3						
	0.4nm,0.5s						
KLR	**Kul'dur**	**14.03**	**331**	Pn	**Pn**	**18 46 18.1**	**+1.1**
	0.1nm,0.3s,baz=139,slow=19,SNR=1.4						
KLR				LR	LR	18 50 58.0	
	comp=Z,43nm,19.1s,baz=182,slow=34						
	0.2nm,0.3s						
JOW	**Kunigami**	**15.59**	**232**	Pn	**P**	**18 46 39.0**	**-3.1**
	8.8nm,1.0s,baz=93,slow=18,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**27.92**	**122**	T	T	19 18 00.5	
	baz=315,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**27.93**	**122**	T	T	19 17 60.0	
	baz=315,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**27.94**	**122**	T	T	19 17 60.0	
	baz=315,slow=75,SNR=25						
SONM	**Songino Array**	**27.99**	**303**	P	**P**	**18 48 49.9**	**+1.0**
	0.5nm,0.6s,baz=92,slow=7.6,SNR=3.6						
	0.5nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**28.65**	**124**	T	T	19 18 57.4	
	baz=316,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.65**	**124**	T	T	19 18 55.7	
	baz=316,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.66**	**124**	T	T	19 18 56.8	
	baz=316,slow=76,SNR=14						
ZALV	**Zalesovo Beam**	**42.05**	**312**	P	**P**	**18 50 49.3**	**-0.1**
	1.0nm,0.7s,baz=97,slow=12,SNR=4.4						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.34**	**302**	P	**P**	**18 51 08.5**	**+0.4**
	0.5nm,0.5s,baz=79,slow=9.4,SNR=7.1						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**46.17**	**308**	P	**P**	**18 51 23.1**	**+0.6**
	1.0nm,0.4s,baz=83,slow=8.5,SNR=7.8						
	1.0nm,0.4s						
ILAR	**Eielson Array**	**49.03**	**32**	P	**P**	**18 51 44.0**	**-0.5**
	0.3nm,0.7s,baz=245,slow=5.8,SNR=2.6						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**50.71**	**312**	P	**P**	**18 51 57.5**	**+0.1**
	0.2nm,0.3s,baz=87,slow=7.4,SNR=1.8						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**57.39**	**189**	P	**P**	**18 52 46.3**	**-0.1**
	1.3nm,0.5s,baz=6.7,slow=7.1,SNR=34						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**61.12**	**188**	P	**P**	**18 53 12.1**	**-0.1**
	0.4nm,0.6s,baz=3.0,slow=5.0,SNR=7.6						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**68.77**	**332**	P	**P**	**18 54 02.2**	**+0.6**
	0.9nm,0.9s,baz=98,slow=10.0,SNR=1.9						
	0.9nm,0.9s						
HFS	**Hagfors**	**74.02**	**336**	P	**P**	**18 54 34.2**	**+1.0**
	1.0nm,0.9s,baz=38,slow=7.5,SNR=5.4						
	1.0nm,0.9s						
NOA	**NORSAR Array B**	**74.10**	**337**	P	**P**	**18 54 34.4**	**+0.7**
	0.3nm,0.7s,baz=35,slow=7.0,SNR=1.8						
	0.3nm,0.7s						

*NNC **23** 18:57:45.0±3.5, 41°.38N×84°.04E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=30.6km s-min=17.2km az=166.0*
SOME 23 18:57:41.7, 40°.25N×81°.97E, h0km, 7C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.46**	**328**	*e*P	Pb	18 58 44.5	+0.6
	15nm,0.3s						
SHLS				*e*S	Sg	18 59 29.8	-3.0
	145nm,0.4s						
PDGK	**Podgornoye**	**3.59**	**330**	⇑Pn	Pb	18 58 47.8	+1.7
	0.9nm,0.3s						
PDGK				⇑Pg	Pg	18 58 56.0	+5.4
	2.1nm,0.3s						
PDGK				⇓Sn	Sg	18 59 34.2	-2.9
	27nm,0.4s						
PDGK				⇑Lg	Lg	18 59 46.1	
	37nm,0.8s						
UZB	**Uzynbulak**	**3.64**	**324**	*e*P	Pg	18 58 50.4	-1.1
	3.8nm,0.4s						
UZB				*e*S	Sg	18 59 39.8	+1.2
	13nm,0.2s						
SATY	**Saty**	**3.87**	**318**	*e*P	Pb	18 58 53.4	+2.5
	5.6nm,0.1s						
SATY				*e*S	Sg	18 59 45.0	-1.1
	9.5nm,0.1s						
KPKS	**Kokpek**	**4.04**	**324**	*e*P	Pb	18 58 55.6	+1.8
	3.2nm,0.1s						
KPKS				*e*S	Sg	18 59 49.0	-2.5
	29nm,0.2s						
KURS	**Kuram**	**4.30**	**320**	*e*P	Pg	18 59 02.6	-1.5
	4.3nm,0.5s						
KURS				*e*S	Sg	19 00 00.8	+0.9
	8.4nm,1.0s						
MDOK	**Medeo**	**4.69**	**310**	Pg	Pg	18 59 26.1	+14
	0.9nm,0.4s						
MDOK				Lg	Lg	19 00 37.5	
	15nm,0.6s						
ARXS	**Arharly**	**5.01**	**324**	*e*P	Pg	18 59 16.0	-1.8
	1.2nm,0.1s						
ARXS				*e*S	Sg	19 00 23.9	+1.2
	5.3nm,0.2s						
TKM2	**Tokmak 2**	**5.47**	**301**	⇑Pg	Pg	18 59 39.0	+13
	0.5nm,0.4s						
TKM2				⇑Lg	Lg	19 01 10.5	
	5.9nm,0.8s						
MK31	**Makanchi Array**	**6.55**	**2**	⇓Pn	Pn	18 59 08.1	-11
	0.1nm,0.3s,baz=163,slow=14,SNR=16						
MK31				⇑Pg	Pb	18 59 29.5	-6.9
	0.4nm,0.3s,baz=168,slow=16,SNR=4.8						
MK31				⇓Lg	Lg	19 00 43.1	
	8.4nm,0.8s,baz=168,slow=28,SNR=4.8						
MAKZ	**Makanchi**	**6.56**	**0**	Pn	Pn	18 59 07.3	-12
	0.5nm,0.5s						
MAKZ				Pg	Pb	18 59 28.4	-8.2
	0.7nm,0.6s						
MAKZ				⇑Lg	Lg	19 00 43.1	
	2.4nm,0.7s						

*IDC **23** 19:11:10.7±0.7, 18°.62S×168°.75E, h0km, mb4.3/12, mbtmp4.3/13, ML4.4/1, MS3.6/22, Error ellipse: s-maj=23.2km s-min=17.1km az=96.0*
*NOU **23** 19:11:13.0, 18°.79S×168°.81E, h0km, mb4.5/16, Vanuatu Islands*
*NEIC **23** 19:11:16.1±1.9, 18°.73S±0°.07×168°.64E±0°.08, h31km±5km, mb4.8/31, Error ellipse: s-maj=11.6km s-min=10.0km az=103.0*
ISC 23 19:11:16.3±0.4, 18°.75S±0°.05×168°.66E±0°.07, h35km, n136, σ1§20/123, mb4.8/33, MS3.7/20, 4C-11D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.42**	**213**	P	**Pn**	**19 11 53.1**	**-0.3**
LIFNC	**LIFOU**	**2.42**	**213**	Pn	**Pn**	**19 11 52.8**	**-0.6**
LIFNC				Sn	**Sn**	**19 12 18.1**	**-3.7**
MARNC	**Mare, Loyalty**	**2.78**	**192**	P	**Pn**	**19 11 57.3**	**-1.1**
YATNC	**Mamie plateau,**	**3.69**	**206**	P	**Pn**	**19 12 11.8**	**+0.9**
DZM	**Mont Dzumac**	**3.90**	**212**	*e*Pn	**Pn**	**19 12 14.7**	**+0.8**
	343nm,1.3s						
DZM				*e*Sn	**Sn**	**19 12 55.3**	**-3.3**
	553nm,1.1s						
DZM	**Mont Dzumac**	**3.90**	**212**		**Pn**	**19 12 14.0**	**+0.1**
DZM	**Mont Dzumac**	**3.90**	**212**	Pn	**Pn**	**19 12 14.0**	**+0.1**
	24nm,0.3s,baz=45,slow=19,SNR=118						
DZM				Sn	**Sn**	**19 12 57.5**	**-1.1**
	36nm,0.3s,baz=133,slow=24,SNR=10						
DZM				LR	LR	19 13 35.0	
	comp=Z,653nm,21.3s,baz=78,slow=36						
	83nm,0.4s						
NOUC	**Port Laguerre**	**4.00**	**213**	P	**Pn**	**19 12 16.4**	**+1.2**
PINNC	**Pines Island,**	**4.01**	**196**	P	**Pn**	**19 12 17.0**	**+1.7**
PINNC	**Pines Island,**	**4.01**	**196**		**Pn**	**19 12 16.0**	**+0.7**
ONTNC	**Ouen Toro**	**4.10**	**210**	P	**Pn**	**19 12 17.8**	**+1.3**
ONTNC	**Ouen Toro**	**4.10**	**210**		**Pn**	**19 12 17.4**	**+0.8**
KOUNC	**Koumac, New Ca**	**4.49**	**246**		**Pn**	**19 12 21.8**	**-0.2**
MSVF	**Nonsavu**	**8.98**	**85**	Pn	**Pn**	**19 13 23.4**	**-0.4**
HNR	**Honiara**	**12.53**	**316**	P	**Pn**	**19 14 14.3**	**+2.1**
HNR	**Honiara**	**12.53**	**316**		**Pn**	**19 14 12.1**	**-0.1**
HNR	**Honiara**	**12.53**	**316**	LR	LR	19 18 23.2	
	comp=Z,718nm,18.1s,baz=172,slow=35						
EIDS	**Eidsvold**	**17.56**	**245**		**Pn**	**19 15 18.6**	**+0.1**
ARMA	**Armidale**	**19.33**	**230**	P	**Pn**	**19 15 41.5**	**+1.4**
ARMA	**Armidale**	**19.33**	**230**	P	**Pn**	**19 15 39.3**	**-0.7**
URZ	**Urewera**	**20.79**	**161**	P	**P**	**19 15 54.9**	**+0.4**
	5.3nm,0.9s,baz=25,slow=10,SNR=2.8						
URZ				LR	LR	19 22 34.5	
	comp=Z,125nm,22.0s,baz=34,slow=33						
	5.3nm,0.9s						
CTA	**Charters Tower**	**21.17**	**263**	P	**P**	**19 15 59.0**	**+0.3**
	0.6nm,0.7s,baz=66,slow=14,SNR=5.7						
CTA				LR	LR	19 23 14.9	
	comp=Z,21nm,18.7s,baz=142,slow=34						
CTAO	**Charters Tower**	**21.17**	**263**	P	**P**	**19 16 01.6**	**+2.8**
CTAO	**Charters Tower**	**21.17**	**263**	P	**P**	**19 15 57.1**	**-1.6**
CTAO				IAmb	IAmb	19 16 06.6	
	comp=Z,22nm,0.8s						
PMG	**Port Moresby**	**22.80**	**291**	LR	LR	19 23 08.4	
	comp=Z,166nm,20.0s,baz=186,slow=31						
MTSU	**Mount Surprise**	**23.10**	**268**	P	**P**	**19 16 21.6**	**+2.3**
LTZ	**Lake Taylor**	**24.15**	**173**	P	**P**	**19 16 28.5**	**-0.7**
LTZ				IAmb	IAmb	19 16 41.4	
	comp=Z,80nm,1.8s						
CMSA	**Cobar Meteorol**	**24.32**	**234**	P	**P**	**19 16 33.4**	**+2.6**
COEN	**Coen**	**24.90**	**277**	P	**P**	**19 16 37.1**	**+0.9**
STKA	**Stephens Creek**	**27.65**	**237**	P	**P**	**19 17 03.2**	**+2.3**
STKA	**Stephens Creek**	**27.65**	**237**	P	**P**	**19 17 02.7**	**+1.8**
STKA				IAmb	IAmb	19 17 27.7	
	comp=Z,4.5nm,1.1s						
STKA	**Stephens Creek**	**27.65**	**237**	P	**P**	**19 17 02.4**	**+1.5**
	comp=Z,2.7nm,0.5s,baz=70,slow=10,SNR=13						
STKA				LR	LR	19 26 22.4	
	comp=Z,241nm,21.1s,baz=242,slow=33						
	comp=Z,2.7nm,0.5s						
RAR	**Rarotonga**	**29.75**	**100**	LR	LR	19 28 09.4	
	comp=Z,55nm,18.1s,baz=291,slow=34						
OOD	**Oodnadatta**	**31.52**	**247**	P	**P**	**19 17 37.9**	**+2.7**
WB0	**Warramunga Arr**	**32.33**	**262**	P	**P**	**19 17 41.1**	**-1.4**
WB0				IAmb	IAmb	19 18 31.3	
	comp=Z,28nm,1.8s						
WB2	**Warramunga Arr**	**32.36**	**262**	P	**P**	**19 17 40.9**	**-1.8**
WRAB	**Tennant Creek**	**32.36**	**262**	P	**P**	**19 17 41.7**	**-1.1**
WRAB				IAmb	IAmb	19 18 20.9	
	comp=Z,19nm,1.7s						
WRA	**Warramunga Arr**	**32.37**	**262**	P	**P**	**19 17 41.5**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=88,slow=8.2,SNR=14						
WRA				PcP	**PcP**	**19 20 29.8**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=98,slow=3.0,SNR=3.0						
	comp=Z,1.3nm,0.9s						
AS31	**Alice Springs**	**32.71**	**255**	P	**P**	**19 17 45.5**	**-0.4**
ASAR	**Alice Springs**	**32.72**	**255**	P	**P**	**19 17 45.5**	**-0.4**
ASAR	**Alice Springs**	**32.72**	**255**	P	**P**	**19 17 45.6**	**-0.2**
	comp=Z,8.2nm,0.6s,baz=84,slow=8.6,SNR=122						
ASAR				LR	LR	19 29 41.4	
	comp=Z,305nm,18.2s,baz=180,slow=34						
	comp=Z,8.2nm,0.6s						
MULG	**Mulgathing**	**33.38**	**243**	P	**P**	**19 17 53.6**	**+2.0**
FORT	**Forrest**	**38.56**	**244**	P	**P**	**19 18 36.2**	**+0.3**
FAKI	**Fak Fak**	**38.94**	**289**	P	**P**	**19 18 37.6**	**-1.6**
TBI	**Tubuai**	**39.26**	**104**	*e*LQ	LQ	19 27 42.0	
	comp=Z,924nm,31.2s						
TBI				*e*LR	LR	19 29 23.4	
	comp=Z,863nm,36.2s						
PPT2	**Papeete2**	**39.64**	**95**	*e*LR	LR	19 29 38.9	
	comp=Z,131nm,34.2s						
PPT2				*e*LR	LR	19 29 38.9	
	comp=Z,177nm,29.5s						
GUMO	**Guam**	**39.78**	**322**	LR	LR	19 34 25.1	
	comp=Z,32nm,21.5s,baz=155,slow=35						
FITZ	**Fitzroy Crossi**	**40.74**	**264**	P	**P**	**19 18 53.5**	**-0.7**
TOLI2	**Tolitoli**	**51.00**	**287**	P	**P**	**19 20 14.0**	**-1.2**
TOLI2				IAmb	IAmb	19 20 56.9	
	comp=Z,11nm,0.9s						
JCJ	**Chichijima**	**52.30**	**330**	P	**P**	**19 20 23.7**	**-1.0**
JCJ	**Chichijima**	**52.30**	**330**	LR	LR	19 40 52.2	
	comp=Z,26nm,21.2s,baz=328,slow=34						
JHJ	**Hachijo jima 2**	**58.49**	**332**	LR	LR	19 43 51.0	
	comp=Z,22nm,21.5s,baz=107,slow=34						
VNDA	**Vanda**	**58.90**	**182**	P	**P**	**19 21 11.7**	**+0.4**
VNDA				IAmb	IAmb	19 21 26.4	
	comp=Z,6.8nm,1.4s						
VNDA	**Vanda**	**58.90**	**182**	LR	LR	19 42 51.8	
	comp=Z,58nm,19.8s,baz=340,slow=32						
SBA	**Scott Base**	**59.15**	**180**	P	**P**	**19 21 15.2**	**+2.2**
SBA				IAmb	IAmb	19 21 34.8	
	comp=Z,15nm,1.1s						
SBA	**Scott Base**	**59.15**	**180**	P	**P**	**19 21 15.3**	**+2.2**
SBA				pP	**sP**	**19 21 26.5**	**-1.0**
CCD	**Concordia, Ant**	**61.26**	**192**	P	**P**	**19 21 28.7**	**+0.6**
CCD				pP	**pP**	**19 21 40.2**	**+1.7**
MJAR	**Matsushiro Arr**	**62.06**	**332**	P	**P**	**19 21 32.8**	**-0.7**
	comp=Z,5.2nm,0.8s,baz=162,slow=7.2,SNR=14						
	comp=Z,5.2nm,0.8s						
MAJO	**Matsushiro**	**62.06**	**332**	P	**P**	**19 21 31.6**	**-1.9**
MAJO				IAmb	IAmb	19 21 34.0	
	comp=Z,18nm,1.3s						
MAJO	**Matsushiro**	**62.06**	**332**	P	**P**	**19 21 33.0**	**-0.5**
MJB9	**Matsu-Tunnel**	**62.07**	**332**	P	**P**	**19 21 32.1**	**-1.4**
MJB9				IAmb	IAmb	19 21 35.4	
	comp=Z,17nm,1.3s						
JNU	**Nakatsue**	**62.95**	**325**	P	**P**	**19 21 38.0**	**-1.5**
JNU				IAmb	IAmb	19 21 40.6	
	comp=Z,10nm,0.9s						
JNU	**Nakatsue**	**62.95**	**325**	LR	LR	19 49 03.3	
	comp=Z,27nm,18.1s,baz=199,slow=36						
ERM	**Erimo**	**64.89**	**339**	P	**P**	**19 21 53.7**	**+1.7**
JKA	**Kamikawa-asahi**	**66.95**	**340**	P	**P**	**19 22 05.7**	**+0.4**
ASAJ	**Asahikawa**	**66.95**	**340**	LR	LR	19 47 41.0	
	comp=Z,56nm,20.3s,baz

comp=Z,187nm,0.7s
SNAA Sanae 89.62 183 P **P** **19 24 09.8 -0.4**
SNAA IAmb IAmb 19 24 25.4
comp=Z,9.3nm,1.3s
SNAA Sanae 89.62 183 ⇑P **P** **19 24 09.3 -0.9**
comp=Z,28nm,0.7s
SNAA Sanae 89.62 183 P **P** **19 24 09.6 -0.6**
comp=Z,1.0nm,0.7s,baz=197,slow=6.5,SNR=7.1
SNAA LR LR 20 02 00.4
comp=Z,72nm,19.3s,baz=97,slow=34
comp=Z,1.0nm,0.7s
ILAR Eielson Array 89.93 17 P **P** **19 24 09.4 -2.0**
comp=Z,0.6nm,0.8s,baz=242,slow=5.1,SNR=6.6
ILAR LR LR 19 57 49.9
comp=Z,43nm,19.7s,baz=199,slow=31
comp=Z,0.6nm,0.8s
VNA3 Neumayer Olymp 90.24 181 ⇑P **P** **19 24 13.2 +0.2**
comp=Z,0.1nm,0.2s
TIXI Tiksi 94.15 348 LR LR 20 02 54.2
comp=Z,28nm,19.0s,baz=170,slow=33
INK Inuvik 96.25 18 LR LR 20 03 51.4
comp=Z,42nm,19.3s,baz=179,slow=33
YKA Yellowknife Ar 100.49 27 P **Pdif** **19 24 59.3 -0.3**
comp=Z,0.5nm,0.6s,baz=253,slow=5.0,SNR=2.5
MKAR Makanchi Array 101.00 316 P **Pdif** **19 25 03.2 +0.9**
comp=Z,0.7nm,0.6s,baz=83,slow=6.7,SNR=6.1
ZALV Zalesovo Beam 101.39 323 P **Pdif** **19 25 03.2 -0.7**
comp=Z,0.5nm,0.5s,baz=97,slow=6.0,SNR=2.6
ARCES ARCESS Array B 124.45 345 PKP **PKPdf** **19 30 10.3 -0.9**
comp=Z,1.9nm,0.6s,baz=230,slow=2.2,SNR=3.2
FINES FINESS Array B 129.93 338 PKP **PKPdf** **19 30 21.4 -0.4**
comp=Z,1.4nm,0.8s,baz=349,slow=2.8,SNR=6.7
AKASG Malin Array Be 134.77 324 PKP **PKPdf** **19 30 30.7 -0.5**
comp=Z,0.5nm,0.5s,baz=59,slow=1.9,SNR=2.2
NOA NORSAR Array B 134.83 345 PKP **PKPdf** **19 30 30.6 -0.6**
comp=Z,0.5nm,0.7s,baz=37,slow=2.2,SNR=2.5
BRTR Keskin Array B 136.08 308 PKP **PKiKP** **19 30 35.2 -0.7**
comp=Z,0.6nm,0.9s,baz=92,slow=3.3,SNR=2.3
MOX Moxa 143.31 335 *e*L 20 30 13.5
comp=Z,34nm,19.0s
RONA Rosalia, Austr 143.38 328 *i*PKP PKPbc 19 30 45.4 +1.1
comp=Z,3.6nm,1.1s
CONA Conrad Observa 143.44 329 *e*PKP **PKPdf** **19 30 46.0 -1.3**
comp=Z,3.2nm,0.8s
KHC Kasperske Hory 143.64 332 *e*PKP **PKPdf** **19 30 46.0 -1.5**
ROTZ Rotzenmuhle 143.75 334 *e*PKPbc 19 30 45.4
baz=38,slow=3.4
GERES GERESS Array B 143.80 332 PKP PKPbc 19 30 45.2 -0.4
comp=Z,1.1nm,0.7s,baz=63,slow=0.9,SNR=5.6
ARSA Arzberg 144.07 328 *i*PKP **PKPdf** **19 30 47.3 -1.0**
comp=Z,4.4nm,0.9s
GRF Grafenberg Arr 144.22 335 *e*PKPbc 19 30 47.0
baz=38,slow=3.4
BUG Bochum-Univer 144.22 340 *e*L 20 33 53.0
comp=Z,33nm,21.9s
MOA Molln 144.26 330 *i*PKP **PKPdf** **19 30 47.5 -1.1**
comp=Z,5.7nm,0.9s
BIOA Bad Ischl, Aus 144.67 330 *i*PKP PKPbc 19 30 48.1 -0.2
comp=Z,6.3nm,0.8s
SOKA Soboth 144.71 328 *i*PKP PKPbc 19 30 48.1 -0.3
comp=Z,7.6nm,0.7s
TNS Taunus Mts 144.84 338 *e*PKPbc 19 30 48.9
baz=38,slow=3.4
RJOB Jochberg 145.03 331 *e*PKPbc 19 30 49.6
baz=38,slow=3.4
OBKA Obir 145.06 328 *i*PKP **PKPbc** **19 30 48.8 -0.9**
comp=Z,12nm,0.9s
KBA Koelnbreinsper 145.25 330 *i*PKP **PKPbc** **19 30 49.7 -0.6**
comp=Z,11nm,0.8s
LESA Schwarzleotal 145.31 331 *i*PKP **PKPbc** **19 30 50.1 -0.3**
comp=Z,18nm,0.7s
BTNL Ternell 145.32 340 *d*PKP **PKPab** **19 30 50.0 -0.3**
MEM Membach 145.34 340 *d*P **PKPdf** **19 30 50.2 -0.2**
FUR Furstenfeldbru 145.38 333 *e*PKPbc 19 30 50.9
baz=38,slow=3.4
MYKA Terra Mystica 145.43 329 *i*PKP **PKPbc** **19 30 50.2 -0.6**
comp=Z,10.0nm,0.7s,SNR=5.9
BSTI Sart Tilman 145.50 341 *d*PKP **PKPab** **19 30 51.0 0.0**
BCLA Clavier 145.72 341 *d*PKP **PKPdf** **19 30 50.4 -0.6**
WATA Walderalm 145.88 332 *i*PKP **PKPbc** **19 30 51.9 -0.3**
comp=Z,10.0nm,0.9s
ABTA Abfaltersbach 145.88 330 *i*PKP **PKPdf** **19 30 51.4 -0.1**
comp=Z,16nm,0.9s,SNR=7.6
WTTA Wattenberg 145.90 332 *i*PKP **PKPbc** **19 30 52.2 -0.1**
comp=Z,12nm,0.9s,SNR=5.9
BMRD Maredsous 145.99 341 *d*PKP **PKPbc** **19 30 51.8 -0.5**
WLF Walferdange 146.11 339 *d*PKP **PKPab** **19 30 52.9 -0.4**
WLF Walferdange 146.11 339 *e*PKPbc 19 30 53.3
baz=38,slow=3.4
RETA Reutte 146.12 333 *i*PKP **PKPbc** **19 30 52.8 -0.1**
comp=Z,4.5nm,0.7s
SQTA Sankt Quirin 146.13 332 *i*PKP **PKPbc** **19 30 53.0 0.0**
comp=Z,16nm,0.7s,SNR=11
DOU Dourbes 146.22 341 *d*PKP **PKPbc** **19 30 53.0 0.0**
UBR Ueberruh 146.25 334 *e*PKPbc 19 30 53.1
baz=38,slow=3.4
BFO Black Forest 146.45 336 *e*PKPbc 19 30 53.5
baz=38,slow=3.4
FETA Feichten 146.49 332 *i*PKP **PKPbc** **19 30 54.2 +0.1**
comp=Z,14nm,0.8s,SNR=8.1
DAVA Damuels 146.65 333 *e*PKP **PKPbc** **19 30 54.6 0.0**
comp=Z,11nm,0.8s,SNR=5.5
ESDC Sonseca Array 158.19 345 PKPab **PKPab** **19 31 43.1 -0.7**
comp=Z,0.5nm,0.7s,baz=21,slow=3.5,SNR=2.7
TORD Torodi Ar. Bea 166.28 248 PKP **PKPdf** **19 31 18.0 -0.7**
comp=Z,0.2nm,0.6s,baz=80,slow=6.5,SNR=1.9

*CATAC **23** 19:16:02.1±0.5, 11°.46N×86°.33W, h41km±5km, ML3.8*
*UCR **23** 19:16:02.3±0.9, 11°.55N×86°.27W, h60km±13km, MW3.7*
*SNET **23** 19:16:03.2±0.6, 11°.50N×86°.55W, h21km±8km, ML3.3*
ISC 23 19:16:03.3±1.3, 11°.55N±0°.05×86°.33W±0°.05, h61km±10km, n50, σ1s07/77, 3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RA5A7	**El Crucero**	**0.44**	**2**	*i* P	**Pn**	**19 16 14.2**	**-0.7**
RA5A7				IAML		19 16 24.2	
	comp=Z,16μm,1.0s						
RB213	**Mirador 2 Volc**	**0.46**	**20**	*i* P	**Pn**	**19 16 16.2**	**+1.2**
RB213				IAML		19 16 28.8	
	comp=Z,4μm,1.0s						
MASN	**Masaya**	**0.47**	**22**	*i* P	**Pn**	**19 16 14.7**	**-0.4**
MASN				*i* S	**Sn**	**19 16 23.9**	**+0.2**
MASN				IAML		19 16 25.4	
	comp=Z,2μm,1.0s						
ARIN	**Rivas**	**0.49**	**101**	*i* P	**Pn**	**19 16 14.1**	**-1.2**
ARIN				*i* S	**Sn**	**19 16 22.5**	**-1.5**
ARIN				IAML		19 16 23.7	
	comp=Z,6μm,1.0s						
MAS3	**Al N del Volca**	**0.49**	**18**	*i* P	**Pn**	**19 16 15.0**	**-0.4**
MAS3				*i* S	**Sn**	**19 16 24.6**	**+0.5**
MAS3				IAML		19 16 25.6	
	comp=Z,5μm,1.0s						
ENAN	**Enatrel Managu**	**0.56**	**7**	*i* P	**Pn**	**19 16 16.2**	**+0.1**
ENAN				*i* S	**Sn**	**19 16 26.7**	**+1.3**
ENAN				IAML		19 16 27.1	
	comp=Z,17μm,1.0s						
USIM	**UNAN**	**0.56**	**5**	*i* P	**Pn**	**19 16 15.9**	**-0.2**
USIM				*i* S	**Sn**	**19 16 27.0**	**+1.6**
USIM				IAML		19 16 28.7	
	comp=Z,14μm,1.0s						
RB28C	**Hialeah**	**0.57**	**5**	*i* P	**Pn**	**19 16 15.9**	**-0.3**
RB28C				IAML		19 16 28.4	
	comp=Z,7μm,1.0s						
RE6B4	**Centro civico**	**0.57**	**3**	*i* P	**Pn**	**19 16 16.5**	**+0.3**
RE6B4				IAML		19 16 27.9	
	comp=Z,8μm,1.0s						
R0529	**La Mascota**	**0.58**	**9**	*i* P	**Pn**	**19 16 16.2**	**-0.1**
R0529				IAML		19 16 27.0	
	comp=Z,5μm,1.0s						
R4DEC	**Barrio San Lui**	**0.60**	**7**	*i* P	**Pn**	**19 16 16.3**	**-0.2**
R4DEC				*i* S	**Sn**	**19 16 26.8**	**+0.7**
R4DEC				IAML		19 16 27.4	
	comp=Z,3μm,1.0s						
SAPS	**Ciudad Sandino**	**0.62**	**353**	*i* P	**Pn**	**19 16 16.5**	**-0.2**
SAPS				*i* S	**Sn**	**19 16 27.1**	**+0.6**
SAPS				IAML		19 16 29.1	
	comp=Z,6μm,1.0s						
JAPN	**AI SSO del Vol**	**0.64**	**92**	*i* P	**Pn**	**19 16 16.8**	**-0.1**
JAPN				IAML		19 16 33.6	
	comp=Z,2μm,1.0s						
APQ2	**Apoyeque**	**0.64**	**0**	*i* P	**Pn**	**19 16 16.8**	**-0.2**
APQ2				*i* S	**Sn**	**19 16 28.4**	**+1.4**
APQ2				IAML		19 16 29.2	
	comp=Z,6μm,1.0s						
COPN	**Copaltepe**	**0.68**	**338**	*i* P	**Pn**	**19 16 16.8**	**-0.6**
COPN				IAML		19 16 28.2	
	comp=Z,1μm,1.0s						
APYN	**Apoyeque**	**0.68**	**358**	*i* P	**Pn**	**19 16 17.4**	**-0.1**
APYN				*i* S	**Sn**	**19 16 27.8**	**0.0**
APYN				IAML		19 16 36.7	
	comp=Z,93nm,1.0s						
SBEN	**San Benito**	**0.80**	**19**	*i* P	**Pn**	**19 16 17.2**	**-1.7**
SBEN				IAML		19 17 02.8	
	comp=Z,5μm,1.0s						
LCRUZ	**La Cruz**	**0.83**	**124**	*e*P	**Pn**	**19 16 18.9**	**-0.3**
LCRUZ				*e*S	**Sn**	**19 16 31.0**	**0.0**
LEVN	**Ruinas Leon Vi**	**0.89**	**342**	*i* P	**Pn**	**19 16 19.7**	**-0.3**
LEVN				*i* S	**Sn**	**19 16 32.5**	**+0.2**
LEVN				IAML		19 16 38.7	
	comp=Z,2μm,1.0s						
MOM2	**El Cardon**	**0.89**	**350**	*i* P	**Pn**	**19 16 19.9**	**-0.2**
MOM2				IAML		19 16 33.6	
	comp=Z,2μm,1.0s						
MACN	**El Madrono**	**0.97**	**340**	*i* P	**Pn**	**19 16 20.8**	**-0.3**
MACN				*i* S	**Sn**	**19 16 34.3**	**+0.1**
MACN				IAML		19 16 38.5	
	comp=Z,1μm,1.0s						
CNGA	**AI SSO del Vol**	**1.01**	**339**	*i* P	**Pn**	**19 16 18.4**	**-3.2**
CNGA				IAML		19 16 41.1	
	comp=Z,2μm,1.0s						
CNGN	**Cerro Negro**	**1.01**	**339**	*e*P	**Pn**	**19 16 21.3**	**-0.3**
CNGN				*e*S	**Sn**	**19 16 35.3**	**+0.1**
CNGN				IAML		19 16 41.5	
	comp=Z,919nm,0.3s						
CNGN	**Cerro Negro**	**1.01**	**339**	*i* P	**Pn**	**19 16 21.1**	**-0.5**
CNGN				IAML		19 16 36.1	
	comp=Z,1μm,1.0s						
CNGN	**Cerro Negro**	**1.01**	**339**	*e*P	**Pn**	**19 16 21.3**	**-0.3**
CNGN				*e*S	**Sn**	**19 16 35.1**	**-0.1**
PACN	**Al O del Volca**	**1.05**	**334**	*i* P	**Pn**	**19 16 19.9**	**-2.2**
PACN				IAML		19 16 49.2	
	comp=Z,1μm,1.0s						
BOAB	**BOACO BROADBAN**	**1.10**	**36**	*i* P	**Pn**	**19 16 22.3**	**-0.5**
BOAB				IAML		19 16 22.4	
	comp=Z,1μm,1.0s						
BOAB				*i* S	**Sn**	**19 16 37.5**	**+0.3**
QUEN	**Al S del Volca**	**1.16**	**334**	*i* P	**Pn**	**19 16 22.6**	**-0.9**
QUEN				IAML		19 16 43.6	
	comp=Z,1μm,1.0s						
BRAN	**Las Pilas**	**1.16**	**359**	*i* P	Pn	19 16 16.2	-7.4
BRAN				IAML		19 16 29.4	
	comp=Z,5μm,1.0s						
ELI1	**Hacienda Flor**	**1.18**	**140**	*e*P	**Pn**	**19 16 23.2**	**-0.6**
ELI1				*e*S	**Sn**	**19 16 40.0**	**+1.0**
ACON	**Acoyapa**	**1.20**	**70**	*i* P	**Pn**	**19 16 23.0**	**-1.1**
ACON				IAML		19 16 23.4	
	comp=Z,690nm,1.0s						
ACON				*i* S	**Sn**	**19 16 38.9**	**-0.7**
ACON	**Acoyapa**	**1.20**	**70**	⇓*i*P	**Pn**	**19 16 23.2**	**-0.9**
VRLE	**La Escondida,**	**1.21**	**129**	*e*P	**Pn**	**19 16 23.0**	**-1.3**
VRLE				*e*S	**Sn**	**19 16 38.4**	**-1.5**
GPS3	**Bodega del ICE**	**1.23**	**130**	*e*P	**Pn**	**19 16 23.6**	**-0.9**
GPS3				*e*S	**Sn**	**19 16 42.8**	**+2.4**
GPS2	**Hotel Rincn d**	**1.24**	**130**	*e*P	**Pn**	**19 16 22.7**	**-2.0**
GPS2				*e*S	**Sn**	**19 16 40.0**	**-0.7**
PKGN	**Cerro Pekin**	**1.28**	**330**	*i* P	**Pn**	**19 16 25.1**	**0.0**
PKGN				*i* S	**Sn**	**19 16 42.1**	**+0.7**
PKGN				IAML		19 16 47.2	
	comp=Z,2μm,1.0s						
CRIN	**San Cristobal**	**1.34**	**328**	*e*P	**Pn**	**19 16 25.9**	**-0.1**
CRIN				*e*S	**Sn**	**19 16 43.8**	**+0.8**
CRIN	**San Cristobal**	**1.34**	**328**	*i* P	**Pn**	**19 16 26.1**	**+0.1**
CRIN				*i* S	**Sn**	**19 16 44.2**	**+1.2**
CRIN				IAML		19 16 48.9	
	comp=Z,2μm,1.0s						
CRIN	**San Cristobal**	**1.34**	**328**	*e*P	**Pn**	**19 16 26.2**	**+0.2**
CRIN				*e*S	**Sn**	**19 16 43.6**	**+0.6**
COLC	**Colonia**	**1.41**	**128**	*e*P	**Pn**	**19 16 25.7**	**-1.2**
COLC				*e*S	**Sn**	**19 16 44.2**	**-0.4**
CUI	**Cuipilapa**	**1.45**	**128**	⇓*i*P	**Pn**	**19 16 26.4**	**-1.0**
CUI				*e*S	**Sn**	**19 16 44.9**	**-0.5**
LIMN	**Finca el Limon**	**1.50**	**359**	*i* P	**Pn**	**19 16 27.9**	**-0.3**
LIMN				IAML		19 16 52.8	
	comp=Z,220nm,1.0s						
JTS	**Las Juntas de**	**1.84**	**133**	*e*P	**Pn**	**19 16 31.6**	**-1.1**
ESPN	**Las Esperanzas**	**2.09**	**72**	⇓*i*P	**Pn**	**19 16 35.6**	**-0.4**
LCND	**La Caada**	**2.32**	**319**	*e*P	**Pn**	**19 16 38.9**	**-0.3**
LCND				*e*S	**Sn**	**19 17 06.6**	**-0.1**
LCND				IAML		19 17 10.5	
	comp=Z,192nm,0.4s						
INTP	**Intipuca**	**2.35**	**314**	*e*S	**Sn**	**19 17 07.0**	**-0.4**
JUCU	**Jucuarın**	**2.53**	**312**	*e*S	**Sn**	**19 17 12.0**	**+0.3**
ACOS	**Acosta**	**2.75**	**129**	*e*P	**Pn**	**19 16 47.7**	**+2.5**
ACOS				*e*S	**Sn**	**19 17 21.0**	**+3.6**
LCR2	**La Lucha 2**	**2.91**	**128**	*e*P	**Pn**	**19 16 48.4**	**+1.0**
NUBE	**Las Nubes**	**4.10**	**305**	*e*S	**Sn**	**19 17 49.1**	**-1.4**

*IDC **23** 19:17:12.6±1.3, 57°.58N×32°.70W, h0km, mb3.4/7, mbtmp3.5/9, ML3.5/2, MS3.2/7, Error ellipse: s-maj=33.7km s-min=22.8km az=30.0*
ISC 23 19:17:14.0±1.1, 57°.5N±0°.2×32°.7W±0°.1, h10km, n14, σ1s00/9, mb3.5/7, MS3.3/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.09**	**32**	Pn	**Pn**	**19 19 25.8**	**+0.8**
	0.4nm,0.3s,baz=208,slow=15,SNR=2.1						
BORG				LR	LR	19 21 54.4	
	comp=Z,47nm,20.0s,baz=265,slow=31						
	9.2nm,0.9s						
SFJD	**Kangerlussuaq**	**12.57**	**326**	LR	LR	19 24 14.5	
	comp=Z,99nm,19.7s,baz=166,slow=34						
EKA	**Eskdalemuir Ar**	**16.44**	**85**	Pn	**Pn**	**19 21 05.2**	**+0.7**
	baz=280,slow=9.3						
	1.0nm,0.7s						
FRB	**Frobisher Bay**	**18.43**	**305**	LR	LR	19 27 24.1	
	comp=Z,60nm,19.6s,baz=240,slow=33						
ESDC	**Sonseca Array**	**25.79**	**121**	P	**P**	**19 22 46.1**	**+1.2**
	0.5nm,0.7s,baz=316,slow=8.7,SNR=6.2						
ESDC				LR	LR	19 30 24.0	
	comp=Z,36nm,21.0s,baz=320,slow=31						
	0.5nm,0.7s						
DAVOX	**Davos/Dischmat**	**27.81**	**94**	LR	LR	19 33 56.0	
	comp=Z,42nm,19.3s,baz=261,slow=36						
AKASG	**Malin Array Be**	**35.80**	**74**	P	**P**	**19 24 12.4**	**-0.6**
	0.4nm,0.6s,baz=310,slow=8.0,SNR=2.7						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**48.23**	**328**	P	**P**	**19 25 53.5**	**-0.7**
	0.5nm,0.9s,baz=52,slow=4.7,SNR=5.6						
	0.5nm,0.9s						
PDAR	**Pinedale Array**	**48.69**	**287**	P	**P**	**19 25 59.3**	**+0.9**
	0.3nm,0.7s,baz=61,slow=6.3,SNR=2.7						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**51.41**	**135**	P	**P**	**19 26 18.2**	**-0.7**
	0.2nm,0.3s,baz=343,slow=9.3,SNR=2.2						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**53.34**	**47**	P	**P**	**19 26 31.8**	**-1.1**
	0.4nm,0.5s,baz=346,slow=11,SNR=2.1						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**62.93**	**44**	P	**P**	**19 27 40.3**	**+0.1**
	0.4nm,0.9s,baz=330,slow=5.5,SNR=1.6						
	0.4nm,0.9s						
LPIG	**La Paz**	**63.38**	**273**	LR	LR	19 53 36.0	
	comp=Z,120nm,19.6s,baz=232,slow=34						
SONM	**Songino Array**	**69.67**	**28**	LR	LR	19 58 41.7	
	comp=Z,28nm,19.6s,baz=178,slow=36						

*SJA **23** 19:36:30.8±0.8, 20°.46S×68°.92W, h113km±9km, ML3.5, MW3.5*
*GUC **23** 19:36:33.6±0.7, 20°.51S×68°.97W, h98km±5km, ML3.4*
ISC 23 19:36:33.8±1.7, 20°.47S±0°.04×68°.98W±0°.07, h95km±13km, n27, σ1s15/51, 5C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.74**	**220**	*e*P	**Pn**	**19 36 50.5**	**-0.8**
PB01				*e*S	**Sn**	**19 37 04.3**	**-0.1**
PB01				IAML		19 37 07.7	
	comp=Z,938nm,0.1s						
PB01	**IPOC Station P**	**0.74**	**220**	⇑*i*P	**Pn**	**19 36 50.5**	**-0.8**
PB01				*i* S	**Sn**	**19 37 03.4**	**-1.0**
PB01				IAML		19 37 06.8	
	comp=N,1μm,0.3s						
GO01	**Chusmiza**	**0.83**	**346**	*e*P	**Pn**	**19 36 52.0**	**-0.6**
GO01				*e*S	**Sn**	**19 37 07.9**	**+1.3**
GO01				IAML		19 37 10.4	
	comp=Z,608nm,0.5s						
GO01	**Chusmiza**	**0.83**	**346**	⇓*e*P	**Pn**	**19 36 52.6**	**0.0**
GO01				*i* S	**Sn**	**19 37 07.7**	**+1.2**
GO01				IAML		19 37 11.7	
	comp=E,2μm,0.1s						
HMBC	**Humberstone**	**0.88**	**283**	*e*P	**Pn**	**19 36 51.9**	**-0.7**
HMBC				*e*S	**Sn**	**19 37 07.1**	**+0.3**
HMBC				IAML		19 37 08.3	
	comp=Z,964nm,0.3s						
HMBC	**Humberstone**	**0.88**	**283**	⇑*i*P	**Pn**	**19 36 52.0**	**-0.7**
HMBC				*i* S	**Sn**	**19 37 06.7**	**-0.1**
HMBC				IAML		19 37 08.4	
	comp=N,1μm,0.2s						
PB11	**IPOC Station P**	**0.95**	**318**	*e*P	**Pn**	**19 36 52.6**	**-1.0**
PB11				*e*S	**Sn**	**19 37 09.3**	**+1.0**
PB11				IAML		19 37 10.0	
	comp=Z,588nm,0.2s						
PB11	**IPOC Station P**	**0.95**	**318**	⇑*i*P	**Pn**	**19 36 53.3**	**-0.3**
PB11				*i* S	**Sn**	**19 37 08.8**	**+0.5**
PB11				IAML		19 37 09.7	
	comp=N,2μm,0.4s						
TA02	**Huaiquique**	**1.10**	**280**	*e*P	**Pn**	**19 36 55.0**	**0.0**
TA02				*e*S	**Sn**	**19 37 12.4**	**+1.4**
TA02				IAML		19 37 15.2	
	comp=Z,1μm,0.1s						
TA02	**Huaiquique**	**1.10**	**280**	*e*P	**Pn**	**19 36 54.6**	**-0.3**
TA02				*i* S	**Sn**	**19 37 11.3**	**+0.4**
TA02				IAML		19 37 15.3	
	comp=N,1μm,0.1s						
TA01	**Diego Aracena**	**1.13**	**265**	*e*P	**Pn**	**19 36 54.4**	**-0.9**
TA01				*e*S	**Sn**	**19 37 13.2**	**+1.6**
TA01	**Diego Aracena**	**1.13**	**265**	⇑*e*P	**Pn**	**19 36 54.4**	**-0.9**
TA01				*i* S	**Sn**	**19 37 11.3**	**-0.2**
PATCX	**Punta Patache**	**1.15**	**252**	*e*P	**Pn**	**19 36 55.0**	**-0.7**
PATCX				*e*S	**Sn**	**19 37 14.2**	**+2.0**
PATCX				IAML		19 37 17.8	
	comp=Z,380nm,0.1s						
PATCX	**Punta Patache**	**1.15**	**252**	⇑*e*P	**Pn**	**19 36 55.0**	**-0.7**
PATCX				*i* S	**Sn**	**19 37 12.3**	**+0.1**
PATCX				IAML		19 37 17.5	
	comp=N,890nm,0.3s						
PB09	**IPOC Station P**	**1.34**	**191**	*e*P	**Pn**	**19 36 57.5**	**-0.5**
PB09				*e*S	**Sn**	**19 37 18.1**	**+1.8**
PB09	**IPOC Station P**	**1.34**	**191**	*e*P	**Pn**	**19 36 57.5**	**-0.5**
PB09				*i* S	**Sn**	**19 37 16.8**	**+0.5**
PB09				IAML		19 37 18.1	
	comp=E,407nm,0.5s						
PX02	**IPOC Station P**	**1.89**	**322**	*e*P	**Pn**	**19 37 04.0**	**-1.0**
PX02				*i* S	**Sn**	**19 37 28.6**	**0.0**
PX02				IAML		19 37 35.5	
	comp=N,171nm,0.3s						
LVC	**Limon Verde**	**2.13**	**178**	*e*P	**Pn**	**19 37 07.2**	**-1.0**
LVC				*e*S	**Sn**	**19 37 36.3**	**+1.9**
LVC	**Limon Verde**	**2.13**	**178**	*e*P	**Pn**	**19 37 07.8**	**-0.5**
LVC				*i* S	**Sn**	**19 37 34.1**	**-0.3**
LVC				IAML		19 37 40.2	
	comp=N,645nm,0.2s						
PB04	**IPOC Station P**	**2.15**	**210**	*e*P	**Pn**	**19 37 07.6**	**-0.7**
PB04				*e*S	**Sn**	**19 37 37.7**	**+3.0**
PB04				IAML		19 37 42.9	
	comp=Z,296nm,0.1s						
PB04	**IPOC Station P**	**2.15**	**210**	*e*P	**Pn**	**19 37 07.4**	**-0.9**
PB04				*i* S	**Sn**	**19 37 36.8**	**+2.1**
PB04				IAML		19 37 42.4	
	comp=N,400nm,0.2s						
PB06	**IPOC Station P**	**2.29**	**194**	*e*P	**Pn**	**19 37 09.3**	**-0.9**
PB06				*e*S	**Sn**	**19 37 37.4**	**-0.5**
PB06				IAML		19 37 43.7	
	comp=Z,207nm,0.2s						
PB06	**IPOC Station P**	**2.29**	**194**	*e*P	**Pn**	**19 37 09.0**	**-1.1**
PB06				*i* S	**Sn**	**19 37 38.6**	**+0.6**
PB06				IAML		19 37 44.2	
	comp=N,283nm,0.3s						
PB15	**IPOC Station P**	**2.76**	**189**	*e*P	**Pn**	**19 37 15.7**	**-0.7**
PB15				*e*S	**Sn**	**19 37 52.4**	**+3.2**
PB15	**IPOC Station P**	**2.76**	**189**	*e*P	**Pn**	**19 37 16.2**	**-0.3**
PB15				*i* S	**Sn**	**19 37 48.4**	**-0.8**
PB18	**Visviri**	**2.91**	**351**	*e*P	Pn	19 37 23.7	+5.0
GO02	**Mina Guanaco**	**4.70**	**187**	*e*P	**Pn**	**19 37 41.4**	**-1.3**

*NEIC **23** 19:37:56.8±1.2, 35°.105N±0°.006×97°.61W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=2.1km az=299.0*
TUL 23 19:37:57.1±1.2, 35°.09N±0°.01×97°.57W±0°.01, h4km±3km, ML2.5, mb_Lg2.5/56(NEIC), ML2.6/41(NEIC), Error ellipse: s-maj=1.7km s-min=1.4km az=150.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.22**	**39**	Pg	Pg	19 38 01.9	+0.6
X34A	**Smith Ranch, M**	**0.53**	**204**	Pg	Pg	19 38 07.9	+0.5
X34A				Sg	Sb	19 38 16.3	-0.8
X34A				IAML		19 38 16.3	
	comp=E,253nm,0.4s						
X34A				IAML		19 38 16.4	
	comp=N,378nm,0.5s						
ADOK	**Arcadia Dam**	**0.58**	**16**	Pg	Pg	19 38 08.0	-0.4
OK029	**Liberty Lake**	**0.71**	**7**	Pg	Pg	19 38 10.6	-0.2
OK029				Sg	Sg	19 38 21.1	+1.1
OK031	**S. Brethren Rd**	**1.05**	**34**	Pg	Pg	19 38 16.7	-0.5
WMOK	**Wichita Mounta**	**1.06**	**251**	Pg	Pg	19 38 16.2	-1.2
CSTR	**Hydro, Custer**	**1.07**	**302**	Pg	Pg	19 38 16.4	-1.3
OK052	**Battle Ridge R**	**1.10**	**34**	Pg	Pg	19 38 17.4	-0.7
LOOK	**Love County**	**1.14**	**164**	Pg	Pg	19 38 18.6	-0.3
LOOK				IAML		19 38 40.3	
	comp=N,172nm,0.2s						
DEOK	**Depew**	**1.15**	**49**	Pg	Pg	19 38 18.4	-0.8
DEOK				IAML		19 38 40.7	
	comp=E,136nm,0.3s						
DEOK				IAML		19 38 40.9	
	comp=N,120nm,0.2s						
QUOK	**Quay**	**1.29**	**33**		Pg	19 38 21.1	-0.7
OK048	**Pawnee Station**	**1.42**	**21**		Pn	19 38 22.8	-0.9
CROK	**Carrier**	**1.45**	**347**		Pn	19 38 23.3	-0.9
CROK				IAmb_Lg		19 38 46.2	
	comp=Z,36nm,0.7s						
WTFS	**Witchita Falls**	**1.51**	**210**		Pn	19 38 24.3	-0.7
OK051	**E0350 and S346**	**1.53**	**23**	

MGMO	Mountain Grove comp=Z,13nm,0.7s	4.76	63	IAmb_Lg	19 40 33.7
OZNA	Ozona comp=Z,8.9nm,0.9s	5.12	217	IAmb_Lg	19 40 48.7
T42A	Van Buren comp=Z,5.3nm,0.8s	5.59	68	IAmb_Lg	19 40 58.6
KSCO	Kaye Shedlock comp=Z,6.3nm,0.7s	5.63	316	IAmb_Lg	19 41 01.7
MNHN	Monahans comp=Z,8.3nm,0.9s	5.74	231	IAmb_Lg	19 41 13.5
CCM	Cathedral Cave comp=Z,10nm,0.8s	5.89	58	IAmb_Lg	19 41 05.2
T25A	Trinidad comp=Z,9.2nm,1.0s	5.91	292	IAmb_Lg	19 41 18.8
DRIO	Del Rio comp=Z,5.8nm,0.8s	6.21	205	IAmb_Lg	19 41 32.4
SAND	Sanderson comp=Z,4.6nm,0.9s	6.40	218	IAmb_Lg	19 41 30.4
Q24A	Divide comp=Z,5.8nm,0.8s	7.19	305	IAmb_Lg	19 41 56.9

TAP 23 19:56:50.0, 24°.92N×122°.09E, h117km, ML2.3, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS	baz=239	**0.16**	**242**	*e*P	Pn	19 57 05.7	-0.3
EGS	baz=239			*e*S	Sn	19 57 17.1	-1.1
NTC	**Toucheng** baz=253	**0.24**	**254**	*e*P	Pn	19 57 05.9	-0.3
NTC	baz=253			*e*S	Sn	19 57 18.5	0.0
TIPB	**Shuangxi** baz=271	**0.24**	**282**	*e*P	Pn	19 57 06.4	+0.1
SXI1	**Grass Mountain** baz=298	**0.26**	**312**	*e*P	Pn	19 57 06.7	+0.2
SXI1	baz=298			*e*S	Sn	19 57 17.2	-1.7
TWC	**Suao** baz=214	**0.38**	**215**	*e*P	Pn	19 57 07.1	+0.2
TWE	**Neicheng** baz=241	**0.43**	**243**	P	Pn	19 57 07.7	+0.6
TWE	baz=241			*e*S	Sn	19 57 20.7	+0.7
NDS	**Dongshan** baz=230	**0.44**	**230**	*e*P	Pn	19 57 07.5	+0.3
FUSB	**Fushanzhiwuyua** baz=249	**0.48**	**251**	*i* P	Pn	19 57 07.7	+0.2
FUSB	baz=249			S	Sn	19 57 20.9	+0.2
EOS2	**EOS2** baz=171	**0.52**	**165**	P	Pn	19 57 08.1	+0.6
EOS2	baz=171			*e*S	Sn	19 57 21.4	+0.8
YM01	**YM01** baz=297	**0.52**	**296**	P	Pn	19 57 07.6	-0.1
YM01	baz=297			*e*S	Sn	19 57 20.9	-0.2
ENTT	**Nioudou** baz=237	**0.55**	**240**	P	Pn	19 57 08.7	+0.8
ENTT	baz=237			S	Sn	19 57 21.9	+0.6
NWLT	**Wulai** baz=252	**0.55**	**255**	*e*P	Pn	19 57 08.2	+0.3
NWLT	baz=252			S	Sn	19 57 21.0	-0.3
EWUT	**Wuta** baz=213	**0.55**	**211**	P	Pn	19 57 08.2	+0.3
EWUT	baz=213			*e*S	Sn	19 57 21.3	-0.1
TWY	**Chenhua** baz=304	**0.57**	**309**	*e*P	Pn	19 57 08.2	+0.3
ENA	**Nanau** baz=207	**0.58**	**213**	P	Pn	19 57 08.6	+0.5
ENA	baz=207			S	Sn	19 57 22.0	+0.2
NDT	**Datong Townshi** baz=237	**0.61**	**239**	*e*P	Pn	19 57 09.0	+0.7
NDT	baz=237			*e*S	Sn	19 57 22.7	+0.6
LATG	**Datong** baz=231	**0.64**	**233**	P	Pn	19 57 09.2	+0.6
LATG	baz=231			S	Sn	19 57 23.3	+0.6
EOS3	**EOS3** baz=174	**0.67**	**162**	P	Pn	19 57 09.1	+0.5
EOS3	baz=174			*e*S	Sn	19 57 23.1	+0.6
YHNB	**Yeheng** baz=238	**0.69**	**249**	P	Pn	19 57 09.3	+0.3
YHNB	baz=238			S	Sn	19 57 22.8	-0.6
NSK	**Sanguang** baz=238	**0.71**	**250**	*e*P	Pn	19 57 09.3	+0.2
NSK	baz=238			S	Sn	19 57 23.2	-0.3
NNS	**Nan Shan** baz=231	**0.81**	**234**	*e*P	Pn	19 57 10.6	+0.6
NNS	baz=231			S	Sn	19 57 25.4	+0.2
NNSB	**Datong** baz=230	**0.81**	**233**	*e*P	Pn	19 57 10.5	+0.5
NNSB	baz=230			*e*S	Sn	19 57 25.1	0.0
NNSH	**Datong** baz=233	**0.81**	**233**	*e*P	Pn	19 57 10.2	+0.2
EOS4	**EOS4** baz=172	**0.82**	**165**	*e*P	Pn	19 57 10.3	+0.7
EOS4	baz=172			*e*S	Sn	19 57 24.3	-0.2
ETL	**Fush Village** baz=218	**0.87**	**209**	*e*P	Pn	19 57 10.6	+0.1
NACB	**Ninganchiao** baz=212	**0.87**	**211**	*e*P	Pn	19 57 10.2	-0.3
NACB	baz=212			*e*S	Sn	19 57 25.0	-0.9
ETLH	**Xiulin Townshi** baz=223	**0.90**	**218**	*e*P	Pn	19 57 11.0	+0.2
ETLH	baz=223			*e*S	Sn	19 57 26.1	-0.5
NFF	**Wufeng Townshi** baz=249	**0.93**	**252**	*e*P	Pn	19 57 11.1	0.0
NFF	baz=249			S	Sn	19 57 26.5	-0.5
TWD	**Chiawan** baz=218	**0.95**	**208**	*e*P	Pn	19 57 11.2	0.0
LIOB	**Emei** baz=245	**1.01**	**254**	*e*P	Pn	19 57 12.2	+0.4
LIOB	baz=245			*e*S	Sn	19 57 28.3	-0.1
FUSS	**Fushou** baz=220	**1.02**	**229**	P	Pn	19 57 12.6	+0.4
FUSS	baz=220			S	Sn	19 57 29.1	+0.2
NSTT	**Nanjuang** baz=244	**1.03**	**254**	*e*P	Pn	19 57 12.3	+0.4
NSTT	baz=244			*e*S	Sn	19 57 28.3	-0.4
TWT	**Tachien** baz=224	**1.06**	**231**	*e*P	Pn	19 57 14.1	+1.6
TWT	baz=224			*e*S	Sn	19 57 30.2	+0.6
TDCB	**Techi** baz=230	**1.08**	**232**	*e*P	Pn	19 57 13.5	+0.8
TDCB	baz=230			S	Sn	19 57 29.9	+0.1
WHF	**Hehuan Shan** baz=218	**1.08**	**224**	*e*P	Pn	19 57 13.4	+0.5
WHF	baz=218			*e*S	Sn	19 57 30.3	0.0
LXIB	**Xiulin Townshi** baz=208	**1.09**	**215**	*e*P	Pn	19 57 12.5	-0.3
LXIB	baz=208			*e*S	Sn	19 57 29.5	-0.5
ETM	**Tongmen** baz=210	**1.09**	**210**	*e*P	Pn	19 57 12.1	-0.6
NJN	**Zhunan** baz=255	**1.13**	**258**	*e*P	Pn	19 57 13.0	0.0
CHGB	**Renai** baz=217	**1.19**	**224**	*e*P	Pn	19 57 13.8	-0.2
CHGB	baz=217			*e*S	Sn	19 57 32.5	+0.4
WHP	**Taichung City** baz=235	**1.22**	**239**	*e*P	Pn	19 57 15.0	+0.9
WHP	baz=235			S	Sn	19 57 32.2	-0.1
SHUL	**Shoufeng** baz=200	**1.23**	**203**	*e*P	Pn	19 57 13.9	-0.1
WUSB	**Renai** baz=218	**1.28**	**224**	*e*P	Pn	19 57 15.4	+0.6
WUSB	baz=218			*e*S	Sn	19 57 33.4	-0.2
NSY	**Sanyi** baz=247	**1.31**	**248**	*e*P	Pn	19 57 16.3	+1.3
WARBT	**Fenglin Townsh** baz=209	**1.36**	**208**	*e*P	Pn	19 57 14.4	-1.2
WARBT	baz=209			*e*S	Sn	19 57 33.0	-2.0
WPL	**Puli Township** baz=235	**1.37**	**229**	*e*P	Pn	19 57 15.4	-0.3
WCS	**Beigang Elemen** baz=237	**1.37**	**231**	*e*P	Pn	19 57 15.9	+0.2
VWDT	**VWDT** baz=212	**1.45**	**217**	*e*P	Pn	19 57 17.3	+0.7
VWDT	baz=212			*e*S	Sn	19 57 36.7	0.0
TYC	**Yuchr** baz=234	**1.51**	**228**	*e*P	Pn	19 57 17.6	+0.3
SSLB	**Suanglung** baz=218	**1.53**	**223**	*e*P	Pn	19 57 18.1	+0.5
SSLB	baz=218			S	Sn	19 57 38.8	+0.3
HGSD	**Ruisui** baz=205	**1.55**	**203**	*e*P	Pn	19 57 18.5	+0.8
WHYT	**Xinyi Township** baz=226	**1.66**	**223**	*e*P	Pn	19 57 19.5	+0.4
WHYT	baz=226			*e*S	Sn	19 57 42.1	+0.8
YULB	**Yu-li** baz=206	**1.68**	**206**	*e*P	Pn	19 57 18.6	-0.8
YULB	baz=206			*e*S	Sn	19 57 40.4	-1.4
YUS	**Yu-Shan** baz=212	**1.76**	**216**	*e*P	Pn	19 57 21.2	+0.4

JMA 23 19:57:37.5±0.3, 25°N±3°×12°4E±°, h98km±4km, MV1.2/8, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.52**	**130**	P	Pn	19 57 53.3	+0.1
JISG				*e*S	Sn	19 58 05.2	+0.3
IRIF	**Iriomote-Funau**	**0.60**	**192**	*e*P	Pn	19 57 53.9	+0.1
IRIF				*e*S	Sn	19 58 06.8	+0.8
JIJ	**Ishigaki jima**	**0.61**	**156**	P	Pn	19 57 53.7	-0.2
JIJ				*e*S	Sn	19 58 05.9	-0.3
JKRS	**Kuro-shima**	**0.69**	**170**	P	Pn	19 57 54.9	+0.3
JKRS				*e*S	Sn	19 58 08.1	+0.7
JTJ	**Tarama**	**0.81**	**110**	*e*P	Pn	19 57 56.0	+0.3
JTJ				*e*S	Sn	19 58 10.1	+0.7
JMJ2	**Miyako jima3**	**1.33**	**97**	*e*P	Pn	19 58 02.2	+0.6

*IDC **23** 20:48:38.3±12.0, 21°.67N×143°.34E, h321km±110km, mb2.9/6, mbtmp3.6/6, Error ellipse: s-maj=150.0km s-min=20.7km az=77.0*

ISC 23 20:48:35.5±3.2, 21°.7N±0°.3×143°.6E±0°.9, h300km, n6, σ0s47/6, mb3.2/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array** 0.7nm,0.5s,baz=148,slow=9.6,SNR=4.6	**20.72**	**323**	P	**P**	**20 52 54.0**	**+0.4**
WRA	**Warrmunga Arr** 0.7nm,0.5s 0.1nm,0.3s,baz=12,slow=8.6,SNR=6.0	**42.38**	**193**	P	**P**	**20 56 01.2**	**+0.1**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=92,slow=11,SNR=1.7	**54.96**	**313**	P	**P**	**20 57 35.5**	**-0.5**
KURBB	**Kurchatov Arra** 0.1nm,0.3s 0.4nm,0.5s,baz=95,slow=7.9,SNR=8.1	**57.76**	**317**	P	**P**	**20 57 55.7**	**+0.1**
BVAR	**Borovoye Array** 0.4nm,0.5s 1.0nm,0.3s,baz=95,slow=7.7,SNR=8.8	**62.90**	**319**	P	**P**	**20 58 30.6**	**+0.5**
FINES	**FINESS Array B** 1.0nm,0.3s 0.6nm,0.5s,baz=46,slow=4.0,SNR=7.2	**83.32**	**335**	P	**P**	**21 00 28.6**	**-0.2**

*KRNET **23** 21:27:26.6±0.1, 42°.25N×76°.34E, h19km, mb2.4*
*KNET **23** 21:27:28.0±0.4, 42°.28N×76°.22E, h6km±2km, ml1.8, Error ellipse: s-maj=4.8km s-min=2.6km az=55.0*
*SOME **23** 21:27:27.4, 42°.30N×76°.35E, h5km*
*NNC **23** 21:27:27.3±0.5, 42°.30N×76°.32E, h0km, mb2.9, mpv2.9, Error ellipse: s-maj=3.3km s-min=1.5km az=170.0*

ISC 23 21:27:27.1±0.9, 42°28N±0°.02×76°35E±0°.02, h8km±6km, n67, σ0s68/123, 34C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol** 147nm,0.1s	**0.09**	**248**	⇑P	**Pg**	**21 27 29.3**	**-0.2**
ULHL	504nm,0.1s			⇓S	**Sg**	**21 27 31.2**	**-0.1**
ULHL	**Ulahol** baz=66	**0.09**	**248**	⇑*i*P	**Pg**	**21 27 29.3**	**-0.2**
ULHL	baz=66			⇑*i*S	**Sg**	**21 27 31.0**	**-0.3**
BOOM	**Boomskoye usch** baz=9.0	**0.37**	**305**	⇑*i*P	**Pg**	**21 27 34.4**	**-0.1**
BOOM	baz=9.0			⇑*i*S	**Sg**	**21 27 39.8**	**+0.4**
KDJ	**Kajisay** baz=1.0	**0.63**	**103**	⇓*i*P	**Pg**	**21 27 39.1**	**-0.2**
KDJ	baz=1.0			⇓*i*S	**Sg**	**21 27 48.0**	**+0.4**
KST	**Kastek** 9.8nm,0.2s	**0.82**	**339**	*e*P	**Pg**	**21 27 43.0**	**+0.1**
KST	41nm,0.3s			*e*S	**Sb**	**21 27 54.1**	**-0.8**
KST	**Kastek** 9.8nm,0.2s	**0.82**	**339**	P	**Pg**	**21 27 43.0**	**+0.1**
KST	41nm,0.3s			S	**Sb**	**21 27 54.5**	**-0.4**
TKM2	**Tokmak 2** 3.0nm,0.1s,SNR=22	**0.85**	**319**	P	**Pg**	**21 27 43.4**	**-0.1**
TKM2	51nm,0.1s			⇑S	**Sb**	**21 27 55.2**	**-0.7**
TKM2	**Tokmak 2** 0.5nm,0.2s	**0.85**	**319**	⇑P	**Pg**	**21 27 43.3**	**-0.2**
TKM2	33nm,0.5s			⇑S	**Sg**	**21 27 54.8**	**+0.2**
TKM2	**Tokmak 2** baz=21	**0.85**	**319**	⇑*i*P	**Pg**	**21 27 43.1**	**-0.4**
TKM2	baz=21			⇑*i*S	**Sg**	**21 27 55.0**	**+0.4**
MTBS	**Maitube** 7.6nm,0.1s	**0.85**	**4**	*e*P	**Pg**	**21 27 43.6**	**+0.1**
MTBS	13nm,0.1s			*e*S	**Sb**	**21 27 55.1**	**-0.7**
MTBS	**Maitube** 7.6nm,0.1s	**0.85**	**4**	P	**Pg**	**21 27 43.6**	**+0.1**
MTBS	13nm,0.1s			S	**Sb**	**21 27 55.1**	**-0.7**
TNSS	**Tian-Shan** 6.7nm,0.2s	**0.88**	**30**	*e*P	**Pg**	**21 27 44.2**	**+0.2**
TNSS	31nm,0.2s			*e*S	**Sb**	**21 27 56.2**	**-0.6**
TNSS	**Tian-Shan** 6.7nm,0.2s	**0.88**	**30**	P	**Pg**	**21 27 44.1**	**+0.2**
TNSS	31nm,0.2s			S	**Sb**	**21 27 56.3**	**-0.5**
NRN	**Naryn** baz=99	**0.89**	**197**	⇑*i*P	**Pg**	**21 27 43.3**	**-0.8**
NRN	baz=99			⇑*i*S	**Sg**	**21 27 55.2**	**-0.5**
AAA	**Alma-Ata** 18nm,0.1s	**1.02**	**24**	*e*P	**Pb**	**21 27 47.3**	**+0.3**
AAA	43nm,0.1s			*e*S	**Sb**	**21 28 01.7**	**+1.1**
AAA	**Alma-Ata** 18nm,0.1s	**1.02**	**24**	P	**Pb**	**21 27 47.3**	**+0.3**
AAA	9.1nm,0.1s			S	**Sn**	**21 28 01.8**	**-0.5**
MDOK	**Medeo** 3.2nm,0.4s	**1.02**	**30**	*e*P	**Pg**	**21 27 46.5**	**-0.4**
MDOK	13nm,0.2s			*e*S	**Sg**	**21 27 60.0**	**-0.1**
MDOK	**Medeo** 3.2nm,0.4s	**1.02**	**30**	Pg	**Pg**	**21 27 46.4**	**-0.4**
MDOK	1.6nm,0.4s			P	**Pg**	**21 27 46.4**	**-0.4**
MDOK	14nm,0.5s			Lg	Lg	21 27 60.0	
MDOK	14nm,0.6s			S	**Sg**	**21 28 00.4**	**+0.4**
KNDC	**Almaty** 7.7nm,0.4s	**1.04**	**25**	⇓P	**Pg**	**21 27 47.0**	**-0.2**
KNDC	29nm,0.5s			⇑S	**Sb**	**21 28 01.7**	**+0.4**
DGS	**Degeres** 7.7nm,0.2s	**1.05**	**336**	*e*P	**Pg**	**21 27 47.3**	**-0.1**
DGS	40nm,0.2s			*e*S	**Sb**	**21 28 01.4**	**-0.2**
DGS	**Degeres** 7.7nm,0.2s	**1.05**	**336**	P	**Pg**	**21 27 47.3**	**-0.1**
DGS	40nm,0.2s			S	**Sb**	**21 28 01.7**	**0.0**
KBK	**Karagaybulak** 11nm,0.1s,SNR=25	**1.11**	**290**	⇑P	**Pg**	**21 27 47.5**	**-0.8**
KBK	22nm,0.2s			⇓S	**Sb**	**21 28 03.2**	**-0.1**
KBK	**Karagaybulak** baz=92	**1.11**	**290**	⇑*i*P	**Pg**	**21 27 47.3**	**-1.1**
KBK	baz=92			⇑*i*S	**Sg**	**21 28 02.4**	**-0.3**
KOTS	**Kotyrbulak** 3.7nm,0.2s	**1.11**	**30**	*e*P	**Pb**	**21 27 48.9**	**+0.3**
KOTS	55nm,0.1s			*e*S	**Sb**	**21 28 04.1**	**+0.9**
KOTS	**Kotyrbulak** 3.7nm,0.2s	**1.11**	**30**	P	**Pb**	**21 27 48.7**	**+0.1**
KOTS	34nm,0.4s			S	**Sb**	**21 28 04.1**	**+0.9**
UCH	**Uchtor** 2.5nm,0.2s,SNR=5.6	**1.37**	**268**	⇑P	**Pn**	**21 27 51.9**	**-1.0**
UCH	3.6nm,0.2s			⇓S	**Sg**	**21 28 10.5**	**-0.6**
UCH	**Uchtor** baz=70	**1.37**	**268**	⇑*i*P	**Pn**	**21 27 51.9**	**-1.0**
UCH	baz=70			⇑*i*S	**Sg**	**21 28 10.3**	**-0.8**
FRU1	**Bishkek** baz=94	**1.38**	**293**	⇓*e*P	**Pn**	**21 27 52.5**	**-0.2**
FRU1	baz=94			⇓*e*S	**Sg**	**21 28 11.3**	**-0.2**
CHMS	**Chumysh** 2.4nm,0.1s,SNR=12	**1.38**	**302**	⇓P	**Pn**	**21 27 52.6**	**-0.2**
CHMS	9.8nm,0.2s			⇑S	**Sb**	**21 28 10.9**	**-0.2**
CHMS	**Chumysh** 0.9nm,0.3s	**1.38**	**302**	⇓P	**Pn**	**21 27 51.9**	**-0.8**
CHMS	7.5nm,0.7s			⇑S	**Sb**	**21 28 10.5**	**-0.6**
CHMS	**Chumysh** baz=3.0	**1.38**	**302**	⇑*i*P	**Pn**	**21 27 52.2**	**-0.5**
CHMS	baz=3.0			⇑*i*S	**Sb**	**21 28 10.9**	**-0.2**
AAK	**Ala-Archa** 1.0nm,0.3s	**1.42**	**285**	P	**Pn**	**21 27 52.9**	**-0.5**
AAK	5.1nm,0.6s			S	**Sb**	**21 28 11.9**	**-0.3**
KTBS	**Karatobe** 4.2nm,0.2s	**1.45**	**9**	*e*P	**Pb**	**21 27 54.5**	**+0.1**
KTBS	12nm,0.2s			*e*S	**Sg**	**21 28 13.9**	**+0.1**
KTBS	**Karatobe** 4.2nm,0.2s	**1.45**	**9**	P	**Pb**	**21 27 54.6**	**+0.1**
KTBS	12nm,0.2s			S	**Sg**	**21 28 13.9**	**+0.1**
KRBS	**Karabastau** 3.6nm,0.2s	**1.50**	**341**	*e*P	**Pb**	**21 27 55.5**	**+0.2**
KRBS	8.5nm,0.3s			*e*S	**Sg**	**21 28 15.5**	**+0.1**
KRBS	**Karabastau** 3.6nm,0.2s	**1.50**	**341**	P	**Pb**	**21 27 55.5**	**+0.2**
KRBS	8.5nm,0.3s			S	**Sg**	**21 28 15.4**	**0.0**
ARLS	**Aral** baz=56	**1.57**	**255**	⇑*e*P	**Pn**	**21 27 55.1**	**-0.3**
ARLS	baz=56			⇑*e*S	**Sn**	**21 28 15.8**	**-0.2**
CHKK	**Chushkaly** 3.2nm,0.2s	**1.64**	**16**	*e*P	**Pb**	**21 27 57.9**	**+0.3**
CHKK	19nm,0.2s			*e*S	**Sg**	**21 28 19.9**	**0.0**
CHKK	**Chushkaly** 3.2nm,0.2s	**1.64**	**16**	P	**Pb**	**21 27 57.9**	**+0.3**
CHKK	19nm,0.2s			S	**Sg**	**21 28 20.2**	**+0.3**
USP	**Ospenovka** 5.2nm,0.2s,SNR=20	**1.69**	**307**	⇓P	**Pb**	**21 27 58.1**	**-0.3**
USP	9.7nm,0.1s			⇑S	**Sg**	**21 28 20.6**	**-0.6**
USP	**Ospenovka** baz=7.0	**1.69**	**307**	⇑*i*P	**Pn**	**21 27 57.6**	**+0.7**
USP	baz=7.0			⇑*i*S	**Sb**	**21 28 20.1**	**+0.4**
SATY	**Saty** 5.4nm,0.2s	**1.70**	**62**	*e*P	**Pb**	**21 27 59.0**	**+0.2**
SATY	48nm,0.2s			*e*S	**Sg**	**21 28 21.8**	**0.0**
SATY	**Saty** 5.4nm,0.2s	**1.70**	**62**	P	**Pb**	**21 27 58.9**	**+0.2**
SATY	48nm,0.2s			S	**Sg**	**21 28 21.8**	**0.0**
SGDS	**Sogindy** 1.5nm,0.1s	**1.73**	**313**	P	**Pb**	**21 27 59.0**	**-0.1**
SGDS	9.1nm,0.3s			S	**Sg**	**21 28 21.7**	**-0.9**
KURS	**Kuram** 1.6nm,0.1s	**1.80**	**47**	*e*P	**Pb**	**21 28 00.9**	**+0.6**
KURS	3.8nm,0.5s			*e*S	**Sg**	**21 28 24.9**	**-0.1**
KURS	**Kuram** 1.6nm,0.3s	**1.80**	**47**	P	**Pb**	**21 28 00.8**	**+0.5**
KURS	3.8nm,0.5s			S	**Sg**	**21 28 24.9**	**-0.1**
EKS2	**Erkin-Say** 2.9nm,0.2s,SNR=16	**1.94**	**282**	⇓P	**Pb**	**21 28 03.1**	**+0.3**
EKS2	**Erkin-Say** baz=83	**1.94**	**282**	⇑*i*P	**Pn**	**21 28 01.5**	**+1.0**
EKS2	baz=83			⇑*i*S	**Sb**	**21 28 27.0**	**-0.3**
AML	**Almayashu** 4.2nm,0.2s,SNR=7.6	**1.98**	**267**	⇑P	**Pb**	**21 28 03.6**	**0.0**
KPKS	**Kokpek** 4.5nm,0.2s	**2.08**	**55**	*e*P	**Pb**	**21 28 05.9**	**+0.7**
KPKS	40nm,0.4s			*e*S	**Sg**	**21 28 33.5**	**-0.6**
KPKS	**Kokpek** 4.5nm,0.2s	**2.08**	**55**	Pg	**Pb**	**21 28 05.9**	**+0.7**
KPKS	40nm,0.4s			Lg	Lg	21 28 33.7	
UZB	**Uzynbulak** 3.0nm,0.3s	**2.15**	**65**	*e*P	**Pb**	**21 28 06.5**	**+0.1**
UZB	14nm,0.2s			*e*S	**Sb**	**21 28 34.5**	**+1.2**
UZB	**Uzynbulak** 3.0nm,0.3s	**2.15**	**65**	Pg	**Pb**	**21 28 06.5**	**+0.1**
UZB	14nm,0.4s			Lg	Lg	21 28 34.5	
ARXS	**Arharly** 7.2nm,0.4s	**2.21**	**29**	*e*P	**Pb**	**21 28 07.8**	**+0.4**
ARXS	24nm,0.1s			*e*S	**Sg**	**21 28 36.6**	**-1.6**
ARXS	**Arharly** 7.2nm,0.4s	**2.21**	**29**	Pg	**Pb**	**21 28 07.8**	**+0.4**
ARXS	16nm,0.2s			Lg	Lg	21 28 37.3	
MRKS	**Merke** 3.5nm,0.3s	**2.36**	**282**	*e*P	**Pg**	**21 28 11.8**	**-0.6**
MRKS	15nm,0.3s			*e*S	**Sg**	**21 28 43.6**	**+0.7**
MRKS	**Merke** 3.5nm,0.3s	**2.36**	**282**	Pg	**Pb**	**21 28 11.2**	**+1.3**
MRKS	15nm,0.3s			Lg	Lg	21 28 42.5	
BLB	**Baldybastay** 5.8nm,0.3s	**2.39**	**40**	Pg	**Pb**	**21 28 11.1**	**+0.6**
BLB	28nm,0.2s			Lg	Lg	21 28 42.5	
PDGK	**Podgornoye** 0.9nm,0.3s	**2.54**	**64**	Pg	**Pb**	**21 28 12.4**	**-0.5**
PDGK	2.1nm,0.4s			Lg	Lg	21 28 45.3	
PDGK	**Podgornoye** 0.7nm,0.3s	**2.54**	**64**	⇑Pn	**Pb**	**21 28 11.7**	**-1.2**

```
PDGK                                  ⇓Lg      Lg    21 28 46.0
      5.2nm,0.6s
ARSB  Arslanbob        2.69 250⇓eP             Pn    21 28 12.1 +1.2
      baz=51
ARSB                                  ⇓eS      Sn    21 28 44.5 +0.8
      baz=51
MNAS  Manas            2.86 275⇓eP             Pn    21 28 14.0 +0.9
      baz=76
MNAS                                  ⇓eS      Sn    21 28 48.7 +0.9
      baz=76
BTLS  Baital           3.23 330  eP             Pg    21 28 27.0 -2.0
      1.6nm,0.1s
BTLS                                   eS      Sg    21 29 09.7 -1.1
      6.4nm,0.2s
BTLS  Baital           3.23 330  Pg             Pb    21 28 25.5 +0.8
      1.4nm,0.4s
BTLS                                  Lg       Lg    21 29 07.0
      2.6nm,0.4s
DJR   Jarkent          3.24  50  eP             Pg    21 28 27.6 -1.6
      1.0nm,0.2s
DJR                                    eS      Sg    21 29 10.3 -0.9
      3.9nm,0.2s
DJR   Jarkent          3.24  50  Pg             Pb    21 28 26.3 +1.4
      1.0nm,0.2s
DJR                                   Lg       Lg    21 29 08.7
      4.0nm,0.5s
KK31  Karatay Array    4.38 283 ⇑Pg             Pb    21 28 47.5 +3.2
      0.2nm,0.3s,baz=137,slow=17
KK31                                  ⇑Lg      Lg    21 29 48.0
      2.5nm,0.8s,baz=95,slow=25,SNR=7.5
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SNET ***23*** *21:31:44.5±1.1, 11°.51N×87°.89W, h36km±999km*
CATAC ***23*** *21:31:46.7±0.8, 11°.80N×87°.72W, h23km±8km, ML3.6*
ISC 23 21:31:46.4±1.9, 11°.77N±0°.08×87°.74W±0°.05, h22km±18km, n28, σ1§25/34, Near coast of Nicaragua

```
Code  Station Name     Δ°  AZ°  Phase ID          Time      Res
                                Op    ISC     h m s       ISC
CRIN  San Cristobal    1.15  36  eP             Pb    21 32 08.4 +0.7
CRIN  San Cristobal    1.15  36  iP             Pn    21 32 07.7 +0.4
CRIN                                IAML            21 32 36.7
      comp=Z,2μm,1.0s
PKGN  Cerro Pekin      1.17  40  iP             Pn    21 32 07.7 +0.2
PKGN                                IAML            21 32 28.4
      comp=Z,2μm,1.0s
PACN  Al O del Volca   1.18  52  iP             Pn    21 32 06.3 -1.4
PACN                                IAML            21 32 30.9
      comp=Z,1μm,1.0s
QUEN  Al S del Volca   1.20  47  iP             Pn    21 32 05.5 -2.4
QUEN                                IAML            21 32 24.8
      comp=Z,880nm,1.0s
COPN  Copaltepe        1.20  70  iP             Pn    21 32 07.9  0.0
COPN                                IAML            21 32 33.6
      comp=Z,710nm,1.0s
CNGA  Al SSO del Vol   1.25  55  iP             Pn    21 32 07.4 -1.2
CNGA                                IAML            21 32 35.2
      comp=Z,870nm,1.0s
CNGN  Cerro Negro      1.25  54  eP             Pn    21 32 08.9 +0.2
CNGN  Cerro Negro      1.25  54  iP             Pn    21 32 08.5 -0.2
CNGN                                IAML            21 32 20.9
      comp=Z,980nm,1.0s
SAPS  Ciudad Sandino   1.37  73  iP             Pn    21 32 09.9 -0.3
SAPS                                IAML            21 32 25.3
      comp=Z,860nm,1.0s
MOM2  El Cardon        1.40  62  iP             Pn    21 32 11.1 +0.5
MOM2                                iS             Sn    21 32 29.3 +0.9
MOM2                                IAML            21 32 33.3
      comp=Z,590nm,1.0s
TISN  Laguna Tiscapa   1.49  75  iP             Pn    21 32 07.7 -4.2
TISN                                IAML            21 32 09.1
      comp=Z,65nm,1.0s
CNCH  Conchagua        1.50 357  eP             Pn    21 32 12.9 +0.7
CNCH  Conchagua        1.50 357  iP             Pn    21 32 12.6 +0.4
CNCH                                IAML            21 32 37.8
      comp=Z,1μm,1.0s
LCND  La Caada         1.54 355  eP             Pn    21 32 13.4 +0.9
BLLM  Bellamira        1.73 344  eP             Pn    21 32 15.6 +0.3
PACA  Pacayal          1.78 342  iP             Pn    21 32 15.8 -0.2
PACA                                iS             Sn    21 32 39.8 +1.7
PACA                                IAML            21 32 57.4
      comp=Z,2μm,1.0s
LIMN  Finca el Limon   1.86  46  iP             Pn    21 32 17.4 +0.3
LIMN                                IAML            21 33 06.3
      comp=Z,270nm,1.0s
SOMN  Somoto           1.98  34  iP             Pb    21 32 21.2 -0.7
SOMN                                IAML            21 32 21.9
      comp=Z,130nm,1.0s
JAPN  Al SSO del Vol   2.04  97  iP             Pn    21 32 19.8 +0.4
JAPN                                IAML            21 32 25.2
      comp=Z,330nm,1.0s
BOAB  BOACO BROADBAN2.14  71  iP             Pn    21 32 20.4 -0.5
BOAB                                iS             Sn    21 32 47.4 +0.6
BOAB                                IAML            21 33 19.1
      comp=Z,130nm,1.0s
LFRS  El Faro          2.25 325  eP             Pn    21 32 20.9 -1.5
TGUH  Tegucigalpa,Un   2.32  11  iP             Pn    21 32 24.7 +1.2
TGUH                                IAML            21 32 41.2
      comp=Z,230nm,1.0s
TGUH                                iS             Sn    21 32 49.5 -1.9
JAYA  Jayaque - finc   2.51 319  eP             Pn    21 32 25.0 -1.0
JAYA                                eS             Sn    21 32 55.4 -0.7
CEVE  Cerro Verde      2.75 318  eS             Sn    21 33 03.2 +1.1
NUBE  Las Nubes        2.91 317  iP             Pn    21 32 31.7 +0.2
NUBE                                iS             Sn    21 33 05.2 -0.7
NUBE                                IAML            21 33 18.3
      comp=Z,230nm,1.0s
MTO3  Montecristo      3.05 329  iP             Pn    21 32 33.0 -0.6
MTO3                                IAML            21 33 32.8
      comp=Z,50nm,1.0s
LCR2  La Lucha 2       4.19 118  iP             Pn    21 32 50.4 +1.2
LCR2                                IAML            21 32 56.1
      comp=Z,85nm,1.0s
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BJI ***23*** *21:37:41.5±0.0, 45°.06N×148°.44E, h133km, mb5.1/73, mB5.0/33*
BGR ***23*** *21:37:43.0, 46°.69N×148°.12E, h33km, mb5.7, Ms3.9, Hypocentre not reviewed by the ISC*
MOS ***23*** *21:37:43.9±1.2, 45°.11N×148°.23E, h143km, mb5.4/79, Error ellipse: s-maj=5.7km s-min=3.6km az=115.2*
MOS Felt (III) at Yuzhno-Kuril'sk, Malokuril'skoye, Kuril'sk, Gornyy, Reydovo, Lagunnoe, Goryachiye Klyuchi, Mendeleevo, Goryachiy Plyazh.
NEIC ***23*** *21:37:44.3±1.6, 45°.12N±0°.02×148°.2E±0°.1, h129km±4km, mb5.1/641, Error ellipse: s-maj=10.8km s-min=2.6km az=96.0*
SKHL ***23*** *21:37:44.0±0.1, 44°.90N×148°.50E, h137km±9km, mb6.3/9, mbv5.5/3, msh6.1/3, msha7.1/5*
NIED ***23*** *21:37:45.5, 44°.65N×148°.33E, h150km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr=2.14; Mθθ3.33; Mφφ=-1.20; Mrθ2.23; Mθφ=-1.13; Mφr1.79; Fault plane solution: M0=4.24000×10^16 NP1: φs=250.00000°, δ71.00000°, λ=-126.00000°. NP2: φs=136.00000°, δ40.00000°, λ=-31.00000°.*
IDC ***23*** *21:37:45.0±0.5, 45°.16N×148°.21E, h138km±4km, mb4.8/28, mbtmp5.2/35, MS3.7/41 Error ellipse: s-maj=8.9km s-min=7.3km az=157.0*
JMA ***23*** *21:37:45.5±0.4, 45°N±2°×14°8E±°, h150km, MD5.0/40, MW5.0/40, NEAR ETOROFU ISLAND*
JMA Felt II J1 at NEAR ETOROFU ISLAND .
GCMT ***23*** *21:37:46.3±0.2, 45°.12N±0°.01×148°.39E±0°.02, h141km±1km, MW5.1/129, Moment Tensor Solution. s60, c77; s129, c214; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.30±.14; Mθθ4.52±.14; Mφφ=-2.23±.13; Mrθ3.67±.11; Mθφ=-0.58±.14; Mφr3.22±.09; Best double couple: M0=6.28500×10^16 NP1:φs=239.00000°, δ77.00000°, λ=-122.00000°. NP2:φs=130.00000°, δ35.00000°, λ=-23.00000°. Principal axes: T 6.1960, Plg25.0000°, Azm354.0000°; N 0.1690, Plg32.0000°, Azm247.0000°; P -6.3740, Plg48.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 21:37:43.9±0.3, 45°.10N±0°.03×148°.26E±0°.03, h132km±1km, h132km:pP-P, n1706, σ1§42/1539, mb5.2/510, 169C-44D, Kuril Islands

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Code  Station Name     Δ°  AZ°  Phase ID          Time      Res
                                Op    ISC     h m s       ISC
KUR   Kuril'sk         0.31 295  iP             Pn    21 38 04.2 +1.9
KUR                                AMB   AMB           21 38 04.9
      66μm,0.4s
KUR                                iS             Sn    21 38 18.5 +2.3
KUR                                A              A     21 38 21.1
      80μm,0.6s
KUR                                A              A     21 38 21.1
      68μm,0.6s
KUR   Kuril'sk         0.31 295  diPN            Pn    21 38 04.6 +2.3
KUR                                iS             Sn    21 38 19.0 +2.8
KUR                                pmax  pmax
      comp=E,7μm,0.4s
KUR                                pmax  pmax
      comp=Z,50μm,0.4s
KUR                                pmax  pmax
      comp=N,13μm,0.3s
KUR                                pmax  pmax
      comp=Z,131μm,1.6s
KUR                                smax  smax
      comp=N,178μm,2.1s
KUR                                smax  smax
      comp=E,72μm,2.1s
KUR                                smax  smax
      comp=E,54μm,0.7s
KUR                                smax  smax
      comp=N,17μm,0.4s
SHO   Shikotan         1.60 220  iP             Pn    21 38 12.9 -0.4
SHO                                AMB   AMB           21 38 13.6
      comp=N,8μm,0.5s
SHO                                iS             Sn    21 38 33.6 -2.1
SHO                                A              A     21 38 34.8
      comp=N,41μm,0.4s
SHO                                A              A     21 38 34.8
      comp=N,41μm,0.4s
SHO   Shikotan         1.60 220  ciPN            Pn    21 38 13.1 -0.2
SHO                                iS             Sn    21 38 33.5 -2.1
SHO                                pmax  pmax
      comp=Z,1μm,0.1s
SHO                                smax  smax
      comp=E,32μm,0.4s
SHO                                smax  smax
      comp=N,37μm,0.3s
YUK   Yuzh-Kuril'sk    2.02 239  iP             Pn    21 38 19.6 +1.4
YUK                                AMB   AMB           21 38 21.5
      comp=N,3μm,0.2s
YUK                                AMB   AMB           21 38 24.1
      comp=N,6μm,1.6s
YUK                                eS             Sn    21 38 45.3 +0.8
YUK                                A              A     21 38 48.0
      comp=N,31μm,0.3s
YUK                                A              A     21 38 48.0
      comp=N,38μm,0.3s
YUK                                A              A     21 38 48.4
      comp=N,56μm,3.0s
YUK                                A              A     21 38 48.4
      comp=N,54μm,3.0s
YUK   Yuzh-Kuril'sk    2.02 239  ciPN            Pn    21 38 19.6 +1.4
YUK                                iS             Sn    21 38 45.3 +0.8
YUK                                pmax  pmax
      comp=N,1μm,0.2s
YUK                                pmax  pmax
      comp=E,1μm,0.2s
YUK                                pmax  pmax
      comp=Z,3μm,0.2s
YUK                                smax  smax
      comp=N,31μm,0.3s
YUK                                smax  smax
      comp=E,38μm,0.3s
NEM2  Nemuro 2         2.51 227  iP             Pn    21 38 23.4 -0.9
NEM2                               S              Sn    21 38 52.5 -2.8
NEM2  Nemuro 2         2.51 227  A              A     21 38 23.4
      comp=E,28nm,2.6s,comp=N,16nm,3.7s
JRA   Rausu            2.53 244  iP             Pn    21 38 25.9 +1.3
JRA                                eS             Sn    21 38 56.9 +1.1
JRA   Rausu            2.53 244  A              A     21 38 25.9
      comp=E,20nm,1.5s,comp=N,30nm,2.2s
JNSB  Nemuroshibetsu   2.69 242  iP             Pn    21 38 28.0 +1.5
JNSB                               S              Sn    21 39 00.7 +1.5
JNSB  Nemuroshibetsu   2.69 242  A              A     21 38 28.0
      comp=E,47nm,5.3s,comp=N,67nm,5.4s
JNK   Nakash           2.96 240  iP             Pn    21 38 31.0 +0.9
JNK                                S              Sn    21 39 06.6 +0.9
JNK   Nakash           2.96 240  A              A     21 38 31.0
      comp=E,16nm,1.6s,comp=N,25nm,3.5s
JKHN  Kushirohamanak   3.01 229  iP             Pn    21 38 30.1 -0.7
JKHN                               S              Sn    21 39 04.0 -2.8
JKHN  Kushirohamanak   3.01 229  A              A     21 38 30.1
      comp=E,26nm,1.8s,comp=N,19nm,1.2s
JTKR  Abashiri--Toko   3.31 252  ⇓iP            Pn    21 38 36.0 +1.3
JTKR                               ⇓S             Sn    21 39 14.4 +0.6
JTKR  Abashiri--Toko   3.31 252  A              A     21 38 36.0
      comp=E,5.0nm,2.2s,comp=N,10.0nm,2.3s
JAK   Akkeshi          3.32 232  iP             Pn    21 38 34.2 -0.5
JAK                                S              Sn    21 39 11.3 -2.8
JAK   Akkeshi          3.32 232  A              A     21 38 34.2
      comp=E,22nm,2.3s,comp=N,15nm,1.9s
JMP   Maruseppu        3.67 254  A              A     21 38 41.4
      comp=E,8.0nm,2.4s,comp=N,9.0nm,3.4s
JAR   Ashorobuto       3.70 242  iP             Pn    21 38 41.1 +1.3
JAR                                S              Sn    21 39 24.2 +1.3
JAR   Ashorobuto       3.70 242  A              A     21 38 41.1
      comp=E,15nm,2.0s,comp=N,21nm,1.7s
JOB   Onbets           3.88 237  A              A     21 38 42.4
      comp=E,14nm,1.5s,comp=N,14nm,1.4s
JSE   Soyaes           4.03 270  ⇓iP            Pn    21 38 46.4 +2.4
JSE   Soyaes           4.03 270  A              A     21 38 46.4
      comp=E,5.0nm,4.3s,comp=N,7.0nm,6.5s
JKK2  Kamakawa 2       4.13 255  ⇓iP            Pn    21 38 47.4 +1.9
JKK2                               ⇓eS            Sn    21 39 36.7 +3.5
JKA   Kamikawa-asahi   4.16 258                 Pn    21 38 47.5 +1.6
JKA   Kamikawa-asahi   4.16 258  eP             Pn    21 38 48.2 +2.4
ASAJ  Asahikawa        4.17 258  P              Pn    21 38 48.1 +2.3
      comp=N,246nm,0.5s,baz=82,slow=14,SNR=386
ASAJ                               S              Sn    21 39 38.5 +4.5
      comp=N,514nm,0.9s,baz=184,slow=16,SNR=5.5
ASAJ  Asahikawa        4.17 258  A              A     21 38 48.3
      comp=E,4.0nm,5.3s,comp=N,5.0nm,2.7s
YSS   Yuzh-Sakhalins   4.26 298  P              Pn    21 38 49.1 +2.0
YSS   Yuzh-Sakhalins   4.26 298  Pn             Pn    21 38 49.0 +2.0
YSS   Yuzh-Sakhalins   4.26 298  eP             Pn    21 38 49.8 +2.7
YSS                                eS             Sn    21 39 40.5 +4.4
YSS   Yuzh-Sakhalins   4.26 298  kePN           Pn    21 38 49.8 +2.7
YSS                                eS             Sn    21 39 39.1 +3.0
YSS                                pmax  pmax
      comp=Z,410nm,0.8s
YSS                                pmax  pmax
      comp=Z,900nm,2.8s
YSS                                smax  smax
      comp=N,1.0nm,1.1s
YSS                                smax  smax
      comp=E,2.0nm,1.2s
YSS                                smax  smax
      comp=N,4μm,2.9s
YSS                                smax  smax
      comp=E,7μm,3.4s
YSS                                MLR   MLR
      comp=Z,900nm,11.0s
JCH   Churui           4.33 237  iP             Pn    21 38 48.1 +0.1
JCH                                S              Sn    21 39 36.4 -1.5
JCH   Churui           4.33 237  A              A     21 38 48.1
      comp=E,5.0nm,1.6s,comp=N,8.0nm,1.3s
JWK2  Keihoku          4.50 275  ⇓iP            Pn    21 38 54.1 +3.7
JWK2  Keihoku          4.50 275  A              A     21 38 54.1
      comp=E,9.0nm,3.7s,comp=N,5.0nm,4.1s
JFR   Furan            4.52 247  A              A     21 38 51.7
      comp=E,4.0nm,1.9s,comp=N,4.0nm,4.7s
JTHR  Tokachihiroo     4.57 234  A              A     21 38 51.1
      comp=E,7.0nm,1.3s,comp=N,5.0nm,1.9s
JSS   Shosan           4.62 264  P              Pn    21 38 55.2 +3.3
JSS   Shosan           4.62 264  A              A     21 38 55.2
      comp=E,4.0nm,4.5s,comp=N,5.0nm,5.0s
JAB   Ashibetsu        4.62 252  A              A     21 38 53.6
      comp=E,8.0nm,2.9s,comp=N,12nm,2.9s
ERM   Erimo            4.83 232  P              Pn    21 38 55.3 +0.6
ERM   Erimo            4.83 232  Pn             Pn    21 38 54.9 +0.2
ERM   Erimo            4.83 232  cePN           Pn    21 38 55.3 +0.6
ERM                                pmax  pmax
      comp=Z,302nm,0.8s
JEM   Erimo            4.83 232  P              Pn    21 38 55.4 +0.7
JEM   Erimo            4.83 232  A              A     21 38 54.4
      comp=E,7.0nm,1.4s,comp=N,7.0nm,1.2s
JBT2  Biratori 2       4.85 243  A              A     21 38 55.8
      comp=E,3.0nm,5.4s,comp=N,2.0nm,4.5s
JHR   Hokuryu          4.88 256  P              Pn    21 38 58.0 +2.6
JHR   Hokuryu          4.88 256  A              A     21 38 58.0
      comp=E,4.0nm,5.1s,comp=N,6.0nm,5.9s
JNBK  Urakawa-nobuka   4.89 237  P              Pn    21 38 54.4 -1.2
JNBK                               eS             Sn    21 39 48.7 -2.6
JNBK  Urakawa-nobuka   4.89 237  A              A     21 38 54.4
      comp=E,8.0nm,0.9s,comp=N,10.0nm,1.4s
JRR   Rishiri          4.92 273  A              A     21 38 59.8
      comp=E,14nm,5.4s,comp=N,15nm,3.3s
JRBN  Rebuntou         5.09 276  ⇓P             Pn    21 39 00.8 +2.6
JIAM  Iburiatsuma      5.21 244  A              A     21 39 00.7
      comp=E,7.0nm,4.1s,comp=N,8.0nm,5.7s
JISS  Ishikarishitsu   5.25 252  A              A     21 39 02.0
      comp=E,10.0nm,4.3s,comp=N,7.0nm,3.3s
JEW   Eniwo            5.41 248  eP             Pn    21 39 04.0 +1.5
JEW                                eS             Sn    21 40 04.1 +0.3
JEW   Eniwo            5.41 248  A              A     21 39 04.0
      comp=E,6.0nm,4.3s,comp=N,8.0nm,4.1s
UGL   Uglegorsk        5.81 315  eP             Pn    21 39 10.8 +3.1
UGL                                AMB   AMB           21 39 15.5
      comp=N,600nm,0.8s
UGL                                eS             Sn    21 40 17.0 +3.9
UGL                                A              A     21 40 23.4
      comp=N,11μm,4.0s
UGL                                A              A     21 40 23.4
      comp=N,10μm,4.0s
UGL                                A              A     21 40 32.8
      comp=N,450nm,0.8s
UGL                                A              A     21 40 32.8
      comp=N,440nm,0.8s
UGL   Uglegorsk        5.81 315  dePN           Pn    21 39 10.6 +2.9
UGL                                eS             Sn    21 40 16.0 +2.9
UGL                                pmax  pmax
      comp=Z,800nm,2.4s
UGL                                smax  smax
      comp=E,10μm,3.7s
UGL                                smax  smax
      comp=N,11μm,4.0s
JKB   Kayabe           6.16 241  A              A     21 39 13.1
      comp=E,6.0nm,1.4s,comp=N,5.0nm,1.4s
JAHD  Aomorihigashid   6.35 235  A              A     21 39 15.0
      comp=E,22nm,2.2s,comp=N,33nm,1.4s
JOT   Ohata            6.45 237  iP             Pn    21 39 14.7 -1.7
JOT                                eS             Sn    21 40 22.2 -6.5
JOT   Ohata            6.45 237  A              A     21 39 14.7
      comp=E,3.0nm,5.7s,comp=N,3.0nm,2.1s
JARK  Aomorirokkasho   6.50 233  A              A     21 39 16.8
      comp=E,6.0nm,1.5s,comp=N,5.0nm,1.1s
JTM   Tenmabayashi     6.82 233  P              Pn    21 39 20.2 -1.2
JTM   Tenmabayashi     6.82 233  Pn             Pn    21 39 19.5 -1.9
JTM   Tenmabayashi     6.82 233  A              A     21 39 21.0
      comp=E,4.0nm,2.0s,comp=N,4.0nm,2.2s
JANG  Nango            6.86 229  P              Pn    21 39 19.3 -2.6
JANG                               eS             Sn    21 40 30.5 -8.1
JANG  Nango            6.86 229  A              A     21 39 19.3
      comp=E,5.0nm,1.9s,comp=N,5.0nm,2.0s
TYV   Tymovskoe        6.88 329  eP             Pn    21 39 25.0 +2.8
TYV                                AMB   AMB           21 39 25.8
      comp=N,1μm,2.7s
TYV                                AMB   AMB           21 39 25.9
      comp=N,350nm,0.8s
TYV   Tymovskoe        6.88 329  ePN            Pn    21 39 25.3 +3.1
TYV                                eS             Sn    21 40 41.4 +2.4
TYV                                pmax  pmax
      comp=Z,800nm,2.5s
TYV                                pmax  pmax
      comp=Z,225nm,0.8s
TYV                                smax  smax
      comp=N,55nm,1.5s
TYV                                smax  smax
      comp=E,55nm,1.5s
TYV                                smax  smax
      comp=N,800nm,3.7s
TYV                                smax  smax
      comp=E,800nm,3.7s
JSI2  Shiura 2         7.03 238  A              A     21 39 24.2
      comp=E,3.0nm,3.5s,comp=N,4.0nm,1.0s
JOSM  Okushiri--Mats   7.06 248  iP             Pn    21 39 24.5 -0.1
JHHS  Hirosakihyakuz   7.31 235  A              A     21 39 27.8
      comp=E,6.0nm,1.6s,comp=N,6.0nm,4.0s
JSZI  Iwateshizukuis   7.61 228  A              A     21 39 31.1
      comp=E,8.0nm,1.4s,comp=N,7.0nm,1.8s
JOM   Ohasama          7.64 225  A              A     21 39 31.2
      comp=E,6.0nm,1.5s,comp=N,4.0nm,1.7s
JNTW  Noshirotokiwa    7.67 234  A              A     21 39 32.5
      comp=E,8.0nm,1.8s,comp=N,6.0nm,6.2s
SKR   Severo-Kuril's   7.68  41  eP             Pn    21 39 33.6 +0.7
SKR                                AMB   AMB           21 39 36.3
      comp=N,690nm,0.6s
SKR                                eS             Sn    21 40 56.5 -1.8
SKR                                A              A     21 41 02.1
      comp=N,600nm,0.2s
SKR                                A              A     21 41 02.1
      comp=N,380nm,0.2s
SKR   Severo-Kuril's   7.68  41  ePN            Pn    21 39 33.5 +0.7
SKR                                eS             Sn    21 40 55.0 -3.3
SKR                                pmax  pmax
      comp=Z,864nm,0.6s
SKR                                smax  smax
      comp=N,339nm,0.3s
SKR                                smax  smax
      comp=E,297nm,0.4s
SKR                                MLR   MLR
      comp=Z,900nm,14.0s
JRG   Rokugo           8.03 227  A              A     21 39 36.7
      comp=E,5.0nm,1.2s,comp=N,3.0nm,2.2s
JMK   Ichinoseki       8.08 223  P              Pn    21 39 35.2 -3.1
JMK                               S              Sn    21 41 01.1 -6.9
JYW   Yuwa             8.15 230  A              A     21 39 38.5
      comp=E,5.0nm,1.4s,comp=N,5.0nm,1.2s
TEY   Ternei           8.26 274  eP             Pn    21 39 42.9 +2.2
TEY   Ternei           8.26 274  ⇑ePN           Pn    21 39 42.9 +2.2
TEY                                e              ⇑     21 41 09.7
TEY                                pmax  pmax
      comp=E,30nm,0.9s
TEY                                pmax  pmax
      comp=Z,30nm,0.9s
JOFO  Osakifurukawao   8.50 223  A              A     21 39 42.5
      comp=E,15nm,3.3s,comp=N,11nm,4.6s
JYK   Kaneyama         8.53 226  A              A     21 39 43.2
      comp=E,3.0nm,2.4s,comp=N,3.0nm,1.5s
JOG3  Oga3             8.53 236  A              A     21 39 38.3
      comp=E,4.0nm,2.2s,comp=N,2.0nm,2.7s
JYA   Atsumi           9.11 227  A              A     21 39 51.0
      comp=E,3.0nm,6.7s,comp=N,5.0nm,1.6s
OKH   Okha             9.14 340  iP             Pn    21 39 53.5 +1.0
OKH                                AMB   AMB           21 39 55.1
      comp=N,730nm,0.9s
OKH                                AMB   AMB           21 40 01.5
      comp=N,400nm,11.0s
OKH   Okha             9.14 340  ciPN           Pn    21 39 54.2 +1.7
OKH                                pmax  pmax
      comp=Z,400nm,11.2s
JMM   Marumori         9.14 220  Pn             Pn    21 39 49.4 -3.3
JYS   Shirataka        9.21 225  A              A     21 39 52.1
      comp=E,5.0nm,2.0s,comp=N,5.0nm,3.5s
JYAR  Yonezawaarcadi   9.41 223  A              A     21 39 54.7
      comp=E,8.0nm,1.3s,comp=N,7.0nm,1.3s
NKL   Nikolayevsk      9.46 331  eP             Pn    21 39 56.3 -0.5
NKL                                AMB   AMB           21 39 59.9
      comp=N,2μm,0.6s
NKL                                eS             Sn    21 41 41.5 +0.3
NKL                                A              A     21 41 44.1
      comp=N,270nm,1.6s
NKL                                A              A     21 41 44.1
      comp=N,340nm,1.6s
NKL   Nikolayevsk      9.46 331  ePN            Pn    21 39 56.3 -0.5
NKL                                eS             Sn    21 41 41.6 +0.3
NKL                                pmax  pmax
      comp=N,99nm,1.0s
NKL                                pmax  pmax
      comp=E,1μm,1.1s
NKL                                pmax  pmax
      comp=Z,2μm,1.1s
NKL                                smax  smax
      comp=E,338nm,1.6s
NKL                                smax  smax
      comp=N,265nm,1.4s
GRNR  Gornyy           9.76 310  eP             Pn    21 40 03.4 +2.6
GRNR  Gornyy           9.76 310  ⇑iPN           Pn    21 40 03.4 +2.6
GRNR                               eS             Sn    21 41 54.9 +6.4
GRNR                               pmax  pmax
      comp=E,20nm,1.2s
GRNR                               pmax  pmax
      comp=Z,50nm,1.2s
GRNR                               pmax  pmax
      comp=N,20nm,1.1s
GRNR                               smax  smax
      comp=N,20nm,0.7s
GRNR                               MLR   MLR
```

comp=Z,400nm,16.0s
PET Petropavlovsk 10.45 37 Pn **Pn 21 40 08.6 -1.4**
PET Petropavlovsk 10.45 37 *e*P **Pn 21 40 09.0 -1.0**
PET *e*S **Sn 21 42 00.7 -4.4**
PET Petropavlovsk 10.45 37 ⇓*i*PN **Pn 21 40 08.7 -1.3**
PET pmax pmax
comp=Z,300nm,4.1s
PET pmax pmax
comp=Z,83nm,0.8s
PET MLR MLR
comp=Z,300nm,15.0s
PET MLR MLR
comp=Z,200nm,13.0s
MJB9 Matsu-Tunnel 11.44 225 Pn **Pn 21 40 21.5 -1.9**
MAJO Matsushiro 11.44 225 P **Pn 21 40 23.1 -0.3**
MAJO Matsushiro 11.44 225 Pn **Pn 21 40 19.7 -3.7**
MAJO Matsushiro 11.44 225*d i*PN **Pn 21 40 21.3 -2.1**
MJAR Matsushiro Arr 11.44 225 P **Pn 21 40 21.1 -2.3**
comp=Z,12nm,0.6s,baz=27,slow=13,SNR=40
MJAR S **Sn 21 42 24.1 -5.5**
comp=Z,2.7nm,0.3s,baz=78,slow=17,SNR=1.5
MJAR LR LR 21 45 18.6
comp=Z,271nm,18.8s,baz=46,slow=40
USA0B Ussuriysk Arra 11.63 271 Pn **Pn 21 40 26.2 +0.4**
USA0B Ussuriysk Arra 11.63 271*c i*PN **Pn 21 40 27.0 +1.2**
USRK Ussuriysk Ar. 11.63 271 Pn **Pn 21 40 26.5 +0.7**
USRK Ussuriysk Ar. 11.63 271 P **Pn 21 40 26.7 +0.9**
comp=Z,17nm,0.7s,baz=90,slow=12,SNR=28
KLR Kul'dur 11.97 296 P **Pn 21 40 32.1 +1.9**
comp=Z,10nm,1.0s,baz=102,slow=16,SNR=24
KLR S **Sn 21 42 44.5 +2.5**
comp=Z,8.0nm,0.9s,baz=269,slow=6.3,SNR=1.6
KLR LR LR 21 44 39.2
comp=Z,536nm,19.1s,baz=99,slow=35
KLR ScP **ScP 21 49 24.5 -0.3**
comp=Z,1.4nm,0.8s,baz=74,slow=3.8,SNR=4.1
MSHR Mys Shultsa 12.61 264*ce*PN **Pn 21 40 38.4 -0.1**
MSHR pmax pmax
comp=Z,31nm,1.1s
JGF Kuroka 12.61 225 P **Pn 21 40 38.7 0.0**
JGF Kuroka 12.61 225 Pn **Pn 21 40 36.0 -2.7**
PSTR Posyet 12.84 265 *i*PN **Pn 21 40 42.0 +0.5**
INU Inuyama 12.98 225 P **Pn 21 40 42.4 -1.0**
INU Inuyama 12.98 225 Pn **Pn 21 40 41.0 -2.4**
MDJ Mudanjiang 13.26 275 P **Pn 21 40 47.5 +0.5**
MDJ Mudanjiang 13.26 275 P **Pn 21 40 47.4 +0.5**
MDJ sP P 21 41 21.6 +30
MDJ S **Sn 21 43 11.4 -1.8**
MDJ PcS **PcS 21 49 44.5 +4.1**
MDJ ScS **ScS 21 53 05.8 +2.3**
MDJ pmax pmax
comp=Z,11nm,0.8s
MDJ LR LR
comp=Z,670nm,13.4s
MDJ LR LR
comp=Z,360nm,13.7s
MDJ LR LR
comp=Z,460nm,14.8s
MDJ Mudanjiang 13.26 275 Pn **Pn 21 40 45.5 -1.4**
JHJ2 Mitsune 13.64 212 Pn **Pn 21 40 50.9 -1.0**
JHJ Hachijo jima 2 13.65 212 P **Pn 21 40 50.5 -1.6**
comp=Z,26nm,0.4s,baz=88,slow=24,SNR=5.3
JHJ S **Sn 21 43 14.3 -8.4**
comp=Z,91nm,0.3s,baz=55,slow=21,SNR=9.4
JHJ LR LR 21 45 32.8
comp=Z,64nm,21.0s,baz=50,slow=34
MA2 Magadan 14.57 5 P **P 21 41 04.7 -1.7**
MA2 Magadan 14.57 5 Pn **Pn 21 41 02.4 -1.2**
MA2 Magadan 14.57 5 P **P 21 41 04.5 -1.9**
comp=Z,212nm,0.7s,baz=165,slow=8.7,SNR=46
MA2 LR LR 21 46 55.9
comp=Z,192nm,19.3s,baz=179,slow=38
MA2 Magadan 14.57 5 *e*P **Pn 21 41 03.2 -0.4**
MA2 Magadan 14.57 5*c i*P **Pn 21 41 03.2 -0.4**
MA2 pmax pmax
comp=Z,795nm,2.4s
MA2 Magadan 14.57 5 P **Pn 21 41 03.7 +0.1**
comp=Z,432nm,0.8s,comp=Z,4μm
BNX BinXian 14.66 280 ⇓P **Pn 21 41 05.4 +0.6**
BNX sP P 21 41 39.4 +32
BNX S **Sn 21 43 45.0 -2.0**
BNX pmax pmax
comp=Z,5.0nm,0.7s
BNX pmax pmax
comp=Z,90nm,3.7s
BNX LR LR
comp=Z,560nm,13.7s
BNX LR LR
comp=Z,650nm,11.8s
BNX LR LR
comp=Z,750nm,11.8s
HEH HeiHe 14.94 298 *e*P **Pn 21 41 08.0 -0.3**
HEH sP 21 41 46.3
HEH S **Sn 21 43 51.9 -1.7**
HEH pmax pmax
comp=Z,81nm,0.9s
HEH pmax pmax
comp=Z,320nm,3.9s
JMN Monobe 15.87 229 Pn **Pn 21 41 18.5 -1.4**
ZEA Zeya 16.12 310 *e*P **P 21 41 23.8 +0.2**
ZEA Zeya 16.12 310*ce*P **P 21 41 23.8 +0.2**
ZEA *e*S **Sn 21 44 11.8 -10**
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,20nm,0.6s
ZEA pmax pmax
comp=Z,50nm,0.7s
ZEA pmax pmax
comp=E,200nm,3.7s
ZEA pmax pmax
comp=Z,200nm,4.9s
ZEA smax smax
comp=E,300nm,6.6s
ZEA smax smax
comp=N,500nm,7.0s
KSRS Korea Array 17.07 251 P **P 21 41 34.0 0.0**
comp=N,3.7nm,0.5s,baz=60,slow=11,SNR=16
KSRS PcP **PcP 21 46 12.3 +0.9**
comp=N,2.0nm,0.8s,baz=345,slow=1.1,SNR=5.7
KSRS ScP **ScP 21 49 34.0 0.0**
comp=N,1.5nm,0.8s,baz=12,slow=1.7,SNR=6.2
KSAR Wonju Array Be 17.10 251 P **P 21 41 33.2 -1.2**
KSAR Wonju Array Be 17.10 251 P **P 21 41 33.2 -1.2**
JNU Nakatsue 17.99 234 P **P 21 41 44.1 -0.2**
JNU Nakatsue 17.99 234 P **Pn 21 41 46.2 +0.6**
comp=N,15nm,0.8s,baz=76,slow=9.9,SNR=5.4
JNU LR LR 21 48 34.1
comp=N,117nm,21.0s,baz=46,slow=36
SEY Seymchan 18.02 6 P **Pn 21 41 45.2 -0.5**
comp=N,144nm,0.7s,baz=184,slow=8.3,SNR=165
SEY Seymchan 18.02 6*c i*P **P 21 41 44.2 -0.2**
SEY pmax pmax
comp=Z,197nm,0.9s
TJN Taejon 18.04 248 *i*P **P 21 41 45.2 +0.4**
SNY Shenyang 18.20 268 ⇑P **Pn 21 41 47.8 -0.1**
SNY pmax pmax
comp=Z,67nm,0.9s
SHEM Shemya Is, Ala 18.54 56 P **Pn 21 41 52.3 +0.4**
comp=Z,65nm,0.9s,baz=290,slow=4.0,SNR=5.9
SHEM S **S 21 45 08.4 -6.2**
comp=Z,106nm,0.7s,baz=252,slow=23,SNR=12
JCJ Chichijima 18.62 197 P **Pn 21 41 52.9 -0.1**
JCJ Chichijima 18.62 197 P **P 21 41 49.8 -1.4**
JCJ Chichijima 18.62 197 P **P 21 41 47.6 -3.6**
comp=Z,34nm,0.6s,baz=81,slow=19,SNR=3.6
JCJ S S 21 45 01.8 -15
comp=Z,25nm,0.6s,baz=312,slow=24,SNR=2.5
HIA Hailar 19.77 292 P **P 21 42 04.5 +0.9**
YAK Yakutsk 20.10 334 P **P 21 42 04.5 -2.4**
YAK Yakutsk 20.10 334 P **P 21 42 05.4 -1.5**
comp=Z,458nm,0.4s,baz=129,slow=4.2,SNR=155
YAK Yakutsk 20.10 334*c i*P **P 21 42 05.2 -1.7**
YAK *e*S **S 21 45 44.8 -0.4**
YAK *e* 21 46 15.5
YAK *e**SS **sS 21 46 23.4 -1.2**
YAK *e* 21 53 18.8
YAK pmax pmax
comp=Z,503nm,0.8s
YAK pmax pmax
comp=N,115nm,1.2s
YAK pmax pmax
comp=E,103nm,1.3s
YAK smax smax
comp=N,398nm,1.5s
YAK smax smax
comp=E,270nm,1.5s
DL2 Dalian 20.69 262 P **P 21 42 14.9 +1.5**
DL2 S **S 21 45 59.9 +2.7**
DL2 pmax pmax
comp=E,50nm,1.1s
DL2 pmax pmax
comp=E,300nm,7.1s
AMKA Amchitka 21.50 62 P **P 21 42 22.7 +0.7**
XLT XiLinHaoTe 22.91 278 *e*P **P 21 42 36.8 +0.4**
XLT S **S 21 46 34.1 -2.0**
XLT pmax pmax
comp=E,110nm,1.0s
XLT LR LR
comp=E,55nm,17.7s
XLT LR LR
comp=E,230nm,6.0s
KIWB Kanaga Island 23.73 61 P **P 21 42 43.9 +0.2**
CIT Chita 23.82 299 *e*P **P 21 42 42.6 -2.0**
CIT *e* 21 43 11.5
CIT pmax pmax
comp=Z,122nm,2.0s
ADK Adak 24.02 61 P **P 21 42 49.0 +2.7**
ADK Adak 24.02 61 P **P 21 42 45.6 -0.8**
ADK Adak 24.02 61 P **P 21 42 45.6 -0.8**
ADK pmax pmax
comp=Z,33nm,1.0s
BJI Beijing 24.07 269 P **P 21 42 47.3 +0.4**
BJI pP **pwP 21 43 15.1 -1.0**
BJI PP **sP 21 43 28.4 -0.8**
BJI sP pP 21 43 32.8 +20
BJI S **S 21 46 50.3 -4.4**
BJI pmax pmax
comp=Z,19nm,1.0s
BJI pmax pmax
comp=Z,59nm,3.8s
BJT Baijiatuau 24.09 269 P **P 21 42 48.3 +1.3**
BJT Baijiatuau 24.09 269 P **P 21 42 47.7 +0.7**
BJT Baijiatuau 24.09 269 P **P 21 42 47.7 +0.7**
BJT pmax pmax
comp=Z,28nm,0.8s
JOW Kunigami 24.26 228 P **P 21 42 49.3 +0.6**
GSTR Great Sitkin T 24.42 60 P **P 21 42 50.0 0.0**
BILL Bilibino 24.84 16 P **P 21 42 53.3 -0.3**
BILL IAmb IAmb 21 42 55.3
comp=Z,83nm,0.8s
BILL Bilibino 24.84 16*d i*P **P 21 42 52.4 -1.2**
BILL *e**PP **pwP 21 43 22.3 -1.5**
BILL *e*S **S 21 46 59.1 -7.3**
BILL pmax pmax
comp=Z,94nm,0.8s
TIA Tai'an 25.11 260 P **P 21 42 58.4 +2.0**
TIA S **S 21 47 15.8 +4.5**
TIA sS **sS 21 48 01.8 +1.5**
TIA PcS **PcS 21 50 05.1 -2.4**
TIA pmax pmax
comp=Z,35nm,0.8s
HNS HongShan 26.23 265 ⇓P **P 21 43 07.9 +1.4**
HNS S **S 21 47 37.0 +8.1**
HNS pmax pmax
comp=Z,33nm,1.1s
HHC Hu-ho-hao-te 27.03 274 ⇑*i*P **P 21 43 15.3 +1.5**
HHC sP sP 21 44 00.8 +4.6
HHC S **S 21 47 42.3 +0.6**
HHC pmax pmax
comp=Z,140nm,0.8s
HHC pmax pmax
comp=Z,100nm,5.5s
HHC LR LR
comp=Z,250nm,13.5s
HHC LR LR
comp=Z,220nm,11.6s
HHC LR LR
comp=Z,230nm,10.8s
TIY Taiyuan 27.70 267 P **P 21 43 23.3 +3.6**
TIY pmax pmax
comp=Z,110nm,4.4s
TIXI Tiksi 28.21 347 P **P 21 43 21.2 -2.5**
TIXI Tiksi 28.21 347*ce*P **P 21 43 21.2 -2.5**
TIXI pmax pmax
comp=Z,43nm,0.9s
BTO Baotou 28.21 274 *e*P **P 21 43 25.5 +1.2**
BTO pP **pwP 21 43 52.0 -3.4**
BTO PP **PnPn 21 44 23.0 +3.3**
BTO S **S 21 48 05.4 +5.1**
BTO SS **SnSn 21 49 32.3 +0.2**
BTO pmax pmax
comp=Z,55nm,1.2s
BTO LR LR
comp=Z,630nm,7.8s
BTO LR LR
comp=Z,510nm,10.6s
BTO LR LR
comp=Z,440nm,9.8s
SPIA Saint Paul Isl 28.23 50 P **P 21 43 24.7 +0.6**
baz=263
ULN Ulaanbaatar 28.27 291 P **P 21 43 24.1 -0.7**
ULN IAmb IAmb 21 44 00.1
comp=Z,63nm,1.2s
ULN Ulaanbaatar 28.27 291 P **P 21 43 25.9 +1.1**
ULN S **S 21 47 58.2 -3.0**
ULN Ulaanbaatar 28.27 291 *e*P **P 21 43 24.5 -0.3**
ULN Ulaanbaatar 28.27 291*ce*P **P 21 43 24.5 -0.3**
ULN pmax pmax
comp=Z,38nm,1.0s
P08K Saint George I 28.55 51 P **P 21 43 27.4 +0.5**
baz=264
SONM Songino Array 28.71 291 P **P 21 43 28.4 -0.2**
SONM IAmb IAmb 21 44 03.6
comp=Z,35nm,1.1s
SONM Songino Array 28.71 291 P **P 21 43 28.5 -0.2**
comp=Z,16nm,0.6s,baz=84,slow=7.2,SNR=97
SONM pP **pwP 21 43 58.0 -2.2**
comp=Z,23nm,1.2s,baz=82,slow=7.8,SNR=3.7
SONM ScP **ScP 21 50 02.3 -2.2**
comp=Z,1.0nm,0.6s,baz=48,slow=2.1,SNR=3.5
SONM LR LR 21 56 12.2
comp=Z,259nm,19.6s,baz=86,slow=39
comp=Z,16nm,0.6s
SONM Songino Array 28.71 291 P **P 21 43 28.4 -0.2**
SONM pmax pmax
comp=Z,35nm,1.1s
NIKH Nikolski High 28.82 59 P **P 21 43 29.8 +0.4**
baz=272
GAMB Gambell 29.14 36 P **P 21 43 32.3 +0.3**
baz=249
LYN LuoYang 29.23 261 *e*P **P 21 43 33.5 +0.3**
LYN PcP **PcP 21 46 36.5 -0.4**
LYN S **S 21 48 17.9 +1.8**
LYN pmax pmax
comp=Z,23nm,0.3s
IRK Irkutsk 29.54 300 *e*P **P 21 43 33.6 -2.1**
IRK *e* 21 44 02.2
IRK pmax pmax
comp=Z,12nm,2.0s
H11N2 WAKE ISLAND Hy 29.64 143 T T 22 14 43.4
baz=333,slow=76
H11N1 WAKE ISLAND Hy 29.66 143 T T 22 14 52.1
baz=333,slow=76
H11N3 WAKE ISLAND Hy 29.66 143 T T 22 14 46.7
baz=333,slow=76
UNV Unalaska Valle 30.20 57 P **P 21 43 41.5 0.0**
baz=272
WHN Wuhan 30.23 253 P **P 21 43 44.9 +2.9**
WHN sP **sP 21 44 22.5 -2.8**
ZAK Zakamensk 30.34 296 *e*P **P 21 43 41.6 -1.4**
ZAK *e* 21 44 11.0
ZAK pmax pmax
comp=Z,29nm,1.3s
H11S1 WAKE ISLAND Hy 30.65 144 T T 22 16 04.7
baz=334,slow=76
H11S3 WAKE ISLAND Hy 30.66 144 T T 22 16 03.8
baz=334,slow=76
H11S2 WAKE ISLAND Hy 30.67 144 T T 22 16 07.2
baz=334,slow=76
M11K Mekoryuk 30.78 44 P **P 21 43 46.4 -0.1**
baz=261
TNA Tin City 31.28 34 P **P 21 43 51.3 +0.4**
TNA IAmb IAmb 21 43 54.8
comp=Z,46nm,0.9s
TNA Tin City 31.28 34 P **P 21 43 51.7 +0.8**
baz=251,SNR=22
TPUB Ta-pu 31.29 235 P **P 21 43 52.9 +1.4**
TPUB Ta-pu 31.29 235 P **P 21 43 51.4 -0.1**
TPUB IAmb IAmb 21 43 53.2
comp=Z,41nm,0.9s
GUMO Guam 31.54 186 LR LR 21 54 47.3
comp=Z,79nm,20.1s,baz=346,slow=32
MOY Mondy 31.61 299 *e*P **P 21 43 53.0 -1.1**
MOY pmax pmax
comp=Z,23nm,1.9s
K13K Kusilvak Mount 31.77 41 P **P 21 43 55.3 +0.1**
K13K IAmb IAmb 21 44 04.8
comp=Z,57nm,1.3s
K13K Kusilvak Mount 31.77 41 P **P 21 43 56.5 +1.2**
baz=260,SNR=13
F14K Arctic Creek 31.89 34 P **P 21 43 57.5 +1.2**
baz=253,SNR=28
XAN Xi'an 31.98 264 P **P 21 43 57.6 +0.1**
XAN sP sP 21 44 38.8 -1.6
XAN S **S 21 48 59.6 +0.3**
XAN pmax pmax
comp=Z,14nm,1.4s
XAN pmax pmax
comp=Z,160nm,6.4s
XAN LR LR
comp=Z,230nm,16.7s
XAN LR LR
comp=Z,330nm,15.3s
XAN LR LR
comp=Z,240nm,16.3s
ANM Nome 32.02 36 P **P 21 43 58.4 +0.9**
ANM Nome 32.02 36 P **P 21 43 58.7 +1.2**
baz=255
ANM Nome 32.02 36 P **P 21 43 58.4 +0.9**
ANM pmax pmax
comp=Z,106nm,1.4s
M13K Dall Lake 32.19 44 P **P 21 44 00.2 +1.3**
M13K Dall Lake 32.19 44 P **P 21 44 00.4 +1.5**
baz=264,SNR=13
J14K Nanvaranak Lak 32.42 40 P **P 21 44 01.6 +0.6**
J14K IAmb IAmb 21 44 03.0
comp=Z,70nm,1.2s
J14K Nanvaranak Lak 32.42 40 P **P 21 44 02.2 +1.3**
baz=260,SNR=9.0
L14K Kuka Creek 32.62 42 P **P 21 44 04.1 +1.5**
baz=263
F15K North Star Dit 32.62 34 P **P 21 44 03.9 +1.2**
F15K North Star Dit 32.62 34 P **P 21 44 03.9 +1.2**
baz=254,SNR=8.2
G15K Niukluk 32.69 36 P **P 21 44 04.3 +1.1**
baz=256,SNR=10
S12K Black Hills 32.71 53 P **P 21 44 01.9 -1.7**
M14K Bethel 32.90 44 IAmb IAmb 21 44 07.6
comp=Z,48nm,0.8s
M14K Bethel 32.90 44 P **P 21 44 06.5 +1.4**
baz=265
N14K Kuskokwak Cree 32.97 45 P **P 21 44 07.0 +1.2**
baz=266,SNR=14
O14K Tigyukauivet M 33.15 46 P **P 21 44 08.6 +1.3**
O14K Tigyukauivet M 33.15 46 P **P 21 44 08.7 +1.3**
baz=268,SNR=8.8
C16K Lisburne Hills 33.16 30 P **P 21 44 07.4 +0.1**
C16K Lisburne Hills 33.16 30 P **P 21 44 07.3 0.0**
baz=250,SNR=23
L15K Ungalak Mounta 33.23 42 P **P 21 44 09.1 +1.1**
baz=264,SNR=6.9
K15K Wolf Creek Mou 33.28 41 P **P 21 44 09.7 +1.3**
K15K IAmb IAmb 21 44 18.2
comp=Z,41nm,1.1s
K15K Wolf Creek Mou 33.28 41 P **P 21 44 09.7 +1.3**
baz=263,SNR=11
H16K Elim 33.36 37 P **P 21 44 09.8 +0.8**
baz=258,SNR=10
G16K Koyuk River 33.47 35 P **P 21 44 09.9 -0.1**
G16K IAmb IAmb 21 44 16.1
comp=Z,25nm,0.7s
G16K Koyuk River 33.47 35 P **P 21 44 10.6 +0.6**
baz=257,SNR=12
M15K Kasigluk River 33.52 44 P **P 21 44 11.6 +1.1**
baz=266,SNR=36
SDPT Sand Point 33.63 54 P **P 21 44 13.0 +1.5**
baz=274
N15K Kwethluk River 33.78 45 P **P 21 44 13.8 +1.0**
N15K Kwethluk River 33.78 45 P **P 21 44 14.1 +1.3**
baz=267,SNR=31
D17K Noatak River 33.79 31 P **P 21 44 13.4 +0.7**
baz=253,SNR=30
J16K Anvik River 33.84 39 P **P 21 44 14.4 +1.2**
baz=262,SNR=9.1
I17K Unalakleet 33.88 38 IAmb IAmb 21 44 21.2
comp=Z,33nm,0.8s
I17K Unalakleet 33.88 38 P **P 21 44 14.7 +1.1**
baz=261,SNR=17
O15K Ungalikthiuk R 33.88 47 P **P 21 44 15.0 +1.3**
baz=269,SNR=18
RDOG Red Dog Mine 33.95 30 IAmb IAmb 21 44 18.4
comp=Z,34nm,0.8s
RDOG Red Dog Mine 33.95 30 P **P 21 44 14.3 +0.1**
baz=253
C17K DeLong Mountai 33.99 30 P **P 21 44 14.9 +0.4**
baz=252,SNR=38
E17K Hotham Inlet 34.08 32 P **P 21 44 16.2 +0.9**
baz=255,SNR=59
F17K Baldwin Pennin 34.15 34 IAmb IAmb 21 44 20.2
comp=Z,56nm,0.9s
F17K Baldwin Pennin 34.15 34 P **P 21 44 17.0 +1.1**
baz=257,SNR=27
CHNA Chernabura Isl 34.18 54 P **P 21 44 16.2 -0.1**
baz=276
CNBA Chernabura Isl 34.18 54 P **P 21 44 15.4 -0.9**
CNBA IAmb IAmb 21 45 09.5
comp=Z,103nm,1.8s
L16K Owhat River 34.18 42 IAmb IAmb 21 44 18.2
comp=Z,26nm,0.8s
L16K Owhat River 34.18 42 P **P 21 44 17.4 +1.1**
baz=266,SNR=18
G17K Kiwalik Mounta 34.19 35 P **P 21 44 17.5 +1.3**
baz=259,SNR=68
M16K Timber Creek 34.38 43 IAmb IAmb 21 44 20.3
comp=Z,64nm,1.1s
M16K Timber Creek 34.38 43 P **P 21 44 19.2 +1.2**
baz=267,SNR=18
H17K Granite Mounta 34.39 36 IAmb IAmb 21 44 22.5
comp=Z,30nm,0.8s
H17K Granite Mounta 34.39 36 P **P 21 44 19.4 +1.4**
baz=260,SNR=25
N16K Nishlik Lake 34.45 44 P **P 21 44 20.0 +1.3**
baz=268,SNR=24
J17K VABM Dome 34.53 39 IAmb IAmb 21 44 21.9
comp=Z,64nm,1.1s
J17K VABM Dome 34.53 39 P **P 21 44 20.9 +1.6**
baz=263,SNR=30
LZH Lanzhou 34.54 271 ⇑P **P 21 44 21.3 +1.5**
LZH pP pwP 21 44 49.6 -1.1
LZH S **S 21 49 38.5 -0.5**
LZH ScP **ScP 21 50 24.8 +0.4**
LZH sS sS 21 50 29.4 +0.4
LZH pmax pmax
comp=Z,59nm,1.6s
LZH LR LR
comp=Z,280nm,12.4s
LZH LR LR
comp=Z,300nm,13.7s
LZH LR LR
comp=Z,200nm,13.7s
E18K Tukpahlearik C 34.63 32 P **P 21 44 21.2 +1.2**
E18K IAmb IAmb 21 44 25.8
comp=Z,21nm,0.7s
E18K Tukpahlearik C 34.63 32 P **P 21 44 20.7 +0.7**
baz=256,SNR=27
C18K Utukok River 34.74 30 P **P 21 44 21.3 +0.3**
baz=254
B18K Kokolik River 34.74 28 P **P 21 44 21.8 +0.9**
baz=252,SNR=21
L17K Donlin 34.77 41 P **P 21 44 22.9 +1.7**
baz=266,SNR=22
O16K Kokwok River B 34.77 46 IAmb IAmb 21 44 23.5
comp=Z,35nm,0.9s
O16K Kokwok River B 34.77 46 P **P 21 44 22.5 +1.2**
baz=270,SNR=12
F18K Selawik 34.81 34 P **P 21 44 22.6 +1.1**
baz=258,SNR=29
K17K Iditarod 34.81 40 IAmb IAmb 21 44 24.3
comp=Z,55nm,0.9s
K17K Iditarod 34.81 40 P **P 21 44 23.2 +1.6**
baz=265,SNR=32
P16K Nushagak River 34.83 47 P **P 21 44 23.4 +1.6**
baz=271
G18K Tagagawik 35.07 35 P **P 21 44 24.9 +1.0**
baz=260,SNR=103
H18K Honhosa River 35.07 36 P **P 21 44 25.0 +1.2**

baz=262,SNR=57
M17K Holitna River 35.14 43 P **P 21 44 26.3 +1.9**
baz=268,SNR=28
N17K Nushagak Hills 35.24 44 P **P 21 44 26.5 +1.2**
N17K IAmb IAmb 21 44 27.9
comp=Z,34nm,0.9s
N17K Nushagak Hills 35.24 44 P **P 21 44 27.1 +1.7**
baz=269,SNR=12
A19K Wainwright 35.24 27 P **P 21 44 25.7 +0.5**
baz=252,SNR=5.0
O17K Koliganek Bris 35.28 46 P **P 21 44 27.3 +1.7**
baz=270
C19K Lookout Ridge 35.42 29 P **P 21 44 27.6 +0.7**
baz=255,SNR=61
L18K Granite Mounta 35.53 41 IAmb IAmb 21 44 37.4
comp=Z,47nm,0.9s
L18K Granite Mounta 35.53 41 P **P 21 44 29.6 +1.9**
baz=267,SNR=25
Q16K King Salmon 35.53 47 P **P 21 44 28.9 +1.1**
baz=272
F19K Shaleruckik Mo 35.59 33 P **P 21 44 28.3 +0.1**
F19K IAmb IAmb 21 44 33.3
comp=Z,53nm,0.9s
F19K Shaleruckik Mo 35.59 33 P **P 21 44 28.8 +0.6**
baz=260,SNR=82
J18K Innoko River 35.60 39 IAmb IAmb 21 44 30.4
comp=Z,41nm,0.9s
J18K Innoko River 35.60 39 P **P 21 44 29.3 +1.0**
baz=266,SNR=49
P17K Kvichak River 35.63 47 P **P 21 44 29.7 +1.1**
baz=272
GCSA Galena City Sc 35.65 37 P **P 21 44 29.0 +0.3**
baz=264
G19K Purcell Mounta 35.74 35 IAmb IAmb 21 44 33.1
comp=Z,44nm,0.8s
G19K Purcell Mounta 35.74 35 P **P 21 44 29.9 +0.3**
baz=262,SNR=64
D19K Kuna River 35.79 31 P **P 21 44 30.4 +0.4**
baz=257,SNR=78
GTA Gaotai 35.87 278 ⇑P **P 21 44 32.6 +1.4**
GTA pP pwP 21 45 02.6 +0.1
GTA S **S 21 50 00.1 +0.8**
GTA ScP **ScP 21 50 29.3 +0.1**
GTA PcS **PcS 21 50 45.3 +2.2**
GTA sS sS 21 50 52.5 +3.0
GTA ScS **ScS 21 54 35.1 +0.2**
GTA pmax pmax
comp=Z,89nm,0.8s
GTA LR LR
comp=Z,140nm,13.1s
GTA LR LR
comp=Z,140nm,12.0s
GTA LR LR
comp=Z,160nm,11.6s
N18K Kilae Creek 35.88 44 P **P 21 44 32.8 +2.0**
baz=270,SNR=18
E19K Redstone River 35.91 32 P **P 21 44 31.9 +0.9**
baz=260,SNR=212
M18K Stony River 35.92 43 P **P 21 44 32.7 +1.6**
baz=269,SNR=17
H19K Roundabout Mou 35.92 36 P **P 21 44 32.3 +1.3**
baz=263,SNR=137
Q17K Contact Creek 35.96 48 P **P 21 44 32.1 +0.5**
baz=274
SVW2 Sparrevohn 36.03 43 P **P 21 44 34.2 +2.1**
SVW2 Sparrevohn 36.03 43 IAmb IAmb 21 44 42.5
comp=Z,34nm,1.1s
J19K Poorman 36.12 38 P **P 21 44 33.3 +0.5**
J19K Poorman 36.12 38 P **P 21 44 33.8 +1.0**
baz=266,SNR=68
O18K Koktuh Hills 36.23 45 IAmb IAmb 21 44 37.0
comp=Z,59nm,1.1s
O18K Koktuh Hills 36.23 45 P **P 21 44 35.2 +1.4**
baz=272,SNR=6.5
P18K Big Mountain, 36.24 46 P **P 21 44 34.2 +0.3**
baz=273,SNR=5.2
CHIR Chirikof Islan 36.33 52 P **P 21 44 35.0 +0.4**
baz=277
D20K Etivluk River 36.38 30 P **P 21 44 35.8 +0.8**
baz=258
L19K White Mountain 36.39 41 IAmb IAmb 21 44 37.6
comp=Z,38nm,1.3s
L19K White Mountain 36.39 41 P **P 21 44 36.3 +1.1**
baz=269,SNR=15
Q18K Katmai Hardscr 36.39 47 P **P 21 44 35.8 +0.5**
baz=274,SNR=6.0
F20K Avaraart Lake 36.42 33 IAmb IAmb 21 44 42.8
comp=Z,20nm,0.8s
F20K Avaraart Lake 36.42 33 P **P 21 44 35.7 +0.5**
baz=262,SNR=32
E20K Nigu River 36.44 31 P **P 21 44 36.2 +0.7**
baz=260,SNR=150
B20K Meade River 36.48 28 P **P 21 44 36.1 +0.4**
baz=256
H20K Anotleneega Mo 36.57 36 P **P 21 44 37.6 +1.0**
baz=265,SNR=139
N19K Bonanza Creek 36.57 44 IAmb IAmb 21 44 39.4
comp=Z,33nm,0.8s
N19K Bonanza Creek 36.57 44 P **P 21 44 38.3 +1.5**
baz=271,SNR=11
M19K Big River Lodg 36.60 42 IAmb IAmb 21 44 39.6
comp=Z,21nm,0.9s
M19K Big River Lodg 36.60 42 P **P 21 44 38.4 +1.4**
baz=270,SNR=10
I20K Naaghedeneel 36.68 37 IAmb IAmb 21 44 46.2
comp=Z,50nm,0.8s
I20K Naaghedeneel 36.68 37 P **P 21 44 38.7 +1.2**
baz=266,SNR=11
R18K Karluk 36.77 49 P **P 21 44 38.4 0.0**
baz=276
K20K Telida 36.78 40 IAmb IAmb 21 44 40.9
comp=Z,47nm,1.2s
K20K Telida 36.78 40 P **P 21 44 39.7 +1.2**
baz=268,SNR=23
J20K Nowinta River 36.78 38 P **P 21 44 39.2 +0.8**
J20K Nowinta River 36.78 38 P **P 21 44 39.7 +1.3**
baz=267,SNR=94
L20K Farewell, AK 36.85 41 P **P 21 44 40.3 +1.3**
baz=270,SNR=15
A21K Barrow 36.98 26 P **P 21 44 39.7 -0.3**
baz=255,SNR=27
IMAR Indian Mountai 37.08 35 P **P 21 44 41.7 +0.8**
Q19K Cape Douglas, 37.08 47 P **P 21 44 41.2 +0.1**
baz=274
C21K Knifeblade Rid 37.11 30 P **P 21 44 42.1 +1.0**
baz=260,SNR=69
M20K Styx River 37.20 42 IAmb IAmb 21 44 52.7
comp=Z,42nm,1.1s
M20K Styx River 37.20 42 P **P 21 44 44.0 +1.9**
baz=271,SNR=23
G21K Allakaket 37.23 34 P **P 21 44 43.3 +1.2**
baz=264,SNR=175
B21K Ikpikpuk River 37.26 29 P **P 21 44 43.1 +0.8**
baz=259,SNR=261
E21K Killik River 37.28 31 P **P 21 44 42.6 0.0**
E21K IAmb IAmb 21 44 47.7
comp=Z,42nm,0.8s
E21K Killik River 37.28 31 P **P 21 44 42.9 +0.2**
baz=262
F21K Alatna River 37.31 33 IAmb IAmb 21 44 50.1
comp=Z,44nm,0.8s
F21K Alatna River 37.31 33 P **P 21 44 43.5 +0.7**
baz=264,SNR=62
CD2 Chengdu 37.35 263 P **P 21 44 44.5 +0.9**
CD2 pP pP 21 45 16.1 +3.9
CD2 pmax pmax
comp=Z,30nm,0.7s
A22K Sinclair Lake 37.42 27 P **P 21 44 43.9 +0.2**
baz=257
H21K Melozitna Rive 37.44 36 P **P 21 44 45.1 +1.1**
baz=266,SNR=121
OHAK Old Harbor 37.44 50 P **P 21 44 46.3 +2.3**
OHAK Old Harbor 37.44 50 IAmb IAmb 21 44 45.1
comp=Z,56nm,1.2s
OHAK Old Harbor 37.44 50 P **P 21 44 44.3 +0.3**
baz=277
O20K Slope Mountain 37.52 45 P **P 21 44 45.2 +0.4**
baz=274
CHUM Lake Minchumin 37.58 39 P **P 21 44 46.7 +1.6**
baz=269
N20K Mount Spurr 37.66 43 P **P 21 44 47.7 +1.7**
baz=273,SNR=8.3
CAST Castle Rocks 37.67 39 P **P 21 44 46.9 +0.9**
CAST IAmb IAmb 21 44 48.6
comp=Z,46nm,0.8s
CAST Castle Rocks 37.67 39 P **P 21 44 47.6 +1.6**
baz=270

SPU Mount Spurr 37.74 43 IAmb IAmb 21 44 57.5
comp=Z,40nm,1.0s
KDAK Kodiak Island 37.75 49 P **P 21 44 46.7 +0.1**
KDAK Kodiak Island 37.75 49 P **P 21 44 46.8 +0.1**
baz=277
KDAK Kodiak Island 37.75 49 P **P 21 44 46.6 +0.1**
comp=Z,56nm,0.8s,baz=287,slow=5.5,SNR=28
comp=Z,56nm,0.8s
KDAK Kodiak Island 37.75 49 P **P 21 44 46.7 +0.1**
KDAK pmax pmax
comp=Z,57nm,0.9s
KDAK Kodiak Island 37.75 49 P **P 21 44 46.9 +0.2**
KDAK pP **pP 21 45 17.6 +2.3**
Q20K Shuyak Island 37.76 47 P **P 21 44 47.0 +0.3**
baz=276
B22K Teshekpuk Lake 37.79 28 P **P 21 44 47.2 +0.4**
baz=260
D22K Ayikyak River 37.81 30 P **P 21 44 47.9 +0.8**
baz=262,SNR=82
F22K John River 37.84 33 P **P 21 44 48.4 +1.1**
baz=264,SNR=125
SKT Skwentna 37.95 42 P **P 21 44 49.2 +0.9**
baz=272,SNR=11
GYA Guiyang 38.04 255 P **P 21 44 46.4 -3.2**
GYA pP sP 21 45 22.8 -11
GYA S **S 21 50 28.3 -4.0**
GYA pmax pmax
comp=Z,12nm,2.0s
H22K Ishtalitna Cre 38.04 35 P **P 21 44 50.5 +1.4**
baz=267,SNR=69
G22K Bettles 38.05 34 P **P 21 44 49.7 +0.6**
baz=266
BPAW Bear Paw Mtn. 38.16 38 IAmb IAmb 21 44 54.5
comp=Z,35nm,0.7s
BPAW Bear Paw Mtn. 38.16 38 P **P 21 44 51.2 +1.1**
baz=270,SNR=41
CNPM China Poot 38.26 46 P **P 21 44 50.7 -0.2**
CNPM IAmb IAmb 21 45 02.6
comp=Z,28nm,0.7s
MLY Manley 38.28 37 IAmb IAmb 21 44 58.3
comp=Z,38nm,1.2s
MLY Manley 38.28 37 P **P 21 44 52.4 +1.3**
baz=269,SNR=45
SUA Susitna One 38.35 43 IAmb IAmb 21 44 55.7
comp=Z,27nm,0.7s
SUA Susitna One 38.35 43 P **P 21 44 52.1 +0.3**
baz=274,SNR=15
BRLK Bradley Lake 38.42 45 IAmb IAmb 21 44 59.4
comp=Z,29nm,1.0s
NRIK Noril'sk 38.46 330 P **P 21 44 51.2 -1.2**
NRIK Noril'sk 38.46 330 P **P 21 44 51.1 -1.4**
comp=Z,40nm,0.9s,baz=104,slow=9.3,SNR=50
NRIK LR LR 22 01 39.7
comp=Z,107nm,20.1s,baz=124,slow=37
comp=Z,40nm,0.9s
NRIK Noril'sk 38.46 330 *ce*P **P 21 44 50.3 -2.2**
NRIK pmax pmax
comp=Z,57nm,1.1s
BRSE Bradley Lake S 38.49 45 P **P 21 44 54.1 +1.2**
baz=276
D23K Nanushuk River 38.54 30 P **P 21 44 54.0 +0.8**
baz=264
COLD Coldfoot 38.58 33 P **P 21 44 54.2 +0.7**
baz=267,SNR=34
G23K Bananza Creek 38.63 34 P **P 21 44 54.8 +0.8**
baz=268,SNR=90
M22K Willow 38.63 42 P **P 21 44 53.9 -0.1**
baz=274
C23K Itkillik River 38.67 29 P **P 21 44 54.8 +0.7**
baz=263,SNR=87
H23K Yukon River 38.79 36 P **P 21 44 56.8 +1.5**
baz=269,SNR=95
E23K Chandalar 38.86 32 P **P 21 44 56.9 +1.0**
baz=266,SNR=103
I23K Minto, Yukon-K 38.86 37 P **P 21 44 56.7 +0.8**
I23K IAmb IAmb 21 45 00.1
comp=Z,38nm,0.6s
I23K Minto, Yukon-K 38.86 37 P **P 21 44 57.0 +1.1**
baz=270,SNR=75
RC01 Rabbit Creek A 38.87 43 IAmb IAmb 21 44 57.4
comp=Z,45nm,0.8s
RC01 Rabbit Creek A 38.87 43 P **P 21 44 56.4 +0.4**
baz=275,SNR=12
TOLK Toolik Lake Re 38.92 31 P **P 21 44 57.0 +0.7**
baz=266,SNR=45
O22K Cooper Landing 38.93 44 P **P 21 44 56.6 +0.1**
baz=276
NEA2 Nenana 38.99 38 P **P 21 44 57.9 +0.9**
baz=271,SNR=78
MCK McKinley 39.08 39 IAmb IAmb 21 44 59.4
comp=Z,36nm,0.8s
MCK McKinley 39.08 39 P **P 21 44 58.3 +0.6**
baz=272,SNR=23
SEW Seward 39.10 45 P **P 21 44 58.0 +0.1**
SEW IAmb IAmb 21 45 10.5
comp=Z,65nm,1.1s
SEW Seward 39.10 45 P **P 21 44 57.9 0.0**
baz=276
PMR Palmer 39.12 42 P **P 21 44 59.8 +1.8**
PMR Palmer 39.12 42 IAmb IAmb 21 44 59.9
comp=Z,27nm,0.9s
PMR Palmer 39.12 42 P **P 21 44 58.0 0.0**
baz=275
RND Reindeer 39.13 39 IAmb IAmb 21 44 59.6
comp=Z,36nm,0.9s
D24K Happy Valley 39.23 30 P **P 21 44 59.5 +0.7**
baz=266,SNR=111
E24K Your Creek 39.28 32 P **P 21 45 00.5 +1.1**
baz=267,SNR=146
WAT1 Susitna Watana 39.30 40 P **P 21 44 59.7 +0.2**
baz=274
C24K Franklin Bluff 39.32 29 P **P 21 45 00.1 +0.6**
baz=265
MDM Murphy Dome 39.35 37 IAmb IAmb 21 45 04.4
comp=Z,41nm,0.8s
KWJN Gagan, Kwajale 39.42 149 P **P 21 45 02.0 +1.0**
KNK Knik Glacier 39.45 43 P **P 21 45 00.9 +0.1**
KNK IAmb IAmb 21 45 03.2
comp=Z,52nm,0.8s
KNK Knik Glacier 39.45 43 P **P 21 45 01.5 +0.6**
baz=276,SNR=14
SML Sawmill 39.48 42 P **P 21 45 02.0 +0.9**
baz=275,SNR=68
H24K Noodor Dome 39.48 36 IAmb IAmb 21 45 05.4
comp=Z,42nm,0.7s
H24K Noodor Dome 39.48 36 P **P 21 45 02.5 +1.5**
baz=271,SNR=66
F24K Squaw Lake 39.49 33 P **P 21 45 01.6 +0.5**
F24K IAmb IAmb 21 45 07.0
comp=Z,33nm,0.7s
F24K Squaw Lake 39.49 33 P **P 21 45 01.9 +0.8**
baz=269,SNR=58
COLA College 39.51 37 P **P 21 45 01.7 +0.5**
COLA College 39.51 37 P **P 21 45 02.5 +1.3**
CCB Clear Creek Bu 39.54 37 IAmb IAmb 21 45 05.9
comp=Z,27nm,0.7s
PWL Port Wells 39.57 43 IAmb IAmb 21 45 03.1
comp=Z,31nm,0.7s
PWL Port Wells 39.57 43 P **P 21 45 01.8 0.0**
baz=276,SNR=14
G24K Hadweenzic Riv 39.64 34 IAmb IAmb 21 45 09.4
comp=Z,56nm,0.8s
G24K Hadweenzic Riv 39.64 34 P **P 21 45 03.9 +1.6**
baz=270,SNR=104
POKR Poker Plat Res 39.68 37 P **P 21 45 04.2 +1.5**
baz=272,SNR=28
WAT6 Susitna Watana 39.69 41 P **P 21 45 03.4 +0.4**
baz=275,SNR=20
M23K Glacier View 39.77 42 P **P 21 45 04.1 +0.7**
baz=276,SNR=11
DHY Denali Highway 39.81 40 P **P 21 45 04.2 +0.2**
DHY IAmb IAmb 21 45 05.5
comp=Z,47nm,1.0s
DHY Denali Highway 39.81 40 P **P 21 45 04.5 +0.6**
baz=274,SNR=52
HDA Harding Lake 39.92 38 IAmb IAmb 21 45 06.0
comp=Z,36nm,0.6s
HDA Harding Lake 39.92 38 P **P 21 45 05.1 +0.4**
baz=273,SNR=21
IL31 39.93 37 IAmb IAmb 21 45 09.3
comp=Z,34nm,0.8s
ILAR Eielson Array 39.93 37 P **P 21 45 05.2 +0.5**
ILAR Eielson Array 39.93 37 P **P 21 45 05.0 +0.3**
comp=Z,28nm,0.8s,baz=257,slow=6.3,SNR=109
ILAR ScP **ScP 21 50 42.4 -1.6**
comp=Z,1.2nm,0.9s,baz=292,slow=4.7,SNR=4.8
comp=Z,28nm,0.8s

ILAR Eielson Array 39.93 37 P **P 21 45 05.2 +0.5**
SCM Sheep Creek Mo 39.95 42 IAmb IAmb 21 45 06.9
comp=Z,58nm,1.1s
SCM Sheep Creek Mo 39.95 42 P **P 21 45 05.9 +0.9**
baz=276,SNR=18
D25K Kavik River 40.11 30 P **P 21 45 06.7 +0.5**
baz=268,SNR=165
P23K Montague Islan 40.13 45 P **P 21 45 07.0 +0.6**
baz=278,SNR=6.1
GLI Glacier Island 40.17 43 IAmb IAmb 21 45 08.0
comp=Z,31nm,0.7s
GLI Glacier Island 40.17 43 P **P 21 45 07.0 +0.3**
baz=277,SNR=9.0
G25K Bearman Lake 40.18 34 P **P 21 45 08.2 +1.5**
baz=271,SNR=30
H25L Birch Creek 40.31 35 P **P 21 45 09.4 +1.6**
baz=272,SNR=16
F25K Christian Rive 40.35 33 P **P 21 45 09.6 +1.4**
baz=271,SNR=50
M24K Tolsona, Glenn 40.46 41 P **P 21 45 10.6 +1.4**
M24K Tolsona, Glenn 40.46 41 P **P 21 45 10.7 +1.4**
baz=277,SNR=19
PRP Porcupine Dome 40.46 36 P **P 21 45 10.4 +1.1**
baz=273,SNR=50
K24K Donnelly Dome 40.47 39 P **P 21 45 09.3 +0.1**
baz=275,SNR=9.7
FID Port Fidalgo 40.49 43 IAmb IAmb 21 45 10.8
comp=Z,75nm,1.5s
HIN Hinchinbrook I 40.52 44 IAmb IAmb 21 45 11.6
comp=Z,31nm,0.8s
J25K Salcha River, 40.59 37 IAmb IAmb 21 45 13.9
comp=Z,22nm,0.7s
J25K Salcha River, 40.59 37 P **P 21 45 09.7 -0.5**
baz=274,SNR=52
C26K Camden Bay 40.64 29 P **P 21 45 11.6 +1.1**
baz=268,SNR=59
KLU Klutina 40.65 42 IAmb IAmb 21 45 13.5
comp=Z,65nm,1.0s
KLU Klutina 40.65 42 P **P 21 45 11.8 +1.0**
baz=278,SNR=45
PAX Paxson 40.69 40 P **P 21 45 11.3 +0.3**
PAX Paxson 40.69 40 P **P 21 45 11.9 +0.8**
baz=276,SNR=22
PAX Paxson 40.69 40 P **P 21 45 11.4 +0.3**
PAX pmax pmax
comp=Z,22nm,1.0s
Q23K Middleton Isla 40.75 45 P **P 21 45 12.8 +1.4**
baz=280
DIV Divide 40.77 43 P **P 21 45 12.2 +0.4**
DIV IAmb IAmb 21 45 13.9
comp=Z,64nm,1.0s
ZALV Zalesovo Beam 40.83 306 P **P 21 45 10.6 -1.7**
comp=Z,4.7nm,0.3s,baz=72,slow=8.0,SNR=26
ZALV PcP **PcP 21 47 10.9 +0.4**
comp=Z,5.8nm,0.7s,baz=70,slow=2.9,SNR=5.9
ZALV ScP **ScP 21 50 46.2 -1.4**
comp=Z,7.2nm,0.9s,baz=72,slow=4.8,SNR=9.2
ZALV LR LR 22 02 28.9
comp=Z,112nm,19.6s,baz=52,slow=36
comp=Z,4.7nm,0.3s
EYAK Cordova Ski Ar 40.87 44 P **P 21 45 14.7 +2.2**
EYAK Cordova Ski Ar 40.87 44 P **P 21 45 13.4 +1.0**
baz=279
HARP HAARP 40.90 41 P **P 21 45 14.1 +1.4**
baz=277,SNR=12
F26K Sheenjek River 40.92 33 P **P 21 45 14.5 +1.6**
baz=272,SNR=111
C27K Jago River 41.05 30 P **P 21 45 14.8 +0.9**
baz=270,SNR=162
QIZ Qiongzhong 41.09 243 P **P 21 45 14.6 -0.1**
QIZ sP **sP 21 46 00.1 +1.1**
QIZ S **S 21 51 17.1 -0.6**
QIZ sS **sS 21 52 12.4 +3.7**
QIZ pmax pmax
comp=Z,27nm,2.2s
QIZ LR LR
comp=Z,320nm,16.0s
QIZ LR LR
comp=Z,450nm,18.5s
QIZ LR LR
comp=Z,290nm,13.5s
G26K Porcupine Rive 41.09 34 P **P 21 45 15.9 +1.7**
baz=273,SNR=100
SCRK Sand Creek 41.25 38 IAmb IAmb 21 45 23.8
comp=Z,47nm,0.9s
SCRK Sand Creek 41.25 38 P **P 21 45 15.9 +0.2**
baz=276,SNR=79
N25K Chitina, Valde 41.27 42 IAmb IAmb 21 45 18.2
comp=Z,57nm,1.6s
N25K Chitina, Valde 41.27 42 P **P 21 45 17.0 +1.2**
baz=278,SNR=16
BMRM Bremner River 41.36 43 P **P 21 45 17.2 +0.6**
BMRM IAmb IAmb 21 45 18.8
comp=Z,60nm,0.9s
BMRM Bremner River 41.36 43 P **P 21 45 17.8 +1.2**
baz=279,SNR=34
J26L Joseph Creek 41.37 37 P **P 21 45 16.4 -0.3**
baz=276,SNR=30
PZH PanZhiHua 41.41 259 P **P 21 45 16.4 -1.0**
PZH S **S 21 51 20.5 -2.1**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,150nm,7.8s
RAGM Ragged Mountai 41.42 44 IAmb IAmb 21 45 20.4
comp=Z,55nm,1.2s
I26K Coal Creek Min 41.47 36 P **P 21 45 16.5 -0.8**
I26K Coal Creek Min 41.47 36 P **P 21 45 16.8 -0.5**
baz=275
MENT Mentasta 41.49 40 P **P 21 45 19.3 +1.7**
MENT Mentasta 41.49 40 P **P 21 45 18.5 +0.9**
MENT IAmb IAmb 21 45 27.6
comp=Z,34nm,0.7s
KMI Kunming 41.59 257 ⇓P **P 21 45 20.8 +1.7**
KMI pP pP 21 45 51.6 +3.2
KMI sP sP 21 46 06.6 +3.4
KMI LR LR
comp=Z,190nm,13.4s
KMI LR LR
comp=Z,210nm,14.0s
KMI LR LR
comp=Z,240nm,19.6s
KAIM Kayak Island 41.63 44 IAmb IAmb 21 45 21.6
comp=Z,62nm,1.0s
KAIM Kayak Island 41.63 44 P **P 21 45 20.1 +1.4**
baz=280,SNR=13
HMT Hamilton 41.63 44 IAmb IAmb 21 45 21.3
comp=Z,55nm,1.3s
L26K Log Cabin Wild 41.65 40 IAmb IAmb 21 45 22.0
comp=Z,51nm,0.9s
L26K Log Cabin Wild 41.65 40 P **P 21 45 20.3 +1.5**
baz=278,SNR=31
E27K Coleen River 41.86 32 IAmb IAmb 21 45 28.2
comp=Z,16nm,0.6s
E27K Coleen River 41.86 32 P **P 21 45 21.7 +1.2**
baz=274,SNR=45
VRDI Verde Repeater 41.87 42 IAmb IAmb 21 45 23.2
comp=Z,37nm,0.8s
M26K Nabesna, AK 41.90 41 P **P 21 45 22.8 +1.9**
baz=279,SNR=109
SUCK Suckling Hills 41.92 44 IAmb IAmb 21 45 24.0
comp=Z,39nm,1.2s
G27K Doyon Strip 41.94 34 P **P 21 45 22.8 +1.6**
G27K IAmb IAmb 21 45 30.3
comp=Z,27nm,0.8s
G27K Doyon Strip 41.94 34 P **P 21 45 22.8 +1.6**
baz=275,SNR=33
D27M Malcolm River 42.03 30 P **P 21 45 22.4 +0.5**
D27M IAmb IAmb 21 45 24.1
comp=Z,47nm,1.1s
D27M Malcolm River 42.03 30 P **P 21 45 22.8 +0.9**
baz=273,SNR=39
H27K Steamboat Moun 42.05 35 P **P 21 45 23.9 +1.8**
baz=276,SNR=70
MCARA McCarthy VSAT 42.05 42 IAmb IAmb 21 45 27.3
comp=Z,41nm,0.9s
MCARA McCarthy VSAT 42.05 42 P **P 21 45 23.6 +1.6**
baz=280,SNR=12
K27K Chicken 42.08 38 P **P 21 45 23.1 +0.8**
K27K Chicken 42.08 38 P **P 21 45 23.6 +1.3**
baz=278
I27K Kandik River 42.08 36 P **P 21 45 22.9 +0.5**
baz=276,SNR=27
CRQE Cirque 42.13 43 P **P 21 45 24.5 +1.6**
baz=281,SNR=36
TGL Tana Glacier 42.25 43 IAmb IAmb 21 45 26.5
comp=Z,60nm,1.1s

L27K **Beaver Creek,** 42.33 39 P P 21 45 26.3 +1.9
baz=279,SNR=105
BCAR **Beaver Creek A** 42.34 39 P P 21 45 26.4 +1.9
WMQ **Urumqi** 42.35 291 eP P 21 45 26.3 +1.4
WMQ sP sP 21 46 10.1 +2.0
WMQ pmax pmax
comp=Z,49nm,0.7s
WMQ pmax pmax
comp=Z,170nm,3.7s
WMQ LR LR
comp=Z,320nm,11.9s
WMQ LR LR
comp=Z,270nm,11.9s
WMQ LR LR
comp=Z,190nm,22.9s
EGAK **Eagle** 42.37 37 IAmb IAmb 21 45 32.5
comp=Z,59nm,0.8s
EGAK **Eagle** 42.37 37 P P 21 45 25.2 +0.5
baz=278,SNR=58
M27K **Edge Creek, AK** 42.42 40 P P 21 45 27.1 +1.9
baz=280,SNR=118
ISLE **Juniper Island** 42.52 43 IAmb IAmb 21 45 28.4
comp=Z,50nm,0.8s
F28M **Old Crow** 42.56 33 IAmb IAmb 21 45 28.8
comp=Z,43nm,0.9s
F28M **Old Crow** 42.56 33 P P 21 45 27.7 +1.6
baz=276,SNR=50
E28M **Babbage River** 42.59 31 P P 21 45 27.6 +1.1
baz=275,SNR=71
DAV **Davao City (W)** 42.71 214 LR LR 21 59 59.2
comp=Z,97nm,21.0s,baz=340,slow=31
DAV **Davao City (W)** 42.71 214 P P 21 45 30.4 +2.5
I28M **Miner Creek** 42.79 36 P P 21 45 29.5 +1.3
baz=278,SNR=210
MESA **MESA** 42.79 44 P P 21 45 29.6 +1.2
MESA **MESA** 42.79 44 P P 21 45 30.0 +1.6
baz=282,SNR=11
ZSN **Zaisan** 42.80 297 eP P 21 45 28.0 -0.4
baz=297
ZSN **Zaisan** 42.80 297 eP P 21 45 28.0 -0.4
CTG **Chitna Glacier** 42.93 42 P P 21 45 30.8 +1.4
baz=282,SNR=31
CTGM **Chitina Glacie** 42.93 42 IAmb IAmb 21 45 31.9
comp=Z,70nm,0.9s
TABL **Table Mountain** 43.13 43 IAmb IAmb 21 45 33.3
comp=Z,50nm,0.8s
YUK3 **Moose Creek** 43.18 41 P P 21 45 32.7 +1.2
baz=282,SNR=39
E29M **Blow River** 43.22 31 P P 21 45 32.8 +1.4
E29M IAmb IAmb 21 45 37.3
comp=Z,44nm,0.7s
E29M **Blow River** 43.22 31 P P 21 45 32.8 +1.4
baz=277,SNR=103
DAWY **Dawson** 43.24 38 P P 21 45 32.3 +0.6
baz=280,SNR=17
H29M **Whitestone** 43.32 34 IAmb IAmb 21 45 42.3
comp=Z,40nm,0.9s
H29M **Whitestone** 43.32 34 P P 21 45 34.0 +1.7
baz=279,SNR=38
G29M **Pine Creek** 43.36 33 P P 21 45 34.0 +1.4
G29M **Pine Creek** 43.36 33 P P 21 45 34.5 +2.0
baz=278,SNR=74
I29M **Ogilvie Camp,** 43.48 36 P P 21 45 34.9 +1.3
baz=280,SNR=115
O28M **Mount Upton** 43.52 43 P P 21 45 35.5 +1.2
baz=283,SNR=14
YUK8 **Steele Glacier** 43.61 42 P P 21 45 36.0 +1.0
baz=283
PCA **Pinnacle** 43.64 44 IAmb IAmb 21 45 37.1
comp=Z,29nm,0.7s
PINM **Pinnacle** 43.64 44 P P 21 45 36.2 +1.1
baz=283,SNR=9.9
EPYK **Eagle Plains** 43.95 34 P P 21 45 38.8 +1.4
baz=280,SNR=89
M29M **Somme Creek** 43.96 40 P P 21 45 39.5 +1.9
baz=282,SNR=36
L29M **L29M** 43.97 39 IAmb IAmb 21 45 40.9
comp=Z,65nm,0.9s
L29M **L29M** 43.97 39 P P 21 45 39.9 +2.3
baz=282,SNR=60
BCPM **Bancas Point** 43.98 44 IAmb IAmb 21 45 39.8
comp=Z,94nm,1.8s
G30M **tAoh Zraii Nji** 44.05 33 P P 21 45 38.9 +0.8
G30M **tAoh Zraii Nji** 44.05 33 P P 21 45 39.3 +1.2
baz=280,SNR=83
K29M **Barlow Dome** 44.09 38 IAmb IAmb 21 45 41.3
comp=Z,48nm,1.3s
K29M **Barlow Dome** 44.09 38 P P 21 45 40.2 +1.6
baz=282,SNR=33
F30M **Barrier River** 44.11 32 P P 21 45 40.5 +1.9
baz=279,SNR=189
YUK4 **Talbot Arm** 44.12 41 P P 21 45 40.5 +1.5
baz=283,SNR=9.2
PNL **Peninsula** 44.16 44 P P 21 45 42.0 +2.9
PNL **Peninsula** 44.16 44 P P 21 45 40.1 +1.0
baz=284,SNR=5.1
I30M **Mount Dempster** 44.30 36 P P 21 45 41.5 +1.2
baz=281,SNR=188
YUK6 **Outpost Mounta** 44.35 42 P P 21 45 42.4 +1.6
baz=284,SNR=17
O29M **Mount Kennedy** 44.41 43 P P 21 45 42.8 +1.6
baz=284
J30M **Hart River** 44.45 37 IAmb IAmb 21 45 52.9
comp=Z,23nm,0.7s
J30M **Hart River** 44.45 37 P P 21 45 42.9 +1.4
baz=282,SNR=70
SEM **Semipalatinsk** 44.59 302 eP P 21 45 41.4 -1.4
comp=Z,18nm,0.6s,baz=302
SEM **Semipalatinsk** 44.59 302 eP P 21 45 41.4 -1.4
SEM pmax pmax
comp=Z,18nm,0.6s
MK31 **Makanchi Array** 44.68 297 P P 21 45 43.0 -0.4
MK31 **Makanchi Array** 44.68 297 P P 21 45 43.0 -0.4
MK31 pmax pmax
comp=Z,63nm,0.8s
MKAR **Makanchi Array** 44.68 297 P P 21 45 43.3 -0.1
MKAR **Makanchi Array** 44.68 297 P P 21 45 43.1 -0.3
comp=Z,65nm,0.8s,baz=75,slow=7.8,SNR=253
MKAR LR LR 22 04 46.2
comp=Z,283nm,20.2s,baz=72,slow=36
comp=Z,65nm,0.8s
MKAR **Makanchi Array** 44.68 297 *i* P P 21 45 43.0 -0.4
MKAR pmax pmax
comp=Z,65nm,0.8s
M30M **Minto, Yukon** 44.69 39 P P 21 45 44.8 +1.6
M30M IAmb IAmb 21 45 46.4
comp=Z,35nm,0.9s
M30M **Minto, Yukon** 44.69 39 P P 21 45 45.2 +1.9
baz=284
G31M **Satah River** 44.81 33 IAmb IAmb 21 45 47.5
comp=Z,52nm,0.8s
G31M **Satah River** 44.81 33 P P 21 45 45.1 +1.1
baz=281,SNR=86
N30M **Aishikik Lake** 44.82 41 P P 21 45 46.1 +1.7
baz=284,SNR=15
INK **Inuvik** 44.83 31 IAmb IAmb 21 45 46.2
comp=Z,38nm,0.7s
INK **Inuvik** 44.83 31 P P 21 45 45.2 +1.0
baz=281,SNR=38
MAYO **Mayo, Yukon** 44.85 38 P P 21 45 46.5 +1.9
baz=283
MAKZ **Makanchi** 44.87 297 P P 21 45 44.7 -0.2
MAKZ IAmb IAmb 21 45 46.5
comp=Z,63nm,0.8s
MAKZ **Makanchi** 44.87 297 P P 21 45 44.7 -0.2
MAKZ pmax pmax
comp=Z,63nm,0.9s
MAKZ **Makanchi** 44.87 297 P P 21 45 44.6 -0.2
F31M **Tsiigehtchic** 44.91 32 P P 21 45 46.0 +1.2
baz=281,SNR=7.7
P29M **Windy Craggy** 44.99 44 P P 21 45 47.5 +1.9
P29M **Windy Craggy** 44.99 44 P P 21 45 47.9 +2.3
baz=286,SNR=57
P30M **Million Dollar** 45.23 43 P P 21 45 50.1 +2.4
baz=286
N31M **Braeburn, Yuko** 45.42 41 IAmb IAmb 21 45 52.4
comp=Z,64nm,0.8s
N31M **Braeburn, Yuko** 45.42 41 P P 21 45 51.4 +2.3
baz=285,SNR=46
KURK **Kurchatov** 45.45 303 P P 21 45 48.7 -0.6
KURK IAmb IAmb 21 45 49.3
comp=Z,77nm,1.1s
KURK **Kurchatov** 45.45 303 P P 21 45 48.8 -0.6
KURK S S 21 52 16.3 -4.3
KURK **Kurchatov** 45.45 303 eP P 21 45 48.7 -0.6
KURK **Kurchatov** 45.45 303 P P 21 45 48.7 -0.6
KURK pmax pmax
comp=Z,77nm,1.2s
KURK **Kurchatov** 45.45 303 P P 21 45 48.5 -0.8
O30N **Mendenhall** 45.47 42 P P 21 45 51.5 +2.1
baz=286,SNR=27
KURBB **Kurchatov Arra** 45.53 303 P P 21 45 49.1 -0.9
comp=Z,32nm,0.5s,baz=73,slow=8.4,SNR=200
KURBB ScP ScP 21 51 05.0 -1.8
comp=Z,3.3nm,1.0s,baz=67,slow=3.7,SNR=7.3
comp=Z,32nm,0.5s
PLBC **Pleasant Camp** 45.71 44 P P 21 45 53.5 +2.2
baz=287,SNR=26
M31M **Drury Creek, Y** 45.87 40 IAmb IAmb 21 45 55.4
comp=Z,67nm,1.1s
M31M **Drury Creek, Y** 45.87 40 P P 21 45 54.4 +1.8
baz=286,SNR=78
WHY **Whitehorse** 46.07 42 P P 21 45 56.3 +2.0
baz=287
SKAG **Skagway** 46.21 43 P P 21 45 58.1 +2.9
SKAG **Skagway** 46.21 43 IAmb IAmb 21 45 58.5
comp=Z,35nm,1.3s
SKAG **Skagway** 46.21 43 P P 21 45 57.3 +2.1
baz=288
S31K **Pelican** 46.23 46 P P 21 45 56.7 +1.4
S31K **Pelican** 46.23 46 P P 21 45 57.4 +2.1
baz=288
FARO **Faro, Yukon** 46.33 39 P P 21 45 57.7 +1.6
FARO IAmb IAmb 21 45 58.8
comp=Z,44nm,0.9s
FARO **Faro, Yukon** 46.33 39 P P 21 45 57.7 +1.6
baz=286
BESE **Bessie Mountai** 46.72 44 P P 21 46 00.4 +1.1
BESE IAmb IAmb 21 46 02.3
comp=Z,84nm,1.7s
N32M **Quiet Lake** 46.77 41 P P 21 46 01.1 +1.4
baz=288
A36M **Sachs Harbour** 46.81 25 P P 21 46 00.5 +0.8
baz=284,SNR=34
LSA **Lhasa** 46.95 271 *i* P P 21 46 04.6 +2.6
SNR=5.3
LSA **Lhasa** 46.95 271 P P 21 46 03.8 +1.8
LSA **Lhasa** 46.95 271 P P 21 46 05.4 +3.4
P32M **Atlin** 46.95 43 P P 21 46 03.0 +1.9
baz=289,SNR=9.7
SIT **Sitka** 46.98 47 P P 21 46 03.8 +2.6
SIT **Sitka** 46.98 47 IAmb IAmb 21 46 04.7
comp=Z,37nm,1.2s
SIT **Sitka** 46.98 47 P P 21 46 03.6 +2.3
baz=290
R32K **Eaglecrest** 46.98 45 IAmb IAmb 21 46 04.5
comp=Z,32nm,0.8s
R32K **Eaglecrest** 46.98 45 P P 21 46 03.4 +2.1
baz=289,SNR=11
JIS **Juneau Island** 47.05 45 P P 21 46 04.4 +2.6
JIS **Juneau Island** 47.05 45 IAmb IAmb 21 46 05.0
comp=Z,37nm,0.8s
MMPY **Sheldon Lake,** 47.14 38 P P 21 46 04.5 +1.9
MMPY **Sheldon Lake,** 47.14 38 P P 21 46 04.4 +1.9
baz=288
P33M **Teslin, Yukon** 47.18 42 P P 21 46 04.2 +1.3
P33M IAmb IAmb 21 46 05.9
comp=Z,54nm,0.9s
P33M **Teslin, Yukon** 47.18 42 P P 21 46 05.0 +2.0
baz=289,SNR=55
S32K **Killisnoo** 47.23 46 P P 21 46 05.3 +2.2
baz=290,SNR=8.4
OMEGA **Omega** 47.48 348 eP P 21 46 02.2 -2.6
ZFI2 **Zemlya Franca-** 47.48 348 eP P 21 46 02.2 -2.6
PHRA **Phrae** 47.77 252 P P 21 46 09.1 +1.3
Q32M **Nakina River** 47.86 43 P P 21 46 10.7 +2.4
baz=290,SNR=12
TDK **Taldyqorghan** 47.89 296 eP P 21 46 08.1 -0.5
baz=296
TDK **Taldyqorghan** 47.89 296 eP P 21 46 08.0 -0.5
SHLS **Shalkode** 48.04 293 eP P 21 46 07.4 -2.5
comp=Z,16nm,0.6s,baz=293
SHLS **Shalkode** 48.04 293 eP P 21 46 07.3 -2.5
SHLS pmax pmax
comp=Z,17nm,0.6s
UZB **Uzynbulak** 48.33 294 eP P 21 46 11.7 -0.4
comp=Z,30nm,0.7s,baz=294
UZB **Uzynbulak** 48.33 294 eP P 21 46 11.7 -0.4
UZB pmax pmax
comp=Z,30nm,0.7s
R33M **Jennings River** 48.34 43 IAmb IAmb 21 46 15.3
comp=Z,31nm,0.9s
R33M **Jennings River** 48.34 43 P P 21 46 14.0 +2.1
baz=291,SNR=36
KPKS **Kokpek** 48.41 294 eP P 21 46 12.3 -0.3
comp=Z,27nm,0.7s,baz=294
KPKS **Kokpek** 48.41 294 eP P 21 46 12.3 -0.3
KPKS pmax pmax
comp=Z,27nm,0.7s
CHTO **Chiang Mai** 48.43 254 P P 21 46 13.2 +0.3
CHTO **Chiang Mai** 48.43 254 P P 21 46 13.2 +0.3
CHTO pmax pmax
comp=Z,14nm,0.8s
U33K **Whale Pass** 48.46 47 IAmb IAmb 21 46 16.2
comp=Z,23nm,0.9s
U33K **Whale Pass** 48.46 47 P P 21 46 15.0 +2.4
baz=292,SNR=5.9
ARXS **Arharly** 48.61 295 eP P 21 46 14.1 0.0
CMAR **Chiang Mai Arr** 48.67 253 P P 21 46 15.8 +1.0
comp=Z,2.1nm,0.7s,baz=40,slow=7.2,SNR=12
CMAR pP pP 21 46 46.2 +1.3
comp=Z,7.5nm,0.8s,baz=40,slow=7.3,SNR=8.6
CMAR PcP PcP 21 47 39.2 +1.1
comp=Z,3.2nm,0.8s,baz=36,slow=2.1,SNR=5.5
CMAR ScP ScP 21 51 21.2 +0.7
comp=Z,1.9nm,0.9s,baz=23,slow=3.8,SNR=8.8
CMAR LR LR 22 07 17.4
comp=Z,53nm,18.4s,baz=65,slow=36
CRAG **Craig** 48.70 48 IAmb IAmb 21 46 18.0
comp=Z,28nm,0.9s
CRAG **Craig** 48.70 48 P P 21 46 16.8 +2.3
baz=293
WRAK **Wrangell Islan** 48.74 47 P P 21 46 17.1 +2.3
baz=292
SATY **Saty** 48.77 294 eP P 21 46 15.1 -0.4
comp=Z,35nm,0.8s,baz=294
SATY **Saty** 48.77 294 eP P 21 46 15.0 -0.4
SATY pmax pmax
comp=Z,35nm,0.8s
S34M **Telegraph Cree** 48.80 44 P P 21 46 17.3 +2.1
S34M IAmb IAmb 21 46 18.6
comp=Z,26nm,1.0s
S34M **Telegraph Cree** 48.80 44 P P 21 46 17.6 +2.3
baz=292
TGTN **Hyland Airport** 48.83 39 P P 21 46 17.4 +1.8
baz=291
SHL **Shillong** 48.91 266 P P 21 46 17.3 +0.5
SHL **Shillong** 48.91 266 P P 21 46 17.5 +0.7
SHL pmax pmax
comp=Z,11nm,0.7s
WTLY **Watson Lake, Y** 49.10 41 IAmb IAmb 21 46 20.3
comp=Z,24nm,0.9s
WTLY **Watson Lake, Y** 49.10 41 P P 21 46 19.3 +1.7
baz=292,SNR=5.3
WUS **Wushi** 49.13 291 P P 21 46 19.5 +1.3
DLBC **Dease Lake** 49.14 43 IAmb IAmb 21 46 21.4
comp=Z,34nm,1.2s
DLBC **Dease Lake** 49.14 43 P P 21 46 20.2 +2.2
baz=292,SNR=6.1
DLBC **Dease Lake** 49.14 43 P P 21 46 19.9 +1.9
comp=Z,12nm,0.5s,baz=290,slow=7.9,SNR=5.2
comp=Z,12nm,0.5s
BVAR **Borovoye Array** 49.27 309 P P 21 46 17.9 -1.0
comp=Z,8.8nm,0.3s,baz=60,slow=8.8,SNR=73
BVAR PcP PcP 21 47 41.0 +1.2
comp=Z,2.8nm,0.4s,baz=67,slow=5.1,SNR=5.1
BVAR ScP ScP 21 51 21.2 -1.3
comp=Z,4.2nm,1.0s,baz=93,slow=5.9,SNR=4.5
BVAR LR LR 22 09 13.7
comp=Z,88nm,18.8s,baz=56,slow=38
comp=Z,8.8nm,0.3s
BRVK **Borovoye** 49.31 309 P P 21 46 18.6 -0.7
BRVK IAmb IAmb 21 46 19.5
comp=Z,36nm,1.0s
BRVK **Borovoye** 49.31 309 P P 21 46 18.5 -0.7
BRVK **Borovoye** 49.31 309 eP P 21 46 18.6 -0.7
BRVK **Borovoye** 49.31 309 P P 21 46 18.6 -0.7
BRVK pmax pmax
comp=Z,36nm,1.0s
BRVK **Borovoye** 49.31 309 P P 21 46 18.3 -0.9
CHKK **Chushkaly** 49.32 295 eP P 21 46 19.1 -0.3
baz=295
CHKK **Chushkaly** 49.32 295 eP P 21 46 19.1 -0.3
V35K **Ketchikan** 49.55 48 P P 21 46 23.0 +2.0
baz=294
T35M **Bob Quinn** 49.59 45 IAmb IAmb 21 46 25.4
comp=Z,36nm,0.8s
T35M **Bob Quinn** 49.59 45 P P 21 46 24.3 +2.9
baz=293,SNR=22
MDOK **Medeo** 49.60 295 eP P 21 46 21.4 -0.3
MDOK baz=294 eS S 21 53 17.7 -2.3
baz=294
MDOK **Medeo** 49.60 295 eP P 21 46 21.4 -0.3
MDOK eS S 21 53 17.6 -2.3
AAA **Alma-Ata** 49.67 295 eP P 21 46 21.9 -0.2
comp=Z,34nm,0.7s,baz=295
AAA **Alma-Ata** 49.67 295 eP P 21 46 21.9 -0.2
AAA **Alma-Ata** 49.67 295 eP P 21 46 21.9 -0.2
AAA pmax pmax
comp=Z,34nm,0.7s
TNSS **Tian-Shan** 49.73 294 eP P 21 46 22.4 -0.7
baz=294
TNSS **Tian-Shan** 49.73 294 eP P 21 46 22.3 -0.7
TARG **Taragay, Kyrgy** 49.80 293 P P 21 46 25.0 +1.4
TARG **Taragay, Kyrgy** 49.80 293 P P 21 46 25.0 +1.4
TARG pmax pmax
comp=Z,74nm,1.1s
FAKI **Fak Fak** 49.90 201 P P 21 46 23.4 -0.6
WRGLY **Wrigley** 50.27 36 P P 21 46 27.5 +1.2
WRGLY IAmb IAmb 21 46 29.1
comp=Z,65nm,1.3s
WRGLY **Wrigley** 50.27 36 P P 21 46 28.2 +1.9
baz=293
ULHL **Ulahol** 50.56 294 P P 21 46 30.4 +1.3
SNR=22
BTLS **Baital** 50.62 298 eP P 21 46 28.8 -0.4
baz=298
BTLS **Baital** 50.62 298 eP P 21 46 28.2 -1.0
BTLS pmax pmax
comp=Z,23nm,1.1s
LIRD **Liard River Hi** 50.64 41 P P 21 46 31.2 +2.1
baz=294
TKM2 **Tokmak 2** 50.65 295 P P 21 46 30.9 +1.1
SNR=95
RUBB **Prince Rupert** 50.68 48 IAmb IAmb 21 46 32.5
comp=Z,18nm,0.9s
SGDS **Sogindy** 51.01 296 eP P 21 46 31.9 -0.4
comp=Z,26nm,0.8s,baz=296
SGDS **Sogindy** 51.01 296 eP P 21 46 31.9 -0.4
SGDS pmax pmax
comp=Z,26nm,0.8s
GRNB **Grenville Isla** 51.04 49 P P 21 46 34.6 +2.3
GRNB IAmb IAmb 21 46 35.3
comp=Z,28nm,0.6s
NRN **Naryn** 51.12 293 IAmb IAmb 21 47 01.2
comp=Z,29nm,0.8s
CHMS **Chumysh** 51.16 295 P P 21 46 34.1 +0.8
SNR=36
USP **Ospenovka** 51.19 296 P P 21 46 34.5 +1.0
SNR=166
KBK **Karagaybulak** 51.20 295 P P 21 46 34.9 +1.1
SNR=84
TOAD **Toad River Com** 51.28 42 P P 21 46 36.1 +2.1
baz=295,SNR=20
KOTAN **Kotaneelee Air** 51.28 40 P P 21 46 35.6 +1.7
baz=295
FRU1 **Bishkek** 51.33 295 P P 21 46 35.9 +1.3
FRU1 **Bishkek** 51.33 295 P P 21 46 35.9 +1.3
FRU1 pmax pmax
comp=Z,104nm,0.6s
AAK **Ala-Archa** 51.50 295 P P 21 46 37.0 +1.0
SNR=29
AAK **Ala-Archa** 51.50 295 P P 21 46 36.6 +0.6
AAK **Ala-Archa** 51.50 295 *i* P P 21 46 36.9 +0.8
SNR=29
AAK **Ala-Archa** 51.50 295 LR LR 22 12 09.8
comp=Z,75nm,19.7s,baz=72,slow=40
AAK **Ala-Archa** 51.50 295 P P 21 46 37.2 +1.1
AAK **Ala-Archa** 51.50 295 eP P 21 46 36.8 +0.8
AAK **Ala-Archa** 51.50 295 *ce* P P 21 46 36.8 +0.8
AAK pmax pmax
comp=Z,80nm,0.9s
AAK **Ala-Archa** 51.50 295 P P 21 46 36.9 +0.8
UCH **Uchtor** 51.69 295 P P 21 46 38.8 +1.0
SNR=19
ALE **Alert** 51.70 5 P P 21 46 35.3 -1.5
ALE pP pP 21 47 07.6 +0.6
EKS2 **Erkin-Say** 51.95 295 P P 21 46 40.4 +1.1
SNR=120
KSH **Kashi** 52.12 291 P P 21 46 45.3 +4.7
KSH pP pP 21 47 14.0 +3.7
KSH sP sP 21 47 33.4 +8.8
KSH S S 21 54 00.8 +6.2
KSH pmax pmax
comp=Z,42nm,1.2s
AML **Almayashu** 52.26 295 P P 21 46 43.4 +1.4
SNR=49
HUH **Hualalai** 52.37 100 P P 21 46 43.8 +0.9
POHA **Pohakuloa** 52.53 100 P P 21 46 45.1 +1.1
SVE **Sverdlovsk** 52.71 316 *d* *i* P P 21 46 43.8 -0.7
SVE pmax pmax
comp=Z,84nm,0.7s
KHU **Kahuku** 52.82 100 P P 21 46 46.6 +0.5
KHU **Kahuku** 52.82 100 P P 21 46 46.6 +0.5
KHU pmax pmax
comp=Z,139nm,0.8s
NOR **Nord** 53.29 357 *i* P P 21 46 45.4 -3.0
NOR IAmb IAmb 21 46 48.5
comp=Z,22nm,0.9s
RES **Resolute Bay** 53.44 17 LR LR 22 11 46.1
comp=Z,56nm,19.6s,baz=98,slow=38
RES **Resolute Bay** 53.44 17 P P 21 46 49.3 -0.3
RES pmax pmax
comp=Z,55nm,0.7s
KBS **Kingsbay** 53.58 350 P P 21 46 48.6 -2.1
KBS IAmb IAmb 21 46 50.9
comp=Z,34nm,0.8s
KBS **Kingsbay** 53.58 350 eP P 21 46 49.0 -1.6
KBS IAmb IAmb 21 46 50.7
comp=Z,35nm,0.8s
KBS **Kingsbay** 53.58 350 *ce* P P 21 46 49.1 -1.5
KBS pmax pmax
comp=Z,35nm,0.9s
KBS **Kingsbay** 53.58 350 *i* P P 21 46 48.1 -2.6
KBS **Kingsbay** 53.58 350 P P 21 46 48.9 -1.8
KBS pP pP 21 47 21.4 +0.6
KBS sP sP 21 47 34.9 -0.3
KKAR **Karatay Array** 53.79 297 P P 21 46 53.4 +0.7
KKAR **Karatay Array** 53.79 297 P P 21 46 53.4 +0.7
ARU **Arti** 53.91 317 P P 21 46 51.9 -1.3
ARU **Arti** 53.91 317 LR LR 22 12 51.7
comp=Z,118nm,19.1s,baz=44,slow=39
ARU **Arti** 53.91 317 *c* *i* P P 21 46 52.0 -1.3
ARU *PP pwP 21 47 26.9 0.0
ARU 21 47 56.5
ARU S S 21 54 16.5 -1.6
ARU 21 56 23.8
ARU SS SKiKP 21 57 54.8 +3.0
ARU pmax pmax
comp=Z,161nm,1.4s
ARU MLR MLR
comp=Z,158nm,16.0s
ARU **Arti** 53.91 317 P P 21 46 51.2 -2.1
ARU **Arti** 53.91 317 P P 21 46 52.2 -1.1
YKA **Yellowknife Ar** 54.23 35 P P 21 46 56.3 +0.7
YKA **Yellowknife Ar** 54.23 35 P P 21 46 56.4 +0.9
comp=Z,17nm,0.7s,baz=303,slow=7.1,SNR=83
YKA LR LR 22 13 28.1
comp=Z,53nm,18.5s,baz=268,slow=40
comp=Z,17nm,0.7s
YKA **Yellowknife Ar** 54.23 35 *i* P P 21 46 56.4 +0.9
YKA pmax pmax
comp=Z,19nm,0.8s
BRLS **Borolday** 54.25 298 eP P 21 46 57.2 +1.2
baz=298
BRLS **Borolday** 54.25 298 eP P 21 46 57.2 +1.2
PMG **Port Moresby** 54.26 181 LR LR 22 08 31.3
comp=Z,78nm,21.1s,baz=278,slow=34
IUG **Iuzhnay** 54.59 297 eP P 21 46 58.4 -0.3
comp=Z,20nm,0.6s,baz=297
IUG eS S 21 54 26.7 -1.2
baz=297
IUG **Iuzhnay** 54.59 297 eP P 21 46 58.3 -0.3
IUG eS S 21 54 26.7 -1.2
IUG pmax pmax
comp=Z,20nm,0.6s
OZB **Mount Ozzard** 55.84 53 P P 21 47 07.8 +0.4
OZB IAmb IAmb 21 48 48.1

comp=Z,40nm,1.2s
TULEG Thule 56.36 10 IAmb IAmb 21 47 09.9
comp=Z,29nm,0.8s
TULEG Thule 56.36 10 *i* P **P 21 47 08.5 -2.0**
TULEG IAmb IAmb 21 47 09.6
comp=Z,28nm,0.8s
ABKAR Akbulak array 56.84 309 P **P 21 47 14.4 0.0**
VADS Vadso 56.88 339 *eP* **P 21 47 12.9 -1.5**
VADS IAmb IAmb 21 47 13.7
comp=Z,54nm,1.0s
LVZ Lovozero 56.90 336 P **P 21 47 13.2 -1.3**
LVZ Lovozero 56.90 336 *ceP* **P 21 47 13.3 -1.3**
LVZ pmax pmax
comp=Z,66nm,0.9s
LVZ Lovozero 56.90 336 P **P 21 47 13.1 -1.4**
KIRV Kirov 57.02 322 LR LR 22 13 33.1
comp=Z,64nm,18.9s,baz=52,slow=38
KIRV Kirov 57.02 322 *ceP* **P 21 47 14.3 -1.2**
CHGR Chuyangaron 57.04 294 P **P 21 47 16.5 +0.4**
CHGR Chuyangaron 57.04 294 P **P 21 47 16.5 +0.4**
CHGR pmax pmax
comp=Z,251nm,1.1s
NEEM North Greenlan 57.13 5 *i* P **P 21 47 14.4 -2.0**
NEEM IAmb IAmb 21 47 16.6
comp=Z,118nm,0.9s
SIMJ Simiganj 57.14 294 P **P 21 47 16.6 -0.3**
SIMJ Simiganj 57.14 294 P **P 21 47 17.2 +0.4**
NIL Nilore 57.17 286 P **P 21 47 17.2 +0.2**
NIL Nilore 57.17 286 P **P 21 47 18.4 +1.4**
NIL Nilore 57.17 286 P **P 21 47 17.2 +0.2**
NIL pmax pmax
comp=Z,105nm,1.2s
NIL Nilore 57.17 286 P **P 21 47 18.4 +1.4**
AKTO Aktyubinsk 57.26 311 LR LR 22 14 38.8
comp=Z,101nm,20.2s,baz=215,slow=39
APA Apatity 57.47 336 ⇓ *iP* **P 21 47 15.3 -3.2**
APA *i* *PP **pwP 21 47 48.0 -4.6**
APA pmax pmax
comp=Z,49nm,0.7s
APA MLR MLR
comp=Z,200nm,14.0s
NLWA Neilton Lookou 57.59 54 IAmb IAmb 21 47 22.2
comp=Z,12nm,0.6s
KEV Kevo 57.73 339 P **P 21 47 19.1 -1.2**
KEV Kevo 57.73 339 P **P 21 47 19.1 -1.2**
KEV pmax pmax
comp=Z,39nm,0.9s
KEV Kevo 57.73 339 P **P 21 47 18.9 -1.4**
KEV sP **sP 21 48 05.6 +0.8**
HAMF Hammerfest 57.89 341 *eP* **P 21 47 19.8 -1.6**
HAMF IAmb IAmb 21 47 20.2
comp=Z,55nm,1.2s
DAG Danmarks Havn 58.12 356 P **P 21 47 21.5 -1.4**
DAG pmax pmax
comp=Z,42nm,1.1s
DAG Danmarks Havn 58.12 356 *i* P **P 21 47 21.3 -1.6**
DAG IAmb IAmb 21 47 24.4
comp=Z,40nm,1.1s
E03A Lebam 58.23 54 P **P 21 47 25.6 +1.5**
E03A IAmb IAmb 21 47 33.7
comp=Z,18nm,1.0s
ADZR Andozero 58.24 331 ⇑ *iP* **P 21 47 22.9 -1.0**
ADZR pmax pmax
comp=Z,103nm,1.0s
ARCES ARCESS Array B 58.26 340 P **P 21 47 22.4 -1.6**
ARCES IAmb IAmb 21 47 23.8
comp=Z,36nm,1.1s
ARCES ARCESS Array B 58.26 340 P **P 21 47 23.2 -0.8**
comp=Z,8.2nm,0.5s,baz=47,slow=11,SNR=14
ARCES LR LR 22 16 60.0
comp=Z,48nm,19.1s,baz=52,slow=40
comp=Z,8.2nm,0.5s
ARCES ARCESS Array B 58.26 340 P **P 21 47 22.4 -1.6**
ARCES pmax pmax
comp=Z,36nm,1.1s
BTDF Bukit Timah Da 58.55 235 P **P 21 47 28.0 +1.2**
SOEI Soe 58.74 208 P **P 21 47 29.1 +1.0**
COEN Coen 58.96 186 P **P 21 47 30.4 +1.0**
COEN Coen 58.96 186 P **P 21 47 29.4 0.0**
COEN IAmb IAmb 21 47 31.1
comp=Z,38nm,1.1s
KTK1 Kautokeino 59.19 340 *eP* **P 21 47 29.2 -1.3**
KTK1 IAmb IAmb 21 47 30.0
comp=Z,36nm,1.0s
F04A Amboy 59.23 54 IAmb IAmb 21 47 33.4
comp=Z,20nm,0.7s
KDU Kakadu 59.27 198 P **P 21 47 31.2 -0.4**
DRS Darwin Rock St 59.38 200 P **P 21 47 32.7 +0.3**
comp=Z,34nm,0.9s
KULLO Kullorsuaq 59.39 8 *i* P **P 21 47 29.9 -1.8**
KULLO IAmb IAmb 21 47 32.9
comp=Z,64nm,0.7s
KBL Kabul 59.48 290 P **P 21 47 32.7 -0.5**
KBL IAmb IAmb 21 47 35.7
comp=Z,33nm,0.8s
KBL Kabul 59.48 290 P **P 21 47 33.1 -0.2**
SNR=14
KBL Kabul 59.48 290 P **P 21 47 32.7 -0.5**
KBL pmax pmax
comp=Z,33nm,0.9s
TRO Tromso 59.73 342 *eP* **P 21 47 32.8 -1.2**
TRO IAmb IAmb 21 47 33.9
comp=Z,211nm,1.6s
MTN Manton Dam 59.73 199 P **P 21 47 35.3 +0.6**
H04D Lebanon 59.85 56 IAmb IAmb 21 47 59.1
comp=Z,29nm,1.3s
MSF Maaselka 59.88 336 P **P 21 47 34.4 -0.8**
MSF pmax pmax
comp=Z,123nm,0.9s
J01E Myrtle Point 59.93 58 P **P 21 47 37.1 +1.2**
J01E IAmb IAmb 21 47 38.7
comp=Z,24nm,0.8s
I03D Drain, OR 59.97 57 IAmb IAmb 21 47 39.0
comp=Z,18nm,0.6s
H04A Detroit Lake 60.08 55 IAmb IAmb 21 47 39.4
comp=Z,21nm,0.9s
KBO Bosley Butte 60.30 59 P **P 21 47 40.6 +2.0**
DBO Dodson Butte 60.37 57 P **P 21 47 40.6 +1.6**
DBO IAmb IAmb 21 47 41.3
comp=Z,8.1nm,0.6s
I04A Tendick Farm, 60.47 56 IAmb IAmb 21 47 42.0
comp=Z,20nm,0.8s
D08A Wollman Farm, 60.57 52 P **P 21 47 40.1 -0.1**
KSXB Camp Six Broad 60.73 59 P **P 21 47 43.0 +1.4**
KSXB IAmb IAmb 21 48 27.2
comp=Z,34nm,1.7s
I05D Terrebonne, OR 60.78 55 IAmb IAmb 21 47 44.1
comp=Z,16nm,0.7s
E08A Dider Farm, El 60.82 52 IAmb IAmb 21 47 43.9
comp=Z,11nm,0.8s
HUMO Hull Mountain 60.83 58 P **P 21 47 42.9 +0.8**
NEW Newport 60.84 50 IAmb IAmb 21 47 50.9
comp=Z,17nm,1.0s
NEW Newport 60.84 50 P **P 21 47 43.4 +1.3**
baz=306,SNR=9.9
NEW Newport 60.84 50 P **P 21 47 43.3 +1.2**
JOF Joensuu 61.26 332 *eP* **P 21 47 44.2 -0.4**
E09A Wood Farm, Sta 61.32 52 IAmb IAmb 21 47 47.4
comp=Z,13nm,0.7s
PINE Pine Mountain 61.33 56 IAmb IAmb 21 47 48.5
comp=Z,27nm,0.7s
KHMM Horse Mountain 61.38 60 P **P 21 47 47.8 +1.7**
KHMM IAmb IAmb 21 47 49.0
comp=Z,48nm,1.4s
OUL Oulu 61.38 336 P **P 21 47 44.2 -1.2**
J05D Fort Rock, OR 61.46 56 IAmb IAmb 21 47 49.3
comp=Z,22nm,0.9s
BELG Belogornoye 61.46 317 *c iP* **P 21 47 45.6 -0.5**
BELG pmax pmax
comp=Z,13nm,0.9s
YBH Yreka Blue Hor 61.50 58 P **P 21 47 48.1 +1.4**
YBH IAmb IAmb 21 47 49.8
comp=Z,42nm,1.6s
YBH Yreka Blue Hor 61.50 58 P **P 21 47 48.1 +1.4**
YBH pmax pmax
comp=Z,42nm,1.6s
STEI Steigen 61.90 342 *eP* **P 21 47 47.4 -1.4**
LOF Lofoten 62.10 342 *eP* **P 21 47 49.2 -1.0**
FAUS Fauske 62.33 341 *eP* **P 21 47 50.4 -1.3**
FAUS IAmb IAmb 21 47 51.1
comp=Z,44nm,0.9s
O02D Mt. Diablo Mer 62.38 60 P **P 21 47 54.0 +1.4**
O02D IAmb IAmb 21 47 55.4
comp=Z,31nm,1.3s
VALR Valaam 62.50 331 *c iP* **P 21 47 51.7 -1.2**

SUMG Summit 62.53 2 *i* P **P 21 47 52.0 -1.4**
SUMG IAmb IAmb 21 47 55.4
comp=Z,164nm,1.0s
HATC Hat Creek Radi 62.80 59 IAmb IAmb 21 47 57.9
comp=Z,28nm,0.9s
HOPS Hopland Field 62.91 61 IAmb IAmb 21 47 58.4
comp=Z,55nm,1.4s
MTSU Mount Surprise 63.03 184 P **P 21 47 57.4 +0.5**
GDXM Geysers 63.20 61 IAmb IAmb 21 48 01.4
comp=Z,26nm,1.3s
MSO Missoula 63.43 50 IAmb IAmb 21 48 08.0
comp=Z,28nm,1.0s
MSO Missoula 63.43 50 P **P 21 48 00.9 +1.5**
baz=308,SNR=11
WVOR Wild Horse Val 63.49 56 P **P 21 48 01.0 +1.0**
WVOR IAmb IAmb 21 48 09.4
comp=Z,16nm,1.0s
WVOR Wild Horse Val 63.49 56 P **P 21 48 01.0 +1.0**
WVOR pmax pmax
comp=Z,16nm,1.0s
MOR8 Moi Rana 63.52 341 *eP* **P 21 47 57.2 -2.4**
MOR8 IAmb IAmb 21 47 58.2
comp=Z,107nm,1.2s
KONS Konsvik 63.55 342 *eP* **P 21 47 59.6 -0.2**
HYB Hyderabad 63.61 269 *eP* **P 21 48 00.9 -0.1**
STOK Stokkvaagen 63.71 342 *eP* **P 21 47 59.7 -1.1**
MOS Moscow 63.83 324 *eP* **P 21 47 59.8 -1.9**
MOS *e* 21 50 22.0
MOS pmax pmax
comp=Z,200nm,1.5s
MOS pmax pmax
comp=Z,89nm,1.1s
PUL Pulkovo 63.83 330 *ceP* **P 21 48 01.0 -0.7**
PUL pmax pmax
comp=Z,230nm,0.9s
VAF Ylistaro 63.86 336 *eP* **P 21 48 01.2 -0.6**
KEF Keuruu 63.87 334 *eP* **P 21 48 01.5 -0.4**
FINES FINESS Array B 64.03 333 P **P 21 48 02.4 -0.6**
FINES FINESS Array B 64.03 333 P **P 21 48 01.9 -1.1**
comp=Z,145nm,0.5s,baz=40,slow=7.4,SNR=1058
FINES LR LR 22 18 07.2
comp=Z,50nm,19.4s,baz=50,slow=38
FINES FINESS Array B 64.03 333 P **P 21 48 02.4 -0.6**
HRA Herat 64.05 293 IAmb IAmb 21 48 05.4
comp=Z,21nm,0.7s
FFC Flin Flon 64.14 37 P **P 21 48 04.2 +0.4**
FFC Flin Flon 64.14 37 P **P 21 48 04.2 +0.4**
FFC pmax pmax
comp=Z,50nm,0.8s
FFC Flin Flon 64.14 37 P **P 21 48 04.8 +1.0**
FFC PcP **PcP 21 48 39.5 +1.7**
SCO Scoresbysund 64.51 356 IAmb IAmb 21 48 07.4
comp=Z,29nm,1.0s
SCO Scoresbysund 64.51 356 *i* P **P 21 48 04.5 -1.4**
SCO IAmb IAmb 21 48 07.2
comp=Z,25nm,0.9s
MPK Martis Peak 64.60 59 P **P 21 48 09.3 +1.9**
OBN Obninsk 64.69 324 LR LR 22 18 31.4
comp=Z,58nm,18.4s,baz=160,slow=38
OBN Obninsk 64.69 324 *d iP* **P 21 48 06.0 -1.4**
OBN *e* *PP **PcP 21 48 43.2 +3.2**
OBN *e* 21 50 30.0
OBN *e* PPP PPP 21 52 08.1
OBN pmax pmax
comp=Z,95nm,0.9s
PAHR Pah Rah Range 64.73 58 IAmb IAmb 21 48 10.3
comp=Z,30nm,1.3s
EMB Emerald Bay 64.75 59 P **P 21 48 09.5 +1.1**
EMB IAmb IAmb 21 48 11.6
comp=Z,24nm,0.7s
EGMT Eagleton 64.88 46 IAmb IAmb 21 48 11.1
comp=Z,31nm,1.0s
EGMT Eagleton 64.88 46 P **P 21 48 10.2 +1.4**
baz=310,SNR=18
CTA Charters Tower 64.90 182 P **P 21 48 08.8 -0.3**
comp=Z,0.7nm,0.9s,baz=7.2,slow=7.1,SNR=6.5
CTA LR LR 22 17 26.9
comp=Z,7.2nm,19.1s,baz=239,slow=37
CTAO Charters Tower 64.90 182 P **P 21 48 09.1 0.0**
PNTR Pine Nut 64.99 59 IAmb IAmb 21 48 12.2
comp=Z,21nm,0.8s
VRH Novokhopyorsk 65.04 318 *c iP* **P 21 48 08.8 -0.9**
VRH pmax pmax
comp=Z,117nm,0.7s
DLMT Dillon 65.08 50 P **P 21 48 11.4 +1.1**
CMB Columbia Colle 65.17 60 IAmb IAmb 21 48 12.9
comp=Z,17nm,0.9s
HLID Hailey 65.22 53 P **P 21 48 12.6 +1.4**
baz=310,SNR=11
YERR Yerington 65.27 59 IAmb IAmb 21 48 14.0
comp=Z,51nm,1.2s
LPSR Galich'ya Gora 65.39 321 *eP* **P 21 48 10.6 -1.3**
LPSR pmax pmax
comp=Z,120nm,0.8s
BOZ Bozeman (W) 65.45 49 IAmb IAmb 21 48 14.8
comp=Z,18nm,0.6s
BOZ Bozeman (W) 65.45 49 P **P 21 48 13.8 +1.1**
baz=310,SNR=36
WAKR Walker 65.45 60 IAmb IAmb 21 48 15.3
comp=Z,22nm,1.1s
NSS Namsos 65.47 341 *eP* **P 21 48 11.1 -1.2**
NSS IAmb IAmb 21 48 11.6
comp=Z,38nm,1.4s
MEF Metsahovi 65.50 333 *eP* **P 21 48 12.3 -0.2**
ARBE Arbavere 65.57 332 *eP* **P 21 48 12.7 -0.3**
BMN Battle Mountai 65.57 57 IAmb IAmb 21 48 15.8
comp=Z,14nm,0.6s
RAF Rauma 65.70 335 *eP* **P 21 48 12.8 -0.9**
WB0 Warramunga Arr 65.78 194 P **P 21 48 13.9 -0.9**
WB0 IAmb IAmb 21 49 00.2
comp=Z,34nm,0.8s
QIS Mount Isa 65.82 189 P **P 21 48 14.7 -0.3**
KVN Kaiserville 65.92 58 P **P 21 48 16.8 +1.0**
KVN IAmb IAmb 21 48 18.1
comp=Z,37nm,1.2s
KVN Kaiserville 65.92 58 P **P 21 48 16.8 +1.0**
KVN pmax pmax
comp=Z,37nm,1.2s
RYN Ryan 65.93 59 IAmb IAmb 21 48 18.1
comp=Z,18nm,0.9s
WR0 Warramunga Arr 65.95 194 IAmb IAmb 21 49 01.2
comp=Z,18nm,0.8s
WRAB Tennant Creek 65.95 194 P **P 21 48 14.4 -1.5**
WRAB IAmb IAmb 21 49 01.4
comp=Z,32nm,0.8s
WRAB Tennant Creek 65.95 194 P **P 21 48 14.4 -1.5**
WRAB pmax pmax
comp=Z,32nm,0.9s
WB2 Warramunga Arr 65.96 194 IAmb IAmb 21 49 01.4
comp=Z,35nm,0.8s
WRA Warramunga Arr 65.96 194 P **P 21 48 13.9 -2.0**
WRA Warramunga Arr 65.96 194 P **P 21 48 15.1 -0.8**
comp=Z,11nm,1.0s,baz=10,slow=6.7,SNR=58
comp=Z,11nm,1.0s
ICESG Greenland Ices 65.98 3 *i* P **P 21 48 14.9 -1.0**
ICESG IAmb IAmb 21 48 18.3
comp=Z,91nm,0.6s
VSU Vasula 66.05 331 *ceP* **P 21 48 15.1 -0.9**
VSU pmax pmax
comp=Z,106nm,0.9s
YHL Hebgen Lake 66.17 50 P **P 21 48 18.0 +0.5**
FITZ Fitzroy Crossi 66.19 204 P **P 21 48 17.5 +0.2**
NVAR Mina Array Bea 66.19 59 P **P 21 48 19.0 +1.4**
NVAR Mina Array Bea 66.19 59 P **P 21 48 18.9 +1.2**
comp=Z,17nm,0.8s,baz=294,slow=7.0,SNR=87
comp=Z,17nm,0.8s
VSR Storozhevoye 66.22 320 *eP* **P 21 48 16.7 -0.6**
VSR pmax pmax
comp=Z,80nm,0.5s
YHB Horse Butte 66.23 50 IAmb IAmb 21 48 23.7
comp=Z,17nm,0.9s
NV11 Mina Array Sit 66.28 59 P **P 21 48 19.1 +0.9**
NV11 IAmb IAmb 21 48 20.4
comp=Z,20nm,1.1s
VORD Divnogorie 66.34 319 *eP* **P 21 48 17.2 -0.8**
VORD pmax pmax
comp=Z,70nm,0.6s
MLAC Mammoth, Mammo 66.37 60 P **P 21 48 20.0 +1.2**
baz=310
H17A Grant Village 66.80 50 P **P 21 48 22.9 +1.4**
baz=311
MTSE Matsula 66.85 332 *eP* **P 21 48 21.1 0.0**
FLWY Flagg Ranch 66.94 50 P **P 21 48 23.1 +0.9**
TBLU Trondheim 66.96 341 *eP* **P 21 48 20.0 -1.8**
TBLU IAmb IAmb 21 48 20.3
comp=Z,73nm,1.4s

SOEG Soedalen 67.02 360 *i* P **P 21 48 20.4 -1.6**
SOEG IAmb IAmb 21 48 23.4
comp=Z,40nm,0.9s
RLMT Red Lodge 67.02 49 P **P 21 48 24.0 +1.2**
baz=312,SNR=7.5
FXWY Fox Creek 67.05 51 IAmb IAmb 21 48 33.9
comp=Z,32nm,1.7s
DSP Deep Springs 67.07 60 IAmb IAmb 21 48 25.6
comp=Z,32nm,1.0s
SMMC Simmler 67.13 63 P **P 21 48 24.8 +1.4**
baz=310
MOOW Moose Ponds 67.13 51 P **P 21 48 24.9 +1.4**
LOHW Long Hollow 67.30 51 IAmb IAmb 21 48 35.3
comp=Z,27nm,1.4s
SFJD Kangerlussuaq 67.31 8 P **P 21 48 23.1 -0.8**
SFJD IAmb IAmb 21 48 24.7
comp=Z,35nm,0.8s
SFJD Kangerlussuaq 67.31 8 LR LR 22 17 39.6
comp=Z,45nm,20.7s,baz=353,slow=36
SFJD Kangerlussuaq 67.31 8 P **P 21 48 23.1 -0.8**
SFJD pmax pmax
comp=Z,35nm,0.9s
VES Vestal, Richgr 67.36 62 P **P 21 48 25.7 +0.9**
baz=310
DGMT Dagmar 67.36 43 P **P 21 48 25.9 +1.3**
baz=313,SNR=9.1
PKM Mcpherson Peak 67.51 63 P **P 21 48 27.1 +1.0**
baz=310
MAK Makhachkala 67.52 309 *eP* **P 21 48 25.9 +0.3**
MAK *e* *PP **pP 21 48 56.6 -0.4**
MAK *e* *SP **sP 21 49 11.4 +0.4**
MAK *e* 21 50 53.9
MAK *e* PPP PPP 21 52 35.1
MAK *e* S **S 21 57 14.2 +2.9**
MAK *e* *SS **sS 21 58 04.5 -0.3**
MAK *e* SS **SS 22 01 38.4 +5.0**
MAK pmax pmax
comp=Z,140nm,0.9s
GMN Gold Mountain 67.55 59 P **P 21 48 26.8 +0.5**
LAO LASA Array 67.56 46 IAmb IAmb 21 48 28.6
comp=Z,25nm,1.0s
LAO LASA Array 67.56 46 P **P 21 48 27.1 +1.1**
baz=313,SNR=5.7
CWC Cottonwood Cre 67.60 61 P **P 21 48 27.1 +0.6**
baz=310
GRAC Grapevine Rang 67.68 60 IAmb IAmb 21 48 29.2
comp=Z,40nm,0.8s
GRAC Grapevine Rang 67.68 60 P **P 21 48 28.1 +1.2**
baz=310,SNR=42
BGU Big Grassy Mou 67.70 54 IAmb IAmb 21 49 37.8
comp=Z,20nm,0.8s
BCW Bitter Crk WRg 67.73 63 IAmb IAmb 21 48 29.8
comp=Z,24nm,0.8s
ISA Isabella, Lake 67.85 61 P **P 21 48 28.6 +0.6**
baz=310
SBC Santa Barbara 67.86 63 P **P 21 48 28.5 +0.6**
baz=310
Q12A Willow Creek R 67.88 57 P **P 21 48 28.4 +0.2**
Q12A IAmb IAmb 21 48 37.6
comp=Z,17nm,0.9s
R11B Troy Canyon, C 67.88 58 P **P 21 48 28.7 +0.5**
baz=311,SNR=30
ARVC Arvin 67.98 62 P **P 21 48 29.4 +0.7**
baz=310
HWUT Hardware Ranch 68.08 53 IAmb IAmb 21 49 57.6
comp=Z,19nm,0.7s
MSVF Nonsavu 68.16 149 P **P 21 48 30.9 +1.0**
MSVF Nonsavu 68.16 149 P **P 21 48 30.5 +0.6**
MSVF Nonsavu 68.16 149 P **P 21 48 30.5 +0.6**
MSVF pmax pmax
comp=Z,16nm,0.9s
MSVF Nonsavu 68.16 149 P **P 21 48 31.9 +2.0**
MOL Molde 68.17 342 *eP* **P 21 48 30.5 +1.1**
RK1H Rockhampton Ha 68.19 178 P **P 21 48 31.7 +1.8**
comp=Z,15nm,1.1s
DY2G Dye2 68.20 6 *i* P **P 21 48 29.3 -0.5**
DY2G IAmb IAmb 21 48 30.6
comp=Z,60nm,0.8s
SCZ2 Santa Cruz Isl 68.20 63 P **P 21 48 31.4 +1.3**
baz=310
MPMC Manual Prospec 68.21 60 P **P 21 48 30.8 +0.5**
baz=311,SNR=32
S11A Rachel 68.24 58 IAmb IAmb 21 48 32.8
comp=Z,29nm,1.0s
DOMB Dombas 68.28 341 *eP* **P 21 48 29.4 -0.8**
GROC Groznyy 68.30 310 *eP* **P 21 48 31.3 +0.8**
DUG Dugway, Tooele 68.30 55 IAmb IAmb 21 49 39.0
comp=Z,36nm,0.8s
DUG Dugway, Tooele 68.30 55 P **P 21 48 32.0 +1.2**
baz=311,SNR=27
FURC Furnace Creek, 68.33 60 P **P 21 48 31.9 +1.1**
baz=311,SNR=23
OSI Osito Audit: C 68.38 62 P **P 21 48 32.3 +1.1**
baz=311
TPNV Topopah Spring 68.39 59 P **P 21 48 32.6 +1.1**
baz=311,SNR=30
KHAM Kharkiv 68.41 320 P **P 21 48 30.4 -0.8**
NC303 NORSAR Array S 68.43 339 IAmb IAmb 21 48 31.8
comp=Z,28nm,0.6s
BW06 Boulder Array 68.43 51 P **P 21 48 32.3 +0.6**
baz=312,SNR=13
PD31 Pinedale Array 68.43 51 P **P 21 48 31.9 +0.3**
PD31 IAmb IAmb 21 48 41.6
comp=Z,49nm,1.8s
PDAR Pinedale Array 68.43 51 P **P 21 48 32.1 +0.4**
PDAR Pinedale Array 68.43 51 P **P 21 48 32.5 +0.8**
comp=Z,6.2nm,0.6s,baz=280,slow=1.3,SNR=84
PDAR pP **pP 21 49 05.7 +1.8**
comp=Z,3.9nm,0.8s,baz=256,slow=1.2,SNR=2.5
comp=Z,6.2nm,0.6s
ISAL Salakas 68.46 329 *eP* **P 21 48 33.0 +1.6**
LRMC Laurel Mtn Rad 68.46 61 P **P 21 48 32.7 +0.8**
baz=311,SNR=6.6
CCAC Calif City Air 68.47 62 IAmb IAmb 21 48 33.6
comp=Z,31nm,0.8s
GOF Gofitskoye 68.52 313 *c iP* **P 21 48 32.9 +1.0**
MNK Minsk 68.62 327 *i* P **P 21 48 32.3 0.0**
MNK *i* 21 48 56.2
MNK *i* *PP **pP 21 49 06.3 +2.8**
MNK *i* 21 51 05.3
MNK *i* PPP PPP 21 52 46.4
MNK *i* S **S 21 57 24.0 0.0**
MNK pmax pmax
comp=E,24nm,0.9s
MNK pmax pmax
comp=Z,172nm,0.9s
MNK pmax pmax
comp=N,60nm,0.9s
MNK MLR MLR
comp=N,58nm,16.0s
MNK MLR MLR
comp=E,60nm,17.0s
MNK MLR MLR
comp=Z,116nm,18.0s
NB2 NORSAR Subarra 68.63 339 P **P 21 48 31.3 -1.0**
comp=Z,11nm,0.3s,baz=32,slow=6.9
NB2 NORSAR Subarra 68.63 339 P **P 21 48 31.3 -1.0**
baz=32,slow=6.9
NOA NORSAR Array B 68.63 339 P **P 21 48 31.5 -0.8**
comp=Z,28nm,0.6s,baz=31,slow=6.8,SNR=450
NOA LR LR 22 23 44.0
comp=Z,41nm,19.4s,baz=35,slow=40
comp=Z,28nm,0.6s
GWY Greenwater Val 68.63 60 P **P 21 48 33.4 +0.5**
GWY IAmb IAmb 21 48 34.8
comp=Z,33nm,0.8s
EDW2 Edwards Air Fo 68.66 62 P **P 21 48 33.6 +0.6**
baz=311,SNR=18
NBO00 NORSAR Array S 68.74 339 IAmb IAmb 21 48 34.2
comp=Z,32nm,0.8s
HFS Hagfors 68.75 338 P **P 21 48 31.9 -1.1**
comp=Z,45nm,0.3s,baz=40,slow=4.8,SNR=397
HFS LR LR 22 22 27.8
comp=Z,37nm,20.4s,baz=34,slow=39
comp=Z,45nm,0.3s
SNCC San Nicolas Is 68.75 64 P **P 21 48 34.9 +1.3**
baz=311
PSUT Pine Spring 68.79 56 IAmb IAmb 21 50 41.1
comp=Z,20nm,0.9s
NC602 NORSAR Array S 68.80 339 IAmb IAmb 21 48 34.2
comp=Z,18nm,0.7s
NC602 NORSAR Array S 68.80 339 *eP* **P 21 48 32.1 -1.2**
NC602 IAmb IAmb 21 48 33.9
comp=Z,18nm,0.7s
JLU Jordanelle 68.81 53 IAmb IAmb 21 49 36.2
comp=Z,37nm,0.9s
PRN Pahroc Range 68.81 58 P **P 21 48 35.0 +0.9**

SEKA Sheki 68.85 307 P P 21 48 32.1 -2.0
DECC Green Verdugo 68.85 62 P P 21 48 35.1 +0.9
baz=311
NOUC Port Laguerre 68.88 162 P P 21 48 37.0 +2.8
NOUC Port Laguerre 68.88 162 P P 21 48 36.0 +1.8
DZM Mont Dzumac 68.88 162 P P 21 48 35.6 +1.3
DZM Mont Dzumac 68.88 162 eP P 21 48 35.6 +1.3
comp=Z,116nm,1.1s
DZM Mont Dzumac 68.88 162 eLR LR 22 09 38.0
comp=Z,96nm,39.5s
DZM Mont Dzumac 68.88 162 IAmb IAmb 21 48 37.7
comp=Z,48nm,1.0s
DZM Mont Dzumac 68.88 162 P P 21 48 36.2 +1.9
DZM pP sP 21 49 09.5 -11
NAO01 NORSAR Array S 68.88 339 IAmb IAmb 21 48 35.2
comp=Z,31nm,0.8s
NLU North Lily Min 68.89 54 IAmb IAmb 21 49 51.7
comp=Z,47nm,1.0s
VSVD Vaisvydziai 68.94 330 eP P 21 48 34.9 +0.7
SHOC Shoshone, Teco 69.06 60 P P 21 48 36.1 +0.7
baz=311
GSC Goldstone, Bar 69.12 61 P P 21 48 36.9 +1.0
baz=311,SNR=12
MNGR Mingechevir, A 69.21 307 P P 21 48 34.7 -1.5
BSUT Blindstream Ca 69.25 53 IAmb IAmb 21 49 54.0
comp=Z,24nm,0.8s
BFSC Mount Baldy Ra 69.29 62 P P 21 48 37.5 +0.6
baz=311,SNR=7.7
PABE Paberze 69.29 330 eP P 21 48 36.5 +0.1
SHPR Sheep Range 69.34 59 P P 21 48 36.9 -0.4
ERBR Yeremizino-Bor 69.38 315 i P P 21 48 37.7 +0.5
ERBR e*PP pP 21 49 06.4 -2.2
ERBR eS S 21 57 30.8 -2.5
KIV Kislovodsk 69.45 312 P P 21 48 39.4 +1.6
KIV Kislovodsk 69.45 312 i P P 21 48 39.0 +1.2
SNR=194
KIV Kislovodsk 69.45 312 P P 21 48 39.2 +1.4
KIV Kislovodsk 69.45 312 ⇑P P 21 48 39.9 +2.1
KIV Kislovodsk 69.45 312 eP P 21 48 39.0 +1.2
KIV eS S 21 57 35.2 +0.8
KIV pmax pmax
comp=Z,382nm,1.0s
KIV pmax pmax
comp=Z,42nm,3.7s
KIV Kislovodsk 69.45 312 P P 21 48 39.2 +1.4
PLTM Poltava 69.46 321 P P 21 48 37.1 -0.5
KBZ Khabaz 69.50 312 P P 21 48 39.2 +1.3
comp=Z,157nm,0.8s,baz=52,slow=5.3,SNR=239
KBZ LR LR 22 21 12.9
comp=Z,52nm,21.4s,baz=38,slow=38
KBZ Khabaz 69.50 312 eP P 21 48 39.0 +1.1
KBZ Khabaz 69.50 312 ceP P 21 48 39.0 +1.1
KBZ pmax pmax
comp=Z,176nm,0.9s
ANGG Ammassalik, Gr 69.52 3 IAmb IAmb 21 48 38.2
comp=Z,33nm,0.9s
ANGG Ammassalik, Gr 69.52 3 i P P 21 48 36.4 -1.3
ANGG IAmb IAmb 21 48 37.9
comp=Z,33nm,0.9s
ISOG Isortoq, Green 69.54 3 i P P 21 48 37.0 -0.7
ISOG IAmb IAmb 21 48 38.6
comp=Z,50nm,0.7s
TUQ Turquoise Moun 69.58 60 P P 21 48 40.0 +1.3
baz=311,SNR=7.6
FOO Floro 69.58 342 eP P 21 48 38.1 0.0
PBUR Paburge 69.59 331 eP P 21 48 38.0 -0.2
LKRN Lenkeran, Azer 69.61 305 P P 21 48 37.3 -1.4
SHA1 Shidzhatmaz 69.62 312 ceP P 21 48 40.0 +1.0
AS01 Alice Springs 69.67 194 P P 21 48 40.0 +0.9
comp=Z,17nm,1.0s
ASAR Alice Springs 69.68 194 P P 21 48 39.1 -0.1
ASAR Alice Springs 69.68 194 P P 21 48 39.4 +0.2
comp=Z,9.1nm,0.8s,baz=9.6,slow=5.3,SNR=50
ASAR pP pP 21 49 13.5 +2.1
comp=Z,3.9nm,0.8s,baz=12,slow=5.7,SNR=3.4
comp=Z,9.1nm,0.8s
OSL Oslo 69.70 339 eP P 21 48 38.6 -0.2
HYA Hoyanger 69.72 341 eP P 21 48 38.5 -0.4
GANJ Ganja 69.72 307 P P 21 48 37.8 -1.6
HEC Hector,Ludlow 69.72 61 P P 21 48 40.7 +1.2
baz=311,SNR=24
MVU Marysvale 69.77 56 IAmb IAmb 21 48 49.7
comp=Z,47nm,1.0s
ELS Elsinore Mount 69.82 62 IAmb IAmb 21 48 41.8
comp=Z,17nm,0.8s
TMUT Trail Mountain 69.82 54 IAmb IAmb 21 49 45.4
comp=Z,22nm,0.9s
RDMU Red Mountain 69.90 52 IAmb IAmb 21 48 43.0
comp=Z,35nm,0.7s
NUUK Nuuk 69.92 9 i P P 21 48 39.7 -0.4
NUUK IAmb IAmb 21 48 41.5
comp=Z,116nm,0.9s
ULM Lac du Bonnet 69.94 38 IAmb IAmb 21 48 41.6
comp=Z,17nm,0.8s
ULM Lac du Bonnet 69.94 38 P P 21 48 40.7 +0.2
comp=Z,14nm,0.6s,baz=312,slow=6.3,SNR=18
comp=Z,14nm,0.6s
MDND Maddock 70.00 42 P P 21 48 42.0 +1.1
baz=316,SNR=5.4
MURC Murrieta 70.00 62 P P 21 48 42.0 +0.8
baz=312,SNR=5.7
LABN Labinsk 70.00 314 eP P 21 48 42.2 +1.2
LABN e*PP pP 21 49 14.0 +1.4
LABN eS S 21 57 40.0 -0.6
LABN pmax pmax
comp=Z,408nm,1.0s
K22A Casper 70.15 49 P P 21 48 42.9 +0.7
K22A IAmb IAmb 21 48 52.7
comp=Z,38nm,1.5s
K22A Casper 70.15 49 P P 21 48 42.9 +0.7
baz=314,SNR=7.1
GMRC Granite Mounta 70.17 60 P P 21 48 43.4 +1.0
baz=312,SNR=20
EIDS Eidsvold 70.18 177 P P 21 48 43.5 +1.4
EIDS Eidsvold 70.18 177 IAmb IAmb 21 48 44.7
comp=Z,24nm,1.1s
BORG Borgarnes 70.19 355 P P 21 48 42.6 +0.8
BORG IAmb IAmb 21 48 44.5
comp=Z,42nm,0.8s
BORG Borgarnes 70.19 355 P P 21 48 42.6 +0.8
BORG pmax pmax
comp=Z,42nm,0.8s
KONO Kongsberg 70.24 339 P P 21 48 41.1 -1.0
KONO Kongsberg 70.24 339 eP P 21 48 41.6 -0.5
KONO Kongsberg 70.24 339 P P 21 48 41.1 -1.0
KONO pmax pmax
comp=Z,20nm,1.3s
TRLG Trialeti 70.35 309 P P 21 48 44.4 +1.0
STRU Stroemstad 70.36 338 i P P 21 48 42.5 -0.4
KNB Kanab 70.40 57 IAmb IAmb 21 48 53.7
comp=Z,20nm,0.9s
RSSD Black Hills 70.44 47 P P 21 48 44.3 +0.3
RSSD Black Hills 70.44 47 P P 21 48 44.6 +0.6
baz=314
RSSD Black Hills 70.44 47 P P 21 48 44.3 +0.3
RSSD Black Hills 70.44 47 P P 21 48 44.4 +0.4
RSSD pP pP 21 49 18.6 +2.4
PFO Pinyon Flats O 70.45 62 P P 21 48 44.3 +0.2
PFO Pinyon Flats O 70.45 62 P P 21 48 44.7 +0.6
baz=312,SNR=8.5
PFO Pinyon Flats O 70.45 62 P P 21 48 44.3 +0.2
PFO pmax pmax
comp=Z,18nm,1.0s
PFO Pinyon Flats O 70.45 62 P P 21 48 44.7 +0.6
TPFO Pinon Flats 70.46 62 P P 21 48 44.7 +0.5
baz=312,SNR=11
BELC Belle Mtn. Jos 70.48 61 P P 21 48 44.7 +0.5
baz=312,SNR=10.0
109C Camp Elliot, M 70.52 63 IAmb IAmb 21 48 46.0
comp=Z,25nm,0.6s
109C Camp Elliot, M 70.52 63 P P 21 48 45.1 +0.7
baz=312
ASK Askoy 70.55 342 eP P 21 48 43.7 -0.3
ASK IAmb IAmb 21 48 43.9
comp=Z,46nm,1.2s
NGCH Negor - Chabah 70.56 287 P P 21 48 44.2 -0.5
BER Bergen 70.61 341 eP P 21 48 44.4 0.0
BER IAmb IAmb 21 48 46.6
comp=Z,9.3nm,0.7s
ODD1 Odda 70.73 341 eP P 21 48 45.1 -0.1
ODD1 IAmb IAmb 21 48 47.0
comp=Z,9.6nm,0.6s
SUW Suwalki 70.75 329 eP P 21 48 44.6 -0.8
SUW Suwalki 70.75 329 eP P 21 48 45.0 -0.4
NEE2 Needles Airpor 70.82 60 P P 21 48 47.1 +0.9
baz=312
MBWA Marble Bar 70.89 208 P P 21 48 47.9 +1.4
MBWA Marble Bar 70.89 208 P P 21 48 46.1 -0.4
MBWA IAmb IAmb 21 48 47.5
comp=Z,44nm,1.4s
MBWA Marble Bar 70.89 208 P P 21 48 46.3 -0.2
MBWA Marble Bar 70.89 208 P P 21 48 45.7 -0.8
MBWA sP sP 21 49 32.7 -0.2
IRM Iron Mountain 70.90 61 P P 21 48 47.6 +0.9
baz=312,SNR=19
O20A White River Ci 70.94 52 P P 21 48 47.7 +0.6
baz=313,SNR=6.4
GNI Garni 70.94 308 P P 21 48 48.4 +1.3
GNI Garni 70.94 308 P P 21 48 48.9 +1.9
GNI Garni 70.94 308 LR LR 22 23 35.8
comp=Z,45nm,19.1s,baz=46,slow=39
GNI Garni 70.94 308 P P 21 48 48.4 +1.3
GNI Garni 70.94 308 ceP P 21 48 48.8 +1.8
GNI Garni 70.94 308 P P 21 48 49.2 +2.2
MONP2 Monument Peak 70.95 62 P P 21 48 47.9 +0.7
baz=312
AKASG Malin Array Be 70.96 324 P P 21 48 47.1 +0.5
AKASG Malin Array Be 70.96 324 P P 21 48 46.3 -0.4
comp=Z,29nm,0.3s,baz=40,slow=6.3,SNR=277
AKASG LR LR 22 21 47.5
comp=Z,40nm,20.2s,baz=45,slow=37
comp=Z,29nm,0.3s
AKASG Malin Array Be 70.96 324 P P 21 48 47.2 +0.5
AKASG pmax pmax
comp=Z,104nm,0.9s
AKBB Malin Array Si 70.96 324 ceP P 21 48 46.0 -0.7
AKBB pmax pmax
comp=Z,151nm,0.9s
KIEV Kiev 70.97 324 P P 21 48 46.0 -0.8
KIEV Kiev 70.97 324 i P P 21 48 46.4 -0.3
SNR=9.3
KIEV Kiev 70.97 324 ⇑P P 21 48 46.5 -0.3
KIEV Kiev 70.97 324 P P 21 48 46.0 -0.8
KIEV pmax pmax
comp=Z,104nm,0.8s
KIEV Kiev 70.97 324 P P 21 48 46.3 -0.5
HMU Henry Mountain 71.01 55 IAmb IAmb 21 48 49.5
comp=Z,28nm,0.7s
BC3 Big Chuckawall 71.05 61 P P 21 48 48.4 +0.8
baz=312,SNR=14
TJOU Tjoern 71.10 337 i P P 21 48 46.3 -1.1
U15A North Rim 71.11 57 P P 21 48 49.8 +1.5
BORU Boraas 71.12 337 i P P 21 48 46.1 -1.4
VSLR Vesyoloye 71.18 313 c i P P 21 48 49.0 +0.8
VSLR pmax pmax
comp=Z,8.0nm,1.5s
BLS5 Blasjo 71.20 340 eP P 21 48 48.1 +0.1
SOC Sochi 71.26 313 eP P 21 48 46.6 -2.0
SOC e*PP pP 21 49 20.3 -0.1
SOC e*SP sP 21 49 38.6 +4.3
SOC e 21 51 24.4
SOC ePPP PPP 21 53 10.1
SOC eS S 21 57 52.9 -2.3
SOC pmax pmax
comp=Z,106nm,0.8s
SWSC Sam W. Stewart 71.30 62 P P 21 48 49.6 +0.5
baz=312
IKP In-Ko-Pah, Jac 71.31 62 P P 21 48 50.1 +0.9
baz=312,SNR=5.7
BLEU Blekinge 71.35 334 i P P 21 48 47.2 -1.7
AGMN Agassiz Nation 71.39 39 P P 21 48 49.6 +0.2
baz=318,SNR=9.0
PDMCI Parker Dam,Lak 71.42 60 P P 21 48 50.8 +1.0
baz=312,SNR=18
QLP Quilpie 71.43 184 P P 21 48 51.0 +1.3
ANN Anapa 71.55 315 c i P P 21 48 50.6 +0.3
ANN e*PP pwP 21 49 23.1 -1.6
ANN eS S 21 57 57.3 -1.2
ANN pmax pmax
comp=Z,141nm,0.9s
BLYC Blythe 71.56 61 IAmb IAmb 21 48 52.7
comp=Z,30nm,0.8s
ONAU Onsala 71.57 337 i P P 21 48 49.0 -1.2
BATM Batumi 71.61 311 P P 21 48 51.8 +1.0
KMY Karmoy 71.67 341 eP P 21 48 51.0 +0.2
FABU Falkenberg 71.68 336 i P P 21 48 50.4 -0.5
N23A Red Feather La 71.68 50 P P 21 48 52.7 +1.1
baz=314,SNR=6.4
RNPP9 Sopachiv 71.77 326 P P 21 48 51.0 -0.5
DEL Delary 71.80 335 i P P 21 48 50.0 -1.6
ESJX Sierra Juarez 71.84 63 P P 21 48 52.7 +0.1
GLA Glamis 71.84 61 IAmb IAmb 21 48 54.4
comp=Z,25nm,0.8s
GLA Glamis 71.84 61 P P 21 48 53.5 +1.2
baz=312,SNR=10
SNART Snartemo 71.98 340 eP P 21 48 52.7 0.0
SNART IAmb IAmb 21 48 52.8
comp=Z,27nm,0.7s
SNART Snartemo 71.98 340 i P P 21 48 51.9 -0.8
WRKA Warakurna 72.14 199 P P 21 48 54.2 +0.2
LRW Lerwick 72.18 344 eP P 21 48 53.3 -0.5
LRW IAmb IAmb 21 48 54.2
comp=Z,48nm,1.2s
WUAZ Wupatki 72.28 57 P P 21 48 56.2 +1.1
baz=313
Y14A Wickenburg 72.36 60 IAmb IAmb 21 48 57.5
comp=Z,24nm,1.0s
BJUU Bjuv 72.39 336 i P P 21 48 54.5 -0.7
JASK Jask - Hormozg 72.43 289 P P 21 48 56.4 +0.5
ISCO Idaho Springs 72.63 51 P P 21 48 58.4 +1.2
baz=315,SNR=5.1
BSD Bornholm Skovb 72.63 334 eP P 21 48 56.4 -0.2
BSD Bornholm Skovb 72.63 334 i P P 21 48 55.6 -0.9
BSD IAmb IAmb 21 48 58.3
comp=Z,36nm,0.6s
LUNU Lund 72.64 335 i P P 21 48 56.0 -0.6
MVCO Mesa Verde 72.80 54 P P 21 48 58.9 +0.7
MVCO Mesa Verde 72.80 54 P P 21 48 59.4 +1.1
baz=314,SNR=11
INKA Innaminka 72.82 187 P P 21 48 59.3 +1.4
COP Copenhagen 72.89 336 i P P 21 48 58.0 -0.1
COP IAmb IAmb 21 48 59.3
comp=Z,49nm,0.5s
X16A Lo Mia Camp, P 72.99 58 IAmb IAmb 21 49 01.8
comp=Z,22nm,0.9s
SIM Simferopol' 73.06 317 eP P 21 49 00.3 +1.0
SIM eS S 21 58 09.4 -6.3
SIM pmax pmax
comp=Z,307nm,1.2s
IVI Ivigtut 73.21 8 i P P 21 48 59.0 -0.9
IVI IAmb IAmb 21 49 00.9
comp=Z,62nm,0.8s
SORM Soroca 73.28 323 ⇓P P 21 49 00.8 +0.2
SORM Soroca 73.28 323 P P 21 49 00.7 +0.2
BEL Belsk 73.36 329 eP P 21 49 01.5 +0.5
S22A 4UR Ranch, Cre 73.38 53 P P 21 49 02.8 +1.0
baz=315
GKP Gorka Klasztor 73.43 332 eP P 21 49 01.6 +0.3
GKP Gorka Klasztor 73.43 332 eP P 21 49 01.6 +0.3
OOD Oodnadatta 73.45 192 P P 21 49 03.6 +2.0
SHME Shamm 73.45 290 i P P 21 49 02.4 +0.5
SNR=6.7
SHME Shamm 73.45 290 P P 21 49 02.5 +0.5
SNR=6.6
Q24A Divide 73.47 51 P P 21 49 02.8 +0.6
baz=315
NRS Narsarsuaq 73.51 7 IAmb IAmb 21 49 10.3
comp=Z,60nm,0.9s
NRS Narsarsuaq 73.51 7 i P P 21 48 59.6 -2.0
NRS IAmb IAmb 21 49 03.6
comp=Z,29nm,0.7s
W18A Petrified Fore 73.53 57 P P 21 49 03.3 +0.8
baz=314
EYMN Ely 73.57 37 IAmb IAmb 21 49 03.5
comp=Z,27nm,0.9s
EYMN Ely 73.57 37 P P 21 49 02.5 +0.2
baz=320,SNR=19
RGN Rugen 73.60 335 eP P 21 49 03.1 +0.9
WSAR Wadi Sarin 73.67 287 LR LR 22 25 47.5
comp=Z,76nm,18.3s,baz=120,slow=39
OGNE Ogallala 73.74 48 P P 21 49 04.2 +0.7
baz=316
LVV L'vov 73.75 326 eP P 21 49 03.6 +0.3
LVV eS SKiKP 21 58 22.1 +3.2
LVV e*SS pS 21 58 53.2 -8.0
LVV ePS PnS 21 59 14.8 +0.6
LVV eSS SS 22 03 09.9 +1.4
LVV pmax pmax
comp=Z,480nm,1.4s
BIDO Bidbid 73.82 287 P P 21 49 04.8 +0.7
214A Organ Pipe Nat 73.83 61 P P 21 49 05.0 +0.9
baz=313
PURM Purcari 73.84 321 ⇑P P 21 49 04.2 +0.3
MDH Madha 73.86 290 P P 21 49 04.1 -0.2
WBK Wadi Bani Khal 73.86 286 P P 21 49 06.3 +1.8
SSRD Sdr. Stenderup 73.87 337 i P P 21 49 02.9 -0.9
SSRD IAmb IAmb 21 49 05.8
comp=Z,59nm,1.0s
MASF Masafi 73.90 290 P P 21 49 05.2 +0.5
KIS Kishinev 73.95 322 ⇑i P P 21 49 04.5 0.0
comp=Z,210nm,1.3s
KIS Kishinev 73.95 322 ⇑P P 21 49 04.5 0.0
KIS Kishinev 73.95 322 P P 21 49 04.5 0.0
MILM Milestii Mici 74.02 322 ⇑i P P 21 49 04.0 -0.9
comp=Z,170nm,0.6s
MILM Milestii Mici 74.02 322 ⇑P P 21 49 05.1 +0.2
MILM Milestii Mici 74.02 322 c i P P 21 49 04.0 -0.9
MILM pmax pmax
comp=Z,170nm,0.6s
SDCO Great Sand Dun 74.13 52 P P 21 49 06.7 +0.6
baz=315
UOSS Minazif 74.16 289 P P 21 49 05.5 -0.6
UOSS IAmb IAmb 21 49 07.8
comp=Z,38nm,1.1s
UOSS Minazif 74.16 289 i P P 21 49 06.5 +0.4
SNR=12
UOSS Minazif 74.16 289 P P 21 49 06.5 +0.4
AULRC Lightning Ridg 74.18 180 P P 21 49 08.8 +3.0
SMDO Samad 74.19 287 P P 21 49 07.2 +0.8
HATD Hatta, Dubai 74.28 289 i P P 21 49 07.5 +0.6
SNR=13
HATD Hatta, Dubai 74.28 289 P P 21 49 07.6 +0.8
SNR=13
HOQ Hoqain 74.33 288 P P 21 49 08.0 +0.8
KWP Kalwaria Pacla 74.42 327 eP P 21 49 08.0 +0.8
ASHO Ashiyiah 74.43 289 i P P 21 49 08.6 +0.9
SNR=9.4
ASHO Ashiyiah 74.43 289 P P 21 49 08.9 +1.2
SNR=9.3
ECSD EROS Data Cent 74.43 43 IAmb IAmb 21 49 08.8
comp=Z,33nm,1.3s
ECSD EROS Data Cent 74.43 43 P P 21 49 07.9 +0.5
baz=318,SNR=12
SOHO SOHO 74.48 289 P P 21 49 08.0 0.0
SOHO SOHO 74.48 289 P P 21 49 08.4 +0.4
NAZ Nazwa, Dubai 74.49 290 P P 21 49 08.2 +0.2
NAZ Nazwa, Dubai 74.49 290 P P 21 49 09.1 +1.1
E38A The Farm, Brul 74.58 38 IAmb IAmb 21 49 09.1
comp=Z,22nm,0.7s
JMDO Jabal Madar 74.61 286 P P 21 49 09.9 +1.1
FAQ Al Faqa, Dubai 74.70 290 P P 21 49 09.3 +0.1
FAQ Al Faqa, Dubai 74.70 290 P P 21 49 09.4 +0.2
PRAR RASCA 74.79 323 ⇑P P 21 49 09.6 +0.2
KSCO Kaye Shedlock' 74.81 50 P P 21 49 10.6 +0.8
baz=316
TUC Tucson 74.83 59 P P 21 49 11.0 +1.0
baz=314
ASUD Al Ashush, Dub 74.96 290 P P 21 49 11.2 +0.6
ASUD Al Ashush, Dub 74.96 290 P P 21 49 11.6 +0.9
BSY Bisya 74.97 287 P P 21 49 11.7 +0.9
BURAR Bucovina Array 75.01 324 P P 21 49 11.5 +0.7
BURAR Bucovina Array 75.01 324 ⇑P P 21 49 11.5 +0.7
BURAR Bucovina Array 75.01 324 P P 21 49 11.4 +0.6
BSEG Bad Segeberg 75.02 336 eP 21 49 10.8
comp=Z,54nm,1.0s,baz=29,slow=5.7
BSEG eL 22 28 20.1
comp=Z,77nm,20.5s
ARQ Araqi 75.03 288 P P 21 49 12.0 +0.9
BIR Birlad 75.04 322 ⇑P P 21 49 12.2 +1.4
BIR Birlad 75.04 322 P P 21 49 12.2 +1.4
OJC Ojcow 75.04 329 eP P 21 49 11.3 +0.5
ALNE Al Ain 75.06 289 i P P 21 49 11.8 +0.5
SNR=6.7
ALNE Al Ain 75.06 289 P P 21 49 12.0 +0.7
SPMN Marine on St. 75.09 40 P P 21 49 11.8 +0.7
baz=320
KOLS Kolonicke sedl 75.15 326 eP P 21 49 12.3 +0.9
KOLS pmax pmax
comp=Z,111nm,1.0s
KOLS Kolonicke sedl 75.15 326 eP P 21 49 12.3 +0.9
VLDR Vladesti 75.17 321 ⇑P P 21 49 12.7 +1.2
T25A Trinidad 75.17 52 P P 21 49 13.0 +0.9
baz=316,SNR=5.8
ARMA Armidale 75.22 177 P P 21 49 14.5 +2.5
ARMA Armidale 75.22 177 IAmb IAmb 21 49 59.2
comp=Z,21nm,0.8s
RUE Ruedersdorf 75.22 333 eP P 21 49 12.7 +1.0
RUE Ruedersdorf 75.22 333 eP 21 49 12.3
comp=Z,126nm,1.0s,baz=29,slow=5.7
VARL Varlezi 75.23 321 ⇑P P 21 49 13.0 +1.1
TESR Tescani 75.28 323 ⇑P P 21 49 12.9 +0.7
GHRR 75.30 322 ⇓P P 21 49 14.0 +1.7
BZK Bozkurt 75.33 315 P P 21 49 11.9 -0.6
SCTR Scanteiesti 75.34 321 ⇑P P 21 49 13.8 +1.3
TLCR 75.35 320 ⇑P P 21 49 13.4 +0.8
TLCR 75.35 320 P P 21 49 13.3 +0.8
TATR Tatarca 75.37 321 ⇑P P 21 49 13.1 +0.4
GIUM Giurgiulesti 75.39 321 ⇑P P 21 49 13.9 +1.1
CRVS Cervenica-Dubn 75.49 327 eP P 21 49 14.1 +0.7
CRVS pmax pmax
comp=Z,127nm,1.1s
CRVS Cervenica-Dubn 75.49 327 eP P 21 49 14.1 +0.7
NEGRR Negrea 75.50 321 ⇑P P 21 49 14.8 +1.4
SLCR Slobozia Conac 75.50 321 ⇑P P 21 49 14.5 +1.0
NIE Niedzica 75.51 328 eP P 21 49 14.8 +1.3
ONER Baraj Valea Uz 75.52 323 ⇑P P 21 49 14.7 +1.1
IZVR Izvoarele 75.54 321 ⇑P P 21 49 14.9 +1.3
TUR 75.55 321 ⇑P P 21 49 14.9 +1.3
SCHL Schela 75.55 321 ⇑P P 21 49 14.8 +1.1
GORT1 Trebel 75.55 335 eP 21 49 14.1
comp=Z,136nm,1.3s,baz=29,slow=5.7
PANC Panciu 75.56 322 ⇑P P 21 49 15.2 +1.5
ANMO Albuquerque 75.57 55 P P 21 49 15.4 +1.1
baz=315
ANMO Albuquerque 75.57 55 i P P 21 49 12.0 -2.3
KPL Plockton 75.62 346 ⇑eP P 21 49 13.7 -0.2
KPL IAmb IAmb 21 49 15.2
comp=Z,91nm,0.9s
MHTO MHTO 75.64 285 P P 21 49 15.7 +1.1
SNR=6.2
JURR Jurilovca 75.64 320 ⇑P P 21 49 15.2 +1.0
CFR Carcaliu 75.66 321 ⇑P P 21 49 15.0 +0.7
CFR Carcaliu 75.66 321 P P 21 49 15.0 +0.7
BMR Baia Mare 75.67 325 ⇑P P 21 49 15.6 +1.2
BMR Baia Mare 75.67 325 P P 21 49 15.6 +1.2
ODBI Odobesti 75.68 322 ⇑P P 21 49 16.5 +2.0
I37A Lemond, Waseca 75.74 41 IAmb IAmb 21 49 17.3
comp=Z,46nm,1.0s
LCRK Leigh Creek 75.75 189 P P 21 49 16.4 +1.6
VRI Vrincioaia 75.75 322 ⇑P P 21 49 15.8 +0.9
VRI Vrincioaia 75.75 322 P P 21 49 15.8 +0.9
KSP Ksiaz 75.78 331 eP P 21 49 15.4 +0.5
TPGR Topolog 75.78 320 ⇑P P 21 49 16.0 +0.9
PLOR Plostina 75.79 322 ⇑P P 21 49 16.1 +0.9
PLOR Plostina 75.79 322 P P 21 49 16.0 +0.9
ARCR ARCALIA 75.79 324 ⇑P P 21 49 16.7 +1.6
L34A Svendsen Farm, 75.87 44 IAmb IAmb 21 49 16.7
comp=Z,24nm,0.8s
AUPHS Peel High Scho 75.88 178 P P 21 49 16.9 +1.3
TURR Turia 75.91 323 ⇑P P 21 49 17.4 +1.6
OKC Ostrava-Krasne 75.96 329 eP P 21 49 17.2 +1.2
OKC AMS AMS 22 22 50.0
comp=Z,100nm,11.9s
OKC Ostrava-Krasne 75.96 329 eP P 21 49 17.2 +1.2
OKC MLR MLR
comp=Z,100nm,11.9s
OZUR 75.97 323 ⇑P P 21 49 17.8 +1.6
COVR Voineasa-Covas 75.99 322 ⇑P P 21 49 17.4 +1.1
BOSR Bodos 76.04 323 ⇑P P 21 49 18.3 +1.7
OSTC Ostas 76.04 331 eP P 21 49 17.6 +1.1
OSTC AMS AMS 22 20 40.0
comp=Z,100nm,13.5s
OSTC Ostas 76.04 331 eP P 21 49 17.6 +1.1
OSTC MLR MLR
comp=Z,100nm,13.5s
LANS Liptovska Anna 76.05 328 eP P 21 49 18.4 +1.8
LANS pmax pmax
comp=Z,108nm,1.1s
LANS Liptovska Anna 76.05 328 eP P 21 49 18.4 +1.8
CHVC Chvalec 76.07 331 AMS AMS 22 23 10.0
comp=Z,100nm,11.1s
SCHQ Schefferville 76.08 20 P P 21 49 16.6 0.0
SCHQ Schefferville 76.08 20 P P 21 49 17.1 +0.5

comp=Z,7.8nm,0.4s,baz=349,slow=5.2,SNR=34
SCHQ LR LR 22 28 05.5
comp=Z,44nm,18.1s,baz=280,slow=40
comp=Z,7.8nm,0.4s
HARR Harsova 76.13 321 ⇑P P 21 49 18.0 +1.0
HARR Harsova 76.13 321 P P 21 49 18.0 +1.0
MULG Mulgathing 76.13 193 P P 21 49 18.4 +1.4
FLTG Flechtingen 76.15 334 *eP* 21 49 16.8
comp=Z,94nm,0.9s,baz=29,slow=5.7
UPC Upice 76.16 331 *eP* **P 21 49 18.3 +1.2**
UPC AMS AMS 22 16 00.0
comp=Z,100nm,16.9s
UPC Upice 76.16 331 *eP* **P 21 49 18.3 +1.2**
UPC MLR MLR
comp=Z,100nm,16.9s
TGMR Targu Mures 76.17 324 ⇑P P 21 49 18.8 +1.6
DPC Dobruska-Polom 76.18 331 *eP* **P 21 49 18.7 +1.4**
DPC AMS AMS 22 15 50.0
comp=Z,100nm,5.8s
DPC Dobruska-Polom 76.18 331 *eP* **P 21 49 18.7 +1.4**
DPC MLR MLR
comp=Z,100nm,5.8s
TLBR Topalu 76.19 320 ⇑P P 21 49 18.4 +1.1
INVG Invergeldie, C 76.19 345 *eP* **P 21 49 16.8 -0.4**
INVG IAmb IAmb 21 49 18.1
comp=Z,14nm,0.9s
KECS Kecovo 76.21 327 *eP* **P 21 49 18.5 +1.1**
KECS pmax pmax
comp=Z,71nm,1.0s
KECS Kecovo 76.21 327 *eP* **P 21 49 18.5 +1.1**
MORC Moravsky Berou 76.23 330 *eP* **P 21 49 18.2 +0.6**
MORC Moravsky Berou 76.23 330 ⇓P P 21 49 18.4 +0.8
MORC Moravsky Berou 76.23 330 P P 21 49 18.4 +0.8
DOPR Dopca 76.24 323 ⇑P P 21 49 19.2 +1.5
KRLC Kraliky 76.25 330 *eP* **P 21 49 18.9 +1.2**
KRLC AMS AMS 22 20 30.0
comp=Z,100nm,23.4s
KRLC Kraliky 76.25 330 *eP* **P 21 49 18.9 +1.2**
KRLC MLR MLR
comp=Z,100nm,23.4s
NEHR Nehoiu 76.28 322 ⇑P P 21 49 19.0 +1.0
EFOR EFORIE 76.29 320 ⇓P P 21 49 19.6 +1.7
EFOR EFORIE 76.29 320 ⇓P P 21 49 19.6 +1.7
MFTR Murfatlar 76.31 320 ⇑P P 21 49 19.1 +1.1
MFTR Murfatlar 76.31 320 ⇑P P 21 49 19.1 +1.1
CMSA Cobar Meteorol 76.31 182 P P 21 49 19.8 +1.8
MESR Meseseni 76.32 325 ⇑P P 21 49 19.7 +1.6
NRDL Niedersach Rie 76.35 335 *eP* 21 49 18.3
comp=Z,52nm,1.0s,baz=29,slow=5.7
RETH Rethem/Aller, 76.35 336 *eP* 21 49 18.5
comp=Z,74nm,1.0s,baz=29,slow=5.7
UMZA Um Al Zommool 76.37 288 P P 21 49 18.9 +0.2
MLR Muntele Rosu 76.38 322 ⇑P P 21 49 19.4 +0.8
MLR Muntele Rosu 76.38 322 P P 21 49 19.4 +0.8
PGOR Pogoanele 76.38 321 ⇓P P 21 49 19.9 +1.5
ESY Stoneypath 76.40 344 *eP* **P 21 49 18.2 -0.1**
CJR Cluj-Napoca 76.40 324 ⇑P P 21 49 19.9 +1.2
CJR Cluj-Napoca 76.40 324 P P 21 49 19.8 +1.2
ISR Istrita 76.41 322 ⇓P P 21 49 20.0 +1.2
ISR Istrita 76.41 322 P P 21 49 19.9 +1.2
AMRR Amara 76.46 321 ⇑P P 21 49 20.5 +1.6
AMRR Amara 76.46 321 P P 21 49 20.4 +1.6
CLL Collm 76.48 333 P P 21 49 18.8 -0.1
CLL Collm 76.48 333 *i P* **P 21 49 18.9 0.0**
CLL *e**PP **pP 21 49 54.0 +2.8**
CLL *e*S **S 21 58 52.0 -1.4**
CLL pmax pmax
comp=Z,215nm,1.0s
CLL Collm 76.48 333 *eP* 21 49 18.9
comp=Z,184nm,1.0s,baz=29,slow=5.7
CLL *e*L 22 15 04.4
comp=Z,55nm,21.9s
121A Cookes Peak, D 76.49 57 P P 21 49 20.9 +1.3
baz=315
EDI Edinburgh 76.50 344⇑*eP* **P 21 49 19.8 +0.9**
EDI IAmb IAmb 21 49 19.9
comp=Z,39nm,1.1s
MDB Medias 76.53 324 ⇑P P 21 49 20.9 +1.5
MDB Medias 76.53 324 P P 21 49 20.8 +1.5
BRG Berggiesshubel 76.54 332⇑*i P* **P 21 49 19.4 +0.2**
BRG Amp 21 49 20.8
comp=Z,52nm,1.0s
BRG Berggiesshubel 76.54 332 P P 21 49 28.0 +8.7
BRG Amp 21 49 28.9
comp=Z,11nm,0.9s
BRG Berggiesshubel 76.54 332⇑*i P* **P 21 49 19.4 +0.2**
BRG 21 49 27.9
BRG 21 52 11.9
BRG S **S 21 58 52.0 -2.2**
BRG pmax pmax
comp=Z,52nm,1.0s
BRG MLR MLR
comp=E,227nm,26.6s
BRG MLR MLR
comp=N,182nm,26.5s
BRG Berggiesshubel 76.55 332 *eP* 21 49 19.4
comp=N,51nm,1.0s,baz=29,slow=5.7
LAWE Loch Awe, Argy 76.60 345⇑*eP* **P 21 49 19.3 -0.2**
LAWE IAmb IAmb 21 49 20.6
comp=Z,73nm,1.2s
MARR Marisel-Cluj 76.63 325 ⇑P P 21 49 20.9 +1.0
PVCC Panska Ves 76.63 332 *eP* **P 21 49 20.9 +1.1**
PVCC AMS AMS 22 19 30.0
comp=Z,100nm,23.2s
PVCC Panska Ves 76.63 332 *eP* **P 21 49 20.9 +1.1**
PVCC MLR MLR
comp=Z,100nm,23.2s
DRGR 76.70 325 ⇑P P 21 49 21.3 +0.9
DRGR 76.70 325 P P 21 49 21.2 +0.9
KBD Kabd 76.77 298 P P 21 49 21.8 +0.9
RICC Richard 76.77 332 *eP* **P 21 49 21.8 +1.2**
LEHL Lehliu 76.80 321 ⇑P P 21 49 22.1 +1.3
VOIR 76.81 323 ⇑P P 21 49 22.0 +1.1
VOIR 76.81 323 ⇑P P 21 49 22.0 +1.1
VOIR 76.81 323 P P 21 49 22.0 +1.1
VYHS Vyhne 76.82 328 *eP* **P 21 49 22.0 +1.1**
VYHS pmax pmax
comp=Z,142nm,1.3s
VYHS Vyhne 76.82 328 *eP* **P 21 49 22.0 +1.1**
BORR Bors 76.83 326 ⇓P P 21 49 22.6 +1.7
CLZ Clausthal 76.84 335 *eP* 21 49 21.5
comp=Z,154nm,1.1s,baz=29,slow=5.7
STKA Stephens Creek 76.86 186 P P 21 49 21.6 +0.5
comp=Z,8.4nm,0.9s,baz=351,slow=8.0,SNR=7.0
comp=Z,8.4nm,0.9s
PSN Preselentsi 76.86 320 *i P* **P 21 49 22.1 +1.0**
PGBU Glenifferbraes 76.86 345⇑*eP* **P 21 49 21.5 +0.5**
PGBU IAmb IAmb 21 49 22.9
comp=Z,151nm,1.1s
SULR 76.89 322 ⇑P P 21 49 22.1 +0.9
PSZ Piszkesteto 76.90 327 ⇑P P 21 49 22.5 +1.1
PSZ Piszkesteto 76.90 327 P P 21 49 22.5 +1.1
HSKC Hora Svate Kat 76.94 332 *eP* **P 21 49 22.4 +0.9**
HSKC AMS AMS 22 19 20.0
comp=Z,100nm,15.7s
JAVC Velka Javorina 76.95 329 *eP* **P 21 49 23.2 +1.5**
NEUB Neuenburg 76.96 334 *eP* 21 49 21.8
comp=Z,170nm,1.1s,baz=29,slow=5.7
VRAC Vranov 76.96 330 *eP* **P 21 49 22.4 +0.7**
VRAC Vranov 76.96 330 LR LR 22 28 03.1
comp=Z,49nm,18.5s,baz=34,slow=39
VRAC Vranov 76.96 330 ⇑P P 21 49 23.0 +1.3
VRAC Vranov 76.96 330 P P 21 49 23.0 +1.3
AUDCS Dubbo College 76.97 180 P P 21 49 23.3 +1.6
SHMA Al-Shehemyia 76.99 293 P P 21 49 22.5 +0.3
EKA Eskdalemuir Ar 77.05 344 P P 21 49 22.0 0.0
comp=Z,17nm,0.6s,baz=23,slow=5.1,SNR=69
comp=Z,17nm,0.6s
EKB Eskdalemuir 77.06 344 P P 21 49 22.2 +0.1
EKB IAmb IAmb 21 49 23.4
comp=Z,42nm,0.9s
N35A Tabor 77.06 44 IAmb IAmb 21 49 23.8
comp=Z,28nm,0.6s
PRA Prague 77.06 332 *eP* **P 21 49 23.4 +1.2**
PRA AMS AMS 22 24 20.0
comp=Z,100nm,14.0s
PRA Prague 77.06 332 *eP* **P 21 49 23.4 +1.2**
PRA MLR MLR
comp=Z,100nm,14.0s
ESK Eskdalemuir 77.08 344 P P 21 49 21.8 -0.4
ESK IAmb IAmb 21 49 23.6
comp=Z,35nm,0.8s
ESK Eskdalemuir 77.08 344⇑*eP* **P 21 49 22.5 +0.3**
ESK IAmb IAmb 21 49 23.3
comp=Z,27nm,0.9s
ESK Eskdalemuir 77.08 344 P P 21 49 21.8 -0.4
ESK pmax pmax
comp=Z,35nm,0.9s
GOPC GO Pecny, Ondr 77.08 331 *eP* **P 21 49 23.6 +1.3**
GOPC AMS AMS 22 16 30.0
comp=Z,100nm,29.0s
GOPC GO Pecny, Ondr 77.08 331 *eP* **P 21 49 23.6 +1.3**
PRU Pruhonice 77.10 331 *eP* **P 21 49 23.3 +0.9**
PRU AMS AMS 22 25 20.0
comp=Z,100nm,12.1s
PRU Pruhonice 77.10 331 *eP* **P 21 49 23.3 +0.9**
PRU MLR MLR
comp=Z,100nm,12.1s
SAKB Bahrain 77.18 294 P P 21 49 23.3 0.0
BR131 Keskin Array S 77.18 314 IAmb IAmb 21 49 25.7
comp=Z,29nm,0.8s
BR131 Keskin Array S 77.18 314 *i P* **P 21 49 22.3 -1.0**
BRTR Keskin Array B 77.18 314 P P 21 49 24.1 +0.8
comp=Z,16nm,0.7s,baz=78,slow=3.6,SNR=85
BRTR LR LR 22 30 25.7
comp=Z,42nm,18.8s,baz=90,slow=41
comp=Z,16nm,0.7s
IBBN Ibbenburen 77.19 336 *eP* 21 49 23.1
comp=Z,106nm,1.0s,baz=29,slow=5.7
GAZ Gaziantep 77.20 310 IAmb IAmb 21 49 26.5
comp=Z,25nm,1.0s
GTTG Gottingen 77.22 335 *eP* 21 49 23.7
comp=Z,128nm,1.1s,baz=29,slow=5.7
KRUC Moravsky 77.24 330 *eP* **P 21 49 23.9 +0.7**
BSZH Besenyszg 77.26 327 ⇑P P 21 49 24.9 +1.6
EDMD Edmundbyers 77.28 343 *eP* **P 21 49 23.4 +0.1**
MZR Muzera 77.30 290 *i P* **P 21 49 24.4 +0.5**
SNR=7.9
MZR Muzera 77.30 290 P P 21 49 24.5 +0.5
SMOL Smolenice 77.33 329 *eP* **P 21 49 25.1 +1.4**
SMOL pmax pmax
comp=Z,90nm,1.4s
LOT Lotru 77.34 324 ⇑P P 21 49 24.4 +0.4
DEV Deva 77.36 324 ⇑P P 21 49 25.3 +1.4
DEV Deva 77.36 324 ⇑P P 21 49 25.3 +1.4
DEV Deva 77.36 324 P P 21 49 25.2 +1.4
TREC Trest 77.36 330 *eP* **P 21 49 24.8 +0.9**
TREC AMS AMS 22 22 00.0
comp=Z,100nm,14.5s
TREC Trest 77.36 330 *eP* **P 21 49 24.8 +0.9**
TREC MLR MLR
comp=Z,100nm,14.5s
SGRR Singureni 77.37 321 ⇑P P 21 49 24.7 +0.7
TANN Tannenbergstha 77.42 333 *eP* 21 49 24.4
comp=Z,122nm,1.8s,baz=29,slow=5.7
SCIA State Center 77.44 42 P P 21 49 25.1 +0.7
baz=321
PLN Plauen 77.46 333 *eP* 21 49 24.8
comp=Z,79nm,1.1s,baz=29,slow=5.7
NEWG New Galloway 77.47 344⇑*eP* **P 21 49 24.2 -0.1**
NEWG IAmb IAmb 21 49 25.4
comp=Z,67nm,1.2s
MOX Moxa 77.50 333 *eP* 21 49 25.0
comp=Z,123nm,1.3s,baz=29,slow=5.7
MOX *e*L 22 21 53.9
comp=Z,83nm,19.6s
MODS Modra-Piesok 77.50 329 *eP* **P 21 49 26.2 +1.5**
MODS pmax pmax
comp=Z,282nm,1.2s
MODS Modra-Piesok 77.50 329 *eP* **P 21 49 26.2 +1.5**
ANTO Ankara 77.50 315 P P 21 49 25.3 +0.4
ANTO Ankara 77.50 315 P P 21 49 26.5 +1.6
ANTO Ankara 77.50 315 ⇑P P 21 49 26.6 +1.6
ANTO Ankara 77.50 315 P P 21 49 25.3 +0.4
ANTO pmax pmax
comp=Z,266nm,1.6s
SIRR Siria 77.55 325 ⇑P P 21 49 25.8 +0.8
HUMR Humele 77.56 322 ⇑P P 21 49 25.4 +0.3
SRO Srobarova 77.58 328 *eP* **P 21 49 26.6 +1.5**
SRO pmax pmax
comp=Z,213nm,1.4s
SRO Srobarova 77.58 328 *eP* **P 21 49 26.6 +1.5**
ZST Bratislava 77.71 329 *eP* **P 21 49 27.5 +1.7**
ZST pmax pmax
comp=Z,260nm,1.2s
ZST Bratislava 77.71 329 *eP* **P 21 49 27.5 +1.7**
FORT Forrest 77.73 198 P P 21 49 26.4 +0.4
KESW Keswick, Cumbr 77.74 343 *eP* **P 21 49 26.6 +0.7**
KESW IAmb IAmb 21 49 27.4
comp=Z,134nm,1.1s
COPA Copaceanca 77.77 322 ⇑P P 21 49 27.2 +1.0
SURR Surduc 77.78 325 ⇑P P 21 49 27.1 +0.8
GAL1 Galloway 77.80 344 *eP* **P 21 49 26.3 +0.1**
GAL1 IAmb IAmb 21 49 27.3
comp=Z,43nm,0.8s
GZR Gura Zlata 77.80 324 ⇑P P 21 49 27.1 +0.6
GZR Gura Zlata 77.80 324 P P 21 49 27.1 +0.6
UBBA Unterbreizbach 77.85 334 *eP* 21 49 26.7
comp=Z,119nm,1.5s,baz=29,slow=5.7
SMRA Abu-Samra 77.85 293 P P 21 49 27.5 +0.5
H43A Windswept, Lux 77.90 37 IAmb IAmb 21 49 28.3
comp=Z,33nm,0.8s
MANZ Manzenberg 77.91 333 *eP* 21 49 27.5
comp=Z,16nm,1.1s,baz=29,slow=5.7
KASTN Kahler Asten 77.98 335 *eP* 21 49 27.8
comp=Z,81nm,1.1s,baz=29,slow=5.7
HPK Haverah Park 78.03 342 *eP* **P 21 49 27.9 +0.4**
HPK IAmb IAmb 21 49 28.9
comp=Z,105nm,0.6s
ROTZ Rotzenmuhle 78.07 333 *eP* 21 49 28.5
comp=Z,19nm,1.0s,baz=29,slow=5.7
ZIMR 78.08 321 ⇑P P 21 49 29.1 +1.1
ZIMR 78.08 321 P P 21 49 29.1 +1.1
BZS Buzias 78.10 325 ⇑P P 21 49 28.4 +0.4
BZS Buzias 78.10 325 P P 21 49 28.4 +0.4
BUG Bochum--Univer 78.10 336 *eP* 21 49 28.2
comp=Z,111nm,1.1s,baz=29,slow=5.7
IDGL Inch Island, C 78.11 346 *eP* **P 21 49 28.0 +0.2**
SZH Strazhitsa 78.12 321⇑*i P* **P 21 49 28.6 +0.4**
KHC Kasperske Hory 78.16 332 P P 21 49 29.1 +0.8
KHC Kasperske Hory 78.16 332 *eP* **P 21 49 29.3 +0.9**
KHC AMS AMS 22 19 50.0
comp=Z,100nm,21.4s
KHC Kasperske Hory 78.16 332*cP* **P 21 49 29.1 +0.8**
KHC pmax pmax
comp=Z,272nm,1.0s
TIM Timisoara 78.16 325 ⇑P P 21 49 29.6 +1.2
TIM Timisoara 78.16 325 P P 21 49 29.5 +1.2
CKRC Cesky Krumlov 78.17 331 *eP* **P 21 49 29.2 +0.8**
CKRC AMS AMS 22 20 10.0
comp=Z,100nm,11.9s
CKRC Cesky Krumlov 78.17 331 *eP* **P 21 49 29.2 +0.8**
CKRC MLR MLR
comp=Z,100nm,11.9s
VLAD Vladila 78.23 322 ⇑P P 21 49 29.9 +1.1
AMTX Amarillo 78.33 52 IAmb IAmb 21 49 31.6
comp=Z,29nm,0.9s
AMTX Amarillo 78.33 52 P P 21 49 30.4 +0.8
baz=317
GEC2 GERESS Array S 78.36 331 P P 21 49 29.7 +0.1
GEC2 IAmb IAmb 21 49 31.0
comp=Z,49nm,0.9s
GERES GERESS Array B 78.36 331 P P 21 49 28.6 -1.0
GERES GERESS Array B 78.36 331 P P 21 49 29.9 +0.3
comp=Z,21nm,0.6s,baz=28,slow=6.0,SNR=134
comp=Z,21nm,0.6s
GEC2 GERESS Array S 78.36 331 *eP* 21 49 30.0
comp=Z,42nm,0.7s,baz=29,slow=5.7
HERR Herculane 78.37 324 ⇑P P 21 49 29.8 +0.3
MSTX Muleshoe 78.38 53 P P 21 49 30.5 +0.5
baz=317
WET Wettzell 78.38 332 *eP* 21 49 30.7
comp=Z,158nm,1.1s,baz=29,slow=5.7
WET *e*L 22 21 34.2
comp=Z,61nm,21.7s
CONA Conrad Observa 78.39 330 *i P* **P 21 49 30.9 +1.2**
comp=Z,82nm,0.8s,SNR=90
RONA Rosalia, Austr 78.42 329 *i P* **P 21 49 31.2 +1.3**
comp=Z,95nm,0.9s,SNR=46
ELND Elena 78.44 321 ⇓P P 21 49 31.2 +1.3
GRF Grafenberg Arr 78.45 333 *eP* 21 49 30.9
comp=Z,22nm,1.2s,baz=29,slow=5.7
GRF *e*L 22 25 14.7
comp=Z,59nm,20.7s
GRFO Grafenberg 78.45 333 P P 21 49 30.4 +0.5
GRFO Grafenberg 78.45 333 P P 21 49 30.4 +0.5
GRFO pmax pmax
comp=Z,154nm,0.8s
WIM Isle of Man 78.47 344 *eP* **P 21 49 30.4 +0.5**
MNTX Cornudas Mount 78.51 57 P P 21 49 31.6 +1.1
baz=316,SNR=16
NOKA Waynoka 78.54 49 IAmb IAmb 21 49 40.6
comp=Z,18nm,0.7s
LBWR Ladybower, Pea 78.57 342⇑*eP* **P 21 49 30.8 +0.3**
LBWR IAmb IAmb 21 49 31.9
comp=Z,206nm,1.2s
PUNG Punghina 78.64 323 ⇑P P 21 49 31.9 +0.9
WACR West Acre 78.66 341 *eP* **P 21 49 31.7 +0.7**
WACR IAmb IAmb 21 49 32.9
comp=Z,113nm,1.0s
BAIL Bailesti 78.67 323 ⇓P P 21 49 32.8 +1.6
ELIS Ellis County 78.70 50 P P 21 49 32.3 +0.7
ELIS IAmb IAmb 21 49 34.2
comp=Z,25nm,0.9s
MDVR Moldovita 78.74 324 ⇑P P 21 49 32.1 +0.4
MORH Mrgy, Hungar 78.79 327 ⇑P P 21 49 32.0 +0.2
TNS Taunus Mts 78.84 335 *eP* 21 49 32.7
comp=Z,121nm,1.3s,baz=29,slow=5.7
TNS *e*L 22 24 48.8
comp=Z,52nm,21.4s
VLDQ Val d'Or 78.89 29 IAmb IAmb 21 49 37.7
comp=Z,30nm,0.7s
VALD Valchedram 78.90 323 *i P* **P 21 49 33.3 +0.9**
GLMI Grayling 78.94 35 P P 21 49 33.1 +0.4
baz=325
STNC Stoke 78.96 342⇑*eP* **P 21 49 32.5 -0.1**
AHRW Bad Neuenahr-A 78.96 336 *eP* 21 49 33.1
comp=Z,99nm,1.1s,baz=29,slow=5.7
SMWD Samnorwood 78.96 51 IAmb IAmb 21 49 35.0
comp=Z,25nm,0.8s
MOA Molln 79.02 330 *i P* **P 21 49 33.8 +0.7**
comp=Z,43nm,0.8s,SNR=28
KAN13 South Haven SW 79.03 48 IAmb IAmb 21 49 41.5
comp=Z,44nm,1.4s
MPEP Malo Peshtene 79.03 322 P P 21 49 33.7 +0.5
ARSA Arzberg 79.08 329 *i P* **P 21 49 34.4 +0.9**
comp=Z,48nm,1.1s,SNR=18
CWF Charnwood Fore 79.09 342⇑*eP* **P 21 49 33.2 -0.1**
WME Myndd Eilian 79.11 344 *eP* **P 21 49 33.7 +0.4**
BEBN Eben Emael 79.13 337 *dP* **P 21 49 33.7 +0.2**
CROK Carrier 79.14 49 IAmb IAmb 21 49 43.4
comp=Z,76nm,1.4s
ELMS Elmsett, Ipswi 79.16 340⇑*eP* **P 21 49 34.0 +0.3**
ELMS IAmb IAmb 21 49 36.2
comp=Z,116nm,0.7s
BTNL Ternell 79.19 337 *dP* **P 21 49 34.1 +0.2**
comp=Z,57nm,1.3s
MEM Membach 79.20 337 *dP* **P 21 49 34.4 +0.4**
comp=Z,54nm,1.1s
FRGS Fruska Gora 79.20 326⇑*iP* **P 21 49 34.4 +0.3**
FRGS Fruska Gora 79.20 326 ⇑P P 21 49 34.8 +0.7
YLL Llanberis 79.32 344 *eP* **P 21 49 34.6 0.0**
BSTI Sart Tilman 79.35 337 *dP* **P 21 49 35.1 +0.4**
FOEL Foel Wylfa 79.36 343⇑*eP* **P 21 49 35.3 +0.5**
FOEL IAmb IAmb 21 49 36.3
comp=Z,221nm,1.4s
BIOA Bad Ischl, Aus 79.37 331 *i P* **P 21 49 35.8 +0.8**
comp=Z,106nm,1.1s,SNR=59
BHOU Houvegnez 79.43 336 *dP* **P 21 49 35.7 +0.4**
comp=Z,33nm,0.8s
MORW Morawa 79.44 208 P P 21 49 35.5 +0.1
N41A Harden Midland 79.49 42 IAmb IAmb 21 50 24.4
comp=Z,22nm,0.9s
PLD Plovdiv 79.56 321 *i P* **P 21 49 37.2 +1.1**
BCLA Clavier 79.57 337 *dP* **P 21 49 36.0 0.0**
comp=Z,36nm,0.9s
RJOB Jochberg 79.62 331 *eP* 21 49 37.5
comp=Z,67nm,0.9s,baz=29,slow=5.7
HLM1 Long Mynd 79.64 343⇑*eP* **P 21 49 36.3 0.0**
DSB Dublin 79.65 345 P P 21 49 36.6 +0.3
DSB IAmb IAmb 21 49 37.9
comp=Z,92nm,1.4s
BGES Gesves 79.66 337 *dP* **P 21 49 36.5 0.0**
comp=Z,37nm,0.9s
L44A Lake County Fo 79.67 39 P P 21 49 37.2 +0.5
baz=323
BOVS Bovan 79.68 324 ⇓P P 21 49 36.6 -0.1
KALN Kalnik 79.69 328 *i P* **P 21 49 36.9 +0.2**
SOKA Soboth 79.75 329 *i P* **P 21 49 37.7 +0.5**
comp=Z,112nm,1.1s,SNR=54
OK051 E0350 and S346 79.75 48 IAmb IAmb 21 49 46.5
comp=Z,32nm,1.3s
PERS Pernice 79.75 329 *i P* **P 21 49 37.6 +0.5**
FUR Furstenfeldbru 79.76 332 *eP* 21 49 38.0
comp=Z,160nm,1.0s,baz=29,slow=5.7
FUR *e*L 22 25 44.7
comp=Z,70nm,21.8s
POST Post 79.76 53 IAmb IAmb 21 49 39.1
comp=Z,28nm,1.0s
TEKS Tekeris 79.82 325⇑*iP* **P 21 49 37.0 -0.5**
BMRD Maredsous 79.82 337 *dP* **P 21 49 37.6 +0.2**
comp=Z,58nm,1.1s
RCHB Rochefort 79.83 337 *dP* **P 21 49 37.2 -0.2**
comp=Z,33nm,1.2s
P40A Paris 79.85 43 IAmb IAmb 21 49 45.9
comp=Z,33nm,1.4s
VTS Vitosha 79.85 322⇑*iP* **P 21 49 38.9 +1.1**
ODSA Odessa 79.86 54 P P 21 49 38.6 +0.7
ODSA IAmb IAmb 21 49 39.7
comp=Z,28nm,0.9s
STU Stuttgart 79.89 334 P P 21 49 37.5 -0.3
STU Stuttgart 79.89 334 P P 21 49 37.5 -0.3
STU pmax pmax
comp=Z,80nm,0.9s
STU Stuttgart 79.90 334 *eP* 21 49 38.4
comp=Z,201nm,0.9s,baz=29,slow=5.7
LESA Schwarzleotal 79.93 331 *i P* **P 21 49 39.0 +0.9**
comp=Z,98nm,0.9s
ALN Alexandroupoli 79.97 319 P P 21 49 38.6 +0.3
ALN Alexandroupoli 79.97 319 P P 21 49 38.6 +0.3
KBA Koelnbreinsper 80.00 331 *i P* **P 21 49 39.3 +0.7**
comp=Z,64nm,0.6s,SNR=92
RDO Rodhopi 80.00 320 IAmb IAmb 21 49 40.8
comp=Z,105nm,1.7s
WLF Walferdange 80.01 336 IAmb IAmb 21 49 41.3
comp=Z,30nm,0.9s
WLF Walferdange 80.01 336 *dP* **P 21 49 38.9 +0.5**
WLF Walferdange 80.01 336 *eP* 21 49 39.0
comp=Z,28nm,0.9s,baz=29,slow=5.7
WMOK Wichita Mounta 80.04 50 P P 21 49 39.4 +0.6
baz=319,SNR=15
DOU Dourbes 80.06 337 *dP* **P 21 49 38.7 +0.1**
comp=Z,22nm,0.9s
PTJ Puntijarka 80.06 328 *i P* **P 21 49 39.1 +0.3**
OBKA Obir 80.06 330 *i P* **P 21 49 39.2 +0.3**
comp=Z,30nm,0.8s,SNR=12
OBKA Obir 80.06 330⇑*iP* **P 21 49 39.0 +0.2**
QUOK Quay 80.07 48 IAmb IAmb 21 49 48.4
comp=Z,28nm,1.2s
J47A Sunmer 80.15 36 IAmb IAmb 21 49 40.9
comp=Z,38nm,1.1s
OK031 S. Brethren Rd 80.17 48 P P 21 49 39.7 +0.2
OK031 IAmb IAmb 21 49 49.0
comp=Z,56nm,1.5s
STRD Stroud 80.18 342⇑*eP* **P 21 49 39.5 +0.3**
STRD IAmb IAmb 21 49 41.0
comp=Z,79nm,0.8s
MONM Monmouth 80.26 342⇑*eP* **P 21 49 40.0 +0.4**
MONM IAmb IAmb 21 49 41.0
comp=Z,92nm,0.9s
MYKA Terra Mystica 80.28 330 *i P* **P 21 49 40.0 0.0**
comp=Z,78nm,1.8s,SNR=15
CRES Cresnjev 80.32 329⇑*iP* **P 21 49 40.1 0.0**
HDIL Hopedale 80.34 41 P P 21 49 40.8 +0.5
baz=323
SWN1 Swindon 80.35 342⇑*eP* **P 21 49 40.6 +0.5**
SWN1 IAmb IAmb 21 49 41.7
comp=Z,194nm,0.8s
WATA Walderalm 80.38 332 *i P* **P 21 49 41.4 +0.8**
comp=Z,76nm,0.7s,SNR=70
WOL Wolverton 80.40 341 *eP* **P 21 49 40.6 +0.2**
WTTA Wattenberg 80.43 332 *i P* **P 21 49 41.8 +0.9**
comp=Z,72nm,0.5s,SNR=67
DEOK Depew 80.43 48 IAmb IAmb 21 49 49.5
comp=Z,49nm,1.4s
BBLS Lazi&#263i 80.44 325⇑*iP* **P 21 49 41.3 +0.4**
HAPS Han Pijesak,Bl 80.44 326⇑*iP* **P 21 49 41.4 +0.5**
HMNX Herstmonceux 80.45 340⇑*eP* **P 21 49 41.8 +1.1**
HMNX IAmb IAmb 21 49 42.7
comp=Z,228nm,0.9s
LJU Ljubljana 80.47 329 *i P* **P 21 49 40.9 0.0**
PRED Cave del Predi 80.47 330 P P 21 49 40.6 -0.4
PRED IAmb IAmb 21 49 41.8
comp=Z,32nm,0.7s
MMB Musomishta 80.49 321⇑*iP* **P 21 49 41.4 +0.3**

OZLJ	Ozalj	80.49 329	*i* P		P	21 49 41.4 +0.5
RETA	Reutte	80.52 332	*i* P		P	21 49 41.9 +0.6
	comp=Z,58nm,0.9s,SNR=54					
KKB	Krupnik	80.52 322	⇑*i* P		P	21 49 40.5 -0.8
IWEX	Carrickbyrne,	80.55 345	*e*P		P	21 49 41.7 +0.5
BFO	Black Forest	80.55 334	P		P	21 49 41.4 +0.1
BFO			IAmb	IAmb		21 49 42.8
	comp=Z,57nm,0.9s					
BFO	Black Forest	80.55 334	P		P	21 49 41.4 +0.1
BFO			pmax	pmax		
	comp=Z,57nm,0.9s					
BFO	Black Forest	80.56 334	*e*P			21 49 41.8
	comp=Z,60nm,0.9s,baz=29,slow=5.7					
BFO			*e*L			22 16 53.0
	comp=Z,65nm,20.2s					
RSBS	Rosebush, Pemb	80.56 343	⇑*e*P		P	21 49 41.4 +0.1
RSBS			IAmb	IAmb		21 49 42.4
	comp=Z,82nm,1.3s					
UBR	Ueberruh	80.57 333	*e*P			21 49 41.9
	comp=Z,25nm,0.8s,baz=29,slow=5.7					
ABTA	Abfaltersbach	80.58 331	*i* P		P	21 49 41.3 -0.3
	comp=Z,44nm,1.3s,SNR=17					
BLY	Banja Luka	80.58 327	⇑*i* P		P	21 49 41.3 -0.2
CADS	Cadrg	80.60 330	*i* P		P	21 49 40.9 -0.7
SQTA	Sankt Quirin	80.61 332	*i* P		P	21 49 42.6 +0.8
	comp=Z,84nm,0.8s,SNR=67					
RUDO	Rudo	80.66 325	⇑*i* P		P	21 49 41.7 -0.3
X34A	Smith Ranch, M	80.66 50	IAmb	IAmb		21 49 44.8
	comp=Z,52nm,1.4s					
BOJS	Bojanci	80.67 329	⇑*i* P		P	21 49 41.2 -0.7
SJES	Sjenica	80.70 324	⇑*i* P		P	21 49 42.7 +0.4
R40A	Maddies Statio	80.70 44	P		P	21 49 42.1 -0.2
TUL3	Leonard	80.75 48	P		P	21 49 43.3 +0.7
	baz=320					
CEY	Cerknica	80.77 329	⇑*i* P		P	21 49 42.1 -0.4
ICQ	Pointe Anglais	80.80 23	IAmb	IAmb		21 49 46.8
	comp=Z,27nm,0.7s					
SGCY	Sterling City	80.83 54	IAmb	IAmb		21 49 44.7
	comp=Z,28nm,0.8s					
SABO	M.te Sabotino	80.86 330	P		P	21 49 42.1 -0.9
SABO			IAmb	IAmb		21 49 43.4
	comp=Z,184nm,1.9s					
MGRS	Mrkonjic Grad	80.89 327	⇑*i* P		P	21 49 43.7 +0.5
STAL	STALIGIAL	80.93 331	IAmb	IAmb		21 49 43.7
	comp=Z,37nm,0.8s					
CSS	Mathiatis	80.94 311	IAmb	IAmb		21 49 46.1
	comp=Z,27nm,0.8s					
FETA	Feichten	80.94 332	*i* P		P	21 49 44.2 +0.6
	comp=Z,67nm,1.1s,SNR=31					
DAVA	Damuels	80.99 333	*i* P		P	21 49 44.3 +0.4
	comp=Z,63nm,0.7s,SNR=43					
ECH	Echery	81.01 335	P		P	21 49 43.6 -0.2
ECH			IAmb	IAmb		21 49 45.1
	comp=Z,61nm,1.0s					
ECH	Echery	81.01 335	P		P	21 49 43.6 -0.2
ECH			pmax	pmax		
	comp=Z,61nm,1.0s					
A050A	Klekovaca	81.05 327	⇑*i* P		P	21 49 44.0 -0.1
PLIT	Plitvice	81.06 328	*i* P		P	21 49 44.4 +0.3
RIY	Rijeka	81.10 329	*i* P		P	21 49 43.6 -0.7
ABTX	Abilene, Hawle	81.14 52	P		P	21 49 45.4 +0.6
	baz=319					
RAR	Rarotonga	81.19 132	LR		LR	22 24 37.7
	comp=Z,29nm,19.0s,baz=288,slow=35					
KLBR	Kellerberrin	81.22 206	P		P	21 49 46.6 +1.8
TX31	Lajitas Ar. Si	81.24 57	IAmb	IAmb		21 49 47.3
	comp=Z,34nm,0.8s					
TXAR	Lajitas Array	81.24 57	P		P	21 49 46.0 +0.6
TXAR	Lajitas Array	81.24 57	P		P	21 49 46.2 +0.8
	comp=Z,25nm,0.7s,baz=297,slow=4.0,SNR=287					
TXAR			PKKPbc		PKKPbc	22 08 20.5 +2.9
	comp=Z,0.4nm,0.9s,baz=140,slow=5.7,SNR=3.9					
	comp=Z,25nm,0.7s					
MMAI	Mount Meron Ar	81.28 308	P		P	21 49 46.5 +1.0
	comp=Z,21nm,0.8s,baz=38,slow=7.6,SNR=6.7					
	comp=Z,21nm,0.8s					
L48A	N Adams	81.38 37	IAmb	IAmb		21 49 47.2
	comp=Z,23nm,0.8s					
CCM	Cathedral Cave	81.39 43	P		P	21 49 45.9 0.0
CCM	Cathedral Cave	81.39 43	P		P	21 49 46.3 +0.3
	baz=322					
CCM	Cathedral Cave	81.39 43	P		P	21 49 45.9 0.0
CCM			pmax	pmax		
	comp=Z,11nm,0.7s					
HTL	Hartland	81.42 343	*e*P		P	21 49 46.6 +0.8
HTL			IAmb	IAmb		21 49 47.3
	comp=Z,60nm,1.0s					
DAVOX	Davos/Dischmat	81.43 333	LR		LR	22 30 09.3
	comp=Z,55nm,19.7s,baz=48,slow=39					
FUORN	Ofenpass-Fuorn	81.45 332	P		P	21 49 46.7 +0.3
LOOK	Love County	81.47 50	IAmb	IAmb		21 49 55.7
	comp=Z,24nm,1.0s					
SMRN	Sveta Marina	81.47 329	*i* P		P	21 49 45.5 -0.7
CTI	Castel Tesino	81.48 331	IAmb	IAmb		21 49 46.9
	comp=Z,75nm,1.3s					
RABC	Rab	81.48 328	*i* P		P	21 49 46.2 -0.1
SFIN	Lafayette	81.48 39	P		P	21 49 47.0 +0.6
	baz=324					
KIJV	Kijevo	81.50 327	*i* P		P	21 49 46.6 +0.2
TRQ	Mont Tremblant	81.52 28	IAmb	IAmb		21 49 52.9
	comp=Z,46nm,1.3s					
BRY	Bratogost	81.59 325	⇑*i* P		P	21 49 46.2 -0.9
NVLJ	Novalja	81.61 328	*i* P		P	21 49 46.4 -0.5
RICI	Ricice	81.65 326	*i* P		P	21 49 46.8 -0.4
PDG	Podgorica	81.69 324	P		P	21 49 47.5 +0.1
PDG			IAmb	IAmb		21 49 48.8
	comp=Z,45nm,0.9s					
PDG	Podgorica	81.69 324	⇑*i* P		P	21 49 47.1 -0.3
PDG	Podgorica	81.69 324	⇓P		P	21 49 47.8 +0.4
N47A	Urbana	81.70 38	IAmb	IAmb		21 49 48.5
	comp=Z,20nm,0.8s					
BRJN	Brijuni	81.73 329	*i* P		P	21 49 47.0 -0.5
PUK	Puka	81.75 324	IAmb	IAmb		21 49 51.1
	comp=Z,114nm,1.9s					
VIRC	Vir	81.77 328	*i* P		P	21 49 46.9 -0.9
HPIG		81.77 60	IAmb	IAmb		21 49 50.1
	comp=Z,21nm,0.9s					
DYA	Yadsworthy	81.83 342	⇑*e*P		P	21 49 48.1 +0.2
SBD	Saint Breward	81.86 343	*e*P		P	21 49 48.5 +0.3
TUE	Stuetta	81.88 333	P		P	21 49 49.5 +0.9
MORI	Morici	81.89 327	*i* P		P	21 49 48.1 -0.3
DRME	Dracevica, Mon	81.92 324	*e*P		P	21 49 48.9 +0.3
Z35A	Perchaven, San	81.93 50	IAmb	IAmb		21 49 50.5
	comp=Z,38nm,0.9s					
DBRK	Dubrovnik	81.94 325	*i* P		P	21 49 48.5 -0.2
STON	Ston	81.95 326	*i* P		P	21 49 47.7 -1.1
STON	Ston	81.95 326	⇑*i* P		P	21 49 46.4 -2.3
DUGI	Dugi Otok	82.03 328	*i* P		P	21 49 48.7 -0.5
P46A	Rosedale	82.05 40	P		P	21 49 50.1 +0.8
P46A			IAmb	IAmb		21 49 54.6
	comp=Z,20nm,0.8s					
RAYN	Ar Rayn	82.15 295	P		P	21 49 50.4 +0.2
RAYN	Ar Rayn	82.15 295	*i* P		P	21 49 50.9 +0.7
	SNR=12					
RAYN	Ar Rayn	82.15 295	P		P	21 49 51.2 +1.0
RAYN	Ar Rayn	82.15 295	P		P	21 49 50.4 +0.2
RAYN			pmax	pmax		
	comp=Z,35nm,1.6s					
FNA	Florina	82.15 322	P		P	21 49 49.2 -0.7
FNA			IAmb	IAmb		21 49 51.5
	comp=Z,123nm,1.9s					
FNA	Florina	82.15 322	P		P	21 49 49.3 -0.7
FNA			pmax	pmax		
	comp=Z,123nm,1.9s					
HVAR	Hvar	82.19 327	*i* P		P	21 49 49.6 -0.4
TIR	Tirane	82.33 323	⇑P		P	21 49 51.7 +0.9
CCA1	Carnmenellis	82.33 343	⇑*e*P		P	21 49 50.7 +0.1
CCA1			IAmb	IAmb		21 49 52.0
	comp=Z,99nm,1.1s					
TOO	Toolangi	82.33 182	P		P	21 49 51.7 +1.2
TOO	Toolangi	82.33 182	P		P	21 49 51.7 +1.2
TOO			pmax	pmax		
	comp=Z,121nm,1.9s					
OLIL	Olney	82.35 41	IAmb	IAmb		21 50 00.2
	comp=Z,30nm,1.4s					
O48B	Farmland	82.45 38	P		P	21 49 52.0 +0.6
	baz=325					
D62A	Allapoint, All	82.50 25	P		P	21 49 51.2 -0.3
JLP	Les Platons	82.54 341	*e*P		P	21 49 52.0 +0.4
JQE	Queens East	82.57 341	*e*P		P	21 49 52.4 +0.6
JSA	Saint Aubin	82.61 341	⇑*e*P		P	21 49 52.4 +0.4
JSA			IAmb	IAmb		21 49 53.5
	comp=Z,95nm,0.9s					
NWAO	Narrogin (SRO)	82.62 206	P		P	21 49 51.9 -0.2
NWAO			IAmb	IAmb		21 49 53.4
	comp=Z,43nm,0.9s					
NWAO	Narrogin (SRO)	82.62 206	P		P	21 49 51.9 -0.2
NWAO			pmax	pmax		
	comp=Z,43nm,1.0s					
S44A	Carbondale	82.64 42	IAmb	IAmb		21 49 55.3
	comp=Z,16nm,0.8s					
PECO	Prince Edward	82.65 31	P		P	21 49 51.6 -0.7
JCT	Junction City	82.65 54	IAmb	IAmb		21 49 54.2
	comp=Z,25nm,0.9s					
JCT	Junction City	82.65 54	P		P	21 49 53.1 +0.4
	baz=319					
ARG	Arkhangelos	82.66 315	IAmb	IAmb		21 49 55.7
	comp=Z,71nm,1.3s					
E62A	Clayton Lake	82.78 25	P		P	21 49 52.8 -0.2
PBMO	Poplar Bluff	82.80 44	IAmb	IAmb		21 50 02.7
	comp=Z,30nm,1.3s					
WHTX	Lake Whitney,	82.83 51	IAmb	IAmb		21 49 55.1
	comp=Z,27nm,0.8s					
WHTX	Lake Whitney,	82.83 51	P		P	21 49 54.2 +0.7
	baz=320					
LONY	Lake Ozonia	82.91 29	P		P	21 49 54.1 +0.3
	baz=331					
MIAR	Mount Ida	82.96 47	P		P	21 49 54.5 +0.3
MIAR	Mount Ida	82.96 47	P		P	21 49 54.8 +0.6
	baz=321,SNR=8.7					
MIAR	Mount Ida	82.96 47	P		P	21 49 54.5 +0.3
MIAR			pmax	pmax		
	comp=Z,13nm,0.8s					
WHAR	Wooly Hollow	83.04 46	IAmb	IAmb		21 49 55.8
	comp=Z,32nm,1.2s					
ERPA	Erie	83.06 34	P		P	21 49 55.0 +0.5
	baz=328					
N51A	Ashland	83.09 36	IAmb	IAmb		21 50 02.4
	comp=Z,19nm,0.9s					
BATG	Bathurst New B	83.18 23	P		P	21 49 55.1 0.0
BATG			IAmb	IAmb		21 49 59.2
	comp=Z,22nm,0.8s					
P49A	Miami Univ. Ec	83.23 38	IAmb	IAmb		21 50 03.5
	comp=Z,32nm,1.3s					
P49A	Miami Univ. Ec	83.23 38	P		P	21 49 55.9 +0.5
	baz=325					
F62A	Pittston Farm,	83.29 26	P		P	21 49 56.2 +0.6
F62A			IAmb	IAmb		21 49 57.1
	comp=Z,18nm,0.8s					
WVNY	West Valley, N	83.35 33	IAmb	IAmb		21 49 57.3
	comp=Z,19nm,0.9s					
M53A	WI Miller and	83.36 35	IAmb	IAmb		21 49 57.6
	comp=Z,15nm,0.7s					
M53A	WI Miller and	83.36 35	P		P	21 49 56.4 +0.3
	baz=328					
SMF	Signal de Mont	83.40 336	*e*P		P	21 49 55.8 -0.4
SMF			pmax	pmax		
	comp=Z,92nm,1.0s					
ACSO	Alum Creek Sta	83.41 37	P		P	21 49 56.8 +0.4
	baz=326					
GUMA	Gualdo di Mace	83.47 329	IAmb	IAmb		21 49 58.5
	comp=Z,82nm,1.1s					
LPL	La Plagne	83.56 334	*e*P		P	21 49 57.3 0.0
LPL			pmax	pmax		
	comp=Z,50nm,0.9s					
WCI	Wyandotte Cave	83.59 40	P		P	21 49 57.8 +0.5
WCI	Wyandotte Cave	83.59 40	P		P	21 49 58.0 +0.7
	baz=325					
WCI	Wyandotte Cave	83.59 40	P		P	21 49 57.8 +0.5
WCI			pmax	pmax		
	comp=Z,10.0nm,0.8s					
KARP	Karpathos	83.67 315	P		P	21 49 58.2 +0.4
G62A	West of Eustis	83.72 26	IAmb	IAmb		21 49 59.7
	comp=Z,28nm,1.1s					
J58A	Remsen	83.76 30	IAmb	IAmb		21 49 59.0
	comp=Z,19nm,0.9s					
N53A	Lisbon	83.82 35	IAmb	IAmb		21 49 60.0
	comp=Z,18nm,0.8s					
OSSC	Osservatorio P	83.82 330	P		P	21 49 58.5 0.0
OSSC			IAmb	IAmb		21 50 00.2
	comp=Z,58nm,1.2s					
O52A	Adamsville	83.99 36	IAmb	IAmb		21 50 00.6
	comp=Z,25nm,1.1s					
BNI	Bardonecchia	83.99 334	IAmb	IAmb		21 50 01.4
	comp=Z,33nm,1.1s					
PPT	Papeete	84.05 122	LR		LR	22 22 20.4
	comp=Z,67nm,20.2s,baz=340,slow=32					
PPT2	Papeete2	84.06 122	*e*P		P	21 49 58.8 -1.1
	comp=Z,49nm,24.0s					
PPT2	Papeete2	84.06 122	*e*S		S	22 00 14.6 +1.1
	comp=Z,46nm,23.8s					
PPT2	Papeete2	84.06 122	*e*LR		LR	22 16 22.8
	comp=Z,69nm,20.8s					
PPT2			*e*LR		LR	22 16 37.9
	comp=Z,103nm,23.5s					
PKME	Peaks-Kenny Pk	84.07 26	P		P	21 49 59.1 -0.5
PKME			IAmb	IAmb		21 51 06.1
	comp=Z,77nm,1.9s					
PKME	Peaks-Kenny Pk	84.07 26	P		P	21 50 00.2 +0.6
	baz=334					
H62A	Milan	84.10 27	IAmb	IAmb		21 50 01.5
	comp=Z,37nm,0.8s					
O53A	New Philadelph	84.14 36	IAmb	IAmb		21 50 08.0
	comp=Z,23nm,0.8s					
O53A	New Philadelph	84.14 36	P		P	21 50 00.6 +0.5
	baz=327					
CESX	Cesi	84.14 329	IAmb	IAmb		21 50 01.3
	comp=Z,76nm,1.6s					
LBNH	Lisbon	84.15 28	P		P	21 50 00.7 +0.6
	baz=333					
INTR	Introdacqua	84.16 328	IAmb	IAmb		21 50 05.6
	comp=Z,27nm,1.1s					
Q51A	Peebles	84.25 38	IAmb	IAmb		21 50 02.3
	comp=Z,21nm,0.9s					
P52A	Corning	84.27 37	P		P	21 50 01.3 +0.5
	baz=327					
SSB	Saint Sauveur	84.44 335	P		P	21 50 02.0 +0.4
SSB			IAmb	IAmb		21 50 03.6
	comp=Z,30nm,0.9s					
SSB	Saint Sauveur	84.44 335	P		P	21 50 02.0 +0.4
SSB			pmax	pmax		
	comp=Z,30nm,0.9s					
833A	Chaparral WMA,	84.50 55	P		P	21 50 02.9 +0.8
	baz=319					
BINY	Binghamton	84.52 31	P		P	21 50 02.4 +0.4
	baz=330					
MFF	Saint Martin d	84.53 339	*e*P		P	21 50 02.0 +0.1
MFF			pmax	pmax		
	comp=Z,66nm,0.8s					
NATX	Nacogdoches	84.54 50	P		P	21 50 03.4 +1.2
	baz=321					
WVT	Waverly	84.57 42	P		P	21 50 02.7 +0.4
WVT	Waverly	84.57 42	P		P	21 50 03.2 +0.9
	baz=324					
WVT	Waverly	84.57 42	P		P	21 50 02.7 +0.4
WVT			pmax	pmax		
	comp=Z,7.0nm,0.6s					
SSFO	Shawnee State	84.59 38	IAmb	IAmb		21 50 11.4
	comp=Z,23nm,0.9s					
J61A	Chester	84.73 29	P		P	21 50 03.4 +0.4
I63A	Otisfield	84.75 27	IAmb	IAmb		21 50 05.8
	comp=Z,43nm,1.2s					
LMN	Caledonia Moun	84.83 23	IAmb	IAmb		21 50 07.6
	comp=Z,23nm,0.8s					
M57A	Sunshine Farm,	84.83 33	IAmb	IAmb		21 50 05.7
	comp=Z,57nm,1.4s					
ITM	Ithomi	84.86 320	IAmb	IAmb		21 50 08.4
	comp=Z,33nm,0.9s					
L59A	Walton	84.87 31	IAmb	IAmb		21 50 11.1
	comp=Z,26nm,1.1s					
OXF	Oxford	85.10 44	P		P	21 50 06.0 +1.0
	baz=323					
SSPA	Standing Stone	85.14 33	P		P	21 50 05.8 +0.7
	baz=329					
MCWV	Mont Chateau	85.20 35	P		P	21 50 06.1 +0.7
	baz=328					
TIP	Timpagrande	85.44 324	IAmb	IAmb		21 50 10.1
	comp=Z,52nm,1.2s					
L61B	Northampton	85.48 29	P		P	21 50 07.4 +0.6
	baz=332					
CAF	Calviac	85.48 337	*e*P		P	21 50 07.3 +0.5
CAF			pmax	pmax		
	comp=Z,45nm,0.9s					
HRV	Adam Dziewonsk	85.81 28	P		P	21 50 08.9 +0.5
	baz=333					
LFF	La Frestale	85.83 338	*e*P		P	21 50 08.9 +0.5
LFF			pmax	pmax		
	comp=Z,84nm,1.0s					
HBVL	Hebbronville	85.87 55	P		P	21 50 08.9 0.0
HBVL			IAmb	IAmb		21 50 11.8
	comp=Z,25nm,1.1s					
SWET	Sewanee	86.21 42	IAmb	IAmb		21 50 12.6
	comp=Z,14nm,0.8s					
TZTN	Tazewell	86.22 39	P		P	21 50 11.1 +0.6
	baz=326					
R55A	Marlinton	86.25 36	IAmb	IAmb		21 50 19.6
	comp=Z,16nm,0.8s					
V52A	Sevierville	86.78 40	IAmb	IAmb		21 50 16.0
	comp=Z,31nm,1.4s					
BLA	Blacksburg	87.03 37	P		P	21 50 15.2 +0.7
	baz=328					
BG3	Lake Jocassee	87.78 40	IAmb	IAmb		21 51 06.9
	comp=Z,63nm,1.8s					
CEST	Esterri de Car	87.85 336	IAmb	IAmb		21 50 22.0
	comp=Z,56nm,1.4s					
VAE	Valguarnera	87.86 325	LR	LR		22 32 26.2
	comp=Z,51nm,19.8s,baz=94,slow=37					
Y52A	Lilburn	88.20 41	IAmb	IAmb		21 50 28.9
	comp=Z,13nm,0.9s					
KMSC	Kings Mountain	88.38 39	P		P	21 50 21.5 +0.7
	baz=328					
TBI	Tubuai	88.59 126	*e*LR	LR		22 18 34.0
	comp=Z,982nm,35.8s					
250A	Grady	88.69 44	IAmb	IAmb		21 50 24.1
	comp=Z,27nm,0.8s					
GOGA	Godfrey	88.85 41	P		P	21 50 23.7 +0.6
	baz=326					
PBRG	Braganca	90.63 342	*e*P		P	21 50 31.6 +0.2
POLO	Lamas de Olo	91.28 342	*e*P		P	21 50 34.7 +0.3
PVRL	Vila Real	91.35 342	*e*P		P	21 50 36.6 +1.9
KEST	Kesra	91.37 328	P		P	21 50 34.9 0.0
	comp=Z,4.6nm,0.5s,baz=333,slow=2.3,SNR=9.0					
KEST			LR	LR		22 36 55.3
	comp=Z,71nm,18.0s,baz=329,slow=39					
	comp=Z,4.6nm,0.5s					
PVIS	Viseu	91.93 342	*e*P		P	21 50 37.4 0.0
ESDC	Sonseca Array	91.99 339	P		P	21 50 36.8 -0.9
ESDC	Sonseca Array	91.99 339	P		P	21 50 37.2 -0.4
	comp=Z,1.8nm,0.8s,baz=8.0,slow=4.0,SNR=17					
ESDC			LR	LR		22 38 03.0
	comp=Z,32nm,18.3s,baz=32,slow=39					
	comp=Z,1.8nm,0.8s					
MTE	Manteigas	92.15 342	*e*P		P	21 50 37.5 -0.9
PAB	San Pablo	92.21 339	P		P	21 50 39.3 +0.5
PAB			IAmb	IAmb		21 52 01.4
	comp=Z,18nm,1.7s					
PAB	San Pablo	92.21 339	P		P	21 50 39.3 +0.5
PAB			pmax	pmax		
	comp=Z,18nm,1.7s					
PCAS	Casmilo, Conde	92.69 342	*e*P		P	21 50 41.2 +0.3
PMRV	Marv??o	93.05 341	*e*P		P	21 50 43.4 +0.9
EVO	Evora	94.04 342	*e*P		P	21 50 48.1 +1.0
PBEJ	Beja	94.49 341	*e*P		P	21 50 49.8 +0.6
PNCL	Nicolau / Gran	94.56 342	*e*P		P	21 50 50.8 +1.4
MESJ	Messejana	94.75 342	*e*LQ	LQ		21 50 52.5
PTEO	Sao Teotonio	95.15 342	*e*P		P	21 50 53.7 +1.6
PBDV	Barranco-do-Ve	95.26 341	*e*P		P	21 50 52.8 +0.1
FURI	Furi	97.25 290	LR	LR		22 40 02.4
	comp=Z,66nm,19.0s,baz=82,slow=38					
TORD	Torodi Ar. Bea	114.59 324	PKP	PKiKP		21 56 08.0 -0.8
	comp=Z,0.2nm,0.3s,baz=55,slow=2.2,SNR=7.7					
TORD			PKKPbc	PKKPbc		22 06 46.9 +1.4
	comp=Z,1.2nm,0.9s,baz=148,slow=0.4,SNR=4.9					
RPN	Rapa Nui	117.11 102	*i* PKIKP	PKiKP		21 56 13.7 +0.5
VNDA	Vanda	122.64 177	PKP	PKPdf		21 56 22.3 0.0
	comp=Z,1.8nm,0.9s,baz=311,slow=3.5,SNR=8.0					
VNDA			pPKP	pPKPdf		21 56 57.8 +0.3
	comp=Z,2.3nm,0.8s,baz=259,slow=2.5,SNR=4.8					
DBIC	Dimbokro	123.09 328	PKP	PKPdf		21 56 24.8 -0.4
	comp=Z,5.8nm,0.9s,baz=19,slow=3.5,SNR=5.5					
MAW	Mawson	129.07 209	PKP	PKiKP		21 56 35.3 -0.3
	comp=Z,0.6nm,0.4s,baz=49,slow=6.3,SNR=4.6					
QSPA	South Pole Qui	134.84 180		PKPpre		21 56 34.3
QSPA	South Pole Qui	134.84 180	PKhKP	PKPpre		21 56 35.1
	comp=Z,1.1nm,0.6s,baz=26,slow=1.8,SNR=8.5					
QSPA			pPKP	PKiKP		21 56 46.7 -0.7
	comp=Z,7.8nm,1.0s,baz=305,slow=2.0,SNR=12					
QSPA			pPKP	pPKPdf		21 57 22.5 +1.5
	comp=Z,6.0nm,0.9s,baz=296,slow=2.2,SNR=4.1					
SAML	Samuel	134.91 47		PKPdf		21 56 47.2 -0.4
SAML	Samuel	134.91 47	PKIKP	PKPdf		21 56 47.2 -0.4
H03N2	Juan Fernandez	142.15 89	T	T		00 35 49.4
	baz=303					
H03N3	Juan Fernandez	142.16 89	T	T		00 36 49.1
	baz=303,slow=77					
H03N1	Juan Fernandez	142.16 89	T	T		00 36 49.4
	baz=303,slow=77					
ELIB	Princess Elisa	142.86 205	*d*PKPdf	PKPdf		21 56 56.7 -3.8
LCO	Las Campanas	145.38 76	PKPdf	PKPab		21 57 06.7 -0.2
LCO	Las Campanas	145.38 76	PKP2	PKPab		21 57 06.7 -0.2
NVL	N'lazarevskaya	146.74 205	⇑*e*PKP2	PKPbc		21 57 08.9 -0.1
NVL			pmax	pmax		
	comp=Z,41nm,0.9s					
MT02	Curacav	147.55 82		PKPbc		21 57 12.5 +0.1
BDFB	Brasilia	147.58 30	PKPbc	PKPbc		21 57 13.2 +0.1
BDFB	Brasilia	147.58 30	PKPbc	PKPbc		21 57 13.4 +0.3
	comp=Z,12nm,0.8s,baz=359,slow=4.0,SNR=17					
BDFB			pPKPbc	pPKPab		21 57 48.6 -1.1
	comp=Z,9.9nm,0.8s,baz=343,slow=3.1,SNR=4.3					
TROLL	Troll, Antarti	148.53 200	⇑PKPbc	PKPbc		21 57 14.0 +0.1
	comp=Z,1μm,0.7s					
TROLL			⇑pPKiPK			21 57 50.0
	comp=Z,155nm,0.7s					
SNAA	Sanae	149.99 198	PKPbc	PKPbc		21 57 16.6 -0.9
SNAA	Sanae	149.99 198	⇑PKPbc	PKPbc		21 57 17.0 -0.5
	comp=Z,472nm,1.0s					
SNAA			⇑pPKiPK			21 57 52.2
	comp=Z,50nm,0.8s					
SNAA	Sanae	149.99 198	PKPbc	PKPbc		21 57 17.3 -0.2
	comp=Z,24nm,1.0s,baz=173,slow=2.5,SNR=49					
LL01	San Ignacio de	150.70 99		PKPbc		21 57 19.9 -0.1
PLCA	Paso Flores	151.43 95	PKP	PKPdf		21 57 15.2 -0.4
	comp=Z,4.0nm,0.9s,baz=305,slow=1.6,SNR=5.7					
PLCA			PKPbc	PKiKP		21 57 22.2 0.0
	comp=Z,34nm,0.8s,baz=266,slow=2.8,SNR=68					
VNA2	Neumayer--Watz	151.51 197	⇑PKPbc	PKPbc		21 57 21.1 +0.1
	comp=Z,58nm,0.6s,baz=154,slow=1.0					
VNA2			⇑pPKiPK			21 57 57.9
	comp=Z,7.4nm,0.5s,baz=160,slow=1.6					
VNA3	Neumayer Olymp	151.69 195	⇑PKPbc	PKPbc		21 57 20.9 -0.5
	comp=Z,28nm,0.8s					
VNA3			⇑pPKiPK			21 57 57.6
	comp=Z,3.8nm,0.6s					
COYC	Coyhaique	151.84 106	PKPbc	PKPbc		21 57 21.9 -0.6
AY03	Cochrane	151.85 109	PKPbc	PKPbc		21 57 22.2 -0.2
VNA1	Neumayer--Stat	151.90 196	⇑PKPbc	PKPbc		21 57 21.8 0.0
	comp=Z,29nm,1.0s					
VNA1			⇑pPKiPK			21 57 57.0
	comp=Z,8.8nm,0.9s					
CPUP	Villa Florida	152.21 56		PKPab		21 57 33.6 -0.6
CPUP	Villa Florida	152.21 56	PKPbc	PKPbc		21 57 23.4 -0.5
	comp=

LLNJ	Naranjito	0.47	65	eP		Pg	21 54 06.2	-0.2
ACOS	Acosta	0.63	35	eP		Pg	21 54 08.6	-0.8
ABE2	San Pablo	0.63	48	eP		Pg	21 54 08.8	-0.7
LCR2	La Lucha 2	0.69	48	iP		Pb	21 54 09.7	-0.9
LCR2				IAML			21 54 09.8	
	comp=Z,2μm,1.0s							
LCR2				iS		Sg	21 54 18.6	-1.3
AMPA	Desamparados	0.77	37	eP		Pb	21 54 10.7	-1.1
LUJA	Lujan	0.79	35	eP		Pb	21 54 12.2	0.0
TCS1	Tacares	0.79	17	iP		Pb	21 54 11.8	-0.4
TCS1				IAML			21 54 25.4	
	comp=Z,12μm,1.0s							
TCS1	Tacares	0.79	17	eP		Pb	21 54 11.8	-0.5
SJS3	Mercedes San J	0.81	36	eP		Pb	21 54 11.8	-0.7
HDC	Heredia	0.83	30	eP		Pb	21 54 12.2	-0.7
HDC3	Heredia 3	0.83	30	iP		Pb	21 54 12.1	-0.8
HDC3				IAML			21 54 27.4	
	comp=Z,2μm,1.0s							
REPA	Paraso	0.85	50	eP		Pb	21 54 13.3	+0.1
OCHAL	Ojochal	0.89	102	iP		Pb	21 54 13.7	-0.1
OCHAL				IAML			21 54 14.4	
	comp=Z,520nm,1.0s							
OCHAL				iS		Sn	21 54 27.1	+0.1
CVIMO	Finca Echandi	0.94	38	eP		Pb	21 54 14.1	-0.7
VICA	Volcano Irazu	0.97	44	eP		Pb	21 54 14.6	-0.9
RAFA	San Farael, Vo	0.98	46	iP		Pb	21 54 14.8	-0.7
RAFA				iS		Sg	21 54 29.3	+0.3
RAFA				IAML			21 54 30.3	
	comp=Z,12μm,1.0s							
RAFA	San Farael, Vo	0.98	46	eP		Pb	21 54 14.8	-0.7
CVTQ	Turrialba Volc	1.04	46	eP		Pb	21 54 15.9	-0.7
VERB	Verbena	1.06	51	eP		Pb	21 54 16.2	-0.6
VTCV	VTCV, Calle Va	1.06	48	eP		Pb	21 54 16.1	-0.7
JTS	Las Juntas de	1.09	338	eP		Pb	21 54 16.7	-0.6
SOCE	Pocosol	1.10	355	iP		Pb	21 54 17.2	-0.3
SOCE				IAML			21 54 37.5	
	comp=Z,2μm,1.0s							
SOCE	Pocosol	1.10	355	eP		Pb	21 54 17.1	-0.4
INDI	Punta indio, G	1.12	301	iP		Pn	21 54 17.0	-0.7
INDI				IAML			21 54 41.6	
	comp=Z,660nm,1.0s							
ARE1	Arenal 1	1.19	351	eP		Pn	21 54 19.0	+0.3
CUI	Cuipilapa	1.51	336	eP		Pn	21 54 23.8	+0.8
COLC	Colonia	1.53	334	eP		Pn	21 54 24.4	+1.0
VRLE	La Escondida,	1.71	331	eP		Pn	21 54 27.0	+1.0
ACON	Acoyapa	2.75	347	iP		Pn	21 54 43.5	+3.4
ACON				iS		Sb	21 55 19.6	+0.7
ACON				IAML			21 55 22.5	
	comp=Z,110nm,1.0s							
BOAB	BOACO BROADBAN	8.34	341	iP		Pn	21 54 51.1	+2.8
BOAB				iS		Sb	21 55 34.9	-1.2
BOAB				IAML			21 55 52.1	
	comp=Z,56nm,1.0s							

HEL 23 22:10:45.6±0.5, 67°.16N×20°.62E, h0km, ML1.2, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	Ertsjaerv	0.86	134	PG	Pg	22 11 01.1	-1.0
ERTU				SB	Sg	22 11 12.9	-0.4
LANU	Lannavaara	1.04	30	PG	Pg	22 11 04.4	-1.1
LANU				SB	Sg	22 11 19.0	0.0
KLF	Kolari	1.30	85	PG	Pg	22 11 08.8	-1.8
KLF				MSG		22 11 25.0	
	comp=Z,1.0nm,0.2s						
KLF				SG	Sg	22 11 26.6	-0.8
KALU	Kalix	1.70	139	PG	Pn	22 11 16.6	+0.2
KALU				SN	Sg	22 11 41.1	+0.9
HEF	Hetta	1.71	41	PG	Pn	22 11 15.9	-0.7
HEF				MSG		22 11 36.7	
	comp=Z,1.0nm,0.2s						
HEF				SG	Sn	22 11 37.6	-1.6
TOF	Tornio	1.83	124	PG	Pn	22 11 18.6	+0.4
TOF				MSG		22 11 40.3	
	comp=Z,2.0nm,0.2s						
TOF				SG	Sb	22 11 43.2	0.0
FAUS	Fauske	2.08	279	eP	Sg	22 11 51.7	-0.8
KTK1	Kautokeino	2.11	27	eP	Sb	22 11 50.4	-0.9
KTK1	Kautokeino	2.11	27	PG	Pb	22 11 23.5	-1.2
KTK1				SG	Sb	22 11 50.8	-0.5
RNF	Rovaniemi	2.20	102	PG	Pn	22 11 24.1	+0.8
RNF				SG	Sb	22 11 53.8	-0.1
SGF	Sodankyl	2.31	80	SG	Sb	22 11 56.4	-0.7
TRO	Tromso	2.57	347	PN	Pn	22 11 28.5	+0.1
RANF	Ranua	2.72	112	SB	Sn	22 12 06.1	+2.2

UPP 23 22:11:16.1±0.1, 67°.16N×20°.64E, h0km, ML1.6, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.05	216	P	Pg	22 11 17.2	+0.2
DUNU				S	Sg	22 11 18.2	+0.6
MASU	Masugnsbyn	0.60	60	P	Pg	22 11 27.6	-0.1
RATU	Laukkuluspa	0.78	329	P	Pg	22 11 30.7	-0.3
KUA	Kurravaara	0.81	352	P	Pg	22 11 31.1	-0.4
KUA				S	Sg	22 11 42.2	+0.3
SALU	Saltoluokta	0.86	286	P	Pg	22 11 32.2	-0.3
ERTU	Ertsjaerv	0.86	134	P	Pg	22 11 32.1	-0.5

BNS 23 22:14:16.6±0.9, 50°.90N×6°.01E, h2km±8km, ML1.5
BUG 23 22:14:16.5±0.5, 50°.90N×5°.97E, h4km±2km, MD3.4/9, ML2.4/7
LDG 23 22:14:16.7±1.1, 50°.90N×5°.99E, h8km, Ml2.4/4, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0
BGR 23 22:14:16.8±0.4, 50°.89N×6°.05E, h10km, ML1.6/5, Error ellipse: s-maj=4.4km s-min=2.2km az=87.0
UCC 23 22:14:16.7±0.6, 50°.90N×5°.99E, h8km±1km, ML1.6

ISC 23 22:14:16.5±0.9, 50°.91N±0°.02×5°.97E±0°.02, h10km±6km, n55, σ1§02/84, 11C-32D, Belgium

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BA12	Beaesweiler	0.13	89⇓	ePg	Pg	22 14 19.3	-0.3
BA01	Aachen	0.14	157	ePg	Pg	22 14 19.3	-0.4
HGN	Heimansgroeve	0.15	191	Pg	Pg	22 14 19.3	-0.5
HGN				Sg	Sg	22 14 21.8	-0.3
BA13	Heinsberg	0.17	21	ePg	Pg	22 14 20.3	0.0
BA02	Stolberg	0.20	131	ePg	Pg	22 14 20.5	-0.3
BEBN	Eben Emael	0.22	239	dP	Pg	22 14 20.7	-0.3
BEBN				dS	Sg	22 14 24.2	+0.1
	comp=E,121nm,0.3s						
RODG	Roetgen-Dahlhe	0.27	29⇑	ePg	Pg	22 14 21.7	-0.3
RODG				eSg	Sg	22 14 26.5	+0.8
	comp=E,84nm,0.5s						
DREG	Dreilaegerbach	0.29	146	ePg	Pg	22 14 22.2	-0.2
BOPT	Opiter	0.30	314	bP	Pg	22 14 22.4	-0.1
MEM	Membach	0.30	176	bP	Pg	22 14 22.1	-0.4
MEM				dS	Sg	22 14 26.4	-0.1
	comp=E,28nm,0.3s						
GSH	Grosshau	0.31	124	ePg	Pg	22 14 22.5	-0.2
GSH				eSg	Sg	22 14 27.1	+0.2
	comp=E,82nm,0.2s						
BTNL	Ternell	0.34	163	bP	Pg	22 14 23.2	0.0
BTNL				dS	Sg	22 14 27.6	-0.2
	comp=E,18nm,0.3s						
KLL	Kalltalsperre	0.34	141	ePg	Pg	22 14 22.8	-0.5
KLL				eSg	Sg	22 14 27.5	-0.3
	comp=E,36nm,0.3s						
BLCH	La Chartreuse	0.36	222	bP	Pg	22 14 23.4	-0.2
BLCH				dS	Sg	22 14 28.9	+0.5
BSTI	Sart Tilman	0.41	219	bP	Pg	22 14 24.9	+0.2
OLFT	Oleftalsperre	0.50	145	ePg	Pg	22 14 25.9	-0.4
OLFT				eSg	Sg	22 14 32.8	-0.2
PLH	Pulheim	0.54	79	ePg	Pg	22 14 26.8	-0.3
PLH				eSg	Sg	22 14 33.9	-0.3
BHOU	Houvegnez	0.56	178	bP	Pg	22 14 27.1	-0.2
BHOU				dS	Sg	22 14 34.6	0.0
	comp=N,16nm,0.2s						
BCLA	Clavier	0.65	221	dP	Pg	22 14 29.2	+0.1
BCLA				dS	Sg	22 14 38.2	+0.6
	comp=N,11nm,0.2s						
LAUG	Laupendahl	0.76	54	ePg	Pg	22 14 30.4	-0.7
HILG	Hillesheim	0.76	144	eSg	Sg	22 14 40.8	-0.4
	comp=N,11nm,0.2s						
BGES	Gesves	0.77	227	dP	Pg	22 14 31.4	0.0
BGES				dS	Sg	22 14 41.6	+0.2
	comp=N,12nm,0.3s						
LKLB	Kalborn	0.81	174	κP	Pg	22 14 32.1	-0.1
LKLB				dS	Sg	22 14 42.3	-0.5
	comp=N,5.2nm,0.3s						
WBS	Wahnbachtalspe	0.84	96	eSg	Sg	22 14 43.4	-0.1
	comp=N,23nm,0.3s						
HOBG	Hohbusch	0.86	84	ePg	Pg	22 14 32.9	-0.3
RCHB	Rochefort	0.89	213	bP	Pg	22 14 33.9	+0.2
RCHB				dS	Sg	22 14 45.0	-0.3
BKLB	Ruhr-Universit	0.97	56	Pg	Pg	22 14 35.2	-0.1
BUG	Bochum--Univer	0.97	56	ePg	Pg	22 14 35.2	-0.1
BUG				eSg	Sg	22 14 48.0	0.0
LVIA	Vianden	0.98	171	dS	Sg	22 14 46.5	-1.8
GIVF	Givet	1.09	223	ePg	Pg	22 14 37.3	-0.2
GIVF				eSg	Sg	22 14 51.7	0.0
	comp=N,21nm,0.2s						
BGG	Burgeitz	1.12	128	ePg	Pg	22 14 37.7	-0.3
BRQR	Ronquire	1.15	255	bP	Pg	22 14 38.3	-0.3
WTSB	Winterswijk	1.18	26	ePg	Pb	22 14 38.8	-0.2
WTSB				eSg	Sb	22 14 54.9	+0.6
DOU	Dourbes	1.20	228	bP	Pb	22 14 39.3	0.0
DOU				dS	Sg	22 14 55.0	-0.1
	comp=E,14nm,0.2s						
KOE	Koeppel	1.22	113	ePg	Pb	22 14 39.2	-0.5
BSKQ	Steenkerk	1.23	259	bP	Pn	22 14 39.0	-0.7
BSKQ				dS	Sb	22 14 55.5	-0.3
	comp=E,13nm,0.2s						
WLF	Walferdange	1.25	175	κP	Pn	22 14 40.2	+0.2
WLF				dS	Sb	22 14 56.2	-0.2
	comp=E,16nm,0.4s						
WLF	Walferdange	1.25	175	ePg	Pn	22 14 40.3	+0.2
WLF				eSg	Sb	22 14 56.2	-0.2
RIVT	Riveris	1.30	157	eSg	Sb	22 14 58.1	+0.2
SORT	Sorpetalsperre	1.33	70	eSg	Sb	22 14 57.3	-1.5
	comp=E,7.4nm,0.2s						
BBOU	Bougnies	1.39	249	dP	Pn	22 14 39.9	-2.1
BAIF	Baives	1.41	234	ePg	Pn	22 14 43.0	+0.7
BAIF				eSg	Sn	22 15 01.6	+0.7
	comp=E,7.2nm,0.3s						
TNS	Taunus Mts	1.72	113	ePg	Pb	22 14 48.3	+0.1
TNS				eSg	Sn	22 15 08.5	-0.2
KTD	Kalmit	2.09	139	eSg	Sb	22 15 21.5	+0.8
PAGF	Fort de Pagny	2.36	184	ePg	Pb	22 14 59.7	+0.6
PAGF				eSg	Sb	22 15 29.6	+1.3
MEZF	Maizieres J'vi	2.48	194	ePg	Pg	22 15 03.5	-0.6
CDF	Champ du Feu	2.64	161	ePg	Pb	22 15 05.0	+1.1
CDF				eSg	Sb	22 15 37.5	+1.1
	comp=E,0.9nm,0.3s						
SFTF	Sexfontaines	2.77	193	ePg	Pb	22 15 07.3	+1.1
SFTF				eSg	Sb	22 15 42.9	+2.7
	comp=E,2.2nm,0.3s						
ECH	Echery	2.80	164	eSg	Sb	22 15 43.6	+2.5
CLZ	Clausthal	2.91	70	eSg	Sb	22 15 46.9	+2.7
HAU	Haudompre	2.92	175	ePg	Pg	22 15 10.8	-1.6
HAU				eSg	Sb	22 15 47.0	+2.7
LOR	Lormes	3.90	202	eSg	Sg	22 16 18.6	-3.1
SSF	Saint Saulge	4.18	204	ePn	Pn	22 15 20.0	-0.3
SSF				eSg	Sg	22 16 26.3	-4.3
LDF	La Druitiere	4.58	242	ePn	Pn	22 15 25.3	-0.5
FLN	La Foliniere	4.70	245	ePn	Pn	22 15 27.5	+0.1

TEH 23 22:25:27.9, 34°.62N×46°.28E, h8km±19km, ML2.5
ISN 23 22:25:28.9±1.3, 34°.64N×46°.26E, h20km±24km, ML2.4

ISC 23 22:25:28.0±1.0, 34°.63N±0°.04×46°.28E±0°.03, h11km±8km, n11, σ0§37/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.11	52	Pg	Pg	22 25 31.0	-0.1
IDHR				Sg	Sg	22 25 33.4	+0.2
IGHG	Ghaleghazi	0.39	142	Pg	Pg	22 25 35.7	0.0
KGS1	Ghasr-e-Shirin	0.59	258	Pg	Pg	22 25 39.7	+0.3
GLG1	Gilan-e-Gharb	0.60	211	Pg	Pg	22 25 39.2	-0.5
ILIN	Lien	0.63	63	Pg	Pg	22 25 39.9	-0.4
ILIN				Sg	Sb	22 25 50.2	0.0
KCHF	Cheshme Sefid,	0.72	119	Sg	Sb	22 25 52.9	+0.1
ILBA	Ilam Banvizeh	1.01	184	Pg	Pb	22 25 47.0	-0.5
SNQR	Sonqor, Kerman	1.13	78	Pg	Pn	22 25 50.2	+0.1
IBZA	Bozab	1.31	97	Pg	Pb	22 25 53.0	+0.1
IBDR	Badra	1.55	191	ePg	Pn	22 25 56.0	+0.4
	baz=10.0						
IBDR				eSg	Sg	22 26 18.0	+0.2
IBDR				AML	AML	22 26 26.8	
	comp=E,67nm,0.7s						
IBDR				AML	AML	22 26 32.1	
	comp=N,61nm,0.9s						
IKRK	Kirkuk	1.77	296	ePn	Pb	22 26 00.0	-0.5
IKRK				eSn	Sb	22 26 23.0	+0.3

SJA 23 22:39:12.0±0.8, 23°.96S×66°.69W, h233km±5km, ML3.9, MW3.8
IDC 23 22:39:13.5±1.1, 23°.87S×66°.56W, h198km±14km, mb3.4/3, mbtmp3.8/8, Error ellipse: s-maj=20.9km s-min=16.3km az=155.0

ISC 23 22:39:14.1±0.7, 23°.93S±0°.04×66°.77W±0°.05, h215km±7km, n28, σ1§27/43, mb3.6/3, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.40	125	eP	Pn	22 39 48.2	-0.2
SLA				eS	S	22 40 14.8	-0.2
AZAP	Zapla	1.58	101	eP	Pn	22 39 49.3	-0.8
AZAP				eS	S	22 40 20.0	+2.1
YJA	Yavi	2.09	34	eP	Pn	22 39 55.2	0.0
YJA				eS	S	22 40 26.9	+0.1
FSA	Cafayete	2.29	162	eP	Pn	22 39 56.3	-0.5
FSA				eS	S	22 40 28.1	-1.9
LVC	Limon Verde	2.37	303	eP	Pn	22 39 58.4	+0.6
LVC				eS	S	22 40 32.8	+1.1
LVC	Limon Verde	2.37	303	P	Pn	22 39 58.4	+0.6
	44nm,0.3s,baz=138,slow=6.1,SNR=72						
LVC				S	S	22 40 32.1	+0.5
	166nm,0.7s,baz=275,slow=20,SNR=37						
ALOL	LOMAS DE OLMED	2.56	88	eP	Pn	22 39 40.5	-19
PB15	IPOC Station P	2.58	286	eP	Pn	22 40 00.5	+0.5
PB15				eS	S	22 40 35.5	0.0
PB15				IAML		22 40 36.8	
	comp=Z,1μm,0.2s						
GO02	Mina Guanaco	2.85	244	eP	Pn	22 40 02.9	-0.2
GO02				eS	S	22 40 41.0	0.0
PB06	IPOC Station P	2.85	295	eP	Pn	22 40 03.3	+0.3
PB06				eS	S	22 40 40.7	-0.1
PB06				IAML		22 40 45.7	
	comp=Z,211nm,0.3s						
PB09	IPOC Station P	3.12	312	eP	Pn	22 40 06.6	+0.6
PB09				eS	S	22 40 46.7	+0.3
PB09				IAML		22 40 46.9	
	comp=Z,115nm,0.7s						
PB14	IPOC Station P	3.39	257	eP	Pn	22 40 08.9	-0.5
PB14				eS	S	22 40 51.5	-0.7
PB14				IAML		22 40 52.6	
	comp=Z,172nm,0.5s						
PB04	IPOC Station P	3.49	296	eP	Pn	22 40 10.6	+0.2
PB04				eS	S	22 40 53.3	-1.0
PB04				IAML		22 40 56.4	
	comp=Z,178nm,0.3s						
PATCX	Punta Patache	4.40	314	eP	Pn	22 40 21.2	-0.2
PATCX				eS	S	22 41 13.0	-1.3
PATCX				IAML		22 41 17.4	
	comp=Z,61nm,0.4s						
TA01	Diego Aracena	4.60	316	eP	Pn	22 40 23.8	-0.1
TA01				eS	S	22 41 17.6	-1.0
TA01				IAML		22 41 25.0	
	comp=Z,39nm,2.5s						
HMBC	Humberstone	4.64	321	eP	Pn	22 40 23.7	-0.9
HMBC				eS	S	22 41 16.4	-3.5
HMBC				IAML		22 41 23.7	
	comp=Z,115nm,0.5s						
GO01	Chusmiza	4.80	332	eP	Pn	22 40 27.8	+0.9
GO01				eS	S	22 41 22.8	-1.3
GO03	Copiap	4.80	220	eP	Pn	22 40 25.3	-1.1
GO03				eS	S	22 41 20.6	-2.7
CPUP	Villa Florida	8.88	108	P	Pn	22 41 16.6	-2.1
	comp=Z,3.3nm,0.6s,baz=293,slow=12,SNR=8.1						
SIV	San Ignacio	9.54	35	P	Pn	22 41 24.3	-3.0
	comp=Z,0.7nm,0.4s,baz=214,slow=11,SNR=7.3						
PLCA	Paso Flores	17.05	190	P	P	22 42 59.7	+1.1
	comp=Z,1.0nm,0.9s,baz=8.0,slow=14,SNR=3.2						
BDFB	Brasilia	19.46	68	P	P	22 43 23.8	-1.2
	comp=Z,3.8nm,0.6s,baz=237,slow=12,SNR=6.9						
SNAA	Sanae	59.35	161	P	P	22 48 53.9	+0.6
	comp=Z,0.9nm,0.7s,baz=243,slow=9.0,SNR=5.5						
	comp=Z,0.9nm,0.7s						
QSPA	South Pole Qui	66.28	180	P	P	22 49 40.9	+1.8
	comp=Z,1.3nm,0.5s,baz=178,slow=1.7,SNR=12						
	comp=Z,1.3nm,0.5s						
TORD	Torodi Ar. Bea	76.35	69	P	P	22 50 39.4	-0.6
	comp=Z,0.4nm,0.6s,baz=268,slow=6.5,SNR=7.8						
	comp=Z,0.4nm,0.6s						
WRA	Warramunga Arr	131.78	207	PKP	PKPdf	22 58 03.5	+1.2
	comp=Z,0.2nm,0.5s,baz=155,slow=1.9,SNR=8.9						
ZALV	Zalesovo Beam	143.23	28	PKhKP	PKPpre	22 58 19.5	
	comp=Z,0.6nm,0.6s,baz=299,slow=3.0,SNR=3.9						
MKAR	Makanchi Array	146.34	40	PKPbc	PKPbc	22 58 30.5	+1.0
	comp=Z,0.9nm,0.6s,baz=306,slow=3.5,SNR=9.6						

DJA 23 22:39:24.5±0.4, 1°.N±5°.×12°.6E±°, h10km, M4.5/10, mb4.7/6, mB4.9/2, MLv4.4/10, Mw(mB)4.2/2
NEIC 23 22:39:26.2±2.4, 0°.86N±0°.05×126°.24E±0°.05, h28km±5km, mb4.7/46, Error ellipse: s-maj=10.9km s-min=5.5km az=195.0
IDC 23 22:39:28.4±2.9, 0°.76N×126°.26E, h60km±26km, mb4.0/16, mbtmp4.3/17, ML4.4/1, MS3.4/4, Error ellipse: s-maj=30.0km s-min=9.1km az=75.0

ISC 23 22:39:26.6±0.4, 0°.84N±0°.05×126°.24E±0°.05, h35km, n92, σ1§51/93, mb4.6/43, MS3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.13	93		Pn	22 39 44.8	-1.1
TNTI				Sn	Sn	22 40 00.1	-0.2
TNTI	Ternate	1.13	93	P	Pn	22 39 45.4	-0.6
LBMI	Labuha	1.94	139	P	Pn	22 39 59.6	+2.6
KMSI	Cibinong	2.27	263	P	Pn	22 40 01.9	+0.3
GTOI	Gorontalo	3.23	266	P	Pn	22 40 17.0	+2.1
LUWI	Luwuk	3.94	242	Pn	Pn	22 40 25.1	+0.5
LUWI	Luwuk	3.94	242	P	Pn	22 40 26.9	+2.3
MRSI	Marisa	4.31	265	P	Pn	22 40 31.6	+1.9
TOLI2	Tolitoli	5.46	273	Pn	Pn	22 40 44.8	-0.7
MPSI	Mapaga	6.36	266	P	Pn	22 40 59.9	+2.0
FAKI	Fak Fak	7.08	122	Pn	Pn	22 41 07.8	+0.1
BBSI	Bau Bau	7.27	210	P	Pn	22 41 14.3	+3.8
BKSI	Bulukumba	8.65	225	P	Pn	22 41 31.9	+2.6
	31nm,0.7s						
KAPI	Kappang	8.71	228	Pn	Pn	22 41 32.4	+2.3
KAPI	Kappang	8.71	228	P	Pn	22 41 32.5	+2.4
	4.5nm,0.3s,baz=45,slow=10,SNR=10						
	13nm,0.4s						
SOEI	Soe	10.71	191	P	Pn	22 42 02.0	+4.3
MTN	Manton Dam	14.44	160	Pn	Pn	22 42 48.2	-0.4
KNRA	Kununurra	16.60	171	Pn	Pn	22 43 14.6	-2.2
FITZ	Fitzroy Crossi	18.83	182	P	P	22 43 43.7	+0.2
DLV	T Lat	20.78	303		P	22 44 05.8	+0.8
DLV				IAmb	IAmb	22 44 40.4	
	comp=Z,31nm,1.2s						
WB0	Warramunga Arr	21.99	159	P	P	22 44 16.3	-1.5
WB0				IAmb	IAmb	22 44 24.3	
	comp=Z,41nm,1.1s						
WRAB	Tennant Creek	22.12	159	P	P	22 44 17.9	-1.3
WRAB				IAmb	IAmb	22 44 24.3	
	comp=Z,20nm,0.7s						
WRA	Warramunga Arr	22.13	159	P	P	22 44 15.6	-3.7
WRA	Warramunga Arr	22.13	159	P	P	22 44 17.7	-1.6
	comp=Z,7.0nm,0.6s,baz=337,slow=11,SNR=73						
WRA				S	S	22 48 17.4	-3.9
	comp=Z,3.1nm,1.0s,baz=333,slow=20,SNR=7.3						
	comp=Z,7.0nm,0.6s						
WB2	Warramunga Arr	22.13	159	P	P	22 44 17.9	-1.5
WB2				IAmb	IAmb	22 44 24.4	
	comp=Z,22nm,0.8s						
WR0	Warramunga Arr	22.22	159	P	P	22 44 18.2	-2.1
WR0				IAmb	IAmb	22 44 27.0	
	comp=Z,10nm,0.7s						
COEN	Coen	22.31	132	P	P	22 44 21.2	-0.1
MBWA	Marble Bar	22.77	196	P	P	22 44 26.3	+0.2
YULB	Yu-li	22.93	348	P	P	22 44 24.2	-3.5
YULB				IAmb	IAmb	22 44 38.7	
	comp=Z,18nm,1.2s						
TPUB	Ta-pu	22.98	347	P	P	22 44 26.5	-1.8
TPUB				IAmb	IAmb	22 44 33.6	
	comp=Z,26nm,0.9s						
PSA00	Pilbara Seismi	23.13	195	P	P	22 44 29.9	0.0
PSA00				IAmb	IAmb	22 44 30.7	
	comp=Z,19nm,1.1s						
AS31	Alice Springs	25.47	163	P	P	22 44 52.3	+0.6
ASAR	Alice Springs	25.47	163	P	P	22 44 51.5	-0.1
ASAR	Alice Springs	25.47	163	P	P	22 44 50.5	-1.2
	comp=Z,3.1nm,0.3s,baz=344,slow=7.1,SNR=35						
ASAR				S	S	22 49 15.6	-1.1
	comp=Z,0.5nm,0.7s,baz=351,slow=18,SNR=3.2						
	comp=Z,3.1nm,0.3s						
JOW	Kunigami	25.92	4	P	P	22 44 56.4	+0.8
JOW				IAmb	IAmb	22 45 35.9	
	comp=Z,45nm,1.4s						
PHRA	Phrae	30.98	306	P	P	22 45 40.5	-0.3
FORT	Forrest	31.49	177	P	P	22 45 44.5	-0.7
NJ2	Nanjing	31.82	348	eP	P	22 45 50.8	+2.7
NJ2				pP	pP	22 45 59.0	+1.2
NJ2				sP	sP	22 46 02.9	+1.1
NJ2				pmax	pmax		
	comp=Z,11nm,1.5s						
NJ2				pmax	pmax		
	comp=Z,240nm,5.7s						
NWAO	Narrogin (SRO)	34.64	193	P	P	22 46 12.3	-0.4
PZH	PanZhiHua	34.73	319	P	P	22 46 15.4	+1.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,120nm,4.9s						
STKA	Stephens Creek	35.64	157	P	P	22 46 20.1	-1.3
STKA	Stephens Creek	35.64	157	P	P	22 46 20.2	-1.1
	comp=Z,5.4nm,0.6s,baz=326,slow=11,SNR=8.2						
	comp=Z,5.4nm,0.6s						
KSRS	Korea Array	36.47	2	P	P	22 46 29.1	+0.9
	comp=Z,1.5nm,0.5s,baz=178,slow=10,SNR=7.9						
	comp=Z,1.5nm,0.5s						
MJAR	Matsushiro

comp=Z,0.8nm,0.4s,baz=123,slow=5.5,SNR=6.9
comp=Z,0.8nm,0.4s
GAR Garm 63.53 314 P **P 22 49 52.6 -1.3**
BTK Batken 63.58 315 P **P 22 49 54.2 +0.1**
KURBB Kurchatov Arra 63.91 328 P **P 22 49 55.0 -0.9**
comp=Z,7.3nm,0.6s,baz=127,slow=6.3,SNR=42
comp=Z,7.3nm,0.6s
KURK Kurchatov 63.91 328 P **P 22 49 54.8 -1.1**
KKAR Karatay Array 65.02 318 P **P 22 50 03.5 +0.1**
BVAR Borovoye Array 69.47 328 P **P 22 50 30.6 -0.7**
comp=Z,5.0nm,0.7s,baz=138,slow=9.7,SNR=21
comp=Z,5.0nm,0.7s
BRVK Borovoye 69.54 328 P **P 22 50 31.2 -0.6**
BRVK IAmb IAmb 22 50 34.7
comp=Z,8.6nm,1.0s
TIXI Tiksi 70.72 1 P **P 22 50 37.9 -0.8**
TIXI IAmb IAmb 22 50 51.5
comp=Z,12nm,1.1s
NRIK Noril'sk 73.11 347 P **P 22 50 53.0 0.0**
comp=Z,4.6nm,0.9s,baz=132,slow=9.8,SNR=4.4
comp=Z,4.6nm,0.9s
ABKAR Akbulak array 74.08 321 P **P 22 50 58.2 -0.9**
ARU Arti 77.11 328 P **P 22 51 15.8 -0.6**
ARU IAmb IAmb 22 51 17.9
comp=Z,4.9nm,0.7s
VNDA Vanda 80.64 173 P **P 22 51 35.6 +0.3**
comp=Z,0.3nm,0.3s,baz=326,slow=5.5,SNR=2.2
comp=Z,0.3nm,0.3s
J17K VABM Dome 82.42 26 P **P 22 51 46.5 +1.5**
KIRV Kirov 82.43 329 LR LR 23 31 58.2
comp=Z,32nm,18.6s,baz=125,slow=38
K17K Iditarod 82.61 27 P **P 22 51 46.1 +0.1**
L18K Granite Mounta 83.24 27 P **P 22 51 50.5 +1.2**
L18K IAmb IAmb 22 51 54.0
comp=Z,6.8nm,0.8s
J18K Innoko River 83.47 26 P **P 22 51 50.7 +0.2**
J18K IAmb IAmb 22 51 54.6
comp=Z,4.0nm,0.8s
C19K Lookout Ridge 83.60 20 P **P 22 51 52.2 +1.1**
G19K Purcell Mounta 83.86 23 P **P 22 51 53.4 +1.0**
D19K Kuna River 83.98 21 P **P 22 51 53.9 +0.9**
D19K IAmb IAmb 22 51 57.3
comp=Z,4.5nm,0.8s
E19K Redstone River 84.08 22 P **P 22 51 55.1 +1.6**
E19K IAmb IAmb 22 52 20.2
comp=Z,3.8nm,0.9s
GURO Guroymak-BITLI 84.94 308 P **P 22 51 58.7 0.0**
GURO IAmb IAmb 22 52 02.2
comp=Z,6.4nm,1.0s
ILAR Eielson Array 87.91 25 P **P 22 52 10.4 -2.0**
comp=Z,0.4nm,0.6s,baz=253,slow=5.3,SNR=4.9
comp=Z,0.4nm,0.6s
BRTR Keskin Array B 91.47 310 P **P 22 52 27.9 -2.0**
comp=Z,0.4nm,0.8s,baz=123,slow=5.3,SNR=2.2
comp=Z,0.4nm,0.8s
ARCES ARCESS Array B 92.97 340 LR LR 23 39 29.1
comp=Z,27nm,18.5s,baz=80,slow=39
FINES FINESS Array B 94.13 332 P **P 22 52 42.1 +0.6**
comp=Z,0.9nm,0.7s,baz=66,slow=6.7,SNR=3.0
comp=Z,0.9nm,0.7s
BUR08 Bucovina Ar. S 96.82 318 P **P 22 52 52.8 -1.4**
BUR08 IAmb IAmb 22 52 58.8
comp=Z,2.1nm,1.1s
TORD Torodi Ar. Bea 123.30 286 PKP **PKPdf 22 58 20.9 -0.1**
comp=Z,0.5nm,0.7s,baz=64,slow=1.6,SNR=3.3

*IDC **23** 22:48:34.8±1.9,20°.04N×105°.59W,h0km,mb3.5/3,*
mbtmp3.5/4,ML3.8/1,MS3.2/4,Error ellipse: s-maj=55.5km
s-min=32.8km az=89.0
*MEX **23** 22:48:38.7±0.4,19°.99N×106°.31W,h10km,MD4.2*
ISC 23 22:48:37.2±1.1,20°.23N±0°.05×106°.00W±0°.07,h10km,n33,
σ2§65/47,mb3.6/3,Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**1.16**	**129**	*i* P	**Pg**	**22 48 59.1**	**-0.4**
CJM				*e*S	**Sg**	**22 49 14.2**	**-0.4**
CIHU	**Emiliano Zapat**	**1.54**	**129**	*e*P	**Pn**	**22 49 04.4**	**-0.3**
CIHU				*e*S	**Sn**	**22 49 24.3**	**-0.4**
ANIG	**Ahuacatlan**	**1.61**	**59**	*e*P	**Pn**	**22 49 04.2**	**-1.6**
ANIG				*e*S	**Sn**	**22 49 22.2**	**-4.5**
CEGR	**Campo Tres**	**2.19**	**112**	*e*P	**Pb**	**22 49 14.7**	**-2.3**
CEGR				*e*S	**Sb**	**22 49 42.4**	**-1.9**
CDAR	**Ciudad de Arme**	**2.28**	**124**	*e*P	**Pn**	**22 49 15.1**	**+0.2**
CDAR				*e*S	**Sn**	**22 49 44.2**	**+1.1**
SOMAC	**Volcano de Col**	**2.34**	**107**	*i* P	**Pb**	**22 49 17.7**	**-2.1**
SOMAC				*i* S	**Sb**	**22 49 47.8**	**-1.1**
MNGA	**Volcan de Coli**	**2.37**	**108**	*e*P	**Pb**	**22 49 18.1**	**-2.0**
MNGA				*i* S	**Sb**	**22 49 49.2**	**-0.4**
JUBC	**Volcan de Coli**	**2.40**	**107**	*e*P	**Pb**	**22 49 18.3**	**-2.3**
JUBC				*e*S	**Sb**	**22 49 49.6**	**-0.9**
COIG	**Colima**	**2.42**	**115**	*e*P	**Pn**	**22 49 17.8**	**+0.9**
COIG				*e*S	**Sb**	**22 49 49.0**	**-1.9**
MAIG	**Mazatlaan**	**2.96**	**353**	*e*P	**Pn**	**22 49 22.0**	**-2.4**
MMIG	**Aquila**	**3.17**	**127**	*e*P	**Pn**	**22 49 27.7**	**+0.6**
MMIG				*e*S	**Sn**	**22 50 05.0**	**-0.1**
ZAIG	**Zacatecas**	**4.08**	**51**	*e*P	**Pn**	**22 49 40.4**	**+0.5**
ZAIG				*e*S	**Sb**	**22 50 36.7**	**-2.0**
MOIG	**Morelia**	**4.56**	**96**	*e*P	**Pn**	**22 49 50.0**	**+3.5**
MOIG				*e*S	**Sb**	**22 50 46.1**	**-6.6**
SSIG	**Sanalona**	**4.68**	**347**	*e*P	**Pn**	**22 49 48.7**	**+0.7**
SSIG				*e*S	**Sn**	**22 50 39.8**	**-2.6**
PDIG	**Papasquiaro**	**4.82**	**7**	*e*P	**Pn**	**22 49 51.1**	**+1.1**
PDIG				*e*S	**Sn**	**22 50 45.9**	**-0.1**
ZIIG	**Zihuatanejo**	**5.03**	**121**	*e*P	**Pn**	**22 49 52.7**	**0.0**
ZIIG				*e*S	**Sn**	**22 50 50.8**	**-0.1**
LPIG	**La Paz**	**5.54**	**315**	LR	LR	22 51 46.5	
comp=Z,108nm,20.7s,baz=206,slow=32							
PLIG	**Platanillo**	**6.41**	**106**	*e*P	**Pn**	**22 50 14.3**	**+2.5**
PLIG				*e*S	**Sn**	**22 51 31.4**	**+6.3**
MEIG	**Mezcala**	**6.46**	**110**	*e*P	**Pn**	**22 50 15.5**	**+3.0**
MEIG				*e*S	**Sn**	**22 51 27.1**	**+0.7**
YAIG	**Yautepec**	**6.68**	**101**	*e*P	**Pn**	**22 50 16.6**	**+1.0**
YAIG				*e*S	**Sn**	**22 51 38.4**	**+6.5**
PBXN	**Popocatepetl**	**7.03**	**99**	*e*P	Pn	22 50 25.0	+4.3
PBXN				*e*P	Pb	22 50 25.3	-14
PBXN				*e*S	**Sn**	**22 51 47.8**	**+6.7**
PBXN				*e*S	Sb	22 51 49.1	-15
PPM	**Popocatepetl**	**7.05**	**98**	*e*P	**Pn**	**22 50 20.9**	**0.0**
PPM				*e*S	Sn	22 51 50.2	+8.8
CRIG	**Cruz Grande**	**7.39**	**117**	*i* P	**Pn**	**22 50 27.0**	**+1.8**
CRIG				*e*S	**Sn**	**22 51 49.5**	**+0.3**
TXAR	**Lajitas Array**	**9.30**	**13**	Pn	**Pn**	**22 50 53.0**	**+1.4**
0.2nm,0.3s,baz=191,slow=14,SNR=13							
TXAR				Sn	**Sn**	**22 52 39.5**	**+3.1**
baz=194,slow=21,SNR=1.4							
0.6nm,0.5s							
PFO	**Pinyon Flats O**	**16.25**	**327**	LR	LR	22 58 31.1	
comp=Z,126nm,19.4s,baz=182,slow=36							
NVAR	**Mina Array Bea**	**21.03**	**332**	P	**P**	**22 53 25.5**	**+4.1**
2.1nm,0.8s,baz=153,slow=12,SNR=14							
2.1nm,0.8s							
PDAR	**Pinedale Array**	**22.66**	**353**	P	**P**	**22 53 39.4**	**+0.5**
0.8nm,0.7s,baz=165,slow=12,SNR=7.7							
PDAR				LR	LR	23 02 52.4	
comp=Z,49nm,19.6s,baz=248,slow=37							
0.8nm,0.7s							
SDV	**Santo Domingo**	**35.96**	**103**	LR	LR	23 10 33.7	
comp=Z,75nm,19.6s,baz=259,slow=37							
H03N2	**Juan Fernandez**	**59.30**	**154**	T	T	00 02 38.3	
baz=332,slow=77,SNR=5.1							
H03N1	**Juan Fernandez**	**59.31**	**154**	T	T	00 02 39.6	
baz=332,slow=77,SNR=6.9							
H03N3	**Juan Fernandez**	**59.31**	**154**	T	T	00 02 38.7	
baz=332,slow=77,SNR=6.9							
ESDC	**Sonseca Array**	**86.13**	**49**	P	**P**	**23 01 17.4**	**-1.4**
0.5nm,0.8s,baz=294,slow=5.3,SNR=4.2							
0.5nm,0.8s							
WRA	**Warramunga Arr**	**123.62**	**259**	PKP	**PKiKP**	**23 07 35.5**	**-0.6**
0.6nm,0.8s,baz=76,slow=2.4,SNR=6.0							

*IDC **23** 23:13:21.9±0.9,20°.30N×120°.42E,h0km,mb3.8/9,*
mbtmp3.8/10,ML3.7/1,MS3.4/7,Error ellipse:
s-maj=34.4km s-min=18.0km az=73.0
ISC 23 23:13:25.9±1.1,20°.4N±0°.1×120°.5E±0°.2,h26km,n21,
σ1§30/10,mb3.7/9,MS3.5/5,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**14.09**	**159**	LR	LR	23 22 42.4	
comp=Z,120nm,20.2s,baz=317,slow=40							
KSRS	**Korea Array**	**18.23**	**19**	P	**Pn**	**23 17 35.1**	**-1.9**
0.2nm,0.3s,baz=201,slow=11,SNR=5.7							
KSRS				LR	LR	23 25 17.6	
comp=Z,54nm,18.5s,baz=195,slow=39							
1.2nm,0.7s							
MJAR	**Matsushiro Arr**	**22.36**	**40**	P	**P**	**23 18 23.0**	**+0.9**
0.9nm,0.5s,baz=242,slow=9.5,SNR=4.6							
0.9nm,0.5s							
SONM	**Songino Array**	**29.70**	**341**	P	**P**	**23 19 29.8**	**0.0**
0.7nm,0.6s,baz=156,slow=8.5,SNR=3.4							
SONM				LR	LR	23 31 42.2	
comp=Z,73nm,19.2s,baz=150,slow=37							
0.7nm,0.6s							
MKAR	**Makanchi Array**	**40.73**	**319**	P	**P**	**23 21 05.6**	**+1.1**
0.4nm,0.6s,baz=115,slow=8.6,SNR=3.8							
0.4nm,0.6s							
YAK	**Yakutsk**	**42.13**	**6**	LR	LR	23 41 07.5	
comp=Z,56nm,18.8s,baz=226,slow=40							
WRA	**Warramunga Arr**	**42.28**	**160**	P	**P**	**23 21 16.8**	**-0.6**
1.2nm,0.5s,baz=342,slow=9.1,SNR=16							
1.2nm,0.5s							
ZALV	**Zalesovo Beam**	**43.16**	**330**	P	**P**	**23 21 23.0**	**-1.2**
1.6nm,0.7s,baz=118,slow=8.4,SNR=8.8							
1.6nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**43.48**	**82**	T	T	00 08 00.1	
baz=279,slow=75,SNR=5.7							
H11N2	**WAKE ISLAND Hy**	**43.48**	**82**	T	T	00 08 03.4	
baz=279,slow=75,SNR=6.6							
H11S3	**WAKE ISLAND Hy**	**43.49**	**84**	T	T	00 07 53.5	
baz=281,slow=75,SNR=17							
H11N3	**WAKE ISLAND Hy**	**43.49**	**82**	T	T	00 08 00.2	
baz=279,slow=75,SNR=7.2							
H11S1	**WAKE ISLAND Hy**	**43.50**	**84**	T	T	00 07 53.7	
baz=281,slow=75,SNR=20							
H11S2	**WAKE ISLAND Hy**	**43.51**	**84**	T	T	00 07 57.7	
baz=281,slow=75,SNR=23							
KURBB	**Kurchatov Arra**	**44.69**	**323**	P	**P**	**23 21 36.4**	**-0.2**
1.8nm,0.2s,baz=121,slow=7.9,SNR=3.9							
1.8nm,0.2s							
MA2	**Magadan**	**44.76**	**21**	LR	LR	23 42 03.3	
comp=Z,38nm,18.6s,baz=216,slow=38							
ASAR	**Alice Springs**	**45.66**	**163**	P	**P**	**23 21 44.3**	**-0.3**
0.7nm,0.7s,baz=343,slow=8.1,SNR=5.6							
0.7nm,0.7s							
NRIK	**Noril'sk**	**52.94**	**346**	LR	LR	23 47 03.7	
comp=Z,90nm,18.1s,baz=36,slow=38							
ILAR	**Eielson Array**	**72.90**	**27**	P	**P**	**23 24 54.5**	**+2.0**
0.3nm,0.5s,baz=271,slow=4.2,SNR=4.9							
0.3nm,0.5s							
NOA	**NORSAR Array B**	**81.31**	**332**	LR	LR	00 04 46.5	
comp=Z,27nm,18.6s,baz=290,slow=38							
YKA	**Yellowknife Ar**	**86.74**	**22**	P	**P**	**23 26 06.9**	**-0.5**
0.6nm,0.8s,baz=311,slow=5.3,SNR=2.4							
0.6nm,0.8s							

*IDC **23** 23:20:37.3±1.3,55°.77S×30°.21W,h0km,mb3.9/3,*
mbtmp3.8/4,ML3.1/1,MS3.4/7,Error ellipse: s-maj=61.2km
s-min=26.6km az=83.0
ISC 23 23:20:40.5±1.5,55°.8S±0°.2×29°.4W±0°.4,h10km,n19,
σ0§49/9,mb3.9/3,MS3.3/6,3C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.64**	**159**	⇑P	**Pn**	**23 24 46.2**	**+0.2**
comp=Z,7.7nm,0.6s							
SNAA	**Sanae**	**19.47**	**155**	⇑P	**Pn**	**23 25 08.4**	**+0.1**
comp=Z,52nm,0.9s							
SNAA	**Sanae**	**19.47**	**155**	P	**Pn**	**23 25 08.2**	**-0.1**
comp=Z,0.1nm,0.3s,baz=303,slow=8.7,SNR=6.0							
SNAA				LR	LR	23 30 58.1	
comp=Z,66nm,21.1s,baz=74,slow=32							
comp=Z,1.6nm,0.8s							
TROLL	**Troll, Antarti**	**21.02**	**153**	⇑P	**P**	**23 25 24.8**	**+0.8**
comp=Z,89nm,0.8s							
PLCA	**Paso Flores**	**30.71**	**282**	LR	LR	23 38 05.2	
comp=Z,54nm,20.3s,baz=156,slow=35							
QSPA	**South Pole Qui**	**34.43**	**180**	P	**P**	**23 27 27.6**	**-0.1**
comp=Z,1.4nm,0.7s,baz=201,slow=2.9,SNR=6.7							
comp=Z,1.4nm,0.7s							
CPUP	**Villa Florida**	**35.73**	**314**	LR	LR	23 40 14.3	
comp=Z,49nm,20.6s,baz=206,slow=33							
MAW	**Mawson**	**41.08**	**144**	P	**P**	**23 28 23.0**	**-0.6**
comp=Z,1.6nm,0.7s,baz=249,slow=8.8,SNR=4.8							
MAW				LR	LR	23 42 54.1	
comp=Z,74nm,18.7s,baz=60,slow=32							
comp=Z,1.6nm,0.7s							
BDFB	**Brasilia**	**42.56**	**333**	LR	LR	23 43 26.5	
comp=Z,36nm,21.3s,baz=340,slow=32							
LVC	**Limon Verde**	**44.10**	**302**	LR	LR	23 49 06.4	
comp=Z,45nm,19.1s,baz=206,slow=39							
H10S2	**ASCENSION HYDR**	**48.18**	**20**	T	T	00 21 17.4	
baz=192,slow=74,SNR=18							
H10S3	**ASCENSION HYDR**	**48.19**	**20**	T	T	00 21 26.4	
baz=28,slow=74,SNR=18							
H10N1	**ASCENSION HYDR**	**49.30**	**20**	T	T	00 22 53.9	
baz=191,slow=75,SNR=6.7							
H10N3	**ASCENSION HYDR**	**49.30**	**20**	T	T	00 22 50.2	
baz=191,slow=75,SNR=15							
H10N2	**ASCENSION HYDR**	**49.31**	**20**	T	T	00 22 43.0	
baz=191,slow=75,SNR=12							
SDV	**Santo Domingo**	**72.97**	**317**	LR	LR	00 05 15.4	
comp=Z,78nm,19.4s,baz=264,slow=37							
TORD	**Torodi Ar. Bea**	**73.50**	**32**	P	**P**	**23 32 13.3**	**+0.2**
comp=Z,1.0nm,0.8s,baz=193,slow=5.0,SNR=5.3							
comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**149.02**	**312**	PKPbc	**PKPdf**	**23 40 23.4**	**+0.3**
comp=Z,2.8nm,1.0s,baz=109,slow=1.7,SNR=12							
SONM	**Songino Array**	**151.98**	**88**	PKPbc	**PKiKP**	**23 40 34.8**	**-0.5**
comp=Z,0.7nm,0.7s,baz=225,slow=1.8,SNR=4.3							

*IDC **23** 23:25:05.1±1.3,12°.73N×87°.29W,h0km,mb3.8/6,*
mbtmp3.7/8,ML2.6/3,MS3.3/2,Error ellipse: s-maj=57.8km
s-min=20.2km az=49.0
*CATAC **23** 23:25:08.1±0.6,12°.14N×87°.93W,h26km±6km,ML4.0*
*SNET **23** 23:25:09.6±0.9,12°.26N×87°.91W,h48km±43km,ML3.9*
*NEIC **23** 23:25:12.2±1.4,12°.40N±0°.07×87°.67W±0°.07,h52km±12km,*
mb4.3/54,Error ellipse: s-maj=12.6km s-min=6.2km
az=45.0
ISC 23 23:25:10.0±1.2,12°.22N±0°.06×87°.88W±0°.04,h50km±11km,
n130,σ1§14/156,mb4.3/31,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.94**	**60**		**Pn**	**23 25 25.7**	**-1.3**
CRIN	**San Cristobal**	**0.94**	**60**	*e*P	**Pn**	**23 25 26.6**	**-0.4**
INTP	**Intipuca**	**0.98**	**350**	*e*P	**Pn**	**23 25 26.8**	**-0.7**
INTP				*e*S	**Sn**	**23 25 40.1**	**-0.3**
INTP				IAML		23 25 48.8	
comp=Z,524nm,0.3s							
PKGN	**Cerro Pekin**	**0.99**	**63**	*i* P	**Pn**	**23 25 26.2**	**-1.4**
PKGN				*i* S	**Sn**	**23 25 42.6**	**+2.1**
PKGN				IAML		23 25 45.4	
comp=Z,12μm,1.0s							
CNCH	**Conchagua**	**1.05**	**3**	*e*P	**Pn**	**23 25 28.2**	**-0.3**
CNCH				IAML		23 25 51.9	
comp=Z,10μm,0.4s							
CNCH	**Conchagua**	**1.05**	**3**	*i* P	**Pn**	**23 25 28.4**	**-0.1**
CNCH				IAML		23 25 46.8	
comp=Z,8μm,1.0s							
QUEN	**AI S del Volca**	**1.07**	**70**	*i* P	**Pn**	**23 25 27.0**	**-1.7**
QUEN				IAML		23 25 55.2	
comp=Z,3μm,1.0s							
LCND	**La Caada**	**1.08**	**360**	*e*P	**Pn**	**23 25 28.2**	**-0.6**
LCND				IAML		23 25 49.7	
comp=Z,4μm,0.4s							
LCND	**La Caada**	**1.08**	**360**	*i* P	**Pn**	**23 25 28.6**	**-0.2**
LCND				*i* S	**Sn**	**23 25 44.4**	**+1.6**
LCND				IAML		23 25 51.1	
comp=Z,4μm,1.0s							
PACN	**AI O del Volca**	**1.10**	**75**	*i* P	**Pn**	**23 25 27.0**	**-2.1**
PACN				*i* S	**Sn**	**23 25 42.6**	**-0.6**
PACN				IAML		23 25 49.0	
comp=Z,2μm,1.0s							
CNGA	**AI SSO del Vol**	**1.19**	**77**	*i* P	**Pn**	**23 25 28.8**	**-1.5**
CNGA				IAML		23 25 53.1	
comp=Z,2μm,1.0s							
CNGN	**Cerro Negro**	**1.19**	**76**		**Pn**	**23 25 29.0**	**-1.4**
CNGN	**Cerro Negro**	**1.19**	**76**	*e*P	**Pn**	**23 25 29.9**	**-0.5**
CNGN	**Cerro Negro**	**1.19**	**76**	*i* P	**Pn**	**23 25 30.4**	**+0.1**
CNGN				*i* S	**Sn**	**23 25 47.5**	**+2.1**
CNGN				IAML		23 25 51.5	
comp=Z,2μm,1.0s							
MACN	**El Madrono**	**1.21**	**78**	*i* P	**Pn**	**23 25 30.4**	**-0.1**
MACN				*i* S	**Sn**	**23 25 44.8**	**-1.0**
MACN				IAML		23 26 00.2	
comp=Z,1μm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.25**	**82**	*i* P	**Pn**	**23 25 30.9**	**-0.2**
LEVN				*i* S	**Sn**	**23 25 48.3**	**+1.5**
LEVN				IAML		23 25 53.8	
comp=Z,2μm,1.0s							
VSM	**San Miguel**	**1.26**	**342**	*e*P	**Pn**	**23 25 31.4**	**-0.1**
VSM				*e*S	**Sn**	**23 25 47.4**	**0.0**
LCY	**Lacayo**	**1.26**	**341**	*e*P	**Pn**	**23 25 30.9**	**-0.4**
BLLM	**Bellamira**	**1.26**	**344**	*e*P	**Pn**	**23 25 30.8**	**-0.6**
COPN	**Copaltepe**	**1.26**	**92**	*i* P	**Pn**	**23 25 30.4**	**-0.9**
COPN				IAML		23 25 55.7	
comp=Z,2μm,1.0s							
RANC	**El Ranchito**	**1.27**	**342**	*e*P	**Pn**	**23 25 30.6**	**-1.0**
RANC	**El Ranchito**	**1.27**	**342**	*i* P	**Pn**	**23 25 31.3**	**-0.2**
RANC				*i* S	**Sn**	**23 25 49.8**	**+2.3**
RANC				IAML		23 25 53.7	
comp=Z,3μm,1.0s							
MOM2	**El Cardon**	**1.38**	**81**	*i* P	**Pn**	**23 25 32.9**	**0.0**
MOM2				*i* S	**Sn**	**23 25 51.4**	**+1.3**
MOM2				IAML		23 25 55.7	
comp=Z,2μm,1.0s							
TECA	**Tecapa**	**1.40**	**335**	*e*P	**Pn**	**23 25 32.5**	**-0.9**
SAPS	**Ciudad Sandino**	**1.45**	**92**	*i* P	**Pn**	**23 25 32.9**	**-0.9**
SAPS				*i* S	**Sn**	**23 25 52.2**	**+0.6**
SAPS				IAML		23 26 00.8	
comp=Z,3μm,1.0s							
APYN	**Apoyeque**	**1.50**	**89**	*i* P	**Pn**	**23 25 35.2**	**+0.7**
APYN				*i* S	**Sn**	**23 25 53.6**	**+0.7**
APYN				IAML		23 26 01.6	
comp=Z,48nm,1.0s							
APQ2	**Apoyeque**	**1.52**	**91**	*i* P	**Pn**	**23 25 34.1**	**-0.7**
APQ2				*i* S	**Sn**	**23 25 54.2**	**+0.7**
APQ2				IAML		23 26 06.7	
comp=Z,2μm,1.0s							
TECO	**Alcaldia de Te**	**1.57**	**326**	*e*P	**Pn**	**23 25 34.2**	**-1.4**
TECO				*e*S	**Sn**	**23 25 54.0**	**-0.8**
TECO	**Alcaldia de Te**	**1.57**	**326**	*i* P	**Pn**	**23 25 34.1**	**-1.4**
TECO				*i* S	**Sn**	**23 25 53.5**	**-1.3**
TECO				IAML		23 26 01.3	
comp=Z,2μm,1.0s							
R4DEC	**Barrio San Lui**	**1.60**	**92**	*i* P	**Pn**	**23 25 34.8**	**-1.1**
R4DEC				*i* S	**Sn**	**23 25 57.3**	**+1.9**
R4DEC				IAML		23 26 15.1	
comp=Z,1μm,1.0s							
R0529	**La Mascota**	**1.61**	**93**	*i* P	**Pn**	**23 25 35.4**	**-0.6**
R0529				IAML		23 26 01.5	
comp=Z,1μm,1.0s							
UESV	**Universidad de**	**1.66**	**328**	*i* P	**Pn**	**23 25 36.0**	**-0.7**
UESV				*i* S	**Sn**	**23 25 57.4**	**+0.5**
UESV				IAML		23 26 02.1	
comp=Z,3μm,1.0s							
SNVI	**San Vicente**	**1.67**	**326**	*e*P	**Pn**	**23 25 36.2**	**-0.8**
MAS3	**AI N del Volca**	**1.68**	**97**	*i* P	**Pn**	**23 25 36.4**	**-0.6**
MAS3				IAML		23 26 01.2	
comp=Z,2μm,1.0s							
SCLA	**Alcaldia de Sa**	**1.69**	**331**	*e*P	**Pn**	**23 25 36.5**	**-0.6**
SCLA				IAML		23 26 06.3	
comp=Z,739nm,0.6s							
SCLA	**Alcaldia de Sa**	**1.69**	**331**	*i* P	**Pn**	**23 25 37.0**	**-0.1**
SCLA				*i* S	**Sn**	**23 25 58.4**	**+0.8**
SCLA				IAML		23 26 05.7	
comp=Z,2μm,1.0s							
COEG	**Centro de Oper**	**1.70**	**325**	*e*P	**Pn**	**23 25 36.8**	**-0.5**
COEG				IAML		23 26 06.3	
comp=Z,1μm,0.5s							
LIMN	**Finca el Limon**	**1.70**	**60**	*i* P	**Pn**	**23 25 37.0**	**-0.3**
LIMN				IAML		23 26 28.2	
comp=Z,1μm,1.0s							
SOMN	**Somoto**	**1.72**	**46**	*i* P	Pn	23 25 39.5	+1.9
SOMN				IAML		23 26 06.8	
comp=Z,450nm,1.0s							
PAVA	**Las Pavas**	**1.80**	**325**	*e*P	**Pn**	**23 25 38.3**	**-0.5**
PAVA				IAML		23 26 10.2	
comp=Z,2μm,0.5s							
LFRS	**El Faro**	**1.81**	**321**	*e*P	**Pn**	**23 25 37.7**	**-1.1**
LFRS				*e*S	**Sn**	**23 26 00.6**	**0.0**
LOMA	**Loma Larga**	**1.89**	**319**	*e*P	**Pn**	**23 25 39.8**	**-0.2**
LOMA				*e*S	**Sn**	**23 26 02.0**	**-0.7**
LOMA	**Loma Larga**	**1.89**	**319**	*i* P	**Pn**	**23 25 40.1**	**+0.1**
LOMA				*i* S	**Sn**	**23 26 03.5**	**+0.8**
LOMA				IAML		23 26 10.3	
comp=Z,2μm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.92**	**18**	Pn	**Pn**	**23 25 39.9**	**-0.4**
TGUH	**Tegucigalpa,Un**	**1.92**	**18**	*e*P	**Pn**	**23 25 39.8**	**-0.6**
OCON	**Estacion meteo**	**1.96**	**44**	*i* P	**Pn**	**23 25 41.3**	**+0.4**
OCON				*i* S	Sn	23 26 07.4	+3.1
OCON				IAML		23 26 09.8	
comp=Z,720nm,1.0s							
SNET	**Serv Nac Est T**	**1.96**	**318**	Pn	**Pn**	**23 25 42.4**	**+1.5**
BOQS	**Boqueron**	**2.03**	**318**	*e*P	**Pn**	**23 25 41.7**	**-0.3**
PMON	**Piamonte**	**2.04**	**317**	*e*P	**Pn**	**23 25 41.8**	**-0.2**
PMON	**Piamonte**	**2.04**	**317**	*i* P	**Pn**	**23 25 41.7**	**-0.2**
PMON				*i* S	**Sn**	**23 26 09.0**	**+2.8**
PMON				IAML		23 26 11.7	
comp=Z,3μm,1.0s							
JAYA	**Jayaque - finc**	**2.09**	**313**	*e*P	**Pn**	**23 25 41.7**	**-1.0**
JAYA				*e*S	**Sn**	**23 26 06.6**	**-1.0**
JAYA	**Jayaque - finc**	**2.09**	**313**	*i* P	**Pn**	**23 25 41.9**	**-0.8**
JAYA				*i* S	**Sn**	**23 26 06.4**	**-1.2**
JAYA				IAML		23 26 15.3	
comp=Z,3μm,1.0s							
BOAB	**BOACO BROADBAN**	**2.18**	**84**	Pn	**Pn**	**23 25 42.1**	**-1.7**
BOAB	**BOACO BROADBAN**	**2.18**	**84**	*i* P	**Pn**	**23 25 44.8**	**+1.0**
BOAB				IAML		23 26 36.8	
comp=Z,270nm,1.0s							

TX31			IAmb	IAmb	23 30 09.3	
	comp=Z,9.2nm,0.8s					
Z35A	**Perchaven, San**	**22.69 339**	P	**P**	**23 30 08.3**	**+0.8**
Z35A			IAmb	IAmb	23 30 11.0	
	comp=Z,14nm,0.8s					
MIAR	**Mount Ida**	**22.82 348**	P	**P**	**23 30 09.5**	**+0.7**
MIAR			IAmb	IAmb	23 30 12.7	
	comp=Z,8.2nm,0.8s					
ABTX	**Abilene, Hawle**	**23.00 334**	P	**P**	**23 30 11.7**	**+1.1**
ABTX			IAmb	IAmb	23 30 13.3	
	comp=Z,20nm,1.4s					
SGCY	**Sterling City**	**23.08 330**	P	**P**	**23 30 12.0**	**+0.5**
SGCY			IAmb	IAmb	23 30 13.3	
	comp=Z,11nm,1.1s					
ALPN	**Alpine**	**23.23 323**	P	**P**	**23 30 14.4**	**+1.3**
LOOK	**Love County**	**23.27 340**	P	**P**	**23 30 15.1**	**+1.8**
MNHN	**Monahans**	**23.46 327**	P	**P**	**23 30 15.6**	**+0.3**
APMT	**Aspermont**	**23.80 334**	P	**P**	**23 30 19.4**	**+1.0**
APMT			IAmb	IAmb	23 30 20.8	
	comp=Z,7.5nm,0.8s					
FCAR	**Ozark Folk Cen**	**23.88 351**	P	**P**	**23 30 19.0**	**+0.1**
ODSA	**Odessa**	**23.96 328**	P	**P**	**23 30 20.1**	**+0.2**
ODSA			IAmb	IAmb	23 30 22.1	
	comp=Z,12nm,0.9s					
X34A	**Smith Ranch, M**	**24.05 340**	P	**P**	**23 30 21.7**	**+1.2**
PECS	**Pecos**	**24.10 325**	P	**P**	**23 30 22.5**	**+1.3**
SABA	**Saba**	**24.39 74**	P	**P**	**23 30 24.6**	**+0.7**
DKNS	**Dickens**	**24.44 333**	P	**P**	**23 30 25.1**	**+0.8**
DKNS			IAmb	IAmb	23 30 26.9	
	comp=Z,12nm,1.0s					
FNO	**Franklin**	**24.50 341**	P	**P**	**23 30 24.6**	**-0.1**
FNO			IAmb	IAmb	23 30 28.7	
	comp=Z,7.1nm,0.8s					
WMOK	**Wichita Mounta**	**24.51 338**	P	**P**	**23 30 25.1**	**+0.3**
HHAR	**Hobbs**	**24.57 348**		**P**	**23 30 26.1**	**+0.8**
TUL3	**Leonard**	**24.64 344**	P	**P**	**23 30 26.5**	**+0.5**
TUL3			IAmb	IAmb	23 30 29.9	
	comp=Z,7.9nm,0.8s					
U38A	**Gravette**	**24.82 347**	P	**P**	**23 30 27.4**	**-0.1**
U38A			IAmb	IAmb	23 31 04.9	
	comp=Z,12nm,1.4s					
OK031	**S. Brethren Rd**	**24.98 343**	P	**P**	**23 30 28.9**	**0.0**
OK031			IAmb	IAmb	23 30 30.0	
	comp=Z,8.7nm,0.7s					
GDL2	**Guadalupe Moun**	**25.00 325**	P	**P**	**23 30 30.5**	**+1.1**
SMWD	**Samnorwood**	**25.39 336**	P	**P**	**23 30 33.4**	**+0.6**
OK048	**Pawnee Station**	**25.44 343**	P	**P**	**23 30 34.5**	**+1.4**
OK048			IAmb	IAmb	23 30 37.7	
	comp=Z,10nm,0.8s					
MSTX	**Muleshoe**	**25.55 330**	P	**P**	**23 30 34.8**	**+0.4**
AMTX	**Amarillo**	**25.81 333**	P	**P**	**23 30 36.6**	**0.0**
AMTX			IAmb	IAmb	23 30 43.9	
	comp=Z,8.1nm,0.8s					
S39A	**Bolivar**	**25.83 350**	P	**P**	**23 30 36.3**	**-0.4**
S39A			IAmb	IAmb	23 30 38.0	
	comp=Z,10nm,1.4s					
121A	**Cookes Peak, D**	**27.24 321**	P	**P**	**23 30 51.0**	**+1.2**
ETMB	**Extrema**	**30.71 135**	P	**P**	**23 31 21.0**	**+0.6**
SAML	**Samuel**	**32.33 129**	P	**P**	**23 31 33.9**	**-0.8**
SAML			IAmb	IAmb	23 31 38.1	
	comp=Z,2.8nm,0.8s					
O20A	**White River Ci**	**33.10 331**	P	**P**	**23 31 43.0**	**+1.5**
F33A	**5 Mile Ranch,**	**34.26 350**	P	**P**	**23 31 49.7**	**-1.6**
PD31	**Pinedale Array**	**35.77 332**	P	**P**	**23 32 04.0**	**-0.6**
PDAR	**Pinedale Array**	**35.77 332**	P	**P**	**23 32 05.7**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=132,slow=10,SNR=7.0					
	comp=Z,0.6nm,0.6s					
HWUT	**Hardware Ranch**	**35.85 329**	P	**P**	**23 32 05.5**	**+0.2**
HWUT			IAmb	IAmb	23 32 09.6	
	comp=Z,3.8nm,0.7s					
AHID	**Auburn Hatcher**	**36.49 331**	P	**P**	**23 32 11.8**	**+1.1**
HVU	**Hansel Valley**	**36.59 328**	P	**P**	**23 32 13.0**	**+1.4**
HVU			IAmb	IAmb	23 32 16.0	
	comp=Z,2.2nm,0.8s					
REDW	**Red Top Meadow**	**36.83 332**	P	**P**	**23 32 14.4**	**+0.8**
SNOW	**Snow King Moun**	**36.87 332**	P	**P**	**23 32 15.2**	**+1.2**
LOHW	**Long Hollow**	**36.91 332**	P	**P**	**23 32 14.9**	**+0.6**
LOHW			IAmb	IAmb	23 32 18.7	
	comp=Z,2.9nm,0.7s					
TPAW	**Teton Pass**	**36.98 332**	P	**P**	**23 32 15.9**	**+1.0**
MOOW	**Moose Ponds**	**37.08 332**	P	**P**	**23 32 16.6**	**+0.9**
MOOW			IAmb	IAmb	23 32 20.2	
	comp=Z,4.2nm,0.8s					
FXWY	**Fox Creek**	**37.13 332**	P	**P**	**23 32 16.8**	**+0.7**
FXWY			IAmb	IAmb	23 32 21.5	
	comp=Z,3.7nm,1.2s					
NVAR	**Mina Array Bea**	**37.60 319**	P	**P**	**23 32 20.9**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=123,slow=6.6,SNR=2.4					
NVAR			PcP	**PcP**	**23 34 39.9**	**+2.6**
	comp=Z,0.7nm,0.7s,baz=162,slow=3.4,SNR=4.7					
	comp=Z,0.4nm,0.6s					
YHL	**Hebgen Lake**	**38.14 333**	P	**P**	**23 32 26.0**	**+1.3**
YHL			IAmb	IAmb	23 32 29.9	
	comp=Z,2.9nm,0.7s					
ULM	**Lac du Bonnet**	**38.48 352**	P	**P**	**23 32 25.1**	**-2.1**
	comp=Z,2.7nm,0.7s,baz=185,slow=12,SNR=4.3					
	comp=Z,2.7nm,0.7s					
DGMT	**Dagmar**	**38.61 343**	P	**P**	**23 32 27.5**	**-0.8**
BOZ	**Bozeman (W)**	**38.92 333**	P	**P**	**23 32 31.8**	**+0.7**
BOZ			IAmb	IAmb	23 32 35.5	
	comp=Z,2.6nm,0.8s					
F10A	**Beach Ranch, E**	**41.84 329**	P	**P**	**23 32 56.1**	**+0.9**
YKA	**Yellowknife Ar**	**53.72 345**	P	**P**	**23 34 25.4**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=142,slow=7.1,SNR=2.6					
YKA			LR	LR	23 59 53.4	
	comp=Z,42nm,18.4s,baz=52,slow=39					
	comp=Z,0.6nm,0.7s					
ILAR	**Eielson Array**	**66.06 336**	P	**P**	**23 35 50.9**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=170,slow=5.0,SNR=4.4					
	comp=Z,0.3nm,0.6s					
WRA	**Warramunga Arr**	**138.80 254**	PKP	**PKiKP**	**23 44 33.1**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=84,slow=1.9,SNR=1.9					
CMAR	**Chiang Mai Arr**	**148.78 347**	PKPbc	**PKiKP**	**23 44 53.4**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=354,slow=3.4,SNR=5.6					

*SOME **23** 23:29:22.1,50°.03N×86°.82E,h0km*
*ASRS **23** 23:29:27.4±0.2,50°N±1°×88°.2E±0°.9,h10km,MLh3.1/17, Error ellipse: s-maj=2.3km s-min=1.9km az=17.2, confirmed*
*NNC **23** 23:29:28.5±2.6,50°.12N×87°.99E,h0km,mb3.1,mpv2.7, Error ellipse: s-maj=20.8km s-min=11.1km az=96.0*

ISC 23 23:29:28.4±1.4,49°.96N±0°.03×88°.06E±0°.03,h0km±11km, n22,σ1°§68/39,7C-12D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**0.23**	**54**	⇓Pg	**Pg**	**23 29 32.1**	**-0.8**
CUR				Sg	**Sg**	**23 29 35.0**	**-0.9**
AKAR	**Aktash**	**0.45**	**322**	⇓Pg	**Pg**	**23 29 37.3**	**+0.2**
AKAR				Sg	**Sb**	**23 29 44.0**	**-2.7**
DGZ	**Jazzator, Alta**	**0.48**	**237**	⇑Pg	**Pg**	**23 29 38.3**	**+0.7**
DGZ				Sg	**Sb**	**23 29 45.5**	**-2.0**
CHBI	**Chibit, Altay**	**0.50**	**315**	⇓Pg	**Pg**	**23 29 38.2**	**+0.2**
CHBI				Sg	**Sb**	**23 29 45.1**	**-2.8**
ULGR	**Ulagan, Altay**	**0.66**	**355**	⇓Pg	**Pg**	**23 29 42.2**	**+1.1**
ULGR				Sg	**Sg**	**23 29 50.6**	**+0.9**
TEL	**Teeli**	**1.73**	**51**	Pg	**Pn**	**23 29 57.9**	**-1.9**
TEL				Sg	**Sn**	**23 30 20.1**	**-2.4**
ELDR	**Elanda**	**1.77**	**316**	Pg	**Pb**	**23 30 00.7**	**-1.1**
ELDR				Sg	**Sg**	**23 30 26.4**	**+1.1**
YALR	**Yailyu, Altay**	**1.83**	**351**	Pg	**Pn**	**23 30 01.5**	**+0.5**
YALR				Sg	**Sg**	**23 30 26.5**	**-0.7**
ARTR	**Artybash**	**1.90**	**345**	Pg	**Pn**	**23 30 02.4**	**+0.4**
ARTR				Sg	**Sb**	**23 30 27.7**	**-0.4**
TASR	**Tashtagol**	**2.80**	**358**	Sg	**Sb**	**23 30 54.4**	**+0.3**
ZSN	**Zaisan**	**3.29**	**221**	*e*P	**Pn**	**23 30 18.7**	**-2.4**
	0.7nm,0.2s						
ZSN				*e*S	**Sn**	**23 31 00.7**	**-0.1**
	2.5nm,0.3s						
DJO	**Djoy, Khakassi**	**3.45**	**34**	Pg	**Pb**	**23 30 30.5**	**+0.2**
DJO				Sg	**Sb**	**23 31 15.1**	**+2.4**
ELT	**Eltsovka**	**3.49**	**342**	Pg	**Pn**	**23 30 24.5**	**+0.7**
ELT				Sg	**Sn**	**23 31 05.4**	**-0.3**
CERR	**Cheremushki**	**3.58**	**35**	Sg	**Sb**	**23 31 20.6**	**+4.3**
VEH	**Verkhnyaya Baz**	**3.58**	**22**	Pg	**Pb**	**23 30 32.3**	**-0.3**
VEH				Sg	**Sb**	**23 31 16.3**	**-0.3**
LUZB	**Luzhba, Kemero**	**3.74**	**8**	Pg	**Pb**	**23 30 36.3**	**+1.1**
LUZB				Sg	**Sb**	**23 31 23.2**	**+2.1**
ZAA0	**Zalesovo Array**	**4.46**	**335**	⇓Pg	**Pb**	**23 30 44.8**	**-2.7**
	0.1nm,0.3s						
ZAA0				⇓Lg	Lg	23 31 45.0	
	1.0nm,0.9s						
MK31	**Makanchi Array**	**4.98**	**233**	⇓Pn	**Pn**	**23 30 46.6**	**+2.2**
	0.6nm,0.4s,baz=67,slow=12,SNR=50						
MK31				⇓Sn	**Sn**	**23 31 45.2**	**+2.6**
	0.8nm,0.4s,baz=61,slow=23,SNR=5.5						
MK31				⇑Lg	Lg	23 32 06.9	
	3.5nm,0.7s,baz=51,slow=29,SNR=5.5						
MAKZ	**Makanchi**	**5.13**	**234**	⇑Pn	**Pn**	**23 30 48.0**	**+1.5**
	1.2nm,0.5s						
MAKZ				⇓Sn	**Sn**	**23 31 48.2**	**+1.8**
	1.4nm,0.4s						
MAKZ				⇓Lg	Lg	23 32 10.5	
	6.0nm,1.1s						
KURK	**Kurchatov**	**6.09**	**281**	⇑Pn	**Pn**	**23 30 59.7**	**+0.2**
	0.3nm,0.5s						
KURK				⇑Sn	**Sn**	**23 32 08.9**	**-0.9**
	1.1nm,0.7s						
KURK				⇓Lg	Lg	23 32 41.1	
	2.5nm,0.7s						
KURBB	**Kurchatov Arra**	**6.14**	**280**	⇑Pn	**Pn**	**23 30 59.9**	**-0.3**
	0.6nm,0.3s						
KURBB				⇓Sn	**Sn**	**23 32 12.0**	**+0.9**
	3.4nm,0.7s						
KURBB				⇑Lg	Lg	23 32 40.2	
	6.7nm,0.7s						
KPKS	**Kokpek**	**9.14**	**228**	*e*P	Pn	23 31 55.3	+14
KPKS				*e*S	Sn	23 33 45.0	+20

*IDC **23** 23:33:23.2±3.2,36°.40N×69°.63E,h170km±30km,mb3.4/15, mbtmp3.9/21,Error ellipse: s-maj=21.3km s-min=13.7km az=6.0*
*BJI **23** 23:33:23.9±0.0,36°.53N×69°.59E,h178km,mb4.2/12, mB4.8/5*
*NEIC **23** 23:33:25.3±1.5,36°.55N±0°.05×69°.54E±0°.07,h183km±8km, mb4.2/10,Error ellipse: s-maj=8.9km s-min=6.4km az=68.0*
*NNC **23** 23:33:27.1±2.6,37°.03N×69°.79E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=23.6km s-min=19.3km az=121.0*

ISC 23 23:33:25.4±0.4,36°.52N±0°.05×69°.66E±0°.05,h200km,n67, σ2°§37/80,mb4.0/21,3C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.04**	**194**	Pn	**Pn**	**23 34 02.7**	**-1.9**
KBL				Sn	**Sn**	**23 34 31.3**	**-3.7**
CHGR	**Chuyangaron**	**2.17**	**350**		**Pn**	**23 34 03.7**	**-2.0**
SIMJ	**Simiganj**	**2.20**	**347**	Pn	**Pn**	**23 34 03.9**	**-2.2**
SIMJ				Sn	**Sn**	**23 34 32.6**	**-5.3**
GAR	**Garm**	**2.53**	**12**		**Pn**	**23 34 08.1**	**-1.6**
GAR				Sn	**Sn**	**23 34 40.2**	**-4.2**
BTK	**Batken**	**3.65**	**14**	Pn	**Pn**	**23 34 22.9**	**0.0**
NIL	**Nilore**	**4.11**	**133**	Pn	**Pn**	**23 34 28.6**	**0.0**
ARSB	**Arslanbob**	**5.45**	**27**	Pn	**Pn**	**23 34 44.6**	**-1.0**
JMU	**Jammu**	**5.75**	**130**	*e*P	**Pn**	**23 34 48.2**	**-1.2**
JMU				*e*S	**Sn**	**23 35 52.8**	**-3.0**
KSH	**Kashi**	**5.81**	**57**	P	Pn	23 34 45.3	-5.0
KSH				S	Sn	23 35 46.3	-11
KSH				smax	smax		
	comp=N,130nm,0.7s						
KSH				smax	smax		
	comp=E,120nm,0.9s						
HRA	**Herat**	**6.42**	**253**	Pn	**Pn**	**23 34 57.0**	**-1.2**
THN	**Thein Dam**	**6.45**	**127**	*e*P	**Pn**	**23 34 58.1**	**-0.4**
THN				*i* x	x	23 34 58.3	
THN				*e*S	**Sn**	**23 36 09.3**	**-2.9**
THN				IAML		23 36 10.9	
	comp=E,118nm,0.2s						
THN				IAML		23 36 27.9	
	comp=E,91nm,0.4s						
KK31	**Karatay Array**	**6.61**	**5**		**Pn**	**23 34 59.5**	**-0.9**
KK31	**Karatay Array**	**6.61**	**5**	P	**Pn**	**23 34 58.8**	**-1.7**
	comp=E,3.5nm,0.5s,baz=198,slow=15,SNR=29						
KK31				⇓S	**Sn**	**23 36 09.9**	**-5.9**
	comp=E,15nm,0.6s,baz=191,slow=22,SNR=8.1						
KKAR	**Karatay Array**	**6.61**	**5**	Pn	**Pn**	**23 34 59.6**	**-0.9**
DHRM	**DHARAMSHALA**	**6.95**	**126**	*e*P	**Pn**	**23 35 04.5**	**-0.7**
DHRM				*e*S	**Sn**	**23 36 19.9**	**-4.4**
DHRM				IAML		23 36 22.4	
	comp=E,205nm,0.5s						
DHRM				IAML		23 36 27.9	
	comp=E,205nm,0.6s						
NRN	**Naryn**	**6.96**	**43**	Pn	**Pn**	**23 35 03.5**	**-1.8**
AAK	**Ala-Archa**	**7.16**	**30**	Pn	**Pn**	**23 35 07.9**	**+0.2**
AAK	**Ala-Archa**	**7.16**	**30**	P	**Pn**	**23 35 07.5**	**-0.2**
	comp=E,5.6nm,0.6s,baz=232,slow=11,SNR=6.8						
AAK				S	**Sn**	**23 36 25.6**	**-3.4**
	comp=E,20nm,0.6s,baz=116,slow=20,SNR=12						
AAK	**Ala-Archa**	**7.16**	**30**	⇑P	**Pn**	**23 35 06.5**	**-1.3**
	comp=E,3.7nm,0.5s						
AAK				⇑S	**Sn**	**23 36 25.7**	**-3.4**
	comp=E,38nm,0.8s						
FRU1	**Bishkek**	**7.36**	**30**	Pn	**Pn**	**23 35 10.1**	**-0.1**
CHMS	**Chumysh**	**7.56**	**30**	⇑P	**Pn**	**23 35 12.2**	**-0.7**
	comp=E,6.5nm,0.5s						
CHMS				⇓S	**Sn**	**23 36 34.0**	**-4.4**
	comp=E,25nm,0.7s						
BHK	**Bhakra**	**7.58**	**130**	*e*P	**Pn**	**23 35 12.8**	**-0.4**
BHK				*i* x	x	23 35 26.2	
BHK				*e*S	**Sn**	**23 36 32.1**	**-6.7**
BHK				IAML		23 36 40.9	
	comp=E,68nm,0.8s						
BHK				IAML		23 36 55.0	
	comp=E,86nm,0.6s						
BOOM	**Boomskoye usch**	**7.69**	**37**	Pn	**Pn**	**23 35 14.4**	**-0.2**
TKM2	**Tokmak 2**	**7.86**	**34**	⇓P	**Pn**	**23 35 15.8**	**-1.1**
	comp=E,6.0nm,0.7s						
TKM2				⇓S	**Sn**	**23 36 41.2**	**-4.4**
	comp=E,7.5nm,0.8s						
SMLA	**Simla**	**8.24**	**129**	*e*S	Sn	23 36 47.6	-6.9
SMLA				IAML		23 36 51.2	
	comp=E,52nm,0.9s						
SMLA				IAML		23 36 51.7	
	comp=N,71nm,0.5s						
KUDL	**Kundal**	**10.15**	**143**	*e*P	**Pn**	**23 35 44.1**	**-2.5**
KUDL				*e*S	Sn	23 37 30.5	-10
MAKZ	**Makanchi**	**13.78**	**38**	P	**P**	**23 36 34.9**	**+0.2**
MK31	**Makanchi Array**	**13.93**	**39**	P	**P**	**23 36 37.4**	**+1.1**
MKAR	**Makanchi Array**	**13.93**	**39**	P	**P**	**23 36 37.4**	**+1.1**
MKAR	**Makanchi Array**	**13.93**	**39**	P	**Pn**	**23 36 34.4**	**+0.1**
	comp=N,1.0nm,0.9s,baz=218,slow=16,SNR=5.8						
ABKAR	**Akbulak array**	**14.57**	**334**	Pn	**Pn**	**23 36 41.0**	**-1.1**
KURBB	**Kurchatov Arra**	**15.47**	**22**	P	**P**	**23 36 54.2**	**+1.0**
	comp=N,0.7nm,0.6s,baz=210,slow=10,SNR=6.0						
WMQ	**Urumqi**	**15.58**	**57**	*e*P	**Pn**	**23 36 56.3**	**+1.7**
AKTO	**Aktyubinsk**	**16.24**	**333**	P	**Pn**	**23 37 02.4**	**-0.1**
	comp=N,6.3nm,0.9s,baz=153,slow=8.5,SNR=12						
BVAR	**Borovoye Array**	**16.51**	**2**	P	**Pn**	**23 37 05.4**	**-0.2**
	comp=N,2.1nm,0.7s,baz=169,slow=13,SNR=10						
BRVK	**Borovoye**	**16.54**	**1**	P	**Pn**	**23 37 06.1**	**+0.1**
GNI	**Garni**	**19.86**	**288**	P	**Pn**	**23 37 44.3**	**-1.2**
GNI				IAmb	IAmb	23 37 45.5	
	comp=Z,13nm,0.8s						
GNI	**Garni**	**19.86**	**288**	P	**Pn**	**23 37 42.8**	**-2.7**
	comp=Z,14nm,0.8s,baz=116,slow=1.9,SNR=11						
ZAA0	**Zalesovo Array**	**20.36**	**26**	P	**P**	**23 37 47.9**	**+1.6**
ZALV	**Zalesovo Beam**	**20.36**	**26**	P	**P**	**23 37 47.6**	**+1.3**
ZALV	**Zalesovo Beam**	**20.36**	**26**	P	**P**	**23 37 47.3**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=228,slow=10.0,SNR=16						
	comp=Z,3.3nm,0.7s						
ARU	**Arti**	**21.28**	**343**	P	**P**	**23 37 57.9**	**+1.9**
ARU				IAmb	IAmb	23 38 00.0	
	comp=Z,4.7nm,0.8s						
ARU	**Arti**	**21.28**	**343**	P	**P**	**23 37 57.5**	**+1.5**
	comp=Z,3.8nm,0.7s,baz=134,slow=9.6,SNR=8.2						
	comp=Z,3.8nm,0.7s						
RAYN	**Ar Rayn**	**24.52**	**245**	P	**P**	**23 38 27.9**	**+1.2**
RAYN				IAmb	IAmb	23 38 31.8	
	comp=Z,2.9nm,0.8s						
BRTR	**Keskin Array B**	**28.40**	**288**	P	**P**	**23 39 03.2**	**+1.9**
	comp=Z,0.9nm,0.7s,baz=98,slow=10,SNR=6.5						
	comp=Z,0.9nm,0.7s						
PZH	**PanZhiHua**	**29.00**	**101**	P	P	23 39 12.0	+5.3
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,150nm,7.1s						
SONM	**Songino Array**	**29.21**	**56**	P	**P**	**23 39 10.8**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=248,slow=7.6,SNR=2.2						
	comp=Z,0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.42**	**117**	P	**P**	**23 39 30.1**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=292,slow=9.6,SNR=1.2						
	comp=Z,0.5nm,0.3s						
ELL	**Elmali**	**31.74**	**283**	P	**P**	**23 39 32.5**	**+1.8**
AKASG	**Malin Array Be**	**32.09**	**309**	P	**P**	**23 39 34.2**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=103,slow=10,SNR=5.2						
	comp=Z,0.6nm,0.5s						
HHC	**Hu-ho-hao-te**	**32.77**	**69**	*e*P	**P**	**23 39 42.8**	**+3.2**
HHC				PP	**PnPn**	**23 40 56.0**	**-0.3**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,67nm,6.2s						
MLR	**Muntele Rosu**	**33.83**	**299**	P	**P**	**23 39 51.5**	**+2.8**
MLR				IAmb	IAmb	23 39 52.9	
	comp=Z,3.6nm,0.9s						
NRIK	**Noril'sk**	**34.31**	**11**	P	**P**	**23 39 54.8**	**+2.4**
	comp=Z,1.9nm,0.5s,baz=180,slow=6.1,SNR=4.1						
	comp=Z,1.9nm,0.5s						
LYN	**LuoYang**	**34.68**	**80**	P	**P**	**23 40 00.3**	**+4.3**
LYN				pmax	pmax		
	comp=Z,16nm,0.5s						
LYN				pmax	pmax		
	comp=Z,140nm,4.6s						
FINES	**FINESS Array B**	**36.87**	**326**	P	**P**	**23 40 15.6**	**+1.4**
FINES	**FINESS Array B**	**36.87**	**326**	P	**P**	**23 40 15.8**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=116,slow=7.8,SNR=9.7						
	comp=Z,1.4nm,0.6s						
ARCES	**ARCESS Array B**	**40.72**	**338**	P	**P**	**23 40 47.8**	**+1.7**
	comp=Z,0.7nm,0.4s,baz=122,slow=9.7,SNR=2.6						
	comp=Z,0.7nm,0.4s						
CLL	**Collm**	**42.34**	**309**	*e*P	**P**	**23 40 59.0**	**-0.5**
CLL				*e*pP	**pP**	**23 41 39.0**	**-3.4**
CLL				*e*sP	**sP**	**23 42 01.0**	**-4.1**
CLL				*e*PP	**PP**	**23 42 37.0**	**-4.7**
HFS	**Hagfors**	**42.38**	**322**	P	**P**	**23 41 01.0**	**+1.2**
	comp=Z,3.8nm,0.6s,baz=99,slow=9.5,SNR=28						
	comp=Z,3.8nm,0.6s						
NB2	**NORSAR Subarra**	**43.72**	**323**	P	**P**	**23 41 11.2**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**43.72**	**323**	P	**P**	**23 41 11.2**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=99,slow=7.9,SNR=16						
	comp=Z,1.8nm,0.6s						
MBAR	**Mbarara**	**51.65**	**233**	P	**P**	**23 42 13.3**	**+1.2**
MBAR				IAmb	IAmb	23 42 13.9	
	comp=Z,4.5nm,0.6s						
ESDC	**Sonseca Array**	**56.49**	**297**	P	**P**	**23 42 47.4**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=57,slow=5.5,SNR=4.7						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**64.64**	**268**	P	**P**	**23 43 41.4**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=42,slow=6.1,SNR=21						
	comp=Z,1.3nm,0.5s						
LSZ	**Lusaka**	**64.70**	**225**	P	**P**	**23 43 44.0**	**+1.6**
LSZ				IAmb	IAmb	23 43 48.4	
	comp=Z,9.1nm,1.5s						
ILAR	**Eielson Array**	**75.05**	**15**	P	**P**	**23 44 46.3**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=325,slow=4.6,SNR=3.4						
	comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**82.92**	**121**	P	**P**	**23 45 27.3**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=328,slow=5.0,SNR=1.9						
	comp=Z,0.5nm,0.9s						

TRN 24 00:10:20.1,18°.75N×62°.53W,h8km,MD4.3,Far North-east of Anguilla.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**1.84**	**157**	*e*P	Pb	00 10 53.3	-0.8
ANBD				*e*S	Sg	00 11 18.4	-1.0
MBFL	**Flemmings, Mon**	**2.02**	**171**	*e*P	Pb	00 10 57.1	+0.1
TBG	**Guadaloupe-3**	**3.00**	**164**	*e*P	Pn	00 11 10.4	+2.4
TBG				*e*S	Sn	00 11 47.3	+3.0

*TRN **24** 00:18:26.8,11°.23N×61°.94W,h57km,MD3.7,North of the Paria peninsula.*
*FUNV **24** 00:18:27.0,11°.19N×61°.77W,h59km,MW3.8*

ISC 24 00:18:25.6±1.3,11°.19N±0°.03×61°.91W±0°.05,h75km±12km, n26,σ1°§48/47,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.51**	**163**	*e*P	**Pn**	**00 18 39.9**	**+0.8**
TCE				*e*S	**Sn**	**00 18 48.5**	**-0.5**
TRN	**Trinidad (W)**	**0.73**	**137**	*e*P	**Pn**	**00 18 42.0**	**+0.7**
TRN				*e*S	**Sn**	**00 18 52.6**	**-0.3**
GRFF	**Grenada Fort F**	**0.87**	**11**	*e*P	**Pn**	**00 18 42.4**	**-0.6**
GRFF				*e*S	**Sn**	**00 18 54.4**	**-1.3**
GRGR	**Grenville**	**0.97**	**15**	*e*P	**Pn**	**00 18 43.5**	**-0.6**
GRGR				*e*S	**Sn**	**00 18 57.0**	**-0.8**
TPP	**Pointe-a-Pierr**	**0.97**	**153**	*e*P	**Pn**	**00 18 45.4**	**+1.3**
TPP				*e*S	**Sn**	**00 18 58.4**	**+0.5**
GRW	**Mount Saint Ca**	**0.99**	**14**	*e*P	**Pn**	**00 18 43.9**	**-0.6**
GRW				*e*S	**Sn**	**00 18 58.0**	**-0.4**
GRHS	**Sauteurs**	**1.06**	**14**	*e*P	**Pn**	**00 18 44.5**	**-0.7**
GRHS				*e*S	**Sn**	**00 18 58.3**	**-1.5**
TBH	**Brigand Hill**	**1.08**	**130**	*e

comp=Z,20nm,0.3s
BJBQ Baie Johan-Bee 12.23 175 PN **Pn 00 34 35.3 +0.8**
BJBQ SN Sn 00 36 45.1 -5.5
BJBQ LG Lg 00 38 06.9
BJBQ Trac 00 38 09.1
comp=Z,30nm,0.6s
SMQ Clarke City 12.31 187 PN **Pn 00 34 36.2 +0.5**
SMQ SN Sn 00 36 47.0 -5.9
SMQ Trac 00 38 07.6
comp=Z,10nm,0.4s
NMSQ Nemaska Statio 12.42 215 PN **Pn 00 34 37.5 +0.4**
NMSQ SN Sn 00 36 45.3 -10
NMSQ Trac 00 38 08.0
comp=Z,1.8nm,0.0s
PMAQ Port Menier 12.65 179 PN **Pn 00 34 40.9 +0.6**
PMAQ SN Sn 00 36 56.1 -4.9
PMAQ Trac 00 38 15.8
comp=Z,22nm,0.5s
PCAQ Pointe Carleto 12.78 175 PN **Pn 00 34 42.7 +0.7**
PCAQ SN Sn 00 36 57.9 -6.2
PCAQ LG Lg 00 38 24.5
PCAQ Trac 00 38 28.1
comp=Z,18nm,0.5s
ICQ Pointe Anglais 13.05 188 PN **Pn 00 34 46.4 +0.7**
ICQ SN Sn 00 37 06.0 -4.6
ICQ Trac 00 38 26.8
comp=Z,20nm,0.6s
GAAQ Galiote 13.22 176 PN **Pn 00 34 49.9 +2.0**
GAAQ SN Sn 00 37 09.4 -5.4
GAAQ LG Lg 00 38 36.1
GAAQ Trac 00 38 41.0
comp=Z,27nm,0.6s
CNQ Baie Comeau 13.32 190 SN Sn 00 37 11.9 -5.5
CNQ Trac 00 38 56.1
comp=Z,5.3nm,0.3s
DRLN Deer Lake 13.79 160 PN **Pn 00 34 55.5 -0.2**
DRLN SN Sn 00 37 20.8 -7.9
DRLN LG Lg 00 39 00.2
DRLN Trac 00 39 18.4
comp=Z,66nm,1.4s
BLKN Baker Lake 14.15 291 SN Sn 00 37 27.4 -10
BLKN LG Lg 00 39 02.7
RES Resolute Bay 16.24 331 Pn **Pn 00 35 25.6 -2.7**
0.4nm,0.3s,baz=120,slow=6.0,SNR=1.8
RES Sn Sn 00 38 08.6 -20
0.3nm,0.3s,baz=335,slow=12,SNR=1.5
RES Lg Lg 00 39 59.4
0.7nm,0.3s,baz=223,slow=18,SNR=6.8
SADO Sadowa 19.63 212 P **P 00 36 08.3 -0.6**
0.1nm,0.3s,baz=2.7,slow=8.6,SNR=3.0
SADO S S 00 39 33.7 -16
1.3nm,0.4s,baz=199,slow=17,SNR=1.9
SADO Lg Lg 00 41 24.6
0.2nm,0.3s,baz=298,slow=22,SNR=1.9
1.5nm,0.6s
ULM Lac du Bonnet 20.98 249 P **P 00 36 23.8 +0.3**
1.4nm,0.5s,baz=41,slow=12,SNR=5.0
ULM S S 00 40 01.1 -16
1.9nm,0.7s,baz=127,slow=15,SNR=2.1
ULM Lg Lg 00 42 13.1
0.2nm,0.3s,baz=270,slow=14,SNR=1.3
1.4nm,0.5s
YKA Yellowknife Ar 22.68 293 P **P 00 36 43.2 +1.6**
0.4nm,0.7s,baz=74,slow=12,SNR=2.7
YKA S S 00 40 40.2 -9.3
0.5nm,0.8s,baz=67,slow=23,SNR=3.1
YKA Lg Lg 00 43 06.8
0.1nm,0.3s,baz=65,slow=29,SNR=1.7
0.4nm,0.7s
PDAR Pinedale Array 32.76 254 P **P 00 38 13.7 +0.3**
0.2nm,0.5s,baz=40,slow=7.4,SNR=2.3
0.2nm,0.5s

*TEH **24** 00:51:10.6, 34.°63N×46.°27E, h10km±31km, ML2.9*
*ISN **24** 00:51:11.7±1.6, 34.°67N×46.°25E, h21km±37km, ML2.7*
ISC 24 00:51:10.7±1.2,**34.°65N**±0.°04×**46.°26E**±0.°04,**h12**km±12km,
n11,σ0°**45**/14,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.12**	**65**	Pg	**Pg**	**00 51 14.0**	**0.0**
IGHG	**Ghaleghazi**	**0.41**	**141**	Pg	**Pg**	**00 51 19.0**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.57**	**256**	Pg	**Pg**	**00 51 22.1**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.61**	**208**	Pg	**Pg**	**00 51 22.4**	**-0.2**
ILIN	**Lien**	**0.64**	**65**	Pg	**Pg**	**00 51 23.1**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.75**	**120**	Pg	**Pg**	**00 51 24.9**	**-0.4**
ILBA	**Ilam Banvizeh**	**1.02**	**182**	Pg	**Pb**	**00 51 30.0**	**-0.4**
IBZA	**Bozab**	**1.34**	**97**	Pg	**Pb**	**00 51 36.2**	**+0.3**
IBDR	**Badra**	**1.56**	**190**	*e*Pg	**Pb**	**00 51 40.0**	**+0.5**
IBDR				*e*Sg	**Sb**	**00 52 00.0**	**+0.8**
IBDR				AML	AML	00 52 06.3	
	comp=E,170nm,0.1s						
IBDR				AML	AML	00 52 11.8	
	comp=N,84nm,0.3s						
IKRK	**Kirkuk**	**1.74**	**296**	*e*Pn	**Pb**	**00 51 43.0**	**+0.3**
IKRK				*e*Sn	**Sb**	**00 52 04.0**	**-0.5**
BHD	**Baghdad**	**2.08**	**229**	*e*Pn	**Pb**	**00 51 48.0**	**-0.4**
BHD				*e*Sn	**Sb**	**00 52 14.0**	**-0.2**

NOU 24 01:06:59.0, 21.°79S×169.°51E, h4km, mb4.2/9, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.41**	**282**	P	Pn	01 07 24.7	-0.8
PINNC	**Pines Island,**	**2.08**	**246**	P	Pn	01 07 34.5	-0.2
LIFNC	**LIFOU**	**2.34**	**295**	P	Pn	01 07 37.3	-1.0
YATNC	**Mamie plateau,**	**2.45**	**263**	P	Pn	01 07 39.2	-0.5
DZM	**Mont Dzumac**	**2.86**	**264**	P	Pn	01 07 45.5	0.0
ONTNC	**Ouen Toro**	**2.88**	**259**	P	Pn	01 07 45.9	+0.2
NOUC	**Port Laguerre**	**2.99**	**263**	P	Pn	01 07 47.0	-0.3
KOUNC	**Koumac, New Ca**	**5.03**	**283**	P	Pn	01 08 16.4	+1.1
	17nm,0.7s						

*NEIC **24** 01:30:45.1±1.2, 19.°418N±0.°009×155.°286W±0.°008, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.4km az=150.0*
HVO 24 01:30:44.2±1.1,**19.°415N**±0.°007×**155.°276W**±0.°007,
h0km±4km,**ML3.8**/18,**ML3.3**/30(NEIC),**Error ellipse: s-maj=1.2km s-min=0.7km az=142.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**286**		Pg	01 30 45.2	+0.7
UWB	**Uwekahuna B**	**0.01**	**349**		Pg	01 30 45.4	+0.9
SBLHI	**Steaming Bluff**	**0.01**	**33**		Pg	01 30 45.5	+0.9
BYL	**Byron's Ledge**	**0.01**	**102**	Pg	Pg	01 30 45.1	+0.5
HATHI	**Halema'uma'u T**	**0.02**	**62**		Pg	01 30 45.1	+0.5
UWE	**Uwekahuna**	**0.02**	**290**	Pg	Pg	01 30 45.1	+0.5
KKO	**Keanakako`i**	**0.02**	**152**		Pg	01 30 46.2	+1.5
RIM	**RIM**	**0.02**	**175**		Pg	01 30 45.8	+1.1
WRMHI	**West Rim**	**0.02**	**249**		Pg	01 30 46.2	+1.5
SDHHI	**Sand Hill**	**0.03**	**214**		Pg	01 30 46.7	+1.9
RSD	**Rainshed**	**0.05**	**358**	Pg	Pg	01 30 45.7	+0.6
PUH	**Pauahi**	**0.07**	**126**	Pg	Pg	01 30 46.5	+1.0
PUH				IAML		01 30 47.5	
	comp=E,18μm,0.9s						
PUH				IAML		01 30 47.9	
	comp=N,12μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.11**	**109**	Pg	Pg	01 30 47.1	+0.9
HLP	**Hilina Pali**	**0.12**	**194**	Pg	Pg	01 30 47.3	+0.8
HLP				IAML		01 30 50.1	
	comp=N,10μm,1.1s						
HLP				IAML		01 30 50.3	
	comp=E,8μm,0.8s						
MLH	**Mauna Loa**	**0.13**	**307**		Sg	01 30 50.7	+2.3
MLH	**Mauna Loa**	**0.13**	**307**	Pg	Pg	01 30 47.7	+1.0
MLH				IAML		01 30 50.5	
	comp=N,10μm,0.6s						
MLH	**Mauna Loa**	**0.13**	**307**	IAML		01 30 51.0	
	comp=E,20μm,0.5s						
STCH	**Steam Cracks**	**0.15**	**102**	Pg	Pg	01 30 47.7	+0.7
STCH				IAML		01 30 51.6	
	comp=E,12μm,0.9s						
STCH				IAML		01 30 51.7	
	comp=N,12μm,0.7s						
NPOC	**North of Pu'u**	**0.16**	**98**		Pg	01 30 48.6	+1.4
JCUZ	**Jacuzzi**	**0.17**	**101**		Pg	01 30 48.5	+1.1
HTC	**Hot Caves**	**0.21**	**213**		Pg	01 30 49.3	+1.1
JOKA	**Jonika Flow**	**0.26**	**86**	Pg	Pg	01 30 50.3	+1.2
JOKA				IAML		01 30 52.7	
	comp=N,7μm,1.0s						
JOKA				IAML		01 30 54.5	
	comp=E,4μm,0.9s						
HMH	**Humu'ula Sheep**	**0.27**	**314**	Pg	Pg	01 30 50.2	+0.9
HMH				IAML		01 30 58.3	
	comp=E,7μm,0.8s						
HMH				IAML		01 30 58.8	
	comp=N,6μm,0.5s						
MLOA	**Mauna Loa Obse**	**0.31**	**293**	Pg	Pg	01 30 51.0	+0.9
MWH	**Moku'aweowe**	**0.31**	**283**		Sb	01 30 56.5	-2.2
MWH	**Moku'aweowe**	**0.31**	**283**	Pg	Pg	01 30 51.0	+0.8
MWH				IAML		01 30 56.9	
	comp=E,11μm,0.7s						
MWH				IAML		01 30 59.1	
	comp=N,9μm,0.6s						
PAH	**Pahoa**	**0.32**	**76**	Pg	Pg	01 30 51.4	+1.0
KHU	**Kahuku**	**0.36**	**242**		Sb	01 30 58.6	-1.3
KHU	**Kahuku**	**0.36**	**242**	Pg	Pg	01 30 51.5	+0.4
ALEP	**Alea Permanent**	**0.37**	**290**		Pb	01 30 53.0	-0.8
ALEP					Sb	01 30 59.0	-1.2
HPO	**Honuapo**	**0.42**	**219**		Sb	01 31 00.8	-0.5
HPO	**Honuapo**	**0.42**	**219**	Pg	Pg	01 30 53.2	+1.0
POHA	**Pohakuloa**	**0.42**	**325**		Sb	01 31 00.4	-1.2
POHA	**Pohakuloa**	**0.42**	**325**	Pg	Pg	01 30 53.0	+0.8
POHA				IAML		01 31 02.4	
	comp=N,6μm,0.8s						
POHA				IAML		01 31 03.4	
	comp=N,5μm,0.5s						
MHA	**Mahukona**	**0.97**	**323**	Pg	Pg	01 31 00.9	-1.9

ROM 24 01:48:21.2±0.1,**43.°828N**±0.°006×**12.°004E**±0.°006,
h13km±1km,**ML0.8**/5,**Error ellipse: s-maj=0.6km s-min=0.5km az=214.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.14**	**304**	P	Pg	01 48 24.9	+0.2
SFI				S	Sb	01 48 28.0	-0.7
SFI				AML	AML		
	comp=E,48μm,0.7s						
SFI				AML	AML		
	comp=N,65μm,0.8s						
SFI				AML	AML		
	comp=E,43μm,0.1s						
SFI				AML	AML		
	comp=N,55μm,0.1s						
SFI				AML	AML		
	comp=N,96μm,1.3s						
ASQU	**Asqua**	**0.16**	**259**	P	Pg	01 48 25.4	+0.3
ASQU				S	Sb	01 48 28.5	-0.8
ASQU				AML	AML		
	comp=E,282μm,0.2s						
ASQU				AML	AML		
	comp=N,266μm,0.2s						
ASQU				AML	AML		
	comp=E,282μm,0.2s						
ASQU				AML	AML		
	comp=N,267μm,0.2s						
CRE	**Caprese Michel**	**0.21**	**190**	P	Pg	01 48 26.4	+0.4
CRE				S	Sb	01 48 30.1	-0.7
CRE				AML	AML		
	comp=E,116μm,0.2s						
CRE				AML	AML		
	comp=N,188μm,0.2s						
CRE				AML	AML		
	comp=E,116μm,0.2s						
CRE				AML	AML		
	comp=N,187μm,0.2s						
PARC	**Parchiule**	**0.25**	**136**	P	Pg	01 48 26.5	+0.1
PARC				S	Sg	01 48 30.8	+0.7
LMD	**Lutirano**	**0.33**	**319**	P	Pb	01 48 28.4	-0.5
LMD				S	Sb	01 48 33.4	-0.8
RUFI	**Rufina**	**0.36**	**272**	P	Pg	01 48 28.6	+0.2
RUFI				S	Sg	01 48 33.9	+0.6
RUFI				AML	AML		
	comp=N,16μm,0.3s						
RUFI				AML	AML		
	comp=E,136μm,49.5s						
RUFI				AML	AML		
	comp=N,18μm,2.4s						
RUFI				AML	AML		
	comp=N,16μm,1.7s						
RUFI				AML	AML		
	comp=E,106μm,2.9s						
BADI	**Badiali**	**0.36**	**151**	P	Pg	01 48 29.0	+0.5
PE3	**Peglio**	**0.38**	**110**	P	Pg	01 48 29.2	+0.3
PE3				AML	AML		
	comp=E,56μm,1.1s						
PE3				AML	AML		
	comp=N,74μm,0.8s						
ATPI	**Pietralunga -**	**0.47**	**142**	P	Pg	01 48 31.0	+0.4
MURB	**Monte Urbino**	**0.68**	**146**	AML	AML		
	comp=E,19μm,0.4s						
MURB				AML	AML		
	comp=N,127μm,0.6s						
MURB				AML	AML		
	comp=E,124μm,0.2s						
MURB				AML	AML		
	comp=N,30μm,0.5s						

*TIR **24** 01:49:38.9, 42.°04N×20.°50E, h12km±1km, Md3.0, Ml2.7*
*PDG **24** 01:49:40.5±0.2, 42.°07N×20.°51E, h6km, ML2.7/10, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
*BEO **24** 01:49:42.0±0.3, 41.°99N×20.°52E, h15km±3km, ML2.3/11*
*THE **24** 01:49:43.6, 42.°03N×20.°61E, h10km±10km, ML2.4/3, Error ellipse: s-maj=14.4km s-min=1.8km az=328.0*
ISC 24 01:49:40.4±1.1,**42.°01N**±0.°02×**20.°51E**±0.°02,**h1**km±10km,
n93,σ1°**55**/131,**15C-11D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.46**	**274**	P	**Pg**	**01 49 48.2**	**-1.1**
PUK				S	**Sg**	**01 49 54.8**	**-0.4**
	baz=271						
PUK				AMP			
	comp=E,2.8nm,0.5s,baz=271						
BCI	**Bajram Curri**	**0.48**	**317**	P	**Pg**	**01 49 48.8**	**-1.0**
	baz=316						
BCI				S	**Sg**	**01 49 55.3**	**-0.7**
	baz=316						
BCI				AMP			
	comp=N,5.4nm,0.9s,baz=316						
PVY	**Plav**	**0.71**	**325**	⇑*i*Pg	**Pg**	**01 49 53.0**	**-1.1**
PVY				*i* Sg	**Sg**	**01 50 03.5**	**+0.2**
TIR	**Tirane**	**0.82**	**216**	P	**Pg**	**01 49 56.0**	**-0.2**
	baz=215						
TIR				S	**Sg**	**01 50 08.3**	**+1.5**
	baz=215						
TIR				AMP			
	comp=N,0.5nm,0.4s,baz=215						
TIR	**Tirane**	**0.82**	**216**	*e*Pg	**Pg**	**01 49 56.3**	**+0.1**
TIR				*e*Sg	**Sn**	**01 50 10.4**	**-1.6**
TIR	**Tirane**	**0.82**	**216**	⇑P	**Pg**	**01 49 56.0**	**-0.2**
TIR				⇑S	**Sn**	**01 50 09.6**	**-2.4**
OHR	**Ohrid**	**0.93**	**166**	*i* Pg	**Pb**	**01 49 58.1**	**-1.3**
OHR				*i* Sg	**Sn**	**01 50 13.6**	**-1.1**
IVA	**Berane**	**0.97**	**332**	⇑*i*Pg	**Pb**	**01 49 57.7**	**-2.5**
IVA				*i* Sg	**Sb**	**01 50 11.7**	**-1.9**
DRME	**Dracevica, Mon**	**1.00**	**280**	*e*Pg	**Pb**	**01 49 59.1**	**-1.5**
DRME				*e*Sg	**Sb**	**01 50 14.5**	**+0.2**
DRME	**Dracevica, Mon**	**1.00**	**280**	*e*Pn	**Pb**	**01 49 58.0**	**-2.6**
DRME	**Dracevica, Mon**	**1.00**	**280**	⇑*i*Pg	**Pb**	**01 49 58.9**	**-1.7**
DRME				*i* Sg	**Sb**	**01 50 14.4**	**+0.2**
PDG	**Podgorica**	**1.02**	**295**	⇑S	**Sb**	**01 50 13.5**	**-1.3**
PDG	**Podgorica**	**1.02**	**295**	*e*Pg	**Pb**	**01 50 00.4**	**-0.5**
PDG				*e*Sg	**Sb**	**01 50 15.1**	**+0.3**
PDG	**Podgorica**	**1.02**	**295**	*e*Pn	**Pb**	**01 49 57.7**	**-3.2**
PDG	**Podgorica**	**1.02**	**295**	⇑S	**Sb**	**01 50 13.5**	**-1.3**
PDG	**Podgorica**	**1.02**	**295**	⇓*i*Pg	**Pb**	**01 49 59.0**	**-1.9**
PDG				*i* Sg	**Sb**	**01 50 14.7**	**-0.1**
PDG	**Podgorica**	**1.02**	**295**	⇓P	**Pb**	**01 49 59.0**	**-1.9**
PDG	**Podgorica**	**1.02**	**295**	⇓P	**Pb**	**01 49 59.0**	**-1.9**
KOME	**Kolasin**	**1.11**	**319**	*e*Pg	**Pb**	**01 50 00.5**	**-2.2**
KOME				*e*Sg	**Sg**	**01 50 18.7**	**+2.4**
KOME	**Kolasin**	**1.11**	**319**	⇑*i*Pg	**Pb**	**01 50 00.4**	**-2.2**
KOME				*i* Sg	**Sb**	**01 50 17.1**	**-0.6**
BUM	**Brajici-Budva**	**1.23**	**284**	⇑*i*Pg	**Pn**	**01 50 03.3**	**-1.6**
BUM				*i* Sg	**Sg**	**01 50 22.1**	**+2.0**
PRVS	**Prvonek**	**1.27**	**66**	*e*Pg	**Pn**	**01 50 03.7**	**-1.6**
PRVS				*e*Sg	**Sg**	**01 50 23.0**	**+1.9**
SELS	**Selova**	**1.29**	**20**	*e*Pg	**Pn**	**01 50 05.3**	**-0.4**
SELS				*e*Sg	**Sg**	**01 50 24.7**	**+2.9**
CEME	**Cevo**	**1.30**	**295**	⇓*i*Pg	**Pn**	**01 50 04.1**	**-1.7**
CEME				*i* Sg	**Sg**	**01 50 23.9**	**+1.8**
SJES	**Sjenica**	**1.31**	**343**	*e*Pg	**Pn**	**01 50 05.1**	**-0.9**
SJES				*e*Sg	**Sg**	**01 50 24.8**	**+2.3**
SJES	**Sjenica**	**1.31**	**343**	*e*Pn	**Pn**	**01 50 04.4**	**-1.6**
NKME	**Niksic**	**1.38**	**304**	⇓*i*Pg	**Pn**	**01 50 05.3**	**-1.6**
NKME				*i* Sg	**Sg**	**01 50 26.4**	**+1.7**
FNA	**Florina**	**1.39**	**152**	P	**Pn**	**01 50 05.7**	**-1.3**
	baz=151						
FNA				S	**Sg**	**01 50 26.4**	**+1.3**
	baz=151						
FNA				AMP			
	comp=N,0.3nm,0.4s,baz=151						
BOSS	**Bosilegrad**	**1.54**	**71**	*e*Pg	**Pn**	**01 50 08.5**	**-0.6**
BOSS				*e*Sg	**Sg**	**01 50 31.2**	**+1.2**
PLE	**Pljevlja**	**1.55**	**328**	⇓*i*Pg	**Pn**	**01 50 08.6**	**-0.8**
PLE				*i* Sg	**Sg**	**01 50 32.0**	**+1.6**
IVAS	**Ivanjica**	**1.58**	**351**	*e*Pn	**Pn**	**01 50 08.2**	**-1.6**
IVAS				*e*Sg	**Sg**	**01 50 33.6**	**+2.2**
VAY	**Valandovo**	**1.69**	**113**	*i* Pg	**Pn**	**01 50 11.1**	**0.0**
VAY				*i* Sg	**Sg**	**01 50 37.6**	**+2.8**
BRY	**Bratogost**	**1.71**	**302**	⇓*i*Pn	**Pn**	**01 50 11.6**	**+0.1**
BRY				*i* Sn	**Sb**	**01 50 35.8**	**+1.0**
VLO	**Vlora**	**1.72**	**207**	P	**Pb**	**01 50 13.3**	**+0.4**
	baz=207						
RUDO	**Rudo**	**1.81**	**333**	*e*Pn	**Pn**	**01 50 11.8**	**-1.0**
BOVS	**Bovan**	**1.85**	**28**	*e*Pn	**Pn**	**01 50 14.4**	**+1.1**
LSK	**Leskovik**	**1.86**	**178**	P	**Pb**	**01 50 15.3**	**-0.1**
	baz=177						
LSK				S	**Sg**	**01 50 40.9**	**+0.7**
	baz=177						
LSK				AMP			
	comp=N,0.8nm,0.6s,baz=177						
LSK	**Leskovik**	**1.86**	**178**	P	**Pb**	**01 50 16.1**	**+0.8**
DBRK	**Dubrovnik**	**1.87**	**291**	*e*Pn	**Pn**	**01 50 14.6**	**+0.9**
GRUS	**Gruza**	**1.88**	**5**	*e*Pn	**Pn**	**01 50 13.0**	**-0.8**
KNT	**Kendrikon**	**1.98**	**115**	P	**Pn**	**01 50 15.4**	**+0.2**
KNT				S	**Sb**	**01 50 40.8**	**-1.8**
ZAPS	**Zavoj**	**2.01**	**50**	*e*Pn	**Pn**	**01 50 15.3**	**-0.3**
BBLS	**Lazi&#263i**	**2.02**	**337**	*e*Pn	**Pb**	**01 50 17.7**	**-0.4**
BBLS	**Lazi&#263i**	**2.02**	**337**	*e*Pn	**Pn**	**01 50 16.5**	**+0.7**
DIVS	**Divibare**	**2.12**	**350**	*e*Pn	**Pn**	**01 50 16.3**	**-0.8**
KPRO	**Kipourio**	**2.15**	**162**	P	**Pn**	**01 50 18.2**	**+0.6**
KPRO				S	**Sb**	**01 50 46.1**	**-1.5**
	comp=N,70nm,1.1s						
SRN	**Sarande**	**2.16**	**190**	P	**Pb**	**01 50 20.7**	**+0.2**
	baz=191						
SRN				S	**Sb**	**01 50 48.5**	**+0.8**
	baz=191						
SRN				AMP			
	comp=N,0.1nm,0.6s,baz=191						
ZAGS	**Zajecar**	**2.20**	**35**	*e*Pn	**Pn**	**01 50 17.5**	**-0.7**
TRUS	**Trudelj**	**2.21**	**358**	*e*Pn	**Pn**	**01 50 19.5**	**+1.2**
STON	**Ston**	**2.25**	**293**	*e*Pn	**Pn**	**01 50 20.4**	**+1.7**
STON	**Ston**	**2.25**	**293**	*e*Pn	**Pn**	**01 50 19.4**	**+0.6**
HAPS	**Han Pijesak,Bl**	**2.37**	**332**	*e*Pn	**Pn**	**01 50 19.9**	**-0.7**
IGT	**Igoumenitsa**	**2.48**	**183**	P	**Pn**	**01 50 23.6**	**+1.5**
	baz=183						
IGT				S	**Sb**	**01 50 57.2**	**+0.3**
	baz=183						
IGT	**Igoumenitsa**	**2.48**	**183**	P	**Pb**	**01 50 23.8**	**-2.0**
IGT				S	**Sb**	**01 50 55.3**	**-1.6**
	comp=N,40nm,0.7s						
SRS	**Serrai**	**2.48**	**110**	P	**Pn**	**01 50 22.4**	**+0.4**
KUBS	**Kucevo**	**2.55**	**19**	*e*Pn	**Pn**	**01 50 24.6**	**+1.7**
TEKS	**Tekeris**	**2.63**	**345**	*e*Pn	**Pn**	**01 50 22.2**	**-2.0**
TYRN	**Tyrnavos**	**2.65**	**150**	P	**Pn**	**01 50 25.6**	**+1.4**
TYRN				S	**Sb**	**01 50 58.8**	**-2.8**
	comp=N,30nm,0.8s						
PLG	**Polygyros**	**2.75**	**125**	P	**Pn**	**01 50 27.0**	**+1.2**
KOKK	**Kokkinochori,**	**2.88**	**113**	P	**Pn**	**01 50 28.7**	**+1.2**
RICI	**Ricice**	**2.89**	**302**	*e*Pn	**Pn**	**01 50 29.4**	**+1.7**
MDVR	**Moldovita**	**2.90**	**17**	⇓P	**Pb**	**01 50 34.1**	**+1.1**
FRGS	**Fruska Gora**	**3.19**	**351**	*e*Pn	**Pn**	**01 50 30.5**	**-1.2**
HERR	**Herculane**	**3.19**	**25**	⇓P	**Pb**	**01 50 37.3**	**-0.6**
HVAR	**Hvar**	**3.22**	**293**	*e*Pn	**Pn**	**01 50 32.9**	**+0.8**
MGRS	**Mrkonjic Grad**	**3.47**	**315**	*e*Pn	**Pb**	**01 50 40.5**	**-2.2**
KIJV	**Kijevo**	**3.61**	**305**	*e*Pn	**Pn**	**01 50 39.1**	**+1.6**
BLY	**Banja Luka**	**3.65**	**320**	*e*Pn	**Pb**	**01 50 43.3**	**-2.5**
BZS	**Buzias**	**3.69**	**12**	⇑P	**Pn**	**01 50 38.6**	**-0.1**
GZR	**Gura Zlata**	**3.76**	**25**	⇑P	**Pn**	**01 50 39.5**	**-0.1**
A050A	**Klekovaca**	**3.81**	**312**	*e*Pn	**Pn**	**01 50 43.2**	**+2.8**
MORI	**Morici**	**3.98**	**299**	*e*Pn	**Pn**	**01 50 44.3**	**+1.7**
ELND	**Elena**	**4.07**	**75**	⇓P	**Pg**	**01 50 56.9**	**-1.6**
LOT	**Lotru**	**4.17**	**33**	⇑P	**Pb**	**01 50 53.6**	**-1.0**
SIRR	**Siria**	**4.33**	**11**	⇓P	**Pn**	**01 50 46.7**	**-0.8**
MORH	**Mrgy, Hungar**	**4.41**	**343**	⇑P	**Pn**	**01 50 47.0**	**-1.5**
DUGI	**Dugi Otok**	**4.46**	**298**	*e*Pn	**Pn**	**01 50 50.2**	**+1.0**
VIRC	**Vir**	**4.59**	**302**	*e*Pn	**Pn**	**01 50 52.2**	**+1.1**
BOJS	**Bojanci**	**5.16**	**314**	*e*Pn	**Pn**	**01 51 00.9**	**+2.0**
MLR	**Muntele Rosu**	**5.25**	**47**	⇑P	**Pn**	**01 51 02.5**	**+2.2**
CRES	**Cresnjev**	**5.28**	**318**	*i* Pn	**Pn**	**01 51 02.8**	**+2.4**
CRES	**Cresnjev**	**5.28**	**318**	*e*Pn	**Pn**	**01 51 02.7**	**+2.3**
VRI	**Vrincioaia**	**5.92**	**47**	⇑P	**Pn**	**01 51 10.7**	**+1.5**
JAVS	**Javornik**	**6.06**	**312**	*i* Pn	**Pn**	**01 51 12.8**	**+1.6**
OBKA	**Obir**	**6.21**	**318**	*e*Pn	**Pn**	**01 51 14.5**	**+1.2**
	comp=N,0.8nm,0.5s						
ROBS	**Robic**	**6.58**	**312**	*i* Pn	**Pn**	**01 51 19.4**	**+1.2**
MOA	**Molln**	**7.33**	**325**	*i* Pn	**Pn**	**01 51 31.1**	**+2.5**
	comp=N,0.7nm,0.4s						
ABTA	**Abfaltersbach**	**7.43**	**312**	*i* Pn	**Pn**	**01 51 30.7**	**+0.6**
	comp=N,3.1nm,0.5s,SNR=7.8						
ABTA				*e*Sn	**Sn**	**01 52 55.2**	**+0.2**
	comp=N,2.2nm,0.7s						
LESA	**Schwarzleotal**	**7.77**	**317**	*i* Pn	**Pn**	**01 51 36.2**	**+1.5**
	comp=N,2.7nm,0.5s						
LESA				*e*Sn	**Sn**	**01 53 05.8**	**+2.5**
	comp=N,1.0nm,0.6s						
WTTA	**Wattenberg**	**8.22**	**313**	*i* Pn	**Pn**	**01 51 43.3**	**+2.3**
	comp=N,1.9nm,0.5s						
WTTA				*i* Sn	**Sn**	**01 53 16.5**	**+1.9**
	comp=N,3.4nm,0.6s						
WATA	**Walderalm**	**8.29**	**313**	*i* Pn	**Pn**	**01 51 44.4**	**+2.4**
	comp=N,1.4nm,0.5s						
SQTA	**Sankt Quirin**	**8.43**	**311**	*i* Pn	**Pn**	**01 51 46.0**	**+2.2**
	comp=N,0.8nm,0.3s						
SQTA				*e*Sn	**Sn**	**01 53 21.6**	**+1.9**
	comp=N,2.0nm,0.5s						
FETA	**Feichten**	**8.59**	**309**	*i* Pn	**Pn**	**01 51 48.6**	**+2.5**
	comp=N,0.4nm,0.4s						
FETA				*i* Sn	**Sn**	**01 53 24.6**	**+0.9**
	comp=N,1.2nm,0.7s						

*NEIC **24** 01:50:45.9±1.6, 8.°36S±0.°09

WRA	**Warramunga Arr**	**16.48 135**	P	**P**	**01 54 24.2**	**-0.1**
	comp=Z,3.9nm,0.4s,baz=309,slow=12,SNR=59					
WRA			S	**S**	**01 57 19.3**	**-7.4**
	comp=Z,4.4nm,0.8s,baz=301,slow=23,SNR=6.6					
WRAB	**Tennant Creek**	**16.48 135**	P	**P**	**01 54 24.8**	**+0.6**
WRAB			IAmb	IAmb	01 54 27.3	
	comp=Z,7.5nm,0.6s					
WB2	**Warramunga Arr**	**16.49 135**	P	**P**	**01 54 25.0**	**+0.7**
WB2			IAmb	IAmb	01 54 27.3	
	comp=Z,7.6nm,0.7s					
WR0	**Warramunga Arr**	**16.63 135**	P	**P**	**01 54 26.3**	**+0.4**
WR0			IAmb	IAmb	01 54 28.0	
	comp=Z,28nm,1.2s					
AS31	**Alice Springs**	**18.91 145**	P	**P**	**01 54 52.1**	**+1.3**
AS31			IAmb	IAmb	01 54 56.2	
	comp=Z,8.3nm,0.7s					
ASAR	**Alice Springs**	**18.91 145**	P	**P**	**01 54 51.8**	**+1.0**
	comp=Z,17nm,0.8s,baz=330,slow=12,SNR=80					
ASAR			S	**S**	**01 58 16.8**	**+1.8**
	comp=Z,4.4nm,0.9s,baz=323,slow=24,SNR=12					
ASAR			ScP	**ScP**	**02 02 21.5**	**-3.5**
	comp=Z,1.1nm,0.6s,baz=330,slow=1.9,SNR=6.5					
MORW	**Morawa**	**21.30 195**	P	**P**	**01 55 15.7**	**-0.4**
COEN	**Coen**	**21.40 107**	P	**P**	**01 55 17.0**	**-0.4**
COEN			IAmb	IAmb	01 55 17.8	
	comp=Z,13nm,1.1s					
FORT	**Forrest**	**22.92 167**	P	**P**	**01 55 32.7**	**+1.1**
BBOO	**Buckleboo**	**27.49 154**	P	**P**	**01 56 12.5**	**-0.3**
STKA	**Stephens Creek**	**29.55 145**	P	**P**	**01 56 31.9**	**+0.9**
STKA			IAmb	IAmb	01 56 55.8	
	comp=Z,3.9nm,1.4s					
STKA	**Stephens Creek**	**29.55 145**	P	**P**	**01 56 31.6**	**+0.6**
	comp=Z,2.2nm,0.4s,baz=324,slow=9.8,SNR=7.8					
	comp=Z,2.2nm,0.4s					
CMAR	**Chiang Mai Arr**	**35.15 320**	P	**P**	**01 57 18.7**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=138,slow=5.8,SNR=1.8					
CMAR			LR	LR	02 12 56.8	
	comp=Z,86nm,19.2s,baz=190,slow=38					
	comp=Z,1.2nm,0.3s					
PZH	**PanZhiHua**	**39.95 331**	P	**P**	**01 58 02.8**	**+2.6**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.6s					
PZH			pmax	pmax		
	comp=Z,130nm,6.3s					
USRK	**Ussuriysk Ar.**	**53.15 9**	P	**P**	**01 59 41.3**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=185,slow=6.9,SNR=2.1					
	comp=Z,1.5nm,0.6s					
BKZ	**Black Stump Fm**	**57.37 131**	P	**P**	**02 00 12.8**	**+0.2**
SONM	**Songino Array**	**57.72 348**	P	**P**	**02 00 13.9**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=167,slow=7.7,SNR=6.1					
	comp=Z,1.5nm,0.6s					
MK31	**Makanchi Array**	**65.39 331**	P	**P**	**02 01 05.8**	**-0.3**
MK31			IAmb	IAmb	02 01 47.1	
	comp=Z,3.0nm,1.2s					
MKAR	**Makanchi Array**	**65.39 331**	P	**P**	**02 01 05.0**	**-1.0**
MKAR	**Makanchi Array**	**65.39 331**	P	**P**	**02 01 05.3**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=138,slow=7.8,SNR=10.0					
	comp=Z,1.0nm,0.5s					
MAKZ	**Makanchi**	**65.55 331**	P	**P**	**02 01 07.2**	**+0.1**
ZALV	**Zalesovo Beam**	**69.64 338**	P	**P**	**02 01 30.1**	**-2.4**
ZALV	**Zalesovo Beam**	**69.64 338**	P	**P**	**02 01 30.7**	**-1.8**
	comp=Z,2.0nm,0.6s,baz=133,slow=4.9,SNR=8.4					
	comp=Z,2.0nm,0.6s					
KURBB	**Kurchatov Arra**	**69.86 332**	P	**P**	**02 01 32.4**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=142,slow=5.7,SNR=8.0					
	comp=Z,0.7nm,0.7s					
VNDA	**Vanda**	**72.08 172**	P	**P**	**02 01 47.0**	**+0.1**
SBA	**Scott Base**	**73.05 171**	P	**P**	**02 01 53.7**	**+1.1**
SBA			IAmb	IAmb	02 01 55.4	
	comp=Z,3.0nm,1.2s					
BVAR	**Borovoye Array**	**75.27 331**	P	**P**	**02 02 04.8**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=156,slow=7.6,SNR=3.2					
	comp=Z,0.6nm,0.6s					
QSPA	**South Pole Qui**	**81.55 180**	P	**P**	**02 02 40.5**	**+0.3**
QSPA	**South Pole Qui**	**81.55 180**	P	**P**	**02 02 40.0**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=306,slow=1.3,SNR=11					
	comp=Z,1.9nm,0.7s					
SNAA	**Sanae**	**92.34 195**	P	**P**	**02 03 32.9**	**+0.6**
SNAA			IAmb	IAmb	02 03 54.4	
	comp=Z,5.5nm,1.5s					

*SOME **24** 01:52:44.0, 42.°15N×81.°07E, h25km*
*NNC **24** 01:52:44.7±0.9, 42.°13N×80.°91E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=5.9km s-min=4.4km az=166.0
ISC 24 01:52:46.3±2.3, 42.°19N±0.°08×80.°76E±0.°07, h6km±13km,
n38, σ1°74/62, 5C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.36 316**		*eP*	**Pn**	**01 53 08.9**	**-3.1**
	105nm,0.2s						
SHLS				*eS*	**Sn**	**01 53 27.3**	**-3.1**
	296nm,0.3s						
SHLS	**Shalkode**	**1.36 316**		P	**Pn**	**01 53 08.9**	**-3.1**
	105nm,0.2s						
SHLS				S	**Sn**	**01 53 27.3**	**-3.1**
	296nm,0.3s						
PDGK	**Podgornoye**	**1.47 321**		P	**Pb**	**01 53 13.9**	**-0.3**
	15nm,0.3s						
PDGK				S	**Sg**	**01 53 35.2**	**+1.6**
	26nm,0.3s						
PDGK	**Podgornoye**	**1.47 321**		⇑P	**Pb**	**01 53 13.8**	**-0.4**
	10nm,0.3s						
PDGK				⇓S	**Sg**	**01 53 35.9**	**+2.3**
	18nm,0.3s						
UZB	**Uzynbulak**	**1.60 307**		*eP*	**Pb**	**01 53 16.7**	**+0.4**
	47nm,0.5s						
UZB				*eS*	**Sg**	**01 53 40.4**	**+2.7**
	50nm,0.4s						
UZB	**Uzynbulak**	**1.60 307**		P	**Pb**	**01 53 16.7**	**+0.4**
	47nm,0.5s						
UZB				S	**Sg**	**01 53 40.4**	**+2.7**
	50nm,0.4s						
SATY	**Saty**	**1.94 297**		*eP*	**Pb**	**01 53 23.2**	**+1.1**
	10nm,0.4s						
SATY				*eS*	**Sg**	**01 53 51.1**	**+2.4**
	94nm,0.1s						
KPKS	**Kokpek**	**1.99 311**		*eP*	**Pb**	**01 53 23.6**	**+0.7**
	86nm,0.3s						
KPKS				*eS*	**Sg**	**01 53 52.2**	**+2.0**
	193nm,0.4s						
KPKS	**Kokpek**	**1.99 311**		Pg	**Pb**	**01 53 23.6**	**+0.7**
	86nm,0.3s						
KPKS				Lg	Lg	01 53 52.2	
	193nm,0.4s						
DJR	**Jarkent**	**2.25 342**		*eP*	**Pb**	**01 53 26.6**	**-0.9**
	8.6nm,0.3s						
DJR				*eS*	**Sb**	**01 53 57.2**	**+1.5**
	99nm,0.5s						
DJR	**Jarkent**	**2.25 342**		Pg	**Pb**	**01 53 26.6**	**-0.9**
	8.6nm,0.3s						
DJR				Lg	Lg	01 53 57.2	
	99nm,0.5s						
KURS	**Kuram**	**2.30 305**		*eP*	**Pb**	**01 53 29.1**	**+0.7**
	21nm,0.7s						
KURS				*eS*	**Sg**	**01 54 01.3**	**+1.0**
	34nm,0.7s						
KURS	**Kuram**	**2.30 305**		Pg	**Pb**	**01 53 29.0**	**+0.7**
	21nm,0.7s						
KURS				Lg	Lg	01 54 01.3	
	34nm,0.7s						
KNOS	**Konyrlen**	**2.46 333**		Pg	**Pb**	**01 53 30.7**	**-0.3**
	7.6nm,0.3s						
KNOS				Lg	Lg	01 54 04.2	
	51nm,0.4s						
BLB	**Baldybastay**	**2.53 320**		Pg	**Pb**	**01 53 31.9**	**-0.3**
	42nm,0.3s						
BLB				Lg	Lg	01 54 06.5	
	153nm,0.4s						
KOTS	**Kotyrbulak**	**2.88 292**		*eP*	**Pb**	**01 53 39.8**	**+1.5**
	10nm,0.2s						
KOTS				*eS*	**Sg**	**01 54 19.7**	**+0.8**
	42nm,0.5s						
KOTS	**Kotyrbulak**	**2.88 292**		Pg	**Pb**	**01 53 39.8**	**+1.5**
	10nm,0.2s						
KOTS				Lg	Lg	01 54 19.7	
	42nm,0.5s						
MDOK	**Medeo**	**2.90 291**		*eP*	**Pb**	**01 53 39.8**	**+1.2**
	10nm,0.4s						
MDOK				*eS*	**Sg**	**01 54 19.6**	**+0.1**
	14nm,0.5s						
MDOK	**Medeo**	**2.90 291**		Pg	**Pb**	**01 53 39.6**	**+1.0**
	6.6nm,0.6s						
MDOK				Pg	**Pb**	**01 53 39.8**	**+1.2**
	10nm,0.4s						
MDOK				Lg	Lg	01 54 19.6	
	14nm,0.5s						
MDOK				Lg	Lg	01 54 21.4	
	25nm,0.6s						
TNSS	**Tian-Shan**	**2.94 288**		*eP*	**Pb**	**01 53 40.4**	**+1.1**
	9.6nm,0.4s						
TNSS				*eS*	**Sg**	**01 54 21.2**	**+0.5**
	11nm,0.3s						
TNSS	**Tian-Shan**	**2.94 288**		Pg	**Pb**	**01 53 40.4**	**+1.1**
	9.6nm,0.4s						
TNSS				Lg	Lg	01 54 21.2	
	11nm,0.3s						
ARXS	**Arharly**	**2.94 314**		*eP*	**Pb**	**01 53 39.5**	**+0.3**
	10nm,0.2s						
ARXS				*eS*	**Sb**	**01 54 19.3**	**+3.8**
	32nm,0.6s						
CHKK	**Chushkaly**	**3.23 302**		*eP*	**Pb**	**01 53 45.9**	**+1.9**
	5.8nm,0.2s						
CHKK				*eS*	**Sg**	**01 54 30.1**	**+0.3**
	14nm,0.5s						
CHKK	**Chushkaly**	**3.23 302**		Pg	**Pb**	**01 53 45.9**	**+1.9**
	5.8nm,0.2s						
CHKK				Lg	Lg	01 54 30.1	
	14nm,0.5s						
MTBS	**Maitube**	**3.33 288**		*eP*	**Pb**	**01 53 48.1**	**+2.3**
	5.2nm,0.5s						
MTBS				*eS*	**Sg**	**01 54 33.9**	**+0.7**
	17nm,0.4s						
MTBS	**Maitube**	**3.33 288**		Pg	**Pb**	**01 53 48.1**	**+2.3**
	5.2nm,0.5s						
MTBS				Lg	Lg	01 54 33.9	
	17nm,0.4s						
KTBS	**Karatobe**	**3.36 298**		*eP*	**Pb**	**01 53 47.7**	**+1.5**
	5.2nm,0.5s						
KTBS				*eS*	**Sg**	**01 54 33.2**	**-0.8**
	30nm,0.4s						
KTBS	**Karatobe**	**3.36 298**		Pg	**Pb**	**01 53 47.7**	**+1.5**
	5.2nm,0.5s						
KTBS				Lg	Lg	01 54 33.2	
	30nm,0.4s						
KST	**Kastek**	**3.64 285**		*eP*	**Pg**	**01 53 54.0**	**-2.1**
	5.9nm,0.4s						
KST				*eS*	**Sg**	**01 54 44.0**	**+0.7**
	11nm,0.6s						
KST	**Kastek**	**3.64 285**		Pg	**Pg**	**01 53 54.0**	**-2.1**
	5.9nm,0.4s						
KST				Lg	Lg	01 54 44.0	
	11nm,0.6s						
DGS	**Degeres**	**3.82 288**		*eP*	**Pb**	**01 53 56.2**	**+2.0**
	3.4nm,0.4s						
DGS				*eS*	**Sg**	**01 54 48.5**	**-0.5**
	18nm,0.7s						
DGS	**Degeres**	**3.82 288**		Pg	**Pb**	**01 53 56.2**	**+2.0**
	3.4nm,0.4s						
DGS				Lg	Lg	01 54 48.5	
	18nm,0.7s						
TKM2	**Tokmak 2**	**3.88 283**		⇑Pg	**Pg**	**01 53 58.7**	**-2.0**
	7.1nm,1.2s						
TKM2				⇑Lg	Lg	01 54 50.8	
	9.6nm,0.8s						
KRBS	**Karabastau**	**4.02 294**		*eP*	**Pb**	**01 54 00.1**	**+2.5**
	4.0nm,0.6s						
KRBS				*eS*	**Sg**	**01 54 55.2**	**-0.3**
	5.8nm,0.4s						
KRBS	**Karabastau**	**4.02 294**		Pg	**Pb**	**01 54 00.1**	**+2.5**
	4.0nm,0.6s						
KRBS				Lg	Lg	01 54 55.2	
	5.8nm,0.4s						
SGDS	**Sogindy**	**4.68 288**		Pg	**Pb**	**01 54 11.4**	**+2.6**
	2.9nm,0.6s						
SGDS				Lg	Lg	01 55 13.7	
	3.0nm,0.5s						
MAKZ	**Makanchi**	**4.70 10**		⇓Pn	**Pn**	**01 53 58.5**	**+0.8**
	2.5nm,0.5s						
MAKZ				⇓Sn	**Sn**	**01 54 55.1**	**+2.5**
	4.6nm,0.8s						
MK31	**Makanchi Array**	**4.73 13**		⇓Pn	**Pn**	**01 53 58.5**	**+0.3**
	1.0nm,0.5s,baz=194,slow=12,SNR=28						
MK31				⇑Pg	**Pb**	**01 54 09.3**	**-0.3**
	1.3nm,0.5s,baz=194,slow=16,SNR=5.0						
MK31				⇓Sn	**Sn**	**01 54 54.3**	**+1.0**
	0.8nm,0.3s,baz=177,slow=26,SNR=4.4						
MK31				⇑Lg	Lg	01 55 13.2	
	7.0nm,0.6s,baz=190,slow=27,SNR=7.0						

*NEIC **24** 01:59:14.2±1.5, 4.°90N±0.°07×76.°03W±0.°08, h128km±7km,*
mb4.4/58, Error ellipse: s-maj=11.4km s-min=10.5km
az=101.0
*IDC **24** 01:59:15.9±1.5, 4.°83N×75.°90W, h151km±13km, mb3.5/12,*
mbtmp4.0/14, Error ellipse: s-maj=22.6km s-min=13.5km
az=71.0
*RSNC **24** 01:59:15.8±0.0, 5.°N±1.°×7.°6W±.°, h110km±3km, M4.3, mb4.5,*
mB5.1, ML3.7, Mw(mB)4.5
ISC 24 01:59:13.1±0.6, 4.°83N±0.°03×76.°07W±0.°03, h125km±5km,
n144, σ1°31/174, mb4.4/36, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.22 289**		P	**Pn**	**01 59 29.8**	**-0.7**
PLMC				S	**Sn**	**01 59 42.4**	**-1.2**
CMAN1	**Manizales, Cal**	**0.60 66**		P	**Pn**	**01 59 32.6**	**+0.1**
CMAN1				S	**Sn**	**01 59 47.2**	**0.0**
RECRC	**Villamaria, Ca**	**0.73 80**		P	**Pn**	**01 59 34.0**	**+0.2**
RECRC				S	**Sn**	**01 59 49.1**	**-0.3**
ANIL	**Santa Ana**	**0.75 117**		P	**Pn**	**01 59 33.6**	**-0.1**
ANIL				S	**Sn**	**01 59 48.7**	**-0.5**
GUY2C	**Guyana, Caldas**	**0.81 61**		P	**Pn**	**01 59 34.6**	**+0.3**
GUY2C				S	**Sn**	**01 59 49.8**	**-0.6**
YOTC	**Yotoco, Valle**	**0.88 198**		P	**Pn**	**01 59 34.2**	**-0.4**
YOTC				S	**Sn**	**01 59 50.3**	**-0.6**
ORTC	**Ortega, Tolima**	**1.23 138**		P	**Pn**	**01 59 38.6**	**+0.7**
ORTC				S	**Sn**	**01 59 57.3**	**+0.5**
PIZC	**Pizarro, Choco**	**1.29 276**		P	**Pn**	**01 59 39.1**	**+0.6**
PIZC				S	**Sn**	**01 59 58.1**	**+0.3**
NORC	**Norcasia**	**1.40 59**		P	**Pn**	**01 59 40.1**	**+0.3**
NORC				S	**Sn**	**02 00 00.2**	**+0.1**
MALC	**Bahia Malaga**	**1.50 237**		P	**Pn**	**01 59 41.7**	**+0.9**
MALC				S	**Sn**	**02 00 04.1**	**+2.2**
PRAC	**Prado**	**1.62 133**		P	**Pn**	**01 59 43.0**	**+0.7**
PRAC				S	**Sn**	**02 00 04.9**	**+0.3**
JAMC	**Jamundi, Valle**	**1.71 201**		P	**Pn**	**01 59 43.4**	**-0.2**
JAMC				S	**Sn**	**02 00 06.0**	**-0.8**
ROSC	**El Rosal**	**1.75 90**		P	**Pn**	**01 59 46.2**	**+2.2**
ROSC	**El Rosal**	**1.75 90**		P	**Pn**	**01 59 46.0**	**+1.9**
	1μm,0.5s,baz=297,slow=6.8,SNR=554						
ROSC				S	**Sn**	**02 00 10.9**	**+3.2**
	733nm,0.6s,baz=85,slow=22,SNR=4.8						
ROSC	**El Rosal**	**1.75 90**		P	**Pn**	**01 59 46.3**	**+2.2**
SOLC	**Bahia Solano**	**1.92 316**		P	**Pn**	**01 59 46.3**	**+0.5**
SOLC				S	**Sn**	**02 00 08.8**	**-2.1**
CVER	**Cruz Verde, Cu**	**2.02 99**		P	**Pn**	**01 59 49.7**	**+2.3**
CVER				S	**Sn**	**02 00 16.5**	**+2.8**
SPBC	**San Pablo de B**	**2.15 68**		P	**Pn**	**01 59 49.6**	**+0.8**
SPBC				S	**Sn**	**02 00 15.9**	**-0.2**
DBBC	**Dabeiba**	**2.18 356**		P	**Pn**	**01 59 49.3**	**+0.2**
DBBC				S	**Sn**	**02 00 16.7**	**0.0**
BETC	**Betania**	**2.23 164**		P	**Pn**	**01 59 50.3**	**+0.6**
BETC				S	**Sn**	**02 00 17.4**	**-0.3**
PTBC	**PUERTO BERRIO,**	**2.34 43**		P	**Pn**	**01 59 51.1**	**0.0**
PTBC				S	**Sn**	**02 00 18.6**	**-1.6**
CHIC	**Chingaza**	**2.34 95**		P	**Pn**	**01 59 53.5**	**+2.1**
CHIC				S	**Sn**	**02 00 22.7**	**+1.9**
POPC	**Popayan, Colom**	**2.35 195**		P	**Pn**	**01 59 51.1**	**-0.4**
PTAC	**Punta Ardita,**	**2.88 323**		P	**Pn**	**01 59 57.0**	**-1.0**
ZARC	**Zaragoza, Cauc**	**2.91 24**		P	**Pn**	**01 59 58.4**	**0.0**
UREC	**San Jos de Ur**	**2.95 10**		P	**Pn**	**01 59 58.9**	**0.0**
BBAC	**Balboa, Cauca**	**3.03 203**		P	**Pn**	**02 00 00.3**	**+0.2**
APAC	**Apartado, Choc**	**3.09 351**		P	**Pn**	**02 00 02.3**	**+1.5**
CRUC	**La Cruz**	**3.36 195**		P	**Pn**	**02 00 05.3**	**+0.7**
CRUC				S	**Sn**	**02 00 43.8**	**-0.5**
GCUF	**Volcan Galeras**	**3.80 200**		P	**Pn**	**02 00 10.6**	**0.0**
GCUF				S	**Sn**	**02 00 53.0**	**-2.0**
PTGC	**Puerto Gaitan,**	**3.98 99**		P	**Pn**	**02 00 12.8**	**+0.4**
CAPC	**Capurgana**	**3.99 341**		P	**Pn**	**02 00 12.8**	**+0.2**
CAPC				S	**Sn**	**02 00 57.9**	**-0.9**
LCBC	**Los crdobas,**	**4.01 356**		P	**Pn**	**02 00 13.8**	**+0.9**
LCBC				S	**Sn**	**02 00 59.6**	**+0.3**
GUVC	**San Jose del G**	**4.12 123**		P	**Pn**	**02 00 14.7**	**+0.3**
GUVC				S	**Sn**	**02 01 00.6**	**-1.3**
PAMC	**Pamplona, Colo**	**4.18 53**		P	**Pn**	**02 00 15.9**	**+0.3**
PAMC				S	**Sn**	**02 01 02.9**	**-1.1**
OCAC	**Ocana**	**4.35 39**		P	**Pn**	**02 00 17.5**	**-0.1**
OCAC				S	**Sn**	**02 01 05.5**	**-2.2**
TULM	**Tulcn-Chalpat**	**4.43 203**		Pn	**Pn**	**02 00 20.2**	**+1.2**
TAMC	**Tame, Arauca**	**4.55 69**		P	**Pn**	**02 00 20.7**	**+0.6**
TAMC				S	**Sn**	**02 01 11.1**	**-1.1**
IMBA	**Imbabura, San**	**5.00 205**		Pn	**Pn**	**02 00 27.3**	**+0.7**
CUSE	**Cuicocha Este**	**5.06 207**		P	**Pn**	**02 00 29.6**	**+2.2**
CUSE				S	**Sn**	**02 01 22.3**	**-2.8**
AZU	**Azuero**	**5.11 305**		P	**Pn**	**02 00 27.3**	**-0.3**
	197nm,0.6s,3μm						
SJCC	**San Jacinto, C**	**5.11 10**		P	**Pn**	**02 00 26.9**	**-0.8**
	30nm,0.8s						
OTAV	**Otavalo**	**5.14 208**		Pn	**Pn**	**02 00 29.7**	**+1.2**
OTAV	**Otavalo**	**5.14 208**		P	**Pn**	**02 00 29.5**	**+1.0**
	24nm,0.7s						
OTAV				S	**Sn**	**02 01 24.0**	**-3.1**
	24nm,0.7s						
PAC1	**Pacto, Paraso**	**5.29 211**		P	**Pn**	**02 00 27.8**	**-2.3**
ARGC	**Ariguani, Magd**	**5.31 20**		P	**Pn**	**02 00 30.8**	**+0.4**
	24nm,0.6s						
PULU	**Pululahua**	**5.36 207**		Pn	**Pn**	**02 00 33.5**	**+2.1**
BCIP	**Isla Barro Col**	**5.70 319**		Pn	**Pn**	**02 00 34.8**	**-0.8**
BCIP	**Isla Barro Col**	**5.70 319**		P	**Pn**	**02 00 34.7**	**-0.8**
	70nm,1.3s						
GMAL	**Guarumal, Vera**	**5.90 300**		P	**Pn**	**02 00 39.1**	**+0.9**
	170nm,0.9s,3μm						
SLOR	**San Lorenzo -**	**6.03 204**			**Pn**	**02 00 42.4**	**+1.9**
SDV	**Santo Domingo**	**6.74 53**		Pn	**Pn**	**02 00 46.8**	**-2.9**
CRJC	**Cerrejon, Guaj**	**6.91 27**		P	**Pn**	**02 00 50.6**	**-1.4**
	16nm,0.5s,872nm						
BRU2	**Volcan**	**7.66 301**			**Pn**	**02 01 05.6**	**+3.5**
URIC	**Uribia, Colomb**	**7.93 30**		P	**Pn**	**02 01 03.8**	**-1.8**
	19nm,1.1s						
BAUV	**El Baul**	**8.96 62**			**Pn**	**02 01 17.2**	**-2.3**
LCR2	**La Lucha 2**	**9.26 302**		Pn	**Pn**	**02 01 27.2**	**+3.5**
AUA1	**Aruba**	**9.70 38**		Pn	**Pn**	**02 01 30.9**	**+1.4**
AUA1	**Aruba**	**9.70 38**		P	**Pn**	**02 01 30.8**	**+1.4**
PCRV	**Puerto La Cruz**	**12.52 64**		P	**Pn**	**02 02 05.7**	**-1.4**
	16nm,1.1s,baz=242,slow=12,SNR=8.9						
BOAV	**Boa Vista**	**15.71 98**		P	**Pn**	**02 02 45.7**	**-1.9**
BOAV				IAmb	IAmb	02 02 51.1	
	comp=Z,8.5nm,0.8s						
BOAV	**Boa Vista**	**15.71 98**		*eP*	**Pn**	**02 02 46.2**	**-1.4**
SJG	**San Juan**	**16.38 36**		P	**Pn**	**02 02 54.3**	**-1.6**
	comp=Z,3.2nm,0.4s,baz=216,slow=19,SNR=1.9						
ETMB	**Extrema**	**17.56 146**		P	**Pn**	**02 03 10.5**	**+0.3**
ETMB	**Extrema**	**17.56 146**		*eP*	**Pn**	**02 03 10.0**	**-0.1**
SAML	**Samuel**	**18.77 137**		P	**P**	**02 03 23.3**	**+0.6**
SAML				IAmb	IAmb	02 03 24.4	
	comp=Z,8.4nm,0.7s						
SAML	**Samuel**	**18.77 137**		*eP*	**P**	**02 03 18.1**	**-4.6**
MAL2	**Monte Alegre,**	**22.91 107**		P	**P**	**02 04 06.5**	**+0.1**
MAL2				IAmb	IAmb	02 04 38.9	
	comp=Z,15nm,1.0s						
VILB	**Vilhena**	**23.68 138**		P	**P**	**02 04 12.6**	**-1.0**
VILB				IAmb	IAmb	02 04 16.5	
	comp=Z,13nm,0.8s						
VILB	**Vilhena**	**23.68 138**		*eP*	**P**	**02 04 13.9**	**+0.4**
NPGB	**Novo Progresso**	**23.80 120**		*eP*	**P**	**02 04 12.1**	**-2.6**
PB11	**IPOC Station P**	**25.24 166**		P	**P**	**02 04 27.9**	**+0.1**
PB11				IAmb	IAmb	02 04 31.2	
	comp=Z,17nm,1.1s						
PDRB	**Porto dos Gac**	**25.24 130**		*eP*	**P**	**02 04 28.1**	**+0.4**
GO01	**Chusmiza**	**25.27 165**		P	**P**	**02 04 29.0**	**+0.6**
GO01				IAmb	IAmb	02 04 29.7	
	comp=Z,8.1nm,0.6s						
HMBC	**Humberstone**	**25.68 167**		P	**P**	**02 04 32.3**	**+0.5**
HMBC				IAmb	IAmb	02 04 33.9	
	comp=Z,26nm,1.3s						
LVC	**Limon Verde**	**28.16 166**		P	**P**	**02 04 55.8**	**+1.6**
LVC				IAmb	IAmb	02 04 56.1	
	comp=Z,10nm,1.1s						
AC05	**El Transito**	**33.93 171**		P	**P**	**02 05 46.1**	**+1.5**
BDFB	**Brasilia**	**34.43 127**		P	**P**	**02 05 47.4**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=275,slow=14,SNR=3.0						
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**35.72 316**		PcP	**PcP**	**02 08 27.1**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=142,slow=5.8,SNR=7.1						
CO03	**El Pedregal**	**35.84 172**		P	**P**	**02 06 01.3**	**+0.4**
CPUP	**Villa Florida**	**35.91 151**		P	**P**	**02 05 58.4**	**-3.0**
CPUP	**Villa Florida**	**35.91 151**		P	**P**	**02 05 59.1**	**-2.3**
	comp=Z,1.6nm,0.4s,baz=337,slow=9.1,SNR=5.8						
	comp=Z,1.6nm,0.4s						
CO02	**Combarbal**	**36.16 173**		P	**P**	**02 06 05.0**	**+1.4**
VA03	**San Esteban**	**37.75 172**		P	**P**	**02 06 18.0**	**+1.0**
MT02	**Curacav**	**38.17 173**		P	**P**	**02 06 21.7**	**+1.2**
MT09	**Talagante**	**38.70 173**		P	**P**	**02 06 25.8**	**+0.8**
MT01	**Popeta**	**38.75 174**		P	**P**	**02 06 26.5**	**+1.2**
BO04	**La Punta**	**38.95 173**		P	**P**	**02 06 28.6**	**+1.5**
ITQB	**Itaqui**	**39.05 153**		P	**P**	**02 06 25.5**	**-2.3**
ITQB				IAmb	IAmb	02 06 26.4	
	comp=Z,15nm,0.9s						
BO02	**Sierra Bellavi**	**39.73 173**		P	**P**	**02 06 35.1**	**+1.7**
BO02				IAmb	IAmb	02 06 46.8	
	comp=Z,24nm,1.5s						
GO05	**Huala**	**39.82 175**		P	**P**	**02 06 35.3**	**+1.1**
BI02	**San Fabin de**	**41.52 174**		P	**P**	**02 06 49.7**	**+1.5**
BI02				IAmb	IAmb	02 07 19.4	
	comp=Z,10nm,1.4s						
PLTB	**Pedras Altas**	**42.22 151**		P	**P**	**02 06 51.7**	**-2.2**
PLTB				IAmb	IAmb	02 07 14.5	
	com

IMAR Indian Mountai 80.60 336 P **P** **02 11 11.8 +0.3**
N18K Kilae Creek 80.82 331 P **P** **02 11 12.9 +0.1**
N18K IAmb IAmb 02 11 26.5
comp=Z,11nm,1.5s
F20K Avaraart Lake 81.54 337 P **P** **02 11 17.3 +0.9**
M16K Timber Creek 82.35 331 P **P** **02 11 20.2 -0.6**
M16K IAmb IAmb 02 11 47.0
comp=Z,10nm,1.4s
G18K Tagagawik 82.58 336 P **P** **02 11 22.9 +0.9**
G18K IAmb IAmb 02 12 04.7
comp=Z,4.9nm,1.5s
D19K Kuna River 82.61 338 P **P** **02 11 23.4 +1.3**
D19K IAmb IAmb 02 11 49.0
comp=Z,4.6nm,1.4s
RDOG Red Dog Mine 84.36 338 P **P** **02 11 31.3 +0.3**
RDOG IAmb IAmb 02 11 34.8
comp=Z,6.0nm,0.5s
NOA NORSAR Array B 84.49 29 P **P** **02 11 32.7 +0.9**
comp=Z,0.4nm,0.7s,baz=270,slow=6.2,SNR=2.5
comp=Z,0.4nm,0.7s
KBS Kingsbay 84.91 11 P **P** **02 11 33.5 0.0**
KBS IAmb IAmb 02 12 02.2
comp=Z,9.3nm,1.0s
F15K North Star Dit 85.04 335 P **P** **02 11 35.3 +0.8**
F15K IAmb IAmb 02 11 42.0
comp=Z,7.8nm,1.4s
SNAA Sanae 89.34 162 P **P** **02 11 54.0 -1.0**
SNAA IAmb IAmb 02 11 56.4
comp=Z,3.6nm,1.0s
QSPA South Pole Qui 94.85 180 P **P** **02 12 21.6 +0.9**
QSPA South Pole Qui 94.85 180 P **P** **02 12 21.4 +0.8**
comp=Z,1.7nm,0.8s,baz=125,slow=1.9,SNR=5.4
comp=Z,1.7nm,0.8s
KURBB Kurchatov Arra 120.59 19 PKP **PKPdf** **02 17 49.6 -0.5**
comp=Z,0.2nm,0.5s,baz=329,slow=1.3,SNR=2.5
ASAR Alice Springs 145.57 234 PKPbc **PKPdf** **02 18 37.6 +0.2**
comp=Z,4.1nm,0.7s,baz=120,slow=4.1,SNR=42
WRA Warramunga Arr 146.81 240 PKPbc **PKPdf** **02 18 39.6 0.0**
comp=Z,1.6nm,0.5s,baz=109,slow=3.1,SNR=25

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*NEIC **24** 02:21:35.3±1.5, 35°.083N±0°.009×97°.59W±0°.02, h5km±1km, Error ellipse: s-maj=2.4km s-min=2.0km az=122.0*
TUL 24 02:21:36.2±1.5, 35°.079N±0°.007×97°.58W±0°.01, h6km±5km, ML2.0, mb_Lg2.1/25(NEIC), ML2.1/28(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=80.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.23**	**40**	Pg	Pg	02 21 42.7	+1.9
FNO				IAML		02 21 48.3	
	comp=E,462nm,0.5s						
FNO				IAML		02 21 48.3	
	comp=N,265nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.35**	**20**	Pg	Pb	02 21 44.5	-0.3
OKCSW				IAML		02 21 52.0	
	comp=E,157nm,0.6s						
X34A	**Smith Ranch, M**	**0.52**	**204**	Pg	Pg	02 21 46.6	+0.4
X34A				Sg	Sb	02 21 54.8	-0.7
X34A				IAML		02 21 55.3	
	comp=N,102nm,0.4s						
WMOK	**Wichita Mounta**	**1.04**	**251**	Pg	Pg	02 21 54.6	-1.6
CSTR	**Hydro, Custer**	**1.07**	**302**	Pg	Pg	02 21 56.2	-0.5
OK052	**Battle Ridge R**	**1.11**	**35**	Pg	Pg	02 21 56.6	-1.0
OUOK	**Quay**	**1.30**	**33**		Pn	02 21 60.0	-1.0
OK048	**Pawnee Station**	**1.43**	**21**		Pn	02 22 02.1	-0.7
CROK	**Carrier**	**1.46**	**347**		Pn	02 22 02.4	-0.7
WTFS	**Witchita Falls**	**1.50**	**209**		Pn	02 22 03.0	-0.7
OK051	**E0350 and S346**	**1.55**	**23**		Pn	02 22 03.7	-0.6
TUL3	**Leonard**	**1.68**	**60**		Pn	02 22 05.4	-0.7
U32A	**Winter Ranch,**	**1.74**	**319**	IAmb_Lg		02 22 31.1	
	comp=Z,9.0nm,1.0s						
Z35A	**Perchaven, San**	**1.76**	**171**	Pn	Pn	02 22 06.2	-1.1
GC02	**Grant County #**	**1.78**	**353**	Pn	Pn	02 22 07.2	-0.4
OK032	**Salt Plains WL**	**1.80**	**344**	Pn	Pn	02 22 07.9	+0.2
X37A	**Clayton**	**1.88**	**104**	Pn	Pn	02 22 09.3	+0.5
X37A				IAmb_Lg		02 22 37.0	
	comp=Z,13nm,0.8s						
NOKA	**Waynoka**	**1.90**	**325**	IAmb_Lg		02 22 36.9	
	comp=Z,9.1nm,0.8s						
KAN13	**South Haven SW**	**1.93**	**2**	Pn	Pn	02 22 08.6	-1.0
KAN13				IAmb_Lg		02 22 38.0	
	comp=Z,12nm,1.0s						
KAN09	**Caldwell North**	**2.05**	**359**	Pn	Pn	02 22 11.0	-0.3
KAN09				IAmb_Lg		02 22 40.6	
	comp=Z,8.2nm,0.7s						
FW03	**Perrin-Whitt E**	**2.07**	**191**	IAmb_Lg		02 22 42.2	
	comp=Z,7.6nm,0.8s						
KAN01	**Argonia South**	**2.08**	**356**	IAmb_Lg		02 22 46.9	
	comp=Z,6.5nm,0.9s						
FW06	**Azle**	**2.10**	**179**	Pn	Pn	02 22 11.7	-0.2
FW06				IAmb_Lg		02 22 43.0	
	comp=Z,7.5nm,1.0s						
PLPT	**Palo Pinto**	**2.34**	**195**	Pn	Pn	02 22 15.1	-0.2
RLO	**Rose Lookout**	**2.35**	**62**	Pn	Pn	02 22 15.1	-0.3
RLO				IAmb_Lg		02 22 49.1	
	comp=Z,3.1nm,0.8s						
U38A	**Gravette**	**2.93**	**61**	IAmb_Lg		02 23 11.9	
	comp=Z,5.0nm,0.8s						
HHAR	**Hobbs**	**3.20**	**67**	Pn	Pn	02 22 27.6	+0.6
HHAR				IAmb_Lg		02 23 25.1	
	comp=Z,9.1nm,1.2s						
MIAR	**Mount Ida**	**3.34**	**98**	Pn	Pn	02 22 30.2	+1.3
POST	**Post**	**3.82**	**239**	IAmb_Lg		02 23 48.2	
	comp=Z,4.1nm,0.8s						
BRDY	**Brady**	**3.96**	**198**	Pn	Pn	02 22 37.1	-0.4
BRDY				IAmb_Lg		02 23 45.8	
	comp=Z,4.1nm,1.1s						
CCM	**Cathedral Cave**	**5.90**	**58**	IAmb_Lg		02 24 47.9	
	comp=Z,4.9nm,0.9s						

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*ISN **24** 02:23:10.6±1.0, 34°.68N×46°.38E, h24km±19km, ML3.0*
*TEH **24** 02:23:10.1, 34°.63N×46°.30E, h8km±34km, ML2.9*
ISC 24 02:23:09.6±1.1, 34°.67N±0°.04×46°.29E±0°.03, h14km±10km, n15, σ0°85/18, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.08**	**67**	Pg	**Pg**	**02 23 13.3**	**+0.4**
IGHG	**Ghaleghazi**	**0.41**	**146**	Pg	**Pb**	**02 23 18.7**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.60**	**255**	Pg	**Pg**	**02 23 21.4**	**0.0**
ILIN	**Lien**	**0.60**	**65**	Pg	**Pb**	**02 23 22.1**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.64**	**210**	Pg	**Pg**	**02 23 21.7**	**-0.4**
KCHF	**Cheshme Sefid,**	**0.73**	**122**	Pg	**Pg**	**02 23 23.8**	**-0.1**
ILBA	**Ilam Banvizeh**	**1.04**	**184**	Pg	**Pb**	**02 23 29.7**	**+0.2**
SNQR	**Sonqor, Kerman**	**1.11**	**80**	Pg	**Pg**	**02 23 31.4**	**+0.2**
IBZA	**Bozab**	**1.31**	**98**	Pg	**Pg**	**02 23 35.0**	**+0.2**
IBDR	**Badra**	**1.58**	**191**	*e*Pg	**Pg**	**02 23 40.0**	**0.0**
IBDR				*e*Sg	**Sg**	**02 24 00.0**	**-0.6**
IBDR				AML	AML	02 24 06.2	
	comp=E,264nm,0.5s						
IBDR				AML	AML	02 24 20.0	
	comp=N,151nm,0.5s						
IKFM	**Kafar-mosalman**	**1.72**	**131**	Pg	**Pg**	**02 23 42.9**	**+0.3**
IKRK	**Kirkuk**	**1.76**	**295**	*e*Pn	**Pb**	**02 23 42.0**	**+0.3**
IKRK				*e*Sn	**Sb**	**02 24 06.0**	**+2.3**
HSAM	**Samen**	**1.96**	**103**	Pn	**Pg**	**02 23 46.9**	**-0.4**
BHD	**Baghdad**	**2.12**	**229**	*e*Pn	**Pb**	**02 23 47.0**	**-0.7**
BHD				*e*Sn	**Sb**	**02 24 14.0**	**+0.2**
IAZR	**Azarshahr**	**3.02**	**355**	Pn	**Pb**	**02 24 01.5**	**-1.8**

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*IDC **24** 02:34:35.7±1.8, 34°.83N×46°.13E, h0km, mb3.6/10, mbtmp3.6/13, ML3.2/3, MS2.2/1, Error ellipse: s-maj=36.0km s-min=18.8km az=171.0*
*TEH **24** 02:34:35.7, 34°.64N×46°.32E, h7km±13km, ML3.5*
*GII **24** 02:35:32.2±0.3, 34°.55N×46°.43E, h10km, confirmed*
ISC 24 02:34:36.4±0.8, 34°.62N±0°.03×46°.33E±0°.03, h14km±5km, n74, σ2°23/59, mb3.6/9, 7C, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.09**	**30**	Pg	**Pg**	**02 34 39.4**	**-0.2**
IDHR				Sg	**Sg**	**02 34 41.5**	**-0.3**
IGHG	**Ghaleghazi**	**0.35**	**146**	Pg	**Pb**	**02 34 44.7**	**+0.1**
ILIN	**Lien**	**0.60**	**60**	Pg	**Pb**	**02 34 48.3**	**-0.6**
ILIN				Sg	**Sb**	**02 34 57.8**	**+0.5**
GLG1	**Gilan-e-Gharb**	**0.61**	**215**	Pg	**Pb**	**02 34 48.4**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.62**	**260**	Pg	**Pb**	**02 34 48.6**	**-0.5**
KGS1				Sg	**Sb**	**02 34 58.0**	**+0.3**
KCHF	**Cheshme Sefid,**	**0.68**	**120**	Pg	**Pb**	**02 34 50.2**	**+0.1**
KCHF				Sg	**Sb**	**02 35 01.1**	**+1.6**
ILBA	**Ilam Banvizeh**	**1.00**	**186**	Pg	**Pb**	**02 34 55.9**	**+0.4**
SNQR	**Sonqor, Kerman**	**1.09**	**77**	Pg	**Pn**	**02 34 57.7**	**+0.1**
IBZA	**Bozab**	**1.27**	**96**	Pg	**Pb**	**02 35 01.5**	**+1.2**
IKFM	**Kafar-mosalman**	**1.67**	**131**	Pg	**Pg**	**02 35 08.8**	**+0.4**
SDS1	**Sardasht. Az.**	**1.68**	**336**	Pg	**Pb**	**02 35 06.9**	**-0.2**
HSAM	**Samen**	**1.92**	**102**	Pn	**Pg**	**02 35 12.9**	**-0.3**
MAHB	**Mahabad**	**2.20**	**347**	Pn	**Pb**	**02 35 15.6**	**-0.5**
QABG	**Abgarm-Qazvin**	**2.88**	**67**	Pn	**Pb**	**02 35 26.0**	**-1.6**
IAZR	**Azarshahr**	**3.07**	**355**	Pn	**Pb**	**02 35 28.1**	**-2.8**
IQOM	**Qom**	**3.91**	**85**	Pn	**Pn**	**02 35 39.5**	**+3.2**
JHBN	**Jahan bin**	**4.34**	**122**	Pn	**Pn**	**02 35 45.8**	**+3.6**
GRMI	**Germi**	**4.37**	**16**	Pn	**Pn**	**02 35 45.6**	**+3.1**
KRSH	**Karshahi**	**4.85**	**96**	Pn	**Pn**	**02 35 52.9**	**+3.8**
ISFB	**Sefidab**	**4.89**	**91**	Pn	**Pn**	**02 35 53.0**	**+3.4**
IBRJ	**Brojen**	**4.94**	**122**	Pn	**Pn**	**02 35 54.1**	**+3.6**
GNI	**Garni**	**5.66**	**348**	Pn	**Pn**	**02 35 59.1**	**-1.2**
	0.1nm,0.3s,baz=133,slow=18,SNR=1.2						
GNI				Sn	**Sn**	**02 37 09.4**	**+4.2**
	1.1nm,0.3s,baz=110,slow=16,SNR=3.2						
	1.5nm,0.3s						
KLNJ	**Kolanjah**	**5.71**	**128**	Pn	**Pn**	**02 36 04.0**	**+2.9**
KSHT	**Keshet**	**8.91**	**262**	P	Pg	02 37 42.2	+15
KSHT	**Keshet**	**8.91**	**262**	S	Sg	02 39 23.5	+1.4
MMAI	**Mount Meron Ar**	**9.23**	**263**	Lg	Lg	02 39 21.3	
	0.7nm,0.3s,baz=150,slow=38,SNR=1.9						
HMDT	**Nahal Hemdat**	**9.33**	**258**	P	Pn	02 37 47.9	+57
HMDT	**Nahal Hemdat**	**9.33**	**258**	S	Sn	02 39 34.4	+59
UJAP	**Al Uja**	**9.48**	**257**	P	Pn	02 37 49.8	+57
UJAP	**Al Uja**	**9.48**	**257**	S	Sn	02 39 37.5	+59
DSI	**Dead Sea**	**9.68**	**255**	P	Pn	02 37 52.2	+57
DSI	**Dead Sea**	**9.68**	**255**	S	Sn	02 39 41.2	+57
MSBI	**Mazada**	**9.79**	**253**	P	Pn	02 37 53.9	+57
MSBI	**Mazada**	**9.79**	**253**	S	Sn	02 39 45.8	+59
YTIR	**Yattir**	**9.96**	**254**	P	Pn	02 37 56.6	+57
YTIR	**Yattir**	**9.96**	**254**	S	Sn	02 39 49.2	+58
PRNI	**Paran**	**10.47**	**249**	P	Pn	02 38 03.3	+57
PRNI	**Paran**	**10.47**	**249**	S	Sn	02 40 01.5	+58
HRFI	**Mount Harif**	**10.59**	**248**	P	Pn	02 38 04.8	+57
HRFI	**Mount Harif**	**10.59**	**248**	S	Sn	02 40 04.3	+58
MBRI	**Mt Berech**	**10.80**	**247**	P	Pn	02 38 07.9	+57
MBRI	**Mt Berech**	**10.80**	**247**	S	Sn	02 40 09.6	+58
EIL	**Elat**	**10.83**	**246**	P	Pn	02 38 08.0	+57
EIL	**Elat**	**10.83**	**246**	S	Sn	02 40 09.7	+58
RAYN	**Ar Rayn**	**11.08**	**184**	Pn	**Pn**	**02 37 12.8**	**-1.7**
BRTR	**Keskin Array B**	**11.33**	**300**	Pn	**Pn**	**02 37 19.4**	**+1.4**
	baz=122,slow=14,SNR=8.3						
BRTR				LR	LR	02 41 36.4	
	comp=Z,13nm,21.6s,baz=113,slow=38						
	1.6nm,0.9s						
MSFE	**Esma-Masafi**	**12.55**	**135**	Pn	**Pn**	**02 37 34.2**	**-0.5**
MSFE				Sn	**Sn**	**02 39 46.6**	**-7.7**
ASUD	**Al Ashush, Dub**	**12.66**	**139**	Pn	**Pn**	**02 37 36.1**	**0.0**
MDH	**Madha**	**12.68**	**134**	Pn	**Pn**	**02 37 37.5**	**+1.2**
UOSS	**Minazif**	**12.89**	**136**	Pn	**Pn**	**02 37 36.9**	**-2.4**
HATD	**Hatta, Dubai**	**12.94**	**136**	Pn	**Pn**	**02 37 40.1**	**+0.1**
ASHO	**Ashiyiah**	**13.01**	**137**	Pn	**Pn**	**02 37 40.3**	**-0.6**
WSAR	**Wadi Sarin**	**15.62**	**133**	Pn	**Pn**	**02 38 16.1**	**-0.2**
	0.4nm,0.3s,baz=346,slow=12,SNR=1.8						
WSAR				Sn	**Sn**	**02 41 03.6**	**-5.5**
	0.2nm,0.3s,baz=234,slow=20,SNR=1.7						
MLR	**Muntele Rosu**	**18.96**	**311**	P	**P**	**02 38 53.9**	**-3.4**
	0.1nm,0.3s,baz=108,slow=19,SNR=1.4						
	0.8nm,0.7s						
VOIR		**19.50**	**310**	⇑P	**Pn**	**02 39 05.5**	**+1.1**
AKASG	**Malin Array Be**	**20.33**	**327**	P	**P**	**02 39 11.5**	**-0.6**
	0.9nm,0.6s,baz=138,slow=10,SNR=1.6						
	0.9nm,0.6s						
BURAR	**Bucovina Array**	**20.45**	**316**	⇑P	**P**	**02 39 14.5**	**+1.0**
GZR	**Gura Zlata**	**20.93**	**308**	⇑P	**P**	**02 39 18.6**	**-0.2**
HERR	**Herculane**	**20.98**	**306**	⇑P	Pn	02 39 23.5	+1.8
MARR	**Marisel-Cluj**	**21.25**	**312**	⇑P	**P**	**02 39 23.3**	**+1.1**
MDVR	**Moldovita**	**21.41**	**306**	⇑P	**P**	**02 39 27.5**	**+3.6**
DRGR		**21.55**	**311**	⇑P	**P**	**02 39 26.4**	**+1.1**
KOLS	**Kolonicke sedl**	**22.82**	**316**	*e*P	**P**	**02 39 41.7**	**+2.9**
CRVS	**Cervenica-Dubn**	**23.27**	**315**	*e*P	**P**	**02 39 45.6**	**+2.1**
VYHS	**Vyhne**	**24.65**	**313**	*e*P	**P**	**02 39 58.2**	**+1.7**
BVAR	**Borovoye Array**	**25.10**	**35**	P	**P**	**02 40 02.5**	**+1.9**
	0.9nm,0.6s,baz=224,slow=6.0,SNR=2.3						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**28.30**	**46**	P	**P**	**02 40 30.1**	**+0.7**
	0.4nm,0.6s,baz=254,slow=9.0,SNR=4.4						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**29.59**	**55**	P	**P**	**02 40 42.1**	**+1.2**
	0.3nm,0.5s,baz=256,slow=12,SNR=2.3						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**29.80**	**340**	P	**P**	**02 40 41.5**	**-1.0**
	0.6nm,0.6s,baz=161,slow=13,SNR=4.8						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**33.10**	**42**	P	**P**	**02 41 12.8**	**+1.1**
	0.8nm,0.5s,baz=254,slow=10,SNR=2.1						
	0.8nm,0.5s						
HFS	**Hagfors**	**33.15**	**330**	P	**P**	**02 41 11.6**	**-0.5**
	1.2nm,0.6s,baz=125,slow=7.6,SNR=5.5						
	1.2nm,0.6s						
EKA	**Eskdalemuir Ar**	**39.63**	**317**	P	**P**	**02 42 06.6**	**-0.8**
	0.7nm,0.7s,baz=105,slow=8.9,SNR=6.1						
	0.7nm,0.7s						
ESDC	**Sonseca Array**	**39.98**	**292**	P	**P**	**02 42 10.1**	**-0.6**
	1.4nm,0.8s,baz=69,slow=8.7,SNR=14						
	1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**45.61**	**253**	P	**P**	**02 42 56.6**	**+0.1**
	0.6nm,1.0s,baz=36,slow=6.6,SNR=2.6						
	0.6nm,1.0s						

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*DMN **24** 02:45:30.7±0.1, 27°.74N×84°.87E, h25km, Ml4.8/7, Error ellipse: s-maj=3.1km s-min=0.9km az=16.0*
*IDC **24** 02:45:31.8±5.6, 27°.86N×85°.81E, h0km, mb3.7/3, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=303.6km s-min=24.6km az=66.0*
ISC 24 02:45:31.2±1.1, 27°.70N±0°.07×84°.84E±0°.03, h13km±9km, n16, σ0°92/27, mb4.2/3, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMN	**Daman**	**0.25**	**111**	*e*Pg	**Pb**	**02 45 37.8**	**0.0**
DMN				*e*Sg	**Sb**	**02 45 41.9**	**-0.3**
	9μm,0.4s						
GKN	**Gorkha**	**0.35**	**329**	*e*Pg	**Pg**	**02 45 38.5**	**+0.1**
GKN				*e*Sg	**Sg**	**02 45 43.2**	**-0.1**
	19μm,0.3s						
KKN	**Kakani**	**0.40**	**77**	*e*Pg	**Pg**	**02 45 39.4**	**+0.2**
KKN				*e*Sg	**Sg**	**02 45 44.5**	**-0.2**
	25μm,0.2s						
PKIN	**Phulchoki**	**0.51**	**104**	*e*Pg	**Pb**	**02 45 41.4**	**-0.8**
PKIN				*e*Sg	**Sg**	**02 45 48.4**	**+0.4**
	2μm,0.2s						
PKI	**Pulchoki**	**0.52**	**104**	*e*Pg	**Pb**	**02 45 41.6**	**-0.8**
GUN	**Gumba**	**0.94**	**77**	*e*Pg	**Pb**	**02 45 48.6**	**-1.1**
GUN				*e*Sg	**Sb**	**02 46 01.2**	**-1.0**
	3μm,0.3s						
KOLN	**Koldanda**	**1.10**	**274**	*e*Pg	**Pg**	**02 45 52.5**	**0.0**
KOLN				*e*Sg	**Sn**	**02 46 06.9**	**-0.9**
	2μm,0.2s						
DANN	**Dangsing**	**1.16**	**304**	*e*Pg	**Pg**	**02 45 53.2**	**-0.3**
DANN				*e*Sg	**Sg**	**02 46 08.4**	**-0.2**
	4μm,0.4s						
JIRN	**Jiri**	**1.20**	**92**	*e*Pg	**Pn**	**02 45 53.4**	**-0.6**
JIRN				*e*Sg	**Sb**	**02 46 09.3**	**-0.2**
	2μm,0.3s						
PYUN	**Piuthan**	**1.69**	**284**	*e*Pg	**Pb**	**02 46 02.6**	**+0.3**
PYUN				*e*Sg	**Sg**	**02 46 24.8**	**-0.7**
	2μm,0.3s						
RAMN	**Ramite**	**1.73**	**115**	*e*Pg	**Pb**	**02 46 03.1**	**0.0**
RAMN				*e*Sg	**Sb**	**02 46 25.6**	**+0.7**
	1μm,0.2s						
TAPN	**Taplejung**	**2.57**	**97**	*e*Pg	**Pb**	**02 46 18.0**	**+0.6**
TAPN				*e*Sg	**Sb**	**02 46 50.6**	**+1.6**
	953nm,0.4s						
MKAR	**Makanchi Array**	**19.17**	**355**	P	**Pn**	**02 49 55.5**	**+0.2**
	0.1nm,0.3s,baz=182,slow=11,SNR=4.9						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**23.39**	**350**	P	**P**	**02 50 42.7**	**+3.1**
	0.7nm,0.9s,baz=165,slow=8.8,SNR=3.3						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**67.36**	**129**	P	**P**	**02 56 25.8**	**-0.7**
	0.8nm,0.5s,baz=321,slow=6.6,SNR=25						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**69.63**	**132**	P	**P**	**02 56 39.8**	**-0.8**
	1.0nm,0.6s,baz=315,slow=6.3,SNR=17						
	1.0nm,0.6s						

IDC 24 02:46:39.9±1.5, 3°.75N×127°.77E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=132.9km s-min=20.4km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.41**	**165**	P	P	02 52 00.6	+0.3
	1.4nm,0.7s,baz=345,slow=10,SNR=21						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**27.90**	**168**	P	P	02 52 31.5	-0.3
	0.2nm,0.5s,baz=353,slow=6.8,SNR=1.3						
	0.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**40.77**	**66**	T	T	03 37 24.2	
	baz=253,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**40.79**	**66**	T	T	03 37 25.2	
	baz=253,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**40.79**	**66**	T	T	03 37 25.2	
	baz=253,slow=75,SNR=19						
SONM	**Songino Array**	**47.62**	**341**	P	P	02 55 17.8	0.0
	0.5nm,0.8s,baz=162,slow=6.1,SNR=1.7						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**58.13**	**325**	P	P	02 56 35.8	+0.3
	1.0nm,0.5s,baz=117,slow=7.8,SNR=14						
	1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**62.29**	**327**	P	P	02 57 03.2	-0.5
	0.8nm,0.5s,baz=126,slow=6.3,SNR=9.4						
	0.8nm,0.5s						

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*TEH **24** 03:03:48.8, 34°.65N×46°.25E, h15km±14km, ML2.6*
*ISN **24** 03:03:50.2±1.4, 34°.65N×46°.26E, h24km±26km, ML2.8*
ISC 24 03:03:49.5±1.2, 34°.65N±0°.05×46°.24E±0°.05, h13km±12km, n9, σ0°74/11, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.13**	**68**	Pg	**Pg**	**03 03 53.5**	**+0.3**
IGHG	**Ghaleghazi**	**0.42**	**139**	Pg	**Pb**	**03 03 58.5**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.60**	**207**	Pg	**Pg**	**03 04 01.6**	**+0.4**
ILIN	**Lien**	**0.65**	**66**	Pg	**Pg**	**03 04 02.6**	**+0.3**
KCHF	**Cheshme Sefid,**	**0.76**	**119**	Pg	**Pg**	**03 04 04.4**	**+0.1**
SNQR	**Sonqor, Kerman**	**1.16**	**79**	Pg	**Pg**	**03 04 12.2**	**+0.2**
IBZA	**Bozab**	**1.35**	**97**	Pg	**Pg**	**03 04 15.6**	**+0.1**
IBDR	**Badra**	**1.56**	**190**	*e*Pg	**Pb**	**03 04 18.0**	**-0.1**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**03 04 39.0**	**-0.6**
IBDR				AML	AML	03 04 44.2	
	comp=N,81nm,0.4s						
IBDR				AML	AML	03 04 44.7	
	comp=E,294nm,0.4s						
IKRK	**Kirkuk**	**1.73**	**296**	*e*Pn	**Pb**	**03 04 20.0**	**-1.1**
IKRK				*e*Sn	**Sb**	**03 04 44.0**	**+1.3**

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*THE **24** 03:06:00.9, 36°.45N×28°.73E, h1km±2km, ML2.5/3, Error ellipse: s-maj=3.5km s-min=1.6km az=96.0*
*ISK **24** 03:06:00.4, 36°.44N×28°.74E, h14km, ML2.8/18*
*AFAD **24** 03:06:00.2±0.0, 36°.42N×28°.71E, h7km±2km, ML2.5*
*ATH **24** 03:06:01.1, 36°.41N×28°.72E, h10km±3km, ML2.6/7, Manual Solution by A.Fokaefs This location: 2020/08/28 15:42:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
ISC 24 03:06:00.8±1.0, 36°.45N±0°.03×28°.73E±0°.02, h10km±9km, n48, σ0°45/69, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.34**	**57**	Pg	**Pg**	**03 06 07.2**	**-0.4**
FETY	**Fethiye**	**0.34**	**57**	P	**Pg**	**03 06 07.3**	**-0.3**
FETY				S	**Sb**	**03 06 14.8**	**+0.3**
IZZE	**Mula-Seydike**	**0.40**	**92**	P	**Pg**	**03 06 08.2**	**-0.5**
IZZE				S	**Sg**	**03 06 14.6**	**+0.6**
IZZE				*i* AML	AML	03 06 18.0	
	comp=E,638nm,0.3s						
SABU	**Mula-Dalaman**	**0.42**	**27**	P	**Pg**	**03 06 09.1**	**0.0**
SABU				S	**Sb**	**03 06 16.3**	**-0.6**
SABU				*i* AML	AML	03 06 17.0	
	comp=N,672nm,0.2s						
SABU				*i* AML	AML	03 06 17.0	
	comp=E,362nm,0.2s						
MRSB	**Marmaris-Mugla**	**0.50**	**302**	Pg	**Pg**	**03 06 11.1**	**+0.5**
TURN	**Turunc**	**0.51**	**310**	Pg	**Pg**	**03 06 10.6**	**-0.1**
TURN				Sg	**Sb**	**03 06 18.9**	**-0.4**
TURN	**Turunc**	**0.51**	**310**	P	**Pg**	**03 06 10.4**	**-0.2**
TURN				S	**Sb**	**03 06 18.6**	**-0.7**
TURN				*i* AML	AML	03 06 19.0	
	comp=N,273nm,0.6s						
ARG	**Arkhangelos**	**0.54**	**245**	Pg	**Pg**	**03 06 10.9**	**-0.4**
ARG	**Arkhangelos**	**0.54**	**245**	P	**Pg**	**03 06 11.2**	**-0.1**
ARG				S	**Sb**	**03 06 21.0**	**+0.8**
	380nm,0.3s						
ARG	**Arkhangelos**	**0.54**	**245**	P	**Pg**	**03 06 10.8**	**-0.5**
ARG				S	**Sg**	**03 06 18.3**	**-0.1**
CAME	**Cameli-Denizli**	**0.68**	**43**	Pg	**Pg

*CATAC **24** 03:08:20.4±0.4, 13°.70N×90°.81W, h53km±9km, ML3.7*
*GCG **24** 03:08:20.6±0.6, 13°.71N×91°.00W, h37km±151km, MD3.3*
ISC 24 03:08:19.1±1.6,**13°.62N**±0°.07×**90°.87W**±0°.05,**h61**km±18km,
n61,σ0°.66/106,**1D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.81**	**18**	⇓*i*P	**Pn**	**03 08 35.4**	**+0.4**
PCG				*e*S	**Sn**	**03 08 47.4**	**+0.7**
FUG	**Fuego 3**	**0.82**	**2**	*e*P	**Pn**	**03 08 35.3**	**+0.1**
FUG				*e*S	**Sn**	**03 08 46.7**	**-0.2**
GCG4	**OSOP**	**1.02**	**19**	*i*P	**Pn**	**03 08 37.5**	**-0.1**
GCG4				IAML		03 08 38.0	
	comp=Z,770nm,1.0s						
GUMI	**Mixco**	**1.04**	**14**	*i*P	**Pn**	**03 08 37.6**	**-0.3**
GUMI				IAML		03 08 38.7	
	comp=Z,2μm,1.0s						
GUMI				*i*S	**Sn**	**03 08 51.2**	**-0.6**
NBG	**Las Nubes**	**1.09**	**28**	*e*P	**Pn**	**03 08 40.2**	**+1.5**
NBG				*e*S	**Sn**	**03 08 55.6**	**+2.5**
NUBE	**Las Nubes**	**1.10**	**75**	*e*P	**Pn**	**03 08 37.9**	**-0.7**
NUBE				*e*S	**Sn**	**03 08 51.6**	**-1.5**
NUBE	**Las Nubes**	**1.10**	**75**	*i*P	**Pn**	**03 08 37.9**	**-0.7**
NUBE				*i*S	**Sn**	**03 08 52.7**	**-0.4**
NUBE				IAML		03 08 56.9	
	comp=Z,1μm,1.0s						
LOAL	**Lomas de Alarc**	**1.12**	**70**	*e*P	**Pn**	**03 08 39.1**	**+0.2**
LOAL				*e*S	**Sn**	**03 08 53.4**	**-0.2**
LOAL	**Lomas de Alarc**	**1.12**	**70**	*i*P	**Pn**	**03 08 39.2**	**+0.3**
LOAL				*i*S	**Sn**	**03 08 52.3**	**-1.3**
LOAL				IAML		03 08 58.1	
	comp=Z,4μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.13**	**69**	*e*P	**Pn**	**03 08 38.6**	**-0.3**
SLOZ				*e*S	**Sn**	**03 08 54.2**	**+0.5**
CHTG	**Tecpan**	**1.14**	**354**	*i*P	**Pn**	**03 08 39.5**	**+0.2**
CHTG				IAML		03 08 40.7	
	comp=Z,3μm,1.0s						
CHTG				*i*S	**Sn**	**03 08 53.2**	**-1.1**
RTAL	**Retalhuleu**	**1.21**	**318**	*i*P	**Pn**	**03 08 40.0**	**+0.1**
RTAL				*i*S	**Sn**	**03 08 55.1**	**-0.3**
RTAL				IAML		03 08 56.4	
	comp=Z,510nm,1.0s						
RTR	**El Retiro**	**1.22**	**77**	*e*P	**Pn**	**03 08 40.2**	**-0.1**
RTR				*e*S	**Sn**	**03 08 56.3**	**+0.3**
CEVE	**Cerro Verde**	**1.23**	**80**	*e*P	**Pn**	**03 08 40.1**	**-0.3**
CEVE				*e*S	**Sn**	**03 08 57.4**	**+1.0**
CEVE	**Cerro Verde**	**1.23**	**80**	*i*P	**Pn**	**03 08 40.3**	**-0.1**
CEVE				*i*S	**Sn**	**03 08 56.0**	**-0.3**
CEVE				IAML		03 09 01.9	
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	**1.23**	**80**	*e*P	**Pn**	**03 08 40.1**	**-0.4**
SBLS				*e*S	**Sn**	**03 08 57.0**	**+0.6**
SNJE	**San Jose**	**1.25**	**78**	*e*P	**Pn**	**03 08 40.5**	**-0.2**
SNJE				*e*S	**Sn**	**03 08 57.4**	**+0.6**
STG3	**Santiaguito 3,**	**1.28**	**328**	*e*P	**Pn**	**03 08 40.8**	**-0.2**
STG3				*e*S	**Sn**	**03 08 56.2**	**-1.3**
SOKI	**Kika Raxquin**	**1.30**	**337**	*i*P	**Pn**	**03 08 41.6**	**0.0**
SOKI				*i*S	**Sn**	**03 08 58.3**	**0.0**
SOKI				IAML		03 09 02.0	
	comp=Z,1μm,1.0s						
UNIC	**Universidad Ca**	**1.33**	**74**	*e*P	**Pn**	**03 08 41.6**	**0.0**
UNIC	**Universidad Ca**	**1.33**	**74**	*i*P	**Pn**	**03 08 41.8**	**+0.1**
UNIC				*i*S	**Sn**	**03 08 58.4**	**-0.2**
UNIC				IAML		03 09 01.5	
	comp=Z,290nm,1.0s						
JAYA	**Jayaque - finc**	**1.38**	**88**	*e*P	**Pn**	**03 08 41.9**	**-0.5**
JAYA				*e*S	**Sn**	**03 08 58.6**	**-1.3**
JAYA	**Jayaque - finc**	**1.38**	**88**	*i*P	**Pn**	**03 08 41.8**	**-0.6**
JAYA				*i*S	**Sn**	**03 08 59.1**	**-0.8**
JAYA				IAML		03 09 02.6	
	comp=Z,6μm,1.0s						
CEDA	**San Andres**	**1.45**	**83**	*e*P	**Pn**	**03 08 42.9**	**-0.2**
CEDA	**San Andres**	**1.45**	**83**	*i*P	**Pn**	**03 08 43.7**	**+0.6**
CEDA				*i*S	**Sn**	**03 09 00.5**	**-0.7**
CEDA				IAML		03 09 09.4	
	comp=Z,4μm,1.0s						
LALI	**Alcalda de L**	**1.51**	**95**	*i*P	**Pn**	**03 08 44.6**	**+0.6**
LALI				*i*S	**Sn**	**03 09 02.4**	**-0.3**
LALI				IAML		03 09 04.3	
	comp=Z,240nm,1.0s						
PMON	**Piamonte**	**1.52**	**86**	*e*P	**Pn**	**03 08 44.0**	**-0.1**
PMON	**Piamonte**	**1.52**	**86**	*i*P	**Pn**	**03 08 44.4**	**+0.3**
PMON				*i*S	**Sn**	**03 09 02.7**	**-0.3**
PMON				IAML		03 09 09.2	
	comp=Z,2μm,1.0s						
ITCA	**Escuela Especi**	**1.55**	**88**	*i*P	**Pn**	**03 08 44.5**	**-0.1**
ITCA				*i*S	**Sn**	**03 09 03.9**	**+0.1**
ITCA				IAML		03 09 05.7	
	comp=Z,4μm,1.0s						
BOQS	**Boqueron**	**1.55**	**86**	*e*P	**Pn**	**03 08 45.1**	**+0.4**
BOQS				*e*S	**Sn**	**03 09 04.9**	**+0.9**
QUEZ	**Alcaldia de Qu**	**1.57**	**82**	*e*P	**Pn**	**03 08 45.4**	**+0.6**
QUEZ	**Alcaldia de Qu**	**1.57**	**82**	*i*P	**Pn**	**03 08 45.0**	**+0.2**
QUEZ				*i*S	**Sn**	**03 09 03.5**	**-0.6**
QUEZ				IAML		03 09 08.5	
	comp=Z,5μm,1.0s						
UEES	**Universidad Ev**	**1.59**	**86**	*e*P	**Pn**	**03 08 45.5**	**+0.4**
UEES	**Universidad Ev**	**1.59**	**86**	*i*P	**Pn**	**03 08 45.7**	**+0.6**
UEES				*i*S	**Sn**	**03 09 04.9**	**+0.2**
UEES				IAML		03 09 09.1	
	comp=Z,980nm,1.0s						
SNET	**Serv Nac Est T**	**1.59**	**87**	*e*P	**Pn**	**03 08 45.0**	**-0.2**
SNET	**Serv Nac Est T**	**1.59**	**87**	*i*P	**Pn**	**03 08 45.8**	**+0.6**
SNET				*i*S	**Sn**	**03 09 05.5**	**+0.6**
SNET				IAML		03 09 07.0	
	comp=Z,4μm,1.0s						
PANCS	**Alcalda de**	**1.64**	**90**	*e*P	**Pn**	**03 08 45.8**	**0.0**
PANCS	**Alcalda de**	**1.64**	**90**	*i*P	**Pn**	**03 08 46.2**	**+0.4**
PANCS				*i*S	**Sn**	**03 09 05.9**	**-0.1**
PANCS				IAML		03 09 08.2	
	comp=Z,4μm,1.0s						
LOMA	**Loma Larga**	**1.65**	**89**	*e*P	**Pn**	**03 08 46.1**	**+0.1**
LOMA	**Loma Larga**	**1.65**	**89**	*i*P	**Pn**	**03 08 46.2**	**+0.2**
LOMA				*i*S	**Sn**	**03 09 05.9**	**-0.4**
LOMA				IAML		03 09 08.7	
	comp=Z,1μm,1.0s						
IGN	**Direccin Gen**	**1.66**	**87**	*i*P	**Pn**	**03 08 46.6**	**+0.6**
IGN				*i*S	**Sn**	**03 09 06.6**	**+0.3**
IGN				IAML		03 09 22.5	
	comp=Z,15μm,1.0s						
MTO3	**Montecristo**	**1.66**	**62**	*i*P	**Pn**	**03 08 46.5**	**+0.3**
MTO3				*i*S	**Sn**	**03 09 05.7**	**-0.9**
MTO3				IAML		03 09 11.6	
	comp=Z,240nm,1.0s						
UDBS	**Universidad Do**	**1.67**	**87**	*e*P	**Pn**	**03 08 46.5**	**+0.4**
UDBS	**Universidad Do**	**1.67**	**87**	*i*P	**Pn**	**03 08 47.1**	**+0.9**
UDBS				*i*S	**Sn**	**03 09 05.7**	**-1.0**
UDBS				IAML		03 09 09.8	
	comp=Z,2μm,1.0s						
QUIS	**Sacapulas**	**1.68**	**353**	*i*P	**Pn**	**03 08 47.0**	**+0.6**
QUIS				IAML		03 08 48.9	
	comp=Z,540nm,1.0s						
QUIS				*i*S	**Sn**	**03 09 07.1**	**+0.2**
LFRS	**El Faro**	**1.76**	**90**	*e*P	**Pn**	**03 08 48.0**	**+0.5**
LFRS				*e*S	**Sn**	**03 09 09.1**	**+0.2**
HUEH	**Huehuetenango**	**1.80**	**340**	*i*P	**Pn**	**03 08 49.1**	**+1.0**
HUEH				*i*S	**Sn**	**03 09 09.9**	**-0.1**
HUEH				IAML		03 09 56.4	
	comp=Z,610nm,1.0s						
PAVA	**Las Pavas**	**1.88**	**87**	*e*P	**Pn**	**03 08 49.2**	**+0.1**
COEG	**Centro de Oper**	**1.94**	**90**	*e*P	**Pn**	**03 08 50.0**	**+0.2**
COEG				*e*S	**Sn**	**03 09 14.2**	**+1.1**
COEG	**Centro de Oper**	**1.94**	**90**	*i*P	**Pn**	**03 08 49.7**	**-0.1**
COEG				*i*S	**Sn**	**03 09 13.1**	**0.0**
COEG				IAML		03 09 16.0	
	comp=Z,450nm,1.0s						
LLGN	**La Laguna**	**1.95**	**74**	*i*P	**Pn**	**03 08 49.8**	**-0.2**
LLGN				IAML		03 10 22.7	
	comp=Z,250nm,1.0s						
UESV	**Universidad de**	**2.02**	**89**	*i*P	**Pn**	**03 08 52.2**	**+1.2**
UESV				*i*S	**Sn**	**03 09 14.8**	**-0.4**
UESV				IAML		03 09 23.3	
	comp=Z,320nm,1.0s						
TECO	**Alcaldia de Te**	**2.03**	**92**	*e*P	**Pn**	**03 08 51.1**	**+0.1**
TECO	**Alcaldia de Te**	**2.03**	**92**	*i*P	**Pn**	**03 08 51.5**	**+0.4**
TECO				*i*S	**Sn**	**03 09 14.9**	**-0.5**
TECO				IAML		03 09 20.2	
	comp=Z,230nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.08**	**87**	*e*P	**Pn**	**03 08 52.1**	**+0.3**
SCLA	**Alcaldia de Sa**	**2.08**	**87**	*i*P	**Pn**	**03 08 51.5**	**-0.3**
SCLA				*i*S	**Sn**	**03 09 16.0**	**-0.7**
SCLA				IAML		03 09 24.0	
	comp=Z,150nm,1.0s						
TECA	**Tecapa**	**2.31**	**93**	*e*P	**Pn**	**03 08 55.9**	**+0.9**
LCND	**La Caada**	**2.92**	**96**	*e*P	**Pn**	**03 09 03.5**	**+0.4**
LCND	**La Caada**	**2.92**	**96**	*i*P	**Pn**	**03 09 03.3**	**+0.2**
LCND				*i*S	**Sn**	**03 09 37.5**	**+0.5**
LCND				IAML		03 09 44.1	
	comp=Z,99nm,1.0s						
IZABA	**Izabal, Puerto**	**3.05**	**46**	*i*P	**Pn**	**03 09 04.5**	**-0.4**
IZABA				IAML		03 09 24.7	
	comp=Z,7.1nm,1.0s						
IZABA				*i*S	**Sn**	**03 09 38.0**	**-2.2**
PETF	**Flores**	**3.42**	**16**	*i*P	**Pn**	**03 09 10.3**	**+0.3**
PETF				*i*S	**Sn**	**03 09 49.1**	**-0.2**

*SJA **24** 03:29:16.6±0.7, 22°.18S×68°.63W, h128km±5km, ML3.3, MW3.5*
*GUC **24** 03:29:17.5±0.8, 22°.16S×68°.69W, h122km±5km, ML3.4*
ISC 24 03:29:17.6±1.4,**22°.23S**±0°.04×**68°.74W**±0°.04,**h129**km±9km,
n27,σ1°.24/48,**3C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.41**	**203**	*e*P	**Pn**	**03 29 36.5**	**-0.2**
LVC				*e*S	**Sn**	**03 29 49.9**	**-1.1**
LVC				IAML		03 29 50.7	
	comp=Z,482nm,0.2s						
LVC	**Limon Verde**	**0.41**	**203**	*i*P	**Pn**	**03 29 36.3**	**-0.4**
LVC				*e*S	**Sn**	**03 29 49.7**	**-1.4**
LVC				IAML		03 29 50.9	
	comp=Z,6μm,0.2s						
PB09	**IPOC Station P**	**0.63**	**312**	*e*P	**Pn**	**03 29 37.8**	**+0.1**
PB09				*e*S	**Sn**	**03 29 52.8**	**0.0**
PB09				IAML		03 29 53.6	
	comp=Z,1μm,0.3s						
PB09	**IPOC Station P**	**0.63**	**312**	⇑*e*P	**Pn**	**03 29 37.9**	**+0.2**
PB09				*e*S	**Sn**	**03 29 52.2**	**-0.6**
PB09				IAML		03 29 53.9	
	comp=N,656nm,0.3s						
AF01	**San Pedro de A**	**0.89**	**145**	*e*P	**Pn**	**03 29 39.3**	**-0.5**
AF01				IAML		03 30 16.8	
	comp=Z,1μm,0.5s						
AF01	**San Pedro de A**	**0.89**	**145**	⇓*i*P	**Pn**	**03 29 40.1**	**+0.2**
AF01				*e*S	**Sn**	**03 29 56.5**	**-0.1**
AF01				IAML		03 30 05.9	
	comp=E,2μm,0.3s						
PB06	**IPOC Station P**	**0.91**	**238**	*e*P	**Pn**	**03 29 40.4**	**+0.6**
PB06				*e*S	**Sn**	**03 29 57.8**	**+1.1**
PB06				IAML		03 29 59.5	
	comp=Z,410nm,0.4s						
PB06	**IPOC Station P**	**0.91**	**238**	⇑*i*P	**Pn**	**03 29 40.3**	**+0.5**
PB06				*e*S	**Sn**	**03 29 57.2**	**+0.5**
PB06				IAML		03 29 58.0	
	comp=E,876nm,0.3s						
PB15	**IPOC Station P**	**1.19**	**215**	*e*P	**Pn**	**03 29 43.6**	**+1.0**
PB15	**IPOC Station P**	**1.19**	**215**	*e*P	**Pn**	**03 29 43.5**	**+0.9**
PB04	**IPOC Station P**	**1.31**	**265**	*e*P	**Pn**	**03 29 44.5**	**+0.6**
PB04				*e*S	**Sn**	**03 30 06.0**	**+2.3**
PB04				IAML		03 30 12.3	
	comp=Z,376nm,0.4s						
PB04	**IPOC Station P**	**1.31**	**265**	*e*P	**Pn**	**03 29 44.4**	**+0.6**
PB04				*e*S	**Sn**	**03 30 04.9**	**+1.2**
PB04				IAML		03 30 06.6	
	comp=E,510nm,0.5s						
PATCX	**Punta Patache**	**1.92**	**316**	*e*P	**Pn**	**03 29 51.0**	**+0.3**
PATCX				*e*S	**Sn**	**03 30 17.3**	**+1.3**
PATCX				IAML		03 30 23.5	
	comp=Z,97nm,0.3s						
PATCX	**Punta Patache**	**1.92**	**316**	*e*P	**Pn**	**03 29 51.0**	**+0.3**
PATCX				*i*S	**Sn**	**03 30 15.4**	**-0.6**
PATCX				IAML		03 30 19.4	
	comp=N,189nm,0.3s						
TA01	**Diego Aracena**	**2.13**	**321**	*e*P	**Pn**	**03 29 53.9**	**+0.7**
TA01				*e*S	**Sn**	**03 30 19.6**	**-0.8**
HMBC	**Humberstone**	**2.21**	**331**	*e*P	**Pn**	**03 29 53.8**	**-0.6**
HMBC				*e*S	**Sn**	**03 30 22.6**	**0.0**
HMBC				IAML		03 30 26.3	
	comp=Z,113nm,0.3s						
HMBC	**Humberstone**	**2.21**	**331**	*e*P	**Pn**	**03 29 54.0**	**-0.4**
HMBC				*e*S	**Sn**	**03 30 20.8**	**-1.7**
HMBC				IAML		03 30 23.2	
	comp=N,134nm,0.5s						
GO01	**Chusmiza**	**2.58**	**350**	*e*P	**Pn**	**03 29 59.3**	**0.0**
GO01				*e*S	**Sn**	**03 30 32.1**	**+0.8**
GO01	**Chusmiza**	**2.58**	**350**	*e*P	**Pn**	**03 29 59.9**	**+0.5**
GO01				*e*S	**Sn**	**03 30 30.9**	**-0.3**
GO01				IAML		03 30 32.9	
	comp=N,290nm,0.1s						
PB11	**IPOC Station P**	**2.60**	**341**	*e*P	**Pn**	**03 29 58.8**	**-0.5**
PB11				*e*S	**Sn**	**03 30 30.1**	**-1.2**
PB11				IAML		03 30 33.4	
	comp=Z,67nm,0.3s						
PB11	**IPOC Station P**	**2.60**	**341**	*e*P	**Pn**	**03 29 58.6**	**-0.6**
PB11				*e*S	**Sn**	**03 30 29.7**	**-1.5**
PB11				IAML		03 30 30.3	
	comp=E,104nm,0.3s						
PB14	**IPOC Station P**	**2.84**	**212**	*e*P	**Pn**	**03 30 03.3**	**+0.9**
PB14				*e*S	Sn	03 30 27.7	-9.2
PB14				IAML		03 30 35.0	
	comp=Z,106nm,0.5s						
PB14	**IPOC Station P**	**2.84**	**212**	⇑*e*P	**Pn**	**03 30 03.2**	**+0.8**
PB14				*e*S	**Sn**	**03 30 32.8**	**-4.1**
PB14				IAML		03 30 40.4	
	comp=E,66nm,0.2s						
YJA	**Yavi**	**2.99**	**90**	*e*P	**Pn**	**03 30 06.2**	**+1.7**
YJA				*e*S	**Sn**	**03 30 37.2**	**-3.3**
YJA	**Yavi**	**2.99**	**90**	*e*P	**Pn**	**03 30 06.2**	**+1.7**
YJA				*e*S	**Sn**	**03 30 42.0**	**+1.4**
GO02	**Mina Guanaco**	**3.03**	**195**	*e*P	**Pn**	**03 30 03.9**	**-1.0**
AZAP	**Zapla**	**3.92**	**121**	*e*P	**Pn**	**03 30 17.9**	**+1.4**

IDC 24 03:44:08.2±5.4,**22°.66N**×**94°.86E**,**h68**km±44km,**mb3.3**/3,
mbtmp3.5/4,**ML3.8**/1, **Error ellipse: s-maj=141.9km**
s-min=26.1km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.66**	**137**	P	Pn	03 45 29.9	+0.1
	0.8nm,0.3s,baz=313,slow=16,SNR=1.5						
	1.2nm,0.3s						
MKAR	**Makanchi Array**	**26.14**	**340**	P	P	03 49 35.9	-0.1
	0.2nm,0.4s,baz=157,slow=11,SNR=2.3						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**57.25**	**135**	P	P	03 53 48.5	-0.5
	0.4nm,0.5s,baz=322,slow=7.5,SNR=11						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**59.67**	**138**	P	P	03 54 06.2	+0.4
	0.6nm,0.4s,baz=321,slow=7.1,SNR=10						
	0.6nm,0.4s						

IDC 24 04:00:44.7±6.4,**6°.70S**×**130°.65E**,**h170**km±67km,**mb3.1**/1,
mbtmp3.6/3, **Error ellipse: s-maj=108.3km**
s-min=27.4km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.64**	**165**	P	Pn	04 03 52.1	+0.6
	0.6nm,0.3s,baz=347,slow=13,SNR=22						
WRA				S	Sn	04 06 18.8	-4.4
	1.0nm,0.4s,baz=345,slow=23,SNR=6.7						
ASAR	**Alice Springs**	**17.16**	**170**	P	Pn	04 04 35.2	+0.7
	0.7nm,0.4s,baz=344,slow=11,SNR=12						
ASAR				S	S	04 07 43.9	+0.2
	0.4nm,0.6s,baz=354,slow=26,SNR=2.4						
MKAR	**Makanchi Array**	**68.33**	**326**	P	P	04 11 27.3	-0.3
	0.3nm,0.5s,baz=110,slow=6.3,SNR=3.1						
	0.3nm,0.5s						

IDC 24 04:08:04.7±1.3,**1°.31N**×**125°.48E**,**h0**km,**mb3.6**/4,
mbtmp3.6/4,**ML5.0**/1, **Error ellipse: s-maj=55.1km**
s-min=21.4km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.50**	**222**	Pn	Pn	04 10 07.6	-1.4
	16nm,0.3s,baz=139,slow=14,SNR=28						
WRA	**Warramunga Arr**	**22.84**	**158**	P	P	04 13 09.4	-0.2
	0.6nm,0.4s,baz=339,slow=11,SNR=13						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**26.14**	**162**	P	P	04 13 41.2	+0.5
	0.2nm,0.3s,baz=356,slow=8.9,SNR=4.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**58.85**	**327**	P	P	04 18 06.0	+0.8
	0.4nm,0.5s,baz=108,slow=8.9,SNR=5.5						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**63.12**	**329**	P	P	04 18 33.5	-0.6
	0.6nm,0.3s,baz=134,slow=6.5,SNR=6.1						
	0.6nm,0.3s						

JMA 24 04:08:12.9±0.3,**24°N**±1°×**123°.4E**±0°.6,**h19**km±3km,
MV2.1/8,**NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.42**	**78**	P	Pg	04 08 21.2	-0.3
HATJ				*e*S	Sg	04 08 27.5	+0.2
IRIF	**Iriomote-Funau**	**0.50**	**43**	P	Pg	04 08 22.5	-0.4
YOJ	**Yonaguni jima**	**0.58**	**327**	*e*P	Pb	04 08 24.3	-0.2
JKRS	**Kuro-shima**	**0.65**	**66**	*e*P	Pg	04 08 25.8	0.0
JIJ	**Ishigaki jima**	**0.82**	**61**	*e*P	Pb	04 08 28.4	-0.1
JIJ				*e*S	Sg	04 08 39.9	+0.2
JISG	**Ishigakijimahi**	**1.06**	**55**	*e*P	Pb	04 08 31.9	-0.9
JISG				*e*S	Sb	04 08 46.2	-0.1

TAP 24 04:08:29.6, 23°.89N×121°.54E, h19km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.09**	**330**	*e*P	Pg	04 08 33.4	0.0
	baz=319						
ETM				*e*S	Sg	04 08 36.3	+0.3
	baz=319						
SHUL	**Shoufeng**	**0.10**	**169**	P	Pg	04 08 33.8	+0.3
	baz=171						
SHUL				S	Sg	04 08 37.5	+1.4
	baz=171						
ESL	**Shilin**	**0.12**	**233**	*e*P	Pg	04 08 33.7	0.0
	baz=231						
ESL				*e*S	Sg	04 08 36.5	-0.1
	baz=231						
TWD	**Chiawan**	**0.20**	**15**	*e*P	Pg	04 08 34.6	-0.1
	baz=9.0						
TWD				*e*S	Sg	04 08 38.5	+0.4
	baz=9.0						
WARBT	**Fenglin Townsh**	**0.22**	**220**	*e*P	Pb	04 08 34.8	+0.1
	baz=226						
WARBT				*e*S	Sg	04 08 38.9	+0.2
	baz=226						
EGFH	**Guangfu**	**0.24**	**205**	*e*P	Pg	04 08 35.6	+0.3
	baz=216						
EGFH				*e*S	Sg	04 08 40.1	+0.8
	baz=216						
NACB	**Ninganchiao**	**0.29**	**10**	*e*P	Pg	04 08 35.7	-0.4
	baz=8.0						
NACB				*e*S	Sg	04 08 40.5	0.0
	baz=8.0						
ETLH	**Xiulin Townshi**	**0.32**	**350**	*e*P	Pg	04 08 36.3	-0.4
	baz=341						
ETLH				*e*S	Sg	04 08 41.2	-0.4
	baz=341						
WHF	**Hehuan Shan**	**0.36**	**315**	*e*P	Pg	04 08 37.2	-0.3
	baz=308						
WHF				*e*S	Sg	04 08 42.8	-0.1
	baz=308						
CHGB	**Renai**	**0.38**	**297**	*e*P	Pb	04 08 37.9	0.0
	baz=300						
CHGB				*e*S	Sb	04 08 44.0	+0.6
	baz=300						
VWDT	**VWDT**	**0.39**	**250**	*e*P	Pb	04 08 38.2	+0.3
	baz=250						
VWDT				*e*S	Sb	04 08 44.0	+0.4
	baz=250						
WUSB	**Renai**	**0.40**	**285**	*e*P	Pg	04 08 38.1	0.0
	baz=288						
WUSB				*e*S	Sg	04 08 43.6	-0.2
	baz=288						
EHY	**Hungye**	**0.43**	**208**	*e*P	Pg	04 08 37.6	-0.9
	baz=211						
EHY				*e*S	Sg	04 08 44.4	-0.1
	baz=211						
FUSS	**Fushou**	**0.45**	**323**	*e*P	Pg	04 08 39.0	0.0
	baz=322						
FUSS				*e*S	Sb	04 08 45.6	+0.1
	baz=322						
YULB	**Yu-li**	**0.54**	**204**	*e*P	Pb	04 08 39.4	-1.1
	baz=211						
YULB				*e*S	Sb	04 08 47.0	-0.9
	baz=211						
SSLB	**Suanglung**	**0.55**	**259**	*e*P	Pb	04 08 40.4	-0.2
	baz=260						
SSLB				*e*S	Sb	04 08 48.0	0.0
	baz=260						
NNSB	**Datong**	**0.56**	**345**	*e*P	Pb	04 08 40.5	-0.2
	baz=344						
NNSB				*e*S	Sb	04 08 48.0	-0.3
	baz=344						
TYC	**Yuchr**	**0.63**	**272**	*e*P	Pg	04 08 42.1	0.0
	baz=279						
TYC				*e*S	Sg	04 08 50.6	+0.1
	baz=279						

*IDC **24** 04:12:39.8±0.7, 55°.24N×157°.83W, h0km, mb4.3/25, mbtmp4.3/29, ML4.0/4, Error ellipse: s-maj=17.9km s-min=11.3km az=172.0*
*AEIC **24** 04:12:42.4±2.2, 55°.09N±0°.05×157°.55W±0°.05, h3km±4km, ML4.2, mb4.5/65(NEIC), ML4.3/39(NEIC), Mwr4.4/76(NEIC), Error ellipse: s-maj=7.0km s-min=4.0km az=171.0*
*NEIC **24** 04:12:42.4, 55°.10N×157°.54W, h19km*
*NEIC **24** 04:12:43.2±1.6, 55°.11N±0°.04×157°.58W±0°.05, h27km±3km, Error ellipse: s-maj=6.1km s-min=3.8km az=182.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.68; $M_{\theta\theta}$3.47; $M_{\phi\phi}$-4.15; $M_{r\theta}$2.11; $M_{\phi\phi}$-0.52; $M_{\phi r}$0.61; Fault plane solution: $M_0$4.46000×10^{15} NP1:ϕ_s45.94000°, δ77.57000°, λ152.49000°. NP2:ϕ_s142.34000°, δ63.19000°, λ13.96000°. Principal axes: T 4.6043, Plg28.0000°, Azm1.0000°; N -0.2953, Plg60.0000°, Azm203.0000°; P -4.3091, Plg10.0000°, Azm96.0000°;*

ISC 24 04:12:41.1±1.3,**55°.14N**±0°.05×**157°.53W**±0°.03,**h11**km±8km,
n394,σ1°.15/400,**mb4.5**/63,**Alaska Peninsula**

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

SDPT Sand Point 1.70 278 P Pn 04 13 10.5 -0.2
baz=98
SDPT S Sb 04 13 34.3 +0.6
baz=98
ANNE Aniakchak Nort 1.80 351 Pn 04 13 13.0 +0.8
ANON Aniakchak 1.82 349 Pb 04 13 13.5 -0.9
SII Sitkinak Islan 2.36 52 P Pn 04 13 21.2 +1.4
SII Sitkinak Islan 2.36 52 Pn Pn 04 13 21.0 +1.2
SII IAML 04 14 24.4
comp=N,2µm,0.8s
SII IAML 04 14 26.8
comp=E,2µm,0.7s
SII Sitkinak Islan 2.36 52 Sn 04 13 48.5 -0.4
SII Sitkinak Islan 2.36 52 P Pn 04 13 21.0 +1.2
baz=234
PS1A Pavlof South-1 2.43 278 Pn 04 13 20.7 0.0
PS1A Sn 04 13 50.4 0.0
PS4A Pavlof South-4 2.49 277 Pn 04 13 21.5 0.0
PS4A Sn 04 13 52.9 +1.0
HAG Hague Volcano 2.51 276 Pn 04 13 22.3 +0.4
HAG Sn 04 13 52.4 -0.1
R17L Mt. Peulik Vol 2.58 14 P Pn 04 13 24.2 +1.4
baz=195
PLK4 Peulik 4 2.58 14 Pn 04 13 24.6 +1.7
S12K Black Hills 2.64 284 Pn Pn 04 13 23.9 +0.2
S12K Sn Sn 04 13 57.7 +1.9
S12K IAML 04 14 03.0
comp=E,2µm,0.7s
S12K IAML 04 14 04.5
comp=N,1µm,0.5s
S12K Black Hills 2.64 284 P Pn 04 13 24.0 +0.3
baz=102
S12K S Sn 04 13 57.2 +1.5
baz=102
PLK3 Peulik 3 2.65 15 Pn 04 13 25.4 +1.6
PLK2 Peulik 2 2.72 14 Pn 04 13 26.1 +1.4
PLK1 Peulik 1 2.72 10 Pn 04 13 26.1 +1.4
PLK5 Peulik 5 2.89 7 Pn 04 13 27.9 +0.9
R18K Karluk 2.98 34 Pn 04 13 29.7 +1.5
R18K Karluk 2.98 34 IAML 04 14 27.8
comp=E,1µm,0.9s
R18K Karluk 2.98 34 P Pn 04 13 29.9 +1.7
baz=216
OHAK Old Harbor 3.16 47 P Pn 04 13 31.7 +1.0
OHAK Old Harbor 3.16 47 Pn Pn 04 13 31.6 +0.8
OHAK IAML 04 14 39.4
comp=N,603nm,0.9s
OHAK Old Harbor 3.16 47 P Pn 04 13 31.7 +1.0
baz=230
Q17K Contact Creek 3.26 15 P Pn 04 13 33.4 +1.1
baz=197
CNTC Contact Creek 3.26 15 Pn 04 13 33.4 +1.1
FALS False Pass 3.40 268 P Pn 04 13 35.2 +1.1
FALS False Pass 3.40 268 Pn **Pn 04 13 34.3 +0.2**
FALS False Pass 3.40 268 P Pn 04 13 34.9 +0.9
baz=84
Q16K King Salmon 3.58 7 Pn 04 13 37.5 +1.0
Q16K King Salmon 3.58 7 P Pn 04 13 37.9 +1.4
baz=188
ISLZ Isanotski Laza 3.59 266 Pn 04 13 36.9 +0.2
ISNN Isanotski Nort 3.61 268 Pn 04 13 38.0 +1.0
KAHG Katmai Hook Gl 3.74 25 Pn 04 13 39.7 +0.9
KAHC Katmai Hardscr 3.78 20 Pn 04 13 40.7 +1.3
Q18K Katmai Hardscr 3.78 20 P Pn 04 13 40.7 +1.3
baz=202
KDAK Kodiak Island 3.81 44 Pn **Pn 04 13 40.3 +0.6**
KDAK IAML 04 14 57.4
comp=N,347nm,1.5s
KDAK IAML 04 15 01.1
comp=N,421nm,1.1s
KDAK Kodiak Island 3.81 44 Pn **Pn 04 13 40.4 +0.7**
comp=N,4.4nm,0.3s,baz=236,slow=4.5,SNR=26
KDAK Sn **Sn 04 14 20.1 -4.4**
comp=N,17nm,0.3s,baz=68,slow=22,SNR=6.8
KDAK Lg Lg 04 14 42.5
comp=N,13nm,0.3s,baz=284,slow=3.2,SNR=1.7
comp=N,26nm,0.6s
P16K Nushagak River 3.91 357 Pn 04 13 42.1 +1.1
P16K Nushagak River 3.91 357 P Pn 04 13 42.3 +1.2
baz=176
P17K Kvichak River 4.11 8 Pn 04 13 45.2 +1.5
P17K Kvichak River 4.11 8 P Pn 04 13 45.2 +1.5
baz=189
WESE West Dahl East 4.14 264 Pn 04 13 45.0 +0.7
WEBT Westdahl Beart 4.21 265 Pn 04 13 46.0 +0.8
WECS Westdahl Cape 4.24 265 Pn 04 13 46.4 +0.8
O15K Ungalikthiuk R 4.24 344 Pn 04 13 46.1 +0.5
O15K Ungalikthiuk R 4.24 344 P Pn 04 13 46.3 +0.8
baz=162
Q19K Cape Douglas, 4.35 28 Pn **Pn 04 13 49.2 +2.0**
P18K Big Mountain, 4.44 15 Pn **Pn 04 13 49.9 +1.5**
Q20K Shuyak Island 4.48 37 P Pn 04 13 49.9 +1.1
baz=221
O16K Kokwok River B 4.48 356 Pn **Pn 04 13 48.9 0.0**
O16K Kokwok River B 4.48 356 P Pn 04 13 49.7 +0.9
baz=176
SYI Shuyak Island 4.48 37 Pn **Pn 04 13 51.7 +2.8**
SYI IAML 04 15 10.9
comp=N,228nm,1.0s
O14K Tigyukauivet M 4.60 335 Pn 04 13 50.5 0.0
O14K IAML 04 15 12.5
comp=N,295nm,0.9s
O14K IAML 04 15 18.6
comp=E,212nm,0.9s
O14K Tigyukauivet M 4.60 335 P Pn 04 13 51.1 +0.6
baz=153
O17K Koliganek Bris 4.65 3 Pn 04 13 52.2 +1.0
O17K Koliganek Bris 4.65 3 P Pn 04 13 52.2 +1.0
baz=183
AKSA Akutan Strait 4.85 261 Pn 04 13 54.8 +0.8
O18K Koktuh Hills 4.89 14 Pn 04 13 55.5 +1.0
O18K Koktuh Hills 4.89 14 P Pn 04 13 55.9 +1.4
baz=196
AKBBA Akutan Broad B 4.99 261 Pn 04 13 56.8 +0.9
LVA Lava Point 5.04 262 Pn **Pn 04 13 57.7 +1.2**
LVA IAML 04 15 19.5
comp=E,220nm,0.9s
P19K Oil Pt 5.09 25 Pn **Pn 04 13 59.5 +2.3**
P19K IAML 04 15 19.5
comp=N,232nm,1.1s
P19K IAML 04 15 27.4
comp=E,206nm,1.2s
N15K Kwethluk River 5.23 346 Pn 04 13 59.6 +0.5
N15K IAML 04 15 34.8
comp=E,263nm,0.9s
N15K Kwethluk River 5.23 346 P Pn 04 14 00.2 +1.1
baz=164
N14K Kuskokwak Cree 5.29 337 P Pn 04 14 00.7 +0.7
baz=154
UNV Unalaska Valle 5.39 260 P Pn 04 14 01.3 0.0
UNV Unalaska Valle 5.39 260 Pn **Pn 04 14 01.5 +0.1**
UNV Unalaska Valle 5.39 260 P Pn 04 14 01.5 +0.1
baz=73
N16K Nishlik Lake 5.39 353 P Pn 04 14 02.6 +1.2
baz=173
ILSW Iliamna Southw 5.40 24 Pn 04 13 59.2 -2.5
N17K Nushagak Hills 5.41 2 Pn **Pn 04 14 02.2 +0.7**
N17K Nushagak Hills 5.41 2 P Pn 04 14 02.5 +0.9
baz=182
MSW Makushin Switc 5.53 261 Pn 04 14 03.2 -0.1
HOM Homer 5.54 33 Pn **Pn 04 14 04.0 +0.6**
CNPM China Poot 5.56 35 Pn **Pn 04 14 04.3 +0.6**
MGOD Makushin Gods 5.61 260 Pn 04 14 04.5 0.0
N18K Kilae Creek 5.63 8 P Pn 04 14 05.5 +0.9
baz=190
MAPS Pakushin South 5.65 260 Pn 04 14 04.8 -0.1
M15K Kasigluk River 5.82 344 P Pn 04 14 07.9 +0.7
baz=162
BRLK Bradley Lake 5.86 35 Pn 04 14 08.1 +0.3
BRSE Bradley Lake S 5.89 36 Pn 04 14 08.7 +0.4
BRSE Bradley Lake S 5.89 36 P Pn 04 14 08.7 +0.4
baz=221
N19K Bonanza Creek 5.92 15 Pn **Pn 04 14 09.4 +0.7**
N19K Bonanza Creek 5.92 15 P Pn 04 14 10.1 +1.4
baz=197
RSO Redoubt South 5.92 24 Pn **Pn 04 14 09.6 +0.9**
M16K Timber Creek 5.95 353 P Pn 04 14 10.0 +1.0
baz=172
SVW2 Sparrevohn 6.06 9 Pn 04 14 11.8 +1.1
RDT Redoubt 6.10 25 Pn 04 14 12.5 +1.4
M14K Bethel 6.10 339 Pn **Pn 04 14 11.4 +0.3**
M14K Bethel 6.10 339 P Pn 04 14 11.8 +0.7
baz=156
M13K Dall Lake 6.13 332 Pn 04 14 11.2 -0.3
M13K Dall Lake 6.13 332 P Pn 04 14 12.4 +0.9
baz=147
M17K Holitna River 6.28 0 Pn 04 14 13.8 +0.2
M17K Holitna River 6.28 0 P Pn 04 14 14.2 +0.6
baz=181
M18K Stony River 6.43 7 P Pn 04 14 16.6 +0.9
baz=189
SEW Seward 6.60 38 Pn **Pn 04 14 18.4 +0.5**
SEW Seward 6.60 38 P Pn 04 14 19.6 +1.7
baz=224
SLKM Skilak Lake 6.65 33 Pn 04 14 19.2 +0.5
L16K Owhat River 6.67 352 P Pn 04 14 19.4 +0.5
baz=170
SPU Mount Spurr 6.71 23 Pn 04 14 20.6 +1.0
O22K Cooper Landing 6.79 35 Pn **Pn 04 14 22.5 +2.0**
L14K Kuka Creek 6.79 339 P Pn 04 14 21.0 +0.5
baz=154
L15K Ungalak Mounta 6.88 344 P Pn 04 14 22.1 +0.3
baz=161
NIKH Nikolski High 7.01 257 P Pn 04 14 24.9 +1.3
L17K Donlin 7.03 357 P Pn 04 14 24.2 +0.4
baz=176
L18K Granite Mounta 7.12 3 Pn 04 14 25.7 +0.6
L18K Granite Mounta 7.12 3 P Pn 04 14 25.9 +0.8
baz=184
L19K White Mountain 7.20 10 Pn 04 14 27.4 +1.1
L19K White Mountain 7.20 10 P Pn 04 14 27.3 +1.1
baz=192
RC01 Rabbit Creek A 7.25 31 Pn 04 14 28.0 +1.1
RC01 Rabbit Creek A 7.25 31 P Pn 04 14 27.8 +0.9
baz=218
SUA Susitna One 7.28 27 Pn 04 14 28.1 +0.8
SUA Susitna One 7.28 27 P Pn 04 14 28.2 +0.8
baz=212
P23K Montague Islan 7.30 44 Pn 04 14 29.2 +1.6
P23K Montague Islan 7.30 44 P Pn 04 14 29.2 +1.6
baz=232
SPIA Saint Paul Isl 7.39 291 P Pn 04 14 30.3 +1.5
SPIA Saint Paul Isl 7.39 291 Pn 04 14 29.5 +0.7
SPIA Saint Paul Isl 7.39 291 P Pn 04 14 29.5 +0.7
baz=101
Q23K Middleton Isla 7.43 50 Pn 04 14 30.3 +1.0
Q23K Middleton Isla 7.43 50 P Pn 04 14 30.3 +1.0
baz=239
MID Middleton Isla 7.43 50 P Pn 04 14 30.9 +1.6
K15K Wolf Creek Mou 7.47 345 Pn 04 14 30.3 +0.4
K15K Wolf Creek Mou 7.47 345 P Pn 04 14 31.0 +1.1
baz=162
PWL Port Wells 7.53 37 Pn 04 14 30.7 -0.1
PWL Port Wells 7.53 37 P Pn 04 14 30.7 -0.1
baz=224
L20K Farewell, AK 7.60 13 Pn 04 14 32.6 +0.8
L20K Farewell, AK 7.60 13 P Pn 04 14 32.6 +0.8
baz=196
K17K Iditarod 7.61 357 P Pn 04 14 32.3 +0.5
baz=177
M22K Willow 7.68 27 Pn 04 14 33.8 +1.1
K13K Kusilvak Mount 7.76 334 Pn 04 14 34.7 +0.8
K13K Kusilvak Mount 7.76 334 P Pn 04 14 34.7 +0.8
baz=148
PMR Palmer 7.83 31 P Pn 04 14 36.3 +1.5
KNK Knik Glacier 7.90 34 Pn 04 14 37.3 +1.5
HIN Hinchinbrook I 7.90 44 Pn 04 14 36.0 +0.2
GLI Glacier Island 7.98 40 Pn 04 14 36.1 -0.8
GLI Glacier Island 7.98 40 P Pn 04 14 36.4 -0.5
baz=228
GHO Glory Hole Cre 8.03 31 Pn 04 14 38.4 +0.7
FID Port Fidalgo 8.13 42 Pn 04 14 37.9 -1.1
CUT Chulitna 8.20 24 Pn **Pn 04 14 41.3 +1.4**
SML Sawmill 8.24 32 Pn 04 14 41.5 +1.0
SML Sawmill 8.24 32 P Pn 04 14 41.5 +1.0
baz=220
J14K Nanvaranak Lak 8.24 340 P Pn 04 14 41.3 +0.9
baz=155
EYAK Cordova Ski Ar 8.29 44 P Pn 04 14 42.5 +1.4
EYAK Cordova Ski Ar 8.29 44 Pn 04 14 42.0 +0.9
EYAK Cordova Ski Ar 8.29 44 P Pn 04 14 42.0 +0.9
baz=234
J16K Anvik River 8.32 350 P Pn 04 14 42.3 +0.7
baz=168
J17K VABM Dome 8.32 355 P Pn 04 14 41.7 +0.2
baz=174
J18K Innoko River 8.36 3 P Pn 04 14 42.9 +0.8
baz=183
M23K Glacier View 8.41 34 Pn 04 14 43.6 +0.8
M23K Glacier View 8.41 34 P Pn 04 14 43.6 +0.8
baz=222
K20K Telida 8.43 11 Pn 04 14 43.8 +0.7
K20K Telida 8.43 11 P Pn 04 14 44.0 +0.9
baz=194
KAIM Kayak Island 8.53 50 Pn 04 14 45.4 +1.0
SCM Sheep Creek Mo 8.57 34 Pn 04 14 45.5 +0.5
SCM Sheep Creek Mo 8.57 34 P Pn 04 14 45.3 +0.3
baz=223
RAGM Ragged Mountai 8.65 47 Pn 04 14 47.2 +1.2
GOAT Goat Mountain 8.73 46 Pn 04 14 47.1 -0.1
HMT Hamilton 8.80 48 Pn 04 14 49.6 +1.5
KLU Klutina 8.81 39 P Pn 04 14 48.5 +0.1
baz=229
NICHA Nichawak Mount 8.87 49 Pn 04 14 49.8 +0.6
SUCK Suckling Hills 8.88 51 Pn 04 14 51.0 +1.8
I17K Unalakleet 8.92 351 Pn 04 14 50.2 +0.5
I17K Unalakleet 8.92 351 P Pn 04 14 50.9 +1.1
baz=168
J19K Poorman 8.94 5 P Pn 04 14 50.7 +0.7
baz=187
WAT6 Susitna Watana 9.01 30 Pn 04 14 50.8 -0.4
WAT6 Susitna Watana 9.01 30 P Pn 04 14 51.1 -0.1
baz=218
M24K Tolsona, Glenn 9.15 36 Pn 04 14 54.1 +1.1
M24K Tolsona, Glenn 9.15 36 P Pn 04 14 54.6 +1.6
baz=225
GRIN Grindle Hills 9.18 50 Pn 04 14 55.4 +2.0
J20K Nowinta River 9.23 9 Pn 04 14 54.7 +0.8
J20K Nowinta River 9.23 9 P Pn 04 14 54.7 +0.8
baz=192
SNH Sunshine Point 9.35 51 Pn 04 14 56.8 +1.1
N25K Chitina, Valde 9.38 41 Pn 04 14 57.7 +1.6
N25K Chitina, Valde 9.38 41 P Pn 04 14 56.7 +0.6
baz=232
WAX Waxell Ridge 9.46 50 Pn 04 14 59.6 +2.3
DHY Denali Highway 9.51 29 Pn 04 14 58.7 +0.8
DHY Denali Highway 9.51 29 P Pn 04 14 59.0 +1.1
baz=218
GLB Gilahina Butte 9.58 43 Pn 04 14 59.6 +0.7
BARK Barkley Ridge 9.60 51 Pn 04 15 00.2 +1.0
VRDI Verde Repeater 9.61 45 Pn **Pn 04 15 00.1 +0.7**
TGL Tana Glacier 9.62 48 Pn 04 15 00.9 +1.4
MESA MESA 9.75 52 Pn **Pn 04 15 03.0 +1.7**
ISLE Juniper Island 9.76 50 Pn **Pn 04 15 02.5 +1.2**
I20K Naaghedeneel 9.81 8 Pn **Pn 04 15 03.5 +1.7**
H16K Elim 9.81 348 P Pn 04 15 03.1 +1.1
baz=164
BAGL Bagley Icefiel 9.82 51 Pn 04 15 02.9 +0.9
H17K Granite Mounta 9.90 354 Pn 04 15 04.7 +1.5
KIAG Kiagna River 9.90 48 Pn 04 15 04.5 +1.1
BWN Browne 9.93 21 Pn 04 15 04.7 +1.1
PTPK Patty Peak 9.99 47 Pn 04 15 05.7 +1.1
PAX Paxson 9.99 33 Pn 04 15 04.8 +0.2
PAX Paxson 9.99 33 P Pn 04 15 04.9 +0.4
baz=224
TABL Table Mountain 10.22 52 Pn 04 15 09.3 +1.5
ANM Nome 10.23 341 Pn **Pn 04 15 07.4 -0.4**
ATKA Atka Island 10.31 260 P Pn 04 15 09.4 +0.5
comp=E,38nm,1.2s
CTGM Chitina Glacie 10.36 49 Pn 04 15 09.1 -0.6
H19K Roundabout Mou 10.44 2 Pn 04 15 10.7 +0.2
LOGN Logan Glacier 10.45 50 Pn 04 15 11.4 +0.6
M26K Nabesna, AK 10.46 40 Pn 04 15 12.0 +1.1
MENT Mentasta 10.55 37 Pn **Pn 04 15 12.6 +0.5**
G16K Koyuk River 10.56 349 Pn 04 15 12.1 -0.1
CCB Clear Creek Bu 10.70 23 Pn 04 15 13.3 -0.7
L26K Log Cabin Wild 10.73 37 Pn 04 15 15.7 +1.0
BCPM Bancas Point 10.74 56 Pn 04 15 16.7 +2.0
PNL Peninsula 10.77 58 P Pn 04 15 17.2 +2.1
G18K Tagagawik 10.81 358 Pn 04 15 16.5 +0.9
I23K Minto, Yukon-K 10.82 19 Pn 04 15 15.2 -0.6
M27K Edge Creek, AK 10.86 42 Pn 04 15 18.3 +1.9
MDM Murphy Dome 10.88 21 Pn 04 15 15.2 -1.4
COLA College 10.88 22 P **Pn 04 15 19.5 +2.9**
COLA College 10.88 22 Pn 04 15 16.2 -0.3
ILAR Eielson Array 11.02 24 Pn 04 15 15.8 -2.6
ILAR Eielson Array 11.02 24 Pn **Pn 04 15 16.1 -2.3**
comp=E,0.4nm,0.3s,baz=218,slow=13,SNR=25
ILAR Sn Sn 04 17 11.8 -10
baz=228,slow=54
IMAR Indian Mountai 11.04 8 Pn 04 15 19.0 +0.3
G19K Purcell Mounta 11.04 1 Pn 04 15 19.6 +0.8
F15K North Star Dit 11.16 345 Pn 04 15 21.1 +0.7
POKR Poker Plat Res 11.18 22 Pn 04 15 20.1 -0.6
L27K Beaver Creek, 11.29 39 Pn 04 15 23.4 +1.1
BCAR Beaver Creek A 11.31 39 Pn **Pn 04 15 23.6 +1.0**
O29M Mount Kennedy 11.36 55 Pn 04 15 25.9 +2.7
H23K Yukon River 11.41 17 Pn 04 15 22.4 -1.4
F17K Baldwin Pennin 11.48 352 Pn **Pn 04 15 24.4 -0.4**
F19K Shaleruckik Mo 11.74 360 Pn **Pn 04 15 29.0 +0.8**
ADK Adak 11.85 262 P **Pn 04 15 30.4 +0.5**
S31K Pelican 12.07 68 Pn 04 15 33.7 +0.8
E18K Tukpahlearik C 12.41 354 Pn **Pn 04 15 38.9 +1.5**
N30M Aishikik Lake 12.44 51 Pn 04 15 39.2 +1.3
SIT Sitka 12.53 72 P **Pn 04 15 38.3 -0.9**
G24K Hadweenzic Riv 12.56 19 Pn 04 15 37.2 -2.4
O30N Mendenhall 12.67 55 Pn 04 15 43.0 +1.9
L29M L29M 12.72 43 Pn **Pn 04 15 41.0 -0.8**
SKAG Skagway 12.73 61 Pn 04 15 41.1 -0.8
DAWY Dawson 12.77 38 Pn 04 15 42.4 -0.1
S32K Killisnoo 12.94 70 Pn 04 15 44.8 +0.1
N31M Braeburn, Yuko 13.04 52 Pn 04 15 46.7 +0.6
RDOG Red Dog Mine 13.20 351 Pn **Pn 04 15 49.0 +0.7**
WHY Whitehorse 13.21 56 Pn 04 15 50.7 +2.2
F24K Squaw Lake 13.23 16 Pn **Pn 04 15 48.8 +0.1**
K29M Barlow Dome 13.33 41 Pn 04 15 49.3 -0.9
D19K Kuna River 13.41 359 Pn 04 15 51.2 +0.1
I28M Miner Creek 13.46 33 Pn 04 15 51.5 -0.4
P32M Atlin 13.57 61 Pn **Pn 04 15 51.8 -1.5**
C18K Utukok River 13.66 354 Pn 04 15 54.8 +0.2
C16K Lisburne Hills 13.67 348 Pn 04 15 56.2 +1.6
BMAR Burnt Mountain 13.77 21 Pn 04 15 52.7 -3.3
M31M Drury Creek, Y 13.90 50 Pn 04 15 59.0 +1.2
I29M Ogilvie Camp, 13.93 35 Pn **Pn 04 16 00.3 +2.1**
G27K Doyon Strip 13.95 27 Pn 04 15 59.8 +1.3
D22K Ayikyak River 13.97 7 Pn 04 15 57.3 -1.4
TOLK Toolik Lake Re 14.04 12 Pn 04 16 00.1 +0.4
P33M Teslin, Yukon 14.12 59 Pn 04 16 01.4 +0.5
J30M Hart River 14.16 40 Pn **Pn 04 16 01.2 -0.3**
Q32M Nakina River 14.23 64 Pn 04 16 01.9 -0.7
H29M Whitestone 14.46 32 Pn 04 16 04.9 -0.5
I30M Mount Dempster 14.50 37 Pn **Pn 04 16 06.0 -0.1**
D24K Happy Valley 14.62 12 Pn **Pn 04 16 08.0 +0.5**
S34M Telegraph Cree 14.79 68 Pn 04 16 10.4 +0.5
R33M Jennings River 14.94 63 Pn **Pn 04 16 12.5 +0.4**
F28M Old Crow 15.02 27 IAmb IAmb 04 16 22.2
comp=Z,12nm,0.6s
C23K Itkillik River 15.08 9 P Pn 04 16 12.8 -0.9
C23K IAmb IAmb 04 16 21.4
comp=Z,12nm,0.8s
T35M Bob Quinn 15.31 72 Pn Pn 04 16 18.1 +1.1
B22K Teshekpuk Lake 15.37 5 Pn **Pn 04 16 17.1 -0.5**
DLBC Dease Lake 15.38 66 Pn 04 16 15.6 -2.3
DLBC Dease Lake 15.38 66 Pn **P 04 16 20.4 -2.1**
comp=Z,0.1nm,0.3s,baz=245,slow=14,SNR=2.0
DLBC Sn **Sn 04 19 07.3 -0.8**
comp=Z,0.2nm,0.3s,baz=76,slow=26,SNR=1.6
comp=Z,0.7nm,0.4s
MMPY Sheldon Lake, 15.41 50 Pn 04 16 17.5 -0.8
G30M tAoh Zraii Nji 15.61 32 Pn 04 16 21.0 +0.2
G30M IAmb IAmb 04 16 39.9
comp=Z,26nm,0.8s
E28M Babbage River 15.85 25 Pn 04 16 23.4 -0.4
E29M Blow River 16.09 27 Pn **Pn 04 16 27.5 +0.5**
G31M Satah River 16.18 34 Pn 04 16 27.9 -0.3
G31M IAmb IAmb 04 16 33.5
comp=Z,32nm,0.8s
SHEM Shemya Is, Ala 16.83 274 Pn **Pn 04 16 34.0 -2.4**
comp=Z,1.7nm,0.3s,baz=45,slow=4.3,SNR=8.5
comp=Z,7.5nm,0.3s
INK Inuvik 17.24 31 IAmb IAmb 04 16 45.5
comp=Z,34nm,1.0s
INK Inuvik 17.24 31 P Pn 04 16 41.4 -0.1
comp=Z,2.3nm,0.3s,baz=210,slow=9.6,SNR=26
INK S **Sn 04 19 56.2 +3.2**
comp=Z,6.2nm,1.0s,baz=228,slow=33,SNR=8.2
comp=Z,18nm,0.6s
C36M Paulatuk 20.70 34 P P 04 17 21.2 +0.3
C36M IAmb IAmb 04 17 36.5
comp=Z,21nm,0.8s
A36M Sachs Harbour 21.70 27 P P 04 17 31.5 -0.1
YKA Yellowknife Ar 23.02 54 P P 04 17 47.3 +1.6
YKA Yellowknife Ar 23.02 54 P P 04 17 46.5 +0.7
comp=Z,1.6nm,0.8s,baz=268,slow=8.8,SNR=13
comp=Z,1.6nm,0.8s
H04A Detroit Lake 24.79 100 P P 04 18 05.1 +2.3
H04A IAmb IAmb 04 18 15.4
comp=Z,16nm,0.9s
C09A Chrisman Ranch 25.25 90 P P 04 18 09.2 +2.2
HAWA Hanford 25.30 94 P P 04 18 09.7 +2.3
HAWA IAmb IAmb 04 18 20.0
comp=Z,9.6nm,0.8s
F07A Phinny Hill Vi 25.35 96 P P 04 18 09.2 +1.4
F07A IAmb IAmb 04 18 20.7
comp=Z,12nm,0.8s
I05D Terrebonne, OR 25.48 100 P P 04 18 07.4 -1.6
I05D IAmb IAmb 04 18 22.9
comp=Z,5.8nm,0.7s
E08A Dider Farm, El 25.51 94 P P 04 18 08.5 -0.8
E08A IAmb IAmb 04 18 26.1
comp=Z,6.6nm,0.5s
NEW Newport 25.68 89 P P 04 18 11.8 +1.0
NEW IAmb IAmb 04 18 25.0
comp=Z,7.1nm,1.0s
PINE Pine Mountain 26.04 101 P P 04 18 15.5 +1.1
PINE IAmb IAmb 04 18 29.7
comp=Z,7.0nm,0.9s
J05D Fort Rock, OR 26.20 102 P P 04 18 17.9 +2.1
J05D IAmb IAmb 04 18 28.9
comp=Z,9.7nm,0.9s
G08A Pilot Rock 26.26 96 P P 04 18 18.3 +2.0
I07A Izee 26.68 99 P P 04 18 21.4 +1.3
I07A IAmb IAmb 04 18 32.7
comp=Z,6.3nm,1.1s
F10A Beach Ranch, E 26.86 93 P P 04 18 23.2 +1.6
F10A IAmb IAmb 04 18 36.6
comp=Z,4.6nm,0.8s
KCPM Cahto Peak 27.34 110 P P 04 18 27.6 +1.6
KCPM IAmb IAmb 04 18 29.2
comp=Z,9.8nm,1.1s
WVOR Wild Horse Val 28.21 100 P P 04 18 32.2 -1.5
BPMT Black Pine Rid 28.76 89 P P 04 18 40.1 +1.2
LYMT Lyon Mountain 29.13 87 P P 04 18 43.6 +1.5
MFID Camas Ranch 29.18 96 P P 04 18 44.1 +1.7
MFID IAmb IAmb 04 18 54.5
comp=Z,5.2nm,0.8s
AFDM Forest Hills D 29.28 108 P P 04 18 44.9 +1.7
HLID Hailey 29.90 95 P P 04 18 50.4 +1.6
PNTR Pine Nut 29.93 107 P P 04 18 50.7 +1.4
PNTR IAmb IAmb 04 19 02.1
comp=Z,8.9nm,0.9s
NVAR Mina Array Bea 31.12 106 P P 04 19 03.0 +3.3
comp=Z,1.0nm,0.7s,baz=311,slow=8.2,SNR=9.8
comp=Z,1.0nm,0.7s
ELK Elko 31.24 100 P P 04 19 00.3 -0.4
ELK IAmb IAmb 04 19 13.3
comp=Z,4.7nm,1.0s
OMMB Old Mammoth Mi 31.32 108 P P 04 18 59.6 -2.0
OMMB IAmb IAmb 04 19 14.6
comp=Z,5.2nm,0.9s
HVU Hansel Valley 31.96 96 P P 04 19 05.9 -1.1
HVU IAmb IAmb 04 19 19.6
comp=Z,7.1nm,0.8s
DSP Deep Springs 32.06 107 P P 04 19 06.1 -1.5
DSP IAmb IAmb 04 19 21.0
comp=Z,4.7nm,0.9s
R11B Troy Canyon, C 32.68 103 P P 04 19 12.5 -0.9
R11B IAmb IAmb 04 19 25.7
comp=Z,3.3nm,0.9s
LAO LASA Array 32.76 83 P P 04 19 12.3 -1.5
LAO IAmb IAmb 04 19 26.2
comp=Z,6.4nm,1.1s
HWUT Hardware Ranch 32.76 95 P P 04 19 12.8 -1.3
SPR3 Spring Creek 3 32.93 101 P P 04 19 15.0 -0.8
SPR3 IAmb IAmb 04 19 29.0
comp=Z,5.6nm,1.0s
DUG Dugway, Tooele 32.98 98 P P 04 19 15.3 -0.6
DUG IAmb IAmb 04 19 28.4
comp=Z,7.9nm,0.9s
PDAR Pinedale Array 33.18 92 P P 04 19 19.8 +2.0
comp=Z,0.6nm,0.7s,baz=317,slow=4.9,SNR=8.0
comp=Z,0.6nm,0.7s
NLU North Lily Min 33.56 98 P P 04 19 19.9 -1.1

NLU IAmb IAmb 04 19 33.5
comp=Z,4.1nm,0.8s
BSUT Blindstream Ca 33.92 96 P **P 04 19 24.7 +0.3**
BSUT IAmb IAmb 04 19 36.7
comp=Z,5.7nm,0.8s
TIXI Tiksi 34.12 327 P **P 04 19 24.1 -1.2**
SRU San Rafael Swe 35.02 97 P **P 04 19 32.9 -0.7**
O20A White River Ci 35.63 94 P **P 04 19 38.5 -0.4**
HMU Henry Mountain 35.70 99 P **P 04 19 39.2 -0.5**
ULM Lac du Bonnet 36.61 71 P **P 04 19 47.5 +0.5**
comp=Z,2.1nm,0.6s,baz=299,slow=5.5,SNR=4.6
comp=Z,2.1nm,0.6s
JKA Kamikawa-asahi 39.15 279 P **P 04 20 07.2 -1.2**
JKA IAmb IAmb 04 20 08.8
comp=Z,13nm,0.9s
E43A Lone Tree Farm 43.68 71 P **P 04 20 46.6 +1.0**
E43A IAmb IAmb 04 21 03.8
comp=Z,4.4nm,0.8s
H11N2 WAKE ISLAND Hy 44.38 232 T T 05 08 12.8
baz=28,slow=76,SNR=3.0
H11N3 WAKE ISLAND Hy 44.39 232 T T 05 08 13.0
baz=28,slow=76,SNR=3.0
H11N1 WAKE ISLAND Hy 44.40 232 T T 05 08 13.9
baz=28,slow=76,SNR=4.9
WMOK Wichita Mounta 44.79 92 P **P 04 20 54.2 -0.4**
OK029 Liberty Lake 44.80 90 P **P 04 20 53.9 -0.8**
H11S1 WAKE ISLAND Hy 45.54 231 T T 05 10 02.8
baz=29,slow=74,SNR=11
H11S2 WAKE ISLAND Hy 45.55 231 T T 05 10 37.7
baz=29,SNR=13
H11S3 WAKE ISLAND Hy 45.56 231 T T 05 09 50.6
baz=29,slow=74,SNR=8.4
SUMG Summit 45.84 22 P **P 04 21 02.8 -0.3**
SUMG IAmb IAmb 04 21 21.4
comp=Z,7.0nm,1.0s
TXAR Lajitas Array 46.00 101 P **P 04 21 07.2 +2.8**
comp=Z,0.5nm,0.7s,baz=316,slow=6.3,SNR=4.7
comp=Z,0.5nm,0.7s
MJAR Matsushiro Arr 46.67 274 P **P 04 21 08.5 -1.0**
comp=Z,2.3nm,0.8s,baz=30,slow=6.9,SNR=5.4
comp=Z,2.3nm,0.8s
NRIK Noril'sk 47.19 334 P **P 04 21 12.9 -0.2**
NRIK Noril'sk 47.19 334 P **P 04 21 12.7 -0.4**
comp=Z,14nm,0.7s,baz=56,slow=9.9,SNR=16
comp=Z,14nm,0.7s
SCHQ Schefferville 48.41 51 P **P 04 21 23.2 +0.3**
comp=Z,3.5nm,0.7s,baz=317,slow=10.0,SNR=6.3
comp=Z,3.5nm,0.7s
WVT Waverly 50.07 82 P **P 04 21 36.3 +0.7**
KSRS Korea Array 51.86 283 P **P 04 21 48.9 -0.3**
comp=Z,3.8nm,0.7s,baz=44,slow=6.6,SNR=16
comp=Z,3.8nm,0.7s
KSAR Wonju Array Be 51.89 283 P **P 04 21 48.9 -0.5**
XLT XiLinHaoTe 53.71 296 *eP* **P 04 22 03.6 +0.7**
XLT pP sP 04 22 08.8 +1.3
XLT pmax pmax
comp=Z,16nm,0.8s
ARCES ARCESS Array B 55.61 359 P **P 04 22 14.5 -1.8**
comp=Z,2.5nm,0.7s,baz=8.9,slow=8.6,SNR=3.2
comp=Z,2.5nm,0.7s
SONM Songino Array 55.66 306 P **P 04 22 16.4 -0.6**
SONM IAmb IAmb 04 22 29.1
comp=Z,5.9nm,1.0s
SONM Songino Array 55.66 306 P **P 04 22 16.0 -1.0**
comp=Z,2.4nm,0.8s,baz=51,slow=6.7,SNR=14
SONM PcP **PcP 04 23 16.9 +0.5**
comp=Z,2.6nm,0.8s,baz=61,slow=3.2,SNR=5.8
comp=Z,2.4nm,0.8s
HHC Hu-ho-hao-te 58.23 297 *eP* **P 04 22 34.3 -1.0**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,120nm,5.7s
ZALV Zalesovo Beam 59.81 323 P **P 04 22 45.5 -0.4**
comp=Z,0.7nm,0.3s,baz=5.7,slow=2.9,SNR=4.5
comp=Z,0.7nm,0.3s
JOF Joensuu 62.08 355 *eP* **P 04 23 01.0 -0.2**
VAF Ylistaro 62.16 360 *eP* **P 04 23 01.2 -0.4**
KEF Keuruu 63.02 359 *eP* **P 04 23 07.3 -0.2**
FINES FINESS Array B 63.73 358 P **P 04 23 11.4 -0.8**
comp=Z,5.7nm,0.7s,baz=15,slow=7.9,SNR=26
comp=Z,5.7nm,0.7s
NB2 NORSAR Subarra 63.82 6 P **P 04 23 12.5 -0.4**
comp=Z,1.8nm,0.7s,baz=353,slow=6.9
NOA NORSAR Array B 63.82 6 P **P 04 23 12.8 0.0**
comp=Z,3.0nm,0.8s,baz=353,slow=6.6,SNR=19
comp=Z,3.0nm,0.8s
RAF Rauma 64.18 0 *eP* **P 04 23 15.1 0.0**
KURBB Kurchatov Arra 64.73 324 P **P 04 23 18.4 -0.5**
comp=Z,0.8nm,0.2s,baz=25,slow=6.4,SNR=13
comp=Z,0.8nm,0.2s
HFS Hagfors 64.86 5 P **P 04 23 19.0 -0.7**
comp=Z,3.8nm,0.8s,baz=17,slow=4.4,SNR=12
comp=Z,3.8nm,0.8s
MEF Metsahovi 64.98 359 *eP* **P 04 23 20.1 -0.2**
GTA Gaotai 65.15 304 *eP* **P 04 23 21.5 -0.5**
GTA pmax pmax
comp=Z,7.0nm,1.1s
BVAR Borovoye Array 65.16 330 P **P 04 23 21.1 -0.6**
comp=Z,9.2nm,0.7s,baz=36,slow=6.9,SNR=36
comp=Z,9.2nm,0.7s
ARBE Arbavere 65.74 358 *eP* **P 04 23 25.3 +0.1**
MTSE Matsula 66.49 359 *eP* **P 04 23 30.3 +0.1**
VIKU Vikbolandet 66.62 3 *eP* **P 04 23 31.1 +0.2**
MKAR Makanchi Array 66.64 320 P **P 04 23 30.6 -0.7**
comp=Z,1.7nm,0.8s,baz=46,slow=5.4,SNR=8.9
comp=Z,1.7nm,0.8s
EKA Eskdalemuir Ar 67.91 15 P **P 04 23 39.4 +0.2**
comp=Z,4.0nm,0.8s,baz=334,slow=4.9,SNR=16
comp=Z,4.0nm,0.8s
CLL Collm 73.63 6 *eP* **P 04 24 14.0 -0.1**
AKASG Malin Array Be 74.38 356 P **P 04 24 17.5 -0.9**
comp=Z,4.5nm,0.6s,baz=4.1,slow=5.5,SNR=20
comp=Z,4.5nm,0.6s
KSH Kashi 75.24 320 P **P 04 24 27.5 +3.7**
KSH PcP **PcP 04 24 38.0 +0.8**
KSH pmax pmax
comp=Z,8.0nm,0.8s
KHC Kasperske Hory 75.83 6 *eP* **P 04 24 28.0 +1.1**
GERES GERESS Array B 76.13 6 P **P 04 24 28.7 0.0**
comp=Z,0.8nm,0.6s,baz=15,slow=11,SNR=4.1
comp=Z,0.8nm,0.6s
CONA Conrad Observa 77.16 5 *i P* **P 04 24 33.4 -1.1**
comp=Z,1.5nm,0.6s
WATA Walderalm 77.49 8 *i P* **P 04 24 35.1 -1.3**
comp=Z,5.6nm,1.1s
WTTA Wattenberg 77.56 8 *i P* **P 04 24 36.0 -0.9**
comp=Z,4.8nm,0.9s
SQTA Sankt Quirin 77.57 8 *i P* **P 04 24 36.7 -0.2**
comp=Z,7.8nm,1.1s
FETA Feichten 77.73 8 *i P* **P 04 24 37.5 -0.3**
comp=Z,4.1nm,0.9s
ARSA Arzberg 77.81 5 *i P* **P 04 24 37.0 -1.1**
comp=Z,1.9nm,0.7s
KBA Koelnbreinsper 77.86 6 *i P* **P 04 24 38.2 -0.4**
comp=Z,3.7nm,0.6s
OBKA Obir 78.50 6 *i P* **P 04 24 40.7 -1.3**
comp=Z,13nm,0.9s
KBZ Khabaz 79.99 345 P **P 04 24 49.9 -0.1**
comp=Z,6.0nm,0.9s,baz=1.0,slow=3.0,SNR=9.4
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 82.52 291 P **P 04 25 03.6 -0.3**
comp=Z,7.9nm,0.8s,baz=2.7,slow=6.2,SNR=6.3
comp=Z,7.9nm,0.8s
ESDC Sonseca Array 82.89 20 P **P 04 25 06.0 +0.5**
comp=Z,4.0nm,0.8s,baz=339,slow=4.8,SNR=36
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 85.02 351 P **P 04 25 16.9 +0.3**
comp=Z,2.1nm,0.8s,baz=43,slow=4.8,SNR=10.0
comp=Z,2.1nm,0.8s
H03N2 Juan Fernandez 110.74 119 T T 06 31 25.0
baz=325,slow=78,SNR=60
H03N1 Juan Fernandez 110.75 119 T T 06 31 26.4
baz=325,slow=78,SNR=80
H03N3 Juan Fernandez 110.76 119 T T 06 31 26.0
baz=325,slow=78,SNR=75
QSPA South Pole Qui 144.92 180 PKPbc **PKPab 04 32 13.9 -2.1**
comp=Z,2.3nm,0.6s,baz=70,slow=1.7,SNR=9.1
BOSA Boshof 153.42 355 PKPbc **PKPbc 04 32 39.1 -0.1**
comp=Z,1.7nm,0.8s,baz=72,slow=3.2,SNR=2.0

NEIC ***24*** *04:13:42.5±1.5, 55°.20N±0°.08×157°.7W±0°.1, h35km±48km, Error ellipse: s-maj=14.5km s-min=7.4km az=134.0*
AEIC 24 04:13:40.7±2.4, 55°.05N±0°.06×157°.5W±0°.1, h23km±8km, ML3.6, ML3.8/6(NEIC), Error ellipse: s-maj=12.7km s-min=6.6km az=122.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**1.23**	**260**		Pn	04 14 00.7	-1.7
CNBA					Sn	04 14 16.0	-2.2
CNBA	**Chernabura Isl**	**1.23**	**260**	IAML		04 14 23.9	
comp=N,1μm,0.7s							
CHGN	**Chignik**	**1.35**	**338**		Pn	04 14 01.6	-2.5
CHGN	**Chignik**	**1.35**	**338**	IAML		04 14 18.4	
comp=E,2μm,0.8s							
CHGN				IAML		04 14 18.8	
comp=N,2μm,0.7s							
CHGN	**Chignik**	**1.35**	**338**		Sn	04 14 18.6	-2.8
VNSG	**Veniaminof 6**	**1.40**	**321**		Pn	04 14 02.6	-2.3
VNSG					Sn	04 14 20.1	-2.6
VNHG	**Veniaminof 1**	**1.50**	**322**		Pn	04 14 04.3	-2.0
VNNF	**Veniaminof 3**	**1.61**	**321**		Sn	04 14 26.4	-1.4
VNWF	**Veniaminof 8**	**1.61**	**314**		Pn	04 14 06.2	-1.6
SDPT	**Sand Point**	**1.73**	**281**	Pn	Pn	04 14 09.3	-0.1
SDPT				IAML		04 14 33.3	
comp=E,998nm,0.9s							
ANNE	**Aniakchak Nort**	**1.89**	**351**		Pn	04 14 10.4	-1.1
ILSW	**Iliamna Southw**	**5.47**	**24**	Pn	Pn	04 15 00.2	-0.5
CNPM	**China Poot**	**5.62**	**35**	Pn	Pn	04 15 03.2	+0.5
N19K	**Bonanza Creek**	**6.00**	**14**	Pn	Pn	04 15 07.4	-0.5
L14K	**Kuka Creek**	**6.87**	**339**	Pn	Pn	04 15 20.2	+0.3
L19K	**White Mountain**	**7.28**	**10**	Pn	Pn	04 15 26.6	+1.1
RC01	**Rabbit Creek A**	**7.31**	**31**	Pn	Pn	04 15 26.2	+0.2
PWL	**Port Wells**	**7.59**	**36**	Pn	Pn	04 15 28.9	-0.8
HIN	**Hinchinbrook I**	**7.95**	**43**	Pn	Pn	04 15 34.2	-0.5
J16K	**Anvik River**	**8.41**	**350**	Pn	Pn	04 15 39.4	-1.6
RAGM	**Ragged Mountai**	**8.69**	**47**	Pn	Pn	04 15 44.5	-0.3
RND	**Reindeer**	**9.47**	**24**	Pn	Pn	04 15 54.9	-0.5
BPAW	**Bear Paw Mtn.**	**9.65**	**17**	Pn	Pn	04 15 56.8	-1.2
H17K	**Granite Mounta**	**9.99**	**354**	Pn	Pn	04 16 02.5	-0.1
H18K	**Honhosa River**	**10.14**	**358**	Pn	Pn	04 16 03.1	-1.6
ATKA	**Atka Island**	**10.32**	**261**	Pn	Pn	04 16 05.7	-1.4

BJI ***24*** *04:17:04.0±0.0, 55°.20N×157°.60W, h10km, mb4.9/39, mB5.1/14, Ms4.6/6, Ms7 4.4/7*
IDC ***24*** *04:17:05.8±0.7, 55°.31N×157°.82W, h0km, mb4.5/26, mbtmp4.5/29, ML4.6/3, MS3.8/29, Error ellipse: s-maj=20.1km s-min=12.0km az=4.0*
MOS ***24*** *04:17:06.2±0.9, 55°.28N×157°.71W, h14km, mb5.0/53, Error ellipse: s-maj=10.6km s-min=5.2km az=93.4*
NEIC ***24*** *04:17:08.8±1.7, 55°.10N±0°.04×157°.57W±0°.02, h24km±4km, Error ellipse: s-maj=6.2km s-min=0.7km az=193.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=4.74; $M_{\theta\theta}$-3.56; $M_{\phi\phi}$-1.18; $M_{r\theta}$2.85; $M_{\theta\phi}$-3.47; $M_{r\phi}$0.60; Fault plane solution: $M_0$6.22000×10^{15} NP1:ϕ_s68.00000°, δ59.73000°, λ105.98000°. NP2:ϕ_s218.39000°, δ33.87000°, λ64.74000°. Principal axes: T 5.6586, Plg71.0000°, Azm14.0000°; N 1.0080, Plg14.0000°, Azm240.0000°; P -6.6666, Plg13.0000°, Azm146.0000°;*
NEIC ***24*** *04:17:09.9, 55°.09N×157°.59W, h26km*
AEIC ***24*** *04:17:09.9±1.8, 55°.09N±0°.05×157°.59W±0°.04, h26km±4km, ML4.5, mb4.9/125(NEIC), ML4.7/38(NEIC), Mwr4.5/21(NEIC), Error ellipse: s-maj=7.3km s-min=3.4km az=171.0*
BGR ***24*** *04:17:11.5, 55°.22N×158°.43W, h33km, mb4.7, Ms3.8, Hypocentre not reviewed by the ISC*
ISC 24 04:17:07.1±1.0, 55°.15N±0°.05×157°.57W±0°.03, h13km±6km, n940, σ1§11/925, mb4.9/164, MS3.8/32, 19C-8D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNA	**Chernabura Isl**	**1.21**	**255**	P	**Pn**	**04 17 29.3**	**-0.3**
baz=76,SNR=65							
CNBA	**Chernabura Isl**	**1.21**	**255**	Pn	**Pn**	**04 17 28.8**	**-0.9**
CNBA	**Chernabura Isl**	**1.21**	**255**		**Sb**	**04 17 43.7**	**-1.6**
CNBA					**Sg**	**04 17 46.7**	**+0.5**
CHGN	**Chignik**	**1.25**	**338**		**Pb**	**04 17 29.7**	**-0.7**
CHGN	**Chignik**	**1.25**	**338**		**Sg**	**04 17 47.1**	**-0.2**
CHGN	**Chignik**	**1.25**	**338**	IAML		04 17 47.5	
comp=E,19μm,0.9s							
CHGN				IAML		04 17 50.7	
comp=N,19μm,0.6s							
CHGN	**Chignik**	**1.25**	**338**	P	**Pb**	**04 17 30.6**	**+0.1**
baz=159,SNR=585							
CHIR	**Chirikof Islan**	**1.29**	**58**		**Pg**	**04 17 31.6**	**-0.4**
CHIR					**Sn**	**04 17 47.8**	**-0.2**
CHIR	**Chirikof Islan**	**1.29**	**58**	IAML		04 17 60.0	
comp=E,14μm,0.6s							
CHIR				IAML		04 18 02.1	
comp=N,10μm,0.8s							
CHIR	**Chirikof Islan**	**1.29**	**58**	P	**Pg**	**04 17 31.8**	**-0.2**
baz=238							
VNHG	**Veniaminof 1**	**1.40**	**320**		**Pn**	**04 17 33.2**	**+0.8**
VNWF	**Veniaminof 8**	**1.51**	**312**		**Pn**	**04 17 34.7**	**+0.8**
VNSS	**Veniaminof 8**	**1.52**	**316**		**Pn**	**04 17 35.0**	**+0.9**
S14K	**Fog Glacier**	**1.60**	**316**	P	**Pn**	**04 17 36.1**	**+1.0**
baz=136,SNR=118							
VNFG	**Fog Glacier, M**	**1.60**	**316**		**Pn**	**04 17 36.1**	**+1.0**
VNFG					**Sb**	**04 17 57.7**	**+1.1**
SDPT	**Sand Point**	**1.68**	**278**	P	**Pn**	**04 17 36.5**	**+0.4**
SDPT	**Sand Point**	**1.68**	**278**		**Pn**	**04 17 36.1**	**0.0**
SDPT					**Sn**	**04 17 56.2**	**-1.2**
SDPT					**Sb**	**04 17 59.5**	**+0.7**
SDPT	**Sand Point**	**1.68**	**278**	P	**Pn**	**04 17 36.1**	**0.0**
baz=98,SNR=44							
ANNE	**Aniakchak Nort**	**1.79**	**351**		**Pn**	**04 17 38.5**	**+0.9**
SII	**Sitkinak Islan**	**2.37**	**52**	P	**Pn**	**04 17 46.4**	**+0.7**
SII	**Sitkinak Islan**	**2.37**	**52**		**Pn**	**04 17 46.1**	**+0.4**
SII	**Sitkinak Islan**	**2.37**	**52**	P	**Pn**	**04 17 46.6**	**+0.9**
baz=234,SNR=16							
PS1A	**Pavlof South-1**	**2.40**	**278**		**Pn**	**04 17 46.2**	**+0.1**
PS1A					**Sn**	**04 18 17.1**	**+1.8**
PVV	**Pavlof Volcano**	**2.43**	**277**		**Pn**	**04 17 46.6**	**+0.2**
PS4A	**Pavlof South-4**	**2.46**	**276**		**Pn**	**04 17 47.1**	**+0.2**
HAG	**Hague Volcano**	**2.49**	**276**		**Pn**	**04 17 47.5**	**+0.2**
HAG	**Hague Volcano**	**2.49**	**276**	P	**Pn**	**04 17 47.5**	**+0.2**
PN7A	**Pavlof North-7**	**2.55**	**278**		**Pn**	**04 17 49.0**	**+0.8**
R17L	**Mt. Peulik Vol**	**2.57**	**15**	P	**Pn**	**04 17 50.0**	**+1.5**
baz=196,SNR=114							
PLK4	**Peulik 4**	**2.57**	**15**		**Pn**	**04 17 50.1**	**+1.6**
S12K	**Black Hills**	**2.62**	**284**	Pn	**Pn**	**04 17 49.1**	**0.0**
S12K				IAML		04 18 34.5	
comp=N,3μm,1.0s							
S12K				IAML		04 18 36.1	
comp=E,3μm,0.9s							
S12K	**Black Hills**	**2.62**	**284**	P	**Pn**	**04 17 49.6**	**+0.6**
baz=102,SNR=29							
PLK1	**Peulik 1**	**2.71**	**11**		**Pn**	**04 17 51.4**	**+1.1**
PLK5	**Peulik 5**	**2.88**	**7**		**Pn**	**04 17 53.7**	**+1.1**
R18K	**Karluk**	**2.98**	**34**		**Pn**	**04 17 55.8**	**+1.9**
R18K	**Karluk**	**2.98**	**34**	IAML		04 18 53.3	
comp=E,3μm,0.5s							
R18K				IAML		04 18 57.5	
comp=N,4μm,0.6s							
R18K	**Karluk**	**2.98**	**34**	P	**Pn**	**04 17 55.4**	**+1.5**
baz=216,SNR=20							
OHAK	**Old Harbor**	**3.17**	**47**	P	**Pn**	**04 17 57.2**	**+0.7**
OHAK	**Old Harbor**	**3.17**	**47**	Pn	**Pn**	**04 17 56.4**	**-0.2**
OHAK	**Old Harbor**	**3.17**	**47**	P	**Pn**	**04 17 57.4**	**+0.8**
baz=230,SNR=29							
Q17K	**Contact Creek**	**3.25**	**16**	P	**Pn**	**04 17 58.7**	**+0.8**
baz=197,SNR=18							
CNTC	**Contact Creek**	**3.25**	**16**		**Pn**	**04 17 58.8**	**+0.9**
KCE	**Katmai Mt Cerb**	**3.37**	**22**		**Pn**	**04 17 59.2**	**-0.1**
FALS	**False Pass**	**3.38**	**267**	P	**Pn**	**04 18 00.6**	**+1.1**
FALS	**False Pass**	**3.38**	**267**		**Pn**	**04 17 60.0**	**+0.5**
FALS	**False Pass**	**3.38**	**267**	P	**Pn**	**04 18 00.2**	**+0.7**
baz=84							
Q16K	**King Salmon**	**3.57**	**8**		**Pn**	**04 18 03.2**	**+1.1**
Q16K	**King Salmon**	**3.57**	**8**	P	**Pn**	**04 18 03.0**	**+0.9**
baz=188							
ISLZ	**Isanotski Laza**	**3.57**	**266**		**Pn**	**04 18 02.2**	**0.0**
ISNN	**Isanotski Nort**	**3.59**	**267**		**Pn**	**04 18 03.6**	**+1.2**
KAHG	**Katmai Hook Gl**	**3.74**	**25**		**Pn**	**04 18 06.3**	**+1.8**
KAHC	**Katmai Hardscr**	**3.77**	**21**		**Pn**	**04 18 05.9**	**+0.9**
Q18K	**Katmai Hardscr**	**3.77**	**21**	P	**Pn**	**04 18 05.4**	**+0.4**
baz=203							
KDAK	**Kodiak Island**	**3.82**	**44**	Pn	**Pn**	**04 18 05.2**	**-0.3**
KDAK				IAML		04 19 27.3	
comp=N,967nm,1.3s							
KDAK				IAML		04 19 28.6	
comp=N,861nm,1.3s							
KDAK	**Kodiak Island**	**3.82**	**44**	P	**Pn**	**04 18 06.1**	**+0.6**
baz=228							
KDAK	**Kodiak Island**	**3.82**	**44**	Pn	**Pn**	**04 18 05.7**	**+0.2**
comp=N,16nm,0.3s,baz=239,slow=7.6,SNR=22							
KDAK					Sn	**04 18 47.4**	**-2.8**
comp=N,42nm,0.3s,baz=63,slow=22,SNR=8.0							
comp=N,33nm,0.3s							
P16K	**Nushagak River**	**3.90**	**357**		**Pn**	**04 18 07.7**	**+1.2**
P16K	**Nushagak River**	**3.90**	**357**	P	**Pn**	**04 18 07.6**	**+1.0**
baz=177							
P17K	**Kvichak River**	**4.10**	**8**		**Pn**	**04 18 10.5**	**+1.1**
P17K	**Kvichak River**	**4.10**	**8**	P	**Pn**	**04 18 10.5**	**+1.1**
baz=189							
WESE	**West Dahl East**	**4.12**	**263**		**Pn**	**04 18 10.2**	**+0.5**
WEBT	**Westdahl Beart**	**4.19**	**265**		**Pn**	**04 18 11.3**	**+0.6**
O15K	**Ungalikthiuk R**	**4.22**	**344**		**Pn**	**04 18 11.7**	**+0.8**
O15K	**Ungalikthiuk R**	**4.22**	**344**	P	**Pn**	**04 18 11.8**	**+0.8**
baz=162							
Q19K	**Cape Douglas,**	**4.35**	**28**	Pn	**Pn**	**04 18 12.4**	**-0.5**
Q19K	**Cape Douglas,**	**4.35**	**28**	P	**Pn**	**04 18 14.2**	**+1.4**
baz=211							
P18K	**Big Mountain,**	**4.43**	**16**	Pn	**Pn**	**04 18 15.5**	**+1.5**
P18K	**Big Mountain,**	**4.43**	**16**	P	**Pn**	**04 18 15.6**	**+1.6**
baz=198							
O16K	**Kokwok River B**	**4.46**	**357**		**Pn**	**04 18 15.0**	**+0.6**
O16K	**Kokwok River B**	**4.46**	**357**	P	**Pn**	**04 18 14.9**	**+0.6**
baz=176,SNR=6.0							
Q20K	**Shuyak Island**	**4.48**	**37**	P	**Pn**	**04 18 15.5**	**+1.0**
baz=221							
SYI	**Shuyak Island**	**4.48**	**37**	Pn	**Pn**	**04 18 14.8**	**+0.2**
SYI				IAML		04 19 38.2	
comp=E,686nm,0.9s							
SYI				IAML		04 19 45.3	
comp=N,533nm,1.4s							
O14K	**Tigyukauivet M**	**4.58**	**335**	Pn	**Pn**	**04 18 15.4**	**-0.5**
O14K				IAML		04 19 37.9	
comp=N,723nm,0.9s							
O14K				IAML		04 19 59.1	
comp=E,408nm,1.2s							
O14K	**Tigyukauivet M**	**4.58**	**335**	P	**Pn**	**04 18 16.5**	**+0.7**
baz=153,SNR=25							
O17K	**Koliganek Bris**	**4.64**	**3**		**Pn**	**04 18 17.8**	**+1.0**
O17K	**Koliganek Bris**	**4.64**	**3**	P	**Pn**	**04 18 17.6**	**+0.8**
baz=183							
AKSA	**Akutan Strait**	**4.83**	**261**		**Pn**	**04 18 20.3**	**+0.9**
O18K	**Koktuh Hills**	**4.88**	**14**	Pn	**Pn**	**04 18 20.1**	**0.0**
O18K				IAML		04 20 01.7	
comp=E,298nm,1.4s							
O18K	**Koktuh Hills**	**4.88**	**14**	P	**Pn**	**04 18 20.9**	**+0.7**
baz=196							
AHB	**Akutan Harbor**	**4.90**	**261**		**Pn**	**04 18 21.1**	**+0.7**
ZRO	**Akutan Zero**	**5.00**	**261**		**Pn**	**04 18 22.4**	**+0.6**
LVA	**Lava Point**	**5.01**	**262**	Pn	**Pn**	**04 18 22.8**	**+0.8**
LVA				IAML		04 19 60.0	
comp=E,298nm,1.3s							
LVA				IAML		04 20 06.3	
comp=N,500nm,1.1s							
P19K	**Oil Pt**	**5.08**	**26**	Pn	**Pn**	**04 18 23.9**	**+1.0**
P19K				IAML		04 19 42.5	
comp=E,531nm,0.9s							
P19K				IAML		04 19 45.0	
comp=N,574nm,0.9s							
P19K	**Oil Pt**	**5.08**	**26**	P	**Pn**	**04 18 23.5**	**+0.6**
baz=209							
N15K	**Kwethluk River**	**5.21**	**346**		**Pn**	**04 18 25.8**	**+1.2**
N15K	**Kwethluk River**	**5.21**	**346**	IAML		04 20 21.1	
comp=E,548nm,1.2s							
N15K	**Kwethluk River**	**5.21**	**346**	P	**Pn**	**04 18 25.6**	**+1.0**
baz=164,SNR=21							
N14K	**Kuskokwak Cree**	**5.27**	**337**		**Pn**	**04 18 26.3**	**+0.8**
N14K	**Kuskokwak Cree**	**5.27**	**337**	P	**Pn**	**04 18 26.2**	**+0.8**
baz=154,SNR=15							
O19K	**Port Alsworth**	**5.35**	**18**		**Pn**	**04 18 28.0**	**+1.6**
O19K	**Port Alsworth**	**5.35**	**18**	P	**Pn**	**04 18 27.6**	**+1.2**
baz=200							
UNV	**Unalaska Valle**	**5.37**	**260**	P	**Pn**	**04 18 27.0**	**+0.2**
UNV	**Unalaska Valle**	**5.37**	**260**		**Pn**	**04 18 26.6**	**-0.2**
UNV	**Unalaska Valle**	**5.37**	**260**	P	**Pn**	**04 18 26.8**	**0.0**
baz=73							
N16K	**Nishlik Lake**	**5.37**	**354**		**Pn**	**04 18 27.9**	**+1.0**
N16K	**Nishlik Lake**	**5.37**	**354**	P	**Pn**	**04 18 27.9**	**+1.0**
baz=173,SNR=17							
N17K	**Nushagak Hills**	**5.39**	**2**		**Pn**	**04 18 28.0**	**+0.8**
N17K	**Nushagak Hills**	**5.39**	**2**	P	**Pn**	**04 18 27.8**	**+0.7**
baz=182							
ILSW	**Iliamna Southw**	**5.40**	**24**	Pn	**Pn**	**04 18 28.4**	**+1.2**
IVE	**Iliamna Volcan**	**5.46**	**25**		**Pn**	**04 18 29.3**	**+1.2**
MSW	**Makushin Switc**	**5.51**	**261**		**Pn**	**04 18 28.5**	**-0.2**
HOM	**Homer**	**5.54**	**33**	Pn	**Pn**	**04 18 30.1**	**+1.0**
HOM	**Homer**	**5.54**	**33**	P	**Pn**	**04 18 29.8**	**+0.7**
baz=218							
CNPM	**China Poot**	**5.56**	**35**	Pn	**Pn**	**04 18 30.0**	**+0.5**
MGOD	**Makushin Gods**	**5.59**	**260**		**Pn**	**04 18 29.9**	**0.0**
O20K	**Slope Mountain**	**5.61**	**26**		**Pn**	**04 18 31.8**	**+1.6**
O20K	**Slope Mountain**	**5.61**	**26**	P	**Pn**	**04 18 31.2**	**+1.1**
baz=210,SNR=11							
N18K	**Kilae Creek**	**5.61**	**8**		**Pn**	**04 18 31.5**	**+1.3**
N18K	**Kilae Creek**	**5.61**	**8**	P	**Pn**	**04 18 31.3**	**+1.2**
baz=190,SNR=5.5							
MAPS	**Pakushin South**	**5.63**	**260**		**Pn**	**04 18 30.5**	**+0.1**
M15K	**Kasigluk River**	**5.80**	**345**		**Pn**	**04 18 33.7**	**+1.0**
M15K	**Kasigluk River**	**5.80**	**345**	P	**Pn**	**04 18 33.6**	**+1.0**
baz=162,SNR=32							
BRLK	**Bradley Lake**	**5.86**	**35**	Pn	**Pn**	**04 18 32.4**	**-1.1**
RED	**Redoubt Volcan**	**5.87**	**24**		**Pn**	**04 18 35.0**	**+1.2**
BRSE	**Bradley Lake S**	**5.89**	**36**		**Pn**	**04 18 34.2**	**+0.2**
BRSE	**Bradley Lake S**	**5.89**	**36**	P	**Pn**	**04 18 34.2**	**+0.2**
baz=221							
N19K	**Bonanza Creek**	**5.91**	**15**		**Pn**	**04 18 35.5**	**+1.3**
N19K	**Bonanza Creek**	**5.91**	**15**	P	**Pn**	**04 18 35.4**	**+1.1**
baz=197,SNR=5.6							
RSO	**Redoubt South**	**5.91**	**24**		**Pn**	**04 18 34.1**	**-0.3**
RDWB	**Redoubt West**	**5.91**	**23**		**Pn**	**04 18 35.4**	**+1.0**
M16K	**Timber Creek**	**5.93**	**353**		**Pn**	**04 18 35.6**	**+1.1**
M16K	**Timber Creek**	**5.93**	**353**	P	**Pn**	**04 18 35.6**	**+1.1**
baz=172,SNR=14							
NCT	**North Crescent**	**5.96**	**23**		**Pn**	**04 18 36.2**	**+1.2**
SVW2	**Sparrevohn**	**6.05**	**9**	P	Pn	04 18 41.4	+5.2
M14K	**Bethel**	**6.08**	**339**		**Pn**	**

M20K	Styx River	7.13	17		Pn	04 18 52.0 +0.9
M20K	Styx River	7.13	17	P	Pn	04 18 52.4 +1.3
	baz=201					
L19K	White Mountain	7.19	10		Pn	04 18 53.0 +1.2
L19K	White Mountain	7.19	10	P	Pn	04 18 52.8 +1.0
	baz=192,SNR=11					
RC01	Rabbit Creek A	7.25	32	Pn	Pn	04 18 52.1 -0.5
RC01	Rabbit Creek A	7.25	32	P	Pn	04 18 53.7 +1.1
	baz=218,SNR=8.8					
SUA	Susitna One	7.27	27	Pn	Pn	04 18 54.2 +1.1
SUA	Susitna One	7.27	27	P	Pn	04 18 53.6 +0.6
	baz=212,SNR=12					
P23K	Montague Islan	7.31	44		Pn	04 18 54.7 +1.4
P23K	Montague Islan	7.31	44	P	Pn	04 18 54.3 +0.9
	baz=232,SNR=5.3					
SPIA	Saint Paul Isl	7.37	291		Pn	04 18 55.9 +1.7
SPIA	Saint Paul Isl	7.37	291		Pn	04 18 54.2 +0.1
SPIA	Saint Paul Isl	7.37	291	P	Pn	04 18 55.3 +1.1
	baz=101					
Q23K	Middleton Isla	7.43	50		Pn	04 18 56.1 +1.0
Q23K	Middleton Isla	7.43	50	P	Pn	04 18 56.3 +1.2
	baz=239					
MID	Middleton Isla	7.44	50	P	Pn	04 18 56.6 +1.5
K15K	Wolf Creek Mou	7.45	346		Pn	04 18 56.9 +1.5
K15K	Wolf Creek Mou	7.45	346	P	Pn	04 18 56.9 +1.5
	baz=162,SNR=14					
PWL	Port Wells	7.53	37		Pn	04 18 58.2 +1.7
PWL	Port Wells	7.53	37	P	Pn	04 18 57.6 +1.1
	baz=224,SNR=56					
SKT	Skwentna	7.54	22	P	Pn	04 18 57.7 +1.2
	baz=207					
L20K	Farewell, AK	7.59	13		Pn	04 18 59.1 +1.8
L20K	Farewell, AK	7.59	13	P	Pn	04 18 58.4 +1.1
	baz=196					
K17K	Iditarod	7.59	357		Pn	04 18 58.0 +0.7
K17K	Iditarod	7.59	357	P	Pn	04 18 57.9 +0.7
	baz=177,SNR=18					
M22K	Willow	7.68	27		Pn	04 19 00.2 +1.8
M22K	Willow	7.68	27	P	Pn	04 18 59.9 +1.4
	baz=214					
K13K	Kusilvak Mount	7.74	334		Pn	04 19 00.3 +1.0
K13K	Kusilvak Mount	7.74	334	P	Pn	04 18 59.8 +0.6
	baz=149					
PMR	Palmer	7.83	31	P	Pn	04 19 02.7 +2.2
PMR	Palmer	7.83	31	Pn	Pn	04 19 01.0 +0.5
PMR	Palmer	7.83	31	P	Pn	04 19 02.1 +1.6
	baz=218					
PMR	Palmer	7.83	31	P	Pn	04 19 01.0 +0.5
KNK	Knik Glacier	7.89	34		Pn	04 19 02.0 +0.6
KNK	Knik Glacier	7.89	34	P	Pn	04 19 02.1 +0.6
	baz=221,SNR=8.0					
GLI	Glacier Island	7.99	40		Pn	04 19 02.8 +0.1
GLI	Glacier Island	7.99	40	P	Pn	04 19 02.1 -0.6
	baz=228,SNR=8.5					
GHO	Glory Hole Cre	8.03	31		Pn	04 19 04.5 +1.1
FID	Port Fidalgo	8.13	42	Pn	Pn	04 19 04.2 -0.5
CUT	Chulitna	8.20	25	P	Pn	04 19 07.4 +1.8
	baz=211					
J14K	Nanvaranak Lak	8.22	340	Pn	Pn	04 19 06.8 +1.0
J14K	Nanvaranak Lak	8.22	340	P	Pn	04 19 06.2 +0.4
	baz=156,SNR=8.9					
SML	Sawmill	8.23	32		Pn	04 19 06.1 0.0
SML	Sawmill	8.23	32	P	Pn	04 19 06.8 +0.6
	baz=220					
PPLA	Purkeypile	8.24	17	P	Pn	04 19 08.1 +1.8
	baz=202					
EYAK	Cordova Ski Ar	8.30	45	P	Pn	04 19 08.3 +1.4
EYAK	Cordova Ski Ar	8.30	45		Pn	04 19 07.0 +0.1
EYAK	Cordova Ski Ar	8.30	45	P	Pn	04 19 07.8 +0.9
	baz=234,SNR=20					
J16K	Anvik River	8.30	350		Pn	04 19 07.8 +0.8
J16K	Anvik River	8.30	350	P	Pn	04 19 07.9 +0.8
	baz=168,SNR=13					
J17K	VABM Dome	8.30	355	P	Pn	04 19 08.9 +1.9
	baz=174					
J18K	Innoko River	8.35	3		Pn	04 19 08.6 +0.9
J18K	Innoko River	8.35	3	P	Pn	04 19 08.8 +1.1
	baz=183					
M23K	Glacier View	8.41	34		Pn	04 19 09.6 +1.1
M23K	Glacier View	8.41	34	P	Pn	04 19 09.8 +1.2
	baz=222,SNR=14					
K20K	Telida	8.42	11	P	Pn	04 19 09.9 +1.3
	baz=194					
KAIM	Kayak Island	8.53	51		Pn	04 19 11.4 +1.2
KAIM	Kayak Island	8.53	51	P	Pn	04 19 11.8 +1.6
	baz=241,SNR=18					
SCM	Sheep Creek Mo	8.57	34		Pn	04 19 10.6 -0.2
SCM	Sheep Creek Mo	8.57	34	P	Pn	04 19 10.2 -0.5
	baz=223,SNR=13					
SCM	Sheep Creek Mo	8.57	34	P	Pn	04 19 10.6 -0.2
RAGM	Ragged Mountai	8.65	47		Pn	04 19 13.0 +1.1
GOAT	Goat Mountain	8.73	46		Pn	04 19 12.7 -0.3
HMT	Hamilton	8.80	48		Pn	04 19 14.2 +0.3
KLU	Klutina	8.82	39	Pn	Pn	04 19 16.1 +1.9
KLU	Klutina	8.82	39	P	Pn	04 19 14.1 0.0
	baz=229,SNR=29					
NICHA	Nichawak Mount	8.88	49		Pn	04 19 15.2 +0.3
SUCK	Suckling Hills	8.88	51		Pn	04 19 16.1 +1.1
I17K	Unalakleet	8.90	351		Pn	04 19 15.7 +0.5
I17K	Unalakleet	8.90	351	P	Pn	04 19 16.1 +0.9
	baz=168,SNR=12					
J19K	Poorman	8.92	6	P	Pn	04 19 15.6 +0.1
	baz=187					
WAT1	Susitna Watana	8.99	27	P	Pn	04 19 15.4 -1.0
	baz=215					
BMRM	Bremner River	9.00	44		Pn	04 19 15.8 -0.9
BMRM	Bremner River	9.00	44	P	Pn	04 19 16.3 -0.3
	baz=235,SNR=10					
WAT6	Susitna Watana	9.01	30		Pn	04 19 15.9 -1.0
WAT6	Susitna Watana	9.01	30	P	Pn	04 19 16.6 -0.3
	baz=219					
BGLC	Bering Glacier	9.13	51	P	Pn	04 19 19.3 +1.0
	baz=243					
M24K	Tolsona, Glenn	9.15	36		Pn	04 19 20.0 +1.4
M24K	Tolsona, Glenn	9.15	36	P	Pn	04 19 19.8 +1.1
	baz=225,SNR=6.2					
CHUM	Lake Minchumin	9.15	15	P	Pn	04 19 20.2 +1.6
	baz=199					
GRIN	Grindle Hills	9.19	50		Pn	04 19 20.3 +1.1
J20K	Nowinta River	9.21	9	P	Pn	04 19 20.5 +1.0
	baz=192					
KHIT	Khitrov Hills	9.29	49		Pn	04 19 21.4 +0.8
SNH	Sunshine Point	9.35	51	Pn	Pn	04 19 22.3 +0.9
N25K	Chitina, Valde	9.38	41		Pn	04 19 22.3 +0.4
N25K	Chitina, Valde	9.38	41	P	Pn	04 19 22.7 +0.8
	baz=232					
RND	Reindeer	9.39	25		Pn	04 19 23.9 +1.9
RND	Reindeer	9.39	25	P	Pn	04 19 23.9 +1.9
WAX	Waxell Ridge	9.47	50		Pn	04 19 23.5 +0.4
CRQM	Cirque	9.49	48	Pn	Pn	04 19 24.5 +1.0
DHY	Denali Highway	9.50	29		Pn	04 19 22.6 -1.0
DHY	Denali Highway	9.50	29	P	Pn	04 19 23.9 +0.3
	baz=218					
CRQE	Cirque	9.51	48	P	Pn	04 19 24.9 +1.2
	baz=240,SNR=9.7					
BPAW	Bear Paw Mtn.	9.57	18	P	Pn	04 19 25.2 +0.8
	baz=203					
GLB	Gilahina Butte	9.59	43	Pn	Pn	04 19 24.7 0.0
BARK	Barkley Ridge	9.61	51		Pn	04 19 25.0 0.0
VRDI	Verde Repeater	9.61	45	Pn	Pn	04 19 26.1 +1.0
TGL	Tana Glacier	9.62	48		Pn	04 19 25.9 +0.6
GCSA	Galena City Sc	9.63	2	P	Pn	04 19 26.1 +1.0
	baz=182					
MCK	McKinley	9.65	23	P	Pn	04 19 25.7 +0.1
	baz=211					
HARP	HAARP	9.70	36		Pn	04 19 26.7 +0.6
HARP	HAARP	9.70	36	P	Pn	04 19 27.6 +1.5
	baz=227,SNR=7.6					
WACK	Wrangell Chich	9.72	40		Pn	04 19 27.5 +0.9
MESA	MESA	9.75	53	Pn	Pn	04 19 28.7 +1.6
MESA	MESA	9.75	53	P	Pn	04 19 26.5 -0.6
	baz=246					
ISLE	Juniper Island	9.77	50		Pn	04 19 28.7 +1.5
H16K	Elim	9.80	348		Pn	04 19 28.4 +0.9
H16K	Elim	9.80	348	P	Pn	04 19 28.3 +0.8
	baz=164					
MCARA	McCarthy VSAT	9.87	45		Pn	04 19 29.1 +0.6
MCARA	McCarthy VSAT	9.87	45	P	Pn	04 19 29.7 +1.2
	baz=237					
H17K	Granite Mounta	9.88	354		Pn	04 19 29.3 +0.6
H17K	Granite Mounta	9.88	354	P	Pn	04 19 29.9 +1.2
	baz=172					
KIAG	Kiagna River	9.91	48		Pn	04 19 29.6 +0.5
PAX	Paxson	9.99	33	P	Pn	04 19 30.8 +0.5
	baz=224,SNR=6.6					
PTPK	Patty Peak	9.99	47		Pn	04 19 30.6 +0.2
H18K	Honhosa River	10.04	358	P	Pn	04 19 32.0 +1.2
	baz=178,SNR=8.0					
GRNC	Granite Creek	10.08	50	Pn	Pn	04 19 32.5 +0.9
ANM	Nome	10.21	341	Pn	Pn	04 19 34.4 +1.2
ANM	Nome	10.21	341	P	Pn	04 19 33.0 -0.2
	baz=154					
ANM	Nome	10.21	341	P	Pn	04 19 34.4 +1.2
TABL	Table Mountain	10.23	52		Pn	04 19 35.4 +1.8
ATKA	Atka Island	10.30	260	P	Pn	04 19 34.7 +0.4
	comp=E,35nm,1.6s					
CTG	Chitna Glacier	10.37	49	P	Pn	04 19 36.1 +0.7
	baz=243,SNR=5.7					
CTGM	Chitina Glacie	10.37	49	Pn	Pn	04 19 36.5 +1.0
NEA2	Nenana	10.37	21		Pn	04 19 34.2 -1.2
NEA2	Nenana	10.37	21	P	Pn	04 19 33.7 -1.6
	baz=208					
G15K	Niukluk	10.38	345	P	Pn	04 19 36.3 +0.9
	baz=159,SNR=7.1					
H19K	Roundabout Mou	10.42	3	P	Pn	04 19 36.3 +0.3
	baz=184					
I21K	Tanana	10.43	13		Pn	04 19 36.0 -0.2
I21K	Tanana	10.43	13	P	Pn	04 19 36.1 0.0
	baz=198					
LOGN	Logan Glacier	10.45	50		Pn	04 19 38.1 +1.4
H20K	Anotleneega Mo	10.46	6	P	Pn	04 19 36.9 +0.4
	baz=188					
M26K	Nabesna, AK	10.47	40		Pn	04 19 37.8 +1.1
M26K	Nabesna, AK	10.47	40	P	Pn	04 19 38.1 +1.4
	baz=232,SNR=7.4					
MLY	Manley	10.47	16	P	Pn	04 19 36.1 -0.6
	baz=202					
G17K	Kiwalik Mounta	10.49	353	P	Pn	04 19 39.5 +2.5
	baz=170					
PINM	Pinnacle	10.51	55	P	Pn	04 19 39.0 +1.7
	baz=249,SNR=24					
K24K	Donnelly Dome	10.52	30	P	Pn	04 19 39.3 +1.8
	baz=220,SNR=7.9					
G16K	Koyuk River	10.54	349	P	Pn	04 19 39.1 +1.5
	baz=165					
MENT	Mentasta	10.55	37		Pn	04 19 39.3 +1.5
HDA	Harding Lake	10.70	26	Pn	Pn	04 19 39.2 -0.6
HDA	Harding Lake	10.70	26	P	Pn	04 19 40.5 +0.7
	baz=215,SNR=6.5					
L26K	Log Cabin Wild	10.73	37		Pn	04 19 42.1 +1.7
L26K	Log Cabin Wild	10.73	37	P	Pn	04 19 42.2 +1.8
	baz=229,SNR=9.3					
BCPM	Bancas Point	10.75	56		Pn	04 19 42.0 +1.5
PNL	Peninsula	10.78	58	P	Pn	04 19 43.1 +2.1
PNL	Peninsula	10.78	58	P	Pn	04 19 42.4 +1.4
	baz=253,SNR=33					
G18K	Tagagawik	10.79	358	P	Pn	04 19 44.5 +3.4
	baz=177					
O28M	Mount Upton	10.79	52	P	Pn	04 19 43.0 +1.6
	baz=246,SNR=21					
H21K	Melozitna River	10.79	11	P	Pn	04 19 41.7 +0.6
	baz=195,SNR=6.4					
I23K	Minto, Yukon-K	10.81	19	P	Pn	04 19 41.2 -0.2
	baz=206					
M27K	Edge Creek, AK	10.86	42		Pn	04 19 43.5 +1.3
M27K	Edge Creek, AK	10.86	42	P	Pn	04 19 43.1 +0.9
	baz=235					
COLA	College	10.88	22	P	Pn	04 19 45.9 +3.7
	comp=E,25nm,0.9s					
COLA	College	10.88	22	Pn	Pn	04 19 39.4 -2.8
COLA	College	10.88	22	P	Pn	04 19 43.7 +1.5
	baz=211					
COLA	College	10.88	22	*i* P	Pn	04 19 41.5 -0.7
IL31		11.01	25		Pn	04 19 41.6 -2.4
ILAR	Eielson Array	11.01	25	Pn	Pn	04 19 41.4 -2.7
ILAR	Eielson Array	11.01	25	Pn	Pn	04 19 41.5 -2.5
	comp=E,1.0nm,0.3s,baz=215,slow=13,SNR=19					
ILAR				LR	LR	04 24 39.1
	comp=E,500nm,18.2s,baz=215,slow=42					
ILAR	Eielson Array	11.01	25	P	Pn	04 19 41.4 -2.7
IMAR	Indian Mountai	11.03	8	Pn	Pn	04 19 46.1 +1.9
G19K	Purcell Mounta	11.03	1	P	Pn	04 19 45.5 +1.1
	baz=182					
YUK3	Moose Creek	11.12	46	P	Pn	04 19 46.8 +0.9
	baz=241,SNR=14					
F15K	North Star Dit	11.14	345	Pn	Pn	04 19 47.6 +1.7
F15K	North Star Dit	11.14	345	P	Pn	04 19 47.1 +1.2
	baz=159,SNR=6.0					
POKR	Poker Plat Res	11.18	23		Pn	04 19 45.4 -1.0
POKR	Poker Plat Res	11.18	23	P	Pn	04 19 45.8 -0.6
	baz=211					
SCRK	Sand Creek	11.18	32	P	Pn	04 19 47.3 +0.8
	baz=224					
H22K	Ishtalitna Cre	11.19	13	P	Pn	04 19 47.3 +0.7
	baz=199					
YUK8	Steele Glacier	11.20	50	P	Pn	04 19 48.5 +1.7
	baz=244,SNR=22					
F14K	Arctic Creek	11.21	341	P	Pn	04 19 47.6 +0.8
	baz=154					
GAMB	Gambell	11.21	326	P	Pn	04 19 45.9 -0.9
	baz=134					
J25K	Salcha River,	11.27	28	P	Pn	04 19 47.7 +0.1
	baz=218,SNR=8.6					
L27K	Beaver Creek,	11.30	39	Pn	Pn	04 19 49.2 +1.2
L27K	Beaver Creek,	11.30	39	P	Pn	04 19 48.7 +0.7
	baz=232,SNR=8.6					
BCAR	Beaver Creek A	11.31	39	Pn	Pn	04 19 48.5 +0.2
O29M	Mount Kennedy	11.37	55		Pn	04 19 51.6 +2.5
O29M	Mount Kennedy	11.37	55	P	Pn	04 19 51.5 +2.5
	baz=251,SNR=35					
H23K	Yukon River	11.40	17	P	Pn	04 19 49.1 -0.3
	baz=204					
F17K	Baldwin Pennin	11.47	353	P	Pn	04 19 51.8 +1.6
	baz=169					
F18K	Selawik	11.53	356	P	Pn	04 19 51.4 +0.3
	baz=174					
G21K	Allakaket	11.57	8	P	Pn	04 19 52.7 +1.0
	baz=192					
P29M	Windy Craggy	11.58	59	Pn	Pn	04 19 53.6 +1.7
P29M	Windy Craggy	11.58	59	P	Pn	04 19 53.5 +1.6
	baz=256,SNR=24					
TNA	Tin City	11.61	338	P	Pn	04 19 53.2 +1.1
	baz=149					
YUK6	Outpost Mounta	11.69	52	P	Pn	04 19 54.8 +1.3
	baz=249					
J26L	Joseph Creek	11.69	31	P	Pn	04 19 53.6 +0.2
	baz=223,SNR=6.8					
YUK4	Tatot Arm	11.71	50	P	Pn	04 19 56.8 +2.9
	baz=246					
H24K	Noodor Dome	11.71	20	Pn	Pn	04 19 51.5 -2.2
H24K	Noodor Dome	11.71	20	P	Pn	04 19 52.5 -1.2
	baz=208					
F19K	Shaleruckik Mo	11.72	360	P	Pn	04 19 54.6 +0.9
	baz=180					
K27K	Chicken	11.83	35		Pn	04 19 57.1 +1.8
K27K	Chicken	11.83	35	P	Pn	04 19 56.0 +0.8
	baz=228					
ADK	Adak	11.83	262	P	Pn	04 19 56.1 +0.8
PRP	Porcupine Dome	11.96	25	Pn	Pn	04 19 55.6 -1.5
PRP	Porcupine Dome	11.96	25	P	Pn	04 19 56.0 -1.1
	baz=215,SNR=6.0					
F20K	Avaraart Lake	11.97	3		Pn	04 19 58.1 +1.0
F20K	Avaraart Lake	11.97	3	P	Pn	04 19 57.8 +0.7
	baz=185					
P30M	Million Dollar	12.09	57	P	Pn	04 20 00.0 +1.2
	baz=254					
S31K	Pelican	12.09	68	Pn	Pn	04 19 59.8 +1.0
S31K	Pelican	12.09	68	P	Pn	04 19 59.4 +0.6
	baz=265					
E17K	Hotham Inlet	12.14	352	P	Pn	04 20 00.6 +1.1
	baz=168					
G23K	Bananza Creek	12.15	14	P	Pn	04 19 60.0 +0.3
	baz=201					
G22K	Bettles	12.16	11	P	Pn	04 20 00.4 +0.7
	baz=197					
PLBC	Pleasant Camp	12.23	61	P	Pn	04 20 02.0 +1.3
	baz=258,SNR=12					
F21K	Alatna River	12.27	8	Pn	Pn	04 20 02.0 +0.8
F21K	Alatna River	12.27	8	P	Pn	04 20 01.9 +0.6
	baz=191					
M29M	Somme Creek	12.27	46		Pn	04 20 01.9 +0.5
M29M	Somme Creek	12.27	46	P	Pn	04 20 02.1 +0.8
	baz=242,SNR=21					
E19K	Redstone River	12.35	1		Pn	04 20 03.5 +1.2
E19K	Redstone River	12.35	1	P	Pn	04 20 03.3 +0.9
	baz=181					
E18K	Tukpahlearik C	12.39	355	Pn	Pn	04 20 04.8 +1.8
E18K	Tukpahlearik C	12.39	355	P	Pn	04 20 04.2 +1.3
	baz=172,SNR=5.1					
I26K	Coal Creek Min	12.41	29	P	Pn	04 20 02.9 -0.3
	baz=222					
N30M	Aishikik Lake	12.45	51		Pn	04 20 04.4 +0.6
N30M	Aishikik Lake	12.45	51	P	Pn	04 20 04.0 +0.2
	baz=248					
H25L	Birch Creek	12.51	22	P	Pn	04 20 04.2 -0.3
	baz=213					
SIT	Sitka	12.55	72	P	Pn	04 20 04.4 -0.6
	baz=270					
G24K	Hadweenzic Riv	12.55	19		Pn	04 20 03.2 -2.0
G24K	Hadweenzic Riv	12.55	19	P	Pn	04 20 04.0 -1.1
	baz=208					
COLD	Coldfoot	12.61	13	P	Pn	04 20 05.6 -0.3
	baz=200					
EGAK	Eagle	12.63	34	P	Pn	04 20 06.5 +0.4
	baz=228,SNR=5.8					
F22K	John River	12.66	9	P	Pn	04 20 07.5 +1.0
	baz=194					
O30N	Mendenhall	12.68	55	Pn	Pn	04 20 08.8 +1.9
O30N	Mendenhall	12.68	55	P	Pn	04 20 08.4 +1.4
	baz=253,SNR=8.2					
L29M	L29M	12.72	43		Pn	04 20 08.5 +0.9
L29M	L29M	12.72	43	P	Pn	04 20 08.3 +0.8
	baz=240,SNR=5.6					
SKAG	Skagway	12.75	61	P	Pn	04 20 10.8 +3.0
SKAG	Skagway	12.75	61	Pn	Pn	04 20 09.2 +1.4
SKAG	Skagway	12.75	61	P	Pn	04 20 09.6 +1.8
	baz=260,SNR=9.3					
DAWY	Dawson	12.77	38		Pn	04 20 08.6 +0.4
DAWY	Dawson	12.77	38	P	Pn	04 20 09.0 +0.8
	baz=234,SNR=6.2					
D17K	Noatak River	12.85	351	P	Pn	04 20 10.0 +0.8
	baz=166					
G25K	Bearman Lake	12.88	21	P	Pn	04 20 08.8 -0.8
	baz=211					
FYU	Fort Yukon	12.89	23		Pn	04 20 10.2 +0.5
S32K	Killisnoo	12.96	70		Pn	04 20 12.0 +1.4
S32K	Killisnoo	12.96	70	P	Pn	04 20 11.7 +1.0
	baz=269					
M30M	Minto, Yukon	13.02	47		Pn	04 20 12.5 +0.9
M30M	Minto, Yukon	13.02	47	P	Pn	04 20 10.7 -0.9
	baz=244					
N31M	Braeburn, Yuko	13.05	52		Pn	04 20 14.1 +2.2
N31M	Braeburn, Yuko	13.05	52	P	Pn	04 20 13.4 +1.4
	baz=250,SNR=7.9					
I27K	Kandik River	13.06	30	P	Pn	04 20 11.9 -0.3
	baz=224					
JIS	Juneau Island	13.09	67	P	Pn	04 20 16.1 +3.6
	comp=E,9.3nm,0.6s					
JIS	Juneau Island	13.09	67	Pn	Pn	04 20 13.6 +1.1
E20K	Nigu River	13.17	2	P	Pn	04 20 14.3 +0.7
	baz=184					
F24K	Squaw Lake	13.22	16	P	Pn	04 20 14.0 -0.3
	baz=205					
WHY	Whitehorse	13.22	56	Pn	Pn	04 20 14.2 -0.2
WHY	Whitehorse	13.22	56	P	Pn	04 20 15.6 +1.2
	baz=255,SNR=29					
K29M	Barlow Dome	13.34	41	Pn	Pn	04 20 17.4 +1.5
K29M	Barlow Dome	13.34	41	P	Pn	04 20 17.0 +1.0
	baz=238					
D19K	Kuna River	13.39	359	Pn	Pn	04 20 18.4 +1.8
D19K	Kuna River	13.39	359	P	Pn	04 20 16.4 -0.2
	baz=179					
J29N	Klondike Camp	13.42	38		Pn	04 20 17.4 +0.4
J29N	Klondike Camp	13.42	38	P	Pn	04 20 16.7 -0.3
	baz=235					
E21K	Killik River	13.44	6		Pn	04 20 17.8 +0.5
E21K	Killik River	13.44	6	P	Pn	04 20 16.5 -0.7
	baz=189					
I28M	Miner Creek	13.46	33	Pn	Pn	04 20 19.4 +1.7
I28M	Miner Creek	13.46	33	P	Pn	04 20 17.3 -0.3
	baz=228,SNR=32					
E23K	Chandalar	13.47	13	P	Pn	04 20 17.7 -0.1
	baz=200					
G26K	Porcupine Rive	13.54	24	P	Pn	04 20 17.2 -1.3
	baz=216					
H27K	Steamboat Moun	13.55	29	P	Pn	04 20 18.8 +0.1
	baz=222					
P32M	Atlin	13.58	61	Pn	Pn	04 20 19.6 +0.4
P32M	Atlin	13.58	61	P	Pn	04 20 19.9 +0.7
	baz=261,SNR=5.1					
D20K	Etivluk River	13.62	1	P	Pn	04 20 20.1 +0.4
	baz=182					
C17K	DeLong Mountai	13.62	351	P	Pn	04 20 21.9 +2.2
	baz=166					
E24K	Your Creek	13.64	15		Pn	04 20 23.3 +3.3
E24K	Your Creek	13.64	15	P	Pn	04 20 19.5 -0.5
	baz=203					
C18K	Utukok River	13.65	354	P	Pn	04 20 19.5 -0.6
	baz=171,SNR=5.8					
C16K	Lisburne Hills	13.65	348	Pn	Pn	04 20 22.4 +2.3
C16K	Lisburne Hills	13.65	348	P	Pn	04 20 20.2 +0.1
	baz=161					
F25K	Christian Rive	13.69	20	P	Pn	04 20 18.0 -2.6
	baz=210					
U33K	Whale Pass	13.82	76	P	Pn	04 20 22.4 0.0
	baz=276					
M31M	Drury Creek, Y	13.91	50		Pn	04 20 25.6 +1.9
M31M	Drury Creek, Y	13.91	50	P	Pn	04 20 25.1 +1.4
	baz=250,SNR=12					
I29M	Ogilvie Camp,	13.93	35	P	Pn	04 20 23.7 -0.2
	baz=232,SNR=20					
G27K	Doyon Strip	13.95	27		Pn	04 20 24.1 0.0
G27K	Doyon Strip	13.95	27	P	Pn	04 20 24.1 0.0
	baz=221,SNR=10					
D22K	Ayikyak River	13.96	7	P	Pn	04 20 23.2 -1.1
	baz=192					
TOLK	Toolik Lake Re	14.03	12	Pn	Pn	04 20 27.7 +2.4
TOLK	Toolik Lake Re	14.03	12	P	Pn	04 20 23.8 -1.4
	baz=199					
C19K	Lookout Ridge	14.03	357	Pn	Pn	04 20 27.4 +2.1
C19K	Lookout Ridge	14.03	357	P	Pn	04 20 25.2 -0.2
	baz=175					
F26K	Sheenjek River	14.07	21	P	Pn	04 20 24.2 -1.7
	baz=213					
C21K	Knifeblade Rid	14.11	4	P	Pn	04 20 28.5 +2.1
	baz=187,SNR=23					
P33M	Teslin, Yukon	14.13	59	Pn	Pn	04 20 28.2 +1.5
P33M	Teslin, Yukon	14.13	59	P	Pn	04 20 28.8 +2.1
	baz=260,SNR=11					
J30M	Hart River	14.16	40	Pn	Pn	04 20 29.5 +2.2
J30M	Hart River	14.16	40	P	Pn	04 20 29.1 +1.8
	baz=238,SNR=13					
N32M	Quiet Lake	14.20	55		Pn	04 20 30.1 +2.5
N32M	Quiet Lake	14.20	55	P	Pn	04 20 29.1 +1.4
	baz=256					
D23K	Nanushuk River	14.22	10	P	Pn	04 20 28.7 +0.9
	baz=196,SNR=12					
WRAK	Wrangell Islan	14.22	75	P	Pn	04 20 29.3 +1.4
	baz=275					
Q32M	Nakina River	14.24

E27K	Coleen River	15.03	23	P		Pn	04 20 39.0 +0.1
	baz=217						
C23K	Itkillik River	15.06	9	P		Pn	04 20 42.2 +2.9
C23K	Itkillik River	15.06	9	P		Pn	04 20 39.5 +0.2
	baz=196,SNR=16						
EPYK	Eagle Plains	15.07	33			Pn	04 20 40.4 +1.0
EPYK	Eagle Plains	15.07	33	P		Pn	04 20 39.4 0.0
	baz=232,SNR=39						
D25K	Kavik River	15.10	15			Pn	04 20 41.8 +2.0
D25K	Kavik River	15.10	15	P		Pn	04 20 40.1 +0.2
	baz=205						
C24K	Franklin Bluff	15.15	12	P		Pn	04 20 41.0 +0.5
	baz=200						
B22K	Teshekpuk Lake	15.36	5	P		Pn	04 20 44.4 +1.3
	baz=189						
DLBC	Dease Lake	15.39	66	P		Pn	04 20 45.3 +1.5
DLBC	Dease Lake	15.39	66	P		Pn	04 20 44.0 +0.3
	baz=269						
DLBC	Dease Lake	15.39	66	Pn		P	04 20 46.4 -2.0
	comp=Z,0.8nm,0.3s,baz=275,slow=11,SNR=14						
DLBC				Sn		Sn	04 23 26.2 -7.7
	comp=Z,0.1nm,0.3s,baz=138,slow=26,SNR=1.1						
	comp=Z,2.9nm,0.5s						
MMPY	Sheldon Lake,	15.42	50			Pn	04 20 46.2 +2.1
MMPY	Sheldon Lake,	15.42	50	P		Pn	04 20 45.5 +1.4
	baz=253,SNR=21						
G30M	tAoh Zraii Nji	15.61	32			Pn	04 20 46.2 -0.2
G30M				IAmb		IAmb	04 21 05.4
	comp=Z,62nm,1.1s						
G30M	tAoh Zraii Nji	15.61	32	P		Pn	04 20 46.0 -0.5
	baz=231,SNR=28						
C27K	Jago River	15.81	18	P		Pn	04 20 49.7 +0.6
	baz=210						
E28M	Babbage River	15.84	25			Pn	04 20 50.3 +0.8
E28M	Babbage River	15.84	25	P		Pn	04 20 50.3 +0.8
	baz=220,SNR=9.5						
C26K	Camden Bay	15.86	16	P		Pn	04 20 50.4 +0.6
	baz=207						
A22K	Sinclair Lake	15.95	3	P		Pn	04 20 51.1 +0.3
	baz=185						
D27M	Malcolm River	16.02	22	P		Pn	04 20 52.0 +0.1
	baz=216						
E29M	Blow River	16.09	27			Pn	04 20 52.7 +0.1
E29M	Blow River	16.09	27	P		Pn	04 20 52.0 -0.6
	baz=224,SNR=20						
F30M	Barrier River	16.14	31	P		Pn	04 20 53.0 -0.3
	baz=230,SNR=15						
G31M	Satah River	16.18	34			Pn	04 20 53.7 -0.1
G31M				IAmb		IAmb	04 20 59.1
	comp=Z,67nm,0.8s						
G31M	Satah River	16.18	34	P		Pn	04 20 53.3 -0.5
	baz=234,SNR=41						
TGTN	Hyland Airport	16.54	55	P		Pn	04 20 58.7 +0.2
	baz=260,SNR=24						
D28M	Stokes Point	16.58	24	P		Pn	04 20 59.5 +0.6
	baz=220						
F31M	Tsiigehtchic	16.65	33			Pn	04 21 00.0 +0.2
F31M	Tsiigehtchic	16.65	33	P		Pn	04 20 59.2 -0.6
	baz=234,SNR=25						
SHEM	Shemya Is, Ala	16.81	273	LR		LR	04 27 41.3
	comp=Z,351nm,20.4s,baz=88,slow=38						
INK	Inuvik	17.24	31	Pn		Pn	04 21 07.4 +0.2
INK				IAmb		IAmb	04 21 11.1
	comp=Z,88nm,1.1s						
INK	Inuvik	17.24	31	P		Pn	04 21 06.9 -0.3
	baz=232,SNR=44						
INK	Inuvik	17.24	31	P		Pn	04 21 07.1 -0.1
	comp=Z,5.8nm,0.3s,baz=216,slow=9.7,SNR=32						
	comp=Z,32nm,0.5s						
INK	Inuvik	17.24	31	P		Pn	04 21 07.4 +0.2
INK				pmax		pmax	
	comp=Z,88nm,1.2s						
BBB	Bella Bella	17.64	87	LR		LR	04 26 36.7
	comp=Z,292nm,19.3s,baz=304,slow=32						
KOTAN	Kotaneelee Air	18.48	61	P		Pn	04 21 23.8 +1.2
	baz=269						
WRGLY	Wrigley	19.04	51	P		Pn	04 21 29.8 +0.6
	baz=260						
C36M	Paulatuk	20.70	34	P		P	04 21 47.0 +0.5
C36M				IAmb		IAmb	04 21 50.5
	comp=Z,41nm,0.8s						
C36M	Paulatuk	20.70	34	P		P	04 21 46.9 +0.4
	baz=244,SNR=15						
BILL	Bilibino	21.09	322	P		P	04 21 49.6 -1.1
BILL	Bilibino	21.09	322	*i* P		P	04 21 49.9 -0.8
BILL				*i*			04 22 17.8
BILL				pmax		pmax	
	comp=Z,14nm,0.9s						
BILL				MLR		MLR	
	comp=Z,612nm,16.0s						
A36M	Sachs Harbour	21.70	27	P		P	04 21 57.5 +0.3
A36M	Sachs Harbour	21.70	27	P		P	04 21 57.3 0.0
	baz=236,SNR=13						
YKA	Yellowknife Ar	23.03	54	P		P	04 22 11.7 +0.1
YKA	Yellowknife Ar	23.03	54	P		P	04 22 11.2 -0.3
	comp=Z,4.4nm,0.8s,baz=269,slow=8.7,SNR=26						
YKA				LR		LR	04 31 41.3
	comp=Z,256nm,18.2s,baz=276,slow=38						
	comp=Z,4.4nm,0.8s						
YKA	Yellowknife Ar	23.03	54	*i* P		P	04 22 13.6 +2.1
YKA				pmax		pmax	
	comp=Z,6.0nm,0.8s						
B08A	Colville Reser	24.38	90	P		P	04 22 25.0 +0.3
HOOD	Mount Hood Mea	24.73	98	P		P	04 22 28.6 +0.6
PET	Petropavlovsk	25.45	283	*ce*P		P	04 22 34.2 -0.1
PET				pmax		pmax	
	comp=Z,35nm,1.7s						
NEW	Newport	25.70	89	P		P	04 22 38.7 +2.0
	baz=301						
NEW	Newport	25.70	89	LR		LR	04 31 06.5
	comp=Z,185nm,20.9s,baz=281,slow=32						
SEY	Seymchan	26.26	308	*ce*P		P	04 22 40.2 -1.4
SEY				pmax		pmax	
	comp=Z,18nm,0.8s						
YBH	Yreka Blue Hor	26.42	106	LR		LR	04 30 55.0
	comp=Z,402nm,20.0s,baz=296,slow=31						
MA2	Magadan	27.61	301	LR		LR	04 35 16.6
	comp=Z,203nm,18.6s,baz=94,slow=40						
MA2	Magadan	27.61	301	*i* P		P	04 22 54.1 +0.3
MA2				pmax		pmax	
	comp=Z,12nm,1.1s						
BPMT	Black Pine Rid	28.79	89	P		P	04 23 04.1 -0.5
LYMT	Lyon Mountain	29.16	87	P		P	04 23 08.4 +0.5
HLID	Hailey	29.92	95	P		P	04 23 15.5 +0.8
	baz=308						
EGMT	Eagleton	30.04	84	P		P	04 23 16.1 +0.6
	baz=302						
BOZ	Bozeman (W)	30.30	89	P		P	04 23 18.0 0.0
	baz=305						
RES	Resolute Bay	30.74	28	LR		LR	04 36 46.1
	comp=Z,203nm,18.2s,baz=198,slow=38						
NVAR	Mina Array Bea	31.14	106	P		P	04 23 28.9 +3.4
	comp=Z,0.7nm,0.6s,baz=304,slow=8.3,SNR=6.5						
NVAR				LR		LR	04 34 00.4
	comp=Z,261nm,19.2s,baz=288,slow=32						
	comp=Z,0.7nm,0.6s						
YHH	Holmes Hill	31.22	90	P		P	04 23 25.9 -0.4
ELK	Elko	31.26	100	LR		LR	04 34 46.7
	comp=Z,199nm,19.1s,baz=289,slow=34						
MLAC	Mammoth, Mammo	31.42	108	P		P	04 23 29.0 +1.0
	baz=316						
H17A	Grant Village	31.62	90	P		P	04 23 31.0 +1.3
	baz=307						
RLMT	Red Lodge	31.94	88	P		P	04 23 34.3 +1.8
	baz=306						
VES	Vestal, Richgr	32.60	110	P		P	04 23 38.8 +0.7
	baz=318						
GRAC	Grapevine Rang	32.69	107	P		P	04 23 40.0 +1.1
	baz=317,SNR=6.0						
CWC	Cottonwood Cre	32.70	108	P		P	04 23 39.9 +0.7
	baz=318						
R11B	Troy Canyon, C	32.71	103	P		P	04 23 39.8 +0.5
	baz=315,SNR=11						
LAO	LASA Array	32.78	83	P		P	04 23 39.0 -0.7
	baz=304						
PKM	Mcpherson Peak	32.93	112	P		P	04 23 41.2 0.0
	baz=320						
DUG	Dugway, Tooele	33.00	98	P		P	04 23 41.0 -0.8
	baz=312,SNR=15						
ISA	Isabella, Lake	33.07	110	P		P	04 23 41.4 -0.8
	baz=318						
BW06	Boulder Array	33.20	92	P		P	04 23 43.5 0.0
	baz=309						
PDAR	Pinedale Array	33.20	92	P		P	04 23 45.0 +1.5
PDAR	Pinedale Array	33.20	92	P		P	04 23 45.2 +1.7
	comp=Z,0.7nm,0.6s,baz=316,slow=5.0,SNR=11						
	comp=Z,0.7nm,0.6s						
ARVC	Arvin	33.28	111	P		P	04 23 44.6 +0.6
	baz=319						
MPMC	Manual Prospec	33.31	108	P		P	04 23 44.2 -0.3
	baz=318,SNR=8.3						
TPNV	Topopah Spring	33.34	106	P		P	04 23 46.2 +1.4
	baz=316,SNR=13						
FURC	Furnace Creek,	33.35	107	P		P	04 23 45.5 +0.9
	baz=317						
LRMC	Laurel Mtn Rad	33.63	109	P		P	04 23 47.3 0.0
	baz=318						
BSUT	Blindstream Ca	33.95	96	P		P	04 23 51.3 +1.1
BSUT				IAmb		IAmb	04 24 05.3
	comp=Z,8.2nm,0.9s						
TIXI	Tiksi	34.09	327	P		P	04 23 49.6 -1.1
TIXI	Tiksi	34.09	327	LR		LR	04 39 35.8
	comp=Z,233nm,19.5s,baz=120,slow=40						
TIXI	Tiksi	34.09	327	*ce*P		P	04 23 49.4 -1.3
TIXI				pmax		pmax	
	comp=Z,22nm,0.8s						
TUQ	Turquoise Moun	34.62	107	P		P	04 23 56.0 +0.1
	baz=318						
TYV	Tymovskoe	35.26	288	*e*P		P	04 24 01.1 +0.1
TYV				pmax		pmax	
	comp=Z,12nm,1.0s						
TYV				pmax		pmax	
	comp=Z,100nm,3.9s						
MURC	Murrieta	35.31	111	P		P	04 24 02.2 +0.5
	baz=320						
RSSD	Black Hills	35.53	85	P		P	04 24 04.2 +0.5
RSSD				IAmb		IAmb	04 24 15.3
	comp=Z,12nm,1.2s						
RSSD	Black Hills	35.53	85	P		P	04 24 04.8 +1.1
	baz=307						
RSSD	Black Hills	35.53	85	P		P	04 24 04.2 +0.5
RSSD				pmax		pmax	
	comp=Z,12nm,1.3s						
O20A	White River Ci	35.65	94	P		P	04 24 06.0 +1.2
O20A	White River Ci	35.65	94	P		P	04 24 05.1 +0.3
	baz=312,SNR=10						
BELC	Belle Mtn. Jos	35.66	109	P		P	04 24 05.3 +0.5
	baz=319						
PFO	Pinyon Flats O	35.70	110	LR		LR	04 36 30.6
	comp=Z,280nm,18.5s,baz=291,slow=32						
NEE2	Needles Airpor	35.83	107	P		P	04 24 07.2 +1.1
	baz=318						
IRM	Iron Mountain	36.00	108	P		P	04 24 07.7 0.0
	baz=319,SNR=10						
BC3	Big Chuckawall	36.21	109	P		P	04 24 09.3 -0.2
	baz=319						
N23A	Red Feather La	36.47	91	P		P	04 24 10.3 -1.6
	baz=311						
ULM	Lac du Bonnet	36.62	71	P		P	04 24 13.7 +0.9
	comp=Z,3.3nm,0.6s,baz=312,slow=10.0,SNR=7.5						
	comp=Z,3.3nm,0.6s						
YAK	Yakutsk	36.64	311	P		P	04 24 13.6 +0.9
YAK	Yakutsk	36.64	311	*e*P		P	04 24 10.7 -2.0
YAK				*e*			04 26 01.6
YAK				pmax		pmax	
	comp=Z,40nm,0.7s						
YAK				pmax		pmax	
	comp=E,14nm,1.5s						
YAK				pmax		pmax	
	comp=N,5.0nm,1.0s						
WUAZ	Wupatki	37.09	102	P		P	04 24 17.8 +0.7
	baz=317,SNR=7.0						
YSS	Yuzh-Sakhalins	37.34	283	*ce*P		P	04 24 18.1 -0.7
YSS				pmax		pmax	
	comp=Z,11nm,0.8s						
AGMN	Agassiz Nation	37.70	74	P		P	04 24 22.9 +1.0
AGMN	Agassiz Nation	37.70	74	P		P	04 24 21.8 -0.1
	baz=304						
S22A	4UR Ranch, Cre	38.08	96	P		P	04 24 25.8 +0.2
	baz=314						
SDCO	Great Sand Dun	38.84	94	P		P	04 24 32.3 +0.3
	baz=314,SNR=6.5						
214A	Organ Pipe Nat	38.94	108	P		P	04 24 31.9 -0.6
	baz=320,SNR=5.9						
K30B	Basset	38.95	84	P		P	04 24 35.1 +2.5
K30B				IAmb		IAmb	04 24 44.4
	comp=Z,44nm,1.3s						
JKA	Kamikawa-asahi	39.12	279	P		P	04 24 32.6 -1.3
JKA				IAmb		IAmb	04 24 34.4
	comp=Z,12nm,0.8s						
ASAJ	Asahikawa	39.12	279	LR		LR	04 42 24.1
	comp=Z,53nm,18.5s,baz=58,slow=39						
ASAJ	Asahikawa	39.12	279	P		P	04 24 32.6 -1.3
ASAJ				pmax		pmax	
	comp=Z,13nm,0.8s						
KSCO	Kaye Shedlock'	39.62	91	P		P	04 24 38.9 +0.6
	baz=313						
TUC	Tucson	39.79	105	P		P	04 24 40.3 +0.6
	baz=319						
T25A	Trinidad	39.89	94	P		P	04 24 40.0 -0.6
	baz=314,SNR=9.5						
ECSD	EROS Data Cent	39.99	80	P		P	04 24 41.0 -0.1
	baz=309						
ERM	Erimo	40.13	276	*ce*P		P	04 24 43.2 +0.9
ERM				pmax		pmax	
	comp=Z,15nm,1.3s						
NEEM	North Greenlan	40.24	19	*i* P		P	04 24 43.0 -0.1
NEEM				IAmb		IAmb	04 24 44.3
	comp=Z,28nm,0.8s						
ANMO	Albuquerque	40.27	98	P		P	04 24 44.1 +0.3
	baz=316						
ANMO	Albuquerque	40.27	98	LR		LR	04 40 17.6
	comp=Z,126nm,19.5s,baz=16,slow=34						
ANMO	Albuquerque	40.27	98	*i* P		P	04 24 44.9 +1.1
ANMO				pmax		pmax	
	comp=Z,2.0nm,1.1s						
EYMN	Ely	40.30	72	P		P	04 24 44.1 +0.4
EYMN	Ely	40.30	72	P		P	04 24 42.6 -1.1
	baz=306,SNR=8.3						
KULLO	Kullorsuaq	40.41	24	*e*P		P	04 24 44.4 +0.2
KULLO				IAmb		IAmb	04 24 45.9
	comp=Z,11nm,0.9s						
BGNE	Belgrade	40.60	84	P		P	04 24 45.5 -0.8
	baz=311						
E38A	The Farm, Brul	41.06	74	P		P	04 24 50.7 +0.7
SPMN	Marine on St.	41.21	76	P		P	04 24 51.9 +0.8
	baz=306						
121A	Cookes Peak, D	41.30	102	P		P	04 24 51.5 -0.7
	baz=318						
CBKS	Cedar Bluff	41.42	88	P		P	04 24 52.3 -0.7
	baz=313						
ZEA	Zeya	41.76	300	*e*P		P	04 24 54.2 -1.4
ZEA				pmax		pmax	
	comp=Z,10.0nm,1.0s						
NOR	Nord	41.88	8	*i* P		P	04 24 55.7 -0.6
NOR				IAmb		IAmb	04 24 58.0
	comp=Z,22nm,1.0s						
KLR	Kul'dur	42.02	292	LR		LR	04 42 41.4
	comp=Z,174nm,19.8s,baz=56,slow=37						
KLR	Kul'dur	42.02	292	*ce*P		P	04 24 55.5 -2.3
KLR				pmax		pmax	
	comp=Z,12nm,1.7s						
R32A	Long Quarter,	42.27	88	P		P	04 25 01.2 +1.2
R32A				IAmb		IAmb	04 25 11.8
	comp=Z,13nm,0.8s						
N35A	Tabor	42.39	83	P		P	04 25 02.7 +1.8
N35A				IAmb		IAmb	04 25 04.1
	comp=Z,21nm,0.8s						
AMTX	Amarillo	43.04	94	P		P	04 25 06.6 +0.3
	baz=316						
MSTX	Muleshoe	43.08	96	P		P	04 25 06.6 -0.1
	baz=317,SNR=6.1						
MNTX	Cornudas Mount	43.27	101	P		P	04 25 08.3 +0.1
	baz=319,SNR=12						
E43A	Lone Tree Farm	43.69	71	P		P	04 25 12.7 +1.3
SMWD	Samnorwood	43.71	93	P		P	04 25 13.5 +1.8
SMWD				IAmb		IAmb	04 25 23.2
	comp=Z,13nm,0.6s						
KAN09	Caldwell North	43.78	89	P		P	04 25 13.6 +1.3
KAN09				IAmb		IAmb	04 25 23.5
	comp=Z,20nm,1.1s						
KAN13	South Haven SW	43.95	89	P		P	04 25 14.5 +1.0
KAN13				IAmb		IAmb	04 25 24.3
	comp=Z,24nm,1.0s						
JFWS	Jewell Farm	44.10	77	P		P	04 25 15.4 +0.7
	baz=310						
VHRN	Van Horn	44.18	101	P		P	04 25 16.7 +1.1
VHRN				IAmb		IAmb	04 25 28.1
	comp=Z,20nm,1.3s						
H11N2	WAKE ISLAND Hy	44.37	232	T		T	05 12 39.3
	baz=29,slow=74,SNR=2.0						
H11N3	WAKE ISLAND Hy	44.38	232	T		T	05 12 39.3
	baz=29						
H11N1	WAKE ISLAND Hy	44.39	232	T		T	05 12 39.9
	baz=29,slow=74,SNR=3.6						
P38A	Dawn	44.42	83	P		P	04 25 18.2 +0.9
WMOK	Wichita Mounta	44.81	92	P		P	04 25 21.4 +1.0
WMOK				IAmb		IAmb	04 25 31.7
	comp=Z,16nm,0.8s						
WMOK	Wichita Mounta	44.81	92	P		P	04 25 22.1 +1.6
	baz=316,SNR=8.4						
WMOK	Wichita Mounta	44.81	92	P		P	04 25 21.5 +1.0
WMOK				pmax		pmax	
	comp=Z,16nm,0.8s						
USRK	Ussuriysk Ar.	45.00	287	LR		LR	04 46 09.9
	comp=Z,123nm,18.9s,baz=43,slow=39						
OK052	Battle Ridge R	45.05	89			P	04 25 23.3 +1.0
OK031	S. Brethren Rd	45.06	89	P		P	04 25 23.4 +1.0
E46A	Sault Ste Mari	45.15	69	P		P	04 25 23.9 +0.9
P40A	Paris	45.33	82	P		P	04 25 25.5 +1.0
P40A				IAmb		IAmb	04 25 26.0
	comp=Z,13nm,0.7s						
DEOK	Depew	45.33	89			P	04 25 25.4 +0.8
DEOK				IAmb		IAmb	04 25 35.8
	comp=Z,20nm,1.0s						
H11S1	WAKE ISLAND Hy	45.53	231	T		T	05 14 09.9
	baz=28,slow=76,SNR=12						
H11S2	WAKE ISLAND Hy	45.55	231	T		T	05 14 06.2
	baz=28,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	45.55	231	T		T	05 14 10.2
	baz=28,slow=76,SNR=11						
TUL3	Leonard	45.69	88			P	04 25 28.2 +0.8
TUL3				IAmb		IAmb	04 25 38.6
	comp=Z,16nm,0.8s						
TUL3	Leonard	45.69	88	P		P	04 25 28.9 +1.5
	baz=315						
DAG	Danmarks Havn	45.79	12	*i* P		P	04 25 27.1 -0.6
DAG				IAmb		IAmb	04 25 28.6
	comp=Z,41nm,0.7s						
SUMG	Summit	45.84	22	P		P	04 25 29.1 +0.5
SUMG				IAmb		IAmb	04 25 46.4
	comp=Z,23nm,1.3s						
SUMG	Summit	45.84	22	P		P	04 25 29.1 +0.5
SUMG				pmax		pmax	
	comp=Z,23nm,1.3s						
SUMG	Summit	45.84	22	*i* P		P	04 25 27.8 -0.8
SUMG				IAmb		IAmb	04 25 29.6
	comp=Z,12nm,1.1s						
ABTX	Abilene, Hawle	45.85	95	P		P	04 25 29.9 +1.2
	baz=317						
S39A	Bolivar	45.86	85	P		P	04 25 28.5 -0.3
L44A	Lake County Fo	45.88	76	P		P	04 25 29.4 +0.6
	baz=312						
GLMI	Grayling	45.97	71	P		P	04 25 30.4 +0.9
	baz=310						
TX31	Lajitas Ar. Si	46.02	101	P		P	04 25 31.5 +1.3
TX31				IAmb		IAmb	04 25 42.1
	comp=Z,15nm,0.9s						
TXAR	Lajitas Array	46.02	101	P		P	04 25 31.4 +1.2
TXAR	Lajitas Array	46.02	101	P		P	04 25 32.5 +2.3
	comp=Z,1.0nm,0.6s,baz=304,slow=5.5,SNR=12						
TXAR				LR		LR	04 43 54.3
	comp=Z,172nm,19.2s,baz=297,slow=35						
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	46.02	101	P		P	04 25 31.4 +1.2
KBS	Kingsbay	46.03	3	*e*P		P	04 25 31.4 +1.9
R40A	Maddies Statio	46.05	83	P		P	04 25 30.3 +0.1
R40A				IAmb		IAmb	04 25 30.8
	comp=Z,7.8nm,0.5s						
U38A	Gravette	46.12	87	P		P	04 25 31.6 +0.7
HDIL	Hopedale	46.19	79	P		P	04 25 32.4 +1.1
HDIL	Hopedale	46.19	79	P		P	04 25 32.9 +1.6
	baz=312						
PLPT	Palo Pinto	46.47	93	P		P	04 25 35.7 +2.1
PLPT				IAmb		IAmb	04 25 44.4
	comp=Z,15nm,0.8s						
HHAR	Hobbs	46.49	87	P		P	04 25 34.1 +0.4
MSHR	Mys Shultsa	46.52	285	*ce*P		P	04 25 33.5 -0.3
MSHR				pmax		pmax	
	comp=Z,20nm,1.7s						
MJAR	Matsushiro Arr	46.65	274	P		P	04 25 34.6 -0.4
	comp=Z,1.7nm,0.6s,baz=47,slow=6.0,SNR=8.0						
MJAR				LR		LR	04 44 05.8
	comp=Z,62nm,20.9s,baz=74,slow=35						
	comp=Z,1.7nm,0.6s						
MJB9	Matsu-Tunnel	46.65	274	P		P	04 25 35.8 +0.8
MJB9				IAmb		IAmb	04 25 38.8
	comp=Z,9.9nm,1.0s						
MAJO	Matsushiro	46.65	274	P		P	04 25 35.6 +0.7
MAJO				IAmb		IAmb	04 25 37.4
	comp=Z,11nm,1.0s						
MAJO	Matsushiro	46.65	274	*i* P		P	04 25 34.5 -0.5
MAJO				pmax		pmax	
	comp=Z,9.0nm,1.0s						
CCM	Cathedral Cave	46.79	83	P		P	04 25 38.4 +2.3
	baz=314						
X37A	Clayton	46.87	89			P	04 25 37.6 +0.9
X37A				IAmb		IAmb	04 25 48.3
	comp=Z,14nm,0.9s						
NRIK	Noril'sk	47.17	334	P		P	04 25 38.6 0.0
NRIK	Noril'sk	47.17	334	P		P	04 25 38.2 -0.3
	comp=Z,26nm,0.8s,baz=59,slow=7.0,SNR=26						
	comp=Z,26nm,0.8s						
NRIK	Noril'sk	47.17	334	*ce*P		P	04 25 38.0 -0.6
NRIK				pmax		pmax	
	comp=Z,27nm,0.9s						
JCT	Junction City	47.34	97	P		P	04 25 41.5 +1.0
JCT	Junction City	47.34	97	P		P	04 25 41.5 +1.0
	baz=319,SNR=10.0						
JCT	Junction City	47.34	97	P		P	04 25 41.5 +1.0
JCT				pmax		pmax	
	comp=Z,35nm,0.8s						
SFIN	Lafayette	47.55	77	P		P	04 25 43.4 +1.5
	baz=313						
WHTX	Lake Whitney,	47.56	93	P		P	04 25 43.6 +1.5
	baz=318						
T42A	Van Buren	47.59	84	P		P	04 25 41.7 -0.6
DRIO	Del Rio	47.68	98	P		P	04 25 43.9 +0.8
DRIO				IAmb		IAmb	04 25 53.5
	comp=Z,11nm,0.8s						
DBG	Daneborg	47.70	14	*i* P		P	04 25 42.3 -0.3
DBG				IAmb		IAmb	04 25 43.5
	comp=Z,15nm,0.8s						
FCAR	Ozark Folk Cen	47.81	85	P		P	04 25 43.7 -0.3
FCAR				IAmb		IAmb	04 25 52.5
	comp=Z,13nm,1.2s						
MIAR	Mount Ida	47.93	88	P		P	04 25 45.2 +0.2
MIAR				IAmb		IAmb	04 25 55.6
	comp=Z,17nm,1.1s						
MIAR	Mount Ida	47.93	88	P		P	04 25 46.2 +1.2
	baz=316						
MIAR	Mount Ida	47.93	88	P		P	04 25 45.2 +0.2
MIAR				pmax		pmax	
	comp=Z,17nm,1.2s						
N47A	Urbana	47.99	76	P		P	04 25 45.8 +0.5
ICESG	Greenland Ices	48.10	25	*i* P		P	04 25 45.5 -0.8
ICESG				IAmb		IAmb	04 25 47.1
	comp=Z,21nm,0.8s						
OLIL	Olney	48.11	80	P		P	04 25 47.1 +0.9
SCHQ	Schefferville	48.42	51	P		P	04 25 48.5 0.0
	comp=Z,5.9nm,0.6s,baz=309,slow=7.5,SNR=14						
SCHQ				LR		LR	04 47 37.1
	comp=Z,193nm,19.6s,baz=242,slow=38						
	comp=Z,5.9nm,0.6s						
HOPEN	Hopen	48.59	359	*e*P		P	04 25 49.8 +0.3
O48B	Farmland	48.71	76	P		P	04 25 51.0 +0.1
O48B				IAmb		IAmb	04 25 51.4
	comp=Z,13nm,0.7s						
O48B	Farmland	48.71

WVT	**Waverly**	50.09	82	P	P	04 26 02.7	+1.2
	baz=316						
WVT	**Waverly**	50.09	82	P	P	04 26 02.7	+1.2
WVT				pmax	pmax		
	comp=Z,13nm,1.0s						
ERPA	**Erie**	50.28	71	P	P	04 26 04.1	+1.2
	baz=313						
OXF	**Oxford**	50.34	85	P	P	04 26 04.0	+0.6
	baz=316						
TRQ	**Mont Tremblant**	50.37	63	P	P	04 26 03.8	+0.3
M53A	**WI Miller and**	50.37	72	P	P	04 26 04.7	+1.1
	baz=314						
R50A	**Paris**	50.55	77	P	P	04 26 05.1	+0.2
R50A				IAmb	IAmb	04 26 06.3	
	comp=Z,16nm,1.1s						
Q51A	**Peebles**	50.57	76	P	P	04 26 06.0	+0.9
SOEG	**Soedalen**	50.72	23	*i* P	P	04 26 06.4	+0.6
SOEG				IAmb	IAmb	04 26 08.9	
	comp=Z,12nm,0.7s						
PLAL	**Pickwick Lake**	50.77	83	P	P	04 26 07.8	+1.2
PLAL				IAmb	IAmb	04 26 16.9	
	comp=Z,23nm,1.1s						
P52A	**Corning**	50.82	75	P	P	04 26 06.9	-0.1
	baz=314						
SSFO	**Shawnee State**	50.89	76	P	P	04 26 08.8	+1.3
O53A	**New Philadelph**	50.90	73	P	P	04 26 07.3	-0.2
	baz=314						
ISOG	**Isortoq, Green**	50.93	28	*i* P	P	04 26 06.7	-0.7
ISOG				IAmb	IAmb	04 26 07.9	
	comp=Z,9.3nm,0.6s						
CLTN	**Cedars of Leba**	50.97	81	P	P	04 26 08.9	+0.9
CLTN				IAmb	IAmb	04 26 10.2	
	comp=Z,13nm,0.6s						
ANGG	**Ammassalik, Gr**	51.24	27	*i* P	P	04 26 08.9	-0.8
ANGG				IAmb	IAmb	04 26 09.7	
	comp=Z,8.5nm,0.6s						
JCJ	**Chichijima**	51.32	262	LR	LR	04 46 05.1	
	comp=Z,40nm,21.9s,baz=30,slow=34						
IVI	**Ivigtut**	51.38	36	*i* P	P	04 26 11.4	+0.7
IVI				IAmb	IAmb	04 26 12.7	
	comp=Z,10nm,0.7s						
M55A	**Ridgway**	51.39	71	P	P	04 26 11.7	+0.4
M55A				IAmb	IAmb	04 26 12.6	
	comp=Z,14nm,0.8s						
O54A	**Avella**	51.41	73	P	P	04 26 11.8	+0.4
LONY	**Lake Ozonia**	51.44	65	P	P	04 26 11.6	-0.1
	baz=313						
L56A	**Greenwood**	51.58	69	P	P	04 26 13.5	+0.8
L56A				IAmb	IAmb	04 26 14.1	
	comp=Z,16nm,0.8s						
X48A	**Hartselle**	51.74	83	P	P	04 26 13.9	+0.1
X48A				IAmb	IAmb	04 26 23.0	
	comp=Z,23nm,1.5s						
KSRS	**Korea Array**	51.84	283	P	P	04 26 13.7	-0.9
	comp=Z,4.7nm,0.8s,baz=47,slow=6.9,SNR=18						
	comp=Z,4.7nm,0.8s						
MCWV	**Mont Chateau**	52.07	73	P	P	04 26 17.0	+0.7
	baz=315						
TZTN	**Tazewell**	52.21	78	P	P	04 26 18.4	+1.0
	baz=316						
JMIC	**Jan Mayen**	52.24	12	LR	LR	04 48 40.3	
	comp=Z,97nm,21.9s,baz=15,slow=36						
BINY	**Binghamton**	52.38	68	P	P	04 26 19.5	+0.9
	baz=314						
SSPA	**Standing Stone**	52.45	71	P	P	04 26 19.6	+0.5
	baz=315						
FPAL	**Fort Paine**	52.49	82	P	P	04 26 20.0	+0.4
FPAL				IAmb	IAmb	04 26 20.6	
	comp=Z,6.3nm,0.6s						
D62A	**Allapoint, All**	52.56	59	P	P	04 26 19.8	0.0
LRAL	**Lakeview Retre**	52.79	84	P	P	04 26 22.1	+0.3
	baz=317						
TJN	**Taejon**	52.92	282	*i* P	P	04 26 22.8	+0.2
LBNH	**Lisbon**	53.08	64	P	P	04 26 24.2	+0.5
	baz=314						
P57A	**Homestead Farm**	53.19	72	P	P	04 26 25.4	+0.8
P57A				IAmb	IAmb	04 26 25.7	
	comp=Z,15nm,0.9s						
JNU	**Nakatsue**	53.29	277	LR	LR	04 48 34.4	
	comp=Z,91nm,21.4s,baz=58,slow=36						
BLA	**Blacksburg**	53.48	76	P	P	04 26 27.4	+0.5
	baz=316						
XLT	**XiLinHaoTe**	53.69	296	*e*P	P	04 26 28.8	+0.5
XLT				pP	sP	04 26 33.6	-0.6
XLT				sP	pP	04 26 37.5	+4.9
XLT				pmax	pmax		
	comp=Z,21nm,1.0s						
XLT				pmax	pmax		
	comp=Z,100nm,3.5s						
PKME	**Peaks-Kenny Pk**	53.70	61	P	P	04 26 28.9	+0.6
	baz=315						
BATG	**Bathurst New B**	53.88	57	P	P	04 26 29.9	+0.3
BATG				IAmb	IAmb	04 26 30.6	
	comp=Z,12nm,0.8s						
L61B	**Northampton**	53.95	66	P	P	04 26 30.9	+0.8
	baz=315						
BRAL	**Brewton**	54.14	86	P	P	04 26 32.5	+0.8
	baz=318						
PAL	**Palisades**	54.32	68	P	P	04 26 33.1	+0.3
	baz=315						
CBN	**Corbin Frederi**	54.45	73	P	P	04 26 34.0	+0.1
	baz=316						
KMSC	**Kings Mountain**	54.47	78	P	P	04 26 34.2	+0.2
	baz=317						
HRV	**Adam Dziewonsk**	54.49	65	P	P	04 26 33.6	-0.5
	baz=315						
GOGA	**Godfrey**	54.53	81	P	P	04 26 34.6	+0.2
	baz=317						
VADS	**Vadso**	54.93	357	*e*P	P	04 26 36.6	-0.3
VADS				IAmb	IAmb	04 26 36.9	
	comp=Z,15nm,1.1s						
ZAK	**Zakamensk**	55.21	310	*e*P	P	04 26 38.6	-0.7
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KEV	**Kevo**	55.35	358	P	P	04 26 39.4	-0.5
KEV				IAmb	IAmb	04 26 40.3	
	comp=Z,19nm,1.1s						
KEV	**Kevo**	55.35	358	P	P	04 26 39.4	-0.5
KEV				pmax	pmax		
	comp=Z,19nm,1.1s						
TRO	**Tromso**	55.49	1	*e*P	P	04 26 41.3	+0.4
TRO				IAmb	IAmb	04 26 41.7	
	comp=Z,16nm,0.7s						
LMN	**Caledonia Moun**	55.51	58	P	P	04 26 41.6	+0.2
LMN				IAmb	IAmb	04 26 42.1	
	comp=Z,12nm,1.0s						
ARCES	**ARCESS Array B**	55.60	359	P	P	04 26 41.2	-0.5
	comp=Z,5.4nm,0.9s,baz=13,slow=7.6,SNR=4.9						
ARCES				LR	LR	04 51 50.6	
	comp=Z,82nm,18.8s,baz=352,slow=38						
	comp=Z,5.4nm,0.9s						
SONM	**Songino Array**	55.64	306	P	P	04 26 42.9	+0.5
SONM				IAmb	IAmb	04 26 54.2	
	comp=Z,16nm,1.3s						
SONM	**Songino Array**	55.64	306	P	P	04 26 42.4	-0.1
	comp=Z,3.7nm,0.8s,baz=51,slow=7.2,SNR=15						
SONM				PcP	PcP	04 27 42.3	+0.5
	comp=Z,3.9nm,0.8s,baz=44,slow=1.9,SNR=5.6						
	comp=Z,3.7nm,0.8s						
SONM	**Songino Array**	55.64	306	P	P	04 26 42.9	+0.5
SONM				pmax	pmax		
	comp=Z,16nm,1.3s						
BORG	**Borgarnes**	55.81	21	LR	LR	04 52 59.5	
	comp=Z,81nm,19.3s,baz=342,slow=39						
KTK1	**Kautokeino**	56.14	360	*e*P	P	04 26 45.5	-0.1
LVZ	**Lovozero**	56.93	355	*ce*P	P	04 26 50.9	-0.4
LVZ				pmax	pmax		
	comp=Z,27nm,2.5s						
STEI	**Steigen**	57.12	3	*e*P	P	04 26 52.7	+0.2
STEI				IAmb	IAmb	04 26 56.1	
	comp=Z,29nm,1.3s						
APA	**Apatity**	57.32	355	‖*i*P	P	04 26 51.5	-2.5
APA				*i*		04 27 50.5	
APA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FAUS	**Fauske**	57.66	3	*e*P	P	04 26 55.9	-0.5
FAUS				IAmb	IAmb	04 26 57.0	
	comp=Z,15nm,0.9s						
HHC	**Hu-ho-hao-te**	58.20	297	*e*P	P	04 27 01.6	+0.9
HHC				PcP	PcP	04 27 48.3	-3.7
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,4.0s						
MOR8	**Moi Rana**	58.85	4	*e*P	P	04 27 03.8	-0.9
MOR8				IAmb	IAmb	04 27 04.2	
	comp=Z,11nm,0.8s						
ZALV	**Zalesovo Beam**	59.78	323	P	P	04 27 11.8	+0.5
ZALV	**Zalesovo Beam**	59.78	323	P	P	04 27 10.6	-0.7
	comp=Z,1.3nm,0.5s,baz=28,slow=6.5,SNR=4.2						
	comp=Z,1.3nm,0.5s						
ZALV	**Zalesovo Beam**	59.78	323	P	P	04 27 11.8	+0.5
NSS	**Namsos**	60.38	5	*e*P	P	04 27 15.0	-0.2
NSS				IAmb	IAmb	04 27 15.8	
	comp=Z,16nm,1.0s						
NJ2	**Nanjing**	60.86	285	*e*P	P	04 27 19.6	+0.6
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,150nm,5.0s						
TBLU	**Trondheim**	61.55	6	*e*P	P	04 27 22.8	-0.5
JOF	**Joensuu**	62.06	355	*e*P	P	04 27 26.7	0.0
VAF	**Ylistaro**	62.14	360	*e*P	P	04 27 27.3	+0.1
DOMB	**Dombas**	62.67	7	*e*P	P	04 27 30.9	+0.1
DOMB				IAmb	IAmb	04 27 31.4	
	comp=Z,9.9nm,0.8s						
KEF	**Keuruu**	63.00	359	*e*P	P	04 27 32.7	-0.2
NC204	**NORSAR Array S**	63.55	6	P	P	04 27 37.4	+0.7
NC204				IAmb	IAmb	04 27 37.8	
	comp=Z,11nm,0.8s						
NC303	**NORSAR Array S**	63.63	6	P	P	04 27 37.2	+0.1
NC303				IAmb	IAmb	04 27 38.4	
	comp=Z,11nm,0.9s						
VALR	**Valaam**	63.64	355	*c i*P	P	04 27 36.7	-0.4
VALR				pmax	pmax		
	comp=Z,23nm,0.9s						
FIA1	**FINESS Array S**	63.71	358	P	P	04 27 37.5	-0.1
FINES	**FINESS Array B**	63.71	358	P	P	04 27 37.6	0.0
FINES	**FINESS Array B**	63.71	358	P	P	04 27 37.3	-0.3
	comp=Z,11nm,0.8s,baz=15,slow=8.1,SNR=38						
	comp=Z,11nm,0.8s						
FINES	**FINESS Array B**	63.71	358	*i* P	P	04 27 37.2	-0.4
FINES				pmax	pmax		
	comp=Z,11nm,0.8s						
NC405	**NORSAR Array S**	63.77	6	P	P	04 27 38.6	+0.5
NB2	**NORSAR Subarra**	63.81	6	P	P	04 27 38.1	-0.3
	comp=Z,8.8nm,0.8s,baz=353,slow=6.9						
NB2	**NORSAR Subarra**	63.81	6	P	P	04 27 38.1	-0.3
	baz=353,slow=6.9						
NOA	**NORSAR Array B**	63.81	6	P	P	04 27 38.5	+0.1
	comp=Z,5.4nm,0.8s,baz=353,slow=6.6,SNR=27						
NOA				LR	LR	04 57 54.7	
	comp=Z,34nm,18.5s,baz=355,slow=38						
	comp=Z,5.4nm,0.8s						
SVE	**Sverdlovsk**	64.14	338	*e*P	P	04 27 40.8	+0.2
RAF	**Rauma**	64.17	0	*e*P	P	04 27 40.6	0.0
KIRV	**Kirov**	64.55	345	*ce*P	P	04 27 42.4	-0.8
KURK	**Kurchatov**	64.59	324	P	P	04 27 44.0	+0.5
KURK				IAmb	IAmb	04 27 56.8	
	comp=Z,9.0nm,0.8s						
KURK	**Kurchatov**	64.59	324	*ce*P	P	04 27 43.1	-0.5
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURBB	**Kurchatov Arra**	64.70	324	P	P	04 27 43.6	-0.7
	comp=Z,4.7nm,0.9s,baz=28,slow=6.4,SNR=21						
	comp=Z,4.7nm,0.9s						
XAN	**Xi'an**	64.72	294	P	P	04 27 44.5	-0.3
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN				pmax	pmax		
	comp=Z,230nm,5.0s						
HFS	**Hagfors**	64.85	5	P	P	04 27 44.9	-0.2
	comp=Z,8.8nm,0.8s,baz=26,slow=7.1,SNR=16						
	comp=Z,8.8nm,0.8s						
ARU	**Arti**	64.95	339	*c i*P	P	04 27 45.2	-0.7
ARU						04 30 05.6	
ARU				S	S	04 36 28.4	+1.7
ARU				SS	SS	04 40 36.4	-1.0
ARU				pmax	pmax		
	comp=Z,12nm,1.0s						
MEF	**Metsahovi**	64.97	359	*e*P	P	04 27 46.0	+0.2
AAL	**Aland**	65.00	1	*e*P	P	04 27 46.0	0.0
BLS5	**Blasjo**	65.06	9	*e*P	P	04 27 47.1	+0.6
GTA	**Gaotai**	65.12	304	*e*P	P	04 27 46.8	-0.6
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				LR	LR		
	comp=Z,100nm,16.4s						
GTA				LR	LR		
	comp=Z,160nm,16.4s						
GTA				LR	LR		
	comp=Z,230nm,18.2s						
BRVK	**Borovoye**	65.14	330	P	P	04 27 47.4	+0.3
BRVK				IAmb	IAmb	04 27 48.4	
	comp=Z,8.8nm,0.8s						
BRVK	**Borovoye**	65.14	330	*de*P	P	04 27 47.3	+0.2
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BVAR	**Borovoye Array**	65.14	330	P	P	04 27 46.4	-0.7
	comp=Z,14nm,0.7s,baz=42,slow=6.7,SNR=53						
	comp=Z,14nm,0.7s						
UPP	**Uppsala**	65.27	3	*e*P	P	04 27 48.1	+0.2
ARBE	**Arbavere**	65.72	358	*e*P	P	04 27 50.9	+0.1
LZH	**Lanzhou**	65.75	299	*e*P	P	04 27 50.9	-0.6
LZH				sP	sP	04 27 56.5	-1.0
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
MTSE	**Matsula**	66.48	359	*e*P	P	04 27 56.1	+0.5
VIKU	**Vikbolandet**	66.60	3	*e*P	P	04 27 57.1	+0.6
MK31	**Makanchi Array**	66.61	320	P	P	04 27 56.4	-0.4
MK31	**Makanchi Array**	66.61	320	P	P	04 27 56.4	-0.4
MK31				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	**Makanchi Array**	66.61	320	P	P	04 27 56.4	-0.4
MKAR	**Makanchi Array**	66.61	320	P	P	04 27 55.6	-1.2
	comp=Z,2.4nm,0.8s,baz=45,slow=5.4,SNR=12						
	comp=Z,2.4nm,0.8s						
MKAR	**Makanchi Array**	66.61	320	*i* P	P	04 27 55.9	-0.9
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VSU	**Vasula**	66.68	358	*ce*P	P	04 27 57.0	+0.1
VSU				pmax	pmax		
	comp=Z,40nm,1.0s						
EKA	**Eskdalemuir Ar**	67.90	15	P	P	04 28 05.2	+0.5
	comp=Z,6.5nm,0.7s,baz=333,slow=5.0,SNR=26						
	comp=Z,6.5nm,0.7s						
MOS	**Moscow**	68.77	351	*e*P	P	04 28 15.8	+5.6
OBN	**Obninsk**	69.48	351	LR	LR	05 02 13.9	
	comp=Z,38nm,20.2s,baz=356,slow=39						
OBN	**Obninsk**	69.48	351	‖*i*P	P	04 28 14.1	-0.5
OBN				*i*		04 28 24.6	
OBN				*e*S	S	04 37 20.0	-1.2
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,54nm,18.0s						
PABE	**Paberze**	69.69	359	*e*P	P	04 28 16.6	+0.7
CD2	**Chengdu**	69.87	295	P	P	04 28 18.3	+0.9
CD2				pmax	pmax		
	comp=Z,20nm,0.4s						
MNK	**Minsk**	70.61	357	*i* P	P	04 28 20.6	-0.9
MNK				*i*		04 30 55.4	
MNK				*i* PPP	PPP	04 32 38.3	
MNK				*i* S	S	04 37 34.9	+0.4
MNK				*i* SS	SS	04 42 06.4	+1.6
MNK				pmax	pmax		
	comp=Z,22nm,0.8s						
MNK				MLR	MLR		
	comp=E,53nm,12.0s						
MNK				MLR	MLR		
	comp=Z,84nm,16.0s						
MNK				MLR	MLR		
	comp=N,45nm,16.0s						
BELG	**Belogornoye**	70.80	344	*i* P	P	04 28 22.3	-0.4
BELG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BSEG	**Bad Segeberg**	70.82	8	*e*P		04 28 23.7	
	comp=Z,24nm,1.7s,baz=354,slow=5.8						
BSEG				*e*L		04 57 34.9	
	comp=Z,75nm,21.1s						
SUW	**Suwalki**	71.20	360	*e*P	P	04 28 25.5	+0.4
ABKAR	**Akbulak array**	71.32	335	P	P	04 28 25.9	0.0
ABKAR	**Akbulak array**	71.32	335	P	P	04 28 26.1	+0.2
ABKAR				IAmb	IAmb	04 28 38.8	
	comp=Z,15nm,0.7s						
LPSR	**Galich'ya Gora**	71.74	349	*e*P	P	04 28 26.9	-1.5
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
GORT1	**Trebel**	71.83	7	*e*P		04 28 30.1	
	comp=Z,26nm,1.8s,baz=354,slow=5.8						
NRDL	**Niedersach Rie**	72.23	8	*e*P		04 28 31.9	
	comp=Z,4.9nm,1.0s,baz=354,slow=5.8						
FLTG	**Flechtingen**	72.48	7	*e*P		04 28 33.1	
	comp=Z,4.8nm,0.8s,baz=354,slow=5.8						
PPT2	**Papeete2**	72.77	172	*e*LR	LR	04 50 49.1	
	comp=Z,99nm,22.0s						
PPT2				*e*LR	LR	04 50 49.5	
	comp=Z,126nm,25.2s						
VRH	**Novokhopyorsk**	72.80	347	*e*P	P	04 28 31.6	-3.1
VRH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CLZ	**Clausthal**	72.90	8	*e*P		04 28 36.4	
	comp=Z,27nm,1.8s,baz=354,slow=5.8						
AAK	**Ala-Archa**	73.01	323	*ce*P	P	04 28 36.5	+0.1
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VSR	**Storozhevoye**	73.09	349	*e*P	P	04 28 34.6	-1.8
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GTTG	**Gottingen**	73.17	8	*e*P		04 28 37.9	
	baz=354,slow=5.8						
VORD	**Divnogorie**	73.32	349	*e*P	P	04 28 36.6	-1.2
VORD				pmax	pmax		
	comp=Z,20nm,0.9s						
KASTN	**Kahler Asten**	73.37	9	*e*P		04 28 38.7	
	comp=Z,6.7nm,1.2s,baz=354,slow=5.8						
CLL	**Collm**	73.62	6	*i* P	P	04 28 39.5	-0.1
	comp=Z,7.0nm,1.2s						
CLL				*i* (sP)	PcP	04 28 52.5	-2.9
CLL				*e*Sx	Sx	04 38 36.0	
CLL				AMS	AMS	04 59 00.0	
	comp=Z,100nm,22.0s						
CLL	**Collm**	73.62	6	*i* P	P	04 28 39.5	-0.1
CLL				*i*		04 28 52.5	
CLL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CLL	**Collm**	73.62	6	*e*P		04 28 39.6	
	comp=Z,7.4nm,1.2s,baz=354,slow=5.8						
CLL				*e*L		04 59 12.8	
	comp=Z,56nm,22.0s						
MEM	**Membach**	73.72	11	*d*P	P	04 28 40.6	+0.4
BTNL	**Ternell**	73.75	11	*d*P	P	04 28 41.0	+0.5
BMRD	**Maredsous**	73.88	12	*d*P	P	04 28 41.6	+0.4
KK31	**Karatay Array**	73.94	325	P	P	04 28 42.2	+0.5
KK31				IAmb	IAmb	04 28 54.4	
	comp=Z,12nm,0.8s						
KK31	**Karatay Array**	73.94	325	P	P	04 28 42.2	+0.5
KK31				pmax	pmax		
	comp=Z,12nm,0.9s						
KKAR	**Karatay Array**	73.94	325	P	P	04 28 41.8	+0.1
KKAR	**Karatay Array**	73.94	325	P	P	04 28 41.7	+0.1
KKAR				IAmb	IAmb	04 28 54.4	
	comp=Z,12nm,0.8s						
KKAR	**Karatay Array**	73.94	325	P	P	04 28 41.8	+0.1
DOU	**Dourbes**	74.06	12	*d*P	P	04 28 42.7	+0.5
BRG	**Berggiesshubel**	74.11	6	*e*P	P	04 28 43.1	+0.6
BRG				Amp		04 28 44.0	
	comp=Z,4.2nm,0.9s						
BRG	**Berggiesshubel**	74.11	6	*e*P	P	04 28 43.1	+0.6
BRG						04 28 57.2	
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRG				MLR	MLR		
	comp=N,93nm,23.8s						
BRG				MLR	MLR		
	comp=E,69nm,19.0s						
BRG				MLR	MLR		
	comp=Z,70nm,19.0s						
BRG	**Berggiesshubel**	74.11	6	*e*P		04 28 42.7	
	comp=Z,4.1nm,0.8s,baz=354,slow=5.8						
MOX	**Moxa**	74.19	7	*e*P		04 28 43.3	
	comp=Z,14nm,1.3s,baz=354,slow=5.8						
MOX				*e*L		05 12 26.4	
	comp=Z,48nm,18.0s						
HSKC	**Hora Svate Kat**	74.34	6	*e*P	P	04 28 44.0	+0.1
TNS	**Taunus Mts**	74.35	9	*e*P		04 28 44.3	
	comp=Z,13nm,1.3s,baz=354,slow=5.8						
TNS				*e*L		05 01 29.2	
	comp=Z,54nm,21.2s						
AKASG	**Malin Array Be**	74.36	356	P	P	04 28 43.2	-0.7
	comp=Z,7.1nm,0.6s,baz=5.1,slow=5.6,SNR=40						
	comp=Z,7.1nm,0.6s						
AKBB	**Malin Array Si**	74.36	356	P	P	04 28 44.0	+0.1
AKBB	**Malin Array Si**	74.36	356	P	P	04 28 44.0	+0.1
AKBB				pmax	pmax		
	comp=Z,13nm,0.7s						
KIEV	**Kiev**	74.37	356	P	P	04 28 44.0	0.0
KIEV				IAmb	IAmb	04 28 44.3	
	comp=Z,12nm,0.7s						
KIEV	**Kiev**	74.37	356	P	P	04 28 44.0	0.0
KIEV				pmax	pmax		
	comp=Z,12nm,0.7s						
PZH	**PanZhiHua**	74.45	294	P	P	04 28 43.6	-1.4
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,160nm,4.7s						
DPC	**Dobruska-Polom**	74.74	4	*e*P	P	04 28 47.1	+0.9
DPC	**Dobruska-Polom**	74.74	4	*e*P	P	04 28 47.1	+0.9
LDF	**La Druitiere**	74.90	15	*e*P	P	04 28 46.8	-0.3
LDF				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KRLC	**Kraliky**	75.03	4	*e*P	P	04 28 48.3	+0.4
KRLC				*es*P	PcP	04 29 00.6	-1.0
KRLC	**Kraliky**	75.03	4	*e*P	P	04 28 48.3	+0.4
KRLC				*e*		04 29 00.6	
ROTZ	**Rotzenmuhle**	75.10	7	*e*P		04 28 48.9	
	comp=Z,0.8nm,0.9s,baz=354,slow=5.8						
GRF	**Grafenberg Arr**	75.11	8	*e*L		05 04 10.5	
	comp=Z,48nm,20.6s						
KSH	**Kashi**	75.22	320	P	P	04 28 52.8	+3.5
KSH				PcP	PcP	04 29 04.8	+2.1
KSH				pmax	pmax		
	comp=Z,12nm,0.9s						
MORC	**Moravsky Berou**	75.36	3	*e*P	P	04 28 49.7	-0.1
WET	**Wettzell**	75.77	6	*e*L		04 55 47.0	
	comp=Z,44nm,21.7s						
VRAC	**Vranov**	75.79	4	*e*P	P	04 28 52.7	+0.4
CLF	**Chambon-Foret**	75.80	14	P	P	04 28 52.9	+0.6
KHC	**Kasperske Hory**	75.82	6	P	P	04 28 53.3	+0.8
KHC	**Kasperske Hory**	75.82	6	*e*P	P	04 28 53.2	+0.8
KHC				*ep*P	PcP	04 29 03.7	-1.3
KHC				*ex*	x	04 30 46.0	
KHC	**Kasperske Hory**	75.82	6	*ce*P	P	04 28 52.4	-0.1
KHC				pmax	pmax		
	comp=Z,14nm,1.0s						
KRUC	**Moravsky**	76.03	4	*e*P	P	04 28 53.6	0.0
RAR	**Rarotonga**	76.08	182	LR	LR	04 57 38.0	
	comp=Z,74nm,18.1s,baz=20,slow=32						
GERES	**GERESS Array B**	76.11	6	P	P	04 28 54.2	0.0
	comp=Z,1.3nm,0.7s,baz=20,slow=4.3,SNR=5.8						
	comp=Z,1.3nm,0.7s						
GEC2	**GERESS Array S**	76.11	6	*e*P		04 28 54.5	
	comp=Z,4.8nm,1.1s,baz=354,slow=5.8						
ECH	**Echery**	76.20	10	P	P	04 28 55.5	+0.9
ECH				IAmb	IAmb	04 28 56.1	
	comp=Z,8.0nm,0.9s						
ECH	**Echery**	76.20	10	P	P	04 28 55.5	+0.9
ECH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
B

comp=Z,15nm,0.9s
CONA Conrad Observa 77.14 5 *i* pP **P 04 29 00.7 +0.7**
comp=Z,4.2nm,1.0s
RJOB Jochberg 77.16 7 *e*P 04 29 00.5
comp=Z,6.8nm,0.7s,baz=354,slow=5.8
BIOA Bad Ischl, Aus 77.26 6 *ep*P **P 04 29 01.0 +0.4**
comp=Z,1.4nm,0.4s
PSZ Piszkesteto 77.28 2 P **P 04 29 02.0 +1.2**
PSZ Piszkesteto 77.28 2 P **P 04 29 02.0 +1.2**
PSZ pmax pmax
comp=Z,6.0nm,1.0s
RONA Rosalia, Austr 77.39 4 *i* pP **P 04 29 01.5 +0.2**
comp=Z,4.9nm,1.0s
LESA Schwarzleotal 77.46 7 *ep*P **P 04 29 02.4 +0.6**
comp=Z,2.4nm,0.6s
WATA Walderalm 77.47 8 *i* pP **P 04 29 02.5 +0.5**
comp=Z,5.5nm,0.8s
SLVN Son La 77.48 289 P **P 04 29 02.3 0.0**
SLVN IAmb IAmb 04 29 13.3
comp=Z,10nm,1.0s
WTTA Wattenberg 77.55 8 *i* pP **P 04 29 03.3 +0.8**
comp=Z,6.8nm,0.8s
SQTA Sankt Quirin 77.56 8 *i* pP **P 04 29 03.1 +0.7**
comp=Z,8.5nm,0.8s
GAR Garm 77.68 324 P **P 04 29 03.7 +0.4**
FETA Feichten 77.72 8 *ep*P **P 04 29 03.9 +0.5**
comp=Z,6.3nm,0.9s
ARSA Arzberg 77.80 5 *i* pP **P 04 29 05.5 +1.8**
comp=Z,5.2nm,1.1s
KBA Koelnbreinsper 77.85 6 *i* pP **P 04 29 05.1 +1.0**
comp=Z,6.0nm,0.6s
FUORN Ofenpass-Fuorn 78.08 9 P **P 04 29 06.1 +0.6**
TUE Stuetta 78.14 9 P **P 04 29 06.8 +1.1**
SOKA Soboth 78.35 5 *i* pP **P 04 29 07.2 +0.4**
comp=Z,6.9nm,1.1s
CHGR Chuyangaron 78.38 324 P **P 04 29 07.7 +0.6**
CHGR Chuyangaron 78.38 324 P **P 04 29 07.7 +0.6**
CHGR pmax pmax
comp=Z,45nm,0.8s
SIMJ Simiganj 78.43 325 P **P 04 29 07.2 -0.2**
SIMJ IAmb IAmb 04 29 08.6
comp=Z,14nm,0.8s
OBKA Obir 78.49 6 *ep*P **P 04 29 08.1 +0.5**
comp=Z,13nm,0.6s
TBI Tubuai 78.49 172 *e*LR LR 04 53 18.0
comp=Z,334nm,27.5s
GOF Gofitskoye 78.64 345 *cep*P **P 04 29 08.5 +0.2**
CAF Calviac 78.81 15 *ep*P **P 04 29 09.3 0.0**
CAF pmax pmax
comp=Z,8.0nm,0.8s
BNI Bardonecchia 79.28 11 P **P 04 29 13.1 +1.1**
BNI Bardonecchia 79.28 11 P **P 04 29 13.1 +1.1**
BNI pmax pmax
comp=Z,6.0nm,0.8s
KIV Kislovodsk 79.78 345 *ep*P **P 04 29 15.0 +0.4**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KBZ Khabaz 79.97 345 P **P 04 29 15.9 +0.4**
comp=Z,9.4nm,0.9s,baz=27,slow=3.9,SNR=14
comp=Z,9.4nm,0.9s
KBZ Khabaz 79.97 345 *cep*P **P 04 29 15.7 +0.2**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
SHA1 Shidzhatmaz 79.99 345 *cep*P **P 04 29 16.9 +0.9**
PCAB Cabril 80.07 23 *ep*P **P 04 29 18.5 +2.3**
PBRG Braganca 80.26 22 *ep*P **P 04 29 18.7 +1.5**
SOC Sochi 80.54 347 *ep*P **P 04 29 18.2 -0.4**
SOC *e* 04 32 21.2
SOC *e*PPP PPP 04 34 09.7
SOC *e*S **S 04 39 26.0 +1.3**
SOC *e*SS **SS 04 44 40.2 +4.8**
SOC *e*SSS SSS 04 48 05.0
SOC pmax pmax
comp=Z,14nm,0.8s
SOC MLR MLR
comp=Z,73nm,19.0s
PVRL Vila Real 80.56 23 *ep*P **P 04 29 20.2 +1.4**
comp=Z,19nm,1.6s
PVIS Viseu 81.05 23 *ep*P **P 04 29 22.7 +1.2**
NIL Nilore 81.42 319 P **P 04 29 24.1 +0.6**
NIL Nilore 81.42 319 P **P 04 29 24.2 +0.6**
NIL pmax pmax
comp=Z,22nm,0.9s
MTE Manteigas 81.43 23 *ep*P **P 04 29 23.8 +0.2**
comp=Z,16nm,2.2s
PCAS Casmilo, Conde 81.55 24 *ep*P **P 04 29 25.2 +1.1**
PCBR Castelo Branco 81.98 23 *ep*P **P 04 29 27.0 +0.6**
comp=Z,15nm,1.8s
PMRV Marv??o 82.40 23 *ep*P **P 04 29 29.7 +1.1**
CMAR Chiang Mai Arr 82.50 291 P **P 04 29 29.6 +0.3**
CMAR Chiang Mai Arr 82.50 291 P **P 04 29 29.4 0.0**
comp=Z,8.5nm,0.7s,baz=12,slow=5.4,SNR=32
comp=Z,8.5nm,0.7s
ESBB Sonseca Array 82.88 20 P **P 04 29 31.6 +0.5**
ESBB IAmb IAmb 04 29 33.0
comp=Z,8.0nm,0.8s
ESDC Sonseca Array 82.88 20 P **P 04 29 31.6 +0.5**
ESDC IAmb IAmb 04 29 33.1
comp=Z,7.5nm,0.8s
ESDC Sonseca Array 82.88 20 P **P 04 29 32.0 +0.8**
comp=Z,7.8nm,0.8s,baz=340,slow=4.8,SNR=56
ESDC LR LR 05 08 51.5
comp=Z,43nm,20.1s,baz=332,slow=38
comp=Z,7.8nm,0.8s
EVO Evora 83.11 24 *ep*P **P 04 29 32.5 +0.2**
PNCL Nicolau / Gran 83.39 24 *ep*P **P 04 29 34.9 +1.2**
TULM Tulcn-Chalpat 83.57 98 P **P 04 29 35.4 -0.1**
PBEJ Beja 83.63 24 *ep*P **P 04 29 36.3 +1.4**
PBAR Barrancos 83.67 23 *ep*P **P 04 29 36.3 +1.1**
comp=Z,21nm,1.0s
PCVE Castro Verde 83.97 24 *ep*P **P 04 29 37.9 +1.2**
PVAQ Vaqueiros 84.26 24 *ep*P **P 04 29 39.6 +1.4**
comp=Z,36nm,1.6s
BR131 Keskin Array S 85.01 351 P **P 04 29 42.6 +0.5**
BR131 IAmb IAmb 04 29 43.7
comp=Z,8.5nm,1.1s
BR131 Keskin Array S 85.01 351 P **P 04 29 42.6 +0.5**
BR131 pmax pmax
comp=Z,8.0nm,1.1s
BRTR Keskin Array B 85.01 351 P **P 04 29 42.6 +0.5**
BRTR Keskin Array B 85.01 351 P **P 04 29 42.9 +0.7**
comp=Z,3.6nm,0.9s,baz=18,slow=2.9,SNR=17
BRTR LR LR 05 15 19.7
comp=Z,14nm,18.3s,baz=75,slow=41
comp=Z,3.6nm,0.9s
BRTR Keskin Array B 85.01 351 P **P 04 29 42.7 +0.5**
BNN Bunyan 85.66 350 P **P 04 29 46.4 +1.0**
KEST Kesra 88.78 11 P **P 04 30 01.1 +0.7**
comp=Z,6.8nm,1.1s,baz=321,slow=6.5,SNR=4.1
comp=Z,6.8nm,1.1s
H03N2 Juan Fernandez 110.77 119 T T 06 35 50.4
baz=325,slow=78,SNR=95
H03N1 Juan Fernandez 110.78 119 T T 06 35 51.9
baz=325,slow=78,SNR=125
H03N3 Juan Fernandez 110.78 119 T T 06 35 50.9
baz=325,slow=78,SNR=144
QSPA South Pole Qui 144.93 180 PKPbc PKPbc 04 36 41.4 -0.3
comp=Z,5.9nm,0.7s,baz=300,slow=1.0,SNR=20
BOSA Boshof 153.40 354 PKPab **PKPab 04 37 15.2 -1.7**
comp=Z,3.4nm,0.9s,baz=41,slow=1.4,SNR=4.6
ELIB Princess Elisa 163.13 181 *d*PKP **PKPab 04 37 58.4 +0.5**

*IDC **24** 04:18:58.2±0.8, 55°.30N×157°.93W, h0km, mb4.3/23, mbtmp4.3/26, ML4.1/2, MS3.9/4, Error ellipse: s-maj=23.0km s-min=14.3km az=5.0*
*NEIC **24** 04:19:01.3, 55°.22N×157°.59W, h20km*
*NEIC **24** 04:19:02.0±1.2, 55°.18N±0°.07×157°.55W±0°.08, h27km±6km, Error ellipse: s-maj=11.2km s-min=6.2km az=164.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr0.93; Mθθ0.84; Mφφ-1.77; Mrθ2.79; Mφφ-0.59; Mφr1.02; Fault plane solution: M0 3.40000×10^15^ NP1:φs57.75000°, δ82.38000°, λ116.74000°. NP2:φs162.50000°, δ27.73000°, λ16.57000°. Principal axes: T 3.6944, Plg46.0000°, Azm355.0000°; N -0.7107, Plg26.0000°, Azm234.0000°; P -2.9838, Plg32.0000°, Azm126.0000°;*
*AEIC **24** 04:19:02.0±1.6, 55°.11N±0°.08×157°.52W±0°.06, h20km±4km, ML4.1, mb4.7/67(NEIC), ML4.3/24(NEIC), Mwr4.3/14(NEIC) Error ellipse: s-maj=11.3km s-min=3.6km az=161.0*
ISC 24 04:19:04.2±2.1, 55°.28N±0°.06×157°.62W±0°.04, h41km±14km, n134, σ1.9 22/128, mb4.6/57, MS4.0/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.11**	**337**	Pn	**Pn**	**04 19 22.9**	**-0.4**
CHGN				Sn	**Sn**	**04 19 39.3**	**+1.9**
CHGN	**Chignik**	**1.11**	**337**	P	**Pn**	**04 19 22.9**	**-0.4**
CHGN	baz=156			S	**Sn**	**04 19 40.0**	**+2.6**
	baz=156						
CHNA	**Chernabura Isl**	**1.22**	**249**	P	**Pn**	**04 19 22.1**	**-2.6**
CHNA	baz=77			S	**Sn**	**04 19 38.3**	**-1.7**
	baz=77						
CNBA	**Chernabura Isl**	**1.23**	**249**	Pn	**Pn**	**04 19 23.6**	**-1.2**
CNBA				IAML		04 19 45.5	
	comp=N,4μm,0.7s						
CHIR	**Chirikof Islan**	**1.25**	**64**	Pn	**Pn**	**04 19 24.1**	**-1.1**
CHIR				IAML		04 19 52.3	
	comp=E,4μm,0.6s						
CHIR				IAML		04 19 54.5	
	comp=N,5μm,0.8s						
CHIR	**Chirikof Islan**	**1.25**	**64**	P	**Pn**	**04 19 23.7**	**-1.5**
CHIR	baz=236			S	**Sn**	**04 19 39.7**	**-1.2**
	baz=236						
S14K	**Fog Glacier**	**1.48**	**313**	P	**Pn**	**04 19 28.7**	**+0.3**
	baz=135						
SDPT	**Sand Point**	**1.64**	**273**	Pn	**Pn**	**04 19 28.8**	**-1.6**
SDPT				IAML		04 20 01.1	
	comp=N,4μm,0.7s						
SDPT				IAML		04 20 02.9	
	comp=E,3μm,0.9s						
SDPT	**Sand Point**	**1.64**	**273**	P	**Pn**	**04 19 28.9**	**-1.6**
	baz=98						
SII	**Sitkinak Islan**	**2.32**	**55**	Pn	**Pn**	**04 19 38.4**	**-1.4**
SII				IAML		04 20 33.6	
	comp=E,2μm,0.8s						
SII				IAML		04 20 38.3	
	comp=N,2μm,0.7s						
SII	**Sitkinak Islan**	**2.32**	**55**	P	**Pn**	**04 19 39.0**	**-0.8**
SII	baz=233			S	**Sn**	**04 20 06.6**	**-0.5**
	baz=233						
PLK4	**Peulik 4**	**2.46**	**16**	Pn	**Pn**	**04 19 41.7**	**-0.1**
PLK4				IAML		04 20 24.2	
	comp=N,2μm,1.1s						
S12K	**Black Hills**	**2.56**	**281**	Pn	**Pn**	**04 19 41.7**	**-1.5**
S12K	**Black Hills**	**2.56**	**281**	P	**Pn**	**04 19 42.5**	**-0.7**
	baz=102						
OHAK	**Old Harbor**	**3.10**	**49**	Pn	**Pn**	**04 19 49.3**	**-1.2**
OHAK				IAML		04 20 56.8	
	comp=N,506nm,1.0s						
OHAK	**Old Harbor**	**3.10**	**49**	P	**Pn**	**04 19 49.5**	**-1.1**
	baz=229						
KDAK	**Kodiak Island**	**3.75**	**46**	Pn	**Pn**	**04 19 58.1**	**-1.3**
	comp=N,175nm,0.8s,baz=142,slow=22,SNR=0.3						
KDAK				Sn	**Sn**	**04 20 37.9**	**-4.3**
	comp=N,7.8nm,0.3s,baz=271,slow=23,SNR=0.7						
O15K	**Ungalikthiuk R**	**4.08**	**344**	P	**Pn**	**04 20 04.2**	**+0.2**
	baz=162						
SYI	**Shuyak Island**	**4.39**	**38**	Pn	**Pn**	**04 20 07.2**	**-1.1**
SYI				IAML		04 21 28.4	
	comp=N,209nm,0.9s						
O14K	**Tigyukauivet M**	**4.45**	**335**	Pn	**Pn**	**04 20 09.4**	**+0.4**
O14K				IAML		04 21 30.1	
	comp=N,306nm,0.8s						
O18K	**Koktuh Hills**	**4.76**	**15**	Pn	**Pn**	**04 20 14.7**	**+1.3**
LVA	**Lava Point**	**5.01**	**260**	Pn	**Pn**	**04 20 17.8**	**+1.1**
LVA				IAML		04 21 37.8	
	comp=E,198nm,0.9s						
ILAR	**Eielson Array**	**10.90**	**25**	Pn	**Pn**	**04 21 35.6**	**-1.8**
	comp=E,0.6nm,0.3s,baz=83,slow=26,SNR=2.3						
ILAR				Sn	**Sn**	**04 23 30.3**	**-7.6**
	baz=285,slow=18						
DLBC	**Dease Lake**	**15.37**	**67**	Pn	**Pn**	**04 22 39.4**	**+1.4**
	comp=E,0.1nm,0.3s,baz=21,slow=24,SNR=1.7						
	comp=E,2.2nm,0.8s						
INK	**Inuvik**	**17.14**	**31**	P	**Pn**	**04 22 59.8**	**-0.6**
	comp=E,2.8nm,0.3s,baz=212,slow=16,SNR=9.8						
	comp=E,14nm,0.5s						
YKA	**Yellowknife Ar**	**22.98**	**54**	P	**P**	**04 24 06.3**	**+1.5**
	comp=E,2.7nm,1.0s,baz=268,slow=8.6,SNR=3.9						
	comp=E,2.7nm,1.0s						
NVAR	**Mina Array Bea**	**31.20**	**106**	P	**P**	**04 25 21.2**	**+1.6**
	comp=E,0.7nm,0.7s,baz=308,slow=8.7,SNR=3.4						
	comp=E,0.7nm,0.7s						
PDAR	**Pinedale Array**	**33.23**	**92**	P	**P**	**04 25 38.9**	**+1.5**
	comp=E,0.5nm,0.6s,baz=295,slow=5.4,SNR=3.4						
	comp=E,0.5nm,0.6s						
ULM	**Lac du Bonnet**	**36.61**	**71**	P	**P**	**04 26 06.4**	**+0.3**
	comp=E,2.7nm,0.8s,baz=281,slow=19,SNR=2.0						
	comp=E,2.7nm,0.8s						
JKA	**Kamikawa-asahi**	**39.07**	**279**	P	**P**	**04 26 25.6**	**-1.3**
JKA				IAmb	IAmb	04 26 26.7	
	comp=Z,18nm,1.1s						
N35A	**Tabor**	**42.40**	**83**	P	**P**	**04 26 54.3**	**-0.2**
N35A				IAmb	IAmb	04 26 55.9	
	comp=Z,10nm,0.6s						
P38A	**Dawn**	**44.43**	**83**	P	**P**	**04 27 10.0**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**44.43**	**231**	T	T	05 14 38.9	
	baz=28						
H11N3	**WAKE ISLAND Hy**	**44.44**	**231**	T	T	05 14 42.7	
	baz=28						
H11N1	**WAKE ISLAND Hy**	**44.45**	**231**	T	T	05 14 40.3	
	baz=28						
E46A	**Sault Ste Mari**	**45.13**	**69**	P	**P**	**04 27 15.9**	**-0.4**
H11S1	**WAKE ISLAND Hy**	**45.59**	**231**	T	T	05 16 04.5	
	baz=28,slow=76,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**45.61**	**231**	T	T	05 15 58.3	
	baz=28,slow=76,SNR=3.4						
H11S3	**WAKE ISLAND Hy**	**45.61**	**231**	T	T	05 15 58.9	
	baz=28,slow=76,SNR=3.1						
TXAR	**Lajitas Array**	**46.07**	**101**	P	**P**	**04 27 25.1**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=306,slow=5.7,SNR=3.6						
	comp=Z,0.3nm,0.5s						
MJAR	**Matsushiro Arr**	**46.61**	**274**	P	**P**	**04 27 26.1**	**-2.0**
	comp=Z,1.2nm,0.6s,baz=48,slow=5.2,SNR=4.0						
	comp=Z,1.2nm,0.6s						
NRIK	**Noril'sk**	**47.04**	**334**	P	**P**	**04 27 29.7**	**-1.2**
	comp=Z,14nm,0.8s,baz=68,slow=6.5,SNR=7.7						
	comp=Z,14nm,0.8s						
L48A	**N Adams**	**47.96**	**74**	P	**P**	**04 27 38.3**	**-0.2**
L48A				IAmb	IAmb	04 27 38.6	
	comp=Z,5.0nm,0.6s						
N47A	**Urbana**	**47.98**	**76**	P	**P**	**04 27 38.2**	**-0.5**
OLIL	**Olney**	**48.11**	**80**	P	**P**	**04 27 39.6**	**-0.1**
S44A	**Carbondale**	**48.19**	**82**	P	**P**	**04 27 39.4**	**-0.9**
CGM3	**Cape Girardeau**	**48.23**	**82**	P	**P**	**04 27 39.1**	**-1.5**
CGM3				IAmb	IAmb	04 27 48.4	
	comp=Z,3.1nm,0.6s						
SCHQ	**Schefferville**	**48.36**	**51**	P	**P**	**04 27 41.0**	**-0.5**
SADO	**Sadowa**	**48.92**	**68**	LR	LR	04 47 32.5	
	comp=Z,95nm,18.3s,baz=262,slow=35						
WVT	**Waverly**	**50.10**	**82**	P	**P**	**04 27 54.6**	**-0.3**
TRQ	**Mont Tremblant**	**50.34**	**64**	P	**P**	**04 27 55.6**	**-1.1**
TRQ				IAmb	IAmb	04 28 04.4	
	comp=Z,6.8nm,1.1s						
Q51A	**Peebles**	**50.57**	**76**	P	**P**	**04 27 57.4**	**-1.1**
PLAL	**Pickwick Lake**	**50.78**	**83**	P	**P**	**04 27 59.8**	**-0.3**
CLTN	**Cedars of Leba**	**50.97**	**81**	P	**P**	**04 28 01.4**	**-0.1**
O54A	**Avella**	**51.40**	**73**	P	**P**	**04 28 03.9**	**-0.8**
O54A				IAmb	IAmb	04 28 04.8	
	comp=Z,14nm,1.0s						
L56A	**Greenwood**	**51.56**	**69**	P	**P**	**04 28 05.3**	**-0.6**
L56A				IAmb	IAmb	04 28 07.1	
	comp=Z,8.4nm,0.8s						
KSRS	**Korea Array**	**51.78**	**283**	P	**P**	**04 28 06.2**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=55,slow=5.5,SNR=8.4						
	comp=Z,2.5nm,0.6s						
M57A	**Sunshine Farm,**	**52.35**	**70**	P	**P**	**04 28 11.1**	**-0.6**
SSPA	**Standing Stone**	**52.43**	**71**	P	**P**	**04 28 11.5**	**-0.9**
FPAL	**Fort Paine**	**52.50**	**82**	P	**P**	**04 28 11.9**	**-1.0**
D62A	**Allapoint, All**	**52.52**	**59**	P	**P**	**04 28 12.6**	**-0.3**
D62A				IAmb	IAmb	04 28 13.1	
	comp=Z,5.7nm,0.9s						
Y49A	**Blount Mountai**	**52.54**	**83**	P	**P**	**04 28 12.2**	**-1.0**
Y49A				IAmb	IAmb	04 28 21.4	
	comp=Z,7.6nm,0.8s						
E62A	**Clayton Lake**	**52.60**	**60**	P	**P**	**04 28 12.9**	**-0.6**
V52A	**Sevierville**	**52.69**	**79**	P	**P**	**04 28 13.9**	**-0.4**
V52A				IAmb	IAmb	04 28 16.0	
	comp=Z,7.9nm,1.1s						
TKL	**Tuckaleechee C**	**52.73**	**79**	LR	LR	04 48 28.1	
	comp=Z,121nm,19.2s,baz=336,slow=34						
P57A	**Homestead Farm**	**53.18**	**72**	P	**P**	**04 28 18.7**	**+0.9**
P57A				IAmb	IAmb	04 28 27.0	
	comp=Z,8.2nm,1.1s						
H62A	**Milan**	**53.21**	**63**	P	**P**	**04 28 17.5**	**-0.5**
F64A	**Sherman**	**53.71**	**60**	P	**P**	**04 28 20.8**	**-0.8**
BATG	**Bathurst New B**	**53.84**	**57**	P	**P**	**04 28 22.0**	**-0.6**
BATG				IAmb	IAmb	04 28 22.8	
	comp=Z,5.2nm,0.8s						
HODGE	**Hodges**	**54.61**	**79**	P	**P**	**04 28 27.5**	**-0.9**
HODGE				IAmb	IAmb	04 28 27.6	
	comp=Z,7.4nm,0.9s						
WES	**Weston**	**54.67**	**65**	P	**P**	**04 28 28.4**	**-0.3**
WES				IAmb	IAmb	04 28 37.6	
	comp=Z,13nm,1.2s						
KEV	**Kevo**	**55.22**	**358**	P	**P**	**04 28 31.4**	**-0.9**
KEV				IAmb	IAmb	04 28 33.6	
	comp=Z,5.4nm,0.8s						
T59A	**Double "B" Far**	**55.23**	**74**	P	**P**	**04 28 32.5**	**-0.3**
T59A				IAmb	IAmb	04 28 32.8	
	comp=Z,5.9nm,0.7s						
ARCES	**ARCESS Array B**	**55.47**	**359**	P	**P**	**04 28 33.1**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=348,slow=11,SNR=2.8						
	comp=Z,1.9nm,0.6s						
SONM	**Songino Array**	**55.54**	**306**	P	**P**	**04 28 34.6**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=45,slow=5.3,SNR=3.9						
SONM				PcP	**PcP**	**04 29 35.0**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=39,slow=2.4,SNR=4.1						
	comp=Z,2.5nm,0.7s						
DRLN	**Deer Lake**	**56.37**	**51**	P	**P**	**04 28 40.2**	**-0.6**
DRLN				IAmb	IAmb	04 28 42.5	
	comp=Z,6.1nm,0.8s						
LVZ	**Lovozero**	**56.80**	**354**	P	**P**	**04 28 43.1**	**-0.5**
ZALV	**Zalesovo Beam**	**59.66**	**323**	P	**P**	**04 29 02.2**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=4.4,slow=1.9,SNR=1.6						
	comp=Z,1.2nm,0.6s						
NC204	**NORSAR Array S**	**63.42**	**6**	P	**P**	**04 29 29.2**	**+0.1**
NC204				IAmb	IAmb	04 29 30.1	
	comp=Z,7.4nm,0.9s						
NC303	**NORSAR Array S**	**63.51**	**6**	P	**P**	**04 29 29.2**	**-0.4**
FINES	**FINESS Array B**	**63.58**	**358**	P	**P**	**04 29 29.7**	**-0.3**
FINES	**FINESS Array B**	**63.58**	**358**	P	**P**	**04 29 29.3**	**-0.7**
	comp=Z,6.8nm,0.7s,baz=19,slow=8.1,SNR=10						
	comp=Z,6.8nm,0.7s						
NC405	**NORSAR Array S**	**63.64**	**6**	P	**P**	**04 29 30.7**	**+0.2**
NC405				IAmb	IAmb	04 29 32.1	
	comp=Z,9.3nm,1.1s						
NBO00	**NORSAR Array S**	**63.67**	**6**	P	**P**	**04 29 30.5**	**-0.1**
NBO00				IAmb	IAmb	04 29 31.5	
	comp=Z,4.2nm,0.9s						
NB201	**NORSAR Array S**	**63.68**	**6**	P	**P**	**04 29 30.9**	**+0.1**
NB201				IAmb	IAmb	04 29 31.3	
	comp=Z,4.4nm,0.8s						
NB2	**NORSAR Subarra**	**63.68**	**6**	P	**P**	**04 29 30.8**	**0.0**
	comp=Z,3.0nm,0.7s,baz=355,slow=6.9						
NOA	**NORSAR Array B**	**63.68**	**6**	P	**P**	**04 29 30.8**	**0.0**
	comp=Z,2.5nm,0.7s,baz=353,slow=6.6,SNR=7.4						
	comp=Z,2.5nm,0.7s						
KURK	**Kurchatov**	**64.47**	**324**	P	**P**	**04 29 36.3**	**+0.3**
KURK				IAmb	IAmb	04 29 37.3	
	comp=Z,3.8nm,0.7s						
KURBB	**Kurchatov Arra**	**64.58**	**324**	P	**P**	**04 29 36.8**	**0.0**
	comp=Z,1.9nm,0.7s,baz=26,slow=6.6,SNR=5.1						
	comp=Z,1.9nm,0.7s						
HFS	**Hagfors**	**64.72**	**5**	P	**P**	**04 29 37.5**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=27,slow=4.7,SNR=11						
	comp=Z,3.8nm,0.7s						
KONO	**Kongsberg**	**64.96**	**7**	P	**P**	**04 29 39.7**	**+0.6**
BVAR	**Borovoye Array**	**65.01**	**330**	P	**P**	**04 29 39.3**	**-0.3**
	comp=Z,7.1nm,0.7s,baz=34,slow=6.9,SNR=9.7						
	comp=Z,7.1nm,0.7s						
BRVK	**Borovoye**	**65.01**	**330**	P	**P**	**04 29 40.0**	**+0.4**
MK31	**Makanchi Array**	**66.49**	**320**	P	**P**	**04 29 48.7**	**-0.5**
MKAR	**Makanchi Array**	**66.49**	**320**	P	**P**	**04 29 48.5**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=45,slow=5.8,SNR=3.6						
	comp=Z,0.9nm,0.6s						
MAKZ	**Makanchi**	**66.60**	**320**	P	**P**	**04 29 50.7**	**+0.8**
EKB	**Eskdalemuir**	**67.77**	**15**	P	**P**	**04 29 57.8**	**+0.6**
EKB				IAmb	IAmb	04 29 58.5	
	comp=Z,6.1nm,0.9s						
EKA	**Eskdalemuir Ar**	**67.78**	**15**	P	**P**	**04 29 57.7**	**+0.5**
	comp=Z,3.4nm,0.7s,baz=332,slow=4.7,SNR=7.4						
	comp=Z,3.4nm,0.7s						
ABKAR	**Akbulak array**	**71.19**	**335**	P	**P**	**04 30 18.2**	**-0.1**
ABKAR				IAmb	IAmb	04 30 18.9	
	comp=Z,6.5nm,0.8s						
ABKAR	**Akbulak array**	**71.19**	**335**	P	**P**	**04 30 18.1**	**-0.2**
BOOM	**Boomskoye usch**	**72.50**	**321**	P	**P**	**04 30 27.1**	**+0.5**
BOOM				IAmb	IAmb	04 30 28.3	
	comp=Z,8.7nm,0.9s						
KK31	**Karatay Array**	**73.81**	**325**	P	**P**	**04 30 34.3**	**+0.2**
KK31				IAmb	IAmb	04 30 34.8	
	comp=Z,5.8nm,0.7s						
KKAR	**Karatay Array**	**73.81**	**325**	P	**P**	**04 30 34.3**	**+0.2**
KKAR				IAmb	IAmb	04 30 34.8	
	comp=Z,5.8nm,0.7s						
KKAR	**Karatay Array**	**73.81**	**325**	P	**P**	**04 30 34.0**	**-0.1**
AKASG	**Malin Array Be**	**74.23**	**355**	P	**P**	**04 30 35.7**	**-0.7**
	comp=Z,2.6nm,0.4s,baz=7.4,slow=5.6,SNR=9.1						
	comp=Z,2.6nm,0.4s						
AKBB	**Malin Array Si**	**74.23**	**355**	P	**P**	**04 30 35.9**	**-0.5**
KIEV	**Kiev**	**74.24**	**355**	P	**P**	**04 30 36.1**	**-0.3**
KIEV				IAmb	IAmb	04 30 36.6	
	comp=Z,7.0nm,0.7s						
ARSB	**Arslanbob**	**74.57**	**323**	P	**P**	**04 30 38.0**	**-0.7**
CLF	**Chambon-Foret**	**75.68**	**14**	P	**P**	**04 30 45.8**	**+1.1**
ECH	**Echery**	**76.08**	**10**	P	**P**	**04 30 47.7**	**+0.6**
ECH				IAmb	IAmb	04 30 48.4	
	comp=Z,4.7nm,0.9s						
BURAR	**Bucovina Array**	**77.45**	**358**	P	**P**	**04 30 56.1**	**+1.2**
GAR	**Garm**	**77.56**	**324**	P	**P**	**04 30 56.1**	**+0.4**
FUORN	**Ofenpass-Fuorn**	**77.95**	**9**	P	**P**	**04 30 58.5**	**+0.5**
SIMJ	**Simiganj**	**78.31**	**324**	P	**P**	**04 30 59.6**	**-0.3**
SIMJ				IAmb	IAmb	04 31 00.6	
	comp=Z,7.9nm,0.8s						
PRED	**Cave del Predi**	**78.37**	**6**	P	**P**	**04 30 58.7**	**-1.3**
BNI	**Bardonecchia**	**79.16**	**11**	P	**P**	**04 31 06.0**	**+1.6**
BNI				IAmb	IAmb	04 31 06.8	
	comp=Z,3.6nm,0.7s						
TEOL	**Teolo**	**79.32**	**8**	P	**P**	**04 31 05.7**	**+0.5**
MLR	**Muntele Rosu**	**79.55**	**357**	LR	LR	05 07 17.2	
	comp=Z,65nm,21.5s,baz=54,slow=36						
KVAR	**Kislovodsk Arr**	**79.64**	**345**	LR	LR	05 11 16.4	
	comp=Z,93nm,18.3s,baz=274,slow=39						
KBZ	**Khabaz**	**79.83**	**345**	P	**P**	**04 31 08.6**	**+0.6**
	comp=Z,5.7nm,0.9s,baz=42,slow=1.2,SNR=3.8						
	comp=Z,5.7nm,0.9s						
MSSA	**Maissana**	**80.17**	**9**	P	**P**	**04 31 09.7**	**-0.2**
MSSA				IAmb	IAmb	04 31 15.0	
	comp=Z,11nm,1.1s						
CMAR	**Chiang Mai Arr**	**82.42**	**291**	P	**P**	**04 31 21.6**	**-0.5**
	comp=Z,7.7nm,0.8s,baz=15,slow=5.2,SNR=10						
	comp=Z,7.7nm,0.8s						
ESBB	**Sonseca Array**	**82.77**	**20**	P	**P**	**04 31 24.8**	**+1.1**
ESBB				IAm

KCHF	Cheshme Sefid,	0.77 121	Pg	Pb	04 37 12.8	-0.6
ILBA	Ilam Banvizeh	1.04 182	Pg	Pn	04 37 18.6	0.0
IBDR	Badra	1.58 190	*e*Pg	Pb	04 37 27.0	-0.1
IBDR			*e*Sg	Sg	04 37 48.0	-0.5
IBDR			AML	AML	04 37 54.4	
	comp=E,192nm,0.3s					
IBDR			AML	AML	04 38 02.1	
	comp=N,72nm,0.3s					
IKRK	Kirkuk	1.72 296	*e*Pn	Pb	04 37 29.0	-0.6
IKRK			*e*Sn	Sb	04 37 52.0	+0.6
BHD	Baghdad	2.08 229	*e*Pn	Pb	04 37 35.0	-0.7
BHD			*e*Sn	Sb	04 38 01.0	-0.7

*ISN **24** 04:38:59.1±1.1, 34.°56N×45.°68E, h6km±30km, ML2.8*
*TEH **24** 04:39:01.2, 34.°52N×45.°70E, h16km±45km, ML2.8*
ISC 24 04:39:02.9±0.9, 34.°50N±0.°04×45.°68E±0.°04, h14km±7km, n12, σ0.°83/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.07	272	Pg	Pg	04 39 05.4	-0.3
KGS1				Sg	Sg	04 39 08.1	+0.5
GLG1	Gilan-e-Gharb	0.43	153	Pg	Pg	04 39 11.3	-0.3
IDHR	Dehrash	0.62	71	Pg	Pg	04 39 14.1	-0.9
IDHR				Sg	Sg	04 39 23.5	+0.2
IGHG	Ghaleghazi	0.76	103	Pg	Pg	04 39 17.0	-0.6
ILBA	Ilam Banvizeh	0.98	153	Pg	Pg	04 39 20.9	-1.0
ILIN	Lien	1.14	68	Pg	Pb	04 39 23.8	-0.8
KCHF	Cheshme Sefid,	1.15	101	Pg	Pb	04 39 23.9	-0.8
IBDR	Badra	1.41	171	*e*Pn	Pn	04 39 28.0	-0.1
IBDR				*e*Sn	Sb	04 39 48.0	+1.3
IBDR				AML	AML	04 39 53.1	
	comp=E,253nm,0.4s						
IBDR				AML	AML	04 39 53.7	
	comp=N,127nm,0.6s						
IKRK	Kirkuk	1.42	310	*e*Pg	Pn	04 39 28.0	-0.3
IKRK				*e*Sg	Sb	04 39 48.0	+1.0
BHD	Baghdad	1.64	222	*e*Pn	Pn	04 39 31.0	-0.3
BHD				*e*Sn	Sb	04 39 54.0	+0.7
SNQR	Sonqor, Kerman	1.65	77	Pg	Pb	04 39 33.4	+0.2
IBZA	Bozab	1.81	90	Pg	Pn	04 39 35.2	+1.4

*IDC **24** 04:56:10.1±0.9, 45.°87N×112.°24W, h0km, mbtmp3.1/5, ML2.9/5, Error ellipse: s-maj=13.3km s-min=7.8km az=47.0.*
*BUT **24** 04:56:10.5±1.4, 45.°72N±0.°02×112.°14W±0.°02, h6km±5km, Error ellipse: s-maj=3.1km s-min=2.1km az=190.0*
*NEIC **24** 04:56:10.5±1.5, 45.°71N±0.°03×112.°12W±0.°02, h10km±4km, ML3.7/38, ML3.7/33(BUT), Mwr3.3/6(SLM), Error ellipse: s-maj=3.7km s-min=2.5km az=185.0*
*NEIC **24** 04:56:10, 45.°72N×112.°11W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.31; $M_{\theta\theta}$0.25; $M_{\phi\phi}$-0.55; $M_{r\theta}$0.87; $M_{\theta\phi}$-0.65; $M_{\phi r}$0.21; Fault plane solution: M_o1.20000×10^{14} NP1:ϕ_s170.00000°, δ40.00000°, λ15.00000°. NP2:ϕ_s68.00000°, δ80.00000°, λ129.00000°. Principal axes: T 1.2025, Plg41.0000°, Azm15.0000°; N 0.0000, Plg38.0000°, Azm241.0000°; P -1.2026, Plg25.0000°, Azm129.0000°;*
ISC 24 04:56:09.8±0.8, 45.°74N±0.°04×112.°11W±0.°03, h10km, n53, σ1.°08/57, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZ	Bozeman (W)	0.37	113	Pg	Pg	04 56 17.2	0.0
BOZ				Sg	Sg	04 56 22.3	+0.2
BOZ				IAML		04 56 22.8	
	8μm,0.3s						
BOZ				IAML		04 56 23.4	
	5μm,0.4s						
DLMT	Dillon	0.51	222	Pg	Pg	04 56 19.8	0.0
DLMT				Sg	Sg	04 56 26.6	+0.1
YHL	Hebgen Lake	1.11	143	Pg	Pg	04 56 31.1	0.0
YHL				Sg	Sg	04 56 45.3	-0.2
YHL				IAML		04 56 48.8	
	comp=N,1μm,0.7s						
YHL				IAML		04 56 51.8	
	comp=E,2μm,0.5s						
BPMT	Black Pine Rid	1.16	307	Pg	Pb	04 56 32.5	+0.3
GCR	Grayling Creek	1.18	143		Pg	04 56 32.8	+0.2
YHB	Horse Butte	1.18	146	Pg	Pb	04 56 29.2	-3.3
YHB				IAML		04 56 47.8	
	comp=E,1μm,0.8s						
YHB				IAML		04 56 49.4	
	comp=N,953nm,0.5s						
YPDC	Denny Creek	1.20	149		Pb	04 56 32.7	-0.1
YMC	Maple Creek	1.26	141		Pn	04 56 33.8	+0.2
YHH	Holmes Hill	1.30	136	Pg	Pn	04 56 34.7	+0.3
YPWB	West Boundary	1.34	147		Pg	04 56 35.7	+0.1
YMR	Madison River	1.34	143	Pg	Pb	04 56 35.4	+0.2
YMR				IAML		04 56 56.2	
	comp=E,2μm,1.1s						
YMR				IAML		04 56 56.2	
	comp=N,1μm,0.5s						
YPM	Purple Mountai	1.40	141		Pg	04 56 36.8	+0.2
YNM	Yellowstone No	1.42	135		Pb	04 56 36.9	+0.3
YNM				IAML		04 56 55.4	
	comp=E,1μm,0.3s						
YML	Mary Lake	1.54	137		Pg	04 56 39.6	+0.3
YFT	Old Faithful	1.58	145		Pb	04 56 39.0	-0.1
YJC	Joseph's Coat	1.59	128		Pg	04 56 40.8	+0.5
MSO	Missoula	1.67	311	Pn	Pn	04 56 40.2	+1.0
MSO				IAML		04 57 05.3	
	comp=E,790nm,0.3s						
MSO				IAML		04 57 05.4	
	comp=E,742nm,0.6s						
MCID	Moose Creek	1.69	157		Pb	04 56 41.4	+0.3
YPP	Pitchstone Pla	1.74	147	Pn	Pb	04 56 41.7	-0.3
YPPC	Pelican Cone	1.74	128		Pg	04 56 45.3	+2.0
FLWY	Flagg Ranch	1.94	148	Pn	Pb	04 56 44.6	-0.7
IMW	Indian Meadow	2.02	155	Pn	Pb	04 56 46.0	-0.9
IMW				IAML		04 57 17.6	
	comp=E,544nm,0.5s						
RLMT	Red Lodge	2.10	106	Pn	Pn	04 56 46.4	+1.2
RLMT				IAML		04 57 18.2	
	comp=E,630nm,0.2s						
HLID	Hailey	2.73	218	Pn	Pn	04 56 54.9	+1.0
HLID				IAML		04 57 37.4	
	comp=E,240nm,0.4s						
HLID				IAML		04 57 38.2	
	comp=E,188nm,0.3s						
EGMT	Eagleton	2.80	34	Pn	Pn	04 56 55.8	+1.1
PDAR	Pinedale Array	3.50	147	Pn	Pb	04 57 10.9	-1.0
PDAR							
	comp=E,1.2nm,0.3s,baz=339,slow=15,SNR=35						
PDAR				Sn	Sb	04 57 56.6	+2.1
	comp=E,0.2nm,0.3s,baz=334,slow=18,SNR=3.1						
	comp=E,2.6nm,0.5s						
F10A	Beach Ranch, E	3.58	276	Pn	Pn	04 57 06.5	+1.0
HSPGA	Hill Springs,	3.77	344		Pn	04 57 09.7	+1.7
BMO	Blue Mountains	3.77	258	Pn	Pn	04 57 09.1	+1.0
BMO				IAML		04 58 09.2	
	comp=E,112nm,0.6s						
BMO				IAML		04 58 09.4	
	comp=E,88nm,0.4s						
LAO	LASA Array	4.20	75	Pn	Pn	04 57 14.4	+0.5
LAO				IAML		04 58 27.6	
	comp=E,108nm,1.1s						
LAO				IAML		04 58 28.7	
	comp=E,106nm,1.3s						
NEW	Newport	4.26	308	Pn	Pn	04 57 15.0	+0.3
NEW				IAML		04 58 30.1	
	comp=E,83nm,1.1s						
NEW	Newport	4.26	308	Pn	Pn	04 57 15.4	+0.7
	comp=E,0.9nm,0.3s,baz=131,slow=12,SNR=11						
NEW				Sn	Sn	04 58 02.2	-2.2
	comp=E,3.8nm,0.3s,baz=126,slow=19,SNR=9.0						
NEW				Lg	Lg	04 58 19.2	
	comp=E,17nm,0.3s,baz=51,slow=23,SNR=25						
	comp=E,2.5nm,0.3s						
E09A	Wood Farm, Sta	4.26	283	Pn	Pn	04 57 15.2	+0.4
LNOR	Lincton Mounta	4.32	274		Pn	04 57 17.9	+2.3
C09A	Chrisman Ranch	4.71	298	Pn	Pn	04 57 21.5	+0.6
OD2	Odessa Site #2	4.84	292		Pn	04 57 22.6	-0.1
E08A	Dider Farm, El	4.89	281	Pn	Pn	04 57 23.6	+0.3
D08A	Wollman Farm,	4.89	288	Pn	Pn	04 57 23.2	-0.2
J08A	Circle Bar Ran	5.13	245	Pn	Pn	04 57 27.1	+0.3
BSUT	Blindstream Ca	5.30	169	Pn	Pn	04 57 29.4	+0.1
E07A	Sunnyside	5.44	281	Pn	Pn	04 57 31.9	+0.9
F07A	Phinny Hill Vi	5.47	274	Pn	Pn	04 57 31.3	+0.1
ELK	Elko	5.49	206	Pn	Pn	04 57 36.9	+5.0
	comp=E,0.1nm,0.3s,baz=18,slow=20,SNR=2.2						
ELK				Lg	Lg	04 58 56.8	
	comp=E,0.6nm,0.3s,baz=273,slow=8.3,SNR=4.4						
	comp=E,0.3nm,0.3s						
I07A	Izee	5.51	255	Pn	Pn	04 57 32.8	+0.9
MXC	Moxie City	5.74	281	Pn	Pn	04 57 35.7	+0.6
RSSD	Black Hills	5.96	103	Pn	Pn	04 57 38.8	+0.5
LTY	Liberty	6.10	287	Pn	Pn	04 57 40.5	+0.4
N23A	Red Feather La	6.61	135	Pn	Pn	04 57 47.7	+0.4
LON	Longmire	6.80	282	Pn	Pn	04 57 50.7	+1.0
J05D	Fort Rock, OR	6.97	253	Pn	Pn	04 57 52.2	+0.2
D05A	Enumclaw	6.97	286	Pn	Pn	04 57 52.1	+0.2
NVAR	Mina Array Bea	8.63	214	Pn	Pn	04 58 18.6	+3.7
	baz=26,slow=14,SNR=1.5						
NVAR				Lg	Lg	05 00 40.6	
	comp=E,0.1nm,0.3s,baz=31,slow=35,SNR=2.4						
	comp=E,0.3nm,0.6s						
ULM	Lac du Bonnet	11.77	62	Pn	Pn	04 58 56.3	-1.4
	comp=E,0.2nm,0.3s,baz=250,slow=14,SNR=2.5						
ULM				Lg	Lg	05 02 11.0	
	comp=E,0.1nm,0.3s,baz=358,slow=20,SNR=1.2						
	comp=E,1.5nm,0.7s						

*IDC **24** 05:11:41.9±0.9, 48.°80S×120.°67E, h0km, mb4.0/7, mbtmp4.0/7, MS3.7/4, Error ellipse: s-maj=45.5km s-min=18.6km az=105.0*
ISC 24 05:11:43.2±0.9, 48.°8S±0.°1×120.°6E±0.°3, h10km, n13, σ0.°75/10, mb3.9/7, MS3.6/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	14.70	339	T	T	05 30 42.1	
	baz=160,slow=74,SNR=73						
H01W2	Cape Leeuwin H	14.70	338	T	T	05 30 42.3	
	baz=160,slow=74,SNR=75						
H01W3	Cape Leeuwin H	14.71	338	T	T	05 30 44.6	
	baz=160,slow=74,SNR=66						
STKA	Stephens Creek	23.13	51	P	P	05 16 50.1	+0.7
	2.7nm,0.8s,baz=196,slow=15,SNR=3.0						
STKA				LR	LR	05 24 35.3	
	comp=Z,225nm,20.4s,baz=216,slow=34						
	2.7nm,0.8s						
ASAR	Alice Springs	27.18	27	P	P	05 17 27.4	+0.6
	1.9nm,0.8s,baz=196,slow=9.5,SNR=12						
ASAR				LR	LR	05 26 42.9	
	comp=Z,192nm,20.7s,baz=161,slow=33						
	1.9nm,0.8s						
WRA	Warramunga Arr	30.82	26	P	P	05 17 58.6	-0.6
	1.2nm,0.9s,baz=203,slow=8.1,SNR=5.4						
	1.2nm,0.9s						
VNDA	Vanda	32.82	165	P	P	05 18 15.5	-0.7
	0.4nm,0.5s,baz=298,slow=8.8,SNR=2.2						
VNDA				LR	LR	05 30 08.2	
	comp=Z,80nm,20.7s,baz=330,slow=34						
	0.4nm,0.5s						
QSPA	South Pole Qui	41.33	180	P	P	05 19 28.6	-0.2
	3.0nm,1.0s,baz=337,slow=1.9,SNR=6.1						
	3.0nm,1.0s						
SNAA	Sanae	53.40	199	P	P	05 21 03.3	+0.8
	2.1nm,1.0s,baz=121,slow=5.9,SNR=4.3						
SNAA				LR	LR	05 42 45.9	
	comp=Z,100nm,19.2s,baz=94,slow=35						
	2.1nm,1.0s						
CMAR	Chiang Mai Arr	69.69	338	P	P	05 22 52.1	-0.8
	1.0nm,0.3s,baz=180,slow=4.4,SNR=1.5						
	1.0nm,0.3s						
PDAR	Pinedale Array	145.01	81	PKP	PKPbc	05 31 19.4	-0.2
	0.6nm,0.9s,baz=258,slow=4.4,SNR=4.9						
EKA	Eskdalemuir Ar	145.67	303	PKPbc	PKPab	05 31 22.3	+0.8
	0.9nm,0.9s,baz=75,slow=5.4,SNR=2.0						
YKA	Yellowknife Ar	147.08	45	PKPbc	PKPbc	05 31 25.4	+0.4
	0.4nm,0.8s,baz=282,slow=3.7,SNR=5.0						

*MOS **24** 05:34:47.7±1.4, 26.°04N×128.°62E, h13km, mb4.6/11, Error ellipse: s-maj=16.0km s-min=8.1km az=102.3*
*IDC **24** 05:34:48.2±0.9, 26.°04N×128.°48E, h0km, mb4.0/13, mbtmp3.9/16, ML3.4/3, MS3.4/7, Error ellipse: s-maj=32.5km s-min=13.6km az=81.0*
*JMA **24** 05:34:52.6±0.4, 26.°N±2.°×12.°8E±.°, h42km±4km, MV3.5/11, NEAR OKINAWAJIMA ISLAND*
*NIED **24** 05:34:52.6, 26.°09N×128.°46E, h42km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.76; $M_{\theta\theta}$-1.03; $M_{\phi\phi}$-0.73; $M_{r\theta}$0.29; $M_{\theta\phi}$-1.33; $M_{\phi r}$0.32; Fault plane solution: M_o2.04000×10^{15} NP1:ϕ_s46.00000°, δ51.00000°, λ88.00000°. NP2:ϕ_s230.00000°, δ39.00000°, λ93.00000°.*
ISC 24 05:34:52.2±0.7, 26.°07N±0.°06×128.°51E±0.°06, h27km, n53, σ1.°36/53, mb4.1/27, MS3.9/5, 6C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.62	316	P	Pb	05 35 04.2	-0.3
JJT3	Tamagusuku3	0.65	277	*i* P	Pb	05 35 05.0	0.0
JJT3				*e*S	Sb	05 35 14.0	+0.2
JOW	Kunigami	0.79	345	Pn	Pb	05 35 07.2	-0.2
	277nm,0.3s,baz=148,slow=18,SNR=1016						
JOW				Sn	Sb	05 35 19.0	+1.4
	261nm,0.3s,baz=121,slow=27,SNR=8.1						
JOW	Kunigami	0.79	345	*i* P	Pb	05 35 07.1	-0.2
JYRO	Yoronjima	0.95	357	*i* P	Pn	05 35 09.2	-0.6
JIH	Iheya	1.08	334	P	Pn	05 35 11.7	+0.2
JAGN	Aguni-jima	1.25	295	P	Pn	05 35 13.9	+0.1
JOKE	Okinoerabujima	1.29	3	P	Pn	05 35 14.3	-0.2
JKE	Kume jima 2	1.57	280	P	Pn	05 35 17.4	-0.8
JKE				*e*S	Sn	05 35 36.6	-1.0
JTK	Tokunoshima	1.76	13	P	Pn	05 35 20.6	-0.3
JTK				*e*S	Sn	05 35 42.4	0.0
JNU	Nakatsue	7.33	16	Pn	Pn	05 36 38.0	+0.5
	1.0nm,0.3s,baz=164,slow=23,SNR=12						
JNU				Sn	Sn	05 37 58.0	-1.7
	0.5nm,0.3s,baz=69,slow=23,SNR=1.6						
	9.1nm,0.7s						
KSRS	Korea Array	11.36	358	Pn	Pn	05 37 33.2	+0.5
	0.4nm,0.3s,baz=247,slow=26,SNR=4.7						
KSRS				LR	LR	05 42 09.2	
	comp=Z,109nm,20.3s,baz=190,slow=39						
	0.8nm,0.5s						
JCJ	Chichijima	12.29	82	LR	LR	05 41 41.5	
	comp=Z,41nm,21.6s,baz=161,slow=34						
MJAR	Matsushiro Arr	13.32	36	Pn	Pn	05 38 00.1	+0.6
	baz=220,slow=8.8,SNR=1.4						
	0.6nm,0.4s						
MJA0	Matsu Arr-Jizo	13.35	36	*e*P	P	05 38 12.3	+3.1
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GUMO	Guam	19.75	126	LR	LR	05 46 32.9	
	comp=Z,36nm,20.0s,baz=251,slow=36						
KLR	Kul'dur	23.26	5	LR	LR	05 50 02.5	
	comp=Z,67nm,19.5s,baz=206,slow=39						
KLR	Kul'dur	23.26	5	*i* P	P	05 39 57.7	+0.3
KLR				pmax	pmax		
	comp=Z,4.0nm,1.3s						
YSS	Yuzh-Sakhalins	23.71	25	*e*P	P	05 40 01.6	-0.2
YSS				*e*S	S	05 44 09.4	-5.7
YSS				pmax	pmax		
	comp=Z,24nm,0.9s						
YSS				MLR	MLR		
	comp=Z,100nm,13.0s						
ULN	Ulaanbaatar	27.53	328	*ce*P	P	05 40 39.2	+2.6
ULN				pmax	pmax		
	comp=Z,7.0nm,1.7s						
SONM	Songino Array	27.82	327	P	P	05 40 41.0	+1.7
	comp=Z,2.0nm,0.8s,baz=141,slow=10,SNR=7.5						
	comp=Z,2.0nm,0.8s						
SONM	Songino Array	27.82	327	*e*P	P	05 40 42.0	+2.7
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR	Chiang Mai Arr	28.34	261	P	P	05 40 44.2	+0.1
	comp=Z,1.4nm,0.3s,baz=56,slow=8.8,SNR=1.6						
	comp=Z,1.4nm,0.3s						
YAK	Yakutsk	35.96	1	*i* P	P	05 41 50.2	-0.1
YAK				pmax	pmax		
	comp=Z,9.0nm,0.4s						
MA2	Magadan	36.88	19	*ce*P	P	05 41 54.5	-3.7
MA2				pmax	pmax		
	comp=Z,13nm,1.7s						
SEY	Seymchan	40.10	17	*ce*P	P	05 42 21.9	-3.3
SEY				pmax	pmax		
	comp=Z,6.0nm,1.6s						
MKAR	Makanchi Array	41.83	312	P	P	05 42 39.6	0.0
	comp=Z,0.9nm,0.6s,baz=99,slow=10,SNR=8.2						
MKAR				PcP	PcP	05 44 35.0	-0.3
	comp=Z,0.6nm,0.9s,baz=131,slow=4.4,SNR=2.5						
	comp=Z,0.9nm,0.6s						
ZALV	Zalesovo Beam	42.52	323	P	P	05 42 45.1	-0.1
	comp=Z,0.5nm,0.5s,baz=117,slow=8.3,SNR=1.8						
	comp=Z,0.5nm,0.5s						
KURK	Kurchatov	45.11	317	*ce*P	P	05 43 06.0	0.0
KURK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KURBB	Kurchatov Arra	45.14	317	P	P	05 43 06.3	+0.1
	comp=Z,0.5nm,0.4s,baz=103,slow=7.8,SNR=5.8						
	comp=Z,0.5nm,0.4s						
WRA	Warramunga Arr	46.09	172	P	P	05 43 13.7	-0.3
	comp=Z,1.5nm,0.7s,baz=353,slow=8.5,SNR=18						
	comp=Z,1.5nm,0.7s						
BILL	Bilibino	47.75	18	*i* P	P	05 43 26.7	+0.2
BILL				*i*		05 45 17.6	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NRIK	Noril'sk	49.48	342	*i* P	P	05 43 38.3	-1.5
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ASAR	Alice Springs	49.72	174	P	P	05 43 42.3	+0.2
	comp=Z,1.2nm,0.8s,baz=359,slow=7.4,SNR=6.9						
	comp=Z,1.2nm,0.8s						
BVAR	Borovoye Array	50.56	318	P	P	05 43 48.9	+0.7
	comp=Z,1.1nm,0.5s,baz=67,slow=11,SNR=5.1						
	comp=Z,1.1nm,0.5s						
BRVK	Borovoye	50.63	318	*i* P	P	05 43 50.3	+1.6
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARU	Arti	57.67	322	*c i* P	P	05 44 39.8	-0.2
ARU						05 46 46.0	
KBZ	Khabaz	69.45	309	*i* P	P	05 45 58.6	+0.6
KBZ				pmax	pmax		
	comp=Z,12nm,3.7s						
KIV	Kislovodsk	69.53	310	*e*P	P	05 45 58.3	-0.4
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
OBN	Obninsk	70.11	322	*e*P	P	05 46 00.7	-1.1
OBN				pmax	pmax		
	comp=Z,18nm,0.5s						
FINES	FINESS Array B	73.12	331	P	P	05 46 20.4	+0.5
	comp=Z,1.2nm,0.8s,baz=70,slow=11,SNR=4.6						
	comp=Z,1.2nm,0.8s						
FINES	FINESS Array B	73.12	331	*e*P	P	05 46 21.0	+1.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DLBC	Dease Lake	73.88	32	LR	LR	06 22 16.4	
	comp=Z,68nm,18.1s,baz=205,slow=38						
VSU	Vasula	74.02	328	*i* P	P	05 46 24.2	-1.0
VSU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKASG	Malin Array Be	75.81	320	P	P	05 46 35.6	-0.1
	comp=Z,1.5nm,0.6s,baz=59,slow=6.7,SNR=8.6						
	comp=Z,1.5nm,0.6s						
AKASG	Malin Array Be	75.81	320	*e*P	P	05 46 35.3	-0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKBB	Malin Array Si	75.81	320	*ce*P	P	05 46 34.9	-0.8
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRTR	Keskin Array B	77.33	308	P	P	05 46 45.7	+1.0
	comp=Z,2.1nm,1.0s,baz=72,slow=4.0,SNR=6.0						
	comp=Z,2.1nm,1.0s						
BRTR	Keskin Array B	77.33	308	*e*P	P	05 46 46.1	+1.4
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HFS	Hagfors	79.08	332	P	P	05 46 53.2	-0.6
	comp=Z,1.1nm,0.8s,baz=90,slow=7.2,SNR=1.6						
	comp=Z,1.1nm,0.8s						
NOA	NORSAR Array B	79.57	334	P	P	05 46 56.2	-0.3
	comp=Z,0.6nm,0.7s,baz=52,slow=5.7,SNR=2.8						
	comp=Z,0.6nm,0.7s						
VRAC	Vranov	83.64	322	LR	LR	06 27 43.6	
	comp=Z,52nm,18.7s,baz=68,slow=38						
GERES	GERESS Array B	85.48	323	LR	LR	06 29 01.4	
	comp=Z,51nm,18.4s,baz=50,slow=38						

ROM 24 05:49:09.6±0.1, 43.°817N±0.°006×11.°99E±0.°01, h18km±1km, ML1.4/12, Error ellipse: s-maj=0.7km s-min=0.6km az=41.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	Santa Sofia	0.14	310	P	Pg	05 49 14.2	+0.4
SFI				S	Sg	05 49 16.6	+0.1
SFI				AML	AML		
	comp=E,324μm,0.1s						
SFI				AML	AML		
	comp=N,270μm,0.2s						
SFI				AML	AML		
	comp=N,269μm,0.2s						
SFI				AML	AML		
	comp=N,283μm,0.2s						
SFI				AML	AML		
	comp=E,317μm,0.1s						
SFI				AML	AML		
	comp=E,325μm,0.1s						
ASQU	Asqua	0.15	262	P	Pg	05 49 14.0	+0.1
ASQU				S	Sg	05 49 17.3	+0.5
CRE	Caprese Michel	0.20	189	P	Pg	05 49 14.9	+0.3
CRE				S	Sg	05 49 18.8	+0.7
CRE				AML	AML		
	comp=E,166μm,0.2s						
CRE				AML	AML		
	comp=N,272μm,0.2s						
CRE				AML	AML		
	comp=E,166μm,0.2s						
CRE				AML	AML		
	comp=E,166μm,0.2s						
CRE				AML	AML		
	comp=N,271μm,0.2s						
CRE				AML	AML		
	comp=N,271μm,1.8s						
CPGN	Carpegna, Ital	0.24	94	P	Pb	05 49 15.7	+0.4
PARC	Parchiule	0.24	133	P	Pg	05 49 15.3	0.0
PARC				S	Sb	05 49 19.6	+0.3
PARC				AML	AML		
	comp=E,35μm,1.3s						
PARC				AML	AML		
	comp=N,33μm,0.8s						
PARC				AML	AML		
	comp=N,30μm,0.2s						
PARC				AML	AML		
	comp=E,23μm,1.5s						
PARC				AML	AML		
	comp=E,23μm,0.5s						
PARC				AML	AML		
	comp=N,30μm,1.8s						
SSP9	Sansepolcro	0.26	157	P	Pg	05 49 15.3	-0.2
LMD	Lutirano	0.33	322	P	Pg	05 49 16.8	+0.1
LMD				S	Sb	05 49 22.2	+0.2
LMD				AML	AML		
	comp=E,45μm,1.3s						
LMD				AML	AML		
	comp=N,63μm,0.2s						
LMD				AML	AML		
	comp=E,45μm,0.3s						
LMD				AML	AML		
	comp=N,63μm,0.2s						
RUFI	Rufina	0.35	274	P	Pg	05 49 17.1	+0.1
RUFI				AML	AML		
	comp=N,21μm,0.3s						
RUFI				AML	AML		
	comp=E,22μm,0.2s						
RUFI				AML	AML		
	comp=N,21μm,1.7s						

**ROM 24 05:50:09.2±0.0, 42.

CAMP				AML	AML	
	comp=N,908μm,0.4s					
RM33	**Pellescritta (**	**0.10 231**	⇑P		Pg	05 50 12.7 +0.3
RM33			S		Sg	05 50 14.8 +0.2
RM33			AML		AML	
	comp=E,3505μm,1.3s					
RM33			AML		AML	
	comp=E,3375μm,1.3s					
RM33			AML		AML	
	comp=N,2365μm,0.3s					
RM33			AML		AML	
	comp=N,2505μm,0.3s					
RM33			AML		AML	
	comp=N,2365μm,1.7s					
RM33			AML		AML	
	comp=N,2505μm,1.7s					
RM33			AML		AML	
	comp=E,3500μm,1.3s					
MTRA	**Matera**	**0.20 18**	P		Pg	05 50 14.0 +0.3
MTRA			S		Sg	05 50 17.3 +0.4
MTRA			AML		AML	
	comp=E,1710μm,0.5s					
MTRA			AML		AML	
	comp=N,2175μm,0.9s					
MTRA			AML		AML	
	comp=N,2035μm,0.2s					
MTRA			AML		AML	
	comp=E,1705μm,0.5s					
MTRA			AML		AML	
	comp=E,1835μm,0.3s					
LNSS	**Leonessa**	**0.20 280**	P		Pg	05 50 14.2 +0.4
LNSS			S		Sg	05 50 17.7 +0.6
LNSS			AML		AML	
	comp=E,983μm,0.4s					
LNSS			AML		AML	
	comp=N,2015μm,0.5s					
TERO	**Teramo**	**0.22 76**	P		Pg	05 50 14.4 +0.3
TERO			S		Sg	05 50 18.0 +0.6
TERO			AML		AML	
	comp=E,289μm,1.5s					
TERO			AML		AML	
	comp=N,510μm,1.0s					
TERO			AML		AML	
	comp=N,892μm,0.3s					
TERO			AML		AML	
	comp=E,596μm,0.4s					
GIGS	**Gran Sasso**	**0.22 122**	P		Pg	05 50 14.5 +0.3
GIGS			S		Sg	05 50 18.0 +0.5
GIGS			AML		AML	
	comp=E,126μm,0.6s					
GIGS			AML		AML	
	comp=N,135μm,1.6s					
GIGS			AML		AML	
	comp=E,126μm,1.4s					
NRCA	**Norcia**	**0.30 331**	P		Pg	05 50 15.8 +0.2
NRCA			S		Sg	05 50 20.4 +0.6
NRCA			AML		AML	
	comp=E,682μm,0.5s					
NRCA			AML		AML	
	comp=E,711μm,0.5s					
NRCA			AML		AML	
	comp=N,721μm,0.1s					
NRCA			AML		AML	
	comp=E,711μm,1.5s					
NRCA			AML		AML	
	comp=N,779μm,0.1s					
NRCA			AML		AML	
	comp=E,682μm,1.5s					
MMO1	**Montemonaco**	**0.33 2**	⇑P		Pg	05 50 16.4 +0.3
MMO1			S		Sg	05 50 21.3 +0.7
FIAM	**Fiamignano**	**0.33 206**	⇑P		Pg	05 50 16.4 +0.3
FIAM			S		Sb	05 50 21.7 -0.6
FIAM			AML		AML	
	comp=E,318μm,0.6s					
FIAM			AML		AML	
	comp=N,173μm,1.1s					
FIAM			AML		AML	
	comp=N,173μm,0.9s					
ARRO	**Arrone**	**0.41 272**	P		Pg	05 50 17.4 +0.1
ARRO			S		Sg	05 50 23.5 +0.7
ARRO			AML		AML	
	comp=E,130μm,1.0s					
ARRO			AML		AML	
	comp=E,130μm,1.0s					
ARRO			AML		AML	
	comp=N,183μm,0.1s					
VCEL	**Villa Celiera**	**0.43 114**	P		Pg	05 50 18.2 +0.4
VCEL			AML		AML	
	comp=N,302μm,0.1s					
VCEL			AML		AML	
	comp=E,374μm,0.6s					
MF5	**Montefalcone A**	**0.43 14**	P		Pb	05 50 18.4 -0.4
MF5			AML		AML	
	comp=E,192μm,1.4s					
MF5			AML		AML	
	comp=N,262μm,0.5s					
FEMA	**Monte Fema**	**0.44 334**	P		Pg	05 50 18.2 +0.2
FEMA			S		Sb	05 50 24.7 -0.7
OFFI	**Offida**	**0.46 37**	P		Pb	05 50 18.9 -0.2
OFFI			AML		AML	
	comp=N,368μm,1.4s					
OFFI			AML		AML	
	comp=N,368μm,0.6s					
OFFI			AML		AML	
	comp=E,462μm,0.4s					
T0110	**Collepietro**	**0.49 135**	P		Pg	05 50 19.0 +0.1
T0110			AML		AML	
	comp=N,162μm,0.2s					
T0110			AML		AML	
	comp=E,166μm,0.3s					
T0110			AML		AML	
	comp=N,162μm,1.8s					
CSP1	**Cessapalombo**	**0.53 351**	P		Pg	05 50 19.6 -0.1
CSP1			AML		AML	
	comp=E,82μm,1.3s					
CSP1			AML		AML	
	comp=N,33μm,0.9s					
CSP1			AML		AML	
	comp=N,33μm,1.1s					
CSP1			AML		AML	
	comp=E,82μm,0.7s					
CESI	**CESI - Serrava**	**0.53 326**	P		Pg	05 50 19.7 0.0
CESI			AML		AML	
	comp=E,92μm,1.1s					
CESI			AML		AML	
	comp=N,134μm,0.6s					
CESI			AML		AML	
	comp=N,134μm,1.4s					
CESI			AML		AML	
	comp=E,92μm,0.9s					
CESX	**Cesi**	**0.54 275**	P		Pg	05 50 20.0 +0.1
CESX			AML		AML	
	comp=N,125μm,1.3s					
CESX			AML		AML	
	comp=E,94μm,0.5s					
CESX			AML		AML	
	comp=N,125μm,0.7s					
PTQR	**Pietraquaria**	**0.55 173**	P		Pg	05 50 20.1 0.0
MOMA	**Monte Martano**	**0.60 293**	P		Pg	05 50 21.1 +0.2
CERT	**Cerreto**	**0.67 202**	P		Pg	05 50 21.9 -0.4
CING	**Cingoli**	**0.81 354**	P		Pg	05 50 24.4 -0.6
CING			AML		AML	
	comp=E,56μm,1.4s					
CING			AML		AML	
	comp=N,59μm,1.2s					
CING			AML		AML	
	comp=E,56μm,0.6s					

IDC 24 05:56:24.4±4.0, 6°.18S×149°.15E, h0km, mb3.2/1, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=131.7km s-min=43.6km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.77**	**211**	Pn	Pn	05 57 25.7	+1.9
	15nm,0.3s,baz=59,slow=12,SNR=8.0						
PMG				Sn	Sn	05 58 07.0	-1.8
	22nm,0.3s,baz=162,slow=20,SNR=9.6						
WRA	**Warramunga Arr**	**19.86**	**225**	P	P	06 00 56.4	-0.8
	0.2nm,0.3s,baz=51,slow=11,SNR=16						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**22.75**	**219**	P	P	06 01 27.9	-0.5
	0.8nm,0.8s,baz=54,slow=9.8,SNR=6.8						
	0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**147.20**	**285**	PKPbc	PKPbc	06 16 10.2	-0.6
	0.2nm,0.6s,baz=61,slow=3.6,SNR=4.7						

DJA 24 06:01:17.5±1.6, 8°.S±10°.×10°.7E±°., h17km±10km, M4.2/10, MLv4.2/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.73**	**337**	P	Pg	06 01 32.3	+0.4
CNJI				S	Sg	06 01 42.2	+0.5
CMJI	**Cimerak**	**1.04**	**79**	P	Pb	06 01 36.5	-0.5
CMJI				S	Sb	06 01 50.7	+0.3
LEM	**Lembang**	**1.17**	**10**	P	Pb	06 01 39.7	+0.3
SKJI	**Sukabumi**	**1.30**	**319**	P	Pn	06 01 40.2	-0.7
DBJI	**Dramaga**	**1.57**	**335**	P	Pn	06 01 44.8	+0.1
SBJI	**Serang**	**2.26**	**325**	P	Pn	06 01 54.6	+0.5
UGM	**Wanagama**	**3.08**	**89**	P	Pn	06 02 05.3	-0.1
SMRI	**Semarang**	**3.14**	**73**	P	Pn	06 02 06.6	+0.4
KASI	**Kota Agung**	**3.80**	**310**	P	Pn	06 02 15.1	-0.2
PWJI	**Pagerwojo**	**4.34**	**91**	P	Pn	06 02 22.5	-0.3

*NEIC **24** 06:03:03.0±0.8, 19°.9S±0°.2×177°.42W±0°.05, h545km±15km, mb4.2/16, Error ellipse: s-maj=33.9km s-min=6.4km az=178.0*
*IDC **24** 06:03:07.2±3.3, 19°.94S×177°.87W, h567km±39km, mb3.0/5, mbtmp4.0/5, Error ellipse: s-maj=109.7km s-min=22.3km az=160.0*
ISC 24 06:03:02.6±0.8, 19°.7S±0°.2×177°.5W±0°.1, h550km, n26, σ1§01/27, mb4.2/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.66**	**294**	P	**P**	**06 04 30.7**	**+0.9**
NIUE	**Niue**	**7.14**	**87**	P	**P**	**06 04 53.4**	**+1.5**
AFI	**Afiamalu**	**7.90**	**44**	P	**P**	**06 04 59.2**	**-0.3**
AFI				S	**S**	**06 06 33.2**	**-2.1**
HNR	**Honiara**	**24.08**	**292**	P	**P**	**06 07 37.2**	**+1.8**
EIDS	**Eidsvold**	**29.56**	**253**	P	**P**	**06 08 22.8**	**-0.6**
EIDS				IAmb	IAmb	06 09 03.4	
	comp=Z,9.6nm,1.4s						
CTA	**Charters Tower**	**34.08**	**263**	P	**P**	**06 09 02.2**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=225,slow=24,SNR=10						
	comp=Z,0.4nm,0.4s						
CTAO	**Charters Tower**	**34.08**	**263**	P	**P**	**06 09 02.3**	**+0.3**
CTAO				IAmb	IAmb	06 09 03.3	
	comp=Z,5.9nm,0.7s						
COEN	**Coen**	**38.04**	**272**	P	**P**	**06 09 36.0**	**+1.3**
STKA	**Stephens Creek**	**38.61**	**243**	P	**P**	**06 09 38.3**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=97,slow=8.1,SNR=1.2						
	comp=Z,1.0nm,0.4s						
WR0	**Warramunga Arr**	**45.03**	**261**	P	**P**	**06 10 29.4**	**-0.4**
WR0				IAmb	IAmb	06 10 39.6	
	comp=Z,6.8nm,1.4s						
WB0	**Warramunga Arr**	**45.19**	**261**	P	**P**	**06 10 30.9**	**-0.2**
AS31	**Alice Springs**	**45.20**	**256**	P	**P**	**06 10 30.9**	**-0.2**
ASAR	**Alice Springs**	**45.20**	**256**	P	**P**	**06 10 30.9**	**-0.2**
ASAR	**Alice Springs**	**45.20**	**256**	P	**P**	**06 10 31.2**	**+0.1**
	comp=Z,6.2nm,0.7s,baz=91,slow=7.9,SNR=60						
ASAR				S	**S**	**06 16 28.5**	**-2.9**
	comp=Z,0.6nm,0.7s,baz=91,slow=15,SNR=4.8						
	comp=Z,6.2nm,0.7s						
WB2	**Warramunga Arr**	**45.21**	**261**	P	**P**	**06 10 31.2**	**0.0**
WB2				IAmb	IAmb	06 10 31.8	
	comp=Z,10nm,1.1s						
WRAB	**Tennant Creek**	**45.21**	**261**	P	**P**	**06 10 31.0**	**-0.2**
WRAB				IAmb	IAmb	06 10 55.2	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**45.22**	**261**	P	**P**	**06 10 30.8**	**-0.5**
WRA	**Warramunga Arr**	**45.22**	**261**	P	**P**	**06 10 31.1**	**-0.2**
	comp=Z,3.2nm,0.4s,baz=98,slow=8.1,SNR=148						
	comp=Z,3.2nm,0.4s						
MTN	**Manton Dam**	**49.66**	**270**	P	**P**	**06 11 05.7**	**+1.0**
MTN				IAmb	IAmb	06 11 06.3	
	comp=Z,6.5nm,0.8s						
KNRA	**Kununurra**	**51.22**	**265**	P	**P**	**06 11 16.0**	**0.0**
KNRA				IAmb	IAmb	06 11 24.4	
	comp=Z,14nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.64**	**262**	P	**P**	**06 11 34.0**	**+0.7**
PSA00	**Pilbara Seismi**	**58.35**	**256**	P	**P**	**06 12 05.8**	**0.0**
PSA00				IAmb	IAmb	06 12 47.6	
	comp=Z,14nm,1.3s						
MBWA	**Marble Bar**	**58.53**	**257**	P	**P**	**06 12 06.8**	**-0.2**
MBWA				IAmb	IAmb	06 12 17.5	
	comp=Z,18nm,1.5s						
QSPA	**South Pole Qui**	**70.41**	**180**	P	**P**	**06 13 20.9**	**-0.6**
TXAR	**Lajitas Array**	**86.18**	**57**	P	P	06 14 52.7	+6.3
	comp=Z,0.2nm,0.7s,baz=203,slow=8.8,SNR=3.0						
	comp=Z,0.2nm,0.7s						
AKASG	**Malin Array Be**	**142.51**	**332**	PKP	**PKPdf**	**06 21 33.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=56,slow=3.7,SNR=4.7						

*NNC **24** 06:05:57.3±2.0, 41°.87N×79°.06E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=13.8km s-min=7.5km az=155.0*
*SOME **24** 06:05:58.0, 41°.85N×79°.17E, h30km*
*KRNET **24** 06:05:58.1±0.1, 41°.92N×79°.05E, h10km, mb2.5*
ISC 24 06:05:57.0±1.8, 41°.90N±0°.05×79°.03E±0°.05, h1km±11km, n41, σ1§00/72, 13C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.75**	**321**	⇓*i*P	**Pb**	**06 06 12.8**	**-0.2**
	baz=20						
PRZ				⇓*i*S	**Sb**	**06 06 23.7**	**-0.1**
	baz=20						
TARG	**Taragay, Kyrgy**	**0.93**	**260**	⇑*i*P	**Pn**	**06 06 16.7**	**-0.9**
	baz=59						
TARG				⇑*i*S	**Sb**	**06 06 29.9**	**+0.7**
	baz=59						
UZB	**Uzynbulak**	**1.25**	**360**	*e*P	**Pg**	**06 06 20.4**	**-0.5**
UZB				*e*S	**Sg**	**06 06 36.4**	**-0.7**
	11nm,0.2s						
UZB	**Uzynbulak**	**1.25**	**360**	P	**Pg**	**06 06 20.4**	**-0.5**
UZB				S	**Sg**	**06 06 36.3**	**-0.7**
	11nm,0.2s						
SATY	**Saty**	**1.25**	**338**	*e*P	**Pb**	**06 06 21.1**	**-0.3**
	9.6nm,0.1s						
SATY				*e*S	**Sg**	**06 06 37.7**	**+0.5**
	67nm,0.1s						
SATY	**Saty**	**1.25**	**338**	P	**Pb**	**06 06 21.1**	**-0.3**
	9.6nm,0.1s						
SATY				S	**Sg**	**06 06 37.7**	**+0.5**
	67nm,0.1s						
SHLS	**Shalkode**	**1.30**	**14**	*e*P	**Pb**	**06 06 23.1**	**+0.8**
	40nm,0.1s						
SHLS				*e*S	**Sn**	**06 06 40.9**	**+0.5**
	34nm,0.4s						
SHLS	**Shalkode**	**1.30**	**14**	P	**Pb**	**06 06 23.1**	**+0.8**
	40nm,0.1s						
SHLS				S	**Sn**	**06 06 40.9**	**+0.5**
	34nm,0.4s						
KDJ	**Kajisay**	**1.40**	**280**	⇑*i*P	**Pg**	**06 06 24.8**	**+1.0**
	baz=79						
KDJ				⇑*i*S	**Sg**	**06 06 44.3**	**+2.3**
	baz=79						
PDGK	**Podgornoye**	**1.47**	**13**	P	**Pb**	**06 06 24.0**	**-1.2**
	5.7nm,0.2s						
PDGK				S	**Sn**	**06 06 42.8**	**-1.8**
	6.5nm,0.3s						
PDGK	**Podgornoye**	**1.47**	**13**	⇓P	**Pb**	**06 06 23.9**	**-1.3**
	3.7nm,0.2s						
PDGK				⇓S	**Sg**	**06 06 48.2**	**+4.0**
	34nm,0.5s						
KPKS	**Kokpek**	**1.59**	**351**	*e*P	**Pg**	**06 06 26.9**	**-0.5**
	36nm,0.1s						
KPKS				*e*S	**Sb**	**06 06 47.9**	**+0.1**
	24nm,0.2s						
KPKS	**Kokpek**	**1.59**	**351**	P	**Pg**	**06 06 26.9**	**-0.5**
	36nm,0.1s						
KPKS				S	**Sb**	**06 06 47.9**	**+0.1**
	24nm,0.2s						
KURS	**Kuram**	**1.71**	**338**	*e*P	**Pg**	**06 06 29.4**	**-0.4**
	12nm,0.2s						
KURS				*e*S	**Sb**	**06 06 51.6**	**+0.3**
	13nm,0.3s						
KURS	**Kuram**	**1.71**	**338**	P	**Pg**	**06 06 29.3**	**-0.4**
	12nm,0.2s						
KURS				S	**Sg**	**06 06 52.9**	**+0.9**
	10nm,0.5s						
TNSS	**Tian-Shan**	**1.92**	**307**	*e*P	**Pg**	**06 06 33.6**	**-0.1**
	15nm,0.2s						
TNSS				*e*S	**Sg**	**06 06 59.7**	**+1.1**
	10nm,0.2s						
TNSS	**Tian-Shan**	**1.92**	**307**	Pg	**Pg**	**06 06 33.6**	**-0.1**
	15nm,0.2s						
TNSS				Lg	Lg	06 06 59.7	
	10nm,0.2s						
MDOK	**Medeo**	**1.94**	**311**	*e*P	**Pg**	**06 06 34.0**	**-0.1**
	11nm,0.3s						
MDOK				*e*S	**Sg**	**06 07 00.0**	**+0.8**
	26nm,0.6s						
MDOK	**Medeo**	**1.94**	**311**	Pn	**Pb**	**06 06 33.3**	**+0.1**
	7.3nm,0.5s						
MDOK				Pg	**Pg**	**06 06 34.0**	**-0.1**
	11nm,0.3s						
MDOK				⇓Sn	**Sg**	**06 06 59.9**	**+0.7**
	27nm,0.6s						
MDOK				Lg	Lg	06 07 00.0	
	26nm,0.6s						
KOTS	**Kotyrbulak**	**1.95**	**314**	*e*P	**Pg**	**06 06 34.3**	**0.0**
	6.5nm,0.2s						
KOTS				*e*S	**Sg**	**06 07 00.2**	**+0.6**
	56nm,0.4s						
KOTS	**Kotyrbulak**	**1.95**	**314**	Pg	**Pg**	**06 06 34.3**	**0.0**
	6.5nm,0.2s						
KOTS				Lg	Lg	06 07 00.2	
	56nm,0.4s						
ULHL	**Ulahol**	**2.11**	**280**	⇑*i*P	**Pg**	**06 06 36.8**	**-0.6**
	baz=80						
ULHL				⇑*i*S	**Sg**	**06 07 05.5**	**+0.8**
	baz=80						
BLB	**Baldybastay**	**2.23**	**350**	Pg	**Pb**	**06 06 37.7**	**-0.6**
	78nm,0.3s						
BLB				Lg	Lg	06 07 05.9	
	38nm,0.3s						
MTBS	**Maitube**	**2.28**	**303**	*e*P	**Pg**	**06 06 40.7**	**0.0**
	3.2nm,0.2s						
MTBS				*e*S	**Sg**	**06 07 11.1**	**+0.8**
	36nm,0.5s						
MTBS	**Maitube**	**2.28**	**303**	Pg	**Pg**	**06 06 40.7**	**0.0**
	3.2nm,0.2s						
MTBS				Lg	Lg	06 07 11.1	
	36nm,0.5s						
NRN	**Naryn**	**2.32**	**259**	⇑*i*P	**Pg**	**06 06 40.3**	**-1.1**
	baz=59						
NRN				⇑*i*S	**Sg**	**06 07 11.2**	**-0.3**
	baz=59						
BOOM	**Boomskoye usch**	**2.37**	**285**	⇓*i*P	**Pb**	**06 06 40.7**	**+0.1**
	baz=85						
BOOM				⇓*i*S	**Sb**	**06 07 11.6**	**+1.2**
	baz=85						
KNOS	**Konyrlen**	**2.46**	**2**	Pg	**Pb**	**06 06 42.3**	**+0.2**
	8.7nm,0.3s						
KNOS				Lg	Lg	06 07 13.8	
	17nm,0.3s						
ARXS	**Arharly**	**2.48**	**340**	*e*P	**Pb**	**06 06 41.9**	**-0.4**
	3.9nm,0.3s						
ARXS				*e*S	**Sb**	**06 07 13.1**	**-0.2**
	30nm,0.6s						
ARXS	**Arharly**	**2.48**	**340**	Pg	**Pb**	**06 06 41.9**	**-0.4**
	3.9nm,0.3s						
ARXS				Lg	Lg	06 07 13.1	
	30nm,0.6s						
DJR	**Jarkent**	**2.50**	**13**	*e*P	**Pb**	**06 06 41.8**	**-0.9**
	7.7nm,0.2s						
DJR				*e*S	**Sb**	**06 07 12.9**	**-1.0**
	13nm,0.3s						
DJR	**Jarkent**	**2.50**	**13**	Pg	**Pb**	**06 06 41.8**	**-0.9**
	7.7nm,0.2s						
DJR				Lg	Lg	06 07 12.9	
	13nm,0.3s						
KTBS	**Karatobe**	**2.50**	**317**	*e*P	**Pg**	**06 06 44.0**	**-1.0**
	7.5nm,0.1s						
KTBS				*e*S	**Sg**	**06 07 16.6**	**-0.8**
	31nm,0.3s						
KTBS	**Karatobe**	**2.50**	**317**	Pg	**Pg**	**06 06 44.0**	**-1.0**
	7.5nm,0.1s						
KTBS				Lg	Lg	06 07 16.6	
	31nm,0.3s						
TKM2	**Tokmak 2**	**2.74**	**293**	⇑Pg	**Pb**	**06 06 46.0**	**-1.0**
	3.1nm,0.7s						
TKM2				⇓Lg	Lg	06 07 23.8	
	7.5nm,0.3s						
TKM2	**Tokmak 2**	**2.74**	**293**	⇑*i*P	**Pb**	**06 06 45.8**	**-1.1**
	baz=93						
TKM2				⇑*i*S	**Sb**	**06 07 20.5**	**-0.6**
	baz=93						
DGS	**Degeres**	**2.76**	**300**	*e*P	**Pb**	**06 06 48.0**	**+0.9**
	2.6nm,0.5s						
DGS				*e*S	**Sb**	**06 07 23.6**	**+2.1**
	18nm,0.7s						
DGS	**Degeres**	**2.76**	**300**	Pg	**Pb**	**06 06 47.0**	**-0.1**
	2.6nm,0.5s						
DGS				Lg	Lg	06 07 23.6	
	18nm,0.7s						
KRBS	**Karabastau**	**3.06**	**307**	*e*P	**Pg**	**06 06 53.9**	**-1.6**
	1.8nm,0.3s						
KRBS				*e*S	**Sg**	**06 07 33.5**	**-1.6**
	8.8nm,0.3s						
KRBS	**Karabastau**	**3.06**	**307**	Pg	**Pg**	**06 06 53.9**	**-1.6**
	1.8nm,0.3s						
KRBS				Lg	Lg	06 07 33.5	
	8.8nm,0.3s						
MK31	**Makanchi Array**	**5.42**	**24**	Pn	**Pn**	**06 07 20.4**	**+1.5**
	0.1nm,0.2s,baz=208,slow=13,SNR=15						
MK31				⇑Sn	**Sn**	**06 08 22.1**	**+0.1**
	1.1nm,0.5s,baz=208,slow=25,SNR=4.3						
MK31				⇑Lg	Lg	06 08 48.6	
	0.5nm,0.5s						

IDC 24 06:10:20.0±3.1, 54°.51N×87°.03E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.3km s-min=18.0km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**247**	I	I	06 18 10.0	
	baz=67,slow=317,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.42**	**247**	Pg	Pn	06 10 44.5	-2.5
	0.9nm,0.3s,baz=65,slow=15,SNR=11						
ZALV				Lg	Lg	06 11 05.5	
	1.8nm,0.3s,baz=68,slow=26,SNR=7.0						
KURBB	**Kurchatov Arra**	**6.48**	**237**	Pn	Pn	06 11 57.2	+0.6
	0.1nm,0.3s,baz=55,slow=14,SNR=8.0						
KURBB				Lg	Lg	06 13 45.9	
	baz=52,slow=30,SNR=3.9						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**8.29**	**203**	Pn	Pn	06 12 23.1	+1.7
	0.1nm,0.3s,baz=20,slow=13,SNR=1.6						
MKAR				Sn	Sn	06 13 55.1	-0.7
	0.1nm,0.3s,baz=26,slow=24,SNR=3.8						
MKAR				Lg	Lg	06 14 43.3	
	0.1nm,0.3s,baz=14,slow=25,SNR=2.4						
	0.1nm,0.3s						

*BUT **24** 06:18:57.7±1.8, 45°.72N±0°.03×112°.13W±0°.06, h7km±5km, Error ellipse: s-maj=7.9km s-min=2.4km az=54.0*
NEIC 24 06:18:57.4±1.9, 45°.73N±0°.03×112°.13W±0°.04, h3km±7km, ML2.9/52, ML3.1/31(BUT), Error ellipse: s-maj=5.9km s-min=1.4km az=223.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZ	**Bozeman (W)**	**0.37**	**111**		Pg	06 19 04.8	+0.2
BOZ					Sg	06 19 09.7	+0.2
BOZ	**Bozeman (W)**	**0.37**	**111**	IAML		06 19 09.9	
	2μm,0.3s						
BOZ				IAML		06 19 10.6	
	1μm,0.4s						
DLMT	**Dillon**	**0.49**	**222**		Pg	06 19 07.1	+0.2
DLMT	**Dillon**	**0.49**	**222**	IAML		06 19 14.3	
	467nm,0.5s						
DLMT				IAML		06 19 16.6	
	330nm,0.2s						
YHL	**Hebgen Lake**	**1.10**	**143**		Pg	06 19 18.1	-0.4
YHL	**Hebgen Lake**	**1.10**	**143**	IAML		06 19 36.1	
	comp=N,279nm,0.6s						
YHL				IAML		06 19 38.8	
	comp=E,408nm,0.5s						
BPMT	**Black Pine Rid**	**1.16**	**308**	Pg	Pb	06 19 20.1	-0.2
YHB	**Horse Butte**	**1.18**	**146**		Pb	06 19 20.4	-0.1
YHB	**Horse Butte**	**1.18**	**146**	Pg	Pg	06 19 16.6	-3.4
YHB	**Horse Butte**	**1.18**	**146**	IAML		06 19 35.0	
	comp=E,270nm,0.8s						
YHB				IAML		06 19 36.6	
	comp=N,233nm,0.4s						
GCR	**Grayling Creek**	**1.18**	**142**		Pg	06 19 20.1	+0.1
YPDC	**Denny Creek**	**1.20**	**148**		Pg	06 19 20.5	+0.1
LYMT	**Lyon Mountain**	**1.24**	**355**		Pb	06 19 21.5	-0.2
YMC	**Maple Creek**	**1.25**	**140**		Pg	06 19 21.1	-0.3
YHH	**Holmes Hill**	**1.30**	**136**		Pg	06 19 21.9	-0.5

YPWB	**West Boundary**	**1.34 147**		Pn	06 19 23.2	0.0
YMR	**Madison River**	**1.34 142**		Pg	06 19 22.7	-0.4
YMR	**Madison River**	**1.34 142**	IAML		06 19 43.4	
	comp=E,303nm,0.7s					
YPM	**Purple Mountai**	**1.40 140**		Pg	06 19 24.1	0.0
YNM	**Yellowstone No**	**1.42 134**		Pb	06 19 24.7	0.0
YNM			IAML		06 19 43.8	
	comp=N,172nm,0.2s					
OVMT	**Ovando**	**1.46 336**		Pn	06 19 24.9	0.0
YJC	**Joseph's Coat**	**1.59 127**		Pg	06 19 28.1	+0.3
MSO	**Missoula**	**1.67 312**		Pn	06 19 27.3	-0.4
MSO	**Missoula**	**1.67 312**	IAML		06 19 52.4	
	comp=N,169nm,0.3s					
MSO			IAML		06 19 52.6	
	comp=N,128nm,0.6s					
MCID	**Moose Creek**	**1.68 156**		Pb	06 19 28.5	-0.6
LKWY	**Lake**	**1.69 133**		Pg	06 19 30.3	+0.5
LKWY	**Lake**	**1.69 133**	IAML		06 19 36.2	
	comp=N,33nm,0.4s					
LKWY			IAML		06 19 57.7	
	comp=N,64nm,0.6s					
H17A	**Grant Village**	**1.73 140**		Pg	06 19 30.9	+0.4
YPP	**Pitchstone Pla**	**1.73 147**		Pb	06 19 30.0	-0.1
FLWY	**Flagg Ranch**	**1.94 148**		Pb	06 19 32.6	-0.9
FLWY	**Flagg Ranch**	**1.94 148**	IAML		06 20 01.9	
	comp=N,47nm,0.8s					
FLWY			IAML		06 20 01.9	
	comp=N,54nm,0.8s					
IMW	**Indian Meadow**	**2.02 155**		Pb	06 19 34.0	-0.9
IMW	**Indian Meadow**	**2.02 155**	IAML		06 20 04.9	
	comp=N,122nm,0.4s					
RLMT	**Red Lodge**	**2.10 106**		Pn	06 19 34.5	+0.8
MOOW	**Moose Ponds**	**2.21 153**		Pb	06 19 37.0	-1.2
FXWY	**Fox Creek**	**2.23 159**		Pb	06 19 37.5	-1.1
LOHW	**Long Hollow**	**2.38 152**		Pb	06 19 39.7	-1.4
LOHW	**Long Hollow**	**2.38 152**	IAML		06 20 12.4	
	comp=N,48nm,0.7s					
LOHW			IAML		06 20 12.4	
	comp=N,65nm,0.7s					
TPAW	**Teton Pass**	**2.39 159**		Pb	06 19 40.3	-1.0
TPAW	**Teton Pass**	**2.39 159**	IAML		06 20 16.8	
	comp=N,48nm,0.4s					
TPAW			IAML		06 20 17.6	
	comp=N,36nm,0.5s					
SNOW	**Snow King Moun**	**2.47 156**		Pb	06 19 41.8	-0.8
REDW	**Red Top Meadow**	**2.54 159**		Pb	06 19 42.2	-1.5
HLID	**Hailey**	**2.71 218**		Pn	06 19 42.2	+0.1
HLID	**Hailey**	**2.71 218**	IAML		06 20 22.9	
	comp=N,40nm,0.3s					
HLID			IAML		06 20 24.6	
	comp=N,52nm,0.4s					
EGMT	**Eagleton**	**2.81 34**		Pn	06 19 43.4	0.0
AHID	**Auburn Hatcher**	**3.06 166**	Pn	Pn	06 19 48.8	+2.0
AHID			IAML		06 20 38.8	
	comp=N,14nm,1.0s					
PD31	**Pinedale Array**	**3.49 147**	Pn	Pn	06 19 53.0	+0.2
PDAR	**Pinedale Array**	**3.49 147**	Pn	Pn	06 19 55.3	+2.5
MFID	**Camas Ranch**	**3.52 230**	Pn	Pn	06 19 53.9	+0.8
F10A	**Beach Ranch, E**	**3.57 276**		Pn	06 19 54.1	+0.3
LAO	**LASA Array**	**4.21 75**	Pn	Pn	06 20 04.1	+1.6
LAO			IAML		06 21 15.9	
	comp=N,20nm,0.5s					
LNOR	**Lincton Mounta**	**4.31 274**		Pn	06 20 05.6	+1.7
K22A	**Casper**	**5.07 125**	Pn	Pn	06 20 14.7	+0.3
K22A			IAML		06 21 48.6	
	comp=E,11nm,1.2s					
K22A			IAML		06 22 02.2	
	comp=N,11nm,1.1s					
HAWA	**Hanford**	**5.20 280**	Pn	Pn	06 20 16.0	0.0
HAWA			IAML		06 21 50.7	
	comp=N,6.7nm,0.7s					

*SOME **24** 06:37:21.0,40°.08N×77°.12E,h0km*
*NNC **24** 06:37:23.6±1.1,40°.11N×77°.10E,h0km,mb3.5,mpv3.3,*
Error ellipse: s-maj=7.2km s-min=6.7km az=0.0
*KRNET **24** 06:37:26.9±0.1,40°.21N×77°.06E,h21km,mb2.7*
ISC 24 06:37:29.6±2.2,40°.34N±0°.10×77°.06E±0°.05,h10km,n33,
σ1°29/53,17C-5D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.36**	**324**	⇑*iP*	**Pb**	**06 37 54.7**	**-0.6**
	baz=26						
NRN				⇑*iS*	**Sg**	**06 38 14.8**	**+1.5**
	baz=26						
TARG	**Taragay, Kyrgy**	**1.50**	**22**	⇑*iP*	**Pg**	**06 37 57.3**	**-1.1**
	baz=20						
TARG				⇑*iS*	**Sg**	**06 38 19.7**	**+1.9**
	baz=20						
KDJ	**Kajisay**	**1.79**	**3**	⇑*iP*	**Pb**	**06 38 02.4**	**-0.2**
	baz=3.0						
KDJ				⇑*iS*	**Sg**	**06 38 28.5**	**+1.3**
	baz=3.0						
ULHL	**Ulahol**	**2.00**	**342**	⇑*iP*	**Pb**	**06 38 05.7**	**-0.5**
	baz=43						
ULHL				⇑*iS*	**Sg**	**06 38 34.1**	**+0.2**
	baz=43						
BOOM	**Boomskoye usch**	**2.31**	**339**	⇑*iP*	**Pb**	**06 38 09.8**	**-1.6**
	baz=40						
BOOM				⇑*iS*	**Sb**	**06 38 41.3**	**+1.2**
	baz=40						
PRZ	**Przheval'sk**	**2.36**	**25**	⇓*eP*	**Pb**	**06 38 09.9**	**-2.5**
	baz=23						
PRZ				⇓*eS*	**Sb**	**06 38 42.8**	**+1.1**
	baz=23						
ARLS	**Aral**	**2.57**	**307**	⇓*iP*	**Pn**	**06 38 12.4**	**+1.0**
	baz=9.0						
ARLS				⇓*iS*	**Sb**	**06 38 46.2**	**-1.4**
	baz=9.0						
TNSS	**Tian-Shan**	**2.69**	**358**	*eP*	**Pb**	**06 38 16.7**	**-1.4**
	9.2nm,0.5s						
TNSS				*eS*	**Sg**	**06 38 56.8**	**+0.6**
	6.5nm,0.3s						
TNSS	**Tian-Shan**	**2.69**	**358**	Pg	**Pb**	**06 38 16.7**	**-1.4**
	9.2nm,0.5s						
TNSS				Lg	Lg	06 38 56.8	
	6.5nm,0.3s						
TKM2	**Tokmak 2**	**2.80**	**337**	⇑Pg	**Pb**	**06 38 17.8**	**-2.1**
	2.6nm,0.3s						
TKM2				⇑Lg	Lg	06 38 59.1	
	4.6nm,0.6s						
TKM2	**Tokmak 2**	**2.80**	**337**	⇑*iP*	**Pb**	**06 38 16.7**	**-3.2**
	baz=38						
TKM2				⇑*iS*	**Sb**	**06 38 53.1**	**-1.2**
	baz=38						
MDOK	**Medeo**	**2.82**	**360**	*eP*	**Pb**	**06 38 19.3**	**-0.9**
	4.6nm,0.8s						
MDOK				*eS*	**Sg**	**06 39 01.2**	**+1.0**
	16nm,0.7s						
MDOK	**Medeo**	**2.82**	**360**	Pg	**Pb**	**06 38 19.3**	**-0.9**
	4.6nm,0.8s						
MDOK				Pg	**Pg**	**06 38 20.5**	**-3.1**
	3.0nm,0.6s						
MDOK				Lg	Lg	06 39 01.2	
	16nm,0.7s						
MDOK				Lg	Lg	06 39 01.3	
	11nm,0.5s						
KST	**Kastek**	**2.82**	**343**	*eP*	**Pb**	**06 38 19.5**	**-0.7**
	7.1nm,0.5s						
KST				*eS*	**Sg**	**06 39 01.6**	**+1.3**
	12nm,0.7s						
KST	**Kastek**	**2.82**	**343**	Pg	**Pb**	**06 38 19.5**	**-0.7**
	7.1nm,0.5s						
KST				Lg	Lg	06 39 01.6	
	12nm,0.7s						
MTBS	**Maitube**	**2.83**	**351**	*eP*	**Pb**	**06 38 19.3**	**-0.9**
	3.1nm,0.3s						
MTBS				*eS*	**Sg**	**06 39 01.4**	**+1.0**
	8.6nm,0.2s						
MTBS	**Maitube**	**2.83**	**351**	Pg	**Pb**	**06 38 19.3**	**-0.9**
	3.1nm,0.3s						
MTBS				Lg	Lg	06 39 01.4	
	8.6nm,0.2s						
KOTS	**Kotyrbulak**	**2.89**	**1**	*eP*	**Pb**	**06 38 20.6**	**-0.8**
	3.7nm,0.3s						
KOTS				*eS*	**Sg**	**06 39 03.5**	**+1.0**
	47nm,0.6s						
KOTS	**Kotyrbulak**	**2.89**	**1**	Pg	**Pb**	**06 38 20.6**	**-0.8**
	3.7nm,0.3s						
KOTS				Lg	Lg	06 39 03.5	
	47nm,0.6s						
AAK	**Ala-Archa**	**3.00**	**321**	Pg	**Pb**	**06 38 22.5**	**-0.7**
	2.0nm,0.3s						
AAK				Lg	Lg	06 39 06.5	
	12nm,1.0s						
DGS	**Degeres**	**3.05**	**342**	*eP*	**Pb**	**06 38 23.7**	**-0.4**
	14nm,0.6s						
DGS				*eS*	**Sg**	**06 39 08.8**	**+1.1**
	12nm,0.7s						
DGS	**Degeres**	**3.05**	**342**	Pg	**Pb**	**06 38 23.7**	**-0.4**
	14nm,0.6s						
DGS				Lg	Lg	06 39 08.8	
	12nm,0.7s						
AML	**Almayashu**	**3.11**	**306**	⇑*iP*	**Pn**	**06 38 20.2**	**+1.1**
	baz=8.0						
AML				⇑*iS*	**Sn**	**06 38 59.6**	**+3.2**
	baz=8.0						
KURS	**Kuram**	**3.25**	**14**	*eP*	**Pb**	**06 38 27.3**	**-0.2**
	5.9nm,0.8s						
KURS				*eS*	**Sg**	**06 39 14.9**	**+0.9**
	5.0nm,0.7s						
KURS	**Kuram**	**3.25**	**14**	Pg	**Pb**	**06 38 27.3**	**-0.2**
	5.9nm,0.8s						
KURS				Lg	Lg	06 39 14.9	
	5.0nm,0.7s						
KTBS	**Karatobe**	**3.38**	**355**	*eP*	**Pb**	**06 38 29.0**	**-0.7**
	3.8nm,0.5s						
KTBS				*eS*	**Sg**	**06 39 17.8**	**-0.3**
	12nm,0.6s						
KTBS	**Karatobe**	**3.38**	**355**	Pg	**Pb**	**06 38 29.0**	**-0.7**
	3.8nm,0.5s						
KTBS				Lg	Lg	06 39 17.8	
	12nm,0.6s						
PDGK	**Podgornoye**	**3.49**	**30**	⇓Pg	**Pb**	**06 38 31.8**	**+0.2**
	4.1nm,0.7s						
PDGK				⇑Lg	Lg	06 39 19.7	
	8.6nm,0.8s						
KRBS	**Karabastau**	**3.51**	**343**	*eP*	**Pb**	**06 38 31.8**	**-0.1**
	4.3nm,0.6s						
KRBS				*eS*	**Sg**	**06 39 22.6**	**+0.4**
	7.5nm,0.8s						
KRBS	**Karabastau**	**3.51**	**343**	Pg	**Pb**	**06 38 31.8**	**-0.1**
	4.3nm,0.6s						
KRBS				Lg	Lg	06 39 22.6	
	7.5nm,0.8s						
BLB	**Baldybastay**	**3.90**	**15**	Pg	**Pb**	**06 38 38.1**	**-0.4**
	7.1nm,0.3s						
BLB				Lg	Lg	06 39 33.5	
	9.8nm,0.7s						
ARXS	**Arharly**	**3.91**	**8**	*eP*	**Pb**	**06 38 38.2**	**-0.5**
	1.9nm,0.5s						
ARXS				*eS*	**Sg**	**06 39 33.6**	**-1.5**
	5.8nm,0.6s						
ARXS	**Arharly**	**3.91**	**8**	Pg	**Pb**	**06 38 38.2**	**-0.5**
	1.9nm,0.5s						
ARXS				Lg	Lg	06 39 33.6	
	5.8nm,0.6s						

IDC 24 07:04:36.0±2.7,53°.98N×86°.61E,h0km,mbtmp2.8/2,
ML2.7/2,Error ellipse: s-maj=22.2km s-min=13.9km
az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.06**	**269**	I	I	07 11 20.0	
	baz=88,slow=326,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.06**	**269**	Pg	Pg	07 04 56.3	+0.1
	1.2nm,0.3s,baz=87,slow=15,SNR=8.7						
ZALV				Lg	Lg	07 05 10.6	
	2.6nm,0.3s,baz=87,slow=32,SNR=13						
ZALV				Rg	Rg	07 05 18.8	
	1.9nm,0.3s,baz=106,slow=30,SNR=4.5						
KURBB	**Kurchatov Arra**	**5.99**	**239**	Pn	Pn	07 06 06.4	+0.6
	0.1nm,0.3s,baz=56,slow=14,SNR=4.1						
KURBB				Lg	Lg	07 07 46.6	
	baz=50,slow=33,SNR=2.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.71**	**203**	Pn	Pn	07 06 30.4	+1.0
	0.2nm,0.3s,baz=25,slow=13,SNR=6.9						
	0.2nm,0.3s						

*ISN **24** 07:12:21.7±0.4,34°.67N×46°.32E,h23km±9km,ML2.8*
*TEH **24** 07:12:21.0,34°.62N×46°.27E,h10km±55km,ML2.8*
ISC 24 07:12:21.1±1.1,34°.63N±0°.04×46°.27E±0°.04,h13km±11km,
n12,σ0°46/15,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.12**	**54**	Pg	**Pg**	**07 12 24.5**	**-0.1**
IGHG	**Ghaleghazi**	**0.39**	**140**	Pg	**Pg**	**07 12 29.4**	**+0.4**
KGS1	**Ghasr-e-Shirin**	**0.57**	**258**	Pg	**Pg**	**07 12 32.5**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.59**	**210**	Pg	**Pg**	**07 12 32.3**	**-0.5**
ILIN	**Lien**	**0.64**	**63**	Pg	**Pg**	**07 12 33.4**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.73**	**119**	Pg	**Pg**	**07 12 34.9**	**-0.4**
ILBA	**Ilam Banvizeh**	**1.00**	**183**	Pg	**Pb**	**07 12 40.1**	**-0.2**
SNQR	**Sonqor, Kerman**	**1.14**	**78**	Pg	**Pg**	**07 12 43.4**	**+0.3**
IBZA	**Bozab**	**1.32**	**96**	Pg	**Pg**	**07 12 46.1**	**-0.5**
IBDR	**Badra**	**1.54**	**191**	*e*Pg	**Pb**	**07 12 50.0**	**+0.5**
IBDR				*e*Sg	**Sg**	**07 13 11.0**	**+0.3**
IBDR				AML	AML	07 13 22.7	
	comp=N,153nm,0.4s						
IKRK	**Kirkuk**	**1.76**	**296**	*e*Pn	**Pb**	**07 12 53.0**	**-0.2**
IKRK				*e*Sn	**Sb**	**07 13 16.0**	**+0.8**
BHD	**Baghdad**	**2.08**	**230**	*e*Pn	**Pb**	**07 12 58.0**	**-0.6**
BHD				*e*Sn	**Sb**	**07 13 24.0**	**-0.2**

*TEH **24** 07:15:06.1,34°.63N×46°.28E,h12km±23km,ML2.6*
*ISN **24** 07:15:06.9±1.3,34°.64N×46°.26E,h20km±24km,ML2.3*
ISC 24 07:15:06.2±1.1,34°.64N±0°.04×46°.28E±0°.04,h11km±10km,
n11,σ0°36/13,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.11**	**57**	Pg	**Pg**	**07 15 09.4**	**+0.1**
IGHG	**Ghaleghazi**	**0.39**	**142**	Pg	**Pg**	**07 15 14.4**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.58**	**257**	Pg	**Pg**	**07 15 17.8**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.61**	**210**	Pg	**Pg**	**07 15 18.1**	**+0.1**
ILIN	**Lien**	**0.63**	**64**	Pg	**Pg**	**07 15 18.6**	**+0.1**
KCHF	**Cheshme Sefid,**	**0.73**	**120**	Pg	**Pg**	**07 15 20.2**	**-0.1**
ILBA	**Ilam Banvizeh**	**1.01**	**183**	Pg	**Pb**	**07 15 25.3**	**-0.6**
SNQR	**Sonqor, Kerman**	**1.14**	**79**	Pg	**Pn**	**07 15 28.1**	**-0.2**
IBZA	**Bozab**	**1.32**	**97**	Pg	**Pb**	**07 15 31.5**	**+0.3**
IBDR	**Badra**	**1.55**	**191**	*e*Pg	**Pn**	**07 15 34.0**	**+0.3**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**07 15 56.0**	**-0.2**
IBDR				AML	AML	07 16 00.1	
	comp=N,56nm,0.4s						
IBDR				AML	AML	07 16 09.5	
	comp=E,42nm,0.3s						
IKRK	**Kirkuk**	**1.76**	**296**	*e*Pn	**Pb**	**07 15 38.0**	**-0.5**
IKRK				*e*Sn	**Sb**	**07 16 01.0**	**+0.4**

JMA 24 07:28:50.9±0.0,34°.2N±0°.1×135°.3E±0°.2,h5km±1km,
MV0.8/22,NW WAKAYAMA PREF,Near south coast of
western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.28**	**91**	P	Pg	07 28 56.3	+0.1
JWY				*e*S	Sg	07 29 00.1	+0.2
JWM	**Minabe**	**0.38**	**168**	*e*P	Pg	07 28 58.7	+0.5
JWM				S	Sg	07 29 03.5	+0.3
JHE	**Heguri**	**0.56**	**39**	*e*S	Sg	07 29 09.2	+0.4
JKN2	**Miekihoku**	**0.84**	**89**	*e*P	Pb	07 29 07.7	-0.2

*NEIC **24** 07:40:28.9±1.1,19°.412N±0°.007×155°.296W±0°.006,*
h5km±1km,Error ellipse: s-maj=2.1km s-min=1.2km
az=143.0
HVO 24 07:40:28.4±1.0,19°.411N±0°.006×155°.290W±0°.007,
h1km±3km,ML3.5/26,ML3.0/31(NEIC),Error ellipse:
s-maj=1.0km s-min=0.7km az=222.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**40**		Pg	07 40 29.5	+0.7
UWE	**Uwekahuna**	**0.01**	**341**	Pg	Pg	07 40 29.2	+0.4
UWE					Sg	07 40 30.2	+1.1
WRMHI	**West Rim**	**0.01**	**245**		Pg	07 40 29.7	+0.9
UWB	**Uwekahuna B**	**0.02**	**39**		Pg	07 40 29.9	+1.1
SDHHI	**Sand Hill**	**0.02**	**191**		Pg	07 40 30.2	+1.3
SBLHI	**Steaming Bluff**	**0.03**	**52**		Pg	07 40 30.1	+1.2
BYL	**Byron's Ledge**	**0.03**	**88**	IAML		07 40 29.3	
	comp=E,9μm,0.9s						
BYL				Pg	Pg	07 40 29.5	+0.5
BYL					Sg	07 40 30.1	+0.8
HATHI	**Halema'uma'u T**	**0.03**	**66**	Pg	Pg	07 40 29.8	+0.8
HATHI					Sg	07 40 30.4	+1.0
RSD	**Rainshed**	**0.05**	**12**	Pg	Pg	07 40 30.1	+0.7
RSD					Sg	07 40 31.5	+1.3
PUH	**Pauahi**	**0.08**	**118**	Pg	Pg	07 40 30.8	+0.9
PUH				IAML		07 40 31.9	
	comp=N,5μm,1.5s						
PUH					Sg	07 40 31.9	+1.0
PUH				IAML		07 40 32.1	
	comp=E,5μm,0.8s						
HLP	**Hilina Pali**	**0.12**	**189**		Pg	07 40 31.6	+1.0
HLP	**Hilina Pali**	**0.12**	**189**		Sg	07 40 33.9	+1.8
HLP	**Hilina Pali**	**0.12**	**189**	IAML		07 40 33.1	
	comp=N,13μm,1.1s						
HLP				IAML		07 40 33.5	
	comp=E,10μm,1.2s						
KNHH	**Kane Nui o Ham**	**0.12**	**106**	Pg	Pg	07 40 31.4	+0.8
MLH	**Mauna Loa**	**0.12**	**312**	IAML		07 40 31.8	
	comp=N,4μm,1.1s						
MLH	**Mauna Loa**	**0.12**	**312**	IAML		07 40 34.4	
	comp=E,3μm,0.6s						
MLH	**Mauna Loa**	**0.12**	**312**		Pg	07 40 32.0	+1.2
MLH					Sg	07 40 34.3	+1.9
STCH	**Steam Cracks**	**0.16**	**99**		Pg	07 40 32.2	+0.8
STCH				IAML		07 40 35.7	
	comp=E,5μm,1.0s						
STCH	**Steam Cracks**	**0.16**	**99**		Sg	07 40 35.4	+1.9
STCH	**Steam Cracks**	**0.16**	**99**	IAML		07 40 34.5	
	comp=N,3μm,1.2s						
NPOC	**North of Pu'u**	**0.17**	**96**		Pg	07 40 32.3	+0.6
NPOC					Sg	07 40 35.8	+1.9
HMH	**Humu'ula Sheep**	**0.26**	**316**		Sg	07 40 38.8	+1.9
HMH	**Humu'ula Sheep**	**0.26**	**316**	Pg	Pg	07 40 34.2	+0.8
HMH	**Humu'ula Sheep**	**0.26**	**316**	IAML		07 40 39.1	
	comp=E,4μm,0.9s						
HMH				IAML		07 40 39.7	
	comp=N,4μm,0.9s						
JOKA	**Jonika Flow**	**0.27**	**85**	Pg	Pg	07 40 33.5	-0.1
JOKA				IAML		07 40 38.6	
	comp=E,3μm,1.2s						
MLOA	**Mauna Loa Obse**	**0.30**	**295**	Pg	Pg	07 40 34.8	+0.7
MWH	**Moku'aweowe**	**0.30**	**284**	Pg	Pg	07 40 35.0	+0.9
KHU	**Kahuku**	**0.35**	**242**	Pg	Pg	07 40 35.8	+0.8
POHA	**Pohakuloa**	**0.41**	**326**		Sb	07 40 43.8	-1.7
HUH	**Hualalai**	**0.58**	**298**	Pg	Pg	07 40 40.3	+0.8
HPAH	**Hawaii Prepara**	**0.73**	**328**	Pg	Pg	07 40 41.1	-1.2

*ISN **24** 07:53:01.7±0.8,34°.64N×46°.33E,h21km±17km,ML3.2*
*TEH **24** 07:53:01.5,34°.60N×46°.29E,h8km±23km,ML2.9*
ISC 24 07:53:01.4±0.9,34°.65N±0°.04×46°.27E±0°.03,h12km±7km,
n14,σ0°97/19,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.11**	**60**	Pg	**Pg**	**07 53 04.7**	**+0.1**
IDHR				Sg	**Sg**	**07 53 07.3**	**+0.4**
IGHG	**Ghaleghazi**	**0.40**	**142**	Pg	**Pb**	**07 53 09.8**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**0.58**	**256**	Pg	**Pg**	**07 53 12.7**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.61**	**210**	Pg	**Pg**	**07 53 12.9**	**-0.4**
ILIN	**Lien**	**0.63**	**64**	Pg	**Pg**	**07 53 13.6**	**-0.1**
KCHF	**Cheshme Sefid,**	**0.73**	**120**	Pg	**Pg**	**07 53 15.3**	**-0.4**
ILBA	**Ilam Banvizeh**	**1.02**	**183**	Pg	**Pb**	**07 53 20.3**	**-0.7**
SNQR	**Sonqor, Kerman**	**1.14**	**79**	Pg	**Pg**	**07 53 23.6**	**+0.3**
SNQR				Sg	**Sn**	**07 53 39.5**	**+0.5**
IBZA	**Bozab**	**1.32**	**97**	Pg	**Pg**	**07 53 26.5**	**-0.4**
IBDR	**Badra**	**1.56**	**191**	*e*Pg	**Pb**	**07 53 30.0**	**-0.1**
IBDR				*e*Sg	**Sb**	**07 53 50.0**	**+0.2**
IKFM	**Kafar-mosalman**	**1.72**	**130**	Pg	**Pg**	**07 53 33.9**	**-0.5**
IKRK	**Kirkuk**	**1.76**	**296**	*e*Pn	**Pn**	**07 53 33.0**	**+1.4**
IKRK				*e*Sn	**Sb**	**07 53 57.0**	**+1.5**
IKRK				AML	AML	07 54 01.6	
	comp=N,323nm,0.3s						
IKRK				AML	AML	07 54 05.0	
	comp=E,304nm,0.5s						
BHD	**Baghdad**	**2.09**	**229**	*e*Pn	**Pb**	**07 53 38.0**	**-1.2**
BHD				*e*Sn	**Sb**	**07 54 04.0**	**-1.0**
IAZR	**Azarshahr**	**3.04**	**356**	Pn	**Pb**	**07 53 53.2**	**-2.3**

IDC 24 08:00:23.6±2.9,54°.21N×86°.36E,h0km,mbtmp2.5/2,
ML2.4/2,Error ellipse: s-maj=22.5km s-min=13.4km
az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**255**	I	I	08 06 30.0	
	baz=72,slow=319,SNR=1.7						
ZALV	**Zalesovo Beam**	**0.94**	**255**	Pg	Pg	08 00 40.4	-1.3
	0.8nm,0.3s,baz=72,slow=17,SNR=7.3						
ZALV				Lg	Lg	08 00 55.4	
	1.4nm,0.3s,baz=78,slow=28,SNR=8.6						
KURBB	**Kurchatov Arra**	**5.99**	**236**	Pn	Pn	08 01 54.4	+1.1
	0.1nm,0.3s,baz=53,slow=13,SNR=4.3						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.86**	**201**	Pn	Pn	08 02 20.1	+1.0
	0.1nm,0.3s,baz=13,slow=14,SNR=4.8						
	0.1nm,0.4s						

IDC 24 08:04:31.3±2.6,53°.93N×86°.48E,h0km,mbtmp2.9/2,
ML2.7/2,1C,Error ellipse: s-maj=20.9km s-min=13.3km
az=60.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**272**	I	I	08 11 20.0	
	baz=88,slow=318,SNR=3.1						
ZALV	**Zalesovo Beam**	**0.98**	**272**	Pg	Pg	08 04 50.3	+0.3
	0.9nm,0.3s,baz=90,slow=16,SNR=8.2						
ZALV				Lg	Lg	08 05 03.7	
	2.0nm,0.3s,baz=93,slow=26,SNR=11						
KURBB	**Kurchatov Arra**	**5.90**	**239**	Pn	Pn	08 06 00.6	+0.7
	0.1nm,0.3s,baz=57,slow=14,SNR=4.3						
KURBB				Lg	Lg	08 07 36.6	
	baz=50,slow=33,SNR=1.4						
	0.5nm,0.3s						
MK31	**Makanchi Array**	**7.63**	**202**	⇑Pg	Pn	08 06 24.8	+1.1
	0.6nm,0.7s,baz=168,slow=15,SNR=6.3						
MK31				Lg	Lg	08 07 26.3	
	0.4nm,0.4s,baz=165,slow=27,SNR=6.4						
MKAR	**Makanchi Array**	**7.63**	**202**	Pn	Pn	08 06 24.7	+1.0
	0.2nm,0.3s,baz=25,slow=13,SNR=5.7						
	0.2nm,0.3s						

*DJA **24** 08:05:37.7±0.7,2°.S±5°.×12°.8E±°.,h95km±16km,MS.7/6,*
mb3.7/1,MLv3.8/6
*IDC **24** 08:05:40.9±1.6,2°.93S×128°.28E,h0km,mb3.7/3,*
*mbtmp3.9/5,ML4.2/2,Error ellipse

0.2nm,0.3s

*ISK **24** 08:07:23.0, 41.35N×39.25E, h5km, ML2.8/8*
*AFAD **24** 08:07:27.5±0.0, 41.18N×39.15E, h16km±2km, ML2.4*
ISC 24 08:07:27.2±1.4, **41.17N**±0.06×**39.08E**±0.04, **h28**km±14km, **n18**, σ1982/29, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPY	**Espiye-Giresun**	**0.37**	**226**	Pg	**Pb**	**08 07 35.5**	**0.0**
GUMT	**Gumushane**	**0.77**	**157**	Pg	**Pb**	**08 07 41.3**	**-0.9**
ALUC	**Giresun/Alucra**	**0.86**	**196**	P	**Pb**	**08 07 44.3**	**+0.6**
ALUC				S	**Sb**	**08 07 54.1**	**-0.8**
ALUC				*i* AML	AML	08 07 57.0	
	comp=E,463nm,0.4s						
ALUC				*i* AML	AML	08 07 58.0	
	comp=N,412nm,0.4s						
KELT	**Kelkit**	**1.03**	**172**	P	**Pb**	**08 07 47.5**	**+1.0**
KELT				S	**Sb**	**08 07 56.6**	**-3.2**
KELT				*i* AML	AML	08 08 03.0	
	comp=N,114nm,0.3s						
KELT				*i* AML	AML	08 08 03.0	
	comp=E,129nm,0.3s						
BAYT	**Aydıntepe-Bayb**	**1.12**	**134**	Pn	**Pn**	**08 07 46.6**	**-0.6**
IZDR	**Rize**	**1.19**	**108**	P	**Pb**	**08 07 49.2**	**+0.1**
IZDR				S	**Sn**	**08 08 04.8**	**+1.5**
IZDR				*i* AML	AML	08 08 07.0	
	comp=N,70nm,0.3s						
CHOM	**Cayeli-Rize**	**1.27**	**93**	Pn	**Pn**	**08 07 46.3**	**-2.8**
CHOM				Sn	**Sb**	**08 08 03.8**	**-2.7**
BAYB	**BAYBURT**	**1.28**	**135**	P	**Pb**	**08 07 50.8**	**+0.1**
BAYB				S	**Sb**	**08 08 08.8**	**+2.0**
BAYB				*i* AML	AML	08 08 11.0	
	comp=N,64nm,0.3s						
BAYB				*i* AML	AML	08 08 11.0	
	comp=E,88nm,0.4s						
RSDY	**Resadiye-TOKAT**	**1.54**	**240**	Pn	**Pb**	**08 07 55.9**	**+0.8**
KOPT	**Kop Dagi**	**1.58**	**136**	P	**Pb**	**08 07 56.6**	**+0.6**
KOPT				S	**Sb**	**08 08 18.7**	**+3.1**
KOPT				*i* AML	AML	08 08 19.0	
	comp=N,73nm,0.3s						
KOPT				*i* AML	AML	08 08 19.0	
	comp=E,76nm,0.4s						
KRIK	**Erzurum-spir**	**1.63**	**120**	P	**Pb**	**08 07 58.2**	**+1.4**
KRIK				S	**Sb**	**08 08 20.3**	**+3.3**
KRIK				*i* AML	AML	08 08 23.0	
	comp=E,35nm,0.5s						
KRIK				*i* AML	AML	08 08 26.0	
	comp=N,22nm,0.4s						
ERZN	**Erzincan**	**1.66**	**163**	Pn	**Pb**	**08 07 56.4**	**-0.8**
ILIC	**ilic-Erzincan**	**1.76**	**193**	Pn	**Pb**	**08 07 58.9**	**0.0**
DBAD	**Bademkaya**	**1.98**	**94**	P	**Pb**	**08 08 03.1**	**+0.4**
DBAD				S	**Sb**	**08 08 27.7**	**+0.7**
DBAD				*i* AML	AML	08 08 30.0	
	comp=N,51nm,0.5s						
DBAD				*i* AML	AML	08 08 31.0	
	comp=E,64nm,0.4s						
SVSK	**Karacayir**	**2.02**	**232**	Pn	**Pb**	**08 08 02.7**	**-0.6**
SVSK				Sn	**Sb**	**08 08 31.8**	**+3.8**
DDEM	**Demirkent**	**2.04**	**97**	P	**Pb**	**08 08 03.9**	**+0.3**
DDEM				S	**Sb**	**08 08 30.9**	**+2.3**
DDEM				*i* AML	AML	08 08 35.0	
	comp=N,135nm,0.3s						
DDEM				*i* AML	AML	08 08 36.0	
	comp=E,122nm,0.5s						
DAGI	**Agillar**	**2.14**	**92**	P	**Pb**	**08 08 05.6**	**+0.1**
DAGI				S	**Sb**	**08 08 31.8**	**+0.1**
DAGI				*i* AML	AML	08 08 39.0	
	comp=N,12nm,0.3s						
DAGI				*i* AML	AML	08 08 39.0	
	comp=E,20nm,0.4s						
PTK	**Pertek**	**2.29**	**174**	Pn	**Pb**	**08 08 06.4**	**-1.6**

IDC 24 08:16:13.3±9.0, **53.67N×90.95E, h0**km, **mbtmp3.0**/3, **ML2.0**/3, **Error ellipse: s-maj=97.7km s-min=35.1km az=66.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.65**	**277**	I	I	08 38 15.0	
	baz=91,slow=314,SNR=3.6						
ZALV	**Zalesovo Beam**	**3.65**	**277**	Pn	Pn	08 17 11.2	+0.2
	0.1nm,0.3s,baz=94,slow=16,SNR=2.2						
ZALV				Pg	Pg	08 17 20.9	-2.3
	0.4nm,0.3s,baz=93,slow=16,SNR=11						
ZALV				Lg	Lg	08 18 06.8	
	0.7nm,0.3s,baz=87,slow=29,SNR=7.2						
	2.3nm,0.8s						
KURBB	**Kurchatov Arra**	**8.22**	**253**	Pn	Pn	08 18 13.3	-0.5
	0.1nm,0.3s,baz=66,slow=15,SNR=12						
KURBB				Sn	Sn	08 19 44.1	-3.3
	baz=66,slow=26,SNR=5.7						
KURBB				Lg	Lg	08 20 31.0	
	baz=65,slow=32,SNR=3.5						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	**8.84**	**222**	Pn	Pn	08 18 23.1	+0.9
	baz=36,slow=13,SNR=4.2						
MKAR				Lg	Lg	08 20 47.4	
	0.1nm,0.3s,baz=36,slow=32,SNR=2.7						
	0.3nm,0.5s						
SONM	**Songino Array**	**11.38**	**115**	Lg	Lg	08 22 00.7	
	baz=305,slow=28						

IDC 24 08:17:49.2±3.9, **54.41N×87.44E, h0**km, **mbtmp2.8**/2, **ML2.4**/2, **Error ellipse: s-maj=34.0km s-min=21.8km az=35.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**254**	I	I	08 26 00.0	
	baz=75,slow=317,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.61**	**254**	Pg	Pn	08 18 16.8	-2.1
	1.2nm,0.3s,baz=74,slow=16,SNR=5.2						
ZALV				Lg	Lg	08 18 41.5	
	1.8nm,0.3s,baz=72,slow=33,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.62**	**239**	Pn	Pn	08 19 27.3	-0.4
	baz=57,slow=14,SNR=1.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.29**	**205**	Pn	Pn	08 19 52.9	+2.2
	0.1nm,0.3s,baz=25,slow=14,SNR=1.5						
	0.3nm,0.5s						

*NIED **24** 08:21:50.0, 40.36N×142.54E, h29km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=1.30; Mθθ=1.46; Mφφ=-0.16; Mrθ=1.47; Mrφ=0.03; Mθφ=-0.34; Fault plane solution: M0=2.05000×10^14^ NP1: φs=280.00000°, δ=69.00000°, λ=-81.00000°. NP2: φs=77.00000°, δ=23.00000°, λ=-112.00000°.*
JMA 24 08:21:50.0±0.2, **40.4N**±0.4×**142.5E**±0.8, **h29**km±1km, **MV3.5**/40, **4D, NE OFF IWATE PREF, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.65**	**257**	P	Pb	08 22 02.5	-0.4
JKEN				S	Sb	08 22 11.2	-0.4
JTH	**Tanohata**	**0.67**	**231**	P	Pb	08 22 03.1	0.0
JTH				*e*S	Sb	08 22 11.9	-0.2
JANG	**Nango**	**0.78**	**271**	||P	Pb	08 22 04.5	-0.6
JANG				||S	Sb	08 22 14.5	-0.9
JKZ	**Kuzumaki**	**1.00**	**248**	||*i*P	Pn	08 22 08.1	-0.1
JKZ				||S	Sn	08 22 21.0	-0.2
JARK	**Aomorirokkasho**	**1.10**	**306**	*i* P	Pn	08 22 09.1	-0.3
JARK				S	Sn	08 22 22.1	-1.6
JTM	**Tenmabayashi**	**1.20**	**291**	*i* P	Pn	08 22 11.1	+0.3
JTM				S	Sn	08 22 25.8	-0.3
JOM	**Ohasama**	**1.30**	**228**	*i* P	Pn	08 22 12.9	+0.6
JOM				S	Sb	08 22 29.8	-0.5
JAH	**Hinai**	**1.46**	**264**	P	Pb	08 22 15.7	-0.9
JAH				S	Sb	08 22 34.0	-0.8
JOT	**Ohata**	**1.52**	**313**	*i* P	Pn	08 22 15.4	+0.1
JOT				S	Sn	08 22 33.1	-1.0
JEM	**Erimo**	**1.72**	**16**	P	Pn	08 22 18.7	+0.7
JMK	**Ichinoseki**	**1.73**	**216**	P	Pn	08 22 19.7	+1.5
JRG	**Rokugo**	**1.75**	**237**	P	Pb	08 22 20.9	-0.6

*NEIC **24** 08:34:43.8±1.3, 35.00N±0.01×97.55W±0.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.6km az=299.0*
TUL 24 08:34:44.2±1.3, **34.99N**±0.01×**97.55W**±0.01, **h6**km±4km,
ML2.1, mb, Lg2.1/25(NEIC), **ML2.2**/32(NEIC), **Error ellipse: s-maj=2.0km s-min=0.8km az=147.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.30**	**25**	Pg	Pg	08 34 50.4	+0.4
FNO				Sg	Sg	08 34 54.2	+0.2
FNO				IAML		08 34 58.5	
	comp=E,362nm,0.5s						
FNO				IAML		08 34 58.5	
	comp=N,292nm,0.5s						
OKCSW	**OKLAHOMA CITY**	**0.43**	**13**	Pg	Pg	08 34 52.1	-0.4
OKCSW				Sg	Sg	08 34 58.7	+0.5
OKCSW				IAML		08 35 07.8	
	comp=N,191nm,0.5s						
X34A	**Smith Ranch, M**	**0.45**	**211**	Pg	Pg	08 34 53.4	+0.6
X34A				Sg	Sb	08 35 00.5	-0.9
X34A				IAML		08 35 04.4	
	comp=E,154nm,0.6s						
X34A				IAML		08 35 08.3	
	comp=N,169nm,0.6s						
ADOK	**Arcadia Dam**	**0.68**	**13**	Pg	Pg	08 34 55.7	-1.6
OK029	**Liberty Lake**	**0.81**	**6**	Pg	Pg	08 34 59.3	-0.5
OK029				IAML		08 35 14.6	
	comp=N,68nm,0.2s						
OK029				IAML		08 35 17.4	
	comp=N,136nm,0.4s						
LOOK	**Love County**	**1.04**	**163**	Pg	Pg	08 35 03.9	-0.2
LOOK				IAML		08 35 25.5	
	comp=E,70nm,0.2s						
WMOK	**Wichita Mounta**	**1.04**	**257**	Pg	Pg	08 35 02.8	-1.3
WMOK				Sg	Sg	08 35 17.2	-0.4
OK031	**S. Brethren Rd**	**1.13**	**31**	Pg	Pg	08 35 04.6	-1.3
OK031				Sg	Sg	08 35 20.3	-0.2
OK031				IAML		08 35 25.5	
	comp=E,79nm,0.3s						
CSTR	**Hydro, Custer**	**1.14**	**306**	Pg	Pg	08 35 05.8	-0.2
CSTR				Sg	Sg	08 35 21.0	+0.1
OK052	**Battle Ridge R**	**1.18**	**31**	Pg	Pg	08 35 05.5	-1.3
OK052				Sg	Sg	08 35 21.6	-0.5
DEOK	**Depew**	**1.22**	**45**	Pg	Pg	08 35 06.2	-1.3
DEOK				Sg	Sg	08 35 23.0	-0.3
QUOK	**Quay**	**1.37**	**30**		Pn	08 35 08.6	-1.3
WTFS	**Witchita Falls**	**1.43**	**212**		Pn	08 35 10.0	-0.7
OK048	**Pawnee Station**	**1.51**	**19**		Pn	08 35 11.5	-0.3
CROK	**Carrier**	**1.56**	**347**		Pn	08 35 11.6	-0.9
OK051	**E0350 and S346**	**1.63**	**21**		Pn	08 35 12.8	-0.6
Z35A	**Perchaven, San**	**1.67**	**171**		Pn	08 35 13.4	-0.5
TUL3	**Leonard**	**1.71**	**57**		Pn	08 35 14.8	+0.2
TUL3				IAmb_Lg		08 35 42.2	
	comp=Z,7.4nm,0.8s						
OK038	**West end E0370**	**1.78**	**327**	Pn	Pn	08 35 16.0	+0.5
BLOK	**Blackwell**	**1.79**	**9**	Pn	Pn	08 35 15.2	-0.5
U32A	**Winter Ranch,**	**1.82**	**320**	Pn	Pn	08 35 15.4	-0.7
X37A	**Clayton**	**1.84**	**102**	Pn	Pn	08 35 16.9	+0.6
GC02	**Grant County #**	**1.88**	**353**	Pn	Pn	08 35 17.2	+0.3
OK032	**Salt Plains WL**	**1.89**	**344**	Pn	Pn	08 35 16.6	-0.4
OK032				IAmb_Lg		08 35 44.5	
	comp=Z,12nm,0.8s						
FW03	**Perrin-Whitt E**	**1.99**	**192**	Pn	Pn	08 35 17.6	-0.8
NOKA	**Waynoka**	**1.99**	**326**	Pn	Pn	08 35 18.3	-0.1
KAN01	**Argonia South**	**2.17**	**356**	Pn	Pn	08 35 20.2	-0.7
FW07	**Weatherford**	**2.29**	**185**	IAmb_Lg		08 35 56.7	
	comp=Z,10.0nm,0.8s						
RLO	**Rose Lookout**	**2.38**	**60**	Pn	Pn	08 35 23.1	-0.7
TREL	**Terrell**	**2.56**	**151**	Pn	Pn	08 35 24.4	-1.8
APMT	**Aspermont**	**2.70**	**233**	Pn	Pn	08 35 28.4	+0.2
ABTX	**Abilene, Hawle**	**2.93**	**217**	IAmb_Lg		08 36 19.6	
	comp=Z,5.4nm,1.1s						
U38A	**Gravette**	**2.96**	**60**	Pn	Pn	08 35 31.8	+0.1
U38A				IAmb_Lg		08 36 15.1	
	comp=Z,3.8nm,0.9s						
HHAR	**Hobbs**	**3.22**	**65**	Pn	Pn	08 35 34.7	-0.6
HHAR				IAmb_Lg		08 36 23.2	
	comp=Z,4.0nm,0.7s						
MIAR	**Mount Ida**	**3.30**	**96**	IAmb_Lg		08 36 37.5	
	comp=Z,5.9nm,0.8s						
POST	**Post**	**3.79**	**241**	Pn	Pn	08 35 43.6	+0.3
BRDY	**Brady**	**3.88**	**199**	Pn	Pn	08 35 44.1	-0.3
BRDY				IAmb_Lg		08 36 51.9	
	comp=Z,4.5nm,0.7s						
WHAR	**Wooly Hollow**	**4.33**	**84**	Pn	Pn	08 35 50.4	-0.2
MSTX	**Muleshoe**	**4.43**	**258**	Pn	Pn	08 35 49.3	-2.8
FCAR	**Ozark Folk Cen**	**4.52**	**77**	IAmb_Lg		08 37 14.2	
	comp=Z,4.1nm,0.8s						
OZNA	**Ozona**	**5.04**	**218**	Pn	Pn	08 35 59.6	-0.8
R40A	**Maddies Statio**	**5.38**	**51**	IAmb_Lg		08 37 34.2	
	comp=Z,4.3nm,1.2s						
T25A	**Trinidad**	**5.96**	**293**	Pn	Pn	08 36 10.8	-2.3
SAND	**Sanderson**	**6.33**	**219**	Pn	Pn	08 36 16.8	-1.4
SAND				IAmb_Lg		08 38 12.0	
	comp=Z,3.1nm,1.0s						
CGM3	**Cape Girardeau**	**6.79**	**68**	IAmb_Lg		08 38 23.2	
	comp=Z,2.4nm,0.8s						
SDCO	**Great Sand Dun**	**6.98**	**296**	IAmb_Lg		08 38 30.9	
	comp=Z,1.9nm,1.1s						

*GII **24** 08:46:09.6±0.6, 34.41N×46.63E, h10km, confirmed*
*IDC **24** 08:46:09.7±0.7, 34.53N×46.29E, h0km, mb4.0/22, mbtmp4.1/32, ML4.0/9, MS3.5/34, Error ellipse: s-maj=16.1km s-min=11.7km az=174.0*
*MOS **24** 08:46:10.1±1.8, 34.49N×46.26E, h11km, mb4.4/23, Error ellipse: s-maj=7.8km s-min=4.1km az=109.9*
*TEH **24** 08:46:11.3, 34.64N×46.31E, h8km±27km, ML4.5*
*NEIC **24** 08:46:12.2±2.3, 34.58N±0.07×46.3E±0.1, h10km±1km, mb4.3/25, Error ellipse: s-maj=17.6km s-min=4.8km az=232.0*
*ISN **24** 08:46:12.7±1.7, 34.67N×46.32E, h25km±42km, ML4.5*
*OMAN **24** 08:46:20.8±0.5, 33.77N×46.75E, h10km, mb4.5/27, ms3.4/4, Error ellipse: s-maj=7.5km s-min=3.7km az=52.0*
ISC 24 08:46:12.4±0.7, **34.48N**±0.03×**46.34E**±0.02, **h17**km±4km, **n316**, σ2981/333, **mb4.3**/54, **MS3.5**/31, **26C-10D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.23**	**11**	Pg	**Pg**	**08 46 14.1**	**-3.8**
IGHG	**Ghaleghazi**	**0.24**	**128**	Pg	**Pg**	**08 46 19.1**	**+1.0**
IGHG				Sg	**Sg**	**08 46 26.3**	**+4.3**
GLG1	**Gilan-e-Gharb**	**0.51**	**224**	Pg	**Pn**	**08 46 23.4**	**-1.6**
KGS1	**Ghasr-e-Shirin**	**0.62**	**273**	Pg	**Pg**	**08 46 23.5**	**-1.1**
KCHF	**Cheshme Sefid,**	**0.62**	**109**	Pg	**Pb**	**08 46 24.7**	**-0.1**
KCHF				Sg	**Sn**	**08 46 36.0**	**-0.2**
ILIN	**Lien**	**0.68**	**50**	Pg	**Pg**	**08 46 22.9**	**-2.9**
ILBA	**Ilam Banvizeh**	**0.86**	**187**	Pg	**Pn**	**08 46 30.6**	**+0.9**
SNQR	**Sonqor, Kerman**	**1.13**	**70**	Pg	**Pg**	**08 46 32.2**	**-2.1**
IBZA	**Bozab**	**1.26**	**90**	Pg	**Pn**	**08 46 35.1**	**-0.4**
IBDR	**Badra**	**1.41**	**194**	*e*Pg	**Pg**	**08 46 42.0**	**+2.5**
IBDR				*e*Sg	**Sg**	**08 47 01.0**	**+3.2**
IBDR				AML	AML	08 47 06.9	
	comp=E,10μm,0.6s						
IBDR				AML	AML	08 47 07.2	
	comp=N,4μm,0.8s						
IKFM	**Kafar-mosalman**	**1.58**	**127**	Pg	**Pg**	**08 46 43.0**	**+0.3**
SDS1	**Sardasht. Az.**	**1.81**	**338**	Pg	**Pn**	**08 46 41.8**	**-1.1**
IKRK	**Kirkuk**	**1.88**	**300**	*e*Pn	**Pn**	**08 46 43.0**	**-0.7**
IKRK				*e*Sn	**Sn**	**08 47 07.0**	**-0.1**
HSAM	**Samen**	**1.90**	**97**	Pn	**Pb**	**08 46 47.0**	**+0.3**
BHD	**Baghdad**	**2.02**	**234**	*e*Pn	**Pg**	**08 46 49.0**	**-2.3**
BHD				*e*Sn	**Sg**	**08 47 15.0**	**-2.6**
MAHB	**Mahabad**	**2.34**	**348**	Pn	**Pn**	**08 46 50.2**	**0.0**
IHSH	**Hashtrud**	**2.92**	**15**	Pn	**Pn**	**08 46 58.6**	**+0.3**
IAZR	**Azarshahr**	**3.21**	**355**	Pn	**Pn**	**08 47 02.6**	**+0.4**
ISRB	**Sarab**	**3.51**	**18**	Pn	**Pn**	**08 47 06.5**	**+0.2**
JIR1	**Jirandeh**	**3.60**	**51**	Pn	**Pn**	**08 47 08.9**	**+1.4**
AHWZ	**Ahwaz**	**3.69**	**148**	Pn	**Pn**	**08 47 11.9**	**+3.2**
ITBZ	**Tabriz**	**3.75**	**358**	Pn	**Pn**	**08 47 08.7**	**-0.9**
IHRS	**Heris**	**3.87**	**8**	Pn	**Pn**	**08 47 11.7**	**+0.3**
IQOM	**Qom**	**3.92**	**83**	Pn	**Pn**	**08 47 13.9**	**+1.9**
IPIR	**Pirpir**	**4.20**	**114**	Pn	**Pn**	**08 47 18.4**	**+2.4**
IMRD	**Marand**	**4.26**	**353**	Pn	**Pn**	**08 47 17.1**	**+0.6**
JHBN	**Jahan bin**	**4.26**	**121**	Pn	**Pn**	**08 47 19.8**	**+3.1**
QAMS	**Qamsar**	**4.26**	**99**	Pn	**Pn**	**08 47 19.3**	**+2.5**
GAS1	**Astara - Iran**	**4.39**	**27**	Pn	**Pn**	**08 47 19.1**	**+0.8**
ZNGN	**Zangian**	**4.46**	**121**	Pn	**Pn**	**08 47 21.8**	**+2.3**
IVRN	**Varamin**	**4.47**	**82**	Pn	**Pn**	**08 47 21.8**	**+2.3**
GRMI	**Germi**	**4.50**	**16**	Pn	**Pn**	**08 47 20.4**	**+0.5**
IKLH	**Kolahrood**	**4.51**	**103**	Pn	**Pn**	**08 47 23.5**	**+3.4**
LKRN	**Lenkeran, Azer**	**4.66**	**24**	P	**Pn**	**08 47 21.8**	**-0.1**
AKDM	**Akdamar-Van**	**4.70**	**326**	P	**Pn**	**08 47 21.5**	**-1.2**
VANB	**Van**	**4.74**	**331**	P	**Pn**	**08 47 21.3**	**-1.9**
IDMV	**Damavand**	**4.80**	**75**	Pn	**Pn**	**08 47 25.5**	**+1.4**
KRSH	**Karshahi**	**4.83**	**94**	Pn	**Pn**	**08 47 27.4**	**+2.9**
IBRJ	**Brojen**	**4.86**	**120**	Pn	**Pn**	**08 47 27.6**	**+2.6**
ISFB	**Sefidab**	**4.88**	**90**	Pn	**Pn**	**08 47 27.0**	**+1.8**
CLDR	**Caldiran**	**5.04**	**338**	P	**Pn**	**08 47 27.1**	**-0.3**
MAKU	**Maku**	**5.04**	**345**	Pn	**Pn**	**08 47 27.8**	**+0.4**
IGAR	**Gharneh**	**5.20**	**112**	Pn	**Pn**	**08 47 32.5**	**+2.8**
IZEF	**Zefreh**	**5.24**	**106**	Pn	**Pn**	**08 47 33.2**	**+3.0**
IFIR	**Firoozkooh**	**5.39**	**76**	Pn	**Pn**	**08 47 33.9**	**+1.7**
SVAN	**Silvan-Diyarba**	**5.53**	**313**	P	**Pn**	**08 47 32.9**	**-1.1**
MAZI	**Mazidag**	**5.62**	**304**	*e*P	**Pn**	**08 47 33.9**	**-1.4**
AGRB	**Hanur-Ağry**	**5.75**	**333**	*e*P	**Pn**	**08 47 36.9**	**-0.2**
GNI	**Garni**	**5.80**	**348**	Pn	**Pn**	**08 47 35.6**	**-2.1**
GNI	**Garni**	**5.80**	**348**	Pn	**Pn**	**08 47 39.1**	**+1.3**
	comp=N,1.4nm,0.3s,baz=156,slow=12,SNR=2.4						
GNI				Lg	Lg	08 49 08.9	
	baz=204,slow=22						
	comp=N,5.6nm,0.4s						
GNI	**Garni**	**5.80**	**348**	P	**Pb**	**08 47 57.0**	**+3.8**
DYBB	**Diyarbakir**	**6.09**	**306**	*e*P	**Pn**	**08 47 40.7**	**-1.0**
ANAR	**Anarak**	**6.29**	**100**	Pn	**Pn**	**08 47 46.5**	**+2.1**
BNGB	**Bingl**	**6.39**	**316**	*e*P	**Pn**	**08 47 45.1**	**-0.8**
SEKA	**Sheki**	**6.75**	**6**	P	Pn	08 47 58.8	+8.0
URFA	**Urfa**	**6.77**	**298**	*e*P	**Pn**	**08 47 49.6**	**-1.4**
YEDI	**Yedisu-Bingol**	**6.78**	**319**	*e*P	**Pn**	**08 47 50.4**	**-0.8**
AHBU	**AHRAM**	**7.01**	**142**	Pn	**Pn**	**08 47 57.7**	**+3.4**
PTK	**Pertek**	**7.11**	**310**	*e*P	**Pn**	**08 47 54.0**	**-1.7**
DSBU	**Dashti - Bushe**	**7.41**	**144**	Pn	**Pn**	**08 48 03.4**	**+3.6**
GAZ	**Gaziantep**	**7.88**	**293**	Pn	Pn	08 47 59.8	-6.5
ARPR	**Arapgir-MALATY**	**7.90**	**308**		**Pn**	**08 48 05.2**	**-1.3**
MAK	**Makhachkala**	**8.52**	**6**	*e*P	**Pn**	**08 48 11.2**	**-3.7**
MAK				*e*S	**Sn**	**08 49 45.7**	**-4.9**
MAK				pmax	pmax		
	comp=Z,235nm,1.4s						
MAK				MLR	MLR		
	comp=Z,902nm,14.0s						
NATI	**Neve Ativ**	**8.90**	**265**	P	**Pn**	**08 48 20.2**	**+0.1**
GEM	**Giv'at Ha'Em**	**8.97**	**265**	P	**Pn**	**08 48 22.1**	**+1.0**
SHMJ	**Saham**	**8.99**	**262**	P	**Pn**	**08 48 20.4**	**-1.0**
MMAI	**Mount Meron Ar**	**9.22**	**264**	Pn	**Pn**	**08 48 25.4**	**+0.8**
	comp=Z,2.1nm,0.3s,baz=73,slow=15,SNR=4.3						
MMAI				Lg	Lg	08 50 56.9	
	comp=Z,3.2nm,0.3s,baz=96,slow=39,SNR=2.3						
	comp=Z,3.3nm,0.5s						
UJAP	**Al Uja**	**9.45**	**258**	P	**Pn**	**08 48 28.0**	**+0.3**
BLGI	**Bet Lehem HaGe**	**9.46**	**263**	P	**Pn**	**08 48 28.2**	**+0.4**
KBZ	**Khabaz**	**9.61**	**345**	Pn	**Pn**	**08 48 31.8**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=158,slow=15,SNR=2.9						
KBZ				LR	LR	08 52 22.4	
	comp=Z,302nm,18.4s,baz=152,slow=39						
	comp=Z,1.5nm,0.7s						
KBZ	**Khabaz**	**9.61**	**345**	||*e*P	**Pn**	**08 48 32.6**	**+2.7**
DSI	**Dead Sea**	**9.64**	**256**	P	**Pn**	**08 48 31.7**	**+1.3**
DSI	**Dead Sea**	**9.64**	**256**	P	**Pn**	**08 48 31.0**	**+0.6**
OFRI	**`Ofer**	**9.65**	**262**	P	**Pn**	**08 48 29.8**	**-0.7**
SHA1	**Shidzhatmaz**	**9.68**	**344**	||*e*P	**Pn**	**08 48 35.2**	**+4.2**
LISJ	**El Lisan**	**9.68**	**254**	P	**Pn**	**08 48 32.9**	**+2.0**
SLTI	**Sal'it**	**9.71**	**260**	P	**Pn**	**08 48 32.4**	**+1.1**
MSBI	**Mazada**	**9.75**	**254**	P	**Pn**	**08 48 32.5**	**+0.7**
KIV	**Kislovodsk**	**9.88**	**344**	*e*P	**Pn**	**08 48 33.8**	**+0.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,88nm,12.0s						
YTIR	**Yattir**	**9.93**	**255**	P	**Pn**	**08 48 34.8**	**+0.4**
VSLR	**Vesyoloye**	**10.22**	**333**	||*e*P	**Pn**	**08 48 40.1**	**+1.9**
PRNI	**Paran**	**10.42**	**250**	P	**Pn**	**08 48 41.6**	**+0.5**
PRNI	**Paran**	**10.42**	**250**	P	**Pn**	**08 48 42.0**	**+1.0**
SOC	**Sochi**	**10.44**	**332**	*e*P	**Pn**	**08 48 40.1**	**-1.2**
SOC				*e*		08 50 37.7	
SOC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,214nm,17.0s						
SMRA	**Abu-Samra**	**10.46**	**157**	P	Pn	**08 48 42.1**	**+0.6**
SMRA				S	**Sn**	**08 50 32.0**	**-6.3**
HRFI	**Mount Harif**	**10.54**	**248**	P	**Pn**	**08 48 44.3**	**+1.6**
HRFI	**Mount Harif**	**10.54**	**248**	P	**Pn**	**08 48 42.8**	**+0.1**
AFRZ	**Afriz**	**10.59**	**92**	Pn	**Pn**	**08 48 45.8**	**+2.4**
TRNA	**Turayna**	**10.59**	**155**	P	**Pn**	**08 48 42.2**	**-1.2**
	SNR=10.0						
TRNA				S	**Sn**	**08 50 34.3**	**-7.4**
AQBJ	**Aqaba**	**10.68**	**247**	P	**Pn**	**08 48 45.6**	**+1.1**
KRMI	**Paran Flat**	**10.74**	**249**	P	**Pn**	**08 48 45.6**	**+0.1**
KRMI	**Paran Flat**	**10.74**	**249**	P	**Pn**	**08 48 46.5**	**+1.1**
MBRI	**Mt Berech**	**10.75**	**247**	P	**Pn**	**08 48

ASHO Ashiyiah 12.91 137 P **Pn 08 49 15.7 +0.6**
SNR=30
ASHO S **Sn 08 51 31.5 -7.0**
SNR=14
MZR Muzera 13.03 149 *i* Pn **Pn 08 49 17.0 +0.2**
SNR=20
MZR Muzera 13.03 149 P **Pn 08 49 16.1 -0.7**
SNR=20
MZR S **Sn 08 51 33.8 -7.6**
JASK Jask - Hormozg 13.15 128 P **Pn 08 49 18.0 -0.4**
JASK S **Sn 08 51 37.7 -6.5**
ALNE Al Ain 13.23 139 *i* Pn **Pn 08 49 19.7 +0.2**
SNR=19
ALNE Al Ain 13.23 139 P **Pn 08 49 19.3 -0.2**
SNR=19
ALNE S **Sn 08 51 39.1 -7.3**
SOHO SOHO 13.61 137 *i* Pn **Pn 08 49 23.6 -1.0**
SNR=7.6
SOHO SOHO 13.61 137 P **Pn 08 49 24.1 -0.5**
SOHO S **Sn 08 51 48.3 -7.1**
ARQ Araqi 14.23 139 P **Pn 08 49 33.5 +0.3**
ARQ P **Pn 08 49 33.5 +0.3**
ARQ S **Sn 08 52 03.7 -7.0**
ARQ S **Sn 08 52 03.7 -7.0**
HOQ Hoqain 14.48 136 P **Pn 08 49 37.1 +0.5**
HOQ S **Sn 08 52 09.4 -7.4**
BIDO Bidbid 15.01 134 S **Sn 08 52 21.6 -8.0**
BSY Bisya 15.08 138 P **Pn 08 49 43.3 -1.4**
BSY S **Sn 08 52 23.7 -7.6**
SMDO Samad 15.31 135 P **Pn 08 49 46.6 -1.2**
SMDO P **Pn 08 49 46.6 -1.2**
SMDO S **Sn 08 52 29.8 -7.4**
SMDO S **Sn 08 52 29.8 -7.4**
WSAR Wadi Sarin 15.52 133 Pn **Pn 08 49 49.3 -1.2**
comp=N,3.4nm,0.3s,baz=315,slow=9.1,SNR=30
WSAR Sn **Sn 08 52 33.1 -9.0**
comp=N,0.3nm,0.3s,baz=262,slow=11,SNR=2.6
WSAR LR LR 08 57 14.3
comp=N,179nm,18.8s,baz=335,slow=43
comp=N,16nm,0.4s
JMDO Jabal Madar 15.88 136 P **Pn 08 49 54.2 -0.9**
WBK Wadi Bani Khal 16.20 134 P **Pn 08 49 59.5 +0.2**
WBK S **Sn 08 52 51.2 -7.5**
WBK S S 08 52 51.2 -20
JLN Jalan Bani Buh 16.81 134 P **Pn 08 50 06.9 -0.2**
MHTO MHTO 16.91 140 P **Pn 08 50 07.7 -0.5**
SNR=15
MHTO S **Sn 08 53 08.4 -7.5**
VRH Novokhopyorsk 17.05 350 *e*P **Pn 08 50 08.4 -1.4**
VRH pmax pmax
comp=Z,11nm,1.3s
DOK Doka 17.25 154 P **Pn 08 50 11.2 -1.4**
SNR=11
DOK S **Sn 08 53 16.5 -7.7**
ALN Alexandroupoli 17.27 298 P **P 08 50 14.5 +0.4**
ALN IAmb IAmb 08 50 19.0
comp=Z,22nm,1.0s
ALN Alexandroupoli 17.27 298 P **P 08 50 14.5 +0.4**
ALN pmax pmax
comp=Z,22nm,1.0s
VSR Storozhevoye 17.52 345 *e*P **Pn 08 50 15.4 -0.3**
VSR pmax pmax
comp=Z,10.0nm,0.5s
DQM DQM 17.57 143 S **Sn 08 53 24.0 -7.8**
IDI Anoyia 17.61 279 P **P 08 50 17.8 -0.2**
comp=Z,16nm,0.8s,baz=99,slow=15,SNR=9.8
WHFO Wadi Hawf 17.78 156 P **Pn 08 50 17.5 -1.7**
SNR=18
ABKAR Akbulak array 17.86 30 **Pn 08 50 18.8 -1.2**
ABKAR Akbulak array 17.86 30 P **Pn 08 50 18.6 -1.4**
BELG Belogornoye 17.93 3 P **Pn 08 50 18.0 -2.7**
comp=Z,1.2nm,0.3s,baz=191,slow=10,SNR=4.9
BELG LR LR 08 58 38.6
comp=Z,60nm,21.3s,baz=186,slow=42
comp=Z,16nm,0.7s
BELG Belogornoye 17.93 3*de*P **Pn 08 50 20.4 -0.3**
VORR Voronezh 17.94 345 *e*P **Pn 08 50 17.4 -3.5**
VORR pmax pmax
comp=Z,11nm,1.5s
AKTO Aktyubinsk 18.09 25 P **Pn 08 50 22.0 -0.7**
comp=Z,0.5nm,0.3s,baz=219,slow=12,SNR=9.8
AKTO LR LR 08 59 01.9
comp=Z,72nm,18.7s,baz=219,slow=43
comp=Z,3.3nm,0.8s
ABTO Aybut 18.16 158 P **Pn 08 50 22.4 -1.4**
ABTO S **Sn 08 53 38.4 -7.8**
RBK Rabkut 18.31 155 P **Pn 08 50 24.6 -1.1**
RBK S **Sn 08 53 42.6 -7.3**
DMTO DMTO 18.38 153 P **Pn 08 50 25.1 -1.4**
SNR=18
NEHR Nehoiu 18.80 312 ⇑P **Pn 08 50 34.1 +2.6**
LPSR Galich'ya Gora 18.88 346 *e*P **P 08 50 30.1 -1.5**
LPSR pmax pmax
comp=Z,40nm,0.8s
MLR Muntele Rosu 19.05 311 P **P 08 50 32.8 -1.0**
comp=Z,0.3nm,0.3s,baz=154,slow=10.0,SNR=2.0
comp=Z,1.5nm,0.4s
MLR Muntele Rosu 19.05 311 ⇑P **Pn 08 50 36.1 +1.5**
MLR Muntele Rosu 19.05 311 ⇑P **Pn 08 50 36.1 +1.5**
SORM Soroca 19.14 321 ⇑P **P 08 50 34.1 -0.5**
SORM Soroca 19.14 321 ⇑P **P 08 50 34.1 -0.5**
TESR Tescani 19.14 315 ⇑P **Pn 08 50 36.0 +0.5**
VOIR 19.59 310 ⇑P **P 08 50 40.7 +1.1**
VOIR 19.59 310 ⇑P **P 08 50 40.7 +1.1**
DOPR Dopca 19.62 312 ⇑P **P 08 50 40.4 +0.5**
AGG Agios Georgios 19.74 290 **P 08 50 40.7 -0.6**
AGG Agios Georgios 19.74 290 P **P 08 50 40.7 -0.6**
ITM Ithomi 19.96 285 P **P 08 50 42.1 -1.6**
ITM IAmb IAmb 08 50 58.9
comp=Z,19nm,0.9s
AKASG Malin Array Be 20.45 328 P **P 08 50 47.3 -1.5**
AKASG Malin Array Be 20.45 328 P **P 08 50 48.1 -0.7**
comp=Z,1.5nm,0.5s,baz=140,slow=9.0,SNR=22
AKASG LR LR 08 59 59.5
comp=Z,125nm,20.1s,baz=94,slow=41
comp=Z,1.5nm,0.5s
AKASG Malin Array Be 20.45 328 *e*P **P 08 50 49.1 +0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 20.45 328 P **P 08 50 47.6 -1.2**
AKBB IAmb IAmb 08 50 54.0
comp=Z,10nm,0.7s
AKBB Malin Array Si 20.45 328 P **P 08 50 47.6 -1.2**
AKBB pmax pmax
comp=Z,10.0nm,0.7s
KIEV Kiev 20.45 328 P **P 08 50 47.6 -1.3**
KIEV IAmb IAmb 08 50 54.0
comp=Z,9.3nm,0.7s
KIEV Kiev 20.45 328 P **P 08 50 47.6 -1.3**
KIEV pmax pmax
comp=Z,9.0nm,0.7s
BURAR Bucovina Array 20.55 316 P **P 08 50 49.8 -0.4**
BURAR IAmb IAmb 08 50 56.4
comp=Z,9.8nm,0.8s
BURAR Bucovina Array 20.55 316 ⇑P **P 08 50 48.6 -1.6**
BURAR Bucovina Array 20.55 316 ⇑P **P 08 50 48.6 -1.6**
BUR08 Bucovina Ar. S 20.58 316 P **P 08 50 49.5 -0.9**
BUR08 IAmb IAmb 08 50 56.3
comp=Z,7.8nm,0.7s
KK31 Karatay Array 20.67 58 P Pn 08 50 53.4 -0.3
KK31 Karatay Array 20.67 58 P Pn 08 50 53.4 -0.3
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 20.67 58 P Pn 08 50 53.6 0.0
KKAR Karatay Array 20.67 58 P **P 08 50 52.7 +1.4**
KKAR IAmb IAmb 08 51 22.1
comp=Z,7.9nm,1.0s
KKAR Karatay Array 20.67 58 P **P 08 50 52.7 +1.4**
KKAR pmax pmax
comp=Z,8.0nm,1.0s
FNA Florina 20.71 295 P **P 08 50 50.2 -1.6**
FNA IAmb IAmb 08 50 56.2
comp=Z,25nm,0.9s
FNA Florina 20.71 295 P **P 08 50 50.2 -1.6**
FNA pmax pmax
comp=Z,25nm,0.9s
ARCR ARCALIA 20.79 314 ⇓P **P 08 50 50.6 -2.0**
GZR Gura Zlata 21.02 308 ⇑P **P 08 50 54.5 -0.7**
BOVS Bovan 21.14 303 ⇑P **P 08 50 55.2 -1.1**
MARR Marisel-Cluj 21.34 312 ⇑P **P 08 50 56.3 -2.3**
MDVR Moldovita 21.50 306 ⇑P **P 08 50 58.8 -1.5**
SURR Surduc 21.59 309 ⇑P **P 08 50 58.8 -2.4**
DRGR 21.65 312 ⇓P **P 08 50 58.8 -3.1**
DRGR 21.65 312 ⇓P **P 08 50 58.8 -3.1**

OBN Obninsk 21.73 345 P **P 08 51 03.1 +0.6**
comp=Z,20nm,0.4s,baz=153,slow=4.5,SNR=5.6
OBN LR LR 08 59 49.2
comp=Z,87nm,20.2s,baz=194,slow=38
comp=Z,20nm,0.4s
OBN Obninsk 21.73 345*de*P **P 08 51 05.1 +2.6**
OBN *e* 08 51 23.6
OBN *e*S Sn 08 55 09.3 -2.2
OBN *e*SS **SnSn 08 55 32.0 +5.2**
OBN pmax pmax
comp=Z,25nm,1.1s
OBN MLR MLR
comp=Z,52nm,15.0s
BZS Buzias 21.86 308 ⇓P **P 08 51 01.4 -2.7**
BZS Buzias 21.86 308 ⇓P **P 08 51 01.4 -2.7**
MOS Moscow 22.09 347 *e*P **P 08 51 03.5 -3.0**
CRVS Cervenica-Dubn 23.37 316 *e*P P 08 51 28.3 +8.3
CRVS Cervenica-Dubn 23.37 316 *e*PN P 08 51 28.3 +8.3
AAK Ala-Archa 23.40 61 LR LR 09 01 18.7
comp=Z,129nm,21.7s,baz=263,slow=39
ARU Arti 23.50 17 P **P 08 51 19.9 -1.2**
ARU IAmb IAmb 08 51 31.1
comp=Z,14nm,0.9s
ARU Arti 23.50 17*c i*P **P 08 51 23.2 +2.1**
ARU 08 51 50.5
ARU S **S 08 55 38.7 +4.8**
ARU SS **SnSn 08 56 11.8 +1.6**
ARU pmax pmax
comp=Z,7.0nm,0.9s
ARU MLR MLR
comp=Z,152nm,16.0s
PSZ Piszkesteto 23.86 312 P **P 08 51 25.9 +1.1**
PSZ IAmb IAmb 08 51 31.1
comp=Z,11nm,1.0s
PSZ Piszkesteto 23.86 312 P **P 08 51 25.9 +1.1**
PSZ pmax pmax
comp=Z,11nm,1.0s
KSH Kashi 24.14 69 P **P 08 51 25.8 -1.8**
KSH sP sP 08 51 33.8 -1.8
KSH pmax pmax
comp=Z,4.0nm,0.5s
KIRV Kirov 24.20 4 ⇓*e*P **P 08 51 27.8 0.0**
comp=Z,99nm,20.5s,baz=185,slow=40
KIRV Kirov 24.20 4 ⇓*e*P **P 08 51 37.2 +0.2**
comp=Z,3.8nm,0.6s,baz=232,slow=7.3,SNR=12
comp=Z,3.8nm,0.6s
LANS Liptovska Anna 24.65 315 *e*P **P 08 51 36.4 +4.4**
LANS Liptovska Anna 24.65 315 *e*P **P 08 51 36.4 +4.4**
VYHS Vyhne 24.74 313 *e*P **P 08 51 35.7 +2.8**
VYHS Vyhne 24.74 313 *e*P **P 08 51 35.7 +2.8**
OJC Ojcow 24.95 317 P **P 08 51 36.1 +1.4**
OJC Ojcow 24.95 317 P **P 08 51 36.1 +1.4**
OJC pmax pmax
comp=Z,14nm,0.9s
BRVK Borovoye 25.18 35 P **P 08 51 37.2 +0.5**
BRVK IAmb IAmb 08 51 41.4
comp=Z,4.2nm,0.8s
BRVK Borovoye 25.18 35*ce*P **P 08 51 37.2 +0.5**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BVAR Borovoye Array 25.21 35 P **P 08 51 37.2 +0.2**
comp=Z,3.8nm,0.6s,baz=232,slow=7.3,SNR=12
comp=Z,3.8nm,0.6s
JAVC Velka Javorina 25.60 313 *e*P **P 08 51 43.5 +2.9**
MODS Modra-Piesok 25.65 312 *e*P **P 08 51 44.6 +3.5**
MODS Modra-Piesok 25.65 312 *e*P **P 08 51 44.5 +3.5**
ZST Bratislava 25.69 311 *e*P **P 08 51 45.5 +4.1**
ZST Bratislava 25.69 311 *e*P **P 08 51 45.5 +4.1**
MAUC Maruska 25.71 314 *e*P **P 08 51 46.2 +4.6**
RONA Rosalia, Austr 26.03 310 *e*P **P 08 51 48.1 +3.6**
comp=Z,8.0nm,0.9s
MORC Moravsky Berou 26.05 315 P **P 08 51 43.9 -0.9**
MORC IAmb IAmb 08 51 49.4
comp=Z,7.4nm,1.1s
MORC Moravsky Berou 26.05 315 *e*P **P 08 51 47.6 +2.9**
MORC Moravsky Berou 26.05 315 P **P 08 51 43.9 -0.9**
MORC pmax pmax
comp=Z,7.0nm,1.1s
CONA Conrad Observa 26.38 310 *i* P **P 08 51 51.1 +3.4**
comp=Z,8.6nm,1.1s
ARSA Arzberg 26.38 308 *i* P **P 08 51 50.1 +2.4**
comp=Z,5.3nm,0.7s
FURI Furi 26.41 197 LR LR 09 01 54.3
comp=Z,117nm,19.3s,baz=30,slow=36
VRAC Vranov 26.43 313 *e*P **P 08 51 50.5 +2.4**
VRAC Vranov 26.43 313 LR LR 09 03 52.7
comp=Z,35nm,21.4s,baz=107,slow=40
KRUC Moravsky 26.45 313 *e*P **P 08 51 50.9 +2.6**
SOKA Soboth 26.53 307 *i* P **P 08 51 52.5 +3.4**
comp=Z,6.9nm,0.9s
OBKA Obir 26.81 306 *i* P **P 08 51 55.2 +3.5**
comp=Z,4.6nm,0.8s
DPC Dobruska-Polom 27.00 315 *e*P **P 08 51 51.9 -1.5**
DPC Dobruska-Polom 27.00 315 *e*P **P 08 51 51.9 -1.5**
NRCA Norcia 27.11 298 P **P 08 51 54.0 -0.5**
MOA Molln 27.37 309 *e*P **P 08 51 59.1 +2.4**
comp=Z,6.3nm,0.9s
KBA Koelnbreinsper 27.76 307 *e*P **P 08 52 02.1 +1.8**
comp=Z,4.8nm,0.6s
GERES GERESS Array B 28.04 311 P **P 08 52 02.3 -0.4**
comp=Z,0.5nm,0.5s,baz=104,slow=12,SNR=1.5
comp=Z,0.5nm,0.5s
KHC Kasperske Hory 28.21 311 *e*P **P 08 52 04.5 +0.4**
KHC *e*pP **sP 08 52 09.8 -2.3**
KHC AMS AMS 09 05 20.0
comp=Z,100nm,20.4s
KHC Kasperske Hory 28.21 311⇑*e*P **P 08 52 07.3 +3.2**
KHC pmax pmax
comp=Z,9.0nm,1.7s
KURBB Kurchatov Arra 28.39 46 P **P 08 52 06.2 +0.5**
comp=Z,1.2nm,0.7s,baz=252,slow=9.0,SNR=8.5
comp=Z,1.2nm,0.7s
KURK Kurchatov 28.48 45⇑*e*P **P 08 52 07.2 +0.7**
KURK pmax pmax
comp=Z,1.0nm,0.9s
WTTA Wattenberg 28.93 307 *i* P **P 08 52 12.0 +1.2**
comp=Z,6.9nm,0.6s
WATA Walderalm 28.99 307 *i* P **P 08 52 12.8 +1.6**
comp=Z,4.7nm,0.5s
SQTA Sankt Quirin 29.21 307 *e*P **P 08 52 14.7 +1.6**
comp=Z,6.5nm,0.6s
CLL Collm 29.32 315 *e*P **P 08 52 16.0 +2.1**
FETA Feichten 29.48 306 *e*P **P 08 52 16.6 +1.0**
comp=Z,12nm,1.2s
MK31 Makanchi Array 29.67 55*ce*P **P 08 52 18.2 +1.1**
MKAR Makanchi Array 29.67 55 P **P 08 52 18.3 +1.1**
MKAR Makanchi Array 29.67 55 P **P 08 52 17.4 +0.2**
comp=Z,1.3nm,0.7s,baz=252,slow=7.3,SNR=9.8
MKAR LR LR 09 05 37.8
comp=Z,124nm,18.2s,baz=246,slow=39
comp=Z,1.3nm,0.7s
MKAR Makanchi Array 29.67 55 *e*P **P 08 52 18.2 +1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 29.93 341 P **P 08 52 17.3 -2.0**
comp=Z,1.2nm,0.5s,baz=146,slow=9.3,SNR=8.7
FINES LR LR 09 04 48.6
comp=Z,110nm,20.5s,baz=138,slow=38
comp=Z,1.2nm,0.5s
FINES FINESS Array B 29.93 341 *e*P **P 08 52 18.5 -0.7**
FINES pmax pmax
comp=Z,2.0nm,0.6s
DAVOX Davos/Dischmat 30.00 305 LR LR 09 06 12.0
comp=Z,50nm,19.9s,baz=83,slow=40
DAVA Damuels 30.10 306 *i* P **P 08 52 22.2 +1.1**
comp=Z,5.4nm,0.4s
SENIN Lac Senin/Sane 31.69 304 P **P 08 52 35.1 -0.1**
BNI Bardonecchia 31.97 301 P **P 08 52 36.7 -0.9**
BNI Bardonecchia 31.97 301 P **P 08 52 36.7 -0.9**
BNI pmax pmax
comp=Z,15nm,0.9s
LPL La Plagne 31.98 302 *e*P **P 08 52 42.3 +4.6**
LPL pmax pmax
comp=Z,5.0nm,0.3s
ZALV Zalesovo Beam 33.20 42 P **P 08 52 48.3 +0.2**
comp=Z,1.4nm,0.6s,baz=256,slow=6.0,SNR=5.7
ZALV LR LR 09 08 08.6
comp=Z,64nm,19.4s,baz=253,slow=40
comp=Z,1.4nm,0.6s
ZALV Zalesovo Beam 33.20 42 *e*P **P 08 52 49.5 +1.5**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 33.28 331 P **P 08 52 47.2 -1.5**
comp=Z,2.0nm,0.4s,baz=126,slow=9.3,SNR=16
HFS LR LR 09 08 00.9
comp=Z,77nm,20.3s,baz=119,slow=40
comp=Z,2.0nm,0.4s
SMF Signal de Mont 34.10 304 *e*P **P 08 52 57.8 +1.8**

SMF pmax pmax
comp=Z,8.0nm,0.9s
NOA NORSAR Array B 34.80 331 P **P 08 52 59.9 -2.0**
comp=Z,0.3nm,0.4s,baz=125,slow=8.9,SNR=3.4
NOA LR LR 09 08 27.4
comp=Z,62nm,19.8s,baz=130,slow=38
comp=Z,0.3nm,0.4s
LFF La Frestale 36.17 301 *e*P **P 08 53 15.5 +1.7**
LFF pmax pmax
comp=Z,4.0nm,0.4s
ARCES ARCESS Array B 36.96 348 P **P 08 53 19.2 -1.0**
comp=Z,1.2nm,0.5s,baz=151,slow=8.3,SNR=9.8
comp=Z,1.2nm,0.5s
ARCES ARCESS Array B 36.96 348 *e*P **P 08 53 22.7 +2.4**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 39.73 317 P **P 08 53 42.7 -1.1**
comp=Z,2.4nm,0.5s,baz=104,slow=8.6,SNR=22
comp=Z,2.4nm,0.5s
ESDC Sonseca Array 40.04 293 P **P 08 53 45.2 -1.4**
comp=Z,3.6nm,0.8s,baz=65,slow=8.3,SNR=22
ESDC LR LR 09 14 07.0
comp=Z,27nm,18.3s,baz=63,slow=42
comp=Z,3.6nm,0.8s
PAB San Pablo 40.35 293 P **P 08 53 47.9 -1.3**
PAB San Pablo 40.35 293 P **P 08 53 47.9 -1.3**
PAB pmax pmax
comp=Z,5.0nm,1.2s
DSB Dublin 41.31 314 P **P 08 53 56.9 +0.1**
NRIK Noril'sk 41.64 21 LR LR 09 15 01.8
comp=Z,60nm,19.8s,baz=158,slow=42
TOA0 Torodi Ar. Sit 45.58 253 P **P 08 54 32.0 +0.3**
TOA0 IAmb IAmb 08 54 38.4
comp=Z,4.0nm,1.0s
TORD Torodi Ar. Bea 45.58 253 P **P 08 54 31.8 +0.1**
TORD Torodi Ar. Bea 45.58 253 P **P 08 54 32.0 +0.3**
comp=Z,1.2nm,0.7s,baz=29,slow=8.0,SNR=9.9
TORD LR LR 09 14 34.1
comp=Z,62nm,18.1s,baz=130,slow=37
comp=Z,1.2nm,0.7s
SONM Songino Array 46.04 54 P **P 08 54 36.5 +1.4**
comp=Z,0.1nm,0.3s,baz=270,slow=5.8,SNR=1.6
SONM LR LR 09 16 53.7
comp=Z,95nm,18.3s,baz=233,slow=40
comp=Z,0.1nm,0.3s
ULN Ulaanbaatar 46.47 54⇓*e*P **P 08 54 39.5 +0.9**
ULN pmax pmax
comp=Z,1.0nm,0.9s
JMIC Jan Mayen 46.50 338 LR LR 09 13 00.6
comp=Z,33nm,21.4s,baz=138,slow=35
PZH PanZhiHua 47.90 84 P **P 08 54 51.8 +1.8**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,150nm,5.5s
CMAR Chiang Mai Arr 49.19 95 P **P 08 54 60.0 +0.1**
comp=Z,0.9nm,0.3s,baz=297,slow=8.6,SNR=6.9
CMAR LR LR 09 19 31.4
comp=Z,48nm,21.3s,baz=305,slow=41
comp=Z,0.9nm,0.3s
CMAR Chiang Mai Arr 49.19 95 *e*P **P 08 55 03.7 +3.9**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
XAN Xi'an 50.96 72 P **P 08 55 12.6 -0.6**
XAN pmax pmax
comp=Z,10.0nm,1.1s
XLT XiLinHaoTe 53.41 58 *e*P **P 08 55 35.6 +4.3**
XLT pmax pmax
comp=Z,5.0nm,0.7s
XLT pmax pmax
comp=Z,96nm,4.6s
DBIC Dimbokro 54.60 252 P **P 08 55 40.3 +0.2**
DBIC Dimbokro 54.60 252 LR LR 09 19 38.8
comp=Z,70nm,19.9s,baz=260,slow=37
DBIC Dimbokro 54.60 252 P **P 08 55 40.3 +0.2**
DBIC pmax pmax
comp=Z,10.0nm,1.3s
YAK Yakutsk 57.17 34 LR LR 09 23 40.2
comp=Z,67nm,19.1s,baz=236,slow=39
SFJD Kangerlussuaq 61.39 334 LR LR 09 22 39.1
comp=Z,63nm,20.9s,baz=56,slow=36
KLR Kul'dur 62.04 48⇑*e*P **P 08 56 31.6 -0.1**
KLR pmax pmax
comp=Z,1.0nm,1.0s
KSRS Korea Array 64.06 61 P **P 08 56 45.3 0.0**
comp=Z,0.8nm,0.5s,baz=281,slow=6.9,SNR=4.9
comp=Z,0.8nm,0.5s
KSRS Korea Array 64.06 61 *e*P **P 08 56 48.7 +3.4**
KSRS pmax pmax
comp=Z,1.0nm,0.6s
USRK Ussuriysk Ar. 64.12 53 P **P 08 56 46.2 +0.6**
comp=Z,1.7nm,0.8s,baz=308,slow=7.0,SNR=2.4
USRK LR LR 09 29 14.1
comp=Z,87nm,19.7s,baz=302,slow=40
comp=Z,1.7nm,0.8s
BOSA Boshof 65.84 200 P **P 08 56 56.0 -1.0**
comp=Z,3.0nm,1.1s,baz=353,slow=8.1,SNR=2.4
comp=Z,3.0nm,1.1s
BOSA Boshof 65.84 200 P **P 08 56 56.0 -1.0**
SEY Seymchan 66.63 29 P **P 08 57 00.1 -1.5**
comp=Z,1.3nm,0.7s,baz=286,slow=10,SNR=2.0
comp=Z,1.3nm,0.7s
SEY Seymchan 66.63 29⇓*e*P **P 08 57 02.8 +1.2**
SEY pmax pmax
comp=Z,3.0nm,0.9s
MA2 Magadan 67.65 32 LR LR 09 29 34.5
comp=Z,51nm,18.5s,baz=274,slow=38
JNU Nakatsue 68.14 64 LR LR 09 28 36.9
comp=Z,56nm,18.1s,baz=224,slow=37
BILL Bilibino 68.47 21 *i* P **P 08 57 13.7 +0.6**
BILL *i* 08 57 33.6
BILL pmax pmax
comp=Z,7.0nm,1.0s
ASAJ Asahikawa 70.97 49 LR LR 09 31 15.8
comp=Z,59nm,18.4s,baz=253,slow=38
MJAR Matsushiro Arr 71.80 58 LR LR 09 30 27.9
comp=Z,48nm,20.5s,baz=227,slow=37
SCHQ Schefferville 74.24 326 P **P 08 57 49.2 +1.0**
comp=Z,3.1nm,0.8s,baz=68,slow=12,SNR=4.6
comp=Z,3.1nm,0.8s
ILAR Eielson Array 80.53 6 P **P 08 58 22.2 -1.1**
comp=Z,10nm,0.3s,baz=336,slow=2.0,SNR=7.0
YKA Yellowknife Ar 82.15 351 P **P 08 58 32.5 +0.7**
comp=Z,0.7nm,0.7s,baz=13,slow=5.8,SNR=4.3
comp=Z,0.7nm,0.7s
SADO Sadowa 86.90 324 LR LR 09 36 49.0
comp=Z,37nm,20.3s,baz=24,slow=35
MDP Montagnes des 94.51 279 LR LR 09 45 15.6
comp=Z,45nm,18.3s,baz=176,slow=38
PDAR Pinedale Array 100.02 342 LR LR 09 45 07.8
comp=Z,35nm,19.0s,baz=265,slow=35

IDC 24 08:54:53.1±2.3, 54°24N×86°10E, h0km, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=18.7km s-min=11.5km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.81**	**249**		I	I	09 00 20.0	
baz=66,slow=319,SNR=1.1								
ZALV	**Zalesovo Beam**	**0.81**	**249**	Pg	Pg	Pg	08 55 06.7	-1.9
1.4nm,0.3s,baz=65,slow=16,SNR=13								
ZALV				Lg	Lg	Lg	08 55 20.4	
8.6nm,0.3s,baz=69,slow=28,SNR=5.9								
KURBB	**Kurchatov Arra**	**5.88**	**235**	Pn	Pn	Pn	08 56 22.3	+0.9
0.1nm,0.3s,baz=53,slow=13,SNR=12								
KURBB				Lg	Lg	Lg	08 58 01.2	
baz=48,slow=27,SNR=1.7								
0.9nm,0.5s								
MKAR	**Makanchi Array**	**7.84**	**200**	Pn	Pn	Pn	08 56 48.8	+0.4
0.3nm,0.3s,baz=21,slow=11,SNR=8.7								
0.6nm,0.4s								
BVAR	**Borovoye Array**	**9.41**	**269**	Pn	Pn	Pn	08 57 10.7	+0.8
baz=72,slow=14,SNR=2.5								
0.4nm,0.5s								

IDC 24 08:59:51.0±3.2, 53°67N×87°97E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=28.0km s-min=17.3km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**280**		I	I	09 11 50.0	
baz=96,slow=320,SNR=3.3								
ZALV	**Zalesovo Beam**	**1.89**	**280**	Pg	Pn		09 00 24.9	+0.4
1.5nm,0.3s,baz=102,slow=16,SNR=10.0								

ZALV Lg Lg 09 00 51.4
1.6nm,0.3s,baz=96,slow=25,SNR=17
KURBB Kurchatov Arra 6.56 246 Pn Pn 09 01 29.0 +0.4
baz=62,slow=14,SNR=3.6
KURBB Lg Lg 09 03 18.7
baz=67,slow=30
0.3nm,0.3s
MKAR Makanchi Array 7.78 210 Pn Pn 09 01 47.0 +1.5
0.1nm,0.3s,baz=25,slow=13,SNR=5.3
MKAR Lg Lg 09 03 56.8
0.1nm,0.3s,baz=33,slow=32,SNR=5.5
0.2nm,0.4s

TRN 24 09:10:57.3, 17°.51N×62°.52W, h109km, MD3.7, North-east of St. Kitts., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBFL	**Flemmings, Mon**	**0.81**	**159**	*e*P	Pn	09 11 18.0	+1.5
MBFL				*e*S	Sn	09 11 32.4	+1.4
ANBD	**Bethesda, Anti**	**0.85**	**122**	*e*P	Pn	09 11 18.3	+1.5
ANBD				*e*S	Sn	09 11 33.1	+1.5
TBG	**Guadaloupe-3**	**1.84**	**153**	*e*P	Pn	09 11 29.6	+1.3
SVN	**Savane Anatole**	**2.95**	**154**	*e*P	Pn	09 11 44.1	+1.5
BIM	**Bigot**	**3.28**	**155**	*e*P	Pn	09 11 48.3	+1.2
SLBI	**Saint Lucia, B**	**3.77**	**157**	*e*P	Pn	09 11 54.5	+1.0
AOPR	**Arecibo Observ**	**4.12**	**282**	*e*P	Pn	09 11 59.3	+1.1
AOPR				*e*S	Sn	09 12 45.5	-0.1

*ISK **24** 09:28:53.5, 37°.73N×38°.79E, h5km, ML1.7/6*
AFAD 24 09:28:56.2±0.0, 37°.16N×38°.79E, h7km±7km, ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANL	**SANLIURFA_Merk**	**0.16**	**87**	P	Pg	09 28 58.6	-0.9
SANL				S	Sg	09 29 03.7	+2.0
URFA	**Urfa**	**0.28**	**5**	Pg	Pg	09 29 00.2	-1.6
ATAB	**Bozova**	**0.50**	**308**	P	Pg	09 29 05.5	-0.3
ATAB				S	Sb	09 29 14.1	-0.8
ATAB				*i* AML	AML	09 29 15.0
ATAB	comp=E,38nm,0.4s			*i* AML	AML	09 29 17.0
NARI	**Adyaman-Kaht**	**0.72**	**358**	P	Pg	09 29 09.1	-1.0
NARI				S	Sb	09 29 21.4	+0.1
NARI				*i* AML	AML	09 29 24.0
AZEY	**Adyaman-Merk**	**0.78**	**326**	P	Pg	09 29 11.3	+0.1
AZEY				S	Sn	09 29 26.0	+0.5
AZEY				*i* AML	AML	09 29 30.0
AZEY	comp=E,13nm,0.3s			*i* AML	AML	09 29 30.0
GZT	**Gaziantep**	**1.00**	**281**	P	Pn	09 29 16.5	-0.2
GZT				S	Sn	09 29 32.2	+1.1
GZT				*i* AML	AML	09 29 33.0
GZT	comp=N,22nm,0.3s			*i* AML	AML	09 29 41.0
GAZ	**Gaziantep**	**1.26**	**271**	Pn	Pg	09 29 20.8	+0.4
GAZ				Sn	Sn	09 29 40.6	+3.1
MAZI	**Mazidag**	**1.35**	**77**	Pn	Pn	09 29 20.2	-1.4
MAZI				Sn	Sg	09 29 39.7	0.0
KMRS	**Kahramanmaras**	**1.54**	**283**	Pn	Pn	09 29 22.7	-1.5
DARE	**Darende-Malaty**	**1.75**	**324**	Pn	Pn	09 29 20.3	-6.7
PTK	**Pertek**	**1.79**	**15**	Pn	Pn	09 29 18.2	-9.5

*TEH **24** 09:35:57.7, 34°.69N×46°.31E, h13km±18km, ML2.5*
*ISN **24** 09:35:59.5±1.2, 34°.66N×46°.26E, h23km±23km, ML2.6*
ISC 24 09:35:59.3±1.1, 34°.67N±0°.05×46°.32E±0°.05, h11km±7km, n9, σ0°.62/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.07**	**64**	Pg	**Pg**	**09 36 02.0**	**0.0**
IDHR				Sg	**Sg**	**09 36 04.0**	**+0.2**
IGHG	**Ghaleghazi**	**0.40**	**148**	Pg	**Pg**	**09 36 07.3**	**0.0**
ILIN	**Lien**	**0.59**	**65**	Pg	**Pg**	**09 36 10.1**	**-0.7**
GLG1	**Gilan-e-Gharb**	**0.65**	**211**	Pg	**Pg**	**09 36 11.5**	**-0.5**
KCHF	**Cheshme Sefid,**	**0.72**	**123**	Pg	**Pg**	**09 36 13.0**	**-0.2**
ILBA	**Ilam Banvizeh**	**1.05**	**185**	Pg	**Pg**	**09 36 18.8**	**-0.7**
IBZA	**Bozab**	**1.29**	**98**	Pg	**Pg**	**09 36 24.0**	**-0.2**
IBDR	**Badra**	**1.59**	**192**	*e*Pg	**Pn**	**09 36 27.0**	**-0.3**
IBDR	baz=10.0			*e*Sg	**Sn**	**09 36 49.0**	**+1.2**
IBDR				AML	AML	09 36 55.1
IBDR	comp=E,121nm,0.5s			AML	AML	09 36 56.6
IKRK	**Kirkuk**	**1.78**	**295**	*e*Pn	**Pn**	**09 36 30.0**	**0.0**
IKRK	comp=N,56nm,0.6s			Sn	**Sn**	**09 36 53.0**	**+0.5**

*IDC **24** 09:44:57.8±0.5, 27°.84N×139°.79E, h485km±7km, mb3.2/12, mbtmp4.0/18, Error ellipse: s-maj=15.9km s-min=9.7km az=74.0*
*JMA **24** 09:45:01.2±0.1, 28°.N±1°.×14°.0E±°., h504km, MV3.6/40, W OFF OGASAWARA*
ISC 24 09:44:59.2±0.6, 27°.85N±0°.07×139°.7E±0°.1, h500km, n32, σ1°.84/48, mb3.5/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.33**	**108**	P	**P**	**09 46 07.9**	**+1.8**
CBIJ				*e*S	**S**	**09 47 00.4**	**0.0**
JCJ	**Chichijima**	**2.33**	**108**	P	**P**	**09 46 03.3**	**-2.8**
JCJ	140nm,0.4s,baz=359,slow=21,SNR=96			S	**S**	**09 46 55.3**	**-5.1**
JHH2	**Haha-jima-NKT2**	**2.52**	**118**	P	**P**	**09 46 09.8**	**+2.6**
JHH2				*e*S	**S**	**09 47 04.6**	**+2.3**
JHJ2	**Mitsune**	**5.25**	**1**	*e*P	**P**	**09 46 29.9**	**+1.6**
JHJ2				*e*S	**S**	**09 47 41.3**	**+0.1**
JHJ	**Hachijo jima 2**	**5.25**	**1**	P	**P**	**09 46 29.2**	**+0.9**
JHJ	21nm,0.5s,baz=87,slow=22,SNR=10			S	**S**	**09 47 38.0**	**-3.3**
BSO1	**Boso 1**	**6.87**	**9**	P	**P**	**09 46 45.8**	**+2.4**
BSO1				S	**S**	**09 48 09.4**	**+0.5**
JTNC	**Tanabenakahech**	**6.91**	**330**	*e*P	**P**	**09 46 47.2**	**+2.8**
BSO3	**Boso 3**	**6.97**	**6**	*e*S	**S**	**09 48 10.6**	**-0.5**
JIE	**Ise**	**7.01**	**339**	P	**P**	**09 46 48.8**	**+3.5**
JIE				*e*S	**S**	**09 48 15.3**	**+3.0**
JKN2	**Miekihoku**	**7.01**	**336**	*e*P	**P**	**09 46 47.6**	**+2.2**
BSO4	**Boso 4**	**7.14**	**4**	*e*P	**P**	**09 46 49.1**	**+2.6**
BSO4				*e*S	**S**	**09 48 12.6**	**-2.1**
HMMJ	**Hamamatsu 2**	**7.19**	**347**	*e*P	**P**	**09 46 49.2**	**+2.1**
HMMJ				*e*S	**S**	**09 48 16.4**	**+0.7**
JOD2	**Odawara 2**	**7.41**	**356**	*e*P	**P**	**09 46 51.7**	**+2.2**
JOD2				*e*S	**S**	**09 48 20.6**	**+0.7**
JTO	**Tosashimizu**	**7.77**	**312**	*e*P	**P**	**09 46 56.4**	**+3.2**
JHU	**Hanno**	**7.99**	**358**	*e*P	**P**	**09 46 55.7**	**+0.4**
JHU				*e*S	**S**	**09 48 27.9**	**-2.8**
MJAR	**Matsushiro Arr**	**8.76**	**352**	P	**P**	**09 47 03.2**	**-0.2**
MJAR	3.8nm,0.6s,baz=293,slow=16,SNR=11			S	**S**	**09 48 45.4**	**0.0**
JNU	**Nakatsue**	**9.24**	**307**	P	**P**	**09 47 08.8**	**+0.2**
KSRS	**Korea Array**	**13.78**	**317**	P	**P**	**09 47 56.0**	**-0.4**
ASAJ	**Asahikawa**	**16.40**	**7**	P	**P**	**09 48 24.1**	**+0.3**
USRK	**Ussuriysk Ar.**	**17.45**	**341**	P	**P**	**09 48 34.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.47**	**265**	P	**P**	**09 51 37.8**	**-0.2**
WRA	**Warramunga Arr**	**47.79**	**187**	P	**P**	**09 52 50.7**	**0.0**
WRA				PcP	**PcP**	**09 54 10.5**	**+0.4**
WRA				ScP	**ScP**	**09 57 14.8**	**-1.6**
MKAR	**Makanchi Array**	**48.29**	**309**	P	**P**	**09 52 54.5**	**+0.3**
MKAR				ScP	**ScP**	**09 57 16.7**	**-1.6**

KURBB	**Kurchatov Arra**	**50.93**	**314**	P	**P**	**09 53 13.7**	**+0.1**
ASAR	**Alice Springs**	**51.52**	**187**	P	**P**	**09 53 18.1**	**-0.1**
ASAR				PcP	**PcP**	**09 54 23.8**	**-0.1**
BVAR	**Borovoye Array**	**55.99**	**317**	P	**P**	**09 53 49.8**	**+0.3**
ILAR	**Eielson Array**	**58.12**	**29**	P	**P**	**09 54 03.5**	**-0.4**
AKTO	**Aktyubinsk**	**63.95**	**315**	P	**P**	**09 54 41.5**	**-1.1**
YKA	**Yellowknife Ar**	**72.52**	**28**	P	**P**	**09 55 34.5**	**0.0**
FINES	**FINESS Array B**	**76.29**	**333**	P	**P**	**09 55 55.4**	**-0.4**
NVAR	**Mina Array Bea**	**81.78**	**51**	P	**P**	**09 56 26.6**	**+0.9**
HFS	**Hagfors**	**81.85**	**336**	P	**P**	**09 56 24.2**	**-1.2**

IDC 24 09:52:54.3±3.2, 54°.44N×87°.08E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=25.9km s-min=20.3km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**251**	I	I	10 00 40.0	
ZALV	**Zalesovo Beam**	**1.42**	**251**	Pg	Pn	09 53 19.1	-2.2
ZALV				Lg	Lg	09 53 39.1	
KURBB	**Kurchatov Arra**	**6.47**	**237**	Pn	Pn	09 54 31.4	+0.8
KURBB				Sn	Sn	09 55 45.0	0.0
KURBB				Lg	Lg	09 56 20.9	
MKAR	**Makanchi Array**	**8.24**	**204**	Pn	Pn	09 54 56.3	+1.4

*KOLA **24** 10:00:15.8, 68°.13N×33°.28E, h0km, ML2.1, Error ellipse: s-maj=4.7km s-min=3.1km az=80.0, Olenegorsk City, Mines*
*IDC **24** 10:00:17.3±3.7, 68°.12N×32°.95E, h0km, mbtmp2.7/2, ML1.9/2, Error ellipse: s-maj=48.9km s-min=16.3km az=68.0*
ISC 24 10:00:14.3±1.2, 68°.14N±0°.03×33°.24E±0°.05, h10km±12km, n11, σ1°.36/20, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.54**	**190**	P	**Pb**	**10 00 24.9**	**-0.9**
APA0				S	**Sb**	**10 00 32.0**	**-1.7**
APA	**Apatity**	**0.57**	**174**	P	**Pb**	**10 00 25.9**	**-0.5**
APA				S	**Sb**	**10 00 33.4**	**-1.3**
LVZ	**Lovozero**	**0.58**	**114**	P	**Pg**	**10 00 26.1**	**+0.5**
LVZ				S	**Sg**	**10 00 33.8**	**+0.5**
TERR	**Teriberka**	**1.27**	**32**	P	**Pn**	**10 00 37.7**	**-0.3**
TERR				S	**Sb**	**10 00 54.1**	**-0.5**
PRVG	**Vayda Guba**	**1.66**	**347**	P	**Pg**	**10 00 46.2**	**+0.1**
PRVG				S	**Sg**	**10 01 07.6**	**+0.1**
VADS	**Vadso**	**2.43**	**327**	P	**Pb**	**10 00 57.6**	**-0.4**
VADS				S	**Sb**	**10 01 26.2**	**-1.7**
ARCES	**ARCESS Array B**	**3.14**	**300**	P	**Pn**	**10 01 05.7**	**+2.0**
ARCES				S	**Sn**	**10 01 41.5**	**+0.3**
ARCES	**ARCESS Array B**	**3.14**	**300**	Pn	**Pn**	**10 01 05.5**	**+1.8**
ARCES	0.3nm,0.3s,baz=119,slow=14,SNR=19			Pg	**Pg**	**10 01 13.0**	**-1.3**
ARCES	0.6nm,0.3s,baz=115,slow=16,SNR=4.8			Sn	**Sn**	**10 01 42.5**	**+1.3**
ARCES	0.5nm,0.3s,baz=116,slow=24,SNR=6.9			Lg	Lg	10 01 49.4	
I37NO	**I37NO**	**5.43**	**287**	I	I	10 31 10.0	
FAUS	**Fauske**	**6.85**	**272**	P	**Pn**	**10 01 57.2**	**+2.5**
FAUS				S	**Sn**	**10 03 11.3**	**-1.3**
FINES	**FINESS Array B**	**7.38**	**208**	Pn	**Pn**	**10 02 03.3**	**+1.4**
FINES	baz=36,slow=12,SNR=1.6						

*HEL **24** 10:01:08.2±0.4, 64°.70N×30°.92E, h0km, ML2.1, Explosion*
*KOLA **24** 10:01:09.9, 64°.58N×31°.28E, h0km, ML2.1, Error ellipse: s-maj=46.0km s-min=20.2km az=100.0, Karelia*
*IDC **24** 10:01:10.6±3.1, 64°.69N×30°.68E, h0km, mbtmp2.9/3, ML1.9/2, Error ellipse: s-maj=46.8km s-min=10.0km az=101.0*
ISC 24 10:01:08.3±1.0, 64°.72N±0°.03×30°.57E±0°.05, h0km, n24, σ1°.10/32, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.58**	**209**	*e*P	**Pg**	**10 01 18.6**	**-0.8**
RMF				*e*S	**Sg**	**10 01 27.8**	**+0.9**
KU6	**Riekki**	**1.34**	**348**	*e*P	**Pg**	**10 01 32.8**	**-1.2**
MSF	**Maaselka**	**1.36**	**332**	*e*P	**Pg**	**10 01 33.6**	**-0.7**
OLKF	**Oulanka, Finla**	**1.68**	**344**	*e*P	**Pn**	**10 01 39.0**	**+0.1**
NIF	**Nilsia**	**1.81**	**224**	*e*P	**Pn**	**10 01 40.9**	**+0.2**
NIF				*e*S	**Sn**	**10 02 04.6**	**+0.3**
NIF	comp=Z,11nm,0.2s			MSG		10 02 08.7	
JOF	**Joensuu**	**1.84**	**169**	*e*P	**Pn**	**10 01 39.7**	**-1.5**
JOF	**Joensuu**	**1.84**	**169**	*e*P	**Pn**	**10 01 40.5**	**-0.7**
JOF				*e*S	**Sn**	**10 02 04.5**	**-0.6**
JOF	comp=Z,18nm,0.2s			MSG		10 02 11.1	
OUL	**Oulu**	**2.03**	**282**	*e*P	**Pb**	**10 01 45.1**	**-0.8**
RANF	**Ranua**	**2.05**	**311**	*e*P	**Pb**	**10 01 45.9**	**-0.5**
OBF4	**Vikkela, Lumij**	**2.35**	**275**	*e*P	**Pb**	**10 01 50.8**	**-0.6**
OBF4				*e*S	**Sb**	**10 02 21.5**	**+0.6**
OUF	**Merijarvi**	**2.55**	**265**	*e*P	**Pn**	**10 01 52.2**	**+1.4**
OUF				*e*S	**Sb**	**10 02 26.4**	**-0.4**
OBF0	**Syolatti, Pyha**	**2.74**	**268**	*e*P	**Pb**	**10 01 56.3**	**-1.9**
OBF0				*e*S	**Sb**	**10 02 31.7**	**-0.6**
APA0	**Apatity Array**	**3.06**	**18**	P	**Pn**	**10 01 58.5**	**+0.7**
APA0				S	**Sn**	**10 02 37.5**	**+2.4**
APA	**Apatity**	**3.08**	**21**	S	**Sn**	**10 02 37.6**	**+2.0**
LVZ	**Lovozero**	**3.59**	**25**	S	**Sn**	**10 02 48.4**	**+0.2**
KEF	**Keuruu**	**3.62**	**228**	*e*P	**Pn**	**10 02 07.1**	**+1.5**
FINES	**FINESS Array B**	**3.88**	**214**	Pn	**Pn**	**10 02 09.2**	**+0.1**
FINES	comp=Z,0.2nm,0.3s,baz=38,slow=13,SNR=2.0			Pg	**Pb**	**10 02 19.1**	**+1.7**
FINES	comp=Z,0.5nm,0.3s,baz=31,slow=15,SNR=11			Lg	Lg	10 03 10.5	
VAF	**Ylistaro**	**3.88**	**248**	*e*P	**Pn**	**10 02 10.4**	**+1.2**
PRVG	**Vayda Guba**	**5.08**	**6**	S	**Sn**	**10 03 25.8**	**+0.8**
ARCES	**ARCESS Array B**	**5.22**	**340**	Pn	**Pn**	**10 02 27.9**	**+0.3**
ARCES	comp=Z,0.3nm,0.3s,baz=148,slow=14,SNR=0.7			Sn	**Sn**	**10 03 26.7**	**-1.7**
MEF	**Metsahovi**	**5.35**	**215**	*e*P	**Pn**	**10 02 30.1**	**+0.8**
RAF	**Rauma**	**5.48**	**231**	*e*P	**Pn**	**10 02 31.4**	**+0.3**
I37NO	**I37NO**	**6.42**	**318**	I	I	10 38 00.0	
HFS	**Hagfors**	**9.06**	**247**	Pn	**Pn**	**10 03 20.5**	**+0.2**

BER 24 10:02:07.4±2.0, 60°.64N×15°.08E, h0km, ML1.6, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NC602	**NORSAR Array S**	**1.74**	**275**	*e*P	Pn	10 02 37.6	-1.3

NC602				*e*S	Sn	10 02 58.3	-3.5
NC602	comp=Z,13nm,0.3s			IAML		10 03 01.8	
NB201	**NORSAR Array S**	**1.90**	**284**	*e*P	Pn	10 02 39.0	-2.0
NB201				*e*S	Sn	10 03 01.8	-3.9
NB201	comp=Z,3.3nm,0.6s			IAML		10 03 06.0	
NAO01	**NORSAR Array S**	**2.07**	**278**	*e*P	Pn	10 02 42.6	-0.8
NAO01				*e*S	Sn	10 03 08.1	-1.8
NAO01	comp=Z,14nm,0.6s			IAML		10 03 09.4	
NBO00	**NORSAR Array S**	**2.14**	**282**	*e*P	Pn	10 02 43.1	-1.3
NBO00				*e*S	Sn	10 03 09.1	-2.6
NBO00	comp=Z,19nm,0.5s			IAML		10 03 10.0	
NC204	**NORSAR Array S**	**2.20**	**289**	*e*P	Pn	10 02 43.7	-1.5
NC204				*e*S	Sn	10 03 08.9	-4.2
NC204	comp=Z,9.3nm,0.5s			IAML		10 03 10.9	
STRU	**Stroemstad**	**2.54**	**232**	*e*S	Sn	10 03 16.2	-5.1
NOD	**Norderasen**	**2.82**	**358**	*e*P	Pn	10 02 51.9	-1.8
NOD				*e*S	Sn	10 03 23.5	-4.8
DOMB	**Dombas**	**3.22**	**299**	*e*S	Sn	10 03 33.9	-4.5
DOMB	comp=Z,3.6nm,0.4s			IAML		10 03 40.5	

HEL 24 10:06:08.2±0.4, 67°.58N×20°.80E, h0km, ML0.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.66**	**43**	PG	Pg	10 06 20.1	-0.7
LANU				SG	Sg	10 06 27.9	-1.4
ERTU	**Ertsjaerv**	**1.16**	**151**	PN	Pb	10 06 31.2	+0.1
ERTU				SN	Sn	10 06 48.7	+0.4
KLF	**Kolari**	**1.27**	**104**	PN	Pb	10 06 33.0	+0.1
KLF	baz=292			MSG		10 06 46.6	
HEF	**Hetta**	**1.37**	**51**	PG	Pg	10 06 33.2	-1.2
HEF	baz=231			MSG		10 06 49.4	
HEF	comp=Z,0.8nm,0.2s			SG	Sg	10 06 50.2	-1.8
KTK1	**Kautokeino**	**1.71**	**31**	SN	Sg	10 07 03.5	+0.6
TOF	**Tornio**	**2.05**	**135**	MSG		10 07 09.1	
TOF	comp=Z,0.8nm,0.2s			SG	Sg	10 07 14.0	+0.1
RNF	**Rovaniemi**	**2.26**	**113**	PG	Pb	10 06 49.0	-0.8
RNF				SG	Sb	10 07 18.4	+0.1
UMAU	**Umeaa**	**3.71**	**181**	SB	Sb	10 07 58.0	-1.9
VAF	**Ylistaro**	**4.62**	**169**	SN	Sn	10 08 11.0	-2.4

*IDC **24** 10:14:11.0±1.1, 6°.01S×142°.89E, h0km, mb4.2/4, mbtmp4.2/6, ML1.6/1, Error ellipse: s-maj=35.4km s-min=24.8km az=70.0*
ISC 24 10:14:15.7±1.0, 6°.40S±0°.09×142°.57E±0°.10, h35km, n7, σ2°.19/10, mb4.2/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.44**	**124**	Pn	**Pn**	**10 15 34.1**	**-0.2**
PMG	1.3nm,0.3s,baz=297,slow=4.5,SNR=2.2			Sn	**Sn**	**10 16 36.3**	**+0.6**
WRA	**Warramunga Arr**	**15.66**	**210**	Pn	**P**	**10 17 54.8**	**-2.8**
WRA	1.5nm,0.3s,baz=156,slow=20,SNR=2.6 13nm,0.7s			Sn	**Sn**	**10 20 44.9**	**-1.4**
ASAR	**Alice Springs**	**19.09**	**205**	P	**Pn**	**10 18 40.3**	**+3.9**
ASAR	0.7nm,0.6s,baz=23,slow=27,SNR=3.8			S	**S**	**10 22 09.9**	**-0.3**
MKAR	**Makanchi Array**	**75.05**	**322**	P	**P**	**10 25 55.1**	**+1.3**
KURBB	**Kurchatov Arra**	**78.95**	**324**	P	**P**	**10 26 14.5**	**-1.2**
BVAR	**Borovoye Array**	**84.52**	**325**	P	**P**	**10 26 45.9**	**+0.8**
ILAR	**Eielson Array**	**87.60**	**24**	P	**P**	**10 26 57.9**	**-2.1**

*ISU **24** 10:14:37.8, 41°.32N×69°.74E, h91km*
KRNET 24 10:14:31.4±0.1, 41°.17N×69°.10E, mb2.1, 5C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMG	**Chimgan**	**0.78**	**61**	P	Pn	10 14 52.1	+2.3
CHMG				S	Sn	10 15 02.5	+0.2
KRSA	**Karasay**	**1.48**	**225**	P	Pb	10 15 11.0	+11
KRSA				S	Sn	10 15 35.3	+16
TRKS	**Terek-Say**	**1.58**	**76**	↑*e*P	Pn	10 15 01.0	+0.2
TRKS	baz=79			↑*e*S	Sb	10 15 23.2	+1.1
BTK	**Batken**	**1.72**	**130**	↓↓*e*P	Pb	10 15 03.8	-0.1
BTK	baz=30			↓↓*e*S	Sg	10 15 27.0	+0.4
KK31	**Karatay Array**	**2.20**	**28**	↑Pn	Pg	10 15 25.0	+12
KK31	0.7nm,0.3s,baz=202,slow=16,SNR=7.7			↓↓Lg	Lg	10 15 57.0	
MNAS	**Manas**	**2.87**	**62**	↓↓*e*P	Pn	10 15 20.5	+2.1
MNAS	baz=62			↓↓*e*S	Sb	10 15 56.6	-2.5
ARSB	**Arslanbob**	**2.93**	**86**	↑↑*e*P	Pn	10 15 21.3	+1.9
ARSB	baz=86			↑↑*e*S	Sn	10 15 57.7	+2.3

*IDC **24** 10:22:37.3±0.8, 6°.06S×142°.89E, h0km, mb4.1/11, mbtmp4.1/13, ML2.1/1, Error ellipse: s-maj=32.7km s-min=17.2km az=75.0*
*NEIC **24** 10:22:38.1±2.5, 6°.07S±0°.10×142°.7E±0°.1, h10km±4km, mb4.4/13, Error ellipse: s-maj=16.5km s-min=12.4km az=50.0*
ISC 24 10:22:42.1±0.6, 6°.32S±0°.06×142°.68E±0°.06, h35km, n40, σ2°.17/43, mb4.2/14, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.78**	**306**	P	**Pn**	**10 23 11.8**	**+1.4**
PMG	**Port Moresby**	**5.40**	**125**	P	**Pn**	**10 24 00.1**	**0.0**
PMG	**Port Moresby**	**5.40**	**125**		**Pn**	**10 23 59.3**	**-0.8**
PMG	**Port Moresby**	**5.40**	**125**	Pn	**Pn**	**10 23 59.9**	**-0.2**
PMG	3.7nm,0.3s,baz=304,slow=1.6,SNR=11 8.0nm,0.3s,baz=226,slow=20,SNR=8.8 20nm,0.5s			Sn	**Sn**	**10 25 00.8**	**-0.2**
COEN	**Coen**	**7.61**	**176**	P	**Pn**	**10 24 34.8**	**+4.3**
COEN	**Coen**	**7.61**	**176**	Pn	**Pn**	**10 24 32.9**	**+2.4**
FAKI	**Fak Fak**	**10.93**	**288**	Pn	**Pn**	**10 25 13.6**	**-2.5**
KDU	**Kakadu**	**11.89**	**237**	P	**Pn**	**10 25 29.7**	**+0.5**
MTN	**Manton Dam**	**13.10**	**239**	P	**Pn**	**10 25 45.5**	**-0.2**
MTN	**Manton Dam**	**13.10**	**239**	Pn	**Pn**	**10 25 44.5**	**-1.3**
DRS	**Darwin Rock St**	**13.11**	**242**	P	**Pn**	**10 25 46.1**	**+0.2**
QIS	**Mount Isa**	**14.47**	**192**	P	**Pn**	**10 26 05.2**	**+0.8**
WB0	**Warramunga Arr**	**15.61**	**210**		**Pn**	**10 26 19.4**	**-0.2**
WRA	**Warramunga Arr**	**15.78**	**210**		**Pn**	**10 26 21.4**	**-0.4**
WRA	**Warramunga Arr**	**15.78**	**210**	Pn	**Pn**	**10 26 20.1**	**-1.7**
WRA	0.8nm,0.3s,baz=30,slow=13,SNR=34 0.2nm,0.3s,baz=26,slow=22,SNR=2.4			Sn	**Sn**	**10 29 09.0**	**-6.7**
WRA	0.2nm,0.3s,baz=37,slow=30,SNR=2.1			Lg	Lg	10 30 56.9	
KNRA	**Kununurra**	**16.52**	**235**	Pn	**Pn**	**10 26 29.5**	**-1.6**
KNRA	comp=Z,18nm,0.8s			IAmb	IAmb	10 26 41.2	
SOEI	**Soe**	**18.55**	**258**	P	**P**	**10 26 54.0**	**-2.0**

SOEI			IAmb	IAmb	10 27 14.8
	comp=Z,33nm,0.9s				
AS31	**Alice Springs**	**19.20 205**	P	**Pn**	**10 27 06.4 +2.2**
AS31			IAmb	IAmb	10 27 09.1
	comp=Z,12nm,1.1s				
ASAR	**Alice Springs**	**19.20 205**	P	**Pn**	**10 27 05.6 +1.3**
ASAR	**Alice Springs**	**19.20 205**	P	**Pn**	**10 27 06.2 +1.9**
	comp=Z,28nm,0.8s,baz=30,slow=12,SNR=156				
ASAR			S	**S**	**10 30 32.8 -6.2**
	comp=Z,2.3nm,0.9s,baz=17,slow=27,SNR=5.2				
ASAR			Lg	Lg	10 32 53.9
	comp=Z,0.1nm,0.3s,baz=19,slow=29,SNR=3.0				
FITZ	**Fitzroy Crossi**	**20.33 233**	P	**P**	**10 27 15.5 +0.1**
STKA	**Stephens Creek**	**25.45 182**	P	**P**	**10 28 10.5 +3.7**
	comp=Z,2.2nm,0.7s,baz=11,slow=10,SNR=1.8				
	comp=Z,2.2nm,0.7s				
PSA00	**Pilbara Seismi**	**26.79 233**	P	**P**	**10 28 20.0 +1.0**
PSA00			IAmb	IAmb	10 28 32.9
	comp=Z,8.5nm,0.9s				
KSRS	**Korea Array**	**45.67 344**	P	**P**	**10 30 57.0 -2.4**
	comp=Z,0.8nm,0.7s,baz=150,slow=9.0,SNR=3.2				
	comp=Z,0.8nm,0.7s				
CMAR	**Chiang Mai Arr**	**49.66 301**	P	**P**	**10 31 31.9 +1.2**
	comp=Z,0.8nm,0.3s,baz=116,slow=6.3,SNR=1.8				
	comp=Z,0.8nm,0.3s				
USRK	**Ussuriysk Ar.**	**51.20 350**	P	**P**	**10 31 41.3 -0.6**
	comp=Z,1.5nm,0.7s,baz=145,slow=5.3,SNR=4.4				
	comp=Z,1.5nm,0.7s				
SONM	**Songino Array**	**62.67 333**	P	**P**	**10 33 05.0 +1.6**
	comp=Z,0.5nm,0.7s,baz=137,slow=7.1,SNR=2.4				
	comp=Z,0.5nm,0.7s				
VNDA	**Vanda**	**71.89 176**	P	**P**	**10 34 02.8 +1.7**
MK31	**Makanchi Array**	**75.05 322**	P	**P**	**10 34 18.6 -1.6**
MK31			IAmb	IAmb	10 34 27.8
	comp=Z,4.3nm,1.5s				
MKAR	**Makanchi Array**	**75.05 322**	P	**P**	**10 34 18.8 -1.4**
MKAR	**Makanchi Array**	**75.05 322**	P	**P**	**10 34 19.5 -0.8**
	comp=Z,0.7nm,0.7s,baz=98,slow=8.7,SNR=6.0				
	comp=Z,0.7nm,0.7s				
KURBB	**Kurchatov Arra**	**78.94 324**	P	**P**	**10 34 42.1 +0.1**
	comp=Z,0.4nm,0.2s,baz=114,slow=4.5,SNR=2.1				
	comp=Z,0.4nm,0.2s				
QSPA	**South Pole Qui**	**83.65 180**	P	**P**	**10 35 08.2 +1.2**
QSPA			IAmb	IAmb	10 35 14.0
	comp=Z,2.3nm,0.8s				
QSPA	**South Pole Qui**	**83.65 180**	P	**P**	**10 35 08.4 +1.4**
	comp=Z,2.5nm,1.0s,baz=333,slow=6.8,SNR=3.3				
	comp=Z,2.5nm,1.0s				
NRIK	**Noril'sk**	**84.29 343**	P	**P**	**10 35 10.1 +0.2**
	comp=Z,1.3nm,0.3s,baz=135,slow=2.9,SNR=1.6				
	comp=Z,1.3nm,0.3s				
BVAR	**Borovoye Array**	**84.52 325**	P	**P**	**10 35 12.1 +0.7**
	comp=Z,3.0nm,0.7s,baz=113,slow=6.6,SNR=16				
	comp=Z,3.0nm,0.7s				
G23K	**Bananza Creek**	**87.00 22**	P	**P**	**10 35 21.8 -1.7**
G23K			IAmb	IAmb	10 35 23.4
	comp=Z,5.0nm,1.3s				
ILAR	**Eielson Array**	**87.48 24**	P	**P**	**10 35 24.1 -1.7**
	comp=Z,1.0nm,0.7s,baz=270,slow=6.3,SNR=1.7				
	comp=Z,1.0nm,0.7s				
TOLK	**Toolik Lake Re**	**87.92 20**	P	**P**	**10 35 26.1 -1.8**
C23K	**Itkillik River**	**88.06 19**	P	**P**	**10 35 26.4 -2.1**

*JMA **24** 10:25:29.9±0.2, 25°N±2°×122°4E±0°6, h141km±2km, MV2.2/12, NW OFF ISHIGAKIJIMA IS*
*TAP **24** 10:25:30.3, 25°07N×122°39E, h132km, ML3.1, D*
ISC 24 10:25:29.5±1.9, 24°97N±0°07×122°43E±0°03, h141km±11km, n56, σ0°78/108, 2C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.41 276**		P	**Pn**	**10 25 49.4**	**+0.1**
	baz=261						
SXI1	**Grass Mountain**	**0.52 284**	⇓	*i*P	**Pn**	**10 25 50.2**	**+0.2**
	baz=269						
SXI1				*i* S	**Sn**	**10 26 04.9**	**-0.5**
	baz=269						
TIPB	**Shuangxi**	**0.55 270**		P	**Pn**	**10 25 50.3**	**+0.2**
	baz=259						
TIPB				S	**Sn**	**10 26 04.6**	**-1.1**
	baz=259						
EOS2	**EOS2**	**0.58 198**		P	**Pn**	**10 25 50.6**	**+0.5**
	baz=190						
EOS2				S	**Sn**	**10 26 07.0**	**+1.4**
	baz=190						
TWC	**Suao**	**0.64 236**		P	**Pn**	**10 25 50.8**	**+0.2**
	baz=233						
TWC				S	**Sn**	**10 26 05.7**	**-0.8**
	baz=233						
EOS3	**EOS3**	**0.69 189**	⇑	*i*P	**Pn**	**10 25 51.5**	**+0.8**
	baz=190						
EOS3				S	**Sn**	**10 26 08.4**	**+1.5**
	baz=190						
JYNG	**Yonagunijimaku**	**0.70 138**		P	**Pn**	**10 25 51.0**	**+0.1**
JYNG				*e*S	**Sn**	**10 26 07.4**	**+0.2**
YOJ	**Yonaguni jima**	**0.73 134**		P	**Pn**	**10 25 50.1**	**-1.0**
	baz=145						
YOJ				S	**Sn**	**10 26 07.2**	**-0.5**
	baz=145						
YOJ	**Yonaguni jima**	**0.73 134**		P	**Pn**	**10 25 51.3**	**+0.1**
YOJ				S	**Sn**	**10 26 07.7**	**0.0**
NDS	**Dongshan**	**0.73 243**		P	**Pn**	**10 25 51.5**	**+0.3**
	baz=235						
EWUT	**Wuta**	**0.79 229**		P	**Pn**	**10 25 52.3**	**+0.6**
	baz=214						
EWUT				S	**Sn**	**10 26 08.2**	**-0.3**
	baz=214						
FUSB	**Fushanzhiwuyua**	**0.80 255**		P	**Pn**	**10 25 51.7**	**0.0**
	baz=253						
FUSB				S	**Sn**	**10 26 08.4**	**-0.2**
	baz=253						
YM01	**YM01**	**0.80 283**		P	**Pn**	**10 25 52.1**	**+0.3**
	baz=270						
YM01				S	**Sn**	**10 26 07.9**	**-0.8**
	baz=270						
ENA	**Nanau**	**0.83 230**		P	**Pn**	**10 25 52.6**	**+0.6**
	baz=215						
ENA				S	**Sn**	**10 26 08.8**	**-0.1**
	baz=215						
EOS4	**EOS4**	**0.85 187**		P	**Pn**	**10 25 51.9**	**+0.2**
	baz=184						
EOS4				S	**Sn**	**10 26 09.2**	**+0.6**
	baz=184						
ENTT	**Nioudou**	**0.85 248**		P	**Pn**	**10 25 53.0**	**+0.9**
	baz=242						
ENTT				S	**Sn**	**10 26 09.9**	**+0.5**
	baz=242						
NWLT	**Wulai**	**0.87 257**		P	**Pn**	**10 25 52.2**	**-0.1**
	baz=255						
NWLT				S	**Sn**	**10 26 09.1**	**-0.5**
	baz=255						
EAHA	**Aohua**	**0.90 225**		*e*P	**Pn**	**10 25 52.8**	**+0.3**
	baz=213						
EAHA				S	**Sn**	**10 26 09.8**	**-0.1**
	baz=213						
NDT	**Datong Townshi**	**0.91 247**		P	**Pn**	**10 25 53.2**	**+0.6**
	baz=243						
NDT				S	**Sn**	**10 26 10.3**	**+0.1**
	baz=243						
LATG	**Datong**	**0.93 243**		P	**Pn**	**10 25 53.6**	**+0.8**
	baz=241						
LATG				S	**Sn**	**10 26 11.0**	**+0.3**
	baz=241						
YHNB	**Yeheng**	**1.00 253**	⇑	P	**Pn**	**10 25 53.7**	**+0.2**
	baz=248						
YHNB				S	**Sn**	**10 26 10.6**	**-1.1**
	baz=248						
NSK	**Sanguang**	**1.02 254**		P	**Pn**	**10 25 53.8**	**+0.2**
	baz=248						
NSK				S	**Sn**	**10 26 11.0**	**-0.9**
	baz=248						
NNSB	**Datong**	**1.10 241**	⇓	P	**Pn**	**10 25 55.0**	**+0.7**
	baz=235						
NNSB				S	**Sn**	**10 26 12.6**	**-0.7**
	baz=235						
NNS	**Nan Shan**	**1.10 242**		P	**Pn**	**10 25 55.0**	**+0.6**
	baz=236						
NNS				S	**Sn**	**10 26 13.0**	**-0.3**
	baz=236						
NACB	**Ninganchiao**	**1.10 224**		P	**Pn**	**10 25 54.5**	**+0.2**
	baz=214						
NACB				S	**Sn**	**10 26 12.3**	**-0.8**
	baz=214						
ETLH	**Xiulin Townshi**	**1.15 229**		P	**Pn**	**10 25 55.3**	**+0.4**
	baz=219						
ETLH				S	**Sn**	**10 26 13.3**	**-0.9**
	baz=219						
NFF	**Wufeng Townshi**	**1.24 255**		P	**Pn**	**10 25 55.8**	**+0.1**
	baz=241						
NFF				S	**Sn**	**10 26 14.6**	**-1.0**
	baz=241						
FUSS	**Fushou**	**1.30 237**		P	**Pn**	**10 25 57.4**	**+0.9**
	baz=232						
FUSS				S	**Sn**	**10 26 17.0**	**-0.1**
	baz=232						
ETM	**Tongmen**	**1.32 221**		P	**Pn**	**10 25 56.3**	**-0.1**
	baz=224						
ETM				S	**Sn**	**10 26 14.5**	**-2.5**
	baz=224						
LIOB	**Emei**	**1.33 256**		P	**Pn**	**10 25 56.8**	**+0.3**
	baz=244						
LIOB				S	**Sn**	**10 26 16.0**	**-1.1**
	baz=244						
TEYL	**Yanliau Villag**	**1.33 215**		P	**Pn**	**10 25 56.8**	**+0.2**
	baz=212						
TEYL				S	**Sn**	**10 26 17.2**	**0.0**
	baz=212						
WHF	**Hehuan Shan**	**1.34 233**		P	**Pn**	**10 25 58.2**	**+1.1**
	baz=234						
WHF				S	**Sn**	**10 26 17.6**	**-0.6**
	baz=234						
NSTT	**Nanjuang**	**1.34 256**		P	**Pn**	**10 25 56.9**	**+0.2**
	baz=243						
NSTT				S	**Sn**	**10 26 16.5**	**-0.9**
	baz=243						
TWT	**Tachien**	**1.35 238**		P	**Pn**	**10 25 57.7**	**+0.7**
	baz=234						
TWT				S	**Sn**	**10 26 18.0**	**+0.2**
	baz=234						
TDCB	**Techi**	**1.36 239**		P	**Pn**	**10 25 58.1**	**+1.0**
	baz=234						
TDCB				S	**Sn**	**10 26 17.9**	**-0.1**
	baz=234						
SHUL	**Shoufeng**	**1.42 214**		P	**Pn**	**10 25 57.7**	**+0.2**
	baz=210						
SHUL				S	**Sn**	**10 26 18.7**	**-0.1**
	baz=210						
CHGB	**Renai**	**1.46 232**		P	**Pn**	**10 25 59.3**	**+1.2**
	baz=233						
CHGB				S	**Sn**	**10 26 19.5**	**-0.5**
	baz=233						
ESL	**Shilin**	**1.47 219**		P	**Pn**	**10 25 58.2**	**+0.2**
	baz=221						
WHP	**Taichung City**	**1.52 243**		P	**Pn**	**10 25 59.3**	**+0.7**
	baz=239						
WHP				S	**Sn**	**10 26 20.4**	**-0.5**
	baz=239						
OWD	**Renai**	**1.53 229**		*e*P	**Pn**	**10 25 59.9**	**+1.1**
	baz=220						
OWD				*e*S	**Sn**	**10 26 20.4**	**-0.7**
	baz=220						
WUSB	**Renai**	**1.54 231**		*e*P	**Pn**	**10 26 00.1**	**+1.1**
	baz=231						
WUSB				*e*S	**Sn**	**10 26 21.4**	**-0.1**
	baz=231						
HATJ	**Hateruma jima**	**1.55 126**		*e*S	**Sn**	**10 26 21.3**	**+0.1**
WARBT	**Fenglin Townsh**	**1.57 218**		P	**Pn**	**10 25 58.6**	**-0.5**
	baz=214						
WARBT				*e*S	**Sn**	**10 26 19.2**	**-2.6**
	baz=214						
JKRS	**Kuro-shima**	**1.61 117**		P	**Pn**	**10 26 00.3**	**+0.8**
JKRS				*e*S	**Sn**	**10 26 22.4**	**0.0**
WCS	**Beigang Elemen**	**1.66 237**		P	**Pn**	**10 26 00.9**	**+0.9**
	baz=240						
WCS				S	**Sn**	**10 26 23.7**	**+0.2**
	baz=240						
JIJ	**Ishigaki jima**	**1.67 111**		P	**Pn**	**10 26 00.5**	**+0.3**
JIJ				S	**Sn**	**10 26 22.4**	**-1.3**
VWDT	**VWDT**	**1.69 224**		P	**Pn**	**10 26 01.1**	**+0.7**
	baz=218						
VWDT				S	**Sn**	**10 26 24.1**	**+0.1**
	baz=218						
HGSD	**Ruisui**	**1.73 212**		P	**Pn**	**10 26 01.2**	**+0.2**
	baz=218						
HGSD				S	**Sn**	**10 26 25.0**	**-0.1**
	baz=218						
JISG	**Ishigakijimahi**	**1.75 102**		P	**Pn**	**10 26 01.4**	**+0.3**
JISG				S	**Sn**	**10 26 24.4**	**-0.8**
SMLT	**Sun Moon Lake**	**1.77 233**		*e*P	**Pn**	**10 26 02.7**	**+1.3**
	baz=237						
SMLT				*e*S	**Sn**	**10 26 26.4**	**+0.5**
	baz=237						
TYC	**Yuchr**	**1.79 234**		*e*P	**Pn**	**10 26 02.7**	**+1.2**
	baz=237						
TYC				*e*S	**Sn**	**10 26 26.8**	**+0.8**
	baz=237						
SSLB	**Suanglung**	**1.79 229**		*e*P	**Pn**	**10 26 02.8**	**+1.2**
	baz=228						
SSLB				*e*S	**Sn**	**10 26 26.5**	**+0.3**
	baz=228						
YULB	**Yu-li**	**1.88 214**		*e*P	**Pn**	**10 26 01.7**	**-1.0**
	baz=215						
YULB				*e*S	**Sn**	**10 26 26.3**	**-1.8**
	baz=215						
WHYT	**Xinyi Township**	**1.92 229**		*e*P	**Pn**	**10 26 04.3**	**+1.2**
	baz=226						
WHYT				*e*S	**Sn**	**10 26 29.1**	**+0.2**
	baz=226						
CHKH	**Chenggong**	**2.01 208**		*e*P	**Pn**	**10 26 03.7**	**-0.4**
	baz=199						
CHKH				*e*S	**Sn**	**10 26 28.9**	**-1.8**
	baz=199						
JTJ	**Tarama**	**2.09 99**		*e*P	**Pn**	**10 26 05.8**	**+0.7**
JTJ				*e*S	**Sn**	**10 26 32.2**	**-0.2**

*NEIC **24** 10:32:04.5±1.5, 64°84N±0°02×147°67W±0°03, h9km±6km, Error ellipse: s-maj=3.1km s-min=0.7km az=214.0*
AEIC 24 10:32:04.5±1.3, 64°84N±0°03×147°67W±0°06, h7km±6km, ML2.9, ML3.1/62(NEIC), Error ellipse: s-maj=4.7km s-min=2.3km az=46.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLA	**College**	**0.09 296**		Pg	Pg	10 32 06.7	+0.1
CCB	**Clear Creek Bu**	**0.20 197**			Pg	10 32 08.5	0.0
CCB					Sg	10 32 11.1	-0.1
CCB	**Clear Creek Bu**	**0.20 197**		IAML		10 32 11.3	
	comp=E,3μm,0.5s						
CCB				IAML		10 32 11.4	
	comp=N,1μm,0.4s						
MDM	**Murphy Dome**	**0.27 298**		IAML		10 32 13.7	
	comp=N,3μm,0.6s						
MDM				IAML		10 32 13.8	
	comp=E,2μm,0.3s						
MDM	**Murphy Dome**	**0.27 298**			Pg	10 32 09.7	-0.1
MDM					Sg	10 32 13.1	-0.3
POKR	**Poker Plat Res**	**0.30 20**		IAML		10 32 16.5	
	comp=N,2μm,0.4s						
POKR	**Poker Plat Res**	**0.30 20**			Pg	10 32 10.4	0.0
POKR					Sg	10 32 14.3	-0.1
IL31		**0.34 101**			Pg	10 32 11.4	+0.2
ILAR	**Eielson Array**	**0.34 101**			Pg	10 32 11.1	-0.1
WRH	**Wood River Hil**	**0.41 206**			Pg	10 32 12.1	-0.3
WRH				IAML		10 32 18.8	
	comp=E,1μm,0.4s						
WRH	**Wood River Hil**	**0.41 206**			Sg	10 32 18.5	+0.7
HDA	**Harding Lake**	**0.53 144**			Pg	10 32 14.9	+0.1
HDA					Sg	10 32 21.9	+0.2
NEA2	**Nenana**	**0.65 248**			Pg	10 32 16.7	-0.2
NEA2					Sg	10 32 26.0	+0.6
NEA2	**Nenana**	**0.65 248**		IAML		10 32 26.4	
	comp=E,601nm,0.3s						
NEA2				IAML		10 32 29.4	
	comp=N,610nm,0.4s						
I23K	**Minto, Yukon-K**	**0.78 294**			Pg	10 32 19.5	-0.1
I23K				IAML		10 32 30.4	
	comp=E,659nm,0.6s						
I23K				IAML		10 32 30.4	
	comp=N,572nm,0.6s						
I23K	**Minto, Yukon-K**	**0.78 294**			Sg	10 32 29.7	+0.1
H24K	**Noodor Dome**	**1.01 355**		Pg	Pg	10 32 23.6	-0.2
H24K				IAML		10 32 39.7	
	comp=N,337nm,0.4s						
H24K				IAML		10 32 40.1	
	comp=E,565nm,0.6s						
J25K	**Salcha River,**	**1.01 102**		Pg	Pg	10 32 23.5	-0.5
J25K				IAML		10 32 39.5	
	comp=E,695nm,0.5s						
BWN	**Browne**	**1.02 230**			Pg	10 32 22.9	-1.2
PRP	**Porcupine Dome**	**1.14 52**		Pg	Pg	10 32 25.8	-0.5
PRP				IAML		10 32 44.2	
	comp=E,774nm,0.3s						
PRP				IAML		10 32 47.0	
	comp=N,622nm,0.3s						
MCK	**McKinley**	**1.24 207**			Pb	10 32 27.8	-0.4
H23K	**Yukon River**	**1.27 323**			Pn	10 32 28.2	-0.4
H23K				IAML		10 32 47.4	
	comp=E,453nm,0.6s						
H23K				IAML		10 32 47.4	
	comp=N,603nm,0.4s						
MLY	**Manley**	**1.32 280**		Pn	Pn	10 32 28.2	-1.2
MLY				IAML		10 32 47.3	
	comp=N,213nm,0.3s						
K24K	**Donnelly Dome**	**1.33 141**			Pn	10 32 28.8	-0.7
K24K					Sn	10 32 47.8	+0.4
RND	**Reindeer**	**1.53 200**			Pn	10 32 31.7	-0.5
RND				IAML		10 32 53.5	
	comp=E,280nm,0.6s						
RND	**Reindeer**	**1.53 200**			Sn	10 32 52.5	+0.1
BPAW	**Bear Paw Mtn.**	**1.62 244**			Pn	10 32 32.0	-1.4
BPAW	**Bear Paw Mtn.**	**1.62 244**		IAML		10 32 56.1	
	comp=N,180nm,0.7s						
H25L	**Birch Creek**	**1.63 27**			Pn	10 32 33.9	+0.3
DHY	**Denali Highway**	**1.77 176**			Pn	10 32 36.0	+0.3
J26L	**Joseph Creek**	**1.80 99**		Pn	Pn	10 32 36.4	+0.4
I21K	**Tanana**	**1.86 283**			Pn	10 32 35.8	-0.9
G24K	**Hadweenzic Riv**	**1.87 2**			Pn	10 32 36.8	-0.2
G24K	**Hadweenzic Riv**	**1.87 2**		IAML		10 33 05.0	
	comp=N,114nm,0.6s						
G24K				IAML		10 33 07.3	
	comp=E,133nm,0.6s						
H22K	**Ishtalitna Cre**	**1.88 306**			Pn	10 32 36.5	-0.6
I26K	**Coal Creek Min**	**1.97 74**			Pn	10 32 38.1	-0.1
I26K	**Coal Creek Min**	**1.97 74**		IAML		10 33 13.2	
	comp=N,216nm,0.5s						
DOT	**Dot Lake**	**1.98 125**			Pn	10 32 37.0	-1.3
FYU	**Fort Yukon**	**2.01 29**			Pb	10 32 40.2	-1.1
G25K	**Bearman Lake**	**2.04 18**			Pn	10 32 39.2	0.0
WAT1	**Susitna Watana**	**2.05 191**			Pn	10 32 39.8	+0.3
WAT7	**Susitna Watana**	**2.08 195**			Pn	10 32 40.2	+0.3
PAX	**Paxson**	**2.11 152**			Pn	10 32 39.6	-0.7
G23K	**Bananza Creek**	**2.12 334**			Pn	10 32 40.2	-0.1
G23K	**Bananza Creek**	**2.12 334**		IAML		10 33 13.2	
	comp=E,82nm,0.8s						
WAT6	**Susitna Watana**	**2.27 181**			Pn	10 32 42.8	+0.3
H21K	**Melozitna Rive**	**2.31 293**		Pn	Pn	10 32 41.0	-2.0
H21K				IAML		10 33 18.6	
	comp=N,136nm,0.7s						
H21K				IAML		10 33 18.6	
	comp=E,93nm,0.5s						
COLD	**Coldfoot**	**2.61 338**			Pn	10 32 47.4	+0.3
L26K	**Log Cabin Wild**	**2.64 132**			Pn	10 32 46.1	-1.4
G26K	**Porcupine Rive**	**2.66 35**			Pn	10 32 47.7	+0.1
I27K	**Kandik River**	**2.67 70**			Pn	10 32 47.4	-0.5
HARP	**HAARP**	**2.69 154**			Pn	10 32 48.1	-0.1
F24K	**Squaw Lake**	**2.69 358**			Pn	10 32 48.5	+0.2
F24K	**Squaw Lake**	**2.69 358**		IAML		10 33 35.7	
	comp=N,52nm,0.6s						
F24K				IAML		10 33 37.1	
	comp=E,59nm,0.6s						
IMAR	**Indian Mountai**	**2.79 297**			Pn	10 32 48.4	-1.1
M24K	**Tolsona, Glenn**	**2.82 166**			Pn	10 32 51.5	+1.4
M24K	**Tolsona, Glenn**	**2.82 166**		IAML		10 33 38.2	
	comp=N,44nm,1.1s						
J20K	**Nowinta River**	**2.88 260**		Pn	Pn	10 32 49.0	-1.7
J20K				IAML		10 33 37.7	
	comp=E,76nm,0.4s						
J20K				IAML		10 33 38.9	
	comp=N,76nm,0.4s						
F25K	**Christian Rive**	**2.89 16**			Pn	10 32 50.7	-0.2
I20K	**Naaghedeneel**	**2.91 272**			Pn	10 32 50.1	-1.0
H27K	**Steamboat Moun**	**2.92 59**			Pn	10 32 50.7	-0.6
G21K	**Allakaket**	**2.94 308**			Pn	10 32 51.7	0.0
G21K	**Allakaket**	**2.94 308**		IAML		10 33 37.1	
	comp=N,43nm,0.5s						
G21K				IAML		10 33 37.5	
	comp=E,72nm,0.5s						
SCM	**Sheep Creek Mo**	**3.02 177**			Pn	10 32 52.9	+0.1
SML	**Sawmill**	**3.06 186**			Pn	10 32 54.2	+0.9
H20K	**Anotleneega Mo**	**3.11 285**			Pn	10 32 53.0	-1.0
GHO	**Glory Hole Cre**	**3.13 191**			Pn	10 32 54.2	-0.1
L27K	**Beaver Creek,**	**3.13 122**		Pn	Pn	10 32 53.3	-1.0
L27K				IAML		10 33 45.4	
	comp=E,92nm,0.6s						
BCAR	**Beaver Creek A**	**3.15 122**		Pn	Pn	10 32 53.7	-0.8
G27K	**Doyon Strip**	**3.17 49**			Pn	10 32 53.9	-0.9
F26K	**Sheenjek River**	**3.21 25**			Pn	10 32 55.7	+0.4
F22K	**John River**	**3.25 328**			Pn	10 32 56.9	+1.1
E24K	**Your Creek**	**3.27 355**			Pn	10 32 56.3	+0.1
PMR	**Palmer**	**3.32 192**			Pn	10 32 56.7	-0.1
I28M	**Miner Creek**	**3.33 76**			Pn	10 32 56.8	-0.2
E23K	**Chandalar**	**3.33 347**			Pn	10 32 57.5	+0.5
SKT	**Skwentna**	**3.35 213**			Pn	10 32 57.8	+0.6
F21K	**Alatna River**	**3.37 318**		Pn	Pn	10 32 57.7	+0.2
KLU	**Klutina**	**3.45 166**			Pn	10 33 00.0	+1.4
N25K	**Chitina, Valde**	**3.53 155**			Pn	10 32 58.8	-0.9
J19K	**Poorman**	**3.55 260**		Pn	Pn	10 32 58.3	-1.7
M27K	**Edge Creek, AK**	**3.59 131**			Pn	10 32 59.4	-1.3
SUA	**Susitna One**	**3.66 204**			Pn	10 33 02.4	+0.8
DAWY	**Dawson**	**3.67 98**			Pn	10 33 02.0	+0.3
E22K	**Anaktuvuk Pass**	**3.70 335**			Pn	10 33 03.0	+0.9
H19K	**Roundabout Mou**	**3.77 285**			Pn	10 33 01.0	-1.9
M20K	**Styx River**	**3.85 222**			Pn	10 33 04.5	+0.3
TOLK	**Toolik Lake Re**	**3.90 350**			Pn	10 33 06.0	+1.3
F20K	**Avaraart Lake**	**3.97 308**		Pn	Pn	10 33 05.8	0.0
I29M	**Ogilvie Camp,**	**4.00 78**			Pn	10 33 05.1	-1.0
H29M	**Whitestone**	**4.11 66**			Pn	10 33 07.5	-0.2
G19K	**Purcell Mounta**	**4.14 293**			Pn	10 33 06.7	-1.3
FID	**Port Fidalgo**	**4.14 172**		Pn	Pn	10 33 09.7	+1.7
L19K	**White Mountain**	**4.18 234**			Pn	10 33 07.4	-1.2
J18K	**Innoko River**	**4.19 255**			Pn	10 33 07.3	-1.5
F28M	**Old Crow**	**4.21 45**			Pn	10 33 08.5	-0.6
D23K	**Nanushuk River**	**4.31 345**			Pn	10 33 12.2	+1.8
D24K	**Happy Valley**	**4.36 355**			Pn	10 33 13.8	+2.7
E21K	**Killik River**	**4.40 328**			Pn	10 33 11.1	-0.6
G29M	**Pine Creek**	**4.47 58**			Pn	10 33 12.6	0.0
D22K	**Ayikyak River**	**4.51 336**			Pn	10 33 14.3	+1.1
D25K	**Kavik River**	**4.53 6**			Pn	10 33 13.8	+0.3
L29M	**L29M**	**4.55 108**			Pn	10 33 14.3	+0.5
H18K	**Honhosa River**	**4.55 279**		Pn	Pn	10 33 13.2	-0.4
F19K	**Shaleruckik Mo**	**4.61 300**		Pn	Pn	10 33 14.1	-0.4
E19K	**Redstone River**	**4.69 308**			Pn	10 33 16.1	+0.5
G18K	**Tagagawik**	**4.72 288**			Pn	10 33 15.7	-0.3
M29M	**Somme Creek**	**4.76 116**			Pn	10 33 16.2	-0.4
I30M	**Mount Dempster**	**4.80 80**			Pn	10 33 17.1	-0.2
C23K	**Itkillik River**	**5.15 349**			Pn	10 33 22.9	+1.0
J17K	**VABM Dome**	**5.20 259**			Pn	10 33 21.1	-1.6
H17K	**Granite Mounta**	**5.22 277**			Pn	10 33 22.2	-0.6
I17K	**Unalakle

M₀1.69000×10¹⁶ NP1:φ₀260.88000°, δ19.82000°, λ20.71000°. NP2:φ₀151.29000°, δ83.11000°, λ108.63000°. Principal axes: T 1.6592, Plg49.0000°, Azm81.0000°; N 0.0536, Plg18.0000°, Azm329.0000°; P -1.7129, Plg35.0000°, Azm225.0000°;

ISC 24 10:51:19.2±0.5, 12.87N±0.03×88.08W±0.03, h84km±4km, n531, σ1.24/597, mb4.5/43, 24C-20D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.33**	**3**	*eP*	**Pn**	**10 51 31.1**	**-1.1**
INTP				*eS*	**Sn**	**10 51 39.9**	**-1.8**
CNCH	**Conchagua**	**0.47**	**30**	⇓*iP*	**Pn**	**10 51 32.6**	**-0.7**
CNCH				*i* S	**Sn**	**10 51 43.2**	**-0.4**
CNCH				IAML		10 51 47.5	
	comp=Z,180μm,1.0s						
LCND	**La Caada**	**0.48**	**22**	*i* P	**Pn**	**10 51 32.5**	**-0.7**
LCND				⇓*iP*		10 51 32.6	
LCND				*i* S	**Sn**	**10 51 41.9**	**-1.6**
LCND				*i* S		10 51 43.2	
LCND				IAML		10 51 45.8	
	comp=Z,150μm,1.0s						
LCND				IAML		10 51 45.8	
	comp=Z,120μm,1.0s						
VSM	**San Miguel**	**0.59 341**		*eP*	**Pn**	**10 51 33.7**	**-0.8**
LCY	**Lacayo**	**0.59 339**		*eP*	**Pn**	**10 51 33.6**	**-0.7**
RANC	**El Ranchito**	**0.60 340**		*eP*	**Pn**	**10 51 33.8**	**-0.7**
RANC				*eS*	**Sn**	**10 51 45.4**	**-0.3**
RANC	**El Ranchito**	**0.60 340**		⇑*iP*	**Pn**	**10 51 33.7**	**-0.7**
RANC				*i* S	**Sn**	**10 51 45.1**	**-0.6**
RANC				IAML		10 51 48.8	
	comp=Z,58μm,1.0s						
CNRM	**Centro Naciona**	**0.61 351**		*eP*	**Pn**	**10 51 33.7**	**-0.6**
CNRM	**Centro Naciona**	**0.61 351**		⇓*iP*	**Pn**	**10 51 33.8**	**-0.6**
CNRM				*i* S	**Sn**	**10 51 45.2**	**-0.4**
CNRM				IAML		10 52 05.4	
	comp=Z,350μm,1.0s						
PACA	**Pacayal**	**0.65 338**		*eP*	**Pn**	**10 51 34.2**	**-0.6**
PACA				*eS*	**Sn**	**10 51 45.9**	**-0.5**
PACA	**Pacayal**	**0.65 338**		⇑*iP*	**Pn**	**10 51 34.1**	**-0.7**
PACA				*i* S	**Sn**	**10 51 46.0**	**-0.4**
PACA				IAML		10 51 48.5	
	comp=Z,600μm,1.0s						
TECA	**Tecapa**	**0.75 326**		*eP*	**Pn**	**10 51 35.4**	**-0.6**
PQSS	**Presa 15 de Se**	**0.89 328**		⇓*iP*	**Pn**	**10 51 36.8**	**-0.4**
PQSS				*i* S	**Sn**	**10 51 50.1**	**-0.6**
PQSS				IAML		10 51 54.9	
	comp=Z,18μm,1.0s						
TECO	**Alcaldia de Te**	**0.96 314**		*eP*	**Pn**	**10 51 37.3**	**-0.7**
TECO				*eS*	**Sn**	**10 51 51.1**	**-1.0**
TECO	**Alcaldia de Te**	**0.96 314**		⇑*iP*	**Pn**	**10 51 37.3**	**-0.7**
TECO				*i* S	**Sn**	**10 51 51.1**	**-1.0**
TECO				IAML		10 51 54.6	
	comp=Z,29μm,1.0s						
CRIN	**San Cristobal**	**1.01**	**99**		**Pn**	**10 51 39.0**	**+0.3**
CRIN				Sn	**Sn**	**10 51 54.2**	**+0.9**
CRIN	**San Cristobal**	**1.01**	**99**	P	**Pn**	**10 51 38.7**	**0.0**
CRIN				S	**Sn**	**10 51 54.0**	**+0.7**
CRIN	**San Cristobal**	**1.01**	**99**	⇓*iP*	**Pn**	**10 51 38.9**	**+0.2**
CRIN				IAML		10 52 03.7	
	comp=Z,110μm,1.0s						
UESV	**Universidad de**	**1.03 318**		*eP*	**Pn**	**10 51 38.6**	**-0.3**
UESV	**Universidad de**	**1.03 318**		⇑*iP*	**Pn**	**10 51 38.6**	**-0.3**
UESV				*i* S	**Sn**	**10 51 53.4**	**-0.3**
UESV				IAML		10 51 57.8	
	comp=Z,45μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.05 323**		*eP*	**Pn**	**10 51 38.9**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.05 323**		*i* P	**Pn**	**10 51 38.8**	**-0.3**
SCLA				*i* S	**Sn**	**10 51 53.9**	**-0.1**
SCLA				IAML		10 52 06.6	
	comp=Z,17μm,1.0s						
SNVI	**San Vicente**	**1.05 315**		*eP*	**Pn**	**10 51 38.9**	**-0.4**
COEG	**Centro de Oper**	**1.08 314**		*eP*	**Pn**	**10 51 39.1**	**-0.5**
COEG	**Centro de Oper**	**1.08 314**		⇑*iP*	**Pn**	**10 51 39.1**	**-0.5**
COEG				*i* S	**Sn**	**10 51 54.6**	**-0.3**
COEG				IAML		10 51 57.6	
	comp=Z,31μm,1.0s						
PKGN	**Cerro Pekin**	**1.09 100**		⇓*iP*	**Pn**	**10 51 39.5**	**0.0**
PKGN				*i* S	**Sn**	**10 51 54.9**	**+0.1**
PKGN				IAML		10 52 00.9	
	comp=Z,160μm,1.0s						
PAVA	**Las Pavas**	**1.19 315**		*eP*	**Pn**	**10 51 40.5**	**-0.4**
LFRS	**El Faro**	**1.22 308**		*eP*	**Pn**	**10 51 40.9**	**-0.4**
QUEN	**Al S del Volca**	**1.22 103**		*i* P	**Pn**	**10 51 39.2**	**-2.0**
QUEN				*i* S	**Sn**	**10 51 56.1**	**-1.7**
QUEN				IAML		10 51 58.4	
	comp=Z,54μm,1.0s						
MARCA	**Marcala la Paz**	**1.29**	**2**	⇓*iP*	**Pn**	**10 51 42.6**	**+0.5**
MARCA				*i* S	**Sn**	**10 52 00.4**	**+1.1**
PACN	**Al O del Volca**	**1.30 106**		⇓*iP*	**Pn**	**10 51 40.3**	**-1.9**
PACN				IAML		10 51 41.5	
	comp=Z,33μm,1.0s						
PACN				*i* S	**Sn**	**10 51 58.3**	**-1.2**
PANCS	**Alcalda de**	**1.31 305**		*eP*	**Pn**	**10 51 41.7**	**-0.5**
PANCS	**Alcalda de**	**1.31 305**		⇑*iP*	**Pn**	**10 51 41.8**	**-0.5**
PANCS				*i* S	**Sn**	**10 51 58.9**	**-0.8**
PANCS				IAML		10 52 04.0	
	comp=Z,59μm,1.0s						
LOMA	**Loma Larga**	**1.32 306**		*eP*	**Pn**	**10 51 42.3**	**-0.2**
LOMA	**Loma Larga**	**1.32 306**		⇑*iP*	**Pn**	**10 51 42.3**	**-0.2**
LOMA				*i* S	**Sn**	**10 52 00.2**	**+0.1**
LOMA				IAML		10 52 03.2	
	comp=Z,49μm,1.0s						
LFU	**La Fuente**	**1.34 311**		*eP*	**Pn**	**10 51 42.5**	**-0.2**
UDBS	**Universidad Do**	**1.35 309**		*i* P	**Pn**	**10 51 42.9**	**+0.1**
UDBS				*i* S	**Sn**	**10 52 01.1**	**+0.5**
UDBS				IAML		10 52 03.4	
	comp=Z,22μm,1.0s						
IGN	**Direccin Gen**	**1.36 308**		*eP*	**Pn**	**10 51 43.0**	**0.0**
IGN	**Direccin Gen**	**1.36 308**		*i* P	**Pn**	**10 51 43.0**	**0.0**
IGN				*i* S	**Sn**	**10 52 00.9**	**0.0**
IGN				IAML		10 52 04.6	
	comp=Z,95μm,1.0s						
LALI	**Alcalda de L**	**1.36 297**		*eP*	**Pn**	**10 51 42.3**	**-0.6**
LALI	**Alcalda de L**	**1.36 297**		⇑*iP*	**Pn**	**10 51 42.3**	**-0.6**
LALI				*i* S	**Sn**	**10 51 59.9**	**-0.9**
LALI				IAML		10 52 11.7	
	comp=Z,9μm,1.0s						
UESS	**Universidad de**	**1.39 308**		*eP*	**Pn**	**10 51 43.4**	**+0.1**
CNGA	**Al SSO del Vol**	**1.39 105**		⇑*iP*	**Pn**	**10 51 41.8**	**-1.5**
CNGA				*i* S	**Sn**	**10 52 00.9**	**-0.6**
CNGA				IAML		10 52 04.2	
	comp=Z,21μm,1.0s						
CNGN	**Cerro Negro**	**1.39 105**			**Pn**	**10 51 43.0**	**-0.3**
CNGN				Sn	**Sn**	**10 52 01.4**	**-0.1**
CNGN	**Cerro Negro**	**1.39 105**		P	**Pn**	**10 51 42.8**	**-0.5**
CNGN				S	**Sn**	**10 52 01.4**	**-0.1**
CNGN	**Cerro Negro**	**1.39 105**		⇓*iP*	**Pn**	**10 51 43.0**	**-0.3**
CNGN				*i* S	**Sn**	**10 52 01.4**	**-0.1**
CNGN				IAML		10 52 03.8	
	comp=Z,34μm,1.0s						
SNET	**Serv Nac Est T**	**1.39 306**			**Pn**	**10 51 43.2**	**-0.2**
SNET	**Serv Nac Est T**	**1.39 306**		*eP*	**Pn**	**10 51 43.2**	**-0.2**
SNET	**Serv Nac Est T**	**1.39 306**		⇑*iP*	**Pn**	**10 51 43.2**	**-0.2**
SNET				*i* S	**Sn**	**10 52 00.8**	**-0.8**
SNET				IAML		10 52 10.0	
	comp=Z,43μm,1.0s						
UEES	**Universidad Ev**	**1.41 307**		*eP*	**Pn**	**10 51 43.5**	**-0.2**
UEES	**Universidad Ev**	**1.41 307**		⇑*iP*	**Pn**	**10 51 43.5**	**-0.2**
UEES				*i* S	**Sn**	**10 52 02.2**	**+0.1**
UEES				IAML		10 52 04.1	
	comp=Z,17μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.42**	**33**		**Pn**	**10 51 44.4**	**+0.6**
TGUH				Sn	**Sn**	**10 52 02.3**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.42**	**33**	P	**Pn**	**10 51 44.4**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.42**	**33**	IAML		10 51 44.9	
	comp=Z,37μm,1.0s						
TGUH				*i* S	**Sn**	**10 52 02.4**	**+0.1**
ITCA	**Escuela Especi**	**1.42 305**		⇑*iP*	**Pn**	**10 51 43.7**	**-0.1**
ITCA				IAML		10 51 44.1	
	comp=Z,79μm,1.0s						
ITCA				*i* S	**Sn**	**10 52 02.2**	**-0.1**
MACN	**El Madrono**	**1.42 106**		⇑*iP*	**Pn**	**10 51 43.6**	**-0.1**
MACN				*i* S	**Sn**	**10 52 02.3**	**0.0**
MACN				IAML		10 52 07.0	
	comp=Z,15μm,1.0s						
MAGS	**Ministerio de**	**1.43 305**		*eP*	**Pn**	**10 51 43.8**	**-0.1**
INTHN	**La Esperanza I**	**1.44 359**		⇓*iP*	**Pn**	**10 51 44.7**	**+0.5**
INTHN				*i* S	**Sn**	**10 52 03.6**	**+0.6**
PIC2	**El Picacho**	**1.44 307**		*eP*	**Pn**	**10 51 44.3**	**+0.1**
BOQS	**Boqueron**	**1.46 307**		*eP*	**Pn**	**10 51 44.3**	**-0.1**
PMON	**Piamonte**	**1.47 305**		*eP*	**Pn**	**10 51 44.4**	**0.0**
PMON	**Piamonte**	**1.47 305**		⇑*iP*	**Pn**	**10 51 44.4**	**0.0**
PMON				*i* S	**Sn**	**10 52 03.4**	**-0.1**
PMON				IAML		10 52 06.6	
	comp=Z,55μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.50 108**		⇑*iP*	**Pn**	**10 51 45.0**	**+0.4**
LEVN				*i* S	**Sn**	**10 52 04.3**	**+0.5**
QUEZ	**Alcaldia de Qu**	**1.51 310**		*i* P	**Pn**	**10 51 45.5**	**+0.6**
QUEZ				*i* S	**Sn**	**10 52 04.4**	**+0.1**
QUEZ				IAML		10 52 31.5	
	comp=Z,46μm,1.0s						
LLGN	**La Laguna**	**1.54 327**		*eP*	**Pn**	**10 51 45.3**	**-0.1**
LLGN	**La Laguna**	**1.54 327**		*i* P	**Pn**	**10 51 45.4**	**+0.1**
LLGN				*i* S	**Sn**	**10 52 05.0**	**-0.1**
LLGN				IAML		10 52 12.2	
	comp=Z,6μm,1.0s						
JAYA	**Jayaque - finc**	**1.55 301**		*eP*	**Pn**	**10 51 45.1**	**-0.4**
JAYA	**Jayaque - finc**	**1.55 301**		⇑*iP*	**Pn**	**10 51 44.9**	**-0.6**
JAYA				*i* S	**Sn**	**10 52 05.5**	**+0.1**
JAYA				IAML		10 52 06.1	
	comp=Z,76μm,1.0s						
BC84	**Volcan Momotom**	**1.57 107**		*i* P	**Pn**	**10 51 45.9**	**+0.3**
BC84				*i* S	**Sn**	**10 52 04.6**	**-0.9**
BC84				IAML		10 52 07.3	
	comp=Z,29μm,1.0s						
CEDA	**San Andres**	**1.59 306**		*eP*	**Pn**	**10 51 45.5**	**-0.4**
CEDA	**San Andres**	**1.59 306**		⇑*iP*	**Pn**	**10 51 45.6**	**-0.3**
CEDA				*i* S	**Sn**	**10 52 07.1**	**+1.1**
CEDA				IAML		10 52 25.4	
	comp=Z,51μm,1.0s						
BC86	**Nagarote**	**1.59 112**		*i* P	**Pn**	**10 51 45.7**	**-0.2**
BC86				*i* S	**Sn**	**10 52 05.7**	**-0.4**
BC86				IAML		10 52 13.4	
	comp=Z,40μm,1.0s						
COPN	**Copaltepe**	**1.60 115**		⇓*iP*	**Pn**	**10 51 45.7**	**-0.3**
COPN				IAML		10 52 08.2	
	comp=Z,18μm,1.0s						
MOM2	**El Cardon**	**1.61 105**		⇑*iP*	**Pn**	**10 51 46.2**	**+0.1**
MOM2				*i* S	**Sn**	**10 52 07.8**	**+1.3**
MOM2				IAML		10 52 12.7	
	comp=Z,16μm,1.0s						
YUSH	**Yuscaran**	**1.61**	**48**	⇓*iP*	**Pn**	**10 51 46.8**	**+0.5**
LIMN	**Finca el Limon**	**1.68**	**83**	⇓*iP*	**Pn**	**10 51 47.2**	**+0.1**
LIMN				IAML		10 52 14.3	
	comp=Z,13μm,1.0s						
BRAN	**Las Pilas**	**1.69**	**95**	*i* P	**Pn**	**10 51 47.5**	**+0.4**
BRAN				*i* S	**Sn**	**10 52 11.3**	**+3.0**
BRAN				IAML		10 52 16.3	
	comp=Z,18μm,1.0s						
AMTN	**Mateare**	**1.72 111**		*i* P	**Pn**	**10 51 48.4**	**+0.8**
AMTN				*i* S	**Sn**	**10 52 09.5**	**+0.4**
AMTN				IAML		10 52 15.2	
	comp=Z,36μm,1.0s						
OCON	**Estacion meteo**	**1.73**	**64**	⇓*iP*	**Pn**	**10 51 47.0**	**-0.7**
OCON				*i* S	**Sn**	**10 52 08.2**	**-1.2**
OCON				IAML		10 52 09.4	
	comp=Z,6μm,1.0s						
SAPS	**Ciudad Sandino**	**1.77 113**		⇓*iP*	**Pn**	**10 51 48.3**	**+0.1**
SAPS				*i* S	**Sn**	**10 52 09.6**	**-0.7**
SAPS				IAML		10 52 15.3	
	comp=Z,26μm,1.0s						
CEVE	**Cerro Verde**	**1.79 303**		*eP*	**Pn**	**10 51 48.6**	**0.0**
CEVE	**Cerro Verde**	**1.79 303**		⇑*iP*	**Pn**	**10 51 48.8**	**+0.2**
CEVE				*i* S	**Sn**	**10 52 11.1**	**+0.1**
CEVE				IAML		10 52 18.5	
	comp=Z,31μm,1.0s						
SBLS	**San Blas**	**1.79 303**		*eP*	**Pn**	**10 51 48.9**	**+0.2**
APYN	**Apoyeque**	**1.80 110**		*i* P	**Pn**	**10 51 49.1**	**+0.5**
APYN				*i* S	**Sn**	**10 52 09.8**	**-1.1**
APYN				IAML		10 52 14.6	
	comp=Z,490nm,1.0s						
UNIC	**Universidad Ca**	**1.81 308**		*eP*	**Pn**	**10 51 48.8**	**0.0**
UNIC	**Universidad Ca**	**1.81 308**		*i* P	**Pn**	**10 51 48.8**	**0.0**
UNIC				*i* S	**Sn**	**10 52 11.1**	**-0.2**
UNIC				IAML		10 52 22.0	
	comp=Z,4μm,1.0s						
APQ2	**Apoyeque**	**1.83 111**		⇓*iP*	**Pn**	**10 51 49.4**	**+0.4**
APQ2				*i* S	**Sn**	**10 52 11.8**	**+0.1**
APQ2				IAML		10 52 13.5	
	comp=Z,18μm,1.0s						
RTR	**El Retiro**	**1.84 304**		*eP*	**Pn**	**10 51 49.6**	**+0.3**
ABCN	**Banco Central**	**1.88 113**		*i* P	**Pn**	**10 51 50.3**	**+0.7**
ABCN				*i* S	**Sn**	**10 52 12.2**	**-0.5**
ABCN				IAML		10 52 22.7	
	comp=Z,39μm,1.0s						
RE6B4	**Centro civico**	**1.89 113**		*i* P	**Pn**	**10 51 50.3**	**+0.6**
RE6B4				IAML		10 52 19.3	
	comp=Z,17μm,1.0s						
ALLN	**Telcor Managua**	**1.90 112**		*i* P	**Pn**	**10 51 50.0**	**+0.2**
ALLN				*i* S	**Sn**	**10 52 12.8**	**-0.4**
ALLN				IAML		10 52 16.7	
	comp=Z,22μm,1.0s						
TISN	**Laguna Tiscapa**	**1.90 112**		⇓*iP*	**Pn**	**10 51 49.4**	**-0.6**
TISN				IAML		10 52 15.5	
	comp=Z,2μm,1.0s						
RB28C	**Hialeah**	**1.91 113**		*i* P	**Pn**	**10 51 50.5**	**+0.5**
RB28C				IAML		10 52 17.4	
	comp=Z,18μm,1.0s						
USIM	**UNAN**	**1.91 113**		*i* P	**Pn**	**10 51 50.7**	**+0.7**
USIM				*i* S	**Sn**	**10 52 13.2**	**-0.3**
USIM				IAML		10 52 22.6	
	comp=Z,29μm,1.0s						
MGA1	**Managua**	**1.92 112**		*i* P	**Pn**	**10 51 50.6**	**+0.4**
MGA1				*i* S	**Sn**	**10 52 13.5**	**-0.2**
MGA1				IAML		10 52 20.5	
	comp=Z,14μm,1.0s						
R4DEC	**Barrio San Lui**	**1.92 112**		*i* P	**Pn**	**10 51 50.7**	**+0.5**
R4DEC				*i* S	**Sn**	**10 52 13.7**	**0.0**
R4DEC				IAML		10 52 20.5	
	comp=Z,11μm,1.0s						
ENAN	**Enatrel Managu**	**1.92 113**		*i* P	**Pn**	**10 51 50.9**	**+0.7**
ENAN				*i* S	**Sn**	**10 52 13.7**	**-0.1**
ENAN				IAML		10 52 23.7	
	comp=Z,30μm,1.0s						
RA5A7	**El Crucero**	**1.93 117**		*i* P	**Pn**	**10 51 50.4**	**0.0**
RA5A7				IAML		10 52 24.2	
	comp=Z,69μm,1.0s						
R0529	**La Mascota**	**1.94 112**		*i* P	**Pn**	**10 51 50.8**	**+0.4**
R0529				IAML		10 52 20.7	
	comp=Z,14μm,1.0s						
MAFN	**Magfor**	**1.95 113**		*i* P	**Pn**	**10 51 51.4**	**+0.8**
MAFN				*i* S	**Sn**	**10 52 14.5**	**0.0**
MAFN				IAML		10 52 22.8	
	comp=Z,26μm,1.0s						
NUBE	**Las Nubes**	**1.95 302**		*eP*	**Pn**	**10 51 50.8**	**0.0**
NUBE	**Las Nubes**	**1.95 302**		⇑*iP*	**Pn**	**10 51 50.7**	**0.0**
NUBE				*i* S	**Sn**	**10 52 15.0**	**+0.2**
NUBE				IAML		10 52 24.0	
	comp=Z,14μm,1.0s						
MTO3	**Montecristo**	**1.97 321**			**Pn**	**10 51 51.3**	**+0.2**
MTO3	**Montecristo**	**1.97 321**		⇑*iP*	**Pn**	**10 51 51.2**	**+0.2**
MTO3				*i* S	**Sn**	**10 52 15.1**	**-0.2**
MTO3				IAML		10 52 34.4	
	comp=Z,3μm,1.0s						
WILN	**Americas 2**	**1.97 111**		*i* P	**Pn**	**10 51 51.2**	**+0.4**
WILN				*i* S	**Sn**	**10 52 15.1**	**+0.2**
WILN				IAML		10 52 21.8	
	comp=Z,8μm,1.0s						
LOAL	**Lomas de Alarc**	**2.01 304**		*eP*	**Pn**	**10 51 51.7**	**+0.3**
LOAL	**Lomas de Alarc**	**2.01 304**		⇑*iP*	**Pn**	**10 51 51.6**	**+0.3**
LOAL				*i* S	**Sn**	**10 52 16.0**	**+0.1**
LOAL				IAML		10 52 22.6	
	comp=Z,22μm,1.0s						
MAS3	**Al N del Volca**	**2.04 114**		*i* P	**Pn**	**10 51 52.2**	**+0.5**
MAS3				*i* S	**Sn**	**10 52 16.1**	**-0.4**
MAS3				IAML		10 52 23.0	
	comp=Z,18μm,1.0s						
SBEN	**San Benito**	**2.05 106**		*i* P	**Pn**	**10 51 51.9**	**+0.1**
SBEN				*i* S	**Sn**	**10 52 16.5**	**-0.2**
SBEN				IAML		10 52 30.2	
	comp=Z,11μm,1.0s						
RB213	**Mirador 2 Volc**	**2.06 115**		*i* P	**Pn**	**10 51 50.4**	**-1.6**
RB213				IAML		10 52 19.7	
	comp=Z,18μm,1.0s						
MASN	**Masaya**	**2.07 115**		*i* P	**Pn**	**10 51 52.8**	**+0.6**
MASN				*i* S	**Sn**	**10 52 17.1**	**-0.3**
MASN				IAML		10 52 19.1	
	comp=Z,4μm,1.0s						
NADN	**Granada**	**2.28 119**		*i* P	**Pn**	**10 51 55.9**	**+0.9**
NADN				*i* S	**Sn**	**10 52 21.4**	**-1.0**
BOAB	**BOACO BROADBAN**	**2.39 100**		Pn	**Pn**	**10 51 56.1**	**-0.3**
BOAB	**BOACO BROADBAN**	**2.39 100**		⇓*iP*	**Pn**	**10 51 56.1**	**-0.3**
BOAB				*i* S	**Sn**	**10 52 25.3**	**+0.4**
BOAB				IAML		10 52 40.4	
	comp=Z,3μm,1.0s						
ARIN	**Rivas**	**2.60 122**		*i* P	**Pn**	**10 51 59.6**	**+0.3**
ARIN				IAML		10 52 36.1	
	comp=Z,6μm,1.0s						
JAPN	**Al SSO del Vol**	**2.69 119**		*i* P	**Pn**	**10 52 01.2**	**+0.7**
JAPN				*i* S	**Sn**	**10 52 33.1**	**+0.8**
JAPN				IAML		10 52 38.3	
	comp=Z,4μm,1.0s						
MRL	**Marmol**	**2.70 325**		*eP*	**Pn**	**10 52 02.7**	**+1.8**
MRL				*eS*	**Sn**	**10 52 35.9**	**+3.2**
NBG	**Las Nubes**	**2.79 308**		*eP*	**Pn**	**10 52 03.9**	**+1.8**
NBG				*eS*	**Sn**	**10 52 38.8**	**+3.7**
IZABA	**Izabal, Puerto**	**2.89 350**		*i* P	**Pn**	**10 52 04.9**	**+1.8**
IZABA				IAML		10 52 13.6	
	comp=Z,17nm,1.0s						
IZABA				*i* S	**Sn**	**10 52 37.4**	**+0.4**
PCG	**Pacaya**	**2.89 302**		*eP*	**Pn**	**10 52 05.2**	**+1.8**
PCG				*eS*	**Sn**	**10 52 40.1**	**+2.7**
ACON	**Acoyapa**	**2.97 107**			**Pn**	**10 52 03.9**	**-0.4**
ACON	**Acoyapa**	**2.97 107**		P	**Pn**	**10 52 04.1**	**-0.1**
ACON	**Acoyapa**	**2.97 107**		*i* P	**Pn**	**10 52 03.9**	**-0.4**
ACON				*i* S	**Sn**	**10 52 39.8**	**+0.9**
ACON				IAML		10 52 56.1	
	comp=Z,2μm,1.0s						
FUG	**Fuego 3**	**3.12 301**		*eP*	**Pn**	**10 52 07.5**	**+1.1**
FUG				*eS*	**Sn**	**10 52 48.1**	**+5.4**
APG	**El Apazote**	**3.15 313**		P	**Pn**	**10 52 07.9**	**+1.1**
	comp=Z,5.0nm,0.5s,baz=129,slow=10,SNR=73						
APG				S	**Sn**	**10 52 46.8**	**+3.2**
	comp=Z,23nm,0.5s,baz=125,slow=11,SNR=5.4						
GPS3	**Bodega del ICE**	**3.38 128**		*eP*	**Pn**	**10 52 14.1**	**+4.2**
COLC	**Colonia**	**3.56 128**		*eP*	**Pn**	**10 52 13.5**	**+1.2**
CUI	**Cuipilapa**	**3.60 127**		*eP*	**Pn**	**10 52 13.8**	**+1.0**
BAGA	**Bagaces**	**3.60 130**		*eP*	**Pn**	**10 52 14.6**	**+1.8**
SULM	**Suchitepequez,**	**3.68 293**		*eP*	**Pn**	**10 52 15.5**	**+1.6**
SULM				*eS*	**Sn**	**10 52 55.2**	**-1.0**
VERA	**Finca Concepci**	**3.72 122**		*eP*	**Pn**	**10 52 14.2**	**-0.2**
NICO	**Nicoya**	**3.74 136**		*eP*	**Pn**	**10 52 15.6**	**+0.8**
ESPN	**Las Esperanzas**	**3.75 100**			**Pn**	**10 52 15.5**	**+0.8**
ESPN	**Las Esperanzas**	**3.75 100**		*i* P	**Pn**	**10 52 15.1**	**+0.4**
ESPN				*i* S	**Sn**	**10 52 57.8**	**+0.1**
ESPN				IAML		10 53 22.0	
	comp=Z,2μm,1.0s						
ESPN	**Las Esperanzas**	**3.75 100**		*eP*	**Pn**	**10 52 14.8**	**+0.1**
LCHIL	**Los Chiles**	**3.76 119**		*eP*	**Pn**	**10 52 14.6**	**-0.3**
SOKI	**Kika Raxquin**	**3.77 301**		*i* P	**Pn**	**10 52 15.4**	**-0.1**
SOKI				*i* S	**Sn**	**10 52 59.1**	**+0.1**
SOKI				IAML		10 53 09.9	
	comp=Z,3μm,1.0s						
QUIS	**Sacapulas**	**3.79 310**		*i* P	**Pn**	**10 52 16.9**	**+1.4**
QUIS				*i* S	**Sn**	**10 53 01.1**	**+2.0**
QUIS				IAML		10 53 22.0	
	comp=Z,1μm,1.0s						
CNAS	**Canas**	**3.79 129**		*eP*	**Pn**	**10 52 15.9**	**+0.5**
STG3	**Santiaguito 3,**	**3.86 299**		*eP*	**Pn**	**10 52 18.7**	**+2.3**
STG3				*eS*	**Sn**	**10 53 00.4**	**-0.4**
RTAL	**Retalhuleu**	**3.89 296**			**Pn**	**10 52 17.9**	**+1.3**
RTAL	**Retalhuleu**	**3.89 296**		*i* P	**Pn**	**10 52 18.2**	**+1.5**
RTAL				*i* S	**Sn**	**10 53 02.8**	**+1.6**
RTAL				IAML		10 53 17.7	
	comp=Z,3μm,1.0s						
INDI	**Punta indio, G**	**3.91 139**		*i* P	**Pn**	**10 52 17.3**	**+0.4**
INDI				IAML		10 53 20.4	
	comp=Z,12μm,1.0s						
JTS	**Las Juntas de**	**3.99 130**		Pn	**Pn**	**10 52 18.9**	**+0.9**
JTS	**Las Juntas de**	**3.99 130**		P	**Pn**	**10 52 17.8**	**-0.2**
	comp=Z,190nm,0.8s,baz=104,slow=22,SNR=51						
JTS				S	**Sn**	**10 53 04.6**	**+0.9**
	comp=Z,557nm,0.7s,baz=305,slow=18,SNR=5.7						
JTS	**Las Juntas de**	**3.99 130**		P	**Pn**	**10 52 20.0**	**+1.9**
JTS	**Las Juntas de**	**3.99 130**		*eP*	**Pn**	**10 52 19.8**	**+1.8**
JUNT	**Juntas**	**3.99 130**		*eP*	**Pn**	**10 52 21.2**	**+3.1**
CEDE	**Laguna Cedeo**	**4.06 125**		*eP*	**Pn**	**10 52 20.4**	**+1.3**
ARE1	**Arenal 1**	**4.06 126**		*eP*	**Pn**	**10 52 19.9**	**+0.8**
MTEVE	**Monteverde**	**4.07 128**		*eP*	**Pn**	**10 52 16.7**	**-2.6**
VACR	**Volcan Arenal**	**4.09 125**		*eP*	**Pn**	**10 52 20.9**	**+1.5**
HUEH	**Huehuetenango**	**4.12 307**			**Pn**	**10 52 21.9**	**+1.8**
HUEH	**Huehuetenango**	**4.12 307**		*i* P	**Pn**

comp=Z,170nm,1.0s
PRVC *i* S **Sn** **10 54 07.7 +1.3**
CDITO Canoas 6.66 129 *i* P **Pn** **10 52 55.9 +1.4**
CDITO IVmB_BB 10 53 11.2
comp=Z,2µm,1.0s
CDITO IAmb IAmb 10 53 11.3
comp=Z,190nm,0.6s
CDITO IAML 10 55 07.1
comp=Z,660nm,1.0s
BRU2 Volcan 6.66 127 **Pn** **10 52 56.7 +2.1**
BRU2 Volcan 6.66 127 *i* P **Pn** **10 52 55.7 +1.1**
BRU2 IVmB_BB 10 52 58.5
comp=Z,4µm,1.0s
BRU2 IAML 10 52 59.2
comp=Z,360nm,1.0s
BRU2 IAmb IAmb 10 52 59.3
comp=Z,300nm,0.7s
BRU2 *i* S **Sn** **10 54 10.2 +1.1**
BRU2 Volcan 6.66 127 *eP* **Pn** **10 52 54.7 +0.1**
TEIG Tepich 7.32 359 Pn **Pn** **10 53 05.9 +2.4**
TEIG Tepich 7.32 359 P **Pn** **10 53 04.8 +1.4**
comp=Z,28nm,0.4s,baz=142,slow=1.6,SNR=48
TEIG S **Sn** **10 54 28.3 +3.2**
comp=Z,40nm,0.9s,baz=342,slow=20,SNR=1.8
TEIG Tepich 7.32 359 P **Pn** **10 53 05.3 +1.8**
comp=Z,172nm,0.9s,comp=Z,125µm
CMIG Matias Romero 7.81 303 P **Pn** **10 53 10.5 +0.4**
comp=Z,9.8nm,0.2s,baz=156,slow=10.0,SNR=35
CMIG S **Sn** **10 54 41.0 +4.0**
comp=Z,52nm,0.6s,baz=118,slow=17,SNR=3.6
GMAL Guarumal, Vera 8.43 126 P **Pn** **10 53 19.2 +0.6**
comp=Z,26nm,0.8s
BCIP Isla Barro Col 8.88 114 Pn **Pn** **10 53 26.7 +1.9**
SOR Soroa 10.98 25 Pn **Pn** **10 53 51.8 -1.7**
TLIG Tlapa 11.15 296 Pn **Pn** **10 53 55.8 0.0**
TLIG Tlapa 11.15 296 *i* P **Pn** **10 53 57.1 +1.3**
TLIG IAmb IAmb 10 53 59.6
comp=Z,57nm,0.6s
MTDJ Mount Denham 11.47 61 Pn **Pn** **10 54 02.2 +2.0**
CAMR Camarioca 11.97 31 Pn **Pn** **10 54 08.0 +1.2**
APAC Apartado, Choc 12.34 112 P **Pn** **10 54 15.1 +3.3**
comp=Z,47nm,1.1s
UREC San Jos de Ur 13.34 111 P **Pn** **10 54 24.9 -0.4**
comp=Z,32nm,1.1s,comp=Z,1µm
ZARC Zaragoza, Cauc 14.06 111 P **P** **10 54 38.5 -1.3**
comp=Z,38nm,1.1s,comp=Z,370nm
PLMC San Jos del P 14.07 123 P **Pn** **10 54 35.4 +0.5**
comp=Z,18nm,1.4s
GTBY Guantanamo Bay 14.28 59 Pn **Pn** **10 54 38.2 +0.7**
YOTC Yotoco, Valle 14.57 126 P **Pn** **10 54 41.7 +0.3**
comp=Z,31nm,1.1s
JAMC Jamundi, Valle 14.80 129 P **Pn** **10 54 45.4 +0.9**
comp=Z,57nm,1.0s
PTBC PUERTO BERRIO, 14.82 114 P **Pn** **10 54 44.9 +0.4**
comp=Z,22nm,1.5s,comp=Z,292nm
NORC Norcasia 14.91 118 P **P** **10 54 47.8 -1.5**
comp=Z,23nm,0.8s
CRJC Cerrejon, Guaj 14.98 95 P **P** **10 54 50.4 +0.3**
comp=Z,104nm,0.9s,comp=Z,848nm
BBAC Balboa, Cauca 15.20 134 P **P** **10 54 51.3 -1.4**
comp=Z,179nm,1.0s,comp=Z,4µm
BBAC P **Pn** **10 54 51.6 +2.1**
comp=Z,179nm,1.0s,comp=Z,4µm
BBAC P **P** **10 54 52.4 -0.3**
comp=Z,179nm,1.0s,comp=Z,4µm
OCAC Ocana 15.21 106 P **P** **10 54 52.6 -0.2**
comp=Z,102nm,0.7s,comp=Z,1µm
POPC Popayan, Colom 15.25 131 P **Pn** **10 54 51.4 +1.2**
comp=Z,67nm,0.7s
POPC P **P** **10 54 51.9 -1.4**
comp=Z,67nm,0.7s
POPC P **P** **10 54 51.9 -1.4**
comp=Z,67nm,0.7s
ORTC Ortega, Tolima 15.49 124 P **Pn** **10 54 54.4 +1.3**
comp=Z,46nm,0.8s
SPBC San Pablo de B 15.56 116 P **Pn** **10 54 54.7 +0.7**
comp=Z,24nm,0.9s
GCUF Volcan Galeras 15.71 137 P **P** **10 55 00.2 +1.6**
comp=Z,107nm,1.2s,comp=Z,2µm
ROSC El Rosal 15.75 119 **P** **10 54 59.6 +0.6**
ROSC El Rosal 15.75 119 P **Pn** **10 54 56.0 -0.7**
comp=Z,14nm,0.6s,baz=351,slow=7.4,SNR=15
ROSC El Rosal 15.75 119 P **P** **10 55 00.2 +1.2**
comp=Z,52nm,1.4s
OTAV Otavalo 15.76 142 **P** **10 54 59.3 +0.1**
OTAV Otavalo 15.76 142 P **P** **10 54 59.8 +0.6**
comp=Z,12nm,1.2s
OTAV Otavalo 15.76 142 *eP* **P** **10 55 02.4 +3.2**
TULM Tulcn-Chalpat 15.80 139 P **Pn** **10 54 58.4 +1.0**
TULM Tulcn-Chalpat 15.80 139 P **P** **10 55 01.8 +2.2**
comp=Z,103nm,1.0s,comp=Z,2µm
060A Indiantown 15.84 26 P **P** **10 54 59.2 -0.2**
IMBA Imbabura, San 15.88 141 P **P** **10 55 01.5 +1.0**
PRAC Prado 15.89 124 P **P** **10 54 59.7 -0.5**
comp=Z,27nm,1.1s
PULU Pululahua 15.90 143 P **P** **10 55 01.1 +0.4**
PAMC Pamplona, Colo 16.10 108 P **P** **10 55 03.3 +0.4**
PAPH Port-au-Prince 16.19 68 P **P** **10 55 03.2 -0.2**
SLOR San Lorenzo - 16.52 144 P **P** **10 55 08.1 +0.6**
ANTS Antisana-Sarah 16.52 143 P **P** **10 55 08.0 +0.3**
PIAT Ana Tenorio 16.87 144 P **P** **10 55 15.0 +3.6**
comp=Z,3.5nm,1.0s
ZAIG Zacatecas 16.94 308 P **Pn** **10 55 11.6 +0.2**
SDDR Presa de Saban 17.25 67 P **P** **10 55 20.2 +5.0**
comp=Z,27nm,0.8s
HBVL Hebbronville 17.27 326 P **Pn** **10 55 14.6 -0.4**
SDV Santo Domingo 17.58 101 P **P** **10 55 18.2 -0.8**
SDV Santo Domingo 17.58 101 P **P** **10 55 18.6 -0.4**
comp=Z,36nm,0.5s,baz=279,slow=7.0,SNR=24
SDV LR LR 11 02 35.9
comp=Z,115nm,21.1s,baz=262,slow=39
SDV Santo Domingo 17.58 101 P **P** **10 55 18.8 -0.2**
comp=Z,82nm,1.0s,comp=Z,782nm
SDV Santo Domingo 17.58 101 *eP* **P** **10 55 18.1 -0.9**
PTLC Puerto Leguiza 18.23 133 P **Pn** **10 55 30.2 +3.4**
comp=Z,73nm,0.8s,comp=Z,40µmcomp=Z,6µm
BRAL Brewton 18.24 3 P **Pn** **10 55 26.9 +0.2**
baz=183
833A Chaparral WMA, 18.66 327 **Pn** **10 55 31.8 0.0**
833A Chaparral WMA, 18.66 327 P **Pn** **10 55 32.3 +0.6**
baz=143
352A Blakely 18.75 8 P **Pn** **10 55 33.9 +1.0**
MCRA Macar, Loja 18.93 154 P **Pn** **10 55 39.6 +4.4**
comp=Z,1.3nm,0.7s
TIGA Tifton 18.94 12 P **Pn** **10 55 35.3 +0.1**
baz=193
VBMS Vicksburg 19.39 354 P **P** **10 55 39.2 +0.7**
VBMS Vicksburg 19.39 354 P **Pn** **10 55 41.6 +1.1**
baz=173
HNDO Hondo 19.57 330 P **Pn** **10 55 42.1 -0.6**
PCDR Punta Cana, DR 19.77 71 P **P** **10 55 42.9 +0.2**
152A Waverly Hall 19.95 8 P **Pn** **10 55 46.0 -0.9**
143A Socs Landing, 19.98 352 P **P** **10 55 45.2 +0.3**
BAUV El Baul 20.05 99 P **P** **10 55 44.5 -1.4**
LRAL Lakeview Retre 20.10 3 P **P** **10 55 46.4 +0.2**
LRAL Lakeview Retre 20.10 3 P Pn 10 55 49.6 +0.8
baz=183
DRIO Del Rio 20.18 327 P **P** **10 55 48.0 +0.8**
JCT Junction City 20.61 330 P Pn 10 55 53.6 -1.3
JCT Junction City 20.61 330 P Pn 10 55 54.3 -0.5
baz=146,SNR=9.5
GOGA Godfrey 20.88 11 P Pn 10 55 56.6 -1.3
GOGA Godfrey 20.88 11 P Pn 10 55 57.0 -0.9
baz=192,SNR=7.4
BRDY Brady 20.91 333 P **P** **10 55 56.2 +1.1**
Y49A Blount Mountai 20.95 4 P Pn 10 55 57.2 -1.6
Y52A Lilburn 21.22 9 P **P** **10 55 58.9 +0.6**
CCAR Cane Creek 21.23 351 P **P** **10 55 59.0 +0.7**
WLAR White Oak Lake 21.23 348 P **P** **10 56 00.9 +2.5**
UUPR Utuado, UPR, P 21.25 73 P **P** **10 55 58.6 -0.1**
OBIP Obispado Ponce 21.32 73 P **P** **10 56 00.2 +0.8**
X48A Hartselle 21.51 2 P **P** **10 56 01.2 -0.2**
OXF Oxford 21.58 357 P **P** **10 56 04.2 +2.1**
baz=176
OZNA Ozona 21.63 328 P **P** **10 56 04.2 +1.4**
FPAL Fort Paine 21.69 6 P **P** **10 56 03.9 +0.6**
SJG San Juan 21.75 73 P **P** **10 56 04.4 +0.3**
comp=Z,8.9nm,0.4s,baz=282,slow=5.4,SNR=5.4
SJG LR LR 11 05 50.6
comp=Z,178nm,18.6s,baz=262,slow=40
comp=Z,8.9nm,0.4s
IGPR InterUniversit 21.77 74 P **P** **10 56 02.1 -2.1**
GCPR Guaynabo City 21.85 73 P **P** **10 56 03.7 -1.5**
TXAR Lajitas Array 21.87 321 P **P** **10 56 06.4 +1.0**
comp=Z,4.6nm,0.5s,baz=142,slow=9.7,SNR=103
comp=Z,4.6nm,0.5s

TX31 Lajitas Ar. Si 21.87 321 P **P** **10 56 06.3 +1.0**
HODGE Hodges 21.92 13 P **P** **10 56 07.1 +1.4**
X40A Basin Creek Fa 21.95 349 P **P** **10 56 06.9 +0.8**
PLPT Palo Pinto 21.96 336 P **P** **10 56 04.9 -1.2**
HUMP Col San Antoni 22.04 73 P **P** **10 56 07.0 -0.1**
MIAR Mount Ida 22.15 348 P **P** **10 56 08.5 +0.3**
MIAR Mount Ida 22.15 348 P **P** **10 56 09.6 +1.4**
baz=166,SNR=18
ABTX Abilene, Hawle 22.34 334 P **P** **10 56 10.8 +0.6**
ABTX Abilene, Hawle 22.34 334 P **P** **10 56 12.2 +1.9**
baz=149,SNR=6.1
W50A Signal Mountai 22.38 6 P **P** **10 56 10.5 -0.1**
LOOK Love County 22.61 340 P **P** **10 56 14.8 +1.7**
X37A Clayton 22.62 344 P **P** **10 56 13.9 +0.7**
WHAR Wooly Hollow 22.65 351 P **P** **10 56 13.8 +0.3**
CPCT Cooper Cave 22.71 8 P **P** **10 56 14.0 -0.1**
BIRD Birdtown, Kers 22.76 16 P **P** **10 56 14.9 +0.3**
MNHN Monahans 22.83 326 P **P** **10 56 15.7 +0.2**
TKL Tuckaleechee C 23.02 9 P **P** **10 56 17.8 +0.6**
comp=Z,22nm,0.9s,baz=187,slow=11,SNR=14
TKL LR LR 11 04 37.7
comp=Z,72nm,21.9s,baz=196,slow=35
comp=Z,22nm,0.9s
SN05 Snyder 5 23.11 332 P **P** **10 56 17.4 -0.8**
PCRV Puerto La Cruz 23.12 94 P **P** **10 56 17.6 -0.8**
comp=Z,23nm,0.8s,baz=198,slow=5.5,SNR=15
PCRV LR LR 11 07 53.8
comp=Z,83nm,19.5s,slow=43
comp=Z,23nm,0.8s
WVT Waverly 23.16 1 P **P** **10 56 19.2 +0.6**
baz=180
CLTN Cedars of Leba 23.18 4 P **P** **10 56 18.5 -0.3**
V53A Saluda 23.20 11 P **P** **10 56 19.2 +0.3**
FCAR Ozark Folk Cen 23.21 352 P **P** **10 56 18.4 -0.7**
X34A Smith Ranch, M 23.38 339 **P** **10 56 21.2 +0.6**
POST Post 23.56 331 P **P** **10 56 22.7 +0.4**
WMOK Wichita Mounta 23.84 338 P **P** **10 56 25.1 +0.3**
baz=153,SNR=5.3
TZTN Tazewell 23.93 9 P **P** **10 56 26.4 +0.9**
baz=191
TUL3 Leonard 23.98 344 P **P** **10 56 26.7 +0.8**
baz=161
U38A Gravette 24.15 347 P **P** **10 56 27.1 -0.4**
MNTX Cornudas Mount 24.59 322 P **P** **10 56 32.6 +1.0**
baz=136,SNR=5.5
TBTG Tabatinga, AM 24.75 132 *eP* **P** **10 56 34.8 +1.6**
MSTX Muleshoe 24.91 330 P **P** **10 56 35.1 +0.6**
baz=144,SNR=6.7
AMTX Amarillo 25.15 333 P **P** **10 56 38.0 +1.3**
baz=147
BLA Blacksburg 25.19 14 P **P** **10 56 37.6 +0.6**
baz=198
CCM Cathedral Cave 25.25 354 P **P** **10 56 36.6 -0.8**
CCM Cathedral Cave 25.25 354 P **P** **10 56 37.4 0.0**
baz=173
ELIS Ellis County 25.26 338 P **P** **10 56 38.2 +0.6**
WCI Wyandotte Cave 25.31 3 P **P** **10 56 37.4 -0.6**
WCI Wyandotte Cave 25.31 3 P **P** **10 56 38.2 +0.2**
baz=184
CZSB Cruzeiro do Su 25.53 142 P **P** **10 56 42.8 +2.6**
CZSB Cruzeiro do Su 25.53 142 *eP* **P** **10 56 42.7 +2.4**
R40A Maddies Statio 25.59 352 P **P** **10 56 40.3 -0.3**
P52A Corning 27.18 10 P **P** **10 56 55.7 +0.8**
baz=193
ANMO Albuquerque 27.57 326 P **P** **10 56 59.5 +0.8**
baz=138
ANMO Albuquerque 27.57 326 P **P** **10 56 58.3 -0.4**
comp=Z,0.6nm,0.6s,baz=227,slow=5.5,SNR=4.4
comp=Z,0.6nm,0.6s
ACSO Alum Creek Sta 27.63 8 P **P** **10 56 59.0 +0.2**
baz=191
MCWV Mont Chateau 27.66 14 P **P** **10 56 59.9 +0.8**
baz=197
O53A New Philadelph 27.94 11 P **P** **10 57 02.5 +0.8**
baz=194
T25A Trinidad 28.25 332 P **P** **10 57 05.6 +0.8**
baz=144
KSCO Kaye Shedlock' 29.06 336 P **P** **10 57 12.2 +0.4**
baz=150
SSPA Standing Stone 29.07 16 P **P** **10 57 12.6 +0.9**
baz=201
BOAV Boa Vista 29.18 109 P **P** **10 57 10.7 -2.4**
BOAV IAmb IAmb 10 57 11.4
comp=Z,5.3nm,0.6s
BOAV Boa Vista 29.18 109 P **P** **10 57 10.0 -3.0**
L40A Anamosa 29.22 355 P **P** **10 57 12.4 -0.6**
L40A IAmb IAmb 10 57 13.0
comp=Z,8.4nm,0.8s
SDCO Great Sand Dun 29.25 331 P **P** **10 57 14.9 +1.2**
baz=143
S22A 4UR Ranch, Cre 29.90 329 P **P** **10 57 20.7 +1.3**
baz=141,SNR=5.1
ERPA Erie 29.98 12 P **P** **10 57 20.4 +0.7**
baz=196
X16A Lo Mia Camp, P 30.16 319 P **P** **10 57 23.3 +1.5**
MVCO Mesa Verde 30.36 327 P **P** **10 57 24.9 +1.5**
MVCO IAmb IAmb 10 58 08.4
comp=Z,17nm,1.7s
MVCO Mesa Verde 30.36 327 P **P** **10 57 24.5 +1.1**
baz=138
BINY Binghamton 31.06 18 P **P** **10 57 29.6 +0.3**
baz=203
ETMB Extrema 31.29 135 P **P** **10 57 31.6 +0.1**
ETMB Extrema 31.29 135 *eP* **P** **10 57 31.4 -0.1**
J54A Appleton 31.38 13 P **P** **10 57 31.5 -0.5**
ECSD EROS Data Cent 31.63 348 P **P** **10 57 34.2 0.0**
baz=164
L61B Northampton 32.36 22 P **P** **10 57 41.0 +0.3**
baz=209
BC3 Big Chuckawall 32.40 314 P **P** **10 57 42.6 +1.4**
baz=123
O20A White River Ci 32.45 330 P **P** **10 57 43.2 +1.5**
O20A IAmb IAmb 10 58 03.7
comp=Z,9.1nm,0.8s
O20A White River Ci 32.45 330 P **P** **10 57 43.7 +1.9**
baz=141,SNR=6.5
SPMN Marine on St. 32.50 354 P **P** **10 57 41.1 -0.8**
baz=171
SADO Sadowa 32.70 12 P **P** **10 57 42.7 -0.9**
comp=Z,4.7nm,0.5s,baz=198,slow=7.6,SNR=8.5
SADO LR LR 11 13 24.4
comp=Z,67nm,18.7s,baz=262,slow=40
comp=Z,4.7nm,0.5s
SAML Samuel 32.88 130 P **P** **10 57 44.5 -1.0**
SAML IAmb IAmb 10 57 47.3
comp=Z,5.9nm,0.6s
SAML Samuel 32.88 130 *eP* **P** **10 57 44.2 -1.3**
LCMT Little Creek M 32.95 321 P **P** **10 57 47.4 +1.3**
MTPU Mount Pierson 33.01 324 P **P** **10 57 48.3 +1.5**
MTPU IAmb IAmb 10 58 38.0
comp=Z,8.2nm,1.6s
Q16A Castle Valley 33.05 326 P **P** **10 57 48.8 +1.8**
Q16A IAmb IAmb 10 58 10.3
comp=Z,7.8nm,1.4s
PFO Pinyon Flats O 33.08 313 LR LR 11 12 43.3
comp=Z,87nm,21.4s,baz=152,slow=39
P17A Butcher Ranch, 33.22 327 P **P** **10 57 49.1 +0.8**
P17A IAmb IAmb 10 57 50.4
comp=Z,5.7nm,0.6s
RSSD Black Hills 34.03 339 P **P** **10 57 56.5 +1.0**
baz=151
RSSD Black Hills 34.03 339 P **P** **10 57 57.0 +1.6**
DUG Dugway, Tooele 34.85 326 P **P** **10 58 03.8 +1.3**
baz=134
MPMC Manual Prospec 35.11 316 P **P** **10 58 06.5 +1.6**
baz=124
PDAR Piedale Array 35.12 332 P **P** **10 58 05.4 +0.5**
comp=Z,0.6nm,0.5s,baz=126,slow=7.0,SNR=9.6
comp=Z,0.6nm,0.5s
CWC Cottonwood Cre 35.72 316 P **P** **10 58 10.3 +0.2**
baz=123
MDP Montagnes des 35.80 99 LR LR 11 13 30.5
comp=Z,60nm,20.0s,baz=266,slow=37
AGMN Agassiz Nation 35.91 351 P **P** **10 58 10.7 -0.6**
baz=167,SNR=7.3
HVU Hansel Valley 35.95 328 P **P** **10 58 12.2 +0.2**
MDND Maddock 36.18 347 P **P** **10 58 13.4 -0.2**
baz=161
TPAW Teton Pass 36.33 331 P **P** **10 58 15.7 +0.4**
TPAW IAmb IAmb 10 58 53.7
comp=Z,11nm,1.1s
RLMT Red Lodge 36.87 335 P **P** **10 58 20.5 +0.7**
baz=144
NVAR Mina Array Bea 36.99 319 P **P** **10 58 21.8 +0.9**
comp=Z,0.7nm,0.6s,baz=133,slow=7.4,SNR=10.0
NVAR PcP **PcP** **11 00 40.6 +0.2**

comp=Z,1.0nm,0.6s,baz=126,slow=4.6,SNR=5.5
NVAR ScP **ScP** **11 04 17.3 -2.7**
comp=Z,0.8nm,0.8s,baz=120,slow=5.3,SNR=4.9
NVAR LR LR 11 14 07.1
comp=Z,118nm,19.2s,baz=148,slow=37
comp=Z,0.7nm,0.6s
LHV Little Huntoon 37.02 319 P **P** **10 58 22.6 +1.7**
LHV IAmb IAmb 10 58 52.9
comp=Z,20nm,1.9s
PB11 IPOC Station P 37.15 150 P **P** **10 58 23.5 +1.2**
KVN Kaiserville 37.22 320 P **P** **10 58 24.0 +1.2**
GO01 Chusmiza 37.29 150 P **P** **10 58 24.6 +0.7**
YHB Horse Butte 37.41 333 P **P** **10 58 23.0 -1.4**
YHB IAmb IAmb 10 59 10.2
comp=Z,4.4nm,0.8s
YHL Hebgen Lake 37.48 333 P **P** **10 58 26.7 +1.6**
YHL IAmb IAmb 10 58 28.4
comp=Z,4.1nm,0.6s
D62A Allapoint, All 37.67 21 P **P** **10 58 26.1 -0.1**
D62A IAmb IAmb 10 58 47.1
comp=Z,8.2nm,0.9s
VILB Vilhena 37.71 132 P **P** **10 58 25.8 -1.2**
ULM Lac du Bonnet 37.82 352 P **P** **10 58 25.9 -1.5**
ULM IAmb IAmb 10 58 26.7
comp=Z,6.4nm,0.8s
ULM Lac du Bonnet 37.82 352 P **P** **10 58 25.9 -1.6**
comp=Z,6.7nm,0.9s,baz=166,slow=8.6,SNR=8.2
ULM LR LR 11 14 20.4
comp=Z,81nm,21.0s,baz=210,slow=36
comp=Z,6.7nm,0.9s
DGMT Dagmar 37.94 343 P **P** **10 58 29.4 +0.8**
HLID Hailey 38.07 328 P **P** **10 58 30.4 +0.5**
HLID IAmb IAmb 10 59 20.4
comp=Z,12nm,1.9s
HLID Hailey 38.07 328 P **P** **10 58 30.9 +1.0**
baz=135,SNR=6.1
BOZ Bozeman (W) 38.26 333 P **P** **10 58 32.9 +1.4**
baz=141,SNR=7.8
DLMT Dillon 38.52 332 P **P** **10 58 34.5 +0.9**
DLMT IAmb IAmb 10 58 35.8
comp=Z,4.5nm,0.7s
SIV San Ignacio 39.18 136 LR LR 11 16 14.2
comp=Z,77nm,18.3s,baz=301,slow=38
EGMT Eagleton 39.44 337 P **P** **10 58 42.1 +1.0**
baz=145
LYMT Lyon Mountain 39.62 334 P **P** **10 58 43.3 +0.4**
LVC Limon Verde 39.95 152 *eP* **P** **10 58 46.9 +0.9**
PTLB Pontes e Lacer 40.14 134 P **P** **10 58 46.8 -0.5**
PTLB Pontes e Lacer 40.14 134 *eP* **P** **10 58 47.2 -0.1**
MSO Missoula 40.24 332 P **P** **10 58 48.2 +0.4**
MSO IAmb IAmb 10 59 34.2
comp=Z,8.9nm,1.2s
MSO Missoula 40.24 332 P **P** **10 58 49.2 +1.3**
baz=139
BBSD Serra de San D 40.34 137 *eP* **P** **10 58 48.5 -0.5**
F10A Beach Ranch, E 41.19 329 P **P** **10 58 55.4 -0.3**
YBH Yreka Blue Hor 41.64 320 LR LR 11 18 12.8
comp=Z,76nm,18.7s,baz=164,slow=39
NEW Newport 42.76 331 LR LR 11 19 50.9
comp=Z,77nm,19.9s,baz=110,slow=40
D08A Wollman Farm, 42.78 329 P **P** **10 59 08.7 +0.1**
D08A IAmb IAmb 10 59 09.5
comp=Z,4.1nm,0.6s
SALV Santo Antonio 42.93 131 *eP* **P** **10 59 09.0 -1.1**
C09A Chrisman Ranch 42.98 330 P **P** **10 59 10.8 +0.7**
C09A IAmb IAmb 10 59 11.6
comp=Z,3.7nm,0.6s
MXC Moxie City 43.17 327 P **P** **10 59 12.4 +0.8**
RPN Rapa Nui 44.79 207 LR LR 11 14 40.5
comp=Z,85nm,19.8s,baz=150,slow=31
SCHQ Schefferville 45.06 17 P **P** **10 59 25.6 -1.1**
SCHQ IAmb IAmb 10 59 26.3
comp=Z,14nm,1.0s
SCHQ Schefferville 45.06 17 P **P** **10 59 24.9 -1.8**
comp=Z,8.5nm,0.8s,baz=218,slow=5.5,SNR=19
SCHQ LR LR 11 19 16.9
comp=Z,117nm,19.7s,baz=214,slow=37
comp=Z,8.5nm,0.8s
AQDB Aquidauana 45.95 136 *eP* **P** **10 59 33.0 -1.1**
BDFB Brasilia 48.71 124 LR LR 11 21 19.2
comp=Z,51nm,19.9s,baz=297,slow=37
CPUP Villa Florida 49.11 143 P **P** **10 59 57.9 -0.7**
CPUP Villa Florida 49.11 143 P **P** **10 59 57.8 -0.7**
comp=Z,4.1nm,0.7s,baz=316,slow=8.1,SNR=8.5
comp=Z,4.1nm,0.7s
CPUP Villa Florida 49.11 143 P **P** **10 59 57.6 -0.9**
CPUP PcP **PcP** **11 01 21.5 +0.6**
MT08 Bocatoma Ro 49.17 160 P **P** **11 00 00.1 +1.1**
BBB Bella Bella 50.65 329 LR LR 11 24 11.1
comp=Z,58nm,19.8s,baz=245,slow=39
CRSM Crissiumal (Br 51.95 141 *eP* **P** **11 00 18.7 -1.2**
ITQB Itaqui 52.04 145 P **P** **11 00 20.5 0.0**
ITQB Itaqui 52.04 145 *eP* **P** **11 00 20.4 0.0**
PSAL Palomas, Salto 52.59 147 *eP* **P** **11 00 26.0 +1.5**
FRB Frobisher Bay 52.63 11 LR LR 11 24 00.9
comp=Z,54nm,18.7s,baz=206,slow=37
ITAB Concordia 52.97 139 *eP* **P** **11 00 25.9 -1.5**
YKA Yellowknife Ar 53.05 345 P **P** **11 00 26.5 -1.0**
comp=Z,1.3nm,0.7s,baz=136,slow=8.5,SNR=17
YKA LR LR 11 25 51.2
comp=Z,62nm,18.3s,baz=202,slow=39
comp=Z,1.3nm,0.7s
RODS Rosario do Sul 53.36 144 *eP* **P** **11 00 29.6 -0.7**
RCBR Riachuelo 55.06 107 LR LR 11 26 45.3
comp=Z,29nm,18.5s,baz=155,slow=39
DLBC Dease Lake 55.27 335 P **P** **11 00 44.7 +0.8**
baz=128
PLTB Pedras Altas 55.32 144 P **P** **11 00 44.5 +0.1**
PLTB Pedras Altas 55.32 144 *eP* **P** **11 00 44.4 -0.1**
PLCA Paso Flores 55.74 164 P **P** **11 00 47.5 +0.1**
comp=Z,2.6nm,1.0s,baz=353,slow=14,SNR=4.3
comp=Z,2.6nm,1.0s
PLCA Paso Flores 55.74 164 P **P** **11 00 48.4 +1.0**
PLCA pP **pP** **11 01 10.0 +1.7**
WTLY Watson Lake, Y 55.83 337 P **P** **11 00 47.4 -0.3**
baz=130
Q32M Nakina River 56.53 334 P **P** **11 00 53.2 +0.3**
baz=125
FARO Faro, Yukon 58.87 337 P **P** **11 01 08.2 -1.0**
baz=126
SFJD Kangerlussuaq 59.49 16 LR LR 11 29 46.7
comp=Z,43nm,18.1s,baz=236,slow=39
M29M Somme Creek 60.98 336 P **P** **11 01 23.7 +0.1**
M29M IAmb IAmb 11 02 05.9
comp=Z,4.0nm,0.9s
M29M Somme Creek 60.98 336 P **P** **11 01 23.6 -0.1**
baz=121
RES Resolute Bay 61.92 358 LR LR 11 28 26.1
comp=Z,59nm,20.5s,baz=21,slow=36
INK Inuvik 62.63 343 P **P** **11 01 34.4 0.0**
baz=128
L27K Beaver Creek, 62.64 336 P **P** **11 01 34.1 -0.6**
L27K IAmb IAmb 11 02 23.4
comp=Z,9.6nm,1.9s
F30M Barrier River 62.89 341 P **P** **11 01 36.0 -0.2**
baz=126
G29M Pine Creek 63.20 340 P **P** **11 01 38.1 -0.2**
I27K Kandik River 63.77 338 P **P** **11 01 41.7 -0.4**
baz=119
SCRK Sand Creek 63.92 336 P **P** **11 01 42.4 -0.8**
baz=116
J26L Joseph Creek 63.98 337 P **P** **11 01 43.7 +0.1**
J26L Joseph Creek 63.98 337 P **P** **11 01 42.8 -0.8**
baz=116
H27K Steamboat Moun 64.05 339 P **P** **11 01 43.7 -0.2**
baz=119,SNR=5.7
F28M Old Crow 64.19 340 P **P** **11 01 44.2 -0.6**
F28M IAmb IAmb 11 02 25.4
comp=Z,8.4nm,0.9s
F28M Old Crow 64.19 340 P **P** **11 01 44.5 -0.3**
baz=122
I26K Coal Creek Min 64.20 338 P **P** **11 01 44.5 -0.3**
baz=117
G27K Doyon Strip 64.38 339 P **P** **11 01 45.0 -1.0**
baz=119
E28M Babbage River 64.61 341 P **P** **11 01 46.7 -0.8**
baz=122
J25K Salcha River, 64.74 336 P **P** **11 01 48.1 -0.4**
J25K IAmb IAmb 11 02 30.2
comp=Z,17nm,1.9s
J25K Salcha River, 64.74 336 P **P** **11 01 48.2 -0.4**
baz=115
SML Sawmill 64.88 333 P **P** **11 01 49.4 0.0**
baz=111
PMR Palmer 65.17 333 P **P** **11 01 50.9 -0.2**
baz=110

PRP	Porcupine Dome	65.18 337	P	P	11 01 51.1	-0.3
	baz=115					
HDA	Harding Lake	65.28 336	P	P	11 01 51.0	-0.9
	baz=113					
D27M	Malcolm River	65.39 342	P	P	11 01 52.7	+0.1
D27M	Malcolm River	65.39 342	P	P	11 01 52.3	-0.3
	baz=121					
ILAR	Eielson Array	65.40 336	P	P	11 01 52.1	-0.6
ILAR	Eielson Array	65.40 336	P	P	11 01 51.1	-1.5
	comp=Z,0.7nm,0.8s,baz=140,slow=4.9,SNR=12					
ILAR			LR	LR	11 35 32.8	
	comp=Z,45nm,18.0s,baz=152,slow=41					
	comp=Z,0.7nm,0.8s					
H25L	Birch Creek	65.61 338	P	P	11 01 53.6	-0.3
	baz=115					
F26K	Sheenjek River	65.65 340	P	P	11 01 54.0	-0.3
	baz=117					
BMAR	Burnt Mountain	65.68 339	P	P	11 01 54.1	-0.4
CCB	Clear Creek Bu	65.71 336	P	P	11 01 53.5	-1.1
CCB			IAmb	IAmb	11 02 27.4	
	comp=Z,16nm,2.0s					
G25K	Bearman Lake	65.92 338	P	P	11 01 56.2	+0.3
	baz=115					
F25K	Christian Rive	66.12 339	P	P	11 01 56.9	-0.4
	baz=116					
SUMG	Summit	66.34 15	P	P	11 01 58.7	-0.4
SUMG			IAmb	IAmb	11 02 20.5	
	comp=Z,9.3nm,1.1s					
SKT	Skwentna	66.37 333	P	P	11 01 57.9	-1.1
	baz=108					
G24K	Hadweenzic Riv	66.39 338	P	P	11 01 58.8	-0.2
G24K	Hadweenzic Riv	66.39 338	P	P	11 01 58.7	-0.4
	baz=114					
P19K	Oil Pt	66.51 330	P	P	11 02 00.3	+0.4
I23K	Minto, Yukon-K	66.51 336	P	P	11 01 59.6	-0.1
I23K			IAmb	IAmb	11 02 32.4	
	comp=Z,14nm,1.8s					
I23K	Minto, Yukon-K	66.51 336	P	P	11 01 59.4	-0.3
	baz=111					
MLY	Manley	67.02 336	P	P	11 02 02.6	-0.5
MLY	Manley	67.02 336	P	P	11 02 02.4	-0.7
	baz=110					
D25K	Kavik River	67.12 341	P	P	11 02 03.4	-0.2
D25K			IAmb	IAmb	11 02 33.7	
	comp=Z,3.7nm,0.7s					
D25K	Kavik River	67.12 341	P	P	11 02 03.0	-0.6
	baz=116					
G23K	Bananza Creek	67.33 338	P	P	11 02 05.2	+0.2
G23K			IAmb	IAmb	11 02 15.2	
	comp=Z,6.2nm,1.5s					
H22K	Ishtalitna Cre	67.56 337	P	P	11 02 05.5	-1.0
	baz=109					
I21K	Tanana	67.57 336	P	P	11 02 05.7	-0.7
	baz=109					
COLD	Coldfoot	67.59 338	P	P	11 02 06.0	-0.6
	baz=111					
E23K	Chandalar	67.69 339	P	P	11 02 06.9	-0.4
	baz=112					
PPT	Papete	67.82 245	LR	LR	11 24 34.7	
	comp=Z,45nm,18.5s,baz=342,slow=29					
PPT2	Papeete2	67.83 245	eLR	LR	11 22 37.3	
	comp=Z,172nm,30.8s					
PPT2			eLR	LR	11 22 46.7	
	comp=Z,124nm,33.2s					
TOLK	Toolik Lake Re	67.89 340	P	P	11 02 08.1	-0.5
TOLK	Toolik Lake Re	67.89 340	P	P	11 02 07.9	-0.7
	baz=112					
J20K	Nowinta River	68.15 334	P	P	11 02 09.1	-1.1
	baz=106					
M18K	Stony River	68.20 331	P	P	11 02 09.9	-0.7
	baz=104					
D23K	Nanushuk River	68.39 340	P	P	11 02 11.3	-0.3
	baz=111					
F22K	John River	68.40 338	P	P	11 02 11.5	-0.2
	baz=109					
G21K	Allakaket	68.58 337	P	P	11 02 12.2	-0.6
	baz=108					
BORG	Borgarnes	68.59 25	LR	LR	11 32 22.9	
	comp=Z,31nm,19.5s,baz=283,slow=36					
F21K	Alatna River	68.79 338	P	P	11 02 13.8	-0.3
F21K	Alatna River	68.79 338	P	P	11 02 13.9	-0.2
	baz=108,SNR=5.1					
BBTS	Babate	69.24 79	LR	LR	11 28 53.0	
	comp=Z,36nm,19.0s,baz=164,slow=33					
H19K	Roundabout Mou	69.46 336	P	P	11 02 18.1	-0.2
	baz=104					
E20K	Nigu River	70.08 338	P	P	11 02 21.7	-0.4
	baz=106					
D20K	Etivluk River	70.35 339	P	P	11 02 23.3	-0.4
	baz=105					
D19K	Kuna River	70.83 338	P	P	11 02 26.5	-0.1
	baz=104					
A19K	Wainwright	72.23 340	P	P	11 02 35.6	+0.6
	baz=102					
B18K	Kokolik River	72.32 339	P	P	11 02 35.1	-0.4
	baz=101					
JMIC	Jan Mayen	74.52 20	LR	LR	11 35 59.2	
	comp=Z,33nm,19.1s,baz=242,slow=36					
EKA	Eskdalemuir Ar	76.65 36	P	P	11 02 58.4	-2.4
	comp=Z,0.6nm,0.6s,baz=286,slow=10,SNR=3.4					
	comp=Z,0.6nm,0.6s					
ESDC	Sonseca Array	77.41 52	LR	LR	11 31 52.0	
	comp=Z,29nm,19.2s,baz=301,slow=31					
MDT	Midelt	77.72 59	LR	LR	11 37 11.7	
	comp=Z,34nm,18.2s,baz=303,slow=35					
NOA	NORSAR Array B	83.30 29	LR	LR	11 37 43.6	
	comp=Z,14nm,21.1s,baz=285,slow=33					
SHEM	Shemya Is, Ala	84.56 323	LR	LR	11 41 25.6	
	comp=Z,47nm,19.7s,baz=275,slow=36					
HFS	Hagfors	84.72 29	LR	LR	11 39 34.9	
	comp=Z,28nm,20.6s,baz=344,slow=34					
ARCES	ARCESS Array B	85.99 19	P	P	11 03 49.9	-0.1
	comp=Z,1.3nm,0.7s,baz=303,slow=5.3,SNR=2.3					
ARCES			LR	LR	11 41 42.1	
	comp=Z,36nm,19.4s,baz=290,slow=35					
	comp=Z,1.3nm,0.7s					
DAVOX	Davos/Dischmat	86.10 43	LR	LR	11 40 55.7	
	comp=Z,32nm,18.1s,baz=263,slow=35					
VRAC	Vranov	89.68 39	LR	LR	11 39 54.5	
	comp=Z,40nm,21.3s,baz=308,slow=32					
AKASG	Malin Array Be	96.53 35	LR	LR	11 46 30.9	
	comp=Z,27nm,19.0s,baz=22,slow=34					
HHC	Hu-ho-hao-te	123.55 342	eP	PKPdf	11 10 04.6	-2.9
NJ2	Nanjing	128.42 331	eP	PKPdf	11 10 17.1	+0.2
NJ2			pmax	pmax		
	comp=Z,11nm,0.5s					
WRA	Warramunga Arr	138.80 254	PKhKP	PKPpre	11 10 28.2	
	comp=Z,0.2nm,0.5s,baz=90,slow=3.6,SNR=6.9					
WRA			PKP	PKPdf	11 10 35.7	-0.9
	comp=Z,0.9nm,0.4s,baz=89,slow=2.5,SNR=9.2					
ASAR	Alice Springs	138.85 249	PKhKP	PKPpre	11 10 29.9	
	comp=Z,0.3nm,0.5s,baz=113,slow=3.7,SNR=7.9					
ASAR			PKP	PKPdf	11 10 36.6	-0.1
	comp=Z,1.3nm,0.6s,baz=93,slow=2.4,SNR=15					
PZH	PanZhiHua	139.72 346	PKP	PKiKP	11 10 39.8	-0.9
CMAR	Chiang Mai Arr	148.12 347	PKPbc	PKPbc	11 10 55.0	-1.3
	comp=Z,1.0nm,0.5s,baz=338,slow=3.8,SNR=5.4					

IDC 24 10:53:45.5±1.7, 28°.25S×72°.83E, h0km, mb3.9/5, mbtmp3.9/5, MS3.7/5, Error ellipse: s-maj=76.3km s-min=27.1km az=25.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	20.50	359	T	T	11 18 27.4	
	baz=179,slow=75,SNR=34						
H08S2	Diego Garcia H	20.50	359	T	T	11 18 25.3	
	baz=179,slow=75,SNR=44						
H08S3	Diego Garcia H	20.51	359	T	T	11 18 29.0	
	baz=179,slow=75,SNR=28						
H04N2	CROZET ISLANDS	24.38	217	T	T	11 25 23.3	
	baz=50,slow=74						
H04N1	CROZET ISLANDS	24.39	217	T	T	11 25 20.4	
	baz=50,slow=74						
H04N3	CROZET ISLANDS	24.39	217	T	T	11 25 22.6	
	baz=50,slow=74						
H04S1	CROZET ISLANDS	24.76	216	T	T	11 25 52.4	
	baz=46						
H04S3	CROZET ISLANDS	24.77	216	T	T	11 25 51.1	
	baz=46,slow=74						
H04S2	CROZET ISLANDS	24.78	216	T	T	11 25 58.5	
	baz=46,slow=74						
H01W2	Cape Leeuwin H	35.62	111	T	T	11 38 53.4	
	baz=271,slow=74,SNR=31						
H01W3	Cape Leeuwin H	35.62	111	T	T	11 38 52.7	
	baz=271,slow=74,SNR=33						
H01W1	Cape Leeuwin H	35.64	111	T	T	11 38 44.6	
	baz=271,slow=74,SNR=33						
BOSA	Boshof	41.61	258	LR	LR	11 14 23.5	
	comp=Z,105nm,20.0s,baz=128,slow=30						
LBTB	Lobatse	42.14	263	LR	LR	11 15 18.3	
	comp=Z,106nm,19.4s,baz=142,slow=31						
SUR	Sutherland	44.73	251	LR	LR	11 17 18.0	
	comp=Z,94nm,18.2s,baz=132,slow=32						
TSUM	Tsumeb	51.01	267	LR	LR	11 22 31.7	
	comp=Z,69nm,18.7s,baz=151,slow=34						
ASAR	Alice Springs	54.61	100	P	P	11 03 16.5	+0.3
	0.8nm,0.6s,baz=252,slow=6.3,SNR=15						
	0.8nm,0.6s						
WRA	Warramunga Arr	56.26	96	P	P	11 03 27.6	-0.5
	1.0nm,0.8s,baz=251,slow=7.9,SNR=4.8						
	1.0nm,0.8s						
MKAR	Makanchi Array	75.18	7	P	P	11 05 29.3	-0.3
	1.1nm,0.9s,baz=189,slow=7.2,SNR=4.7						
	1.1nm,0.9s						
BRTR	Keskin Array B	76.84	330	P	P	11 05 40.4	+1.0
	0.9nm,0.8s,baz=152,slow=6.5,SNR=3.6						
	0.9nm,0.8s						
TORD	Torodi Ar. Bea	80.12	291	P	P	11 05 57.3	-0.6
	1.3nm,1.1s,baz=102,slow=6.1,SNR=4.1						
	1.3nm,1.1s						
MLR	Muntele Rosu	84.86	329	LR	LR	11 43 49.1	
	comp=Z,24nm,18.8s,baz=118,slow=35						

SKHL ***24*** *11:03:31.2±0.0, 43°.30N×148°.80E, h52km±6km, mb3.7/2*
JMA ***24*** *11:03:45.0±0.5, 44°.N±2°.×14°.8E±°, h20km, MV2.8/16, E OFF HOKKAIDO*

ISC 24 11:03:31.7±3.5, 43°.68N±0°.10×148°.6E±0°.2, h6km±13km, n11, σ1°.07/18, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	1.29	279	eP	Pg	11 03 55.5	-0.9
SHO				AMB	AMB	11 03 56.7	
	30nm,0.5s						
SHO				eS	Sn	11 04 13.7	0.0
SHO				A	A	11 04 16.6	
	110nm,0.4s						
SHO				A	A	11 04 16.6	
	80nm,0.4s						
KUR	Kuril'sk	1.64	342	eP	Pb	11 04 02.3	+0.1
KUR				eS	Sg	11 04 25.6	+1.3
YUK	Yuzh-Kuril'sk	2.01	281	eP	Pn	11 04 05.5	-0.5
YUK				AMB	AMB	11 04 06.4	
	30nm,0.7s						
YUK				eS	Sn	11 04 29.9	-1.5
YUK				A	A	11 04 34.4	
	60nm,0.4s						
YUK				A	A	11 04 34.4	
	80nm,0.4s						
NEM2	Nemuro 2	2.09	262	P	Pg	11 04 13.3	+1.5
NEM2				eS	Sn	11 04 34.0	+0.5
JRA	Rausu	2.52	277	P	Pg	11 04 18.9	-1.1
JRA				eS	Sn	11 04 44.7	+0.6
JKHN	Kushirohamanak	2.57	258	P	Pg	11 04 20.5	-0.4
JNSB	Nemuroshibetsu	2.60	273	eP	Pg	11 04 20.8	-0.7
JNSB				eS	Sn	11 04 47.1	+1.1
JNK	Nakash	2.81	269	eP	Pb	11 04 23.3	+1.0
JAK	Akkeshi	2.92	258	P	Pb	11 04 25.0	+0.9
JAK				eS	Sn	11 04 54.9	+1.0
JAR	Ashorobuto	3.53	265	eP	Pb	11 04 34.2	-0.2
JCH	Churui	3.97	256	eP	Pb	11 04 40.4	-1.6

NEIC ***24*** *11:06:05.0±1.2, 19°.395N±0°.010×155°.273W±0°.006, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.3km az=178.0*

HVO 24 11:06:04.2±1.0, 19°.40N±0°.01×155°.268W±0°.006, h0km±3km, ML3.6/27, ML2.9/36(NEIC), Error ellipse: s-maj=1.5km s-min=0.8km az=179.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	Keanakako`i	0.00	77		Pg	11 06 05.4	+1.0
RIM	Rim	0.01	250		Pg	11 06 05.4	+0.9
BYL	Byron's Ledge	0.02	28	Pg	Pg	11 06 05.0	+0.4
OBL	Observatory Le	0.03	324		Pg	11 06 06.3	+1.6
SDHHI	Sand Hill	0.03	252		Pg	11 06 06.2	+1.5
HATHI	Halema'uma'u T	0.03	15	Pg	Pg	11 06 05.2	+0.5
UWB	Uwekahuna B	0.03	341		Pg	11 06 06.4	+1.6
SBLHI	Steaming Bluff	0.03	1		Pg	11 06 06.6	+1.8
WRMHI	West Rim	0.03	287		Pg	11 06 06.9	+2.0
UWE	Uwekahuna	0.03	315		Pg	11 06 05.6	+0.7
PUH	Pauahi	0.06	115		Pg	11 06 06.1	+0.8
PUH				IAML		11 06 06.9	
	comp=E,3μm,0.2s						
PUH				IAML		11 06 07.0	
	comp=N,5μm,0.4s						
RSD	Rainshed	0.07	352		Pg	11 06 06.2	+0.7
RSD				IAML		11 06 06.9	
	comp=N,2μm,0.3s						
KNHH	Kane Nui o Ham	0.10	101		Pg	11 06 07.1	+1.1
HLP	Hilina Pali	0.11	200		Pg	11 06 07.3	+1.0
HLP				IAML		11 06 09.3	
	comp=N,2μm,0.8s						
HLP				IAML		11 06 09.8	
	comp=E,3μm,0.4s						
STCH	Steam Cracks	0.14	95		Pg	11 06 07.7	+0.9
STCH				IAML		11 06 11.1	
	comp=N,5μm,0.6s						
STCH				IAML		11 06 11.3	
	comp=E,9μm,0.5s						
MLH	Mauna Loa	0.15	311	Pg	Pg	11 06 08.6	+1.5
MLH				IAML		11 06 11.2	
	comp=E,6μm,0.8s						
MLH				IAML		11 06 11.4	
	comp=N,4μm,0.9s						
NPOC	North of Pu'u	0.15	92		Pg	11 06 08.0	+1.0
JCUZ	Jacuzzi	0.16	95		Pg	11 06 09.4	+2.2
HTC	Hot Caves	0.20	218		Pg	11 06 09.2	+1.1
JOKA	Jonika Flow	0.25	82		Pg	11 06 09.5	+0.5
JOKA	Jonika Flow	0.25	82		Sg	11 06 13.7	+1.4
JOKA	Jonika Flow	0.25	82	IAML		11 06 16.4	
	comp=N,9μm,1.1s						
JOKA				IAML		11 06 17.6	
	comp=E,4μm,1.1s						
HMH	Humu'ula Sheep	0.29	315	Pg	Pg	11 06 10.2	+0.5
HMH				IAML		11 06 17.1	
	comp=N,5μm,1.8s						
PAH	Pahoa	0.32	72	Pg	Pg	11 06 10.9	+0.6
MLOA	Mauna Loa Obse	0.32	295	Pg	Pg	11 06 11.6	+1.2
MLOA				IAML		11 06 19.5	
	comp=N,4μm,2.0s						
MWH	Moku'aweowe	0.32	286	Pg	Pg	11 06 11.4	+1.0
KHU	Kahuku	0.36	245	Pg	Pb	11 06 12.4	-1.2
KHU				IAML		11 06 23.4	
	comp=N,4μm,1.7s						
KHU				IAML		11 06 24.4	
	comp=E,4μm,0.9s						
ALEP	Alea Permanent	0.38	292		Pg	11 06 12.3	+0.8
ALEP					Sb	11 06 18.6	-2.0
HPO	Honuapo	0.41	221		Pg	11 06 12.8	+0.8
POHA	Pohakuloa	0.44	325	Pg	Pg	11 06 13.3	+0.7
POHA	Pohakuloa	0.44	325		Sg	11 06 20.0	+1.8
HUH	Hualalai	0.61	298		Pb	11 06 17.3	-0.5
HPAH	Hawaii Prepara	0.75	327		Sg	11 06 29.4	+1.2

NNC ***24*** *11:06:48.3±1.2, 43°.60N×69°.68E, h0km, mb3.6, mpv3.0, Error ellipse: s-maj=9.4km s-min=5.2km az=60.0, Suspected Mining explosion.*
SOME ***24*** *11:06:48.8, 43°.60N×69°.80E*
KRNET ***24*** *11:06:59.7±0.1, 43°.93N×70°.28E, mb2.5*

ISC 24 11:06:59.9±3.8, 43°.9N±0°.1×70°.5E±0°.2, h0km, n13, σ0°.71/15, 11C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	0.81	177	⇑P	Pg	11 07 03.2	-12
	1.2nm,0.3s,baz=324,slow=18,SNR=98						
KK31				⇑S	Sg	11 07 14.6	-11
	18nm,0.4s,baz=316,slow=33,SNR=25						
MNAS	Manas	2.07	133	⇑eP	Pn	11 07 36.3	+0.2
	baz=31						
MNAS				⇑eS	Sn	11 08 03.1	+0.5
	baz=31						
MRKS	Merke	2.33	119	Pg	Pn	11 07 38.6	-1.0
	1.7nm,0.1s						
MRKS				Lg	Lg	11 08 14.8	
	13nm,0.6s						
ARK	Arkit	2.39	152	⇑eP	Pn	11 07 40.3	-0.1
	baz=49						
ARK				⇑eS	Sn	11 08 10.1	-0.3
	baz=49						
BTLS	Baital	2.81	65	Pg	Pg	11 07 53.1	-0.7
	6.9nm,0.6s						
BTLS				Lg	Lg	11 08 39.4	
	9.5nm,0.7s						
ARSB	Arslanbob	3.19	143	⇑eP	Pn	11 07 52.1	+0.6
	baz=42						
ARSB				⇑eS	Sn	11 08 29.4	-0.9
	baz=42						
AAK	Ala-Archa	3.21	112	⇓Lg	Lg	11 08 45.7	
	6.0nm,0.5s						
ARLS	Aral	3.50	124	⇑eP	Pn	11 07 56.8	+1.0
	baz=23						
ARLS				⇑eS	Sn	11 08 38.4	+0.3
	baz=23						
KRBS	Karabastau	3.79	91	Pg	Pb	11 08 08.3	+0.6
	1.8nm,0.4s						
KRBS				Lg	Lg	11 09 05.5	
	0.9nm,0.5s						
TKM2	Tokmak 2	3.88	103	⇓Pg	Pb	11 08 09.2	-0.1
	1.7nm,0.7s						
TKM2				⇑Lg	Lg	11 09 05.6	
	5.7nm,0.8s						
DGS	Degeres	3.92	98	Pg	Pb	11 08 09.7	-0.3
	2.1nm,0.4s						
DGS				Lg	Lg	11 09 08.1	
	10nm,0.7s						
KST	Kastek	4.10	100	Pg	Pb	11 08 13.2	+0.1
	1.2nm,0.3s						
KST				Lg	Lg	11 09 13.8	
	11nm,0.5s						
KTBS	Karatobe	4.51	90	Pg	Pb	11 08 21.2	+1.2
	0.3nm,0.1s						
KTBS				Lg	Lg	11 09 27.8	
	12nm,0.7s						

GII ***24*** *11:12:30.5±0.2, 36°.40N±0°.02×28°.736E±0°.008, h10km, Mws3.4, confirmed*
IDC ***24*** *11:12:32.6±1.4, 36°.43N×28°.80E, h0km, mb3.5/3, mbtmp3.5/7, ML3.4/3, Error ellipse: s-maj=27.7km s-min=20.6km az=153.0*
ISK ***24*** *11:12:33.8, 36°.48N×28°.75E, h8km, ML3.2/30*
AFAD ***24*** *11:12:33.1±0.0, 36°.41N×28°.74E, h24km±1km, MW3.4*
THE ***24*** *11:12:34.7, 36°.42N×28°.72E, h0km±1km, ML3.0/4, Error ellipse: s-maj=1.4km s-min=0.7km az=14.0*
ATH ***24*** *11:12:34.1, 36°.44N×28°.75E, h7km±1km, ML3.1/12, Manual Solution by A.Fokaefs This location: 2020/08/31 14:44:04 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*

ISC 24 11:12:33.9±1.0, 36°.43N±0°.02×28°.75E±0°.01, h13km±7km, n107, σ1°.49/151, mb3.4/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.34	52	Pg	Pg	11 12 40.4	-0.3
FETY	Fethiye	0.34	52	P	Pb	11 12 41.8	0.0
FETY				S	Sb	11 12 47.3	+0.1
IZZE	Mula-Seydike	0.38	89	P	Pg	11 12 41.1	-0.4
IZZE				S	Sb	11 12 48.0	-0.4
IZZE				i AML	AML	11 12 49.0	
	comp=N,5μm,0.5s						
IZZE				i AML	AML	11 12 51.0	
	comp=E,3μm,0.6s						
RDI1	Rhodes Town Ha	0.43	273	P	Pg	11 12 42.4	0.0
RDI1				S	Sg	11 12 47.6	-0.4
RODB	Rodos	0.43	272	P	Pb	11 12 42.9	-0.4
RODB				S	Sg	11 12 48.2	+0.1
SABU	Mula-Dalaman	0.43	24	P	Pg	11 12 42.3	-0.1
SABU				S	Sb	11 12 49.5	-0.4
SABU				i AML	AML	11 12 52.0	
	comp=N,863nm,0.3s						
SABU				i AML	AML	11 12 53.0	
	comp=E,699nm,0.4s						
MRSB	Marmaris-Mugla	0.53	303	Pg	Pg	11 12 44.1	-0.2
ARG	Arkhangelos	0.55	247	Pg	Pg	11 12 44.4	-0.2
ARG				Sg	Sb	11 12 53.7	+0.5
ARG	Arkhangelos	0.55	247	P	Pg	11 12 44.6	0.0
ARG				S	Sb	11 12 54.1	+0.9
	2μm,0.3s						
ARG	Arkhangelos	0.55	247	P	Pg	11 12 44.2	-0.5
ARG				S	Sg	11 12 52.2	+0.3
CAME	Cameli-Denizli	0.68	41	Pg	Pg	11 12 46.4	-0.7
AKAS	Kas	0.72	106	Pg	Pb	11 12 48.5	+0.1
AKAS	Kas	0.72	106	P	Pg	11 12 47.2	-0.7
AKAS				S	Sb	11 13 00.1	+1.9
AKAS				i AML	AML	11 13 05.0	
	comp=E,1μm,0.5s						
AKAS				i AML	AML	11 13 07.0	
	comp=N,2μm,0.4s						
KSL	Kastellorizon	0.73	112	P	Pb	11 12 49.2	+0.8
KSL				S	Sn	11 13 02.1	+1.2
KSL	Kastellorizon	0.73	112	P	Pg	11 12 48.2	+0.2
KSL				S	Sb	11 12 58.4	0.0
RGE1	Gennadi, Rhode	0.78	239	P	Pg	11 12 49.0	+0.1
RGE1				S	Sb	11 12 59.5	-0.2
KNIK	Mula-Seydike	0.78	58	P	Pg	11 12 48.4	-0.6
KNIK				S	Sb	11 13 00.4	+0.4
KNIK				i AML	AML	11 13 04.0	
	comp=N,592nm,0.6s						
KNIK				i AML	AML	11 13 04.0	
	comp=E,370nm,0.4s						
DNZT	Denizli-Tavas-	0.87	14	P	Pg	11 12 50.4	-0.4
DNZT				i AML	AML	11 13 09.0	
	comp=E,239nm,0.7s						
MULA	Mugla, Merkez-	0.89	337	P	Pg	11 12 50.5	-0.7
MULA				S	Sb	11 13 03.5	+0.2
MULA				i AML	AML	11 13 05.0	
	comp=E,363nm,0.5s						
DATC	Datca-Mugla	0.94	291	Pg	Pb	11 12 52.0	0.0
DEMR	Demre-Antalya	0.95	101	Pg	Pn	11 12 53.4	+0.4
ELL	Elmali	0.98	71	Pg	Pg	11 12 52.5	-0.4
DAT	Datca	0.99	288	Pg	Pg	11 12 52.9	-0.1
DAT	Datca	0.99	288	P	Pg	11 12 52.2	-0.8
DAT				S	Sb	11 13 07.1	+1.0
DAT				i AML	AML	11 13 13.0	
	comp=N,671nm,0.6s						
DAT				i AML	AML	11 13 14.0	
	comp=E,494nm,0.6s						
DAT	Datca	0.99	288	P	Pb	11 12 53.2	+0.2
GOLH	Golhisar	1.03	39	P	Pg	11 12 53.2	-0.7
GOLH				i AML	AML	11 13 10.0	
	comp=E,397nm,0.5s						
GOLH				S	Sn	11 13 10.9	+2.2
GOLH				i AML	AML	11 13 17.0	
	comp=N,325nm,0.8s						
TAVA	DENIZLI_Tavas	1.04	7	P	Pg	11 12 53.3	-0.6
TAVA				S	Sn	11 13 10.7	+1.9
TAVA				i AML	AML	11 13 14.0	
	comp=N,133nm,0.4s						
TAVA				i AML	AML	11 13 16.0	
	comp=E,212nm,0.3s						
YAZI	Mula-Dat§a-	1.07	284	P	Pg	11 12 53.3	-1.3
YAZI				S	Sb	11 13 09.2	+0.8
YAZI				i AML	AML	11 13 14.0	
	comp=N,267nm,0.4s						
YAZI				i AML	AML	11 13 15.0	
	comp=E,234nm,0.4s						
APMY	Acipayam-Deniz	1.13	23	Pn	Pg	11 12 55.3	-0.4
MLSB	Milas	1.17	318	Pn	Pg	11 12 55.9	-0.4
DNIZ	Denizli-Tavas-	1.21	11	P	Pb	11 12 56.2	-0.6
DNIZ				S	Sn	11 13 13.9	+0.7
DNIZ				i AML	AML	11 13 17.0	
	comp=N,999nm,0.5s						
DNIZ				i AML	AML	11 13 18.0	
	comp=E,2μm,0.5s						
BDRM	Kayabasi	1.23	301	P	Pb	11 12 56.3	-0.7
BDRM				S	Sn	11 13 14.3	+1.0
BDRM				i AML	AML	11 13 17.0	
	comp=E,451nm,0.5s						
AKUM	Antalya-Kumluc	1.29	94	P	Pn	11 12 58.2	+0.6
AKUM				S	Sn	11 13 20.6	+5.8
AKUM				i AML	AML	11 13 26.0	
	comp=N,147nm,0.5s

NISR	**Nisiros**	**1.32 278**	P	**Pb**	**11 12 58.7 +0.1**
NISR			S	**Sn**	**11 13 16.8 +1.2**
NISR	**Nisiros**	**1.32 278**	P	**Pn**	**11 12 58.5 +0.5**
YKAV	**Yalikavak-Bodr**	**1.37 301**	Pn	**Pn**	**11 12 59.2 +0.4**
ESEN	**Aydn-Nazilli**	**1.40 347**	P	**Pn**	**11 12 59.5 +0.3**
ESEN			S	**Sb**	**11 13 17.8 -0.1**
ESEN			*i* AML	AML	11 13 22.0
	comp=N,100nm,0.9s				
ESEN			*i* AML	AML	11 13 22.0
	comp=E,169nm,0.4s				
INCE	**Denizli-Bozkur**	**1.44 27**	P	**Pn**	**11 12 59.0 -0.8**
INCE			S	**Sg**	**11 13 21.7 +1.6**
INCE			*i* AML	AML	11 13 24.0
	comp=N,330nm,0.6s				
INCE			*i* AML	AML	11 13 28.0
	comp=E,228nm,0.5s				
KLNA	**Kalymnos**	**1.52 291**	P	**Pb**	**11 13 02.2 +0.2**
KARP	**Karpathos**	**1.56 236**	Pn	**Pb**	**11 13 03.1 +0.4**
KARP	**Karpathos**	**1.56 236**	P	**Pb**	**11 13 02.8 +0.1**
KARP			S	**Sb**	**11 13 23.3 +0.9**
	605nm,0.5s				
KARP	**Karpathos**	**1.56 236**	P	**Pb**	**11 13 02.5 -0.3**
KARP			S	**Sb**	**11 13 22.9 +0.5**
NAZL	**Nazilli-Aydin**	**1.57 347**	Pn	**Pb**	**11 13 02.8 -0.1**
ANTB	**Antalya**	**1.60 72**	Pn	**Pn**	**11 13 02.9 +1.0**
BRDR	**BURDUR-Merkez**	**1.64 39**	P	**Pb**	**11 13 04.3 +0.2**
BRDR			S	**Sg**	**11 13 28.9 +2.2**
BRDR			*i* AML	AML	11 13 31.0
	comp=N,182nm,0.8s				
BRDR			*i* AML	AML	11 13 33.0
	comp=E,179nm,0.6s				
AYDB	**Zeytinkoy-Aydi**	**1.66 336**	Pn	**Pn**	**11 13 03.6 +0.7**
GCAM	**G?zelcaml?**	**1.75 317**	Pn	**Pn**	**11 13 05.2 +1.1**
GCAM	**G?zelcaml?**	**1.75 317**	P	**Pn**	**11 13 04.4 +0.3**
GCAM			S	**Sb**	**11 13 28.8 +0.8**
GCAM			*i* AML	AML	11 13 33.0
	comp=N,261nm,0.5s				
GCAM			*i* AML	AML	11 13 35.0
	comp=E,167nm,0.6s				
KIRA	**zmir-Kiraz**	**1.79 351**	P	**Pn**	**11 13 05.3 +0.7**
KIRA			S	**Sg**	**11 13 30.3 -1.1**
KIRA			*i* AML	AML	11 13 35.0
	comp=N,79nm,0.5s				
KIRA			*i* AML	AML	11 13 36.0
	comp=E,103nm,0.5s				
BCK	**Bucak**	**1.79 55**	Pn	**Pn**	**11 13 05.7 +1.0**
BASM	**Basmaki-Afyon**	**1.81 35**	Pn	**Pn**	**11 13 05.5 +0.6**
ODEM	**Odemis-Izmir**	**1.92 344**	Pn	**Pn**	**11 13 07.1 +0.7**
SMG	**Samos**	**1.99 310**	P	**Pn**	**11 13 08.1 +0.7**
SMG			S	**Sb**	**11 13 34.0 -0.8**
	400nm,0.2s				
SMG	**Samos**	**1.99 310**	P	**Pn**	**11 13 08.0 +0.6**
SMG			S	**Sb**	**11 13 34.1 -0.7**
PASA	**Karahalli, USA**	**2.00 17**	P	**Pn**	**11 13 07.8 +0.2**
PASA			S	**Sb**	**11 13 34.7 -0.4**
PASA			*i* AML	AML	11 13 52.0
	comp=N,39nm,0.8s				
PASA			*i* AML	AML	11 13 52.0
	comp=E,47nm,0.6s				
MANT	**Manisa**	**2.06 356**	P	**Pn**	**11 13 08.4 -0.1**
MANT			S	**Sn**	**11 13 35.9 +1.6**
MANT			*i* AML	AML	11 13 36.0
	comp=E,51nm,0.6s				
MANT			*i* AML	AML	11 13 37.0
	comp=N,51nm,0.6s				
KULA	**Kula-Manisa**	**2.08 358**	Pn	**Pn**	**11 13 08.6 0.0**
KULA	**Kula-Manisa**	**2.08 358**	P	**Pn**	**11 13 10.0 +1.4**
DGB	**zmir**	**2.20 318**	P	**Pn**	**11 13 10.0 -0.2**
DGB			S	**Sb**	**11 13 39.6 -1.2**
DGB			*i* AML	AML	11 13 42.0
	comp=E,90nm,0.5s				
DGB			*i* AML	AML	11 13 43.0
	comp=N,78nm,0.7s				
USAK	**Uak-Merkez**	**2.29 5**	P	**Pn**	**11 13 12.0 +0.5**
USAK			*i* AML	AML	11 13 40.0
	comp=N,21nm,1.0s				
USAK			*i* AML	AML	11 13 41.0
	comp=E,38nm,1.4s				
USAK			S	**Sn**	**11 13 41.7 +2.1**
ZKR	**Zakros**	**2.44 238**	Pn	**Pn**	**11 13 15.4 +1.8**
ZKR	**Zakros**	**2.44 238**	P	**Pn**	**11 13 14.5 +0.9**
ZKR			S	**Sn**	**11 13 44.5 +1.2**
ZKR	**Zakros**	**2.44 238**	P	**Pn**	**11 13 14.6 +1.1**
ZKR			S	**Sn**	**11 13 44.9 +1.5**
ZEYE	**Izmir, Urla-Ze**	**2.54 316**	P	**Pn**	**11 13 14.9 0.0**
ZEYE			S	**Sn**	**11 13 46.1 +0.4**
ZEYE			*i* AML	AML	11 13 52.0
	comp=E,63nm,1.0s				
ZEYE			*i* AML	AML	11 14 03.0
	comp=N,98nm,0.6s				
SHUT	**Suhut-Afyon**	**2.56 33**	Pn	**Pn**	**11 13 16.7 +1.5**
URLA	**Izmir**	**2.58 319**	P	**Pn**	**11 13 16.0 +0.6**
URLA			S	**Sb**	**11 13 50.3 -1.4**
URLA			*i* AML	AML	11 13 53.0
	comp=N,65nm,0.7s				
URLA			*i* AML	AML	11 14 01.0
	comp=E,66nm,1.0s				
SEYD	**Seydisehir-KON**	**2.66 68**	Pn	**Pn**	**11 13 17.9 +1.3**
GEDZ	**Gediz**	**2.66 11**	Pn	**Pn**	**11 13 17.4 +0.8**
APE	**Apeiranthos**	**2.67 285**	P	**Pn**	**11 13 17.6 +1.0**
APE	**Apeiranthos**	**2.67 285**	P	**Pn**	**11 13 13.3 -3.3**
GAZI	**Gazipasa**	**2.88 93**	Pn	**Pn**	**11 13 21.0 +1.4**
HDMB	**Hadim**	**3.05 79**	Pn	**Pn**	**11 13 23.5 +1.4**
IDI	**Anoyia**	**3.34 251**	P	**Pn**	**11 13 27.3 +1.4**
IDI			S	**Sn**	**11 14 07.2 +1.7**
	62nm,0.5s				
IDI	**Anoyia**	**3.34 251**	Pn	**Pn**	**11 13 26.9 +1.0**
	20nm,0.4s,baz=63,slow=15,SNR=35				
IDI			Sn	**Sn**	**11 14 08.6 +3.1**
	5.7nm,0.3s,baz=334,slow=14,SNR=8.6				
IDI	**Anoyia**	**3.34 251**	P	**Pn**	**11 13 27.1 +1.2**
ALFC	**Alefka**	**3.38 111**	P	**Pn**	**11 13 27.4 +0.8**
LADK	**Ladik-KONYA**	**3.38 57**	Pn	**Pn**	**11 13 27.7 +1.2**
PRK	**Paraskevi**	**3.43 326**	P	**Pn**	**11 13 27.8 +0.7**
PRK	**Paraskevi**	**3.43 326**	P	**Pn**	**11 13 28.1 +1.0**
KIZT	**Kizilcal**	**3.48 44**	Pn	**Pn**	**11 13 28.3 +0.3**
IMMV	**Iera Moni Meta**	**3.99 257**	P	**Pn**	**11 13 35.4 +0.6**
IMMV	**Iera Moni Meta**	**3.99 257**	P	**Pn**	**11 13 36.3 +1.5**
VLI	**Veliai**	**4.69 275**	P	**Pn**	**11 13 45.1 +0.6**
BRTR	**Keskin Array B**	**5.07 48**	Pn	**Pn**	**11 13 52.0 +2.3**
	0.5nm,0.3s,baz=227,slow=15,SNR=7.7				
BRTR			Sn	**Sn**	**11 14 50.2 +2.0**
	0.3nm,0.3s,baz=218,slow=25,SNR=4.7				
	1.4nm,0.5s				
MMAI	**Mount Meron Ar**	**6.45 120**	Pn	**Pn**	**11 14 08.8 +0.1**
	1.4nm,0.3s,baz=306,slow=12,SNR=2.6				
	1.7nm,0.4s				
GEM	**Giv'at Ha'Em**	**6.53 117**	P	**Pn**	**11 14 06.7 -3.0**
GEM	**Giv'at Ha'Em**	**6.53 117**	S	**Sn**	**11 15 21.4 -2.6**
YTIR	**Yattir**	**7.32 132**	S	**Sn**	**11 15 41.0 -2.6**
YTIR	**Yattir**	**7.32 132**	P	**Pn**	**11 14 17.9 -2.7**
DSI	**Dead Sea**	**7.33 129**	P	**Pn**	**11 14 17.5 -3.2**
DSI	**Dead Sea**	**7.33 129**	S	**Sn**	**11 15 41.0 -2.9**
PRNI	**Paran**	**8.00 137**	S	**Sn**	**11 15 57.7 -2.8**
PRNI	**Paran**	**8.00 137**	P	**Pn**	**11 14 27.1 -2.8**
KRMI	**Paran Flat**	**8.04 140**	P	**Pn**	**11 14 27.6 -2.9**
KRMI	**Paran Flat**	**8.04 140**	S	**Sn**	**11 15 58.6 -2.7**
HRFI	**Mount Harif**	**8.27 139**	S	**Sn**	**11 16 04.0 -2.9**
HRFI	**Mount Harif**	**8.27 139**	P	**Pn**	**11 14 30.7 -2.9**
MBRI	**Mt Berech**	**8.39 140**	P	**Pn**	**11 14 32.5 -2.8**
MBRI	**Mt Berech**	**8.39 140**	S	**Sn**	**11 16 06.8 -3.4**
EIL	**Elat**	**8.51 141**	Pn	**Pn**	**11 14 36.5 -0.5**
	0.8nm,0.3s,baz=347,slow=14,SNR=4.7				
EIL			Sn	**Sn**	**11 16 07.3 -5.6**
	2.2nm,0.3s,baz=45,slow=8.7,SNR=8.4				
	1.4nm,0.3s				
EIL	**Elat**	**8.51 141**	S	**Sn**	**11 16 10.2 -2.7**
EIL	**Elat**	**8.51 141**	P	**Pn**	**11 14 34.0 -3.0**
FINES	**FINESS Array B**	**25.09 357**	P	**P**	**11 17 58.6 +0.6**
	0.8nm,0.5s,baz=163,slow=10,SNR=7.6				
	0.8nm,0.5s				
KURBB	**Kurchatov Arra**	**38.05 52**	P	**P**	**11 19 51.6 -0.3**
	0.4nm,0.6s,baz=277,slow=8.9,SNR=2.9				
	0.4nm,0.6s				
MKAR	**Makanchi Array**	**40.63 58**	P	**P**	**11 20 13.8 +0.2**
	0.4nm,0.7s,baz=271,slow=9.8,SNR=2.8				
	0.4nm,0.7s				

*IDC **24** 11:17:20.5±2.5,29°.21S×67°.61W,h79^{km}±20^{km},mb3.6/5, mbtmp3.9/9,Error ellipse: s-maj=27.9km s-min=19.5km az=72.0*
*SJA **24** 11:17:23.9±1.1,29°.08S×67°.52W,h125^{km}±4^{km},ML4.0,*

MW3.9
*NEIC **24** 11:17:24.6±2.3,29°.09S±0°.06×67°.5W±0°.1,h120^{km}±5^{km}, mb4.5/11,Error ellipse: s-maj=13.0km s-min=8.5km az=84.0*

ISC 24 11:17:24.6±0.6,29°.07S±0°.04×67°.51W±0°.04,h120^{km}±6^{km}, n100,σ1§14/116,mb4.2/10,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**0.61**	**126**	*i* P	**Pn**	**11 17 44.5**	**+1.0**
ACLC				*i* S	**Sn**	**11 17 58.0**	**+0.2**
ACLC				IAML		11 17 58.7	
	comp=Z,902nm,0.5s						
VCA	**Vinchina**	**0.69**	**298**	*i* P	**Pn**	**11 17 45.3**	**+1.2**
VCA				*i* S	**Sn**	**11 17 59.2**	**+0.4**
VCA				IAML		11 18 04.0	
	comp=Z,4μm,0.5s						
AVFE	**Valle Fertil**	**1.59**	**178**	*i* P	**Pn**	**11 17 53.8**	**+0.7**
AVFE				*i* S	**Sn**	**11 18 15.2**	**+0.3**
AVFE				IAML		11 18 17.1	
	comp=Z,2μm,0.3s						
CYA	**Choya**	**1.62**	**68**	*i* P	**Pn**	**11 17 54.9**	**+1.4**
CYA				*i* S	**Sn**	**11 18 16.3**	**+0.8**
CYA				IAML		11 18 23.6	
	comp=Z,547nm,1.1s						
ACDV	**Cuesta del Vie**	**1.78**	**231**	*i* P	**Pn**	**11 17 56.6**	**+1.1**
ACDV				*i* S	**Sn**	**11 18 19.8**	**+0.6**
ACDV				IAML		11 18 20.9	
	comp=Z,1μm,0.6s						
ACCO	**Cerro Coronel**	**2.03**	**221**	*i* P	**Pn**	**11 17 59.4**	**+0.7**
ACCO				*i* S	**Sn**	**11 18 25.5**	**+0.6**
ACCO				IAML		11 18 26.3	
	comp=Z,730nm,0.5s						
AROD	**Rodeo**	**2.03**	**237**	*i* P	**Pn**	**11 17 60.0**	**+1.3**
AROD				*i* S	**Sn**	**11 18 26.2**	**+1.4**
ACHE	**Chepes**	**2.21**	**161**	*e*P	**Pn**	**11 18 01.6**	**+0.7**
DOCA	**Reserva Natura**	**2.32**	**216**	*i* P	**Pn**	**11 18 02.0**	**-0.4**
DOCA				IAML		11 18 35.1	
	comp=Z,1μm,0.6s						
CO01	**Juntas del Tor**	**2.43**	**247**		**Pn**	**11 18 05.4**	**+1.8**
CO01				Sn	**Sn**	**11 18 35.9**	**+2.2**
CO01	**Juntas del Tor**	**2.43**	**247**	*i* P	**Pn**	**11 18 05.2**	**+1.5**
CO01				IAML		11 18 38.8	
	comp=Z,204nm,0.8s						
AC05	**El Transito**	**2.43**	**275**		**Pn**	**11 18 05.2**	**+1.6**
AC05				Sn	**Sn**	**11 18 34.7**	**+1.1**
ZON	**Zonda**	**2.67**	**202**		**Pn**	**11 18 07.4**	**+0.8**
ZON				Sn	**Sn**	**11 18 39.1**	**+0.1**
ZON	**Zonda**	**2.67**	**202**	*i* P	**Pn**	**11 18 07.1**	**+0.5**
ZON				*i* S	**Sn**	**11 18 39.3**	**+0.4**
ZON				IAML		11 18 40.2	
	comp=Z,379nm,0.7s						
LCO	**Las Campanas**	**2.79**	**270**	Pn	**Pn**	**11 18 09.0**	**+0.5**
LCO				Sn	**Sn**	**11 18 41.4**	**-0.7**
LCO	**Las Campanas**	**2.79**	**270**	*i* P	**Pn**	**11 18 08.9**	**+0.5**
LCO				IAML		11 18 45.5	
	comp=Z,1μm,0.3s						
GO03	**Copiap**	**2.81**	**301**		**Pn**	**11 18 09.2**	**+0.6**
GO03	**Copiap**	**2.81**	**301**	*i* P	**Pn**	**11 18 09.1**	**+0.6**
RTCV	**Cerro Valdivia**	**2.92**	**197**	*i* P	**Pn**	**11 18 10.3**	**+0.4**
RTCV				*i* S	**Sn**	**11 18 44.7**	**-0.2**
AC06	**Mina Casimiro**	**3.03**	**303**	Pn	**Pn**	**11 18 11.7**	**+0.4**
GO04	**Tololo Observa**	**3.07**	**248**		**Pn**	**11 18 12.4**	**+0.4**
GO04	**Tololo Observa**	**3.07**	**248**	*i* P	**Pn**	**11 18 12.3**	**+0.4**
RTLS	**Leoncito**	**3.13**	**209**	*i* P	**Pn**	**11 18 13.3**	**+0.5**
RTLS				*i* S	**Sn**	**11 18 51.1**	**+1.1**
RTLS				IAML		11 18 52.1	
	comp=Z,701nm,0.3s						
AC04	**Llanos de Chal**	**3.25**	**284**	Pn	**Pn**	**11 18 13.9**	**-0.2**
CO03	**El Pedregal**	**3.27**	**237**	Pn	**Pn**	**11 18 14.9**	**+0.4**
CO03	**El Pedregal**	**3.27**	**237**	*i* P	**Pn**	**11 18 14.6**	**0.0**
CO03				IAML		11 18 56.9	
	comp=Z,330nm,0.8s						
CO05	**La Serena**	**3.36**	**254**		**Pn**	**11 18 14.6**	**-0.9**
TCA	**Tanti**	**3.39**	**133**	*i* P	**Pn**	**11 18 16.1**	**+0.1**
TCA				IAML		11 19 14.1	
	comp=Z,159nm,0.6s						
MRA	**San Martin**	**3.68**	**156**	*i* P	**Pn**	**11 18 20.5**	**+0.5**
MRA				IAML		11 19 29.1	
	comp=Z,182nm,0.5s						
ASAL	**Salagasta**	**3.69**	**198**	*i* P	**Pn**	**11 18 20.4**	**+0.3**
ASAL				*i* S	**Sn**	**11 19 02.8**	**-0.2**
ASAL				IAML		11 19 05.0	
	comp=Z,217nm,0.9s						
CO02	**Combarbal**	**3.70**	**234**		**Pn**	**11 18 19.5**	**-0.7**
CO02	**Combarbal**	**3.70**	**234**	*i* P	**Pn**	**11 18 19.5**	**-0.7**
CO02				IAML		11 19 03.7	
	comp=Z,372nm,0.2s						
CO06	**Fray Jorge**	**3.92**	**245**		**Pn**	**11 18 21.5**	**-1.5**
ARCO	**CERRO ARCO**	**3.96**	**198**	*i* P	**Pn**	**11 18 24.1**	**+0.5**
ARCO				*i* S	**Sn**	**11 19 08.9**	**-0.6**
ARCO				IAML		11 19 11.3	
	comp=Z,449nm,0.8s						
AAGR	**Agrelo**	**4.16**	**195**	*i* P	**Pn**	**11 18 26.7**	**+0.3**
AAGR				IAML		11 19 41.1	
	comp=Z,275nm,0.5s						
GO02	**Mina Guanaco**	**4.31**	**334**	Pn	**Pn**	**11 18 29.6**	**+1.0**
GO02	**Mina Guanaco**	**4.31**	**334**	*i* P	**Pn**	**11 18 29.5**	**+1.0**
AVIZ	**Vizcacheras**	**4.48**	**191**	*i* P	**Pn**	**11 18 30.8**	**+0.2**
VA03	**San Esteban**	**4.52**	**215**		**Pn**	**11 18 30.9**	**-0.2**
VA03	**San Esteban**	**4.52**	**215**	*i* P	**Pn**	**11 18 30.5**	**-0.6**
VA03				IAML		11 20 00.7	
	comp=Z,148nm,0.7s						
SLA	**San Lorenzo**	**4.68**	**23**	*i* P	**Pn**	**11 18 35.6**	**+2.1**
SLA				IAML		11 19 33.9	
	comp=Z,38nm,0.8s						
VA06	**Catapilco**	**4.77**	**222**	Pn	**Pn**	**11 18 32.8**	**-1.6**
MT08	**Bocatoma Ro**	**4.86**	**206**	Pn	**Pn**	**11 18 36.1**	**+0.3**
MT08	**Bocatoma Ro**	**4.86**	**206**	*i* P	**Pn**	**11 18 36.2**	**+0.3**
MT08				IAML		11 19 34.5	
	comp=Z,126nm,0.4s						
MT04	**Ro Olivares**	**4.87**	**207**	*i* P	**Pn**	**11 18 36.2**	**+0.2**
MT04				IAML		11 19 39.3	
	comp=Z,48nm,0.8s						
PEL	**Peldehue**	**4.89**	**213**		**Pn**	**11 18 35.4**	**-0.7**
MT16	**CCHEN**	**5.05**	**210**		**Pn**	**11 18 38.1**	**-0.2**
MT03	**Universidad Ad**	**5.11**	**209**		**Pn**	**11 18 38.6**	**-0.4**
MT03	**Universidad Ad**	**5.11**	**209**	*i* P	**Pn**	**11 18 38.5**	**-0.6**
MT03				IAML		11 19 39.2	
	comp=Z,94nm,0.6s						
MT05	**Renca**	**5.12**	**212**	Pn	**Pn**	**11 18 36.7**	**-2.5**
MT05	**Renca**	**5.12**	**212**	*i* P	**Pn**	**11 18 40.0**	**+0.8**
MT05				IAML		11 19 41.5	
	comp=Z,184nm,0.3s						
PB14	**IPOC Station P**	**5.12**	**329**	Pn	**Pn**	**11 18 39.2**	**-0.3**
PB14	**IPOC Station P**	**5.12**	**329**	*i* P	**Pn**	**11 18 39.5**	**0.0**
PB14				IAML		11 19 44.4	
	comp=Z,135nm,0.4s						
MT02	**Curacav**	**5.21**	**216**	Pn	**Pn**	**11 18 38.6**	**-1.7**
MT13	**San Alfonso**	**5.23**	**206**		**Pn**	**11 18 40.3**	**-0.4**
MT13	**San Alfonso**	**5.23**	**206**	*i* P	**Pn**	**11 18 40.7**	**0.0**
MT13				IAML		11 19 46.4	
	comp=Z,48nm,0.2s						
LMEL	**Las Melosas**	**5.29**	**205**		**Pn**	**11 18 41.4**	**-0.2**
LMEL	**Las Melosas**	**5.29**	**205**	*i* P	**Pn**	**11 18 41.5**	**0.0**
AZAP	**Zapla**	**5.29**	**25**	*i* P	**Pn**	**11 18 43.0**	**+1.3**
AZAP				IAML		11 19 44.1	
	comp=Z,84nm,0.6s						
MT09	**Talagante**	**5.56**	**211**		**Pn**	**11 18 43.3**	**-1.8**
BO04	**La Punta**	**5.57**	**208**		**Pn**	**11 18 44.5**	**-0.8**
MT01	**Popeta**	**5.75**	**213**		**Pn**	**11 18 45.0**	**-2.6**
VA05	**Santo Domingo**	**5.77**	**216**		**Pn**	**11 18 45.0**	**-2.7**
PB15	**IPOC Station P**	**6.09**	**343**		**Pn**	**11 18 52.7**	**+0.2**
BO01	**Tunca**	**6.12**	**209**	Pn	**Pn**	**11 18 50.3**	**-2.2**
BO02	**Sierra Bellavi**	**6.35**	**205**		**Pn**	**11 18 54.2**	**-1.5**
LVC	**Limon Verde**	**6.55**	**349**	Pn	**Pn**	**11 18 59.1**	**+0.3**
LVC	**Limon Verde**	**6.55**	**349**	P	**Pn**	**11 18 58.0**	**-0.8**
	comp=Z,14nm,0.3s,baz=171,slow=10.0,SNR=53						
LVC				S	**Sn**	**11 20 09.7**	**-2.6**
	comp=Z,16nm,0.3s,baz=223,slow=6.6,SNR=4.2						
PB06	**IPOC Station P**	**6.60**	**343**		**Pn**	**11 18 59.0**	**-0.3**
PB05	**IPOC Station P**	**6.64**	**338**		**Pn**	**11 18 58.4**	**-1.5**
BI02	**San Fabin de**	**8.21**	**202**	Pn	**Pn**	**11 19 18.2**	**-2.7**
CPUP	**Villa Florida**	**9.43**	**76**	P	**Pn**	**11 19 35.3**	**-2.0**
	comp=Z,1.5nm,0.6s,baz=180,slow=2.0,SNR=2.8						
GO06	**Curarrehue**	**10.99**	**196**		**Pn**	**11 19 55.2**	**-3.1**
PLCA	**Paso Flores**	**11.90**	**191**	Pn	**Pn**	**11 20 07.8**	**-2.7**
PLCA	**Paso Flores**	**11.90**	**191**	P	Pn	11 20 04.9	-5.6
	comp=Z,0.7nm,0.4s,baz=354,slow=13,SNR=4.5						
PLTB	**Pedras Altas**	**12.30**	**106**	Pn	**Pn**	**11 20 14.9**	**-0.8**
SIV	**San Ignacio**	**14.30**	**26**	P	**Pn**	**11 20 40.7**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=195,slow=14,SNR=4.6						
GO07	**Milladeo Hill,**	**14.87**	**198**		**P**	**11 20 50.6**	**-0.7**
COYC	**Coyhaique**	**16.87**	**191**	P	**Pn**	**11 21 13.7**	**+0.5**
COYC				IAmb	IAmb	11 21 17.1	
	comp=Z,19nm,0.9s						
GO08	**Villa O'Higgin**	**19.76**	**190**	P	**P**	**11 21 46.3**	**+1.4**
GO08				IAmb	IAmb	11 21 54.4	
	comp=Z,40nm,1.5s						
SAML	**Samuel**	**20.42**	**12**	P	**P**	**11 21 52.9**	**+0.5**
CZSB	**Cruzeiro do Su**	**21.78**	**346**	P	**P**	**11 22 07.3**	**+0.5**
CZSB				IAmb	IAmb	11 22 09.8	
	comp=Z,17nm,1.0s						
BAUV	**El Baul**	**37.79**	**359**	P	**P**	**11 24 27.9**	**-1.3**
BAUV				IAmb	IAmb	11 24 29.7	
	comp=Z,7.5nm,0.7s						
TEIG	**Tepich**	**52.94**	**335**	P	**P**	**11 26 28.4**	**-0.2**
SNAA	**Sanae**	**54.76**	**160**	P	**P**	**11 26 39.7**	**-1.6**
QSPA	**South Pole Qui**	**61.16**	**180**	P	**P**	**11 27 26.1**	**0.0**
TXAR	**Lajitas Array**	**67.56**	**326**	P	**P**	**11 28 09.7**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=148,slow=8.6,SNR=1.6						
	comp=Z,0.4nm,0.7s						
WVT	**Waverly**	**67.61**	**342**	P	**P**	**11 28 08.3**	**+0.1**
X37A	**Clayton**	**68.57**	**336**	P	**P**	**11 28 15.1**	**+0.8**
X37A				IAmb	IAmb	11 28 17.3	
	comp=Z,15nm,1.4s						
FCAR	**Ozark Folk Cen**	**68.64**	**339**	P	**P**	**11 28 15.2**	**+0.5**
FCAR				IAmb	IAmb	11 28 16.7	
	comp=Z,3.4nm,0.8s						
PBMO	**Poplar Bluff**	**68.95**	**340**	P	**P**	**11 28 17.4**	**+0.9**
PBMO				IAmb	IAmb	11 28 18.0	
	comp=Z,8.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.84**	**68**	P	**P**	**11 29 15.6**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=286,slow=6.1,SNR=12						
	comp=Z,1.6nm,0.6s						
PDAR	**Pinedale Array**	**81.27**	**330**	P	**P**	**11 29 28.4**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=124,slow=7.7,SNR=9.2						
	comp=Z,1.1nm,0.8s						
NVAR	**Mina Array Bea**	**82.22**	**322**	P	**P**	**11 29 33.5**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=149,slow=7.2,SNR=3.2						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**98.70**	**340**	P	**P**	**11 30 50.4**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=147,slow=4.9,SNR=3.0						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**123.67**	**204**	PKP	**PKPdf**	**11 36 08.2**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=129,slow=1.7,SNR=8.5						
WRA	**Warramunga Arr**	**126.91**	**206**	PKP	**PKPdf**	**11 36 15.1**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=161,slow=1.7,SNR=29						
KURBB	**Kurchatov Arra**	**146.63**	**40**	PKPbc	**PKPbc**	**11 36 53.2**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=303,slow=3.0,SNR=14						
ZALV	**Zalesovo Beam**	**148.01**	**31**	PKPbc	**PKPbc**	**11 36 57.0**	**+1.6**
	comp=Z,3.0nm,0.5s,baz=301,slow=3.2,SNR=12						
MKAR	**Makanchi Array**	**150.58**	**45**	PKPbc	**PKPbc**	**11 37 03.1**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=290,slow=2.7,SNR=10						

*SJA **24** 11:26:14.8±0.7,24°.28S×66°.92W,h181^{km}±6^{km},ML3.6, MW3.7*
*GUC **24** 11:26:19.6±0.7,24°.29S×67°.40W,h197^{km}±7^{km},ML3.9*

ISC 24 11:26:13.0±1.9,24°.33S±0°.04×66°.91W±0°.06, h199^{km}±16^{km},n23,σ2§34/41,3C,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.34**	**107**	*e*P	**Pn**	**11 26 46.7**	**+1.3**
AZAP	**Zapla**	**1.68**	**87**	*e*P	**Pn**	**11 26 49.6**	**+1.0**
AF01	**San Pedro de A**	**1.80**	**319**	*e*P	**Pn**	**11 26 52.9**	**+3.1**
AF01				*e*S	**Sn**	**11 27 18.2**	**-0.2**
FSA	**Cafayete**	**1.96**	**155**	*e*P	**Pn**	**11 26 52.0**	**+0.8**
LVC	**Limon Verde**	**2.51**	**313**	*e*P	**Pn**	**11 27 00.0**	**+2.6**
LVC				*e*S	**Sn**	**11 27 30.4**	**-1.5**
LVC	**Limon Verde**	**2.51**	**313**	*e*P	**Pn**	**11 26 60.0**	**+2.6**
LVC				*e*S	**Sn**	**11 27 31.0**	**-0.9**
LVC				IAML		11 27 33.8	
	596nm,0.3s						
GO02	**Mina Guanaco**	**2.58**	**251**	*e*P	**Pn**	**11 26 59.7**	**+1.7**
GO02				*e*S	**Sn**	**11 27 33.0**	**0.0**
GO02	**Mina Guanaco**	**2.58**	**251⇑**	*i*P	**Pn**	**11 27 00.3**	**+2.3**
GO02				*i* S	**Sn**	**11 27 31.3**	**-1.7**
GO02				IAML		11 27 33.0	
	comp=E,373nm,0.5s						
PB15	**IPOC Station P**	**2.60**	**295**	*e*P	**Pn**	**11 26 59.8**	**+1.6**
PB15				*e*S	**Sn**	**11 27 32.0**	**-1.4**
PB15				IAML		11 27 36.

baz=195
KAF Kangasniemi 2.03 206 PG Pb 11 27 33.8 -0.1
baz=20
KAF MSG 11 27 58.4
comp=Z,5.5nm,0.2s
KAF SG **Sg 11 28 01.2 0.0**
OBF8 Ulkokalla 2.12 283 PG **Pb 11 27 35.5 +0.1**
OBF8 MSG 11 27 59.4
comp=Z,2.9nm,0.2s
OBF8 SG **Sg 11 28 03.8 -0.5**
RANF Ranua 2.17 345 PG **Pb 11 27 35.4 -0.9**
baz=168
RANF SG **Sb 11 28 02.6 -1.1**
KU6 Riekki 2.21 18 PG **Pb 11 27 36.4 -0.7**
baz=199
KU6 MSG 11 28 02.3
comp=Z,1.2nm,0.2s
KEF Keuruu 2.34 222 MSG 11 28 07.0
comp=Z,2.9nm,0.2s
KEF SG **Sb 11 28 08.6 +0.1**
OLKF Oulanka, Finla 2.44 11 PG **Pb 11 27 40.3 -0.7**
OLKF MSG 11 28 08.8
comp=Z,1.5nm,0.2s
VAF Ylistaro 2.64 252 MSG 11 28 14.7
comp=Z,2.5nm,0.2s
VAF SB **Sb 11 28 16.6 -0.5**
FIA0 FINESS Array S 2.69 202 MSG 11 28 17.3
comp=Z,1.5nm,0.2s
FIA0 SG **Sb 11 28 19.5 +0.8**
FINES FINESS Array B 2.69 202 Pn **Pb 11 27 44.3 -0.9**
comp=Z,0.1nm,0.3s,baz=21,slow=16,SNR=5.2
FINES Lg Lg 11 28 18.6
comp=Z,0.5nm,0.3s,baz=18,slow=29,SNR=9.5
FINES Rg Rg 11 28 33.9
comp=Z,9.3nm,1.1s,baz=19,slow=31,SNR=3.9
comp=Z,0.6nm,0.5s
BURU Burvik 3.04 285 SG **Sb 11 28 28.7 -0.1**
ERTU Ertsjaerv 3.64 319 PN **Pn 11 27 55.8 +2.0**
HEMU Hemsoen 4.75 259 SG **Sg 11 29 25.2 -3.6**
ARCES ARCESS Array B 5.72 350 Pn **Pn 11 28 24.3 +2.0**
baz=175,slow=12,SNR=3.0
ARCES Sn **Sn 11 29 29.4 +0.8**
comp=Z,0.1nm,0.3s,baz=182,slow=22,SNR=2.2
ARCES Lg Lg 11 29 57.1
comp=Z,0.1nm,0.3s,baz=164,slow=30,SNR=5.4
comp=Z,5.6nm,1.2s
I37NO I37NO 6.42 328 I I 12 03 20.0
baz=139,slow=318,SNR=14

HEL 24 11:30:49.6±1.1, 60°.91N×29°.26E, h0km, ML1.2,
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.54**	**344**	PG	Pg	11 30 59.3	-0.6
baz=157							
RUF				SG	Sg	11 31 05.5	-1.3
RUF				MSG		11 31 06.7	
comp=Z,3.8nm,0.2s							
VJF	**Virojoki**	**0.92**	**247**	PG	Pg	11 31 06.1	-1.0
VJF				MSG		11 31 17.9	
comp=Z,2.3nm,0.2s							
FIA0	**FINESS Array S**	**1.63**	**290**	PG	Pn	11 31 18.1	-1.4
FIA0				MSG		11 31 38.3	
comp=Z,1.4nm,0.2s							
FIA0				SN	Sn	11 31 39.7	-1.5
PVF	**Pernaja**	**1.71**	**259**	PG	Pn	11 31 19.7	-0.8
PVF				MSG		11 31 40.7	
comp=Z,1.7nm,0.2s							
PVF				SN	Sg	11 31 44.5	+0.1
KAF	**Kangasniemi**	**1.86**	**312**	PG	Pn	11 31 23.5	+0.8
baz=132							
KAF				MSG		11 31 44.8	
comp=Z,1.7nm,0.2s							
SUF	**Sumiainen**	**2.34**	**322**	PG	Pb	11 31 32.1	-0.4
SUF				MSG		11 31 58.8	
comp=Z,0.7nm,0.2s							
VAF	**Ylistaro**	**3.77**	**307**	PN	Pn	11 31 49.0	+0.1

*IDC **24** 11:33:26.4±3.5, 2°.74S×130°.73E, h0km, mb4.0/4, mbtmp4.0/5, ML3.8/1, Error ellipse: s-maj=286.9km s-min=24.7km az=72.0*
*DJA **24** 11:33:32.3±1.7, 3°.S±4°×13°.0E±°, h24km±16km, M4.1/7, mb4.3/3, mB5.8/1, MLv4.0/7, Mw(mB)5.3/1*
ISC 24 11:33:31.5±0.8, 2°.99S±0°.06×129°.87E±0°.05, h25km, n20, σ1§75/24, mb3.9/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.52**	**179**	P	**Pb**	**11 34 00.2**	**+1.1**
FAKI	**Fak Fak**	**2.38**	**88**	P	**Pn**	**11 34 09.7**	**+0.8**
FAKI	**Fak Fak**	**2.38**	**88**	P	**Pn**	**11 34 09.5**	**+0.6**
FAKI				S	**Sn**	**11 34 38.3**	**+1.0**
SWI	**Sorong**	**2.53**	**33**	P	**Pn**	**11 34 10.6**	**-0.4**
SWI				S	**Sn**	**11 34 40.5**	**-0.6**
NLAI	**Namlea**	**2.78**	**265**	P	**Pn**	**11 34 17.0**	**+2.6**
KMPI	**Kaimana, Papua**	**3.89**	**100**	P	**Pn**	**11 34 30.0**	**+0.3**
SANI	**Sanana**	**3.99**	**283**	P	**Pn**	**11 34 30.4**	**-0.7**
SANI				S	**Sn**	**11 35 14.9**	**-2.2**
MTN	**Manton Dam**	**9.87**	**173**	P	**Pn**	**11 35 52.4**	**+0.5**
TOLI2	**Tolitoli**	**9.96**	**294**	P	**Pn**	**11 35 55.4**	**+2.3**
KDU	**Kakadu**	**9.97**	**165**	P	**Pn**	**11 35 52.9**	**-0.4**
COEN	**Coen**	**17.07**	**130**	P	**Pn**	**11 37 27.8**	**-0.9**
WRA	**Warramunga Arr**	**17.40**	**166**	Pn	**Pn**	**11 37 29.8**	**-3.0**
0.4nm,0.3s,baz=349,slow=12,SNR=14							
WRA				Sn	Sn	11 40 29.4	-17
baz=333,slow=22							
1.3nm,0.4s							
QIS	**Mount Isa**	**19.87**	**152**	P	**P**	**11 38 01.9**	**+0.8**
ASAR	**Alice Springs**	**20.92**	**170**	P	**P**	**11 38 12.7**	**+0.2**
18nm,0.7s,baz=352,slow=10,SNR=166							
ASAR				S	**S**	**11 41 59.1**	**-5.5**
1.1nm,0.9s,baz=356,slow=22,SNR=5.3							
18nm,0.7s							
AS01	**Alice Springs**	**20.93**	**169**	P	**P**	**11 38 13.1**	**+0.6**
WRKA	**Warakurna**	**21.97**	**184**	P	**P**	**11 38 23.4**	**-0.3**
OOD	**Oodnadatta**	**25.28**	**168**	P	**P**	**11 38 57.0**	**+1.0**
MKAR	**Makanchi Array**	**64.84**	**326**	P	**P**	**11 44 08.6**	**+0.2**
0.6nm,0.7s,baz=138,slow=8.0,SNR=2.0							
0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**69.06**	**328**	P	**P**	**11 44 35.4**	**+0.3**
0.9nm,0.5s,baz=126,slow=5.8,SNR=9.4							
0.9nm,0.5s							
BVAR	**Borovoye Array**	**74.63**	**327**	P	**P**	**11 45 09.5**	**+0.9**
0.6nm,0.6s,baz=134,slow=6.2,SNR=4.3							
0.6nm,0.6s							

*IDC **24** 11:47:35.0±1.8, 2°.93S×129°.90E, h0km, mb3.8/4, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=152.9km s-min=21.8km az=69.0*
*DJA **24** 11:47:40.9±1.3, 3°.S±3°×13°.0E±°, h27km±12km, M3.9/7, mb4.2/2, mB5.0/1, MLv3.8/7, Mw(mB)4.4/1*
ISC 24 11:47:38.9±0.8, 2°.90S±0°.06×129°.84E±0°.06, h25km, n12, σ3§06/16, mb4.0/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.61**	**178**	P	**Pb**	**11 48 09.2**	**+1.2**
BNDI				S	**Sb**	**11 48 31.9**	**+4.0**
FAKI	**Fak Fak**	**2.41**	**90**	P	**Pn**	**11 48 17.8**	**+1.0**
SWI	**Sorong**	**2.48**	**35**	P	**Pn**	**11 48 18.2**	**+0.5**
SWI				S	**Sn**	**11 48 48.2**	**+1.0**
NLAI	**Namlea**	**2.75**	**263**	P	**Pn**	**11 48 24.3**	**+2.8**
KMPI	**Kaimana, Papua**	**3.93**	**101**	P	**Pn**	**11 48 40.8**	**+3.0**
SANI	**Sanana**	**3.94**	**282**	P	**Pn**	**11 48 37.9**	**+0.1**
SANI				S	**Sn**	**11 49 22.7**	**-0.6**
LUWI	**Luwuk**	**7.30**	**285**	P	**Pn**	**11 49 24.4**	**+0.3**
39nm,1.1s,1μm							
WRA	**Warramunga Arr**	**17.50**	**166**	P	**Pn**	**11 51 38.4**	**-3.0**
0.3nm,0.3s,baz=349,slow=12,SNR=21							
WRA				S	Sn	11 54 38.2	-17
0.3nm,0.8s,baz=347,slow=19,SNR=1.8							
0.8nm,0.6s							
ASAR	**Alice Springs**	**21.01**	**170**	P	**P**	**11 52 20.6**	**-0.3**
5.3nm,0.7s,baz=349,slow=11,SNR=63							
ASAR				S	**S**	**11 56 05.2**	**-8.6**
0.4nm,0.9s,baz=358,slow=23,SNR=2.1							
5.3nm,0.7s							
STKA	**Stephens Creek**	**30.87**	**160**	P	**P**	**11 53 53.0**	**-0.4**
1.8nm,0.8s,baz=335,slow=14,SNR=1.6							
1.8nm,0.8s							
MKAR	**Makanchi Array**	**64.75**	**326**	P	**P**	**11 58 15.2**	**-0.1**
0.2nm,0.4s,baz=125,slow=7.3,SNR=1.6							
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**68.97**	**328**	P	**P**	**11 58 42.7**	**+0.7**
1.1nm,0.7s,baz=122,slow=5.7,SNR=8.4							
1.1nm,0.7s							

*IDC **24** 12:16:29.1±0.8, 41°.77N×126°.91W, h0km, mb4.3/16, mbtmp4.1/25, ML3.6/8, MS3.9/69, Error ellipse: s-maj=19.5km s-min=8.7km az=27.0*
*BJI **24** 12:16:30.0±0.0, 41°.70N×126°.90W, h10km, mb4.7/19, mB5.1/8, Ms4.5/1, Ms7 4.6/2*
*NEIC **24** 12:16:32.0±1.9, 41°.71N±0°.05×126°.8W±0°.1, h10km±2km, mb4.3/85, ML3.6/78, Mww4.9/62, Error ellipse: s-maj=13.1km s-min=7.9km az=263.0*
*NEIC **24** 12:16:32.2, 41°.74N×126°.70W, h16km*
*NCEDC **24** 12:16:32±2.2, 41°.74N±0°.06×126°.7W±0°.1, h10km±2km, Error ellipse: s-maj=14.1km s-min=9.7km az=245.0*
*NEIC **24** 12:16:32.2, 41°.84N×127°.24W, h16km, Moment Tensor Solution. Duration: 1§4 Moment tensor: Scale 10^16^Nm; Mrr=2.77; Mθθ=0.22; Mφφ=2.55; Mrθ=0.56; Mφθ=0.32; Mφr=1.39; Fault plane solution: M0=3.06000×10^16^ NP1: φs=354.79000°, δ=59.30000°, λ=-102.72000°. NP2: φs=198.65000°, δ=32.99000°, λ=-69.65000°. Principal axes: T 2.9018, Plg13.0000°, Azm94.0000°; N 0.3202, Plg11.0000°, Azm1.0000°; P -3.2219, Plg73.0000°, Azm233.0000°;*
*GCMT **24** 12:16:33.0±0.2, 41°.82N±0°.02×127°.14W±0°.02, h13km, MW4.9/101, Moment Tensor Solution. s32,c38; s101,c163; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.55±.14; Mθθ=0.06±.08; Mφφ=2.49±.09; Mrθ=0.05±.24; Mθφ=0.23±.05; Mφr=0.89±.18; Best double couple: M0=2.68400×10^16^ NP1:φs=3.00000°, δ=55.00000°, λ=-93.00000°. NP2:φs=188.00000°, δ=35.00000°, λ=-86.00000°. Principal axes: T 2.6620, Plg10.0000°, Azm95.0000°; N 0.0410, Plg3.0000°, Azm4.0000°; P -2.7060, Plg80.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 12:16:30.6±0.6, 41°.66N±0°.08×126°.87W±0°.07, h11km, n546, σ1§12/484, mb4.4/55, MS4.0/69, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**2.05**	**74**	**Pn**		**12 17 04.3**	**-0.8**
KBO				IAML		12 17 32.8	
comp=N,358nm,2.0s							
KBO				IAML		12 17 45.4	
comp=E,372nm,1.7s							
KRPM	**Rodgers**	**2.20**	**102**	**Pn**		**12 17 07.3**	**+0.1**
KRPM				IAML		12 17 54.9	
comp=E,316nm,1.9s							
KRPM				IAML		12 18 01.2	
comp=N,279nm,2.6s							
KRMB	**Red Mountain**	**2.23**	**93**	**Pn**		**12 17 07.5**	**-0.2**
KSXB	**Camp Six Broad**	**2.25**	**85**	**Pn**		**12 17 07.6**	**-0.3**
KSXB				IAML		12 17 41.3	
comp=N,190nm,1.5s							
KCTM	**Capetown**	**2.25**	**121**	**Pn**		**12 17 08.3**	**+0.5**
JCC	**Jacoby Creek,**	**2.30**	**110**	**Pn**		**12 17 08.3**	**-0.2**
KMPM	**Mount Pierce**	**2.42**	**120**	**Pn**		**12 17 10.4**	**+0.1**
KMPM				IAML		12 17 44.2	
comp=N,167nm,1.7s							
KMPM				IAML		12 17 47.6	
comp=E,162nm,1.5s							
KHMM	**Horse Mountain**	**2.50**	**107**	**Pn**		**12 17 11.4**	**+0.1**
KHMM				IAML		12 18 02.0	
comp=E,159nm,2.0s							
L02F	**Cave Junction**	**2.51**	**78**	**Pn**		**12 17 10.8**	**-0.5**
KSMM	**Slide Mountain**	**2.52**	**125**	**Pn**		**12 17 11.5**	**0.0**
K02D	**Willamette Mer**	**2.60**	**65**	**Pn**		**12 17 11.8**	**-0.9**
K02D				IAML		12 17 48.2	
comp=E,171nm,1.8s							
KCRM	**Chalk Rock**	**2.62**	**117**	**Pn**		**12 17 13.3**	**+0.3**
J01E	**Myrtle Point**	**2.65**	**54**	**Pn**		**12 17 11.8**	**-1.4**
J01E				IAML		12 17 44.9	
comp=N,218nm,0.5s							
J01E				IAML		12 17 46.9	
comp=E,208nm,0.3s							
KMRM	**Mail Ridge**	**2.79**	**120**	**Pn**		**12 17 16.1**	**+0.8**
KMRM				IAML		12 17 59.8	
comp=E,147nm,1.0s							
KMRM				IAML		12 18 09.1	
comp=N,157nm,1.2s							
KHBM	**Hayfork Bally**	**2.93**	**109**	**Pn**		**12 17 17.6**	**+0.2**
M02C	**Callahan**	**3.03**	**94**	**Pn**		**12 17 19.5**	**+0.9**
DBO	**Dodson Butte**	**3.06**	**60**	**Pn**		**12 17 18.6**	**-0.4**
DBO				IAML		12 17 58.4	
comp=E,221nm,2.0s							
DBO				IAML		12 18 23.8	
comp=N,123nm,1.7s							
HUMO	**Hull Mountain**	**3.06**	**71**	**Pn**		**12 17 18.5**	**-0.5**
HUMO				IAML		12 17 40.9	
comp=E,109nm,1.6s							
YBH	**Yreka Blue Hor**	**3.12**	**87**	**Pn**		**12 17 21.1**	**+1.3**
YBH	**Yreka Blue Hor**	**3.12**	**87**	Pn	**Pn**	**12 17 20.7**	**+0.9**
comp=E,16nm,0.3s,baz=276,slow=13,SNR=315							
YBH				Sn	**Sn**	**12 17 58.8**	**+1.7**
comp=E,0.7nm,0.3s,baz=125,slow=16,SNR=1.3							
YBH				LR	LR	12 18 24.6	
comp=E,3μm,20.1s,baz=242,slow=37							
comp=E,70nm,0.5s							
LGPM	**Granite Peak**	**3.14**	**102**	**Pn**		**12 17 20.7**	**+0.6**
LAMM	**Antelope Mount**	**3.18**	**89**	**Pn**		**12 17 22.3**	**+1.5**
KCPM	**Cahto Peak**	**3.19**	**127**	**Pn**		**12 17 20.9**	**+0.2**
KCPM				IAML		12 18 03.6	
comp=E,127nm,1.5s							
KCPM				IAML		12 18 04.7	
comp=N,91nm,1.1s							
LBKM	**Bonanza King**	**3.22**	**99**	**Pn**		**12 17 22.1**	**+0.9**
I03D	**Drain, OR**	**3.30**	**51**	**Pn**		**12 17 21.3**	**-1.0**
I03D				IAML		12 18 18.2	
comp=N,84nm,2.0s							
O02D	**Mt. Diablo Mer**	**3.43**	**114**	**Pn**		**12 17 24.9**	**+0.8**
LHEM	**Herd Peak**	**3.49**	**89**	**Pn**		**12 17 26.7**	**+1.7**
LMPM	**Military Pass**	**3.54**	**91**	**Pn**		**12 17 28.0**	**+2.3**
M03C	**McCloud**	**3.59**	**95**	**Pn**		**12 17 28.3**	**+1.9**
GROM	**Round Mountain**	**3.63**	**117**	**Pn**		**12 17 27.9**	**+1.0**
GVV	**Valley View**	**3.70**	**119**	**Pn**		**12 17 29.0**	**+1.1**
LSHM	**Sage Hen Hill**	**3.75**	**102**	**Pn**		**12 17 30.7**	**+2.3**
LBFM	**Black Fox Moun**	**3.75**	**93**	**Pn**		**12 17 30.9**	**+2.2**
LGMM	**Garner Mountai**	**3.78**	**89**	**Pn**		**12 17 30.8**	**+1.9**
BUCK	**Buck Mountain**	**3.82**	**47**	**Pn**		**12 17 29.1**	**-0.3**
BUCK				IAML		12 18 20.6	
comp=N,121nm,1.3s							
BUCK				IAML		12 18 21.3	
comp=E,130nm,1.3s							
LMHM	**Little Mount H**	**3.91**	**89**	**Pn**		**12 17 32.5**	**+1.6**
I04A	**Tendick Farm,**	**3.92**	**56**	**Pn**		**12 17 30.8**	**+0.1**
I04A				IAML		12 18 20.0	
comp=E,117nm,1.4s							
I04A				IAML		12 18 20.6	
comp=N,126nm,1.9s							
COR	**Corvallis**	**3.92**	**41**	**Pn**		**12 17 30.8**	**+0.1**
COR				IAML		12 18 19.4	
comp=N,140nm,0.9s							
COR				IAML		12 18 19.7	
comp=N,135nm,1.1s							
K04D	**Chiloquin, OR**	**3.93**	**74**	**Pn**		**12 17 31.6**	**+0.6**
HOPS	**Hopland Field**	**3.94**	**131**	**Pn**		**12 17 31.0**	**0.0**
HOPS				IAML		12 18 30.8	
comp=E,43nm,2.9s							
HOPS				IAML		12 18 31.2	
comp=N,63nm,2.7s							
LASM	**Arnica Sink**	**3.97**	**89**	**Pn**		**12 17 33.0**	**+1.4**
H04D	**Lebanon**	**4.17**	**45**	**Pn**		**12 17 34.2**	**0.0**
HATC	**Hat Creek Radi**	**4.17**	**100**	**Pn**		**12 17 36.5**	**+2.3**
GDXM	**Geysers**	**4.22**	**131**	**Pn**		**12 17 34.2**	**-0.8**
G03D	**McMinnville, O**	**4.42**	**35**	**Pn**		**12 17 38.0**	**+0.4**
G03D				IAML		12 18 28.7	
comp=N,91nm,1.2s							
G03D				IAML		12 18 33.9	
comp=E,80nm,0.8s							
J05D	**Fort Rock, OR**	**4.47**	**67**	**Pn**		**12 17 38.2**	**-0.3**
J05D				IAML		12 19 57.1	
comp=E,75nm,4.9s							
J05D				IAML		12 20 21.4	
comp=N,55nm,3.8s							
H04A	**Detroit Lake**	**4.57**	**47**	**Pn**		**12 17 39.9**	**+0.2**
H04A				IAML		12 18 34.4	
comp=E,92nm,0.5s							
H04A				IAML		12 18 39.5	
comp=N,75nm,0.6s							
ORV	**Oroville**	**4.60**	**115**	**Pn**		**12 17 40.2**	**+0.2**
I05D	**Terrebonne, OR**	**4.86**	**55**	**Pn**		**12 17 43.9**	**+0.1**
I05D				IAML		12 19 51.4	
comp=E,58nm,3.7s							
I05D				IAML		12 20 11.6	
comp=N,78nm,4.5s							
PINE	**Pine Mountain**	**4.86**	**62**	**Pn**		**12 17 44.4**	**+0.5**
PINE				IAML		12 19 58.1	
comp=E,42nm,3.8s							
PINE				IAML		12 20 03.5	
comp=N,39nm,3.7s							
F03A	**Seaside**	**4.90**	**28**	**Pn**		**12 17 46.6**	**+2.4**
F04D	**Rainier, OR**	**5.23**	**31**	**Pn**		**12 17 49.9**	**+1.2**
AFDM	**Forest Hills D**	**5.26**	**119**	**Pn**		**12 17 49.7**	**+0.5**
HOOD	**Mount Hood Mea**	**5.27**	**44**	**Pn**		**12 17 50.1**	**+0.6**
HOOD				IAML		12 19 14.3	
comp=N,46nm,1.3s							
F04A	**Amboy**	**5.35**	**36**	**Pn**		**12 17 51.0**	**+0.7**
G05A	**Wamic**	**5.40**	**47**	**Pn**		**12 17 51.5**	**+0.4**
E03A	**Lebam**	**5.43**	**25**	**Pn**		**12 17 51.4**	**-0.2**
E03A				IAML		12 18 53.9	
comp=E,49nm,0.7s							
MPK	**Martis Peak**	**5.73**	**112**	Pn	**Pn**	**12 17 58.3**	**+2.5**
G06A	**Carlson Farm,**	**5.78**	**50**		**Pn**	**12 17 57.2**	**+0.9**
EMB	**Emerald Bay**	**5.83**	**115**		**Pn**	**12 17 58.6**	**+1.4**
WISH	**Wishkah**	**5.89**	**21**	Pn	**Pn**	**12 17 58.7**	**+0.9**
I07A	**Izee**	**5.93**	**63**		**Pn**	**12 17 58.9**	**+0.4**
PAHR	**Pah Rah Range**	**6.02**	**106**		**Pn**	**12 18 00.7**	**+1.0**
PNTR	**Pine Nut**	**6.12**	**112**		**Pn**	**12 18 03.5**	**+2.4**
NLWA	**Neilton Lookou**	**6.12**	**20**		**Pn**	**12 18 01.1**	**+0.1**
CMB	**Columbia Colle**	**6.17**	**124**		**Pn**	**12 18 03.2**	**+1.6**
WVOR	**Wild Horse Val**	**6.18**	**80**		**Pn**	**12 18 01.5**	**-0.5**
LON	**Longmire**	**6.25**	**34**		**Pn**	**12 18 03.9**	**+1.0**
YERR	**Yerington**	**6.41**	**112**		**Pn**	**12 18 07.5**	**+2.3**
J08A	**Circle Bar Ran**	**6.43**	**72**		**Pn**	**12 18 07.3**	**+1.9**
WAKR	**Walker**	**6.51**	**116**	Pn	**Pn**	**12 18 06.7**	**+0.1**
D05A	**Enumclaw**	**6.54**	**31**		**Pn**	**12 18 08.3**	**+1.6**
F07A	**Phinny Hill Vi**	**6.57**	**48**		**Pn**	**12 18 07.7**	**+0.5**
G08A	**Pilot Rock**	**6.80**	**55**		**Pn**	**12 18 11.2**	**+0.7**
MXC	**Moxie City**	**6.82**	**42**		**Pn**	**12 18 11.3**	**+0.6**
E07A	**Sunnyside**	**7.03**	**44**	Pn	**Pn**	**12 18 12.6**	**-0.9**
RYN	**Ryan**	**7.08**	**113**		**Pn**	**12 18 13.5**	**-0.8**
HAWA	**Hanford**	**7.09**	**46**		**Pn**	**12 18 14.8**	**+0.4**
LTY	**Liberty**	**7.14**	**36**		**Pn**	**12 18 15.8**	**+0.7**
KVN	**Kaiserville**	**7.19**	**108**		**Pn**	**12 18 15.9**	**+0.1**
PMPB	**Monarch Peak**	**7.21**	**137**	Pn	**Pn**	**12 18 17.9**	**+2.0**
LHV	**Little Huntoon**	**7.27**	**115**		**Pn**	**12 18 18.3**	**+1.5**
OMMB	**Old Mammoth Mi**	**7.29**	**121**	Pn	**Pn**	**12 18 15.9**	**-1.5**
NVAR	**Mina Array Bea**	**7.32**	**113**	Pn	**Pn**	**12 18 18.2**	**+0.5**
NVAR	**Mina Array Bea**	**7.32**	**113**	Pn	**Pn**	**12 18 20.1**	**+2.4**
comp=E,0.6nm,0.3s,baz=293,slow=14,SNR=14							
NVAR				LR	LR	12 21 28.8	
comp=E,2μm,18.2s,baz=288,slow=40							
comp=E,0.8nm,0.4s							
OZB	**Mount Ozzard**	**7.37**	**7**	Pn	**Pn**	**12 18 19.5**	**+1.4**
PGC	**Sidney**	**7.40**	**18**		**Pn**	**12 18 19.5**	**+1.1**
BMN	**Battle Mountai**	**7.40**	**96**		**Pn**	**12 18 18.5**	**-0.2**
E08A	**Dider Farm, El**	**7.41**	**47**		**Pn**	**12 18 19.1**	**+0.4**
CLRS	**Cowichan Lake**	**7.42**	**14**		**Pn**	**12 18 19.1**	**+0.3**
NV11	**Mina Array Sit**	**7.42**	**113**	Pn	**Pn**	**12 18 20.0**	**+1.0**
BMO	**Blue Mountains**	**7.68**	**62**		**Pn**	**12 18 23.3**	**+0.9**
D08A	**Wollman Farm,**	**7.84**	**44**		**Pn**	**12 18 24.6**	**-0.1**
F10A	**Beach Ranch, E**	**8.20**	**55**		**Pn**	**12 18 29.0**	**-0.6**
MZP	**Montezuma Peak**	**8.31**	**115**	Pn	**Pn**	**12 18 30.7**	**-0.7**
MFID	**Camas Ranch**	**8.34**	**74**		**Pn**	**12 18 31.0**	**-0.6**
VES	**Vestal, Richgr**	**8.41**	**131**	P	**Pn**	**12 18 33.8**	**+1.4**
baz=317							
CBB	**Campbell River**	**8.44**	**7**	Pn	**Pn**	**12 18 34.9**	**+2.1**
B08A	**Colville Reser**	**8.56**	**36**		**Pn**	**12 18 35.3**	**+0.8**
CWC	**Cottonwood Cre**	**8.60**	**124**	P	**Pn**	**12 18 36.9**	**+1.7**
baz=311							
C09A	**Chrisman Ranch**	**8.66**	**42**		**Pn**	**12 18 35.8**	**-0.1**
GRAC	**Grapevine Rang**	**8.71**	**119**	Pn	**Pn**	**12 18 39.6**	**+3.0**
GRAC	**Grapevine Rang**	**8.71**	**119**	P	**Pn**	**12 18 37.9**	**+1.2**
baz=306							
ELK	**Elko**	**8.82**	**92**	Pn	**Pn**	**12 18 40.8**	**+2.5**
comp=E,0.2nm,0.3s,baz=281,slow=14,SNR=20							
comp=E,2.5nm,0.7s							
ISA	**Isabella, Lake**	**8.88**	**130**		**Pn**	**12 18 41.3**	**+2.2**
ISA	**Isabella, Lake**	**8.88**	**130**	P	**Pn**	**12 18 40.2**	**+1.1**
baz=316,SNR=8.4							
HOLB	**Holberg**	**9.03**	**355**	Pn	**Pn**	**12 18 41.6**	**+0.8**
MPMC	**Manual Prospec**	**9.21**	**124**	P	**Pn**	**12 18 43.6**	**+0.1**
baz=311							
R11B	**Troy Canyon, C**	**9.27**	**107**	P	**Pn**	**12 18 44.9**	**+0.5**
baz=295,SNR=8.7							
FURC	**Furnace Creek,**	**9.35**	**120**	P	**Pn**	**12 18 46.6**	**+1.4**
baz=308							
HLID	**Hailey**	**9.38**	**74**		**Pn**	**12 18 48.0**	**+2.1**
HLID	**Hailey**	**9.38**	**74**	P	**Pn**	**12 18 45.4**	**-0.5**
baz=263,SNR=7.3							
S11A	**Rachel**	**9.47**	**111**	Pn	**Pn**	**12 18 48.1**	**+1.1**
TPNV	**Topopah Spring**	**9.48**	**116**	P	**Pn**	**12 18 49.7**	**+2.5**
baz=304,SNR=12							
NEW	**Newport**	**9.55**	**43**		**Pn**	**12 18 50.1**	**+2.0**
NEW	**Newport**	**9.55**	**43**	P	**Pn**	**12 18 47.7**	**-0.4**
baz=230							
NEW	**Newport**	**9.55**	**43**	Pn	**Pn**	**12 18 49.0**	**+0.9**
comp=E,0.2nm,0.3s,baz=200,slow=2.8,SNR=4.0							
NEW				LR	LR	12 22 32.8	
comp=E,2μm,18.9s,baz=230,slow=38							
comp=E,2.9nm,0.8s							
GWY	**Greenwater Val**	**9.64**	**121**	Pn	**Pn**	**12 18 51.5**	**+2.0**
EDW2	**Edwards Air Fo**	**9.72**	**131**	P	**Pn**	**12 18 51.5**	**+1.1**
baz=318							
SPR3	**Spring Creek 3**	**9.94**	**101**	Pn	**Pn**	**12 18 53.5**	**-0.1**
PRN	**Pahroc Range**	**10.07**	**111**	Pn	**Pn**	**12 18 55.3**	**0.0**
BGU	**Big Grassy Mou**	**10.45**	**89**	Pn	**Pn**	**12 19 00.1**	**-0.4**
PSUT	**Pine Spring**	**10.45**	**103**	Pn	**Pn**	**12 19 00.5**	**-0.1**
SHPR	**Sheep Range**	**10.46**	**116**	Pn	**Pn**	**12 18 59.5**	**-1.1**
BBB	**Bella Bella**	**10.56**	**356**	Pn	**Pn**	**12 19 00.9**	**-0.9**
comp=E,0.4nm,0.3

P18A **Preston Nutter** 12.79 94 Pn Pn 12 19 33.9 +1.2
BW06 **Boulder Array** 12.89 79 Pn Pn 12 19 32.8 -1.1
BW06 **Boulder Array** 12.89 79 P Pn 12 19 34.1 +0.2
baz=271
PD31 **Pinedale Array** 12.89 79 Pn Pn 12 19 32.8 -1.1
PDAR **Pinedale Array** 12.89 79 Pn Pn 12 19 32.6 -1.3
PDAR **Pinedale Array** 12.89 79 Pn Pn 12 19 37.0 +3.1
comp=E,0.1nm,0.3s,baz=279,slow=12,SNR=8.6
PDAR LR LR 12 24 35.8
comp=E,822nm,21.6s,baz=260,slow=38
comp=E,0.7nm,0.7s
HMU **Henry Mountain** 12.95 101 Pn Pn 12 19 35.6 +0.8
WUAZ **Wupatki** 13.58 112 Pn Pn 12 19 41.6 -1.7
EGMT **Eagleton** 13.70 57 Pn Pn 12 19 41.7 -3.1
BRLDA **Berland Lookou** 13.95 24 Pn Pn 12 19 46.3 -1.9
PV14 **Lion Creek, Pa** 14.07 98 Pn Pn 12 19 49.8 -0.2
PV05 **Paradox Valley** 14.11 99 Pn Pn 12 19 49.6 -1.0
PV16 **Nyswonger Mesa** 14.17 98 Pn Pn 12 19 49.7 -1.7
O20A **White River Ci** 14.18 90 P Pn 12 19 51.9 +0.4
baz=283
PV18 **Skein Mesa, Pa** 14.19 98 Pn Pn 12 19 49.6 -2.1
PV07 **Paradox Valley** 14.33 97 Pn Pn 12 19 54.3 +0.8
PV01 **Paradox Valley** 14.48 98 Pn Pn 12 19 54.6 -1.2
RWWY **Rawlins** 14.70 83 Pn Pn 12 19 56.3 -2.4
214A **Organ Pipe Nat** 14.84 126 P P 12 20 03.7 -2.6
baz=315
MVCO **Mesa Verde** 14.87 101 Pn Pn 12 20 01.7 +0.6
MVCO **Mesa Verde** 14.87 101 P Pn 12 20 01.2 +0.2
baz=294,SNR=11
WRAK **Wrangell Islan** 15.19 348 P Pn 12 20 06.8 +1.9
baz=164
SMCO **Snowmass** 15.36 93 Pn Pn 12 20 06.9 -0.7
T35M **Bob Quinn** 15.49 353 Pn Pn 12 20 10.4 +1.5
LAO **LASA Array** 15.63 64 P Pn 12 20 10.5 -0.4
baz=259,SNR=7.9
N23A **Red Feather La** 15.75 86 P Pn 12 20 12.7 0.0
baz=280
TUC **Tucson** 15.86 121 Pn Pn 12 20 13.0 -0.9
TUC **Tucson** 15.86 121 P P 12 20 16.3 -1.4
baz=311
S22A **4UR Ranch, Cre** 15.91 98 P Pn 12 20 15.3 +0.6
baz=291
PHWY **Pilot Hill** 16.05 84 Pn Pn 12 20 14.2 -2.3
PHWY IAmb IAmb 12 20 19.7
comp=Z,44nm,1.6s
ISCO **Idaho Springs** 16.22 90 P Pn 12 20 18.3 -0.5
baz=284
S34M **Telegraph Cree** 16.50 352 Pn Pn 12 20 21.7 0.0
S34M **Telegraph Cree** 16.50 352 P P 12 20 24.8 +0.4
baz=168
S32K **Killisnoo** 16.58 345 Pn Pn 12 20 23.9 +1.1
S32K **Killisnoo** 16.58 345 P Pn 12 20 23.1 +0.4
baz=159
SDCO **Great Sand Dun** 16.90 96 P Pn 12 20 27.5 +0.1
baz=290,SNR=42
DLBC **Dease Lake** 16.91 354 Pn Pn 12 20 27.5 +0.3
DLBC **Dease Lake** 16.91 354 P Pn 12 20 27.4 +0.2
baz=171
DLBC **Dease Lake** 16.91 354 Pn Pn 12 20 26.6 -0.6
comp=Z,2.1nm,0.9s,baz=196,slow=10.0,SNR=2.3
DLBC LR LR 12 26 00.6
comp=Z,239nm,19.8s,baz=172,slow=34
TOAD **Toad River Com** 17.24 3 P Pn 12 20 32.4 +1.2
baz=184
R32K **Eaglecrest** 17.32 346 Pn 12 20 33.2 +1.0
ANMO **Albuquerque** 17.35 106 P 12 20 34.6 +0.4
ANMO **Albuquerque** 17.35 106 P Pn 12 20 33.7 +0.8
baz=299
ANMO **Albuquerque** 17.35 106 P P 12 20 34.0 -0.3
comp=Z,0.1nm,0.3s,baz=319,slow=6.0,SNR=2.8
comp=Z,0.7nm,0.5s
DGMT **Dagmar** 17.37 59 Pn Pn 12 20 32.5 -0.5
DGMT **Dagmar** 17.37 59 P Pn 12 20 33.1 +0.2
baz=255
LENM **Lemitar** 17.37 109 Pn Pn 12 20 32.8 -0.4
Q32M **Nakina River** 17.65 351 P 12 20 39.1 +1.7
Q32M **Nakina River** 17.65 351 P Pn 12 20 37.2 +0.8
baz=166,SNR=6.0
BESE **Bessie Mountai** 17.67 346 P 12 20 38.9 +1.3
121A **Cookes Peak, D** 17.71 115 Pn 12 20 38.1 +0.7
121A IAmb IAmb 12 20 46.1
comp=Z,53nm,1.6s
121A **Cookes Peak, D** 17.71 115 P Pn 12 20 38.0 +0.5
baz=307,SNR=13
T25A **Trinidad** 17.92 97 Pn Pn 12 20 38.3 -1.7
T25A IAmb IAmb 12 20 45.5
comp=Z,47nm,1.9s
T25A **Trinidad** 17.92 97 P Pn 12 20 40.3 +0.2
baz=292,SNR=6.3
R33M **Jennings River** 17.94 353 Pn 12 20 41.1 +1.1
R33M **Jennings River** 17.94 353 P P 12 20 41.3 +0.7
baz=170
HILA **High Level** 18.02 17 Pn 12 20 40.5 -0.3
P32M **Atlin** 18.45 349 P Pn 12 20 47.2 +1.0
P32M **Atlin** 18.45 349 P Pn 12 20 49.0 +2.8
baz=163,SNR=11
WTLY **Watson Lake, Y** 18.52 357 P P 12 20 47.0 +0.2
WTLY **Watson Lake, Y** 18.52 357 P Pn 12 20 48.5 +1.5
baz=175
KOTAN **Kotaneelee Air** 18.58 4 P P 12 20 48.4 +1.0
baz=186
SKAG **Skagway** 18.59 346 P Pn 12 20 48.6 +0.9
SKAG IAmb IAmb 12 20 51.8
comp=Z,33nm,1.8s
SKAG **Skagway** 18.59 346 P Pn 12 20 48.9 +1.2
baz=159
KSCO **Kaye Shedlock'** 18.66 90 P P 12 20 47.3 -1.4
KSCO **Kaye Shedlock'** 18.66 90 P P 12 20 48.1 -0.5
baz=286
OGNE **Ogallala** 18.66 84 P P 12 20 47.5 -1.1
OGNE IAmb IAmb 12 20 54.6
comp=Z,28nm,1.1s
OGNE **Ogallala** 18.66 84 P P 12 20 48.3 -0.3
baz=281
PLBC **Pleasant Camp** 18.78 345 P P 12 20 50.5 +0.9
baz=157
P33M **Teslin, Yukon** 18.93 351 P Pn 12 20 53.0 +0.9
P33M **Teslin, Yukon** 18.93 351 P Pn 12 20 52.8 +0.7
baz=166,SNR=8.4
P29M **Windy Craggy** 19.22 343 P P 12 20 54.8 +0.3
P29M IAmb IAmb 12 21 04.4
comp=Z,18nm,1.4s
P29M **Windy Craggy** 19.22 343 P P 12 20 55.4 +0.9
baz=154
RTBA **Rita Blanca** 19.43 98 P P 12 20 56.3 -0.8
P30M **Million Dollar** 19.51 345 P P 12 20 59.0 +1.3
baz=156
PNL **Peninsula** 19.64 341 P P 12 20 59.0 -0.1
baz=151
WHY **Whitehorse** 19.65 348 P P 12 21 00.1 +0.8
WHY **Whitehorse** 19.65 348 P P 12 20 59.5 +0.2
baz=162
MNTX **Cornudas Mount** 19.85 113 P Pn 12 21 03.7 +0.5
baz=307,SNR=14
N32M **Quiet Lake** 19.88 351 P P 12 21 01.8 +0.1
N32M IAmb IAmb 12 21 13.9
comp=Z,12nm,1.1s
N32M **Quiet Lake** 19.88 351 P P 12 21 02.5 +0.8
baz=166
TGTN **Hyland Airport** 19.91 358 P P 12 21 03.5 +1.4
baz=176
O30N **Mendenhall** 19.95 347 P P 12 21 03.4 +0.9
O30N **Mendenhall** 19.95 347 P P 12 21 03.7 +1.2
baz=159
O29M **Mount Kennedy** 20.01 343 P P 12 21 03.7 +0.5
O29M **Mount Kennedy** 20.01 343 P Pn 12 21 05.1 +0.1
baz=153
PINM **Pinnacle** 20.22 340 P P 12 21 06.9 +1.4
baz=150
YUK6 **Outpost Mounta** 20.54 344 P P 12 21 09.9 +0.7
baz=154
SUSD **Miller** 20.55 73 P P 12 21 09.7 +0.6
baz=272
N31M **Braeburn, Yuko** 20.57 348 P P 12 21 10.1 +0.9
N31M IAmb IAmb 12 21 15.7
comp=Z,13nm,1.0s
N31M **Braeburn, Yuko** 20.57 348 P P 12 21 10.9 +1.7
baz=160
N30M **Aishikik Lake** 20.77 346 P P 12 21 10.8 -0.6
N30M **Aishikik Lake** 20.77 346 P P 12 21 13.1 +1.7
baz=158
O28M **Mount Upton** 20.80 341 P P 12 21 13.7 +1.7
baz=150
FARO **Faro, Yukon** 20.96 352 P P 12 21 14.9 +1.5
FARO IAmb IAmb 12 21 25.2
comp=Z,26nm,1.6s

FARO **Faro, Yukon** 20.96 352 P P 12 21 15.0 +1.5
baz=166
YUK4 **Talbot Arm** 20.97 344 P P 12 21 15.4 +1.8
baz=155
FFC **Flin Flon** 20.98 43 P P 12 21 12.4 -1.2
FFC IAmb IAmb 12 21 21.4
comp=Z,15nm,0.9s
LOGN **Logan Glacier** 21.04 341 P P 12 21 16.0 +1.5
LOGN IAmb IAmb 12 21 24.5
comp=Z,11nm,1.0s
M31M **Drury Creek, Y** 21.06 350 P P 12 21 15.3 +0.8
M31M IAmb IAmb 12 21 26.0
comp=Z,24nm,1.4s
M31M **Drury Creek, Y** 21.06 350 P P 12 21 15.9 +1.4
baz=164
YUK8 **Steele Glacier** 21.15 343 P P 12 21 15.7 0.0
baz=152
GRNC **Granite Creek** 21.16 340 P P 12 21 16.8 +1.1
GRNC IAmb IAmb 12 21 24.4
comp=Z,24nm,1.2s
WAX **Waxell Ridge** 21.22 338 P P 12 21 16.4 +0.2
CTGM **Chitina Glacie** 21.25 340 P P 12 21 17.9 +1.3
CTGM IAmb IAmb 12 21 24.9
comp=Z,17nm,1.0s
CTG **Chitna Glacier** 21.25 340 P P 12 21 17.5 +0.9
baz=148
TGL **Tana Glacier** 21.46 338 P P 12 21 19.9 +0.9
TGL IAmb IAmb 12 21 39.0
comp=Z,14nm,1.1s
CRQE **Cirque** 21.54 338 P P 12 21 21.1 +1.4
baz=145
CRQM **Cirque** 21.55 338 P P 12 21 19.0 -0.9
WRGLY **Wrigley** 21.70 4 P P 12 21 21.8 +0.6
baz=187
YUK3 **Moose Creek** 21.74 342 P P 12 21 23.3 +1.3
baz=151,SNR=12
M30M **Minto, Yukon** 21.77 348 P P 12 21 23.1 +1.1
M30M IAmb IAmb 12 21 32.6
comp=Z,19nm,1.4s
M30M **Minto, Yukon** 21.77 348 P P 12 21 22.7 +0.7
baz=159,SNR=11
M29M **Somme Creek** 21.93 346 P P 12 21 24.9 +0.9
M29M IAmb IAmb 12 21 44.6
comp=Z,11nm,1.2s
M29M **Somme Creek** 21.93 346 P P 12 21 25.4 +1.4
baz=156,SNR=8.8
VRDI **Verde Repeater** 22.03 338 P P 12 21 26.1 +1.0
VRDI IAmb IAmb 12 21 28.4
comp=Z,14nm,1.2s
MCARA **McCarthy VSAT** 22.04 339 P P 12 21 25.6 +0.6
MCARA **McCarthy VSAT** 22.04 339 P P 12 21 26.6 +1.7
baz=146
YKAB2 **New Yellowknif** 22.05 15 P P 12 21 24.9 -0.1
YKA **Yellowknife Ar** 22.11 15 P P 12 21 24.9 -0.8
YKA **Yellowknife Ar** 22.11 15 P P 12 21 25.3 -0.4
comp=Z,3.6nm,0.8s,baz=208,slow=11,SNR=21
YKA PcP PcP 12 25 22.3 -0.4
comp=Z,1.2nm,1.1s,baz=194,slow=2.2,SNR=4.2
YKA LR LR 12 30 25.8
comp=Z,75nm,21.6s,baz=183,slow=38
comp=Z,3.6nm,0.8s
ECSD **EROS Data Cent** 22.28 74 P P 12 21 27.0 -0.8
ECSD **EROS Data Cent** 22.28 74 P P 12 21 27.9 +0.2
baz=275,SNR=7.0
LPIG **La Paz** 22.29 137 LR LR 12 29 05.3
comp=Z,253nm,20.6s,baz=324,slow=34
GLB **Gilahina Butte** 22.30 338 P P 12 21 28.9 +1.0
GLB IAmb IAmb 12 21 31.3
comp=Z,10nm,1.1s
F33A **5 Mile Ranch,** 22.41 69 P P 12 21 29.7 +0.6
TXAR **Lajitas Array** 22.46 116 P P 12 21 30.9 +1.0
comp=Z,0.2nm,0.6s,baz=322,slow=10,SNR=2.4
L29M **L29M** 22.49 347 P P 12 21 31.0 +1.2
L29M IAmb IAmb 12 21 33.7
comp=Z,16nm,1.0s
L29M **L29M** 22.49 347 P P 12 21 30.6 +0.8
baz=157,SNR=19
M27K **Edge Creek, AK** 22.58 342 P P 12 21 32.1 +1.2
M27K IAmb IAmb 12 21 36.2
comp=Z,17nm,1.2s
M27K **Edge Creek, AK** 22.58 342 P P 12 21 31.7 +0.8
baz=149
MAYO **Mayo, Yukon** 22.60 349 P P 12 21 31.0 +0.1
MAYO IAmb IAmb 12 21 52.8
comp=Z,12nm,0.9s
N25K **Chitina, Valde** 22.66 338 P P 12 21 32.8 +1.1
N25K **Chitina, Valde** 22.66 338 P P 12 21 32.8 +1.1
baz=143
AGMN **Agassiz Nation** 22.81 63 P P 12 21 34.0 +0.7
baz=265,SNR=5.9
GLI **Glacier Island** 22.85 334 P P 12 21 34.0 +0.4
baz=138
M26K **Nabesna, AK** 22.89 341 P P 12 21 35.0 +0.9
M26K **Nabesna, AK** 22.89 341 P P 12 21 34.8 +0.7
baz=147
KDAK **Kodiak Island** 22.95 323 LR LR 12 28 04.7
comp=Z,631nm,20.2s,baz=133,slow=30
KLU **Klutina** 22.95 336 P P 12 21 36.8 +2.0
KLU IAmb IAmb 12 21 47.1
comp=Z,16nm,1.1s
KLU **Klutina** 22.95 336 P P 12 21 36.1 +1.4
baz=141
ULM **Lac du Bonnet** 23.06 58 P P 12 21 36.6 +0.7
ULM **Lac du Bonnet** 23.06 58 P P 12 21 36.0 0.0
comp=Z,16nm,1.2s,baz=273,slow=11,SNR=10
comp=Z,16nm,1.2s
K29M **Barlow Dome** 23.07 348 P P 12 21 37.0 +1.0
K29M IAmb IAmb 12 21 39.0
comp=Z,12nm,1.1s
K29M **Barlow Dome** 23.07 348 P P 12 21 36.0 0.0
baz=159,SNR=12
L27K **Beaver Creek,** 23.18 343 P P 12 21 37.8 +0.7
L27K IAmb IAmb 12 21 44.7
comp=Z,7.1nm,1.1s
L27K **Beaver Creek,** 23.18 343 P P 12 21 37.3 +0.2
baz=150,SNR=9.6
PWL **Port Wells** 23.25 333 P P 12 21 39.6 +1.8
PWL **Port Wells** 23.25 333 P P 12 21 38.0 +0.3
baz=136
L26K **Log Cabin Wild** 23.51 341 P P 12 21 41.1 +0.8
L26K **Log Cabin Wild** 23.51 341 P P 12 21 41.1 +0.8
baz=148
M24K **Tolsona, Glenn** 23.51 337 P P 12 21 41.8 +1.4
baz=141
MENT **Mentasta** 23.52 341 P P 12 21 42.5 +2.0
MENT IAmb IAmb 12 21 43.3
comp=Z,11nm,0.9s
DAWY **Dawson** 23.59 346 P P 12 21 42.8 +1.6
DAWY IAmb IAmb 12 21 43.4
comp=Z,11nm,1.0s
DAWY **Dawson** 23.59 346 P P 12 21 42.7 +1.6
baz=156,SNR=17
J30M **Hart River** 23.59 350 P P 12 21 42.2 +0.9
J30M IAmb IAmb 12 21 44.1
comp=Z,13nm,1.1s
J30M **Hart River** 23.59 350 P P 12 21 42.4 +1.1
baz=162,SNR=14
KNK **Knik Glacier** 23.69 334 P P 12 21 41.2 -0.9
baz=136
M23K **Glacier View** 23.74 335 P P 12 21 42.2 -0.3
baz=138
J29N **Klondike Camp** 23.75 348 P P 12 21 44.7 +2.0
J29N IAmb IAmb 12 21 45.4
comp=Z,10nm,0.8s
J29N **Klondike Camp** 23.75 348 P P 12 21 42.3 -0.4
baz=158
SML **Sawmill** 23.94 335 P P 12 21 45.6 +1.0
SML IAmb IAmb 12 21 47.3
comp=Z,11nm,1.0s
SML **Sawmill** 23.94 335 P P 12 21 44.8 +0.2
baz=137
PAX **Paxson** 24.00 339 P P 12 21 44.8 -0.4
baz=144
PMR **Palmer** 24.05 334 P P 12 21 46.8 +1.4
PMR IAmb IAmb 12 21 49.2
comp=Z,8.5nm,1.1s
PMR **Palmer** 24.05 334 P P 12 21 46.3 +0.9
baz=136
GHO **Glory Hole Cre** 24.11 334 P P 12 21 47.5 +1.4
I30M **Mount Dempster** 24.22 350 P P 12 21 47.7 +0.5
I30M **Mount Dempster** 24.22 350 P P 12 21 48.1 +0.9
baz=162,SNR=6.0
SCRK **Sand Creek** 24.47 342 P P 12 21 50.2 +0.7
SCRK **Sand Creek** 24.47 342 P P 12 21 50.0 +0.5
baz=148
SUA **Susitna One** 24.51 332 P P 12 21 50.7 +0.8

baz=133
EGAK **Eagle** 24.57 345 P P 12 21 50.9 +0.7
EGAK IAmb IAmb 12 21 55.2
comp=Z,7.1nm,1.1s
EGAK **Eagle** 24.57 345 P P 12 21 50.4 +0.2
baz=153,SNR=7.5
DHY **Denali Highway** 24.62 337 P P 12 21 51.9 +1.1
DHY IAmb IAmb 12 21 54.4
comp=Z,11nm,1.0s
DHY **Denali Highway** 24.62 337 P P 12 21 51.6 +0.7
baz=141,SNR=10
I29M **Ogilvie Camp,** 24.62 348 P P 12 21 51.6 +0.9
I29M IAmb IAmb 12 21 53.5
comp=Z,9.5nm,1.2s
I29M **Ogilvie Camp,** 24.62 348 P P 12 21 51.4 +0.7
baz=159
SPU **Mount Spurr** 24.79 331 P P 12 21 53.4 +1.1
SPU IAmb IAmb 12 21 54.3
comp=Z,5.3nm,0.8s
J26L **Joseph Creek** 24.82 343 P P 12 21 53.7 +1.1
J26L IAmb IAmb 12 21 54.8
comp=Z,8.1nm,1.0s
J26L **Joseph Creek** 24.82 343 P P 12 21 53.3 +0.7
baz=149,SNR=12
I28M **Miner Creek** 24.96 347 P P 12 21 53.8 -0.1
baz=156,SNR=14
CUT **Chulitna** 25.00 334 P P 12 21 56.4 +2.2
CUT **Chulitna** 25.00 334 P P 12 21 55.8 +1.6
baz=135
O19K **Port Alsworth** 25.06 327 P P 12 21 56.4 +1.7
baz=125
SKT **Skwentna** 25.14 332 P P 12 21 56.4 +1.0
SKT **Skwentna** 25.14 332 P P 12 21 56.4 +1.0
baz=132
RND **Reindeer** 25.30 337 P P 12 21 57.9 +1.0
RND IAmb IAmb 12 22 06.9
comp=Z,9.0nm,1.1s
J25K **Salcha River,** 25.33 341 P P 12 21 57.9 +0.7
J25K IAmb IAmb 12 21 59.3
comp=Z,7.6nm,1.0s
J25K **Salcha River,** 25.33 341 P P 12 21 57.4 +0.2
baz=146,SNR=9.3
EPYK **Eagle Plains** 25.36 351 P P 12 21 58.3 +0.9
EPYK **Eagle Plains** 25.36 351 P P 12 21 58.3 +0.9
baz=162
I27K **Kandik River** 25.39 346 P P 12 21 58.3 +0.6
baz=153,SNR=10.0
I26K **Coal Creek Min** 25.43 344 P P 12 21 59.3 +1.3
I26K IAmb IAmb 12 22 02.2
comp=Z,11nm,1.1s
I26K **Coal Creek Min** 25.43 344 P P 12 21 59.6 +1.6
baz=150
H29M **Whitestone** 25.43 349 P P 12 21 58.4 +0.4
H29M **Whitestone** 25.43 349 P P 12 21 59.0 +0.9
baz=159,SNR=26
MCK **McKinley** 25.57 337 P P 12 21 60.0 +0.6
MCK IAmb IAmb 12 22 02.6
comp=Z,8.2nm,1.1s
MCK **McKinley** 25.57 337 P P 12 22 00.5 +1.1
baz=139
M20K **Styx River** 25.64 331 P P 12 22 00.3 +0.3
M20K IAmb IAmb 12 22 07.9
comp=Z,8.0nm,0.9s
M20K **Styx River** 25.64 331 P P 12 22 00.4 +0.4
baz=130
G31M **Satah River** 25.64 353 P P 12 21 59.0 -0.9
G31M **Satah River** 25.64 353 P P 12 22 00.6 +0.7
baz=167
E38A **The Farm, Brul** 25.68 67 P P 12 21 58.8 -1.7
IL03 **Eielson Array** 25.82 340 P P 12 22 02.1 +0.5
IL31 **Eielson Array** 25.83 340 P P 12 22 02.5 +0.9
IL31 IAmb IAmb 12 22 04.7
comp=Z,7.1nm,1.1s
ILAR **Eielson Array** 25.83 340 P P 12 22 02.2 +0.5
ILAR **Eielson Array** 25.83 340 P P 12 22 01.1 -0.6
comp=Z,4.2nm,1.0s,baz=156,slow=7.8,SNR=30
ILAR PcP PcP 12 25 31.1 +0.5
comp=Z,1.1nm,0.9s,baz=162,slow=2.3,SNR=8.1
ILAR LR LR 12 30 20.4
comp=Z,310nm,21.7s,baz=143,slow=32
comp=Z,4.2nm,1.0s
G30M **tAoh Zraii Nji** 25.89 352 P P 12 22 02.6 +0.4
G30M IAmb IAmb 12 22 15.9
comp=Z,6.4nm,1.0s
G30M **tAoh Zraii Nji** 25.89 352 P P 12 22 02.1 -0.1
baz=164
H27K **Steamboat Moun** 25.95 346 P P 12 22 02.9 +0.2
baz=154,SNR=7.4
O17K **Koliganek Bris** 26.00 324 P P 12 22 04.1 +0.9
baz=120
G29M **Pine Creek** 26.04 350 P P 12 22 03.7 +0.1
baz=160,SNR=18
M19K **Big River Lodg** 26.12 330 P P 12 22 05.3 +1.0
baz=128
PRP **Porcupine Dome** 26.13 342 P P 12 22 04.2 -0.3
baz=147,SNR=6.6
NEA2 **Nenana** 26.27 338 P P 12 22 06.6 +1.0
baz=140,SNR=9.3
L20K **Farewell, AK** 26.29 332 P P 12 22 06.8 +0.9
baz=130
M18K **Stony River** 26.41 329 P P 12 22 07.4 +0.4
baz=125
N17K **Nushagak Hills** 26.43 326 P P 12 22 08.2 +1.1
baz=122
BPAW **Bear Paw Mtn.** 26.45 336 P P 12 22 07.8 +0.5
baz=136
F30M **Barrier River** 26.45 352 P P 12 22 06.5 -0.8
baz=165
L19K **White Mountain** 26.46 330 P P 12 22 08.2 +0.8
baz=128
G27K **Doyon Strip** 26.49 347 P P 12 22 07.6 0.0
baz=154,SNR=6.4
I23K **Minto, Yukon-K** 26.78 339 P P 12 22 11.5 +1.3
baz=140,SNR=6.1
H25L **Birch Creek** 26.82 343 P P 12 22 11.4 +0.8
baz=147,SNR=9.7
K20K **Telida** 26.93 333 P P 12 22 12.7 +1.1
baz=131
H24K **Noodor Dome** 26.94 341 P P 12 22 13.3 +1.5
baz=143
O15K **Ungalikthiuk R** 26.95 322 P P 12 22 13.1 +1.3
baz=116
F28M **Old Crow** 26.95 349 P P 12 22 12.9 +1.1
baz=158,SNR=6.0
G26K **Porcupine Rive** 27.00 345 P P 12 22 12.4 +0.2
baz=151
M17K **Holitna River** 27.01 327 P P 12 22 12.8 +0.5
baz=123
MLY **Manley** 27.07 338 P P 12 22 12.6 -0.3
baz=138,SNR=8.9
L18K **Granite Mounta** 27.17 329 P P 12 22 14.1 +0.3
baz=125
G25K **Bearman Lake** 27.31 343 P P 12 22 16.1 +1.2
baz=147
H23K **Yukon River** 27.35 340 P P 12 22 15.9 +0.4
baz=141
J20K **Nowinta River** 27.50 334 P P 12 22 16.7 0.0
baz=132
N15K **Kwethluk River** 27.51 324 P P 12 22 17.7 +0.9
baz=117
I21K **Tanana** 27.54 337 P P 12 22 18.5 +1.5
baz=136
G24K **Hadweenzic Riv** 27.55 342 P P 12 22 17.8 +0.6
baz=145,SNR=12
F26K **Sheenjek River** 27.72 346 P P 12 22 19.2 +0.5
baz=151
E27K **Coleen River** 27.74 348 P P 12 22 20.2 +1.4
baz=156,SNR=10
L17K **Donlin** 27.75 328 P P 12 22 19.6 +0.6
baz=123
C36M **Paulatuk** 27.79 2 P P 12 22 19.5 +0.3
baz=184
E28M **Babbage River** 27.84 350 P P 12 22 19.6 -0.1
baz=159
J19K **Poorman** 27.87 333 P P 12 22 20.0 0.0
baz=129
H22K **Ishtalitna Cre** 27.89 339 P P 12 22 20.9 +0.6
baz=138,SNR=5.5
F25K **Christian Rive** 27.92 345 P P 12 22 21.0 +0.5
baz=149
J18K **Innoko River** 27.92 331 P P 12 22 21.3 +0.8
baz=127
L16K **Owhat River** 28.00 327 P P 12 22 22.5 +1.4
baz=120,SNR=6.9
M15K **Kasigluk River** 28.02 324 P P 12 22 21.6 +0.3
baz=117
I20K **Naaghedeneel** 28.02 335 P P 12 22 22.5 +1.1

baz=132
K17K Iditarod 28.07 329 P **P 12 22 22.3 +0.4**
baz=124
H21K Melozitna Rive 28.12 337 P **P 12 22 22.9 +0.7**
baz=136
N14K Kuskokwak Cree 28.12 322 P **P 12 22 23.0 +0.8**
baz=114
G23K Bananza Creek 28.17 341 P **P 12 22 23.9 +1.2**
baz=141,SNR=7.7
F24K Squaw Lake 28.32 343 P **P 12 22 25.0 +0.9**
baz=145
M14K Bethel 28.60 324 P **P 12 22 26.5 0.0**
baz=116
COLD Coldfoot 28.62 341 P **P 12 22 27.4 +0.8**
baz=141
H20K Anotleneega Mo 28.62 336 P **P 12 22 27.2 +0.5**
baz=132
D27M Malcolm River 28.62 350 P **P 12 22 26.7 0.0**
baz=157
G22K Bettles 28.71 340 P **P 12 22 27.4 0.0**
baz=139
E24K Your Creek 28.91 343 P **P 12 22 29.3 -0.1**
baz=145
G21K Allakaket 28.94 338 P **P 12 22 30.9 +1.4**
baz=136
K15K Wolf Creek Mou 29.13 327 P **P 12 22 32.6 +1.4**
baz=119
H19K Roundabout Mou 29.13 335 P **P 12 22 31.9 +0.7**
baz=130,SNR=6.8
E23K Chandalar 29.15 343 P **P 12 22 31.7 +0.3**
baz=143,SNR=8.0
L14K Kuka Creek 29.18 325 P **P 12 22 31.9 +0.3**
baz=116
J16K Anvik River 29.26 329 P **P 12 22 32.4 0.0**
baz=121,SNR=5.2
C27K Jago River 29.37 348 P **P 12 22 34.6 +1.2**
baz=154
F21K Alatna River 29.45 339 P **P 12 22 34.6 +0.6**
baz=137
D25K Kavik River 29.55 346 P **P 12 22 36.9 +1.9**
baz=149,SNR=6.5
TOLK Toolik Lake Re 29.61 343 P **P 12 22 36.4 +0.9**
baz=144,SNR=6.9
I17K Unalakleet 29.62 330 P **P 12 22 36.7 +1.2**
baz=122
C26K Camden Bay 29.82 348 P **P 12 22 38.5 +1.3**
baz=152
H17K Granite Mounta 29.92 332 P **P 12 22 38.8 +0.5**
baz=125
F20K Avaraart Lake 29.94 338 P **P 12 22 38.6 +0.3**
baz=133
D23K Nanushuk River 30.11 343 P **P 12 22 40.4 +0.5**
baz=143,SNR=9.3
G17K Kiwalik Mounta 30.50 333 P **P 12 22 43.6 +0.2**
baz=125
E20K Nigu River 30.91 339 P **P 12 22 47.3 +0.3**
baz=134
C21K Knifeblade Rid 31.20 341 P **P 12 22 49.8 +0.3**
baz=137
D20K Etivluk River 31.34 340 P **P 12 22 51.1 +0.3**
baz=134
B21K Ikpikpuk River 31.51 342 P **P 12 22 51.6 -0.6**
baz=138
D19K Kuna River 31.59 339 P **P 12 22 52.9 -0.1**
baz=132
F15K North Star Dit 32.02 331 P **P 12 22 56.7 +0.1**
baz=120
F14K Arctic Creek 32.51 330 P **P 12 23 02.0 +1.0**
baz=117
C18K Utukok River 32.56 337 P **P 12 23 01.5 0.0**
baz=128
TKL Tuckaleechee C 33.91 86 LR LR 12 38 00.2
comp=Z,613nm,19.2s,baz=297,slow=38
SADO Sadowa 34.53 68 LR LR 12 38 10.8
comp=Z,448nm,19.0s,baz=249,slow=38
RES Resolute Bay 36.16 14 LR LR 12 38 30.0
comp=Z,104nm,18.9s,baz=13,slow=37
CMIG Matias Romero 36.75 122 LR LR 12 39 22.9
comp=Z,201nm,18.1s,baz=308,slow=37
FRB Frobisher Bay 39.82 36 LR LR 12 40 52.1
comp=Z,418nm,18.4s,baz=228,slow=37
SHEM Shemya Is, Ala 40.52 307 LR LR 12 40 14.0
comp=Z,94nm,18.8s,baz=108,slow=35
SCHQ Schefferville 40.83 50 P **P 12 24 11.8 -0.2**
comp=Z,3.7nm,0.9s,baz=277,slow=6.9,SNR=4.4
SCHQ LR LR 12 41 01.2
comp=Z,152nm,20.7s,baz=269,slow=36
comp=Z,3.7nm,0.9s
SFJD Kangerlussuaq 47.24 31 LR LR 12 45 14.7
comp=Z,280nm,18.1s,baz=282,slow=37
JTS Las Juntas de 48.22 118 LR LR 12 46 51.8
comp=Z,53nm,18.3s,baz=314,slow=38
MA2 Magadan 51.63 320 LR LR 12 44 16.4
comp=Z,112nm,21.1s,baz=98,slow=32
TIXI Tiksi 55.27 338 LR LR 12 49 47.1
comp=Z,124nm,20.9s,baz=86,slow=36
SJG San Juan 56.42 95 LR LR 12 54 50.0
comp=Z,53nm,18.1s,baz=272,slow=41
SDV Santo Domingo 59.13 107 LR LR 12 56 12.6
comp=Z,95nm,18.8s,baz=274,slow=40
BORG Borgarnes 59.20 29 LR LR 12 51 56.7
comp=Z,160nm,19.5s,baz=304,slow=36
ROSC El Rosal 59.37 113 LR LR 12 59 31.6
comp=Z,63nm,18.4s,baz=34,slow=44
JMIC Jan Mayen 59.41 20 LR LR 12 51 56.6
comp=Z,48nm,21.2s,baz=326,slow=36
H11N3 WAKE ISLAND Hy 59.55 270 T T 13 31 14.3
baz=52,slow=75,SNR=292
H11N2 WAKE ISLAND Hy 59.55 270 T T 13 31 09.2
baz=52,slow=75,SNR=248
H11N1 WAKE ISLAND Hy 59.57 270 T T 13 31 10.4
baz=52,slow=75,SNR=186
YAK Yakutsk 59.88 328 LR LR 12 51 37.1
comp=Z,175nm,19.4s,baz=59,slow=35
H11S1 WAKE ISLAND Hy 60.44 269 T T 13 32 15.2
baz=52,slow=75,SNR=350
H11S2 WAKE ISLAND Hy 60.45 269 T T 13 32 08.3
baz=52,slow=75,SNR=329
H11S3 WAKE ISLAND Hy 60.46 269 T T 13 32 07.6
baz=52,slow=75,SNR=188
PPT Papeete 62.56 205 LR LR 12 47 12.5
comp=Z,85nm,20.7s,baz=323,slow=29
PPT2 Papeete2 62.59 205 *e*LR LR 12 45 29.7
PPT2 *e*LR LR 12 45 30.9
comp=Z,136nm,25.8s
PCRV Puerto La Cruz 62.62 101 LR LR 12 55 26.1
comp=Z,125nm,21.6s,slow=37
ASAJ Asahikawa 62.98 306 LR LR 12 49 55.7
comp=Z,40nm,21.8s,baz=138,slow=32
KLR Kul'dur 66.22 315 LR LR 12 56 14.6
comp=Z,81nm,18.1s,baz=167,slow=36
NRIK Noril'sk 66.44 347 P **P 12 27 18.7 -0.7**
comp=Z,1.7nm,0.6s,baz=48,slow=8.2,SNR=3.9
comp=Z,1.7nm,0.6s
ARCES ARCESS Array B 67.27 10 LR LR 12 56 43.2
comp=Z,44nm,20.4s,baz=96,slow=36
HEH HeiHe 67.82 318 *eP* **P 12 27 27.1 -1.4**
HEH pmax pmax
comp=Z,3.0nm,1.0s
TBI Tubuai 67.98 202 *e*LR LR 12 48 02.4
comp=Z,438nm,24.0s
USRK Ussuriysk Ar. 69.15 311 P **P 12 27 36.7 -0.1**
comp=Z,2.8nm,0.8s,baz=59,slow=5.6,SNR=5.3
comp=Z,2.8nm,0.8s
RAR Rarotonga 69.58 213 LR LR 12 50 50.0
comp=Z,95nm,19.3s,baz=325,slow=30
MJAR Matsushiro Arr 70.07 301 LR LR 12 52 09.7
comp=Z,71nm,21.7s,baz=45,slow=31
NNA Nana 70.47 127 LR LR 12 54 58.0
comp=Z,41nm,21.8s,baz=330,slow=33
JHJ Hachijo jima 2 71.13 298 LR LR 12 56 48.5
comp=Z,48nm,19.6s,baz=98,slow=34
NB2 NORSAR Subarra 72.11 20 P **P 12 27 54.9 +0.2**
comp=Z,15nm,1.7s,baz=329,slow=5.6
NOA NORSAR Array B 72.11 20 P **P 12 27 55.0 +0.2**
comp=Z,1.9nm,0.9s,baz=329,slow=5.7,SNR=4.1
NOA LR LR 12 59 52.4
comp=Z,40nm,20.6s,baz=325,slow=36
comp=Z,1.9nm,0.9s
JCJ Chichijima 73.20 291 LR LR 12 53 36.6
comp=Z,46nm,22.0s,baz=36,slow=30
HFS Hagfors 73.52 19 P **P 12 28 02.6 -0.4**
comp=Z,6.5nm,0.9s,baz=316,slow=4.1,SNR=8.6
HFS LR LR 13 00 04.4
comp=Z,73nm,20.4s,baz=348,slow=36
comp=Z,6.5nm,0.9s
MDP Montagnes des 74.85 97 LR LR 13 04 28.7
comp=Z,57nm,20.2s,baz=270,slow=38
FINES FINESS Array B 74.92 13 P **P 12 28 10.8 -0.3**
comp=Z,2.8nm,0.7s,baz=332,slow=5.5,SNR=12
FINES LR LR 13 00 05.6
comp=Z,44nm,20.0s,baz=210,slow=35
comp=Z,2.8nm,0.7s
KSRS Korea Array 75.84 308 LR LR 12 56 37.4
comp=Z,37nm,21.9s,baz=220,slow=32
JNU Nakatsue 76.89 303 LR LR 12 55 56.2
comp=Z,50nm,22.0s,baz=152,slow=31
XLT XiLinHaoTe 77.80 319 *eP* **P 12 28 31.1 +3.1**
XLT pP pwP 12 28 35.6 +1.6
XLT sP PcP 12 28 39.1 +1.2
XLT pmax pmax
comp=Z,7.0nm,1.0s
XLT pmax pmax
comp=Z,92nm,4.6s
SONM Songino Array 79.20 327 P **P 12 28 35.5 -0.1**
comp=Z,2.9nm,1.0s,baz=52,slow=4.5,SNR=14
SONM LR LR 13 03 26.2
comp=Z,133nm,19.6s,baz=60,slow=36
comp=Z,2.9nm,1.0s
GUMO Guam 79.82 279 LR LR 12 55 50.4
comp=Z,114nm,21.7s,baz=68,slow=30
KIRV Kirov 80.07 2 LR LR 13 08 12.0
comp=Z,30nm,19.0s,baz=50,slow=39
ZALV Zalesovo Beam 80.95 342 P **P 12 28 44.5 -0.3**
comp=Z,1.8nm,0.8s,baz=46,slow=6.4,SNR=6.1
ZALV LR LR 13 06 15.9
comp=Z,80nm,19.9s,baz=55,slow=37
comp=Z,1.8nm,0.8s
BRG Berggiesshubel 81.70 24 *eP* **P 12 28 50.4 +1.5**
BRG Amp 12 28 51.1
comp=Z,5.7nm,1.0s
BRG Amp 13 07 51.0
comp=Z,0.1nm,14.2s
ARU Arti 82.17 357 LR LR 13 08 25.2
comp=Z,39nm,18.6s,baz=94,slow=38
PVCC Panska Ves 82.19 24 AMS AMS 13 07 00.0
comp=Z,100nm,17.0s
HHC Hu-ho-hao-te 82.30 319 *eP* **P 12 28 52.8 +0.4**
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,31nm,4.3s
PRU Pruhonice 82.66 24 AMS AMS 13 08 00.0
comp=Z,100nm,19.8s
JOW Kunigami 82.78 299 LR LR 12 58 50.3
comp=Z,31nm,20.5s,baz=150,slow=31
DPC Dobruska-Polom 82.87 23 AMS AMS 13 09 00.0
comp=Z,100nm,17.9s
KHC Kasperske Hory 83.12 25 *eP* **P 12 28 57.0 +0.6**
KHC AMS AMS 13 05 50.0
comp=Z,100nm,20.6s
BTO Baotou 83.24 320 *eP* **P 12 28 53.1 -4.1**
BTO pP **pP 12 28 58.1 -2.0**
BTO sP **sP 12 29 00.6 -0.5**
BTO PP PP 12 32 00.0 -7.9
BTO Baotou 83.24 320 S S 12 39 05.8 -12
BTO Baotou 83.24 320 SS SS 12 44 32.6 -8.3
BTO pmax pmax
comp=Z,13nm,0.6s
BTO pmax pmax
comp=Z,370nm,7.5s
BTO LR LR
comp=N,340nm,12.6s
BTO LR LR
comp=E,310nm,6.1s
BTO LR LR
comp=Z,220nm,7.4s
CKRC Cesky Krumlov 83.62 25 AMS AMS 13 07 40.0
comp=Z,100nm,17.8s
ESDC Sonseca Array 83.86 41 P **P 12 29 01.0 +0.6**
comp=Z,1.7nm,0.9s,baz=310,slow=4.5,SNR=13
ESDC LR LR 13 03 37.6
comp=Z,85nm,19.4s,baz=320,slow=34
comp=Z,1.7nm,0.9s
VRAC Vranov 83.88 23 LR LR 13 08 38.1
comp=Z,52nm,18.2s,baz=340,slow=37
HNR Honiara 83.91 252 LR LR 13 00 21.2
comp=Z,2μm,19.6s,baz=100,slow=31
DAVOX Davos/Dischmat 83.92 28 LR LR 13 05 56.1
comp=Z,50nm,21.0s,baz=262,slow=35
RNPP8 Varash 84.38 17 P **P 12 29 03.4 +0.7**
RNPP5 Staryi Chortor 84.49 17 P **P 12 29 04.0 +0.8**
BVAR Borovoye Array 84.52 350 P **P 12 29 03.1 -0.3**
comp=Z,4.0nm,0.9s,baz=31,slow=3.5,SNR=15
BVAR LR LR 13 07 59.7
comp=Z,66nm,21.6s,baz=118,slow=37
comp=Z,4.0nm,0.9s
KURBB Kurchatov Arra 85.45 344 P **P 12 29 07.4 -0.7**
comp=Z,4.1nm,1.0s,baz=21,slow=4.7,SNR=19
comp=Z,4.1nm,1.0s
AK21 Malin Array Si 85.57 15 P **P 12 29 08.4 -0.3**
AK22 Malin Array Si 85.59 15 P **P 12 29 08.5 -0.3**
AK20 Malin Array Si 85.59 15 P **P 12 29 08.7 -0.1**
AK19 Malin Array Si 85.61 15 P **P 12 29 08.7 -0.2**
AK18 Malin Array Si 85.62 15 P **P 12 29 08.7 -0.2**
AK04 Malin Array Si 85.64 15 P **P 12 29 08.8 -0.2**
AK03 Malin Array Si 85.65 15 P **P 12 29 08.8 -0.3**
AKASG Malin Array Be 85.67 15 P **P 12 29 07.8 -1.3**
comp=Z,1.9nm,0.6s,baz=350,slow=4.5,SNR=14
AKASG LR LR 13 09 04.5
comp=Z,25nm,19.0s,baz=21,slow=37
comp=Z,1.9nm,0.6s
KIEV Kiev 85.68 15 P **P 12 29 09.0 -0.2**
AK12 Malin Array Si 85.72 15 P **P 12 29 09.3 -0.1**
AK14 Malin Array Si 85.72 15 P **P 12 29 09.4 0.0**
AK08 Malin Array Si 85.74 15 P **P 12 29 09.2 -0.3**
AK10 Malin Array Si 85.78 15 P **P 12 29 09.4 -0.3**
AKTO Aktyubinsk 88.19 357 LR LR 13 11 00.6
comp=Z,26nm,18.7s,baz=164,slow=37
MKAR Makanchi Array 88.19 340 P **P 12 29 19.9 -1.7**
comp=Z,1.2nm,1.0s,baz=38,slow=7.3,SNR=3.9
MKAR LR LR 13 10 33.1
comp=Z,75nm,18.5s,baz=89,slow=37
comp=Z,1.2nm,1.0s
DZM Mont Dzumac 88.41 238 *e*LR LR 12 57 26.7
comp=Z,253nm,26.4s
DZM Mont Dzumac 88.41 238 LR LR 13 02 32.0
comp=Z,112nm,18.2s,baz=245,slow=31
MDT Midelt 88.84 45 LR LR 13 08 17.0
comp=Z,49nm,18.3s,baz=144,slow=35
XAN Xi'an 88.90 317 P **P 12 29 29.6 +4.4**
XAN pmax pmax
comp=Z,8.0nm,0.8s
BDFB Brasilia 92.17 109 LR LR 13 15 00.2
comp=Z,76nm,19.2s,baz=326,slow=38
KEST Kesra 93.16 34 LR LR 13 10 21.9
comp=Z,67nm,19.5s,baz=215,slow=35
CPUP Villa Florida 93.27 123 LR LR 13 15 25.6
comp=Z,31nm,18.5s,baz=5.0,slow=37
VAE Valguarnera 93.66 30 LR LR 13 12 50.7
comp=Z,51nm,19.4s,baz=328,slow=36
AAK Ala-Archa 93.90 344 LR LR 13 14 35.9
comp=Z,84nm,18.7s,baz=159,slow=37
URZ Urewera 94.51 221 LR LR 13 08 18.0
comp=Z,75nm,18.1s,baz=26,slow=33
BBTS Babate 94.91 66 LR LR 13 09 29.1
comp=Z,53nm,21.6s,baz=148,slow=34
PLCA Paso Flores 96.58 140 LR LR 13 05 25.0
comp=Z,60nm,18.1s,baz=190,slow=30
GNI Garni 98.22 6 LR LR 13 16 34.6
comp=Z,41nm,20.6s,baz=72,slow=37
DAV Davao City (W) 98.24 287 LR LR 13 13 34.6
comp=Z,51nm,18.2s,baz=196,slow=35
PZH PanZhiHua 98.63 317 P **P 12 30 09.9 -0.2**
PZH pmax pmax
comp=Z,140nm,5.3s

IDC 24 12:27:15.5±1.6, 9°.80N×125°.64E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=174.2km s-min=23.2km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.77**	**164**	P	P	12 33 32.6	-0.4
	0.3nm,0.6s,baz=344,slow=8.7,SNR=5.2						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**34.23**	**166**	P	P	12 34 03.5	+0.2
	0.2nm,0.4s,baz=345,slow=7.2,SNR=6.7						
	0.2nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**40.99**	**71**	T	T	13 18 12.4	
	baz=262,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**41.00**	**71**	T	T	13 18 12.1	
	baz=262,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**41.01**	**71**	T	T	13 18 12.6	
	baz=262,slow=75,SNR=20						
MKAR	**Makanchi Array**	**52.02**	**323**	P	P	12 36 26.9	0.0
	0.4nm,0.5s,baz=122,slow=7.7,SNR=4.1						
	0.4nm,0.5s						
ARCES	**ARCESS Array B**	**84.41**	**340**	P	P	12 39 49.4	-0.3
	0.2nm,0.4s,baz=76,slow=7.5,SNR=3.9						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**86.00**	**332**	P	P	12 39 57.9	+0.2
	0.5nm,0.5s,baz=55,slow=5.3,SNR=5.0						
	0.5nm,0.5s						

NEIC ***24*** *12:48:43.7±2.8, 18°.04N±0°.09×97°.76W±0°.05, h65km±9km, mb4.2/136, Error ellipse: s-maj=13.4km s-min=5.4km az=198.0*
MEX ***24*** *12:48:48.1±0.6, 17°.76N×97°.80W, h59km±4km, MD4.4*
IDC ***24*** *12:48:49.2±2.5, 17°.87N×97°.48W, h90km±24km, mb3.5/6, mbtmp3.9/10, MS3.0/5, Error ellipse: s-maj=35.0km s-min=17.8km az=35.0*

ISC 24 12:48:44.3±0.5, 17°.79N±0°.02×97°.80W±0°.03, h74km±5km, n359, o2°52/402, mb4.2/33, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLIG	**Huajuapan de L**	**0.04**	**350**	*i* P	**Pn**	**12 48 55.5**	**+0.3**
HLIG				*i* S	**Sn**	**12 49 02.1**	**-1.1**
FTIG	**Fresnillo de T**	**0.34**	**290**	*i* P	**Pn**	**12 48 57.1**	**+0.7**
FTIG				*e*S	**Sn**	**12 49 04.4**	**-0.8**
TXIG	**Tlaxiaco**	**0.54**	**177**	*e*P	**Pn**	**12 48 58.4**	**+0.2**
TXIG				*e*S	**Sn**	**12 49 06.9**	**-1.5**
TPIG	**Tehuac#an**	**0.75**	**34**	*i* P	**Pn**	**12 49 02.2**	**+2.0**
TPIG				*e*S	**Sn**	**12 49 13.8**	**+1.8**
TOIG	**Toxpalan**	**0.76**	**67**	*i* P	**Pn**	**12 49 01.8**	**+1.5**
TOIG				*e*S	**Sn**	**12 49 12.9**	**+0.8**
TLIG	**Tlapa**	**0.77**	**253**		**Pn**	**12 49 00.9**	**+0.5**
TLIG				Sn	**Sn**	**12 49 12.3**	**0.0**
TLIG	**Tlapa**	**0.77**	**253**	*i* P	**Pn**	**12 49 01.5**	**+1.1**
TLIG				*e*S	**Sn**	**12 49 12.4**	**0.0**
YOIG	**Yosondua**	**0.96**	**166**	*e*P	**Pn**	**12 49 03.8**	**+0.9**
YOIG				*e*S	**Sn**	**12 49 16.7**	**+0.1**
MGIG	**Malinaltepec**	**0.97**	**235**	*e*P	**Pn**	**12 49 03.8**	**+0.9**
MGIG				*e*S	**Sn**	**12 49 16.8**	**+0.1**
VHO	**Vista Hermosa**	**1.24**	**125**	*e*P	**Pn**	**12 49 07.8**	**+1.6**
VHO				*e*S	**Sn**	**12 49 24.1**	**+1.4**
PBCV	**Popocatepetl**	**1.39**	**329**	*e*P	**Pn**	**12 49 11.2**	**+3.0**
PBCV				*e*S	**Sn**	**12 49 28.2**	**+1.9**
PNIG	**Pinotepa**	**1.43**	**193**	*e*P	**Pn**	**12 49 08.4**	**-0.1**
PNIG				*e*S	**Sn**	**12 49 24.3**	**-2.4**
PBXN	**Popocatepetl**	**1.46**	**326**	*e*P	**Pn**	**12 49 12.3**	**+3.0**
PBXN				*e*P		12 49 12.4	
PBXN				*e*S	**Sn**	**12 49 29.6**	**+1.4**
PBXN				*e*S		12 49 29.6	
PBPN	**Popocatepetl**	**1.47**	**328**	*e*P	**Pn**	**12 49 12.4**	**+2.9**
PBPN				*e*S	**Sn**	**12 49 29.0**	**+0.6**
PPM	**Popocatepetl**	**1.49**	**328**	*e*P	**Pn**	**12 49 13.0**	**+3.2**
PPM				*e*S	**Sn**	**12 49 29.0**	**+0.1**
YAIG	**Yautepec**	**1.61**	**312**	*e*P	**Pn**	**12 49 13.8**	**+2.8**
YAIG				*e*S	**Sn**	**12 49 31.0**	**-0.1**
CRIG	**Cruz Grande**	**1.65**	**231**	*e*P	**Pn**	**12 49 10.8**	**-0.6**
CRIG				*e*S	**Sn**	**12 49 32.0**	**+0.1**
PLIG	**Platanillo**	**1.73**	**290**	*e*P	**Pn**	**12 49 15.2**	**+2.8**
PLIG				*e*S	**Sn**	**12 49 32.6**	**-1.3**
MEIG	**Mezcala**	**1.74**	**275**	*e*P	**Pn**	**12 49 14.8**	**+2.2**
MEIG				*e*S	**Sn**	**12 49 33.3**	**-0.8**
JAUV	**Jalcomulco**	**1.83**	**31**	*e*P	**Pn**	**12 49 15.6**	**+1.9**
JAUV				*e*S	**Sn**	**12 49 35.7**	**-0.4**
PEIG	**Puerto Escondi**	**1.89**	**161**	*e*P	**Pn**	**12 49 15.7**	**+1.1**
PEIG				*e*S	**Sn**	**12 49 37.2**	**-0.4**
NEUV	**Arroyo Zacate**	**1.90**	**92**	*e*P	**Pn**	**12 49 16.6**	**+1.8**
NEUV				*e*S	**Sn**	**12 49 39.0**	**+1.1**
TLVM	**San Miguel Top**	**1.91**	**318**	*e*P	**Pn**	**12 49 15.9**	**+0.8**
TLVM				*e*S	**Sn**	**12 49 36.2**	**-2.3**
XCVM	**Xochimilco**	**1.92**	**319**	*e*P	**Pn**	**12 49 19.0**	**+3.8**
XCVM				*e*S	**Sn**	**12 49 36.4**	**-2.2**
DAIG	**Los Arroyos**	**1.93**	**247**	*e*P	**Pn**	**12 49 15.3**	**+0.2**
DAIG				*e*S	**Sn**	**12 49 38.4**	**-0.2**
TXVM	**Universitario**	**1.95**	**327**	*e*P	**Pn**	**12 49 17.4**	**+1.9**
TXVM				*e*S	**Sn**	**12 49 39.4**	**+0.1**
CNCY	**Coyoacan**	**2.00**	**319**	*e*P	**Pn**	**12 49 17.6**	**+1.4**
CNCY				*e*S	**Sn**	**12 49 37.4**	**-3.2**
UNM	**Universidad Na**	**2.01**	**320**	Pn	**Pn**	**12 49 14.6**	**-1.9**
UNM	**Universidad Na**	**2.01**	**320**	*e*P	**Pn**	**12 49 20.5**	**+4.0**
UNM				*e*S	**Sn**	**12 49 43.0**	**+2.0**
COVM	**Coyoacan**	**2.02**	**320**	*e*S	**Sn**	**12 49 38.5**	**-2.5**
COVM				*e*S		12 49 43.1	
BJVM	**Benito Juarez**	**2.04**	**321**	*e*P	**Pn**	**12 49 20.7**	**+3.8**
BJVM				*e*S	**Sn**	**12 49 38.1**	**-3.6**
VRVM	**Mexico City**	**2.04**	**322**	*e*S	**Sn**	**12 49 42.9**	**+1.2**
PBVM	**Pinon**	**2.04**	**324**	*e*P	**Pn**	**12 49 20.4**	**+3.8**
PBVM				*e*S	**Sn**	**12 49 37.9**	**-3.4**
AOVM	**Tlapan**	**2.06**	**316**	*e*P	**Pn**	**12 49 21.0**	**+3.7**
AOVM				*e*S	**Sn**	**12 49 38.7**	**-3.6**
CJVM	**Cuajimalpa**	**2.10**	**318**	*e*P	**Pn**	**12 49 16.4**	**-1.3**
CJVM				*e*S	**Sn**	**12 49 38.4**	**-4.9**
INVM	**La Marquesa**	**2.12**	**315**	*e*P	**Pn**	**12 49 22.0**	**+4.0**
INVM				*e*S	**Sn**	**12 49 38.4**	**-5.2**
APVM	**Azcapotzalco**	**2.15**	**322**	*e*P	**Pn**	**12 49 19.7**	**+1.4**
APVM				*e*S	**Sn**	**12 49 39.7**	**-4.5**
VTVM	**Tizayuca**	**2.17**	**335**	*e*P	**Pn**	**12 49 22.2**	**+3.6**
VTVM				*e*S	**Sn**	**12 49 42.7**	**-2.1**
TOVM	**TOLUCA**	**2.32**	**310**	*e*P	**Pn**	**12 49 22.4**	**+1.8**
TOVM				*e*S	**Sn**	**12 49 41.9**	**-6.5**
LVIG	**Laguna Verde**	**2.32**	**34**	*e*P	**Pn**	**12 49 21.2**	**+0.9**
LVIG				*e*S	**Sn**	**12 49 48.2**	**+0.2**
CXUV	**Coxquihui**	**2.38**	**5**	*e*P	**Pn**	**12 49 23.3**	**+2.2**
CXUV				*e*		12 49 42.5	
CAIG	**El Cayaco**	**2.47**	**253**	*e*P	**Pn**	**12 49 22.7**	**+0.3**
CAIG				*e*S	**Sn**	**12 49 50.8**	**-0.9**
HUIG	**Huatulco**	**2.58**	**141**	*e*P	**Pn**	**12 49 26.7**	**+2.8**
HUIG				*e*S	**Sn**	**12 49 51.3**	**-3.0**
PMUV	**Sontecomapan**	**2.65**	**73**	*e*P	**Pn**	**12 49 26.1**	**+1.3**
PMUV				*e*S	**Sn**	**12 49 54.8**	**-1.3**
DEIG	**Demacu**	**2.75**	**335**	*e*P	**Pn**	**12 49 29.8**	**+3.3**
DEIG				*e*		12 49 51.1	
CMIG	**Matias Romero**	**2.87**	**104**	P	**Pn**	**12 49 30.2**	**+2.4**
	35nm,0.3s,baz=268,slow=12,SNR=136						
CMIG				S	**Sn**	**12 50 00.8**	**-0.4**
	354nm,0.5s,baz=154,slow=19,SNR=19						
CMIG				LR	LR	12 50 04.3	
	comp=Z,67nm,21.5s,baz=304,slow=29						
CMIG	**Matias Romero**	**2.87**	**104**	*e*P	**Pn**	**12 49 30.1**	**+2.4**
CMIG				*e*S	**Sn**	**12 50 01.4**	**+0.1**
ACIG	**Acambay**	**2.94**	**318**	*e*P	Pn	12 49 34.0	+5.1
ACIG				*e*		12 49 53.4	
TUIG	**Tuzandepetl**	**3.22**	**85**	*e*P	**Pn**	**12 49 33.8**	**+1.2**
TUIG				*e*S	**Sn**	**12 50 09.3**	**-0.5**
ZIIG	**Zihuatanejo**	**3.50**	**268**	*e*P	**Pn**	**12 49 37.5**	**+1.2**
ZIIG				*e*S	**Sn**	**12 50 14.1**	**-2.6**
UXUV	**UXUV**	**3.52**	**97**	*e*P	**Pn**	**12 49 38.5**	**+2.0**
UXUV				*e*S	**Sn**	**12 50 14.9**	**-2.1**
CTUV	**Llano Grande**	**3.70**	**352**	*e*P	**Pn**	**12 49 41.6**	**+2.6**
CTUV				*e*		12 50 05.6	
MOIG	**Morelia**	**3.72**	**301**		**Pn**	**12 49 37.7**	**-1.9**
MOIG	**Morelia**	**3.72**	**301**	*e*P	**Pn**	**12 49 43.7**	**+4.1**
MOIG				*e*S	Sn	12 50 30.9	+8.5
JRQG	**Juriquilla Cam**	**3.83**	**320**	Pn	**Pn**	**12 49 37.1**	**-3.9**
TGIG		**4.58**	**102**	*e*P	**Pn**	**12 49 53.2**	**+2.1**
TGIG				*e*S	**Sn**	**12 50 41.5**	**-1.6**
PCIG		**4.85**	**115**	*e*P	**Pn**	**12 49 56.4**	**+1.6**
PCIG				*e*S	**Sn**	**12 50 50.3**	**+0.6**
MMIG	**Aquila**	**5.30**	**276**	*e*P	**Pn**	**12 49 59.5**	**-1.4**
MMIG				*e*S	**Sn**	**12 50 57.6**	**-3.1**
GTIG	**Gomez Farias**	**5.40**	**346**	*e*P	**Pn**	**12 50 05.1**	**+2.7**
GTIG				*e*S	Sn	12 51 11.3	+8.1
CCIG	**Comitan**	**5.62**	**105**	Pn	**Pn**	**12 50 04.5**	**-0.9**
CCIG	**Comitan**	**5.62**	**105**	*e*P	**Pn**	**12 50 09.1**	**+3.6**
CCIG				*e*S	**Sn**	**12 51 07.8**	**-0.9**
JUBC	**Volcan de Coli**	**5.73**	**288**	*e*P	**Pn**	**12 50 10.3**	**+3.2**
JUBC				*e*S	**Sn**	**12 51 18.1**	**+6.4**
COIG	**Colima**	**5.76**	**285**	*e*P	**Pn**	**12 50 10.8**	**+3.5**
COIG				*e*S	**Sn**	**12 51 11.9**	**-0.2**
MNGA	**Volcan de Coli**	**5.77**	**288**	*e*P	**Pn**	**12 50 10.3**	**+2.8**
MNGA				*e*S	**Sn**	**12 51 18.0**	**+5.5**
SOMAC	**Volcano de Col**	**5.79**	**288**	*e*P	Pn	12 50 13.2	+5.2
SOMAC				*e*S	**Sn**	**12 51 15.8**	**+2.6**
CEGR	**Campo Tres**	**5.96**	**286**	*e*P	Pn	12 50 14.3	+4.1
CEGR				*e*S	**Sn**	**12 51 21.3**	**+4.1**
PAVE	**Pavencul**	**5.98**	**115**	*e*P	**Pn**	**12 50 14.2**	**+3.8**
PAVE				*e*S	**Sn**	**12 51 20.0**	**+2.3**
CDAR	**Ciudad de Arme**	**6.01**	**282**	*e*S	**Sn**	**12 51 19.4**	**+1.3**

CHUJ Union Juarez 6.08 115 *eP* Pn 12 50 16.1 +4.2
CHUJ *eS* **Sn 12 51 22.4 +2.2**
HUEH Huehuetenango 6.52 111 *eS* **Sn 12 51 31.7 +0.8**
ZAIG Zacatecas 6.67 319 Pn **Pn 12 50 15.4 -4.5**
RTAL Retalhuleu 6.70 118 *eS* **Sn 12 51 35.3 +0.2**
CIHU Emiliano Zapat 6.74 284 *eP* **Pn 12 50 20.4 -0.3**
CIHU *eS* **Sn 12 51 35.0 -1.1**
APG El Apazote 7.56 110 P **Pn 12 50 34.4 +2.3**
0.2nm,0.3s,baz=221,slow=20,SNR=2.2
APG S **Sn 12 51 54.5 -2.0**
0.9nm,0.3s,baz=72,slow=20,SNR=11
PETF Flores 7.62 95 Pn **Pn 12 50 31.9 -0.8**
PETF Flores 7.62 95 *e* 12 51 53.3
TEIG Tepich 9.32 73 Pn **Pn 12 50 52.9 -3.0**
TEIG Tepich 9.32 73 P **Pn 12 50 57.3 +1.3**
26nm,0.3s,baz=63,slow=2.6,SNR=22
TEIG S **Sn 12 52 33.7 -5.5**
41nm,0.3s,baz=47,slow=19,SNR=12
833A Chaparral WMA, 10.58 352 Pn Pn 12 51 05.9 -7.1
TGUH Tegucigalpa,Un 10.78 109 Pn **Pn 12 51 12.8 -3.1**
735A Kenedy 11.01 360 Pn **Pn 12 51 14.5 -4.4**
HPIG 11.65 323 Pn **Pn 12 51 23.9 -3.9**
HNDO Hondo 11.76 354 Pn **Pn 12 51 25.2 -3.9**
DRIO Del Rio 11.86 348 Pn **Pn 12 51 26.4 -4.1**
CNGN Cerro Negro 11.94 115 Pn **Pn 12 51 30.0 -1.7**
MLDN Muldoon 11.95 3 Pn **Pn 12 51 29.9 -1.9**
TXAR Lajitas Array 12.68 336 Pn **Pn 12 51 37.9 -3.8**
TXAR Lajitas Array 12.68 336 P **P 12 51 47.6 -2.6**
0.5nm,0.8s,baz=159,slow=15,SNR=3.3
TX31 Lajitas Ar. Si 12.68 336 Pn **Pn 12 51 39.7 -2.1**
SAND Sanderson 12.73 343 Pn **Pn 12 51 40.4 -2.0**
JCT Junction City 12.76 352 Pn **Pn 12 51 39.8 -3.0**
BOAB BOACO BROADBAN 12.86 113 Pn **Pn 12 51 41.8 -2.3**
435B Jarrell 12.93 1 Pn **Pn 12 51 42.9 -2.2**
OZNA Ozona 13.42 348 **Pn 12 51 49.5 -2.0**
BRDY Brady 13.48 356 **Pn 12 51 50.2 -2.1**
ALPN Alpine 13.61 338 Pn 12 51 48.9 -5.3
WHTX Lake Whitney, 14.14 1 Pn Pn 12 51 55.7 -5.3
WHTX Lake Whitney, 14.14 1 P **P 12 52 08.1 +1.8**
baz=178
NATX Nacogdoches 14.19 11 Pn **Pn 12 51 57.6 -4.0**
NATX Nacogdoches 14.19 11 P **P 12 52 06.0 -0.9**
baz=188
VHRN Van Horn 14.49 335 Pn 12 52 00.8 -4.9
FW13 Cleburne 14.50 1 **P 12 52 08.6 -1.7**
PLPT Palo Pinto 14.96 358 **Pn 12 52 07.5 -4.1**
FW06 Azle 15.12 1 **P 12 52 14.6 -2.6**
FW03 Perrin-Whitt E 15.18 359 Pn **Pn 12 52 11.7 -2.8**
SN05 Snyder 5 15.28 350 **Pn 12 52 16.1 +0.4**
MNTX Cornudas Mount 15.45 335 P **P 12 52 26.2 +5.3**
baz=152
SN07 Snyder 07 15.48 350 P **Pn 12 52 18.6 +0.3**
APMT Aspermont 15.61 353 **Pn 12 52 19.8 -0.1**
Z38A Mt. Pleasant 15.61 9 **P 12 52 21.1 -1.5**
WTFS Witchita Falls 15.92 358 **P 12 52 24.1 -1.9**
DKNS Dickens 16.05 351 **P 12 52 25.6 -2.0**
DKNS lAmb lAmb 12 52 53.6
comp=Z,13nm,0.6s
LOOK Love County 16.14 2 **P 12 52 27.1 -1.5**
X34A Smith Ranch, M 16.74 360 **P 12 52 34.2 -1.0**
X34A lAmb lAmb 12 53 04.6
comp=Z,17nm,0.8s
WMOK Wichita Mounta 16.90 357 **Pn 12 52 32.3 -3.7**
WMOK Wichita Mounta 16.90 357 P **P 12 52 40.6 +3.7**
baz=174
319A Douglas 17.07 325 P **Pn 12 52 35.3 -2.9**
319A lAmb lAmb 12 53 06.6
comp=Z,16nm,1.2s
MIAR Mount Ida 17.10 12 P **Pn 12 52 36.5 -2.1**
MIAR lAmb lAmb 12 52 46.3
comp=Z,22nm,0.7s
MIAR Mount Ida 17.10 12 P **P 12 52 41.3 +2.1**
baz=190
X40A Basin Creek Fa 17.21 14 **Pn 12 52 34.2 -5.6**
121A Cookes Peak, D 17.22 330 **Pn 12 52 36.5 -3.7**
121A Cookes Peak, D 17.22 330 P **P 12 52 46.4 +5.7**
baz=146
553A Crawfordville 17.34 42 Pn **Pn 12 52 36.8 -4.7**
AMTX Amarillo 17.37 349 Pn **Pn 12 52 36.4 -5.5**
AMTX lAmb lAmb 12 53 09.2
comp=Z,20nm,1.2s
AMTX Amarillo 17.37 349 P **P 12 52 47.9 +5.7**
baz=166
SMWD Samnorwood 17.38 353 **Pn 12 52 37.2 -4.7**
SMWD lAmb lAmb 12 53 14.1
comp=Z,8.2nm,0.7s
FNO Franklin 17.40 1 Pn **Pn 12 52 37.5 -4.6**
UALR University of 17.60 15 P **Pn 12 52 41.5 -3.1**
UALR lAmb lAmb 12 52 49.6
comp=Z,8.7nm,0.7s
DUN6 Lazy B Ranch 17.88 327 P **Pn 12 52 47.8 -0.4**
DUN6 lAmb lAmb 12 53 16.7
comp=Z,34nm,1.4s
DEOK Depew 18.02 3 **P 12 52 45.2 -4.0**
DEOK lAmb lAmb 12 52 53.7
comp=Z,21nm,1.1s
LRAL Lakeview Retre 18.02 31 P **P 12 52 45.9 -3.4**
WHAR Wooly Hollow 18.10 15 P **P 12 52 47.1 -3.1**
WHAR lAmb lAmb 12 53 19.6
comp=Z,13nm,0.8s
OK031 S. Brethren Rd 18.11 3 **Pn 12 52 49.1 -1.6**
TUL3 Leonard 18.13 5 P **P 12 52 46.0 -4.5**
TUL3 lAmb lAmb 12 53 10.8
comp=Z,17nm,0.8s
TUL3 Leonard 18.13 5 P **Pn 12 52 53.7 +2.6**
baz=183
OK052 Battle Ridge R 18.15 3 P **P 12 52 47.2 -3.5**
SBM South Baldy 18.17 334 P **P 12 52 49.7 -1.7**
LENM Lemitar 18.25 335 P **P 12 52 47.3 -4.7**
ELIS Ellis County 18.26 356 P **P 12 52 45.9 -6.0**
ELIS lAmb lAmb 12 53 19.4
comp=Z,25nm,1.4s
OXF Oxford 18.26 23 P **P 12 52 47.0 -4.9**
OXF lAmb lAmb 12 53 24.7
comp=Z,28nm,1.1s
OXF Oxford 18.26 23 P **Pn 12 52 51.4 -1.2**
baz=202
QUOK Quay 18.33 3 P **P 12 52 49.7 -3.0**
QUOK lAmb lAmb 12 53 19.7
comp=Z,10.0nm,0.8s
RLO Rose Lookout 18.46 7 P **P 12 52 51.9 -2.2**
RLO lAmb lAmb 12 53 16.2
comp=Z,12nm,1.0s
OK048 Pawnee Station 18.57 2 P **P 12 52 52.6 -2.6**
OK048 lAmb lAmb 12 52 59.5
comp=Z,24nm,1.2s
TUC Tucson 18.61 323 P **P 12 52 53.8 -2.0**
TUC Tucson 18.61 323 P **Pn 12 53 01.9 +4.9**
baz=139
CROK Carrier 18.64 360 P **P 12 52 54.6 -1.5**
CROK lAmb lAmb 12 53 00.9
comp=Z,9.8nm,0.7s
OK051 E0350 and S346 18.66 2 P **P 12 52 53.8 -2.5**
OK051 lAmb lAmb 12 53 24.9
comp=Z,23nm,1.2s
FCAR Ozark Folk Cen 18.71 14 P **P 12 52 54.5 -2.4**
FCAR lAmb lAmb 12 53 00.9
comp=Z,9.3nm,0.7s
HHAR Hobbs 18.73 10 P **P 12 52 56.0 -1.1**
ANMO Albuquerque 18.75 337 **P 12 52 54.5 -2.9**
ANMO Albuquerque 18.75 337 P **Pn 12 53 03.4 +4.7**
baz=153
ANMO Albuquerque 18.75 337 P **Pn 12 53 02.3 +3.6**
comp=Z,2.7nm,0.7s,baz=235,slow=12,SNR=9.8
ANMO LR LR 12 59 48.4
comp=Z,67nm,20.1s,baz=254,slow=35
U38A Gravette 18.82 9 P **Pn 12 52 57.1 -2.2**
BLOK Blackwell 18.90 1 P **P 12 52 57.4 -1.5**
BLOK lAmb lAmb 12 53 18.4
comp=Z,16nm,0.7s
OK032 Salt Plains WL 18.94 359 P **P 12 52 57.5 -1.9**
OK032 lAmb lAmb 12 53 04.5
comp=Z,9.7nm,0.8s
Y49A Blount Mountai 18.97 30 P **P 12 52 58.0 -1.8**
Y49A lAmb lAmb 12 53 27.0
comp=Z,12nm,1.1s
RTBA Rita Blanca 19.08 348 P **P 12 52 56.9 -4.1**
T35A Sooner Cattle 19.08 3 P **P 12 52 57.2 -3.7**
LCAR Lake Charles 19.13 17 P **P 12 52 56.2 -5.2**
LCAR lAmb lAmb 12 53 33.5
comp=Z,10nm,1.0s
KAN13 South Haven SW 19.15 1 P **P 12 52 57.2 -4.4**
X48A Hartselle 19.17 28 P **P 12 52 58.4 -3.5**
KAN17 Caldwell West 19.18 0 P **P 12 52 59.4 -2.5**
KAN17 lAmb lAmb 12 53 22.1
comp=Z,30nm,1.4s
PLAL Pickwick Lake 19.19 25 P **P 12 52 59.9 -2.2**
PLAL lAmb lAmb 12 53 06.9
comp=Z,17nm,0.8s
214A Organ Pipe Nat 19.57 319 P **P 12 53 01.0 -5.3**
214A Organ Pipe Nat 19.57 319 P **Pn 12 53 12.1 +3.8**
baz=134
154A Montrose 19.82 39 P **P 12 53 06.4 -2.6**
X18A Snowflake 19.89 329 P **P 12 53 05.2 -4.7**
MGMO Mountain Grove 19.89 13 P **P 12 53 06.6 -3.1**
MGMO lAmb lAmb 12 53 44.5
comp=Z,18nm,0.8s
T42A Van Buren 20.05 16 P **P 12 53 09.2 -2.3**
T25A Trinidad 20.13 344 P Pn 12 53 18.2 +3.1
baz=160
GOGA Godfrey 20.18 37 P **Pn 12 53 12.2 -3.2**
GOGA lAmb lAmb 12 53 52.7
comp=Z,28nm,1.5s
S39A Bolivar 20.21 10 P **P 12 53 09.3 -3.9**
S39A lAmb lAmb 12 53 17.6
comp=Z,14nm,1.0s
WVT Waverly 20.29 24 P **P 12 53 10.4 -3.5**
WVT lAmb lAmb 12 53 42.4
comp=Z,12nm,1.2s
WVT Waverly 20.29 24 P **P 12 53 13.2 -0.8**
baz=205
X16A Lo Mia Camp, P 20.56 326 P **P 12 53 14.7 -2.5**
X16A lAmb lAmb 12 53 45.6
comp=Z,11nm,1.1s
R32A Long Quarter, 20.57 358 P **P 12 53 14.8 -2.2**
R32A lAmb lAmb 12 53 35.5
comp=Z,8.7nm,0.8s
257A Skidaway Islan 20.71 44 P **P 12 53 18.0 -0.6**
113A Mohawk Valley, 20.72 319 **P 12 53 15.6 -3.0**
CLTN Cedars of Leba 20.86 27 P **P 12 53 18.9 -1.3**
CLTN lAmb lAmb 12 53 45.9
comp=Z,12nm,1.2s
CCM Cathedral Cave 20.99 15 P **P 12 53 20.6 -0.9**
CCM lAmb lAmb 12 53 29.7
comp=Z,16nm,1.0s
CCM Cathedral Cave 20.99 15 P Pn 12 53 23.2 -1.6
baz=194
R40A Maddies Statio 20.99 12 P **P 12 53 19.0 -2.5**
R40A lAmb lAmb 12 53 29.4
comp=Z,8.4nm,0.7s
SDCO Great Sand Dun 21.00 343 P **P 12 53 19.7 -2.2**
SDCO Great Sand Dun 21.00 343 P Pn 12 53 27.2 +1.9
baz=158
CBKS Cedar Bluff 21.01 356 P **P 12 53 18.8 -3.0**
CBKS lAmb lAmb 12 53 51.2
comp=Z,18nm,1.2s
CBKS Cedar Bluff 21.01 356 P 12 53 25.4
baz=173
Y14A Wickenburg 21.07 323 **P 12 53 20.9 -1.6**
Y14A lAmb lAmb 12 53 50.2
comp=Z,21nm,1.0s
FVM French Village 21.13 16 P **P 12 53 20.0 -3.0**
FVM lAmb lAmb 12 54 00.1
comp=Z,5.9nm,0.6s
W52A Murphy 21.20 33 P **P 12 53 20.4 -3.4**
W52A lAmb lAmb 12 53 48.4
comp=Z,21nm,1.3s
WUAZ Wupatki 21.38 328 P **P 12 53 31.6 +5.6**
baz=142
S22A 4UR Ranch, Cre 21.40 340 P **P 12 53 23.0 -3.2**
S22A 4UR Ranch, Cre 21.40 340 P **P 12 53 31.0 +4.7**
baz=155
CPBX Cerro Prieto 21.48 316 P **P 12 53 24.0 -2.9**
MVCO Mesa Verde 21.52 336 P **P 12 53 23.4 -4.0**
MVCO lAmb lAmb 12 53 57.3
comp=Z,15nm,1.0s
MVCO Mesa Verde 21.52 336 P **P 12 53 32.4 +4.9**
baz=151
GLA Glamis 21.57 318 P **P 12 53 24.7 -3.2**
GLA lAmb lAmb 12 53 55.4
comp=Z,8.7nm,0.9s
GLA Glamis 21.57 318 P **P 12 53 32.9 +5.0**
baz=132
BG3 Lake Jocassee 21.65 35 P **P 12 53 23.8 -4.8**
BG3 lAmb lAmb 12 53 37.3
comp=Z,20nm,1.4s
TKL Tuckaleechee C 21.71 32 LR LR 13 04 17.9
comp=Z,53nm,19.4s,baz=128,slow=43
PDMCI Parker Dam,Lak 21.99 322 P **P 12 53 36.9 +4.6**
baz=135
BC3 Big Chuckawall 22.36 318 P **P 12 53 40.0 +3.5**
baz=132
Q44A Meyer Farm, Va 22.38 18 P **P 12 53 33.1 -3.3**
W13A Hualapai Mount 22.41 323 P **P 12 53 32.7 -4.3**
PV02 Paradox Valley 22.48 337 P **P 12 53 35.0 -2.8**
IRM Iron Mountain 22.50 320 P **P 12 53 41.5 +3.6**
baz=133
PV15 Paradox Valley 22.50 338 P **P 12 53 35.0 -3.1**
PV15 lAmb lAmb 12 54 06.8
comp=Z,9.1nm,0.9s
PV03 Paradox Valley 22.56 337 P **P 12 53 33.7 -4.9**
PV03 lAmb lAmb 12 54 06.3
comp=Z,9.9nm,0.8s
PV18 Skein Mesa, Pa 22.58 337 P **P 12 53 33.2 -5.6**
PV11 David Mesa, Pa 22.61 337 P **P 12 53 35.3 -3.9**
PV11 lAmb lAmb 12 54 08.1
comp=Z,14nm,0.8s
BELC Belle Mtn. Jos 22.93 318 P **P 12 53 45.3 +2.8**
baz=131
ISCO Idaho Springs 22.95 344 P **P 12 53 41.5 -1.3**
ISCO lAmb lAmb 12 53 55.7
comp=Z,10.0nm,1.1s
TPFO Pinon Flats 22.97 317 P **P 12 53 45.3 +2.5**
baz=130
PFO Pinyon Flats O 22.98 317 P **P 12 53 45.5 +2.6**
baz=130
V55A Taylorsville 23.23 36 P **P 12 53 44.1 -1.0**
V55A lAmb lAmb 12 53 57.6
comp=Z,25nm,1.4s
GMRC Granite Mounta 23.23 320 P **P 12 53 48.6 +3.3**
baz=133
KNB Kanab 23.28 328 P **P 12 53 45.2 -0.6**
U54A Nelsons Funny 23.39 34 P **P 12 53 43.2 -3.5**
LCMT Little Creek M 23.49 328 P **P 12 53 45.7 -1.9**
TUQ Turquoise Moun 23.83 321 P **P 12 53 54.3 +3.5**
baz=134,SNR=6.0
SHPR Sheep Range 24.14 324 P **P 12 53 51.6 -1.9**
MSU Marysvale 24.16 332 P **P 12 53 51.8 -2.0**
P18A Preston Nutter 24.29 336 P **P 12 53 51.0 -4.1**
P18A lAmb lAmb 12 54 22.9
comp=Z,7.0nm,0.8s
TMUT Trail Mountain 24.39 334 P **P 12 53 52.8 -3.2**
TPNV Topopah Spring 25.07 323 P **P 12 54 00.1 -1.9**
TPNV lAmb lAmb 12 54 36.9
comp=Z,12nm,1.4s
BSUT Blindstream Ca 25.27 336 P **P 12 54 01.7 -2.4**
SPR3 Spring Creek 3 25.57 329 P **P 12 54 04.2 -2.5**
SPR3 lAmb lAmb 12 54 34.6
comp=Z,8.9nm,1.1s
R11B Troy Canyon, C 25.71 326 P **P 12 54 11.4 +3.6**
baz=138
Q54A Coxs Mills 25.77 32 P **P 12 54 04.5 -3.7**
Q54A lAmb lAmb 12 54 15.2
comp=Z,11nm,0.9s
ECSD EROS Data Cent 25.88 2 P **P 12 54 06.3 -2.8**
P53A Whipple 25.89 30 P **P 12 54 05.6 -3.6**
P53A lAmb lAmb 12 54 27.3
comp=Z,8.3nm,0.8s
PDAR Pinedale Array 26.83 341 P **P 12 54 21.1 +3.2**
comp=Z,0.4nm,0.5s,baz=149,slow=6.9,SNR=5.7
comp=Z,0.4nm,0.5s
NVAR Mina Array Bea 27.27 323 P **P 12 54 21.8 -0.1**
NVAR Mina Array Bea 27.27 323 P **P 12 54 24.7 +2.8**
comp=Z,0.7nm,0.7s,baz=145,slow=9.3,SNR=7.7
comp=Z,0.7nm,0.7s
RLMT Red Lodge 28.89 343 P **P 12 54 40.3 +4.0**
baz=156
HLID Hailey 29.28 335 P **P 12 54 43.4 +3.7**
baz=146
AGMN Agassiz Nation 30.46 3 P **P 12 54 52.3 +2.4**
baz=182
EYMN Ely 30.51 8 P **P 12 54 50.8 +0.5**
baz=190
ULM Lac du Bonnet 32.41 2 LR LR 13 08 12.1
comp=Z,64nm,19.4s,baz=278,slow=36
SCHQ Schefferville 43.91 25 P **P 12 56 41.8 -1.7**
SCHQ Schefferville 43.91 25 P **P 12 56 46.2 +2.7**
comp=Z,2.6nm,0.5s,baz=213,slow=5.4,SNR=7.7
comp=Z,2.6nm,0.5s
YKA Yellowknife Ar 46.17 349 P **P 12 57 03.8 +2.6**
comp=Z,0.5nm,0.8s,baz=161,slow=7.2,SNR=4.9
comp=Z,0.5nm,0.8s
R33M Jennings River 48.01 338 P **P 12 57 15.7 -0.1**
R33M lAmb lAmb 12 57 44.3
comp=Z,2.8nm,0.8s
R33M Jennings River 48.01 338 P **P 12 57 16.4 +0.6**
baz=135
L29M L29M 53.07 338 P **P 12 57 54.4 +0.6**
baz=129
J30M Hart River 53.44 340 P **P 12 57 54.6 -2.0**
BCAR Beaver Creek A 54.37 337 P **P 12 58 02.0 -1.2**
L27K Beaver Creek, 54.38 337 P **P 12 57 59.8 -3.6**
L27K lAmb lAmb 12 58 10.3
comp=Z,1.8nm,0.9s
L27K Beaver Creek, 54.38 337 P **P 12 58 04.0 +0.6**
baz=125
G31M Satah River 54.47 343 P **P 12 58 04.3 +0.5**
baz=136
EPYK Eagle Plains 54.78 342 P **P 12 58 07.4 +1.2**
baz=132
L26K Log Cabin Wild 54.93 337 P **P 12 58 07.8 +0.5**
baz=124
CO03 El Pedregal 54.93 151 P **P 12 58 07.6 -0.2**
EGAK Eagle 55.16 339 P **P 12 58 09.5 +0.6**
EGAK lAmb lAmb 12 58 39.3
comp=Z,1.9nm,0.8s
EGAK Eagle 55.16 339 P **P 12 58 09.3 +0.4**
baz=127
I28M Miner Creek 55.17 340 P **P 12 58 09.8 +0.8**
baz=129
H29M Whitestone 55.17 341 P **P 12 58 07.4 -1.5**
H29M Whitestone 55.17 341 P **P 12 58 09.3 +0.3**
baz=131
INK Inuvik 55.28 345 P **P 12 58 08.0 -1.6**
INK lAmb lAmb 12 58 37.0
comp=Z,4.5nm,1.0s
INK Inuvik 55.28 345 P **P 12 58 10.3 +0.6**
baz=137
F30M Barrier River 55.37 343 P **P 12 58 11.2 +0.8**
baz=134
G29M Pine Creek 55.53 342 P **P 12 58 11.7 +0.2**
baz=131
SCRK Sand Creek 55.70 337 P **P 12 58 12.9 0.0**
baz=124,SNR=6.0
PAX Paxson 55.72 336 P **P 12 58 11.7 -1.4**
PAX lAmb lAmb 12 58 19.2
comp=Z,4.3nm,1.0s
PAX Paxson 55.72 336 P **P 12 58 12.8 -0.2**
baz=121
J26L Joseph Creek 55.84 338 P **P 12 58 13.8 -0.1**
baz=124,SNR=6.7
WAT6 Susitna Watana 56.42 335 P **P 12 58 18.1 0.0**
baz=119
GHO Glory Hole Cre 56.53 334 P **P 12 58 17.9 -0.9**
F28M Old Crow 56.53 342 P **P 12 58 18.8 +0.1**
baz=130
J25K Salcha River, 56.55 338 P **P 12 58 19.0 +0.1**
baz=122
G27K Doyon Strip 56.57 341 P **P 12 58 17.4 -1.6**
G27K lAmb lAmb 12 58 46.2
comp=Z,1.4nm,0.7s
G27K Doyon Strip 56.57 341 P **P 12 58 18.9 0.0**
baz=127
HDA Harding Lake 57.03 337 P **P 12 58 22.0 -0.2**
baz=121
PRP Porcupine Dome 57.10 338 P **P 12 58 22.9 0.0**
baz=123
SUA Susitna One 57.17 333 P **P 12 58 23.5 0.0**
SUA Susitna One 57.17 333 P **P 12 58 23.1 -0.3**
baz=115
IL03 Eielson Array 57.18 337 P **P 12 58 23.3 0.0**
IL31 57.19 337 P **P 12 58 20.9 -2.4**
ILAR Eielson Array 57.19 337 P **P 12 58 22.0 -1.4**
ILAR Eielson Array 57.19 337 P P 12 58 27.9 +4.5
comp=Z,2.2nm,0.9s,baz=135,slow=5.0,SNR=21
comp=Z,2.2nm,0.9s
RND Reindeer 57.26 335 P **P 12 58 23.3 -0.7**
E27K Coleen River 57.40 342 P **P 12 58 24.7 -0.2**
baz=128
CCB Clear Creek Bu 57.47 337 P **P 12 58 25.3 0.0**
CCB lAmb lAmb 12 58 53.9
comp=Z,2.2nm,1.0s
RSO Redoubt South 57.66 331 P **P 12 58 24.8 -2.2**
SKT Skwentna 57.73 333 P **P 12 58 27.5 +0.3**
baz=115
SFJD Kangerlussuaq 57.73 20 P **P 12 58 24.4 -2.7**
MDM Murphy Dome 57.78 337 P **P 12 58 25.8 -1.7**
MDM lAmb lAmb 12 58 32.8
comp=Z,4.0nm,1.2s
NEA2 Nenana 57.92 337 P **P 12 58 29.0 +0.6**
baz=118
G25K Bearman Lake 57.98 340 P **P 12 58 29.5 +0.7**
baz=123
H24K Noodor Dome 58.10 338 P **P 12 58 30.0 +0.2**
baz=120
F25K Christian Rive 58.29 340 P **P 12 58 31.0 -0.1**
baz=124
I23K Minto, Yukon-K 58.29 337 P **P 12 58 31.4 +0.3**
baz=118,SNR=8.1
M20K Styx River 58.38 333 P **P 12 58 32.1 +0.2**
baz=113
G24K Hadweenzic Riv 58.41 339 P **P 12 58 32.2 +0.3**
baz=121
BPAW Bear Paw Mtn. 58.43 336 P **P 12 58 32.5 +0.5**
baz=116,SNR=5.8
MLY Manley 58.75 337 P **P 12 58 36.0 +1.6**
baz=117,SNR=10
L20K Farewell, AK 58.94 333 P **P 12 58 36.0 +0.4**
baz=113,SNR=8.4
M19K Big River Lodg 58.94 333 P **P 12 58 36.1 +0.4**
M19K Big River Lodg 58.94 333 P **P 12 58 36.3 +0.6**
baz=112
CHGN Chignik 59.15 326 P **P 12 58 36.1 -1.0**
N18K Kilae Creek 59.19 331 P **P 12 58 37.3 -0.1**
G23K Bananza Creek 59.29 339 P **P 12 58 37.9 -0.1**
G23K lAmb lAmb 12 59 08.3
comp=Z,2.1nm,1.1s
G23K Bananza Creek 59.29 339 P **P 12 58 37.9 -0.1**
baz=119
K20K Telida 59.36 334 P **P 12 58 37.9 -0.6**
K20K Telida 59.36 334 P **P 12 58 39.3 +0.8**
baz=113,SNR=7.7
H22K Ishtalitna Cre 59.38 337 P **P 12 58 39.2 +0.6**
baz=117,SNR=5.7
M18K Stony River 59.43 332 P **P 12 58 39.5 +0.4**
baz=110
E24K Your Creek 59.46 340 P **P 12 58 38.0 -1.1**
D25K Kavik River 59.48 342 **P 12 58 36.9 -2.4**
D25K lAmb lAmb 12 59 07.3
comp=Z,3.1nm,0.9s
D25K Kavik River 59.48 342 P **P 12 58 40.1 +0.8**
baz=124
BI02 San Fabin de 59.68 155 P **P 12 58 42.1 +1.1**
J20K Nowinta River 59.72 335 P **P 12 58 39.4 -1.5**
J20K Nowinta River 59.72 335 P **P 12 58 41.7 +0.8**
baz=113,SNR=9.1
N17K Nushagak Hills 59.74 330 P **P 12 58 40.9 -0.3**
baz=108
H21K Melozitna Rive 59.81 337 P **P 12 58 41.7 +0.1**
H21K Melozitna Rive 59.81 337 P **P 12 58 40.9 -0.6**
baz=115
E23K Chandalar 59.81 340 P **P 12 58 41.3 -0.4**
baz=120
O16K Kokwok River B 59.89 329 P **P 12 58 41.7 -0.5**
baz=107
G22K Bettles 59.90 338 P **P 12 58 42.0 -0.1**
baz=117
L18K Granite Mounta 60.07 332 P **P 12 58 43.5 +0.1**
baz=110
TOLK Toolik Lake Re 60.09 341 P **P 12 58 43.1 -0.4**
baz=120
J19K Poorman 60.24 335 P **P 12 58 43.3 -1.2**
J19K Poorman 60.24 335 P **P 12 58 45.0 +0.5**
baz=112,SNR=10
F22K John River 60.41 339 P **P 12 58 45.5 -0.1**
baz=117
G21K Allakaket 60.44 338 P **P 12 58 45.5 -0.4**
baz=115
N16K Nishlik Lake 60.47 330 P **P 12 58 45.5 -0.7**
baz=107
J18K Innoko River 60.51 334 P **P 12 58 46.2 -0.1**
J18K Innoko River 60.51 334 P **P 12 58 45.5 -0.8**
baz=110
H20K Anotleneega Mo 60.53 336 P **P 12 58 46.2 -0.3**
baz=113,SNR=5.5
F21K Alatna River 60.73 338 P **P 12 58 47.3 -0.5**
baz=115,SNR=6.0

L17K	Donlin	60.75 332	P	P	12 58 47.8	-0.3
	baz=108					
K17K	Iditarod	60.94 333	P	P	12 58 49.3	0.0
	baz=108					
C23K	Itkillik River	61.02 342	P	P	12 58 49.8	+0.1
	baz=120					
H19K	Roundabout Mou	61.14 336	P	P	12 58 50.7	+0.1
	baz=112					
L16K	Owhat River	61.16 331	P	P	12 58 50.4	-0.3
	baz=107					
D22K	Ayikyak River	61.20 340	P	P	12 58 50.2	-0.8
	baz=117,SNR=5.6					
E21K	Killik River	61.43 340	P	P	12 58 51.5	-1.1
	baz=115					
F20K	Avaraart Lake	61.46 338	P	P	12 58 51.7	-1.0
	baz=113					
G19K	Purcell Mounta	61.62 337	P	P	12 58 52.8	-1.1
	baz=111,SNR=5.2					
H18K	Honhosa River	61.76 335	P	P	12 58 54.3	-0.5
	baz=110					
M14K	Bethel	62.06 330	P	P	12 58 56.3	-0.6
	baz=104					
L15K	Ungalak Mounta	62.07 331	P	P	12 58 56.7	-0.2
	baz=105					
E20K	Nigu River	62.10 339	P	P	12 58 57.1	0.0
	baz=113					
J16K	Anvik River	62.11 333	P	P	12 58 57.2	0.0
	baz=106					
F19K	Shaleruckik Mo	62.12 337	P	P	12 58 57.4	+0.3
	baz=111					
G18K	Tagagawik	62.13 336	P	P	12 58 57.5	+0.2
	baz=110					
B21K	Ikpikpuk River	62.15 341	P	P	12 58 57.9	+0.6
	baz=115					
E19K	Redstone River	62.16 338	P	P	12 58 57.6	+0.2
	baz=112					
K15K	Wolf Creek Mou	62.25 332	P	P	12 58 58.0	-0.2
	baz=105					
H17K	Granite Mounta	62.31 335	P	P	12 58 58.2	-0.4
	baz=108,SNR=5.6					
I17K	Unalakleet	62.32 334	P	P	12 58 58.3	-0.2
	baz=107					
D20K	Etivluk River	62.42 339	P	P	12 58 58.9	-0.3
	baz=113					
L14K	Kuka Creek	62.55 331	P	P	12 58 59.5	-0.5
	baz=104					
D19K	Kuna River	62.85 339	P	P	12 59 01.5	-0.6
	baz=111					
B20K	Meade River	63.12 341	P	P	12 59 03.1	-0.6
	baz=113					
E17K	Hotham Inlet	63.71 337	P	P	12 59 07.9	+0.2
	baz=107					
C18K	Utukok River	63.97 339	P	P	12 59 09.3	-0.2
	baz=108					
NOA	NORSAR Array B	83.44 28	P	P	13 01 06.0	+2.5
	comp=Z,1.0nm,0.8s,baz=301,slow=5.2,SNR=3.7					
NOA			LR	LR	13 39 30.4	
	comp=Z,12nm,20.6s,baz=290,slow=36					
	comp=Z,1.0nm,0.8s					
WRA	Warramunga Arr	130.78 259	PKP	PKiKP	13 07 50.5	+1.8
	comp=Z,0.2nm,0.9s,baz=76,slow=2.5,SNR=5.7					

*IDC **24** 13:09:02.1±1.0, 16°.01N×93°.55W, h94km±4km, mb3.4/5, mbtmp3.8/9, Error ellipse: s-maj=23.8km s-min=6.1km az=28.0*
*MEX **24** 13:09:02.5±0.7, 15°.86N±0°.04×93°.75W±0°.03, h95km±15km, MD4.3*

ISC 24 13:09:01.5±0.7, 15°.86N±0°.04×93°.75W±0°.03, h102km±5km, n50, σ2°21/95, mb3.7/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.54	107	*i* P	Pn	13 09 17.2	-0.5
PCIG				*e*S	Sn	13 09 29.1	-0.8
TGIG		1.09	34	*i* P	Pn	13 09 22.8	-0.3
TGIG				*e*S	Sn	13 09 37.0	-2.4
UXUV	UXUV	1.50	345	*i* P	Pn	13 09 28.4	+0.6
UXUV				*e*S	Sn	13 09 47.1	-0.6
CCIG	Comitan	1.61	75	*e*P	Pn	13 09 29.3	0.0
CCIG				*e*S	Sn	13 09 49.5	-1.0
CMIG	Matias Romero	1.63	318	P	Pn	13 09 30.1	+0.5
	43nm,0.3s,baz=149,slow=13,SNR=84						
CMIG				S	Sn	13 09 51.4	+0.6
	390nm,0.4s,baz=125,slow=7.0,SNR=37						
CMIG	Matias Romero	1.63	318	*e*P	Pn	13 09 30.0	+0.5
CMIG				*e*S	Sn	13 09 51.3	+0.5
PAVE	Pavencul	1.66	113	*i* P	Pn	13 09 29.6	-0.4
PAVE				*e*S	Sn	13 09 51.3	-0.4
THIG		1.72	123	*e*P	Pn	13 09 30.7	+0.1
THIG				*e*S	Sn	13 09 52.7	0.0
CHUJ	Union Juarez	1.76	116	*e*P	Pn	13 09 30.8	-0.5
CHUJ				*e*S	Sn	13 09 52.9	-1.1
HUEH	Huehuetenango	2.23	104	*e*P	Pn	13 09 37.6	+0.2
HUEH				*e*S	Sn	13 10 03.3	-1.5
TUIG	Tuzandepetl	2.25	344	*e*P	Pn	13 09 36.1	-1.3
TUIG				*e*S	Sn	13 10 06.1	+1.2
HUIG	Huatulco	2.27	268	*e*P	Pn	13 09 36.6	-1.0
HUIG				*e*S	Sn	13 10 01.9	-3.4
RTAL	Retalhuleu	2.39	124	*e*P	Pn	13 09 39.5	+0.2
RTAL				*e*S	Sn	13 10 05.9	-2.3
NEUV	Arroyo Zacate	2.69	313	*e*P	Pn	13 09 43.3	+0.1
NEUV				*e*S	Sn	13 10 10.0	-5.2
PMUV	Sontecomapan	2.97	334	*e*P	Pn	13 09 46.6	-0.3
PMUV				*e*S	Sn	13 10 17.0	-5.0
VHO	Vista Hermosa	3.10	293	*e*P	Pn	13 09 50.9	+2.0
VHO				*e*S	Sn	13 10 24.4	-1.0
PEIG	Puerto Escondi	3.27	273	*e*P	Pn	13 09 50.0	-0.9
PEIG				*e*S	Sn	13 10 26.9	-2.2
APG	El Apazote	3.28	105	P	Pn	13 09 50.4	-0.9
	3.1nm,0.4s,baz=204,slow=13,SNR=44						
APG				S	Sn	13 10 27.1	-2.7
	16nm,0.3s,baz=236,slow=22,SNR=12						
YOIG	Yosondua	3.77	286	*e*P	Pn	13 09 57.9	0.0
YOIG				*e*S	Sn	13 10 39.2	-2.4
TOIG	Toxpalan	3.87	305	*e*P	Pn	13 10 00.4	+1.3
TOIG				*e*S	Sn	13 10 43.5	-0.2
PETF	Flores	3.87	74	*e*P	Pn	13 09 58.6	-0.4
PETF				*e*S	Sn	13 10 40.7	-2.9
SCIG	Sabancuy	3.94	38	*e*P	Pn	13 09 59.1	-0.8
SCIG				*e*S	Sn	13 10 41.4	-3.7
TXIG	Tlaxiaco	4.09	290	*e*P	Pn	13 10 03.9	+1.7
TXIG				*e*S	Sn	13 10 47.5	-1.8
PNIG	Pinotepa	4.24	278	*e*P	Pn	13 10 03.4	-0.6
PNIG				*e*S	Sn	13 10 47.9	-4.6
TPIG	Tehuac#an	4.29	307	*e*P	Pn	13 10 02.8	-1.9
TPIG				*e*S	Sn	13 10 52.2	-1.6
HLIG	Huajuapan de L	4.34	297	*e*P	Pn	13 10 07.4	+1.8
HLIG				*e*S	Sn	13 10 50.5	-4.8
JAUV	Jalcomulco	4.54	321	*e*P	Pn	13 10 07.5	-0.5
JAUV				*e*S	Sn	13 10 57.6	-2.1
LVIG	Laguna Verde	4.60	327	*e*P	Pn	13 10 08.5	-0.4
LVIG				*e*S	Sn	13 10 57.0	-4.2
FTIG	Fresnillo de T	4.66	296	*e*P	Pn	13 10 11.5	+1.7
FTIG				*e*S	Sn	13 10 59.4	-3.4
MGIG	Malinaltepec	4.88	287	*e*P	Pn	13 10 13.9	+1.2
MGIG				*e*S	Sn	13 11 05.6	-2.5
TLIG	Tlapa	4.91	291	*e*P	Pn	13 10 13.1	-0.1
TLIG				*e*S	Sn	13 11 07.5	-1.5
CRIG	Cruz Grande	5.24	280	*e*P	Pn	13 10 16.5	-1.0
CRIG				*e*S	Sn	13 11 13.2	-3.5
PBCV	Popocatepetl	5.54	305	*e*P	Pn	13 10 25.0	+3.1
PBPN	Popocatepetl	5.63	305	*e*S	Sn	13 11 30.1	+3.2
CXUV	Coxquihui	5.63	320	*e*P	Pn	13 10 23.3	+0.5
CXUV				*e*S	Sn	13 11 23.6	-2.6
PBXN	Popocatepetl	5.63	304	*e*P	Pn	13 10 24.8	+1.5
PBXN				*e*P		13 10 27.8	
PBXN				*e*S	Sn	13 11 23.5	-3.4
PBXN				*e*S		13 11 31.0	
PPM	Popocatepetl	5.64	305	*e*P	Pn	13 10 25.8	+2.4
PPM				*e*S	Sn	13 11 24.9	-2.2
DAIG	Los Arroyos	5.78	282	*e*P	Pn	13 10 21.6	-3.2
DAIG				*e*S	Sn	13 11 26.1	-3.7
YAIG	Yautepec	5.89	301	*e*P	Pn	13 10 26.8	+0.4
YAIG				*e*S	Sn	13 11 27.4	-5.2
MEIG	Mezcala	5.98	291	*e*P	Pn	13 10 29.7	+2.1
MEIG				*e*S	Sn	13 11 32.8	-2.0
PLIG	Platanillo	6.05	295	*e*P	Pn	13 10 29.5	+1.0
PLIG				*e*S	Sn	13 11 33.2	-3.2
MYIG	Mrida	6.34	36	*e*P	Pn	13 10 34.9	+2.5
MYIG				*e*S	Sn	13 11 39.6	-3.8
TEIG	Tepich	6.78	49	P	Pn	13 10 36.3	-2.1
	71nm,0.3s,baz=241,slow=1.5,SNR=46						
TEIG				S	Sn	13 11 48.7	-5.4
	62nm,0.4s,baz=252,slow=24,SNR=13						
JTS	Las Juntas de	10.20	122	P	Pn	13 11 24.3	-0.8
	10nm,0.3s,baz=308,slow=16,SNR=9.1						
TXAR	Lajitas Array	16.22	327	P	P	13 12 45.6	+0.8
	0.1nm,0.6s,baz=141,slow=13,SNR=1.8						
TXAR				pP	sP	13 13 17.2	+0.2
	0.1nm,0.5s,baz=138,slow=11,SNR=3.4						
NVAR	Mina Array Bea	31.17	321	P	P	13 15 13.4	+2.3
	0.5nm,0.7s,baz=128,slow=9.0,SNR=5.2						
NVAR				pP	pP	13 15 35.4	+1.5
	0.4nm,0.7s,baz=118,slow=11,SNR=3.0						
NVAR				sP	sP	13 15 45.8	+0.1
	0.7nm,0.8s,baz=124,slow=8.4,SNR=3.4						
	0.5nm,0.7s						
YKA	Yellowknife Ar	48.84	347	P	P	13 17 36.6	+0.3
	0.6nm,0.6s,baz=154,slow=7.4,SNR=6.9						
	0.6nm,0.6s						
BDFB	Brasilia	54.95	123	P	P	13 18 21.8	-0.7
	1.7nm,0.3s,baz=288,slow=8.0,SNR=3.3						
	1.7nm,0.3s						
ILAR	Eielson Array	60.47	337	P	P	13 19 01.7	+1.4
	0.2nm,0.7s,baz=130,slow=6.4,SNR=1.9						
ILAR				pP	pP	13 19 25.6	+0.1
	0.3nm,0.8s,baz=133,slow=6.2,SNR=2.4						
	0.2nm,0.7s						
ARCES	ARCESS Array B	84.90	18	P	P	13 21 24.3	-0.5
	1.0nm,0.7s,baz=297,slow=5.3,SNR=4.3						
	1.0nm,0.7s						

*IDC **24** 13:09:38.2±1.6, 30°.95S×178°.86W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=42.3km s-min=23.2km az=131.0*
*NEIC **24** 13:09:39.5±1.1, 31°.05S±0°.1×178°.8W±0°.2, h10km±2km, mb4.1/8, Error ellipse: s-maj=37.4km s-min=19.9km az=117.0*
*NOU **24** 13:10:01.9, 33°.22S×178°.81W, h332km, MLv4.3/5, South of Kermadec Islands*
*WEL **24** 13:11:14.1, 38°S±21°×17°8E±1°4, h60km±19km, M2.4/19, ML2.7/18, MLv2.4/19, Error ellipse: s-maj=0.0km s-min=0.0km az=161.5*

ISC 24 13:09:43.3±0.9, 31°.12S±0°.09×178°.7W±0°.2, h35km, n67, σ2°23/33, mb4.1/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.98	21	Pn	Pn	13 10 11.7	-2.6
RAO	Raoul Island	1.98	21	Pn	Pn	13 10 11.3	-3.0
	61nm,0.3s,baz=233,slow=20,SNR=1.7						
RAO				Sn	Sn	13 10 38.9	+0.9
	171nm,0.3s,baz=342,slow=20,SNR=5.7						
MXZ	Matakaoa Point	6.88	200	P	Pn	13 11 19.9	-1.7
MXZ	Matakaoa Point	6.88	200	Pn	Pn	13 11 19.9	-1.7
MXZ	Matakaoa Point	6.88	200	P	Pn	13 11 20.0	-1.7
WMGZ	Waiomatatini S	7.09	199	P	Pn	13 11 23.2	-1.3
HAZ	Te Kaha	7.22	203	P	Pn	13 11 23.4	-2.9
KUZ	Kuaotunu	7.26	218	P	Pn	13 11 28.8	+1.9
PUZ	Puketiti	7.37	199	P	Pn	13 11 25.8	-2.5
RUGZ	Raukumara Rang	7.45	202	P	Pn	13 11 26.3	-3.2
TWGZ	Tauwhareparae	7.55	200	P	Pn	13 11 28.4	-2.4
OPRZ	Ohinepanea	7.76	209	P	Pn	13 11 31.2	-2.5
CNGZ	Carnagh Statio	7.77	198	P	Pn	13 11 31.5	-2.3
MWZ	Matawai	7.83	202	P	Pn	13 11 31.2	-3.5
URZ	Urewera	7.91	205	P	Pn	13 11 32.8	-2.9
URZ	Urewera	7.91	205	Sn	Sn	13 13 14.8	+11
	0.8nm,0.3s,baz=29,slow=18,SNR=1.1						
URZ	Urewera	7.91	205	P	Pn	13 11 31.5	-4.1
LIRZ	Lichensteins R	7.96	209	P	Pn	13 11 26.5	-10
RAGZ	Rawiri	8.02	202	P	Pn	13 11 33.3	-4.0
RIGZ	Rimuhau	8.10	200	P	Pn	13 11 34.3	-4.1
TOZ	Tahuroa Road	8.14	214	Pn	Pn	13 11 37.6	-1.2
TOZ	Tahuroa Road	8.14	214	P	Pn	13 11 39.6	+0.8
MUGZ	Murupara	8.22	206	P	Pn	13 11 35.5	-4.5
RTZ	Ruatahuna	8.27	204		Pn	13 11 35.0	-5.8
RTZ	Ruatahuna	8.27	204	P	Pn	13 11 30.6	-10
SNGZ	Shannon Statio	8.30	202	P	Pn	13 11 36.5	-4.6
MHGZ	Mahia Peninsul	8.48	198	P	Pn	13 11 39.1	-4.4
RAHZ	Arahi	8.51	203	P	Pn	13 11 38.9	-5.0
MTHZ	Maungataniwha	8.53	204	P	Pn	13 11 39.5	-4.8
TLZ	Tolley Road	8.60	212	P	Pn	13 11 42.8	-2.5
MRHZ	Matea Rd	8.67	206	P	Pn	13 11 41.3	-4.9
NMHZ	Naumai	8.76	203	P	Pn	13 11 42.1	-5.4
ARHZ	Aropaoanui	8.85	202	P	Pn	13 11 42.8	-5.8
BKZ	Black Stump Fm	8.93	205	P	Pn	13 11 44.0	-5.8
BKZ	Black Stump Fm	8.93	205	Pn	Pn	13 11 43.8	-6.0
BKZ	Black Stump Fm	8.93	205	P	Pn	13 11 44.3	-5.5
HIZ	Hauiti	9.07	214	Pn	Pn	13 11 50.0	-1.6
KWHZ	Kaweka Forest	9.19	204	P	Pn	13 11 46.5	-6.8
NTVZ	North Tongariro	9.19	208	P	Pn	13 11 48.2	-5.1
ETVZ	East Tongariro	9.20	208	P	Pn	13 11 48.2	-5.5
NNVZ	North Ngauruho	9.24	209	P	Pn	13 11 51.3	-2.8
OTVZ	Oturere	9.25	208	P	Pn	13 11 48.5	-5.7
SNVZ	South Ngauruho	9.28	208	P	Pn	13 11 49.1	-5.5
NGZ	Ngauruhoe	9.28	208	P	Pn	13 11 49.5	-5.3
FWVZ	Far West T-bar	9.37	208	P	Pn	13 11 50.1	-5.8
KAHZ	Kahuranaki	9.37	201	P	Pn	13 11 49.0	-6.8
WHVZ	Whangaehu Hut	9.38	208	P	Pn	13 11 51.1	-5.0
KRHZ	Kereru	9.40	204	P	Pn	13 11 49.0	-7.2
WNVZ	Wahianoa	9.41	208	P	Pn	13 11 50.5	-6.0
PXZ	Pawanui	9.59	201	P	Pn	13 11 50.7	-8.1
PNHZ	Pukenui	9.70	204	P	Pn	13 11 52.5	-7.8
PRHZ	Porangahau	9.88	201	P	Pn	13 11 54.9	-7.8
TSZ	Takapari Road	9.91	204	P	Pn	13 11 54.9	-8.3
BFZ	Birch Farm	10.38	202	P	Pn	13 12 01.1	-8.4
BFZ	Birch Farm	10.38	202	P	Pn	13 12 00.9	-8.7
STKA	Stephens Creek	33.71	258	P	P	13 16 21.7	+0.5
STKA				IAmb	IAmb	13 16 23.8	
	comp=Z,2.2nm,1.2s						
STKA	Stephens Creek	33.71	258	P	P	13 16 21.8	+0.5
	comp=Z,2.8nm,0.6s,baz=99,slow=12,SNR=5.5						
	comp=Z,2.8nm,0.6s						
AS31	Alice Springs	42.45	268	P	P	13 17 34.2	-0.8
ASAR	Alice Springs	42.45	268	P	P	13 17 34.1	-0.9
	comp=Z,0.2nm,0.4s,baz=106,slow=7.0,SNR=9.8						
	comp=Z,0.2nm,0.4s						
WR0	Warramunga Arr	43.32	273	P	P	13 17 40.1	-2.0
WR0				IAmb	IAmb	13 18 11.7	
	comp=Z,5.7nm,1.4s						
WB2	Warramunga Arr	43.49	273	P	P	13 17 42.0	-1.5
WRAB	Tennant Creek	43.50	273	P	P	13 17 41.9	-1.6
WRAB				IAmb	IAmb	13 18 07.0	
	comp=Z,4.3nm,1.2s						
WRA	Warramunga Arr	43.50	273	P	P	13 17 41.7	-1.8
	comp=Z,0.3nm,0.3s,baz=112,slow=7.9,SNR=7.9						
	comp=Z,0.3nm,0.3s						
WB0	Warramunga Arr	43.53	274	P	P	13 17 42.0	-1.8
WB0				IAmb	IAmb	13 17 48.1	
	comp=Z,4.3nm,1.1s						
QSPA	South Pole Qui	59.00	180	P	P	13 19 43.4	+4.2
SNAA	Sanae	77.46	179	P	P	13 21 35.9	+1.3
SNAA	Sanae	77.46	179	P	P	13 21 35.8	+1.1
	comp=Z,0.7nm,0.9s,baz=189,slow=18,SNR=1.7						
	comp=Z,0.7nm,0.9s						

*NEIC **24** 13:53:14.1±1.1, 25°.9S±0°.1×177°.0W±0°.2, h162km±14km, mb4.1/8, Error ellipse: s-maj=27.0km s-min=15.3km az=115.0*
*IDC **24** 13:53:23.1±3.0, 26°.86S×177°.32W, h238km±33km, mb3.3/3, mbtmp4.0/6, Error ellipse: s-maj=57.3km s-min=24.7km az=166.0*

ISC 24 13:53:14.5±0.9, 25°.93S±0°.09×176°.8W±0°.1, h200km, n23, σ1°52/22, mb3.8/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.46	197	Pn	Pn	13 54 07.7	-1.9
RAO	Raoul Island	3.46	197	P	Pn	13 54 09.0	-0.5
	260nm,0.3s,baz=16,slow=21,SNR=2.2						
RAO				S	Sn	13 54 52.9	0.0
	222nm,0.4s,baz=104,slow=22,SNR=1.5						
NIUE	Niue	9.29	44	Pn	Pn	13 55 26.0	+1.4
MSVF	Nonsavu	9.47	328	Pn	Pn	13 55 25.7	-1.3
AFI	Afiamalu	12.84	22	Pn	Pn	13 56 09.0	-1.2
URZ	Urewera	13.34	201	P	Pn	13 56 09.6	-6.4
	3.9nm,0.8s,baz=333,slow=4.5,SNR=1.9						
URZ				S	S	13 58 24.8	-20
	11nm,1.2s,baz=104,slow=6.5,SNR=1.8						
DZM	Mont Dzumac	15.82	281	P	P	13 56 47.9	+1.3
DZM	Mont Dzumac	15.82	281	P	P	13 56 48.9	+2.3
	5.3nm,0.9s,baz=161,slow=18,SNR=2.2						
CTAO	Charters Tower	34.46	272	P	P	13 59 44.6	+1.2
AS31	Alice Springs	44.63	262	P	P	14 01 08.1	+0.7
ASAR	Alice Springs	44.63	262	P	P	14 01 08.0	+0.6
	0.5nm,0.3s,baz=103,slow=8.0,SNR=25						
	0.5nm,0.3s						
WR0	Warramunga Arr	45.04	267	P	P	14 01 10.8	+0.2
WB2	Warramunga Arr	45.21	267	P	P	14 01 12.3	+0.4
WB2				IAmb	IAmb	14 01 40.5	
	comp=Z,5.5nm,1.2s						
WRAB	Tennant Creek	45.22	267	P	P	14 01 12.1	+0.1
WRAB				IAmb	IAmb	14 01 14.0	
	comp=Z,3.0nm,0.8s						
WRA	Warramunga Arr	45.22	267	P	P	14 01 12.2	+0.2
	comp=Z,3.1nm,0.9s,baz=107,slow=8.4,SNR=47						
	comp=Z,3.1nm,0.9s						
WB0	Warramunga Arr	45.23	267	P	P	14 01 12.2	+0.1
WB0				IAmb	IAmb	14 01 13.3	
	comp=Z,6.4nm,1.2s						
KNRA	Kununurra	51.63	270	P	P	14 02 01.7	+0.8
KNRA				IAmb	IAmb	14 02 02.7	
	comp=Z,6.6nm,1.1s						
ILAR	Eielson Array	93.34	12	P	P	14 06 15.2	+9.1
	comp=Z,0.2nm,0.8s,baz=218,slow=5.7,SNR=2.0						
	comp=Z,0.2nm,0.8s						
NB2	NORSAR Subarra	144.48	353	PKP	PKiKP	14 12 30.9	+0.8
	comp=Z,4.7nm,1.1s,baz=13,slow=5.1						
NOA	NORSAR Array B	144.48	353	PKPbc	PKiKP	14 12 31.4	+1.3
	comp=Z,1.4nm,0.8s,baz=20,slow=2.5,SNR=8.4						
HFS	Hagfors	145.06	351	PKPbc	PKiKP	14 12 33.2	+1.9
	comp=Z,3.7nm,0.6s,baz=45,slow=4.3,SNR=17						
AKASG	Malin Array Be	148.25	328	PKPbc	PKPab	14 12 40.8	+0.6
	comp=Z,0.7nm,0.4s,baz=47,slow=4.0,SNR=6.9						
BRTR	Keskin Array B	151.15	306	PKPbc	PKPab	14 12 48.4	-4.3
	comp=Z,0.4nm,0.6s,baz=118,slow=5.7,SNR=2.2						
BRTR				PKPab	PKiKP	14 12 57.4	+13
	comp=Z,1.7nm,0.6s,baz=82,slow=4.0,SNR=7.7						

*IDC **24** 14:07:43.4±1.1, 26°.00N×128°.52E, h0km, mb3.8/11, mbtmp3.7/13, ML3.2/2, MS2.8/1, Error ellipse: s-maj=50.2km s-min=15.8km az=76.0*
*NEIC **24** 14:07:44.0±3.0, 25°.93N±0°.07×128°.52E±0°.07, h6km±6km, mb4.5/7, Error ellipse: s-maj=12.0km s-min=7.0km az=221.0*
*JMA **24** 14:07:46.8±0.3, 26°N±1°×12°9E±°, h45km±4km, MV3.2/21, NEAR OKINAWAJIMA ISLAND*

ISC 24 14:07:43.1±1.9, 25°.93N±0°.04×128°.58E±0°.04, h5km±12km, n45, σ1°40/57, mb3.9/16, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	0.74	287	*i* P	Pn	14 08 00.4	0.0
JNTH	Nagotoyohara	0.77	320	*i* P	Pn	14 07 59.8	-0.8
JNTH				*e*S	Sn	14 08 10.1	-2.5
JOW	Kunigami	0.94	343	Pn	Pn	14 08 02.6	-0.4
	68nm,0.3s,baz=149,slow=21,SNR=755						
JOW				Sn	Sb	14 08 13.8	-0.8
	141nm,0.3s,baz=121,slow=23,SNR=10						
JOW	Kunigami	0.94	343	*i* P	Pn	14 08 02.7	-0.3
JYRO	Yoronjima	1.09	354	*i* P	Pn	14 08 04.9	-0.3
JYRO				*e*S	Sb	14 08 18.6	-0.5
JIH	Iheya	1.23	334	P	Pn	14 08 07.2	+0.2
JAGN	Aguni-jima	1.36	299	*i* P	Pg	14 08 09.2	-0.1
JOKE	Okinoerabujima	1.42	360	*i* P	Pb	14 08 09.8	-0.3
JOKE				S	Sb	14 08 27.0	-1.7
JKE	Kume jima 2	1.66	284	P	Pn	14 08 12.8	-0.1
JKE				*e*S	Sn	14 08 32.4	-2.2
JTK	Tokunoshima	1.88	10	*i* P	Pn	14 08 16.1	+0.2
JTK				S	Sn	14 08 38.0	-2.0
JAMN	Amaminishikomi	2.36	13	P	Pn	14 08 22.9	+0.3
JMZ	Minamidaito 2	2.39	92	Pn	Pn	14 08 23.0	+0.1
JMZ				Sn	Sn	14 08 48.5	-4.1
JMZ	Minamidaito 2	2.39	92	*i* P	Pn	14 08 22.9	-0.1
JMZ				S	Sn	14 08 49.1	-3.5
JKDJ	Kitadaitoujima	2.45	89	*i* P	Pn	14 08 23.8	0.0
JKDJ				S	Sn	14 08 51.5	-2.6
JAM	Amami Oshima	2.63	20	P	Pn	14 08 26.8	+0.5
JAM				*e*S	Sn	14 08 56.8	-1.9
JZK	Kikaishima	2.68	27	*e*P	Pn	14 08 28.3	+1.3
JZK				*e*S	Sn	14 08 59.1	-0.7
JTAJ	Takarajima	3.25	10	P	Pn	14 08 35.0	+0.1
JNN	Nakanoshima	4.06	16	P	Pn	14 08 47.0	+1.0
JNN				*e*S	Sn	14 09 33.0	-0.9
NACB	Ninganchiao	6.57	256	Pn	Pn	14 09 18.9	-1.5
JNU	Nakatsue	7.44	15	Pn	Pn	14 09 31.7	-0.7
JNU	Nakatsue	7.44	15	Pn	Pn	14 09 33.0	+0.6
	0.4nm,0.3s,baz=205,slow=13,SNR=4.7						
JNU				Sn	Sn	14 10 54.2	-3.0
	0.2nm,0.3s,baz=24,slow=12,SNR=1.6						
	11nm,1.0s						
JMN	Monobe	9.03	29	Pn	Pn	14 09 53.7	-0.5
KSRS	Korea Array	11.50	357	Pn	Pn	14 10 28.4	+0.4
	0.1nm,0.3s,baz=174,slow=14,SNR=2.0						
	0.7nm,0.8s						
YSS	Yuzh-Sakhalins	23.81	25	P	P	14 12 58.4	+1.5
YSS				IAmb	IAmb	14 13 01.0	
	comp=Z,20nm,1.4s						
SONM	Songino Array	27.97	327	P	P	14 13 36.7	+1.9
	comp=Z,0.7nm,0.5s,baz=133,slow=9.7,SNR=5.4						
	comp=Z,0.7nm,0.5s						
CMAR	Chiang Mai Arr	28.38	261	LR	LR	14 24

comp=E,43nm,0.3s
IBDR AML AML 14 22 56.1
comp=N,53nm,0.2s
IKRK Kirkuk 1.75 296 *e*Pn **Pb 14 22 33.0 -0.4**
IKRK *e*Sn **Sg 14 22 57.0 +0.1**

BJI ***24*** *14:28:12.7±0.0, 41°.98N×126°.96W, h4km, mb4.7/28, mB5.3/12, Ms5.0/12, Ms7 4.7/13*
IDC ***24*** *14:28:13.3±0.7, 41°.80N×126°.94W, h0km, mb4.3/21, mbtmp4.2/30, ML3.7/9, MS4.6/15, Error ellipse: s-maj=18.4km s-min=8.5km az=24.0*
NEIC ***24*** *14:28:15.7±1.9, 41°.81N±0°.06×126°.7W±0°.1, h10km±1km, mb4.6/149, ML3.6/76, Mww5.2/54, Mwr5.2(NCEDC), Error ellipse: s-maj=15.7km s-min=10.9km az=263.0*
NCEDC ***24*** *14:28:15±1.5, 41°.77N±0°.06×126°.7W±0°.1, h10km±1km, Error ellipse: s-maj=16.2km s-min=10.9km az=264.0*
NEIC ***24*** *14:28:15.9, 41°.80N×127°.30W, h12km, Moment Tensor Solution. Duration: 2±2 Moment tensor: Scale 10^16^Nm; Mrr=7.64; Mθθ=0.09; Mφφ=7.54; Mrθ=-0.56; Mrφ=0.24; Mθφ=-1.55; Fault plane solution: M0=7.77000×10^16^ NP1:φs=5.55000°, δ=50.95000°, λ=-85.35000°. NP2:φs=178.19000°, δ=39.28000°, λ=-95.71000°. Principal axes: T 7.7113, Plg=6.0000°, Azm=92.0000°; N 0.1166, Plg=4.0000°, Azm=183.0000°; P -7.8279, Plg=83.0000°, Azm=304.0000°;*
MOS ***24*** *14:28:15.3±1.2, 41°.82N×126°.77W, h15km, mb4.8/24, MS4.6/5 Error ellipse: s-maj=10.7km s-min=7.2km az=92.3*
NEIC ***24*** *14:28:15.9, 41°.80N×126°.63W, h12km*
GCMT ***24*** *14:28:16.7±0.1, 41°.88N±0°.01×127°.13W±0°.01, h12km, MW5.2/138, Moment Tensor Solution. s95,c135; s138,c245; Duration: 1±0 Moment tensor: Scale 10^17^ Nm; Mrr=0.74±.01; Mθθ=0.02±.01; Mφφ=0.72±.01; Mrθ=-0.00±.04; Mrφ=0.04±.01; Mθφ=-0.37±.03; Best double couple: M0=0.82600×10^17^ NP1:φs=2.00000°, δ=58.00000°, λ=-91.00000°. NP2:φs=184.00000°, δ=32.00000°, λ=-88.00000°. Principal axes: T 0.8170, Plg=13.0000°, Azm=93.0000°; N 0.0160, Plg=1.0000°, Azm=3.0000°; P -0.8340, Plg=77.0000°, Azm=269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 14:28:15.1±0.4, 41.76N±0°.06×126.69W±0°.05, h10km, n543, σ1§50/453, mb4.6/129, MS4.6/22, 12C-5D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.89**	**75**		**Pn**	**14 28 46.8**	**-0.7**
KBO				IAML		14 29 38.1	
	comp=E,333nm,3.4s						
KBO				IAML		14 29 41.0	
	comp=N,443nm,4.7s						
KRPM	**Rodgers**	**2.09**	**106**		**Pn**	**14 28 50.4**	**+0.1**
KRPM				IAML		14 29 40.0	
	comp=N,380nm,2.0s						
KRPM				IAML		14 29 44.1	
	comp=E,423nm,3.8s						
KRMB	**Red Mountain**	**2.10**	**95**		**Pn**	**14 28 50.6**	**+0.3**
KSXB	**Camp Six Broad**	**2.10**	**87**		**Pn**	**14 28 50.3**	**-0.1**
JCC	**Jacoby Creek,**	**2.21**	**114**		**Pn**	**14 28 51.7**	**-0.1**
L02F	**Cave Junction**	**2.35**	**80**		**Pn**	**14 28 53.6**	**-0.2**
KMPM	**Mount Pierce**	**2.36**	**124**		**Pn**	**14 28 53.8**	**-0.1**
KMPM				IAML		14 29 32.6	
	comp=N,273nm,1.2s						
KMPM				IAML		14 29 39.7	
	comp=E,325nm,1.1s						
KHMM	**Horse Mountain**	**2.40**	**111**		**Pn**	**14 28 54.9**	**+0.4**
KHMM				IAML		14 29 35.6	
	comp=N,191nm,1.4s						
KHMM				IAML		14 30 26.8	
	comp=E,205nm,1.7s						
K02D	**Willamette Mer**	**2.43**	**66**		**Pn**	**14 28 54.3**	**-0.7**
K02D				IAML		14 30 27.2	
	comp=E,192nm,4.0s						
KSMM	**Slide Mountain**	**2.47**	**129**		**Pn**	**14 28 56.0**	**+0.6**
J01E	**Myrtle Point**	**2.48**	**55**		**Pn**	**14 28 54.3**	**-1.1**
J01E				IAML		14 29 29.9	
	comp=N,221nm,0.9s						
J01E				IAML		14 29 30.3	
	comp=E,192nm,1.3s						
KMRM	**Mail Ridge**	**2.73**	**123**		**Pn**	**14 28 59.3**	**+0.4**
KMRM				IAML		14 29 42.5	
	comp=N,166nm,2.0s						
KMRM				IAML		14 29 46.5	
	comp=E,263nm,1.2s						
DBO	**Dodson Butte**	**2.89**	**61**		**Pn**	**14 29 00.8**	**-0.4**
DBO				IAML		14 29 42.6	
	comp=E,235nm,2.0s						
DBO				IAML		14 29 59.7	
	comp=N,132nm,1.6s						
HUMO	**Hull Mountain**	**2.90**	**72**		**Pn**	**14 29 01.3**	**-0.1**
YBH	**Yreka Blue Hor**	**2.98**	**89**		**Pn**	**14 29 02.7**	**+0.3**
YBH				IAML		14 30 21.0	
	comp=E,129nm,4.8s						
YBH				IAML		14 30 50.0	
	comp=N,104nm,4.5s						
YBH	**Yreka Blue Hor**	**2.98**	**89**	Pn	**Pn**	**14 29 04.1**	**+1.7**
	comp=N,12nm,0.3s,baz=267,slow=12,SNR=105						
YBH				Sn	**Sb**	**14 29 43.5**	**-1.2**
	baz=245,slow=10						
YBH				LR	LR	14 30 09.4	
	comp=N,11μm,20.4s,baz=274,slow=37						
	comp=N,62nm,0.5s						
I03D	**Drain, OR**	**3.13**	**51**		**Pn**	**14 29 04.4**	**0.0**
KCPM	**Cahto Peak**	**3.14**	**130**		**Pn**	**14 29 04.7**	**0.0**
KCPM				IAML		14 29 50.7	
	comp=N,135nm,1.6s						
KCPM				IAML		14 30 08.7	
	comp=E,191nm,1.4s						
O02D	**Mt. Diablo Mer**	**3.35**	**117**		**Pn**	**14 29 08.6**	**+1.0**
BUCK	**Buck Mountain**	**3.65**	**47**		**Pn**	**14 29 11.8**	**+0.1**
BUCK				IAML		14 31 04.8	
	comp=E,158nm,4.3s						
I04A	**Tendick Farm,**	**3.75**	**56**		**Pn**	**14 29 13.4**	**+0.4**
I04A				IAML		14 30 03.7	
	comp=N,145nm,1.7s						
I04A				IAML		14 30 08.4	
	comp=E,122nm,1.7s						
COR	**Corvallis**	**3.76**	**40**		**Pn**	**14 29 13.4**	**+0.4**
COR				IAML		14 30 02.2	
	comp=E,131nm,1.7s						
COR				IAML		14 30 08.2	
	comp=E,126nm,2.1s						
COR	**Corvallis**	**3.76**	**40**	P	**Pn**	**14 29 13.5**	**+0.4**
K04D	**Chiloquin, OR**	**3.77**	**75**		**Pn**	**14 29 13.7**	**+0.3**
HOPS	**Hopland Field**	**3.90**	**134**		**Pn**	**14 29 15.7**	**+0.6**
HOPS				IAML		14 30 29.6	
	comp=N,61nm,2.9s						
HOPS				IAML		14 31 00.0	
	comp=E,57nm,3.9s						
H04D	**Lebanon**	**4.00**	**45**		**Pn**	**14 29 16.8**	**+0.4**
HEBO	**Mount Hebo**	**4.06**	**31**	Pn	**Pn**	**14 29 17.8**	**+0.5**
HEBO				IAML		14 30 51.4	
	comp=N,112nm,2.1s						
GDXM	**Geysers**	**4.19**	**133**	IAML		14 31 24.0	
	comp=N,52nm,4.5s						
G03D	**McMinnville, O**	**4.26**	**35**	IAML		14 29 54.9	
	comp=E,85nm,1.1s						
J05D	**Fort Rock, OR**	**4.31**	**67**	IAML		14 30 59.1	
	comp=E,86nm,3.5s						
J05D				IAML		14 32 09.6	
	comp=N,80nm,3.8s						
H04A	**Detroit Lake**	**4.40**	**47**	IAML		14 30 19.2	
	comp=N,52nm,0.8s						
H04A				IAML		14 30 21.9	
	comp=E,67nm,1.2s						
ORV	**Oroville**	**4.52**	**117**	IAML		14 32 24.3	
	comp=E,34nm,4.8s						
PINE	**Pine Mountain**	**4.70**	**62**	IAML		14 31 25.3	
	comp=N,65nm,4.7s						
E03A	**Lebam**	**5.29**	**24**	IAML		14 30 20.1	
	comp=N,47nm,1.2s						
NVAR	**Mina Array Bea**	**7.24**	**115**	Pn	**Pn**	**14 30 04.9**	**+3.8**
	comp=N,1.0nm,0.3s,baz=296,slow=14,SNR=23						
NVAR				LR	LR	14 33 14.2	
	comp=N,8μm,18.4s,baz=288,slow=40						
	comp=N,3.6nm,0.6s						
MLAC	**Mammoth, Mammo**	**7.32**	**122**	P	**Pn**	**14 29 59.8**	**-2.5**
	baz=307						
CWC	**Cottonwood Cre**	**8.54**	**126**	P	Pn	14 30 13.8	-5.1
	baz=311						
GRAC	**Grapevine Rang**	**8.64**	**120**	P	Pn	14 30 15.8	-4.3
	baz=306						
ELK	**Elko**	**8.69**	**93**	Pn	Pn	14 30 25.9	+4.9
	comp=N,0.1nm,0.3s,baz=293,slow=10,SNR=18						
	comp=N,4.1nm,0.8s						
PKM	**Mcpherson Peak**	**8.73**	**140**	P	Pn	14 30 17.4	-4.1
	baz=324						
ISA	**Isabella, Lake**	**8.84**	**131**	P	**Pn**	**14 30 21.4**	**-1.6**
	baz=316,SNR=9.9						
ARVC	**Arvin**	**9.04**	**135**	P	**Pn**	**14 30 24.4**	**-1.2**
	baz=320						
MPMC	**Manual Prospec**	**9.15**	**125**	P	Pn	14 30 23.3	-4.0
	baz=312						
R11B	**Troy Canyon, C**	**9.17**	**108**	P	**Pn**	**14 30 25.5**	**-2.1**
	baz=296,SNR=8.2						
HLID	**Hailey**	**9.22**	**75**	P	**Pn**	**14 30 27.1**	**-1.1**
	baz=263						
FURC	**Furnace Creek,**	**9.28**	**121**	P	**Pn**	**14 30 28.2**	**-0.7**
	baz=308						
NEW	**Newport**	**9.39**	**43**	P	**Pn**	**14 30 28.4**	**-2.0**
	baz=230						
NEW	**Newport**	**9.39**	**43**	Pn	**Pn**	**14 30 33.2**	**+2.8**
	comp=N,0.3nm,0.3s,baz=236,slow=13,SNR=3.1						
NEW				LR	LR	14 34 26.4	
	comp=N,6μm,18.0s,baz=229,slow=39						
	comp=N,2.4nm,0.6s						
TPNV	**Topopah Spring**	**9.40**	**117**	P	**Pn**	**14 30 28.1**	**-2.6**
	baz=304,SNR=21						
LRMC	**Laurel Mtn Rad**	**9.43**	**129**	P	**Pn**	**14 30 30.0**	**-1.0**
	baz=315						
EDW2	**Edwards Air Fo**	**9.68**	**132**	P	**Pn**	**14 30 31.7**	**-2.7**
	baz=318						
SHOC	**Shoshone, Teco**	**10.01**	**122**	P	**Pn**	**14 30 37.5**	**-1.4**
	baz=309						
GSC	**Goldstone, Bar**	**10.07**	**127**	P	**Pn**	**14 30 39.0**	**-0.8**
	baz=313						
BFSC	**Mount Baldy Ra**	**10.34**	**134**	P	**Pn**	**14 30 42.1**	**-1.4**
	baz=319						
MSO	**Missoula**	**10.45**	**57**	P	**Pn**	**14 30 41.3**	**-3.6**
	baz=246						
BBB	**Bella Bella**	**10.48**	**355**	Pn	**Pn**	**14 30 44.7**	**-0.5**
	comp=N,0.2nm,0.3s,baz=190,slow=15,SNR=2.5						
BBB				LR	LR	14 33 54.5	
	comp=N,1μm,20.8s,baz=188,slow=33						
	comp=N,4.0nm,0.8s						
TUQ	**Turquoise Moun**	**10.52**	**123**	P	**Pn**	**14 30 42.9**	**-3.1**
	baz=310						
DUG	**Dugway, Tooele**	**10.61**	**94**	P	Pn	14 30 43.4	-3.9
	baz=283						
HEC	**Hector,Ludlow**	**10.67**	**127**	P	Pn	14 30 41.9	-6.1
	baz=314						
GMRC	**Granite Mounta**	**11.11**	**125**	P	**Pn**	**14 30 51.0**	**-3.1**
	baz=312						
BELC	**Belle Mtn. Jos**	**11.45**	**129**	P	**Pn**	**14 30 56.8**	**-1.9**
	baz=316						
PFO	**Pinyon Flats O**	**11.47**	**132**	P	**Pn**	**14 30 56.6**	**-2.4**
	baz=318						
PFO	**Pinyon Flats O**	**11.47**	**132**	Pn	**Pn**	**14 31 03.3**	**+4.3**
	comp=N,0.3nm,0.3s,baz=309,slow=10,SNR=1.8						
PFO				LR	LR	14 35 19.8	
	comp=N,3μm,20.4s,baz=306,slow=37						
	comp=N,1.1nm,0.5s						
TPFO	**Pinon Flats**	**11.48**	**132**	P	**Pn**	**14 30 56.5**	**-2.6**
	baz=318						
BOZ	**Bozeman (W)**	**11.56**	**66**	P	**Pn**	**14 30 57.4**	**-2.8**
	baz=256,SNR=13						
IRM	**Iron Mountain**	**11.85**	**126**	P	**Pn**	**14 31 01.1**	**-3.0**
	baz=313						
BC3	**Big Chuckawall**	**12.01**	**129**	P	Pn	14 31 03.0	-3.4
	baz=316						
SWSC	**Sam W. Stewart**	**12.34**	**132**	P	**Pn**	**14 31 08.4**	**-2.3**
	baz=319						
BW06	**Boulder Array**	**12.73**	**80**	P	**Pn**	**14 31 12.6**	**-3.7**
	baz=271						
PDAR	**Pinedale Array**	**12.73**	**80**	Pn	**Pn**	**14 31 20.9**	**+4.6**
	baz=265,slow=11,SNR=8.0						
PDAR				LR	LR	14 36 42.5	
	comp=N,3μm,20.7s,baz=266,slow=39						
	comp=N,0.8nm,0.7s						
GLA	**Glamis**	**12.81**	**129**	P	**Pn**	**14 31 14.4**	**-2.9**
	baz=316						
RLMT	**Red Lodge**	**13.10**	**69**	P	Pn	14 31 15.3	-6.0
	baz=261						
WUAZ	**Wupatki**	**13.49**	**113**	P	Pn	14 31 23.0	-3.6
	baz=302						
EGMT	**Eagleton**	**13.53**	**57**	P	Pn	14 31 21.8	-5.2
	baz=249						
V35K	**Ketchikan**	**13.96**	**348**	P	**Pn**	**14 31 28.6**	**-4.2**
	baz=164						
O20A	**White River Ci**	**14.04**	**91**	P	Pn	14 31 30.3	-3.9
	baz=283						
CRAG	**Craig**	**14.36**	**345**	P	**P**	**14 31 42.7**	**-2.6**
CRAG	**Craig**	**14.36**	**345**	P	Pn	14 31 33.3	-4.9
	baz=160						
MVCO	**Mesa Verde**	**14.76**	**102**	P	Pn	14 31 39.1	-4.9
	baz=294						
214A	**Organ Pipe Nat**	**14.78**	**127**	P	Pn	14 31 39.2	-5.0
	baz=316						
W18A	**Petrified Fore**	**14.84**	**111**	P	**Pn**	**14 31 45.7**	**+0.6**
	baz=302						
U33K	**Whale Pass**	**14.97**	**346**	P	**Pn**	**14 31 46.0**	**-0.4**
	baz=161						
K22A	**Casper**	**14.97**	**80**	P	**Pn**	**14 31 46.3**	**-0.5**
	baz=274						
WRAK	**Wrangell Islan**	**15.13**	**348**	P	**Pn**	**14 31 48.2**	**-0.4**
	baz=164						
LAO	**LASA Array**	**15.47**	**65**	P	**Pn**	**14 31 53.7**	**+0.5**
	baz=259						
N23A	**Red Feather La**	**15.61**	**86**	P	**Pn**	**14 31 55.5**	**+0.2**
	baz=280						
S22A	**4UR Ranch, Cre**	**15.79**	**98**	P	**Pn**	**14 31 59.5**	**+1.9**
	baz=291,SNR=9.9						
TUC	**Tucson**	**15.79**	**122**	P	**Pn**	**14 31 59.1**	**+1.4**
	baz=311						
ISCO	**Idaho Springs**	**16.08**	**90**	P	**Pn**	**14 32 02.1**	**+0.6**
	baz=284						
SIT	**Sitka**	**16.29**	**343**	P	**Pn**	**14 32 03.3**	**-0.4**
	baz=156						
S34M	**Telegraph Cree**	**16.42**	**352**	P	**Pn**	**14 32 04.5**	**-0.9**
	baz=168						
S32K	**Killisnoo**	**16.52**	**345**	P	**Pn**	**14 32 07.0**	**+0.4**
	baz=159						
Q24A	**Divide**	**16.65**	**93**	P	**Pn**	**14 32 07.4**	**-1.4**
	baz=287						
RSSD	**Black Hills**	**16.75**	**74**	P	**Pn**	**14 32 09.3**	**-0.6**
	baz=270						
SDCO	**Great Sand Dun**	**16.77**	**97**	IAmb	IAmb	14 32 18.5	
	comp=Z,85nm,1.8s						
SDCO	**Great Sand Dun**	**16.77**	**97**	P	**Pn**	**14 32 09.9**	**-0.3**
	baz=291,SNR=35						
DLBC	**Dease Lake**	**16.83**	**354**	P	**P**	**14 32 11.9**	**-0.9**
	baz=171,SNR=5.5						
DLBC	**Dease Lake**	**16.83**	**354**	Pn	**Pn**	**14 32 09.8**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=180,slow=20,SNR=2.1						
DLBC				LR	LR	14 37 44.4	
	comp=Z,906nm,19.0s,baz=150,slow=34						
	comp=Z,1.2nm,0.3s						
DGMT	**Dagmar**	**17.20**	**59**	P	**Pn**	**14 32 15.0**	**-0.3**
	baz=255						
JIS	**Juneau Island**	**17.24**	**346**	P	**P**	**14 32 21.8**	**+4.6**
ANMO	**Albuquerque**	**17.25**	**107**	P	**Pn**	**14 32 16.0**	**-0.2**
	baz=299						
ANMO	**Albuquerque**	**17.25**	**107**	P	**P**	**14 32 18.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=36,slow=15,SNR=6.6						
ANMO				LR	LR	14 39 31.0	
	comp=Z,4μm,19.6s,baz=32,slow=39						
	comp=Z,2.6nm,0.7s						
R32K	**Eaglecrest**	**17.26**	**346**	P	**P**	**14 32 17.7**	**+0.2**
	baz=160						
S31K	**Pelican**	**17.32**	**343**	P	**P**	**14 32 17.6**	**-0.5**
	baz=155						
Q32M	**Nakina River**	**17.58**	**350**	P	**P**	**14 32 20.8**	**-0.4**
	baz=166						
121A	**Cookes Peak, D**	**17.63**	**115**	P	**P**	**14 32 22.9**	**+1.0**
	baz=307,SNR=9.7						
T25A	**Trinidad**	**17.80**	**98**	P	**P**	**14 32 25.8**	**+1.9**
	baz=292,SNR=7.2						
R33M	**Jennings River**	**17.86**	**353**	P	**P**	**14 32 24.7**	**+0.4**
	baz=169,SNR=8.5						
P32M	**Atlin**	**18.38**	**349**	P	**P**	**14 32 31.1**	**+1.2**
	baz=163,SNR=7.9						
KOTAN	**Kotaneelee Air**	**18.47**	**4**	P	**Pn**	**14 32 32.5**	**+1.6**
	baz=186,SNR=5.7						
OGNE	**Ogallala**	**18.52**	**84**	P	**P**	**14 32 31.2**	**-0.4**
	baz=281						
KSCO	**Kaye Shedlock'**	**18.52**	**91**	P	**P**	**14 32 31.3**	**-0.4**
	baz=286						
SKAG	**Skagway**	**18.52**	**346**	P	**Pn**	**14 32 35.6**	**+4.1**
SKAG	**Skagway**	**18.52**	**346**	P	**P**	**14 32 30.4**	**-1.0**
	baz=159						
PLBC	**Pleasant Camp**	**18.72**	**344**	P	**Pn**	**14 32 34.7**	**+0.8**
	baz=157						
P33M	**Teslin, Yukon**	**18.86**	**351**	P	**Pn**	**14 32 36.2**	**+0.5**
	baz=166,SNR=15						
P29M	**Windy Craggy**	**19.17**	**343**	P	**Pn**	**14 32 38.8**	**-0.6**
	baz=154						
P30M	**Million Dollar**	**19.45**	**344**	P	**Pn**	**14 32 42.9**	**+0.1**
	baz=156,SNR=6.3						
WHY	**Whitehorse**	**19.58**	**348**	P	**P**	**14 32 42.0**	**-1.1**
	baz=161						
PNL	**Peninsula**	**19.59**	**341**	P	**Pn**	**14 32 47.3**	**+2.8**
PNL	**Peninsula**	**19.59**	**341**	P	**Pn**	**14 32 43.4**	**-1.0**
	baz=151						
MNTX	**Cornudas Mount**	**19.76**	**114**	P	**Pn**	**14 32 48.5**	**+1.8**
	baz=307,SNR=13						
N32M	**Quiet Lake**	**19.81**	**351**	P	**Pn**	**14 32 48.2**	**+1.2**
	baz=166						
TGTN	**Hyland Airport**	**19.82**	**358**	P	**Pn**	**14 32 46.7**	**-0.5**
	baz=176						
O30N	**Mendenhall**	**19.89**	**346**	P	**Pn**	**14 32 48.8**	**+0.8**
	baz=159,SNR=9.4						
O29M	**Mount Kennedy**	**19.96**	**343**	P	**P**	**14 32 47.1**	**-0.1**
	baz=153						
MDND	**Maddock**	**20.10**	**63**	P	**P**	**14 32 48.5**	**-0.3**
	baz=262						
PINM	**Pinnacle**	**20.18**	**340**	P	**P**	**14 32 49.7**	**+0.2**
	baz=149						
MSTX	**Muleshoe**	**20.38**	**105**	P	**P**	**14 32 52.2**	**+0.2**
	baz=300						
SUSD	**Miller**	**20.39**	**73**	P	**P**	**14 32 52.1**	**+0.1**
	baz=272						
YUK6	**Outpost Mounta**	**20.49**	**344**	P	**P**	**14 32 52.4**	**-0.7**
	baz=154,SNR=6.6						
N31M	**Braeburn, Yuko**	**20.51**	**348**	P	Pn	14 32 54.6	-0.7
N31M				IAmb	IAmb	14 32 59.7	
	comp=Z,28nm,1.3s						
N31M	**Braeburn, Yuko**	**20.51**	**348**	P	**P**	**14 32 53.2**	**+0.1**
	baz=160,SNR=7.0						
VHRN	**Van Horn**	**20.58**	**115**	P	**P**	**14 32 55.5**	**+1.2**
VHRN				IAmb	IAmb	14 33 06.8	
	comp=Z,39nm,1.8s						
N30M	**Aishikik Lake**	**20.71**	**346**	P	Pn	14 32 56.9	-0.8
N30M				IAmb	IAmb	14 33 04.4	
	comp=Z,53nm,1.9s						
N30M	**Aishikik Lake**	**20.71**	**346**	P	**P**	**14 32 55.6**	**+0.3**
	baz=158						
CBKS	**Cedar Bluff**	**20.74**	**89**	P	**P**	**14 32 56.1**	**+0.3**
	baz=287						
AMTX	**Amarillo**	**20.74**	**101**	P	**P**	**14 32 56.3**	**+0.4**
	baz=297						
FFC	**Flin Flon**	**20.82**	**43**	P	**P**	**14 32 57.1**	**+0.7**
FFC				IAmb	IAmb	14 33 06.0	
	comp=Z,16nm,0.8s						
FFC	**Flin Flon**	**20.82**	**43**	P	**P**	**14 32 57.2**	**+0.7**
FFC				pmax	pmax		
	comp=Z,16nm,0.9s						
FARO	**Faro, Yukon**	**20.89**	**351**	P	Pn	14 32 58.4	-1.3
FARO				IAmb	IAmb	14 33 05.6	
	comp=Z,49nm,1.7s						
FARO	**Faro, Yukon**	**20.89**	**351**	P	Pn	14 32 58.9	-0.8
	baz=166,SNR=18						
YUK4	**Talbot Arm**	**20.91**	**344**	P	Pn	14 32 59.4	-0.8
	baz=154						
YUK8	**Steele Glacier**	**21.10**	**342**	P	**P**	**14 33 00.9**	**+1.2**
	baz=152						
GRNC	**Granite Creek**	**21.11**	**339**	P	**P**	**14 33 00.6**	**+0.8**
GRNC				IAmb	IAmb	14 33 07.3	
	comp=Z,18nm,1.0s						
WAX	**Waxell Ridge**	**21.18**	**338**	P	**P**	**14 33 00.6**	**+0.2**
CTGM	**Chitina Glacie**	**21.20**	**340**	P	**P**	**14 33 01.3**	**+0.6**
CTGM				IAmb	IAmb	14 33 11.7	
	comp=Z,28nm,1.1s						
CTG	**Chitna Glacier**	**21.20**	**340**	P	**P**	**14 33 01.5**	**+0.7**
	baz=148,SNR=6.0						
KAIM	**Kayak Island**	**21.23**	**335**	P	**P**	**14 33 01.5**	**+0.6**
	baz=141						
BGNE	**Belgrade**	**21.32**	**81**	P	**P**	**14 33 02.7**	**+0.8**
	baz=280						
CRQE	**Cirque**	**21.50**	**338**	P	**P**	**14 33 04.2**	**+0.3**
	baz=145						
WRGLY	**Wrigley**	**21.59**	**4**	P	**P**	**14 33 03.6**	**-1.1**
WRGLY	**Wrigley**	**21.59**	**4**	P	**P**	**14 33 05.0**	**+0.3**
	baz=186						
YUK3	**Moose Creek**	**21.69**	**342**	P	**P**	**14 33 07.1**	**+1.0**
	baz=151,SNR=13						
M30M	**Minto, Yukon**	**21.70**	**347**	IAmb	IAmb	14 33 13.3	
	comp=Z,31nm,1.3s						
M30M	**Minto, Yukon**	**21.70**	**347**	P	**P**	**14 33 06.1**	**+0.2**
	baz=159,SNR=12						
M29M	**Somme Creek**	**21.88**	**345**	IAmb	IAmb	14 33 15.3	
	comp=Z,24nm,1.4s						
M29M	**Somme Creek**	**21.88**	**345**	P	**P**	**14 33 09.0**	**+1.1**
	baz=156,SNR=12						
YKA	**Yellowknife Ar**	**21.98**	**15**	P	**P**	**14 33 08.6**	**-0.2**
	comp=Z,5.9nm,0.8s,baz=205,slow=11,SNR=18						
YKA				PcP	**PcP**	**14 37 07.2**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=197,slow=2.6,SNR=4.1						
YKA				LR	LR	14 41 27.6	
	comp=Z,410nm,18.1s,baz=202,slow=36						
	comp=Z,5.9nm,0.8s						
VRDI	**Verde Repeater**	**21.99**	**338**	P	**P**	**14 33 10.5**	**+1.3**
MCARA	**McCarthy VSAT**	**22.00**	**339**	P	**P**	**14 33 10.4**	**+1.3**
	baz=146						
BMRM	**Bremner River**	**22.11**	**337**	P	**P**	**14 33 10.4**	**0.0**
	baz=142						
ECSD	**EROS Data Cent**	**22.12**	**75**	P	**P**	**14 33 10.4**	**-0.1**
ECSD				IAmb	IAmb	14 33 23.9	
	comp=Z,17nm,1.0s						
ECSD	**EROS Data Cent**	**22.12**	**75**	P	**P**	**14 33 10.5**	**-0.1**
	baz=275,SNR=8.2						
EYAK	**Cordova Ski Ar**	**22.14**	**335**	P	**P**	**14 33 10.9**	**+0.3**
	baz=140						
GLB	**Gilahina Butte**	**22.26**	**338**	P	**P**	**14 33 12.7**	**+0.7**
GLB				IAmb	IAmb	14 33 32.7	
	comp=Z,34nm,1.5s						
LPIG	**La Paz**	**22.27**	**137**	LR	LR	14 41 01.5	
	comp=Z,1μm,20.4s,baz=328,slow=34						
P23K	**Montague Islan**	**22.29**	**332**	P	**P**	**14 33 13.2**	**+1.1**
	baz=136						
L29M	**L29M**	**22.43**	**346**	P	**P**	**14 33 14.3**	**+0.6**
	baz=157,SNR=30						
FID	**Port Fidalgo**	**22.53**	**334**	IAmb	IAmb	14 33 23.6	
	comp=Z,17nm,0.9s						
M27K	**Edge Creek, AK**	**22.53**	**341**	P	**P**	**14 33 15.3**	**+0.3**
	baz=149,SNR=19						
N25K	**Chitina, Valde**	**22.62**	**338**	IAmb	IAmb	14 33 20.9	
	comp=Z,43nm,1.4s						
N25K	**Chitina, Valde**	**22.62**	**338**	P	**P**	**14 33 17.0**	**+1.1**
	baz=143,SNR=7.7						
AGMN	**Agassiz Nation**	**22.64**	**63**	P	**P**	**14 33 15.8**	**-0.4**
	baz=265						
GLI	**Glacier Island**	**22.83**	**334**	P	**

SII	Sitkinak Islan baz=118	23.08 319	P	P	14 33 22.4	+1.8
SEW	Seward baz=132	23.10 330	P	P	14 33 23.2	+2.5
BCAR	Beaver Creek A	23.13 342	P	P	14 33 21.7	+0.6
L27K	Beaver Creek,	23.13 342	P	P	14 33 21.3	+0.1
L27K	comp=Z,41nm,1.7s		IAmb	IAmb	14 33 28.0	
L27K	Beaver Creek, baz=150,SNR=8.1	23.13 342	P	P	14 33 21.1	0.0
PWL	Port Wells comp=Z,18nm,1.0s	23.23 333	IAmb	IAmb	14 33 30.9	
PWL	Port Wells baz=136	23.23 333	P	P	14 33 22.3	+0.3
ABTX	Abilene, Hawle baz=301	23.32 104	P	P	14 33 23.0	-0.3
HARP	HAARP baz=143	23.42 338	P	P	14 33 24.3	+0.3
L26K	Log Cabin Wild comp=Z,24nm,1.3s	23.46 341	IAmb	IAmb	14 33 32.4	
L26K	Log Cabin Wild baz=147,SNR=10.0	23.46 341	P	P	14 33 25.1	+0.7
M24K	Tolsona, Glenn baz=141	23.48 337	P	P	14 33 25.0	+0.4
J30M	Hart River baz=162,SNR=25	23.52 350	P	P	14 33 25.0	-0.2
DAWY	Dawson baz=156,SNR=17	23.53 346	P	P	14 33 25.5	+0.4
SCM	Sheep Creek Mo baz=139	23.61 335	P	P	14 33 26.4	+0.4
KNK	Knik Glacier baz=136	23.67 334	P	P	14 33 26.9	+0.4
M23K	Glacier View baz=138	23.71 335	P	P	14 33 26.7	-0.2
RC01	Rabbit Creek A baz=134	23.88 332	P	P	14 33 28.4	0.0
SML	Sawmill comp=Z,15nm,0.9s	23.91 334	IAmb	IAmb	14 33 37.8	
SML	Sawmill baz=137	23.91 334	P	P	14 33 28.8	-0.1
PAX	Paxson baz=144	23.96 339	P	P	14 33 29.4	+0.1
PMR	Palmer	24.02 333	P	P	14 33 33.5	+3.7
PMR	Palmer comp=Z,22nm,1.1s	24.02 333	IAmb	IAmb	14 33 39.2	
PMR	Palmer baz=135	24.02 333	P	P	14 33 30.1	+0.3
Q19K	Cape Douglas, baz=124	24.06 325	P	P	14 33 29.6	-0.6
GHO	Glory Hole Cre comp=Z,21nm,1.0s	24.08 334	IAmb	IAmb	14 33 40.9	
I30M	Mount Dempster comp=Z,22nm,1.8s	24.15 350	IAmb	IAmb	14 33 51.8	
I30M	Mount Dempster baz=162	24.15 350	P	P	14 33 30.3	-0.8
P19K	Oil Pt baz=126	24.29 327	P	P	14 33 31.4	-1.0
O20K	Slope Mountain baz=127	24.30 328	P	P	14 33 31.4	-1.1
WAT6	Susitna Watana baz=139	24.31 336	P	P	14 33 32.3	-0.3
JCT	Junction City baz=305	24.36 109	P	P	14 33 34.1	+0.8
SCRK	Sand Creek baz=147	24.42 342	P	P	14 33 33.2	-0.4
SUA	Susitna One comp=Z,22nm,1.4s	24.49 332	IAmb	IAmb	14 33 42.9	
SUA	Susitna One baz=133	24.49 332	P	P	14 33 34.3	+0.1
Q18K	Katmai Hardscr baz=121	24.50 323	P	P	14 33 34.1	-0.3
EGAK	Eagle comp=Z,13nm,1.4s	24.51 345	IAmb	IAmb	14 33 39.9	
EGAK	Eagle baz=153	24.51 345	P	P	14 33 34.3	0.0
DHY	Denali Highway comp=Z,20nm,1.0s	24.58 337	IAmb	IAmb	14 33 43.4	
DHY	Denali Highway baz=140,SNR=12	24.58 337	P	P	14 33 35.1	0.0
TUL3	Leonard baz=293	24.68 93	P	P	14 33 35.5	-0.6
SPMN	Marine on St. baz=274	24.72 70	P	P	14 33 35.4	-0.9
K24K	Donnelly Dome baz=144	24.72 340	P	P	14 33 35.9	-0.4
WAT1	Susitna Watana baz=138	24.74 336	P	P	14 33 35.7	-0.7
J26L	Joseph Creek comp=Z,26nm,1.5s	24.77 343	IAmb	IAmb	14 33 41.6	
J26L	Joseph Creek baz=149,SNR=15	24.77 343	P	P	14 33 36.4	-0.3
N20K	Mount Spurr baz=130	24.84 330	P	P	14 33 37.1	-0.3
SPCR	Spurr Chakacha baz=130	24.84 330	P	P	14 33 36.6	-0.9
SCIA	State Center baz=281	24.86 78	P	P	14 33 36.5	-1.1
I28M	Miner Creek comp=Z,9.1nm,0.8s	24.89 347	IAmb	IAmb	14 33 42.2	
I28M	Miner Creek baz=156,SNR=16	24.89 347	P	P	14 33 37.8	-0.1
SKT	Skwentna baz=132	25.11 332	P	P	14 33 39.9	+0.1
WHTX	Lake Whitney, baz=301	25.23 103	P	P	14 33 41.9	+0.8
O18K	Koktuh Hills baz=123	25.23 326	P	P	14 33 41.9	+1.0
RND	Reindeer comp=Z,14nm,1.0s	25.27 337	IAmb	IAmb	14 33 56.8	
J25K	Salcha River, comp=Z,11nm,1.0s	25.28 341	IAmb	IAmb	14 33 46.3	
J25K	Salcha River, baz=146,SNR=16	25.28 341	P	P	14 33 41.5	+0.2
EPYK	Eagle Plains baz=162,SNR=8.7	25.29 351	P	P	14 33 39.7	-1.7
I27K	Kandik River baz=153,SNR=22	25.34 346	P	P	14 33 42.0	+0.3
H29M	Whitestone baz=159,SNR=24	25.37 349	P	P	14 33 42.2	+0.3
I26K	Coal Creek Min baz=150	25.38 344	P	P	14 33 42.6	+0.5
P17K	Kvichak River baz=120	25.42 323	P	P	14 33 42.8	+0.3
N19K	Bonanza Creek comp=Z,18nm,1.2s	25.48 328	IAmb	IAmb	14 33 57.4	
N19K	Bonanza Creek baz=126	25.48 328	P	P	14 33 43.8	+0.6
HDA	Harding Lake comp=Z,16nm,1.3s	25.52 340	IAmb	IAmb	14 33 47.9	
HDA	Harding Lake baz=143	25.52 340	P	P	14 33 44.0	+0.7
MCK	McKinley baz=139	25.54 337	P	P	14 33 44.6	+1.0
EYMN	Ely baz=269,SNR=7.2	25.55 64	P	P	14 33 43.9	+0.1
G31M	Satah River baz=167	25.56 353	P	P	14 33 44.7	+1.0
M20K	Styx River baz=130	25.62 331	P	P	14 33 44.9	+0.5
IL31		25.79 340	P	P	14 33 45.2	-0.6
IL31	comp=Z,8.9nm,0.9s		IAmb	IAmb	14 33 54.1	
ILAR	Eielson Array	25.79 340	P	P	14 33 45.0	-0.9
ILAR	Eielson Array comp=Z,4.3nm,0.8s,baz=156,slow=8.0,SNR=31	25.79 340	P	P	14 33 45.5	-0.4
ILAR	comp=Z,1.5nm,0.8s,baz=173,slow=1.6,SNR=13		PcP	PcP	14 37 14.4	-0.6
ILAR	comp=Z,970nm,21.2s,baz=151,slow=33 comp=Z,4.3nm,0.8s		LR	LR	14 42 14.8	
G30M	tAoh Zraii Nji comp=Z,15nm,1.2s	25.82 351	IAmb	IAmb	14 33 50.1	
G30M	tAoh Zraii Nji baz=163	25.82 351	P	P	14 33 46.6	+0.5
WRH	Wood River Hil comp=Z,30nm,1.5s	25.87 339	IAmb	IAmb	14 34 14.1	
H27K	Steamboat Moun baz=154,SNR=15	25.88 346	P	P	14 33 47.2	+0.4
G29M	Pine Creek baz=160,SNR=25	25.97 350	P	P	14 33 47.4	-0.1
N18K	Kilae Creek comp=Z,10nm,1.0s	25.97 327	IAmb	IAmb	14 33 57.5	
N18K	Kilae Creek baz=124	25.97 327	P	P	14 33 46.9	-0.6
O17K	Koliganek Bris baz=120	26.00 324	P	P	14 33 47.2	-0.6
F31M	Tsiigehtchic baz=168	26.03 354	P	P	14 33 47.3	-0.6

PRP	Porcupine Dome comp=Z,9.2nm,1.0s	26.08 342	IAmb	IAmb	14 33 54.7	
PRP	Porcupine Dome baz=147	26.08 342	P	P	14 33 47.9	-0.7
M19K	Big River Lodg baz=128	26.10 330	P	P	14 33 48.9	+0.2
COLA	College	26.12 340	P	P	14 33 52.4	+3.6
COLA	College	26.12 340	eP	P	14 33 50.2	+1.4
COLA	comp=Z,10.0nm,1.3s		pmax	pmax		
POKR	Poker Plat Res baz=143	26.21 340	P	P	14 33 48.4	-1.2
NEA2	Nenana comp=Z,21nm,1.0s	26.23 338	IAmb	IAmb	14 33 57.4	
NEA2	Nenana baz=140	26.23 338	P	P	14 33 50.1	+0.2
L20K	Farewell, AK baz=129	26.27 331	P	P	14 33 50.5	+0.2
MDM	Murphy Dome comp=Z,11nm,1.2s	26.29 339	IAmb	IAmb	14 34 12.9	
O16K	Kokwok River B baz=118	26.36 323	P	P	14 33 51.0	0.0
F30M	Barrier River baz=164	26.38 352	P	P	14 33 51.7	+0.5
M18K	Stony River baz=125	26.41 328	P	P	14 33 52.1	+0.6
BPAW	Bear Paw Mtn. baz=136	26.42 336	P	P	14 33 51.8	+0.2
G27K	Doyon Strip comp=Z,11nm,1.1s	26.43 347	IAmb	IAmb	14 33 59.7	
G27K	Doyon Strip baz=154,SNR=11	26.43 347	P	P	14 33 52.0	+0.3
N17K	Nushagak Hills baz=121	26.43 326	P	P	14 33 52.2	+0.5
L19K	White Mountain baz=128,SNR=7.6	26.44 330	P	P	14 33 52.3	+0.5
I23K	Minto, Yukon-K comp=Z,16nm,1.1s	26.74 339	IAmb	IAmb	14 34 05.0	
I23K	Minto, Yukon-K baz=140,SNR=12	26.74 339	P	P	14 33 54.9	+0.5
H25L	Birch Creek baz=147,SNR=13	26.77 343	P	P	14 33 54.7	0.0
JFWS	Jewell Farm baz=280	26.83 75	P	P	14 33 54.9	-0.6
INK	Inuvik comp=Z,554nm,18.2s,baz=52,slow=35	26.86 354	LR	LR	14 43 48.5	
F28M	Old Crow comp=Z,10nm,1.0s	26.89 349	IAmb	IAmb	14 33 59.8	
F28M	Old Crow baz=158	26.89 349	P	P	14 33 55.7	0.0
MIAR	Mount Ida baz=296	26.90 95	P	P	14 33 55.7	-0.5
H24K	Noodor Dome comp=Z,9.5nm,1.1s	26.90 341	IAmb	IAmb	14 34 04.3	
H24K	Noodor Dome baz=143,SNR=7.6	26.90 341	P	P	14 33 55.0	-1.0
K20K	Telida comp=Z,32nm,1.6s	26.91 333	IAmb	IAmb	14 34 05.7	
K20K	Telida baz=130	26.91 333	P	P	14 33 55.5	-0.5
G26K	Porcupine Rive baz=151,SNR=10	26.94 345	P	P	14 33 54.4	-1.8
O15K	Ungalikthiuk R baz=116	26.95 322	P	P	14 33 54.5	-1.9
M17K	Holitna River baz=123	27.00 327	P	P	14 33 54.8	-2.1
MLY	Manley comp=Z,15nm,1.2s	27.03 338	IAmb	IAmb	14 34 01.5	
MLY	Manley baz=138,SNR=13	27.03 338	P	P	14 33 56.3	-0.9
L18K	Granite Mounta baz=125	27.16 329	P	P	14 33 57.3	-0.9
G25K	Bearman Lake baz=147	27.25 343	P	P	14 33 58.7	-0.3
H23K	Yukon River comp=Z,17nm,1.4s	27.31 340	IAmb	IAmb	14 34 04.5	
H23K	Yukon River baz=141,SNR=5.9	27.31 340	P	P	14 33 58.6	-1.0
CCM	Cathedral Cave baz=289	27.32 86	P	P	14 33 58.5	-1.4
E29M	Blow River baz=162	27.36 351	P	P	14 33 59.0	-0.9
M16K	Timber Creek baz=120	27.43 326	P	P	14 34 00.0	-0.7
J20K	Nowinta River baz=132	27.47 334	P	P	14 34 00.8	-0.3
G24K	Hadweenzic Riv comp=Z,12nm,0.9s	27.50 342	IAmb	IAmb	14 34 05.7	
G24K	Hadweenzic Riv baz=145,SNR=14	27.50 342	P	P	14 34 00.8	-0.5
BMAR	Burnt Mountain	27.51 345	P	P	14 34 01.8	+0.3
N15K	Kwethluk River baz=117	27.52 323	P	P	14 34 00.8	-0.6
F26K	Sheenjek River baz=151,SNR=5.4	27.66 346	P	P	14 34 02.5	-0.3
E27K	Coleen River baz=156,SNR=5.7	27.67 348	P	P	14 34 02.4	-0.4
C36M	Paulatuk baz=184	27.69 2	P	P	14 34 02.3	-0.6
L17K	Donlin baz=123	27.74 328	P	P	14 34 02.9	-0.5
E28M	Babbage River baz=159	27.77 350	P	P	14 34 03.0	-0.6
J19K	Poorman comp=Z,11nm,1.0s	27.85 333	IAmb	IAmb	14 34 12.2	
J19K	Poorman baz=129	27.85 333	P	P	14 34 04.2	-0.2
H22K	Ishtalitna Cre baz=138,SNR=8.6	27.86 338	P	P	14 34 04.1	-0.4
F25K	Christian Rive baz=149	27.86 345	P	P	14 34 04.8	+0.2
J18K	Innoko River comp=Z,7.8nm,0.9s	27.90 331	IAmb	IAmb	14 34 09.1	
J18K	Innoko River baz=127,SNR=5.2	27.90 331	P	P	14 34 04.6	-0.3
L16K	Owhat River comp=Z,11nm,0.8s	27.99 327	IAmb	IAmb	14 34 13.4	
L16K	Owhat River baz=120,SNR=6.6	27.99 327	P	P	14 34 06.4	+0.7
I20K	Naaghedeneel baz=132	28.00 335	P	P	14 34 05.6	0.0
M15K	Kasigluk River baz=117	28.02 324	P	P	14 34 06.1	+0.2
HDIL	Hopedale baz=285	28.04 80	P	P	14 34 05.5	-0.8
K17K	Iditarod comp=Z,17nm,1.2s	28.06 329	IAmb	IAmb	14 34 38.2	
K17K	Iditarod baz=124	28.06 329	P	P	14 34 06.5	+0.1
H21K	Melozitna Rive comp=Z,8.2nm,1.1s	28.09 337	IAmb	IAmb	14 34 14.1	
H21K	Melozitna Rive baz=136,SNR=8.5	28.09 337	P	P	14 34 06.2	-0.3
G23K	Bananza Creek comp=Z,11nm,1.1s	28.12 340	IAmb	IAmb	14 34 14.5	
G23K	Bananza Creek baz=141,SNR=6.2	28.12 340	P	P	14 34 06.5	-0.4
F24K	Squaw Lake comp=Z,17nm,1.6s	28.27 343	IAmb	IAmb	14 34 31.4	
F24K	Squaw Lake baz=145	28.27 343	P	P	14 34 08.2	0.0
D27M	Malcolm River comp=Z,18nm,1.6s	28.55 349	IAmb	IAmb	14 34 16.4	
D27M	Malcolm River baz=157	28.55 349	P	P	14 34 11.0	+0.3
COLD	Coldfoot baz=141	28.57 341	P	P	14 34 10.8	-0.1
H20K	Anotleneega Mo baz=132	28.59 336	P	P	14 34 10.4	-0.7
IMAR	Indian Mountai	28.59 337	P	P	14 34 10.7	-0.3
M14K	Bethel baz=116	28.61 324	P	P	14 34 11.0	-0.2
G22K	Bettles baz=139	28.66 340	P	P	14 34 12.5	+0.8
J17K	VABM Dome baz=124	28.73 330	P	P	14 34 12.5	+0.2
L15K	Ungalak Mounta baz=118	28.82 326	P	P	14 34 13.2	+0.1
E24K	Your Creek baz=145	28.86 343	P	P	14 34 13.7	+0.3
G21K	Allakaket baz=136	28.90 338	P	P	14 34 14.3	+0.6
M13K	Dall Lake baz=113	29.09 322	P	P	14 34 14.4	-1.1
E23K	Chandalar baz=143,SNR=14	29.10 342	P	P	14 34 13.9	-1.6
H19K	Roundabout Mou baz=130	29.11 335	P	P	14 34 14.1	-1.4

K15K	Wolf Creek Mou baz=118	29.13 327	P	P	14 34 14.2	-1.6
L14K	Kuka Creek baz=116	29.18 324	P	P	14 34 15.5	-0.7
J16K	Anvik River comp=Z,7.7nm,0.9s	29.25 329	IAmb	IAmb	14 34 24.4	
J16K	Anvik River baz=121	29.25 329	P	P	14 34 15.9	-1.0
C27K	Jago River baz=153	29.31 348	P	P	14 34 16.4	-1.0
F21K	Alatna River baz=137	29.41 339	P	P	14 34 17.7	-0.6
D25K	Kavik River comp=Z,8.7nm,0.8s	29.49 346	IAmb	IAmb	14 34 23.7	
D25K	Kavik River baz=149,SNR=9.9	29.49 346	P	P	14 34 18.3	-0.7
H18K	Honhosa River baz=127	29.50 333	P	P	14 34 18.2	-0.9
TOLK	Toolik Lake Re comp=Z,21nm,1.4s	29.56 343	IAmb	IAmb	14 34 24.4	
TOLK	Toolik Lake Re baz=144	29.56 343	P	P	14 34 18.2	-1.4
I17K	Unalakleet comp=Z,26nm,1.7s	29.61 330	IAmb	IAmb	14 34 24.4	
I17K	Unalakleet baz=122	29.61 330	P	P	14 34 19.2	-0.7
G19K	Purcell Mounta comp=Z,28nm,1.8s	29.70 335	IAmb	IAmb	14 34 30.7	
G19K	Purcell Mounta baz=130	29.70 335	P	P	14 34 19.8	-1.1
C26K	Camden Bay baz=152	29.76 347	P	P	14 34 20.4	-0.9
D24K	Happy Valley comp=Z,17nm,1.3s	29.82 344	IAmb	IAmb	14 34 40.2	
D24K	Happy Valley baz=145	29.82 344	P	P	14 34 20.4	-1.4
H17K	Granite Mounta comp=Z,15nm,1.7s	29.90 332	IAmb	IAmb	14 34 25.9	
H17K	Granite Mounta baz=125	29.90 332	P	P	14 34 21.4	-1.2
F20K	Avaraart Lake comp=Z,14nm,1.7s	29.90 338	IAmb	IAmb	14 34 28.4	
F20K	Avaraart Lake baz=133	29.90 338	P	P	14 34 21.3	-1.3
OXF	Oxford baz=295	30.02 92	P	P	14 34 23.1	-0.9
G18K	Tagagawik baz=128	30.05 334	P	P	14 34 23.2	-0.7
D23K	Nanushuk River baz=143,SNR=9.4	30.06 343	P	P	14 34 22.9	-1.1
J14K	Nanvaranak Lak baz=117	30.17 327	P	P	14 34 23.9	-1.1
K13K	Kusilvak Mount baz=114	30.28 325	P	P	14 34 24.9	-1.1
A36M	Sachs Harbour	30.32 1	P	P	14 34 26.9	+0.7
A36M	comp=Z,13nm,1.0s		IAmb	IAmb	14 34 30.5	
A36M	Sachs Harbour baz=182	30.32 1	P	P	14 34 25.0	-1.2
F19K	Shaleruckik Mo comp=Z,13nm,1.6s	30.36 336	IAmb	IAmb	14 34 40.0	
F19K	Shaleruckik Mo baz=130	30.36 336	P	P	14 34 25.8	-0.9
E21K	Killik River baz=137	30.43 340	P	P	14 34 27.0	-0.3
D22K	Ayikyak River comp=Z,14nm,1.4s	30.45 342	IAmb	IAmb	14 34 32.7	
D22K	Ayikyak River baz=140	30.45 342	P	P	14 34 26.3	-1.1
G17K	Kiwalik Mounta baz=124	30.48 333	P	P	14 34 26.6	-1.1
H16K	Elim baz=121	30.58 331	P	P	14 34 27.7	-0.9
E19K	Redstone River baz=132	30.61 337	P	P	14 34 28.2	-0.7
C23K	Itkillik River comp=Z,12nm,1.1s	30.75 344	IAmb	IAmb	14 34 34.5	
C23K	Itkillik River baz=144	30.75 344	P	P	14 34 28.5	-1.5
F18K	Selawik baz=127	30.80 335	P	P	14 34 30.2	-0.3
E20K	Nigu River baz=134	30.87 339	P	P	14 34 30.1	-1.1
G16K	Koyuk River baz=122	31.02 332	P	P	14 34 31.7	-0.7
C21K	Knifeblade Rid baz=137,SNR=8.3	31.16 341	P	P	14 34 32.5	-1.2
F17K	Baldwin Pennin baz=125	31.22 334	P	P	14 34 33.4	-0.8
D20K	Etivluk River baz=134	31.30 339	P	P	14 34 34.2	-0.7
G15K	Niukluk baz=119	31.42 330	P	P	14 34 35.3	-0.8
B21K	Ikpikpuk River comp=Z,20nm,1.5s	31.46 342	IAmb	IAmb	14 34 40.4	
B21K	Ikpikpuk River baz=138	31.46 342	P	P	14 34 35.0	-1.3
D19K	Kuna River baz=132	31.56 338	P	P	14 34 35.7	-1.6
E18K	Tukpahlearik C baz=127	31.59 336	P	P	14 34 36.4	-1.2
E17K	Hotham Inlet baz=125	31.78 335	P	P	14 34 37.6	-1.5
F15K	North Star Dit comp=Z,9.3nm,1.1s	32.00 331	IAmb	IAmb	14 34 45.9	
F15K	North Star Dit baz=120	32.00 331	P	P	14 34 39.4	-1.7
B20K	Meade River baz=135	32.35 341	P	P	14 34 42.7	-1.4
C19K	Lookout Ridge baz=131	32.36 339	P	P	14 34 43.3	-1.0
F14K	Arctic Creek baz=117	32.50 330	P	P	14 34 43.9	-1.6
C18K	Utukok River baz=128	32.52 337	P	P	14 34 44.0	-1.7
D17K	Noatak River baz=124	32.53 335	P	P	14 34 44.1	-1.6
TNA	Tin City baz=116	33.13 330	P	P	14 34 49.3	-1.7
B18K	Kokolik River baz=128	33.14 338	P	P	14 34 49.1	-1.9
C16K	Lisburne Hills baz=122	33.56 335	P	P	14 34 52.9	-1.8
TZTN	Tazewell baz=292	33.59 84	P	P	14 34 53.3	-2.1
TKL	Tuckaleechee C comp=Z,2μm,19.1s,baz=297,slow=38	33.77 86	LR	LR	14 49 45.4	
GAMB	Gambell baz=109	33.97 326	P	P	14 34 55.9	-2.4
M53A	WI Miller and baz=286	34.09 75	P	P	14 34 56.7	-3.0
SCHQ	Schefferville comp=Z,4.2nm,1.0s,baz=274,slow=16,SNR=2.7 comp=Z,4.2nm,1.0s	40.66 50	P	P	14 35 56.3	+1.1
BILL	Bilibino	43.57 330	*i* P	P	14 36 20.4	+1.7
BILL			*i*		14 36 31.6	
BILL			*i*		14 37 56.1	
BILL			*i*		14 38 07.0	
BILL	comp=Z,9.0nm,1.1s		pmax	pmax		
BILL	comp=Z,1μm,17.0s		MLR	MLR		
LMN	Caledonia Moun	43.87 63	P	P	14 36 21.8	+0.4
LMN	comp=Z,13nm,0.9s		IAmb	IAmb	14 36 31.9	
NEEM	North Greenlan	46.52 17	*i* P	P	14 36 43.1	+0.6
NEEM	comp=Z,16nm,0.9s		IAmb	IAmb	14 36 47.0	
PET	Petropavlovsk	49.59 310	*e*P	P	14 37 06.7	+0.7
PET			*e*S	S	14 44 14.7	+0.8
PET	comp=Z,7.0nm,0.8s		pmax	pmax		
SEY	Seymchan	49.91 324	*e*P	P	14 37 10.4	+2.0
SEY	comp=Z,7.0nm,1.3s		pmax	pmax		
SUMG	Summit	50.24 23	P	P	14 37 11.1	-0.2
SUMG	Summit	50.24 23	P	P	14 37 11.1	-0.2
SUMG	comp=Z,14nm,0.9s		pmax	pmax		
SUMG	Summit	50.24 23	*i* P	P	14 37 11.5	+0.2
SUMG	comp=Z,13nm,0.9s		IAmb	IAmb	14 37 16.0	
ICESG	Greenland Ices	50.72 28	*i* P	P	14 37 16.3	+1.5
ICESG	comp=Z,11nm,0.8s		IAmb	IAmb	14 37 19.5	
DAG	Danmarks Havn	53.68 16	P	P	14 37 39.0	+2.7
DAG	comp=Z,35nm,0.8s		pmax	pmax		

DAG	**Danmarks Havn**	**53.68**	**16**	*e*P	**P**	**14 37 36.9**	**+0.6**
DAG				IAmb	IAmb	14 37 41.2	
	comp=Z,25nm,0.6s						
DBG	**Daneborg**	**54.50**	**19**	*e*P	**P**	**14 37 42.6**	**+0.3**
DBG				IAmb	IAmb	14 37 46.8	
	comp=Z,13nm,1.0s						
TIXI	**Tiksi**	**55.24**	**338⇓**	*e*P	**P**	**14 37 47.8**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.0s						
TYV	**Tymovskoe**	**59.48**	**313**	*e*P	**P**	**14 38 18.8**	**+0.8**
TYV				*e*S	**S**	**14 46 29.2**	**+2.0**
TYV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TYV				pmax	pmax		
	comp=Z,100nm,3.1s						
TYV				smax	smax		
	comp=N,100nm,5.2s						
TYV				smax	smax		
	comp=E,100nm,5.2s						
H11N3	**WAKE ISLAND Hy**	**59.69**	**270**	T	T	15 42 39.7	
	baz=52,slow=75,SNR=730						
H11N2	**WAKE ISLAND Hy**	**59.69**	**270**	T	T	15 42 41.9	
	baz=52,slow=75,SNR=399						
H11N1	**WAKE ISLAND Hy**	**59.71**	**270**	T	T	15 42 43.1	
	baz=52,slow=75,SNR=449						
YAK	**Yakutsk**	**59.87**	**328**	*e*P	**P**	**14 38 22.2**	**+1.8**
YAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
H11S1	**WAKE ISLAND Hy**	**60.58**	**269**	T	T	15 43 46.7	
	baz=52,slow=75,SNR=1209						
H11S2	**WAKE ISLAND Hy**	**60.59**	**269**	T	T	15 43 47.2	
	baz=52,slow=75,SNR=886						
H11S3	**WAKE ISLAND Hy**	**60.60**	**269**	T	T	15 43 45.4	
	baz=52,slow=75,SNR=686						
YSS	**Yuzh-Sakhalins**	**61.42**	**309⇑**	*e*P	**P**	**14 38 33.6**	**+2.3**
YSS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PPT2	**Papeete2**	**62.73**	**205**	*e*P	**P**	**14 38 43.0**	**+2.6**
	comp=Z,54nm,24.2s						
PPT2				*e*S	**S**	**14 47 11.9**	**+2.7**
	comp=Z,90nm,28.8s						
PPT2				*e*SS	**SS**	**14 51 10.8**	**-3.6**
	comp=Z,64nm,36.0s						
PPT2				*e*LR	LR	14 57 14.9	
	comp=Z,619nm,25.8s						
PPT2				*e*LR	LR	14 57 16.1	
	comp=Z,370nm,24.2s						
KLR	**Kul'dur**	**66.25**	**315⇑**	*e*P	**P**	**14 39 04.4**	**+1.3**
KLR				pmax	pmax		
	comp=Z,6.0nm,1.4s						
NRIK	**Noril'sk**	**66.37**	**347**	P	**P**	**14 39 03.6**	**+0.1**
NRIK	**Noril'sk**	**66.37**	**347**	P	**P**	**14 39 01.9**	**-1.6**
	comp=Z,1.9nm,0.3s,baz=47,slow=7.4,SNR=5.3						
	comp=Z,1.9nm,0.3s						
NRIK	**Noril'sk**	**66.37**	**347**	*ce*P	**P**	**14 39 05.5**	**+2.0**
NRIK				pmax	pmax		
	comp=Z,13nm,1.5s						
ARCES	**ARCESS Array B**	**67.15**	**10**	P	**P**	**14 39 09.1**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=342,slow=7.6,SNR=3.9						
	comp=Z,2.5nm,0.8s						
HEH	**HeiHe**	**67.84**	**318**	*e*P	**P**	**14 39 11.0**	**-2.2**
HEH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TBI	**Tubuai**	**68.12**	**203**	*e*S	**S**	**14 48 18.2**	**+3.3**
	comp=Z,427nm,27.8s						
TBI				*e*SS	SS	14 52 25.5	-13
	comp=Z,1μm,38.2s						
TBI				*e*LR	LR	14 59 46.6	
	comp=Z,2μm,26.0s						
TBI				*e*LR	LR	14 59 48.6	
	comp=Z,674nm,28.2s						
USA0B	**Ussuriysk Arra**	**69.19**	**311**	*de*P	**P**	**14 39 23.6**	**+1.9**
USRK	**Ussuriysk Ar.**	**69.19**	**311**	P	**P**	**14 39 20.8**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=54,slow=7.3,SNR=7.3						
	comp=Z,3.0nm,0.8s						
MJAR	**Matsushiro Arr**	**70.14**	**301**	P	**P**	**14 39 26.1**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=47,slow=5.6,SNR=3.0						
	comp=Z,1.1nm,0.8s						
MDJ	**Mudanjiang**	**70.27**	**313**	P	**P**	**14 39 28.3**	**0.0**
MDJ				PP	**PP**	**14 41 58.6**	**-4.7**
MDJ				S	**S**	**14 48 39.8**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MDJ				LR	LR		
	comp=Z,330nm,16.5s						
MDJ				LR	LR		
	comp=Z,220nm,22.0s						
MDJ				LR	LR		
	comp=Z,540nm,24.0s						
NB2	**NORSAR Subarra**	**71.98**	**20**	P	**P**	**14 39 38.8**	**+0.3**
	comp=Z,11nm,1.4s,baz=329,slow=5.9						
NOA	**NORSAR Array B**	**71.98**	**20**	P	**P**	**14 39 39.0**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=330,slow=5.8,SNR=5.5						
	comp=Z,1.3nm,0.7s						
EKA	**Eskdalemuir Ar**	**72.04**	**30**	P	**P**	**14 39 39.3**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=320,slow=6.2,SNR=3.6						
	comp=Z,1.0nm,0.7s						
KONO	**Kongsberg**	**72.73**	**22⇑**	*e*P	**P**	**14 39 45.7**	**+2.8**
KONO				pmax	pmax		
	comp=Z,25nm,1.6s						
HFS	**Hagfors**	**73.39**	**19**	P	**P**	**14 39 47.1**	**+0.3**
	comp=Z,4.8nm,0.9s,baz=312,slow=9.2,SNR=6.7						
	comp=Z,4.8nm,0.9s						
FINES	**FINESS Array B**	**74.80**	**13**	P	**P**	**14 39 54.1**	**-0.9**
FINES	**FINESS Array B**	**74.80**	**13**	P	**P**	**14 39 54.9**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=347,slow=5.9,SNR=14						
	comp=Z,4.4nm,0.7s						
KSRS	**Korea Array**	**75.89**	**308**	P	**P**	**14 40 00.1**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=54,slow=5.7,SNR=2.8						
	comp=Z,0.6nm,0.7s						
LDF	**La Druitiere**	**78.45**	**33**	*e*P	**P**	**14 40 20.2**	**+4.3**
LDF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	**Ulaanbaatar**	**78.90**	**326⇓**	*e*P	**P**	**14 40 18.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.4s						
SONM	**Songino Array**	**79.19**	**327**	P	**P**	**14 40 19.8**	**-0.4**
SONM				IAmb	IAmb	14 40 24.2	
	comp=Z,6.3nm,1.1s						
SONM	**Songino Array**	**79.19**	**327**	P	**P**	**14 40 19.8**	**-0.4**
	comp=Z,3.2nm,1.0s,baz=42,slow=4.6,SNR=7.6						
	comp=Z,3.2nm,1.0s						
KIRV	**Kirov**	**79.97**	**2**	*ce*P	**P**	**14 40 26.2**	**+2.2**
CLL	**Collm**	**80.89**	**24**	*e*P	**P**	**14 40 31.0**	**+1.9**
CLL				*e*		14 40 38.0	
CLL				*e*S	**SKSac**	**14 50 43.0**	**-4.7**
CLL				MLR	MLR		
	comp=Z,300nm,21.7s						
ZALV	**Zalesovo Beam**	**80.90**	**342**	P	**P**	**14 40 27.4**	**-1.7**
ZALV	**Zalesovo Beam**	**80.90**	**342**	P	**P**	**14 40 28.1**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=38,slow=5.6,SNR=6.4						
	comp=Z,1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**80.90**	**342**	*i* P	**P**	**14 40 31.8**	**+2.7**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRG	**Berggiesshubel**	**81.56**	**24**	*e*P	**P**	**14 40 34.1**	**+1.4**
BRG				Amp		14 40 37.6	
	comp=Z,4.9nm,0.8s						
BRG	**Berggiesshubel**	**81.56**	**24**	P	P	14 40 42.8	+10
BRG				Amp		14 40 43.6	
	comp=Z,4.3nm,0.9s						
BRG	**Berggiesshubel**	**81.56**	**24**	*e*P	**P**	**14 40 34.0**	**+1.4**
BRG						14 40 42.8	
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SVE	**Sverdlovsk**	**81.59**	**356**	*e*P	**P**	**14 40 32.8**	**+0.1**
HSKC	**Hora Svate Kat**	**81.63**	**24**	AMS	AMS	15 17 00.0	
	comp=Z,300nm,18.3s						
ARU	**Arti**	**82.08**	**357**	P	**P**	**14 40 34.5**	**-0.8**
ARU				IAmb	IAmb	14 40 38.2	
	comp=Z,8.2nm,1.2s						
ARU	**Arti**	**82.08**	**357**	*c i* P	**P**	**14 40 36.4**	**+1.1**
ARU						14 43 41.4	
ARU				S	**SKSac**	**14 50 53.3**	**-2.3**
ARU				SS	**SS**	**14 56 10.0**	**+2.8**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.3s						
CAF	**Calviac**	**82.28**	**34**	*e*P	**P**	**14 40 40.7**	**+4.0**
CAF				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**82.32**	**319**	*e*P	**P**	**14 40 35.5**	**-1.5**
HHC				pP	sP	14 40 40.8	+0.5
HHC				pmax	pmax		
	comp=Z,21nm,0.5s						
HHC				pmax	pmax		
	comp=Z,160nm,5.9s						
HHC				LR	LR		
	comp=Z,180nm,19.7s						
HHC				LR	LR		
	comp=Z,180nm,15.9s						
HHC				LR	LR		
	comp=Z,290nm,16.8s						
PRA	**Prague**	**82.41**	**24**	AMS	AMS	15 18 10.0	
	comp=Z,300nm,20.8s						
OBN	**Obninsk**	**82.45**	**10**	*e*P	**P**	**14 40 38.9**	**+1.7**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,202nm,20.0s						
UPC	**Upice**	**82.50**	**23**	AMS	AMS	15 20 20.0	
	comp=Z,400nm,18.3s						
PRU	**Pruhonice**	**82.52**	**24**	AMS	AMS	15 18 00.0	
	comp=Z,300nm,17.9s						
GOPC	**GO Pecny, Ondr**	**82.66**	**24**	AMS	AMS	15 19 10.0	
	comp=Z,300nm,21.1s						
DPC	**Dobruska-Polom**	**82.73**	**23**	AMS	AMS	15 20 30.0	
	comp=Z,400nm,20.0s						
KHC	**Kasperske Hory**	**82.97**	**25**	*e*P	**P**	**14 40 42.0**	**+1.8**
KHC				AMS	AMS	15 19 00.0	
	comp=Z,400nm,18.3s						
KHC	**Kasperske Hory**	**82.97**	**25**	*e*P	**P**	**14 40 42.0**	**+1.8**
KHC				MLR	MLR		
	comp=Z,400nm,18.3s						
GERES	**GERESS Array B**	**83.26**	**25**	P	**P**	**14 40 41.7**	**0.0**
	comp=Z,0.5nm,0.2s,baz=316,slow=5.5,SNR=2.3						
	comp=Z,0.5nm,0.2s						
CKRC	**Cesky Krumlov**	**83.48**	**25**	AMS	AMS	15 19 30.0	
	comp=Z,400nm,19.6s						
MORC	**Moravsky Berou**	**83.59**	**22**	*e*P	**P**	**14 40 44.2**	**+0.8**
ESDC	**Sonseca Array**	**83.70**	**41**	P	**P**	**14 40 44.1**	**0.0**
ESDC				IAmb	IAmb	14 40 49.2	
	comp=Z,3.8nm,1.1s						
ESDC	**Sonseca Array**	**83.70**	**41**	P	**P**	**14 40 44.3**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=307,slow=4.7,SNR=10						
	comp=Z,1.6nm,0.8s						
VRAC	**Vranov**	**83.74**	**23**	*e*P	**P**	**14 40 45.7**	**+1.6**
SQTA	**Sankt Quirin**	**83.85**	**27**	*e*pP	**P**	**14 40 46.0**	**+1.1**
	comp=Z,1.2nm,0.5s						
FETA	**Feichten**	**83.86**	**28**	*e*pP	**P**	**14 40 46.0**	**+1.1**
	comp=Z,1.7nm,0.8s						
WATA	**Walderalm**	**83.88**	**27**	*e*pP	pP	14 40 47.0	-0.5
	comp=Z,2.1nm,0.5s						
KRUC	**Moravsky**	**83.90**	**23**	*e*P	**P**	**14 40 45.9**	**+1.0**
WTTA	**Wattenberg**	**83.96**	**27**	*e*PcP	**PcP**	**14 40 48.4**	**-1.1**
	comp=Z,3.1nm,0.5s						
LESA	**Schwarzleotal**	**84.17**	**26**	*e*pP	pP	14 40 48.2	-0.6
	comp=Z,1.3nm,0.4s						
BIOA	**Bad Ischl, Aus**	**84.26**	**26**	*e*PcP	**PcP**	**14 40 49.9**	**-0.7**
	comp=Z,7.5nm,1.1s						
MOA	**Molln**	**84.32**	**25**	*e*PcP	**PcP**	**14 40 50.5**	**-0.3**
	comp=Z,6.0nm,1.3s						
BRVK	**Borovoye**	**84.43**	**350**	P	**P**	**14 40 46.4**	**-1.1**
BRVK	**Borovoye**	**84.43**	**350**	P	**P**	**14 40 46.4**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BVAR	**Borovoye Array**	**84.45**	**350**	P	**P**	**14 40 47.2**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=18,slow=5.3,SNR=12						
	comp=Z,3.0nm,0.7s						
JAVC	**Velka Javorina**	**84.45**	**23**	*e*P	**P**	**14 40 49.6**	**+1.8**
KBA	**Koelnbreinsper**	**84.70**	**26**	*e*pP	**P**	**14 40 49.9**	**+0.6**
	comp=Z,2.4nm,0.6s						
ABTA	**Abfaltersbach**	**84.71**	**27**	*e*pP	**P**	**14 40 50.3**	**+1.1**
	comp=Z,2.3nm,0.6s						
CONA	**Conrad Observa**	**84.75**	**24**	*e*pP	pP	14 40 51.0	-0.7
	comp=Z,4.2nm,1.0s						
MODS	**Modra-Piesok**	**84.78**	**23**	*e*P	**P**	**14 40 53.2**	**+3.8**
MODS	**Modra-Piesok**	**84.78**	**23**	*e*P	**P**	**14 40 53.2**	**+3.8**
NJ2	**Nanjing**	**84.99**	**309**	*e*P	**P**	**14 40 50.4**	**-0.3**
NJ2				sP	**pwP**	**14 41 03.1**	**+6.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,230nm,3.6s						
RONA	**Rosalia, Austr**	**85.08**	**24**	*e*pP	pP	14 40 53.7	+0.3
	comp=Z,1.8nm,0.6s						
VYHS	**Vyhne**	**85.12**	**22**	*e*P	**P**	**14 40 53.3**	**+2.2**
VYHS	**Vyhne**	**85.12**	**22**	*e*P	**P**	**14 40 53.3**	**+2.2**
MYKA	**Terra Mystica**	**85.19**	**26**	*e*P	**P**	**14 40 50.8**	**-0.7**
	comp=Z,0.9nm,0.4s						
ARSA	**Arzberg**	**85.25**	**25**	*e*PcP	**P**	**14 40 52.6**	**+0.8**
	comp=Z,4.8nm,1.0s						
KURK	**Kurchatov**	**85.29**	**344**	*ce*P	**P**	**14 40 52.5**	**+0.6**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KURBB	**Kurchatov Arra**	**85.39**	**344**	P	**P**	**14 40 51.2**	**-1.2**
	comp=Z,1.9nm,0.2s,baz=20,slow=4.7,SNR=12						
	comp=Z,1.9nm,0.2s						
AKASG	**Malin Array Be**	**85.55**	**15**	P	**P**	**14 40 52.1**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=343,slow=4.2,SNR=10						
	comp=Z,2.8nm,0.7s						
AKBB	**Malin Array Si**	**85.55**	**15⇑**	*e*P	**P**	**14 40 53.0**	**-0.1**
KIEV	**Kiev**	**85.55**	**15**	P	**P**	**14 40 51.4**	**-1.7**
KIEV	**Kiev**	**85.55**	**15**	P	**P**	**14 40 51.4**	**-1.7**
KIEV				pmax	pmax		
	comp=Z,24nm,1.6s						
OBKA	**Obir**	**85.59**	**26**	*e*PcP	**P**	**14 40 54.6**	**+1.0**
	comp=Z,1.9nm,0.4s						
SOKA	**Soboth**	**85.60**	**25**	*e*PcP	**P**	**14 40 54.7**	**+1.1**
	comp=Z,12nm,1.5s						
MKAR	**Makanchi Array**	**88.14**	**341**	P	**P**	**14 41 05.3**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=27,slow=3.2,SNR=3.0						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**88.14**	**341**	*i* P	**P**	**14 41 09.3**	**+3.3**
DZM	**Mont Dzumac**	**88.58**	**239**	*e*LR	LR	15 09 16.3	
	comp=Z,1μm,24.9s						
WHN	**Wuhan**	**88.69**	**311**	P	**P**	**14 41 08.3**	**-0.4**
ABKAR	**Akbulak array**	**89.18**	**356**	P	**P**	**14 41 09.8**	**-1.0**
ABKAR	**Akbulak array**	**89.18**	**356**	IAmb	IAmb	14 41 14.5	
	comp=Z,19nm,1.6s						
WMQ	**Urumqi**	**89.38**	**336**	*e*P	**P**	**14 41 10.5**	**-1.4**
WMQ				pmax	pmax		
	comp=Z,24nm,0.9s						
SOC	**Sochi**	**94.17**	**10**	*e*P	**P**	**14 41 34.7**	**+0.8**
SOC				*e*		14 45 22.4	
SOC				*e*PPP	PPP	14 47 22.0	
SOC				*e*S	**SKSac**	**14 52 09.5**	**+0.5**
SOC				*e*SS	**SS**	**14 59 06.9**	**+3.5**
SOC				*e*SSS	SSS	15 02 47.9	
SOC				pmax	pmax		
	comp=Z,13nm,0.7s						
SOC				MLR	MLR		
	comp=Z,115nm,16.0s						
PZH	**PanZhiHua**	**98.65**	**317**	P	**P**	**14 41 53.3**	**-1.5**
PZH				pmax	pmax		
	comp=Z,150nm,7.8s						
QIZ	**Qiongzhong**	**100.10**	**307**	P	**Pdif**	**14 41 58.4**	**-2.8**
QIZ				PP	**PP**	**14 46 06.6**	**+0.6**
QIZ				SKS	**SKSac**	**14 52 31.8**	**-8.6**
QIZ				S	SKKSac	14 53 33.0	+19
QIZ				SS	**SS**	**15 00 26.8**	**-2.1**
QIZ				LR	LR		
	comp=Z,370nm,16.8s						
QIZ				LR	LR		
	comp=Z,310nm,18.5s						
QIZ				LR	LR		
	comp=Z,400nm,13.5s						
QSPA	**South Pole Qui**	**131.56**	**180**	PKP	**PKPdf**	**14 47 25.8**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=235,slow=5.2,SNR=3.5						
VNA3	**Neumayer Olymp**	**137.54**	**155**	⇑PKPdf	**PKPdf**	**14 47 34.3**	**-3.6**
	comp=Z,2.6nm,0.7s						
SNAA	**Sanae**	**139.57**	**156**	⇑PKPdf	**PKPdf**	**14 47 40.9**	**-0.8**
	comp=Z,39nm,0.9s						
SNAA	**Sanae**	**139.57**	**156**	PKP	**PKPdf**	**14 47 40.7**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=333,slow=3.0,SNR=5.2						
TROLL	**Troll, Antarti**	**141.04**	**157**	⇑PKPdf	**PKPdf**	**14 47 40.5**	**-3.9**
	comp=Z,28nm,0.8s						
ELIB	**Princess Elisa**	**146.36**	**164**	*d*PKPdf	**PKPdf**	**14 47 54.7**	**+1.0**

*IDC **24** 14:33:24.6±1.1,41.°90N×126.°82W,h0km,mb3.9/10, mbtmp3.8/16,ML3.4/6,Error ellipse: s-maj=25.4km s-min=11.0km az=29.0*
*NEIC **24** 14:33:26.1±1.2,41.°79N±0.°07×126.°8W±0.°1,h10km±2km, ML3.5/70,ML3.4(NCEDC),Error ellipse: s-maj=17.7km s-min=11.5km az=258.0*
*NCEDC **24** 14:33:27±1.1,41.°79N±0.°04×126.°6W±0.°1,h10km±2km, Error ellipse: s-maj=15.0km s-min=6.2km az=289.0*
*GCMT **24** 14:33:30.1±0.4,41.°86N±0.°04×127.°14W±0.°03,h20km±1km, MW5.0/81,Moment Tensor Solution. s33,c38; s81,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.53±.32; $M_{\theta\theta}$0.45±.20; $M_{\phi\phi}$4.08±.21; $M_{r\theta}$-0.79±.48; $M_{\theta\phi}$0.12±.13; $M_{\phi r}$-0.49±.36; Best double couple: $M_0$4.39700×10^{16} NP1:ϕ_s11.00000°,δ49.00000°,λ-79.00000°. NP2: ϕ_s174.00000°,δ42.00000°,λ-103.00000°. Principal axes: T 4.1160, Plg4.0000°, Azm93.0000°; N 0.5600, Plg9.0000°, Azm183.0000°; P -4.6780, Plg81.0000°, Azm341.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 14:33:26.1±0.8,41.°75N±0.°08×126.°77W±0.°09,h10km, n272,σ1$10/260,mb3.9/11,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.95**	**75**		**Pn**	**14 33 58.4**	**-1.0**
KBO				IAML		14 34 30.4	
	comp=E,281nm,1.8s						
KRPM	**Rodgers**	**2.15**	**105**		**Pn**	**14 34 01.8**	**-0.2**
KRPM				IAML		14 34 18.2	
	comp=N,310nm,4.5s						
KRPM				IAML		14 34 49.0	
	comp=E,268nm,3.9s						
KRMB	**Red Mountain**	**2.16**	**95**		**Pn**	**14 34 01.8**	**-0.5**
KRMB				IAML		14 34 31.8	
	comp=E,177nm,4.8s						
KSXB	**Camp Six Broad**	**2.17**	**87**		**Pn**	**14 34 01.9**	**-0.4**
JCC	**Jacoby Creek,**	**2.26**	**113**		**Pn**	**14 34 03.2**	**-0.4**
KMPM	**Mount Pierce**	**2.40**	**123**		**Pn**	**14 34 05.4**	**-0.2**
KMPM				IAML		14 34 40.6	
	comp=E,202nm,2.1s						
KMPM				IAML		14 34 46.8	
	comp=N,165nm,4.8s						
L02F	**Cave Junction**	**2.42**	**80**		**Pn**	**14 34 04.7**	**-1.1**
KHMM	**Horse Mountain**	**2.45**	**110**		**Pn**	**14 34 06.1**	**-0.2**
KHMM				IAML		14 34 43.3	
	comp=E,202nm,4.1s						
K02D	**Willamette Mer**	**2.49**	**67**	Pn	**Pn**	**14 34 05.9**	**-1.0**
K02D				IAML		14 34 21.9	
	comp=N,125nm,2.0s						
K02D				IAML		14 35 35.6	
	comp=E,134nm,4.8s						
J01E	**Myrtle Point**	**2.53**	**55**	Pn	**Pn**	**14 34 05.9**	**-1.4**
J01E				IAML		14 35 13.2	
	comp=N,188nm,4.8s						
KOMM	**Orleans Mounta**	**2.54**	**100**		**Pb**	**14 34 12.0**	**+0.2**
KCRM	**Chalk Rock**	**2.59**	**120**		**Pb**	**14 34 11.0**	**-1.7**
KMRM	**Mail Ridge**	**2.77**	**122**		**Pn**	**14 34 11.0**	**+0.3**
KMRM				IAML		14 34 30.1	
	comp=N,120nm,4.0s						
KMRM				IAML		14 34 38.3	
	comp=E,161nm,4.9s						
DBO	**Dodson Butte**	**2.95**	**61**		**Pn**	**14 34 12.3**	**-0.8**
DBO				IAML		14 35 00.0	
	comp=E,114nm,3.7s						
DBO				IAML		14 35 03.7	
	comp=N,123nm,4.4s						
HUMO	**Hull Mountain**	**2.96**	**72**	Pn	**Pn**	**14 34 12.6**	**-0.6**
YBH	**Yreka Blue Hor**	**3.04**	**89**	Pn	**Pn**	**14 34 14.6**	**+0.3**
YBH	**Yreka Blue Hor**	**3.04**	**89**	Pn	**Pn**	**14 34 15.5**	**+1.2**
	comp=N,8.1nm,0.3s,baz=292,slow=12,SNR=35						
	comp=N,38nm,0.5s						
KCPM	**Cahto Peak**	**3.18**	**129**		**Pn**	**14 34 15.6**	**-0.7**
KCPM				IAML		14 36 15.4	
	comp=N,136nm,0.1s						
I03D	**Drain, OR**	**3.19**	**51**		**Pn**	**14 34 15.2**	**-1.1**
I03D				IAML		14 34 37.0	
	comp=E,74nm,4.4s						
I03D				IAML		14 35 14.6	
	comp=N,76nm,4.3s						
O02D	**Mt. Diablo Mer**	**3.40**	**116**	Pn	**Pn**	**14 34 19.8**	**+0.5**
BUCK	**Buck Mountain**	**3.70**	**47**		**Pn**	**14 34 23.1**	**-0.4**
BUCK				IAML		14 34 48.4	
	comp=N,106nm,4.6s						
COR	**Corvallis**	**3.81**	**41**		**Pn**	**14 34 24.8**	**0.0**
COR				IAML		14 35 13.8	
	comp=N,110nm,1.2s						
COR				IAML		14 35 49.8	
	comp=N,96nm,4.8s						
I04A	**Tendick Farm,**	**3.81**	**56**		**Pn**	**14 34 24.6**	**-0.2**
I04A				IAML		14 35 17.5	
	comp=N,64nm,3.6s						
I04A				IAML		14 35 19.5	
	comp=E,86nm,1.0s						
HOPS	**Hopland Field**	**3.94**	**133**	Pn	**Pn**	**14 34 27.2**	**+0.5**
HOPS				IAML		14 36 24.3	
	comp=E,53nm,4.9s						
HOPS				IAML		14 36 36.7	
	comp=N,50nm,4.2s						
H04D	**Lebanon**	**4.05**	**45**		**Pn**	**14 34 27.9**	**-0.3**
H04D				IAML		14 36 32.2	
	comp=N,83nm,4.9s						
HATC	**Hat Creek Radi**	**4.11**	**101**		**Pn**	**14 34 29.0**	**0.0**
G03D	**McMinnville, O**	**4.30**	**35**		**Pn**	**14 34 31.1**	**-0.6**
G03D				IAML		14 35 09.3	
	comp=N,71nm,2.8s						
G03D				IAML		14 35 44.7	
	comp=E,72nm,3.2s						
J05D	**Fort Rock, OR**	**4.37**	**68**		**Pn**	**14 34 32.8**	**+0.1**
J05D				IAML		14 36 32.5	
	comp=E,74nm,4.7s						
J05D				IAML		14 37 28.0	
	comp=N,58nm,4.4s						
H04A	**Detroit Lake**	**4.45**	**47**		**Pn**	**14 34 33.3**	**-0.5**
H04A				IAML		14 35 37.2	
	comp=N,41nm,4.0s						
H04A				IAML		14 37 02.7	
	comp=E,49nm,3.9s						
I05D	**Terrebonne, OR**	**4.75**	**55**		**Pn**	**14 34 37.0**	**-0.8**
PINE	**Pine Mountain**	**4.75**	**63**		**Pn**	**14 34 37.9**	**-0.2**
PINE				IAML		14 37 03.2	
	comp=N,58nm,4.7s						
F04D	**Rainier, OR**	**5.12**	**31**		**Pn**	**14 34 43.1**	**+0.3**
HOOD	**Mount Hood Mea**	**5.16**	**44**		**Pn**	**14 34 43.7**	**+0.1**
AFDM	**Forest Hills D**	**5.24**	**120**	IAML		14 36 07.2	
	comp=E,19nm,4.8s						
E03A	**Lebam**	**5.32**	**25**	IAML		14 37 59.6	
	comp=N,33nm,3.9s						
NVAR	**Mina

baz=311
CIS Catalina Islan 10.64 139 P Pn 14 36 00.0 +1.4
baz=325
DUG Dugway, Tooele 10.67 94 P Pn 14 35 59.6 +0.5
baz=283
HEC Hector,Ludlow 10.71 127 P Pn 14 36 00.7 +1.0
baz=314
MURC Murrieta 11.11 134 P Pn 14 36 06.1 +1.0
baz=321
GMRC Granite Mounta 11.15 125 P Pn 14 36 05.8 0.0
baz=313
BELC Belle Mtn. Jos 11.49 129 P Pn 14 36 10.2 -0.2
baz=316
BOZ Bozeman (W) 11.62 66 P Pn 14 36 11.6 -0.5
baz=256,SNR=9.3
PDAR Pinedale Array 12.80 80 Pn Pn 14 36 31.0 +2.7
comp=N,0.1nm,0.3s,baz=263,slow=12,SNR=7.2
comp=N,0.8nm,0.9s
RLMT Red Lodge 13.16 69 P Pn 14 36 32.9 -0.4
baz=261
WUAZ Wupatki 13.54 112 P Pn 14 36 38.2 -0.2
baz=302
EGMT Eagleton 13.59 57 P Pn 14 36 37.2 -1.7
baz=248
O20A White River Ci 14.10 90 P Pn 14 36 45.2 -0.8
baz=283
214A Organ Pipe Nat 14.82 127 P Pn 14 36 55.6 -0.3
baz=316
W18A Petrified Fore 14.89 111 P Pn 14 36 55.5 -1.4
baz=302
K22A Casper 15.04 80 P Pn 14 36 57.1 -1.6
baz=274
WRAK Wrangell Islan 15.12 348 P Pn 14 37 01.3 +1.6
baz=163
T35M Bob Quinn 15.41 353 P Pn 14 37 04.7 +1.1
baz=170
LAO LASA Array 15.53 65 P Pn 14 37 03.9 -1.2
baz=259,SNR=8.6
N23A Red Feather La 15.67 86 P Pn 14 37 06.7 -0.5
baz=280
TUC Tucson 15.84 121 P Pn 14 37 08.6 -0.8
baz=312
S22A 4UR Ranch, Cre 15.84 98 P Pn 14 37 09.2 -0.3
baz=291,SNR=7.5
SIT Sitka 16.28 343 P Pn 14 37 16.2 +1.6
baz=156
Q24A Divide 16.71 92 P Pn 14 37 20.2 -0.4
baz=287
SDCO Great Sand Dun 16.83 97 P Pn 14 37 21.9 -0.2
baz=291,SNR=27
DLBC Dease Lake 16.84 354 P P 14 37 23.3 -0.7
baz=171
DLBC Dease Lake 16.84 354 Pn P 14 37 23.9 -0.1
comp=N,0.3nm,0.3s,baz=174,slow=12,SNR=3.8
DGMT Dagmar 17.26 59 P Pn 14 37 27.4 +0.2
baz=255
ANMO Albuquerque 17.30 106 P Pn 14 37 27.7 -0.2
baz=300
ANMO Albuquerque 17.30 106 P P 14 37 33.0 +3.6
comp=N,0.8nm,0.6s,baz=27,slow=9.1,SNR=4.1
S31K Pelican 17.31 343 P P 14 37 29.8 +0.7
baz=155
Q32M Nakina River 17.58 351 P P 14 37 33.8 +1.6
baz=166
121A Cookes Peak, D 17.68 115 P Pn 14 37 33.4 +0.7
baz=307
T25A Trinidad 17.86 98 P P 14 37 35.6 0.0
baz=292,SNR=5.3
R33M Jennings River 17.86 353 P P 14 37 35.7 +0.3
baz=169
P32M Atlin 18.38 349 P P 14 37 42.2 +1.2
baz=163
KOTAN Kotaneelee Air 18.48 4 P Pn 14 37 44.3 +2.2
baz=186
PLBC Pleasant Camp 18.71 345 P Pn 14 37 45.6 +0.7
baz=157
P33M Teslin, Yukon 18.86 351 P Pn 14 37 48.1 +1.2
baz=165
P30M Million Dollar 19.45 345 P Pn 14 37 54.2 +0.3
baz=156
WHY Whitehorse 19.58 348 P Pn 14 37 56.8 +1.3
baz=161
MNTX Cornudas Mount 19.81 114 P Pn 14 37 58.5 +0.1
baz=307,SNR=8.0
O30N Mendenhall 19.89 346 P P 14 37 57.9 +0.4
baz=159,SNR=7.1
MDND Maddock 20.16 63 P Pn 14 38 02.0 -0.4
baz=262
PINM Pinnacle 20.17 340 P Pn 14 38 02.2 -0.2
baz=149
YUK6 Outpost Mounta 20.48 344 P Pn 14 38 06.7 +0.4
baz=154
N31M Braeburn, Yuko 20.51 348 P P 14 38 05.5 +1.3
baz=160
N30M Aishikik Lake 20.71 346 P P 14 38 07.7 +1.3
baz=157
O28M Mount Upton 20.74 341 P P 14 38 08.4 +1.4
baz=150
CBKS Cedar Bluff 20.80 89 P P 14 38 07.7 +0.2
baz=287
AMTX Amarillo 20.80 101 P Pn 14 38 09.4 -0.7
baz=297
FARO Faro, Yukon 20.89 351 P P 14 38 09.6 +1.3
baz=166
YUK4 Talbot Arm 20.91 344 P Pn 14 38 11.1 -0.1
baz=154
M31M Drury Creek, Y 20.99 350 P P 14 38 10.8 +1.4
baz=164
YUK8 Steele Glacier 21.09 342 P P 14 38 12.1 +1.3
baz=152
CTG Chitna Glacier 21.19 340 P P 14 38 12.8 +1.1
baz=148,SNR=5.9
YUK3 Moose Creek 21.69 342 P P 14 38 18.1 +1.0
baz=151,SNR=8.6
M30M Minto, Yukon 21.70 347 P P 14 38 17.3 +0.3
baz=159,SNR=8.5
M29M Somme Creek 21.87 345 P P 14 38 20.4 +1.4
baz=156
MCARA McCarthy VSAT 21.99 339 P P 14 38 21.4 +1.3
baz=146
YKA Yellowknife Ar 22.01 15 P P 14 38 19.4 -0.9
comp=N,2.6nm,0.9s,baz=208,slow=11,SNR=8.6
comp=N,2.6nm,0.9s
BMRM Bremner River 22.10 337 P P 14 38 23.8 +2.5
baz=142
EYAK Cordova Ski Ar 22.12 335 P P 14 38 22.9 +1.4
baz=139
ECSD EROS Data Cent 22.18 75 P P 14 38 24.4 +2.1
baz=275,SNR=8.3
P23K Montague Islan 22.27 332 P P 14 38 25.1 +2.0
baz=136
L29M L29M 22.42 346 P P 14 38 25.8 +1.0
baz=157,SNR=12
TXAR Lajitas Array 22.43 116 P P 14 38 28.1 +2.8
comp=N,0.9nm,0.8s,baz=304,slow=9.7,SNR=4.1
comp=N,0.9nm,0.8s
M27K Edge Creek, AK 22.52 341 P P 14 38 27.6 +1.6
baz=149,SNR=8.5
N25K Chitina, Valde 22.61 338 P P 14 38 28.1 +1.3
baz=143,SNR=6.3
GLI Glacier Island 22.81 334 P P 14 38 29.3 +0.5
baz=138
M26K Nabesna, AK 22.83 340 P P 14 38 30.1 +1.0
baz=147
KLU Klutina 22.91 336 P P 14 38 30.7 +0.8
baz=140
ULM Lac du Bonnet 22.95 58 P P 14 38 31.7 +1.3
comp=N,15nm,1.0s,baz=266,slow=10,SNR=10.0
comp=N,15nm,1.0s
WMOK Wichita Mounta 23.00 99 P P 14 38 30.7 -0.4
baz=296
K29M Barlow Dome 23.00 348 P P 14 38 31.5 +0.5
baz=159,SNR=12
SII Sitkinak Islan 23.05 319 P P 14 38 33.4 +2.0
baz=118
L27K Beaver Creek, 23.12 342 P P 14 38 34.5 +2.4
baz=150
PWL Port Wells 23.21 333 P P 14 38 34.8 +1.8
baz=135
Q20K Shuyak Island 23.31 325 P P 14 38 36.1 +2.1
baz=125
J30M Hart River 23.52 350 P P 14 38 37.4 +1.2
baz=162,SNR=8.6
DAWY Dawson 23.53 346 P P 14 38 36.5 +0.3
baz=155,SNR=5.5
SCM Sheep Creek Mo 23.60 335 P P 14 38 38.0 +1.1
baz=139
HOM Homer 23.63 328 P P 14 38 40.3 +3.1
baz=128
KNK Knik Glacier 23.65 334 P P 14 38 39.3 +1.9
baz=136
M23K Glacier View 23.69 335 P P 14 38 38.1 +0.3
baz=138
SML Sawmill 23.90 334 P P 14 38 40.6 +0.8
baz=137
PAX Paxson 23.95 339 P P 14 38 41.9 +1.6
baz=143
PMR Palmer 24.00 333 P P 14 38 42.3 +1.6
baz=135
I30M Mount Dempster 24.15 350 P P 14 38 43.1 +0.9
baz=162
WAT6 Susitna Watana 24.29 336 P P 14 38 45.3 +1.7
baz=139
SCRK Sand Creek 24.41 342 P P 14 38 45.2 +0.6
baz=147
SUA Susitna One 24.47 332 P P 14 38 47.0 +1.8
baz=132
Q18K Katmai Hardscr 24.48 323 P P 14 38 47.8 +2.6
baz=121
EGAK Eagle 24.50 345 P P 14 38 45.9 +0.7
baz=153
DHY Denali Highway 24.57 337 P P 14 38 46.0 0.0
baz=140,SNR=8.9
WAT1 Susitna Watana 24.73 336 P P 14 38 48.5 +1.1
baz=138
J26L Joseph Creek 24.76 343 P P 14 38 48.3 +0.6
baz=149,SNR=7.7
N20K Mount Spurr 24.82 330 P P 14 38 49.6 +1.3
baz=130
I28M Miner Creek 24.89 347 P P 14 38 49.1 +0.2
baz=156,SNR=5.7
SKT Skwentna 25.09 332 P P 14 38 51.2 +0.5
baz=132
J25K Salcha River, 25.27 341 P P 14 38 52.8 +0.4
baz=146,SNR=6.7
EPYK Eagle Plains 25.29 351 P P 14 38 52.6 +0.1
baz=162,SNR=7.9
I27K Kandik River 25.33 346 P P 14 38 53.5 +0.6
baz=153,SNR=8.5
H29M Whitestone 25.36 349 P P 14 38 53.5 +0.5
baz=159,SNR=12
I26K Coal Creek Min 25.37 344 P P 14 38 54.7 +1.6
baz=150
N19K Bonanza Creek 25.46 328 P P 14 38 55.4 +1.3
baz=126
HDA Harding Lake 25.50 340 P P 14 38 54.8 +0.5
baz=143
G31M Satah River 25.57 353 P P 14 38 55.4 +0.5
baz=166
M20K Styx River 25.60 331 P P 14 38 56.6 +1.3
baz=129
ILAR Eielson Array 25.78 340 P P 14 38 56.5 -0.4
comp=N,2.3nm,0.9s,baz=158,slow=7.6,SNR=16
ILAR PcP PcP 14 42 26.0 -0.2
comp=N,0.6nm,0.8s,baz=175,slow=2.4,SNR=5.2
comp=N,2.3nm,0.9s
H27K Steamboat Moun 25.88 346 P P 14 38 58.9 +1.1
baz=154
G29M Pine Creek 25.97 350 P P 14 38 58.8 +0.2
baz=160,SNR=7.9
PRP Porcupine Dome 26.07 342 P P 14 39 00.2 +0.5
baz=146
M19K Big River Lodg 26.08 330 P P 14 39 00.5 +0.9
baz=128
POKR Poker Plat Res 26.20 340 P P 14 39 00.9 +0.2
baz=143
NEA2 Nenana 26.22 338 P P 14 39 01.1 +0.3
baz=140
L20K Farewell, AK 26.25 331 P P 14 39 01.6 +0.3
baz=129
O16K Kokwok River B 26.33 323 P P 14 39 02.6 +0.7
baz=118
F30M Barrier River 26.38 352 P P 14 39 01.9 -0.4
baz=164
M18K Stony River 26.38 328 P P 14 39 01.8 -0.5
baz=125
N17K Nushagak Hills 26.41 326 P P 14 39 01.6 -0.9
baz=121
BPAW Bear Paw Mtn. 26.41 336 P P 14 39 01.6 -0.9
baz=136
L19K White Mountain 26.42 330 P P 14 39 02.7 -0.1
baz=127,SNR=6.5
G27K Doyon Strip 26.43 347 P P 14 39 02.4 -0.3
baz=154
I23K Minto, Yukon-K 26.73 339 P P 14 39 05.7 +0.3
baz=140,SNR=7.9
H25L Birch Creek 26.76 343 P P 14 39 06.1 +0.4
baz=147
F28M Old Crow 26.89 349 P P 14 39 06.8 0.0
baz=158
H24K Noodor Dome 26.89 341 P P 14 39 07.5 +0.5
baz=143
K20K Telida 26.89 333 P P 14 39 08.6 +1.7
baz=130
O15K Ungalikthiuk R 26.93 322 P P 14 39 07.4 +0.1
baz=115
G26K Porcupine Rive 26.94 345 P P 14 39 09.0 +1.7
baz=151
MIAR Mount Ida 26.96 95 P P 14 39 06.4 -1.4
baz=296
M17K Holitna River 26.98 327 P P 14 39 09.5 +1.8
baz=122
MLY Manley 27.02 338 P P 14 39 08.7 +0.6
baz=138,SNR=9.8
N16K Nishlik Lake 27.05 325 P P 14 39 10.2 +1.8
baz=119
L18K Granite Mounta 27.14 329 P P 14 39 11.1 +2.0
baz=125,SNR=5.7
G25K Bearman Lake 27.25 343 P P 14 39 11.1 +1.1
baz=147
H23K Yukon River 27.30 340 P P 14 39 11.0 +0.4
baz=140
M16K Timber Creek 27.41 326 P P 14 39 12.6 +1.0
baz=120
J20K Nowinta River 27.46 334 P P 14 39 13.2 +1.2
baz=131
N15K Kwethluk River 27.49 323 P P 14 39 13.3 +1.0
baz=117
G24K Hadweenzic Riv 27.50 342 P P 14 39 12.9 +0.6
baz=145,SNR=7.4
O14K Tigyukauivet M 27.63 321 P P 14 39 14.5 +0.9
baz=114
F26K Sheenjek River 27.66 346 P P 14 39 14.8 +1.0
baz=151
E27K Coleen River 27.67 348 P P 14 39 14.8 +0.9
baz=155
C36M Paulatuk 27.70 2 P P 14 39 14.8 +0.7
baz=184
L17K Donlin 27.72 328 P P 14 39 15.2 +0.9
baz=122
E28M Babbage River 27.77 350 P P 14 39 15.3 +0.6
baz=159
J19K Poorman 27.83 333 P P 14 39 15.4 +0.1
baz=129
H22K Ishtalitna Cre 27.84 339 P P 14 39 15.9 +0.5
baz=138,SNR=5.3
F25K Christian Rive 27.86 345 P P 14 39 16.4 +0.8
baz=148
J18K Innoko River 27.88 331 P P 14 39 15.4 -0.4
baz=127
L16K Owhat River 27.97 327 P P 14 39 16.9 +0.4
baz=120,SNR=9.2
I20K Naaghedeneel 27.98 335 P P 14 39 17.1 +0.5
baz=132
M15K Kasigluk River 27.99 324 P P 14 39 17.3 +0.5
baz=117
K17K Iditarod 28.04 329 P P 14 39 18.1 +0.9
baz=123
H21K Melozitna Rive 28.07 337 P P 14 39 17.8 +0.3
baz=135
G23K Bananza Creek 28.11 341 P P 14 39 18.4 +0.5
baz=141,SNR=7.3
F24K Squaw Lake 28.26 343 P P 14 39 20.6 +1.4
baz=145
D27M Malcolm River 28.55 349 P P 14 39 23.5 +1.7
baz=157
COLD Coldfoot 28.56 341 P P 14 39 23.3 +1.5
baz=141
H20K Anotleneega Mo 28.57 336 P P 14 39 22.7 +0.7
baz=132
G22K Bettles 28.65 340 P P 14 39 24.6 +2.0
baz=139
L15K Ungalak Mounta 28.79 326 P P 14 39 25.2 +1.4
baz=118
E24K Your Creek 28.85 343 P P 14 39 25.4 +1.0
baz=145
G21K Allakaket 28.89 338 P P 14 39 25.8 +1.1
baz=136
M13K Dall Lake 29.06 322 P P 14 39 26.6 +0.3
baz=113
E23K Chandalar 29.09 343 P P 14 39 27.4 +0.8
baz=143
H19K Roundabout Mou 29.09 335 P P 14 39 26.9 +0.5
baz=130,SNR=6.2
K15K Wolf Creek Mou 29.10 327 P P 14 39 28.0 +1.3
baz=118
L14K Kuka Creek 29.15 325 P P 14 39 27.1 +0.1
baz=115
J16K Anvik River 29.23 329 P P 14 39 27.7 -0.1
baz=121
F22K John River 29.27 340 P P 14 39 27.5 -0.6
baz=139
C27K Jago River 29.31 348 P P 14 39 28.9 +0.5
baz=153
H18K Honhosa River 29.48 333 P P 14 39 30.3 +0.3
baz=127
D25K Kavik River 29.49 346 P P 14 39 30.4 +0.4
baz=149
TOLK Toolik Lake Re 29.55 343 P P 14 39 31.6 +0.9
baz=144
I17K Unalakleet 29.58 330 P P 14 39 32.6 +1.7
baz=122
C26K Camden Bay 29.76 347 P P 14 39 33.3 +1.0
baz=152
D24K Happy Valley 29.81 344 P P 14 39 34.3 +1.4
baz=145
F20K Avaraart Lake 29.89 338 P P 14 39 34.3 +0.7
baz=133
D23K Nanushuk River 30.05 343 P P 14 39 36.0 +1.0
baz=142
J14K Nanvaranak Lak 30.14 327 P P 14 39 36.2 +0.4
baz=116
F19K Shaleruckik Mo 30.35 336 P P 14 39 38.3 +0.7
baz=130
E21K Killik River 30.42 341 P P 14 39 38.9 +0.6
baz=137
D22K Ayikyak River 30.44 342 P P 14 39 39.1 +0.6
baz=140
G17K Kiwalik Mounta 30.46 333 P P 14 39 39.4 +0.7
baz=124
H16K Elim 30.55 331 P P 14 39 40.2 +0.7
baz=121
E19K Redstone River 30.60 337 P P 14 39 40.9 +1.1
baz=132
C23K Itkillik River 30.74 344 P P 14 39 42.4 +1.4
baz=143
E20K Nigu River 30.86 339 P P 14 39 44.0 +1.8
baz=134
G16K Koyuk River 31.00 332 P P 14 39 43.6 +0.3
baz=122
C21K Knifeblade Rid 31.15 341 P P 14 39 45.2 +0.6
baz=137
D20K Etivluk River 31.29 340 P P 14 39 45.7 -0.3
baz=134
G15K Niukluk 31.40 330 P P 14 39 48.1 +1.2
baz=119
B21K Ikpikpuk River 31.45 342 P P 14 39 48.2 +0.9
baz=138
D19K Kuna River 31.54 338 P P 14 39 48.8 +0.6
baz=132
E17K Hotham Inlet 31.76 335 P P 14 39 50.4 +0.4
baz=125
F15K North Star Dit 31.98 331 P P 14 39 53.1 +1.1
baz=120
F14K Arctic Creek 32.48 330 P P 14 39 56.2 -0.2
baz=117
D17K Noatak River 32.51 335 P P 14 39 58.0 +1.3
baz=124
B18K Kokolik River 33.12 338 P P 14 40 03.0 +1.0
baz=128
A21K Barrow 33.17 343 P P 14 40 03.6 +1.3
baz=137
C16K Lisburne Hills 33.54 335 P P 14 40 07.1 +1.4
baz=122
H11N3 WAKE ISLAND Hy 59.63 270 T T 15 47 53.5
baz=52,slow=75,SNR=58
H11N2 WAKE ISLAND Hy 59.63 270 T T 15 47 54.6
baz=52,slow=75,SNR=51
H11N1 WAKE ISLAND Hy 59.65 270 T T 15 47 54.2
baz=52,slow=75,SNR=67
H11S1 WAKE ISLAND Hy 60.52 269 T T 15 48 56.8
baz=52,slow=75,SNR=109
H11S2 WAKE ISLAND Hy 60.53 269 T T 15 48 54.8
baz=52,slow=75,SNR=116
H11S3 WAKE ISLAND Hy 60.54 269 T T 15 48 56.0
baz=52,slow=75,SNR=92
FINES FINESS Array B 74.82 13 P P 14 45 06.5 +0.3
comp=N,0.4nm,0.5s,baz=27,slow=6.4,SNR=3.8
comp=N,0.4nm,0.5s
SONM Songino Array 79.17 327 P P 14 45 30.1 -1.0
comp=N,1.8nm,0.9s,baz=45,slow=4.3,SNR=8.4
comp=N,1.8nm,0.9s
ZALV Zalesovo Beam 80.89 342 P P 14 45 38.9 -1.3
comp=N,0.5nm,0.6s,baz=347,slow=4.4,SNR=4.3
comp=N,0.5nm,0.6s
ESDC Sonseca Array 83.75 41 P P 14 45 55.8 +0.3
comp=N,0.2nm,0.4s,baz=324,slow=4.9,SNR=2.5
comp=N,0.2nm,0.4s
BVAR Borovoye Array 84.45 350 P P 14 45 57.9 -0.9
comp=N,1.6nm,0.8s,baz=46,slow=4.3,SNR=8.8
comp=N,1.6nm,0.8s
KURBB Kurchatov Arra 85.39 344 P P 14 46 01.5 -1.9
comp=N,2.2nm,0.2s,baz=25,slow=5.0,SNR=4.7
AKASG Malin Array Be 85.57 15 P P 14 46 01.8 -2.5
comp=N,0.3nm,0.4s,baz=347,slow=4.0,SNR=6.3
comp=N,0.3nm,0.4s

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*IDC **24** 14:35:42.2±1.2, 41°.93N×126°.92W, h0km, mb3.8/10, mbtmp3.8/13, ML3.0/3, Error ellipse: s-maj=33.2km s-min=11.6km az=27.0*
*NEIC **24** 14:35:43.4±1.1, 41°.76N±0°.02×126°.7W±0°.1, h10km±2km, mb4.3/36, ML3.4/50, Error ellipse: s-maj=17.6km s-min=3.0km az=258.0*
ISC 24 14:35:42.9±0.7, 41°.79N±0°.06×126°.74W±0°.08, h10km, n74, σ0=97/64, mb4.2/22, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.92**	**76**		**Pn**	**14 36 15.5**	**-0.2**
KBO				IAML		14 36 55.8	
	comp=N,267nm,3.9s						
KBO				IAML		14 37 03.5	
	comp=E,251nm,4.5s						
KRPM	**Rodgers**	**2.14**	**106**		**Pn**	**14 36 19.1**	**+0.5**
KRPM				IAML		14 36 53.9	
	comp=E,267nm,1.3s						
KRPM				IAML		14 37 12.4	
	comp=N,205nm,2.1s						
KRMB	**Red Mountain**	**2.14**	**96**		**Pn**	**14 36 18.9**	**+0.2**
KSXB	**Camp Six Broad**	**2.14**	**88**		**Pn**	**14 36 19.1**	**+0.3**
JCC	**Jacoby Creek,**	**2.26**	**114**		**Pn**	**14 36 20.6**	**+0.4**
JCC				IAML		14 37 17.6	
	comp=E,165nm,4.9s						
L02F	**Cave Junction**	**2.39**	**81**	Pn	**Pn**	**14 36 21.1**	**-0.9**
KMPM	**Mount Pierce**	**2.41**	**124**		**Pn**	**14 36 22.2**	**-0.2**
KMPM				IAML		14 36 56.5	
	comp=N,190nm,2.3s						
KMPM				IAML		14 36 57.8	
	comp=E,220nm,1.2s						
KHMM	**Horse Mountain**	**2.44**	**111**		**Pn**	**14 36 22.2**	**-0.8**
KHMM				IAML		14 37 27.9	
	comp=N,146nm,4.6s						
KHMM				IAML		14 37 51.2	
	comp=E,151nm,4.7s						
J01E	**Myrtle Point**	**2.49**	**56**		**Pn**	**14 36 22.7**	**-0.8**
J01E				IAML		14 36 56.9	
	comp=N,165nm,4.0s						
J01E				IAML		14 36 59.0	
	comp=E,159nm,3.4s						
KMRM	**Mail Ridge**	**2.77**	**123**		**Pn**	**14 36 27.6**	**+0.2**
KMRM				IAML		14 37 10.2	
	comp=E,151nm,1.3s						
KMRM				IAML		14 37 20.6	
	comp=N,146nm,2.2s						
DBO	**Dodson Butte**	**2.91**	**62**		**Pn**	**14 36 29.5**	**+0.1**
DBO				IAML		14 37 14.1	
	comp=N,115nm,4.3s						
DBO				IAML		14 37 15.4	
	comp=E,96nm,4.3s						
HUMO	**Hull Mountain**	**2.93**	**72**		**Pn**	**14 36 29.8**	**+0.2**
YBH	**Yreka Blue Hor**	**3.02**	**90**		**Pn**	**14 36 30.8**	**0.0**
YBH	**Yreka Blue Hor**	**3.02**	**90**	Pn	**Pn**	**14 36 33.1**	**+2.4**
	comp=E,4.1nm,0.3s,baz=290,slow=13,SNR=14						
YBH				Sn	**Sb**	**14 37 12.0**	**-1.6**

baz=298,slow=12
comp=E,23nm,0.5s
I03D Drain, OR 3.14 51 Pn Pn 14 36 32.3 -0.1
I03D IAML 14 36 54.4
comp=N,82nm,3.6s
I03D IAML 14 37 10.3
comp=E,77nm,4.0s
O02D Mt. Diablo Mer 3.40 117 Pn 14 36 36.9 +0.9
O02D IAML 14 37 44.8
comp=N,50nm,4.3s
BUCK Buck Mountain 3.66 48 Pn 14 36 40.3 +0.7
I04A Tendick Farm, 3.77 56 Pn 14 36 41.7 +0.7
I04A IAML 14 37 21.4
comp=N,49nm,4.1s
I04A IAML 14 38 53.6
comp=E,51nm,4.4s
HOPS Hopland Field 3.95 134 Pn 14 36 44.5 +1.0
HOPS IAML 14 37 30.9
comp=E,52nm,5.0s
HOPS IAML 14 37 43.4
comp=N,75nm,1.6s
H04D Lebanon 4.01 46 Pn 14 36 44.6 +0.3
H04D IAML 14 37 33.8
comp=N,76nm,3.2s
J05D Fort Rock, OR 4.33 68 Pn Pn 14 36 49.8 +0.9
H04A Detroit Lake 4.41 47 Pn Pn 14 36 50.5 +0.7
H04A IAML 14 39 42.4
comp=N,42nm,0.4s
I05D Terrebonne, OR 4.71 55 Pn Pn 14 36 55.5 +1.5
HOOD Mount Hood Mea 5.11 45 Pn 14 37 00.1 +0.4
F04A Amboy 5.19 36 Pn 14 37 01.9 +1.4
NVAR Mina Array Bea 7.28 115 Pn Pn 14 37 34.3 +4.8
comp=N,0.2nm,0.3s,baz=288,slow=12,SNR=6.1
comp=N,1.8nm,0.7s
ELK Elko 8.72 93 Pn Pn 14 37 54.4 +5.1
comp=N,0.1nm,0.3s,baz=284,slow=16,SNR=6.4
comp=N,3.8nm,1.0s
PDAR Pinedale Array 12.77 80 Pn Pn 14 38 47.6 +3.0
baz=275,slow=9.8,SNR=3.2
X16A Lo Mia Camp, P 14.10 116 Pn Pn 14 39 03.0 +0.2
N23A Red Feather La 15.65 86 IAmb IAmb 14 39 33.6
comp=Z,26nm,1.5s
SDCO Great Sand Dun 16.81 97 IAmb IAmb 14 39 46.6
comp=Z,35nm,1.4s
121A Cookes Peak, D 17.68 115 IAmb IAmb 14 39 59.4
comp=Z,31nm,1.4s
AMTX Amarillo 20.79 101 P P 14 40 22.9 -1.3
AMTX IAmb IAmb 14 40 32.9
comp=Z,12nm,1.1s
YKA Yellowknife Ar 21.96 15 P P 14 40 37.2 +0.7
comp=Z,0.6nm,0.8s,baz=206,slow=10,SNR=3.6
comp=Z,0.6nm,0.8s
ECSD EROS Data Cent 22.15 75 P P 14 40 39.1 +0.4
ECSD IAmb IAmb 14 40 45.2
comp=Z,15nm,1.1s
L29M L29M 22.39 346 P 14 40 41.5 +0.3
L29M IAmb IAmb 14 40 45.4
comp=Z,14nm,1.2s
TXAR Lajitas Array 22.43 116 P P 14 40 45.2 +3.2
comp=Z,1.4nm,0.9s,baz=308,slow=9.7,SNR=5.2
comp=Z,1.4nm,0.9s
M27K Edge Creek, AK 22.49 341 P P 14 40 42.6 +0.2
M27K IAmb IAmb 14 40 46.4
comp=Z,19nm,1.4s
ULM Lac du Bonnet 22.91 58 P P 14 40 48.1 +1.4
comp=Z,1.9nm,0.4s,baz=268,slow=12,SNR=3.0
comp=Z,1.9nm,0.4s
K29M Barlow Dome 22.97 348 P P 14 40 48.1 +0.8
BCAR Beaver Creek A 23.09 342 P P 14 40 48.5 +0.1
L27K Beaver Creek, 23.09 342 P P 14 40 48.5 0.0
DAWY Dawson 23.49 346 P P 14 40 53.4 +0.8
DHY Denali Highway 24.54 337 P P 14 41 02.6 +0.1
DHY IAmb IAmb 14 41 11.9
comp=Z,9.0nm,1.2s
J26L Joseph Creek 24.73 343 P P 14 41 04.3 +0.2
I28M Miner Creek 24.86 347 P P 14 41 05.6 +0.3
I28M IAmb IAmb 14 41 14.4
comp=Z,5.0nm,1.0s
SKT Skwentna 25.07 332 P P 14 41 07.5 +0.3
SKT IAmb IAmb 14 41 27.0
comp=Z,9.4nm,1.4s
J25K Salcha River, 25.24 341 P P 14 41 09.3 +0.5
H29M Whitestone 25.33 349 P P 14 41 10.3 +0.8
ILAR Eielson Array 25.75 340 P P 14 41 13.7 +0.4
comp=Z,1.9nm,0.9s,baz=157,slow=8.3,SNR=8.8
comp=Z,1.9nm,0.9s
G29M Pine Creek 25.93 350 P P 14 41 16.0 +1.0
G29M IAmb IAmb 14 41 18.9
comp=Z,8.0nm,0.9s
PRP Porcupine Dome 26.04 342 P P 14 41 16.8 +0.7
I23K Minto, Yukon-K 26.70 339 P P 14 41 22.9 +1.1
I23K IAmb IAmb 14 41 30.8
comp=Z,10nm,1.2s
MLY Manley 26.99 338 P P 14 41 25.1 +0.6
MLY IAmb IAmb 14 41 26.3
comp=Z,7.7nm,1.3s
G24K Hadweenzic Riv 27.46 342 P P 14 41 29.4 +0.6
G24K IAmb IAmb 14 41 31.1
comp=Z,5.7nm,1.1s
E27K Coleen River 27.64 348 P P 14 41 30.6 +0.3
G23K Bananza Creek 28.08 340 P P 14 41 35.0 +0.7
D25K Kavik River 29.45 346 P P 14 41 45.6 -0.9
D25K IAmb IAmb 14 41 55.9
comp=Z,4.7nm,1.0s
SSPA Standing Stone 36.37 75 P P 14 42 45.3 -1.9
H11N3 WAKE ISLAND Hy 59.65 270 T T 15 50 11.4
baz=52,slow=75,SNR=31
H11N2 WAKE ISLAND Hy 59.65 270 T T 15 50 18.1
baz=52,slow=75,SNR=38
H11N1 WAKE ISLAND Hy 59.67 270 T T 15 50 18.8
baz=52,slow=75,SNR=53
H11S1 WAKE ISLAND Hy 60.54 269 T T 15 51 23.0
baz=52,slow=75,SNR=46
H11S2 WAKE ISLAND Hy 60.55 269 T T 15 51 14.1
baz=52,slow=75,SNR=55
H11S3 WAKE ISLAND Hy 60.56 269 T T 15 51 20.7
baz=52,slow=75,SNR=33
FINES FINESS Array B 74.78 13 P P 14 47 22.6 -0.1
comp=Z,1.3nm,0.8s,baz=27,slow=6.4,SNR=2.9
comp=Z,1.3nm,0.8s
SONM Songino Array 79.15 327 P P 14 47 47.9 +0.1
comp=Z,1.1nm,0.8s,baz=56,slow=5.6,SNR=5.3
comp=Z,1.1nm,0.8s
HHC Hu-ho-hao-te 82.27 319 *e*P **P 14 48 04.4 -0.2**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.8s
HHC LR LR
comp=N,410nm,19.4s
HHC LR LR
comp=E,180nm,18.6s
HHC LR LR
comp=Z,330nm,19.6s
ESDC Sonseca Array 83.70 41 P P 14 48 11.7 -0.2
comp=Z,0.7nm,0.9s,baz=307,slow=4.6,SNR=4.3
comp=Z,0.7nm,0.9s
BVAR Borovoye Array 84.41 350 P P 14 48 15.4 +0.2
comp=Z,1.1nm,0.8s,baz=0.0,slow=4.3,SNR=5.6
comp=Z,1.1nm,0.8s
KURBB Kurchatov Arra 85.36 344 P P 14 48 19.8 -0.2
comp=Z,1.3nm,0.2s,baz=22,slow=4.8,SNR=4.8
comp=Z,1.3nm,0.2s
AKASG Malin Array Be 85.53 15 P P 14 48 20.6 -0.3
comp=Z,0.2nm,0.3s,baz=354,slow=4.7,SNR=7.2
comp=Z,0.2nm,0.3s
WMQ Urumqi 89.34 336 *e*P **P 14 48 37.8 -1.7**
WMQ LR LR
comp=N,590nm,23.9s
WMQ LR LR
comp=E,620nm,21.7s
WMQ LR LR
comp=Z,520nm,24.0s
QSPA South Pole Qui 131.59 180 PKP PKiKP 14 54 55.3 -0.4
comp=Z,2.2nm,1.1s,baz=54,slow=3.4,SNR=3.1

*NEIC **24** 14:35:53.0±1.1, 3°.0S±0°.1×150°.6E±0°.2, h35km±2km, mb4.4/27, Error ellipse: s-maj=39.9km s-min=4.8km az=299.0*
*IDC **24** 14:35:55.4±5.7, 4°.63S×152°.44E, h109km±50km, mb3.5/7, mbtmp3.9/8, Error ellipse: s-maj=65.7km s-min=28.3km az=115.0*
ISC 24 14:35:52.4±1.1, 3°.1S±0°.2×150°.6E±0°.2, h35km, n39, σ1ŝ19/35, mb4.3/22, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.19**	**209**	Pn	**Pn**	**14 37 35.6**	**+0.5**
PMG	**Port Moresby**	**7.19**	**209**	P	**Pn**	**14 37 36.5**	**+1.4**
14nm,0.7s,baz=77,slow=16,SNR=3.7							
CTAO	**Charters Tower**	**17.46**	**194**		**P**	**14 39 55.2**	**+0.9**
WB0	**Warramunga Arr**	**22.96**	**222**	P	**P**	**14 40 53.9**	**-0.1**
WR0	**Warramunga Arr**	**23.00**	**222**	P	**P**	**14 40 54.2**	**-0.2**
WR0				IAmb	IAmb	14 41 06.7	
comp=Z,9.5nm,1.4s							
WRAB	**Tennant Creek**	**23.11**	**222**	P	**P**	**14 40 53.7**	**-1.8**
WB2	**Warramunga Arr**	**23.11**	**222**	P	**P**	**14 40 53.9**	**-1.6**
WRA	**Warramunga Arr**	**23.12**	**222**	P	**P**	**14 40 53.0**	**-2.6**
comp=Z,1.5nm,0.7s,baz=51,slow=8.8,SNR=13							
comp=Z,1.5nm,0.7s							
AS31	**Alice Springs**	**26.10**	**217**	P	**P**	**14 41 22.9**	**-0.3**
ASAR	**Alice Springs**	**26.10**	**217**	P	**P**	**14 41 22.6**	**-0.6**
ASAR	**Alice Springs**	**26.10**	**217**	P	**P**	**14 41 19.4**	**-3.8**
comp=Z,0.5nm,0.6s,baz=55,slow=7.8,SNR=9.3							
comp=Z,0.5nm,0.6s							
NIUE	**Niue**	**41.71**	**115**	P	**P**	**14 43 38.0**	**-0.3**
SONM	**Songino Array**	**63.71**	**328**	P	P	14 46 30.7	+10
comp=Z,0.4nm,0.3s,baz=131,slow=6.1,SNR=2.3							
comp=Z,0.4nm,0.3s							
M14K	**Bethel**	**73.40**	**22**	P	**P**	**14 47 20.5**	**-0.2**
K15K	**Wolf Creek Mou**	**74.55**	**21**	P	**P**	**14 47 28.0**	**+0.6**
K15K				IAmb	IAmb	14 47 29.1	
comp=Z,5.7nm,1.0s							
L16K	**Owhat River**	**74.94**	**22**	P	**P**	**14 47 29.7**	**0.0**
L16K				IAmb	IAmb	14 47 54.0	
comp=Z,4.6nm,1.1s							
J17K	**VABM Dome**	**76.12**	**21**	P	**P**	**14 47 37.3**	**+0.9**
J17K				IAmb	IAmb	14 47 39.5	
comp=Z,6.4nm,1.1s							
H17K	**Granite Mounta**	**76.79**	**19**	P	**P**	**14 47 41.3**	**+1.1**
H17K				IAmb	IAmb	14 47 42.3	
comp=Z,4.3nm,0.9s							
M19K	**Big River Lodg**	**77.02**	**23**	P	**P**	**14 47 41.7**	**+0.2**
C16K	**Lisburne Hills**	**77.40**	**15**	P	**P**	**14 47 44.7**	**+1.2**
MKAR	**Makanchi Array**	**77.60**	**319**	P	P	14 47 53.2	+8.1
comp=Z,0.6nm,0.7s,baz=107,slow=5.5,SNR=4.8							
comp=Z,0.6nm,0.7s							
G18K	**Tagagawik**	**77.80**	**19**	P	**P**	**14 47 46.4**	**+0.5**
G18K				IAmb	IAmb	14 47 47.4	
comp=Z,2.6nm,0.8s							
K20K	**Telida**	**77.94**	**22**	P	**P**	**14 47 46.9**	**+0.2**
E18K	**Tukpahlearik C**	**78.15**	**17**	P	**P**	**14 47 49.2**	**+1.4**
E18K				IAmb	IAmb	14 47 51.1	
comp=Z,2.7nm,0.8s							
G19K	**Purcell Mounta**	**78.46**	**19**	P	**P**	**14 47 50.4**	**+0.9**
G19K				IAmb	IAmb	14 47 51.1	
comp=Z,3.0nm,0.9s							
ZALV	**Zalesovo Beam**	**78.51**	**327**	P	P	14 47 55.7	+5.7
comp=Z,0.7nm,0.6s,baz=100,slow=6.4,SNR=2.7							
comp=Z,0.7nm,0.6s							
F19K	**Shaleruckik Mo**	**78.65**	**18**	P	**P**	**14 47 51.2**	**+0.7**
F19K				IAmb	IAmb	14 47 52.2	
comp=Z,3.9nm,0.7s							
E19K	**Redstone River**	**79.20**	**18**	P	**P**	**14 47 54.6**	**+1.0**
F20K	**Avaraart Lake**	**79.43**	**19**	P	**P**	**14 47 55.9**	**+1.1**
IMAR	**Indian Mountai**	**79.49**	**20**	P	**P**	**14 47 55.3**	**+0.2**
D19K	**Kuna River**	**79.56**	**17**	P	**P**	**14 47 56.2**	**+0.7**
D19K				IAmb	IAmb	14 47 57.5	
comp=Z,3.5nm,0.7s							
H21K	**Melozitna Rive**	**79.64**	**21**	P	**P**	**14 47 56.4**	**+0.5**
H21K				IAmb	IAmb	14 48 00.9	
comp=Z,3.2nm,1.2s							
I23K	**Minto, Yukon-K**	**80.62**	**22**	P	**P**	**14 48 01.1**	**-0.2**
I23K				IAmb	IAmb	14 48 05.9	
comp=Z,6.8nm,1.2s							
ILAR	**Eielson Array**	**81.38**	**23**	P	**P**	**14 48 04.3**	**-1.1**
ILAR	**Eielson Array**	**81.38**	**23**	P	**P**	**14 48 03.8**	**-1.6**
comp=Z,0.9nm,0.7s,baz=243,slow=5.2,SNR=9.0							
comp=Z,0.9nm,0.7s							
H24K	**Noodor Dome**	**81.50**	**21**	P	**P**	**14 48 06.0**	**0.0**
H24K				IAmb	IAmb	14 48 24.4	
comp=Z,3.0nm,1.3s							
J25K	**Salcha River,**	**81.90**	**23**	P	**P**	**14 48 07.5**	**-0.6**
J25K				IAmb	IAmb	14 48 08.0	
comp=Z,2.1nm,0.7s							
M27K	**Edge Creek, AK**	**82.45**	**26**	P	**P**	**14 48 11.3**	**+0.1**
M27K				IAmb	IAmb	14 48 11.6	
comp=Z,2.7nm,0.8s							
BVAR	**Borovoye Array**	**86.56**	**323**	P	P	14 48 37.9	+5.9
comp=Z,3.2nm,0.9s,baz=98,slow=6.0,SNR=5.6							
comp=Z,3.2nm,0.9s							

*IDC **24** 14:38:30.2±1.8, 42°.07N×126°.70W, h0km, mb3.6/5, mbtmp3.6/8, ML3.3/3, Error ellipse: s-maj=34.5km s-min=14.7km az=40.0*
*NEIC **24** 14:38:30.5±1.6, 41°.81N±0°.07×126°.7W±0°.1, h10km±2km, ML3.2/54, Error ellipse: s-maj=16.9km s-min=12.4km az=268.0*
ISC 24 14:38:30.4±1.2, 41°.83N±0°.08×126°.8W±0°.1, h10km, n41, σ1ŝ16/34, mb3.7/5, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.96**	**78**	Pn	**Pn**	**14 39 02.3**	**-1.5**
KBO				IAML		14 39 31.9	
comp=N,217nm,2.6s							
KBO				IAML		14 39 49.2	
comp=E,160nm,4.6s							
KSXB	**Camp Six Broad**	**2.19**	**89**	Pn	**Pn**	**14 39 05.6**	**-1.4**
KRMB	**Red Mountain**	**2.19**	**97**		**Pn**	**14 39 05.7**	**-1.4**
KRPM	**Rodgers**	**2.20**	**107**	Pn	**Pn**	**14 39 05.4**	**-1.6**
KRPM				IAML		14 39 29.1	
comp=E,191nm,4.3s							
KRPM				IAML		14 39 38.6	
comp=N,140nm,4.1s							
JCC	**Jacoby Creek,**	**2.32**	**115**	Pn	**Pn**	**14 39 06.8**	**-1.9**
JCC				IAML		14 39 43.6	
comp=N,87nm,4.7s							
L02F	**Cave Junction**	**2.43**	**82**	Pn	**Pn**	**14 39 08.5**	**-1.8**
KMPM	**Mount Pierce**	**2.47**	**124**		**Pn**	**14 39 09.2**	**-1.7**
KMPM				IAML		14 39 48.9	
comp=N,86nm,2.4s							
KMPM				IAML		14 40 02.2	
comp=E,112nm,3.5s							
KHMM	**Horse Mountain**	**2.50**	**111**		**Pn**	**14 39 10.2**	**-1.1**
KHMM				IAML		14 39 47.4	
comp=N,100nm,4.6s							
KHMM				IAML		14 40 05.1	
comp=E,97nm,4.4s							
J01E	**Myrtle Point**	**2.51**	**57**		**Pn**	**14 39 09.5**	**-1.8**
J01E				IAML		14 39 34.4	
comp=E,78nm,4.3s							
J01E				IAML		14 39 43.0	
comp=N,113nm,1.5s							
KMRM	**Mail Ridge**	**2.84**	**123**	Pn	**Pn**	**14 39 16.1**	**+0.2**
KMRM				IAML		14 39 35.3	
comp=E,88nm,4.3s							
KMRM				IAML		14 40 09.5	
comp=N,100nm,4.8s							
DBO	**Dodson Butte**	**2.94**	**63**		**Pn**	**14 39 16.3**	**-1.0**
DBO				IAML		14 39 47.2	
comp=N,78nm,3.2s							
DBO				IAML		14 39 55.2	
comp=E,79nm,2.2s							
HUMO	**Hull Mountain**	**2.96**	**74**	Pn	**Pn**	**14 39 16.5**	**-1.1**
YBH	**Yreka Blue Hor**	**3.06**	**90**	Pn	**Pn**	**14 39 19.1**	**+0.1**
YBH	**Yreka Blue Hor**	**3.06**	**90**	Pn	**Pn**	**14 39 19.7**	**+0.7**
comp=E,3.9nm,0.3s,baz=283,slow=3.5,SNR=18							
comp=E,10nm,0.4s							
I03D	**Drain, OR**	**3.16**	**53**	Pn	**Pn**	**14 39 19.1**	**-1.1**
I03D				IAML		14 39 43.9	
comp=N,52nm,3.3s							
I03D				IAML		14 39 45.9	
comp=E,57nm,4.7s							
O02D	**Mt. Diablo Mer**	**3.46**	**117**	Pn	**Pn**	**14 39 24.0**	**-0.4**
BUCK	**Buck Mountain**	**3.67**	**49**	Pn	**Pn**	**14 39 26.8**	**-0.5**
I04A	**Tendick Farm,**	**3.78**	**57**		**Pn**	**14 39 28.2**	**-0.6**
I04A				IAML		14 40 17.8	
comp=N,71nm,2.0s							
I04A				IAML		14 40 18.9	
comp=E,55nm,2.4s							
H04D	**Lebanon**	**4.01**	**46**	Pn	**Pn**	**14 39 31.8**	**-0.2**
H04D				IAML		14 40 25.0	
comp=N,59nm,2.0s							
HOPS	**Hopland Field**	**4.02**	**134**	Pn	**Pn**	**14 39 32.2**	**+0.2**
HOPS				IAML		14 40 43.4	
comp=N,46nm,3.8s							
HOPS				IAML		14 41 20.0	
comp=E,37nm,5.0s							
G03D	**McMinnville, O**	**4.25**	**36**	Pn	**Pn**	**14 39 35.2**	**0.0**
G03D				IAML		14 40 25.5	
comp=N,46nm,3.3s							
J05D	**Fort Rock, OR**	**4.37**	**69**	Pn	**Pn**	**14 39 36.6**	**-0.4**
J05D				IAML		14 41 41.5	
comp=N,52nm,4.9s							
H04A	**Detroit Lake**	**4.42**	**48**	Pn	**Pn**	**14 39 37.4**	**-0.2**
H04A				IAML		14 40 13.4	
comp=E,30nm,4.5s							
H04A				IAML		14 41 05.2	
comp=N,32nm,5.0s							
I05D	**Terrebonne, OR**	**4.72**	**56**		**Pn**	**14 39 41.7**	**-0.1**
PINE	**Pine Mountain**	**4.74**	**64**	Pn	**Pn**	**14 39 42.0**	**-0.2**
HOOD	**Mount Hood Mea**	**5.12**	**45**		**Pn**	**14 39 47.4**	**+0.1**
F04A	**Amboy**	**5.18**	**36**	Pn	**Pn**	**14 39 48.1**	**0.0**
NVAR	**Mina Array Bea**	**7.35**	**115**	Pn	**Pn**	**14 40 20.3**	**+2.4**
comp=N,0.3nm,0.3s,baz=288,slow=14,SNR=5.0							
comp=N,0.8nm,0.6s							
ELK	**Elko**	**8.78**	**93**	Pn	Pn	14 40 42.3	+4.7
comp=N,0.1nm,0.3s,baz=283,slow=12,SNR=4.5							
NEW	**Newport**	**9.40**	**44**	Pn	**Pn**	**14 40 45.9**	**+0.1**
comp=N,0.2nm,0.3s,baz=50,slow=20,SNR=1.7							
comp=N,1.7nm,0.6s							
YKA	**Yellowknife Ar**	**21.93**	**15**	P	**P**	**14 43 22.8**	**-1.0**
comp=N,1.2nm,0.7s,baz=206,slow=10,SNR=5.5							
comp=N,1.2nm,0.7s							
TXAR	**Lajitas Array**	**22.50**	**116**	P	**P**	**14 43 32.8**	**+2.6**
comp=N,0.4nm,0.6s,baz=305,slow=9.8,SNR=2.3							
comp=N,0.4nm,0.6s							
ILAR	**Eielson Array**	**25.69**	**340**	P	**P**	**14 44 00.1**	**-0.3**
comp=N,1.4nm,0.8s,baz=156,slow=7.7,SNR=12							
comp=N,1.4nm,0.8s							
H11N3	**WAKE ISLAND Hy**	**59.60**	**270**	T	T	15 53 31.1	
baz=52,slow=74							
H11N2	**WAKE ISLAND Hy**	**59.60**	**270**	T	T	15 53 25.9	
baz=52							
H11N1	**WAKE ISLAND Hy**	**59.62**	**270**	T	T	15 53 23.2	
baz=52,slow=74							
H11S1	**WAKE ISLAND Hy**	**60.49**	**269**	T	T	15 54 11.3	
baz=52,slow=74							
H11S2	**WAKE ISLAND Hy**	**60.50**	**269**	T	T	15 54 14.4	
baz=52							
H11S3	**WAKE ISLAND Hy**	**60.51**	**269**	T	T	15 54 14.6	
baz=52,slow=74							
NRIK	**Noril'sk**	**66.28**	**347**	P	**P**	**14 49 18.6**	**+0.3**
comp=N,1.1nm,0.3s,baz=323,slow=3.6,SNR=2.1							
comp=N,1.1nm,0.3s							
BVAR	**Borovoye Array**	**84.36**	**350**	P	**P**	**14 51 02.0**	**-0.5**
comp=N,0.5nm,0.6s,baz=20,slow=4.6,SNR=3.6							
comp=N,0.5nm,0.6s							

*IDC **24** 14:42:03.9±1.6, 42°.18N×126°.72W, h0km, mb3.8/10, mbtmp3.7/14, ML2.9/4, Error ellipse: s-maj=42.1km s-min=13.1km az=35.0*
*NEIC **24** 14:42:04.2±1.9, 41°.81N±0°.07×126°.7W±0°.1, h10km±2km, mb4.3/11, ML3.2/56, Error ellipse: s-maj=15.9km s-min=9.9km az=238.0*
ISC 24 14:42:04.1±0.8, 41°.84N±0°.08×126°.8W±0°.1, h10km, n74, σ1ŝ30/68, mb4.1/16, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.97**	**78**	Pn	**Pn**	**14 42 36.4**	**-1.2**
KBO				IAML		14 43 29.6	
comp=E,144nm,3.6s							
KSXB	**Camp Six Broad**	**2.20**	**89**	Pn	**Pn**	**14 42 39.7**	**-1.0**
KRMB	**Red Mountain**	**2.20**	**97**	Pn	**Pn**	**14 42 40.1**	**-0.7**
KRPM	**Rodgers**	**2.21**	**107**	Pn	**Pn**	**14 42 39.8**	**-1.1**
KRPM				IAML		14 42 54.9	
comp=N,129nm,3.4s							
KRPM				IAML		14 43 04.9	
comp=E,163nm,3.6s							
JCC	**Jacoby Creek,**	**2.34**	**115**	Pn	**Pn**	**14 42 41.1**	**-1.4**
KMPM	**Mount Pierce**	**2.49**	**124**	Pn	**Pn**	**14 42 43.5**	**-1.2**
KMPM				IAML		14 43 30.2	
comp=E,109nm,3.0s							
KMPM				IAML		14 43 45.2	
comp=N,97nm,4.3s							
J01E	**Myrtle Point**	**2.51**	**57**		**Pn**	**14 42 44.0**	**-0.9**
J01E				IAML		14 43 25.3	
comp=N,103nm,3.8s							
J01E				IAML		14 43 53.4	
comp=E,86nm,3.6s							
KHMM	**Horse Mountain**	**2.52**	**112**	Pn	**Pn**	**14 42 44.6**	**-0.6**
KHMM				IAML		14 43 03.8	
comp=N,77nm,4.4s							
KHMM				IAML		14 43 37.6	
comp=E,97nm,1.9s							
KMRM	**Mail Ridge**	**2.86**	**123**	Pn	**Pn**	**14 42 48.5**	**-1.3**
KMRM				IAML		14 43 31.2	
comp=E,90nm,2.0s							
KMRM				IAML		14 43 37.9	
comp=N,61nm,2.1s							
DBO	**Dodson Butte**	**2.94**	**63**		**Pn**	**14 42 50.0**	**-0.9**
DBO				IAML		14 44 15.0	
comp=E,65nm,2.0s							
DBO				IAML		14 44 25.1	
comp=N,58nm,3.6s							
HUMO	**Hull Mountain**	**2.97**	**74**	Pn	**Pn**	**14 42 50.5**	**-0.7**
YBH	**Yreka Blue Hor**	**3.08**	**91**	Pn	**Pn**	**14 42 53.0**	**+0.2**
YBH	**Yreka Blue Hor**	**3.08**	**91**	Pn	**Pn**	**14 42 53.6**	**+0.8**
comp=N,0.9nm,0.3s,baz=249,slow=11,SNR=4.6							
comp=N,10nm,0.7s							
I03D	**Drain, OR**	**3.16**	**53**	Pn	**Pn**	**14 42 52.6**	**-1.2**
I03D				IAML		14 43 24.2	
comp=E,41nm,3.7s							
KCPM	**Cahto Peak**	**3.27**	**130**	Pn	**Pn**	**14 42 53.4**	**-2.1**
KCPM				IAML		14 44 47.7	
comp=E,68nm,0.1s							
KCPM				IAML		14 44 49.5	
comp=N,76nm,0.0s							
O02D	**Mt. Diablo Mer**	**3.47**	**117**	Pn	**Pn**	**14 42 58.2**	**-0.1**
BUCK	**Buck Mountain**	**3.67**	**49**	Pn	**Pn**	**14 43 01.0**	**+0.1**
BUCK				IAML		14 43 53.1	
comp=N,61nm,1.4s							
BUCK				IAML		14 44 06.9	
comp=E,73nm,3.9s							
I04A	**Tendick Farm,**	**3.78**	**57**	Pn	**Pn**	**14 43 02.5**	**0.0**
I04A				IAML		14 43 51.8	
comp=N,36nm,2.4s							
I04A				IAML		14 43 55.0	
comp=E,42nm,1.8s							
H04D	**Lebanon**	**4.01**	**47**	Pn	**Pn**	**14 43 05.8**	**+0.3**
H04D				IAML		14 43 57.2	
comp=E,73nm,2.0s							
H04D				IAML		14 44 00.2	
comp=N,47nm,1.6s							
GDXM	**Geysers**	**4.32**	**133**		**Pn**	**14 43 10.1**	**+0.2**
GDXM				IAML		14 46 02.5	
comp=N,38nm,1.5s							
GDXM				IAML		14 46 04.5	
comp=E,33nm,1.0s							
J05D	**Fort Rock, OR**	**4.37**	**69**		**Pn**	**14 43 10.4**	**-0.2**
J05D				IAML		14 46 10.5	
comp=N,50nm,1.4s							
J05D				IAML		14 46 11.7	
comp=E,95nm,0.9s							
H04A	**Detroit Lake**	**4.42**	**48**	Pn	**Pn**	**14 43 10.8**	**-0.3**
I05D	**Terrebonne, OR**	**4.72**	**56**	Pn	**Pn**	**14 43 14.0**	**-1.5**
PINE	**Pine Mountain**	**4.74**	**64**	Pn	**Pn**	**14 43 16.3**	**+0.5**
F04D	**Rainier, OR**	**5.05**	**32**		**Pn**	**14 43 19.4**	**-0.5**
HOOD	**Mount Hood Mea**	**5.12**	**45**		**Pn**	**14 43 21.5**	**+0.6**
F04A	**Amboy**	**5.18**	**36**	Pn	**Pn**	**14 43 20.2**	**-1.4**
G05A	**Wamic**	**5.25**	**48**		**Pn**	**14 43 22.1**	**-0.5**
I07A	**Izee**	**5.81**	**65**	Pn	**Pn**	**14 43 29.9**	**-0.6**
YERR	**Yerington**	**6.45**	**114**		**Pn**	**14 43 38.7**	**-0.6**
MXC	**Moxie City**	**6.66**	**43**		**Pn**	**14 43 42.6**	**+0.7**
NVAR	**Mina Array Bea**	**7.36**	**115**	Pn	**Pn**	**14 43 55.7**	**+3.9**
comp=E,0.2nm,0.3s,baz=290,slow=14,SNR=6.4							
comp=E,1.3nm,0.7s							
CBB	**Campbell River**	**8.26**	**7**		**Pn**	**14 44 05.3**	**+1.5**
ELK	**Elko**	**8.79**	**93**	Pn	**Pn**	**14 44 12.0**	**+0.6**
comp=E,0.1nm,0.3s,baz=240,slow=13,SNR=2.1							
comp=E,0.8nm,0.7s							
Q12A	**Willow Creek R**	**9.56**	**103**		**Pn**	**14 44 20.8**	**-1.1**
BGU	**Big Grassy Mou**	**10.41**	**90**		**Pn**	**14 44 33.3**	**-0.2**
MVU	**Marysvale**	**11.66**	**102**		**Pn**	**14 44 50.8**	**+0.1**
YHL	**Hebgen Lake**	**11.78**	**70**		**Pn**	**14 44 50.5**	**-1.8**

DGMT	**Dagmar**	**17.24**	**60**	P	**P**	**14 46 07.2**	**+0.8**
DGMT				IAmb	IAmb	14 46 11.7	
	comp=Z,33nm,1.4s						
ANMO	**Albuquerque**	**17.36**	**107**	P	**P**	**14 46 09.3**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=124,slow=9.5,SNR=2.1						
	comp=Z,1.0nm,0.5s						
P33M	**Teslin, Yukon**	**18.76**	**351**		**Pn**	**14 46 24.1**	**+0.6**
O30N	**Mendenhall**	**19.78**	**346**	P	**P**	**14 46 34.7**	**+0.5**
FFC	**Flin Flon**	**20.82**	**43**	P	**P**	**14 46 45.4**	**-0.1**
FFC				IAmb	IAmb	14 46 55.5	
	comp=Z,16nm,1.1s						
WRGLY	**Wrigley**	**21.51**	**4**	P	**P**	**14 46 52.8**	**0.0**
WRGLY				IAmb	IAmb	14 47 03.3	
	comp=Z,18nm,1.0s						
YKA	**Yellowknife Ar**	**21.92**	**15**	P	**P**	**14 46 56.8**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=207,slow=11,SNR=5.8						
	comp=Z,2.0nm,0.8s						
ECSD	**EROS Data Cent**	**22.19**	**75**	P	**P**	**14 46 58.4**	**-2.0**
ECSD				IAmb	IAmb	14 47 09.3	
	comp=Z,12nm,1.1s						
SN07	**Snyder 07**	**22.29**	**105**	P	**P**	**14 47 04.9**	**+3.3**
SN07				IAmb	IAmb	14 47 16.5	
	comp=Z,18nm,1.3s						
TXAR	**Lajitas Array**	**22.51**	**116**	P	**P**	**14 47 02.1**	**-1.9**
TXAR	**Lajitas Array**	**22.51**	**116**	P	**P**	**14 47 07.8**	**+3.8**
	comp=Z,1.0nm,0.8s,baz=305,slow=9.0,SNR=3.9						
	comp=Z,1.0nm,0.8s						
ULM	**Lac du Bonnet**	**22.93**	**58**	P	**P**	**14 47 08.2**	**+0.1**
ULM	**Lac du Bonnet**	**22.93**	**58**	P	**P**	**14 47 07.3**	**-0.8**
	comp=Z,6.8nm,0.8s,baz=239,slow=12,SNR=4.1						
	comp=Z,6.8nm,0.8s						
BCAR	**Beaver Creek A**	**23.01**	**342**	P	**P**	**14 47 08.7**	**-0.3**
SAND	**Sanderson**	**23.17**	**113**	P	**P**	**14 47 09.0**	**-1.8**
SAND				IAmb	IAmb	14 47 23.1	
	comp=Z,14nm,1.1s						
ILAR	**Eielson Array**	**25.68**	**340**	P	**P**	**14 47 33.1**	**-0.8**
ILAR	**Eielson Array**	**25.68**	**340**	P	**P**	**14 47 33.2**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=153,slow=6.4,SNR=6.4						
	comp=Z,1.0nm,1.0s						
E27K	**Coleen River**	**27.57**	**348**	P	**P**	**14 47 50.8**	**-0.1**
H11N3	**WAKE ISLAND Hy**	**59.59**	**270**	T	T	15 56 20.1	
	baz=52						
H11N2	**WAKE ISLAND Hy**	**59.59**	**270**	T	T	15 56 24.4	
	baz=52,slow=74						
H11N1	**WAKE ISLAND Hy**	**59.61**	**270**	T	T	15 56 26.2	
	baz=52,slow=74						
H11S1	**WAKE ISLAND Hy**	**60.48**	**269**	T	T	15 57 29.3	
	baz=52,slow=74						
H11S2	**WAKE ISLAND Hy**	**60.49**	**269**	T	T	15 57 29.9	
	baz=52,slow=74						
H11S3	**WAKE ISLAND Hy**	**60.50**	**269**	T	T	15 57 30.6	
	baz=52						
FINES	**FINESS Array B**	**74.74**	**13**	P	**P**	**14 53 42.5**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=311,slow=9.1,SNR=2.1						
	comp=Z,0.6nm,0.7s						
SONM	**Songino Array**	**79.07**	**327**	P	**P**	**14 54 08.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=46,slow=5.6,SNR=4.3						
	comp=Z,0.2nm,0.3s						
HHC	**Hu-ho-hao-te**	**82.19**	**319**	*e*P	**P**	**14 54 23.3**	**-2.1**
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,130nm,7.5s						
ESDC	**Sonseca Array**	**83.70**	**41**	P	**P**	**14 54 33.0**	**-0.1**
	comp=Z,0.9nm,1.1s,baz=321,slow=4.6,SNR=4.1						
	comp=Z,0.9nm,1.1s						
BVAR	**Borovoye Array**	**84.35**	**350**	P	**P**	**14 54 36.0**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=22,slow=4.7,SNR=1.6						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**85.28**	**344**	P	**P**	**14 54 39.8**	**-1.1**
	comp=Z,1.6nm,0.2s,baz=22,slow=5.0,SNR=4.0						
	comp=Z,1.6nm,0.2s						
AKASG	**Malin Array Be**	**85.49**	**15**	P	**P**	**14 54 41.8**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=349,slow=4.7,SNR=5.7						
	comp=Z,0.5nm,0.5s						
WMQ	**Urumqi**	**89.26**	**336**	*e*P	**P**	**14 55 03.6**	**+3.3**
WMQ				pmax	pmax		
	comp=Z,45nm,0.7s						
WMQ				LR	LR		
	comp=N,580nm,22.5s						
WMQ				LR	LR		
	comp=E,620nm,22.5s						
WMQ				LR	LR		
	comp=Z,500nm,21.1s						

*IDC **24** 14:44:28.4±1.3,25°.94N×128°.51E,h0km,mb3.6/5, mbtmp3.6/6,ML3.2/1,MS2.9/1,Error ellipse: s-maj=56.8km s-min=17.3km az=77.0*
*JMA **24** 14:44:32.1±0.3,26°N±1°×12°9E±°,h45km±4km,MV3.3/23, NEAR OKINAWAJIMA ISLAND*
ISC 24 14:44:29.8±2.1,25°.95N±0°.05×128°.59E±0°.04,h14km±13km, n26,σ1°21/39,mb3.6/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.75**	**285**	P	**Pn**	**14 44 45.5**	**-0.4**
JJT3				*e*S	**Sb**	**14 44 55.1**	**+0.4**
JNTH	**Nagotoyohara**	**0.76**	**318**	P	**Pb**	**14 44 44.9**	**+0.1**
JNTH				*e*S	**Sb**	**14 44 55.0**	**+0.1**
JOW	**Kunigami**	**0.92**	**342**	Pn	**Pb**	**14 44 47.7**	**+0.2**
	122nm,0.3s,baz=148,slow=21,SNR=1355						
JOW				Sn	**Sg**	**14 44 59.6**	**-0.1**
	134nm,0.3s,baz=117,slow=25,SNR=7.7						
JOW	**Kunigami**	**0.92**	**342**	*i* P	**Pb**	**14 44 47.8**	**+0.2**
JOW				*e*S	**Sg**	**14 44 58.6**	**-1.1**
JYRO	**Yoronjima**	**1.08**	**353**	P	**Pb**	**14 44 50.0**	**-0.2**
JYRO				*e*S	**Sb**	**14 45 02.7**	**-1.3**
JIH	**Iheya**	**1.22**	**333**	P	**Pn**	**14 44 52.3**	**0.0**
JAGN	**Aguni-jima**	**1.37**	**298**	P	**Pn**	**14 44 54.4**	**0.0**
JOKE	**Okinoerabujima**	**1.40**	**359**	P	**Pn**	**14 44 54.9**	**0.0**
JKE	**Kume jima 2**	**1.66**	**283**	*i* P	**Pn**	**14 44 57.9**	**-0.6**
JKE				S	**Sn**	**14 45 17.5**	**-2.1**
JTK	**Tokunoshima**	**1.85**	**10**	P	**Pn**	**14 45 01.3**	**+0.2**
JTK				*e*S	**Sn**	**14 45 23.4**	**-1.0**
JAMN	**Amaminishikomi**	**2.34**	**13**	P	**Pn**	**14 45 08.1**	**+0.3**
JMZ	**Minamidaito 2**	**2.38**	**93**	P	**Pn**	**14 45 08.0**	**-0.3**
JMZ				*e*S	**Sn**	**14 45 34.5**	**-2.6**
JKDJ	**Kitadaitoujima**	**2.44**	**89**	*i* P	**Pn**	**14 45 09.0**	**-0.1**
JKDJ				S	**Sn**	**14 45 36.8**	**-1.8**
JAM	**Amami Oshima**	**2.61**	**20**	P	**Pn**	**14 45 11.9**	**+0.4**
JAM				*e*S	**Sn**	**14 45 41.7**	**-1.3**
JZK	**Kikaishima**	**2.66**	**27**	P	**Pn**	**14 45 13.7**	**+1.6**
JZK				*e*S	**Sn**	**14 45 44.6**	**+0.5**
JTAJ	**Takarajima**	**3.23**	**10**	P	**Pn**	**14 45 20.1**	**0.0**
JTAJ				*e*S	**Sn**	**14 45 57.1**	**-1.2**
JNN	**Nakanoshima**	**4.04**	**16**	P	**Pn**	**14 45 32.1**	**+0.9**
JYAK	**Yakushimahirau**	**4.59**	**21**	*e*P	**Pn**	**14 45 38.9**	**+0.1**
JYAK				S	**Sn**	**14 46 28.8**	**-3.2**
JKC	**Kuchinoerabu**	**4.71**	**17**	P	**Pn**	**14 45 40.6**	**+0.3**
JNU	**Nakatsue**	**7.42**	**15**	Pn	**Pn**	**14 46 19.2**	**+1.6**
	0.4nm,0.3s,baz=335,slow=23,SNR=14						
JNU				Sn	**Sn**	**14 47 39.3**	**-2.3**
	0.3nm,0.3s,baz=80,slow=22,SNR=1.4						
	3.1nm,0.6s						
KSRS	**Korea Array**	**11.48**	**357**	LR	LR	14 51 49.1	
	comp=Z,57nm,18.5s,baz=50,slow=38						
SONM	**Songino Array**	**27.96**	**327**	P	**P**	**14 50 22.2**	**+2.3**
	0.6nm,0.5s,baz=132,slow=9.5,SNR=3.4						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**41.96**	**312**	P	**P**	**14 52 20.0**	**-0.2**
	0.4nm,0.6s,baz=101,slow=9.8,SNR=4.3						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**45.96**	**172**	P	**P**	**14 52 52.6**	**+0.2**
	0.3nm,0.7s,baz=353,slow=8.4,SNR=6.2						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**49.59**	**174**	P	**P**	**14 53 21.9**	**+1.2**
	0.5nm,0.8s,baz=355,slow=7.8,SNR=4.6						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**50.70**	**318**	P	**P**	**14 53 29.1**	**+0.3**
	0.7nm,0.5s,baz=81,slow=8.9,SNR=4.7						
	0.7nm,0.5s						

*BJI **24** 14:44:50.0±0.0,42°.04N×127°.16W,h4km,mb5.0/64, mB5.5/38,Ms5.3/60,Ms7 5.1/59*
*IDC **24** 14:44:51.7±0.5,41°.89N×126°.97W,h0km,mb4.6/31, mbtmp4.6/38,ML4.0/7,MS4.9/75,Error ellipse: s-maj=14.8km s-min=8.4km az=34.0*
*NEIC **24** 14:44:52.5,41°.80N×127°.30W,h12km,Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.66; $M_{\theta\theta}$0.09; $M_{\phi\phi}$2.57; $M_{r\theta}$-1.03; $M_{\theta\phi}$0.01; $M_{\phi r}$-0.38; Fault plane solution: $M_0$2.81000×10^{17} NP1:ϕ_s18.35000°, δ52.13000°,λ-66.94000°. NP2:ϕ_s163.60000°,δ43.42000°, λ-116.74000°. Principal axes: T 2.6020, Plg5.0000°, Azm92.0000°; N 0.4245, Plg18.0000°, Azm184.0000°; P -3.0265, Plg71.0000°, Azm349.0000°;*
*MOS **24** 14:44:52.6±0.9,41°.93N×127°.04W,h15km,mb5.3/68, MS4.9/25 Error ellipse: s-maj=8.0km s-min=4.9km az=94.6*
*NEIC **24** 14:44:52.6±1.3,41°.81N±0°.06×126°.9W±0°.1,h10km±1km, mb5.2/346,ML4.1/78,Ms_20 5.2/675,Mww5.6/93, Mwr5.6(NCEDC),Error ellipse: s-maj=14.4km s-min=10.4km az=253.0*
*NEIC **24** 14:44:52.5,41°.80N×126°.90W,h12km*
*NCEDC **24** 14:44:52±1.4,41°.80N±0°.06×126°.9W±0°.1,h10km±1km, Error ellipse: s-maj=13.9km s-min=10.3km az=258.0*
*GCMT **24** 14:44:55.6±0.1,41°.88N±0°.01×127°.14W±0°.01,h12km, MW5.6/158,Moment Tensor Solution. s124,c197; s158,c352; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}-2.58±.03; $M_{\theta\theta}$-0.04±.03; $M_{\phi\phi}$2.63±.02; $M_{r\theta}$-0.16±.09; $M_{\theta\phi}$0.04±.02; $M_{\phi r}$-0.90±.07; Best double couple: $M_0$2.76200×10^{17} NP1:ϕ_s4.00000°,δ55.00000°, λ-86.00000°. NP2:ϕ_s178.00000°,δ36.00000°, λ-95.00000°. Principal axes: T 2.7830, Plg10.0000°, Azm91.0000°; N -0.0350, Plg3.0000°, Azm182.0000°; P -2.7400, Plg80.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **24** 14:45:01.0,42°.67N×127°.99W,h33km,mb5.5,Ms5.1, Hypocentre not reviewed by the ISC*
ISC 24 14:44:52.5±0.5,41°.83N±0°.05×126°.98W±0°.04,h11km±2km, h12km:pP-P,n1237,σ1°49/790,mb5.1/308,MS5.1/435, 14C-35D,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**2.09**	**79**		**Pn**	**14 45 25.7**	**-1.8**
KBO				IAML		14 45 54.6	
	comp=N,1μm,1.9s						
KBO				IAML		14 46 11.6	
	comp=E,1μm,3.4s						
KSXB	**Camp Six Broad**	**2.32**	**89**		**Pn**	**14 45 29.3**	**-1.4**
KRPM	**Rodgers**	**2.32**	**106**		**Pn**	**14 45 29.5**	**-1.2**
KRPM				IAML		14 46 04.0	
	comp=E,2μm,1.6s						
KRPM				IAML		14 46 21.6	
	comp=N,1μm,2.5s						
KRMB	**Red Mountain**	**2.32**	**97**		**Pn**	**14 45 28.7**	**-2.1**
KCTM	**Capetown**	**2.41**	**123**		**Pn**	**14 45 30.9**	**-1.0**
JCC	**Jacoby Creek,**	**2.44**	**114**		**Pn**	**14 45 30.7**	**-1.6**
L02F	**Cave Junction**	**2.56**	**82**		**Pn**	**14 45 32.4**	**-1.5**
KMPM	**Mount Pierce**	**2.58**	**122**		**Pn**	**14 45 32.8**	**-1.5**
KMPM				IAML		14 46 07.9	
	comp=E,889nm,1.5s						
KMPM				IAML		14 46 21.9	
	comp=N,748nm,1.9s						
J01E	**Myrtle Point**	**2.62**	**58**		**Pn**	**14 45 33.2**	**-1.5**
J01E				IAML		14 46 13.6	
	comp=N,586nm,1.5s						
KHMM	**Horse Mountain**	**2.63**	**110**		**Pn**	**14 45 33.8**	**-1.2**
KHMM				IAML		14 46 23.6	
	comp=E,1μm,1.8s						
KHMM				IAML		14 46 40.0	
	comp=N,688nm,1.9s						
KSMM	**Slide Mountain**	**2.69**	**127**		**Pn**	**14 45 34.6**	**-1.1**
KCRM	**Chalk Rock**	**2.77**	**119**		**Pn**	**14 45 35.9**	**-1.0**
KMRM	**Mail Ridge**	**2.95**	**122**		**Pn**	**14 45 38.5**	**-0.9**
KMRM				IAML		14 46 21.6	
	comp=N,561nm,2.1s						
KMRM				IAML		14 46 31.1	
	comp=E,659nm,1.1s						
DBO	**Dodson Butte**	**3.05**	**64**		**Pn**	**14 45 39.7**	**-1.0**
DBO				IAML		14 46 19.7	
	comp=E,858nm,1.8s						
DBO				IAML		14 46 33.7	
	comp=N,408nm,2.9s						
HUMO	**Hull Mountain**	**3.09**	**74**		**Pn**	**14 45 40.1**	**-1.2**
YBH	**Yreka Blue Hor**	**3.19**	**90**		**Pn**	**14 45 42.0**	**-0.7**
YBH				IAML		14 46 06.6	
	comp=E,426nm,5.0s						
YBH	**Yreka Blue Hor**	**3.19**	**90**	Pn	**Pn**	**14 45 43.0**	**+0.3**
	comp=E,38nm,0.3s,baz=276,slow=12,SNR=129						
YBH				Sn	**Sn**	**14 46 21.3**	**+0.5**
	baz=292,slow=20						
YBH				LR	LR	14 46 48.0	
	comp=E,36μm,20.4s,baz=317,slow=36						
	comp=E,204nm,0.6s						
I03D	**Drain, OR**	**3.26**	**54**		**Pn**	**14 45 42.4**	**-1.2**
I03D				IAML		14 47 48.2	
	comp=E,369nm,4.0s						
KCPM	**Cahto Peak**	**3.35**	**129**		**Pn**	**14 45 43.6**	**-1.4**
KCPM				IAML		14 46 27.9	
	comp=E,582nm,2.1s						
KCPM				IAML		14 46 28.6	
	comp=N,415nm,2.0s						
BUCK	**Buck Mountain**	**3.76**	**50**	IAML		14 46 55.2	
	comp=N,515nm,1.9s						
COR	**Corvallis**	**3.85**	**43**		**Pn**	**14 45 52.0**	**+0.4**
COR				IAML		14 46 40.3	
	comp=N,431nm,1.1s						
COR				IAML		14 46 49.0	
	comp=N,415nm,1.9s						
COR	**Corvallis**	**3.85**	**43**	P	**Pn**	**14 45 52.0**	**+0.4**
I04A	**Tendick Farm,**	**3.89**	**58**	IAML		14 46 57.3	
	comp=E,382nm,1.7s						
H04D	**Lebanon**	**4.11**	**48**	IAML		14 47 57.0	
	comp=N,325nm,3.8s						
HOPS	**Hopland Field**	**4.12**	**132**		**Pn**	**14 45 53.5**	**-1.9**
HOPS				IAML		14 46 53.5	
	comp=N,249nm,1.6s						
HOPS				IAML		14 47 51.5	
	comp=E,198nm,3.8s						
G03D	**McMinnville, O**	**4.33**	**37**		**Pn**	**14 45 58.0**	**-0.2**
G03D				IAML		14 47 00.9	
	comp=N,316nm,1.1s						
GDXM	**Geysers**	**4.40**	**132**		**Pn**	**14 45 58.7**	**-0.6**
J05D	**Fort Rock, OR**	**4.49**	**69**	IAML		14 48 56.8	
	comp=N,251nm,3.6s						
H04A	**Detroit Lake**	**4.51**	**49**	IAML		14 46 35.2	
	comp=N,166nm,1.2s						
H04A				IAML		14 47 10.2	
	comp=E,159nm,1.7s						
ORV	**Oroville**	**4.75**	**117**	IAML		14 47 14.7	
	comp=N,118nm,1.9s						
MCCM	**Marconi Confer**	**4.84**	**138**	IAML		14 47 03.4	
	comp=N,181nm,1.0s						
MCCM				IAML		14 47 11.7	
	comp=E,126nm,2.3s						
PINE	**Pine Mountain**	**4.86**	**64**	IAML		14 47 25.8	
	comp=N,181nm,1.8s						
PINE				IAML		14 49 08.0	
	comp=E,163nm,3.5s						
RADR	**Rader Ridge**	**5.13**	**25**	IAML		14 48 57.9	
	comp=N,121nm,3.8s						
RADR				IAML		14 49 09.6	
	comp=E,176nm,3.6s						
E03A	**Lebam**	**5.31**	**26**	IAML		14 47 16.6	
	comp=N,132nm,1.1s						
E03A				IAML		14 49 27.2	
	comp=E,124nm,3.7s						
AFDM	**Forest Hills D**	**5.42**	**120**	IAML		14 47 52.0	
	comp=N,74nm,4.8s						
NVAR	**Mina Array Bea**	**7.46**	**114**	Pn	**Pn**	**14 46 43.7**	**+2.2**
	comp=N,3.0nm,0.3s,baz=287,slow=14,SNR=40						
NVAR				LR	LR	14 49 52.9	
	comp=N,26μm,18.4s,baz=290,slow=40						
	comp=N,20nm,0.6s						
MLAC	**Mammoth, Mammo**	**7.55**	**121**	P	**Pn**	**14 46 42.6**	**-0.1**
	baz=307						
TIN	**Tinemaha, Big**	**8.28**	**122**	P	**Pn**	**14 46 52.3**	**-0.3**
	baz=308						
SMMC	**Simmler**	**8.50**	**138**	P	**Pn**	**14 46 54.7**	**-0.8**
	baz=322						
VES	**Vestal, Richgr**	**8.58**	**132**	P	**Pn**	**14 46 56.2**	**-0.5**
	baz=317,SNR=9.4						
CWC	**Cottonwood Cre**	**8.76**	**125**	P	**Pn**	**14 46 58.6**	**-0.7**
	baz=311						
GRAC	**Grapevine Rang**	**8.87**	**120**	P	**Pn**	**14 47 00.3**	**-0.3**
	baz=306,SNR=30						
ELK	**Elko**	**8.91**	**93**	P	**Pn**	**14 47 03.1**	**+1.8**
PKM	**Mcpherson Peak**	**8.93**	**139**	P	**Pn**	**14 47 02.5**	**+0.9**
	baz=324						
ISA	**Isabella, Lake**	**9.06**	**130**	P	**Pn**	**14 47 03.3**	**+0.1**
	baz=316,SNR=32						
ARVC	**Arvin**	**9.25**	**134**	P	**Pn**	**14 47 04.5**	**-1.3**
	baz=319						
SBC	**Santa Barbara**	**9.33**	**140**	P	**Pn**	**14 47 05.8**	**-1.2**
	baz=325						
MPMC	**Manual Prospec**	**9.37**	**125**	P	**Pn**	**14 47 06.2**	**-1.5**
	baz=311,SNR=12						
R11B	**Troy Canyon, C**	**9.40**	**108**	P	**Pn**	**14 47 04.8**	**-3.2**
	baz=295,SNR=25						
HLID	**Hailey**	**9.41**	**75**	P	**Pn**	**14 47 05.8**	**-2.4**
	baz=263,SNR=21						
NEW	**Newport**	**9.48**	**44**	P	**Pn**	**14 47 08.1**	**-0.9**
	baz=230,SNR=16						
NEW	**Newport**	**9.48**	**44**	Pn	**Pn**	**14 47 10.9**	**+1.9**
	comp=N,0.5nm,0.3s,baz=217,slow=12,SNR=9.3						
NEW				LR	LR	14 50 55.2	
	comp=N,21μm,19.2s,baz=230,slow=38						
	comp=N,10.0nm,0.8s						
FURC	**Furnace Creek,**	**9.51**	**121**	P	**Pn**	**14 47 09.1**	**-0.2**
	baz=308,SNR=17						
TPNV	**Topopah Spring**	**9.63**	**117**	P	**Pn**	**14 47 09.7**	**-1.4**
	baz=304,SNR=46						
LRMC	**Laurel Mtn Rad**	**9.64**	**128**	P	**Pn**	**14 47 07.5**	**-3.9**
	baz=314						
OSI	**Osito Audit: C**	**9.70**	**135**	P	**Pn**	**14 47 12.2**	**+0.2**
	baz=321						
EDW2	**Edwards Air Fo**	**9.89**	**132**	P	**Pn**	**14 47 14.5**	**-0.2**
	baz=318,SNR=17						
DECC	**Green Verdugo**	**10.18**	**135**	P	**Pn**	**14 47 19.4**	**+0.8**
	baz=321						
SHOC	**Shoshone, Teco**	**10.23**	**122**	P	**Pn**	**14 47 19.6**	**+0.3**
	baz=309,SNR=15						
GSC	**Goldstone, Bar**	**10.29**	**126**	P	**Pn**	**14 47 18.2**	**-1.9**
	baz=313,SNR=7.4						
BBB	**Bella Bella**	**10.39**	**356**	Pn	**Pn**	**14 47 22.9**	**+1.6**
	comp=N,0.7nm,0.3s,baz=186,slow=15,SNR=6.4						
BBB				LR	LR	14 50 33.3	
	comp=N,4μm,21.5s,baz=168,slow=33						
	comp=N,7.6nm,0.7s						
SNCC	**San Nicolas Is**	**10.41**	**143**	P	**Pn**	**14 47 18.6**	**-3.1**
	baz=328						
BFSC	**Mount Baldy Ra**	**10.55**	**133**	P	**Pn**	**14 47 22.8**	**-1.0**
	baz=319,SNR=7.1						
MSO	**Missoula**	**10.59**	**57**	P	**Pn**	**14 47 23.0**	**-1.3**
	baz=246,SNR=24						
FMP	**Fort Macarthur**	**10.62**	**137**	P	**Pn**	**14 47 21.9**	**-2.7**
	baz=323						
TUQ	**Turquoise Moun**	**10.74**	**123**	P	**Pn**	**14 47 26.7**	**+0.3**
	baz=310,SNR=14						
CIS	**Catalina Islan**	**10.81**	**138**	P	**Pn**	**14 47 28.0**	**+0.8**
	baz=324						
DUG	**Dugway, Tooele**	**10.83**	**94**	P	**Pn**	**14 47 28.0**	**+0.4**
	baz=283,SNR=28						
DUG	**Dugway, Tooele**	**10.83**	**94**	P	**Pn**	**14 47 30.3**	**+2.7**
HEC	**Hector,Ludlow**	**10.89**	**126**	P	**Pn**	**14 47 28.4**	**0.0**
	baz=313						
BBRC	**Big Bear Solar**	**10.95**	**130**	P	**Pn**	**14 47 29.2**	**-0.1**
	baz=317						
MURC	**Murrieta**	**11.29**	**134**	P	**Pn**	**14 47 34.5**	**+0.7**
	baz=320						
GMRC	**Granite Mounta**	**11.33**	**125**	P	**Pn**	**14 47 35.8**	**+1.4**
	baz=312,SNR=12						
BELC	**Belle Mtn. Jos**	**11.67**	**129**	P	**Pn**	**14 47 40.2**	**+1.1**
	baz=316						
PFO	**Pinyon Flats O**	**11.69**	**131**	P	**Pn**	**14 47 39.4**	**+0.2**
	baz=318						
PFO	**Pinyon Flats O**	**11.69**	**131**	Pn	**Pn**	**14 47 42.0**	**+2.8**
	comp=N,0.2nm,0.3s,baz=293,slow=7.7,SNR=6.4						
PFO				LR	LR	14 52 07.6	
	comp=N,10μm,18.1s,baz=304,slow=37						
	comp=N,4.6nm,0.7s						
TPFO	**Pinon Flats**	**11.69**	**131**	P	**Pn**	**14 47 40.6**	**+1.3**
	baz=318						
BOZ	**Bozeman (W)**	**11.73**	**66**	P	**Pn**	**14 47 41.8**	**+1.9**
	baz=256,SNR=49						
NEE2	**Needles Airpor**	**11.99**	**122**	P	**Pn**	**14 47 44.0**	**+0.6**
	baz=310						
IRM	**Iron Mountain**	**12.07**	**126**	P	**Pn**	**14 47 47.2**	**+2.8**
	baz=313,SNR=12						
BC3	**Big Chuckawall**	**12.23**	**128**	P	**Pn**	**14 47 49.2**	**+2.4**
	baz=316,SNR=9.0						
SWSC	**Sam W. Stewart**	**12.55**	**131**	P	**Pn**	**14 47 47.3**	**-3.7**
	baz=318						
PDMCI	**Parker Dam,Lak**	**12.59**	**122**	P	**Pn**	**14 47 47.7**	**-3.8**
	baz=311,SNR=5.9						
IKP	**In-Ko-Pah, Jac**	**12.60**	**133**	P	**Pn**	**14 47 49.0**	**-2.8**
	baz=320						
BW06	**Boulder Array**	**12.94**	**80**	P	**Pn**	**14 47 53.1**	**-3.3**
	baz=272,SNR=20						
PDAR	**Pinedale Array**	**12.94**	**80**	Pn	**Pn**	**14 47 58.0**	**+1.6**
	comp=N,0.1nm,0.3s,baz=267,slow=10,SNR=21						
PDAR				LR	LR	14 53 20.6	
	comp=N,8μm,21.0s,baz=283,slow=39						
GLA	**Glamis**	**13.03**	**128**	P	**Pn**	**14 47 56.0**	**-1.6**
	baz=316						
RLMT	**Red Lodge**	**13.28**	**70**	P	**Pn**	**14 47 59.2**	**-1.8**
	baz=262						
EGMT	**Eagleton**	**13.67**	**57**	P	**Pn**	**14 48 04.2**	**-2.1**
	baz=249,SNR=16						
WUAZ	**Wupatki**	**13.72**	**112**	P	**Pn**	**14 48 04.2**	**-2.9**
	baz=302,SNR=21						
V35K	**Ketchikan**	**13.85**	**349**	P	**Pn**	**14 48 08.8**	**+0.3**
	baz=165						
CRAG	**Craig**	**14.23**	**346**	P	**P**	**14 48 21.1**	**-0.1**
CRAG	**Craig**	**14.23**	**346**	P	**Pn**	**14 48 14.1**	**+0.3**
	baz=161						
O20A	**White River Ci**	**14.26**	**91**	P	**Pn**	**14 48 12.7**	**-1.8**
	baz=283						
U33K	**Whale Pass**	**14.84**	**346**	P	**Pn**	**14 48 21.9**	**-0.2**
	baz=162						
MVCO	**Mesa Verde**	**14.99**	**102**	P	**Pn**	**14 48 20.5**	**-4.0**
	baz=294,SNR=27						
214A	**Organ Pipe Nat**	**15.00**	**127**	P	**Pn**	**14 48 21.7**	**-2.9**
	baz=315,SNR=26						
WRAK	**Wrangell Islan**	**15.01**	**348**	P	**Pn**	**14 48 24.0**	**-0.3**
	baz=164						
W18A	**Petrified Fore**	**15.07**	**111**	P	**Pn**	**14 48 24.2**	**-1.3**
	baz=302

baz=299
ANMO Albuquerque 17.48 106 P **P 14 48 58.8 +1.2**
comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=17
ANMO LR LR 14 56 09.6
comp=Z,11μm,19.6s,baz=32,slow=39
comp=Z,10nm,0.9s
ANMO Albuquerque 17.48 106*ce*P **P 14 48 57.6 0.0**
ANMO pmax pmax
comp=Z,19nm,1.4s
R31K City Hall, Gus 17.50 345 P **P 14 48 57.1 -0.3**
baz=158
Y22D IRIS PASSCAL I 17.59 110 P **P 14 48 59.0 +0.3**
baz=302
LIRD Liard River Hi 17.61 1 P **P 14 48 58.4 -0.3**
baz=182
R33M Jennings River 17.76 353 P **Pn 14 48 59.3 -0.3**
baz=170,SNR=17
121A Cookes Peak, D 17.86 115 P **P 14 49 02.5 +0.7**
baz=307,SNR=31
T25A Trinidad 18.02 98 P **Pn 14 49 02.4 -0.8**
baz=292,SNR=39
P32M Atlin 18.27 349 P **P 14 49 06.9 +0.9**
baz=164,SNR=18
WTLY Watson Lake, Y 18.34 357 P **P 14 49 06.7 0.0**
baz=175
SKAG Skagway 18.40 346 P **P 14 49 10.1 +2.8**
SKAG Skagway 18.40 346 P **P 14 49 07.2 -0.1**
baz=160,SNR=7.5
KOTAN Kotaneelee Air 18.41 5 P **Pn 14 49 04.7 -2.8**
baz=187,SNR=6.6
PLBC Pleasant Camp 18.59 345 P **P 14 49 09.0 -0.5**
baz=157,SNR=10.0
OGNE Ogallala 18.73 84 IAmb IAmb 14 49 21.1
comp=Z,168nm,1.2s
OGNE Ogallala 18.73 84 P **P 14 49 10.6 -0.6**
baz=281,SNR=10.0
KSCO Kaye Shedlock' 18.74 91 IAmb IAmb 14 49 21.4
comp=Z,343nm,1.6s
KSCO Kaye Shedlock' 18.74 91 P **P 14 49 09.8 -1.6**
baz=286,SNR=15
P33M Teslin, Yukon 18.75 351 P **Pn 14 49 11.7 0.0**
baz=166,SNR=18
P29M Windy Craggy 19.03 343 P **Pn 14 49 15.1 0.0**
baz=154
P30M Million Dollar 19.32 345 P **P 14 49 17.0 -0.5**
baz=157,SNR=14
PNL Peninsula 19.45 341 P **Pn 14 49 21.4 +1.3**
PNL Peninsula 19.45 341 P **Pn 14 49 20.6 +0.5**
baz=151
WHY Whitehorse 19.46 348 P **P 14 49 18.5 -0.6**
baz=162,SNR=11
N32M Quiet Lake 19.70 351 P **Pn 14 49 23.0 -0.1**
baz=166
TGTN Hyland Airport 19.74 358 P **P 14 49 21.8 -0.3**
baz=177
O30N Mendenhall 19.77 347 P **P 14 49 20.8 -1.5**
baz=159,SNR=23
O29M Mount Kennedy 19.82 343 P **P 14 49 23.1 0.0**
baz=154
MNTX Cornudas Mount 19.99 113 P **P 14 49 25.0 0.0**
baz=307,SNR=66
PINM Pinnacle 20.04 340 P **P 14 49 23.8 -1.5**
baz=150
K30B Basset 20.25 78 IAmb IAmb 14 49 38.2
comp=Z,116nm,1.1s
MDND Maddock 20.26 63 IAMs_20 IAMs_20 14 57 33.7
comp=Z,12μm,19.0s
MDND Maddock 20.26 63 P **P 14 49 26.7 -1.1**
baz=263
YUK6 Outpost Mounta 20.36 344 P **P 14 49 28.2 -0.8**
baz=155,SNR=10
N31M Braeburn, Yuko 20.39 348 P **P 14 49 27.6 -1.5**
baz=161,SNR=34
MESA MESA 20.55 338 IAMs_20 IAMs_20 14 55 15.1
comp=Z,8μm,22.0s
MESA MESA 20.55 338 P **P 14 49 30.7 -0.4**
baz=146
TABL Table Mountain 20.56 340 IAmb IAmb 14 49 45.4
comp=Z,144nm,1.7s
TABL IAMs_20 IAMs_20 14 55 30.3
comp=Z,6μm,19.0s
SUSD Miller 20.58 73 IAmb IAmb 14 49 40.2
comp=Z,97nm,1.1s
SUSD IAMs_20 IAMs_20 14 57 49.9
comp=Z,8μm,20.0s
SUSD Miller 20.58 73 P **P 14 49 29.2 -2.1**
baz=272
N30M Aishikik Lake 20.59 346 P **P 14 49 29.1 -2.2**
baz=158,SNR=15
MSTX Muleshoe 20.61 104 IAMs_20 IAMs_20 14 57 58.6
comp=Z,13μm,19.0s
MSTX Muleshoe 20.61 104 P **P 14 49 29.0 -2.8**
baz=300
O28M Mount Upton 20.61 341 P Pn 14 49 32.8 -1.3
baz=151,SNR=11
YUK4 Talbot Arm 20.78 344 P **P 14 49 34.1 +0.6**
baz=155
FARO Faro, Yukon 20.78 352 P Pn 14 49 34.5 -1.3
baz=166,SNR=46
VHRN Van Horn 20.81 115 P **P 14 49 34.1 0.0**
VHRN IAmb IAmb 14 49 50.0
comp=Z,248nm,1.8s
LOGN Logan Glacier 20.85 341 IAmb IAmb 14 49 49.9
comp=Z,222nm,2.0s
BGLC Bering Glacier 20.88 337 P **P 14 49 34.9 +0.5**
baz=144
FFC Flin Flon 20.91 43 P **P 14 49 35.1 +0.3**
FFC IAmb IAmb 14 49 43.2
comp=Z,139nm,1.1s
FFC Flin Flon 20.91 43 IAMs_20 IAMs_20 14 57 49.2
comp=Z,10μm,19.0s
FFC Flin Flon 20.91 43 P **P 14 49 35.1 +0.3**
FFC pmax pmax
comp=Z,139nm,1.2s
FFC MLR MLR
comp=Z,10μm,19.0s
CBKS Cedar Bluff 20.96 89 P **P 14 49 34.9 -0.6**
CBKS IAMs_20 IAMs_20 14 58 19.8
comp=Z,10μm,18.0s
CBKS Cedar Bluff 20.96 89 P **P 14 49 34.9 -0.6**
baz=287
CBKS Cedar Bluff 20.96 89 P **P 14 49 34.9 -0.6**
CBKS pmax pmax
comp=Z,462nm,2.0s
CBKS MLR MLR
comp=Z,10μm,18.0s
YUK8 Steele Glacier 20.96 343 P **P 14 49 36.2 +0.6**
baz=152,SNR=17
GRNC Granite Creek 20.97 340 P Pn 14 49 37.2 -1.0
GRNC IAmb IAmb 14 49 49.8
comp=Z,111nm,1.5s
AMTX Amarillo 20.97 101 IAmb IAmb 14 49 45.1
comp=Z,87nm,1.1s
AMTX IAMs_20 IAMs_20 14 58 11.3
comp=Z,9μm,18.0s
AMTX Amarillo 20.97 101 P **P 14 49 35.5 -0.3**
baz=297
ISLE Juniper Island 21.01 339 IAmb IAmb 14 49 53.0
comp=Z,117nm,1.2s
WAX Waxell Ridge 21.03 338 IAMs_20 IAMs_20 14 55 28.7
comp=Z,7μm,22.0s
CTGM Chitina Glacie 21.06 340 IAmb IAmb 14 49 51.0
comp=Z,116nm,1.2s
CTG Chitna Glacier 21.06 340 P **P 14 49 37.0 +0.5**
baz=149,SNR=11
KAIM Kayak Island 21.07 335 P **P 14 49 36.9 +0.5**
baz=141
MID Middleton Isla 21.33 332 IAMs_20 IAMs_20 14 55 26.9
comp=Z,6μm,20.0s
Q23K Middleton Isla 21.34 332 IAMs_20 IAMs_20 14 55 25.9
comp=Z,7μm,20.0s
Q23K Middleton Isla 21.34 332 P **P 14 49 39.7 +0.4**
baz=137
CRQE Cirque 21.35 338 P **P 14 49 41.7 +2.2**
baz=145,SNR=7.8
HMT Hamilton 21.35 336 IAmb IAmb 14 49 56.6
comp=Z,199nm,1.9s
HMT IAMs_20 IAMs_20 14 55 34.3
comp=Z,7μm,22.0s
CRQM Cirque 21.36 338 IAmb IAmb 14 49 57.1
comp=Z,165nm,1.6s
RAGM Ragged Mountai 21.52 336 IAMs_20 IAMs_20 14 55 38.7
comp=Z,8μm,22.0s
BGNE Belgrade 21.52 81 IAMs_20 IAMs_20 14 58 23.8
comp=Z,8μm,20.0s
BGNE Belgrade 21.52 81 P **P 14 49 41.5 +0.1**
baz=281
WRGLY Wrigley 21.53 4 P **P 14 49 42.3 +1.0**
WRGLY IAmb IAmb 14 49 52.7
comp=Z,211nm,1.5s
WRGLY Wrigley 21.53 4 P **P 14 49 43.0 +1.7**
baz=187,SNR=12
YUK3 Moose Creek 21.56 342 P **P 14 49 42.6 +0.7**
baz=152,SNR=30
M30M Minto, Yukon 21.58 348 P **P 14 49 42.1 +0.2**
baz=160,SNR=25
M29M Somme Creek 21.75 346 IAmb IAmb 14 50 00.7
comp=Z,205nm,1.9s
M29M Somme Creek 21.75 346 P **P 14 49 44.3 +0.4**
baz=156,SNR=19
VRDI Verde Repeater 21.84 338 IAmb IAmb 14 50 01.3
comp=Z,252nm,2.0s
R32A Long Quarter, 21.84 90 IAmb IAmb 14 49 56.5
comp=Z,82nm,1.1s
R32A IAMs_20 IAMs_20 14 58 24.2
comp=Z,10μm,21.0s
MCARA McCarthy VSAT 21.85 339 IAmb IAmb 14 49 59.1
comp=Z,168nm,1.3s
MCARA McCarthy VSAT 21.85 339 P **P 14 49 45.8 +0.9**
baz=146,SNR=13
SMWD Samnorwood 21.93 99 IAmb IAmb 14 49 58.1
comp=Z,164nm,1.2s
BMRM Bremner River 21.96 337 P **P 14 49 47.3 +1.3**
baz=143
YKA Yellowknife Ar 21.96 15 P **P 14 49 45.8 -0.2**
YKA Yellowknife Ar 21.96 15 P **P 14 49 46.1 +0.1**
comp=Z,29nm,1.0s,baz=206,slow=10,SNR=36
YKA PcP **PcP 14 53 45.2 +1.0**
comp=Z,2.2nm,1.0s,baz=190,slow=3.1,SNR=5.6
YKA LR LR 14 57 56.3
comp=Z,1μm,20.6s,baz=208,slow=36
comp=Z,29nm,1.0s
EYAK Cordova Ski Ar 21.98 335 P **P 14 49 49.6 +3.4**
EYAK Cordova Ski Ar 21.98 335 P **P 14 49 45.5 -0.7**
baz=140,SNR=5.9
HIN Hinchinbrook I 22.11 334 IAMs_20 IAMs_20 14 56 03.3
comp=Z,9μm,19.0s
GLB Gilahina Butte 22.11 338 IAmb IAmb 14 50 01.9
comp=Z,75nm,1.2s
P23K Montague Islan 22.12 332 P **P 14 49 47.8 +0.1**
baz=136
NOKA Waynoka 22.29 94 IAMs_20 IAMs_20 14 58 14.1
comp=Z,6μm,20.0s
L29M L29M 22.30 347 IAmb IAmb 14 49 57.2
comp=Z,182nm,1.4s
L29M **PcP 14 53 46.4 +1.4**
L29M L29M 22.30 347 P **P 14 49 50.2 +0.5**
baz=157,SNR=87
ECSD EROS Data Cent 22.31 75 P **P 14 49 50.2 +0.2**
ECSD IAmb IAmb 14 49 59.7
comp=Z,178nm,1.4s
ECSD EROS Data Cent 22.31 75 IAMs_20 IAMs_20 14 58 54.8
comp=Z,11μm,19.0s
ECSD EROS Data Cent 22.31 75 P **P 14 49 49.3 -0.7**
baz=276,SNR=40
FID Port Fidalgo 22.36 334 IAmb IAmb 14 50 05.4
comp=Z,98nm,1.2s
FID IAMs_20 IAMs_20 14 56 13.7
comp=Z,7μm,20.0s
M27K Edge Creek, AK 22.39 342 IAmb IAmb 14 49 58.2
comp=Z,181nm,1.4s
M27K Edge Creek, AK 22.39 342 P **P 14 49 51.2 +0.4**
baz=150,SNR=55
F33A 5 Mile Ranch, 22.42 69 IAMs_20 IAMs_20 14 58 52.7
comp=Z,6μm,20.0s
N25K Chitina, Valde 22.47 338 IAmb IAmb 14 49 58.3
comp=Z,141nm,1.4s
N25K Chitina, Valde 22.47 338 P **P 14 49 51.7 +0.1**
baz=144,SNR=29
LPIG La Paz 22.48 137 LR LR 14 57 49.7
comp=Z,3μm,18.8s,baz=328,slow=35
OK038 West end E0350 22.49 94 IAmb IAmb 14 50 03.5
comp=Z,165nm,1.3s
SN05 Snyder 5 22.52 105 IAmb IAmb 14 50 03.4
comp=Z,96nm,1.2s
TXAR Lajitas Array 22.61 116 P **P 14 49 56.1 +2.8**
comp=Z,2.6nm,0.6s,baz=303,slow=9.5,SNR=20
comp=Z,2.6nm,0.6s
GLI Glacier Island 22.66 334 IAmb IAmb 14 50 11.2
comp=Z,87nm,1.2s
GLI IAMs_20 IAMs_20 14 56 22.0
comp=Z,6μm,20.0s
GLI Glacier Island 22.66 334 P **P 14 49 55.9 +2.4**
baz=138,SNR=11
M26K Nabesna, AK 22.70 341 IAmb IAmb 14 50 08.7
comp=Z,108nm,1.4s
M26K Nabesna, AK 22.70 341 P **P 14 49 56.6 +2.6**
baz=148,SNR=28
L34A Svendsen Farm, 22.73 79 IAmb IAmb 14 49 59.7
comp=Z,71nm,0.9s
L34A IAMs_20 IAMs_20 14 59 13.7
comp=Z,9μm,20.0s
OK032 Salt Plains WL 22.76 93 IAMs_20 IAMs_20 14 59 16.6
comp=Z,9μm,21.0s
KLU Klutina 22.76 336 IAmb IAmb 14 50 08.9
comp=Z,61nm,1.2s
KLU Klutina 22.76 336 P **P 14 49 56.1 +1.5**
baz=141,SNR=14
KDAK Kodiak Island 22.77 323 IAMs_20 IAMs_20 14 56 06.0
comp=Z,8μm,22.0s
KDAK Kodiak Island 22.77 323 P **P 14 49 55.2 +0.6**
comp=Z,12nm,0.9s,baz=154,slow=19,SNR=3.0
KDAK LR LR 14 56 27.1
comp=Z,7μm,20.9s,baz=141,slow=31
comp=Z,12nm,0.9s
OHAK Old Harbor 22.79 322 P **P 14 50 00.6 +5.8**
OHAK Old Harbor 22.79 322 P **P 14 49 56.7 +1.9**
OHAK IAmb IAmb 14 50 08.7
comp=Z,182nm,1.6s
OHAK Old Harbor 22.79 322 P **P 14 49 53.9 -0.9**
baz=121
AGMN Agassiz Nation 22.80 63 P **P 14 49 55.6 +0.4**
AGMN IAmb IAmb 14 50 04.4
comp=Z,187nm,1.6s
AGMN IAMs_20 IAMs_20 14 58 50.9
comp=Z,11μm,20.0s
AGMN Agassiz Nation 22.80 63 P **P 14 49 53.1 -2.0**
baz=265
APMT Aspermont 22.85 103 IAmb IAmb 14 50 12.0
comp=Z,146nm,2.0s
SII Sitkinak Islan 22.88 319 IAMs_20 IAMs_20 14 56 07.0
comp=Z,6μm,22.0s
SII Sitkinak Islan 22.88 319 P **P 14 49 56.2 +0.3**
baz=118
K29M Barlow Dome 22.89 348 P **P 14 49 57.0 +1.0**
baz=159,SNR=30
KAN14 Manchester OK 22.89 93 IAmb IAmb 14 50 05.8
comp=Z,118nm,1.1s
SEW Seward 22.93 331 P **P 14 49 58.2 +2.0**
baz=133,SNR=5.9
HPIG 22.94 124 IAMs_20 IAMs_20 14 59 02.5
comp=Z,5μm,18.0s
BCAR Beaver Creek A 22.99 343 P **P 14 49 58.4 +1.4**
L27K Beaver Creek, 22.99 343 P **P 14 49 58.2 +1.2**
baz=150,SNR=23
ULM Lac du Bonnet 23.04 58 P **P 14 49 58.2 +0.7**
comp=Z,36nm,0.8s,baz=265,slow=10,SNR=19
ULM LR LR 14 59 12.4
comp=Z,6μm,18.5s,baz=260,slow=37
comp=Z,36nm,0.8s
ULM Lac du Bonnet 23.04 58*c i*P **P 14 49 58.4 +0.9**
CROK Carrier 23.04 94 IAMs_20 IAMs_20 14 59 27.1
comp=Z,7μm,21.0s
PWL Port Wells 23.06 333 IAmb IAmb 14 50 12.0
comp=Z,91nm,1.4s
PWL IAMs_20 IAMs_20 14 56 31.6
comp=Z,6μm,20.0s
PWL Port Wells 23.06 333 P **P 14 49 58.9 +1.2**
baz=136,SNR=11
Q20K Shuyak Island 23.15 325 P **P 14 50 00.3 +1.7**
baz=125
BRSE Bradley Lake S 23.17 329 P **P 14 49 59.9 +1.0**
baz=130
WMOK Wichita Mounta 23.17 99 IAmb IAmb 14 50 10.6
comp=Z,130nm,1.6s
WMOK Wichita Mounta 23.17 99 IAMs_20 IAMs_20 14 59 33.5
comp=Z,8μm,19.0s
WMOK Wichita Mounta 23.17 99 P **P 14 49 57.8 -1.3**
baz=296,SNR=12
KSU1 Kansas State U 23.21 87 IAMs_20 IAMs_20 14 59 18.5
comp=Z,10μm,21.0s
KSU1 Kansas State U 23.21 87 P **P 14 49 58.9 -0.5**
baz=286
CNPM China Poot 23.23 328 IAMs_20 IAMs_20 14 56 34.1
comp=Z,7μm,21.0s
BRLK Bradley Lake 23.24 329 IAMs_20 IAMs_20 14 56 34.5
comp=Z,7μm,21.0s
HARP HAARP 23.26 338 P **P 14 50 01.2 +1.4**
baz=144
CHIR Chirikof Islan 23.27 317 IAMs_20 IAMs_20 14 56 31.9
comp=Z,6μm,18.0s
SAND Sanderson 23.28 113 IAmb IAmb 14 50 11.1
comp=Z,141nm,1.2s
O22K Cooper Landing 23.28 331 IAMs_20 IAMs_20 14 56 37.4
comp=Z,7μm,20.0s
O22K Cooper Landing 23.28 331 P **P 14 50 00.7 +0.8**
baz=133
L26K Log Cabin Wild 23.32 341 IAmb IAmb 14 50 15.3
comp=Z,166nm,1.7s
L26K IAMs_20 IAMs_20 14 57 12.1
comp=Z,5μm,21.0s
L26K Log Cabin Wild 23.32 341 P **P 14 50 02.2 +2.0**
baz=148,SNR=25
M24K Tolsona, Glenn 23.32 337 P **P 14 50 03.3 +2.9**
baz=142,SNR=6.1
MENT Mentasta 23.33 341 P **P 14 50 03.4 +2.9**
DAWY Dawson 23.41 346 IAmb IAmb 14 50 06.1
comp=Z,127nm,1.5s
DAWY Dawson 23.41 346 P **P 14 50 02.8 +1.6**
baz=156,SNR=34
J30M Hart River 23.41 350 IAmb IAmb 14 50 05.6
comp=Z,198nm,1.8s
J30M Hart River 23.41 350 P **P 14 50 03.1 +1.8**
baz=162,SNR=56
SCM Sheep Creek Mo 23.45 336 P **P 14 50 04.7 +2.9**
baz=139,SNR=15
HOM Homer 23.47 328 IAMs_20 IAMs_20 14 56 41.5
comp=Z,7μm,21.0s
HOM Homer 23.47 328 P **P 14 50 03.7 +1.9**
baz=128
N35A Tabor 23.48 82 IAMs_20 IAMs_20 14 59 25.8
comp=Z,8μm,20.0s
KNK Knik Glacier 23.50 334 IAmb IAmb 14 50 16.8
comp=Z,140nm,1.5s
KNK IAMs_20 IAMs_20 14 56 48.2
comp=Z,6μm,21.0s
KNK Knik Glacier 23.50 334 P **P 14 50 05.0 +2.9**
baz=137,SNR=6.9
R18K Karluk 23.50 321 P **P 14 50 03.3 +1.2**
baz=120
BLOK Blackwell 23.52 93 IAmb IAmb 14 50 22.6
comp=Z,158nm,1.5s
ABTX Abilene, Hawle 23.55 104 IAMs_20 IAMs_20 14 59 42.4
comp=Z,8μm,20.0s
ABTX Abilene, Hawle 23.55 104 P **P 14 50 02.9 +0.1**
baz=301
M23K Glacier View 23.55 335 P **P 14 50 03.4 +0.8**
baz=138,SNR=9.0
J29N Klondike Camp 23.57 348 P **P 14 50 03.0 +0.2**
baz=158
RC01 Rabbit Creek A 23.71 332 IAMs_20 IAMs_20 14 56 51.7
comp=Z,7μm,21.0s
RC01 Rabbit Creek A 23.71 332 P **P 14 50 04.6 +0.5**
baz=134
OK029 Liberty Lake 23.71 95 IAMs_20 IAMs_20 14 59 37.8
comp=Z,6μm,22.0s
SML Sawmill 23.75 335 IAMs_20 IAMs_20 14 56 58.8
comp=Z,6μm,21.0s
SML Sawmill 23.75 335 P **P 14 50 05.2 +0.6**
baz=137,SNR=8.2
PAX Paxson 23.81 339 P **P 14 50 06.4 +1.2**
baz=144,SNR=9.3
OK048 Pawnee Station 23.85 93 IAMs_20 IAMs_20 15 00 01.5
comp=Z,9μm,21.0s
PMR Palmer 23.86 334 P **P 14 50 08.1 +2.6**
PMR Palmer 23.86 334 IAmb IAmb 14 50 19.1
comp=Z,117nm,1.5s
PMR Palmer 23.86 334 P **P 14 50 06.5 +1.0**
baz=136,SNR=7.9
Q19K Cape Douglas, 23.87 325 IAMs_20 IAMs_20 14 56 54.0
comp=Z,5μm,20.0s
Q19K Cape Douglas, 23.87 325 P **P 14 50 06.4 +0.7**
baz=124
OK051 E0350 and S346 23.90 93 IAMs_20 IAMs_20 15 00 01.7
comp=Z,9μm,20.0s
FIS Fire Island 23.91 332 IAMs_20 IAMs_20 14 56 58.5
comp=Z,6μm,20.0s
GHO Glory Hole Cre 23.92 334 IAmb IAmb 14 50 19.6
comp=Z,71nm,1.1s
GHO IAMs_20 IAMs_20 14 57 01.2
comp=Z,6μm,22.0s
CAPN Captain Cook N 24.00 330 P **P 14 50 06.0 -0.9**
baz=131
I30M Mount Dempster 24.04 350 P **P 14 50 06.7 -0.7**
baz=162,SNR=15
OK031 S. Brethren Rd 24.11 94 IAMs_20 IAMs_20 15 00 10.3
comp=Z,6μm,20.0s
P19K Oil Pt 24.11 327 P **P 14 50 08.3 +0.3**
baz=126
OK052 Battle Ridge R 24.12 94 IAMs_20 IAMs_20 15 00 09.6
comp=Z,7μm,20.0s
O20K Slope Mountain 24.12 328 P **P 14 50 08.7 +0.6**
baz=128
WAT6 Susitna Watana 24.15 336 P **P 14 50 08.8 +0.3**
baz=140,SNR=9.4
ILSW Iliamna Southw 24.27 327 IAMs_20 IAMs_20 14 57 28.6
comp=Z,5μm,19.0s
SCRK Sand Creek 24.28 342 IAMs_20 IAMs_20 14 57 42.5
comp=Z,6μm,22.0s
SCRK Sand Creek 24.28 342 P **P 14 50 11.4 +1.8**
baz=148,SNR=16
M22K Willow 24.30 333 IAmb IAmb 14 50 22.9
comp=Z,95nm,1.1s
M22K Willow 24.30 333 P **P 14 50 10.6 +0.9**
baz=134,SNR=7.5
Q18K Katmai Hardscr 24.31 323 P **P 14 50 10.4 +0.5**
baz=121
SUA Susitna One 24.32 332 IAmb IAmb 14 50 38.5
comp=Z,119nm,1.8s
SUA IAMs_20 IAMs_20 14 57 11.8
comp=Z,6μm,21.0s
SUA Susitna One 24.32 332 P **P 14 50 11.4 +1.4**
baz=133,SNR=12
EGAK Eagle 24.38 345 IAmb IAmb 14 50 25.1
comp=Z,71nm,1.6s
EGAK Eagle 24.38 345 P **P 14 50 10.2 -0.2**
baz=154,SNR=18
DEOK Depew 24.41 94 **P 14 50 10.0 -0.9**
DHY Denali Highway 24.43 337 IAmb IAmb 14 50 24.4
comp=Z,53nm,1.1s
DHY Denali Highway 24.43 337 P **P 14 50 10.7 -0.4**
baz=141,SNR=33
I29M Ogilvie Camp, 24.43 349 IAmb IAmb 14 50 29.5
comp=Z,84nm,1.8s
I29M Ogilvie Camp, 24.43 349 P **P 14 50 11.3 +0.4**
baz=159,SNR=16
FW03 Perrin-Whitt E 24.49 102 IAMs_20 IAMs_20 15 00 28.3
comp=Z,8μm,19.0s
K24K Donnelly Dome 24.57 340 P **P 14 50 15.1 +2.8**
baz=144,SNR=10
WAT1 Susitna Watana 24.58 336 P **P 14 50 12.9 +0.6**
baz=138
JCT Junction City 24.59 109 P **P 14 50 11.6 -1.1**
baz=205,SNR=10
SPU Mount Spurr 24.60 330 IAmb IAmb 14 50 26.9
comp=Z,173nm,2.0s
J26L Joseph Creek 24.63 343 P **P 14 50 13.5 +0.7**
baz=149,SNR=34
DRIO Del Rio 24.64 112 IAmb IAmb 14 50 28.0
comp=Z,81nm,1.2s
N20K Mount Spurr 24.67 330 P **P 14 50 13.7 +0.5**
baz=130
SPCR Spurr Chakacha 24.67 330 P P 14 50 04.8 -8.4
BRDY Brady 24.72 106 IAmb IAmb 14 50 22.5
comp=Z,64nm,1.4s
I28M Miner Creek 24.77 347 IAmb IAmb 14 50 30.3
comp=Z,77nm,1.6s
I28M Miner Creek 24.77 347 P **P 14 50 15.7 +1.6**
baz=156,SNR=36
P18K Big Mountain, 24.81 325 P **P 14 50 14.3 -0.1**
baz=122
CUT Chulitna 24.82 334 IAMs_20 IAMs_20 14 57 29.8
comp=Z,6μm,22.0s
CUT Chulitna 24.82 334 P **P 14 50 14.4 0.0**
baz=135
CHGN Chignik 24.89 316 P **P 14 50 17.0 +1.9**
baz=112
FW06 Azle 24.89 101 IAMs_20 IAMs_20 15 00 36.1
comp=Z,11μm,21.0s
SPMN Marine on St. 24.90 71 IAMs_20 IAMs_20 15 00 30.3
comp=Z,6μm,19.0s
SPMN Marine on St. 24.90 71 P **P 14 50 15.5 +0.2**
baz=274

TUL3	Leonard	24.91	93	IAMs_20	IAMs_20	15 00 44.0
	comp=Z,9µm,19.0s					
TUL3	Leonard	24.91	93	P	P	14 50 16.3 +0.9
	baz=293					
Z35A	Perchaven, San	24.95	100	IAMs_20	IAMs_20	15 00 38.4
	comp=Z,8µm,19.0s					
SKT	Skwentna	24.95	332	IAMs_20	IAMs_20	14 57 42.4
	comp=Z,6µm,20.0s					
SKT	Skwentna	24.95	332	P	P	14 50 17.9 +2.4
	baz=132,SNR=13					
O18K	Koktuh Hills	25.05	326	IAMs_20	IAMs_20	14 57 41.2
	comp=Z,5µm,20.0s					
O18K	Koktuh Hills	25.05	326	P	P	14 50 18.0 +1.5
	baz=123					
SCIA	State Center	25.05	78	P	P	14 50 18.2 +1.5
	baz=281					
Q16K	King Salmon	25.07	322	P	P	14 50 16.6 -0.1
	baz=119					
RND	Reindeer	25.11	337	IAmb	IAmb	14 50 36.7
	comp=Z,44nm,1.2s					
RND				IAMs_20	IAMs_20	14 57 55.7
	comp=Z,6µm,20.0s					
J25K	Salcha River,	25.14	341	IAmb	IAmb	14 50 31.6
	comp=Z,46nm,1.1s					
J25K				IAMs_20	IAMs_20	14 58 18.6
	comp=Z,5µm,20.0s					
J25K	Salcha River,	25.14	341	P	P	14 50 18.5 +1.1
	baz=146,SNR=40					
EPYK	Eagle Plains	25.18	351	P	P	14 50 17.4 -0.3
	baz=162,SNR=40					
I27K	Kandik River	25.21	346	P	P	14 50 18.7 +0.7
	baz=154,SNR=32					
P17K	Kvichak River	25.23	324	P	P	14 50 19.1 +1.0
	baz=120					
I26K	Coal Creek Min	25.24	344	P	P	14 50 18.9 +0.7
	baz=151					
H29M	Whitestone	25.25	349	P	P	14 50 19.4 +1.1
	baz=160,SNR=64					
N38A	Joes South For	25.28	81	IAMs_20	IAMs_20	15 00 33.9
	comp=Z,10µm,21.0s					
N19K	Bonanza Creek	25.30	328	IAmb	IAmb	14 50 32.5
	comp=Z,102nm,1.7s					
N19K				IAMs_20	IAMs_20	14 58 00.2
	comp=Z,6µm,20.0s					
N19K	Bonanza Creek	25.30	328	P	P	14 50 18.8 -0.1
	baz=126					
P38A	Dawn	25.36	84	IAmb	IAmb	14 50 28.4
	comp=Z,98nm,1.6s					
HDA	Harding Lake	25.37	340	IAmb	IAmb	14 50 31.4
	comp=Z,48nm,1.4s					
HDA	Harding Lake	25.37	340	P	P	14 50 20.2 +0.8
	baz=143,SNR=18					
RLO	Rose Lookout	25.38	92	IAmb	IAmb	14 50 32.2
	comp=Z,37nm,1.2s					
MCK	McKinley	25.38	337	P	P	14 50 20.3 +0.8
	baz=139,SNR=12					
M20K	Styx River	25.45	331	IAMs_20	IAMs_20	14 57 57.6
	comp=Z,6µm,20.0s					
M20K	Styx River	25.45	331	P	P	14 50 20.1 -0.1
	baz=130					
WHTX	Lake Whitney,	25.46	103	IAMs_20	IAMs_20	15 00 54.6
	comp=Z,8µm,19.0s					
WHTX	Lake Whitney,	25.46	103	P	P	14 50 19.8 -0.6
	baz=301					
G31M	Satah River	25.46	353	IAmb	IAmb	14 50 24.7
	comp=Z,110nm,1.6s					
G31M	Satah River	25.46	353	P	P	14 50 19.6 -0.5
	baz=167,SNR=16					
ILAR	Eielson Array	25.64	340	P	P	14 50 22.1 +0.3
ILAR	Eielson Array	25.64	340	P	P	14 50 23.8 +1.9
	comp=Z,15nm,0.9s,baz=156,slow=8.1,SNR=75					
ILAR				PcP	PcP	14 53 53.2 +1.2
	comp=Z,3.6nm,0.9s,baz=186,slow=1.7,SNR=12					
ILAR				LR	LR	14 58 53.6
	comp=Z,3µm,21.4s,baz=149,slow=33					
	comp=Z,15nm,0.9s					
E38A	The Farm, Brul	25.69	67	IAMs_20	IAMs_20	15 00 53.0
	comp=Z,9µm,19.0s					
G30M	tAoh Zraii Nji	25.71	352	P	P	14 50 23.8 +1.3
	baz=164,SNR=22					
EYMN	Ely	25.71	64	P	P	14 50 23.9 +1.3
	baz=269,SNR=34					
WRH	Wood River Hil	25.72	339	IAmb	IAmb	14 50 27.7
	comp=Z,57nm,1.2s					
U38A	Gravette	25.75	91	IAmb	IAmb	14 50 33.1
	comp=Z,138nm,1.6s					
U38A				IAMs_20	IAMs_20	15 00 47.4
	comp=Z,8µm,20.0s					
H27K	Steamboat Moun	25.76	346	P	P	14 50 22.7 -0.3
	baz=154,SNR=29					
X37A	Clayton	25.77	96	IAmb	IAmb	14 50 44.5
	comp=Z,118nm,1.7s					
X37A				IAMs_20	IAMs_20	15 01 27.1
	comp=Z,6µm,18.0s					
CCB	Clear Creek Bu	25.78	339	IAmb	IAmb	14 50 36.0
	comp=Z,46nm,1.3s					
N18K	Kilae Creek	25.79	327	IAmb	IAmb	14 50 38.1
	comp=Z,57nm,1.3s					
N18K				IAMs_20	IAMs_20	14 58 15.1
	comp=Z,6µm,20.0s					
N18K	Kilae Creek	25.79	327	P	P	14 50 22.7 -0.5
	baz=124,SNR=7.3					
O17K	Koliganek Bris	25.81	324	P	P	14 50 24.7 +1.3
	baz=120					
G29M	Pine Creek	25.86	350	P	P	14 50 24.2 +0.4
	baz=161,SNR=54					
M19K	Big River Lodg	25.93	330	IAMs_20	IAMs_20	14 58 12.2
	comp=Z,5µm,20.0s					
M19K	Big River Lodg	25.93	330	P	P	14 50 24.7 +0.3
	baz=129					
F31M	Tsiigehtchic	25.93	354	IAmb	IAmb	14 50 29.0
	comp=Z,60nm,1.3s					
F31M	Tsiigehtchic	25.93	354	P	P	14 50 24.4 +0.1
	baz=168					
PRP	Porcupine Dome	25.94	342	IAmb	IAmb	14 50 40.0
	comp=Z,55nm,1.4s					
PRP				IAMs_20	IAMs_20	14 58 45.4
	comp=Z,5µm,21.0s					
PRP	Porcupine Dome	25.94	342	P	P	14 50 25.3 +0.6
	baz=147,SNR=23					
COLA	College	25.98	340	P	P	14 50 26.5 +1.7
COLA	College	25.98	340	P	P	14 50 24.6 -0.2
	baz=142					
COLA	College	25.98	340*d i*	P	P	14 50 25.5 +0.7
COLA				pmax	pmax	
	comp=Z,39nm,1.5s					
COLA				MLR	MLR	
	comp=Z,4µm,21.0s					
435B	Jarrell	26.01	106	IAMs_20	IAMs_20	15 01 11.1
	comp=Z,7µm,18.0s					
435B	Jarrell	26.01	106	P	P	14 50 24.2 -1.2
	baz=303					
POKR	Poker Plat Res	26.06	340	IAmb	IAmb	14 50 39.6
	comp=Z,51nm,1.2s					
POKR	Poker Plat Res	26.06	340	P	P	14 50 27.8 +2.1
	baz=143,SNR=9.2					
NEA2	Nenana	26.08	338	IAmb	IAmb	14 50 31.1
	comp=Z,55nm,1.1s					
NEA2	Nenana	26.08	338	P	P	14 50 26.3 +0.5
	baz=140,SNR=35					
S39A	Bolivar	26.10	88	IAmb	IAmb	14 50 34.7
	comp=Z,74nm,1.1s					
S39A				IAMs_20	IAMs_20	15 01 07.6
	comp=Z,9µm,21.0s					
L20K	Farewell, AK	26.10	331	P	P	14 50 26.9 +0.8
	baz=130,SNR=16					
HHAR	Hobbs	26.15	91	IAmb	IAmb	14 50 35.3
	comp=Z,57nm,1.2s					
HHAR				IAMs_20	IAMs_20	15 00 58.8
	comp=Z,8µm,21.0s					
833A	Chaparral WMA,	26.16	112	P	P	14 50 25.6 -1.2
	baz=308					
O16K	Kokwok River B	26.16	323	IAmb	IAmb	14 50 39.7
	comp=Z,94nm,1.6s					
O16K	Kokwok River B	26.16	323	P	P	14 50 26.1 -0.5
	baz=119,SNR=5.8					
M18K	Stony River	26.23	328	P	P	14 50 27.8 +0.6
	baz=125					
N17K	Nushagak Hills	26.25	326	IAmb	IAmb	14 50 43.9
	comp=Z,94nm,1.6s					
N17K	Nushagak Hills	26.25	326	P	P	14 50 28.2 +0.9
	baz=122					
BPAW	Bear Paw Mtn.	26.26	336	IAMs_20	IAMs_20	14 58 39.4
	comp=Z,5µm,20.0s					
BPAW	Bear Paw Mtn.	26.26	336	P	P	14 50 26.9 -0.5
	baz=136,SNR=18					
L19K	White Mountain	26.27	330	IAMs_20	IAMs_20	14 58 32.7
	comp=Z,6µm,21.0s					
L19K	White Mountain	26.27	330	P	P	14 50 28.7 +1.1
	baz=128,SNR=26					
F30M	Barrier River	26.27	352	P	P	14 50 27.8 +0.3
	baz=165					
G27K	Doyon Strip	26.31	347	IAmb	IAmb	14 50 33.5
	comp=Z,68nm,1.4s					
G27K	Doyon Strip	26.31	347	P	P	14 50 28.2 +0.4
	baz=155,SNR=35					
P40A	Paris	26.48	83	IAMs_20	IAMs_20	15 01 39.8
	comp=Z,7µm,21.0s					
I23K	Minto, Yukon-K	26.59	339	IAmb	IAmb	14 50 37.3
	comp=Z,58nm,1.2s					
I23K	Minto, Yukon-K	26.59	339	P	P	14 50 31.2 +0.8
	baz=140,SNR=36					
FCC	Fort Churchill	26.60	39	IAMs_20	IAMs_20	15 01 06.7
	comp=Z,9µm,19.0s					
H25L	Birch Creek	26.64	343	P	P	14 50 32.2 +1.5
	baz=147,SNR=28					
Z38A	Mt. Pleasant	26.65	98	IAMs_20	IAMs_20	15 01 43.2
	comp=Z,7µm,19.0s					
G40A	Rib Lake	26.73	70	IAmb	IAmb	14 50 40.5
	comp=Z,50nm,1.4s					
G40A				IAMs_20	IAMs_20	15 01 36.4
	comp=Z,8µm,19.0s					
K20K	Telida	26.74	333	IAmb	IAmb	14 50 48.2
	comp=Z,109nm,1.6s					
K20K				IAMs_20	IAMs_20	14 58 50.2
	comp=Z,4µm,20.0s					
K20K	Telida	26.74	333	P	P	14 50 33.0 +1.2
	baz=131					
H24K	Noodor Dome	26.75	341	IAmb	IAmb	14 50 49.0
	comp=Z,61nm,1.4s					
H24K				IAMs_20	IAMs_20	14 59 07.3
	comp=Z,5µm,21.0s					
H24K	Noodor Dome	26.75	341	P	P	14 50 31.7 -0.3
	baz=144,SNR=13					
O15K	Ungalikthiuk R	26.76	322	P	P	14 50 31.9 -0.1
	baz=116					
INK	Inuvik	26.77	355	P	P	14 50 31.6 -0.3
	baz=169					
INK	Inuvik	26.77	355	P	P	14 50 32.6 +0.7
	comp=Z,5.0nm,0.8s,baz=239,slow=1.2,SNR=8.6					
INK				LR	LR	15 00 27.1
	comp=Z,2µm,18.7s,baz=44,slow=35					
	comp=Z,5.0nm,0.8s					
F28M	Old Crow	26.77	349	P	P	14 50 31.4 -0.6
	baz=158,SNR=20					
G26K	Porcupine Rive	26.81	345	P	P	14 50 33.8 +1.5
	baz=151,SNR=15					
M17K	Holitna River	26.82	327	IAmb	IAmb	14 50 45.5
	comp=Z,65nm,1.3s					
M17K				IAMs_20	IAMs_20	14 59 07.3
	comp=Z,6µm,19.0s					
M17K	Holitna River	26.82	327	P	P	14 50 30.8 -1.6
	baz=123,SNR=9.8					
MLY	Manley	26.88	338	IAmb	IAmb	14 50 37.5
	comp=Z,47nm,1.2s					
MLY	Manley	26.88	338	P	P	14 50 34.9 +1.9
	baz=138,SNR=29					
N16K	Nishlik Lake	26.89	325	P	P	14 50 34.4 +1.2
	baz=119					
L18K	Granite Mounta	26.98	329	IAmb	IAmb	14 50 38.6
	comp=Z,83nm,1.6s					
L18K				IAMs_20	IAMs_20	14 58 55.6
	comp=Z,5µm,21.0s					
L18K	Granite Mounta	26.98	329	P	P	14 50 34.4 +0.5
	baz=125,SNR=18					
JFWS	Jewell Farm	27.02	75	IAMs_20	IAMs_20	15 01 41.2
	comp=Z,6µm,19.0s					
JFWS	Jewell Farm	27.02	75	P	P	14 50 32.5 -2.1
	baz=280,SNR=6.4					
G25K	Bearman Lake	27.12	343	P	P	14 50 36.6 +1.5
	baz=147,SNR=22					
MIAR	Mount Ida	27.12	95	IAMs_20	IAMs_20	15 01 43.6
	comp=Z,6µm,20.0s					
MIAR	Mount Ida	27.12	95	P	P	14 50 35.4 -0.1
	baz=296					
FALS	False Pass	27.16	311	P	P	14 50 34.4 -1.2
	baz=103					
H23K	Yukon River	27.16	340	IAmb	IAmb	14 50 49.8
	comp=Z,65nm,1.5s					
H23K	Yukon River	27.16	340	P	P	14 50 37.7 +2.1
	baz=141,SNR=26					
M16K	Timber Creek	27.25	326	IAmb	IAmb	14 50 50.9
	comp=Z,93nm,1.6s					
M16K				IAMs_20	IAMs_20	14 58 49.7
	comp=Z,4µm,22.0s					
M16K	Timber Creek	27.25	326	P	P	14 50 36.6 +0.2
	baz=120					
E29M	Blow River	27.25	351	P	P	14 50 36.6 +0.3
	baz=162					
J20K	Nowinta River	27.31	334	IAmb	IAmb	14 50 50.6
	comp=Z,104nm,1.8s					
J20K				IAMs_20	IAMs_20	14 59 20.1
	comp=Z,5µm,19.0s					
J20K	Nowinta River	27.31	334	P	P	14 50 36.3 -0.5
	baz=132,SNR=18					
N15K	Kwethluk River	27.33	323	IAmb	IAmb	14 50 51.2
	comp=Z,120nm,1.7s					
N15K				IAMs_20	IAMs_20	14 59 19.8
	comp=Z,4µm,19.0s					
N15K	Kwethluk River	27.33	323	P	P	14 50 36.7 -0.4
	baz=117					
G24K	Hadweenzic Riv	27.37	342	IAmb	IAmb	14 50 42.3
	comp=Z,45nm,1.1s					
G24K	Hadweenzic Riv	27.37	342	P	P	14 50 36.8 -0.6
	baz=145,SNR=40					
BMAR	Burnt Mountain	27.39	345	P	P	14 50 39.2 +1.6
O14K	Tigyukauivet M	27.46	321	IAMs_20	IAMs_20	14 59 05.5
	comp=Z,4µm,21.0s					
O14K	Tigyukauivet M	27.46	321	P	P	14 50 38.5 +0.3
	baz=114					
CCM	Cathedral Cave	27.53	86	P	P	14 50 36.9 -2.2
	baz=289					
F26K	Sheenjek River	27.54	346	P	P	14 50 40.6 +1.7
	baz=151,SNR=20					
E27K	Coleen River	27.55	348	IAmb	IAmb	14 50 53.6
	comp=Z,88nm,1.2s					
E27K	Coleen River	27.55	348	P	P	14 50 38.7 -0.3
	baz=156,SNR=43					
L17K	Donlin	27.56	328	P	P	14 50 38.6 -0.5
	baz=123,SNR=11					
C36M	Paulatuk	27.62	2	IAmb	IAmb	14 50 45.2
	comp=Z,38nm,1.2s					
C36M	Paulatuk	27.62	2	P	P	14 50 37.6 -2.0
	baz=184					
NATX	Nacogdoches	27.62	101	IAMs_20	IAMs_20	15 02 31.9
	comp=Z,7µm,18.0s					
NATX	Nacogdoches	27.62	101	P	P	14 50 39.0 -1.0
	baz=301					
E28M	Babbage River	27.65	350	IAmb	IAmb	14 50 53.7
	comp=Z,45nm,1.4s					
E28M	Babbage River	27.65	350	P	P	14 50 41.5 +1.6
	baz=159,SNR=8.0					
FCAR	Ozark Folk Cen	27.65	91	IAMs_20	IAMs_20	15 01 55.7
	comp=Z,8µm,20.0s					
J19K	Poorman	27.68	333	IAmb	IAmb	14 50 53.1
	comp=Z,45nm,1.2s					
J19K				IAMs_20	IAMs_20	14 59 21.0
	comp=Z,5µm,21.0s					
J19K	Poorman	27.68	333	P	P	14 50 42.1 +1.9
	baz=129,SNR=17					
X40A	Basin Creek Fa	27.70	94	IAMs_20	IAMs_20	15 02 29.9
	comp=Z,5µm,18.0s					
H22K	Ishtalitna Cre	27.70	339	P	P	14 50 42.5 +2.1
	baz=138,SNR=34					
HKT	Hockley	27.73	105	P	P	14 50 46.2 +5.3
HKT				pmax	pmax	
	comp=Z,26nm,1.5s					
F25K	Christian Rive	27.73	345	P	P	14 50 42.0 +1.3
	baz=149,SNR=14					
J18K	Innoko River	27.73	331	IAmb	IAmb	14 50 54.5
	comp=Z,96nm,1.6s					
J18K				IAMs_20	IAMs_20	14 59 21.4
	comp=Z,5µm,20.0s					
J18K	Innoko River	27.73	331	P	P	14 50 42.5 +1.8
	baz=127,SNR=17					
WHAR	Wooly Hollow	27.77	92	IAmb	IAmb	14 50 50.7
	comp=Z,63nm,1.2s					
WHAR				IAMs_20	IAMs_20	15 01 58.8
	comp=Z,6µm,21.0s					
L16K	Owhat River	27.81	327	IAmb	IAmb	14 50 54.9
	comp=Z,72nm,1.3s					
L16K				IAMs_20	IAMs_20	14 59 38.6
	comp=Z,4µm,19.0s					
L16K	Owhat River	27.81	327	P	P	14 50 41.8 +0.5
	baz=120,SNR=16					
I42A	Draeger Farm,	27.82	73	IAmb	IAmb	14 50 51.9
	comp=Z,57nm,1.2s					
I42A				IAMs_20	IAMs_20	15 02 03.2
	comp=Z,4µm,20.0s					
M15K	Kasigluk River	27.83	324	P	P	14 50 42.4 +0.9
	baz=117					
I20K	Naaghedeneel	27.83	335	IAMs_20	IAMs_20	14 59 36.9
	comp=Z,4µm,20.0s					
I20K	Naaghedeneel	27.83	335	P	P	14 50 43.3 +1.8
	baz=132,SNR=14					
WLAR	White Oak Lake	27.84	96	IAMs_20	IAMs_20	15 02 41.7
	comp=Z,7µm,20.0s					
K17K	Iditarod	27.88	329	IAMs_20	IAMs_20	14 59 33.4
	comp=Z,5µm,20.0s					
K17K	Iditarod	27.88	329	P	P	14 50 42.5 +0.5
	baz=124,SNR=11					
H21K	Melozitna Rive	27.93	337	IAmb	IAmb	14 51 01.2
	comp=Z,105nm,1.9s					
H21K	Melozitna Rive	27.93	337	P	P	14 50 42.5 +0.1
	baz=136,SNR=22					
N14K	Kuskokwak Cree	27.94	322	P	P	14 50 41.2 -1.3
	baz=115					
UALR	University of	27.94	93	IAMs_20	IAMs_20	15 02 37.4
	comp=Z,7µm,20.0s					
G23K	Bananza Creek	27.98	341	IAmb	IAmb	14 50 47.8
	comp=Z,60nm,1.4s					
G23K	Bananza Creek	27.98	341	P	P	14 50 43.3 +0.4
	baz=141,SNR=32					
SLM	Saint Louis	28.10	84	IAMs_20	IAMs_20	15 02 38.4
	comp=Z,8µm,20.0s					
F24K	Squaw Lake	28.14	343	IAMs_20	IAMs_20	15 00 14.7
	comp=Z,4µm,20.0s					
F24K	Squaw Lake	28.14	343	P	P	14 50 44.6 +0.3
	baz=145,SNR=9.3					
D28M	Stokes Point	28.24	351	P	P	14 50 43.2 -1.9
	baz=161					
HDIL	Hopedale	28.24	80	P	P	14 50 42.7 -2.7
	baz=285					
P43A	Skaggs, Pawnee	28.32	82	IAMs_20	IAMs_20	15 02 16.9
	comp=Z,8µm,20.0s					
M14K	Bethel	28.41	324	IAmb	IAmb	14 50 59.6
	comp=Z,79nm,1.4s					
M14K	Bethel	28.41	324	P	P	14 50 44.8 -2.0
	baz=116					
COLD	Coldfoot	28.43	341	P	P	14 50 46.3 -0.6
	baz=142,SNR=10					
H20K	Anotleneega Mo	28.43	336	P	P	14 50 47.3 +0.4
	baz=133,SNR=17					
IMAR	Indian Mountai	28.44	337	P	P	14 50 46.7 -0.3
D27M	Malcolm River	28.44	350	P	P	14 50 47.9 +0.9
	baz=158,SNR=6.6					
K43A	Burlington	28.45	75	IAMs_20	IAMs_20	15 02 33.9
	comp=Z,6µm,18.0s					
G22K	Bettles	28.52	340	P	P	14 50 47.4 -0.2
	baz=139,SNR=22					
J17K	VABM Dome	28.56	330	IAmb	IAmb	14 51 36.5
	comp=Z,89nm,2.0s					
J17K				IAMs_20	IAMs_20	15 00 05.4
	comp=Z,5µm,20.0s					
J17K	VABM Dome	28.56	330	P	P	14 50 47.0 -1.0
	baz=124					
GCSA	Galena City Sc	28.58	333	P	P	14 50 47.5 -0.7
	baz=129					
PBMO	Poplar Bluff	28.58	88	IAMs_20	IAMs_20	15 02 35.3
	comp=Z,9µm,21.0s					
L15K	Ungalak Mounta	28.63	326	P	P	14 50 47.8 -0.9
	baz=118					
E24K	Your Creek	28.73	343	IAMs_20	IAMs_20	15 00 45.3
	comp=Z,4µm,20.0s					
E24K	Your Creek	28.73	343	P	P	14 50 52.3 +2.8
	baz=145,SNR=17					
CCAR	Cane Creek	28.74	94	IAMs_20	IAMs_20	15 02 44.5
	comp=Z,5µm,22.0s					
UNV	Unalaska Valle	28.74	308	P	P	14 50 56.4 +6.7
UNV	Unalaska Valle	28.74	308	P	P	14 50 48.6 -1.1
	baz=98					
G21K	Allakaket	28.75	338	P	P	14 50 50.0 +0.2
	baz=136					
L44A	Lake County Fo	28.86	76	IAMs_20	IAMs_20	15 02 48.9
	comp=Z,6µm,19.0s					
M13K	Dall Lake	28.90	322	IAMs_20	IAMs_20	15 00 20.6
	comp=Z,3µm,18.0s					
M13K	Dall Lake	28.90	322	P	P	14 50 50.6 -0.4
	baz=113					
Q44A	Meyer Farm, Va	28.92	83	IAMs_20	IAMs_20	15 02 35.9
	comp=Z,6µm,20.0s					
K15K	Wolf Creek Mou	28.94	327	IAMs_20	IAMs_20	15 00 24.7
	comp=Z,5µm,19.0s					
K15K	Wolf Creek Mou	28.94	327	P	P	14 50 51.0 -0.4
	baz=119					
H19K	Roundabout Mou	28.94	335	IAMs_20	IAMs_20	15 00 23.4
	comp=Z,4µm,20.0s					
H19K	Roundabout Mou	28.94	335	P	P	14 50 51.5 +0.1
	baz=130,SNR=23					
E23K	Chandalar	28.96	343	P	P	14 50 52.9 +1.3
	baz=143,SNR=28					
CGM3	Cape Girardeau	28.97	87	IAMs_20	IAMs_20	15 02 45.6
	comp=Z,8µm,21.0s					
L14K	Kuka Creek	28.99	325	IAmb	IAmb	14 51 04.3
	comp=Z,46nm,1.4s					
L14K	Kuka Creek	28.99	325	P	P	14 50 53.0 +1.1
	baz=116,SNR=9.5					
HQIL	Hanson Quary C	28.99	77	IAMs_20	IAMs_20	15 01 33.9
	comp=Z,8µm,20.0s					
J16K	Anvik River	29.07	329	IAmb	IAmb	14 51 05.5
	comp=Z,39nm,1.2s					
J16K				IAMs_20	IAMs_20	15 00 21.1
	comp=Z,4µm,20.0s					
J16K	Anvik River	29.07	329	P	P	14 50 53.0 +0.4
	baz=122,SNR=12					
F22K	John River	29.13	340	P	P	14 50 52.5 -0.6
	baz=139,SNR=7.1					
S44A	Carbondale	29.14	86	IAMs_20	IAMs_20	15 02 51.0
	comp=Z,8µm,20.0s					
C27K	Jago River	29.19	348	P	P	14 50 54.2 +0.7
	baz=154,SNR=17					
441A	DeRidder	29.22	101	IAMs_20	IAMs_20	15 03 21.0
	comp=Z,6µm,20.0s					
F21K	Alatna River	29.26	339	P	P	14 50 53.6 -0.6
	baz=137,SNR=11					
H18K	Honhosa River	29.33	333	IAMs_20	IAMs_20	15 00 34.1
	comp=Z,4µm,20.0s					
H18K	Honhosa River	29.33	333	P	P	14 50 54.5 -0.4
	baz=127					
D25K	Kavik River	29.36	346	IAmb	IAmb	14 51 00.3
	comp=Z,29nm,1.1s					
D25K	Kavik River	29.36	346	P	P	14 50 56.5 +1.3
	baz=150,SNR=22					
TOLK	Toolik Lake Re	29.42	343	IAmb	IAmb	14 51 01.1
	comp=Z,67nm,1.4s					
TOLK				IAMs_20	IAMs_20	15 01 06.7
	comp=Z,4µm,20.0s					
TOLK	Toolik Lake Re	29.42	343	P	P	14 50 54.0 -1.7
	baz=144,SNR=20					
I17K	Unalakleet	29.43	330	IAmb	IAmb	14 51 05.2
	comp=Z,45nm,1.6s					
I17K				IAMs_20	IAMs_20	15 00 34.5
	comp=Z,5µm,20.0s					
I17K	Unalakleet	29.43	330	P	P	14 50 54.8 -0.9
	baz=122,SNR=10.0					
LNXT	Lenox	29.54	89	IAMs_20	IAMs_20	15 03 04.7
	comp=Z,8µm,21.0s					
G19K	Purcell Mounta	29.55	336	IAmb	IAmb	14 51 16.6
	comp=Z,59nm,1.8s					
G19K				IAMs_20	IAMs_20	15 00 52.3
	comp=Z,4µm,19.0s					
G19K	Purcell Mounta	29.55	336	P	P	14 50 56.8 +0.1
	baz=130,SNR=9.9					
143A	Socs Landing,	29.57	96	IAMs_20	IAMs_20	15 03 55.2
	comp=Z,7µm,19.0s					
MET	Memphis--Engin	29.60	91	IAMs_20	IAMs_20	15 03 28.3
	comp=Z,6µm,22.0s					
C26K	Camden Bay	29.64	348	P	P	14 50 58.9 +1.4
	baz=152,SNR=6.3					
OLIL	Olney	29.65	83	IAMs_20	IAMs_20	15 03 08.4
	comp=Z,6µm,19.0s					
D24K	Happy Valley	29.69	344	IAmb	IAmb	14 51 03.1
	comp=Z,38nm,1.4s					
D24K				IAMs_20	IAMs_20	15 01 28.8
	comp=Z,4µm,20.0s					
D24K	Happy Valley	29.69	344	P	P	14 50 59.0 +1.0
	baz=146,SNR=7.0					
I45A	Fountain	29.70	72	IAMs_20

baz=125
F20K Avaraart Lake 29.75 338 IAmb IAmb 14 51 03.2
comp=Z,49nm,1.9s
F20K Avaraart Lake 29.75 338 P **P** **14 50 58.6 +0.1**
baz=134,SNR=8.3
G18K Tagagawik 29.88 334 IAMs_20 IAMs_20 15 00 52.3
comp=Z,4µm,20.0s
G18K Tagagawik 29.88 334 P **P** **14 50 58.4 -1.4**
baz=128
D23K Nanushuk River 29.92 343 P **P** **14 51 01.4 +1.3**
baz=143,SNR=26
G45A Suttons Bay 29.95 70 IAMs_20 IAMs_20 15 03 24.2
comp=Z,7µm,19.0s
J14K Nanvaranak Lak 29.99 327 IAMs_20 IAMs_20 15 00 57.3
comp=Z,4µm,20.0s
J14K Nanvaranak Lak 29.99 327 P **P** **14 50 58.3 -2.3**
baz=117
NIKH Nikolski High 30.04 306 P **P** **14 50 59.1 -2.2**
baz=95
L46A Eue Claire 30.07 76 IAMs_20 IAMs_20 15 03 25.5
comp=Z,5µm,20.0s
K13K Kusilvak Mount 30.09 325 IAMs_20 IAMs_20 15 00 40.6
comp=Z,4µm,21.0s
C24K Franklin Bluff 30.14 345 P **P** **14 50 59.3 -2.6**
baz=146
M11K Mekoryuk 30.20 321 P **P** **14 51 00.5 -2.0**
baz=110
F19K Shaleruckik Mo 30.20 336 IAmb IAmb 14 51 16.0
comp=Z,54nm,1.9s
F19K IAMs_20 IAMs_20 15 01 23.7
comp=Z,4µm,19.0s
F19K Shaleruckik Mo 30.20 336 P **P** **14 51 02.0 -0.6**
baz=130,SNR=5.3
USIN University of 30.23 84 IAMs_20 IAMs_20 15 03 55.5
comp=Z,7µm,19.0s
A36M Sachs Harbour 30.25 1 IAmb IAmb 14 51 07.1
comp=Z,36nm,1.2s
A36M Sachs Harbour 30.25 1 P **P** **14 51 03.7 +0.9**
baz=182,SNR=5.7
E21K Killik River 30.29 341 IAmb IAmb 14 51 29.6
comp=Z,42nm,1.7s
E21K IAMs_20 IAMs_20 15 01 30.7
comp=Z,4µm,20.0s
E21K Killik River 30.29 341 P **P** **14 51 02.6 -0.7**
baz=138,SNR=9.0
D22K Ayikyak River 30.31 342 IAmb IAmb 14 51 18.0
comp=Z,80nm,1.6s
D22K IAMs_20 IAMs_20 15 01 23.2
comp=Z,4µm,22.0s
D22K Ayikyak River 30.31 342 P **P** **14 51 03.5 0.0**
baz=140,SNR=11
G17K Kiwalik Mounta 30.31 333 P **P** **14 51 03.9 +0.4**
baz=125,SNR=8.9
H16K Elim 30.40 331 P **P** **14 51 03.7 -0.6**
baz=121,SNR=6.9
Y45A Yeager Farm, C 30.42 93 IAMs_20 IAMs_20 15 04 04.8
comp=Z,5µm,21.0s
VBMS Vicksburg 30.46 96 IAMs_20 IAMs_20 15 04 12.7
comp=Z,5µm,20.0s
VBMS Vicksburg 30.46 96 P **P** **14 51 02.5 -2.6**
baz=299
E19K Redstone River 30.46 337 P **P** **14 51 03.8 -1.1**
baz=132
C23K Itkillik River 30.61 344 IAmb IAmb 14 51 11.1
comp=Z,56nm,1.2s
C23K IAMs_20 IAMs_20 15 01 59.2
comp=Z,4µm,20.0s
C23K Itkillik River 30.61 344 P **P** **14 51 06.5 +0.3**
baz=144,SNR=17
F18K Selawik 30.64 335 P **P** **14 51 06.1 -0.3**
baz=128,SNR=8.2
E46A Sault Ste Mari 30.70 67 IAmb IAmb 14 51 21.2
comp=Z,36nm,1.2s
GLMI Grayling 30.71 70 IAMs_20 IAMs_20 15 03 57.4
comp=Z,6µm,19.0s
GLMI Grayling 30.71 70 P **P** **14 51 02.8 -4.5**
baz=280
E20K Nigu River 30.72 339 P **P** **14 51 07.0 -0.2**
baz=134
G16K Koyuk River 30.85 332 IAMs_20 IAMs_20 15 01 29.8
comp=Z,4µm,20.0s
G16K Koyuk River 30.85 332 P **P** **14 51 09.1 +0.8**
baz=122
J47A Sunmer 30.86 73 IAMs_20 IAMs_20 15 04 13.4
comp=Z,4µm,21.0s
C21K Knifeblade Rid 31.02 341 P **P** **14 51 12.7 +3.0**
baz=137,SNR=16
PLAL Pickwick Lake 31.04 90 IAMs_20 IAMs_20 15 03 59.2
comp=Z,7µm,21.0s
F17K Baldwin Pennin 31.06 334 IAmb IAmb 14 51 23.7
comp=Z,59nm,1.2s
F17K IAMs_20 IAMs_20 15 01 39.3
comp=Z,4µm,20.0s
F17K Baldwin Pennin 31.06 334 P **P** **14 51 10.5 +0.4**
baz=125
D20K Etivluk River 31.16 340 P **P** **14 51 09.2 -1.8**
baz=134
WCI Wyandotte Cave 31.16 83 IAMs_20 IAMs_20 15 03 55.2
comp=Z,6µm,21.0s
WCI Wyandotte Cave 31.16 83 P **P** **14 51 14.6 +3.3**
baz=290
G15K Niukluk 31.25 330 P **P** **14 51 10.7 -1.1**
baz=120
B21K Ikpikpuk River 31.32 342 IAmb IAmb 14 51 26.5
comp=Z,41nm,1.3s
B21K IAMs_20 IAMs_20 15 02 06.0
comp=Z,4µm,22.0s
B21K Ikpikpuk River 31.32 342 P **P** **14 51 11.4 -1.0**
baz=138,SNR=14
146A Union 31.34 95 IAMs_20 IAMs_20 15 04 14.2
comp=Z,5µm,22.0s
O48B Farmland 31.36 79 P **P** **14 51 11.6 -1.5**
baz=287
D19K Kuna River 31.41 339 P **P** **14 51 12.0 -1.2**
baz=132
E18K Tukpahlearik C 31.44 336 IAMs_20 IAMs_20 15 02 02.7
comp=Z,4µm,19.0s
E18K Tukpahlearik C 31.44 336 P **P** **14 51 12.6 -0.8**
baz=127
L48A N Adams 31.44 75 IAMs_20 IAMs_20 15 04 25.6
comp=Z,5µm,18.0s
ANM Nome 31.54 329 IAmb IAmb 14 51 28.7
comp=Z,69nm,1.6s
ANM IAMs_20 IAMs_20 15 02 27.3
comp=Z,4µm,18.0s
ANM Nome 31.54 329 P **P** **14 51 13.9 -0.5**
baz=117
B22K Teshekpuk Lake 31.60 343 IAMs_20 IAMs_20 15 02 39.3
comp=Z,4µm,20.0s
B22K Teshekpuk Lake 31.60 343 P **P** **14 51 14.4 -0.4**
baz=140
E17K Hotham Inlet 31.62 335 P **P** **14 51 15.5 +0.5**
baz=125
346A Big Creek Wild 31.64 97 IAMs_20 IAMs_20 15 05 12.2
comp=Z,4µm,20.0s
Z47A Carrollton 31.82 93 IAMs_20 IAMs_20 15 04 57.8
comp=Z,5µm,18.0s
F15K North Star Dit 31.83 331 IAmb IAmb 14 51 30.5
comp=Z,31nm,1.2s
F15K IAMs_20 IAMs_20 15 02 09.7
comp=Z,4µm,20.0s
F15K North Star Dit 31.83 331 P **P** **14 51 17.9 +1.0**
baz=120,SNR=8.0
N49A Columbus Grove 31.89 77 IAMs_20 IAMs_20 15 04 22.5
comp=Z,7µm,20.0s
P49A Miami Univ. Ec 31.90 80 IAmb IAmb 14 51 32.1
comp=Z,76nm,1.7s
P49A Miami Univ. Ec 31.90 80 P **P** **14 51 17.9 +0.1**
baz=288
CLTN Cedars of Leba 31.90 87 IAMs_20 IAMs_20 15 04 47.9
comp=Z,7µm,21.0s
AAM Ann Arbor 31.91 74 IAMs_20 IAMs_20 15 04 31.1
comp=Z,3µm,19.0s
X48A Hartselle 32.04 90 IAMs_20 IAMs_20 15 04 29.5
comp=Z,6µm,21.0s
I49A Point Hope 32.14 71 IAMs_20 IAMs_20 15 04 44.2
comp=Z,4µm,21.0s
B20K Meade River 32.21 341 IAmb IAmb 14 51 25.1
comp=Z,58nm,1.6s
B20K IAMs_20 IAMs_20 15 02 54.5
comp=Z,3µm,20.0s
B20K Meade River 32.21 341 P **P** **14 51 20.0 -0.2**
baz=135
C19K Lookout Ridge 32.21 339 IAmb IAmb 14 51 24.9
comp=Z,66nm,1.6s
C19K IAMs_20 IAMs_20 15 02 37.7
comp=Z,3µm,19.0s
C19K Lookout Ridge 32.21 339 P **P** **14 51 18.9 -1.5**
baz=131
F14K Arctic Creek 32.33 330 P **P** **14 51 21.5 +0.3**
baz=118,SNR=5.9
C18K Utukok River 32.37 337 IAmb IAmb 14 51 25.7
comp=Z,30nm,1.4s
C18K IAMs_20 IAMs_20 15 02 56.9
comp=Z,4µm,18.0s
C18K Utukok River 32.37 337 P **P** **14 51 20.8 -0.9**
baz=128
D17K Noatak River 32.37 335 P **P** **14 51 20.8 -0.8**
baz=125
HLK Haleakala 32.41 239 IAMs_20 IAMs_20 14 59 42.4
comp=Z,6µm,22.0s
KHLH Kahului Airpor 32.42 239 IAMs_20 IAMs_20 15 00 31.8
comp=Z,4µm,20.0s
A22K Sinclair Lake 32.44 343 P **P** **14 51 23.3 +1.1**
baz=139
RDOG Red Dog Mine 32.52 336 IAMs_20 IAMs_20 15 02 57.9
comp=Z,4µm,18.0s
RDOG Red Dog Mine 32.52 336 P **P** **14 51 23.7 +0.7**
baz=125
K50A Casco 32.54 73 IAMs_20 IAMs_20 15 05 15.8
comp=Z,5µm,20.0s
M50A Fremont 32.58 76 IAMs_20 IAMs_20 15 05 02.0
comp=Z,4µm,19.0s
HPAH Hawaii Prepara 32.60 237 IAMs_20 IAMs_20 15 00 58.3
comp=Z,3µm,20.0s
JOKA Jonka Flow 32.61 235 IAMs_20 IAMs_20 15 00 07.7
comp=Z,6µm,22.0s
POHA Pohakuloa 32.70 236 IAMs_20 IAMs_20 15 00 60.0
comp=Z,3µm,19.0s
LRAL Lakeview Retre 32.70 92 IAMs_20 IAMs_20 15 05 24.9
comp=Z,6µm,19.0s
LRAL Lakeview Retre 32.70 92 P **P** **14 51 23.7 -1.2**
baz=297
HMH Humu'ula Sheep 32.78 236 IAMs_20 IAMs_20 14 59 53.2
comp=Z,5µm,22.0s
PUH Paahi 32.79 236 IAMs_20 IAMs_20 15 01 32.4
comp=Z,3µm,20.0s
MLH Mauna Loa 32.80 236 IAMs_20 IAMs_20 15 00 45.8
comp=Z,3µm,20.0s
C17K DeLong Mountai 32.85 336 P **P** **14 51 24.9 -0.9**
baz=125
MLOA Mauna Loa Obse 32.89 236 IAMs_20 IAMs_20 15 00 24.1
comp=Z,4µm,20.0s
HLP Hilina Pali 32.90 236 IAMs_20 IAMs_20 15 00 00.4
comp=Z,4µm,21.0s
HUH Hualalai 32.94 237 IAMs_20 IAMs_20 15 00 29.4
comp=Z,4µm,20.0s
MWH Moku'aweowe 32.94 236 IAMs_20 IAMs_20 15 00 37.4
comp=Z,4µm,21.0s
TNA Tin City 32.96 330 P **P** **14 51 26.5 -0.2**
baz=116
ACSO Alum Creek Sta 32.96 78 P **P** **14 51 25.2 -1.9**
baz=287
B18K Kokolik River 32.99 338 P **P** **14 51 26.1 -0.9**
baz=128
A21K Barrow 33.04 343 P **P** **14 51 27.2 -0.2**
baz=137
FPAL Fort Paine 33.07 89 IAmb IAmb 14 51 37.0
comp=Z,30nm,1.1s
KIP Kipapa 33.08 242 IAMs_20 IAMs_20 15 00 51.2
comp=Z,5µm,19.0s
KHU Kahuku 33.13 236 IAMs_20 IAMs_20 15 00 52.5
comp=Z,4µm,20.0s
N51A Ashland 33.20 76 IAMs_20 IAMs_20 15 05 13.3
comp=Z,4µm,20.0s
A19K Wainwright 33.33 340 P **P** **14 51 27.2 -2.8**
baz=130
C16K Lisburne Hills 33.40 335 IAMs_20 IAMs_20 15 03 26.2
comp=Z,4µm,19.0s
C16K Lisburne Hills 33.40 335 P **P** **14 51 31.6 +1.0**
baz=122
CPCT Cooper Cave 33.51 87 IAmb IAmb 14 51 41.2
comp=Z,42nm,1.3s
BRAL Brewton 33.55 95 IAMs_20 IAMs_20 15 05 56.5
comp=Z,5µm,21.0s
BRAL Brewton 33.55 95 P **P** **14 51 30.5 -1.8**
baz=300
250A Grady 33.74 94 IAMs_20 IAMs_20 15 06 09.5
comp=Z,5µm,21.0s
M52A Chesterland 33.76 75 IAMs_20 IAMs_20 15 05 39.2
comp=Z,4µm,19.0s
P52A Corning 33.77 78 P **P** **14 51 33.8 -0.3**
baz=288
GAMB Gambell 33.78 326 P **P** **14 51 34.3 +0.4**
baz=109
TZTN Tazewell 33.80 84 IAMs_20 IAMs_20 15 05 58.2
comp=Z,6µm,21.0s
TKL Tuckaleechee C 33.98 86 LR LR 15 06 23.9
comp=Z,7µm,19.8s,baz=288,slow=38
O53A New Philadelph 34.24 77 IAMs_20 IAMs_20 15 05 45.9
comp=Z,6µm,20.0s
M53A WI Miller and 34.28 75 IAMs_20 IAMs_20 15 06 04.0
comp=Z,4µm,18.0s
N53A Lisbon 34.35 76 IAMs_20 IAMs_20 15 06 08.7
comp=Z,4µm,18.0s
SADO Sadowa 34.55 69 IAmb IAmb 14 51 49.7
comp=Z,39nm,1.2s
SADO Sadowa 34.55 69 LR LR 15 06 24.0
comp=Z,6µm,18.0s,baz=299,slow=37
152A Waverly Hall 34.57 91 IAMs_20 IAMs_20 15 05 59.5
comp=Z,3µm,21.0s
ERPA Erie 34.59 73 IAMs_20 IAMs_20 15 06 29.1
comp=Z,4µm,19.0s
ERPA Erie 34.59 73 P **P** **14 51 40.0 -1.3**
baz=286
ALLY Alegheny Colle 34.61 74 IAMs_20 IAMs_20 15 06 13.5
comp=Z,5µm,18.0s
O54A Avella 34.87 77 IAMs_20 IAMs_20 15 06 05.6
comp=Z,5µm,22.0s
352A Blakely 34.98 93 IAMs_20 IAMs_20 15 06 48.4
comp=Z,4µm,20.0s
VLDQ Val d'Or 35.09 62 IAmb IAmb 14 51 52.5
comp=Z,64nm,1.2s
VLDQ IAMs_20 IAMs_20 15 05 54.7
comp=Z,5µm,21.0s
GOGA Godfrey 35.17 89 P **P** **14 51 45.3 -1.0**
baz=297
MCWV Mont Chateau 35.43 77 P **P** **14 51 48.2 -0.4**
baz=289
WVNY West Valley, N 35.50 72 IAmb IAmb 14 51 58.3
comp=Z,47nm,1.2s
WVNY IAMs_20 IAMs_20 15 07 05.2
comp=Z,4µm,22.0s
M55A Ridgway 35.65 74 IAMs_20 IAMs_20 15 06 55.2
comp=Z,5µm,18.0s
154A Montrose 35.80 90 IAMs_20 IAMs_20 15 07 11.1
comp=Z,6µm,22.0s
V55A Taylorsville 35.81 84 IAMs_20 IAMs_20 15 06 42.3
comp=Z,5µm,20.0s
553A Crawfordville 35.99 95 IAMs_20 IAMs_20 15 07 53.2
comp=Z,6µm,20.0s
TIGA Tifton 35.99 92 IAMs_20 IAMs_20 15 08 12.3
comp=Z,3µm,19.0s
TIGA Tifton 35.99 92 P **P** **14 51 52.6 -0.9**
baz=299
RES Resolute Bay 36.02 14 P **P** **14 51 53.9 +0.8**
RES IAmb IAmb 14 52 06.4
comp=Z,79nm,1.9s
RES Resolute Bay 36.02 14 LR LR 15 06 20.1
comp=Z,633nm,18.7s,baz=224,slow=36
RES Resolute Bay 36.02 14 P **P** **14 51 53.9 +0.8**
RES pmax pmax
comp=Z,79nm,1.9s
RES MLR MLR
comp=Z,800nm,20.0s
PECO Prince Edward 36.24 69 IAMs_20 IAMs_20 15 07 13.7
comp=Z,5µm,20.0s
L56A Greenwood 36.32 73 IAMs_20 IAMs_20 15 07 16.9
comp=Z,4µm,18.0s
JSC Jenkinsville 36.43 87 IAmb IAmb 14 52 29.5
comp=Z,34nm,1.2s
SSPA Standing Stone 36.54 75 IAMs_20 IAMs_20 15 07 25.6
comp=Z,3µm,19.0s
SSPA Standing Stone 36.54 75 P **P** **14 51 57.6 -0.4**
baz=288
P57A Homestead Farm 36.82 77 IAMs_20 IAMs_20 15 07 17.2
comp=Z,5µm,21.0s
M57A Sunshine Farm, 36.87 74 IAMs_20 IAMs_20 15 07 34.3
comp=Z,4µm,18.0s
CMIG Matias Romero 36.91 122 LR LR 15 07 16.0
comp=Z,2µm,19.7s,baz=310,slow=36
N58A Sunbury 37.32 74 IAMs_20 IAMs_20 15 07 57.2
comp=Z,5µm,18.0s
TRQ Mont Tremblant 37.38 65 IAmb IAmb 14 52 18.7
comp=Z,37nm,1.3s
456A Hilliard 37.52 92 IAMs_20 IAMs_20 15 08 15.6
comp=Z,3µm,20.0s
J58A Remsen 37.59 70 IAMs_20 IAMs_20 15 08 17.4
comp=Z,5µm,18.0s
SDMD Soldier's Deli 37.70 77 IAMs_20 IAMs_20 15 07 53.4
comp=Z,3µm,20.0s
KSPA Keystone Colle 37.77 73 IAMs_20 IAMs_20 15 08 02.3
comp=Z,4µm,22.0s
656A Willston 37.82 95 IAMs_20 IAMs_20 15 08 49.7
comp=Z,5µm,20.0s
MVL Millersville 37.85 75 IAMs_20 IAMs_20 15 08 07.5
comp=Z,3µm,20.0s
J59A Piesco 38.10 69 IAMs_20 IAMs_20 15 08 32.8
comp=Z,4µm,18.0s
ACCN Adirondack Com 38.71 69 IAMs_20 IAMs_20 15 08 33.2
comp=Z,4µm,18.0s
ODNJ Ogdensburg 38.75 73 IAMs_20 IAMs_20 15 08 43.2
comp=Z,5µm,20.0s
TRNY Table Rock, Ra 39.00 73 IAMs_20 IAMs_20 15 08 49.9
comp=Z,5µm,22.0s
P61A Hammonton 39.09 75 IAMs_20 IAMs_20 15 09 20.3
comp=Z,2µm,18.0s
TEIG Tepich 39.10 111 LR LR 15 11 19.5
comp=Z,1µm,21.2s,baz=303,slow=41
R61A Willards 39.18 77 IAMs_20 IAMs_20 15 08 50.6
comp=Z,5µm,21.0s
LDAQ Lac Daran 39.21 61 IAMs_20 IAMs_20 15 08 26.5
comp=Z,4µm,20.0s
PAL Palisades 39.27 73 IAMs_20 IAMs_20 15 08 58.1
comp=Z,5µm,22.0s
PAL Palisades 39.27 73 P **P** **14 52 21.3 +0.2**
baz=289
DWPF Disney Wildern 39.31 96 IAMs_20 IAMs_20 15 09 27.1
comp=Z,4µm,21.0s
L61B Northampton 39.68 70 IAMs_20 IAMs_20 15 09 21.9
comp=Z,4µm,19.0s
FRB Frobisher Bay 39.73 36 LR LR 15 09 13.9
comp=Z,5µm,18.9s,baz=264,slow=37
LMQ La Malbaie 39.91 62 IAmb IAmb 14 52 35.1
comp=Z,80nm,1.3s
LMQ IAMs_20 IAMs_20 15 08 57.9
comp=Z,5µm,21.0s
K62A Royalston 39.93 70 IAMs_20 IAMs_20 15 09 12.4
comp=Z,4µm,20.0s
SHEM Shemya Is, Ala 40.35 306 LR LR 15 05 45.8
comp=Z,1µm,20.4s,baz=90,slow=31
HRV Adam Dziewonsk 40.45 70 IAMs_20 IAMs_20 15 09 36.2
comp=Z,4µm,19.0s
F62A Pittston Farm, 40.56 64 IAMs_20 IAMs_20 15 09 21.1
comp=Z,5µm,20.0s
WES Weston 40.66 70 IAMs_20 IAMs_20 15 09 43.7
comp=Z,4µm,19.0s
E62A Clayton Lake 40.67 63 IAmb IAmb 14 52 41.8
comp=Z,48nm,1.2s
E62A IAMs_20 IAMs_20 15 09 31.0
comp=Z,4µm,20.0s
SCHQ Schefferville 40.78 50 IAmb IAmb 14 52 41.5
comp=Z,53nm,1.2s
SCHQ Schefferville 40.78 50 P **P** **14 52 33.5 +0.1**
comp=Z,9.9nm,1.0s,baz=274,slow=7.7,SNR=7.6
SCHQ LR LR 15 09 34.0
comp=Z,3µm,20.7s,baz=278,slow=36
comp=Z,9.9nm,1.0s
061Z Ochoppi 40.94 98 IAMs_20 IAMs_20 15 11 24.3
comp=Z,4µm,20.0s
L64A Middleborough 41.14 70 IAMs_20 IAMs_20 15 10 18.5
comp=Z,4µm,19.0s
F63A Nahmakanta, Br 41.19 64 IAMs_20 IAMs_20 15 09 49.7
comp=Z,4µm,18.0s
APG El Apazote 41.29 119 LR LR 15 09 27.5
comp=Z,176nm,21.7s,baz=92,slow=36
M65A Busby, Falmout 41.40 71 IAMs_20 IAMs_20 15 10 26.4
comp=Z,4µm,19.0s
ICQ Pointe Anglais 41.44 58 P **P** **14 52 39.3 +0.4**
ICQ IAmb IAmb 14 52 48.1
comp=Z,60nm,1.3s
CAMR Camarioca 42.24 102 IAMs_20 IAMs_20 15 11 33.9
comp=Z,2µm,22.0s
G65A Princeton 42.38 65 IAmb IAmb 14 52 56.0
comp=Z,42nm,1.2s
G65A IAMs_20 IAMs_20 15 10 28.1
comp=Z,4µm,21.0s
MTO3 Montecristo 42.46 119 IAMs_20 IAMs_20 15 09 52.0
comp=Z,3µm,20.0s
BATG Bathurst New B 42.78 61 P **P** **14 52 48.7 -1.2**
BATG IAmb IAmb 14 52 58.7
comp=Z,56nm,1.2s
MIDW Midway 42.86 268 IAMs_20 IAMs_20 15 05 04.4
comp=Z,4µm,22.0s
BILL Bilibino 43.40 330 P **P** **14 52 55.0 +0.4**
BILL IAMs_20 IAMs_20 15 09 51.8
comp=Z,2µm,18.0s
BILL Bilibino 43.40 330 *i* P **P** **14 52 54.7 +0.1**
BILL *i* 14 53 04.6
BILL *i* 14 54 42.1
BILL pmax pmax
comp=Z,30nm,1.5s
BILL MLR MLR
comp=Z,3µm,17.0s
LMN Caledonia Moun 44.02 63 P **P** **14 53 00.2 +0.2**
LMN IAmb IAmb 14 53 09.3
comp=Z,72nm,1.2s
TGUH Tegucigalpa,Un 44.09 117 IAMs_20 IAMs_20 15 12 47.0
comp=Z,2µm,20.0s
JOHN Johnston Islan 44.14 249 IAMs_20 IAMs_20 15 06 57.3
comp=Z,4µm,21.0s
KULLO Kullorsuaq 44.81 21 *i* P **P** **14 53 07.5 +1.7**
KULLO IAmb IAmb 14 53 09.7
comp=Z,65nm,1.3s
HAL Halifax 45.23 64 IAmb IAmb 14 53 19.0
comp=Z,51nm,1.1s
HAL IAMs_20 IAMs_20 15 12 15.7
comp=Z,3µm,19.0s
UMMG Uummannaq 46.25 26 *i* P **P** **14 53 18.5 +1.3**
UMMG IAmb IAmb 14 53 21.3
comp=Z,86nm,1.6s
BOAB BOACO BROADBAN 46.32 117 IAMs_20 IAMs_20 15 13 59.3
comp=Z,3µm,21.0s
NEEM North Greenlan 46.52 17 *i* P **P** **14 53 20.5 +0.8**
NEEM IAmb IAmb 14 53 22.2
comp=Z,30nm,1.0s
SFJD Kangerlussuaq 47.14 31 IAMs_20 IAMs_20 15 13 26.3
comp=Z,3µm,18.0s
SFJD Kangerlussuaq 47.14 31 LR LR 15 13 36.6
comp=Z,3µm,18.6s,baz=279,slow=37
ESPN Las Esperanzas 47.42 116 IAMs_20 IAMs_20 15 15 39.4
comp=Z,2µm,20.0s
DRLN Deer Lake 47.65 56 IAMs_20 IAMs_20 15 13 28.7
comp=Z,2µm,21.0s
CHIV Chivirico 47.77 101 P **P** **14 53 29.0 -0.8**
CHIV IAmb IAmb 14 53 44.0
comp=Z,107nm,1.5s
CHIV IAMs_20 IAMs_20 15 16 14.3
comp=Z,3µm,21.0s
JTS Las Juntas de 48.38 118 LR LR 15 14 40.2
comp=Z,617nm,21.4s,baz=320,slow=37
GTBY Guantanamo Bay 48.76 100 IAMs_20 IAMs_20 15 16 24.4
comp=Z,1µm,18.0s
PET Petropavlovsk 49.37 310 P **P** **14 53 42.5 +0.8**
PET IAmb IAmb 14 53 54.3
comp=Z,45nm,1.3s
PET Petropavlovsk 49.37 310 *eP* **P** **14 53 43.0 +1.3**
PET *eS* **S** **15 00 50.3 +2.3**
PET pmax pmax
comp=Z,30nm,1.1s
PET pmax pmax
comp=Z,400nm,10.9s
PET pmax pmax
comp=Z,300nm,13.2s
BBSR BB Station 49.60 80 IAMs_20 IAMs_20 15 14 51.3
comp=Z,3µm,20.0s
SEY Seymchan 49.72 324 LR LR 15 13 09.0
comp=Z,2µm,20.3s,baz=94,slow=34
SEY Seymchan 49.72 324 *d i* P **P** **14 53 44.2 -0.1**
SEY pmax pmax
comp=Z,37nm,1.6s
SUMG Summit 50.26 23 P **P** **14 53 49.0 +0.3**
SUMG Summit 50.26 23 P **P** **14 53 49.0 +0.3**
SUMG pmax pmax
comp=Z,71nm,1.2s
SUMG Summit 50.26 23 *i* P **P** **14 53 49.0 +0.3**
SUMG IAmb IAmb 14 53 52.5
comp=Z,57nm,1.1s
NRS Narsarsuaq 50.63 38 *i* P P 14 53 42.4 -8.7
GRTK Grand Turk 50.73 96 IAMs_20 IAMs_20 15 17 10.8
comp=Z,2µm,20.0s
ICESG Greenland Ices 50.75 28 *i* P **P** **14 53 53.5 +1.1**
ICESG IAmb IAmb 14 54 00.3
comp=Z,73nm,1.2s

MA2 Magadan 51.45 320 P **P** **14 53 56.4 -1.0**
MA2 Magadan 51.45 320 LR LR 15 12 39.2
comp=Z,1μm,21.9s,baz=77,slow=32
MA2 Magadan 51.45 320 *de*P **P** **14 53 58.0 +0.7**
MA2 pmax pmax
comp=Z,22nm,1.3s
NOR Nord 51.75 10 *i* P **P** **14 53 58.4 -0.9**
NOR IAmb IAmb 14 54 03.3
comp=Z,183nm,2.4s
SDDR Presa de Saban 52.16 98 IAMs_20 IAMs_20 15 16 49.6
comp=Z,3μm,22.0s
ANGG Ammassalik, Gr 52.55 32 IAMs_20 IAMs_20 15 16 40.4
comp=Z,2μm,18.0s
DAG Danmarks Havn 53.67 16 *i* P **P** **14 54 13.3 -0.2**
DBG Daneborg 54.50 19 *i* P **P** **14 54 21.2 +1.6**
DBG IAmb IAmb 14 54 28.2
comp=Z,40nm,1.1s
TIXI Tiksi 55.09 338 P **P** **14 54 23.8 -0.1**
TIXI IAmb IAmb 14 54 36.2
comp=Z,21nm,1.2s
TIXI Tiksi 55.09 338 IAMs_20 IAMs_20 15 17 59.3
comp=Z,1μm,20.0s
TIXI Tiksi 55.09 338 LR LR 15 18 09.9
comp=Z,1μm,20.7s,baz=93,slow=36
TIXI Tiksi 55.09 338⇓ *eP* **P** **14 54 23.6 -0.3**
TIXI pmax pmax
comp=Z,22nm,1.4s
SCO Scoresbysund 55.90 23 *i* P **P** **14 54 26.3 -3.5**
SCO IAmb IAmb 14 54 32.8
comp=Z,21nm,1.0s
SJG San Juan 56.51 95 LR LR 15 23 14.3
comp=Z,624nm,18.0s,baz=284,slow=41
HATO Hato, Curacao 58.25 103 IAMs_20 IAMs_20 15 20 47.0
comp=Z,1μm,21.0s
SMRT St. Maarten 58.84 93 IAMs_20 IAMs_20 15 21 14.6
comp=Z,1μm,21.0s
BORG Borgarnes 59.09 29 IAMs_20 IAMs_20 15 20 07.2
comp=Z,2μm,19.0s
BORG Borgarnes 59.09 29 LR LR 15 20 18.7
comp=Z,2μm,19.8s,baz=297,slow=36
SDV Santo Domingo 59.26 107 LR LR 15 24 25.7
comp=Z,663nm,19.5s,baz=332,slow=40
SEUS St. Eustatius 59.26 94 IAMs_20 IAMs_20 15 21 55.6
comp=Z,1μm,21.0s
TYV Tymovskoe 59.27 313 *eP* **P** **14 54 55.1 +1.3**
TYV *eS* **S** **15 03 06.3 +4.7**
TYV pmax pmax
comp=Z,100nm,4.1s
TYV pmax pmax
comp=Z,10.0nm,1.4s
TYV smax smax
comp=N,100nm,7.0s
TYV smax smax
comp=E,200nm,7.0s
JMIC Jan Mayen 59.27 20 LR LR 15 20 53.0
comp=E,454nm,18.8s,baz=306,slow=36
H11N3 WAKE ISLAND Hy 59.47 270 T T 15 59 23.9
baz=52,slow=75
H11N2 WAKE ISLAND Hy 59.47 270 T T 15 59 17.5
baz=52,slow=75,SNR=53
H11N1 WAKE ISLAND Hy 59.49 270 T T 15 59 22.8
baz=52,slow=75,SNR=94
ROSC El Rosal 59.51 113 P **P** **14 54 58.5 +2.1**
comp=E,12nm,0.3s,baz=11,slow=12,SNR=8.5
ROSC LR LR 15 24 03.9
comp=E,633nm,20.2s,baz=351,slow=40
comp=E,12nm,0.3s
YAK Yakutsk 59.69 328 P **P** **14 54 55.8 -0.7**
YAK IAmb IAmb 14 55 03.6
comp=Z,22nm,0.9s
YAK Yakutsk 59.69 328 IAMs_20 IAMs_20 15 19 42.3
comp=Z,2μm,20.0s
YAK Yakutsk 59.69 328 LR LR 15 19 59.8
comp=Z,2μm,19.4s,baz=52,slow=35
YAK Yakutsk 59.69 328 *eP* **P** **14 54 56.4 -0.1**
YAK *e**PP **sP** **14 55 00.9 +0.5**
YAK *eS* **S** **15 03 11.0 +4.3**
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK smax smax
comp=E,393nm,14.6s
YAK smax smax
comp=N,240nm,12.1s
H11S1 WAKE ISLAND Hy 60.37 269 T T 16 00 28.6
baz=52,slow=75,SNR=1267
H11S2 WAKE ISLAND Hy 60.37 269 T T 16 00 22.8
baz=52,slow=75,SNR=1681
H11S3 WAKE ISLAND Hy 60.38 269 T T 16 00 36.9
baz=52,slow=75
GDHS Morne Mazeau, 60.93 94 IAMs_20 IAMs_20 15 22 18.5
comp=Z,2μm,21.0s
ABD La Joyeuse, An 61.01 94 IAMs_20 IAMs_20 15 23 36.9
comp=Z,1μm,22.0s
BAUV El Baul 61.08 105 P **P** **14 55 06.1 -0.6**
CBE Ff, Capester 61.17 94 IAMs_20 IAMs_20 15 23 11.2
comp=Z,2μm,21.0s
YSS Yuzh-Sakhalins 61.20 309 P **P** **14 55 08.2 +1.1**
YSS Yuzh-Sakhalins 61.20 309 P **P** **14 55 07.5 +0.4**
YSS IAmb IAmb 14 55 15.0
comp=Z,16nm,1.2s
YSS Yuzh-Sakhalins 61.20 309 *eP* **P** **14 55 07.5 +0.4**
YSS *e* 14 57 24.6
YSS *eS* **S** **15 03 25.9 -0.6**
YSS *ePS* **PnS** **15 03 33.3 -6.7**
YSS *ePPS* PPS 15 03 54.3
YSS *eSS* **SS** **15 07 28.0 +2.1**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS pmax pmax
comp=Z,300nm,6.4s
YSS pmax pmax
comp=N,100nm,4.7s
YSS pmax pmax
comp=E,100nm,5.9s
YSS MLR MLR
comp=N,200nm,15.0s
YSS MLR MLR
comp=E,200nm,16.0s
GDSD La Dsirade Is 61.42 93 IAMs_20 IAMs_20 15 21 04.9
comp=Z,2μm,22.0s
MAGL Barre de l'ile 61.49 94 IAMs_20 IAMs_20 15 23 19.7
comp=Z,1μm,20.0s
SVN Savane Anatole 62.27 95 IAMs_20 IAMs_20 15 24 28.2
comp=Z,1μm,20.0s
FDF Fort de France 62.35 95 IAMs_20 IAMs_20 15 25 01.3
comp=Z,1μm,20.0s
ILAM Ilet Lapin Mar 62.53 95 IAMs_20 IAMs_20 15 20 48.0
comp=Z,1μm,21.0s
BIM Bigot 62.55 95 IAMs_20 IAMs_20 15 23 37.6
comp=Z,2μm,21.0s
PPT Papeete 62.69 204 LR LR 15 16 07.7
comp=Z,677nm,20.1s,baz=357,slow=30
GRNR Gornyy 62.69 315⇓ *iP* **P** **14 55 17.3 +0.2**
GRNR pmax pmax
comp=Z,4.0nm,1.0s
PPT2 Papeete2 62.71 204 *eS* **S** **15 03 46.0 -0.1**
comp=Z,2μm,27.2s
PPT2 *eSS* **SS** **15 07 49.4 -1.8**
comp=Z,189nm,29.2s
PPT2 *eLQ* LQ 15 11 11.5
comp=Z,1μm,37.5s
PPT2 *eLR* LR 15 13 48.1
comp=Z,2μm,28.0s
PPT2 *eLR* LR 15 13 53.7
comp=Z,2μm,26.2s
PCRV Puerto La Cruz 62.73 101 LR LR 15 23 50.6
comp=Z,2μm,21.6s,slow=37
MPOM Morne Pois Mar 62.76 95 IAMs_20 IAMs_20 15 24 50.8
comp=Z,1μm,20.0s
JKA Kamikawa-asahi 62.81 306 IAmb IAmb 14 55 30.4
comp=Z,16nm,1.1s
ASAJ Asahikawa 62.81 306 LR LR 15 17 44.2
comp=Z,504nm,21.5s,baz=82,slow=31
ZEA Zeya 65.55 321 *eP* **P** **14 55 34.6 -1.2**
ZEA pmax pmax
comp=Z,100nm,3.2s
ZEA pmax pmax
comp=Z,10.0nm,1.3s
JTM Tenmabayashi 65.60 304 P **P** **14 55 38.1 +1.8**
ATAH Atahualpa 65.88 125 P **P** **14 55 41.0 +2.1**
comp=Z,6.2nm,0.7s,baz=337,slow=15,SNR=2.1
comp=Z,6.2nm,0.7s
KLR Kul'dur 66.04 315 LR LR 15 22 01.2
comp=Z,671nm,20.7s,baz=51,slow=34
KLR Kul'dur 66.04 315⇓ *eP* **P** **14 55 38.6 -0.5**
KLR pmax pmax
comp=Z,13nm,1.4s
NRIK Noril'sk 66.25 347 P **P** **14 55 40.3 +0.3**
comp=Z,15nm,1.0s,baz=24,slow=5.1,SNR=14
NRIK LR LR 15 25 26.0
comp=Z,754nm,21.2s,baz=54,slow=37
comp=Z,15nm,1.0s
NRIK Noril'sk 66.25 347 *d iP* **P** **14 55 40.0 0.0**
NRIK pmax pmax
comp=Z,30nm,1.2s
KEV Kevo 67.10 10 P **P** **14 55 45.7 +0.3**
KEV Kevo 67.10 10 P **P** **14 55 45.7 +0.3**
KEV pmax pmax
comp=Z,34nm,1.2s
KEV MLR MLR
comp=Z,600nm,19.0s
ARCES ARCESS Array B 67.11 10 P **P** **14 55 46.3 +0.7**
comp=Z,4.2nm,0.9s,baz=347,slow=7.4,SNR=4.3
comp=Z,4.2nm,0.9s
HEH HeiHe 67.64 318 *eP* **P** **14 55 48.8 -0.4**
HEH pP **pwP** **14 55 54.5 -1.4**
HEH S **S** **15 04 42.3 -3.7**
HEH SS **SS** **15 08 59.8 -6.1**
HEH pmax pmax
comp=Z,13nm,1.2s
HEH pmax pmax
comp=Z,320nm,9.0s
HEH LR LR
comp=Z,720nm,19.4s
HEH LR LR
comp=Z,480nm,20.2s
HEH LR LR
comp=Z,1μm,24.1s
TBI Tubuai 68.11 202 *eS* **S** **15 04 55.2 +3.3**
comp=Z,5μm,28.8s
TBI *e*SS **SS** **15 09 13.7 -1.4**
comp=Z,593nm,28.2s
TBI *e*LQ LQ 15 13 20.0
comp=Z,4μm,43.5s
TBI *e*LR LR 15 16 22.4
comp=Z,2μm,27.0s
TBI *e*LR LR 15 16 25.9
comp=Z,7μm,25.8s
USA0B Ussuriysk Arra 68.97 311 *d iP* **P** **14 55 57.6 -0.1**
USRK Ussuriysk Ar. 68.97 311 P **P** **14 55 58.3 +0.7**
comp=Z,6.6nm,0.9s,baz=48,slow=5.7,SNR=13
comp=Z,6.6nm,0.9s
JSD Sado 68.98 303 IAMs_20 IAMs_20 15 26 52.1
comp=Z,1μm,19.0s
AFI Afiamalu 69.13 227 IAMs_20 IAMs_20 15 18 18.4
comp=Z,1μm,20.0s
RAR Rarotonga 69.69 213 LR LR 15 20 04.2
comp=Z,804nm,19.7s,baz=5.0,slow=30
LVZ Lovozero 69.72 7 P **P** **14 56 01.1 -0.9**
LVZ Lovozero 69.72 7 *d iP* **P** **14 56 02.3 +0.4**
LVZ pmax pmax
comp=Z,49nm,1.4s
APA Apatity 69.91 8⇓ *iP* **P** **14 56 00.4 -2.7**
APA pmax pmax
comp=Z,5.0nm,1.0s
APA MLR MLR
comp=Z,500nm,16.0s
MJAR Matsushiro Arr 69.91 301 P **P** **14 56 04.1 +0.5**
comp=Z,1.6nm,0.7s,baz=32,slow=6.2,SNR=6.1
comp=Z,1.6nm,0.7s
MAJO Matsushiro 69.92 301 P **P** **14 56 03.5 -0.1**
MAJO Matsushiro 69.92 301 P **P** **14 56 02.6 -1.0**
MAJO IAmb IAmb 14 56 06.3
comp=Z,17nm,1.2s
MAJO Matsushiro 69.92 301 IAMs_20 IAMs_20 15 23 43.0
comp=Z,889nm,20.0s
MAJO Matsushiro 69.92 301 P **P** **14 56 02.6 -1.0**
MAJO pmax pmax
comp=Z,17nm,1.3s
MJB9 Matsu-Tunnel 69.92 301 IAmb IAmb 14 56 07.6
comp=Z,17nm,1.2s
MDJ Mudanjiang 70.05 312 P **P** **14 56 04.0 -0.3**
MDJ pP pP 14 56 06.3 -0.6
MDJ S **S** **15 05 12.1 -2.7**
MDJ SS **SS** **15 09 39.3 -4.1**
MDJ pmax pmax
comp=Z,6.0nm,1.3s
MDJ pmax pmax
comp=Z,220nm,11.7s
MDJ LR LR
comp=Z,500nm,19.2s
MDJ LR LR
comp=Z,650nm,22.7s
MDJ LR LR
comp=Z,2μm,24.4s
MDJ Mudanjiang 70.05 312 IAMs_20 IAMs_20 15 23 55.8
comp=Z,880nm,20.0s
MSHR Mys Shultsa 70.46 310⇑ *iP* **P** **14 56 07.3 +0.5**
MSHR pmax pmax
comp=Z,18nm,1.4s
BNX BinXian 70.52 314⇑ P **P** **14 56 07.9 +0.7**
BNX pP **pP** **14 56 09.0 -0.8**
BNX sP **sP** **14 56 11.0 -0.1**
BNX PP **PP** **14 58 43.3 +0.5**
BNX S **S** **15 05 23.3 +3.1**
BNX sS **sS** **15 05 25.9 +1.3**
BNX pmax pmax
comp=Z,12nm,0.5s
BNX pmax pmax
comp=Z,300nm,7.6s
BNX LR LR
comp=Z,450nm,25.0s
BNX LR LR
comp=Z,400nm,23.5s
BNX LR LR
comp=Z,910nm,28.0s
RPN Rapa Nui 70.53 163 LR LR 15 21 02.9
comp=Z,104nm,20.3s,baz=327,slow=31
PSTR Posyet 70.62 310 *d iP* **P** **14 56 07.7 -0.1**
NNA Nana 70.64 127 LR LR 15 24 33.6
comp=Z,193nm,21.7s,baz=331,slow=34
JHJ Hachijo jima 2 70.98 298 LR LR 15 25 01.7
comp=Z,594nm,18.5s,baz=67,slow=34
BOAV Boa Vista 70.98 104 IAmb IAmb 14 56 19.3
comp=Z,18nm,1.1s
BOAV IAMs_20 IAMs_20 15 30 30.2
comp=Z,1μm,20.0s
NC303 NORSAR Array S 71.86 20 IAmb IAmb 14 56 17.3
comp=Z,32nm,1.2s
NB2 NORSAR Subarra 71.98 20 P **P** **14 56 16.2 +0.4**
comp=Z,87nm,2.0s,baz=328,slow=5.9
NB2 NORSAR Subarra 71.98 20 P **P** **14 56 16.2 +0.4**
baz=328,slow=5.9
NOA NORSAR Array B 71.98 20 P **P** **14 56 16.6 +0.8**
comp=Z,6.3nm,1.0s,baz=330,slow=5.7,SNR=7.7
NOA LR LR 15 27 30.5
comp=Z,330nm,21.3s,baz=335,slow=36
comp=Z,6.3nm,1.0s
HIA Hailar 72.03 321 P **P** **14 56 16.6 +0.3**
HIA Hailar 72.03 321 *d iP* **P** **14 56 15.9 -0.4**
HIA pmax pmax
comp=Z,14nm,1.4s
NAO01 NORSAR Array S 72.06 20 IAmb IAmb 14 56 18.5
comp=Z,34nm,1.2s
ESK Eskdalemuir 72.08 30 IAMs_20 IAMs_20 15 27 55.7
comp=Z,1μm,18.0s
EKA Eskdalemuir Ar 72.08 30 P **P** **14 56 17.3 +0.9**
comp=Z,4.2nm,1.1s,baz=323,slow=6.4,SNR=5.3
comp=Z,4.2nm,1.1s
KONO Kongsberg 72.74 21⇑ *eP* **P** **14 56 22.6 +2.4**
KONO pmax pmax
comp=Z,17nm,1.1s
KONO MLR MLR
comp=Z,633nm,19.0s
CN2 Changchun 72.85 314 *eP* **P** **14 56 21.6 +0.4**
CN2 *eS* **S** **15 05 45.1 -2.0**
CN2 pmax pmax
comp=Z,10.0nm,1.5s
CN2 LR LR
comp=Z,140nm,17.0s
CN2 LR LR
comp=Z,190nm,17.0s
JCJ Chichijima 73.06 291 LR LR 15 28 30.1
comp=Z,375nm,18.1s,baz=54,slow=36
HFS Hagfors 73.39 19 P **P** **14 56 24.8 +0.7**
comp=Z,19nm,1.0s,baz=343,slow=4.5,SNR=18
HFS LR LR 15 28 27.0
comp=Z,693nm,20.8s,baz=320,slow=36
comp=Z,19nm,1.0s
KEF Keuruu 73.89 13 *eP* **P** **14 56 28.1 +1.1**
ADZR Andozero 73.94 7 *eP* **P** **14 56 27.0 -0.2**
ADZR pmax pmax
comp=Z,13nm,0.4s
JOF Joensuu 74.16 10 *eP* **P** **14 56 29.6 +1.0**
RAF Rauma 74.38 15 *eP* **P** **14 56 30.9 +1.1**
FINES FINESS Array B 74.78 13 P **P** **14 56 32.1 -0.1**
FINES FINESS Array B 74.78 13 P **P** **14 56 32.5 +0.3**
comp=Z,12nm,0.9s,baz=0.0,slow=5.7,SNR=23
FINES LR LR 15 30 35.6
comp=Z,596nm,19.5s,baz=346,slow=37
comp=Z,12nm,0.9s
MDP Montagnes des 74.95 97 LR LR 15 32 43.8
comp=Z,749nm,20.0s,baz=318,slow=38
SNY Shenyang 75.19 313⇑ P **P** **14 56 34.3 -0.6**
SNY S **S** **15 06 09.9 -3.6**
SNY pmax pmax
comp=Z,7.0nm,0.7s
SNY pmax pmax
comp=Z,120nm,4.4s
SNY LR LR
comp=Z,580nm,22.1s
SNY LR LR
comp=Z,290nm,18.4s
SNY LR LR
comp=Z,950nm,22.4s
MUD Monsted U'grnd 75.32 23 *i* P **P** **14 56 34.9 -0.5**
VALR Valaam 75.60 11 *ceP* **P** **14 56 37.6 +0.7**
VALR pmax pmax
comp=Z,37nm,1.2s
MEF Metsahovi 75.63 14 *eP* **P** **14 56 38.1 +1.0**
KSRS Korea Array 75.67 308 P **P** **14 56 38.5 +0.7**
comp=Z,3.0nm,0.9s,baz=58,slow=6.1,SNR=7.6
comp=Z,3.0nm,0.9s
ETMB Extrema 75.69 117 P **P** **14 56 37.7 -0.4**
ETMB IAmb IAmb 14 59 05.7
comp=Z,24nm,0.8s
KSAR Wonju Array Be 75.70 308 P **P** **14 56 37.9 0.0**
KSAR Wonju Array Be 75.70 308 P **P** **14 56 37.9 0.0**
SSRD Sdr. Stenderup 76.28 24 *i* P **P** **14 56 40.9 0.0**
IRK Irkutsk 76.33 330 *eP* **P** **14 56 40.5 -0.8**
IRK pmax pmax
comp=N,112nm,1.4s
ARBE Arbavere 76.65 14 *eP* **P** **14 56 42.6 -0.3**
JNU Nakatsue 76.73 303 IAMs_20 IAMs_20 15 23 56.4
comp=Z,806nm,21.0s
COP Copenhagen 76.92 22 *i* P **P** **14 56 46.8 +2.3**
SAML Samuel 77.09 115 P **P** **14 56 44.8 -1.3**
SAML IAmb IAmb 14 56 49.9
comp=Z,32nm,1.8s
SAML IAMs_20 IAMs_20 15 33 25.4
comp=Z,799nm,22.0s
SAML Samuel 77.09 115 P **P** **14 56 44.8 -1.3**
SAML pmax pmax
comp=Z,31nm,1.8s
SAML MLR MLR
comp=Z,800nm,22.0s
XLT XiLinHaoTe 77.62 319 *eP* **P** **14 56 50.4 +1.6**
XLT pP pwP 14 56 56.1 +0.5
XLT sP PcP 14 56 59.4 +0.4
XLT PcP sP 14 57 04.1 +11
XLT S **S** **15 06 36.8 -3.5**
XLT sS sS 15 06 48.8 +4.1
XLT pmax pmax
comp=Z,22nm,1.2s
XLT pmax pmax
comp=Z,240nm,7.0s
XLT LR LR
comp=Z,50nm,20.4s
XLT LR LR
comp=Z,300nm,20.4s
XLT LR LR
comp=Z,850nm,24.2s
VSU Vasula 77.70 14⇓ *eP* **P** **14 56 48.9 +0.1**
VSU pmax pmax
comp=Z,25nm,1.5s
VSU MLR MLR
comp=Z,426nm,20.0s
BSEG Bad Segeberg 77.81 24 *eP* 14 56 51.0
comp=Z,333nm,2.8s,baz=331,slow=5.3
BSEG *e*L 15 30 49.3
comp=Z,641nm,21.8s
MOY Mondy 77.98 332 *eP* **P** **14 56 51.4 +0.7**
MOY pmax pmax
comp=Z,59nm,2.7s
BSD Bornholm Skovb 78.11 21 *i* P **P** **14 56 50.8 -0.4**
RGN Rugen 78.17 22 IAMs_20 IAMs_20 15 33 13.8
comp=Z,848nm,20.0s
ZAK Zakamensk 78.20 330 *eP* **P** **14 56 52.6 +0.7**
ZAK pmax pmax
comp=Z,12nm,1.9s
DL2 Dalian 78.29 312 P **P** **14 56 53.9 +1.4**
DL2 S **S** **15 06 49.8 +2.3**
DL2 pmax pmax
comp=Z,440nm,8.4s
DL2 LR LR
comp=Z,600nm,15.2s
DL2 LR LR
comp=Z,530nm,20.8s
DL2 LR LR
comp=Z,1μm,18.4s
IBBN Ibbenburen 78.38 26 *eP* 14 56 54.2
comp=Z,276nm,2.3s,baz=331,slow=5.3
LDF La Druitiere 78.50 33 *eP* **P** **14 56 54.0 +0.5**
LDF pmax pmax
comp=Z,38nm,1.6s
RETH Rethem/Aller, 78.54 25 *eP* 14 56 55.4
comp=Z,308nm,2.6s,baz=331,slow=5.3
ULN Ulaanbaatar 78.72 326 IAMs_20 IAMs_20 15 31 07.0
comp=Z,1μm,20.0s
ULN Ulaanbaatar 78.72 326 *d iP* **P** **14 56 55.0 +0.1**
ULN pmax pmax
comp=Z,38nm,2.2s
GORT1 Trebel 78.93 24 *eP* 14 56 57.4
comp=Z,251nm,2.2s,baz=331,slow=5.3
NRDL Niedersach Rie 78.98 25 *eP* 14 56 57.5
comp=Z,58nm,1.6s,baz=331,slow=5.3
BMRD Maredsous 79.00 29 *dP* **P** **14 56 57.7 +1.5**
comp=Z,8.1nm,1.1s
SONM Songino Array 79.01 327 P **P** **14 56 57.0 +0.5**
SONM IAmb IAmb 14 57 00.2
comp=Z,38nm,1.4s
SONM Songino Array 79.01 327 P **P** **14 56 57.5 +1.0**
comp=Z,9.0nm,1.1s,baz=43,slow=4.0,SNR=38
SONM LR LR 15 31 48.3
comp=Z,2μm,19.8s,baz=42,slow=36
comp=Z,9.0nm,1.1s
SONM Songino Array 79.01 327 P **P** **14 56 57.0 +0.5**
SONM pmax pmax
comp=Z,38nm,1.4s
BGES Gesves 79.05 29 *dP* **P** **14 56 58.1 +1.6**
comp=Z,8.5nm,1.3s
BSTI Sart Tilman 79.06 29 *dP* **P** **14 56 58.6 +2.1**
BCLA Clavier 79.10 29 *dP* **P** **14 56 58.1 +1.4**
comp=Z,9.4nm,1.2s
DOU Dourbes 79.11 29 *dP* **P** **14 56 58.2 +1.4**
MEM Membach 79.19 28 *dP* **P** **14 56 59.0 +1.7**
BTNL Ternell 79.26 28 *dP* **P** **14 56 59.6 +1.9**
RCHB Rochefort 79.29 29 *dP* **P** **14 56 58.1 +0.3**
BHOU Houvegnez 79.41 28 *dP* **P** **14 56 59.8 +1.4**
FLTG Flechtingen 79.48 25 *eP* 14 56 59.6
comp=Z,42nm,1.2s,baz=331,slow=5.3
KASTN Kahler Asten 79.53 27 *eP* 14 57 00.5
comp=Z,52nm,2.2s,baz=331,slow=5.3
CLZ Clausthal 79.63 25 *eP* 14 57 01.4
comp=Z,69nm,1.4s,baz=331,slow=5.3
AHRW Bad Neuenahr-A 79.63 28 *eP* 14 57 01.2
comp=Z,32nm,1.3s,baz=331,slow=5.3
GUMO Guam 79.71 279 LR LR 15 24 24.5
comp=Z,1μm,21.8s,baz=66,slow=30
GTTG Gottingen 79.75 26 *eP* 14 57 01.8
comp=Z,180nm,2.4s,baz=331,slow=5.3
KIRV Kirov 79.90 2 *d iP* **P** **14 57 00.7 -0.2**
PABE Paberze 79.93 16 *eP* **P** **14 57 02.1 +1.0**
WLF Walferdange 80.03 29 IAmb IAmb 14 57 06.4
comp=Z,41nm,1.4s
WLF Walferdange 80.03 29 *dP* **P** **14 57 03.8 +2.0**
WLF Walferdange 80.03 29 *eP* 14 57 03.5
comp=Z,44nm,1.4s,baz=331,slow=5.3
PCAB Cabril 80.24 42 *eP* **P** **14 57 04.6 +1.5**
comp=Z,27nm,1.9s
TNS Taunus Mts 80.37 27 *eP* 14 57 05.0
comp=Z,69nm,2.1s,baz=331,slow=5.3
TNS *e*L 15 32 03.5
comp=Z,2μm,21.5s
UBBA Unterbreizbach 80.38 26 *eP* 14 57 05.2
comp=Z,110nm,2.2s,baz=331,slow=5.3

POLO Lamas de Olo 80.60 42 *e*P **P 14 57 06.0 +0.8**
comp=Z,14nm,1.7s
ZAA0 Zalesovo Array 80.76 342 IAmb IAmb 14 57 08.9
comp=Z,30nm,1.4s
ZALV Zalesovo Beam 80.76 342 P **P 14 57 05.3 -0.3**
ZALV Zalesovo Beam 80.76 342 P **P 14 57 06.2 +0.5**
comp=Z,4.8nm,0.9s,baz=18,slow=6.2,SNR=15
comp=Z,4.8nm,0.9s
PBRG Braganca 80.80 41 *e*P **P 14 57 07.0 +0.8**
comp=Z,16nm,1.8s
CLL Collm 80.91 24 IAmb IAmb 14 57 10.5
comp=Z,24nm,1.2s
CLL IAMs_20 IAMs_20 15 34 20.3
comp=Z,860nm,20.0s
CLL Collm 80.91 24⇓ *i*P **P 14 57 07.5 +1.0**
CLL *i* 14 57 17.7
CLL *e*S **S 15 07 08.0 -6.8**
CLL pmax pmax
comp=Z,27nm,1.3s
CLL Collm 80.91 24 P **P 14 57 07.0 +0.5**
comp=Z,17nm,1.3s,comp=Z,399nm
CLL Collm 80.91 24 *e*P 14 57 07.5
comp=Z,276nm,2.9s,baz=331,slow=5.3
CLL *e*L 15 34 10.6
comp=Z,896nm,20.8s
MOX Moxa 81.06 25 *e*P 14 57 08.5
comp=Z,137nm,2.5s,baz=331,slow=5.3
MOX *e*L 15 33 49.6
comp=Z,966nm,20.3s
SUW Suwalki 81.15 17 IAMs_20 IAMs_20 15 33 03.7
comp=Z,702nm,21.0s
SUW Suwalki 81.15 17 *e*P **P 14 57 08.9 +1.2**
COI Coimbra 81.17 43 IAMs_20 IAMs_20 15 28 53.3
comp=Z,1μm,21.0s
SSF Saint Saulge 81.19 32 *e*P **P 14 57 08.8 +0.7**
SSF pmax pmax
comp=Z,55nm,1.7s
PLN Plauen 81.37 25 *e*P 14 57 10.0
comp=Z,20nm,1.2s,baz=331,slow=5.3
MTE Manteigas 81.46 42 IAMs_20 IAMs_20 15 29 03.1
comp=Z,1μm,21.0s
MTE Manteigas 81.46 42 *e*P **P 14 57 11.3 +1.6**
comp=Z,23nm,1.9s
MTE Manteigas 81.46 42 *e*S **S 15 07 23.5 +2.4**
MTE Manteigas 81.46 42 *e*LR LR 15 23 42.0
comp=Z,1μm,22.0s
SVE Sverdlovsk 81.50 356 *e*P **P 14 57 10.2 +0.7**
SVE pmax pmax
comp=Z,30nm,1.1s
TANN Tannenbergstha 81.52 25 *e*P 14 57 11.0
comp=Z,174nm,3.0s,baz=331,slow=5.3
BRG Berggiesshubel 81.58 24⇑ *i*P **P 14 57 11.9 +1.9**
BRG Amp 14 57 14.9
comp=Z,22nm,1.2s
BRG Berggiesshubel 81.58 24 S **SKSac 15 07 29.0 -0.5**
BRG Berggiesshubel 81.58 24⇑ *i*P **P 14 57 11.9 +1.9**
BRG 14 57 22.7
BRG pmax pmax
comp=Z,22nm,1.2s
BRG Berggiesshubel 81.58 24 *e*P 14 57 11.3
comp=Z,324nm,2.7s,baz=331,slow=5.3
ECH Echery 81.61 29 IAMs_20 IAMs_20 15 33 08.8
comp=Z,894nm,20.0s
PMOZ Porto Moniz, M 81.64 53 *e*LR LR 15 23 44.6
comp=Z,866nm,18.0s
HSKC Hora Svate Kat 81.65 24 *e*SKS **SKSac 15 07 27.7 -2.5**
HSKC AMS AMS 15 36 20.0
comp=Z,800nm,17.0s
MNK Minsk 81.66 15 *i* P **P 14 57 08.7 -1.7**
MNK *i* 15 00 16.6
MNK *i* PPP PPP 15 02 06.0
MNK *i* S **S 15 07 22.8 +0.4**
MNK *i* SS **SS 15 12 41.2 +3.1**
MNK *i* SSS SSS 15 16 08.7
MNK pmax pmax
comp=Z,23nm,0.8s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=N,20nm,1.0s
MNK MLR MLR
comp=E,105nm,15.0s
SMF Signal de Mont 81.66 32 *e*P **P 14 57 11.9 +1.3**
SMF pmax pmax
comp=Z,14nm,1.2s
GRA1 Grafenberg Arr 81.75 26 IAMs_20 IAMs_20 15 35 09.5
comp=Z,924nm,19.0s
GRFO Grafenberg 81.75 26 P **P 14 57 12.5 +1.5**
GRFO IAmb IAmb 14 57 15.5
comp=Z,40nm,1.4s
GRFO IAMs_20 IAMs_20 15 35 00.6
comp=Z,955nm,20.0s
GRFO Grafenberg 81.75 26 P **P 14 57 12.5 +1.5**
GRFO pmax pmax
comp=Z,40nm,1.4s
GRFO MLR MLR
comp=Z,1μm,20.0s
GRF Grafenberg Arr 81.75 26 *e*P 14 57 12.8
comp=Z,288nm,2.7s,baz=331,slow=5.3
GRF *e*L 15 35 00.8
comp=Z,882nm,19.4s
LFF La Frestale 81.78 35 *e*P **P 14 57 13.0 +1.8**
LFF pmax pmax
comp=Z,22nm,1.3s
MANZ Manzenberg 81.78 25 *e*P 14 57 12.3
comp=Z,33nm,2.7s,baz=331,slow=5.3
STU Stuttgart 81.86 28 IAMs_20 IAMs_20 15 32 57.4
comp=Z,859nm,20.0s
PCBR Castelo Branco 81.92 43 *e*P **P 14 57 12.4 +0.3**
comp=Z,19nm,2.4s
MOS Moscow 81.92 9 *e*P **P 14 57 10.0 -1.8**
MOS *e* 14 57 21.1
BFO Black Forest 81.93 28 P **P 14 57 12.8 +0.8**
BFO IAmb IAmb 14 57 16.2
comp=Z,20nm,1.2s
BFO IAMs_20 IAMs_20 15 32 13.4
comp=Z,834nm,22.0s
BFO Black Forest 81.93 28 P **P 14 57 12.9 +0.8**
BFO pmax pmax
comp=Z,20nm,1.2s
BFO Black Forest 81.94 28 *e*P 14 57 13.3
comp=Z,229nm,2.8s,baz=331,slow=5.3
BFO *e*L 15 32 12.7
comp=Z,828nm,21.9s
ARU Arti 82.00 357 P **P 14 57 12.2 0.0**
ARU IAmb IAmb 14 57 14.8
comp=Z,36nm,1.3s
ARU Arti 82.00 357 LR LR 15 35 43.6
comp=Z,144nm,20.6s,baz=14,slow=37
ARU Arti 82.00 357 *d i*P **P 14 57 12.0 -0.2**
ARU 15 00 18.2
ARU PPP PPP 15 02 13.6
ARU S **S 15 07 29.5 +3.6**
ARU SS **SS 15 12 40.4 -2.7**
ARU pmax pmax
comp=Z,32nm,1.3s
ARU Arti 82.00 357 P **P 14 57 11.8 -0.4**
comp=Z,22nm,1.1s,comp=Z,484nm
ROTZ Rotzenmuhle 82.01 25 *e*P 14 57 13.8
comp=Z,44nm,2.8s,baz=331,slow=5.3
PVCC Panska Ves 82.07 24 *e*P **P 14 57 12.6 -0.1**
PVCC AMS AMS 15 34 40.0
comp=Z,900nm,21.5s
PVCC Panska Ves 82.07 24 *e*P **P 14 57 12.6 -0.1**
PVCC MLR MLR
comp=Z,900nm,21.5s
PMTG Montargil 82.11 44 *e*P **P 14 57 14.0 +0.9**
comp=Z,20nm,1.7s
HHC Hu-ho-hao-te 82.12 319 *e*P **P 14 57 13.9 +0.6**
HHC pP PcP 14 57 18.0 -0.7
HHC sP pwP 14 57 21.3 +1.2
HHC S **S 15 07 27.8 -0.2**
HHC sS SKKSac 15 07 37.4 +0.3
HHC pmax pmax
comp=Z,28nm,1.2s
HHC pmax pmax
comp=Z,220nm,6.6s
HHC LR LR
comp=Z,370nm,18.2s
HHC LR LR
comp=Z,320nm,17.5s
HHC LR LR
comp=Z,540nm,18.8s
PMRV Marv??o 82.27 43 *e*P **P 14 57 14.4 +0.4**
comp=Z,31nm,2.0s
PMRV Marv??o 82.27 43 *e*S **SKSac 15 07 34.1 -0.6**
PMRV Marv??o 82.27 43 *e*LR LR 15 24 03.4
comp=Z,1μm,22.0s
KSP Ksiaz 82.29 22 *e*P **P 14 57 15.3 +1.5**
KSP Ksiaz 82.29 22 P **P 14 57 15.0 +1.2**
comp=Z,19nm,2.1s,comp=Z,589nm
CAF Calviac 82.34 34 *e*P **P 14 57 14.5 +0.2**
CAF pmax pmax
comp=Z,14nm,1.1s
OBN Obninsk 82.41 9⇓ *e*P **P 14 57 14.4 +0.1**
OBN *e* 15 00 22.3
OBN pmax pmax
comp=Z,29nm,1.0s
OBN MLR MLR
comp=Z,302nm,17.0s
PRA Prague 82.43 24 AMS AMS 15 34 50.0
comp=Z,900nm,21.1s
CHVC Chvalec 82.45 23 AMS AMS 15 37 20.0
comp=Z,700nm,16.3s
UPC Upice 82.51 23 *e*SKS **SKSac 15 07 34.2 -1.7**
UPC AMS AMS 15 37 10.0
comp=Z,700nm,16.0s
OSTC Ostas 82.53 23 AMS AMS 15 35 50.0
comp=Z,600nm,18.9s
PRU Pruhonice 82.54 24 *e*P **P 14 57 16.1 +1.0**
PRU AMS AMS 15 34 50.0
comp=Z,900nm,20.1s
PRU Pruhonice 82.54 24 *e*P **P 14 57 16.1 +1.0**
PRU MLR MLR
comp=Z,900nm,20.1s
PESTR Estremoz 82.59 43 IAmb IAmb 14 57 19.3
comp=Z,31nm,1.3s
PESTR Estremoz 82.59 43 *e*P **P 14 57 16.9 +1.3**
comp=Z,38nm,1.9s
EVO Evora 82.62 44 *e*P **P 14 57 17.1 +1.3**
comp=Z,39nm,1.8s
JOW Kunigami 82.63 299 IAmb IAmb 14 57 19.1
comp=Z,21nm,1.1s
JOW IAMs_20 IAMs_20 15 35 28.6
comp=Z,859nm,19.0s
JOW Kunigami 82.63 299 LR LR 15 31 13.3
comp=Z,286nm,19.0s,baz=83,slow=34
PNCL Nicolau / Gran 82.67 44 *e*P **P 14 57 17.1 +1.1**
comp=Z,38nm,2.2s
GOPC GO Pecny, Ondr 82.68 24 *e*P **P 14 57 16.2 +0.3**
GOPC AMS AMS 15 35 10.0
comp=Z,900nm,19.0s
GOPC GO Pecny, Ondr 82.68 24 *e*P **P 14 57 16.2 +0.3**
GOPC MLR MLR
comp=Z,900nm,19.0s
TIA Tai'an 82.71 313 P P 14 57 09.1 -7.2
TIA Tai'an 82.71 313 S **S 15 07 31.4 -2.5**
TIA pmax pmax
comp=Z,8.0nm,1.2s
TIA pmax pmax
comp=Z,200nm,4.4s
TIA LR LR
comp=N,410nm,17.9s
TIA LR LR
comp=E,290nm,15.9s
TIA LR LR
comp=Z,430nm,25.5s
DPC Dobruska-Polom 82.74 23 *e*P P 14 57 02.5 -14
DPC AMS AMS 15 37 20.0
comp=Z,600nm,16.8s
DPC Dobruska-Polom 82.74 23 P **P 14 57 17.6 +1.3**
comp=Z,20nm,2.4s,comp=Z,564nm
WET Wettzell 82.77 25 *e*P 14 57 17.7
comp=Z,29nm,1.8s,baz=331,slow=5.3
WET *e*L 15 33 35.9
comp=Z,767nm,21.3s
PTEO Sao Teotonio 82.99 45 *e*P **P 14 57 18.9 +1.2**
comp=Z,38nm,1.9s
KHC Kasperske Hory 83.00 25 IAMs_20 IAMs_20 15 36 17.5
comp=Z,1μm,19.0s
KHC Kasperske Hory 83.00 25 *e*P **P 14 57 19.5 +1.9**
KHC *ex* x 15 02 33.0
KHC *e*SKS **S 15 07 42.5 +6.0**
KHC AMS AMS 15 36 00.0
comp=Z,1μm,19.5s
KHC Kasperske Hory 83.00 25⇑ *e*P **P 14 57 17.9 +0.3**
KHC pmax pmax
comp=Z,62nm,1.7s
KHC Kasperske Hory 83.00 25 P **P 14 57 18.9 +1.3**
comp=Z,15nm,2.7s,comp=Z,499nm
MESJ Messejana 83.04 44 IAMs_20 IAMs_20 15 33 02.8
comp=Z,1μm,20.0s
MESJ Messejana 83.04 44 *e*P **P 14 57 19.0 +1.0**
comp=Z,19nm,1.3s
MESJ Messejana 83.04 44 *e*P **P 14 57 18.1 +0.1**
MESJ *e*S **S 15 07 37.8 +0.6**
MESJ IAMs_20 IAMs_20 15 33 16.4
comp=Z,1μm,22.5s
MESJ Messejana 83.04 44 *e*P **P 14 57 18.1 +0.1**
MESJ *e*S **S 15 07 37.8 +0.6**
BTO Baotou 83.06 320 *e*P **P 14 57 18.0 -0.1**
BTO pP **PcP 14 57 22.3 -0.5**
BTO sP **pwP 14 57 24.9 -0.1**
BTO S **S 15 07 37.8 +0.3**
BTO SS **SS 15 12 57.8 -2.2**
BTO pmax pmax
comp=Z,29nm,0.5s
BTO LR LR
comp=Z,2μm,19.4s
BTO LR LR
comp=Z,1μm,15.3s
BTO LR LR
comp=Z,2μm,16.9s
SSB Saint Sauveur 83.06 32 IAMs_20 IAMs_20 15 33 26.3
comp=Z,1μm,19.0s
PBEJ Beja 83.08 44 *e*P **P 14 57 19.7 +1.5**
comp=Z,26nm,1.8s
FUR Furstenfeldbru 83.09 27 *e*L 15 33 36.9
comp=Z,1μm,21.5s
UBR Ueberruh 83.11 28 *e*P 14 57 20.1
comp=Z,111nm,2.1s,baz=331,slow=5.3
KRLC Kraliky 83.12 23 *e*P **P 14 57 18.3 +0.1**
KRLC AMS AMS 15 37 40.0
comp=Z,700nm,15.9s
KRLC Kraliky 83.12 23 *e*P **P 14 57 18.3 +0.1**
KRLC MLR MLR
comp=Z,700nm,15.9s
HNS HongShan 83.13 315⇑ P **P 14 57 19.8 +1.4**
HNS S **S 15 07 39.1 +1.0**
HNS SS **SS 15 13 05.3 +4.2**
HNS pmax pmax
comp=Z,16nm,1.5s
HNS LR LR
comp=Z,690nm,20.1s
HNS LR LR
comp=Z,580nm,20.6s
HNS LR LR
comp=Z,980nm,20.6s
MORF Marmelete 83.21 45 *e*P **P 14 57 20.0 +1.1**
comp=Z,39nm,1.8s
MORF Marmelete 83.21 45 *e*P **P 14 57 19.0 +0.1**
MORF IAMs_20 IAMs_20 15 31 14.7
comp=E,2μm,62.6s
MORF Marmelete 83.21 45 *e*P **P 14 57 19.0 +0.1**
PFVI Vila Bisbo 83.25 45 *e*P **P 14 57 20.8 +1.8**
comp=E,76nm,1.6s
GEC2 GERESS Array S 83.29 25 IAmb IAmb 14 57 23.1
comp=Z,18nm,1.2s
GERES GERESS Array B 83.29 25 P **P 14 57 19.2 +0.1**
GERES GERESS Array B 83.29 25 P **P 14 57 20.1 +1.0**
comp=Z,1.9nm,0.8s,baz=346,slow=4.0,SNR=8.0
GERES LR LR 15 36 17.5
comp=Z,989nm,19.2s,baz=341,slow=37
comp=Z,1.9nm,0.8s
GEC2 GERESS Array S 83.29 25 *e*P 14 57 20.3
baz=331,slow=5.3
PCVE Castro Verde 83.29 44 *e*P **P 14 57 20.2 +0.9**
comp=Z,36nm,1.9s
DAVA Damuels 83.37 28 *i* pP pP 14 57 21.5 -1.1
comp=Z,14nm,1.1s
PBAR Barrancos 83.40 43 *e*P **P 14 57 21.2 +1.4**
comp=Z,40nm,1.7s
TREC Trest 83.44 24 AMS AMS 15 35 50.0
comp=Z,900nm,21.1s
CKRC Cesky Krumlov 83.50 25 *e*P **P 14 57 20.5 +0.3**
CKRC AMS AMS 15 34 00.0
comp=Z,1μm,21.0s
CKRC Cesky Krumlov 83.50 25 *e*P **P 14 57 20.5 +0.3**
CKRC MLR MLR
comp=Z,1μm,21.0s
RETA Reutte 83.50 27 *e*pP pP 14 57 22.0 -1.2
comp=Z,4.7nm,0.9s,SNR=5.9
SIV San Ignacio 83.60 118 P **P 14 57 20.7 -0.3**
comp=Z,1.1nm,0.3s,baz=290,slow=6.6,SNR=10
SIV LR LR 15 36 40.1
comp=Z,336nm,21.3s,baz=322,slow=37
comp=Z,1.1nm,0.3s
MORC Moravsky Berou 83.61 22 IAmb IAmb 14 57 24.8
comp=Z,37nm,1.6s
MORC Moravsky Berou 83.61 22 *e*P **P 14 57 21.8 +1.1**
PVAQ Vaqueiros 83.63 44 IAMs_20 IAMs_20 15 33 29.4
comp=Z,819nm,20.0s
PVAQ Vaqueiros 83.63 44 *e*P **P 14 57 21.3 +0.3**
comp=Z,43nm,1.8s
PVAQ Vaqueiros 83.63 44 *e*LR LR 15 24 33.4
comp=Z,727nm,18.0s
PBDV Barranco-do-Ve 83.64 45 *e*P **P 14 57 22.9 +1.8**
comp=Z,50nm,1.5s
PAB San Pablo 83.70 41 P **P 14 57 21.4 0.0**
PAB San Pablo 83.70 41 P **P 14 57 21.4 0.0**
PAB pmax pmax
comp=Z,43nm,1.6s
OKC Ostrava-Krasne 83.72 22 AMS AMS 15 38 50.0
comp=Z,600nm,16.5s
VRAC Vranov 83.75 23 *e*P **P 14 57 22.9 +1.4**
VRAC Vranov 83.75 23 LR LR 15 35 41.4
comp=Z,626nm,20.2s,baz=324,slow=36
ESBB Sonseca Array 83.79 41 P **P 14 57 21.9 0.0**
ESBB IAmb IAmb 14 57 25.8
comp=Z,25nm,1.4s
ESDC Sonseca Array 83.79 41 P **P 14 57 21.9 0.0**
ESDC IAmb IAmb 14 57 25.9
comp=Z,26nm,1.4s
ESDC Sonseca Array 83.79 41 P **P 14 57 22.4 +0.6**
comp=Z,5.5nm,0.9s,baz=314,slow=4.9,SNR=30
ESDC LR LR 15 32 10.3
comp=Z,1μm,19.0s,baz=312,slow=34
comp=Z,5.5nm,0.9s
DAVOX Davos/Dischmat 83.80 28 LR LR 15 34 19.1
comp=Z,532nm,21.9s,baz=274,slow=35
OJC Ojcow 83.82 21 *e*P **P 14 57 23.1 +1.3**
OJC Ojcow 83.82 21 IAmb IAmb 14 57 24.3
comp=Z,20nm,1.1s
TUE Stuetta 83.88 29 IAMs_20 IAMs_20 15 33 42.8
comp=Z,893nm,20.0s
CEST Esterri de Car 83.88 36 IAmb IAmb 14 57 25.6
comp=Z,35nm,1.2s
CEST IAMs_20 IAMs_20 15 34 11.9
comp=Z,1μm,20.0s
HNR Honiara 83.89 252 LR LR 15 28 54.5
comp=Z,21μm,19.7s,baz=44,slow=32
SQTA Sankt Quirin 83.89 27 *e*pP pP 14 57 24.0 -1.2
comp=Z,18nm,1.0s,SNR=9.4
FETA Feichten 83.89 28 *e*pP pP 14 57 24.2 -1.1
comp=Z,12nm,1.1s,SNR=9.1
WATA Walderalm 83.91 27 *e*pP pP 14 57 23.8 -1.5
comp=Z,24nm,1.5s,SNR=6.7
KRUC Moravsky 83.92 23 *e*P **P 14 57 23.3 +1.0**
RJOB Jochberg 83.97 26 *e*P 14 57 23.9
comp=Z,189nm,2.7s,baz=331,slow=5.3
WTTA Wattenberg 83.99 27 *e*pP pP 14 57 24.5 -1.3
comp=Z,17nm,1.0s,SNR=9.5
FUORN Ofenpass-Fuorn 84.08 28 IAMs_20 IAMs_20 15 36 20.1
comp=Z,618nm,19.0s
SSE Sheshan 84.08 307 P **P 14 57 22.6 -0.8**
SSE S **SKSac 15 07 46.4 -0.4**
SSE pmax pmax
comp=Z,14nm,0.7s
SSE pmax pmax
comp=Z,120nm,5.1s
SSE LR LR
comp=Z,190nm,19.5s
SSE LR LR
comp=Z,120nm,19.7s
RNPP9 Sopachiv 84.18 17 P **P 14 57 24.3 +0.8**
LESA Schwarzleotal 84.20 26 *e*pP pP 14 57 25.1 -1.6
comp=Z,15nm,1.2s
RNPP8 Varash 84.24 17 P **P 14 57 24.6 +0.8**
BIOA Bad Ischl, Aus 84.28 26 *e*pP **P 14 57 25.2 +1.0**
comp=Z,22nm,1.4s,SNR=9.7
BRVK Borovoye 84.32 350 P **P 14 57 24.3 +0.1**
BRVK Borovoye 84.32 350 *d i*P **P 14 57 24.7 +0.5**
BRVK pmax pmax
comp=Z,33nm,1.2s
BRVK MLR MLR
comp=Z,829nm,23.0s
BVAR Borovoye Array 84.34 350 P **P 14 57 24.9 +0.6**
comp=Z,13nm,1.0s,baz=29,slow=3.4,SNR=48
BVAR LR LR 15 36 44.1
comp=Z,596nm,21.9s,baz=28,slow=37
comp=Z,13nm,1.0s
BVAR Borovoye Array 84.34 350 P **P 14 57 25.0 +0.6**
MOA Molln 84.34 25 *e*pP **P 14 57 25.5 +1.0**
comp=Z,16nm,1.3s,SNR=8.9
JAVC Velka Javorina 84.47 23 *e*P **P 14 57 27.1 +1.9**
NIE Niedzica 84.69 21 *e*P **P 14 57 28.0 +1.8**
LANS Liptovska Anna 84.71 21 *e*P **P 14 57 28.7 +2.4**
LANS pmax pmax
comp=Z,9.0nm,0.9s
LANS Liptovska Anna 84.71 21 *e*P **P 14 57 28.7 +2.4**
SMOL Smolenice 84.71 23 *e*P **P 14 57 28.7 +2.4**
SMOL pmax pmax
comp=Z,124nm,2.8s
KBA Koelnbreinsper 84.72 26 *e*pP pP 14 57 27.9 -1.6
comp=Z,18nm,1.2s,SNR=14
ABTA Abfaltersbach 84.74 27 *e*pP **P 14 57 27.7 +1.1**
comp=Z,21nm,1.3s,SNR=11
CONA Conrad Observa 84.77 24 *e*pP pP 14 57 28.3 -1.4
comp=Z,19nm,1.3s,SNR=13
NJ2 Nanjing 84.77 309 *e*P **P 14 57 27.0 +0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,310nm,3.8s
NJ2 LR LR
comp=Z,530nm,20.8s
NJ2 LR LR
comp=Z,620nm,24.6s
NJ2 LR LR
comp=Z,720nm,24.6s
MODS Modra-Piesok 84.79 23 *e*P **P 14 57 29.0 +2.2**
MODS Modra-Piesok 84.79 23 *e*P **P 14 57 29.0 +2.2**
ZST Bratislava 84.90 23 *e*P **P 14 57 29.6 +2.3**
ZST pmax pmax
comp=Z,238nm,1.8s
ZST Bratislava 84.90 23 *e*P **P 14 57 29.6 +2.3**
CTI Castel Tesino 85.06 28 IAmb IAmb 14 57 32.0
comp=Z,28nm,1.3s
RONA Rosalia, Austr 85.11 24 *e*PcP **P 14 57 29.9 +1.5**
comp=Z,16nm,1.4s,SNR=7.6
SFS San Fernando 85.13 44 IAMs_20 IAMs_20 15 33 47.1
comp=Z,765nm,21.0s
VYHS Vyhne 85.13 22 *e*P **P 14 57 30.1 +1.7**
VYHS pmax pmax
comp=Z,126nm,2.5s
VYHS Vyhne 85.13 22 *e*P **P 14 57 30.1 +1.7**
KURK Kurchatov 85.16 344 P **P 14 57 28.9 +0.4**
KURK IAmb IAmb 14 57 31.7
comp=Z,20nm,1.1s
KURK IAMs_20 IAMs_20 15 40 01.0
comp=Z,823nm,19.0s
KURK Kurchatov 85.16 344 *d i*P **P 14 57 29.1 +0.6**
KURK pmax pmax
comp=Z,28nm,1.4s
KURK MLR MLR
comp=Z,747nm,17.0s
LPSR Galich'ya Gora 85.16 9 *e*P **P 14 57 25.9 -2.5**
LPSR pmax pmax
comp=Z,20nm,1.0s
MYKA Terra Mystica 85.22 26 *e*PcP **P 14 57 29.7 +0.7**
comp=Z,12nm,1.2s
STAL STALIGIAL 85.23 27 IAMs_20 IAMs_20 15 34 57.6
comp=Z,1μm,22.0s
LVV L'vov 85.25 18 *e*P **P 14 57 24.7 -4.3**
KURBB Kurchatov Arra 85.26 344 P **P 14 57 29.5 +0.5**
comp=Z,7.4nm,0.9s,baz=21,slow=4.8,SNR=38
comp=Z,7.4nm,0.9s
ARSA Arzberg 85.27 25 *e*PcP **P 14 57 30.5 +1.4**
comp=Z,12nm,0.9s,SNR=9.2
PRED Cave del Predi 85.36 26 IAMs_20 IAMs_20 15 35 24.9
comp=Z,1μm,21.0s
CRVS Cervenica-Dubn 85.47 20 *e*P **P 14 57 31.7 +1.6**
CRVS pmax pmax
comp=Z,158nm,2.5s
CRVS Cervenica-Dubn 85.47 20 *e*P **P 14 57 31.7 +1.6**
AKASG Malin Array Be 85.53 15 P **P 14 57 29.6 -0.7**
AKASG IAmb IAmb 14 57 32.0
comp=Z,25nm,1.6s
AKASG Malin Array Be 85.53 15 P **P 14 57 30.4 0.0**

comp=Z,10nm,0.9s,baz=344,slow=4.1,SNR=56
AKASG LR LR 15 37 06.2
comp=Z,333nm,19.5s,baz=336,slow=37
comp=Z,10nm,0.9s
AKASG Malin Array Be 85.53 15 P **P 14 57 29.6 -0.7**
AKASG pmax pmax
comp=Z,25nm,1.6s
AKBB Malin Array Si 85.53 15 IAmb IAmb 14 57 33.1
comp=Z,28nm,1.1s
AKBB Malin Array Si 85.53 15 *d iP* **P 14 57 30.3 0.0**
KIEV Kiev 85.53 15 P **P 14 57 29.8 -0.5**
KIEV IAmb IAmb 14 57 33.1
comp=Z,25nm,1.1s
KIEV Kiev 85.53 15 P **P 14 57 29.8 -0.5**
KIEV pmax pmax
comp=Z,25nm,1.1s
KIEV MLR MLR
comp=Z,400nm,19.0s
KECS Kecovo 85.59 21 *e*P **P 14 57 32.9 +2.2**
KECS pmax pmax
comp=Z,15nm,1.2s
KECS Kecovo 85.59 21 *e*P **P 14 57 32.9 +2.2**
SRO Srobarova 85.60 23 *e*P **P 14 57 33.8 +3.1**
SRO Srobarova 85.60 23 *e*P **P 14 57 33.8 +3.1**
CADS Cadrg 85.60 26 *i* P **P 14 57 31.3 +0.4**
OBKA Obir 85.62 26 *e*PcP **P 14 57 31.8 +0.7**
comp=Z,23nm,1.0s,SNR=8.3
SOKA Soboth 85.62 25 *e*PcP **P 14 57 31.8 +0.8**
comp=Z,17nm,1.1s,SNR=14
KOLS Kolonicke sedl 85.64 20 *e*P **P 14 57 32.7 +1.7**
KOLS pmax pmax
comp=Z,6.0nm,0.7s
KOLS Kolonicke sedl 85.64 20 *e*P **P 14 57 32.7 +1.7**
MOZS Mozjanca 85.77 26 *e*P **P 14 57 32.5 +0.8**
SABO M.te Sabotino 85.78 26 IAmb IAmb 14 57 35.3
comp=Z,66nm,1.4s
SABO IAMs_20 IAMs_20 15 35 27.1
comp=Z,1μm,21.0s
PSZ Piszkesteto 85.95 22 P **P 14 57 34.3 +1.7**
BELG Belogornoye 86.04 3 LR LR 15 36 25.7
comp=Z,147nm,21.5s,baz=331,slow=36
BELG Belogornoye 86.04 *3d iP* **P 14 57 32.4 -0.4**
BELG pmax pmax
comp=Z,5.0nm,0.9s
VORR Voronezh 86.10 9 *e*P **P 14 57 33.3 +0.1**
VORR pmax pmax
comp=Z,35nm,1.4s
LYN LuoYang 86.47 315 *e*P **P 14 57 37.4 +2.1**
LYN pP pwP 14 57 42.4 +0.2
LYN SKS **SKSac 15 07 59.0 -2.8**
LYN S **SKKSac 15 08 08.8 -1.0**
LYN sS ScS 15 08 19.8 -0.1
LYN pmax pmax
comp=Z,15nm,0.5s
LYN pmax pmax
comp=Z,380nm,6.4s
LYN LR LR
comp=Z,500nm,15.5s
LYN LR LR
comp=Z,660nm,18.9s
LYN LR LR
comp=Z,980nm,23.7s
GCIS Gornji Cirnik 86.53 25 *e*P **P 14 57 35.4 0.0**
VSR Storozhevoye 86.55 9 *e*P **P 14 57 34.1 -1.3**
VSR pmax pmax
comp=Z,20nm,1.1s
ZSN Zaisan 86.72 339 *e*P **P 14 57 36.7 +0.3**
baz=339
ZSN Zaisan 86.72 339 *e*P **P 14 57 36.7 +0.3**
VORD Divnogorie 86.81 9 *e*P **P 14 57 35.2 -1.4**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VRH Novokhopyorsk 86.82 7 *e*P **P 14 57 36.1 -0.6**
VRH pmax pmax
comp=Z,23nm,1.8s
CART Cartagena 86.86 40 IAMs_20 IAMs_20 15 32 45.8
comp=Z,1μm,22.0s
AVE Averroes 86.89 47 IAMs_20 IAMs_20 15 35 17.9
comp=Z,965nm,19.0s
LIFNC LIFOU 86.99 239 IAMs_20 IAMs_20 15 28 40.9
comp=Z,1μm,19.0s
BUR08 Bucovina Ar. S 87.56 18 IAmb IAmb 14 57 43.4
comp=Z,30nm,1.8s
BURAR Bucovina Array 87.59 18 P **P 14 57 40.7 0.0**
BURAR Bucovina Array 87.59 18 P **P 14 57 40.7 0.0**
BURAR pmax pmax
comp=Z,12nm,1.7s
DRGR 87.74 20 P P 14 57 46.4 +5.0
MK31 Makanchi Array 88.00 340 *c iP* **P 14 57 42.7 +0.1**
MKAR Makanchi Array 88.00 340 P **P 14 57 41.2 -1.3**
MKAR Makanchi Array 88.00 340 P **P 14 57 42.5 0.0**
comp=Z,1.7nm,0.9s,baz=18,slow=4.2,SNR=8.7
MKAR LR LR 15 39 40.4
comp=Z,758nm,18.1s,baz=25,slow=37
comp=Z,1.7nm,0.9s
AKTO Aktyubinsk 88.01 357 LR LR 15 41 22.2
comp=Z,244nm,18.0s,baz=1.5,slow=38
MAKZ Makanchi 88.07 341 P **P 14 57 41.6 -1.3**
MAKZ Makanchi 88.07 341 P **P 14 57 41.6 -1.3**
MAKZ pmax pmax
comp=Z,25nm,1.3s
DZM Mont Dzumac 88.43 238 *e*LR LR 15 25 46.9
comp=Z,2μm,22.5s
DZM Mont Dzumac 88.43 238 LR LR 15 29 06.8
comp=Z,1μm,21.2s,baz=37,slow=30
WHN Wuhan 88.47 311 P **P 14 57 45.9 +0.9**
WHN pmax pmax
comp=Z,50nm,0.4s
WHN LR LR
comp=Z,720nm,9.9s
WHN LR LR
comp=Z,1μm,13.9s
WHN LR LR
comp=Z,2μm,22.6s
GTA Gaotai 88.64 326 *e*P **P 14 57 46.5 +0.7**
GTA pmax pmax
comp=Z,11nm,2.0s
GTA LR LR
comp=Z,900nm,20.4s
GTA LR LR
comp=Z,620nm,20.0s
GTA LR LR
comp=Z,1μm,20.0s
XAN Xi'an 88.72 317 P **P 14 57 47.0 +0.8**
XAN sP pwP 14 57 52.6 -0.5
XAN S **S 15 08 33.6 +0.4**
XAN pmax pmax
comp=Z,33nm,1.3s
XAN pmax pmax
comp=Z,370nm,5.7s
XAN LR LR
comp=Z,1μm,22.3s
XAN LR LR
comp=Z,970nm,21.6s
XAN LR LR
comp=Z,2μm,22.3s
CAMP Campotosto 88.74 28 IAMs_20 IAMs_20 15 36 38.4
comp=Z,905nm,22.0s
MDT Midelt 88.77 45 LR LR 15 35 17.8
comp=Z,331nm,20.8s,baz=337,slow=34
ABKAR Akbulak array 89.09 355 P **P 14 57 48.0 +0.4**
ABKAR Akbulak array 89.09 355 IAmb IAmb 14 57 51.2
comp=Z,33nm,1.2s
WMQ Urumqi 89.22 336 ⇓ *iP* **P 14 57 49.4 +1.0**
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,160nm,3.6s
WMQ LR LR
comp=Z,580nm,21.1s
WMQ LR LR
comp=Z,610nm,22.5s
WMQ LR LR
comp=Z,490nm,21.1s
SSLB Suanglung 89.47 302 IAMs_20 IAMs_20 15 33 40.7
comp=Z,943nm,20.0s
LZH Lanzhou 89.58 321 ⇑P **P 14 57 52.1 +1.7**
LZH sP pwP 14 57 57.8 +1.3
LZH pmax pmax
comp=Z,36nm,0.9s
LZH LR LR
comp=Z,270nm,18.7s
LZH LR LR
comp=Z,890nm,17.2s
LZH LR LR
comp=Z,960nm,18.6s

MLR Muntele Rosu 89.76 19 LR LR 15 37 46.7
comp=Z,885nm,21.8s,baz=340,slow=35
VA01 Torpederas 90.19 136 IAMs_20 IAMs_20 15 30 49.8
comp=Z,926nm,18.0s
TDK Taldyqorghan 90.61 342 *e*P **P 14 57 55.3 +0.5**
comp=Z,12nm,0.9s,baz=342
TDK Taldyqorghan 90.61 342 *e*P **P 14 57 55.3 +0.5**
TDK pmax pmax
comp=Z,11nm,0.9s
MT08 Bocatoma Ro 91.37 135 IAMs_20 IAMs_20 15 33 58.9
comp=Z,702nm,18.0s
MT13 San Alfonso 91.46 136 IAMs_20 IAMs_20 15 43 54.3
comp=Z,813nm,21.0s
BTLS Baital 91.49 345 *e*P **P 14 57 59.3 +0.4**
baz=345
BTLS Baital 91.49 345 *e*P **P 14 57 59.3 +0.4**
KPKS Kokpek 92.00 342 *e*P **P 14 58 02.0 +0.6**
baz=342
KPKS Kokpek 92.00 342 *e*P **P 14 58 02.0 +0.6**
SHLS Shalkode 92.11 341 *e*P **P 14 58 01.9 0.0**
baz=341
SHLS Shalkode 92.11 341 *e*P **P 14 58 01.9 0.0**
ERBR Yeremizino-Bor 92.12 9 *e*P **P 14 58 02.4 +0.6**
ERBR MLR MLR
comp=Z,604nm,21.0s
UZB Uzynbulak 92.22 341 *e*P **P 14 58 03.1 +0.5**
baz=341
UZB Uzynbulak 92.22 341 *e*P **P 14 58 03.0 +0.5**
BDFB Brasilia 92.31 109 P **P 14 58 04.7 +1.6**
comp=Z,0.7nm,0.3s,baz=235,slow=12,SNR=1.0
BDFB LR LR 15 44 21.2
comp=Z,736nm,18.0s,baz=314,slow=39
comp=Z,0.7nm,0.3s
SATY Saty 92.45 342 *e*P **P 14 58 03.8 +0.2**
baz=342
SATY Saty 92.45 342 *e*P **P 14 58 03.8 +0.2**
ANN Anapa 92.63 11 *e*P **P 14 58 03.4 -0.7**
ANN pmax pmax
comp=Z,23nm,1.2s
AAA Alma-Ata 92.65 343 *e*P **P 14 58 04.5 +0.1**
comp=Z,8.1nm,0.5s,baz=343
AAA Alma-Ata 92.65 343 *e*P **P 14 58 04.5 +0.1**
AAA pmax pmax
comp=Z,8.0nm,0.5s
MDOK Medeo 92.67 343 *e*P **P 14 58 05.2 +0.6**
baz=343
MDOK Medeo 92.67 343 *e*P **P 14 58 05.1 +0.6**
TNSS Tian-Shan 92.81 343 *e*P **P 14 58 05.8 +0.2**
baz=343
TNSS Tian-Shan 92.81 343 *e*P **P 14 58 05.7 +0.2**
SGDS Sogindy 92.90 344 *e*P **P 14 58 06.2 +0.7**
baz=344
SGDS Sogindy 92.90 344 *e*P **P 14 58 06.2 +0.7**
KEST Kesra 93.06 34 P **P 14 58 07.5 +1.1**
comp=Z,8.9nm,1.1s,baz=80,slow=2.5,SNR=5.0
KEST LR LR 15 37 50.9
comp=Z,773nm,21.4s,baz=286,slow=34
comp=Z,8.9nm,1.1s
PMG Port Moresby 93.13 260 LR LR 15 35 22.8
comp=Z,998nm,19.4s,baz=98,slow=32
KEK Kerkira 93.40 25 IAMs_20 IAMs_20 15 42 45.9
comp=Z,1μm,19.0s
GOMU GeErMu 93.44 327 P **P 14 58 10.3 +1.8**
GOMU pmax pmax
comp=Z,11nm,1.4s
GOMU LR LR
comp=Z,2μm,22.7s
GOMU LR LR
comp=Z,1μm,22.6s
GOMU LR LR
comp=Z,3μm,22.5s
VAE Valguarnera 93.56 30 LR LR 15 40 38.5
comp=Z,714nm,18.6s,baz=348,slow=36
AAK Ala-Archa 93.71 344 IAMs_20 IAMs_20 15 42 55.4
comp=Z,786nm,18.0s
AAK Ala-Archa 93.71 344 ⇑ *e*P **P 14 58 10.5 +1.1**
AAK pmax pmax
comp=Z,12nm,1.7s
AAK MLR MLR
comp=Z,748nm,17.0s
KKAR Karatay Array 93.99 347 P **P 14 58 10.4 -0.1**
KKAR Karatay Array 93.99 347 P **P 14 58 10.4 -0.1**
DZA Taraz 94.06 347 *e*P **P 14 58 10.9 +0.1**
baz=347
DZA Taraz 94.06 347 *e*P **P 14 58 10.9 +0.1**
KIV Kislovodsk 94.09 7 *e*P **P 14 58 10.1 -0.9**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,214nm,20.0s
SOC Sochi 94.13 10 *e*P **P 14 58 10.7 -0.4**
SOC *e* 15 01 57.0
SOC *e*PPP PPP 15 03 57.4
SOC *e*S **SKSac 15 08 45.5 -0.4**
SOC *e*SS **SS 15 15 42.4 +2.3**
SOC *e*SSS SSS 15 19 21.4
SOC MLR MLR
comp=Z,409nm,19.0s
BRLS Borolday 94.17 348 *e*P **P 14 58 12.4 +1.1**
baz=348
BRLS Borolday 94.17 348 *e*P **P 14 58 12.4 +1.1**
KBZ Khabaz 94.34 7 P **P 14 58 12.6 +0.6**
comp=Z,2.4nm,0.9s,baz=291,slow=6.3,SNR=4.9
KBZ LR LR 15 42 39.8
comp=Z,248nm,19.9s,baz=341,slow=37
comp=Z,2.4nm,0.9s
KBZ Khabaz 94.34 7 ⇓ *e*P **P 14 58 11.7 -0.3**
KBZ pmax pmax
comp=Z,11nm,2.3s
URZ Urewera 94.59 221 LR LR 15 35 37.8
comp=Z,706nm,18.9s,baz=138,slow=32
RCBR Riachuelo 94.65 94 IAMs_20 IAMs_20 15 38 13.1
comp=Z,1μm,22.0s
CHM Chimkent 94.91 348 *e*P **P 14 58 14.6 -0.1**
baz=348
CHM Chimkent 94.91 348 *e*P **P 14 58 14.6 -0.1**
BBTS Babate 94.91 66 LR LR 15 37 40.4
comp=Z,1μm,21.3s,baz=190,slow=33
IUG Iuzhnay 95.00 347 *e*P **P 14 58 15.7 +0.4**
baz=347
IUG Iuzhnay 95.00 347 *e*P **P 14 58 15.6 +0.4**
WDD Wied Dalam 95.05 31 IAMs_20 IAMs_20 15 41 08.4
comp=Z,736nm,19.0s
MAK Makhachkala 95.44 4 *e*P **P 14 58 13.9 -3.2**
MAK *e* 15 08 47.3
MAK *e*SS SS 15 16 12.5 +14
GYA Guiyang 95.89 313 P **P 14 58 21.9 +2.3**
GYA pmax pmax
comp=Z,13nm,0.9s
GYA LR LR
comp=Z,730nm,30.4s
KSH Kashi 96.39 342 P **P 14 58 26.0 +4.4**
KSH pmax pmax
comp=Z,2.0nm,0.5s
KSH LR LR
comp=Z,860nm,18.6s
KSH LR LR
comp=Z,770nm,19.6s
KSH LR LR
comp=Z,1μm,17.5s
ITM Ithomi 96.39 25 IAMs_20 IAMs_20 15 44 52.9
comp=Z,976nm,18.0s
PLCA Paso Flores 96.77 140 LR LR 15 35 38.6
comp=Z,268nm,18.4s,baz=352,slow=32
BRTR Keskin Array B 96.93 15 P **P 14 58 23.7 -0.4**
comp=Z,1.4nm,0.9s,baz=319,slow=3.6,SNR=3.6
comp=Z,1.4nm,0.9s
LL01 San Ignacio de 97.19 143 IAMs_20 IAMs_20 15 50 52.1
comp=Z,829nm,22.0s
DAV Davao City (W) 98.11 287 LR LR 15 35 24.8
comp=Z,697nm,21.6s,baz=80,slow=31
SANT Santorini 98.19 22 IAMs_20 IAMs_20 15 44 10.5
comp=Z,590nm,22.0s
PZH PanZhiHua 98.45 317 P **P 14 58 29.3 -1.8**
PZH S **S 15 09 52.6 -7.3**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,220nm,5.9s
PZH LR LR
comp=Z,440nm,18.1s
PZH LR LR
comp=Z,370nm,18.6s
PZH LR LR
comp=Z,440nm,19.6s
SIMJ Simiganj 98.58 347 IAMs_20 IAMs_20 15 46 47.9
comp=Z,974nm,20.0s

IDI Anoyia 99.03 23 LR LR 15 45 29.0
comp=Z,325nm,19.9s,baz=296,slow=37
KARP Karpathos 99.43 21 IAMs_20 IAMs_20 15 45 54.4
comp=Z,807nm,21.0s
QIZ Qiongzhong 99.88 307 P **Pdif 14 58 35.9 -1.6**
QIZ PP **PP 15 02 40.6 -1.0**
QIZ S **S 15 10 10.5 -1.4**
QIZ SS **SS 15 17 02.6 -0.4**
QIZ pmax pmax
comp=Z,24nm,1.4s
QIZ LR LR
comp=Z,410nm,18.6s
QIZ LR LR
comp=Z,600nm,21.6s
QIZ LR LR
comp=Z,580nm,21.9s
TNTI Ternate 101.11 281 IAMs_20 IAMs_20 15 34 49.8
comp=Z,631nm,22.0s
ASAR Alice Springs 111.95 257 PKKPab PKKPab 15 14 28.8 +1.1
comp=Z,0.7nm,0.9s,baz=218,slow=3.2,SNR=5.5
SBA Scott Base 125.85 194 **PKiKP 15 03 54.5 +1.2**
SBA Scott Base 125.85 194 PKIKP **PKiKP 15 03 54.5 +1.2**
VNDA Vanda 126.59 195 PKP **PKiKP 15 03 55.4 +0.6**
comp=Z,1.3nm,0.6s,baz=53,slow=0.9,SNR=4.3
MBAR Mbarara 134.30 32 IAMs_20 IAMs_20 16 03 50.4
comp=Z,579nm,21.0s
WIN Windhoek 144.39 69 PKPdf PKPbc 15 04 27.9 +0.3
WIN Windhoek 144.39 69 PKIKP PKPbc 15 04 28.0 +0.4
NVL N'lazarevskaya 144.42 158 *e*PKIKP PKPbc 15 04 26.6 +0.6
NVL pmax pmax
comp=Z,10.0nm,1.0s
ELIB Princess Elisa 146.49 164 *d*PKPdf **PKPdf 15 04 31.3 +0.1**
MAW Mawson 153.62 188 PKPbc **PKPbc 15 04 50.3 +0.3**
comp=Z,2.2nm,0.6s,baz=252,slow=9.3,SNR=5.1
BOSA Boshof 153.89 69 PKPbc **PKiKP 15 04 53.0 +0.8**
comp=Z,5.0nm,0.9s,baz=342,slow=4.1,SNR=3.6

DJA ***24*** *14:50:39.6±0.3, 11°S±2°×11°6E±°, h19km±2km, M4.9/62, mB5.4/20, mb4.9/62, MLv5.2/22, Mw(mB)4.8/20*
NEIC ***24*** *14:50:40.8±1.9, 10°39S±0°08×116°49E±0°05, h30km±5km, mb5.1/52, Mww4.9/8, Error ellipse: s-maj=12.1km s-min=7.8km az=181.0*
MOS ***24*** *14:50:41.6±1.1, 10°17S×116°70E, h47km, mb5.1/37, Error ellipse: s-maj=10.1km s-min=6.4km az=108.6*
NEIC ***24*** *14:50:41.4, 10°39S×116°49E, h22km*
BJI ***24*** *14:50:41.0±0.0, 10°40S×116°60E, h50km, mb4.8/43, mB5.1/13, Ms4.7/14, Ms7 4.7/15*
NEIC ***24*** *14:50:41.4, 10°69S×116°49E, h22km, Moment Tensor Solution. Duration: 1ꝑ5 Moment tensor: Scale 10^16Nm; Mrr1.74; Mθθ-2.39; Mφφ0.65; Mrθ1.84; Mθφ-0.22; Mφr0.39; Fault plane solution: M0 2.80000×10^16 NP1:φs78.92000°, δ66.36000°, λ82.79000°. NP2:φs276.43000°, δ24.66000°, λ106.00000°. Principal axes: T 2.4841, Plg68.0000°, Azm335.0000°; N 0.6406, Plg7.0000°, Azm82.0000°; P -3.1247, Plg21.0000°, Azm174.0000°;*
GCMT ***24*** *14:50:42.4±0.4, 10°51S±0°02×116°49E±0°03, h31km, MW5.1/70, Moment Tensor Solution. s36,c42; s70,c91; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.94±.30; Mθθ-4.38±.18; Mφφ-0.56±.18; Mrθ2.08±.20; Mφθ0.55±.13; Mφr0.08±.27; Best double couple: M0 5.13800×10^16 NP1:φs94.00000°, δ57.00000°, λ86.00000°. NP2: φs281.00000°, δ33.00000°, λ96.00000°. Principal axes: T 5.3890, Plg78.0000°, Azm351.0000°; N -0.5030, Plg3.0000°, Azm96.0000°; P -4.8870, Plg12.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***24*** *14:50:48.2±3.6, 10°17S×116°75E, h87km±32km, mb4.3/21, mbtmp4.6/23, MS4.4/10 Error ellipse: s-maj=24.6km s-min=12.5km az=71.0*

ISC 24 14:50:40.8±0.6, 10°39S±0°05×116°45E±0°05, h29km±3km, h29km:pP-P, n212, σ1ꝑ56/202, mb4.9/74, MS4.4/18, 18C-9D, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.69**	**15**	P	**Pb**	**14 51 09.2**	**-2.1**
PLAI	**Plampang**	**2.03**	**40**	P	**Pn**	**14 51 13.5**	**+0.5**
DNP	**Denpasar**	**2.09**	**324**	P	**Pb**	**14 51 16.0**	**-2.1**
SRBI	**Singaraja**	**2.59**	**332**	P	**Pb**	**14 51 23.6**	**-3.0**
JAGI	**Jajag, Banyuwa**	**2.96**	**310**	Pn	**Pn**	**14 51 25.9**	**+0.1**
JAGI	**Jajag, Banyuwa**	**2.96**	**310**	P	**Pn**	**14 51 26.7**	**+0.9**
ABJI	**Asem Bagus**	**3.38**	**319**	P	**Pn**	**14 51 34.2**	**+2.6**
BASI	**Baing, Sumba**	**4.07**	**88**	P	**Pn**	**14 51 40.5**	**-0.5**
PWJI	**Pagerwojo** 249nm,0.9s,3.2nm	**5.15**	**297**	P	**Pn**	**14 51 56.5**	**+0.5**
GRJI	**Gresik**	**5.23**	**311**	P	**Pn**	**14 51 59.6**	**+2.6**
EDFI	**Ende, Flores** 127nm,0.8s,2μm0.9nm	**5.42**	**73**	P	**Pn**	**14 51 59.2**	**-0.5**
BSSI	**Bau Bau, Buton**	**5.81**	**44**	P	**Pn**	**14 52 07.8**	**+2.8**
MMRI	**Maumere**	**5.97**	**74**	Pn	**Pn**	**14 52 07.3**	**+0.1**
MMRI	**Maumere** 411nm,1.4s,5μm2.8nm	**5.97**	**74**	P	**Pn**	**14 52 08.2**	**+1.0**
BKSI	**Bulukumba** 146nm,0.8s,2μm0.6nm	**6.21**	**36**	P	**Pn**	**14 52 13.4**	**+2.9**
KAPI	**Kappang**	**6.26**	**32**	Pn	**Pn**	**14 52 10.9**	**-0.3**
KAPI	**Kappang** 48nm,0.6s,baz=207,slow=8.3,SNR=18	**6.26**	**32**	P	**Pn**	**14 52 14.4**	**+3.2**
KAPI	27nm,0.3s,baz=175,slow=19,SNR=1.0			S	**Sn**	**14 53 20.8**	**-1.0**
KAPI	comp=Z,4μm,18.3s,baz=214,slow=42			LR	LR	14 54 58.9	
KAPI	**Kappang**	**6.26**	**32**	P	**Pn**	**14 52 10.9**	**-0.3**
UGM	**Wanagama**	**6.35**	**292**	P	**Pn**	**14 52 13.0**	**+0.6**
YOGI	**Yogyakarta** 425nm,1.5s,1.9nm	**6.59**	**292**	P	**Pn**	**14 52 15.9**	**+0.1**
SMRI	**Semarang** 177nm,1.1s,1.6nm	**6.80**	**299**	P	**Pn**	**14 52 20.1**	**+1.4**
BATI	**Baumata** 68nm,1.2s	**7.10**	**89**	P	**Pn**	**14 52 22.9**	**+0.1**
SOEI	**Soe**	**7.72**	**86**	Pn	**Pn**	**14 52 31.9**	**+0.4**
SOEI	**Soe** 86nm,1.0s,0.8nm	**7.72**	**86**	P	**Pn**	**14 52 31.7**	**+0.3**
BBSI	**Bau Bau** 168nm,1.0s,2μm0.5nm	**7.77**	**52**	P	**Pn**	**14 52 34.5**	**+2.5**
LEM	**Lembang** 53nm,0.8s	**9.42**	**291**	P	**Pn**	**14 52 55.3**	**+0.5**
LEM	**Lembang**	**9.42**	**291**	P	Pn	14 53 00.3	+5.5
CNJI	**Cibinong** 53nm,1.4s	**9.70**	**288**	P	**Pn**	**14 52 58.9**	**+0.4**
SKJI	**Sukabumi**	**10.34**	**288**	P	**Pn**	**14 53 07.3**	**+0.1**
MBWA	**Marble Bar**	**11.17**	**164**	Pn	Pn	14 53 13.6	-4.9
MPSI	**Mapaga** 28nm,1.1s	**11.19**	**18**	P	Pn	14 53 23.1	+4.2
LUWI	**Luwuk** 103nm,1.1s,1μm	**11.21**	**34**	P	Pn	14 53 23.6	+4.5
STKI	**Sintang** 48nm,0.9s	**11.50**	**334**	P	**Pn**	**14 53 27.2**	**+4.1**
PSA00	**Pilbara Seismi**	**11.59**	**164**	Pn	Pn	14 53 20.1	-4.2
FITZ	**Fitzroy Crossi**	**11.75**	**132**	Pn	**Pn**	**14 53 23.4**	**-3.1**
MRSI	**Marisa**	**12.10**	**27**	P	Pn	14 53 36.0	+4.7
SANI	**Sanana** 54nm,1.2s,855nm	**12.58**	**49**	P	**Pn**	**14 53 40.7**	**+2.8**
NLAI	**Namlea**	**12.73**	**57**	P	**Pn**	**14 53 42.0**	**+2.0**
KASI	**Kota Agung** 56nm,1.1s	**12.78**	**291**	P	**Pn**	**14 53 41.0**	**+0.3**
KMSI	**Cibinong** 128nm,0.9s,3μm	**13.22**	**35**	P	**Pn**	**14 53 50.0**	**+3.4**
MTN	**Manton Dam**	**14.59**	**101**	Pn	**Pn**	**14 54 02.7**	**-2.6**
MNAI	**Manna**	**14.66**	**293**	P	**Pn**	**14 54 05.2**	**-1.1**
TNTI	**Ternate**	**15.52**	**45**		**Pn**	**14 54 18.9**	**+1.3**
TNTI	**Ternate** 62nm,1.6s	**15.52**	**45**	P	**P**	**14 54 20.4**	**-1.4**
FAKI	**Fak Fak**	**17.35**	**66**	Pn	**Pn**	**14 54 38.8**	**-2.1**
FAKI	**Fak Fak** 37nm,1.2s	**17.35**	**66**	P	**Pn**	**14 54 39.7**	**-1.2**
SWI	**Sorong** 84nm,1.8s,884nm	**17.50**	**58**	P	**Pn**	**14 54 42.4**	**-0.4**
PDSI	**Padang**	**18.47**	**300**	P	**P**	**14 54 54.5**	**0.0**
MORW	**Morawa**	**18.59**	**181**	P	**P**	**14 54 54.3**	**-1.4**
SISI	**Saibi** 62nm,1.2s	**19.46**	**296**	P	**P**	**14 55 06.2**	**+0.9**
DAV	**Davao City (W)** comp=Z,1μm,21.9s,baz=218,slow=38	**19.58**	**28**	LR	LR	15 02 59.0	
WB0	**Warramunga Arr**	**19.66**	**120**		**P**	**14 55 08.1**	**+0.6**
WRA	**Warramunga Arr**	**19.69**	**121**	P	**P**	**14 55 06.6**	**-1.2**
WRA	**Warramunga Arr** 2.5nm,0.7s,baz=293,slow=14,SNR=24	**19.69**	**121**	P	**Pn**	**14 55 09.1**	**-0.3**
WRA				S	S	14 58 32.7	-16

2.2nm,1.1s,baz=284,slow=25,SNR=2.6
WRA LR LR 15 03 08.2
comp=Z,1μm,18.9s,baz=336,slow=38
WRA Warramunga Arr 19.69 121 P **P 14 55 06.6 -1.2**
WRA pmax pmax
comp=Z,3.0nm,2.0s
WRAB Tennant Creek 19.69 121 **P 14 55 08.7 +0.8**
WRAB Tennant Creek 19.69 121 P **P 14 55 08.7 +0.8**
WRAB pmax pmax
comp=Z,42nm,1.5s
WB2 Warramunga Arr 19.70 121 Pn **P 14 55 08.4 +0.5**
WR0 Warramunga Arr 19.87 121 **P 14 55 10.3 +0.6**
ASAR Alice Springs 21.25 131 P **P 14 55 26.0 +1.3**
ASAR Alice Springs 21.25 131 P **P 14 55 26.2 +1.5**
comp=Z,11nm,0.6s,baz=302,slow=10.0,SNR=106
ASAR LR LR 15 03 15.0
comp=Z,490nm,22.0s,baz=317,slow=35
comp=Z,11nm,0.6s
AS31 Alice Springs 21.25 131 P **P 14 55 24.7 0.0**
GSI Gunungsitoli 22.08 301 P **P 14 55 34.4 +0.7**
comp=Z,22nm,0.9s
NWAO Narrogin (SRO) 22.45 178 LR LR 15 04 48.6
comp=Z,1μm,20.0s,baz=336,slow=37
KCSI Kotacane, Aceh 23.17 306 P **P 14 55 45.7 +0.5**
comp=Z,52nm,0.9s,comp=Z,2μm
MLSI Meulaboh, Aceh 24.71 305 P **P 14 56 01.3 +1.6**
comp=Z,49nm,0.6s
LHMI Lhok Sumawe 24.86 308 P **P 14 56 03.1 +2.1**
SRIT Nakonsritamara 25.23 318 P **P 14 56 04.3 -0.1**
SRIT IAmb IAmb 14 56 07.8
comp=Z,44nm,0.8s
QIZ Qiongzhong 29.95 347 P **P 14 56 48.3 +1.7**
QIZ S **S 15 01 46.8 +4.3**
QIZ pmax pmax
comp=Z,460nm,9.4s
QIZ LR LR
comp=Z,360nm,14.2s
QIZ LR LR
comp=Z,260nm,15.3s
QIZ LR LR
comp=Z,450nm,16.8s
PMG Port Moresby 30.26 91⇓ *e*P **P 14 56 47.9 -1.6**
PMG pmax pmax
comp=Z,29nm,1.6s
CTAO Charters Tower 30.28 112 P **P 14 56 52.1 +2.5**
CTAO pP **pwP 14 57 04.2 +1.6**
STKA Stephens Creek 31.59 136 P **P 14 57 02.2 +1.2**
comp=Z,2.7nm,0.8s,baz=319,slow=12,SNR=3.2
STKA LR LR 15 10 39.0
comp=Z,673nm,19.3s,baz=309,slow=38
comp=Z,2.7nm,0.8s
PHRA Phrae 32.86 331 P **P 14 57 12.6 +0.4**
CMAR Chiang Mai Arr 33.47 329 P **P 14 57 17.2 -0.3**
CMAR Chiang Mai Arr 33.47 329 P **P 14 57 18.8 +1.2**
comp=Z,6.4nm,0.9s,baz=156,slow=7.1,SNR=39
CMAR PcP **PcP 15 00 00.1 +1.7**
comp=Z,1.6nm,1.0s,baz=185,slow=2.6,SNR=4.0
comp=Z,6.4nm,0.9s
CHTO Chiang Mai 33.76 329 P **P 14 57 20.0 -0.2**
CHTO Chiang Mai 33.76 329 P **P 14 57 20.0 -0.2**
CHTO pmax pmax
comp=Z,12nm,1.2s
GUMO Guam 36.91 50 P **P 14 57 44.3 -3.0**
comp=Z,40nm,0.6s,baz=166,slow=4.2,SNR=3.8
comp=Z,40nm,0.6s
KMI Kunming 37.74 339 ⇑P **P 14 57 55.9 +1.5**
KMI pP pwP 14 58 07.6 0.0
KMI pmax pmax
comp=Z,14nm,1.0s
KMI LR LR
comp=Z,560nm,17.5s
KMI LR LR
comp=Z,360nm,20.5s
KMI LR LR
comp=Z,500nm,23.0s
TNCH TengChong 39.30 334 ⇑P **P 14 58 07.8 +0.3**
TNCH pmax pmax
comp=Z,20nm,1.4s
TNCH pmax pmax
comp=Z,310nm,8.6s
TNCH LR LR
comp=Z,300nm,24.6s
TNCH LR LR
comp=Z,300nm,20.2s
TNCH LR LR
comp=Z,400nm,21.9s
PZH PanZhiHua 39.36 339 P **P 14 58 10.0 +2.1**
PZH pmax pmax
comp=Z,20nm,1.0s
PALK Palikele 39.68 295 LR LR 15 15 11.3
comp=Z,318nm,19.4s,baz=234,slow=37
NJ2 Nanjing 42.26 3 *e*P **P 14 58 34.4 +2.8**
NJ2 pP **pwP 14 58 44.3 -0.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,330nm,5.2s
CD2 Chengdu 42.83 344 P **P 14 58 36.8 +0.5**
CD2 pP pwP 14 58 48.0 -1.6
CD2 pmax pmax
comp=Z,40nm,0.4s
SHL Shillong 43.01 327 P **P 14 58 37.7 -0.3**
SHL IAmb IAmb 14 58 52.1
comp=Z,44nm,1.0s
SHL Shillong 43.01 327 P **P 14 58 37.7 -0.3**
SHL pmax pmax
comp=Z,44nm,1.0s
H08S2 Diego Garcia H 43.47 270 T T 15 45 09.5
baz=98,slow=74
H08S3 Diego Garcia H 43.49 270 T T 15 45 17.4
baz=98,slow=74
H08S1 Diego Carcia H 43.49 270 T T 15 45 10.4
baz=98
LYN LuoYang 44.85 355 *e*P **P 14 58 56.8 +4.4**
LYN pmax pmax
comp=Z,17nm,0.5s
LYN pmax pmax
comp=Z,140nm,5.1s
HYB Hyderabad 46.53 306 *e*P **P 14 59 06.0 -0.1**
TJN Taejon 47.64 12⇑*e*P **P 14 59 11.9 -2.4**
KSAR Wonju Array Be 48.77 12 P **P 14 59 22.8 -0.3**
KSAR Wonju Array Be 48.77 12 P **P 14 59 22.8 -0.3**
KSRS Korea Array 48.79 12 P **P 14 59 23.1 -0.1**
comp=Z,5.1nm,0.9s,baz=192,slow=7.9,SNR=16
comp=Z,5.1nm,0.9s
DZM Mont Dzumac 49.19 110 *e*LR LR 15 13 25.1
comp=Z,528nm,21.1s
BJT Baijiatuau 50.15 360 P **P 14 59 33.4 -0.1**
MAJO Matsushiro 50.97 23 P **P 14 59 38.2 -1.7**
MAJO IAmb IAmb 14 59 53.3
comp=Z,18nm,1.1s
MAJO Matsushiro 50.97 23 P **P 14 59 38.2 -1.7**
MAJO pmax pmax
comp=Z,18nm,1.2s
MAJO Matsushiro 50.97 23 P **P 14 59 38.1 -1.8**
MJAR Matsushiro Arr 50.97 23 P **P 14 59 38.5 -1.4**
comp=Z,7.9nm,0.9s,baz=195,slow=7.4,SNR=18
comp=Z,7.9nm,0.9s
MJB9 Matsu-Tunnel 50.98 23 IAmb IAmb 14 59 54.7
comp=Z,16nm,1.1s
BTO Baotou 51.08 354 *e*P **P 14 59 41.3 +0.6**
BTO pP **pwP 14 59 55.4 +1.3**
BTO sP sP 15 00 03.4 +12
BTO S **S 15 06 55.6 -1.0**
BTO pmax pmax
comp=Z,21nm,0.6s
BTO pmax pmax
comp=Z,500nm,7.2s
BTO LR LR
comp=Z,730nm,12.2s
BTO LR LR
comp=Z,480nm,14.3s
BTO LR LR
comp=Z,1μm,19.0s
HHC Hu-ho-hao-te 51.18 355 *e*P **P 14 59 44.0 +2.6**
HHC sS sS 15 07 22.6 +12
HHC pmax pmax
comp=Z,21nm,0.5s
HHC pmax pmax
comp=Z,74nm,4.0s
HHC LR LR
comp=Z,290nm,16.4s
HHC LR LR
comp=Z,230nm,18.1s
HHC LR LR
comp=Z,290nm,19.4s

GTA Gaotai 51.90 344 *e*P **P 14 59 47.4 +0.5**
GTA PcP **PcP 15 01 01.8 +2.4**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA LR LR
comp=Z,230nm,20.0s
GTA LR LR
comp=Z,330nm,20.0s
GTA LR LR
comp=Z,470nm,20.4s
JMM Marumori 53.13 24 IAmb IAmb 14 59 56.1
comp=Z,18nm,1.0s
XLT XiLinHaoTe 54.03 360 *e*P P 15 00 07.1 +4.6
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT LR LR
comp=Z,50nm,20.8s
XLT LR LR
comp=Z,300nm,20.8s
XLT LR LR
comp=Z,850nm,24.7s
MDJ Mudanjiang 56.02 11 P **P 15 00 16.6 -0.1**
MDJ PP **PP 15 02 25.8 +3.8**
MDJ pmax pmax
comp=Z,8.0nm,0.7s
MDJ LR LR
comp=Z,570nm,19.2s
MDJ LR LR
comp=Z,650nm,19.2s
MDJ LR LR
comp=Z,2μm,24.0s
USA0B Ussuriysk Arra 56.13 13⇓*e*P **P 15 00 17.1 -0.4**
USRK Ussuriysk Ar. 56.13 13 P **P 15 00 17.1 -0.4**
comp=Z,4.0nm,0.7s,baz=205,slow=8.4,SNR=7.0
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 58.59 353⇓*e*P **P 15 00 34.6 -0.5**
ULN pmax pmax
comp=Z,14nm,2.5s
ULN Ulaanbaatar 58.59 353 P **P 15 00 34.5 -0.5**
SONM Songino Array 58.65 352 P **P 15 00 34.0 -1.4**
SONM Songino Array 58.65 352 P **P 15 00 35.0 -0.4**
comp=Z,4.4nm,0.7s,baz=169,slow=7.9,SNR=17
comp=Z,4.4nm,0.7s
SONM Songino Array 58.65 352 P **P 15 00 34.0 -1.4**
SONM pmax pmax
comp=Z,10.0nm,1.3s
ASAJ Asahikawa 59.21 22 P **P 15 00 37.8 -1.4**
ASAJ pmax pmax
comp=Z,11nm,1.0s
JKA Kamikawa-asahi 59.21 22 P **P 15 00 37.8 -1.4**
JKA IAmb IAmb 15 00 53.9
comp=Z,10nm,1.0s
HIA Hailar 59.47 3⇓*e*P **P 15 00 39.9 -1.0**
HIA pmax pmax
comp=Z,4.0nm,1.1s
WMQ Urumqi 59.95 336 *e*P **P 15 00 46.4 +2.0**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ LR LR
comp=Z,450nm,16.3s
WMQ LR LR
comp=Z,440nm,16.3s
WMQ LR LR
comp=Z,590nm,15.1s
KLR Kul'dur 60.87 11⇓*e*P **P 15 00 49.4 -1.1**
KLR pmax pmax
comp=Z,9.0nm,1.7s
HEH HeiHe 61.14 8 *e*P **P 15 00 51.3 -1.0**
HEH pmax pmax
comp=Z,20nm,1.1s
YSS Yuzh-Sakhalins 61.73 20 P **P 15 00 55.4 -0.9**
YSS Yuzh-Sakhalins 61.73 20*ce*P **P 15 00 55.7 -0.6**
YSS pmax pmax
comp=Z,19nm,1.3s
YSS Yuzh-Sakhalins 61.73 20 P **P 15 00 56.1 -0.2**
KSH Kashi 62.27 325 P **P 15 01 00.4 +0.1**
KSH pP pwP 15 01 13.1 -0.7
KSH pmax pmax
comp=Z,16nm,0.8s
SHLS Shalkode 63.06 330 *e*P **P 15 01 04.1 -1.4**
SHLS pmax pmax
comp=Z,5.0nm,0.9s
KBL Kabul 63.35 317 P **P 15 01 06.6 -1.1**
KBL Kabul 63.35 317 P **P 15 01 06.6 -1.1**
KBL pmax pmax
comp=Z,22nm,0.8s
ZEA Zeya 64.53 7 *e*P **P 15 01 14.4 -0.4**
ZEA pmax pmax
comp=Z,20nm,1.1s
MK31 Makanchi Array 64.58 335 P **P 15 01 13.9 -1.4**
MK31 IAmb IAmb 15 01 16.2
comp=Z,9.5nm,1.0s
MK31 Makanchi Array 64.58 335 P **P 15 01 14.0 -1.4**
MK31 pmax pmax
comp=Z,10.0nm,1.0s
MKAR Makanchi Array 64.58 335 P **P 15 01 14.2 -1.2**
MKAR Makanchi Array 64.58 335 P **P 15 01 15.1 -0.3**
comp=Z,4.9nm,0.7s,baz=150,slow=7.8,SNR=36
comp=Z,4.9nm,0.7s
MAKZ Makanchi 64.73 335 P **P 15 01 16.3 0.0**
TKM2 Tokmak 2 64.84 328 P **P 15 01 17.9 +0.6**
SNR=6.9
UCH Uchtor 64.94 327 P **P 15 01 18.6 +0.3**
SNR=6.8
KBK Karagaybulak 65.00 327 P **P 15 01 19.2 +0.9**
SNR=6.4
TYV Tymovskoe 65.11 18 *e*P **P 15 01 19.3 +0.7**
TYV *e*S **S 15 10 01.9 +2.6**
TYV pmax pmax
comp=Z,5.0nm,1.4s
TYV pmax pmax
comp=Z,100nm,4.6s
TYV smax smax
comp=N,100nm,6.4s
TYV smax smax
comp=E,100nm,6.4s
ARSB Arslanbob 65.17 325 IAmb IAmb 15 01 21.0
comp=Z,12nm,1.0s
AAK Ala-Archa 65.23 327 P **P 15 01 19.5 -0.3**
AAK IAmb IAmb 15 01 21.6
comp=Z,17nm,0.9s
AAK Ala-Archa 65.23 327*c i*P **P 15 01 20.2 +0.4**
AAK pmax pmax
comp=Z,17nm,0.8s
AAK Ala-Archa 65.23 327 P **P 15 01 20.6 +0.8**
AAK pP **pwP 15 01 33.2 -0.2**
AML Almayashu 65.31 326 P **P 15 01 21.2 +0.5**
SNR=11
EKS2 Erkin-Say 65.63 327 P **P 15 01 23.6 +1.2**
SNR=12
USP Ospenovka 65.66 328 P **P 15 01 22.9 +0.5**
SNR=8.8
SGDS Sogindy 65.72 328 *e*P **P 15 01 21.6 -1.3**
SGDS pmax pmax
comp=Z,10.0nm,1.0s
SIMJ Simiganj 65.83 321 P **P 15 01 22.6 -1.1**
SIMJ Simiganj 65.83 321 P **P 15 01 22.9 -0.9**
SIMJ pP **pwP 15 01 36.0 -1.3**
KKAR Karatay Array 67.72 325 P **P 15 01 34.8 -0.8**
KKAR Karatay Array 67.72 325 P **P 15 01 34.8 -0.8**
KURBB Kurchatov Arra 69.13 335 P **P 15 01 44.4 +0.3**
comp=Z,8.8nm,0.8s,baz=145,slow=5.3,SNR=59
comp=Z,8.8nm,0.8s
KURK Kurchatov 69.16 335 P **P 15 01 43.7 -0.6**
KURK IAmb IAmb 15 01 45.4
comp=Z,22nm,1.0s
KURK Kurchatov 69.16 335*c i*P **P 15 01 44.0 -0.3**
KURK pmax pmax
comp=Z,30nm,1.3s
KURK Kurchatov 69.16 335 P **P 15 01 44.5 +0.1**
KURK pP **pwP 15 01 57.2 -0.8**
ZAA0 Zalesovo Array 69.47 341 IAmb IAmb 15 01 46.2
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 69.47 341 P **P 15 01 44.9 -1.3**
ZALV Zalesovo Beam 69.47 341 P **P 15 01 45.2 -1.0**
comp=Z,3.9nm,0.4s,baz=143,slow=4.5,SNR=28
comp=Z,3.9nm,0.4s
PET Petropavlovsk 72.69 25⇓*e*P **P 15 02 03.3 -2.4**
PET pmax pmax
comp=Z,29nm,1.7s
YAK Yakutsk 72.93 6 P **P 15 02 05.4 -1.5**
YAK IAmb IAmb 15 02 07.1
comp=Z,16nm,0.8s
YAK Yakutsk 72.93 6 *e*P **P 15 02 05.6 -1.3**
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.5s
BVAR Borovoye Array 74.36 333 P **P 15 02 15.8 +0.2**
comp=E,7.7nm,0.7s,baz=145,slow=8.3,SNR=34
comp=E,7.7nm,0.7s
BRVK Borovoye 74.43 333 P **P 15 02 15.6 -0.4**
BRVK IAmb IAmb 15 02 17.4
comp=Z,31nm,1.3s
BRVK Borovoye 74.43 333*ce*P **P 15 02 15.7 -0.3**
BRVK pmax pmax
comp=Z,27nm,1.3s
MA2 Magadan 74.97 17 P **P 15 02 18.7 -0.2**
MA2 IAmb IAmb 15 02 20.7
comp=Z,25nm,1.1s
MA2 Magadan 74.97 17 LR LR 15 36 46.5
comp=Z,100nm,20.3s,baz=61,slow=37
MA2 Magadan 74.97 17*de*P **P 15 02 19.9 +0.9**
MA2 pmax pmax
comp=Z,16nm,1.3s
RAYN Ar Rayn 77.07 297 P **P 15 02 32.2 +0.5**
RAYN IAmb IAmb 15 02 33.9
comp=Z,10nm,0.8s
RAYN Ar Rayn 77.07 297 P **P 15 02 32.3 +0.5**
RAYN pmax pmax
comp=Z,10.0nm,0.9s
ABKAR Akbulak array 77.27 326 P **P 15 02 32.3 +0.1**
ABKAR Akbulak array 77.27 326 IAmb IAmb 15 02 34.0
comp=Z,30nm,1.0s
SEY Seymchan 78.16 16*ce*P **P 15 02 37.2 +0.3**
SEY pmax pmax
comp=Z,29nm,1.3s
QSPA South Pole Qui 79.62 180 P **P 15 02 47.1 +1.9**
comp=Z,2.2nm,0.9s,baz=274,slow=3.5,SNR=4.9
comp=Z,2.2nm,0.9s
SVE Sverdlovsk 81.12 333 *e*P **P 15 02 53.3 +0.1**
SVE pmax pmax
comp=Z,21nm,1.3s
ARU Arti 81.86 332 P **P 15 02 56.0 -1.1**
ARU IAmb IAmb 15 02 58.3
comp=Z,27nm,1.3s
ARU Arti 81.86 332*c i*P **P 15 02 57.4 +0.3**
ARU 15 05 59.7
ARU S **SKSac 15 13 09.8 -5.2**
ARU SS **SS 15 18 22.1 -5.4**
ARU pmax pmax
comp=Z,28nm,1.4s
ARU MLR MLR
comp=Z,284nm,15.0s
NRIK Noril'sk 82.05 350 P **P 15 02 57.8 0.0**
comp=Z,4.5nm,0.9s,baz=170,slow=3.4,SNR=5.6
comp=Z,4.5nm,0.9s
NRIK Noril'sk 82.05 350*ce*P **P 15 02 57.7 -0.1**
NRIK pmax pmax
comp=Z,9.0nm,1.1s
TIXI Tiksi 82.27 4 P **P 15 02 57.0 -2.0**
TIXI IAmb IAmb 15 02 59.0
comp=Z,12nm,1.0s
TIXI Tiksi 82.27 4⇓*e*P **P 15 02 56.9 -2.0**
TIXI pmax pmax
comp=Z,21nm,1.7s
GNI Garni 83.01 313⇑*e*P **P 15 03 06.8 +3.1**
GNI pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 85.49 316 P **P 15 03 17.1 +1.2**
comp=Z,4.7nm,0.8s,baz=126,slow=2.3,SNR=7.6
comp=Z,4.7nm,0.8s
KBZ Khabaz 85.49 316*ce*P **P 15 03 17.6 +1.6**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
BELG Belogornoye 85.63 325*ce*P **P 15 03 16.9 +0.5**
BELG pmax pmax
comp=Z,6.0nm,1.4s
SHA1 Shidzhatmaz 85.66 316*c i*P **P 15 03 18.7 +1.5**
KIV Kislovodsk 85.71 316 *e*P **P 15 03 18.6 +1.4**
KIV pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 85.83 17 *i*P **P 15 03 17.7 +0.6**
BILL *i* 15 03 28.4
BILL pmax pmax
comp=Z,5.0nm,1.3s
BOSA Boshof 86.14 242 P **P 15 03 19.1 -0.7**
BOSA Boshof 86.14 242 P **P 15 03 22.2 +2.4**
comp=Z,3.3nm,0.8s,baz=96,slow=5.7,SNR=5.4
comp=Z,3.3nm,0.8s
BOSA Boshof 86.14 242 P **P 15 03 19.1 -0.7**
BOSA pmax pmax
comp=Z,18nm,1.1s
KIRV Kirov 87.22 331⇑*e*P **P 15 03 23.7 -0.4**
VSLR Vesyoloye 87.39 315⇓*e*P **P 15 03 26.8 +1.4**
VSLR pmax pmax
comp=Z,39nm,1.3s
SOC Sochi 87.65 315 *e*P **P 15 03 25.7 -0.9**
SOC *e* 15 06 49.0
SOC *e*S **SKSac 15 13 50.7 -1.9**
SOC *e*SS **SS 15 19 49.5 -3.9**
SOC *e*SSS SSS 15 23 26.5
SOC MLR MLR
comp=Z,418nm,19.0s
MMAI Mount Meron Ar 88.19 304 P **P 15 03 31.1 +1.6**
comp=Z,9.0nm,0.8s,baz=72,slow=5.3,SNR=5.0
MMAI LR LR 15 47 28.5
comp=Z,205nm,20.7s,baz=258,slow=38
comp=Z,9.0nm,0.8s
SNAA Sanae 88.99 196⇑P P 15 03 42.0 +10
comp=Z,137nm,1.0s
SNAA Sanae 88.99 196 P **P 15 03 34.3 +1.7**
comp=Z,1.1nm,0.8s,baz=167,slow=9.1,SNR=6.5
SNAA LR LR 15 39 54.9
comp=Z,322nm,19.0s,baz=114,slow=33
comp=Z,1.1nm,0.8s
SNAA Sanae 88.99 196⇑*e*P **P 15 03 35.2 +2.7**
SNAA pmax pmax
comp=Z,5.0nm,1.4s
TBI Tubuai 89.65 114 *e*LR LR 15 32 09.5
comp=Z,675nm,25.5s
TBI *e*LR LR 15 32 10.4
comp=Z,899nm,26.5s
PPT2 Papeete2 90.64 108 *e*LR LR 15 32 38.1
comp=Z,141nm,23.8s
PPT2 *e*LR LR 15 32 42.0
comp=Z,137nm,25.5s
BR131 Keskin Array S 91.09 310 P **P 15 03 43.1 +0.1**
BR131 IAmb IAmb 15 03 45.1
comp=Z,12nm,1.1s
BR131 Keskin Array S 91.09 310 P **P 15 03 43.1 +0.1**
BR131 pmax pmax
comp=Z,12nm,1.1s
BRTR Keskin Array B 91.09 310 P **P 15 03 42.8 -0.3**
BRTR Keskin Array B 91.09 310 P **P 15 03 44.4 +1.4**
comp=Z,5.5nm,0.9s,baz=132,slow=6.5,SNR=19
comp=Z,5.5nm,0.9s
G16K Koyuk River 95.72 25 IAmb IAmb 15 04 05.7
comp=Z,4.9nm,0.8s
AKASG Malin Array Be 96.20 320 P **P 15 04 06.5 +0.4**
comp=Z,1.0nm,0.6s,baz=86,slow=3.7,SNR=5.0
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 96.20 320⇑*e*P **P 15 04 05.7 -0.3**
H17K Granite Mounta 96.64 25 IAmb IAmb 15 04 10.1
comp=Z,8.0nm,0.9s
G19K Purcell Mounta 97.99 24 IAmb IAmb 15 04 16.0
comp=Z,4.0nm,0.8s
H19K Roundabout Mou 98.17 25 IAmb IAmb 15 04 17.0
comp=Z,5.6nm,0.8s
FINES FINESS Array B 99.22 331 P **Pdif 15 04 18.3 -1.1**
comp=Z,1.3nm,0.8s,baz=43,slow=4.2,SNR=5.7
comp=Z,1.3nm,0.8s
FINES FINESS Array B 99.22 331 *i*P **Pdif 15 04 19.8 +0.4**
FINES pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 102.17 26 P **Pdif 15 04 31.0 -1.5**
comp=Z,0.3nm,0.9s,baz=290,slow=3.7,SNR=3.0
NVAR Mina Array Bea 123.83 51 PKP **PKPdf 15 09 36.4 -0.2**
comp=Z,0.6nm,0.7s,baz=242,slow=4.1,SNR=4.9

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*NEIC **24** 14:56:55.1±1.1, 15°.9S±0°.1×73°.1W±0°.2, h68km±7km, mb4.2/3, Error ellipse: s-maj=24.2km s-min=14.7km az=100.0*
*VAO **24** 14:57:03.5±1.2, 15°.93S×71°.96W, h77km±8km, mb4.5*
*IDC **24** 14:57:05.0±2.1, 15°.92S×71°.97W, h111km±19km, mb3.9/10, mbtmp4.2/13, Error ellipse: s-maj=18.8km s-min=15.0km az=73.0*
ISC 24 14:57:03.6±0.6,**16°.05S**±0°.06×**72°.17W**±0°.07,**h114**km,**n53,**

σ1°93/53, **mb4.1**/10, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**2.89**	**143**	Pn	**Pn**	**14 57 49.5**	**+1.2**
PB18	**Visviri**	**3.00**	**121**		**Pn**	**14 57 52.5**	**+2.4**
PB11	**IPOC Station P**	**4.40**	**147**		**Pn**	**14 58 08.1**	**-0.4**
GO01	**Chusmiza**	**4.58**	**142**	Pn	**Pn**	**14 58 12.0**	**+0.7**
TA02	**Huaiquique**	**4.62**	**155**		**Pn**	**14 58 11.1**	**-0.3**
HMBC	**Humberstone**	**4.73**	**153**		**Pn**	**14 58 12.2**	**-0.8**
TA01	**Diego Aracena**	**4.87**	**157**		**Pn**	**14 58 13.9**	**-0.8**
PATCX	**Punta Patache**	**5.12**	**158**	Pn	**Pn**	**14 58 16.8**	**-1.4**
PB01	**IPOC Station P**	**5.58**	**153**		**Pn**	**14 58 23.4**	**-1.0**
NNA	**Nana**	**6.07**	**311**	P	**Pn**	**14 58 34.3**	**+3.2**
	8.8nm,0.3s,baz=196,slow=5.4,SNR=4.5						
NNA				S	**Sn**	**14 59 33.6**	**-5.7**
	15nm,0.3s,baz=205,slow=16,SNR=2.2						
PB09	**IPOC Station P**	**6.35**	**155**		**Pn**	**14 58 34.9**	**0.0**
PB04	**IPOC Station P**	**6.53**	**163**	Pn	**Pn**	**14 58 35.3**	**-2.1**
PB06	**IPOC Station P**	**7.06**	**160**		**Pn**	**14 58 43.1**	**-1.4**
LVC	**Limon Verde**	**7.21**	**155**	Pn	**Pn**	**14 58 46.6**	**-0.2**
LVC	**Limon Verde**	**7.21**	**155**	P	**Pn**	**14 58 47.1**	**+0.3**
	11nm,0.3s,baz=357,slow=9.6,SNR=50						
LVC				S	**Sn**	**15 00 04.2**	**-3.1**
	30nm,0.3s,baz=122,slow=20,SNR=11						
LVC	**Limon Verde**	**7.21**	**155**	*e*P	**Pn**	**14 58 46.7**	**-0.1**
PB15	**IPOC Station P**	**7.56**	**161**		**Pn**	**14 58 49.5**	**-1.8**
ETMB	**Extrema**	**8.49**	**44**	Pn	**Pn**	**14 59 01.7**	**-2.1**
ETMB	**Extrema**	**8.49**	**44**	*e*P	**Pn**	**14 59 01.0**	**-2.8**
SIV	**San Ignacio**	**10.67**	**91**	P	**Pn**	**14 59 32.1**	**-1.3**
	1.6nm,0.4s,baz=266,slow=8.7,SNR=5.7						
SIV				S	**Sn**	**15 01 28.7**	**-2.3**
	1.9nm,0.2s,baz=277,slow=13,SNR=1.3						
SAML	**Samuel**	**11.26**	**52**	Pn	**Pn**	**14 59 38.5**	**-2.7**
SAML	**Samuel**	**11.26**	**52**	*e*P	**Pn**	**14 59 37.9**	**-3.4**
TEFE	**Tefe**	**14.50**	**32**	*e*P	**Pn**	**15 00 22.5**	**-1.0**
CO06	**Fray Jorge**	**14.56**	**178**	Pn	**Pn**	**15 00 20.3**	**-3.9**
PDRB	**Porto dos Gac**	**15.63**	**76**	*e*P	**Pn**	**15 00 37.2**	**-0.5**
SALV	**Santo Antonio**	**15.85**	**92**	*e*P	**Pn**	**15 00 40.0**	**-0.4**
MACA	**Manacapuru-AM**	**17.08**	**43**	*e*P	**Pn**	**15 00 54.6**	**-1.0**
H03N1	**Juan Fernandez**	**18.35**	**198**	T	T	15 19 19.7	
	baz=22,slow=73,SNR=107						
H03N2	**Juan Fernandez**	**18.36**	**198**	T	T	15 19 38.9	
	baz=22,slow=73,SNR=124						
H03N3	**Juan Fernandez**	**18.37**	**198**	T	T	15 19 32.0	
	baz=22,slow=73,SNR=104						
NPGB	**Novo Progresso**	**18.73**	**63**	*e*P	**P**	**15 01 13.6**	**-0.1**
SNDB	**Serra Nova Dou**	**20.65**	**81**	*e*P	**P**	**15 01 34.0**	**-0.5**
ROSC	**El Rosal**	**20.87**	**354**	P	**P**	**15 01 38.3**	**+1.2**
	18nm,0.7s,baz=169,slow=9.9,SNR=6.1						
	18nm,0.7s						
BOAV	**Boa Vista**	**21.65**	**33**	P	**P**	**15 01 43.5**	**-1.5**
BOAV				IAmb	IAmb	15 01 47.2	
	comp=Z,16nm,0.9s						
BOAV	**Boa Vista**	**21.65**	**33**	*e*P	**P**	**15 01 44.5**	**-0.6**
IPMB	**Ipameri, GO**	**22.99**	**98**	*e*P	**P**	**15 01 59.0**	**+0.2**
BDFB	**Brasilia**	**23.24**	**92**	P	**P**	**15 02 01.5**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=242,slow=13,SNR=4.9						
	comp=Z,4.5nm,0.7s						
PLCA	**Paso Flores**	**24.63**	**177**	P	**P**	**15 02 10.6**	**-2.9**
PLCA				IAmb	IAmb	15 02 51.8	
	comp=Z,4.0nm,1.1s						
PLCA	**Paso Flores**	**24.63**	**177**	P	**P**	**15 02 16.7**	**+3.2**
	comp=Z,3.0nm,0.8s,baz=340,slow=9.2,SNR=8.1						
	comp=Z,3.0nm,0.8s						
VAO	**Valinhos**	**24.72**	**110**	*e*P	**P**	**15 02 17.2**	**+2.7**
MCPB	**Macapa, AP**	**25.24**	**54**	*e*P	**P**	**15 02 21.8**	**+2.6**
SNAA	**Sanae**	**68.41**	**161**	P	**P**	**15 07 55.2**	**+2.4**
	comp=Z,2.4nm,0.7s,baz=274,slow=8.3,SNR=16						
	comp=Z,2.4nm,0.7s						
ULM	**Lac du Bonnet**	**69.24**	**344**	P	**P**	**15 07 57.9**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=175,slow=2.9,SNR=2.3						
	comp=Z,1.6nm,0.5s						
DBIC	**Dimbokro**	**70.33**	**77**	P	**P**	**15 08 05.2**	**-0.3**
	comp=Z,5.3nm,0.7s,baz=232,slow=5.4,SNR=7.3						
	comp=Z,5.3nm,0.7s						
QSPA	**South Pole Qui**	**74.11**	**180**	P	**P**	**15 08 29.9**	**+2.7**
	comp=Z,1.5nm,0.6s,baz=190,slow=3.7,SNR=3.6						
	comp=Z,1.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**78.57**	**73**	P	**P**	**15 08 53.3**	**+0.1**
TORD				IAmb	IAmb	15 08 54.7	
	comp=Z,3.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**78.57**	**73**	P	**P**	**15 08 53.6**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=268,slow=4.8,SNR=23						
	comp=Z,1.6nm,0.3s						
ESDC	**Sonseca Array**	**84.22**	**46**	P	**P**	**15 09 24.0**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=260,slow=4.9,SNR=11						
	comp=Z,1.3nm,0.7s						
YKA	**Yellowknife Ar**	**85.06**	**342**	P	**P**	**15 09 26.6**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=139,slow=5.9,SNR=2.7						
	comp=Z,0.5nm,0.7s						
STKA	**Stephens Creek**	**122.39**	**214**	PKP	**PKiKP**	**15 15 47.8**	**+1.7**
	comp=Z,1.1nm,0.3s,baz=42,slow=3.2,SNR=9.5						
ASAR	**Alice Springs**	**133.01**	**213**	PKP	**PKiKP**	**15 16 07.7**	**0.0**
	comp=Z,0.5nm,1.0s,baz=129,slow=1.7,SNR=7.2						
WRA	**Warramunga Arr**	**135.75**	**217**	PKP	**PKiKP**	**15 16 13.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=144,slow=1.9,SNR=11						
SONM	**Songino Array**	**148.28**	**2**	PKPbc	**PKiKP**	**15 16 37.9**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=24,slow=2.9,SNR=3.9						

IDC 24 15:01:07.7±7.0, 24°.05S×177°.88W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=292.5km s-min=63.9km az=149.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.92**	**260**	P	P	15 09 16.2	-0.4
	0.4nm,0.4s,baz=92,slow=7.3,SNR=30						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**44.33**	**266**	P	P	15 09 20.0	+0.1
	0.7nm,0.5s,baz=105,slow=8.0,SNR=12						
	0.7nm,0.5s						
AKASG	**Malin Array Be**	**146.13**	**329**	PKPbc	PKPdf	15 20 48.7	+0.1
	0.5nm,0.5s,baz=75,slow=1.7,SNR=1.7						

*TEH **24** 15:05:09.8, 34°.62N×46°.27E, h10km±55km, ML2.5*
*ISN **24** 15:05:11.1±1.3, 34°.60N×46°.25E, h23km±25km, ML2.5*
ISC 24 15:05:09.9±1.2, 34°.61N±0°.04×46°.26E±0°.05, h8km±13km, n8, σ0°35/11, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**50**	Pg	**Pg**	**15 05 12.8**	**-0.1**
IGHG	**Ghaleghazi**	**0.38**	**138**	Pg	**Pg**	**15 05 17.6**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.58**	**210**	Pg	**Pg**	**15 05 21.1**	**+0.1**
ILIN	**Lien**	**0.65**	**62**	Pg	**Pg**	**15 05 23.1**	**+0.5**
KCHF	**Cheshme Sefid,**	**0.73**	**117**	Pg	**Pg**	**15 05 23.8**	**0.0**
KCHF				Sg	**Sb**	**15 05 34.7**	**-0.3**
ILBA	**Ilam Banvizeh**	**0.99**	**183**	Pg	**Pb**	**15 05 29.0**	**-0.2**
IBDR	**Badra**	**1.52**	**191**	*e*Pg	**Pn**	**15 05 37.5**	**+0.1**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**15 05 59.0**	**+0.2**
IBDR				AML	AML	15 06 01.0	
	comp=N,1.6nm,0.6s						
IBDR				AML	AML	15 06 09.3	
	comp=E,3.2nm,0.8s						
IKRK	**Kirkuk**	**1.76**	**297**	*e*Pn	**Pb**	**15 05 42.0**	**-0.4**
IKRK				*e*Sn	**Sb**	**15 06 05.0**	**+0.3**

*IDC **24** 15:19:39.5±3.3, 51°.29N×177°.34W, h0km, mb3.7/4, mbtmp3.8/4, MS4.1/1, Error ellipse: s-maj=92.5km s-min=32.4km az=6.0*
*AEIC **24** 15:19:43.0±1.3, 51°.14N±0°.08×177°.12W±0°.06, h45km±9km, Error ellipse: s-maj=10.9km s-min=5.6km az=176.0*
*NEIC **24** 15:19:45.2±1.6, 51°.25N±0°.05×177°.14W±0°.03, h35km±2km, ML3.1(AEIC), Error ellipse: s-maj=9.3km s-min=3.1km az=18.0*
ISC 24 15:19:42.6±1.9, 51°.15N±0°.09×177°.13W±0°.04, h22km±14km, n28, σ0°63/33, mb4.1/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.61**	**354**		**Pn**	**15 19 55.6**	**-0.4**
KIWB	**Kanaga Island**	**0.70**	**359**		**Pn**	**15 19 57.1**	**-0.2**
KIWB					**Sn**	**15 20 08.4**	**+1.0**
KIRH	**Kanaga Island**	**0.75**	**2**		**Pn**	**15 19 58.0**	**+0.1**
KICM	**Kanaga Island**	**0.77**	**357**		**Pn**	**15 19 58.3**	**+0.2**
KINC	**Kanaga Island**	**0.78**	**0**		**Pn**	**15 19 58.3**	**0.0**
ADK	**Adak**	**0.79**	**21**		**Pn**	**15 19 57.9**	**-0.4**
ADK	**Adak**	**0.79**	**21**		**Sn**	**15 20 09.4**	**0.0**
TASE	**Tanaga Southea**	**0.89**	**321**		**Pb**	**15 19 59.5**	**+0.1**
ADAG	**Mount Adagdak**	**0.89**	**21**		**Pn**	**15 20 00.1**	**+0.3**
TAFP	**Tanaga Falls P**	**0.92**	**325**		**Pb**	**15 19 59.8**	**-0.1**
TAFP					**Sn**	**15 20 12.8**	**0.0**
TANO	**Tanaga North**	**0.98**	**321**		**Pb**	**15 20 01.1**	**+0.1**
TANO					**Sn**	**15 20 15.0**	**+0.7**
GSCK	**Great Sitkin C**	**1.05**	**35**		**Pb**	**15 20 02.1**	**0.0**
GSCK					**Sn**	**15 20 16.7**	**+0.6**
GSTD	**Great Sitkin T**	**1.09**	**34**		**Pb**	**15 20 02.9**	**0.0**
GSTD					**Sn**	**15 20 18.0**	**+0.9**
GSTR	**Great Sitkin T**	**1.16**	**35**		**Pb**	**15 20 03.7**	**-0.2**
GAEA	**Gareloi East**	**1.19**	**303**		**Pn**	**15 20 04.0**	**0.0**
GANE	**Gareloi Northe**	**1.23**	**304**		**Pn**	**15 20 04.3**	**-0.1**
GANO	**Gareloi North**	**1.24**	**303**		**Pn**	**15 20 04.5**	**-0.2**
ATKA	**Atka Island**	**2.11**	**59**		**Pn**	**15 20 15.7**	**-0.8**
ATKA					**Sn**	**15 20 43.5**	**+1.6**
KOWE	**Korovin West**	**2.16**	**55**		**Pn**	**15 20 18.0**	**+0.7**
CEPE	**Semis' Perret**	**2.17**	**293**		**Pn**	**15 20 18.3**	**+0.9**
CESW	**Semis' Southwe**	**2.20**	**291**		**Pn**	**15 20 18.9**	**+1.1**
AMKA	**Amchitka**	**2.25**	**277**		**Pn**	**15 20 18.1**	**-0.4**
CNBA	**Chernabura Isl**	**11.19**	**64**	Pn	**Pn**	**15 22 20.7**	**-0.3**
ILAR	**Eielson Array**	**20.77**	**37**	P	**P**	**15 24 21.4**	**-0.3**
	0.5nm,0.8s,baz=234,slow=9.8,SNR=6.8						
	0.5nm,0.8s						
PDAR	**Pinedale Array**	**45.38**	**73**	P	**P**	**15 28 00.4**	**+1.1**
	1.2nm,0.7s,baz=297,slow=4.0,SNR=12						
	1.2nm,0.7s						
ARCES	**ARCESS Array B**	**58.49**	**351**	LR	LR	15 58 11.7	
	comp=Z,143nm,18.5s,baz=78,slow=40						
BVAR	**Borovoye Array**	**61.74**	**321**	P	**P**	**15 29 58.4**	**-0.5**
	1.1nm,0.5s,baz=46,slow=5.7,SNR=8.5						
	1.1nm,0.5s						
BRTR	**Keskin Array B**	**85.58**	**337**	P	**P**	**15 32 18.1**	**-1.1**
	1.1nm,0.8s,baz=32,slow=5.8,SNR=4.2						
	1.1nm,0.8s						

*AFAD **24** 15:37:48.8±0.0, 38°.87N×44°.69E, h7km±4km, ML2.1*
*TEH **24** 15:37:50.7, 38°.74N×44°.65E, h10km±100km, ML2.4*
*AZER **24** 15:37:51.4, 38°.81N×44°.68E, h7km, ml2.5*
ISC 24 15:37:50.1±1.1, 38°.75N±0°.03×44°.67E±0°.02, h4km±11km, n23, σ1°32/40, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.54**	**261**	P	**Pg**	**15 38 00.1**	**-0.4**
OZAP				S	**Sb**	**15 38 09.4**	**-1.1**
OZAP				*i* AML	AML	15 38 10.0	
	comp=N,88nm,0.4s						
OZAP				*i* AML	AML	15 38 16.0	
	comp=E,115nm,0.5s						
MAKU	**Maku**	**0.60**	**1**	Pg	**Pb**	**15 38 02.7**	**-0.6**
CLDR	**Caldiran**	**0.71**	**304**	P	**Pg**	**15 38 01.5**	**-2.2**
CLDR				S	**Sg**	**15 38 10.9**	**-2.0**
CLDR				*i* AML	AML	15 38 12.0	
	comp=N,343nm,0.4s						
CLDR				*i* AML	AML	15 38 13.0	
	comp=E,361nm,0.4s						
NAX	**Nakhchivan**	**0.77**	**56**	P	**Pn**	**15 38 07.4**	**-0.5**
NAX				S	**Sn**	**15 38 20.1**	**+0.1**
IMRD	**Marand**	**0.81**	**92**	Pg	**Pn**	**15 38 07.2**	**-1.2**
ISHB	**Shabestar**	**0.87**	**122**	Pg	**Pg**	**15 38 07.2**	**+0.3**
ISHB				Sg	**Sn**	**15 38 21.4**	**-1.3**
VMUR	**Van-Muradiye**	**0.89**	**286**	P	**Pg**	**15 38 06.5**	**-0.8**
VMUR				S	**Sg**	**15 38 19.0**	**+0.2**
VMUR				*i* AML	AML	15 38 22.0	
	comp=N,94nm,0.5s						
VMUR				*i* AML	AML	15 38 24.0	
	comp=E,87nm,0.4s						
SBZ	**Shahbuz**	**0.94**	**46**	P	**Pn**	**15 38 10.2**	**-0.1**
SBZ				S	**Sn**	**15 38 25.1**	**+0.8**
HYR	**Heyderabad**	**0.98**	**8**	P	**Pn**	**15 38 12.0**	**+1.3**
HYR				S	**Sn**	**15 38 25.3**	**+0.2**
TVAN	**Van**	**1.02**	**258**	P	**Pb**	**15 38 10.3**	**-0.1**
TVAN				*i* AML	AML	15 38 36.0	
	comp=E,66nm,0.9s						
TVAN				*i* AML	AML	15 38 43.0	
	comp=N,56nm,0.5s						
ORD	**Ordubad**	**1.05**	**80**	P	**Pn**	**15 38 12.6**	**+1.0**
ORD				S	**Sn**	**15 38 29.1**	**+2.3**
ITBZ	**Tabriz**	**1.27**	**114**	Pg	**Pn**	**15 38 14.2**	**-0.6**
HAKT	**HAKKARI**	**1.41**	**213**	P	**Pb**	**15 38 16.9**	**-0.2**
HAKT				S	**Sg**	**15 38 37.2**	**+1.7**
HAKT				*i* AML	AML	15 38 42.0	
	comp=N,29nm,0.3s						
HAKT				*i* AML	AML	15 38 53.0	
	comp=E,36nm,0.6s						
IAZR	**Azarshahr**	**1.48**	**136**	Pg	**Pg**	**15 38 19.2**	**+0.7**
KOTA	**Agri, Merkez-K**	**1.55**	**313**	P	**Pg**	**15 38 20.3**	**+0.5**
KOTA				S	**Sg**	**15 38 43.3**	**+3.4**
KOTA				*i* AML	AML	15 38 45.0	
	comp=E,20nm,0.5s						
KOTA				*i* AML	AML	15 38 49.0	
	comp=N,18nm,0.8s						
DORK	**Agr/Tutak/Do**	**1.61**	**294**	P	**Pb**	**15 38 20.1**	**-0.3**
DORK				S	**Sg**	**15 38 44.7**	**+3.0**
DORK				*i* AML	AML	15 38 45.0	
	comp=N,33nm,0.6s						
DORK				*i* AML	AML	15 38 47.0	
	comp=E,36nm,1.0s						
IHRS	**Heris**	**1.91**	**102**	Pn	**Pg**	**15 38 26.4**	**-0.3**
GDB	**GEDABAY**	**2.14**	**23**	P	**Pg**	**15 38 30.2**	**-0.8**
GDB				S	**Sg**	**15 39 00.3**	**+1.5**
QRD	**Qoradiz**	**2.18**	**70**	P	**Pg**	**15 38 31.9**	**+0.1**
QRD				S	**Sg**	**15 39 01.2**	**+1.1**
GANJ	**Ganja**	**2.28**	**33**	P	**Pb**	**15 38 32.2**	**+0.3**
GANJ				S	**Sg**	**15 39 04.9**	**+1.5**
QZX	**Qazax, Azerbai**	**2.37**	**13**	P	**Pg**	**15 38 34.0**	**-1.4**
QZX				S	**Sg**	**15 39 06.0**	**-0.1**
YRD	**Yardimli**	**2.79**	**85**	P	**Pb**	**15 38 40.2**	**-0.4**
YRD				S	**Sg**	**15 39 17.7**	**-2.0**
LRK	**Lerik**	**2.87**	**91**	P	**Pb**	**15 38 41.0**	**-1.0**
LRK				S	**Sb**	**15 39 17.5**	**0.0**

*IDC **24** 15:40:21.1±2.4, 37°.08N×56°.77E, h0km, mb3.3/5, mbtmp3.5/6, ML4.0/1, Error ellipse: s-maj=51.0km s-min=23.5km az=175.0*
*TEH **24** 15:40:21.9, 37°.22N×57°.02E, h6km±149km, ML3.5*
ISC 24 15:40:22.6±0.7, 37°.16N±0°.06×57°.02E±0°.03, h10km, n37, σ2°72/36, mb3.3/4, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.89**	**304**	Pg	**Pb**	**15 40 39.3**	**-0.8**
SBZV	**Sabzevar**	**0.91**	**148**	Pg	**Pn**	**15 40 41.5**	**-0.1**
IMND	**Minoodasht**	**1.29**	**275**	Pg	**Pg**	**15 40 47.4**	**+0.1**
IEMG	**Emamgholi**	**1.33**	**79**	Pg	**Pg**	**15 40 48.5**	**+0.4**
IAKL	**Akhelmad**	**1.50**	**111**	Pg	**Pg**	**15 40 51.5**	**0.0**
IKRD	**Kardeh**	**2.04**	**100**	Pn	**Pg**	**15 41 00.3**	**-1.4**
IMOG	**Moghan**	**2.15**	**119**	Pn	**Pb**	**15 41 02.1**	**+0.4**
IMYA	**Miami**	**2.61**	**107**	Pn	**Pb**	**15 41 08.2**	**-1.4**
IGLO	**Ghaloghah**	**2.64**	**257**	Pn	**Pb**	**15 41 08.7**	**-1.3**
IANJ	**Anjilo**	**3.02**	**237**	Pn	**Pb**	**15 41 14.1**	**-2.5**
TNSJ	**Nastanj**	**3.21**	**186**	Pn	**Pn**	**15 41 16.5**	**+3.3**
TBJM	**Torbat-e-JAM**	**3.28**	**124**	Pn	**Pb**	**15 41 17.6**	**-3.4**
TKDS	**Koohdasht(Taba**	**3.54**	**179**	Pn	**Pn**	**15 41 21.4**	**+3.6**
IALA	**Alasht**	**3.55**	**254**	Pn	**Pb**	**15 41 21.7**	**-3.9**
ILAS	**Lasjerd**	**3.73**	**243**	Pn	**Pn**	**15 41 23.8**	**+3.4**
IFIR	**Firoozkooh**	**3.76**	**247**	Pn	**Pn**	**15 41 24.2**	**+3.3**
IPRN	**Peran**	**3.87**	**258**	Pn	**Pn**	**15 41 25.8**	**+3.5**
AFRZ	**Afriz**	**4.07**	**156**	Pn	**Pn**	**15 41 29.0**	**+4.0**
TPRV	**Parvadeh(Tabas**	**4.13**	**184**	Pn	**Pn**	**15 41 29.4**	**+3.6**
SHRT	**Shahrakht**	**4.41**	**142**	Pn	**Pn**	**15 41 32.8**	**+3.2**
MZPU	**Pul - Mazandar**	**4.43**	**262**	Pn	**Pn**	**15 41 32.6**	**+2.5**
ISFB	**Sefidab**	**4.79**	**236**	Pn	**Pn**	**15 41 38.0**	**+3.2**
ANAR	**Anarak**	**4.79**	**215**	Pn	**Pn**	**15 41 38.1**	**+3.2**
IVRN	**Varamin**	**4.80**	**245**	Pn	**Pn**	**15 41 37.5**	**+2.5**
KLST	**Kelardasht - M**	**4.82**	**264**	Pn	**Pn**	**15 41 38.3**	**+2.8**
KRSH	**Karshahi**	**5.09**	**233**	Pn	**Pn**	**15 41 42.1**	**+2.9**
IBAF	**Bafgh**	**5.69**	**193**	Pn	**Pn**	**15 41 51.2**	**+4.0**
IZEF	**Zefreh**	**5.73**	**223**	Pn	**Pn**	**15 41 51.0**	**+3.0**
IKLH	**Kolahrood**	**5.87**	**231**	Pn	**Pn**	**15 41 52.9**	**+3.0**
ISAD	**Sadrabad**	**5.91**	**209**	Pn	**Pn**	**15 41 53.2**	**+2.7**
IRAM	**Ramesheh**	**6.57**	**217**	Pn	**Pn**	**15 42 02.3**	**+2.9**
KBZ	**Khabaz**	**12.59**	**306**	Pn	**Pn**	**15 43 20.1**	**-1.5**
	0.8nm,0.3s,baz=151,slow=3.7,SNR=8.5						
	3.1nm,0.5s						
MKAR	**Makanchi Array**	**21.03**	**55**	P		15 45 08.8	
	1.4nm,0.7s,baz=247,slow=8.9,SNR=10						
	1.4nm,0.7s						
AKASG	**Malin Array Be**	**23.99**	**313**	P	**P**	**15 45 37.8**	**+0.6**
	0.2nm,0.3s,baz=103,slow=8.5,SNR=2.5						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**25.46**	**40**	P	**P**	**15 45 51.9**	**+1.4**
	0.6nm,0.5s,baz=231,slow=9.1,SNR=3.2						
	0.6nm,0.5s						
NOA	**NORSAR Array B**	**37.20**	**325**	P	**P**	**15 47 33.5**	**-0.2**
	0.1nm,0.4s,baz=112,slow=5.5,SNR=1.9						
	0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**54.64**	**259**	P	**P**	**15 49 50.1**	**-1.6**
	0.3nm,0.5s,baz=65,slow=6.6,SNR=3.0						
	0.3nm,0.5s						

IDC 24 15:41:07.6±871.0, 55°.86N×38°.67E, h0km, Error ellipse: s-maj=328.4km s-min=32.0km az=137.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**1.18**	**317**	I	I	15 47 50.0	
	0.1nm,0.8s,baz=136,slow=311,SNR=1.6						
I37NO	**I37NO**	**16.05**	**334**	I	I	17 19 20.0	
	baz=136,slow=320,SNR=1.2						
I26DE	**FREYUNG INFRAS**	**16.72**	**256**	I	I	17 20 00.0	
	baz=56,slow=336,SNR=0.2						

*IDC **24** 15:50:03.0±6.0, 11°.55S×166°.28E, h75km±52km, mb3.7/7, mbtmp4.0/8, ML3.2/1, Error ellipse: s-maj=37.4km s-min=32.3km az=166.0*
ISC 24 15:50:01.2±1.1, 11°.58S±0°.10×166°.4E±0°.2, h59km, n9, σ1°23/11, mb4.0/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.44**	**180**	P	**Pn**	**15 52 29.7**	**+1.5**
	0.2nm,0.3s,baz=277,slow=18,SNR=3.2						
DZM				S	**Sn**	**15 54 21.6**	**-2.1**
	3.0nm,0.6s,baz=102,slow=23,SNR=1.4						
	9.4nm,1.0s						
CTA	**Charters Tower**	**21.10**	**244**	P	**P**	**15 54 42.1**	**+1.2**
	0.3nm,0.8s,baz=75,slow=7.5,SNR=3.2						
STKA	**Stephens Creek**	**30.48**	**225**	P	**P**	**15 56 09.6**	**+0.9**
	0.8nm,0.3s,baz=60,slow=9.3,SNR=3.5						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**31.88**	**251**	P	**P**	**15 56 20.1**	**-1.0**
	2.3nm,0.8s,baz=81,slow=9.2,SNR=17						
	2.3nm,0.8s						
ASAR	**Alice Springs**	**33.10**	**244**	P	**P**	**15 56 30.9**	**-0.8**
	2.2nm,0.7s,baz=66,slow=10,SNR=39						
ASAR				PcP	**PcP**	**15 59 13.1**	**-1.0**
	0.3nm,0.7s,baz=77,slow=1.8,SNR=5.2						
	2.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**72.88**	**293**	P	**P**	**16 01 24.6**	**+0.1**
	0.4nm,0.4s,baz=111,slow=4.9,SNR=2.2						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**78.43**	**180**	P	**P**	**16 01 55.8**	**+0.3**
	2.0nm,1.0s,baz=10,slow=3.2,SNR=3.9						
	2.0nm,1.0s						
ILAR	**Eielson Array**	**83.82**	**18**	P	**P**	**16 02 24.0**	**+0.1**
	0.3nm,0.7s,baz=231,slow=4.3,SNR=2.4						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**94.32**	**317**	P	**P**	**16 03 13.7**	**-0.7**
	0.7nm,0.5s,baz=98,slow=5.5,SNR=6.1						
	0.7nm,0.5s						

*NOU **24** 15:51:54.3, 42°.44S×174°.21E, h3km, MLv3.6/8, Off E. Coast of S. Island, N.Z.*
*WEL **24** 15:51:56.0±0.5, 42°.5±4°.×17°.4E±°., h12km, M3.2/13, ML3.5/13, MLv3.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=135.9, confirmed*
ISC 24 15:51:55.0±1.4, 42°.36S±0°.03×174°.17E±0°.04, h5km±11km, n85, σ0°82/94, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIKS	**Kaikoura**	**0.36**	**260**	P	**Pg**	**15 52 02.7**	**+0.7**
KIKS				S	**Sb**	**15 52 10.6**	**+0.7**
KEKS	**Kekerengu Vall**	**0.43**	**341**	P	**Pg**	**15 52 03.2**	**-0.1**
KEKS				S	**Sg**	**15 52 09.3**	**+0.4**
KHZ	**Kahutara**	**0.47**	**263**	P	**Pg**	**15 52 04.0**	**0.0**
KHZ	**Kahutara**	**0.47**	**263**	P	**Pg**	**15 52 03.9**	**-0.1**
K

HIZ	**Hauiti**	**3.88**	**8**	P	**Pn**	**15 52 56.6**	**+1.3**
HIZ	**Hauiti**	**3.88**	**8**	P	**Pn**	**15 52 56.3**	**+1.0**
TLZ	**Tolley Road**	**4.17**	**15**	P	**Pn**	**15 52 60.0**	**+0.8**
EAZ	**Earnscleugh**	**4.54**	**229**	P	**Pn**	**15 53 03.7**	**-0.6**
MKAZ	**Moumakai**	**5.31**	**9**	P	**Pn**	**15 53 14.8**	**0.0**

*NEIC **24** 16:00:17.5±0.6, 41°.68N±0°.08×126°.8W±0°.2, h11km±10km, ML2.8/46, Error ellipse: s-maj=22.1km s-min=11.2km az=83.0*
*IDC **24** 16:00:18.5±1.2, 42°.16N×126°.66W, h0km, mb3.7/13, mbtmp3.6/16, ML3.4/3, Error ellipse: s-maj=32.9km s-min=10.6km az=28.0*

ISC 24 16:00:18.3±0.8, 41°.77N±0°.08×126°.86W±0°.09, h10km, n44, σ1§57/37, mb3.8/13, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**2.01**	**76**		**Pn**	**16 00 50.8**	**-1.6**
KBO				IAML		16 01 21.0	
	comp=N,70nm,2.2s						
KBO				IAML		16 01 43.2	
	comp=E,75nm,2.1s						
KRPM	**Rodgers**	**2.22**	**105**		**Pn**	**16 00 53.2**	**-1.9**
KRPM				IAML		16 01 28.1	
	comp=N,67nm,2.4s						
KRPM				IAML		16 01 47.7	
	comp=E,82nm,2.2s						
KRMB	**Red Mountain**	**2.23**	**95**		**Pn**	**16 00 53.7**	**-1.7**
KSXB	**Camp Six Broad**	**2.23**	**87**		**Pn**	**16 00 54.2**	**-1.2**
KSXB				IAML		16 01 09.3	
	comp=E,34nm,1.6s						
KMPM	**Mount Pierce**	**2.47**	**122**		**Pn**	**16 00 56.5**	**-2.2**
KMPM				IAML		16 01 16.4	
	comp=E,55nm,0.8s						
KMPM				IAML		16 01 18.4	
	comp=N,57nm,1.6s						
L02F	**Cave Junction**	**2.48**	**81**		**Pn**	**16 00 56.8**	**-1.9**
KHMM	**Horse Mountain**	**2.52**	**110**		**Pn**	**16 00 58.1**	**-1.4**
KHMM				IAML		16 01 51.1	
	comp=E,34nm,1.9s						
KHMM				IAML		16 01 58.2	
	comp=N,36nm,1.7s						
J01E	**Myrtle Point**	**2.58**	**56**		**Pn**	**16 00 58.8**	**-1.2**
J01E				IAML		16 01 39.5	
	comp=N,32nm,2.9s						
J01E				IAML		16 01 57.9	
	comp=E,50nm,2.3s						
KMRM	**Mail Ridge**	**2.84**	**122**		**Pn**	**16 01 01.6**	**-2.2**
KMRM				IAML		16 01 22.2	
	comp=E,43nm,0.9s						
KMRM				IAML		16 01 30.6	
	comp=N,37nm,2.1s						
DBO	**Dodson Butte**	**3.00**	**62**		**Pn**	**16 01 05.3**	**-0.7**
DBO				IAML		16 01 48.5	
	comp=E,31nm,2.0s						
DBO				IAML		16 01 50.9	
	comp=N,28nm,1.9s						
HUMO	**Hull Mountain**	**3.02**	**73**		**Pn**	**16 01 05.2**	**-1.0**
YBH	**Yreka Blue Hor**	**3.11**	**89**		**Pn**	**16 01 06.0**	**-1.4**
YBH	**Yreka Blue Hor**	**3.11**	**89**	Pn	**Pn**	**16 01 07.0**	**-0.4**
	comp=N,1.7nm,0.3s,baz=270,slow=12,SNR=45						
YBH				Sn	**Sn**	**16 01 45.0**	**+0.4**
	baz=182,slow=23						
	comp=N,19nm,0.8s						
O02D	**Mt. Diablo Mer**	**3.47**	**116**		**Pn**	**16 01 10.6**	**-1.8**
BUCK	**Buck Mountain**	**3.74**	**48**		**Pn**	**16 01 15.8**	**-0.3**
I04A	**Tendick Farm,**	**3.85**	**57**		**Pn**	**16 01 17.3**	**-0.3**
I04A				IAML		16 02 08.2	
	comp=N,18nm,2.1s						
I04A				IAML		16 02 08.4	
	comp=E,16nm,1.6s						
H04D	**Lebanon**	**4.08**	**46**		**Pn**	**16 01 21.0**	**+0.2**
HATC	**Hat Creek Radi**	**4.18**	**101**		**Pn**	**16 01 20.5**	**-1.6**
J05D	**Fort Rock, OR**	**4.43**	**68**		**Pn**	**16 01 24.2**	**-1.4**
J05D				IAML		16 02 34.8	
	comp=E,15nm,3.5s						
J05D				IAML		16 04 21.5	
	comp=N,13nm,3.8s						
H04A	**Detroit Lake**	**4.49**	**48**		**Pn**	**16 01 25.8**	**-0.6**
H04A				IAML		16 02 24.9	
	comp=N,11nm,0.9s						
H04A				IAML		16 02 37.6	
	comp=E,11nm,2.2s						
PINE	**Pine Mountain**	**4.80**	**63**	IAML		16 02 08.4	
	comp=N,9.6nm,3.5s						
PINE				IAML		16 03 31.8	
	comp=E,10nm,4.7s						
NVAR	**Mina Array Bea**	**7.36**	**114**	Pn	**Pn**	**16 02 09.7**	**+3.7**
	comp=E,0.2nm,0.3s,baz=310,slow=13,SNR=12						
	comp=E,1.7nm,0.7s						
ELK	**Elko**	**8.82**	**93**	Pn	Pn	16 02 31.4	+5.5
	comp=E,0.1nm,0.3s,baz=290,slow=14,SNR=2.9						
PDAR	**Pinedale Array**	**12.86**	**80**	Pn	**Pn**	**16 03 23.7**	**+2.4**
	comp=E,0.1nm,0.3s,baz=257,slow=7.3,SNR=1.7						
	comp=E,0.1nm,0.4s						
DLBC	**Dease Lake**	**16.81**	**354**	Pn	**P**	**16 04 15.1**	**-0.6**
	comp=E,0.3nm,0.3s,baz=176,slow=14,SNR=1.6						
YKA	**Yellowknife Ar**	**22.00**	**15**	P	**P**	**16 05 11.1**	**-1.2**
	comp=E,0.7nm,1.0s,baz=207,slow=11,SNR=2.3						
	comp=E,0.7nm,1.0s						
TXAR	**Lajitas Array**	**22.50**	**116**	P	**P**	**16 05 20.9**	**+2.8**
	comp=E,0.3nm,0.6s,baz=300,slow=3.8,SNR=2.2						
	comp=E,0.3nm,0.6s						
ULM	**Lac du Bonnet**	**23.00**	**58**	P	**P**	**16 05 22.1**	**-0.9**
	comp=E,1.6nm,0.5s,baz=263,slow=9.4,SNR=2.3						
	comp=E,1.6nm,0.5s						
ILAR	**Eielson Array**	**25.73**	**340**	P	**P**	**16 05 47.9**	**-0.7**
	comp=E,0.4nm,0.6s,baz=150,slow=9.4,SNR=4.5						
	comp=E,0.4nm,0.6s						
H11N3	**WAKE ISLAND Hy**	**59.56**	**270**	T	T	17 14 36.4	
	baz=52,slow=75,SNR=127						
H11N2	**WAKE ISLAND Hy**	**59.56**	**270**	T	T	17 14 35.9	
	baz=52,slow=75,SNR=94						
H11N1	**WAKE ISLAND Hy**	**59.58**	**270**	T	T	17 14 37.5	
	baz=52,slow=75						
H11S1	**WAKE ISLAND Hy**	**60.45**	**269**	T	T	17 15 40.9	
	baz=52,slow=75,SNR=266						
H11S2	**WAKE ISLAND Hy**	**60.46**	**269**	T	T	17 15 40.2	
	baz=52,slow=75,SNR=226						
H11S3	**WAKE ISLAND Hy**	**60.47**	**269**	T	T	17 15 42.2	
	baz=52,slow=75,SNR=235						
USRK	**Ussuriysk Ar.**	**69.08**	**311**	P	**P**	**16 11 26.7**	**+2.5**
	comp=E,0.9nm,0.8s,baz=80,slow=1.6,SNR=3.6						
	comp=E,0.9nm,0.8s						
NOA	**NORSAR Array B**	**72.01**	**20**	P	**P**	**16 11 41.7**	**-0.2**
	comp=E,0.2nm,0.5s,baz=328,slow=6.0,SNR=2.9						
	comp=E,0.2nm,0.5s						
FINES	**FINESS Array B**	**74.82**	**13**	P	**P**	**16 11 57.5**	**-0.8**
	comp=E,0.7nm,0.7s,baz=337,slow=3.2,SNR=2.3						
	comp=E,0.7nm,0.7s						
SONM	**Songino Array**	**79.11**	**327**	P	**P**	**16 12 22.0**	**-0.9**
	comp=E,0.4nm,0.5s,baz=38,slow=7.3,SNR=1.9						
	comp=E,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**80.85**	**342**	P	**P**	**16 12 33.5**	**+1.4**
	comp=E,0.4nm,0.4s,baz=357,slow=5.8,SNR=1.8						
	comp=E,0.4nm,0.4s						
ESDC	**Sonseca Array**	**83.78**	**41**	P	**P**	**16 12 48.0**	**+0.3**
	comp=E,0.3nm,0.3s,baz=300,slow=4.5,SNR=2.3						
	comp=E,0.3nm,0.3s						
BVAR	**Borovoye Array**	**84.41**	**350**	P	**P**	**16 12 49.9**	**-0.8**
	comp=E,1.2nm,1.1s,baz=33,slow=4.0,SNR=3.6						
	comp=E,1.2nm,1.1s						
KURBB	**Kurchatov Arra**	**85.34**	**344**	P	**P**	**16 12 54.4**	**-0.9**
	comp=E,1.1nm,0.2s,baz=36,slow=4.9,SNR=4.3						
	comp=E,1.1nm,0.2s						
AKASG	**Malin Array Be**	**85.56**	**15**	P	**P**	**16 12 55.1**	**-1.4**
	comp=E,0.6nm,0.6s,baz=335,slow=4.2,SNR=2.3						
	comp=E,0.6nm,0.6s						

*ISN **24** 16:00:46.6±1.0, 34°.68N×46°.38E, h24km±19km, ML2.8*
*TEH **24** 16:00:46.2, 34°.63N×46°.32E, h8km±42km, ML2.8*

ISC 24 16:00:46.3±1.2, 34°.64N±0°.04×46°.33E±0°.04, h10km±11km, n14, σ0§67/17, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.08**	**38**	Pg	**Pg**	**16 00 48.7**	**-0.1**
IGHG	**Ghaleghazi**	**0.36**	**147**	Pg	**Pg**	**16 00 54.1**	**+0.5**
ILIN	**Lien**	**0.59**	**62**	Pg	**Pg**	**16 00 57.5**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.62**	**258**	Pg	**Pg**	**16 00 58.3**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.63**	**214**	Pg	**Pg**	**16 00 58.0**	**-0.4**
KCHF	**Cheshme Sefid,**	**0.69**	**121**	Pg	**Pg**	**16 00 59.4**	**-0.3**
ILBA	**Ilam Banvizeh**	**1.01**	**186**	Pg	**Pb**	**16 01 05.3**	**-0.7**
SNQR	**Sonqor, Kerman**	**1.09**	**78**	Pg	**Pg**	**16 01 07.6**	**+0.3**
IBZA	**Bozab**	**1.28**	**97**	Pg	**Pg**	**16 01 10.6**	**-0.3**
IBDR	**Badra**	**1.56**	**192**	*e*Pg	**Pg**	**16 01 16.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**16 01 36.0**	**+0.9**
IBDR				AML	AML	16 01 41.7	
	comp=E,245nm,0.6s						
IBDR				AML	AML	16 01 46.8	
	comp=N,78nm,0.2s						
IKFM	**Kafar-mosalman**	**1.68**	**131**	Pg	**Pg**	**16 01 18.1**	**-0.4**
IKRK	**Kirkuk**	**1.80**	**296**	*e*Pn	**Pn**	**16 01 18.0**	**+0.5**
IKRK				*e*Sn	**Sb**	**16 01 42.0**	**-0.1**
HSAM	**Samen**	**1.93**	**102**	Pn	**Pg**	**16 01 22.7**	**-0.6**
BHD	**Baghdad**	**2.12**	**230**	*e*Pn	**Pn**	**16 01 23.0**	**+1.2**
BHD				*e*Sn	**Sb**	**16 01 50.0**	**-1.1**

HEL 24 16:10:07.9±1.1, 69°.47N×31°.34E, h0km, ML0.9, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.48**	**229**	PG	Pn	16 10 34.3	-1.5
RAJF				SN	Sg	16 10 55.4	-0.1
KEV	**Kevo**	**1.54**	**283**	PN	Pn	16 10 36.0	-0.6
	baz=108						
KEV				MSG		16 10 54.3	
	comp=Z,0.5nm,0.2s						
KEV				SN	Sg	16 10 58.9	+1.5
VRF	**Varrio**	**1.85**	**201**	MSG		16 11 02.9	
	comp=Z,1.0nm,0.2s						
VRF				SN	Sn	16 11 04.8	0.0
ARA0	**ARCESS Array S**	**2.06**	**274**	PG	Pn	16 10 44.6	+0.9
	baz=87						
ARA0				SG	Sn	16 11 09.1	-0.8

*IDC **24** 16:27:41.3±13.0, 33°.52N×46°.45E, h0km, mb3.7/4, mbtmp3.6/5, ML2.9/1, MS3.6/1, Error ellipse: s-maj=233.9km s-min=70.2km az=171.0*
*TEH **24** 16:27:51.2, 34°.63N×46°.32E, h9km±8km, ML3.6*
*ISN **24** 16:27:52.3±1.4, 34°.67N×46°.35E, h25km±33km, ML3.6*

ISC 24 16:27:52.1±1.0, 34°.64N±0°.03×46°.30E±0°.03, h6km±7km, n36, σ1§30/40, mb3.6/4, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.09**	**52**	Pg	**Pg**	**16 27 53.8**	**-0.5**
IDHR				Sg	**Sg**	**16 27 56.1**	**+0.1**
IGHG	**Ghaleghazi**	**0.38**	**144**	Pg	**Pg**	**16 27 59.2**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.60**	**257**	Pg	**Pg**	**16 28 03.4**	**-0.3**
ILIN	**Lien**	**0.61**	**63**	Pg	**Pg**	**16 28 03.0**	**-1.0**
ILIN				Sg	**Sg**	**16 28 12.2**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.62**	**212**	Pg	**Pg**	**16 28 03.4**	**-0.6**
KCHF	**Cheshme Sefid,**	**0.71**	**121**	Pg	**Pg**	**16 28 04.6**	**-1.2**
ILBA	**Ilam Banvizeh**	**1.02**	**184**	Pg	**Pg**	**16 28 10.8**	**-0.9**
SNQR	**Sonqor, Kerman**	**1.11**	**79**	Pg	**Pg**	**16 28 12.4**	**-1.1**
IBZA	**Bozab**	**1.30**	**97**	Pg	**Pg**	**16 28 15.7**	**-1.4**
IBDR	**Badra**	**1.56**	**191**	*e*Pg	**Pb**	**16 28 21.5**	**+0.2**
IBDR				*e*Sg	**Sn**	**16 28 41.0**	**+0.2**
IBDR				AML	AML	16 28 47.0	
	comp=E,2μm,0.6s						
IBDR				AML	AML	16 28 53.9	
	comp=N,436nm,0.6s						
SDS1	**Sardasht. Az.**	**1.64**	**336**	Pg	**Pn**	**16 28 21.4**	**-0.2**
IKFM	**Kafar-mosalman**	**1.70**	**131**	Pg	**Pn**	**16 28 22.5**	**+0.3**
IKRK	**Kirkuk**	**1.78**	**296**	*e*Pn	**Pn**	**16 28 23.0**	**-0.3**
IKRK				*e*Sn	**Sg**	**16 28 47.0**	**-2.2**
HSAM	**Samen**	**1.95**	**102**	Pn	**Pn**	**16 28 26.8**	**+0.9**
BHD	**Baghdad**	**2.10**	**230**	*e*Pn	**Pn**	**16 28 29.0**	**+1.3**
BHD				*e*Sn	**Sn**	**16 28 55.0**	**+0.9**
MAHB	**Mahabad**	**2.17**	**347**	Pn	**Pn**	**16 28 29.9**	**+1.0**
IHSH	**Hashtrud**	**2.77**	**16**	Pn	**Pn**	**16 28 38.8**	**+1.5**
IAZR	**Azarshahr**	**3.04**	**355**	Pn	**Pn**	**16 28 42.0**	**+1.1**
ISRB	**Sarab**	**3.36**	**19**	Pn	**Pn**	**16 28 46.4**	**+1.1**
ISHB	**Shabestar**	**3.67**	**352**	Pn	**Pn**	**16 28 51.0**	**+1.3**
IHRS	**Heris**	**3.72**	**9**	Pn	**Pn**	**16 28 51.5**	**+1.4**
IPIR	**Pirpir**	**4.30**	**116**	Pn	**Pn**	**16 28 58.9**	**+0.6**
QAMS	**Qamsar**	**4.32**	**101**	Pn	**Pn**	**16 28 59.5**	**+1.0**
GRMI	**Germi**	**4.35**	**17**	Pn	**Pn**	**16 29 00.0**	**+1.2**
JHBN	**Jahan bin**	**4.37**	**122**	Pn	**Pn**	**16 29 00.2**	**+0.9**
ZNGN	**Zangian**	**4.57**	**122**	Pn	**Pn**	**16 29 02.8**	**+0.8**
KRSH	**Karshahi**	**4.88**	**96**	Pn	**Pn**	**16 29 06.9**	**+0.9**
ISFB	**Sefidab**	**4.92**	**92**	Pn	**Pn**	**16 29 07.1**	**+0.6**
IZEF	**Zefreh**	**5.32**	**107**	Pn	**Pn**	**16 29 13.4**	**+1.2**
IRAM	**Ramesheh**	**5.83**	**117**	Pn	**Pn**	**16 29 20.1**	**+0.9**
BRTR	**Keskin Array B**	**11.30**	**300**	Pn	**Pn**	**16 30 38.0**	**+3.9**
	comp=N,0.1nm,0.3s,baz=123,slow=10,SNR=5.9						
	comp=N,1.1nm,0.8s						
WSAR	**Wadi Sarin**	**15.66**	**133**	LR	LR	16 38 39.5	
	comp=N,234nm,18.5s,baz=198,slow=44						
FINES	**FINESS Array B**	**29.77**	**340**	P	**P**	**16 33 57.2**	**-1.9**
	comp=N,0.5nm,0.6s,baz=141,slow=9.0,SNR=3.9						
	comp=N,0.5nm,0.6s						
HFS	**Hagfors**	**33.12**	**330**	P	**P**	**16 34 26.5**	**-2.1**
	comp=N,0.4nm,0.3s,baz=126,slow=7.3,SNR=5.0						
	comp=N,0.4nm,0.3s						
ARCES	**ARCESS Array B**	**36.79**	**348**	P	**P**	**16 35 01.6**	**+1.4**
	comp=N,2.1nm,1.0s,baz=161,slow=8.6,SNR=4.6						
	comp=N,2.1nm,1.0s						
EKA	**Eskdalemuir Ar**	**39.59**	**317**	P	**P**	**16 35 22.1**	**-1.9**
	comp=N,0.3nm,0.5s,baz=106,slow=9.1,SNR=4.0						
	comp=N,0.3nm,0.5s						

*IDC **24** 16:35:33.9±1.5, 41°.73N×127°.04W, h0km, mb3.6/11, mbtmp3.5/15, ML2.8/4, MS3.5/6, Error ellipse: s-maj=36.6km s-min=12.6km az=26.0*
*NEIC **24** 16:35:34.7±1.4, 41°.62N±0°.08×127°.0W±0°.2, h10km±2km, ML2.9/44, Error ellipse: s-maj=21.4km s-min=13.9km az=262.0*

ISC 24 16:35:35.2±0.9, 41°.64N±0°.07×127°.02W±0°.09, h11km, n55, σ0§94/47, mb3.7/11, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**2.16**	**74**		**Pn**	**16 36 09.8**	**-1.4**
KBO				IAML		16 36 51.1	
	comp=E,77nm,1.6s						
KBO				IAML		16 37 04.6	
	comp=N,87nm,1.9s						
KRPM	**Rodgers**	**2.30**	**101**		**Pn**	**16 36 12.4**	**-0.8**
KRPM				IAML		16 37 07.8	
	comp=N,106nm,1.6s						
KRMB	**Red Mountain**	**2.33**	**92**		**Pn**	**16 36 12.9**	**-0.7**
KSXB	**Camp Six Broad**	**2.36**	**84**	Pn	**Pn**	**16 36 12.7**	**-1.3**
KSXB				IAML		16 36 28.2	
	comp=E,59nm,1.7s						
KSXB				IAML		16 36 57.5	
	comp=N,53nm,1.7s						
JCC	**Jacoby Creek,**	**2.40**	**109**	Pn	**Pn**	**16 36 14.0**	**-0.4**
KMPM	**Mount Pierce**	**2.51**	**118**		**Pn**	**16 36 15.6**	**-0.5**
KMPM				IAML		16 37 10.3	
	comp=N,66nm,1.8s						
KHMM	**Horse Mountain**	**2.59**	**106**	Pn	**Pn**	**16 36 16.3**	**-0.9**
KHMM				IAML		16 37 15.4	
	comp=N,52nm,1.9s						
KHMM				IAML		16 37 19.0	
	comp=E,49nm,1.9s						
L02F	**Cave Junction**	**2.62**	**78**		**Pn**	**16 36 16.4**	**-1.1**
J01E	**Myrtle Point**	**2.74**	**55**		**Pn**	**16 36 17.7**	**-1.5**
J01E				IAML		16 36 55.0	
	comp=N,44nm,1.7s						
J01E				IAML		16 37 01.3	
	comp=E,46nm,1.9s						
KMRM	**Mail Ridge**	**2.88**	**118**		**Pn**	**16 36 20.7**	**-0.4**
KMRM				IAML		16 37 07.9	
	comp=N,57nm,1.4s						
KMRM				IAML		16 37 34.0	
	comp=E,56nm,1.6s						
DBO	**Dodson Butte**	**3.16**	**61**	Pn	**Pn**	**16 36 23.9**	**-1.1**
DBO				IAML		16 36 54.2	
	comp=N,34nm,2.8s						
DBO				IAML		16 37 26.7	
	comp=E,47nm,1.9s						
HUMO	**Hull Mountain**	**3.17**	**71**	Pn	**Pn**	**16 36 24.3**	**-0.8**
HUMO				IAML		16 36 49.4	
	comp=E,26nm,1.9s						
YBH	**Yreka Blue Hor**	**3.23**	**87**		**Pn**	**16 36 26.1**	**+0.2**
YBH	**Yreka Blue Hor**	**3.23**	**87**	Pn	**Pn**	**16 36 26.8**	**+0.9**
	comp=E,0.7nm,0.3s,baz=285,slow=16,SNR=23						
YBH				Sn	**Sn**	**16 37 06.1**	**+1.7**
	comp=E,0.2nm,0.3s,baz=241,slow=19,SNR=1.6						
YBH				LR	LR	16 37 29.9	
	comp=E,311nm,20.9s,baz=296,slow=36						
	comp=E,12nm,0.8s						
I03D	**Drain, OR**	**3.40**	**52**	Pn	**Pn**	**16 36 27.2**	**-0.9**
I03D				IAML		16 36 59.8	
	comp=N,22nm,1.7s						
I03D				IAML		16 37 41.9	
	comp=E,20nm,1.9s						
O02D	**Mt. Diablo Mer**	**3.52**	**113**	Pn	**Pn**	**16 36 28.7**	**-1.2**
BUCK	**Buck Mountain**	**3.91**	**48**		**Pn**	**16 36 35.6**	**+0.3**
I04A	**Tendick Farm,**	**4.02**	**56**	Pn	**Pn**	**16 36 36.5**	**-0.3**
I04A				IAML		16 37 34.8	
	comp=N,22nm,1.6s						
H04D	**Lebanon**	**4.26**	**46**	Pn	**Pn**	**16 36 40.8**	**+0.8**
J05D	**Fort Rock, OR**	**4.58**	**67**		**Pn**	**16 36 44.1**	**-0.4**
J05D				IAML		16 38 09.4	
	comp=N,15nm,3.5s						
H04A	**Detroit Lake**	**4.66**	**48**	Pn	**Pn**	**16 36 45.7**	**+0.1**
H04A				IAML		16 37 23.5	
	comp=N,11nm,0.9s						
H04A				IAML		16 38 23.1	
	comp=E,11nm,2.2s						
PINE	**Pine Mountain**	**4.96**	**62**	Pn	**Pn**	**16 36 49.8**	**-0.1**
F04A	**Amboy**	**5.43**	**36**		**Pn**	**16 36 56.8**	**+0.7**
G05A	**Wamic**	**5.49**	**47**		**Pn**	**16 36 57.9**	**+1.0**
G06A	**Carlson Farm,**	**5.87**	**50**	Pn	**Pn**	**16 37 02.9**	**+0.7**
I07A	**Izee**	**6.04**	**64**	Pn	**Pn**	**16 37 05.3**	**+0.8**
LON	**Longmire**	**6.33**	**34**	Pn	**Pn**	**16 37 09.2**	**+0.7**
G08A	**Pilot Rock**	**6.90**	**55**		**Pn**	**16 37 17.4**	**+0.9**
LTY	**Liberty**	**7.22**	**37**	Pn	**Pn**	**16 37 21.6**	**+0.8**
NVAR	**Mina Array Bea**	**7.41**	**113**	Pn	**Pn**	**16 37 25.4**	**+1.8**
	comp=E,0.1nm,0.3s,baz=286,slow=14,SNR=1.9						
NVAR				LR	LR	16 40 34.4	
	comp=E,303nm,19.3s,baz=275,slow=40						
	comp=E,0.2nm,0.5s						
BMO	**Blue Mountains**	**7.78**	**62**	Pn	**Pn**	**16 37 29.0**	**+0.5**
ELK	**Elko**	**8.93**	**92**	Pn	**Pn**	**16 37 46.8**	**+2.5**
	comp=E,0.1nm,0.3s,baz=286,slow=14,SNR=2.3						
	comp=E,0.3nm,0.3s						
NEW	**Newport**	**9.64**	**43**	LR	LR	16 41 39.4	
	comp=E,132nm,19.6s,baz=236,slow=38						
PFO	**Pinyon Flats O**	**11.58**	**130**	LR	LR	16 42 46.4	
	comp=E,187nm,18.8s,baz=290,slow=37						
PDAR	**Pinedale Array**	**13.00**	**79**	Pn	**P**	**16 38 48.6**	**-2.0**
	comp=E,0.1nm,0.3s,baz=270,slow=4.5,SNR=2.4						
PDAR				LR	LR	16 43 41.1	
	comp=E,129nm,21.4s,baz=260,slow=38						
DLBC	**Dease Lake**	**16.92**	**355**	Pn	**P**	**16 39 33.6**	**-0.2**
	comp=E,0.2nm,0.3s,baz=163,slow=14,SNR=3.8						
ANMO	**Albuquerque**	**17.45**	**106**	P	**P**	**16 39 40.0**	**0.0**
	comp=E,0.1nm,0.3s,baz=37,slow=6.4,SNR=2.0						
	comp=E,0.7nm,0.5s						
YKA	**Yellowknife Ar**	**22.16**	**15**	P	**P**	**16 40 29.9**	**-0.9**
	comp=E,0.7nm,0.9s,baz=207,slow=11,SNR=5.4						
	comp=E,0.7nm,0.9s						
TXAR	**Lajitas Array**	**22.55**	**116**	P	**P**	**16 40 35.7**	**+0.2**
	comp=E,0.2nm,0.6s,baz=302,slow=7.1,SNR=2.4						
	comp=E,0.2nm,0.6s						
ULM	**Lac du Bonnet**	**23.16**	**58**	P	**P**	**16 40 41.5**	**0.0**
	comp=E,2.2nm,0.7s,baz=255,slow=11,SNR=2.5						
	comp=E,2.2nm,0.7s						
ILAR	**Eielson Array**	**25.82**	**340**	P	**P**	**16 41 05.9**	**-0.2**
	comp=E,0.6nm,0.9s,baz=158,slow=7.4,SNR=7.9						
	comp=E,0.6nm,0.9s						
SCHQ	**Schefferville**	**40.93**	**50**	P	**P**	**16 43 17.2**	**-0.2**
	comp=E,4.1nm,0.9s,baz=275,slow=12,SNR=3.6						
	comp=E,4.1nm,0.9s						
H11N3	**WAKE ISLAND Hy**	**59.44**	**270**	T	T	17 49 50.1	
	baz=52,slow=75,SNR=20						
H11N2	**WAKE ISLAND Hy**	**59.45**	**270**	T	T	17 49 54.6	
	baz=52,slow=75,SNR=122						
H11N1	**WAKE ISLAND Hy**	**59.46**	**270**	T	T	17 50 01.1	
	baz=52,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**60.33**	**269**	T	T	17 51 02.1	
	baz=52,slow=75						
H11S2	**WAKE ISLAND Hy**	**60.34**	**269**	T	T	17 51 01.8	
	baz=52,slow=75						
H11S3	**WAKE ISLAND Hy**	**60.35**	**269**	T	T	17 51 02.6	
	baz=52,slow=75						
NOA	**NORSAR Array B**	**72.17**	**20**	P	**P**	**16 46 59.5**	**-0.1**
	comp=E,0.1nm,0.4s,baz=328,slow=6.3,SNR=2.1						
	comp=E,0.1nm,0.4s						
FINES	**FINESS Array B**	**74.97**	**13**	P	**P**	**16 47 16.4**	**+0.4**
	comp=E,1.0nm,0.9s,baz=20,slow=7.1,SNR=3.6						
	comp=E,1.0nm,0.9s						
KSRS	**Korea Array**	**75.77**	**308**	LR	LR	17 20 56.6	
	comp=E,248nm,18.5s,baz=75,slow=36						
SONM	**Songino Array**	**79.15**	**327**	P	**P**	**16 47 40.2**	**+0.2**
	comp=E,0.3nm,0.4s,baz=50,slow=4.5,SNR=4.6						
	comp=E,0.3nm,0.4s						
ESDC	**Sonseca Array**	**83.95**	**41**	P	**P**	**16 48 06.3**	**+0.9**
	comp=E,0.6nm,0.9s,baz=336,slow=2.8,SNR=4.4						
	comp=E,0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**85.44**	**344**	P	**P**	**16 48 12.7**	**+0.1**
	comp=E,0.8nm,0.9s,baz=23,slow=4.5,SNR=4.5						
	comp=E,0.8nm,0.9s						
AKASG	**Malin Array Be**	**85.72**	**15**	P

comp=N,24μm,0.7s
MLH Mauna Loa 0.10 304 Pg **Pg 16 41 12.8 +0.2**
MLH IAML 16 41 16.6
comp=E,31μm,0.6s
MLH IAML 16 41 16.7
comp=N,26μm,0.6s
KNHH Kane Nui o Ham 0.13 115 Pg **Pg 16 41 12.5 -0.6**
HLP Hilina Pali 0.14 185 Sg 16 41 16.5 +1.4
HLP Hilina Pali 0.14 185 Pg **Pg 16 41 12.9 -0.4**
HLP IAML 16 41 15.9
comp=N,30μm,1.4s
HLP IAML 16 41 16.2
comp=E,20μm,0.7s
STCH Steam Cracks 0.17 108 Pg 16 41 13.3 -0.5
STCH IAML 16 41 17.1
comp=E,28μm,1.2s
STCH IAML 16 41 17.9
comp=N,50μm,0.9s
STCH Steam Cracks 0.17 108 Sg 16 41 17.2 +1.2
NPOC North of Pu'u 0.18 104 Pg 16 41 14.0 0.0
NPOC **Sg 16 41 17.6 +1.3**
JCUZ Jacuzzi 0.19 106 Pg 16 41 14.2 0.0
JCUZ **Sg 16 41 17.7 +1.0**
HTC Hot Caves 0.22 206 Pg 16 41 14.9 +0.1
HMH Humu'ula Sheep 0.24 313 Pg 16 41 15.9 +0.7
HMH IAML 16 41 23.4
comp=N,26μm,1.7s
HMH IAML 16 41 24.5
comp=E,29μm,1.4s
HMH Humu'ula Sheep 0.24 313 Sg 16 41 20.1 +1.7
JOKA Jonika Flow 0.27 91 Pg 16 41 15.7 -0.2
JOKA IAML 16 41 23.4
comp=E,16μm,1.1s
JOKA Jonika Flow 0.27 91 Sg 16 41 20.2 +0.8
MLOA Mauna Loa Obse 0.28 291 Pg 16 41 16.5 +0.5
MWH Moku'aweowe 0.29 280 Pg **Pg 16 41 16.6 +0.5**
PAH Pahoa 0.33 80 Pg **Pg 16 41 17.4 +0.4**
KHU Kahuku 0.36 238 Pg **Pg 16 41 17.8 +0.4**
KHU IAML 16 41 23.9
comp=E,12μm,2.3s
KHU IAML 16 41 25.4
comp=N,11μm,1.5s
POHA Pohakuloa 0.39 325 Pg **Pg 16 41 18.7 +0.7**
HPO Honuapo 0.42 215 Pg **Pg 16 41 18.4 -0.3**
I59US HAWAII INFRASO 0.58 285 Pg **Pg 16 41 20.2 -1.5**
baz=107,slow=36
I59US I I 16 44 26.9
comp=N,0.3nm,0.9s,baz=106,slow=322,SNR=9.5
HPAH Hawaii Prepara 0.70 327 Pg **Pg 16 41 23.5 -0.5**
MHA Mahukona 0.94 323 Pg **Pg 16 41 26.8 -1.8**
HLK Haleakala 1.59 326 Pn **Pn 16 41 38.5 -1.7**
KHLH Kahului Airpor 1.80 324 Pn **Pn 16 41 40.2 -2.6**
KPA Kalaupapa 2.36 318 Pn **Pn 16 41 46.5 -4.0**
DHH Diamond Head 2.97 308 Pn **Pn 16 41 54.5 -4.4**
HON Honolulu 3.16 307 Pn Pn 16 41 56.9 -4.5
NVAR Mina Array Bea 37.18 51 P **P 16 48 24.3 +0.7**
comp=N,1.5nm,1.0s,baz=251,slow=11,SNR=5.2
NVAR LR LR 16 59 38.5
comp=N,382nm,20.0s,baz=256,slow=30
comp=N,1.5nm,1.0s
PPT Papeete 37.20 171 LR LR 16 59 44.9
comp=N,1μm,21.7s,baz=337,slow=30
PPT2 Papeete2 37.22 171 *e*PKIKP **P 16 48 24.8 +1.0**
comp=N,137nm,24.2s
PPT2 *e*S **S 16 54 11.5 -0.4**
comp=N,435nm,25.0s
PPT2 *e*LQ LQ 16 56 39.1
comp=N,603nm,21.8s
PPT2 *e*LR LR 16 58 19.9
comp=N,4μm,25.2s
PPT2 *e*LR LR 16 58 20.0
comp=N,3μm,26.8s
PFO Pinyon Flats O 37.28 60 LR LR 16 59 28.2
comp=N,377nm,19.1s,baz=265,slow=29
KDAK Kodiak Island 38.34 2 LR LR 17 00 28.3
comp=N,1μm,21.9s,baz=212,slow=30
BBB Bella Bella 38.97 27 LR LR 17 00 45.9
comp=N,364nm,21.1s,baz=239,slow=30
RAR Rarotonga 40.64 186 LR LR 17 01 55.8
comp=N,839nm,19.2s,baz=358,slow=31
SHEM Shemya Is, Ala 40.84 332 LR LR 17 02 25.4
comp=N,1μm,21.6s,baz=120,slow=31
LPIG La Paz 41.90 75 LR LR 17 01 43.9
comp=N,449nm,21.7s,baz=262,slow=29
NEW Newport 42.11 38 LR LR 17 02 49.9
comp=N,130nm,21.8s,baz=242,slow=31
L16K Owhat River 42.34 357 P **P 16 49 03.8 -2.1**
TBI Tubuai 42.91 172 *e*P **P 16 49 09.8 -1.1**
comp=N,383nm,25.8s
TBI *e*S **S 16 55 41.9 +5.2**
comp=N,1μm,26.5s
TBI *e*LQ LQ 16 59 08.3
comp=N,4μm,27.2s
TBI *e*LR LR 17 00 59.7
comp=N,3μm,25.5s
TBI *e*LR LR 17 01 04.6
comp=N,14μm,28.2s
DLBC Dease Lake 43.10 19 P **P 16 49 12.3 +0.1**
comp=N,0.8nm,0.4s,baz=207,slow=6.7,SNR=1.2
DLBC LR LR 17 02 38.4
comp=N,719nm,21.9s,baz=231,slow=30
comp=N,0.8nm,0.4s
M26K Nabesna, AK 43.77 8 P 16 49 18.4 +0.9
MOOW Moose Ponds 44.33 47 P **P 16 49 20.4 -2.2**
M29M Somme Creek 44.53 11 P **P 16 49 24.9 +1.2**
L27K Beaver Creek, 44.56 9 P **P 16 49 22.9 -1.1**
PDAR Pinedale Array 44.86 48 P **P 16 49 27.9 +1.0**
comp=N,1.6nm,1.0s,baz=247,slow=6.7,SNR=7.5
PDAR LR LR 17 05 24.4
comp=N,60nm,21.0s,baz=268,slow=32
comp=N,1.6nm,1.0s
BWN Browne 44.88 4 P **P 16 49 25.8 -0.5**
CCB Clear Creek Bu 45.46 5 P **P 16 49 30.1 -0.9**
CCB IAmb IAmb 16 49 49.3
comp=Z,33nm,1.8s
J25K Salcha River, 45.64 6 P **P 16 49 31.9 -0.5**
ILAR Eielson Array 45.66 5 P **P 16 49 31.9 -0.6**
comp=Z,2.3nm,0.9s,baz=197,slow=6.9,SNR=14
ILAR LR LR 17 05 35.0
comp=Z,550nm,19.8s,baz=186,slow=32
comp=Z,2.3nm,0.9s
ANMO Albuquerque 45.66 60 P **P 16 49 34.3 +1.0**
comp=Z,1.4nm,0.8s,baz=214,slow=7.3,SNR=3.6
ANMO LR LR 17 04 24.3
comp=Z,220nm,21.9s,baz=3.0,slow=30
comp=Z,1.4nm,0.8s
EGAK Eagle 46.29 8 P **P 16 49 37.5 -0.1**
PRP Porcupine Dome 46.51 6 P **P 16 49 38.7 -0.8**
PRP IAmb IAmb 16 49 52.1
comp=Z,13nm,1.4s
I26K Coal Creek Min 46.55 7 P **P 16 49 40.0 +0.4**
I26K IAmb IAmb 16 49 46.8
comp=Z,12nm,1.1s
H24K Noodor Dome 46.63 4 P **P 16 49 39.6 -0.7**
H24K IAmb IAmb 16 49 53.9
comp=Z,7.3nm,0.7s
J30M Hart River 46.87 11 P **P 16 49 42.0 -0.3**
J30M IAmb IAmb 16 49 48.5
comp=Z,17nm,1.9s
I28M Miner Creek 47.10 9 P **P 16 49 44.0 0.0**
I28M IAmb IAmb 16 49 49.6
comp=Z,27nm,1.9s
I30M Mount Dempster 47.45 11 P 16 49 46.9 +0.1
I30M IAmb IAmb 16 49 53.8
comp=Z,7.0nm,1.1s
G24K Hadweenzic Riv 47.52 4 P **P 16 49 47.0 -0.1**
G24K IAmb IAmb 16 49 59.1
comp=Z,30nm,1.9s
FYU Fort Yukon 47.56 5 P **P 16 49 47.4 0.0**
FYU IAmb IAmb 16 49 54.0
comp=Z,15nm,1.1s
TXAR Lajitas Array 47.72 68 P **P 16 49 48.9 -0.5**
TXAR Lajitas Array 47.72 68 P **P 16 49 50.5 +1.1**
comp=Z,2.7nm,0.8s,baz=256,slow=8.5,SNR=20
TXAR LR LR 17 05 50.2
comp=Z,120nm,20.9s,baz=256,slow=31
comp=Z,2.7nm,0.8s
F21K Alatna River 47.78 1 P **P 16 49 49.2 0.0**
F21K IAmb IAmb 16 50 08.5
comp=Z,7.7nm,1.1s
H29M Whitestone 48.05 9 P 16 49 51.3 0.0
EPYK Eagle Plains 48.45 10 P **P 16 49 54.4 0.0**
BMAR Burnt Mountain 48.46 6 P **P 16 49 54.3 -0.2**
G29M Pine Creek 48.75 9 P 16 49 56.4 -0.2
G29M IAmb IAmb 16 50 03.4
comp=Z,24nm,1.4s

G30M tAoh Zraii Nji 49.09 10 P **P 16 49 58.8 -0.5**
G30M IAmb IAmb 16 50 01.9
comp=Z,17nm,1.6s
C18K Utukok River 49.34 357 P **P 16 50 00.5 -0.7**
C18K IAmb IAmb 16 50 49.1
comp=Z,28nm,1.8s
G31M Satah River 49.37 11 P **P 16 50 01.4 +0.1**
G31M IAmb IAmb 16 50 07.3
comp=Z,11nm,1.1s
E28M Babbage River 50.14 7 P **P 16 50 07.2 -0.1**
INK Inuvik 50.73 10 LR LR 17 09 56.3
comp=Z,634nm,18.8s,baz=223,slow=34
YKA Yellowknife Ar 51.30 23 P **P 16 50 16.1 0.0**
comp=Z,0.9nm,0.8s,baz=231,slow=7.8,SNR=7.6
YKA LR LR 17 09 11.2
comp=Z,282nm,20.2s,baz=222,slow=33
comp=Z,0.9nm,0.8s
CBKS Cedar Bluff 51.43 55 P **P 16 50 16.7 -0.9**
CBKS IAmb IAmb 16 50 23.7
comp=Z,21nm,1.1s
WHTX Lake Whitney, 53.04 64 P **P 16 50 27.9 -1.6**
FW13 Cleburne 53.06 64 P **P 16 50 28.0 -1.6**
RAO Raoul Island 53.10 205 LR LR 17 09 19.1
comp=Z,167nm,21.4s,baz=340,slow=32
A36M Sachs Harbour 55.35 11 P **P 16 50 45.1 -0.6**
MA2 Magadan 55.43 330 LR LR 17 10 12.5
comp=Z,1μm,21.8s,baz=114,slow=32
DZM Mont Dzumac 55.68 224 *e*P **P 16 50 48.7 -0.2**
comp=Z,225nm,20.9s
DZM *e*S **S 16 58 34.6 -1.9**
comp=Z,232nm,24.4s
DZM *e*LR LR 17 07 00.0
comp=Z,444nm,27.1s
DZM Mont Dzumac 55.68 224 LR LR 17 08 50.4
comp=Z,173nm,20.8s,baz=185,slow=30
ULM Lac du Bonnet 55.82 42 P **P 16 50 48.0 -1.4**
ULM Lac du Bonnet 55.82 42 P **P 16 50 48.2 -1.2**
comp=Z,3.2nm,0.8s,baz=257,slow=8.0,SNR=3.5
ULM LR LR 17 10 49.5
comp=Z,163nm,21.9s,baz=248,slow=32
comp=Z,3.2nm,0.8s
SEY Seymchan 56.08 334 LR LR 17 10 24.3
comp=Z,664nm,21.8s,baz=142,slow=31
CMIG Matias Romero 57.16 82 LR LR 17 09 59.9
comp=Z,252nm,21.8s,baz=279,slow=30
R40A Maddes Statio 57.25 56 P **P 16 50 58.9 -1.0**
R40A IAmb IAmb 16 51 04.7
comp=Z,22nm,1.6s
GUMO Guam 57.43 274 LR LR 17 10 26.0
comp=Z,422nm,21.9s,baz=66,slow=31
JHJ Hachijo jima 2 58.97 297 LR LR 17 13 08.6
comp=Z,420nm,20.1s,baz=122,slow=33
G40A Rib Lake 59.01 48 P **P 16 51 10.3 -1.8**
G40A IAmb IAmb 16 51 16.6
comp=Z,8.5nm,0.9s
MJAR Matsushiro Arr 60.05 302 P **P 16 51 19.5 0.0**
comp=Z,1.1nm,0.9s,baz=112,slow=5.3,SNR=4.9
comp=Z,1.1nm,0.9s
H43A Windswept, Lux 60.71 49 P **P 16 51 23.1 -0.7**
TEIG Tepich 62.63 77 LR LR 17 15 08.0
comp=Z,201nm,20.1s,baz=228,slow=32
URZ Urewera 62.97 204 LR LR 17 14 34.8
comp=Z,344nm,20.8s,baz=94,slow=32
E46A Sault Ste Mari 63.16 47 P **P 16 51 38.6 -1.6**
PMG Port Moresby 63.51 248 LR LR 17 14 43.7
comp=Z,214nm,20.9s,baz=320,slow=32
RES Resolute Bay 63.72 15 LR LR 17 15 28.0
comp=Z,539nm,21.8s,baz=222,slow=32
TKL Tuckaleechee C 64.18 59 LR LR 17 17 53.5
comp=Z,84nm,19.4s,baz=288,slow=34
RPN Rapa Nui 64.24 135 LR LR 17 13 33.5
comp=Z,546nm,18.3s,baz=323,slow=30
USRK Ussuriysk Ar. 64.44 310 P **P 16 51 49.3 +0.6**
comp=Z,0.9nm,0.8s,baz=83,slow=12,SNR=2.3
USRK LR LR 17 15 06.0
comp=Z,616nm,20.7s,baz=94,slow=32
comp=Z,0.9nm,0.8s
KLR Kul'dur 64.46 316 LR LR 17 15 08.1
comp=Z,444nm,20.9s,baz=112,slow=32
MDJ Mudanjiang 66.13 311 P P 16 52 04.9 +5.2
MDJ pmax pmax
comp=Z,8.0nm,0.6s
MDJ pmax pmax
comp=Z,660nm,5.1s
MDJ LR LR
comp=Z,500nm,21.3s
MDJ LR LR
comp=Z,420nm,16.5s
MDJ LR LR
comp=Z,2μm,24.0s
TIXI Tiksi 67.24 341 LR LR 17 21 00.2
comp=Z,415nm,19.6s,baz=134,slow=36
JTS Las Juntas de 68.22 86 LR LR 17 14 36.9
comp=Z,418nm,21.0s,baz=285,slow=29
CTA Charters Tower 69.44 239 LR LR 17 19 01.3
comp=Z,16nm,19.5s,baz=50,slow=33
RPZ Rata Peaks 70.01 205 LR LR 17 18 05.2
comp=Z,358nm,21.0s,baz=32,slow=32
DL2 Dalian 72.80 306 P P 16 52 46.1 +5.1
DL2 pmax pmax
comp=Z,42nm,1.0s
DL2 pmax pmax
comp=Z,780nm,6.2s
DL2 LR LR
comp=Z,480nm,20.8s
DL2 LR LR
comp=Z,510nm,17.6s
DL2 LR LR
comp=Z,890nm,30.0s
NJ2 Nanjing 76.55 299 *e*P **P 16 53 02.3 -0.6**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,500nm,4.2s
NJ2 LR LR
comp=Z,260nm,14.7s
NJ2 LR LR
comp=Z,520nm,18.4s
NJ2 LR LR
comp=Z,640nm,20.8s
DAV Davao City (W) 77.46 273 LR LR 17 20 55.3
comp=Z,330nm,21.7s,baz=87,slow=31
SFJD Kangerlussuaq 77.87 23 LR LR 17 23 29.4
comp=Z,372nm,21.8s,baz=294,slow=33
HNS HongShan 78.46 306 P **P 16 53 16.3 +2.8**
HNS PP **PP 16 56 15.4 +4.8**
HNS S S 17 03 18.5 +7.7
HNS pmax pmax
comp=Z,650nm,8.0s
HNS LR LR
comp=Z,320nm,18.0s
HNS LR LR
comp=Z,360nm,20.8s
HNS LR LR
comp=Z,550nm,21.6s
QZH Quanzhou 78.65 293 *e*P **P 16 53 17.9 +3.1**
QZH LR LR
comp=Z,550nm,19.9s
STKA Stephens Creek 79.09 231 LR LR 17 27 37.1
comp=Z,101nm,18.1s,baz=4.7,slow=35
WRA Warramunga Arr 79.27 244 LR LR 17 24 49.9
comp=Z,279nm,20.6s,baz=53,slow=33
HHC Hu-ho-hao-te 79.85 310 *e*P **P 16 53 20.1 -1.1**
HHC PP **PP 16 56 25.1 +2.9**
HHC ScS S 17 03 40.4 +15
HHC SS **SS 17 08 39.3 +5.0**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,320nm,6.0s
HHC LR LR
comp=Z,160nm,17.3s
HHC LR LR
comp=Z,430nm,18.8s
HHC LR LR
comp=Z,610nm,20.2s
ROSC El Rosal 79.91 88 LR LR 17 20 13.4
comp=Z,190nm,20.3s,baz=259,slow=29
TIY Taiyuan 80.11 306 *e*P P 16 53 27.3 +4.7
TIY pmax pmax
comp=Z,380nm,8.2s
ATAH Atahualpa 80.13 101 LR LR 17 22 33.5
comp=Z,341nm,18.6s,baz=303,slow=31
NRIK Noril'sk 81.00 341 LR LR 17 27 41.8
comp=Z,334nm,21.7s,baz=38,slow=34
LYN LuoYang 81.00 303 *e*P **P 16 53 27.9 +0.5**
LYN PP **PP 16 56 34.8 +2.9**

LYN S **SKSac 17 03 44.0 -3.8**
LYN pmax pmax
comp=Z,560nm,7.3s
LYN LR LR
comp=Z,470nm,12.0s
LYN LR LR
comp=Z,520nm,16.5s
LYN LR LR
comp=Z,650nm,13.1s
SONM Songino Array 81.23 318 P **P 16 53 27.4 -1.1**
SONM IAmb IAmb 16 53 52.5
comp=Z,17nm,2.0s
SONM Songino Array 81.23 318 P **P 16 53 29.3 +0.8**
comp=Z,0.4nm,0.5s,baz=86,slow=4.9,SNR=5.1
SONM LR LR 17 27 26.2
comp=Z,551nm,20.7s,baz=68,slow=34
comp=Z,0.4nm,0.5s
ASAR Alice Springs 81.23 241 P **P 16 53 28.0 -0.7**
comp=Z,0.3nm,0.8s,baz=60,slow=6.7,SNR=2.9
ASAR LR LR 17 24 55.2
comp=Z,275nm,18.9s,baz=10.0,slow=32
comp=Z,0.3nm,0.8s
SDV Santo Domingo 82.10 83 LR LR 17 24 50.7
comp=Z,221nm,21.8s,baz=252,slow=32
NNA Nana 83.31 105 LR LR 17 21 35.1
comp=Z,350nm,21.4s,baz=282,slow=29
SJG San Juan 83.36 73 LR LR 17 30 35.0
comp=Z,41nm,19.4s,baz=291,slow=36
KAPI Kappang 86.91 264 LR LR 17 30 36.7
comp=Z,287nm,18.4s,baz=128,slow=34
JMIC Jan Mayen 86.92 10 LR LR 17 29 38.3
comp=Z,141nm,21.4s,baz=325,slow=34
LZH Lanzhou 87.14 307 P P 16 54 04.1 +5.2
LZH pmax pmax
comp=Z,560nm,5.0s
LZH LR LR
comp=Z,370nm,15.6s
LZH LR LR
comp=Z,370nm,17.2s
LZH LR LR
comp=Z,860nm,17.9s
QIZ Qiongzhong 88.19 289 P **P 16 54 01.6 -2.4**
QIZ S **S 17 04 49.8 -0.3**
QIZ SS **SS 17 10 37.0 -1.6**
QIZ pmax pmax
comp=Z,22nm,1.7s
QIZ pmax pmax
comp=Z,460nm,9.0s
QIZ LR LR
comp=Z,310nm,8.8s
QIZ LR LR
comp=Z,360nm,14.7s
QIZ LR LR
comp=Z,410nm,16.8s
GYA Guiyang 88.38 297 P **P 16 54 07.3 +2.3**
GYA LR LR
comp=Z,910nm,36.0s
BORG Borgarnes 88.98 18 LR LR 17 30 28.0
comp=Z,161nm,21.8s,baz=321,slow=33
H03N2 Juan Fernandez 89.73 126 T T 18 33 16.7
baz=298,slow=76,SNR=6.8
H03N3 Juan Fernandez 89.75 126 T T 18 33 17.6
baz=298,slow=76,SNR=6.4
H03N1 Juan Fernandez 89.75 126 T T 18 33 18.0
baz=298,slow=76,SNR=6.1
ZALV Zalesovo Beam 90.64 329 P **P 16 54 14.4 -0.4**
comp=Z,0.4nm,0.4s,baz=56,slow=5.4,SNR=1.9
ZALV LR LR 17 33 05.8
comp=Z,580nm,20.4s,baz=64,slow=34
comp=Z,0.4nm,0.4s
ARCES ARCESS Array B 91.27 360 LR LR 17 36 33.2
comp=Z,175nm,18.6s,baz=18,slow=36
PZH PanZhiHua 92.46 299 P **P 16 54 23.3 -0.7**
PZH S **S 17 05 28.3 -1.2**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,290nm,6.9s
PZH LR LR
comp=Z,260nm,13.5s
PZH LR LR
comp=Z,340nm,14.5s
PZH LR LR
comp=Z,300nm,16.2s
LVC Limon Verde 94.10 112 LR LR 17 27 44.9
comp=Z,474nm,20.2s,baz=282,slow=30
WMQ Urumqi 94.70 320 *e*P P 16 54 37.6 +3.7
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ LR LR
comp=Z,610nm,16.7s
WMQ LR LR
comp=Z,320nm,18.1s
WMQ LR LR
comp=Z,420nm,23.8s
TNCH TengChong 95.71 299 P **P 16 54 38.6 -0.4**
TNCH pmax pmax
comp=Z,220nm,4.7s
KURBB Kurchatov Arra 95.73 329 LR LR 17 35 47.2
comp=Z,565nm,21.5s,baz=92,slow=34
MKAR Makanchi Array 96.16 324 LR LR 17 35 21.3
comp=Z,408nm,21.8s,baz=62,slow=34
BVAR Borovoye Array 97.74 334 LR LR 17 39 34.5
comp=Z,191nm,20.0s,baz=52,slow=36
CMAR Chiang Mai Arr 98.00 293 LR LR 17 38 33.4
comp=Z,167nm,19.2s,baz=70,slow=35
PLCA Paso Flores 98.59 130 LR LR 17 29 23.3
comp=Z,467nm,20.7s,baz=260,slow=29
SIV San Ignacio 99.06 104 LR LR 17 34 45.2
comp=Z,445nm,18.1s,baz=294,slow=32
NOA NORSAR Array B 99.07 7 LR LR 17 37 11.8
comp=Z,146nm,20.8s,baz=335,slow=34
ARU Arti 99.23 342 LR LR 17 40 27.0
comp=Z,516nm,21.2s,baz=46,slow=36
KIRV Kirov 99.63 347 LR LR 17 43 05.3
comp=Z,361nm,19.6s,baz=27,slow=37
VNDA Vanda 99.92 189 LR LR 17 31 13.0
comp=Z,249nm,20.1s,baz=18,slow=30
CLL Collm 108.82 8 *e*PS PS 17 09 36.0 +3.3
CLL *e*PPS PPS 17 10 33.0
CLL *e*(SS) 17 15 00.0
HSKC Hora Svate Kat 109.56 8 AMS AMS 17 41 00.0
comp=Z,200nm,16.0s
OSTC Ostas 109.91 6 AMS AMS 17 54 40.0
comp=Z,200nm,22.6s
DPC Dobruska-Polom 110.13 6 *e*PP PP 17 00 04.7 -12
DPC AMS AMS 17 46 20.0
comp=Z,200nm,19.4s
PRU Pruhonice 110.30 7 *e*PP PP 16 59 57.5 -20
PRU AMS AMS 17 42 30.0
comp=Z,200nm,23.7s
KRLC Kraliky 110.44 5 AMS AMS 17 49 30.0
comp=Z,100nm,15.5s
OKC Ostrava-Krasne 110.79 5 AMS AMS 17 46 30.0
comp=Z,200nm,20.0s
KHC Kasperske Hory 111.03 8 *e*PP PP 16 59 58.5 -25
KHC *e*SP SP 17 09 54.6 +0.8
KHC *e*x x 17 16 09.2
KHC AMS AMS 17 51 50.0
comp=Z,200nm,16.9s
MILM Milestii Mici 113.85 357 *e*PKP **PKiKP 16 59 57.0 +5.7**
MILM *e*L L 17 41 45.0
MILM LRM MLR 17 48 47.0
comp=Z,300nm,22.0s

IDC 24 16:59:17.6±2.9, 9°.92S×112°.36E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=156.9km s-min=27.2km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.43**	**118**	P	P	17 04 28.6	-0.1
	0.4nm,0.8s,baz=291,slow=12,SNR=2.2						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**24.69**	**126**	P	P	17 04 40.8	+0.2
	0.3nm,0.6s,baz=302,slow=9.0,SNR=8.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**62.52**	**337**	P	P	17 09 43.0	-0.1
	0.3nm,0.4s,baz=152,slow=7.1,SNR=6.4						
	0.3nm,0.4s						

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*IDC **24** 17:00:56.3±2.5, 7°.68S×110°.82E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=153.9km s-min=21.7km az=51.0*
*DJA **24** 17:01:12.6±1.1, 8°.S±9°.×11°.1E±°, h121km±8km, M3.3/6,*

MLv3.3/6

ISC 24 17:01:12.4±1.3, 8°.6S±0°.1×110°.70E±0°.09, h100km, n10, σ2§10/13, mb3.5/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.65**	**345**	P	**Pn**	**17 01 31.4**	**+1.9**
UGM				S	**Sn**	**17 01 45.5**	**+3.3**
YOGI	**Yogyakarta**	**0.83**	**331**	P	**Pn**	**17 01 32.3**	**+1.2**
YOGI				S	**Sn**	**17 01 47.0**	**+2.0**
PWJI	**Pagerwojo**	**1.21**	**65**	P	**Pn**	**17 01 36.9**	**+1.7**
PWJI				S	**Sn**	**17 01 54.7**	**+2.2**
SMRI	**Semarang**	**1.51**	**350**	P	**Pn**	**17 01 37.6**	**-1.2**
SMRI				S	**Sn**	**17 01 55.8**	**-3.0**
JAGI	**Jajag, Banyuwa**	**3.42**	**89**	P	**Pn**	**17 02 04.0**	**+0.2**
JAGI				S	**Sn**	**17 02 43.6**	**+0.1**
WRA	**Warramunga Arr**	**25.52**	**119**	P	**P**	**17 06 29.7**	**-2.2**
	0.2nm,0.4s,baz=295,slow=12,SNR=11 0.2nm,0.4s						
ASAR	**Alice Springs**	**26.83**	**127**	P	**P**	**17 06 42.6**	**-1.0**
	0.6nm,0.6s,baz=302,slow=8.3,SNR=12 0.6nm,0.6s						
STKA	**Stephens Creek**	**36.91**	**133**	P	**P**	**17 08 11.1**	**-0.5**
	1.2nm,0.5s,baz=294,slow=7.7,SNR=3.9 1.2nm,0.5s						
MKAR	**Makanchi Array**	**60.63**	**338**	P	P	17 11 04.0	-8.8
	0.2nm,0.3s,baz=149,slow=6.9,SNR=4.2 0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**65.20**	**338**	P	P	17 11 34.1	-8.8
	0.2nm,0.3s,baz=143,slow=5.7,SNR=1.4 0.2nm,0.3s						

*IDC **24** 17:04:04.8±1.2, 66°.89N×20°.99E, h0km, mbtmp2.4/3, ML1.8/3, Error ellipse: s-maj=24.2km s-min=9.6km az=109.0*
*UPP **24** 17:04:05.0±0.1, 67°.05N×20°.96E, h0km, ML1.5, Unknown*

ISC 24 17:04:04.8±1.0, 67°.03N±0°.03×20°.87E±0°.05, h10km, n16, σ1§12/17, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**309**	P	**Pg**	**17 04 08.5**	**+0.3**
MASU	**Masugnsbyn**	**0.62**	**45**	P	**Pg**	**17 04 16.0**	**-0.8**
HARU	**Harads**	**0.87**	**177**	P	**Pg**	**17 04 21.5**	**0.0**
RATU	**Laukkuluspa**	**0.94**	**329**	P	**Pg**	**17 04 22.4**	**-0.5**
KUA	**Kurravaara**	**0.95**	**348**	P	**Pg**	**17 04 22.4**	**-0.8**
SALU	**Saltoluokta**	**0.99**	**292**	P	**Pg**	**17 04 23.9**	**+0.1**
LANU	**Lannavaara**	**1.11**	**22**	P	**Pb**	**17 04 24.8**	**-1.3**
KOVU	**Salmi**	**1.23**	**348**	P	**Pn**	**17 04 27.5**	**-0.6**
KALU	**Kalix**	**1.54**	**138**	P	**Pb**	**17 04 33.0**	**-0.3**
SJUU	**Sjulsmark**	**1.55**	**169**	P	**Pb**	**17 04 33.7**	**+0.1**
HEF	**Hetta**	**1.75**	**36**	*e*P	**Pn**	**17 04 36.7**	**+1.5**
KTK1	**Kautokeino**	**2.19**	**23**	*e*P	**Pb**	**17 04 46.3**	**+1.9**
I37NO	**I37NO**	**2.23**	**339**	I	I	17 17 40.0	
	baz=155,slow=319,SNR=11						
ARCES	**ARCESS Array B**	**3.05**	**32**	Pn	**Pn**	**17 04 54.4**	**+1.3**
	0.1nm,0.3s,baz=213,slow=14,SNR=15						
ARCES				Pg	**Pb**	**17 05 00.9**	**+1.8**
	0.5nm,0.3s,baz=211,slow=15,SNR=6.3						
ARCES				Sn	**Sb**	**17 05 35.4**	**-1.1**
	0.6nm,0.3s,baz=218,slow=19,SNR=9.4 0.6nm,0.6s						
FINES	**FINESS Array B**	**6.04**	**156**	Pn	**Pn**	**17 05 34.8**	**+0.7**
	0.1nm,0.3s,baz=344,slow=13,SNR=1.4						
FINES				Pg	Pb	17 05 44.9	-5.2
	0.1nm,0.3s,baz=347,slow=14,SNR=20 1.2nm,1.0s						
NOA	**NORSAR Array B**	**7.34**	**220**	Pn	**Pn**	**17 05 50.8**	**-1.2**
	baz=39,slow=5.8,SNR=1.2 0.1nm,0.4s						

*IDC **24** 17:08:03.8±5.8, 18°.66N×145°.96E, h173km±35km, mb3.1/6, mbtmp3.7/7, Error ellipse: s-maj=120.6km s-min=19.6km az=82.0*
*NEIC **24** 17:08:07.6±1.2, 18°.44N±0°.08×145°.8E±0°.3, h186km±7km, mb4.1/7, Error ellipse: s-maj=42.3km s-min=10.3km az=96.0*

ISC 24 17:08:07.7±1.1, 18°.45N±0°.07×145°.6E±0°.3, h200km, n18, σ1§28/20, mb3.5/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.88**	**188**	Pn	**Pn**	**17 09 20.9**	**+0.3**
GUMO				Sn	**Sn**	**17 10 15.6**	**-2.5**
GUMO	**Guam**	**4.88**	**188**	P	**Pn**	**17 09 20.9**	**+0.3**
	37nm,0.9s,baz=18,slow=20,SNR=2.0						
GUMO				S	**Sn**	**17 10 18.4**	**+0.4**
	49nm,0.9s,baz=323,slow=20,SNR=1.8						
JCJ	**Chichijima**	**9.15**	**341**	Pn	**Pn**	**17 10 16.1**	**+0.3**
MTN	**Manton Dam**	**34.19**	**206**	P	**P**	**17 14 34.7**	**+0.4**
MTN				IAmb	IAmb	17 14 35.9	
	comp=Z,5.9nm,1.1s						
KNRA	**Kununurra**	**37.73**	**207**	P	**P**	**17 15 05.8**	**+1.5**
KNRA				IAmb	IAmb	17 15 30.5	
	comp=Z,13nm,1.4s						
CTAO	**Charters Tower**	**38.31**	**179**	P	**P**	**17 15 08.7**	**-0.4**
WB0	**Warramunga Arr**	**39.53**	**197**	P	**P**	**17 15 20.2**	**+0.9**
WB0				IAmb	IAmb	17 15 50.5	
	comp=Z,4.0nm,1.2s						
WB2	**Warramunga Arr**	**39.71**	**197**	P	**P**	**17 15 21.7**	**+1.0**
WB2				IAmb	IAmb	17 15 25.2	
	comp=Z,6.9nm,1.4s						
WRA	**Warramunga Arr**	**39.71**	**197**	P	**P**	**17 15 22.0**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=14,slow=8.5,SNR=24 comp=Z,0.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**41.26**	**209**	P	**P**	**17 15 34.6**	**+1.2**
AS31	**Alice Springs**	**43.38**	**196**	P	**P**	**17 15 51.7**	**+1.2**
ASAR	**Alice Springs**	**43.38**	**196**	P	**P**	**17 15 51.3**	**+0.8**
ASAR	**Alice Springs**	**43.38**	**196**	P	**P**	**17 15 51.8**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=13,slow=6.3,SNR=14 comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.53**	**314**	P	**P**	**17 17 43.2**	**0.0**
	comp=Z,0.1nm,0.5s,baz=100,slow=7.5,SNR=1.5 comp=Z,0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**61.41**	**318**	P	**P**	**17 18 03.6**	**+1.0**
	comp=Z,0.2nm,0.2s,baz=79,slow=7.7,SNR=1.7 comp=Z,0.2nm,0.2s						
BMAR	**Burnt Mountain**	**65.40**	**23**	P	**P**	**17 18 29.4**	**+0.8**
BVAR	**Borovoye Array**	**66.58**	**320**	P	**P**	**17 18 35.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=77,slow=6.5,SNR=3.6 comp=Z,0.4nm,0.5s						
FINES	**FINESS Array B**	**87.05**	**335**	P	**P**	**17 20 27.4**	**-2.9**
	comp=Z,0.3nm,0.5s,baz=71,slow=6.0,SNR=4.3 comp=Z,0.3nm,0.5s						

JMA 24 17:09:08.2±0.3, 23°N±1°×12°5E±°, h19km, MV1.5/5, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKRS	**Kuro-shima**	**0.98**	**326**	*e*P	Pb	17 09 26.4	-0.2
JKRS				*e*S	Sb	17 09 39.5	+0.4
JIJ	**Ishigaki jima**	**1.03**	**335**	*e*P	Pb	17 09 27.1	-0.2
JIJ				S	Sb	17 09 40.4	-0.1
JISG	**Ishigakijimahi**	**1.19**	**347**	P	Pn	17 09 29.8	0.0
JISG				*e*S	Sn	17 09 45.6	+0.1
IRIF	**Iriomote-Funau**	**1.21**	**318**	*e*P	Pn	17 09 30.0	-0.1

TAP 24 17:10:05.8, 24°.02N×122°.72E, h14km±1km, ML1.9, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.38**	**285**	P	Pg	17 10 13.1	-0.1
	baz=285						
EOS4				S	Sb	17 10 19.1	-0.5
	baz=285						
EOS3	**EOS3**	**0.45**	**306**	P	Pg	17 10 14.5	-0.2
	baz=305						
EOS3				S	Sg	17 10 20.9	+0.2
	baz=305						
YOJ	**Yonaguni jima**	**0.51**	**32**	P	Pg	17 10 16.0	+0.1
	baz=30						
YOJ				S	Sg	17 10 23.0	+0.2
	baz=30						
EOS2	**EOS2**	**0.59**	**312**	P	Pg	17 10 17.5	+0.2
	baz=311						
EOS2				S	Sb	17 10 26.0	0.0
	baz=311						
EWUT	**Wuta**	**0.95**	**296**	*e*P	Pb	17 10 22.3	-1.7
	baz=296						
EWUT				*e*S	Sb	17 10 34.8	-1.8
	baz=296						
ENA	**Nanau**	**0.98**	**295**	*e*P	Pb	17 10 22.7	-1.8
	baz=294						
ENA				*e*S	Sb	17 10 36.1	-1.2
	baz=294						
LATG	**Datong**	**1.20**	**295**	*e*P	Pn	17 10 27.8	-0.5
	baz=295						
LATG				*e*S	Sb	17 10 42.4	-1.3
	baz=295						
ENTT	**Nioudou**	**1.22**	**301**	*e*P	Pn	17 10 27.1	-1.3
	baz=300						
ENTT				*e*S	Sb	17 10 43.1	-1.0
	baz=300						
TIPB	**Shuangxi**	**1.25**	**320**	*e*P	Pn	17 10 28.3	-0.5
	baz=319						
TIPB				*e*S	Sb	17 10 43.7	-1.4
	baz=319						
FUSB	**Fushanzhiwuyua**	**1.26**	**306**	*e*P	Pn	17 10 28.1	-1.0
	baz=305						
FUSB				*e*S	Sb	17 10 44.3	-1.3
	baz=305						
NNSB	**Datong**	**1.28**	**289**	*e*P	Pn	17 10 27.9	-1.4
	baz=288						
NNSB				*e*S	Sb	17 10 45.6	-0.6
	baz=288						

*ISN **24** 17:10:40.7±0.4, 34°.67N×46°.32E, h23km±9km, ML2.9*
*TEH **24** 17:10:40.0, 34°.63N×46°.28E, h8km±52km, ML2.7*

ISC 24 17:10:39.9±1.2, 34°.64N±0°.04×46°.26E±0°.04, h10km±12km, n13, σ0§54/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.12**	**58**	Pg	**Pg**	**17 10 42.9**	**-0.1**
IGHG	**Ghaleghazi**	**0.40**	**140**	Pg	**Pg**	**17 10 48.1**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.59**	**209**	Pg	**Pg**	**17 10 51.7**	**+0.2**
ILIN	**Lien**	**0.64**	**64**	Pg	**Pg**	**17 10 51.8**	**-0.7**
KCHF	**Cheshme Sefid,**	**0.74**	**119**	Pg	**Pg**	**17 10 53.5**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.01**	**182**	Pg	**Pb**	**17 10 59.2**	**-0.3**
SNQR	**Sonqor, Kerman**	**1.15**	**78**	Pg	**Pg**	**17 11 02.6**	**+0.6**
IBZA	**Bozab**	**1.33**	**97**	Pg	**Pg**	**17 11 05.1**	**-0.4**
IBDR	**Badra**	**1.54**	**190**	*e*Pg	**Pb**	**17 11 09.0**	**+0.4**
IBDR				*e*Sg	**Sg**	**17 11 30.0**	**+0.4**
IKFM	**Kafar-mosalman**	**1.72**	**130**	Pg	**Pg**	**17 11 12.5**	**-0.4**
IKRK	**Kirkuk**	**1.75**	**296**	*e*Pn	**Pb**	**17 11 12.0**	**-0.2**
IKRK				*e*Sn	**Sb**	**17 11 35.0**	**+0.8**
IKRK				AML	AML	17 11 40.3	
	comp=N,148nm,0.4s						
IKRK				AML	AML	17 11 45.0	
	comp=E,174nm,0.7s						
HSAM	**Samen**	**1.98**	**102**	Pn	**Pb**	**17 11 16.7**	**+0.4**
BHD	**Baghdad**	**2.07**	**229**	*e*Pn	**Pb**	**17 11 17.0**	**-0.6**
BHD				*e*Sn	**Sb**	**17 11 43.0**	**-0.4**

*IDC **24** 17:14:03.1±3.7, 10°.97S×111°.14E, h0km, mb3.0/3, mbtmp3.0/3, Error ellipse: s-maj=187.5km s-min=30.6km az=45.0*
*DJA **24** 17:14:11.8±0.8, 10°S±14°×11°3E±°, h130km±20km, M3.7/6, MLv3.7/6*

ISC 24 17:14:10.8±3.1, 9°.6S±0°.3×112°.82E±0°.05, h139km±37km, n10, σ0§49/13, mb2.7/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.71**	**50**	P	**Pn**	**17 14 41.8**	**-0.1**
JAGI				S	**Sn**	**17 15 05.8**	**+0.1**
PWJI	**Pagerwojo**	**1.84**	**327**	P	**Pn**	**17 14 44.2**	**+0.8**
PWJI				S	**Sn**	**17 15 07.9**	**-0.5**
ABJI	**Asem Bagus**	**2.25**	**38**	P	**Pn**	**17 14 48.3**	**0.0**
ABJI				S	**Sn**	**17 15 17.0**	**-0.1**
GRJI	**Gresik**	**2.66**	**353**	P	**Pn**	**17 14 53.7**	**+0.2**
SRBI	**Singaraja**	**2.78**	**58**	P	**Pn**	**17 14 55.6**	**+0.6**
SRBI				S	**Sn**	**17 15 28.3**	**-0.8**
UGM	**Wanagama**	**2.81**	**306**	P	**Pn**	**17 14 55.4**	**0.0**
UGM				S	**Sn**	**17 15 29.3**	**-0.4**
YOGI	**Yogyakarta**	**3.05**	**305**	P	**Pn**	**17 14 58.2**	**-0.2**
YOGI				S	**Sn**	**17 15 35.3**	**+0.2**
WRA	**Warramunga Arr**	**23.19**	**119**	P	P	17 19 18.2	+13
	0.2nm,1.0s,baz=285,slow=11,SNR=1.3 0.2nm,1.0s						
ASAR	**Alice Springs**	**24.54**	**127**	P	P	17 19 30.7	+13
	0.2nm,0.7s,baz=304,slow=8.7,SNR=5.1 0.2nm,0.7s						
MKAR	**Makanchi Array**	**62.38**	**337**	P	P	17 24 32.3	+14
	0.1nm,0.4s,baz=153,slow=8.1,SNR=1.7 0.1nm,0.4s						

*DJA **24** 17:15:40.8±0.8, 9°S±5°×11°5E±°, h10km, M3.7/6, MLv3.7/6*
*IDC **24** 17:15:43.5±1.1, 10°.56S×114°.32E, h0km, mb3.5/6, mbtmp3.6/6, Error ellipse: s-maj=45.7km s-min=22.9km az=61.0*

ISC 24 17:15:39.6±1.1, 9°.45S±0°.07×114°.65E±0°.07, h10km, n11, σ1§19/10, mb3.8/6, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.94**	**36**	P	**Pg**	**17 15 57.5**	**-0.3**
JAGI	**Jajag, Banyuwa**	**1.09**	**333**	P	**Pg**	**17 16 00.3**	**-0.3**
JAGI				S	**Sg**	**17 16 15.1**	**+0.4**
SRBI	**Singaraja**	**1.46**	**22**	P	**Pn**	**17 16 05.9**	**-0.2**
SRBI				S	**Sn**	**17 16 25.2**	**-0.1**
ABJI	**Asem Bagus**	**1.69**	**346**	P	**Pb**	**17 16 11.0**	**+0.2**
PWJI	**Pagerwojo**	**3.15**	**296**	P	**Pn**	**17 16 29.8**	**+0.5**
WRA	**Warramunga Arr**	**21.69**	**121**	P	**P**	**17 20 33.4**	**+2.4**
	0.6nm,1.1s,baz=293,slow=12,SNR=1.3 0.6nm,1.1s						
ASAR	**Alice Springs**	**23.21**	**130**	P	**P**	**17 20 47.7**	**+0.7**
	0.3nm,0.9s,baz=308,slow=9.1,SNR=1.4 0.3nm,0.9s						
SONM	**Songino Array**	**57.49**	**353**	P	P	17 25 42.3	+13
	0.6nm,0.6s,baz=168,slow=7.4,SNR=3.5 0.6nm,0.6s						
MKAR	**Makanchi Array**	**62.99**	**336**	P	P	17 26 17.3	+11
	0.4nm,0.5s,baz=148,slow=7.6,SNR=4.3 0.4nm,0.5s						
MAW	**Mawson**	**67.39**	**199**	P	**P**	**17 26 33.1**	**-1.7**
	3.3nm,0.6s,baz=27,slow=5.2,SNR=5.0 3.3nm,0.6s						
ZALV	**Zalesovo Beam**	**68.01**	**342**	P	P	17 26 50.8	+12
	0.7nm,0.5s,baz=132,slow=6.2,SNR=4.7 0.7nm,0.5s						

*TEH **24** 17:18:30.5, 34°.63N×46°.33E, h8km±14km, ML3.5*
*ISN **24** 17:18:30.9±1.2, 34°.67N×46°.38E, h25km±29km, ML3.7*

ISC 24 17:18:30.7±1.1, 34°.63N±0°.03×46°.30E±0°.03, h5km±11km, n26, σ1§10/30, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.10**	**47**	Pg	**Pg**	**17 18 32.9**	**0.0**
IDHR				Sg	**Sg**	**17 18 34.9**	**+0.4**
IGHG	**Ghaleghazi**	**0.38**	**143**	Pg	**Pg**	**17 18 38.5**	**+0.5**
KGS1	**Ghasr-e-Shirin**	**0.60**	**258**	Pg	**Pg**	**17 18 42.5**	**+0.4**
GLG1	**Gilan-e-Gharb**	**0.61**	**212**	Pg	**Pg**	**17 18 42.5**	**+0.2**
ILIN	**Lien**	**0.62**	**62**	Pg	**Pg**	**17 18 41.9**	**-0.8**
KCHF	**Cheshme Sefid,**	**0.71**	**120**	Pg	**Pg**	**17 18 43.6**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.01**	**184**	Pg	**Pg**	**17 18 50.1**	**+0.1**
SNQR	**Sonqor, Kerman**	**1.12**	**78**	Pg	**Pg**	**17 18 51.6**	**-0.6**
IBZA	**Bozab**	**1.30**	**97**	Pg	**Pn**	**17 18 54.9**	**-0.9**
IBDR	**Badra**	**1.55**	**191**	*e*Pg	**Pb**	**17 19 00.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**17 19 20.0**	**-0.4**
IBDR				AML	AML	17 19 26.2	
	comp=E,2μm,0.3s						
IBDR				AML	AML	17 19 26.5	
	comp=N,545nm,0.7s						
SDS1	**Sardasht. Az.**	**1.65**	**337**	Pg	**Pb**	**17 19 01.2**	**-0.6**
IKFM	**Kafar-mosalman**	**1.69**	**130**	Pg	**Pb**	**17 19 02.0**	**-0.4**
IKRK	**Kirkuk**	**1.78**	**296**	*e*Pn	**Pn**	**17 19 02.0**	**-0.2**
IKRK				*e*Sn	**Sb**	**17 19 26.0**	**-0.5**
IKRK				AML	AML	17 19 32.8	
	comp=E,806nm,1.0s						
IKRK				AML	AML	17 19 35.3	
	comp=N,1μm,0.2s						
HSAM	**Samen**	**1.95**	**102**	Pn	**Pb**	**17 19 06.5**	**-0.4**
BHD	**Baghdad**	**2.09**	**230**	*e*Pn	**Pb**	**17 19 08.0**	**-1.1**
BHD				*e*Sn	**Sb**	**17 19 34.0**	**-1.4**
MAHB	**Mahabad**	**2.19**	**347**	Pn	**Pb**	**17 19 09.6**	**-1.3**
IAZR	**Azarshahr**	**3.05**	**355**	Pn	**Pn**	**17 19 21.7**	**+1.8**
ISRB	**Sarab**	**3.38**	**19**	Pn	**Pn**	**17 19 26.0**	**+1.7**
ISHB	**Shabestar**	**3.69**	**352**	Pn	**Pn**	**17 19 29.9**	**+1.3**
IHRS	**Heris**	**3.73**	**9**	Pn	**Pn**	**17 19 31.4**	**+2.3**
GRMI	**Germi**	**4.36**	**17**	Pn	**Pn**	**17 19 38.9**	**+1.1**
JHBN	**Jahan bin**	**4.37**	**122**	Pn	**Pn**	**17 19 39.3**	**+1.3**
ZNGN	**Zangian**	**4.56**	**122**	Pn	**Pn**	**17 19 41.8**	**+1.1**
IDMV	**Damavand**	**4.80**	**77**	Pn	**Pn**	**17 19 44.9**	**+1.0**
KRSH	**Karshahi**	**4.88**	**96**	Pn	**Pn**	**17 19 46.6**	**+1.6**
IZEF	**Zefreh**	**5.31**	**107**	Pn	**Pn**	**17 19 52.4**	**+1.4**

*TEH **24** 17:21:07.7, 34°.62N×46°.37E, h10km±88km, ML2.7*
*ISN **24** 17:21:10.7±1.2, 34°.65N×46°.26E, h30km±23km, ML2.8*

ISC 24 17:21:07.8±1.1, 34°.66N±0°.04×46°.34E±0°.04, h11km±10km, n10, σ0§87/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.06**	**41**	Pg	**Pg**	**17 21 09.9**	**-0.5**
IGHG	**Ghaleghazi**	**0.38**	**150**	Pg	**Pg**	**17 21 15.4**	**0.0**
ILIN	**Lien**	**0.57**	**63**	Pg	**Pg**	**17 21 18.9**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.64**	**257**	Pg	**Pb**	**17 21 21.6**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.65**	**214**	Pg	**Pg**	**17 21 19.5**	**-1.0**
KCHF	**Cheshme Sefid,**	**0.69**	**123**	Pg	**Pg**	**17 21 20.6**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.04**	**186**	Pg	**Pb**	**17 21 26.8**	**-1.0**
SNQR	**Sonqor, Kerman**	**1.08**	**79**	Pg	**Pb**	**17 21 28.8**	**+0.2**
IBDR	**Badra**	**1.58**	**193**	*e*Pg	**Pb**	**17 21 38.0**	**+0.9**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**17 22 00.0**	**+1.3**
IBDR				AML	AML	17 22 03.1	
	comp=E,196nm,0.7s						
IBDR				AML	AML	17 22 09.6	
	comp=N,107nm,0.4s						
IKRK	**Kirkuk**	**1.80**	**295**	*e*Pn	**Pb**	**17 21 41.0**	**+0.1**
IKRK				*e*Sn	**Sb**	**17 22 03.0**	**-0.5**

*NEIC **24** 17:21:24.9±1.0, 47°.71N±0°.07×92°.70W±0°.06, h0km±2km, mb_Lg2.6/9, Error ellipse: s-maj=13.1km s-min=6.3km az=197.0*
*IDC **24** 17:21:29.6±4.2, 47°.59N×92°.71W, h0km, mbtmp2.5/1, ML0.8/1, Error ellipse: s-maj=73.1km s-min=27.7km az=53.0*

ISC 24 17:21:25.3±1.1, 47°.60N±0°.06×92°.63W±0°.06, h0km, n15, σ1§40/13, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.84**	**65**		**Pb**	**17 21 42.7**	**-0.1**
E38A	**The Farm, Brul**	**1.24**	**143**		**Pn**	**17 21 49.1**	**-0.7**
AGMN	**Agassiz Nation**	**2.28**	**289**	Pn	**Pn**	**17 22 02.3**	**-1.9**
SPMN	**Marine on St.**	**2.38**	**183**		**Pn**	**17 22 05.9**	**+0.4**
COWI	**Conover**	**2.83**	**121**		**Pn**	**17 22 10.9**	**-0.8**
G40A	**Rib Lake**	**2.87**	**143**		**Pn**	**17 22 11.9**	**-0.4**
G40A				IAmb_Lg		17 22 59.3	
	comp=Z,16nm,1.3s						
F33A	**5 Mile Ranch,**	**3.07**	**236**		**Pn**	**17 22 14.4**	**-0.6**
F33A				IAmb_Lg		17 23 08.9	
	comp=Z,25nm,1.1s						
ULM	**Lac du Bonnet**	**3.41**	**322**	Pn	**Pn**	**17 22 17.2**	**-2.5**
ULM				IAmb_Lg		17 23 15.2	
	comp=Z,16nm,1.1s						
ULM	**Lac du Bonnet**	**3.41**	**322**	Pn	**Pn**	**17 22 21.6**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=139,slow=9.5,SNR=1.7						
ULM				Pg	**Pg**	**17 22 30.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=137,slow=15,SNR=1.2						
ULM				Sn	**Sn**	**17 23 02.7**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=186,slow=12,SNR=1.9						
ULM				Lg	Lg	17 23 13.6	
	comp=Z,1.3nm,0.3s,baz=39,slow=16,SNR=19 comp=Z,1.6nm,0.6s						
I10CA	**LAC DU BONNET**	**3.44**	**321**	I	I	17 42 10.0	
	comp=Z,0.1nm,1.0s,baz=138,slow=319,SNR=9.0						
I42A	**Draeger Farm,**	**4.53**	**144**	Pn	**Pn**	**17 22 34.6**	**-0.5**
ECSD	**EROS Data Cent**	**4.77**	**217**	Pn	**Pn**	**17 22 38.1**	**-0.3**
JFWS	**Jewell Farm**	**4.98**	**159**	IAmb_Lg		17 24 06.3	
	comp=Z,8.1nm,0.9s						
L34A	**Svendsen Farm,**	**6.23**	**207**	IAmb_Lg		17 24 48.1	
	comp=Z,9.3nm,0.8s						
I56US	**NEWPORT INFRAST**	**16.42**	**281**	I	I	18 52 10.0	
	baz=85,slow=310,SNR=0.7						

*BJI **24** 17:22:32.0±0.0, 41°.80N×127°.00W, h5km, mb4.9/35, mB5.3/10, Ms4.7/3, Ms7 4.4/4*
*IDC **24** 17:22:33.6±0.7, 41°.93N×127°.01W, h0km, mb4.2/23, mbtmp4.1/30, ML3.4/7, MS4.0/52, Error ellipse: s-maj=18.3km s-min=9.4km az=27.0*
*MOS **24** 17:22:33.5±1.1, 41°.71N×126°.90W, h13km, mb5.1/33, Error ellipse: s-maj=6.6km s-min=5.6km az=123.5*
*NEIC **24** 17:22:34.7±2.1, 41°.75N±0°.06×126°.99W±0°.09, h10km±1km, mb4.9/238, ML3.6/72, Mww4.9/46, Error ellipse: s-maj=13.6km s-min=6.9km az=231.0*
*NEIC **24** 17:22:35.2, 41°.78N×126°.95W, h16km*
*GCMT **24** 17:22:35.7±0.3, 41°.76N±0°.04×127°.18W±0°.03, h18km±1km, MW4.9/96, Moment Tensor Solution. s18,c20; s96,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.64±.19; $M_{\theta\theta}$0.39±.11; $M_{\phi\phi}$2.25±.12; $M_{r\theta}$-0.17±.38; $M_{\theta\phi}$0.07±.07; $M_{\phi r}$-0.75±.27; Best double couple: $M_0$2.56500×10^{16} NP1:ϕ_s5.00000°, δ54.00000°, λ-87.00000°. NP2: ϕ_s180.00000°, δ36.00000°, λ-94.00000°. Principal axes: T 2.3680, Plg9.0000°, Azm93.0000°; N 0.3930, Plg2.0000°, Azm183.0000°; P -2.7610, Plg81.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NCEDC **24** 17:22:35±2.2, 41°.79N±0°.06×126°.9W±0°.1, h10km±1km Error ellipse: s-maj=13.8km s-min=9.4km az=243.0*
*NEIC **24** 17:22:35.2, 41°.78N×126°.95W, h16km, Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.96; $M_{\theta\theta}$0.37; $M_{\phi\phi}$1.60; $M_{r\theta}$-0.26; $M_{\theta\phi}$0.11; $M_{\phi r}$-2.00; Fault plane solution: $M_0$2.69000×10^{16} NP1:ϕ_s6.61000°, δ69.27000°, λ-89.08000°. NP2:ϕ_s184.01000°, δ20.75000°, λ-92.44000°. Principal axes: T 2.5151, Plg24.0000°, Azm96.0000°; N 0.3586, Plg1.0000°, Azm186.0000°; P -2.8737, Plg66.0000°, Azm278.0000°;*
*BGR **24** 17:22:43.1, 42°.76N×128°.67W, h33km, mb4.8, Ms4.4,

comp=E,232nm,1.9s
DBO IAML 17 24 27.0
comp=N,126nm,1.8s
HUMO Hull Mountain 3.11 73 Pn Pn 17 23 23.1 -0.6
HUMO IAML 17 23 44.9
comp=E,140nm,1.7s
M02C Callahan 3.12 95 Pn 17 23 24.1 +0.2
YBH Yreka Blue Hor 3.20 89 Pn Pn 17 23 25.8 +0.8
YBH IAML 17 23 52.2
comp=E,122nm,1.8s
YBH Yreka Blue Hor 3.20 89 Pn Pn 17 23 26.0 +1.0
comp=E,4.4nm,0.3s,baz=268,slow=13,SNR=130
YBH LR LR 17 24 29.2
comp=E,2µm,20.9s,baz=266,slow=36
comp=E,44nm,0.7s
LGPM Granite Peak 3.24 104 Pn 17 23 25.4 -0.3
LAMM Antelope Mount 3.27 91 Pn 17 23 27.2 +1.1
KIPM Iron Peak 3.30 125 Pn 17 23 25.6 -0.9
I03D Drain, OR 3.30 53 Pn Pn 17 23 26.1 -0.3
N02D Trinity Center 3.31 102 Pn 17 23 26.5 -0.1
LBKM Bonanza King 3.32 100 Pn 17 23 26.8 +0.1
B040 Montague 3.41 87 Pn 17 23 28.8 +0.9
LBPM Beegum Peak 3.42 114 Pn 17 23 27.5 -0.6
KBNM Bluenose Ridge 3.43 122 Pn 17 23 28.0 -0.2
O02D Mt. Diablo Mer 3.55 115 Pn Pn 17 23 29.2 -0.7
LHEM Herd Peak 3.57 91 Pn 17 23 31.5 +1.3
DCMP DeCamp, Califo 3.60 128 Pn 17 23 29.2 -1.3
LMPM Military Pass 3.62 93 Pn 17 23 32.9 +1.9
M03C McCloud 3.68 96 Pn 17 23 33.3 +1.6
BUCK Buck Mountain 3.81 49 Pn Pn 17 23 33.8 +0.4
GVV Valley View 3.83 120 Pn 17 23 33.4 -0.3
LSHM Sage Hen Hill 3.85 103 Pn 17 23 35.4 +1.5
LGMM Garner Mountai 3.86 91 Pn 17 23 35.8 +1.6
COR Corvallis 3.90 42 Pn 17 23 35.1 +0.5
COR IAML 17 24 37.1
comp=E,97nm,1.8s
COR IAML 17 24 52.8
comp=E,111nm,1.9s
COR Corvallis 3.90 42 P Pn 17 23 35.1 +0.5
I04A Tendick Farm, 3.93 57 Pn 17 23 35.7 +0.6
I04A IAML 17 24 25.9
comp=E,83nm,1.7s
I04A IAML 17 24 41.0
comp=N,94nm,1.5s
LTCM Tuscan Springs 3.99 111 Pn 17 23 36.4 +0.6
HOPS Hopland Field 4.07 132 Pn 17 23 35.8 -1.1
HOPS IAML 17 24 34.4
comp=N,99nm,2.0s
HOPS IAML 17 24 37.6
comp=E,74nm,2.2s
LDBM Digger Butte 4.15 107 Pn 17 23 37.9 -0.2
H04D Lebanon 4.16 47 Pn Pn 17 23 38.4 +0.3
HATC Hat Creek Radi 4.26 101 Pn 17 23 40.5 +0.7
GDXM Geysers 4.35 131 Pn 17 23 40.2 -0.7
G03D McMinnville, O 4.38 37 Pn 17 23 41.5 +0.3
G03D IAML 17 24 32.7
comp=N,78nm,0.9s
G03D IAML 17 24 42.7
comp=E,58nm,1.6s
J05D Fort Rock, OR 4.51 68 Pn 17 23 43.4 +0.2
J05D IAML 17 25 55.5
comp=N,62nm,4.0s
H04A Detroit Lake 4.56 49 Pn 17 23 44.0 +0.3
H04A IAML 17 24 20.2
comp=N,42nm,1.4s
H04A IAML 17 25 05.4
comp=E,40nm,2.8s
ORV Oroville 4.72 116 Pn 17 23 44.5 -1.3
ORV Oroville 4.72 116 P Pn 17 23 44.5 -1.3
MCCM Marconi Confer 4.79 138 Pn Pn 17 23 47.3 +0.4
MCCM IAML 17 24 45.0
comp=E,68nm,2.2s
MCCM IAML 17 24 57.6
comp=N,61nm,2.5s
I05D Terrebonne, OR 4.87 56 Pn 17 23 48.1 +0.1
PINE Pine Mountain 4.89 63 Pn 17 23 49.2 +0.9
PINE IAML 17 25 23.6
comp=N,48nm,1.9s
PINE IAML 17 27 01.2
comp=E,63nm,3.9s
F04D Rainier, OR 5.18 32 Pn 17 23 52.8 +0.6
RADR Rader Ridge 5.19 25 Pn Pn 17 23 54.5 +2.1
RADR IAML 17 24 60.0
comp=N,42nm,1.8s
RADR IAML 17 25 13.5
comp=E,49nm,3.0s
HOOD Mount Hood Mea 5.26 46 Pn 17 23 54.2 +0.8
F04A Amboy 5.32 37 Pn 17 23 55.7 +1.6
E03A Lebam 5.38 26 Pn 17 23 54.8 -0.1
E03A IAML 17 24 54.9
comp=E,46nm,2.5s
E03A IAML 17 25 10.6
comp=N,35nm,1.6s
AFDM Forest Hills D 5.38 119 Pn 17 23 54.6 -0.4
AFDM IAML 17 25 01.6
comp=E,23nm,2.2s
G05A Wamic 5.39 48 Pn 17 23 55.5 +0.3
G06A Carlson Farm, 5.78 51 Pn 17 24 00.4 0.0
WISH Wishkah 5.83 22 Pn 17 24 01.8 +0.8
MPK Martis Peak 5.84 113 Pn Pn 17 24 02.4 +0.8
EMB Emerald Bay 5.95 116 Pn Pn 17 24 03.1 +0.2
I07A Izee 5.96 65 Pn 17 24 03.6 +0.6
NLWA Neilton Lookou 6.05 20 Pn 17 24 04.5 +0.3
PAHR Pah Rah Range 6.12 107 Pn 17 24 08.2 +2.9
LON Longmire 6.22 35 Pn 17 24 08.4 +1.9
LON Longmire 6.22 35 P Pn 17 24 08.4 +1.9
PNTR Pine Nut 6.23 113 Pn 17 24 10.6 +3.7
WVOR Wild Horse Val 6.24 81 Pn 17 24 07.8 +0.9
WVOR Wild Horse Val 6.24 81 P Pn 17 24 07.8 +0.9
CMB Columbia Colle 6.29 124 Pn 17 24 06.2 -1.3
CMB Columbia Colle 6.29 124 P Pn 17 24 06.2 -1.3
C03A Quillayute Air 6.42 15 Pn 17 24 10.5 +1.3
J08A Circle Bar Ran 6.48 73 Pn 17 24 10.6 +0.5
D05A Enumclaw 6.49 32 Pn 17 24 11.6 +1.4
GNW Green Mountain 6.51 26 Pn 17 24 11.0 +0.6
YERR Yerington 6.53 113 Pn 17 24 11.5 +0.6
F07A Phinny Hill Vi 6.56 49 Pn Pn 17 24 11.0 -0.2
SAO San Andreas Ge 6.58 137 Pn 17 24 13.3 +1.9
SAO San Andreas Ge 6.58 137 P Pn 17 24 13.4 +1.9
WAKR Walker 6.63 117 Pn 17 24 12.4 +0.1
B04A Port Angeles 6.76 20 Pn Pn 17 24 15.3 +1.5
MXC Moxie City 6.80 43 Pn 17 24 14.9 +0.4
G08A Pilot Rock 6.81 56 Pn 17 24 16.0 +1.2
BBGB Big Mountain B 6.93 136 Pn Pn 17 24 17.7 +1.3
E07A Sunnyside 7.02 44 Pn 17 24 14.7 -2.7
HAWA Hanford 7.08 47 Pn 17 24 15.7 -2.6
LTY Liberty 7.11 37 Pn 17 24 17.6 -1.1
RYN Ryan 7.19 113 Pn 17 24 20.1 +0.2
OZB Mount Ozzard 7.28 8 Pn Pn 17 24 21.3 +0.3
KVN Kaiserville 7.30 109 Pn 17 24 21.4 -0.1
KVN Kaiserville 7.30 109 P Pn 17 24 21.4 -0.1
PGC Sidney 7.33 19 Pn Pn 17 24 20.9 -0.7
PMPB Monarch Peak 7.33 137 Pn Pn 17 24 22.6 +0.8
CLRS Cowichan Lake 7.34 15 Pn 17 24 21.9 +0.1
MDPB Devils Postpil 7.36 122 Pn 17 24 21.9 -0.4
LHV Little Huntoon 7.39 116 Pn 17 24 22.4 -0.2
E08A Dider Farm, El 7.40 48 Pn 17 24 23.1 +0.4
OMMB Old Mammoth Mi 7.42 121 Pn Pn 17 24 22.7 -0.6
NVAR Mina Array Bea 7.44 114 Pn 17 24 23.3 -0.1
NVAR Mina Array Bea 7.44 114 Pn Pn 17 24 25.5 +2.1
comp=E,0.2nm,0.3s,baz=292,slow=14,SNR=10.0
comp=E,2.1nm,0.6s
BMN Battle Mountai 7.49 97 Pn Pn 17 24 23.3 -0.8
BMN Battle Mountai 7.49 97 P Pn 17 24 23.3 -0.8
NV11 Mina Array Sit 7.54 113 Pn 17 24 24.8 0.0
BMO Blue Mountains 7.70 63 Pn 17 24 26.5 -0.4
BMO Blue Mountains 7.70 63 P Pn 17 24 26.5 -0.4
D08A Wollman Farm, 7.83 45 Pn 17 24 27.8 -0.8
F10A Beach Ranch, E 8.21 56 Pn 17 24 34.2 +0.4
DSP Deep Springs 8.22 119 Pn 17 24 35.0 +1.0
CBB Campbell River 8.35 7 Pn 17 24 37.1 +1.4
TPH Tonopah 8.35 113 Pn 17 24 36.5 +0.5
TPH Tonopah 8.35 113 P Pn 17 24 36.5 +0.5
MFID Camas Ranch 8.39 75 Pn 17 24 37.1 +0.6
MZP Montezuma Peak 8.43 116 Pn 17 24 37.7 +0.5
B08A Colville Reser 8.53 37 Pn 17 24 38.9 +0.7
VES Vestal, Richgr 8.54 131 P Pn 17 24 38.5 +0.2
baz=317
CWC Cottonwood Cre 8.72 125 P Pn 17 24 41.1 +0.1
baz=311
GMN Gold Mountain 8.73 117 Pn 17 24 42.4 +1.2
GRAC Grapevine Rang 8.83 119 Pn 17 24 43.5 +1.1
GRAC Grapevine Rang 8.83 119 P Pn 17 24 42.1 -0.3
baz=306,SNR=5.3
ELK Elko 8.90 93 Pn 17 24 44.2 +0.7
ELK Elko 8.90 93 P Pn 17 24 44.2 +0.7
HOLB Holberg 8.92 355 Pn Pn 17 24 44.9 +1.4
ISA Isabella, Lake 9.01 130 Pn 17 24 45.8 +0.9
ISA Isabella, Lake 9.01 130 P Pn 17 24 45.2 +0.3
baz=316
ISA Isabella, Lake 9.01 130 P Pn 17 24 45.8 +0.9
BCW Bitter Crk WRg 9.04 136 Pn Pn 17 24 46.0 +0.8
ARVC Arvin 9.20 133 P Pn 17 24 49.1 +1.7
baz=319
MPMC Manual Prospec 9.33 125 P Pn 17 24 50.7 +1.3
baz=311
R11B Troy Canyon, C 9.38 108 Pn Pn 17 24 52.4 +2.4
R11B Troy Canyon, C 9.38 108 P Pn 17 24 49.3 -0.7
baz=295
HLID Hailey 9.43 75 Pn Pn 17 24 51.0 +0.3
HLID Hailey 9.43 75 P Pn 17 24 49.3 -1.5
baz=263
WCT Wildcat Mounta 9.44 118 Pn 17 24 52.1 +1.4
NEW Newport 9.54 44 P Pn 17 24 51.9 0.0
baz=230
NEW Newport 9.54 44 Pn Pn 17 24 51.3 -0.7
comp=E,0.2nm,0.3s,baz=209,slow=9.5,SNR=1.8
NEW LR LR 17 28 39.2
comp=E,1µm,19.7s,baz=230,slow=39
comp=E,0.9nm,0.4s
S11A Rachel 9.58 112 Pn 17 24 53.7 +0.9
TPNV Topopah Spring 9.60 117 P Pn 17 24 51.7 -1.3
baz=304,SNR=15
LRMC Laurel Mtn Rad 9.60 128 P Pn 17 24 53.5 +0.5
baz=314
OSI Osito Audit: C 9.65 135 P Pn 17 24 54.0 +0.5
baz=321
Q12A Willow Creek R 9.66 102 Pn 17 24 56.3 +2.5
EDW2 Edwards Air Fo 9.85 131 P Pn 17 24 57.4 +1.1
baz=317
SPR3 Spring Creek 3 10.04 102 Pn Pn 17 25 00.7 +1.5
GSC Goldstone, Bar 10.25 126 Pn 17 25 01.5 -0.3
GSC Goldstone, Bar 10.25 126 P Pn 17 25 01.5 -0.3
BBB Bella Bella 10.46 356 Pn Pn 17 25 03.4 -1.1
comp=E,0.1nm,0.3s,baz=211,slow=15,SNR=2.5
BBB LR LR 17 28 16.6
comp=E,216nm,21.6s,baz=141,slow=33
comp=E,10.0nm,1.1s
BGU Big Grassy Mou 10.53 90 Pn 17 25 05.1 -0.6
PSUT Pine Spring 10.55 103 Pn 17 25 06.7 +0.5
HVU Hansel Valley 10.62 85 Pn 17 25 07.1 +0.2
HVU Hansel Valley 10.62 85 P Pn 17 25 07.1 +0.2
TUQ Turquoise Moun 10.71 123 P Pn 17 25 08.5 +0.3
baz=310
DUG Dugway, Tooele 10.83 94 Pn 17 25 09.7 -0.1
DUG Dugway, Tooele 10.83 94 P Pn 17 25 09.8 0.0
baz=283
DUG Dugway, Tooele 10.83 94 P Pn 17 25 09.7 -0.1
HEC Hector,Ludlow 10.85 126 P Pn 17 25 09.4 -0.6
baz=313
HG4B Hotspring 10.92 346 Pn 17 25 13.5 +2.6
V12A Nelson 11.22 119 Pn 17 25 17.0 +1.9
GMRC Granite Mounta 11.29 124 P Pn 17 25 15.3 -0.9
baz=312
HWUT Hardware Ranch 11.53 86 Pn 17 25 19.5 0.0
BELC Belle Mtn. Jos 11.63 128 P Pn 17 25 21.0 +0.3
baz=315
PFO Pinyon Flats O 11.64 131 P Pn 17 25 21.8 +0.9
baz=318
PFO Pinyon Flats O 11.64 131 Pn Pn 17 25 26.3 +5.4
comp=E,0.1nm,0.3s,baz=321,slow=5.3,SNR=4.8
PFO LR LR 17 29 14.8
comp=E,747nm,21.3s,baz=308,slow=34
comp=E,1.5nm,0.7s
PFO Pinyon Flats O 11.64 131⇑ eP Pn 17 25 18.9 -2.0
TPFO Pinon Flats 11.65 131 P Pn 17 25 22.3 +1.3
baz=316
BOZ Bozeman (W) 11.76 66 Pn 17 25 22.8 +0.3
BOZ Bozeman (W) 11.76 66 P Pn 17 25 22.4 -0.1
baz=256,SNR=16
BOZ Bozeman (W) 11.76 66 P Pn 17 25 22.8 +0.3
FXWY Fox Creek 11.89 76 Pn 17 25 23.4 -1.0
IRM Iron Mountain 12.03 125 P Pn 17 25 27.4 +1.2
baz=313
YHH Holmes Hill 12.14 70 Pn 17 25 27.7 -0.2
BC3 Big Chuckawall 12.19 128 P Pn 17 25 28.5 +0.1
baz=315
Q16A Castle Valley 12.39 98 Pn 17 25 31.1 -0.2
SWSC Sam W. Stewart 12.50 131 P Pn 17 25 33.3 +0.7
baz=318
IKP In-Ko-Pah, Jac 12.55 133 P Pn 17 25 33.5 +0.2
baz=320
PDAR Pinedale Array 12.95 80 Pn 17 25 37.2 -1.7
PDAR Pinedale Array 12.95 80 Pn Pn 17 25 41.9 +3.0
baz=278,slow=11,SNR=5.7
PDAR LR LR 17 31 03.3
comp=E,755nm,18.9s,baz=265,slow=39
comp=E,0.6nm,0.8s
GLA Glamis 12.99 128 P Pn 17 25 39.8 +0.6
baz=316
RLMT Red Lodge 13.30 69 P Pn 17 25 44.2 +0.5
baz=262
WUAZ Wupatki 13.69 112 P Pn 17 25 48.8 -0.2
baz=302
EGMT Eagleton 13.71 57 P Pn 17 25 48.5 -0.6
baz=249
BRLDA Berland Lookou 13.89 24 Pn 17 25 50.0 -1.5
V35K Ketchikan 13.91 349 P Pn 17 25 52.6 +0.9
baz=165
X16A Lo Mia Camp, P 14.26 116 Pn 17 25 55.6 -1.1
O20A White River Ci 14.26 90 P Pn 17 25 56.8 +0.1
baz=283
PIX Pinacate 14.86 129 Pn 17 26 03.1 -1.7
U33K Whale Pass 14.91 347 P Pn 17 26 06.4 +1.1
baz=162
214A Organ Pipe Nat 14.96 126 P Pn 17 26 05.5 -0.7
baz=315,SNR=5.4
MVCO Mesa Verde 14.97 102 P Pn 17 26 07.8 +1.3
baz=294,SNR=6.9
W18A Petrified Fore 15.04 111 P Pn 17 26 07.4 0.0
baz=302
K22A Casper 15.19 80 Pn 17 26 06.7 -2.6
K22A Casper 15.19 80 P Pn 17 26 09.6 +0.3
baz=274
T35M Bob Quinn 15.38 353 P Pn 17 26 13.1 +1.5
baz=171,SNR=8.1
LAO LASA Array 15.66 65 P Pn 17 26 15.7 +0.4
baz=259,SNR=13
N23A Red Feather La 15.83 86 P Pn 17 26 17.5 -0.3
baz=280
TUC Tucson 15.99 121 Pn 17 26 17.3 -2.4
TUC Tucson 15.99 121 P Pn 17 26 21.5 +1.8
baz=311
TUC Tucson 15.99 121 P Pn 17 26 17.3 -2.4
TUC pmax pmax
comp=Z,15nm,1.2s
S22A 4UR Ranch, Cre 16.00 98 P Pn 17 26 20.9 +0.8
baz=291,SNR=14
SIT Sitka 16.22 344 P Pn 17 26 23.5 +1.0
baz=157
ISCO Idaho Springs 16.30 90 P Pn 17 26 24.0 +0.1
baz=284
S32K Killisnoo 16.46 345 P P 17 26 27.7 -0.4
baz=159
DLBC Dease Lake 16.80 354 Pn 17 26 28.1 -1.8
DLBC Dease Lake 16.80 354 P P 17 26 31.1 -1.0
baz=172,SNR=13
DLBC Dease Lake 16.80 354 Pn P 17 26 33.0 +0.9
comp=E,0.1nm,0.3s,baz=167,slow=10,SNR=18
DLBC LR LR 17 31 56.4
comp=Z,273nm,19.5s,baz=206,slow=34
Q24A Divide 16.87 92 P Pn 17 26 30.9 -0.3
baz=287
RSSD Black Hills 16.96 74 P Pn 17 26 32.3 +0.2
baz=270
SDCO Great Sand Dun 16.99 97 P P 17 26 33.9 -0.6
baz=291,SNR=44
R32K Eaglecrest 17.21 346 P P 17 26 35.5 -1.0
baz=160
S31K Pelican 17.25 343 P P 17 26 37.5 +0.6
baz=156
DGMT Dagmar 17.39 60 IAmb IAmb 17 26 44.2
comp=Z,127nm,1.5s
DGMT Dagmar 17.39 60 P P 17 26 37.9 -0.7
baz=256
ANMO Albuquerque 17.46 106 Pn 17 26 37.7 -0.7
ANMO Albuquerque 17.46 106 P Pn 17 26 37.8 -0.7
baz=299
ANMO Albuquerque 17.46 106 P P 17 26 40.9 +1.3
baz=36,slow=13,SNR=8.3
ANMO LR LR 17 33 49.8
comp=Z,861nm,18.6s,baz=36,slow=39
comp=Z,2.2nm,0.8s
ANMO Albuquerque 17.46 106 P Pn 17 26 37.7 -0.7
ANMO pmax pmax
comp=Z,7.0nm,1.3s
Q32M Nakina River 17.54 351 P Pn 17 26 39.0 -0.2
baz=167,SNR=7.8
R33M Jennings River 17.83 353 P P 17 26 43.2 -0.3
R33M Jennings River 17.83 353 P Pn 17 26 42.4 -0.4
baz=170,SNR=17
121A Cookes Peak, D 17.83 115 P Pn 17 26 42.1 -0.9
baz=307,SNR=18
T25A Trinidad 18.02 97 P Pn 17 26 45.5 +0.2
baz=292,SNR=14
P32M Atlin 18.34 349 P Pn 17 26 46.5 -2.4
P32M Atlin 18.34 349 P P 17 26 49.1 +0.2
baz=164,SNR=6.5
KOTAN Kotaneelee Air 18.48 5 P Pn 17 26 51.2 +0.6
baz=187
OGNE Ogallala 18.73 84 P Pn 17 26 54.5 +0.6
baz=281
KSCO Kaye Shedlock' 18.74 90 P Pn 17 26 54.9 +0.8
baz=286
P33M Teslin, Yukon 18.82 351 P P 17 26 52.6 -1.7
P33M Teslin, Yukon 18.82 351 P Pn 17 26 54.3 -0.5
baz=166,SNR=8.1
P29M Windy Craggy 19.10 343 P Pn 17 26 57.6 -0.5
baz=155
P30M Million Dollar 19.39 345 P Pn 17 27 01.3 -0.3
baz=157
RTBA Rita Blanca 19.53 98 IAmb IAmb 17 27 14.5
comp=Z,145nm,1.6s
WHY Whitehorse 19.53 348 P P 17 27 01.6 -0.5
baz=162
O30N Mendenhall 19.83 347 P Pn 17 27 05.9 -1.0
baz=159,SNR=13
O29M Mount Kennedy 19.89 343 P P 17 27 06.0 0.0
baz=154
MNTX Cornudas Mount 19.97 113 P P 17 27 06.3 -0.7
baz=306,SNR=11
PINM Pinnacle 20.10 340 P P 17 27 08.8 +0.5
baz=150
MDND Maddock 20.30 63 P P 17 27 10.7 +0.2
baz=263
N31M Braeburn, Yuko 20.46 348 P P 17 27 10.9 -1.2
MSTX Muleshoe 20.59 104 IAmb IAmb 17 27 24.4
comp=Z,68nm,1.6s
MSTX Muleshoe 20.59 104 P P 17 27 13.1 -0.8
baz=300
N30M Aishikik Lake 20.65 346 P P 17 27 13.8 -0.5
baz=158,SNR=5.7
VHRN Van Horn 20.79 115 P P 17 27 15.6 -0.5
VHRN IAmb IAmb 17 27 31.6
comp=Z,107nm,1.6s
M31M Drury Creek, Y 20.95 350 IAmb IAmb 17 27 25.2
comp=Z,54nm,1.4s
CBKS Cedar Bluff 20.96 89 P P 17 27 17.5 -0.2
CBKS Cedar Bluff 20.96 89 P P 17 27 17.2 -0.6
baz=287
CBKS Cedar Bluff 20.96 89 P P 17 27 17.5 -0.2
CBKS pmax pmax
comp=Z,222nm,1.8s
AMTX Amarillo 20.96 101 P P 17 27 17.7 -0.2
FFC Flin Flon 20.96 43 P P 17 27 17.0 -0.6
FFC IAmb IAmb 17 27 26.7
comp=Z,69nm,1.4s
FFC Flin Flon 20.96 43 P P 17 27 17.0 -0.6
FFC pmax pmax
comp=Z,69nm,1.5s
GRNC Granite Creek 21.03 340 IAmb IAmb 17 27 34.2
comp=Z,70nm,1.8s
MMPY Sheldon Lake, 21.05 354 P P 17 27 20.2 +1.7
baz=171,SNR=19
WAX Waxell Ridge 21.09 338 IAmb IAmb 17 27 32.7
comp=Z,66nm,1.4s
CTGM Chitina Glacie 21.12 340 P P 17 27 18.6 -0.9
CTG Chitna Glacier 21.12 340 P P 17 27 19.6 +0.2
baz=149,SNR=8.0
PECS Pecos 21.21 112 IAmb IAmb 17 27 36.4
comp=Z,109nm,1.7s
CRQM Cirque 21.43 338 IAmb IAmb 17 27 38.2
comp=Z,81nm,1.5s
BGNE Belgrade 21.53 81 P P 17 27 24.6 +0.7
baz=281
WRGLY Wrigley 21.60 4 P P 17 27 25.3 +0.9
WRGLY IAmb IAmb 17 27 32.2
comp=Z,64nm,1.2s
YUK3 Moose Creek 21.62 343 P P 17 27 26.7 +1.8
baz=152,SNR=8.9
M30M Minto, Yukon 21.65 348 P P 17 27 26.2 +1.2
baz=160
M29M Somme Creek 21.82 346 P P 17 27 28.0 +1.2
baz=156,SNR=9.3
R32A Long Quarter, 21.84 89 IAmb IAmb 17 27 43.1
comp=Z,105nm,1.5s
MCARA McCarthy VSAT 21.92 339 P P 17 27 27.9 +0.2
MCARA IAmb IAmb 17 27 39.1
comp=Z,95nm,1.7s
SMWD Samnorwood 21.92 99 IAmb IAmb 17 27 43.5
comp=Z,82nm,1.3s
ALPN Alpine 21.96 114 IAmb IAmb 17 27 41.7
comp=Z,42nm,1.2s
YKA Yellowknife Ar 22.03 15 P P 17 27 28.2 -0.8
YKA Yellowknife Ar 22.03 15 P P 17 27 27.9 -1.1
comp=Z,4.2nm,1.0s,baz=206,slow=11,SNR=19
YKA PcP PcP 17 31 26.6 -0.1
comp=Z,1.6nm,1.1s,baz=201,slow=3.1,SNR=3.8
comp=Z,4.2nm,1.0s
YKA Yellowknife Ar 22.03 15 P P 17 27 28.2 -0.8
EYAK Cordova Ski Ar 22.04 335 P P 17 27 30.2 +1.1
baz=140
DKNS Dickens 22.08 103 IAmb IAmb 17 27 46.7
comp=Z,90nm,1.8s
GLB Gilahina Butte 22.18 338 P P 17 27 31.9 +1.2
GLB IAmb IAmb 17 27 49.1
comp=Z,57nm,1.7s
ECSD EROS Data Cent 22.33 75 P P 17 27 32.4 0.0
ECSD IAmb IAmb 17 27 46.6
comp=Z,42nm,1.2s
ECSD EROS Data Cent 22.33 75 P P 17 27 33.6 +1.1
baz=276,SNR=8.7
L29M L29M 22.37 347 P P 17 27 34.0 +1.3
L29M IAmb IAmb 17 27 42.3
comp=Z,116nm,1.7s
L29M L29M 22.37 347 P P 17 27 33.6 +0.9
baz=158,SNR=31
LPIG La Paz 22.43 137 LR LR 17 35 19.3
comp=Z,440nm,18.8s,baz=310,slow=34
M27K Edge Creek, AK 22.46 342 IAmb IAmb 17 27 44.0
comp=Z,77nm,1.6s
M27K Edge Creek, AK 22.46 342 P P 17 27 34.1 +0.4
baz=150,SNR=24
N25K Chitina, Valde 22.53 338 IAmb IAmb 17 27 40.0
comp=Z,64nm,1.6s
N25K Chitina, Valde 22.53 338 P P 17 27 35.4 +0.9
baz=144,SNR=8.3
TX31 Lajitas Ar. Si 22.58 116 IAmb IAmb 17 27 51.9
comp=Z,67nm,1.4s
TXAR Lajitas Array 22.58 116 P P 17 27 35.9 +0.6
TXAR Lajitas Array 22.58 116 P P 17 27 37.1 +1.8
comp=Z,2.9nm,0.9s,baz=298,slow=5.5,SNR=18
TXAR LR LR 17 37 03.0
comp=Z,195nm,21.9s,baz=302,slow=38
comp=Z,2.9nm,0.9s
TXAR Lajitas Array 22.58 116 P P 17 27 35.9 +0.6
GLI Glacier Island 22.72 334 P P 17 27 36.4 -0.1
baz=138
L34A Svendsen Farm, 22.74 79 IAmb IAmb 17 27 52.1
comp=Z,101nm,1.6s
M26K Nabesna, AK 22.77 341 IAmb IAmb 17 28 01.7
comp=Z,51nm,1.9s
M26K Nabesna, AK 22.77 341 P P 17 27 37.9 +0.9
baz=148,SNR=6.9
KDAK Kodiak Island 22.82 323 LR LR 17 34 08.9
comp=Z,586nm,20.2s,baz=165,slow=31
APMT Aspermont 22.83 103 IAmb IAmb 17 27 54.8
comp=Z,105nm,1.9s
SGCY Sterling City 22.83 107 IAmb IAmb 17 27 53.8
comp=Z,48nm,1.2s
AGMN Agassiz Nation 22.84 63 P P 17 27 37.3 -0.4
AGMN IAmb IAmb 17 27 52.4
comp=Z,80nm,1.6s
K29M Barlow Dome 22.96 348 IAmb IAmb 17 27 44.4
comp=Z,38nm,1.5s
K29M Barlow Dome 22.96 348 P P 17 27 39.6 +0.6
baz=159,SNR=18

BCAR	**Beaver Creek A**	23.05 343	P	P	17 27 39.7	-0.2
L27K	**Beaver Creek,**	23.06 343	P	P	17 27 40.2	+0.2
L27K			IAmb	IAmb	17 28 03.3	
	comp=Z,45nm,1.9s					
L27K	**Beaver Creek,**	23.06 343	P	P	17 27 40.5	+0.5
	baz=151,SNR=9.2					
ULM	**Lac du Bonnet**	23.08 58	IAmb	IAmb	17 27 58.6	
	comp=Z,46nm,1.1s					
ULM	**Lac du Bonnet**	23.08 58	P	P	17 27 41.1	+0.9
	comp=Z,20nm,1.1s,baz=268,slow=10,SNR=13					
ULM			LR	LR	17 36 56.0	
	comp=Z,463nm,18.5s,baz=274,slow=38					
	comp=Z,20nm,1.1s					
WMOK	**Wichita Mounta**	23.16 98	IAmb	IAmb	17 28 01.1	
	comp=Z,28nm,1.1s					
WMOK	**Wichita Mounta**	23.16 98	P	P	17 27 40.8	-0.5
	baz=296,SNR=9.8					
KSU1	**Kansas State U**	23.21 86	P	P	17 27 40.6	-1.1
	baz=286					
KAN13	**South Haven SW**	23.23 92	IAmb	IAmb	17 27 52.4	
	comp=Z,38nm,1.0s					
HARP	**HAARP**	23.33 338	P	P	17 27 43.7	+1.0
	baz=144					
O22K	**Cooper Landing**	23.34 331	P	P	17 27 42.5	-0.2
O22K			IAmb	IAmb	17 27 54.6	
	comp=Z,72nm,1.2s					
L26K	**Log Cabin Wild**	23.38 341	P	P	17 27 42.4	-0.8
L26K			IAmb	IAmb	17 27 47.5	
	comp=Z,48nm,1.6s					
L26K	**Log Cabin Wild**	23.38 341	P	P	17 27 44.3	+1.1
	baz=148,SNR=8.3					
M24K	**Tolsona, Glenn**	23.38 337	P	P	17 27 43.3	0.0
	baz=142					
MENT	**Mentasta**	23.40 341	IAmb	IAmb	17 27 48.6	
	comp=Z,97nm,1.8s					
DAWY	**Dawson**	23.48 346	IAmb	IAmb	17 27 54.6	
	comp=Z,54nm,1.6s					
DAWY	**Dawson**	23.48 346	P	P	17 27 45.8	+1.6
	baz=156					
J30M	**Hart River**	23.48 350	IAmb	IAmb	17 27 48.6	
	comp=Z,78nm,1.6s					
J30M	**Hart River**	23.48 350	P	P	17 27 45.6	+1.3
	baz=162,SNR=25					
SCM	**Sheep Creek Mo**	23.52 336	P	P	17 27 46.0	+1.4
	baz=139,SNR=5.4					
BLOK	**Blackwell**	23.52 92		P	17 27 44.3	-0.5
ABTX	**Abilene, Hawle**	23.53 104	P	P	17 27 46.5	+1.5
	baz=301					
KNK	**Knik Glacier**	23.57 334	P	P	17 27 45.0	0.0
KNK	**Knik Glacier**	23.57 334	P	P	17 27 46.2	+1.1
	baz=137					
J29N	**Klondike Camp**	23.64 348	IAmb	IAmb	17 27 56.7	
	comp=Z,91nm,1.6s					
RC01	**Rabbit Creek A**	23.77 332	P	P	17 27 47.2	+0.2
	baz=134					
SML	**Sawmill**	23.82 335	P	P	17 27 48.6	+1.1
	baz=138					
WTFS	**Witchita Falls**	23.84 100		P	17 27 48.7	+0.8
PAX	**Paxson**	23.88 339	P	P	17 27 48.4	+0.3
	baz=144					
GHO	**Glory Hole Cre**	23.98 334	P	P	17 27 50.3	+1.1
GHO			IAmb	IAmb	17 28 03.1	
	comp=Z,44nm,1.5s					
I30M	**Mount Dempster**	24.11 350	P	P	17 27 50.4	+0.1
I30M	**Mount Dempster**	24.11 350	P	P	17 27 50.2	-0.1
	baz=162,SNR=5.4					
WAT6	**Susitna Watana**	24.21 336	P	P	17 27 51.7	+0.4
	baz=140					
SUA	**Susitna One**	24.38 332	IAmb	IAmb	17 27 56.4	
	comp=Z,66nm,1.9s					
FW03	**Perrin-Whitt E**	24.48 101	P	P	17 27 53.1	-0.7
DHY	**Denali Highway**	24.49 338	P	P	17 27 54.4	+0.5
DHY			IAmb	IAmb	17 27 57.3	
	comp=Z,36nm,1.6s					
DHY	**Denali Highway**	24.49 338	P	P	17 27 54.5	+0.6
	baz=141,SNR=6.4					
I29M	**Ogilvie Camp,**	24.50 349	P	P	17 27 54.8	+1.0
	baz=159,SNR=8.0					
JCT	**Junction City**	24.57 109	P	P	17 27 55.2	+0.4
	baz=305					
J26L	**Joseph Creek**	24.70 343	P	P	17 27 57.0	+1.3
J26L	**Joseph Creek**	24.70 343	P	P	17 27 56.1	+0.4
	baz=149,SNR=12					
BRDY	**Brady**	24.70 106	IAmb	IAmb	17 28 18.2	
	comp=Z,27nm,1.5s					
I28M	**Miner Creek**	24.84 347	P	P	17 27 56.2	-0.8
	baz=156,SNR=13					
TUL3	**Leonard**	24.90 93	P	P	17 27 56.7	-1.0
	baz=293					
SKT	**Skwentna**	25.01 332	IAmb	IAmb	17 28 10.3	
	comp=Z,30nm,1.5s					
RND	**Reindeer**	25.17 337	P	P	17 27 59.2	-0.8
RND			IAmb	IAmb	17 28 04.8	
	comp=Z,29nm,1.4s					
RND	**Reindeer**	25.17 337	P	P	17 27 59.2	-0.8
RND			pmax	pmax		
	comp=Z,29nm,1.4s					
J25K	**Salcha River,**	25.21 341	IAmb	IAmb	17 28 15.7	
	comp=Z,34nm,1.6s					
J25K	**Salcha River,**	25.21 341	P	P	17 28 00.5	+0.3
	baz=146,SNR=14					
EPYK	**Eagle Plains**	25.25 351	P	P	17 28 01.3	+0.8
	baz=163,SNR=26					
I27K	**Kandik River**	25.28 346	P	P	17 28 00.8	0.0
	baz=154,SNR=17					
I26K	**Coal Creek Min**	25.31 344	IAmb	IAmb	17 28 07.3	
	comp=Z,50nm,1.4s					
I26K	**Coal Creek Min**	25.31 344	P	P	17 28 00.4	-0.6
	baz=151					
H29M	**Whitestone**	25.32 349	IAmb	IAmb	17 28 05.3	
	comp=Z,39nm,1.1s					
H29M	**Whitestone**	25.32 349	P	P	17 28 00.2	-0.9
	baz=160,SNR=26					
HDA	**Harding Lake**	25.43 340	P	P	17 28 01.7	-0.5
HDA			IAmb	IAmb	17 28 29.2	
	comp=Z,39nm,1.6s					
G31M	**Satah River**	25.53 353	IAmb	IAmb	17 28 08.5	
	comp=Z,62nm,1.6s					
G31M	**Satah River**	25.53 353	P	P	17 28 02.9	-0.1
	baz=167,SNR=13					
IL31		25.71 340	IAmb	IAmb	17 28 20.6	
	comp=Z,42nm,1.9s					
ILAR	**Eielson Array**	25.71 340	P	P	17 28 04.2	-0.5
ILAR				PcP	17 31 33.9	-0.6
ILAR	**Eielson Array**	25.71 340	P	P	17 28 05.5	+0.7
	comp=Z,5.5nm,1.2s,baz=155,slow=7.3,SNR=21					
ILAR			PcP	PcP	17 31 33.4	-1.1
	comp=Z,1.0nm,0.8s,baz=178,slow=2.2,SNR=7.5					
ILAR			LR	LR	17 36 14.3	
	comp=Z,400nm,21.7s,baz=157,slow=32					
	comp=Z,5.5nm,1.2s					
ILAR	**Eielson Array**	25.71 340	P	P	17 28 04.2	-0.5
ILAR					17 31 33.9	
EYMN	**Ely**	25.74 64	P	P	17 28 06.0	+0.8
	baz=269,SNR=7.6					
U38A	**Gravette**	25.75 91	IAmb	IAmb	17 28 20.0	
	comp=Z,68nm,1.6s					
X37A	**Clayton**	25.76 96	P	P	17 28 04.9	-0.5
G30M	**tAoh Zraii Nji**	25.78 352	IAmb	IAmb	17 28 16.2	
	comp=Z,47nm,1.9s					
WRH	**Wood River Hil**	25.78 339	IAmb	IAmb	17 28 16.1	
	comp=Z,64nm,1.8s					
H27K	**Steamboat Moun**	25.83 346	P	P	17 28 05.3	-0.5
	baz=154,SNR=21					
CCB	**Clear Creek Bu**	25.85 339	P	P	17 28 05.6	-0.4
N18K	**Kilae Creek**	25.85 327	IAmb	IAmb	17 28 27.2	
	comp=Z,39nm,1.6s					
N18K	**Kilae Creek**	25.85 327	P	P	17 28 05.8	-0.2
	baz=124					
O17K	**Koliganek Bris**	25.87 324	P	P	17 28 06.5	+0.4
	baz=121					
G29M	**Pine Creek**	25.93 350	IAmb	IAmb	17 28 10.5	
	comp=Z,32nm,1.1s					
G29M	**Pine Creek**	25.93 350	P	P	17 28 07.7	+1.0
	baz=161,SNR=16					
M19K	**Big River Lodg**	25.99 330	P	P	17 28 09.0	+1.8
	baz=128					
435B	**Jarrell**	25.99 105	P	P	17 28 08.3	+0.7
	baz=303					
PRP	**Porcupine Dome**	26.00 342	P	P	17 28 08.4	+0.8
PRP			IAmb	IAmb	17 28 17.9	
	comp=Z,32nm,1.7s					
PRP	**Porcupine Dome**	26.00 342	P	P	17 28 08.7	+1.1
	baz=147,SNR=5.9					
COLA	**College**	26.04 340⇑	*e*P	P	17 28 08.9	+1.2
COLA			pmax	pmax		
	comp=Z,14nm,1.6s					
S39A	**Bolivar**	26.11 88	IAmb	IAmb	17 28 22.8	
	comp=Z,24nm,1.1s					
833A	**Chaparral WMA,**	26.14 112	P	P	17 28 11.0	+2.1
	baz=308					
NEA2	**Nenana**	26.14 338	IAmb	IAmb	17 28 27.1	
	comp=Z,39nm,1.4s					
NEA2	**Nenana**	26.14 338	P	P	17 28 09.5	+0.8
	baz=140,SNR=13					
HHAR	**Hobbs**	26.15 91	IAmb	IAmb	17 28 23.5	
	comp=Z,35nm,1.3s					
MDM	**Murphy Dome**	26.21 340	IAmb	IAmb	17 28 38.5	
	comp=Z,40nm,2.0s					
O16K	**Kokwok River B**	26.22 323	IAmb	IAmb	17 28 31.8	
	comp=Z,37nm,1.6s					
N17K	**Nushagak Hills**	26.30 326	P	P	17 28 09.1	-1.0
N17K			IAmb	IAmb	17 28 26.6	
	comp=Z,54nm,1.8s					
L19K	**White Mountain**	26.33 330	IAmb	IAmb	17 28 27.1	
	comp=Z,78nm,1.9s					
L19K	**White Mountain**	26.33 330	P	P	17 28 11.2	+0.8
	baz=128,SNR=9.3					
G27K	**Doyon Strip**	26.37 347	IAmb	IAmb	17 28 22.1	
	comp=Z,32nm,1.6s					
G27K	**Doyon Strip**	26.37 347	P	P	17 28 12.2	+1.5
	baz=155,SNR=13					
I23K	**Minto, Yukon-K**	26.65 339	P	P	17 28 12.4	-0.8
I23K			IAmb	IAmb	17 28 34.5	
	comp=Z,52nm,1.6s					
I23K	**Minto, Yukon-K**	26.65 339	P	P	17 28 13.8	+0.6
	baz=140,SNR=12					
K20K	**Telida**	26.80 333	IAmb	IAmb	17 28 18.4	
	comp=Z,50nm,1.8s					
K20K	**Telida**	26.80 333	P	P	17 28 15.4	+0.8
	baz=131,SNR=6.1					
H24K	**Noodor Dome**	26.82 341	P	P	17 28 14.5	-0.4
H24K			IAmb	IAmb	17 28 41.4	
	comp=Z,46nm,1.9s					
FYU	**Fort Yukon**	26.83 344	IAmb	IAmb	17 28 24.1	
	comp=Z,60nm,1.5s					
INK	**Inuvik**	26.83 355	IAmb	IAmb	17 28 21.9	
	comp=Z,39nm,1.8s					
INK	**Inuvik**	26.83 355	P	P	17 28 15.1	+0.3
	baz=169					
M17K	**Holitna River**	26.88 327	P	P	17 28 16.5	+1.3
	baz=123					
G26K	**Porcupine Rive**	26.88 345	P	P	17 28 16.8	+1.5
	baz=151,SNR=5.8					
MLY	**Manley**	26.94 338	P	P	17 28 16.0	+0.1
MLY			IAmb	IAmb	17 28 37.0	
	comp=Z,29nm,1.4s					
MLY	**Manley**	26.94 338	P	P	17 28 16.6	+0.7
	baz=138,SNR=12					
L18K	**Granite Mounta**	27.04 329	P	P	17 28 17.5	+0.7
L18K			IAmb	IAmb	17 28 25.5	
	comp=Z,34nm,1.6s					
L18K	**Granite Mounta**	27.04 329	P	P	17 28 17.8	+1.0
	baz=125,SNR=6.4					
JFWS	**Jewell Farm**	27.04 75	P	P	17 28 17.0	0.0
	baz=280					
MIAR	**Mount Ida**	27.12 94	P	P	17 28 18.2	+0.5
	baz=296					
G25K	**Bearman Lake**	27.19 343	P	P	17 28 19.0	+1.0
	baz=148,SNR=7.2					
H23K	**Yukon River**	27.23 340	IAmb	IAmb	17 28 22.8	
	comp=Z,27nm,1.6s					
H23K	**Yukon River**	27.23 340	P	P	17 28 18.0	-0.5
	baz=141,SNR=7.8					
M16K	**Timber Creek**	27.30 326	IAmb	IAmb	17 28 23.7	
	comp=Z,43nm,1.7s					
E29M	**Blow River**	27.32 351	IAmb	IAmb	17 28 27.3	
	comp=Z,24nm,1.4s					
J20K	**Nowinta River**	27.37 334	P	P	17 28 19.3	-0.4
J20K			IAmb	IAmb	17 28 39.9	
	comp=Z,27nm,1.5s					
J20K	**Nowinta River**	27.37 334	P	P	17 28 19.8	0.0
	baz=132,SNR=7.4					
N15K	**Kwethluk River**	27.38 324	P	P	17 28 19.9	0.0
	baz=117					
G24K	**Hadweenzic Riv**	27.43 342	IAmb	IAmb	17 28 24.7	
	comp=Z,19nm,1.3s					
G24K	**Hadweenzic Riv**	27.43 342	P	P	17 28 20.3	0.0
	baz=145,SNR=9.5					
BMAR	**Burnt Mountain**	27.45 345	P	P	17 28 19.8	-0.7
CCM	**Cathedral Cave**	27.54 86	P	P	17 28 19.6	-1.8
CCM	**Cathedral Cave**	27.54 86	P	P	17 28 19.7	-1.8
CCM			pmax	pmax		
	comp=Z,96nm,1.9s					
L17K	**Donlin**	27.62 328	P	P	17 28 21.2	-0.7
	baz=123					
E27K	**Coleen River**	27.62 348	IAmb	IAmb	17 28 26.7	
	comp=Z,39nm,1.4s					
E27K	**Coleen River**	27.62 348	P	P	17 28 21.9	0.0
	baz=156,SNR=24					
L42A	**Oliver, Polo**	27.64 77	IAmb	IAmb	17 28 42.7	
	comp=Z,43nm,1.1s					
HKT	**Hockley**	27.71 105⇑	*e*P	P	17 28 22.8	-0.2
HKT			pmax	pmax		
	comp=Z,2.0nm,0.9s					
J19K	**Poorman**	27.74 333	P	P	17 28 23.1	0.0
	baz=130,SNR=5.4					
H22K	**Ishtalitna Cre**	27.77 339	P	P	17 28 24.0	+0.7
	baz=138,SNR=9.5					
J18K	**Innoko River**	27.79 331	P	P	17 28 23.6	+0.1
J18K			IAmb	IAmb	17 28 26.6	
	comp=Z,32nm,1.9s					
J18K	**Innoko River**	27.79 331	P	P	17 28 23.8	+0.2
	baz=127,SNR=5.3					
F25K	**Christian Rive**	27.80 345	P	P	17 28 24.3	+0.7
	baz=149,SNR=6.6					
L16K	**Owhat River**	27.87 327	IAmb	IAmb	17 28 28.4	
	comp=Z,24nm,1.2s					
L16K	**Owhat River**	27.87 327	P	P	17 28 23.5	-0.7
	baz=121,SNR=8.8					
I20K	**Naaghedeneel**	27.90 335	IAmb	IAmb	17 28 32.5	
	comp=Z,31nm,1.2s					
I20K	**Naaghedeneel**	27.90 335	P	P	17 28 23.7	-0.7
	baz=132					
K17K	**Iditarod**	27.94 329	P	P	17 28 25.6	+0.7
K17K			IAmb	IAmb	17 28 27.9	
	comp=Z,41nm,1.7s					
K17K	**Iditarod**	27.94 329	P	P	17 28 23.9	-1.0
	baz=124					
H21K	**Melozitna Rive**	28.00 337	P	P	17 28 25.0	-0.3
	baz=136,SNR=5.7					
T42A	**Van Buren**	28.00 88	IAmb	IAmb	17 28 43.5	
	comp=Z,23nm,1.4s					
G23K	**Bananza Creek**	28.05 341	P	P	17 28 26.7	+0.9
	baz=141,SNR=11					
M14K	**Bethel**	28.47 324	IAmb	IAmb	17 28 57.4	
	comp=Z,28nm,1.4s					
H20K	**Anotleneega Mo**	28.50 336	P	P	17 28 30.5	+0.7
	baz=133,SNR=6.4					
IMAR	**Indian Mountai**	28.50 337	P	P	17 28 29.6	-0.2
D27M	**Malcolm River**	28.51 350	IAmb	IAmb	17 28 39.4	
	comp=Z,22nm,1.6s					
PBMO	**Poplar Bluff**	28.59 88	IAmb	IAmb	17 28 44.1	
	comp=Z,36nm,1.3s					
E24K	**Your Creek**	28.79 343		PcP	17 31 42.8	+0.9
E24K	**Your Creek**	28.79 343	P	P	17 28 32.8	+0.4
	baz=145,SNR=5.5					
G21K	**Allakaket**	28.81 338	IAmb	IAmb	17 28 43.0	
	comp=Z,36nm,1.8s					
G21K				PcP	17 31 42.0	+0.1
G21K	**Allakaket**	28.81 338	P	P	17 28 32.8	+0.2
	baz=136					
H19K	**Roundabout Mou**	29.01 335	IAmb	IAmb	17 28 54.5	
	comp=Z,27nm,1.4s					
H19K	**Roundabout Mou**	29.01 335	P	P	17 28 34.8	+0.5
	baz=131,SNR=9.4					
E23K	**Chandalar**	29.02 343	P	P	17 28 34.4	-0.1
	baz=144,SNR=8.2					
L14K	**Kuka Creek**	29.05 325	P	P	17 28 35.5	+0.9
L14K			IAmb	IAmb	17 28 42.5	
	comp=Z,15nm,1.1s					
J16K	**Anvik River**	29.14 329	IAmb	IAmb	17 28 49.6	
	comp=Z,34nm,1.6s					
J16K	**Anvik River**	29.14 329	P	P	17 28 35.4	0.0
	baz=122					
F22K	**John River**	29.20 340	P	P	17 28 36.9	+0.9
	baz=139					
C27K	**Jago River**	29.26 348	P	P	17 28 37.6	+1.2
	baz=154,SNR=5.2					
F21K	**Alatna River**	29.32 339	P	P	17 28 37.3	+0.2
	baz=137					
TOLK	**Toolik Lake Re**	29.49 343	IAmb	IAmb	17 28 43.6	
	comp=Z,36nm,1.5s					
TOLK			PcP	PcP	17 31 44.3	+0.7
TOLK	**Toolik Lake Re**	29.49 343	P	P	17 28 38.7	+0.2
	baz=144,SNR=9.3					
I17K	**Unalakleet**	29.49 330	P	P	17 28 38.6	0.0
	baz=122					
G19K	**Purcell Mounta**	29.61 336	P	P	17 28 40.0	+0.4
G19K			IAmb	IAmb	17 28 48.9	
	comp=Z,24nm,1.8s					
C26K	**Camden Bay**	29.71 348	P	P	17 28 41.4	+1.0
	baz=152					
D24K	**Happy Valley**	29.75 344	IAmb	IAmb	17 29 01.8	
	comp=Z,20nm,1.4s					
D23K	**Nanushuk River**	29.99 343	P	P	17 28 43.6	+0.7
	baz=143,SNR=7.6					
F19K	**Shaleruckik Mo**	30.27 336		PcP	17 31 46.5	+1.0
A36M	**Sachs Harbour**	30.32 1	P	P	17 28 45.5	-0.3
A36M			IAmb	IAmb	17 28 54.7	
	comp=Z,32nm,1.6s					
D22K	**Ayikyak River**	30.37 342	IAmb	IAmb	17 29 07.1	
	comp=Z,25nm,1.6s					
C23K	**Itkillik River**	30.68 344	IAmb	IAmb	17 28 52.8	
	comp=Z,38nm,1.8s					
E20K	**Nigu River**	30.79 339	P	P	17 28 49.4	-0.6
	baz=134,SNR=8.1					
WCI	**Wyandotte Cave**	31.16 83	P	P	17 28 51.6	-2.0
WCI			IAmb	IAmb	17 29 02.5	
	comp=Z,15nm,0.8s					
WCI	**Wyandotte Cave**	31.16 83	P	P	17 28 51.7	-2.0
WCI			pmax	pmax		
	comp=Z,15nm,0.8s					
B21K	**Ikpikpuk River**	31.39 342	IAmb	IAmb	17 29 03.4	
	comp=Z,16nm,1.4s					
D19K	**Kuna River**	31.47 339	IAmb	IAmb	17 29 18.9	
	comp=Z,38nm,1.8s					
F15K	**North Star Dit**	31.89 331	IAmb	IAmb	17 29 03.4	
	comp=Z,27nm,1.6s					
F15K	**North Star Dit**	31.89 331	P	P	17 28 59.8	+0.1
	baz=120					
F14K	**Arctic Creek**	32.38 330	P	P	17 29 01.0	-3.0
	baz=118					
TKL	**Tuckaleechee C**	33.99 86	LR	LR	17 44 05.9	
	comp=Z,588nm,18.9s,baz=292,slow=38					
SADO	**Sadowa**	34.57 69	IAmb	IAmb	17 29 36.9	
	comp=Z,22nm,1.2s					
SADO	**Sadowa**	34.57 69	P	P	17 29 24.4	+1.0
	comp=Z,5.2nm,0.9s,baz=338,slow=7.7,SNR=2.6					
SADO			LR	LR	17 44 15.6	
	comp=Z,424nm,18.2s,baz=316,slow=38					
	comp=Z,5.2nm,0.9s					
RES	**Resolute Bay**	36.09 14	P	P	17 29 36.6	+0.6
RES			IAmb	IAmb	17 29 44.5	
	comp=Z,36nm,1.6s					
RES	**Resolute Bay**	36.09 14	P	P	17 29 36.6	+0.6
RES			pmax	pmax		
	comp=Z,36nm,1.6s					
CMIG	**Matias Romero**	36.87 122	LR	LR	17 47 04.4	
	comp=Z,103nm,21.3s,baz=333,slow=40					
J59A	**Piesco**	38.13 69	IAmb	IAmb	17 29 54.3	
	comp=Z,16nm,1.1s					
TEIG	**Tepich**	39.08 111	LR	LR	17 48 27.4	
	comp=Z,129nm,18.1s,baz=219,slow=40					
FRB	**Frobisher Bay**	39.78 36	LR	LR	17 47 07.2	
	comp=Z,539nm,18.2s,baz=244,slow=37					
SHEM	**Shemya Is, Ala**	40.39 307	LR	LR	17 46 18.6	
	comp=Z,112nm,18.6s,baz=130,slow=35					
E62A	**Clayton Lake**	40.70 63	P	P	17 30 15.6	+0.4
E62A			IAmb	IAmb	17 30 18.4	
	comp=Z,26nm,1.4s					
SCHQ	**Schefferville**	40.83 50	P	P	17 30 16.3	+0.1
	comp=Z,3.6nm,1.0s,baz=251,slow=5.6,SNR=2.8					
SCHQ			LR	LR	17 47 07.3	
	comp=Z,163nm,20.8s,baz=277,slow=36					
	comp=Z,3.6nm,1.0s					
EUNU	**Eureka**	41.22 10	P	P	17 30 20.3	+1.2
BILL	**Bilibino**	43.45 330	*e*P	P	17 30 34.0	-3.4
BILL			*i*		17 32 18.6	
BILL			*i*		17 32 26.0	
BILL			pmax	pmax		
	comp=Z,8.0nm,1.2s					
BILL			MLR	MLR		
	comp=Z,237nm,16.0s					
SFJD	**Kangerlussuaq**	47.20 31	LR	LR	17 51 30.9	
	comp=Z,266nm,18.8s,baz=272,slow=37					
JTS	**Las Juntas de**	48.34 118	LR	LR	17 52 54.6	
	comp=Z,60nm,19.4s,baz=349,slow=38					
SEY	**Seymchan**	49.78 324⇓	*e*P	P	17 31 26.9	-0.1
SEY			pmax	pmax		
	comp=Z,15nm,1.7s					
MA2	**Magadan**	51.50 320	LR	LR	17 49 56.9	
	comp=Z,108nm,20.9s,baz=90,slow=32					
SJG	**San Juan**	56.51 95	LR	LR	17 58 54.3	
	comp=Z,91nm,20.1s,baz=242,slow=39					
BORG	**Borgarnes**	59.15 29	LR	LR	17 57 52.2	
	comp=Z,170nm,19.6s,baz=317,slow=36					
SDV	**Santo Domingo**	59.24 107	LR	LR	18 02 06.5	
	comp=Z,60nm,18.8s,baz=285,slow=40					
JMIC	**Jan Mayen**	59.34 20	LR	LR	17 57 29.6	
	comp=Z,62nm,21.0s,baz=32,slow=35					
H11N3	**WAKE ISLAND Hy**	59.47 270	T	T	18 36 54.1	
	baz=52,slow=75,SNR=532					
H11N2	**WAKE ISLAND Hy**	59.47 270	T	T	18 36 54.3	
	baz=52,slow=75,SNR=372					
ROSC	**El Rosal**	59.48 113	LR	LR	18 02 54.3	
	comp=Z,124nm,18.1s,baz=34,slow=41					
H11N1	**WAKE ISLAND Hy**	59.49 270	T	T	18 36 49.8	
	baz=52,slow=75,SNR=605					
YAK	**Yakutsk**	59.75 328	*ce*P	P	17 58 00.6	
	comp=Z,194nm,18.1s,baz=52,slow=36					
YAK	**Yakutsk**	59.75 328	*ce*P	P	17 32 39.9	+0.7
YAK			pmax	pmax		
	comp=Z,23nm,1.7s					
H11S1	**WAKE ISLAND Hy**	60.36 269	T	T	18 38 00.5	
	baz=52,slow=75,SNR=1115					
H11S2	**WAKE ISLAND Hy**	60.37 269	T	T	18 38 03.9	
	baz=52,slow=75,SNR=752					
H11S3	**WAKE ISLAND Hy**	60.38 269	T	T	18 38 04.7	
	baz=52,slow=75,SNR=636					
YSS	**Yuzh-Sakhalins**	61.25 309	*e*P	P	17 32 50.0	+0.3
YSS			*e*S	S	17 41 09.7	+0.2
YSS			pmax	pmax		
	comp=Z,10.0nm,1.0s					
YSS			MLR	MLR		
	comp=Z,100nm,14.0s					
PPT	**Papeete**	62.62 204	LR	LR	17 52 20.1	
	comp=Z,95nm,21.0s,baz=172,slow=28					
PPT2	**Papeete2**	62.64 204	*e*LR	LR	17 51 31.2	
	comp=Z,154nm,26.0s					
PPT2			*e*LR	LR	17 51 39.3	
	comp=Z,162nm,24.5s					
PCRV	**Puerto La Cruz**	62.72 101	LR	LR	18 01 32.1	
	comp=Z,142nm,21.9s,slow=37					
ASAJ	**Asahikawa**	62.85 306	P	P	17 33 00.7	+0.2
	comp=Z,1.6nm,0.7s,baz=70,slow=6.6,SNR=3.5					
ASAJ			LR	LR	17 59 03.7	
	comp=Z,49nm,18.7s,baz=332,slow=35					
	comp=Z,1.6nm,0.7s					
ZEA	**Zeya**	65.61 321	*e*P	P	17 33 18.7	+0.3
KLR	**Kul'dur**	66.09 315	LR	LR	18 02 28.1	
	comp=Z,92nm,18.4s,baz=190,slow=36					
KLR	**Kul'dur**	66.09 315⇑	*e*P	P	17 33 22.0	+0.3
KLR			pmax	pmax		
	comp=Z,8.0nm,2.5s					
NRIK	**Noril'sk**	66.32 347	P	P	17 33 22.3	-0.5
NRIK	**Noril'sk**	66.32 347	P	P	17 33 22.1	-0.7
	comp=Z,1.1nm,0.5s,baz=36,slow=7.5,SNR=6.7					
	comp=Z,1.1nm,0.5s					
NRIK	**Noril'sk**	66.32 347	P	P	17 33 22.3	-0.5
NRIK			pmax	pmax		
	comp=Z,26nm,1.6s					
ARCES	**ARCESS Array B**	67.18 10	P	P	17 33 27.8	-0.5
	comp=Z,1.6nm,0.7s,baz=358,slow=14,SNR=2.7					
	comp=Z,1.6nm,0.7s					
HEH	**HeiHe**	67.69 318	*e*P	P	17

MJAR Matsushiro Arr 69.95 301 P **P 17 33 45.6 -0.5**
comp=Z,0.8nm,0.7s,baz=39,slow=1.4,SNR=4.6
MJAR LR LR 17 58 35.3
comp=Z,65nm,20.9s,baz=90,slow=31
comp=Z,0.8nm,0.7s
MAJO Matsushiro 69.95 301⇑ *eP* **P 17 33 46.2 +0.1**
MAJO pmax pmax
comp=Z,3.0nm,1.3s
BNX BinXian 70.57 314 ⇓P **P 17 33 50.8 +1.0**
BNX pmax pmax
comp=Z,8.0nm,0.4s
BNX pmax pmax
comp=Z,200nm,9.6s
JHJ Hachijo jima 2 71.01 298 LR LR 18 01 26.1
comp=Z,66nm,18.4s,baz=66,slow=33
NB2 NORSAR Subarra 72.05 20 P **P 17 33 59.4 +0.9**
comp=Z,22nm,1.7s,baz=328,slow=5.9
NOA NORSAR Array B 72.05 20 P **P 17 33 58.5 0.0**
comp=Z,2.8nm,1.0s,baz=331,slow=5.5,SNR=5.2
comp=Z,2.8nm,1.0s
CIT Chita 72.89 326 *eP* **P 17 34 05.1 +1.4**
CIT *e* 17 34 10.1
CIT *e* 17 34 16.2
JCJ Chichijima 73.09 291 LR LR 17 59 04.7
comp=Z,65nm,21.2s,baz=44,slow=30
HFS Hagfors 73.45 19 P **P 17 34 07.2 +0.4**
comp=Z,7.7nm,1.1s,baz=329,slow=1.7,SNR=7.0
comp=Z,7.7nm,1.1s
KEF Keuruu 73.96 13 *eP* **P 17 34 10.2 +0.5**
JOF Joensuu 74.23 10 *eP* **P 17 34 11.8 +0.6**
RAF Rauma 74.45 15 *eP* **P 17 34 13.1 +0.6**
FINES FINESS Array B 74.84 13 P **P 17 34 14.6 -0.2**
FINES FINESS Array B 74.84 13 P **P 17 34 15.3 +0.4**
comp=Z,2.3nm,0.7s,baz=29,slow=4.4,SNR=8.7
comp=Z,2.3nm,0.7s
MDP Montagnes des 74.94 97 LR LR 18 10 34.2
comp=Z,56nm,18.7s,baz=358,slow=38
ETMB Extrema 75.66 117 P **P 17 34 19.0 -1.2**
ETMB IAmb IAmb 17 34 33.3
comp=Z,31nm,1.9s
MEF Metsahovi 75.69 14 *eP* **P 17 34 20.3 +0.6**
KSRS Korea Array 75.71 308 P **P 17 34 19.5 -0.8**
comp=Z,0.3nm,0.5s,baz=46,slow=5.2,SNR=2.1
KSRS LR LR 18 02 52.8
comp=Z,43nm,21.9s,baz=55,slow=32
comp=Z,0.3nm,0.5s
IRK Irkutsk 76.39 330 *eP* **P 17 34 21.1 -2.8**
IRK pmax pmax
comp=Z,56nm,2.8s
JNU Nakatsue 76.77 303 LR LR 18 02 10.3
comp=Z,49nm,21.1s,baz=230,slow=31
ZAK Zakamensk 78.26 330 *eP* **P 17 34 34.7 +0.2**
ZAK pmax pmax
comp=Z,7.0nm,1.5s
RETH Rethem/Aller, 78.60 25 *eP* 17 34 38.3
comp=Z,34nm,1.6s,baz=331,slow=5.3
ULN Ulaanbaatar 78.77 326⇑ *eP* **P 17 34 38.7 +1.2**
ULN pmax pmax
comp=Z,12nm,1.7s
NRDL Niedersach Rie 79.05 25 *eP* 17 34 40.5
comp=Z,13nm,1.3s,baz=331,slow=5.3
BMRD Maredsous 79.07 29 *dP* **P 17 34 41.0 +2.1**
SONM Songino Array 79.07 327 P **P 17 34 37.3 -1.8**
SONM IAmb IAmb 17 34 46.2
comp=Z,16nm,1.3s
SONM Songino Array 79.07 327 P **P 17 34 37.5 -1.6**
comp=Z,3.4nm,1.1s,baz=40,slow=3.0,SNR=18
SONM LR LR 18 09 49.5
comp=Z,118nm,19.1s,baz=59,slow=36
comp=Z,3.4nm,1.1s
SONM Songino Array 79.07 327 P **P 17 34 37.3 -1.8**
SONM pmax pmax
comp=Z,16nm,1.3s
BGES Gesves 79.11 29 *dP* **P 17 34 40.9 +1.7**
BCLA Clavier 79.16 29 *dP* **P 17 34 41.2 +1.8**
DOU Dourbes 79.17 29 *dP* **P 17 34 40.6 +1.2**
LPAZ La Paz 79.24 123 LR LR 18 09 28.8
comp=Z,63nm,18.7s,baz=10,slow=36
RCHB Rochefort 79.35 29 *dP* **P 17 34 42.4 +2.0**
FLTG Flechtingen 79.54 25 *eP* 17 34 42.9
comp=Z,23nm,1.4s,baz=331,slow=5.3
CLZ Clausthal 79.69 25 *eP* 17 34 44.4
comp=Z,29nm,1.5s,baz=331,slow=5.3
GUMO Guam 79.72 279 LR LR 18 03 45.2
comp=Z,61nm,20.9s,baz=64,slow=31
KIRV Kirov 79.97 2⇑ *eP* **P 17 34 44.2 +0.6**
PABE Paberze 80.00 16 *eP* **P 17 34 44.6 +0.8**
TNS Taunus Mts 80.43 27 *eP* 17 34 48.0
baz=331,slow=5.3
ZAA0 Zalesovo Array 80.83 342 IAmb IAmb 17 34 57.0
comp=Z,17nm,1.6s
ZALV Zalesovo Beam 80.83 342 P **P 17 34 47.6 -0.7**
ZALV Zalesovo Beam 80.83 342 P **P 17 34 48.7 +0.4**
comp=Z,0.8nm,0.7s,baz=15,slow=6.4,SNR=8.0
ZALV LR LR 18 12 41.1
comp=Z,100nm,18.6s,baz=103,slow=37
comp=Z,0.8nm,0.7s
ZALV Zalesovo Beam 80.83 342 P **P 17 34 47.6 -0.7**
PB11 IPOC Station P 80.94 127 P **P 17 34 49.1 -0.4**
CLL Collm 80.97 24⇑ *iP* **P 17 34 50.7 +1.6**
comp=Z,15nm,1.4s
CLL *i* PcP **PcP 17 34 55.6 0.0**
comp=Z,14nm,1.4s
CLL Collm 80.97 24⇑ *iP* **P 17 34 50.7 +1.6**
CLL *i* 17 34 55.6
CLL pmax pmax
comp=Z,15nm,1.4s
CLL Collm 80.97 24 *eP* 17 34 50.8
comp=Z,21nm,1.6s,baz=331,slow=5.3
MOX Moxa 81.12 25 *eP* 17 34 51.6
comp=Z,4.2nm,1.1s,baz=331,slow=5.3
MOX *eL* 18 09 33.2
comp=Z,186nm,19.2s
SSF Saint Saulge 81.25 32 *eP* **P 17 34 52.1 +1.4**
SSF pmax pmax
comp=Z,35nm,1.6s
MTE Manteigas 81.51 42 *eP* **P 17 34 52.4 +0.1**
comp=Z,20nm,1.7s
CDF Champ du Feu 81.55 29 *eP* **P 17 34 53.9 +1.5**
CDF pmax pmax
comp=Z,19nm,1.4s
SVE Sverdlovsk 81.57 356 *eP* **P 17 34 53.5 +1.3**
SVE pmax pmax
comp=Z,21nm,1.9s
TANN Tannenbergstha 81.59 25 *eP* 17 34 53.9
comp=Z,4.6nm,1.2s,baz=331,slow=5.3
BRG Berggiesshubel 81.64 24 *i P* **P 17 34 54.7 +1.9**
BRG Amp 17 34 55.7
comp=Z,6.2nm,1.0s
BRG Berggiesshubel 81.64 24 P P 17 35 00.4 +7.7
BRG Amp 17 35 02.1
comp=Z,9.0nm,1.2s
BRG Amp 17 42 19.0
comp=Z,0.2nm,21.7s
BRG Amp 17 42 24.0
comp=N,0.2nm,24.0s
BRG Amp 17 42 25.0
comp=E,0.1nm,24.0s
BRG Berggiesshubel 81.64 24 *i P* **P 17 34 54.6 +1.9**
BRG 17 35 00.3
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG MLR MLR
comp=Z,179nm,21.7s
BRG MLR MLR
comp=N,154nm,24.0s
BRG MLR MLR
comp=E,111nm,24.0s
BRG Berggiesshubel 81.64 24 *eP* 17 34 54.5
comp=E,16nm,1.4s,baz=331,slow=5.3
GRF Grafenberg Arr 81.82 26 *eL* 18 09 32.9
comp=E,139nm,20.2s
MANZ Manzenberg 81.85 25 *eP* 17 34 55.7
comp=E,4.5nm,1.9s,baz=331,slow=5.3
MOS Moscow 81.99 9 *eP* **P 17 34 52.6 -1.8**
BFO Black Forest 82.00 28 P **P 17 34 54.0 -0.7**
BFO IAmb IAmb 17 35 03.3
comp=Z,12nm,1.3s
BFO Black Forest 82.00 28 P **P 17 34 54.0 -0.7**
BFO pmax pmax
comp=Z,12nm,1.3s
BFO Black Forest 82.00 28 *eP* 17 34 56.4
comp=Z,15nm,1.4s,baz=331,slow=5.3
ARU Arti 82.06 357 P **P 17 34 54.5 -0.3**
ARU IAmb IAmb 17 34 57.0
comp=Z,26nm,1.8s
ARU Arti 82.06 357 *c iP* **P 17 34 55.3 +0.5**
ARU 17 37 58.4
ARU S **S 17 45 11.1 +2.1**
ARU SS **SS 17 50 25.2 -1.3**
ARU pmax pmax
comp=Z,16nm,1.8s
HHC Hu-ho-hao-te 82.17 319 *eP* **P 17 34 56.6 +0.8**
HHC pmax pmax
comp=Z,12nm,0.6s
PMRV Marv??o 82.32 43 *eP* **P 17 34 57.9 +1.4**
comp=Z,34nm,1.8s
OBN Obninsk 82.48 9⇑ *eP* **P 17 34 57.4 +0.4**
OBN *e* 17 35 02.6
OBN pmax pmax
comp=Z,11nm,1.5s
JOW Kunigami 82.66 299 LR LR 18 09 42.1
comp=Z,44nm,19.1s,baz=122,slow=34
EVO Evora 82.68 44 *eP* **P 17 35 00.3 +1.9**
comp=Z,24nm,1.9s
PNCL Nicolau / Gran 82.72 44 *eP* **P 17 35 00.7 +2.1**
comp=Z,27nm,1.5s
PTEO Sao Teotonio 83.04 45 *eP* **P 17 35 02.2 +1.9**
comp=Z,38nm,1.5s
KHC Kasperske Hory 83.06 25 P **P 17 34 59.4 -0.9**
KHC IAmb IAmb 17 35 03.4
comp=Z,18nm,1.6s
KHC Kasperske Hory 83.06 25 *eP* **P 17 35 02.0 +1.8**
KHC Kasperske Hory 83.06 25 *deP* **P 17 35 01.8 +1.6**
KHC pmax pmax
comp=Z,11nm,1.3s
PBEJ Beja 83.13 44 *eP* **P 17 35 02.6 +1.9**
comp=Z,18nm,2.1s
UBR Ueberruh 83.17 28 *eP* 17 35 03.9
comp=Z,34nm,1.7s,baz=331,slow=5.3
PCVE Castro Verde 83.34 44 *eP* **P 17 35 04.1 +2.3**
GEC2 GERESS Array S 83.35 25 IAmb IAmb 17 35 04.5
comp=Z,6.4nm,1.1s
GERES GERESS Array B 83.35 25 P **P 17 35 02.2 +0.4**
GERES GERESS Array B 83.35 25 P **P 17 35 01.0 -0.8**
comp=Z,1.7nm,1.0s,baz=358,slow=8.0,SNR=6.1
comp=Z,1.7nm,1.0s
GERES GERESS Array B 83.35 25 P **P 17 35 02.2 +0.4**
GEC2 GERESS Array S 83.35 25 *eP* 17 35 03.1
comp=Z,11nm,1.3s,baz=331,slow=5.3
DAVA Damuels 83.43 28 *i pP* pP 17 35 04.5 -0.3
comp=Z,7.9nm,1.1s
PBAR Barrancos 83.45 43 *eP* **P 17 34 45.5 +2.1**
comp=Z,28nm,1.7s
MORC Moravsky Berou 83.67 22 IAmb IAmb 17 35 06.2
comp=Z,11nm,1.3s
MORC Moravsky Berou 83.67 22 *eP* **P 17 35 04.9 +1.5**
PAB San Pablo 83.75 41 P **P 17 35 04.7 +0.7**
PAB San Pablo 83.75 41 P **P 17 35 04.7 +0.7**
PAB pmax pmax
comp=Z,22nm,1.5s
VRAC Vranov 83.82 23 *eP* **P 17 35 05.5 +1.4**
VRAC Vranov 83.82 23 LR LR 18 14 06.5
comp=Z,104nm,18.1s,baz=81,slow=37
ESBB Sonseca Array 83.84 41 IAmb IAmb 17 35 14.7
comp=Z,14nm,1.4s
ESDC Sonseca Array 83.84 41 P **P 17 35 04.5 +0.1**
ESDC IAmb IAmb 17 35 07.2
comp=Z,19nm,1.6s
ESDC Sonseca Array 83.84 41 P **P 17 35 04.2 -0.2**
comp=Z,3.0nm,0.9s,baz=312,slow=4.1,SNR=22
ESDC LR LR 18 08 10.9
comp=Z,110nm,21.8s,baz=356,slow=33
comp=Z,3.0nm,0.9s
HNR Honiara 83.86 252 LR LR 18 07 03.0
comp=Z,2μm,19.3s,baz=58,slow=32
DAVOX Davos/Dischmat 83.87 28 LR LR 18 14 03.5
comp=Z,82nm,18.5s,baz=84,slow=37
OJC Ojcow 83.89 21 IAmb IAmb 17 35 12.8
comp=Z,13nm,1.2s
CEST Esterri de Car 83.94 36 IAmb IAmb 17 35 09.0
comp=Z,59nm,1.5s
SQTA Sankt Quirin 83.95 27 *epP* pP 17 35 06.9 -0.6
comp=Z,10nm,1.2s,SNR=7.8
FETA Feichten 83.96 28 *epP* pP 17 35 07.3 -0.3
comp=Z,5.8nm,1.3s
WATA Walderalm 83.97 27 *epP* pP 17 35 06.9 -0.7
comp=Z,15nm,1.2s
KRUC Moravsky 83.98 23 *eP* **P 17 35 06.1 +1.2**
RJOB Jochberg 84.03 26 *eP* 17 35 06.8
comp=Z,5.7nm,1.1s,baz=331,slow=5.3
WTTA Wattenberg 84.06 27 *epP* **P 17 35 06.5 +1.0**
comp=Z,6.9nm,1.1s
LESA Schwarzleotal 84.27 26 *epP* pP 17 35 07.9 -1.2
comp=Z,6.4nm,1.2s
BIOA Bad Ischl, Aus 84.35 26 *epP* pP 17 35 08.1 -1.2
comp=Z,3.6nm,0.9s
BRVK Borovoye 84.39 350 P **P 17 35 07.0 +0.2**
BRVK Borovoye 84.39 350 *d iP* **P 17 35 07.8 +0.9**
BRVK pmax pmax
comp=Z,11nm,1.3s
BVAR Borovoye Array 84.40 350 P **P 17 35 07.2 +0.2**
comp=Z,7.6nm,1.1s,baz=29,slow=3.4,SNR=25
comp=Z,7.6nm,1.1s
MOA Molln 84.41 25 *epP* pP 17 35 09.0 -0.7
comp=Z,9.1nm,1.4s
JAVC Velka Javorina 84.53 23 *eP* **P 17 35 09.9 +2.1**
LANS Liptovska Anna 84.77 21 *eP* **P 17 35 11.5 +2.5**
LANS pmax pmax
comp=Z,8.0nm,1.5s
LANS Liptovska Anna 84.77 21 *eP* **P 17 35 11.5 +2.5**
SMOL Smolenice 84.78 23 *eP* **P 17 35 11.6 +2.7**
KBA Koelnbreinsper 84.79 26 *epP* pP 17 35 10.8 -1.0
comp=Z,14nm,1.5s
ABTA Abfaltersbach 84.80 27 *epP* **P 17 35 10.2 +1.0**
comp=Z,12nm,1.4s,SNR=6.8
NJ2 Nanjing 84.81 309 *eP* **P 17 35 09.1 -0.3**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
CONA Conrad Observa 84.83 24 *epP* pP 17 35 10.6 -1.3
comp=Z,5.5nm,1.4s,SNR=8.7
MODS Modra-Piesok 84.86 23 *eP* **P 17 35 12.0 +2.6**
MODS Modra-Piesok 84.86 23 *eP* **P 17 35 12.0 +2.6**
ZST Bratislava 84.97 23 *eP* **P 17 35 12.6 +2.7**
ZST Bratislava 84.97 23 *eP* **P 17 35 12.6 +2.7**
RONA Rosalia, Austr 85.17 24 *ePcP* **PcP 17 35 12.9 -1.2**
comp=Z,4.0nm,1.0s
VYHS Vyhne 85.19 22 *eP* **P 17 35 12.7 +1.6**
VYHS pmax pmax
comp=Z,14nm,1.6s
VYHS Vyhne 85.19 22 *eP* **P 17 35 12.7 +1.6**
KURK Kurchatov 85.22 344 P **P 17 35 10.9 -0.2**
KURK Kurchatov 85.22 344 *deP* **P 17 35 11.5 +0.4**
KURK pmax pmax
comp=Z,11nm,1.3s
KURBB Kurchatov Arra 85.33 344 P **P 17 35 11.8 +0.1**
comp=Z,6.4nm,1.2s,baz=21,slow=4.8,SNR=22
comp=Z,6.4nm,1.2s
ARSA Arzberg 85.33 25 *ePcP* **P 17 35 12.9 +1.1**
comp=Z,3.3nm,0.8s
PRED Cave del Predi 85.42 26 IAmb IAmb 17 35 18.0
comp=Z,10nm,1.4s
AKASG Malin Array Be 85.60 15 P **P 17 35 13.0 0.0**
comp=Z,1.6nm,0.7s,baz=338,slow=4.0,SNR=24
comp=Z,1.6nm,0.7s
AKASG Malin Array Be 85.60 15 *i P* **P 17 35 13.1 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 85.60 15 *deP* **P 17 35 13.2 +0.2**
KIEV Kiev 85.60 15 P **P 17 35 12.5 -0.5**
KIEV Kiev 85.60 15 P **P 17 35 12.5 -0.5**
KIEV pmax pmax
comp=Z,38nm,1.9s
OBKA Obir 85.68 26 *ePcP* **P 17 35 14.2 +0.6**
comp=Z,7.5nm,1.2s
SOKA Soboth 85.69 25 *ePcP* **P 17 35 14.9 +1.2**
comp=Z,6.9nm,1.3s,SNR=7.8
VORR Voronezh 86.17 9 *eP* **P 17 35 16.2 +0.4**
VORR pmax pmax
comp=Z,20nm,1.5s
LYN LuoYang 86.52 315 *eP* **P 17 35 16.5 -1.4**
LYN pmax pmax
comp=Z,21nm,0.5s
LYN pmax pmax
comp=Z,480nm,10.0s
VRH Novokhopyorsk 86.89 7 *eP* **P 17 35 19.3 0.0**
VRH pmax pmax
comp=Z,13nm,1.7s
BURAR Bucovina Array 87.66 18 P **P 17 35 23.0 -0.3**
MKAR Makanchi Array 88.07 340 P **P 17 35 24.0 -1.2**
MKAR Makanchi Array 88.07 340 P **P 17 35 23.9 -1.2**
comp=Z,1.5nm,1.0s,baz=321,slow=1.7,SNR=6.9
comp=Z,1.5nm,1.0s
MKAR Makanchi Array 88.07 340 *i P* **P 17 35 26.2 +1.0**
MKAR pmax pmax
comp=Z,2.0nm,1.0s
DZM Mont Dzumac 88.39 238 *e*LR LR 18 03 26.4
comp=Z,266nm,22.6s
DZM Mont Dzumac 88.39 238 LR LR 18 07 35.1
comp=Z,141nm,20.4s,baz=271,slow=30
GTA Gaotai 88.69 326 *eP* **P 17 35 29.5 +1.1**
GTA pmax pmax
comp=Z,5.0nm,1.5s
XAN Xi'an 88.77 317 P **P 17 35 30.1 +1.3**
XAN pmax pmax
comp=Z,12nm,1.2s
ABKAR Akbulak array 89.16 355 P **P 17 35 28.5 -1.7**
ABKAR Akbulak array 89.16 355 P **P 17 35 29.2 -1.0**
WMQ Urumqi 89.28 336⇑ *iP* **P 17 35 32.4 +1.4**
WMQ pmax pmax
comp=Z,18nm,1.3s
LZH Lanzhou 89.64 321 *eP* **P 17 35 35.1 +2.2**
LZH sP pwP 17 35 42.8 +4.2
LZH pmax pmax
comp=Z,28nm,1.0s
BDFB Brasilia 92.28 109 LR LR 18 20 17.8
comp=Z,46nm,20.8s,baz=23,slow=38
PMG Port Moresby 93.12 260 LR LR 18 12 13.1
comp=Z,150nm,19.4s,baz=286,slow=32
BBTS Babate 94.94 66 LR LR 18 14 41.0
comp=Z,98nm,21.8s,baz=272,slow=33
DAV Davao City (W) 98.13 287 LR LR 18 15 18.7
comp=Z,68nm,20.1s,baz=196,slow=32
PZH PanZhiHua 98.50 317 P **P 17 36 11.5 -2.2**
PZH pmax pmax
comp=Z,20nm,1.2s
QSPA South Pole Qui 131.57 180 PKP **PKPdf 17 41 46.9 +0.4**
comp=Z,7.0nm,1.2s,baz=133,slow=1.3,SNR=6.3
SNAA Sanae 139.67 156 PKP **PKPdf 17 42 02.1 +0.7**
comp=Z,2.5nm,1.1s,baz=156,slow=3.4,SNR=3.5
ELIB Princess Elisa 146.42 164 *d*PKPdf **PKPbc 17 42 14.8 0.0**

IDC ***24*** *17:26:15.4±3.0, 9°.88S×112°.34E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=132.7km s-min=25.8km az=50.0*
DJA ***24*** *17:26:21.6±0.7, 10°.5±6°.5×11°.3E±°, h10km, M3.7/8, MLv3.7/8*
ISC 24 17:26:22.5±1.3, 9°.7S±0°.1×112°.79E±0°.06, h35km, n11, σ1§17/14, mb3.4/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.79**	**49**	P	**Pn**	**17 26 50.9**	**+0.1**
JAGI				S	**Sn**	**17 27 12.9**	**+0.6**
PWJI	**Pagerwojo**	**1.90**	**329**	P	**Pn**	**17 26 53.1**	**+0.8**
PWJI				S	**Sn**	**17 27 15.7**	**+0.7**
ABJI	**Asem Bagus**	**2.33**	**38**	P	**Pn**	**17 26 59.3**	**+1.0**
ABJI				S	**Sn**	**17 27 27.8**	**+2.0**
DNP	**Denpasar**	**2.58**	**68**	P	**Pn**	**17 27 01.8**	**+0.1**
GRJI	**Gresik**	**2.74**	**353**	P	**Pn**	**17 27 02.4**	**-1.6**
UGM	**Wanagama**	**2.83**	**307**	P	**Pn**	**17 27 06.9**	**+1.6**
SRBI	**Singaraja**	**2.85**	**57**	P	**Pn**	**17 27 06.4**	**+0.9**
WRA	**Warramunga Arr**	**23.18**	**119**	P	**P**	**17 31 25.7**	**-0.5**
	0.5nm,1.0s,baz=289,slow=11,SNR=2.6						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**24.51**	**127**	P	**P**	**17 31 39.5**	**+0.8**
	0.3nm,0.7s,baz=308,slow=9.1,SNR=6.7						
	0.3nm,0.7s						
SONM	**Songino Array**	**57.52**	**355**	P	**P**	**17 36 07.4**	**-1.0**
	0.4nm,0.4s,baz=166,slow=8.6,SNR=1.7						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**62.44**	**337**	P	**P**	**17 36 41.0**	**-1.1**
	0.3nm,0.5s,baz=165,slow=6.0,SNR=2.0						
	0.3nm,0.5s						

IDC 24 17:41:13.2±6.5, 6°.52S×130°.01E, h170km±67km, mb2.9/1, mbtmp3.2/3, Error ellipse: s-maj=140.9km s-min=23.9km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.99**	**163**	P	Pn	17 44 23.2	-1.0
	0.2nm,0.4s,baz=347,slow=13,SNR=2.0						
WRA				S	Sn	17 46 49.2	-11
	0.2nm,0.3s,baz=335,slow=22,SNR=6.6						
ASAR	**Alice Springs**	**17.45**	**168**	P	Pn	17 45 06.8	+0.3
	0.3nm,0.6s,baz=347,slow=10,SNR=6.6						
ASAR				S	S	17 48 17.9	-0.2
	0.5nm,1.0s,baz=341,slow=17,SNR=3.2						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	17 51 52.8	-0.1
	0.2nm,0.5s,baz=133,slow=6.1,SNR=1.9						
	0.2nm,0.5s						

IDC ***24*** *17:52:03.2±1.2, 41°.91N×126°.99W, h0km, mb3.7/10, mbtmp3.6/17, ML3.5/6, MS3.3/7, Error ellipse: s-maj=27.1km s-min=11.4km az=26.0*
NEIC ***24*** *17:52:03.7±1.3, 41°.79N±0°.07×126°.9W±0°.1, h10km±2km, ML3.1/70, ML3.1(NCEDC), Error ellipse: s-maj=15.1km s-min=11.1km az=256.0*
NCEDC ***24*** *17:52:03±1.3, 41°.78N±0°.07×126°.9W±0°.1, h10km±2km, Error ellipse: s-maj=15.1km s-min=11.1km az=256.0*
ISC 24 17:52:04.5±0.8, 41°.86N±0°.07×126°.77W±0°.08, h10km, n97, σ1§21/88, mb3.8/10, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.92**	**79**		**Pn**	**17 52 36.9**	**-0.5**
KBO				IAML		17 53 05.8	
	comp=N,99nm,2.1s						
KBO				IAML		17 53 17.1	
	comp=E,119nm,1.9s						
KSXB	**Camp Six Broad**	**2.16**	**90**	Pn	**Pn**	**17 52 40.8**	**+0.1**
KRMB	**Red Mountain**	**2.17**	**98**		**Pn**	**17 52 40.8**	**+0.1**
KRPM	**Rodgers**	**2.17**	**108**		**Pn**	**17 52 41.0**	**+0.2**
KRPM				IAML		17 53 25.9	
	comp=E,74nm,1.8s						
KRPM				IAML		17 53 38.0	
	comp=N,82nm,2.1s						
JCC	**Jacoby Creek,**	**2.31**	**116**		**Pn**	**17 52 42.5**	**-0.1**
L02F	**Cave Junction**	**2.40**	**83**		**Pn**	**17 52 43.2**	**-0.6**
KMPM	**Mount Pierce**	**2.46**	**125**		**Pn**	**17 52 44.0**	**-0.8**
KMPM				IAML		17 53 24.8	
	comp=N,52nm,1.2s						
KMPM				IAML		17 53 25.9	
	comp=E,74nm,1.1s						
J01E	**Myrtle Point**	**2.47**	**57**	Pn	**Pn**	**17 52 44.6**	**-0.2**
J01E				IAML		17 53 18.3	
	comp=E,45nm,1.5s						
J01E				IAML		17 53 20.4	
	comp=N,57nm,1.1s						
KHMM	**Horse Mountain**	**2.48**	**112**		**Pn**	**17 52 44.4**	**-0.8**
KHMM				IAML		17 53 33.8	
	comp=E,55nm,1.4s						
KMRM	**Mail Ridge**	**2.83**	**124**	Pn	**Pn**	**17 52 49.3**	**-0.6**
KMRM				IAML		17 53 16.4	
	comp=N,40nm,0.9s						
KMRM				IAML		17 53 32.5	
	comp=E,70nm,2.0s						
DBO	**Dodson Butte**	**2.89**	**63**		**Pn**	**17 52 51.4**	**+0.7**
DBO				IAML		17 53 32.4	
	comp=E,45nm,1.8s						
DBO				IAML		17 53 35.6	
	comp=N,41nm,1.9s						
HUMO	**Hull Mountain**	**2.92**	**74**	Pn	**Pn**	**17 52 51.0**	**-0.1**
YBH	**Yreka Blue Hor**	**3.03**	**91**	Pn	**Pn**	**17 52 53.0**	**+0.3**
YBH	**Yreka Blue Hor**	**3.03**	**91**	Pn	**Pn**	**17 52 54.4**	**+1.7**
	comp=N,1.5nm,0.3s,baz=286,slow=15,SNR=19						
YBH				Sn	**Sb**	**17 53 35.0**	**-0.8**
	comp=N,0.3nm,0.3s,baz=281,slow=19,SNR=1.3						
YBH				LR	LR	17 53 49.2	
	comp=N,100nm,21.0s,baz=292,slow=33						
	comp=N,5.1nm,0.5s						
LAMM	**Antelope Mount**	**3.11**	**93**		**Pb**	**17 53 02.0**	**+2.0**
I03D	**Drain, OR**	**3.12**	**53**	Pn	**Pn**	**17 52 53.1**	**-0.6**
I03D				IAML		17 53 55.1	
	comp=E,26nm,2.2s						
LCSM	**College of the**	**3.31**	**96**		**Pn**	**17 52 59.0**	**+2.6**
O02D	**Mt. Diablo Mer**	**3.44**	**118**	Pn	**Pn**	**17 52 57.8**	**-0.5**
LMPM	**Military Pass**	**3.47**	**95**		**Pb**	**17 53 03.0**	**-3.1**
BUCK	**Buck Mountain**	**3.62**	**49**	Pn	**Pn**	**17 53 01.1**	**+0.3**
BUCK				IAML		17 53 26.6	
	comp=N,35nm,1.6s						
BUCK				IAML		17 54 23.8	
	comp=E,48nm,3.2s						
LGMM	**Garner Mountain**	**3.70**	**92**		**Pb**	**17 53 07.0**	**-3.0**

COR	Corvallis	3.72	42	Pn	Pn	17 53 02.9	+0.9
COR				IAML		17 53 54.0	
comp=E,39nm,1.6s							
I04A	Tendick Farm,	3.74	57		Pn	17 53 03.2	+0.8
I04A				IAML		17 53 53.3	
comp=N,36nm,1.8s							
I04A				IAML		17 53 55.2	
comp=E,42nm,1.3s							
K04D	Chiloquin, OR	3.80	77	Pn	Pn	17 53 02.9	-0.4
H04D	Lebanon	3.97	47	Pn	Pn	17 53 06.4	+0.9
H04D				IAML		17 54 00.2	
comp=N,41nm,1.4s							
HOPS	Hopland Field	4.01	134	Pn	Pn	17 53 05.1	-0.9
HOPS				IAML		17 53 37.1	
comp=N,26nm,4.1s							
HOPS				IAML		17 54 52.8	
comp=E,26nm,4.2s							
HATC	Hat Creek Radi	4.13	103		Pn	17 53 07.7	0.0
G03D	McMinnville, O	4.21	36	Pn	Pn	17 53 09.3	+0.5
G03D				IAML		17 54 03.4	
comp=E,37nm,1.7s							
J05D	Fort Rock, OR	4.33	69	Pn	Pn	17 53 10.3	-0.2
J05D				IAML		17 53 50.6	
comp=E,17nm,3.0s							
J05D				IAML		17 54 42.8	
comp=N,18nm,4.6s							
H04A	Detroit Lake	4.38	48	Pn	Pn	17 53 11.2	+0.1
H04A				IAML		17 53 44.7	
comp=E,21nm,2.1s							
H04A				IAML		17 53 45.9	
comp=N,19nm,0.8s							
I05D	Terrebonne, OR	4.68	56		Pn	17 53 15.6	+0.3
I05D				IAML		17 53 52.9	
comp=N,22nm,4.3s							
I05D				IAML		17 54 57.3	
comp=E,22nm,2.6s							
PINE	Pine Mountain	4.70	64	Pn	Pn	17 53 16.5	+0.8
PINE				IAML		17 55 44.4	
comp=E,13nm,3.7s							
PINE				IAML		17 56 02.7	
comp=N,16nm,4.0s							
F04D	Rainier, OR	5.02	31	Pn	Pn	17 53 20.8	+0.9
RADR	Rader Ridge	5.04	24	Pn	Pn	17 53 18.4	-1.8
HOOD	Mount Hood Mea	5.08	45		Pn	17 53 20.8	0.0
F04A	Amboy	5.14	36		Pn	17 53 20.9	-0.6
F04A				IAML		17 54 05.2	
comp=N,16nm,1.6s							
F04A				IAML		17 54 12.0	
comp=E,19nm,3.0s							
G05A	Wamic	5.21	48	Pn	Pn	17 53 22.8	+0.3
E03A	Lebam	5.22	25	Pn	Pn	17 53 22.3	-0.3
AFDM	Forest Hills D	5.29	121	Pn	Pn	17 53 22.2	-1.4
AFDM				IAML		17 54 54.9	
comp=E,6.1nm,4.4s							
G06A	Carlson Farm,	5.59	51		Pn	17 53 27.9	+0.2
WISH	Wishkah	5.68	21		Pn	17 53 28.2	-0.6
I07A	Izee	5.77	65	Pn	Pn	17 53 30.4	+0.1
NLWA	Neilton Lookou	5.91	19		Pn	17 53 33.3	+1.2
PAHR	Pah Rah Range	6.00	109		Pn	17 53 32.5	-0.9
LON	Longmire	6.05	34		Pn	17 53 35.4	+1.4
PNTR	Pine Nut	6.12	114	Pn	Pn	17 53 35.2	0.0
CMB	Columbia Colle	6.21	126		Pn	17 53 36.1	-0.2
J08A	Circle Bar Ran	6.30	73	Pn	Pn	17 53 37.9	+0.4
D05A	Enumclaw	6.33	31		Pn	17 53 37.9	+0.1
GNW	Green Mountain	6.36	25		Pn	17 53 38.8	+0.5
YERR	Yerington	6.42	114		Pn	17 53 39.3	0.0
WAKR	Walker	6.53	118	Pn	Pn	17 53 40.9	+0.1
MXC	Moxie City	6.62	42		Pn	17 53 43.1	+1.2
G08A	Pilot Rock	6.62	56	Pn	Pn	17 53 42.8	+0.8
E07A	Sunnyside	6.83	44	Pn	Pn	17 53 45.8	+1.0
HAWA	Hanford	6.90	46	Pn	Pn	17 53 46.4	+0.8
LTY	Liberty	6.93	37		Pn	17 53 47.7	+1.4
RYN	Ryan	7.08	114	Pn	Pn	17 53 47.8	-0.5
OZB	Mount Ozzard	7.16	7	Pn	Pn	17 53 48.9	-0.3
KVN	Kaiserville	7.18	110	Pn	Pn	17 53 49.0	-0.6
CLRS	Cowichan Lake	7.21	14	Pn	Pn	17 53 50.2	+0.3
E08A	Dider Farm, El	7.22	47	Pn	Pn	17 53 49.6	-0.5
LHV	Little Huntoon	7.29	117	Pn	Pn	17 53 49.4	-1.6
NVAR	Mina Array Bea	7.33	115	Pn	Pn	17 53 51.3	-0.5
NVAR	Mina Array Bea	7.33	115	Pn	Pn	17 53 55.5	+3.7
comp=E,0.1nm,0.3s,baz=293,slow=14,SNR=2.5							
comp=E,0.3nm,0.5s							
BMN	Battle Mountai	7.34	98	Pn	Pn	17 53 51.9	-0.1
BMO	Blue Mountains	7.51	63		Pn	17 53 56.3	+2.1
F10A	Beach Ranch, E	8.02	56	Pn	Pn	17 54 01.6	+0.5
CBB	Campbell River	8.23	6	Pn	Pn	17 54 04.8	+0.8
B08A	Colville Reser	8.36	36	Pn	Pn	17 54 06.1	+0.4
ELK	Elko	8.75	93	Pn	Pn	17 54 10.9	-0.3
ELK	Elko	8.75	93	Pn	Pn	17 54 16.5	+5.2
comp=E,1.3nm,0.9s,baz=284,slow=8.3,SNR=5.2							
ELK				LR	LR	17 56 43.9	
comp=E,53nm,21.0s,baz=286,slow=32							
ISA	Isabella, Lake	8.95	131	Pn	Pn	17 54 12.6	-1.3
HLID	Hailey	9.25	75	Pn	Pn	17 54 18.1	0.0
NEW	Newport	9.35	44	Pn	Pn	17 54 24.5	+5.1
comp=E,0.2nm,0.3s,baz=260,slow=17,SNR=2.3							
NEW				LR	LR	17 58 03.9	
comp=E,208nm,19.0s,baz=232,slow=38							
comp=E,1.7nm,0.6s							
PFO	Pinyon Flats O	11.58	132	LR	LR	17 58 52.7	
comp=E,97nm,21.6s,baz=225,slow=35							
PDAR	Pinedale Array	12.77	80	Pn	Pn	17 55 11.1	+4.7
comp=E,0.1nm,0.3s,baz=220,slow=8.3,SNR=1.8							
PDAR				LR	LR	18 00 29.3	
comp=E,97nm,21.2s,baz=306,slow=39							
comp=E,0.2nm,0.6s							
DLBC	Dease Lake	16.73	354	Pn	Pn	17 55 59.4	+0.6
comp=E,0.1nm,0.3s,baz=179,slow=11,SNR=4.1							
comp=E,1.2nm,0.7s							
ANMO	Albuquerque	17.33	107	P	P	17 56 08.4	+0.4
comp=E,0.1nm,0.3s,baz=273,slow=17,SNR=1.4							
comp=E,0.5nm,0.3s							
YKA	Yellowknife Ar	21.90	15	P	P	17 56 56.0	-1.4
comp=E,1.9nm,0.8s,baz=208,slow=11,SNR=9.8							
comp=E,1.9nm,0.8s							
TXAR	Lajitas Array	22.48	116	P	P	17 57 07.6	+3.5
comp=E,0.8nm,0.8s,baz=282,slow=5.6,SNR=6.7							
comp=E,0.8nm,0.8s							
ULM	Lac du Bonnet	22.89	58	P	P	17 57 09.0	+0.8
comp=E,2.9nm,0.7s,baz=278,slow=15,SNR=2.5							
comp=E,2.9nm,0.7s							
ILAR	Eielson Array	25.68	340	P	P	17 57 34.1	-0.2
comp=E,1.0nm,1.0s,baz=156,slow=8.4,SNR=7.2							
ILAR				PcP	PcP	18 01 03.9	-0.4
comp=E,0.4nm,0.8s,baz=178,slow=3.2,SNR=4.6							
comp=E,1.0nm,1.0s							
H11N3	WAKE ISLAND Hy	59.63	270	T	T	19 06 27.9	
baz=52,slow=75,SNR=96							
H11N2	WAKE ISLAND Hy	59.63	270	T	T	19 06 28.6	
baz=52,slow=75,SNR=76							
H11N1	WAKE ISLAND Hy	59.65	270	T	T	19 06 29.2	
baz=52,slow=75,SNR=70							
H11S1	WAKE ISLAND Hy	60.53	269	T	T	19 07 38.8	
baz=52,slow=75,SNR=94							
H11S2	WAKE ISLAND Hy	60.53	269	T	T	19 07 39.5	
baz=52,slow=75,SNR=85							
H11S3	WAKE ISLAND Hy	60.54	269	T	T	19 07 40.3	
baz=52,slow=75,SNR=48							
FINES	FINESS Array B	74.71	13	P	P	18 03 43.6	-0.4
comp=E,1.1nm,0.8s,baz=333,slow=8.0,SNR=3.8							
comp=E,1.1nm,0.8s							
SONM	Songino Array	79.08	327	P	P	18 04 09.2	+0.2
comp=E,0.2nm,0.5s,baz=46,slow=6.2,SNR=1.8							
comp=E,0.2nm,0.5s							
ESDC	Sonseca Array	83.66	41	P	P	18 04 34.2	+0.8
comp=E,0.7nm,0.9s,baz=311,slow=5.6,SNR=5.4							
comp=E,0.7nm,0.9s							
BVAR	Borovoye Array	84.34	350	P	P	18 04 36.8	+0.3
comp=E,0.9nm,0.9s,baz=35,slow=6.0,SNR=4.8							
comp=E,0.9nm,0.9s							
KURBB	Kurchatov Arra	85.28	344	P	P	18 04 40.4	-0.9
comp=E,0.2nm,0.5s,baz=28,slow=4.4,SNR=4.5							
comp=E,0.2nm,0.5s							
AKASG	Malin Array Be	85.46	15	P	P	18 04 41.8	-0.4
comp=E,0.6nm,0.3s,baz=338,slow=4.2,SNR=2.5							
comp=E,0.6nm,0.3s							
BDFB	Brasilia	92.16	109	LR	LR	18 52 21.3	
comp=E,50nm,18.1s,baz=143,slow=39							
KBZ	Khabaz	94.29	7	LR	LR	18 49 02.4	
comp=E,66nm,21.1s,baz=162,slow=36							

NEIC ***24*** *18:18:47.0±1.9, 13°.20N±0°.09×92°.4W±0°.1, h10km±2km, mb4.4/26, Error ellipse: s-maj=21.0km s-min=13.8km az=238.0*

IDC ***24*** *18:18:48.4±2.1, 13°.41N×92°.45W, h0km, mb3.7/4, mbtmp3.7/8, ML3.3/4, MS3.3/1, Error ellipse: s-maj=39.9km s-min=23.9km az=8.0*

MEX ***24*** *18:18:51.8±0.4, 13°.41N×92°.64W, h19km±32km, MD4.1*

GCG ***24*** *18:19:00.5±1.3, 14°.01N×92°.08W, h50km, MD3.8*

ISC 24 18:18:48.5±2.0, 13°.53N±0°.07×92°.43W±0°.06, h6km±12km, n62, σ2°.40/75, mb4.3/15, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	1.22	36		Pg	18 19 13.3	+1.5
STG3	Santiaguito 3,	1.44	36	eP	Pg	18 19 16.9	+0.8
CHUJ	Union Juarez	1.58	11	eP	Pb	18 19 18.2	-0.2
CHUJ				eS	Sg	18 19 39.0	-0.4
PAVE	Pavencul	1.67	9	eP	Pb	18 19 19.3	-0.5
PAVE				eS	Sg	18 19 41.2	-1.0
FUG	Fuego 3	1.79	59	eP	Pb	18 19 21.5	-0.3
NBG	Las Nubes	2.28	62	eP	Pg	18 19 30.7	-1.6
PCIG		2.29	341	eP	Pn	18 19 27.2	+0.4
PCIG				eS	Sn	18 19 53.5	-1.9
APG	El Apazote	2.40	52	Pn	Pb	18 19 30.4	-1.9
1.0nm,0.3s,baz=198,slow=13,SNR=20							
APG				Sn	Sg	18 20 03.4	-2.5
1.4nm,0.3s,baz=233,slow=20,SNR=7.2							
CCIG	Comitan	2.75	6		Pb	18 19 37.4	-0.8
CCIG	Comitan	2.75	6	eP	Pn	18 19 33.7	+0.3
CCIG				eS	Sb	18 20 12.7	+0.5
MTO3	Montecristo	3.10	74		Pn	18 19 38.4	+0.1
TGIG		3.29	348	eP	Pn	18 19 41.5	+0.8
TGIG				eS	Sn	18 20 19.3	-1.0
UXUV	UXUV	4.11	337	eP	Pn	18 19 54.8	+2.9
UXUV				eS	Sn	18 20 39.5	-0.9
HUIG	Huatulco	4.19	302	eP	Pn	18 19 52.1	-0.9
HUIG				eS	Sn	18 20 30.9	-11
CMIG	Matias Romero	4.25	327	Pn	Pn	18 19 55.3	+1.4
1.6nm,0.3s,baz=148,slow=11,SNR=7.5							
CMIG				Sn	Sn	18 20 44.2	+0.3
7.3nm,0.3s,baz=126,slow=16,SNR=4.9							
4.5nm,0.4s							
PEIG	Puerto Escondi	5.18	299	eP	Pn	18 20 05.7	-0.9
PEIG				eS	Sn	18 20 56.6	-10
NEUV	Arroyo Zacate	5.27	322	eP	Pn	18 20 09.3	+1.4
NEUV				eS	Sn	18 21 01.2	-7.8
CRIN	San Cristobal	5.31	98	Pn	Pn	18 20 05.0	-3.5
YOIG	Yosondua	5.94	304	eP	Pn	18 20 20.2	+2.9
YOIG				eS	Sn	18 21 19.1	-6.7
PNIG	Pinotepa	6.19	298	eP	Pn	18 20 17.6	-3.0
PNIG				eS	Sn	18 21 19.2	-13
TXIG	Tlaxiaco	6.33	306	eP	Pn	18 20 25.7	+3.0
TXIG				eS	Sn	18 21 31.0	-4.7
TOIG	Toxpalan	6.36	316	eP	Pn	18 20 26.6	+3.7
TOIG				eS	Sn	18 21 34.7	-1.3
BOAB	BOACO BROADBAN	6.68	99	Pn	Pn	18 20 24.0	-3.3
HLIG	Huajuapan de L	6.71	310	eP	Pn	18 20 29.1	+1.2
HLIG				eS	Sn	18 21 38.4	-6.3
FTIG	Fresnillo de T	7.00	309	eP	Pn	18 20 32.8	+1.1
FTIG				eS	Sn	18 21 45.3	-6.5
MGIG	Malinaltepec	7.02	302	eP	Pn	18 20 31.5	-0.6
JAUV	Jalcomulco	7.16	325	eP	Pn	18 20 33.5	-0.4
JAUV				eS	Sn	18 21 48.4	-7.2
TEIG	Tepich	7.75	30		Pn	18 20 43.3	+1.3
TEIG	Tepich	7.75	30	Pn	Pn	18 20 43.8	+1.9
1.6nm,0.3s,baz=178,slow=19,SNR=4.6							
TEIG				Sn	Sn	18 22 08.1	-2.0
0.9nm,0.3s,baz=309,slow=22,SNR=1.6							
8.3nm,0.4s							
JTS	Las Juntas de	8.00	113	Pn	Pn	18 20 45.0	-0.4
JTS	Las Juntas de	8.00	113	Pn	Pn	18 20 46.7	+1.3
0.9nm,0.3s,baz=303,slow=21,SNR=2.0							
3.0nm,0.4s							
DRIO	Del Rio	17.54	336	P	P	18 22 56.8	+1.9
SAND	Sanderson	18.64	333		Pn	18 23 08.1	+0.7
TXAR	Lajitas Array	18.86	328	P	Pn	18 23 12.5	+2.4
0.7nm,0.8s,baz=138,slow=11,SNR=3.2							
MNHN	Monahans	20.11	333	P	Pn	18 23 24.8	-0.2
ABTX	Abilene, Hawle	20.11	342	P	P	18 23 24.2	+1.1
ABTX				IAmb	IAmb	18 23 27.9	
comp=Z,7.4nm,0.7s							
VHRN	Van Horn	20.70	328	P	P	18 23 31.3	+1.6
APMT	Aspermont	20.91	342	P	P	18 23 32.6	+0.8
APMT				IAmb	IAmb	18 23 36.6	
comp=Z,10nm,0.8s							
POST	Post	21.13	338	P	P	18 23 35.4	+1.2
POST				IAmb	IAmb	18 23 39.0	
comp=Z,13nm,0.8s							
DKNS	Dickens	21.48	340	P	P	18 23 38.0	-0.1
FPAL	Fort Paine	21.81	15	P	P	18 23 41.0	-0.5
FPAL				IAmb	IAmb	18 23 44.9	
comp=Z,10nm,0.7s							
WMOK	Wichita Mounta	21.88	346	P	P	18 23 42.9	+0.6
SWET	Sewanee	22.37	14	P	P	18 23 47.6	0.0
SWET				IAmb	IAmb	18 23 50.2	
comp=Z,14nm,0.7s							
MSTX	Muleshoe	22.41	337	P	P	18 23 48.8	+0.8
MSTX				IAmb	IAmb	18 23 53.3	
comp=Z,6.4nm,0.8s							
SMWD	Samnorwood	22.61	343	P	P	18 23 49.7	-0.4
AMTX	Amarillo	22.84	340	P	P	18 23 52.3	-0.3
AMTX				IAmb	IAmb	18 24 00.6	
comp=Z,7.9nm,0.6s							
WVT	Waverly	22.88	10	P	P	18 23 50.9	-1.9
WVT				IAmb	IAmb	18 23 53.7	
comp=Z,10.0nm,0.6s							
OK051	E0350 and S346	23.21	351	P	P	18 23 55.6	-0.7
OK051				IAmb	IAmb	18 24 11.8	
comp=Z,7.1nm,0.8s							
TKL	Tuckaleechee C	23.37	18	LR	LR	18 34 07.2	
comp=Z,61nm,18.2s,baz=14,slow=39							
U49A	Red Boiling Sp	23.65	13	P	P	18 23 59.3	-1.4
U49A				IAmb	IAmb	18 24 02.9	
comp=Z,13nm,0.9s							
S44A	Carbondale	24.23	6	P	P	18 24 05.4	-0.7
T50A	Nancy	24.36	15	P	P	18 24 06.1	-1.2
T50A				IAmb	IAmb	18 24 09.8	
comp=Z,6.4nm,0.8s							
RTBA	Rita Blanca	24.61	340	P	P	18 24 10.5	+0.6
WCI	Wyandotte Cave	25.19	11	P	P	18 24 14.2	-0.7
OLIL	Olney	25.39	8	P	P	18 24 16.1	-0.6
PDAR	Pinedale Array	32.67	336	P	P	18 25 23.3	+1.5
comp=Z,0.6nm,0.8s,baz=130,slow=8.0,SNR=5.6							
comp=Z,0.6nm,0.8s							
NVAR	Mina Array Bea	33.77	322	P	P	18 25 34.3	+2.8
comp=Z,1.1nm,0.7s,baz=143,slow=9.5,SNR=8.3							
comp=Z,1.1nm,0.7s							
YKA	Yellowknife Ar	51.38	347	P	P	18 27 55.5	+1.7
comp=Z,1.3nm,0.7s,baz=152,slow=7.5,SNR=7.7							
comp=Z,1.3nm,0.7s							
ILAR	Eielson Array	63.10	337	P	P	18 29 17.4	+0.7
comp=Z,0.8nm,0.9s,baz=157,slow=4.3,SNR=6.6							
comp=Z,0.8nm,0.9s							
D25K	Kavik River	65.12	342	P	P	18 29 30.1	+0.2
D25K				IAmb	IAmb	18 29 31.9	
comp=Z,1.6nm,0.8s							
F21K	Alatna River	66.58	338	P	P	18 29 39.6	+0.3
F21K				IAmb	IAmb	18 29 41.9	
comp=Z,2.9nm,0.8s							
CMAR	Chiang Mai Arr	146.29	340	PKPbc	PKPdf	18 38 30.7	+0.7
comp=Z,0.8nm,0.5s,baz=344,slow=3.5,SNR=5.2							

CATAC ***24*** *18:22:39.9±0.5, 12°.92N×88°.83W, h27km±3km, ML3.9*

SNET ***24*** *18:22:40.5±1.1, 12°.94N×88°.82W, h49km, ML3.9*

ISC 24 18:22:40.1±2.3, 12°.87N±0°.07×88°.85W±0°.04, h34km±4km, n55, σ0°.46/90, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	Alcaldia de Te	0.67	6	eP	Pn	18 22 53.1	-0.1
TECO				eS	Sb	18 23 02.6	-0.1
TECO	Alcaldia de Te	0.67	6	iP	Pn	18 22 53.1	-0.1
TECO				iS	Sb	18 23 02.5	-0.1
TECO				IAML		18 23 06.1	
comp=Z,5μm,1.0s							
JUCU	Jucuarın	0.70	57	eP	Pn	18 22 53.5	-0.1
JUCU				eS	Sb	18 23 03.6	+0.1
JUCU	Jucuarın	0.70	57	iP	Pn	18 22 53.6	-0.1
JUCU				iS	Sb	18 23 03.5	0.0
JUCU				IAML		18 23 10.3	
comp=Z,2μm,1.0s							
TECA	Tecapa	0.71	28	eP	Pn	18 22 53.9	0.0
SNVI	San Vicente	0.74	1	eP	Pn	18 22 54.4	0.0
COEG	Centro de Oper	0.75	358	eP	Pn	18 22 54.2	-0.2
COEG				eS	Sb	18 23 04.5	-0.4
COEG	Centro de Oper	0.75	358	iP	Pn	18 22 54.1	-0.3
COEG				iS	Sb	18 23 04.2	-0.6
COEG				IAML		18 23 10.1	
comp=Z,4μm,1.0s							
UESV	Universidad de	0.77	4	iP	Pn	18 22 54.3	-0.3
UESV				iS	Sn	18 23 05.1	+0.1
UESV				IAML		18 23 07.2	
comp=Z,8μm,1.0s							
LALI	Alcalda de L	0.77	323	eP	Pn	18 22 53.7	-0.9
LALI	Alcalda de L	0.77	323	iP	Pn	18 22 54.8	+0.2
LALI				iS	Sn	18 23 04.0	-1.0
LALI				IAML		18 23 05.0	
comp=Z,930nm,1.0s							
LFRS	El Faro	0.78	344	eP	Pn	18 22 54.7	-0.2
PQSS	Presa 15 de Se	0.80	20	eP	Pn	18 22 55.3	+0.2
PQSS	Presa 15 de Se	0.80	20	iP	Pn	18 22 55.1	0.0
PQSS				iS	Sn	18 23 06.2	+0.4
PQSS				IAML		18 23 12.3	
comp=Z,3μm,1.0s							
PANCS	Alcalda de	0.81	336	iP	Pn	18 22 54.8	-0.4
PANCS				iS	Sn	18 23 05.4	-0.6
PANCS				IAML		18 23 06.8	
comp=Z,13μm,1.0s							
LOMA	Loma Larga	0.83	338	eP	Pn	18 22 55.6	0.0
LOMA				eS	Sn	18 23 07.2	+0.4
LOMA	Loma Larga	0.83	338	iP	Pn	18 22 55.6	0.0
LOMA				iS	Sn	18 23 06.6	-0.2
LOMA				IAML		18 23 07.7	
comp=Z,7μm,1.0s							
SCLA	Alcaldia de Sa	0.84	8	eP	Pn	18 22 56.0	+0.4
SCLA				eS	Sb	18 23 08.3	+1.0
SCLA	Alcaldia de Sa	0.84	8	iP	Pn	18 22 55.4	-0.2
SCLA				iS	Sn	18 23 07.1	+0.3
SCLA				IAML		18 23 12.7	
comp=Z,2μm,1.0s							
INTP	Intipuca	0.84	67	eP	Pn	18 22 55.5	0.0
INTP				eS	Sn	18 23 07.1	+0.3
PAVA	Las Pavas	0.84	354	eP	Pn	18 22 55.7	0.0
AEIL	Aeropuerto Ilo	0.86	342	eP	Pn	18 22 56.3	+0.3
AEIL				eS	Sb	18 23 08.4	+0.3
SNET	Serv Nac Est T	0.90	335	eP	Pn	18 22 56.3	-0.1
SNET				eS	Sn	18 23 07.8	-0.4
SNET	Serv Nac Est T	0.90	335	iP	Pn	18 22 56.2	-0.2
SNET				iS	Sn	18 23 07.9	-0.4
SNET				IAML		18 23 09.6	
comp=Z,10μm,1.0s							
IGN	Direccin Gen	0.90	340	iP	Pn	18 22 56.5	+0.1
IGN				iS	Sn	18 23 08.4	+0.1
IGN				IAML		18 23 09.1	
comp=Z,26μm,1.0s							
ITCA	Escuela Especi	0.90	332	iP	Pn	18 22 56.8	+0.2
ITCA				iS	Sn	18 23 08.7	+0.2
ITCA				IAML		18 23 15.2	
comp=Z,6μm,1.0s							
LFU	La Fuente	0.91	344	eS	Sn	18 23 08.9	+0.2
UEES	Universidad Ev	0.93	336	iP	Pn	18 22 57.3	+0.4
UEES				iS	Sn	18 23 08.8	-0.2
UEES				IAML		18 23 10.5	
comp=Z,2μm,1.0s							
PMON	Piamonte	0.95	332	iP	Pn	18 22 57.2	-0.1
PMON				iS	Sn	18 23 09.6	-0.2
PMON				IAML		18 23 14.4	
comp=Z,5μm,1.0s							
PIC2	El Picacho	0.96	335	eP	Pn	18 22 57.8	+0.3
PIC2				eS	Sn	18 23 10.2	+0.2
PIC2				eS		18 23 10.7	
BOQS	Boqueron	0.96	334	eP	Pn	18 22 57.6	+0.2
JAYA	Jayaque - finc	0.98	323	eP	Pn	18 22 58.2	+0.5
JAYA	Jayaque - finc	0.98	323	iP	Pn	18 22 57.4	-0.2
JAYA				iS	Sn	18 23 10.8	+0.4
JAYA				IAML		18 23 12.5	
comp=Z,8μm,1.0s							
LCND	La Caada	1.03	65	iP	Pn	18 22 58.2	0.0
LCND				iP		18 22 58.8	
LCND				iS	Sn	18 23 11.8	+0.3
LCND				iS	Sn	18 23 11.8	+0.3
LCND				IAML		18 23 14.6	
comp=Z,1μm,1.0s							
LCND				IAML		18 23 22.4	
comp=Z,9μm,1.0s							
QUEZ	Alcaldia de Qu	1.05	337	iP	Pn	18 22 58.7	+0.2
QUEZ				iS	Sn	18 23 12.7	+0.8
QUEZ				IAML		18 23 20.2	
comp=Z,8μm,1.0s							
CNCH	Conchagua	1.07	68	eP	Pn	18 22 58.6	-0.3
CNCH	Conchagua	1.07	68	iP	Pn	18 22 58.5	-0.3
CNCH				iS	Sn	18 23 12.6	0.0
CNCH				IAML		18 23 14.3	
comp=Z,2μm,1.0s							
CEDA	San Andres	1.07	330	iP	Pn	18 22 57.8	-1.0
CEDA				iS	Sn	18 23 12.9	+0.3
CEDA				IAML		18 23 18.5	
comp=Z,5μm,1.0s							
CAHU	Cacacuatique	1.09	35	eP	Pn	18 22 58.8	-0.4
CEVE	Cerro Verde	1.22	322	eP	Pn	18 23 01.6	+0.6
CEVE				eS	Sn	18 23 17.6	+1.1
CEVE	Cerro Verde	1.22	322	iP	Pn	18 23 01.5	+0.5
CEVE				iS	Sn	18 23 17.1	+0.6
CEVE				IAML		18 23 25.7	
comp=Z,3μm,1.0s							
SNJE	San Jose	1.24	323	eP	Pn	18 23 01.8	+0.5
RTR	El Retiro	1.28	323	eP	Pn	18 23 02.5	+0.6
LLGN	La Laguna	1.29	356	eP	Pn	18 23 01.7	-0.3
LLGN	La Laguna	1.29	356	iP	Pn	18 23 01.6	-0.3
LLGN				iS	Sn	18 23 17.8	-0.3
LLGN				IAML		18 23 22.1	
comp=Z,800nm,1.0s							
NUBE	Las Nubes	1.37	319	eP	Pn	18 23 03.2

KAU	Kaohsiung	0.24	340⇑	*i*P	Pb	18 39 30.3	+1.1
	baz=319						
KAU				*e*S	Sb	18 39 35.7	+1.7
	baz=319						
MASBT	Mashibuluo	0.35	40⇓	*i*P	Pb	18 39 30.4	-0.1
	baz=47						
MASBT				S	Sn	18 39 35.9	-0.2
	baz=47						
SGLT	Jiouru	0.39	13	⇑P	Pn	18 39 32.2	+0.8
	baz=19						
SGLT				S	Sn	18 39 39.0	+1.6
	baz=19						
SLIU	Shizi	0.40	109	*i*P	Pb	18 39 31.6	+0.4
	baz=129						
SLIU				*e*S	Sn	18 39 38.5	+0.9
	baz=129						
SNJT	Kaohsiung City	0.41	352⇑	*e*P	Pb	18 39 32.1	+0.7
	baz=332						
SNJT				*e*S	Sn	18 39 39.8	+1.8
	baz=332						
EAST	Anshuo	0.42	85⇑	*i*P	Pb	18 39 32.1	+0.5
	baz=92						
TSMG	Majia	0.43	33⇓	*i*P	Pb	18 39 31.5	-0.1
	baz=40						
TSMG				*e*S	Sb	18 39 38.0	-0.3
	baz=40						
TAWH	Dawu Township	0.46	90⇑	*i*P	Pb	18 39 32.4	+0.3
	baz=98						
HEN	Hengchun	0.46	137⇑	*i*P	Pn	18 39 33.2	+0.8
	baz=137						
HEN				*e*S	Sn	18 39 41.1	+1.8
	baz=137						
TWM1	Shoushan	0.48	3⇑	*i*P	Pn	18 39 33.4	+0.8
	baz=358						
TWM1				*e*S	Sn	18 39 41.6	+1.8
	baz=358						
SMST	Manzhou Townsh	0.52	128	⇑P	Pb	18 39 33.7	+0.6
	baz=136						
SMST				*e*S	Sb	18 39 41.0	+0.4
	baz=136						
SCST	Cishan	0.55	10	*e*P	Pb	18 39 35.1	+1.6
	baz=5.0						
SCST				*e*S	Sb	18 39 42.1	+0.8
	baz=5.0						
TWK1	Hengchun	0.55	136⇑	*i*P	Pb	18 39 34.4	+0.8
	baz=136						
TWK1				*i*S	Sn	18 39 43.2	+1.7
	baz=136						
TWKBT	Hengchun	0.56	136⇑	*i*P	Pb	18 39 34.3	+0.6
	baz=136						
TWKBT				S	Sn	18 39 42.8	+1.1
	baz=136						
ECL	Taimali	0.57	64⇑	*i*P	Pn	18 39 34.0	+0.2
	baz=75						
ECL				*e*S	Sn	18 39 41.9	-0.1
	baz=75						
SLGT	Liugui	0.69	20	*e*P	Pn	18 39 35.5	+0.1
	baz=17						
SLGT				*e*S	Sn	18 39 45.0	+0.1
	baz=17						
TAI1	Yung-k'ang	0.71	347	*e*P	Pn	18 39 36.2	+0.5
	baz=343						
TAI1				*e*S	Sb	18 39 46.4	+0.8
	baz=343						
CHN3	Shinhua	0.73	358	*e*P	Pn	18 39 36.7	+0.8
	baz=353						
CHN3				*i*S	Sb	18 39 48.5	+2.3
	baz=353						
SGST	Jiashian	0.76	13⇑	*e*P	Pn	18 39 35.6	-0.8
	baz=11						
SGST				*e*S	Sn	18 39 46.5	-0.2
	baz=11						
TWG	Pinlang	0.79	53⇑	*i*P	Pn	18 39 37.3	+0.6
	baz=39						
TWG				*i*S	Sn	18 39 47.7	+0.3
	baz=39						
TWGBT	Beinan	0.79	53	P	Pn	18 39 37.5	+0.7
TWGBT	Beinan	0.79	53⇑	*i*P	Pn	18 39 37.3	+0.5
	baz=39						
TWGBT				*i*S	Sn	18 39 47.8	+0.4
	baz=39						
SSHA	Shanhua	0.79	353	P	Pn	18 39 37.3	+0.5
	baz=334						
SSHA				*i*S	Sb	18 39 49.0	+0.9
	baz=334						
TTN	Taitung	0.81	59	*e*P	Pb	18 39 38.3	+0.5
	baz=61						
CHN1	Nanshi	0.85	8⇑	*i*P	Pn	18 39 37.6	-0.1
	baz=5.0						
CHN1				*e*S	Sn	18 39 50.0	+1.2
	baz=5.0						
SCLT	Jiali	0.85	347	*e*P	Pn	18 39 37.9	+0.3
	baz=344						
SCLT				S	Sn	18 39 49.2	+0.4
	baz=344						
TSCK	Chigu Township	0.85	340⇑	*e*P	Pn	18 39 37.5	-0.2
	baz=336						
TSCK				*e*S	Sn	18 39 49.8	+0.9
	baz=336						
SNST	Tainan City	0.88	6	*e*P	Pn	18 39 38.7	+0.7
	baz=3.0						
LONT	Longtian	0.88	50⇑	*i*P	Pn	18 39 38.8	+0.7
	baz=51						
LONT				*e*S	Sn	18 39 49.6	0.0
	baz=51						
STYH	Taoyuan	0.89	23	*e*P	Pn	18 39 38.6	+0.3
	baz=21						
STYH				*e*S	Sn	18 39 50.3	+0.4
	baz=21						
WTP	Ta-pu	0.92	13	*e*P	Pn	18 39 38.6	-0.1
	baz=11						
TWK	Hsinying	0.92	5	*e*P	Pn	18 39 38.8	+0.1
	baz=3.0						
TPUB	Ta-pu	0.98	13	P	Pn	18 39 39.5	+0.1
TPUB	Ta-pu	0.98	13	*i*P	Pn	18 39 39.1	-0.3
	baz=11						
ICHU	Yijhu	1.02	354	*e*P	Pn	18 39 39.9	-0.1
	baz=351						
ICHU				*e*S	Sn	18 39 53.8	+0.7
	baz=351						
ELDTW	Lidau	1.02	34	*i*P	Pn	18 39 40.3	+0.2
	baz=33						
LDUT	Ludao	1.05	72	*e*P	Pn	18 39 40.5	+0.2
	baz=60						
EDH	Donghe	1.05	53	*e*P	Pn	18 39 41.0	+0.6
	baz=67						
ECS	Chishang	1.07	45	*e*P	Pn	18 39 41.9	+1.3
	baz=32						
EHD	Haiduan	1.10	43	*e*P	Pn	18 39 41.8	+0.7
	baz=30						
WCKO	Fanlu	1.11	10	*e*P	Pn	18 39 41.0	-0.2
	baz=8.0						
LAY	Lan-yu	1.11	106	⇑P	Pn	18 39 40.7	-0.6
	baz=110						
WDGT	Dungji	1.14	323⇑	*i*P	Pn	18 39 40.7	-0.8
	baz=333						
WDGT				*e*S	Sn	18 39 54.4	-1.6
	baz=333						
CHY	Chiayi	1.15	1	*e*P	Pb	18 39 43.6	+0.1
	baz=359						
LYUB	Lan-yu	1.15	107⇑	*e*P	Pn	18 39 40.2	-1.6
	baz=112						
LYUB				*e*S	Sn	18 39 54.3	-2.1
	baz=112						
CHKT	Chengkung	1.17	50	*e*P	Pn	18 39 42.9	+0.9
	baz=62						
WSL	Shuilin Townsh	1.18	353	*e*P	Pn	18 39 42.3	+0.1
	baz=350						
WSL				S	Sn	18 39 57.8	+0.6
	baz=350						
CHN2	Minshiung	1.19	4	*e*P	Pn	18 39 42.5	+0.3
	baz=1.0						
FULB	Fuli	1.19	44	*e*P	Pn	18 39 43.4	+1.1
	baz=32						
VCHM	Qimei	1.24	314⇑	*e*P	Pn	18 39 42.3	-0.7
	baz=310						
CHKH	Chenggong	1.25	47	*e*P	Pn	18 39 44.0	+0.9
	baz=61						
CHKH				*e*S	Sn	18 39 59.4	+0.5
	baz=61						
CHN5	Tsauling	1.27	12⇑	*i*P	Pn	18 39 43.2	-0.4
	baz=10.0						
WSF	Szhu	1.30	353⇑	*i*P	Pn	18 39 43.4	-0.4
	baz=351						
WSF				*i*S	Sn	18 39 59.6	-0.4
	baz=351						
TWF1	Yuli	1.30	40	*e*P	Pn	18 39 44.5	+0.6
	baz=38						
EYUL	Yuli	1.31	40	*e*P	Pn	18 39 44.5	+0.5
	baz=40						
YULB	Yu-li	1.33	38	P	Pn	18 39 45.1	+0.8
YULB	Yu-li	1.33	38	⇑P	Pn	18 39 44.9	+0.6
	baz=38						
YULB				*e*S	Sn	18 40 00.5	-0.5
	baz=38						
WTK	Tuku	1.34	360	*e*P	Pn	18 39 44.0	-0.3
	baz=10.0						
WTK				*e*S	Sn	18 40 01.1	+0.1
	baz=10.0						
WGK	Gukeng	1.34	7⇑	*e*P	Pn	18 39 44.4	-0.1
	baz=5.0						
WGK				*e*S	Sn	18 40 02.0	+0.8
	baz=5.0						
WDLH	Douliu	1.34	6⇑	*e*P	Pn	18 39 44.5	+0.1
	baz=4.0						
WDLH				*e*S	Sn	18 40 01.0	-0.2
	baz=4.0						
ECBN	Changbin	1.37	45	*e*P	Pn	18 39 45.7	+0.9
	baz=56						
WHYT	Xinyi Township	1.41	17	*e*P	Pn	18 39 46.2	+0.8
	baz=16						
EHYH	Wanrong	1.44	37	*e*P	Pn	18 39 47.1	+1.4
	baz=35						
PNG	Penghu	1.44	328⇑	*e*P	Pn	18 39 44.9	-0.9
	baz=337						
PNG				*i*S	Sn	18 40 02.3	-1.2
	baz=337						
HGSD	Ruisui	1.48	40	*e*P	Pn	18 39 47.9	+1.5
	baz=38						
WJS	Zhushan	1.50	12	*e*P	Pn	18 39 48.1	+1.5
	baz=359						
WTCT	Ta-ch'eng	1.52	356	*e*P	Pn	18 39 47.2	+0.4
	baz=343						
WTCT				S	Sn	18 40 06.8	+1.4
	baz=343						
SSLB	Suanglung	1.53	20	P	Pn	18 39 47.2	+0.1
SSLB	Suanglung	1.53	20	*e*P	Pn	18 39 47.1	+0.1
	baz=5.0						
WNT	Mingjian	1.55	10	*e*P	Pn	18 39 47.2	-0.1
	baz=9.0						
WRL	Guolierlin Hig	1.55	359	*e*P	Pn	18 39 47.3	0.0
	baz=358						
WRL				*e*S	Sn	18 40 07.2	+1.0
	baz=358						
VWDT	VWDT	1.56	26	*e*P	Pn	18 39 48.1	+0.7
	baz=25						
SMLT	Sun Moon Lake	1.60	17	*e*P	Pn	18 39 48.5	+0.4
	baz=16						
TYC	Yuchr	1.61	15	*e*P	Pn	18 39 48.6	+0.5
	baz=15						
EGFH	Guangfu	1.63	36	*e*P	Pn	18 39 49.0	+0.7
	baz=34						
WARBT	Fenglin Townsh	1.64	34	*e*P	Pn	18 39 49.3	+0.7
	baz=32						
ESL	Shilin	1.75	33	*e*P	Pn	18 39 51.4	+1.4
	baz=46						
OWD	Renai	1.76	24	*e*P	Pn	18 39 51.1	+0.8
	baz=23						
WCS	Beigang Elemen	1.77	15	P	Pn	18 39 50.6	+0.3
	baz=15						
WCS				S	Sn	18 40 12.4	+0.8
	baz=15						
WUSB	Renai	1.77	22	*e*P	Pn	18 39 51.1	+0.6
	baz=7.0						
SHUL	Shoufeng	1.79	37	*e*P	Pn	18 39 51.9	+1.2
	baz=34						
CHGB	Renai	1.85	23	*e*P	Pn	18 39 52.6	+1.0
	baz=8.0						
TEYL	Yanliau Villag	1.88	36	*e*P	Pn	18 39 53.7	+1.9
	baz=33						
ETM	Tongmen	1.90	32	*e*P	Pn	18 39 52.6	+0.4
	baz=18						
WHF	Hehuan Shan	1.96	24	*e*P	Pn	18 39 54.8	+1.5
	baz=10.0						
HWA	Hwalien	1.97	34	*e*P	Pn	18 39 54.9	+1.9
	baz=32						
WHP	Taichung City	1.99	15	*e*P	Pn	18 39 54.4	+0.9
	baz=15						
WHP				*e*S	Sn	18 40 19.0	+1.8
	baz=15						
WDJ	Dajia District	2.01	6	*e*P	Pn	18 39 54.4	+0.8
	baz=6.0						
TWQ1	Liyutan	2.02	10	*e*P	Pn	18 39 55.7	+1.9
	baz=11						
TWQ1				*e*S	Sn	18 40 19.4	+1.4
	baz=11						
TDCB	Techi	2.03	20	*e*P	Pn	18 39 54.4	+0.4
	baz=20						
TWT	Tachien	2.03	21	*e*P	Pn	18 39 54.8	+0.7
	baz=20						
FUSS	Fushou	2.05	22	*e*P	Pn	18 39 55.9	+1.5
	baz=9.0						
TWD	Chiawan	2.05	32	*e*P	Pn	18 39 54.2	+0.1
	baz=30						
NSY	Sanyi	2.09	9	*e*P	Pn	18 39 56.6	+1.9
	baz=9.0						
ETLH	Xiulin Townshi	2.11	28	*e*P	Pn	18 39 56.3	+1.3
	baz=15						
NACB	Ninganchiao	2.13	31	*e*P	Pn	18 39 55.4	+0.1
	baz=43						
NMLH	Miaoli	2.21	9	*e*P	Pn	18 39 58.3	+1.9
	baz=9.0						
NNSB	Datong	2.26	23	*e*P	Pn	18 39 58.6	+1.4
	baz=11						
NNS	Nan Shan	2.27	23	*e*P	Pn	18 39 58.5	+1.2
	baz=11						
NSTT	Nanjuang	2.34	14	*e*P	Pn	18 39 58.3	+0.1
	baz=13						
LIOB	Emei	2.36	14	*e*P	Pn	18 39 59.0	+0.6
	baz=1.0						
NFF	Wufeng Townshi	2.37	16	*e*P	Pn	18 39 59.5	+0.9
	baz=3.0						
ENA	Nanau	2.42	31	*e*P	Pn	18 39 59.8	+0.6
	baz=29						
LATG	Datong	2.42	25	*e*P	Pn	18 40 00.6	+1.3
	baz=13						
EWUT	Wuta	2.45	31	*e*P	Pn	18 40 00.2	+0.6
	baz=29						
NDT	Datong Townshi	2.47	24	*e*P	Pn	18 40 01.8	+1.8
	baz=12						
NSK	Sanguang	2.48	21	*e*P	Pn	18 40 02.7	+2.5
	baz=21						
YHNB	Yeheng	2.48	21	P	Pn	18 40 01.5	+1.3
YHNB	Yeheng	2.48	21	*e*P	Pn	18 40 01.3	+1.1
	baz=21						
EOS4	EOS4	2.50	45	*e*P	Pn	18 40 01.5	+1.5
	baz=42						
ENTT	Nioudou	2.53	25	*e*P	Pn	18 40 02.2	+1.5
	baz=13						
NDS	Dongshan	2.58	28	*e*P	Pn	18 40 04.8	+3.3
	baz=38						
EOS3	EOS3	2.62	42	*e*P	Pn	18 40 03.0	+1.2
	baz=38						
TWC	Suao	2.62	30	*e*P	Pn	18 40 03.0	+1.0
	baz=28						
NWLT	Wulai	2.63	23	*e*P	Pn	18 40 03.5	+1.4
	baz=11						
TWE	Neicheng	2.64	26	*e*P	Pn	18 40 04.3	+2.0
	baz=37						
FUSB	Fushanzhiwuyua	2.64	24	*e*P	Pn	18 40 03.8	+1.4
	baz=13						
EOS2	EOS2	2.67	39	*e*P	Pn	18 40 04.6	+2.1
	baz=46						
KNM	Kinmen	2.74	319	*e*P	Pn	18 40 04.5	+0.8
	baz=315						
KNMB	Chin-men Tao	2.80	319	*e*P	Pn	18 40 03.8	-0.7
	baz=317						
TATO	Taipei	2.80	21	P	Pn	18 40 06.3	+1.8
EGS		2.86	29	*e*P	Pb	18 40 10.1	-2.4
	baz=28						
ZPLA	Ao Xicun	2.90	303	*e*P	Pn	18 40 05.4	-0.5
	baz=301						
TIPB	Shuangxi	2.93	26	*e*P	Pn	18 40 07.7	+1.4
	baz=35						
PTMZ	Houxiangcun	2.93	337	*e*P	Pn	18 40 05.4	-0.8
	baz=335						
YM01	YM01	2.99	21	*e*P	Pn	18 40 07.5	+0.4
	baz=22						
ANP	Anpu	3.01	20	*e*P	Pn	18 40 08.3	+0.8
	baz=21						
DSXP	Dongshan	3.05	297	*e*P	Pn	18 40 07.6	-0.4
	baz=294						
SXI1	Grass Mountain	3.06	26	*e*P	Pn	18 40 10.8	+2.7
	baz=12						
TWY	Chenhua	3.12	20	*e*P	Pn	18 40 10.6	+1.7
	baz=22						
JYNG	Yonagunijimaku	3.14	48	*e*P	Pn	18 40 10.1	+0.9
YOJ	Yonaguni jima	3.20	48	P	Pn	18 40 11.9	+2.0
YOJ	Yonaguni jima	3.20	48	*e*P	Pn	18 40 11.7	+1.8
	baz=35						
YOJ	Yonaguni jima	3.20	48	*e*P	Pn	18 40 11.7	+1.8
YOJ				*e*S	Sn	18 40 46.4	-0.5
HATJ	Hateruma jima	3.57	61	*e*P	Pn	18 40 15.8	+0.7
HATJ				*e*S	Sn	18 40 55.5	-0.6
IRIF	Iriomote-Funau	3.65	56	*e*P	Pn	18 40 16.7	+0.5
MATB	Ma-tsu	3.81	354	*e*P	Pn	18 40 17.4	-1.0
	baz=5.0						
JKRS	Kuro-shima	3.82	60	P	Pn	18 40 19.6	+1.1
MHZQ	Yeshan	3.94	342	*e*P	Pn	18 40 19.9	-0.2
	baz=340						
JIJ	Ishigaki jima	3.99	59	P	Pn	18 40 21.3	+0.5
JIJ				*e*S	Sn	18 41 05.0	-1.4
LYJJ	Jianjiangzhen	4.23	352	*e*P	Pn	18 40 23.9	-0.1
	baz=4.0						
JISG	Ishigakijimahi	4.23	57	P	Pn	18 40 24.4	+0.3
JISG				*e*S	Sn	18 41 11.4	-1.0
JTJ	Tarama	4.57	59	P	Pn	18 40 29.6	+0.8
JIRB	Irabujima	5.03	60	*e*P	Pn	18 40 36.2	+1.0
JMJ2	Miyako jima3	5.12	61	*e*P	Pn	18 40 37.1	+0.7
JMJ	Miyako jima 2	5.12	60	P	Pn	18 40 37.4	+1.0
HKPS	Hong Kong Po S	5.79	271	P	Pn	18 40 46.7	+1.1
JOW	Kunigami	8.45	56	P	Pn	18 41 22.6	+0.5
JOW	Kunigami	8.45	56	Pn	Pn	18 41 20.2	-1.9
	0.6nm,0.3s,baz=146,slow=11,SNR=8.0						
JOW				Sn	Sn	18 42 52.6	-3.7
	0.2nm,0.3s,baz=142,slow=20,SNR=1.3						
	1.3nm,0.3s						
KSRS	Korea Array	16.40	22	Pn	Pn	18 43 06.5	-3.2
	0.1nm,0.3s,baz=202,slow=12,SNR=1.6						
	0.3nm,0.5s						
JHJ	Hachijo jima 2	20.21	54	LR	LR	18 50 37.3	
	comp=Z,63nm,19.5s,baz=128,slow=34						
JCJ	Chichijima	20.34	72	LR	LR	18 51 11.3	
	comp=Z,56nm,19.5s,baz=260,slow=36						
CMAR	Chiang Mai Arr	20.47	263	P	P	18 43 57.0	-0.1
	0.4nm,0.4s,baz=72,slow=8.8,SNR=1.5						
	0.4nm,0.4s						
MJAR	Matsushiro Arr	20.95	44	P	P	18 43 58.3	-3.8
	0.3nm,0.6s,baz=230,slow=8.7,SNR=0.9						
	0.3nm,0.6s						
SONM	Songino Array	27.80	340	P	P	18 45 07.6	-0.5
	0.5nm,0.6s,baz=178,slow=8.7,SNR=2.7						
	0.5nm,0.6s						
KLR	Kul'dur	28.30	16	LR	LR	18 57 52.8	
	comp=Z,105nm,18.6s,baz=224,slow=40						
MKAR	Makanchi Array	39.18	318	P	P	18 46 48.5	+1.7
	0.9nm,0.7s,baz=107,slow=10,SNR=9.1						
	0.9nm,0.7s						
ZALV	Zalesovo Beam	41.41	329	P	P	18 47 06.2	+1.1
	0.3nm,0.3s,baz=112,slow=6.4,SNR=1.7						
	0.3nm,0.3s						
KURBB	Kurchatov Arra	43.07	321	P	P	18 47 20.1	+1.4
	0.3nm,0.7s,baz=143,slow=6.5,SNR=5.7						
	0.3nm,0.7s						
H11N1	WAKE ISLAND Hy	43.35	85	T	T	19 33 14.6	
	baz=282,slow=74,SNR=2.6						
H11N2	WAKE ISLAND Hy	43.35	85	T	T	19 33 10.3	
	baz=282,slow=74,SNR=6.2						
H11N3	WAKE ISLAND Hy	43.37	85	T	T	19 33 12.7	
	baz=282,slow=74,SNR=6.3						
H11S3	WAKE ISLAND Hy	43.43	86	T	T	19 33 18.3	
	baz=284,slow=74,SNR=9.2						
H11S1	WAKE ISLAND Hy	43.44	86	T	T	19 33 18.3	
	baz=284,slow=74,SNR=5.3						
H11S2	WAKE ISLAND Hy	43.44	86	T	T	19 33 21.8	
	baz=284,slow=74,SNR=4.9						
WRA	Warramunga Arr	44.18	161	P	P	18 47 27.5	-0.4
	0.8nm,0.8s,baz=343,slow=8.9,SNR=14						
WRA				PcP	PcP	18 49 13.1	+0.7
	0.2nm,0.7s,baz=348,slow=3.6,SNR=1.4						
	0.8nm,0.8s						
ASAR	Alice Springs	47.59	163	P	P	18 47 55.1	+0.4
	0.2nm,0.3s,baz=342,slow=6.9,SNR=9.3						
ASAR				PcP	PcP	18 49 24.3	0.0
	0.1nm,0.4s,baz=338,slow=3.0,SNR=1.7						
	0.2nm,0.3s						
BVAR	Borovoye Array	48.65	322	P	P	18 48 03.1	+0.4
	0.4nm,0.6s,baz=112,slow=9.6,SNR=2.5						
	0.4nm,0.6s						
FINES	FINESS Array B	72.66	330	P	P	18 50 47.0	+0.9
	1.0nm,0.7s,baz=29,slow=4.4,SNR=4.9						
	1.0nm,0.7s						

NEIC 24 18:56:36.9±2.8, 42°.00N±0°.1×127°.99W±0°.04, h10km±2km, ML3.1/48, Error ellipse: s-maj=19.2km s-min=4.7km az=349.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	Bosley Butte	2.81	85	Pn	Pn	18 57 20.8	-1.1
KSXB	Camp Six Broad	3.08	92	Pn	Pn	18 57 25.1	-0.5
KRMB	Red Mountain	3.09	98	Pn	Pn	18 57 26.4	+0.5
KRPM	Rodgers	3.10	105	Pn	Pn	18 57 26.4	+0.5
J01E	Myrtle Point	3.21	68	Pn	Pn	18 57 28.0	+0.7
JCC	Jacoby Creek,	3.21	111	Pn	Pn	18 57 22.6	-4.7
JCC				IAML		18 58 31.3	
	comp=E,31nm,2.7s						
JCC				IAML		18 58 52.2	
	comp=N,29nm,3.9s						
L02F	Cave Junction	3.29	87	Pn	Pn	18 57 23.6	-4.8
KMPM	Mount Pierce	3.33	117		Pn	18 57 30.6	+1.5
KMPM				IAML		18 58 44.8	
	comp=E,39nm,1.7s						
KMPM				IAML		18 59 02.8	
	comp=N,41nm,2.4s						
KHMM	Horse Mountain	3.40	108		Pn	18 57 24.6	-5.5
DBO	Dodson Butte	3.67	71		Pn	18 57 35.8	+1.9
KMRM	Mail Ridge	3.70	118	Pn	Pn	18 57 36.6	+2.5
HUMO	Hull Mountain	3.78	79	Pn	Pn	18 57 37.4	+2.2
I03D	Drain, OR	3.80	62	Pn	Pn	18 57 35.7	+0.3
I03D				IAML		18 58 36.0	
	comp=N,22nm,2.4s						
I03D				IAML		18 59 49.6	
	comp=E,19nm,3.0s						
YBH	Yreka Blue Hor	3.95	92	Pn	Pn	18 57 36.5	-1.2
KCPM	Cahto Peak	4.08	123	Pn	Pn	18 57 39.7	+0.3
BUCK	Buck Mountain	4.26	58	Pn	Pn	18 57 40.8	-1.1
BUCK				IAML		18 58 28.0	
	comp=N,27nm,2.7s						
O02D	Mt. Diablo Mer	4.34	113	Pn	Pn	18 57 42.8	-0.1
I04A	Tendick Farm,	4.47	65		Pn	18 57 44.0	-0.6
H04D	Lebanon	4.58	55	Pn	Pn	18 57 48.6	+2.4
K04D	Chiloquin, OR	4.66	80		Pn	18 57 45.1	-2.3
H04A	Detroit Lake	5.00	56	Pn	Pn	18 57 50.8	-1.2
H04A				IAML		18 58 34.7	
	comp=E,12nm,0.5s						
J05D	Fort Rock, OR	5.14	73	Pn	Pn	18 57 51.2	-2.9
J05D				IAML		18 58 41.2	
	comp=E,12nm,2.9s						
I05D	Terrebonne, OR	5.39	62	Pn	Pn	18 57 53.2	-4.1
ORV	Oroville	5.51	114		Pn	18 57 55.0	-4.0
F04A	Amboy	5.61	44	Pn	Pn	18 57 55.6	-4.7
WISH	Wishkah	5.92	29	Pn	Pn	18 58 01.1	-3.4
LON	Longmire	6.48	41	Pn	Pn	18 58 08.2	-4.1
I07A	Izee	6.55	69		Pn	18 58 09.2	-4.2
PAHR	Pah Rah Range	6.92	107		Pn	18 58 13.2	-5.2
G08A	Pilot Rock	7.32	60		Pn	18 58 20.3	-3.6

*IDC **24** 18:57:16.8±2.6, 42°.11N×126°.56W, h0km, mb3.2/3, mbtmp3.1/7, ML2.9/4, MS3.1/4, Error ellipse: s-maj=49.5km s-min=17.9km az=41.0*

*NEIC **24** 18:57:16.9±2.5, 42°.03N±0°.07×126°.6W±0°.1, h10km±2km, mb3.6/5, ML2.8/46, Error ellipse: s-maj=17.4km s-min=10.7km az=247.0*

ISC 24 18:57:17.5±1.7, 42°.02N±0°.09×126°.6W±0°.2, h10km, n63, σ1§46/55, mb3.2/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	Bosley Butte	1.80	83	Pn	Pn	18 57 48.6	-0.1
KBO				IAML		18 58 17.

KRPM IAML 18 59 01.2
comp=N,65nm,1.6s
J01E Myrtle Point 2.29 59 Pn **Pn 18 57 54.7 -0.7**
J01E IAML 18 58 10.3
comp=E,40nm,2.3s
J01E IAML 18 58 19.2
comp=N,39nm,2.1s
JCC Jacoby Creek, 2.30 121 Pn **Pn 18 57 53.9 -1.6**
KHMM Horse Mountain 2.46 117 Pn **Pn 18 57 59.1 +1.2**
KHMM IAML 18 58 49.4
comp=E,41nm,1.9s
KHMM IAML 18 58 51.8
comp=N,30nm,2.3s
DBO Dodson Butte 2.73 65 Pn **Pn 18 58 01.1 -0.4**
DBO IAML 18 58 44.6
comp=E,33nm,1.7s
DBO IAML 18 58 46.2
comp=N,34nm,1.7s
HUMO Hull Mountain 2.79 77 Pn **Pn 18 58 02.7 +0.5**
KMRM Mail Ridge 2.85 128 Pn **Pn 18 58 01.7 -1.4**
KMRM IAML 18 58 49.8
comp=E,35nm,2.1s
KMRM IAML 18 58 50.1
comp=N,47nm,2.9s
YBH Yreka Blue Hor 2.94 94 Pn **Pn 18 58 05.5 +1.0**
YBH Yreka Blue Hor 2.94 94 Pn **Pn 18 58 04.8 +0.4**
comp=N,0.3nm,0.3s,baz=286,slow=14,SNR=6.4
YBH LR LR 18 59 08.1
comp=N,144nm,20.2s,baz=254,slow=38
comp=N,4.2nm,0.4s
KCPM Cahto Peak 3.29 134 Pn **Pn 18 58 07.4 -1.8**
KCPM IAML 18 58 35.1
comp=E,30nm,1.7s
KCPM IAML 18 58 50.0
comp=N,27nm,2.0s
O02D Mt. Diablo Mer 3.44 121 Pn **Pn 18 58 09.7 -1.6**
O02D IAML 18 59 16.5
comp=N,12nm,3.2s
BUCK Buck Mountain 3.44 50 Pn **Pn 18 58 12.2 +0.9**
BUCK IAML 18 59 05.0
comp=N,27nm,3.7s
I04A Tendick Farm, 3.57 59 Pn **Pn 18 58 11.8 -1.2**
I04A IAML 18 59 03.7
comp=N,22nm,0.2s
H04D Lebanon 3.79 47 Pn **Pn 18 58 13.5 -2.5**
HOPS Hopland Field 4.07 137 **Pn 18 58 23.0 +3.3**
J05D Fort Rock, OR 4.17 71 Pn **Pn 18 58 20.2 -1.3**
J05D IAML 19 00 26.4
comp=E,12nm,2.7s
J05D IAML 19 01 00.4
comp=N,13nm,3.7s
H04A Detroit Lake 4.19 49 Pn **Pn 18 58 20.5 -1.1**
H04A IAML 18 59 40.7
comp=N,9.9nm,3.6s
H04A IAML 18 59 48.3
comp=E,9.1nm,2.8s
G05A Wamic 5.02 48 Pn **Pn 18 58 34.4 +1.4**
E03A Lebam 5.03 25 Pn **Pn 18 58 32.8 -0.2**
AFDM Forest Hills D 5.30 124 Pn **Pn 18 58 39.0 +2.2**
AFDM IAML 18 59 22.3
comp=E,4.5nm,4.0s
AFDM IAML 18 59 43.1
comp=N,4.0nm,3.9s
G06A Carlson Farm, 5.41 52 Pn **Pn 18 58 38.6 +0.3**
G06A IAML 19 01 11.6
comp=N,5.7nm,3.8s
I07A Izee 5.61 66 Pn **Pn 18 58 41.5 +0.3**
LON Longmire 5.85 35 Pn **Pn 18 58 43.3 -1.1**
PAHR Pah Rah Range 5.96 110 Pn **Pn 18 58 45.8 -0.1**
PNTR Pine Nut 6.10 116 Pn **Pn 18 58 47.1 -0.9**
YERR Yerington 6.40 116 Pn **Pn 18 58 50.8 -1.2**
G08A Pilot Rock 6.45 57 Pn **Pn 18 58 50.1 -2.6**
RYN Ryan 7.06 116 Pn **Pn 18 58 59.2 -1.9**
LHV Little Huntoon 7.28 119 Pn **Pn 18 59 04.7 +0.8**
NVAR Mina Array Bea 7.31 117 Pn **Pn 18 59 05.0 +0.4**
comp=N,0.2nm,0.3s,baz=279,slow=15,SNR=4.3
NVAR LR LR 19 02 14.1
comp=N,129nm,20.1s,baz=274,slow=40
comp=N,0.6nm,0.7s
BMO Blue Mountains 7.35 64 Pn **Pn 18 59 03.1 -1.9**
F10A Beach Ranch, E 7.84 57 Pn **Pn 18 59 10.0 -1.8**
B08A Colville Reser 8.16 37 Pn **Pn 18 59 14.7 -1.3**
ELK Elko 8.66 95 Pn **Pn 18 59 26.4 +3.3**
baz=313,slow=15,SNR=2.3
comp=N,0.8nm,0.7s
ISA Isabella, Lake 8.99 132 Pn **Pn 18 59 26.7 -0.8**
NEW Newport 9.16 44 LR LR 19 03 23.9
comp=N,85nm,19.4s,baz=247,slow=40
S11A Rachel 9.44 114 Pn **Pn 18 59 31.5 -2.3**
Q12A Willow Creek R 9.47 104 Pn **Pn 18 59 32.0 -2.0**
BPMT Black Pine Rid 10.44 61 Pn **Pn 18 59 45.8 -1.6**
SHPR Sheep Range 10.46 118 Pn **Pn 18 59 47.1 -0.6**
SPUT South Promonto 10.64 89 Pn **Pn 18 59 50.2 +0.1**
SZCU Shurtz Canyon 11.31 109 Pn **Pn 18 59 59.2 -0.2**
BOZ Bozeman (W) 11.41 67 Pn **Pn 18 59 59.2 -1.5**
W13A Hualapai Mount 12.13 121 Pn **Pn 19 00 11.1 +0.5**
PDAR Pinedale Array 12.65 81 Pn **Pn 19 00 20.6 +2.9**
comp=N,0.1nm,0.3s,baz=264,slow=4.4,SNR=1.4
comp=N,0.1nm,0.5s
HMU Henry Mountain 12.85 103 Pn **Pn 19 00 21.5 +1.0**
LAO LASA Array 15.31 65 Pn **Pn 19 00 54.6 +0.9**
SDCO Great Sand Dun 16.76 98 Pn **Pn 19 01 11.1 -1.6**
SDCO IAmb IAmb 19 01 23.1
comp=Z,4.7nm,1.2s
DUN6 Lazy B Ranch 16.83 118 **Pn 19 01 13.4 0.0**
319A Douglas 17.48 122 **Pn 19 01 21.2 -0.3**
319A IAmb IAmb 19 01 37.0
comp=Z,8.5nm,1.1s
YKA Yellowknife Ar 21.71 15 P **P 19 02 08.4 0.0**
comp=Z,0.5nm,0.8s,baz=207,slow=11,SNR=2.6
comp=Z,0.5nm,0.8s
TXAR Lajitas Array 22.46 117 P **P 19 02 18.9 +2.0**
comp=Z,0.6nm,0.7s,baz=300,slow=7.2,SNR=6.4
comp=Z,0.6nm,0.7s
KDAK Kodiak Island 22.77 323 LR LR 19 08 24.1
comp=Z,107nm,19.5s,baz=4.9,slow=29
ILAR Eielson Array 25.55 340 P **P 19 02 46.2 0.0**
comp=Z,0.8nm,0.8s,baz=159,slow=8.0,SNR=7.7
comp=Z,0.8nm,0.8s
H11N3 WAKE ISLAND Hy 59.73 270 T T 20 11 33.4
baz=52,slow=75,SNR=56
H11N2 WAKE ISLAND Hy 59.73 270 T T 20 11 33.2
baz=52,slow=75,SNR=25
H11N1 WAKE ISLAND Hy 59.75 270 T T 20 11 40.5
baz=52,slow=75,SNR=22
H11S1 WAKE ISLAND Hy 60.63 269 T T 20 12 46.2
baz=52,slow=75,SNR=40
H11S2 WAKE ISLAND Hy 60.64 269 T T 20 12 48.6
baz=52,slow=75,SNR=36
H11S3 WAKE ISLAND Hy 60.65 269 T T 20 12 47.1
baz=52,slow=75,SNR=20

*SOME **24** 18:59:50.6, 42.°08N×77.°87E, h10km*
*KRNET **24** 18:59:50.9±0.1, 42.°09N×77.°86E, h24km, mb2.1*
*NNC **24** 19:59:51.3±0.9, 42.°13N×77.°87E, h0km, mb2.8, mpv2.8,*
Error ellipse: s-maj=6.2km s-min=2.5km az=9.0
ISC 24 18:59:51.8±1.0, 42.°10N±0.°03×77.°81E±0.°03, h13km±9km, n23, σ1§61/44, 10C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.37**	**181**	⇑*e*P	**Pg**	**18 59 58.9**	**-0.5**
TARG	baz=87			⇑*e*S	**Sg**	**19 00 04.2**	**-0.3**
KDJ	**Kajisay**	**0.47**	**274**	⇑*e*P	**Pg**	**19 00 00.9**	**-0.2**
KDJ	baz=74			⇑*e*S	**Sg**	**19 00 08.0**	**+0.5**
PRZ	**Przheval'sk**	**0.58**	**48**	⇑*e*P	**Pg**	**19 00 02.0**	**-1.2**
PRZ	baz=45			⇑*e*S	**Sb**	**19 00 10.2**	**-1.9**
SATY	**Saty**	**1.05**	**24**	*e*P	**Pg**	**19 00 10.5**	**-1.6**
SATY				*e*S	**Sb**	**19 00 24.8**	**-0.8**
SATY	**Saty**	**1.05**	**24**	P	**Pg**	**19 00 10.5**	**-1.6**
SATY				S	**Sb**	**19 00 24.8**	**-0.8**
ULHL	**Ulahol**	**1.18**	**278**	⇑*e*P	**Pb**	**19 00 13.4**	**-0.7**
ULHL	baz=78			⇑*e*S	**Sb**	**19 00 29.5**	**+0.2**
KOTS	**Kotyrbulak**	**1.25**	**336**	*e*P	**Pn**	**19 00 14.6**	**-0.5**
KOTS	1.1nm,0.2s			*e*S	**Sg**	**19 00 31.9**	**-0.1**
	9.1nm,0.4s						
KOTS	**Kotyrbulak**	**1.25**	**336**	P	**Pn**	**19 00 14.5**	**-0.5**
KOTS	1.1nm,0.2s			S	**Sg**	**19 00 31.9**	**-0.1**
	9.1nm,0.4s						
KNDC	**Almaty**	**1.28**	**331**	P	**Pn**	**19 00 15.2**	**-0.2**
KNDC	10nm,0.5s			S	**Sn**	**19 00 32.8**	**+0.4**
	6.9nm,0.6s						
UZB	**Uzynbulak**	**1.38**	**40**	*e*P	**Pn**	**19 00 15.3**	**-1.5**
UZB	0.9nm,0.1s			*e*S	**Sb**	**19 00 33.4**	**-1.6**
	5.7nm,0.1s						
UZB	**Uzynbulak**	**1.38**	**40**	P	**Pn**	**19 00 15.3**	**-1.5**
UZB	0.9nm,0.1s			S	**Sb**	**19 00 33.4**	**-1.6**
	5.7nm,0.1s						
BOOM	**Boomskoye usch**	**1.44**	**286**	⇑*e*P	**Pn**	**19 00 18.0**	**+0.3**
BOOM	baz=86			⇑*e*S	**Sn**	**19 00 37.4**	**+0.8**
	baz=86						
KPKS	**Kokpek**	**1.51**	**25**	*e*P	**Pb**	**19 00 18.5**	**-1.2**
KPKS	1.9nm,0.1s			*e*S	**Sb**	**19 00 38.5**	**-0.2**
	7.5nm,0.4s						
KPKS	**Kokpek**	**1.51**	**25**	P	**Pb**	**19 00 18.5**	**-1.2**
KPKS	1.9nm,0.1s			S	**Sb**	**19 00 38.5**	**-0.2**
	7.5nm,0.4s						
NRN	**Naryn**	**1.51**	**244**	⇓*e*P	**Pb**	**19 00 19.4**	**-0.4**
NRN	baz=45			⇓*e*S	**Sb**	**19 00 39.8**	**+0.8**
	baz=45						
SHLS	**Shalkode**	**1.61**	**48**	*e*P	**Pg**	**19 00 24.7**	**+2.0**
SHLS				*e*S	**Sg**	**19 00 49.2**	**+5.5**
SHLS	**Shalkode**	**1.61**	**48**	P	**Pg**	**19 00 24.7**	**+2.0**
SHLS				S	**Sg**	**19 00 49.2**	**+5.5**
PDGK	**Podgornoye**	**1.74**	**45**	P	**Pb**	**19 00 22.1**	**-1.6**
PDGK	1.3nm,0.3s			S	**Sb**	**19 00 45.0**	**-0.5**
	1.9nm,0.4s						
PDGK	**Podgornoye**	**1.74**	**45**	P	**Pn**	**19 00 21.5**	**-0.3**
PDGK	5.5nm,1.1s			⇓S	**Sb**	**19 00 44.6**	**-0.9**
	3.5nm,0.7s						
TKM2	**Tokmak 2**	**1.83**	**297**	⇓*e*P	**Pn**	**19 00 24.1**	**+1.0**
TKM2	baz=97			⇓*e*S	**Sb**	**19 00 48.0**	**-0.2**
	baz=97						
BLB	**Baldybastay**	**2.06**	**13**	Pg	**Pb**	**19 00 28.1**	**-0.9**
BLB	10nm,0.3s			Lg	Lg	19 00 55.1	
	7.6nm,0.2s						
ARXS	**Arharly**	**2.11**	**0**	*e*P	**Pb**	**19 00 29.4**	**-0.6**
ARXS	0.7nm,0.2s			*e*S	**Sb**	**19 00 57.1**	**+1.1**
	9.6nm,0.3s						
ARXS	**Arharly**	**2.11**	**0**	Pg	**Pb**	**19 00 29.4**	**-0.6**
ARXS	0.7nm,0.2s			Lg	Lg	19 00 57.1	
	9.6nm,0.3s						

*IDC **24** 19:03:04.5±1.5, 27.°78N×111.°62W, h0km, mb3.2/1,*
mbtmp3.4/6, ML4.4/3, MS3.3/7, Error ellipse: s-maj=19.8km
s-min=13.5km az=40.0
*MEX **24** 19:03:06.9±0.3, 27.°67N×111.°63W, h7km±5km, MD4.2*
ISC 24 19:03:05.6±1.2, 27.°73N±0.°03×111.°66W±0.°03, h16km±10km, n34, σ1§49/38, MS3.3/5, 5C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.66**	**232**	*e*P	**Pb**	**19 03 18.4**	**-0.3**
SRIG				*e*S	**Sb**	**19 03 27.0**	**-0.6**
SRIG	**Santa Rosalia**	**0.66**	**232**	⇑*i*P	**Pg**	**19 03 18.1**	**-0.4**
SRIG				*e*S	**Sg**	**19 03 26.8**	**-0.4**
SRIG				IAML		19 03 28.1	
	comp=E,19μm,0.4s						
GUYB	**Guaymas**	**0.72**	**76**	*e*P	**Pb**	**19 03 19.2**	**-0.6**
GUYB				*e*S	**Sb**	**19 03 28.9**	**-0.5**
GUYB	**Guaymas**	**0.72**	**76**	⇑*i*P	**Pg**	**19 03 19.5**	**-0.1**
GUYB				*e*S	**Sb**	**19 03 29.3**	**0.0**
GUYB				IAML		19 03 30.3	
	comp=N,3μm,0.2s						
BKIRB	**Bahia Kino**	**1.16**	**345**	⇑*i*P	**Pn**	**19 03 26.3**	**-1.0**
BKIRB				*e*S	**Sb**	**19 03 39.6**	**-2.6**
SNIRB	**San Nicolıs**	**1.19**	**175**	⇓*i*P	**Pn**	**19 03 26.4**	**-1.1**
SNIRB				IAML		19 03 46.8	
	comp=N,1μm,0.8s						
SNIRB				IAML		19 03 53.2	
	comp=E,1μm,0.7s						
SFQB	**San Francisqui**	**1.26**	**303**	⇑*e*P	**Pn**	**19 03 26.9**	**-1.6**
SFQB				IAML		19 03 45.9	
	comp=E,2μm,0.3s						
SFQB				IAML		19 03 48.3	
	comp=N,1μm,0.3s						
NE77	**Loreto B.C.S**	**1.73**	**171**	*e*P	**Pn**	**19 03 34.3**	**-0.7**
BAHB	**Baha de los**	**2.07**	**306**	*e*P	**Pn**	**19 03 39.2**	**-0.5**
BAHB				*e*S	**Sn**	**19 04 05.1**	**0.0**
BAHB	**Baha de los**	**2.07**	**306**	⇑*e*P	**Pn**	**19 03 39.5**	**-0.2**
NE74	**Guerrero Negro**	**2.10**	**278**	*e*P	**Pn**	**19 03 39.3**	**-0.8**
NE74				IAML		19 04 14.3	
	comp=E,415nm,0.7s						
NE74				IAML		19 04 27.7	
	comp=N,469nm,0.7s						
UAGRB	**Rancho Ultima**	**2.19**	**170**	*e*P	**Pn**	**19 03 40.9**	**-0.4**
PLIB	**Puerto Liberta**	**2.36**	**338**	*e*P	**Pn**	**19 03 43.4**	**-0.3**
LAPR	**La Primavera**	**2.82**	**348**	*e*P	**Pn**	**19 03 51.0**	**+1.0**
LAPR				*e*S	**Sn**	**19 04 25.0**	**+1.2**
CSIG	**Choix**	**3.06**	**106**	*e*P	**Pn**	**19 03 52.4**	**-1.0**
NZIG	**Nacozari, Sono**	**3.22**	**34**	*e*P	**Pn**	**19 03 56.4**	**+0.8**
NZIG				*e*S	**Sn**	**19 04 31.5**	**-2.2**
NZIG	**Nacozari, Sono**	**3.22**	**34**	⇓*e*P	**Pn**	**19 03 56.4**	**+0.8**
LPIG	**La Paz**	**3.81**	**161**	Pn	**Pn**	**19 04 05.5**	**+1.9**
	comp=N,13nm,0.4s,baz=47,slow=4.1,SNR=1.0						
LPIG				Lg	Lg	19 05 06.1	
	baz=252,slow=3.6						
CGIG		**4.16**	**50**	*e*P	**Pn**	**19 04 09.2**	**+0.6**
CGIG				*e*S	**Sn**	**19 04 52.6**	**-4.4**
SLBS	**Sierra La Lagu**	**4.31**	**159**	*e*P	**Pn**	**19 04 11.2**	**+0.5**
TUC	**Tucson**	**4.63**	**9**	*e*P	**Pn**	**19 04 16.6**	**+1.6**
TUC				*i*S	**Sn**	**19 05 06.0**	**-2.5**
BCIG	**La Boquilla**	**5.54**	**90**	*e*P	**Pn**	**19 04 27.1**	**-0.5**
PFO	**Pinyon Flats O**	**7.17**	**326**	LR	LR	19 07 38.7	
	comp=N,213nm,19.8s,baz=176,slow=38						
TXAR	**Lajitas Array**	**7.21**	**75**	Pn	**Pn**	**19 04 51.5**	**+1.0**
	comp=N,0.9nm,0.3s,baz=250,slow=13,SNR=37						
TXAR				Sn	**Sn**	**19 06 11.5**	**-0.7**
	comp=N,0.3nm,0.3s,baz=255,slow=14,SNR=4.4						
TXAR				Lg	Lg	19 06 50.9	
	comp=N,0.5nm,0.3s,baz=257,slow=28,SNR=2.5						
	comp=N,2.4nm,0.6s						
ANMO	**Albuquerque**	**8.46**	**30**	Lg	Lg	19 07 31.7	
	comp=N,1.1nm,0.3s,baz=122,slow=15,SNR=4.9						
NVAR	**Mina Array Bea**	**12.03**	**344**	Pn	**Pn**	**19 05 58.0**	**+1.4**
	comp=N,0.8nm,0.3s,baz=150,slow=14,SNR=3.7						
	comp=N,0.7nm,0.4s						
ELK	**Elko**	**13.32**	**348**	Pn	**Pn**	**19 06 17.9**	**+3.7**
	comp=N,0.4nm,0.4s,baz=160,slow=16,SNR=3.2						
PDAR	**Pinedale Array**	**15.10**	**6**	Pn	**P**	**19 06 42.9**	**-0.9**
	comp=N,0.4nm,0.3s,baz=180,slow=14,SNR=3.3						
PDAR				Lg	Lg	19 10 58.2	
	comp=N,0.1nm,0.3s,baz=182,slow=19,SNR=1.7						
PDAR				LR	LR	19 12 50.5	
	comp=N,121nm,19.2s,baz=182,slow=39						
	comp=N,0.3nm,0.4s						
NEW	**Newport**	**20.94**	**350**	LR	LR	19 16 12.8	
	comp=N,69nm,22.0s,baz=264,slow=38						
TKL	**Tuckaleechee C**	**24.95**	**65**	LR	LR	19 18 53.2	
	comp=N,90nm,19.1s,baz=75,slow=38						
ULM	**Lac du Bonnet**	**25.51**	**24**	LR	LR	19 17 42.0	
	comp=N,20nm,18.9s,baz=351,slow=34						
JTS	**Las Juntas de**	**30.52**	**119**	LR	LR	19 22 10.8	
	comp=N,70nm,20.3s,baz=295,slow=38						
YKA	**Yellowknife Ar**	**34.82**	**358**	LR	LR	19 23 26.6	
	comp=N,68nm,19.7s,baz=311,slow=35						
ILAR	**Eielson Array**	**43.24**	**339**	P	**P**	**19 11 06.8**	**+1.0**
	comp=N,0.3nm,0.8s,baz=144,slow=5.2,SNR=2.7						
	comp=N,0.3nm,0.8s						

*SJA **24** 19:04:15.8±0.7, 24.°13S×66.°81W, h226km±7km, ML3.7,*
MW3.6
*GUC **24** 19:04:18.8±0.6, 24.°06S×67.°19W, h237km±6km, ML3.8*
*IDC **24** 19:04:20.8±10.0, 23.°83S×66.°79W, h220km±81km, mb3.1/1,*
mbtmp3.6/2, Error ellipse: s-maj=88.4km s-min=78.5km
az=5.0
ISC 24 19:04:18.0±0.9, 24.°08S±0.°04×66.°88W±0.°04, h202km±8km, n36, σ1§41/62, 2C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.41**	**117**	*e*P	**Pn**	**19 04 51.5**	**+0.3**
AF01	**San Pedro de A**	**1.64**	**313**	*e*P	**Pn**	**19 04 54.9**	**+1.4**
AF01				*i*S	**Sn**	**19 05 22.9**	**+1.9**
AZAP	**Zapla**	**1.66**	**95**	*e*P	**Pn**	**19 04 53.3**	**-0.2**
FSA	**Cafayete**	**2.18**	**158**	*e*P	**Pn**	**19 04 58.3**	**-0.3**
FSA				*e*S	**Sn**	**19 05 28.9**	**-1.6**
YJA	**Yavi**	**2.27**	**34**	*e*P	**Pn**	**19 05 00.5**	**+0.5**
YJA				*e*S	**Sn**	**19 05 30.5**	**-2.2**
LVC	**Limon Verde**	**2.37**	**308**	*e*P	**Pn**	**19 05 01.7**	**+0.7**
LVC				*e*S	**Sn**	**19 05 36.0**	**+1.6**
LVC	**Limon Verde**	**2.37**	**308**	⇑*i*P	**Pn**	**19 05 01.7**	**+0.7**
LVC				*i*S	**Sn**	**19 05 34.4**	**-0.1**
LVC				IAML		19 05 36.6	
	300nm,0.4s						
PB15	**IPOC Station P**	**2.53**	**290**	*e*P	**Pn**	**19 05 03.2**	**+0.7**
PB15				*e*S	**Sn**	**19 05 36.8**	**-0.4**
PB15				IAML		19 05 38.0	
	comp=Z,541nm,0.2s						
PB15	**IPOC Station P**	**2.53**	**290**	*i*P	**Pn**	**19 05 03.3**	**+0.7**
PB15				*i*S	**Sn**	**19 05 35.9**	**-1.4**
ALOL	**LOMAS DE OLMED**	**2.66**	**85**	*e*P	**Pn**	**19 05 03.7**	**-0.1**
GO02	**Mina Guanaco**	**2.69**	**246**	*e*P	**Pn**	**19 05 05.0**	**+0.5**
GO02				*e*S	**Sn**	**19 05 40.9**	**+0.2**
GO02	**Mina Guanaco**	**2.69**	**246**	*i*P	**Pn**	**19 05 05.0**	**+0.5**
GO02				*i*S	**Sn**	**19 05 40.5**	**-0.2**
GO02				IAML		19 05 42.5	
	comp=E,490nm,0.1s						
PB06	**IPOC Station P**	**2.83**	**298**	*e*P	**Pn**	**19 05 06.3**	**+0.5**
PB06				*e*S	**Sn**	**19 05 44.0**	**+0.7**
PB06				IAML		19 05 44.5	
	comp=Z,135nm,0.3s						
PB06	**IPOC Station P**	**2.83**	**298**	*i*P	**Pn**	**19 05 06.5**	**+0.6**
PB06				*i*S	**Sn**	**19 05 41.9**	**-1.3**
PB06				IAML		19 05 44.9	
	comp=E,152nm,0.1s						
PB09	**IPOC Station P**	**3.15**	**316**	*e*P	**Pn**	**19 05 10.3**	**+0.7**
PB09				*e*S	**Sn**	**19 05 51.0**	**+0.9**
PB09				IAML		19 05 56.4	
	comp=Z,46nm,0.3s						
PB09	**IPOC Station P**	**3.15**	**316**	*i*P	**Pn**	**19 05 10.6**	**+0.9**
PB09				*e*S	**Sn**	**19 05 49.3**	**-0.8**
PB09				IAML		19 05 55.5	
	comp=N,57nm,0.4s						
PB14	**IPOC Station P**	**3.26**	**260**	*e*P	**Pn**	**19 05 11.2**	**+0.1**
PB14				*e*S	**Sn**	**19 05 51.4**	**-1.2**
PB14				IAML		19 05 53.0	
	comp=Z,86nm,0.2s						
PB14	**IPOC Station P**	**3.26**	**260**	*i*P	**Pn**	**19 05 11.2**	**+0.1**
PB14				⇓*i*S	**Sn**	**19 05 49.3**	**-3.3**
PB04	**IPOC Station P**	**3.47**	**299**	*e*P	**Pn**	**19 05 13.7**	**+0.1**
PB04				*e*S	**Sn**	**19 05 56.8**	**-0.3**
PB04				IAML		19 05 58.2	
	comp=Z,79nm,0.2s						
PB04	**IPOC Station P**	**3.47**	**299**	*e*P	**Pn**	**19 05 13.5**	**-0.1**
PB04				*i*S	**Sn**	**19 05 55.0**	**-2.1**
PB04				IAML		19 06 00.4	
PB01	**IPOC Station P**	**3.87**	**321**	*e*P	**Pn**	**19 05 17.5**	**-0.8**
PB01				*e*S	**Sn**	**19 06 04.8**	**-0.9**
PB01				IAML		19 06 06.6	
	comp=Z,84nm,0.2s						
PB01	**IPOC Station P**	**3.87**	**321**	⇑*e*P	**Pn**	**19 05 17.9**	**-0.4**
PB01				*i*S	**Sn**	**19 06 02.7**	**-3.0**
PATCX	**Punta Patache**	**4.44**	**316**	*e*P	**Pn**	**19 05 25.6**	**+0.1**
PATCX				*e*S	**Sn**	**19 06 17.0**	**-1.5**
PATCX				IAML		19 06 22.7	
	comp=Z,46nm,1.3s						
PATCX	**Punta Patache**	**4.44**	**316**	*e*P	**Pn**	**19 05 25.6**	**+0.1**
PATCX				*i*S	**Sn**	**19 06 15.0**	**-3.5**
AC06	**Mina Casimiro**	**4.52**	**223**	*i*S	**Sn**	**19 06 16.8**	**-3.5**
GO03	**Copiap**	**4.62**	**220**	*i*S	**Sn**	**19 06 20.0**	**-2.6**
TA01	**Diego Aracena**	**4.64**	**318**	*e*P	**Pn**	**19 05 27.9**	**0.0**
TA01				*e*S	**Sn**	**19 06 21.8**	**-1.3**
TA01				IAML		19 07 08.9	
	comp=Z,34nm,4.3s						
TA01	**Diego Aracena**	**4.64**	**318**	*e*P	**Pn**	**19 05 27.5**	**-0.4**
TA01				*i*S	**Sn**	**19 06 20.1**	**-2.9**
GO01	**Chusmiza**	**4.89**	**333**	*e*P	**Pn**	**19 05 31.4**	**-0.2**
GO01				*e*S	**Sn**	**19 06 29.1**	**-0.3**
PB11	**IPOC Station P**	**5.01**	**329**	*e*P	**Pn**	**19 05 31.5**	**-1.3**
PB11				*e*S	**Sn**	**19 06 28.8**	**-3.0**
PB11				IAML		19 06 29.6	
	comp=Z,33nm,0.2s						
ACLC	**CERRO LA CRUZ**	**5.32**	**181**	*e*P	**Pn**	**19 05 36.7**	**0.0**
ACLC				*e*S	**Sn**	**19 06 38.2**	**-0.7**
LPAZ	**La Paz**	**7.84**	**351**	P	**Pn**	**19 06 09.6**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=174,slow=6.7,SNR=4.2						
LPAZ				S	**Sn**	**19 07 37.3**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=195,slow=12,SNR=1.5						
TORD	**Torodi Ar. Bea**	**76.50**	**69**	P	**P**	**19 15 46.1**	**0.0**
	comp=Z,0.4nm,0.6s,baz=243,slow=6.3,SNR=2.6						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**131.60**	**207**	PKP	**PKPdf**	**19 23 09.1**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=163,slow=1.8,SNR=1.7						
ZALV	**Zalesovo Beam**	**143.41**	**28**	PKP	PKPbc	19 23 26.2	+0.5
	comp=Z,0.3nm,0.4s,baz=315,slow=1.7,SNR=1.9						
MKAR	**Makanchi Array**	**146.52**	**40**	PKPbc	**PKPdf**	**19 23 35.1**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=287,slow=1.5,SNR=4.5						

IDC 24 19:21:02.1±2.3, 6.°90S×128.°90E, h0km, mb3.2/1,
mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=147.5km
s-min=33.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.00**	**158**	Pn	Pn	19 24 21.9	-0.1
	0.4nm,0.3s,baz=340,slow=12,SNR=22						
WRA				Sn	Sn	19 26 42.4	-16
	0.3nm,0.3s,baz=340,slow=13,SNR=1.8						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**17.35**	**164**	P	Pn	19 25 06.0	0.0
	0.6nm,0.3s,baz=344,slow=11,SNR=86						
ASAR				S	Sn	19 28 08.9	-11
	0.1nm,0.4s,baz=8.1,slow=39,SNR=1.5						
	3.1nm,0.6s						
MKAR	**Makanchi Array**	**67.55**	**327**	P	P	19 32 00.4	0.0
	0.2nm,0.8s,baz=119,slow=8.0,SNR=1.2						
	0.2nm,0.8s						

*JMA **24** 19:24:49.7±0.1, 23.°9N±0.°7×122.°8E±0.°6, h42km, MV2.2/12,*
NW OFF ISHIGAKJIMA IS
*TAP **24** 19:24:49.1, 23.°84N×122.°86E, h52km, ML2.5, D*
ISC 24 19:24:46.6±1.3, 23.°80N±0.°03×122.°82E±0.°02, h11km±10km, n77, σ1§10/143, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.56**	**305**	*e*P	**Pn**	**19 25 00.8**	**+0.8**
EOS4	baz=294			*e*S	**Sn**	**19 25 09.4**	**+0.2**
	baz=294						
JYNG	**Yonagunijimaku**	**0.66**	**10**	P	**Pn**	**19 25 01.5**	**-0.3**
JYNG				*e*S	**Sn**	**19 25 09.9**	**-2.2**
EOS3	**EOS3**	**0.67**	**317**	*e*P	**Pn**	**19 25 02.5**	**+0.8**
EOS3	baz=307			*e*S	**Sn**	**19 25 12.3**	**+0.2**
	baz=307						
YOJ	**Yonaguni jima**	**0

SHUL eS Sb 19 25 22.7 -0.7
baz=267
ENA Nanau 1.17 303 eP Pn 19 25 09.3 +0.6
baz=306
ENA eS Sn 19 25 24.7 0.0
baz=306
JKRS Kuro-shima 1.17 68 eP Pn 19 25 10.3 +1.5
JKRS eS Sn 19 25 25.1 +0.4
ESAO Su ao 1.18 311 eP Pn 19 25 10.6 +1.7
baz=303
NACB Ninganchiao 1.18 289 eP Pb 19 25 09.1 +0.1
baz=276
NACB eS Sb 19 25 22.7 -1.5
baz=276
TWC Suao 1.20 312 eP Pn 19 25 11.0 +1.8
baz=303
TWC eS Sn 19 25 25.3 -0.1
baz=303
ETM Tongmen 1.23 278 eP Pn 19 25 09.9 +0.3
baz=266
ESL Shilin 1.27 271 eP Pn 19 25 10.3 +0.1
baz=268
ESL eS Sb 19 25 25.4 -1.4
baz=268
ETLH Xiulin Townshi 1.29 289 eP Pn 19 25 10.8 +0.3
baz=286
ETLH eS Sb 19 25 26.6 -0.8
baz=286
HGSD Ruisui 1.32 257 P Pn 19 25 11.1 +0.2
baz=255
HGSD S Sb 19 25 26.5 -1.7
baz=255
WARBT Fenglin Townsh 1.32 267 eP Pn 19 25 10.9 +0.1
baz=256
WARBT eS Sb 19 25 26.7 -1.5
baz=256
JIJ Ishigaki jima 1.33 65 eP Pg 19 25 12.2 0.0
ECBN Changbin 1.35 249 eP Pn 19 25 11.4 +0.1
baz=248
ECBN eS Sb 19 25 27.9 -1.1
baz=248
LATG Datong 1.39 302 eP Pb 19 25 12.8 +0.2
baz=299
LATG eS Sb 19 25 30.0 -0.3
baz=299
TWE Neicheng 1.40 311 eP Pg 19 25 13.6 +0.2
baz=309
TWE eS Sn 19 25 30.6 +0.3
baz=309
EHY Hungye 1.41 258 eP Pn 19 25 12.7 +0.6
baz=256
EHY eS Sn 19 25 30.2 -0.4
baz=256
ENTT Nioudou 1.42 306 eP Pb 19 25 13.1 0.0
baz=304
CHKH Chenggong 1.44 245 eP Pn 19 25 12.8 +0.3
baz=235
CHKH eS Sn 19 25 29.1 -2.3
baz=235
EYUL Yuli 1.45 252 eP Pn 19 25 13.5 +0.9
baz=243
EYUL eS Sn 19 25 30.3 -1.4
baz=243
NNSB Datong 1.45 296 eP Pb 19 25 13.8 +0.1
baz=294
YULB Yu-li 1.46 254 P Pn 19 25 13.5 +0.7
baz=245
YULB eS Sn 19 25 30.9 -0.9
baz=245
WHF Hehuan Shan 1.46 284 eP Pn 19 25 13.8 +0.6
baz=281
WHF eS Sn 19 25 31.2 -1.4
baz=281
TWF1 Yuli 1.47 253 eP Pn 19 25 13.6 +0.7
baz=243
TWF1 eS Sn 19 25 31.5 -0.6
baz=243
FUSB Fushanzhiwuyua 1.48 311 eP Pg 19 25 15.4 +0.5
baz=308
FUSB eS Sn 19 25 31.9 -0.5
baz=308
TIPB Shuangxi 1.48 322 eP Pg 19 25 14.5 -0.5
baz=320
TIPB eS Sb 19 25 32.4 -0.4
baz=320
CHKT Chengkung 1.51 243 eP Pn 19 25 13.6 +0.2
baz=241
CHKT eS Sn 19 25 30.8 -2.3
baz=241
FUSS Fushou 1.51 287 eP Pn 19 25 14.4 +0.7
baz=285
FUSS eS Sn 19 25 32.7 -0.8
baz=285
OWD Renai 1.51 276 eP Pn 19 25 14.5 +0.8
baz=284
OWD eS Sn 19 25 31.8 -1.7
baz=284
FULB Fuli 1.52 247 eP Pn 19 25 14.1 +0.3
baz=237
FULB eS Sn 19 25 31.9 -1.7
baz=237
CHGB Renai 1.53 280 eP Pn 19 25 14.4 +0.4
baz=278
VWDT VWDT 1.54 269 eP Pn 19 25 14.9 +1.1
baz=258
VWDT eS Sn 19 25 33.0 -0.8
baz=258
NWLT Wulai 1.55 309 eP Pg 19 25 16.0 -0.2
baz=307
NWLT eS Sn 19 25 34.0 -0.1
baz=307
SXI1 Grass Mountain 1.55 326 eP Pb 19 25 14.9 -0.4
baz=324
SXI1 eS Sn 19 25 33.4 -0.8
baz=324
JISG Ishigakijimahi 1.57 60 P Pb 19 25 15.0 -0.6
JISG eS Sb 19 25 34.7 -0.7
WUSB Renai 1.57 277 eP Pn 19 25 15.3 +0.9
baz=283
WUSB eS Sn 19 25 33.8 -1.1
baz=283
YHNB Yeheng 1.58 304 eP Pb 19 25 15.4 -0.3
baz=301
YHNB eS Sn 19 25 33.1 -1.8
baz=301
TDCB Techi 1.58 287 eP Pb 19 25 15.8 -0.1
baz=285
TDCB eS Sn 19 25 32.5 -2.8
baz=285
NSK Sanguang 1.59 303 eP Pn 19 25 15.2 +0.5
baz=301
EHD Haiduan 1.62 247 eP Pn 19 25 15.9 +0.9
baz=238
EHD eS Sn 19 25 34.6 -1.3
baz=238
EDH Donghe 1.62 240 eP Pn 19 25 15.3 +0.4
baz=239
EDH eS Sn 19 25 33.7 -2.2
baz=239
LDUT Ludao 1.68 228 eP Pn 19 25 15.6 -0.2
baz=227
LDUT eS Sn 19 25 34.6 -2.6
baz=227
SSLB Suanglung 1.71 270 eP Pn 19 25 17.4 +1.1
baz=268
SSLB eS Sn 19 25 37.9 -0.3
baz=268
SMLT Sun Moon Lake 1.76 273 eP Pn 19 25 18.3 +1.3
baz=271
SMLT eS Sb 19 25 41.6 +0.6
baz=271
NFF Wufeng Townshi 1.76 298 eP Pb 19 25 19.1 +0.2
baz=286
NFF eS Sn 19 25 39.9 +0.4
baz=286
ELDTW Lidau 1.76 250 eP Pn 19 25 17.8 +0.6
baz=249
ELDTW eS Sn 19 25 37.9 -1.7
baz=249
WCS Beigang Elemen 1.77 279 eP Pn 19 25 18.5 +1.5
baz=277
WCS eS Sn 19 25 40.3 +0.8
baz=277
WHP Taichung City 1.78 286 eP Pb 19 25 19.9 +0.7
baz=284
WHP eS Sn 19 25 40.9 +0.9
baz=284
LONT Longtian 1.79 241 eP Pn 19 25 18.5 +1.1
baz=231
LONT eS Sn 19 25 37.5 -2.6
baz=231
TYC Yuchr 1.80 274 eP Pn 19 25 18.8 +1.4
baz=264
TYC eS Sn 19 25 40.7 +0.4
baz=264
WHYT Xinyi Township 1.81 267 eP Pn 19 25 19.3 +1.7
baz=265
WHYT eS Sn 19 25 42.2 +1.7
baz=265
LIOB Emei 1.85 297 eP Pb 19 25 20.3 -0.1
baz=288
LIOB eS Sn 19 25 42.2 +0.6
baz=288
TWGBT Beinan 1.88 239 eP Pn 19 25 19.7 +1.1
baz=231
TWG Pinlang 1.88 239 eP Pn 19 25 19.6 +1.0
baz=231
TWG eS Sn 19 25 41.5 -0.8
baz=231
CHN5 Tsauling 1.97 265 eP Pb 19 25 22.4 -0.2
baz=255
CHN5 eS Sb 19 25 47.5 +0.3
baz=255
STYH Taoyuan 1.98 252 eP Pn 19 25 21.6 +1.7
baz=243
STYH eS Sn 19 25 45.4 +0.7
baz=243
WCKO Fanlu 2.06 260 eP Pb 19 25 24.0 0.0
baz=259
WCKO eS Sb 19 25 49.6 -0.1
baz=259
TPUB Ta-pu 2.07 257 eP Pb 19 25 24.2 0.0
baz=255
TPUB eS Sn 19 25 48.4 +1.3
baz=255
WDLH Douliu 2.09 267 eP Pb 19 25 25.6 +1.1
baz=265
WDLH eS Sb 19 25 51.4 +0.9
baz=265
WTP Ta-pu 2.10 255 eP Pb 19 25 24.5 -0.2
baz=246
SLGT Liugui 2.15 249 eP Pn 19 25 24.6 +2.2
baz=241
SLGT eS Sn 19 25 50.3 +1.2
baz=241
CHN1 Nanshi 2.19 254 eP Pb 19 25 26.7 +0.4
baz=253
CHN1 eS Sb 19 25 53.5 +0.2
baz=253
TWK Hsinying 2.21 257 eP Pb 19 25 26.1 -0.4
baz=255
TWK eS Sn 19 25 52.8 +2.4
baz=255
SNST Tainan City 2.21 255 eP Pb 19 25 26.4 -0.1
baz=254
WTK Tuku 2.23 268 eP Pb 19 25 26.5 -0.4
baz=266
WTK eS Sb 19 25 54.1 -0.3
baz=266
TSMG Majia 2.28 242 eP Pn 19 25 26.4 +2.4
baz=236
EAST Anshuo 2.30 233 eP Pn 19 25 25.9 +1.5
baz=231
EAST eS Sn 19 25 52.5 -0.2
baz=231
SCST Cishan 2.32 247 eP Pb 19 25 27.7 -0.7
baz=246
SCST eS Sn 19 25 56.0 +2.8
baz=246
MASBT Mashibuluo 2.33 240 eP Pn 19 25 26.2 +1.3
baz=234
MASBT eS Sn 19 25 54.1 +0.6
baz=234

IDC 24 19:25:54.0±3.4, 5°.79S×151°.78E, h0km, mb3.1/3, mbtmp3.2/4, ML1.6/1, Error ellipse: s-maj=114.6km s-min=32.5km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.82**	**232**	Pn	Pn	19 27 22.9	+1.2
	1.1nm,0.3s,baz=58,slow=13,SNR=2.4						
PMG				Sn	Sn	19 28 24.4	-4.8
	3.2nm,0.3s,baz=60,slow=20,SNR=7.1 9.8nm,0.8s						
WRA	**Warramunga Arr**	**22.03**	**229**	P	P	19 30 50.0	-0.4
	0.3nm,0.5s,baz=53,slow=10,SNR=2.9 0.3nm,0.5s						
ASAR	**Alice Springs**	**24.74**	**222**	P	P	19 31 17.3	-0.1
	0.2nm,0.7s,baz=54,slow=10,SNR=1.7 0.2nm,0.7s						
SONM	**Songino Array**	**66.63**	**328**	P	P	19 36 47.1	+0.6
	0.2nm,0.4s,baz=134,slow=6.2,SNR=1.8 0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**149.63**	**286**	PKPbc	PKPbc	19 45 45.8	-1.0
	0.7nm,0.4s,baz=91,slow=3.2,SNR=11						

*BGR **24** 19:26:09.1, 20°.86S×176°.40W, h33km, Ms4.2, Hypocentre not reviewed by the ISC*
*NOU **24** 19:26:58.9, 19°.73S×177°.63W, h458km, mb4.5/54, Fiji Islands Region*
*NEIC **24** 19:26:58.5±2.0, 19°.86S±0°.08×177°.8W±0°.1, h431km±5km, mb4.3/107, Error ellipse: s-maj=14.6km s-min=11.7km az=74.0*
*IDC **24** 19:26:59.9±0.6, 19°.78S×177°.88W, h455km±6km, mb3.8/16, mbtmp4.6/17, Error ellipse: s-maj=14.5km s-min=10.1km az=157.0*
ISC 24 19:26:58.6±0.4, 19°.91S±0°.05×177°.79W±0°.05, h439km±4km, h439km; pP-P, n520, σ1s02/507, mb4.4/90, 33C-23D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.50**	**298**	P	**P**	**19 28 19.4**	**+1.7**
MSVF	**Nonsavu**	**4.50**	**298**	P	**P**	**19 28 18.2**	**+0.5**
NIUE	**Niue**	**7.46**	**85**	P	**P**	**19 28 47.3**	**-0.8**
NIUE	**Niue**	**7.46**	**85**	P	**P**	**19 28 47.0**	**-1.1**
NIUE					**S**	**19 30 16.5**	**-1.2**
NIUE	**Niue**	**7.46**	**85**	P	**P**	**19 28 47.3**	**-0.8**
	550nm,0.9s,SNR=5.0						
AFI	**Afiamalu**	**8.28**	**45**	P	P	19 28 51.8	-5.3
RAO	**Raoul Island**	**9.30**	**181**	S	**S**	**19 30 50.5**	**-4.1**
	128nm,0.3s,baz=269,slow=22,SNR=1.3						
GLKZ	**Green Lake**	**9.31**	**181**	P	**P**	**19 29 05.6**	**-2.5**
GLKZ				S	**S**	**19 30 54.9**	**+0.1**
FUNA	**Funafuti**	**11.69**	**345**	P	**P**	**19 29 32.7**	**-1.6**
PINNC	**Pines Island,**	**14.03**	**256**	P	**P**	**19 30 01.9**	**+2.3**
PINNC	**Pines Island,**	**14.03**	**256**	P	**P**	**19 30 00.9**	**+1.3**
LIFNC	**LIFOU**	**14.07**	**264**	P	**P**	**19 29 59.8**	**-0.3**
YATNC	**Mamie plateau,**	**14.47**	**259**	P	**P**	**19 30 06.0**	**+1.6**
DZM	**Mont Dzumac**	**14.89**	**259**	P	**P**	**19 30 10.6**	**+1.7**
DZM	**Mont Dzumac**	**14.89**	**259**	P	**P**	**19 30 09.4**	**+0.5**
DZM	**Mont Dzumac**	**14.89**	**259**	P	**P**	**19 30 09.8**	**+0.8**
	9.5nm,0.6s,baz=95,slow=23,SNR=13						
NOUC	**Port Laguerre**	**15.02**	**259**	P	**P**	**19 30 12.2**	**+2.0**
KOUNC	**Koumac, New Ca**	**16.84**	**265**	P	**P**	**19 30 30.7**	**+1.1**
KOUNC	**Koumac, New Ca**	**16.84**	**265**	P	**P**	**19 30 30.1**	**+0.5**
OUZ	**Omahuta**	**17.05**	**205**	P	**P**	**19 30 33.8**	**+2.2**
OUZ	**Omahuta**	**17.05**	**205**	P	**P**	**19 30 34.2**	**+2.7**
WCZ	**Waipu Caves**	**17.41**	**202**	P	**P**	**19 30 37.7**	**+2.4**
KUZ	**Kuaotunu**	**17.71**	**197**	P	**P**	**19 30 40.2**	**+1.6**
KUZ	**Kuaotunu**	**17.71**	**197**	P	**P**	**19 30 39.1**	**+0.5**
MXZ	**Matakaoa Point**	**17.92**	**190**	P	**P**	**19 30 41.2**	**+0.5**
MXZ	**Matakaoa Point**	**17.92**	**190**	P	**P**	**19 30 42.2**	**+1.5**
WMGZ	**Waiomatatini S**	**18.15**	**190**	P	**P**	**19 30 45.0**	**+1.8**
WMGZ				S	**S**	**19 33 50.6**	**+3.1**
HAZ	**Te Kaha**	**18.20**	**191**	P	**P**	**19 30 43.1**	**-0.5**
HAZ				S	**S**	**19 33 51.5**	**+3.2**
MKAZ	**Moumakai**	**18.21**	**198**	P	**P**	**19 30 45.8**	**+2.1**
PKGZ	**Pakihiroa**	**18.25**	**190**	P	**P**	**19 30 46.6**	**+2.4**
RUGZ	**Raukumara Rang**	**18.42**	**191**	P	**P**	**19 30 45.9**	**0.0**
RUGZ				S	**S**	**19 33 56.8**	**+4.5**
PUZ	**Puketiti**	**18.42**	**190**	P	**P**	**19 30 48.0**	**+2.2**
TWGZ	**Tauwhareparae**	**18.57**	**191**	P	**P**	**19 30 47.4**	**+0.1**
TOZ	**Tahuroa Road**	**18.70**	**197**	P	**P**	**19 30 48.8**	**+0.4**
TOZ				IAmb	IAmb	19 30 51.5	
	comp=Z,11nm,0.7s						
TOZ	**Tahuroa Road**	**18.70**	**197**	P	**P**	**19 30 50.3**	**+1.9**
TOZ				S	S	19 34 36.4	+40
MWZ	**Matawai**	**18.81**	**191**	P	**P**	**19 30 49.7**	**+0.2**
MWZ				S	**S**	**19 33 57.4**	**-1.0**
URZ	**Urewera**	**18.82**	**193**	P	**P**	**19 30 50.6**	**+1.0**
URZ	**Urewera**	**18.82**	**193**	P	**P**	**19 30 46.4**	**-3.1**
	comp=Z,8.0nm,0.3s,baz=351,slow=4.0,SNR=25						
URZ				S	**S**	**19 33 56.3**	**-2.2**
	comp=Z,4.3nm,0.6s,baz=94,slow=13,SNR=1.7						
URZ	**Urewera**	**18.82**	**193**	P	**P**	**19 30 48.5**	**-1.1**
URZ				S	**S**	**19 33 58.9**	**+0.4**
CNGZ	**Carnagh Statio**	**18.84**	**190**	P	**P**	**19 30 51.3**	**+1.6**
RAGZ	**Rawiri**	**18.98**	**192**	P	**P**	**19 30 50.5**	**-0.8**
MUGZ	**Murupara**	**19.10**	**193**	P	**P**	**19 30 51.6**	**-0.6**
RTZ	**Ruatahuna**	**19.19**	**193**	P	**P**	**19 30 52.6**	**-0.5**
BKZ	**Black Stump Fm**	**19.82**	**193**	P	**P**	**19 30 59.9**	**+1.0**
BFZ	**Birch Farm**	**21.33**	**193**	P	**P**	**19 31 13.7**	**+1.1**
MRZ	**Mangatainoka R**	**21.45**	**194**	P	**P**	**19 31 12.4**	**-1.3**
MRZ				IAmb	IAmb	19 31 23.9	
	comp=Z,15nm,1.0s						
SNZO	**South Karori**	**22.27**	**195**	P	**P**	**19 31 22.0**	**+0.9**
QRZ	**Quartz Range**	**22.43**	**200**	P	**P**	**19 31 23.3**	**+0.7**
TUWZ	**Tuamarina**	**22.58**	**196**	P	**P**	**19 31 24.3**	**+0.4**
KHZ	**Kahutara**	**23.61**	**196**	P	**P**	**19 31 34.1**	**+1.0**
RPZ	**Rata Peaks**	**25.51**	**199**	P	**P**	**19 31 50.7**	**+0.6**
JCZ	**Jackson Bay**	**26.58**	**202**	P	**P**	**19 32 00.2**	**+0.6**
WHZ	**Wether Hill Ro**	**28.46**	**201**	P	**P**	**19 32 17.2**	**+1.1**
EIDS	**Eidsvold**	**29.20**	**253**	P	**P**	**19 32 23.0**	**+0.1**
EIDS	**Eidsvold**	**29.20**	**253**	P	**P**	**19 32 23.1**	**+0.2**
	comp=Z,14nm,1.9s,SNR=2.6						
ARMA	**Armidale**	**29.51**	**243**	P	**P**	**19 32 27.1**	**+1.5**
ARMA	**Armidale**	**29.51**	**243**	P	**P**	**19 32 26.2**	**+0.6**
ARMA	**Armidale**	**29.51**	**243**	P	**P**	**19 32 26.8**	**+1.2**
	comp=Z,29nm,0.9s,SNR=3.2						
CNB	**Canberra Magne**	**32.73**	**235**	P	**P**	**19 32 54.8**	**+1.5**
CNB	**Canberra Magne**	**32.73**	**235**	P	**P**	**19 32 54.5**	**+1.1**
	comp=Z,37nm,1.1s,SNR=2.3						
CAN	**Canberra**	**33.01**	**235**	P	**P**	**19 32 56.9**	**+1.2**
YNG	**Young**	**33.17**	**237**	P	**P**	**19 32 57.8**	**+0.7**
TV1H	**Townsville Har**	**33.34**	**265**	P	**P**	**19 32 58.7**	**+0.1**
CTA	**Charters Tower**	**33.75**	**263**	P	**P**	**19 33 02.1**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=89,slow=9.6,SNR=75 comp=Z,1.9nm,0.3s						
CTAO	**Charters Tower**	**33.75**	**263**	P	**P**	**19 33 02.6**	**+0.4**
CMSA	**Cobar Meteorol**	**34.73**	**243**	P	**P**	**19 33 10.8**	**+0.5**
CMSA	**Cobar Meteorol**	**34.73**	**243**	P	**P**	**19 33 10.8**	**+0.5**
	comp=Z,47nm,0.9s,SNR=4.7						
PMG	**Port Moresby**	**35.41**	**282**	P	**P**	**19 33 15.8**	**-0.4**
PMG	**Port Moresby**	**35.41**	**282**	P	**P**	**19 33 16.0**	**-0.2**
	comp=Z,34nm,1.0s,baz=48,slow=4.0,SNR=5.1 comp=Z,34nm,1.0s						
QLP	**Quilpie**	**35.43**	**252**	P	**P**	**19 33 16.9**	**+0.7**
QLP	**Quilpie**	**35.43**	**252**	P	**P**	**19 33 16.7**	**+0.5**
	comp=Z,46nm,1.2s,SNR=3.6						
MTSU	**Mount Surprise**	**35.83**	**266**	P	**P**	**19 33 19.7**	**0.0**
TOO	**Toolangi**	**36.41**	**233**	P	**P**	**19 33 25.0**	**+0.7**
COEN	**Coen**	**37.75**	**273**	P	**P**	**19 33 35.7**	**+0.1**
COEN	**Coen**	**37.75**	**273**	P	**P**	**19 33 35.8**	**+0.1**
	comp=Z,32nm,1.0s,SNR=3.9						
STKA	**Stephens Creek**	**38.23**	**244**	P	**P**	**19 33 39.6**	**+0.2**
STKA	**Stephens Creek**	**38.23**	**244**	P	**P**	**19 33 40.1**	**+0.7**
	comp=Z,5.7nm,0.9s,SNR=2.4						
STKA	**Stephens Creek**	**38.23**	**244**	P	**P**	**19 33 39.3**	**-0.1**
	comp=Z,14nm,0.7s,baz=91,slow=11,SNR=18 comp=Z,14nm,0.7s						
INKA	**Innaminka**	**38.59**	**250**	P	**P**	**19 33 43.2**	**+0.9**
ARPS	**Mount Arapiles**	**38.98**	**236**	P	**P**	**19 33 46.0**	**+0.5**
QIS	**Mount Isa**	**39.90**	**261**	P	**P**	**19 33 53.3**	**+0.1**
QIS	**Mount Isa**	**39.90**	**261**	P	**P**	**19 33 52.3**	**-0.9**
	comp=Z,11nm,1.3s,SNR=2.3						
HTT	**Hallett**	**40.68**	**242**	P	**P**	**19 33 59.8**	**+0.5**
HTT	**Hallett**	**40.68**	**242**	P	**P**	**19 33 59.6**	**+0.3**
	comp=Z,32nm,1.4s,SNR=1.7						
LCRK	**Leigh Creek**	**40.96**	**246**	P	**P**	**19 34 02.0**	**+0.5**
BBOO	**Buckleboo**	**42.99**	**243**	P	**P**	**19 34 17.8**	**+0.1**
BBOO	**Buckleboo**	**42.99**	**243**	P	**P**	**19 34 17.8**	**+0.1**
	comp=Z,46nm,0.6s,SNR=1.6						
OOD	**Oodnadatta**	**43.07**	**250**	P	**P**	**19 34 19.3**	**+1.0**
MULG	**Mulgathing**	**44.53**	**247**	P	**P**	**19 34 29.8**	**0.0**
WR0	**Warramunga Arr**	**44.70**	**261**	P	**P**	**19 34 29.9**	**-1.3**
AS01	**Alice Springs**	**44.81**	**256**	P	**P**	**19 34 32.1**	**0.0**
AS31	**Alice Springs**	**44.85**	**256**	P	**P**	**19 34 31.6**	**-0.8**
AS31				IAmb	IAmb	19 34 33.3	
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**44.85**	**256**	P	**P**	**19 34 31.8**	**-0.6**
ASAR	**Alice Springs**	**44.85**	**256**	P	**P**	**19 34 32.2**	**-0.2**
	comp=Z,40nm,0.6s,baz=92,slow=8.0,SNR=560						
ASAR				PcP	**PcP**	**19 36 04.7**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=87,slow=7.6,SNR=2.9						
ASAR				S	**S**	**19 40 34.6**	**-2.5**
	comp=Z,2.6nm,0.8s,baz=93,slow=16,SNR=15 comp=Z,40nm,0.6s						
ASPA	**Alice Springs**	**44.86**	**256**	P	**P**	**19 34 32.2**	**-0.2**
	comp=Z,17nm,0.7s,SNR=22						
WB0	**Warramunga Arr**	**44.86**	**262**	P	**P**	**19 34 31.6**	**-0.9**
WB2	**Warramunga Arr**	**44.87**	**261**	P	**P**	**19 34 30.9**	**-1.7**
WRAB	**Tennant Creek**	**44.88**	**261**	P	**P**	**19 34 31.2**	**-1.4**
WRAB				IAmb	IAmb	19 34 32.4	
	comp=Z,24nm,1.1s						
WRA	**Warramunga Arr**	**44.88**	**261**	P	**P**	**19 34 31.2**	**-1.5**
WRA	**Warramunga Arr**	**44.88**	**261**	P	**P**	**19 34 31.9**	**-0.8**
	comp=Z,8.2nm,0.3s,baz=98,slow=5.8,SNR=350						
WRA				S	**S**	**19 40 31.1**	**-6.5**
	comp=Z,0.6nm,0.9s,baz=93,slow=13,SNR=3.8 comp=Z,8.2nm,0.3s						
KDU	**Kakadu**	**48.14**	**271**	P	**P**	**19 34 57.2**	**-0.3**
KDU	**Kakadu**	**48.14**	**271**	P	**P**	**19 34 56.9**	**-0.7**
	comp=Z,22nm,0.9s,SNR=3.2						
MTN	**Manton Dam**	**49.36**	**270**	P	**P**	**19 35 06.2**	**-0.5**
MTN	**Manton Dam**	**49.36**	**270**	P	**P**	**19 35 05.0**	**-1.6**
MTN				IAmb	IAmb	19 35 07.2	
	comp=Z,16nm,0.7s						
MTN	**Manton Dam**	**49.36**	**270**	P	**P**	**19 35 05.8**	**-0.9**
	comp=Z,23nm,0.8s,SNR=2.9						
FORT	**Forrest**	**49.72**	**246**	P	**P**	**19 35 08.9**	**-0.2**
FORT	**Forrest**	**49.72**	**246**	P	**P**	**19 35 08.6**	**-0.5**
	comp=Z,59nm,0.6s,SNR=3.3						
WRKA	**Warakurna**	**49.82**	**254**	P	**P**	**19 35 10.0**	**-0.1**
WRKA	**Warakurna**	**49.82**	**254**	P	**P**	**19 35 09.9**	**-0.1**
	comp=Z,45nm,0.8s,SNR=5.3						
KNRA	**Kununurra**	**50.90**	**266**	P	**P**	**19 35 17.5**	**-0.5**
	comp=Z,29nm,0.9s,SNR=4.0						
FAKI	**Fak Fak**	**51.57**	**283**	P	**P**	**19 35 22.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.31**	**262**	P	**P**	**19 35 35.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**53.31**	**262**	P	**P**	**19 35 35.4**	**-0.1**
	comp=Z,277nm,1.2s,SNR=1.7						
SOEI	**Soe**	**56.69**	**271**	P	**P**	**19 35 59.7**	**+0.2**
SOEI	**Soe**	**56.69**	**271**	P	**P**	**19 35 59.6**	**+0.2**
PSA00	**Pilbara Seismi**	**58.00**	**257**	P	**P**	**19 36 07.9**	**-0.4**
PSA00	**Pilbara Seismi**	**58.00**	**257**	P	**P**	**19 36 07.1**	**-1.2**
PSA00	**Pilbara Seismi**	**58.00**	**257**	P	**P**	**19 36 06.7**	**-1.6**
PSA00				IAmb	IAmb	19 36 08.4	
	comp=Z,6.1nm,0.9s						
PSA00	**Pilbara Seismi**	**58.00**	**257**	P	**P**	**19 36 07.9**	**-0.4**
	comp=Z,39nm,2.5s,SNR=2.7						
PSAC1	**Pilbara Seismi**	**58.04**	**257**	P	**P**	**19 36 07.9**	**-0.6**
	comp=Z,29nm,0.9s,SNR=2.1						
MBWA	**Marble Bar**	**58.18**	**257**	P	**P**	**19 36 09.2**	**-0.3**
MEEK	**Meekatharra**	**58.30**	**250**	P	**P**	**19 36 09.8**	**-0.5**
SBA	**Scott Base**	**58.47**	**184**	P	**P**	**19 36 10.9**	**+0.4**
SBA				IAmb	IAmb	19 36 16.4	
	comp=Z,19nm,1.1s						
KLBR	**Kellerberrin**	**58.49**	**245**	P	**P**	**19 36 11.2**	**-0.3**
VNDA	**Vanda**	**58.51**	**185**	P	**P**	**19 36 11.9**	**+1.1**
VNDA	**Vanda**	**58.51**	**185**	P	**P**	**19 36 11.3**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=25,slow=3.6,SNR=4.2 comp=Z,1.7nm,0.5s						
BLDU	**Ballidu**	**59.48**	**246**	P	**P**	**19 36 18.0**	**-0.2**
MUN	**Mundaring**	**59.76**	**244**	P	**P**	**19 36 20.1**	**0.0**
MORW	**Morawa**	**60.24**	**247**	P	**P**	**19 36 23.4**	**+0.1**
MJAR	**Matsushiro Arr**	**69.86**	**323**	P	**P**	**19 37 22.2**	**-1.8**
	comp=Z,2.0nm,0.7s,baz=155,slow=6.4,SNR=8.1 comp=Z,2.0nm,0.7s						
QSPA	**South Pole Qui**	**70.16**	**180**	P	**P**	**19 37 26.8**	**+1.3**
QSPA	**South Pole Qui**	**70.16**	**180**	P	**P**	**19 37 26.5**	**+1.0**
	comp=Z,9.2nm,0.9s,baz=337,slow=0.7,SNR=37 comp=Z,9.2nm,0.9s						
JKA	**Kamikawa-asahi**	**73.30**	**331**	P	**P**	**19 37 44.0**	**-0.1**
JKA				IAmb	IAmb	19 37 46.1	
	comp=Z,13nm,1.4s						
SCI2	**San Clemente I**	**77.22**	**48**	P	**P**	**19 38 07.4**	**+1.1**
	baz=236						
PKM	**Mcpherson Peak**	**77.44**	**46**	P	**P**	**19 38 08.5**	**+0.8**
	baz=235						
CHIR	**Chirikof Islan**	**77.74**	**13**	P	**P**	**19 38 10.1**	**+1.6**
	baz=201						
MURC	**Murrieta**	**78.51**	**48**	P	**P**	**19 38 14.3**	**+0.9**
	baz=237						
BFSC	**Mount Baldy Ra**	**78.54**	**47**	P	**P**	**19 38 14.5**	**+0.9**

baz=236
USA0B **Ussuriysk Arra** 78.59 326 P P 19 38 13.4 -0.1
USA0B IAmb IAmb 19 38 30.4
comp=Z,7.3nm,0.7s
USRK **Ussuriysk Ar.** 78.59 326 P P 19 38 13.6 +0.2
EDW2 **Edwards Air Fo** 78.67 46 P P 19 38 15.2 +1.0
baz=236
MONP2 **Monument Peak** 78.67 49 P P 19 38 15.5 +1.1
baz=237
O02D **Mt. Diablo Mer** 78.69 40 P P 19 38 14.6 +0.3
O02D IAmb IAmb 19 38 18.4
comp=Z,4.4nm,0.8s
IKP **In-Ko-Pah, Jac** 78.76 49 P P 19 38 16.5 +1.7
baz=238
ISA **Isabella, Lake** 78.78 46 P P 19 38 15.6 +0.8
baz=236
CMB **Columbia Colle** 78.89 43 P P 19 38 15.8 +0.4
PFO **Pinyon Flats O** 79.03 48 P P 19 38 17.6 +1.3
baz=237
TPFO **Pinon Flats** 79.03 48 P P 19 38 17.6 +1.3
baz=237
SMAI **San Martin Ant** 79.08 159 P P 19 38 17.5 +1.8
CWC **Cottonwood Cre** 79.48 45 P P 19 38 19.8 +1.2
baz=236
BELC **Belle Mtn. Jos** 79.56 48 P P 19 38 20.3 +1.2
baz=237
MPMC **Manual Prospec** 79.66 46 P P 19 38 21.3 +1.7
baz=236
YBH **Yreka Blue Hor** 79.70 39 P P 19 38 20.4 +0.8
GSC **Goldstone, Bar** 79.71 47 P P 19 38 20.8 +1.0
baz=237
BC3 **Big Chuckawall** 79.76 49 P P 19 38 20.7 +0.5
baz=238
WAKR **Walker** 79.77 43 P P 19 38 19.8 -0.4
HEC **Hector,Ludlow** 79.78 47 P P 19 38 20.8 +0.6
baz=237
Q17K **Contact Creek** 79.97 12 P P 19 38 23.3 +2.7
baz=201
O14K **Tigyukauivet M** 80.03 9 P P 19 38 23.0 +2.3
baz=196
DSP **Deep Springs** 80.08 44 P P 19 38 22.0 +0.5
BELA **Belgrano 2** 80.12 173 P P 19 38 21.3 +0.1
BELA IAmb IAmb 19 38 23.4
comp=Z,10nm,0.9s
O15K **Ungalikthiuk R** 80.17 9 P P 19 38 23.3 +1.8
baz=197
YERR **Yerington** 80.18 42 P P 19 38 22.1 -0.2
YERR IAmb IAmb 19 38 25.3
comp=Z,4.4nm,0.6s
GMRC **Granite Mounta** 80.22 48 P P 19 38 23.9 +1.3
baz=238
IRM **Iron Mountain** 80.25 48 P P 19 38 23.4 +0.9
baz=238
GRAC **Grapevine Rang** 80.27 45 P P 19 38 24.2 +1.6
baz=236
TUQ **Turquoise Moun** 80.39 47 P P 19 38 24.9 +1.5
baz=237
NVAR **Mina Array Bea** 80.46 43 P P 19 38 24.5 +0.7
comp=Z,1.3nm,0.7s,baz=227,slow=9.2,SNR=11
NVAR pP pwP 19 40 03.2 -0.5
comp=Z,0.5nm,0.8s,baz=204,slow=8.7,SNR=1.6
comp=Z,1.3nm,0.7s
Q18K **Katmai Hardscr** 80.50 12 P P 19 38 24.0 +0.6
baz=202
GMN **Gold Mountain** 80.50 45 P P 19 38 24.8 +0.7
PAHR **Pah Rah Range** 80.50 42 P P 19 38 25.2 +1.2
M11K **Mekoryuk** 80.56 6 P P 19 38 24.9 +1.4
baz=191
N14K **Kuskokwak Cree** 80.62 8 P P 19 38 24.9 +1.1
baz=195
214A **Organ Pipe Nat** 80.79 51 P P 19 38 25.9 +0.4
baz=240
M13K **Dall Lake** 80.89 7 P P 19 38 26.5 +1.3
baz=194
TPNV **Topopah Spring** 80.98 45 P P 19 38 26.9 +0.3
baz=237
PDMCI **Parker Dam,Lak** 81.03 49 P P 19 38 27.5 +0.9
baz=238
M14K **Bethel** 81.39 8 P P 19 38 30.2 +2.4
baz=195
M15K **Kasigluk River** 81.50 8 P P 19 38 30.2 +1.8
baz=196
J05D **Fort Rock, OR** 81.52 38 P P 19 38 29.7 +0.6
N16K **Nishlik Lake** 81.57 9 P P 19 38 30.3 +1.5
baz=198
O18K **Koktuh Hills** 81.59 11 P P 19 38 30.0 +1.1
baz=201
L14K **Kuka Creek** 81.87 7 P P 19 38 31.1 +0.8
baz=194
M16K **Timber Creek** 82.06 9 P P 19 38 31.5 +0.2
M16K **Timber Creek** 82.06 9 P P 19 38 32.3 +1.0
baz=198,SNR=5.4
MAW **Mawson** 82.19 200 P P 19 38 32.6 +0.7
comp=Z,2.4nm,0.6s,baz=180,slow=9.1,SNR=3.8
comp=Z,2.4nm,0.6s
R11B **Troy Canyon, C** 82.19 45 P P 19 38 33.6 +0.9
baz=237
K13K **Kusilvak Mount** 82.23 6 P P 19 38 32.3 +0.2
baz=192
L15K **Ungalak Mounta** 82.35 8 P P 19 38 33.1 +0.4
baz=195
TUC **Tucson** 82.46 52 P P 19 38 35.6 +1.4
TUC IAmb IAmb 19 38 38.4
comp=Z,4.2nm,0.8s
N19K **Bonanza Creek** 82.61 11 P P 19 38 34.0 -0.2
baz=202
L16K **Owhat River** 82.65 9 IAmb IAmb 19 38 35.8
comp=Z,8.5nm,0.9s
L16K **Owhat River** 82.65 9 P P 19 38 34.8 +0.5
baz=197
M17K **Holitna River** 82.66 10 P P 19 38 34.8 +0.5
baz=199
K15K **Wolf Creek Mou** 82.94 8 P P 19 38 36.0 +0.3
baz=195,SNR=9.4
I07A **Izee** 83.00 38 P P 19 38 37.5 +0.9
I07A IAmb IAmb 19 38 39.0
comp=Z,4.1nm,0.7s
M18K **Stony River** 83.01 10 P P 19 38 36.7 +0.6
baz=201
X16A **Lo Mia Camp, P** 83.01 50 IAmb IAmb 19 38 41.5
comp=Z,4.8nm,0.9s
Q12A **Willow Creek R** 83.06 44 P P 19 38 38.0 +0.9
Q12A IAmb IAmb 19 38 40.1
comp=Z,3.2nm,0.7s
319A **Douglas** 83.13 53 P P 19 38 38.6 +1.0
Q23K **Middleton Isla** 83.14 16 P P 19 38 37.2 +0.4
baz=210
J14K **Nanvaranak Lak** 83.14 7 P P 19 38 36.8 +0.1
baz=193
L17K **Donlin** 83.22 9 P P 19 38 37.6 +0.5
baz=198
CCUT **Cedar City** 83.25 46 IAmb IAmb 19 38 41.8
comp=Z,3.4nm,0.8s
O22K **Cooper Landing** 83.27 14 P P 19 38 38.5 +1.1
baz=206
KNB **Kanab** 83.35 47 IAmb IAmb 19 38 42.2
comp=Z,4.2nm,0.9s
U15A **North Rim** 83.42 48 P P 19 38 39.9 +0.7
U15A IAmb IAmb 19 38 42.8
comp=Z,5.6nm,0.7s
GAMB **Gambell** 83.54 3 P P 19 38 39.7 +1.0
baz=186
L18K **Granite Mounta** 83.55 10 IAmb IAmb 19 38 40.2
comp=Z,6.3nm,0.8s
L18K **Granite Mounta** 83.55 10 P P 19 38 39.9 +1.1
baz=200
WUAZ **Wupatki** 83.60 49 P P 19 38 39.2 -0.7
baz=240
M19K **Big River Lodg** 83.64 11 P P 19 38 39.0 -0.3
baz=202
ELK **Elko** 83.71 43 P P 19 38 40.8 +0.4
K17K **Iditarod** 83.78 9 P P 19 38 40.3 +0.4
baz=198
L19K **White Mountain** 83.82 11 P P 19 38 40.4 +0.2
baz=202
M20K **Styx River** 83.85 11 P P 19 38 40.5 +0.1
baz=203
PWL **Port Wells** 83.92 14 P P 19 38 40.6 -0.1
baz=208
SUA **Susitna One** 83.94 13 P P 19 38 40.7 -0.2
baz=205
J16K **Anvik River** 84.01 8 IAmb IAmb 19 38 42.5
comp=Z,3.3nm,0.7s
J16K **Anvik River** 84.01 8 P P 19 38 41.2 +0.1
baz=196
CRAG **Craig** 84.10 24 P P 19 38 42.1 +0.5
baz=222

J17K **VABM Dome** 84.32 8 P P 19 38 42.6 0.0
baz=198
J18K **Innoko River** 84.72 9 IAmb IAmb 19 38 45.6
comp=Z,5.7nm,0.8s
J18K **Innoko River** 84.72 9 P P 19 38 44.2 -0.4
baz=200
ANM **Nome** 84.75 5 P P 19 38 45.9 +1.3
baz=192
S31K **Pelican** 84.90 21 P P 19 38 45.8 +0.3
baz=219
BMRM **Bremner River** 84.91 16 P P 19 38 46.4 +0.7
baz=211
SCM **Sheep Creek Mo** 85.01 14 P P 19 38 46.4 +0.2
baz=208
KLU **Klutina** 85.04 15 P P 19 38 46.7 +0.3
baz=210
K20K **Telida** 85.05 10 P P 19 38 45.6 -0.6
K20K IAmb IAmb 19 38 46.9
comp=Z,5.6nm,0.8s
K20K **Telida** 85.05 10 P P 19 38 46.7 +0.5
baz=202
CRQE **Cirque** 85.12 16 P P 19 38 47.5 +0.7
baz=212
H16K **Elim** 85.13 7 P P 19 38 47.6 +1.0
baz=195
PNL **Peninsula** 85.26 18 P P 19 38 47.9 +0.6
baz=216
G15K **Niukluk** 85.29 6 P P 19 38 47.4 +0.1
baz=193
PINM **Pinnacle** 85.36 18 P P 19 38 47.8 -0.1
baz=215
J19K **Poorman** 85.39 10 P P 19 38 48.3 +0.4
baz=201
F10A **Beach Ranch, E** 85.41 38 IAmb IAmb 19 38 50.3
comp=Z,4.1nm,0.7s
N25K **Chitina, Valde** 85.46 15 IAmb IAmb 19 38 49.1
comp=Z,6.7nm,0.8s
N25K **Chitina, Valde** 85.46 15 P P 19 38 48.6 +0.2
baz=211
M24K **Tolsona, Glenn** 85.52 14 P P 19 38 48.5 -0.1
baz=210
TNA **Tin City** 85.53 4 P P 19 38 48.4 -0.1
baz=189
F14K **Arctic Creek** 85.56 5 P P 19 38 49.3 +0.7
baz=191
WAT6 **Susitna Watana** 85.58 13 P P 19 38 49.5 +0.5
baz=208
TMUT **Trail Mountain** 85.60 46 IAmb IAmb 19 38 53.2
comp=Z,3.2nm,0.7s
WAT1 **Susitna Watana** 85.63 13 P P 19 38 49.5 +0.4
baz=207
MCARA **McCarthy VSAT** 85.67 16 P P 19 38 50.1 +0.8
baz=212
R32K **Eaglecrest** 85.72 21 P P 19 38 49.6 +0.1
baz=220
HLID **Hailey** 85.75 41 P P 19 38 50.7 +0.3
HLID **Hailey** 85.75 41 P P 19 38 50.3 0.0
baz=237
CTG **Chitna Glacier** 85.77 17 P P 19 38 50.3 +0.4
baz=214
J20K **Nowinta River** 85.80 10 P P 19 38 49.4 -0.4
J20K IAmb IAmb 19 38 52.0
comp=Z,2.7nm,0.7s
J20K **Nowinta River** 85.80 10 P P 19 38 50.2 +0.4
baz=202
O28M **Mount Upton** 85.93 17 P P 19 38 51.2 +0.3
baz=215
F15K **North Star Dit** 85.93 5 P P 19 38 51.4 +1.0
baz=192
PLBC **Pleasant Camp** 86.02 20 P P 19 38 51.9 +0.9
baz=218
DHY **Denali Highway** 86.10 13 P P 19 38 51.9 +0.4
baz=208
G17K **Kiwalik Mounta** 86.14 7 P P 19 38 51.9 +0.5
baz=196
VHRN **Van Horn** 86.15 55 IAmb IAmb 19 38 56.4
comp=Z,5.7nm,0.9s
MNTX **Cornudas Mount** 86.25 55 P P 19 38 53.6 +0.8
baz=244
BPAW **Bear Paw Mtn.** 86.29 11 P P 19 38 52.7 +0.5
baz=205
I20K **Naaghedeneel** 86.32 10 P P 19 38 52.9 +0.6
baz=202
MCK **McKinley** 86.35 12 P P 19 38 52.9 +0.4
baz=207
P30M **Million Dollar** 86.36 19 P P 19 38 53.4 +0.7
baz=218
PAX **Paxson** 86.43 14 P P 19 38 52.9 -0.1
baz=210
MVCO **Mesa Verde** 86.45 48 P P 19 38 53.4 -0.5
baz=242
M26K **Nabesna, AK** 86.54 15 P P 19 38 53.7 +0.2
baz=212
TXAR **Lajitas Array** 86.57 57 P P 19 38 55.4 +0.9
TXAR **Lajitas Array** 86.57 57 P P 19 38 55.6 +1.1
comp=Z,1.6nm,0.6s,baz=217,slow=6.5,SNR=19
TXAR pP pwP 19 40 36.7 +0.5
comp=Z,0.6nm,1.0s,baz=221,slow=10,SNR=2.9
comp=Z,1.6nm,0.6s
YUK6 **Outpost Mounta** 86.59 18 P P 19 38 53.8 -0.2
baz=217
YUK3 **Moose Creek** 86.68 17 P P 19 38 54.2 -0.2
baz=215
H19K **Roundabout Mou** 86.71 9 P P 19 38 53.9 -0.2
baz=200
G18K **Tagagawik** 86.76 8 P P 19 38 54.4 0.0
baz=198
NEW **Newport** 86.78 36 P P 19 38 54.3 -0.6
baz=235
M27K **Edge Creek, AK** 86.79 16 IAmb IAmb 19 38 56.1
comp=Z,5.1nm,0.9s
M27K **Edge Creek, AK** 86.79 16 P P 19 38 54.4 -0.4
baz=214
ANMO **Albuquerque** 86.88 51 P P 19 38 55.8 -0.1
ANMO **Albuquerque** 86.88 51 P P 19 38 55.1 -0.8
baz=243
H20K **Anotleneega Mo** 86.91 9 P P 19 38 55.4 +0.3
baz=202
F17K **Baldwin Pennin** 86.98 7 P P 19 38 56.0 +0.7
baz=196
P32M **Attin** 86.99 21 P P 19 38 56.2 +0.6
baz=221
Q32M **Nakina River** 87.01 22 P P 19 38 56.2 +0.2
baz=222
ALPN **Alpine** 87.03 56 IAmb IAmb 19 39 00.3
comp=Z,4.3nm,0.9s
O30N **Mendenhall** 87.14 19 P P 19 38 56.9 +0.6
baz=219
MLY **Manley** 87.18 11 P P 19 38 56.8 +0.4
baz=205
WRH **Wood River Hil** 87.18 12 IAmb IAmb 19 38 56.6
comp=Z,6.5nm,0.9s
G19K **Purcell Mounta** 87.20 8 P P 19 38 56.5 0.0
baz=199
ELIB **Princess Elisa** 87.25 186 dP P 19 38 57.2 +0.2
comp=Z,4.8nm,0.6s
HDA **Harding Lake** 87.36 13 IAmb IAmb 19 38 58.6
comp=Z,8.2nm,1.2s
HDA **Harding Lake** 87.36 13 P P 19 38 57.4 +0.2
baz=209
L27K **Beaver Creek,** 87.39 16 P P 19 38 58.0 +0.5
baz=214
H21K **Melozitna Rive** 87.39 10 P P 19 38 57.0 -0.4
baz=203
CCB **Clear Creek Bu** 87.40 12 P P 19 38 56.3 -1.1
CCB IAmb IAmb 19 38 57.3
comp=Z,4.8nm,0.6s
CCB pP pP 19 40 34.4 -1.6
WHY **Whitehorse** 87.43 20 P P 19 38 57.9 +0.1
baz=220
I23K **Minto, Yukon-K** 87.54 12 P P 19 38 58.7 +0.7
baz=207
E17K **Hotham Inlet** 87.54 6 P P 19 38 58.4 +0.4
baz=195
MDM **Murphy Dome** 87.59 12 P P 19 38 57.3 -1.1
MDM IAmb IAmb 19 38 58.3
comp=Z,6.1nm,0.9s
MDM pP 19 40 37.4 +0.4
SCRK **Sand Creek** 87.64 14 P P 19 38 58.6 -0.2
baz=212
ILAR **Eielson Array** 87.69 13 P P 19 38 58.2 -0.6
ILAR pP 19 40 36.5 -1.0
ILAR **Eielson Array** 87.69 13 P P 19 38 56.9 -1.9
comp=Z,2.0nm,0.8s,baz=228,slow=5.4,SNR=16
ILAR pP pP 19 40 38.8 +1.2
comp=Z,3.3nm,1.1s,baz=225,slow=6.2,SNR=11
comp=Z,2.0nm,0.8s
F19K **Shaleruckik Mo** 87.77 8 IAmb IAmb 19 38 59.6

comp=Z,2.5nm,0.7s
F19K **Shaleruckik Mo** 87.77 8 P P 19 38 58.6 -0.5
baz=199
M29M **Somme Creek** 87.77 17 P P 19 38 59.6 +0.2
baz=217
R33M **Jennings River** 87.78 22 P P 19 38 59.7 +0.2
baz=223
N31M **Braeburn, Yuko** 87.79 19 P P 19 38 59.9 +0.5
baz=219
H22K **Ishtalitna Cre** 87.85 11 P P 19 38 59.7 +0.2
baz=205
S22A **4UR Ranch, Cre** 87.88 49 IAmb IAmb 19 39 03.9
comp=Z,2.8nm,0.7s
S22A **4UR Ranch, Cre** 87.88 49 P P 19 39 00.5 -0.2
baz=243
J25K **Salcha River,** 87.88 13 P P 19 38 59.8 0.0
J25K pP 19 40 37.5 -1.0
J25K **Salcha River,** 87.88 13 P P 19 38 59.7 0.0
baz=210
POKR **Poker Plat Res** 87.89 12 P P 19 38 59.5 -0.2
baz=208
E18K **Tukpahlearik C** 88.00 7 P P 19 39 00.8 +0.6
baz=196
D17K **Noatak River** 88.02 6 P P 19 39 00.4 +0.2
baz=194
G21K **Allakaket** 88.07 9 IAmb IAmb 19 39 01.3
comp=Z,4.1nm,0.8s
G21K **Allakaket** 88.07 9 P P 19 39 00.8 +0.2
baz=203
IMW **Indian Meadow** 88.08 42 IAmb IAmb 19 39 05.1
comp=Z,5.3nm,1.1s
H23K **Yukon River** 88.11 11 P P 19 39 00.1 -0.6
baz=206
J26L **Joseph Creek** 88.19 14 IAmb IAmb 19 39 03.3
comp=Z,6.2nm,1.2s
J26L **Joseph Creek** 88.19 14 P P 19 39 01.0 -0.2
baz=212
F20K **Avaraart Lake** 88.25 8 IAmb IAmb 19 39 02.1
comp=Z,3.5nm,0.9s
F20K **Avaraart Lake** 88.25 8 P P 19 39 01.2 -0.1
baz=201
TROLL **Troll, Antarti** 88.32 180 ⇑P P 19 39 02.1 +0.1
comp=Z,95nm,0.3s
M30M **Minto, Yukon** 88.35 18 IAmb IAmb 19 39 03.0
comp=Z,3.5nm,0.8s
M30M pwP 19 40 42.2 -1.6
M30M **Minto, Yukon** 88.35 18 P P 19 39 01.9 -0.1
baz=218
BW06 **Boulder Array** 88.39 43 P P 19 39 01.4 -1.5
baz=241
PDAR **Pinedale Array** 88.39 43 P P 19 39 02.2 -0.7
PDAR **Pinedale Array** 88.39 43 P P 19 39 00.9 -2.0
comp=Z,1.4nm,0.7s,baz=198,slow=2.5,SNR=14
comp=Z,1.4nm,0.7s
L29M **L29M** 88.40 17 IAmb IAmb 19 39 03.8
comp=Z,5.6nm,0.9s
L29M **L29M** 88.40 17 P P 19 39 01.6 -0.7
baz=217,SNR=9.0
YHL **Hebgen Lake** 88.40 41 IAmb IAmb 19 39 07.1
comp=Z,6.3nm,0.9s
E19K **Redstone River** 88.43 8 IAmb IAmb 19 39 03.1
comp=Z,4.4nm,0.7s
E19K **Redstone River** 88.43 8 P P 19 39 01.5 -0.7
baz=199,SNR=5.6
H24K **Noodor Dome** 88.44 12 P P 19 39 01.9 -0.5
baz=208
BOZ **Bozeman (W)** 88.51 40 IAmb IAmb 19 39 06.8
comp=Z,3.6nm,0.8s
BOZ **Bozeman (W)** 88.51 40 P P 19 39 02.7 -0.6
baz=239
SNAA **Sanae** 88.59 178 ⇑P P 19 39 03.2 0.0
comp=Z,15nm,0.5s
SNAA **Sanae** 88.59 178 P P 19 39 02.2 -1.0
comp=Z,0.8nm,0.5s,baz=204,slow=9.6,SNR=7.2
comp=Z,0.8nm,0.5s
VNA3 **Neumayer Olymp** 88.72 176 ⇑P P 19 39 04.0 +0.3
comp=Z,0.3nm,0.7s
F21K **Alatna River** 88.73 9 P P 19 39 03.6 -0.1
baz=203
G22K **Bettles** 88.77 10 P P 19 39 04.4 +0.7
baz=205
SDCO **Great Sand Dun** 88.82 49 P P 19 39 04.2 -0.9
baz=244
G23K **Bananza Creek** 88.83 11 P P 19 39 04.7 +0.6
baz=206
DAWY **Dawson** 88.84 16 IAmb IAmb 19 39 05.3
comp=Z,2.9nm,0.8s
DAWY **Dawson** 88.84 16 P P 19 39 04.7 +0.5
baz=216
I26K **Coal Creek Min** 88.96 14 P P 19 39 05.1 +0.4
baz=212
EGAK **Eagle** 88.98 15 P P 19 39 04.0 -0.8
EGAK IAmb IAmb 19 39 06.3
comp=Z,4.9nm,1.1s
EGAK pP 19 40 44.0 +0.2
EGAK **Eagle** 88.98 15 P P 19 39 05.0 +0.1
baz=214
DRIO **Del Rio** 89.03 58 IAmb IAmb 19 39 09.1
comp=Z,5.9nm,1.1s
HHC **Hu-ho-hao-te** 89.09 314 eP P 19 39 09.5 +3.5
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,160nm,6.4s
C18K **Utukok River** 89.12 6 P P 19 39 04.6 -0.9
baz=196
K29M **Barlow Dome** 89.15 17 IAmb IAmb 19 39 07.1
comp=Z,5.0nm,0.9s
K29M **Barlow Dome** 89.15 17 P P 19 39 05.3 -0.5
baz=217,SNR=6.4
F22K **John River** 89.19 10 P P 19 39 06.1 +0.3
baz=204
MSTX **Muleshoe** 89.20 53 P P 19 39 05.4 -1.4
baz=245
H25L **Birch Creek** 89.22 12 P P 19 39 05.5 -0.4
baz=210
COLD **Coldfoot** 89.26 10 P P 19 39 05.9 -0.2
baz=206
G24K **Hadweenzic Riv** 89.28 12 P P 19 39 05.5 -0.6
baz=208
D19K **Kuna River** 89.31 7 P P 19 39 06.4 +0.1
baz=198
E20K **Nigu River** 89.32 8 P P 19 39 06.1 -0.3
baz=200,SNR=9.9
TOAD **Toad River Com** 89.53 24 P P 19 39 07.6 +0.1
baz=228
PLCA **Paso Flores** 89.53 133 P P 19 39 08.2 0.0
PLCA **Paso Flores** 89.53 133 P P 19 39 08.0 -0.3
comp=Z,7.3nm,1.2s,baz=246,slow=11,SNR=4.6
comp=Z,7.3nm,1.2s
I27K **Kandik River** 89.56 14 P P 19 39 08.1 +0.5
baz=214
G25K **Bearman Lake** 89.60 12 P P 19 39 08.2 +0.5
baz=210
D20K **Etivluk River** 89.70 8 P P 19 39 08.7 +0.6
baz=200
C19K **Lookout Ridge** 89.73 6 P P 19 39 08.1 -0.2
baz=197
E21K **Killik River** 89.79 9 IAmb IAmb 19 39 09.1
comp=Z,3.4nm,0.9s
E21K **Killik River** 89.79 9 P P 19 39 08.8 +0.3
baz=202
I28M **Miner Creek** 89.83 15 IAmb IAmb 19 39 10.7
comp=Z,3.1nm,0.9s
I28M **Miner Creek** 89.83 15 P P 19 39 08.8 -0.1
baz=215
F24K **Squaw Lake** 89.93 11 IAmb IAmb 19 39 10.3
comp=Z,2.7nm,0.7s
F24K **Squaw Lake** 89.93 11 P P 19 39 09.8 +0.6
baz=208
MMPY **Sheldon Lake,** 90.05 20 P P 19 39 09.1 -0.8
MMPY pwP 19 40 50.7 -1.3
MMPY **Sheldon Lake,** 90.05 20 P P 19 39 10.7 +0.8
baz=223
J30M **Hart River** 90.05 17 P P 19 39 10.6 +0.6
baz=218
CMAR **Chiang Mai Arr** 90.11 289 P P 19 39 08.6 -2.6
comp=Z,0.6nm,0.6s,baz=101,slow=2.8,SNR=2.5
CMAR pP pwP 19 40 53.9 +0.5
comp=Z,0.5nm,0.4s,baz=93,slow=1.8,SNR=2.1
comp=Z,0.6nm,0.6s
H27K **Steamboat Moun** 90.11 14 P P 19 39 10.7 +0.6
baz=214
E23K **Chandalar** 90.11 10 P P 19 39 10.4 +0.3
baz=206
I29M **Ogilvie Camp,** 90.16 15 P P 19 39 10.5 +0.2
baz=217
G26K **Porcupine Rive** 90.23 13 P P 19 39 11.0 +0.5

	baz=212						
E24K	Your Creek	90.32	11	P	P	19 39 11.9	+0.9
	baz=207						
C21K	Knifeblade Rid	90.35	8	P	P	19 39 12.1	+1.0
	baz=202,SNR=5.6						
D22K	Ayikyak River	90.38	9	P	P	19 39 12.3	+1.1
	baz=204						
AMTX	Amarillo	90.40	53	P	P	19 39 11.4	-0.9
	baz=246						
F25K	Christian Rive	90.41	12	P	P	19 39 11.8	+0.3
	baz=210						
I30M	Mount Dempster	90.55	16	IAmb	IAmb	19 39 13.1	
	comp=Z,3.4nm,0.8s						
I30M	Mount Dempster	90.55	16	P	P	19 39 12.5	+0.3
	baz=218,SNR=6.0						
G27K	Doyon Strip	90.56	14	P	P	19 39 12.7	+0.5
	baz=214						
PZH	PanZhiHua	90.61	298	P	P	19 39 14.3	+0.8
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,150nm,6.7s						
TOLK	Toolik Lake Re	90.64	10	P	P	19 39 12.4	-0.1
	baz=206						
D23K	Nanushuk River	90.76	9	P	P	19 39 13.7	+0.7
	baz=205,SNR=5.6						
F26K	Sheenjek River	90.79	12	P	P	19 39 14.1	+0.9
	baz=211						
B21K	Ikpikpuk River	90.80	8	P	P	19 39 13.2	+0.1
	baz=202						
H29M	Whitestone	90.84	15	IAmb	IAmb	19 39 14.8	
	comp=Z,5.0nm,0.8s						
H29M	Whitestone	90.84	15	P	P	19 39 13.8	+0.4
	baz=217,SNR=5.0						
B20K	Meade River	90.86	7	P	P	19 39 14.2	+0.8
	baz=199						
EPYK	Eagle Plains	91.36	15	P	P	19 39 16.1	+0.2
	baz=218						
G29M	Pine Creek	91.48	15	P	P	19 39 16.9	+0.5
	baz=217						
C23K	Itkillik River	91.56	9	P	P	19 39 16.8	+0.2
	baz=205						
F28M	Old Crow	91.62	14	P	P	19 39 17.1	+0.1
	baz=215						
B22K	Teshekpuk Lake	91.63	8	P	P	19 39 17.5	+0.5
	baz=203						
D25K	Kavik River	91.79	11	P	P	19 39 17.3	-0.5
	baz=209						
G30M	tAoh Zraii Nji	91.97	15	P	P	19 39 18.9	+0.2
	baz=219						
G31M	Satah River	92.41	16	P	P	19 39 19.7	-0.9
G31M	Satah River	92.41	16	P	P	19 39 20.7	+0.1
	baz=220						
WHTX	Lake Whitney,	92.53	57	P	P	19 39 21.2	-0.8
	baz=248						
C26K	Camden Bay	92.56	11	P	P	19 39 22.4	+1.1
	baz=211						
F30M	Barrier River	92.57	15	P	P	19 39 21.9	+0.6
	baz=219						
F31M	Tsiigehtchic	92.94	16	P	P	19 39 23.8	+0.7
	baz=221						
BLA	Blacksburg	107.47	56	P	PKiKP	19 44 34.4	-0.3
	baz=258						
O53A	New Philadelph	107.47	53	P	PKiKP	19 44 33.8	-0.7
	baz=258						
M53A	WI Miller and	108.10	52	P	PKiKP	19 44 35.4	-0.3
	baz=259						
SSPA	Standing Stone	110.04	53	P	PKiKP	19 44 39.0	-0.3
	baz=261						
MKAR	Makanchi Array	110.94	314	PKiKP	PKiKP	19 44 40.5	-0.4
	comp=Z,0.5nm,0.8s,baz=62,slow=5.0,SNR=2.5						
BINY	Binghamton	111.69	52	P	PKiKP	19 44 42.1	-0.3
	baz=262						
LONY	Lake Ozonia	112.98	49	P	PKiKP	19 44 45.0	+0.2
	baz=264						
PAL	Palisades	113.08	53	P	PKiKP	19 44 45.4	+0.3
	baz=263						
KURBB	Kurchatov Arra	113.75	317	PKiKP	PKiKP	19 44 46.3	+0.2
	comp=Z,0.3nm,0.2s,baz=93,slow=1.9,SNR=6.1						
HRV	Adam Dziewonsk	114.98	52	P	PKiKP	19 44 48.7	0.0
	baz=265						
PKME	Peaks-Kenny Pk	116.77	49	P	PKiKP	19 44 52.7	+0.6
	baz=266						
BVAR	Borovoye Array	118.76	320	PKhKP	PKPpre	19 44 42.3	
	comp=Z,0.2nm,0.4s,baz=156,slow=11,SNR=2.3						
BVAR				PKP	PKPdf	19 44 54.9	-0.7
	comp=Z,1.0nm,0.5s,baz=145,slow=1.4,SNR=5.2						
ARCES	ARCESS Array B	128.38	350	PKP	PKPdf	19 45 11.8	-1.8
	comp=Z,2.3nm,0.7s,baz=64,slow=2.8,SNR=10						
FINES	FINESS Array B	135.26	344	PKP	PKPdf	19 45 26.8	0.0
	comp=Z,1.1nm,0.7s,baz=48,slow=2.8,SNR=4.9						
NB2	NORSAR Subarra	138.42	353	PKP	PKPpre	19 45 23.8	
	comp=Z,1.2nm,0.9s,baz=27,slow=2.4						
NOA	NORSAR Array B	138.42	353	PKhKP	PKPpre	19 45 24.4	
	comp=Z,0.6nm,0.7s,baz=29,slow=2.0,SNR=4.2						
NOA				PKP	PKPdf	19 45 32.5	-0.2
	comp=Z,0.8nm,0.7s,baz=15,slow=3.9,SNR=5.1						
HFS	Hagfors	138.99	351	PKhKP	PKPpre	19 45 24.6	
	comp=Z,0.7nm,0.4s,baz=46,slow=4.3,SNR=7.5						
AKASG	Malin Array Be	142.59	332	PKP	PKPdf	19 45 37.7	-2.8
	comp=Z,1.1nm,0.5s,baz=42,slow=3.9,SNR=3.6						
AKBB	Malin Array Si	142.59	332		PKPpre	19 45 36.6	
KIEV	Kiev	142.61	332		PKPpre	19 45 36.5	
KIEV	Kiev	142.61	332	⇑P	PKPdf	19 45 37.3	-3.2
LODK	Lodwar	143.76	247		PKPab	19 45 42.0	-0.2
EKA	Eskdalemuir Ar	144.40	5	PKP	PKPbc	19 45 41.5	-1.6
	comp=Z,8.4nm,0.7s,baz=338,slow=3.2,SNR=33						
SORM	Soroca	144.81	329	⇑P	PKPdf	19 45 44.4	0.0
BSEG	Bad Segeberg	145.47	352	*e*PKPbc		19 45 47.1	
	baz=15,slow=2.5						
HLG	Helgoland	145.51	354	*e*PKPbc		19 45 47.7	
	baz=15,slow=2.5						
GORT1	Trebel	146.24	350	*e*PKPbc		19 45 49.8	
	baz=15,slow=2.5						
VLDR	Vladesti	146.50	326	⇑P	PKPbc	19 45 49.4	-0.2
BRTR	Keskin Array B	146.59	313	PKPbc	PKPbc	19 45 49.7	-0.6
	comp=Z,1.1nm,0.6s,baz=114,slow=2.0,SNR=5.6						
BRTR				pPKPbc	pPKPab	19 47 37.6	+3.0
	comp=Z,2.6nm,1.1s,baz=32,slow=7.3,SNR=2.9						
BUR08	Bucovina Ar. S	146.63	331		PKPbc	19 45 49.3	-0.7
BURAR	Bucovina Array	146.65	331		PKPbc	19 45 50.2	+0.1
BURAR	Bucovina Array	146.65	331	⇑P	PKiKP	19 45 51.7	-0.7
OJC	Ojcow	146.68	339		PKPbc	19 45 50.3	+0.3
TATR	Tatarca	146.68	326	⇓P	PKPab	19 45 55.2	+2.8
GHRR		146.70	327	⇑P	PKiKP	19 45 51.7	-0.7
RETH	Rethem/Aller,	146.76	352	*e*PKPbc		19 45 50.8	
	baz=15,slow=2.5						
TESR	Tescani	146.77	329	⇑P	PKPab	19 45 53.7	+0.9
KOLS	Kolonicke sedl	146.86	336	*e*PKP	PKiKP	19 45 51.9	-0.7
FLTG	Flechtingen	146.88	350	*e*PKPbc		19 45 50.9	
	baz=15,slow=2.5						
NRDL	Niedersach Rie	146.90	351	*e*PKPbc		19 45 51.3	
	baz=15,slow=2.5						
CFR	Carcaliu	146.92	326	⇑P	PKPbc	19 45 51.6	+0.9
TPGR	Topolog	146.97	325	⇑P	PKPbc	19 45 50.3	-0.6
ONER	Baraj Valea Uz	147.02	329	⇑P	PKPbc	19 45 51.5	+0.5
ODBI	Odobesti	147.09	327	⇓P	PKiKP	19 45 52.9	-0.2
VRI	Vrincioaia	147.18	328	⇓P	PKPbc	19 45 52.4	+0.9
CRVS	Cervenica-Dubn	147.20	336	*e*PKP	PKiKP	19 45 52.6	-0.7
PLOR	Plostina	147.23	328	⇓P	PKPab	19 45 58.2	+3.5
HARR	Harsova	147.35	325	⇑P	PKPab	19 45 57.8	+2.6
BMR	Baia Mare	147.36	333	⇑P	PKPbc	19 45 52.3	+0.4
TURR	Turia	147.40	329	⇑P	PKiKP	19 45 53.2	-0.6
MFTR	Murfatlar	147.41	324	⇑P	PKPab	19 46 05.8	+10
CHVC	Chvalec	147.48	344	⇑*e*PKP	PKiKP	19 45 53.5	-0.4
CLZ	Clausthal	147.50	351	*e*PKPbc		19 45 53.0	
	baz=15,slow=2.5						
CLL	Collm	147.53	347	⇑*i*PKPbc	PKPbc	19 45 52.9	+0.7
	comp=Z,16nm,0.8s						
CLL				⇓*i*PKPab	PKPab	19 45 56.1	+0.4
	comp=Z,9.0nm,0.9s						
CLL				*ep*PKPab	pPKPab	19 47 40.0	+3.0
CLL				AMS	AMS	20 17 00.0	
	comp=Z,100nm,19.4s						
CLL	Collm	147.53	347	*e*PKPbc		19 45 53.0	
	baz=15,slow=2.5						
BOSR	Bodos	147.56	329	⇑P	PKPbc	19 45 52.9	+0.4
DPC	Dobruska-Polom	147.62	343	⇑*e*PKP	PKiKP	19 45 53.8	-0.4
MMAI	Mount Meron Ar	147.69	301	PKPbc	PKPbc	19 45 53.3	0.0
	comp=Z,2.2nm,0.4s,baz=54,slow=6.3,SNR=6.3						
BRG	Berggiesshubel	147.74	346	*i* PKP	PKiKP	19 45 54.0	-0.3
BRG				Amp		19 45 54.7	
	comp=Z,5.8nm,0.7s						
BRG	Berggiesshubel	147.74	346	P	PKPab	19 45 57.6	+1.1
BRG				Amp		19 45 58.3	
	comp=Z,6.6nm,0.8s						
BRG	Berggiesshubel	147.74	346	*e*PKPbc		19 45 53.8	
	baz=15,slow=2.5						
KRLC	Kraliky	147.74	342	⇑*e*PKP	PKiKP	19 45 54.1	-0.3
KRLC				*e*PKPAB	PKPab	19 45 57.7	+1.1
DOPR	Dopca	147.77	329	⇑P	PKPbc	19 45 53.2	+0.1
MORC	Moravsky Berou	147.78	341	*e*PKP	PKPbc	19 45 53.6	+0.6
ISR	Istrita	147.79	327	⇓P	PKPab	19 46 08.9	+12
MLR	Muntele Rosu	147.84	328	⇑P	PKiKP	19 45 54.9	0.0
GTTG	Gottingen	147.84	351	*e*PKPbc		19 45 53.8	
	baz=15,slow=2.5						
MAUC	Maruska	148.06	341	⇑*e*PKP	PKiKP	19 45 55.0	-0.1
MARR	Marisel-Cluj	148.29	332	⇑P	PKPbc	19 45 54.8	+0.4
VOIR		148.32	329	⇑P	PKiKP	19 45 56.1	+0.3
DRGR		148.38	333	⇓P	PKiKP	19 45 55.9	0.0
KASTN	Kahler Asten	148.39	353	*e*PKPbc		19 45 55.2	
	baz=15,slow=2.5						
PRU	Pruhonice	148.42	345	⇑*e*PKP	PKiKP	19 45 55.6	-0.2
PRU				*e*PKPAB	PKPab	19 46 00.4	+1.1
MOX	Moxa	148.44	349	*e*PKPbc		19 45 55.5	
	baz=15,slow=2.5						
MOX				*e*L		21 04 18.8	
	comp=Z,35nm,21.1s						
VRAC	Vranov	148.48	342	*e*PKP	PKiKP	19 45 55.7	-0.2
VRAC	Vranov	148.48	342	⇑P	PKPbc	19 45 53.5	-1.2
PLN	Plauen	148.49	348	*e*PKPbc		19 45 55.6	
	baz=15,slow=2.5						
VYHS	Vyhne	148.49	339	*e*PKP	PKiKP	19 45 55.7	-0.3
TANN	Tannenbergstha	148.49	347	*e*PKPbc		19 45 55.7	
	baz=15,slow=2.5						
JAVC	Velka Javorina	148.55	340	*e*PKP	PKiKP	19 45 56.9	+0.7
PSZ	Piszkesteto	148.60	337	⇑P	PKPbc	19 45 54.0	-1.1
KRUC	Moravsky	148.76	342	*e*PKP	PKiKP	19 45 56.1	-0.4
LOT	Lotru	148.92	330	⇓P	PKPbc	19 45 56.6	+0.5
MANZ	Manzenberg	148.97	348	*e*PKPbc		19 45 57.0	
	baz=15,slow=2.5						
MODS	Modra-Piesok	149.11	340	*e*PKP	PKiKP	19 45 57.9	+0.6
ROTZ	Rotzenmuhle	149.16	347	*e*PKPbc		19 45 57.4	
	baz=15,slow=2.5						
MEM	Membach	149.22	355	*d*PKP	PKiKP	19 45 57.1	-0.3
BTNL	Ternell	149.23	355	*d*PKiKP	PKiKP	19 45 57.5	+0.1
SIRR	Siria	149.24	333	⇑P	PKPbc	19 45 57.0	+0.3
BSTI	Sart Tilman	149.28	356	*d*PKiKP	PKiKP	19 45 57.5	0.0
GRF	Grafenberg Arr	149.42	348	*e*L		20 51 50.5	
	comp=Z,41nm,19.4s						
GZR	Gura Zlata	149.43	331	⇓P	PKiKP	19 45 57.9	-0.2
SURR	Surduc	149.44	332	⇓P	PKiKP	19 45 57.6	-0.4
KHC	Kasperske Hory	149.45	345	⇑*e*PKP	PKPbc	19 45 57.4	+0.3
KHC				*e*PKPAB	PKPab	19 46 03.8	+0.1
BCLA	Clavier	149.46	356	*d*PKP	PKPab	19 46 03.9	+0.3
BHOU	Houvegnez	149.47	355	*d*PKiKP	PKiKP	19 45 57.9	0.0
BGES	Gesves	149.50	356	*d*PKP	PKPab	19 46 04.0	+0.3
CKRC	Cesky Krumlov	149.56	344	⇑*e*PKP	PKPbc	19 45 57.6	+0.2
CKRC				*e*PKPAB	PKPab	19 46 05.3	+1.2
BMRD	Maredsous	149.60	357	*d*PKiKP	PKiKP	19 45 58.3	+0.2
GEC2	GERESS Array S	149.69	345	*e*PKPbc		19 45 58.6	
	baz=15,slow=2.5						
GERES	GERESS Array B	149.69	345	PKPbc	PKPbc	19 45 57.8	0.0
	comp=Z,4.4nm,0.8s,baz=29,slow=3.0,SNR=23						
RCHB	Rochefort	149.72	356	*d*PKiKP	PKiKP	19 45 58.3	-0.1
BZS	Buzias	149.77	332	⇓P	PKPbc	19 45 58.0	0.0
DOU	Dourbes	149.82	357	*d*PKiKP	PKiKP	19 45 59.0	+0.4
CONA	Conrad Observa	149.94	342	*e*PKP	PKiKP	19 45 58.8	-0.3
	comp=Z,8.1nm,0.7s						
RONA	Rosalia, Austr	150.01	341	*e*PKiKP	PKiKP	19 45 59.3	+0.1
	comp=Z,11nm,0.7s,SNR=17						
WLF	Walferdange	150.14	355	*d*PKiKP	PKiKP	19 46 00.1	+0.8
WLF	Walferdange	150.14	355	*e*PKPbc		19 45 60.0	
	baz=15,slow=2.5						
MDVR	Moldovita	150.38	331	⇑P	PKiKP	19 45 59.9	-0.1
MOA	Molln	150.46	343	*e*PKP	PKPbc	19 45 58.8	-0.7
	comp=Z,3.1nm,0.6s						
MORH	Mrgy, Hungar	150.49	337	⇓P	PKiKP	19 45 60.0	-0.2
ARSA	Arzberg	150.65	341	*e*PKP	PKPbc	19 45 59.2	-0.8
	comp=Z,1.5nm,0.6s						
STU	Stuttgart	150.66	351	*e*PKPbc		19 46 00.8	
	baz=15,slow=2.5						
BIOA	Bad Ischl, Aus	150.77	344	*e*PKP	PKPbc	19 45 59.6	-0.6
	comp=Z,2.1nm,0.5s						
RJOB	Jochberg	150.94	345	*e*PKPbc		19 46 01.2	
	baz=15,slow=2.5						
BFO	Black Forest	151.22	352		PKPbc	19 45 59.0	-2.3
BFO	Black Forest	151.22	352	*e*PKPbc		19 46 01.9	
	baz=15,slow=2.5						
LESA	Schwarzleotal	151.26	345	*i* PKP	PKPbc	19 46 01.1	-0.3
	comp=Z,3.2nm,0.8s						
SOKA	Soboth	151.31	341	*i* PKP	PKPbc	19 46 01.6	0.0
	comp=Z,4.3nm,0.9s,SNR=6.0						
KBA	Koelnbreinsper	151.41	344	*e*PKP	PKPbc	19 46 01.6	-0.3
	comp=Z,5.4nm,0.8s						
UBR	Ueberruh	151.56	349	*e*PKPbc		19 46 02.7	
	baz=15,slow=2.5						
WATA	Walderalm	151.60	347	*e*PKiKP	PKiKP	19 46 02.6	0.0
	comp=Z,4.3nm,0.7s						
OBKA	Obir	151.60	342	*e*PKP	PKPbc	19 46 02.0	-0.2
	comp=Z,2.4nm,0.8s						
RETA	Reutte	151.62	348	*i* PKP	PKiKP	19 46 02.6	+0.1
	comp=Z,1.3nm,0.5s						
WTTA	Wattenberg	151.65	346	*i* PKiKP	PKiKP	19 46 02.9	+0.1
	comp=Z,11nm,0.7s,SNR=8.2						
MYKA	Terra Mystica	151.75	343	*e*PKP	PKPbc	19 46 01.8	-0.8
	comp=Z,5.2nm,0.8s						
SQTA	Sankt Quirin	151.78	347	*i* PKiKP	PKiKP	19 46 03.1	+0.2
	comp=Z,5.9nm,0.7s						
ABTA	Abfaltersbach	151.93	345	*e*PKP	PKPbc	19 46 02.8	-0.2
	comp=Z,7.8nm,0.7s,SNR=10						
DAVA	Damuels	151.98	349	*e*PKiKP	PKiKP	19 46 04.0	+0.6
	comp=Z,9.1nm,1.1s						
FETA	Feichten	152.07	348	*i* PKiKP	PKiKP	19 46 03.9	+0.3
	comp=Z,4.8nm,1.0s						
FUORN	Ofenpass-Fuorn	152.55	348	PKPdf	PKPdf	19 45 55.6	-1.6
FUORN					PKPbc	19 46 04.5	-0.1
SENIN	Lac Senin/Sane	153.28	352	PKPdf	PKPdf	19 45 57.0	-1.2
SENIN					PKPab	19 46 19.9	-0.2
DBIC	Dimbokro	165.16	151	PKPab	PKPab	19 47 12.8	+0.5
	comp=Z,2.9nm,0.6s,baz=188,slow=5.3,SNR=5.2						
TORD	Torodi Ar. Bea	173.26	176	PKP	PKPdf	19 46 16.5	-0.8
	comp=Z,1.7nm,0.9s,baz=270,slow=3.7,SNR=6.3						
TORD				PKPab	PKPab	19 47 48.0	0.0
	comp=Z,0.5nm,0.7s,baz=212,slow=3.3,SNR=3.6						

*NNC **24** 19:41:14.2±3.8, 37°.77N×71°.64E, h0km, mb4.0, mpv3.7,*
Error ellipse: s-maj=29.7km s-min=22.9km az=162.0
ISC 24 19:41:13.4±3.6, 37°.5N±0°.2×71°.6E±0°.1, h35km, n10,
σ1§51/15, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.95	19	P	Pn	19 42 27.1	+1.6
SNR=104							
UCH	Uchtor	5.27	24	P	Pn	19 42 31.2	+1.1
SNR=13							
EKS2	Erkin-Say	5.47	17	P	Pn	19 42 34.9	+2.4
SNR=16							
AAK	Ala-Archa	5.64	22	⇓P	Pn	19 42 36.1	+1.2
7.2nm,0.6s							
AAK				⇑S	Sn	19 43 39.1	+0.7
8.2nm,0.3s							
KK31	Karatay Array	5.70	352	⇑P	Pn	19 42 38.2	+2.6
3.2nm,0.3s,baz=32,slow=1.7,SNR=69							
KK31				⇑S	Sn	19 43 40.4	+0.5
37nm,0.6s,baz=159,slow=24,SNR=7.2							
CHMS	Chumysh	6.05	23	P	Pn	19 42 41.3	+1.0
SNR=6.8							
CHMS	Chumysh	6.05	23	⇓P	Pn	19 42 40.1	-0.2
3.7nm,0.4s							
CHMS				⇑S	Sn	19 43 47.6	-0.6
3.2nm,0.5s							
USP	Ospenovka	6.22	20	P	Pn	19 42 43.2	+0.4
SNR=8.6							
TKM2	Tokmak 2	6.26	28	⇑P	Pn	19 42 42.6	-0.9
3.2nm,0.5s							
TKM2				⇓S	Sn	19 43 54.1	+0.2
4.7nm,0.8s							
AB31	Akbulak array	14.50	328	P	Pn	19 44 35.1	-0.8
0.2nm,0.3s,baz=152,slow=13,SNR=27							
AB31				S	Sn	19 47 12.9	-2.4
1.5nm,0.5s,baz=150,slow=22,SNR=9.5							

*NEIC **24** 19:43:13.7±1.4, 36°.54N±0°.02×98°.96W±0°.02, h5km±1km,*
Error ellipse: s-maj=3.9km s-min=2.5km az=310.0
TUL 24 19:43:14±1.2, 36°.54N±0°.02×98°.96W±0°.02, h7km±2km,
ML2.7, mb_Lg2.4/16(NEIC), ML2.4/10(NEIC), Error
ellipse: s-maj=3.4km s-min=0.6km az=128.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	Waynoka	0.10	14	Pg	Pg	19 43 16.7	+0.3
NOKA				Sg	Sg	19 43 18.7	+0.7
NOKA				IAML		19 43 18.9	
	comp=E,1μm,0.2s						
NOKA				IAML		19 43 18.9	
	comp=N,3μm,0.3s						
U32A	Winter Ranch,	0.16	192	Pg	Pg	19 43 17.5	+0.3
U32A				Sg	Sg	19 43 20.3	+0.8
OK038	West end E0370	0.19	108	Pg	Pg	19 43 18.2	+0.5
OK038				Sg	Sg	19 43 21.2	+0.9
ELIS	Ellis County	0.60	218		Pg	19 43 25.7	+0.2
ELIS				Sg	Sg	19 43 34.3	+1.0
ELIS				IAML		19 43 34.6	
	comp=E,214nm,0.3s						
ELIS				IAML		19 43 36.2	
	comp=N,195nm,0.2s						
OK032	Salt Plains WL	0.66	66	Pg	Pg	19 43 25.8	-0.9
OK032				Sg	Sg	19 43 35.9	+0.6
OK032				IAML		19 43 40.2	
	comp=N,224nm,0.2s						
OK032				IAML		19 43 42.0	
	comp=N,256nm,0.2s						
CROK	Carrier	0.79	92	Pg	Pg	19 43 29.0	-0.1
CROK				Sg	Sb	19 43 40.2	-0.8
KAN14	Manchester OK	0.91	62	Pg	Pg	19 43 31.1	-0.3
KAN14				Sg	Sg	19 43 43.2	0.0
CSTR	Hydro, Custer	0.92	166	Pg	Pg	19 43 30.8	-0.8
CSTR				Sg	Sb	19 43 44.3	-0.3
GC02	Grant County #	0.94	70		Pg	19 43 31.9	-0.2
GC02				Sg	Sg	19 43 44.3	0.0
KAN05	Bluff City Nor	1.04	56	Pg	Pg	19 43 33.6	-0.5
KAN08	Anthony NE Sta	1.05	49	Pg	Pg	19 43 33.3	-0.9
KAN12	Harper NE Stat	1.08	45	Pg	Pg	19 43 34.1	-0.7
KAN17	Caldwell West	1.09	62	Pg	Pg	19 43 34.2	-0.6
KAN01	Argonia South	1.15	57	Pg	Pg	19 43 35.5	-0.5
KAN09	Caldwell North	1.23	61	Pg	Pg	19 43 36.8	-0.8
KAN13	South Haven SW	1.28	68		Pn	19 43 37.7	-0.7
KS21	Milan North St	1.28	54	Pg	Pn	19 43 37.2	-1.2
BLOK	Blackwell	1.42	80		Pn	19 43 39.8	-0.5
OK029	Liberty Lake	1.43	121		Pn	19 43 40.0	-0.3
OK048	Pawnee Station	1.63	94		Pn	19 43 43.3	+0.1
OK051	E0350 and S346	1.71	90		Pn	19 43 44.4	+0.1
SMWD	Samnorwood	1.77	216		Pn	19 43 45.3	+0.2
FNO	Franklin	1.80	135	Pn	Pn	19 43 45.8	+0.3
WMOK	Wichita Mounta	1.80	175	Pn	Pn	19 43 46.0	+0.5
OK031	S. Brethren Rd	1.81	108	Pn	Pn	19 43 45.8	+0.1
OK052	Battle Ridge R	1.83	107	Pn	Pn	19 43 44.6	-1.3
QUOK	Quay	1.86	101	Pn	Pn	19 43 45.9	-0.4
R32A	Long Quarter,	1.89	6	Pn	Pn	19 43 47.4	+0.6
T35A	Sooner Cattle	2.00	78	Pn	Pn	19 43 46.2	-2.1
DEOK	Depew	2.11	108	Pn	Pn	19 43 48.9	-0.8
X34A	Smith Ranch, M	2.14	154	Pn	Pn	19 43 47.8	-2.3
X34A				IAmb_Lg		19 44 24.8	
	comp=Z,6.1nm,0.7s						
CBKS	Cedar Bluff	2.36	345	Pn	Pn	19 43 50.7	-2.5
CBKS				IAmb_Lg		19 44 32.6	
	comp=Z,8.8nm,0.7s						
AMTX	Amarillo	2.76	234	Pn	Pn	19 43 56.3	-2.5
AMTX				IAmb_Lg		19 44 41.6	
	comp=Z,14nm,1.2s						
RTBA	Rita Blanca	3.04	269	Pn	Pn	19 44 00.0	-2.7
RLO	Rose Lookout	3.20	95	Pn	Pn	19 44 01.9	-2.8
DKNS	Dickens	3.28	210	Pn	Pn	19 44 02.7	-3.2
APMT	Aspermont	3.34	197	Pn	Pn	19 44 03.7	-3.0
HHAR	Hobbs	4.06	92	IAmb_Lg		19 45 27.0	
	comp=Z,3.8nm,0.7s						
CCM	Cathedral Cave	6.34	74	IAmb_Lg		19 46 33.0	
	comp=Z,6.1nm,1.1s						
PBMO	Poplar Bluff	6.86	85	IAmb_Lg		19 47 06.3	
	comp=Z,3.9nm,0.8s						
FVM	French Village	6.96	75	IAmb_Lg		19 47 01.8	
	comp=Z,17nm,0.9s						
JFWS	Jewell Farm	9.25	44	IAmb_Lg		19 48 00.7	
	comp=Z,12nm,1.0s						

*NOU **24** 19:52:06.6, 40°.06S×174°.25E, h122km, MLv3.7/12, Cook*
Strait, New Zealand
*WEL **24** 19:52:09.2±1.1, 40°.5S±5°.×17°.4E±°, h86km±10km, M3.8/13,*
ML4.1/13, MLv3.8/13, Error ellipse: s-maj=0.0km
s-min=0.0km az=75.1, confirmed
ISC 24 19:52:06.3±1.5, 40°.12S±0°.03×174°.27E±0°.04, h121km±9km,
n142, σ1§01/153, Cook Strait

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

CMWZ	Cape Campbell	1.63	181	P	Pn	Pn	19 52 37.4 +2.1
PLWZ	Palliser	1.63	153	P	Pn	Pn	19 52 36.4 +1.0
HIZ	Hauiti	1.66	16	P	Pn	Pn	19 52 36.4 +0.7
HIZ	Hauiti	1.66	16	P	Pn	Pn	19 52 36.4 +0.7
WPHZ	Waipukurau	1.67	89	P	Pn	Pn	19 52 36.4 +0.7
RITZ	Rihia Road	1.67	48	P	Pn	Pn	19 52 36.9 +1.1
TRWZ	Traveller	1.67	140	P	Pn	Pn	19 52 37.5 +1.7
KRHZ	Kereru	1.68	74	P	Pn	Pn	19 52 36.4 +0.5
RATZ	Rangitukua	1.71	43	P	Pn	Pn	19 52 37.9 +1.7
ANWZ	Angora Road	1.72	102	P	Pn	Pn	19 52 37.0 +0.7
MRNZ	Matariki Terra	1.72	221	P	Pn	Pn	19 52 37.7 +1.3
KWHZ	Kaweka Forest	1.80	68	P	Pn	Pn	19 52 38.3 +1.0
WATZ	Wairara	1.81	39	P	Pn	Pn	19 52 39.3 +1.9
PRHZ	Porangahau	1.82	96	P	Pn	Pn	19 52 38.3 +0.8
THZ	Tophouse	1.94	212	P	Pn	Pn	19 52 40.4 +1.3
BKZ	Black Stump Fm	1.96	62	P	Pn	Pn	19 52 39.5 +0.2
BKZ	Black Stump Fm	1.96	62	P	Pn	Pn	19 52 39.7 +0.4
MCHZ	McNeill Hill	1.99	71	P	Pn	Pn	19 52 40.5 +0.9
PXZ	Pawanui	1.99	88	P	Pn	Pn	19 52 39.7 +0.1
KUTZ	Kaahu Road	2.02	37	P	Pn	Pn	19 52 42.4 +2.4
KAHZ	Kahuranaki	2.03	82	P	Pn	Pn	19 52 41.0 +0.9
TLZ	Tolley Road	2.04	29	P	Pn	Pn	19 52 41.3 +1.1
MRHZ	Matea Rd	2.10	53	P	Pn	Pn	19 52 41.2 +0.2
NMHZ	Naumai	2.21	63	P	Pn	Pn	19 52 43.4 +0.9
ARHZ	Aropaoanui	2.27	69	P	Pn	Pn	19 52 43.6 +0.4
MTHZ	Maungataniwha	2.36	58	P	Pn	Pn	19 52 44.3 +0.1
KHZ	Kahutara	2.36	193	P	Pn	Pn	19 52 45.7 +1.4
KHZ	Kahutara	2.36	193	P	Pn	Pn	19 52 45.8 +1.5
DSZ	Denniston Nort	2.48	228	P	Pn	Pn	19 52 47.0 +1.2
RAHZ	Arahi	2.49	62	P	Pn	Pn	19 52 46.3 +0.4
MUGZ	Murupara	2.54	51	P	Pn	Pn	19 52 46.8 +0.2
TOZ	Tahuroa Road	2.57	22	P	Pn	Pn	19 52 48.1 +1.1
RTZ	Ruatahuna	2.58	55	P	Pn	Pn	19 52 47.2 0.0
SNGZ	Shannon Statio	2.72	62	P	Pn	Pn	19 52 49.1 0.0
KNZ	Kokohu	2.85	69	P	Pn	Pn	19 52 50.1 -0.5
URZ	Urewera	2.88	51	P	Pn	Pn	19 52 50.5 -0.5
URZ	Urewera	2.88	51	P	Pn	Pn	19 52 50.8 -0.3
RAGZ	Rawiri	2.93	57	P	Pn	Pn	19 52 51.8 +0.1
MHGZ	Mahia Peninsul	2.97	72	P	Pn	Pn	19 52 52.1 0.0
GVZ	Greta Valley S	3.00	198	P	Pn	Pn	19 52 53.3 +0.8
PRGZ	Paritu Road	3.04	68	P	Pn	Pn	19 52 52.7 -0.4
RIGZ	Rimuhau	3.05	64	P	Pn	Pn	19 52 53.0 -0.2
KBAZ	Karaka Road Bo	3.05	9	P	Pn	Pn	19 52 55.2 +1.9
LTZ	Lake Taylor	3.06	209	P	Pn	Pn	19 52 53.8 +0.5
AWAZ	Awhitu Peninsu	3.06	6	P	Pn	Pn	19 52 55.0 +1.6
MKAZ	Moumakai	3.09	13	P	Pn	Pn	19 52 55.1 +1.4
MWZ	Matawai	3.09	56	P	Pn	Pn	19 52 53.2 -0.7
WTAZ	Waiatarua	3.19	4	P	Pn	Pn	19 52 57.0 +2.0
ETAZ	East Tamaki Re	3.20	9	P	Pn	Pn	19 52 56.9 +1.7
TKGZ	Te Karaka	3.24	60	P	Pn	Pn	19 52 55.4 -0.4
AMCZ	Amberley	3.29	201	P	Pn	Pn	19 52 56.8 +0.5
INZ	Inchbonnie	3.36	218	P	Pn	Pn	19 52 58.4 +1.1
WIAZ	Waiheke Island	3.39	12	P	Pn	Pn	19 52 59.4 +1.7
RUGZ	Raukumara Rang	3.41	52	P	Pn	Pn	19 52 57.2 -1.0
CNGZ	Carnagh Statio	3.46	63	P	Pn	Pn	19 52 58.3 -0.3
TWGZ	Tauwhareparae	3.47	57	P	Pn	Pn	19 52 59.0 +0.1
KUZ	Kuaotunu	3.55	19	P	Pn	Pn	19 53 00.0 +0.1
KUZ	Kuaotunu	3.55	19	P	Pn	Pn	19 53 00.7 +0.9
HAZ	Te Kaha	3.61	50	P	Pn	Pn	19 52 59.5 -1.2
OXZ	Oxford	3.62	207	P	Pn	Pn	19 52 60.0 -0.7
OKCZ	Okains Bay	3.72	194	P	Pn	Pn	19 53 02.1 0.0
MQZ	McQueen's Vall	3.79	198	P	Pn	Pn	19 53 02.0 -0.9
AKCZ	Akaroa Harbour	3.89	195	P	Pn	Pn	19 53 04.1 -0.2
WMGZ	Waiomatatini S	3.96	56	P	Pn	Pn	19 53 04.6 -0.7
MHCZ	Mount Hutt	3.97	210	P	Pn	Pn	19 53 06.4 +1.0
WVZ	Waitaha Valley	3.97	221	P	Pn	Pn	19 53 06.0 +0.6
WCZ	Waipu Caves	4.17	1	P	Pn	Pn	19 53 10.6 +2.5
WAKCZ	Wakanui South	4.23	205	P	Pn	Pn	19 53 08.6 -0.3
RPZ	Rata Peaks	4.32	213	P	Pn	Pn	19 53 11.7 +1.6
RPZ	Rata Peaks	4.32	213	P	Pn	Pn	19 53 11.2 +1.1
GCSZ	Gaunt Creek Bo	4.35	221	P	Pn	Pn	19 53 11.4 +0.9
ARCZ	Arundel	4.47	210	P	Pn	Pn	19 53 12.8 +0.8
FOZ	Fox Glacier	4.77	223	P	Pn	Pn	19 53 15.1 -0.9
TMZ	Timaru	4.91	209	P	Pn	Pn	19 53 17.0 -0.9
ODZ	Otahua Downs	5.61	207	P	Pn	Pn	19 53 28.1 +0.8
ODZ	Otahua Downs	5.61	207	P	Pn	Pn	19 53 28.0 +0.7
JCZ	Jackson Bay	5.68	224	P	Pn	Pn	19 53 28.0 -0.4
JCZ	Jackson Bay	5.68	224	P	Pn	Pn	19 53 28.2 -0.2
TUZ	Tuapeka	6.75	209	P	Pn	Pn	19 53 43.5 +0.8
CTZ	Chatham Island	7.70	121	P	Pn	Pn	19 53 58.5 +3.0

*GII **24** 19:57:10.8±0.2,36°.573N±0°.001×52°.592E±0°.001, h0km, confirmed*
*NAO **24** 19:58:22.9,33°.70N×46°.36E,h33km,mb3.5*
*MOS **24** 19:58:27.7±2.0,34°.62N×45°.57E,h12km,mb4.5/32,Error ellipse: s-maj=6.4km s-min=4.0km az=103.4*
*ISN **24** 19:58:28.7±1.6,34°.79N×45°.80E,h6km±104km,ML4.5*
*TEH **24** 19:58:29.5,34°.79N×45°.82E,h6km±49km,ML4.4*
*NEIC **24** 19:58:29.6±2.4,34°.74N±0°.05×45°.56E±0°.09,h10km±1km, mb4.3/51,Error ellipse: s-maj=12.1km s-min=7.9km az=273.0*
*IDC **24** 19:58:30.1±4.2,34°.70N×45°.75E,h18km±25km,mb4.0/22, mbtmp4.1/31,ML3.9/6,MS3.4/28,Error ellipse: s-maj=17.9km s-min=11.9km az=168.0*
*THR **24** 19:58:31.8±0.9,34°.73N×45°.78E,h15km±5km,ML4.5*
*DSN **24** 19:58:32.1±0.5,34°.46N×45°.78E,h15km,mb4.9/1,Error ellipse: s-maj=10.7km s-min=3.9km az=67.0*
ISC 24 19:58:31.9±0.9,34°.65N±0°.03×45°.77E±0°.03,h26km±6km, n396,σ2§61/429,mb4.3/78,MS3.4/20,22C-24D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.21	227	Pg	Pb	19 58 37.3	-0.5
IDHR	Dehrash	0.51	84	Pg	Pb	19 58 40.6	-1.9
GLG1	Gilan-e-Gharb	0.55	168	Pg	Pn	19 58 43.6	-0.4
GLG1				Sg	Sn	19 58 54.8	+2.4
IGHG	Ghaleghazi	0.73	116	Pg	Pb	19 58 45.8	-0.4
ILIN	Lien	1.01	74	Pg	Pb	19 58 49.0	-2.0
ILBA	Ilam Banvizeh	1.08	161	ePg	Pb	19 58 53.2	+1.2
ILBA				IAML		19 59 16.4	
	comp=E,14μm,0.4s						
ILBA				IAML		19 59 22.1	
	comp=N,10μm,0.4s						
ILBA	Ilam Banvizeh	1.08	161	Pg	Pb	19 58 53.0	+0.9
KCHF	Cheshme Sefid,	1.11	109	Pg	Pb	19 58 52.4	-0.2
KCHF				Sg	Sn	19 59 09.0	+2.5
SNGE	Sanandaj	1.37	71	ePg	Pb	19 58 56.1	-0.9
SNGE				eSg	Sb	19 59 14.4	+0.3
IKRK	Kirkuk	1.39	303	ePg	Pb	19 58 57.0	-0.3
IKRK				eSg	Sb	19 59 15.0	+1.3
SDS1	Sardasht. Az.	1.51	351	Pg	Pn	19 58 56.4	-1.0
SNQR	Sonqor, Kerman	1.54	82	Pg	Pb	19 58 58.6	-1.4
IBDR	Badra	1.54	175	ePn	Pb	19 59 01.0	+1.2
IBDR				eSn	Sb	19 59 23.0	+4.1
IBDR				AML	AML	19 59 29.7	
	comp=E,11μm,0.6s						
IBDR				AML	AML	19 59 32.0	
	comp=N,5μm,0.6s						
IBZA	Bozab	1.73	95	Pg	Pb	19 59 03.5	+0.3
BHD	Baghdad	1.80	220	ePn	Pb	19 59 03.0	-1.2
BHD				eSn	Sb	19 59 30.0	+3.7
IKFM	Kafar-mosalman	2.06	123	Pn	Pb	19 59 08.3	-0.2
MAHB	Mahabad	2.11	359	Pn	Pn	19 59 06.3	+0.6
HSAM	Samen	2.38	100	Pn	Pb	19 59 12.6	-1.6
IHSH	Hashtrud	2.91	24	Pn	Pn	19 59 17.9	+1.1
IAZR	Azarshahr	3.03	3	Pn	Pn	19 59 19.7	+1.4
ZNJK	Zanjan	3.11	49	ePn	Pn	19 59 21.8	+2.3
ASAO	Ashtian	3.51	90	ePn	Pb	19 59 28.8	-4.6
ISRB	Sarab	3.52	25	Pn	Pn	19 59 26.6	+1.6
KHMZ	Khomeyn	3.59	104	ePn	Pn	19 59 29.2	+3.1
IHRS	Heris	3.80	15	Pn	Pn	19 59 30.2	+1.3
JIR1	Jirandeh	3.87	57	Pn	Pn	19 59 31.9	+2.0
GIDE	GILAN DEYLAMAN	4.06	55	ePn	Pn	19 59 35.6	+3.1
GIDE				IAML		20 00 52.0	
	comp=E,274nm,0.8s						
IMRD	Marand	4.06	359	Pn	Pn	19 59 33.2	+0.8
THKV	Tehran--Karaj	4.36	72	ePn	Pn	19 59 39.8	+3.1
IQOM	Qom	4.37	86	Pn	Pn	19 59 39.3	+2.6
GAS1	Astara - Iran	4.47	33	Pn	Pn	19 59 39.5	+1.5
GRMI	Germi	4.49	22	ePn	Pn	19 59 40.1	+1.8
GRMI	Germi	4.49	22	Pn	Pn	19 59 40.2	+1.9
CHTH	Charan	4.55	72	ePn	Pn	19 59 42.1	+2.7
GHVR	GHOM	4.56	91	ePn	Pn	19 59 41.9	+2.6
GHVR				IAML		20 01 12.9	
	comp=N,320nm,0.8s						
KLST	Kelardasht - M	4.69	65	Pn	Pn	19 59 43.6	+2.3
IPIR	Pirpir	4.70	113	Pn	Pn	19 59 43.6	+2.2
JHBN	Jahan bin	4.75	119	Pn	Pn	19 59 44.3	+2.3
QAMS	Qamsar	4.75	99	Pn	Pn	19 59 45.4	+3.4
MAKU	Maku	4.78	350	ePn	Pn	19 59 43.9	+1.6
MAKU	Maku	4.78	350	Pn	Pn	19 59 43.6	+1.2
IVRN	Varamin	4.91	84	Pn	Pn	19 59 46.6	+2.6
GURO	Guroymak-BITLI	4.92	323	Pn	Pn	19 59 43.4	-0.9
IKLH	Kolahrood	5.00	104	Pn	Pn	19 59 48.8	+3.3
DAMV	Damavand	5.17	77	ePn	Pn	19 59 51.3	+3.5
IDMV	Damavand	5.21	78	Pn	Pn	19 59 50.7	+2.2
KRSH	Karshahi	5.31	96	Pn	Pn	19 59 52.4	+2.7
IBRJ	Brojen	5.35	119	Pn	Pn	19 59 53.0	+2.8
ISFB	Sefidab	5.35	91	Pn	Pn	19 59 52.1	+2.0
GNI	Garni	5.55	352	Pn	Pn	19 59 51.7	-1.3
GNI	Garni	5.55	352	P	Pn	19 59 56.9	+4.0
GNI	Garni	5.55	352	Pn	Pn	19 59 57.1	+4.2
	comp=N,1.3nm,0.3s,baz=208,slow=5.5,SNR=3.4						
GNI				Lg	Lg	20 01 30.0	
	baz=220,slow=22						
GNI				LR	LR	20 02 05.8	
	comp=N,234nm,20.9s,baz=168,slow=39						
GNI	Garni	5.55	352	P	Pb	20 00 06.6	-1.5
GNI	Garni	5.55	352	P	Pn	19 59 51.7	-1.3
GNI	Garni	5.55	352	Pn	Pb	20 00 00.4	-7.8
	comp=N,80nm,0.7s,comp=N,791nmcomp=N,0.5nm						
IGAR	Gharneh	5.69	111	Pn	Pn	19 59 58.0	+3.0
KBD	Kabd	5.70	163	P	Pn	19 59 57.5	+2.7
KBD				S	Sn	20 00 57.9	-1.5
IZEF	Zefreh	5.73	106	Pn	Pn	19 59 58.2	+2.6
IFIR	Firoozkooh	5.80	78	Pn	Pn	19 59 58.1	+1.6
ILAS	Lasjerd	5.94	81	Pn	Pn	20 00 00.7	+2.3
NASN	Na'in	6.14	106	ePn	Pn	20 00 04.2	+2.9
KARS	Kars	6.34	341	Pn	Pn	20 00 00.5	-3.2
KARS	Kars	6.34	341	P	Pn	20 00 00.5	-3.2
ANAR	Anarak	6.77	100	Pn	Pn	20 00 11.9	+2.2
GAZ	Gaziantep	7.39	292		Pn	20 00 13.1	-5.0
ARPR	Arapgir-MALATY	7.43	309		Pn	20 00 14.1	-4.6
HSUJ	Al Zarqa	8.40	255	P	Pn	20 00 39.8	+7.8
MAK	Makhachkala	8.41	9	eP	Pn	20 00 29.3	-2.7
MAK				eS	Sn	20 02 03.1	-2.9
MAK				pmax	pmax		
	comp=Z,139nm,1.0s						
MAK				MLR	MLR		
	comp=Z,596nm,16.0s						
NATI	Neve Ativ	8.45	263	P	Pn	20 00 39.1	+6.5
NATI	Neve Ativ	8.45	263	P	Pn	20 00 33.6	+0.9
KSHT	Keshet	8.46	261	P	Pn	20 00 34.4	+1.7
GEM	Giv'at Ha'Em	8.52	263	P	Pn	20 00 40.3	+6.7
GROC	Groznyy	8.54	0	eP	Pn	20 00 35.9	+2.1
GROC				eS	Sn	20 02 13.7	+4.5
GROC				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MMAI	Mount Meron Ar	8.78	262	Pn	Pn	20 00 36.3	-0.9
	comp=Z,2.6nm,0.3s,baz=66,slow=13,SNR=8.0						
MMAI				Lg	Lg	20 03 03.5	
	comp=Z,3.1nm,0.3s,baz=117,slow=33,SNR=2.1						
MMAI				LR	LR	20 04 18.8	
	comp=Z,268nm,20.1s,baz=16,slow=40						
	comp=Z,1.4nm,0.3s						
QRNJ	Al-Qirein	8.82	258	P	Pn	20 00 43.8	+6.1
BALJ	Balqa	8.85	256	Pn	Pn	20 00 30.1	-8.1
BALJ	Balqa	8.85	256	P	Pn	20 00 45.5	+7.3
MRVT	Maraveh tapeh	8.87	67	ePn	Pn	20 00 41.5	+3.1
HMDT	Nahal Hemdat	8.89	257	P	Pn	20 00 45.8	+7.2
HMDT	Nahal Hemdat	8.89	257	P	Pn	20 00 40.8	+2.2
MMLI	Mount Malkishu	8.92	259	P	Pn	20 00 41.3	+2.2
BNN	Bunyan	9.00	301		Pn	20 00 33.6	-6.7
UJAP	Al Uja	9.04	256	P	Pn	20 00 47.7	+7.1
KARJ	KARJ	9.21	250	P	Pn	20 00 44.7	+1.7
TPRV	Parvadeh(Tabas	9.22	97	Pn	Pn	20 00 46.1	+2.8
DSI	Dead Sea	9.24	253	P	Pn	20 00 50.9	+7.4
DSI	Dead Sea	9.24	253	P	Pn	20 00 45.5	+2.0
SLTI	Sal'it	9.29	258	P	Pn	20 00 49.1	+5.0
LISJ	El Lisan	9.29	251	P	Pn	20 00 50.2	+6.1
KBZ	Khabaz	9.34	347	Pn	Pn	20 00 46.2	+1.6
	comp=Z,0.1nm,0.3s,baz=112,slow=20,SNR=2.4						
KBZ				LR	LR	20 04 35.8	
	comp=Z,226nm,18.8s,baz=146,slow=39						
	comp=Z,2.3nm,1.0s						
MSBI	Mazada	9.36	252	P	Pn	20 00 50.6	+5.6
SHA1	Shidzhatmaz	9.39	346	eP	Pn	20 00 41.7	-4.0
TABS	Tabas	9.46	93	ePn	Pn	20 00 49.8	+3.3
YTIR	Yattir	9.53	253	P	Pn	20 00 53.0	+5.5
SAKB	Bahrain	9.57	153	P	Pn	20 00 49.6	+1.6
SAKB				S	Sn	20 02 30.5	-4.2
ZFRI	Zfri	9.82	248	P	Pn	20 00 57.3	+5.9
ZFRI	Zfri	9.82	248	P	Pn	20 00 53.4	+1.9
SHMA	Al-Shehemyia	9.84	152	P	Pn	20 00 52.8	+1.1
	SNR=6.6						
SHMA				S	Sn	20 02 38.0	-3.3
BJRD	Bojnurd	9.88	69	ePn	Pn	20 00 55.7	+3.3
PRNI	Paran	10.05	248	P	Pn	20 00 56.2	+1.6
SOC	Sochi	10.08	334	eP	Pn	20 00 48.3	-6.6
SOC				eSS	Sn	20 02 53.5	+6.4
SOC				MLR	MLR		
	comp=Z,208nm,15.0s						
KZIT	Kziot	10.28	252	P	Pn	20 01 03.0	+5.3
KRMI	Paran Flat	10.38	247	P	Pn	20 01 00.7	+1.6
EIL	Elat	10.43	245	Pn	Pn	20 00 58.0	-1.7
	comp=Z,0.3nm,0.3s,baz=7.0,slow=18,SNR=2.1						
EIL				LR	LR	20 06 14.6	
	comp=Z,283nm,18.2s,baz=69,slow=44						
	comp=Z,0.9nm,0.4s						
LABN	Labinsk	10.71	340	eP	Pn	20 01 04.7	+1.2
LABN				pmax	pmax		
	comp=Z,25nm,0.5s						
LABN				MLR	MLR		
	comp=Z,466nm,5.0s						
SMRA	Abu-Samra	10.80	155	P	Pn	20 01 06.0	+1.2
	SNR=5.4						
SMRA				S	Sn	20 03 00.6	-4.2
BRTR	Keskin Array B	10.92	301	Pn	Pn	20 01 08.1	+1.5
	comp=Z,1.4nm,0.8s,baz=133,slow=14,SNR=7.5						
BRTR				LR	LR	20 05 57.9	
	comp=Z,189nm,19.3s,baz=126,slow=41						
BR131	Keskin Array S	10.92	301	eP	Pn	20 01 02.3	-4.3
TRNA	Turayna	10.95	153	P	Pn	20 01 07.1	+0.2
	SNR=17						
TRNA				S	Sn	20 03 05.7	-2.8
RAYN	Ar Rayn	11.09	181	Pn	Pn	20 01 07.5	-1.4
RAYN	Ar Rayn	11.09	181	P	Pn	20 01 08.4	-0.5
	SNR=11						
RAYN	Ar Rayn	11.09	181	P	Pn	20 01 08.3	-0.5
RAYN				S	Sn	20 03 13.8	+1.7
RAYN	Ar Rayn	11.09	181	P	Pn	20 01 07.5	-1.4
JRN	Qarnain Island	11.46	146	P	Pn	20 01 12.9	-0.9
SLWR	Sila	11.73	152	P	Pn	20 01 17.8	+0.2
SLWR				S	Sn	20 03 26.6	-1.2
ANN	Anapa	11.99	330	eP	Pn	20 01 09.4	-12
ANN				pmax	pmax		
	comp=Z,18nm,1.3s						
ANN				MLR	MLR		
	comp=Z,117nm,9.0s						
GHWR	Ruwais	12.31	148	P	Pn	20 01 26.3	+0.8
GHWR				S	Sn	20 03 37.1	-4.8
SHME	Shamm	12.39	131	iP	Pn	20 01 26.1	-0.5
	SNR=14						
SHME	Shamm	12.39	131	P	Pn	20 01 26.4	-0.1
	SNR=14						
SHME				S	Sn	20 03 39.7	-4.0
UMQ	Umm Al-Quwin	12.48	134	P	Pn	20 01 28.6	+0.7
BANOM	Banah	12.58	131	P	Pn	20 01 28.5	-0.7
BANOM	Banah	12.58	131	P	Pn	20 01 29.6	+0.4
BANOM				S	Sn	20 03 44.5	-4.0
AJN	Ajban	12.85	139	P	Pn	20 01 33.3	+0.4
AJN	Ajban	12.85	139	P	Pn	20 01 33.6	+0.7
	SNR=8.0						
AJN				S	Sn	20 03 53.7	-1.3
NAZ	Nazwa, Dubai	12.89	136	iP	Pn	20 01 34.1	+0.7
	SNR=15						
NAZ	Nazwa, Dubai	12.89	136	P	Pn	20 01 34.4	+0.9
	SNR=15						
NAZ				S	Sn	20 03 51.1	-4.9
MASF	Masafi	12.89	133	P	Pn	20 01 33.6	+0.1
	SNR=18						
MASF				S	Sn	20 03 51.1	-5.1
MSFE	Esma-Masafi	12.90	133	iP	Pn	20 01 33.4	-0.2
	SNR=18						
MZWR	Madinat Zayed	12.95	145	P	Pn	20 01 35.2	+1.0
MZWR				S	Sn	20 03 56.0	-1.4
ASUD	Al Ashush, Dub	12.98	138	iP	Pn	20 01 35.0	+0.3
	SNR=23						
ASUD	Al Ashush, Dub	12.98	138	P	Pn	20 01 35.3	+0.6
	SNR=23						
ASUD				S	Sn	20 03 54.2	-4.1
MDH	Madha	13.03	133	iP	Pn	20 01 34.7	-0.7
	SNR=14						
MDH	Madha	13.03	133	P	Pn	20 01 35.0	-0.3
	SNR=14						
MDH				S	Sn	20 03 53.9	-5.6
FAQ	Al Faqa, Dubai	13.04	137	iP	Pn	20 01 35.2	-0.2
	SNR=6.0						
FAQ	Al Faqa, Dubai	13.04	137	P	Pn	20 01 35.3	-0.2
	SNR=5.9						
FAQ				S	Sn	20 03 57.4	-2.3
UOSS	Minazif	13.24	134	Pn	Pn	20 01 37.3	-0.9
UOSS	Minazif	13.24	134	iP	Pn	20 01 37.1	-1.1
	SNR=18						
UOSS	Minazif	13.24	134	P	Pn	20 01 37.2	-1.1
UOSS				P	Pn	20 01 37.2	-1.1
UOSS				S	Sn	20 03 58.1	-6.5
UOSS				S	Sn	20 03 58.1	-6.5
HATD	Hatta, Dubai	13.29	135	iP	Pn	20 01 38.5	-0.3
	SNR=30						
HATD	Hatta, Dubai	13.29	135	P	Pn	20 01 39.0	+0.1
	SNR=30						
HATD				S	Sn	20 04 01.3	-4.5
ASHO	Ashiyiah	13.35	135	iP	Pn	20 01 39.1	-0.7
	SNR=54						
ASHO	Ashiyiah	13.35	135	P	Pn	20 01 39.1	-0.7
	SNR=54						
ASHO				S	Sn	20 04 02.0	-5.5
MZR	Muzera	13.42	148	iP	Pn	20 01 40.0	-0.7
	SNR=22						
MZR	Muzera	13.42	148	P	Pn	20 01 40.3	-0.4
	SNR=10						
MZR				S	Sn	20 04 06.7	-2.3
JASK	Jask - Hormozg	13.62	127	P	Pn	20 01 42.3	-1.1
JASK				S	Sn	20 04 07.0	-6.9
ALNE	Al Ain	13.67	138	iP	Pn	20 01 43.2	-0.9
	SNR=33						
ALNE	Al Ain	13.67	138	P	Pn	20 01 43.6	-0.5
	SNR=33						
ALNE				S	Sn	20 04 08.5	-6.6
SOHO	SOHO	14.05	135	iP	Pn	20 01 48.2	-1.1
	SNR=15						
SOHO	SOHO	14.05	135	P	Pn	20 01 48.1	-1.1
SOHO				S	Sn	20 04 19.0	-5.3
UMZA	Um Al Zommool	14.46	143	P	Pn	20 01 53.8	-1.1
UMZA				S	Sn	20 04 28.4	-5.8
ARQ	Araqi	14.67	137	P	Pn	20 01 57.0	-0.7
	SNR=32						
ARQ				S	Sn	20 04 32.8	-6.7
HOQ	Hoqain	14.93	135	P	Pn	20 02 01.1	-0.1
	SNR=7.3						
HOQ				S	Sn	20 04 38.8	-7.0
BIDO	Bidbid	15.46	133	P	Pn	20 02 06.1	-2.1
BIDO				P	Pn	20 02 06.1	-2.1
BIDO				S	Sn	20 04 52.5	-6.3
BIDO				S	Sn	20 04 52.5	-6.3
BSY	Bisya	15.52	137	P	Pn	20 02 07.4	-1.6
	SNR=6.8						
BSY				S	Sn	20 04 54.6	-5.5
SMDO	Samad	15.76	134	P	Pn	20 02 11.0	-1.3
	SNR=13						
SMDO				P	Pn	20 02 11.0	-1.3
	SNR=13						
SMDO				S	Sn	20 04 59.2	-7.0
SMDO				S	Sn	20 04 59.2	-7.0
WSAR	Wadi Sarin	15.98	132	Pn	Pn	20 02 12.8	-2.2
	comp=Z,21nm,0.5s,baz=337,slow=8.3,SNR=48						
WSAR				Sn	Sn	20 05 02.9	-8.5
	comp=Z,0.6nm,0.3s,baz=0.0,slow=20,SNR=2.1						
WSAR				LR	LR	20 09 15.3	
	comp=Z,298nm,19.5s,baz=353,slow=40						
NGCH	Negor - Chabah	16.20	121	P	Pn	20 02 16.8	-0.9
JMDO	Jabal Madar	16.32	135	P	Pn	20 02 17.9	-1.5
JMDO				S	Sn	20 05 12.8	-7.0
WBK	Wadi Bani Khal	16.66	133	P	Pn	20 02 22.3	-1.3
	SNR=7.6						
WBK				P	Pn	20 02 22.3	-1.3
	SNR=7.6						
WBK				S	Sn	20 05 20.0	-7.8
WBK				S	Sn	20 05 20.0	-7.8
TPGR	Topolog	16.76	313	⇑P	P	20 02 28.7	+1.9
VRH	Novokhopyorsk	16.80

KBL Kabul 19.15 84 P P 20 02 53.7 +0.2
KBL IAmb IAmb 20 03 01.7
comp=Z,20nm,1.1s
KBL Kabul 19.15 84 P Pn 20 02 57.0 +2.6
SNR=5.7
KBL Kabul 19.15 84 P P 20 02 53.7 +0.2
KBL pmax pmax
comp=Z,20nm,1.1s
DOPR Dopca 19.16 312 ⇓P Pn 20 02 54.6 +0.3
CHGR Chuyangaron 19.17 71 P P 20 02 53.7 +0.2
CHGR IAmb IAmb 20 03 04.9
comp=Z,20nm,1.0s
CHGR Chuyangaron 19.17 71 P P 20 02 53.7 +0.2
CHGR pmax pmax
comp=Z,20nm,1.0s
ITM Ithomi 19.47 284 P P 20 02 50.8 -5.9
ITM IAmb IAmb 20 03 04.0
comp=Z,17nm,1.0s
LOT Lotru 19.94 309 ⇑P P 20 03 02.6 +0.7
AK05 Malin Array Si 20.01 328 P P 20 02 59.2 -3.2
AK05 IAmb IAmb 20 03 06.6
comp=Z,15nm,0.8s
AKASG Malin Array Be 20.06 328 P P 20 02 59.6 -3.4
AKASG Malin Array Be 20.06 328 P P 20 03 01.2 -1.8
comp=Z,1.3nm,0.4s,baz=137,slow=9.9,SNR=5.1
AKASG LR LR 20 13 31.8
comp=Z,64nm,18.3s,baz=118,slow=45
comp=Z,1.3nm,0.4s
AKASG Malin Array Be 20.06 328 P P 20 02 59.6 -3.4
AKASG pmax pmax
comp=Z,10.0nm,1.1s
AKBB Malin Array Si 20.06 328 P P 20 03 00.9 -2.0
AKBB IAmb IAmb 20 03 07.1
comp=Z,8.6nm,0.7s
AKBB Malin Array Si 20.06 328 P P 20 03 00.9 -2.0
AKBB pmax pmax
comp=Z,9.0nm,0.7s
KIEV Kiev 20.06 328 P P 20 03 00.7 -2.3
KIEV IAmb IAmb 20 03 07.1
comp=Z,7.7nm,0.7s
KIEV Kiev 20.06 328 ⇑P P 20 03 01.8 -1.2
KIEV Kiev 20.06 328 P P 20 03 00.7 -2.3
KIEV pmax pmax
comp=Z,8.0nm,0.7s
KIEV Kiev 20.06 328 P P 20 03 01.9 -1.1
comp=Z,45nm,0.7s
GAR Garm 20.10 70 P P 20 03 04.2 +0.5
GAR IAmb IAmb 20 03 19.2
comp=Z,20nm,1.0s
BURAR Bucovina Array 20.11 316 P P 20 03 01.4 -2.2
BURAR Bucovina Array 20.11 316 ⇓P P 20 03 04.0 +0.3
BURAR Bucovina Array 20.11 316 ⇓P P 20 03 04.0 +0.3
BUR08 Bucovina Ar. S 20.14 316 P P 20 03 00.5 -3.4
FNA Florina 20.22 295 P 20 03 00.8 -4.1
FNA IAmb IAmb 20 03 08.2
comp=Z,18nm,0.8s
FNA Florina 20.22 295 P P 20 03 00.8 -4.1
FNA pmax pmax
comp=Z,18nm,0.8s
ARCR ARCALIA 20.34 314 ⇑P Pn 20 03 07.3 -0.9
GZR Gura Zlata 20.55 308 ⇓P P 20 03 08.3 -0.2
BTK Batken 20.60 67 P Pn 20 03 10.4 -1.0
BTK Batken 20.60 67 P Pn 20 03 10.4 -1.0
BTK pmax pmax
comp=Z,6.0nm,0.8s
MARR Marisel-Cluj 20.89 312 ⇑P P 20 03 12.7 +0.6
KK31 Karatay Array 20.97 59 P Pn 20 03 14.2 -1.4
KK31 Karatay Array 20.97 59 P P 20 03 14.2 +1.2
KK31 pmax pmax
comp=Z,7.0nm,1.1s
KKAR Karatay Array 20.97 59 P P 20 03 14.1 +1.1
KKAR Karatay Array 20.97 59 P P 20 03 13.5 +0.5
KKAR Karatay Array 20.97 59 P P 20 03 14.1 +1.1
KKAR pmax pmax
comp=Z,7.0nm,1.1s
MDVR Moldovita 21.02 306 ⇑P P 20 03 14.7 +1.1
TRKS Terek-Say 21.07 63 P P 20 03 19.1 +4.9
TRKS pmax pmax
comp=Z,18nm,1.0s
SURR Surduc 21.12 309 ⇓P P 20 03 12.1 -2.4
DRGR 21.19 312 ⇓P P 20 03 15.8 +0.5
DRGR 21.19 312 ⇓P P 20 03 15.8 +0.5
MESR Meseseni 21.21 313 ⇑P P 20 03 16.2 +0.8
BZS Buzias 21.39 308 ⇓P P 20 03 20.2 +2.8
BZS Buzias 21.39 308 ⇓P P 20 03 20.2 +2.8
OBN Obninsk 21.44 345 LR LR 20 12 25.8
comp=Z,88nm,19.3s,baz=192,slow=39
OBN Obninsk 21.44 345⇑ *eP* **P 20 03 20.3 +2.5**
OBN *e* 20 03 38.4
OBN *eS* **S 20 07 17.5 +3.3**
OBN pmax pmax
comp=Z,14nm,0.5s
OBN MLR MLR
comp=Z,71nm,19.0s
PUK Puka 21.55 298 P P 20 03 19.0 -0.2
PUK IAmb IAmb 20 03 29.3
comp=Z,7.3nm,0.8s
SIRR Siria 21.62 310 ⇓P P 20 03 23.3 +3.4
ARK Arkit 21.73 63 P P 20 03 26.2 +5.0
ARK pmax pmax
comp=Z,11nm,0.9s
MOS Moscow 21.83 348 *eP* **P 20 03 21.2 -0.8**
MOS *eS* **S 20 07 18.7 -3.0**
MOS pmax pmax
comp=Z,71nm,0.8s
MOS pmax pmax
comp=Z,100nm,0.8s
ARSB Arslanbob 22.40 65 P P 20 03 29.2 +0.7
ARSB Arslanbob 22.40 65 P P 20 03 29.2 +0.7
ARSB pmax pmax
comp=Z,6.0nm,1.4s
KOLS Kolonicke sedl 22.48 317 *eP* **P 20 03 31.0 +1.9**
KOLS Kolonicke sedl 22.48 317 *eP* **P 20 03 31.0 +1.9**
KWP Kalwaria Pacla 22.60 318 P P 20 03 26.9 -3.5
KWP IAmb IAmb 20 03 36.7
comp=Z,12nm,1.0s
KWP Kalwaria Pacla 22.60 318 P P 20 03 26.9 -3.5
KWP pmax pmax
comp=Z,12nm,1.0s
NIL Nilore 22.74 85 P P 20 03 33.5 +1.4
NIL Nilore 22.74 85 P P 20 03 34.8 +2.7
NIL Nilore 22.74 85 P P 20 03 33.5 +1.4
NIL pmax pmax
comp=Z,24nm,1.0s
CRVS Cervenica-Dubn 22.92 316 *eP* **P 20 03 37.7 +3.9**
CRVS Cervenica-Dubn 22.92 316 *eP* **P 20 03 37.7 +3.9**
PSZ Piszkesteto 23.40 312 P P 20 03 36.2 -2.5
PSZ IAmb IAmb 20 03 53.1
comp=Z,7.9nm,1.1s
PSZ Piszkesteto 23.40 312 P P 20 03 36.2 -2.5
PSZ pmax pmax
comp=Z,8.0nm,1.1s
ARU Arti 23.47 18 P P 20 03 38.5 -0.7
ARU IAmb IAmb 20 03 49.0
comp=Z,13nm,0.9s
ARU Arti 23.47 18 P P 20 03 36.5 -2.7
comp=Z,0.8nm,0.3s,baz=200,slow=12,SNR=1.7
comp=Z,0.8nm,0.3s
ARU Arti 23.47 18*d i* P **P 20 03 39.0 -0.2**
ARU 20 04 05.5
ARU S **S 20 07 54.4 +3.4**
ARU SS **SnSn 20 08 30.1 +2.4**
ARU pmax pmax
comp=Z,16nm,3.1s
ARU Arti 23.47 18 P P 20 03 41.7 +2.5
comp=Z,18nm,1.1s
MORH Mrgy, Hungar 23.54 308 P P 20 03 41.0 +1.0
comp=Z,9.7nm,1.0s
AAK Ala-Archa 23.73 62 LR LR 20 15 45.7
comp=Z,98nm,20.4s,baz=200,slow=44
KIRV Kirov 24.07 5 P P 20 03 44.3 -0.4
comp=Z,20nm,0.5s,baz=256,slow=1.9,SNR=6.8
KIRV LR LR 20 13 47.2
comp=Z,102nm,20.7s,baz=183,slow=38
comp=Z,20nm,0.5s
KIRV Kirov 24.07 5 *i* P **P 20 03 44.9 +0.2**
NACGM Naroch 24.18 333 *eP* **P 20 03 47.5 +1.6**
comp=E,428nm,1.1s,baz=139
VYHS Vyhne 24.29 313 *eP* **P 20 03 48.7 +1.7**
VYHS Vyhne 24.29 313 *eP* **P 20 03 48.7 +1.7**
CUC Castrocucco 24.35 291 P P 20 03 46.7 -1.0
KSH Kashi 24.51 70 P P 20 03 49.3 0.0
KSH sP sP 20 03 59.0 -1.6
KSH pmax pmax
comp=Z,5.0nm,0.8s
OJC Ojcow 24.52 317 P P 20 03 47.6 -1.4
OJC IAmb IAmb 20 04 12.4
comp=Z,5.1nm,0.7s
OJC Ojcow 24.52 317 P P 20 03 47.6 -1.4
OJC pmax pmax
comp=Z,5.0nm,0.7s
OJC Ojcow 24.52 317 P P 20 03 49.6 +0.6
comp=Z,7.9nm,0.9s
MPLH Magyarpolny 24.59 309 P P 20 03 51.1 +1.4
comp=Z,25nm,1.1s
NRN Naryn 24.67 65 P P 20 03 53.0 +2.1
NRN IAmb IAmb 20 03 57.6
comp=Z,12nm,1.0s
NRN Naryn 24.67 65 P P 20 03 53.0 +2.1
NRN pmax pmax
comp=Z,12nm,1.0s
BOOM Boomskoye usch 24.76 63 P P 20 03 54.4 +2.9
BOOM Boomskoye usch 24.76 63 P P 20 03 54.4 +2.9
BOOM pmax pmax
comp=Z,12nm,0.7s
SUW Suwalki 25.02 328 P P 20 03 53.1 -0.5
SUW Suwalki 25.02 328 *eP* **P 20 03 55.5 +1.9**
SUW Suwalki 25.02 328 P P 20 03 53.1 -0.5
SUW pmax pmax
comp=Z,37nm,0.8s
JAVC Velka Javorina 25.14 313 *eP* **P 20 03 57.3 +2.5**
MODS Modra-Piesok 25.19 312 *eP* **P 20 03 59.0 +3.8**
MODS Modra-Piesok 25.19 312 *eP* **P 20 03 59.0 +3.8**
MAUC Maruska 25.26 314 *eP* **P 20 03 57.8 +2.0**
BRVK Borovoye 25.31 36 P P 20 03 57.0 +0.9
BRVK IAmb IAmb 20 04 01.8
comp=Z,11nm,0.9s
BRVK Borovoye 25.31 36 P P 20 03 59.7 +3.6
BRVK Borovoye 25.31 36*ce* **P 20 03 59.0 +2.9**
BRVK pmax pmax
comp=Z,17nm,1.3s
BVAR Borovoye Array 25.34 36 P P 20 03 55.5 -1.0
comp=Z,2.7nm,0.7s,baz=252,slow=7.6,SNR=15
BVAR PcP **PcP 20 07 26.8 -1.8**
comp=Z,0.7nm,0.6s,baz=294,slow=4.6,SNR=3.9
BVAR LR LR 20 15 58.2
comp=Z,70nm,20.9s,baz=204,slow=41
comp=Z,2.7nm,0.7s
RONA Rosalia, Austr 25.56 310 *ep*P **P 20 03 59.7 +1.2**
comp=Z,2.4nm,0.6s
MORC Moravsky Berou 25.60 315 P P 20 03 57.4 -1.5
MORC IAmb IAmb 20 04 23.6
comp=Z,5.9nm,1.0s
MORC Moravsky Berou 25.60 315 *eP* **P 20 04 01.7 +2.8**
MORC Moravsky Berou 25.60 315 P P 20 03 57.4 -1.5
MORC pmax pmax
comp=Z,6.0nm,1.0s
PABE Paberze 25.72 331 P P 20 03 58.7 -1.1
PABE Paberze 25.72 331 *eP* **P 20 04 01.2 +1.4**
ARSA Arzberg 25.91 308 *ep*P **P 20 04 02.6 +0.9**
comp=Z,6.3nm,1.1s
CONA Conrad Observa 25.91 310 *ep*P **P 20 04 03.8 +1.9**
comp=Z,9.4nm,1.0s
VRAC Vranov 25.97 313 *eP* **P 20 04 03.7 +1.5**
VRAC Vranov 25.97 313 LR LR 20 17 27.1
comp=Z,45nm,18.0s,baz=135,slow=44
KRUC Moravsky 25.99 313 *eP* **P 20 04 04.2 +1.8**
OBKA Obir 26.34 306 *ep*P **P 20 04 07.2 +1.5**
comp=Z,6.2nm,1.0s
FURI Furi 26.45 196 LR LR 20 15 59.6
comp=Z,122nm,18.5s,baz=39,slow=40
NRCA Norcia 26.62 298 P P 20 04 06.8 -1.5
NRCA IAmb IAmb 20 04 16.5
comp=Z,8.1nm,1.0s
PRED Cave del Predi 26.98 306 P P 20 04 08.9 -2.5
PRED IAmb IAmb 20 04 22.9
comp=Z,5.0nm,1.0s
VSU Vasula 26.99 338⇑ *eP* **P 20 04 10.2 -1.0**
VSU pmax pmax
comp=Z,9.0nm,0.6s
BIOA Bad Ischl, Aus 27.26 308 *ep*P **P 20 04 14.7 +0.8**
comp=Z,3.3nm,0.5s
KBA Koelnbreinsper 27.28 307 *ep*P **P 20 04 13.9 -0.4**
comp=Z,2.8nm,0.8s
GERES GERESS Array B 27.58 311 P P 20 04 14.4 -2.4
comp=Z,0.1nm,0.3s,baz=71,slow=9.5,SNR=1.8
comp=Z,0.1nm,0.3s
KHC Kasperske Hory 27.75 311 *eP* **P 20 04 20.8 +2.5**
KHC Kasperske Hory 27.75 311 *eP* **P 20 04 20.8 +2.5**
ABTA Abfaltersbach 27.75 306 *eP* **P 20 04 13.9 -4.5**
comp=Z,2.2nm,1.1s
LESA Schwarzleotal 27.81 307 *ep*P **P 20 04 18.3 -0.7**
comp=Z,1.2nm,0.5s
ARBE Arbavere 28.00 338 *eP* **P 20 04 20.5 +0.1**
WTTA Wattenberg 28.46 307 *ep*P **P 20 04 24.6 -0.2**
comp=Z,1.6nm,0.7s
WATA Walderalm 28.52 307 *ep*P **P 20 04 24.8 -0.4**
comp=Z,0.6nm,0.3s
KURBB Kurchatov Arra 28.61 46 P P 20 04 26.4 +0.5
comp=Z,14nm,1.4s,baz=253,slow=8.9,SNR=13
KURBB PcP **PcP 20 07 33.4 -2.9**
comp=Z,0.2nm,0.3s,baz=240,slow=3.3,SNR=1.6
KURBB ScP **ScP 20 11 15.1 -0.7**
comp=Z,0.1nm,0.4s,baz=252,slow=4.4,SNR=2.6
comp=Z,14nm,1.4s
KURK Kurchatov 28.69 46 P P 20 04 26.5 -0.1
KURK IAmb IAmb 20 04 31.7
comp=Z,10nm,1.3s
KURK Kurchatov 28.69 46 P P 20 04 28.6 +2.0
KURK Kurchatov 28.69 46⇑ *eP* **P 20 04 28.0 +1.4**
KURK pmax pmax
comp=Z,9.0nm,1.3s
SQTA Sankt Quirin 28.73 306 *eP* **P 20 04 23.6 -3.6**
comp=Z,0.8nm,0.5s
FETA Feichten 29.01 306 *ep*P **P 20 04 29.3 -0.3**
comp=Z,1.1nm,0.5s
DAVOX Davos/Dischmat 29.53 305 LR LR 20 17 56.2
comp=Z,54nm,19.6s,baz=84,slow=40
FINES FINESS Array B 29.62 341 LR LR 20 17 21.1
comp=Z,102nm,20.2s,baz=134,slow=38
DAVA Damuels 29.63 306 *ep*P **P 20 04 34.2 -0.9**
comp=Z,2.0nm,0.4s
JOF Joensuu 29.70 347 *eP* **P 20 04 35.6 +0.1**
MAKZ Makanchi 29.74 55 P P 20 04 35.7 -0.3
MAKZ IAmb IAmb 20 04 41.1
comp=Z,4.8nm,0.8s
MAKZ Makanchi 29.74 55 P P 20 04 35.7 -0.3
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 29.95 55 P P 20 04 38.8 +0.9
MK31 Makanchi Array 29.95 55 P P 20 04 38.8 +0.9
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 29.95 55 P P 20 04 38.3 +0.5
MKAR Makanchi Array 29.95 55 P P 20 04 37.6 -0.2
comp=Z,6.4nm,0.6s,baz=249,slow=8.2,SNR=38
MKAR LR LR 20 19 12.8
comp=Z,71nm,18.6s,baz=159,slow=42
comp=Z,6.4nm,0.6s
MKAR Makanchi Array 29.95 55 *i* P **P 20 04 39.9 +2.1**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
KEF Keuruu 30.54 341 *eP* **P 20 04 45.1 +2.3**
SENIN Lac Senin/Sane 31.21 304 P P 20 04 46.7 -2.5
BNI Bardonecchia 31.49 301 P P 20 04 50.0 -1.6
BNI Bardonecchia 31.49 301 P P 20 04 50.0 -1.6
BNI pmax pmax
comp=Z,16nm,1.1s
WLF Walferdange 32.56 310 P P 20 04 57.8 -2.9
WLF IAmb IAmb 20 05 06.1
comp=Z,6.1nm,1.0s
WLF Walferdange 32.56 310 P P 20 04 57.8 -2.9
WLF pmax pmax
comp=Z,6.0nm,1.0s
HFS Hagfors 32.90 331 P P 20 05 01.3 -2.3
comp=Z,3.4nm,0.5s,baz=119,slow=9.3,SNR=4.7
HFS LR LR 20 17 55.5
comp=Z,40nm,21.2s,baz=124,slow=36
comp=Z,3.4nm,0.5s
SSB Saint Sauveur 33.01 301 P P 20 05 01.9 -2.9
SSB IAmb IAmb 20 05 08.5
comp=Z,2.4nm,0.6s
SSB Saint Sauveur 33.01 301 P P 20 05 01.9 -2.9
SSB pmax pmax
comp=Z,2.0nm,0.6s
ZAA0 Zalesovo Array 33.38 43 P P 20 05 07.4 -0.5
ZAA0 IAmb IAmb 20 05 17.6
comp=Z,2.5nm,0.8s
ZALV Zalesovo Beam 33.38 43 P P 20 05 07.7 -0.2
ZALV Zalesovo Beam 33.38 43 P P 20 05 05.5 -2.3
comp=Z,0.5nm,0.3s,baz=240,slow=8.2,SNR=2.5
ZALV LR LR 20 21 27.9
comp=Z,87nm,18.6s,baz=202,slow=41
comp=Z,0.5nm,0.3s
ZALV Zalesovo Beam 33.38 43 P P 20 05 07.7 -0.2
WMQ Urumqi 33.43 61 *eP* **P 20 05 11.6 +3.0**
NB2 NORSAR Subarra 34.42 331 P P 20 05 16.0 -0.9
comp=Z,0.4nm,0.4s,baz=124,slow=9.3
NOA NORSAR Array B 34.42 331 P P 20 05 14.9 -2.0
comp=Z,0.7nm,0.6s,baz=125,slow=8.7,SNR=4.1
NOA LR LR 20 21 40.5
comp=Z,48nm,20.1s,baz=120,slow=40
comp=Z,0.7nm,0.6s
KEV Kevo 36.65 349 P P 20 05 33.9 -1.9
KEV Kevo 36.65 349 P P 20 05 33.9 -1.9
KEV pmax pmax
comp=Z,28nm,1.5s
ARCES ARCESS Array B 36.70 348 P P 20 05 35.2 -1.0
ARCES ARCESS Array B 36.70 348 P P 20 05 34.9 -1.3
comp=Z,1.4nm,0.6s,baz=159,slow=10,SNR=6.4
ARCES LR LR 20 21 50.1
comp=Z,76nm,19.5s,baz=126,slow=38
comp=Z,1.4nm,0.6s
ARCES ARCESS Array B 36.70 348 P P 20 05 35.2 -1.0
ARCES pmax pmax
comp=Z,12nm,1.3s
TAM Tamanrasset 37.00 262 P P 20 05 35.7 -3.8
TAM Tamanrasset 37.00 262 P P 20 05 35.7 -3.8
TAM pmax pmax
comp=Z,4.0nm,1.0s
EKA Eskdalemuir Ar 39.29 317 P P 20 05 57.2 -1.0
comp=Z,1.0nm,0.5s,baz=105,slow=8.3,SNR=21
comp=Z,1.0nm,0.5s
EKB Eskdalemuir 39.31 317 P P 20 05 57.6 -0.8
EKB IAmb IAmb 20 06 35.2
comp=Z,6.9nm,1.1s
ESK Eskdalemuir 39.31 317 P P 20 05 57.3 -1.2
ESK Eskdalemuir 39.31 317 P P 20 05 57.3 -1.2
ESK pmax pmax
comp=Z,18nm,1.4s
ESDC Sonseca Array 39.55 292 P P 20 05 59.5 -1.2
comp=Z,1.6nm,1.0s,baz=61,slow=8.8,SNR=5.8
comp=Z,1.6nm,1.0s
NRIK Noril'sk 41.64 21*ce*P **P 20 06 19.3 +1.8**
GTA Gaotai 42.87 67 *eP* **P 20 06 31.3 +3.2**
GTA pmax pmax
comp=Z,3.0nm,1.3s
TOA0 Torodi Ar. Sit 45.18 253 P P 20 06 43.6 -3.2
TOA0 IAmb IAmb 20 07 27.7
comp=Z,5.9nm,1.3s
TORD Torodi Ar. Bea 45.18 253 P P 20 06 43.9 -2.8
TORD Torodi Ar. Bea 45.18 253 P P 20 06 47.3 +0.5
comp=Z,1.2nm,0.7s,baz=22,slow=7.6,SNR=6.0
TORD PcP **PcP 20 08 26.2 -0.6**
comp=Z,0.4nm,0.6s,baz=344,slow=2.5,SNR=1.7
TORD LR LR 20 30 14.7
comp=Z,55nm,18.1s,baz=113,slow=42
comp=Z,1.2nm,0.7s
JMIC Jan Mayen 46.17 338 LR LR 20 26 37.4
comp=Z,55nm,19.7s,baz=110,slow=37
SONM Songino Array 46.31 54 P P 20 06 54.7 -0.7
comp=Z,0.6nm,0.6s,baz=276,slow=8.7,SNR=1.6
SONM PcP **PcP 20 08 29.5 -0.9**
comp=Z,0.3nm,0.5s,baz=219,slow=1.8,SNR=2.7
comp=Z,0.6nm,0.6s
ULN Ulaanbaatar 46.75 54 P P 20 06 58.5 -0.5
ULN IAmb IAmb 20 07 03.9
comp=Z,3.5nm,0.8s
ULN Ulaanbaatar 46.75 54*ce*P **P 20 07 01.2 +2.3**
ULN pmax pmax
comp=Z,4.0nm,1.0s
LZH Lanzhou 46.76 71 *eP* P 20 07 04.3 +5.1
LZH pP sP 20 07 11.8 +1.1
LZH pmax pmax
comp=Z,21nm,1.3s
CD2 Chengdu 48.32 77 P P 20 07 13.5 +2.2
CD2 pP pP 20 07 15.9 -3.6
CD2 pmax pmax
comp=Z,30nm,0.8s
PZH PanZhiHua 48.34 84 P P 20 07 12.6 +1.0
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,170nm,7.7s
CMAR Chiang Mai Arr 49.67 95 P P 20 07 20.0 -1.7
comp=Z,0.5nm,0.3s,baz=291,slow=9.0,SNR=2.7
comp=Z,0.5nm,0.3s
CMAR Chiang Mai Arr 49.67 95 *i* P **P 20 07 25.7 +4.0**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
HHC Hu-ho-hao-te 51.30 62 *eP* **P 20 07 34.6 +0.7**
HHC pP pP 20 07 39.3 -2.9
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,88nm,4.0s
XAN Xi'an 51.35 72 P P 20 07 38.3 +4.1
XAN pmax pmax
comp=Z,23nm,1.1s
DBIC Dimbokro 54.21 251 P P 20 07 53.8 -1.7
comp=Z,4.2nm,0.9s,baz=64,slow=4.8,SNR=2.0
DBIC LR LR 20 33 43.6
comp=Z,58nm,20.3s,baz=86,slow=39
comp=Z,4.2nm,0.9s
YAK Yakutsk 57.29 34 LR LR 20 39 00.1
comp=Z,90nm,18.1s,baz=220,slow=42
YAK Yakutsk 57.29 34⇑ *eP* **P 20 08 19.6 +2.7**
YAK pmax pmax
comp=Z,4.0nm,0.6s
HEH HeiHe 59.27 48 *eP* **P 20 08 31.9 +0.9**
HEH pmax pmax
comp=Z,5.0nm,0.9s
USRK Ussuriysk Ar. 64.38 53 P P 20 09 05.3 -0.1
comp=Z,1.6nm,0.6s,baz=281,slow=7.2,SNR=6.5
comp=Z,1.6nm,0.6s
KSRS Korea Array 64.38 61 P P 20 09 03.7 -1.9
comp=Z,2.2nm,0.5s,baz=294,slow=6.5,SNR=4.1
comp=Z,2.2nm,0.5s
SEY Seymchan 66.70 29⇑ *eP* **P 20 09 21.4 +1.2**
SEY pmax pmax
comp=Z,5.0nm,1.0s
FRB Frobisher Bay 69.15 334 LR LR 20 41 43.1
comp=Z,54nm,18.2s,baz=218,slow=38
YSS Yuzh-Sakhalins 69.90 46 *eP* **P 20 09 41.4 +1.0**
YSS *eS* **S 20 18 52.7 +4.2**
YSS pmax pmax
comp=Z,5.0nm,0.8s
YSS MLR MLR
comp=Z,100nm,12.0s
MJAR Matsushiro Arr 72.10 58 P P 20 09 53.9 -0.1
comp=Z,0.7nm,0.5s,baz=30,slow=8.9,SNR=2.3
comp=Z,0.7nm,0.5s
ILAR Eielson Array 80.41 5 P P 20 10 40.6 0.0
comp=Z,1.1nm,0.9s,baz=326,slow=4.4,SNR=10
comp=Z,1.1nm,0.9s
YKA Yellowknife Ar 81.91 351 P P 20 10 48.6 -0.1
comp=Z,2.3nm,1.0s,baz=20,slow=5.7,SNR=4.5
comp=Z,2.3nm,1.0s
QSPA South Pole Qui 124.48 180 PKP **PKiKP 20 17 28.3 +0.2**
comp=Z,0.6nm,0.6s,baz=270,slow=1.0,SNR=1.9

NEIC ***24*** *20:00:37.0±2.4, 30.7°S±0.1°×179.5°W±0.2, h226km±14km, mb4.0/8, Error ellipse: s-maj=27.7km s-min=20.8km az=104.0*
IDC ***24*** *20:00:38.2±0.8, 29.97°S×179.03°W, h275km±16km, mb3.3/4, mbtmp4.0/4, Error ellipse: s-maj=44.3km s-min=22.4km az=34.0*
ISC 24 20:00:37.8±0.8, 30.52°S±0.08°×179.5°W±0.1, h250km, n53, σ2.9/97/73, mb3.9/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.89**	**49**	P	**Pn**	**20 01 19.1**	**-0.2**
GLKZ				S	**S**	**20 01 48.2**	**-3.8**
RIZ	**Raoul Island**	**1.89**	**48**	P	**Pn**	**20 01 18.8**	**-0.5**
RIZ				S	**S**	**20 01 50.0**	**-2.0**
RAO	**Raoul Island**	**1.89**	**48**	P	**Pn**	**20 01 18.4**	**-1.0**
	971nm,0.2s,baz=255,slow=18,SNR=27						
RAO				S	**S**	**20 01 47.3**	**-4.8**
	308nm,0.4s,baz=287,slow=19,SNR=1.8						
MXZ	**Matakaoa Point**	**7.25**	**194**	Pn	**Pn**	**20 02 21.6**	**+0.1**
MXZ	**Matakaoa Point**	**7.25**	**194**	P	**Pn**	**20 02 22.2**	**+0.7**
MXZ				S	**S**	**20 03 47.4**	**+2.6**
WMGZ	**Waiomatatini S**	**7.47**	**193**	P	**Pn**	**20 02 25.0**	**+0.7**
WMGZ				S	**S**	**20 03 52.8**	**+2.8**

HAZ	**Te Kaha**	**7.55 196**	P	**Pn**	**20 02 26.7**	**+1.4**
PKGZ	**Pakihiroa**	**7.59 194**	P	**Pn**	**20 02 27.2**	**+1.4**
PUZ	**Puketiti**	**7.75 193**	P	**Pn**	**20 02 28.1**	**+0.3**
RUGZ	**Raukumara Rang**	**7.77 196**	P	**Pn**	**20 02 29.7**	**+1.4**
TWGZ	**Tauwhareparae**	**7.91 194**	P	**Pn**	**20 02 31.3**	**+1.4**
TWGZ			S	**S**	**20 04 01.8**	**+1.7**
MWZ	**Matawai**	**8.16 196**	P	**Pn**	**20 02 33.3**	**+0.2**
MWZ			S	**S**	**20 04 08.1**	**+2.1**
TKGZ	**Te Karaka**	**8.19 195**	P	**Pn**	**20 02 32.6**	**-0.8**
TKGZ			S	**S**	**20 04 07.1**	**+0.6**
URZ	**Urewera**	**8.20 199**	P	**Pn**	**20 02 33.3**	**-0.3**
	4.6nm,0.3s,baz=349,slow=4.1,SNR=10					
URZ			S	**S**	**20 04 07.1**	**+0.3**
	20nm,0.4s,baz=23,slow=7.7,SNR=12					
URZ	**Urewera**	**8.20 199**	P	**Pn**	**20 02 31.2**	**-2.3**
RAGZ	**Rawiri**	**8.34 197**	P	**Pn**	**20 02 35.7**	**+0.3**
RTZ	**Ruatahuna**	**8.57 199**	Pn	**Pn**	**20 02 36.3**	**-2.0**
SNGZ	**Shannon Statio**	**8.63 196**	P	**Pn**	**20 02 39.8**	**+0.7**
SNGZ			S	**S**	**20 04 17.7**	**+0.9**
KNZ	**Kokohu**	**8.78 194**	P	**Pn**	**20 02 40.2**	**-0.8**
HIZ	**Hauiti**	**9.21 209**	Pn	**Pn**	**20 02 43.9**	**-2.4**
BKZ	**Black Stump Fm**	**9.22 200**	S	**S**	**20 04 33.2**	**+2.6**
CKHZ	**Cape Kidnapper**	**9.53 196**	P	**Pn**	**20 02 49.8**	**-0.5**
CKHZ			S	**S**	**20 04 36.3**	**-1.4**
PXZ	**Pawanui**	**9.93 196**	S	**S**	**20 04 44.5**	**-2.5**
MRZ	**Mangatainoka R**	**10.87 200**	Pn	**Pn**	**20 03 03.6**	**-3.6**
HOWZ	**Holdsworth Sta**	**11.10 200**	P	**Pn**	**20 03 10.7**	**+0.5**
HOWZ			S	**S**	**20 05 07.0**	**-7.3**
OGWZ	**Otaki Gorge**	**11.13 201**	P	**Pn**	**20 03 05.9**	**-4.6**
OGWZ			S	**S**	**20 05 09.2**	**-5.8**
TMWZ	**Te Maipa**	**11.19 198**	P	**Pn**	**20 03 12.3**	**+1.0**
TMWZ			S	S	20 05 07.0	-9.3
KIW	**Kapiti Island**	**11.26 202**	P	**Pn**	**20 03 09.1**	**-3.0**
KIW			S	**S**	**20 05 11.3**	**-6.6**
MTW	**Mount Morrison**	**11.35 199**	P	**Pn**	**20 03 11.2**	**-2.0**
MTW			S	**S**	**20 05 13.4**	**-6.5**
TRWZ	**Traveller**	**11.52 198**	P	**Pn**	**20 03 16.0**	**+0.7**
TRWZ			S	**S**	**20 05 17.6**	**-6.3**
DUWZ	**D'Urville Isla**	**11.55 206**	P	**Pn**	**20 03 14.4**	**-1.3**
DUWZ			P	**S**	**20 05 24.1**	**-0.6**
MSWZ	**Moikau Station**	**11.66 200**	Pn	**Pn**	**20 03 14.0**	**-3.0**
MSWZ	**Moikau Station**	**11.66 200**	P	**Pn**	**20 03 15.4**	**-1.6**
MSWZ			S	**S**	**20 05 20.8**	**-6.4**
TCW	**Tory Channel**	**11.78 203**	P	**Pn**	**20 03 18.1**	**-0.5**
TCW			S	**S**	**20 05 26.1**	**-3.9**
PLWZ	**Palliser**	**11.80 199**	Pn	**Pn**	**20 03 15.3**	**-3.6**
PLWZ	**Palliser**	**11.80 199**	P	Pn	20 03 13.3	-5.5
PLWZ			S	**S**	**20 05 25.6**	**-4.9**
TUWZ	**Tuamarina**	**12.09 204**	P	**Pn**	**20 03 19.1**	**-3.3**
TUWZ			P	**S**	**20 05 33.3**	**-3.8**
THZ	**Tophouse**	**12.76 206**	Pn	**Pn**	**20 03 27.9**	**-2.8**
KHZ	**Kahutara**	**13.10 203**	Pn	Pn	20 03 32.6	-2.3
RPZ	**Rata Peaks**	**15.14 207**	S	**S**	**20 06 38.0**	**-8.3**
	11nm,0.7s,baz=45,slow=16,SNR=6.6					
STKA	**Stephens Creek**	**33.16 257**	P	**P**	**20 06 54.1**	**+3.1**
	0.7nm,0.4s,baz=95,slow=8.8,SNR=1.7					
	0.7nm,0.4s					
ASAR	**Alice Springs**	**41.77 268**	P	**P**	**20 08 04.5**	**+1.2**
	0.3nm,0.3s,baz=104,slow=7.0,SNR=5.3					
ASAR			PcP	**PcP**	**20 09 53.6**	**-0.9**
	0.2nm,0.4s,baz=112,slow=4.4,SNR=4.1					
	0.3nm,0.3s					
WRAB	**Tennant Creek**	**42.77 273**	P	**P**	**20 08 12.6**	**+1.3**
WRAB			IAmb	IAmb	20 08 27.2	
	comp=Z,8.2nm,1.5s					
WRA	**Warramunga Arr**	**42.77 273**	P	**P**	**20 08 12.7**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=111,slow=8.1,SNR=64					
	comp=Z,0.9nm,0.3s					
WB0	**Warramunga Arr**	**42.80 273**	P	**P**	**20 08 12.6**	**+1.2**
KNRA	**Kununurra**	**49.39 275**	P	**P**	**20 09 03.4**	**+0.8**
KNRA			IAmb	IAmb	20 09 18.9	
	comp=Z,6.2nm,1.2s					
FITZ	**Fitzroy Crossi**	**51.03 271**	P	**P**	**20 09 17.4**	**+2.5**
CASY	**Casey**	**54.41 208**	P	**P**	**20 09 41.7**	**+2.9**
QSPA	**South Pole Qui**	**59.59 180**	P	**P**	**20 10 17.4**	**+2.2**
QSPA			IAmb	IAmb	20 10 17.9	
	comp=Z,3.3nm,0.7s					
QSPA	**South Pole Qui**	**59.59 180**	P	**P**	**20 10 16.8**	**+1.6**
	comp=Z,2.0nm,0.5s,baz=8.0,slow=9.8,SNR=28					
	comp=Z,2.0nm,0.5s					
BELA	**Belgrano 2**	**69.84 173**	P	**P**	**20 11 20.9**	**0.0**
BELA			IAmb	IAmb	20 12 01.4	
	comp=Z,3.4nm,1.4s					
SNAA	**Sanae**	**78.06 179**	P	**P**	**20 12 08.3**	**-0.3**
SNAA			IAmb	IAmb	20 12 31.8	
	comp=Z,4.1nm,1.3s					
FINES	**FINESS Array B**	**144.79 339**	PKP	PKPbc	20 19 40.2	-3.6
	comp=Z,0.3nm,0.4s,baz=52,slow=2.5,SNR=8.1					

IDC 24 20:06:13.9±402.0, 58°.99N×54°.05E, h0km, Error ellipse: s-maj=161.1km s-min=138.6km az=53.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**8.91**	**163**	I	I	21 00 00.0	
	baz=347,slow=320,SNR=1.6						
I43RU	**DUBNA INFRASON**	**9.26**	**263**	I	I	21 00 50.0	
	baz=70,slow=311,SNR=1.0						
I37NO	**I37NO**	**18.20**	**318**	I	I	21 55 20.0	
	baz=105,slow=322,SNR=1.1						

*NEIC **24** 20:09:00.7±2.0, 43°.73N±0°.05×105°.28W±0°.08, h0km±1km, ML3.5/84, Error ellipse: s-maj=10.0km s-min=8.9km az=83.0*
*IDC **24** 20:09:02.3±2.0, 43°.63N×105°.29W, h0km, mbtmp3.4/4, ML3.5/4, Error ellipse: s-maj=58.8km s-min=8.5km az=151.0*
ISC 24 20:09:02.0±1.0, 43°.72N±0°.06×105°.37W±0°.05, h0km, n66, σ1§28/64, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.04**	**67**		**Pg**	**20 09 22.2**	**+0.1**
K22A	**Casper**	**1.36**	**218**		**Pg**	**20 09 27.5**	**-0.7**
K22A				IAML		20 09 51.7	
	comp=N,734nm,0.3s						
K22A				IAML		20 09 53.4	
	comp=E,752nm,0.3s						
PHWY	**Pilot Hill**	**2.42**	**181**		**Pn**	**20 09 43.9**	**+0.8**
RWWY	**Rawlins**	**2.44**	**214**		**Pn**	**20 09 45.5**	**+2.1**
RWWY				IAML		20 10 24.0	
	comp=E,299nm,1.0s						
N23A	**Red Feather La**	**2.86**	**189**		**Pn**	**20 09 50.0**	**+0.9**
N23A				IAML		20 10 34.4	
	comp=N,177nm,0.7s						
N23A				IAML		20 10 35.0	
	comp=E,122nm,0.7s						
LAO	**LASA Array**	**3.02**	**349**		**Pn**	**20 09 52.4**	**+1.2**
RLMT	**Red Lodge**	**3.12**	**298**		**Pn**	**20 09 54.2**	**+1.5**
RLMT				IAML		20 10 52.6	
	comp=E,103nm,0.7s						
RLMT				IAML		20 10 53.8	
	comp=E,84nm,0.9s						
PD31	**Pinedale Array**	**3.20**	**254**		**Pn**	**20 09 55.2**	**+1.3**
PDAR	**Pinedale Array**	**3.20**	**254**		**Pn**	**20 09 55.6**	**+1.7**
PDAR	**Pinedale Array**	**3.20**	**254**	Pn	**Pn**	**20 09 56.0**	**+2.2**
	comp=E,4.2nm,0.3s,baz=70,slow=16,SNR=74						
PDAR				Lg	Lg	20 10 43.8	
	comp=E,27nm,0.3s,baz=68,slow=36,SNR=18						
	comp=E,4.1nm,0.3s						
BRIGG	**Briggsdale**	**3.24**	**166**		**Pn**	**20 09 54.5**	**+0.3**
LKWY	**Lake**	**3.71**	**285**		**Pn**	**20 10 01.4**	**+0.5**
LKWY				IAML		20 10 25.8	
	comp=E,70nm,0.7s						
LKWY				IAML		20 11 12.1	
	comp=E,55nm,0.8s						
OGNE	**Ogallala**	**3.72**	**137**	Pn	**Pn**	**20 10 02.1**	**+1.3**
LOHW	**Long Hollow**	**3.80**	**270**		**Pn**	**20 10 04.0**	**+2.0**
H17A	**Grant Village**	**3.81**	**282**		**Pn**	**20 10 03.5**	**+1.3**
H17A				IAML		20 11 08.8	
	comp=N,64nm,0.8s						
H17A				IAML		20 11 15.0	
	comp=E,53nm,0.9s						
FLWY	**Flagg Ranch**	**3.87**	**277**		**Pn**	**20 10 04.3**	**+1.4**
FLWY				IAML		20 11 20.6	
	comp=E,56nm,2.7s						
FLWY				IAML		20 11 20.7	
	comp=E,72nm,1.4s						
MOOW	**Moose Ponds**	**3.89**	**272**		**Pn**	**20 10 04.6**	**+1.3**
SNOW	**Snow King Moun**	**3.92**	**268**		**Pn**	**20 10 05.0**	**+1.3**
SNOW				IAML		20 11 23.1	
	comp=E,71nm,1.2s						
SNOW				IAML		20 11 41.5	
	comp=E,76nm,1.4s						
ISCO	**Idaho Springs**	**3.93**	**183**		**Pn**	**20 10 05.3**	**+1.5**
YPP	**Pitchstone Pla**	**3.96**	**280**		**Pn**	**20 10 06.0**	**+1.8**
YPP				IAML		20 11 24.1	
	comp=E,39nm,1.1s						
REDW	**Red Top Meadow**	**4.00**	**267**		**Pn**	**20 10 06.1**	**+1.4**
IMW	**Indian Meadow**	**4.03**	**274**		**Pn**	**20 10 06.0**	**+0.8**
IMW				IAML		20 11 17.9	
	comp=E,55nm,1.1s						
IMW				IAML		20 11 21.8	
	comp=E,56nm,0.7s						
TPAW	**Teton Pass**	**4.06**	**269**		**Pn**	**20 10 05.3**	**-0.3**
TPAW				IAML		20 11 24.9	
	comp=E,68nm,1.0s						
YHH	**Holmes Hill**	**4.08**	**287**		**Pn**	**20 10 05.5**	**-0.3**
FXWY	**Fox Creek**	**4.10**	**271**		**Pn**	**20 10 04.8**	**-1.4**
O20A	**White River Ci**	**4.18**	**212**		**Pn**	**20 10 08.4**	**+1.2**
O20A				IAML		20 11 31.6	
	comp=E,66nm,1.8s						
AHID	**Auburn Hatcher**	**4.29**	**259**		**Pn**	**20 10 10.1**	**+1.4**
YHB	**Horse Butte**	**4.31**	**286**		**Pn**	**20 10 08.2**	**-0.8**
YHL	**Hebgen Lake**	**4.32**	**287**		**Pn**	**20 10 08.0**	**-1.2**
YHL				IAML		20 11 32.4	
	comp=N,52nm,1.3s						
K30B	**Basset**	**4.34**	**102**		**Pn**	**20 10 09.3**	**0.0**
E28A	**Huff**	**4.37**	**48**	Pn	**Pn**	**20 10 09.8**	**+0.2**
RDMU	**Red Mountain**	**4.43**	**226**		**Pn**	**20 10 09.1**	**-1.6**
RDMU				IAML		20 11 27.2	
	comp=E,51nm,1.0s						
RDMU				IAML		20 11 29.4	
	comp=N,51nm,1.4s						
SMCO	**Snowmass**	**4.70**	**195**		**Pn**	**20 10 14.0**	**-0.5**
SMCO				IAML		20 11 39.1	
	comp=N,34nm,0.7s						
SMCO				IAML		20 11 47.6	
	comp=N,26nm,1.4s						
DGMT	**Dagmar**	**4.82**	**9**		**Pn**	**20 10 15.0**	**-0.8**
BOZ	**Bozeman (W)**	**4.84**	**295**		**Pn**	**20 10 16.4**	**+0.2**
BOZ				IAML		20 11 39.4	
	comp=N,29nm,0.7s						
BOZ				IAML		20 11 41.4	
	comp=N,35nm,0.8s						
HWUT	**Hardware Ranch**	**5.03**	**247**		**Pn**	**20 10 20.0**	**+1.1**
BSUT	**Blindstream Ca**	**5.12**	**233**		**Pn**	**20 10 20.0**	**-0.3**
BSUT				IAML		20 11 48.5	
	comp=N,17nm,1.4s						
BSUT				IAML		20 12 03.9	
	comp=E,25nm,1.2s						
KSCO	**Kaye Shedlock'**	**5.14**	**155**		**Pn**	**20 10 21.4**	**+1.0**
TCUT	**Toone Canyon**	**5.17**	**242**		**Pn**	**20 10 20.4**	**-0.4**
EGMT	**Eagleton**	**5.28**	**326**		**Pn**	**20 10 24.3**	**+2.2**
DLMT	**Dillon**	**5.42**	**290**		**Pn**	**20 10 24.6**	**+0.5**
P18A	**Preston Nutter**	**5.48**	**223**		**Pn**	**20 10 25.8**	**+0.6**
SPUT	**South Promonto**	**5.76**	**248**		**Pn**	**20 10 30.0**	**+1.1**
MDND	**Maddock**	**5.77**	**42**		**Pn**	**20 10 29.8**	**+0.9**
HVU	**Hansel Valley**	**5.79**	**253**		**Pn**	**20 10 29.5**	**+0.3**
P17A	**Butcher Ranch,**	**5.85**	**225**		**Pn**	**20 10 30.6**	**+0.5**
LYMT	**Lyon Mountain**	**5.86**	**306**		**Pn**	**20 10 31.7**	**+1.5**
SDCO	**Great Sand Dun**	**5.97**	**181**	Pn	**Pn**	**20 10 33.2**	**+1.3**
SRU	**San Rafael Swe**	**6.02**	**222**		**Pn**	**20 10 34.0**	**+1.5**
TMUT	**Trail Mountain**	**6.22**	**227**		**Pn**	**20 10 36.3**	**+0.9**
BGU	**Big Grassy Mou**	**6.33**	**246**		**Pn**	**20 10 35.5**	**-1.2**
BPMT	**Black Pine Rid**	**6.33**	**298**		**Pn**	**20 10 34.9**	**-1.8**
ECSD	**EROS Data Cent**	**6.35**	**87**		**Pn**	**20 10 36.6**	**-0.2**
Q16A	**Castle Valley**	**6.49**	**224**		**Pn**	**20 10 37.4**	**-1.6**
DUG	**Dugway, Tooele**	**6.57**	**240**		**Pn**	**20 10 40.1**	**+0.1**
T25A	**Trinidad**	**6.62**	**173**	Pn	**Pn**	**20 10 40.9**	**+0.2**
F33A	**5 Mile Ranch,**	**6.80**	**69**		**Pn**	**20 10 44.0**	**+1.0**
HMU	**Henry Mountain**	**7.07**	**217**		**Pn**	**20 10 46.4**	**-0.5**
MSU	**Marysvale**	**7.31**	**227**		**Pn**	**20 10 48.9**	**-1.4**
MVU	**Marysvale**	**7.34**	**227**		**Pn**	**20 10 50.0**	**-0.6**
RTBA	**Rita Blanca**	**7.55**	**164**		**Pn**	**20 10 53.5**	**0.0**
ELK	**Elko**	**7.90**	**251**	Pn	Pn	20 11 03.4	+5.0
	comp=E,0.2nm,0.3s,baz=82,slow=13,SNR=2.3						
	comp=E,0.3nm,0.3s						
AGMN	**Agassiz Nation**	**8.04**	**52**		**Pn**	**20 11 00.3**	**+0.3**
ULM	**Lac du Bonnet**	**9.20**	**41**	Pn	**Pn**	**20 11 14.3**	**-1.5**
	comp=E,4.0nm,0.3s,baz=230,slow=11,SNR=20						
ULM				Lg	Lg	20 13 48.0	
	comp=E,0.3nm,0.3s,baz=321,slow=22,SNR=1.6						
	comp=E,6.3nm,0.3s						
I56US	**NEWPORT INFRAS**	**9.35**	**303**	I	I	21 05 00.0	
	baz=117,slow=310,SNR=5.0						
NVAR	**Mina Array Bea**	**11.10**	**246**	Pn	**Pn**	**20 11 46.3**	**+4.2**
	comp=E,0.1nm,0.3s,baz=59,slow=14,SNR=3.2						
	comp=E,0.4nm,0.6s						

*IDC **24** 20:15:57.1±2.6, 4°.06N×73°.87W, h26km±16km, mb3.4/9, mbtmp3.7/11, ML3.8/3, MS3.4/5, Error ellipse: s-maj=18.8km s-min=18.1km az=179.0*
*NEIC **24** 20:15:58.6±2.7, 4°.26N±0°.05×73°.66W±0°.05, h49km±14km, mb4.3/9, Error ellipse: s-maj=10.4km s-min=1.9km az=132.0*
*RSNC **24** 20:15:59.7±0.0, 4°.N±1°.×7°.4W±°, h0km±2km, M4.0, mb4.8, mB4.9, ML3.8, Mw(mB)4.2*
*VAO **24** 20:16:04.9±0.9, 4°.56N×72°.93W, h10km, mb4.1*
ISC 24 20:15:56.4±0.7, 4°.11N±0°.02×73°.78W±0°.02, h17km±4km, n86, σ2§51/117, mb3.8/10, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VILC	**Villavicencio,**	**0.09**	**88**	P	**Pg**	**20 16 01.1**	**+1.1**
VILC				S	**Sg**	**20 16 04.1**	**+1.7**
CHIC	**Chingaza**	**0.52**	**5**	P	**Pb**	**20 16 07.1**	**-0.2**
CHIC				S	**Sg**	**20 16 13.1**	**-1.0**
ROSC	**El Rosal**	**0.90**	**324**	Pg	**Pn**	**20 16 15.1**	**+0.4**
	386nm,0.3s,baz=120,slow=20,SNR=282						
ROSC				Lg	Lg	20 16 25.8	
	435nm,0.3s,baz=233,slow=20,SNR=11						
ROSC	**El Rosal**	**0.90**	**324**	P		**20 16 15.5**	**+0.8**
ROSC				S	**Sn**	**20 16 28.6**	**+1.1**
PRAC	**Prado**	**1.17**	**250**	P	**Pn**	**20 16 18.7**	**+0.6**
PRAC				S	**Sb**	**20 16 34.3**	**+1.2**
ORTC	**Ortega, Tolima**	**1.48**	**262**	P	**Pb**	**20 16 24.1**	**+0.7**
ORTC				S	**Sb**	**20 16 43.4**	**+1.5**
SPBC	**San Pablo de B**	**1.56**	**349**	P	**Pg**	**20 16 27.7**	**+1.2**
SPBC				S	**Sg**	**20 16 50.5**	**+3.6**
PTGC	**Puerto Gaitan,**	**1.65**	**87**	P	**Pg**	**20 16 28.9**	**+0.8**
PTGC				S	**Sg**	**20 16 52.2**	**+2.7**
ANIL	**Santa Ana**	**1.66**	**283**	P	**Pb**	**20 16 27.2**	**+0.4**
ANIL				S	**Sb**	**20 16 48.5**	**+1.0**
RECRC	**Villamaria, Ca**	**1.78**	**298**	P	**Pb**	**20 16 29.6**	**+0.7**
RECRC				S	**Sb**	**20 16 52.4**	**+1.2**
NORC	**Norcasia**	**1.81**	**323**	P	**Pb**	**20 16 29.6**	**+0.5**
NORC				S	**Sb**	**20 16 53.0**	**+1.5**
GUY2C	**Guyana, Caldas**	**1.93**	**305**	P	**Pb**	**20 16 31.9**	**+0.5**
GUY2C				S	**Sb**	**20 16 57.2**	**+1.8**
GUVC	**San Jose del G**	**1.93**	**143**	P	**Pb**	**20 16 32.5**	**+1.3**
GUVC				S	**Sg**	**20 16 59.0**	**+0.3**
BETC	**Betania**	**2.18**	**230**	P	**Pb**	**20 16 35.9**	**+0.4**
BETC				S	**Sb**	**20 17 04.9**	**+2.6**
PTBC	**PUERTO BERRIO,**	**2.51**	**344**	P	**Pb**	**20 16 39.7**	**-1.3**
PTBC				S	**Sb**	**20 17 12.8**	**+1.2**
YOTC	**Yotoco, Valle**	**2.56**	**267**	P	**Pn**	**20 16 39.9**	**+2.6**
YOTC				S	**Sb**	**20 17 15.0**	**+1.7**
GARC	**Garzon, Huila**	**2.56**	**222**	P	**Pb**	**20 16 42.0**	**-0.1**
GARC				S	**Sb**	**20 17 16.5**	**+3.1**
PLMC	**San Jos del P**	**2.62**	**288**	P	**Pb**	**20 16 42.7**	**-0.2**
PLMC				S	**Sb**	**20 17 16.9**	**+2.1**
CBOC	**Ciudad Bolivar**	**2.83**	**308**	P	**Pb**	**20 16 45.7**	**-0.8**
CBOC				S	**Sb**	**20 17 21.7**	**+0.8**
JAMC	**Jamundi, Valle**	**3.02**	**253**	P	**Pn**	**20 16 47.1**	**+3.4**
JAMC				S	**Sb**	**20 17 29.9**	**+3.3**
TAMC	**Tame, Arauca**	**3.04**	**41**	P	**Pb**	**20 16 48.3**	**-1.9**
TAMC				S	**Sg**	**20 17 35.9**	**+1.6**
POPC	**Popayan, Colom**	**3.28**	**242**	P	**Pb**	**20 16 52.5**	**-1.9**
POPC				S	**Sb**	**20 17 37.7**	**+3.5**
PAMC	**Pamplona, Colo**	**3.38**	**18**	P	**Pb**	**20 16 53.3**	**-3.0**
PAMC				S	**Sb**	**20 17 38.6**	**+1.3**
ZARC	**Zaragoza, Cauc**	**3.53**	**342**	P	**Pn**	**20 16 53.9**	**+3.4**
ZARC				S	**Sb**	**20 17 39.0**	**-2.0**
MALC	**Bahia Malaga**	**3.55**	**269**	P	**Pn**	**20 16 55.0**	**+4.3**
MALC				S	**Sg**	**20 17 50.3**	**-0.2**
DBBC	**Dabeiba**	**3.77**	**320**	P	**Pb**	**20 17 01.0**	**-1.6**
UREC	**San Jos de Ur**	**4.02**	**334**	P	**Pn**	**20 17 01.5**	**+4.3**
UREC				S	**Sb**	**20 17 58.7**	**+3.6**
BBAC	**Balboa, Cauca**	**4.04**	**239**	P	Pn	20 17 03.1	+5.5
BBAC				S	**Sg**	**20 18 05.1**	**-1.0**
PTLC	**Puerto Leguiza**	**4.04**	**195**	P	**Pb**	**20 17 04.6**	**-2.6**
PTLC				S	**Sg**	**20 18 09.6**	**+3.3**
CRUC	**La Cruz**	**4.05**	**232**	P	**Pn**	**20 17 01.2**	**+3.2**
CRUC				S	**Sg**	**20 18 02.7**	**-3.9**
OCAC	**Ocana**	**4.13**	**6**	P	**Pn**	**20 17 02.6**	**+3.7**
OCAC				S	**Sb**	**20 17 59.1**	**+0.6**
GR1C	**Gorgona, Isla**	**4.51**	**256**	P	**Pn**	**20 17 07.9**	**+3.9**
GCUF	**Volcan Galeras**	**4.57**	**231**	P	**Pn**	**20 17 05.3**	**+0.1**
GCUF				S	**Sg**	**20 18 20.9**	**-2.4**
APAC	**Apartado, Choc**	**4.68**	**324**	P	Pn	20 17 11.7	+5.3
TULM	**Tulcn-Chalpat**	**5.23**	**230**		**Pn**	**20 17 16.9**	**+2.6**
SDV	**Santo Domingo**	**5.68**	**33**		**Pn**	**20 17 19.8**	**-0.5**
SDV	**Santo Domingo**	**5.68**	**33**	Pn	**Pn**	**20 17 22.1**	**+1.8**
	25nm,0.3s,baz=218,slow=5.6,SNR=16						
SDV				Sn	**Sn**	**20 18 26.3**	**+1.1**
	13nm,0.3s,baz=246,slow=20,SNR=9.8						
SDV				Lg	Lg	20 18 58.5	
	20nm,0.3s,baz=270,slow=20,SNR=4.7						
SDV				LR	LR	20 19 46.3	
	comp=Z,223nm,18.8s,baz=243,slow=40						
SDV	**Santo Domingo**	**5.68**	**33**	P	**Pn**	**20 17 23.1**	**+2.8**
	65nm,0.6s,1μm						
SDV				S	**Sn**	**20 18 26.9**	**+1.6**
	65nm,0.6s,1μm						
IMBA	**Imbabura, San**	**5.83**	**229**		**Pn**	**20 17 25.2**	**+2.7**
SJCC	**San Jacinto, C**	**5.92**	**347**	P	**Pn**	**20 17 26.0**	**+2.6**
	50nm,0.9s						
SJCC				S	**Sn**	**20 18 35.1**	**+4.3**
	50nm,0.9s						
OTAV	**Otavalo**	**6.05**	**231**		**Pn**	**20 17 29.6**	**+4.1**
PULU	**Pululahua**	**6.22**	**229**		**Pn**	**20 17 31.2**	**+3.3**
ANTS	**Antisana-Sarah**	**6.34**	**224**		**Pn**	**20 17 33.6**	**+3.9**
SLOR	**San Lorenzo -**	**6.73**	**225**		**Pn**	**20 17 36.6**	**+1.7**
CRJC	**Cerrejon, Guaj**	**6.92**	**7**	P	**Pn**	**20 17 41.0**	**+3.7**
	51nm,0.8s,714nm						
CRJC				S	**Sn**	**20 19 00.9**	**+5.2**
	51nm,0.8s,714nm						
BAUV	**El Baul**	**7.45**	**50**		**Pn**	**20 17 43.2**	**-1.2**
URIC	**Uribia, Colomb**	**7.75**	**13**	P	**Pn**	**20 17 49.9**	**+1.4**
URIC				S	**Sn**	**20 19 16.0**	**+0.1**
TBTG	**Tabatinga, AM**	**9.10**	**155**		**Pn**	**20 18 07.8**	**+0.7**
PCRV	**Puerto La Cruz**	**10.89**	**56**	Pn	**Pn**	**20 18 32.5**	**+0.9**
	1.6nm,0.3s,baz=254,slow=4.2,SNR=8.0						
	9.4nm,0.7s						
CZSB	**Cruzeiro do Su**	**11.81**	**175**	Pn	**Pn**	**20 18 43.9**	**-0.3**
ATAH	**Atahualpa**	**12.08**	**202**	Pn	**Pn**	**20 18 45.3**	**-3.0**
	0.3nm,0.3s,baz=62,slow=11,SNR=2.1						
	2.4nm,0.5s						
JTS	**Las Juntas de**	**12.67**	**300**	LR	LR	20 23 37.4	
	comp=Z,137nm,21.8s,baz=192,slow=36						
BOAV	**Boa Vista**	**13.35**	**97**		**Pn**	**20 19 04.0**	**-1.2**
BOAV	**Boa Vista**	**13.35**	**97**	*e*P	**Pn**	**20 19 04.2**	**-1.0**
BOAV				*e*S	**Sn**	**20 21 25.1**	**-8.2**
ACON	**Acoyapa**	**13.71**	**305**		**Pn**	**20 19 08.1**	**-2.1**
MACA	**Manacapuru-AM**	**14.95**	**119**		**Pn**	**20 19 23.8**	**-3.3**
SDDR	**Presa de Saban**	**14.98**	**9**	Pn	Pn	20 19 22.2	-5.4
CNGN	**Cerro Negro**	**15.25**	**304**		**Pn**	**20 19 29.3**	**-1.9**
ETMB	**Extrema**	**15.75**	**151**	P	**Pn**	**20 19 37.3**	**-0.4**
ETMB				IAmb	IAmb	20 19 53.8	
	comp=Z,9.0nm,0.6s						
SJG	**San Juan**	**15.79**	**28**	LR	LR	20 26 01.3	
	comp=Z,78nm,21.8s,baz=168,slow=38						
HUMP	**Col San Antoni**	**15.96**	**28**	P	**Pn**	**20 19 36.6**	**-3.7**
HUMP				IAmb	IAmb	20 19 48.3	
	comp=Z,20nm,1.1s						
SAML	**Samuel**	**16.73**	**141**	P	**Pn**	**20 19 48.8**	**-1.4**
PAYG	**Puerto Ayora**	**17.16**	**254**		**Pn**	**20 19 53.1**	**-2.5**
ITTB	**Itaituba**	**19.90**	**115**	*e*P	**Pn**	**20 20 30.4**	**+1.4**
ITTB				*e*S	**S**	**20 24 09.8**	**-1.1**
LPAZ	**La Paz**	**21.02**	**165**	P	**P**	**20 20 38.9**	**-1.2**
MDP	**Montagnes des**	**21.09**	**86**	P	**P**	**20 20 41.6**	**+1.4**
	comp=Z,5.6nm,0.8s,baz=228,slow=18,SNR=1.7						
MDP				LR	LR	20 29 07.4	
	comp=Z,147nm,19.5s,baz=282,slow=37						
	comp=Z,5.6nm,0.8s						
TEIG	**Tepich**	**21.36**	**320**	P	**P**	**20 20 39.8**	**-3.2**
TEIG				IAmb	IAmb	20 21 02.9	
	comp

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.03**	**128**		Pg	21 09 24.3	+0.2
ADOK				Sg	Sg	21 09 25.6	+0.5
OK029	**Liberty Lake**	**0.13**	**341**	Pg	Pg	21 09 25.9	+0.4
OK029				Sg	Sg	21 09 28.3	+0.8
FNO	**Franklin**	**0.41**	**180**	Pg	Pg	21 09 30.8	0.0
FNO				Sg	Sg	21 09 36.9	+0.7
FNO				IAML		21 09 37.2	
	comp=N,376nm,0.4s						
OK031	**S. Brethren Rd**	**0.54**	**58**	Pg	Pg	21 09 33.0	-0.1
OK052	**Battle Ridge R**	**0.58**	**56**	Pg	Pg	21 09 34.0	0.0
OK052				IAML		21 09 42.7	
	comp=N,289nm,0.1s						
QUOK	**Quay**	**0.75**	**48**	Pg	Pg	21 09 36.9	-0.3
QUOK				IAML		21 09 48.9	
	comp=E,212nm,0.2s						
DEOK	**Depew**	**0.75**	**77**	Pg	Pg	21 09 36.8	-0.4
DEOK				IAML		21 09 50.5	
	comp=N,193nm,0.5s						
OK048	**Pawnee Station**	**0.83**	**26**	Pg	Pg	21 09 38.2	-0.4
OK048				IAML		21 09 49.9	
	comp=N,331nm,0.2s						
OK048				IAML		21 09 52.5	
	comp=N,121nm,0.2s						
OK051	**E0350 and S346**	**0.95**	**29**	Pg	Pg	21 09 40.5	-0.4
CROK	**Carrier**	**0.96**	**331**	Pg	Pg	21 09 40.6	-0.4
CROK				IAML		21 10 04.9	
	comp=N,232nm,0.3s						
CROK				IAML		21 10 05.6	
	comp=E,216nm,0.3s						
CSTR	**Hydro, Custer**	**1.05**	**269**	Pg	Pg	21 09 42.1	-0.8
BLOK	**Blackwell**	**1.10**	**8**	Pg	Pg	21 09 43.3	-0.5
X34A	**Smith Ranch, M**	**1.12**	**198**	Pg	Pg	21 09 43.8	-0.5
X34A				IAML		21 10 01.1	
	comp=E,188nm,0.5s						
X34A				IAML		21 10 01.1	
	comp=N,210nm,0.5s						
GC02	**Grant County #**	**1.23**	**343**		Pb	21 09 45.3	-1.0
OK032	**Salt Plains WL**	**1.31**	**330**		Pn	21 09 46.7	-0.7
TUL3	**Leonard**	**1.33**	**79**		Pn	21 09 46.3	-1.4
TUL3				IAML		21 10 07.9	
	comp=E,104nm,0.4s						
TUL3				IAML		21 10 08.1	
	comp=N,155nm,0.6s						
KAN13	**South Haven SW**	**1.34**	**357**		Pn	21 09 47.4	-0.4
OK038	**West end E0370**	**1.35**	**307**		Pn	21 09 46.7	-1.4
KAN14	**Manchester OK**	**1.36**	**341**		Pn	21 09 47.5	-0.7
KAN17	**Caldwell West**	**1.40**	**348**		Pn	21 09 48.5	-0.2
T35A	**Sooner Cattle**	**1.44**	**30**		Pn	21 09 48.5	-0.6
WMOK	**Wichita Mounta**	**1.46**	**231**		Pn	21 09 48.8	-0.8
KAN09	**Caldwell North**	**1.47**	**353**		Pn	21 09 49.7	0.0
U32A	**Winter Ranch,**	**1.48**	**299**		Pn	21 09 49.3	-0.5
KAN05	**Bluff City Nor**	**1.48**	**345**		Pn	21 09 49.5	-0.4
KAN01	**Argonia South**	**1.51**	**349**		Pn	21 09 49.9	-0.2
NOKA	**Waynoka**	**1.57**	**308**		Pn	21 09 51.1	+0.1
KAN08	**Anthony NE Sta**	**1.62**	**344**		Pn	21 09 51.5	-0.1
KS21	**Milan North St**	**1.62**	**353**		Pn	21 09 52.0	+0.2
LOOK	**Love County**	**1.69**	**174**		Pn	21 09 52.9	+0.3
X37A	**Clayton**	**1.98**	**122**	Pn	Pn	21 09 56.6	-0.1
RLO	**Rose Lookout**	**1.99**	**75**	Pn	Pn	21 09 57.1	+0.2
SMWD	**Samnorwood**	**2.39**	**257**		Pn	21 10 02.9	+0.6
SMWD				IAmb_Lg		21 10 40.0	
	comp=Z,26nm,0.9s						
APMT	**Aspermont**	**3.24**	**225**	Pn	Pn	21 10 14.2	+0.1
CBKS	**Cedar Bluff**	**3.65**	**330**	Pn	Pn	21 10 19.6	0.0
CBKS				IAmb_Lg		21 11 26.5	
	comp=Z,15nm,1.0s						
SN07	**Snyder 07**	**3.87**	**229**	IAmb_Lg		21 11 33.7	
	comp=Z,10nm,0.8s						
SN05	**Snyder 5**	**4.01**	**227**	IAmb_Lg		21 11 31.2	
	comp=Z,9.1nm,0.9s						
WLAR	**White Oak Lake**	**4.05**	**118**	IAmb_Lg		21 11 39.9	
	comp=Z,13nm,0.8s						
UALR	**University of**	**4.24**	**101**	IAmb_Lg		21 11 40.0	
	comp=Z,12nm,0.8s						
POST	**Post**	**4.27**	**234**	IAmb_Lg		21 11 46.2	
	comp=Z,12nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.30**	**86**	IAmb_Lg		21 11 41.0	
	comp=Z,7.9nm,0.7s						
RTBA	**Rita Blanca**	**4.39**	**282**	Pn	Pn	21 10 30.3	+0.4
RTBA				IAmb_Lg		21 11 48.0	
	comp=Z,9.7nm,0.8s						
MGMO	**Mountain Grove**	**4.40**	**69**	IAmb_Lg		21 11 40.7	
	comp=Z,9.5nm,0.8s						
MSTX	**Muleshoe**	**4.73**	**251**	IAmb_Lg		21 11 58.0	
	comp=Z,11nm,0.8s						
SGCY	**Sterling City**	**4.86**	**221**	IAmb_Lg		21 11 59.2	
	comp=Z,9.4nm,0.7s						
T42A	**Van Buren**	**5.27**	**73**	IAmb_Lg		21 12 19.4	
	comp=Z,6.1nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.33**	**310**	IAmb_Lg		21 12 11.0	
	comp=Z,11nm,0.8s						
CCM	**Cathedral Cave**	**5.48**	**62**	IAmb_Lg		21 12 22.2	
	comp=Z,7.4nm,0.8s						
OZNA	**Ozona**	**5.67**	**214**	IAmb_Lg		21 12 28.1	
	comp=Z,7.9nm,1.0s						
P40A	**Paris**	**5.74**	**46**	IAmb_Lg		21 12 30.1	
	comp=Z,15nm,0.8s						
PBMO	**Poplar Bluff**	**5.74**	**77**	IAmb_Lg		21 12 28.0	
	comp=Z,15nm,0.7s						
SDCO	**Great Sand Dun**	**6.83**	**290**	IAmb_Lg		21 13 03.2	
	comp=Z,4.4nm,1.0s						
Q24A	**Divide**	**6.99**	**300**	IAmb_Lg		21 13 08.1	
	comp=Z,7.4nm,0.8s						
N41A	**Harden Midland**	**7.20**	**44**	IAmb_Lg		21 13 15.8	
	comp=Z,8.4nm,0.8s						
N23A	**Red Feather La**	**8.50**	**310**	IAmb_Lg		21 13 59.6	
	comp=Z,8.5nm,1.2s						

*NEIC **24** 21:10:29.3±0.5, 35°.668N±0°.010×97°.41W±0°.01, h6km±1km, Error ellipse: s-maj=1.7km s-min=1.4km az=97.0*
TUL 24 21:10:29.5±0.4, **35°.67N**±0°.01×**97°.40W**±0°.01, **h7**km±2km, **ML3.2, mb_Lg2.8**/70(NEIC), **ML3.0**/46(NEIC), **Error ellipse: s-maj=1.8km s-min=1.4km az=134.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.03**	**129**	Pg	Pg	21 10 31.1	+0.3
ADOK				Sg	Sg	21 10 32.4	+0.6
OK029	**Liberty Lake**	**0.13**	**340**	Pg	Pg	21 10 32.8	+0.5
OK029				Sg	Sg	21 10 35.0	+0.8
OK029				IAML		21 10 35.4	
	7μm,0.5s						
OKCSW	**OKLAHOMA CITY**	**0.27**	**187**	Pg	Pg	21 10 35.1	+0.3
OKCSW				Sg	Sg	21 10 39.1	+0.8
FNO	**Franklin**	**0.41**	**180**	Pg	Pg	21 10 37.7	+0.2
FNO				Sg	Sg	21 10 43.8	+0.8
FNO				IAML		21 10 44.0	
	comp=N,932nm,0.3s						
OK031	**S. Brethren Rd**	**0.54**	**58**	Pg	Pg	21 10 40.1	+0.2
OK031				Sg	Sg	21 10 47.7	+0.8
OK052	**Battle Ridge R**	**0.58**	**56**	Pg	Pg	21 10 40.9	+0.1
OK052				IAML		21 10 49.6	
	comp=N,1μm,0.2s						
OK052				IAML		21 10 49.6	
	comp=N,554nm,0.3s						
QUOK	**Quay**	**0.75**	**48**	Pg	Pg	21 10 43.9	-0.1
QUOK				IAML		21 10 55.0	
	comp=E,712nm,0.2s						
DEOK	**Depew**	**0.75**	**77**	Pg	Pg	21 10 43.5	-0.5
DEOK				IAML		21 10 54.5	
	comp=N,666nm,0.2s						
OK048	**Pawnee Station**	**0.83**	**26**	Pg	Pg	21 10 45.4	-0.1
OK048				IAML		21 10 56.8	
	comp=N,853nm,0.2s						
OK048				IAML		21 10 59.9	
	comp=N,342nm,0.1s						
CROK	**Carrier**	**0.96**	**331**	Pg	Pg	21 10 47.4	-0.5
CROK				IAML		21 11 08.6	
	comp=E,486nm,0.2s						
CROK				IAML		21 11 16.5	
	comp=N,537nm,0.2s						
CSTR	**Hydro, Custer**	**1.05**	**269**	Pg	Pg	21 10 49.1	-0.5
BLOK	**Blackwell**	**1.10**	**8**	Pg	Pg	21 10 50.0	-0.6
X34A	**Smith Ranch, M**	**1.12**	**198**	Pg	Pg	21 10 51.0	-0.1
X34A				IAML		21 11 07.5	
	comp=N,533nm,0.2s						
X34A				IAML		21 11 08.0	
	comp=E,442nm,0.5s						
GC02	**Grant County #**	**1.23**	**343**	Pg	Pg	21 10 52.4	-0.8
OK032	**Salt Plains WL**	**1.31**	**330**		Pn	21 10 53.5	-0.8
TUL3	**Leonard**	**1.33**	**79**		Pn	21 10 53.4	-1.2
TUL3				IAML		21 11 13.1	
	comp=E,307nm,0.3s						
KAN13	**South Haven SW**	**1.34**	**357**		Pn	21 10 54.2	-0.5
OK038	**West end E0370**	**1.35**	**307**		Pn	21 10 54.1	-0.8
KAN14	**Manchester OK**	**1.36**	**341**		Pn	21 10 54.6	-0.4
KAN17	**Caldwell West**	**1.40**	**348**		Pn	21 10 55.2	-0.3
T35A	**Sooner Cattle**	**1.44**	**30**		Pn	21 10 55.5	-0.5
WMOK	**Wichita Mounta**	**1.47**	**231**		Pn	21 10 55.9	-0.5
KAN09	**Caldwell North**	**1.47**	**353**		Pn	21 10 56.6	+0.1
U32A	**Winter Ranch,**	**1.48**	**299**		Pn	21 10 56.0	-0.6
KAN05	**Bluff City Nor**	**1.48**	**345**		Pn	21 10 56.7	0.0
KAN01	**Argonia South**	**1.51**	**349**		Pn	21 10 57.3	+0.3
NOKA	**Waynoka**	**1.57**	**308**		Pn	21 10 57.8	0.0
KAN08	**Anthony NE Sta**	**1.62**	**344**		Pn	21 10 58.7	+0.2
LOOK	**Love County**	**1.68**	**174**		Pn	21 10 59.2	-0.2
KAN12	**Harper NE Stat**	**1.69**	**344**		Pn	21 10 59.8	+0.3
X37A	**Clayton**	**1.98**	**122**	Pn	Pn	21 11 04.4	+0.9
RLO	**Rose Lookout**	**1.99**	**75**	Pn	Pn	21 11 03.7	0.0
WTFS	**Witchita Falls**	**2.09**	**205**	Pn	Pn	21 11 05.8	+0.8
SMWD	**Samnorwood**	**2.39**	**257**	IAmb_Lg		21 11 47.3	
	comp=Z,52nm,0.8s						
R32A	**Long Quarter,**	**2.94**	**339**		Pn	21 11 17.2	+0.5
FW07	**Weatherford**	**2.98**	**186**	IAmb_Lg		21 12 11.8	
	comp=Z,20nm,0.9s						
MIAR	**Mount Ida**	**3.33**	**109**	IAmb_Lg		21 12 24.5	
	comp=Z,21nm,0.7s						
DKNS	**Dickens**	**3.53**	**236**	IAmb_Lg		21 12 25.3	
	comp=Z,17nm,0.8s						
CBKS	**Cedar Bluff**	**3.65**	**330**	IAmb_Lg		21 12 29.9	
	comp=Z,23nm,0.7s						
SN07	**Snyder 07**	**3.87**	**229**	IAmb_Lg		21 12 37.8	
	comp=Z,26nm,1.0s						
237A	**Washetta, Mont**	**3.89**	**160**	IAmb_Lg		21 12 42.0	
	comp=Z,24nm,0.9s						
SN05	**Snyder 5**	**4.01**	**227**	IAmb_Lg		21 12 38.1	
	comp=Z,21nm,1.0s						
WHAR	**Wooly Hollow**	**4.19**	**94**		Pn	21 11 33.7	-0.1
WHAR				IAmb_Lg		21 12 51.5	
	comp=Z,19nm,0.8s						
UALR	**University of**	**4.24**	**101**	IAmb_Lg		21 12 53.2	
	comp=Z,23nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.29**	**86**		Pn	21 11 35.6	+0.3
FCAR				IAmb_Lg		21 12 53.4	
	comp=Z,15nm,0.9s						
RTBA	**Rita Blanca**	**4.39**	**282**	IAmb_Lg		21 12 54.9	
	comp=Z,19nm,0.9s						
MGMO	**Mountain Grove**	**4.39**	**69**		Pn	21 11 36.7	0.0
MGMO				IAmb_Lg		21 12 47.2	
	comp=Z,16nm,0.8s						
SGCY	**Sterling City**	**4.86**	**221**	IAmb_Lg		21 13 16.3	
	comp=Z,20nm,0.8s						
P38A	**Dawn**	**5.00**	**37**	IAmb_Lg		21 13 06.5	
	comp=Z,11nm,0.8s						
LCAR	**Lake Charles**	**5.09**	**84**	IAmb_Lg		21 13 12.6	
	comp=Z,12nm,0.8s						
T42A	**Van Buren**	**5.27**	**73**	IAmb_Lg		21 13 31.4	
	comp=Z,12nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.33**	**310**	IAmb_Lg		21 13 21.1	
	comp=Z,12nm,0.8s						
CCM	**Cathedral Cave**	**5.48**	**62**	IAmb_Lg		21 13 27.0	
	comp=Z,15nm,0.7s						
OZNA	**Ozona**	**5.67**	**214**	IAmb_Lg		21 13 34.5	
	comp=Z,15nm,0.9s						
FVM	**French Village**	**6.05**	**66**	IAmb_Lg		21 13 50.5	
	comp=Z,13nm,0.8s						
CGM3	**Cape Girardeau**	**6.45**	**73**	IAmb_Lg		21 13 50.9	
	comp=Z,12nm,1.0s						
DRIO	**Del Rio**	**6.80**	**204**	IAmb_Lg		21 14 06.9	
	comp=Z,13nm,1.0s						
SDCO	**Great Sand Dun**	**6.83**	**290**	IAmb_Lg		21 14 10.2	
	comp=Z,7.9nm,0.9s						
S44A	**Carbondale**	**6.85**	**70**	IAmb_Lg		21 14 18.7	
	comp=Z,17nm,0.8s						
SAND	**Sanderson**	**6.95**	**216**	IAmb_Lg		21 14 16.6	
	comp=Z,12nm,1.1s						
Q24A	**Divide**	**6.99**	**300**	IAmb_Lg		21 14 26.5	
	comp=Z,8.4nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.40**	**55**	IAmb_Lg		21 14 28.7	
	comp=Z,16nm,0.8s						
ALPN	**Alpine**	**7.44**	**227**	IAmb_Lg		21 14 33.2	
	comp=Z,11nm,1.0s						
N23A	**Red Feather La**	**8.50**	**310**	IAmb_Lg		21 15 11.8	
	comp=Z,11nm,0.9s						
JFWS	**Jewell Farm**	**9.11**	**35**	IAmb_Lg		21 15 25.6	
	comp=Z,9.5nm,0.7s						

*NOU **24** 21:20:01.4, 40°.41S×173°.98E, h62km, ML3.4/7, Cook Strait, New Zealand*
*WEL **24** 21:20:01.6±0.8, 40°.5±3°.×17°.4E±°, h64km±10km, M3.2/15, ML3.6/14, MLv3.2/15, Error ellipse: s-maj=0.0km s-min=0.0km az=83.1, confirmed*
ISC 24 21:19:59.7±1.4, **40°.44S**±0°.03×**174°.12E**±0°.04, **h93**km±10km, **n102**, σ1°.03/111, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.40**	**202**	P	Pn	21 20 14.1	+0.1
DUWZ				S	Sn	21 20 24.7	-0.1
KIW	**Kapiti Island**	**0.74**	**125**	P	Pn	21 20 16.8	0.0
KIW				S	Sn	21 20 28.6	-1.1
TCW	**Tory Channel**	**0.78**	**171**	P	Pn	21 20 17.7	+0.5
TCW				S	Sn	21 20 30.3	-0.1
OGWZ	**Otaki Gorge**	**0.89**	**116**	P	Pn	21 20 18.4	0.0
OGWZ				S	Sn	21 20 31.2	-1.1
WAZ	**Wanganui**	**0.95**	**45**	P	Pn	21 20 19.7	+0.6
NNZ	**Nelson**	**0.96**	**215**	P	Pn	21 20 19.7	+0.5
NNZ				S	Sn	21 20 34.3	+0.5
SNZO	**South Karori**	**0.98**	**153**	P	Pn	21 20 20.0	+0.6
WEL	**Wellington**	**0.98**	**150**	P	Pn	21 20 19.9	+0.5
CAW	**Cannon Point**	**0.98**	**133**	P	Pn	21 20 19.7	+0.3
CAW				S	Sn	21 20 33.6	-0.6
LREZ	**Lake Rotokare**	**1.00**	**13**	P	Pn	21 20 20.4	+0.8
TUWZ	**Tuamarina**	**1.00**	**188**	P	Pn	21 20 20.4	+0.8
NMEZ	**Namu Road**	**1.04**	**350**	P	Pn	21 20 20.1	0.0
NMEZ				S	Sn	21 20 35.1	-0.2
TKNZ	**Takaka Hill**	**1.06**	**235**	P	Pn	21 20 20.5	+0.1
TKNZ				S	Sn	21 20 35.9	0.0
PREZ	**Palmer Road**	**1.09**	**2**	P	Pn	21 20 20.8	+0.1
PREZ				S	Sn	21 20 36.3	-0.2
BHW	**Baring Head**	**1.13**	**150**	P	Pn	21 20 21.3	+0.3
MRZ	**Mangatainoka R**	**1.14**	**102**	P	Pn	21 20 21.0	-0.2
KHEZ	**Kahui Hut**	**1.14**	**356**	P	Pn	21 20 21.4	+0.1
KHEZ	**Kahui Hut**	**1.14**	**356**	P	Pn	21 20 21.4	+0.1
HOWZ	**Holdsworth Sta**	**1.16**	**114**	P	Pn	21 20 21.3	-0.2
NEZ	**North Egmont**	**1.16**	**359**	P	Pn	21 20 21.5	-0.1
NBEZ	**Newall Road No**	**1.18**	**351**	P	Pn	21 20 21.9	+0.2
PKE	**Pukeiti**	**1.24**	**355**	P	Pn	21 20 22.6	+0.1
DREZ	**Durham Road**	**1.25**	**3**	P	Pn	21 20 22.7	+0.2
POWZ	**Post Office Ro**	**1.26**	**89**	P	Pn	21 20 24.5	+1.8
QRZ	**Quartz Range**	**1.27**	**252**	P	Pn	21 20 22.3	-0.4
QRZ	**Quartz Range**	**1.27**	**252**	P	Pn	21 20 22.4	-0.4
MTW	**Mount Morrison**	**1.27**	**125**	P	Pn	21 20 22.7	-0.1
BSWZ	**Blackbirch Sta**	**1.29**	**188**	P	Pn	21 20 24.2	+1.2
MSWZ	**Moikau Station**	**1.30**	**139**	P	Pn	21 20 23.3	+0.1
CMWZ	**Cape Campbell**	**1.31**	**177**	P	Pn	21 20 24.8	+1.5
PAWZ	**Paruwai Farm**	**1.37**	**134**	P	Pn	21 20 24.1	+0.1
TIWZ	**Tintock**	**1.39**	**105**	P	Pn	21 20 24.9	+0.7
VRZ	**Vera Road**	**1.40**	**21**	P	Pn	21 20 24.4	+0.1
MRNZ	**Matariki Terra**	**1.41**	**227**	P	Pn	21 20 25.0	+0.5
PRWZ	**Pori Road**	**1.42**	**95**	P	Pn	21 20 26.4	+1.8
PLWZ	**Palliser**	**1.42**	**143**	P	Pn	21 20 24.7	0.0
TSZ	**Takapari Road**	**1.46**	**76**	P	Pn	21 20 24.6	-0.6
MTVZ	**Mangateitei**	**1.48**	**45**	P	Pn	21 20 25.4	0.0
PKVZ	**Pokaka**	**1.48**	**40**	P	Pn	21 20 25.4	-0.1
TMWZ	**Te Maipa**	**1.50**	**117**	P	Pn	21 20 25.8	+0.1
TRWZ	**Traveller**	**1.53**	**129**	P	Pn	21 20 25.9	-0.1
DVHZ	**Dannevirke**	**1.57**	**86**	P	Pn	21 20 29.4	+2.9
WNVZ	**Wahianoa**	**1.59**	**46**	P	Pn	21 20 26.9	0.0
MAVZ	**Matarangi**	**1.61**	**44**	P	Pn	21 20 28.1	+0.8
THZ	**Tohouora**	**1.61**	**214**	P	Pn	21 20 27.7	+0.7
WHVZ	**Whangaehu Hut**	**1.61**	**45**	P	Pn	21 20 27.6	+0.3
FWVZ	**Far West T-bar**	**1.62**	**44**	P	Pn	21 20 26.4	-0.9
MOVZ	**Moawhango**	**1.62**	**51**	P	Pn	21 20 26.7	-0.5
BFZ	**Birch Farm**	**1.64**	**99**	P	Pn	21 20 26.8	-0.6
TUVZ	**Tukino**	**1.66**	**46**	P	Pn	21 20 28.0	+0.2
PNHZ	**Pukenui**	**1.68**	**73**	P	Pn	21 20 27.1	-0.8
NGZ	**Ngauruhoe**	**1.70**	**43**	P	Pn	21 20 28.0	-0.3
SNVZ	**South Ngauruho**	**1.71**	**44**	P	Pn	21 20 28.3	-0.2
WTVZ	**West Tongariro**	**1.74**	**41**	P	Pn	21 20 28.7	-0.1
NNVZ	**North Ngauruho**	**1.74**	**42**	P	Pn	21 20 28.6	-0.3
OTVZ	**Oturere**	**1.74**	**44**	P	Pn	21 20 28.7	-0.1
ETVZ	**East Tongariro**	**1.79**	**44**	P	Pn	21 20 29.1	-0.2
NTVZ	**North Tongarir**	**1.80**	**42**	P	Pn	21 20 29.5	0.0
TMVZ	**Te Maari**	**1.80**	**43**	P	Pn	21 20 29.5	0.0
ANWZ	**Angora Road**	**1.80**	**92**	P	Pn	21 20 28.8	-0.6
WPHZ	**Waipukurau**	**1.82**	**79**	P	Pn	21 20 28.9	-0.7
KATZ	**Kakaramea**	**1.90**	**40**	P	Pn	21 20 31.2	+0.4
KRHZ	**Kereru**	**1.90**	**66**	P	Pn	21 20 33.1	+2.3
PRHZ	**Porangahau**	**1.93**	**86**	P	Pn	21 20 30.3	-0.8
HIZ	**Hauiti**	**2.00**	**17**	P	Pn	21 20 31.7	-0.4
HIZ	**Hauiti**	**2.00**	**17**	P	Pn	21 20 31.7	-0.4
RATZ	**Rangitukua**	**2.02**	**40**	P	Pn	21 20 33.3	+0.9
KHZ	**Kahutara**	**2.03**	**192**	P	Pn	21 20 33.0	+0.7
KHZ	**Kahutara**	**2.03**	**192**	P	Pn	21 20 32.9	+0.7
WATZ	**Wairara**	**2.13**	**36**	P	Pn	21 20 34.1	+0.3
DSZ	**Denniston Nort**	**2.18**	**232**	P	Pn	21 20 34.6	+0.1
KAHZ	**Kahuranaki**	**2.21**	**74**	P	Pn	21 20 33.9	-0.9
BKZ	**Black Stump Fm**	**2.23**	**56**	P	Pn	21 20 36.9	+1.9
BKZ	**Black Stump Fm**	**2.23**	**56**	P	Pn	21 20 36.6	+1.6
TLZ	**Tolley Road**	**2.37**	**28**	P	Pn	21 20 36.8	-0.2
NMHZ	**Naumai**	**2.47**	**58**	P	Pn	21 20 42.6	+4.4
MTHZ	**Maungataniwha**	**2.63**	**54**	P	Pn	21 20 41.7	+1.3
GVZ	**Greta Valley S**	**2.66**	**197**	P	Pn	21 20 40.5	-0.2
LTZ	**Lake Taylor**	**2.72**	**210**	P	Pn	21 20 41.3	-0.3
RTZ	**Ruatahuna**	**2.86**	**52**	P	Pn	21 20 43.6	0.0
TOZ	**Tahuroa Road**	**2.91**	**22**	P	Pn	21 20 43.6	-0.5
AMCZ	**Amberley**	**2.95**	**201**	P	Pn	21 20 44.2	-0.4
URZ	**Urewera**	**3.18**	**48**	P	Pn	21 20 51.0	+3.3
URZ	**Urewera**	**3.18**	**48**	P	Pn	21 20 46.9	-0.8
OXZ	**Oxford**	**3.28**	**208**	P	Pn	21 20 46.9	-2.1
OKCZ	**Okains Bay**	**3.38**	**193**	P	Pn	21 20 49.3	-1.0
AWAZ	**Awhitu Peninsu**	**3.39**	**7**	P	Pn	21 20 50.6	0.0
MKAZ	**Moumakai**	**3.42**	**14**	P	Pn	21 20 50.7	-0.3
MQZ	**McQueen's Vall**	**3.44**	**198**	P	Pn	21 20 49.4	-1.9
WTAZ	**Waiatarua**	**3.52**	**6**	P	Pn	21 20 52.5	+0.2
AKCZ	**Akaroa Harbour**	**3.55**	**194**	P	Pn	21 20 51.5	-1.2
MHCZ	**Mount Hutt**	**3.63**	**211**	P	Pn	21 20 54.5	+0.7
MBAZ	**Motutapu North**	**3.71**	**10**	P	Pn	21 20 55.1	+0.2
WIAZ	**Waiheke Island**	**3.72**	**13**	P	Pn	21 20 54.9	-0.1
WACZ	**Wakanui South**	**3.89**	**205**	P	Pn	21 20 56.2	-1.1
RPZ	**Rata Peaks**	**3.99**	**214**	P	Pn	21 21 03.4	+4.7
GCSZ	**Gaunt Creek Bo**	**4.04**	**223**	P	Pn	21 20 59.8	+0.5
WCZ	**Waipu Caves**	**4.49**	**2**	P	Pn	21 21 05.7	+0.3
TMZ	**Timaru**	**4.57**	**209**	P	Pn	21 21 06.1	-0.4
ODZ	**Otahua Downs**	**5.27**	**208**	P	Pn	21 21 15.3	-0.6
JCZ	**Jackson Bay**	**5.37**	**226**	P	Pn	21 21 18.3	+0.8
CTZ	**Chatham Island**	**7.64**	**119**	P	Pn	21 21 48.2	+0.1

*ATH **24** 21:36:21.9, 40°.37N×20°.19E, h11km±1km, ML2.5/12, Manual Solution by D.Makaris This location: 2020/07/10 17:37:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*TIR **24** 21:36:22.1, 40°.24N×20°.33E, h29km±1km, Md3.0, Ml2.5*
ISC 24 21:36:23.1±1.0, **40°.27N**±0°.02×**20°.30E**±0°.02, **h13**km±8km, **n29**, σ0°.82/54, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.26**	**118**	P	Pg	21 36 28.5	-0.2
	baz=112						
LSK				S	Sg	21 36 33.1	+0.6
	baz=112						
LSK				AMP			
	comp=E,3.2nm,0.4s,baz=112						
SRN	**Sarande**	**0.45**	**210**	P	Pg	21 36 32.2	+0.1
	baz=216						
SRN				S	Sb	21 36 39.0	-0.5
	baz=216						
SRN				AMP			
	comp=E,1.5nm,0.4s,baz=216						
NEST	**Nestorio**	**0.59**	**76**	P	Pg	21 36 34.8	+0.1
NEST				S	Sb	21 36 44.0	+0.3
KASA	**Kassiopi**	**0.59**	**208**	P	Pg	21 36 34.7	-0.1
KASA				S	Sb	21 36 43.4	-0.2
VLO	**Vlora**	**0.64**	**288**	P	Pb	21 36 36.2	0.0
	baz=291						
VLO				S	Sn	21 36 46.3	-1.6
	baz=291						
VLO				AMP			
	comp=N,2.2nm,0.4s,ba

JYNG	**Yonagunijimaku**	**0.60**	**29**	P	**Pb**	**22 25 16.4**	**-0.1**
JYNG				S	**Sb**	**22 25 23.7**	**-1.0**
EOS2	**EOS2**	**0.61**	**324**	*e*P	**Pn**	**22 25 17.6**	**+0.2**
	baz=313						
EOS2				*e*S	**Sn**	**22 25 26.4**	**+0.2**
	baz=313						
YOJ	**Yonaguni jima**	**0.64**	**33**	P	**Pb**	**22 25 17.1**	**-0.1**
	baz=33						
YOJ				*e*S	**Sb**	**22 25 24.9**	**-0.9**
	baz=33						
YOJ	**Yonaguni jima**	**0.64**	**33**	*e*P	**Pb**	**22 25 17.1**	**-0.1**
YOJ				S	**Sb**	**22 25 24.9**	**-0.9**
EWUT	**Wuta**	**0.93**	**304**	*e*P	**Pb**	**22 25 22.2**	**0.0**
	baz=301						
EWUT				*e*S	**Sb**	**22 25 34.2**	**0.0**
	baz=301						
ENA	**Nanau**	**0.95**	**302**	*e*P	**Pn**	**22 25 22.3**	**+0.2**
	baz=299						
ENA				*e*S	**Sb**	**22 25 35.8**	**+1.0**
	baz=299						
NACB	**Ninganchiao**	**0.98**	**285**	*e*P	**Pn**	**22 25 22.1**	**-0.3**
	baz=269						
NACB				*e*S	**Sb**	**22 25 35.5**	**0.0**
	baz=269						
TWC	**Suao**	**0.98**	**314**	P	**Pb**	**22 25 22.8**	**-0.3**
	baz=300						
TWC				*e*S	**Sn**	**22 25 34.6**	**-0.9**
	baz=300						
SHUL	**Shoufeng**	**0.99**	**262**	*e*P	**Pn**	**22 25 22.8**	**+0.2**
	baz=259						
SHUL				*e*S	**Sb**	**22 25 36.5**	**+0.8**
	baz=259						
ETM	**Tongmen**	**1.04**	**272**	*e*P	**Pn**	**22 25 23.1**	**-0.2**
	baz=260						
ETM				*e*S	**Sn**	**22 25 36.3**	**-0.7**
	baz=260						
HATJ	**Hateruma jima**	**1.08**	**83**	*e*S	**Sb**	**22 25 39.4**	**+1.0**
IRIF	**Iriomote-Funau**	**1.08**	**68**	P	**Pb**	**22 25 25.0**	**+0.2**
IRIF				*e*S	**Sb**	**22 25 38.9**	**+0.4**
ETLH	**Xiulin Townshi**	**1.09**	**285**	P	**Pn**	**22 25 24.1**	**0.0**
	baz=271						
ETLH				*e*S	**Sn**	**22 25 37.7**	**-0.5**
	baz=271						
NDS	**Dongshan**	**1.09**	**310**	*e*P	**Pb**	**22 25 25.1**	**+0.3**
	baz=308						
NDS				*e*S	**Sb**	**22 25 40.2**	**+1.5**
	baz=308						
EGS		**1.11**	**325**	*e*P	**Pb**	**22 25 25.6**	**+0.4**
	baz=335						
WARBT	**Fenglin Townsh**	**1.16**	**260**	*e*P	**Pn**	**22 25 24.6**	**-0.4**
	baz=248						
WARBT				*e*S	**Sn**	**22 25 39.5**	**-0.4**
	baz=248						
LATG	**Datong**	**1.18**	**301**	*e*P	**Pn**	**22 25 25.4**	**+0.1**
	baz=299						
TWE	**Neicheng**	**1.18**	**312**	*e*P	**Pb**	**22 25 26.8**	**+0.5**
	baz=310						
TWE				*e*S	**Sb**	**22 25 43.1**	**+1.8**
	baz=310						
HGSD	**Ruisui**	**1.19**	**249**	*e*P	**Pb**	**22 25 27.1**	**+0.7**
	baz=247						
ENTT	**Nioudou**	**1.20**	**306**	*e*P	**Pn**	**22 25 25.9**	**+0.3**
	baz=304						
NDT	**Datong Townshi**	**1.22**	**304**	*e*P	**Pb**	**22 25 26.9**	**-0.2**
	baz=289						
NNSB	**Datong**	**1.24**	**294**	P	**Pn**	**22 25 26.7**	**+0.5**
	baz=280						
NNSB				S	**Sb**	**22 25 42.7**	**-0.5**
	baz=280						
NNS	**Nan Shan**	**1.26**	**294**	*e*P	**Pn**	**22 25 27.2**	**+0.7**
	baz=280						
NNS				*e*S	**Sb**	**22 25 42.9**	**-0.7**
	baz=280						
FUSB	**Fushanzhiwuyua**	**1.26**	**311**	*e*P	**Pb**	**22 25 27.4**	**-0.4**
	baz=309						
WHF	**Hehuan Shan**	**1.27**	**280**	*e*P	**Pn**	**22 25 27.0**	**+0.2**
	baz=278						
EHY	**Hungye**	**1.27**	**251**	P	**Pn**	**22 25 26.7**	**+0.2**
	baz=249						
EHY				S	**Sn**	**22 25 42.8**	**+0.2**
	baz=249						
TIPB	**Shuangxi**	**1.27**	**325**	*e*P	**Pb**	**22 25 27.7**	**-0.2**
	baz=337						
TIPB				*e*S	**Sb**	**22 25 43.6**	**-0.3**
	baz=337						
JKRS	**Kuro-shima**	**1.30**	**76**	P	**Pb**	**22 25 28.9**	**+0.5**
FUSS	**Fushou**	**1.31**	**284**	*e*P	**Pn**	**22 25 27.7**	**+0.5**
	baz=282						
OWD	**Renai**	**1.33**	**272**	*e*P	**Pn**	**22 25 27.9**	**+0.5**
	baz=269						
OWD				*e*S	**Sn**	**22 25 43.8**	**-0.6**
	baz=269						
NWLT	**Wulai**	**1.33**	**310**	*e*P	**Pb**	**22 25 28.4**	**-0.5**
	baz=295						
NWLT				*e*S	**Sb**	**22 25 45.9**	**+0.2**
	baz=295						
YULB	**Yu-li**	**1.33**	**247**	P	**Pn**	**22 25 27.7**	**+0.3**
	baz=235						
YULB				S	**Sn**	**22 25 44.4**	**+0.2**
	baz=235						
CHGB	**Renai**	**1.34**	**276**	*e*P	**Pn**	**22 25 28.0**	**+0.4**
	baz=264						
CHGB				*e*S	**Sn**	**22 25 45.1**	**+0.5**
	baz=264						
TWF1	**Yuli**	**1.35**	**245**	P	**Pn**	**22 25 28.0**	**+0.4**
	baz=243						
TWF1				*e*S	**Sn**	**22 25 45.1**	**+0.5**
	baz=243						
SXI1	**Grass Mountain**	**1.35**	**330**	*e*P	**Pn**	**22 25 28.1**	**+0.5**
	baz=341						
SXI1				*e*S	**Sb**	**22 25 46.3**	**+0.1**
	baz=341						
YHNB	**Yeheng**	**1.36**	**303**	P	**Pn**	**22 25 28.6**	**+0.8**
	baz=289						
VWDT	**VWDT**	**1.37**	**263**	*e*P	**Pn**	**22 25 28.6**	**+0.7**
	baz=254						
NSK	**Sanguang**	**1.38**	**303**	*e*P	**Pn**	**22 25 28.8**	**+0.7**
	baz=289						
TDCB	**Techi**	**1.38**	**284**	*e*P	**Pn**	**22 25 29.0**	**+0.8**
	baz=271						
TDCB				*e*S	**Sn**	**22 25 46.2**	**+0.5**
	baz=271						
WUSB	**Renai**	**1.39**	**273**	*e*P	**Pn**	**22 25 28.9**	**+0.7**
	baz=271						
WUSB				*e*S	**Sn**	**22 25 46.6**	**+0.9**
	baz=271						
FULB	**Fuli**	**1.42**	**240**	*e*P	**Pn**	**22 25 28.8**	**+0.2**
	baz=228						
JIJ	**Ishigaki jima**	**1.45**	**72**	*e*P	**Pb**	**22 25 31.1**	**+0.2**
JIJ				*e*S	**Sb**	**22 25 49.3**	**+0.3**
SSLB	**Suanglung**	**1.54**	**265**	*e*P	**Pn**	**22 25 30.5**	**+0.3**
	baz=264						
EDH	**Donghe**	**1.54**	**232**	*e*P	**Pn**	**22 25 29.4**	**-0.9**
	baz=222						
EDH				*e*S	**Sn**	**22 25 47.7**	**-1.6**
	baz=222						
NFF	**Wufeng Townshi**	**1.55**	**297**	*e*P	**Pb**	**22 25 32.2**	**-0.4**
	baz=295						
NFF				*e*S	**Sb**	**22 25 51.8**	**-0.1**
	baz=295						
YM01	**YM01**	**1.55**	**322**	*e*P	**Pb**	**22 25 32.5**	**-0.2**
	baz=320						
WCS	**Beigang Elemen**	**1.58**	**275**	*e*P	**Pn**	**22 25 31.6**	**+0.9**
	baz=274						
WHP	**Taichung City**	**1.58**	**283**	*e*P	**Pb**	**22 25 33.6**	**+0.4**
	baz=272						
SMLT	**Sun Moon Lake**	**1.58**	**269**	*e*P	**Pb**	**22 25 32.9**	**-0.3**
	baz=258						
TYC	**Yuchr**	**1.62**	**270**	*e*P	**Pb**	**22 25 33.9**	**0.0**
	baz=268						
LIOB	**Emei**	**1.64**	**296**	*e*P	**Pb**	**22 25 33.2**	**-1.0**
	baz=294						
LIOB				*e*S	**Sb**	**22 25 53.3**	**-1.1**
	baz=294						
WHYT	**Xinyi Township**	**1.64**	**262**	*e*P	**Pn**	**22 25 32.4**	**+0.8**
	baz=250						
WHYT				*e*S	**Sn**	**22 25 52.8**	**+0.9**
	baz=250						
NSTT	**Nanjuang**	**1.64**	**296**	*e*S	**Sb**	**22 25 53.8**	**-0.8**
	baz=294						
ELDTW	**Lidau**	**1.65**	**244**	*e*P	**Pn**	**22 25 31.5**	**-0.4**
	baz=242						
ELDTW				*e*S	**Sn**	**22 25 52.0**	**-0.2**
	baz=242						
JISG	**Ishigakijimahi**	**1.67**	**66**	*e*S	**Sb**	**22 25 54.2**	**-1.1**
WCKO	**Fanlu**	**1.92**	**256**	*e*P	**Pb**	**22 25 38.7**	**-0.2**
	baz=254						
WCKO				*e*S	**Sb**	**22 26 02.5**	**0.0**
	baz=254						
TPUB	**Ta-pu**	**1.94**	**252**	*e*S	**Sb**	**22 26 02.8**	**-0.2**
	baz=243						
WTP	**Ta-pu**	**1.97**	**250**	*e*S	**Sb**	**22 26 04.0**	**0.0**
	baz=240						
CHN1	**Nanshi**	**2.06**	**249**	*e*S	**Sb**	**22 26 06.0**	**-0.6**
	baz=239						
TWK	**Hsinying**	**2.07**	**252**	*e*S	**Sb**	**22 26 06.5**	**-0.3**
	baz=250						
SNST	**Tainan City**	**2.08**	**251**	*e*S	**Sb**	**22 26 06.0**	**-1.0**
	baz=249						

*NOU **24** 22:31:14.0, 21°.32S×168°.71E, h0km, MLv4.6/7, Loyalty Islands*
*IDC **24** 22:31:17.4±1.3, 21°.37S×168°.29E, h0km, mb3.9/5, mbtmp3.9/5, MS3.7/1, Error ellipse: s-maj=36.6km s-min=23.6km az=144.0*
*NEIC **24** 22:31:20.2±1.7, 21°.36S±0°.05×168°.22E±0°.08, h10km±1km, mb4.0/8, Error ellipse: s-maj=13.3km s-min=6.0km az=62.0*

ISC 24 22:31:20.4±1.0, 21°.37S±0°.07×168°.25E±0°.08, h20km, n29, σ1§14/30, mb3.8/6, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**1.11**	**302**		**Pn**	**22 31 39.4**	**-1.4**
LIFNC				Sg	**Sb**	**22 31 54.4**	**-0.5**
YATNC	**Mamie plateau,**	**1.44**	**241**	P	**Pn**	**22 31 45.2**	**-0.2**
PINNC	**Pines Island,**	**1.45**	**211**	P	**Pb**	**22 31 45.5**	**-1.2**
PINNC	**Pines Island,**	**1.45**	**211**		**Pn**	**22 31 44.9**	**-0.6**
DZM	**Mont Dzumac**	**1.82**	**247**	P	**Pb**	**22 31 52.2**	**-0.9**
DZM	**Mont Dzumac**	**1.82**	**247**		**Pn**	**22 31 51.3**	**+0.7**
DZM	**Mont Dzumac**	**1.82**	**247**	Pn	**Pb**	**22 31 51.5**	**-1.5**
	70nm,0.3s,baz=96,slow=8.8,SNR=789						
DZM				Sn	**Sb**	**22 32 15.0**	**-0.5**
	96nm,0.3s,baz=345,slow=20,SNR=6.8						
ONTNC	**Ouen Toro**	**1.91**	**240**	P	**Pb**	**22 31 53.7**	**-0.9**
ONTNC	**Ouen Toro**	**1.91**	**240**		**Pn**	**22 31 52.8**	**+0.9**
NOUC	**Port Laguerre**	**1.95**	**248**	P	**Pb**	**22 31 54.5**	**-0.8**
KOUNC	**Koumac, New Ca**	**3.79**	**282**	P	**Pn**	**22 32 20.0**	**+2.3**
KOUNC	**Koumac, New Ca**	**3.79**	**282**		**Pn**	**22 32 18.5**	**+0.8**
EIDS	**Eidsvold**	**16.26**	**253**	Pn	**P**	**22 35 09.1**	**-1.6**
ARMA	**Armidale**	**17.45**	**236**		**P**	**22 35 27.2**	**+3.3**
ARMA				IAmb	IAmb	22 35 30.3	
	comp=Z,5.8nm,0.6s						
BKZ	**Black Stump Fm**	**19.10**	**160**		**Pn**	**22 35 42.8**	**0.0**
BKZ				IAmb	IAmb	22 35 46.4	
	comp=Z,30nm,1.5s						
MRZ	**Mangataiboka R**	**20.22**	**164**		Pn	22 35 54.4	-1.7
MRZ				IAmb	IAmb	22 36 00.5	
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**25.96**	**241**	P	**P**	**22 36 52.7**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=69,slow=8.6,SNR=1.4						
STKA				LR	LR	22 45 56.8	
	comp=Z,174nm,18.8s,baz=330,slow=34						
	comp=Z,1.4nm,0.8s						
WB0	**Warramunga Arr**	**31.71**	**267**	P	**P**	**22 37 42.9**	**-0.1**
WRA	**Warramunga Arr**	**31.73**	**266**	P	**P**	**22 37 43.6**	**+0.4**
WRA	**Warramunga Arr**	**31.73**	**266**	P	**P**	**22 37 42.6**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=93,slow=8.2,SNR=12						
	comp=Z,0.8nm,0.9s						
AS31	**Alice Springs**	**31.77**	**259**	P	**P**	**22 37 45.2**	**+1.7**
AS31				IAmb	IAmb	22 37 52.4	
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**31.77**	**259**	P	**P**	**22 37 43.9**	**+0.3**
ASAR	**Alice Springs**	**31.77**	**259**	P	**P**	**22 37 43.8**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=89,slow=8.9,SNR=13						
	comp=Z,1.3nm,0.7s						
QSPA	**South Pole Qui**	**68.70**	**180**	P	**P**	**22 42 22.4**	**0.0**
QSPA	**South Pole Qui**	**68.70**	**180**	P	**P**	**22 42 22.5**	**0.0**
	comp=Z,1.5nm,0.8s,baz=15,slow=4.2,SNR=5.2						
	comp=Z,1.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**73.21**	**334**	P	**P**	**22 42 50.6**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=100,slow=7.9,SNR=4.8						
	comp=Z,1.4nm,0.8s						
EKA	**Eskdalemuir Ar**	**145.47**	**351**	PKPbc	**PKPab**	**22 50 56.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=357,slow=2.5,SNR=10.0						
GERES	**GERESS Array B**	**145.88**	**330**	PKPdf	**PKPab**	**22 50 58.8**	**0.0**
GERES	**GERESS Array B**	**145.88**	**330**	PKPbc	**PKPab**	**22 50 58.3**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=58,slow=3.8,SNR=5.5						

*IDC **24** 22:31:26.8±0.7, 32°.66N×130°.79E, h0km, mb4.0/18, mbtmp4.0/25, ML3.7/6, MS3.5/15, Error ellipse: s-maj=16.4km s-min=7.4km az=104.0*
*MOS **24** 22:31:27.8±1.3, 32°.70N×130°.97E, h17km, mb4.5/16, Error ellipse: s-maj=11.5km s-min=6.1km az=110.1*
*NEIC **24** 22:31:28.6±1.3, 32°.72N±0°.03×130°.86E±0°.08, h8km±1km, mb4.4/19, Error ellipse: s-maj=10.0km s-min=4.3km az=94.0*
*NIED **24** 22:31:28.1, 32°.72N×130°.80E, h5km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.08; $M_{\theta\theta}$1.11; $M_{\phi\phi}$-1.19; $M_{r\theta}$0.33; $M_{\theta\phi}$1.16; $M_{\phi r}$-0.43; Fault plane solution: $M_0$1.71000×10^{15} NP1: ϕ_s292.00000°, δ83.00000°, λ-15.00000°. NP2:ϕ_s23.00000°, δ75.00000°, λ-173.00000°.*
*JMA **24** 22:31:28.1±0.0, 32°.72N±0°.09×130°.8E±0°.1, h5km, MD4.4/20, MW4.1/20, NW KUMAMOTO PREF*
JMA Felt IV J1 at NW KUMAMOTO PREF .

ISC 24 22:31:28.3±1.1, 32°.73N±0°.04×130°.91E±0°.06, h5km±7km, n153, σ1§47/117, mb4.3/55, MS3.8/11, 4C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.20**	**204**	*i* P	**Pg**	**22 31 31.8**	**-0.4**
JIU3				*e*S	**Sg**	**22 31 34.4**	**-0.5**
JIU3	**Izumi3**	**0.20**	**204**	A	A	22 31 31.8	
	comp=E,88nm,1.9s,comp=N,65nm,3.0s						
JNU	**Nakatsue**	**0.39**	**356**	Pg	**Pg**	**22 31 36.3**	**+0.5**
	comp=N,650nm,0.3s,baz=195,slow=11,SNR=4865						
JNU				Lg	Lg	22 31 41.9	
	comp=N,5μm,0.3s,baz=111,slow=24,SNR=54						
JNU	**Nakatsue**	**0.39**	**356**	A	A	22 31 36.2	
	comp=E,70nm,4.1s,comp=N,36nm,2.8s						
JTA	**Tamana**	**0.39**	**306**	*i* P	**Pg**	**22 31 34.8**	**-1.1**
JTA				*e*S	**Sg**	**22 31 39.6**	**-1.4**
JTA	**Tamana**	**0.39**	**306**	A	A	22 31 34.8	
	comp=E,40nm,2.3s,comp=N,46nm,2.6s						
JKIT	**Kitakata**	**0.47**	**103**	A	A	22 31 39.1	
	comp=E,30nm,0.5s,comp=N,67nm,4.8s						
JZO	**Okuchi**	**0.65**	**204**	A	A	22 31 39.9	
	comp=E,54nm,4.0s,comp=N,23nm,2.0s						
JHHC	**Hyugahichiya**	**0.68**	**115**	A	A	22 31 42.8	
	comp=E,19nm,0.6s,comp=N,44nm,4.7s						
JTSN	**Tsuno**	**0.70**	**134**	A	A	22 31 42.8	
	comp=E,36nm,3.2s,comp=N,42nm,3.5s						
JHD	**Hondo**	**0.70**	**248**	A	A	22 31 40.1	
	comp=E,23nm,4.6s,comp=N,38nm,4.4s						
JBEP	**Beppuamama**	**0.73**	**35**	A	A	22 31 43.5	
	comp=E,24nm,4.8s,comp=N,25nm,4.1s						
JUS	**Usuki**	**0.78**	**65**	A	A	22 31 44.9	
	comp=E,12nm,0.7s,comp=N,18nm,4.3s						
JFI	**Itaya**	**0.82**	**328**	A	A	22 31 43.3	
	comp=E,11nm,5.0s,comp=N,12nm,0.3s						
JSKE	**Saikikamae**	**0.84**	**85**	A	A	22 31 46.0	
	comp=E,10.0nm,3.7s,comp=N,26nm,3.5s						
JTZ	**Takazaki**	**0.84**	**170**	*i* P	**Pb**	**22 31 45.1**	**-0.3**
JTZ				S	**Sb**	**22 31 57.4**	**+0.3**
JTZ	**Takazaki**	**0.84**	**170**	A	A	22 31 45.1	
	comp=E,31nm,4.5s,comp=N,19nm,3.5s						
JUR	**Ureshino**	**0.88**	**294**	A	A	22 31 43.7	
	comp=E,17nm,4.6s,comp=N,21nm,5.5s						
NGSJ	**Nagasakinomoza**	**0.94**	**264**	A	A	22 31 44.4	
	comp=E,9.0nm,2.6s,comp=N,7.0nm,0.8s						
JFA	**Akaike**	**0.98**	**355**	A	A	22 31 47.0	
	comp=E,21nm,4.0s,comp=N,10.0nm,4.4s						
JKI	**Kunimi**	**1.05**	**32**	A	A	22 31 49.3	
	comp=E,17nm,4.4s,comp=N,17nm,3.4s						
JNKG	**Nichinankitago**	**1.14**	**159**	A	A	22 31 50.1	
	comp=E,19nm,3.6s,comp=N,11nm,3.3s						
JNAR	**Kushima--Naru**	**1.24**	**166**	A	A	22 31 51.6	
	comp=E,18nm,4.3s,comp=N,14nm,4.4s						
JII	**Iki**	**1.45**	**317**	A	A	22 31 54.0	
	comp=E,14nm,4.7s,comp=N,10.0nm,2.4s						
JSJ	**Shimokoshiki**	**1.46**	**224**	A	A	22 31 53.8	
	comp=E,8.0nm,5.4s,comp=N,7.0nm,6.8s						
UWA2	**Uwa jima 2**	**1.52**	**71**	A	A	22 31 57.3	
	comp=E,5.0nm,1.1s,comp=N,10.0nm,5.1s						
JTY	**Toyota**	**1.53**	**5**	A	A	22 31 56.5	
	comp=E,12nm,4.8s,comp=N,14nm,1.0s						
JNA	**Nagahama**	**1.55**	**58**	A	A	22 31 57.8	
	comp=E,3.0nm,3.9s,comp=N,5.0nm,3.6s						
JTO	**Tosashimizu**	**1.60**	**85**	A	A	22 31 58.6	
	comp=E,6.0nm,2.0s,comp=N,10.0nm,1.4s						
JFU	**Fukue jima 2**	**1.82**	**268**	A	A	22 31 59.2	
	comp=E,4.0nm,4.6s,comp=N,5.0nm,6.3s						
JKU	**Kubokawa**	**1.90**	**72**	A	A	22 32 03.0	
	comp=E,6.0nm,5.0s,comp=N,10.0nm,2.2s						
JHM	**Kurahashi**	**1.95**	**44**	A	A	22 32 03.5	
	comp=E,4.0nm,4.4s,comp=N,4.0nm,4.6s						
JHIK	**Hikimi**	**1.99**	**25**	A		22 32 03.7	
	comp=E,4.0nm,6.3s,comp=N,5.0nm,5.3s						
JHGM	**Hagimishima**	**2.05**	**5**	A	A	22 32 04.3	
	comp=E,9.0nm,5.6s,comp=N,10.0nm,2.1s						
JMN	**Monobe**	**2.68**	**67**	Pn	**Pn**	**22 32 12.7**	**+0.5**
JMN	**Monobe**	**2.68**	**67**	A	A	22 32 14.3	
	comp=E,6.0nm,1.5s,comp=N,13nm,3.8s						
TJN	**Taejon**	**4.67**	**322**	Pn	**Pn**	**22 32 40.0**	**+0.6**
TJN	**Taejon**	**4.67**	**322**	P	**Pn**	**22 32 40.0**	**+0.6**
KSRS	**Korea Array**	**5.31**	**333**	Pn	**Pn**	**22 32 47.5**	**-0.7**
	comp=N,1.1nm,0.3s,baz=151,slow=15,SNR=6.7						
KSRS				Lg	Lg	22 34 12.8	
	comp=N,2.7nm,0.3s,baz=156,slow=30,SNR=3.7						
KSRS				LR	LR	22 35 13.8	
	comp=N,162nm,18.2s,baz=155,slow=43						
	comp=N,1.7nm,0.4s						
KSAR	**Wonju Array Be**	**5.31**	**333**		**Pn**	**22 32 48.9**	**+0.6**
KSAR	**Wonju Array Be**	**5.31**	**333**	P	**Pn**	**22 32 48.9**	**+0.6**
KS19	**Wonju Array Si**	**5.37**	**333**		**Pn**	**22 32 48.4**	**-0.7**
INCN	**Inchon**	**5.89**	**325**	Pn	**Pn**	**22 32 55.4**	**-0.9**
INCN	**Inchon**	**5.89**	**325**	P	**Pn**	**22 32 55.4**	**-0.9**
JGF	**Kuroka**	**6.06**	**60**	Pn	**Pn**	**22 32 58.9**	**+0.3**
JOW	**Kunigami**	**6.31**	**202**		**Pn**	**22 33 01.6**	**-0.5**
JOW	**Kunigami**	**6.31**	**202**	Pn	**Pn**	**22 33 01.9**	**-0.2**
	comp=N,14nm,0.3s,baz=46,slow=6.4,SNR=42						
	comp=N,26nm,0.3s						
JMZ	**Minamidaito 2**	**6.89**	**178**	Pn	**Pn**	**22 33 10.1**	**0.0**
MAJO	**Matsushiro**	**7.11**	**56**	Pn	**Pn**	**22 33 12.1**	**-1.0**
MAJO	**Matsushiro**	**7.11**	**56**	P	**Pn**	**22 33 12.1**	**-1.0**
MJB9	**Matsu-Tunnel**	**7.11**	**56**		**Pn**	**22 33 12.8**	**-0.3**
MJAR	**Matsushiro Arr**	**7.12**	**56**	Pn	**Pn**	**22 33 15.1**	**+2.0**
	comp=N,0.4nm,0.3s,baz=238,slow=12,SNR=20						
MJAR				Lg	Lg	22 35 18.0	
	comp=N,0.1nm,0.3s,baz=222,slow=27,SNR=2.0						
MJAR				LR	LR	22 36 34.1	
	comp=N,224nm,20.6s,baz=228,slow=42						
	comp=N,6.6nm,0.8s						
JHJ	**Hachijo jima 2**	**7.47**	**85**	Pn	**Pn**	**22 33 18.1**	**+0.1**
	comp=N,24nm,0.3s,baz=52,slow=4.4,SNR=9.1						
JHJ				LR	LR	22 36 13.3	
	comp=N,122nm,18.4s,baz=291,slow=38						
	comp=N,59nm,0.3s						
JHJ2	**Mitsune**	**7.50**	**85**		**Pn**	**22 33 19.2**	**+0.9**
JTM	**Tenmabayashi**	**11.44**	**42**	Pn	**Pn**	**22 34 13.8**	**+1.4**
USRK	**Ussuriysk Ar.**	**11.48**	**4**	Pn	**Pn**	**22 34 12.3**	**-0.6**
	comp=N,0.2nm,0.3s,baz=182,slow=13,SNR=4.5						
USRK				LR	LR	22 38 27.1	
	comp=N,110nm,19.2s,baz=187,slow=36						
ASAJ	**Asahikawa**	**14.58**	**35**	Pn	**Pn**	**22 34 56.0**	**+0.8**
	comp=N,0.3nm,0.3s,baz=228,slow=14,SNR=3.0						
ASAJ				LR	LR	22 40 16.1	
	comp=N,69nm,19.5s,baz=202,slow=36						
	comp=N,3.1nm,0.6s						
JKA	**Kamikawa-asahi**	**14.58**	**35**	Pn	**Pn**	**22 34 54.3**	**-0.9**
KLR	**Kul'dur**	**16.49**	**2**	Pn	**P**	**22 35 21.3**	**-1.8**
	comp=N,0.1nm,0.3s,baz=167,slow=10,SNR=2.3						
KLR				LR	LR	22 41 36.0	
	comp=N,107nm,18.1s,baz=200,slow=37						
	comp=N,0.6nm,0.5s						
YSS	**Yuzh-Sakhalins**	**16.84**	**29**	Pn	**Pn**	**22 35 23.9**	**-0.7**
YSS				IAmb	IAmb	22 35 51.6	
	comp=Z,13nm,0.5s						
YSS	**Yuzh-Sakhalins**	**16.84**	**29**	*e*P	**Pn**	**22 35 24.6**	**-0.1**
YSS				*e*S	**Sn**	**22 38 31.9**	**-0.1**
YSS				pmax	pmax		
	comp=Z,15nm,0.5s						
YSS				MLR	MLR		
	comp=Z,200nm,12.0s						
HEH	**HeiHe**	**17.70**	**353**	*e*P	**P**	**22 35 39.5**	**+3.1**
HEH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HIA	**Hailar**	**18.51**	**336**	P	**Pn**	**22 35 45.4**	**-0.1**
HIA	**Hailar**	**18.51**	**336**	P	**Pn**	**22 35 45.4**	**-0.1**
HIA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZEA	**Zeya**	**21.16**	**354**	*e*P	**P**	**22 36 19.0**	**+4.8**
LZH	**Lanzhou**	**22.55**	**286**	*e*P	**P**	**22 36 32.5**	**+3.0**
LZH				pP	sP	22 36 41.8	+10
LZH				pmax	pmax		
	comp=Z,19nm,1.5s						
ULN	**Ulaanbaatar**	**23.52**	**317**	P	**P**	**22 36 38.5**	**-0.9**
ULN	**Ulaanbaatar**	**23.52**	**317**	*de*P	**P**	**22 36 39.9**	**+0.5**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**23.89**	**316**	P	**P**	**22 36 43.4**	**+0.5**
SONM	**Songino Array**	**23.89**	**316**	P	**P**	**22 36 41.7**	**-1.2**
	comp=Z,2.2nm,1.0s,baz=131,slow=8.9,SNR=6.0						
SONM				LR	LR	22 47 01.3	
	comp=Z,186nm,19.5s,baz=199,slow=39						
	comp=Z,2.2nm,1.0s						
SONM	**Songino Array**	**23.89**	**316**	P	**P**	**22 36 43.4**	**+0.5**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA	**Gaotai**	**25.92**	**294**	*e*P	**P**	**22 37 02.3**	**+0.8**
GTA		

	comp=Z,0.5nm,0.6s						
D19K	Kuna River	53.02	26	P		P	22 40 45.7 -0.2
D19K				IAmb		IAmb	22 41 06.3
	comp=Z,6.9nm,1.2s						
ARU	Arti	53.88	319	d iP		P	22 40 53.4 +1.1
ARU							22 41 57.7
ARU							22 42 53.4
ARU				S		S	22 48 30.2 +2.4
ARU				SS		SS	22 52 11.5 +3.2
ARU				pmax		pmax	
	comp=Z,4.0nm,0.9s						
ABKAR	Abkulak array	54.08	310	P		P	22 40 52.5 -1.4
ABKAR	Abkulak array	54.08	310	P		P	22 40 52.5 -1.4
ABKAR				IAmb		IAmb	22 40 58.5
	comp=Z,3.4nm,1.1s						
ASAR	Alice Springs	56.16	177	P		P	22 41 07.2 -1.8
	comp=Z,0.7nm,0.8s,baz=9.7,slow=13,SNR=7.9						
	comp=Z,0.7nm,0.8s						
ILAR	Eielson Array	57.64	30	P		P	22 41 19.1 0.0
	comp=Z,0.5nm,0.7s,baz=278,slow=6.3,SNR=5.2						
	comp=Z,0.5nm,0.7s						
M26K	Nabesna, AK	59.80	33	P		P	22 41 34.4 +0.1
M26K				IAmb		IAmb	22 41 38.5
	comp=Z,2.7nm,0.8s						
BELG	Belogornoye	60.94	316	LR		LR	23 10 27.8
	comp=Z,59nm,18.9s,baz=88,slow=38						
G30M	tAoh Zraii Nji	61.43	27	P		P	22 41 45.3 0.0
G30M				IAmb		IAmb	22 41 48.4
	comp=Z,4.2nm,1.1s						
ARCES	ARCESS Array B	64.85	338	P		P	22 42 06.0 -1.9
	comp=Z,1.9nm,1.1s,baz=45,slow=9.0,SNR=3.8						
ARCES				LR		LR	23 16 19.7
	comp=Z,81nm,18.4s,baz=106,slow=42						
	comp=Z,1.9nm,1.1s						
ARCES	ARCESS Array B	64.85	338	P		P	22 42 06.0 -1.9
OBN	Obninsk	66.18	321	eP		P	22 42 17.8 +1.1
OBN				pmax		pmax	
	comp=Z,4.0nm,0.8s						
KBZ	Khabaz	66.93	308	LR		LR	23 14 44.9
	comp=Z,61nm,20.1s,baz=132,slow=39						
KBZ	Khabaz	66.93	308	eP		P	22 42 21.1 -0.6
KBZ				pmax		pmax	
	comp=Z,4.0nm,1.4s						
KIV	Kislovodsk	66.98	308	eP		P	22 42 23.7 +1.5
KIV				pmax		pmax	
	comp=Z,5.0nm,1.0s						
FINES	FINESS Array B	68.39	330	P		P	22 42 29.4 -1.2
	comp=Z,1.4nm,0.5s,baz=74,slow=5.9,SNR=18						
FINES				LR		LR	23 14 28.5
	comp=Z,61nm,20.6s,baz=86,slow=38						
	comp=Z,1.4nm,0.5s						
FINES	FINESS Array B	68.39	330	i P		P	22 42 31.3 +0.7
FINES				pmax		pmax	
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	72.13	319	P		P	22 42 52.7 -1.0
	comp=Z,1.5nm,0.5s,baz=57,slow=6.8,SNR=5.4						
	comp=Z,1.5nm,0.5s						
AKBB	Malin Array Si	72.13	319⇑	eP		P	22 42 54.2 +0.4
HFS	Hagfors	74.16	332	P		P	22 43 03.7 -1.9
	comp=Z,1.2nm,0.7s,baz=61,slow=6.8,SNR=4.5						
	comp=Z,1.2nm,0.7s						
NB2	NORSAR Subarra	74.52	334	P		P	22 43 07.2 -0.5
	comp=Z,4.4nm,1.4s,baz=50,slow=6.2						
NOA	NORSAR Array B	74.52	334	P		P	22 43 06.6 -1.1
	comp=Z,1.1nm,0.9s,baz=49,slow=5.6,SNR=4.6						
NOA				LR		LR	23 18 43.7
	comp=Z,28nm,19.3s,baz=50,slow=38						
	comp=Z,1.1nm,0.9s						
BRTR	Keskin Array B	74.91	308	P		P	22 43 10.0 -0.5
	comp=Z,1.4nm,0.9s,baz=69,slow=8.2,SNR=7.8						
	comp=Z,1.4nm,0.9s						
BRTR	Keskin Array B	74.91	308	ceP		P	22 43 11.8 +1.3
BRTR				pmax		pmax	
	comp=Z,1.0nm,0.9s						
BUR08	Bucovina Ar. S	75.98	318	P		P	22 43 15.5 -1.0
BUR08				IAmb		IAmb	22 43 18.4
	comp=Z,3.5nm,1.1s						
BURAR	Bucovina Array	75.99	318	P		P	22 43 15.7 -0.8
BURAR				IAmb		IAmb	22 43 19.3
	comp=Z,2.3nm,0.9s						
BURAR	Bucovina Array	75.99	318	P		P	22 43 15.7 -0.8
BURAR				pmax		pmax	
	comp=Z,2.0nm,1.0s						
KOLS	Kolonicke sedl	76.88	320	eP		P	22 43 20.3 -1.1
KOLS				pmax		pmax	
	comp=Z,3.0nm,0.7s						
KOLS	Kolonicke sedl	76.88	320	eP		P	22 43 20.3 -1.1
OJC	Ojcow	77.44	322	P		P	22 43 24.1 -0.4
OJC	Ojcow	77.44	322	P		P	22 43 24.2 -0.4
OJC				pmax		pmax	
	comp=Z,4.0nm,0.7s						
VYHS	Vyhne	78.98	321	eP		P	22 43 35.1 +1.9
VYHS				pmax		pmax	
	comp=Z,6.0nm,1.4s						
VYHS	Vyhne	78.98	321	eP		P	22 43 35.0 +1.9
EIL	Elat	79.11	298	P		P	22 43 34.4 +0.2
	comp=Z,2.2nm,0.7s,baz=22,slow=7.2,SNR=2.7						
	comp=Z,2.2nm,0.7s						
VRAC	Vranov	79.64	323	P		P	22 43 37.0 +0.2
	comp=Z,2.8nm,0.9s,baz=66,slow=8.6,SNR=5.0						
	comp=Z,2.8nm,0.9s						
VRAC	Vranov	79.64	323	P		P	22 43 37.0 +0.2
CLL	Collm	80.14	326	i P		P	22 43 39.9 +0.6
	comp=Z,6.0nm,0.6s						
CLL	Collm	80.14	326	i P		P	22 43 39.9 +0.6
CLL				pmax		pmax	
	comp=Z,6.0nm,0.6s						
RONA	Rosalia, Austr	80.81	322	i pP		pP	22 43 43.8 -0.9
	comp=Z,0.2nm,0.2s						
CONA	Conrad Observa	80.89	322	i pP		P	22 43 43.9 +0.3
	comp=Z,0.1nm,0.2s						
KHC	Kasperske Hory	81.28	324⇑	eP		P	22 43 46.2 +0.6
KHC				pmax		pmax	
	comp=Z,14nm,2.6s						
GERES	GERESS Array B	81.41	324	P		P	22 43 47.1 +0.8
	comp=Z,1.1nm,1.0s,baz=17,slow=7.2,SNR=4.0						
	comp=Z,1.1nm,1.0s						
ARSA	Arzberg	81.50	322	i P		P	22 43 45.2 -1.5
	comp=Z,0.3nm,0.2s						
MOA	Molln	81.77	323	eP		P	22 43 46.1 -2.0
	comp=Z,1.7nm,1.2s						
SOKA	Soboth	82.12	321	eP		P	22 43 48.5 -1.6
	comp=Z,1.8nm,0.7s						
BIOA	Bad Ischl, Aus	82.19	323	eP		P	22 43 48.6 -1.8
	comp=Z,0.7nm,0.5s						
OBKA	Obir	82.49	321	eP		P	22 43 49.6 -2.5
	comp=Z,1.4nm,0.7s						
KBA	Koelnbreinsper	82.74	322	eP		P	22 43 49.0 -4.4
	comp=Z,0.4nm,0.4s						
LESA	Schwarzleotal	82.86	323	eP		P	22 43 48.7 -5.3
	comp=Z,1.3nm,0.8s						
ABTA	Abfaltersbach	83.39	322	eP		P	22 43 51.3 -5.6
	comp=Z,4.0nm,1.5s						
RETA	Reutte	83.78	324	eP		P	22 43 54.5 -4.2
	comp=Z,1.2nm,1.1s						
FETA	Feichten	84.11	324	eP		P	22 43 56.9 -3.6
	comp=Z,0.8nm,1.0s						
DAVA	Damuels	84.35	324	eP		P	22 43 57.3 -4.5
	comp=Z,4.4nm,0.7s						
NVAR	Mina Array Bea	84.37	48	P		P	22 44 02.0 -0.1
	comp=Z,0.7nm,0.8s,baz=341,slow=4.9,SNR=1.1						
	comp=Z,0.7nm,0.8s						
FUORN	Ofenpass-Fuorn	84.62	323	P		P	22 44 02.4 -0.8
DAVOX	Davos/Dischmat	84.70	324	P		P	22 44 03.2 -0.3
	comp=Z,5.2nm,0.8s,baz=36,slow=8.7,SNR=11						
DAVOX				LR		LR	23 26 32.5
	comp=Z,74nm,18.8s,baz=70,slow=39						
	comp=Z,5.2nm,0.8s						

*IDC **24** 22:35:55.2±1.1, 35°.84N×97°.46W, h0km, mbtmp3.3/5, ML3.3/5, Error ellipse: s-maj=14.5km s-min=12.0km az=145.0*
*TUL **24** 22:35:57.5±0.9, 35°.671N±0°.006×97°.41W±0°.02, h7km±6km, ML3.7, mb_Lg3.4/137(NEIC), ML3.5/49(NEIC), Mwr3.3/12(SLM), Error ellipse: s-maj=2.3km s-min=0.8km az=81.0*
*NEIC **24** 22:35:57.0±1.0, 35°.67N±0°.02×97°.42W±0°.01, h5km±2km, Error ellipse: s-maj=3.5km s-min=3.0km az=156.0*
*NEIC **24** 22:35:57, 35°.67N×97°.40W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.00; $M_{\theta\theta}$0.43; $M_{\phi\phi}$-0.43; $M_{r\theta}$0.33; $M_{\phi\phi}$1.17; $M_{\phi r}$-0.06; Fault plane solution: $M_0$1.29000×10^{14} NP1:ϕ_s10.00000°, δ75.00000°, λ-180.00000°. NP2:ϕ_s280.00000°, δ90.00000°, λ-15.00000°. Principal axes: T 1.2889,*

Plg11.0000°, Azm326.0000°; N 0.0001, Plg75.0000°, Azm100.0000°; P -1.2890, Plg11.0000°, Azm234.0000°;
ISC 24 22:35:57.2±0.9, 35°.69N±0°.02×97°.40W±0°.03, h12km±5km, n110, σ0°95/68, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	Arcadia Dam	0.04	142	Pg	Pg	22 35 59.2	-0.3
ADOK				Sg	Sg	22 36 00.5	-0.6
OK029	Liberty Lake	0.12	339	Pg	Pg	22 36 00.7	+0.4
OK029				Sg	Sg	22 36 03.0	+0.5
OK029				IAML		22 36 03.3	
	33μm,0.6s						
OKCSW	OKLAHOMA CITY	0.28	186	Pg	Pg	22 36 03.0	0.0
OKCSW				Sg	Sg	22 36 07.2	+0.3
FNO	Franklin	0.43	180	Pg	Pg	22 36 05.7	0.0
FNO				IAML		22 36 12.0	
	comp=E,9μm,0.5s						
FNO				IAML		22 36 12.0	
	comp=N,3μm,0.5s						
OK031	S. Brethren Rd	0.53	60	Pg	Pg	22 36 08.0	+0.4
OK052	Battle Ridge R	0.58	58	Pg	Pg	22 36 08.8	+0.4
OK052				IAML		22 36 27.2	
	comp=N,2μm,0.3s						
QUOK	Quay	0.74	49	Pg	Pg	22 36 11.8	+0.2
QUOK				IAML		22 36 22.8	
	comp=N,3μm,0.3s						
QUOK				IAML		22 36 25.4	
	comp=E,2μm,0.3s						
DEOK	Depew	0.75	78	Pg	Pg	22 36 11.5	-0.3
DEOK				IAML		22 36 22.6	
	comp=E,1μm,0.5s						
DEOK				IAML		22 36 23.4	
	comp=N,2μm,0.5s						
OK048	Pawnee Station	0.82	27	Pg	Pg	22 36 13.2	+0.1
OK048				IAML		22 36 24.8	
	comp=N,2μm,0.3s						
OK048				IAML		22 36 28.8	
	comp=N,1μm,0.2s						
OK051	E0350 and S346	0.94	29	Pg	Pg	22 36 15.2	-0.1
CROK	Carrier	0.94	330	Pg	Pg	22 36 15.5	+0.1
CSTR	Hydro, Custer	1.05	268	Pg	Pg	22 36 17.0	-0.4
BLOK	Blackwell	1.08	8	Pg	Pg	22 36 18.0	-0.1
X34A	Smith Ranch, M	1.14	198		Pb	22 36 18.8	-0.1
X34A				IAML		22 36 35.5	
	comp=N,2μm,0.2s						
X34A				IAML		22 36 36.0	
	comp=E,2μm,0.5s						
GC02	Grant County #	1.22	343		Pg	22 36 19.9	-0.8
OK032	Salt Plains WL	1.29	330		Pn	22 36 21.5	+0.3
KAN13	South Haven SW	1.32	357		Pn	22 36 22.3	+0.7
TUL3	Leonard	1.33	80		Pn	22 36 21.3	-0.4
TUL3				IAmb_Lg		22 36 42.6	
	comp=Z,200nm,0.7s						
TUL3				IAML		22 36 43.0	
	comp=E,1μm,0.7s						
OK038	West end E0370	1.34	306		Pn	22 36 22.1	+0.3
KAN14	Manchester OK	1.35	341		Pn	22 36 22.6	+0.7
KAN17	Caldwell West	1.39	348		Pn	22 36 23.1	+0.7
T35A	Sooner Cattle	1.42	30		Pn	22 36 23.5	+0.6
U32A	Winter Ranch,	1.47	299		Pn	22 36 24.2	+0.6
KAN05	Bluff City Nor	1.47	345		Pn	22 36 24.7	+1.1
WMOK	Wichita Mounta	1.47	230		Pn	22 36 23.8	+0.1
KAN01	Argonia South	1.49	349		Pn	22 36 24.9	+1.0
NOKA	Waynoka	1.56	308		Pn	22 36 25.4	+0.6
KAN08	Anthony NE Sta	1.60	344		Pn	22 36 26.7	+1.3
KS21	Milan North St	1.61	353		Pn	22 36 26.8	+1.3
KAN12	Harper NE Stat	1.68	344		Pn	22 36 27.5	+1.0
ELIS	Ellis County	1.68	284		Pn	22 36 27.6	+1.1
LOOK	Love County	1.70	174	Pg	Pn	22 36 27.5	+0.8
RLO	Rose Lookout	1.99	75		Pn	22 36 31.8	+1.0
X37A	Clayton	1.99	123	Pn	Pn	22 36 31.6	+0.8
WTFS	Witchita Falls	2.10	205	Pn	Pn	22 36 33.8	+1.5
Z35A	Perchaven, San	2.35	177		Pn	22 36 37.1	+1.4
Z35A				IAmb_Lg		22 37 10.7	
	comp=Z,112nm,0.8s						
SMWD	Samnorwood	2.39	257		Pn	22 36 37.5	+1.3
U38A	Gravette	2.56	72		Pn	22 36 40.2	+1.7
FW03	Perrin-Whitt E	2.70	192		Pn	22 36 42.3	+1.8
FW06	Azle	2.71	183	Pn	Pn	22 36 42.5	+1.9
FW06				IAmb_Lg		22 37 25.9	
	comp=Z,207nm,1.2s						
HHAR	Hobbs	2.87	77		Pn	22 36 43.8	+0.9
R32A	Long Quarter,	2.92	339		Pn	22 36 44.6	+1.0
PLPT	Palo Pinto	2.96	195		Pn	22 36 44.6	+0.4
PLPT				IAmb_Lg		22 37 36.5	
	comp=Z,100nm,0.8s						
FW07	Weatherford	2.99	186	IAmb_Lg		22 37 39.7	
	comp=Z,108nm,0.8s						
Z38A	Mt. Pleasant	3.14	140		Pn	22 36 47.4	+0.8
TREL	Terrell	3.14	159	IAmb_Lg		22 37 43.2	
	comp=Z,92nm,0.8s						
APMT	Aspermont	3.25	224		Pn	22 36 49.6	+1.5
FW13	Cleburne	3.33	180	IAmb_Lg		22 37 49.0	
	comp=Z,98nm,0.8s						
MIAR	Mount Ida	3.34	109		Pn	22 36 50.7	+1.5
MIAR				IAmb_Lg		22 37 48.8	
	comp=Z,110nm,0.8s						
KSU1	Kansas State U	3.47	10		Pn	22 36 52.4	+1.4
DKNS	Dickens	3.53	236	Pn	Pn	22 36 53.9	+1.9
DKNS				IAmb_Lg		22 37 54.7	
	comp=Z,93nm,0.8s						
ABTX	Abilene, Hawle	3.57	212		Pn	22 36 53.1	+0.5
ABTX				IAmb_Lg		22 37 51.2	
	comp=Z,107nm,1.2s						
AMTX	Amarillo	3.59	258	Pn	Pn	22 36 54.2	+1.4
AMTX				IAmb_Lg		22 37 58.1	
	comp=Z,101nm,0.9s						
CBKS	Cedar Bluff	3.63	330	Pn	Pn	22 36 54.8	+1.4
CBKS				IAmb_Lg		22 37 55.4	
	comp=Z,121nm,0.8s						
WHTX	Lake Whitney,	3.69	181		Pn	22 36 54.7	+0.7
S39A	Bolivar	3.84	57		Pn	22 36 57.2	+1.0
SN07	Snyder 07	3.88	229		Pn	22 36 57.0	+0.3
SN07				IAmb_Lg		22 38 03.1	
	comp=Z,74nm,0.8s						
237A	Washetta, Mont	3.91	160		Pn	22 36 57.2	+0.1
237A				IAmb_Lg		22 38 11.2	
	comp=Z,109nm,0.9s						
X40A	Basin Creek Fa	3.93	106		Pn	22 36 58.1	+0.6
SN05	Snyder 5	4.02	227	Pn	Pn	22 36 58.5	-0.2
SN05				IAmb_Lg		22 38 08.3	
	comp=Z,108nm,0.9s						
WLAR	White Oak Lake	4.06	118	IAmb_Lg		22 38 11.7	
	comp=Z,96nm,0.8s						
WHAR	Wooly Hollow	4.19	94	Pn	Pn	22 37 01.9	+0.9
WHAR				IAmb_Lg		22 38 18.0	
	comp=Z,99nm,0.8s						
UALR	University of	4.24	101	IAmb_Lg		22 38 23.8	
	comp=Z,110nm,0.7s						
POST	Post	4.28	234	IAmb_Lg		22 38 24.6	
	comp=Z,101nm,0.8s						
FCAR	Ozark Folk Cen	4.30	86		Pn	22 37 03.5	+1.0
FCAR				IAmb_Lg		22 38 21.6	
	comp=Z,82nm,0.8s						
RTBA	Rita Blanca	4.38	281	IAmb_Lg		22 38 23.6	
	comp=Z,94nm,0.8s						
MGMO	Mountain Grove	4.39	69		Pn	22 37 05.2	+1.4
MGMO				IAmb_Lg		22 38 29.2	
	comp=Z,80nm,0.7s						
MSTX	Muleshoe	4.74	250	Pn	Pn	22 37 09.6	+1.0
SGCY	Sterling City	4.87	221	IAmb_Lg		22 38 45.4	
	comp=Z,97nm,1.0s						
435B	Jarrell	4.89	182	IAmb_Lg		22 38 45.2	
	comp=Z,109nm,0.7s						
CCAR	Cane Creek	4.96	109	IAmb_Lg		22 38 48.6	
	comp=Z,111nm,0.8s						
LCAR	Lake Charles	5.09	84	IAmb_Lg		22 38 40.3	
	comp=Z,54nm,0.8s						
T42A	Van Buren	5.27	73	IAmb_Lg		22 38 59.5	
	comp=Z,56nm,0.8s						
KSCO	Kaye Shedlock'	5.32	310	IAmb_Lg		22 38 56.5	
	comp=Z,68nm,0.9s						
CCM	Cathedral Cave	5.47	63	IAmb_Lg		22 38 57.0	
	comp=Z,56nm,0.8s						
ODSA	Odessa	5.56	232	IAmb_Lg		22 39 01.1	
	comp=Z,50nm,1.2s						
OZNA	Ozona	5.68	214	IAmb_Lg		22 39 11.6	
	comp=Z,47nm,0.8s						
143A	Socs Landing,	5.79	119	IAmb_Lg		22 39 16.3	
	comp=Z,70nm,1.1s						
MLDN	Muldoon	5.89	177	IAmb_Lg		22 39 21.1	
	comp=Z,64nm,0.7s						
FVM	French Village	6.05	66	IAmb_Lg		22 39 10.9	
	comp=Z,48nm,0.8s						
OGNE	Ogallala	6.39	327	IAmb_Lg		22 39 31.5	
	comp=Z,67nm,0.7s						
SLM	Saint Louis	6.44	61	IAmb_Lg		22 39 18.5	
	comp=Z,40nm,0.8s						
CGM3	Cape Girardeau	6.44	73	IAmb_Lg		22 39 32.6	
	comp=Z,39nm,0.8s						
Y45A	Yeager Farm, C	6.72	103	IAmb_Lg		22 39 43.7	
	comp=Z,54nm,0.8s						
DRIO	Del Rio	6.81	204	IAmb_Lg		22 39 38.8	
	comp=Z,34nm,0.8s						
735A	Kenedy	6.82	183	IAmb_Lg		22 39 49.8	
	comp=Z,58nm,0.8s						
SDCO	Great Sand Dun	6.82	290	IAmb_Lg		22 39 37.1	
	comp=Z,33nm,0.8s						
SAND	Sanderson	6.96	216	IAmb_Lg		22 39 49.8	
	comp=Z,48nm,1.0s						
Q24A	Divide	6.98	300	IAmb_Lg		22 39 46.4	
	comp=Z,34nm,0.8s						
SCIA	State Center	7.02	26	IAmb_Lg		22 39 42.4	
	comp=Z,66nm,0.8s						
Q44A	Meyer Farm, Va	7.42	62	IAmb_Lg		22 39 58.0	
	comp=Z,63nm,1.1s						
ANMO	Albuquerque	7.44	267	Pn	Pn	22 37 46.2	+0.4
	comp=Z,0.2nm,0.3s,baz=96,slow=9.2,SNR=1.6						
ANMO				Lg	Lg	22 39 46.6	
	comp=Z,1.5nm,0.3s,baz=90,slow=20,SNR=3.2						
	comp=Z,0.3nm,0.3s						
833A	Chaparral WMA,	7.53	194	IAmb_Lg		22 40 11.9	
	comp=Z,49nm,0.8s						
PLAL	Pickwick Lake	7.66	93	IAmb_Lg		22 40 08.7	
	comp=Z,29nm,0.8s						
WVT	Waverly	7.78	84	IAmb_Lg		22 40 22.8	
	comp=Z,30nm,0.7s						
L40A	Anamosa	7.99	35	IAmb_Lg		22 40 13.4	
	comp=Z,42nm,0.9s						
VHRN	Van Horn	8.01	235	IAmb_Lg		22 40 20.8	
	comp=Z,32nm,1.1s						
ECSD	EROS Data Cent	8.06	4	IAmb_Lg		22 40 16.6	
	comp=Z,30nm,0.9s						
USIN	University of	8.13	71	IAmb_Lg		22 40 28.9	
	comp=Z,48nm,0.8s						
TXAR	Lajitas Array	8.25	222	Pn	Pn	22 37 55.7	-1.1
	comp=Z,0.2nm,0.3s,baz=42,slow=11,SNR=5.1						
TXAR				Lg	Lg	22 40 14.0	
	comp=Z,2.1nm,0.3s,baz=42,slow=22,SNR=5.5						
	comp=Z,0.4nm,0.4s						
N23A	Red Feather La	8.49	310	IAmb_Lg		22 40 35.4	
	comp=Z,47nm,1.1s						
EPT	El Paso	8.53	245	IAmb_Lg		22 40 43.2	
	comp=Z,25nm,1.1s						
L42A	Oliver, Polo	8.73	41	IAmb_Lg		22 40 36.4	
	comp=Z,51nm,0.8s						
JFWS	Jewell Farm	9.10	35	IAmb_Lg		22 40 54.2	
	comp=Z,37nm,0.7s						
I40A	Norwalk	9.71	30	IAmb_Lg		22 41 08.2	
	comp=Z,27nm,0.8s						
K22A	Casper	9.92	317	IAmb_Lg		22 41 30.8	
	comp=Z,20nm,0.8s						
K43A	Burlington	9.93	42	IAmb_Lg		22 41 20.1	
	comp=Z,36nm,0.8s						
TKL	Tuckaleechee C	11.09	86	Pn	Pn	22 38 34.8	-0.8
	comp=Z,0.1nm,0.3s,baz=317,slow=4.1,SNR=1.2						
TKL				Lg	Lg	22 41 36.5	
	comp=Z,0.6nm,0.3s,baz=333,slow=2.3,SNR=2.6						
	comp=Z,1.4nm,0.7s						
PDAR	Pinedale Array	11.78	311	Pn	Pn	22 38 43.7	-1.5
	comp=Z,0.2nm,0.3s,baz=118,slow=16,SNR=4.7						
PDAR				Lg	Lg	22 41 57.7	
	comp=Z,0.1nm,0.3s,baz=156,slow=25,SNR=1.6						
	comp=Z,0.3nm,0.4s						
ULM	Lac du Bonnet	14.60	4	Pn	Pn	22 39 16.8	-6.7
	comp=Z,0.2nm,0.3s,baz=186,slow=9.2,SNR=1.8						
ULM				Sn	Sn	22 41 48.5	-17
	baz=284,slow=8.1						
ULM				Lg	Lg	22 43 18.2	
	comp=Z,0.2nm,0.3s,baz=286,slow=15,SNR=1.2						
	comp=Z,1.8nm,0.7s						

*DSN **24** 22:38:30.9±0.9, 27°.85N×54°.78E, h15km, ML2.8/5, Error ellipse: s-maj=13.6km s-min=5.6km az=35.0*
*TEH **24** 22:38:33.3, 27°.56N×54°.95E, h12km±23km, ML3.1*
*OMAN **24** 22:38:35.4±1.6, 27°.53N×54°.82E, h10km, ml2.8/10, Mwp5.0/3, Error ellipse: s-maj=17.9km s-min=7.0km az=10.0*
ISC 24 22:38:33.8±0.8, 27°.52N±0°.04×54°.94E±0°.03, h10km, n41, σ2°02/55, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.52	287	Pg	Pg	22 38 44.0	0.0
LAR1				Sg	Sb	22 38 52.5	-0.2
GENO	Geno	1.10	96	Pg	Pn	22 38 55.4	-0.1
IBND	Bandar-abas	1.43	93	Pg	Pg	22 39 00.9	-0.2
JHRM	Jahrom	1.55	309	Pg	Pg	22 39 04.0	+0.4
LMD1	Lamerd	1.59	264	Pg	Pg	22 39 04.0	-0.3
SHME	Shamm	1.82	143	P	Pb	22 39 06.5	-0.8
SHME				S	Sg	22 39 34.0	+1.7
SHME	Shamm	1.82	143	P	Pg	22 39 10.2	+1.5
SHME				S	Sg	22 39 32.0	-0.3
BANOM	Banah	2.00	142	P	Pg	22 39 12.1	-0.1
BANOM				S	Sb	22 39 36.0	+0.6
MASF	Masafi	2.41	153	P	Pb	22 39 15.2	-2.0
MASF				S	Sb	22 39 47.0	0.0
MSFE	Esma-Masafi	2.42	153	P	Pn	22 39 15.0	+1.6
MDH	Madha	2.53	151	P	Pn	22 39 16.7	+1.7
MDH	Madha	2.53	151	P	Pn	22 39 16.6	+1.7
NGRK	Negar Kerman	2.64	36	Pn	Pn	22 39 17.2	+0.4
UOSS	Minazif	2.81	156	P	Pn	22 39 20.1	+1.3
UOSS	Minazif	2.81	156	P	Pn	22 39 20.4	+1.6
FAQ	Al Faqa, Dubai	2.83	168	P	Pb	22 39 21.6	+2.6
HATD	Hatta, Dubai	2.89	158	P	Pb	22 39 22.7	-2.8
ASUD	Al Ashush, Dub	2.91	173	P	Pb	22 39 23.5	-2.2
TVBK	TV Kerman	2.93	33	Pn	Pn	22 39 22.4	+1.6
ASHO	Ashiyiah	3.00	160	P	Pn	22 39 22.7	+1.2
ASHO	Ashiyiah	3.00	160	P	Pn	22 39 23.3	+1.8
	SNR=8.2						
ASHO				P	Pn	22 39 23.3	+1.8
	SNR=8.2						
ASHO				P	Pb	22 39 23.4

202nm,2.2s
LAO IAML 22 51 32.4
289nm,2.0s
RLMT Red Lodge 1.81 254 Pg 22 51 04.6 -0.3
RSSD Black Hills 2.49 127 Pg 22 51 17.7 -0.3
YHH Holmes Hill 2.98 255 Pn **Pb 22 51 22.3 -2.0**
K22A Casper 3.00 176 Pb 22 51 23.1 -1.5
K22A IAML 22 52 46.7
comp=E,31nm,1.9s
K22A IAML 22 52 58.3
comp=N,34nm,1.8s
EGMT Eagleton 3.12 321 Pn **Pn 22 51 22.5 +1.7**
FLWY Flagg Ranch 3.18 242 Pn 22 51 24.1 +2.5
FLWY IAML 22 52 36.9
comp=N,36nm,1.6s
YHL Hebgen Lake 3.19 257 Pn 22 51 24.2 +2.3
YHL IAML 22 52 26.7
comp=N,32nm,1.5s
BOZ Bozeman (W) 3.38 271 Pn 22 51 24.8 +0.4
IMW Indian Meadow 3.42 241 Pn 22 51 26.2 +1.2
IMW IAML 22 52 31.2
comp=N,21nm,0.6s
IMW IAML 22 52 35.9
comp=N,19nm,1.3s
PD31 Pinedale Array 3.49 215 Pb 22 51 30.5 -2.5
PDAR Pinedale Array 3.49 215 Pb 22 51 31.7 -1.3
PDAR Pinedale Array 3.49 215 Pn **Pb 22 51 31.1 -1.8**
comp=N,0.3nm,0.3s,baz=42,slow=14,SNR=7.7
PDAR Pg **Pg 22 51 38.5 +1.4**
comp=N,0.7nm,0.3s,baz=39,slow=17,SNR=11
PDAR Lg Lg 22 52 20.7
comp=N,0.8nm,0.3s,baz=36,slow=29,SNR=4.4
comp=N,0.4nm,0.4s
LYMT Lyon Mountain 4.02 291 Pn 22 51 34.4 +1.1
OVMT Ovando 4.51 291 Pn 22 51 40.7 +0.8
I56US NEWPORT INFRAS 7.53 294 I I 23 33 30.0
baz=106,slow=310,SNR=2.9
ULM Lac du Bonnet 8.66 54 Pn **Pn 22 52 37.8 +1.0**
comp=N,0.1nm,0.3s,baz=244,slow=12,SNR=1.0
ULM Lg Lg 22 55 03.5
comp=N,0.2nm,0.3s,baz=327,slow=18,SNR=2.1
comp=N,0.5nm,0.3s

SJA 24 23:38:49.4±0.6, 23°.68S×66°.80W, h215km±6km, ML3.5, MW3.5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**1.67**	**109**	*e*P	Pn	23 39 26.9	+0.6
YJA	**Yavi**	**1.90**	**39**	*e*P	Pn	23 39 29.4	+0.8
LVC	**Limon Verde**	**2.22**	**298**	*e*P	Pn	23 39 32.3	+0.6
LVC				*e*S	S	23 40 04.0	-0.3
FSA	**Cafayete**	**2.54**	**163**	*e*P	Pn	23 39 35.9	+1.1
ALOL	**LOMAS DE OLMED**	**2.58**	**94**	*e*S	S	23 40 28.7	+18
PB06	**IPOC Station P**	**2.73**	**290**	*e*P	Pn	23 39 37.6	+0.6
PB06				*e*S	S	23 40 12.8	-1.0
PB06				IAML		23 40 15.2	
comp=Z,104nm,0.1s							
PB09	**IPOC Station P**	**2.93**	**309**	*e*P	Pn	23 39 40.2	+0.9
PB09				*e*S	S	23 40 10.0	-8.0
PB09				IAML		23 40 23.5	
comp=Z,34nm,0.9s							
GO02	**Mina Guanaco**	**2.95**	**239**	*e*P	Pn	23 39 39.1	-0.5
PB04	**IPOC Station P**	**3.37**	**293**	*e*P	Pn	23 39 44.6	+0.3
PB04				IAML		23 40 27.6	
comp=Z,99nm,0.2s							
PB14	**IPOC Station P**	**3.43**	**253**	*e*P	Pn	23 39 45.5	+0.3
PB14				*e*S	S	23 40 27.6	-1.0
PATCX	**Punta Patache**	**4.21**	**312**	*e*P	Pn	23 39 55.1	+0.6
PATCX				*e*S	S	23 40 44.3	-1.2
PATCX				IAML		23 40 45.1	
comp=Z,35nm,1.3s							
TA01	**Diego Aracena**	**4.41**	**314**	*e*P	Pn	23 39 57.8	+1.0
TA01				*e*S	S	23 40 42.0	-7.7
TA01				IAML		23 41 15.3	
comp=Z,39nm,3.9s							
HMBC	**Humberstone**	**4.43**	**319**	*e*P	Pn	23 39 56.8	-0.5
HMBC				*e*S	S	23 40 47.6	-2.9
HMBC				IAML		23 40 50.3	
comp=Z,50nm,0.1s							
GO01	**Chusmiza**	**4.57**	**330**	*e*P	Pn	23 40 00.0	+0.7
GO01				*e*S	S	23 40 53.3	-0.8
PB11	**IPOC Station P**	**4.72**	**325**	*e*P	Pn	23 39 59.8	-1.0
PB11				*e*S	S	23 40 53.2	-3.8
PB11				IAML		23 40 58.4	
comp=Z,32nm,0.1s							
GO03	**Copiap**	**4.99**	**218**	*e*P	Pn	23 40 03.7	-0.3
GO03				*e*S	S	23 41 01.1	-1.8

*SKO **24** 23:43:13.3, 40°.75N×21°.84E, h15km, ML2.4*
*ATH **24** 23:43:13.6, 40°.79N×21°.83E, h9km±1km, ML2.4/13,*
Manual Solution by N.Liadopoulou This location:
2020/06/16 06:21:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees
Latitude uncertainty: 1 km; Longitude uncertainty: 0 km
*BEO **24** 23:43:14.5±0.6, 40°.86N×21°.80E, h3km±4km, ML2.5/6*
ISC 24 23:43:13.7±1.1, 40°.78N±0°.02×21°.84E±0°.02, h8km±10km, n54, σ0°44/76, 2C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.35**	**270**	*e*Pg	**Pg**	**23 43 20.6**	**0.0**
FNA				*e*Sg	**Sg**	**23 43 25.3**	**0.0**
FNA	**Florina**	**0.35**	**270**	⇓*i*Pg	**Pg**	**23 43 20.6**	**0.0**
FNA				*i* Sg	**Sg**	**23 43 25.4**	**+0.2**
FNA	**Florina**	**0.35**	**270**	P	**Pg**	**23 43 20.6**	**0.0**
FNA				S	**Sg**	**23 43 25.5**	**+0.2**
NEST	**Nestorio**	**0.71**	**239**	P	**Pg**	**23 43 27.2**	**-0.2**
NEST				S	**Sb**	**23 43 37.8**	**-0.4**
VAY	**Valandovo**	**0.77**	**46**	⇓*i*Pg	**Pb**	**23 43 29.2**	**-0.1**
VAY				*i* Sg	**Sb**	**23 43 39.5**	**-0.5**
VAY				*e*Lg	Lg	23 43 39.9	
comp=N,56nm,0.4s							
VAY				*e*Lg	Lg	23 43 40.1	
comp=E,48nm,0.4s							
PENT	**Pentalofos**	**0.79**	**223**	P	**Pg**	**23 43 29.0**	**0.0**
PENT				S	**Sb**	**23 43 40.0**	**-0.7**
OHR	**Ohrid**	**0.85**	**293**	*i* Pg	**Pb**	**23 43 30.3**	**-0.5**
OHR				*i* Sg	**Sb**	**23 43 42.7**	**+0.3**
OHR				*e*Lg	Lg	23 43 43.0	
comp=N,143nm,0.5s							
OHR				*e*Lg	Lg	23 43 43.3	
comp=E,80nm,0.5s							
THE	**Thessaloniki**	**0.87**	**100**	*i* Pg	**Pb**	**23 43 30.9**	**-0.1**
THE	**Thessaloniki**	**0.87**	**100**	P	**Pb**	**23 43 30.7**	**-0.3**
THE				S	**Sb**	**23 43 42.6**	**-0.2**
KNT	**Kendrikon**	**0.89**	**64**	*i* Pg	**Pb**	**23 43 31.3**	**0.0**
KNT				*i* Sg	**Sb**	**23 43 43.6**	**+0.2**
KPRO	**Kipourio**	**0.90**	**204**	P	**Pg**	**23 43 31.1**	**0.0**
KPRO				S	**Sb**	**23 43 43.7**	**-0.2**
HORT	**Hortiatis**	**0.98**	**101**	P	**Pb**	**23 43 32.7**	**-0.2**
HORT				S	**Sb**	**23 43 46.4**	**+0.4**
TYRN	**Tyrnavos**	**1.11**	**164**	P	**Pg**	**23 43 34.9**	**-0.1**
SOH	**Sokhos**	**1.15**	**88**	*i* Pg	**Pn**	**23 43 36.2**	**+0.1**
SOH	**Sokhos**	**1.15**	**88**	P	**Pb**	**23 43 35.7**	**-0.1**
SOH				S	**Sb**	**23 43 51.4**	**+0.4**
LRSO	**Larissa Observ**	**1.19**	**159**	P	**Pb**	**23 43 36.4**	**0.0**
SKO	**Skopje**	**1.23**	**346**	*i* Pg	**Pb**	**23 43 36.8**	**-0.4**
SKO				*i* Sg	**Sb**	**23 43 52.6**	**-0.5**
THL	**Klokotos Trika**	**1.23**	**174**	P	**Pg**	**23 43 37.1**	**-0.1**
THL				S	**Sn**	**23 43 54.6**	**+0.8**
PLG	**Polygyros**	**1.29**	**108**	P	**Pn**	**23 43 38.0**	**0.0**
PLG				S	**Sb**	**23 43 55.0**	**0.0**
JAN	**Janina**	**1.36**	**214**	P	**Pn**	**23 43 38.7**	**-0.2**
JAN				S	**Sg**	**23 43 57.5**	**+0.2**
SRS	**Serrai**	**1.37**	**75**	*e*Pg	**Pb**	**23 43 39.4**	**-0.2**
SRS	**Serrai**	**1.37**	**75**	P	**Pn**	**23 43 39.0**	**-0.1**
KKB	**Krupnik**	**1.44**	**42**	⇑*i*Pg	**Pb**	**23 43 40.8**	**+0.1**
KKB				*i* Sg	**Sg**	**23 44 00.1**	**+0.2**
NVR	**Nevrokopi**	**1.63**	**69**	P	**Pn**	**23 43 43.0**	**+0.3**
NVR				S	**Sn**	**23 44 03.4**	**-0.5**
MMB	**Musomishta**	**1.63**	**62**	⇑*i*Pg	**Pb**	**23 43 43.3**	**-0.7**
MMB				*i* Sg	**Sb**	**23 44 05.3**	**+0.5**
KOKK	**Kokkinochori,**	**1.64**	**88**	P	**Pb**	**23 43 43.5**	**-0.7**
KOKK				S	**Sn**	**23 44 03.5**	**-0.6**
OUR	**Ouranopolis**	**1.69**	**105**	P	**Pn**	**23 43 43.9**	**+0.3**
OUR				S	**Sb**	**23 44 05.9**	**-0.6**
PRVS	**Prvonek**	**1.73**	**6**	*e*Pg	**Pn**	**23 43 44.5**	**+0.4**
BOSS	**Bosilegrad**	**1.78**	**15**	*e*Pg	**Pn**	**23 43 45.4**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.78**	**173**	P	**Pn**	**23 43 44.6**	**-0.2**
AGG	**Agios Georgios**	**1.80**	**168**	P	**Pn**	**23 43 45.7**	**+0.7**
NEO	**Neokhori**	**1.82**	**144**	P	**Pn**	**23 43 45.5**	**+0.2**
EVR	**Evrytania**	**1.86**	**181**	P	**Pn**	**23 43 46.4**	**+0.4**
KEK	**Kerkira**	**1.89**	**236**	P	**Pn**	**23 43 46.7**	**+0.4**
KEK				S	**Sn**	**23 44 10.4**	**+0.1**
KAVA	**Kavala**	**2.04**	**83**	P	**Pn**	**23 43 48.9**	**+0.7**
PVO	**Paravola**	**2.18**	**186**	P	**Pn**	**23 43 50.5**	**+0.3**
ANX	**Ano Chora**	**2.19**	**178**	P	**Pn**	**23 43 50.7**	**+0.3**
LKD2	**Lefkada island**	**2.19**	**205**	P	**Pn**	**23 43 50.7**	**+0.3**
NYDR	**Nydri-Lefkada**	**2.25**	**203**	P	**Pn**	**23 43 51.6**	**+0.4**
EFP	**Efpalio**	**2.35**	**179**	P	**Pn**	**23 43 52.5**	**-0.2**
KALE	**Kalithea**	**2.40**	**174**	P	**Pn**	**23 43 53.5**	**+0.2**
SELS	**Selova**	**2.49**	**348**	*e*Pn	**Pn**	**23 43 55.1**	**+0.5**
ZAPS	**Zavoj**	**2.56**	**13**	*e*Pn	**Pn**	**23 43 56.6**	**+1.1**
KLV	**Kalavryta, Ach**	**2.75**	**175**	P	**Pn**	**23 43 58.7**	**+0.6**
DRO	**Drossia**	**2.83**	**182**	P	**Pn**	**23 43 59.6**	**+0.4**
SJES	**Sjenica**	**2.84**	**331**	*e*Pn	**Pn**	**23 44 00.5**	**+1.1**
BOVS	**Bovan**	**2.85**	**358**	*e*Pn	**Pn**	**23 43 58.8**	**-0.7**
GUR	**Goura**	**2.87**	**172**	P	**Pn**	**23 44 00.1**	**+0.3**
ZAGS	**Zajecar**	**3.04**	**5**	*e*Pn	**Pn**	**23 44 02.3**	**+0.2**
GRUS	**Gruza**	**3.21**	**345**	*e*Pn	**Pn**	**23 44 05.0**	**+0.6**
DIVS	**Divibare**	**3.58**	**338**	*e*Pn	**Pn**	**23 44 10.3**	**+0.7**
TRUS	**Trudelj**	**3.60**	**343**	*e*Pn	**Pn**	**23 44 10.1**	**+0.4**
KUBS	**Kucevo**	**3.63**	**358**	*e*Pn	**Pn**	**23 44 09.1**	**-1.1**
TEKS	**Tekeris**	**4.13**	**336**	*e*Pn	**Pn**	**23 44 17.3**	**+0.2**

*BUT **24** 23:47:25.6±1.9, 45°.71N±0°.02×112°.13W±0°.01, h8km±8km,*
Error ellipse: s-maj=2.7km s-min=1.2km az=185.0
NEIC 24 23:47:24.5±1.5, 45°.70N±0°.02×112°.10W±0°.02, h5km±1km, ML2.4/30, ML2.6/22(BUT), Error ellipse: s-maj=3.1km s-min=2.7km az=357.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZ	**Bozeman (W)**	**0.35**	**107**	Pg	Pb	23 47 32.5	-0.8
BOZ				Sg	Sg	23 47 37.4	+1.5
BOZ				IAML		23 47 37.7	
625nm,0.3s							
BOZ				IAML		23 47 38.4	
386nm,0.3s							
DLMT	**Dillon**	**0.48**	**226**	Pg	Pb	23 47 34.7	-0.9
DLMT				Sg	Sb	23 47 41.7	-1.3
YHL	**Hebgen Lake**	**1.07**	**142**	Pg	Pg	23 47 45.1	+0.1
YHL				Sg	Sb	23 47 59.6	-0.4
YHL				IAML		23 48 03.8	
comp=N,91nm,0.7s							
YHL				IAML		23 48 09.3	
comp=E,89nm,0.6s							
YHB	**Horse Butte**	**1.14**	**146**	Pg	Pg	23 47 44.4	-2.0
YHB				IAML		23 48 02.8	
comp=E,72nm,0.6s							
YHB				IAML		23 48 03.6	
comp=N,60nm,0.2s							
BPMT	**Black Pine Rid**	**1.19**	**309**	Pg	Pg	23 47 46.9	-0.5
YMC	**Maple Creek**	**1.22**	**140**		Pn	23 47 49.1	+0.7
YHH	**Holmes Hill**	**1.27**	**135**	Pg	Pn	23 47 49.7	+0.4
LYMT	**Lyon Mountain**	**1.28**	**354**	Pg	Pg	23 47 49.1	0.0
YMR	**Madison River**	**1.31**	**142**		Pg	23 47 48.9	-0.7
YMR				IAML		23 48 11.2	
comp=E,101nm,0.5s							
OVMT	**Ovando**	**1.50**	**336**		Pn	23 47 52.4	+0.1
YPP	**Pitchstone Pla**	**1.70**	**147**		Pn	23 47 55.0	-0.1
MSO	**Missoula**	**1.70**	**312**		Pn	23 47 55.0	-0.1
MSO				IAML		23 48 20.8	
comp=E,53nm,0.2s							
FLWY	**Flagg Ranch**	**1.90**	**148**	Pn	Pn	23 47 58.2	+0.4
FLWY				IAML		23 48 29.7	
comp=E,19nm,0.8s							
IMW	**Indian Meadow**	**1.98**	**155**	Pn	Pn	23 47 59.7	+0.7
IMW				IAML		23 48 34.0	
comp=E,33nm,0.5s							
RLMT	**Red Lodge**	**2.08**	**105**	Pn	Pn	23 48 00.8	+0.6
MOOW	**Moose Ponds**	**2.18**	**153**	Pn	Pb	23 48 03.9	-0.6
LOHW	**Long Hollow**	**2.34**	**152**	Pn	Pn	23 48 04.8	+0.9
LOHW				IAML		23 48 40.1	
comp=E,15nm,0.7s							
LOHW				IAML		23 48 40.2	
comp=E,22nm,0.7s							
TPAW	**Teton Pass**	**2.36**	**159**	Pn	Pn	23 48 04.5	+0.4
TPAW				IAML		23 48 45.4	
comp=E,10nm,0.6s							
TPAW				IAML		23 48 49.2	
comp=E,15nm,0.7s							
HLID	**Hailey**	**2.70**	**219**	Pn	Pn	23 48 10.1	+1.4
HLID				IAML		23 48 53.3	
comp=E,14nm,0.3s							
HLID				IAML		23 48 54.1	
comp=E,11nm,0.6s							
EGMT	**Eagleton**	**2.83**	**34**	Pn	Pn	23 48 09.6	-0.9

*JMA **24** 23:57:59.9±0.2, 37°.2N±0°.4×141°.8E±0°.9, h45km±2km,*
MV3.4/39, E OFF FUKUSHIMA PREF
*IDC **24** 23:58:08.4±7.0, 36°.51N×140°.69E, h0km, mb3.6/2,*
mbtmp3.6/2, Error ellipse: s-maj=114.2km s-min=59.9km az=125.0
ISC 24 23:57:59.0±3.2, 37°.14N±0°.08×141°.8E±0°.2, h21km±6km, n21, σ0°68/18, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.75**	**288**	⇓*i*P	**Pb**	**23 58 14.1**	**+0.7**
JFK				⇓S	**Sb**	**23 58 24.1**	**+0.9**
ONAJ	**Iwakimizuishiy**	**0.78**	**268**	⇓*i*P	**Pn**	**23 58 14.8**	**0.0**
ONAJ				⇓S	**Sn**	**23 58 25.6**	**-0.4**
JMST	**Minamisoumatoc**	**0.92**	**310**	⇓*i*P	Pb	23 58 15.8	-0.3
JMST				⇓S	**Sb**	**23 58 27.1**	**-0.8**
JFFD	**Fukushimafurud**	**0.97**	**268**	⇓*i*P	**Pn**	**23 58 17.6**	**+0.2**
JFFD				⇓S	**Sn**	**23 58 30.1**	**-0.5**
JMM	**Marumori**	**1.06**	**313**	⇓*i*P	Pn	23 58 17.9	-0.8
JMM				⇓S	**Sb**	**23 58 31.2**	**-0.9**
JHO	**Hitachi**	**1.10**	**242**	⇓*i*P	**Pn**	**23 58 19.5**	**+0.3**
JHO				⇓*e*S	**Sn**	**23 58 33.9**	**+0.1**
JOTO	**OTAMA OYAMA**	**1.22**	**291**	*i* P	**Pb**	**23 58 21.4**	**0.0**
JOTO				S	**Sn**	**23 58 36.8**	**0.0**
JIO	**Ouri**	**1.35**	**346**	⇓*i*P	Pn	23 58 21.5	-1.2
JIO				⇓S	Sn	23 58 36.5	-3.6
JOU	**Okura**	**1.51**	**325**	P	Pn	23 58 24.9	0.0
JOU				S	**Sn**	**23 58 43.3**	**-0.6**
JFY	**Yanaizu**	**1.67**	**280**	P	**Pn**	**23 58 28.0**	**+0.9**
JFY				*e*S	**Sb**	**23 58 49.4**	**-0.3**
JYS	**Shirataka**	**1.73**	**309**	*i* P	**Pn**	**23 58 28.4**	**+0.5**
JYS				*e*S	**Sn**	**23 58 49.4**	**0.0**
JMK	**Ichinoseki**	**1.86**	**347**	*i* P	Pn	23 58 29.4	-0.3
MJAR	**Matsushiro Arr**	**2.92**	**259**	Pn	**Pn**	**23 58 42.9**	**-1.3**
2.0nm,0.3s,baz=90,slow=16,SNR=1.7							
H11N2	**WAKE ISLAND Hy 27.96**	**121**		T	T	00 33 12.6	
baz=314,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy 27.96**	**121**		T	T	00 33 16.4	
baz=314,slow=75,SNR=15							
H11N3	**WAKE ISLAND Hy 27.98**	**121**		T	T	00 33 18.8	
baz=314,slow=75,SNR=19							
H11S1	**WAKE ISLAND Hy 28.68**	**124**		T	T	00 34 14.3	
baz=316,slow=76,SNR=10.0							
H11S3	**WAKE ISLAND Hy 28.68**	**124**		T	T	00 34 16.1	
baz=316,slow=76,SNR=11							
H11S2	**WAKE ISLAND Hy 28.69**	**124**		T	T	00 34 14.7	
baz=316,slow=76,SNR=9.2							
ZALV	**Zalesovo Beam**	**42.05**	**312**	P	P	00 05 59.0	+10
0.4nm,0.4s,baz=72,slow=9.3,SNR=2.3							
0.4nm,0.4s							
MKAR	**Makanchi Array**	**44.30**	**302**	P	P	00 06 17.2	+10
0.7nm,0.7s,baz=93,slow=8.8,SNR=6.0							
0.7nm,0.7s							

*SDD **25** 00:01:11.2±2.8, 19°.22N×69°.17W, h12km±52km, MD3.3,*
ML2.8, MW3.0
*OSPL **25** 00:01:13.4±1.8, 18°.98N×69°.16W, h0km±10km, ML2.7*
ISC 25 00:01:06.6±1.2, 19°.34N±0°.05×69°.14W±0°.02, h8km±11km, n16, σ0°74/31, 12C-10D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDR	**Miches**	**0.36**	**166**	⇑*e*Pg	**Pb**	**00 01 15.9**	**+0.6**
MIDR				⇑*e*Sg	**Sb**	**00 01 20.1**	**-0.9**
MIDR				IAML		00 01 20.3	
comp=N,2μm,0.3s							
PCDR	**Punta Cana, DR**	**1.09**	**138**	⇑*e*Pg	**Pn**	**00 01 28.3**	**+0.1**
PCDR				⇑*e*Sg	**Sn**	**00 01 43.1**	**-0.3**
PCDR				IAML		00 01 47.6	
comp=E,90nm,1.5s							
PCDR				IAML		00 01 49.1	
comp=N,150nm,0.3s							
PCDR				IAML		00 01 50.5	
comp=N,144nm,0.5s							
PCDR	**Punta Cana, DR**	**1.09**	**138**	*i* P	**Pn**	**00 01 28.3**	**+0.1**
PCDR				*e*S	**Sg**	**00 01 41.0**	**-0.7**
PCDR				IAML		00 01 52.5	
comp=Z,140nm,0.9s							
SADR	**Isla Saona**	**1.19**	**163**	⇓*e*Pg	**Pg**	**00 01 29.7**	**+0.2**
SADR				⇑*e*Pg	**Pn**	**00 01 30.9**	**+1.4**
SADR				*e*Sg	**Sb**	**00 01 44.3**	**-0.6**
SADR				⇓*e*Sg	**Sg**	**00 01 44.4**	**-0.5**
SADR				IAML		00 01 50.9	
comp=N,116nm,0.5s							
SADR				IAML		00 01 56.1	
comp=E,132nm,1.0s							
BANI	**BANI**	**1.48**	**231**	⇓*e*Pg	**Pg**	**00 01 35.4**	**+0.2**
BANI				⇑*e*Sg	**Sn**	**00 01 53.0**	**-0.4**
BANI				IAML		00 01 57.3	
comp=N,136nm,0.4s							
BANI				IAML		00 01 57.3	
comp=N,135nm,0.4s							
BANI				IAML		00 02 02.1	
comp=E,76nm,0.4s							
ABDR	**Alto Bandera**	**1.50**	**250**	⇓*e*Pg	**Pg**	**00 01 36.2**	**+0.8**
ABDR				⇑*e*Sg	**Sg**	**00 01 54.8**	**-0.1**
ABDR				IAML		00 01 58.7	
comp=E,105nm,0.8s							
ABDR				IAML		00 02 02.7	
comp=N,88nm,0.8s							
ABDR				IAML		00 02 02.8	
comp=N,88nm,0.8s							
SDDR	**Presa de Saban**	**2.06**	**261**	⇑*e*Pg	**Pg**	**00 01 46.0**	**-0.2**
SDDR				⇑*e*Sg	**Sg**	**00 02 12.1**	**-0.8**
SDDR				IAML		00 02 18.4	
comp=E,58nm,0.5s							
SDDR				IAML		00 02 19.9	
comp=N,53nm,0.5s							
SDDR				IAML		00 02 19.9	
comp=N,53nm,0.5s							
SDDR	**Presa de Saban**	**2.06**	**261**	*i* P	**Pg**	**00 01 46.0**	**-0.2**
SDDR				*e*S	**Sg**	**00 02 12.7**	**-0.2**
SDDR				IAML		00 02 20.9	
comp=Z,26nm,0.5s							
AGPR	**Aguadilla, PR**	**2.11**	**114**	⇓*e*Pg	**Pg**	**00 01 48.4**	**+1.3**
AGPR				⇓*e*Sg	**Sg**	**00 02 14.3**	**-0.1**
AGPR				IAML		00 02 18.1	
comp=E,111nm,1.3s							
AGPR				IAML		00 02 23.1	
comp=N,94nm,0.2s							
AGPR				IAML		00 02 23.2	
comp=N,94nm,0.2s							
AGPR	**Aguadilla, PR**	**2.11**	**114**	*i* P	**Pg**	**00 01 46.8**	**-0.3**
AGPR				*e*S	**Sb**	**00 02 11.7**	**+0.3**
AGPR				IAML		00 02 26.5	
comp=Z,76nm,1.3s							
LOBA2	**Hotel Casa Bon**	**2.23**	**236**	⇑*e*Pg	**Pb**	**00 01 47.2**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.34**	**124**	⇑*e*Pg	**Pg**	**00 01 51.4**	**-0.1**
CRPR				⇓*e*Sg	**Sg**	**00 02 21.5**	**-0.2**
CRPR				IAML		00 02 32.3	
comp=N,34nm,1.1s							
CRPR				IAML		00 02 32.7	
comp=N,32nm,0.7s							
CRPR				IAML		00 02 36.5	
comp=E,48nm,2.4s							
CRPR	**Cabo Rojo, PR**	**2.34**	**124**	*i* P	**Pb**	**00 01 49.1**	**+0.1**
CRPR				IAML		00 02 24.3	
comp=Z,56nm,1.3s							
AOPR	**Arecibo Observ**	**2.47**	**113**	⇓*e*Pg	**Pg**	**00 01 53.7**	**-0.3**
AOPR				⇑*e*Sg	**Sg**	**00 02 24.5**	**-1.4**
AOPR				IAML		00 02 30.0	
comp=E,181nm,0.2s							
AOPR				IAML		00 02 36.4	
comp=N,113nm,0.4s							
AOPR				IAML		00 02 36.4	
comp=N,113nm,0.4s							
CELP	**Cerrillos**	**2.73**	**117**	⇓*e*Pg	**Pb**	**00 01 57.2**	**+1.4**
CELP				⇓*e*Sg	**Sb**	**00 02 27.8**	**-1.7**
CELP				IAML		00 02 39.3	
comp=N,43nm,0.5s							
GRTK	**Grand Turk**	**2.86**	**320**	*i* P	**Pg**	**00 02 01.4**	**-0.1**
GRTK				IAML		00 02 43.4	
comp=Z,69nm,1.4s							

*IDC **25** 00:01:06.6±4.5, 17°.60S×178°.91W, h496km±48km,*
mb3.3/12, mbtmp4.1/12, Error ellipse: s-maj=24.1km s-min=17.3km az=56.0
ISC 25 00:01:10.2±0.6, 17°.6S±0°.1×179°.0W±0°.2, h539km, n48, σ0°62/49, mb3.6/11, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.82**	**189**	P	**P**	**00 05 12.9**	**-1.2**
8.6nm,0.6s,baz=332,slow=3.6,SNR=8.4							
8.6nm,0.6s							
STKA	**Stephens Creek**	**38.29**	**241**	P	**P**	**00 07 45.4**	**+0.6**
1.9nm,0.7s,baz=27,slow=11,SNR=2.2							
1.9nm,0.7s							
WRA	**Warramunga Arr**	**44.15**	**259**	P	**P**	**00 08 30.3**	**-1.2**
0.8nm,0.6s,baz=95,slow=7.0,SNR=15							
WRA				PcP	**PcP**	**00 10 05.2**	**+0.5**
0.7nm,0.8s,baz=84,slow=3.1,SNR=5.8							
0.8nm,0.6s							
ASAR	**Alice Springs**	**44.35**	**254**	P	**P**	**00 08 33.2**	**+0.3**
7.3nm,0.5s,baz=86,slow=8.3,SNR=70							
ASAR				PcP	**PcP**	**00 10 06.0**	**+0.6**
0.9nm,0.5s,baz=108,slow=3.9,SNR=5.7							
7.3nm,0.5s							
VNDA	**Vanda**	**60.66**	**185**	P	**P**	**00 10 28.6**	**-0.1**
0.4nm,0.3s,baz=90,slow=1.0,SNR=6.0							
0.4nm,0.3s							
MJAR	**Matsushiro Arr**	**67.38**	**324**	P	**P**	**00 11 11.6**	**-0.4**
2.1nm,0.6s,baz=169,slow=4.8,SNR=5.8							
2.1nm,0.6s							
QSPA	**South Pole Qui**	**72.41**	**180**	P	**P**	**00 11 42.6**	**+1.0**
1.3nm,0.7s,baz=321,slow=1.1,SNR=13							
1.3nm,0.7s							
ILAR	**Eielson Array**	**85.75**	**13**	P	**P**	**00 12 51.0**	**-0.9**
0.5nm,0.8s,baz=229,slow=5.5,SNR=4.3							
0.5nm,0.8s							
TXAR	**Laj

MORC	Moravsky Berou	145.29 341	eP	PKPdf	00 19 46.7	+0.1
NEUB	Neuenburg	145.43 348	ePKPbc		00 19 48.4	
	baz=18,slow=2.9					
PVCC	Panska Ves	145.44 345	eP	PKPab	00 19 49.5	+0.2
MMAI	Mount Meron Ar	145.55 303	PKPbc	PKPab	00 19 50.0	-0.4
	comp=Z,5.8nm,0.8s,baz=49,slow=7.9,SNR=5.3					
HSKC	Hora Svate Kat	145.65 346	eP	PKPbc	00 19 48.6	-0.1
VYHS	Vyhne	145.98 339	e	PKPbc	00 19 50.1	+0.4
VRAC	Vranov	145.99 342	eP	PKPbc	00 19 49.1	-0.6
PLN	Plauen	146.04 347	ePKPbc		00 19 50.1	
	baz=18,slow=2.9					
TANN	Tannenbergstha	146.04 347	ePKPbc		00 19 50.1	
	baz=18,slow=2.9					
JAVC	Velka Javorina	146.05 340	eP	PKPbc	00 19 49.3	-0.6
KRUC	Moravsky	146.27 342	eP	PKPbc	00 19 50.3	-0.1
MODS	Modra-Píesok	146.60 340	e	PKiKP	00 19 53.0	-0.5
ROTZ	Rotzenmuhle	146.71 347	ePKPbc		00 19 51.7	
	baz=18,slow=2.9					
KHC	Kasperske Hory	146.98 345	eP	PKPbc	00 19 52.6	+0.2
GRF	Grafenberg Arr	146.99 348	ePKPbc		00 19 52.6	
	baz=18,slow=2.9					
CKRC	Cesky Krumlov	147.08 344	eP	PKPbc	00 19 53.2	+0.5
GEC2	GERESS Array S	147.22 344	ePKPbc		00 19 53.2	
	baz=18,slow=2.9					
CONA	Conrad Observa	147.44 341	ePKP	PKPbc	00 19 54.3	+0.6
	comp=Z,2.0nm,0.7s					
RONA	Rosalia, Austr	147.51 341	ePKP	PKPbc	00 19 54.3	+0.4
	comp=Z,3.3nm,0.8s					
WLF	Walferdange	147.79 354	ePKPbc		00 19 55.1	
	baz=18,slow=2.9					
LESA	Schwarzleotal	148.79 345	i PKP	PKPbc	00 19 57.3	+0.2
	comp=Z,1.5nm,0.4s					
SOKA	Soboth	148.81 341	i PKP	PKPbc	00 19 56.8	-0.4
	comp=Z,0.4nm,0.3s					
BFO	Black Forest	148.82 351	ePKPbc		00 19 57.3	
	baz=18,slow=2.9					
KBA	Koelnbreinsper	148.94 344	i PKP	PKPbc	00 19 56.9	-0.7
	comp=Z,0.6nm,0.3s					
WATA	Walderalm	149.14 346	i PKP	PKPbc	00 19 57.6	-0.4
	comp=Z,1.0nm,0.3s					
RETA	Reutte	149.18 347	i PKP	PKPbc	00 19 58.0	0.0
	comp=Z,1.2nm,0.5s					
WTTA	Wattenberg	149.19 346	i PKP	PKPbc	00 19 58.3	+0.1
	comp=Z,1.9nm,0.3s					
SQTA	Sankt Quirin	149.33 346	i PKP	PKPbc	00 19 58.6	+0.1
	comp=Z,1.3nm,0.4s					
ABTA	Abfaltersbach	149.46 344	i PKP	PKPbc	00 19 58.5	-0.3
	comp=Z,2.3nm,0.5s					
LJU	Ljubljana	149.54 341	i PKPbc	PKPbc	00 19 58.8	-0.1
DAVA	Damuels	149.55 348	i PKP	PKPbc	00 19 58.2	-0.9
	comp=Z,0.4nm,0.2s					
FETA	Feichten	149.63 347	ePKP	PKPbc	00 19 59.4	+0.2
	comp=Z,1.3nm,0.6s					
VISS	Visnje	149.66 341	i PKPbc	PKPbc	00 19 59.0	-0.2
BOJS	Bojanci	149.79 340	i PKPbc	PKiKP	00 19 59.7	-0.5

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*IDC **25** 00:15:09.0±1.2,5.°17N×125.°60E,h0km,mb3.9/6,*
mbtmp3.9/6,Error ellipse: s-maj=157.1km s-min=20.2km
az=65.0

ISC 25 00:15:13.5±1.6,5.°6N±0.°7×12.°7E±.°,h35km,n6,σ0°62/6,
mb4.0/6,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.51	163	P	P	00 20 47.6	-0.3
	0.7nm,0.6s,baz=338,slow=11,SNR=23						
	0.7nm,0.6s						
STKA	Stephens Creek	39.93	160	P	P	00 22 44.7	+0.3
	0.8nm,0.4s,baz=341,slow=15,SNR=3.4						
	0.8nm,0.4s						
MKAR	Makanchi Array	55.94	325	P	P	00 24 48.6	+0.4
	0.9nm,0.4s,baz=119,slow=7.5,SNR=15						
	0.9nm,0.4s						
KURBB	Kurchatov Arra	60.09	327	P	P	00 25 17.4	+0.3
	0.9nm,0.5s,baz=124,slow=6.9,SNR=12						
	0.9nm,0.5s						
ARCES	ARCESS Array B	88.65	340	P	P	00 28 02.9	+0.1
	0.6nm,0.5s,baz=64,slow=5.5,SNR=6.9						
	0.6nm,0.5s						
FINES	FINESS Array B	90.11	332	P	P	00 28 08.9	-0.9
	0.4nm,0.6s,baz=93,slow=7.0,SNR=4.9						
	0.4nm,0.6s						

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*ASIES **25** 00:31:44.0,24.°90N×121.°92E,h107km,ML4.3,Mw3.8,*
Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm;
M_{rr}2.65; $M_{\theta\theta}$0.81; $M_{\phi\phi}$-3.46; $M_{r\theta}$4.09; $M_{\theta\phi}$0.84; $M_{\phi r}$-3.78;
Fault plane solution: $M_0$6.44319×10^{21} NP1:
ϕ_s138.60000°,δ77.59000°,λ71.11000°. NP2:ϕ_s16.46000°,
δ22.48000°,λ145.79000°. Principal axes: T Plg53.6470°,
Azm25.8760°; N Plg18.4340°, Azm142.8040°; P
Plg30.0900°, Azm243.9400°.
*JMA **25** 00:31:44.1±0.2,24.°90N±0.°7×121.°9E±0.°4,h104km±1km,*
MV3.4/15,TAIWAN REGION
*TAP **25** 00:31:44.0,24.°90N×121.°92E,h107km,ML4.3,A*
*IDC **25** 00:31:47.7±6.7,25.°03N×122.°24E,h151km±73km,mb3.1/4,*
mbtmp3.6/5,Error ellipse: s-maj=61.9km s-min=20.5km
az=60.0

ISC 25 00:31:43.9±0.8,24.°89N±0.°03×121.°92E±0.°02,h110km±4km,
n148,σ0°67/230,mb3.5/4,2C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.05	171	eP	Pn	00 31 59.0	0.0
	baz=160						
TIPB	Shuangxi	0.12	312	⇑i P	Pn	00 31 58.9	-0.3
	baz=310						
TIPB				eS	Sn	00 32 09.1	-1.5
	baz=310						
TWB1	Santiao Chiao	0.13	26	i P	Pn	00 31 59.0	-0.1
	baz=32						
TWB1				S	Sn	00 32 09.4	-1.2
	baz=32						
ILA	Ilan	0.20	232	eP	Pn	00 31 59.6	+0.3
	baz=228						
ILA				eS	Sn	00 32 10.5	-0.4
	baz=228						
SXI1	Grass Mountain	0.21	348	eP	Pn	00 31 59.0	-0.4
	baz=347						
SXI1				eS	Sn	00 32 09.9	-1.3
	baz=347						
NWF	Wu-fen Shan	0.22	324	i P	Pn	00 31 59.2	-0.2
	baz=323						
NWF				i S	Sn	00 32 10.1	-1.2
	baz=323						
WFSB	Wu-fen Shan	0.22	324	P	Pn	00 31 59.4	0.0
	baz=323						
WFSB				S	Sn	00 32 10.3	-0.8
	baz=323						
TWC	Suao	0.29	194	i P	Pn	00 31 59.6	-0.1
	baz=191						
TWE	Neicheng	0.29	234	i P	Pn	00 31 59.9	+0.3
	baz=230						
TNOU	National Taiwa	0.29	332	eP	Pn	00 31 59.4	-0.3
	baz=331						
TNOU				eS	Sn	00 32 10.4	-1.1
	baz=331						
NDS	Dongshan	0.32	217	i P	Pn	00 32 00.5	+0.8
	baz=215						
ESAO	Su ao	0.32	193	eP	Pn	00 31 60.0	+0.2
	baz=192						
ESAO				S	Sn	00 32 11.1	-0.6
	baz=192						
TWA	Mucha	0.32	286	i P	Pn	00 31 59.7	0.0
	baz=284						
TWA				i S	Sn	00 32 10.8	-0.9
	baz=284						
FUSB	Fushanzhiwuyua	0.33	247	P	Pn	00 31 59.9	0.0
	baz=245						
FUSB				eS	Sn	00 32 11.6	-0.3
	baz=245						
NHDH	Xindian Distri	0.37	281	i P	Pn	00 32 00.1	+0.2
	baz=280						
NHDH				i S	Sn	00 32 11.5	-0.6
	baz=280						
NWLT	Wulai	0.40	254	P	Pn	00 31 60.0	-0.2
	baz=252						
NWLT				S	Sn	00 32 11.5	-0.9
	baz=252						
TATO	Taipei	0.41	282	P	Pn	00 32 00.2	+0.1
ENTT	Nioudou	0.41	233	P	Pn	00 32 00.4	+0.1
	baz=230						
YM01	YM01	0.41	308	i P	Pn	00 32 00.2	-0.1
	baz=307						
YM01				S	Sn	00 32 12.1	-0.5
	baz=307						
YM08	YM08	0.42	314	eP	Pn	00 32 00.1	-0.3
	baz=313						
EWUT	Wuta	0.46	197	i P	Pn	00 32 00.8	+0.3
	baz=196						
EWUT				i S	Sn	00 32 13.0	0.0
	baz=196						
ANP	Anpu	0.47	309	eP	Pn	00 32 00.8	+0.2
	baz=308						
NDT	Datong Townshi	0.47	233	i P	Pn	00 32 00.7	+0.1
	baz=231						
TWY	Chenhua	0.48	323	eP	Pn	00 32 00.5	-0.1
	baz=322						
TWY				eS	Sn	00 32 14.2	+0.9
	baz=322						
ENA	Nanau	0.49	200	P	Pn	00 32 01.0	+0.3
	baz=198						
ENA				S	Sn	00 32 13.6	+0.3
	baz=198						
TWS1	Kuangyinshan	0.51	295	P	Pn	00 32 01.0	+0.3
	baz=294						
TWS1				S	Sn	00 32 13.8	+0.3
	baz=294						
LATG	Datong	0.51	226	P	Pn	00 32 01.0	+0.1
	baz=224						
NTST	Danshui	0.51	302	i P	Pn	00 32 01.2	+0.4
	baz=301						
NTST				i S	Sn	00 32 13.5	-0.1
	baz=301						
YHNB	Yeheng	0.55	246	P	Pn	00 32 00.8	-0.4
YHNB	Yeheng	0.55	246	P	Pn	00 32 00.7	-0.4
	baz=245						
EOS2	EOS2	0.55	149	eP	Pn	00 32 01.6	+0.7
	baz=149						
EOS2				eS	Sn	00 32 14.4	+0.7
	baz=149						
NSK	Sanguang	0.56	248	i P	Pn	00 32 00.9	-0.3
	baz=246						
NSK				i S	Sn	00 32 12.9	-1.4
	baz=246						
EAHA	Aohua	0.58	197	P	Pn	00 32 01.6	+0.2
	baz=196						
EAHA				eS	Sn	00 32 15.7	+1.2
	baz=196						
NNS	Nan Shan	0.67	228	P	Pn	00 32 02.2	0.0
	baz=226						
NNSB	Datong	0.67	227	P	Pn	00 32 02.2	0.0
	baz=226						
NNSB				eS	Sn	00 32 15.6	-0.4
	baz=226						
NCUH	Zhongli	0.68	277	eP	Pn	00 32 02.2	+0.2
	baz=275						
NCUH				eS	Sn	00 32 15.6	-0.2
	baz=275						
EOS3	EOS3	0.70	149	eP	Pn	00 32 02.9	+0.8
	baz=149						
PCYT	Pengchaiyu	0.75	10	eP	Pn	00 32 03.0	+0.3
	baz=11						
NACB	Ninganchiao	0.77	203	P	Pn	00 32 02.5	-0.4
NACB	Ninganchiao	0.77	203	P	Pn	00 32 02.0	-1.0
	baz=202						
NFF	Wufeng Townshi	0.78	251	P	Pn	00 32 02.8	-0.2
	baz=250						
NFF				eS	Sn	00 32 16.2	-1.2
	baz=250						
ETL	Fush Village	0.78	201	eP	Pn	00 32 02.3	-0.7
	baz=200						
ETLH	Xiulin Townshi	0.79	211	i P	Pn	00 32 02.8	-0.4
	baz=210						
ETLH				eS	Sn	00 32 17.0	-0.7
	baz=210						
EOS4	EOS4	0.85	155	eP	Pn	00 32 03.2	0.0
	baz=155						
SBCB	Hsinchu	0.86	264	eP	Pn	00 32 04.0	+0.4
	baz=262						
SBCB				eS	Sn	00 32 18.2	-0.4
	baz=262						
LIOB	Emei	0.86	254	i P	Pn	00 32 03.8	+0.1
	baz=253						
LIOB				i S	Sn	00 32 18.0	-0.7
	baz=253						
TWD	Chiawan	0.86	200	i P	Pn	00 32 03.0	-0.7
	baz=199						
TWD				eS	Sn	00 32 17.5	-1.1
	baz=199						
HSN	Hsinchu	0.87	264	eP	Pn	00 32 03.6	-0.2
	baz=265						
HSN				eS	Sn	00 32 17.7	-1.1
	baz=265						
NSTT	Nanjuang	0.88	253	⇑i P	Pn	00 32 03.8	0.0
	baz=252						
NSTT				S	Sn	00 32 18.1	-0.9
	baz=252						
FUSS	Fushou	0.89	224	i P	Pn	00 32 04.8	+0.5
	baz=223						
FUSS				i S	Sn	00 32 19.4	-0.2
	baz=223						
TWT	Tachien	0.93	227	i P	Pn	00 32 05.2	+0.7
	baz=226						
TWT				S	Sn	00 32 20.5	+0.3
	baz=226						
TDCB	Techi	0.94	228	i P	Pn	00 32 05.1	+0.4
	baz=227						
TDCB				S	Sn	00 32 20.1	-0.3
	baz=227						
HWA	Hwalien	0.95	198	eP	Pn	00 32 04.5	-0.2
	baz=197						
WHF	Hehuan Shan	0.95	219	i P	Pn	00 32 05.2	+0.1
	baz=218						
WHF				eS	Sn	00 32 20.7	-0.3
	baz=218						
ETM	Tongmen	1.00	203	P	Pn	00 32 04.2	-0.9
	baz=202						
JYNG	Yonagunijimaku	1.03	115	eP	Pn	00 32 05.5	+0.1
JYNG				S	Sn	00 32 21.2	-0.4
TEYL	Yanliau Villag	1.06	196	eP	Pn	00 32 05.7	-0.1
	baz=196						
CHGB	Renai	1.07	220	P	Pn	00 32 06.5	+0.4
	baz=219						
CHGB				eS	Sn	00 32 22.9	0.0
	baz=219						
YOJ	Yonaguni jima	1.08	113	P	Pn	00 32 06.1	+0.2
YOJ	Yonaguni jima	1.08	113	i P	Pn	00 32 06.0	+0.2
	baz=113						
YOJ				S	Sn	00 32 21.8	-0.7
	baz=113						
YOJ	Yonaguni jima	1.08	113	P	Pn	00 32 06.0	+0.2
YOJ				S	Sn	00 32 22.0	-0.5
WHP	Taichung City	1.08	236	P	Pn	00 32 06.5	+0.4
	baz=235						
WHP				eS	Sn	00 32 22.2	-0.6
	baz=235						
NMLH	Miaoli	1.09	251	eP	Pn	00 32 06.2	+0.2
	baz=250						
NMLH				eS	Sn	00 32 22.8	0.0
	baz=250						
SHUL	Shoufeng	1.15	197	P	Pn	00 32 06.6	0.0
	baz=196						
SHUL				S	Sn	00 32 24.1	+0.3
	baz=196						
OWD	Renai	1.16	216	P	Pn	00 32 07.3	+0.4
	baz=215						
OWD				S	Sn	00 32 24.2	-0.1
	baz=215						
WUSB	Renai	1.16	220	P	Pn	00 32 07.4	+0.5
	baz=219						
WUSB				eS	Sn	00 32 24.4	0.0
	baz=219						
NSY	Sanyi	1.16	246	i P	Pn	00 32 07.3	+0.5
	baz=245						
NSY				i S	Sn	00 32 24.2	+0.1
	baz=245						
ESL	Shilin	1.16	203	eP	Pn	00 32 05.9	-0.9
	baz=202						
TWQ1	Liyutan	1.18	243	i P	Pn	00 32 07.2	+0.1
	baz=242						
TWQ1				eS	Sn	00 32 23.6	-0.9
	baz=242						
WCS	Beigang Elemen	1.24	228	i P	Pn	00 32 08.1	+0.4
	baz=227						
WCS				S	Sn	00 32 25.4	-0.3
	baz=227						
WARBT	Fenglin Townsh	1.27	203	i P	Pn	00 32 06.8	-1.2
	baz=202						
WARBT				eS	Sn	00 32 24.2	-2.1
	baz=202						
WDJ	Dajia District	1.29	245	eP	Pn	00 32 08.5	+0.3
	baz=244						
WDJ				eS	Sn	00 32 26.7	+0.1
	baz=244						
VWDT	VWDT	1.34	212	P	Pn	00 32 09.2	+0.4
	baz=212						
SMLT	Sun Moon Lake	1.37	223	i P	Pn	00 32 09.7	+0.4
	baz=222						
SMLT				i S	Sn	00 32 29.2	+0.7
	baz=222						
TYC	Yuchr	1.38	225	P	Pn	00 32 09.6	+0.3
	baz=224						
TYC				i S	Sn	00 32 28.8	+0.3
	baz=224						
SSLB	Suanglung	1.41	219	P	Pn	00 32 10.2	+0.5
SSLB	Suanglung	1.41	219	P	Pn	00 32 09.9	+0.2
	baz=218						
SSLB				S	Sn	00 32 29.2	-0.1
	baz=218						
HGSD	Ruisui	1.47	198	P	Pn	00 32 10.1	-0.2
	baz=197						
EHY	Hungye	1.48	202	eP	Pn	00 32 09.3	-1.2
	baz=201						
EHYH	Wanrong	1.49	201	eP	Pn	00 32 10.8	+0.3
	baz=200						
WNT	Mingjian	1.52	229	eP	Pn	00 32 11.3	+0.4
	baz=227						
WNT				eS	Sn	00 32 31.5	+0.1
	baz=227						
WJS	Zhushan	1.52	226	P	Pn	00 32 11.3	+0.3
	baz=225						
WJS				eS	Sn	00 32 31.8	+0.3
	baz=225						
WHYT	Xinyi Township	1.54	220	i P	Pn	00 32 11.8	+0.6
	baz=219						
WHYT				i S	Sn	00 32 32.2	+0.2
	baz=219						
YULB	Yu-li	1.60	201	P	Pn	00 32 11.0	-0.9
YULB	Yu-li	1.60	201	eP	Pn	00 32 10.6	-1.3
	baz=200						
ECBN	Changbin	1.63	196	eP	Pn	00 32 12.3	+0.1
	baz=195						
EYUL	Yuli	1.63	200	eP	Pn	00 32 12.0	-0.4
	baz=199						
TWF1	Yuli	1.64	201	eP	Pn	00 32 11.5	-0.9
	baz=200						
CHN5	Tsauling	1.72	222	eP	Pn	00 32 13.8	+0.4
	baz=221						
CHN5				eS	Sn	00 32 36.1	+0.2
	baz=221						
WRL	Guolierlin Hig	1.72	235	eP	Pn	00 32 13.3	-0.1
	baz=234						
WRL				eS	Sn	00 32 35.1	-0.7
	baz=234						
WGK	Gukeng	1.73	226	eP	Pn	00 32 14.0	+0.6
	baz=225						
WGK				eS	Sn	00 32 36.5	+0.5
	baz=225						
IRIF	Iriomote-Funau	1.73	108	P	Pn	00 32 13.4	-0.1
IRIF				S	Sn	00 32 35.4	-0.7
WDLH	Douliu	1.74	227	eP	Pn	00 32 14.0	+0.4
	baz=226						
CHKH	Chenggong	1.76	196	eP	Pn	00 32 13.3	-0.5
	baz=195						
FULB	Fuli	1.78	199	i P	Pn	00 32 14.2	+0.1
	baz=198						
FULB				eS	Sn	00 32 37.0	-0.3
	baz=198						
WTK	Tuku	1.84	230	eP	Pn	00 32 14.9	0.0
	baz=229						
WTK				eS	Sn	00 32 38.0	-0.5
	baz=229						
EHD	Haiduan	1.85	201	eP	Pn	00 32 14.6	-0.5
	baz=200						
CHKT	Chengkung	1.85	196	eP	Pn	00 32 14.8	-0.3
	baz=195						
CHKT				eS	Sn	00 32 37.4	-1.4
	baz=195						
WCKO	Fanlu	1.88	220	eP	Pn	00 32 16.1	+0.6
	baz=219						
WCKO				eS	Sn	00 32 39.9	+0.4
	baz=219						
ELDTW	Lidau	1.89	206	eP	Pn	00 32 15.8	+0.3
	baz=205						
CHN2	Minshiung	1.89	225	eP	Pn	00 32 16.2	+0.7
	baz=224						
CHN2				eS	Sn	00 32 40.4	+0.7
	baz=224						
HATJ	Hateruma jima	1.90	115	P	Pn	00 32 16.1	+0.5
HATJ				S	Sn	00 32 40.1	+0.2
TPUB	Ta-pu	1.98	217	P	Pn	00 32 17.0	+0.4
TPUB	Ta-pu	1.98	217	eP	Pn	00 32 17.1	+0.4
	baz=216						
TPUB				eS	Sn	00 32 41.3	-0.3
	baz=216						
EDH	Donghe	1.99	197	P	Pn	00 32 16.3	-0.5
	baz=196						
WSF	Szhu	1.99	232	eP	Pn	00 32 17.3	+0.5
	baz=230						
WSF				eS	Sn	00 32 42.0	+0.1
	baz=230						
JKRS	Kuro-shima	2.01	108	P	Pn	00 32 17.6	+0.7
JKRS				S	Sn	00 32 42.0	-0.2
STYH	Taoyuan	2.01	212	eP	Pn	00 32 17.9	+1.0
	baz=211						
STYH				eS	Sn	00 32 42.2	-0.1
	baz=211						
WTP	Ta-pu	2.03	216	eP	Pn	00 32 17.7	+0.4
	baz=215						
WTP				eS	Sn	00 32 42.2	-0.6
	baz=215						
TWK	Hsinying	2.08	219	eP	Pn	00 32 18.3	+0.3
	baz=218						
TWK				eS	Sn	00 32 43.8	-0.2
	baz=218						
JIJ	Ishigaki jima	2.09	104	P	Pn	00 32 18.2	+0.3
JIJ				S	Sn	00 32 43.1	-0.9
LONT	Longtian	2.10	200	eP	Pn	00 32 17.6	-0.6
	baz=200						
SNST	Tainan City	2.11	218	eP	Pn	00 32 19.1	+0.7
	baz=217						
SNST				eS	Sn	00 32 44.1	-0.5
	baz=217						
CHN1	Nanshi	2.12	217	eP	Pn	00 32 18.8	+0.3
	baz=216						
CHN1				eS	Sn	00 32 44.6	-0.3
	baz=216						
ICHU	Yijhu	2.14	225	eP	Pn	00 32 19.2	+0.5
	baz=224						
ICHU				eS	Sn	00 32 45.6	+0.3
	baz=224						
SGST	Jiashian	2.18	215	eP	Pn	00 32 19.2	0.0
	baz=213						
SGST				eS	Sn	00 32 45.2	-1.0
	baz=213						
MATB	Ma-tsu	2.19	306	eP	Pn	00 32 18.9	-0.3
	baz=304						
JISG	Ishigakijimahi	2.19	97	P	Pn	00 32 20.0	+0.7
JISG				S	Sn	00 32 46.0	-0.4
TWG	Pinlang	2.20	201	eP	Pn	00 32 18.6	-0.9
	baz=200						
TWGBT	Beinan	2.20	201	P	Pn	00 32 18.3	-1.2
TWGBT	Beinan	2.20	201	eP	Pn	00 32 18.3	-1.2
	baz=200						
SLGT	Liugui	2.22	212	eP	Pn	00 32 20.9	+1.2
	baz=211						
SLGT				eS	Sn	00 32 47.6	+0.4
	baz=211						
LDUT	Ludao	2.25	191	eP	Pn	00 32 19.1	-0.9
	baz=190						
LDUT				eS	Sn	00 32 45.0	-2.7
	baz=190						
VWUC	VWUC	2.25	273	eP	Pn	00 32 19.7	-0.3
	baz=272						
SCLT	Jiali	2.33	223	eS	Sn	00 32 49.6	+0.1
	baz=222						
SCST	Cishan	2.39	214	eP	Pn	00 32 23.2	+1.4
	baz=213						
TSCK	Chigu Township	2.42	224	eP	Pn	00 32 22.5	+0.3
	baz=223						
ECL	Taimali	2.45	201	eP	Pn	00 32 22.2	-0.5
	baz=200						
ECL				eS	Sn	00 32 51.7	-0.8
	baz=200						
PNG	Penghu	2.53	239	eP	Pn	00 32 23.0	-0.7
	baz=238						
PNG				eS	Sn	00 32 52.1	-2.2
	baz=238						
JTJ	Tarama	2.54	95	P	Pn	00 32 24.9	+1.2

JTJ S Sn 00 32 54.1 -0.3
PTMZ Houxiangcun 2.55 274 eP Pn 00 32 23.8 -0.2
baz=273
LYJJ Jianjiangzhen 2.56 311 eP Pn 00 32 23.9 -0.1
baz=310
MASBT Mashibuluo 2.56 208 eP Pn 00 32 24.9 +0.8
baz=207
XPSS Dashiqiu 2.56 323 eP Pn 00 32 24.0 0.0
baz=322
WDGT Dungji 2.63 232 eS Sn 00 32 54.8 -1.8
baz=231
EAST Anshuo 2.68 202 eP Pn 00 32 25.9 +0.1
baz=201
SCZT Fangliau 2.78 206 eP Pn 00 32 27.9 +0.9
baz=205
VCHM Qimei 2.83 234 eP Pn 00 32 27.0 -0.6
baz=233
SLIU Shizi 2.85 201 eP Pn 00 32 29.0 +1.0
baz=201
LAY Lan-yu 2.86 187 eP Pn 00 32 27.1 -0.9
baz=186
MHZQ Yeshan 2.88 295 eP Pn 00 32 28.1 -0.2
baz=294
LYUB Lan-yu 2.89 186 eP Pn 00 32 27.0 -1.5
baz=186
JOW Kunigami 6.04 70 P Pn 00 33 10.7 0.0
3.8nm,0.3s,baz=128,slow=27,SNR=20
JOW S Sn 00 34 15.9 -2.6
5.0nm,0.3s,baz=119,slow=19,SNR=2.5
KSRS Korea Array 13.53 21 P P 00 34 57.3 +0.9
5.6nm,0.7s,baz=200,slow=12,SNR=18
MKAR Makanchi Array 38.31 315 P P 00 38 54.3 +0.6
0.6nm,0.4s,baz=98,slow=10,SNR=11
0.6nm,0.4s
KURBB Kurchatov Arra 42.01 319 P P 00 39 24.5 +0.4
0.2nm,0.7s,baz=104,slow=11,SNR=2.3
0.2nm,0.7s
WRA Warramunga Arr 46.17 164 P P 00 39 57.6 0.0
0.5nm,0.7s,baz=346,slow=8.7,SNR=8.6
0.5nm,0.7s
FINES FINESS Array B 71.18 330 P P 00 42 49.8 -0.6
0.9nm,0.9s,baz=67,slow=6.4,SNR=3.9
0.9nm,0.9s

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*NNC **25** 00:34:32.1±2.1, 38°.70N×70°.58E, h0km, mb4.0, mpv3.6,*
Error ellipse: s-maj=20.2km s-min=13.2km az=42.0
ISC 25 00:34:40.0±2.9, 39°.3N±0°.2×70°.5E±0°.1, h10km, n12,
σ1°19/14, 3C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**2.83**	**354**	Pg	**Pb**	**00 35 29.0**	**-1.8**
	26nm,0.4s						
IUG				Lg	Lg	00 36 10.2	
	24nm,0.8s						
AML	**Almayashu**	**3.72**	**40**	P	**Pn**	**00 35 38.2**	**+0.4**
	SNR=15						
KK31	**Karatay Array**	**3.77**	**1**	Pn	**Pn**	**00 35 39.7**	**+1.5**
	1.9nm,0.4s,baz=175,slow=13,SNR=24						
KK31				Pg	**Pg**	**00 35 51.9**	**-0.3**
	1.3nm,0.3s,baz=178,slow=12,SNR=6.0						
KK31				⇑Sn	**Sb**	**00 36 33.5**	**+1.1**
	8.8nm,0.6s,baz=178,slow=24						
MRKS	**Merke**	**4.00**	**31**	Pg	**Pn**	**00 35 41.9**	**+0.5**
	7.2nm,0.4s						
MRKS				Lg	Lg	00 36 33.6	
	10nm,0.4s						
UCH	**Uchtor**	**4.22**	**45**	P	**Pn**	**00 35 45.7**	**+0.9**
	SNR=22						
AAK	**Ala-Archa**	**4.50**	**41**	P	**Pn**	**00 35 49.5**	**+1.1**
	SNR=6.1						
AAK	**Ala-Archa**	**4.50**	**41**	⇑P	**Pn**	**00 35 48.1**	**-0.2**
	5.4nm,0.4s						
KBK	**Karagaybulak**	**4.75**	**44**	P	**Pn**	**00 35 53.5**	**+1.6**
	SNR=5.6						
USP	**Ospenovka**	**4.97**	**36**	P	**Pn**	**00 35 54.7**	**0.0**
	SNR=14						
TKM2	**Tokmak 2**	**5.28**	**46**	P	**Pn**	**00 36 00.9**	**+1.8**
	SNR=8.4						
TKM2	**Tokmak 2**	**5.28**	**46**	⇑P	**Pn**	**00 35 58.3**	**-0.8**
	4.8nm,0.4s						
AB31	**Akbulak array**	**12.45**	**326**	P	**Pn**	**00 37 37.3**	**+0.3**
	0.4nm,0.5s,baz=139,slow=12,SNR=10						

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*IDC **25** 00:47:19.4±1.5, 31°.29S×67°.63W, h0km, mb3.7/1,*
mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=53.7km
s-min=37.5km az=145.0
*SJA **25** 00:47:21.1±1.2, 31°.02S×67°.78W, h10km±5km, ML3.6,*
MW3.6
ISC 25 00:47:21.6±1.1, 31°.08S±0°.04×67°.71W±0°.04, h14km±8km,
n21, σ0°80/31, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVFE	**Valle Fertil**	**0.47**	**28**	eP	**Pg**	**00 47 30.8**	**-0.1**
AVFE				eS	**Sg**	**00 47 37.4**	**+0.2**
AVFE				IAML		00 47 37.6	
	comp=Z,5μm,0.2s						
SJA	**San Juan**	**0.86**	**238**	eP	**Pb**	**00 47 37.5**	**-0.8**
SJA				eS	**Sg**	**00 47 49.9**	**+0.5**
SJA				IAML		00 47 53.0	
	comp=Z,916nm,0.2s						
ACHE	**Chepes**	**0.90**	**96**	eP	**Pn**	**00 47 39.2**	**-0.7**
RTCV	**Cerro Valdivia**	**1.06**	**222**	eP	**Pb**	**00 47 41.2**	**-0.5**
RTCV				eS	**Sn**	**00 47 55.9**	**-0.6**
DOCA	**Reserva Natura**	**1.19**	**276**	eP	**Pn**	**00 47 42.6**	**-1.4**
DOCA				IAML		00 47 58.8	
	comp=Z,2μm,0.5s						
DOCA				eS	**Sb**	**00 47 59.3**	**-0.1**
ACCO	**Cerro Coronel**	**1.26**	**292**	eP	**Pn**	**00 47 44.5**	**-0.5**
ACCO				IAML		00 48 05.3	
	comp=Z,668nm,0.5s						
ACDV	**Cuesta del Vie**	**1.51**	**306**	eP	**Pn**	**00 47 48.9**	**+0.5**
ACDV				IAML		00 48 12.1	
	comp=Z,315nm,0.1s						
RTLS	**Leoncito**	**1.54**	**242**	eP	**Pb**	**00 47 49.6**	**-0.4**
RTLS				eS	**Sg**	**00 48 10.9**	**-0.3**
AROD	**Rodeo**	**1.77**	**300**	eP	**Pb**	**00 47 53.2**	**-0.7**
AROD				eS	**Sb**	**00 48 16.4**	**+0.3**
ACLC	**CERRO LA CRUZ**	**1.77**	**22**	eP	**Pb**	**00 47 53.6**	**-0.3**
ACLC				eS	**Sg**	**00 48 17.7**	**-0.9**
ACLC				IAML		00 48 20.4	
	comp=Z,851nm,0.5s						
ASAL	**Salagasta**	**1.79**	**212**	eP	**Pb**	**00 47 55.0**	**+0.8**
ASAL				eS	**Sg**	**00 48 19.5**	**+0.3**
ASAL				IAML		00 48 21.7	
	comp=Z,766nm,0.5s						
ARCO	**CERRO ARCO**	**2.04**	**210**	eP	**Pb**	**00 47 58.8**	**+0.2**
ARCO				IAML		00 48 29.7	
	comp=Z,972nm,1.3s						
AAGR	**Agrelo**	**2.22**	**205**	eP	**Pb**	**00 48 01.6**	**+0.2**
AAGR				IAML		00 48 36.5	
	comp=Z,601nm,0.3s						
CO03	**El Pedregal**	**2.57**	**274**	eP	**Pn**	**00 48 04.6**	**+1.8**
CO03				IAML		00 48 42.6	
	comp=Z,493nm,0.7s						
LVC	**Limon Verde**	**8.50**	**352**	Pn	**Pn**	**00 49 26.5**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=186,slow=6.5,SNR=3.1						
LVC				Sn	**Sn**	**00 51 00.2**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=72,slow=20,SNR=1.9						
	comp=Z,2.0nm,0.3s						
CPUP	**Villa Florida**	**10.27**	**65**	Pn	**Pn**	**00 49 48.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=238,slow=13,SNR=1.7						
CPUP				Sn	**Sn**	**00 51 44.5**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=288,slow=20,SNR=1.7						
	comp=Z,0.6nm,0.3s						
LPAZ	**La Paz**	**14.73**	**358**	Pn	**P**	**00 50 56.4**	**+0.3**
	baz=200,slow=4.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**79.75**	**68**	P	**P**	**00 59 29.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=247,slow=5.9,SNR=4.6						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**125.03**	**206**	PKP	**PKPdf**	**01 06 21.1**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=162,slow=1.8,SNR=7.5						
KURBB	**Kurchatov Arra**	**148.25**	**42**	PKPbc	**PKiKP**	**01 07 07.7**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=298,slow=2.8,SNR=2.5						
ZALV	**Zalesovo Beam**	**149.80**	**33**	PKPbc	**PKiKP**	**01 07 11.2**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=335,slow=6.2,SNR=2.3						

IDC 25 01:03:09.4±8.7, 3°.56S×142°.90E, h0km, mb3.3/2,
mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=310.9km
s-min=31.0km az=93.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.30**	**206**	P	P	01 07 25.4	+0.3
	0.2nm,0.3s,baz=31,slow=12,SNR=13						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**21.80**	**203**	P	P	01 08 02.9	-0.3
	0.8nm,0.8s,baz=29,slow=11,SNR=7.2						
	0.8nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**32.09**	**46**	T	T	01 43 35.1	
	baz=231,slow=74,SNR=24						
H11S2	**WAKE ISLAND Hy**	**32.09**	**46**	T	T	01 43 33.7	
	baz=231,slow=74,SNR=20						
H11S1	**WAKE ISLAND Hy**	**32.10**	**46**	T	T	01 43 32.6	
	baz=231,slow=74,SNR=18						
H11N1	**WAKE ISLAND Hy**	**33.03**	**45**	T	T	01 44 41.7	
	baz=230,slow=76,SNR=126						
H11N2	**WAKE ISLAND Hy**	**33.05**	**45**	T	T	01 44 42.9	
	baz=230,slow=76,SNR=138						
H11N3	**WAKE ISLAND Hy**	**33.05**	**45**	T	T	01 44 44.4	
	baz=230,slow=76,SNR=89						
MKAR	**Makanchi Array**	**73.04**	**321**	P	P	01 14 41.3	0.0
	0.2nm,0.4s,baz=122,slow=5.9,SNR=2.2						
	0.2nm,0.4s						

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*TEH **25** 01:12:01.4, 34°.61N×46°.23E, h7km±35km, ML2.5*
*ISN **25** 01:12:01.8±1.4, 34°.62N×46°.26E, h23km±26km, ML2.5*
ISC 25 01:12:01.5±1.2, 34°.60N±0°.05×46°.24E±0°.04, h11km±12km,
n11, σ0°33/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.15**	**51**	Pg	**Pg**	**01 12 05.1**	**0.0**
IGHG	**Ghaleghazi**	**0.38**	**135**	Pg	**Pg**	**01 12 09.7**	**+0.5**
KGS1	**Ghasr-e-Shirin**	**0.55**	**260**	Pg	**Pg**	**01 12 12.4**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.56**	**210**	Pg	**Pg**	**01 12 12.5**	**0.0**
ILIN	**Lien**	**0.67**	**62**	Pg	**Pg**	**01 12 14.4**	**-0.1**
KCHF	**Cheshme Sefid,**	**0.74**	**116**	Pg	**Pb**	**01 12 16.3**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.98**	**182**	Pg	**Pb**	**01 12 20.5**	**-0.1**
SNQR	**Sonqor, Kerman**	**1.17**	**77**	Pg	**Pg**	**01 12 24.4**	**+0.4**
IBZA	**Bozab**	**1.34**	**95**	Pg	**Pg**	**01 12 27.3**	**0.0**
IBDR	**Badra**	**1.51**	**190**	ePg	**Pb**	**01 12 29.0**	**-0.6**
	baz=10.0						
IBDR				eSg	**Sg**	**01 12 50.0**	**-0.1**
IBDR				AML	AML	01 12 56.5	
	comp=E,93nm,0.4s						
IBDR				AML	AML	01 12 57.3	
	comp=N,44nm,0.4s						
IKRK	**Kirkuk**	**1.75**	**298**	ePn	**Pn**	**01 12 32.0**	**+0.1**
IKRK				eSn	**Sb**	**01 12 56.0**	**+0.2**
IKRK				AML	AML	01 13 02.4	
	comp=N,100nm,0.5s						
IKRK				AML	AML	01 13 03.1	
	comp=E,72nm,0.8s						

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*IDC **25** 01:45:32.7±2.7, 36°.26N×28°.65E, h0km, mb3.4/3,*
mbtmp3.3/6, ML3.1/3, Error ellipse: s-maj=44.5km
s-min=28.9km az=68.0
*AFAD **25** 01:45:34.9±0.0, 36°.42N×28°.71E, h7km±2km, ML2.6*
*ISK **25** 01:45:34.6, 36°.43N×28°.75E, h7km, ML3.2/13*
*ATH **25** 01:45:34.9, 36°.48N×28°.81E, h10km±1km, ML3.0/9,*
Manual Solution by A.Fokaefs This location: 2020/08/28
15:39:03 ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 1
km; Longitude uncertainty: 0 km
*THE **25** 01:45:35.2, 36°.40N×28°.70E, h0km±1km, ML2.7/3, Error*
ellipse: s-maj=2.6km s-min=1.1km az=194.0
ISC 25 01:45:35.2±1.0, 36°.40N±0°.02×28°.73E±0°.02, h13km±7km,
n53, σ1°28/83, mb3.4/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.37**	**51**	Pg	**Pg**	**01 45 41.6**	**-1.1**
FETY				Sg	**Sg**	**01 45 47.7**	**0.0**
IZZE	**Mula-Seydike**	**0.40**	**85**	P	**Pg**	**01 45 42.7**	**-0.6**
IZZE				i AML	AML	01 45 49.0	
	comp=E,2μm,0.5s						
IZZE				S	**Sb**	**01 45 49.5**	**-0.8**
IZZE				i AML	AML	01 45 52.0	
	comp=N,2μm,0.5s						
RDI1	**Rhodes Town Ha**	**0.41**	**277**	P	**Pb**	**01 45 43.7**	**-0.5**
RDI1				S	**Sb**	**01 45 50.7**	**+0.3**
RODB	**Rodos**	**0.41**	**276**	P	**Pb**	**01 45 44.2**	**-0.1**
RODB				S	**Sb**	**01 45 50.8**	**+0.4**
ARG	**Arkhangelos**	**0.52**	**249**	Pg	**Pg**	**01 45 45.3**	**-0.2**
ARG				Sg	**Sb**	**01 45 53.9**	**+0.3**
ARG	**Arkhangelos**	**0.52**	**249**	P	**Pg**	**01 45 45.3**	**-0.2**
ARG				S	**Sb**	**01 45 54.5**	**+0.9**
	962nm,0.3s						
ARG	**Arkhangelos**	**0.52**	**249**	P	**Pg**	**01 45 45.5**	**+0.1**
ARG				S	**Sb**	**01 45 55.0**	**+1.4**
MRSB	**Marmaris-Mugla**	**0.53**	**306**	Pg	**Pg**	**01 45 45.5**	**-0.1**
MRSB				Sg	**Sb**	**01 45 53.3**	**-0.6**
CAME	**Cameli-Denizli**	**0.71**	**41**	Pg	**Pg**	**01 45 48.1**	**-1.0**
CAME				Sg	**Sg**	**01 45 58.2**	**-0.3**
AKAS	**Kas**	**0.73**	**103**	Pg	**Pg**	**01 45 49.1**	**-0.3**
AKAS	**Kas**	**0.73**	**103**	P	**Pb**	**01 45 49.7**	**-0.1**
AKAS				i AML	AML	01 46 06.0	
	comp=E,442nm,0.4s						
AKAS				i AML	AML	01 46 09.0	
	comp=N,854nm,0.4s						
KSL	**Kastellorizon**	**0.74**	**110**	P	**Pb**	**01 45 49.6**	**-0.3**
KSL				S	**Sn**	**01 46 03.5**	**+1.2**
	415nm,0.7s						
KSL	**Kastellorizon**	**0.74**	**110**	P	**Pg**	**01 45 48.5**	**-1.1**
KSL				S	**Sg**	**01 45 58.1**	**-1.1**
KNIK	**Mula-Seydike**	**0.81**	**57**	P	**Pg**	**01 45 50.5**	**-0.5**
KNIK				S	**Sb**	**01 46 02.6**	**+0.5**
KNIK				i AML	AML	01 46 05.0	
	comp=N,284nm,0.6s						
KNIK				i AML	AML	01 46 05.0	
	comp=E,156nm,0.5s						
DNZT	**Denizli-Tavas-**	**0.91**	**15**	P	**Pg**	**01 45 51.7**	**-1.0**
DNZT				S	**Sb**	**01 46 05.0**	**+0.2**
DNZT				i AML	AML	01 46 10.0	
	comp=E,136nm,0.7s						
DNZT				i AML	AML	01 46 13.0	
	comp=N,48nm,0.4s						
MULA	**Mugla, Merkez-**	**0.91**	**339**	P	**Pg**	**01 45 52.2**	**-0.6**
MULA				S	**Sg**	**01 46 04.7**	**-0.1**
MULA				i AML	AML	01 46 09.0	
	comp=E,190nm,0.8s						
MULA				i AML	AML	01 46 16.0	
	comp=N,88nm,0.4s						
DEMR	**Demre-Antalya**	**0.97**	**100**	Pg	**Pb**	**01 45 53.7**	**-0.1**
DAT	**Datca**	**0.98**	**290**	Pg	**Pg**	**01 45 53.8**	**-0.4**
DAT	**Datca**	**0.98**	**290**	P	**Pg**	**01 45 53.7**	**-0.4**
DAT				S	**Sn**	**01 46 08.5**	**0.0**
DAT				i AML	AML	01 46 15.0	
	comp=N,331nm,0.6s						
DAT				i AML	AML	01 46 17.0	
	comp=E,232nm,0.7s						
DAT	**Datca**	**0.98**	**290**	P	**Pg**	**01 45 53.7**	**-0.4**
DAT				S	**Sn**	**01 46 08.3**	**-0.2**
ELL	**Elmali**	**1.01**	**70**	Pg	**Pg**	**01 45 53.2**	**-1.6**
YAZI	**Mula-Dat§a-**	**1.06**	**285**	P	**Pg**	**01 45 55.1**	**-0.6**
YAZI				S	**Sn**	**01 46 10.6**	**+0.2**
YAZI				i AML	AML	01 46 13.0	
	comp=E,114nm,0.6s						
YAZI				i AML	AML	01 46 15.0	
	comp=N,157nm,0.5s						
GOLH	**Golhisar**	**1.07**	**39**	P	**Pg**	**01 45 54.8**	**-1.0**
GOLH				S	**Sn**	**01 46 10.6**	**-0.1**
GOLH				i AML	AML	01 46 16.0	
	comp=E,180nm,0.4s						
GOLH				i AML	AML	01 46 19.0	
	comp=N,218nm,0.8s						
TAVA	**DENIZLI_Tavas**	**1.07**	**8**	P	**Pg**	**01 45 54.8**	**-1.1**
TAVA				i AML	AML	01 46 14.0	
	comp=N,104nm,0.2s						
TAVA				i AML	AML	01 46 15.0	
	comp=E,136nm,0.3s						
APMY	**Acipayam-Deniz**	**1.16**	**23**	Pn	**Pb**	**01 45 56.6**	**-0.6**
MLSB	**Milas**	**1.17**	**320**	Pn	**Pb**	**01 45 57.3**	**0.0**
MLSB				Sn	**Sn**	**01 46 14.1**	**+1.0**
DNIZ	**Denizli-Tavas-**	**1.24**	**11**	P	**Pn**	**01 45 58.0**	**-0.4**
DNIZ				i AML	AML	01 46 19.0	
	comp=N,585nm,0.5s						
DNIZ				i AML	AML	01 46 20.0	
	comp=E,975nm,0.4s						
NISR	**Nisiros**	**1.30**	**280**	P	**Pg**	**01 46 00.1**	**-0.2**
AKUM	**Antalya-Kumluc**	**1.31**	**93**	P	**Pg**	**01 46 01.0**	**+0.6**
AKUM				S	**Sg**	**01 46 22.8**	**+5.4**
AKUM				i AML	AML	01 46 24.0	
	comp=N,90nm,0.5s						
AKUM				i AML	AML	01 46 28.0	
	comp=E,144nm,0.8s						
BODT	**Bodrum**	**1.31**	**300**	Pn	**Pb**	**01 45 59.9**	**+0.2**
BODT				Sn	**Sg**	**01 46 18.6**	**+1.0**
BODT	**Bodrum**	**1.31**	**300**	P	**Pb**	**01 45 59.8**	**+0.1**
BODT				S	**Sg**	**01 46 18.0**	**+0.4**
ESEN	**Aydn-Nazilli**	**1.42**	**348**	P	**Pn**	**01 46 01.1**	**+0.4**
ESEN				S	**Sb**	**01 46 20.0**	**+0.4**
ESEN				i AML	AML	01 46 24.0	
	comp=N,64nm,0.5s						
ESEN				i AML	AML	01 46 24.0	
	comp=E,117nm,1.3s						
INCE	**Denizli-Bozkur**	**1.47**	**27**	P	**Pb**	**01 46 02.6**	**+0.2**
INCE				S	**Sg**	**01 46 24.1**	**+1.6**
INCE				i AML	AML	01 46 25.0	
	comp=N,144nm,0.6s						
INCE				i AML	AML	01 46 29.0	
	comp=E,160nm,0.5s						
KLNA	**Kalymnos**	**1.51**	**292**	P	**Pn**	**01 46 02.2**	**+0.2**
KLNA				S	**Sb**	**01 46 22.3**	**+0.1**
KARP	**Karpathos**	**1.53**	**236**	P	**Pb**	**01 46 03.5**	**+0.1**
KARP				S	**Sg**	**01 46 25.5**	**+1.0**
NAZL	**Nazilli-Aydin**	**1.59**	**348**	Pn	**Pg**	**01 46 03.8**	**+0.7**
ANTB	**Antalya**	**1.63**	**72**	Pn	**Pn**	**01 46 04.1**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.68**	**337**	Pn	**Pn**	**01 46 05.0**	**+0.6**
SMG	**Samos**	**2.00**	**311**	P	**Pn**	**01 46 09.2**	**+0.6**
SMG				S	**Sn**	**01 46 34.1**	**+0.7**
	170nm,0.5s						
SMG	**Samos**	**2.00**	**311**	P	**Pn**	**01 46 08.8**	**+0.2**
SMG				S	**Sn**	**01 46 33.5**	**+0.1**
ZKR	**Zakros**	**2.41**	**239**	P	**Pb**	**01 46 17.4**	**-1.1**
APE	**Apeiranthos**	**2.65**	**285**	P	**Pn**	**01 46 19.1**	**+1.4**
CHOS	**Chios island**	**2.91**	**314**	P	**Pn**	**01 46 21.8**	**+0.6**
IDI	**Anoyia**	**3.31**	**251**	P	**Pn**	**01 46 27.9**	**+1.2**
PRK	**Paraskevi**	**3.44**	**326**	P	**Pn**	**01 46 28.2**	**-0.2**
SIGR	**SIGRI**	**3.61**	**322**	P	**Pn**	**01 46 31.7**	**+0.9**
LIA	**Limnos Island**	**4.47**	**322**	P	**Pn**	**01 46 42.6**	**0.0**
BRTR	**Keskin Array B**	**5.10**	**48**	Pn	**Pn**	**01 46 54.0**	**+2.5**
	0.2nm,0.3s,baz=227,slow=16,SNR=9.7						
BRTR				Sn	**Sn**	**01 47 53.8**	**+3.5**
	0.2nm,0.3s,baz=217,slow=27,SNR=5.6						
	0.9nm,0.5s						
MMAI	**Mount Meron Ar**	**6.45**	**120**	Pn	**Pn**	**01 47 08.9**	**-1.0**
	0.6nm,0.3s,baz=305,slow=13,SNR=2.8						
	1.1nm,0.4s						
EIL	**Elat**	**8.51**	**140**	Pn	**Pn**	**01 47 35.0**	**-3.1**
	0.4nm,0.3s,baz=7.1,slow=16,SNR=2.0						
EIL				Sn	**Sn**	**01 49 08.3**	**-5.6**
	1.0nm,0.3s,baz=52,slow=9.1,SNR=7.4						
	1.1nm,0.4s						
FINES	**FINESS Array B**	**25.12**	**357**	P	**P**	**01 50 59.9**	**+0.4**
	0.6nm,0.5s,baz=153,slow=9.4,SNR=5.6						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**38.08**	**52**	P	**P**	**01 52 53.3**	**0.0**
	0.2nm,0.3s,baz=274,slow=9.8,SNR=4.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**40.66**	**58**	P	**P**	**01 53 17.3**	**+2.2**
	0.3nm,0.7s,baz=262,slow=10.0,SNR=2.2						
	0.3nm,0.7s						

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*IDC **25** 01:47:46.5±1.1, 34°.71N×46°.21E, h0km, mb3.8/13,*
mbtmp3.8/17, ML3.8/4, MS3.2/4, Error ellipse:
s-maj=21.0km s-min=15.5km az=170.0
*TEH **25** 01:47:47.7, 34°.63N×46°.32E, h9km±13km, ML4.2*
*NEIC **25** 01:47:47.6±2.4, 34°.63N±0°.06×46°.32E±0°.08, h10km±1km,*
mb4.3/31, Error ellipse: s-maj=12.9km s-min=6.0km
az=49.0
*GII **25** 01:47:47.2±0.3, 34°.53N×46°.41E, h10km, confirmed*
*ISN **25** 01:47:48.2±0.7, 34°.64N×46°.33E, h18km±12km, ML4.5*
*OMAN **25** 01:47:56.0±0.1, 33°.74N×46°.47E, h18km, mb4.4/21, Error*
ellipse: s-maj=1.4km s-min=1.0km az=247.0
ISC 25 01:47:46.8±0.4, 34°.52N±0°.03×46°.38E±0°.03, h10km, n245,
σ2°62/256, mb4.1/43, MS3.3/3, 8C-10D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.18**	**2**	Pg	**Pg**	**01 47 50.6**	**-0.3**
IGHG	**Ghaleghazi**	**0.24**	**140**	Pg	**Pn**	**01 47 55.8**	**+3.9**
GLG1	**Gilan-e-Gharb**	**0.56**	**224**	Pg	**Pb**	**01 47 59.9**	**+1.1**
KCHF	**Cheshme Sefid,**	**0.60**	**114**	Pg	**Pn**	**01 48 01.2**	**-0.4**
KCHF				Sg	**Sn**	**01 48 12.3**	**+0.9**
ILIN	**Lien**	**0.62**	**50**	Pg	**Pg**	**01 47 59.5**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.65**	**269**	Pg	**Pb**	**01 47 59.9**	**-0.5**
ILBA	**Ilam Banvizeh**	**0.90**	**189**	Pg	**Pn**	**01 48 07.3**	**+1.7**
ILBA				Sg	**Sn**	**01 48 21.8**	**+3.0**
SNQR	**Sonqor, Kerman**	**1.08**	**71**	Pg	**Pn**	**01 48 08.9**	**+0.6**
IBZA	**Bozab**	**1.22**	**92**	Pg	**Pb**	**01 48 11.8**	**+1.5**
IBDR	**Badra**	**1.45**	**195**	ePn	**Pg**	**01 48 17.0**	**+2.3**
IBDR				eSn	**Sg**	**01 48 38.0**	**+4.4**
IBDR				AML	AML	01 48 42.8	
	comp=E,10μm,0.4s						
IBDR				AML	AML	01 48 44.4	
	comp=N,5μm,0.7s						
IKFM	**Kafar-mosalman**	**1.57**	**129**	Pg	**Pg**	**01 48 19.3**	**+2.4**
SDS1	**Sardasht. Az.**	**1.78**	**336**	Pg	**Pn**	**01 48 18.1**	**+0.2**
HSAM	**Samen**	**1.86**	**99**	Pn	**Pg**	**01 48 23.3**	**+0.7**
IKRK	**Kirkuk**	**1.89**	**298**	ePn	**Pn**	**01 48 20.0**	**+0.8**
IKRK				eSn	**Sb**	**01 48 44.0**	**-1.2**
IKRK				AML	AML	01 48 48.3	
	comp=E,5μm,0.6s						
IKRK				AML	AML	01 48 52.5	
	comp=N,7μm,0.5s						
BHD	**Baghdad**	**2.08**	**234**	ePn	**Pb**	**01 48 25.0**	**+0.4**
BHD				eSn	**Sb**	**01 48 51.0**	**+0.5**
BHD				AML	AML	01 49 05.5	
	comp=E,3μm,0.4s						
MAHB	**Mahabad**	**2.31**	**346**	Pn	**Pn**	**01 48 26.6**	**+1.6**
IHSH	**Hashtrud**	**2.87**	**14**	Pn	**Pn**	**01 48 34.6**	**+1.7**
IAZR	**Azarshahr**	**3.17**	**354**	Pn	**Pn**	**01 48 38.3**	**+1.4**
ISRB	**Sarab**	**3.46**	**17**	Pn	**Pn**	**01 48 43.0**	**+2.0**
JIR1	**Jirandeh**	**3.54**	**51**	Pn	**Pn**	**01 48 45.2**	**+3.2**
ISHB	**Shabestar**	**3.81**	**351**	Pn	**Pn**	**01 48 47.0**	**+1.2**
IHRS	**Heris**	**3.83**	**8**	Pn	**Pn**	**01 48 47.9**	**+1.8**
IQOM	**Qom**	**3.88**	**84**	Pn	**Pn**	**01 48 50.1**	**+3.4**
IPIR	**Pirpir**	**4.19**	**115**	Pn	**Pn**	**01 48 54.7**	**+3.7**
IMRD	**Marand**	**4.22**	**353**	Pn	**Pn**	**01 48 53.6**	**+2.2**
QAMS	**Qamsar**	**4.23**	**99**	Pn	**Pn**	**01 48 55.6**	**+

MMC2	Mount Meron ar	9.25	264	P	Pn	01 49 45.1 -15
MMA0B	Mount Meron ar	9.26	264	P	Pn	01 50 01.9 +1.4
MMAI	Mount Meron Ar	9.26	264	Pn	Pn	01 50 00.9 +0.4
	comp=E,1.8nm,0.3s,baz=68,slow=18,SNR=8.2					
MMAI				Lg	Lg	01 52 32.7
	comp=E,2.3nm,0.3s,baz=97,slow=33,SNR=2.9					
	comp=E,1.2nm,0.3s					
MMB3	Mount Meron ar	9.27	264	P	Pn	01 49 47.4 -13
MMC7	Mount Meron ar	9.27	264	P	Pn	01 50 02.0 +1.4
SWQJ	Swaqa	9.27	252	P	Pn	01 49 43.6 -17
HMDT	Nahal Hemdat	9.35	259	P	Pn	01 49 46.8 -15
HMDT	Nahal Hemdat	9.35	259	P	Pn	01 50 02.5 +0.9
HNTI	Hanita	9.44	264	P	Pn	01 49 47.8 -15
UJAP	Al Uja	9.49	257	P	Pn	01 49 50.1 -13
BLGI	Bet Lehem HaGe	9.50	262	P	Pn	01 49 49.3 -14
BNN	Bunyan	9.50	300	Pn	Pn	01 50 04.4 +0.7
KARJ	KARJ	9.64	252	P	Pn	01 49 46.5 -19
DSI	Dead Sea	9.69	255	P	Pn	01 50 07.0 +0.7
LISJ	El Lisan	9.73	253	P	Pn	01 49 51.9 -15
SLTI	Sal'it	9.75	260	P	Pn	01 49 52.5 -15
MSBI	Mazada	9.80	254	P	Pn	01 50 09.2 +1.4
ZFRI	Zfri	10.25	250	P	Pn	01 49 59.8 -14
PRNI	Paran	10.47	250	P	Pn	01 50 17.6 +0.6
SMRA	Abu-Samra	10.48	157	S	Sn	01 52 07.4 -7.1
TRNA	Turayna	10.61	155	P	Pn	01 50 17.8 -1.2
TRNA				S	Sn	01 52 10.6 -7.3
MBRI	Mt Berech	10.80	247	P	Pn	01 50 22.9 +1.3
EIL	Elat	10.83	247	Pn	Pn	01 50 22.6 +0.8
	comp=E,0.4nm,0.3s,baz=52,slow=12,SNR=2.0					
EIL				Lg	Lg	01 53 34.0
	comp=E,1.0nm,0.3s,baz=75,slow=19,SNR=2.0					
	comp=E,1.5nm,0.4s					
EIL	Elat	10.83	247	P	Pn	01 50 22.4 +0.5
RAYN	Ar Rayn	10.98	184	Pn	Pn	01 50 24.6 +0.5
RAYN	Ar Rayn	10.98	184	*i* Pn	Pn	01 50 25.4 +1.3
	SNR=6.3					
RAYN	Ar Rayn	10.98	184	P	Pn	01 50 24.9 +0.9
RAYN				S	Sn	01 52 18.3 -8.7
BR104	Keskin Array S	11.41	301	Pn	Pn	01 50 34.0 +4.1
	comp=E,7.6nm,0.9s,comp=E,49nm					
BR131	Keskin Array S	11.42	301	Pn	Pn	01 50 28.8 -1.3
BRTR	Keskin Array B	11.42	301	Pn	Pn	01 50 31.8 +1.7
BRTR	Keskin Array B	11.42	301	Pn	Pn	01 50 34.0 +3.9
	comp=E,0.1nm,0.3s,baz=124,slow=11,SNR=32					
BR105	Keskin Array S	11.43	301	Pn	Pn	01 50 34.2 +4.0
	comp=E,8.1nm,0.9s,comp=E,52nm					
BR106	Keskin Array S	11.44	301	Pn	Pn	01 50 33.5 +3.2
	comp=E,9.2nm,0.9s,comp=E,65nm					
SHME	Shamm	11.93	132	Pn	Pn	01 50 37.3 +0.4
SHME	Shamm	11.93	132	P	Pn	01 50 38.2 +1.3
SHME				S	Sn	01 52 43.9 -6.1
AJN	Ajban	12.43	141	P	Pn	01 50 44.6 +0.9
AJN				S	Sn	01 52 57.1 -5.2
MASF	Masafi	12.44	135	P	Pn	01 50 44.6 +0.6
	SNR=7.3					
MASF				S	Sn	01 52 57.4 -5.3
MSFE	Esma-Masafi	12.45	135	*i* Pn	Pn	01 50 44.3 +0.2
	SNR=7.3					
NAZ	Nazwa, Dubai	12.45	137	*i* Pn	Pn	01 50 45.9 +1.8
	SNR=27					
NAZ	Nazwa, Dubai	12.45	137	P	Pn	01 50 46.0 +1.8
	SNR=27					
NAZ				S	Sn	01 52 59.0 -4.0
ASUD	Al Ashush, Dub	12.55	139	*i* Pn	Pn	01 50 46.6 +1.0
	SNR=10					
ASUD	Al Ashush, Dub	12.55	139	P	Pn	01 50 48.0 +2.5
	SNR=10					
ASUD				S	Sn	01 52 57.2 -8.3
MZWR	Madinat Zayed	12.56	147	P	Pn	01 50 46.2 +0.7
MDH	Madha	12.58	134	P	Pn	01 50 47.0 +1.2
MDH				S	Sn	01 52 59.3 -6.7
FAQ	Al Faqa, Dubai	12.60	138	*i* Pn	Pn	01 50 48.0 +1.8
	SNR=6.9					
FAQ	Al Faqa, Dubai	12.60	138	P	Pn	01 50 48.2 +2.0
	SNR=7.0					
FAQ				S	Sn	01 53 02.9 -3.7
UOSS	Minazif	12.79	136	Pn	Pn	01 50 49.5 +0.8
UOSS	Minazif	12.79	136	Pn	Pn	01 50 48.1 -0.7
UOSS	Minazif	12.79	136	P	Pn	01 50 49.6 +0.8
UOSS				S	Sn	01 53 02.9 -8.4
HATD	Hatta, Dubai	12.84	136	*i* Pn	Pn	01 50 50.7 +1.2
	SNR=9.5					
HATD				Sn	Sn	01 53 06.3 -6.2
HATD	Hatta, Dubai	12.84	136	P	Pn	01 50 51.0 +1.6
	SNR=9.5					
HATD				S	Sn	01 53 04.8 -7.7
ASHO	Ashiyiah	12.91	137	*i* Pn	Pn	01 50 50.8 +0.4
	SNR=28					
ASHO	Ashiyiah	12.91	137	P	Pn	01 50 51.4 +0.9
	SNR=28					
ASHO				S	Sn	01 53 09.5 -4.7
MZR	Muzera	13.05	150	*i* Pn	Pn	01 50 54.0 +1.7
	SNR=11					
MZR	Muzera	13.05	150	P	Pn	01 50 53.6 +1.3
	SNR=11					
MZR				S	Sn	01 53 13.9 -3.7
JASK	Jask - Hormozg	13.14	128	P	Pn	01 50 54.4 +0.8
ALNE	Al Ain	13.24	139	*i* Pn	Pn	01 50 55.8 +0.9
	SNR=9.3					
ALNE	Al Ain	13.24	139	P	Pn	01 50 56.5 +1.6
	SNR=9.3					
ALNE				S	Sn	01 53 17.7 -4.5
SOHO	SOHO	13.61	137	P	Pn	01 50 59.7 -0.3
SOHO				S	Sn	01 53 25.2 -6.0
ARQ	Araqi	14.24	139	P	Pn	01 51 09.5 +1.0
	SNR=8.1					
ARQ				S	Sn	01 53 42.4 -4.2
HOQ	Hoqain	14.48	136	P	Pn	01 51 12.4 +0.5
HOQ				S	Sn	01 53 47.1 -5.4
BSY	Bisya	15.08	138	P	Pn	01 51 19.5 -0.5
BSY				S	Sn	01 54 05.0 -2.2
SMDO	Samad	15.31	135	P	Pn	01 51 22.2 -0.9
SMDO				S	Sn	01 54 05.3 -7.7
WSAR	Wadi Sarin	15.52	133	Pn	Pn	01 51 25.6 -0.2
	comp=E,2.7nm,0.3s,baz=317,slow=9.2,SNR=27					
WSAR				Sn	Sn	01 54 07.8 -10
	comp=E,0.3nm,0.3s,baz=81,slow=19,SNR=1.1					
KARP	Karpathos	15.78	279	Pn	Pn	01 51 30.4 +1.3
JMDO	Jabal Madar	15.88	137	P	Pn	01 51 29.4 -1.1
JMDO				S	Sn	01 54 24.0 -2.6
JLN	Jalan Bani Buh	16.81	134	P	Pn	01 51 42.4 +0.1
MHTO	MHTO	16.92	140	P	Pn	01 51 43.6 0.0
MHTO				S	Sn	01 54 44.1 -7.7
DOK	Doka	17.27	154	P	Pn	01 51 47.0 -1.2
	SNR=6.4					
DOK				S	Sn	01 54 48.8 -12
DQM	DQM	17.58	143	P	Pn	01 51 51.9 0.0
IDI	Anoyia	17.65	279		P	01 51 54.4 +0.7
IDI				IAmb	IAmb	01 51 56.5
	comp=Z,47nm,1.4s					
IDI	Anoyia	17.65	279	P	P	01 51 54.3 +0.5
	comp=Z,6.9nm,0.6s,baz=86,slow=15,SNR=5.8					
RDO	Rodhopi	17.72	298		P	01 51 54.4 -0.1
WHFO	Wadi Hawf	17.80	156	P	Pn	01 51 53.2 -1.5
	SNR=10					
WHFO				P	Pn	01 51 53.3 -1.5
WHFO				S	Sn	01 55 03.4 -10
ABKAR	Akbulak array	17.81	30		Pn	01 51 53.8 -0.8
AKTO	Aktyubinsk	18.04	25	P	Pn	01 51 55.8 -1.7
	comp=Z,0.1nm,0.3s,baz=153,slow=6.8,SNR=1.8					
	comp=Z,1.6nm,0.7s					
ABTO	Aybut	18.18	158	P	Pn	01 51 57.7 -1.8
ABTO				S	Sn	01 55 10.5 -12
RBK	Rabkut	18.33	156	P	Pn	01 51 59.1 -2.2
RBK				S	Sn	01 55 18.8 -7.4
SHAO	Shalim	18.38	151	P	P	01 51 59.1 -2.9
DMTO	DMTO	18.40	153	P	P	01 52 00.9 -1.1
	SNR=7.6					
DMTO				S	Sn	01 55 18.5 -9.2
PLOR	Plostina	18.80	313	⇓P	Pn	01 52 06.8 0.0
MLR	Muntele Rosu	19.05	311	P	P	01 52 07.5 -1.8
	comp=Z,0.1nm,0.3s,baz=125,slow=19,SNR=1.6					
	comp=Z,0.8nm,0.6s					
MLR	Muntele Rosu	19.05	311	⇓P	P	01 52 09.1 -0.2
SORM	Soroca	19.13	321	⇑P	Pn	01 52 10.7 0.0
SORM	Soroca	19.13	321	P	P	01 52 08.5 -1.4
	comp=Z,5.8nm,0.5s					
TESR	Tescani	19.14	315	⇑P	Pn	01 52 10.5 -0.4
TURR	Turia	19.28	313	⇓P	Pn	01 52 12.4 -0.3
OZUR		19.44	313	⇓P	Pn	01 52 14.1 -0.4
VOIR		19.59	310	⇓P	P	01 52 15.2 +0.1
ITM	Ithomi	19.99	285		P	01 52 17.8 -1.6
ITM				IAmb	IAmb	01 52 20.4
	comp=Z,39nm,1.3s					
AK07	Malin Array Si	20.34	327	P	P	01 52 21.4 -1.7
AK09	Malin Array Si	20.35	327	P	P	01 52 21.6 -1.6
AK10	Malin Array Si	20.35	327	P	P	01 52 21.2 -2.0
AK08	Malin Array Si	20.38	327	P	P	01 52 21.1 -2.3
KMPD	K-Podol'skiy	20.39	319	P	P	01 52 21.6 -2.0
LOT	Lotru	20.41	309	⇓P	P	01 52 23.4 -0.6
AK12	Malin Array Si	20.43	327	P	P	01 52 23.1 -0.9
AKASG	Malin Array Be	20.44	328	P	P	01 52 22.8 -1.3
	comp=Z,1.4nm,0.5s,baz=140,slow=9.1,SNR=4.5					
AKASG				LR	LR	02 01 34.6
	comp=Z,55nm,20.4s,baz=107,slow=41					
	comp=Z,1.4nm,0.5s					
AK14	Malin Array Si	20.44	327	P	P	01 52 23.2 -0.9
KIEV	Kiev	20.44	327	P	P	01 52 21.1 -3.0
AK11	Malin Array Si	20.45	327	P	P	01 52 23.3 -0.9
AK19	Malin Array Si	20.55	327	P	P	01 52 23.6 -1.7
BURAR	Bucovina Array	20.55	316	P	P	01 52 24.1 -1.4
BURAR				IAmb	IAmb	01 52 29.0
	comp=Z,9.0nm,0.8s					
BURAR	Bucovina Array	20.55	316	⇑P	P	01 52 25.8 +0.3
BUR08	Bucovina Ar. S	20.58	316	P	P	01 52 25.2 -0.6
FNA	Florina	20.73	295	P	P	01 52 27.4 0.0
FNA				IAmb	IAmb	01 52 31.9
	comp=Z,12nm,1.0s					
ARCR	ARCALIA	20.79	314	⇑P	P	01 52 28.8 +0.8
GZR	Gura Zlata	21.03	308	⇑P	P	01 52 30.4 -0.2
BOVS	Bovan	21.15	303	⇑P	P	01 52 31.8 -0.1
MARR	Marisel-Cluj	21.34	312	⇓P	P	01 52 34.7 +0.6
MDVR	Moldovita	21.51	306	⇑P	P	01 52 36.2 +0.4
DRGR		21.65	312	⇑P	P	01 52 37.6 +0.3
BZS	Buzias	21.87	308	⇓P	P	01 52 39.6 0.0
PUK	Puka	22.05	298	P	P	01 52 39.4 -2.3
PUK				IAmb	IAmb	01 53 17.7
	comp=Z,8.0nm,1.0s					
SIRR	Siria	22.09	310	⇓P	P	01 52 42.2 +0.2
KOLS	Kolonicke sedl	22.92	316	*e*P	P	01 52 52.0 +1.2
KWP	Kalwaria Pacla	23.03	318	P	P	01 52 50.6 -1.4
KWP				IAmb	IAmb	01 53 12.0
	comp=Z,6.4nm,0.7s					
CRVS	Cervenica-Dubn	23.37	315	*e*P	P	01 52 56.7 +1.3
MORH	Mrgy, Hungar	24.02	307	⇓P	P	01 53 02.5 +0.8
KSH	Kashi	24.09	69	P	P	01 53 04.0 +1.4
KSH				pmax	pmax	
	comp=Z,2.0nm,0.5s					
LANS	Liptovska Anna	24.65	315	*e*P	P	01 53 08.6 +1.1
VYHS	Vyhne	24.74	313	*e*P	P	01 53 08.9 +0.5
CEL	Celeste	24.77	288	P	P	01 53 10.0 +1.3
OJC	Ojcow	24.95	317	P	P	01 53 09.8 -0.4
OJC				IAmb	IAmb	01 53 11.7
	comp=Z,7.6nm,0.7s					
BVAR	Borovoye Array	25.15	35	P	P	01 53 14.1 +2.1
	comp=Z,1.7nm,0.6s,baz=236,slow=7.5,SNR=11					
	comp=Z,1.7nm,0.6s					
JAVC	Velka Javorina	25.60	313	*e*P	P	01 53 17.9 +1.8
MODS	Modra-Piesok	25.65	311	*e*P	P	01 53 18.1 +1.5
MAUC	Maruska	25.71	314	*e*P	P	01 53 17.5 +0.4
RONA	Rosalia, Austr	26.03	310	*e*P	P	01 53 19.2 -0.9
	comp=Z,1.9nm,0.5s					
MORC	Moravsky Berou	26.05	315	P	P	01 53 20.4 +0.2
MORC				IAmb	IAmb	01 53 25.6
	comp=Z,3.9nm,1.1s					
MORC	Moravsky Berou	26.05	315	*e*P	P	01 53 22.7 +2.5
CONA	Conrad Observa	26.38	310	*e*P	P	01 53 22.6 -0.7
	comp=Z,4.0nm,0.8s					
ARSA	Arzberg	26.38	308	*e*P	P	01 53 22.4 -0.9
	comp=Z,0.8nm,0.5s					
VRAC	Vranov	26.43	313	*e*P	P	01 53 22.3 -1.3
KRUC	Moravsky	26.45	312	*e*P	P	01 53 22.5 -1.3
SOKA	Soboth	26.54	307	*e*P	P	01 53 23.0 -1.7
	comp=Z,0.7nm,0.6s					
OBKA	Obir	26.82	306	*e*P	P	01 53 25.4 -1.9
	comp=Z,1.4nm,0.7s					
DPC	Dobruska-Polom	27.00	315	*e*P	P	01 53 34.9 +6.1
NRCA	Norcia	27.13	298	P	P	01 53 29.4 -0.7
NRCA				IAmb	IAmb	01 54 02.4
	comp=Z,11nm,1.2s					
CHVC	Chvalec	27.26	315	*e*P	P	01 53 30.9 -0.2
MOA	Molln	27.38	309	*e*P	P	01 53 30.3 -1.9
	comp=Z,0.7nm,0.6s					
BIOA	Bad Ischl, Aus	27.74	308	*e*P	P	01 53 34.2 -1.3
	comp=Z,0.5nm,0.4s					
KBA	Koelnbreinsper	27.76	307	*e*P	P	01 53 34.8 -1.0
	comp=Z,0.7nm,0.5s					
LESA	Schwarzleotal	28.29	307	*e*P	P	01 53 38.8 -1.6
	comp=Z,1.8nm,1.1s					
KURBB	Kurchatov Arra	28.34	46	P	P	01 53 42.9 +2.2
	comp=Z,0.7nm,0.6s,baz=252,slow=8.9,SNR=6.7					
	comp=Z,0.7nm,0.6s					
WTTA	Wattenberg	28.94	307	*e*P	P	01 53 45.0 -1.3
	comp=Z,1.9nm,0.6s					
WATA	Walderalm	29.00	307	*e*P	P	01 53 46.3 -0.5
	comp=Z,4.1nm,1.2s					
SQTA	Sankt Quirin	29.21	306	*e*P	P	01 53 48.0 -0.7
	comp=Z,3.2nm,0.6s					
FETA	Feichten	29.49	306	*e*P	P	01 53 50.6 -0.6
	comp=Z,2.3nm,0.6s					
RETA	Reutte	29.57	307	*e*P	P	01 53 50.5 -1.3
	comp=Z,0.9nm,0.4s					
MK31	Makanchi Array	29.62	55	P	P	01 53 54.1 +2.0
MKAR	Makanchi Array	29.62	55	P	P	01 53 54.0 +1.9
MKAR	Makanchi Array	29.62	55	P	P	01 53 54.1 +1.9
	comp=Z,0.6nm,0.5s,baz=244,slow=10,SNR=6.1					
	comp=Z,0.6nm,0.5s					
FUORN	Ofenpass-Fuorn	29.72	305	P	P	01 53 52.4 -1.0
FIA1	FINESS Array S	29.91	340	P	P	01 53 49.9 -4.6
FINES	FINESS Array B	29.91	340	P	P	01 53 50.8 -3.7
FINES	FINESS Array B	29.91	340	P	P	01 53 52.7 -1.8
	comp=Z,0.8nm,0.5s,baz=142,slow=11,SNR=13					
FINES				LR	LR	02 08 22.0
	comp=Z,63nm,19.0s,baz=114,slow=42					
	comp=Z,0.8nm,0.5s					
DAVA	Damuels	30.11	306	*e*P	P	01 53 55.0 -1.7
	comp=Z,3.0nm,0.7s					
SENIN	Lac Senin/Sane	31.70	304	P	P	01 54 10.4 -0.3
BNI	Bardonecchia	31.98	301	P	P	01 54 12.1 -1.0
WMQ	Urumqi	33.06	61	*e*P	P	01 54 26.3 +3.8
ZALV	Zalesovo Beam	33.14	42	P	P	01 54 23.0 -0.1
	comp=Z,1.1nm,0.5s,baz=209,slow=12,SNR=5.0					
	comp=Z,1.1nm,0.5s					
HFS	Hagfors	33.26	330	P	P	01 54 23.1 -0.9
	comp=Z,1.2nm,0.5s,baz=133,slow=8.3,SNR=11					
	comp=Z,1.2nm,0.5s					
KONO	Kongsberg	34.74	328	P	P	01 54 35.1 -1.7
NOA	NORSAR Array B	34.78	331	P	P	01 54 35.8 -1.4
	comp=Z,0.2nm,0.6s,baz=124,slow=8.6,SNR=2.2					
	comp=Z,0.2nm,0.6s					
ARCES	ARCESS Array B	36.93	348	P	P	01 54 55.0 -0.5
	comp=Z,0.4nm,0.5s,baz=153,slow=8.9,SNR=1.6					
	comp=Z,0.4nm,0.5s					
EKA	Eskdalemuir Ar	39.73	317	P	P	01 55 18.5 -0.7
	comp=Z,1.1nm,0.4s,baz=104,slow=9.0,SNR=14					
	comp=Z,1.1nm,0.4s					
ESK	Eskdalemuir	39.75	317	P	P	01 55 18.9 -0.5
ESK				IAmb	IAmb	01 55 20.1
	comp=Z,17nm,1.3s					
ESDC	Sonseca Array	40.06	293	P	P	01 55 22.1 -0.2
	comp=Z,1.8nm,0.9s,baz=66,slow=8.5,SNR=14					
	comp=Z,1.8nm,0.9s					
PAB	San Pablo	40.37	292	P	P	01 55 24.8 -0.1
PAB				IAmb	IAmb	01 55 27.2
	comp=Z,4.9nm,1.1s					
TORD	Torodi Ar. Bea	45.62	253	P	P	01 56 08.1 +0.5
	comp=Z,0.3nm,0.5s,baz=43,slow=6.9,SNR=2.0					
	comp=Z,0.3nm,0.5s					
PZH	PanZhiHua	47.86	84	P	P	01 56 26.9 +1.7
PZH				pmax	pmax	
	comp=Z,10.0nm,0.6s					
PZH				pmax	pmax	
	comp=Z,160nm,4.9s					
CMAR	Chiang Mai Arr	49.16	95	P	P	01 56 35.6 +0.5
	comp=Z,0.8nm,0.3s,baz=294,slow=9.6,SNR=1.7					
	comp=Z,0.8nm,0.3s					
HHC	Hu-ho-hao-te	50.92	63	*e*P	P	01 56 47.8 -0.5
HHC				sP	sP	01 56 54.4 +0.9
HHC				pmax	pmax	
	comp=Z,7.0nm,0.6s					
HHC				pmax	pmax	
	comp=Z,110nm,6.9s					
KSRS	Korea Array	64.01	61	LR	LR	02 29 50.0
	comp=Z,36nm,18.8s,baz=200,slow=39					
BOSA	Boshof	65.89	200	P	P	01 58 31.8 -1.1
A36M	Sachs Harbour	73.62	357	P	P	01 59 22.1 +2.3
A36M				IAmb	IAmb	01 59 34.2
	comp=Z,3.7nm,0.9s					
E19K	Redstone River	76.78	9	P	P	01 59 36.7 -1.4
E19K				IAmb	IAmb	01 59 48.0
	comp=Z,4.4nm,1.2s					
E29M	Blow River	77.35	2	P	P	01 59 39.6 -1.7
E29M				IAmb	IAmb	01 59 51.6
	comp=Z,1.6nm,0.8s					
F21K	Alatna River	77.46	8	P	P	01 59 43.4 +1.4
F21K				IAmb	IAmb	02 00 07.8
	comp=Z,2.8nm,1.1s					
G19K	Purcell Mounta	78.04	10	P	P	01 59 44.7 -0.5
G19K				IAmb	IAmb	01 59 58.2
	comp=Z,2.3nm,0.8s					
IMAR	Indian Mountai	78.62	8	P	P	01 59 48.5 +0.1
G31M	Satah River	78.88	0	P	P	01 59 49.3 -0.5
G31M				IAmb	IAmb	01 59 58.2
	comp=Z,2.4nm,0.7s					
J20K	Nowinta River	80.30	9	P	P	01 59 58.4 +0.8

AFAD ***25*** *02:12:21.6±0.0, 39°.41N×23°.93E, h12km±3km, ML3.1*
IDC ***25*** *02:12:24.8±1.4, 39°.50N×24°.22E, h0km, mb3.3/3, mbtmp3.4/6, ML3.0/3, MS3.1/3, Error ellipse: s-maj=35.1km s-min=16.3km az=102.0*
ISK ***25*** *02:12:25.2, 39°.65N×24°.08E, h12km, ML3.4/21*
ATH ***25*** *02:12:26.1, 39°.64N×24°.06E, h17km±2km, ML3.5/28, Manual Solution by I.Dede This location: 2020/07/03 22:50:48 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
THE ***25*** *02:12:26.4, 39°.64N×24°.05E, h7km, ML3.5/7, Error ellipse: s-maj=0.7km s-min=0.3km az=43.0*
NAO ***25*** *02:12:52.2, 41°.03N×21°.55E, h33km, mb3.0*
ISC 25 02:12:25.3±1.2, 39°.63N±0°.02×24°.04E±0°.02, h2km±9km, n203, σ0°89/244, mb3.4/3, 18C-9D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PAIG	Paliouri	0.41	317	Pg	Pb		02 12 34.3	-0.9
PAIG				Sg	Sb		02 12 40.4	-1.5
PAIG	Paliouri	0.41	317	P	Pb		02 12 34.9	-0.3
PAIG				S	Sb		02 12 39.7	-2.2
	10μm,0.3s							
OUR	Ouranopolis	0.70	356	P	Pb		02 12 40.0	-0.3
OUR				S	Sb		02 12 50.0	-0.5
OUR	Ouranopolis	0.70	356	P	Pb		02 12 39.9	-0.4
OUR				S	Sb		02 12 49.2	-1.2
NEO	Neokhori	0.71	243	P	Pb		02 12 40.4	0.0
NEO				S	Sb		02 12 51.0	+0.4
NEO	Neokhori	0.71	243	P	Pb		02 12 40.1	-0.3
NEO				S	Sb		02 12 50.0	-0.5
EFSA	Agios Efstrati	0.74	97	P	Pb		02 12 40.5	-0.4
EFSA				S	Sb		02 12 50.6	-0.7
SKY	Skiros Island	0.85	152	P	Pb		02 12 42.8	+0.1
SKY				S	Sb		02 12 54.3	-0.3
SKY	Skiros Island	0.85	152	P	Pb		02 12 42.4	-0.3
SKY				S	Sb		02 12 54.1	-0.4
PLG	Polygyros	0.87	329	P	Pb		02 12 42.3	-0.9
PLG				S	Sb		02 12 55.3	0.0
PLG	Polygyros	0.87	329	P	Pg		02 12 42.0	0.0
PLG				S	Sb		02 12 54.8	-0.5
LIA	Limnos Island	0.92	73	P	Pb		02 12 43.9	-0.1
LIA				S	Sb		02 12 56.9	+0.3
	4μm,0.3s							
LIA	Limnos Island	0.92	73	P	Pb		02 12 43.5	-0.4
LIA				S	Sg		02 12 55.5	+0.7
KYMI	Kymi, Euboea I	1.00	177	P	Pb		02 12 45.1	-0.1
KYMI				S	Sn		02 13 00.3	-0.6
KYMI	Kymi, Euboea I	1.00	177	P	Pb		02 12 44.8	-0.4
KYMI				S	Sn		02 12 59.5	-1.4
THAS	Thassos island	1.11	28	P	Pg		02 12 46.3	-0.2
THAS				S	Sb		02 13 02.8	+0.8
THAS	Thassos island	1.11	28	P	Pg		02 12 45.9	-0.6
KOKK	Kokkinochori,	1.19	358	P	Pb		02 12 48.0	-0.5
KOKK				S	Sn		02 13 05.6	0.0
KOKK	Kokkinochori,	1.19	358	P	Pg		02 12 47.8	-0.2
KOKK				S	Sg		02 13 03.0	-0.4
HORT	Hortiatis	1.21	324	Pn	Pb		02 12 48.6	-0.3
HORT				Sn	Sn		02 13 05.4	-0.9
HORT	Hortiatis	1.21	324	P	Pn		02 12 49.1	-0.2
HORT				S	Sn		02 13 06.4	+0.2
	1μm,0.3s							
HORT	Hortiatis	1.21	324	P	Pg		02 12 48.0	-0.4
HORT				S	Sn		02 13 05.3	-0.9
LRSO	Larissa Observ	1.27	272	P	Pn		02 12 49.5	-0.6
LRSO	Larissa Observ	1.27	272	P	Pb		02 12 49.3	-0.6
LRSO				S	Sn		02 13 06.9	-0.8
THE	Thessaloniki	1.30	321	P	Pn		02 12 50.0	-0.4
THE				S	Sn		02 13 08.2	-0.1
THE	Thessaloniki	1.30	321	P	Pn		02 12 50.0	-0.4
SOH	Sokhos	1.30	336	P	Pn		02 12 50.1	-0.4
SOH				S	Sn		02 13 08.6	+0.1
KVLA	Kavala	1.33	11	P	Pg		02 12 49.4	-1.4
AXAR	Agios Charalam	1.38	232	P	Pn		02 12 50.9	-0.6
AXAR				S	Sn		02 13 10.8	+0.5
AXAR	Agios Charalam	1.38	232	P	Pn		02 12 50.9	-0.6
TYRN	Tyrnavos	1.40	274	P	Pn		02 12 51.1	-0.7
TYRN	Tyrnavos	1.40	274	P	Pn		02 12 51.0	-0.7
KAVA	Kavala	1.41	15	P	Pn		02 12 50.6	-1.4
KAVA				S	Sb		02 13 10.9	+0.1
	885nm,0.4s							
KAVA	Kavala	1.41	15	P	Pn		02 12 50.5	-1.4
SMTH	Samothraki Isl	1.42	53	P	Pn		02 12

EZN	Ezine	1.77	83	Pn	Pn	02 12 56.3	-0.6
EZN	Ezine	1.77	83	P	Pn	02 12 57.2	+0.3
EZN				S	Sb	02 13 20.8	-0.4
VLY	Voula,Athens	1.79	186	P	Pn	02 12 56.3	-0.8
VLY	Voula,Athens	1.79	186	P	Pn	02 12 56.1	-1.0
EZNE	Ezine-Canakkal	1.80	85	Pn	Pn	02 12 56.7	-0.6
LOUT	Loutraki	1.84	207	P	Pn	02 12 56.9	-1.0
LOUT	Loutraki	1.84	207	P	Pn	02 12 56.7	-1.1
CNKL	anakkale-Mer	1.86	76	P	Pn	02 12 57.0	-1.1
CNKL				*i* AML	AML	02 13 27.0	
	comp=N,175nm,0.4s						
CNKL				*i* AML	AML	02 13 32.0	
	comp=E,130nm,0.7s						
EVR	Evrytania	1.87	248	P	Pb	02 12 59.1	-1.2
EVR	Evrytania	1.87	248	P	Pb	02 12 59.1	-1.2
RDO	Rodhopi	1.90	37	Pn	Pn	02 12 57.3	-1.4
RDO	Rodhopi	1.90	37	P	Pn	02 12 57.7	-1.0
RDO	Rodhopi	1.90	37	P	Pn	02 12 57.2	-1.5
KALE	Kalithea	1.93	231	P	Pn	02 12 58.5	-0.7
KALE				S	Sn	02 13 24.0	0.0
KALE	Kalithea	1.93	231	P	Pn	02 12 58.3	-0.8
COMU	Canakkale	1.93	75	Pn	Pn	02 12 58.3	-0.8
BAYC	CANAKKALE_Bayr	1.94	86	P	Pn	02 12 58.2	-1.0
BAYC				S	Sn	02 13 21.4	-2.7
BAYC				*i* AML	AML	02 13 29.0	
	comp=N,120nm,0.3s						
BAYC				*i* AML	AML	02 13 29.0	
	comp=E,96nm,0.4s						
CAVK	Edirne/Enez-Ca	1.94	56	P	Pn	02 12 59.6	+0.3
CAVK				S	Sg	02 13 29.1	+1.3
CAVK				*i* AML	AML	02 13 32.0	
	comp=N,222nm,0.7s						
CAVK				*i* AML	AML	02 13 37.0	
	comp=E,253nm,0.6s						
ANX	Ano Chora	1.95	239	P	Pn	02 12 59.3	-0.1
ANX	Ano Chora	1.95	239	P	Pn	02 12 59.0	-0.5
ENEZ	Enez	1.96	55	Pn	Pn	02 12 59.1	-0.4
ENEZ	Enez	1.96	55	P	Pn	02 12 59.1	-0.4
ALN	Alexandroupoli	1.99	50	P	Pn	02 12 59.2	-0.7
ALN	Alexandroupoli	1.99	50	P	Pn	02 12 58.1	-1.8
CHOS	Chios island	2.00	128	P	Pn	02 12 59.9	-0.3
GELI	Tayfur-Gelibol	2.02	67	Pn	Pn	02 12 59.0	-1.3
ALIK	Aliki, Aigiali	2.03	228	P	Pn	02 13 00.3	-0.2
EFP	Efpalio	2.05	235	P	Pn	02 13 00.4	-0.4
EFP	Efpalio	2.05	235	P	Pn	02 13 00.2	-0.6
AYVA	Ayvalik	2.08	98	P	Pn	02 13 01.4	+0.3
AYVA				*i* AML	AML	02 13 39.0	
	comp=N,257nm,0.6s						
AYVA				*i* AML	AML	02 13 39.0	
	comp=E,193nm,0.8s						
KPRO	Kipourio	2.09	280	P	Pn	02 13 01.9	+0.5
KPRO	Kipourio	2.09	280	P	Pn	02 13 01.4	0.0
EPID	Epidavros	2.14	200	P	Pn	02 13 01.1	-0.9
EPID	Epidavros	2.14	200	P	Pn	02 13 01.0	-1.0
GUR	Goura	2.15	219	P	Pn	02 13 01.5	-0.7
GUR	Goura	2.15	219	P	Pn	02 13 01.2	-1.0
ERIK	Erikli-Kesan	2.16	60	Pn	Pn	02 13 00.6	-1.7
KLV	Kalavryta, Ach	2.17	224	P	Pn	02 13 02.0	-0.4
KLV	Kalavryta, Ach	2.17	224	P	Pn	02 13 01.5	-0.9
PVO	Paravola	2.20	243	P	Pn	02 13 03.2	+0.4
PVO	Paravola	2.20	243	P	Pn	02 13 02.9	0.0
UPR	University Cam	2.21	233	P	Pn	02 13 03.0	0.0
LPK	Lapseki	2.22	70	Pn	Pn	02 13 02.4	-0.7
KDZ	Kurdzhali	2.23	26	Pn	Pn	02 13 02.1	-1.2
TNSA	Tinos	2.27	157	P	Pn	02 13 02.9	-0.8
DKL	Dikili	2.29	103	Pn	Pn	02 13 03.7	-0.3
PENT	Pentalofos	2.30	285	P	Pn	02 13 04.7	+0.4
YDRA	Hydra	2.32	191	P	Pn	02 13 03.5	-0.9
FNA	Florina	2.34	300	Pn	Pn	02 13 04.8	-0.1
FNA	Florina	2.34	300	P	Pn	02 13 05.3	+0.4
FNA	Florina	2.34	300	P	Pn	02 13 05.0	+0.2
KRND	KRANIDI	2.35	198	P	Pn	02 13 04.2	-0.7
KRND				S	Sn	02 13 34.6	+0.3
KRND	KRANIDI	2.35	198	P	Pn	02 13 03.7	-1.2
BUHA	Balikesir, Bur	2.35	92	P	Pn	02 13 04.9	0.0
BUHA				S	Sg	02 13 41.8	+1.0
BUHA				*i* AML	AML	02 13 44.0	
	comp=N,118nm,0.5s						
BUHA				*i* AML	AML	02 13 47.0	
	comp=E,136nm,0.7s						
NEST	Nestorio	2.43	290	P	Pn	02 13 06.5	+0.4
JAN	Janina	2.46	272	P	Pn	02 13 07.2	+0.7
DRO	Drossia	2.47	228	P	Pn	02 13 06.2	-0.4
DRO	Drossia	2.47	228	P	Pn	02 13 06.0	-0.6
RLS	Riolos of Patr	2.55	233	P	Pn	02 13 07.8	+0.2
RLS	Riolos of Patr	2.55	233	P	Pn	02 13 07.9	+0.3
PLD	Plovdiv	2.57	12	Pn	Pn	02 13 06.9	-1.0
RKY	Sarkoy-Tekirda	2.63	65	Pn	Pn	02 13 08.6	-0.1
SOMA	Soma-Manisa	2.75	99	Pn	Pn	02 13 10.3	-0.1
TSLK	Tsoukalades, L	2.75	254	P	Pn	02 13 10.7	+0.3
NYDR	Nydri-Lefkada	2.75	252	P	Pn	02 13 10.8	+0.4
NYDR	Nydri-Lefkada	2.75	252	P	Pn	02 13 11.5	+1.1
LKD2	Lefkada island	2.76	253	P	Pb	02 13 12.4	-2.9
APE	Apeiranthos	2.81	155	Pn	Pn	02 13 10.5	-0.8
APE	Apeiranthos	2.81	155	⇑P	Pn	02 13 10.4	-0.9
EVGI	Lefkada island	2.82	250	P	Pn	02 13 13.1	+1.7
SMG	Samos	2.91	130	P	Pn	02 13 12.4	-0.2
MHLO	Agia Marina, M	2.95	174	P	Pn	02 13 12.8	-0.3
MHLO	Agia Marina, M	2.95	174	P	Pn	02 13 12.4	-0.7
ITM	Ithomi	2.96	215	P	Pn	02 13 13.6	+0.4
EDRB	Edirne	3.02	42	Pn	Pn	02 13 13.9	-0.2
EDRB	Edirne	3.02	42	P	Pn	02 13 14.0	-0.2
VLI	Veliai	3.03	197	P	Pn	02 13 13.9	-0.4
VLI	Veliai	3.03	197	P	Pn	02 13 13.2	-1.1
KEK	Kerkira	3.27	273	P	Pn	02 13 18.4	+0.8
PYL	PYLOS	3.27	214	P	Pn	02 13 18.6	+1.0
CMBO	Columbo, Santo	3.33	161	P	Pn	02 13 18.3	-0.1
THR5	Thira Island,	3.37	162	P	Pn	02 13 18.3	-0.6
THR3	Thira Island,	3.39	161	P	Pn	02 13 19.4	+0.2
THR8	Santorini-Mono	3.41	160	P	Pn	02 13 19.8	+0.3
THR6	Thira Island,	3.44	161	P	Pn	02 13 19.9	+0.1
SANT	Santorini	3.44	161	Pn	Pn	02 13 20.3	+0.4
SANT	Santorini	3.44	161	⇑P	Pn	02 13 19.1	-0.8
AYDB	Zeytinkoy-Aydi	3.45	118	Pn	Pn	02 13 20.2	+0.1
ELND	Elena	3.57	22	⇓P	Pn	02 13 21.4	-0.4
BODT	Bodrum	3.63	134	Pn	Pn	02 13 22.7	+0.2
IMMV	Iera Moni Meta	4.16	181	P	Pn	02 13 30.0	+0.2
IMMV	Iera Moni Meta	4.16	181	P	Pn	02 13 29.1	-0.8
BOVS	Bovan	4.37	337	⇑P	Pn	02 13 33.9	+1.3
IDI	Anoyia	4.39	171	Pn	Pn	02 13 32.3	-0.6
	4.3nm,0.3s,baz=350,slow=11,SNR=28						
	24nm,0.5s						
PDG	Podgorica	4.57	309	⇑P	Pn	02 13 36.8	+1.4
KARP	Karpathos	4.77	148	P	Pn	02 13 38.3	+0.1
SRE	Strehaia	5.07	353	⇓P	Pn	02 13 43.2	+1.0
HERR	Herculane	5.38	348	⇑P	Pn	02 13 47.3	+0.7
DBRK	Dubrovnik	5.39	306	*e*Pn	Pn	02 13 46.7	+0.1
MDVR	Moldovita	5.43	342	⇑P	Pn	02 13 48.1	+0.8
TIP	Timpagrande	5.66	268	⇑P	Pn	02 13 51.0	+0.5
LOT	Lotru	5.82	358	⇑P	Pn	02 13 53.1	+0.5
GZR	Gura Zlata	5.83	351	⇑P	Pn	02 13 53.1	+0.3
VOIR		5.85	7	⇓P	Pn	02 13 53.5	+0.4
TNR	Turnu Rosu	6.02	2	⇓P	Pn	02 13 56.4	+1.1
MLR	Muntele Rosu	6.02	13	Pn	Pn	02 13 56.1	+0.6
	0.7nm,0.3s,baz=194,slow=12,SNR=11						
MLR				Lg	Lg	02 15 43.3	
	0.4nm,0.3s,baz=103,slow=19,SNR=2.2						
	3.8nm,0.5s						
MLR	Muntele Rosu	6.02	13	⇑P	Pn	02 13 55.9	+0.4
NEHR	Nehoiu	6.03	15	⇑P	Pn	02 13 56.1	+0.6
BZS	Buzias	6.25	344	⇓P	Pn	02 13 59.3	+0.9
FRGS	Fruska Gora	6.35	332	⇓P	Pn	02 14 01.2	+1.4
DOPR	Dopca	6.41	8	⇑P	Pn	02 14 01.5	+0.8
RICI	Ricice	6.46	309	*e*Pn	Pn	02 14 01.6	+0.2
RICI				Sn	Sn	02 15 14.6	-1.1
PLOR	Plostina	6.51	16	⇑P	Pn	02 14 02.6	+0.5
VRI	Vrincioaia	6.54	17	⇑P	Pn	02 14 03.6	+1.2
BOSR	Bodos	6.55	10	⇓P	Pn	02 14 04.0	+1.4
TURR	Turia	6.58	12	⇑P	Pn	02 14 03.9	+0.8
HVAR	Hvar	6.72	304	*e*Pn	Pn	02 14 03.7	-1.2
SIRR	Siria	6.86	346	⇑P	Pn	02 14 07.9	+1.0
MARR	Marisel-Cluj	7.08	355	⇓P	Pn	02 14 09.9	0.0
TESR	Tescani	7.14	15	⇑P	Pn	02 14 11.1	+0.4
KIJV	Kijevo	7.18	310	*e*Pn	Pn	02 14 12.1	+0.7
KIJV				Sn	Sn	02 15 31.7	-1.8
BRTR	Keskin Array B	7.41	86	Pn	Pn	02 14 13.9	-0.6
	0.1nm,0.3s,baz=257,slow=11,SNR=4.3						
BRTR				LR	LR	02 17 36.1	
	comp=Z,50nm,19.5s,baz=152,slow=43						
	0.4nm,0.6s						
ZIRJ	Zirje	7.46	305	*i* Pn	Pn	02 14 14.7	-0.4
MORI	Morici	7.53	307	*e*Pn	Pn	02 14 16.2	+0.1
DUGI	Dugi Otok	8.00	306	*e*Pn	Pn	02 14 21.9	-0.5
BURAR	Bucovina Array	8.03	6	⇑P	Pn	02 14 23.5	+0.5
VIRC	Vir	8.15	308	*e*Pn	Pn	02 14 23.7	-0.9
NVLJ	Novalja	8.41	309	*e*Pn	Pn	02 14 27.4	-0.7
SORM	Soroca	9.05	19	⇓P	Pn	02 14 37.1	+0.3
AKASG	Malin Array Be	11.66	17	LR	LR	02 20 30.2	
	comp=Z,40nm,19.9s,baz=68,slow=41						
KHC	Kasperske Hory	12.08	325	*e*P	Pn	02 15 20.5	+2.1
KHC				*ex*	x	02 26 23.0	
FINES	FINESS Array B	21.88	3	P	P	02 17 21.4	+2.3
	2.5nm,1.0s,baz=224,slow=5.8,SNR=5.5						
	2.5nm,1.0s						
NB2	NORSAR Subarra	22.86	344	P	P	02 17 32.6	+2.9
	comp=Z,0.9nm,0.9s,baz=158,slow=11						
NOA	NORSAR Array B	22.86	344	P	P	02 17 32.2	+2.5
	comp=Z,0.3nm,0.7s,baz=157,slow=11,SNR=3.7						
	comp=Z,0.3nm,0.7s						
TORD	Torodi Ar. Bea	32.92	223	P	P	02 19 00.4	-0.8
	comp=Z,0.2nm,0.4s,baz=36,slow=9.1,SNR=5.3						
	comp=Z,0.2nm,0.4s						
AAK	Ala-Archa	37.67	69	LR	LR	02 38 21.3	
	comp=Z,129nm,18.3s,baz=162,slow=41						

ISN ***25*** *02:12:40.6±0.3, 34°.68N×46°.25E, h14km±4km, ML2.6*
TEH ***25*** *02:12:41.4, 34°.66N×46°.24E, h10km±33km, ML2.7*
ISC 25 02:12:41.7±1.4, 34°.67N±0°.05×46°.24E±0°.05, h8km±13km, n11, σ0s.42/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.13	76	Pg	Pg	02 12 45.0	+0.3
IGHG	Ghaleghazi	0.44	141	Pg	Pg	02 12 50.4	+0.1
GLG1	Gilan-e-Gharb	0.62	206	Pg	Pg	02 12 53.5	-0.2
ILIN	Lien	0.65	67	Pg	Pg	02 12 53.9	-0.4
KCHF	Cheshme Sefid,	0.77	120	Pg	Pg	02 12 56.1	-0.5
ILBA	Ilam Banvizeh	1.04	181	Pg	Pb	02 13 01.3	-0.7
SNQR	Sonqor, Kerman	1.16	80	Pg	Pb	02 13 03.9	-0.3
IBZA	Bozab	1.36	98	Pg	Pb	02 13 07.5	0.0
IBDR	Badra	1.58	189	*e*Pn	Pn	02 13 10.0	+0.1
IBDR				*e*Sn	Sb	02 13 31.5	+0.4
IBDR				AML	AML	02 13 38.1	
	comp=E,118nm,0.4s						
IBDR				AML	AML	02 13 44.9	
	comp=N,65nm,0.6s						
IKRK	Kirkuk	1.72	296	*e*Pn	Pn	02 13 12.0	+0.1
IKRK				*e*Sn	Sb	02 13 35.0	-0.2
IKRK				AML	AML	02 13 41.9	
	comp=N,92nm,0.7s						
IKRK				AML	AML	02 13 45.5	
	comp=E,79nm,0.3s						
BHD	Baghdad	2.08	228	*e*Pn	Pn	02 13 17.0	+0.2
BHD				*e*Sn	Sn	02 13 43.5	+0.7

TRN 25 02:26:31.3, 15°.06N×61°.11W, h167km, MD3.9, 5C-7D, South-east of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVN	Savane Anatole	0.22	194	*e*P	Pn	02 26 54.9	+1.2
SVN				*e*S	Sn	02 27 11.9	+1.0
BAMF	Morne Balai	0.24	188	⇓*e*P	Pn	02 26 54.9	+1.1
CXM	Morne La Croix	0.25	192	⇓*e*P	Pn	02 26 55.2	+1.3
PCM	Pelee Case Pet	0.26	201	⇑*e*P	Pn	02 26 54.6	+0.8
PCM	Pelee Case Pet	0.26	201	⇑*e*P	Pn	02 26 54.9	+1.1
GBMF	Grand Be	0.26	191	⇑*e*P	Pn	02 26 54.8	+1.0
FDF	Fort de France	0.32	186	*e*P	Pn	02 26 54.9	+0.9
ILAM	Ilet Lapin Mar	0.36	140	*e*P	Pn	02 26 54.9	+0.9
ILAM				*e*S	Sn	02 27 11.3	-0.1
LPMF	Morne Lapointe	0.50	163	⇓*e*P	Pn	02 26 55.1	+0.5
TRMF	Trois Ilets	0.52	173	⇑*e*P	Pn	02 26 56.1	+1.4
BIM	Bigot	0.54	176	*e*P	Pn	02 26 55.8	+1.0
BIM				*e*S	Sn	02 27 13.5	+0.6
MVM	Montagne Vaucl	0.54	157	⇓*e*P	Pn	02 26 55.6	+0.8
MPOM	Morne Pois Mar	0.66	158	*e*P	Pn	02 26 56.1	+0.8
MAGL	Barre de l'ile	0.90	350	⇓*e*P	Pn	02 26 57.8	+0.8
TDBA	Terre de Bas,	0.94	328	⇓*e*P	Pn	02 26 58.0	+0.9
TBG	Guadaloupe-3	0.94	327	*e*P	Pn	02 26 57.9	+0.7
TBG				*e*S	Sn	02 27 18.0	+0.8
SLBI	Saint Lucia, B	1.04	172	*e*P	Pn	02 26 58.3	+0.6
SLBI				*e*S	Sn	02 27 18.0	-0.5
CBE	Ff, Capester	1.11	335	⇓*e*P	Pn	02 26 59.4	+0.7
SLB	Belfond	1.22	177	*e*S	Sn	02 27 21.8	+0.4
ABD	La Joyeuse, An	1.46	346	⇑*e*P	Pn	02 27 02.5	+0.9
SVB	Belmont	1.78	184	*e*P	Pn	02 27 05.7	+0.6
SVB				*e*S	Sn	02 27 30.9	-0.3
SVT	Saint Vincent	1.88	184	*e*P	Pn	02 27 06.9	+0.8
SVT				*e*S	Sn	02 27 33.4	+0.3
SVOC	Richmond Hill,	1.89	183	*e*P	Pn	02 27 06.6	+0.3
SVOC				*e*S	Sn	02 27 32.9	-0.5
MBFL	Flemmings, Mon	1.99	328	*e*P	Pn	02 27 08.5	+1.2
MBFL				*e*S	Sn	02 27 35.2	-0.1
ANBD	Bethesda, Anti	2.08	343	*e*P	Pn	02 27 08.6	+0.3
ANBD				*e*S	Sn	02 27 35.8	-1.2
BBGH	Gun Hill	2.43	141	*e*P	Pn	02 27 13.5	+1.1
BBGH				*e*S	Sn	02 27 44.8	+0.5
GCMP	Grenada, Carri	2.57	187	*e*P	Pn	02 27 14.8	+0.7
GCMP				*e*S	Sn	02 27 47.1	-0.3
GRGR	Grenville	2.95	190	*e*P	Pn	02 27 19.6	+0.8
GRGR				*e*S	Sn	02 27 55.6	-0.1
GRFF	Grenada Fort F	3.05	192	*e*P	Pn	02 27 20.5	+0.5
GRFF				*e*S	Sn	02 27 57.6	-0.3
TRN	Trinidad (W)	4.39	184	*e*P	Pn	02 27 38.1	+1.1
TRN				*e*S	Sn	02 28 25.8	-2.7

TAP ***25*** *02:33:35.9, 22°.08N×120°.24E, h43km±1km, ML3.5, D*
JMA ***25*** *02:33:36.9±0.1, 22°.0N±0°.8×12°0E±°, h55km±1km, MV4.1/11, TAIWAN REGION*
ISC 25 02:33:35.9±1.8, 22°.04N±0°.07×120°.23E±0°.05, h42km±14km, n90, σ0s.89/115, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	Hsiaoliuchiu	0.33	22	*e*P	Pn	02 33 44.8	+0.1
	baz=24						
HEN	Hengchun	0.48	94	*i* P	Pn	02 33 46.4	+0.1
	baz=99						
HEN				*i* S	Sn	02 33 54.6	+0.8
	baz=99						
SCZT	Fangliau	0.49	48	*i* P	Pn	02 33 46.0	-0.6
	baz=51						
SCZT				*e*S	Sn	02 33 53.5	-0.7
	baz=51						
TWK1	Hengchun	0.55	100	*i* P	Pn	02 33 47.4	+0.1
	baz=104						
TWK1				*i* S	Sn	02 33 55.8	+0.4
	baz=104						
TWKBT	Hengchun	0.55	100	*i* P	Pn	02 33 47.4	0.0
	baz=104						
TWKBT				S	Sn	02 33 56.1	+0.5
	baz=104						
SLIU	Shizi	0.56	72	*i* P	Pn	02 33 46.9	-0.6
	baz=75						
SLIU				*i* S	Sn	02 33 55.5	-0.3
	baz=75						
SMST	Manzhou Townsh	0.57	92	P	Pn	02 33 47.5	-0.1
	baz=96						
SMST				S	Sn	02 33 56.2	+0.3
	baz=96						
EAST	Anshuo	0.67	59	P	Pn	02 33 48.6	-0.4
	baz=62						
MASBT	Mashibuluo	0.68	33	P	Pn	02 33 48.6	-0.5
	baz=34						
TAWH	Dawu Township	0.68	64	*e*P	Pn	02 33 48.6	-0.5
	baz=66						
TAWH				*e*S	Sn	02 33 58.2	-0.4
	baz=66						
TAW	Tawu	0.70	63	*e*P	Pn	02 33 49.1	-0.2
	baz=66						
TWM1	Shoushan	0.80	13	*e*P	Pn	02 33 51.6	+0.9
	baz=13						
ECL	Taimali	0.87	50	P	Pn	02 33 51.3	-0.4
	baz=52						
SCST	Cishan	0.88	16	*e*P	Pn	02 33 52.3	+0.5
	baz=16						
SLGT	Liugui	1.02	22	*e*P	Pn	02 33 53.8	0.0
	baz=22						
SGST	Jiashian	1.09	18	*e*P	Pn	02 33 53.8	-0.9
	baz=18						
SSHA	Shanhua	1.09	3	*e*S	Sn	02 34 09.7	+1.1
	baz=2.0						
TWG	Pinlang	1.10	45	P	Pn	02 33 55.0	+0.1
	baz=46						
TWGBT	Beinan	1.10	45	P	Pn	02 33 55.3	+0.4
TWGBT	Beinan	1.10	45	*e*P	Pn	02 33 55.3	+0.4
	baz=46						
TSCK	Chigu Township	1.11	353	*e*P	Pn	02 33 54.9	-0.1
	baz=352						
TSCK				*e*S	Sn	02 34 08.5	-0.5
	baz=352						
CHN1	Nanshi	1.17	14	*e*P	Pn	02 33 55.8	-0.1
	baz=13						
SNST	Tainan City	1.20	12	*e*P	Pn	02 33 56.7	+0.5
	baz=11						
LONT	Longtian	1.20	44	*e*P	Pn	02 33 56.7	+0.5
	baz=45						
LAY	Lan-yu	1.23	90	*e*P	Pn	02 33 55.8	-0.8
	baz=92						
STYH	Taoyuan	1.23	24	*e*P	Pn	02 33 57.2	+0.6
	baz=24						
TWK	Hsinying	1.24	11	*e*P	Pn	02 33 56.8	-0.1
	baz=11						
TWK				*e*S	Sn	02 34 11.8	-0.7
	baz=11						
WTP	Ta-pu	1.25	17	*e*P	Pn	02 33 56.8	-0.2
	baz=17						
TPUB	Ta-pu	1.31	16	P	Pn	02 33 57.6	-0.1
TPUB	Ta-pu	1.31	16	P	Pn	02 34 01.5	+3.8
TPUB	Ta-pu	1.31	16	*e*P	Pn	02 33 57.3	-0.4
	baz=16						
LDUT	Ludao	1.31	61	P	Pn	02 33 57.5	-0.2
	baz=62						
ICHU	Yijhu	1.31	2	*e*P	Pn	02 33 57.9	+0.2
	baz=1.0						
WDGT	Dungji	1.32	337	*e*P	Pn	02 33 58.1	+0.3
	baz=335						
WDGT				*e*S	Sn	02 34 13.5	-0.8
	baz=335						
ELDTW	Lidau	1.36	32	*e*P	Pn	02 33 58.6	+0.2
	baz=33						
VCHM	Qimei	1.38	328	*e*P	Pn	02 33 58.6	0.0
	baz=326						
VCHM				*e*S	Sn	02 34 15.2	-0.4
	baz=326						
EHD	Haiduan	1.43	39	*e*P	Pn	02 33 59.8	+0.5
	baz=40						
WCKO	Fanlu	1.43	14	*e*P	Pn	02 33 59.2	-0.2
	baz=14						
WCKO				*e*S	Sn	02 34 16.4	-0.7
	baz=14						
FULB	Fuli	1.52	40	*e*P	Pn	02 34 01.6	+1.0
	baz=41						
CHKH	Chenggong	1.57	43	*e*P	Pn	02 34 01.8	+0.5
	baz=44						
WSF	Szhu	1.59	360	*e*S	Sn	02 34 20.4	-0.4
	baz=359						
CHN5	Tsauling	1.60	15	P	Pn	02 34 01.5	-0.3
	baz=15						
CHN5				*i* S	Sn	02 34 20.5	-0.8
	baz=15						
TWF1	Yuli	1.64	37	*e*P	Pn	02 34 02.9	+0.7
	baz=37						
TWF1				*e*S	Sn	02 34 21.5	-0.5
	baz=37						
PNG	Penghu	1.64	338	*e*P	Pn	02 34 02.3	+0.1
	baz=337						
PNG				*e*S	Sn	02 34 21.1	-1.0
	baz=337						
EYUL	Yuli	1.65	38	*e*P	Pn	02 34 03.5	+1.2
	baz=38						
WTK	Tuku	1.65	5	*e*P	Pn	02 34 02.0	-0.3
	baz=4.0						
WDLH	Douliu	1.67	10	*e*P	Pn	02 34 02.4	-0.2
	baz=9.0						
WDLH				*i* S	Sn	02 34 22.4	-0.3
	baz=9.0						
YULB	Yu-li	1.67	36	P	Pn	02 34 03.4	+0.7
YULB	Yu-li	1.67	36	*e*P	Pn	02 34 03.3	+0.6
	baz=36						
WHYT	Xinyi Township	1.75	19	*e*P	Pn	02 34 03.6	-0.2
	baz=19						
EHY	Hungye	1.77	35	*e*P	Pn	02 34 04.8	+0.7
	baz=35						
HGSD	Ruisui	1.82	37	*e*P	Pn	02 34 06.0	+1.3
	baz=37						
WRL	Guolierlin Hig	1.86	4	*e*S	Sn	02 34 26.5	-1.0
	baz=4.0						
SSLB	Suanglung	1.86	21	P	Pn	02 34 05.6	+0.3
SSLB	Suanglung	1.86	21	P	Pn	02 34 05.7	+0.4
SSLB	Suanglung	1.86	21	*e*P	Pn	02 34 05.3	0.0
	baz=21						
VWDT	VWDT	1.90	26	*e*P	Pn	02 34 06.5	+0.7
	baz=26						
SMLT	Sun Moon Lake	1.94	19	*e*P	Pn	02 34 06.6	+0.2
	baz=19						
TYC	Yuchr	1.94	17	*e*P	Pn	02 34 06.8	+0.4
	baz=17						
TYC				*e*S	Sn	02 34 29.3	-0.2
	baz=17						
WARBT	Fenglin Townsh	1.98	32	*e*P	Pn	02 34 07.5	+0.6
	baz=33						
WCS	Beigang Elemen	2.10	17	*e*P	Pn	02 34 08.8	+0.2
	baz=17						
WCS				*e*S	Sn	02 34 32.9	-0.7
	baz=17				

az=123.0, Nebraska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K30B	**Basset**	**1.34**	**17**		Pn	02 37 34.2	-0.9
K30B					Sg	02 37 51.0	-1.7
OGNE	**Ogallala**	**1.49**	**253**		Pn	02 37 36.1	-1.0
OGNE					Sn	02 37 55.6	-1.4
BGNE	**Belgrade**	**1.51**	**89**		Pn	02 37 36.1	-1.2
CBKS	**Cedar Bluff**	**2.60**	**173**	Pn	Pn	02 37 52.1	-0.3
L34A	**Svendsen Farm,**	**2.89**	**77**	Pn	Pn	02 37 55.8	-0.5
KSCO	**Kaye Shedlock'**	**3.04**	**219**	Pn	Pn	02 37 58.2	-0.4
SUSD	**Miller**	**3.17**	**16**	Pn	Pn	02 38 01.3	+1.1
ECSD	**EROS Data Cent**	**3.51**	**47**	Pn	Pn	02 38 04.5	-0.3
RSSD	**Black Hills**	**3.95**	**315**	IAmb_Lg		02 39 18.7	
	comp=Z,2.7nm,0.8s						
N23A	**Red Feather La**	**4.40**	**265**	Pn	Pn	02 38 16.1	-1.2
ISCO	**Idaho Springs**	**4.45**	**251**	Pn	Pn	02 38 17.4	-0.6
Q24A	**Divide**	**4.53**	**239**	Pn	Pn	02 38 18.3	-0.9
Q24A				IAmb_Lg		02 39 41.9	
	comp=Z,3.4nm,0.9s						

IDC 25 02:38:20.7±2.0, 5°.27S×125°.26E, h0km, mb3.4/2, mbtmp3.5/3, MS3.4/1, Error ellipse: s-maj=210.5km s-min=30.3km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.05**	**150**	P	P	02 42 22.2	-0.5
	0.8nm,0.9s,baz=324,slow=13,SNR=4.0						
ASAR	**Alice Springs**	**20.10**	**156**	P	P	02 42 55.5	-0.6
	1.6nm,0.8s,baz=334,slow=10,SNR=13						
	1.6nm,0.8s						
ASAJ	**Asahikawa**	**51.58**	**16**	LR	LR	03 07 03.0	
	comp=Z,38nm,21.3s,baz=181,slow=33						
MKAR	**Makanchi Array**	**64.26**	**329**	P	P	02 48 57.8	0.0
	0.3nm,0.6s,baz=122,slow=7.7,SNR=2.5						
	0.3nm,0.6s						

IDC 25 02:41:45.1±2.4, 6°.36S×130°.75E, h0km, mb3.9/1, mbtmp3.7/3, ML3.9/2, MS3.5/1, Error ellipse: s-maj=141.2km s-min=31.3km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.95**	**166**	Pn	Pn	02 45 04.0	-0.3
	0.7nm,0.3s,baz=350,slow=13,SNR=17						
WRA				Sn	Sn	02 47 21.8	-18
	0.4nm,0.3s,baz=329,slow=24,SNR=3.4						
	0.9nm,0.4s						
DAV	**Davao City (W)**	**14.30**	**339**	LR	LR	02 51 12.0	
	comp=Z,176nm,18.1s,baz=178,slow=40						
ASAR	**Alice Springs**	**17.48**	**170**	P	Pn	02 45 50.7	+0.2
	0.3nm,0.3s,baz=337,slow=8.8,SNR=8.9						
ASAR				S	Sn	02 48 48.9	-17
	0.5nm,0.4s,baz=342,slow=24,SNR=6.5						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**68.10**	**326**	P	P	02 52 46.9	0.0
	0.4nm,0.4s,baz=122,slow=8.1,SNR=7.8						
	0.4nm,0.4s						

*NORS **25** 02:43:07.8, 42°.48N×43°.44E, h7km, MPVA3.3*
*AFAD **25** 02:43:08.6±0.0, 42°.59N×43°.58E, h6km±3km, ML2.0*

ISC 25 02:43:09.0±1.2, 42°.52N±0°.03×43°.52E±0°.04, h6km±11km, n14, σ0°.58/28, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.38**	**7**	*e*Pg	**Pg**	**02 43 16.3**	**-0.2**
DIGR				*e*Sg	**Sg**	**02 43 22.1**	**+0.5**
KORR	**Kora**	**0.69**	**35**	*e*Pg	**Pb**	**02 43 22.9**	**-0.6**
KORR				*e*Sg	**Sb**	**02 43 34.0**	**+0.5**
GUDG	**Gudauri**	**0.71**	**94**	*e*Pg	**Pg**	**02 43 22.7**	**+0.1**
GUDG				*e*Sg	**Sb**	**02 43 34.0**	**0.0**
LSNR	**Lesken**	**0.79**	**16**	*e*Pg	**Pg**	**02 43 24.5**	**+0.3**
LSNR				*e*Sg	**Sb**	**02 43 35.8**	**-0.4**
ARNR	**Ardon**	**0.87**	**40**	*e*Pg	**Pb**	**02 43 26.4**	**-0.1**
ARNR				*e*Sg	**Sn**	**02 43 40.4**	**-0.4**
STDR	**Stavd-Durt**	**0.94**	**25**	*e*Pg	**Pn**	**02 43 28.5**	**-0.2**
STDR				*e*Sg	**Sn**	**02 43 42.5**	**0.0**
NCK	**Nalchik**	**0.98**	**3**	*e*Pg	**Pb**	**02 43 28.2**	**-0.2**
NCK				*e*Sg	**Sn**	**02 43 43.0**	**-0.5**
EPOS	**Posof**	**1.17**	**210**	P	**Pg**	**02 43 30.7**	**-0.8**
EPOS				S	**Sb**	**02 43 47.3**	**+0.1**
EPOS				*i* AML	AML	02 43 49.0	
	comp=N,20nm,0.4s						
EPOS				*i* AML	AML	02 43 51.0	
	comp=E,14nm,0.3s						
SHA1	**Shidzhatmaz**	**1.37**	**333**	*e*Pg	**Pb**	**02 43 35.1**	**-0.1**
SHA1				*e*Sg	**Sg**	**02 43 52.9**	**-0.3**
AHAN	**Ardahan-Merkez**	**1.51**	**207**	P	**Pn**	**02 43 36.6**	**-0.2**
AHAN				S	**Sg**	**02 43 58.0**	**+0.5**
AHAN				*i* AML	AML	02 44 00.0	
	comp=N,15nm,0.3s						
AHAN				*i* AML	AML	02 44 02.0	
	comp=E,26nm,0.5s						
DBOC	**Borcka**	**1.81**	**230**	P	**Pn**	**02 43 41.0**	**+0.3**
DBOC				S	**Sb**	**02 44 05.2**	**-0.4**
DBOC				*i* AML	AML	02 44 06.0	
	comp=E,28nm,0.3s						
DAGI	**Agillar**	**1.88**	**220**	P	**Pn**	**02 43 42.7**	**+1.0**
DAGI				S	**Sb**	**02 44 08.2**	**+0.8**
DAGI				*i* AML	AML	02 44 09.0	
	comp=E,9.0nm,0.4s						
DAGI				*i* AML	AML	02 44 17.0	
	comp=N,8.2nm,1.2s						
DBAD	**Bademkaya**	**2.03**	**223**	P	**Pn**	**02 43 45.1**	**+1.3**
DBAD				S	**Sb**	**02 44 12.3**	**+0.4**
DBAD				*i* AML	AML	02 44 15.0	
	comp=N,24nm,0.4s						
DBAD				*i* AML	AML	02 44 15.0	
	comp=E,22nm,0.5s						
DDEM	**Demirkent**	**2.10**	**220**	P	**Pb**	**02 43 46.6**	**-0.9**
DDEM				S	**Sb**	**02 44 14.7**	**+0.9**
DDEM				*i* AML	AML	02 44 15.0	
	comp=N,37nm,0.3s						
DDEM				*i* AML	AML	02 44 17.0	
	comp=E,26nm,0.4s						

*ISN **25** 02:45:14.1±0.3, 34°.69N×46°.26E, h12km±4km, ML2.7*
*TEH **25** 02:45:15.2, 34°.69N×46°.24E, h16km±21km, ML2.5*

ISC 25 02:45:16.2±1.2, 34°.65N±0°.05×46°.23E±0°.05, h14km±10km, n13, σ0°.46/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**68**	Pg	**Pg**	**02 45 20.0**	**+0.1**
IGHG	**Ghaleghazi**	**0.42**	**139**	Pg	**Pb**	**02 45 25.4**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.60**	**207**	Pg	**Pb**	**02 45 28.7**	**+0.3**
ILIN	**Lien**	**0.66**	**66**	Pg	**Pg**	**02 45 28.7**	**-0.4**
KCHF	**Cheshme Sefid,**	**0.76**	**119**	Pg	**Pb**	**02 45 31.4**	**+0.1**
ILBA	**Ilam Banvizeh**	**1.02**	**181**	Pg	**Pn**	**02 45 36.4**	**+0.3**
SNQR	**Sonqor, Kerman**	**1.17**	**79**	Pg	**Pn**	**02 45 38.9**	**+0.5**
IBZA	**Bozab**	**1.35**	**97**	Pg	**Pg**	**02 45 42.3**	**0.0**
IBDR	**Badra**	**1.56**	**189**	*e*Pn	**Pn**	**02 45 44.0**	**+0.6**
IBDR				*e*Sn	**Sg**	**02 46 06.0**	**-0.3**
IBDR				AML	AML	02 46 13.8	
	comp=N,93nm,0.4s						
IKRK	**Kirkuk**	**1.73**	**296**	*e*Pn	**Pn**	**02 45 46.0**	**+0.2**
IKRK				*e*Sn	**Sb**	**02 46 09.0**	**-0.2**
IKRK				AML	AML	02 46 17.2	
	comp=E,104nm,0.5s						
IKRK				AML	AML	02 46 19.8	
	comp=N,101nm,0.6s						
IKFM	**Kafar-mosalman**	**1.75**	**130**	Pg	**Pg**	**02 45 49.8**	**+0.1**
HSAM	**Samen**	**2.01**	**102**	Pn	**Pg**	**02 45 54.2**	**-0.4**
BHD	**Baghdad**	**2.07**	**229**	*e*Pn	**Pn**	**02 45 51.0**	**+0.6**
BHD				*e*Sn	**Sb**	**02 46 18.0**	**-1.0**

*IDC **25** 02:55:14.2±1.2, 13°.88N×145°.20E, h100km±8km, mb3.3/5, mbtmp3.6/5, MS2.9/1, Error ellipse: s-maj=52.3km s-min=19.0km az=101.0*
*NEIC **25** 02:55:14.2±1.8, 13°.92N±0°.04×144°.3E±0°.2, h98km±6km, mb4.2/24, Error ellipse: s-maj=21.7km s-min=4.3km az=97.0*

ISC 25 02:55:16.0±0.7, 13°.8N±0°.1×144°.8E±0°.3, h125km, n35, σ0°.26/35, mb4.1/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.24**	**156**	Pn	**Pn**	**02 55 31.1**	**-2.3**
GUMO				Sn	**Sn**	**02 55 42.3**	**-4.1**
GUMO	**Guam**	**0.24**	**156**	P	**Pn**	**02 55 31.3**	**-2.1**
	3μm,0.3s,baz=131,slow=0.8,SNR=80						
GUMO				S	**Sn**	**02 55 42.9**	**-3.6**
	2μm,0.3s,baz=201,slow=22,SNR=16						
MAJO	**Matsushiro**	**23.39**	**347**	P	P	03 00 04.7	-8.8
MAJO				IAmb	IAmb	03 00 10.8	
	comp=Z,7.7nm,0.7s						
MJB9	**Matsu-Tunnel**	**23.39**	**347**	P	**P**	**03 00 06.6**	**-7.0**
MJB9				IAmb	IAmb	03 00 12.2	
	comp=Z,7.2nm,0.7s						
KSRS	**Korea Array**	**27.92**	**330**	LR	LR	03 11 36.8	
	comp=Z,27nm,20.3s,baz=220,slow=35						
WB0	**Warramunga Arr**	**34.90**	**197**	P	**P**	**03 01 56.7**	**+1.0**
WB0				IAmb	IAmb	03 02 23.9	
	comp=Z,9.3nm,1.5s						
WB2	**Warramunga Arr**	**35.08**	**197**	P	**P**	**03 01 58.2**	**+1.0**
WB2				IAmb	IAmb	03 02 03.8	
	comp=Z,6.4nm,1.3s						
WRA	**Warramunga Arr**	**35.08**	**197**	P	**P**	**03 01 56.3**	**-0.9**
WRA	**Warramunga Arr**	**35.08**	**197**	P	**P**	**03 01 58.9**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=21,slow=9.4,SNR=15						
	comp=Z,0.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**36.90**	**211**	P	**P**	**03 02 14.1**	**+1.3**
ASAR	**Alice Springs**	**38.74**	**196**	P	**P**	**03 02 25.9**	**-2.3**
ASAR	**Alice Springs**	**38.74**	**196**	P	**P**	**03 02 31.1**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=11,slow=14,SNR=5.8						
	comp=Z,0.3nm,0.7s						
STKA	**Stephens Creek**	**45.53**	**184**	P	**P**	**03 03 23.3**	**+0.2**
STKA	**Stephens Creek**	**45.53**	**184**	P	**P**	**03 03 24.3**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=340,slow=8.5,SNR=2.8						
	comp=Z,0.8nm,0.4s						
BBOO	**Buckleboo**	**47.10**	**190**	P	**P**	**03 03 36.6**	**+1.1**
N15K	**Kwethluk River**	**61.11**	**28**	P	**P**	**03 05 18.2**	**+1.4**
SII	**Sitkinak Islan**	**62.75**	**33**	P	**P**	**03 05 29.6**	**+1.9**
KURBB	**Kurchatov Arra**	**64.39**	**320**	P	**P**	**03 05 41.2**	**+2.6**
	comp=Z,0.4nm,0.4s,baz=102,slow=7.1,SNR=4.1						
	comp=Z,0.4nm,0.4s						
I20K	**Naaghedeneel**	**65.31**	**24**	P	**P**	**03 05 47.0**	**+2.7**
BPAW	**Bear Paw Mtn.**	**66.51**	**26**	P	**P**	**03 05 52.9**	**+0.8**
BPAW				IAmb	IAmb	03 06 15.3	
	comp=Z,3.8nm,1.3s						
PWL	**Port Wells**	**66.83**	**29**	P	**P**	**03 05 55.2**	**+1.1**
D22K	**Ayikyak River**	**67.45**	**20**	P	**P**	**03 05 59.5**	**+1.5**
D22K				IAmb	IAmb	03 06 25.8	
	comp=Z,4.2nm,1.1s						
IL31		**68.41**	**25**	P	**P**	**03 06 04.2**	**+0.3**
IL31				IAmb	IAmb	03 06 15.1	
	comp=Z,4.4nm,1.5s						
ILAR	**Eielson Array**	**68.41**	**25**	P	**P**	**03 06 03.0**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=249,slow=6.0,SNR=12						
	comp=Z,0.4nm,0.5s						
TOLK	**Toolik Lake Re**	**68.44**	**21**	P	**P**	**03 06 05.8**	**+1.7**
TOLK				IAmb	IAmb	03 06 36.5	
	comp=Z,3.5nm,1.2s						
J25K	**Salcha River,**	**69.01**	**26**	P	**P**	**03 06 08.8**	**+1.0**
SCRK	**Sand Creek**	**69.47**	**26**	P	**P**	**03 06 12.4**	**+1.7**
J26L	**Joseph Creek**	**69.75**	**26**	P	**P**	**03 06 12.9**	**+0.6**
BMAR	**Burnt Mountain**	**69.93**	**23**	P	**P**	**03 06 14.6**	**+1.2**
BCAR	**Beaver Creek A**	**70.29**	**28**	P	**P**	**03 06 16.6**	**+1.0**
M29M	**Somme Creek**	**71.73**	**28**	P	**P**	**03 06 26.1**	**+1.6**
L29M	**L29M**	**71.95**	**28**	P	**P**	**03 06 27.6**	**+2.0**
L29M				IAmb	IAmb	03 06 31.0	
	comp=Z,7.1nm,1.4s						
M30M	**Minto, Yukon**	**72.52**	**28**	P	**P**	**03 06 31.0**	**+2.0**
M30M				IAmb	IAmb	03 06 35.4	
	comp=Z,4.8nm,1.4s						
G31M	**Satah River**	**73.85**	**24**	P	**P**	**03 06 38.3**	**+1.7**
G31M				IAmb	IAmb	03 07 06.0	
	comp=Z,4.9nm,1.5s						
PINE	**Pine Mountain**	**83.63**	**47**	P	**P**	**03 07 33.1**	**+2.1**
PINE				IAmb	IAmb	03 07 34.2	
	comp=Z,4.7nm,0.8s						

*SJA **25** 02:57:37.9±1.1, 34°.22S×73°.35W, h10km, ML3.7, MW3.6*
*NEIC **25** 02:57:39.2±2.1, 34°.32S±0°.05×73°.47W±0°.07, h10km±1km, mb4.4/9, ML4.0(GUC), Error ellipse: s-maj=10.1km s-min=9.3km az=268.0*
*GUC **25** 02:57:42.2±0.7, 34°.29S×73°.29W, h37km±3km, ML4.0*
*IDC **25** 02:57:43.5±0.9, 34°.36S×73°.44W, h31km±6km, mb4.0/6, mbtmp4.2/8, ML4.3/2, MS3.1/1, Error ellipse: s-maj=33.2km s-min=15.6km az=91.0*

ISC 25 02:57:42.2±0.7, 34°.32S±0°.04×73°.42W±0°.04, h29km±4km, n107, σ1°.56/137, mb4.4/11, 11C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**1.22**	**99**	*e*P	**Pn**	**02 58 01.7**	**-1.6**
BO03				*e*S	**Sn**	**02 58 16.1**	**-2.6**
BO03				IAML		02 58 18.7	
	comp=E,3μm,0.4s						
GO05	**Huala**	**1.41**	**120**		**Pn**	**02 58 04.5**	**-1.4**
GO05	**Huala**	**1.41**	**120**	*e*P	**Pn**	**02 58 04.6**	**-1.2**
GO05				*e*S	**Sn**	**02 58 22.1**	**-1.4**
GO05	**Huala**	**1.41**	**120⇑**	*e*P	**Pn**	**02 58 04.7**	**-1.2**
GO05				*e*S	**Sn**	**02 58 21.4**	**-2.2**
GO05				IAML		02 58 22.7	
	comp=N,3μm,0.2s						
VA05	**Santo Domingo**	**1.64**	**67**	Pn	**Pn**	**02 58 07.4**	**-1.7**
VA05	**Santo Domingo**	**1.64**	**67⇑**	*e*P	**Pn**	**02 58 07.7**	**-1.4**
VA05				*e*S	**Sn**	**02 58 26.8**	**-2.4**
VA05				IAML		02 58 30.8	
	comp=E,3μm,0.3s						
MT01	**Popeta**	**1.86**	**76**	Pn	**Pn**	**02 58 10.6**	**-1.5**
MT01	**Popeta**	**1.86**	**76**	*e*P	**Pn**	**02 58 10.6**	**-1.5**
MT01				*e*S	**Sn**	**02 58 33.2**	**-1.4**
MT01				IAML		02 58 33.7	
	comp=Z,724nm,0.5s						
MT01	**Popeta**	**1.86**	**76⇑**	*e*P	**Pn**	**02 58 10.6**	**-1.5**
MT01				*e*S	**Sn**	**02 58 33.0**	**-1.6**
MT01				IAML		02 58 34.0	
	comp=E,900nm,0.2s						
BO01	**Tunca**	**1.93**	**93**	Pn	**Pn**	**02 58 12.1**	**-1.0**
BO01	**Tunca**	**1.93**	**93**	*e*P	**Pn**	**02 58 11.5**	**-1.6**
BO01				*e*S	**Sn**	**02 58 36.1**	**-0.4**
BO01				IAML		02 58 38.2	
	comp=Z,662nm,0.4s						
BO01	**Tunca**	**1.93**	**93**	*i* P	**Pn**	**02 58 12.0**	**-1.1**
BO01				*i* S	**Sn**	**02 58 34.6**	**-1.9**
VA01	**Torpederas**	**1.97**	**49**	Pn	**Pn**	**02 58 11.7**	**-1.8**
VA01	**Torpederas**	**1.97**	**49**	*e*P	**Pn**	**02 58 12.2**	**-1.3**
VA01				*e*S	**Sn**	**02 58 35.2**	**-2.1**
VA01				IAML		02 58 36.4	
	comp=Z,382nm,0.1s						
VA01	**Torpederas**	**1.97**	**49**	IAML		02 58 37.2	
	comp=N,3μm,0.1s						
MT09	**Talagante**	**2.09**	**76**	Pn	**Pn**	**02 58 14.1**	**-1.3**
MT09	**Talagante**	**2.09**	**76**	IAML		02 58 40.3	
	comp=N,2μm,0.4s						
MT02	**Curacav**	**2.18**	**61**	Pn	**Pn**	**02 58 15.0**	**-1.5**
MT02	**Curacav**	**2.18**	**61**	*e*P	**Pn**	**02 58 15.0**	**-1.5**
MT02				*e*S	**Sn**	**02 58 41.6**	**-0.9**
MT02				IAML		02 58 42.5	
	comp=Z,304nm,0.1s						
MT02	**Curacav**	**2.18**	**61**	*e*P	**Pn**	**02 58 15.1**	**-1.5**
MT02				*e*S	**Sn**	**02 58 40.3**	**-2.2**
MT02				IAML		02 58 42.2	
	comp=N,410nm,0.4s						
ML02	**Panimavida**	**2.18**	**132**	Pn	**Pn**	**02 58 16.1**	**-0.5**
ML02	**Panimavida**	**2.18**	**132**	*e*P	**Pn**	**02 58 16.0**	**-0.5**
ML02				IAML		02 58 53.5	
	comp=Z,606nm,0.6s						
ML02	**Panimavida**	**2.18**	**132⇑**	*e*P	**Pn**	**02 58 15.9**	**-0.5**
ML02				*e*S	**Sn**	**02 58 41.7**	**-0.9**
ML02				IAML		02 58 45.8	
	comp=E,2μm,0.5s						
BO02	**Sierra Bellavi**	**2.23**	**103**	*e*P	**Pn**	**02 58 17.4**	**+0.1**
BO02				*e*S	**Sn**	**02 58 44.8**	**+1.0**
BO02				IAML		02 58 46.7	
	comp=Z,2μm,0.1s						
BO02	**Sierra Bellavi**	**2.23**	**103⇑**	*e*P	**Pn**	**02 58 17.2**	**-0.1**
BO02				*e*S	**Sn**	**02 58 41.9**	**-1.9**
BO04	**La Punta**	**2.35**	**83**	*i* P	**Pn**	**02 58 18.4**	**-0.5**
BO04				*i* S	**Sn**	**02 58 44.8**	**-2.1**
BO04				IAML		02 58 48.0	
	comp=N,1μm,0.4s						
ROC1	**El Roble**	**2.42**	**57**	*e*P	**Pn**	**02 58 19.1**	**-0.9**
ROC1				*e*S	**Sn**	**02 58 46.2**	**-2.5**
MT05	**Renca**	**2.42**	**68**	Pn	**Pn**	**02 58 18.9**	**-1.0**
MT05	**Renca**	**2.42**	**68**	*e*P	**Pb**	**02 58 24.8**	**-0.3**
MT05				*e*S	**Sb**	**02 58 50.5**	**-4.0**
MT05				IAML		02 58 52.3	
	comp=Z,355nm,0.3s						
ROCH	**El Roble**	**2.42**	**57⇑**	*e*P	**Pn**	**02 58 19.1**	**-0.9**
ROCH				*e*S	**Sn**	**02 58 47.0**	**-1.8**
ROCH				IAML		02 58 50.4	
	comp=N,944nm,0.4s						
MT12	**Pirque**	**2.46**	**77**	*i* P	**Pn**	**02 58 19.6**	**-0.8**
MT12				*e*S	**Sn**	**02 58 46.8**	**-2.7**
MT12				IAML		02 58 51.1	
	comp=N,1μm,0.3s						
VA06	**Catapilco**	**2.50**	**46**	Pn	**Pn**	**02 58 19.4**	**-1.5**
VA06	**Catapilco**	**2.50**	**46⇑**	*e*P	**Pn**	**02 58 19.4**	**-1.5**
VA06				*e*S	**Sn**	**02 58 48.0**	**-2.3**
VA06				IAML		02 58 50.3	
	comp=N,2μm,0.5s						
MT03	**Universidad Ad**	**2.56**	**72**	*e*P	**Pn**	**02 58 21.2**	**-0.6**
MT03				*e*S	**Sn**	**02 58 52.2**	**+0.2**
MT03				IAML		02 58 55.4	
	comp=Z,596nm,0.2s						
PEL	**Peldehue**	**2.56**	**63**	Pn	**Pn**	**02 58 21.6**	**-0.3**
PEL	**Peldehue**	**2.56**	**63**	*e*P	**Pn**	**02 58 22.1**	**+0.2**
PEL				*e*S	**Sn**	**02 58 52.6**	**+0.5**
MT16	**CCHEN**	**2.57**	**70**	Pn	**Pn**	**02 58 21.4**	**-0.6**
MT13	**San Alfonso**	**2.67**	**78**	Pn	**Pn**	**02 58 23.2**	**-0.1**
MT13	**San Alfonso**	**2.67**	**78**	*e*P	**Pn**	**02 58 22.9**	**-0.4**
MT13				IAML		02 59 07.5	
	comp=Z,218nm,0.4s						
LMEL	**Las Melosas**	**2.71**	**81**	Pn	**Pn**	**02 58 23.3**	**-0.6**
LMEL	**Las Melosas**	**2.71**	**81**	*e*P	**Pn**	**02 58 23.4**	**-0.6**
FCH	**Farellones**	**2.79**	**70**	*i* P	**Pn**	**02 58 24.6**	**-0.6**
FCH				*i* S	**Sn**	**02 58 56.1**	**-2.0**
FCH				IAML		02 58 59.0	
	comp=N,1μm,0.2s						
VA03	**San Esteban**	**2.86**	**58**	Pn	**Pn**	**02 58 25.2**	**-0.7**
VA03	**San Esteban**	**2.86**	**58**	*e*P	**Pn**	**02 58 25.2**	**-0.7**
VA03				*e*S	**Sn**	**02 58 59.5**	**0.0**
VA03				IAML		02 59 01.4	
	comp=Z,443nm,0.1s						
MT04	**Ro Olivares**	**2.88**	**72**	*e*P	**Pn**	**02 58 25.9**	**-0.5**
MT04				*e*S	**Sn**	**02 59 00.6**	**+0.4**
MT04				IAML		02 59 04.6	
	comp=Z,216nm,0.4s						
BI02	**San Fabin de**	**2.92**	**144**	Pn	**Pn**	**02 58 26.0**	**-0.7**
MT08	**Bocatoma Ro**	**2.96**	**74**	Pn	**Pn**	**02 58 27.3**	**-0.2**
MT08	**Bocatoma Ro**	**2.96**	**74**	*e*P	**Pn**	**02 58 27.7**	**+0.2**
MT08				IAML		02 59 17.1	
	comp=Z,98nm,0.5s						
CO02	**Combarbal**	**3.72**	**34**	Pn	**Pn**	**02 58 36.6**	**-1.2**
CO06	**Fray Jorge**	**3.94**	**23**	Pn	**Pn**	**02 58 38.2**	**-2.5**
RFA	**San Rafael**	**4.11**	**98**	*e*P	**Pn**	**02 58 40.4**	**-2.7**
RFA				*e*S	**Sb**	**02 59 42.9**	**-0.3**
CO03	**El Pedregal**	**4.17**	**34**	Pn	**Pn**	**02 58 43.1**	**-0.8**
VA04	**Juan Fernndez**	**4.54**	**277**	Pn	**Pn**	**02 58 46.2**	**-2.8**
H03S1	**Juan Fernandez**	**4.58**	**274**	Pn	**Pn**	**02 58 46.4**	**-2.8**
H03S1				T	T	03 03 19.5	
	baz=92,slow=72,SNR=6.8						
H03S3	**Juan Fernandez**	**4.58**	**275**	Pn	**Pn**	**02 58 46.8**	**-2.5**
H03S3				T	T	03 03 21.9	
	baz=92,slow=72,SNR=2.5						
H03S2	**Juan Fernandez**	**4.59**	**275**	Pn	**Pn**	**02 58 46.6**	**-2.8**
H03S2				T	T	03 03 24.1	
	baz=92,slow=72,SNR=26						
H03N1	**Juan Fernandez**	**4.65**	**279**	Pn	**Pn**	**02 58 48.4**	**-1.9**
H03N3	**Juan Fernandez**	**4.66**	**279**	Pn	**Pn**	**02 58 48.4**	**-2.0**
H03N2	**Juan Fernandez**	**4.67**	**279**	Pn	**Pn**	**02 58 48.6**	**-1.8**
GO04	**Tololo Observa**	**4.70**	**29**	Pn	**Pn**	**02 58 50.4**	**-1.0**
GO04	**Tololo Observa**	**4.70**	**29**	*e*P	**Pn**	**02 58 50.5**	**-0.9**
GO04				*e*S	**Sn**	**02 59 44.2**	**-0.8**
CO05	**La Serena**	**4.77**	**23**	Pn	**Pn**	**02 58 50.2**	**-1.8**
ZON	**Zonda**	**4.85**	**57**	Pn	**Pn**	**02 58 54.0**	**+0.7**
CO01	**Juntas del Tor**	**5.17**	**34**	*e*P	**Pn**	**02 58 57.1**	**-0.8**
CO01				*e*S	**Sn**	**02 59 55.7**	**-1.0**
CO01				IAML		02 59 57.7	
	comp=Z,69nm,0.3s						
AROD	**Rodeo**	**5.32**	**40**	*e*P	**Pn**	**02 59 01.9**	**+1.8**
AROD				*e*S	**Sn**	**03 00 06.0**	**+5.4**
LR03	**Panguipulli**	**5.37**	**171**	Pn	**Pn**	**02 58 59.1**	**-1.3**
LR03	**Panguipulli**	**5.37**	**171**	*e*P	**Pn**	**02 58 58.8**	**-1.6**
LR03				IAML		03 01 01.3	
	comp=Z,25nm,4.3s						
GO06	**Curarrehue**	**5.48**	**164**	Pn	**Pn**	**02 59 01.5**	**-0.5**
LR04	**Corral**	**5.55**	**180**	Pn	**Pn**	**02 58 59.1**	**-3.7**
LCO	**Las Campanas**	**5.78**	**24**	Pn	**Pn**	**02 59 04.9**	**-1.4**
LR05	**Currie**	**6.00**	**170**	Pn	**Pn**	**02 59 07.9**	**-1.1**
AC05	**El Transito**	**6.09**	**27**	Pn	**Pn**	**02 59 10.0**	**-0.5**
AC04	**Llanos de Chal**	**6.42**	**19**	Pn	**Pn**	**02 59 13.3**	**-1.6**
LL04	**Puerto Octay**	**6.62**	**173**	Pn	**Pn**	**02 59 14.2**	**-3.3**
PLCA	**Paso Flores**	**6.79**	**161**	Pn	**Pn**	**02 59 19.4**	**-0.6**
PLCA	**Paso Flores**	**6.79**	**161**	Pn	**Pn**	**02 59 19.9**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=328,slow=11,SNR=92						
PLCA				LR	LR	03 02 23.2	
	comp=Z,132

NIED ***25*** *03:03:57.4, 40°.99N×142°.83E, h23km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr4.60; Mθθ-1.18; Mφφ-3.41; Mrθ1.98; Mrφ1.43; Mθφ0.15; Fault plane solution: M0 4.71000×10^14 NP1: φs136.00000°, δ53.00000°, λ68.00000°. NP2: φs350.00000°, δ43.00000°, λ116.00000°.*
JMA ***25*** *03:03:57.4±0.3, 41°.0N±0°.4×142°.8E±0°.6, h23km±4km, MV3.7/37, E OFF AOMORI PREF*
IDC ***25*** *03:04:00.6±2.1, 41°.01N×142°.77E, h48km±19km, mb3.5/11, mbtmp3.8/13, ML3.3/2, Error ellipse: s-maj=25.7km s-min=14.4km az=99.0*
ISC 25 03:03:59.6±0.8**, 40°.99N**±0°.05×**142°.80E**±0°.07**, h40**km±7km**, n34**, σ0s**77**/34**, mb3.7**/11**, 3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.06**	**14**	P	**Pn**	**03 04 16.4**	**-1.5**
JARK	**Aomorirokkasho**	**1.09**	**271**	*i* P	**Pn**	**03 04 17.2**	**-1.2**
JAHD	**Aomorihigashid**	**1.14**	**284**	*e*P	**Pn**	**03 04 18.2**	**-0.9**
JKEN	**Kujiedanarisaw**	**1.14**	**227**	||*i*P	**Pn**	**03 04 17.9**	**-1.2**
JANG	**Nango**	**1.16**	**238**	||P	**Pn**	**03 04 18.2**	**-1.1**
JNBK	**Urakawa-nobuka**	**1.29**	**358**	*i* P	**Sn**	**03 04 20.6**	**-0.5**
JNBK				*e*S	**Sn**	**03 04 37.4**	**+0.2**
JTM	**Tenmabayashi**	**1.33**	**262**	*i* P	**Pn**	**03 04 21.4**	**-0.3**
JTM				*e*S	**Sn**	**03 04 38.5**	**+0.3**
JOT	**Ohata**	**1.38**	**287**	*e*P	**Pn**	**03 04 21.5**	**-0.9**
JOT				*e*S	**Sn**	**03 04 39.3**	**-0.1**
JKB	**Kayabe**	**1.61**	**305**	P	**Pn**	**03 04 24.9**	**-0.5**
JKB				*e*S	**Sn**	**03 04 44.5**	**-0.4**
JCH	**Churui**	**1.68**	**14**	P	**Pn**	**03 04 25.8**	**-0.7**
JIAM	**Iburiatsuma**	**1.76**	**338**	*e*P	**Pn**	**03 04 28.2**	**+0.6**
JBT2	**Biratori 2**	**1.82**	**350**	P	**Pn**	**03 04 29.6**	**+1.1**
JAH	**Hinai**	**1.83**	**245**	||P	**Pn**	**03 04 29.2**	**+0.6**
JSR	**Shiriuchi**	**1.88**	**288**	P	**Pn**	**03 04 29.6**	**+0.4**
JSR				S	**Sn**	**03 04 53.2**	**+1.5**
JOM	**Ohasama**	**1.91**	**218**	P	**Pn**	**03 04 29.8**	**+0.2**
ASAJ	**Asahikawa**	**3.13**	**357**	P	**Pn**	**03 04 47.1**	**+0.7**
	5.5nm,0.3s,baz=212,slow=11,SNR=14						
ASAJ				S	**Sn**	**03 05 23.3**	**+0.8**
	15nm,0.5s,baz=234,slow=7.3,SNR=3.5 11nm,0.3s						
MJAR	**Matsushiro Arr**	**5.71**	**220**	P	**Pn**	**03 05 23.0**	**+1.1**
	0.2nm,0.3s,baz=30,slow=12,SNR=16 4.0nm,0.6s						
SONM	**Songino Array**	**26.71**	**297**	P	**P**	**03 09 35.1**	**0.0**
	0.9nm,0.6s,baz=72,slow=9.5,SNR=3.9 0.9nm,0.6s						
H11N2	**WAKE ISLAND Hy 29.51**	**129**		T	T	03 40 48.3	
	baz=322,slow=75,SNR=65						
H11N1	**WAKE ISLAND Hy 29.52**	**129**		T	T	03 40 48.2	
	baz=322,slow=75,SNR=55						
H11N3	**WAKE ISLAND Hy 29.53**	**129**		T	T	03 40 42.5	
	baz=322,slow=75,SNR=61						
H11S1	**WAKE ISLAND Hy 30.35**	**130**		T	T	03 41 52.4	
	baz=323,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy 30.36**	**131**		T	T	03 41 49.3	
	baz=323,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy 30.37**	**130**		T	T	03 41 52.4	
	baz=323,slow=76,SNR=25						
MKAR	**Makanchi Array**	**43.05**	**299**	P	**P**	**03 11 55.8**	**+0.4**
	0.8nm,0.8s,baz=83,slow=9.8,SNR=5.2 0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**44.52**	**305**	P	**P**	**03 12 07.0**	**-0.1**
	1.0nm,0.4s,baz=82,slow=9.4,SNR=4.1 1.0nm,0.4s						
ILAR	**Eielson Array**	**45.60**	**34**	P	**P**	**03 12 16.1**	**+0.7**
	0.3nm,0.7s,baz=263,slow=6.1,SNR=6.6 0.3nm,0.7s						
WRA	**Warramunga Arr**	**61.13**	**189**	P	**P**	**03 14 09.5**	**-0.4**
	0.4nm,0.6s,baz=6.3,slow=6.7,SNR=7.1 0.4nm,0.6s						
ASAR	**Alice Springs**	**64.85**	**189**	P	**P**	**03 14 34.7**	**+0.1**
	0.2nm,0.7s,baz=359,slow=5.7,SNR=2.1 0.2nm,0.7s						
FINES	**FINESS Array B**	**65.83**	**332**	P	**P**	**03 14 40.2**	**-0.2**
	2.1nm,0.5s,baz=46,slow=7.6,SNR=22 2.1nm,0.5s						
HFS	**Hagfors**	**70.93**	**336**	P	**P**	**03 15 12.3**	**-0.1**
	0.8nm,0.6s,baz=53,slow=7.6,SNR=5.2 0.8nm,0.6s						
NOA	**NORSAR Array B**	**70.96**	**337**	P	**P**	**03 15 11.9**	**-0.8**
	0.9nm,0.8s,baz=37,slow=6.2,SNR=6.1 0.9nm,0.8s						
AKASG	**Malin Array Be**	**71.84**	**322**	P	**P**	**03 15 17.6**	**-0.4**
	1.8nm,0.6s,baz=44,slow=5.7,SNR=3.4 1.8nm,0.6s						
PDAR	**Pinedale Array**	**74.15**	**47**	P	**P**	**03 15 32.4**	**+0.2**
	0.3nm,0.5s,baz=276,slow=2.8,SNR=3.8 0.3nm,0.5s						

ISN ***25*** *03:24:15.9±1.1, 34°.63N×46°.29E, h8km±16km, ML2.6*
TEH ***25*** *03:24:16.9, 34°.63N×46°.26E, h11km, ML2.7*
ISC 25 03:24:16.7±1.1**, 34°.65N**±0°.04×**46°.25E**±0°.04**, h15**km±10km**, n12**, σ0s**41**/15**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.12**	**65**	Pg	**Pg**	**03 24 20.5**	**0.0**
IGHG	**Ghaleghazi**	**0.41**	**140**	Pg	**Pb**	**03 24 25.5**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.56**	**256**	Pg	**Pb**	**03 24 28.2**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.60**	**208**	Pg	**Pb**	**03 24 28.6**	**-0.5**
ILIN	**Lien**	**0.64**	**65**	Pg	**Pb**	**03 24 29.6**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.75**	**119**	Pg	**Pb**	**03 24 31.0**	**-0.6**
ILBA	**Ilam Banvizeh**	**1.02**	**182**	Pg	**Pb**	**03 24 36.1**	**0.0**
SNQR	**Sonqor, Kerman**	**1.15**	**79**	Pg	**Pn**	**03 24 39.2**	**+0.6**
IBZA	**Bozab**	**1.34**	**97**	Pg	**Pg**	**03 24 42.3**	**-0.2**
IBDR	**Badra**	**1.56**	**190**	*e*Pn	**Pb**	**03 24 45.5**	**+0.3**
IBDR				*e*Sn	**Sg**	**03 25 07.0**	**+0.1**
IBDR				AML	AML	03 25 18.6	
	comp=N,101nm,0.3s						
IBDR				AML	AML	03 25 21.3	
	comp=E,94nm,0.4s						
IKRK	**Kirkuk**	**1.74**	**296**	*e*Pn	**Pb**	**03 24 48.0**	**-0.4**
IKRK				*e*Sn	**Sg**	**03 25 13.0**	**+0.2**
BHD	**Baghdad**	**2.08**	**229**	*e*Pn	**Pb**	**03 24 53.5**	**-0.6**
BHD				*e*Sn	**Sb**	**03 25 19.5**	**-0.2**

IDC ***25*** *03:25:24.9±4.9, 25°.23N×123°.82E, h134km±50km, mb3.4/7, mbtmp3.8/8, Error ellipse: s-maj=45.5km s-min=15.0km az=68.0*
JMA ***25*** *03:25:24.1±0.2, 25°.N±1°.×123°.6E±0°.4, h109km±2km, MV3.4/16, NW OFF ISHIGAKIJIMA IS*
ISC 25 03:25:22.9±0.9**, 25°.1N**±0°.1×**123°.61E**±0°.05**, h111**km±9km**, n24**, σ0s**99**/37**, mb3.5**/7**, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.77**	**172**	*i* P	**Pn**	**03 25 41.8**	**-0.2**
IRIF				S	**Sn**	**03 25 55.5**	**-0.9**
JISG	**Ishigakijimahi**	**0.81**	**129**	*i* P	**Pn**	**03 25 42.6**	**+0.3**
JISG				S	**Sn**	**03 25 57.0**	**0.0**
YOJ	**Yonaguni jima**	**0.84**	**221**	P	**Pn**	**03 25 43.2**	**+0.6**
YOJ				S	**Sn**	**03 25 57.1**	**-0.4**
JIJ	**Ishigaki jima**	**0.88**	**147**	*i* P	**Pn**	**03 25 42.9**	**-0.1**
JIJ				S	**Sn**	**03 25 57.2**	**-0.9**
JYNG	**Yonagunijimaku**	**0.89**	**223**	P	**Pn**	**03 25 43.7**	**+0.6**
JYNG				S	**Sn**	**03 25 58.0**	**-0.3**
JKRS	**Kuro-shima**	**0.93**	**157**	*i* P	**Pn**	**03 25 43.8**	**+0.2**
JKRS				S	**Sn**	**03 25 58.9**	**-0.2**
HATJ	**Hateruma jima**	**1.05**	**170**	P	**Pn**	**03 25 44.7**	**-0.1**
HATJ				*e*S	**Sn**	**03 26 00.2**	**-1.1**
JTJ	**Tarama**	**1.09**	**115**	*i* P	**Pn**	**03 25 45.8**	**+0.7**
JTJ				*e*S	**Sn**	**03 26 02.4**	**+0.5**
JIRB	**Irabujima**	**1.44**	**101**	P	**Pn**	**03 25 49.9**	**+0.8**
JIRB				S	**Sn**	**03 26 09.2**	**+0.3**
JIKM	**Ikemajima**	**1.49**	**96**	P	**Pn**	**03 25 50.7**	**+1.0**
JIKM				S	**Sn**	**03 26 11.6**	**+1.5**
JMJ2	**Miyako jima3**	**1.60**	**103**	P	**Pn**	**03 25 51.9**	**+1.0**
JMJ2				S	**Sn**	**03 26 13.2**	**+1.0**
JOGS	**Gusukube**	**1.66**	**101**	P	**Pn**	**03 25 52.9**	**+1.2**
JOGS				*e*S	**Sn**	**03 26 15.1**	**+1.4**
NACB	**Ninganchiao**	**2.06**	**244**	P	**Pn**	**03 25 57.2**	**+0.5**
YULB	**Yu-li**	**2.71**	**232**	P	**Pn**	**03 26 04.6**	**-0.6**
SSLB	**Suanglung**	**2.75**	**242**	P	**Pn**	**03 26 07.9**	**+2.2**
TPUB	**Ta-pu**	**3.26**	**237**	P	**Pn**	**03 26 14.8**	**+2.4**
JOW	**Kunigami**	**4.54**	**67**	P	**Pn**	**03 26 29.5**	**+0.1**
	20nm,0.3s,baz=155,slow=14,SNR=33						
JOW				S	**Sn**	**03 27 18.7**	**-2.5**
	8.4nm,0.3s,baz=125,slow=22,SNR=4.8						
MKAR	**Makanchi Array**	**39.25**	**314**	P	**P**	**03 32 40.4**	**-0.2**
	0.3nm,0.3s,baz=102,slow=9.1,SNR=7.4 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**42.86**	**318**	P	**P**	**03 33 09.8**	**-0.2**
	0.1nm,0.3s,baz=105,slow=8.9,SNR=3.0 0.1nm,0.3s						
WRA	**Warramunga Arr**	**45.97**	**166**	P	**P**	**03 33 34.9**	**-0.1**
	1.6nm,0.5s,baz=347,slow=8.7,SNR=34 1.6nm,0.5s						
ASAR	**Alice Springs**	**49.49**	**168**	P	**P**	**03 34 02.7**	**+0.5**
	1.1nm,0.4s,baz=353,slow=13,SNR=20 1.1nm,0.4s						
FINES	**FINESS Array B**	**71.77**	**330**	P	**P**	**03 36 32.7**	**-0.2**
	0.6nm,0.6s,baz=57,slow=5.5,SNR=6.7 0.6nm,0.6s						
HFS	**Hagfors**	**77.84**	**331**	P	**P**	**03 37 07.3**	**-0.6**
	0.3nm,0.3s,baz=67,slow=8.0,SNR=6.0 0.3nm,0.3s						
NOA	**NORSAR Array B**	**78.44**	**333**	P	**P**	**03 37 10.4**	**-0.9**
	0.4nm,0.6s,baz=54,slow=5.7,SNR=3.5 0.4nm,0.6s						

NOU ***25*** *03:36:50.2, 35°.84S×179°.52W, h0km, MLv4.1/8, East of North Island, N.Z.*
IDC ***25*** *03:37:02.8±6.5, 34°.21S×178°.90E, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=289.6km s-min=66.4km az=165.0*
WEL ***25*** *03:37:07.4±0.7, 36°S±4°×17°9E±°, h12km, M3.6/26, ML3.7/33, MLv3.6/26, Error ellipse: s-maj=0.0km s-min=0.0km az=92.9, confirmed*
ISC 25 03:37:02.2±2.2**, 36°.25S**±0°.07×**179°.38E**±0°.09**, h16**km±12km**, n75**, σ1s**79**/97**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.57**	**213**	P	**Pb**	**03 37 31.4**	**+0.5**
MXZ	**Matakaoa Point**	**1.57**	**213**	P	**Pb**	**03 37 30.7**	**-0.3**
WMGZ	**Waiomatatini S**	**1.75**	**206**	P	**Pg**	**03 37 36.0**	**+0.1**
PKGZ	**Pakihiroa**	**1.92**	**212**	P	**Pb**	**03 37 37.1**	**+0.2**
HAZ	**Te Kaha**	**1.98**	**220**	P	**Pb**	**03 37 37.3**	**-0.6**
PUZ	**Puketiti**	**2.03**	**206**	P	**Pb**	**03 37 38.9**	**+0.1**
WIZ	**White Island**	**2.17**	**233**	P	**Pn**	**03 37 39.0**	**+1.3**
WIZ				S	**Sn**	**03 38 03.0**	**-1.4**
RUGZ	**Raukumara Rang**	**2.19**	**218**	P	**Pb**	**03 37 41.3**	**-0.3**
RUGZ				S	**Sb**	**03 38 09.2**	**+0.7**
TWGZ	**Tauwhareparae**	**2.23**	**210**	P	**Pb**	**03 37 42.0**	**-0.2**
TWGZ				S	**Sb**	**03 38 10.7**	**+1.1**
CNGZ	**Carnagh Statio**	**2.42**	**202**	P	**Pb**	**03 37 45.0**	**-0.5**
TKGZ	**Te Karaka**	**2.51**	**209**	P	**Pn**	**03 37 45.0**	**+2.6**
TKGZ				S	**Sn**	**03 38 14.9**	**+2.3**
WHRZ	**Whale Island**	**2.51**	**229**	P	**Pb**	**03 37 46.1**	**-0.8**
WHRZ				S	**Sb**	**03 38 15.8**	**-1.8**
MWZ	**Matawai**	**2.56**	**215**	P	**Pb**	**03 37 45.9**	**-1.9**
MWZ				S	**Sn**	**03 38 16.6**	**+2.8**
URZ	**Urewera**	**2.71**	**221**	P	**Pn**	**03 37 47.7**	**+2.6**
URZ	**Urewera**	**2.71**	**221**	P	**Pn**	**03 37 47.5**	**+2.5**
URZ				S	**Sn**	**03 38 18.3**	**+0.8**
RAGZ	**Rawiri**	**2.74**	**214**	P	**Pn**	**03 37 46.9**	**+1.3**
OPRZ	**Ohinepanea**	**2.77**	**234**	P	**Pn**	**03 37 48.7**	**+2.7**
RIGZ	**Rimuhau**	**2.77**	**207**	P	**Pn**	**03 37 48.7**	**+2.7**
RIGZ				S	**Sn**	**03 38 21.7**	**+2.5**
PRGZ	**Paritu Road**	**2.92**	**204**	P	**Pn**	**03 37 49.7**	**+1.6**
KUZ	**Kuaotunu**	**2.99**	**259**	P	**Pn**	**03 37 50.1**	**+1.1**
KUZ	**Kuaotunu**	**2.99**	**259**	P	**Pn**	**03 37 50.0**	**+1.0**
KUZ				S	**Sn**	**03 38 23.5**	**-1.0**
SNGZ	**Shannon Statio**	**3.01**	**212**	P	**Pn**	**03 37 51.5**	**+2.2**
SNGZ				S	**Sn**	**03 38 27.0**	**+2.1**
OMRZ	**Omania**	**3.04**	**231**	P	**Pb**	**03 37 54.2**	**-1.8**
RTZ	**Ruatahuna**	**3.04**	**218**	P	**Pn**	**03 37 52.8**	**+3.0**
MUGZ	**Murupara**	**3.05**	**222**	P	**Pn**	**03 37 51.7**	**+1.9**
MUGZ				S	**Sn**	**03 38 27.5**	**+1.5**
KNZ	**Kokohu**	**3.08**	**206**	P	**Pn**	**03 37 51.7**	**+1.4**
RRRZ	**Republican Roa**	**3.10**	**227**	P	**Pb**	**03 37 55.7**	**-1.2**
MHGZ	**Mahia Peninsul**	**3.13**	**201**	P	**Pn**	**03 37 53.0**	**+2.0**
MHGZ				S	**Sn**	**03 38 27.9**	**-0.1**
RAHZ	**Arahi**	**3.23**	**214**	P	**Pn**	**03 37 54.5**	**+2.2**
RAHZ				S	**Sn**	**03 38 32.6**	**+2.1**
TOZ	**Tahuroa Road**	**3.44**	**243**	P	**Pn**	**03 37 57.0**	**+1.9**
WIAZ	**Waiheke Island**	**3.46**	**260**	P	**Pn**	**03 37 57.9**	**+2.4**
MKAZ	**Moumakai**	**3.50**	**255**	P	**Pn**	**03 37 57.3**	**+1.4**
NMHZ	**Naumai**	**3.50**	**215**	P	**Pn**	**03 37 55.3**	**-0.8**
ARHZ	**Aropaoanui**	**3.56**	**211**	P	**Pn**	**03 37 58.7**	**+1.9**
ARHZ				S	**Sn**	**03 38 39.7**	**+1.2**
TLZ	**Tolley Road**	**3.70**	**235**	P	**Pn**	**03 38 00.4**	**+1.6**
BKZ	**Black Stump Fm**	**3.71**	**217**	P	**Pn**	**03 38 00.3**	**+1.4**
BKZ	**Black Stump Fm**	**3.71**	**217**	P	**Pn**	**03 38 01.2**	**+2.3**
CKHZ	**Cape Kidnapper**	**3.86**	**207**	P	**Pn**	**03 38 01.7**	**+0.7**
CKHZ				S	**Sn**	**03 38 44.5**	**-1.5**
KAHZ	**Kahuranaki**	**4.06**	**208**	P	**Pn**	**03 38 04.3**	**+0.6**
KAHZ				S	**Sn**	**03 38 51.0**	**+0.1**
TMVZ	**Te Maari**	**4.09**	**224**	P	**Pn**	**03 38 06.6**	**+2.4**
TMVZ				S	**Sn**	**03 38 53.0**	**+1.2**
WCZ	**Waipu Caves**	**4.09**	**273**	P	**Pn**	**03 38 06.2**	**+2.1**
NTVZ	**North Tongariro**	**4.09**	**225**	P	**Pn**	**03 38 07.0**	**+2.7**
ETVZ	**East Tongariro**	**4.10**	**224**	P	**Pn**	**03 38 05.6**	**+1.2**
OTVZ	**Oturere**	**4.14**	**224**	P	**Pn**	**03 38 07.5**	**+2.5**
KRHZ	**Kereru**	**4.14**	**214**	P	**Pn**	**03 38 06.3**	**+1.4**
KRHZ				S	**Sn**	**03 38 52.1**	**-0.9**
NNVZ	**North Ngauruho**	**4.15**	**225**	P	**Pn**	**03 38 06.6**	**+1.6**
WTVZ	**West Tongariro**	**4.15**	**225**	P	**Pn**	**03 38 09.7**	**+4.6**
SNVZ	**South Ngauruho**	**4.17**	**224**	P	**Pn**	**03 38 05.8**	**+0.3**
NGZ	**Ngauruhoe**	**4.19**	**225**	P	**Pn**	**03 38 06.5**	**+0.9**
HIZ	**Hauiti**	**4.25**	**236**	P	**Pn**	**03 38 09.8**	**+3.4**
HIZ	**Hauiti**	**4.25**	**236**	P	**Pn**	**03 38 09.8**	**+3.4**
MOVZ	**Moawhango**	**4.27**	**221**	P	**Pn**	**03 38 07.1**	**+0.5**
MOVZ				S	**Sn**	**03 38 53.6**	**-2.5**
WHVZ	**Whangaehu Hut**	**4.27**	**224**	P	**Pn**	**03 38 07.3**	**+0.5**
WHVZ				S	**Sn**	**03 38 55.5**	**-0.9**
PXZ	**Pawanui**	**4.27**	**207**	P	**Pn**	**03 38 06.0**	**-0.5**
PXZ				S	**Sn**	**03 38 54.5**	**-1.5**
WNVZ	**Wahianoa**	**4.29**	**223**	P	**Pn**	**03 38 08.5**	**+1.4**
PNHZ	**Pukenui**	**4.44**	**213**	P	**Pn**	**03 38 09.6**	**+0.6**
PNHZ				S	**Sn**	**03 38 58.6**	**-1.7**
PRHZ	**Porangahau**	**4.56**	**207**	P	**Pn**	**03 38 10.1**	**-0.4**
PRHZ				S	**Sn**	**03 39 02.0**	**-1.2**
TSZ	**Takapari Road**	**4.66**	**214**	P	**Pn**	**03 38 12.1**	**0.0**
OUZ	**Omahuta**	**4.81**	**281**	P	**Pn**	**03 38 15.9**	**+1.8**
OUZ	**Omahuta**	**4.81**	**281**	P	**Pn**	**03 38 15.2**	**+1.2**
BFZ	**Birch Farm**	**5.07**	**208**	P	**Pn**	**03 38 17.7**	**+0.2**
BFZ	**Birch Farm**	**5.07**	**208**	P	**Pn**	**03 38 17.5**	**0.0**
KHEZ	**Kahui Hut**	**5.23**	**233**	P	**Pn**	**03 38 23.5**	**+3.7**
KHEZ	**Kahui Hut**	**5.23**	**233**	P	Pn	03 38 26.9	+7.1
MRZ	**Mangatainoka R**	**5.32**	**213**	P	**Pn**	**03 38 19.0**	**-2.1**
MTW	**Mount Morrison**	**5.77**	**211**	P	**Pn**	**03 38 25.9**	**-1.3**
KIW	**Kapiti Island**	**5.79**	**216**	P	**Pn**	**03 38 26.2**	**-1.3**
PAWZ	**Paruwai Farm**	**5.99**	**210**	P	**Pn**	**03 38 28.8**	**-1.4**
MSWZ	**Moikau Station**	**6.09**	**211**	P	**Pn**	**03 38 30.1**	**-1.4**
DUWZ	**D'Urville Isla**	**6.24**	**222**	P	**Pn**	**03 38 35.9**	**+2.2**
THZ	**Tophouse**	**7.46**	**220**	P	**Pn**	**03 38 49.9**	**-0.6**
CTZ	**Chatham Island**	**8.09**	**159**	P	**Pn**	**03 39 01.4**	**+2.4**
ASAR	**Alice Springs**	**41.00**	**275**	P	**P**	**03 44 43.3**	**-1.4**
	0.2nm,0.4s,baz=120,slow=7.7,SNR=2.2 0.2nm,0.4s						
WRA	**Warramunga Arr**	**42.53**	**280**	P	**P**	**03 44 54.2**	**-3.0**
	0.2nm,0.4s,baz=120,slow=7.6,SNR=5.9 0.2nm,0.4s						
FINES	**FINESS Array B**	**149.69**	**335**	PKPbc	**PKPdf**	**03 56 47.8**	**+2.2**
	0.4nm,0.5s,baz=108,slow=4.5,SNR=2.0						

IDC ***25*** *04:00:02.4±6.1, 10°.23S×111°.82E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=107.7km s-min=90.3km az=3.0*
DJA ***25*** *04:00:02.9±1.6, 10°S±13°×11°1E±°, h20km±24km, M4.3/10, MLv4.3/10*
ISC 25 04:00:01.9±1.2**, 10°.22S**±0°.09×**111°.04E**±0°.06**, h35**km**, n12**, σ1s**43**/18**, mb3.5**/3**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**2.31**	**19**	P	**Pn**	**04 00 37.6**	**+0.1**
PWJI				S	**Sn**	**04 01 04.4**	**-0.4**
UGM	**Wanagama**	**2.35**	**347**	P	**Pn**	**04 00 38.1**	**0.0**
UGM				S	**Sn**	**04 01 06.3**	**+0.5**
YOGI	**Yogyakarta**	**2.50**	**343**	P	**Pn**	**04 00 40.2**	**+0.1**
YOGI				S	**Sn**	**04 01 10.1**	**+0.7**
SMRI	**Semarang**	**3.21**	**349**	P	**Pn**	**04 00 50.7**	**+0.8**
CMJI	**Cimerak**	**3.52**	**313**	P	**Pn**	**04 00 54.8**	**+0.6**
CMJI				S	**Sn**	**04 01 32.0**	**-2.7**
JAGI	**Jajag, Banyuwa**	**3.53**	**61**	P	**Pn**	**04 00 55.2**	**+0.9**
JAGI				S	**Sn**	**04 01 32.6**	**-2.3**
KPJI	**Karang Pucung**	**3.55**	**324**	P	**Pn**	**04 00 56.6**	**+2.1**
ABJI	**Asem Bagus**	**3.97**	**53**	P	**Pn**	**04 01 02.6**	**+2.2**
SRBI	**Singaraja**	**4.64**	**63**	P	**Pn**	**04 01 11.1**	**+1.6**
SRBI				S	**Sn**	**04 02 00.5**	**-1.7**
WRA	**Warramunga Arr**	**24.45**	**116**	P	**P**	**04 05 16.9**	**-0.8**
	0.9nm,0.7s,baz=288,slow=12,SNR=13 0.9nm,0.7s						
ASAR	**Alice Springs**	**25.58**	**124**	P	**P**	**04 05 27.9**	**-0.1**
	1.0nm,0.8s,baz=297,slow=8.7,SNR=7.6 1.0nm,0.8s						
STKA	**Stephens Creek**	**35.53**	**132**	P	**P**	**04 06 55.9**	**+0.1**
	4.7nm,0.8s,baz=313,slow=9.5,SNR=8.4 4.7nm,0.8s						

RSPR ***25*** *04:10:35.7, 18°.38N×64°.12W, h25km±31km, MD2.8/9*
NEIC ***25*** *04:10:36.5±2.6, 18°.2N±0°.1×64°.23W±0°.05, h35km±2km, ML2.6/24, Md2.8/9(RSPR), Error ellipse: s-maj=20.9km s-min=8.0km az=6.0*
ISC 25 04:10:36.7±1.7**, 18°.2N**±0°.2×**64°.25W**±0°.07**, h35**km**, n37**, σ0s**99**/40**, 9C-1D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABA	**Saba**	**1.12**	**121**	Pn	**Pn**	**04 10 55.8**	**-0.2**
HUMP	**Col San Antoni**	**1.52**	**268**⇑	*e*P	**Pn**	**04 10 59.5**	**-1.9**
HUMP	**Col San Antoni**	**1.52**	**268**	*e*S	**Sn**	**04 11 18.4**	**-1.5**
HUMP	**Col San Antoni**	**1.52**	**268**		**Pn**	**04 10 59.5**	**-1.9**
HUMP					**Sn**	**04 11 18.4**	**-1.5**
GCPR	**Guaynabo City**	**1.74**	**274**⇑	*e*P	**Pn**	**04 11 03.6**	**-0.9**
GCPR	**Guaynabo City**	**1.74**	**274**	*e*S	**Sn**	**04 11 25.5**	**0.0**
GCPR	**Guaynabo City**	**1.74**	**274**		**Pn**	**04 11 03.6**	**-0.9**
GCPR					**Sn**	**04 11 25.5**	**0.0**
GCPR	**Guaynabo City**	**1.74**	**274**	IAML		04 11 27.5	
	comp=E,34nm,0.6s						
GCPR				IAML		04 11 28.1	
	comp=N,36nm,0.9s						
IGPR	**InterUniversit**	**1.78**	**263**⇑	*e*P	**Pn**	**04 11 05.1**	**+0.1**
IGPR	**InterUniversit**	**1.78**	**263**	*e*S	**Sn**	**04 11 27.8**	**+1.4**
IGPR	**InterUniversit**	**1.78**	**263**		**Pn**	**04 11 05.1**	**+0.1**
IGPR					**Sn**	**04 11 27.8**	**+1.4**
IGPR	**InterUniversit**	**1.78**	**263**	IAML		04 11 32.2	
	comp=N,38nm,0.3s						
IGPR				IAML		04 11 32.9	
	comp=E,37nm,0.3s						
SJG	**San Juan**	**1.81**	**268**⇑	*e*P	**Pn**	**04 11 05.0**	**-0.4**
SJG	**San Juan**	**1.81**	**268**	*e*S	**Sn**	**04 11 27.2**	**+0.2**
SJG	**San Juan**	**1.81**	**268**		**Pn**	**04 11 05.0**	**-0.4**
EMPR	**Esperanza - Ma**	**2.18**	**278**	Pn	**Pn**	**04 11 11.1**	**+0.7**
EMPR				IAML		04 12 09.7	
	comp=E,89nm,1.3s						
CELP	**Cerrillos**	**2.21**	**267**⇑	*e*P	**Pn**	**04 11 10.1**	**-0.9**
CELP	**Cerrillos**	**2.21**	**267**	*e*S	**Sn**	**04 11 38.5**	**+1.3**
CELP	**Cerrillos**	**2.21**	**267**		**Pn**	**04 11 10.1**	**-0.9**
CELP					**Sn**	**04 11 38.5**	**+1.3**
CELP	**Cerrillos**	**2.21**	**267**	IAML		04 11 43.0	
	comp=E,22nm,2.5s						
OBIP	**Obispado Ponce**	**2.24**	**266**	Pn	**Pn**	**04 11 10.5**	**-0.9**
OBIP				IAML		04 11 42.6	
	comp=N,20nm,1.3s						
OBIP				IAML		04 12 38.7	
	comp=E,22nm,2.6s						
UUPR	**Utuado, UPR, P**	**2.34**	**272**⇑	*e*P	**Pn**	**04 11 13.1**	**+0.3**
UUPR	**Utuado, UPR, P**	**2.34**	**272**	*e*S	**Sn**	**04 11 41.9**	**+1.5**
UUPR	**Utuado, UPR, P**	**2.34**	**272**		**Pn**	**04 11 13.1**	**+0.3**
UUPR					**Sn**	**04 11 41.9**	**+1.5**
AOPR	**Arecibo Observ**	**2.38**	**274**⇑	*e*P	**Pn**	**04 11 13.3**	**+0.1**
AOPR	**Arecibo Observ**	**2.38**	**274**	*e*S	**Sn**	**04 11 42.5**	**+1.2**
**AO

comp=Z,1.2nm,0.4s
KKAR Karatay Array 71.07 5 P P 04 25 59.1 +0.4
TORD Torodi Ar. Bea 72.41 296 P P 04 26 07.5 +0.1
TORD Torodi Ar. Bea 72.41 296 P P 04 26 08.0 +0.6
comp=Z,1.9nm,0.8s,baz=106,slow=5.7,SNR=9.5
comp=Z,1.9nm,0.8s
BRTR Keskin Array B 72.89 336 P P 04 26 10.5 +0.7
BRTR Keskin Array B 72.89 336 P P 04 26 10.4 +0.6
comp=Z,2.1nm,0.9s,baz=156,slow=6.4,SNR=9.4
comp=Z,2.1nm,0.9s
DBIC Dimbokro 74.28 287 P P 04 26 17.2 -1.2
DBIC IAmb IAmb 04 27 05.0
comp=Z,28nm,1.5s
ITM Ithomi 75.66 327 P P 04 26 26.1 +0.2
MK31 Makanchi Array 76.39 13 P P 04 26 30.2 +0.3
MK31 IAmb IAmb 04 28 49.4
comp=Z,15nm,0.9s
MKAR Makanchi Array 76.39 13 P P 04 26 29.5 -0.3
MKAR Makanchi Array 76.39 13 P P 04 26 29.8 -0.1
comp=Z,1.5nm,0.8s,baz=163,slow=4.5,SNR=11
comp=Z,1.5nm,0.8s
ABKAR Abkulak array 76.99 358 P P 04 26 33.0 -0.1
ABKAR Abkulak array 76.99 358 P P 04 26 33.2 +0.1
ABKAR IAmb IAmb 04 26 34.0
comp=Z,6.4nm,1.3s
KEK Kerkira 78.69 327 P P 04 26 42.8 0.0
KURBB Kurchatov Arra 79.43 10 P P 04 26 46.9 +0.2
comp=Z,1.6nm,0.2s,baz=207,slow=6.2,SNR=8.7
comp=Z,1.6nm,0.2s
CFR Carcaliu 79.63 335 ⇑P P 04 26 48.7 +0.8
PUK Puka 80.47 329 P P 04 26 53.3 +0.7
PUK IAmb IAmb 04 26 55.2
comp=Z,7.9nm,0.8s
MLR Muntele Rosu 80.72 334 P P 04 26 54.2 +0.3
MLR IAmb IAmb 04 29 11.1
comp=Z,32nm,1.9s
MLR Muntele Rosu 80.72 334 ⇑P P 04 26 54.7 +0.8
VRI Vrincioaia 80.74 335 ⇑P P 04 26 54.8 +1.0
PLOR Plostina 80.75 335 ⇓P P 04 26 54.6 +0.7
BVAR Borovoye Array 80.93 4 P P 04 26 54.6 -0.1
comp=Z,2.0nm,0.5s,baz=157,slow=8.0,SNR=8.7
comp=Z,2.0nm,0.5s
VOIR 81.02 334 ⇑P P 04 26 55.4 0.0
BZS Buzias 82.56 332 ⇑P P 04 27 04.0 +0.5
BURAR Bucovina Array 82.77 335 ⇓P P 04 27 05.9 +1.3
MARR Marisel-Cluj 82.80 333 ⇑P P 04 27 05.5 +0.7
INTR Introdacqua 83.33 325 P P 04 27 05.0 -2.7
ZALV Zalesovo Beam 83.70 13 P P 04 27 09.5 +0.4
ZALV Zalesovo Beam 83.70 13 P P 04 27 09.3 +0.2
comp=Z,3.1nm,0.5s,baz=193,slow=5.2,SNR=9.2
comp=Z,3.1nm,0.5s
AKASG Malin Array Be 84.01 339 P P 04 27 10.6 -0.2
comp=Z,1.6nm,0.7s,baz=150,slow=4.3,SNR=6.7
comp=Z,1.6nm,0.7s
ESDC Sonseca Array 92.00 315 P P 04 27 51.2 +1.6
comp=Z,1.2nm,0.7s,baz=105,slow=3.7,SNR=11
comp=Z,1.2nm,0.7s
ILAR Eielson Array 138.53 19 PKP PKiKP 04 34 06.8 -1.1
comp=Z,0.5nm,0.7s,baz=282,slow=4.5,SNR=1.9
YKA Yellowknife Ar 145.50 358 PKPbc PKPbc 04 34 18.2 0.0
comp=Z,3.9nm,1.0s,baz=4.3,slow=2.9,SNR=5.5
TXAR Lajitas Array 168.59 280 PKP PKPdf 04 34 46.0 -2.2
comp=Z,0.5nm,0.8s,baz=131,slow=3.5,SNR=4.3

*ISN **25** 04:16:56.8±1.0,34.°68N×46.°28E,h12km±15km,ML2.9*
*TEH **25** 04:16:57.1,34.°68N×46.°27E,h9km,ML2.8*
ISC 25 04:16:57.3±1.1,34.°66N±0.°04×46.°28E±0.°04,h13km±10km, n11,σ0°49/14,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.10	69	Pg	Pg	04 17 00.4	0.0
IGHG	Ghaleghazi	0.41	144	Pg	Pg	04 17 05.9	+0.3
KGS1	Ghasr-e-Shirin	0.59	255	Pg	Pg	04 17 08.5	-0.3
ILIN	Lien	0.62	66	Pg	Pg	04 17 09.2	-0.2
GLG1	Gilan-e-Gharb	0.63	209	Pg	Pb	04 17 09.8	-0.4
KCHF	Cheshme Sefid,	0.74	121	Pg	Pg	04 17 11.3	-0.4
ILBA	Ilam Banvizeh	1.04	183	Pg	Pb	04 17 17.5	+0.2
SNQR	Sonqor, Kerman	1.13	80	Pg	Pn	04 17 19.1	-0.1
IBDR	Badra	1.58	191	*e*Pn	Pg	04 17 27.0	-0.6
IBDR				*e*Sn	Sg	04 17 48.0	-0.1
IBDR				AML	AML	04 17 54.3	
	comp=N,124nm,0.7s						
IBDR				AML	AML	04 17 58.3	
	comp=E,211nm,0.5s						
IKRK	Kirkuk	1.75	295	*e*Pn	Pb	04 17 29.0	-0.3
IKRK				*e*Sn	Sb	04 17 52.0	+0.7
IKRK				AML	AML	04 17 58.0	
	comp=N,146nm,0.4s						
IKRK				AML	AML	04 18 01.7	
	comp=E,177nm,0.4s						
BHD	Baghdad	2.10	229	*e*Pn	Pn	04 17 33.0	+0.8
BHD				*e*Sn	Sb	04 18 01.0	-0.3

*ISN **25** 04:17:42.3±0.8,34.°65N×46.°41E,h15km±14km,ML2.6*
*TEH **25** 04:17:43.3,34.°64N×46.°35E,h8km,ML2.7*
ISC 25 04:17:43.8±1.3,34.°64N±0.°05×46.°36E±0.°06,h7km±10km, n8,σ0°59/11,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.06	23	Pg	Pg	04 17 45.9	+0.1
IGHG	Ghaleghazi	0.36	151	Pg	Pg	04 17 51.2	+0.3
ILIN	Lien	0.57	61	Pg	Pg	04 17 54.5	-0.4
GLG1	Gilan-e-Gharb	0.64	215	Pg	Pg	04 17 55.7	-0.6
KCHF	Cheshme Sefid,	0.67	123	Pg	Pg	04 17 56.5	-0.3
IBDR	Badra	1.57	193	*e*Pn	Pn	04 18 12.0	-0.1
IBDR				*e*Sn	Sn	04 18 33.0	+0.3
IBDR				AML	AML	04 18 38.7	
	comp=E,73nm,0.5s						
IBDR				AML	AML	04 18 39.1	
	comp=N,80nm,0.5s						
IKRK	Kirkuk	1.82	295	*e*Pn	Pn	04 18 15.0	-0.6
IKRK				*e*Sn	Sn	04 18 40.0	+1.1
IKRK				AML	AML	04 18 45.5	
	comp=E,61nm,0.5s						
IKRK				AML	AML	04 18 51.6	
	comp=N,90nm,0.4s						
BHD	Baghdad	2.14	231	*e*Pn	Pn	04 18 20.0	+0.1
BHD				*e*Sn	Sn	04 18 47.0	+0.3

*IDC **25** 04:20:27.8±0.5,25.°32N×130.°45E,h0km,mb4.6/29, mbtmp4.7/35,ML4.7/6,MS4.8/59,Error ellipse: s-maj=17.0km s-min=10.2km az=73.0*
*NIED **25** 04:20:28.4,25.°33N×130.°37E,h33km,MW5.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.39; $M_{\theta\theta}$6.23; $M_{\phi\phi}$-3.84; $M_{r\theta}$6.65; $M_{\theta\phi}$4.62; $M_{\phi r}$-0.81; Fault plane solution: $M_0$9.55000×10^{16} NP1: ϕ_s285.00000°,δ82.00000°,λ-49.00000°. NP2:ϕ_s24.00000°, δ42.00000°,λ-168.00000°.*
*JMA **25** 04:20:28.4±0.2,25.°N±1.°×130.°4E±0.°3,h33km,MD5.8/28, MW5.3/28,NEAR MINAMI-DAITOJIMA IS*
*MOS **25** 04:20:29.4±1.1,25.°39N×130.°49E,h19km,mb5.4/60, MS4.9/26,Error ellipse: s-maj=7.2km s-min=3.5km az=114.9*
*NEIC **25** 04:20:30.3,25.°18N×130.°48E,h18km,Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.04; $M_{\theta\theta}$0.77; $M_{\phi\phi}$-0.81; $M_{r\theta}$-0.20; $M_{\theta\phi}$0.97; $M_{\phi r}$0.00; Fault plane solution: $M_0$1.27000×10^{17} NP1: ϕ_s289.91000°,δ86.72000°,λ8.74000°. NP2:ϕ_s199.41000°, δ81.27000°,λ176.68000°. Principal axes: T 1.2605, Plg8.0000°, Azm155.0000°; N 0.0150, Plg81.0000°, Azm310.0000°; P -1.2754, Plg4.0000°, Azm64.0000°;*
*GCMT **25** 04:20:30.3±0.1,25.°34N±0.°01×130.°33E±0.°01,h12km, MW5.3/148,Moment Tensor Solution. s100,c165; s148,c287; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.01±.01; $M_{\theta\theta}$0.70±.01; $M_{\phi\phi}$-0.68±.01; $M_{r\theta}$0.34±.03; $M_{\theta\phi}$0.90±.01; $M_{\phi r}$0.27±.04; Best double couple: $M_0$1.21000×10^{17} NP1:ϕ_s18.00000°,δ81.00000°, λ163.00000°. NP2:ϕ_s110.00000°,δ73.00000°,λ10.00000°. Principal axes: T 1.2850, Plg18.0000°, Azm333.0000°; N -0.1490, Plg71.0000°, Azm170.0000°; P -1.1350, Plg5.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **25** 04:20:30.3±1.5,25.°38N±0.°06×130.°48E±0.°06,h10km±1km, mb5.2/211,Mwb5.4/32,Mww5.3/33 Error ellipse: s-maj=11.7km s-min=7.8km az=149.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.02; $M_{\theta\theta}$0.94; $M_{\phi\phi}$-0.95; $M_{r\theta}$0.58; $M_{\theta\phi}$0.77; $M_{\phi r}$0.04; Fault plane solution: $M_0$1.35000×10^{17} NP1:ϕ_s116.99000°, δ80.49000°,λ21.20000°. NP2:ϕ_s23.32000°,δ69.11000°, λ169.81000°. Principal axes: T 1.4284, Plg22.0000°, Azm342.0000°; N -0.1810, Plg67.0000°, Azm140.0000°; P -1.2474, Plg8.0000°, Azm249.0000°;*
*NEIC **25** 04:20:30.3,25.°38N×130.°48E,h18km*
*NEIC **25** 04:20:31,25.°41N×130.°45E,h10km*
*BJI **25** 04:20:31.3±0.0,25.°66N×130.°17E,h10km,mb4.9/88, mB5.3/67,Ms5.2/97,Ms7 4.9/94*
ISC 25 04:20:30.1±0.5,25.°36N±0.°03×130.°42E±0.°03,h12km±2km, h12km:pP-P,n823,σ1°53/763,mb5.2/230,MS4.9/114, 26C-15D,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	Minamidaito 2	0.86	57	P	Pg	04 20 45.7	-1.0
JMZ	Minamidaito 2	0.86	57	Pg	Pg	04 20 45.0	-1.6
JMZ	Minamidaito 2	0.86	57	P	Pg	04 20 45.1	-1.6
JMZ	Minamidaito 2	0.86	57	A	A	04 20 45.1	
	comp=E,456nm,2.7s,comp=N,438nm,5.4s						
JKDJ	Kitadaitoujima	0.98	53	P	Pg	04 20 47.0	-2.1
JKDJ				*e*S	Sg	04 21 00.4	-1.5
JKDJ	Kitadaitoujima	0.98	53	A	A	04 20 47.0	
	comp=E,437nm,3.4s,comp=N,470nm,7.5s						
JOW	Kunigami	2.43	308	P	Pn	04 21 07.4	-2.2
JOW	Kunigami	2.43	308	Pn	Pn	04 21 07.1	-2.5
JOW	Kunigami	2.43	308	Pn	Pn	04 21 07.4	-2.2
	comp=N,300nm,0.3s,baz=142,slow=13,SNR=1253						
JOW				Sn	Sn	04 21 33.8	-5.5
	comp=N,486nm,0.3s,baz=317,slow=19,SNR=6.9						
JOW				LR	LR	04 22 18.1	
	comp=N,18μm,20.6s,baz=118,slow=45						
JOW				T	T	04 23 34.5	
	comp=N,3μm,0.8s,baz=207,slow=10,SNR=3.4						
	comp=N,1μm,0.3s						
JOW	Kunigami	2.43	308	P	Pn	04 21 07.1	-2.5
JOW				*e*S	Sn	04 21 34.3	-4.9
JOW	Kunigami	2.43	308	A	A	04 21 07.1	
	comp=E,54nm,5.6s,comp=N,63nm,7.3s						
JYRO	Yoronjima	2.43	314	P	Pn	04 21 07.3	-2.3
JYRO				*e*S	Sn	04 21 34.2	-5.1
JYRO	Yoronjima	2.43	314	A	A	04 21 07.3	
	comp=E,32nm,8.8s,comp=N,37nm,4.6s						
JNTH	Nagotoyohara	2.45	299	P	Pn	04 21 07.1	-2.8
JNTH				S	Sn	04 21 34.4	-5.5
JNTH	Nagotoyohara	2.45	299	A	A	04 21 07.1	
	comp=E,41nm,6.2s,comp=N,34nm,5.5s						
JJT3	Tamagusuku3	2.51	289	P	Pn	04 21 08.4	-2.3
JJT3				*e*S	Sn	04 21 35.4	-5.8
JJT3	Tamagusuku3	2.51	289	A	A	04 21 08.4	
	comp=E,169nm,4.3s,comp=N,167nm,5.1s						
JOKE	Okinoerabujima	2.60	321	P	Pn	04 21 10.1	-1.9
JOKE	Okinoerabujima	2.60	321	A	A	04 21 10.1	
	comp=E,34nm,2.6s,comp=N,34nm,7.2s						
JTK	Tokunoshima	2.76	332	P	Pn	04 21 12.5	-1.6
JTK	Tokunoshima	2.76	332	A	A	04 21 12.5	
	comp=E,17nm,8.6s,comp=N,16nm,5.5s						
JIH	Iheya	2.77	308	*i* P	Pn	04 21 11.9	-2.3
JIH	Iheya	2.77	308	A	A	04 21 11.9	
	comp=E,32nm,5.4s,comp=N,52nm,7.1s						
JZK	Kikaishima	2.97	352	*e*P	Pn	04 21 17.0	-0.1
JZK	Kikaishima	2.97	352	A	A	04 21 17.0	
	comp=E,68nm,6.2s,comp=N,65nm,6.1s						
JAMN	Amaminishikomi	3.08	339	P	Pn	04 21 17.0	-1.6
JAMN	Amaminishikomi	3.08	339	A	A	04 21 17.0	
	comp=E,11nm,5.9s,comp=N,12nm,4.9s						
JAGN	Aguni-jima	3.12	294	*i* P	Pn	04 21 16.6	-2.5
JAGN				*e*S	Sn	04 21 49.4	-6.8
JAGN	Aguni-jima	3.12	294	A	A	04 21 16.6	
	comp=E,42nm,2.9s,comp=N,62nm,6.4s						
JAM	Amami Oshima	3.13	347	P	Pn	04 21 17.8	-1.4
JAM	Amami Oshima	3.13	347	A	A	04 21 17.8	
	comp=E,17nm,6.1s,comp=N,11nm,7.1s						
JKE	Kume jima 2	3.42	287	P	Pn	04 21 20.1	-3.1
JTAJ	Takarajima	3.94	344	P	Pn	04 21 28.5	-1.8
JOGS	Gusukube	4.59	264	*e*P	Pn	04 21 36.9	-2.4
JOGS	Gusukube	4.59	264	A	A	04 21 36.9	
	comp=E,52nm,5.4s,comp=N,53nm,6.7s						
JMJ2	Miyako jima3	4.66	264	A	A	04 21 38.1	
	comp=E,62nm,6.1s,comp=N,48nm,6.4s						
JMJ	Miyako jima 2	4.68	264	P	Pn	04 21 38.0	-2.6
JIKM	Ikemajima	4.71	266	A	A	04 21 38.9	
	comp=E,32nm,5.4s,comp=N,39nm,6.3s						
JIRB	Irabujima	4.79	265	A	A	04 21 40.0	
	comp=E,20nm,5.2s,comp=N,23nm,6.9s						
JYAK	Yakushimahirau	4.86	1	P	Pn	04 21 41.9	-1.2
JTJ	Tarama	5.24	263	P	Pn	04 21 45.1	-3.1
JTN	Tanegashima 3	5.30	5	P	Pn	04 21 47.6	-1.5
JISG	Ishigakijimahi	5.60	263	P	Pn	04 21 49.3	-3.9
JIJ	Ishigaki jima	5.79	261	*e*P	Pn	04 21 52.1	-3.7
JKRS	Kuro-shima	5.93	261	A	A	04 21 56.0	
	comp=E,23nm,5.6s,comp=N,23nm,4.3s						
HATJ	Hateruma jima	6.16	259	P	Pn	04 21 57.9	-3.0
HATJ	Hateruma jima	6.16	259	A	A	04 21 57.9	
	comp=E,13nm,5.9s,comp=N,17nm,4.6s						
JNKG	Nichinankitago	6.34	7	A	A	04 22 02.9	
	comp=E,4.0nm,3.4s,comp=N,4.0nm,1.4s						
YOJ	Yonaguni jima	6.79	264	P	Pn	04 22 05.9	-3.6
YOJ	Yonaguni jima	6.79	264	Pn	Pn	04 22 06.0	-3.6
YOJ	Yonaguni jima	6.79	264	P	Pn	04 22 06.0	-3.6
JNU	Nakatsue	7.75	3	P	Pn	04 22 23.2	+0.4
JNU	Nakatsue	7.75	3	Pn	Pn	04 22 22.6	-0.1
JNU	Nakatsue	7.75	3	Pn	Pn	04 22 22.1	-0.7
	comp=N,7.4nm,0.3s,baz=190,slow=3.9,SNR=63						
JNU				Sn	Sn	04 23 43.8	-6.7
	comp=N,6.0nm,0.3s,baz=78,slow=14,SNR=1.6						
JNU				LR	LR	04 25 47.6	
	comp=N,5μm,19.1s,baz=197,slow=41						
	comp=N,84nm,0.7s						
TATO	Taipei	8.10	269		Pn	04 22 26.3	-1.4
NACB	Ninganchiao	8.11	264	P	Pn	04 22 23.3	-4.4
NACB	Ninganchiao	8.11	264		Pn	04 22 23.9	-3.8
YHNB	Yeheng	8.24	267	P	Pn	04 22 27.6	-1.9
YHNB	Yeheng	8.24	267	Pn	Pn	04 22 26.6	-2.9
YULB	Yu-li	8.55	259	P	Pn	04 22 28.5	-5.2
SSLB	Suanglung	8.76	262	P	Pn	04 22 34.6	-2.1
SSLB	Suanglung	8.76	262	Pn	Pn	04 22 32.6	-4.1
JMN	Monobe	8.87	19	P	Pn	04 22 38.0	-0.2
JMN	Monobe	8.87	19	Pn	Pn	04 22 37.9	-0.2
TWGBT	Beinan	8.90	255	P	Pn	04 22 33.5	-5.1
TPUB	Ta-pu	9.16	259	P	Pn	04 22 39.3	-2.9
TPUB	Ta-pu	9.16	259	Pn	Pn	04 22 38.8	-3.4
JTU	Tsushima	9.18	355	P	Pn	04 22 43.2	+0.9
SSE	Sheshan	9.95	307	P	Pn	04 22 51.9	-1.0
SSE				S	Sn	04 24 44.1	-0.4
SSE				pmax	pmax		
	comp=N,15nm,0.8s						
SSE				pmax	pmax		
	comp=N,300nm,8.8s						
SSE				LR	LR		
	comp=N,5μm,16.5s						
SSE				LR	LR		
	comp=N,4μm,16.3s						
JCJ	Chichijima	10.70	78	P	Pn	04 23 02.7	-0.5
JCJ	Chichijima	10.70	78	Pn	Pn	04 23 01.9	-1.4
JCJ	Chichijima	10.70	78	Pn	Pn	04 22 57.2	-6.0
	comp=N,40nm,0.3s,baz=285,slow=18,SNR=32						
JCJ				Sn	Sn	04 24 50.2	-13
	comp=N,9.7nm,0.3s,baz=307,slow=20,SNR=1.5						
JCJ				LR	LR	04 26 32.0	
	comp=N,5μm,18.9s,baz=254,slow=34						
JCJ				T	T	04 33 52.5	
	comp=N,53nm,0.3s,baz=279,slow=22,SNR=4.4						
QZH	Quanzhou	10.73	270	*e*P	Pn	04 23 02.1	-1.5
QZH				LR	LR		
	comp=N,4μm,8.4s						
QZH				LR	LR		
	comp=N,7μm,12.2s						
QZH				LR	LR		
	comp=N,6μm,13.3s						
JHJ	Hachijo jima 2	11.25	44	Pn	Pn	04 23 12.2	+1.5
	comp=N,31nm,0.3s,baz=236,slow=22,SNR=10.0						
JHJ				LR	LR	04 26 42.5	
	comp=N,6μm,21.8s,baz=256,slow=33						
	comp=N,88nm,0.3s						
JHJ2	Mitsune	11.27	45	P	Pn	04 23 13.8	+2.9
JHJ2	Mitsune	11.27	45	Pn	Pn	04 23 11.8	+0.9
TJN	Taejon	11.29	347	P	Pn	04 23 12.2	+0.9
TJN	Taejon	11.29	347		Pn	04 23 11.8	+0.5
TJN	Taejon	11.29	347	*c i*P	Pn	04 23 12.0	+0.7
JGF	Kuroka	11.83	29	P	Pn	04 23 21.0	+2.3
JGF	Kuroka	11.83	29	Pn	Pn	04 23 19.2	+0.6
NJ2	Nanjing	12.14	306	⇓P	Pn	04 23 23.3	+0.3
NJ2				pmax	pmax		
	comp=N,63nm,0.7s						
NJ2				pmax	pmax		
	comp=N,500nm,3.6s						
NJ2				LR	LR		
	comp=N,11μm,14.7s						
NJ2				LR	LR		
	comp=N,8μm,14.7s						
NJ2				LR	LR		
	comp=N,5μm,10.9s						
KSAR	Wonju Array Be	12.24	350	Pn	Pn	04 23 24.4	+0.2
KSAR	Wonju Array Be	12.24	350	P	Pn	04 23 24.4	+0.2
KSRS	Korea Array	12.25	351	Pn	Pn	04 23 24.4	+0.1
	comp=N,1.1nm,0.3s,baz=171,slow=14,SNR=178						
	comp=N,105nm,1.0s						
KS19	Wonju Array Si	12.30	350		Pn	04 23 25.6	+0.5
INCN	Inchon	12.51	346		Pn	04 23 26.9	-1.1
INCN	Inchon	12.51	346	P	Pn	04 23 26.9	-1.1
MAJO	Matsushiro	12.99	29	P	Pn	04 23 35.8	+1.3
MAJO	Matsushiro	12.99	29	Pn	Pn	04 23 33.1	-1.4
MAJO	Matsushiro	12.99	29	P	Pn	04 23 33.1	-1.4
MJAR	Matsushiro Arr	12.99	29	Pn	Pn	04 23 36.9	+2.4
	comp=N,0.6nm,0.3s,baz=190,slow=12,SNR=21						
MJAR				LR	LR	04 28 21.8	
	comp=N,4μm,18.6s,baz=205,slow=36						
MJB9	Matsu-Tunnel	12.99	29		Pn	04 23 34.8	+0.3
WHN	Wuhan	15.11	294	⇓P	Pn	04 24 02.6	-0.8
WHN				S	Sn	04 26 51.1	+0.3
WHN				pmax	pmax		
	comp=N,120nm,1.2s						
WHN				LR	LR		
	comp=N,22μm,11.0s						
WHN				LR	LR		
	comp=N,18μm,10.1s						
WHN				LR	LR		
	comp=N,14μm,9.9s						
JMM	Marumori	15.27	33	P	Pn	04 24 06.8	+1.3
JMM	Marumori	15.27	33	P	Pn	04 24 02.3	-3.2
DL2	Dalian	15.41	333	P	Pn	04 24 06.0	-1.4
DL2				pmax	pmax		
	comp=N,120nm,1.1s						
DL2				pmax	pmax		
	comp=N,2μm,11.2s						
DL2				LR	LR		
	comp=N,3μm,21.9s						
DL2				LR	LR		
	comp=N,7μm,16.0s						
DL2				LR	LR		
	comp=N,8μm,15.8s						
TIA	Tai'an	15.72	317	P	Pn	04 24 10.3	-1.1
TIA				S	Sn	04 27 04.5	-1.1
TIA				pmax	pmax		
	comp=N,45nm,2.1s						
TIA				pmax	pmax		
	comp=N,1μm,9.1s						
TIA				LR	LR		
	comp=N,5μm,12.3s						
TIA				LR	LR		
	comp=N,4μm,11.8s						
TIA				LR	LR		
	comp=N,7μm,11.8s						
CNSH	ChangSha	15.88	284	P	Pn	04 24 13.3	-0.1
CNSH				S	Sn	04 27 08.1	-1.3
CNSH				pmax	pmax		
	comp=N,19nm,1.1s						
CNSH				LR	LR		
	comp=N,6μm,11.2s						
CNSH				LR	LR		
	comp=N,7μm,10.1s						
CNSH				LR	LR		
	comp=N,9μm,10.6s						
MSHR	Mys Shultsa	17.19	2⇑	*e*P	Pn	04 24 29.5	-0.6
MSHR				pmax	pmax		
	comp=Z,27nm,1.5s						
PSTR	Posyet	17.25	1	*d i*P	Pn	04 24 31.0	+0.2
SNY	Shenyang	17.38	343	⇑P	Pn	04 24 32.3	-0.1
SNY				S	Sn	04 27 48.8	+3.1
SNY				pmax	pmax		
	comp=Z,98nm,1.5s						
SNY				pmax	pmax		
	comp=Z,680nm,4.4s						
SNY				LR	LR		
	comp=Z,4μm,16.3s						
SNY				LR	LR		
	comp=Z,3μm,14.1s						
SNY				LR	LR		
	comp=Z,5μm,19.0s						
VLA	Vladivostok	17.76	4	*e*P	P	04 24 38.2	+0.3
VLA				pmax	pmax		
	comp=Z,190nm,1.7s						
JTM	Tennabayashi	17.76	27		Pn	04 24 36.2	-1.0
GUMO	Guam	17.94	128	P	Pn	04 24 34.8	-4.7
GUMO	Guam	17.94	128	P	Pn	04 24 39.4	-0.1
	comp=Z,15nm,0.3s,baz=262,slow=3.2,SNR=7.1						
GUMO				LR	LR	04 29 60.0	
	comp=Z,3μm,19.4s,baz=314,slow=32						
	comp=Z,44nm,0.3s						
HNS	HongShan	17.98	316	⇑P	Pn	04 24 39.1	-0.7
HNS				S	Sn	04 27 59.8	-0.4
HNS				pmax	pmax		
	comp=Z,87nm,1.3s						
HNS				LR	LR		
	comp=Z,3μm,12.7s						
HNS				LR	LR		
	comp=Z,6μm,15.5s						
HNS				LR	LR		
	comp=Z,5μm,13.2s						
LYN	LuoYang	18.04	305	P	Pn	04 24 39.3	-1.3
LYN				pP	pP	04 24 42.4	-0.8
LYN				S	Sn	04 27 59.8	-1.9
LYN				pmax	pmax		
	comp=Z,98nm,1.2s						
LYN				pmax	pmax		
	comp=Z,2μm,10.0s						
LYN				LR	LR		
	comp=Z,10μm,15.3s						
LYN				LR	LR		
	comp=Z,7μm,16.5s						
LYN				LR	LR		
	comp=Z,9μm,11.0s						
GULI	GuiLin	18.14	274	⇑P	P	04 24 45.5	+3.3
GULI				pmax	pmax		
	comp=Z,110nm,1.5s						
GULI				LR	LR		
	comp=Z,2μm,14.1s						
GULI				LR	LR		
	comp=Z,4μm,11.9s						
GULI				LR	LR		
	comp=Z,5μm,11.9s						
USA0B	Ussuriysk Arra	18.84	3	P	Pn	04 24 50.2	-0.2
USA0B	Ussuriysk Arra	18.84	3	*ce*P	Pn	04 24 50.7	+0.3
USRK	Ussuriysk Ar.	18.84	3	P	Pn	04 24 50.6	+0.2
USRK	Ussuriysk Ar.	18.84	3	P	Pn	04 24 50.4	+0.1
	comp=Z,0.7nm,0.3s,baz=173,slow=9.5,SNR=33						
	comp=Z,27nm,0.8s						
USRK	Ussuriysk Ar.	18.84	3	P	Pn	04 24 50.6	+0.2
CN2	Changchun	18.84	349	*e*P	P	04 24 49.3	-0.6
CN2				*e*S	Sn	04 28 09.1	-12
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=Z,3μm,18.0s						
CN2				LR	LR		
	comp=Z,3μm,18.0s						
CN2				LR	LR		
	comp=Z,2μm,22.0s						
BJT	Baij

BJI LR LR
comp=Z,2μm,20.1s
ENH Enshi 19.15 290 P **P 04 24 53.1 -0.3**
MDJ Mudanjiang 19.23 358 P **Pn 04 24 55.5 +0.5**
MDJ pmax pmax
comp=Z,62nm,2.0s
MDJ pmax pmax
comp=Z,1μm,3.5s
MDJ LR LR
comp=Z,2μm,13.7s
MDJ LR LR
comp=Z,2μm,12.4s
MDJ LR LR
comp=Z,3μm,13.4s
MDJ Mudanjiang 19.23 358 P **Pn 04 24 55.1 +0.1**
MDJ IAmb IAmb 04 24 59.0
comp=Z,157nm,1.3s
TIY Taiyuan 19.63 313 *e*P **Pn 04 25 01.0 +1.0**
TIY PP **PnPn 04 25 19.6 +6.1**
TIY pmax pmax
comp=Z,45nm,2.5s
TIY pmax pmax
comp=Z,1μm,8.2s
TIY LR LR
comp=Z,5μm,13.7s
TIY LR LR
comp=Z,4μm,15.1s
TIY LR LR
comp=Z,2μm,17.1s
ERM Erimo 19.67 29 P **P 04 24 57.8 -1.1**
ERM Erimo 19.67 29*de*P **P 04 24 58.3 -0.6**
ERM pmax pmax
comp=Z,31nm,1.0s
QIZ Qiongzhong 20.06 256 P **P 04 25 03.4 +0.1**
QIZ S Sn 04 28 50.1 -0.7
QIZ pmax pmax
comp=Z,180nm,1.9s
QIZ pmax pmax
comp=Z,2μm,4.3s
QIZ LR LR
comp=Z,1μm,9.3s
QIZ LR LR
comp=Z,2μm,12.6s
QIZ LR LR
comp=Z,2μm,16.8s
QIZ Qiongzhong 20.06 256 P Pn 04 25 05.4 +0.3
TEY Ternei 20.26 13 *e*P **P 04 25 04.3 -1.0**
BNX BinXian 20.48 354 ⇓P Pn 04 25 09.3 -0.6
BNX pP sP 04 25 11.6 +0.6
BNX sS Sn 04 29 03.4 +2.7
BNX pmax pmax
comp=Z,130nm,1.4s
BNX pmax pmax
comp=Z,1μm,9.9s
BNX LR LR
comp=Z,2μm,20.7s
BNX LR LR
comp=Z,4μm,19.0s
BNX LR LR
comp=Z,2μm,21.6s
XAN Xi'an 20.56 300 ⇑P **P 04 25 07.5 -1.2**
XAN sP sP 04 25 13.8 +1.9
XAN S **S 04 28 57.1 -1.4**
XAN pmax pmax
comp=Z,60nm,1.1s
XAN pmax pmax
comp=Z,730nm,4.0s
XAN LR LR
comp=Z,6μm,12.4s
XAN LR LR
comp=Z,5μm,14.3s
XAN LR LR
comp=Z,6μm,14.9s
ASAJ Asahikawa 21.18 25 P **P 04 25 16.6 +1.4**
comp=Z,4.0nm,0.6s,baz=226,slow=16,SNR=5.8
comp=Z,4.0nm,0.6s
ASAJ Asahikawa 21.18 25 P **P 04 25 14.8 -0.5**
ASAJ pmax pmax
comp=Z,47nm,0.8s
JKA Kamikawa-asahi 21.18 25 P **P 04 25 14.8 -0.5**
GYA Guiyang 21.40 278 ⇓P **P 04 25 19.8 +1.9**
GYA S **S 04 29 14.1 -1.3**
GYA pmax pmax
comp=Z,130nm,1.6s
GYA LR LR
comp=Z,4μm,11.7s
GYA LR LR
comp=Z,4μm,10.1s
GYA LR LR
comp=Z,5μm,12.0s
XLT XiLinHaoTe 21.88 331 *e*P **P 04 25 22.3 -0.7**
XLT PP **PnPn 04 25 45.6 +1.2**
XLT S **S 04 29 18.1 -6.5**
XLT pmax pmax
comp=Z,47nm,1.0s
XLT pmax pmax
comp=Z,640nm,8.2s
XLT LR LR
comp=Z,4μm,17.0s
XLT LR LR
comp=Z,5μm,17.8s
HHC Hu-ho-hao-te 22.03 319 *e*P **P 04 25 27.5 +2.9**
HHC sP pwP 04 25 34.0 +1.7
HHC S **S 04 29 22.3 -5.2**
HHC sS sS 04 29 30.1 -0.9
HHC pmax pmax
comp=Z,44nm,1.0s
HHC LR LR
comp=Z,3μm,13.8s
HHC LR LR
comp=Z,3μm,14.1s
HHC LR LR
comp=Z,5μm,15.3s
SGSI Sangihe 22.05 193 P **P 04 25 23.7 -1.2**
BTO Baotou 22.81 317 *e*P **P 04 25 35.8 +2.8**
BTO sP **pwP 04 25 44.1 +3.4**
BTO pmax pmax
comp=Z,2μm,7.0s
BTO LR LR
comp=Z,6μm,14.1s
BTO LR LR
comp=Z,8μm,15.7s
BTO LR LR
comp=Z,8μm,15.7s
YSS Yuzh-Sakhalins 23.68 21 *e*P **P 04 25 43.1 +1.6**
YSS pmax pmax
comp=Z,400nm,2.2s
YSS pmax pmax
comp=Z,80nm,1.3s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,2μm,15.0s
KLR Kul'dur 23.85 2*c i*P **P 04 25 42.2 -1.0**
KLR pmax pmax
comp=Z,262nm,2.5s
KLR MLR MLR
comp=Z,1μm,18.0s
CD2 Chengdu 24.13 289 P **P 04 25 44.4 -1.6**
CD2 S **S 04 30 02.1 -1.6**
CD2 pmax pmax
comp=Z,110nm,1.5s
CD2 pmax pmax
comp=Z,490nm,5.9s
CD2 LR LR
comp=Z,11μm,16.5s
CD2 LR LR
comp=Z,5μm,15.9s
CD2 LR LR
comp=Z,5μm,12.0s
KUR Kuril'sk 24.32 31 P **P 04 25 47.9 +0.4**
KUR S **S 04 30 07.3 +1.0**
KUR pmax pmax
comp=Z,351nm,1.2s
KUR pmax pmax
comp=Z,2μm,4.6s
KUR MLR MLR
comp=Z,1μm,18.0s
TNTI Ternate 24.62 187 P **P 04 25 49.6 -0.9**
TNTI Ternate 24.62 187 P **P 04 25 50.0 -0.5**
comp=Z,97nm,1.5s,comp=Z,2μm
DLV T Lat 24.65 241 P **P 04 25 51.8 +0.8**
DLV IAmb IAmb 04 26 10.3
comp=Z,100nm,1.3s
SLVN Son La 24.66 266 P **P 04 25 52.4 +1.5**
HEH HeiHe 24.96 355 *e*P **P 04 25 53.3 0.0**

HEH pP **pwP 04 25 59.3 -1.7**
HEH S **S 04 30 19.1 +2.4**
HEH pmax pmax
comp=Z,72nm,2.4s
HEH pmax pmax
comp=Z,970nm,5.7s
HEH LR LR
comp=Z,1μm,12.8s
HEH LR LR
comp=Z,2μm,11.5s
HEH LR LR
comp=Z,3μm,15.0s
KMI Kunming 25.03 275 ⇑P **P 04 25 56.3 +1.9**
KMI S **S 04 30 20.9 +2.3**
KMI pmax pmax
comp=Z,62nm,1.4s
KMI pmax pmax
comp=Z,1μm,4.3s
KMI LR LR
comp=Z,970nm,9.5s
KMI LR LR
comp=Z,2μm,10.7s
KMI LR LR
comp=Z,2μm,11.2s
LZH Lanzhou 25.15 301 P **P 04 25 55.9 +0.5**
LZH sP pwP 04 26 01.4 -1.8
LZH S **S 04 30 19.4 -1.0**
LZH pmax pmax
comp=Z,110nm,1.3s
LZH pmax pmax
comp=Z,1μm,4.0s
LZH LR LR
comp=Z,7μm,14.8s
LZH LR LR
comp=Z,3μm,13.9s
LZH LR LR
comp=Z,4μm,15.3s
HIA Hailar 25.28 343 P **P 04 25 56.2 -0.1**
HIA Hailar 25.28 343*c i*P **P 04 25 56.0 -0.3**
HIA pmax pmax
comp=Z,49nm,1.1s
HIA MLR MLR
comp=Z,2μm,17.0s
KMSI Cibinong 25.41 195 P **P 04 25 59.2 +1.6**
UBPT Khong Chiam 25.41 252 P **P 04 25 58.4 +0.7**
GTOI Gorontalo 25.60 197 P **P 04 26 00.4 +1.1**
GRNR Gornyy 25.79 9⇑*i*P **P 04 26 01.5 +0.7**
GRNR pmax pmax
comp=N,8.0nm,1.0s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,2μm,16.0s
GRNR MLR MLR
comp=N,870nm,17.0s
PZH PanZhiHua 25.80 279 P **P 04 26 03.4 +2.1**
PZH S **S 04 30 29.3 -1.4**
PZH pmax pmax
comp=N,50nm,1.0s
PZH pmax pmax
comp=N,850nm,3.5s
PZH LR LR
comp=N,4μm,18.8s
PZH LR LR
comp=N,3μm,17.8s
PZH LR LR
comp=N,2μm,13.5s
TOLI2 Tolitoli 25.84 203 P **P 04 25 58.8 -2.7**
TOLI2 Tolitoli 25.84 203 P **P 04 25 60.0 -1.6**
TOLI2 IAmb IAmb 04 26 37.9
comp=Z,57nm,1.0s
MRSI Marisa 26.06 200 P **P 04 26 05.2 +1.7**
comp=Z,36nm,0.8s
SWI Sorong 26.08 178 P **P 04 26 06.1 +2.4**
comp=Z,45nm,0.9s
MPSI Mapaga 26.87 204 P **P 04 26 11.6 +0.7**
TYV Tymovskoe 27.15 17 *e*P **P 04 26 15.1 +2.0**
TYV *e*S **S 04 30 57.1 +5.9**
TYV pmax pmax
comp=Z,10.0nm,0.6s
TYV pmax pmax
comp=Z,100nm,2.8s
TYV smax smax
comp=N,1μm,9.2s
TYV smax smax
comp=E,400nm,9.2s
FAKI Fak Fak 28.16 176 P **P 04 26 23.5 +1.0**
FAKI Fak Fak 28.16 176 P **P 04 26 24.1 +1.6**
comp=E,77nm,1.1s
ZEA Zeya 28.45 356 *e*P **P 04 26 24.8 +0.2**
ZEA *e*S **S 04 31 06.6 -5.0**
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=N,50nm,1.3s
ZEA pmax pmax
comp=Z,70nm,1.4s
ZEA pmax pmax
comp=Z,300nm,6.5s
ZEA smax smax
comp=N,500nm,5.4s
ZEA MLR MLR
comp=E,900nm,13.0s
ZEA MLR MLR
comp=N,800nm,12.0s
ZEA MLR MLR
comp=Z,900nm,14.0s
PHRA Phrae 28.79 262 P **P 04 26 28.2 +0.2**
NKL Nikolayevsk 28.81 13 *e*P **P 04 26 30.2 +2.3**
NKL *e*S **S 04 31 23.6 +6.3**
NKL pmax pmax
comp=Z,261nm,1.1s
NKL pmax pmax
comp=N,96nm,1.0s
NKL smax smax
comp=N,585nm,7.7s
NKL MLR MLR
comp=Z,5μm,19.0s
TNCH TengChong 28.84 276 P **P 04 26 32.1 +3.4**
TNCH S **S 04 31 22.4 +3.6**
TNCH pmax pmax
comp=Z,78nm,1.5s
TNCH pmax pmax
comp=Z,270nm,3.8s
TNCH LR LR
comp=Z,1μm,9.4s
TNCH LR LR
comp=Z,3μm,10.8s
TNCH LR LR
comp=Z,2μm,21.2s
ULN Ulaanbaatar 29.06 327 P **P 04 26 30.6 +0.2**
ULN IAmb IAmb 04 26 39.2
comp=Z,53nm,1.2s
ULN Ulaanbaatar 29.06 327*c i*P **P 04 26 30.4 0.0**
ULN pmax pmax
comp=Z,47nm,1.3s
ULN MLR MLR
comp=Z,3μm,17.0s
GTA Gaotai 29.24 306 ⇑P **P 04 26 31.9 -0.2**
GTA sP pwP 04 26 40.1 +0.2
GTA PP **PnPn 04 27 28.3 +3.3**
GTA S **S 04 31 22.0 -2.8**
GTA pmax pmax
comp=Z,94nm,0.9s
GTA pmax pmax
comp=Z,280nm,8.0s
GTA LR LR
comp=Z,4μm,14.2s
GTA LR LR
comp=Z,2μm,16.4s
GTA LR LR
comp=Z,2μm,16.4s
GENI Genyem 29.35 160 P **P 04 26 33.3 +0.3**
comp=Z,65nm,1.2s
SONM Songino Array 29.37 326 P **P 04 26 33.2 +0.1**
SONM Songino Array 29.37 326 P **P 04 26 33.1 0.0**
comp=Z,10nm,1.1s,baz=141,slow=6.8,SNR=38
SONM ScP **ScP 04 33 23.4 +2.5**
comp=Z,1.9nm,1.0s,baz=90,slow=1.5,SNR=4.9
SONM LR LR 04 39 52.4
comp=Z,3μm,19.0s,baz=128,slow=40
comp=Z,10nm,1.1s
SONM Songino Array 29.37 326 P **P 04 26 33.2 +0.1**
SONM pmax pmax
comp=Z,21nm,0.9s
CIT Chita 29.55 339 *e*P **P 04 26 34.5 -0.1**

CIT *e* 04 26 42.7
CIT *e* 04 27 37.0
CIT *e* 04 29 33.7
CIT pmax pmax
comp=Z,164nm,2.8s
CHTO Chiang Mai 29.84 264 P **P 04 26 37.5 +0.1**
CHTO IAmb IAmb 04 26 42.0
comp=Z,35nm,1.1s
CHTO Chiang Mai 29.84 264 P **P 04 26 37.5 +0.1**
CHTO pmax pmax
comp=Z,35nm,1.1s
CMAR Chiang Mai Arr 29.95 263 P **P 04 26 39.2 +0.8**
CMAR Chiang Mai Arr 29.95 263 P **P 04 26 40.0 +1.6**
comp=Z,4.4nm,0.9s,baz=62,slow=7.9,SNR=20
CMAR LR LR 04 38 42.2
comp=Z,2μm,21.5s,baz=70,slow=36
comp=Z,4.4nm,0.9s
CMAR Chiang Mai Arr 29.95 263 *i* P **P 04 26 41.7 +3.3**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
KAPI Kappang 31.92 200 LR LR 04 38 30.8
comp=Z,604nm,21.5s,baz=21,slow=34
GOMU GeErMu 32.28 298 P **P 04 27 00.3 +1.0**
GOMU PcP **PcP 04 29 49.8 +2.4**
GOMU pmax pmax
comp=Z,46nm,1.3s
GOMU LR LR
comp=Z,3μm,16.7s
GOMU LR LR
comp=Z,2μm,16.9s
GOMU LR LR
comp=Z,3μm,16.3s
ZAK Zakamensk 32.58 327 *e*P **P 04 27 00.5 -0.9**
ZAK pmax pmax
comp=Z,12nm,1.8s
IRK Irkutsk 33.36 330 *e*P **P 04 27 08.2 +0.2**
IRK pmax pmax
comp=Z,92nm,2.4s
H11N1 WAKE ISLAND Hy 34.08 92 T T 05 02 53.1
baz=283,slow=74,SNR=13
H11N2 WAKE ISLAND Hy 34.08 92 T T 05 02 56.0
baz=283,slow=74,SNR=11
H11N3 WAKE ISLAND Hy 34.09 92 T T 05 02 54.8
baz=283,slow=74,SNR=14
H11S3 WAKE ISLAND Hy 34.25 94 T T 05 03 31.6
baz=289,slow=75,SNR=13
H11S1 WAKE ISLAND Hy 34.26 94 T T 05 03 31.0
baz=289,slow=75,SNR=10.0
H11S2 WAKE ISLAND Hy 34.27 94 T T 05 03 32.0
baz=289,slow=75,SNR=9.9
BOD Bodaibo 34.49 345 *e*P **P 04 27 17.6 -0.1**
BOD pmax pmax
comp=Z,31nm,2.1s
MOY Mondy 34.51 327 *e*P **P 04 27 18.1 -0.1**
MOY pmax pmax
comp=Z,50nm,2.8s
SHL Shillong 34.72 279 P **P 04 27 20.7 +0.3**
SHL Shillong 34.72 279 P **P 04 27 20.7 +0.3**
SHL pmax pmax
comp=Z,209nm,1.5s
PET Petropavlovsk 34.82 30 *e*P P 04 27 27.0 +6.4
PET *e*S **S 04 32 48.8 -2.3**
PET MLR MLR
comp=Z,700nm,19.0s
LSA Lhasa 34.98 286 P **P 04 27 24.5 +1.6**
YAK Yakutsk 36.67 359 P **P 04 27 36.2 -0.2**
YAK Yakutsk 36.67 359 *e*P **P 04 27 35.7 -0.7**
YAK *e**PP **pP 04 27 38.9 +0.1**
YAK *e* 04 28 58.6
YAK *e*PPP PPP 04 29 14.1
YAK *e* 04 29 57.2
YAK *e*S **S 04 33 19.8 +0.6**
YAK *e**SS **sS 04 33 25.1 +1.9**
YAK *e*SS **SnSn 04 35 51.5 +2.2**
YAK *e*SSS SSS 04 36 07.3
YAK pmax pmax
comp=Z,176nm,1.3s
YAK pmax pmax
comp=N,87nm,1.1s
YAK pmax pmax
comp=E,38nm,1.4s
YAK pmax pmax
comp=Z,182nm,3.8s
YAK pmax pmax
comp=N,60nm,1.7s
YAK pmax pmax
comp=E,53nm,3.8s
YAK smax smax
comp=N,288nm,3.2s
YAK smax smax
comp=E,280nm,4.2s
YAK MLR MLR
comp=Z,1μm,20.0s
YAK MLR MLR
comp=E,520nm,22.0s
MA2 Magadan 37.03 17 LR LR 04 42 54.2
comp=E,612nm,18.6s,baz=200,slow=36
MA2 Magadan 37.03 17*c e*P **P 04 27 38.9 -0.6**
MA2 pmax pmax
comp=Z,21nm,1.2s
MA2 MLR MLR
comp=Z,664nm,18.0s
PSI Prapat 37.70 239 P **P 04 27 46.2 +0.3**
PSI pmax pmax
comp=Z,257nm,1.6s
RPSI Rantau Prapat 37.77 238 P **P 04 27 46.2 -0.1**
MTN Manton Dam 37.97 179 P **P 04 27 46.5 -1.4**
MTN IAmb IAmb 04 27 51.7
comp=Z,54nm,0.9s
PMG Port Moresby 38.21 153 LR LR 04 40 49.7
comp=Z,2μm,20.1s,baz=309,slow=32
PMG Port Moresby 38.21 153⇑*e*P **P 04 27 47.8 -2.1**
PMG pmax pmax
comp=Z,32nm,0.9s
KPJI Karang Pucung 38.64 216 P **P 04 27 54.7 +1.1**
comp=Z,47nm,1.4s
LEM Lembang 38.93 218 P **P 04 27 57.9 +1.7**
comp=Z,78nm,0.9s
PDSI Padang 39.01 232 P **P 04 27 57.3 +0.5**
comp=Z,34nm,1.4s
DBJI Dramaga 39.20 219 P **P 04 27 59.5 +1.2**
WMQ Urumqi 39.20 309 *e*P **P 04 28 00.9 +2.7**
WMQ LR LR
comp=Z,3μm,16.1s
WMQ LR LR
comp=Z,2μm,16.1s
WMQ LR LR
comp=Z,1μm,21.9s
SBJI Serang 39.20 220 P **P 04 28 00.1 +1.8**
GSI Gunungsitoli 39.69 238 P **P 04 28 02.7 +0.2**
GSI Gunungsitoli 39.69 238 P **P 04 28 03.0 +0.6**
SEY Seymchan 40.31 15⇓*e*P **P 04 28 07.7 +0.7**
SEY pmax pmax
comp=Z,11nm,0.9s
SEY MLR MLR
comp=Z,765nm,19.0s
COEN Coen 41.01 161 P **P 04 28 13.2 -0.1**
COEN IAmb IAmb 04 28 22.5
comp=Z,50nm,1.1s
ZSN Zaisan 42.03 314 *e*P **P 04 28 22.0 +0.5**
baz=314
ZSN Zaisan 42.03 314 *e*P **P 04 28 21.9 +0.5**
FITZ Fitzroy Crossi 43.44 187 P **P 04 28 33.7 +0.7**
MK31 Makanchi Array 43.59 312 P **P 04 28 34.3 +0.2**
MK31 Makanchi Array 43.59 312 P **P 04 28 34.3 +0.2**
MK31 pmax pmax
comp=Z,15nm,0.9s
MKAR Makanchi Array 43.59 312 P **P 04 28 34.8 +0.7**
MKAR Makanchi Array 43.59 312 P **P 04 28 34.5 +0.4**
comp=Z,6.8nm,0.6s,baz=98,slow=10,SNR=51
MKAR LR LR 04 48 29.7
comp=Z,732nm,18.6s,baz=120,slow=39
comp=Z,6.8nm,0.6s
MKAR Makanchi Array 43.59 312 P **P 04 28 34.8 +0.7**
MAKZ Makanchi 43.80 312 P **P 04 28 35.8 0.0**
MAKZ Makanchi 43.80 312 P **P 04 28 35.8 0.0**
MAKZ pmax pmax
comp=Z,23nm,1.0s
ZAA0 Zalesovo Array 44.14 323 P **P 04 28 38.2 -0.1**
ZAA0 IAmb IAmb 04 28 40.7
comp=Z,30nm,0.8s
ZALV Zalesovo Beam 44.14 323 P **P 04 28 38.1 -0.2**
ZALV Zalesovo Beam 44.14 323 P **P 04 28 38.6 +0.3**
comp=Z,19nm,0.7s,baz=111,slow=7.9,SNR=43
ZALV LR LR 04 49 01.4
comp=Z,2μm,18.5s,baz=116,slow=39

comp=Z,19nm,0.7s
HNR Honiara 44.97 137 LR LR 04 47 08.6
comp=Z,7μm,19.2s,baz=330,slow=36
PDGK Podgornoye 44.98 307 P **P** **04 28 44.9 -0.6**
SHLS Shalkode 44.99 306 *e*P **P** **04 28 43.6 -1.9**
baz=306
SHLS Shalkode 44.99 306 *e*P **P** **04 28 43.5 -1.9**
WB0 Warramunga Arr 45.02 175 P **P** **04 28 45.2 -0.5**
WRAB Tennant Creek 45.18 175 P **P** **04 28 46.4 -0.6**
WRAB Tennant Creek 45.18 175 *d i*P **P** **04 28 46.6 -0.4**
WRAB pmax pmax
comp=Z,30nm,0.9s
WRA Warramunga Arr 45.19 175 P **P** **04 28 46.3 -0.8**
comp=Z,28nm,0.7s,baz=353,slow=8.7,SNR=183
WRA LR LR 04 46 00.0
comp=Z,1μm,21.9s,baz=358,slow=34
comp=Z,28nm,0.7s
WB2 Warramunga Arr 45.19 175 P **P** **04 28 46.4 -0.7**
WR0 Warramunga Arr 45.22 175 P **P** **04 28 46.7 -0.6**
UZB Uzynbulak 45.30 306 *e*P **P** **04 28 48.5 +0.5**
baz=306
UZB *e*S **S** **04 35 28.8 +0.3**
baz=306
UZB Uzynbulak 45.30 306 *e*P **P** **04 28 48.5 +0.5**
UZB *e*S **S** **04 35 28.8 +0.3**
KPKS Kokpek 45.58 307 *e*P **P** **04 28 50.6 +0.4**
baz=307
KPKS *e*S **S** **04 35 33.5 +1.0**
baz=307
KPKS Kokpek 45.58 307 *e*P **P** **04 28 50.5 +0.4**
KPKS *e*S **S** **04 35 33.4 +1.0**
SATY Saty 45.74 306 *e*P **P** **04 28 52.0 +0.4**
baz=306
SATY *e*S **S** **04 35 35.9 +1.1**
baz=306
SATY Saty 45.74 306 *e*P **P** **04 28 51.9 +0.4**
SATY *e*S **S** **04 35 35.9 +1.1**
TDK Taldyqorghan 45.96 309 *e*P **P** **04 28 53.7 +0.6**
baz=309
TDK LR LR 04 48 19.1
comp=Z,810nm,14.4s,baz=309
TDK Taldyqorghan 45.96 309 *e*P **P** **04 28 53.6 +0.6**
TDK MLR MLR
comp=Z,810nm,14.0s
TARG Taragay, Kyrgy 46.09 304 P **P** **04 28 54.1 -0.4**
TARG IAmb IAmb 04 29 32.7
comp=Z,25nm,1.1s
TARG Taragay, Kyrgy 46.09 304 P **P** **04 28 54.1 -0.4**
TARG pmax pmax
comp=Z,25nm,1.1s
ARXS Arharly 46.28 308 *e*P **P** **04 28 56.2 +0.6**
MDOK Medeo 46.74 306 *e*P **P** **04 28 59.4 0.0**
baz=306
MDOK *e*S **S** **04 35 50.1 +0.9**
baz=306
MDOK LR LR 04 48 47.6
comp=Z,608nm,14.0s,baz=306
MDOK Medeo 46.74 306 *e*P **P** **04 28 59.3 0.0**
MDOK *e*S **S** **04 35 50.1 +0.9**
MDOK MLR MLR
comp=Z,608nm,14.0s
KURK Kurchatov 46.81 317 P **P** **04 28 58.9 -0.6**
KURK IAmb IAmb 04 29 02.7
comp=Z,41nm,1.1s
KURK Kurchatov 46.81 317 *c i*P **P** **04 28 59.5 0.0**
KURK pmax pmax
comp=Z,50nm,1.2s
KURK MLR MLR
comp=Z,1μm,15.0s
TNSS Tian-Shan 46.81 306 *e*P **P** **04 29 00.4 +0.2**
baz=306
TNSS Tian-Shan 46.81 306 *e*P **P** **04 29 00.4 +0.2**
KURBB Kurchatov Arra 46.84 317 P **P** **04 29 00.2 +0.4**
comp=Z,12nm,0.7s,baz=103,slow=8.6,SNR=69
KURBB LR LR 04 50 04.0
comp=Z,934nm,18.2s,baz=152,slow=38
comp=Z,12nm,0.7s
AAA Alma-Ata 46.84 306 *e*P **P** **04 29 00.7 +0.5**
comp=Z,30nm,1.0s,baz=306
AAA LR LR 04 48 51.7
baz=306
AAA Alma-Ata 46.84 306 *e*P **P** **04 29 00.6 +0.5**
AAA pmax pmax
comp=Z,30nm,1.0s
CHKK Chushkaly 46.84 307 *e*P **P** **04 29 00.5 +0.5**
baz=307
CHKK Chushkaly 46.84 307 *e*P **P** **04 29 00.5 +0.5**
MBWA Marble Bar 47.39 194 P **P** **04 29 03.6 -0.7**
MBWA IAmb IAmb 04 29 17.6
comp=Z,27nm,1.1s
KSH Kashi 47.40 301 P **P** **04 29 08.8 +4.2**
KSH sP pwP 04 29 21.0 +8.5
KSH S **S** **04 36 02.6 +3.9**
KSH pmax pmax
comp=Z,26nm,1.3s
KSH pmax pmax
comp=Z,280nm,5.8s
KSH LR LR
comp=Z,2μm,15.1s
KSH LR LR
comp=Z,2μm,17.9s
KSH LR LR
comp=Z,2μm,16.2s
NRN Naryn 47.42 304 P **P** **04 29 04.5 -0.4**
NRN IAmb IAmb 04 29 15.0
comp=Z,16nm,0.7s
NRN Naryn 47.42 304 P **P** **04 29 04.5 -0.4**
NRN pmax pmax
comp=Z,16nm,0.7s
CTA Charters Tower 47.72 160 LR LR 04 49 12.8
comp=Z,52nm,18.9s,baz=322,slow=36
CTAO Charters Tower 47.72 160 P **P** **04 29 07.7 +0.7**
CTAO Charters Tower 47.72 160 P **P** **04 29 07.7 +0.7**
CTAO pmax pmax
comp=Z,38nm,1.0s
PSA00 Pilbara Seismi 47.77 193 P **P** **04 29 07.2 -0.1**
PSA00 Pilbara Seismi 47.77 193 P **P** **04 29 06.9 -0.3**
PSA00 IAmb IAmb 04 29 11.9
comp=Z,21nm,0.9s
TKM2 Tokmak 2 47.79 306 P **P** **04 29 07.7 +0.1**
BILL Bilibino 47.90 17 *j i*P **P** **04 29 08.4 +0.6**
BILL *i* *PP **pP** **04 29 10.3 0.0**
BILL *i* *SP **pwP** **04 29 16.4 +0.8**
BILL 04 31 04.0
BILL S **S** **04 36 12.0 +7.4**
BILL SS SS 04 39 20.0 -13
BILL pmax pmax
comp=Z,25nm,1.7s
BILL MLR MLR
comp=Z,549nm,17.0s
SGDS Sogindy 48.52 307 *e*P **P** **04 29 13.1 0.0**
baz=306
SGDS *e*S **S** **04 36 15.2 +0.8**
baz=306
SGDS Sogindy 48.52 307 *e*P **P** **04 29 13.1 0.0**
SGDS *e*S **S** **04 36 15.1 +0.8**
AAK Ala-Archa 48.59 305 P **P** **04 29 14.9 +1.2**
comp=Z,3.1nm,0.6s,baz=55,slow=18,SNR=4.8
AAK LR LR 04 50 42.7
comp=Z,1μm,19.1s,baz=98,slow=37
comp=Z,3.1nm,0.6s
AAK Ala-Archa 48.59 305 *j e*P **P** **04 29 15.1 +1.4**
AAK pmax pmax
comp=Z,15nm,1.7s
AAK MLR MLR
comp=Z,936nm,18.0s
AS31 Alice Springs 48.85 176 P **P** **04 29 15.2 -0.5**
ASAR Alice Springs 48.85 176 P **P** **04 29 15.2 -0.5**
ASAR Alice Springs 48.85 176 P **P** **04 29 15.1 -0.6**
comp=Z,3.8nm,0.8s,baz=6.9,slow=9.0,SNR=28
ASAR S **S** **04 36 19.3 +0.3**
comp=Z,2.6nm,1.0s,baz=3.1,slow=17,SNR=9.0
comp=Z,3.8nm,0.8s
BTLS Baital 49.04 309 *e*P **P** **04 29 17.5 +0.6**
baz=309
BTLS *e*S **S** **04 36 22.5 +1.1**
baz=309
BTLS Baital 49.04 309 *e*P **P** **04 29 17.5 +0.6**
BTLS *e*S **S** **04 36 22.4 +1.1**
ARSB Arslanbob 49.69 304 P **P** **04 29 22.7 +0.5**
ARSB Arslanbob 49.69 304 P **P** **04 29 22.7 +0.5**
ARSB pmax pmax
comp=Z,20nm,1.6s
NIL Nilore 49.91 294 P **P** **04 29 22.4 -1.4**
NIL IAmb IAmb 04 29 27.3
comp=Z,18nm,0.8s
NIL Nilore 49.91 294 P **P** **04 29 22.4 -1.4**
NIL pmax pmax
comp=Z,18nm,0.8s
OTUK Ortayu 50.47 313 P **P** **04 29 28.0 +0.2**
PALK Pallekele 50.66 258 LR LR 04 51 07.4
comp=Z,536nm,21.0s,baz=161,slow=36
NRIK Noril'sk 50.69 342 P **P** **04 29 28.6 -0.5**
NRIK IAmb IAmb 04 29 37.5
comp=Z,36nm,1.1s
NRIK Noril'sk 50.69 342 P **P** **04 29 28.6 -0.5**
comp=Z,12nm,0.9s,baz=115,slow=8.2,SNR=9.5
NRIK LR LR 04 52 57.3
comp=Z,2μm,18.5s,baz=120,slow=38
comp=Z,12nm,0.9s
NRIK Noril'sk 50.69 342 *ce*P **P** **04 29 28.1 -1.0**
NRIK pmax pmax
comp=Z,42nm,1.1s
NRIK MLR MLR
comp=Z,2μm,18.0s
BTK Batken 51.37 302 P **P** **04 29 35.3 +0.5**
BTK Batken 51.37 302 P **P** **04 29 35.3 +0.5**
BTK pmax pmax
comp=Z,30nm,1.4s
KK31 Karatay Array 51.52 306 P **P** **04 29 36.0 +0.2**
KK31 Karatay Array 51.52 306 P **P** **04 29 36.0 +0.2**
KK31 pmax pmax
comp=Z,25nm,1.2s
KKAR Karatay Array 51.52 306 P **P** **04 29 36.5 +0.7**
KKAR Karatay Array 51.52 306 P **P** **04 29 36.5 +0.7**
KKAR IAmb IAmb 04 30 06.3
comp=Z,25nm,1.1s
KKAR Karatay Array 51.52 306 P **P** **04 29 36.6 +0.8**
KKAR pmax pmax
comp=Z,25nm,1.2s
GAR Garm 51.81 301 P **P** **04 29 38.7 +0.5**
IUG Iuzhnay 51.89 305 *e*P **P** **04 29 39.3 +0.6**
baz=305
IUG Iuzhnay 51.89 305 *e*P **P** **04 29 39.2 +0.6**
BRLS Borolday 52.02 306 *e*P **P** **04 29 40.9 +1.4**
baz=306
BRLS Borolday 52.02 306 *e*P **P** **04 29 40.9 +1.4**
BVA0 Borovoye Array 52.24 319 *i* P **P** **04 29 40.2 -0.8**
BVAR Borovoye Array 52.24 319 P **P** **04 29 41.5 +0.5**
comp=Z,34nm,0.8s,baz=90,slow=8.9,SNR=78
BVAR LR LR 04 53 47.8
comp=Z,3μm,18.8s,baz=97,slow=38
comp=Z,34nm,0.8s
BRVK Borovoye 52.30 319 P **P** **04 29 41.8 +0.4**
BRVK Borovoye 52.30 319 P **P** **04 29 41.8 +0.4**
BRVK pmax pmax
comp=Z,49nm,0.9s
CHGR Chuyangaron 52.73 300 P **P** **04 29 45.3 +0.3**
CHGR Chuyangaron 52.73 300 P **P** **04 29 45.3 +0.3**
CHGR pmax pmax
comp=Z,143nm,1.7s
SIMJ Simiganj 52.85 300 P **P** **04 29 46.7 +0.8**
SIMJ IAmb IAmb 04 30 26.6
comp=Z,70nm,1.9s
KBL Kabul 53.26 295 P **P** **04 29 49.5 +0.4**
KBL Kabul 53.26 295 P **P** **04 29 49.5 +0.4**
KBL pmax pmax
comp=Z,116nm,1.6s
UNV Unalaska Valle 54.14 41 P **P** **04 29 54.3 -0.5**
baz=264
EIDS Eidsvold 54.24 157 P **P** **04 29 55.2 -0.8**
EIDS IAmb IAmb 04 30 04.7
comp=Z,30nm,1.1s
FORT Forrest 55.86 182 P **P** **04 30 07.5 0.0**
F14K Arctic Creek 56.15 27 P **P** **04 30 09.4 +0.1**
baz=257
K13K Kusilvak Mount 56.18 31 P **P** **04 30 09.4 -0.1**
baz=260
KOUNC Koumac, New Ca 56.26 141 P **P** **04 30 11.2 +0.6**
ANM Nome 56.35 28 P **P** **04 30 11.1 +0.4**
baz=258
M13K Dall Lake 56.58 33 P **P** **04 30 12.6 +0.3**
baz=263
F15K North Star Dit 56.88 27 P **P** **04 30 15.1 +0.6**
F15K IAmb IAmb 04 30 24.6
comp=Z,20nm,0.9s
F15K North Star Dit 56.88 27 P **P** **04 30 14.8 +0.3**
baz=258,SNR=5.9
G15K Niukluk 56.99 27 P **P** **04 30 15.8 +0.5**
baz=259
L14K Kuka Creek 57.02 32 P **P** **04 30 14.8 -0.6**
L14K IAmb IAmb 04 30 58.5
comp=Z,31nm,1.1s
L14K Kuka Creek 57.02 32 P **P** **04 30 16.2 +0.7**
baz=263
C16K Lisburne Hills 57.20 24 P **P** **04 30 17.3 +0.6**
baz=256
M14K Bethel 57.30 33 P **P** **04 30 16.9 -0.6**
M14K IAmb IAmb 04 30 52.3
comp=Z,19nm,0.9s
M14K Bethel 57.30 33 P **P** **04 30 18.3 +0.8**
baz=264
N14K Kuskokwak Cree 57.35 34 P **P** **04 30 18.3 +0.5**
baz=264
O14K Tigyukauivet M 57.51 34 P **P** **04 30 19.3 +0.3**
baz=265
L15K Ungalak Mounta 57.63 32 P **P** **04 30 19.4 -0.4**
baz=264
K15K Wolf Creek Mou 57.68 31 P **P** **04 30 20.6 +0.4**
baz=263
H16K Elim 57.69 28 P **P** **04 30 20.7 +0.5**
baz=261
G16K Koyuk River 57.76 27 P **P** **04 30 21.3 +0.7**
baz=260
D17K Noatak River 57.90 24 P **P** **04 30 22.5 +0.8**
baz=258
STKA Stephens Creek 57.90 169 P **P** **04 30 21.7 -0.3**
STKA Stephens Creek 57.90 169 P **P** **04 30 21.9 -0.1**
comp=Z,8.4nm,0.8s,baz=356,slow=7.4,SNR=11
STKA LR LR 04 53 49.8
comp=Z,399nm,21.5s,baz=338,slow=35
comp=Z,8.4nm,0.8s
STKA Stephens Creek 57.90 169 P **P** **04 30 21.7 -0.3**
STKA pmax pmax
comp=Z,4.0nm,1.1s
M15K Kasigluk River 57.92 33 P **P** **04 30 22.8 +0.9**
baz=265
SVE Sverdlovsk 58.16 323 *de*P **P** **04 30 24.4 +0.8**
SVE *e*S **S** **04 38 24.0 -0.7**
SVE pmax pmax
comp=Z,45nm,1.1s
SVE MLR MLR
comp=Z,2μm,16.0s
N15K Kwethluk River 58.17 33 P **P** **04 30 22.7 -1.0**
N15K IAmb IAmb 04 31 02.5
comp=Z,20nm,1.0s
N15K Kwethluk River 58.17 33 P **P** **04 30 24.1 +0.4**
baz=266
J16K Anvik River 58.22 30 P **P** **04 30 24.7 +0.7**
baz=263
O15K Ungalikthiuk R 58.24 35 P **P** **04 30 24.8 +0.6**
baz=267
I17K Unalakleet 58.25 29 P **P** **04 30 24.5 +0.4**
I17K Unalakleet 58.25 29 P **P** **04 30 25.0 +0.9**
baz=263
E17K Hotham Inlet 58.26 25 P **P** **04 30 25.2 +1.1**
baz=260
F17K Baldwin Pennin 58.38 26 P **P** **04 30 25.4 +0.5**
baz=261
G17K Kiwalik Mounta 58.48 27 P **P** **04 30 26.1 +0.4**
baz=262,SNR=5.0
L16K Owhat River 58.59 32 P **P** **04 30 27.0 +0.5**
baz=265
AB31 Akbulak array 58.68 314 P **P** **04 30 27.3 -0.1**
ABKAR Akbulak array 58.68 314 P **P** **04 30 27.6 +0.3**
ABKAR Akbulak array 58.68 314 IAmb IAmb 04 30 36.9
comp=Z,25nm,0.8s
DZM Mont Dzumac 58.69 140 P **P** **04 30 27.8 0.0**
DZM Mont Dzumac 58.69 140 *e*P **P** **04 30 26.8 -1.0**
comp=Z,80nm,1.2s
DZM *e*S **S** **04 38 34.3 +1.8**
comp=Z,527nm,24.4s
DZM *e*SS **SS** **04 42 29.7 +3.7**
comp=Z,298nm,23.6s
DZM *e*LQ LQ 04 45 06.4
comp=Z,934nm,38.4s
DZM *e*LR LR 04 47 39.3
comp=Z,2μm,22.9s
DZM Mont Dzumac 58.69 140 LR LR 04 52 30.6
comp=Z,936nm,21.9s,baz=325,slow=33
B18K Kokolik River 58.70 23 P **P** **04 30 27.5 +0.4**
baz=258
H17K Granite Mounta 58.72 28 IAmb IAmb 04 31 05.7
comp=Z,25nm,1.5s
H17K Granite Mounta 58.72 28 P **P** **04 30 27.9 +0.5**
baz=263,SNR=6.9
C18K Utukok River 58.78 23 P **P** **04 30 27.9 +0.1**
baz=260
E18K Tukpahlearik C 58.79 25 P **P** **04 30 28.4 +0.6**
baz=261
M16K Timber Creek 58.79 32 P **P** **04 30 27.8 -0.2**
baz=266
HRA Herat 58.83 296 IAmb IAmb 04 30 45.6
comp=Z,27nm,1.1s
N16K Nishlik Lake 58.85 33 P **P** **04 30 28.8 +0.4**
baz=267
J17K VABM Dome 58.92 30 IAmb IAmb 04 31 22.0
comp=Z,30nm,1.4s
J17K VABM Dome 58.92 30 P **P** **04 30 29.3 +0.5**
baz=265
F18K Selawik 59.04 26 P **P** **04 30 30.4 +0.8**
baz=262,SNR=7.0
ARMA Armidale 59.06 159 P **P** **04 30 30.1 -0.2**
O16K Kokwok River B 59.15 34 IAmb IAmb 04 30 58.8
comp=Z,54nm,1.8s
O16K Kokwok River B 59.15 34 P **P** **04 30 31.0 +0.5**
baz=268
L17K Donlin 59.18 31 P **P** **04 30 30.9 +0.3**
baz=266
P16K Nushagak River 59.18 35 P **P** **04 30 31.0 +0.3**
baz=268
K17K Iditarod 59.21 31 P **P** **04 30 31.5 +0.6**
K17K IAmb IAmb 04 31 45.7
comp=Z,16nm,1.1s
K17K Iditarod 59.21 31 P **P** **04 30 31.5 +0.6**
baz=266
ARU Arti 59.30 322 P **P** **04 30 31.0 -0.5**
ARU IAmb IAmb 04 30 40.5
comp=Z,24nm,0.9s
ARU Arti 59.30 322 P **P** **04 30 31.4 -0.2**
comp=Z,4.3nm,0.3s,baz=89,slow=3.0,SNR=20
ARU LR LR 04 58 45.1
comp=Z,3μm,18.1s,baz=82,slow=39
comp=Z,4.3nm,0.3s
ARU Arti 59.30 322 *d i*P **P** **04 30 31.5 0.0**
ARU 04 31 19.1
ARU 04 32 41.8
ARU PPP PPP 04 34 04.0
ARU S **S** **04 38 41.1 +1.6**
ARU 04 40 14.3
ARU SS **SS** **04 42 31.2 -2.5**
ARU pmax pmax
comp=Z,61nm,1.9s
ARU MLR MLR
comp=Z,3μm,17.0s
G18K Tagagawik 59.35 27 IAmb IAmb 04 31 06.2
comp=Z,46nm,1.6s
G18K Tagagawik 59.35 27 P **P** **04 30 32.6 +0.9**
baz=264,SNR=6.8
H18K Honhosa River 59.39 28 P **P** **04 30 32.0 -0.1**
H18K Honhosa River 59.39 28 P **P** **04 30 32.6 +0.5**
baz=264
C19K Lookout Ridge 59.43 23 P **P** **04 30 32.7 +0.4**
baz=261
M17K Holitna River 59.54 32 P **P** **04 30 33.6 +0.4**
baz=267
N17K Nushagak Hills 59.63 33 P **P** **04 30 33.9 +0.1**
baz=268
F19K Shaleruckik Mo 59.81 26 IAmb IAmb 04 31 30.9
comp=Z,27nm,1.5s
F19K Shaleruckik Mo 59.81 26 P **P** **04 30 34.8 0.0**
baz=264
AKTO Aktyubinsk 59.85 315 P **P** **04 30 35.6 +0.1**
comp=Z,13nm,0.8s,baz=84,slow=6.6,SNR=15
comp=Z,13nm,0.8s
D19K Kuna River 59.87 24 IAmb IAmb 04 31 00.3
comp=Z,23nm,1.1s
D19K Kuna River 59.87 24 P **P** **04 30 35.8 +0.4**
baz=263
L18K Granite Mounta 59.93 31 P **P** **04 30 35.9 +0.1**
baz=268
J18K Innoko River 59.98 30 P **P** **04 30 36.6 +0.4**
baz=267
P17K Kvichak River 59.98 35 P **P** **04 30 36.6 +0.4**
baz=270
G19K Purcell Mounta 60.01 27 IAmb IAmb 04 31 44.4
comp=Z,18nm,1.2s
G19K Purcell Mounta 60.01 27 P **P** **04 30 36.4 +0.1**
baz=265
E19K Redstone River 60.08 25 IAmb IAmb 04 30 46.7
comp=Z,16nm,0.8s
E19K Redstone River 60.08 25 P **P** **04 30 37.2 +0.4**
baz=264,SNR=16
H19K Roundabout Mou 60.23 27 P **P** **04 30 38.2 +0.4**
baz=266,SNR=6.4
Q17K Contact Creek 60.27 36 P **P** **04 30 38.4 0.0**
baz=271
N18K Kilae Creek 60.28 33 P **P** **04 30 38.7 +0.5**
baz=269
M18K Stony River 60.32 32 P **P** **04 30 38.8 +0.3**
baz=269
B20K Meade River 60.40 22 P **P** **04 30 39.6 +0.7**
baz=263
D20K Etivluk River 60.44 24 P **P** **04 30 39.5 +0.2**
baz=264,SNR=6.0
J19K Poorman 60.49 29 P **P** **04 30 39.8 +0.1**
baz=268
E20K Nigu River 60.55 24 P **P** **04 30 40.3 +0.2**
baz=265
O18K Koktuh Hills 60.61 34 P **P** **04 30 40.8 +0.3**
baz=270
F20K Avaraart Lake 60.63 26 IAmb IAmb 04 31 03.3
comp=Z,26nm,1.5s
F20K Avaraart Lake 60.63 26 P **P** **04 30 40.4 0.0**
baz=266
L19K White Mountain 60.79 31 P **P** **04 30 41.3 -0.5**
baz=269
H20K Anotleneega Mo 60.88 27 P **P** **04 30 42.7 +0.5**
baz=267
N19K Bonanza Creek 60.97 33 P **P** **04 30 43.1 0.0**
baz=270
M19K Big River Lodg 61.01 32 P **P** **04 30 43.7 +0.4**
baz=270
I20K Naaghedeneel 61.02 28 P **P** **04 30 43.7 +0.5**
baz=268,SNR=6.1
C21K Knifeblade Rid 61.14 23 P **P** **04 30 44.9 +0.9**
baz=265
J20K Nowinta River 61.15 29 IAmb IAmb 04 31 49.7
comp=Z,19nm,1.1s
J20K Nowinta River 61.15 29 P **P** **04 30 45.1 +1.0**
baz=269,SNR=7.4
K20K Telida 61.17 30 IAmb IAmb 04 31 12.2
comp=Z,28nm,1.4s
K20K Telida 61.17 30 P **P** **04 30 45.0 +0.8**
baz=269
B21K Ikpikpuk River 61.24 23 IAmb IAmb 04 31 19.8
comp=Z,25nm,1.1s
B21K Ikpikpuk River 61.24 23 P **P** **04 30 45.0 +0.4**
baz=265
A22K Sinclair Lake 61.24 21 P **P** **04 30 45.1 +0.5**
baz=264
L20K Farewell, AK 61.25 31 P **P** **04 30 45.5 +0.6**
baz=270
IMAR Indian Mountai 61.36 27 P **P** **04 30 46.0 +0.5**
E21K Killik River 61.39 24 P **P** **04 30 45.8 0.0**
baz=267
Q19K Cape Douglas, 61.43 35 P **P** **04 30 46.4 +0.2**
baz=272
G21K Allakaket 61.48 26 IAmb IAmb 04 32 16.2
comp=Z,32nm,1.4s
G21K Allakaket 61.48 26 P **P** **04 30 46.8 +0.5**
baz=268,SNR=7.4
F21K Alatna River 61.51 25 P **P** **04 30 47.0 +0.5**
baz=268
M20K Styx River 61.61 32 P **P** **04 30 48.0 +0.6**
baz=271
B22K Teshekpuk Lake 61.70 22 P **P** **04 30 47.6 -0.2**
baz=266
H21K Melozitna Rive 61.74 27 IAmb IAmb 04 30 58.3
comp=Z,20nm,0.9s
H21K Melozitna Rive 61.74 27 P **P** **04 30 48.3 +0.1**
baz=269,SNR=12
D22K Ayikyak River 61.88 24 IAmb IAmb 04 31 26.1
comp=Z,25nm,1.1s
D22K Ayikyak River 61.88 24 P **P** **04 30 49.5 +0.5**
baz=268
PPLA Purkeypile 62.02 30 P **P** **04 30 50.2 0.0**
baz=271
F22K John River 62.03 25 P **P** **04 30 50.5 +0.5**
baz=269

KDAK	**Kodiak Island**	62.05	36	LR	LR	04 57 04.4	
	comp=Z,344nm,22.0s,baz=267,slow=35						
E22K	**Anaktuvuk Pass**	62.18	24	IAmb	IAmb	04 31 18.9	
	comp=Z,24nm,0.9s						
E22K	**Anaktuvuk Pass**	62.18	24	P	P	04 30 51.4	+0.3
	baz=269						
G22K	**Bettles**	62.28	26	P	P	04 30 52.4	+0.7
	baz=270						
H22K	**Ishtalitna Cre**	62.33	27	P	P	04 30 52.3	+0.2
	baz=270,SNR=16						
SKT	**Skwentna**	62.36	31	P	P	04 30 52.7	+0.4
	baz=272						
BPAW	**Bear Paw Mtn.**	62.53	29	IAmb	IAmb	04 31 28.1	
	comp=Z,21nm,1.3s						
BPAW	**Bear Paw Mtn.**	62.53	29	P	P	04 30 53.8	+0.3
	baz=272						
D23K	**Nanushuk River**	62.61	24	P	P	04 30 54.6	+0.7
	baz=269						
MLY	**Manley**	62.61	28	P	P	04 30 54.5	+0.5
	baz=271,SNR=7.6						
C23K	**Itkillik River**	62.64	23	IAmb	IAmb	04 31 22.1	
	comp=Z,23nm,1.1s						
C23K	**Itkillik River**	62.64	23	P	P	04 30 55.1	+1.1
	baz=269						
SUA	**Susitna One**	62.76	32	P	P	04 30 54.8	-0.4
	baz=273						
COLD	**Coldfoot**	62.79	25	P	P	04 30 55.5	+0.4
	baz=271						
CAN	**Canberra**	62.86	163	P	P	04 30 57.2	+1.3
CAN				pmax	pmax		
	comp=Z,66nm,1.4s						
G23K	**Bananza Creek**	62.87	26	IAmb	IAmb	04 31 05.9	
	comp=Z,18nm,1.1s						
G23K	**Bananza Creek**	62.87	26	P	P	04 30 55.9	+0.2
	baz=271,SNR=11						
E23K	**Chandalar**	63.00	25	P	P	04 30 56.8	+0.2
	baz=271,SNR=11						
TOLK	**Toolik Lake Re**	63.01	24	IAmb	IAmb	04 32 04.5	
	comp=Z,23nm,1.1s						
TOLK	**Toolik Lake Re**	63.01	24	P	P	04 30 57.6	+1.0
	baz=271						
H23K	**Yukon River**	63.09	27	IAmb	IAmb	04 31 48.8	
	comp=Z,18nm,0.9s						
H23K	**Yukon River**	63.09	27	P	P	04 30 57.7	+0.5
	baz=272,SNR=9.3						
MSVF	**Nonsavu**	63.11	128⇑	*e*P	P	04 30 58.2	+0.2
MSVF				pmax	pmax		
	comp=Z,18nm,1.1s						
MSVF				MLR	MLR		
	comp=Z,509nm,17.0s						
I23K	**Minto, Yukon-K**	63.19	28	P	P	04 30 58.5	+0.7
	baz=273						
D24K	**Happy Valley**	63.27	23	P	P	04 30 59.2	+0.9
D24K				IAmb	IAmb	04 31 26.2	
	comp=Z,21nm,0.9s						
D24K	**Happy Valley**	63.27	23	P	P	04 30 58.3	0.0
	baz=271,SNR=6.5						
C24K	**Franklin Bluff**	63.31	23	P	P	04 30 58.3	-0.2
	baz=271						
NEA2	**Nenana**	63.35	28	IAmb	IAmb	04 31 49.3	
	comp=Z,18nm,1.0s						
NEA2	**Nenana**	63.35	28	P	P	04 30 59.1	+0.3
	baz=273,SNR=7.7						
E24K	**Your Creek**	63.43	25	P	P	04 30 59.5	+0.1
	baz=272						
MCK	**McKinley**	63.46	29	P	P	04 30 59.7	0.0
	baz=274						
SEW	**Seward**	63.49	33	P	P	04 30 59.9	+0.1
	baz=275						
RND	**Reindeer**	63.52	30	IAmb	IAmb	04 31 33.4	
	comp=Z,21nm,1.0s						
PMR	**Palmer**	63.52	32	P	P	04 31 00.3	+0.3
	baz=275						
F24K	**Squaw Lake**	63.68	25	IAmb	IAmb	04 31 33.4	
	comp=Z,19nm,0.7s						
F24K	**Squaw Lake**	63.68	25	P	P	04 31 01.1	+0.1
	baz=273,SNR=10.0						
MDM	**Murphy Dome**	63.68	28	IAmb	IAmb	04 31 17.2	
	comp=Z,31nm,1.2s						
WAT1	**Susitna Watana**	63.69	30	P	P	04 31 01.1	-0.1
	baz=274						
H24K	**Noodor Dome**	63.77	27	P	P	04 31 02.0	+0.3
	baz=274,SNR=6.8						
WRH	**Wood River Hil**	63.78	29	IAmb	IAmb	04 31 41.1	
	comp=Z,18nm,1.3s						
COLA	**College**	63.85	28⇑	*e*P	P	04 31 03.1	+1.0
COLA				pmax	pmax		
	comp=Z,17nm,2.1s						
KNK	**Knik Glacier**	63.86	32	P	P	04 31 02.2	-0.1
	baz=275						
G24K	**Hadweenzic Riv**	63.88	26	IAmb	IAmb	04 31 39.0	
	comp=Z,14nm,0.9s						
G24K	**Hadweenzic Riv**	63.88	26	P	P	04 31 02.4	0.0
	baz=274,SNR=9.2						
SML	**Sawmill**	63.88	32	P	P	04 31 02.4	-0.1
	baz=275						
CCB	**Clear Creek Bu**	63.89	28	IAmb	IAmb	04 31 37.5	
	comp=Z,23nm,1.5s						
PWL	**Port Wells**	63.97	33	P	P	04 31 02.8	-0.2
	baz=276						
POKR	**Poker Plat Res**	64.01	28	P	P	04 31 03.6	+0.4
	baz=274						
WAT6	**Susitna Watana**	64.09	31	P	P	04 31 04.4	+0.4
	baz=275						
KIRV	**Kirov**	64.09	325	P	P	04 31 03.8	0.0
	comp=Z,15nm,0.7s,baz=81,slow=7.3,SNR=18						
KIRV				LR	LR	05 02 02.0	
	comp=Z,3μm,18.8s,baz=89,slow=39						
	comp=Z,15nm,0.7s						
D25K	**Kavik River**	64.14	23	IAmb	IAmb	04 32 03.4	
	comp=Z,21nm,1.2s						
D25K	**Kavik River**	64.14	23	P	P	04 31 05.0	+1.0
	baz=273						
M23K	**Glacier View**	64.17	32	P	P	04 31 04.6	+0.2
	baz=276						
DHY	**Denali Highway**	64.21	30	P	P	04 31 05.7	+0.9
DHY	**Denali Highway**	64.21	30	P	P	04 31 05.2	+0.4
	baz=275						
IL31		64.27	28	P	P	04 31 04.8	-0.1
ILAR	**Eielson Array**	64.27	28	P	P	04 31 05.1	+0.2
ILAR	**Eielson Array**	64.27	28	P	P	04 31 04.2	-0.7
	comp=Z,1.5nm,0.8s,baz=276,slow=6.8,SNR=13						
ILAR				LR	LR	04 58 20.9	
	comp=Z,255nm,21.6s,baz=277,slow=35						
	comp=Z,1.5nm,0.8s						
ILAR	**Eielson Array**	64.27	28	P	P	04 31 05.1	+0.2
HDA	**Harding Lake**	64.28	29	P	P	04 31 04.7	-0.3
HDA				IAmb	IAmb	04 31 38.6	
	comp=Z,24nm,1.3s						
HDA	**Harding Lake**	64.28	29	P	P	04 31 04.6	-0.3
	baz=275						
SCM	**Sheep Creek Mo**	64.35	31	P	P	04 31 05.3	-0.3
	baz=276						
G25K	**Bearman Lake**	64.42	26	P	P	04 31 06.1	+0.3
	baz=275,SNR=6.2						
F25K	**Christian Rive**	64.53	25	P	P	04 31 07.0	+0.3
	baz=275,SNR=6.8						
GLI	**Glacier Island**	64.57	32	P	P	04 31 07.2	+0.2
	baz=277						
H25L	**Birch Creek**	64.58	26	P	P	04 31 07.4	+0.5
	baz=275						
C26K	**Camden Bay**	64.61	22	P	P	04 31 07.2	+0.1
	baz=274						
WSAR	**Wadi Sarin**	64.71	285	LR	LR	05 02 55.0	
	comp=Z,498nm,19.1s,baz=100,slow=39						
PRP	**Porcupine Dome**	64.77	27	P	P	04 31 08.4	0.0
PRP	**Porcupine Dome**	64.77	27	P	P	04 31 08.4	0.0
	baz=276						
K24K	**Donnelly Dome**	64.85	29	P	P	04 31 08.7	-0.1
	baz=276						
M24K	**Tolsona, Glenn**	64.86	31	P	P	04 31 08.7	-0.3
	baz=277						
J25K	**Salcha River,**	64.93	28	P	P	04 31 08.8	-0.6
	baz=276						
BMAR	**Burnt Mountain**	64.95	25	P	P	04 31 10.6	+1.2
C27K	**Jago River**	65.05	23	P	P	04 31 10.0	+0.1
	baz=276						
KLU	**Klutina**	65.06	32	P	P	04 31 10.1	-0.2
	baz=277						
PAX	**Paxson**	65.08	30	P	P	04 31 10.3	-0.1
	baz=277						
F26K	**Sheenjek River**	65.09	25	P	P	04 31 10.3	0.0
	baz=276,SNR=11						
HARP	**HAARP**	65.30	31	P	P	04 31 11.7	0.0
	baz=278						
G26K	**Porcupine Rive**	65.31	26	P	P	04 31 12.1	+0.4
	baz=277,SNR=6.2						
SCRK	**Sand Creek**	65.61	29	IAmb	IAmb	04 31 23.8	
	comp=Z,14nm,1.0s						
SCRK	**Sand Creek**	65.61	29	P	P	04 31 13.8	0.0
	baz=278,SNR=7.4						
N25K	**Chitina, Valde**	65.67	32	P	P	04 31 14.0	-0.2
	baz=278						
J26L	**Joseph Creek**	65.72	28	IAmb	IAmb	04 31 34.4	
	comp=Z,12nm,0.8s						
J26L	**Joseph Creek**	65.72	28	P	P	04 31 14.0	-0.5
	baz=278,SNR=10						
BMRM	**Bremner River**	65.77	32	P	P	04 31 13.9	-0.8
	baz=279						
I26K	**Coal Creek Min**	65.78	27	P	P	04 31 14.3	-0.4
	baz=278						
E27K	**Coleen River**	65.99	24	IAmb	IAmb	04 31 32.9	
	comp=Z,14nm,1.1s						
E27K	**Coleen River**	65.99	24	P	P	04 31 15.8	-0.2
	baz=278,SNR=6.2						
L26K	**Log Cabin Wild**	66.03	30	P	P	04 31 16.1	-0.3
	baz=279						
BELG	**Belogornoye**	66.04	318	*c i*P	P	04 31 16.3	-0.3
BELG				pmax	pmax		
	comp=Z,13nm,1.4s						
BELG				MLR	MLR		
	comp=Z,239nm,18.0s						
D27M	**Malcolm River**	66.06	23	IAmb	IAmb	04 31 48.2	
	comp=Z,18nm,1.2s						
D27M	**Malcolm River**	66.06	23	P	P	04 31 16.8	+0.2
	baz=278						
GLB	**Gilahina Butte**	66.07	32	IAmb	IAmb	04 32 04.9	
	comp=Z,22nm,1.1s						
G27K	**Doyon Strip**	66.17	26	P	P	04 31 17.5	+0.3
	baz=279,SNR=5.7						
M26K	**Nabesna, AK**	66.30	31	IAmb	IAmb	04 32 01.7	
	comp=Z,27nm,1.1s						
M26K	**Nabesna, AK**	66.30	31	P	P	04 31 18.0	-0.2
	baz=279,SNR=10						
H27K	**Steamboat Moun**	66.31	26	P	P	04 31 18.1	-0.1
	baz=279,SNR=5.4						
I27K	**Kandik River**	66.37	27	P	P	04 31 18.7	+0.1
	baz=279,SNR=15						
K27K	**Chicken**	66.44	29	P	P	04 31 19.4	+0.4
	baz=280						
CRQE	**Cirque**	66.53	32	P	P	04 31 18.4	-1.4
	baz=280						
E28M	**Babbage River**	66.67	24	IAmb	IAmb	04 32 00.4	
	comp=Z,12nm,0.8s						
E28M	**Babbage River**	66.67	24	P	P	04 31 20.7	+0.2
	baz=280						
EGAK	**Eagle**	66.70	28	P	P	04 31 20.6	0.0
	baz=280						
L27K	**Beaver Creek,**	66.71	30	P	P	04 31 21.1	+0.3
	baz=280,SNR=6.1						
F28M	**Old Crow**	66.72	25	IAmb	IAmb	04 32 01.1	
	comp=Z,18nm,1.0s						
F28M	**Old Crow**	66.72	25	P	P	04 31 21.0	+0.2
	baz=280,SNR=5.6						
BCAR	**Beaver Creek A**	66.73	30	P	P	04 31 21.5	+0.5
M27K	**Edge Creek, AK**	66.82	30	IAmb	IAmb	04 31 55.6	
	comp=Z,13nm,1.0s						
M27K	**Edge Creek, AK**	66.82	30	P	P	04 31 21.3	-0.3
	baz=280,SNR=6.9						
I28M	**Miner Creek**	67.09	27	IAmb	IAmb	04 32 10.2	
	comp=Z,23nm,1.1s						
I28M	**Miner Creek**	67.09	27	P	P	04 31 23.3	+0.1
	baz=281,SNR=13						
E29M	**Blow River**	67.31	24	P	P	04 31 25.1	+0.7
	baz=281						
CTG	**Chitna Glacier**	67.33	32	P	P	04 31 25.0	+0.1
	baz=281						
G29M	**Pine Creek**	67.56	25	IAmb	IAmb	04 32 06.4	
	comp=Z,23nm,0.9s						
G29M	**Pine Creek**	67.56	25	P	P	04 31 26.0	-0.1
	baz=282,SNR=6.8						
H29M	**Whitestone**	67.57	26	P	P	04 31 26.2	+0.1
	baz=282,SNR=5.7						
YUK3	**Moose Creek**	67.58	31	P	P	04 31 26.2	-0.4
	baz=282						
DAWY	**Dawson**	67.59	28	P	P	04 31 26.6	+0.3
	baz=282						
O28M	**Mount Upton**	67.92	32	P	P	04 31 27.8	-1.0
	baz=282						
YUK8	**Steele Glacier**	68.01	31	P	P	04 31 28.8	-0.6
	baz=283						
EPYK	**Eagle Plains**	68.19	26	IAmb	IAmb	04 32 39.0	
	comp=Z,25nm,1.2s						
EPYK	**Eagle Plains**	68.19	26	P	P	04 31 29.9	-0.2
	baz=283,SNR=6.7						
MAK	**Makhachkala**	68.22	308	*e*P	P	04 31 27.6	-3.0
MAK				*e*		04 34 01.6	
MAK				*e*PPP	PPP	04 35 41.8	
MAK				*e*S	S	04 40 26.0	-4.9
MAK				*e*SS	SS	04 44 50.6	-2.8
MAK				pmax	pmax		
	comp=Z,226nm,1.5s						
MAK				MLR	MLR		
	comp=Z,1μm,17.0s						
G30M	**tAoh Zraii Nji**	68.24	25	IAmb	IAmb	04 32 44.9	
	comp=Z,25nm,1.2s						
G30M	**tAoh Zraii Nji**	68.24	25	P	P	04 31 30.9	+0.5
	baz=283,SNR=10.0						
F30M	**Barrier River**	68.25	24	P	P	04 31 30.1	-0.3
	baz=284						
L29M	**L29M**	68.35	29	IAmb	IAmb	04 32 20.4	
	comp=Z,27nm,1.2s						
L29M	**L29M**	68.35	29	P	P	04 31 30.5	-0.7
	baz=283,SNR=6.1						
M29M	**Somme Creek**	68.36	30	IAmb	IAmb	04 32 15.1	
	comp=Z,21nm,1.4s						
M29M	**Somme Creek**	68.36	30	P	P	04 31 30.7	-0.6
	baz=283,SNR=6.4						
LKRN	**Lenkeran, Azer**	68.40	304	P	P	04 31 34.9	+3.1
K29M	**Barlow Dome**	68.44	28	P	P	04 31 31.1	-0.7
	baz=284						
ADZR	**Andozero**	68.46	332	*e*P	P	04 31 30.3	-1.4
ADZR				pmax	pmax		
	comp=Z,24nm,0.7s						
YUK4	**Talbot Arm**	68.53	31	P	P	04 31 32.7	+0.2
	baz=284						
PNL	**Peninsula**	68.56	33	P	P	04 31 32.4	-0.1
	baz=284						
I30M	**Mount Dempster**	68.59	27	IAmb	IAmb	04 32 01.3	
	comp=Z,32nm,1.4s						
I30M	**Mount Dempster**	68.59	27	P	P	04 31 33.6	+0.9
	baz=284,SNR=7.2						
YUK6	**Outpost Mounta**	68.76	32	P	P	04 31 33.2	-0.7
	baz=284						
J30M	**Hart River**	68.77	28	P	P	04 31 33.7	-0.2
	baz=284						
O29M	**Mount Kennedy**	68.81	32	P	P	04 31 33.5	-0.7
	baz=284						
SEKA	**Sheki**	68.90	307	P	P	04 31 36.9	+1.9
INK	**Inuvik**	68.91	23	P	P	04 31 35.3	+0.9
	baz=285						
INK	**Inuvik**	68.91	23	LR	LR	05 04 16.1	
	comp=Z,225nm,19.7s,baz=314,slow=38						
LVZ	**Lovozero**	68.91	336	*de*P	P	04 31 34.8	+0.2
LVZ				pmax	pmax		
	comp=Z,21nm,1.2s						
LVZ				MLR	MLR		
	comp=Z,801nm,17.0s						
G31M	**Satah River**	69.00	25	P	P	04 31 35.2	+0.2
	baz=285						
F31M	**Tsiigehtchic**	69.06	24	IAmb	IAmb	04 32 33.9	
	comp=Z,28nm,1.6s						
F31M	**Tsiigehtchic**	69.06	24	P	P	04 31 35.8	+0.4
	baz=285						
M30M	**Minto, Yukon**	69.07	30	IAmb	IAmb	04 32 25.7	
	comp=Z,23nm,1.4s						
M30M	**Minto, Yukon**	69.07	30	P	P	04 31 36.5	+0.8
	baz=285						
MNGR	**Mingechevir, A**	69.10	306	P	P	04 31 38.8	+2.7
N30M	**Aishikik Lake**	69.22	31	P	P	04 31 36.8	+0.1
	baz=285						
GROC	**Groznyy**	69.36	309	*e*P	P	04 31 38.2	+0.5
GROC				*e*S	S	04 40 45.8	+1.3
GROC				pmax	pmax		
	comp=Z,3.0nm,1.1s						
P29M	**Windy Craggy**	69.39	33	P	P	04 31 38.2	+0.5
P29M				IAmb	IAmb	04 32 12.1	
	comp=Z,22nm,1.1s						
P29M	**Windy Craggy**	69.39	33	P	P	04 31 38.0	+0.3
	baz=285						
APA	**Apatity**	69.46	336⇓	*i*P	P	04 31 36.4	-1.5
APA				*i*		04 31 45.3	
APA				*i*S	S	04 40 43.0	-1.8
APA				*i*		04 41 10.0	
APA				pmax	pmax		
	comp=Z,27nm,0.8s						
APA				MLR	MLR		
	comp=Z,700nm,15.0s						
P30M	**Million Dollar**	69.64	32	P	P	04 31 39.2	0.0
	baz=285						
GANJ	**Ganja**	69.69	306	P	P	04 31 40.4	+0.5
N31M	**Braeburn, Yuko**	69.82	31	IAmb	IAmb	04 32 18.3	
	comp=Z,17nm,1.0s						
N31M	**Braeburn, Yuko**	69.82	31	P	P	04 31 41.6	+1.3
	baz=286						
O30N	**Mendenhall**	69.88	31	IAmb	IAmb	04 32 35.6	
	comp=Z,28nm,1.7s						
O30N	**Mendenhall**	69.88	31	P	P	04 31 41.7	+1.0
	baz=286						
VRH	**Novokhopyorsk**	69.88	318	*e*P	P	04 31 39.8	-1.0
VRH				*e*S	S	04 40 50.5	+0.2
VRH				pmax	pmax		
	comp=Z,27nm,0.6s						
VRH				smax	smax		
	comp=E,22nm,1.7s						
PLBC	**Pleasant Camp**	70.11	33	P	P	04 31 42.5	+0.5
	baz=286						
M31M	**Drury Creek, Y**	70.25	30	P	P	04 31 42.8	-0.1
	baz=287						
A36M	**Sachs Harbour**	70.42	19	P	P	04 31 44.6	+0.9
	baz=292,SNR=15						
WHY	**Whitehorse**	70.48	31	IAmb	IAmb	04 32 27.8	
	comp=Z,33nm,1.5s						
FARO	**Faro, Yukon**	70.71	30	P	P	04 31 46.7	+1.0
	baz=288						
NAX	**Nakhchivan**	70.72	305	P	P	04 31 48.8	+2.5
MOS	**Moscow**	70.96	323	*e*P	P	04 31 45.4	-1.9
MOS				*e*		04 32 05.3	
MOS				*e*		04 34 20.9	
MOS				*e*S	S	04 41 00.7	-2.0
MOS				pmax	pmax		
	comp=Z,100nm,1.7s						
MOS				pmax	pmax		
	comp=Z,47nm,1.5s						
MOS				MLR	MLR		
	comp=N,1μm,18.0s						
MOS				MLR	MLR		
	comp=E,2μm,18.0s						
MOS				MLR	MLR		
	comp=Z,2μm,18.0s						
KEV	**Kevo**	70.96	339	P	P	04 31 46.8	-0.2
KEV				IAmb	IAmb	04 31 55.9	
	comp=Z,22nm,0.8s						
KEV	**Kevo**	70.96	339	P	P	04 31 46.8	-0.2
KEV				pmax	pmax		
	comp=Z,22nm,0.8s						
GNI	**Garni**	70.99	306	P	P	04 31 47.8	-0.2
GNI	**Garni**	70.99	306	LR	LR	05 07 44.4	
	comp=Z,594nm,18.5s,baz=71,slow=40						
GNI	**Garni**	70.99	306	*de*P	P	04 31 49.6	+1.6
GNI				pmax	pmax		
	comp=Z,53nm,1.7s						
GNI				MLR	MLR		
	comp=Z,531nm,17.0s						
TRLG	**Trialeti**	71.04	308	P	P	04 31 49.1	+0.8
LPSR	**Galich'ya Gora**	71.15	320	*e*P	P	04 31 47.2	-1.3
LPSR				pmax	pmax		
	comp=Z,40nm,0.9s						
N32M	**Quiet Lake**	71.17	31	P	P	04 31 49.5	+0.9
	baz=288						
KBZ	**Khabaz**	71.23	310	P	P	04 31 48.9	-0.3
	comp=Z,13nm,0.8s,baz=109,slow=4.4,SNR=25						
KBZ				LR	LR	05 07 24.3	
	comp=Z,828nm,18.2s,baz=98,slow=40						
	comp=Z,13nm,0.8s						
KBZ	**Khabaz**	71.23	310	*ce*P	P	04 31 49.7	+0.5
KBZ				pmax	pmax		
	comp=Z,23nm,1.0s						
VORR	**Voronezh**	71.26	319	*e*P	P	04 31 49.2	0.0
VORR				*e*S	S	04 41 07.5	+1.2
VORR				pmax	pmax		
	comp=Z,31nm,0.9s						
VORR				smax	smax		
	comp=N,19nm,1.2s						
KIV	**Kislovodsk**	71.31	310	P	P	04 31 49.5	-0.3
KIV	**Kislovodsk**	71.31	310	*e*P	P	04 31 49.9	+0.1
KIV				*e*S	S	04 41 08.0	+0.5
KIV				*e*SS	SS	04 45 36.7	-4.5
KIV				pmax	pmax		
	comp=Z,33nm,1.1s						
SIT	**Sitka**	71.33	35	P	P	04 31 48.7	-0.8
	baz=288						
P32M	**Atlin**	71.36	32	P	P	04 31 49.4	-0.4
	baz=288						
R32K	**Eaglecrest**	71.37	34	P	P	04 31 49.9	+0.2
	baz=288						
SHA1	**Shidzhatmaz**	71.40	310⇑	*e*P	P	04 31 51.0	+0.5
VSR	**Storozhevoye**	71.42	318	*e*P	P	04 31 48.8	-1.4
VSR				pmax	pmax		
	comp=Z,20nm,1.0s						
JIS	**Juneau Island**	71.44	34	IAmb	IAmb	04 32 32.7	
	comp=Z,27nm,1.2s						
MMPY	**Sheldon Lake,**	71.51	29	IAmb	IAmb	04 32 39.5	
	comp=Z,22nm,1.5s						
MMPY	**Sheldon Lake,**	71.51	29	P	P	04 31 50.5	-0.1
	baz=289						
ARCES	**ARCESS Array B**	71.53	339	P	P	04 31 50.4	-0.1
ARCES				IAmb	IAmb	04 31 59.9	
	comp=Z,19nm,1.0s						
ARCES	**ARCESS Array B**	71.53	339	P	P	04 31 50.6	0.0
	comp=Z,9.9nm,0.8s,baz=64,slow=8.2,SNR=23						
ARCES				LR	LR	05 08 53.3	
	comp=Z,968nm,18.4s,baz=50,slow=41						
	comp=Z,9.9nm,0.8s						
ARCES	**ARCESS Array B**	71.53	339	P	P	04 31 50.4	-0.1
ARCES				pmax	pmax		
	comp=Z,19nm,1.0s						
P33M	**Teslin, Yukon**	71.59	32	P	P	04 31 51.6	+0.4
	baz=289						
S32K	**Killisnoo**	71.59	35	P	P	04 31 51.6	+0.5
	baz=288						
MSF	**Maaselka**	71.63	335	P	P	04 31 51.3	+0.1
OBN	**Obninsk**	71.72	323	*c i*P	P	04 31 51.7	-0.2
OBN				*i* *SP	sP	04 31 55.6	+0.3
OBN						04 32 16.0	
OBN				*i* PPP	PPP	04 36 09.4	
OBN				*i* S	S	04 41 10.6	-0.9
OBN				*i*		04 41 50.2	
OBN				*e*SS	SS	04 45 46.6	0.0
OBN				*i* SSS	SSS	04 48 59.4	
OBN				pmax	pmax		
	comp=Z,68nm,1.7s						
OBN				MLR	MLR		
	comp=Z,3μm,18.0s						
JOF	**Joensuu**	71.75	332	*e*P	P	04 31 52.5	+0.6
C36M	**Paulatuk**	71.80	21	IAmb	IAmb	04 32 15.4	
	comp=Z,17nm,0.8s						
C36M	**Paulatuk**	71.80	21	P	P	04 31 52.8	+0.7
	baz=293						
NOR	**Nord**	71.97	355	*i* P	P	04 31 52.0	-1.0
NOR				IAmb	IAmb	04 31 53.1	
	comp=Z,11nm,1.3s						
Q32M	**Nakina River**	72.26	33	P	P	04 31 55.6	+0.3
	baz=290						
ERBR	**Yeremizino-Bor**	72.27	313	*e*P	P	04 31 52.9	-2.5
ERBR				pmax	pmax		
	comp=Z,27nm,0.3s						
LABN	**Labinsk**	72.44	312	*e*P	P	04 31 55.1	-1.4
LABN				*e*S	S	04 41 22.5	+2.2
LABN				pmax	pmax		
	comp=Z,18nm,0.3s						
LABN				MLR	MLR		
	comp=Z,1μm,16.0s						
VALR	**Valaam**	72.48	330	*c i*P	P	04 31 55.9	-0.4
VALR				pmax	pmax		
	comp=Z,34nm,0.9s						
VALR				MLR	MLR		
	comp=Z,1μm,16.0s						
R33M	**Jennings River**	72.75	32	P	P	04 31 57.9	-0.3
	baz=290						
S34M	**Telegraph Cree**	73.19	33	P	P	04 32 00.9	+0.2
	baz=291						
TGTN	**Hyland Airport**	73.21	29	P	P	04 32 01.0	+0.2
	baz=292						
SOC	**Sochi**	73.47	311	*e*P	P	04 32 01.4	-1.2
SOC				*e*		04 34

SOC MLR MLR
comp=Z,502nm,18.0s
RAO Raoul Island 73.53 134 LR LR 04 59 12.1
comp=Z,484nm,19.9s,baz=296,slow=32
DLBC Dease Lake 73.54 33 IAmb IAmb 04 33 17.8
comp=Z,39nm,1.8s
DLBC Dease Lake 73.54 33 P **P 04 32 01.8 -1.0**
baz=292
DLBC Dease Lake 73.54 33 LR LR 05 03 42.2
comp=Z,178nm,21.2s,baz=293,slow=35
FINES FINESS Array B 74.59 331 P **P 04 32 08.6 -0.1**
comp=Z,12nm,0.7s,baz=69,slow=6.3,SNR=58
comp=Z,12nm,0.7s
ANN Anapa 74.60 312 *e*P **P 04 32 08.9 -0.2**
ANN *e*S **S 04 41 44.3 -0.3**
ANN pmax pmax
comp=Z,24nm,1.0s
KEF Keuruu 74.80 332 *e*P **P 04 32 10.2 +0.2**
LIRD Liard River Hi 75.04 31 P **P 04 32 11.9 +0.5**
baz=294
VAF Ylistaro 75.32 333 *e*P **P 04 32 13.4 +0.5**
VSU Vasula 75.53 328 *c*e**P 04 32 14.5 +0.3**
VSU pmax pmax
comp=Z,81nm,1.7s
VSU MLR MLR
comp=Z,692nm,15.0s
TOAD Toad River Com 75.68 31 P **P 04 32 14.9 -0.2**
baz=295
MEF Metsahovi 75.86 330 *e*P **P 04 32 16.6 +0.5**
RAYN Ar Rayn 75.96 290 P **P 04 32 17.4 0.0**
RAYN IAmb IAmb 04 32 20.9
comp=Z,29nm,1.0s
RAYN Ar Rayn 75.96 290 P **P 04 32 17.4 0.0**
RAYN pmax pmax
comp=Z,29nm,1.0s
RES Resolute Bay 76.02 11 LR LR 05 09 01.9
comp=Z,238nm,18.4s,baz=1.0,slow=38
DAG Danmarks Havn 76.37 353 *i* P **P 04 32 17.5 -1.2**
DAG IAmb IAmb 04 32 19.4
comp=Z,6.8nm,0.8s
MNK Minsk 76.62 324 *i* P **P 04 32 19.6 -0.9**
MNK *i* 04 35 12.6
MNK *i* PPP PPP 04 36 59.3
MNK *i* S **S 04 42 07.0 +0.3**
MNK *i* SS **SS 04 47 07.4 +6.2**
MNK *i* SSS SSS 04 50 25.8
MNK pmax pmax
comp=Z,30nm,0.9s
MNK pmax pmax
comp=E,40nm,1.7s
MNK pmax pmax
comp=N,28nm,1.5s
MNK MLR MLR
comp=N,845nm,20.0s
MNK MLR MLR
comp=Z,2μm,18.0s
MNK MLR MLR
comp=E,488nm,17.0s
RAF Rauma 76.64 332 *e*P **P 04 32 20.9 +0.4**
SIM Simferopol' 76.75 314 *e*P **P 04 32 22.0 +0.6**
SIM *e*S **S 04 42 11.0 +2.6**
SIM pmax pmax
comp=Z,26nm,1.0s
MTSE Matsula 76.80 329 *e*P **P 04 32 21.9 +0.4**
BBB Bella Bella 77.00 38 LR LR 05 03 14.7
comp=Z,208nm,18.1s,baz=304,slow=33
BKZ Black Stump Fm 77.29 145 P **P 04 32 23.9 -0.6**
BKZ IAmb IAmb 04 32 33.9
comp=Z,31nm,1.1s
NEEM North Greenlan 77.42 0 *i* P **P 04 32 23.9 -1.1**
NEEM IAmb IAmb 04 32 25.8
comp=Z,11nm,0.9s
AKASG Malin Array Be 77.47 320 P **P 04 32 24.6 -0.8**
comp=Z,1.3nm,0.4s,baz=58,slow=6.0,SNR=3.7
AKASG LR LR 05 09 30.9
comp=Z,3μm,18.8s,baz=66,slow=38
comp=Z,1.3nm,0.4s
AKBB Malin Array Si 77.47 320 *c i* P **P 04 32 24.7 -0.7**
KIEV Kiev 77.48 320 P **P 04 32 24.7 -0.7**
KIEV Kiev 77.48 320 P **P 04 32 24.7 -0.7**
KIEV pmax pmax
comp=Z,13nm,1.0s
THZ Tophouse 77.49 149 P **P 04 32 24.4 -1.2**
AAL Aland 77.82 331 *e*P **P 04 32 27.1 0.0**
RPZ Rata Peaks 78.19 151 P **P 04 32 29.1 -0.2**
RPZ Rata Peaks 78.19 151 LR LR 05 08 12.7
comp=Z,335nm,18.2s,baz=312,slow=37
PABE Paberze 78.20 326 *e*P **P 04 32 29.9 +0.6**
YKA Yellowknife Ar 78.47 25 P **P 04 32 30.9 +0.3**
comp=Z,2.1nm,0.8s,baz=302,slow=4.9,SNR=12
YKA LR LR 05 10 36.0
comp=Z,162nm,19.0s,baz=294,slow=38
comp=Z,2.1nm,0.8s
YKA Yellowknife Ar 78.47 25 P **P 04 32 31.0 +0.3**
DBG Daneborg 78.74 352 *i* P **P 04 32 30.9 -1.1**
DBG IAmb IAmb 04 32 32.5
comp=Z,6.0nm,1.0s
UPP Uppsala 79.00 332 *e*P **P 04 32 34.1 +0.4**
BR131 Keskin Array S 79.12 309 P **P 04 32 34.4 -0.6**
BR131 Keskin Array S 79.12 309 P **P 04 32 34.4 -0.6**
BR131 pmax pmax
comp=Z,16nm,1.0s
BRTR Keskin Array B 79.12 309 P **P 04 32 34.3 -0.7**
BRTR Keskin Array B 79.12 309 P **P 04 32 34.7 -0.3**
comp=Z,6.2nm,0.9s,baz=96,slow=5.1,SNR=30
BRTR LR LR 05 12 56.9
comp=Z,279nm,21.1s,baz=47,slow=40
comp=Z,6.2nm,0.9s
SUW Suwalki 79.31 325 *e*P **P 04 32 35.8 +0.3**
MILM Milestii Mici 79.32 317 *e*P **P 04 32 33.0 -2.7**
MILM *e*S **S 04 42 32.0 -4.0**
MILM Milestii Mici 79.32 317 *e*P **P 04 32 33.0 -2.7**
MILM *e*S **S 04 42 32.0 -4.0**
MILM *e*PS **PnS 04 43 27.0 +8.1**
MILM MLR MLR
comp=E,800nm,17.5s
MILM MLR MLR
comp=Z,800nm,17.5s
JMIC Jan Mayen 79.70 347 LR LR 05 12 22.0
comp=Z,276nm,18.5s,baz=44,slow=39
VIKU Vikbolandet 80.13 331 *e*P **P 04 32 40.3 +0.4**
HFS Hagfors 80.50 333 P **P 04 32 40.9 -0.9**
comp=Z,10nm,0.8s,baz=72,slow=4.8,SNR=35
comp=Z,10nm,0.8s
MMAI Mount Meron Ar 80.53 302 P **P 04 32 42.9 +0.3**
comp=Z,1.6nm,0.5s,baz=20,slow=9.5,SNR=4.3
MMAI LR LR 05 13 52.6
comp=Z,436nm,20.6s,baz=14,slow=40
comp=Z,1.6nm,0.5s
NC405 NORSAR Array S 80.72 334 IAmb IAmb 04 32 51.3
comp=Z,24nm,0.8s
BALJ Balqa 80.73 301 IAmb IAmb 04 32 47.2
comp=Z,28nm,0.9s
NC303 NORSAR Array S 80.79 335 IAmb IAmb 04 32 51.6
comp=Z,18nm,0.9s
NB2 NORSAR Subarra 80.96 335 P **P 04 32 43.2 -1.1**
comp=Z,28nm,1.2s,baz=50,slow=5.6
NB2 NORSAR Subarra 80.96 335 P **P 04 32 43.2 -1.1**
baz=50,slow=5.6
NOA NORSAR Array B 80.96 335 P **P 04 32 43.3 -1.1**
comp=Z,5.0nm,0.7s,baz=50,slow=5.4,SNR=42
NOA LR LR 05 11 43.9
comp=Z,851nm,20.7s,baz=50,slow=38
comp=Z,5.0nm,0.7s
NC204 NORSAR Array S 80.99 335 IAmb IAmb 04 32 52.7
comp=Z,18nm,0.8s
BURAR Bucovina Array 81.20 319 P **P 04 32 45.6 -0.3**
CSS Mathiatis 81.30 304 IAmb IAmb 04 32 49.5
comp=Z,26nm,0.8s
KWP Kalwaria Pacla 81.69 321 *e*P **P 04 32 48.8 +0.4**
KWP Kalwaria Pacla 81.69 321 IAmb IAmb 04 33 17.3
comp=Z,44nm,1.2s
MLR Muntele Rosu 81.74 317 LR LR 05 13 58.1
comp=Z,694nm,18.9s,baz=50,slow=39
SUMG Summit 82.03 357 IAmb IAmb 04 32 59.8
comp=Z,32nm,1.0s
SUMG Summit 82.03 357 *i* P **P 04 32 49.8 -0.5**
SUMG IAmb IAmb 04 32 51.7
comp=Z,15nm,0.9s
RAR Rarotonga 82.05 118 LR LR 05 02 36.6
comp=Z,113nm,19.7s,baz=297,slow=31
EIL Elat 82.26 299 LR LR 05 14 42.6
comp=Z,235nm,18.2s,baz=74,slow=40
KOLS Kolonicke sedl 82.28 321 *e*P **P 04 32 52.3 +0.8**
KOLS pmax pmax
comp=Z,4.0nm,1.0s
KOLS Kolonicke sedl 82.28 321 *e*P **P 04 32 52.3 +0.8**
DEL Delary 82.54 330 *e*P **P 04 32 53.0 +0.3**
CRVS Cervenica-Dubn 82.76 321 *e*P **P 04 32 54.6 +0.6**
CRVS pmax pmax
comp=Z,27nm,1.4s
CRVS Cervenica-Dubn 82.76 321 *e*P **P 04 32 54.6 +0.6**
BSD Bornholm Skovb 82.83 328 *e*P **P 04 32 54.6 +0.4**
BSD Bornholm Skovb 82.83 328 *i* P **P 04 32 53.0 -1.2**
BSD IAmb IAmb 04 32 54.8
comp=Z,18nm,0.8s
ATD Arta Tunnel 82.99 279 LR LR 05 08 20.0
comp=Z,12nm,20.1s,baz=62,slow=35
OJC Ojcow 83.01 323 *e*P **P 04 32 55.5 +0.2**
OJC Ojcow 83.01 323 IAmb IAmb 04 33 39.8
comp=Z,38nm,1.4s
DRGR 83.09 319 P **P 04 32 56.2 +0.3**
LANS Liptovska Anna 83.75 322 *e*P **P 04 33 01.1 +1.9**
LANS pmax pmax
comp=Z,14nm,2.2s
LANS Liptovska Anna 83.75 322 *e*P **P 04 33 01.1 +1.9**
B08A Colville Reser 83.77 39 P **P 04 32 59.2 0.0**
B08A IAmb IAmb 04 34 01.5
comp=Z,15nm,1.1s
RDO Rodhopi 84.05 313 IAmb IAmb 04 34 09.6
comp=Z,16nm,1.2s
OKC Ostrava-Krasne 84.12 323 AMS AMS 05 14 00.0
comp=Z,2μm,17.3s
EZN Ezine 84.15 311 P **P 04 33 01.0 -0.3**
PSZ Piszkesteto 84.16 321 IAmb IAmb 04 33 10.8
comp=Z,31nm,1.5s
PSZ Piszkesteto 84.16 321 P **P 04 33 02.8 +1.5**
GOET G??ttrup 84.24 332 *e*P **P 04 33 01.0 -0.4**
GOET IAmb IAmb 04 33 02.0
comp=Z,38nm,1.0s
VYHS Vyhne 84.46 322 *e*P **P 04 33 03.6 +0.9**
VYHS pmax pmax
comp=Z,76nm,2.2s
VYHS Vyhne 84.46 322 *e*P **P 04 33 03.6 +0.9**
MORC Moravsky Berou 84.48 323 IAmb IAmb 04 34 04.0
comp=Z,14nm,1.2s
MORC Moravsky Berou 84.48 323 *e*P **P 04 33 02.9 0.0**
MORC Moravsky Berou 84.48 323 P **P 04 33 03.1 +0.2**
MAUC Maruska 84.55 323 *e*P **P 04 33 04.6 +1.4**
KSP Ksiaz 84.56 324 *e*P **P 04 33 03.7 +0.5**
KSP Ksiaz 84.56 324 P **P 04 33 04.0 +0.8**
D08A Wollman Farm, 84.69 40 IAmb IAmb 04 33 41.0
comp=Z,11nm,0.8s
KRLC Kraliky 84.72 324 *e*P **P 04 33 04.9 +0.8**
KRLC AMS AMS 05 14 30.0
comp=Z,2μm,16.7s
KRLC Kraliky 84.72 324 *e*P **P 04 33 04.9 +0.8**
KRLC MLR MLR
comp=Z,2μm,16.7s
OSTC Ostas 84.76 324 AMS AMS 05 14 30.0
comp=Z,2μm,16.6s
DPC Dobruska-Polom 84.82 324 *e*P **P 04 33 05.4 +0.8**
DPC AMS AMS 05 14 30.0
comp=Z,2μm,16.9s
DPC Dobruska-Polom 84.82 324 *e*P **P 04 33 05.4 +0.8**
DPC MLR MLR
comp=Z,2μm,16.9s
CHVC Chvalec 84.83 324 *e*P **P 04 33 05.0 +0.4**
CHVC Chvalec 84.83 324 *e*P **P 04 33 05.0 +0.4**
UPC Upice 84.89 324 AMS AMS 05 14 30.0
comp=Z,2μm,18.6s
JAVC Velka Javorina 84.91 322 *e*P **P 04 33 06.2 +1.1**
SSRD Sdr. Stenderup 85.04 331 *i* P **P 04 33 05.1 -0.4**
SSRD IAmb IAmb 04 33 06.6
comp=Z,16nm,0.8s
NEW Newport 85.07 38 P **P 04 33 05.0 -0.9**
baz=303
PINE Pine Mountain 85.16 44 P **P 04 33 06.0 -0.7**
PINE IAmb IAmb 04 33 45.9
comp=Z,20nm,1.0s
SMOL Smolenice 85.23 322 *e*P **P 04 33 07.9 +1.3**
J05D Fort Rock, OR 85.24 44 IAmb IAmb 04 33 42.0
comp=Z,13nm,1.0s
VRAC Vranov 85.25 323 *e*P **P 04 33 07.5 +0.8**
VRAC Vranov 85.25 323 LR LR 05 14 47.6
comp=Z,2μm,18.4s,baz=72,slow=38
MODS Modra-Piesok 85.39 322 *e*P **P 04 33 08.5 +1.0**
MODS pmax pmax
comp=Z,47nm,1.5s
MODS Modra-Piesok 85.39 322 *e*P **P 04 33 08.5 +1.0**
KRUC Moravsky 85.50 323 *e*P **P 04 33 08.0 +0.1**
PVCC Panska Ves 85.64 325 *e*P **P 04 33 10.1 +1.5**
PVCC AMS AMS 05 14 50.0
comp=Z,2μm,17.9s
PVCC Panska Ves 85.64 325 *e*P **P 04 33 10.1 +1.5**
PVCC MLR MLR
comp=Z,2μm,17.9s
BSEG Bad Segeberg 85.69 329 *e*L 05 15 19.2
comp=Z,785nm,18.9s
BRG Berggiesshubel 85.76 325 *e*P P 04 33 14.5 +5.3
BRG Amp 04 33 23.0
comp=Z,3.3nm,0.9s
BRG Berggiesshubel 85.76 325 S **S 04 43 46.0 +4.2**
BRG Berggiesshubel 85.76 325 SS SS 04 49 21.0 +3.6
BRG Amp 05 15 51.0
comp=Z,1.9nm,16.8s
BRG Amp 05 15 54.0
comp=N,0.7nm,17.1s
BRG Amp 05 15 56.0
comp=E,1.4nm,17.1s
BRG Berggiesshubel 85.76 325 *e*P P 04 33 14.4 +5.2
BRG S **SS 04 49 21.0 +3.6**
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG smax smax
comp=Z,2μm,16.8s
TREC Trest 85.86 323 AMS AMS 05 15 10.0
comp=Z,2μm,16.3s
RICC Richard 85.87 325 AMS AMS 05 15 00.0
comp=Z,2μm,19.5s
GOPC GO Pecny, Ondr 85.88 324 *e*P **P 04 33 10.7 +0.9**
GOPC AMS AMS 05 15 10.0
comp=Z,2μm,16.5s
GOPC GO Pecny, Ondr 85.88 324 *e*P **P 04 33 10.7 +0.9**
GOPC MLR MLR
comp=Z,2μm,16.5s
PRU Pruhonice 85.97 324 *e*S **S 04 43 48.7 +4.9**
PRU AMS AMS 05 15 20.0
comp=Z,2μm,16.9s
PRA Prague 85.97 325 AMS AMS 05 15 20.0
comp=Z,2μm,17.1s
CLL Collm 85.98 326 *e*P **P 04 33 09.0 -1.3**
CLL *e* 04 33 18.0
CLL *e*S **S 04 43 43.0 -1.0**
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 85.99 326 *e*L 05 15 50.8
comp=Z,2μm,18.0s
HSKC Hora Svate Kat 86.18 325 *e*S **S 04 43 48.5 +2.5**
HSKC AMS AMS 05 15 50.0
comp=Z,2μm,18.2s
RONA Rosalia, Austr 86.32 322 *e*P **P 04 33 13.1 +1.0**
comp=Z,1.7nm,0.6s
CONA Conrad Observa 86.43 322 *e*P **P 04 33 13.5 +0.8**
comp=Z,5.5nm,0.8s
CKRC Cesky Krumlov 86.77 324 AMS AMS 05 15 40.0
comp=Z,2μm,16.7s
KHC Kasperske Hory 86.97 324 *e*P **P 04 33 18.3 +3.0**
KHC *ex* x 04 36 39.0
KHC *e*S **S 04 43 57.0 +3.2**
KHC AMS AMS 05 16 10.0
comp=Z,2μm,16.8s
KHC Kasperske Hory 86.97 324 *e*P **P 04 33 18.3 +3.0**
KHC *e* 04 36 39.0
KHC *e* 04 43 57.0
KHC MLR MLR
comp=Z,2μm,16.8s
ARSA Arzberg 87.00 322 *e*P **P 04 33 14.3 -1.2**
comp=Z,3.6nm,1.2s
GERES GERESS Array B 87.08 324 P **P 04 33 15.1 -0.7**
comp=Z,0.3nm,0.4s,baz=100,slow=5.4,SNR=2.6
GERES LR LR 05 15 45.9
comp=Z,1μm,18.1s,baz=68,slow=38
comp=Z,0.3nm,0.4s
MOX Moxa 87.09 326 *e*L 05 16 33.8
comp=Z,2μm,18.0s
IDI Anoyia 87.32 308 LR LR 05 17 18.0
comp=Z,215nm,19.8s,baz=60,slow=39
WET Wettzell 87.34 324 *e*L 05 16 55.7
comp=Z,1μm,19.4s
MOA Molln 87.36 323 *e*P **P 04 33 17.5 +0.4**
comp=Z,3.7nm,0.8s
BORG Borgarnes 87.54 348 LR LR 05 16 42.3
comp=Z,279nm,18.1s,baz=30,slow=38
SOKA Soboth 87.61 321 *e*P **P 04 33 17.0 -1.4**
comp=Z,1.4nm,0.6s
MSO Missoula 87.66 38 P **P 04 33 17.3 -1.4**
baz=305
BIOA Bad Ischl, Aus 87.79 323 *e*PcP **PcP 04 33 20.5 -0.6**
comp=Z,2.9nm,0.7s
FURI Furi 87.81 279 LR LR 05 11 53.5
comp=Z,199nm,20.2s,baz=54,slow=35
GRF Grafenberg Arr 87.87 325 *e*P 04 33 14.5
comp=Z,5.1nm,0.6s,baz=52,slow=4.8
GRF *e*L 05 16 57.3
comp=Z,2μm,18.9s
SFJD Kangerlussuaq 87.93 0 LR LR 05 12 57.1
comp=Z,308nm,21.9s,baz=348,slow=36
SFJD Kangerlussuaq 87.93 0 *i* P **P 04 33 16.9 -2.6**
OBKA Obir 87.98 322 *e*P **P 04 33 19.3 -0.9**
comp=Z,2.0nm,0.9s
FFC Flin Flon 88.47 27 P **P 04 33 22.6 +0.4**
FFC IAmb IAmb 04 33 50.2
comp=Z,20nm,1.2s
FFC Flin Flon 88.47 27 P **P 04 33 22.6 +0.4**
FFC pmax pmax
comp=Z,20nm,1.2s
LESA Schwarzleotal 88.47 323 *e*P **P 04 33 21.1 -1.5**
comp=Z,8.7nm,1.3s
MFID Camas Ranch 88.50 42 P **P 04 33 23.3 +0.5**
MFID IAmb IAmb 04 34 06.4
comp=Z,28nm,1.5s
PPT Papeete 88.73 110 LR LR 05 07 04.0
comp=Z,391nm,20.0s,baz=298,slow=32
PPT2 Papeete2 88.74 110 *e*S **S 04 44 11.0 -0.6**
comp=Z,58nm,22.5s
PPT2 *e*SS **SS 04 50 00.7 -3.0**
comp=Z,57nm,24.5s
PPT2 *e*LQ LQ 04 57 47.7
comp=Z,1μm,32.8s
PPT2 *e*LR LR 05 01 39.2
comp=Z,842nm,28.2s
PPT2 *e*LR LR 05 01 40.0
comp=Z,1μm,25.5s
FUR Furstenfeldbru 88.78 324 *e*L 05 16 39.0
comp=Z,1μm,18.4s
TNS Taunus Mts 88.93 327 *e*L 05 16 40.6
comp=Z,2μm,19.7s
ABTA Abfaltersbach 88.97 323 *e*P **P 04 33 23.7 -1.2**
comp=Z,6.1nm,1.5s
WATA Walderalm 89.12 323 *e*P **P 04 33 25.9 +0.2**
comp=Z,3.7nm,0.9s
WTTA Wattenberg 89.13 323 *e*P **P 04 33 25.7 -0.1**
comp=Z,7.5nm,1.3s
HLID Hailey 89.27 41 P **P 04 33 25.6 -0.9**
HLID Hailey 89.27 41 P **P 04 33 26.7 +0.2**
baz=305
NVAR Mina Array Bea 89.67 47 P **P 04 33 28.0 -0.5**
comp=Z,0.5nm,0.7s,baz=318,slow=6.0,SNR=4.0
comp=Z,0.5nm,0.7s
BOZ Bozeman (W) 89.68 38 P **P 04 33 28.0 -0.4**
baz=307
FRB Frobisher Bay 89.95 8 LR LR 05 16 27.1
comp=Z,348nm,19.3s,baz=358,slow=37
DAVA Damuels 90.06 324 *e*PcP **PcP 04 33 31.6 +0.3**
comp=Z,2.0nm,0.7s
BFO Black Forest 90.21 326 *e*L 05 18 35.6
comp=Z,2μm,18.1s
DAVOX Davos/Dischmat 90.38 324 LR LR 05 18 12.1
comp=Z,2μm,18.8s,baz=40,slow=38
EKA Eskdalemuir Ar 90.39 336 P **P 04 33 29.8 -1.4**
comp=Z,1.6nm,0.7s,baz=28,slow=5.7,SNR=7.3
comp=Z,1.6nm,0.7s
HVU Hansel Valley 91.28 42 IAmb IAmb 04 34 00.5
comp=Z,28nm,1.8s
TBI Tubuai 91.44 115 *e*S **S 04 44 33.1 -3.0**
comp=Z,340nm,28.8s
TBI *e*SS **SS 04 50 41.1 -1.4**
comp=Z,350nm,26.2s
TBI *e*LQ LQ 04 58 45.1
comp=Z,3μm,34.5s
TBI *e*LR LR 05 02 49.3
comp=Z,2μm,28.5s
MPMC Manual Prospec 91.50 49 P **P 04 33 36.6 -0.4**
baz=303
R11B Troy Canyon, C 91.50 46 P **P 04 33 38.4 +1.4**
baz=304
TPNV Topopah Spring 91.84 47 P **P 04 33 39.4 +0.8**
baz=304
DUG Dugway, Tooele 92.19 43 P **P 04 33 40.1 0.0**
baz=306
PDAR Pinedale Array 92.59 40 P **P 04 33 42.0 -0.1**
comp=Z,0.1nm,0.4s,baz=252,slow=1.4,SNR=2.5
comp=Z,0.1nm,0.4s
TAOE Nuku Hiva Isla 93.22 98 *e*LR LR 05 03 37.4
comp=Z,2μm,29.1s
VAE Valguarnera 93.30 314 LR LR 05 23 17.6
comp=Z,399nm,19.2s,baz=46,slow=40
MONP2 Monument Peak 93.96 51 P **P 04 33 49.0 +0.4**
baz=304
ULM Lac du Bonnet 94.29 28 LR LR 05 19 46.9
comp=Z,180nm,18.0s,baz=326,slow=38
KEST Kesra 97.61 315 LR LR 05 24 00.0
comp=Z,479nm,18.2s,baz=1.0,slow=39
SCHQ Schefferville 98.77 10 LR LR 05 20 29.0
comp=Z,329nm,20.6s,baz=346,slow=36
ANMO Albuquerque 99.40 44 LR LR 05 12 57.9
comp=Z,322nm,21.3s,baz=32,slow=32
PBRG Braganca 102.31 329 *e*LR LR 05 17 44.3
comp=Z,1μm,22.0s
ESDC Sonseca Array 102.57 326 PP **PP 04 38 37.1 -2.0**
comp=Z,1.4nm,1.1s,baz=48,slow=6.9,SNR=6.1
MTE Manteigas 103.78 328 *e*LR LR 05 18 18.2
comp=Z,1μm,20.0s
PMRV Marv??o 104.47 328 *e*LR LR 05 18 41.8
comp=Z,1μm,18.0s
PMOZ Porto Moniz, M 114.43 330 *e*LR LR 05 17 40.5
comp=Z,555nm,18.0s
CZSB Cruzeiro do Su 151.82 56 PKPdf **PKPdf 04 40 19.0 -0.3**

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*IDC **25** 04:26:24.7±1.5, 25°.27N×130°.22E, h0km, mb3.8/8, mbtmp3.8/10, ML3.8/2, Error ellipse: s-maj=78.3km s-min=20.8km az=68.0*
*NEIC **25** 04:26:31.1±1.2, 25°.7N±0°.1×130°.10E±0°.03, h24km±5km, mb4.4/16, Error ellipse: s-maj=17.7km s-min=2.1km az=193.0*

ISC 25 04:26:31.1±0.8, 25°.4N±0°.1×130°.09E±0°.08, h35km, n33, σ1§28/33, mb4.1/16, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.11**	**67**	Pn	**Pn**	**04 26 49.9**	**-0.3**
JOW	**Kunigami**	**2.18**	**312**	Pn	**Pn**	**04 27 03.6**	**-1.2**
JOW	69nm,0.3s,baz=143,slow=21,SNR=7.1			Sn	**Sn**	**04 27 30.1**	**-0.4**
	17nm,0.3s,baz=126,slow=28,SNR=1.2						
	178nm,0.3s						
JOW	**Kunigami**	**2.18**	**312**	P	**Pn**	**04 27 03.7**	**-1.1**
JNU	**Nakatsue**	**7.74**	**5**	Pn	**Pn**	**04 28 17.6**	**-3.7**
KSRS	**Korea Array**	**12.17**	**352**	Pn	**Pn**	**04 29 22.1**	**+0.2**
	0.2nm,0.3s,baz=170,slow=15,SNR=5.2						
	3.3nm,0.8s						
MKAR	**Makanchi Array**	**43.34**	**312**	P	**P**	**04 34 30.2**	**+0.5**
	0.4nm,0.5s,baz=95,slow=8.6,SNR=4.7						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**43.93**	**323**	P	**P**	**04 34 35.4**	**+1.0**
	1.3nm,0.5s,baz=119,slow=8.6,SNR=3.5						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**45.25**	**174**	P	**P**	**04 34 43.0**	**-2.2**
	0.7nm,0.7s,baz=353,slow=8.3,SNR=2.5						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**48.90**	**175**	P	**P**	**04 35 11.8**	**-1.9**
	0.4nm,0.8s,baz=0.0,slow=5.6,SNR=1.7						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**52.02**	**319**	P	**P**	**04 35 38.3**	**+1.4**
	1.6nm,0.7s,baz=81,slow=8.9,SNR=4.2						
	1.6nm,0.7s						
BRVK	**Borovoye**	**52.08**	**319**	P	**P**	**04 35 36.3**	**-1.2**
BRVK				IAmb	IAmb	04 35 39.4	
	comp=Z,3.9nm,1.0s						
ABKAR	**Akbulak array**	**58.44**	**314**	P	**P**	**04 36 24.5**	**+1.2**
F17K	**Baldwin Pennin**	**58.49**	**26**	P	**P**	**04 36 22.9**	**-0.4**
F17K				IAmb	IAmb	04 36 25.9	
	comp=Z,8.7nm,1.5s						
E19K	**Redstone River**	**60.18**	**25**	P	**P**	**04 36 34.5**	**-0.6**
E19K				IAmb	IAmb	04 36 42.7	
	comp=Z,9.2nm,1.4s						

IMAR	Indian Mountai	61.47	27	P		P	04 36 41.7	-2.1
BRLK	Bradley Lake	62.94	34	P		P	04 36 53.7	-0.2
F24K	Squaw Lake	63.78	25	P		P	04 36 58.8	-0.5
WRH	Wood River Hil	63.90	29	P		P	04 36 59.4	-0.6
WRH				IAmb		IAmb	04 37 01.2	
comp=Z,2.8nm,1.2s								
TOO	Toolangi	64.28	166	P		P	04 37 06.0	+3.2
IL31		64.39	28	P		P	04 37 02.6	-0.6
HDA	Harding Lake	64.39	29	P		P	04 37 04.4	+1.2
HDA				IAmb		IAmb	04 37 16.9	
comp=Z,2.1nm,1.0s								
BMAR	Burnt Mountain	65.06	25	P		P	04 37 07.7	+0.1
ARCES	ARCESS Array B	71.40	339	P		P	04 37 47.2	0.0
ARCES				IAmb		IAmb	04 38 01.9	
comp=Z,4.9nm,1.1s								
EUNU	Eureka	72.94	6	P		P	04 37 57.1	+0.7
FINES	FINESS Array B	74.41	331	P		P	04 38 05.3	+0.1
FINES	FINESS Array B	74.41	331	P		P	04 38 05.0	-0.2
comp=Z,1.3nm,0.7s,baz=85,slow=4.0,SNR=5.1								
comp=Z,1.3nm,0.7s								
BRTR	Keskin Array B	78.87	309	P		P	04 38 29.9	-1.1
comp=Z,1.1nm,0.9s,baz=76,slow=6.1,SNR=3.8								
comp=Z,1.1nm,0.9s								
NC405	NORSAR Array S	80.56	334	P		P	04 38 39.1	-0.5
NC405				IAmb		IAmb	04 38 48.5	
comp=Z,5.8nm,1.4s								
NB201	NORSAR Array S	80.76	334	P		P	04 38 39.8	-1.0
NOA	NORSAR Array B	80.80	334	P		P	04 38 39.8	-1.1
comp=Z,0.5nm,0.7s,baz=50,slow=5.3,SNR=3.3								
comp=Z,0.5nm,0.7s								
NC204	NORSAR Array S	80.83	335	P		P	04 38 40.4	-0.8
NC204				IAmb		IAmb	04 38 41.2	
comp=Z,6.3nm,1.1s								
RAR	Rarotonga	82.33	118	P		P	04 38 50.5	+0.9
CLL	Collm	85.79	326	eP		P	04 39 09.0	+2.2

*JMA **25** 04:47:45.8±0.6, 44°N±3°×14°7E±°, h25km, MV2.5/7, E OFF HOKKAIDO*
*SKHL **25** 04:47:47.4±0.4, 43°.50N×146°.70E, h35km±5km, mb4.0/2*
ISC 25 04:47:46.6±2.1, 43°.5N±0°.1×146°.86E±0°.09, h24km, n6, σ0^{s}80/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.33	356	eP	Pn	04 47 56.5	+0.6
SHO				AMB	AMB	04 47 56.8	
50nm,0.3s							
SHO				eS	Sn	04 48 03.0	+1.0
SHO				A	A	04 48 04.1	
600nm,0.4s							
SHO				A	A	04 48 04.1	
600nm,0.4s							
NEM2	Nemuro 2	0.83	258	P	Pn	04 48 02.9	+0.1
NEM2				eS	Sn	04 48 15.1	+0.9
YUK	Yuzh-Kuril'sk	0.88	305	eP	Pb	04 48 02.3	-0.8
YUK				AMB	AMB	04 48 03.4	
130nm,0.2s							
YUK				eS	Sb	04 48 13.8	-0.6
YUK				A	A	04 48 18.7	
200nm,0.2s							
YUK				A	A	04 48 18.7	
60nm,0.2s							
JNSB	Nemuroshibetsu	1.37	281	eP	Pb	04 48 11.4	0.0
JNK	Nakash	1.56	273	eP	Pb	04 48 13.9	-0.7
KUR	Kuril'sk	1.84	23	eP	Pb	04 48 18.8	-0.7
KUR				eS	Sn	04 48 39.5	+0.3
KUR				A	A	04 48 43.3	
40nm,0.2s							
KUR				A	A	04 48 43.3	
20nm,0.2s							

*NEIC **25** 05:06:04.8±2.1, 40°.34N±0°.04×125°.16W±0°.05, h10km±1km, Error ellipse: s-maj=6.6km s-min=5.8km az=212.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.70; $M_{\theta\theta}$=0.33; $M_{\phi\phi}$=1.03; $M_{r\theta}$=0.99; $M_{r\phi}$=-4.06; $M_{\theta\phi}$=-1.96; Fault plane solution: M_0=4.70000×10^{15} NP1: ϕ_s=2.06000°, δ78.72000°, λ=-26.74000°. NP2: ϕ_s=97.68000°, δ63.82000°, λ=-167.41000°. Principal axes: T 4.6121, Plg10.0000°, Azm52.0000°; N 0.1682, Plg61.0000°, Azm161.0000°; P -4.7803, Plg27.0000°, Azm317.0000°;*
*NEIC **25** 05:06:04.9, 40°.38N×125°.07W, h0km*
*IDC **25** 05:06:05.8±0.7, 40°.39N×124°.80W, h0km, mb4.2/13, mbtmp4.2/19, ML4.2/6, MS3.8/12, Error ellipse: s-maj=12.4km s-min=10.4km az=44.0*
*NCEDC **25** 05:06:06.7±2.3, 40°.39N±0°.03×125°.05W±0°.04, h11km±5km, Mwr4.5/6, mb4.8/134(NEIC), ML4.0/94(NEIC), Mwr4.4/70(NEIC), Error ellipse: s-maj=5.4km s-min=3.2km az=59.0*
ISC 25 05:06:06.8±0.5, 40°.33N±0°.05×124°.97W±0°.05, h13km, n605, σ1^{s}17/584, mb4.8/68, MS3.9/11, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	Capetown	0.51	73		Pb	05 06 18.5	+0.9
KCTM					Sn	05 06 27.6	-0.8
FER	Ferndale	0.60	65		Pb	05 06 19.6	+0.5
KSMM	Slide Mountain	0.63	103		Pg	05 06 19.9	+0.8
KMPM	Mount Pierce	0.66	82		Pb	05 06 20.3	0.0
JCC	Jacoby Creek,	0.87	55		Pg	05 06 22.6	-1.1
JCC				IAML		05 06 34.5	
comp=N,5μm,0.3s							
JCC				IAML		05 06 51.1	
comp=E,4μm,0.8s							
KCRM	Chalk Rock	0.89	83		Pg	05 06 24.1	+0.1
KMRM	Mail Ridge	0.97	96		Pb	05 06 25.6	0.0
KHMM	Horse Mountain	1.09	60		Pb	05 06 26.4	-1.3
KHMM				IAML		05 06 41.1	
comp=N,5μm,0.6s							
KHMM				IAML		05 06 54.4	
comp=E,5μm,0.9s							
KRPM	Rodgers	1.10	41		Pb	05 06 25.7	-2.0
KRPM				IAML		05 06 40.8	
comp=N,5μm,0.7s							
KPPM	Pickett Peak	1.23	89		Pn	05 06 29.3	-0.7
KCPM	Cahto Peak	1.25	121		Pn	05 06 29.2	-0.9
KIPM	Iron Peak	1.26	114		Pn	05 06 29.7	-0.6
KFPM	Farley Peak	1.37	120		Pn	05 06 31.3	-0.5
KHBM	Hayfork Bally	1.38	76		Pn	05 06 30.8	-1.2
KBNM	Bluenose Ridge	1.43	107		Pn	05 06 32.3	-0.3
GTC	Three Chop Rid	1.43	130		Pn	05 06 31.6	-0.9
KRMB	Red Mountain	1.44	34		Pn	05 06 30.5	-2.3
KOMM	Orleans Mounta	1.49	50		Pn	05 06 32.0	-1.5
DCMP	DeCamp, Califo	1.52	124		Pn	05 06 33.1	-0.7
LBPM	Beegum Peak	1.60	90		Pn	05 06 34.1	-0.8
O02D	Mt. Diablo Mer	1.68	94		Pn	05 06 35.4	-0.6
O02D				IAML		05 07 12.0	
comp=N,2μm,1.1s							
GWRM	Wonder Ranch	1.71	130		Pn	05 06 35.5	-0.8
KSXB	Camp Six Broad	1.71	29		Pn	05 06 34.0	-2.5
LGPM	Granite Peak	1.73	70		Pn	05 06 35.8	-1.0
GHMM	Hull Mountain	1.78	117		Pn	05 06 37.0	-0.4
GROM	Round Mountain	1.81	102		Pn	05 06 37.3	-0.5
N02D	Trinity Center	1.84	69		Pn	05 06 37.1	-1.1
GVV	Valley View	1.85	107		Pn	05 06 37.9	-0.5
GGUM	Gualala	1.86	142		Pn	05 06 36.8	-1.6
LBKM	Bonanza King	1.91	66		Pn	05 06 38.1	-1.1
M02C	Callahan	1.93	56		Pn	05 06 37.9	-1.5
KBO	Bosley Butte	1.96	16		Pn	05 06 37.6	-2.3
KBO				IAML		05 07 00.9	
comp=N,2μm,0.5s							
KBO				IAML		05 07 03.6	
comp=E,1μm,0.3s							
GHLM	Highland Sprin	1.98	130		Pn	05 06 39.4	-0.8
HOPS	Hopland Field	1.98	132		Pn	05 06 39.0	-1.0
HOPS				IAML		05 07 25.6	
comp=E,1μm,1.1s							
HOPS				IAML		05 07 33.5	
comp=N,1μm,1.2s							
L02F	Cave Junction	2.08	30		Pn	05 06 40.0	-1.4
GTSM	Trough Springs	2.09	118		Pn	05 06 41.6	0.0
GCK	Clark Valley	2.10	111		Pn	05 06 42.2	+0.4
GPMM	Pine Mountain	2.15	133		Pn	05 06 43.1	+0.6
LTCM	Tuscan Springs	2.18	92		Pn	05 06 42.2	-0.7
LAMM	Antelope Mount	2.19	53		Pn	05 06 42.0	-1.1
GHCM	House Creek	2.20	141		Pn	05 06 42.1	-1.0
YBH	Yreka Blue Hor	2.21	50		Pn	05 06 41.9	-1.5
YBH	Yreka Blue Hor	2.21	50	Pn	Pn	05 06 42.1	-1.2
comp=N,56nm,0.3s,baz=248,slow=12,SNR=1071							
YBH				Sn	Sn	05 07 09.7	-0.9
comp=N,77nm,0.3s,baz=131,slow=7.0,SNR=5.7							
comp=N,321nm,0.5s							
LCSM	College of the	2.24	60		Pn	05 06 43.1	-0.6
GBMM	Baldy Mountain	2.25	121		Pn	05 06 43.4	-0.5
GRTM	Round Top Moun	2.25	127		Pn	05 06 43.0	-0.9
GDXM	Geysers	2.27	131		Pn	05 06 43.6	-0.4
GGPM	Geyser Peak	2.27	133		Pn	05 06 43.5	-0.6
GSGM	Seigler Mounta	2.28	129		Pn	05 06 44.4	+0.3
LSHM	Sage Hen Hill	2.28	77		Pn	05 06 43.9	-0.4
GFC	Funks Creek	2.30	115		Pn	05 06 44.9	+0.5
GAXM	Alexander Vall	2.36	133		Pn	05 06 44.5	-0.7
M03C	McCloud	2.36	65		Pn	05 06 45.0	-0.4
LMPM	Military Pass	2.42	61		Pn	05 06 46.6	+0.3
O03E	Paynes Creek	2.42	90		Pn	05 06 45.5	-0.8
MNRC	McLaughlin Min	2.43	126		Pn	05 06 46.5	+0.2
LDBM	Digger Butte	2.44	87		Pn	05 06 45.6	-0.9
B040	Montague	2.44	51		Pn	05 06 45.9	-0.6
LHEM	Herd Peak	2.46	57		Pn	05 06 46.4	-0.4
NHSM	Mount Saint He	2.47	132		Pn	05 06 47.3	+0.3
NMTM	Middletown	2.48	127		Pn	05 06 46.6	-0.3
LMEM	Manzanita Entr	2.60	84		Pn	05 06 48.4	-0.5
OSUM	Sutter Buttes	2.62	113		Pn	05 06 48.3	-0.6
LCMM	Colby Mountain	2.65	93		Pn	05 06 49.0	-0.4
OGOM	Van Goodin Ran	2.67	104		Pn	05 06 49.2	-0.3
LRDM	Redding Peak	2.69	86		Pn	05 06 49.7	-0.1
SUTB	Sutter Butte	2.69	113		Pn	05 06 48.7	-1.1
LGMM	Garner Mountai	2.69	61		Pn	05 06 49.8	-0.2
HATC	Hat Creek Radi	2.72	79		Pn	05 06 50.3	0.0
HATC				IAML		05 07 11.1	
comp=E,868nm,0.8s							
HATC				IAML		05 07 29.5	
comp=N,901nm,0.9s							
MCCM	Marconi Confer	2.72	143	Pn	Pn	05 06 49.1	-1.1
MCCM				IAML		05 07 24.1	
comp=E,459nm,0.7s							
MCCM				IAML		05 07 26.1	
comp=N,656nm,0.7s							
HUMO	Hull Mountain	2.73	33		Pn	05 06 48.7	-1.8
HUMO				IAML		05 07 23.0	
comp=N,511nm,0.5s							
HUMO				IAML		05 07 26.6	
comp=E,592nm,0.6s							
OSTM	Stimpson Lane	2.77	109		Pn	05 06 50.6	-0.3
ORV	Oroville	2.78	105		Pn	05 06 50.1	-1.0
ORV				IAML		05 07 26.3	
comp=E,341nm,0.6s							
CVS	Carmenet Viney	2.78	135		Pn	05 06 50.5	-0.6
NAPC	Atlas Peak	2.83	131		Pn	05 06 52.4	+0.6
NOLM	Olema	2.84	143		Pn	05 06 51.5	-0.4
SNT	Sears Point	2.90	137		Pn	05 06 51.9	-0.8
KPK	Kanaka Peak	2.92	104		Pb	05 06 56.6	-2.2
J01E	Myrtle Point	2.94	15		Pn	05 06 51.9	-1.3
J01E				IAML		05 07 30.0	
comp=E,469nm,0.9s							
J01E				IAML		05 07 33.3	
comp=N,407nm,0.4s							
NADM	Allendale	2.98	128		Pn	05 06 55.4	+1.6
DBO	Dodson Butte	3.07	24		Pn	05 06 54.5	-0.7
DBO				IAML		05 07 34.0	
comp=E,342nm,0.8s							
DBO				IAML		05 07 37.9	
comp=N,295nm,0.7s							
CPMM	Point Molate	3.10	139		Pn	05 06 55.0	-0.5
CSPM	San Pablo Ridg	3.14	138		Pn	05 06 56.2	+0.1
CPIM	Pinole Ridge	3.17	137		Pn	05 06 56.7	+0.3
JPRM	Presidio of Sa	3.19	142		Pn	05 06 56.4	-0.3
BL67	Building 67, L	3.24	138		Pn	05 06 57.1	-0.3
VAK	Adit at Lawren	3.24	138		Pn	05 06 57.0	-0.3
CVPM	Vollmer Peak	3.25	138		Pn	05 06 57.6	+0.1
CTAM	Taylor	3.25	134		Pn	05 06 58.8	+1.3
JSBM	San Bruno Moun	3.32	142		Pn	05 06 57.8	-0.7
K04D	Chiloquin, OR	3.33	45		Pn	05 06 59.0	+0.2
BGC	Bolinger Road	3.38	137		Pn	05 06 59.5	+0.1
AFDM	Forest Hills D	3.38	113	Pn	Pn	05 06 59.1	-0.2
SAC	San Andreas	3.39	143		Pn	05 06 58.9	-0.5
CSLM	San Leandro Hi	3.42	139		Pn	05 06 59.5	-0.3
JCHM	Cahill Ridge	3.46	143		Pn	05 06 59.7	-0.7
CMOB	Morgan Territo	3.52	135		Pn	05 07 02.2	+0.9
BEKR	Beckworth	3.57	96		Pn	05 07 02.2	+0.2
I03D	Drain, OR	3.58	19	Pn	Pn	05 07 02.0	0.0
I03D				IAML		05 07 54.6	
comp=E,207nm,0.7s							
CNIC	Niles Canyon	3.59	138		Pn	05 07 02.4	+0.2
JRSC	Jasper Ridge	3.62	143		Pn	05 07 01.8	-0.7
BGH	Bear Gulch	3.62	145		Pn	05 07 02.6	-0.1
CVLM	Vallecito	3.64	137		Pn	05 07 03.4	+0.5
JSFB	Stanford Teles	3.65	142		Pn	05 07 02.5	-0.4
CBZL	Buffer Zone	3.66	135		Pn	05 07 04.1	+1.0
JFP	Foothills Park	3.67	143		Pn	05 07 02.5	-0.9
WENL	Wente Vineyard	3.69	136		Pn	05 07 04.0	+0.5
JPSM		3.74	146		Pn	05 07 03.2	-1.0
CALM	Calaveras Res.	3.79	138		Pn	05 07 04.6	-0.3
CSTL	Corral Hollow	3.81	134		Pn	05 07 05.9	+0.6
JJOM	Saint Joseph's	3.90	142		Pn	05 07 05.7	-0.8
PEAR	Peavine Mounta	3.92	99		Pn	05 07 07.5	+0.5
MPK	Martis Peak	3.94	104		Pn	05 07 08.1	+0.8
CMMM	Mount Mocho	3.95	135		Pn	05 07 07.3	+0.1
I04A	Tendick Farm,	3.95	28		Pn	05 07 07.5	+0.3
I04A				IAML		05 07 53.7	
comp=N,266nm,0.7s							
I04A				IAML		05 07 55.3	
comp=E,262nm,0.9s							
MHC	Mount Hamilton	3.96	138		Pn	05 07 07.2	-0.2
EMB	Emerald Bay	3.99	108		Pn	05 07 08.9	+0.9
EMB				IAML		05 08 01.1	
comp=E,278nm,0.5s							
EMB				IAML		05 08 08.4	
comp=N,252nm,0.8s							
MTOS	Mt Oso, Westle	4.00	134		Pn	05 07 08.2	+0.3
CCOB	Coe Ranch Numb	4.00	139		Pn	05 07 08.2	+0.3
ARN	Arnold Ranch	4.01	137		Pn	05 07 08.0	0.0
JLAB	Laurel Hill	4.06	140		Pn	05 07 07.8	-0.8
J05D	Fort Rock, OR	4.07	42	Pn	Pn	05 07 08.3	-0.6
J05D				IAML		05 08 05.0	
comp=E,123nm,1.1s							
BUCK	Buck Mountain	4.14	20	Pn	Pn	05 07 10.7	+0.9
BUCK				IAML		05 07 57.9	
comp=N,246nm,0.7s							
BUCK				IAML		05 07 59.3	
comp=E,258nm,0.8s							
JELB	Ellicott, Sant	4.19	143		Pn	05 07 10.0	-0.5
HLPM	Lions Peak	4.20	140		Pn	05 07 09.2	-1.4
CMB	Columbia Colle	4.24	121	Pn	Pn	05 07 12.1	+1.0
GHS	Gilroy Hot Spr	4.25	138		Pn	05 07 10.9	-0.4
HCBM	Chamberlain	4.27	142		Pn	05 07 11.1	-0.4
PNTR	Pine Nut	4.32	105	Pn	Pn	05 07 13.4	+0.9
PNTR				IAML		05 08 24.2	
comp=E,251nm,1.2s							
PAHR	Pah Rah Range	4.33	96		Pn	05 07 12.2	-0.4
PAHR				IAML		05 08 19.2	
comp=N,96nm,1.5s							
PAHR				IAML		05 08 23.8	
comp=E,99nm,1.1s							
HERM	Elkhorn Road	4.35	143		Pn	05 07 13.1	+0.4
HFEM	San Felipe	4.36	139		Pn	05 07 12.2	-0.6
HTUM	Tustin Road	4.36	142		Pn	05 07 11.7	-1.1
SLD	San Luis Dam	4.38	137		Pn	05 07 11.8	-1.3
HMOM	Monterey	4.43	146		Pn	05 07 12.8	-0.9
COR	Corvallis	4.43	16		Pn	05 07 14.3	+0.6
COR				IAML		05 08 07.3	
comp=E,184nm,0.8s							
COR				IAML		05 08 07.7	
comp=E,196nm,0.8s							
HSFM	Saint Francis	4.44	141		Pn	05 07 13.5	-0.5
FRP	Fremont Peak	4.49	141		Pn	05 07 13.2	-1.5
H04D	Lebanon	4.51	21	Pn	Pn	05 07 14.9	+0.2
H04D				IAML		05 08 07.4	
comp=N,243nm,0.9s							
H04D				IAML		05 08 18.1	
comp=E,233nm,0.7s							
BPCNC	Pine Canyon	4.58	144		Pn	05 07 15.0	-0.8
PINE	Pine Mountain	4.58	40	Pn	Pn	05 07 15.4	-0.6
MYLM	Yosemite Lake	4.61	128		Pn	05 07 17.6	+1.4
YERR	Yerington	4.62	105		Pn	05 07 17.1	+0.5
YERR				IAML		05 08 21.7	
comp=E,183nm,0.5s							
YERR				IAML		05 08 24.9	
comp=N,128nm,0.8s							
WAKR	Walker	4.66	111		Pn	05 07 18.3	+1.2
WAKR				IAML		05 08 24.5	
comp=E,124nm,0.8s							
BPRM	Ponciano Ridge	4.67	146		Pn	05 07 16.0	-1.1
BJCM	Johnson Can.	4.71	142		Pn	05 07 16.2	-1.3
BEMM	Emmet	4.76	139		Pn	05 07 17.4	-0.9
BVL	Bear Valley	4.78	140		Pn	05 07 17.6	-1.0
H04A	Detroit Lake	4.81	24	Pn	Pn	05 07 19.3	+0.2
H04A				IAML		05 08 16.0	
comp=E,151nm,0.6s							
H04A				IAML		05 08 16.2	
comp=N,162nm,0.5s							
BSMM	Soledad Missio	4.82	144		Pn	05 07 18.2	-1.0
I05D	Terrebonne, OR	4.83	33		Pn	05 07 18.9	-0.3
I05D				IAML		05 08 27.0	
comp=E,75nm,1.5s							
I05D				IAML		05 09 00.1	
comp=N,72nm,2.2s							
BBGB	Big Mountain B	4.85	139		Pn	05 07 18.5	-1.2
BSGM	Shirttail Gulc	4.88	142		Pn	05 07 19.5	-0.5
G03D	McMinnville, O	5.04	14		Pn	05 07 22.9	+0.8
G03D				IAML		05 08 21.9	
comp=N,130nm,0.7s							
G03D				IAML		05 08 30.5	
comp=E,116nm,0.9s							
LUL	Lundy Lake	5.04	115		Pn	05 07 20.1	-2.2
PCCM	Crazy Canyon	5.19	143		Pn	05 07 23.3	-0.9
WVOR	Wild Horse Val	5.21	64		Pn	05 07 23.5	-1.1
PMPB	Monarch Peak	5.26	140	Pn	Pn	05 07 25.2	+0.1
PMPB				IAML		05 08 33.1	
comp=E,137nm,0.8s							
RYN	Ryan	5.27	107		Pn	05 07 26.7	+1.2
MDPB	Devils Postpil	5.32	119		Pn	05 07 28.5	+2.3
PSAM	San Ardo	5.37	142		Pn	05 07 26.1	-0.5
PPTM	Peach Tree Val	5.38	140		Pn	05 07 26.7	-0.1
OMMB	Old Mammoth Mi	5.38	118		Pn	05 07 29.1	+1.9
LHV	Little Huntoon	5.43	110		Pn	05 07 28.1	+0.6
KVN	Kaiserville	5.45	101	Pn	Pn	05 07 27.8	-0.2
MLAC	Mammoth, Mammo	5.49	117	P	Pn	05 07 32.1	+3.6
baz=302							
NVAR	Mina Array Bea	5.50	108	Pn	Pn	05 07 29.1	+0.4
NVAR	Mina Array Bea	5.50	108	Pn	Pn	05 07 29.4	+0.7
comp=E,6.0nm,0.3s,baz=285,slow=14,SNR=122							
NVAR				Sn	Sb	05 08 46.6	-2.3
baz=276,slow=19							
comp=E,5.2nm,0.3s							
I07A	Izee	5.53	45	Pn	Pn	05 07 29.0	+0.1
PANM	San Antonio Re	5.56	143		Pn	05 07 28.6	-0.7
G05A	Wamic	5.60	27		Pn	05 07 31.3	+1.5
PKD	Bear Valley Ra	5.60	140		Pn	05 07 29.2	-0.6
NV11	Mina Array Sit	5.61	108	Pn	Pn	05 07 30.9	+0.8
PVCM	Vineyard Canyo	5.62	140		Pn	05 07 30.1	0.0
G06A	Carlson Farm,	5.85	32		Pn	05 07 34.5	+1.2
F04A	Amboy	5.90	18	Pn	Pn	05 07 34.2	+0.3
BMN	Battle Mountai	5.92	87	Pn	Pn	05 07 33.8	-0.6
VOG	Valley Oaks Go	5.94	131	P	Pn	05 07 34.9	+0.4
baz=314,SNR=6.9							
SMMC	Simmler	6.37	140	P	Pn	05 07 40.2	-0.2
baz=323							
VES	Vestal, Richgr	6.45	132	P	Pn	05 07 42.7	+1.2
baz=316,SNR=36							
CWC	Cottonwood Cre	6.66	123	P	Pn	05 07 47.8	+3.3
baz=308							
PKM	Mcpherson Peak	6.80	141	P	Pn	05 07 47.3	+0.8
baz=324							
GRAC	Grapevine Rang	6.82	117	P	Pn	05 07 52.1	+5.5
baz=302,SNR=25							
ISA	Isabella, Lake	6.93	130	Pn	Pn	05 07 50.0	+1.8
ISA	Isabella, Lake	6.93	130	P	Pn	05 07 50.0	+1.8
baz=314,SNR=75							
ARVC	Arvin	7.12	135	P	Pn	05 07 52.1	+1.5
baz=319,SNR=7.1							
BMO	Blue Mountains	7.24	49		Pn	05 07 53.1	+0.7
HAWA	Hanford	7.24	31	Pn	Pn	05 07 53.6	+1.2
MPMC	Manual Prospec	7.27	124	P	Pn	05 07 55.8	+2.8
baz=308,SNR=30							
ELK	Elko	7.43	84	Pn	Pn	05 07 55.0	-0.1
ELK	Elko	7.43	84	Pn	Pn	05 07 55.2	+0.1
comp=E,0.5nm,0.3s,baz=279,slow=11,SNR=24							
comp=E,3.8nm,0.5s							
MFID	Camas Ranch	7.49	63	Pn	Pn	05 07 57.1	+1.3
LRMC	Laurel Mtn Rad	7.52	128	P	Pn	05 07 58.5	+2.2
baz=312							
R11B	Troy Canyon, C	7.54	102	Pn	Pn	05 07 57.4	+0.8
R11B	Troy Canyon, C	7.54	102	P	Pn	05 07 57.6	+1.0
baz=288,SNR=7.7							
CCAC	Calif City Air	7.55	131		Pn	05 07 58.0	+1.3
OSI	Osito Audit: C	7.56	137	P	Pn	05 07 59.5	+2.7
baz=321							
TPNV	Topopah Spring	7.61	114	P	Pn	05 08 00.8	+3.1
baz=299							
EDW2	Edwards Air Fo	7.76	132	P	Pn	05 08 01.5	+2.0
baz=317,SNR=13							
Q12A	Willow Creek R	7.93	96		Pn	05 08 03.4	+1.4
E09A	Wood Farm, Sta	7.93	37		Pn	05 08 02.8	+1.0
SHOC	Shoshone, Teco	8.15	120	P	Pn	05 08 07.1	+2.2
baz=306							
GSC	Goldstone, Bar	8.18	125	Pn	Pn	05 08 07.2	+1.9
GSC	Goldstone, Bar	8.18	125	P	Pn	05 08 07.9	+2.6
baz=310,SNR=77							
SPR3	Spring Creek 3	8.31	96	Pn	Pn	05 08 09.3	+1.9
RRX	Edison Barstow	8.35	128	P	Pn	05 08 10.1	+2.6
baz=313,SNR=12							
BFSC	Mount Baldy Ra	8.42	134	P	Pn	05 08 10.3	+1.6
baz=318							
HLID	Hailey	8.51	64	Pn	Pn	05 08 11.2	+1.4
HLID	Hailey	8.51	64	P	Pn	05 08 12.5	+2.6
baz=252,SNR=93							
TUQ	Turquoise Moun	8.66	121	P	Pn	05 08 15.0	+3.0
baz=307,SNR=16							
HEC	Hector,Ludlow	8.78	126	P	Pn	05 08 15.9	+2.4
baz=311,SNR=16							
BBRC	Big Bear Sol

baz=298
BW06 Boulder Array 11.80 73 P Pn 05 08 56.8 +1.7
baz=264,SNR=5.4
PDAR Pinedale Array 11.81 73 Pn 05 08 56.6 +1.5
PDAR Pinedale Array 11.81 73 Pn Pn 05 08 57.3 +2.2
comp=E,0.3nm,0.3s,baz=257,slow=12,SNR=18
comp=E,5.3nm,0.9s
RLMT Red Lodge 12.50 62 P Pn 05 09 06.5 +1.9
baz=253
O20A White River Ci 12.79 85 P Pn 05 09 10.8 +2.2
baz=277,SNR=15
214A Organ Pipe Nat 12.89 127 P Pn 05 09 13.3 +3.5
baz=314
MVCO Mesa Verde 13.23 98 P Pn 05 09 16.7 +2.1
baz=289,SNR=7.4
EGMT Eagleton 13.34 50 Pn Pn 05 09 15.4 -0.5
EGMT Eagleton 13.34 50 P Pn 05 09 15.5 -0.5
baz=241,SNR=9.0
RWWY Rawlins 13.49 78 Pn Pn 05 09 17.9 -0.2
SMCO Snowmass 13.90 89 Pn Pn 05 09 25.8 +1.9
TUC Tucson 13.95 121 P Pn 05 09 26.9 +2.7
baz=309
K22A Casper 14.02 74 Pn 05 09 25.9 +0.6
K22A Casper 14.02 74 P Pn 05 09 25.7 +0.4
baz=267,SNR=13
S22A 4UR Ranch, Cre 14.34 95 P Pn 05 09 32.7 +2.9
baz=286,SNR=28
N23A Red Feather La 14.47 82 Pn Pn 05 09 31.7 +0.1
N23A Red Feather La 14.47 82 P Pn 05 09 31.2 -0.3
baz=274,SNR=12
PHWY Pilot Hill 14.81 80 Pn 05 09 35.7 -0.5
ISCO Idaho Springs 14.84 86 P Pn 05 09 37.8 +1.2
baz=278,SNR=11
LAO LASA Array 15.00 59 Pn Pn 05 09 36.9 -1.7
LAO IAmb IAmb 05 09 48.0
comp=Z,30nm,1.1s
LAO LASA Array 15.00 59 P Pn 05 09 36.7 -1.8
baz=252,SNR=9.8
Q24A Divide 15.33 89 Pn 05 09 43.8 +0.6
Q24A Divide 15.33 89 P Pn 05 09 44.7 +1.5
baz=282,SNR=9.6
SDCO Great Sand Dun 15.35 93 P P 05 09 46.0 -2.2
SDCO IAmb IAmb 05 09 47.3
comp=Z,49nm,1.1s
SDCO Great Sand Dun 15.35 93 P P 05 09 45.9 -2.2
baz=286,SNR=72
319A Douglas 15.53 120 P P 05 09 49.1 -0.9
ANMO Albuquerque 15.61 104 P Pn 05 09 48.5 +1.7
baz=296
ANMO Albuquerque 15.61 104 Pn P 05 09 49.3 -1.7
comp=Z,0.1nm,0.3s,baz=32,slow=12,SNR=12
BRIGG Briggsdale 15.72 82 Pn 05 09 48.0 -0.2
BRIGG IAmb IAmb 05 09 54.3
comp=Z,25nm,0.6s
121A Cookes Peak, D 15.86 114 Pn Pn 05 09 48.9 -1.0
121A Cookes Peak, D 15.86 114 P Pn 05 09 49.6 -0.3
baz=304,SNR=7.3
RSSD Black Hills 15.96 69 P Pn 05 09 48.3 -2.9
baz=264
T25A Trinidad 16.35 95 P P 05 09 58.2 -1.0
baz=288
DGMT Dagmar 16.89 54 Pn 05 10 00.8 -2.1
DGMT Dagmar 16.89 54 P Pn 05 10 00.8 -2.1
baz=249,SNR=5.8
KSCO Kaye Shedlock' 17.25 87 Pn 05 10 07.5 0.0
KSCO IAmb IAmb 05 10 11.8
comp=Z,63nm,0.7s
KSCO Kaye Shedlock' 17.25 87 P Pn 05 10 07.7 +0.2
baz=282,SNR=16
OGNE Ogallala 17.42 81 Pn 05 10 07.7 -1.9
OGNE IAmb IAmb 05 10 10.7
comp=Z,43nm,0.8s
OGNE Ogallala 17.42 81 P Pn 05 10 08.9 -0.6
baz=276
MNTX Cornudas Mount 18.01 112 P P 05 10 20.1 +2.7
baz=304
DLBC Dease Lake 18.41 352 P P 05 10 20.6 -1.1
baz=168
DLBC Dease Lake 18.41 352 P P 05 10 24.5 +2.8
comp=Z,1.6nm,0.8s,baz=189,slow=11,SNR=4.5
MSTX Muleshoe 18.78 103 P Pn 05 10 27.3 +1.0
baz=296
K30B Basset 19.12 75 P P 05 10 28.2 -1.3
K30B IAmb IAmb 05 10 30.7
comp=Z,54nm,1.1s
Q32M Nakina River 19.22 348 P Pn 05 10 30.9 -0.6
baz=163
R33M Jennings River 19.46 351 P Pn 05 10 34.3 -0.1
baz=166,SNR=5.9
CBKS Cedar Bluff 19.50 86 P P 05 10 33.4 -0.3
CBKS Cedar Bluff 19.50 86 P P 05 10 33.6 -0.1
baz=283,SNR=16
SUSD Miller 19.62 69 P P 05 10 33.4 -1.6
SUSD IAmb IAmb 05 10 34.7
comp=Z,47nm,0.8s
SUSD Miller 19.62 69 P P 05 10 33.9 -1.0
baz=267
MDND Maddock 19.65 59 P P 05 10 34.3 -1.0
MDND IAmb IAmb 05 10 43.4
comp=Z,53nm,1.1s
MDND Maddock 19.65 59 P P 05 10 34.8 -0.5
baz=257
ALPN Alpine 19.99 113 Pn 05 10 40.4 -0.6
MNHN Monahans 20.08 110 P P 05 10 38.8 -1.3
SMWD Samnorwood 20.22 97 P P 05 10 41.0 -0.6
BGNE Belgrade 20.29 78 P P 05 10 42.0 -0.2
BGNE IAmb IAmb 05 10 58.7
comp=Z,35nm,1.0s
DKNS Dickens 20.29 101 P 05 10 43.4 +1.0
R32A Long Quarter, 20.37 87 P Pn 05 10 44.5 -0.7
P33M Teslin, Yukon 20.50 349 P Pn 05 10 44.8 -1.8
baz=163,SNR=6.7
ELIS Ellis County 20.50 94 P 05 10 44.5 -0.2
ELIS IAmb IAmb 05 10 51.0
comp=Z,22nm,0.6s
SN07 Snyder 07 20.57 103 P Pn 05 10 46.9 -0.8
TX31 Lajitas Ar. Si 20.59 116 Pn 05 10 47.9 0.0
TXAR Lajitas Array 20.59 116 Pn 05 10 48.2 +0.2
TXAR Lajitas Array 20.59 116 P Pn 05 10 48.5 +0.6
comp=Z,6.4nm,0.8s,baz=299,slow=9.1,SNR=82
TXAR PcP **PcP 05 14 56.8 +0.4**
comp=Z,0.2nm,0.7s,baz=321,slow=1.3,SNR=2.8
SN05 Snyder 5 20.68 103 P P 05 10 47.3 +0.7
SN05 IAmb IAmb 05 10 53.7
comp=Z,22nm,0.9s
NOKA Waynoka 20.69 92 P 05 10 46.5 -0.1
NOKA IAmb IAmb 05 10 51.1
comp=Z,26nm,0.7s
SGCY Sterling City 20.97 106 P P 05 10 49.1 -0.6
FFC Flin Flon 21.04 39 P P 05 10 49.3 -0.9
APMT Aspermont 21.04 102 P P 05 10 51.6 +1.1
P30M Million Dollar 21.18 343 P P 05 10 51.2 -0.6
baz=154
OK032 Salt Plains WL 21.19 91 P 05 10 50.6 -1.4
OK032 IAmb IAmb 05 10 55.6
comp=Z,38nm,0.8s
WHY Whitehorse 21.26 346 P P 05 10 51.9 -0.8
ECSD EROS Data Cent 21.29 71 P P 05 10 50.5 -2.6
baz=271,SNR=16
CROK Carrier 21.46 92 P 05 10 53.9 -0.9
WMOK Wichita Mounta 21.47 97 P 05 10 53.5 -1.5
WMOK Wichita Mounta 21.47 97 P P 05 10 55.4 +0.4
baz=293,SNR=15
OZNA Ozona 21.48 108 P P 05 10 56.0 +0.7
OZNA IAmb IAmb 05 10 58.5
comp=Z,19nm,0.7s
O30N Mendenhall 21.59 345 P P 05 10 52.9 -3.3
F33A 5 Mile Ranch, 21.59 66 P P 05 10 53.9 -2.4
F33A IAmb IAmb 05 11 00.0
comp=Z,45nm,1.1s
ABTX Abilene, Hawle 21.72 103 P P 05 10 57.4 -0.4
ABTX IAmb IAmb 05 11 02.8
comp=Z,17nm,0.8s
ABTX Abilene, Hawle 21.72 103 P P 05 10 57.9 +0.1
baz=298,SNR=9.0
KSU1 Kansas State U 21.82 84 P P 05 10 60.0 +1.2
baz=282,SNR=7.2
N31M Braeburn, Yuko 22.19 346 P P 05 11 03.9 +1.3
baz=158
AGMN Agassiz Nation 22.20 59 P P 05 11 01.5 -1.3
AGMN IAmb IAmb 05 11 04.6
comp=Z,42nm,0.8s
AGMN Agassiz Nation 22.20 59 P P 05 11 02.1 -0.7
baz=260,SNR=39
N35A Tabor 22.24 79 P P 05 11 01.4 -1.8
FARO Faro, Yukon 22.51 350 P P 05 11 06.7 +0.7
baz=163
OK052 Battle Ridge R 22.52 92 P P 05 11 05.9 -0.4
O28M Mount Upton 22.53 340 P P 05 11 06.4 0.0
baz=149
ULM Lac du Bonnet 22.61 54 P P 05 11 06.0 -1.2
ULM IAmb IAmb 05 11 09.2
comp=Z,37nm,1.0s
ULM Lac du Bonnet 22.61 54 P P 05 11 05.3 -1.9
comp=Z,28nm,0.8s,baz=263,slow=9.7,SNR=30
comp=Z,28nm,0.8s
PLPT Palo Pinto 22.63 101 P P 05 11 07.6 +0.1
PLPT IAmb IAmb 05 11 11.2
comp=Z,22nm,0.9s
M31M Drury Creek, Y 22.64 349 P P 05 11 08.0 +0.7
baz=161
YUK4 Talbot Arm 22.65 343 P P 05 11 05.9 -1.8
baz=152
DRIO Del Rio 22.68 111 P P 05 11 08.5 +0.5
JCT Junction City 22.68 108 P P 05 11 08.2 +0.1
JCT Junction City 22.68 108 P P 05 11 08.1 0.0
baz=303
BRDY Brady 22.85 105 P P 05 11 09.2 -0.7
BRDY IAmb IAmb 05 11 13.3
comp=Z,27nm,1.4s
YUK8 Steele Glacier 22.86 341 P P 05 11 09.3 -0.6
baz=150
YKA Yellowknife Ar 23.06 12 P P 05 11 12.1 +0.4
comp=Z,2.8nm,0.9s,baz=202,slow=9.4,SNR=12
YKA LR LR 05 21 39.6
comp=Z,216nm,18.7s,baz=304,slow=41
comp=Z,2.8nm,0.9s
FW07 Weatherford 23.08 101 P P 05 11 14.2 +2.1
FW07 IAmb IAmb 05 11 14.8
comp=Z,16nm,0.7s
TUL3 Leonard 23.32 92 P P 05 11 15.4 +0.8
TUL3 IAmb IAmb 05 11 18.7
comp=Z,18nm,0.9s
TUL3 Leonard 23.32 92 P P 05 11 15.5 +0.9
baz=290,SNR=6.6
M30M Minto, Yukon 23.39 346 P P 05 11 15.5 +0.4
baz=157
YUK3 Moose Creek 23.45 341 P P 05 11 16.0 0.0
baz=149
FW13 Cleburne 23.50 101 P P 05 11 19.0 +2.6
FW13 IAmb IAmb 05 11 19.0
comp=Z,18nm,0.7s
HNDO Hondo 23.58 109 P P 05 11 19.5 +2.3
I37A Lemond, Waseca 23.61 71 P P 05 11 15.2 -2.2
WHTX Lake Whitney, 23.65 102 P P 05 11 18.6 +0.6
baz=298
SCIA State Center 23.91 76 P P 05 11 21.9 +1.6
SCIA IAmb IAmb 05 11 26.9
comp=Z,21nm,0.9s
SCIA State Center 23.91 76 P P 05 11 21.2 +0.9
baz=277
SPMN Marine on St. 24.02 68 P P 05 11 19.4 -1.9
SPMN IAmb IAmb 05 11 23.6
comp=Z,46nm,1.4s
SPMN Marine on St. 24.02 68 P P 05 11 20.4 -0.9
baz=270
P38A Dawn 24.04 81 P P 05 11 22.6 +1.0
N38A Joes South For 24.05 78 P P 05 11 23.4 +1.7
N38A IAmb IAmb 05 11 24.3
comp=Z,31nm,0.8s
X37A Clayton 24.12 94 P 05 11 23.1 +0.8
L29M L29M 24.13 345 P P 05 11 21.7 -0.5
baz=155
435B Jarrell 24.15 105 P P 05 11 24.7 +2.0
435B IAmb IAmb 05 11 26.7
comp=Z,42nm,1.2s
435B Jarrell 24.15 105 P P 05 11 24.4 +1.7
baz=301
833A Chaparral WMA, 24.19 112 P P 05 11 24.6 +1.6
baz=307
U38A Gravette 24.23 89 P P 05 11 22.0 -1.3
M27K Edge Creek, AK 24.30 341 P P 05 11 23.3 -0.7
baz=147
N25K Chitina, Valde 24.44 337 P P 05 11 25.3 +0.2
baz=142
HHAR Hobbs 24.62 89 P P 05 11 26.2 -0.7
HHAR IAmb IAmb 05 11 29.1
comp=Z,18nm,0.8s
M26K Nabesna, AK 24.63 340 P P 05 11 26.2 -0.6
baz=146
S39A Bolivar 24.67 86 P P 05 11 26.4 -0.9
S39A IAmb IAmb 05 11 58.9
comp=Z,13nm,0.7s
K29M Barlow Dome 24.69 347 P P 05 11 26.0 -1.4
baz=157,SNR=5.1
KLU Klutina 24.75 336 P P 05 11 27.1 -0.8
baz=139
L27K Beaver Creek, 24.89 342 P P 05 11 29.8 +0.7
baz=148
E38A The Farm, Brul 24.92 64 P P 05 11 29.1 -0.4
E38A IAmb IAmb 05 11 32.0
comp=Z,11nm,0.6s
EYMN Ely 25.05 61 P P 05 11 30.8 +0.1
EYMN Ely 25.05 61 P P 05 11 31.4 +0.7
baz=265,SNR=8.0
P40A Paris 25.18 81 P P 05 11 31.6 -0.4
P40A IAmb IAmb 05 11 34.8
comp=Z,18nm,0.8s
L26K Log Cabin Wild 25.24 340 P P 05 11 33.6 +1.3
baz=146
DAWY Dawson 25.24 345 P P 05 11 33.1 +0.8
baz=154
R40A Maddies Statio 25.31 84 IAmb IAmb 05 12 08.3
comp=Z,9.4nm,0.7s
L40A Anamosa 25.36 75 P P 05 11 33.1 -0.4
L40A IAmb IAmb 05 11 35.1
comp=Z,36nm,1.4s
SCM Sheep Creek Mo 25.45 335 P P 05 11 34.4 +0.1
baz=138
MIAR Mount Ida 25.51 93 P P 05 11 34.6 -0.3
MIAR Mount Ida 25.51 93 P P 05 11 35.5 +0.6
baz=293
I40A Norwalk 25.62 71 P P 05 11 36.2 +0.3
MGMO Mountain Grove 25.62 87 P P 05 11 36.2 +0.2
MGMO IAmb IAmb 05 11 37.9
comp=Z,14nm,1.1s
SML Sawmill 25.76 334 P P 05 11 36.6 -0.4
baz=136
PAX Paxson 25.76 338 P P 05 11 36.5 -0.6
baz=142
K27K Chicken 25.77 343 P P 05 11 36.9 -0.2
baz=149
I30M Mount Dempster 25.79 349 P P 05 11 37.2 -0.2
baz=160
N41A Harden Midland 25.85 78 P P 05 11 38.3 +0.4
N41A IAmb IAmb 05 11 39.8
comp=Z,24nm,0.8s
G40A Rib Lake 25.86 67 IAmb IAmb 05 11 41.8
comp=Z,12nm,0.8s
PMR Palmer 25.88 333 P P 05 11 37.9 0.0
baz=134
JFWS Jewell Farm 25.98 73 P P 05 11 39.8 +0.7
JFWS Jewell Farm 25.98 73 P P 05 11 39.1 0.0
baz=276,SNR=12
FCAR Ozark Folk Cen 26.14 89 P P 05 11 40.9 +0.3
CCM Cathedral Cave 26.15 84 P P 05 11 41.1 +0.3
CCM Cathedral Cave 26.15 84 P P 05 11 40.3 -0.4
baz=286
SCRK Sand Creek 26.19 341 P P 05 11 39.9 -1.0
baz=146
WLAR White Oak Lake 26.20 94 P P 05 11 42.6 +1.5
WHAR Wooly Hollow 26.22 91 P P 05 11 42.5 +1.1
WHAR IAmb IAmb 05 11 44.0
comp=Z,29nm,1.4s
I29M Ogilvie Camp, 26.22 347 P P 05 11 40.7 -0.4
baz=157
EGAK Eagle 26.23 344 P P 05 11 41.0 -0.2
baz=151
DHY Denali Highway 26.40 337 P P 05 11 42.3 -0.6
baz=139
L42A Oliver, Polo 26.52 75 P P 05 11 44.1 +0.1
J26L Joseph Creek 26.52 342 P P 05 11 45.1 +1.1
baz=147,SNR=6.5
I28M Miner Creek 26.59 346 P P 05 11 45.7 +1.2
baz=154
COWI Conover 26.59 66 P P 05 11 46.1 +1.5
COWI IAmb IAmb 05 11 46.7
comp=Z,19nm,0.9s
LCAR Lake Charles 26.82 88 P P 05 11 47.3 +0.6
I42A Draeger Farm, 26.85 70 P P 05 11 47.8 +0.8
H29M Whitestone 27.02 348 P P 05 11 48.3 0.0
baz=157
CHGN Chignik 27.03 317 P P 05 11 48.2 -0.2
baz=112
HDIL Hopedale 27.04 78 P P 05 11 49.7 +1.0
baz=282
I27K Kandik River 27.05 345 P P 05 11 48.0 -0.7
baz=151
J25K Salcha River, 27.06 341 P P 05 11 48.5 -0.2
baz=144,SNR=5.2
I26K Coal Creek Min 27.11 343 P P 05 11 49.8 +0.7
baz=149
PBMO Poplar Bluff 27.14 86 P P 05 11 50.5 +0.8
PBMO IAmb IAmb 05 11 51.2
comp=Z,13nm,1.2s
O18K Koktuh Hills 27.14 326 P P 05 11 50.9 +1.4
baz=122
CHNA Chernabura Isl 27.15 314 P P 05 11 51.2 +1.6
baz=108
F42A Maple Grove Fa 27.30 66 P P 05 11 52.9 +1.9
F42A IAmb IAmb 05 11 53.6
comp=Z,26nm,1.1s
N19K Bonanza Creek 27.38 328 P P 05 11 50.4 -1.3
baz=125
M20K Styx River 27.50 331 P P 05 11 52.8 +0.1
baz=129
CGM3 Cape Girardeau 27.57 85 P P 05 11 54.0 +0.5
ILAR Eielson Array 27.57 340 P P 05 11 55.4 +2.1
comp=Z,1.9nm,0.8s,baz=153,slow=8.2,SNR=22
ILAR LR LR 05 21 23.9
comp=Z,140nm,19.8s,baz=184,slow=33
comp=Z,1.9nm,0.8s
G29M Pine Creek 27.61 349 P P 05 11 53.4 -0.2
baz=158
S44A Carbondale 27.76 84 P P 05 11 56.0 +0.7
L44A Lake County Fo 27.79 74 P P 05 11 56.9 +1.5
L44A Lake County Fo 27.79 74 P P 05 11 56.6 +1.1
baz=279
SDPT Sand Point 27.80 315 P P 05 11 54.3 -1.0
baz=108
M44A Midewin, Midew 27.82 76 P P 05 11 57.0 +1.3
M44A IAmb IAmb 05 11 57.3
comp=Z,20nm,0.9s
PRP Porcupine Dome 27.83 342 P P 05 11 55.2 -0.6
baz=145
M19K Big River Lodg 27.98 330 P P 05 11 56.9 -0.1
baz=127
NEA2 Nenana 28.04 338 P P 05 11 56.8 -0.6
baz=138
G27K Doyon Strip 28.12 346 P P 05 11 58.2 +0.1
baz=152
L20K Farewell, AK 28.15 332 P P 05 11 57.4 -1.1
baz=128
BPAW Bear Paw Mtn. 28.25 336 P P 05 11 57.9 -1.5
baz=135
L19K White Mountain 28.33 330 P P 05 12 00.3 +0.3
baz=127
INK Inuvik 28.42 353 P P 05 12 01.3 +0.5
baz=166
H25L Birch Creek 28.52 342 P P 05 12 02.2 +0.5
baz=145
I23K Minto, Yukon-K 28.54 339 P P 05 12 02.3 +0.5
baz=139
F28M Old Crow 28.54 348 P P 05 12 02.5 +0.6
baz=156
G26K Porcupine Rive 28.66 345 P P 05 12 02.7 -0.2
baz=149
H24K Noodoo Dome 28.67 340 P P 05 12 03.4 +0.2
baz=142
OXF Oxford 28.70 90 P P 05 12 04.2 +0.6
baz=292
K20K Telida 28.77 333 P P 05 12 02.8 -1.2
baz=130
MLY Manley 28.85 338 P P 05 12 02.4 -2.2
baz=137
G25K Bearman Lake 29.00 343 P P 05 12 05.3 -0.6
baz=146
L46A Eue Claire 29.00 74 P P 05 12 07.2 +1.0
L18K Granite Mounta 29.05 330 P P 05 12 06.2 -0.3
baz=124
C36M Paulatuk 29.09 1 P P 05 12 06.9 +0.2
baz=182
H23K Yukon River 29.10 339 P P 05 12 08.5 +1.5
baz=139
G24K Hadweenzic Riv 29.26 342 P P 05 12 08.2 -0.1
baz=143,SNR=5.3
J20K Nowinta River 29.32 334 P P 05 12 09.4 +0.5
baz=131,SNR=5.8
WVT Waverly 29.33 86 P P 05 12 09.2 -0.1
baz=290
E27K Coleen River 29.34 347 P P 05 12 09.7 +0.7
baz=154
F26K Sheenjek River 29.37 345 P P 05 12 08.7 -0.6
baz=149
N15K Kwethluk River 29.43 324 P P 05 12 09.7 -0.2
baz=117
PLAL Pickwick Lake 29.55 88 P P 05 12 11.8 +0.6
PLAL IAmb IAmb 05 12 14.2
comp=Z,12nm,1.0s
O14K Tigyukauivet M 29.58 322 P P 05 12 11.4 +0.2
baz=114
F25K Christian Rive 29.59 344 P P 05 12 11.0 -0.3
baz=147
L17K Donlin 29.64 329 P P 05 12 11.1 -0.6
baz=122
N47A Urbana 29.66 76 P P 05 12 12.4 +0.4
N47A IAmb IAmb 05 12 13.6
comp=Z,18nm,1.1s
H22K Ishtalitna Cre 29.66 338 P P 05 12 12.6 +0.8
baz=137
J19K Poorman 29.71 333 P P 05 12 13.0 +0.7
baz=128,SNR=5.7
J18K Innoko River 29.78 332 P P 05 12 11.5 -1.5
baz=126,SNR=5.5
GLMI Grayling 29.83 68 P P 05 12 15.5 +1.9
GLMI Grayling 29.83 68 P P 05 12 12.9 -0.7
baz=276,SNR=5.2
I20K Naaghedeneel 29.84 335 P P 05 12 12.7 -0.7
baz=131
WCI Wyandotte Cave 29.86 81 P P 05 12 14.9 +1.1
WCI IAmb IAmb 05 12 15.4
comp=Z,8.6nm,0.7s
WCI Wyandotte Cave 29.86 81 P P 05 12 14.4 +0.6
baz=286
L16K Owhat River 29.90 327 P P 05 12 13.8 -0.1
baz=120
H21K Melozitna Rive 29.90 337 P P 05 12 13.8 -0.2
baz=134,SNR=5.7
G23K Bananza Creek 29.90 340 P P 05 12 14.4 +0.4
baz=140
E46A Sault Ste Mari 29.93 65 P P 05 12 16.0 +1.6
M15K Kasigluk River 29.93 325 P P 05 12 14.0 -0.3
baz=117
K17K Iditarod 29.95 330 P P 05 12 13.9 -0.5
baz=123
P48A Milroy 30.18 79 P P 05 12 17.1 +0.4
P48A IAmb IAmb 05 12 17.9
comp=Z,28nm,1.4s
O48B Farmland 30.19 77 P P 05 12 17.1 +0.2
O48B IAmb IAmb 05 12 18.5
comp=Z,20nm,1.1s
O48B Farmland 30.19 77 P P 05 12 16.2 -0.6
baz=283,SNR=5.9
COLD Coldfoot 30.34 341 P P 05 12 17.7 -0.1
baz=140
L48A N Adams 30.38 74 P P 05 12 19.9 +1.4
L48A IAmb IAmb 05 12 20.6
comp=Z,20nm,1.1s
H20K Anotleneega Mo 30.42 336 P P 05 12 19.1 +0.5
baz=131,SNR=6.0
G22K Bettles 30.45 340 P P 05 12 18.2 -0.6
baz=138
E24K Your Creek 30.60 343 P P 05 12 20.7 +0.5
baz=143
P49A Miami Univ. Ec 30.70 78 P P 05 12 21.6 +0.3
P49A IAmb IAmb 05 12 22.2
comp=Z,25nm,1.4s
P49A Miami Univ. Ec 30.70 78 P P 05 12 21.0 -0.2
baz=285
G21K Allakaket 30.71 338 P P 05 12 21.2 +0.1
baz=134
N49A Columbus Grove 30.77 75 P P 05 12 22.8 +0.9
O49A Covington 30.82 77 P P 05 12 22.5 +0.1
O49A IAmb IAmb 05 12 23.3
comp=Z,20nm,1.1s
E23K Chandalar 30.85 342 P P 05 12 22.6 +0.1
baz=142,SNR=6.7
UNV Unalaska Valle 30.86 310 P P 05 12 22.2 -0.4
baz=99

H19K	Roundabout Mou	30.95	335	P		P	05 12 24.9 +1.7
	baz=129,SNR=7.3						
M13K	Dall Lake	31.01	323	P		P	05 12 23.3 -0.4
	baz=113						
L14K	Kuka Creek	31.09	325	P		P	05 12 26.0 +1.5
	baz=115						
LRAL	Lakeview Retre	31.13	91	P		P	05 12 26.3 +1.1
LRAL	Lakeview Retre	31.13	91	P		P	05 12 26.8 +1.7
	baz=295						
J16K	Anvik River	31.14	329	P		P	05 12 25.7 +0.8
	baz=121						
D25K	Kavik River	31.19	346	P		P	05 12 26.9 +1.5
	baz=148						
TOLK	Toolik Lake Re	31.30	343	P		P	05 12 26.0 -0.3
	baz=142						
H18K	Honhosa River	31.35	333	P		P	05 12 26.9 +0.1
	baz=126						
E22K	Anaktuvuk Pass	31.44	341	P		P	05 12 27.7 +0.2
	baz=139						
C26K	Camden Bay	31.44	347	P		P	05 12 28.8 +1.3
	baz=150						
I17K	Unalakleet	31.49	330	P		P	05 12 28.6 +0.6
	baz=121						
G19K	Purcell Mounta	31.54	336	P		P	05 12 29.3 +0.9
	baz=129						
D24K	Happy Valley	31.55	344	P		P	05 12 30.6 +2.2
	baz=144						
FPAL	Fort Paine	31.59	88	P		P	05 12 30.7 +1.4
FPAL				IAmb		IAmb	05 12 32.3
	comp=Z,8.5nm,1.0s						
F20K	Avaraart Lake	31.72	338	P		P	05 12 30.7 +0.7
	baz=132						
A36M	Sachs Harbour	31.73	360	P		P	05 12 31.9 +1.8
	baz=180						
H17K	Granite Mounta	31.77	332	P		P	05 12 30.5 +0.1
	baz=124						
D23K	Nanushuk River	31.80	343	P		P	05 12 31.7 +1.0
	baz=141						
ACSO	Alum Creek Sta	31.82	76	P		P	05 12 31.7 +0.5
ACSO	Alum Creek Sta	31.82	76	P		P	05 12 31.3 +0.1
	baz=284,SNR=5.3						
G18K	Tagagawik	31.89	334	P		P	05 12 31.2 -0.3
	baz=127						
CPCT	Cooper Cave	32.09	86	P		P	05 12 35.1 +1.4
CPCT				IAmb		IAmb	05 12 36.1
	comp=Z,12nm,1.0s						
N51A	Ashland	32.10	75	P		P	05 12 34.5 +0.8
F19K	Shaleruckik Mo	32.19	336	P		P	05 12 33.9 -0.2
	baz=129						
E21K	Killik River	32.21	340	P		P	05 12 34.2 -0.1
	baz=136						
G17K	Kiwalik Mounta	32.34	333	P		P	05 12 35.2 -0.2
	baz=124						
E19K	Redstone River	32.43	337	P		P	05 12 36.8 +0.6
	baz=131						
H16K	Elim	32.45	331	P		P	05 12 37.3 +0.9
	baz=120						
C23K	Itkillik River	32.48	344	P		P	05 12 37.4 +0.8
	baz=142						
F18K	Selawik	32.64	335	P		P	05 12 38.9 +0.9
	baz=126						
E20K	Nigu River	32.67	339	P		P	05 12 40.2 +1.8
	baz=133,SNR=5.1						
W52A	Murphy	32.67	86	P		P	05 12 40.1 +1.3
W52A				IAmb		IAmb	05 12 42.5
	comp=Z,14nm,1.0s						
M52A	Chesterland	32.71	73	P		P	05 12 40.1 +1.1
C21K	Knifeblade Rid	32.93	341	P		P	05 12 40.5 0.0
	baz=136						
Y52A	Lilburn	33.04	88	P		P	05 12 43.3 +1.4
Y52A				IAmb		IAmb	05 12 44.0
	comp=Z,16nm,1.1s						
F17K	Baldwin Pennin	33.07	334	P		P	05 12 42.1 +0.4
	baz=124						
D20K	Etivluk River	33.09	339	P		P	05 12 42.0 0.0
	baz=133						
O53A	New Philadelph	33.12	76	P		P	05 12 43.0 +0.4
O53A	New Philadelph	33.12	76	P		P	05 12 43.8 +1.2
	baz=285,SNR=5.5						
B21K	Ikpikpuk River	33.22	342	P		P	05 12 41.6 -1.5
	baz=136						
M53A	WI Miller and	33.24	73	P		P	05 12 44.4 +0.8
	baz=283						
G15K	Niukluk	33.30	331	P		P	05 12 44.7 +0.8
	baz=119						
V53A	Saluda	33.31	84	P		P	05 12 45.9 +1.5
D19K	Kuna River	33.36	338	P		P	05 12 45.9 +1.6
	baz=131						
BG3	Lake Jocassee	33.47	85	P		P	05 12 47.7 +2.0
BG3				IAmb		IAmb	05 12 47.8
	comp=Z,11nm,0.9s						
B22K	Teshekpuk Lake	33.48	343	P		P	05 12 45.2 -0.1
	baz=139						
ERPA	Erie	33.59	72	P		P	05 12 46.4 -0.2
	baz=282						
GOGA	Godfrey	33.68	88	P		P	05 12 48.1 +0.7
	baz=294						
SADO	Sadowa	33.71	67	P		P	05 12 48.7 +1.1
B20K	Meade River	34.12	341	P		P	05 12 49.4 -1.5
	baz=134						
MCWV	Mont Chateau	34.29	76	P		P	05 12 52.7 -0.1
	baz=286						
PAULI	Pauline	34.39	85	P		P	05 12 55.4 +1.8
V55A	Taylorsville	34.46	83	P		P	05 12 55.0 +0.6
R55A	Marlinton	34.49	79	P		P	05 12 56.2 +1.6
R55A				IAmb		IAmb	05 12 56.5
	comp=Z,20nm,1.1s						
BLA	Blacksburg	34.60	81	P		P	05 12 55.2 -0.3
	baz=289						
KMSC	Kings Mountain	34.63	84	P		P	05 12 56.7 +0.9
KMSC	Kings Mountain	34.63	84	P		P	05 12 56.0 +0.3
	baz=292,SNR=7.0						
L56A	Greenwood	35.35	71	P		P	05 13 03.1 +1.2
L56A				IAmb		IAmb	05 13 04.7
	comp=Z,17nm,0.8s						
SSPA	Standing Stone	35.48	74	P		P	05 13 03.4 +0.5
	baz=285						
S57A	Dark Hollow, R	35.53	79	P		P	05 13 05.5 +2.1
P57A	Homestead Farm	35.70	76	P		P	05 13 06.2 +1.2
V58A	Windy Hill, Pi	36.08	82	P		P	05 13 09.2 +1.1
V58A				IAmb		IAmb	05 13 09.8
	comp=Z,12nm,0.8s						
N58A	Sunbury	36.28	73	P		P	05 13 12.1 +2.2
N58A				IAmb		IAmb	05 13 12.8
	comp=Z,17nm,1.1s						
WBO	Williamsburg	36.38	66	P		P	05 13 11.7 +1.1
WBO				IAmb		IAmb	05 13 21.0
	comp=Z,9.9nm,0.9s						
BINY	Binghamton	36.47	71	P		P	05 13 12.6 +1.1
BINY				IAmb		IAmb	05 13 14.1
	comp=Z,10nm,0.7s						
BINY	Binghamton	36.47	71	P		P	05 13 11.6 +0.2
	baz=284						
CBN	Corbin Frederi	36.57	78	P		P	05 13 13.0 +0.7
	baz=289						
TRQ	Mont Tremblant	36.66	64	P		P	05 13 14.2 +1.0
TRQ				IAmb		IAmb	05 13 14.7
	comp=Z,16nm,0.7s						
RES	Resolute Bay	37.13	13	LR		LR	05 29 37.8
	comp=Z,152nm,18.5s,baz=342,slow=38						
VT1	Waterbury	38.27	66	P		P	05 13 28.1 +1.3
VT1				IAmb		IAmb	05 13 29.1
	comp=Z,11nm,1.0s						
L61B	Northampton	38.78	69	P		P	05 13 31.5 +0.5
	baz=285						
LBNH	Lisbon	38.87	66	P		P	05 13 31.9 +0.1
	baz=283						
H62A	Milan	39.34	66	P		P	05 13 37.2 +1.6
H62A				IAmb		IAmb	05 13 38.5
	comp=Z,17nm,1.1s						
E62A	Clayton Lake	40.01	62	P		P	05 13 42.9 +1.7
E62A				IAmb		IAmb	05 13 44.2
	comp=Z,9.9nm,0.8s						
FRB	Frobisher Bay	40.06	35	eP		P	05 13 42.2 +0.9
PKME	Peaks-Kenny Pk	40.47	64	P		P	05 13 43.9 -1.1
	baz=284						
SCHQ	Schefferville	40.60	49	P		P	05 13 46.3 +0.2
	comp=Z,19nm,0.9s,baz=281,slow=8.4,SNR=18						
	comp=Z,19nm,0.9s						
SCHQ	Schefferville	40.60	49	eP		P	05 13 46.2 +0.2
EUNU	Eureka	42.37	9	eP		P	05 14 02.9 +2.6
NEEM	North Greenlan	47.52	17	eP		P	05 14 42.9 +1.4
NEEM				IAmb		IAmb	05 14 43.6
	comp=Z,7.7nm,0.8s						
SUMG	Summit	51.05	23	i P		P	05 15 09.6 +0.9
ICESG	Greenland Ices	51.39	27	i P		P	05 15 11.2 -0.1
DBG	Daneborg	55.44	19	eP		P	05 15 41.5 +1.1
DBG				IAmb		IAmb	05 15 41.9
	comp=Z,16nm,1.7s						
DBG				IAmb		IAmb	05 15 42.5
	comp=Z,5.1nm,1.1s						
H11N3	WAKE ISLAND Hy	61.01	272	T		T	06 23 41.2
	baz=54,slow=75,SNR=72						
H11N2	WAKE ISLAND Hy	61.02	272	T		T	06 23 39.1
	baz=54,slow=75,SNR=53						
H11N1	WAKE ISLAND Hy	61.03	272	T		T	06 23 39.6
	baz=54,slow=75,SNR=84						
H11S1	WAKE ISLAND Hy	61.88	271	T		T	06 24 53.6
	baz=54,slow=75,SNR=175						
H11S2	WAKE ISLAND Hy	61.89	271	T		T	06 24 54.1
	baz=54,slow=75,SNR=121						
H11S3	WAKE ISLAND Hy	61.90	271	T		T	06 24 55.0
	baz=54,slow=75,SNR=77						
PPT2	Papeete2	62.01	207	eLR		LR	05 34 49.7
	comp=Z,89nm,23.5s						
PPT2				eLR		LR	05 34 50.5
	comp=Z,92nm,22.2s						
TBI	Tubuai	67.33	204	eLR		LR	05 37 08.8
	comp=Z,369nm,26.5s						
TBI				eLR		LR	05 37 16.4
	comp=Z,1μm,28.5s						
RAR	Rarotonga	69.28	215	LR		LR	05 40 56.0
	comp=Z,48nm,20.7s,baz=276,slow=30						
MJAR	Matsushiro Arr	72.00	303	P		P	05 17 30.4 +0.1
	comp=Z,0.7nm,0.4s,baz=30,slow=6.6,SNR=4.2						
	comp=Z,0.7nm,0.4s						
NB2	NORSAR Subarra	72.86	21	P		P	05 17 35.4 +0.3
	comp=Z,3.6nm,1.1s,baz=326,slow=5.9						
NOA	NORSAR Array B	72.86	21	P		P	05 17 35.4 +0.3
	comp=Z,0.9nm,0.8s,baz=327,slow=5.8,SNR=5.2						
NOA				LR		LR	05 47 38.5
	comp=Z,54nm,20.7s,baz=35,slow=34						
	comp=Z,0.9nm,0.8s						
HFS	Hagfors	74.29	20	P		P	05 17 44.4 +1.0
	comp=Z,3.0nm,0.8s,baz=311,slow=3.2,SNR=9.7						
HFS				LR		LR	05 49 45.4
	comp=Z,126nm,18.9s,baz=104,slow=35						
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B	75.88	14	P		P	05 17 52.9 +0.3
	comp=Z,1.3nm,0.6s,baz=343,slow=4.0,SNR=9.3						
	comp=Z,1.3nm,0.6s						
LPAZ	La Paz	77.18	124	P		P	05 18 01.3 0.0
	comp=Z,0.8nm,0.6s,baz=267,slow=2.3,SNR=6.0						
	comp=Z,0.8nm,0.6s						
GUMO	Guam	81.46	281	LR		LR	05 46 48.3
	comp=Z,73nm,21.4s,baz=256,slow=30						
ESDC	Sonseca Array	83.92	42	P		P	05 18 37.3 +0.7
	comp=Z,2.1nm,0.9s,baz=318,slow=4.6,SNR=13						
	comp=Z,2.1nm,0.9s						
HHC	Hu-ho-hao-te	84.25	321	eP		P	05 18 36.5 -1.8
HHC				pmax		pmax	
	comp=Z,14nm,0.6s						
HHC				pmax		pmax	
	comp=Z,160nm,5.6s						
VRAC	Vranov	84.52	24	LR		LR	05 56 58.1
	comp=Z,56nm,18.2s,baz=5.5,slow=36						
BVAR	Borovoye Array	86.07	351	P		P	05 18 48.5 +1.4
	comp=Z,1.3nm,0.7s,baz=346,slow=3.1,SNR=6.9						
BVAR				LR		LR	06 00 34.7
	comp=Z,44nm,18.4s,baz=169,slow=38						
	comp=Z,1.3nm,0.7s						
AKASG	Malin Array Be	86.57	16	P		P	05 18 49.4 -0.1
	comp=Z,2.4nm,0.6s,baz=339,slow=4.2,SNR=5.5						
	comp=Z,2.4nm,0.6s						
NJ2	Nanjing	86.90	310	eP		P	05 18 49.5 -2.0
NJ2				pmax		pmax	
	comp=Z,11nm,0.6s						
KURBB	Kurchatov Arra	87.11	345	P		P	05 18 53.5 +1.3
	comp=Z,0.4nm,0.3s,baz=20,slow=4.8,SNR=4.4						
	comp=Z,0.4nm,0.3s						
DZM	Mont Dzumac	88.96	240	eLR		LR	05 47 21.1
	comp=Z,128nm,20.9s						
DZM	Mont Dzumac	88.96	240	LR		LR	05 52 38.0
	comp=Z,114nm,19.5s,baz=241,slow=31						
MLR	Muntele Rosu	90.67	20	LR		LR	06 00 42.5
	comp=Z,116nm,18.6s,baz=354,slow=36						
PZH	PanZhiHua	100.58	318	P		Pdif	05 19 53.8 -0.9
PZH				pmax		pmax	
	comp=Z,10.0nm,0.5s						
PZH				pmax		pmax	
	comp=Z,100nm,4.5s						
QSPA	South Pole Qui	130.14	180	PKP		PKiKP	05 25 17.2 +0.9
	comp=Z,1.7nm,1.0s,baz=323,slow=0.2,SNR=3.9						
BOSA	Boshof	152.94	74	PKPbc		PKiKP	05 26 04.3 +0.1
	comp=Z,1.7nm,0.8s,baz=178,slow=1.5,SNR=6.2						

*JMA **25** 05:10:56.7±0.2, 43°.1N±0°.8×14°.6E±°, h74km±1km, MV2.8/29, OFF NEMURO PENINSULA*
*SKHL **25** 05:11:01.4±0.9, 43°.40N×146°.10E, h66km±4km, mb3.5/2*

ISC 25 05:10:59.0±1.9, 43°.25N±0°.09×146°.28E±0°.07, h66km±13km, n12, σ1§24/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.41	287	P	Pn	05 11 10.1	-0.4
NEM2				S	Sn	05 11 19.9	+1.0
SHO	Shikotan	0.74	33	eP	Pn	05 11 15.7	+1.7
SHO				AMB	AMB	05 11 16.8	
	10.0nm,0.2s						
SHO				eS	Sn	05 11 23.7	-1.3
SHO				A	A	05 11 24.5	
	100nm,0.4s						
SHO				A	A	05 11 24.5	
	130nm,0.4s						
JKHN	Kushirohamanak	0.83	259	P	Pn	05 11 14.6	-0.5
JKHN				S	Sn	05 11 28.0	+0.9
YUK	Yuzh-Kuril'sk	0.84	339	eP	Pn	05 11 14.4	-0.8
YUK				AMB	AMB	05 11 15.3	
	50nm,0.2s						
YUK				eS	Sn	05 11 24.8	-2.4
YUK				A	A	05 11 28.8	
	130nm,0.4s						
YUK				A	A	05 11 28.8	
	110nm,0.4s						
JNSB	Nemuroshibetsu	1.06	300	P	Pn	05 11 17.9	-0.1
JRA	Rausu	1.08	310	P	Pn	05 11 18.2	-0.1
JRA				S	Sn	05 11 34.6	+1.9
JNK	Nakash	1.18	287	i P	Pn	05 11 18.8	-0.8
JAK	Akkeshi	1.18	258	i P	Pn	05 11 18.6	-1.0
JAK				S	Sn	05 11 35.0	0.0
JOB	Onbets	1.82	260	eP	Pn	05 11 27.2	-0.9
JAR	Ashorobuto	1.83	272	P	Pn	05 11 27.8	-0.4
JAR				S	Sn	05 11 51.5	+1.1
JTKR	Abashiri--Toko	1.86	294	i P	Pn	05 11 28.8	+0.2
JTKR				eS	Sn	05 11 52.6	+1.5
KUR	Kuril'sk	2.29	29	eP	Pn	05 11 35.2	+0.8
KUR				eS	Sn	05 11 59.9	-1.6

*NEIC **25** 05:18:48.4±2.8, 5°.13N±0°.07×126°.5E±0°.1, h40km±12km, mb4.3/14, Error ellipse: s-maj=15.5km s-min=10.2km az=85.0*
*IDC **25** 05:18:55.2±0.9, 5°.37N×125°.92E, h0km, mb4.1/11, mbtmp4.1/11, Error ellipse: s-maj=127.9km s-min=15.3km az=67.0*
*DJA **25** 05:18:55.0±0.6, 4°.N±5°.×12°.7E±°, h51km±7km, M4.5/9, mb4.5/7, mB4.6/1, MLv4.5/9, Mw(mB)3.8/1*

ISC 25 05:18:53.9±0.7, 4°.45N±0°.09×126°.73E±0°.10, h35km, n39, σ1§89/28, mb4.2/18, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.41	238	P	Pn	05 19 18.0	+0.8
SGSI				S	Sn	05 19 54.0	+19
DAV	Davao City (W)	2.84	336	Pn	Pn	05 19 21.5	-15
DAV	Davao City (W)	2.84	336	LR	LR	05 19 41.2	
	comp=Z,124nm,20.0s,baz=175,slow=27						
TNTI	Ternate	3.71	170	Pn	Pn	05 19 54.0	+5.2
GTOI	Gorontalo	5.30	225	P	Pn	05 20 10.9	+0.2
GTOI				S	Sn	05 21 24.7	+14
MRSI	Marisa	6.20	231	P	Pn	05 20 24.6	+1.6
SANI	Sanana	6.50	187	P	Pn	05 20 28.8	+1.7
	19nm,0.8s,0.1nm						
LUWI	Luwuk	6.74	216	Pn	Pn	05 20 28.2	-2.2
LUWI	Luwuk	6.74	216	P	Pn	05 20 28.5	-1.9
	53nm,0.6s,0.5nm						
TOLI2	Tolitoli	6.80	241	Pn	Pn	05 20 29.1	-2.2
TOLI2				Sn	Sn	05 21 49.5	+2.0
FAKI	Fak Fak	9.17	143	P	Pn	05 21 06.1	+2.3
MTN	Manton Dam	17.73	166		P	05 23 00.6	+1.8
KNRA	Kununurra	20.10	174	P	P	05 23 24.2	-0.6
KNRA				IAmb	IAmb	05 23 49.4	
	comp=Z,8.6nm,0.7s						
FITZ	Fitzroy Crossi	22.43	183	P	P	05 23 49.7	-0.2
COEN	Coen	24.51	138	P	P	05 24 09.2	-1.2
COEN				IAmb	IAmb	05 24 13.4	
	comp=Z,17nm,1.4s						
WB0	Warramunga Arr	25.22	163	P	P	05 24 16.3	-0.3
WB0				IAmb	IAmb	05 24 38.0	
	comp=Z,17nm,1.2s						
WRA	Warramunga Arr	25.37	163	P	P	05 24 16.6	-1.5
WRA	Warramunga Arr	25.37	163	P	P	05 24 35.0	+17
	comp=Z,2.2nm,0.8s,baz=342,slow=10,SNR=17						
	comp=Z,2.2nm,0.8s						
WB2	Warramunga Arr	25.37	163	P	P	05 24 16.9	-1.1
WB2				IAmb	IAmb	05 24 52.3	
	comp=Z,8.0nm,0.9s						
WR0	Warramunga Arr	25.44	163	P	P	05 24 17.4	-1.2
WR0				IAmb	IAmb	05 24 57.1	
	comp=Z,3.5nm,0.8s						
PSA00	Pilbara Seismi	26.73	194	P	P	05 24 26.2	-4.0
PSA00				IAmb	IAmb	05 24 47.6	
	comp=Z,5.9nm,1.1s						
PSA00	Pilbara Seismi	26.73	194	P	P	05 24 27.9	-2.4
PSA00				IAmb	IAmb	05 24 59.2	
	comp=Z,24nm,1.4s						
ASAR	Alice Springs	28.81	166	P	P	05 25 03.4	+14
	comp=Z,0.5nm,0.5s,baz=345,slow=7.0,SNR=6.0						
ASAR				PcP	PcP	05 28 06.5	+8.1
	comp=Z,0.5nm,0.5s,baz=340,slow=2.1,SNR=4.3						
	comp=Z,0.5nm,0.5s						
STKA	Stephens Creek	38.80	160	P	P	05 26 32.9	+17
	comp=Z,4.0nm,0.7s,baz=333,slow=9.0,SNR=7.1						
	comp=Z,4.0nm,0.7s						
MK31	Makanchi Array	56.97	325	P	P	05 28 24.4	-12
MK31				IAmb	IAmb	05 28 36.4	
	comp=Z,1.2nm,0.5s						
MKAR	Makanchi Array	56.97	325	P	P	05 28 24.9	-11
MKAR	Makanchi Array	56.97	325	P	P	05 28 35.0	-1.0
	comp=Z,2.0nm,0.4s,baz=117,slow=7.3,SNR=26						
	comp=Z,2.0nm,0.4s						
MAKZ	Makanchi	57.16	325	P	P	05 28 25.7	-12
MAKZ				IAmb	IAmb	05 28 37.6	
	comp=Z,1.8nm,0.5s						
ZALV	Zalesovo Beam	59.95	333	P	P	05 28 55.9	-0.7
	comp=Z,0.6nm,0.3s,baz=167,slow=7.1,SNR=2.8						
	comp=Z,0.6nm,0.3s						
KURBB	Kurchatov Arra	61.14	327	P	P	05 29 02.6	-2.1
	comp=Z,1.2nm,0.5s,baz=126,slow=6.8,SNR=12						
	comp=Z,1.2nm,0.5s						
KURK	Kurchatov	61.14	327	P	P	05 28 55.8	-9.0
BVAR	Borovoye Array	66.72	327	P	P	05 29 39.5	-1.9
	comp=Z,1.0nm,0.6s,baz=134,slow=10,SNR=4.9						
	comp=Z,1.0nm,0.6s						
NRIK	Noril'sk	69.73	346	P	P	05 30 00.1	+0.1
	comp=Z,2.8nm,0.6s,baz=118,slow=7.5,SNR=4.0						
	comp=Z,2.8nm,0.6s						
ABKAR	Akbulak array	71.59	321	P	P	05 30 03.8	-7.9
ABKAR	Akbulak array	71.59	321	P	P	05 30 03.6	-8.2
AKTO	Aktyubinsk	73.10	321	P	P	05 30 20.9	+0.2
	comp=Z,1.1nm,0.4s,baz=98,slow=10,SNR=3.8						
	comp=Z,1.1nm,0.4s						
ARCES	ARCESS Array B	89.78	340	P	P	05 31 49.7	+1.2
	comp=Z,0.4nm,0.4s,baz=69,slow=6.6,SNR=8.7						
	comp=Z,0.4nm,0.4s						
FINES	FINESS Array B	91.20	332	P	P	05 31 56.2	+0.9
	comp=Z,0.7nm,0.5s,baz=106,slow=4.2,SNR=12						
	comp=Z,0.7nm,0.5s						
TORD	Torodi Ar. Bea	122.69	289	PKP	PKiKP	05 37 51.5	+4.2
	comp=Z,0.4nm,0.5s,baz=54,slow=2.0,SNR=4.3						

*NEIC **25** 05:24:38.7±2.5, 18°.5N±0°.1×121°.7E±0°.2, h10km±1km, mb4.3/12, Error ellipse: s-maj=27.2km s-min=16.7km az=60.0*
*IDC **25** 05:24:40.9±0.8, 17°.66N×120°.83E, h0km, mb3.9/12, mbtmp3.9/12, MS3.1/2, Error ellipse: s-maj=49.3km s-min=15.6km az=63.0*

ISC 25 05:24:38.6±0.7, 18°.45N±0°.09×121°.6E±0°.1, h10km, n33, σ1§87/25, mb4.0/19, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	4.38	353	Pn	Pn	05 25 42.0	-3.2
TPUB	Ta-pu	4.92	349	Pn	Pn	05 25 50.5	-2.1
YULB	Yu-li	4.93	356	Pn	Pn	05 25 52.4	-0.4
SSLB	Suanglung	5.35	353		Pn	05 25 58.0	-0.6
YOJ	Yonaguni jima	6.12	12	Pn	Pn	05 26 07.2	-1.9
JMZ	Minamidaito 2	11.52	49	Pn	Pn	05 27 22.5	-0.7
JNU	Nakatsue	16.80	28	LR	LR	05 34 54.1	
	comp=Z,85nm,19.3s,baz=228,slow=34						
CMAR	Chiang Mai Arr	21.52	274	P	P	05 29 24.0	-4.1
	3.3nm,1.0s,baz=91,slow=8.9,SNR=12						
CMAR				LR	LR	05 37 17.6	
	comp=Z,36nm,18.9s,baz=185,slow=36						
	3.3nm,1.0s						
FITZ	Fitzroy Crossi	36.53	174	P	P	05 31 43.5	-1.0
COEN	Coen	38.57	145	P	P	05 32 01.2	-0.7
COEN				IAmb	IAmb	05 32 12.6	
	comp=Z,19nm,1.5s						
WB0	Warramunga Arr	39.99	161	P	P	05 32 13.2	-0.5
WB0				IAmb	IAmb	05 32 13.5	
	comp=Z,4.6nm,1.4s						
WRAB	Tennant Creek	40.13	161	P	P	05 32 14.3	-0.6
WRAB				IAmb	IAmb	05 32 30.5	
	comp=Z,7.8nm,1.4s						
WRA	Warramunga Arr	40.14	161	P	P	05 32 14.4	-0.4
WRA	Warramunga Arr	40.14	161	P	P	05 32 14.5	-0.4
	comp=Z,0.6nm,0.5s,baz=339,slow=9.3,SNR=15						
	comp=Z,0.6nm,0.5s						
WB2	Warramunga Arr	40.14	161	P	P	05 32 13.9	-1.1
WB2				IAmb	IAmb	05 32 18.5	
	comp=Z,9.3nm,1.5s						
WR0	Warramunga Arr	40.22	161	P	P	05 32 14.7	-0.8
WR0				IAmb	IAmb	05 32 15.3	
	comp=Z,5.2nm,1.3s						
MKAR	Makanchi Array	42.87	320	P	P	05 32 38.5	+1.3
MKAR	Makanchi Array	42.87	320	P	P	05 32 42.6	+5.5
	comp=Z,0.6nm,0.7s,baz=123,slow=8.8,SNR=4.5						
	comp=Z,0.6nm,0.7s						
ASAR	Alice Springs	43.54	164	P	P	05 32 42.8	+0.1
	comp=Z,1.1nm,0.4s,baz=336,slow=6.8,SNR=8.8						
	comp=Z,1.1nm,0.4s						
KURK	Kurchatov	46.84	324	P	P	05 33 06.0	-2.7
KURK				IAmb	IAmb	05 33 15.4	
	comp=Z,5.0nm,0.8s						
KURBB	Kurchatov Arra	46.85	323	P	P	05 33 14.7	+6.0
	comp=Z,3.4nm,0.8s,baz=121,slow=8.4,SNR=17						
	comp=Z,3.4nm,0.8s						
KKAR	Karatay Array	49.42	311	P	P	05 33 30.1	+1.3
KKAR	Karatay Array	49.42	311	P	P	05 33 30.4	+1.7
KKAR				IAmb	IAmb	05 33 33.2	
	comp=Z,1.1nm,0.7s						
BVAR	Borovoye Array	52.44	324	P	P	05 33 56.6	+5.2
	comp=Z,1.0nm,0.6

baz=71,slow=310,SNR=2.5
ZALV Zalesovo Beam 1.44 251 Pg Pn 05 30 26.4 -1.6
0.6nm,0.3s,baz=71,slow=17,SNR=5.9
ZALV Lg Lg 05 30 46.9
0.7nm,0.3s,baz=68,slow=27,SNR=4.6
KURBB Kurchatov Arra 6.49 237 Pn Pn 05 31 37.5 +0.3
baz=56,slow=14,SNR=2.9
0.3nm,0.7s
MKAR Makanchi Array 8.24 204 Pn Pn 05 32 02.8 +1.4
baz=17,slow=15,SNR=1.9
0.2nm,0.6s

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*IDC **25** 06:01:35.8±0.8, 7°.05S×129°.73E, h0km, mb4.2/8, mbtmp4.1/10, ML4.1/2, Error ellipse: s-maj=65.0km s-min=18.5km az=68.0*
*DJA **25** 06:01:47.3±0.5, 7°.5S±4°×13°.0E±°, h137km±18km, M4.8/8, mb4.8/5, mB5.2/4, MLv4.7/8, Mw(mB)4.7/4*
*NEIC **25** 06:01:47.2±2.3, 7°.05S±0°.09×129°.95E±0°.04, h153km±12km, mb4.4/6, Error ellipse: s-maj=13.4km s-min=5.6km az=166.0*
ISC 25 06:01:49.3±0.5, 7°.17S±0°.05×130°.12E±0°.07, h150km, n47, σ2s86/49, mb4.0/10, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.42**	**125**	P	**Pn**	**06 02 17.8**	**-0.2**
SAUI	**Saumlaki**	**1.42**	**125**	Pn	**Pn**	**06 02 18.1**	**0.0**
SAUI	**Saumlaki**	**1.42**	**125**	P	**Pn**	**06 02 18.0**	**0.0**
BNDI	**Bandanaira**	**2.64**	**355**	P	**Pn**	**06 02 28.9**	**-3.2**
FAKI	**Fak Fak**	**4.72**	**27**	Pn	**Pn**	**06 02 56.7**	**-2.4**
FAKI	**Fak Fak**	**4.72**	**27**	P	**Pn**	**06 02 56.7**	**-2.4**
FAKI				S	**Sn**	**06 03 48.2**	**-5.3**
KMPI	**Kaimana, Papua**	**4.99**	**46**	P	**Pn**	**06 03 01.4**	**-1.1**
KMPI				S	**Sn**	**06 03 55.7**	**-4.0**
DRS	**Darwin Rock St**	**5.28**	**172**	P	**Pn**	**06 03 07.0**	**+0.5**
MTN	**Manton Dam**	**5.72**	**170**	P	**Pn**	**06 03 12.4**	**0.0**
MTN	**Manton Dam**	**5.72**	**170**	Pn	**Pn**	**06 03 12.4**	**0.0**
SOEI	**Soe**	**6.34**	**246**	P	**Pn**	**06 03 17.2**	**-3.4**
SOEI	**Soe**	**6.34**	**246**	Pn	**Pn**	**06 03 16.8**	**-3.9**
SOEI	**Soe**	**6.34**	**246**	P	**Pn**	**06 03 17.0**	**-3.6**
	147nm,0.7s,0.6nm						
SWI	**Sorong**	**6.37**	**10**	P	**Pn**	**06 03 18.2**	**-2.7**
	30nm,0.5s,1μm0.4nm						
BATI	**Baumata**	**7.06**	**244**	P	**Pn**	**06 03 26.9**	**-3.4**
KNRA	**Kununurra**	**8.56**	**189**	Pn	**Pn**	**06 03 48.1**	**-2.1**
LUWI	**Luwuk**	**9.53**	**309**	P	**Pn**	**06 04 00.8**	**-2.3**
FITZ	**Fitzroy Crossi**	**11.71**	**201**	P	**Pn**	**06 04 27.5**	**-4.3**
FITZ	**Fitzroy Crossi**	**11.71**	**201**	Pn	**Pn**	**06 04 28.0**	**-3.8**
WB0	**Warramunga Arr**	**13.19**	**162**	Pn	**Pn**	**06 04 49.7**	**-1.3**
WRAB	**Tennant Creek**	**13.33**	**163**		**Pn**	**06 04 51.7**	**-1.1**
WRA	**Warramunga Arr**	**13.34**	**163**	Pn	**Pn**	**06 04 51.2**	**-1.7**
WRA	**Warramunga Arr**	**13.34**	**163**	Pn	**Pn**	**06 04 51.6**	**-1.3**
	1.0nm,0.3s,baz=343,slow=13,SNR=61						
WRA				Sn	Sn	06 07 09.0	-12
	3.5nm,0.3s,baz=343,slow=22,SNR=10						
	1.7nm,0.4s						
WB2	**Warramunga Arr**	**13.34**	**163**	Pn	**Pn**	**06 04 51.6**	**-1.4**
WR0	**Warramunga Arr**	**13.42**	**162**		**Pn**	**06 04 52.8**	**-1.1**
COEN	**Coen**	**14.49**	**119**	P	**P**	**06 05 09.8**	**-0.1**
AS31	**Alice Springs**	**16.80**	**168**	P	**Pn**	**06 05 37.2**	**+1.3**
ASAR	**Alice Springs**	**16.80**	**168**	P	**Pn**	**06 05 37.6**	**+1.7**
ASAR	**Alice Springs**	**16.80**	**168**	Pn	**Pn**	**06 05 37.4**	**+1.6**
	0.5nm,0.3s,baz=345,slow=8.8,SNR=17						
ASAR				S	**S**	**06 08 34.0**	**-8.7**
	3.4nm,0.7s,baz=349,slow=26,SNR=11						
	1.5nm,0.7s						
MBWA	**Marble Bar**	**17.16**	**215**		**P**	**06 05 38.9**	**-0.5**
MBWA				IAmb	IAmb	06 05 43.4	
	comp=Z,7.5nm,0.5s						
PSA00	**Pilbara Seismi**	**17.43**	**214**	P	**Pn**	**06 05 42.4**	**-1.0**
PSA00				IAmb	IAmb	06 05 48.7	
	comp=Z,14nm,0.7s						
FORT	**Forrest**	**23.57**	**184**	P	**P**	**06 06 46.5**	**+0.2**
FORT				IAmb	IAmb	06 06 53.4	
	comp=Z,25nm,1.2s						
BBOO	**Buckleboo**	**26.10**	**169**	P	**P**	**06 07 08.3**	**-0.9**
ARMA	**Armidale**	**30.69**	**142**	P	**P**	**06 07 48.4**	**-1.7**
ARMA				IAmb	IAmb	06 08 20.6	
	comp=Z,12nm,1.4s						
CMAR	**Chiang Mai Arr**	**39.93**	**310**	P	**P**	**06 09 10.2**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=137,slow=7.0,SNR=4.8						
	comp=Z,0.5nm,0.3s						
USRK	**Ussuriysk Ar.**	**51.16**	**2**	P	**P**	**06 10 40.2**	**+3.4**
	comp=Z,1.7nm,0.6s,baz=201,slow=7.7,SNR=3.8						
	comp=Z,1.7nm,0.6s						
SONM	**Songino Array**	**58.64**	**341**	P	**P**	**06 11 34.0**	**+3.2**
	comp=Z,1.0nm,0.4s,baz=165,slow=7.0,SNR=5.8						
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**68.43**	**327**	P	**P**	**06 12 38.2**	**+3.3**
	comp=Z,2.5nm,0.4s,baz=118,slow=7.7,SNR=25						
	comp=Z,2.5nm,0.4s						
ZALV	**Zalesovo Beam**	**71.79**	**334**	P	**P**	**06 12 51.9**	**-3.3**
ZALV	**Zalesovo Beam**	**71.79**	**334**	P	**P**	**06 12 57.4**	**+2.2**
	comp=Z,1.9nm,0.5s,baz=122,slow=5.5,SNR=7.7						
	comp=Z,1.9nm,0.5s						
KURBB	**Kurchatov Arra**	**72.72**	**328**	P	**P**	**06 13 03.7**	**+2.9**
	comp=Z,1.7nm,0.5s,baz=129,slow=5.1,SNR=19						
	comp=Z,1.7nm,0.5s						
BVAR	**Borovoye Array**	**78.27**	**328**	P	**P**	**06 13 35.5**	**+3.1**
	comp=Z,0.8nm,0.5s,baz=125,slow=7.4,SNR=6.1						
	comp=Z,0.8nm,0.5s						
QSPA	**South Pole Qui**	**82.81**	**180**	P	P	06 14 01.9	+5.3
	comp=Z,1.5nm,1.0s,baz=345,slow=0.4,SNR=3.0						
	comp=Z,1.5nm,1.0s						
PLCA	**Paso Flores**	**128.68**	**160**	PKP	**PKiKP**	**06 20 45.0**	**+5.1**
	comp=Z,0.8nm,0.7s,baz=194,slow=4.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**128.96**	**281**	PKP	**PKiKP**	**06 20 43.8**	**+2.8**
	comp=Z,0.4nm,0.6s,baz=49,slow=2.2,SNR=5.1						
CPUP	**Villa Florida**	**145.92**	**168**	PKPbc	**PKiKP**	**06 21 18.4**	**+3.1**
	comp=Z,2.1nm,0.8s,baz=292,slow=3.6,SNR=5.5						
LPAZ	**La Paz**	**150.51**	**142**	PKPbc	**PKPab**	**06 21 32.2**	**+0.2**
	comp=Z,2.5nm,0.4s,baz=19,slow=2.2,SNR=42						

DJA 25 06:03:22.8±1.1, 0°.5S×12°.3E±°, h121km±8km, M2.8/5, MLv2.8/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.79**	**14**	P	Pn	06 03 44.4	+1.4
GTOI				S	Sn	06 04 00.6	+2.3
LUWI	**Luwuk**	**0.90**	**183**	P	Pn	06 03 44.5	+0.5
MRSI	**Marisa**	**1.07**	**305**	P	Pn	06 03 46.0	+0.4
MRSI				S	Sn	06 04 03.6	+0.7
TOLI2	**Tolitoli**	**2.39**	**301**	P	Pn	06 04 01.3	+0.1

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*NIED **25** 06:24:11.7, 25°.33N×130°.36E, h36km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=0.80; Mθθ=4.16; Mφφ=-3.37; Mrθ=8.00; Mθφ=3.16; Mφr=2.37; Fault plane solution: M0=9.67000×10^14 NP1: φs=289.00000°, δ=87.00000°, λ=-60.00000°. NP2: φs=25.00000°, δ=30.00000°, λ=-174.00000°.*
*JMA **25** 06:24:11.7±0.2, 25°.N±1°.×130°.4E±0°.3, h36km, MV3.7/22, NEAR MINAMI-DAITOJIMA IS*
*IDC **25** 06:24:13.0±2.1, 25°.15N×129°.98E, h0km, mb3.6/5, mbtmp3.7/7, ML3.6/2, MS3.2/5, Error ellipse: s-maj=97.3km s-min=22.9km az=67.0*
ISC 25 06:24:16.1±1.1, 25°.39N±0°.08×130°.29E±0°.06, h35km, n29, σ2s04/30, mb3.7/5, MS3.7/3, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**0.95**	**63**	*i* P	Pn	06 24 28.4	-4.5
JKDJ	**Kitadaitoujima**	**1.07**	**58**	P	Pn	06 24 30.3	-4.2
JKDJ				*e*S	**Sn**	**06 24 43.5**	**-4.7**
JOW	**Kunigami**	**2.31**	**309**	Pn	**Pn**	**06 24 50.1**	**-1.5**
	30nm,0.3s,baz=127,slow=16,SNR=59						
JOW				Sn	**Sn**	**06 25 14.2**	**-4.6**
	14nm,0.3s,baz=146,slow=14,SNR=7.0						
JOW				LR	LR	06 25 50.1	
	comp=Z,109nm,21.6s,baz=78,slow=43						
	86nm,0.3s						
JOW	**Kunigami**	**2.31**	**309**	P	**Pn**	**06 24 50.1**	**-1.5**
JYRO	**Yoronjima**	**2.31**	**315**	*i* P	**Pn**	**06 24 50.4**	**-1.3**
JYRO				*e*S	**Sn**	**06 25 18.1**	**-0.8**
JNTH	**Nagotoyohara**	**2.33**	**299**	*e*P	**Pn**	**06 24 50.0**	**-1.9**
JNTH				*e*S	**Sn**	**06 25 17.3**	**-1.9**
JJT3	**Tamagusuku3**	**2.38**	**289**	*e*S	**Sn**	**06 25 19.3**	**-1.2**
JOKE	**Okinoerabujima**	**2.49**	**322**	*i* P	**Pn**	**06 24 53.3**	**-0.9**
JIH	**Iheya**	**2.65**	**309**	P	**Pn**	**06 24 54.9**	**-1.4**
JIH				*e*S	**Sn**	**06 25 26.1**	**-1.1**
JTK	**Tokunoshima**	**2.67**	**334**	*e*P	**Pn**	**06 24 55.5**	**-1.1**
JAGN	**Aguni-jima**	**2.99**	**294**	P	**Pn**	**06 24 59.6**	**-1.4**
JAGN				S	**Sn**	**06 25 34.1**	**-1.5**
JAMN	**Amaminishikomi**	**3.01**	**341**	P	**Pn**	**06 25 00.2**	**-1.0**
JAM	**Amami Oshima**	**3.07**	**349**	P	**Pn**	**06 25 01.1**	**-0.9**
JKE	**Kume jima 2**	**3.29**	**287**	*e*P	**Pn**	**06 25 04.1**	**-1.0**
JKE				S	**Sn**	**06 25 39.7**	**-3.2**
JTAJ	**Takarajima**	**3.87**	**346**	P	**Pn**	**06 25 11.9**	**-1.2**
JNN	**Nakanoshima**	**4.45**	**355**	P	**Pn**	**06 25 21.1**	**0.0**
JYAK	**Yakushimahirau**	**4.83**	**2**	P	**Pn**	**06 25 25.5**	**-0.8**
JTJ	**Tarama**	**5.12**	**263**	P	**Pn**	**06 25 28.8**	**-1.5**
JTN	**Tanegashima 3**	**5.28**	**7**	*e*P	**Pn**	**06 25 32.2**	**-0.2**
JHJ	**Hachijo jima 2**	**11.31**	**45**	LR	LR	06 31 07.6	
	comp=Z,66nm,18.0s,baz=257,slow=36						
KSRS	**Korea Array**	**12.19**	**351**	Pn	**Pn**	**06 27 08.7**	**+1.5**
	0.2nm,0.3s,baz=170,slow=12,SNR=9.0						
	2.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.84**	**263**	LR	LR	06 44 14.9	
	comp=Z,48nm,18.1s,baz=195,slow=41						
MKAR	**Makanchi Array**	**43.47**	**312**	P	**P**	**06 32 18.0**	**+2.2**
	0.3nm,0.6s,baz=86,slow=10,SNR=3.5						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**44.03**	**323**	P	**P**	**06 32 23.3**	**+3.1**
	1.1nm,0.6s,baz=107,slow=12,SNR=4.8						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**45.23**	**175**	P	**P**	**06 32 29.9**	**-0.2**
	0.6nm,0.5s,baz=353,slow=8.5,SNR=7.5						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**46.73**	**317**	P	**P**	**06 32 43.3**	**+1.7**
	0.2nm,0.3s,baz=108,slow=8.9,SNR=4.3						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**52.13**	**319**	P	**P**	**06 33 25.5**	**+2.7**
	0.8nm,0.7s,baz=73,slow=6.5,SNR=4.1						
	0.8nm,0.7s						
HFS	**Hagfors**	**80.41**	**333**	LR	LR	07 13 45.5	
	comp=Z,38nm,19.1s,baz=72,slow=37						
RAR	**Rarotonga**	**82.18**	**118**	LR	LR	07 08 23.1	
	comp=Z,38nm,21.3s,baz=236,slow=32						

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*IDC **25** 06:26:17.8±1.0, 34°.94N×89°.76E, h0km, mb3.7/5, mbtmp3.7/8, ML3.0/3, MS3.6/2, Error ellipse: s-maj=36.4km s-min=20.5km az=60.0*
ISC 25 06:26:23.2±1.2, 35°.0N±0°.2×89°.8E±0°.2, h35km, n11, σ1s00/9, mb3.8/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.05**	**337**	Pn	**Pn**	**06 29 26.0**	**0.0**
	0.1nm,0.3s,baz=146,slow=13,SNR=3.5						
KURBB	**Kurchatov Arra**	**17.61**	**336**	P	**Pn**	**06 30 23.7**	**-1.9**
	baz=146,slow=12,SNR=7.2						
	0.7nm,0.7s						
SONM	**Songino Array**	**17.81**	**39**	P	**P**	**06 30 28.6**	**-0.1**
	0.2nm,0.3s,baz=251,slow=14,SNR=3.0						
	1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**19.25**	**351**	P	**P**	**06 30 44.2**	**-0.1**
	0.2nm,0.3s,baz=172,slow=12,SNR=5.2						
	1.7nm,0.8s						
BVAR	**Borovoye Array**	**22.65**	**329**	P	**P**	**06 31 21.8**	**+0.8**
	0.3nm,0.4s,baz=125,slow=9.3,SNR=1.9						
	0.3nm,0.4s						
BELG	**Belogornoye**	**34.49**	**313**	LR	LR	06 48 27.8	
	comp=Z,65nm,21.0s,baz=106,slow=38						
IDI	**Anoyia**	**52.17**	**290**	LR	LR	07 02 14.2	
	comp=Z,82nm,19.3s,baz=295,slow=41						
WRA	**Warramunga Arr**	**69.11**	**135**	P	**P**	**06 37 26.2**	**+0.3**
	0.8nm,0.5s,baz=326,slow=6.7,SNR=23						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**71.16**	**22**	P	**P**	**06 37 38.6**	**+0.7**
	0.8nm,0.9s,baz=296,slow=5.6,SNR=6.9						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**71.80**	**138**	P	**P**	**06 37 41.3**	**-1.0**
	0.5nm,0.6s,baz=326,slow=6.7,SNR=5.5						
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**81.05**	**280**	P	**P**	**06 38 35.2**	**+0.2**
	1.3nm,0.6s,baz=41,slow=4.5,SNR=12						
	1.3nm,0.6s						

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*SJA **25** 06:54:56.4±0.7, 20°.96S×66°.61W, h235km±5km, ML3.7, MW3.6*
*SCB **25** 06:54:58.4±1.4, 20°.96S×66°.63W, h213km±15km, ML3.4/4, Error ellipse: s-maj=6.4km s-min=3.8km az=2.0*
ISC 25 06:54:56.4±1.8, 21°.02S±0°.04×66°.63W±0°.05, h237km±15km, n26, σ1s70/42, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**0.96**	**104**	Pg	**Pn**	**06 55 30.9**	**+0.5**
YJA	**Yavi**	**1.55**	**138**	*e*P	**Pn**	**06 55 35.3**	**+0.9**
YJA				*e*S	**S**	**06 56 04.0**	**-0.2**
PB09	**IPOC Station P**	**2.55**	**252**	*e*P	**Pn**	**06 55 44.6**	**+1.1**
PB09				*e*P		06 55 45.5	
PB09				*e*S	**S**	**06 56 20.6**	**+0.2**
PB09	**IPOC Station P**	**2.55**	**252**	Pg	**Pn**	**06 55 44.6**	**+1.1**
PB09				Sg	**S**	**06 56 19.7**	**-0.7**
PB09				IAML		06 56 24.8	
	40nm,0.3s						
LVC	**Limon Verde**	**2.64**	**233**	*e*P	**Pn**	**06 55 45.5**	**+0.9**
LVC				*e*S	**S**	**06 56 21.9**	**-0.5**
SOEO	**Opoqueri**	**2.72**	**334**	Pg	**Pn**	**06 55 46.6**	**+0.9**
GO01	**Chusmiza**	**2.75**	**299**	*e*P	**Pn**	**06 55 46.3**	**+0.3**
GO01				*e*S	**S**	**06 56 31.6**	**+6.7**
GO01	**Chusmiza**	**2.75**	**299**	Pg	**Pn**	**06 55 46.4**	**+0.3**
SOET	**ToroToro**	**3.00**	**15**	Pg	**Pn**	**06 55 48.7**	**+0.2**
SOET				Sg	**S**	**06 56 26.8**	**-2.7**
SOET				IAML		06 56 29.7	
	11nm,0.7s						
SOTI	**Planta Incahua**	**3.04**	**67**	Pg	**Pn**	**06 55 49.1**	**+0.4**
PB11	**IPOC Station P**	**3.10**	**293**	*e*P	**Pn**	**06 55 49.5**	**+0.1**
PB11				*e*S	**S**	**06 56 28.8**	**-2.3**
PB11				IAML		06 56 34.0	
	comp=Z,59nm,0.2s						
PB11	**IPOC Station P**	**3.10**	**293**	Pg	**Pn**	**06 55 49.4**	**-0.1**
PB11				Sg	**S**	**06 56 28.8**	**-2.3**
PB11				IAML		06 56 32.7	
	comp=Z,162nm,0.3s						
AOEA	**Aiquile**	**3.12**	**25**	Pg	**Pn**	**06 55 49.7**	**-0.2**
PB06	**IPOC Station P**	**3.20**	**238**	*e*P	**Pn**	**06 55 51.3**	**+0.8**
PB06				*e*P		06 55 51.4	
PB06				*e*S	**S**	**06 56 32.3**	**-0.9**
PB06				IAML		06 56 37.7	
	comp=Z,83nm,0.3s						
PATCX	**Punta Patache**	**3.30**	**273**	*e*P	**Pn**	**06 55 51.3**	**-0.2**
PATCX				*e*S	**S**	**06 56 33.8**	**-1.2**
PATCX				IAML		06 56 36.0	
	comp=Z,68nm,0.3s						
TA01	**Diego Aracena**	**3.35**	**277**	*e*P	**Pn**	**06 55 51.7**	**-0.4**
TA01				*e*S	**S**	**06 56 33.0**	**-2.9**
TA01				IAML		06 56 35.6	
	comp=Z,54nm,0.3s						
PB15	**IPOC Station P**	**3.41**	**230**	*e*P	**Pn**	**06 55 54.4**	**+1.4**
PB15				*e*P		06 55 55.0	
PB15				*e*S	**S**	**06 56 36.5**	**-1.1**
PB15				IAML		06 56 42.3	
	comp=Z,295nm,0.2s						
PB15	**IPOC Station P**	**3.41**	**230**	Pg	**Pn**	**06 55 54.8**	**+1.8**
PB15				Sg	**S**	**06 56 37.2**	**-0.4**
PB15				IAML		06 56 40.9	
	comp=Z,520nm,0.3s						
AZAP	**Zapla**	**3.50**	**156**	*e*P	**Pn**	**06 55 55.0**	**+1.0**
AZAP				*e*S	**S**	**06 56 38.9**	**-0.6**
PB04	**IPOC Station P**	**3.52**	**248**	*e*P	**Pn**	**06 55 55.0**	**+0.8**
PB04				*e*S	**S**	**06 56 37.2**	**-2.6**
PB04				IAML		06 56 39.6	
	comp=Z,67nm,0.3s						
SOEJ	**Jacaque**	**4.29**	**340**	Pg	**Pn**	**06 56 05.2**	**+1.5**
BBOE	**La Paz, Chanca**	**4.38**	**343**	Pg	**Pn**	**06 56 06.1**	**+1.2**
BBOD	**La Paz, Gloria**	**4.74**	**337**	Pg	**Pn**	**06 56 11.1**	**+1.8**
LPAZ	**La Paz**	**4.92**	**343**	*e*P	**Pn**	**06 56 12.7**	**+1.1**
LPAZ	**La Paz**	**4.92**	**343**	Pg	**Pn**	**06 56 12.8**	**+1.3**
GO02	**Mina Guanaco**	**4.94**	**213**	*e*P	**Pn**	**06 56 12.0**	**+0.6**
GO02				*e*S	**S**	**06 57 08.9**	**-1.9**
GO02				IAML		06 57 10.5	
	comp=Z,65nm,0.7s						

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*ISN **25** 06:56:08.8±1.0, 34°.61N×46°.31E, h11km±14km, ML2.6*
*TEH **25** 06:56:09.3, 34°.60N×46°.29E, h8km±47km, ML2.6*
ISC 25 06:56:09.2±1.1, 34°.61N±0°.04×46°.29E±0°.04, h11km±11km, n10, σ0s65/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.12**	**41**	Pg	**Pg**	**06 56 12.4**	**0.0**
IGHG	**Ghaleghazi**	**0.36**	**140**	Pg	**Pb**	**06 56 17.2**	**-0.5**
GLG1	**Gilan-e-Gharb**	**0.58**	**213**	Pg	**Pg**	**06 56 20.8**	**+0.3**
ILIN	**Lien**	**0.64**	**61**	Pg	**Pb**	**06 56 22.1**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.70**	**118**	Pg	**Pg**	**06 56 22.9**	**0.0**
SNQR	**Sonqor, Kerman**	**1.13**	**77**	Pg	**Pn**	**06 56 31.6**	**+0.4**
IBZA	**Bozab**	**1.31**	**96**	Pg	**Pg**	**06 56 34.1**	**-0.2**
IBDR	**Badra**	**1.52**	**191**	*e*Pn	**Pg**	**06 56 38.0**	**-0.4**
IBDR				*e*Sn	**Sg**	**06 56 59.0**	**+0.9**
IKRK	**Kirkuk**	**1.78**	**297**	*e*Pn	**Pn**	**06 56 41.0**	**+1.1**
IKRK				*e*Sn	**Sg**	**06 57 06.0**	**-0.5**
BHD	**Baghdad**	**2.07**	**230**	*e*Pn	**Pb**	**06 56 46.0**	**-0.7**
BHD				*e*Sn	**Sb**	**06 57 12.0**	**-0.5**

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*NNC **25** 07:21:40.7±5.5, 53°.57N×92°.17E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=42.0km s-min=29.8km az=73.0*
*IDC **25** 07:21:48.9±3.5, 53°.71N×90°.99E, h0km, mbtmp3.1/3, ML2.7/2, Error ellipse: s-maj=28.1km s-min=24.1km az=54.0*
ISC 25 07:21:42.3±4.4, 53°.6N±0°.1×92°.2E±0°.2, h10km, n8, σ1s01/12, 3C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**4.40**	**278**	I	I	07 43 28.8	
	baz=91,slow=314,SNR=5.2						
ZAA0	**Zalesovo Array**	**4.40**	**278**	⇓Pn	**Pn**	**07 22 49.0**	**-0.1**
	0.7nm,0.6s,baz=96,slow=16						
ZAA0				⇑Sn	**Sn**	**07 23 41.8**	**+1.5**
	3.6nm,0.8s,baz=87,slow=25						
ZALV	**Zalesovo Beam**	**4.40**	**278**	Pn	**Pn**	**07 22 48.7**	**-0.3**
	2.6nm,0.5s,baz=88,slow=13,SNR=2.2						
ZALV				Sn	Sn	07 23 31.8	-8.5
	1.0nm,0.3s,baz=95,slow=19,SNR=2.4						
ZALV				Lg	Lg	07 23 43.5	
	1.8nm,0.3s,baz=93,slow=30,SNR=7.4						
KURK	**Kurchatov**	**8.82**	**257**	Pn	**Pn**	**07 23 49.0**	**-0.8**
	0.8nm,0.6s						
KURK				⇓Sn	**Sn**	**07 25 29.6**	**+0.3**
	9.6nm,2.0s						
KURBB	**Kurchatov Arra**	**8.92**	**256**	Pn	**Pn**	**07 23 49.9**	**-1.2**
	0.1nm,0.3s,baz=67,slow=15,SNR=5.6						
KURBB				Sn	Sn	07 25 22.2	-9.2
	baz=68,slow=27,SNR=8.4						
KURBB				Lg	Lg	07 26 09.8	
	baz=67,slow=31,SNR=7.2						
	1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**8.92**	**256**	⇓Pn	**Pn**	**07 23 50.3**	**-0.8**
	2.1nm,0.6s,baz=67,slow=15						
KURBB				⇑Sn	**Sn**	**07 25 31.5**	**+0.1**
	5.4nm,0.7s,baz=68,slow=32						
MK31	**Makanchi Array**	**9.29**	**227**	⇑Pn	**Pn**	**07 23 55.8**	**-0.4**
	1.0nm,0.8s,baz=32,slow=15						
MK31				⇓Sn	**Sn**	**07 25 40.1**	**-0.6**
	0.6nm,0.5s,baz=41,slow=24						
MKAR	**Makanchi Array**	**9.29**	**227**	Pn	**Pn**	**07 23 58.0**	**+1.8**
	0.1nm,0.3s,baz=40,slow=14,SNR=3.6						
MKAR				Sn	**Sn**	**07 25 40.5**	**-0.2**
	0.1nm,0.3s,baz=41,slow=26,SNR=2.9						
MKAR				Lg	Lg	07 26 29.0	
	baz=34,slow=21,SNR=5.3						
	0.3nm,0.4s						

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*IDC **25** 07:43:27.4±0.9, 52°.20N×171°.23W, h0km, mb3.9/11, mbtmp3.8/13, ML3.2/2, MS2.7/2, Error ellipse: s-maj=26.8km s-min=20.2km az=159.0*
*AEIC **25** 07:43:33.5±2.4, 52°.3N±0°.1×171°.25W±0°.10, h29km±7km, Error ellipse: s-maj=20.8km s-min=3.6km az=157.0*
*NEIC **25** 07:43:34.8±2.4, 52°.25N±0°.04×171°.33W±0°.06, h35km±2km, ML3.9/8, ML3.4(AEIC), Error ellipse: s-maj=7.1km s-min=4.9km az=133.0*
ISC 25 07:43:33.7±0.9, 52°.1N±0°.2×171°.21W±0°.06, h42km, n52, σ1s32/46, mb4.0/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**1.06**	**49**		**Pn**	**07 43 51.9**	**-0.1**
CLES	**Cleveland East**	**1.06**	**49**		**Sn**	**07 44 05.3**	**-0.3**
CLCO	**Concord Point,**	**1.12**	**54**		**Pn**	**07 43 52.2**	**-0.6**
CLCO					**Sn**	**07 44 07.7**	**+0.7**
NIKH	**Nikolski High**	**1.66**	**59**		**Pn**	**07 43 59.5**	**-0.8**
NIKH					**Sn**	**07 44 18.4**	**-2.1**
KOFP	**Korovin Flat P**	**1.78**	**276**		**Pn**	**07 44 02.5**	**+0.5**
ATKA	**Atka Island**	**1.84**	**273**		**Pn**	**07 44 02.5**	**-0.3**
ATKA	**Atka Island**	**1.84**	**273**		**Sn**	**07 44 24.4**	**-0.3**
KOKL	**Mount Kliuchef**	**1.85**	**277**		**Pn**	**07 44 03.9**	**+1.0**
OKWE	**Okmok W'ng Wal**	**2.25**	**52**		**Pn**	**07 44 09.5**	**+1.2**
OKCE	**Okmok Cone E**	**2.26**	**54**		**Pn**	**07 44 09.1**	**+0.6**
OKCE					**Sn**	**07

comp=N,3.2nm,0.6s,baz=59,slow=5.5,SNR=7.0
comp=N,3.2nm,0.6s
CMAR Chiang Mai Arr 75.56 281 P P 07 55 14.4 +0.5
comp=N,1.5nm,0.6s,baz=26,slow=6.1,SNR=7.1
comp=N,1.5nm,0.6s
WRA Warramunga Arr 85.98 230 P P 07 56 08.8 -0.6
comp=N,0.4nm,0.9s,baz=36,slow=5.7,SNR=4.7
comp=N,0.4nm,0.9s
ASAR Alice Springs 89.38 229 P **P 07 56 25.6 -0.1**
comp=N,0.7nm,0.5s,baz=25,slow=4.9,SNR=14
comp=N,0.7nm,0.5s
RPZ Rata Peaks 96.69 193 LR LR 08 34 21.7
comp=N,138nm,21.7s,baz=179,slow=32
BOSA Boshof 153.49 326 PKPbc **PKPbc 08 03 26.2 -1.2**
comp=N,0.4nm,0.4s,baz=331,slow=3.9,SNR=5.9

STR 25 07:47:22.3±1.4, 48°N±5°×1°0E±°, h0km, MLv1.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=81.6, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUT	**Gutenstein**	**0.55**	**239**	Pg	Pg	07 47 33.0	+0.2
SLE	**Schleitheim**	**1.07**	**237**	Pg	Pg	07 47 42.7	-0.1
SLE	**Schleitheim**	**1.07**	**237**	Sg	Sb	07 47 58.2	0.0
OPP	**Oppenau**	**1.09**	**278**	Pg	Pg	07 47 43.6	+0.3
OPP	**Oppenau**	**1.09**	**278**	Sg	Sb	07 47 58.4	-0.6
BABA	**Baden-Baden-Ne**	**1.14**	**289**	Pg	Pg	07 47 43.7	-0.4
BABA				Pn	Pb	07 47 44.5	-0.3
BABA	**Baden-Baden-Ne**	**1.14**	**289**	Sg	Sg	07 47 59.5	+0.6
FELD	**Feldberg im Sc**	**1.31**	**249**	Pg	Pg	07 47 46.0	-1.4
FELD	**Feldberg im Sc**	**1.31**	**249**	Sg	Sb	07 48 05.1	-0.1
KIZ	**Kirchzarten**	**1.33**	**253**	Pg	Pg	07 47 47.6	-0.2
KIZ	**Kirchzarten**	**1.33**	**253**	Sg	Sg	07 48 05.2	0.0
ENDD	**Endenburg**	**1.54**	**246**	Pn	Pn	07 47 48.5	-2.5

*IDC **25** 07:49:21.1±5.3, 23°.37S×179°.70W, h516km±55km, mb3.3/7, mbtmp4.2/8, Error ellipse: s-maj=35.3km s-min=20.9km az=42.0*
*NEIC **25** 07:49:23.3±1.9, 23°.5S±0°.1×179°.6W±0°.2, h542km±9km, mb4.4/28, Error ellipse: s-maj=21.6km s-min=16.6km az=119.0*
ISC 25 07:49:22.7±0.5, 23°.48S±0°.08×179°.7W±0°.1, h536km, n72, σ1.9 30/70, mb4.1/18, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.10**	**339**	P	**P**	**07 51 03.3**	**+1.5**
NIUE	**Niue**	**10.10**	**66**	P	**P**	**07 51 42.9**	**+1.4**
AFI	**Afiamalu**	**12.11**	**40**	P	**P**	**07 52 00.2**	**-2.4**
KUZ	**Kuaotunu**	**13.80**	**196**	P	**P**	**07 52 21.7**	**+2.0**
ETAZ	**East Tamaki Re**	**14.21**	**198**	P	**P**	**07 52 26.7**	**+2.7**
MKAZ	**Moumakai**	**14.28**	**197**	P	**P**	**07 52 26.7**	**+2.0**
WMGZ	**Waiomatatini S**	**14.38**	**186**	P	**P**	**07 52 27.1**	**+1.4**
AWAZ	**Awhitu Peninsu**	**14.39**	**199**	P	**P**	**07 52 27.8**	**+1.9**
HAZ	**Te Kaha**	**14.39**	**188**	P	**P**	**07 52 26.9**	**+1.1**
PKGZ	**Pakihiroa**	**14.46**	**187**	P	**P**	**07 52 28.8**	**+2.1**
RUGZ	**Raukumara Rang**	**14.61**	**188**	P	**P**	**07 52 28.7**	**+0.4**
PUZ	**Puketiti**	**14.65**	**186**	P	**P**	**07 52 29.6**	**+1.0**
TWGZ	**Tauwhareparae**	**14.78**	**187**	P	**P**	**07 52 31.2**	**+1.2**
TOZ	**Tahuroa Road**	**14.79**	**195**	P	**P**	**07 52 31.9**	**+1.9**
TOZ	**Tahuroa Road**	**14.79**	**195**	P	**P**	**07 52 27.8**	**-2.3**
URZ	**Urewera**	**14.98**	**190**	P	**P**	**07 52 30.3**	**-1.7**
	6.1nm,0.3s,baz=321,slow=3.7,SNR=15						
URZ				S	**S**	**07 55 03.8**	**-4.2**
	5.8nm,0.7s,baz=288,slow=16,SNR=2.2						
URZ	**Urewera**	**14.98**	**190**	P	**P**	**07 52 30.8**	**-1.2**
MWZ	**Matawai**	**14.99**	**189**	P	**P**	**07 52 31.8**	**-0.4**
TKGZ	**Te Karaka**	**15.06**	**187**	P	**P**	**07 52 33.5**	**+0.7**
RTZ	**Ruatahuna**	**15.35**	**190**	P	**P**	**07 52 34.2**	**-1.7**
RTZ				IAmb	IAmb	07 53 07.2	
	comp=Z,19nm,1.1s						
BKZ	**Black Stump Fm**	**15.97**	**191**	P	**P**	**07 52 40.0**	**-2.2**
BKZ				IAmb	IAmb	07 53 03.6	
	comp=Z,23nm,1.4s						
MRZ	**Mangataiinoka R**	**17.59**	**192**	P	**P**	**07 52 56.0**	**-1.3**
MRZ				IAmb	IAmb	07 52 57.2	
	comp=Z,9.5nm,0.5s						
TKNZ	**Takaka Hill**	**18.56**	**198**	P	**P**	**07 53 07.1**	**+0.9**
TUWZ	**Tuamarina**	**18.68**	**195**	P	**P**	**07 53 08.3**	**+1.1**
THZ	**Tophouse**	**19.25**	**197**	P	**P**	**07 53 13.5**	**+1.0**
KHZ	**Kahutara**	**19.71**	**195**	P	**P**	**07 53 17.1**	**+0.6**
KHZ				IAmb	IAmb	07 53 20.6	
	comp=Z,15nm,0.8s						
LTZ	**Lake Taylor**	**20.37**	**197**	P	**P**	**07 53 22.8**	**+0.1**
INZ	**Inchbonnie**	**20.55**	**199**	P	**P**	**07 53 24.3**	**0.0**
OXZ	**Oxford**	**20.94**	**197**	P	**P**	**07 53 28.1**	**+0.3**
RPZ	**Rata Peaks**	**21.58**	**199**	P	**P**	**07 53 34.0**	**+0.5**
EIDS	**Eidsvold**	**26.66**	**260**	P	**P**	**07 54 19.8**	**+0.8**
EIDS				IAmb	IAmb	07 54 23.6	
	comp=Z,7.1nm,1.4s						
CAN	**Canberra**	**29.60**	**239**	P	**P**	**07 54 45.8**	**+1.3**
CAN				IAmb	IAmb	07 54 56.5	
	comp=Z,38nm,1.5s						
CTAO	**Charters Tower**	**31.77**	**269**	P	**P**	**07 55 03.7**	**+0.4**
CTAO				IAmb	IAmb	07 55 04.5	
	comp=Z,4.6nm,0.6s						
TOO	**Toolangi**	**32.92**	**237**	P	**P**	**07 55 13.7**	**+0.9**
AS31	**Alice Springs**	**42.39**	**260**	P	**P**	**07 56 29.8**	**-0.6**
ASAR	**Alice Springs**	**42.39**	**260**	P	**P**	**07 56 29.4**	**-1.0**
ASAR	**Alice Springs**	**42.39**	**260**	P	**P**	**07 56 30.4**	**0.0**
	comp=Z,1.4nm,0.5s,baz=99,slow=6.9,SNR=22						
	comp=Z,1.4nm,0.5s						
WR0	**Warramunga Arr**	**42.54**	**266**	P	**P**	**07 56 30.8**	**-0.8**
WR0				IAmb	IAmb	07 56 51.9	
	comp=Z,8.3nm,1.4s						
WB2	**Warramunga Arr**	**42.71**	**266**	P	**P**	**07 56 32.0**	**-0.9**
WB2				IAmb	IAmb	07 56 32.6	
	comp=Z,3.4nm,0.6s						
WB0	**Warramunga Arr**	**42.72**	**266**	P	**P**	**07 56 32.4**	**-0.6**
WB0				IAmb	IAmb	07 56 39.4	
	comp=Z,5.7nm,1.4s						
WRAB	**Tennant Creek**	**42.72**	**266**	P	**P**	**07 56 31.8**	**-1.1**
WRA	**Warramunga Arr**	**42.73**	**266**	P	**P**	**07 56 32.4**	**-0.6**
WRA	**Warramunga Arr**	**42.73**	**266**	P	**P**	**07 56 32.3**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=90,slow=5.9,SNR=95						
	comp=Z,2.1nm,0.5s						
FORT	**Forrest**	**46.73**	**249**	P	**P**	**07 57 02.7**	**-0.9**
FORT				IAmb	IAmb	07 57 36.0	
	comp=Z,20nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.15**	**265**	P	**P**	**07 57 36.6**	**+0.1**
MBWA	**Marble Bar**	**55.73**	**260**	P	**P**	**07 58 08.6**	**-0.4**
MBWA				IAmb	IAmb	07 58 08.7	
	comp=Z,4.9nm,0.5s						
QSPA	**South Pole Qui**	**66.60**	**180**	P	**P**	**07 59 21.1**	**+1.5**
QSPA	**South Pole Qui**	**66.60**	**180**	P	**P**	**07 59 21.1**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=294,slow=1.4,SNR=7.8						
	comp=Z,0.9nm,0.6s						
KIWB	**Kanaga Island**	**75.04**	**2**	P	**P**	**08 00 09.1**	**-0.1**
ADK	**Adak**	**75.08**	**2**	P	**P**	**08 00 09.1**	**-0.3**
ADK				IAmb	IAmb	08 00 31.0	
	comp=Z,16nm,1.4s						
BELA	**Belgrano 2**	**76.81**	**173**	P	**P**	**08 00 19.2**	**+0.5**
KSRS	**Korea Array**	**78.11**	**320**	P	**P**	**08 00 25.3**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=134,slow=4.4,SNR=2.0						
	comp=Z,0.5nm,0.3s						
N15K	**Kwethluk River**	**84.88**	**10**	P	**P**	**08 01 01.0**	**+0.6**
N15K				IAmb	IAmb	08 01 16.9	
	comp=Z,17nm,1.5s						
SNAA	**Sanae**	**85.08**	**179**	P	**P**	**08 01 01.4**	**-0.1**
SNAA	**Sanae**	**85.08**	**179**	P	**P**	**08 01 01.2**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=204,slow=10,SNR=8.6						
	comp=Z,1.1nm,0.9s						
O18K	**Koktuh Hills**	**85.43**	**12**	P	**P**	**08 01 02.9**	**-0.3**
O18K				IAmb	IAmb	08 01 16.9	
	comp=Z,24nm,1.4s						
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**08 01 25.6**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=124,slow=3.3,SNR=4.7						
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**89.97**	**58**	P	**P**	**08 01 26.6**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=206,slow=5.2,SNR=4.5						
	comp=Z,0.6nm,0.7s						
MKAR	**Makanchi Array**	**112.08**	**313**	PKiKP	**PKiKP**	**08 06 55.9**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=190,slow=0.9,SNR=5.5						
BVAR	**Borovoye Array**	**120.32**	**319**	PKP	**PKPdf**	**08 07 11.6**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=90,slow=1.5,SNR=3.5						
AKTO	**Aktyubinsk**	**128.20**	**317**	PKP	**PKPdf**	**08 07 26.9**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=63,slow=6.8,SNR=3.7						
FINES	**FINESS Array B**	**138.14**	**342**	PKP	**PKPdf**	**08 07 46.5**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=104,slow=5.9,SNR=3.8						
NB2	**NORSAR Subarra**	**141.71**	**351**	PKP	PKPpre	08 07 47.6	
	comp=Z,0.4nm,0.5s,baz=21,slow=3.7						
NOA	**NORSAR Array B**	**141.71**	**351**	PKhKP	PKPpre	08 07 47.8	
	comp=Z,0.4nm,0.5s,baz=22,slow=3.8,SNR=4.1						
HFS	**Hagfors**	**142.19**	**349**	PKhKP	PKPpre	08 07 49.0	
	comp=Z,3.7nm,0.3s,baz=63,slow=3.2,SNR=61						
AKASG	**Malin Array Be**	**144.78**	**328**	PKP	**PKPdf**	**08 07 57.7**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=46,slow=4.3,SNR=8.2						
AKBB	**Malin Array Si**	**144.78**	**328**		**PKPdf**	**08 07 57.3**	**-1.0**
KIEV	**Kiev**	**144.79**	**328**		**PKPdf**	**08 07 56.9**	**-1.5**
BRTR	**Keskin Array B**	**147.56**	**308**	PKPdf	**PKPdf**	**08 08 02.9**	**-0.6**
BRTR	**Keskin Array B**	**147.56**	**308**	PKPbc	**PKPbc**	**08 08 06.2**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=105,slow=3.6,SNR=4.2						
MMAI	**Mount Meron Ar**	**147.79**	**295**	PKPbc	**PKPbc**	**08 08 08.2**	**+0.4**
	comp=Z,2.3nm,0.4s,baz=81,slow=4.5,SNR=6.0						
EKA	**Eskdalemuir Ar**	**148.09**	**4**	PKPbc	**PKPbc**	**08 08 06.8**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=338,slow=2.3,SNR=9.9						

*IGQ **25** 07:51:27.8±0.2, 2°S±1°×7°8W±°, h151km, M4.6/54*
*IDC **25** 07:51:28.8±0.5, 2°.01S×77°.56W, h148km±4km, mb3.9/19, mbtmp4.4/25, MS3.2/5, Error ellipse: s-maj=13.1km s-min=7.5km az=71.0*
*RSNC **25** 07:51:29.5±0.6, 2°S±1°×7°8W±°, h151km±4km, M4.5, mb5.0, mB5.4, ML3.6, Mw(mB)4.9*
*NEIC **25** 07:51:29.6±2.1, 2°.01S±0°.06×77°.56W±0°.09, h151km±7km, mb4.5/175, Error ellipse: s-maj=13.6km s-min=7.6km az=61.0*
*VAO **25** 07:51:29.4±0.5, 2°.09S×77°.45W, h136km±3km, mb4.7*
ISC 25 07:51:28.4±0.4, 2°.11S±0°.03×77°.64W±0°.04, h147km±3km, h147km:pP-P, n633, σ0.91/606, mb4.5/107, 5C-1D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAIS	**Taisha**	**0.30**	**152**	P	**Pn**	**07 51 49.1**	**+0.4**
TAIS				S	**Sn**	**07 52 04.9**	**+0.8**
PUYO	**Puyo, Santa Ro**	**0.72**	**328**	P	**Pn**	**07 51 50.5**	**-0.5**
PUYO				S	**Sn**	**07 52 07.9**	**-0.2**
SANGA	**Volcan Sangay**	**0.73**	**275**	P	**Pn**	**07 51 50.8**	**-0.6**
BPAT	**Tungurahua Vol**	**0.99**	**307**	P	**Pn**	**07 51 52.8**	**-0.7**
BPAT				S	**Sn**	**07 52 11.4**	**-1.0**
ARRY	**Arrayan**	**1.01**	**307**	P	**Pn**	**07 51 52.6**	**-0.9**
ARRY				S	**Sn**	**07 52 11.2**	**-1.3**
BULB	**Ulba Tungurahu**	**1.02**	**311**	P	**Pn**	**07 51 52.7**	**-0.8**
BULB				S	**Sn**	**07 52 11.6**	**-1.0**
BMAS	**Trigal station**	**1.03**	**306**	P	**Pn**	**07 51 53.0**	**-0.6**
BMAS				S	**Sn**	**07 52 12.0**	**-0.8**
TUYU	**Q. Yuibug Volc**	**1.04**	**307**	P	**Pn**	**07 51 53.2**	**-0.6**
TUYU				S	**Sn**	**07 52 12.7**	**-0.3**
BBIL	**Ulba Tungurahu**	**1.07**	**308**	P	**Pn**	**07 51 53.4**	**-0.5**
BBIL				S	**Sn**	**07 52 12.9**	**-0.4**
JUI6	**Juive**	**1.07**	**310**	P	**Pn**	**07 51 53.2**	**-0.7**
BIL2	**Estacion Bilba**	**1.08**	**307**	P	**Pn**	**07 51 53.8**	**-0.2**
ARDO	**Archidona, Ten**	**1.12**	**352**	P	**Pn**	**07 51 53.4**	**-0.7**
ARDO				S	**Sn**	**07 52 12.5**	**-1.2**
IGUA	**Igualata**	**1.17**	**302**	P	**Pn**	**07 51 54.5**	**-0.6**
ALAU	**Alaus, Posada**	**1.21**	**266**	P	**Pn**	**07 51 54.5**	**-0.8**
PIAT	**Ana Tenorio**	**1.27**	**331**	P	**Pn**	**07 51 55.4**	**-0.5**
PIAT				S	**Sn**	**07 52 16.2**	**-0.7**
TAMH	**Tambohuasha Ch**	**1.27**	**296**	P	**Pn**	**07 51 55.8**	**-0.2**
TAMH				S	**Sn**	**07 52 16.7**	**-0.2**
PIS1	**Pisayambo**	**1.28**	**325**	P	**Pn**	**07 51 56.1**	**-0.1**
PIS1				S	**Sn**	**07 52 17.8**	**+0.6**
APSY	**Ecuador-Napo A**	**1.29**	**331**	P	**Pn**	**07 51 55.3**	**-0.7**
PORT	**Chimborazo Vol**	**1.30**	**300**	P	**Pn**	**07 51 56.3**	**-0.1**
PORT				S	**Sn**	**07 52 17.8**	**+0.2**
BOSC	**San Juan Bosco**	**1.34**	**219**	P	**Pn**	**07 51 55.9**	**-0.4**
BOSC				S	**Sn**	**07 52 17.3**	**-0.3**
AZOG	**Ecuador-Azogue**	**1.36**	**242**	P	**Pn**	**07 51 55.4**	**-1.3**
CHSH	**Refugio Sur-Vo**	**1.37**	**297**	P	**Pn**	**07 51 56.4**	**-0.7**
CHSH				S	**Sn**	**07 52 18.4**	**-0.5**
VCES	**Cotopaxi**	**1.50**	**330**	P	**Pn**	**07 51 58.6**	**+0.2**
VCES				S	**Sn**	**07 52 22.9**	**+1.6**
ACUE	**Ecuador-Cuenca**	**1.53**	**239**	P	**Pn**	**07 51 58.6**	**0.0**
ACUE				S	**Sn**	**07 52 23.0**	**+1.5**
BRRN	**Barrancas-Volc**	**1.56**	**328**	P	**Pn**	**07 51 59.1**	**+0.2**
BRRN				S	**Sn**	**07 52 23.2**	**+1.0**
TAMB	**Tambo**	**1.58**	**333**	P	**Pn**	**07 51 59.6**	**+0.2**
BMOR	**Cotopaxi Volca**	**1.60**	**329**	P	**Pn**	**07 51 59.7**	**+0.3**
BMOR				S	**Sn**	**07 52 24.0**	**+0.9**
BTAM	**Cotopaxi Volca**	**1.61**	**332**	P	**Pn**	**07 51 59.8**	**+0.1**
SLOR	**San Lorenzo -**	**1.62**	**328**		**Pn**	**07 51 59.7**	**+0.1**
SLOR	**San Lorenzo -**	**1.62**	**328**	P	**Pn**	**07 51 59.7**	**+0.1**
SLOR				S	**Sn**	**07 52 24.2**	**+0.9**
BVC2	**Cotopaxi Volca**	**1.64**	**332**	P	**Pn**	**07 52 00.2**	**+0.3**
SRAM	**San Ramn-Vol**	**1.64**	**326**	P	**Pn**	**07 51 59.9**	**+0.2**
BREF	**Cotopaxi Volca**	**1.64**	**331**	P	**Pn**	**07 52 00.5**	**+0.5**
VC1	**Cotopaxi 1**	**1.65**	**333**	P	**Pn**	**07 52 00.3**	**+0.3**
BNAS	**Cotopaxi Volca**	**1.66**	**330**	P	**Pn**	**07 52 01.4**	**+1.3**
CAMI	**Rancho Maria**	**1.67**	**329**	P	**Pn**	**07 52 00.5**	**+0.3**
ANTM	**Antisana-La Mi**	**1.67**	**340**	P	**Pn**	**07 52 00.4**	**+0.2**
ANTM				S	**Sn**	**07 52 24.9**	**+0.4**
NAS2	**Nasa**	**1.68**	**331**	P	**Pn**	**07 52 00.9**	**+0.6**
ANTS	**Antisana-Sarah**	**1.69**	**342**		**Pn**	**07 52 00.7**	**+0.2**
ANTS	**Antisana-Sarah**	**1.69**	**342**	P	**Pn**	**07 52 00.7**	**+0.2**
ANTS				S	**Sn**	**07 52 26.0**	**+1.0**
ANTG	**Antisana-Guama**	**1.71**	**339**	P	**Pn**	**07 52 00.9**	**+0.1**
ANTG				S	**Sn**	**07 52 26.0**	**+0.6**
PAST	**Pastocalle**	**1.73**	**325**	P	**Pn**	**07 52 01.2**	**+0.5**
ANTI	**Antisana**	**1.73**	**343**	P	**Pn**	**07 52 01.2**	**+0.3**
PITA	**Cotopaxi Volc**	**1.73**	**333**	P	**Pn**	**07 52 01.2**	**+0.3**
ILLI	**Illinizas Sur**	**1.76**	**322**	P	**Pn**	**07 52 01.2**	**-0.1**
PU07	**PU07**	**1.81**	**263**	P	Pn	07 51 58.4	-2.8
ABAB	**Ecuador-Univer**	**1.89**	**279**	P	**Pn**	**07 51 59.4**	**-2.7**
PU05	**PU05**	**1.90**	**257**	P	**Pn**	**07 52 00.7**	**-1.6**
MILO	**Milagro-Astudi**	**1.92**	**265**	P	**Pn**	**07 52 00.5**	**-2.0**
MILO				S	**Sn**	**07 52 25.6**	**-2.9**
TING	**Casa Alexandra**	**1.99**	**336**	P	**Pn**	**07 52 04.2**	**+0.6**
REVS	**Reventador Sur**	**1.99**	**1**	P	**Pn**	**07 52 03.5**	**-0.1**
PU06	**PU06**	**2.00**	**261**	P	**Pn**	**07 52 01.8**	**-1.7**
LAV4	**Lava4-Reventad**	**2.01**	**0**	P	**Pn**	**07 52 03.7**	**-0.1**
REVN	**San Rafael**	**2.02**	**1**	P	**Pn**	**07 52 03.9**	**-0.1**
PU04	**PU04**	**2.02**	**254**	P	**Pn**	**07 52 01.8**	**-1.9**
EPNL	**EPN Laboratori**	**2.07**	**336**	P	**Pn**	**07 52 05.4**	**+0.7**
GGPT	**Toaza - Volcan**	**2.12**	**333**	P	**Pn**	**07 52 05.0**	**-0.1**
JUA2	**San Juan 2**	**2.12**	**333**	P	**Pn**	**07 52 05.0**	**-0.3**
AQUE	**Quevedo**	**2.13**	**300**	P	**Pn**	**07 52 04.3**	**-0.6**
HPAL	**Hacienda Las P**	**2.13**	**332**	P	**Pn**	**07 52 05.5**	**+0.1**
GGPC	**Guagua Pichinc**	**2.14**	**334**	P	**Pn**	**07 52 05.6**	**-0.1**
CAYR	**Refugio Cayamb**	**2.15**	**350**	P	**Pn**	**07 52 06.5**	**+0.7**
PCRA	**Pucara 2**	**2.15**	**240**	P	**Pn**	**07 52 03.6**	**-2.1**
TERV	**Terraza Guagua**	**2.15**	**333**	P	**Pn**	**07 52 05.8**	**0.0**
PINO	**Pino**	**2.17**	**334**	P	**Pn**	**07 52 05.9**	**-0.1**
ANGU	**Angureal**	**2.18**	**350**	P	**Pn**	**07 52 06.6**	**+0.5**
YANA	**Yana**	**2.19**	**335**	P	**Pn**	**07 52 06.0**	**-0.2**
CAYA	**Cayambe**	**2.20**	**351**	P	**Pn**	**07 52 06.8**	**+0.5**
GYE3	**Ecuador-Guayaq**	**2.25**	**269**	P	Pn	07 52 03.6	-2.9
CASC	**Dorado de Casc**	**2.25**	**8**	P	**Pn**	**07 52 06.4**	**-0.2**
PULU	**Pululahua**	**2.29**	**338**		**Pn**	**07 52 06.9**	**-0.3**
PULU	**Pululahua**	**2.29**	**338**	P	**Pn**	**07 52 06.9**	**-0.3**
PU03	**PU03**	**2.30**	**250**	P	Pn	07 52 04.0	-3.0
AGUAY	**Guayaquil**	**2.31**	**271**	P	Pn	07 52 04.3	-2.8
ALJ1	**Ecuador-Loja-U**	**2.42**	**220**	P	**Pn**	**07 52 07.2**	**-1.6**
IMBA	**Imbabura, San**	**2.44**	**347**		**Pn**	**07 52 10.1**	**+1.0**
IMBA	**Imbabura, San**	**2.44**	**347**	P	**Pn**	**07 52 10.1**	**+1.0**
ACH2	**Ecuador-Machal**	**2.45**	**242**	P	Pn	07 52 06.3	-2.5
OTAV	**Otavalo**	**2.47**	**341**		**Pn**	**07 52 09.1**	**-0.4**
OTAV	**Otavalo**	**2.47**	**341**	P	**Pn**	**07 52 09.2**	**-0.4**
OTAV	**Otavalo**	**2.47**	**341**	*eP*	**Pn**	**07 52 09.2**	**-0.4**
ACOT	**Cotacachi (Cas**	**2.47**	**345**	P	**Pn**	**07 52 10.4**	**+0.9**
AIB2	**Ibarra (Univer**	**2.48**	**349**	P	**Pn**	**07 52 10.3**	**+0.8**
YAHU	**Yahuarcocha**	**2.50**	**350**	P	**Pn**	**07 52 10.4**	**+0.5**
CUIC	**Cuicocha-Domo**	**2.51**	**343**	P	**Pn**	**07 52 10.0**	**+0.1**
PU02	**PU02**	**2.51**	**254**	P	**Pn**	**07 52 07.9**	**-1.7**
CUSE	**Cuicocha Este**	**2.52**	**343**	P	**Pn**	**07 52 10.0**	**-0.1**
COTA	**Cotacachi**	**2.53**	**344**	P	**Pn**	**07 52 10.8**	**+0.4**
ACH1	**Ecuador-Univer**	**2.55**	**243**	P	Pn	07 52 07.5	-2.5
BONI	**La Bonita**	**2.55**	**3**	P	**Pn**	**07 52 10.1**	**-0.2**
URCU	**Urcuqui**	**2.61**	**346**	P	**Pn**	**07 52 11.6**	**+0.4**
ISPG	**Isla Puna-Puer**	**2.66**	**251**	P	**Pn**	**07 52 10.1**	**-1.4**
PU01	**PU01**	**2.67**	**255**	P	Pn	07 52 09.0	-2.6
GONZ	**Gonzanam**	**2.74**	**220**	P	**Pn**	**07 52 11.6**	**-1.2**
MORR	**Playas El Morr**	**2.74**	**259**	P	**Pn**	**07 52 10.4**	**-2.1**
PECV	**Mancha de Ca P**	**2.75**	**299**	P	**Pn**	**07 52 13.9**	**+1.3**
FLF1	**Flavio Alfaro-**	**2.81**	**308**	P	**Pn**	**07 52 11.8**	**-1.5**
TULM	**Tulcn-Chalpat**	**2.81**	**357**		**Pn**	**07 52 14.4**	**+0.5**
TULM	**Tulcn-Chalpat**	**2.81**	**357**	P	**Pn**	**07 52 14.3**	**+0.5**
ACHN	**Ecuador-Chone-**	**2.81**	**300**	P	**Pn**	**07 52 12.2**	**-1.1**
LNGL	**El Angel-Carch**	**2.86**	**353**	P	**Pn**	**07 52 15.3**	**+0.9**
CHL1	**Volc|n Chiles**	**2.90**	**354**	P	**Pn**	**07 52 15.7**	**+0.6**
CHL2	**Volc|n Chiles**	**2.91**	**355**	P	**Pn**	**07 52 16.1**	**+1.0**
MAG1	**Magdalena**	**2.94**	**314**	P	**Pn**	**07 52 13.6**	**-1.4**
AV18	**Acelerografo,**	**3.03**	**323**	P	**Pn**	**07 52 15.2**	**-0.9**
LAMO	**ALAMOR**	**3.03**	**231**	P	Pn	07 52 13.5	-2.8
CMBC	**Cumbal**	**3.04**	**357**	P	**Pn**	**07 52 17.6**	**+0.9**
ZUMB	**Zumba**	**3.12**	**209**	P	**Pn**	**07 52 16.7**	**-0.6**
JAMA	**Jama**	**3.15**	**306**	P	**Pn**	**07 52 15.1**	**-2.7**
PPLP	**Puerto Lpez**	**3.18**	**280**	P	Pn	07 52 14.5	-3.6
PPLP				S	Sn	07 52 49.3	-7.1
PPLP	**Puerto Lpez**	**3.18**	**280**	P	Pn	07 52 14.8	-3.3
AMCR	**Ecuador-Macara**	**3.22**	**226**	P	Pn	07 52 15.6	-2.9
MCRA	**Macar, Loja**	**3.22**	**226**	P	Pn	07 52 15.5	-3.0
SALI	**Salinas**	**3.34**	**269**	P	**Pn**	**07 52 17.6**	**-2.5**
ISPT	**Isla de la Pla**	**3.53**	**284**	P	**Pn**	**07 52 20.0**	**-2.6**
RVRD	**Rio Verde**	**3.61**	**331**	P	**Pn**	**07 52 22.1**	**-1.5**
PTLC	**Puerto Leguiza**	**3.64**	**51**	P	**Pn**	**07 52 21.6**	**-2.4**
TUMC	**Tumaco**	**4.06**	**345**	P	**Pn**	**07 52 29.0**	**-0.4**
BBAC	**Balboa, Cauca**	**4.13**	**6**	P	**Pn**	**07 52 30.8**	**+0.3**
ATAH	**Atahualpa**	**5.04**	**189**	P	**Pn**	**07 52 43.7**	**+0.9**
	111nm,0.4s,baz=22,slow=9.6,SNR=238						
ATAH				S	**Sn**	**07 53 42.3**	**+1.5**
	284nm,0.7s,baz=220,slow=23,SNR=20						
MALC	**Bahia Malaga**	**6.09**	**3**	P	**Pn**	**07 52 54.7**	**-1.7**
CZSB	**Cruzeiro do Su**	**7.44**	**139**	Pn	**Pn**	**07 53 15.0**	**+0.6**
CZSB	**Cruzeiro do Su**	**7.44**	**139**	*eP*	**Pn**	**07 53 14.7**	**+0.3**
CZSB				*eS*	**Sn**	**07 54 34.4**	**-3.1**
ROSC	**El Rosal**	**7.66**	**26**	Pn	**Pn**	**07 53 18.0**	**+0.2**
ROSC	**El Rosal**	**7.66**	**26**	P	**Pn**	**07 53 16.5**	**-1.3**
	22nm,0.7s,baz=168,slow=12,SNR=13						
TBTG	**Tabatinga, AM**	**7.99**	**105**		**Pn**	**07 53 20.9**	**-1.0**
TBTG	**Tabatinga, AM**	**7.99**	**105**	P	**Pn**	**07 53 20.8**	**-1.0**
	299nm,0.8s,6µm						
TBTG				S	**Sn**	**07 54 46.6**	**-4.3**
	299nm,0.8s,6µm						
TBTG	**Tabatinga, AM**	**7.99**	**105**	*eP*	**Pn**	**07 53 20.7**	**-1.1**
TBTG				*eS*	**Sn**	**07 54 46.9**	**-4.1**
NNA	**Nana**	**9.84**	**175**	P	**Pn**	**07 53 46.4**	**-0.1**

baz=176
RODS Rosario do Sul 35.23 145 *e*P **P 07 58 09.3 +0.4**
JANB Januaria 35.30 113 *e*P **P 07 58 09.7 -0.1**
GOGA Godfrey 35.76 352 P **P 07 58 13.0 -0.3**
baz=170
TBOT Tacuaremb 35.84 147 *e*P **P 07 58 15.0 +1.0**
LRAL Lakeview Retre 36.06 347 P **P 07 58 16.1 +0.3**
baz=164
NBPS Pedro II - PI 36.21 95 *e*P **P 07 58 17.7 +0.1**
CPSB Cacapava Do Su 36.30 143 *e*P **P 07 58 18.1 +0.1**
833A Chaparral WMA, 36.77 327 P **P 07 58 22.0 0.0**
baz=142
DIAM Diamantina, MG 36.98 118 *e*P **P 07 58 24.6 +0.4**
BSCB Bom Sucesso 37.12 123 *e*P **P 07 58 25.7 +0.5**
KMSC Kings Mountain 37.22 355 P **P 07 58 25.6 0.0**
baz=174
HNDO Hondo 37.66 328 IAmb IAmb 07 58 31.0
comp=Z,11nm,0.7s
GO06 Curarrehue 37.72 172 IAmb IAmb 07 58 32.5
comp=Z,8.2nm,0.8s
NBPN Ponto Novo - B 38.16 105 *e*P **P 07 58 34.3 +0.3**
V48A Smith Brothers 38.62 348 IAmb IAmb 07 58 37.0
comp=Z,7.4nm,0.7s
JCT Junction City 38.69 329 P **P 07 58 38.4 +0.3**
baz=143
WHTX Lake Whitney, 38.78 333 P **P 07 58 39.4 +0.6**
baz=147
TZTN Tazewell 38.85 352 P **P 07 58 39.1 -0.3**
baz=170
BRDY Brady 38.93 330 IAmb IAmb 07 59 19.2
comp=Z,8.6nm,1.4s
PLCA Paso Flores 38.98 171 P **P 07 58 42.2 +1.7**
comp=Z,17nm,0.8s,baz=343,slow=9.5,SNR=44
PLCA PcP **PcP 08 00 48.8 +0.9**
comp=Z,0.9nm,0.8s,baz=352,slow=6.4,SNR=3.6
comp=Z,17nm,0.8s
PLCA Paso Flores 38.98 171 *e*P **P 07 58 42.6 +2.1**
NBMA Muriti-CE 39.08 99 *e*P **P 07 58 42.0 +0.4**
BLA Blacksburg 39.21 356 P **P 07 58 42.3 -0.1**
baz=176
WVT Waverly 39.22 347 P **P 07 58 42.6 +0.2**
baz=164
SJMB Sao Joao De Ma 39.33 117 *e*P **P 07 58 43.9 +0.3**
BSFB Barra de Sao F 39.68 117 *e*P **P 07 58 46.3 -0.1**
OZNA Ozona 39.74 328 P **P 07 58 47.4 +0.5**
OZNA IAmb IAmb 07 59 24.7
comp=Z,6.3nm,1.1s
CMC01 Camacan, BA 39.82 112 *e*P **P 07 58 48.4 +0.7**
PLPT Palo Pinto 39.86 332 IAmb IAmb 07 58 49.0
comp=Z,8.2nm,0.8s
NBTA Tacaratu-PE 39.97 102 *e*P **P 07 58 49.7 +0.7**
TXAR Lajitas Array 39.98 323 P **P 07 58 49.3 +0.3**
comp=Z,1.4nm,0.8s,baz=147,slow=8.8,SNR=15
TXAR pP **pP 07 59 22.9 +1.1**
comp=Z,0.5nm,0.8s,baz=134,slow=7.2,SNR=2.6
TXAR PcP **PcP 08 00 52.1 +0.8**
comp=Z,2.5nm,0.7s,baz=148,slow=6.7,SNR=20
TXAR LR LR 08 14 51.1
comp=Z,49nm,20.7s,baz=316,slow=35
comp=Z,1.4nm,0.8s
ABTX Abilene, Hawle 40.34 331 IAmb IAmb 07 58 53.0
comp=Z,6.5nm,0.8s
ABTX Abilene, Hawle 40.34 331 P **P 07 58 51.8 +0.1**
baz=145
LL01 San Ignacio de 40.36 174 P **P 07 58 52.6 +0.9**
LL01 IAmb IAmb 07 58 53.6
comp=Z,14nm,0.8s
PBMO Poplar Bluff 40.48 344 IAmb IAmb 07 58 52.3
comp=Z,5.8nm,0.4s
NBLA Lagarto - SE 40.52 104 *e*P **P 07 58 53.4 -0.1**
SGCY Sterling City 40.52 329 IAmb IAmb 07 58 54.4
comp=Z,13nm,0.8s
NBPA Parau_RN 40.59 96 *e*P **P 07 58 54.5 +0.4**
ALPN Alpine 40.73 325 IAmb IAmb 07 58 56.7
comp=Z,7.6nm,1.0s
APMT Aspermont 41.14 331 IAmb IAmb 07 58 59.7
comp=Z,5.6nm,0.8s
MGMO Mountain Grove 41.36 342 IAmb IAmb 07 59 00.3
comp=Z,12nm,1.4s
TUL3 Leonard 41.45 338 P **P 07 59 00.8 0.0**
baz=152
WMOK Wichita Mounta 41.68 333 P **P 07 59 02.7 0.0**
WMOK Wichita Mounta 41.68 333 P **P 07 59 02.2 -0.5**
baz=147,SNR=6.0
P52A Corning 41.75 355 IAmb IAmb 07 59 02.7
comp=Z,8.7nm,0.7s
P52A Corning 41.75 355 P **P 07 59 02.2 -0.9**
baz=173
DKNS Dickens 41.81 330 IAmb IAmb 07 59 05.3
comp=Z,10nm,0.7s
CCM Cathedral Cave 41.90 344 P **P 07 59 03.4 -1.0**
baz=159
P49A Miami Univ. Ec 41.95 352 P **P 07 59 04.3 -0.4**
baz=169
O53A New Philadelph 42.28 356 P **P 07 59 06.9 -0.6**
baz=175
ACSO Alum Creek Sta 42.42 354 IAmb IAmb 07 59 08.5
comp=Z,12nm,0.8s
ACSO Alum Creek Sta 42.42 354 P **P 07 59 07.7 -0.9**
baz=172
SSPA Standing Stone 42.55 360 P **P 07 59 08.6 -0.9**
baz=180
MNTX Cornudas Mount 42.71 324 P **P 07 59 10.5 -0.6**
baz=137,SNR=6.2
O48B Farmland 42.72 352 P **P 07 59 10.2 -0.8**
baz=169
MSTX Muleshoe 42.98 329 IAmb IAmb 07 59 49.1
comp=Z,22nm,1.2s
MSTX Muleshoe 42.98 329 P **P 07 59 12.9 -0.5**
baz=141,SNR=5.9
PAL Palisades 43.05 4 P **P 07 59 13.0 -0.6**
baz=185
AMTX Amarillo 43.16 331 IAmb IAmb 07 59 15.7
comp=Z,7.9nm,0.8s
AMTX Amarillo 43.16 331 P **P 07 59 14.4 -0.3**
baz=143
M55A Ridgway 43.39 359 IAmb IAmb 07 59 16.7
comp=Z,8.9nm,0.7s
N47A Urbana 43.41 351 IAmb IAmb 07 59 16.2
comp=Z,15nm,1.3s
COYC Coyhaique 43.56 174 P **P 07 59 18.1 +0.4**
COYC IAmb IAmb 07 59 20.2
comp=Z,19nm,0.9s
BINY Binghamton 44.13 2 P **P 07 59 22.7 +0.4**
baz=182
121A Cookes Peak, D 44.73 323 IAmb IAmb 08 00 05.0
comp=Z,19nm,1.4s
121A Cookes Peak, D 44.73 323 P **P 07 59 27.7 +0.2**
baz=134
319A Douglas 44.87 321 IAmb IAmb 07 59 30.4
comp=Z,9.6nm,0.8s
CBKS Cedar Bluff 45.53 336 P **P 07 59 33.6 +0.1**
baz=148
ANMO Albuquerque 45.70 326 P **P 07 59 35.1 +0.1**
ANMO IAmb IAmb 07 59 36.7
comp=Z,9.0nm,0.8s
ANMO Albuquerque 45.70 326 P **P 07 59 35.3 +0.3**
baz=138
T25A Trinidad 46.29 330 IAmb IAmb 08 00 16.8
comp=Z,12nm,1.1s
T25A Trinidad 46.29 330 P **P 07 59 39.9 +0.2**
baz=141
TUC Tucson 46.44 320 P **P 07 59 41.1 +0.3**
baz=131
LONY Lake Ozonia 46.61 3 P **P 07 59 41.6 -0.2**
baz=184
SDCO Great Sand Dun 47.31 330 IAmb IAmb 07 59 49.3
comp=Z,7.2nm,0.8s
SDCO Great Sand Dun 47.31 330 P **P 07 59 47.9 +0.2**
baz=140,SNR=18
214A Organ Pipe Nat 47.54 318 P **P 07 59 48.8 -0.4**
214A IAmb IAmb 07 59 51.1
comp=Z,8.2nm,0.9s
214A Organ Pipe Nat 47.54 318 P **P 07 59 49.3 +0.1**
baz=129,SNR=6.1
W18A Petrified Fore 47.70 324 P **P 07 59 50.9 +0.4**
baz=134
G65A Princeton 47.95 10 P **P 07 59 49.5 -2.6**
S22A 4UR Ranch, Cre 47.99 329 IAmb IAmb 08 00 30.0
comp=Z,12nm,1.4s
S22A 4UR Ranch, Cre 47.99 329 P **P 07 59 53.1 +0.2**
baz=139,SNR=6.1
OGNE Ogallala 48.28 335 P **P 07 59 55.7 +0.9**
baz=146
MVCO Mesa Verde 48.48 327 P **P 07 59 57.1 +0.5**
baz=137
WUAZ Wupatki 48.94 323 IAmb IAmb 08 00 02.1
comp=Z,12nm,0.9s
WUAZ Wupatki 48.94 323 P **P 08 00 00.8 +0.7**
baz=133,SNR=12
ISCO Idaho Springs 48.96 331 IAmb IAmb 08 00 29.2
comp=Z,8.5nm,0.7s
GLA Glamis 49.55 318 P **P 08 00 05.0 +0.4**
baz=127
PDMCI Parker Dam,Lak 49.87 320 P **P 08 00 07.8 +0.9**
baz=129
N23A Red Feather La 49.97 332 P **P 08 00 08.1 +0.2**
baz=142
SWSC Sam W. Stewart 50.14 317 P **P 08 00 09.7 +0.7**
baz=126
IKP In-Ko-Pah, Jac 50.18 317 P **P 08 00 09.7 +0.4**
baz=126
HMU Henry Mountain 50.24 326 P **P 08 00 10.3 +0.3**
HMU IAmb IAmb 08 00 12.8
comp=Z,7.9nm,0.9s
BC3 Big Chuckawall 50.33 318 P **P 08 00 11.0 +0.5**
baz=127
IRM Iron Mountain 50.43 319 P **P 08 00 12.0 +0.8**
baz=128
O20A White River Ci 50.51 330 P **P 08 00 13.1 +1.2**
baz=139
MONP2 Monument Peak 50.53 317 P **P 08 00 12.9 +0.7**
baz=126
BELC Belle Mtn. Jos 50.90 318 P **P 08 00 15.4 +0.5**
baz=127
PFO Pinyon Flats O 50.98 318 P **P 08 00 16.3 +0.9**
baz=126
109C Camp Elliot, M 51.00 317 P **P 08 00 16.0 +0.6**
baz=125
GMRC Granite Mounta 51.15 319 P **P 08 00 17.1 +0.3**
baz=128
RWWY Rawlins 51.19 332 IAmb IAmb 08 00 53.8
comp=Z,17nm,1.4s
P17A Butcher Ranch, 51.33 327 IAmb IAmb 08 00 54.3
comp=Z,6.2nm,1.0s
MURC Murrieta 51.47 317 P **P 08 00 20.2 +1.2**
baz=126
HEC Hector,Ludlow 51.62 319 P **P 08 00 20.7 +0.5**
baz=127
K22A Casper 51.62 333 P **P 08 00 20.9 +0.8**
baz=142
TUQ Turquoise Moun 51.72 320 P **P 08 00 21.9 +0.9**
baz=128
BSUT Blindstream Ca 52.11 328 P **P 08 00 23.6 -0.5**
BSUT IAmb IAmb 08 01 00.5
comp=Z,13nm,1.4s
BFSC Mount Baldy Ra 52.15 318 P **P 08 00 24.2 +0.1**
baz=126
CIS Catalina Islan 52.19 316 P **P 08 00 24.5 +0.2**
baz=124
GSC Goldstone, Bar 52.21 319 P **P 08 00 24.8 +0.3**
baz=127
SHOC Shoshone, Teco 52.23 320 P **P 08 00 26.0 +1.4**
baz=128
JLU Jordanelle 52.52 328 IAmb IAmb 08 01 03.4
comp=Z,7.0nm,1.1s
DECC Green Verdugo 52.62 317 P **P 08 00 28.6 +1.1**
baz=125
AGMN Agassiz Nation 52.66 345 IAmb IAmb 08 00 26.8
comp=Z,3.8nm,0.5s
EDW2 Edwards Air Fo 52.75 318 P **P 08 00 29.1 +0.6**
baz=126
TPNV Topopah Spring 52.87 321 P **P 08 00 30.3 +0.9**
baz=128,SNR=9.5
LRMC Laurel Mtn Rad 52.90 319 P **P 08 00 30.6 +1.0**
baz=126
FURC Furnace Creek, 52.96 320 P **P 08 00 30.9 +1.0**
baz=128
DUG Dugway, Tooele 52.97 326 IAmb IAmb 08 01 08.4
comp=Z,17nm,1.4s
DUG Dugway, Tooele 52.97 326 P **P 08 00 30.7 +0.6**
baz=134,SNR=8.1
WCT Wildcat Mounta 53.01 321 IAmb IAmb 08 00 32.4
comp=Z,6.1nm,1.1s
SPR3 Spring Creek 3 53.02 324 IAmb IAmb 08 01 07.1
comp=Z,4.8nm,1.0s
MPMC Manual Prospec 53.11 320 P **P 08 00 32.0 +0.7**
baz=127
PDAR Pinedale Array 53.14 331 P **P 08 00 31.0 -0.4**
comp=Z,0.7nm,0.6s,baz=127,slow=8.4,SNR=9.7
PDAR pP **pP 08 01 04.4 -1.4**
comp=Z,1.2nm,1.0s,baz=140,slow=7.7,SNR=3.4
PDAR PcP **PcP 08 01 35.9 -1.8**
comp=Z,0.3nm,0.5s,baz=149,slow=4.2,SNR=3.8
comp=Z,0.7nm,0.6s
BW06 Boulder Array 53.14 331 P **P 08 00 31.5 +0.1**
baz=139
HWUT Hardware Ranch 53.30 329 IAmb IAmb 08 01 08.6
comp=Z,12nm,1.1s
MDND Maddock 53.33 342 P **P 08 00 32.9 +0.5**
baz=152
R11B Troy Canyon, C 53.34 323 P **P 08 00 32.4 -0.5**
R11B Troy Canyon, C 53.34 323 P **P 08 00 33.2 +0.3**
baz=130
ISA Isabella, Lake 53.52 319 P **P 08 00 34.8 +0.6**
baz=126
GRAC Grapevine Rang 53.60 321 P **P 08 00 35.3 +0.7**
baz=128
SBC Santa Barbara 53.67 317 P **P 08 00 35.9 +0.8**
baz=124
CWC Cottonwood Cre 53.72 320 P **P 08 00 36.4 +0.8**
baz=126
PKM Mcpherson Peak 53.98 317 P **P 08 00 38.4 +0.8**
baz=124
VES Vestal, Richgr 54.03 318 P **P 08 00 38.4 +0.7**
baz=125
SNOW Snow King Moun 54.24 331 IAmb IAmb 08 01 15.6
comp=Z,16nm,1.5s
LOHW Long Hollow 54.28 331 IAmb IAmb 08 01 15.7
comp=Z,7.0nm,1.2s
SMMC Simmler 54.34 317 P **P 08 00 41.3 +1.2**
baz=124
MOOW Moose Ponds 54.45 331 P **P 08 00 39.1 -1.8**
ULM Lac du Bonnet 54.46 346 P **P 08 00 38.9 -1.6**
comp=Z,1.6nm,0.3s,baz=157,slow=6.6,SNR=10
comp=Z,1.6nm,0.3s
IMW Indian Meadow 54.65 331 P **P 08 00 42.0 -0.5**
FLWY Flagg Ranch 54.67 331 IAmb IAmb 08 01 19.6
comp=Z,17nm,1.3s
LAO LASA Array 54.72 336 P **P 08 00 43.3 +0.7**
baz=144
RLMT Red Lodge 54.79 333 P **P 08 00 43.4 +0.1**
baz=140
OMMB Old Mammoth Mi 55.01 320 P **P 08 00 44.3 -0.8**
OMMB IAmb IAmb 08 00 46.8
comp=Z,5.4nm,0.9s
NVAR Mina Array Bea 55.06 321 P **P 08 00 45.4 0.0**
NVAR Mina Array Bea 55.06 321 P **P 08 00 46.3 +0.9**
comp=Z,1.8nm,0.7s,baz=119,slow=6.8,SNR=15
NVAR pP **pP 08 01 21.1 +1.0**
comp=Z,2.1nm,1.0s,baz=137,slow=5.7,SNR=4.8
NVAR PcP **PcP 08 01 45.5 +0.4**
comp=Z,1.4nm,0.7s,baz=147,slow=4.6,SNR=6.6
comp=Z,1.8nm,0.7s
MDPB Devils Postpil 55.07 320 IAmb IAmb 08 00 47.1
comp=Z,6.4nm,1.1s
KVN Kaiserville 55.31 322 IAmb IAmb 08 01 23.7
comp=Z,6.1nm,1.4s
DGMT Dagmar 55.42 339 P **P 08 00 48.3 +0.8**
baz=147
HLID Hailey 56.17 328 IAmb IAmb 08 01 29.8
comp=Z,4.2nm,1.1s
HLID Hailey 56.17 328 P **P 08 00 53.8 +0.6**
baz=134,SNR=5.2
BOZ Bozeman (W) 56.24 332 IAmb IAmb 08 01 30.1
comp=Z,10.0nm,1.1s
BOZ Bozeman (W) 56.24 332 P **P 08 00 54.1 +0.5**
baz=138,SNR=7.4
MPK Martis Peak 56.66 321 IAmb IAmb 08 00 59.1
comp=Z,10.0nm,1.0s
MFID Camas Ranch 56.82 327 P **P 08 00 57.0 -0.7**
MFID IAmb IAmb 08 00 59.1
comp=Z,9.4nm,1.0s
EGMT Eagleton 57.24 335 P **P 08 01 01.2 +0.7**
baz=141
SCHQ Schefferville 57.45 7 P **P 08 01 00.1 -1.7**
comp=Z,4.6nm,1.0s,baz=203,slow=5.5,SNR=5.6
comp=Z,4.6nm,1.0s
WVOR Wild Horse Val 57.74 325 IAmb IAmb 08 01 05.3
comp=Z,9.5nm,1.1s
J08A Circle Bar Ran 58.23 326 IAmb IAmb 08 01 44.0
comp=Z,4.8nm,1.0s
MSO Missoula 58.24 331 P **P 08 01 08.4 +0.9**
baz=136
I07A Izee 59.27 326 IAmb IAmb 08 01 16.8
comp=Z,5.8nm,1.0s
G08A Pilot Rock 59.74 327 IAmb IAmb 08 01 19.2
comp=Z,6.6nm,0.9s
J05D Fort Rock, OR 59.77 324 IAmb IAmb 08 01 55.5
comp=Z,12nm,1.1s
PINE Pine Mountain 59.90 325 IAmb IAmb 08 01 21.1
comp=Z,8.0nm,0.8s
I05D Terrebonne, OR 60.47 325 P **P 08 01 23.6 +0.8**
I05D IAmb IAmb 08 01 24.0
comp=Z,7.2nm,0.9s
NEW Newport 60.78 331 P **P 08 01 24.7 -0.2**
NEW IAmb IAmb 08 02 01.3
comp=Z,7.8nm,1.2s
NEW Newport 60.78 331 P **P 08 01 25.3 +0.4**
baz=133
YKA Yellowknife Ar 70.23 343 P **P 08 02 24.3 -0.9**
comp=Z,1.3nm,0.9s,baz=139,slow=5.9,SNR=7.6
YKA pP **pP 08 03 00.1 -1.0**
comp=Z,1.8nm,0.9s,baz=142,slow=6.3,SNR=5.0
comp=Z,1.3nm,0.9s
TOAD Toad River Com 71.39 336 P **P 08 02 32.1 -0.3**
baz=129
SFJD Kangerlussuaq 71.57 11 *i* P **P 08 02 34.8 +1.6**
SFJD IAmb IAmb 08 02 35.9
comp=Z,10nm,0.8s
DY2G Dye2 72.00 13 *i* P **P 08 02 35.1 -1.0**
T35M Bob Quinn 72.44 333 P **P 08 02 39.2 +0.6**
baz=124
CRAG Craig 73.00 331 P **P 08 02 42.0 +0.1**
baz=120
ISOG Isortoq, Green 73.05 16 *i* P **P 08 02 41.4 -0.6**
DLBC Dease Lake 73.16 334 P **P 08 02 43.3 +0.4**
baz=124
DBIC Dimbokro 73.17 82 P **P 08 02 43.5 -0.3**
comp=Z,7.3nm,0.6s,baz=240,slow=3.5,SNR=10
DBIC pP **pP 08 03 20.5 +0.6**
comp=Z,7.7nm,0.9s,baz=225,slow=6.7,SNR=2.7
comp=Z,7.3nm,0.6s
S34M Telegraph Cree 73.36 333 P **P 08 02 44.8 +0.8**
baz=123
WRGLY Wrigley 73.58 340 IAmb IAmb 08 03 23.2
comp=Z,17nm,1.0s
WTLY Watson Lake, Y 73.61 336 P **P 08 02 45.2 -0.2**
baz=126
R33M Jennings River 74.10 335 P **P 08 02 48.6 +0.2**
baz=124
TGTN Hyland Airport 74.24 337 P **P 08 02 50.1 +1.0**
baz=126
Q32M Nakina River 74.43 334 P **P 08 02 50.8 +0.3**
baz=122
PFVI Vila Bisbo 74.54 51 *e*P **P 08 02 52.1 +0.8**
S32K Killisnoo 74.70 332 P **P 08 02 52.2 +0.5**
baz=120
MORF Marmelete 74.72 51 *e*P **P 08 02 53.2 +0.8**
PTEO Sao Teotonio 74.72 50 *e*P **P 08 02 53.0 +0.7**
comp=Z,49nm,1.7s
SIT Sitka 74.86 331 P **P 08 02 53.2 +0.6**
baz=119
PNCL Nicolau / Gran 75.02 50 *e*P **P 08 02 54.5 +0.5**
R32K Eaglecrest 75.08 333 P **P 08 02 54.6 +0.7**
baz=120
MESJ Messejana 75.19 50 *e*P **P 08 02 54.6 -0.4**
PBDV Barranco-do-Ve 75.26 51 *e*P **P 08 02 56.0 +0.5**
PCVE Castro Verde 75.27 50 *e*P **P 08 02 55.9 +0.4**
P33M Teslin, Yukon 75.33 335 P **P 08 02 55.2 -0.2**
P33M Teslin, Yukon 75.33 335 P **P 08 02 55.5 0.0**
baz=122,SNR=5.0
P32M Atlin 75.39 334 P **P 08 02 56.6 +0.8**
baz=121
PMTG Montargil 75.49 49 *e*P **P 08 02 56.6 -0.1**
PBEJ Beja 75.50 50 *e*P **P 08 02 58.4 +1.6**
EVO Evora 75.52 49 *e*P **P 08 02 56.9 0.0**
PCAS Casmilo, Conde 75.55 48 *e*P **P 08 02 56.9 -0.1**
comp=Z,24nm,1.7s
ICESG Greenland Ices 75.61 13 *i* P **P 08 02 55.9 -1.2**
ICESG IAmb IAmb 08 02 57.2
comp=Z,16nm,0.8s
PESTR Estremoz 75.92 49 *e*P **P 08 02 59.4 +0.2**
PESTR *e*pP **pP 08 03 36.0 +0.4**
N32M Quiet Lake 75.94 336 P **P 08 02 59.2 +0.4**
baz=122
SKAG Skagway 76.04 334 P **P 08 03 00.0 +0.7**
baz=119
PVIS Viseu 76.17 47 *e*P **P 08 03 00.0 -0.6**
PCBR Castelo Branco 76.25 48 *e*P **P 08 03 00.8 -0.2**
PLBC Pleasant Camp 76.50 333 P **P 08 03 02.8 +0.9**
baz=118
FARO Faro, Yukon 76.62 337 P **P 08 03 03.6 +1.0**
baz=122,SNR=6.6
O30N Mendenhall 77.01 335 P **P 08 03 05.7 +0.8**
baz=119
M31M Drury Creek, Y 77.02 336 P **P 08 03 06.0 +1.1**
baz=121
P30M Million Dollar 77.08 334 P **P 08 03 05.8 +0.5**
baz=118
P29M Windy Craggy 77.20 333 P **P 08 03 06.7 +0.8**
baz=117
N31M Braeburn, Yuko 77.23 335 P **P 08 03 06.3 +0.2**
baz=119
PBRG Braganca 77.28 46 *e*P **P 08 03 06.6 -0.2**
KULLO Kullorsuaq 77.57 5 *i* P **P 08 03 06.6 -1.0**
KULLO IAmb IAmb 08 03 07.9
comp=Z,9.1nm,0.7s
N30M Aishikik Lake 77.77 335 P **P 08 03 09.0 -0.1**
N30M IAmb IAmb 08 03 10.9
comp=Z,6.9nm,0.9s
N30M Aishikik Lake 77.77 335 P **P 08 03 09.5 +0.4**
baz=118,SNR=8.8
C36M Paulatuk 77.87 345 P **P 08 03 09.8 +0.4**
baz=132
PNL Peninsula 77.97 333 P **P 08 03 10.5 +0.3**
baz=116
YUK6 Outpost Mounta 78.08 334 P **P 08 03 11.3 +0.3**
baz=117
M30M Minto, Yukon 78.18 336 P **P 08 03 11.5 +0.2**
baz=119,SNR=7.2
YUK4 Talbot Arm 78.38 335 P **P 08 03 13.0 +0.3**
baz=117
PAB San Pablo 78.53 49 P **P 08 03 13.4 -0.4**
PINM Pinnacle 78.54 333 P **P 08 03 13.7 +0.3**
baz=115
SUMG Summit 78.56 11 P **P 08 03 11.7 -1.9**
SUMG IAmb IAmb 08 03 14.2
comp=Z,8.8nm,0.6s
SUMG Summit 78.56 11 *i* P **P 08 03 13.0 -0.7**
SUMG IAmb IAmb 08 03 14.1
comp=Z,9.1nm,0.5s
M29M Somme Creek 78.80 336 IAmb IAmb 08 03 16.4
comp=Z,5.6nm,0.9s
M29M Somme Creek 78.80 336 P **P 08 03 14.6 -0.2**
baz=117,SNR=12
YUK8 Steele Glacier 78.84 334 P **P 08 03 15.0 -0.2**
baz=116
ESDC Sonseca Array 78.85 49 P **P 08 03 14.2 -1.3**
ESDC Sonseca Array 78.85 49 P **P 08 03 15.2 -0.3**
comp=Z,2.4nm,0.9s,baz=261,slow=6.9,SNR=16
ESDC pP **pP 08 03 52.6 +0.4**
comp=Z,0.2nm,0.3s,baz=269,slow=5.7,SNR=2.1
comp=Z,2.4nm,0.9s
L29M L29M 78.97 336 IAmb IAmb 08 03 17.0
comp=Z,9.4nm,0.8s
L29M L29M 78.97 336 P **P 08 03 15.7 0.0**
baz=118,SNR=13
J30M Hart River 78.98 338 P **P 08 03 16.0 +0.2**
baz=120,SNR=5.0
K29M Barlow Dome 79.08 337 P **P 08 03 16.0 -0.4**
K29M Barlow Dome 79.08 337 P **P 08 03 16.6 +0.2**
baz=118,SNR=8.4
I30M Mount Dempster 79.32 338 IAmb IAmb 08 03 19.0
comp=Z,6.8nm,0.8s
I30M Mount Dempster 79.32 338 P **P 08 03 18.1 +0.5**
baz=120,SNR=13
MESA MESA 79.35 333 P **P 08 03 17.8 -0.2**
baz=114
YUK3 Moose Creek 79.35 335 P **P 08 03 18.1 +0.2**
baz=115
CTG Chitna Glacier 79.39 334 P **P 08 03 17.9 -0.2**
baz=114
G31M Satah River 79.45 340 IAmb IAmb 08 03 19.2
comp=Z,12nm,0.9s
G31M Satah River 79.45 340 P **P 08 03 17.9 -0.2**
baz=122,SNR=11
F31M Tsiigehtchic 79.56 341 P **P 08 03 18.4 -0.2**
baz=122,SNR=9.2
DAWY Dawson 79.92 337 P **P 08 03 20.1 -0.6**
baz=116
A36M Sachs Harbour 79.93 347 P **P 08 03 19.6 -1.0**

baz=131,SNR=11
INK Inuvik 79.96 342 P P 08 03 20.6 -0.2
INK IAmb IAmb 08 03 58.9
comp=Z,16nm,1.4s
INK Inuvik 79.96 342 P P 08 03 20.5 -0.3
baz=123,SNR=7.1
EPYK Eagle Plains 80.01 339 P P 08 03 20.9 -0.4
baz=119,SNR=6.1
CRQE Cirque 80.09 333 P P 08 03 21.9 0.0
baz=113
I29M Ogilvie Camp, 80.09 338 P P 08 03 21.3 -0.3
baz=118,SNR=5.2
TORD Torodi Ar. Bea 80.11 76 P P 08 03 22.0 -0.7
comp=Z,1.8nm,0.4s,baz=284,slow=6.0,SNR=44
TORD pP pP 08 03 58.2 -1.3
comp=Z,2.7nm,1.0s,baz=288,slow=5.6,SNR=5.5
comp=Z,1.8nm,0.4s
G30M tAoh Zraii Nji 80.14 340 P P 08 03 21.6 -0.4
baz=120
M27K Edge Creek, AK 80.20 335 P P 08 03 22.2 -0.2
baz=114
MCARA McCarthy VSAT 80.31 334 P P 08 03 23.3 +0.4
baz=113
F30M Barrier River 80.31 341 P P 08 03 22.6 -0.2
baz=120,SNR=6.6
KAIM Kayak Island 80.40 332 P P 08 03 23.3 0.0
baz=111
BCAR Beaver Creek A 80.45 335 P P 08 03 23.2 -0.4
L27K Beaver Creek, 80.47 335 P P 08 03 23.8 0.0
baz=114,SNR=5.3
H29M Whitestone 80.52 339 IAmb IAmb 08 03 25.2
comp=Z,8.2nm,0.9s
H29M Whitestone 80.52 339 P P 08 03 23.8 -0.1
baz=118,SNR=6.9
M26K Nabesna, AK 80.69 335 P P 08 03 24.3 -0.7
baz=113
G29M Pine Creek 80.73 340 P P 08 03 24.9 -0.1
baz=118,SNR=8.5
I28M Miner Creek 80.74 338 IAmb IAmb 08 03 26.3
comp=Z,5.9nm,0.8s
I28M Miner Creek 80.74 338 P P 08 03 25.0 -0.2
baz=116,SNR=7.5
NEEM North Greenlan 80.81 6 *i* P P 08 03 25.7 +0.1
NEEM IAmb IAmb 08 03 26.5
comp=Z,10nm,0.9s
BMRM Bremner River 80.86 333 P P 08 03 25.8 -0.1
baz=111
EGAK Eagle 80.92 337 P P 08 03 25.9 -0.1
baz=115,SNR=14
K27K Chicken 80.97 336 P P 08 03 26.6 +0.3
baz=114
VNA3 Neumayer Olymp 81.03 162 ⇑P **P 08 03 27.8 +1.2**
comp=Z,12nm,0.8s
L26K Log Cabin Wild 81.09 335 P P 08 03 27.3 +0.3
baz=113
VNA1 Neumayer--Stat 81.27 162 ⇑P **P 08 03 29.4 +1.6**
comp=Z,10nm,0.8s
E29M Blow River 81.39 341 P P 08 03 26.7 -1.8
E29M IAmb IAmb 08 03 29.4
comp=Z,7.4nm,0.9s
E29M Blow River 81.39 341 P P 08 03 28.8 +0.3
baz=119,SNR=8.1
I27K Kandik River 81.44 338 P P 08 03 28.5 -0.3
baz=115,SNR=6.8
VNA2 Neumayer--Watz 81.63 162 ⇑P **P 08 03 30.7 +1.0**
comp=Z,6.0nm,0.8s,baz=291,slow=6.1
KLU Klutina 81.64 333 P P 08 03 30.0 -0.1
baz=110
H27K Steamboat Moun 81.67 338 P P 08 03 29.3 -0.8
baz=115,SNR=5.2
F28M Old Crow 81.69 340 P P 08 03 29.6 -0.5
baz=117
SCRK Sand Creek 81.72 336 IAmb IAmb 08 03 31.3
comp=Z,4.0nm,0.7s
SCRK Sand Creek 81.72 336 P P 08 03 29.8 -0.7
baz=112,SNR=7.3
J26L Joseph Creek 81.75 336 IAmb IAmb 08 03 31.6
comp=Z,6.8nm,0.7s
J26L Joseph Creek 81.75 336 P P 08 03 30.1 -0.5
baz=113,SNR=14
P23K Montague Islan 81.83 332 P P 08 03 31.0 0.0
baz=109
I26K Coal Creek Min 81.91 337 P P 08 03 31.4 +0.2
baz=113
G27K Doyon Strip 81.96 339 P P 08 03 31.4 -0.2
baz=115,SNR=6.6
PAX Paxson 81.97 335 P P 08 03 31.0 -0.8
baz=111,SNR=5.1
M24K Tolsona, Glenn 81.97 334 P P 08 03 31.0 -0.7
baz=110
E28M Babbage River 82.03 341 P P 08 03 31.6 -0.2
baz=117,SNR=6.1
SCM Sheep Creek Mo 82.39 333 P P 08 03 33.7 -0.2
baz=109
J25K Salcha River, 82.52 336 P P 08 03 34.1 -0.4
baz=111,SNR=6.9
E27K Coleen River 82.53 340 P P 08 03 34.3 -0.2
baz=115,SNR=5.9
PWL Port Wells 82.54 332 P P 08 03 34.6 0.0
baz=108
M23K Glacier View 82.56 333 P P 08 03 34.4 -0.4
baz=108
D27M Malcolm River 82.78 341 P P 08 03 35.3 -0.5
baz=116
G26K Porcupine Rive 82.79 339 P P 08 03 35.6 -0.1
baz=113
WAT6 Susitna Watana 82.82 334 P P 08 03 35.6 -0.7
baz=109
DHY Denali Highway 82.82 335 P P 08 03 35.8 -0.4
baz=109
SML Sawmill 82.83 333 P P 08 03 35.8 -0.4
baz=108
PRP Porcupine Dome 82.91 337 P P 08 03 36.3 -0.3
baz=111
EKA Eskdalemuir Ar 82.95 34 P P 08 03 36.4 -0.4
comp=Z,2.1nm,0.5s,baz=253,slow=3.9,SNR=21
comp=Z,2.1nm,0.5s
O22K Cooper Landing 83.08 332 P P 08 03 37.3 -0.1
baz=107
HDA Harding Lake 83.08 336 P P 08 03 37.6 +0.2
baz=110
PMR Palmer 83.13 333 P P 08 03 37.3 -0.3
baz=107
ILAR Eielson Array 83.18 336 P P 08 03 37.5 -0.4
comp=Z,2.9nm,0.9s,baz=128,slow=3.4,SNR=21
ILAR pP pP 08 04 13.9 -1.1
comp=Z,1.8nm,0.9s,baz=117,slow=4.0,SNR=5.6
comp=Z,2.9nm,0.9s
F26K Sheenjek River 83.21 339 P P 08 03 37.4 -0.6
baz=112,SNR=7.8
SNAA Sanae 83.25 162 ⇑P **P 08 03 38.5 +0.3**
comp=Z,76nm,0.6s
SNAA Sanae 83.25 162 P P 08 03 38.4 +0.3
comp=Z,3.4nm,0.7s,baz=274,slow=6.2,SNR=29
comp=Z,3.4nm,0.7s
WAT1 Susitna Watana 83.25 334 P P 08 03 38.3 +0.1
baz=108
H25L Birch Creek 83.29 338 P P 08 03 37.9 -0.4
baz=111
POKR Poker Plat Res 83.52 336 P P 08 03 39.2 -0.3
baz=109
G25K Bearman Lake 83.57 338 P P 08 03 39.9 +0.2
baz=111,SNR=5.1
DBG Daneborg 83.62 13 *i* P P 08 03 39.0 -0.9
DBG IAmb IAmb 08 03 41.0
comp=Z,2.5nm,0.8s
M22K Willow 83.63 333 P P 08 03 40.6 +0.5
baz=106
MCK McKinley 83.69 335 P P 08 03 41.0 +0.5
baz=108
F25K Christian Rive 83.70 339 P P 08 03 41.4 +0.9
baz=111
C27K Jago River 83.82 341 P P 08 03 41.0 -0.1
baz=113
SUA Susitna One 83.84 332 P P 08 03 41.7 +0.3
baz=106
CUT Chulitna 83.88 333 P P 08 03 41.3 -0.1
baz=106
H24K Noodor Dome 83.93 337 P P 08 03 41.3 -0.4
baz=109,SNR=5.6
NEA2 Nenana 84.01 336 P P 08 03 41.9 -0.3
baz=108,SNR=12
G24K Hadweenzic Riv 84.06 338 P P 08 03 42.1 -0.2
baz=109
I23K Minto, Yukon-K 84.30 336 P P 08 03 43.5 0.0
baz=107,SNR=6.6
C26K Camden Bay 84.32 341 P P 08 03 44.1 +0.6
baz=112,SNR=8.2

SKT Skwentna 84.34 333 P P 08 03 43.6 -0.2
baz=105,SNR=6.8
F24K Squaw Lake 84.48 339 P P 08 03 45.6 +1.1
baz=109
P19K Oil Pt 84.56 330 P P 08 03 45.0 0.0
baz=103
D25K Kavik River 84.58 341 P P 08 03 45.0 +0.1
baz=111,SNR=8.2
H23K Yukon River 84.58 337 P P 08 03 45.0 +0.1
baz=107
BPAW Bear Paw Mtn. 84.67 335 P P 08 03 44.9 -0.5
baz=106,SNR=7.5
MLY Manley 84.83 336 P P 08 03 46.0 -0.2
baz=106,SNR=6.9
PPLA Purkeypile 84.87 334 P P 08 03 46.1 -0.5
baz=105
E24K Your Creek 84.88 339 P P 08 03 46.8 +0.4
baz=108
TROLL Troll, Antarti 84.96 162 ⇑P **P 08 03 48.1 +1.2**
comp=Z,560nm,0.8s
G23K Bananza Creek 85.03 338 P P 08 03 47.9 +0.7
baz=107
M20K Styx River 85.05 333 P P 08 03 47.4 -0.1
baz=104
DAG Danmarks Havn 85.24 11 *i* P P 08 03 47.8 -0.3
DAG IAmb IAmb 08 03 48.8
comp=Z,4.0nm,0.9s
COLD Coldfoot 85.25 338 P P 08 03 49.1 +0.9
baz=107
E23K Chandalar 85.28 339 P P 08 03 48.7 +0.2
baz=107
H22K Ishtalitna Cre 85.32 337 P P 08 03 47.8 -0.9
baz=106
D24K Happy Valley 85.34 340 P P 08 03 48.7 0.0
baz=108
TOLK Toolik Lake Re 85.44 340 P P 08 03 48.7 -0.5
baz=108
C24K Franklin Bluff 85.48 341 P P 08 03 49.3 0.0
baz=108
L20K Farewell, AK 85.53 333 P P 08 03 49.2 -0.6
baz=103
Q17K Contact Creek 85.61 329 P P 08 03 50.5 +0.2
baz=101
M19K Big River Lodg 85.63 332 P P 08 03 50.2 0.0
baz=103
R17L Mt. Peulik Vol 85.74 328 P P 08 03 50.2 -0.6
baz=101
K20K Telida 85.81 334 P P 08 03 51.0 -0.1
baz=103
H21K Melozitna Rive 85.83 336 P P 08 03 51.3 +0.1
baz=104
L19K White Mountain 85.90 333 P P 08 03 51.7 +0.1
baz=102
D23K Nanushuk River 85.92 340 P P 08 03 52.1 +0.5
baz=106
J20K Nowinta River 86.03 335 P P 08 03 51.7 -0.4
baz=103
F22K John River 86.06 338 P P 08 03 53.0 +0.7
baz=105
P17K Kvichak River 86.07 330 P P 08 03 52.4 0.0
baz=101
N18K Kilae Creek 86.08 331 P P 08 03 52.7 +0.2
baz=101
E22K Anaktuvuk Pass 86.09 339 P P 08 03 52.8 +0.3
baz=105
C23K Itkillik River 86.15 341 P P 08 03 53.1 +0.5
baz=107
M18K Stony River 86.21 332 P P 08 03 52.9 -0.2
baz=101
G21K Allakaket 86.31 337 P P 08 03 53.8 +0.3
baz=104
F21K Alatna River 86.48 338 P P 08 03 54.7 +0.3
baz=104
O17K Koliganek Bris 86.50 330 P P 08 03 54.4 -0.1
baz=100
D22K Ayikyak River 86.60 339 P P 08 03 55.2 +0.4
baz=105
H20K Anotleneega Mo 86.63 336 P P 08 03 55.1 0.0
baz=102
L18K Granite Mounta 86.75 333 P P 08 03 55.9 +0.2
baz=101
E21K Killik River 86.95 339 P P 08 03 56.5 -0.1
baz=101
J18K Innoko River 87.00 334 P P 08 03 57.8 +0.9
baz=101
CHNA Chernabura Isl 87.07 325 P P 08 03 57.8 +0.5
baz=98
B22K Teshekpuk Lake 87.21 341 P P 08 03 58.2 +0.4
baz=104
S14K Fog Glacier 87.25 326 P P 08 03 59.4 +1.0
baz=98
H19K Roundabout Mou 87.28 336 P P 08 03 58.9 +0.7
baz=101,SNR=7.4
F20K Avaraart Lake 87.29 337 P P 08 03 58.7 +0.5
baz=102
C21K Knifeblade Rid 87.40 340 P P 08 03 59.3 +0.6
baz=103
B21K Ikpikpuk River 87.44 340 P P 08 03 59.4 +0.5
baz=103
L17K Donlin 87.48 332 P P 08 03 59.2 -0.1
baz=99
K17K Iditarod 87.58 333 P P 08 03 59.7 +0.1
baz=99
G19K Purcell Mounta 87.65 336 P P 08 03 59.8 -0.1
baz=100
E20K Nigu River 87.71 339 P P 08 04 00.3 0.0
baz=101
E19K Redstone River 87.95 338 P P 08 04 01.1 -0.3
baz=100
D20K Etivluk River 87.95 339 P P 08 04 01.8 +0.4
baz=101
QSPA South Pole Qui 87.95 180 P P 08 04 03.2 +1.7
comp=Z,28nm,1.0s,baz=159,slow=1.4,SNR=68
L16K Owhat River 87.97 332 P P 08 04 02.0 +0.5
baz=98
H18K Honhosa River 88.00 335 P P 08 04 01.6 -0.1
baz=99
J17K VABM Dome 88.03 334 P P 08 04 02.2 +0.4
baz=98
F19K Shaleruckik Mo 88.04 337 P P 08 04 01.7 -0.1
baz=100
G18K Tagagawik 88.24 336 P P 08 04 03.3 +0.5
baz=99,SNR=9.9
M15K Kasigluk River 88.42 331 P P 08 04 03.7 0.0
baz=97
D19K Kuna River 88.45 339 P P 08 04 04.3 +0.5
baz=100
H17K Granite Mounta 88.62 335 P P 08 04 05.2 +0.6
baz=98
J16K Anvik River 88.70 333 P P 08 04 05.4 +0.5
baz=97
F18K Selawik 88.74 337 P P 08 04 05.2 +0.1
baz=98
KEST Kesra 88.77 54 P P 08 04 06.5 +0.5
comp=Z,2.4nm,0.6s,baz=284,slow=1.0,SNR=3.6
comp=Z,2.4nm,0.6s
I17K Unalakleet 88.82 334 P P 08 04 05.5 +0.1
baz=97
N14K Kuskokwak Cree 88.82 330 P P 08 04 05.2 -0.3
baz=96
L15K Ungalak Mounta 88.92 332 P P 08 04 05.8 -0.2
baz=96
G17K Kiwalik Mounta 89.00 336 P P 08 04 06.5 +0.2
baz=97
K15K Wolf Creek Mou 89.00 332 P P 08 04 06.1 -0.3
baz=96
M14K Bethel 89.04 331 P P 08 04 06.5 -0.1
baz=96,SNR=5.9
E18K Tukpahlearik C 89.22 337 P P 08 04 06.9 -0.4
baz=97
FALS False Pass 89.27 325 P P 08 04 07.3 -0.5
baz=94
F17K Baldwin Pennin 89.36 336 P P 08 04 07.6 -0.4
baz=97
L14K Kuka Creek 89.45 331 P P 08 04 08.6 +0.1
baz=95
H16K Elim 89.57 335 P P 08 04 09.6 +0.6
baz=96
C18K Utukok River 89.60 339 P P 08 04 09.9 +0.8
baz=97
E17K Hotham Inlet 89.66 337 P P 08 04 09.7 +0.4
baz=96
M13K Dall Lake 89.69 330 P P 08 04 09.7 +0.1
baz=95
G16K Koyuk River 89.70 335 P P 08 04 10.2 +0.6
baz=96
J14K Nanvaranak Lak 89.98 333 P P 08 04 11.9 +0.9
baz=94

C17K DeLong Mountai 90.31 338 P P 08 04 13.3 +0.9
baz=95
K13K Kusilvak Mount 90.44 332 P P 08 04 13.6 +0.6
baz=94
ELIB Princess Elisa 91.41 162 *d*P **P 08 04 18.1 +0.5**
comp=Z,3.5nm,0.9s
VNDA Vanda 94.28 191 P P 08 04 32.2 +1.7
comp=Z,0.9nm,0.7s,baz=113,slow=5.6,SNR=5.7
comp=Z,0.9nm,0.7s
ARCES ARCESS Array B 96.56 20 P P 08 04 39.5 -1.5
comp=Z,0.5nm,0.6s,baz=291,slow=4.8,SNR=3.7
comp=Z,0.5nm,0.6s
BVAR Borovoye Array 122.77 22 PKP PKPdf 08 10 06.5 -0.5
comp=Z,0.6nm,0.6s,baz=336,slow=3.3,SNR=3.7
ZALV Zalesovo Beam 126.36 13 PKP PKPdf 08 10 13.3 -0.5
comp=Z,2.2nm,0.6s,baz=247,slow=3.1,SNR=7.6
KURBB Kurchatov Arra 127.63 19 PKP PKPdf 08 10 16.4 +0.2
comp=Z,1.9nm,0.6s,baz=324,slow=2.0,SNR=14
STKA Stephens Creek 129.74 224 PKP PKPdf 08 10 20.9 0.0
comp=Z,3.8nm,1.0s,baz=251,slow=1.2,SNR=5.2
MKAR Makanchi Array 132.19 19 PKP PKPdf 08 10 24.4 -0.7
comp=Z,0.6nm,0.5s,baz=324,slow=3.0,SNR=8.0
SONM Songino Array 134.32 356 PKP PKPdf 08 10 29.0 -0.3
comp=Z,0.8nm,0.6s,baz=12,slow=3.7,SNR=3.4
SONM SKP 08 13 48.1
comp=Z,0.7nm,0.7s,baz=48,slow=2.1,SNR=4.2
KSRS Korea Array 137.70 329 PKP PKPdf 08 10 36.0 +0.3
comp=Z,2.0nm,0.7s,baz=1.9,slow=1.9,SNR=7.6
ASAR Alice Springs 140.02 228 PKhKP PKPpre 08 10 32.2
comp=Z,1.7nm,0.8s,baz=121,slow=3.9,SNR=12
ASAR PKP **PKPdf 08 10 40.0 -0.4**
comp=Z,1.9nm,0.7s,baz=113,slow=2.0,SNR=15
WRA Warramunga Arr 141.72 234 PKhKP PKPpre 08 10 37.9
comp=Z,2.2nm,0.6s,baz=120,slow=2.7,SNR=42
WRA PKP **PKPdf 08 10 43.4 -0.1**
comp=Z,1.7nm,0.5s,baz=114,slow=2.2,SNR=27

RSNC 25 07:59:23.6±0.0, 2°N±6°×7°6W±°, h23km±5km, M1.4, ML1.4, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GARC	**Garzon, Huila**	**0.10**	**98**	P	Pb		07 59 27.8	-0.5
GARC				S	Sb		07 59 31.8	+0.4
POPC	**Popayan, Colom**	**1.14**	**287**	P	Pn		07 59 43.4	-0.9
PRAC	**Prado**	**1.66**	**25**	P	Pn		07 59 48.8	-2.6
ORTC	**Ortega, Tolima**	**1.73**	**11**	P	Pn		07 59 50.1	-2.3
ORTC				S	Sn		08 00 12.0	-1.8

RSNC 25 07:59:30.8±0.0, 4°N±5°×7°7W±°, h81km±10km, M2.0, ML2.0, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.47**	**137**	P	Pn		07 59 43.4	-1.2
YOTC				S	Sn		07 59 53.8	-0.9
PLMC	**San Jos del P**	**0.69**	**34**	P	Pn		07 59 45.3	-1.2
PLMC				S	Sn		07 59 57.3	-0.9
MALC	**Bahia Malaga**	**0.73**	**245**	P	Pn		07 59 46.3	-0.6
MALC				S	Sn		07 59 59.5	+0.6
JAMC	**Jamundi, Valle**	**1.11**	**180**	P	Pn		07 59 49.8	-1.7
JAMC				S	Sn		08 00 04.8	-2.1
JAMC	**Jamundi, Valle**	**1.11**	**180**	P	Pn		07 59 49.9	-1.6
JAMC				S	Sn		08 00 04.8	-2.1
ANIL	**Santa Ana**	**1.27**	**83**	P	Pn		07 59 54.8	+1.2
ANIL				S	Sn		08 00 14.2	+3.6
GUY2C	**Guyana, Caldas**	**1.57**	**56**	P	Pn		07 59 59.6	+2.0
GUY2C				S	Sn		08 00 22.0	+4.2
POPC	**Popayan, Colom**	**1.78**	**180**	P	Pn		08 00 00.3	+0.2
POPC				S	Sn		08 00 22.1	-0.1
PRAC	**Prado**	**1.88**	**109**	P	Pn		08 00 03.7	+2.5
PRAC				S	Sn		08 00 27.6	+3.2
GR1C	**Gorgona, Isla**	**1.99**	**229**	P	Pn		07 59 59.7	-2.9
GR1C				S	Sn		08 00 22.3	-4.6

SOME ***25*** *08:07:48.9, 41.08N×75.27E, h10km*
NNC ***25*** *08:07:48.9±1.4, 41.00N×75.29E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=9.5km s-min=7.2km az=176.0*
KRNET ***25*** *08:07:49.5±0.1, 41.06N×75.28E, h22km, mb2.6*
KNET ***25*** *08:07:51.6±0.5, 41.19N×75.22E, h7km, 3km, ml2.0, Error ellipse: s-maj=3.8km s-min=3.4km az=54.0*
ISC 25 08:07:45.0±1.2, 40.91N±0.05×75.33E±0.02, h10km, n57, σ0s90/97, 33C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.73**	**44**	⇑*i*P		**Pn**	**08 08 01.5**	**-0.2**
NRN	baz=55			⇑*e*S		**Sb**	**08 08 10.3**	**+0.2**
ARLS	**Aral**	**1.21**	**322**	⇑*e*P		**Pg**	**08 08 09.2**	**+0.9**
ARLS	baz=18			⇑*e*S		**Sb**	**08 08 23.6**	**-0.3**
UCH	**Uchtor**	**1.45**	**335**	⇓P		**Pg**	**08 08 14.0**	**+1.1**
UCH	19nm,0.1s,SNR=94			⇓S		**Sg**	**08 08 32.4**	**+0.7**
UCH	**Uchtor**	**1.45**	**335**	⇑*e*P		**Pg**	**08 08 13.5**	**+0.7**
UCH	baz=34			⇑*i*S		**Sn**	**08 08 31.1**	**+0.1**
ULHL	**Ulahol**	**1.50**	**27**	⇑*i*P		**Pg**	**08 08 14.9**	**+1.1**
ULHL	baz=31			⇑*i*S		**Sg**	**08 08 33.4**	**+0.2**
BOOM	**Boomskoye usch**	**1.64**	**16**	⇓*i*P		**Pg**	**08 08 17.0**	**+0.5**
BOOM	baz=19			⇓*i*S		**Sg**	**08 08 37.3**	**-0.5**
AML	**Almayashu**	**1.73**	**315**	⇑P		**Pg**	**08 08 19.5**	**+1.3**
AML	5.6nm,0.1s			⇓S		**Sg**	**08 08 40.8**	**+0.2**
AML	**Almayashu**	**1.73**	**315**	⇓*e*P		**Pg**	**08 08 18.8**	**+0.6**
AML	baz=12			⇓*i*S		**Sg**	**08 08 40.2**	**-0.4**
KBK	**Karagaybulak**	**1.76**	**351**	⇑P		**Pg**	**08 08 19.6**	**+0.7**
KBK	17nm,0.1s,SNR=11			⇑S		**Sb**	**08 08 41.1**	**+1.2**
KBK	**Karagaybulak**	**1.76**	**351**	⇑*i*P		**Pg**	**08 08 18.9**	**0.0**
KBK	baz=51			⇑*i*S		**Sb**	**08 08 40.4**	**+0.5**
ARSB	**Arslanbob**	**1.82**	**284**	⇓*e*P		**Pg**	**08 08 21.5**	**+1.6**
ARSB	baz=79			⇓*e*S		**Sg**	**08 08 44.7**	**+1.2**
AAK	**Ala-Archa**	**1.83**	**340**	⇑P		**Pg**	**08 08 20.9**	**+0.8**
AAK	7.1nm,0.2s			⇓S		**Sg**	**08 08 43.8**	**-0.1**
AAK	**Ala-Archa**	**1.83**	**340**	Pn		**Pb**	**08 08 19.5**	**+0.8**
AAK	3.8nm,0.6s			⇓Sn		**Sg**	**08 08 43.3**	**-0.7**
AAK	**Ala-Archa**	**1.83**	**340**	⇑*e*P		**Pg**	**08 08 20.0**	**-0.2**
AAK	6.4nm,0.3s baz=40			⇑*i*S		**Sb**	**08 08 42.4**	**+0.6**
KDJ	**Kajisay**	**1.85**	**48**	⇓*e*P		**Pg**	**08 08 22.0**	**+1.5**
KDJ	baz=53			⇓*i*S		**Sg**	**08 08 45.7**	**+1.2**
TKM2	**Tokmak 2**	**2.02**	**6**	⇓P		**Pg**	**08 08 24.4**	**+0.7**
TKM2	5.4nm,0.1s,SNR=12			⇑S		**Sg**	**08 08 49.7**	**-0.1**
TKM2	**Tokmak 2**	**2.02**	**6**	⇓Pn		**Pg**	**08 08 23.8**	**+0.1**
TKM2	29nm,0.1s 3.7nm,0.5s			⇑Sn		**Sg**	**08 08 50.0**	**+0.2**
TKM2	**Tokmak 2**	**2.02**	**6**	⇓*i*P		**Pg**	**08 08 23.2**	**-0.5**
TKM2	baz=7.0			⇓*i*S		**Sb**	**08 08 47.9**	**+0.8**
TARG	**Taragay, Kyrgy**	**2.04**	**66**	⇑*i*P		**Pg**	**08 08 25.3**	**+1.2**
TARG	baz=70			⇑*i*S		**Sg**	**08 08 51.5**	**+1.0**
EKS2	**Erkin-Say**	**2.10**	**327**	⇑P		**Pg**	**08 08 26.1**	**+0.9**
	2.3nm,0.2s,SNR=7.4							

EKS2	**Erkin-Say**	**2.10**	**327**	⇑*e*P	**Pb**	**08 08 24.3**	**+1.1**
	baz=25						
EKS2				⇑*e*S	**Sb**	**08 08 49.8**	**+0.5**
	baz=25						
CHMS	**Chumysh**	**2.13**	**349**	⇓P	**Pg**	**08 08 26.4**	**+0.6**
	5.3nm,0.1s,SNR=18						
CHMS				⇑S	**Sg**	**08 08 52.7**	**-0.7**
CHMS	**Chumysh**	**2.13**	**349**	⇑Pn	**Pg**	**08 08 25.5**	**-0.3**
	6.0nm,0.5s						
CHMS				⇑Sn	**Sg**	**08 08 53.6**	**+0.2**
	8.2nm,0.5s						
CHMS	**Chumysh**	**2.13**	**349**	⇑*i*P	**Pb**	**08 08 24.5**	**+0.8**
	baz=49						
CHMS				⇑*i*S	**Sb**	**08 08 50.1**	**-0.1**
	baz=49						
KST	**Kastek**	**2.18**	**12**	*e*P	**Pg**	**08 08 27.4**	**+0.6**
	3.3nm,0.3s						
KST				*e*S	**Sg**	**08 08 55.0**	**-0.1**
	20nm,0.3s						
KST	**Kastek**	**2.18**	**12**	Pg	**Pg**	**08 08 27.4**	**+0.6**
	3.3nm,0.3s						
KST				Lg	Lg	08 08 55.0	
	20nm,0.3s						
DGS	**Degeres**	**2.35**	**8**	*e*P	**Pg**	**08 08 30.9**	**+0.8**
	4.8nm,0.2s						
DGS				*e*S	**Sg**	**08 09 01.0**	**+0.4**
	26nm,0.4s						
DGS	**Degeres**	**2.35**	**8**	Pg	**Pg**	**08 08 30.9**	**+0.8**
	4.8nm,0.2s						
DGS				Lg	Lg	08 09 01.0	
	26nm,0.4s						
MTBS	**Maitube**	**2.36**	**20**	*e*P	**Pg**	**08 08 30.9**	**+0.6**
	3.7nm,0.1s						
MTBS				*e*S	**Sg**	**08 09 01.0**	**0.0**
	20nm,0.2s						
MTBS	**Maitube**	**2.36**	**20**	Pg	**Pg**	**08 08 30.9**	**+0.6**
	3.7nm,0.1s						
MTBS				Lg	Lg	08 09 01.0	
	20nm,0.2s						
MRKS	**Merke**	**2.41**	**320**	*e*P	**Pg**	**08 08 31.5**	**+0.3**
	11nm,0.3s						
MRKS				*e*S	**Sg**	**08 09 02.1**	**-0.3**
	12nm,0.3s						
MRKS	**Merke**	**2.41**	**320**	Pg	**Pg**	**08 08 31.5**	**+0.3**
	11nm,0.3s						
MRKS				Lg	Lg	08 09 02.1	
	12nm,0.3s						
USP	**Ospenovka**	**2.43**	**346**	⇓P	**Pg**	**08 08 30.9**	**-0.7**
	15nm,0.2s,SNR=12						
USP				⇑S	**Sb**	**08 09 01.3**	**+2.4**
	24nm,0.3s						
USP	**Ospenovka**	**2.43**	**346**	⇑*e*P	**Pb**	**08 08 28.8**	**-0.1**
	baz=45						
USP				⇑*i*S	**Sb**	**08 08 57.5**	**-1.4**
	baz=45						
TNSS	**Tian-Shan**	**2.44**	**29**	*e*P	**Pg**	**08 08 32.7**	**+0.8**
	2.5nm,0.2s						
TNSS				*e*S	**Sg**	**08 09 04.1**	**+0.6**
	4.5nm,0.5s						
TNSS	**Tian-Shan**	**2.44**	**29**	Pg	**Pg**	**08 08 32.7**	**+0.8**
	2.5nm,0.2s						
TNSS				Lg	Lg	08 09 04.1	
	4.5nm,0.5s						
MDOK	**Medeo**	**2.59**	**29**	*e*P	**Pg**	**08 08 34.9**	**+0.2**
	2.2nm,0.2s						
MDOK				*e*S	**Sg**	**08 09 07.8**	**-0.4**
	4.8nm,0.3s						
MNAS	**Manas**	**2.63**	**308**	⇑*i*P	**Pb**	**08 08 32.1**	**-0.3**
	baz=5.0						
MNAS				⇑*i*S	**Sb**	**08 09 03.3**	**-1.5**
	baz=5.0						
KOTS	**Kotyrbulak**	**2.67**	**29**	*e*P	**Pg**	**08 08 36.3**	**+0.1**
	5.1nm,0.6s						
KOTS				*e*S	**Sg**	**08 09 10.3**	**-0.5**
	22nm,0.4s						
KOTS	**Kotyrbulak**	**2.67**	**29**	Pg	**Pg**	**08 08 36.3**	**+0.1**
	5.1nm,0.6s						
KOTS				Lg	Lg	08 09 10.3	
	22nm,0.4s						
KRBS	**Karabastau**	**2.79**	**5**	*e*P	**Pg**	**08 08 38.3**	**-0.2**
	6.8nm,0.5s						
KRBS				*e*S	**Sg**	**08 09 14.0**	**-0.7**
	19nm,0.3s						
KRBS	**Karabastau**	**2.79**	**5**	Pg	**Pg**	**08 08 38.3**	**-0.2**
	6.8nm,0.5s						
KRBS				Lg	Lg	08 09 14.0	
	19nm,0.3s						
KTBS	**Karatobe**	**2.97**	**19**	*e*P	**Pg**	**08 08 42.1**	**+0.1**
	2.6nm,0.4s						
KTBS				*e*S	**Sg**	**08 09 19.9**	**-0.6**
	18nm,0.3s						
KTBS	**Karatobe**	**2.97**	**19**	Pg	**Pg**	**08 08 42.1**	**+0.1**
	2.6nm,0.4s						
KTBS				Lg	Lg	08 09 19.9	
	18nm,0.3s						
CHKK	**Chushkaly**	**3.19**	**22**	*e*P	**Pg**	**08 08 45.5**	**-0.5**
	2.8nm,0.3s						
CHKK				*e*S	**Sg**	**08 09 26.2**	**-1.2**
	16nm,0.4s						
CHKK	**Chushkaly**	**3.19**	**22**	Pg	**Pg**	**08 08 45.5**	**-0.5**
	2.8nm,0.3s						
CHKK				Lg	Lg	08 09 26.2	
	16nm,0.4s						
UZB	**Uzynbulak**	**3.54**	**50**	*e*P	**Pg**	**08 08 52.2**	**-0.7**
	2.8nm,0.3s						
UZB				*e*S	**Sg**	**08 09 37.8**	**-1.0**
	4.3nm,0.2s						
UZB	**Uzynbulak**	**3.54**	**50**	Pg	**Pg**	**08 08 52.2**	**-0.7**
	2.8nm,0.3s						
UZB				Lg	Lg	08 09 37.8	
	4.3nm,0.2s						
KPKS	**Kokpek**	**3.57**	**43**	*e*P	**Pg**	**08 08 51.7**	**-1.7**
	2.0nm,0.2s						
KPKS				*e*S	**Sg**	**08 09 36.9**	**-2.7**
	6.7nm,0.5s						
KPKS	**Kokpek**	**3.57**	**43**	Pg	**Pg**	**08 08 51.7**	**-1.7**
	2.0nm,0.2s						
KPKS				Lg	Lg	08 09 36.9	
	6.7nm,0.5s						
ARXS	**Arharly**	**3.78**	**28**	*e*P	**Pg**	**08 08 56.5**	**-1.0**
	3.9nm,0.1s						
ARXS				*e*S	**Sg**	**08 09 44.6**	**-1.8**
	19nm,0.4s						
ARXS	**Arharly**	**3.78**	**28**	Pg	**Pg**	**08 08 56.4**	**-1.0**
	3.9nm,0.1s						
ARXS				Lg	Lg	08 09 44.6	
	19nm,0.4s						
BLB	**Baldybastay**	**3.94**	**35**	Pg	**Pg**	**08 08 59.8**	**-0.8**
	5.1nm,0.4s						
BLB				Lg	Lg	08 09 50.4	
	6.0nm,0.3s						
IUG	**Iuzhnay**	**4.16**	**289**	*e*P	**Pg**	**08 09 03.3**	**-1.5**
	6.4nm,0.3s						
IUG				*e*S	**Sg**	**08 09 56.8**	**-1.8**
	7.6nm,0.5s						
IUG	**Iuzhnay**	**4.16**	**289**	Pg	**Pg**	**08 09 03.3**	**-1.5**
	6.4nm,0.3s						
BTLS	**Baital**	**4.23**	**348**	*e*P	**Pg**	**08 09 05.1**	**-0.9**
	1.7nm,0.2s						
BTLS				*e*S	**Sg**	**08 09 59.8**	**-1.0**
	3.3nm,0.3s						
BTLS	**Baital**	**4.23**	**348**	Lg	Lg	08 09 59.8	
	3.3nm,0.3s						

IDC 25 08:11:52.3±17.0, 13°.46N×120°.88E, h107km±175km, mb3.6/5, mbtmp3.9/5, MS4.2/1, Error ellipse: s-maj=172.2km s-min=19.9km az=69.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.74**	**158**	P	P	08 18 40.6	-0.5
	1.7nm,0.6s,baz=335,slow=9.6,SNR=28						
	1.7nm,0.6s						
SONM	**Songino Array**	**36.33**	**343**	P	P	08 18 46.1	+0.1
	0.6nm,0.6s,baz=152,slow=13,SNR=4.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**39.04**	**161**	P	P	08 19 09.2	+0.3
	2.2nm,0.6s,baz=340,slow=7.1,SNR=58						
	2.2nm,0.6s						
STKA	**Stephens Creek**	**49.26**	**157**	LR	LR	08 42 29.8	
	comp=Z,225nm,19.9s,baz=343,slow=37						
KURBB	**Kurchatov Arra**	**50.48**	**326**	P	P	08 20 39.0	-0.3
	0.4nm,0.7s,baz=133,slow=7.7,SNR=3.5						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	**79.37**	**339**	P	P	08 23 46.1	0.0
	2.2nm,0.9s,baz=66,slow=7.0,SNR=3.6						
	2.2nm,0.9s						

MOS ***25*** *08:19:59.3±0.9, 2°.62N×128°.24E, h45km, mb5.0/26, Error ellipse: s-maj=11.7km s-min=5.8km az=106.0*
IDC ***25*** *08:20:03.2±1.8, 2°.60N×128°.27E, h67km±16km, mb4.3/25, mbtmp4.6/26, MS3.7/18, Error ellipse: s-maj=19.6km s-min=8.8km az=79.0*
DJA ***25*** *08:20:03.9±0.3, 3°.N±2°.×12°.8E±°, h66km±3km, M5.0/42, mb5.0/42, mB5.5/10, MLv5.1/13, Mw(mB)5.0/10, MwMwp6.1/1, Mwp6.1/1*
NEIC ***25*** *08:20:06.2±1.9, 2°.48N±0°.07×128°.28E±0°.10, h88km±7km, mb4.8/122, Error ellipse: s-maj=13.9km s-min=9.5km az=79.0*
ISC 25 08:20:04.6±0.6, **2°.54N**±0°.04×**128°.27E**±0°.05, **h76**km±5km, **n552**, σ1§**06**/513, **mb4.8**/129, **15C-2D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.98**	**207**	Pn	**Pn**	**08 20 35.6**	**-0.5**
TNTI	**Ternate**	**1.98**	**207**	P	**Pn**	**08 20 35.4**	**-0.6**
SGSI	**Sangihe**	**2.96**	**293**	P	**Pn**	**08 20 48.2**	**-1.1**
SGSI				S	**Sn**	**08 21 23.1**	**-0.7**
LBMI	**Labuha**	**3.25**	**194**	P	**Pn**	**08 20 55.4**	**+2.1**
SWI	**Sorong**	**4.52**	**138**	P	**Pn**	**08 21 10.7**	**+0.1**
KMSI	**Cibinong**	**4.71**	**246**	P	**Pn**	**08 21 13.8**	**+0.7**
SANI	**Sanana**	**5.10**	**207**	P	**Pn**	**08 21 18.5**	**0.0**
	232nm,1.0s,2μm						
DAV	**Davao City (W)**	**5.23**	**329**	Pn	**Pn**	**08 21 22.4**	**+2.0**
DAV	**Davao City (W)**	**5.23**	**329**	P	**Pn**	**08 21 22.1**	**+1.8**
	201nm,0.5s,baz=141,slow=13,SNR=1.9						
DAV				S	**Sn**	**08 22 22.9**	**+3.5**
	132nm,0.3s,baz=99,slow=22,SNR=1.3						
DAV				LR	LR	08 22 39.9	
	comp=Z,238nm,21.5s,baz=148,slow=30						
GTOI	**Gorontalo**	**5.58**	**250**	P	**Pn**	**08 21 25.8**	**+0.7**
	150nm,0.5s,2μm0.6nm						
NLAI	**Namlea**	**5.86**	**191**	P	**Pn**	**08 21 30.4**	**+1.5**
	139nm,0.5s,0.6nm						
LUWI	**Luwuk**	**6.54**	**237**	Pn	**Pn**	**08 21 39.6**	**+1.4**
LUWI	**Luwuk**	**6.54**	**237**	P	**Pn**	**08 21 39.7**	**+1.4**
	296nm,0.7s,4μm1.3nm						
MRSI	**Marisa**	**6.65**	**252**	P	**Pn**	**08 21 40.8**	**+1.2**
FAKI	**Fak Fak**	**6.73**	**144**	Pn	**Pn**	**08 21 41.3**	**+0.5**
FAKI	**Fak Fak**	**6.73**	**144**	P	**Pn**	**08 21 41.3**	**+0.5**
	94nm,0.7s,0.4nm						
TOLI2	**Tolitoli**	**7.61**	**259**	Pn	**Pn**	**08 21 52.5**	**-0.4**
MPSI	**Mapaga**	**8.65**	**255**	P	**Pn**	**08 22 07.6**	**+0.6**
	84nm,1.0s,2μm						
BBSI	**Bau Bau**	**9.80**	**215**	P	**Pn**	**08 22 24.2**	**+1.5**
	133nm,0.9s						
SAUI	**Saumlaki**	**10.88**	**164**	P	**Pn**	**08 22 39.2**	**+1.7**
BKSI	**Bulukumba**	**11.28**	**226**	P	**Pn**	**08 22 44.3**	**+1.4**
	62nm,0.5s						
KAPI	**Kappang**	**11.34**	**229**		**Pn**	**08 22 43.7**	**-0.1**
KAPI	**Kappang**	**11.34**	**229**	P	**Pn**	**08 22 42.7**	**-1.1**
	38nm,0.6s,baz=34,slow=11,SNR=16						
KAPI				S	**Sn**	**08 24 48.9**	**+0.1**
	4.3nm,0.4s,baz=199,slow=18,SNR=1.2						
BSSI	**Bau Bau, Buton**	**11.61**	**222**	P	**Pn**	**08 22 48.7**	**+1.3**
	76nm,1.1s						
SOEI	**Soe**	**12.85**	**198**	P	**Pn**	**08 23 06.4**	**+2.0**
	65nm,0.8s						
EDFI	**Ende, Flores**	**12.99**	**210**	P	**Pn**	**08 23 06.6**	**+0.3**
	55nm,0.9s						
DRS	**Darwin Rock St**	**15.11**	**170**	P	**P**	**08 23 39.3**	**+2.0**
MTN	**Manton Dam**	**15.55**	**170**		**Pn**	**08 23 39.2**	**-0.2**
MTN	**Manton Dam**	**15.55**	**170**	P	**Pn**	**08 23 40.4**	**+0.9**
	30nm,0.7s,SNR=4.9						
KDU	**Kakadu**	**15.70**	**165**	P	**Pn**	**08 23 42.5**	**+1.2**
	6.3nm,SNR=6.3						
SRBI	**Singaraja**	**16.76**	**231**	P	**P**	**08 23 56.4**	**+0.7**
	129nm,0.9s						
JAGI	**Jajag, Banyuwa**	**17.82**	**232**	P	**Pn**	**08 24 09.5**	**+1.8**
	129nm,0.8s						
KNRA	**Kununurra**	**18.11**	**178**	P	**P**	**08 24 10.9**	**+0.4**
	47nm,0.9s,SNR=7.8						
PWJI	**Pagerwojo**	**19.49**	**237**	P	**P**	**08 24 27.0**	**+1.3**
	124nm,0.8s						
GUMO	**Guam**	**19.75**	**55**	P	**Pn**	**08 24 30.9**	**+0.3**
	16nm,0.5s,baz=139,slow=18,SNR=1.0						
GUMO				LR	LR	08 30 56.9	
	comp=Z,154nm,21.4s,baz=237,slow=33						
UGM	**Wanagama**	**20.52**	**239**	P	**P**	**08 24 38.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**20.67**	**187**	P	**P**	**08 24 38.4**	**0.0**
FITZ	**Fitzroy Crossi**	**20.67**	**187**	P	**P**	**08 24 38.5**	**0.0**
FITZ	**Fitzroy Crossi**	**20.67**	**187**	P	**P**	**08 24 38.0**	**-0.5**
	244nm,1.1s,SNR=2.0						
DLV	**T Lat**	**21.71**	**296**	P	**P**	**08 24 49.2**	**-0.6**
YULB	**Yu-li**	**21.80**	**343**	P	**P**	**08 24 50.2**	**-0.3**
TPUB	**Ta-pu**	**21.92**	**341**	P	**P**	**08 24 54.6**	**+2.8**
COEN	**Coen**	**22.07**	**138**	P	**P**	**08 24 53.7**	**+0.2**
COEN	**Coen**	**22.07**	**138**	P	**P**	**08 24 54.3**	**+0.7**
	12nm,0.8s,SNR=2.3						
SSLB	**Suanglung**	**22.27**	**342**	P	**P**	**08 24 56.9**	**+1.2**
LEM	**Lembang**	**22.61**	**246**	P	**P**	**08 25 02.6**	**+3.1**
LEM				pmax	pmax		
	comp=Z,53nm,0.8s						
WB0	**Warramunga Arr**	**22.97**	**165**	P	**P**	**08 25 03.0**	**+0.1**
YHNB	**Yeheng**	**22.98**	**344**	P	**P**	**08 25 04.0**	**+0.9**
WRAB	**Tennant Creek**	**23.12**	**165**	P	**P**	**08 25 04.6**	**+0.2**
WRAB	**Tennant Creek**	**23.12**	**165**	*i* P	**P**	**08 25 03.8**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,46nm,0.7s						
WRA	**Warramunga Arr**	**23.13**	**165**	P	**P**	**08 25 03.5**	**-1.0**
WRA	**Warramunga Arr**	**23.13**	**165**	P	**P**	**08 25 04.0**	**-0.5**
	comp=Z,41nm,0.6s,baz=346,slow=10,SNR=258						
WRA				PcP	**PcP**	**08 28 51.0**	**0.0**
	comp=Z,0.3nm,0.4s,baz=343,slow=2.7,SNR=1.7						
WRA				S	**S**	**08 29 08.4**	**-1.6**
	comp=Z,1.1nm,1.0s,baz=347,slow=17,SNR=2.6						
WRA				ScP	**ScP**	**08 32 22.9**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=345,slow=2.6,SNR=3.3						
	comp=Z,41nm,0.6s						
WRA	**Warramunga Arr**	**23.13**	**165**	P	**P**	**08 25 04.0**	**-0.5**
WRA						08 28 51.0	
WB2	**Warramunga Arr**	**23.13**	**165**	P	**P**	**08 25 04.6**	**+0.1**
WB2	**Warramunga Arr**	**23.13**	**165**	P	**P**	**08 25 04.2**	**-0.3**
WR0	**Warramunga Arr**	**23.20**	**165**	P	**P**	**08 25 05.3**	**+0.2**
CNJI	**Cibinong**	**23.25**	**245**	P	**P**	**08 25 05.7**	**0.0**
	comp=Z,40nm,1.1s						
JOW	**Kunigami**	**24.15**	**0**	P	**P**	**08 25 14.8**	**+1.1**
JOW	**Kunigami**	**24.15**	**0**	P	**P**	**08 25 14.1**	**+0.4**
	comp=Z,18nm,0.5s,baz=203,slow=7.2,SNR=7.7						
JOW				LR	LR	08 33 56.9	
	comp=Z,129nm,20.7s,baz=283,slow=35						
	comp=Z,18nm,0.5s						
MBWA	**Marble Bar**	**24.99**	**199**	P	**P**	**08 25 20.6**	**-0.8**
MBWA	**Marble Bar**	**24.99**	**199**	P	**P**	**08 25 21.2**	**-0.2**
PSAD1	**Pilbara Seismi**	**25.24**	**199**	P	**P**	**08 25 23.2**	**-0.4**
	comp=Z,27nm,1.2s,SNR=2.0						
PSAC2	**Pilbara Seismi**	**25.32**	**198**	P	**P**	**08 25 24.2**	**-0.1**
	comp=Z,26nm,1.0s,SNR=2.1						
PSA00	**Pilbara Seismi**	**25.34**	**199**	P	**P**	**08 25 24.7**	**+0.1**
PSA00	**Pilbara Seismi**	**25.34**	**199**	P	**P**	**08 25 24.6**	**+0.1**
PSA00	**Pilbara Seismi**	**25.34**	**199**	P	**P**	**08 25 24.1**	**-0.5**
	comp=Z,23nm,1.3s,SNR=1.5						
PSAB1	**Pilbara Seismi**	**25.35**	**199**	P	**P**	**08 25 24.5**	**-0.2**
	comp=Z,30nm,1.1s,SNR=2.4						
QIS	**Mount Isa**	**25.51**	**155**	P	**P**	**08 25 26.7**	**+0.6**
QIS	**Mount Isa**	**25.51**	**155**	P	**P**	**08 25 26.5**	**+0.4**
	comp=Z,89nm,0.8s,SNR=18						
UBPT	**Khong Chiam**	**25.79**	**301**	P	**P**	**08 25 30.2**	**+1.4**
UBPT				IAmb	IAmb	08 25 32.2	
	comp=Z,22nm,0.9s						
ASAR	**Alice Springs**	**26.62**	**168**	P	**P**	**08 25 36.2**	**0.0**
ASAR					**PcP**	**08 28 57.8**	**-0.9**
ASAR	**Alice Springs**	**26.62**	**168**	P	**P**	**08 25 36.0**	**-0.2**
	comp=Z,7.3nm,0.6s,baz=356,slow=8.5,SNR=88						
ASAR				PcP	**PcP**	**08 28 58.5**	**-0.2**
	comp=Z,2.6nm,0.3s,baz=4.1,slow=1.9,SNR=11						
ASAR				ScP	**ScP**	**08 32 32.4**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=351,slow=3.2,SNR=5.1						
	comp=Z,7.3nm,0.6s						
ASPA	**Alice Springs**	**26.62**	**168**	P	**P**	**08 25 37.4**	**+1.2**
	comp=Z,5.3nm,0.7s,SNR=7.5						
AS01	**Alice Springs**	**26.63**	**168**	P	**P**	**08 25 36.2**	**-0.1**
WRKA	**Warakurna**	**27.41**	**180**	P	**P**	**08 25 42.8**	**-0.5**
WRKA	**Warakurna**	**27.41**	**180**	P	**P**	**08 25 43.3**	**0.0**
	comp=Z,21nm,2.9s,SNR=1.9						
JCJ	**Chichijima**	**27.82**	**27**	P	**P**	**08 25 45.8**	**-1.1**
JCJ	**Chichijima**	**27.82**	**27**	LR	LR	08 35 00.9	
	comp=Z,64nm,20.1s,baz=230,slow=32						
CTA	**Charters Tower**	**28.59**	**143**	P	**P**	**08 25 55.4**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=315,slow=11,SNR=11						
PPSI	**Pulau Pagai**	**28.73**	**260**	P	**P**	**08 25 56.4**	**+1.3**
MEEK	**Meekatharra**	**30.47**	**197**	P	**P**	**08 26 09.9**	**-0.5**
JNU	**Nakatsue**	**30.52**	**4**	P	**P**	**08 26 10.5**	**-0.3**
JNU	**Nakatsue**	**30.52**	**4**	P	**P**	**08 26 10.1**	**-0.7**
	comp=Z,4.4nm,0.4s,baz=135,slow=5.7,SNR=11						
JNU				LR	LR	08 37 50.3	
	comp=Z,91nm,19.2s,baz=195,slow=35						
	comp=Z,4.4nm,0.4s						
NJ2	**Nanjing**	**30.66**	**344**	*e*P	**P**	**08 26 14.5**	**+2.5**
NJ2				pP	**pwP**	**08 26 31.5**	**-2.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,220nm,3.6s						
GSI	**Gunungsitoli**	**30.70**	**268**	P	**P**	**08 26 12.7**	**+0.2**
	comp=Z,25nm,2.6s						
WHN	**Wuhan**	**30.81**	**336**	⇑P	P	08 26 17.8	+4.5
JMN	**Monobe**	**31.47**	**9**	P	**P**	**08 26 19.4**	**+0.3**
JHJ	**Hachijo jima 2**	**32.28**	**18**	LR	LR	08 39 22.3	
	comp=Z,63nm,19.7s,baz=174,slow=36						
CMAR	**Chiang Mai Arr**	**32.79**	**301**	P	**P**	**08 26 31.8**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=117,slow=6.9,SNR=12						
CMAR				ScP	**ScP**	**08 32 52.2**	**0.0**
	comp=Z,0.5nm,0.3s,baz=146,slow=1.8,SNR=4.6						
	comp=Z,2.3nm,0.7s						
ENH	**Enshi**	**32.82**	**329**	P	**P**	**08 26 31.1**	**+0.1**
ENH				IAmb	IAmb	08 26 32.6	
	comp=Z,24nm,0.9s						
CHTO	**Chiang Mai**	**32.94**	**301**	P	**P**	**08 26 33.2**	**+1.0**
CHTO				IAmb	IAmb	08 26 34.4	
	comp=Z,20nm,1.4s						
CHTO	**Chiang Mai**	**32.94**	**301**	P	**P**	**08 26 33.2**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,20nm,1.5s						
MULG	**Mulgathing**	**33.11**	**171**	P	**P**	**08 26 33.4**	**0.0**
FORT	**Forrest**	**33.14**	**180**	P	**P**	**08 26 33.3**	**-0.4**
KMI	**Kunming**	**33.30**	**315**	⇓P	**P**	**08 26 38.0**	**+2.5**
KMI				pmax	pmax		
	comp=Z,13nm,0.4s						
INU	**Inuyama**	**33.64**	**13**	P	**P**	**08 26 37.4**	**-0.6**
INU	**Inuyama**	**33.64**	**13**	P	**P**	**08 26 37.5**	**-0.5**
TJN	**Taejon**	**33.68**	**359**	*e*P	**P**	**08 26 38.7**	**+0.4**
LCRK	**Leigh Creek**	**34.15**	**165**	P	**P**	**08 26 43.3**	**+0.8**
KMBL	**Kambalda**	**34.26**	**190**	P	**P**	**08 26 42.9**	**-0.6**
KSAR	**Wonju Array Be**	**34.73**	**359**	P	**P**	**08 26 46.7**	**-0.7**
KSAR	**Wonju Array Be**	**34.73**	**359**	P	**P**	**08 26 46.7**	**-0.7**
KSRS	**Korea Array**	**34.74**	**360**	P	**P**	**08 26 46.8**	**-0.7**
	comp=Z,16nm,0.7s,baz=176,slow=9.7,SNR=71						
KSRS				PcP	**PcP**	**08 29 19.6**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=208,slow=3.0,SNR=2.3						
	comp=Z,16nm,0.7s						
BLDU	**Ballidu**	**34.77**	**198**	P	**P**	**08 26 47.7**	**-0.1**
PZH	**PanZhiHua**	**34.86**	**316**	P	**P**	**08 26 50.8**	**+1.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,150nm,4.7s						
MAJO	**Matsushiro**	**35.06**	**14**	P	**P**	**08 26 48.6**	**-1.6**
MAJO				IAmb	IAmb	08 26 50.4	
	comp=Z,14nm,0.9s						
MAJO	**Matsushiro**	**35.06**	**14**	P	**P**	**08 26 48.7**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,14nm,0.9s						
MAJO	**Matsushiro**	**35.06**	**14**	P	**P**	**08 26 48.9**	**-1.4**
MJAR	**Matsushiro Arr**	**35.06**	**14**	P	**P**	**08 26 47.8**	**-2.5**
	comp=Z,9.6nm,0.6s,baz=183,slow=9.6,SNR=23						
MJAR				LR	LR	08 41 26.4	
	comp=Z,71nm,19.7s,baz=204,slow=37						
	comp=Z,9.6nm,0.6s						
MJB9	**Matsu-Tunnel**	**35.06**	**14**	P	**P**	**08 26 49.2**	**-1.1**
MJB9				IAmb	IAmb	08 26 51.8	
	comp=Z,13nm,0.9s						
LYN	**LuoYang**	**35.08**	**337**	*e*P	**P**	**08 26 54.8**	**+4.3**
LYN				pmax	pmax		
	comp=Z,22nm,0.6s						
KLBR	**Kellerberrin**	**35.39**	**196**	P	**P**	**08 26 52.6**	**-0.6**
EIDS	**Eidsvold**	**35.48**	**143**	P	**P**	**08 26 54.2**	**+0.1**
EIDS				IAmb	IAmb	08 27 09.4	
	comp=Z,8.5nm,0.9s						
BBOO	**Buckleboo**	**35.93**	**169**	P	**P**	**08 26 57.9**	**+0.1**
XAN	**Xi'an**	**36.17**	**332**	⇑P	**P**	**08 26 59.8**	**-0.1**
XAN				pmax	pmax		
	comp=Z,32nm,0.7s						
MUN	**Mundaring**	**36.19**	**197**	P	**P**	**08 27 00.2**	**+0.2**
STKA	**Stephens Creek**	**36.50**	**161**	P	**P**	**08 27 03.0**	**+0.3**
STKA	**Stephens Creek**	**36.50**	**161**	P	**P**	**08 27 02.5**	**-0.1**
	comp=Z,13nm,0.5s,baz=342,slow=8.0,SNR=49						
STKA				PcP	**PcP**	**08 29 25.2**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=319,slow=8.6,SNR=2.8						
	comp=Z,13nm,0.5s						
CD2	**Chengdu**	**36.50**	**323**	P	**P**	**08 27 03.5**	**+0.7**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
NWAO	**Narrogin (SRO)**	**36.79**	**196**	P	**P**	**08 27 05.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**36.79**	**196**	P	**P**	**08 27 04.4**	**-0.7**
	comp=Z,6.1nm,0.6s,baz=30,slow=8.1,SNR=1.4						
NWAO				PcP	**PcP**	**08 29 26.1**	**+0.1**
	comp=Z,9.4

comp=Z,53nm,21.2s,baz=200,slow=34
ASAJ Asahikawa 43.30 15 P **P 08 27 59.5 +0.6**
ASAJ pmax pmax
comp=Z,33nm,1.7s
JKA Kamikawa-asahi 43.30 15 P **P 08 27 59.5 +0.6**
JKA IAmb IAmb 08 28 00.9
comp=Z,33nm,1.7s
LSA Lhasa 44.37 311 P **P 08 28 09.9 +1.6**
LSA Lhasa 44.37 311 P **P 08 28 09.9 +1.6**
LSA pmax pmax
comp=Z,19nm,0.5s
GTA Gaotai 44.90 328 *e*P **P 08 28 12.8 +0.9**
GTA pmax pmax
comp=Z,11nm,0.8s
YSS Yuzh-Sakhalins 46.00 14*ce*P **P 08 28 20.4 +0.1**
YSS pmax pmax
comp=Z,9.0nm,0.7s
KLR Kul'dur 46.61 3 LR LR 08 47 32.0
comp=Z,93nm,19.6s,baz=210,slow=35
KLR Kul'dur 46.61 3*ce*P **P 08 28 23.9 -1.1**
KLR pmax pmax
comp=Z,5.0nm,0.8s
HEH HeiHe 47.54 359 *e*P **P 08 28 31.3 -1.0**
HEH pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 48.72 341 P **P 08 28 41.4 -0.3**
ULN IAmb IAmb 08 28 42.6
comp=Z,11nm,0.7s
ULN Ulaanbaatar 48.72 341*ce*P **P 08 28 41.9 +0.3**
ULN pmax pmax
comp=Z,12nm,0.7s
SONM Songino Array 48.91 341 P **P 08 28 42.7 -0.4**
SONM Songino Array 48.91 341 P **P 08 28 42.5 -0.6**
comp=Z,4.6nm,0.6s,baz=152,slow=8.7,SNR=15
SONM PcP **PcP 08 30 06.7 +0.3**
comp=Z,1.5nm,0.8s,baz=126,slow=2.5,SNR=1.6
SONM LR LR 08 50 59.6
comp=Z,101nm,18.9s,baz=217,slow=38
comp=Z,4.6nm,0.6s
SONM Songino Array 48.91 341 P **P 08 28 42.7 -0.4**
SONM pmax pmax
comp=Z,3.0nm,0.7s
ZEA Zeya 51.04 359 *i*P **P 08 28 57.8 -1.1**
ZAK Zakamensk 52.15 340 *e*P **P 08 29 06.6 -0.8**
ZAK pmax pmax
comp=Z,2.0nm,1.0s
MOY Mondy 54.02 339 *e*P **P 08 29 21.8 +0.7**
MOY pmax pmax
comp=Z,11nm,1.8s
WMQ Urumqi 54.57 325 *e*P **P 08 29 28.5 +3.3**
PET Petropavlovsk 56.24 22 P **P 08 29 37.4 +0.5**
ZSN Zaisan 58.33 327 *e*P **P 08 29 51.6 -0.3**
baz=327
ZSN Zaisan 58.33 327 *e*P **P 08 29 51.5 -0.3**
SHLS Shalkode 59.23 320 *e*P **P 08 29 55.9 -2.5**
baz=320
SHLS Shalkode 59.23 320 *e*P **P 08 29 55.8 -2.5**
YAK Yakutsk 59.36 1 P **P 08 29 58.5 0.0**
YAK Yakutsk 59.36 1 LR LR 08 58 13.0
comp=Z,55nm,18.0s,baz=220,slow=39
YAK Yakutsk 59.36 1 *e*P **P 08 29 57.2 -1.3**
YAK *e**PP **pP 08 30 16.3 -1.0**
YAK *e* 08 30 43.9
YAK *e* 08 32 09.1
YAK *e*PPP PPP 08 33 30.9
YAK *e*S **S 08 38 00.9 -0.4**
YAK *e* 08 39 48.1
YAK *e*SS **SS 08 41 55.9 -1.4**
YAK pmax pmax
comp=Z,48nm,0.9s
YAK pmax pmax
comp=N,15nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,156nm,5.6s
YAK pmax pmax
comp=N,121nm,8.2s
YAK pmax pmax
comp=E,85nm,7.1s
YAK smax smax
comp=E,90nm,5.7s
YAK smax smax
comp=N,62nm,5.0s
YAK Yakutsk 59.36 1 P **P 08 29 58.2 -0.3**
MK31 Makanchi Array 59.40 325 IAmb IAmb 08 30 23.2
comp=Z,7.5nm,1.2s
MK31 Makanchi Array 59.40 325*ce*P **P 08 29 59.4 +0.2**
MKAR Makanchi Array 59.40 325 P **P 08 29 59.7 +0.5**
MKAR Makanchi Array 59.40 325 P **P 08 29 59.0 -0.2**
comp=Z,5.0nm,0.5s,baz=115,slow=7.9,SNR=38
comp=Z,5.0nm,0.5s
MKAR Makanchi Array 59.40 325 *i*P **P 08 29 59.4 +0.2**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MA2 Magadan 59.49 13 P **P 08 29 59.8 +0.2**
MA2 Magadan 59.49 13 P **P 08 29 59.8 +0.2**
MA2 pmax pmax
comp=Z,14nm,0.7s
MA2 Magadan 59.49 13 P **P 08 30 00.1 +0.5**
UZB Uzynbulak 59.51 320 *e*P **P 08 29 59.2 -1.0**
baz=320
UZB Uzynbulak 59.51 320 *e*P **P 08 29 59.1 -1.1**
MAKZ Makanchi 59.59 325 P **P 08 30 00.6 0.0**
MAKZ IAmb IAmb 08 30 19.6
comp=Z,5.8nm,0.7s
MAKZ Makanchi 59.59 325 P **P 08 30 00.6 0.0**
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
MAKZ Makanchi 59.59 325 P **P 08 30 00.5 0.0**
SATY Saty 59.87 320 *e*P **P 08 30 01.9 -0.8**
comp=Z,4.0nm,0.6s,baz=320
SATY Saty 59.87 320 *e*P **P 08 30 01.8 -0.8**
SATY pmax pmax
comp=Z,4.0nm,0.6s
KPKS Kokpek 59.88 320 *e*P **P 08 30 01.8 -0.9**
baz=320
KPKS Kokpek 59.88 320 *e*P **P 08 30 01.8 -0.9**
URZ Urewera 60.63 137 LR LR 08 56 44.4
comp=Z,225nm,19.1s,baz=30,slow=36
TDK Taldyqorghan 60.79 322 *e*P **P 08 30 08.3 -0.5**
comp=Z,7.4nm,0.5s,baz=322
TDK Taldyqorghan 60.79 322 *e*P **P 08 30 08.3 -0.5**
TDK pmax pmax
comp=Z,7.0nm,0.5s
MDOK Medeo 60.80 319 *e*P **P 08 30 08.0 -1.0**
baz=319
MDOK Medeo 60.80 319 *e*P **P 08 30 08.0 -1.0**
AAA Alma-Ata 60.91 319 *e*P **P 08 30 08.7 -0.9**
baz=319
AAA Alma-Ata 60.91 319 *e*P **P 08 30 08.7 -0.9**
CHKK Chushkaly 61.15 320 *e*P **P 08 30 10.5 -0.8**
baz=320
CHKK Chushkaly 61.15 320 *e*P **P 08 30 10.4 -0.8**
AAK Ala-Archa 62.26 318 LR LR 09 01 37.6
comp=Z,90nm,18.9s,baz=156,slow=40
ZAA0 Zalesovo Array 62.34 333 IAmb IAmb 08 32 26.4
comp=Z,5.3nm,0.8s
ZALV Zalesovo Beam 62.34 333 P **P 08 30 17.6 -1.3**
ZALV Zalesovo Beam 62.34 333 P **P 08 30 17.3 -1.7**
comp=Z,2.1nm,0.5s,baz=118,slow=6.2,SNR=7.7
comp=Z,2.1nm,0.5s
ZALV Zalesovo Beam 62.34 333 *i*P **P 08 30 17.7 -1.3**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
SGDS Sogindy 62.51 319 *e*P **P 08 30 19.8 -0.7**
baz=319
SGDS Sogindy 62.51 319 *e*P **P 08 30 19.7 -0.7**
SEY Seymchan 62.85 12*ce*P **P 08 30 23.4 +1.2**
SEY pmax pmax
comp=Z,19nm,1.7s
KURBB Kurchatov Arra 63.56 327 P **P 08 30 26.4 -0.7**
comp=Z,5.7nm,0.5s,baz=126,slow=6.5,SNR=41
comp=Z,5.7nm,0.5s
KURK Kurchatov 63.56 327 P **P 08 30 26.7 -0.4**
KURK IAmb IAmb 08 30 36.5
comp=Z,12nm,0.7s
KURK Kurchatov 63.56 327*ce*P **P 08 30 27.1 0.0**
KURK pmax pmax
comp=Z,9.0nm,0.7s
KURK Kurchatov 63.56 327 P **P 08 30 26.7 -0.4**
BTLS Baital 63.56 320 *e*P **P 08 30 26.2 -1.1**
baz=320
BTLS Baital 63.56 320 *e*P **P 08 30 26.2 -1.1**
AMKA Amchitka 64.66 33 P **P 08 30 32.5 -1.8**
IUG Iuzhnay 65.13 316 *e*P **P 08 30 37.0 -0.7**
comp=Z,15nm,0.6s,baz=316
IUG Iuzhnay 65.13 316 *e*P **P 08 30 37.0 -0.7**
IUG pmax pmax
comp=Z,15nm,0.6s
BRLS Borolday 65.58 317 *e*P **P 08 30 40.1 -0.4**
baz=316
BRLS Borolday 65.58 317 *e*P **P 08 30 40.1 -0.4**
ADK Adak 67.09 33 P **P 08 30 49.4 -0.5**
ADK Adak 67.09 33 P **P 08 30 49.4 -0.5**
ADK pmax pmax
comp=Z,29nm,0.9s
ADK Adak 67.09 33 P **P 08 30 49.9 0.0**
ATKA Atka Island 68.61 34 P **P 08 30 59.5 +0.1**
TIXI Tiksi 69.01 0 LR LR 09 04 13.6
comp=Z,50nm,18.1s,baz=196,slow=38
BVAR Borovoye Array 69.14 327 P **P 08 31 02.1 -0.7**
comp=Z,3.4nm,0.5s,baz=130,slow=6.5,SNR=17
comp=Z,3.4nm,0.5s
BRVK Borovoye 69.22 327 P **P 08 31 02.4 -0.8**
BRVK Borovoye 69.22 327*ce*P **P 08 31 03.6 +0.4**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 69.22 327 P **P 08 31 03.4 +0.2**
BILL Bilibino 70.31 14⇓*e*P **P 08 31 09.5 -0.2**
BILL *e* 08 31 30.6
BILL *e* 08 40 50.4
BILL *e*SSS SSS 08 47 53.0
BILL pmax pmax
comp=Z,7.0nm,1.4s
BILL MLR MLR
comp=Z,69nm,17.0s
NRIK Noril'sk 71.94 346 P **P 08 31 18.8 -0.7**
comp=Z,4.5nm,0.7s,baz=136,slow=6.9,SNR=8.8
comp=Z,4.5nm,0.7s
NRIK Noril'sk 71.94 346*ce*P **P 08 31 18.6 -0.9**
NRIK pmax pmax
comp=Z,6.0nm,0.8s
SPIA Saint Paul Isl 72.74 30 P **P 08 31 25.6 +1.2**
baz=247
UNV Unalaska Valle 73.53 34 P **P 08 31 29.9 +0.7**
baz=251
RAR Rarotonga 74.17 113 LR LR 09 01 26.5
comp=Z,32nm,19.7s,baz=263,slow=34
GAMB Gambell 74.86 23 P **P 08 31 38.0 +1.3**
baz=244
AKTO Aktyubinsk 75.54 322 LR LR 09 07 57.9
comp=Z,76nm,18.0s,baz=226,slow=38
FALS False Pass 75.56 34 P **P 08 31 41.8 +0.9**
baz=253
M11K Mekoryuk 75.89 28 P **P 08 31 43.8 +1.2**
baz=250
S12K Black Hills 76.54 33 P **P 08 31 47.6 +1.0**
baz=254
ARU Arti 76.75 328*c i*P **P 08 31 47.0 -0.7**
ARU 08 31 57.5
ARU 08 34 37.3
ARU S **S 08 41 27.5 -1.2**
ARU SS **SS 08 46 21.5 -4.5**
ARU pmax pmax
comp=Z,2.0nm,0.5s
K13K Kusilvak Mount 77.12 27 IAmb IAmb 08 31 52.5
comp=Z,12nm,0.8s
K13K Kusilvak Mount 77.12 27 P **P 08 31 51.1 +1.5**
baz=251,SNR=5.2
M13K Dall Lake 77.24 28 P **P 08 31 51.8 +1.6**
baz=252
SDPT Sand Point 77.32 34 P **P 08 31 51.6 +0.7**
baz=256
CHNA Chernabura Isl 77.69 34 P **P 08 31 54.1 +1.1**
baz=257
ANM Nome 77.72 24 P **P 08 31 54.6 +1.7**
baz=249
L14K Kuka Creek 77.83 27 IAmb IAmb 08 31 56.4
comp=Z,18nm,0.8s
L14K Kuka Creek 77.83 27 P **P 08 31 55.0 +1.4**
baz=253,SNR=11
J14K Nanvaranak Lak 77.88 26 P **P 08 31 54.9 +1.1**
baz=252
N14K Kuskokwak Cree 77.89 29 P **P 08 31 55.0 +1.1**
baz=254
O14K Tigyukauivet M 77.91 30 P **P 08 31 55.2 +1.1**
baz=254
M14K Bethel 78.00 28 P **P 08 31 55.8 +1.3**
baz=253,SNR=11
S14K Fog Glacier 78.05 33 P **P 08 31 56.2 +1.1**
baz=256
L15K Ungalak Mounta 78.48 27 P **P 08 31 58.3 +1.1**
baz=254,SNR=6.7
M15K Kasigluk River 78.58 28 P **P 08 31 58.8 +1.0**
baz=254,SNR=5.9
O15K Ungalikthiuk R 78.61 30 P **P 08 31 59.3 +1.3**
baz=256
K15K Wolf Creek Mou 78.63 27 IAmb IAmb 08 32 01.1
comp=Z,10.0nm,0.8s
K15K Wolf Creek Mou 78.63 27 P **P 08 31 59.0 +0.9**
baz=253,SNR=7.9
CHGN Chignik 78.67 33 P **P 08 31 59.6 +1.3**
baz=257
N15K Kwethluk River 78.73 29 IAmb IAmb 08 32 00.8
comp=Z,12nm,1.0s
N15K Kwethluk River 78.73 29 P **P 08 31 59.9 +1.3**
baz=255
H16K Elim 79.02 24 P **P 08 32 01.2 +1.1**
baz=252
G16K Koyuk River 79.20 24 P **P 08 32 02.4 +1.3**
baz=252
J16K Anvik River 79.32 26 P **P 08 32 02.9 +1.1**
baz=254
L16K Owhat River 79.41 27 P **P 08 32 02.1 -0.2**
L16K IAmb IAmb 08 32 04.5
comp=Z,12nm,1.1s
L16K Owhat River 79.41 27 P **P 08 32 03.2 +0.9**
baz=255,SNR=7.9
N16K Nishlik Lake 79.44 29 P **P 08 32 03.3 +0.8**
baz=256
I17K Unalakleet 79.45 25 P **P 08 32 03.0 +0.6**
I17K IAmb IAmb 08 32 04.0
comp=Z,14nm,1.4s
I17K Unalakleet 79.45 25 P **P 08 32 03.7 +1.3**
baz=254,SNR=5.2
M16K Timber Creek 79.48 28 P **P 08 32 04.1 +1.4**
baz=256
P16K Nushagak River 79.50 30 P **P 08 32 04.3 +1.5**
baz=257
O16K Kokwok River B 79.57 30 IAmb IAmb 08 32 05.1
comp=Z,13nm,1.1s
O16K Kokwok River B 79.57 30 P **P 08 32 04.6 +1.4**
baz=257
D17K Noatak River 79.66 21 P **P 08 32 04.6 +1.1**
baz=251
RDOG Red Dog Mine 79.84 21 P **P 08 32 05.5 +1.0**
baz=251
C17K DeLong Mountai 79.88 20 P **P 08 32 05.6 +0.9**
baz=251
G17K Kiwalik Mounta 79.92 24 P **P 08 32 06.4 +1.5**
baz=254,SNR=5.8
E17K Hotham Inlet 79.92 22 P **P 08 32 06.0 +1.0**
baz=252
F17K Baldwin Pennin 79.95 23 P **P 08 32 06.7 +1.6**
baz=253
J17K VABM Dome 80.01 26 P **P 08 32 07.2 +1.7**
baz=256
R17L Mt. Peulik Vol 80.05 32 P **P 08 32 06.4 +0.6**
baz=259
L17K Donlin 80.06 27 P **P 08 32 07.0 +1.2**
baz=256
H17K Granite Mounta 80.06 24 P **P 08 32 07.2 +1.4**
baz=254,SNR=5.8
O17K Koliganek Bris 80.10 30 P **P 08 32 07.8 +1.7**
baz=258
K17K Iditarod 80.19 27 P **P 08 32 06.8 +0.3**
K17K IAmb IAmb 08 32 27.2
comp=Z,38nm,1.9s
K17K Iditarod 80.19 27 P **P 08 32 07.3 +0.9**
baz=256
N17K Nushagak Hills 80.22 29 P **P 08 32 08.2 +1.5**
baz=258
M17K Holitna River 80.29 28 P **P 08 32 08.6 +1.6**
baz=257
P17K Kvichak River 80.31 30 P **P 08 32 08.1 +0.9**
baz=259
Q17K Contact Creek 80.42 31 P **P 08 32 08.0 0.0**
baz=259
E18K Tukpahlearik C 80.48 22 IAmb IAmb 08 32 10.1
comp=Z,14nm,0.6s
E18K Tukpahlearik C 80.48 22 P **P 08 32 08.8 +0.9**
baz=253,SNR=13
F18K Selawik 80.61 23 P **P 08 32 09.8 +1.2**
baz=254
C18K Utukok River 80.63 20 P **P 08 32 09.6 +0.8**
baz=253
B18K Kokolik River 80.64 20 P **P 08 32 10.0 +1.2**
baz=252
H18K Honhosa River 80.75 24 P **P 08 32 10.2 +0.8**
baz=256
L18K Granite Mounta 80.81 27 IAmb IAmb 08 32 12.3
comp=Z,41nm,1.8s
L18K Granite Mounta 80.81 27 P **P 08 32 11.0 +1.2**
baz=258,SNR=5.9
G18K Tagagawik 80.82 23 P **P 08 32 10.8 +1.0**
baz=256
SII Sitkinak Islan 81.03 33 P **P 08 32 12.0 +0.9**
baz=261
O18K Koktuh Hills 81.05 30 P **P 08 32 11.5 +0.3**
baz=260
J18K Innoko River 81.06 26 P **P 08 32 12.2 +1.0**
baz=258
M18K Stony River 81.06 28 P **P 08 32 12.5 +1.4**
baz=259
C19K Lookout Ridge 81.31 20 P **P 08 32 13.4 +1.0**
baz=254
F19K Shaleruckik Mo 81.39 23 P **P 08 32 13.5 +0.7**
baz=256
G19K Purcell Mounta 81.50 23 IAmb IAmb 08 32 15.4
comp=Z,8.8nm,0.7s
G19K Purcell Mounta 81.50 23 P **P 08 32 14.6 +1.2**
baz=257,SNR=12
N19K Bonanza Creek 81.58 29 P **P 08 32 15.0 +1.0**
baz=260
OHAK Old Harbor 81.62 33 P **P 08 32 15.2 +1.0**
baz=262
H19K Roundabout Mou 81.62 24 IAmb IAmb 08 32 16.8
comp=Z,9.0nm,0.8s
H19K Roundabout Mou 81.62 24 P **P 08 32 15.3 +1.3**
baz=258,SNR=14
L19K White Mountain 81.65 28 IAmb IAmb 08 32 18.4
comp=Z,28nm,1.9s
L19K White Mountain 81.65 28 P **P 08 32 15.6 +1.3**
baz=260
J19K Poorman 81.65 26 P **P 08 32 15.2 +0.9**
baz=259
D19K Kuna River 81.67 21 IAmb IAmb 08 32 16.8
comp=Z,20nm,1.0s
D19K Kuna River 81.67 21 P **P 08 32 15.6 +1.3**
baz=256,SNR=9.6
E19K Redstone River 81.75 22 IAmb IAmb 08 32 18.0
comp=Z,10.0nm,0.6s
E19K Redstone River 81.75 22 P **P 08 32 16.0 +1.3**
baz=257,SNR=11
M19K Big River Lodg 81.81 28 IAmb IAmb 08 34 48.0
comp=Z,16nm,1.6s
M19K Big River Lodg 81.81 28 P **P 08 32 16.6 +1.4**
baz=260
P19K Oil Pt 82.01 30 P **P 08 32 17.1 +0.9**
baz=261
KIRV Kirov 82.03 329*ce*P **P 08 32 16.7 +0.4**
VNDA Vanda 82.07 173 P **P 08 32 14.7 -1.4**
VNDA Vanda 82.07 173 P **P 08 32 15.1 -1.0**
comp=Z,1.4nm,0.5s,baz=308,slow=6.0,SNR=9.8
VNDA LR LR 09 07 51.4
comp=Z,124nm,19.0s,baz=270,slow=35
comp=Z,1.4nm,0.5s
VNDA Vanda 82.07 173 P **P 08 32 14.7 -1.4**
VNDA pmax pmax
comp=Z,12nm,1.7s
KDAK Kodiak Island 82.07 32 P **P 08 32 17.4 +0.9**
KDAK Kodiak Island 82.07 32 P **P 08 32 17.9 +1.4**
baz=262
KDAK Kodiak Island 82.07 32 LR LR 09 05 35.4
comp=Z,53nm,19.1s,baz=218,slow=33
KDAK Kodiak Island 82.07 32 P **P 08 32 17.4 +0.9**
KDAK pmax pmax
comp=Z,70nm,1.6s
L20K Farewell, AK 82.15 27 P **P 08 32 18.0 +1.1**
baz=260
K20K Telida 82.21 26 IAmb IAmb 08 32 31.9
comp=Z,19nm,1.6s
K20K Telida 82.21 26 P **P 08 32 18.5 +1.3**
baz=260
F20K Avaraart Lake 82.23 23 P **P 08 32 18.6 +1.5**
baz=258
H20K Anotleneega Mo 82.25 24 P **P 08 32 18.7 +1.3**
baz=259,SNR=12
D20K Etivluk River 82.26 21 P **P 08 32 18.9 +1.5**
baz=257,SNR=8.3
Q20K Shuyak Island 82.28 31 P **P 08 32 18.6 +0.9**
baz=262
I20K Naaghedeneel 82.29 25 IAmb IAmb 08 32 19.6
comp=Z,13nm,0.7s
I20K Naaghedeneel 82.29 25 P **P 08 32 18.6 +1.1**
baz=260,SNR=6.7
E20K Nigu River 82.31 21 P **P 08 32 18.9 +1.2**
baz=257,SNR=28
J20K Nowinta River 82.32 26 IAmb IAmb 08 32 20.5
comp=Z,27nm,1.6s
J20K Nowinta River 82.32 26 P **P 08 32 18.9 +1.1**
baz=260,SNR=8.2
RAYN Ar Rayn 82.36 293 P **P 08 32 18.2 -0.6**
RAYN Ar Rayn 82.36 293 P **P 08 32 18.3 -0.6**
RAYN pmax pmax
comp=Z,8.0nm,1.2s
B20K Meade River 82.37 20 P **P 08 32 19.7 +1.9**
baz=256
M20K Styx River 82.40 28 IAmb IAmb 08 32 20.9
comp=Z,27nm,1.7s
M20K Styx River 82.40 28 P **P 08 32 19.3 +1.0**
baz=261
IMAR Indian Mountai 82.80 24 P **P 08 32 20.2 0.0**
SBA Scott Base 82.96 172 P **P 08 32 18.1 -2.7**
SBA IAmb IAmb 08 32 19.2
comp=Z,9.0nm,0.5s
SBA Scott Base 82.96 172 P **P 08 32 18.1 -2.7**
SBA pmax pmax
comp=Z,9.0nm,0.5s
G21K Allakaket 82.99 23 IAmb IAmb 08 32 25.1
comp=Z,6.0nm,0.7s
G21K Allakaket 82.99 23 P **P 08 32 22.1 +0.9**
baz=260,SNR=7.9
C21K Knifeblade Rid 83.00 21 P **P 08 32 22.5 +1.3**
baz=259
F21K Alatna River 83.12 23 P **P 08 32 23.0 +1.1**
baz=260
H21K Melozitna Rive 83.13 24 IAmb IAmb 08 32 24.1
comp=Z,28nm,1.6s
H21K Melozitna Rive 83.13 24 P **P 08 32 23.2 +1.3**
baz=261,SNR=13
B21K Ikpikpuk River 83.15 20 P **P 08 32 23.6 +1.7**
baz=259,SNR=6.5
E21K Killik River 83.15 21 IAmb IAmb 08 32 46.7
comp=Z,28nm,1.6s
E21K Killik River 83.15 21 P **P 08 32 23.3 +1.3**
baz=260
SKT Skwentna 83.16 28 P **P 08 32 22.5 +0.3**
baz=262
MAW Mawson 83.18 201 P **P 08 32 22.2 +0.2**
comp=Z,2.3nm,0.7s,baz=30,slow=11,SNR=3.5
comp=Z,2.3nm,0.7s
PPT2 Papeete2 83.29 108 *e*LR LR 08 58 44.1
comp=Z,58nm,24.2s
SUA Susitna One 83.47 29 IAmb IAmb 08 32 27.3
comp=Z,12nm,0.8s
SUA Susitna One 83.47 29 P **P 08 32 23.8 0.0**
baz=263
F22K John River 83.67 22 P **P 08 32 25.4 +0.8**
baz=261
BPAW Bear Paw Mtn. 83.68 26 P **P 08 32 26.1 +1.3**
baz=263
B22K Teshekpuk Lake 83.69 19 IAmb IAmb 08 32 27.6
comp=Z,15nm,0.8s
B22K Teshekpuk Lake 83.69 19 P **P 08 32 25.9 +1.3**
baz=260
D22K Ayikyak River 83.69 21 IAmb IAmb 08 32 49.7
comp=Z,36nm,1.8s
D22K Ayikyak River 83.69 21 P **P 08 32 25.8 +1.0**
baz=261
H22K Ishtalitna Cre 83.75 24 P **P 08 32 25.7 +0.6**
baz=262
M22K Willow 83.80 28 P **P 08 32 26.0 +0.6**
baz=264
CUT Chulitna 83.80 28 P **P 08 32 25.2 -0.2**
baz=264
G22K Bettles 83.84 23 P **P 08 32 26.5 +1.0**
baz=262
O22K Cooper Landing 83.86 30 P **P 08 32 26.5 +0.8**
baz=264

E22K	Anaktuvuk Pass	83.90	22	IAmb	IAmb	08 32 28.1	
	comp=Z,11nm,0.7s						
E22K	Anaktuvuk Pass	83.90	22	P	P	08 32 26.9	+1.1
	baz=262						
MLY	Manley	83.90	25	P	P	08 32 26.8	+0.9
	baz=263,SNR=7.5						
RC01	Rabbit Creek A	83.91	29	P	P	08 32 27.2	+1.2
	baz=264						
TBI	Tubuai	83.91	114	eLR	LR	08 58 58.0	
	comp=Z,321nm,35.2s						
SEW	Seward	83.95	30	P	P	08 32 27.0	+0.8
	baz=264						
PMR	Palmer	84.25	28	P	P	08 32 27.8	+0.1
PMR				IAmb	IAmb	08 32 52.9	
	comp=Z,34nm,1.8s						
PMR	Palmer	84.25	28	P	P	08 32 28.4	+0.7
	baz=265						
PMR	Palmer	84.25	28	P	P	08 32 27.8	+0.1
PMR				pmax	pmax		
	comp=Z,34nm,1.8s						
COLD	Coldfoot	84.39	23	P	P	08 32 28.9	+0.6
	baz=263,SNR=14						
G23K	Bananza Creek	84.39	23	P	P	08 32 29.1	+0.6
G23K				IAmb	IAmb	08 32 30.8	
	comp=Z,6.2nm,0.8s						
G23K	Bananza Creek	84.39	23	P	P	08 32 29.9	+1.5
	baz=263,SNR=10						
D23K	Nanushuk River	84.42	21	P	P	08 32 29.5	+1.0
	baz=262,SNR=7.7						
H23K	Yukon River	84.49	24	IAmb	IAmb	08 32 45.6	
	comp=Z,13nm,1.6s						
H23K	Yukon River	84.49	24	P	P	08 32 29.5	+0.6
	baz=264,SNR=5.2						
I23K	Minto, Yukon-K	84.49	25	IAmb	IAmb	08 32 31.5	
	comp=Z,30nm,1.8s						
I23K	Minto, Yukon-K	84.49	25	P	P	08 32 30.0	+1.1
	baz=264,SNR=7.8						
MCK	McKinley	84.54	26	P	P	08 32 29.9	+0.8
	baz=265						
RND	Reindeer	84.55	27	IAmb	IAmb	08 32 30.8	
	comp=Z,10nm,1.0s						
KNK	Knik Glacier	84.56	29	P	P	08 32 28.3	-1.0
KNK				IAmb	IAmb	08 32 30.9	
	comp=Z,20nm,1.0s						
KNK	Knik Glacier	84.56	29	P	P	08 32 29.9	+0.6
	baz=265						
C23K	Itkillik River	84.56	20	P	P	08 32 29.9	+0.8
C23K	Itkillik River	84.56	20	P	P	08 32 30.7	+1.6
	baz=262,SNR=15						
PWL	Port Wells	84.57	29	P	P	08 32 30.0	+0.6
	baz=265						
WAT1	Susitna Watana	84.63	27	P	P	08 32 30.2	+0.5
	baz=265						
SML	Sawmill	84.65	28	P	P	08 32 30.6	+0.8
	baz=265,SNR=5.1						
E23K	Chandalar	84.70	22	P	P	08 32 30.9	+0.9
	baz=264,SNR=15						
TOLK	Toolik Lake Re	84.78	21	IAmb	IAmb	08 32 34.0	
	comp=Z,7.2nm,0.7s						
TOLK	Toolik Lake Re	84.78	21	P	P	08 32 31.2	+0.8
	baz=264,SNR=11						
M23K	Glacier View	84.93	28	P	P	08 32 31.9	+0.7
	baz=266						
WAT6	Susitna Watana	84.98	28	P	P	08 32 32.4	+0.8
	baz=266,SNR=5.5						
SHA1	Shidzhatmaz	85.08	314	i P	P	08 32 31.3	-1.3
D24K	Happy Valley	85.11	21	IAmb	IAmb	08 32 34.9	
	comp=Z,14nm,0.7s						
D24K	Happy Valley	85.11	21	P	P	08 32 33.0	+1.1
	baz=264,SNR=11						
SCM	Sheep Creek Mo	85.12	28	P	P	08 32 33.3	+1.1
	baz=266						
E24K	Your Creek	85.13	22	P	P	08 32 34.1	+2.0
	baz=265						
H24K	Noodor Dome	85.17	24	P	P	08 32 33.0	+0.6
	baz=265						
GLI	Glacier Island	85.18	29	P	P	08 32 32.6	+0.2
	baz=266						
DHY	Denali Highway	85.19	27	P	P	08 32 32.2	-0.4
DHY				IAmb	IAmb	08 32 35.2	
	comp=Z,34nm,1.9s						
DHY	Denali Highway	85.19	27	P	P	08 32 33.4	+0.8
	baz=266,SNR=5.2						
C24K	Franklin Bluff	85.21	20	P	P	08 32 34.0	+1.6
	baz=264						
POKR	Poker Plat Res	85.30	25	P	P	08 32 34.3	+1.3
	baz=266						
F24K	Squaw Lake	85.31	23	P	P	08 32 34.2	+1.2
	baz=265,SNR=6.0						
G24K	Hadweenzic Riv	85.40	23	P	P	08 32 34.6	+1.1
	baz=266						
HDA	Harding Lake	85.46	26	IAmb	IAmb	08 32 41.7	
	comp=Z,19nm,2.0s						
Q23K	Middleton Isla	85.47	31	P	P	08 32 34.6	+0.7
	baz=267						
ILAR	Eielson Array	85.51	25	P	P	08 32 32.9	-1.1
	comp=Z,1.0nm,0.5s,baz=251,slow=5.3,SNR=21						
	comp=Z,1.0nm,0.5s						
M24K	Tolsona, Glenn	85.68	28	P	P	08 32 35.7	+0.7
	baz=267						
KLU	Klutina	85.78	29	P	P	08 32 36.3	+0.8
	baz=268						
EYAK	Cordova Ski Ar	85.82	30	P	P	08 32 36.3	+0.7
	baz=268						
K24K	Donnelly Dome	85.94	26	P	P	08 32 36.8	+0.6
	baz=268						
G25K	Bearman Lake	85.95	23	P	P	08 32 37.0	+1.0
	baz=267						
D25K	Kavik River	85.99	21	P	P	08 32 36.8	+0.5
	baz=266,SNR=5.5						
H25L	Birch Creek	86.04	24	P	P	08 32 37.8	+1.3
	baz=267						
PAX	Paxson	86.05	27	P	P	08 32 37.8	+1.0
	baz=268						
PRP	Porcupine Dome	86.13	25	P	P	08 32 37.3	+0.1
	baz=268						
J25K	Salcha River,	86.16	26	P	P	08 32 37.5	+0.2
	baz=268						
F25K	Christian Rive	86.17	23	P	P	08 32 38.6	+1.3
	baz=267						
HARP	HAARP	86.17	28	P	P	08 32 38.3	+1.0
	baz=268						
BMRM	Bremner River	86.40	29	P	P	08 32 38.7	+0.2
	baz=269						
N25K	Chitina, Valde	86.41	29	P	P	08 32 39.4	+0.8
	baz=269						
KAIM	Kayak Island	86.47	30	P	P	08 32 39.4	+0.6
	baz=269						
C26K	Camden Bay	86.53	20	P	P	08 32 39.9	+1.0
	baz=268						
BMAR	Burnt Mountain	86.57	23	P	P	08 32 39.8	+0.6
SCRK	Sand Creek	86.74	26	P	P	08 32 41.3	+1.1
	baz=269						
F26K	Sheenjek River	86.75	22	P	P	08 32 41.4	+1.3
	baz=269						
G26K	Porcupine Rive	86.87	23	P	P	08 32 41.2	+0.6
	baz=269						
J26L	Joseph Creek	86.93	26	P	P	08 32 41.3	+0.2
	baz=269						
C27K	Jago River	86.94	21	P	P	08 32 41.5	+0.6
	baz=269						
L26K	Log Cabin Wild	87.02	27	P	P	08 32 42.1	+0.6
	baz=270						
I26K	Coal Creek Min	87.11	25	P	P	08 32 42.9	+1.1
	baz=270						
CRQE	Cirque	87.13	29	P	P	08 32 42.8	+0.6
	baz=270						
MCARA	McCarthy VSAT	87.17	29	P	P	08 32 42.7	+0.5
	baz=270						
K27K	Chicken	87.58	26	P	P	08 32 45.0	+0.9
	baz=271						
M27K	Edge Creek, AK	87.70	28	P	P	08 32 45.0	+0.1
	baz=271						
MESA	MESA	87.70	30	P	P	08 32 45.5	+0.4
	baz=271						
E27K	Coleen River	87.71	22	IAmb	IAmb	08 32 47.9	
	comp=Z,10nm,1.7s						
E27K	Coleen River	87.71	22	P	P	08 32 45.7	+1.0
	baz=271						
L27K	Beaver Creek,	87.71	27	P	P	08 32 45.3	+0.5
	baz=271						
G27K	Doyon Strip	87.71	23	P	P	08 32 45.2	+0.4
	baz=271						
BCAR	Beaver Creek A	87.73	27	P	P	08 32 44.8	-0.1
I27K	Kandik River	87.75	25	P	P	08 32 45.4	+0.4
	baz=271						
H27K	Steamboat Moun	87.78	24	P	P	08 32 45.6	+0.5
	baz=271						
D27M	Malcolm River	87.92	21	IAmb	IAmb	08 33 38.5	
	comp=Z,20nm,2.0s						
D27M	Malcolm River	87.92	21	P	P	08 32 46.5	+0.8
	baz=272						
EGAK	Eagle	87.97	25	P	P	08 32 46.1	+0.2
	baz=272						
CTG	Chitna Glacier	87.99	29	P	P	08 32 46.5	+0.2
	baz=272						
F28M	Old Crow	88.38	23	P	P	08 32 48.8	+0.9
	baz=273						
I28M	Miner Creek	88.46	25	IAmb	IAmb	08 32 49.9	
	comp=Z,5.3nm,0.5s						
I28M	Miner Creek	88.46	25	P	P	08 32 48.8	+0.4
	baz=273						
E28M	Babbage River	88.46	22	IAmb	IAmb	08 33 13.0	
	comp=Z,17nm,1.9s						
E28M	Babbage River	88.46	22	P	P	08 32 49.0	+0.8
	baz=273						
O28M	Mount Upton	88.56	29	P	P	08 32 49.4	+0.2
	baz=273						
PINM	Pinnacle	88.56	30	P	P	08 32 49.7	+0.8
	baz=272						
D28M	Stokes Point	88.70	21	P	P	08 32 50.6	+1.3
	baz=274						
YUK8	Steele Glacier	88.74	29	P	P	08 32 50.7	+0.7
	baz=273						
DAWY	Dawson	88.76	26	P	P	08 32 49.0	-0.8
DAWY	Dawson	88.76	26	P	P	08 32 50.2	+0.4
	baz=273						
PNL	Peninsula	89.01	30	P	P	08 32 51.5	+0.5
	baz=273						
H29M	Whitestone	89.06	24	P	P	08 32 51.8	+0.7
	baz=274						
E29M	Blow River	89.07	22	P	P	08 32 51.8	+0.7
	baz=274						
G29M	Pine Creek	89.14	23	IAmb	IAmb	08 33 11.9	
	comp=Z,17nm,1.6s						
G29M	Pine Creek	89.14	23	P	P	08 32 51.6	+0.2
	baz=274						
I29M	Ogilvie Camp,	89.14	25	P	P	08 32 51.6	+0.1
	baz=274						
M29M	Somme Creek	89.28	28	P	P	08 32 53.2	+0.9
	baz=274						
O29M	Mount Kennedy	89.38	30	P	P	08 32 53.3	+0.5
	baz=274						
L29M	L29M	89.39	27	P	P	08 32 53.8	+1.1
	baz=274						
YUK6	Outpost Mounta	89.44	29	P	P	08 32 53.6	+0.3
	baz=274						
K29M	Barlow Dome	89.60	26	P	P	08 32 54.5	+0.6
	baz=275						
EPYK	Eagle Plains	89.71	24	P	P	08 32 54.8	+0.7
	baz=276						
G30M	tAoh Zraii Nji	89.84	23	IAmb	IAmb	08 33 22.7	
	comp=Z,21nm,2.0s						
G30M	tAoh Zraii Nji	89.84	23	P	P	08 32 54.5	-0.2
	baz=276						
P29M	Windy Craggy	89.85	30	P	P	08 32 55.6	+0.7
	baz=275						
F30M	Barrier River	89.94	22	P	P	08 32 55.8	+0.6
	baz=276						
I30M	Mount Dempster	89.96	25	P	P	08 32 55.7	+0.2
	baz=276						
N30M	Aishikik Lake	90.01	29	P	P	08 32 55.9	+0.2
	baz=275						
M30M	Minto, Yukon	90.05	27	P	P	08 32 57.0	+1.2
	baz=276						
J30M	Hart River	90.05	25	P	P	08 32 57.0	+1.1
	baz=276						
P30M	Million Dollar	90.20	30	P	P	08 32 57.7	+1.1
	baz=275						
MAYO	Mayo, Yukon	90.35	26	P	P	08 32 58.1	+1.0
	baz=276						
O30N	Mendenhall	90.56	29	P	P	08 32 59.0	+0.8
	baz=276						
PLBC	Pleasant Camp	90.56	31	P	P	08 32 59.0	+0.8
	baz=276						
G31M	Satah River	90.61	23	P	P	08 32 58.9	+0.7
	baz=278						
N31M	Braeburn, Yuko	90.64	29	P	P	08 32 59.3	+0.8
	baz=276						
INK	Inuvik	90.69	22	P	P	08 32 58.8	+0.2
	baz=279						
F31M	Tsiigehtchic	90.74	22	P	P	08 32 58.2	-0.6
	baz=278						
SKAG	Skagway	91.09	31	P	P	08 33 02.0	+1.4
	baz=277						
WHY	Whitehorse	91.17	29	P	P	08 33 00.9	-0.2
WHY				IAmb	IAmb	08 33 05.7	
	comp=Z,5.7nm,1.4s						
WHY	Whitehorse	91.17	29	P	P	08 33 01.7	+0.5
	baz=277						
M31M	Drury Creek, Y	91.20	28	P	P	08 33 01.3	+0.1
	baz=278						
SIT	Sitka	91.38	33	P	P	08 33 03.0	+1.0
	baz=277						
R32K	Eaglecrest	91.66	32	P	P	08 33 04.4	+1.1
	baz=278						
FARO	Faro, Yukon	91.68	28	IAmb	IAmb	08 33 04.6	
	comp=Z,4.9nm,1.1s						
FARO	Faro, Yukon	91.68	28	P	P	08 33 04.5	+1.1
	baz=279						
P32M	Atlin	91.89	30	P	P	08 33 05.5	+1.0
	baz=278						
BRTR	Keskin Array B	91.95	310	P	P	08 33 04.1	-1.2
	comp=Z,0.3nm,0.5s,baz=93,slow=2.9,SNR=1.8						
	comp=Z,0.3nm,0.5s						
N32M	Quiet Lake	91.97	29	IAmb	IAmb	08 33 10.6	
	comp=Z,4.6nm,0.9s						
N32M	Quiet Lake	91.97	29	P	P	08 33 05.3	+0.5
	baz=279						
ARCES	ARCESS Array B	92.08	340	P	P	08 33 03.3	-1.8
	comp=Z,0.9nm,0.4s,baz=84,slow=6.2,SNR=17						
	comp=Z,0.9nm,0.4s						
P33M	Teslin, Yukon	92.24	30	P	P	08 33 06.7	+0.6
	baz=279						
QSPA	South Pole Qui	92.46	180	P	P	08 33 07.0	+0.1
QSPA	South Pole Qui	92.46	180	P	P	08 33 06.3	-0.6
	comp=Z,2.3nm,0.6s,baz=258,slow=0.5,SNR=20						
	comp=Z,2.3nm,0.6s						
Q32M	Nakina River	92.72	31	P	P	08 33 09.5	+1.0
	baz=279						
R33M	Jennings River	93.30	30	P	P	08 33 11.7	+0.6
	baz=281						
S34M	Telegraph Cree	93.49	32	P	P	08 33 12.0	+0.2
	baz=280						
FINES	FINESS Array B	93.59	332	P	P	08 33 09.8	-2.4
	comp=Z,0.3nm,0.4s,baz=76,slow=5.9,SNR=1.7						
	comp=Z,0.3nm,0.4s						
V35K	Ketchikan	93.68	34	P	P	08 33 13.1	+0.4
	baz=280						
C36M	Paulatuk	93.81	20	P	P	08 33 12.6	-0.4
C36M	Paulatuk	93.81	20	P	P	08 33 13.8	+0.8
	baz=287						
DLBC	Dease Lake	93.97	31	P	P	08 33 14.4	+0.3
	baz=281						
T35M	Bob Quinn	94.13	33	P	P	08 33 15.3	+0.5
	baz=281						
WTLY	Watson Lake, Y	94.24	29	P	P	08 33 16.1	+0.8
	baz=282						
TOAD	Toad River Com	96.31	30	P	P	08 33 25.3	+0.6
	baz=286						
HFS	Hagfors	99.77	332	P	Pdif	08 33 39.8	-0.4
	comp=Z,0.7nm,0.5s,baz=78,slow=7.5,SNR=4.0						
	comp=Z,0.7nm,0.5s						
YKA	Yellowknife Ar	99.93	25	P	Pdif	08 33 40.6	-0.2
	comp=Z,0.4nm,0.5s,baz=302,slow=4.2,SNR=4.3						
	comp=Z,0.4nm,0.5s						
YKA	Yellowknife Ar	99.93	25	i P	Pdif	08 33 40.5	-0.3
NOA	NORSAR Array B	100.52	334	P	Pdif	08 33 41.8	-1.8
	comp=Z,0.2nm,0.6s,baz=54,slow=6.5,SNR=2.4						
PKM	Mcpherson Peak	106.35	53	P	PKiKP	08 38 21.1	-0.2
	baz=285						
NVAR	Mina Array Bea	106.54	49	Pdiff	Pdif	08 34 10.1	-1.0
	comp=Z,0.3nm,0.5s,baz=267,slow=4.5,SNR=3.5						
TPNV	Topopah Spring	108.54	50	P	PKiKP	08 38 25.7	+0.3
	baz=288						
O20A	White River Ci	113.23	44	P	PKiKP	08 38 34.4	+0.2
	baz=295						
TUC	Tucson	114.31	53	P	PKiKP	08 38 36.6	+0.3
	baz=290						
N23A	Red Feather La	114.47	43	P	PKPdf	08 38 36.4	-0.2
	baz=297						
SDCO	Great Sand Dun	116.18	45	P	PKPdf	08 38 39.9	-0.1
	baz=296						
ECSD	EROS Data Cent	118.87	36	P	PKPdf	08 38 44.2	-0.5
	baz=306						
WMOK	Wichita Mounta	122.39	46	P	PKPdf	08 38 51.8	+0.1
	baz=300						
JFWS	Jewell Farm	122.98	33	P	PKPdf	08 38 52.6	0.0
	baz=312						
JCT	Junction City	123.65	50	P	PKPdf	08 38 54.3	0.0
	baz=297						
TORD	Torodi Ar. Bea	124.74	288	PKP	PKPdf	08 38 56.4	-0.2
	comp=Z,1.9nm,0.6s,baz=44,slow=3.1,SNR=9.7						
CCM	Cathedral Cave	125.55	38	P	PKPdf	08 38 57.7	+0.1
	baz=309						
MIAR	Mount Ida	126.12	43	P	PKPdf	08 38 59.2	+0.4
	baz=304						
ERPA	Erie	128.70	27	P	PKPdf	08 39 03.4	-0.1
	baz=323						
O53A	New Philadelph	129.59	29	P	PKPdf	08 39 05.1	-0.2
	baz=320						
BLA	Blacksburg	132.31	31	P	PKPdf	08 39 09.7	-0.9
	baz=320						
KMSC	Kings Mountain	133.37	34	P	PKPdf	08 39 12.8	+0.2
	baz=317						
PLCA	Paso Flores	138.35	158	PKP	PKPdf	08 39 21.4	-0.3
	comp=Z,1.4nm,0.7s,baz=289,slow=2.0,SNR=7.4						
CPUP	Villa Florida	155.75	168	PKPab	PKPab	08 40 14.9	-2.2
	comp=Z,1.0nm,0.6s,baz=189,slow=2.3,SNR=3.3						
LPAZ	La Paz	158.86	131	PKPab	PKPab	08 40 32.7	+1.0
	comp=Z,2.0nm,0.8s,baz=199,slow=2.9,SNR=8.0						

NNC 25 08:27:18.5±3.0, 34°.93N×69°.91E, h0km, mb4.5, mpv4.3, 2C-1D, Error ellipse: s-maj=29.3km s-min=26.6km az=79.0, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	7.21	1	Lg	Lg	08 30 26.5	
	158nm,0.6s						
KK31	Karatay Array	8.18	3	⇑P	Pn	08 29 18.3	-0.2
	6.9nm,0.5s,baz=187,slow=14,SNR=104						
KK31				⇑S	Sn	08 30 52.7	+1.1
	18nm,0.6s,baz=181,slow=18						
TKM2	Tokmak 2	9.13	27	P	Pn	08 29 34.4	+2.7
	7.3nm,0.7s						
TKM2				⇓S	Sn	08 31 16.8	+1.5
	15nm,0.9s						
SGDS	Sogindy	9.27	22	Lg	Lg	08 31 17.4	
	15nm,1.1s						
KST	Kastek	9.37	28	Lg	Lg	08 31 21.5	
	12nm,0.6s						
DGS	Degeres	9.47	27	Lg	Lg	08 31 23.3	
	6.8nm,0.7s						
MTBS	Maitube	9.63	30	P	Pn	08 29 37.6	-0.9
	8.0nm,0.4s						
TNSS	Tian-Shan	9.77	32	P	Pn	08 29 39.8	-0.9
	4.3nm,0.6s						
KRBS	Karabastau	9.83	25	P	Pn	08 29 40.9	-0.2
	3.4nm,0.6s						
KTBS	Karatobe	10.22	29	P	Pn	08 29 46.2	-0.3
	6.9nm,0.5s						
CHKK	Chushkaly	10.46	29	P	Pn	08 29 49.3	-0.4
	2.0nm,0.3s						
UZB	Uzynbulak	10.84	38	P	Pn	08 29 54.2	-0.8
	5.6nm,0.7s						
ARXS	Arharly	11.10	31	P	Pn	08 29 57.5	-1.1
	2.5nm,0.5s						
AB31	Akbulak array	16.09	336	P	Pn	08 31 05.0	-1.0
	2.5nm,0.6s,baz=156,slow=12,SNR=55						

IDC 25 08:35:35.7±3.2, 54°.15N×87°.37E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=27.4km s-min=19.6km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.52	263	I	I	08 44 10.0	
	baz=82,slow=321,SNR=3.0						
ZAA0	Zalesovo Array	1.52	263	P	Pn	08 36 03.1	-0.9
	0.4nm,0.6s,baz=75,slow=12						
ZALV	Zalesovo Beam	1.52	263	Pn	Pn	08 36 02.8	-1.2
	2.1nm,0.3s,baz=78,slow=17,SNR=13						
ZALV				Lg	Lg	08 36 23.8	
	0.9nm,0.3s,baz=83,slow=26,SNR=4.1						
KURBB	Kurchatov Arra	6.46	240	Pn	Pn	08 37 13.8	+1.9
	0.1nm,0.3s,baz=59,slow=14,SNR=4.5						
KURBB				Lg	Lg	08 38 59.4	
	baz=45,slow=32,SNR=2.6						
	0.5nm,0.4s						
MKAR	Makanchi Array	8.05	206	Pn	Pn	08 37 34.0	+0.3
	baz=24,slow=13,SNR=1.8						
MKAR				Lg	Lg	08 39 52.7	
	baz=18,slow=30,SNR=2.7						
	0.2nm,0.6s						

IDC 25 08:39:32.1±3.0, 53°.52N×87°.76E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=27.0km s-min=15.8km az=62.0

ISC 25 08:39:26.8±3.1, 52°.74N±0°.07×87°.4E±0°.2, h10km, n6, σ3°01/7, 1C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	1.98	309	⇓P	Pb	08 40 04.0	+1.1
	0.2nm,0.2s,baz=121,slow=11						
ZAA0				⇑S	Sg	08 40 30.7	+0.3
	3.1nm,0.8s,baz=125,slow=22						
ZALV	Zalesovo Beam	1.98	309	Pn	Pg	08 40 04.7	-0.1
	0.9nm,0.3s,baz=105,slow=12,SNR=7.5						
ZALV				Lg	Lg	08 40 29.3	
	1.7nm,0.3s,baz=112,slow=27,SNR=10						
I46RU	ZALESOVO INFRA	1.98	309	I	I	08 50 31.0	
	baz=102,slow=317,SNR=3.2						
KURBB	Kurchatov Arra	5.93	253	Pn	Pb	08 41 07.4	-2.7
	baz=63,slow=14,SNR=4.6						
KURBB				Lg	Lg	08 42 53.3	
	baz=62,slow=31,SNR=7.0						
	0.7nm,0.7s						
MK31	Makanchi Array	6.82	211	P	Pn	08 41 05.0	-1.9
	0.2nm,0.4s,baz=230,slow=13,SNR=6.6						
MKAR	Makanchi Array	6.82	211	Pn	Pb	08 41 25.4	0.0
	0.2nm,0.3s,baz=30,slow=15,SNR=5.8						
MKAR				Sn	Sb	08 42 51.7	+4.9
	0.1nm,0.3s,baz=32,slow=26,SNR=4.1						
MKAR				Lg	Lg	08 43 31.1	
	baz=32,slow=29,SNR=3.0						
	0.3nm,0.3s						

IDC 25 08:51:60.0±1.7, 24°.15S×66°.59W, h138km±18km, mb3.3/5, mbtmp3.8/10, MS3.7/1, Error ellipse: s-maj=19.7km s-min=15.4km az=138.0

SJA 25 08:52:01.6±0.8, 24°.01S×66°.97W, h202km±6km, ML3.9, MW3.6

NEIC 25 08:52:01.7±1.0, 24°.06S±0°.07×67°.0W±0°.1, h219km±11km, mb4.0/3, ML4.0(GUC), Error ellipse: s-maj=19.3km s-min=10.3km az=96.0

GUC 25 08:52:03.8±0.5, 24°.02S×67°.26W, h214km±8km, ML4.0

ISC 25 08:52:01.9±0.7, 23°.99S±0°.04×67°.02W±0°.04, h195km±7km, n61, σ1°58/81, mb3.6/6, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.48	314		Pn	08 52 37.1	+1.7
AF01	San Pedro de A	1.48	314	eP	Pn	08 52 36.8	+1.4
AF01	San Pedro de A	1.48	314	eP	Pn	08 52 37.2	+1.8
SLA	San Lorenzo	1.56	118	eP	Pn	08 52 36.8	+0.9
AZAP	Zapla	1.80	98	eP	Pn	08 52 38.7	+0.3
AZAP				eS	S	08 53 06.3	-0.2
LVC	Limon Verde	2.22	308		Pn	08 52 44.4	+1.6
LVC	Limon Verde	2.22	308	eP	Pn	08 52 44.2	+1.4
LVC				eS	S	08 53 15.3	+0.8
LVC	Limon Verde	2.22	308	P	Pn	08 52 43.9	+1.1
	36nm,0.3s,baz=115,slow=8.0,SNR=411						
LVC				S	S	08 53 14.9	+0.4
	89nm,0.4s,baz=264,slow=21,SNR=42						
LVC	Limon Verde	2.22	308	⇑P	Pn	08 52 44.1	+1.3
LVC				eS	S	08 53 14.9	+0.4
LVC				IAML		08 53 16.8	
	912nm,0.6s						
YJA	Yavi	2.28	38	eP	Pn	08 52 44.6	+1.0
YJA				eS	S	08 53 16.7	+0.7
FSA	Cafayete	2.31	156	i P	Pn	08 52 44.1	+0.5
FSA				eS	S	08 53 14.8	-1.4
P

comp=Z,991nm,0.1s
PB15 IPOC Station P 2.38 289⇑iP Pn 08 52 45.8 +1.4
PB15 eS **S** **08 53 17.4 0.0**
GO02 Mina Guanaco 2.61 243 Pn 08 52 48.5 +1.4
GO02 Mina Guanaco 2.61 243 eP **Pn 08 52 48.3 +1.1**
GO02 eS **S** **08 53 22.9 +0.7**
GO02 Mina Guanaco 2.61 243⇑iP Pn 08 52 48.2 +1.1
GO02 eS **S** **08 53 22.0 -0.3**
GO02 IAML 08 53 23.2
comp=N,478nm,0.5s
PB06 IPOC Station P 2.67 298 Pn 08 52 49.1 +1.5
PB06 IPOC Station P 2.67 298 eP **Pn 08 52 48.9 +1.3**
PB06 eS **S** **08 53 23.2 0.0**
PB06 IAML 08 53 24.9
comp=Z,322nm,0.1s
PB06 IPOC Station P 2.67 298⇑iP Pn 08 52 49.0 +1.3
PB06 eS **S** **08 53 22.8 -0.4**
ALOL LOMAS DE OLMED 2.79 87 eP **Pn 08 52 49.7 +0.9**
PB09 IPOC Station P 3.00 316 Pn 08 52 53.5 +2.1
PB09 IPOC Station P 3.00 316 eP **Pn 08 52 53.2 +1.7**
PB09 eS **S** **08 53 31.3 +1.2**
PB09 IAML 08 53 33.8
comp=Z,173nm,0.4s
PB09 IPOC Station P 3.00 316 eP **Pn 08 52 53.3 +1.8**
PB09 eS **S** **08 53 30.7 +0.5**
PB09 IAML 08 53 37.9
comp=N,140nm,0.5s
PB05 IPOC Station P 3.13 291 Pn 08 52 54.0 +1.0
PB14 IPOC Station P 3.15 258 Pn 08 52 54.2 +0.8
PB14 IPOC Station P 3.15 258 eP **Pn 08 52 53.5 +0.1**
PB14 eS **S** **08 53 32.7 -0.8**
PB14 IAML 08 53 36.2
comp=Z,94nm,0.1s
PB14 IPOC Station P 3.15 258 eP **Pn 08 52 54.0 +0.7**
PB04 IPOC Station P 3.32 299 Pn 08 52 56.2 +0.9
PB04 IPOC Station P 3.32 299 eP **Pn 08 52 55.8 +0.4**
PB04 eS **S** **08 53 36.4 -0.6**
PB04 IAML 08 53 37.7
comp=Z,235nm,0.2s
PB04 IPOC Station P 3.32 299 eP **Pn 08 52 56.2 +0.9**
PB04 eS **S** **08 53 35.5 -1.6**
PATCX Punta Patache 4.29 317 Pn **Pn 08 53 08.4 +1.1**
PATCX Punta Patache 4.29 317 eP **Pn 08 53 07.9 +0.6**
PATCX eS **S** **08 53 57.4 -1.1**
PATCX IAML 08 53 59.7
comp=Z,61nm,0.8s
TA01 Diego Aracena 4.49 319 Pn **Pn 08 53 10.3 +0.5**
TA01 Diego Aracena 4.49 319 eP **Pn 08 53 10.0 +0.2**
TA01 eS **S** **08 53 56.1 -7.0**
TA01 IAML 08 54 05.1
comp=Z,46nm,0.2s
AC06 Mina Casimiro 4.50 221 Pn 08 53 08.8 -1.0
HMBC Humberstone 4.55 324 Pn 08 53 11.7 +1.0
GO03 Copiap 4.61 218 eP **Pn 08 53 10.9 -0.3**
GO03 eS **S** **08 54 04.0 -1.8**
GO01 Chusmiza 4.75 334 Pn 08 53 15.2 +1.6
GO01 Chusmiza 4.75 334 eP **Pn 08 53 15.0 +1.4**
VCA Vinchina 4.84 192 eP **Pn 08 53 17.2 +3.0**
PB11 IPOC Station P 4.87 329 Pn **Pn 08 53 15.2 +0.4**
PB11 IPOC Station P 4.87 329 eP **Pn 08 53 14.1 -0.7**
PB11 IAML 08 54 14.6
comp=Z,71nm,0.3s
ACLC CERRO LA CRUZ 5.41 179 eP **Pn 08 53 22.0 +0.4**
ACLC eS **S** **08 54 25.1 +0.6**
AC04 Llanos de Chal 5.55 220 Pn **Pn 08 53 22.2 -1.1**
LCO Las Campanas 5.99 213 Pn **Pn 08 53 27.6 -1.5**
LPAZ La Paz 7.74 352 Pn 08 53 52.7 +0.3
LPAZ La Paz 7.74 352 Pn 08 53 53.9 +1.5
comp=Z,1.1nm,0.3s,baz=162,slow=10,SNR=42
LPAZ S **S** **08 55 19.4 -0.7**
comp=Z,1.0nm,0.6s,baz=43,slow=17,SNR=2.3
SIV San Ignacio 9.73 36 P **Pn 08 54 16.5 -1.3**
comp=Z,1.6nm,0.4s,baz=230,slow=9.4,SNR=14
SIV S **S** **08 56 02.5 -4.2**
comp=Z,0.3nm,0.3s,baz=289,slow=23,SNR=1.3
TRQA Tornquist 14.66 164 P **Pn 08 55 18.5 -1.6**
PLCA Paso Flores 16.95 189 Pn **P 08 55 45.6 -0.9**
PLCA IAmb IAmb 08 55 56.5
comp=Z,7.8nm,1.4s
PLCA Paso Flores 16.95 189 P **Pn 08 55 48.8 +1.0**
comp=Z,1.3nm,0.6s,baz=13,slow=14,SNR=2.6
LL04 Puerto Octay 17.46 194 P **P 08 55 49.3 -2.7**
LL04 IAmb IAmb 08 55 52.9
comp=Z,7.9nm,1.4s
BDFB Brasilia 19.70 69 P **P 08 56 17.6 +0.9**
comp=Z,7.8nm,0.7s,baz=237,slow=11,SNR=11
BOAV Boa Vista 26.98 14 P **P 08 57 22.8 -2.9**
BOAV IAmb IAmb 08 57 57.2
comp=Z,7.8nm,1.4s
ROSC El Rosal 29.53 345 LR LR 09 12 34.8
comp=Z,142nm,18.4s,baz=76,slow=42
SNAA Sanae 59.36 161 P **P 09 01 45.0 +1.8**
comp=Z,1.4nm,1.1s,baz=247,slow=13,SNR=2.0
comp=Z,1.4nm,1.1s
TXAR Lajitas Array 63.66 324 P P 09 02 20.4 +7.9
comp=Z,0.4nm,1.1s,baz=140,slow=4.7,SNR=2.6
comp=Z,0.4nm,1.1s
QSPA South Pole Qui 66.21 180 P **P 09 02 31.6 +3.1**
comp=Z,0.8nm,0.5s,baz=301,slow=1.4,SNR=15
comp=Z,0.8nm,0.5s
TORD Torodi Ar. Bea 76.59 69 P **P 09 03 32.3 +1.1**
comp=Z,0.5nm,0.4s,baz=265,slow=6.0,SNR=8.5
comp=Z,0.5nm,0.4s
NVAR Mina Array Bea 78.52 321 P P 09 03 49.7 +7.9
comp=Z,0.2nm,0.5s,baz=100,slow=4.7,SNR=1.7
comp=Z,0.2nm,0.5s

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*TAP **25** 08:55:49.5, 24°.23N× 121°.80E, h18km, ML3.9, B*
*ASIES **25** 08:55:49.5, 24°.23N× 121°.80E, h18km, ML3.9, Mw3.6,*
Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm;
M_{rr}2.47; $M_{\theta\theta}$-1.08; $M_{\phi\phi}$-1.39; $M_{r\theta}$-0.03; $M_{\theta\phi}$-1.82; $M_{\phi r}$0.75;
Fault plane solution: $M_0$2.91299×10^{21} NP1:ϕ_s29.11000°,
δ52.05000°, λ71.98000°. NP2:ϕ_s236.98000°, δ41.42000°,
λ111.63000°. Principal axes: T Plg74.8200°,
Azm242.4810°; N Plg14.1150°, Azm40.4200°; P
Plg5.4730°, Azm131.8010°;
*JMA **25** 08:55:49.5±0.1, 24°.2N±0°.3× 121°.8E±0°.5, h24km, MV3.0/13,*
TAIWAN REGION
ISC 25 08:55:49.6±0.9, 24°.22N±0°.01× 121°.82E±0°.02, h18km±2km,
n165, σ0°62/265, 6C-36D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=326	**0.11**	**323**	P		**Pg**		**08 55 53.2**	**-0.3**
EHP	baz=326			S		**Sg**		**08 55 56.4**	**+0.3**
EAHA	**Aohua** baz=328	**0.13**	**327**	⇑P		**Pg**		**08 55 53.4**	**-0.2**
EAHA	baz=328			S		**Sg**		**08 55 56.4**	**0.0**
ETL	**Fush Village** baz=250	**0.19**	**251**	P		**Pg**		**08 55 54.5**	**+0.1**
ETL	baz=250			S		**Sg**		**08 55 58.1**	**+0.4**
NACB	**Ninganchiao**	**0.21**	**257**	P		**Pg**		**08 55 54.6**	**-0.1**
NACB	**Ninganchiao** baz=257	**0.21**	**257**	⇓iP		**Pg**		**08 55 54.6**	**-0.1**
NACB	baz=257			S		**Sg**		**08 55 58.4**	**+0.2**
ENA	**Nanau** baz=342	**0.22**	**342**	⇓iP		**Pg**		**08 55 54.7**	**-0.2**
ENA	baz=342			*i* S		**Sg**		**08 55 58.5**	**0.0**
EWUT	**Wuta** baz=350	**0.23**	**351**	P		**Pg**		**08 55 54.9**	**-0.2**
EWUT	baz=350			S		**Sg**		**08 55 58.8**	**+0.1**
TWD	**Chiawan** baz=239	**0.24**	**236**	⇓iP		**Pb**		**08 55 55.3**	**-0.1**
TWD	baz=239			*i* S		**Sb**		**08 55 59.7**	**+0.5**
ETLH	**Xiulin Townshi** baz=266	**0.31**	**268**	⇓iP		**Pg**		**08 55 56.2**	**-0.2**
ETLH	baz=266			S		**Sb**		**08 56 01.0**	**-0.3**
HWA	**Hwalien** baz=225	**0.31**	**219**	eP		**Pb**		**08 55 57.2**	**+0.5**
HWA	baz=225			eS		**Sn**		**08 56 03.4**	**-1.9**
ESAO	**Su ao** baz=359	**0.36**	**4**	⇓P		**Pg**		**08 55 57.0**	**-0.2**
ESAO	baz=359			*i* S		**Sb**		**08 56 02.1**	**-0.6**
ETM	**Tongmen** baz=236	**0.39**	**230**	P		**Pg**		**08 55 57.7**	**0.0**
ETM	baz=236			eS		**Sb**		**08 56 03.9**	**+0.2**
TWC	**Suao** baz=1.0	**0.39**	**4**	⇓iP		**Pb**		**08 55 57.6**	**-0.4**
TWC	baz=1.0			S		**Sb**		**08 56 03.4**	**-0.4**
TEYL	**Yanliau Villag** baz=212	**0.40**	**210**	P		**Pb**		**08 55 58.3**	**0.0**
TEYL	baz=212			eS		**Sb**		**08 56 04.8**	**+0.7**
LATG	**Datong** baz=319	**0.41**	**320**	⇓iP		**Pb**		**08 55 58.1**	**-0.4**
LATG	baz=319			*i* S		**Sb**		**08 56 04.1**	**-0.4**
LXIB	**Xiulin Townshi** baz=251	**0.42**	**242**	⇓iP		**Pg**		**08 55 58.1**	**-0.2**
LXIB	baz=251			*i* S		**Sb**		**08 56 04.7**	**0.0**
NDS	**Dongshan** baz=346	**0.42**	**347**	⇓iP		**Pb**		**08 55 58.4**	**-0.2**
NDS	baz=346			*i* S		**Sb**		**08 56 04.3**	**-0.5**
EOS2	**EOS2** baz=58	**0.43**	**62**	eP		**Pb**		**08 55 59.4**	**+0.7**
NNSB	**Datong** baz=297	**0.45**	**298**	⇓iP		**Pb**		**08 55 58.8**	**-0.3**
NNSB	baz=297			S		**Sb**		**08 56 05.0**	**-0.5**
NNSH	**Datong** baz=297	**0.45**	**298**	⇓P		**Pb**		**08 55 58.9**	**-0.3**
NNSH	baz=297			S		**Sb**		**08 56 05.2**	**-0.3**
NNS	**Nan Shan** baz=298	**0.46**	**299**	⇓iP		**Pb**		**08 55 59.1**	**-0.2**
NNS	baz=298			eS		**Sb**		**08 56 05.7**	**-0.2**
EOS3	**EOS3** baz=82	**0.46**	**82**	eP		**Pb**		**08 55 59.8**	**+0.6**
EOS4	**EOS4** baz=103	**0.47**	**102**	eP		**Pn**		**08 56 00.3**	**-0.8**
NDT	**Datong Townshi** baz=323	**0.47**	**324**	⇓iP		**Pb**		**08 55 59.2**	**-0.2**
NDT	baz=323			*i* S		**Sb**		**08 56 06.1**	**0.0**
ENTT	**Nioudou** baz=322	**0.48**	**331**	⇓iP		**Pb**		**08 55 59.2**	**-0.4**
ENTT	baz=322			S		**Sb**		**08 56 06.1**	**-0.2**
SHUL	**Shoufeng** baz=201	**0.49**	**208**	P		**Pb**		**08 56 00.2**	**+0.5**
SHUL	baz=201			eS		**Sn**		**08 56 08.8**	**-0.9**
WHF	**Hehuan Shan** baz=262	**0.51**	**262**	⇓P		**Pb**		**08 55 60.0**	**-0.3**
WHF	baz=262			*i* S		**Sb**		**08 56 07.2**	**-0.4**
TWE	**Neicheng** baz=344	**0.52**	**345**	⇓iP		**Pb**		**08 56 00.0**	**-0.2**
TWE	baz=344			S		**Sb**		**08 56 07.0**	**-0.3**
FUSS	**Fushou** baz=273	**0.52**	**273**	⇓iP		**Pb**		**08 56 00.4**	**0.0**
FUSS	baz=273			eS		**Sb**		**08 56 07.8**	**+0.1**
ESL	**Shilin** baz=227	**0.54**	**221**	⇑iP		**Pb**		**08 56 00.4**	**-0.1**
ESL	baz=227			eS		**Sb**		**08 56 08.7**	**+0.9**
ILA	**Ilan** baz=347	**0.55**	**353**	eP		**Pb**		**08 56 00.8**	**+0.1**
ILA	baz=347			eS		**Sb**		**08 56 09.0**	**+0.8**
FUSB	**Fushanzhiwuyua** baz=330	**0.58**	**339**	⇓iP		**Pb**		**08 56 01.1**	**-0.2**
FUSB	baz=330			*i* S		**Sb**		**08 56 09.1**	**0.0**
TWT	**Tachien** baz=272	**0.59**	**273**	⇓P		**Pb**		**08 56 01.8**	**+0.4**
TWT	baz=272			S		**Sb**		**08 56 09.8**	**+0.4**
TDCB	**Techi** baz=273	**0.60**	**273**	⇓iP		**Pb**		**08 56 01.8**	**+0.1**
TDCB	baz=273			S		**Sb**		**08 56 09.8**	**-0.1**
YHNB	**Yeheng** baz=317	**0.60**	**318**	P		**Pb**		**08 56 01.8**	**+0.1**
YHNB	**Yeheng** baz=317	**0.60**	**318**	⇓iP		**Pb**		**08 56 01.6**	**-0.1**
YHNB	baz=317			S		**Sb**		**08 56 10.0**	**+0.2**
CHGB	**Renai** baz=248	**0.61**	**255**	⇓iP		**Pb**		**08 56 01.9**	**+0.1**
CHGB	baz=248			S		**Sb**		**08 56 10.1**	**0.0**
NSK	**Sanguang** baz=317	**0.62**	**317**	⇓iP		**Pb**		**08 56 01.8**	**-0.2**
NSK	baz=317			S		**Sb**		**08 56 10.3**	**0.0**
NWLT	**Wulai** baz=332	**0.62**	**333**	⇓P		**Pg**		**08 56 01.9**	**-0.2**
NWLT	baz=332			eS		**Sb**		**08 56 10.2**	**-0.2**
EGS	baz=15	**0.63**	**10**	eP		**Pg**		**08 56 02.4**	**+0.2**
EGS	baz=15			eS		**Sg**		**08 56 11.5**	**+0.8**
WARBT	**Fenglin Townsh** baz=232	**0.64**	**218**	⇑iP		**Pb**		**08 56 01.6**	**-0.5**
WARBT	baz=232			eS		**Sg**		**08 56 11.2**	**+0.4**
OWD	**Renai** baz=246	**0.64**	**246**	eP		**Pg**		**08 56 02.4**	**0.0**
OWD	baz=246			eS		**Sb**		**08 56 11.5**	**+0.5**
WUSB	**Renai** baz=251	**0.68**	**251**	⇓P		**Pg**		**08 56 03.1**	**+0.1**
WUSB	baz=251			S		**Sg**		**08 56 12.3**	**+0.2**
TIPB	**Shuangxi** baz=359	**0.75**	**1**	⇓P		**Pg**		**08 56 04.3**	**-0.1**
TIPB	baz=359			*i* S		**Sg**		**08 56 14.3**	**0.0**
NFF	**Wufeng Townshi** baz=302	**0.76**	**303**	⇓P		**Pg**		**08 56 04.4**	**-0.1**
NFF	baz=302			eS		**Sg**		**08 56 14.5**	**-0.1**
VWDT	**VWDT** baz=240	**0.77**	**233**	⇑iP		**Pg**		**08 56 04.7**	**-0.1**
VWDT	baz=240			S		**Sg**		**08 56 15.7**	**+0.6**
TWA	**Mucha** baz=343	**0.79**	**344**	⇓P		**Pg**		**08 56 04.9**	**-0.2**
TWA	baz=343			eS		**Sg**		**08 56 15.2**	**-0.3**
WHP	**Taichung City** baz=274	**0.80**	**274**	eP		**Pn**		**08 56 05.4**	**-0.7**
TWB1	**Santiao Chiao** baz=10.0	**0.80**	**11**	eP		**Pg**		**08 56 05.2**	**-0.1**
TWB1	baz=10.0			eS		**Sb**		**08 56 15.3**	**-0.3**
HGSD	**Ruisui** baz=197	**0.81**	**206**	eP		**Pg**		**08 56 05.6**	**+0.2**
HGSD	baz=197			S		**Sn**		**08 56 18.1**	**+0.4**
TATO	**Taipei** baz=337	**0.81**	**338**	P		**Pn**		**08 56 05.5**	**-0.7**
TATO	**Taipei** baz=337	**0.81**	**338**	eP		**Pg**		**08 56 05.0**	**-0.6**
TATO	baz=337			S		**Sg**		**08 56 16.4**	**+0.2**
WPL	**Puli Township** baz=256	**0.81**	**255**	P		**Pn**		**08 56 05.7**	**-0.5**
WPL	baz=256			eS		**Sn**		**08 56 16.9**	**-0.9**
DPDB	**Guoxing** baz=257	**0.83**	**257**	eP		**Pg**		**08 56 05.8**	**-0.2**
NJD	**Zhudong** baz=312	**0.84**	**308**	eP		**Pn**		**08 56 06.5**	**-0.1**
NJD	baz=312			eS		**Sn**		**08 56 18.0**	**-0.5**
EHYH	**Wanrong** baz=222	**0.84**	**211**	eP		**Pb**		**08 56 05.3**	**-0.4**
EHYH	baz=222			eS		**Sg**		**08 56 17.8**	**+0.6**
EHY	**Hungye** baz=224	**0.84**	**213**	eP		**Pb**		**08 56 04.4**	**-1.3**
EHY	baz=224			eS		**Sg**		**08 56 17.9**	**+0.6**
WCS	**Beigang Elemen** baz=260	**0.84**	**259**	⇓eP		**Pg**		**08 56 05.7**	**-0.4**
WCS	baz=260			eS		**Sg**		**08 56 17.2**	**-0.1**
LIOB	**Emei** baz=300	**0.84**	**300**	⇓iP		**Pn**		**08 56 06.4**	**-0.3**
LIOB	baz=300			eS		**Sn**		**08 56 17.7**	**-0.9**
NSTT	**Nanjuang** baz=298	**0.85**	**299**	⇓iP		**Pn**		**08 56 06.3**	**-0.4**
NSTT	baz=298			eS		**Sn**		**08 56 18.0**	**-0.7**
NWF	**Wu-fen Shan** baz=349	**0.85**	**358**	P		**Pn**		**08 56 06.4**	**-0.4**
NWF	baz=349			S		**Sn**		**08 56 17.8**	**-1.1**
WFSB	**Wu-fen Shan** baz=349	**0.85**	**358**	⇓P		**Pn**		**08 56 06.4**	**-0.3**
WFSB	baz=349			eS		**Sg**		**08 56 17.4**	**-0.1**
TAP	**Taipei** baz=332	**0.86**	**341**	eP		**Pg**		**08 56 06.2**	**-0.3**
SXI1	**Grass Mountain** baz=7.0	**0.87**	**3**	⇓P		**Pn**		**08 56 06.8**	**-0.3**
SXI1	baz=7.0			eS		**Sg**		**08 56 18.3**	**0.0**
SSLB	**Suanglung**	**0.90**	**242**	P		**Pg**		**08 56 06.9**	**-0.3**
SSLB	**Suanglung** baz=249	**0.90**	**242**	⇑P		**Pb**		**08 56 06.5**	**-0.2**
SSLB	baz=249			S		**Sb**		**08 56 18.4**	**+0.1**
SMLT	**Sun Moon Lake** baz=249	**0.90**	**248**	eP		**Pg**		**08 56 06.8**	**-0.4**
SMLT	baz=249			eS		**Sg**		**08 56 18.9**	**-0.3**
NTY	**Taoyuan** baz=328	**0.91**	**329**	eP		**Pn**		**08 56 07.2**	**-0.3**
HSN1	**Hsinchu** baz=297	**0.92**	**308**	eP		**Pn**		**08 56 08.0**	**+0.4**
TNOU	**National Taiwa** baz=356	**0.93**	**358**	eP		**Pn**		**08 56 07.6**	**-0.2**
TNOU	baz=356			S		**Sg**		**08 56 19.8**	**-0.2**
TYC	**Yuchr** baz=245	**0.93**	**251**	eP		**Pb**		**08 56 07.2**	**-0.1**
TYC	baz=245			eS		**Sg**		**08 56 19.8**	**-0.3**
NCUH	**Zhongli** baz=321	**0.94**	**322**	eP		**Pn**		**08 56 08.5**	**+0.6**
NCUH	baz=321			eS		**Sn**		**08 56 22.4**	**+1.5**
NCU	**National Centr** baz=321	**0.94**	**323**	eP		**Pb**		**08 56 06.8**	**-0.7**
SBCB	**Hsinchu** baz=306	**0.95**	**307**	P		**Pn**		**08 56 08.8**	**+0.7**
SBCB	baz=306			eS		**Sn**		**08 56 22.1**	**+1.0**
TWS1	**Kuangyinshan** baz=336	**0.95**	**338**	P		**Pn**		**08 56 08.3**	**+0.2**
TWS1	baz=336			eS		**Sn**		**08 56 22.2**	**+1.0**
YM01	**YM01** baz=330	**0.95**	**346**	⇓P		**Pn**		**08 56 08.1**	**0.0**
YM01	baz=330			eS		**Sn**		**08 56 21.3**	**0.0**
YULB	**Yu-li**	**0.95**	**210**	P		**Pb**		**08 56 06.5**	**-1.1**
YULB	**Yu-li** baz=221	**0.95**	**210**	eP		**Pb**		**08 56 05.9**	**-1.7**
YULB	baz=221			eS		**Sb**		**08 56 19.9**	**+0.1**
ECBN	**Changbin** baz=201	**0.96**	**201**	eP		**Pn**		**08 56 08.0**	**-0.2**
TWQ1	**Liyutan** baz=278	**0.96**	**278**	⇓iP		**Pg**		**08 56 08.9**	**+0.5**
TWQ1	baz=278			eS		**Sn**		**08 56 22.1**	**+0.6**
HSN	**Hsinchu** baz=308	**0.96**	**307**	eP		**Pg**		**08 56 09.1**	**+0.6**
HSN	baz=308			eS		**Sn**		**08 56 23.4**	**+1.8**
EYUL	**Yuli** baz=222	**0.98**	**208**	eP		**Pb**		**08 56 08.0**	**-0.1**
NSY	**Sanyi** baz=281	**0.98**	**282**	P		**Pg**		**08 56 09.4**	**+0.7**
TWF1	**Yuli** baz=222	**0.99**	**209**	eP		**Pb**		**08 56 06.7**	**-1.5**
YM08	**YM08** baz=330	**0.99**	**348**	eP		**Pg**		**08 56 08.4**	**-0.4**
YM08	baz=330			eS		**Sn**		**08 56 21.8**	**-0.4**
NMLH	**Miaoli** baz=288	**0.99**	**289**	eP		**Pg**		**08 56 09.4**	**+0.6**
NTST	**Danshui** baz=338	**1.00**	**341**	eP		**Pg**		**08 56 09.2**	**+0.1**
ANP	**Anpu** baz=343	**1.00**	**344**	eP		**Pg**		**08 56 09.0**	**-0.1**
ANP	baz=343			eS		**Sn**		**08 56 22.4**	**-0.2**
WHYT	**Xinyi Township** baz=247	**1.02**	**240**	eP		**Pn**		**08 56 09.0**	**-0.1**
WHYT	baz=247			eS		**Sn**		**08 56 23.4**	**+0.4**
WWF	**Wufeng** baz=257	**1.04**	**260**	eP		**Pg**		**08 56 10.4**	**+0.7**
WWF	baz=257			eS		**Sg**		**08 56 24.8**	**+1.4**
TCU	**Taichung** baz=266	**1.04**	**266**	eP		**Pg**		**08 56 10.7**	**+0.8**
TCU	baz=266			eS		**Sg**		**08 56 26.2**	**+2.6**
NHW	**Xinwu Township** baz=316	**1.05**	**318**	eP		**Pg**		**08 56 09.6**	**-0.5**
JYNG	**Yonagunijimaku**	**1.05**	**77**	P		**Pb**		**08 56 09.4**	**+0.1**
TWY	**Chenhua** baz=333	**1.07**	**349**	P		**Pg**		**08 56 10.3**	**-0.1**
WJS	**Zhushan** baz=247	**1.07**	**249**	eP		**Pg**		**08 56 10.7**	**+0.3**
WJS	baz=247			eS		**Sg**		**08 56 26.2**	**+1.7**
YUS	**Yu-Shan** baz=227	**1.07**	**228**	⇑P		**Pb**		**08 56 09.7**	**-0.3**
WDJ	**Dajia District** baz=276	**1.08**	**277**	eP		**Pg**		**08 56 10.9**	**+0.3**
WDJ	baz=276			eS		**Sg**		**08 56 26.6**	**+1.8**
WNT1	**Nantou City** baz=244	**1.08**	**254**	eP		**Pg**		**08 56 10.2**	**-0.5**
WNT	**Mingjian** baz=242	**1.09**	**252**	eP		**Pg**		**08 56 10.9**	**+0.1**
CHKH	**Chenggong** baz=203	**1.09**	**201**	eP		**Pb**		**08 56 09.6**	**-0.4**
CHKH	baz=203			eS		**Sg**		**08 56 26.2**	**+1.0**
YOJ	**Yonaguni jima**	**1.12**	**77**	P		**Pn**		**08 56 10.4**	**+0.1**
YOJ	**Yonaguni jima** baz=68	**1.12**	**77**	eP		**Pn**		**08 56 10.3**	**+0.1**
YOJ	baz=68			eS		**Sb**		**08 56 24.6**	**+0.1**
YOJ	**Yonaguni jima**	**1.12**	**77**	eP		**Pn**		**08 56 10.5**	**+0.1**
YOJ				eS		**Sb**		**08 56 24.7**	**+0.1**
FULB	**Fuli** baz=221	**1.12**	**205**	eP		**Pb**		**08 56 10.5**	**0.0**
CHKT	**Chengkung** baz=217	**1.19**	**200**	eP		**Pb**		**08 56 11.6**	**-0.1**
CHKT	baz=217			eS		**Sn**		**08 56 27.1**	**+0.1**
EHD	**Haiduan** baz=209	**1.20**	**208**	eP		**Pn**		**08 56 11.4**	**-0.1**
EHD	baz=209			eS		**Sb**		**08 56 27.3**	**+0.2**
CHN5	**Tsauling** baz=239	**1.21**	**239**	eP		**Pg**		**08 56 12.8**	**-0.3**
ECS	**Chishang** baz=206	**1.25**	**206**	eP		**Pn**		**08 56 12.1**	**-0.1**
ELDTW	**Lidau** baz=203	**1.26**	**216**	eP		**Pn**		**08 56 11.4**	**-1.1**
WDLH	**Douliu** baz=247	**1.28**	**246**	eP		**Pg**		**08 56 14.3**	**-0.2**
WDLH	baz=247			eS		**Sg**		**08 56 31.7**	**+0.5**
EDH	**Donghe** baz=188	**1.33**	**201**	eP		**Pn**		**08 56 13.1**	**-0.1**
EDH	baz=188			eS		**Sn**		**08 56 30.4**	**-0.1**
WRL	**Guolierlin Hig** baz=258	**1.35**	**257**	eP		**Pb**		**08 56 14.7**	**+0.2**
WRL	baz=258			eS		**Sg**		**08 56 34.6**	**+1.2**

	baz=258						
WCKO	Fanlu	1.35	235	eP	Pg	08 56 15.3	-0.5
	baz=236						
WCKO				eS	Sg	08 56 33.7	+0.2
	baz=236						
CHN2	Minshiung	1.41	241	eP	Pb	08 56 15.2	-0.2
	baz=241						
WTK	Tuku	1.41	248	eP	Pg	08 56 15.9	-0.9
	baz=249						
WTK				eS	Sg	08 56 35.4	+0.1
	baz=249						
STYH	Taoyuan	1.42	223	eP	Pn	08 56 14.8	+0.3
	baz=222						
TPUB	Ta-pu	1.42	230	P	Pb	08 56 16.0	+0.4
TPUB	Ta-pu	1.42	230	⇓P	Pb	08 56 15.8	+0.2
	baz=231						
TPUB				eS	Sg	08 56 34.6	-1.0
	baz=231						
PCYT	Pengchaiyu	1.42	9	eP	Pb	08 56 15.1	-0.6
	baz=7.0						
STYT	Tauyuan	1.43	223	eP	Pn	08 56 15.0	+0.3
	baz=224						
STYT				eS	Sb	08 56 34.1	+0.4
	baz=224						
WTCT	Ta-ch'eng	1.45	256	eP	Pb	08 56 15.5	-0.5
	baz=257						
WTCT				eS	Sg	08 56 36.5	0.0
	baz=257						
LONT	Longtian	1.45	206	eP	Pb	08 56 15.8	-0.4
	baz=206						
CHY	Chiayi	1.46	241	eP	Pb	08 56 16.2	-0.1
	baz=240						
WTP	Ta-pu	1.47	229	eP	Pb	08 56 16.4	0.0
	baz=229						
WTP				eS	Sg	08 56 35.9	-1.2
	baz=229						
TWK	Hsinying	1.54	232	eP	Pb	08 56 17.6	-0.1
	baz=233						
TWK				eS	Sg	08 56 39.0	-0.5
	baz=233						
TWG	Pinlang	1.55	206	eP	Pn	08 56 15.8	-0.5
	baz=206						
TWGBT	Beinan	1.55	206	P	Pb	08 56 17.4	-0.4
TWGBT	Beinan	1.55	206	eP	Pn	08 56 15.4	-1.0
	baz=206						
SNST	Tainan City	1.57	231	eP	Pb	08 56 17.7	-0.4
	baz=231						
SNST				eS	Sg	08 56 39.5	-0.8
	baz=231						
CHN1	Nanshi	1.57	229	eP	Pb	08 56 17.7	-0.4
	baz=230						
CHN1				eS	Sg	08 56 39.3	-1.0
	baz=230						
WSF	Szhu	1.57	249	eP	Pb	08 56 18.1	-0.1
	baz=249						
WSF				eS	Sg	08 56 39.2	-1.1
	baz=249						
LDUT	Ludao	1.57	192	eP	Pn	08 56 16.5	-0.2
	baz=197						
SGST	Jiashian	1.60	225	eP	Pn	08 56 17.4	+0.3
	baz=211						
SGST				eS	Sb	08 56 39.3	+0.8
	baz=211						
WSL	Shuilin Townsh	1.61	245	eP	Pb	08 56 18.7	-0.2
	baz=246						
WSL				eS	Sg	08 56 42.1	+0.5
	baz=246						
SLGT	Liugui	1.62	222	eP	Pb	08 56 18.5	-0.6
	baz=222						
SLGT				eS	Sg	08 56 41.0	-1.1
	baz=222						
ICHU	Yijhu	1.65	239	eP	Pb	08 56 19.0	-0.5
	baz=239						
ICHU				eS	Sg	08 56 41.9	-0.9
	baz=239						
IRIF	Iriomote-Funau	1.75	86	eP	Pn	08 56 19.8	+0.7
ECL	Taimali	1.80	206	eP	Pn	08 56 20.6	+0.8
	baz=199						
SCST	Cishan	1.80	223	eP	Pb	08 56 21.7	-0.4
	baz=221						
SSD	Sandimen	1.83	217	eP	Pb	08 56 21.6	-0.9
	baz=227						
TSMG	Majia	1.85	216	eP	Pb	08 56 22.1	-0.9
	baz=206						
TWM1	Shoushan	1.89	223	eP	Pb	08 56 22.6	-1.0
	baz=222						
TSCK	Chigu Township	1.91	236	eP	Pn	08 56 22.2	+0.9
	baz=236						
TSCK				eS	Sb	08 56 46.8	-0.7
	baz=236						
MASBT	Mashibuluo	1.94	214	P	Pb	08 56 23.4	-1.0
	baz=214						
MASBT				eS	Sb	08 56 48.2	0.0
	baz=214						
JKRS	Kuro-shima	2.00	89	eP	Pn	08 56 23.4	+0.8
EAST	Anshuo	2.03	206	eP	Pn	08 56 23.1	+0.1
	baz=200						
JIJ	Ishigaki jima	2.13	86	eP	Pn	08 56 24.0	-0.2
JIJ				eS	Sn	08 56 49.8	-0.5
SCZT	Fangliau	2.14	211	eP	Pn	08 56 26.0	+1.5
	baz=200						
PNG	Penghu	2.17	253	eP	Pn	08 56 25.6	+0.7
	baz=252						
LAY	Lan-yu	2.18	186	eP	Pn	08 56 24.7	-0.4
	baz=180						
LAY				eS	Sn	08 56 50.2	-1.5
	baz=180						
WDGT	Dungji	2.19	245	eP	Pn	08 56 26.0	+0.8
	baz=244						
WDGT				eS	Sn	08 56 53.5	+1.6
	baz=244						
SLIU	Shizi	2.20	205	eP	Pn	08 56 26.8	+1.5
	baz=200						
VWUC	VWUC	2.29	290	eP	Pn	08 56 26.2	-0.3
	baz=286						
JISG	Ishigakijimahi	2.30	80	P	Pn	08 56 26.8	+0.1
VCHM	Qimei	2.41	246	eP	Pn	08 56 28.6	+0.5
	baz=228						
TWKBT	Hengchun	2.45	202	eP	Pn	08 56 29.6	+0.9
	baz=198						
MATB	Ma-tsu	2.56	319	eP	Pn	08 56 30.0	-0.3
	baz=313						
PTMZ	Houxiangcun	2.59	289	eP	Pn	08 56 30.6	0.0
	baz=284						
XPSS	Dashiqiu	3.07	332	eP	Pn	08 56 37.2	0.0
	baz=326						
KNMB	Chin-men Tao	3.14	275	eP	Pn	08 56 38.1	-0.1
	baz=273						
MHZQ	Yeshan	3.14	307	eP	Pn	08 56 38.3	0.0
	baz=301						
JMJ	Miyako jima 2	3.22	79	eP	Pn	08 56 41.5	+2.2
	baz=79						
ZPLA	Ao Xicun	3.73	266	eP	Pn	08 56 46.5	+0.2
	baz=266						
DSXP	Dongshan	4.05	264	eP	Pn	08 56 50.5	-0.2
	baz=263						
SXFK	Yanhouchang	4.36	301	eP	Pn	08 56 54.9	0.0
	baz=294						

IDC 25 09:00:38.2±2.7, 54°.12N×86°.34E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=21.8km s-min=13.3km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.92	260	I	I	09 06 30.0	
	baz=81,slow=320,SNR=1.0						
ZALV	Zalesovo Beam	0.92	260	Pg	Pg	09 00 53.9	-1.9
	0.4nm,0.3s,baz=78,slow=16,SNR=4.1						
ZALV				Lg	Lg	09 01 09.8	
	0.9nm,0.3s,baz=78,slow=29,SNR=6.2						
KURBB	Kurchatov Arra	5.93	237	Pn	Pn	09 02 07.3	+0.1
	0.1nm,0.3s,baz=54,slow=13,SNR=6.2						
	0.4nm,0.4s						
MKAR	Makanchi Array	7.78	201	Pn	Pn	09 02 34.5	+1.8
	0.2nm,0.3s,baz=22,slow=16,SNR=6.4						
	0.2nm,0.3s						

*DJA **25** 09:03:16.7±0.6, 7°.5S±4°.×14°.8E±°, h10km, M4.9/11, mB5.5/3, mb4.8/11, MLv5.0/1, Mw(mB)5.0/3*
*IDC **25** 09:03:30.9±3.3, 7°.48S×147°.02E, h119km±27km, mb4.0/12, mbtmp4.3/13, Error ellipse: s-maj=27.9km s-min=10.5km az=106.0*
*NEIC **25** 09:03:33.9±1.1, 7°.50S±0°.05×146°.94E±0°.09, h130km±6km, mb4.4/40, Error ellipse: s-maj=13.8km s-min=5.2km az=62.0*

ISC 25 09:03:35.1±0.5, 7°.51S±0°.05×146°.86E±0°.07, h150km, n85, σ1§17/87, mb4.3/30, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	1.91	171	P	Pn	09 04 06.8	-2.3
PMG	Port Moresby	1.91	171	Pn	Pn	09 04 06.9	-2.3
BULU	Kimbe	3.95	60	P	Pn	09 04 34.7	0.0
MANU	Manus Island	5.45	5	Pn	Pn	09 04 53.0	-1.6
TABU	Tabubil	6.03	291	P	Pn	09 05 02.5	+0.2
RABL	Rabaul	6.22	58	Pn	Pn	09 05 02.6	-2.1
KAVG	Kavieng	6.28	39	P	Pn	09 05 04.3	-1.2
COEN	Coen	7.36	209	P	Pn	09 05 20.2	+0.2
COEN	Coen	7.36	209	Pn	Pn	09 05 20.4	+0.4
MTSU	Mount Surprise	10.85	193	P	Pn	09 06 07.5	+1.2
TV1H	Townsville Har	11.68	180	P	Pn	09 06 18.3	+1.1
CTA	Charters Tower	12.52	183	P	Pn	09 06 29.0	+0.9
CTA	Charters Tower	12.52	183	P	P	09 06 31.9	-1.9
	0.4nm,0.5s,baz=3.9,slow=14,SNR=14						
CTA				S	Sn	09 08 44.4	-2.2
	0.1nm,0.4s,baz=274,slow=10.0,SNR=1.1						
CTAO	Charters Tower	12.52	183	P	Pn	09 06 29.2	+1.1
CTAO	Charters Tower	12.52	183	Pn	P	09 06 33.0	-0.8
QIS	Mount Isa	14.75	208	P	P	09 06 58.5	-0.1
FAKI	Fak Fak	15.25	287	Pn	Pn	09 07 02.2	-0.5
FAKI				IAmb	IAmb	09 07 08.0	
	comp=Z,22nm,0.9s						
FAKI	Fak Fak	15.25	287	P	Pn	09 06 59.9	-2.8
	comp=Z,34nm,1.1s						
MTN	Manton Dam	16.36	250	P	Pn	09 07 15.4	-0.9
WB0	Warramunga Arr	17.17	224	P	P	09 07 25.3	0.0
WR0	Warramunga Arr	17.20	223	P	P	09 07 26.1	+0.4
WR0				IAmb	IAmb	09 07 35.4	
	comp=Z,18nm,0.9s						
WRAB	Tennant Creek	17.31	223	P	P	09 07 26.6	-0.3
WB2	Warramunga Arr	17.32	223		P	09 07 27.2	+0.2
WRA	Warramunga Arr	17.32	223	P	P	09 07 26.2	-0.9
WRA	Warramunga Arr	17.32	223	P	P	09 07 27.1	0.0
	comp=Z,2.8nm,0.5s,baz=51,slow=11,SNR=32						
WRA				S	Sn	09 10 41.1	-1.0
	comp=Z,0.7nm,0.7s,baz=58,slow=22,SNR=3.2						
EIDS	Eidsvold	18.21	168	P	Pn	09 07 39.6	+1.2
EIDS	Eidsvold	18.21	168	P	P	09 07 36.7	0.0
EIDS				IAmb	IAmb	09 07 52.7	
	comp=Z,12nm,0.7s						
QLP	Quilpie	19.13	187	P	Pn	09 07 49.4	+0.2
KNRA	Kununurra	19.49	244	P	P	09 07 50.1	-0.5
KNRA				IAmb	IAmb	09 07 50.9	
	comp=Z,9.8nm,0.7s						
AS01	Alice Springs	20.29	216	P	P	09 08 00.3	+1.1
AS31	Alice Springs	20.31	216	P	P	09 08 00.1	+0.6
ASAR	Alice Springs	20.32	216	P	P	09 08 00.1	+0.5
ASAR	Alice Springs	20.32	216	P	P	09 07 59.9	+0.4
	comp=Z,2.6nm,0.4s,baz=51,slow=8.8,SNR=67						
ASAR				S	S	09 11 41.0	+1.7
	comp=Z,1.3nm,0.4s,baz=36,slow=21,SNR=7.3						
ASAR				ScP	ScP	09 15 33.5	+4.1
	comp=Z,0.9nm,0.8s,baz=22,slow=3.0,SNR=3.5						
	comp=Z,2.6nm,0.4s						
LBMI	Labuha	20.47	289	P	P	09 07 59.7	-1.6
INKA	Innaminka	20.94	195	P	Pn	09 08 09.1	-1.5
AULRC	Lightning Ridg	21.83	177	P	P	09 08 16.9	+1.3
OOD	Oodnadatta	22.78	206	P	P	09 08 25.6	+0.8
ARMA	Armidale	23.22	170	P	P	09 08 30.9	+1.8
ARMA				IAmb	IAmb	09 08 33.5	
	comp=Z,3.6nm,0.5s						
CMSA	Cobar Meteorol	23.93	182	P	P	09 08 37.9	+2.6
LCRK	Leigh Creek	24.22	198	P	P	09 08 39.2	+1.3
STKA	Stephens Creek	24.74	191	P	P	09 08 42.4	-0.2
	comp=Z,3.0nm,0.5s,baz=22,slow=16,SNR=4.8						
	comp=Z,3.0nm,0.5s						
BBOO	Buckleboo	27.10	200	P	P	09 09 04.5	+0.6
BBOO				IAmb	IAmb	09 09 24.2	
	comp=Z,3.9nm,0.8s						
FORT	Forrest	29.08	215	P	P	09 09 21.6	+0.1
FORT				IAmb	IAmb	09 09 24.9	
	comp=Z,8.6nm,1.0s						
MBWA	Marble Bar	29.51	240	P	P	09 09 25.3	-0.2
MBWA				IAmb	IAmb	09 09 27.0	
	comp=Z,3.2nm,0.7s						
PSA00	Pilbara Seismi	29.58	239	P	P	09 09 26.6	+0.5
PSA00				IAmb	IAmb	09 09 26.8	
	comp=Z,6.4nm,0.8s						
TOO	Toolangi	29.95	182	P	P	09 09 30.8	+1.6
TOO				IAmb	IAmb	09 09 46.7	
	comp=Z,4.2nm,0.9s						
JAGI	Jajag, Banyuwa	32.40	266	P	P	09 09 50.8	-0.2
MORW	Morawa	36.08	230	P	P	09 10 23.1	+0.5
MORW				IAmb	IAmb	09 10 40.9	
	comp=Z,7.9nm,0.9s						
YULB	Yu-li	39.60	322	P	P	09 10 52.8	+0.8
YULB				IAmb	IAmb	09 10 53.2	
	comp=Z,7.0nm,0.6s						
TPUB	Ta-pu	39.95	321	P	P	09 10 54.1	-0.8
TATO	Taipei	40.66	323	P	P	09 11 01.4	+0.6
MJAR	Matsushiro Arr	44.57	350	P	P	09 11 30.0	-2.1
	comp=Z,2.3nm,0.7s,baz=183,slow=9.4,SNR=6.5						
	comp=Z,2.3nm,0.7s						
MAJO	Matsushiro	44.57	350	P	P	09 11 31.2	-0.9
MAJO				IAmb	IAmb	09 11 31.5	
	comp=Z,5.0nm,0.7s						
MJB9	Matsu-Tunnel	44.57	350	P	P	09 11 32.6	+0.4
MJB9				IAmb	IAmb	09 11 32.9	
	comp=Z,4.9nm,0.6s						
KSRS	Korea Array	48.11	340	P	P	09 11 59.0	-0.7
	comp=Z,2.4nm,0.7s,baz=156,slow=8.6,SNR=11						
	comp=Z,2.4nm,0.7s						
SLVN	Son La	50.98	305	P	P	09 12 22.3	+0.4
SLVN				IAmb	IAmb	09 12 24.1	
	comp=Z,10nm,1.0s						
USA0B	Ussuriysk Arra	53.20	347	P	P	09 12 38.0	+0.2
USA0B				IAmb	IAmb	09 12 38.2	
	comp=Z,4.5nm,0.7s						
USRK	Ussuriysk Ar.	53.20	347	P	P	09 12 37.8	+0.1
USRK	Ussuriysk Ar.	53.20	347	P	P	09 12 37.6	-0.2
	comp=Z,3.3nm,0.6s,baz=176,slow=6.2,SNR=7.4						
	comp=Z,3.3nm,0.6s						
KMI	Kunming	53.81	309	⇑P	P	09 12 44.5	+1.6
KMI				pmax	pmax		
	comp=Z,17nm,0.6s						
CM31	Chiang Mai Arr	53.85	299	P	P	09 12 44.2	+1.2
CMAR	Chiang Mai Arr	53.85	299	P	P	09 12 43.9	+0.9
CMAR	Chiang Mai Arr	53.85	299	P	P	09 12 44.1	+1.1
	comp=Z,17nm,0.9s,baz=124,slow=5.7,SNR=38						
	comp=Z,17nm,0.9s						
CHTO	Chiang Mai	54.00	300	P	P	09 12 44.8	+0.8
BJT	Baijiatuau	55.14	331	P	P	09 12 52.2	+0.3
BJT				IAmb	IAmb	09 12 52.6	
	comp=Z,4.3nm,0.8s						
GTA	Gaotai	63.81	321	eP	P	09 13 52.5	+0.9
GTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PALK	Pallekele	67.59	281	P	P	09 14 16.9	+0.7
PALK				IAmb	IAmb	09 14 17.5	
	comp=Z,6.8nm,0.8s						
MKAR	Makanchi Array	78.57	321	P	P	09 15 19.1	-1.0
	comp=Z,2.9nm,0.4s,baz=111,slow=6.5,SNR=36						
	comp=Z,2.9nm,0.4s						
ZALV	Zalesovo Beam	80.21	328	P	P	09 15 27.4	-1.3
	comp=Z,2.4nm,0.5s,baz=119,slow=6.0,SNR=10.0						
	comp=Z,2.4nm,0.5s						
KSH	Kashi	80.28	312	P	P	09 15 29.5	-0.1
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NIL	Nilore	80.69	306	P	P	09 15 32.5	+0.6
BOOM	Boomskoye usch	81.24	315	P	P	09 15 35.9	+1.2
BOOM				IAmb	IAmb	09 15 53.4	
	comp=Z,11nm,1.0s						
H17K	Granite Mounta	82.22	20	P	P	09 15 40.0	+0.9
KURBB	Kurchatov Arra	82.35	323	P	P	09 15 39.8	-0.3
	comp=Z,1.4nm,0.6s,baz=118,slow=4.5,SNR=14						
	comp=Z,1.4nm,0.6s						
QSPA	South Pole Qui	82.47	180	P	P	09 15 40.9	+0.3
QSPA	South Pole Qui	82.47	180	P	P	09 15 40.4	-0.2
	comp=Z,3.2nm,1.0s,baz=352,slow=3.0,SNR=14						
	comp=Z,3.2nm,1.0s						
ARSB	Arslanbob	83.00	313	P	P	09 15 44.3	+0.4
G18K	Tagagawik	83.21	20	P	P	09 15 44.7	+0.5
KK31	Karatay Array	85.24	314	P	P	09 15 55.2	+0.2
KK31				IAmb	IAmb	09 15 55.3	
	comp=Z,3.0nm,0.6s						
KKAR	Karatay Array	85.24	314	P	P	09 15 55.4	+0.4
ILAR	Eielson Array	86.91	23	P	P	09 16 00.6	-2.1
	comp=Z,0.4nm,0.7s,baz=256,slow=6.1,SNR=6.9						
	comp=Z,0.4nm,0.7s						
BVAR	Borovoye Array	87.90	324	P	P	09 16 06.9	-0.8
	comp=Z,1.3nm,0.5s,baz=93,slow=7.2,SNR=6.8						
	comp=Z,1.3nm,0.5s						
CPUP	Villa Florida	138.97	146	PKhKP	PKPpre	09 22 37.7	
	comp=Z,1.0nm,0.5s,baz=322,slow=3.6,SNR=4.0						
TORD	Torodi Ar. Bea	145.30	282	PKPbc	PKPbc	09 22 56.4	+0.3
	comp=Z,1nm,0.5s,baz=70,slow=4.6,SNR=133						
DBIC	Dimbokro	151.93	270	PKPbc	PKPbc	09 23 13.4	0.0
	comp=Z,2.6nm,0.4s,baz=102,slow=1.9,SNR=6.2						

*NAO **25** 09:05:06.0±4.4, 62°.73N×5°.27E, h10km±20km, ML1.5*
*BER **25** 09:05:08.5±2.6, 62°.74N×5°.24E, h14km±12km, ML1.5, ML1.5(NAO), Confirmed Earthquake*

ISC 25 09:05:06.3±3.3, 62.7N±0°.1×5°.25E±0°.08, h6km±26km, n19, σ1§25/41, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKN	Aaknes	0.99	124	Pg	Pb	09 05 26.1	+0.3
AKN				Sg	Sb	09 05 38.6	-0.4
AKN	Aaknes	0.99	124	Pg	Pb	09 05 26.1	+0.3
AKN				Lg	Lg	09 05 38.6	
MOL	Molde	1.07	98	eP	Pb	09 05 27.7	+0.5
MOL				eS	Sb	09 05 41.6	+0.2
MOL				IAML		09 05 44.1	
	comp=Z,23nm,0.4s						
FOO	Floro	1.15	185	eP	Pb	09 05 28.2	-0.2
FOO				eS	Sb	09 05 42.5	-1.1
FOO				IAML		09 05 51.8	
	comp=Z,6.6nm,0.1s						
FOO	Floro	1.15	185	Pn	Pb	09 05 28.2	-0.2
FOO				Lg	Lg	09 05 42.6	
HYA	Hoyanger	1.64	164	eP	Pn	09 05 35.9	+0.3
HYA				eSg	Sn	09 05 57.9	+0.9
HYA				IAML		09 06 00.1	
	comp=Z,19nm,0.4s						
HYA	Hoyanger	1.64	164	Pn	Pn	09 05 35.7	+0.1
HYA				Lg	Lg	09 05 58.0	
SUE	Sulen	1.70	188	eP	Pn	09 05 36.8	+0.3
SUE				eSg	Sn	09 05 58.6	+0.1
SUE				IAML		09 06 04.5	
	comp=Z,6.1nm,0.5s						
DOMB	Dombas	1.91	110	ePg	Pn	09 05 41.7	+2.3
DOMB				eSg	Sb	09 06 06.3	+0.8
DOMB				IAML		09 06 12.9	
	comp=Z,12nm,0.3s						
ASK	Askoy	2.26	181	ePg	Pb	09 05 48.4	+0.9
ASK				eSg	Sb	09 06 16.1	+0.4
ASK				IAML		09 06 23.2	
	comp=Z,3.4nm,0.5s						
ODD1	Odda	2.91	166	eP	Pn	09 05 54.5	+1.3
ODD1				eSg	Sb	09 06 34.2	-0.2
ODD1				IAML		09 06 36.9	
	comp=Z,2.7nm,0.4s						
NC204	NORSAR Array S	2.98	117	eP	Pn	09 05 53.4	-0.8
NC204				ePg	Pb	09 05 60.0	+0.2
NC204				eSg	Sb	09 06 36.6	+0.1
NC204				IAML		09 06 43.5	
	comp=Z,3.1nm,0.2s						
NB2	NORSAR Subarra	3.30	118	Pn	Pn	09 05 56.8	-1.7
NB2				Pg	Pb	09 06 04.8	-0.3
	baz=306,slow=18						
NB2				Sg	Sb	09 06 46.5	+1.0
	baz=301,slow=37						
NB2	NORSAR Subarra	3.30	118	Pn	Pn	09 05 56.8	-1.7
NB2				Pg	Pb	09 06 04.8	-0.3
	baz=306,slow=18						
NB2				Lg	Lg	09 06 46.5	
	baz=301,slow=37						
NRA0	NORESS Array S	3.60	121	Pn	Pn	09 06 00.9	-1.7
	baz=321,slow=14						
NRA0				Pg	Pb	09 06 09.9	-0.4
	baz=312,slow=16						
NRA0				Sn	Sn	09 06 45.2	-0.3
	baz=318,slow=22						
NRA0				Sg	Sb	09 06 55.1	+0.8
	baz=307,slow=28						
NRA0	NORESS Array S	3.60	121	Pn	Pn	09 06 00.9	-1.7
	baz=321,slow=14						
NRA0				Pg	Pb	09 06 09.9	-0.4
	baz=312,slow=16						
NRA0				Sn	Sn	09 06 45.2	-0.3
	baz=318,slow=22						
NRA0				Lg	Lg	09 06 55.1	
	baz=307,slow=28						
KONO	Kongsberg	3.75	144	ePg	Pb	09 06 11.3	-1.4
KONO				eSg	Sb	09 06 58.9	+0.6
KONO				IAML		09 07 09.0	
	comp=Z,1.8nm,0.5s						
HFS	Hagfors	4.82	119	Pn	Pn	09 06 17.5	-1.8
HFS				Sn	Sn	09 07 14.6	-0.8
	baz=315,slow=22						
HFS				Sg	Sb	09 07 33.9	+4.7
	baz=307,slow=28						
HFS	Hagfors	4.82	119	Pn	Pn	09 06 17.5	-1.8
HFS				Sn	Sn	09 07 14.6	-0.8
	baz=315,slow=22						
HFS				Lg	Lg	09 07 33.9	
	baz=307,slow=28						

*NEIC **25** 09:05:45.1±0.8, 4°.53N±0°.06×126°.04E±0°.10, h96km±3km, mb4.5/39, Error ellipse: s-maj=14.3km s-min=8.2km az=74.0*
*IDC **25** 09:05:47.4±0.8, 4°.51N×126°.11E, h130km±6km, mb3.9/20, mbtmp4.3/22, MS3.2/2, Error ellipse: s-maj=26.6km s-min=10.6km az=74.0*
*DJA **25** 09:05:49.8±0.4, 4°N±3°.×12°6E±°, h107km±4km, M4.9/15, mb4.7/8, mB5.5/7, MLv4.8/15, Mw(mB)5.0/7*

ISC 25 09:05:44.8±0.4, 4°.52N±0°.05×126°.13E±0°.07, h100km, n85, σ1§76/95, mb4.4/41, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.02	216	P	Pn	09 06 09.6	+4.1
SGSI				S	Sn	09 06 25.8	+4.7
DAV	Davao City (W)	2.59	348	Pn	Pn	09 06 24.5	-0.6
DAV	Davao City (W)	2.59	348	P	Pn	09 06 28.1	+3.0
	72nm,0.3s,baz=303,slow=11,SNR=1.0						
DAV				S	Sn	09 07 07.1	+11
	420nm,0.3s,baz=278,slow=23,SNR=6.7						
DAV				LR	LR	09 07 28.1	
	comp=Z,339nm,18.8s,baz=348,slow=39						
TNTI	Ternate	3.93	162	Pn	Pn	09 06 43.6	+0.6
TNTI	Ternate	3.93	162	P	Pn	09 06 45.0	+2.0
TNTI				S	Sn	09 07 26.7	-1.4
KMSI	Cibinong	4.47	209	P	Pn	09 06 52.9	+2.5
GTOI	Gorontalo	4.96	219	P	Pn	09 06 59.5	+2.5
GTOI				S	Sn	09 07 52.3	-0.9
LBMI	Labuha	5.31	165	P	Pn	09 07 04.3	+2.6
	94nm,0.7s,5μm1.7nm						
MRSI	Marisa	5.80	226	P	Pn	09 07 12.5	+4.1
	180nm,0.7s,0.8nm						
TOLI2	Tolitoli	6.32	238	Pn	Pn	09 07 14.8	-0.7
LUWI	Luwuk	6.46	211	Pn	Pn	09 07 18.5	+1.0
LUWI	Luwuk	6.46	211	P	Pn	09 07 20.8	+3.4
	174nm,0.7s,2μm0.7nm						
SANI	Sanana	6.53	181	P	Pn	09 07 17.1	-1.2
	100nm,0.6s,6μm						
SWI	Sorong	7.41	136	P	Pn	09 07 31.9	+1.6
	51nm,0.9s,0.2nm						
MPSI	Mapaga	7.48	236	P	Pn	09 07 34.8	+3.5
NLAI	Namlea	7.77	173	P	Pn	09 07 35

WRAB			IAmb	IAmb	09 11 15.7	
	comp=Z,8.3nm,0.8s					
WRA	**Warramunga Arr**	**25.62 162**	P	**P**	**09 11 04.9**	**-0.2**
WRA	**Warramunga Arr**	**25.62 162**	P	**P**	**09 11 04.9**	**-0.2**
	comp=Z,2.6nm,0.3s,baz=338,slow=10,SNR=33					
WRA			ScP	**ScP**	**09 18 00.1**	**-4.1**
	comp=Z,0.5nm,0.5s,baz=339,slow=2.8,SNR=5.7					
	comp=Z,2.6nm,0.3s					
WB2	**Warramunga Arr**	**25.62 162**	P	**P**	**09 11 05.8**	**+0.7**
WB2			IAmb	IAmb	09 11 09.1	
	comp=Z,11nm,0.9s					
WR0	**Warramunga Arr**	**25.70 161**	P	**P**	**09 11 05.8**	**0.0**
WR0			IAmb	IAmb	09 11 19.3	
	comp=Z,5.0nm,0.8s					
PSA00	**Pilbara Seismi**	**26.65 193**	P	**P**	**09 11 13.9**	**-0.5**
PSA00			IAmb	IAmb	09 11 19.4	
	comp=Z,13nm,1.0s					
NJ2	**Nanjing**	**28.22 347**	*e*P	**P**	**09 11 30.8**	**+2.5**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
GSI	**Gunungsitoli**	**28.69 264**	P	**P**	**09 11 32.1**	**-0.6**
AS31	**Alice Springs**	**29.03 165**	P	**P**	**09 11 35.0**	**-0.6**
ASAR	**Alice Springs**	**29.03 165**	P	**P**	**09 11 35.8**	**+0.2**
ASAR	**Alice Springs**	**29.03 165**	P	**P**	**09 11 34.4**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=339,slow=6.8,SNR=5.7					
ASAR			ScP	**ScP**	**09 18 11.2**	**-3.3**
	comp=Z,0.8nm,0.6s,baz=342,slow=2.9,SNR=9.0					
	comp=Z,1.0nm,0.5s					
CMAR	**Chiang Mai Arr**	**29.96 300**	P	**P**	**09 11 43.1**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=114,slow=7.2,SNR=9.4					
	comp=Z,0.9nm,0.3s					
PZH	**PanZhiHua**	**31.96 316**	P	**P**	**09 12 04.0**	**+2.5**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,120nm,6.0s					
INU	**Inuyama**	**32.28 17**	P	**P**	**09 12 03.7**	**-0.4**
INU			IAmb	IAmb	09 12 05.8	
	comp=Z,11nm,0.9s					
KSRS	**Korea Array**	**32.82 3**	P	**P**	**09 12 08.8**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=193,slow=10,SNR=5.6					
	comp=Z,1.4nm,0.5s					
XAN	**Xi'an**	**33.44 334**	P	**P**	**09 12 14.0**	**-0.3**
XAN			pP	pP	09 12 39.8	+3.3
XAN			sP	sP	09 12 49.3	+1.5
XAN			pmax	pmax		
	comp=Z,12nm,1.0s					
MJAR	**Matsushiro Arr**	**33.75 18**	P	**P**	**09 12 15.8**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=184,slow=7.3,SNR=2.7					
MJAR			LR	LR	09 27 32.2	
	comp=Z,59nm,19.9s,baz=230,slow=39					
	comp=Z,0.6nm,0.5s					
FORT	**Forrest**	**35.15 177**	P	**P**	**09 12 28.7**	**-0.3**
JMM	**Marumori**	**35.79 20**	P	**P**	**09 12 34.7**	**+0.3**
LZH	**Lanzhou**	**37.52 330**	*e*P	**P**	**09 12 46.5**	**-2.8**
LZH			sP	sP	09 13 22.3	-0.9
LZH			pmax	pmax		
	comp=Z,13nm,1.1s					
NWAO	**Narrogin (SRO)**	**38.19 192**	P	**P**	**09 12 54.6**	**-0.1**
BBOO	**Buckleboo**	**38.31 166**	P	**P**	**09 12 55.1**	**-0.6**
BBOO			IAmb	IAmb	09 13 04.8	
	comp=Z,11nm,1.1s					
EIDS	**Eidsvold**	**38.34 142**	P	**P**	**09 12 55.6**	**-0.5**
HHC	**Hu-ho-hao-te**	**38.46 342**	*e*P	**P**	**09 12 59.0**	**+1.9**
HHC			pmax	pmax		
	comp=Z,4.0nm,0.6s					
HHC			pmax	pmax		
	comp=Z,110nm,5.9s					
STKA	**Stephens Creek**	**39.08 159**	P	**P**	**09 13 02.4**	**+0.2**
STKA	**Stephens Creek**	**39.08 159**	P	**P**	**09 13 02.1**	**-0.2**
	comp=Z,2.8nm,0.4s,baz=345,slow=9.8,SNR=7.3					
	comp=Z,2.8nm,0.4s					
XLT	**XiLinHaoTe**	**40.21 349**	*e*P	**P**	**09 13 13.0**	**+1.5**
XLT			pmax	pmax		
	comp=Z,11nm,0.8s					
LSA	**Lhasa**	**41.47 311**	P	**P**	**09 13 21.8**	**-0.8**
ARMA	**Armidale**	**42.45 147**	P	**P**	**09 13 30.6**	**+0.4**
ARMA			IAmb	IAmb	09 13 31.8	
	comp=Z,13nm,0.9s					
TOO	**Toolangi**	**45.59 158**	P	**P**	**09 13 55.5**	**+0.5**
TOO			IAmb	IAmb	09 14 16.4	
	comp=Z,8.6nm,1.1s					
SONM	**Songino Array**	**46.36 342**	P	**P**	**09 14 01.7**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=156,slow=6.5,SNR=4.5					
SONM			pP	**pwP**	**09 14 29.9**	**+2.8**
	comp=Z,0.6nm,0.4s,baz=162,slow=10.0,SNR=2.1					
	comp=Z,1.4nm,0.6s					
DZM	**Mont Dzumac**	**47.48 125**	P	**P**	**09 14 11.7**	**+1.5**
DZM			IAmb	IAmb	09 14 17.0	
	comp=Z,8.3nm,0.9s					
MK31	**Makanchi Array**	**56.56 325**	P	**P**	**09 15 16.7**	**-0.3**
MK31			IAmb	IAmb	09 15 21.3	
	comp=Z,5.0nm,0.9s					
MKAR	**Makanchi Array**	**56.56 325**	P	**P**	**09 15 17.1**	**0.0**
	comp=Z,3.1nm,0.4s,baz=120,slow=8.0,SNR=32					
MKAR			pP	**sP**	**09 15 48.9**	**-3.0**
	comp=Z,3.3nm,0.7s,baz=130,slow=7.9,SNR=8.1					
MKAR			PcP	**PcP**	**09 16 11.6**	**-0.9**
	comp=Z,3.6nm,0.6s,baz=109,slow=4.1,SNR=8.2					
MKAR			ScP	**ScP**	**09 19 59.9**	**-3.1**
	comp=Z,0.7nm,0.7s,baz=108,slow=5.6,SNR=4.3					
	comp=Z,3.1nm,0.4s					
MAKZ	**Makanchi**	**56.75 325**	P	**P**	**09 15 18.0**	**-0.3**
MAKZ			IAmb	IAmb	09 15 22.9	
	comp=Z,8.2nm,1.1s					
ZALV	**Zalesovo Beam**	**59.61 333**	P	**P**	**09 15 36.7**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=159,slow=7.1,SNR=2.9					
	comp=Z,0.9nm,0.4s					
KURBB	**Kurchatov Arra**	**60.75 327**	P	**P**	**09 15 45.2**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=129,slow=6.8,SNR=9.6					
KURBB			pP	**pwP**	**09 16 15.6**	**+5.4**
	comp=Z,1.6nm,0.5s,baz=125,slow=6.8,SNR=4.7					
	comp=Z,2.2nm,0.7s					
MLZ	**Mavora Lakes**	**62.17 148**	P	**P**	**09 15 56.0**	**+0.4**
LBZ	**Lake Benmore**	**62.67 146**	P	**P**	**09 15 59.5**	**+0.5**
BVAR	**Borovoye Array**	**66.33 327**	P	**P**	**09 16 21.8**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=140,slow=9.1,SNR=7.4					
	comp=Z,1.1nm,0.3s					
KIWB	**Kanaga Island**	**66.38 34**	P	**P**	**09 16 23.9**	**+1.0**
ADK	**Adak**	**66.65 35**	P	**P**	**09 16 25.4**	**+0.7**
ADK			IAmb	IAmb	09 16 50.6	
	comp=Z,4.4nm,0.9s					
NRIK	**Noril'sk**	**69.52 346**	P	**P**	**09 16 42.9**	**+0.6**
NRIK			IAmb	IAmb	09 16 43.5	
	comp=Z,6.7nm,0.6s					
NRIK	**Noril'sk**	**69.52 346**	P	**P**	**09 16 41.9**	**-0.4**
	comp=Z,5.8nm,0.5s,baz=130,slow=7.2,SNR=11					
	comp=Z,5.8nm,0.5s					
M16K	**Timber Creek**	**78.77 29**	P	**P**	**09 17 37.9**	**+1.7**
H19K	**Roundabout Mou**	**80.70 24**		**P**	**09 17 47.5**	**+1.0**
MLY	**Manley**	**83.02 25**	P	**P**	**09 17 60.0**	**+1.1**
MLY			IAmb	IAmb	09 18 00.6	
	comp=Z,3.0nm,1.0s					
RC01	**Rabbit Creek A**	**83.23 29**	P	**P**	**09 18 00.2**	**+0.3**
RC01			IAmb	IAmb	09 18 01.3	
	comp=Z,13nm,1.1s					
VNDA	**Vanda**	**84.28 173**	P	**P**	**09 18 04.8**	**-0.2**
VNDA	**Vanda**	**84.28 173**	P	**P**	**09 18 04.2**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=291,slow=6.4,SNR=3.4					
	comp=Z,0.7nm,0.4s					
ILAR	**Eielson Array**	**84.65 25**	P	**P**	**09 18 06.3**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=244,slow=4.5,SNR=5.4					
	comp=Z,0.4nm,0.8s					
BRTR	**Keskin Array B**	**89.06 310**	P	**P**	**09 18 27.5**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=131,slow=5.9,SNR=4.4					
	comp=Z,0.5nm,0.4s					
ARCES	**ARCESS Array B**	**89.50 340**	P	**P**	**09 18 29.0**	**-1.4**
	comp=Z,2.5nm,0.7s,baz=78,slow=7.6,SNR=10					
	comp=Z,2.5nm,0.7s					
FINES	**FINESS Array B**	**90.85 332**	P	**P**	**09 18 35.3**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=64,slow=4.4,SNR=5.9					
	comp=Z,0.7nm,0.4s					
QSPA	**South Pole Qui**	**94.42 180**	P	**P**	**09 18 53.2**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=223,slow=2.1,SNR=7.6					
	comp=Z,0.3nm,0.4s					
HFS	**Hagfors**	**97.04 332**	P	**P**	**09 19 03.6**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=54,slow=6.8,SNR=2.4					
	comp=Z,0.7nm,0.7s					
NB2	**NORSAR Subarra**	**97.81 334**	P	**P**	**09 19 06.9**	**-1.9**
	comp=Z,2.1nm,0.9s,baz=67,slow=4.4					
NB2	**NORSAR Subarra**	**97.81 334**	P	**P**	**09 19 06.9**	**-1.9**
	baz=67,slow=4.4					
NOA	**NORSAR Array B**	**97.81 334**	P	**P**	**09 19 07.0**	**-1.9**
	comp=Z,1.1nm,0.7s,baz=67,slow=4.5,SNR=5.8					
	comp=Z,1.1nm,0.7s					

*HEL **25** 09:11:09.3±0.3, 59°.22N×27°.85E, h0km, ML2.0, Suspected explosion*
*EST **25** 09:11:09.9±0.1, 59°.23N×27°.81E, h0km, ML1.8(HEL), Explosion*
*UPP **25** 09:11:10.6±2.8, 59°.17N×27°.85E, h0km, ML1.9*
*LVSN **25** 09:11:10.7±3.2, 59°.26N×27°.85E, h0km±39km, ML2.3*
*IDC **25** 09:11:14.9±2.0, 59°.48N×27°.37E, h0km, mbtmp2.8/4, ML1.9/4, Error ellipse: s-maj=18.3km s-min=12.6km az=112.0*

ISC 25 09:11:08.6±1.0, 59°.21N±0°.03×27°.83E±0°.04, h0km, n35, σ1§11/55, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.94**	**218**	*e*P	**Pg**	**09 11 26.6**	**0.0**
VSU				*e*S	**Sb**	**09 11 41.5**	**+0.8**
VSU				AML	AML	09 11 47.3	
	comp=N,78nm,0.4s						
VSU				AML	AML	09 12 15.4	
	comp=Z,38nm,0.6s						
VSU				AML	AML	09 12 17.7	
	comp=E,126nm,0.8s						
VSU	**Vasula**	**0.94**	**218**	*e*P	**Pg**	**09 11 26.7**	**0.0**
VSU				*e*S	**Sb**	**09 11 39.6**	**-1.1**
ARBE	**Arbavere**	**0.97**	**284**	*e*P	**Pg**	**09 11 26.9**	**-0.3**
ARBE				*e*S	**Sg**	**09 11 40.0**	**+0.1**
ARBE				AML	AML	09 12 02.5	
	comp=N,303nm,0.5s						
ARBE				AML	AML	09 12 02.9	
	comp=E,356nm,0.7s						
ARBE				AML	AML	09 12 03.1	
	comp=Z,240nm,0.6s						
ARBE	**Arbavere**	**0.97**	**284**	*e*P	**Pg**	**09 11 26.9**	**-0.3**
ARBE				*e*S	**Sg**	**09 11 39.4**	**-0.4**
VJF	**Virojoki**	**1.34**	**354**	*e*P	**Pg**	**09 11 33.1**	**-1.2**
VJF				*e*SB	**Sg**	**09 11 51.2**	**-0.4**
VJF				MSG		09 11 57.8	
	comp=Z,4.8nm,0.1s						
EE07	**Piusa Caves, O**	**1.39**	**188**	*e*P	**Pg**	**09 11 35.1**	**0.0**
EE07				*e*S	**Sb**	**09 11 53.4**	**-0.1**
EE08	**Sarghaua, Vand**	**1.45**	**249**	*e*P	**Pn**	**09 11 35.1**	**-0.9**
EE08				*e*S	**Sb**	**09 11 54.6**	**-0.9**
EE08				*e*SN	**Sn**	**09 11 57.1**	**+1.4**
PVF	**Pernaja**	**1.67**	**324**	*e*PG	**Pn**	**09 11 39.3**	**+0.2**
PVF				MSG		09 11 59.1	
	comp=Z,8.5nm,0.2s						
PVF				*e*SG	**Sn**	**09 12 00.5**	**-0.6**
HEL1	**Helsinki**	**1.78**	**304**	*e*PN	**Pn**	**09 11 41.4**	**+0.8**
HEL1				*e*SN	**Sn**	**09 12 04.3**	**+0.4**
HEL1				MSG		09 12 05.4	
	comp=Z,6.0nm,0.1s						
NUR	**Nurmijrvi**	**2.07**	**310**	*e*PG	**Pb**	**09 11 46.3**	**-0.7**
NUR				*e*SG	**Sb**	**09 12 12.8**	**-0.4**
NUR				MSG		09 12 14.1	
	comp=Z,5.3nm,0.1s						
MTSE	**Matsula**	**2.14**	**258**	*e*P	**Pb**	**09 11 47.7**	**-0.5**
MTSE	**Matsula**	**2.14**	**258**	*e*P	**Pb**	**09 11 47.5**	**-0.6**
MTSE				*e*S	**Sb**	**09 12 13.7**	**-1.6**
MTSE	**Matsula**	**2.14**	**258**	*e*PB	**Pb**	**09 11 47.4**	**-0.8**
MTSE				*e*SG	**Sb**	**09 12 15.1**	**-0.1**
RUF	**Ruokolahti**	**2.29**	**14**	*e*P	**Pn**	**09 11 48.5**	**+0.9**
RUF				MSG		09 12 16.9	
	comp=Z,6.5nm,0.2s						
RUF				*e*SG	**Sb**	**09 12 20.2**	**+0.6**
FIA0	**FINESS Array S**	**2.41**	**339**	*e*PB	**Pn**	**09 11 51.1**	**+1.9**
FIA0				*e*SG	**Sb**	**09 12 23.9**	**+1.1**
FIA0				MSG		09 12 24.9	
	comp=Z,4.1nm,0.1s						
FINES	**FINESS Array B**	**2.41**	**339**	Pn	**Pn**	**09 11 50.7**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=164,slow=17,SNR=14						
FINES				Lg	Lg	09 12 20.4	
	comp=Z,1.7nm,0.3s,baz=164,slow=26,SNR=26						
	comp=Z,1.2nm,0.3s						
FIA1	**FINESS Array S**	**2.41**	**340**	*e*PB	**Pn**	**09 11 51.1**	**+1.9**
FIA1				*e*SG	**Sb**	**09 12 23.2**	**+0.3**
FIA1				MSG		09 12 24.8	
	comp=Z,3.0nm,0.1s						
KAF	**Kangasniemi**	**3.01**	**346**	*e*PB	**Pb**	**09 12 01.1**	**-1.8**
KAF				*e*SG	**Sb**	**09 12 41.9**	**+1.6**
KEF	**Keuruu**	**3.31**	**335**	*e*P	**Pn**	**09 12 03.5**	**+1.9**
RAF	**Rauma**	**3.54**	**304**	*e*P	**Pn**	**09 12 06.2**	**+1.5**
RAF	**Rauma**	**3.54**	**304**	*e*P	**Pn**	**09 12 06.7**	**+2.0**
RAF				AML	AML	09 13 01.5	
	comp=E,5.7nm,0.6s						
RAF				AML	AML	09 13 02.4	
	comp=N,9.6nm,0.5s						
RAF				AML	AML	09 13 07.8	
	comp=Z,6.6nm,0.4s						
RAF	**Rauma**	**3.54**	**304**	*e*P	**Pn**	**09 12 06.4**	**+1.7**
KPF	**Kankaanpaa**	**3.88**	**315**	*e*P	**Pn**	**09 12 10.8**	**+1.5**
JOF	**Joensuu**	**4.09**	**23**	*e*P	**Pn**	**09 12 12.5**	**+0.3**
JOF	**Joensuu**	**4.09**	**23**	*e*P	**Pn**	**09 12 13.5**	**+1.2**
VAF	**Ylistaro**	**4.59**	**329**	*e*P	**Pn**	**09 12 21.3**	**+2.2**
NRTU	**Norrtaelje**	**4.72**	**280**	P	**Pn**	**09 12 22.4**	**+1.4**
NRTU				S	**Sn**	**09 13 15.9**	**-0.4**
NYNU	**Nynaeshamn**	**5.07**	**272**	P	**Pn**	**09 12 27.6**	**+1.9**
NYNU				S	**Sn**	**09 13 25.9**	**+1.0**
BACU	**Backbrunna**	**5.50**	**281**	P	**Pn**	**09 12 32.9**	**+1.3**
UMAU	**Umeaa**	**5.80**	**327**	P	**Pn**	**09 12 36.9**	**+1.1**
UMAU				S	**Sn**	**09 13 43.6**	**+0.7**
VIKU	**Vikbolandet**	**5.82**	**268**	*e*P	**Pn**	**09 12 36.0**	**-0.1**
VIKU	**Vikbolandet**	**5.82**	**268**	P	**Pn**	**09 12 36.2**	**+0.1**
HFS	**Hagfors**	**7.22**	**283**	Pn	**Pn**	**09 12 55.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=100,slow=14,SNR=2.2						
HFS				Lg	Lg	09 14 50.3	
	comp=Z,0.8nm,0.3s,baz=81,slow=26,SNR=10						
	comp=Z,0.9nm,0.7s						
NOA	**NORSAR Array B**	**8.49**	**290**	Pn	**Pn**	**09 13 12.3**	**-0.4**
	baz=96,slow=10,SNR=4.9						
NOA				Lg	Lg	09 15 32.9	
	baz=80,slow=13,SNR=6.4						
	comp=Z,0.1nm,0.3s						
ARCES	**ARCESS Array B**	**10.42**	**355**	Pn	**Pn**	**09 13 38.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=175,slow=12,SNR=6.7						
	comp=Z,0.7nm,0.8s						

MIRAS 25 09:15:12.0, 58°.51N×57°.75E, h0km, ML2.0/3, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PR1R	**Pomanovo**	**0.85**	**323**	*i* P	Pg	09 15 26.5	-1.9
	8.5nm,0.3s						
PR1R				*i* S	Sn	09 15 43.8	-0.7
	11nm,0.4s						
PR1R				*i* AML	AML	09 15 48.9	
	14nm,0.5s						
PR1R	**Pomanovo**	**0.85**	**323**	*e*P	Pb	09 15 29.1	-0.6
	5.5nm,0.6s,baz=323						
PR1R				*e*S	Sb	09 15 41.3	-0.4
	17nm,0.4s,baz=323						
PR1R				*i* AML	AML	09 15 48.9	
	46nm,1.6s,baz=323						
PR6R	**Ekimyata**	**0.94**	**249**	*i* P	Pg	09 15 23.7	-6.3
	13nm,0.1s						
PR6R				*i* S	Sg	09 15 42.4	+0.3
	21nm,0.1s						
PR6R				*i* AML	AML	09 15 48.7	
	43nm,1.0s						
PR6R	**Ekimyata**	**0.94**	**249**	*e*P	Pg	09 15 29.1	-0.9
	baz=249						
PR6R				*e*S	Sg	09 15 41.7	-0.4
	baz=249						
PR6R				*i* AML	AML	09 15 48.7	
	43nm,1.0s,baz=249						
PR3R	**Kungur**	**1.14**	**201**	*i* P	Pg	09 15 32.9	-1.0
	9.8nm,0.8s						
PR3R				*i* S	Sb	09 15 50.3	+0.4
	26nm,0.5s						
PR3R				*i* AML	AML	09 16 00.4	
	29nm,1.6s						
PR3R	**Kungur**	**1.14**	**201**	*e*P	Pg	09 15 33.4	-0.4
	9.7nm,0.8s,baz=201						
PR3R				*e*S	Sb	09 15 49.7	-0.2
	26nm,0.5s,baz=201						
PR3R				*i* AML	AML	09 16 00.4	
	30nm,0.9s,baz=201						

IDC 25 09:30:58.2±2.6, 54°.07N×86°.50E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=21.9km s-min=13.1km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**264**	I	I	09 36 50.0	
	baz=85,slow=321,SNR=7.5						
ZALV	**Zalesovo Beam**	**1.00**	**264**	Pg	Pg	09 31 15.7	-1.5
	1.0nm,0.3s,baz=78,slow=17,SNR=7.8						
ZALV				Lg	Lg	09 31 31.7	
	2.6nm,0.3s,baz=83,slow=26,SNR=13						
KURBB	**Kurchatov Arra**	**5.98**	**238**	Pn	Pn	09 32 28.9	+1.1
	0.1nm,0.3s,baz=57,slow=14,SNR=7.9						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**7.76**	**202**	Pn	Pn	09 32 53.3	+1.0
	0.3nm,0.3s,baz=24,slow=14,SNR=9.1						
MKAR				Lg	Lg	09 35 04.7	
	baz=24,slow=30,SNR=5.8						
	0.4nm,0.3s						

*NEIC **25** 09:36:03.4±1.4, 37°.31N±0°.06×71°.75E±0°.09, h124km±5km, mb4.1/4, Error ellipse: s-maj=10.8km s-min=9.3km az=77.0*
*IDC **25** 09:36:04.6±4.0, 37°.42N×71°.85E, h126km±32km, mb3.3/8, mbtmp3.8/13, Error ellipse: s-maj=31.2km s-min=24.0km az=161.0*
*NNC **25** 09:36:06.2±2.3, 37°.86N×71°.68E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=19.2km s-min=15.9km az=173.0*

ISC 25 09:36:02.4±0.8, 37°.33N±0°.07×71°.72E±0°.07, h109km, n50, σ1§44/52, mb3.6/8, 6C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.00**	**327**		**Pn**	**09 36 37.5**	**+2.1**
DRK	**Karamyk**	**2.14**	**2**		**Pn**	**09 36 40.5**	**+3.1**
CHGR	**Chuyangaron**	**2.42**	**304**		**Pn**	**09 36 41.6**	**+0.9**
SIMJ	**Simiganj**	**2.52**	**303**		**Pn**	**09 36 43.5**	**+1.4**
BTK	**Batken**	**2.81**	**346**		**Pn**	**09 36 49.1**	**+3.2**
KBL	**Kabul**	**3.53**	**219**		**Pn**	**09 36 58.1**	**+2.4**
NIL	**Nilore**	**3.88**	**161**		**Pn**	**09 37 01.2**	**+1.0**
ARSB	**Arslanbob**	**4.10**	**13**	Pn	**Pn**	**09 37 04.5**	**+1.3**
AML	**Almayashu**	**5.03**	**17**	P	**Pn**	**09 37 17.7**	**+1.8**
	SNR=19						
NRN	**Naryn**	**5.27**	**38**		**Pn**	**09 37 19.8**	**+0.7**
UCH	**Uchtor**	**5.34**	**23**	P	**Pn**	**09 37 21.7**	**+1.6**
	SNR=14						
MRKS	**Merke**	**5.53**	**12**	Lg	Lg	09 38 23.4	
	74nm,0.3s						
EKS2	**Erkin-Say**	**5.55**	**16**	P	**Pn**	**09 37 24.8**	**+2.0**
	SNR=10						
AAK	**Ala-Archa**	**5.71**	**21**	P	**Pn**	**09 37 27.2**	**+2.3**
	SNR=9.8						
AAK	**Ala-Archa**	**5.71**	**21**	P	**Pn**	**09 37 26.9**	**+2.0**
	17nm,0.4s,baz=183,slow=4.8,SNR=14						
AAK				S	**Sn**	**09 38 28.2**	**-1.0**
	18nm,0.5s,baz=338,slow=20,SNR=12						
KK31	**Karatay Array**	**5.84**	**351**		**Pn**	**09 37 28.2**	**+1.7**
KK31	**Karatay Array**	**5.84**	**351**	⇑P	**Pn**	**09 37 27.3**	**+0.8**
	47nm,0.3s,baz=176,slow=13,SNR=738						
KK31				⇑S	**Sn**	**09 38 30.6**	**-1.4**
	25nm,0.4s,baz=171,slow=22						
KKAR	**Karatay Array**	**5.84**	**351**	Pn	**Pn**	**09 37 28.1**	**+1.6**
BRLS	**Borolday**	**5.87**	**346**	Lg	Lg	09 38 25.6	
	43nm,0.3s						
CHMS	**Chumysh**	**6.12**	**21**	P	**Pn**	**09 37 32.1**	**+1.9**
	SNR=8.8						
CHMS	**Chumysh**	**6.12**	**21**	⇓P	**Pn**	**09 37 31.9**	**+1.6**
	24nm,0.7s						
CHMS				⇑S	**Sn**	**09 38 37.4**	**-1.4**
	8.7nm,0.5s						
USP	**Ospenovka**	**6.30**	**19**	P	**Pn**	**09 37 34.4**	**+1.7**
	SNR=8.8						
TKM2	**Tokmak 2**	**6.32**	**27**	P	**Pn**	**09 37 35.2**	**+2.0**
	SNR=5.5						
TKM2	**Tokmak 2**	**6.32**	**27**	⇑P	**Pn**	**09 37 35.2**	**+2.0**
	8.0nm,0.6s						
TKM2				⇑S	**Sn**	**09 38 43.5**	**-0.6**
	10nm,0.7s						
DGS	**Degeres**	**6.67**	**26**	P	**Pn**	**09 37 39.4**	**+1.6**
	4.0nm,0.8s						
KRBS	**Karabastau**	**7.03**	**24**	P	**Pn**	**09 37 43.9**	**+1.1**
	3.6nm,0.5s						
KTBS	**Karatobe**	**7.41**	**29**	P	**Pn**	**09 37 49.4**	**+1.6**
	1.5nm,0.5s						
BTLS	**Baital**	**7.90**	**12**	P	**Pn**	**09 37 55.1**	**+0.7**
	5.3nm,0.3s						
MAKZ	**Makanchi**	**12.14**	**36**	Pn	**Pn**	**09 38 51.6**	**0.0**
MK31	**Makanchi Array**	**12.28**	**36**	Pn	**Pn**	**09 38 54.5**	**+1.1**
MKAR	**Makanchi Array**	**12.28**	**36**	Pn	**Pn**	**09 38 54.5**	**+1.1**
MKAR	**Makanchi Array**	**12.28**	**36**	P	**Pn**	**09 38 53.4**	**-0.1**
	0.2nm,0.5s,baz=211,slow=15,SNR=3.2						
KURBB	**Kurchatov Arra**	**14.15**	**18**	P	**P**	**09 39 21.7**	**-0.2**
	1.6nm,0.5s,baz=204,slow=10.0,SNR=4.5						
AB31	**Akbulak array**	**14.66**	**328**	⇑P	**P**	**09 39 27.1**	**-0.4**
	2.2nm,0.3s,baz=132,slow=14,SNR=106						
ABKAR	**Akbulak array**	**14.66**	**328**		**Pn**	**09 39 22.8**	**-1.3**
BVAR	**Borovoye Array**	**15.72**	**357**	P	**Pn**	**09 39 36.3**	**-1.2**
	0.7nm,0.5s,baz=165,slow=12,SNR=2.7						
BRVK	**Borovoye**	**15.76**	**357**		**P**	**09 39 38.8**	**-0.9**
AKTO	**Aktyubinsk**	**16.37**	**327**		**P**	**09 39 46.9**	**+0.5**
	3.6nm,0.5s,baz=145,slow=7.5,SNR=8.9						
LSA	**Lhasa**	**17.89**	**110**	P	**P**	**09 40 02.6**	**-1.2**
ZAA0	**Zalesovo Array**	**18.92**	**24**	P	**P**	**09 40 14.6**	**+0.2**
ZAA0				IAmb	IAmb	09 40 20.2	
	comp=Z,3.2nm,0.4s						
ZALV	**Zalesovo Beam**	**18.92**	**24**	P	**P**	**09 40 14.1**	**-0.3**
ZALV	**Zalesovo Beam**	**18.92**	**24**	P	**P**	**09 40 14.5

KSRS Korea Array 44.81 341 P P 09 45 41.4 +0.1
0.8nm,0.7s,baz=158,slow=10,SNR=2.9
KSRS LR LR 10 02 54.2
comp=Z,37nm,19.4s,baz=195,slow=34
0.8nm,0.7s
SONM Songino Array 62.26 332 P P 09 47 49.1 +0.2
0.3nm,0.5s,baz=176,slow=5.5,SNR=2.2
0.3nm,0.5s
PALK Pallekele 65.18 280 LR LR 10 21 14.8
comp=Z,240nm,18.6s,baz=221,slow=40
VNDA Vanda 73.36 176 P P 09 48 59.4 +1.5
0.8nm,0.6s,baz=314,slow=5.8,SNR=4.1
0.8nm,0.6s
MKAR Makanchi Array 75.17 321 P P 09 49 09.4 +0.4
0.4nm,0.7s,baz=104,slow=5.6,SNR=3.8
0.4nm,0.7s
ZALV Zalesovo Beam 76.80 328 P P 09 49 16.9 -1.1
0.8nm,0.6s,baz=126,slow=7.3,SNR=1.8
0.8nm,0.6s
BVAR Borovoye Array 84.49 324 P P 09 49 59.1 0.0
0.7nm,0.6s,baz=131,slow=6.5,SNR=3.8
0.7nm,0.6s
ILAR Eielson Array 85.09 24 P P 09 50 01.2 -0.6
0.6nm,0.8s,baz=248,slow=5.0,SNR=7.6
0.6nm,0.8s
QSPA South Pole Qui 85.28 180 P P 09 50 03.6 +0.6
1.0nm,0.7s,baz=285,slow=1.4,SNR=14
1.0nm,0.7s

IDC ***25*** *09:43:41.4±0.9, 9°.43N×84°.39W, h0km, mb4.1/15, mbtmp4.1/19, ML3.5/4, MS4.1/41, Error ellipse: s-maj=29.5km s-min=10.2km az=45.0*
UCR ***25*** *09:43:42.7±0.9, 9°.29N×84°.69W, h15km±9km, MW5.2, Fault plane solution: NP1:φs125.00000°, δ20.00000°, λ90.00000°.*
UPA ***25*** *09:43:43.8±2.2, 9°.31N×84°.72W, h14km±39km, MW5.3*
CATAC ***25*** *09:43:44.8±0.3, 9°.34N×84°.55W, h4km±2km, MB5.0, mb4.8, ML4.8*
RSNC ***25*** *09:43:45.2±0.7, 9°N±5°×8°4W±°, h14km±5km, M4.6, mb4.8, mB5.2, ML4.0, Mw(mB)4.6*
NEIC ***25*** *09:43:46.7±1.2, 9°.53N±0°.06×84°.41W±0°.06, h21km±5km, mb4.6/123, Error ellipse: s-maj=10.2km s-min=7.9km az=216.0*
ISC 25 09:43:43.5±1.1, **9°.35N**±0°.03×**84°.65W**±0°.03, **h12**km±7km, **n401**, σ1§63/341, **mb4.5**/74, **MS4.0**/35, **11C-56D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVQ2	**Quepos**	**0.48**	**81**	*eP*	**Pg**	**09 43 52.6**	**-0.4**
LLNJ	**Naranjito**	**0.55**	**77**	‖*eP*	**Pg**	**09 43 54.0**	**-0.3**
TRB2	**Turrubares**	**0.59**	**19**	‖*eP*	**Pg**	**09 43 54.7**	**-0.3**
ARZA	**Esparza**	**0.63**	**358**	‖*eP*	**Pg**	**09 43 56.3**	**+0.4**
ACOS	**Acosta**	**0.65**	**47**	‖*eP*	**Pg**	**09 43 55.8**	**-0.4**
ABE2	**San Pablo**	**0.68**	**59**	‖*eP*	**Pg**	**09 43 56.3**	**-0.5**
RAZU	**San Marcos de**	**0.69**	**64**	*eP*	**Pg**	**09 43 56.5**	**-0.4**
SANTA	**Santa Ana**	**0.73**	**38**	*eP*	**Pg**	**09 43 57.4**	**-0.4**
LCR2	**La Lucha 2**	**0.74**	**59**		**Pg**	**09 43 57.3**	**-0.7**
LCR2	**La Lucha 2**	**0.74**	**59**	‖*iP*	**Pg**	**09 43 57.6**	**-0.3**
LCR2				*i* S	**Sg**	**09 44 08.1**	**+0.4**
LCR2				IAML		09 44 25.2	
	comp=Z,19μm,1.0s						
LCR2	**La Lucha 2**	**0.74**	**59**	‖*eP*	**Pg**	**09 43 57.2**	**-0.7**
RAMO	**San Ramon**	**0.75**	**14**	*eP*	**Pg**	**09 43 58.6**	**+0.5**
TCS1	**Tacares**	**0.77**	**27**	‖*iP*	**Pb**	**09 43 58.3**	**-0.5**
TCS1				IAML		09 44 31.7	
	comp=Z,170μm,1.0s						
TCS1	**Tacares**	**0.77**	**27**	‖*eP*	**Pb**	**09 43 58.1**	**-0.7**
BELE	**Belen**	**0.77**	**36**	‖*eP*	**Pb**	**09 43 57.7**	**-1.2**
NARAN	**Naranjo de Ala**	**0.79**	**20**	*eP*	**Pb**	**09 43 58.8**	**-0.4**
AMPA	**Desamparados**	**0.79**	**47**	‖*eP*	**Pb**	**09 43 59.3**	**0.0**
GREC	**Grecia**	**0.79**	**25**	‖*eP*	**Pn**	**09 44 00.1**	**-0.4**
CENT	**San Jose**	**0.80**	**44**	*eP*	**Pb**	**09 43 59.4**	**0.0**
LUJA	**Lujan**	**0.80**	**45**	*eP*	**Pb**	**09 43 59.6**	**+0.1**
MEXI	**Barrio Mexico**	**0.81**	**43**	*eP*	**Pb**	**09 43 58.8**	**-0.7**
SJS	**Escuela Geolog**	**0.83**	**45**	*eP*	**Pb**	**09 43 59.1**	**-0.7**
SJS3	**Mercedes San J**	**0.83**	**45**	‖*eP*	**Pb**	**09 43 59.2**	**-0.7**
TIBA	**Tibas**	**0.83**	**43**	‖*eP*	**Pb**	**09 43 59.3**	**-0.6**
DOMI	**Santo Domingo**	**0.83**	**41**	‖*eP*	**Pb**	**09 43 59.1**	**-0.9**
HDC	**Heredia**	**0.83**	**39**		**Pb**	**09 43 59.3**	**-0.7**
HDC	**Heredia**	**0.83**	**39**	‖*iP*	**Pb**	**09 43 59.2**	**-0.7**
HDC				IAML		09 44 32.3	
	comp=Z,25μm,1.0s						
HDC	**Heredia**	**0.83**	**39**	*eP*	**Pb**	**09 43 59.2**	**-0.7**
HDC	**Heredia**	**0.83**	**39**	‖*eP*	**Pb**	**09 43 59.1**	**-0.9**
HDC3	**Heredia 3**	**0.83**	**39**	*i P*	**Pb**	**09 43 59.6**	**-0.4**
HDC3				*i* S	**Sb**	**09 44 09.2**	**-2.0**
HDC3				IAML		09 44 32.3	
	comp=Z,25μm,1.0s						
TRIO	**Tres Rios**	**0.85**	**50**	‖*eP*	**Pb**	**09 43 59.2**	**-1.0**
ZARE	**Zarcero**	**0.86**	**17**	‖*eP*	**Pb**	**09 44 00.2**	**-0.3**
TAGO	**Cartago**	**0.88**	**54**	*eP*	**Pb**	**09 43 59.9**	**-0.8**
CORON	**Coronado**	**0.89**	**46**	‖*eP*	**Pb**	**09 44 00.5**	**-0.4**
REPA	**Paraso**	**0.90**	**58**	*eP*	**Pb**	**09 44 01.0**	**-0.2**
BUS1	**Rivas**	**0.91**	**77**	‖*eP*	**Pb**	**09 43 59.7**	**-1.8**
VPS6	**Volcano Poas**	**0.93**	**26**	*eP*	**Pb**	**09 44 01.3**	**-0.4**
ZELE	**Perez Zeledon**	**0.93**	**89**	*eP*	**Pb**	**09 44 00.1**	**-1.4**
CVIMO	**Finca Echandi**	**0.96**	**46**	‖*eP*	**Pb**	**09 44 01.7**	**-0.6**
JUNT	**Juntas**	**0.97**	**342**	*eP*	**Pb**	**09 44 01.1**	**-1.1**
MTEVE	**Monteverde**	**0.98**	**350**	*eP*	**Pb**	**09 44 02.4**	**0.0**
JTS	**Las Juntas de**	**0.98**	**342**		**Pb**	**09 44 01.9**	**-0.5**
JTS	**Las Juntas de**	**0.98**	**342**	‖*iP*	**Pb**	**09 44 01.1**	**-1.3**
JTS	**Las Juntas de**	**0.98**	**342**	Pg	**Pb**	**09 44 00.6**	**-1.7**
	comp=Z,763nm,0.3s,baz=126,slow=17,SNR=939						
JTS				Lg	Lg	09 44 16.7	
	comp=Z,1μm,0.3s,baz=265,slow=22,SNR=14						
JTS	**Las Juntas de**	**0.98**	**342**	P	**Pb**	**09 44 00.7**	**-1.7**
JTS				S	**Sn**	**09 44 18.0**	**+1.1**
JTS	**Las Juntas de**	**0.98**	**342**	‖*eP*	**Pb**	**09 44 00.7**	**-1.7**
INDI	**Punta indio, G**	**0.98**	**301**	*i S*	**Sn**	**09 44 19.6**	**+2.6**
PCAYA	**Pacayas**	**1.00**	**56**	*eP*	**Pb**	**09 44 01.8**	**-1.0**
VICA	**Volcano Irazu**	**1.01**	**52**	‖*eP*	**Pb**	**09 44 02.2**	**-1.0**
OCHAL	**Ojochal**	**1.02**	**104**	⇑*iP*	**Pb**	**09 44 01.8**	**-1.3**
OCHAL				*i* S	**Sb**	**09 44 16.1**	**-0.4**
OCHAL				IAML		09 44 33.8	
	comp=Z,14μm,1.0s						
RAFA	**San Farael, Vo**	**1.02**	**54**	‖*iP*	**Pb**	**09 44 02.5**	**-0.8**
RAFA				*i* S	**Sb**	**09 44 17.8**	**+1.0**
RAFA				IAML		09 44 30.4	
	comp=Z,91μm,1.0s						
RAFA	**San Farael, Vo**	**1.02**	**54**	‖*eP*	**Pb**	**09 44 02.5**	**-0.8**
SOCE	**Pocosol**	**1.02**	**2**		**Pb**	**09 44 02.9**	**-0.3**
SOCE	**Pocosol**	**1.02**	**2**	⇑*iP*	**Pb**	**09 44 03.1**	**-0.1**
SOCE				*i* S	**Sn**	**09 44 20.3**	**+2.3**
SOCE				IAML		09 44 26.5	
	comp=Z,31μm,1.0s						
SOCE	**Pocosol**	**1.02**	**2**	*eP*	**Pb**	**09 44 02.5**	**-0.7**
VINA	**Juan Vinas**	**1.04**	**59**	‖*eP*	**Pb**	**09 44 02.5**	**-1.1**
VTLA	**Turrialba Volc**	**1.08**	**53**	‖*eP*	**Pb**	**09 44 03.5**	**-0.7**
CVTQ	**Turrialba Volc**	**1.08**	**53**	‖*eP*	**Pb**	**09 44 03.7**	**-0.6**
VTR0	**Volcan Turrial**	**1.10**	**53**	‖*eP*	**Pb**	**09 44 04.1**	**-0.5**
CVTR	**Volcan Turrial**	**1.10**	**53**	‖*eP*	**Pb**	**09 44 04.1**	**-0.6**
ARE1	**Arenal 1**	**1.10**	**356**	*eP*	**Pn**	**09 44 03.8**	**-1.0**
VTCV	**VTCV, Calle Va**	**1.10**	**55**	‖*eP*	**Pn**	**09 44 03.7**	**-1.2**
NICO	**Nicoya**	**1.11**	**315**	*eP*	**Pb**	**09 44 03.6**	**-0.9**
VERB	**Verbena**	**1.11**	**58**	*eP*	**Pn**	**09 44 03.7**	**-1.2**
TUNA	**La Fortuna**	**1.11**	**0**	‖*eP*	**Pb**	**09 44 04.8**	**+0.2**
VACR	**Volcan Arenal**	**1.11**	**358**	‖*eP*	**Pn**	**09 44 04.0**	**-0.9**
CEDE	**Laguna Cedeo**	**1.13**	**357**	‖*eP*	**Pn**	**09 44 04.4**	**-0.7**
ITAL	**Pital**	**1.15**	**19**	‖*eP*	**Pb**	**09 44 05.5**	**+0.1**
CNAS	**Canas**	**1.16**	**338**	*eP*	**Pn**	**09 44 05.1**	**-0.4**
RVSTA	**Santa Teresita**	**1.16**	**58**	‖*eP*	**Pn**	**09 44 05.0**	**-0.6**
EDPN	**Palmar Norte**	**1.24**	**108**	*eP*	**Pn**	**09 44 04.8**	**-1.8**
RVLA	**Villa Bonita**	**1.29**	**54**	‖*eP*	**Pn**	**09 44 07.2**	**-0.1**
SACU	**Santa Cruz**	**1.29**	**315**	*eP*	**Pn**	**09 44 06.2**	**-1.1**
LCOCO	**El Coco**	**1.30**	**56**	*eP*	**Pn**	**09 44 07.5**	**0.0**
BURE	**Buenos Aires**	**1.30**	**98**	‖*eP*	**Pn**	**09 44 06.8**	**-0.8**
BAGA	**Bagaces**	**1.31**	**333**	‖*eP*	**Pn**	**09 44 07.0**	**-0.6**
IRES	**Siquirres**	**1.35**	**57**	‖*eP*	**Pn**	**09 44 08.2**	**+0.1**
CARI	**Cariari**	**1.35**	**42**	‖*eP*	**Pb**	**09 44 09.0**	**+0.4**
EDBA	**Buenos Aires**	**1.37**	**98**	*eP*	**Pn**	**09 44 07.5**	**-0.9**
COVE	**Coope Vega, Sa**	**1.38**	**10**	*i P*	**Pn**	**09 44 08.5**	**0.0**
COVE				IAML		09 44 47.9	
	comp=Z,15μm,1.0s						
DRK0	**Durika**	**1.39**	**94**	⇑*iP*	**Pn**	**09 44 08.0**	**-0.7**
DRK0				*i* S	**Sb**	**09 44 27.8**	**+0.6**
DRK0	**Durika**	**1.39**	**94**	*i P*	**Pn**	**09 44 08.1**	**-0.7**
DRK0				*i* S	**Sg**	**09 44 28.0**	**-0.3**
DRK0				IAML		09 44 31.4	
	comp=Z,51μm,1.0s						
DRK0	**Durika**	**1.39**	**94**	*eP*	**Pn**	**09 44 07.9**	**-0.9**
CUI	**Cuipilapa**	**1.39**	**339**	‖*eP*	**Pn**	**09 44 08.4**	**-0.4**
DELF	**Filadelfia**	**1.41**	**321**	*eP*	**Pb**	**09 44 08.9**	**-0.8**
COLC	**Colonia**	**1.41**	**337**	*eP*	**Pn**	**09 44 08.7**	**-0.3**
TAAN	**Batan**	**1.47**	**60**	‖*eP*	**Pb**	**09 44 10.8**	**-0.1**
EDP2	**Potrero Grande**	**1.49**	**103**	*eP*	**Pn**	**09 44 09.1**	**-1.0**
ERIA	**Liberia**	**1.49**	**329**	*eP*	**Pb**	**09 44 10.3**	**-0.9**
VERA	**Finca Concepci**	**1.51**	**352**	*eP*	**Pn**	**09 44 10.6**	**+0.3**
JIME	**Puerto Jimenez**	**1.54**	**122**	*eP*	**Pn**	**09 44 08.4**	**-2.3**
GPS2	**Hotel Rincn d**	**1.55**	**334**	*eP*	**Pn**	**09 44 10.8**	**-0.2**
PTJ1	**Puerto Jimnez**	**1.56**	**121**	‖*eP*	**Pn**	**09 44 10.2**	**-0.8**
PTJ1	**Puerto Jimnez**	**1.56**	**121**	*i P*	**Pg**	**09 44 12.3**	**-1.1**
PTJ1				IAML		09 44 21.4	
	comp=Z,46μm,1.0s						
PTJ1	**Puerto Jimnez**	**1.56**	**121**	*eP*	**Pn**	**09 44 10.2**	**-0.8**
GPS3	**Bodega del ICE**	**1.56**	**333**	*eP*	**Pg**	**09 44 14.2**	**+0.7**
ELI1	**Hacienda Flor**	**1.56**	**325**	*eP*	**Pb**	**09 44 11.2**	**-1.2**
VRLE	**La Escondida,**	**1.59**	**334**	‖*eP*	**Pn**	**09 44 11.3**	**-0.2**
VORI	**VORI**	**1.61**	**335**	*eP*	**Pn**	**09 44 11.9**	**0.0**
LCHIL	**Los Chiles**	**1.67**	**358**	*eP*	**Pn**	**09 44 12.6**	**0.0**
MLIR3	**Monte Lirio, C**	**1.89**	**107**	‖*eP*	**Pn**	**09 44 15.4**	**-0.2**
CDITO	**Canoas**	**1.92**	**114**	*i P*	**Pn**	**09 44 15.2**	**-0.7**
CDITO				IAML		09 45 23.4	
	comp=Z,13μm,1.0s						
BRU2	**Volcan**	**2.01**	**106**		**Pn**	**09 44 17.3**	**-0.1**
BRU2	**Volcan**	**2.01**	**106**	⇑*eP*	**Pb**	**09 44 18.5**	**-1.6**
BRU2	**Volcan**	**2.01**	**106**	*i P*	**Pn**	**09 44 17.7**	**+0.3**
BRU2				*i* S	**Sb**	**09 44 44.1**	**-1.0**
BRU2				IAML		09 45 21.5	
	comp=Z,9μm,1.0s						
PTPM	**Petroterminale**	**2.09**	**123**	‖*eP*	**Pn**	**09 44 17.5**	**-0.8**
CNI2	**El Empalme, Bo**	**2.15**	**88**	⇑*iP*	**Pn**	**09 44 19.5**	**+0.3**
BCO2	**Palmira**	**2.19**	**107**	⇑*iP*	**Pn**	**09 44 19.3**	**-0.5**
BCO2				*eS*	**Sb**	**09 44 48.0**	**-2.2**
LNBQ3	**Los Naranjos,**	**2.25**	**104**	⇑*eP*	**Pn**	**09 44 20.2**	**-0.4**
DVD	**David**	**2.35**	**113**	*eP*	**Pn**	**09 44 23.0**	**+1.0**
PSOM3	**Paja de Sombre**	**2.39**	**106**	‖*iP*	**Pn**	**09 44 22.2**	**-0.3**
LOCO3	**Loma Colorada,**	**2.39**	**113**	‖*eP*	**Pn**	**09 44 22.7**	**+0.2**
PEDE3	**Pedregal, Chir**	**2.40**	**113**	⇑*iP*	**Pn**	**09 44 22.6**	**0.0**
LOMA3	**Las Lomas, Chi**	**2.41**	**112**	*eP*	**Pn**	**09 44 23.0**	**+0.3**
ACON	**Acoyapa**	**2.65**	**349**		**Pn**	**09 44 26.7**	**+0.6**
ACON	**Acoyapa**	**2.65**	**349**	P	**Pn**	**09 44 26.6**	**+0.6**
ACON	**Acoyapa**	**2.65**	**349**	*i P*	**Pb**	**09 44 29.6**	**-1.3**
ACON				*i* S	**Sb**	**09 45 02.0**	**-1.4**
ACON				IAML		09 45 13.3	
	comp=Z,3μm,1.0s						
ACON	**Acoyapa**	**2.65**	**349**	‖*eP*	**Pn**	**09 44 25.9**	**-0.2**
BLUN	**Bluefields**	**2.77**	**18**	‖*iP*	**Pn**	**09 44 27.6**	**-0.1**
BLUN				*i* S	**Sb**	**09 45 06.1**	**-0.8**
BLUN				IAML		09 45 26.7	
	comp=Z,3μm,1.0s						
ESPN	**Las Esperanzas**	**2.84**	**7**		**Pn**	**09 44 30.4**	**+1.7**
ESPN	**Las Esperanzas**	**2.84**	**7**	*i P*	**Pn**	**09 44 30.2**	**+1.5**
ESPN				*i* S	**Sb**	**09 45 06.7**	**-2.3**
ESPN				IAML		09 45 34.9	
	comp=Z,4μm,1.0s						
ESPN	**Las Esperanzas**	**2.84**	**7**	‖*eP*	**Pn**	**09 44 28.9**	**+0.2**
NANN	**Nandasmo**	**2.95**	**331**	*i P*	**Pb**	**09 44 33.8**	**-2.2**
NANN				*i* S	**Sb**	**09 45 10.9**	**-1.2**
NANN				IAML		09 45 52.9	
	comp=Z,24μm,1.0s						
MAS3	**Al N del Volca**	**3.05**	**331**	*i P*	**Pb**	**09 44 34.9**	**-2.8**
MAS3				IAML		09 46 16.3	
	comp=Z,980nm,1.0s						
NANC3	**Nancito, Chiri**	**3.09**	**111**	*eP*	**Pn**	**09 44 32.4**	**+0.3**
WILN	**Americas 2**	**3.17**	**332**	*i P*	**Pb**	**09 44 36.1**	**-3.7**
WILN				IAML		09 46 31.0	
	comp=Z,1μm,1.0s						
R4DEC	**Barrio San Lui**	**3.19**	**331**	*i P*	**Pb**	**09 44 37.7**	**-2.5**
R4DEC				IAML		09 46 03.4	
	comp=Z,2μm,1.0s						
TISN	**Laguna Tiscapa**	**3.20**	**330**	*i P*	**Pb**	**09 44 36.7**	**-3.5**
TISN				IAML		09 44 55.8	
	comp=Z,54nm,1.0s						
BOAB	**BOACO BROADBAN**	**3.24**	**342**	Pn	**Pn**	**09 44 35.1**	**+1.0**
BOAB	**BOACO BROADBAN**	**3.24**	**342**	*i P*	**Pn**	**09 44 35.5**	**+1.4**
BOAB				*i* S	**Sb**	**09 45 16.8**	**-3.5**
BOAB				IAML		09 45 58.5	
	comp=Z,1μm,1.0s						
SAPS	**Ciudad Sandino**	**3.29**	**328**	*i P*	**Pb**	**09 44 39.1**	**-2.7**
SAPS				IAML		09 44 50.3	
	comp=Z,910nm,1.0s						
SAPS				*i* S	**Sb**	**09 45 19.0**	**-2.8**
HUEN		**3.32**	**333**	*i P*	**Pb**	**09 44 38.7**	**-3.7**
HUEN				IAML		09 46 11.2	
	comp=Z,1μm,1.0s						
COPN	**Copaltepe**	**3.40**	**326**	*i P*	**Pb**	**09 44 40.8**	**-2.8**
COPN				IAML		09 45 02.2	
	comp=Z,610nm,1.0s						
MOM2	**El Cardon**	**3.56**	**330**	*i P*	**Pb**	**09 44 42.1**	**-4.3**
MOM2				IAML		09 46 11.7	
	comp=Z,850nm,1.0s						
LEVN	**Ruinas Leon Vi**	**3.59**	**328**	*i P*	**Pb**	**09 44 43.0**	**-4.0**
LEVN				IAML		09 45 54.5	
	comp=Z,750nm,1.0s						
MESA3	**La Mesa, Verag**	**3.63**	**109**	⇑*eP*	**Pn**	**09 44 40.2**	**+0.7**
RSUS3	**Rio de Jesus,**	**3.71**	**111**	‖*eP*	**Pn**	**09 44 42.8**	**+2.2**
CNGA	**AI SSO del Vol**	**3.72**	**327**	*i P*	**Pn**	**09 44 44.4**	**+3.6**
CNGA				IAML		09 44 45.3	
	comp=Z,250nm,1.0s						
CNGN	**Cerro Negro**	**3.72**	**327**		**Pn**	**09 44 43.0**	**+2.1**
CNGN	**Cerro Negro**	**3.72**	**327**	P	**Pb**	**09 44 45.0**	**-4.2**
CNGN	**Cerro Negro**	**3.72**	**327**	*i P*	**Pb**	**09 44 45.5**	**-3.7**
CNGN				IAML		09 45 54.2	
	comp=Z,790nm,1.0s						
GMAL	**Guarumal, Vera**	**3.73**	**115**	⇑*eP*	**Pn**	**09 44 41.6**	**+0.7**
GMAL	**Guarumal, Vera**	**3.73**	**115**	P	**Pn**	**09 44 41.1**	**+0.2**
GMAL				S	**Sb**	**09 45 34.4**	**-0.1**
ROCN	**Rota Cerro Neg**	**3.76**	**327**	*i P*	**Pn**	**09 44 44.3**	**+3.0**
ROCN				IAML		09 44 50.4	
	comp=Z,310nm,1.0s						
PACN	**AI O del Volca**	**3.77**	**326**	*i P*	**Pb**	**09 44 45.9**	**-4.1**
PACN				IAML		09 44 55.5	
	comp=Z,320nm,1.0s						
STIA3	**Santiago, Vera**	**3.84**	**109**	*eP*	**Pn**	**09 44 43.3**	**+0.9**
QUEN	**AI S del Volca**	**3.88**	**326**	*i P*	**Pn**	**09 44 46.3**	**+3.3**
QUEN				IAML		09 44 52.0	
	comp=Z,220nm,1.0s						
CALO3	**Calobre, Verag**	**3.90**	**105**	*eP*	**Pn**	**09 44 44.1**	**+0.9**
PKGN	**Cerro Pekin**	**4.01**	**325**	*i P*	**Pn**	**09 44 48.0**	**+3.2**
PKGN				IAML		09 45 13.6	
	comp=Z,920nm,1.0s						
LIMN	**Finca el Limon**	**4.05**	**336**	*i P*	**Pn**	**09 44 47.8**	**+2.4**
LIMN				IAML		09 45 09.6	
	comp=Z,720nm,1.0s						
CRIN	**San Cristobal**	**4.08**	**325**		**Pn**	**09 44 47.8**	**+2.1**
CRIN	**San Cristobal**	**4.08**	**325**	P	**Pn**	**09 44 49.3**	**+3.6**
CRIN	**San Cristobal**	**4.08**	**325**	*i P*	**Pn**	**09 44 49.8**	**+4.1**
CRIN				*i* S	**Sb**	**09 45 39.4**	**-5.2**
CRIN				IAML		09 46 14.8	
	comp=Z,1μm,1.0s						
CRIS3	**El Cristo, Coc**	**4.13**	**105**	*eP*	**Pn**	**09 44 47.1**	**+0.7**
CACAO	**El Cacao, Vera**	**4.25**	**118**	*eP*	**Pn**	**09 44 48.7**	**+0.7**
CACAO	**El Cacao, Vera**	**4.25**	**118**	P	**Pn**	**09 44 49.6**	**+1.6**
PNME	**Penonome**	**4.36**	**101**	‖*iP*	**Pb**	**09 45 00.1**	**+0.2**
CHIT3	**Chitre**	**4.41**	**108**	*eP*	**Pn**	**09 44 52.2**	**+2.0**
AZU	**Azuero**	**4.59**	**109**	*eP*	**Pn**	**09 44 53.1**	**+0.3**
AZU	**Azuero**	**4.59**	**109**	P	**Pn**	**09 44 55.5**	**+2.7**
MLIR	**Monte Lirio**	**4.73**	**91**	*eP*	**Pn**	**09 44 53.1**	**-1.6**
ZANG	**Zanguenga, Cho**	**4.74**	**94**	*eP*	**Pn**	**09 44 55.4**	**+0.6**
BCIP	**Isla Barro Col**	**4.75**	**92**	Pn	**Pn**	**09 44 55.4**	**+0.4**
BCIP	**Isla Barro Col**	**4.75**	**92**	*eP*	**Pn**	**09 44 56.0**	**+1.1**
BCIP	**Isla Barro Col**	**4.75**	**92**	P	**Pn**	**09 44 55.8**	**+0.8**
BCIP	**Isla Barro Col**	**4.75**	**92**	*i P*	**Pn**	**09 44 55.4**	**+0.4**
BCIP				IAML		09 46 51.9	
	comp=Z,670nm,1.0s						
PCRI3	**Pocri, Los San**	**4.79**	**110**	*eP*	**Pn**	**09 44 58.8**	**+3.4**
FRIJ	**El Hiral**	**4.86**	**91**	‖*iP*	**Pn**	**09 44 57.3**	**+0.8**
PEDA3	**Pedasi**	**4.92**	**111**	*eP*	**Pn**	**09 44 56.3**	**-1.0**
ARRA3	**Arraijan, Pana**	**4.94**	**94**	*eP*	**Pn**	**09 44 56.4**	**-1.2**
CNCH	**Conchagua**	**5.00**	**322**	*i P*	**Pn**	**09 45 01.8**	**+3.4**
CNCH				IAML		09 45 23.9	
	comp=Z,370nm,1.0s						
CNCH				IVmB_BB		09 45 25.6	
	comp=Z,3μm,1.0s						
CNCH				IAmb	IAmb	09 45 26.0	
	comp=Z,300nm,0.9s						
YUSH	**Yuscaran**	**5.05**	**335**	*i P*	**Pn**	**09 45 01.8**	**+2.6**
LCND	**La Caada**	**5.06**	**321**	*i P*	**Pn**	**09 45 01.6**	**+2.5**
LCND				IVmB_BB		09 45 23.8	
	comp=Z,700nm,1.0s						
LCND				IAML		09 46 05.9	
	comp=Z,110nm,1.0s						
UPA	**Univ. de Panam**	**5.06**	**94**	*eP*	**Pn**	**09 44 59.5**	**+0.3**
PRVC	**Isla de Provid**	**5.13**	**39**	*eP*	**Pn**	**09 45 02.0**	**+1.8**
PRVC	**Isla de Provid**	**5.13**	**39**	P	**Pn**	**09 45 01.4**	**+1.2**
	comp=Z,207nm,1.0s,comp=Z,3μm						
PRVC	**Isla de Provid**	**5.13**	**39**	*i P*	**Pn**	**09 45 01.4**	**+1.2**
PRVC				IVmB_BB		09 45 18.3	
	comp=Z,870nm,1.0s						
PRVC				IAmb	IAmb	09 45 20.8	
	comp=Z,64nm,1.0s						
PRVC				IAML		09 47 06.6	
	comp=Z,130nm,1.0s						
JUCU	**Jucuarın**	**5.24**	**318**	*i P*	**Pn**	**09 45 03.6**	**+1.8**
JUCU				IAmb	IAmb	09 45 06.9	
	comp=Z,41nm,0.5s						
JUCU				IVmB_BB		09 45 48.1	
	comp=Z,6μm,1.0s						
JUCU				IAML		09 46 22.7	
	comp=Z,100nm,1.0s						
TGUH	**Tegucigalpa,Un**	**5.33**	**331**	Pn	**Pn**	**09 45 05.3**	**+2.2**
TGUH	**Tegucigalpa,Un**	**5.33**	**331**	P	Pn	09 45 08.3	+5.2
	comp=Z,229nm,0.8s,comp=Z,3μm						
TGUH	**Tegucigalpa,Un**	**5.33**	**331**	*i P*	**Pn**	**09 45 07.2**	**+4.1**
TGUH				IAmb	IAmb	09 45 33.2	
	comp=Z,230nm,0.7s						
TGUH				IVmB_BB		09 45 53.6	
	comp=Z,3μm,1.0s						
TGUH				IAML		09 46 52.6	
	comp=Z,600nm,1.0s						
CHPO	**Chepo, Panama**	**5.46**	**91**	*eP*	**Pn**	**09 45 06.3**	**+1.6**
COEB	**Comit de Eme**	**5.61**	**318**	*i P*	**Pn**	**09 45 10.4**	**+3.6**
COEB				IAmb	IAmb	09 45 18.3	
	comp=Z,31nm,0.8s						
COEB				IVmB_BB		09 45 21.5	
	comp=Z,690nm,1.0s						
COEB				*i* S	**Sn**	**09 46 16.7**	**+5.4**
COEB				IAML		09 46 19.0	
	comp=Z,89nm,1.0s						
PQSS	**Presa 15 de Se**	**5.72**	**318**	*i P*	**Pn**	**09 45 11.0**	**+2.7**
PQSS				IVmB_BB		09 45 16.2	
	comp=Z,820nm,1.0s						
PQSS				IAML		09 45 27.4	
	comp=Z,50nm,1.0s						
PQSS				IAmb	IAmb	09 45 27.9	
	comp=Z,46nm,1.0s						
COMHN	**El Horno**	**5.80**	**331**	*i P*	Pn	09 45 13.9	+4.3
TECO	**Alcaldia de Te**	**5.80**	**316**	*i P*	**Pn**	**09 45 12.1**	**+2.6**
TECO				IAML		09 45 13.6	
	comp=Z,66nm,1.0s						
TECO				IAmb	IAmb	09 45 13.7	
	comp=Z,22nm,0.5s						
SCLA	**Alcaldia de Sa**	**5.89**	**318**	*i P*	**Pn**	**09 45 13.9**	**+3.3**
SCLA				IVmB_BB		09 45 35.0	
	comp=Z,800nm,1.0s						
SCLA				IAmb	IAmb	09 45 35.3	
	comp=Z,74nm,0.7s						
SC

352A **Blakely** 22.02 359 P **P** 09 48 38.1 +0.3
HBVL **Hebbronville** 22.05 325 P **P** 09 48 38.8 +0.6
HBVL IAmb IAmb 09 48 40.7
comp=Z,22nm,1.2s
NNA **Nana** 22.58 160 LR LR 09 56 39.0
comp=Z,431nm,19.5s,baz=318,slow=34
833A **Chaparral WMA,** 23.42 326 IAmb IAmb 09 49 11.6
comp=Z,28nm,0.9s
LRAL **Lakeview Retre** 23.67 355 P **P** 09 48 55.5 +0.6
LRAL IAmb IAmb 09 49 05.5
comp=Z,27nm,1.1s
TEFE **Tefe** 23.69 122 *eP* **P** 09 48 55.7 +0.4
Z47A **Carrollton** 23.94 353 IAmb IAmb 09 49 07.1
comp=Z,26nm,0.9s
Y52A **Lilburn** 24.40 1 P **P** 09 49 01.6 -0.2
Y52A IAmb IAmb 09 49 16.6
comp=Z,33nm,1.2s
Y49A **Blount Mountai** 24.44 356 P **P** 09 49 02.0 -0.2
Y49A IAmb IAmb 09 49 04.4
comp=Z,29nm,1.2s
HODGE **Hodges** 24.86 5 P **P** 09 49 06.0 +0.1
HODGE IAmb IAmb 09 49 15.6
comp=Z,32nm,1.2s
DRIO **Del Rio** 24.95 325 P **P** 09 49 08.5 +1.6
JSC **Jenkinsville** 25.01 7 P **P** 09 49 06.5 -0.7
X48A **Hartselle** 25.08 355 P **P** 09 49 08.3 +0.4
X48A IAmb IAmb 09 49 19.3
comp=Z,12nm,0.8s
FPAL **Fort Paine** 25.09 358 P **P** 09 49 09.0 +1.0
CCAR **Cane Creek** 25.31 346 P **P** 09 49 10.7 +0.7
JCT **Junction City** 25.33 328 P **P** 09 49 10.9 +0.6
JCT IAmb IAmb 09 49 19.0
comp=Z,17nm,1.1s
OXF **Oxford** 25.42 351 P **P** 09 49 11.0 +0.1
WLAR **White Oak Lake** 25.44 343 P **P** 09 49 12.0 +0.8
WHTX **Lake Whitney,** 25.47 334 IAmb IAmb 09 49 14.2
comp=Z,26nm,1.3s
BRDY **Brady** 25.58 331 P **P** 09 49 11.2 -1.3
BRDY IAmb IAmb 09 49 22.3
comp=Z,13nm,1.0s
PLAL **Pickwick Lake** 25.70 354 P **P** 09 49 13.7 +0.2
PLAL IAmb IAmb 09 49 25.4
comp=Z,18nm,1.4s
FW14 **Alvarado** 25.71 335 P **P** 09 49 14.7 +1.0
SWET **Sewanee** 25.77 358 IAmb IAmb 09 49 18.1
comp=Z,33nm,1.4s
TKL **Tuckaleechee C** 26.20 2 LR LR 09 58 58.1
comp=Z,262nm,20.7s,baz=176,slow=35
V48A **Smith Brothers** 26.34 356 IAmb IAmb 09 49 39.3
comp=Z,24nm,1.4s
MIAR **Mount Ida** 26.38 343 IAmb IAmb 09 49 41.1
comp=Z,19nm,1.2s
ETMB **Extrema** 26.45 136 P **P** 09 49 20.9 +0.3
ETMB IAmb IAmb 09 49 24.4
comp=Z,32nm,1.4s
ETMB **Extrema** 26.45 136 *eP* **P** 09 49 20.8 +0.3
PLPT **Palo Pinto** 26.54 334 IAmb IAmb 09 49 32.2
comp=Z,11nm,0.9s
FW03 **Perrin-Whitt E** 26.63 334 IAmb IAmb 09 49 40.2
comp=Z,8.1nm,0.8s
TX31 **Lajitas Ar. Si** 26.70 321 P **P** 09 49 22.5 -0.3
TXAR **Lajitas Array** 26.70 321 P **P** 09 49 23.1 +0.3
TXAR **Lajitas Array** 26.70 321 P **P** 09 49 22.5 -0.3
comp=Z,0.8nm,0.4s,baz=142,slow=7.8,SNR=27
TXAR PcP **PcP** 09 52 46.4 -0.1
comp=Z,1.0nm,1.0s,baz=157,slow=4.8,SNR=3.9
TXAR LR LR 10 00 52.1
comp=Z,83nm,19.4s,baz=90,slow=38
comp=Z,0.8nm,0.4s
MACA **Manacapuru-AM** 26.92 116 *eP* **P** 09 49 25.4 +0.5
LCAR **Lake Charles** 27.25 348 IAmb IAmb 09 49 27.9
comp=Z,15nm,1.2s
ALPN **Alpine** 27.42 322 IAmb IAmb 09 49 48.4
comp=Z,17nm,1.4s
MNHN **Monahans** 27.61 325 IAmb IAmb 09 49 40.5
comp=Z,9.4nm,1.2s
SAML **Samuel** 28.06 130 P **P** 09 49 34.7 -0.3
SAML **Samuel** 28.06 130 *eP* **P** 09 49 34.6 -0.3
T42A **Van Buren** 28.17 349 IAmb IAmb 09 50 00.7
comp=Z,6.6nm,0.9s
MGMO **Mountain Grove** 28.52 347 IAmb IAmb 09 49 39.7
comp=Z,18nm,1.4s
VHRN **Van Horn** 28.53 321 IAmb IAmb 09 49 58.4
comp=Z,9.0nm,1.2s
CCM **Cathedral Cave** 29.19 349 P **P** 09 49 44.2 -0.6
CCM IAmb IAmb 09 49 45.1
comp=Z,9.9nm,1.1s
SSFO **Shawnee State** 29.25 2 P **P** 09 49 45.5 +0.1
SSFO IAmb IAmb 09 49 46.1
comp=Z,16nm,1.1s
LPAZ **La Paz** 30.27 147 P **P** 09 49 55.4 +0.1
comp=Z,1.7nm,1.0s,baz=358,slow=7.1,SNR=3.8
LPAZ LR LR 10 02 19.5
comp=Z,637nm,21.7s,baz=306,slow=37
comp=Z,1.7nm,1.0s
LPAZ **La Paz** 30.27 147 *eP* **P** 09 49 56.5 +1.2
O53A **New Philadelph** 30.92 5 IAmb IAmb 09 50 00.8
comp=Z,13nm,1.1s
ITTB **Itaituba** 31.88 114 *eP* **P** 09 50 09.4 +0.5
MDP **Montagnes des** 32.02 95 LR LR 10 03 55.2
comp=Z,911nm,19.0s,baz=266,slow=38
ANMO **Albuquerque** 32.35 325 P **P** 09 50 13.2 +0.1
ANMO **Albuquerque** 32.35 325 LR LR 10 06 44.9
comp=Z,200nm,18.5s,baz=225,slow=43
L42A **Oliver, Polo** 32.82 353 IAmb IAmb 09 50 27.4
comp=Z,9.1nm,0.9s
TUC **Tucson** 33.27 317 P **P** 09 50 22.1 +1.1
TUC IAmb IAmb 09 50 24.4
comp=Z,6.3nm,1.2s
NPGB **Novo Progresso** 33.42 118 *eP* **P** 09 50 22.2 -0.2
SDCO **Great Sand Dun** 33.95 330 P **P** 09 50 27.9 +0.8
X18A **Snowflake** 34.14 321 IAmb IAmb 09 50 48.5
comp=Z,7.4nm,1.1s
SIV **San Ignacio** 34.34 137 LR LR 10 05 23.0
comp=Z,677nm,19.2s,baz=300,slow=38
PDRB **Porto dos Gac** 34.70 126 *eP* **P** 09 50 32.9 -0.6
X16A **Lo Mia Camp, P** 35.01 319 IAmb IAmb 09 50 39.6
comp=Z,5.2nm,0.8s
PTLB **Pontes e Lacer** 35.30 134 P **P** 09 50 38.4 -0.2
PTLB IAmb IAmb 09 50 41.1
comp=Z,4.7nm,1.0s
PTLB **Pontes e Lacer** 35.30 134 *eP* **P** 09 50 38.8 +0.2
BBSD **Serra de San D** 35.50 138 *eP* **P** 09 50 40.6 +0.3
113A **Mohawk Valley,** 35.58 315 IAmb IAmb 09 50 53.9
comp=Z,5.8nm,1.1s
SADO **Sadowa** 35.61 7 LR LR 10 04 48.8
comp=Z,256nm,19.8s,baz=246,slow=36
WUAZ **Wupatki** 35.66 321 IAmb IAmb 09 51 02.4
comp=Z,12nm,1.1s
BLYC **Blythe** 36.65 316 IAmb IAmb 09 50 54.1
comp=Z,9.7nm,1.2s
PTET **Porto Estrela** 36.68 132 *eP* **P** 09 50 50.4 -0.1
U15A **North Rim** 36.82 321 IAmb IAmb 09 51 02.4
comp=Z,7.5nm,1.2s
HMU **Henry Mountain** 36.91 325 IAmb IAmb 09 51 12.5
comp=Z,12nm,1.5s
W13A **Hualapai Mount** 37.01 318 IAmb IAmb 09 50 56.7
comp=Z,7.1nm,1.1s
NBRS **Nobres** 37.06 129 *eP* **P** 09 50 53.6 -0.1
PKCU **Pink Cliffs** 37.49 323 IAmb IAmb 09 51 17.5
comp=Z,18nm,1.3s
KNB **Kanab** 37.52 322 IAmb IAmb 09 51 17.5
comp=Z,9.2nm,1.1s
SRU **San Rafael Swe** 37.60 326 IAmb IAmb 09 51 10.1
comp=Z,12nm,1.5s
BBLB **La Banda, Boli** 37.75 138 *eP* **P** 09 50 60.0 +0.4
PFO **Pinyon Flats O** 37.92 314 LR LR 10 06 23.1
comp=Z,160nm,20.5s,baz=127,slow=36
V12A **Nelson** 38.02 318 P **P** 09 51 03.0 +1.3
V12A IAmb IAmb 09 51 21.4
comp=Z,8.0nm,1.1s
SALV **Santo Antonio** 38.10 131 *eP* **P** 09 51 02.5 0.0
SHPR **Sheep Range** 38.68 319 P **P** 09 51 08.6 +1.2
SNDB **Serra Nova Dou** 39.34 122 *eP* **P** 09 51 13.1 +0.1
GWY **Greenwater Val** 39.48 318 IAmb IAmb 09 51 30.1
comp=Z,11nm,1.5s
S11A **Rachel** 39.74 320 IAmb IAmb 09 51 28.4
comp=Z,12nm,1.1s
PDAR **Pinedale Array** 39.79 331 P **P** 09 51 17.6 +0.8
comp=Z,0.1nm,0.5s,baz=161,slow=8.6,SNR=2.0
PDAR PcP **PcP** 09 53 22.9 0.0
comp=Z,0.3nm,0.7s,baz=153,slow=2.7,SNR=4.7
comp=Z,0.1nm,0.5s
RVDE **Rio Verde (Bra** 40.66 134 *eP* **P** 09 51 23.2 -0.8
REDW **Red Top Meadow** 40.87 331 P **P** 09 51 25.7 +0.1
SNOW **Snow King Moun** 40.89 331 P **P** 09 51 26.8 +0.9
ARAG **Araguaiana, MT** 40.96 127 *eP* **P** 09 51 25.6 -0.7
SMTB **Santa Maria do** 41.10 115 *eP* **P** 09 51 27.8 +0.1
AQDB **Aquidauana** 41.10 136 P **P** 09 51 27.5 0.0
AQDB IAmb IAmb 09 51 28.7
comp=Z,18nm,1.4s
AQDB **Aquidauana** 41.10 136 *eP* **P** 09 51 28.3 +0.9
ELK **Elko** 41.37 324 LR LR 10 10 11.4
comp=Z,154nm,18.4s,baz=136,slow=38
NV11 **Mina Array Sit** 41.74 319 P **P** 09 51 33.9 +1.2
NV11 IAmb IAmb 09 51 37.8
comp=Z,12nm,1.3s
ULM **Lac du Bonnet** 41.82 349 P **P** 09 51 30.9 -2.1
comp=Z,3.2nm,0.8s,baz=173,slow=8.6,SNR=3.5
comp=Z,3.2nm,0.8s
NVAR **Mina Array Bea** 41.83 319 P **P** 09 51 34.9 +1.3
NVAR **Mina Array Bea** 41.83 319 P **P** 09 51 34.5 +0.9
comp=Z,3.5nm,0.8s,baz=129,slow=7.1,SNR=21
NVAR PcP **PcP** 09 53 30.9 +1.4
comp=Z,0.8nm,0.8s,baz=151,slow=4.0,SNR=3.7
NVAR ScP **ScP** 09 57 17.9 -2.0
comp=Z,0.2nm,0.6s,baz=170,slow=5.5,SNR=1.8
NVAR LR LR 10 10 23.5
comp=Z,272nm,19.2s,baz=125,slow=38
comp=Z,3.5nm,0.8s
LHV **Little Huntoon** 41.86 319 IAmb IAmb 09 52 00.8
comp=Z,13nm,1.3s
KVN **Kaiserville** 42.06 320 P **P** 09 51 37.1 +1.7
RYN **Ryan** 42.09 319 P **P** 09 51 35.9 +0.3
WAKR **Walker** 42.61 319 P **P** 09 51 40.9 +1.0
YERR **Yerington** 42.75 319 IAmb IAmb 09 51 45.9
comp=Z,9.8nm,1.4s
H03N2 **Juan Fernandez** 42.90 173 T T 10 37 20.2
baz=351,slow=76,SNR=17
H03N1 **Juan Fernandez** 42.91 173 T T 10 37 24.3
baz=351,slow=76,SNR=17
H03N3 **Juan Fernandez** 42.92 173 T T 10 37 20.6
baz=351,slow=76,SNR=11
PNTR **Pine Nut** 43.04 319 IAmb IAmb 09 52 13.4
comp=Z,8.3nm,1.1s
AMBA **Amambai (Brazi** 43.27 138 *eP* **P** 09 51 45.3 +0.1
BDFB **Brasilia** 43.97 124 LR LR 10 12 53.7
comp=Z,327nm,18.7s,baz=320,slow=40
CPUP **Villa Florida** 44.30 144 LR LR 10 13 03.9
comp=Z,172nm,18.4s,baz=324,slow=40
WVOR **Wild Horse Val** 44.41 324 IAmb IAmb 09 52 13.2
comp=Z,13nm,1.4s
J08A **Circle Bar Ran** 44.89 325 P **P** 09 51 59.3 +1.2
SDBA **SAO DESIDERIO** 45.02 118 *eP* **P** 09 51 59.6 +0.2
IPMB **Ipameri, GO** 45.08 127 *eP* **P** 09 51 59.5 -0.3
YBH **Yreka Blue Hor** 46.48 320 LR LR 10 13 48.2
comp=Z,149nm,18.6s,baz=152,slow=39
NEW **Newport** 47.44 331 LR LR 10 16 00.2
comp=Z,110nm,18.5s,baz=133,slow=41
SCHQ **Schefferville** 47.52 14 P **P** 09 52 17.3 -1.2
comp=Z,2.2nm,0.6s,baz=238,slow=12,SNR=2.7
SCHQ LR LR 10 13 36.0
comp=Z,114nm,18.2s,baz=204,slow=38
comp=Z,2.2nm,0.6s
DIAM **Diamantina, MG** 48.89 124 *eP* **P** 09 52 30.1 +0.3
RCBR **Riachuelo** 50.87 105 LR LR 10 15 54.7
comp=Z,189nm,18.2s,baz=170,slow=38
PLCA **Paso Flores** 51.51 166 LR LR 10 09 46.3
comp=Z,88nm,20.5s,baz=31,slow=30
BBB **Bella Bella** 55.37 329 LR LR 10 19 20.4
comp=Z,110nm,20.8s,baz=142,slow=39
FRB **Frobisher Bay** 55.51 9 LR LR 10 17 26.3
comp=Z,202nm,18.1s,baz=192,slow=37
YKA **Yellowknife Ar** 57.32 344 P **P** 09 53 29.9 -1.1
comp=Z,0.5nm,0.8s,baz=130,slow=7.5,SNR=3.9
YKA LR LR 10 20 22.4
comp=Z,114nm,20.3s,baz=148,slow=38
comp=Z,0.5nm,0.8s
TAOE **Nuku Hiva Isla** 58.15 253 *e*LR LR 10 10 31.2
comp=Z,49nm,22.3s
DLBC **Dease Lake** 59.87 334 LR LR 10 22 02.2
comp=Z,186nm,21.4s,baz=118,slow=38
SFJD **Kangerlussuaq** 61.97 14 LR LR 10 21 08.5
comp=Z,233nm,18.3s,baz=222,slow=36
USHA **Ushuaia** 65.38 170 LR LR 10 16 25.4
comp=Z,569nm,21.2s,baz=243,slow=30
RES **Resolute Bay** 65.56 357 LR LR 10 23 38.6
comp=Z,129nm,19.3s,baz=212,slow=37
INK **Inuvik** 66.97 342 IAmb IAmb 09 54 35.6
comp=Z,7.6nm,1.4s
A36M **Sachs Harbour** 67.26 347 IAmb IAmb 09 54 37.5
comp=Z,6.3nm,0.9s
PPT2 **Papete2** 69.49 247 *e*LR LR 10 15 59.2
comp=Z,59nm,21.8s
ILAR **Eielson Array** 69.95 336 P **P** 09 54 54.6 +0.2
ILAR **Eielson Array** 69.95 336 P **P** 09 54 53.5 -0.9
comp=Z,0.6nm,0.7s,baz=106,slow=3.2,SNR=6.3
ILAR LR LR 10 30 34.8
comp=Z,154nm,18.1s,baz=100,slow=40
comp=Z,0.6nm,0.7s
BORG **Borgarnes** 70.37 24 LR LR 10 24 45.7
comp=Z,64nm,18.7s,baz=322,slow=35
KDAK **Kodiak Island** 70.43 328 LR LR 10 27 49.5
comp=Z,84nm,20.0s,baz=96,slow=38
I23K **Minto, Yukon-K** 71.07 336 IAmb IAmb 09 55 03.9
comp=Z,2.8nm,0.9s
TBI **Tubuai** 71.19 241 *e*LR LR 10 16 53.5
comp=Z,432nm,39.8s
D25K **Kavik River** 71.52 341 IAmb IAmb 09 55 05.5
comp=Z,3.1nm,0.9s
F21K **Alatna River** 73.30 338 IAmb IAmb 09 55 26.4
comp=Z,4.1nm,1.0s
E21K **Killik River** 73.81 339 IAmb IAmb 09 55 35.9
comp=Z,9.2nm,1.4s
M14K **Bethel** 75.69 330 P **P** 09 55 29.9 +1.4
PAB **San Pablo** 76.65 52 P **P** 09 55 33.8 -0.8
PAB IAmb IAmb 09 55 41.8
comp=Z,14nm,1.4s
ESDC **Sonseca Array** 76.94 51 P **P** 09 55 35.8 -0.4
ESDC **Sonseca Array** 76.94 51 P **P** 09 55 35.8 -0.4
comp=Z,4.5nm,1.1s,baz=281,slow=5.4,SNR=24
comp=Z,4.5nm,1.1s
EKA **Eskdalemuir Ar** 77.53 35 P **P** 09 55 37.4 -1.7
comp=Z,4.1nm,1.0s,baz=272,slow=4.6,SNR=7.3
comp=Z,4.1nm,1.0s
ADK **Adak** 83.97 321 P **P** 09 56 15.1 +1.5
ECH **Echery** 84.31 42 P **P** 09 56 14.1 -1.4
ECH IAmb IAmb 09 56 21.3
comp=Z,8.4nm,1.3s
TORD **Torodi Ar. Bea** 84.39 78 P **P** 09 56 15.4 -1.1
comp=Z,1.8nm,1.1s,baz=303,slow=6.4,SNR=6.0
comp=Z,1.8nm,1.1s
NB2 **NORSAR Subarra** 84.72 29 P **P** 09 56 16.4 -0.9
comp=Z,14nm,1.4s,baz=277,slow=5.3
NOA **NORSAR Array B** 84.72 29 P **P** 09 56 16.2 -1.1
comp=Z,1.9nm,0.9s,baz=283,slow=7.7,SNR=5.1
comp=Z,1.9nm,0.9s
HFS **Hagfors** 86.09 30 P **P** 09 56 22.6 -1.5
comp=Z,2.2nm,0.9s,baz=230,slow=8.3,SNR=4.8
comp=Z,2.2nm,0.9s
DAVOX **Davos/Dischmat** 86.34 43 LR LR 10 30 17.8
comp=Z,66nm,18.8s,baz=257,slow=32
CLL **Collm** 87.52 39 *eP* **P** 09 56 31.0 -0.3
comp=Z,8.0nm,1.0s
KHC **Kasperske Hory** 88.34 41 *eP* **P** 09 56 35.5 +0.2
GERES **GERESS Array B** 88.48 41 P **P** 09 56 35.1 -0.9
comp=Z,0.7nm,0.7s,baz=256,slow=4.0,SNR=3.6
GERES LR LR 10 35 47.7
comp=Z,60nm,18.4s,baz=285,slow=35
comp=Z,0.7nm,0.7s
VRAC **Vranov** 90.22 40 LR LR 10 32 35.5
comp=Z,54nm,19.9s,baz=262,slow=33
FINES **FINESS Array B** 91.50 27 P **P** 09 56 48.1 -1.6
comp=Z,2.8nm,1.0s,baz=352,slow=4.2,SNR=6.7
comp=Z,2.8nm,1.0s
TIXI **Tiksi** 96.17 350 LR LR 10 46 28.9
comp=Z,108nm,18.3s,baz=222,slow=39
AKASG **Malin Array Be** 97.43 36 LR LR 10 41 27.6
comp=Z,49nm,18.1s,baz=36,slow=36
MLR **Muntele Rosu** 97.44 42 LR LR 10 38 35.5
comp=Z,69nm,18.1s,baz=275,slow=34
MA2 **Magadan** 98.40 335 LR LR 10 50 04.9
comp=Z,79nm,18.2s,baz=31,slow=40
H11S1 **WAKE ISLAND Hyl** 104.39 292 T T 11 54 22.8
baz=76
H11S2 **WAKE ISLAND Hyl** 104.39 292 T T 11 54 23.8
baz=76
H11S3 **WAKE ISLAND Hyl** 104.41 292 T T 11 54 25.4
baz=76
HHC **Hu-ho-hao-te** 127.86 344 *eP* **PKPdf** 10 02 47.5 -2.1
NJ2 **Nanjing** 133.10 332 *eP* **PKiKP** 10 03 01.3 +0.5
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
ASAR **Alice Springs** 140.54 244 PKP **PKPdf** 10 03 12.8 -0.9
comp=Z,0.4nm,0.8s,baz=111,slow=2.4,SNR=2.1
WRA **Warramunga Arr** 140.93 250 PKP **PKPdf** 10 03 14.2 -0.3
comp=Z,1.2nm,1.1s,baz=91,slow=2.8,SNR=5.1
PZH **PanZhiHua** 143.82 350 PKP **PKPdf** 10 03 19.5 -0.1
CMAR **Chiang Mai Arr** 152.14 353 PKPbc **PKiKP** 10 03 39.8 -0.5
comp=Z,0.4nm,0.3s,baz=323,slow=1.4,SNR=1.3

IDC 25 09:46:50.0±3.6, 54°.19N×87°.32E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=32.3km s-min=20.3km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	1.49	262	I	I	09 55 10.0	
	baz=80,slow=318,SNR=3.3						
ZALV	**Zalesovo Beam**	1.49	262	Pg	Pn	09 47 15.7	-2.3
	0.8nm,0.3s,baz=83,slow=15,SNR=7.6						
ZALV				Lg	Lg	09 47 38.2	
	0.8nm,0.3s,baz=82,slow=26,SNR=5.0						
KURBB	**Kurchatov Arra**	6.45	240	Pn	Pn	09 48 26.7	+0.5
	0.1nm,0.3s,baz=58,slow=15,SNR=3.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	8.06	205	Pn	Pn	09 48 50.1	+1.7
	0.1nm,0.3s,baz=27,slow=9.7,SNR=2.3						
	0.2nm,0.4s						

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*IDC **25** 10:00:16.3±9.8, 21°.05S×178°.98W, h640km±126km, mb2.8/6, mbtmp3.8/6, Error ellipse: s-maj=46.4km s-min=36.1km az=86.0*

ISC 25 10:00:14.6±1.0, 21°.0S±0°.3×179°.0W±0°.2, h619km, n7, σ0°.54/7, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	36.77	245	P	P	10 06 32.0	+0.1
	1.1nm,0.6s,baz=112,slow=9.8,SNR=3.6						
	1.1nm,0.6s						
ASAR	**Alice Springs**	43.54	257	P	P	10 07 25.9	+0.2
	1.5nm,0.5s,baz=96,slow=8.1,SNR=47						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	43.65	263	P	P	10 07 26.7	+0.1
	0.4nm,0.5s,baz=96,slow=7.4,SNR=22						
	0.4nm,0.5s						
QSPA	**South Pole Qui**	69.07	180	P	P	10 10 19.7	-0.1
	2.3nm,1.1s,baz=312,slow=2.6,SNR=5.4						
	2.3nm,1.1s						
NVAR	**Mina Array Bea**	82.00	44	P	P	10 11 31.5	-0.1
	0.2nm,0.6s,baz=231,slow=6.8,SNR=2.0						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	88.08	58	P	P	10 12 01.6	+0.5
	0.2nm,0.8s,baz=244,slow=4.9,SNR=3.7						
	0.2nm,0.8s						
AKASG	**Malin Array Be**	143.01	330	PKP	PKPdf	10 18 38.0	-0.9
	0.2nm,0.2s,baz=43,slow=4.0,SNR=5.3						

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*IDC **25** 10:21:40.9±1.8, 7°.97S×127°.47E, h0km, mb4.0/2, mbtmp4.1/5, ML4.2/3, Error ellipse: s-maj=77.0km s-min=27.6km az=54.0*
*DJA **25** 10:21:50.0±1.4, 9°.S±4°.×12°.7E±°, h18km±13km, M4.4/8, mb4.5/4, mB5.7/2, MLv4.3/8, Mw(mB)5.2/2*
*NEIC **25** 10:21:52.4±2.5, 8°.61S±0°.10×126°.69E±0°.07, h134km±14km, mb4.0/2, Error ellipse: s-maj=16.0km s-min=7.6km az=151.0*

ISC 25 10:21:49.8±0.8, 8°.68S±0°.06×126°.81E±0°.06, h35km, n36, σ2°.01/35, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	2.73	247		Pn	10 22 34.8	+3.6
SOEI	**Soe**	2.73	247	P	Pn	10 22 31.8	+0.5
BATI	**Baumata**	3.46	244	P	Pn	10 22 42.8	+1.6
BATI				S	Sn	10 23 23.3	+2.3
MMRI	**Maumere**	4.53	270	Pn	Pn	10 22 58.5	+2.6
EDFI	**Ende, Flores**	5.07	269	P	Pn	10 23 02.5	-0.9
BNDI	**Bandanaira**	5.15	37	P	Pn	10 23 05.7	+1.3
	131nm,1.3s,14μm0.9nm						
BBSI	**Bau Bau**	5.27	307	P	Pn	10 23 05.4	-0.8
	91nm,0.8s,0.3nm						
DRS	**Darwin Rock St**	5.48	133	P	Pn	10 23 13.9	+5.0
MTN	**Manton Dam**	5.92	135	P	Pn	10 23 20.0	+4.9
MTN	**Manton Dam**	5.92	135	Pn	Pn	10 23 19.4	+4.4
BSSI	**Bau Bau, Buton**	6.76	291	P	Pn	10 23 26.2	-0.4
	37nm,1.7s,0.3nm						
KDU	**Kakadu**	6.84	126	P	Pn	10 23 30.9	+3.3
KNRA	**Kununurra**	7.21	165	Pn	Pn	10 23 36.2	+3.4
FAKI	**Fak Fak**	7.87	44	P	Pn	10 23 44.1	+2.2
FAKI	**Fak Fak**	7.87	44	Pn	Pn	10 23 43.7	+1.8
FAKI	**Fak Fak**	7.87	44	P	Pn	10 23 43.9	+2.0
KAPI	**Kappang**	7.90	297	Pn	Pn	10 23 42.6	+0.3
KAPI	**Kappang**	7.90	297	Pn	Pn	10 23 43.2	+0.9
	1.0nm,0.3s,baz=91,slow=12,SNR=4.4						
KAPI				Sn	Sn	10 25 07.7	-2.9
	1.3nm,0.3s,baz=254,slow=21,SNR=1.6						
	4.3nm,0.4s						
FITZ	**Fitzroy Crossi**	9.43	187	P	Pn	10 24 04.2	+1.0
WB0	**Warramunga Arr**	13.24	147		Pn	10 24 54.7	-0.7
WRAB	**Tennant Creek**	13.35	148		Pn	10 24 56.7	-0.2
WRA	**Warramunga Arr**	13.35	148	Pn	Pn	10 24 55.7	-1.3
WRA	**Warramunga Arr**	13.35	148	Pn	Pn	10 24 56.1	-0.8
	2.4nm,0.3s,baz=322,slow=14,SNR=141						
WRA				Sn	Sn	10 27 21.1	-3.2
	1.6nm,0.3s,baz=326,slow=22,SNR=7.8						
	2.6nm,0.3s						
WB2	**Warramunga Arr**	13.36	148		Pn	10 24 56.9	-0.2
WR0	**Warramunga Arr**	13.47	147		Pn	10 24 58.3	-0.3
PSA00	**Pilbara Seismi**	14.47	207	Pn	Pn	10 25 11.1	-1.1
AS31	**Alice Springs**	16.37	156	P	Pn	10 25 36.2	-0.8
AS31				IAmb	IAmb	10 25 44.8	
	comp=Z,4.1nm,0.6s						
ASAR	**Alice Springs**	16.37	156	Pn	Pn	10 25 37.8	+0.7
ASAR	**Alice Springs**	16.37	156	Pn	Pn	10 25 37.4	+0.3
	comp=Z,0.9nm,0.3s,baz=334,slow=11,SNR=63						
ASAR				Sn	Sn	10 28 33.5	-4.3
	comp=Z,0.3nm,0.3s,baz=328,slow=23,SNR=5.2						
	comp=Z,3.0nm,0.6s						
AS01	**Alice Springs**	16.39	156	P	Pn	10 25 36.7	-0.6
COEN	**Coen**	16.87	110	P	Pn	10 25 43.8	+0.4
COEN	**Coen**	16.87	110	Pn	Pn	10 25 43.8	+0.4
COEN				IAmb	IAmb	10 25 58.9	
	comp=Z,8.8nm,1.0s						
QIS	**Mount Isa**	17.09	135	P	Pn	10 25 46.2	+0.1
CMAR	**Chiang Mai Arr**	38.52	315	P	P	10 29 04.3	-4.8
	comp=Z,1.2nm,0.7s,baz=141,slow=7.4,SNR=6.3						
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	67.95	329	P	P	10 32 40.1	-5.1
	comp=Z,1.0nm,0.5s,baz=131,slow=7.8,SNR=10						
	comp=Z,1.0nm,0.5s						
QSPA	**South Pole Qui**	81.31	180	P	P	10 33 54.3	-8.1

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*IDC **25** 10:22:46.1±0.8, 18°.73N×144°.87E, h0km, mb3.9/10, mbtmp3.9/10, MS3.4/5, Error ellipse: s-maj=34.3km s-min=18.0km az=88.0*

ISC 25 10:22:47.6±0.8, 18°.7N±0°.1×144°.8E±0°.2, h10km, n21, σ1°.02/10, mb3.9/10, MS3.7/3, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	17.24	301	LR	LR	10 32 10.7	
	comp=Z,190nm,19.2s,baz=161,slow=33						
JNU	**Nakatsue**	19.00	322	LR	LR	10 32 07.6	
	comp=Z,62nm,19.2s,baz=233,slow=30						
H11S3	**WAKE ISLAND Hy**	20.73	87	T	T	10 49 12.7	
	baz=276,slow=75,SNR=100						
H11S1	**WAKE ISLAND Hy**	20.74	87	T	T	10 49 13.5	
	baz=276,slow=75,SNR=72						
H11S2	**WAKE ISLAND Hy**	20.75	87	T	T	10 49 18.5	
	baz=276,slow=75,SNR=94						
H11N1	**WAKE ISLAND Hy**	20.86	84	T	T	10 49 21.4	
	baz=273,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	20.87	84	T	T	10 49 36.1	
	baz=273,slow=75,SNR=9.0						
H11N3	**WAKE ISLAND Hy**	20.88	84	T	T	10 49 18.8	
	baz=273,slow=75,SNR=6.7						
KSRS	**Korea Array**	23.80	325	P	P	10 27 59.1	-1.5
	0.9nm,0.8s,baz=141,slow=9.1,SNR=1.9						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	39.80	196	P	P	10 30 20.6	-0.5
	3.2nm,0.9s,baz=14,slow=8.9,SNR=7.3						
	3.2nm,0.9s						
CMAR	**Chiang Mai Arr**	43.39	277	LR	LR	10 48 58.8	
	comp=Z,26nm,18.6s,baz=165,slow=36						
ASAR	**Alice Springs**	43.48	195	P	P	10 30 50.9	-0.4

1.2nm,0.7s,baz=11,slow=8.3,SNR=6.3
1.2nm,0.7s

STKA Stephens Creek 50.42 184 P **P 10 31 45.9 +0.5**
4.1nm,0.8s,baz=346,slow=7.4,SNR=6.7
4.1nm,0.8s

ZALV Zalesovo Beam 57.47 323 P **P 10 32 37.5 +0.8**
1.4nm,0.7s,baz=110,slow=8.5,SNR=4.6
1.4nm,0.7s

KURBB Kurchatov Arra 60.73 318 P **P 10 33 00.5 +1.1**
1.4nm,0.7s,baz=96,slow=7.7,SNR=8.1
1.4nm,0.7s

ILAR Eielson Array 63.98 26 P **P 10 33 20.4 -0.5**
0.3nm,0.8s,baz=268,slow=3.5,SNR=5.1
0.3nm,0.8s

BVAR Borovoye Array 65.91 320 P **P 10 33 34.1 +0.4**
1.6nm,0.6s,baz=86,slow=6.7,SNR=7.0
1.6nm,0.6s

PPT Papeete 73.89 115 LR LR 11 02 37.4
comp=Z,43nm,18.2s,baz=334,slow=32

YKA Yellowknife Ar 78.34 28 P **P 10 34 49.2 +1.3**
0.5nm,0.8s,baz=292,slow=5.2,SNR=2.5
0.5nm,0.8s

NVAR Mina Array Bea 83.77 52 P **P 10 35 16.9 -0.7**
0.5nm,0.8s,baz=286,slow=4.5,SNR=2.2
0.5nm,0.8s

NOA NORSAR Array B 92.24 339 LR LR 11 18 40.0
comp=Z,25nm,19.1s,baz=40,slow=36

TRN 25 10:26:06.9, 15°.34N×60°.93W, h28km, MD3.8, 8C-3D, East of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVN	**Savane Anatole**	**0.55**	**205**	*e*P	Pn	10 26 19.2	+0.3
SVN				*e*S	Sn	10 26 28.2	+1.1
BAMF	**Morne Balai**	**0.56**	**202⇑**	*e*P	Pn	10 26 20.8	+1.7
ILAM	**Ilet Lapin Mar**	**0.57**	**174⇑**	*i*P	Pn	10 26 20.1	+1.0
ILAM				*e*S	Sn	10 26 28.5	+1.0
CXM	**Morne La Croix**	**0.57**	**203**	*e*P	Pn	10 26 21.4	+2.1
GBMF	**Grand Be**	**0.59**	**202⇓**	*e*P	Pn	10 26 21.1	+1.6
PCM	**Pelee Case Pet**	**0.59**	**207⇓**	*e*P	Pn	10 26 21.0	+1.5
PCM	**Pelee Case Pet**	**0.59**	**207⇑**	*e*P	Pn	10 26 21.1	+1.6
FDF	**Fort de France**	**0.64**	**199⇑**	*e*P	Pn	10 26 21.6	+1.4
MAGL	**Barre de l'ile**	**0.69**	**331⇑**	*e*P	Pn	10 26 21.7	+0.9
LPMF	**Morne Lapointe**	**0.76**	**182⇑**	*e*P	Pn	10 26 22.6	+0.7
MVM	**Montagne Vaucl**	**0.78**	**177⇑**	*e*P	Pn	10 26 23.3	+1.1
TRMF	**Trois Ilets**	**0.81**	**188**	*e*P	Pb	10 26 23.4	+0.9
BIM	**Bigot**	**0.83**	**189**	*e*P	Pb	10 26 24.2	+1.4
BIM				*e*S	Sn	10 26 36.4	+2.2
TDBA	**Terre de Bas,**	**0.84**	**307**	*e*P	Pb	10 26 24.8	+1.7
TBG	**Guadaloupe-3**	**0.85**	**307**	*e*P	Pb	10 26 24.5	+1.3
TBG				*e*S	Sn	10 26 36.4	+1.8
MPOM	**Morne Pois Mar**	**0.90**	**175⇑**	*e*P	Pb	10 26 24.7	+0.8
CBE	**Ff, Capester**	**0.97**	**318**	*e*P	Pb	10 26 26.3	+1.1
ABD	**La Joyeuse, An**	**1.25**	**335⇓**	*e*P	Pb	10 26 29.7	-0.1
SLBI	**Saint Lucia, B**	**1.31**	**182**	*e*P	Pb	10 26 30.6	-0.4
SLBI				*e*S	Sb	10 26 47.4	0.0
SLB	**Belfond**	**1.51**	**184**	*e*P	Pb	10 26 34.7	+0.3
SLB				*e*S	Sb	10 26 53.3	+0.2
MLYT	**Lee's Yard**	**1.83**	**319**	*e*P	Pb	10 26 39.5	-0.3
MLYT				*e*S	Sb	10 27 02.3	0.0
MBFL	**Flemmings, Mon**	**1.86**	**319**	*e*P	Pb	10 26 39.2	-1.1
MBFL				*e*S	Sb	10 27 02.5	-0.7
ANBD	**Bethesda, Anti**	**1.88**	**335**	*e*P	Pn	10 26 38.4	+1.2
ANBD				*e*S	Sn	10 27 01.3	+1.4
ANBD	**Bethesda, Anti**	**1.88**	**335**	*e*S	Sb	10 27 01.3	-2.3
ANBD				*e*	Sn	10 26 60.0	+0.1
SVB	**Belmont**	**2.08**	**189**	*e*P	Pn	10 26 41.6	+1.6
SVB				*e*S	Sn	10 27 06.9	+1.9
SVT	**Saint Vincent**	**2.18**	**188**	*e*P	Pn	10 26 43.2	+1.9
SVT				*e*S	Sn	10 27 09.3	+2.0
SVOC	**Richmond Hill,**	**2.19**	**187**	*e*P	Pn	10 26 43.1	+1.6
SVOC	**Richmond Hill,**	**2.19**	**187**	*e*	Sn	10 27 08.5	+0.7
BBGH	**Gun Hill**	**2.56**	**148**	*e*P	Pn	10 26 49.2	+2.7
GCMP	**Grenada, Carri**	**2.88**	**190**	*e*P	Pn	10 26 53.3	+2.3
GCMP				*e*S	Sn	10 27 28.3	+3.7
GCMP	**Grenada, Carri**	**2.88**	**190**	*e*	Sb	10 27 29.4	-3.1
GRHS	**Sauteurs**	**3.17**	**193**	*e*P	Pn	10 26 57.3	+2.3
GRW	**Mount Saint Ca**	**3.24**	**193**	*e*P	Pn	10 26 58.0	+2.0
GRW	**Mount Saint Ca**	**3.24**	**193**	*e*	Sb	10 27 38.3	-4.7
GRGR	**Grenville**	**3.27**	**192**	*e*P	Pn	10 26 58.9	+2.6
GRGR	**Grenville**	**3.27**	**192**	*e*	Sn	10 27 38.1	+3.9
GRFF	**Grenada Fort F**	**3.37**	**194**	*e*P	Pn	10 26 60.0	+2.3
GRFF	**Grenada Fort F**	**3.37**	**194**	*e*	Sn	10 27 41.8	+5.1
TRN	**Trinidad (W)**	**4.69**	**186**	*e*P	Pn	10 27 18.4	+2.6
TRN				*e*S	Sn	10 28 10.0	+0.7

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*SJA **25** 10:38:28.7±0.8, 31°.73S×72°.44W, h13km±6km, ML3.8, MW3.9*
*IDC **25** 10:38:32.0±1.1, 31°.70S×71°.96W, h0km, mb3.8/4, mbtmp3.7/7, ML3.6/3, Error ellipse: s-maj=57.3km s-min=21.6km az=88.0*
*GUC **25** 10:38:34.4±0.8, 31°.76S×71°.96W, h45km±14km, ML3.5*
ISC 25 10:38:32.8±0.7, 31°.74S±0°.02×72°.08W±0°.05, h10km, n57, σ1§58/91, mb3.9/4, 5C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.05**	**141⇓**	*i*P	**Pg**	**10 38 53.0**	**0.0**
VA06				*e*S	**Sg**	**10 39 06.5**	**-0.2**
VA06				IAML		10 39 13.0	
comp=E,5μm,0.4s							
CO02	**Combarbal**	**1.07**	**60**	*e*P	**Pn**	**10 38 53.3**	**-0.5**
CO02				*e*S	**Sn**	**10 39 08.6**	**-0.2**
CO02				IAML		10 39 11.6	
comp=Z,2μm,0.8s							
CO02	**Combarbal**	**1.07**	**60⇓**	*i*P	**Pb**	**10 38 53.2**	**-0.2**
CO02				*e*S	**Sb**	**10 39 06.2**	**-1.3**
CO02				IAML		10 39 11.1	
comp=N,3μm,0.2s							
CO06	**Fray Jorge**	**1.13**	**20**	*i*P	**Pb**	**10 38 53.8**	**-0.6**
CO06				*e*S	**Sg**	**10 39 05.1**	**-4.1**
CO06				IAML		10 39 16.4	
comp=N,782nm,0.4s							
CO03	**El Pedregal**	**1.49**	**53⇓**	*e*P	**Pb**	**10 39 00.0**	**-0.6**
CO03				*e*S	**Sb**	**10 39 19.0**	**-0.7**
CO03				IAML		10 39 23.8	
comp=E,775nm,0.3s							
ROCH	**El Roble**	**1.53**	**144**	*e*P	**Pn**	**10 39 00.2**	**-0.1**
ROCH				*e*S	**Sn**	**10 39 19.8**	**-0.6**
ROCH				IAML		10 39 27.6	
comp=N,2μm,0.5s							
VA03	**San Esteban**	**1.65**	**129⇑**	*i*P	**Pn**	**10 39 02.1**	**+0.2**
VA03				IAML		10 39 28.4	
comp=E,1μm,0.4s							
MT02	**Curacav**	**1.71**	**152**	*e*P	**Pn**	**10 39 02.8**	**+0.1**
MT02				*e*S	**Sb**	**10 39 26.4**	**+0.5**
MT02				IAML		10 39 31.7	
comp=Z,570nm,0.9s							
MT02	**Curacav**	**1.71**	**152**	*e*P	**Pn**	**10 39 02.8**	**+0.1**
MT02				IAML		10 39 30.1	
comp=N,497nm,0.4s							
PEL	**Peldehue**	**1.83**	**140**	*e*P	**Pn**	**10 39 04.8**	**+0.4**
PEL				*e*S	**Sn**	**10 39 27.4**	**-0.2**
PEL				IAML		10 39 35.8	
comp=E,788nm,0.5s							
GO04	**Tololo Observa**	**1.91**	**35**	*e*P	**Pn**	**10 39 06.1**	**+0.5**
GO04				*e*S	**Sg**	**10 39 35.3**	**+1.0**
GO04				IAML		10 39 39.1	
comp=Z,1μm,0.6s							
GO04	**Tololo Observa**	**1.91**	**35**	*e*P	**Pb**	**10 39 07.0**	**-0.9**
VA05	**Santo Domingo**	**1.95**	**168**	*e*P	**Pn**	**10 39 05.8**	**-0.2**
CO05	**La Serena**	**1.96**	**22**	*e*P	**Pn**	**10 39 06.2**	**+0.2**
CO05				*e*S	**Sg**	**10 39 34.8**	**-0.8**
CO05				IAML		10 39 52.7	
comp=E,514nm,0.7s							
MT05	**Renca**	**2.00**	**146**	*e*P	**Pb**	**10 39 08.8**	**-0.4**
MT05				*e*S	**Sg**	**10 39 37.3**	**+0.2**
MT05				IAML		10 39 46.2	
comp=Z,608nm,0.6s							
MT10	**Hacienda Santa**	**2.01**	**140⇑**	*i*P	**Pn**	**10 39 07.5**	**+0.6**
MT10				*e*S	**Sn**	**10 39 32.8**	**+0.6**
MT14	**Cerro Cal¡n**	**2.10**	**142⇑**	*e*P	**Pn**	**10 39 09.2**	**+1.1**
MT14				*e*S	**Sb**	**10 39 36.4**	**-0.8**
FCH	**Farellones**	**2.19**	**137**	*e*P	**Pn**	**10 39 10.0**	**+0.5**
FCH				*e*S	**Sn**	**10 39 37.9**	**+1.0**
FCH				IAML		10 39 45.5	
comp=E,350nm,0.3s							
MT03	**Universidad Ad**	**2.19**	**143**	*e*P	**Pn**	**10 39 10.1**	**+0.8**
MT03				*e*S	**Sb**	**10 39 38.5**	**-1.4**
MT03				IAML		10 39 51.7	
comp=Z,953nm,0.8s							
MT03	**Universidad Ad**	**2.19**	**143⇑**	*i*P	**Pn**	**10 39 10.0**	**+0.7**
MT03				*e*S	**Sn**	**10 39 38.2**	**+1.6**
MT03				IAML		10 39 46.4	
comp=E,960nm,0.3s							
MT01	**Popeta**	**2.23**	**162**	*i*P	**Pn**	**10 39 09.8**	**0.0**
MT01				IAML		10 39 48.0	
comp=E,376nm,0.4s							
MT15	**Las Vizcachas**	**2.28**	**145**	*e*P	**Pn**	**10 39 11.1**	**+0.5**
MT15				*e*S	**Sn**	**10 39 40.2**	**+1.4**
MT15				IAML		10 39 49.4	
comp=N,648nm,0.5s							
CO01	**Juntas del Tor**	**2.45**	**45**	*e*P	**Pn**	**10 39 14.2**	**+1.2**
CO01				*e*S	**Sg**	**10 39 49.3**	**-2.3**
CO01				IAML		10 39 50.7	
comp=Z,243nm,0.7s							
CO01	**Juntas del Tor**	**2.45**	**45⇑**	*i*P	**Pn**	**10 39 14.2**	**+1.2**
CO01				*e*S	**Sb**	**10 39 46.9**	**-0.6**
CO01				IAML		10 39 51.9	
comp=N,194nm,0.3s							
MT13	**San Alfonso**	**2.51**	**143**	*e*P	**Pn**	**10 39 14.7**	**+1.1**
MT13				*e*S	**Sn**	**10 39 46.4**	**+2.0**
MT13				IAML		10 40 00.8	
comp=Z,282nm,0.6s							
MT13	**San Alfonso**	**2.51**	**143**	*e*P	**Pn**	**10 39 14.6**	**+0.9**
MT13				IAML		10 39 54.6	
comp=E,523nm,0.6s							
BO04	**La Punta**	**2.56**	**151**	*e*P	**Pn**	**10 39 15.2**	**+0.8**
BO04				*e*S	**Sn**	**10 39 44.8**	**-0.9**
BO04				IAML		10 39 59.6	
comp=E,359nm,0.3s							
LMEL	**Las Melosas**	**2.63**	**144**	*e*P	**Pn**	**10 39 16.6**	**+1.2**
LMEL				*e*S	**Sn**	**10 39 45.5**	**-2.0**
LMEL				*e*S	**Sb**	**10 39 50.2**	**-2.3**
LMEL				IAML		10 40 02.8	
comp=Z,292nm,0.6s							
DOCA	**Reserva Natura**	**2.68**	**74**	*e*P	**Pb**	**10 39 18.9**	**-2.2**
DOCA				*e*S	**Sb**	**10 39 51.5**	**-2.7**
DOCA				IAML		10 39 57.7	
comp=Z,319nm,1.4s							
DOCA				*e*S	**Sg**	**10 39 58.4**	**-0.6**
AROD	**Rodeo**	**2.73**	**56**	*e*P	**Pb**	**10 39 20.0**	**-1.9**
AROD				*e*S	**Sb**	**10 39 56.5**	**+0.9**
BO01	**Tunca**	**2.77**	**163**	*e*P	**Pn**	**10 39 16.8**	**-0.4**
BO01				*e*S	**Sn**	**10 39 53.5**	**+2.7**
ACCO	**Cerro Coronel**	**2.83**	**67**	*e*P	**Pb**	**10 39 21.6**	**-1.9**
ACCO				*e*S	**Sb**	**10 39 57.0**	**-1.3**
ASAL	**Salagasta**	**2.88**	**108**	*e*P	**Pb**	**10 39 23.1**	**-1.2**
ASAL				*e*S	Sg	10 40 14.9	+10
ARCO	**CERRO ARCO**	**2.88**	**113**	*e*P	**Pb**	**10 39 23.4**	**-1.0**
ARCO				*e*S	**Sb**	**10 40 00.5**	**+0.7**
ARCO				IAML		10 40 15.4	
comp=Z,185nm,0.6s							
LCO	**Las Campanas**	**2.97**	**24**	*e*P	**Pn**	**10 39 20.3**	**+0.1**
LCO				*e*S	**Sn**	**10 39 58.5**	**+2.5**
LCO				IAML		10 40 07.6	
comp=Z,369nm,0.8s							
ACDV	**Cuesta del Vie**	**2.99**	**59**	*e*P	**Pb**	**10 39 23.5**	**-2.6**
ACDV				*e*S	**Sb**	**10 40 02.0**	**-0.7**
ACDV				IAML		10 40 06.9	
comp=Z,177nm,1.2s							
AAGR	**Agrelo**	**3.06**	**117**	*e*P	**Pb**	**10 39 25.8**	**-1.5**
AAGR				*e*S	**Sb**	**10 40 06.5**	**+1.7**
AAGR				IAML		10 40 20.9	
comp=Z,210nm,2.8s							
BO02	**Sierra Bellavi**	**3.23**	**161**	*e*P	**Pn**	**10 39 23.5**	**-0.1**
BO02				*e*S	**Sn**	**10 40 04.2**	**+2.0**
BO02				IAML		10 40 24.5	
comp=Z,248nm,0.5s							
GO05	**Huala**	**3.26**	**178**	*e*P	**Pn**	**10 39 23.3**	**-0.7**
GO05				*e*S	**Sn**	**10 39 58.5**	**-4.4**
GO05				*e*S	**Sn**	**10 39 59.9**	**-3.1**
AC05	**El Transito**	**3.29**	**29**	*e*P	**Pn**	**10 39 25.0**	**+0.6**
AC05				*e*S	**Sb**	**10 40 11.0**	**-0.4**
AC05				IAML		10 40 26.5	
comp=Z,218nm,0.8s							
AC04	**Llanos de Chal**	**3.63**	**14**	*e*P	**Pn**	**10 39 28.3**	**-0.8**
AC04				*e*S	**Sb**	**10 40 23.0**	**+1.9**
AC04				IAML		10 40 35.3	
comp=Z,77nm,0.6s							
AGUA	**GUANDACOL**	**3.82**	**55**	*e*P	**Pn**	**10 39 35.4**	**+3.6**
AGUA				*e*S	**Sb**	**10 40 25.5**	**-1.3**
AGUA				IAML		10 40 41.9	
comp=Z,238nm,2.4s							
AVFE	**Valle Fertil**	**4.11**	**76**	*e*S	**Sb**	**10 40 29.0**	**-5.9**
AVFE				IAML		10 40 42.4	
comp=Z,110nm,0.5s							
VCA	**Vinchina**	**4.50**	**49**	IAML		10 40 56.7	
comp=Z,159nm,0.7s							
ACLC	**CERRO LA CRUZ**	**4.99**	**64**	*e*S	**Sn**	**10 40 49.5**	**+3.8**
H03N1	**Juan Fernandez**	**6.01**	**252**	T	T	10 46 39.7	
baz=80,slow=72,SNR=185							
H03N3	**Juan Fernandez**	**6.02**	**252**	T	T	10 46 41.6	
baz=80,slow=72,SNR=203							
H03N2	**Juan Fernandez**	**6.03**	**252**	T	T	10 46 42.9	
baz=80,slow=72,SNR=185							
PLCA	**Paso Flores**	**9.06**	**173**	Pn	**Pn**	**10 40 44.9**	**+1.2**
comp=Z,0.3nm,0.3s,baz=334,slow=11,SNR=9.5							
comp=Z,0.8nm,0.3s							
LVC	**Limon Verde**	**9.52**	**18**	Pn	**Pn**	**10 40 50.4**	**+0.1**
comp=Z,0.2nm,0.3s,baz=187,slow=5.9,SNR=1.8							
comp=Z,1.9nm,0.6s							
LPAZ	**La Paz**	**15.80**	**14**	Pn	**Pn**	**10 42 16.6**	**+0.6**
comp=Z,0.1nm,0.3s,baz=203,slow=7.7,SNR=2.2							
comp=Z,0.6nm,0.7s							
SNAA	**Sanae**	**53.69**	**158**	P	**P**	**10 47 55.1**	**+0.7**
comp=Z,2.1nm,0.8s,baz=272,slow=7.7,SNR=14							
comp=Z,2.1nm,0.8s							
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**10 48 30.2**	**+1.3**
comp=Z,0.7nm,0.8s,baz=90,slow=10,SNR=1.6							
comp=Z,0.7nm,0.8s							
TXAR	**Lajitas Array**	**67.75**	**330**	P	**P**	**10 49 31.4**	**+0.7**
comp=Z,0.6nm,1.1s,baz=159,slow=10,SNR=2.6							
comp=Z,0.6nm,1.1s							
TORD	**Torodi Ar. Bea**	**83.48**	**70**	P	**P**	**10 51 00.8**	**-0.3**
comp=Z,0.9nm,0.7s,baz=241,slow=4.8,SNR=5.2							
comp=Z,0.9nm,0.7s							
BVAR	**Borovoye Array**	**145.62**	**41**	PKPbc	**PKPab**	**10 58 11.8**	**+0.3**
comp=Z,0.7nm,0.4s,baz=276,slow=2.8,SNR=3.5							
ZALV	**Zalesovo Beam**	**152.31**	**30**	PKPbc	**PKPbc**	**10 58 28.6**	**+0.2**
comp=Z,1.0nm,0.5s,baz=319,slow=3.8,SNR=4.5							

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*IDC **25** 10:50:18.2±1.9, 35°.83N×143°.95E, h0km, mb3.5/2, mbtmp3.6/5, ML3.1/3, MS3.6/1, Error ellipse: s-maj=37.6km s-min=25.2km az=75.0*
*JMA **25** 10:50:23.8±0.3, 35°.8N±1°.0×14°.4E±°, h54km, MV3.7/39, FAR E OFF CENTRAL HONSHU*
ISC 25 10:50:23.2±1.6, 35°.79N±0°.07×143°.8E±0°.1, h35km, n25, σ1§61/30, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.58**	**245**	P	**Pn**	**10 51 01.9**	**-0.2**
BSO1				S	**Sn**	**10 51 30.4**	**-1.6**
JHYU	**Hitachinakayam**	**2.67**	**283**	*e*P	**Pn**	**10 51 03.9**	**+0.1**
JHYU				*e*S	**Sn**	**10 51 33.5**	**-1.4**
JHO	**Hitachi**	**2.75**	**288**	P	**Pn**	**10 51 04.6**	**-0.3**
JHO				*e*S	**Sn**	**10 51 35.0**	**-1.9**
ONAJ	**Iwakimizuishiy**	**2.77**	**299**	P	**Pn**	**10 51 05.0**	**-0.1**
ONAJ				*e*S	**Sn**	**10 51 35.8**	**-1.5**
JFK	**Kawauchi**	**2.85**	**305**	P	**Pn**	**10 51 06.4**	**+0.2**
BSO3	**Boso 3**	**2.88**	**251**	P	**Pn**	**10 51 07.0**	**+0.7**
BSO3				*e*S	**Sn**	**10 51 42.3**	**+2.7**
JYT	**Yasato**	**2.97**	**280**	P	**Pn**	**10 51 07.8**	**-0.1**
JYT				*e*S	**Sn**	**10 51 39.9**	**-2.3**
JOTO	**OTAMA OYAMA**	**3.31**	**303**	*e*P	**Pn**	**10 51 13.7**	**+1.1**
JOTO				*e*S	**Sn**	**10 51 50.3**	**-0.5**
JAG	**Ashikaga**	**3.59**	**282**	P	**Pn**	**10 51 16.5**	**+0.1**
JHU	**Hanno**	**3.69**	**272**	*e*P	**Pn**	**10 51 19.2**	**+1.5**
JMK	**Ichinoseki**	**3.78**	**328**	P	**Pn**	**10 51 18.6**	**-0.4**
JOD2	**Odawara 2**	**3.89**	**264**	*e*P	**Pn**	**10 51 20.9**	**+0.4**
JOD2				*e*S	**Sn**	**10 52 03.3**	**-1.7**
JRY	**Ryogami san**	**4.00**	**275**	P	**Pn**	**10 51 22.7**	**+0.7**
JRY				*e*S	**Sn**	**10 52 07.5**	**-0.2**
JHJ	**Hachijo jima 2**	**4.26**	**233**	Pn	**Pn**	**10 51 24.3**	**-1.4**
6.2nm,0.3s,baz=15,slow=20,SNR=22							
JHJ				Sn	**Sn**	**10 52 10.3**	**-3.8**
17nm,0.3s,baz=66,slow=19,SNR=8.8							
33nm,0.5s							
MJAR	**Matsushiro Arr**	**4.60**	**281**	Pn	**Pn**	**10 51 30.9**	**+0.6**
0.3nm,0.3s,baz=102,slow=11,SNR=12							
MJAR				Sn	**Sn**	**10 52 26.4**	**+3.9**
baz=92,slow=22,SNR=1.1							
2.0nm,0.5s							
ASAJ	**Asahikawa**	**8.37**	**354**	Pn	**Pn**	**10 52 20.0**	**-2.1**
0.3nm,0.3s,baz=244,slow=15,SNR=2.7							
ASAJ				Sn	**Sn**	**10 53 55.6**	**+0.3**
0.1nm,0.3s,baz=294,slow=33,SNR=1.7							
2.4nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**25.84**	**122**	T	T	11 22 35.8	
baz=313							
H11N1	**WAKE ISLAND Hy**	**25.85**	**122**	T	T	11 22 30.6	
baz=313							
H11N3	**WAKE ISLAND Hy**	**25.86**	**122**	T	T	11 22 38.2	
baz=313							
H11S1	**WAKE ISLAND Hy**	**26.55**	**124**	T	T	11 23 22.6	
baz=316							
H11S3	**WAKE ISLAND Hy**	**26.56**	**124**	T	T	11 23 25.7	
baz=316							
H11S2	**WAKE ISLAND Hy**	**26.57**	**124**	T	T	11 23 26.3	
baz=316							
TIXI	**Tiksi**	**36.77**	**352**	LR	LR	11 14 21.2	
comp=Z,83nm,19.5s,baz=226,slow=39							
WRA	**Warramunga Arr**	**56.15**	**191**	P	**P**	**11 00 00.1**	**+0.7**
0.5nm,0.6s,baz=13,slow=7.7,SNR=10							
0.5nm,0.6s							
ASAR	**Alice Springs**	**59.87**	**191**	P	**P**	**11 00 26.4**	**+0.9**
0.2nm,0.5s,baz=16,slow=8.5,SNR=4.5							
0.2nm,0.5s							

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*IDC **25** 10:56:19.3±1.1, 13°.23N×92°.22W, h0km, mb4.2/6, mbtmp4.2/12, ML3.6/6, MS3.6/16, Error ellipse: s-maj=25.8km s-min=16.4km az=29.0*
*SNET **25** 10:56:20.6±2.4, 13°.29N×92°.22W, h10km, ML4.5*
*CATAC **25** 10:56:21.9±0.5, 13°.26N×92°.11W, h6km±6km, MB5.1, ML4.3*
*MEX **25** 10:56:21.6±0.5, 13°.20N×92°.48W, h15km, MD4.4*
*NEIC **25** 10:56:22.4±1.4, 13°.42N±0°.06×92°.12W±0°.05, h10km±1km, mb4.3/120, Error ellipse: s-maj=11.2km s-min=6.2km az=144.0*
*GCG **25** 10:56:24.3±0.8, 13°.49N×92°.22W, h18km, MD4.2*
ISC 25 10:56:21.1±2.4, 13°.27N±0°.06×92°.32W±0°.04, h14km±15km, n191, σ1§61/185, mb4.4/50, MS3.6/14, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.39**	**26**		**Pn**	**10 56 45.2**	**-0.9**
RTAL	**Retalhuleu**	**1.39**	**26**	*i*P	**Pn**	**10 56 45.2**	**-0.9**
RTAL				*i*S	**Sg**	**10 57 05.0**	**-1.0**
RTAL				IAML		10 57 07.2	
comp=Z,3μm,1.0s							
STG3	**Santiaguito 3,**	**1.61**	**27**	*e*P	**Pn**	**10 56 48.9**	**-0.4**
SOKI	**Kika Raxquin**	**1.78**	**30**	*i*P	**Pn**	**10 56 50.8**	**-1.1**
SOKI				*i*S	**Sn**	**10 57 14.6**	**+0.1**
SOKI				IAML		10 57 29.2	
comp=Z,980nm,1.0s							
CHUJ	**Union Juarez**	**1.83**	**6**	*e*P	**Pn**	**10 56 50.5**	**-1.9**
CHUJ				*i*S	**Sn**	**10 57 13.5**	**-1.9**
FUG	**Fuego 3**	**1.85**	**51**	*e*P	**Pn**	**10 56 52.1**	**-0.5**
PAVE	**Pavencul**	**1.92**	**4**	*e*P	**Pn**	**10 56 51.6**	**-2.0**
PAVE				*i*S	**Sn**	**10 57 15.5**	**-2.2**
CHTG	**Tecpan**	**1.97**	**41**	*i*P	**Pn**	**10 56 53.5**	**-0.8**
CHTG				IAML		10 57 26.2	
comp=Z,3μm,1.0s							
PCG	**Pacaya**	**2.00**	**56**	*e*P	**Pn**	**10 56 54.7**	**-0.1**
GUMI	**Mixco**	**2.14**	**50**	*i*P	**Pn**	**10 56 56.2**	**-0.4**
GUMI				IAML		10 57 26.4	
comp=Z,3μm,1.0s							
GCG4	**OSOP**	**2.17**	**53**	*i*P	**Pn**	**10 56 57.3**	**+0.2**
GCG4				IAML		10 56 58.5	
comp=Z,2μm,1.0s							
HUEH	**Huehuetenango**	**2.19**	**21**		**Pn**	**10 56 57.2**	**-0.1**
HUEH	**Huehuetenango**	**2.19**	**21**	*i*P	**Pn**	**10 56 57.5**	**+0.2**
HUEH				*i*S	**Sn**	**10 57 25.8**	**+1.5**
HUEH				IAML		10 57 37.8	
comp=Z,2μm,1.0s							
NBG	**Las Nubes**	**2.32**	**55**	*e*P	**Pn**	**10 57 00.0**	**+0.9**
QUIS	**Sacapulas**	**2.34**	**30**	*i*P	**Pn**	**10 56 59.5**	**+0.2**
QUIS				IAML		10 57 00.8	
comp=Z,2μm,1.0s							
QUIS				*i*S	**Sn**	**10 57 28.9**	**+1.1**
APG	**El Apazote**	**2.49**	**46**	Pn	**Pn**	**10 57 01.6**	**+0.2**
comp=Z,4.2nm,0.3s,baz=209,slow=7.9,SNR=758							
APG				Sn	**Sn**	**10 57 33.0**	**+1.2**
comp=Z,4.2nm,0.3s,baz=320,slow=17,SNR=7.2							
APG				LR	LR	10 57 41.5	
comp=Z,19nm,19.6s,baz=179,slow=34							
comp=Z,83nm,0.7s							
NUBE	**Las Nubes**	**2.55**	**75**	*i*P	**Pn**	**10 57 00.3**	**-1.9**
NUBE				*i*S	**Sn**	**10 57 30.5**	**-2.6**
NUBE				IAML		10 57 33.1	
comp=Z,570nm,1.0s							
PCIG		**2.58**	**340**	*e*P	**Pn**	**10 57 00.8**	**-1.6**
PCIG				*e*S	**Sn**	**10 57 29.7**	**-3.8**
CEVE	**Cerro Verde**	**2.68**	**78**	*e*P	**Pn**	**10 57 03.2**	**-0.8**
CEVE				*e*S	**Sn**	**10 57 34.4**	**-2.1**
CEVE	**Cerro Verde**	**2.68**	**78**	*i*P	**Pn**	**10 57

PQSS Presa 15 de Se 3.67 84 *i* P **Pn 10 57 16.9 -0.6**
PQSS *i* S **Sn 10 57 59.2 -1.4**
PQSS IAML 10 58 03.5
comp=Z,200nm,1.0s
COEB Comit de Eme 3.69 86 *e*P **Pn 10 57 17.1 -0.8**
COEB *e*S **Sn 10 57 58.6 -2.7**
COEB Comit de Eme 3.69 86 *i* P **Pn 10 57 17.0 -0.9**
COEB *i* S **Sn 10 57 59.2 -2.1**
COEB IAML 10 57 59.7
comp=Z,230nm,1.0s
PACA Pacayal 3.89 87 *i* P **Pn 10 57 20.7 0.0**
PACA *i* S **Sn 10 58 04.1 -2.2**
PACA IAML 10 58 13.0
comp=Z,3μm,1.0s
JUCU Jucuarın 3.96 90 *i* P **Pn 10 57 20.4 -1.2**
JUCU IAML 10 58 10.8
comp=Z,280nm,1.0s
BLLM Bellamira 3.98 87 *e*P **Pn 10 57 21.8 0.0**
LCND La Caada 4.31 89 *i* P **Pn 10 57 25.7 -0.6**
LCND *i* S **Sn 10 58 13.0 -3.4**
LCND IAML 10 58 16.4
comp=Z,520nm,1.0s
PETF Flores 4.33 33 Pn **Pn 10 57 24.9 -1.7**
CNCH Conchagua 4.37 89 *e*P **Pn 10 57 26.2 -0.9**
CNCH Conchagua 4.37 89 *i* P **Pn 10 57 26.3 -0.9**
CNCH *i* S **Sn 10 58 14.4 -3.5**
CNCH IAML 10 58 18.4
comp=Z,690nm,1.0s
HUIG Huatulco 4.43 305 *e*P **Pn 10 57 25.6 -2.4**
HUIG *i* S Sn 10 58 09.3 -10
CMIG Matias Romero 4.54 327 Pn **Pn 10 57 29.3 -0.1**
comp=Z,2.8nm,0.3s,baz=138,slow=12,SNR=22
CMIG Sn **Sn 10 58 18.7 -3.3**
comp=Z,10nm,0.3s,baz=131,slow=12,SNR=8.5
CMIG LR LR 10 59 18.2
comp=Z,154nm,20.1s,baz=178,slow=39
comp=Z,13nm,0.5s
CMIG Matias Romero 4.54 327 *e*P **Pn 10 57 28.2 -1.3**
CMIG *e*S **Sn 10 58 18.7 -3.3**
TGUH Tegucigalpa,Un 4.97 80 Pn **Pn 10 57 33.7 -1.7**
TGUH Tegucigalpa,Un 4.97 80 *i* P **Pn 10 57 34.7 -0.7**
TGUH IAML 10 57 45.6
comp=Z,130nm,1.0s
TGUH *i* S **Sn 10 58 33.0 +0.2**
CRIN San Cristobal 5.17 96 Pn **Pn 10 57 37.1 -1.0**
PKGN Cerro Pekin 5.24 96 *i* P **Pn 10 57 39.3 +0.2**
PKGN IVmB_BB 10 58 29.4
comp=Z,7μm,1.0s
PKGN IAML 10 58 36.7
comp=Z,410nm,1.0s
YUSH Yuscaran 5.37 82 *i* P **Pn 10 57 39.6 -1.3**
CNGA Al SSO del Vol 5.53 97 *i* P **Pn 10 57 40.8 -2.3**
CNGA IVmB_BB 10 57 43.1
comp=Z,2μm,1.0s
CNGA IAML 10 58 50.2
comp=Z,110nm,1.0s
CNGN Cerro Negro 5.53 97 Pn **Pn 10 57 42.3 -0.8**
CNGN Cerro Negro 5.53 97 *i* P **Pn 10 57 42.5 -0.6**
CNGN IAML 10 58 56.2
comp=Z,140nm,1.0s
NEUV Arroyo Zacate 5.55 323 *e*P **Pn 10 57 40.7 -2.7**
MACN El Madrono 5.56 98 *i* P **Pn 10 57 42.7 -0.8**
MACN IVmB_BB 10 57 46.4
comp=Z,530nm,1.0s
MACN IAML 10 58 47.8
comp=Z,55nm,1.0s
COPN Copaltepe 5.69 100 *i* P **Pn 10 57 45.0 -0.3**
COPN IAML 10 58 52.6
comp=Z,120nm,1.0s
VHO Vista Hermosa 5.70 312 *i* P **Pn 10 57 46.5 +0.9**
VHO *i* S Sn 10 58 44.4 -6.5
LIMN Finca el Limon 5.80 91 *i* P **Pn 10 57 45.4 -1.5**
LIMN IAML 10 57 46.4
comp=Z,130nm,1.0s
YOIG Yosondua 6.18 306 *e*P **Pn 10 57 53.6 +1.3**
YOIG *i* S **Sn 10 58 58.0 -4.9**
PNIG Pinotepa 6.42 300 *e*P **Pn 10 57 55.0 -0.3**
PNIG *i* S Sn 10 58 58.0 -10
BOAB BOACO BROADBAN 6.54 96 Pn **Pn 10 57 55.2 -1.7**
BOAB BOACO BROADBAN 6.54 96 *i* P **Pn 10 57 55.4 -1.5**
BOAB IAML 10 58 04.7
comp=Z,29nm,1.0s
TXIG Tlaxiaco 6.58 308 *e*P **Pn 10 57 59.6 +1.8**
TXIG *i* S Sn 10 59 02.9 -10
TOIG Toxpalan 6.63 317 *e*P **Pn 10 57 57.7 -0.5**
TOIG *e*S **Sn 10 59 12.2 -1.5**
HLIG Huajuapan de L 6.97 311 *e*P **Pn 10 58 05.6 +2.6**
HLIG *i* S **Sn 10 59 16.3 -5.9**
ACON Acoyapa 7.09 100 Pn **Pn 10 58 03.3 -1.2**
FTIG Fresnillo de T 7.26 310 *e*P **Pn 10 58 09.4 +2.4**
FTIG *i* S Sn 10 59 16.3 -13
MGIG Malinaltepec 7.26 304 *e*P **Pn 10 58 08.5 +1.5**
MGIG *i* S Sn 10 59 14.8 -15
TLIG Tlapa 7.38 306 Pn **Pn 10 58 11.2 +2.5**
TLIG Tlapa 7.38 306 *e*P **Pn 10 58 10.6 +1.9**
TLIG *i* S Sn 10 59 21.1 -11
CRIG Cruz Grande 7.43 298 *e*P **Pn 10 58 07.3 -1.9**
CRIG *i* S Sn 10 59 18.7 -15
JTS Las Juntas de 7.79 112 Pn **Pn 10 58 14.5 +0.3**
JTS Las Juntas de 7.79 112 Pn **Pn 10 58 13.5 -0.7**
comp=Z,0.5nm,0.3s,baz=323,slow=10,SNR=8.7
JTS Sn **Sn 10 59 40.2 -2.1**
comp=Z,0.9nm,0.3s,baz=282,slow=22,SNR=1.4
comp=Z,12nm,0.8s
ESPN Las Esperanzas 7.89 97 Pn **Pn 10 58 13.7 -1.8**
TEIG Tepich 7.93 29 Pn **Pn 10 58 14.4 -1.6**
TEIG Tepich 7.93 29 Pn **Pn 10 58 15.7 -0.3**
comp=Z,7.0nm,0.3s,baz=218,slow=14,SNR=27
TEIG Sn **Sn 10 59 44.7 -0.8**
comp=Z,1.3nm,0.3s,baz=24,slow=18,SNR=3.3
TEIG LR LR 11 01 55.3
comp=Z,390nm,20.2s,baz=222,slow=42
comp=Z,28nm,0.5s
PPM Popocatepetl 8.37 314 *e*P Pn 10 58 27.2 +4.7
PPM *i* S **Sn 10 59 55.9 -1.1**
LCR2 La Lucha 2 8.87 112 Pn **Pn 10 58 30.3 +1.1**
LCR2 La Lucha 2 8.87 112 *i* S **Sn 11 00 08.0 -1.0**
BRU2 Volcan 10.44 114 Pn **Pn 10 58 50.7 0.0**
MOIG Morelia 10.63 308 **Pn 10 58 56.4 +3.1**
JRQG Juriquilla Cam 10.73 315 **Pn 10 58 55.3 +0.7**
SOR Soroa 12.96 42 Pn **Pn 10 59 21.8 -3.2**
ZAIG Zacatecas 13.57 316 **Pn 10 59 35.7 +2.2**
HBVL Hebbronville 14.96 338 **Pn 10 59 51.9 -0.4**
833A Chaparral WMA, 16.37 337 Pn **Pn 11 00 11.6 +1.0**
HNDO Hondo 17.42 339 P **Pn 11 00 25.6 +1.7**
DRIO Del Rio 17.83 336 P **Pn 11 00 30.2 +1.4**
SAND Sanderson 18.93 333 **P 11 00 43.0 +1.3**
BRDY Brady 18.96 342 **P 11 00 43.8 +1.7**
TXAR Lajitas Array 19.14 328 P **Pn 11 00 46.6 +1.6**
baz=158,slow=9.4,SNR=19
comp=Z,2.2nm,0.9s
TX31 Lajitas Ar. Si 19.15 328 P **P 11 00 46.2 +2.1**
OZNA Ozona 19.36 337 P **P 11 00 47.6 +1.2**
FW13 Cleburne 19.57 347 P **P 11 00 49.7 +1.1**
ANTS Antisana-Sarah 19.59 133 **P 11 00 50.3 +0.6**
ANTS IAmb IAmb 11 01 10.0
comp=Z,9.8nm,0.7s
ROSC El Rosal 19.63 114 P **P 11 00 50.9 +1.0**
ROSC IAmb IAmb 11 01 03.5
comp=Z,13nm,0.9s
ROSC El Rosal 19.63 114 P **P 11 00 50.4 +0.5**
comp=Z,2.3nm,0.3s,baz=24,slow=18,SNR=1.8
comp=Z,6.6nm,0.4s
ALPN Alpine 19.98 330 **P 11 00 55.2 +1.9**
PLPT Palo Pinto 20.21 345 P **P 11 00 56.2 +0.5**
PLPT IAmb IAmb 11 01 06.3
comp=Z,9.6nm,0.9s
Z47A Carrollton 20.22 10 P **P 11 00 54.8 -0.8**
SGCY Sterling City 20.25 338 P **P 11 00 57.1 +1.0**
SGCY IAmb IAmb 11 01 08.8
comp=Z,9.8nm,0.7s
WLAR White Oak Lake 20.34 358 P **P 11 00 57.0 -0.1**
WLAR IAmb IAmb 11 01 25.8
comp=Z,12nm,0.5s
MNHN Monahans 20.39 334 P **P 11 00 58.6 +0.9**
MNHN IAmb IAmb 11 01 16.6
comp=Z,12nm,0.8s
ABTX Abilene, Hawle 20.40 342 IAmb IAmb 11 01 02.0
comp=Z,7.8nm,0.8s
152A Waverly Hall 20.53 19 IAmb IAmb 11 01 03.2
comp=Z,17nm,0.9s
Y45A Yeager Farm, C 20.66 7 P **P 11 00 59.7 -0.8**
ODSA Odessa 20.98 335 P **P 11 01 04.1 0.0**
154A Montrose 21.02 22 P **P 11 01 03.2 -1.2**

SN05 Snyder 5 21.03 340 P **P 11 01 04.9 +0.3**
SN05 IAmb IAmb 11 01 10.2
comp=Z,17nm,1.0s
APMT Aspermont 21.20 342 P **P 11 01 06.7 +0.4**
APMT IAmb IAmb 11 01 10.1
comp=Z,9.9nm,0.7s
SN07 Snyder 07 21.23 340 P **P 11 01 07.6 +0.8**
OXF Oxford 21.32 7 IAmb IAmb 11 01 20.6
comp=Z,15nm,0.8s
POST Post 21.42 338 P **P 11 01 09.1 +0.4**
POST IAmb IAmb 11 01 13.3
comp=Z,30nm,1.2s
GOGA Godfrey 21.62 20 IAmb IAmb 11 01 12.8
comp=Z,18nm,0.8s
X48A Hartselle 21.63 12 IAmb IAmb 11 01 22.1
comp=Z,8.7nm,0.8s
SDV Santo Domingo 21.72 99 P **P 11 01 11.2 -1.1**
SDV Santo Domingo 21.72 99 P **P 11 01 12.0 -0.3**
comp=Z,21nm,0.7s,baz=277,slow=4.6,SNR=9.3
SDV LR LR 11 10 52.3
comp=Z,82nm,18.2s,baz=74,slow=40
comp=Z,21nm,0.7s
DKNS Dickens 21.77 340 P **P 11 01 13.3 +0.8**
Y52A Lilburn 21.84 19 P **P 11 01 12.4 -0.8**
Y52A IAmb IAmb 11 01 13.5
comp=Z,17nm,1.0s
FPAL Fort Paine 22.04 15 IAmb IAmb 11 01 19.1
comp=Z,26nm,1.3s
SWET Sewanee 22.60 14 P **P 11 01 19.4 -2.1**
SWET IAmb IAmb 11 01 23.3
comp=Z,10.0nm,0.8s
MSTX Muleshoe 22.70 337 IAmb IAmb 11 01 27.5
comp=Z,10nm,1.1s
LCAR Lake Charles 22.73 2 P **P 11 01 22.2 -0.5**
LCAR IAmb IAmb 11 01 34.0
comp=Z,10nm,1.3s
HODGE Hodges 22.78 22 IAmb IAmb 11 01 23.6
comp=Z,15nm,0.9s
SMWD Samnorwood 22.89 343 P **P 11 01 24.7 +0.2**
OK029 Liberty Lake 22.91 349 IAmb IAmb 11 01 26.2
comp=Z,11nm,0.7s
V48A Smith Brothers 22.92 12 P **P 11 01 23.2 -1.5**
V48A IAmb IAmb 11 01 35.0
comp=Z,16nm,0.9s
WVT Waverly 23.12 9 P **P 11 01 24.9 -1.9**
WVT IAmb IAmb 11 01 36.6
comp=Z,8.1nm,0.7s
CPCT Cooper Cave 23.18 16 P **P 11 01 26.0 -1.4**
CPCT IAmb IAmb 11 01 50.9
comp=Z,12nm,1.1s
CLTN Cedars of Leba 23.36 12 IAmb IAmb 11 01 31.9
comp=Z,13nm,0.9s
OK048 Pawnee Station 23.42 351 IAmb IAmb 11 01 41.2
comp=Z,7.2nm,0.8s
OK051 E0350 and S346 23.49 351 IAmb IAmb 11 01 41.9
comp=Z,8.1nm,0.7s
TKL Tuckaleechee C 23.59 18 LR LR 11 11 53.7
comp=Z,146nm,18.9s,baz=194,slow=40
T42A Van Buren 23.69 2 IAmb IAmb 11 01 42.1
comp=Z,7.6nm,0.9s
CROK Carier 23.69 349 IAmb IAmb 11 01 34.9
comp=Z,7.7nm,0.7s
MGMO Mountain Grove 23.79 0 IAmb IAmb 11 01 37.2
comp=Z,9.1nm,1.1s
V52A Sevierville 23.81 18 IAmb IAmb 11 01 36.2
comp=Z,16nm,1.1s
121A Cookes Peak, D 23.83 326 IAmb IAmb 11 01 58.6
comp=Z,9.8nm,1.1s
319A Douglas 23.84 322 IAmb IAmb 11 01 37.6
comp=Z,12nm,0.9s
V53A Saluda 23.90 19 IAmb IAmb 11 01 45.2
comp=Z,12nm,0.8s
CGM3 Cape Girardeau 24.05 5 IAmb IAmb 11 01 35.5
comp=Z,13nm,0.9s
S39A Bolivar 24.34 358 IAmb IAmb 11 01 40.1
comp=Z,4.9nm,0.8s
T50A Nancy 24.58 15 IAmb IAmb 11 01 40.7
comp=Z,8.6nm,0.8s
R40A Maddies Statio 24.92 0 IAmb IAmb 11 01 45.4
comp=Z,4.5nm,0.9s
TUC Tucson 25.40 321 P **P 11 01 49.5 +1.2**
WCI Wyandotte Cave 25.43 11 P **P 11 01 47.4 -1.0**
T25A Trinidad 26.12 338 IAmb IAmb 11 01 58.6
comp=Z,14nm,1.5s
MVCO Mesa Verde 27.89 332 IAmb IAmb 11 02 38.5
comp=Z,5.3nm,1.1s
WUAZ Wupatki 28.04 325 IAmb IAmb 11 02 15.4
comp=Z,4.1nm,1.1s
HMU Henry Mountain 29.54 330 IAmb IAmb 11 02 29.0
comp=Z,9.7nm,1.5s
KNB Kanab 29.93 326 IAmb IAmb 11 02 32.6
comp=Z,9.8nm,1.5s
CCUT Cedar City 30.61 326 IAmb IAmb 11 02 39.0
comp=Z,3.6nm,1.2s
GRAC Grapevine Rang 32.56 321 IAmb IAmb 11 02 55.7
comp=Z,5.0nm,0.9s
PDAR Pinedale Array 32.96 336 P **P 11 02 56.6 +1.0**
comp=Z,1.0nm,0.9s,baz=140,slow=7.4,SNR=9.1
comp=Z,1.0nm,0.9s
SADO Sadowa 33.35 17 LR LR 11 16 52.8
comp=Z,74nm,19.8s,baz=264,slow=37
NV11 Mina Array Sit 33.96 322 IAmb IAmb 11 03 08.1
comp=Z,4.7nm,0.9s
NVAR Mina Array Bea 34.05 322 P **P 11 03 06.4 +1.1**
NVAR Mina Array Bea 34.05 322 P **P 11 03 07.9 +2.7**
comp=Z,2.8nm,0.7s,baz=137,slow=8.3,SNR=27
comp=Z,2.8nm,0.7s
LOHW Long Hollow 34.08 336 IAmb IAmb 11 03 08.2
comp=Z,3.3nm,0.8s
TPAW Teton Pass 34.12 336 IAmb IAmb 11 03 18.9
comp=Z,4.7nm,1.1s
KVN Kaiserville 34.34 323 IAmb IAmb 11 03 25.4
comp=Z,2.7nm,1.0s
J08A Circle Bar Ran 37.49 328 IAmb IAmb 11 03 37.4
comp=Z,7.3nm,1.1s
H04A Detroit Lake 40.35 327 P **P 11 03 58.8 +0.4**
H04A IAmb IAmb 11 04 00.6
comp=Z,8.8nm,0.9s
HOOD Mount Hood Mea 40.50 328 P **P 11 04 02.6 +2.9**
RPN Rapa Nui 43.42 202 LR LR 11 17 23.4
comp=Z,90nm,20.7s,baz=277,slow=29
SCHQ Schefferville 46.01 20 P **P 11 04 42.5 -1.5**
comp=Z,5.1nm,0.9s,baz=195,slow=4.5,SNR=4.2
SCHQ LR LR 11 25 00.3
comp=Z,117nm,18.8s,baz=230,slow=37
comp=Z,5.1nm,0.9s
YKA Yellowknife Ar 51.66 347 P **P 11 05 28.5 +1.2**
comp=Z,1.3nm,0.6s,baz=148,slow=7.6,SNR=9.8
YKA LR LR 11 32 50.0
comp=Z,50nm,18.0s,baz=302,slow=42
comp=Z,1.3nm,0.6s
FRB Frobisher Bay 53.09 13 LR LR 11 29 31.7
comp=Z,79nm,19.6s,baz=185,slow=38
DLBC Dease Lake 53.20 336 P **P 11 05 40.4 +1.6**
DLBC IAmb IAmb 11 05 42.1
comp=Z,3.7nm,1.0s
M29M Somme Creek 58.96 337 P **P 11 06 21.4 +1.3**
SFJD Kangerlussuaq 60.30 18 LR LR 11 33 52.0
comp=Z,79nm,19.9s,baz=210,slow=37
INK Inuvik 61.05 344 P **P 11 06 34.2 +0.1**
RES Resolute Bay 61.42 359 LR LR 11 36 37.1
comp=Z,90nm,18.4s,baz=345,slow=39
ILAR Eielson Array 63.39 337 P **P 11 06 50.6 +0.8**
comp=Z,1.7nm,0.9s,baz=139,slow=4.5,SNR=18
comp=Z,1.7nm,0.9s
BORG Borgarnes 70.00 26 LR LR 11 38 13.5
comp=Z,32nm,18.0s,baz=359,slow=36
JMIC Jan Mayen 75.53 20 LR LR 11 41 41.6
comp=Z,23nm,18.1s,baz=230,slow=36
NOA NORSAR Array B 84.93 28 LR LR 11 47 38.0
comp=Z,15nm,18.0s,baz=270,slow=36
HFS Hagfors 86.39 29 LR LR 11 48 16.5
comp=Z,31nm,18.9s,baz=36,slow=36
ARCES ARCESS Array B 86.93 18 LR LR 11 49 17.8
comp=Z,49nm,19.4s,baz=109,slow=37
WRA Warramunga Arr 134.91 255 PKP **PKPdf 11 15 39.6 -1.1**
comp=Z,0.3nm,0.9s,baz=70,slow=2.3,SNR=1.2
ASAR Alice Springs 135.13 250 PKP **PKPdf 11 15 41.0 +0.1**
comp=Z,0.5nm,0.7s,baz=112,slow=1.0,SNR=5.3
CMAR Chiang Mai Arr 146.58 340 PKPbc **PKPdf 11 16 01.6 -0.1**
comp=Z,2.4nm,0.8s,baz=333,slow=3.4,SNR=11

*DNK **25** 10:59:55.4±1.0, 59°.51N×25°.39E, h0km, ML2.5(UPP), Suspected explosion*
*UPP **25** 10:59:59.9±2.6, 59°.53N×24°.81E, h0km, ML2.5*
*HEL **25** 11:00:00.8±0.0, 59°.49N×24°.73E, h0km, ML2.3, Explosion*

*EST **25** 11:00:00.7±0.0, 59°.49N×24°.72E, h0km, ML2.3(HEL), Explosion*
*LVSN **25** 11:00:01.6±3.6, 59°.50N×24°.78E, h0km,±30km, ML2.3*
*IDC **25** 11:00:02.5±1.5, 59°.61N×24°.74E, h0km, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=19.1km s-min=9.2km az=146.0*
ISC 25 10:59:59.6±0.7, 59°.49N±0°.02×24°.72E±0°.02, h0km, n60, σ0°.84/81, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEL5	**Espoo, Suvisaa**	**0.63**	**1**	*e*P	**Pg**	**11 00 11.9**	**+0.4**
ARBE	**Arbavere**	**0.65**	**94**	*e*P	**Pg**	**11 00 11.9**	**0.0**
ARBE	**Arbavere**	**0.65**	**94**	*e*P	**Pg**	**11 00 12.1**	**+0.2**
ARBE				*e*S	**Sg**	**11 00 20.7**	**+0.5**
ARBE				AML	AML	11 00 28.3	
	comp=N,753nm,0.1s						
ARBE				AML	AML	11 00 29.2	
	comp=E,608nm,0.1s						
ARBE				AML	AML	11 00 35.3	
	comp=Z,184nm,0.2s						
ARBE	**Arbavere**	**0.65**	**94**	*e*P	**Pg**	**11 00 12.1**	**+0.2**
ARBE				*e*S	**Sg**	**11 00 20.7**	**+0.5**
HEL3	**Helsinki**	**0.68**	**4**	*e*P	**Pg**	**11 00 13.0**	**+0.3**
HEL1	**Helsinki**	**0.69**	**7**	*e*P	**Pg**	**11 00 13.1**	**+0.3**
HEL1				*e*S	**Sg**	**11 00 22.1**	**+0.4**
HEL2	**Helsinki**	**0.70**	**4**	*e*P	**Pg**	**11 00 13.2**	**+0.3**
MEF	**Metsahovi**	**0.74**	**347**	*e*P	**Pg**	**11 00 14.2**	**+0.3**
MEF	**Metsahovi**	**0.74**	**347**	*e*P	**Pg**	**11 00 14.1**	**+0.3**
MEF				*e*S	**Sg**	**11 00 23.7**	**+0.2**
MEF				AML	AML	11 00 31.0	
	comp=Z,74nm,0.6s						
MEF				AML	AML	11 00 32.9	
	comp=E,50nm,0.1s						
MEF				AML	AML	11 00 33.6	
	comp=N,54nm,0.2s						
MEF	**Metsahovi**	**0.74**	**347**	*e*P	**Pg**	**11 00 14.2**	**+0.3**
MEF				*e*S	**Sg**	**11 00 23.8**	**+0.3**
EE08	**Sarghaua, Vand**	**0.88**	**162**	*e*P	**Pg**	**11 00 16.7**	**+0.3**
EE08				*e*S	**Sg**	**11 00 27.9**	**+0.1**
MTSE	**Matsula**	**0.91**	**211**	*e*P	**Pg**	**11 00 17.1**	**+0.1**
MTSE	**Matsula**	**0.91**	**211**	*e*P	**Pg**	**11 00 17.2**	**+0.1**
MTSE				*e*S	**Sg**	**11 00 29.5**	**+0.7**
MTSE	**Matsula**	**0.91**	**211**	*e*P	**Pg**	**11 00 17.1**	**+0.1**
MTSE				*e*S	**Sg**	**11 00 29.5**	**+0.7**
NUR	**Nurmijrvi**	**1.02**	**358**	*e*P	**Pg**	**11 00 19.0**	**-0.1**
VSU	**Vasula**	**1.47**	**134**	*e*P	**Pn**	**11 00 27.1**	**-0.2**
VSU				*e*S	**Sg**	**11 00 45.6**	**-1.0**
VSU				AML	AML	11 00 50.9	
	comp=E,97nm,0.2s						
VSU				AML	AML	11 00 50.9	
	comp=N,73nm,0.2s						
VSU				AML	AML	11 00 51.1	
	comp=Z,38nm,0.2s						
VSU	**Vasula**	**1.47**	**134**	*e*P	**Pn**	**11 00 27.1**	**-0.2**
VSU				*e*S	**Sg**	**11 00 45.6**	**-1.0**
VJF	**Virojoki**	**1.77**	**52**	*e*P	**Pn**	**11 00 32.0**	**+0.7**
VJF				*e*SN	**Sg**	**11 00 56.1**	**-0.2**
VJF				MSG		11 00 57.9	
	comp=Z,32nm,0.1s						
FIA0	**FINESS Array S**	**2.07**	**18**	*e*SG	**Sb**	**11 01 04.0**	**-0.2**
FIA0				MSG		11 01 07.0	
	comp=Z,17nm,0.1s						
FINES	**FINESS Array B**	**2.07**	**18**	Pn	**Pb**	**11 00 37.6**	**-0.3**
	comp=Z,11nm,0.3s,baz=200,slow=15,SNR=315						
FINES				Sn	**Sb**	**11 01 04.2**	**+0.1**
	comp=Z,7.8nm,0.3s,baz=200,slow=28,SNR=20						
FIA1	**FINESS Array S**	**2.07**	**18**	*e*SB	**Sb**	**11 01 03.9**	**-0.4**
FIA1				MSG		11 01 05.3	
	comp=Z,14nm,0.1s						
RAF	**Rauma**	**2.13**	**317**	*e*P	**Pb**	**11 00 38.4**	**-0.5**
RAF	**Rauma**	**2.13**	**317**	*e*P	**Pb**	**11 00 38.3**	**-0.7**
RAF				*e*S	**Sb**	**11 01 06.3**	**+0.4**
RAF				AML	AML	11 01 08.5	
	comp=Z,23nm,0.2s						
RAF				AML	AML	11 01 09.1	
	comp=E,31nm,0.2s						
RAF				AML	AML	11 01 10.1	
	comp=N,35nm,0.2s						
RAF	**Rauma**	**2.13**	**317**	*e*P	**Pb**	**11 00 38.2**	**-0.8**
RAF				*e*SG	**Sb**	**11 01 06.4**	**+0.4**
RAF				MSG		11 01 09.5	
	comp=Z,17nm,0.1s						
EE07	**Piusa Caves, O**	**2.19**	**138**	*e*PG	**Pb**	**11 00 39.8**	**-0.2**
EE07				*e*SG	**Sb**	**11 01 07.6**	**-0.1**
AAL	**Aland**	**2.48**	**288**	*e*P	**Pb**	**11 00 43.9**	**-1.1**
AAL	**Aland**	**2.48**	**288**	P	**Pn**	**11 00 42.4**	**+1.2**
AAL				S	**Sb**	**11 01 15.7**	**-0.4**
AAL	**Aland**	**2.48**	**288**	P	**Pn**	**11 00 42.4**	**+1.2**
AAL				S	**Sb**	**11 01 15.7**	**-0.4**
AAL	**Aland**	**2.48**	**288**	*e*P	**Pn**	**11 00 42.1**	**+0.9**
AAL				*e*PB	**Pb**	**11 00 43.7**	**-1.3**
AAL				*e*SB	**Sb**	**11 01 15.3**	**-0.8**
KEF	**Keuruu**	**2.69**	**1**	*e*P	**Pb**	**11 00 47.2**	**-1.2**
KPF	**Kankaanpaa**	**2.69**	**332**	*e*SB	**Sb**	**11 01 20.9**	**-1.0**
KPF				MSG		11 01 22.8	
	comp=Z,10.0nm,0.1s						
NRTU	**Norrtaelje**	**3.10**	**276**	P	**Pn**	**11 00 50.2**	**+0.5**
NRTU	**Norrtaelje**	**3.10**	**276**	P	**Pn**	**11 00 50.2**	**+0.5**
GRAU	**Graesoe**	**3.23**	**288**	P	**Pn**	**11 00 51.4**	**0.0**
GRAU	**Graesoe**	**3.23**	**288**	P	**Pn**	**11 00 51.4**	**0.0**
NYNU	**Nynaeshamn**	**3.49**	**265**	P	**Pn**	**11 00 55.9**	**+0.9**
NYNU	**Nynaeshamn**	**3.49**	**265**	P	**Pn**	**11 00 55.9**	**+0.9**
FLYU	**Flymyra**	**3.51**	**283**	P	**Pn**	**11 00 55.7**	**+0.4**
FLYU	**Flymyra**	**3.51**	**283**	P	**Pn**	**11 00 55.7**	**+0.4**
UPP	**Uppsala**	**3.62**	**279**	P	**Pn**	**11 00 57.5**	**+0.7**
UPP	**Uppsala**	**3.62**	**279**	P	**Pn**	**11 00 57.5**	**+0.7**
GOTU	**Gotland**	**3.70**	**243**	P	**Pn**	**11 00 59.1**	**+1.2**
GOTU	**Gotland**	**3.70**	**243**	P	**Pn**	**11 00 59.1**	**+1.2**
VAF	**Ylistaro**	**3.70**	**345**	*e*P	**Pn**	**11 01 01.4**	**+3.5**
FIBU	**Brunna**	**3.76**	**279**	P	**Pn**	**11 00 59.3**	**+0.6**
FIBU	**Brunna**	**3.76**	**279**	P	**Pn**	**11 00 59.3**	**+0.6**
BACU	**Backbrunna**	**3.88**	**279**	P	**Pn**	**11 01 00.9**	**+0.5**
BACU	**Backbrunna**	**3.88**	**279**	P	**Pn**	**11 01 00.9**	**+0.5**
OSTU	**Oestervaala**	**3.90**	**284**	P	**Pn**	**11 01 01.1**	**+0.5**
OSTU	**Oestervaala**	**3.90**	**284**	P	**Pn**	**11 01 01.1**	**+0.5**
ARNU	**Arnoeviken**	**4.24**	**304**	P	**Pn**	**11 01 06.0**	**+0.7**
ARNU	**Arnoeviken**	**4.24**	**304**	P	**Pn**	**11 01 06.0**	**+0.7**
VIKU	**Vikbolandet**	**4.27**	**260**	*e*P	**Pn**	**11 01 06.2**	**+0.4**
VIKU	**Vikbolandet**	**4.27**	**260**	P	**Pn**	**11 01 06.1**	**+0.4**
VIKU	**Vikbolandet**	**4.27**	**260**	P	**Pn**	**11 01 06.1**	**+0.4**
JOF	**Joensuu**	**4.69**	**40**	*e*P	**Pn**	**11 01 10.8**	**-0.7**
HFS	**Hagfors**	**5.60**	**281**	Pn	**Pn**	**11 01 24.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=96,slow=14,SNR=22						
HFS				Sn	**Sn**	**11 02 28.6**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=96,slow=29,SNR=7.0						
HFS				Lg	Lg	11 02 51.2	
	comp=Z,0.8nm,0.3s,baz=94,slow=33,SNR=5.0						
	comp=Z,0.8nm,0.3s						
NOA	**NORSAR Array B**	**6.90**	**289**	Pn	**Pn**	**11 01 41.6**	**-0.3**
	baz=99,slow=12,SNR=10						
NOA				Sn	**Sn**	**11 02 57.5**	**-3.5**
	baz=102,slow=19,SNR=4.2						
NOA				Lg	Lg	11 03 31.1	
	comp=Z,0.1nm,0.3s,baz=82,slow=16,SNR=4.7						
	comp=Z,0.1nm,0.3s						
ARCES	**ARCESS Array B**	**10.09**	**2**	Pn	**Pn**	**11 02 24.7**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=176,slow=13,SNR=22						
	comp=Z,0.6nm,0.2s						
GERES	**GERESS Array B**	**12.45**	**216**	Pn	**Pn**	**11 02 59.3**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=24,slow=15,SNR=1.6						
	comp=Z,0.2nm,0.3s						

IDC 25 11:02:28.0±1.3, 4°.87S×152°.45E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=76.9km s-min=25.9km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.14**	**228**	P	P	11 07 36.1	0.0
	0.6nm,0.4s,baz=52,slow=9.8,SNR=15						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**25.86**	**222**	P	P	11 08 01.6	0.0
	0.5nm,0.6s,baz=59,slow=8.8,SNR=13						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**82.36**	**22**	P	P	11 14 51.5	-0.1
	1.0nm,0.8s,baz=259,slow=5.4,SNR=13						
	1.0nm,0.8s						
QSPA	**South Pole Qui**	**85.09**	**180**	P	P	11 15 05.8	0.0
	1.8nm,1.1s,baz=37,slow=5.1,SNR=2.3						
	1.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**150.00**	**288**	PKPbc	PKPbc	11 22 21.4	-0.3
	0.7nm,0.5s,baz=90,slow=3.1,SNR=7.2						

IDC 25 11:05:49.2±5.0, 53°81'N×89°78'E, h0km, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=52.2km s-min=26.5km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.94	275	I	I	11 24 20.0	
	baz=86,slow=316,SNR=2.5						
ZALV	Zalesovo Beam	2.94	275	Pn	Pn	11 06 39.0	+1.9
	0.3nm,0.3s,baz=94,slow=13,SNR=4.0						
ZALV				Lg	Lg	11 07 22.2	
	0.6nm,0.3s,baz=92,slow=26,SNR=7.6						
	0.6nm,0.3s						
KURBB	Kurchatov Arra	7.61	250	Pn	Pn	11 07 41.1	-0.2
	0.1nm,0.3s,baz=63,slow=15,SNR=3.8						
	0.3nm,0.3s						
MKAR	Makanchi Array	8.50	217	Pn	Pn	11 07 54.2	+0.7
	0.1nm,0.3s,baz=35,slow=14,SNR=4.1						
	0.2nm,0.4s						

*NOU **25** 11:29:15.2, 38°79S×178°65E, h99km, MLv4.0/5, Off E. Coast of N. Island, N.Z.*
*WEL **25** 11:29:27.5±0.6, 39°S±3°×17°7E±°, h28km±5km, M3.5/14, ML3.8/14, MLv3.5/14, Error ellipse: s-maj=0.0km s-min=0.0km az=145.2, confirmed*

ISC 25 11:29:27.5±1.5, 38°82S±0°03×177°46E±0°03, h37km, n133, σ1.9/61/147, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNGZ	Shannon Statio	0.10	290	P	Pn	11 29 33.4	-0.4
SNGZ				S	Sn	11 29 38.3	+0.1
RIGZ	Rimuhau	0.26	66	P	Pn	11 29 35.5	-0.4
RIGZ				S	Sn	11 29 41.9	-1.4
KNZ	Kokohu	0.27	141	P	Pn	11 29 36.1	+0.3
KNZ				S	Sn	11 29 42.8	-0.4
RAHZ	Arahi	0.31	251	P	Pn	11 29 36.1	+0.4
RAHZ				S	Sn	11 29 43.3	+0.5
WHHZ	Waihua	0.31	213	P	Pn	11 29 36.9	+1.2
WHHZ				S	Sn	11 29 45.2	+2.5
RAGZ	Rawiri	0.32	354	P	Pn	11 29 35.0	-0.8
RAGZ				S	Sn	11 29 41.0	-1.9
PRGZ	Paritu Road	0.35	108	P	Pn	11 29 37.0	+1.0
PRGZ				S	Sn	11 29 45.4	+2.6
RTZ	Ruatahuna	0.42	298	P	Pn	11 29 36.8	-0.1
RTZ				S	Sn	11 29 44.0	+0.2
MTHZ	Maungataniwha	0.48	265	P	Pn	11 29 38.2	+0.4
MTHZ				S	Sn	11 29 46.7	+1.6
MWZ	Matawai	0.48	7	P	Pn	11 29 37.2	-0.7
MWZ				S	Sn	11 29 45.3	+0.1
TKGZ	Te Karaka	0.48	39	P	Pn	11 29 38.0	+0.1
TKGZ				S	Sn	11 29 46.7	+1.6
MHGZ	Mahia Peninsul	0.49	134	P	Pn	11 29 39.2	+1.3
MHGZ				S	Sn	11 29 49.6	+4.4
ARHZ	Aropaoanui	0.57	219	P	Pn	11 29 40.8	+1.5
NMHZ	Naumai	0.58	241	P	Pn	11 29 40.7	+1.2
NMHZ				S	Sn	11 29 51.7	+4.0
URZ	Urewera	0.62	334	P	Pn	11 29 39.4	-0.5
URZ	Urewera	0.62	334	P	Pn	11 29 39.2	-0.6
URZ				S	Sn	11 29 48.2	-0.3
MUGZ	Murupara	0.63	302	P	Pn	11 29 39.8	-0.3
CNGZ	Carnagh Statio	0.68	61	P	Pn	11 29 41.5	+0.9
TWGZ	Tauwhareparae	0.76	33	P	Pn	11 29 42.0	+0.3
MRHZ	Matea Rd	0.81	268	P	Pn	11 29 43.5	+1.1
BKZ	Black Stump Fm	0.83	245	P	Pn	11 29 44.2	+1.5
BKZ	Black Stump Fm	0.83	245	P	Pn	11 29 44.1	+1.5
MCHZ	McNeill Hill	0.86	223	P	Pn	11 29 44.9	+1.8
RUGZ	Raukumara Rang	0.87	12	P	Pn	11 29 43.2	-0.1
RRRZ	Republican Roa	0.88	302	P	Pn	11 29 43.5	+0.2
PRRZ	Plateau Road	0.89	290	P	Pn	11 29 44.0	+0.5
CKHZ	Cape Kidnapper	0.89	199	P	Pn	11 29 44.5	+1.0
EDRZ	Edgecumbe	0.90	321	P	Pn	11 29 43.9	+0.2
ALRZ	Allen Road	0.91	286	P	Pn	11 29 44.3	+0.6
TARZ	Mount Tarawera	0.94	308	P	Pn	11 29 44.7	+0.4
PUZ	Puketiti	0.97	41	P	Pn	11 29 44.2	-0.4
KWHZ	Kaweka Forest	1.01	233	P	Pn	11 29 46.6	+1.4
HRRZ	Handcock Road	1.01	294	P	Pn	11 29 45.4	+0.2
MKRZ	Makatiti	1.03	311	P	Pn	11 29 46.8	+1.4
WHRZ	Whale Island	1.03	338	P	Pn	11 29 45.4	0.0
MARZ	Manawahe	1.03	323	P	Pn	11 29 45.9	+0.5
HLRZ	Highlands Stat	1.03	303	P	Pn	11 29 45.8	+0.3
WPRZ	Whakapapatarin	1.05	286	P	Pn	11 29 46.3	+0.6
PKGZ	Pakihiroa	1.07	28	P	Pn	11 29 45.6	-0.3
HSRZ	Hossack Road	1.07	298	P	Pn	11 29 46.7	+0.7
KAHZ	Kahuranaki	1.08	204	P	Pn	11 29 47.1	+1.0
HAZ	Te Kaha	1.09	14	P	Pn	11 29 46.4	+0.2
OMRZ	Omania	1.11	309	P	Pn	11 29 46.5	0.0
GRRZ	Galatos Road	1.15	293	P	Pn	11 29 47.9	+0.8
UTU	Utuhina	1.18	302	P	Pn	11 29 48.1	+0.7
KRHZ	Kereru	1.18	225	P	Pn	11 29 48.4	+0.9
WHTZ	Whakaora	1.18	277	P	Pn	11 29 48.5	+1.0
OPRZ	Ohinepanea	1.20	324	P	Pn	11 29 47.1	-0.6
NGRZ	Ngongotaha	1.22	305	P	Pn	11 29 48.5	+0.4
KARZ	Kaharoa	1.24	309	P	Pn	11 29 48.1	-0.2
WMGZ	Waiomatatini S	1.25	37	P	Pn	11 29 47.9	-0.5
RITZ	Rihia Road	1.26	262	P	Pn	11 29 49.8	+1.2
PXZ	Pawanui	1.30	201	P	Pn	11 29 49.1	0.0
WIZ	White Island	1.30	351	P	Pn	11 29 48.8	-0.3
RATZ	Rangitukua	1.32	267	P	Pn	11 29 50.4	+1.0
KUTZ	Kaahu Road	1.32	284	P	Pn	11 29 50.0	+0.7
WATZ	Wairara	1.35	274	P	Pn	11 29 50.7	+0.8
KATZ	Kakaramea	1.38	263	P	Pn	11 29 51.7	+1.4
ETVZ	East Tongariro	1.40	256	P	Pn	11 29 51.8	+1.2
TMVZ	Te Maari	1.40	257	P	Pn	11 29 51.7	+1.1
NTVZ	North Tongarir	1.42	258	P	Pn	11 29 52.0	+1.2
MXZ	Matakaoa Point	1.42	28	P	Pn	11 29 51.3	+0.6
TGRZ	Tauranga	1.44	319	P	Pn	11 29 50.9	0.0
OTVZ	Oturere	1.44	255	P	Pn	11 29 52.7	+1.5
KRVZ	Karewarewa	1.44	258	P	Pn	11 29 52.0	+0.9
MOVZ	Moawhango	1.45	245	P	Pn	11 29 52.6	+1.4
SNVZ	South Ngauruho	1.46	255	P	Pn	11 29 52.9	+1.4
PNHZ	Pukenui	1.47	221	P	Pn	11 29 51.8	+0.4
NNVZ	North Ngauruho	1.47	257	P	Pn	11 29 52.9	+1.3
TUVZ	Tukino	1.47	252	P	Pn	11 29 54.5	+2.8
WPHZ	Waipukurau	1.48	212	P	Pn	11 29 52.0	+0.5
WTVZ	West Tongariro	1.48	258	P	Pn	11 29 53.0	+1.2
NGZ	Ngauruhoe	1.49	255	P	Pn	11 29 53.0	+1.2
WHVZ	Whangaehu Hut	1.53	252	P	Pn	11 29 53.7	+1.3
WNVZ	Wahianoa	1.53	250	P	Pn	11 29 53.7	+1.2
COVZ	Chateau Observ	1.54	255	P	Pn	11 29 53.8	+1.4
MAVZ	Matarangi	1.54	252	P	Pn	11 29 54.9	+2.2
FWVZ	Far West T-bar	1.55	253	P	Pn	11 29 54.2	+1.5
TRVZ	Turoa	1.56	251	P	Pn	11 29 54.8	+1.9
TLZ	Tolley Road	1.58	287	P	Pn	11 29 52.6	-0.3
PRHZ	Porangahau	1.58	203	P	Pn	11 29 52.9	-0.1
TWVZ	Taurewa	1.59	260	P	Pn	11 29 54.3	+1.0
TSZ	Takapari Road	1.70	223	P	Pn	11 29 54.6	0.0
DVHZ	Dannevirke	1.79	214	P	Pn	11 29 55.5	-0.3
ANWZ	Angora Road	1.81	204	P	Pn	11 29 55.8	-0.3
TOZ	Tahuroa Road	1.88	305	P	Pn	11 29 56.8	-0.3
POWZ	Post Office Ro	2.04	219	P	Pn	11 29 59.1	-0.2
HIZ	Hauiti	2.06	278	P	Pn	11 30 00.6	+1.1
HIZ	Hauiti	2.06	278	P	Pn	11 30 00.7	+1.2
PRWZ	Pori Road	2.08	213	P	Pn	11 29 59.7	-0.2
BFZ	Birch Farm	2.08	206	P	Pn	11 29 59.1	-0.8
VRZ	Vera Road	2.12	261	P	Pn	11 30 02.1	+1.7
WAZ	Wanganui	2.13	243	P	Pn	11 30 02.4	+1.8
TIWZ	Tintock	2.30	211	P	Pn	11 30 02.4	-0.5
CPWZ	Castlepoint	2.30	204	P	Sn	11 30 31.4	+1.4
MRZ	Mangatainoka R	2.34	218	P	Pn	11 30 02.6	-0.9
HOWZ	Holdsworth Sta	2.56	215	P	Pn	11 30 05.1	-1.3
TMWZ	Te Maipa	2.59	207	P	Pn	11 30 05.5	-1.3
PREZ	Palmer Road	2.62	257	P	Pn	11 30 11.5	+4.2
OGWZ	Otaki Gorge	2.66	221	P	Pn	11 30 06.7	-1.1
KHEZ	Kahui Hut	2.72	259	P	Pn	11 30 12.3	+3.6
PKE	Pukeiti	2.73	261	P	Pn	11 30 12.3	+3.5
ETAZ	East Tamaki Re	2.73	312	P	Pn	11 30 10.5	+1.7
MTW	Mount Morrison	2.78	212	P	Pn	11 30 07.8	-1.6
KIW	Kapiti Island	2.83	223	P	Pn	11 30 09.1	-1.0
TRWZ	Traveller	2.92	207	P	Pn	11 30 09.3	-2.0
CAW	Cannon Point	2.94	218	P	Pn	11 30 09.8	-1.7
WTAZ	Waiatarua	2.96	309	P	Pn	11 30 13.3	+1.5
PAWZ	Paruwai Farm	3.00	211	P	Pn	11 30 10.5	-1.9
RVAZ	Riverhead Bore	3.06	311	P	Pn	11 30 14.4	+1.2
MSWZ	Moikau Station	3.10	212	P	Pn	11 30 11.6	-2.3
PLWZ	Palliser	3.23	211	P	Pn	11 30 13.2	-2.4
BHW	Baring Head	3.26	217	P	Pn	11 30 13.7	-2.4
DUWZ	D'Urville Isla	3.37	233	P	Pn	11 30 16.5	-1.0
TCW	Tory Channel	3.42	225	P	Pn	11 30 16.3	-1.9
TUWZ	Tuamarina	3.75	225	P	Pn	11 30 21.0	-1.8
WCZ	Waipu Caves	3.79	318	P	Pn	11 30 23.8	+0.4
NNZ	Nelson	3.94	231	P	Pn	11 30 24.2	-1.2
BSWZ	Blackbirch Sta	3.99	222	P	Pn	11 30 23.6	-2.4
QRZ	Quartz Range	4.29	241	P	Pn	11 30 29.8	-0.4
QRZ	Quartz Range	4.29	241	P	Pn	11 30 29.8	-0.4
MRNZ	Matariki Terra	4.43	233	P	Pn	11 30 30.7	-1.4
THZ	Tophouse	4.56	228	P	Pn	11 30 32.0	-1.9
KHZ	Kahutara	4.67	218	P	Pn	11 30 32.0	-3.4
KHZ	Kahutara	4.67	218	P	Pn	11 30 31.9	-3.4
GVZ	Greta Valley S	5.33	218	P	Pn	11 30 41.2	-3.3
LTZ	Lake Taylor	5.58	223	P	Pn	11 30 44.0	-4.0
OKCZ	Okains Bay	5.92	213	P	Pn	11 30 49.3	-3.3
INZ	Inchbonnie	6.01	228	P	Pn	11 30 50.7	-3.1
MQZ	McQueen's Vall	6.08	215	P	Pn	11 30 50.9	-3.9
OXZ	Oxford	6.09	221	P	Pn	11 30 50.9	-3.9
AKCZ	Akaroa Harbour	6.10	213	P	Pn	11 30 51.7	-3.4
CTZ	Chatham Island	6.64	140	P	Pn	11 31 02.9	+0.5

IDC 25 11:37:40.3±288.0, 33°95N×121°49W, h0km, Error ellipse: s-maj=145.9km s-min=122.4km az=6.0, Off coast of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I57US	PINON FLAT INF	4.21	93	I	I	12 04 10.0	
	1.4nm,0.9s,baz=275,slow=303,SNR=80						
I59US	HAWAII INFRASO	33.70	254	I	I	15 04 10.0	
	baz=57,slow=321,SNR=2.4						
I53US	FAIRBANKS INFR	34.85	341	I	I	15 10 29.1	
	baz=141,slow=322,SNR=0.7						

IDC 25 11:39:44.7±1.9, 5°07S×152°75E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=92.9km s-min=26.6km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.23	229	P	P	11 44 53.6	-0.1
	0.3nm,0.4s,baz=52,slow=10.0,SNR=10						
	0.3nm,0.4s						
ASAR	Alice Springs	25.92	223	P	P	11 45 19.1	+0.3
	0.2nm,0.6s,baz=57,slow=8.8,SNR=5.4						
	0.2nm,0.6s						
MKAR	Makanchi Array	80.49	319	P	P	11 52 00.2	+1.4
	0.2nm,0.4s,baz=123,slow=5.3,SNR=1.0						
	0.2nm,0.4s						
ILAR	Eielson Array	82.42	22	P	P	11 52 08.2	-0.3
	0.8nm,0.7s,baz=258,slow=4.9,SNR=10						
	0.8nm,0.7s						
TORD	Torodi Ar. Bea	150.34	288	PKPbc	PKPbc	11 59 37.7	-1.4
	0.7nm,0.7s,baz=80,slow=2.1,SNR=4.7						

*NIC **25** 11:41:07.8, 35°05N×31°87E, h16km±1km, Ml2.5/5*
*ISK **25** 11:41:12.8, 35°35N×32°38E, h5km, ML2.1/4*

ISC 25 11:41:06.9±2.8, 35°06N±0°10×31°9E±0°1, h19km±3km, n9, σ0.9/75/15, 1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	Akamas	0.36	96	⇓iP	Pb	11 41 15.2	+0.3
AKMS				S	Sg	11 41 18.5	-1.4
AKMS				AML	AML	11 41 19.5	
	4.1nm,0.4s						
AKMS				AML	AML	11 41 19.8	
	1.8nm,0.3s						
ALFC	Alefka	0.59	80	P	Pn	11 41 19.9	-0.5
ALFC				S	Sn	11 41 29.1	-0.4
ALFC				AML	AML	11 41 33.2	
	0.8nm,0.3s						
ALFC				AML	AML	11 41 33.5	
	1.2nm,0.6s						
NATA	Nata	0.62	116	P	Pn	11 41 20.2	-0.6
NATA				S	Sn	11 41 30.1	-0.2
NATA				AML	AML	11 41 32.1	
	2.7nm,0.3s						
NATA				AML	AML	11 41 32.5	
	2.3nm,0.3s						
TROD	Troodos	0.81	98	P	Pn	11 41 23.3	-0.2
TROD				S	Sn	11 41 35.9	+0.8
TROD				AML	AML	11 41 40.3	
	0.2nm,0.5s						
TROD				AML	AML	11 41 44.6	
	0.2nm,0.3s						
LEF	Lefka	0.82	85	Pg	Pg	11 41 22.9	-0.1
ASGA	Asgata	1.15	103	P	Pg	11 41 29.5	+0.4
ASGA				S	Sg	11 41 45.5	+1.3
ASGA				AML	AML	11 41 46.0	
	0.6nm,0.2s						
ASGA				AML	AML	11 41 48.3	
	0.3nm,0.5s						
CSS	Mathiatis	1.18	94	Pg	Pg	11 41 30.4	+0.5
CSS				Sg	Sb	11 41 43.8	0.0
GAZI	Gazipasa	1.22	16	Pg	Pg	11 41 31.2	+0.6
IKL	Isikli	1.88	51	Pn	Pb	11 41 40.4	-0.2

*NNC **25** 11:49:30.5±1.1, 44°74N×81°90E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=16.8km s-min=3.6km az=117.0, Suspected Mining explosion.*
*SOME **25** 11:49:30.0, 44°68N×81°97E, h25km*

ISC 25 11:49:27.1±1.6, 44°71N±0°06×82°0E±0°1, h0km, n10, σ0.8/74/20, 4C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	1.63	258	eP	Pg	11 49 58.9	+0.5
	6.2nm,0.3s						
DJR				eS	Sb	11 50 19.5	+0.1
	12nm,0.6s						
KTMS	Ketmen	1.74	224	eP	Pg	11 50 01.0	+0.6
	2.3nm,0.2s						
KTMS				eS	Sg	11 50 23.3	+0.3
	6.6nm,0.3s						
MK31	Makanchi Array	2.10	5	Pn	Pb	11 50 06.2	+0.2
	4.7nm,0.3s,baz=186,slow=14,SNR=228						
MK31				⇑Sn	Sg	11 50 34.2	-0.3
	18nm,0.5s,baz=190,slow=21						
MAKZ	Makanchi	2.10	359	⇑Pn	Pb	11 50 06.3	+0.2
	4.1nm,0.3s						
MAKZ				⇑Sn	Sg	11 50 34.2	-0.4
	6.9nm,0.3s						
PDGK	Podgornoye	2.28	234	⇓Pn	Pb	11 50 08.5	-0.7
	4.5nm,0.6s						
PDGK				⇑Sn	Sb	11 50 38.8	+0.7
	7.5nm,0.6s						
SHLS	Shalkode	2.41	231	eP	Pn	11 50 08.3	+0.4
	13nm,0.5s						
SHLS				eS	Sn	11 50 35.6	-2.6
	23nm,0.2s						
UZB	Uzynbulak	2.67	235	eP	Pb	11 50 16.0	+0.2
	3.2nm,0.3s						
UZB				eS	Sb	11 50 49.0	-0.1
	3.9nm,0.4s						
KPKS	Kokpek	2.70	244	eP	Pb	11 50 16.6	+0.2
	5.3nm,0.3s						
KPKS				eS	Sb	11 50 49.8	-0.3
	15nm,0.4s						
ARXS	Arharly	3.04	262	eP	Pb	11 50 22.4	+0.3
	2.8nm,0.4s						
ARXS				eS	Sb	11 50 59.9	+0.1
	8.5nm,0.4s						
SATY	Saty	3.08	239	eP	Pb	11 50 23.4	+0.4
	2.6nm,0.1s						
SATY				eS	Sb	11 51 01.6	+0.4
	10nm,0.4s						

DJA 25 11:53:39.6±0.5, 8°S±6°×119°9E±°, h179km±6km, M3.7/10, mb3.8/2, MLv3.6/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	1.09	241	P	Pn	11 54 08.3	+0.4
PLAI				S	Sn	11 54 31.4	+1.7
TWSI	Taliwang, Sumb	1.89	257	P	Pn	11 54 15.4	0.0
BASI	Baing, Sumba	2.63	137	P	Pn	11 54 21.5	-2.3
BSSI	Bau Bau, Buton	2.76	39	P	Pn	11 54 25.3	0.0
EDFI	Ende, Flores	2.95	99	P	Pn	11 54 28.9	+1.2
EDFI				S	Sn	11 55 05.6	+0.4
BKSI	Bulukumba	3.26	25	P	Pn	11 54 31.3	-0.1
SRBI	Singaraja	3.50	273	P	Pn	11 54 35.0	+0.6
BATI	Baumata	5.22	112	P	Pn	11 54 57.5	+1.1
	29nm,0.7s,0.3nm						
SOEI	Soe	5.65	105	P	Pn	11 55 03.2	+1.1

IDC 25 11:56:07.8±1.5, 20°78S×177°96W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=41.6km s-min=39.5km az=19.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.50	257	P	P	12 04 21.8	+0.4
	0.2nm,0.4s,baz=91,slow=8.3,SNR=2.3						
	0.2nm,0.4s						
WRA	Warramunga Arr	44.60	262	P	P	12 04 21.8	-0.4
	0.2nm,0.3s,baz=96,slow=7.6,SNR=17						
	0.2nm,0.3s						
QSPA	South Pole Qui	69.29	180	P	P	12 07 16.7	-0.1
	2.0nm,0.9s,baz=32,slow=15,SNR=12						
	2.0nm,0.9s						
ILAR	Eielson Array	88.57	13	P	P	12 09 02.2	+0.1
	0.1nm,0.5s,baz=217,slow=4.7,SNR=4.6						
	0.1nm,0.5s						

*NEIC **25** 12:10:51.8±0.6, 3°3S±0°1×146°1E±0°1, h10km±2km, mb4.5/12, Error ellipse: s-maj=23.3km s-min=10.2km az=313.0*
*IDC **25** 12:10:52.3±1.2, 3°46S×146°12E, h0km, mb3.9/10, mbtmp3.9/11, ML2.6/1, MS3.7/16, Error ellipse: s-maj=47.9km s-min=17.8km az=93.0*

ISC 25 12:10:53.4±0.8, 3°51S±0°07×146°1E±0°1, h10km, n48, σ1.9/75/34, mb3.9/11, MS3.6/13, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	1.92	41	Pn	Pn	12 11 21.2	-5.0
TABU	Tabubil	5.18	250	P	Pn	12 12 16.4	+5.3
PMG	Port Moresby	5.95	170	P	Pb	12 12 35.0	-2.3
PMG	Port Moresby	5.95	170	Pn	Pn	12 12 22.1	+0.4
COEN	Coen	10.78	195	P	Pn	12 13 31.6	+3.6
COEN	Coen	10.78	195		Pn	12 13 29.9	+2.0
MTSU	Mount Surprise	14.64	187	P	P	12 14 27.0	-0.2
HNR	Honiara	14.95	114	LR	LR	12 19 38.9	
	comp=Z,2μm,20.9s,baz=254,slow=35						
KDU	Kakadu	16.28	235	P	P	12 14 43.7	-1.7
CTA	Charters Tower	16.48	180	P	P	12 14 51.9	+4.3
CTA	Charters Tower	16.48	180	Pn	Pn	12 14 45.9	+1.0
	baz=350,slow=11,SNR=11						
	1.0nm,1.0s						
CTAO	Charters Tower	16.48	180	P	P	12 14 52.2	+4.6
CTAO	Charters Tower	16.48	180	P	P	12 14 48.2	+0.6
CTAO				IAmb	IAmb	12 14 51.2	
	comp=Z,20nm,1.1s						
GUMO	Guam	17.03	356	LR	LR	12 20 38.3	
	comp=Z,52nm,19.3s,baz=180,slow=34						
MTN	Manton Dam	17.48	237	P	Pn	12 14 55.4	-2.0
MTN				IAmb	IAmb	12 15 14.1	
	comp=Z,10nm,1.1s						
WB0	Warramunga Arr	19.80	214		P	12 15 23.9	-0.2
WB0				IAmb	IAmb	12 15 25.8	
	comp=Z,46nm,1.1s						
WR0	Warramunga Arr	19.87	214	P	P	12 15 24.9	0.0
WR0				IAmb	IAmb	12 15 26.7	
	comp=Z,42nm,0.9s						
WRAB	Tennant Creek	19.95	214	P	P	12 15 25.6	-0.3
WB2	Warramunga Arr	19.96	214		P	12 15 25.9	-0.1
WRA	Warramunga Arr	19.97	214		P	12 15 24.3	-1.7
WRA	Warramunga Arr	19.97	214	P	P	12 15 25.9	-0.1
	comp=Z,34nm,0.9s,baz=38,slow=12,SNR=106						
WRA				LR	LR	12 23 26.2	
	comp=Z,258nm,18.8s,baz=1.0,slow=38						
KNRA	Kununurra	20.92	234	P	P	12 15 34.6	-1.8
KNRA				IAmb	IAmb	12 15 44.8	
	comp=Z,33nm,0.9s						
DAV	Davao City (W)	23.03	297	LR	LR	12 25 13.6	
	comp=Z,94nm,19.0s,baz=166,slow=37						
AS31	Alice Springs	23.25	209	P	P	12 16 01.2	0.0
ASAR	Alice Springs	23.26	209	P	P	12 16 01.1	-0.1
ASAR	Alice Springs	23.26	209	P	P	12 16 00.7	-0.6
	comp=Z,8.9nm,0.9s,baz=40,slow=9.0,SNR=65						
ASAR				LR	LR	12 24 14.7	
	comp=Z,159nm,20.2s,baz=347,slow=34						
	comp=Z,8.9nm,0.9s						
DZM	Mont Dzumac	27.02	135	LR	LR	12 24 39.4	
	comp=Z,219nm,20.2s,baz=349,slow=31						
STKA	Stephens Creek	28.54	188	P	P	12 16 49.4	0.0
STKA	Stephens Creek	28.54	188	P	P	12 16 51.6	+2.2
	comp=Z,4.0nm,0.8s,baz=359,slow=7.3,SNR=6.7						
STKA				LR	LR	12 28 21.4	
	comp=Z,140nm,18.2s,baz=359,slow=37						
	comp=Z,4.0nm,0.8s						
BBOO	Buckleboo	30.64	197	P	P	12 17 06.8	-1.2
BBOO				IAmb	IAmb	12 17 20.8	
	comp=Z,12nm,1.1s						
FORT	Forrest	32.04	210	P	P	12 17 19.7	-0.7
JOW	Kunigami	34.74	331	LR	LR	12 29 53.0	
	comp=Z,60nm,21.9s,baz=122,slow=33						
JNU	Nakatsue	39.18	340	LR	LR	12 33 10.3	
	comp=Z,60nm,19.7s,baz=190,slow=34						
NWAO	Narrogin (SRO)	39.83	219	LR	LR	12 37 07.1	
	comp=Z,266nm,18.2s,baz=17,slow=40						
KSRS	Korea Array	44.12	339	P	P	12 19 00.7	-1.4
	comp=Z,0.4nm,0.4s,baz=164,slow=10.0,SNR=4.1						
	comp=Z,0.4nm,0.4s						
RPZ	Rata Peaks	45.73	155	LR	LR	12 36 49.3	
	comp=Z,96nm,18.1s,baz=152,slow=34						
CMAR	Chiang Mai Arr	51.32	297	P	P	12 19 58.1	-0.2
	comp=Z,0.6nm,0.3s,baz=113,slow=6.0,SNR=1.6						
CMAR				LR	LR	12 45 34.8	
	comp=Z,29nm,18.2s,baz=185,slow=41						
	comp=Z,0.6nm,0.3s						
RAR	Rarotonga	55.41	113	LR	LR	12 43 42.3	
	comp=Z,39nm,19.2s,baz=271,slow=36						
SONM	Songino Array	61.81	331	P	P	12 21 13.5	+0.8
	comp=Z,0.5nm,0.5s,baz=140,slow=7.0,SNR=

PDAR Pinedale Array 84.41 42 P **P 12 29 37.5 +0.7**
0.2nm,0.6s,baz=249,slow=7.4,SNR=1.6
0.2nm,0.6s
ILAR Eielson Array 84.44 12 P **P 12 29 34.9 -1.2**
0.6nm,0.8s,baz=232,slow=6.2,SNR=12
0.6nm,0.8s
H03S2 Juan Fernandez 85.23 124 T T 14 02 43.2
baz=249,slow=75,SNR=12
H03S1 Juan Fernandez 85.24 124 T T 14 02 41.8
baz=249,slow=75,SNR=12
H03S3 Juan Fernandez 85.24 124 T T 14 02 40.5
baz=249,slow=75,SNR=10
BRTR Keskin Array B 146.72 318 PKPbc **PKPdf 12 36 44.2 +0.8**
0.8nm,0.6s,baz=56,slow=3.1,SNR=3.8

*JMA **25** 12:37:45.3±1.4,47°N±6°×15°3E±1°0,h30km,MV4.9/18, KURILE ISLANDS REGION*
*MOS **25** 12:37:46.8±0.9,46°.53N×152°.71E,h59km,mb4.9/41,Error ellipse: s-maj=6.9km s-min=5.4km az=93.8*
*SKHL **25** 12:37:47.5±0.3,46°.50N×152°.90E,h62km±7km,mb5.2/8*
*BJI **25** 12:37:47.5±0.0,46°.58N×152°.61E,h60km,mb4.7/42, mB4.9/15,Ms3.9/8,Ms7 3.7/10*
*NEIC **25** 12:37:47.1±1.9,46°.65N±0°.09×152°.7E±0°.1,h35km±2km, mb4.6/148,Error ellipse: s-maj=16.7km s-min=11.5km az=138.0*
*BGR **25** 12:37:48.9,46°.88N×152°.25E,h33km,mb4.8,Ms3.9, Hypocentre not reviewed by the ISC*
*IDC **25** 12:37:50.7±2.4,46°.70N×152°.55E,h74km±21km,mb4.1/32, mbtmp4.5/37,MS3.7/31,Error ellipse: s-maj=13.5km s-min=9.7km az=149.0*
ISC 25 12:37:48.0±0.6,46°.52N±0°.05×152°.74E±0°.04,h55km±5km, h55km:pP-P,n673,σ1§03/635,mb4.6/160,MS3.9/29, 38C-30D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
KUR	**Kuril'sk**	**3.64**	**251**	*e*P		**Pn**	**12 38 42.6**	**+0.9**
KUR					AMB	AMB	12 38 48.0	
	580nm,0.4s							
KUR				*e*S		**Sn**	**12 39 23.5**	**+0.1**
KUR					A	A	12 39 32.9	
	2μm,0.5s							
KUR					A	A	12 39 32.9	
	2μm,0.5s							
KUR	**Kuril'sk**	**3.64**	**251**	*d i*PN		**Pn**	**12 38 43.0**	**+1.3**
KUR				*e*S		**Sn**	**12 39 25.1**	**+1.7**
KUR					pmax	pmax		
	comp=E,91nm,0.3s							
KUR					pmax	pmax		
	comp=Z,555nm,0.3s							
KUR					pmax	pmax		
	comp=N,187nm,0.4s							
KUR					smax	smax		
	comp=N,2μm,0.6s							
KUR					smax	smax		
	comp=E,1μm,0.7s							
SKR	**Severo-Kuril's**	**4.73**	**27**	*e*P		**Pn**	**12 38 56.9**	**+0.1**
SKR					AMB	AMB	12 39 03.0	
	comp=E,230nm,0.6s							
SKR				*e*S		**Sn**	**12 39 47.8**	**-2.5**
SKR	**Severo-Kuril's**	**4.73**	**27**	*ce*PN		**Pn**	**12 38 56.3**	**-0.5**
SHO	**Shikotan**	**4.94**	**240**	*e*P		**Pn**	**12 38 58.8**	**-0.9**
SHO					AMB	AMB	12 39 01.9	
	comp=E,140nm,0.5s							
SHO				*e*S		**Sn**	**12 39 54.9**	**-0.6**
SHO					A	A	12 40 10.5	
	comp=E,420nm,0.6s							
SHO					A	A	12 40 10.5	
	comp=E,420nm,0.6s							
SHO	**Shikotan**	**4.94**	**240**	⇓*i*PN		**Pn**	**12 38 58.8**	**-0.9**
SHO					pmax	pmax		
	comp=Z,136nm,0.3s							
SHO					pmax	pmax		
	comp=N,30nm,0.4s							
SHO					pmax	pmax		
	comp=E,108nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**5.45**	**245**	*e*P		**Pn**	**12 39 07.5**	**+0.9**
YUK					AMB	AMB	12 39 09.2	
	comp=E,480nm,0.4s							
YUK				*e*S		**Sn**	**12 40 07.8**	**-0.1**
YUK					A	A	12 40 24.6	
	comp=E,300nm,0.5s							
YUK					A	A	12 40 24.6	
	comp=E,1μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.45**	**245**	*d i*PN		**Pn**	**12 39 07.8**	**+1.2**
YUK				*e*S		**Sn**	**12 40 06.8**	**-1.1**
YUK					pmax	pmax		
	comp=Z,453nm,0.4s							
YUK					pmax	pmax		
	comp=N,184nm,0.2s							
YUK					pmax	pmax		
	comp=E,218nm,0.3s							
YUK					smax	smax		
	comp=E,1μm,0.5s							
YUK					smax	smax		
	comp=N,302nm,0.4s							
NEM2	**Nemuro 2**	**5.88**	**240**	P		**Pn**	**12 39 11.4**	**-1.1**
NEM2				*e*S		**Sn**	**12 40 16.1**	**-2.4**
JRA	**Rausu**	**5.96**	**247**	P		**Pn**	**12 39 15.3**	**+1.7**
JNK	**Nakash**	**6.39**	**246**	P		**Pn**	**12 39 20.2**	**+0.7**
JAK	**Akkeshi**	**6.72**	**241**	P		**Pn**	**12 39 23.0**	**-1.0**
JAK				*e*S		**Sn**	**12 40 35.5**	**-3.6**
JTKR	**Abashiri--Toko**	**6.73**	**251**	P		**Pn**	**12 39 25.8**	**+1.6**
YSS	**Yuzh-Sakhalins**	**6.88**	**277**	Pn		**Pn**	**12 39 28.0**	**+1.9**
YSS	**Yuzh-Sakhalins**	**6.88**	**277**	*e*P		**Pn**	**12 39 28.1**	**+2.0**
YSS				*e*S		**Sn**	**12 40 43.0**	**+0.1**
YSS					A	A	12 40 51.5	
	comp=N,70nm,0.7s							
YSS					A	A	12 40 51.5	
	comp=N,40nm,0.7s							
YSS	**Yuzh-Sakhalins**	**6.88**	**277**	*e*PN		**Pn**	**12 39 28.0**	**+1.9**
YSS				*e*S		**Sn**	**12 40 47.1**	**+4.2**
YSS					pmax	pmax		
	comp=Z,80nm,0.6s							
YSS					pmax	pmax		
	comp=Z,200nm,4.5s							
YSS					MLR	MLR		
	comp=Z,300nm,13.0s							
JAR	**Ashorobuto**	**7.13**	**246**	P		**Pn**	**12 39 30.6**	**+0.9**
JOB	**Onbets**	**7.30**	**244**	P		**Pn**	**12 39 31.8**	**-0.2**
JOB				S		**Sn**	**12 40 50.2**	**-3.1**
JKK2	**Kamakawa 2**	**7.54**	**253**	P		**Pn**	**12 39 37.3**	**+2.1**
JKA	**Kamikawa-asahi**	**7.54**	**255**	Pn		**Pn**	**12 39 36.2**	**+1.0**
JKA	**Kamikawa-asahi**	**7.54**	**255**	*e*P		**Pn**	**12 39 38.0**	**+2.8**
ASAJ	**Asahikawa**	**7.54**	**255**	P		**Pn**	**12 39 38.0**	**+2.7**
	comp=Z,146nm,1.0s,baz=85,slow=20,SNR=72							
ASAJ					S	Sn	12 41 13.4	+14
	comp=Z,26nm,1.0s,baz=354,slow=4.9,SNR=5.2							
ASAJ					LR	LR	12 42 22.6	
	comp=Z,275nm,20.6s,baz=113,slow=36							
ASAJ	**Asahikawa**	**7.54**	**255**	PN		**Pn**	**12 39 38.0**	**+2.7**
PET	**Petropavlovsk**	**7.55**	**28**			**Pn**	**12 39 33.7**	**-1.7**
PET	**Petropavlovsk**	**7.55**	**28**	*e*P		**Pn**	**12 39 35.7**	**+0.3**
PET				*e*S		**Sn**	**12 40 55.5**	**-4.0**
PET	**Petropavlovsk**	**7.55**	**28**	*e*PN		**Pn**	**12 39 39.1**	**+3.7**
PET					pmax	pmax		
	comp=Z,34nm,0.9s							
PET					MLR	MLR		
	comp=Z,100nm,18.0s							
UGL	**Uglegorsk**	**7.63**	**294**	*e*P		**Pn**	**12 39 38.7**	**+2.3**
UGL	**Uglegorsk**	**7.63**	**294**	*e*PN		**Pn**	**12 39 38.0**	**+1.6**
UGL					pmax	pmax		
	comp=Z,110nm,0.8s							
JWK2	**Keihoku**	**7.66**	**265**	*e*P		**Pn**	**12 39 41.5**	**+4.7**
JCH	**Churui**	**7.75**	**243**	P		**Pn**	**12 39 37.9**	**-0.2**
JCH				S		**Sn**	**12 41 00.9**	**-3.5**
TYV	**Tymovskoe**	**7.96**	**307**	*e*P		**Pn**	**12 39 42.5**	**+1.5**
TYV				*e*S		**Sn**	**12 41 09.9**	**+0.4**
TYV	**Tymovskoe**	**7.96**	**307**	*e*PN		**Pn**	**12 39 42.4**	**+1.5**
TYV					pmax	pmax		
	comp=Z,16nm,0.8s							
TYV					pmax	pmax		
	comp=Z,100nm,3.2s							
TYV					MLR	MLR		
	comp=N,200nm,14.0s							
TYV					MLR	MLR		
	comp=E,300nm,14.0s							
TYV					MLR	MLR		
	comp=Z,400nm,17.0s							
JRBN	**Rebuntou**	**8.21**	**267**	P		**Pn**	**12 39 47.2**	**+2.9**
ERM	**Erimo**	**8.21**	**240**	Pn		**Pn**	**12 39 45.1**	**+0.7**
ERM	**Erimo**	**8.21**	**240**	PN		**Pn**	**12 39 45.2**	**+0.7**
JNBK	**Urakawa-nobuka**	**8.31**	**243**	*e*P		**Pn**	**12 39 44.2**	**-1.6**
OKH	**Okha**	**9.45**	**322**	*e*P		**Pn**	**12 40 03.9**	**+2.6**
OKH					AMB	AMB	12 40 10.4	
	comp=Z,60nm,0.6s							
JANG	**Nango**	**10.21**	**237**	P		Pn	12 40 08.1	-3.6
JTM	**Tenmabayashi**	**10.21**	**240**			**Pn**	**12 40 09.5**	**-2.2**
NKL	**Nikolayevsk**	**10.23**	**315**	*e*P		**Pn**	**12 40 12.6**	**+0.7**
NKL					AMB	AMB	12 40 15.2	
	comp=Z,50nm,1.2s							
JTH	**Tanohata**	**10.30**	**234**	*e*P		Pn	12 40 10.0	-3.0
JTH				*e*S		Sn	12 41 56.8	-10
TEY	**Ternei**	**11.37**	**268**	*e*PN		**Pn**	**12 40 31.1**	**+3.5**
GRNR	**Gornyy**	**11.60**	**297**	⇓*i*PN		**Pn**	**12 40 27.1**	**-3.6**
GRNR					pmax	pmax		
	comp=Z,2.0nm,0.7s							
GRNR					MLR	MLR		
	comp=N,120nm,16.0s							
JMM	**Marumori**	**12.36**	**230**	Pn		Pn	12 40 37.6	-3.6
MA2	**Magadan**	**13.14**	**356**	Pn		**Pn**	**12 40 50.8**	**-0.8**
MA2	**Magadan**	**13.14**	**356**	P		**Pn**	**12 40 51.3**	**-0.3**
	comp=N,15nm,0.5s,baz=163,slow=14,SNR=33							
MA2					LR	LR	12 45 39.8	
	comp=N,114nm,20.5s,baz=128,slow=36							
MA2	**Magadan**	**13.14**	**356**	*e*P		**Pn**	**12 40 52.0**	**+0.4**
MA2	**Magadan**	**13.14**	**356**	*ce*PN		**Pn**	**12 40 52.0**	**+0.4**
MA2					pmax	pmax		
	comp=Z,9.0nm,0.7s							
MA2	**Magadan**	**13.14**	**356**	P		**Pn**	**12 40 50.4**	**-1.2**
	comp=Z,24nm,0.6s							
KLR	**Kul'dur**	**14.34**	**289**	P		**Pn**	**12 41 09.4**	**+1.6**
	comp=Z,2.9nm,0.7s,baz=98,slow=14,SNR=10							
KLR					LR	LR	12 46 50.0	
	comp=Z,231nm,18.1s,baz=116,slow=38							
KLR	**Kul'dur**	**14.34**	**289**	*e*P		**Pn**	**12 41 08.2**	**+0.3**
KLR	**Kul'dur**	**14.34**	**289**	*ce*P		**Pn**	**12 41 09.9**	**+2.0**
KLR					pmax	pmax		
	comp=Z,6.0nm,1.3s							
MAJO	**Matsushiro**	**14.73**	**233**	Pn		**Pn**	**12 41 10.8**	**-2.3**
MAJO	**Matsushiro**	**14.73**	**233**	P		**Pn**	**12 41 10.8**	**-2.3**
MJAR	**Matsushiro Arr**	**14.73**	**233**	P		**Pn**	**12 41 10.6**	**-2.5**
	comp=Z,5.2nm,0.8s,baz=31,slow=12,SNR=9.6							
MJB9	**Matsu-Tunnel**	**14.73**	**233**	Pn		**Pn**	**12 41 12.3**	**-0.8**
USRK	**Ussuriysk Ar.**	**14.77**	**268**	P		**Pn**	**12 41 14.3**	**+0.8**
	comp=Z,9.4nm,0.5s,baz=80,slow=13,SNR=26							
USRK					LR	LR	12 46 36.7	
	comp=Z,185nm,20.1s,baz=98,slow=36							
USA0B	**Ussuriysk Arra**	**14.77**	**268**	Pn		**Pn**	**12 41 13.7**	**+0.2**
USA0B	**Ussuriysk Arra**	**14.77**	**268**	P		**Pn**	**12 41 13.7**	**+0.2**
SHEM	**Shemya Is, Ala**	**15.15**	**58**	P		**Pn**	**12 41 17.0**	**-1.3**
	comp=Z,9.2nm,0.4s,baz=253,slow=19,SNR=5.4							
SHEM					S	Sn	12 43 52.2	-13
	comp=Z,18nm,0.8s,baz=272,slow=20,SNR=1.6							
SHEM					LR	LR	12 48 29.2	
	comp=Z,38nm,18.8s,baz=288,slow=42							
JGF	**Kuroka**	**15.89**	**232**			**Pn**	**12 41 27.9**	**-0.2**
MDJ	**Mudanjiang**	**16.31**	**272**	P		**Pn**	**12 41 32.0**	**-1.2**
MDJ				S		**Sn**	**12 44 31.5**	**-1.7**
MDJ					pmax	pmax		
	comp=Z,6.0nm,1.6s							
MDJ	**Mudanjiang**	**16.31**	**272**	P		**P**	**12 41 36.0**	**+0.6**
MDJ					pmax	pmax		
	comp=Z,8.0nm,0.7s							
MDJ					pmax	pmax		
	comp=Z,130nm,4.3s							
MDJ	**Mudanjiang**	**16.31**	**272**			**Pn**	**12 41 32.1**	**-1.1**
SEY	**Seymchan**	**16.45**	**359**	P		**Pn**	**12 41 34.9**	**0.0**
	comp=Z,2.0nm,0.4s,baz=184,slow=9.4,SNR=13							
SEY	**Seymchan**	**16.45**	**359**	*e*P		**P**	**12 41 36.1**	**-0.7**
SEY					pmax	pmax		
	comp=Z,6.0nm,1.0s							
HEH	**HeiHe**	**17.20**	**292**	*e*P		**Pn**	**12 41 44.8**	**+0.5**
HEH					pmax	pmax		
	comp=Z,59nm,0.8s							
HEH					LR	LR		
	comp=Z,250nm,15.5s							
HEH					LR	LR		
	comp=Z,240nm,14.9s							
ZEA	**Zeya**	**17.80**	**303**	*e*P		**P**	**12 41 50.1**	**-1.7**
ZEA	**Zeya**	**17.80**	**303**	*e*P		**P**	**12 41 51.9**	**+0.1**
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.7s							
ZEA					MLR	MLR		
	comp=Z,100nm,15.0s							
CN2	**Changchun**	**19.40**	**272**	*e*P		**P**	**12 42 06.5**	**-2.9**
CN2				*e*S		S	12 45 34.0	-12
CN2					pmax	pmax		
	comp=Z,10.0nm,0.6s							
CN2					pmax	pmax		
	comp=Z,100nm,3.0s							
CN2					LR	LR		
	comp=Z,100nm,15.0s							
CN2					LR	LR		
	comp=Z,200nm,15.0s							
CN2					LR	LR		
	comp=Z,200nm,16.1s							
YAK	**Yakutsk**	**20.38**	**328**	P		**P**	**12 42 19.2**	**-0.6**
YAK	**Yakutsk**	**20.38**	**328**	P		**P**	**12 42 19.3**	**-0.6**
	comp=Z,49nm,0.6s,baz=334,slow=2.7,SNR=5.9							
YAK					LR	LR	12 49 51.2	
	comp=Z,170nm,19.1s,baz=146,slow=36							
	comp=Z,49nm,0.6s							
YAK	**Yakutsk**	**20.38**	**328**	*e*P		**P**	**12 42 19.2**	**-0.6**
YAK				*e*			12 42 40.5	
YAK				*e*S		**S**	**12 46 05.8**	**+1.0**
YAK				*e**SS		**sS**	**12 46 26.0**	**+2.5**
YAK					pmax	pmax		
	comp=Z,52nm,0.9s							
YAK					pmax	pmax		
	comp=N,10.0nm,1.1s							
YAK					pmax	pmax		
	comp=E,6.0nm,1.1s							
YAK					pmax	pmax		
	comp=Z,69nm,2.0s							
YAK					pmax	pmax		
	comp=N,47nm,2.8s							
YAK					pmax	pmax		
	comp=E,46nm,3.0s							
YAK					smax	smax		
	comp=N,111nm,10.4s							
YAK					smax	smax		
	comp=E,77nm,6.5s							
KSRS	**Korea Array**	**20.48**	**253**	P		**P**	**12 42 22.4**	**+1.3**
	comp=E,6.5nm,0.7s,baz=57,slow=11,SNR=27							
KSRS					LR	LR	12 49 11.9	
	comp=E,84nm,21.1s,baz=55,slow=33							
	comp=E,6.5nm,0.7s							
KS19	**Wonju Array Si**	**20.49**	**253**	P		**P**	**12 42 21.3**	**0.0**
KS19					IAmb	IAmb	12 42 29.3	
	comp=Z,14nm,0.6s							
KSAR	**Wonju Array Be**	**20.51**	**253**	P		**P**	**12 42 21.2**	**-0.2**
KSAR	**Wonju Array Be**	**20.51**	**253**	P		**P**	**12 42 21.3**	**-0.2**
JCJ	**Chichijima**	**21.11**	**207**	LR		LR	12 49 40.3	
	comp=Z,26nm,20.8s,baz=61,slow=34							
INCN	**Inchon**	**21.32**	**254**	P		**P**	**12 42 30.3**	**+0.1**
INCN					IAmb	IAmb	12 42 34.7	
	comp=Z,27nm,0.8s							
INCN	**Inchon**	**21.32**	**254**	*e*P		**P**	**12 42 30.3**	**+0.1**
INCN	**Inchon**	**21.32**	**254**	P		**P**	**12 42 30.3**	**+0.1**
INCN					pmax	pmax		
	comp=Z,27nm,0.8s							
JNU	**Nakatsue**	**21.38**	**239**	P		**P**	**12 42 31.4**	**+0.5**
JNU					IAmb	IAmb	12 42 46.9	
	comp=Z,16nm,1.0s							
JNU	**Nakatsue**	**21.38**	**239**	P		**P**	**12 42 31.1**	**+0.3**
	comp=Z,14nm,0.8s,baz=74,slow=7.4,SNR=8.5							
JNU					LR	LR	12 50 48.3	
	comp=Z,104nm,20.2s,baz=54,slow=36							
	comp=Z,14nm,0.8s							
TJN	**Taejon**	**21.46**	**251**	P		**P**	**12 42 32.1**	**+0.4**
TJN	**Taejon**	**21.46**	**251**	P		**P**	**12 42 32.1**	**+0.4**
TJN					pmax	pmax		
	comp=Z,79nm,1.0s							
BILL	**Biiibino**	**22.68**	**13**	*e*P		**P**	**12 42 44.3**	**-0.1**
BILL	**Biiibino**	**22.68**	**13**	⇓*e*P		**P**	**12 42 44.3**	**-0.1**
BILL				*i* *SP		**pP**	**12 42 53.9**	**-2.3**
BILL							12 43 11.0	
BILL					pmax	pmax		
	comp=Z,6.0nm,0.9s							
BILL					MLR	MLR		
	comp=Z,61nm,18.0s							
SPIA	**Saint Paul Isl**	**24.92**	**51**	P		**P**	**12 43 04.9**	**-0.7**
	baz=261							
JOW	**Kunigami**	**27.58**	**233**	P		**P**	**12 43 30.7**	**+0.9**
JOW					IAmb	IAmb	12 43 54.5	
	comp=Z,25nm,1.2s							
TIXI	**Tiksi**	**27.62**	**344**	LR		LR	12 53 30.1	
	comp=Z,98nm,20.3s,baz=184,slow=34							
TNA	**Tin City**	**28.37**	**34**	P		**P**	**12 43 35.7**	**-0.8**
	baz=247							
ANM	**Nome**	**29.03**	**36**	P		**P**	**12 43 42.2**	**-0.2**
	baz=252							
H11N2	**WAKE ISLAND Hy**	**29.13**	**152**	T		T	13 15 13.6	
	baz=340,slow=76,SNR=3727							
H11N1	**WAKE ISLAND Hy**	**29.15**	**152**	T		T	13 15 14.7	
	baz=340,slow=76,SNR=2346							
H11N3	**WAKE ISLAND Hy**	**29.15**	**152**	T		T	13 15 14.8	
	baz=340,slow=76,SNR=1771							
J14K	**Nanvaranak Lak**	**29.32**	**41**	P		**P**	**12 43 45.2**	**+0.2**
	baz=257							
L14K	**Kuka Creek**	**29.45**	**43**	P		**P**	**12 43 46.2**	**+0.1**
	baz=260							
HNS	**HongShan**	**29.47**	**266**	⇓P		**P**	**12 43 47.3**	**+0.7**
WAKE	**Wake Island**	**29.47**	**153**	P		**P**	**12 43 47.8**	**+1.1**
NJ2	**Nanjing**	**29.68**	**253**	*e*P		**P**	**12 43 49.0**	**+0.5**
NJ2					pmax	pmax		
	comp=Z,12nm,0.5s							
F15K	**North Star Dit**	**29.69**	**34**	P		**P**	**12 43 49.5**	**+1.2**
F15K	**North Star Dit**	**29.69**	**34**	P		**P**	**12 43 48.2**	**-0.1**
	baz=251							
M14K	**Bethel**	**29.71**	**45**	P		**P**	**12 43 49.5**	**+1.0**
M14K					IAmb	IAmb	12 43 55.5	
	comp=Z,9.4nm,1.4s							
M14K	**Bethel**	**29.71**	**45**	P		**P**	**12 43 48.4**	**0.0**
	baz=262							
G15K	**Niukluk**	**29.71**	**36**	P		**P**	**12 43 48.6**	**+0.2**
	baz=253							
N14K	**Kuskokwak Cree**	**29.74**	**46**	P		**P**	**12 43 48.3**	**-0.4**
	baz=264							
O14K	**Tigyukauivet M**	**29.89**	**48**	P		**P**	**12 43 51.0**	**+0.9**
O14K					IAmb	IAmb	12 44 00.4	
	comp=Z,18nm,1.4s							
HHC	**Hu-ho-hao-te**	**30.05**	**274**	*e*P		**P**	**12 43 53.5**	**+1.6**
HHC					pmax	pmax		
	comp=Z,16nm,0.6s							
HHC					pmax	pmax		
	comp=Z,110nm,6.0s							
HHC					LR	LR		
	comp=Z,170nm,13.8s							
HHC					LR	LR		
	comp=Z,230nm,14.5s							
HHC					LR	LR		
	comp=Z,200nm,14.9s							
L15K	**Ungalak Mounta**	**30.07**	**43**	P		**P**	**12 43 52.4**	**+0.8**
	baz=261							
K15K	**Wolf Creek Mou**	**30.15**	**42**	P		**P**	**12 43 53.8**	**+1.4**
K15K	**Wolf Creek Mou**	**30.15**	**42**	P		**P**	**12 43 52.8**	**+0.4**
	baz=260							
H11S1	**WAKE ISLAND Hy**	**30.21**	**153**	T		T	13 16 32.9	
	baz=340,slow=76,SNR=2806							
H11S3	**WAKE ISLAND Hy**	**30.22**	**153**	T		T	13 16 26.6	
	baz=340,slow=76,SNR=2549							
H11S2	**WAKE ISLAND Hy**	**30.23**	**153**	T		T	13 16 31.3	
	baz=340,slow=76,SNR=2849							
SDPT	**Sand Point**	**30.26**	**56**	P		**P**	**12 43 54.3**	**+0.9**
	baz=273							
H16K	**Elim**	**30.35**	**37**	P		**P**	**12 43 54.0**	**0.0**
	baz=255							
C16K	**Lisburne Hills**	**30.39**	**29**	P		**P**	**12 43 53.4**	**-1.0**
C16K					IAmb	IAmb	12 43 55.4	
	comp=Z,21nm,1.2s							
C16K	**Lisburne Hills**	**30.39**	**29**	P		**P**	**12 43 55.3**	**+0.9**
	baz=246							
G16K	**Koyuk River**	**30.50**	**36**	P		**P**	**12 43 55.9**	**+0.5**
	baz=254							
N15K	**Kwethluk River**	**30.56**	**46**	P		**P**	**12 43 56.2**	**+0.2**
	baz=265							
O15K	**Ungalikthiuk R**	**30.62**	**48**	P		**P**	**12 43 56.8**	**+0.2**
	baz=267							
ULN	**Ulaanbaatar**	**30.73**	**289**	*ce*P		**P**	**12 43 56.4**	**-1.4**
ULN					pmax	pmax		
	comp=Z,6.0nm,1.7s							
J16K	**Anvik River**	**30.75**	**40**	P		**P**	**12 43 58.9**	**+1.2**
J16K	**Anvik River**	**30.75**	**40**	P		**P**	**12 43 57.6**	**-0.1**
	baz=259							
I17K	**Unalakleet**	**30.83**	**39**	P		**P**	**12 43 59.4**	**+1.1**
D17K	**Noatak River**	**30.96**	**31**	P		**P**	**12 43 59.2**	**-0.2**
	baz=249							
L16K	**Owhat River**	**31.02**	**43**	P		**P**	**12 44 00.4**	**+0.3**
	baz=263							
SONM	**Songino Array**	**31.17**	**290**	P		**P**	**12 44 01.8**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=60,slow=8.5,SNR=2.1							
	comp=Z,1.0nm,0.5s							
M16K	**Timber Creek**	**31.20**	**45**	P		**P**	**12 44 01.6**	**0.0**
	baz=265							
C17K	**DeLong Mountai**	**31.21**	**30**	P		**P**	**12 44 01.9**	**+0.2**
	baz=248							
E17K	**Hotham Inlet**	**31.21**	**33**	P		**P**	**12 44 01.9**	**+0.3**
	baz=252							
G17K	**Kiwalik Mounta**	**31.22**	**36**	P		**P**	**12 44 02.0**	**+0.2**
	baz=256							
F17K	**Baldwin Pennin**	**31.24**	**34**	P		**P**	**12 44 02.7**	**+0.8**
F17K					IAmb	IAmb	12 44 03.5	
	comp=Z,8.9nm,1.1s							
F17K	**Baldwin Pennin**	**31.24**	**34**	P		**P**	**12 44 02.5**	**+0.7**
	baz=254							
N16K	**Nishlik Lake**	**31.24**	**46**	P		**P**	**12 44 02.7**	**+0.7**
	baz=266							
H17K	**Granite Mounta**	**31.39**	**37**	P		**P**	**12 44 03.9**	**+0.7**
H17K	**Granite Mounta**	**31.39**	**37**	P		**P**	**12 44 03.6**	**+0.4**
	baz=257							
J17K	**VABM Dome**	**31.45**	**40**	P		**P**	**12 44 03.9**	**+0.1**
	baz=261							
O16K	**Kokwok River B**	**31.53**	**47**	P		**P**	**12 44 04.6**	**+0.1**
	baz=268							
P16K	**Nushagak River**	**31.57**	**48**	P		**P**	**12 44 04.9**	**+0.1**
	baz=269							
L17K	**Donlin**	**31.63**	**43**	P		**P**	**12 44 05.4**	**0.0**
	baz=264							
K17K	**Iditarod**	**31.70**	**41**	P		**P**	**12 44 06.1**	**+0.1**
	baz=263							
E18K	**Tukpahlearik C**	**31.77**	**32**	P		**P**	**12 44 06.5**	**0.0**
	baz=253							
F18K	**Selawik**	**31.90**	**34**	P		**P**	**12 44 07.6**	**-0.1**
	baz=255							
C18K	**Utukok River**	**31.95**	**30**	P		**P**	**12 44 08.6**	**+0.3**
	baz=250							
M17K	**Holitna River**	**31.96**	**44**	P		**P**	**12 44 09.4**	**+1.1**
M17K					IAmb	IAmb	12 44 11.4	
	comp=Z,11nm,1.1s							
M17K	**Holitna River**	**31.96**	**44**	P		**P**	**12 44 08.6**	**+0.2**
	baz=266							
N17K	**Nushagak Hills**	**32.03**	**46**	P		**P**	**12 44 09.2**	**+0.3**
	baz=267							
O17K	**Koliganek Bris**	**32.04**	**47**	P		**P**	**12 44 09.8**	**+0.8**
	baz=268							
H18K	**Honhosa River**	**32.08**	**37**	P		**P**	**12 44 09.6**	**+0.3**
	baz=259							
**G

baz=274
GUMO Guam 33.48 194 LR LR 12 57 33.6
comp=Z,72nm,19.2s,baz=286,slow=35
F20K Avaraart Lake 33.51 34 P P 12 44 21.6 -0.2
baz=258
D20K Etivluk River 33.57 31 P P 12 44 22.4 +0.1
baz=255
H20K Anotleneega Mo 33.58 37 P P 12 44 22.3 -0.1
baz=262
E20K Nigu River 33.61 32 P P 12 44 22.4 -0.3
baz=256
K20K Telida 33.68 41 P P 12 44 23.1 -0.2
baz=266
SII Sitkinak Islan 33.70 53 P P 12 44 23.3 -0.2
baz=276
J20K Nowinta River 33.72 39 P P 12 44 24.8 +1.1
J20K Nowinta River 33.72 39 P P 12 44 23.8 +0.2
baz=264
B20K Meade River 33.75 28 P P 12 44 23.7 -0.1
baz=253
M20K Styx River 34.04 43 P P 12 44 26.5 -0.1
baz=269
IMAR Indian Mountai 34.11 36 P P 12 44 27.5 +0.6
OHAK Old Harbor 34.12 52 P P 12 44 27.5 +0.4
baz=276
G21K Allakaket 34.28 35 P P 12 44 28.8 +0.3
baz=262
C21K Knifeblade Rid 34.32 30 P P 12 44 28.8 0.0
baz=256
F21K Alatna River 34.41 34 P P 12 44 29.5 0.0
baz=260
E21K Killik River 34.45 32 P P 12 44 29.7 -0.3
baz=258
KDAK Kodiak Island 34.45 51 P P 12 44 30.0 0.0
baz=275
KDAK Kodiak Island 34.45 51 P P 12 44 29.5 -0.5
comp=Z,8.3nm,0.7s,baz=295,slow=8.3,SNR=6.7
comp=Z,8.3nm,0.7s
H21K Melozitna Rive 34.45 37 P P 12 44 30.8 +0.8
H21K IAmb IAmb 12 44 45.2
comp=Z,4.5nm,0.8s
H21K Melozitna Rive 34.45 37 P P 12 44 30.0 0.0
baz=264,SNR=6.0
B21K Ikpikpuk River 34.49 29 P P 12 44 30.9 +0.7
baz=256
A22K Sinclair Lake 34.74 27 P P 12 44 33.1 +0.7
baz=254
SKT Skwentna 34.80 43 P P 12 44 33.0 0.0
baz=270
HOM Homer 34.81 47 P P 12 44 33.2 +0.1
baz=273
F22K John River 34.95 33 P P 12 44 34.6 +0.4
baz=261
D22K Ayikyak River 35.00 31 P P 12 44 34.6 -0.1
baz=259
CNPM China Poot 35.02 47 P P 12 44 35.5 +0.5
H22K Ishtalitna Cre 35.06 36 P P 12 44 35.2 -0.1
baz=264,SNR=5.3
BPAW Bear Paw Mtn. 35.10 39 P P 12 44 36.0 +0.4
baz=268
G22K Bettles 35.13 34 P P 12 44 36.4 +0.7
baz=263
XAN Xi'an 35.24 265 P P 12 44 37.0 -0.1
XAN pP pP 12 44 49.3 -1.1
XAN pmax pmax
comp=Z,21nm,0.7s
MLY Manley 35.26 38 P P 12 44 37.8 +0.8
MLY Manley 35.26 38 P P 12 44 37.3 +0.3
baz=266
COLD Coldfoot 35.67 34 P P 12 44 41.1 +0.6
baz=264
G23K Bananza Creek 35.69 35 P P 12 44 41.2 +0.6
baz=265
D23K Nanushuk River 35.73 31 P P 12 44 41.5 +0.6
baz=261
H23K Yukon River 35.81 37 IAmb IAmb 12 44 57.5
comp=Z,6.6nm,0.8s
H23K Yukon River 35.81 37 P P 12 44 42.0 +0.4
baz=266,SNR=6.2
I23K Minto, Yukon-K 35.85 38 IAmb IAmb 12 45 01.3
comp=Z,2.9nm,0.7s
I23K Minto, Yukon-K 35.85 38 P P 12 44 42.1 +0.2
baz=268
C23K Itkillik River 35.90 30 IAmb IAmb 12 44 46.2
comp=Z,9.3nm,1.1s
C23K Itkillik River 35.90 30 P P 12 44 42.2 -0.2
baz=260
PMR Palmer 35.95 44 P P 12 44 42.6 -0.2
baz=273
NEA2 Nenana 35.95 39 IAmb IAmb 12 44 58.2
comp=Z,5.2nm,0.8s
NEA2 Nenana 35.95 39 P P 12 44 42.7 -0.2
baz=268
E23K Chandalar 35.99 33 P P 12 44 43.1 -0.2
baz=263
MCK McKinley 36.00 40 P P 12 44 42.9 -0.4
baz=270
RND Reindeer 36.03 41 P P 12 44 43.9 +0.2
RND IAmb IAmb 12 44 44.4
comp=Z,5.5nm,1.0s
RND Reindeer 36.03 41 P P 12 44 43.9 +0.2
RND pmax pmax
comp=Z,6.0nm,1.0s
TOLK Toolik Lake Re 36.08 32 IAmb IAmb 12 45 00.2
comp=Z,11nm,1.4s
TOLK Toolik Lake Re 36.08 32 P P 12 44 43.6 -0.4
baz=262
WAT1 Susitna Watana 36.18 42 P P 12 44 44.5 -0.3
baz=271
KNK Knik Glacier 36.28 44 P P 12 44 45.4 -0.3
baz=274
SML Sawmill 36.32 43 P P 12 44 46.6 +0.6
SML Sawmill 36.32 43 P P 12 44 45.6 -0.4
baz=273,SNR=6.3
SML Sawmill 36.32 43 P P 12 44 46.7 +0.6
SML pmax pmax
comp=Z,16nm,0.8s
MDM Murphy Dome 36.32 38 IAmb IAmb 12 45 01.5
comp=Z,8.0nm,0.9s
E24K Your Creek 36.41 33 IAmb IAmb 12 45 04.7
comp=Z,7.0nm,1.1s
E24K Your Creek 36.41 33 P P 12 44 46.7 -0.2
baz=264,SNR=7.8
D24K Happy Valley 36.42 31 IAmb IAmb 12 44 57.9
comp=Z,20nm,1.4s
D24K Happy Valley 36.42 31 P P 12 44 46.6 -0.2
baz=262
COLA College 36.48 38 P P 12 44 47.1 -0.2
COLA IAmb IAmb 12 44 48.9
comp=Z,17nm,1.1s
COLA College 36.48 38 P P 12 44 47.3 -0.1
baz=269
COLA College 36.48 38 P P 12 44 47.1 -0.2
COLA pmax pmax
comp=Z,17nm,1.1s
H24K Noodor Dome 36.49 37 P P 12 44 48.7 +1.2
H24K Noodor Dome 36.49 37 P P 12 44 47.2 -0.4
baz=268
F24K Squaw Lake 36.59 34 P P 12 44 48.5 +0.2
F24K Squaw Lake 36.59 34 P P 12 44 48.1 -0.3
baz=266
POKR Poker Plat Res 36.66 38 P P 12 44 48.7 -0.2
baz=269
G24K Hadweenzic Riv 36.70 35 IAmb IAmb 12 45 05.1
comp=Z,6.3nm,0.8s
G24K Hadweenzic Riv 36.70 35 P P 12 44 49.1 -0.1
baz=267,SNR=8.3
DHY Denali Highway 36.71 41 P P 12 44 49.4 -0.1
baz=272
SCM Sheep Creek Mo 36.79 43 P P 12 44 49.9 -0.3
baz=274
HDA Harding Lake 36.87 39 IAmb IAmb 12 44 51.8
comp=Z,5.1nm,0.7s
HDA Harding Lake 36.87 39 P P 12 44 50.4 -0.3
baz=271
IL31 36.89 38 IAmb IAmb 12 44 53.1
comp=Z,11nm,1.4s
ILAR Eielson Array 36.89 38 P P 12 44 51.1 +0.2
ILAR Eielson Array 36.89 38 P P 12 44 50.6 -0.2
comp=Z,3.4nm,1.1s,baz=258,slow=6.8,SNR=20
comp=Z,3.4nm,1.1s
ILAR Eielson Array 36.89 38 P P 12 44 51.1 +0.2
GLI Glacier Island 36.98 45 P P 12 44 51.4 -0.3
baz=275
ENH Enshi 37.07 260 P P 12 44 52.5 -0.3
ENH IAmb IAmb 12 44 53.5
comp=Z,8.6nm,0.9s
G25K Bearman Lake 37.24 35 P P 12 44 54.1 +0.3
baz=268
D25K Kavik River 37.30 31 P P 12 44 54.3 -0.1
D25K IAmb IAmb 12 44 59.4
comp=Z,7.6nm,0.7s
D25K Kavik River 37.30 31 P P 12 44 54.3 -0.1
baz=265,SNR=9.5
M24K Tolsona, Glenn 37.32 43 P P 12 44 54.9 +0.3
baz=274
H25L Birch Creek 37.35 36 P P 12 44 55.3 +0.6
baz=269,SNR=5.2
K24K Donnelly Dome 37.40 40 P P 12 44 55.3 +0.1
baz=273
F25K Christian Rive 37.45 34 P P 12 44 55.4 -0.3
baz=268
PRP Porcupine Dome 37.47 37 IAmb IAmb 12 45 11.3
comp=Z,6.0nm,0.9s
PRP Porcupine Dome 37.47 37 P P 12 44 55.7 -0.2
baz=270,SNR=7.3
KLU Klutina 37.49 44 P P 12 44 56.1 +0.1
baz=276
J25K Salcha River, 37.55 39 P P 12 44 56.6 +0.1
baz=272
FYU Fort Yukon 37.59 35 IAmb IAmb 12 45 12.8
comp=Z,6.7nm,0.8s
C26K Camden Bay 37.87 30 P P 12 44 59.3 +0.2
baz=265
F26K Sheenjek River 38.03 34 P P 12 45 01.0 +0.5
baz=269
N25K Chitina, Valde 38.11 43 P P 12 45 01.4 +0.2
baz=276
G26K Porcupine Rive 38.16 35 P P 12 45 02.0 +0.5
baz=270,SNR=8.1
BMRM Bremner River 38.18 45 P P 12 45 01.7 -0.1
baz=277
SCRK Sand Creek 38.18 40 P P 12 45 01.7 -0.2
baz=274
C27K Jago River 38.26 30 P P 12 45 02.6 +0.2
baz=267
J26L Joseph Creek 38.33 39 P P 12 45 03.6 +0.5
baz=274
I26K Coal Creek Min 38.46 37 P P 12 45 04.3 +0.2
baz=273
L26K Log Cabin Wild 38.54 41 P P 12 45 04.8 0.0
baz=276
M26K Nabesna, AK 38.77 42 IAmb IAmb 12 45 09.1
comp=Z,8.0nm,0.9s
M26K Nabesna, AK 38.77 42 P P 12 45 06.8 0.0
baz=277,SNR=7.5
CRQM Cirque 38.92 45 IAmb IAmb 12 45 10.8
comp=Z,20nm,1.0s
CRQE Cirque 38.94 45 P P 12 45 08.1 -0.2
baz=279
E27K Coleen River 39.00 33 P P 12 45 08.7 +0.1
baz=271
G27K Doyon Strip 39.01 35 P P 12 45 08.7 0.0
baz=272
K27K Chicken 39.02 39 P P 12 45 09.5 +0.8
baz=275
H27K Steamboat Moun 39.09 36 P P 12 45 09.1 -0.3
baz=273,SNR=5.9
D27M Malcolm River 39.22 31 P P 12 45 10.4 -0.1
baz=270,SNR=5.6
L27K Beaver Creek, 39.23 41 IAmb IAmb 12 45 12.8
comp=Z,6.6nm,0.8s
L27K Beaver Creek, 39.23 41 P P 12 45 10.6 +0.1
baz=277,SNR=12
BCAR Beaver Creek A 39.25 41 P P 12 45 11.8 +1.1
M27K Edge Creek, AK 39.29 42 IAmb IAmb 12 45 13.6
comp=Z,5.7nm,0.9s
M27K Edge Creek, AK 39.29 42 P P 12 45 11.2 -0.1
baz=278,SNR=5.9
EGAK Eagle 39.34 38 P P 12 45 11.4 0.0
EGAK IAmb IAmb 12 45 12.3
comp=Z,8.1nm,0.9s
EGAK Eagle 39.34 38 P P 12 45 11.5 0.0
baz=275,SNR=10
F28M Old Crow 39.66 34 P P 12 45 14.1 -0.1
baz=273
E28M Babbage River 39.75 32 P P 12 45 15.2 +0.4
baz=272
CTG Chitna Glacier 39.75 44 P P 12 45 15.1 -0.1
baz=280,SNR=5.2
CTGM Chitina Glacie 39.76 44 IAmb IAmb 12 45 17.1
comp=Z,12nm,0.8s
I28M Miner Creek 39.80 37 IAmb IAmb 12 45 16.9
comp=Z,5.4nm,0.8s
I28M Miner Creek 39.80 37 P P 12 45 16.1 +0.7
baz=276,SNR=7.5
YUK3 Moose Creek 40.04 43 P P 12 45 17.3 -0.3
baz=280,SNR=5.4
DAWY Dawson 40.19 39 P P 12 45 18.4 -0.1
baz=278
O28M Mount Upton 40.34 44 P P 12 45 20.1 0.0
baz=281
H29M Whitestone 40.36 36 P P 12 45 21.0 +1.1
baz=276
E29M Blow River 40.36 32 P P 12 45 19.9 +0.1
baz=274,SNR=5.6
G29M Pine Creek 40.43 35 IAmb IAmb 12 45 22.9
comp=Z,8.3nm,1.1s
G29M Pine Creek 40.43 35 P P 12 45 20.6 +0.1
baz=276,SNR=6.6
PINM Pinnacle 40.44 45 P P 12 45 20.8 0.0
baz=282
I29M Ogilvie Camp, 40.48 37 P P 12 45 21.4 +0.5
baz=277
CD2 Chengdu 40.60 265 P P 12 45 22.8 +0.4
CD2 pmax pmax
comp=Z,30nm,0.6s
M29M Somme Creek 40.85 42 P P 12 45 25.7 +1.6
M29M Somme Creek 40.85 42 P P 12 45 24.5 +0.4
baz=280,SNR=6.7
L29M L29M 40.89 40 P P 12 45 26.2 +1.8
L29M IAmb IAmb 12 45 26.8
comp=Z,7.9nm,0.7s
L29M L29M 40.89 40 P P 12 45 24.7 +0.3
baz=280,SNR=14
YUK4 Talbot Arm 40.97 43 P P 12 45 25.4 +0.2
baz=281
EPYK Eagle Plains 41.01 35 IAmb IAmb 12 45 41.2
comp=Z,8.8nm,1.1s
EPYK Eagle Plains 41.01 35 P P 12 45 26.2 +1.0
baz=277,SNR=6.1
K29M Barlow Dome 41.03 39 P P 12 45 25.6 0.0
baz=279,SNR=7.5
G30M tAoh Zraii Nji 41.13 34 P P 12 45 27.0 +0.8
G30M tAoh Zraii Nji 41.13 34 P P 12 45 27.2 +0.9
baz=277
YUK6 Outpost Mounta 41.19 44 P P 12 45 26.5 -0.5
baz=282
F30M Barrier River 41.23 33 P P 12 45 26.9 -0.1
baz=277
I30M Mount Dempster 41.31 37 IAmb IAmb 12 45 29.5
comp=Z,9.3nm,0.8s
I30M Mount Dempster 41.31 37 P P 12 45 28.1 +0.2
baz=279,SNR=19
J30M Hart River 41.43 38 P P 12 45 29.0 +0.1
baz=280
M30M Minto, Yukon 41.59 41 P P 12 45 30.3 +0.2
baz=281
N30M Aishikik Lake 41.68 43 P P 12 45 31.0 +0.1
baz=282
P29M Windy Craggy 41.78 46 P P 12 45 31.9 +0.2
baz=284
G31M Satah River 41.90 34 P P 12 45 33.0 +0.6
G31M Satah River 41.90 34 P P 12 45 32.6 +0.2
baz=279,SNR=5.4
INK Inuvik 41.99 32 P P 12 45 34.1 +1.0
INK Inuvik 41.99 32 P P 12 45 33.3 +0.2
baz=278,SNR=8.9
INK Inuvik 41.99 32 P P 12 45 33.1 0.0
comp=Z,2.8nm,0.5s,baz=214,slow=3.6,SNR=26
comp=Z,2.8nm,0.5s
INK Inuvik 41.99 32 P P 12 45 34.1 +1.0
INK pmax pmax
comp=Z,4.0nm,0.7s
F31M Tsiigehtchic 42.03 34 P P 12 45 33.8 +0.3
baz=279,SNR=6.9
P30M Million Dollar 42.05 45 P P 12 45 34.4 +0.6
baz=284
N31M Braeburn, Yuko 42.29 43 IAmb IAmb 12 45 38.6
comp=Z,8.3nm,0.8s
N31M Braeburn, Yuko 42.29 43 P P 12 45 35.9 +0.1
baz=283,SNR=7.5
O30N Mendenhall 42.31 44 IAmb IAmb 12 45 38.5
comp=Z,8.3nm,1.0s
O30N Mendenhall 42.31 44 P P 12 45 36.2 +0.2
baz=284,SNR=8.2
PLBC Pleasant Camp 42.50 46 P P 12 45 37.6 +0.1
baz=285
ZALV Zalesovo Beam 42.54 306 P P 12 45 35.7 -2.1
ZALV Zalesovo Beam 42.54 306 P P 12 45 35.4 -2.4
comp=Z,2.4nm,0.5s,baz=63,slow=6.5,SNR=13
ZALV PcP PcP 12 47 29.8 +0.4
comp=Z,4.2nm,0.8s,baz=92,slow=2.4,SNR=14
ZALV LR LR 13 04 24.3
comp=Z,179nm,19.4s,baz=80,slow=38
comp=Z,2.4nm,0.5s
M31M Drury Creek, Y 42.76 41 P P 12 45 39.4 -0.2
baz=284,SNR=8.5
WHY Whitehorse 42.91 44 P P 12 45 40.7 -0.2
baz=285
S31K Pelican 42.98 48 P P 12 45 41.8 +0.5
baz=287
FARO Faro, Yukon 43.23 41 P P 12 45 44.3 +0.9
baz=284,SNR=8.8
N32M Quiet Lake 43.63 43 P P 12 45 47.3 +0.7
baz=286
SIT Sitka 43.72 49 P P 12 45 48.8 +1.5
baz=288
R32K Eaglecrest 43.76 47 P P 12 45 48.1 +0.4
baz=288
P33M Teslin, Yukon 44.02 44 P P 12 45 50.7 +0.9
P33M IAmb IAmb 12 45 52.4
comp=Z,7.2nm,1.0s
P33M Teslin, Yukon 44.02 44 P P 12 45 50.2 +0.4
baz=287,SNR=12
A36M Sachs Harbour 44.18 26 P P 12 45 51.1 +0.3
A36M IAmb IAmb 12 46 11.0
comp=Z,8.7nm,0.7s
A36M Sachs Harbour 44.18 26 P P 12 45 51.6 +0.8
baz=281,SNR=9.8
Q32M Nakina River 44.66 45 P P 12 45 55.4 +0.3
baz=289
PZH PanZhiHua 44.72 262 P P 12 45 57.0 +1.1
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,5.3s
WMQ Urumqi 44.77 291 eP P 12 45 58.5 +2.5
WMQ LR LR
comp=Z,82nm,17.7s
C36M Paulatuk 45.15 30 IAmb IAmb 12 46 00.1
comp=Z,15nm,1.3s
C36M Paulatuk 45.15 30 P P 12 45 59.2 +0.6
baz=285,SNR=6.6
R33M Jennings River 45.16 45 IAmb IAmb 12 46 02.0
comp=Z,7.0nm,0.8s
R33M Jennings River 45.16 45 P P 12 45 59.6 +0.7
baz=289,SNR=10.0
S34M Telegraph Cree 45.58 47 P P 12 46 03.3 +1.2
baz=290
TGTN Hyland Airport 45.73 41 P P 12 46 05.0 +1.6
baz=289
DLBC Dease Lake 45.94 46 IAmb IAmb 12 46 08.2
comp=Z,5.4nm,0.9s
DLBC Dease Lake 45.94 46 P P 12 46 06.2 +1.1
baz=291,SNR=6.3
DLBC Dease Lake 45.94 46 P P 12 46 07.2 +2.1
comp=Z,4.3nm,0.8s,baz=292,slow=8.3,SNR=14
comp=Z,4.3nm,0.8s
WTLY Watson Lake, Y 45.96 43 IAmb IAmb 12 46 07.4
comp=Z,4.9nm,0.8s
WTLY Watson Lake, Y 45.96 43 P P 12 46 05.1 0.0
baz=290
T35M Bob Quinn 46.35 47 IAmb IAmb 12 46 12.0
comp=Z,5.7nm,0.8s
T35M Bob Quinn 46.35 47 P P 12 46 09.2 +0.9
baz=292
SLVN Son La 46.73 255 P P 12 46 11.9 +0.2
SLVN IAmb IAmb 12 46 13.8
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 46.82 297 P P 12 46 11.1 -1.0
MK31 IAmb IAmb 12 46 13.3
comp=Z,3.5nm,0.6s
MK31 Makanchi Array 46.82 297 P P 12 46 11.1 -1.0
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 46.82 297 P P 12 46 11.1 -1.0
MKAR Makanchi Array 46.82 297 P P 12 46 10.4 -1.7
comp=Z,3.5nm,0.6s,baz=66,slow=7.0,SNR=31
MKAR PcP PcP 12 47 44.4 +0.1
comp=Z,2.0nm,0.6s,baz=68,slow=2.9,SNR=8.4
MKAR LR LR 13 06 58.8
comp=Z,164nm,19.0s,baz=62,slow=38
comp=Z,3.5nm,0.6s
MAKZ Makanchi 47.01 298 P P 12 46 13.8 +0.3
MAKZ Makanchi 47.01 298 P P 12 46 13.8 +0.3
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
WRGLY Wrigley 47.27 38 P P 12 46 15.8 +0.6
baz=291
KURK Kurchatov 47.28 304 P P 12 46 14.1 -1.4
KURK IAmb IAmb 12 46 15.8
comp=Z,13nm,1.2s
KURK Kurchatov 47.28 304 eP P 12 46 14.1 -1.4
KURK Kurchatov 47.28 304 P P 12 46 14.1 -1.4
KURK pmax pmax
comp=Z,13nm,1.2s
KURBB Kurchatov Arra 47.37 304 P P 12 46 14.4 -1.8
comp=Z,4.7nm,0.8s,baz=69,slow=8.6,SNR=19
KURBB PcP PcP 12 47 46.4 +0.3
comp=Z,1.4nm,0.7s,baz=73,slow=3.8,SNR=7.5
comp=Z,4.7nm,0.8s
TOAD Toad River Com 48.12 44 P P 12 46 23.1 +1.1
baz=293,SNR=12
BVAR Borovoye Array 50.81 309 P P 12 46 41.4 -1.1
comp=Z,3.0nm,0.4s,baz=53,slow=7.4,SNR=14
BVAR PcP PcP 12 47 58.6 0.0
comp=Z,3.3nm,0.5s,baz=58,slow=2.1,SNR=8.6
BVAR LR LR 13 09 52.0
comp=Z,114nm,18.8s,baz=111,slow=38
comp=Z,3.0nm,0.4s
BRVK Borovoye 50.85 310 P P 12 46 42.1 -0.7
BRVK IAmb IAmb 12 46 42.5
comp=Z,5.1nm,0.6s
BRVK Borovoye 50.85 310 eP P 12 46 42.1 -0.7
BRVK Borovoye 50.85 310 P P 12 46 42.1 -0.7
BRVK pmax pmax
comp=Z,5.0nm,0.6s
YKA Yellowknife Ar 51.27 36 P P 12 46 46.1 +0.4
comp=Z,1.0nm,0.6s,baz=300,slow=7.3,SNR=7.2
YKA PcP PcP 12 48 00.5 +0.4
comp=Z,0.7nm,0.6s,baz=308,slow=3.5,SNR=3.7
comp=Z,1.0nm,0.6s
CHTO Chiang Mai 51.81 257 P P 12 46 51.5 +1.1
CHTO IAmb IAmb 12 46 52.9
comp=Z,9.3nm,0.9s
CHTO Chiang Mai 51.81 257 P P 12 46 51.5 +1.1
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CM31 Chiang Mai Arr 52.06 256 P P 12 46 52.6 +0.3
CM31 IAmb IAmb 12 46 54.7
comp=Z,7.7nm,0.8s
CMAR Chiang Mai Arr 52.06 256 P P 12 46 52.3 0.0
CMAR Chiang Mai Arr 52.06 256 P P 12 46 53.8 +1.4
comp=Z,5.1nm,0.8s,baz=38,slow=7.2,SNR=27
comp=Z,5.1nm,0.8s
SHL Shillong 52.11 268 P P 12 46 51.9 -0.9
SHL Shillong 52.11 268 P P 12 46 51.9 -0.9
SHL pmax pmax
comp=Z,16nm,0.8s
KBS Kingsbay 52.69 351 eP P 12 46 56.6 +0.5
AAK Ala-Archa 53.70 296 LR LR 13 10 03.1
comp=Z,181nm,20.0s,baz=108,slow=36
AAK Ala-Archa 53.70 296 eP P 12 47 03.8 -0.5
AAK Ala-Archa 53.70 296 ceP P 12 47 03.8 -0.5
AAK pmax pmax
comp=Z,4.0nm,0.8s
KSH Kashi 54.50 292 P P 12 47 15.3 +5.2
KSH pP pP 12 47 25.5 +1.3
KSH pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 55.01 317 P P 12 47 12.4 -1.0
ARU IAmb IAmb 12 47 15.4
comp=Z,4.3nm,0.6s
ARU Arti 55.01 317 LR LR 13 13 11.4
comp=Z,97nm,18.9s,baz=91,slow=39
ARU Arti 55.01 317 c iP P 12 47 11.5 -1.9
ARU *PP pP 12 47 24.0 -3.5
ARU 12 48 13.3
ARU S S 12 54 52.7 +1.6
ARU SS SS 12 58 37.8 +3.1
ARU pmax pmax
comp=Z,4.0nm,0.7s

NEEM North Greenlan 55.42 6 *i* P **P 12 47 14.6 -1.9**
NEEM IAmb IAmb 12 47 15.7
comp=Z,15nm,0.8s
KKAR Karatay Array 55.88 299 P **P 12 47 19.5 -0.4**
KKAR Karatay Array 55.88 299 P **P 12 47 19.5 -0.4**
NEW Newport 57.52 52 P **P 12 47 31.9 +0.4**
baz=305
KULLO Kullorsuaq 57.53 9 *i* P **P 12 47 29.0 -2.1**
KULLO IAmb IAmb 12 47 30.2
comp=Z,6.7nm,0.8s
ARCES ARCESS Array B 57.99 341 P **P 12 47 33.0 -1.4**
comp=Z,0.7nm,0.4s,baz=39,slow=7.4,SNR=13
ARCES LR LR 13 16 42.6
comp=Z,79nm,19.5s,baz=106,slow=40
comp=Z,0.7nm,0.4s
ARCES ARCESS Array B 57.99 341 P **P 12 47 33.0 -1.4**
ABKAR Akbulak array 58.38 310 P **P 12 47 35.8 -1.5**
GAR Garm 58.38 295 P **P 12 47 37.2 -0.6**
AKTO Aktyubinsk 58.69 312 LR LR 13 15 20.6
comp=Z,172nm,18.3s,baz=274,slow=38
KTK1 Kautokeino 58.91 341 *eP* **P 12 47 40.7 -0.1**
KTK1 IAmb IAmb 12 47 42.9
comp=Z,12nm,1.5s
CHGR Chuyangaron 59.31 295 P **P 12 47 43.7 -0.4**
CHGR Chuyangaron 59.31 295 P **P 12 47 43.7 -0.4**
CHGR pmax pmax
comp=Z,18nm,0.9s
SIMJ Simiganj 59.40 295 P **P 12 47 45.0 +0.2**
NIL Nilore 59.73 288 P **P 12 47 47.3 +0.2**
NIL Nilore 59.73 288 P **P 12 47 47.3 +0.2**
NIL pmax pmax
comp=Z,26nm,1.1s
MSF Maaselka 59.85 337 P **P 12 47 46.3 -1.0**
MSF pmax pmax
comp=Z,6.0nm,2.5s
MSO Missoula 60.11 52 P **P 12 47 49.3 -0.2**
baz=308
BPMT Black Pine Rid 60.62 52 P **P 12 47 53.8 +0.6**
SUMG Summit 60.95 4 P **P 12 47 54.9 -0.3**
SUMG Summit 60.95 4 P **P 12 47 54.9 -0.3**
SUMG pmax pmax
comp=Z,10.0nm,0.6s
SUMG Summit 60.95 4 *i* P **P 12 47 54.1 -1.1**
SUMG IAmb IAmb 12 47 56.1
comp=Z,9.3nm,0.6s
FFC Flin Flon 61.08 40 P **P 12 47 55.8 -0.1**
FFC Flin Flon 61.08 40 P **P 12 47 55.8 -0.1**
FFC pmax pmax
comp=Z,9.0nm,0.9s
JOF Joensuu 61.43 334 *eP* **P 12 47 57.3 -0.8**
STEI Steigen 61.50 343 *eP* **P 12 47 56.9 -1.5**
STEI IAmb IAmb 12 47 57.5
comp=Z,3.7nm,0.6s
EGMT Eagleton 61.61 49 P **P 12 47 59.8 +0.1**
baz=309
LOF Lofoten 61.66 344 *eP* **P 12 47 58.6 -0.9**
LOF IAmb IAmb 12 48 01.4
comp=Z,6.6nm,0.9s
HLID Hailey 61.85 55 P **P 12 48 01.7 +0.2**
baz=309
KBL Kabul 61.91 292 P **P 12 48 01.5 -0.6**
KBL Kabul 61.91 292 P **P 12 48 01.5 -0.6**
KBL pmax pmax
comp=Z,9.0nm,0.5s
FAUS Fauske 61.95 343 *eP* **P 12 48 00.3 -1.2**
BOZ Bozeman (W) 62.13 52 P **P 12 48 04.0 +0.7**
BOZ IAmb IAmb 12 48 19.4
comp=Z,9.9nm,1.4s
BOZ Bozeman (W) 62.13 52 P **P 12 48 03.0 -0.3**
baz=309
BOZ Bozeman (W) 62.13 52 P **P 12 48 04.0 +0.7**
BOZ pmax pmax
comp=Z,10.0nm,1.5s
NVAR Mina Array Bea 62.77 62 P **P 12 48 09.2 +1.4**
comp=Z,0.7nm,0.7s,baz=295,slow=7.4,SNR=7.5
comp=Z,0.7nm,0.7s
ELK Elko 63.15 58 LR LR 13 15 28.5
comp=Z,42nm,18.8s,baz=319,slow=36
KONS Konsvik 63.15 343 *eP* **P 12 48 10.3 +0.8**
RLMT Red Lodge 63.72 51 P **P 12 48 13.5 -0.4**
baz=310
VAF Ylistaro 63.82 337 *eP* **P 12 48 13.2 -0.7**
KEF Keuruu 63.92 336 *eP* **P 12 48 13.2 -1.4**
FIA1 FINESS Array S 64.14 335 P **P 12 48 15.3 -0.8**
FINES FINESS Array B 64.14 335 P **P 12 48 15.0 -1.1**
FINES FINESS Array B 64.14 335 P **P 12 48 14.8 -1.3**
comp=Z,9.5nm,0.5s,baz=32,slow=8.1,SNR=68
comp=Z,9.5nm,0.5s
FINES FINESS Array B 64.14 335 P **P 12 48 15.0 -1.1**
LAO LASA Array 64.31 49 P **P 12 48 17.7 +0.2**
baz=311
ICESG Greenland Ices 64.35 5 *i* P **P 12 48 16.7 -1.1**
ICESG IAmb IAmb 12 48 21.8
comp=Z,19nm,1.1s
R11B Troy Canyon, C 64.47 61 P **P 12 48 19.8 +0.9**
baz=310
MPMC Manual Prospec 64.78 64 P **P 12 48 21.7 +0.7**
baz=310
DUG Dugway, Tooele 64.92 57 P **P 12 48 21.9 +0.1**
baz=311
DUG Dugway, Tooele 64.92 57 P **P 12 48 22.6 +0.8**
DUG pmax pmax
comp=Z,6.0nm,1.2s
TPNV Topopah Spring 64.97 62 P **P 12 48 22.7 +0.6**
baz=311
BW06 Boulder Array 65.09 54 P **P 12 48 23.2 +0.3**
baz=311
PD31 Pinedale Array 65.09 54 P **P 12 48 22.8 -0.2**
PD31 IAmb IAmb 12 48 39.2
comp=Z,5.6nm,1.2s
PDAR Pinedale Array 65.09 54 P **P 12 48 23.4 +0.4**
PDAR Pinedale Array 65.09 54 P **P 12 48 23.8 +0.8**
comp=Z,1.4nm,0.9s,baz=300,slow=2.9,SNR=9.8
comp=Z,1.4nm,0.9s
NSS Namsos 65.11 342 *eP* **P 12 48 21.5 -0.9**
MEF Metsahovi 65.62 335 *eP* **P 12 48 24.6 -1.2**
SHOC Shoshone, Teco 65.63 63 P **P 12 48 26.4 +0.1**
baz=311
GSC Goldstone, Bar 65.70 64 P **P 12 48 27.5 +0.7**
baz=311
RAF Rauma 65.72 336 *eP* **P 12 48 25.1 -1.3**
ARBE Arbavere 65.76 333 *eP* **P 12 48 26.0 -0.6**
BFSC Mount Baldy Ra 65.86 65 P **P 12 48 28.5 +0.6**
baz=311
ULM Lac du Bonnet 66.87 41 P **P 12 48 33.6 -0.3**
comp=Z,2.7nm,0.5s,baz=316,slow=5.7,SNR=4.7
comp=Z,2.7nm,0.5s
AAL Aland 66.91 336 *eP* **P 12 48 32.5 -1.5**
MTSE Matsula 67.01 334 *eP* **P 12 48 34.0 -0.6**
RSSD Black Hills 67.17 50 P **P 12 48 36.3 0.0**
baz=313
UPP Uppsala 67.82 337 *eP* **P 12 48 38.8 -1.0**
DOMB Dombas 67.93 342 *eP* **P 12 48 39.9 -0.6**
NC303 NORSAR Array S 68.17 341 IAmb IAmb 12 48 41.9
comp=Z,6.7nm,0.7s
WRA Warramunga Arr 68.21 199 P **P 12 48 42.3 -0.3**
comp=Z,1.3nm,0.8s,baz=15,slow=6.8,SNR=10
comp=Z,1.3nm,0.8s
NC204 NORSAR Array S 68.25 341 P **P 12 48 42.0 -0.6**
AGMN Agassiz Nation 68.28 42 P **P 12 48 42.9 +0.1**
baz=316
NB201 NORSAR Array S 68.34 341 P **P 12 48 42.5 -0.5**
NB2 NORSAR Subarra 68.36 341 P **P 12 48 42.0 -1.2**
comp=Z,8.6nm,0.7s,baz=28,slow=6.5
NB2 NORSAR Subarra 68.36 341 P **P 12 48 42.0 -1.2**
baz=28,slow=6.5
NOA NORSAR Array B 68.36 341 P **P 12 48 42.3 -1.0**
comp=Z,6.4nm,0.6s,baz=27,slow=6.3,SNR=32
NOA LR LR 13 22 53.8
comp=Z,39nm,18.2s,baz=35,slow=40
comp=Z,6.4nm,0.6s
NC602 NORSAR Array S 68.56 341 IAmb IAmb 12 48 44.6
comp=Z,6.6nm,0.9s
NC602 NORSAR Array S 68.56 341 *eP* **P 12 48 43.1 -1.3**
HFS Hagfors 68.58 339 P **P 12 48 43.7 -0.9**
comp=Z,12nm,0.5s,baz=56,slow=6.1,SNR=89
comp=Z,12nm,0.5s
NAO01 NORSAR Array S 68.61 341 IAmb IAmb 12 48 44.6
comp=Z,8.9nm,0.9s
FOO Floro 69.14 344 *eP* **P 12 48 47.9 0.0**
VIKU Vikbolandet 69.23 337 *eP* **P 12 48 47.4 -1.2**
HYA Hoyanger 69.31 343 *eP* **P 12 48 48.7 -0.3**
HYA IAmb IAmb 12 48 49.0
comp=Z,17nm,0.8s
DZM Mont Dzumac 69.38 166 LR LR 13 14 29.6
comp=Z,64nm,19.1s,baz=318,slow=32

SUE Sulen 69.69 344 *eP* **P 12 48 51.1 -0.2**
SUE IAmb IAmb 12 48 51.4
comp=Z,15nm,0.8s
KONO Kongsberg 69.97 341 *eP* **P 12 48 53.0 -0.1**
KONO Kongsberg 69.97 341 *ceP* **P 12 48 53.8 +0.7**
KONO pmax pmax
comp=Z,9.0nm,1.7s
S22A 4UR Ranch, Cre 70.02 56 P **P 12 48 53.9 -0.2**
baz=314
ASK Askoy 70.14 344 *eP* **P 12 48 54.0 -0.1**
ASK IAmb IAmb 12 48 54.2
comp=Z,14nm,0.8s
BER Bergen 70.20 343 *eP* **P 12 48 54.2 -0.3**
ODD1 Odda 70.37 343 *eP* **P 12 48 55.4 -0.2**
EYMN Ely 70.51 40 P **P 12 48 56.2 -0.5**
baz=319
KBZ Khabaz 70.84 314 P **P 12 48 58.4 -0.2**
comp=Z,4.4nm,0.8s,baz=30,slow=2.5,SNR=10
KBZ LR LR 13 22 55.5
comp=Z,38nm,18.0s,baz=58,slow=38
comp=Z,4.4nm,0.8s
KBZ Khabaz 70.84 314 *eP* **P 12 48 59.0 +0.4**
KBZ Khabaz 70.84 314 *ceP* **P 12 48 59.0 +0.4**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
BLS5 Blasjo 70.86 343 *eP* **P 12 48 58.6 +0.1**
ECSD EROS Data Cent 71.23 46 P **P 12 49 01.1 0.0**
baz=317
KMY Karmoy 71.30 343 *eP* **P 12 49 01.0 -0.1**
AKASG Malin Array Be 71.60 326 P **P 12 49 02.2 -0.9**
comp=Z,10nm,0.4s,baz=37,slow=6.1,SNR=18
AKASG LR LR 13 22 46.1
comp=Z,64nm,19.1s,baz=52,slow=38
comp=Z,10nm,0.4s
AKBB Malin Array Si 71.60 326 *ceP* **P 12 49 02.4 -0.7**
AKBB pmax pmax
comp=Z,10.0nm,0.6s
AKBB Malin Array Si 71.60 326 P **P 12 49 01.6 -1.5**
AK04 Malin Array Si 71.60 326 P **P 12 49 01.8 -1.4**
AK21 Malin Array Si 71.61 326 P **P 12 49 01.8 -1.4**
AK22 Malin Array Si 71.61 326 P **P 12 49 01.8 -1.4**
KIEV Kiev 71.61 326 P **P 12 49 02.3 -0.9**
KIEV Kiev 71.61 326 P **P 12 49 02.3 -0.9**
KIEV pmax pmax
comp=Z,11nm,0.6s
KIEV Kiev 71.61 326 P **P 12 49 01.9 -1.3**
comp=Z,65nm,0.7s
AK01 Malin Array Si 71.61 326 P **P 12 49 01.8 -1.4**
AK02 Malin Array Si 71.64 326 P **P 12 49 02.3 -1.1**
AK08 Malin Array Si 71.64 326 P **P 12 49 02.1 -1.3**
AK18 Malin Array Si 71.64 326 P **P 12 49 02.4 -1.0**
AK09 Malin Array Si 71.64 326 P **P 12 49 02.2 -1.2**
AK20 Malin Array Si 71.65 326 P **P 12 49 02.2 -1.2**
AK19 Malin Array Si 71.66 326 P **P 12 49 02.3 -1.2**
AK10 Malin Array Si 71.67 326 P **P 12 49 02.4 -1.2**
AK05 Malin Array Si 71.67 326 P **P 12 49 02.6 -1.0**
AK05 Malin Array Si 71.67 326 P **P 12 49 02.5 -1.0**
SNART Snartemo 71.69 342 *eP* **P 12 49 03.5 -0.1**
T25A Trinidad 71.82 55 P **P 12 49 05.4 +0.4**
baz=315
AS31 Alice Springs 71.90 198 P **P 12 49 06.7 +1.4**
ASAR Alice Springs 71.91 198 P **P 12 49 06.8 +1.6**
comp=Z,2.1nm,0.7s,baz=12,slow=5.3,SNR=48
comp=Z,2.1nm,0.7s
RNPP9 Sopachiv 72.27 328 P **P 12 49 06.3 -0.9**
GNI Garni 72.48 310 LR LR 13 24 38.6
comp=Z,65nm,18.7s,baz=90,slow=39
SCHQ Schefferville 73.62 23 P **P 12 49 15.0 -0.2**
comp=Z,1.2nm,0.5s,baz=338,slow=11,SNR=1.5
comp=Z,1.2nm,0.5s
SORM Soroca 73.99 325 ⇑P **P 12 49 16.5 -0.9**
SORM Soroca 73.99 325 ⇑P **P 12 49 16.5 -0.9**
BSEG Bad Segeberg 74.95 338 *eL* 13 24 03.8
comp=Z,64nm,21.1s
SMWD Samnorwood 75.62 54 P **P 12 49 27.9 +0.8**
SMWD IAmb IAmb 12 49 43.5
comp=Z,14nm,1.2s
KOLS Kolonicke sedl 75.63 329 *eP* **P 12 49 26.9 0.0**
KOLS Kolonicke sedl 75.63 329 *eP* **P 12 49 26.9 0.0**
BURAR Bucovina Array 75.64 326 P **P 12 49 26.9 -0.1**
BURAR Bucovina Array 75.64 326 ⇓P **P 12 49 27.0 -0.1**
BURAR Bucovina Array 75.64 326 ⇓P **P 12 49 27.0 -0.1**
TESR Tescani 75.99 325 ⇓P **P 12 49 28.9 -0.1**
KSP Ksiaz 75.99 333 P **P 12 49 28.5 -0.4**
KSP pmax pmax
comp=Z,11nm,1.0s
FLTG Flechtingen 76.15 337 *eP* 12 49 29.1
comp=Z,11nm,0.9s,baz=26,slow=5.6
RETH Rethem/Aller, 76.28 338 *eP* 12 49 30.4
comp=Z,9.5nm,1.1s,baz=26,slow=5.6
NRDL Niedersach Rie 76.31 338 *eP* 12 49 30.4
comp=Z,4.7nm,0.7s,baz=26,slow=5.6
DPC Dobruska-Polom 76.42 333 *eP* **P 12 49 31.7 +0.4**
DPC Dobruska-Polom 76.42 333 *eP* **P 12 49 31.7 +0.4**
LANS Liptovska Anna 76.42 331 *eP* **P 12 49 32.4 +1.0**
LANS Liptovska Anna 76.42 331 *eP* **P 12 49 32.4 +1.0**
BZK Bozkurt 76.46 318 ⇓P **P 12 49 32.1 +0.5**
CFR Carcaliu 76.47 323 ⇓P **P 12 49 31.4 -0.3**
CFR Carcaliu 76.47 323 ⇓P **P 12 49 31.4 -0.3**
VRI Vrincioaia 76.49 324 ⇑P **P 12 49 32.1 +0.3**
VRI Vrincioaia 76.49 324 ⇑P **P 12 49 32.1 +0.3**
EKA Eskdalemuir Ar 76.50 346 P **P 12 49 31.3 -0.4**
comp=Z,1.4nm,0.4s,baz=22,slow=5.0,SNR=15
comp=Z,1.4nm,0.4s
KRLC Kraliky 76.51 333 *eP* **P 12 49 31.8 -0.1**
KRLC Kraliky 76.51 333 *eP* **P 12 49 31.8 -0.1**
MORC Moravsky Berou 76.53 332 IAmb IAmb 12 49 32.6
comp=Z,8.9nm,0.9s
MORC Moravsky Berou 76.53 332 *eP* **P 12 49 31.0 -1.0**
MORC Moravsky Berou 76.53 332 ⇓P **P 12 49 32.1 +0.2**
MORC Moravsky Berou 76.53 332 P **P 12 49 31.2 -0.8**
MORC pmax pmax
comp=Z,11nm,1.0s
PLOR Plostina 76.53 324 ⇑P **P 12 49 32.3 +0.2**
PLOR Plostina 76.53 324 ⇑P **P 12 49 32.3 +0.2**
CLL Collm 76.57 335 ⇑*iP* **P 12 49 31.3 -0.8**
comp=Z,14nm,0.7s
CLL Collm 76.57 335 ⇑*iP* **P 12 49 31.3 -0.8**
CLL pmax pmax
comp=Z,14nm,0.7s
CLL Collm 76.57 335 *eP* 12 49 31.4
comp=Z,12nm,0.7s,baz=26,slow=5.6
CLL *eL* 13 26 09.0
comp=Z,55nm,19.0s
ARPR Arapgir-MALATY 76.57 313 IAmb IAmb 12 49 35.5
comp=Z,12nm,1.0s
BRG Berggiesshubel 76.68 335 P **P 12 49 31.8 -1.0**
BRG pmax pmax
comp=Z,4.0nm,0.8s
COVR Voineasa-Covas 76.71 325 ⇓P **P 12 49 33.4 +0.4**
CLZ Clausthal 76.83 337 *eP* 12 49 33.7
comp=Z,9.8nm,0.8s,baz=26,slow=5.6
HARR Harsova 76.95 323 ⇑P **P 12 49 34.6 +0.2**
HARR Harsova 76.95 323 ⇑P **P 12 49 34.6 +0.2**
IBBN Ibbenburen 77.08 339 *eP* 12 49 34.9
comp=Z,10nm,0.7s,baz=26,slow=5.6
MLR Muntele Rosu 77.11 325 LR LR 13 26 01.9
comp=Z,52nm,18.5s,baz=57,slow=38
MLR Muntele Rosu 77.11 325 ⇑P **P 12 49 36.4 +1.0**
MLR Muntele Rosu 77.11 325 ⇑P **P 12 49 36.4 +1.0**
GTTG Gottingen 77.20 337 *eP* 12 49 35.7
comp=Z,8.0nm,0.5s,baz=26,slow=5.6
VYHS Vyhne 77.20 331 *eP* **P 12 49 35.8 0.0**
VYHS Vyhne 77.20 331 *eP* **P 12 49 35.8 0.0**
VRAC Vranov 77.24 332 *eP* **P 12 49 35.5 -0.5**
VRAC Vranov 77.24 332 LR LR 13 27 01.3
comp=Z,51nm,19.7s,baz=48,slow=38
VRAC Vranov 77.24 332 P **P 12 49 35.9 -0.1**
VRAC pmax pmax
comp=Z,12nm,0.8s
DRGR 77.27 327 ⇓P **P 12 49 36.2 -0.1**
DRGR 77.27 327 ⇓P **P 12 49 36.2 -0.1**
GOPC GO Pecny, Ondr 77.27 334 *eP* **P 12 49 36.2 0.0**
GOPC GO Pecny, Ondr 77.27 334 *eP* **P 12 49 36.2 0.0**
JAVC Velka Javorina 77.28 331 *eP* **P 12 49 36.5 +0.3**
PRU Pruhonice 77.28 334 *eP* **P 12 49 36.1 -0.1**
PRU Pruhonice 77.28 334 *eP* **P 12 49 36.1 -0.1**
ICOR Ion Corvin 77.47 323 ⇑P **P 12 49 37.1 -0.2**
VOIR 77.51 325 ⇑P **P 12 49 37.7 +0.1**
VOIR 77.51 325 ⇑P **P 12 49 37.7 +0.1**
KRUC Moravsky 77.52 332 *eP* **P 12 49 36.7 -0.8**
PLN Plauen 77.55 335 *eP* 12 49 37.5
comp=Z,7.6nm,1.2s,baz=26,slow=5.6
MOX Moxa 77.56 336 P **P 12 49 36.2 -1.5**

MOX pmax pmax
comp=Z,8.0nm,1.1s
MOX Moxa 77.56 336 *eP* 12 49 37.5
comp=Z,5.6nm,0.8s,baz=26,slow=5.6
MOX *eL* 13 23 24.3
comp=Z,48nm,21.7s
ARR Arges 77.73 325 ⇑P **P 12 49 39.7 +0.9**
MODS Modra-Piesok 77.83 331 *eP* **P 12 49 40.2 +0.9**
MODS Modra-Piesok 77.83 331 *eP* **P 12 49 40.2 +0.9**
TX31 Lajitas Ar. Si 77.83 60 IAmb IAmb 12 49 55.8
comp=Z,4.5nm,0.8s
TXAR Lajitas Array 77.83 60 P **P 12 49 40.4 +0.6**
TXAR Lajitas Array 77.83 60 P **P 12 49 40.6 +0.9**
comp=Z,1.4nm,0.6s,baz=303,slow=4.2,SNR=18
comp=Z,1.4nm,0.6s
KASTN Kahler Asten 77.92 338 *eP* 12 49 39.7
comp=Z,6.7nm,0.8s,baz=26,slow=5.6
MANZ Manzenberg 78.01 335 *eP* 12 49 40.3
comp=Z,1.4nm,0.9s,baz=26,slow=5.6
ROTZ Rotzenmuhle 78.18 335 *eP* 12 49 41.1
comp=Z,1.9nm,1.0s,baz=26,slow=5.6
CCM Cathedral Cave 78.18 46 P **P 12 49 41.2 -0.2**
baz=321
KHC Kasperske Hory 78.33 334 *eP* **P 12 49 42.2 +0.1**
KHC Kasperske Hory 78.33 334 *ceP* **P 12 49 42.4 +0.3**
KHC pmax pmax
comp=Z,20nm,0.8s
SURR Surduc 78.37 327 ⇑P **P 12 49 41.9 -0.3**
BR131 Keskin Array S 78.38 317 IAmb IAmb 12 49 44.1
comp=Z,5.8nm,0.8s
BRTR Keskin Array B 78.38 317 P **P 12 49 42.6 -0.1**
BRTR Keskin Array B 78.38 317 P **P 12 49 42.7 0.0**
comp=Z,4.7nm,0.8s,baz=77,slow=3.7,SNR=20
comp=Z,4.7nm,0.8s
BRTR Keskin Array B 78.38 317 *i* P **P 12 49 43.0 +0.3**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
GZR Gura Zlata 78.42 327 ⇑P **P 12 49 42.4 -0.3**
GZR Gura Zlata 78.42 327 ⇑P **P 12 49 42.4 -0.3**
GRF Grafenberg Arr 78.53 336 *eP* 12 49 42.8
comp=Z,14nm,0.8s,baz=26,slow=5.6
GRF *eL* 13 29 58.0
comp=Z,58nm,19.9s
WET Wettzell 78.54 334 *eP* 12 49 43.3
comp=Z,9.1nm,0.9s,baz=26,slow=5.6
WET *eL* 13 26 47.1
comp=Z,50nm,22.0s
GERES GERESS Array B 78.55 334 P **P 12 49 42.9 -0.5**
GERES GERESS Array B 78.55 334 P **P 12 49 43.2 -0.1**
comp=Z,2.3nm,0.6s,baz=32,slow=5.2,SNR=8.9
comp=Z,2.3nm,0.6s
GEC2 GERESS Array S 78.55 334 *eP* 12 49 42.9
comp=Z,4.7nm,0.8s,baz=26,slow=5.6
BZS Buzias 78.67 327 ⇑P **P 12 49 44.3 +0.3**
BZS Buzias 78.67 327 ⇑P **P 12 49 44.3 +0.3**
CONA Conrad Observa 78.68 332 *i* P **P 12 49 44.2 +0.1**
comp=Z,8.0nm,0.7s,SNR=7.7
RONA Rosalia, Austr 78.74 332 *i* P **P 12 49 45.0 +0.7**
comp=Z,11nm,0.8s,SNR=5.9
TNS Taunus Mts 78.81 338 *eP* 12 49 44.6
comp=Z,8.8nm,0.7s,baz=26,slow=5.6
TNS *eL* 13 22 13.7
comp=Z,71nm,20.3s
AHRW Bad Neuenahr-A 78.87 338 *eP* 12 49 45.0
comp=Z,8.1nm,0.8s,baz=26,slow=5.6
BTNL Ternell 79.06 339 *dP* **P 12 49 46.1 0.0**
comp=Z,8.1nm,0.9s
MEM Membach 79.07 339 *dP* **P 12 49 46.4 +0.3**
comp=Z,11nm,1.0s
BSTI Sart Tilman 79.20 339 *dP* **P 12 49 47.4 +0.6**
MOA Molln 79.26 333 *i* P **P 12 49 47.4 +0.2**
comp=Z,6.8nm,0.9s,SNR=5.3
MDVR Moldovita 79.34 327 ⇑P **P 12 49 46.6 -1.1**
O48B Farmland 79.36 41 P **P 12 49 47.0 -0.8**
baz=324
BCLA Clavier 79.42 339 *dP* **P 12 49 47.9 0.0**
BGES Gesves 79.50 340 *dP* **P 12 49 48.5 +0.1**
BIOA Bad Ischl, Aus 79.60 333 *eP* **P 12 49 49.2 +0.2**
comp=Z,5.7nm,0.5s
BMRD Maredsous 79.66 340 *dP* **P 12 49 49.1 -0.1**
comp=Z,8.4nm,0.9s
MIAR Mount Ida 79.67 50 P **P 12 49 49.9 +0.3**
baz=320
RJOB Jochberg 79.82 334 *eP* 12 49 50.5
comp=Z,5.6nm,0.8s,baz=26,slow=5.6
DOU Dourbes 79.89 340 *dP* **P 12 49 49.9 -0.6**
RAR Rarotonga 79.91 136 LR LR 13 21 51.7
comp=Z,39nm,18.9s,baz=282,slow=33
SOKA Soboth 80.05 332 *i* P **P 12 49 51.6 0.0**
comp=Z,11nm,0.9s,SNR=8.6
ERPA Erie 80.09 37 P **P 12 49 51.3 -0.4**
baz=326
LONY Lake Ozonia 80.10 32 P **P 12 49 50.8 -1.0**
baz=329
LESA Schwarzleotal 80.13 334 *eP* **P 12 49 52.4 +0.5**
comp=Z,10.0nm,0.6s
KBA Koelnbreinsper 80.23 333 *eP* **P 12 49 53.4 +0.7**
comp=Z,16nm,0.5s,SNR=15
BOVS Bovan 80.32 326 ⇓P **P 12 51.9 -1.1**
ACSO Alum Creek Sta 80.36 40 P **P 12 49 53.2 0.0**
baz=325
OBKA Obir 80.36 332 *eP* **P 12 49 53.4 +0.2**
comp=Z,6.0nm,0.7s
M53A WI Miller and 80.36 38 P **P 12 49 52.7 -0.6**
baz=326
MYKA Terra Mystica 80.54 333 *eP* **P 12 49 54.2 +0.1**
comp=Z,1.2nm,0.4s
WATA Walderalm 80.54 334 *eP* **P 12 49 54.7 +0.4**
comp=Z,12nm,0.5s
BFO Black Forest 80.57 337 P **P 12 49 53.4 -0.8**
BFO IAmb IAmb 12 49 54.8
comp=Z,8.6nm,0.9s
BFO Black Forest 80.57 337 P **P 12 49 53.4 -0.8**
BFO pmax pmax
comp=Z,9.0nm,0.9s
BFO Black Forest 80.57 337 *eP* 12 49 53.8
comp=Z,8.6nm,0.9s,baz=26,slow=5.6
BFO *eL* 13 33 01.1
comp=Z,41nm,22.0s
WTTA Wattenberg 80.59 334 *i* P **P 12 49 55.0 +0.4**
comp=Z,16nm,0.5s,SNR=9.6
RETA Reutte 80.65 335 *eP* **P 12 49 55.1 +0.4**
comp=Z,4.6nm,0.6s
UBR Ueberruh 80.66 335 *eP* 12 49 54.3
comp=Z,5.3nm,0.7s,baz=26,slow=5.6
SQTA Sankt Quirin 80.75 335 *eP* **P 12 49 55.9 +0.5**
comp=Z,10nm,0.8s
CDF Champ du Feu 80.77 337 *eP* **P 12 49 54.7 -0.7**
CDF pmax pmax
comp=Z,9.0nm,0.8s
ABTA Abfaltersbach 80.79 334 *eP* **P 12 49 55.6 +0.1**
comp=Z,3.3nm,0.5s
ECH Echery 80.98 337 IAmb IAmb 12 49 57.0
comp=Z,7.5nm,0.7s
FETA Feichten 81.08 335 *eP* **P 12 49 57.3 +0.1**
comp=Z,6.2nm,1.1s
DAVA Damuels 81.08 335 *eP* **P 12 49 57.4 +0.3**
comp=Z,11nm,0.9s
TAOE Nuku Hiva Isla 81.09 113 *eLR* LR 13 15 22.5
comp=Z,85nm,27.7s
O53A New Philadelph 81.12 39 P **P 12 49 57.5 +0.2**
O53A New Philadelph 81.12 39 P **P 12 49 57.1 -0.2**
baz=326
STAL STALIGIAL 81.16 333 IAmb IAmb 12 49 57.2
comp=Z,7.0nm,1.0s
WVT Waverly 81.38 45 P **P 12 49 58.6 -0.1**
baz=323
LBNH Lisbon 81.38 31 P **P 12 49 58.2 -0.4**
baz=331
FUORN Ofenpass-Fuorn 81.58 335 P **P 12 50 00.0 +0.1**
FUORN IAmb IAmb 12 50 01.1
comp=Z,4.5nm,0.8s
TUE Stuetta 81.98 335 P **P 12 50 02.2 +0.3**
TUE IAmb IAmb 12 50 05.5
comp=Z,7.7nm,0.8s
SSPA Standing Stone 82.20 36 P **P 12 50 02.9 -0.1**
baz=326
PPT2 Papeete2 82.25 126 *eLR* LR 13 15 52.9
comp=Z,86nm,25.0s
PDG Podgorica 82.28 327 ⇑P **P 12 50 02.6 -0.7**
PUK Puka 82.37 327 P **P 12 50 03.5 -0.5**
PUK IAmb IAmb 12 50 08.2
comp=Z,13nm,1.3s
MMAI Mount Meron Ar 82.77 311 P **P 12 50 07.1 +0.9**
comp=Z,14nm,0.6s,baz=41,slow=6.6,SNR=19
MMAI LR LR 13 32 19.3
comp=Z,101nm,18.4s,baz=49,slow=40

comp=Z,14nm,0.6s
SSF Saint Saulge 82.98 339 *e*P **P 12 50 06.2 -0.7**
SSF pmax pmax
comp=Z,2.0nm,0.4s
LPL La Plagne 83.58 337 *e*P **P 12 50 10.3 0.0**
LPL pmax pmax
comp=Z,3.0nm,0.4s
LRAL Lakeview Retre 84.26 47 P **P 12 50 12.8 -0.9**
baz=323
MFF Saint Martin d 84.26 342 *e*P **P 12 50 16.2 +2.7**
MFF pmax pmax
comp=Z,5.0nm,0.8s
RAYN Ar Rayn 84.31 298 P **P 12 50 14.2 +0.1**
RAYN IAmb IAmb 12 50 15.3
comp=Z,5.9nm,1.0s
RAYN Ar Rayn 84.31 298 P **P 12 50 14.2 +0.1**
RAYN pmax pmax
comp=Z,6.0nm,1.0s
KMSC Kings Mountain 85.28 42 P **P 12 50 18.5 -0.3**
baz=326
CAF Calviac 85.34 340 *e*P **P 12 50 18.9 -0.1**
CAF pmax pmax
comp=Z,2.0nm,0.5s
EIL Elat 85.64 309 LR LR 13 32 44.8
comp=Z,65nm,18.7s,baz=74,slow=39
TBI Tubuai 86.95 129 *e*LR LR 13 18 06.6
comp=Z,251nm,26.0s
RPZ Rata Peaks 91.30 167 LR LR 13 31 54.3
comp=Z,132nm,18.3s,baz=154,slow=35
ESDC Sonseca Array 91.70 342 P **P 12 50 47.9 -1.5**
comp=Z,1.3nm,0.9s,baz=8.9,slow=3.1,SNR=10
comp=Z,1.3nm,0.9s
FURI Furi 99.62 294 LR LR 13 40 33.4
comp=Z,96nm,18.5s,baz=103,slow=38
TORD Torodi Ar. Bea 115.16 329 PKP **PKiKP 12 56 22.9 -0.5**
comp=Z,0.1nm,0.4s,baz=46,slow=1.3,SNR=4.0
QSPA South Pole Qui 136.25 180 PKP **PKiKP 12 57 03.5 -0.2**
comp=Z,1.0nm,0.5s,baz=21,slow=2.5,SNR=10
H03N2 Juan Fernandez 139.01 90 T T 15 32 15.0
baz=308,slow=77,SNR=19
H03N1 Juan Fernandez 139.02 90 T T 15 32 16.4
baz=308,slow=77,SNR=20
H03N3 Juan Fernandez 139.02 90 T T 15 32 15.8
baz=308,slow=77,SNR=23
ELIB Princess Elisa 145.47 205 *d*PKP **PKPab 12 57 19.5 +0.5**
PLCA Paso Flores 148.44 95 PKPbc **PKPbc 12 57 28.9 +0.9**
comp=Z,2.8nm,0.9s,baz=266,slow=3.6,SNR=6.2
CPUP Villa Florida 148.81 60 PKPbc **PKPbc 12 57 29.5 +0.3**
comp=Z,3.3nm,0.8s,baz=324,slow=4.0,SNR=6.0
TROLL Troll, Antarti 150.89 199 ⇓PKPab **pPKPdf 12 57 49.0 +6.1**
comp=Z,259nm,0.7s
TROLL ⇑PKPbc **PKiKP 12 57 33.9 +0.2**
comp=Z,198nm,0.7s
SNAA Sanae 152.26 196 ⇓PKPab **pPKPdf 12 57 51.5 +6.6**
comp=Z,54nm,0.7s
SNAA ⇑PKPbc **PKPbc 12 57 36.2 0.0**
comp=Z,63nm,0.8s
SNAA Sanae 152.26 196 PKPbc **PKPbc 12 57 36.2 0.0**
comp=Z,0.7nm,0.6s,baz=176,slow=6.1,SNR=12
VNA2 Neumayer--Watz 153.71 195 ⇓PKPab **PKPab 12 57 54.7 +2.4**
comp=Z,4.7nm,0.7s,baz=205,slow=1.7
VNA2 ⇑PKPbc **PKPbc 12 57 39.5 +0.3**
comp=Z,3.2nm,0.6s,baz=219,slow=1.2
VNA3 Neumayer Olymp 153.81 193 ⇓PKPab **PKPab 12 57 53.5 +0.7**
comp=Z,3.0nm,0.6s
VNA3 ⇑PKPbc **PKPbc 12 57 39.7 +0.2**
VNA1 Neumayer--Stat 154.10 194 ⇓PKPab **PKPab 12 57 54.5 +0.5**
comp=Z,3.5nm,0.8s
VNA1 ⇑PKPbc **PKPbc 12 57 40.0 -0.1**
comp=Z,2.4nm,0.8s

*IDC **25** 12:57:28.1±1.2,46°.17N×53°.27E,h0km,mb3.6/4, mbtmp3.9/10,ML3.5/6,MS3.5/1,Error ellipse: s-maj=24.0km s-min=8.6km az=147.0*
*NNC **25** 12:57:33.3±1.6,45°.96N×54°.10E,h0km,mb4.0,mpv3.3, Error ellipse: s-maj=20.7km s-min=9.6km az=115.0*
ISC 25 12:57:29.0±0.9,46°.21N±0°.09×53°.21E±0°.05,h10km,n18, σ2§23/25,mb3.6/4,6C-4D,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**5.31**	**35**	Pn	**Pn**	**12 58 49.4**	**+1.2**
	1.6nm,0.3s,baz=209,slow=2.7,SNR=28						
AKTO				Sn	**Sn**	**12 59 47.6**	**-1.8**
	1.0nm,0.3s,baz=41,slow=19,SNR=1.5						
	4.4nm,0.2s						
AB31	**Akbulak array**	**5.47**	**54**	⇓Pn	**Pn**	**12 58 51.9**	**+1.5**
	0.8nm,0.2s,baz=238,slow=11,SNR=117						
AB31				⇑Pg	**Pb**	**12 59 06.6**	**+2.0**
	2.9nm,0.4s,baz=228,slow=14,SNR=12						
AB31				⇑Sn	**Sn**	**12 59 52.8**	**-0.6**
	7.0nm,0.6s,baz=232,slow=19						
AB31				⇑Lg	Lg	13 00 14.9	
	4.8nm,0.4s						
BELG	**Belogornoye**	**7.19**	**332**	Pn	**Pn**	**12 59 16.4**	**+2.4**
	1.2nm,0.3s,baz=62,slow=7.1,SNR=1.3						
BELG				Sn	**Sn**	**13 00 35.0**	**-0.7**
	2.5nm,0.3s,baz=2.3,slow=22,SNR=9.0						
	10nm,0.6s						
KBZ	**Khabaz**	**7.72**	**255**	Pn	**Pn**	**12 59 21.6**	**+0.2**
	1.5nm,0.3s,baz=145,slow=4.3,SNR=24						
KBZ				Sn	**Sn**	**13 00 46.7**	**-2.2**
	1.5nm,0.3s,baz=310,slow=15,SNR=2.3						
	13nm,0.7s						
ARU	**Arti**	**10.77**	**16**	Pn	**Pn**	**13 00 02.2**	**-0.8**
	baz=144,slow=14,SNR=4.6						
ARU				Sn	**Sn**	**13 01 56.8**	**-6.7**
	baz=76,slow=22,SNR=4.4						
	3.5nm,0.2s						
KK31	**Karatay Array**	**12.70**	**98**	P	**Pn**	**13 00 27.0**	**-2.6**
	2.5nm,0.5s,baz=304,slow=14,SNR=14						
BRVK	**Borovoye**	**13.00**	**52**	⇑Pn	**Pn**	**13 00 35.0**	**+1.5**
	4.9nm,0.9s						
BRVK				⇓Sn	**Sn**	**13 02 59.5**	**+1.3**
	1.9nm,0.8s						
BVA0	**Borovoye Array**	**13.04**	**52**	⇓Pn	**Pn**	**13 00 35.1**	**+0.9**
	4.3nm,0.8s,baz=237,slow=13,SNR=16						
BVA0				⇓Sn	**Sn**	**13 02 59.5**	**+0.2**
	3.0nm,0.6s						
BVAR	**Borovoye Array**	**13.04**	**52**	Pn	**Pn**	**13 00 31.5**	**-2.7**
	0.2nm,0.3s,baz=239,slow=14,SNR=17						
	3.6nm,0.5s						
KURBB	**Kurchatov Arra**	**17.34**	**66**	P	**Pn**	**13 01 28.2**	**-2.8**
	1.2nm,0.5s,baz=270,slow=12,SNR=18						
KURBB	**Kurchatov Arra**	**17.34**	**66**	⇑P	**Pn**	**13 01 30.2**	**-0.7**
	4.0nm,0.6s						
MK31	**Makanchi Array**	**19.98**	**78**	⇑P	**P**	**13 02 00.8**	**-0.6**
	0.5nm,0.3s,baz=275,slow=7.8,SNR=8.3						
MKAR	**Makanchi Array**	**19.98**	**78**	P	**P**	**13 02 01.1**	**-0.3**
	0.3nm,0.3s,baz=271,slow=11,SNR=6.4						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**21.57**	**57**	P	**P**	**13 02 18.3**	**-0.1**
	1.8nm,0.5s,baz=264,slow=12,SNR=7.8						
	1.8nm,0.5s						
FINES	**FINESS Array B**	**21.88**	**324**	P	**P**	**13 02 21.4**	**-0.3**
	1.5nm,0.3s,baz=134,slow=12,SNR=24						
	1.5nm,0.3s						
HFS	**Hagfors**	**27.00**	**315**	P	**P**	**13 03 13.4**	**+2.8**
	0.7nm,0.7s,baz=109,slow=12,SNR=2.0						
	0.7nm,0.7s						
ARCES	**ARCESS Array B**	**27.15**	**339**	P	**P**	**13 03 14.5**	**+2.4**
	0.3nm,0.5s,baz=124,slow=7.8,SNR=3.7						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**46.64**	**111**	LR	LR	13 27 13.2	
	comp=Z,51nm,21.3s,baz=200,slow=38						

NNC 25 13:36:34.5±2.5,50°.66N×77°.73E,h0km,mb3.8,mpv3.5, 2C-3D,Error ellipse: s-maj=16.6km s-min=10.9km az=158.0,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**4.77**	**142**	⇓Pn	Pg	13 38 04.8	-1.1
	10.0nm,1.0s						
MAKZ				⇑Lg	Lg	13 38 55.9	
	33nm,0.7s						
MK31	**Makanchi Array**	**4.91**	**140**	⇓Pn	Pg	13 38 11.9	+3.4
	3.6nm,0.8s,baz=324,slow=15,SNR=23						
MK31				⇓Sn	Sb	13 38 54.4	-6.5
	11nm,0.8s,baz=325,slow=26						
BVA0	**Borovoye Array**	**5.13**	**300**	⇑Lg	Lg	13 40 08.2	
	5.4nm,0.7s						
ZSN	**Zaisan**	**5.68**	**122**	Lg	Lg	13 39 28.8	
	19nm,0.9s						
ARXS	**Arharly**	**6.45**	**179**	Pg	Pb	13 38 32.8	+5.2
	1.8nm,0.5s						
DJR	**Jarkent**	**6.49**	**167**	Lg	Lg	13 39 59.5	
	14nm,0.7s						
BLB	**Baldybastay**	**6.59**	**175**	Pg	Pb	13 38 34.5	+4.6
	3.3nm,0.3s						
BLB				Lg	Lg	13 40 03.4	
	60nm,1.0s						
CHKK	**Chushkaly**	**6.83**	**185**	Pg	Pb	13 38 38.9	+4.9
	1.1nm,0.1s						
KPKS	**Kokpek**	**7.23**	**174**	Lg	Lg	13 40 23.1	
	20nm,0.6s						
KTMS	**Ketmen**	**7.44**	**165**	Lg	Lg	13 40 30.6	
	2.1nm,0.1s						
DGS	**Degeres**	**7.54**	**191**	Pg	Pb	13 38 51.9	+5.7
	2.2nm,0.5s						

TUN 25 13:45:41.9,34°.47N×10°.09E,h28km±7km,MD2.6,Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEDT	**Meda**	**0.38**	**202**	*i* P	Pn	13 45 51.0	-0.6
MEDT	**Meda**	**0.38**	**202**	*i* P	Pn	13 45 51.3	-0.2
MEDT	**Meda**	**0.38**	**202**	*i* P	Pn	13 45 51.1	-0.5
BTHT	**Jabal bu Thady**	**0.69**	**13**	*i* P	Pn	13 46 00.5	+4.8
SGNT	**Sidi Gnaou**	**0.82**	**193**	*i* P	Pn	13 45 59.1	+1.5
SGNT	**Sidi Gnaou**	**0.82**	**193**	*i* P	Pn	13 45 59.3	+1.7
SGNT	**Sidi Gnaou**	**0.82**	**193**	*i* P	Pn	13 45 59.2	+1.6
BERT	**Berda**	**0.92**	**256**	*i* P	Pn	13 45 57.0	-2.0
BERT	**Berda**	**0.92**	**256**	*i* P	Pn	13 45 57.8	-1.2
BERT	**Berda**	**0.92**	**256**	*i* P	Pn	13 45 57.1	-1.9
TROT	**Trozza**	**1.17**	**340**	*i* P	Pn	13 46 02.2	-0.3
TROT	**Trozza**	**1.17**	**340**	*i* P	Pb	13 46 05.8	+2.3
THTN	**Thala**	**1.59**	**314**	*i* P	Pb	13 46 12.8	+2.2
TATN	**Tataouine**	**1.92**	**169**	*i* P	Pn	13 46 11.9	-0.8
TATN	**Tataouine**	**1.92**	**169**	*i* P	Pn	13 46 05.2	-7.5

*IDC **25** 14:10:13.6±1.0,5°.91S×147°.35E,h0km,mb3.8/7, mbtmp3.8/8,ML4.0/1,MS3.3/3,Error ellipse: s-maj=46.8km s-min=20.8km az=95.0*
*NEIC **25** 14:10:21.8±0.4,6°.00S±0°.04×147°.2E±0°.2,h59km±9km, mb4.0/10,Error ellipse: s-maj=30.8km s-min=6.0km az=92.0*
ISC 25 14:10:19.2±0.7,5°.88S±0°.09×147°.2E±0°.2,h35km,n48, σ1§11/40,mb3.8/8,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.51**	**181**	P	**Pn**	**14 11 12.2**	**+1.0**
PMG	**Port Moresby**	**3.51**	**181**	P	**Pn**	**14 11 12.0**	**+0.8**
PMG	**Port Moresby**	**3.51**	**181**		**Pn**	**14 11 12.0**	**+0.8**
COEN	**Coen**	**8.96**	**206**	P	**Pn**	**14 12 26.3**	**+0.1**
COEN	**Coen**	**8.96**	**206**		**Pn**	**14 12 26.5**	**+0.3**
MTSU	**Mount Surprise**	**12.51**	**193**	P	**Pn**	**14 13 15.4**	**+0.6**
CTA	**Charters Tower**	**14.16**	**184**	Pn	**Pn**	**14 13 34.9**	**-2.5**
	baz=12,slow=18,SNR=1.6						
CTAO	**Charters Tower**	**14.16**	**184**	Pn	**Pn**	**14 13 37.4**	**+0.1**
KDU	**Kakadu**	**16.04**	**244**	P	**P**	**14 14 03.6**	**-1.7**
QIS	**Mount Isa**	**16.36**	**206**	P	**P**	**14 14 08.0**	**-0.9**
MTN	**Manton Dam**	**17.31**	**245**		**Pn**	**14 14 18.1**	**-0.2**
MTN				IAmb	IAmb	14 14 38.7	
	comp=Z,17nm,1.4s						
WR0	**Warramunga Arr**	**18.65**	**220**	P	**P**	**14 14 33.0**	**-1.2**
WR0				IAmb	IAmb	14 14 52.6	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**18.77**	**221**	P	**P**	**14 14 34.2**	**-1.3**
WRA	**Warramunga Arr**	**18.77**	**221**	P	**P**	**14 14 33.8**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=43,slow=12,SNR=16						
WRA				PcP	**PcP**	**14 19 03.2**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=26,slow=1.6,SNR=7.7						
	comp=Z,0.9nm,0.5s						
GUMO	**Guam**	**19.48**	**353**	LR	LR	14 22 29.9	
	comp=Z,31nm,18.3s,baz=212,slow=38						
KNRA	**Kununurra**	**20.56**	**240**	P	**P**	**14 14 53.9**	**-1.1**
KNRA				IAmb	IAmb	14 15 07.5	
	comp=Z,11nm,1.2s						
QLP	**Quilpie**	**20.79**	**188**	P	**P**	**14 14 58.8**	**+1.4**
AS01	**Alice Springs**	**21.82**	**214**	P	**P**	**14 15 07.9**	**-0.6**
AS31	**Alice Springs**	**21.84**	**215**	P	**P**	**14 15 07.7**	**-1.2**
ASAR	**Alice Springs**	**21.84**	**215**	P	**P**	**14 15 08.3**	**-0.5**
ASAR	**Alice Springs**	**21.84**	**215**	P	**P**	**14 15 07.9**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=48,slow=8.6,SNR=30						
	comp=Z,1.3nm,0.5s						
INKA	**Innaminka**	**22.60**	**195**	P	**P**	**14 15 17.7**	**+0.9**
OOD	**Oodnadatta**	**24.40**	**205**	P	**P**	**14 15 33.8**	**-0.6**
LCRK	**Leigh Creek**	**25.87**	**198**	P	**P**	**14 15 49.7**	**+2.0**
WRKA	**Warakurna**	**26.31**	**222**	P	**P**	**14 15 51.1**	**-0.7**
STKA	**Stephens Creek**	**26.40**	**191**	P	**P**	**14 15 53.2**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=358,slow=10,SNR=1.5						
	comp=Z,0.7nm,0.4s						
MULG	**Mulgathing**	**27.26**	**205**	P	**P**	**14 16 00.8**	**+0.6**
HTT	**Hallett**	**28.48**	**195**	P	**P**	**14 16 13.7**	**+2.5**
H11S3	**WAKE ISLAND Hy**	**30.90**	**38**	T	T	14 49 11.8	
	baz=220,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**30.91**	**38**	T	T	14 49 18.0	
	baz=220,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**30.92**	**38**	T	T	14 49 15.1	
	baz=220,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**31.96**	**37**	T	T	14 50 30.2	
	baz=219,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**31.97**	**37**	T	T	14 50 31.4	
	baz=219,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**31.98**	**37**	T	T	14 50 31.5	
	baz=219,slow=76,SNR=22						
JHJ	**Hachijo jima 2**	**39.42**	**350**	LR	LR	14 32 50.7	
	comp=Z,58nm,21.6s,baz=338,slow=34						
JNU	**Nakatsue**	**41.77**	**339**	LR	LR	14 33 58.3	
	comp=Z,78nm,20.2s,baz=249,slow=34						
SONM	**Songino Array**	**64.40**	**331**	P	**P**	**14 20 52.4**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=149,slow=9.1,SNR=1.6						
	comp=Z,0.3nm,0.4s						
CLES	**Cleveland East**	**68.81**	**26**	P	**P**	**14 21 18.3**	**-1.4**
VNDA	**Vanda**	**72.02**	**177**	P	**P**	**14 21 38.4**	**-0.7**
VNDA				IAmb	IAmb	14 21 39.4	
	comp=Z,1.0nm,0.6s						
VNDA	**Vanda**	**72.02**	**177**	P	**P**	**14 21 38.8**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=329,slow=6.7,SNR=3.7						
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**77.54**	**320**	P	**P**	**14 22 12.6**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=99,slow=8.2,SNR=2.7						
	comp=Z,0.3nm,0.7s						
C19K	**Lookout Ridge**	**83.17**	**17**	P	**P**	**14 22 42.3**	**+0.9**
QSPA	**South Pole Qui**	**84.09**	**180**	P	**P**	**14 22 45.7**	**-0.6**
QSPA				IAmb	IAmb	14 22 50.1	
	comp=Z,2.4nm,1.1s						
QSPA	**South Pole Qui**	**84.09**	**180**	P	**P**	**14 22 45.7**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=58,slow=5.1,SNR=24						
	comp=Z,1.9nm,0.5s						
ILAR	**Eielson Array**	**85.28**	**23**	P	**P**	**14 22 51.0**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=256,slow=4.4,SNR=5.6						
	comp=Z,0.5nm,0.6s						
J25K	**Salcha River,**	**85.81**	**24**	P	**P**	**14 22 55.4**	**+0.6**
J25K				IAmb	IAmb	14 23 23.8	
	comp=Z,1.8nm,1.1s						
BMAR	**Burnt Mountain**	**87.20**	**21**	P	**P**	**14 23 02.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**145.27**	**285**	PKPbc	**PKPbc**	**14 29 53.7**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=73,slow=5.2,SNR=5.7						

*NOU **25** 14:21:49.9,40°.80S×173°.82E,h87km,MLv3.9/15,Cook Strait, New Zealand*
*WEL **25** 14:21:51.5±0.5,41°.5±4°.×17°.4E±°,h61km±6km,M3.6/20, ML3.9/20,MLv3.6/20,Error ellipse: s-maj=0.0km s-min=0.0km az=160.0,confirmed*
ISC 25 14:21:49.5±1.4,40°.82S±0°.03×173°.83E±0°.03,h92km±8km, n159,σ1§11/170,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.07**	**74**	P	**Pn**	**14 22 01.8**	**-0.6**
DUWZ				S	**Sn**	**14 22 10.5**	**-1.5**
TCW	**Tory Channel**	**0.52**	**139**	P	**Pn**	**14 22 04.9**	**+0.4**
TCW				S	**Sn**	**14 22 15.0**	**-0.8**
NNZ	**Nelson**	**0.52**	**221**	P	**Pn**	**14 22 04.4**	**-0.1**
NNZ				S	**Sn**	**14 22 14.7**	**-1.1**
TUWZ	**Tuamarina**	**0.61**	**172**	P	**Pn**	**14 22 06.2**	**+0.9**
TUWZ				S	**Sn**	**14 22 16.8**	**-0.4**
TKNZ	**Takaka Hill**	**0.69**	**252**	P	**Pn**	**14 22 05.8**	**-0.3**
TKNZ				S	**Sn**	**14 22 17.1**	**-1.4**
KIW	**Kapiti Island**	**0.82**	**93**	P	**Pn**	**14 22 07.8**	**+0.4**
KIW				S	**Sn**	**14 22 20.4**	**-0.4**
SNZO	**South Karori**	**0.82**	**127**	P	**Pn**	**14 22 08.4**	**+1.1**
WEL	**Wellington**	**0.85**	**123**	P	**Pn**	**14 22 08.6**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.89**	**178**	P	**Pn**	**14 22 09.2**	**+1.0**
BSWZ				S	**Sn**	**14 22 22.7**	**+0.7**
CMWZ	**Cape Campbell**	**0.97**	**163**	P	**Pn**	**14 22 11.2**	**+2.2**
CMWZ				S	**Sn**	**14 22 27.6**	**+4.0**
CAW	**Cannon Point**	**0.98**	**107**	P	**Pn**	**14 22 09.4**	**+0.4**
BHW	**Baring Head**	**0.98**	**127**	P	**Pn**	**14 22 10.3**	**+1.3**
QRZ	**Quartz Range**	**0.98**	**269**	P	**Pn**	**14 22 08.7**	**-0.4**
QRZ	**Quartz Range**	**0.98**	**269**	P	**Pn**	**14 22 08.8**	**-0.4**
QRZ				S	**Sn**	**14 22 22.0**	**-1.8**
MRNZ	**Matariki Terra**	**0.99**	**234**	P	**Pn**	**14 22 09.8**	**+0.6**
MRNZ				S	**Sn**	**14 22 24.3**	**+0.3**
OGWZ	**Otaki Gorge**	**1.02**	**90**	P	**Pn**	**14 22 10.0**	**+0.5**
OGWZ				S	**Sn**	**14 22 24.6**	**+0.1**
THZ	**Tophouse**	**1.17**	**216**	P	**Pn**	**14 22 12.0**	**+0.7**
THZ				S	**Sn**	**14 22 29.2**	**+1.5**
MSWZ	**Moikau Station**	**1.23**	**119**	P	**Pn**	**14 22 12.7**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.28**	**94**	P	**Pn**	**14 22 12.9**	**+0.2**
OHWZ	**Ohakea**	**1.29**	**62**	P	**Pn**	**14 22 13.7**	**+1.0**
MTW	**Mount Morrison**	**1.31**	**105**	P	**Pn**	**14 22 13.1**	**+0.2**
PLWZ	**Palliser**	**1.31**	**125**	P	**Pn**	**14 22 13.9**	**+0.9**
PAWZ	**Paruwai Farm**	**1.33**	**115**	P	**Pn**	**14 22 13.7**	**+0.5**
MRZ	**Mangatainoka R**	**1.34**	**84**	P	**Pn**	**14 22 13.2**	**-0.1**
WAZ	**Wanganui**	**1.39**	**40**	P	**Pn**	**14 22 15.4**	**+1.5**
NMEZ	**Namu Road**	**1.41**	**2**	P	**Pn**	**14 22 15.0**	**+0.8**
LREZ	**Lake Rotokare**	**1.43**	**18**	P	**Pn**	**14 22 16.1**	**+1.7**
PREZ	**Palmer Road**	**1.50**	**10**	P	**Pn**	**14 22 16.4**	**+1.1**
TRWZ	**Traveller**	**1.52**	**113**	P	**Pn**	**14 22 16.8**	**+1.3**
KHEZ	**Kahui Hut**	**1.53**	**5**	P	**Pn**	**14 22 16.5**	**+0.7**
KHEZ	**Kahui Hut**	**1.53**	**5**	P	**Pn**	**14 22 16.7**	**+0.8**
POWZ	**Post Office Ro**	**1.54**	**74**	P	**Pn**	**14 22 15.7**	**-0.1**
NBEZ	**Newall Road No**	**1.55**	**1**	P	**Pn**	**14 22 16.9**	**+0.9**
NEZ	**North Egmont**	**1.56**	**8**	P	**Pn**	**14 22 16.9**	**+0.7**
TIWZ	**Tintock**	**1.56**	**89**	P	**Pn**	**14 22 16.0**	**-0.2**
TMWZ	**Te Maipa**	**1.59**	**101**	P	**Pn**	**14 22 16.8**	**+0.4**
KHZ	**Kahutara**	**1.61**	**188**	P	**Pn**	**14 22 17.5**	**+0.9**
KHZ	**Kahutara**	**1.61**	**188**	P	**Pn**	**14 22 17.6**	**+0.9**
PKE	**Pukeiti**	**1.63**	**4**	P	**Pn**	**14 22 18.0**	**+1.0**
PRWZ	**Pori Road**	**1.65**	**81**	P	**Pn**	**14 22 17.3**	**0.0**
DREZ	**Durham Road**	**1.66**	**10**	P	**Pn**	**14 22 18.3**	**+1.0**
DSZ	**Denniston Nort**	**1.78**	**238**	P	**Pn**	**14 22 19.3**	**+0.4**
MHEZ	**Mangahewa**	**1.79**	**13**	P	**Pn**	**14 22 20.3**	**+1.4**
TSZ	**Takapari Road**	**1.80**	**66**	P	**Pn**	**14 22 19.0**	**-0.2**
CPWZ	**Castlepoint**	**1.80**	**94**	P	**Pn**	**14 22 20.1**	**+0.9**
VRZ	**Vera Road**	**1.84**	**23**	P	**Pn**	**14 22 21.0**	**+1.3**
BFZ	**Birch Farm**	**1.84**	**86**	P	**Pn**	**14 22 19.5**	**-0.2**
BFZ	**Birch Farm**	**1.84**	**86**	P	**Pn**	**14 22 19.4**	**-0.2**
DVHZ	**Dannevirke**	**1.86**	**74**	P	**Pn**	**14 22 19.4**	**-0.5**
MTVZ	**Mangateitei**	**1.91**	**42**	P	**Pn**	**14 22 21.4**	**+0.8**
TRVZ	**Turoa**	**2.02**	**42**	P	**Pn**	**14 22 23.2**	**+1.0**
WNVZ	**Wahianoa**	**2.02**	**43**	P	**Pn**	**14 22 22.9**	**+0.7**
PNHZ	**Pukenui**	**2.03**	**64**	P	**Pn**	**14 22 21.6**	**-0.5**
MOVZ	**Moawhango**	**2.04**	**47**	P	**Pn**	**14 22 22.6**	**+0.2**
MAVZ	**Matarangi**	**2.05**	**41**	P	**Pn**	**14 22 23.7**	**+1.1**
ANWZ	**Angora Road**	**2.05**	**81**	P	**Pn**	**14 22 20.8**	**-1.6**
WHVZ	**Whangaehu Hut**	**2.05**	**42**	P	**Pn**	**14 22 23.5**	**+0.9**
FWVZ	**Far West T-bar**	**2.05**	**41**	P	**Pn**	**14 22 23.2**	**+0.5**
COVZ	**Chateau Observ**	**2.09**	**40**	P	**Pn**	**14 22 23.7**	**+0.7**
TUVZ	**Tukino**	**2.09**	**43**	P	**Pn**	**14 22 24.1**	**+1.0**
WPHZ	**Waipukurau**	**2.13**	**70**	P	**Pn**	**14 22 23.0**	**-0.5**
NGZ	**Ngauruhoe**	**2.14**	**40**	P	**Pn**	**14 22 24.5**	**+0.8**
TWVZ	**Taurewa**	**2.14**	**36**	P	**Pn**	**14 22 24.4**	**+0.6**
SNVZ	**South Ngauruho**	**2.15**	**41**	P	**Pn**	**14 22 24.8**	**+1.0**
NNVZ	**North Ngauruho**	**2.18**	**40**	P	**Pn**	**14 22 24.9**	**+0.7**
WTVZ	**West Tongariro**	**2.18**	**39**	P	**Pn**	**14 22 24.8**	**+0.6**
PRHZ	**Porangahau**	**2.21**	**76**	P	**Pn**	**14 22 24.0**	**-0.5**
KRVZ	**Karewarewa**	**2.22**	**40**	P	**Pn**	**14 22 26.5**	**+1.8**
ETVZ	**East Tongariro**	**2.22**	**41**	P	**Pn**	**14 22 25.4**	**+0.6**
GVZ	**Greta Valley S**	**2.22**	**195**	P	**Pn**	**14 22 25.3**	**+0.6**
NTVZ	**North Tongarir**	**2.23**	**40**	P	**Pn**	**14 22 26.3**	**+1.6**
TMVZ	**Te Maari**	**2.23**	**41**	P	**Pn**	**14 22 25.6**	**+0.6**
KRHZ	**Kereru**	**2.28**	**60**	P	**Pn**	**14 22 24.8**	**-0.6**
LTZ	**Lake Taylor**	**2.28**	**210**	P	**Pn**	**14 22 26.0**	**+0.6**
KATZ	**Kakaramea**	**2.34**	**39**	P	**Pn**	**14 22 27.9**	**+1.6**
RITZ	**Rihia Road**	**2.42**	**41**	P	**Pn**	**14 22 29.0**	**+1.7**
KWHZ	**Kaweka Forest**	**2.43**	**56**	P	**Pn**	**14 22 27.0**	**-0.5**
HIZ	**Hauiti**	**2.44**	**19**	P	**Pn**	**14 22 28.2**	**+0.7**
HIZ	**Hauiti**	**2.44**	**19**	P	**Pn**	**14 22 28.3**	**+0.7**
HIZ	**Hauiti**	**2.44**	**19**	P	**Pn**	**14 22 28.3**	**+0.7**
PXZ	**Pawanui**	**2.45**	**72**	P	**Pn**	**14 22 26.8**	**-0.8**
RATZ	**Rangitukua**	**2.46**	**38**	P	**Pn**	**14 22 28.7**	**+0.8**
AMCZ	**

*ISN **25** 14:22:18.2±0.7, 34°.66N×46°.28E, h16km±12km, ML2.8*
ISC 25 14:22:17.8±1.0, 34°.66N±0°.04×46°.29E±0°.05, h13km±8km, n11, σ0s55/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.09**	**64**	Pg	**Pg**	**14 22 20.8**	**0.0**
IDHR				Sg	**Sg**	**14 22 22.9**	**0.0**
IGHG	**Ghaleghazi**	**0.40**	**146**	Pg	**Pg**	**14 22 26.2**	**+0.3**
ILIN	**Lien**	**0.61**	**65**	Pg	**Pg**	**14 22 29.6**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.63**	**210**	Pg	**Pg**	**14 22 30.5**	**+0.3**
KCHF	**Cheshme Sefid,**	**0.73**	**122**	Pg	**Pg**	**14 22 31.9**	**-0.1**
ILBA	**Ilam Banvizeh**	**1.04**	**184**	Pg	**Pb**	**14 22 37.6**	**-0.1**
SNQR	**Sonqor, Kerman**	**1.11**	**80**	Pg	**Pn**	**14 22 39.5**	**0.0**
IBZA	**Bozab**	**1.31**	**98**	Pg	**Pg**	**14 22 43.2**	**+0.3**
IBDR	**Badra**	**1.58**	**191**	*e*Pn	**Pb**	**14 22 47.0**	**+0.2**
IBDR				*e*Sn	**Sg**	**14 23 09.0**	**+0.5**
IBDR				AML	AML	14 23 14.6	
	comp=E,141nm,0.7s						
IBDR				AML	AML	14 23 15.4	
	comp=N,145nm,0.8s						
IKRK	**Kirkuk**	**1.77**	**295**	*e*Pn	**Pb**	**14 22 50.0**	**0.0**
IKRK				*e*Sn	**Sb**	**14 23 13.0**	**+0.9**
IKRK				AML	AML	14 23 21.4	
	comp=E,127nm,0.4s						
IKRK				AML	AML	14 23 26.1	
	comp=N,122nm,0.2s						
BHD	**Baghdad**	**2.11**	**229**	*e*Pn	**Pb**	**14 22 55.0**	**-0.9**
BHD				*e*Sn	**Sb**	**14 23 21.0**	**-1.1**

IDC 25 14:22:59.0±2.6, 19°.25N×96°.72E, h0km, mb3.4/2, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=27.0km s-min=21.1km az=124.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**2.25**	**110**	Pn	Pn	14 23 36.9	-0.5
	2.5nm,0.3s,baz=287,slow=14,SNR=58						
CMAR				Lg	Lg	14 24 10.8	
	54nm,0.3s,baz=291,slow=33,SNR=7.5						
	14nm,0.5s						
TNCH	**TengChong**	**5.99**	**16**	Pn	Pn	14 24 29.0	-0.1
TNCH				Pg	Pg	14 24 57.5	+3.7
TNCH				Sn	Sn	14 25 40.3	+1.8
TNCH				S*	Sb	14 25 58.5	+1.7
TNCH				Sg	Sg	14 26 14.5	+3.0
TNCH				smax	smax		
	comp=N,210nm,1.1s						
TNCH				smax	smax		
	comp=E,170nm,1.2s						
TNCH				LR	LR		
	comp=N,300nm,3.6s						
TNCH				LR	LR		
	comp=E,280nm,2.7s						
TNCH				LR	LR		
	comp=Z,240nm,10.4s						
WRA	**Warramunga Arr**	**53.63**	**135**	P	P	14 32 22.4	-0.1
	comp=Z,0.6nm,0.9s,baz=327,slow=7.8,SNR=4.6						
	comp=Z,0.6nm,0.9s						
ASAR	**Alice Springs**	**55.99**	**138**	P	P	14 32 39.7	+0.1
	comp=Z,0.2nm,0.7s,baz=316,slow=7.1,SNR=2.1						
	comp=Z,0.2nm,0.7s						

*SOME **25** 14:23:30.3, 41°.28N×71°.65E, h5km*
*KRNET **25** 14:23:31.3±0.1, 41°.45N×71°.71E, h14km, mb2.4*
*NNC **25** 14:23:32.0±2.8, 41°.57N×72°.33E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=22.4km s-min=16.1km az=139.0*
ISC 25 14:23:29.9±1.6, 41°.28N±0°.08×71°.72E±0°.03, h12km±12km, n14, σ1s13/24, 16C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.50**	**300**	⇑*i*P	**Pg**	**14 23 39.1**	**-0.7**
	baz=71						
TRKS				⇑*e*S	**Sg**	**14 23 45.1**	**-1.4**
	baz=71						
ARSB	**Arslanbob**	**0.95**	**87**	⇑*e*P	**Pn**	**14 23 49.4**	**+0.3**
	baz=97						
ARSB				⇑*e*S	**Sn**	**14 24 03.2**	**+0.5**
	baz=97						
MNAS	**Manas**	**1.34**	**26**	⇑*i*P	**Pn**	**14 23 53.5**	**-1.0**
	baz=29						
MNAS				⇑*i*S	**Sb**	**14 24 10.0**	**-2.1**
	baz=29						
IUG	**Iuzhnay**	**1.53**	**305**	*e*P	**Pg**	**14 23 59.2**	**-0.1**
	14nm,0.2s						
IUG				*e*S	**Sg**	**14 24 20.1**	**+0.9**
	54nm,0.1s						
IUG	**Iuzhnay**	**1.53**	**305**	P	**Pg**	**14 24 00.4**	**+1.0**
	14nm,0.2s						
IUG				S	**Sg**	**14 24 21.7**	**+2.5**
	54nm,0.1s						
AML	**Almayashu**	**1.70**	**59**	⇑*i*P	**Pb**	**14 24 01.0**	**-0.3**
	baz=65						
AML				⇑*i*S	**Sb**	**14 24 23.1**	**+0.3**
	baz=65						
MRKS	**Merke**	**1.84**	**37**	*e*P	**Pg**	**14 24 05.8**	**+0.6**
	3.2nm,0.2s						
MRKS				*e*S	**Sg**	**14 24 31.3**	**+2.2**
	6.2nm,0.1s						
MRKS	**Merke**	**1.84**	**37**	Lg	Lg	14 24 31.3	
	6.2nm,0.1s						
KK31	**Karatay Array**	**2.03**	**334**	⇑Pn	**Pb**	**14 24 07.6**	**+0.9**
	0.4nm,0.2s,baz=138,slow=16,SNR=16						
KK31				⇑Sn	**Sg**	**14 24 34.8**	**-0.3**
	1.4nm,0.2s,baz=138,slow=25						
KKAR	**Karatay Array**	**2.03**	**334**	⇑*e*P	**Pb**	**14 24 05.9**	**-0.8**
	baz=32						
KKAR				⇑*e*S	**Sb**	**14 24 31.6**	**-0.3**
	baz=32						
ARLS	**Aral**	**2.04**	**73**	⇑*i*P	**Pb**	**14 24 07.2**	**+0.4**
	baz=78						
ARLS				⇑*i*S	**Sg**	**14 24 33.9**	**-1.4**
	baz=78						
BRLS	**Boroldaу**	**2.24**	**322**	*e*P	**Pb**	**14 24 10.0**	**-0.3**
	7.3nm,0.2s						
BRLS				*e*S	**Sb**	**14 24 38.3**	**+0.4**
	9.6nm,0.3s						
BRLS	**Boroldaу**	**2.24**	**322**	Lg	Lg	14 24 38.3	
	9.6nm,0.3s						
UCH	**Uchtor**	**2.29**	**65**	⇑*i*P	**Pb**	**14 24 10.8**	**-0.6**
	baz=69						
UCH				⇑*i*S	**Sb**	**14 24 39.9**	**+0.1**
	baz=69						

*TAP **25** 14:41:16.2, 24°.07N×122°.73E, h26km, ML2.5, D*
*JMA **25** 14:41:16.3±0.2, 24°.N±1°.×122°.7E±0°.5, h24km±3km, MV2.4/14, NW OFF ISHIGAKIJIMA IS*
ISC 25 14:41:15.8±1.0, 23°.99N±0°.03×122°.75E±0°.02, h26km±10km, n65, σ0s80/113, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.41**	**288**	*i*P	**Pb**	**14 41 24.5**	**+0.1**
	baz=278						
EOS4				*e*S	**Sb**	**14 41 31.1**	**+0.8**
	baz=278						
JYNG	**Yonagunijimaku**	**0.49**	**22**	P	**Pb**	**14 41 25.4**	**-0.5**
JYNG				S	**Sb**	**14 41 31.8**	**-1.0**
EOS3	**EOS3**	**0.49**	**307**	P	**Pb**	**14 41 25.9**	**+0.1**
	baz=303						
EOS3				*e*S	**Sn**	**14 41 33.0**	**-1.6**
	baz=303						
YOJ	**Yonaguni jima**	**0.52**	**27**	P	**Pb**	**14 41 26.1**	**-0.4**
	baz=37						
YOJ				S	**Sb**	**14 41 33.1**	**-0.6**
	baz=37						
YOJ	**Yonaguni jima**	**0.52**	**27**	P	**Pb**	**14 41 26.1**	**-0.4**
YOJ				S	**Sb**	**14 41 33.3**	**-0.4**
EOS2	**EOS2**	**0.63**	**312**	*i*P	**Pn**	**14 41 28.8**	**-0.3**
	baz=302						
EOS2				S	**Sn**	**14 41 38.0**	**-0.2**
	baz=302						
IRIF	**Iriomote-Funau**	**0.96**	**69**	P	**Pn**	**14 41 33.4**	**-0.2**
IRIF				S	**Sn**	**14 41 46.5**	**+0.1**
HATJ	**Hateruma jima**	**0.97**	**86**	P	**Pn**	**14 41 34.3**	**+0.6**
HATJ				*e*S	**Sb**	**14 41 46.9**	**+0.6**
EWUT	**Wuta**	**0.99**	**297**	P	**Pn**	**14 41 34.0**	**-0.1**
	baz=301						
EWUT				*e*S	**Sn**	**14 41 46.9**	**-0.4**
	baz=301						
ESAO	**Su ao**	**1.01**	**305**	*e*P	**Pn**	**14 41 34.0**	**-0.3**
	baz=302						
ESAO				*e*S	**Sn**	**14 41 47.2**	**-0.4**
	baz=302						
ENA	**Nanau**	**1.02**	**295**	P	**Pn**	**14 41 34.5**	**+0.1**
	baz=299						
ENA				*e*S	**Sn**	**14 41 48.2**	**+0.4**
	baz=299						
TWC	**Suao**	**1.02**	**307**	*e*P	**Pn**	**14 41 34.2**	**-0.3**
	baz=304						
TWC				*e*S	**Sb**	**14 41 46.9**	**-1.1**
	baz=304						
TWD	**Chiawan**	**1.06**	**275**	*e*P	**Pn**	**14 41 34.6**	**-0.4**
	baz=271						
TWD				*e*S	**Sb**	**14 41 48.9**	**0.0**
	baz=271						
NACB	**Ninganchiao**	**1.07**	**280**	*e*P	**Pn**	**14 41 35.0**	**-0.1**
	baz=261						
NACB				*e*S	**Sn**	**14 41 50.4**	**+1.2**
	baz=261						
SHUL	**Shoufeng**	**1.10**	**259**	*e*P	**Pn**	**14 41 35.2**	**-0.4**
	baz=256						
EGS		**1.13**	**319**	*e*P	**Pb**	**14 41 36.6**	**-0.1**
	baz=324						
NDS	**Dongshan**	**1.14**	**304**	*e*P	**Pb**	**14 41 36.7**	**-0.2**
	baz=301						
NDS				*e*S	**Sb**	**14 41 52.1**	**+0.9**
	baz=301						
ETM	**Tongmen**	**1.15**	**269**	P	**Pn**	**14 41 36.1**	**-0.2**
	baz=265						
ETM				*e*S	**Sb**	**14 41 52.0**	**+0.5**
	baz=265						
ETLH	**Xiulin Townshi**	**1.18**	**281**	*e*P	**Pn**	**14 41 36.9**	**+0.2**
	baz=263						
ETLH				*e*S	**Sb**	**14 41 53.0**	**+0.6**
	baz=263						
JKRS	**Kuro-shima**	**1.18**	**78**	P	**Pn**	**14 41 37.4**	**+0.8**
JKRS				S	**Sb**	**14 41 53.5**	**+1.2**
ESL	**Shilin**	**1.22**	**262**	*e*P	**Pn**	**14 41 36.6**	**-0.6**
	baz=258						
ESL				*e*S	**Sn**	**14 41 51.9**	**-0.9**
	baz=258						
LXIB	**Xiulin Townshi**	**1.22**	**272**	P	**Pn**	**14 41 37.4**	**0.0**
	baz=268						
LXIB				*e*S	**Sb**	**14 41 54.1**	**+0.3**
	baz=268						
TWE	**Neicheng**	**1.22**	**306**	*e*P	**Pb**	**14 41 38.4**	**+0.1**
	baz=304						
TWE				*e*S	**Sb**	**14 41 53.4**	**-0.3**
	baz=304						
LATG	**Datong**	**1.24**	**296**	*e*P	**Pb**	**14 41 38.6**	**0.0**
	baz=301						
LATG				*e*S	**Sb**	**14 41 53.7**	**-0.6**
	baz=301						
EGFH	**Guangfu**	**1.25**	**255**	*e*S	**Sn**	**14 41 54.0**	**+0.4**
	baz=252						
ENTT	**Nioudou**	**1.26**	**301**	*i*P	**Pb**	**14 41 38.8**	**-0.1**
	baz=298						
ENTT				*e*S	**Sb**	**14 41 54.3**	**-0.4**
	baz=298						
WARBT	**Fenglin Townsh**	**1.28**	**258**	P	**Pn**	**14 41 37.6**	**-0.4**
	baz=242						
WARBT				*e*S	**Sn**	**14 41 53.8**	**-0.5**
	baz=242						
NDT	**Datong Townshi**	**1.28**	**298**	P	**Pb**	**14 41 39.7**	**+0.4**
	baz=295						
NDT				*e*S	**Sb**	**14 41 56.0**	**+0.7**
	baz=295						
TIPB	**Shuangxi**	**1.29**	**319**	*e*P	**Pb**	**14 41 38.8**	**-0.6**
	baz=317						
TIPB				*e*S	**Sb**	**14 41 55.6**	**+0.1**
	baz=317						
FUSB	**Fushanzhiwuyua**	**1.30**	**306**	*e*P	**Pb**	**14 41 39.8**	**+0.1**
	baz=303						
FUSB				*e*S	**Sb**	**14 41 57.6**	**+1.6**
	baz=303						
HGSD	**Ruisui**	**1.31**	**248**	*e*P	**Pn**	**14 41 38.1**	**-0.4**
	baz=245						
HGSD				*e*S	**Sn**	**14 41 55.0**	**-0.1**
	baz=245						
NNSB	**Datong**	**1.32**	**289**	*e*P	**Pb**	**14 41 39.6**	**-0.4**
	baz=286						
NNSB				*e*S	**Sb**	**14 41 57.7**	**+1.1**
	baz=286						
JIJ	**Ishigaki jima**	**1.32**	**74**	P	**Pn**	**14 41 39.3**	**+0.6**
JIJ				S	**Sb**	**14 41 56.7**	**+0.1**
SXI1	**Grass Mountain**	**1.35**	**324**	P	**Pb**	**14 41 39.7**	**-0.9**
	baz=330						
SXI1				*e*S	**Sb**	**14 41 56.3**	**-1.2**
	baz=330						
WHF	**Hehuan Shan**	**1.36**	**277**	P	**Pn**	**14 41 40.2**	**+0.6**
	baz=274						
WHF				*e*S	**Sb**	**14 41 57.8**	**-0.4**
	baz=274						
NWLT	**Wulai**	**1.38**	**305**	*e*P	**Pb**	**14 41 40.7**	**-0.3**
	baz=302						
NWLT				*e*S	**Sb**	**14 41 58.2**	**+0.1**
	baz=302						
EHY	**Hungye**	**1.40**	**250**	*e*P	**Pn**	**14 41 39.7**	**+0.1**
	baz=247						
FUSS	**Fushou**	**1.40**	**281**	*e*P	**Pn**	**14 41 40.7**	**+0.8**
	baz=263						
FUSS				*e*S	**Sb**	**14 41 59.7**	**+0.8**
	baz=263						
YHNB	**Yeheng**	**1.42**	**299**	*e*P	**Pb**	**14 41 41.5**	**-0.2**
	baz=304						
YHNB				*e*S	**Sb**	**14 41 59.9**	**+0.4**
	baz=304						
NSK	**Sanguang**	**1.44**	**298**	*e*P	**Pb**	**14 41 41.5**	**-0.5**
	baz=304						
NSK				*e*S	**Sb**	**14 41 60.0**	**0.0**
	baz=304						
OWD	**Renai**	**1.44**	**269**	*e*P	**Pn**	**14 41 40.7**	**+0.4**
	baz=266						
OWD				*e*S	**Sn**	**14 41 58.5**	**0.0**
	baz=266						
CHGB	**Renai**	**1.44**	**273**	P	**Pn**	**14 41 41.0**	**+0.6**
	baz=258						
YULB	**Yu-li**	**1.46**	**246**	*e*P	**Pn**	**14 41 40.4**	**-0.1**
	baz=230						
YULB				*e*S	**Sn**	**14 41 59.3**	**+0.5**
	baz=230						
EYUL	**Yuli**	**1.46**	**244**	*e*P	**Pn**	**14 41 40.8**	**+0.3**
	baz=241						
EYUL				*e*S	**Sn**	**14 41 59.4**	**+0.5**
	baz=241						
TWT	**Tachien**	**1.46**	**280**	*e*P	**Pb**	**14 41 42.2**	**-0.2**
	baz=264						
TWT				*e*S	**Sb**	**14 42 01.5**	**+0.8**
	baz=264						
CHKH	**Chenggong**	**1.48**	**237**	*e*S	**Sn**	**14 41 57.5**	**-1.7**
	baz=222						
TWF1	**Yuli**	**1.48**	**245**	*e*P	**Pn**	**14 41 40.9**	**+0.1**
	baz=242						
TWF1				*e*S	**Sn**	**14 42 00.3**	**+1.0**
	baz=242						
VWDT	**VWDT**	**1.49**	**261**	P	**Pn**	**14 41 41.5**	**+0.6**
	baz=258						
VWDT				*e*S	**Sn**	**14 41 59.7**	**+0.2**
	baz=258						
WUSB	**Renai**	**1.49**	**270**	P	**Pn**	**14 41 41.8**	**+0.8**
	baz=267						
JISG	**Ishigakijimahi**	**1.54**	**67**	P	**Pn**	**14 41 42.0**	**+0.4**
JISG				*e*S	**Sn**	**14 42 00.4**	**-0.4**
FULB	**Fuli**	**1.55**	**240**	*e*P	**Pn**	**14 41 41.2**	**-0.6**
	baz=225						
NFF	**Wufeng Townshi**	**1.62**	**293**	*e*P	**Pb**	**14 41 45.0**	**-0.1**
	baz=279						
SSLB	**Suanglung**	**1.66**	**263**	*e*P	**Pn**	**14 41 44.6**	**+1.4**
	baz=260						
EDH	**Donghe**	**1.67**	**233**	*e*P	**Pn**	**14 41 42.3**	**-1.1**
	baz=219						
EDH				*e*S	**Sn**	**14 42 02.1**	**-1.9**
	baz=219						
WCS	**Beigang Elemen**	**1.68**	**272**	*e*P	**Pn**	**14 41 45.0**	**+1.4**
	baz=269						
SMLT	**Sun Moon Lake**	**1.69**	**267**	*e*P	**Pn**	**14 41 45.0**	**+1.2**
	baz=264						
SMLT				*e*S	**Sb**	**14 42 06.6**	**-0.8**
	baz=264						
LIOB	**Emei**	**1.71**	**293**	*e*P	**Pn**	**14 41 45.2**	**+1.3**
	baz=290						
WHYT	**Xinyi Township**	**1.76**	**261**	*e*P	**Pb**	**14 41 46.9**	**-0.6**
	baz=258						
LDUT	**Ludao**	**1.76**	**222**	*e*S	**Sn**	**14 42 04.4**	**-1.9**
	baz=220						
ELDTW	**Lidau**	**1.78**	**244**	*e*P	**Pn**	**14 41 45.0**	**-0.1**
	baz=241						
JTJ	**Tarama**	**1.90**	**70**	*e*P	**Pn**	**14 41 47.5**	**+1.0**
WTP	**Ta-pu**	**2.10**	**250**	*e*P	**Pn**	**14 41 51.6**	**+2.3**
	baz=236						
WTP				*e*S	**Sb**	**14 42 18.6**	**-0.2**
	baz=236						
SLGT	**Liugui**	**2.17**	**243**	*e*P	**Pn**	**14 41 52.6**	**+2.3**
	baz=232						
CHN1	**Nanshi**	**2.19**	**249**	*e*P	**Pb**	**14 41 53.8**	**-1.1**
	baz=247						
CHN1				*e*S	**Sb**	**14 42 21.8**	**+0.2**
	baz=247						
TWK	**Hsinying**	**2.20**	**251**	*e*P	**Pn**	**14 41 53.3**	**+2.6**
	baz=249						
TWK				*e*S	**Sb**	**14 42 21.1**	**-0.7**
	baz=249						

TAP 25 14:41:53.0, 24°.03N×121°.06E, h6km, ML0.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WUSB	**Renai**	**0.06**	**121**	*i*P	Pg	14 41 55.2	+0.3
	baz=120						
WUSB				*i*S	Sg	14 41 56.5	+0.4
	baz=120						
WPL	**Puli Township**	**0.09**	**262**	P	Pg	14 41 55.6	+0.5
	baz=263						
WPL				S	Sg	14 41 57.1	+0.5
	baz=263						
CHGB	**Renai**	**0.11**	**72**	P	Pg	14 41 55.9	+0.4
	baz=71						
CHGB				S	Sg	14 41 57.5	+0.2
	baz=71						
DPDB	**Guoxing**	**0.12**	**274**	P	Pg	14 41 56.2	+0.5
	baz=274						
DPDB				S	Sg	14 41 58.4	+1.0
	baz=274						
OWD	**Renai**	**0.13**	**123**	P	Pg	14 41 56.3	+0.5
	baz=122						
WCS	**Beigang Elemen**	**0.14**	**283**	P	Pg	14 41 56.4	+0.5
	baz=284						
WCS				S	Sg	14 41 58.3	+0.5
	baz=284						
TYC	**Yuchr**	**0.22**	**237**	*e*P	Pg	14 41 57.4	0.0
	baz=235						
TYC				*e*S	Sg	14 42 00.8	+0.4
	baz=235						
TWT	**Tachien**	**0.25**	**25**	P	Pg	14 41 58.2	+0.1
	baz=23						
TWT				S	Sg	14 42 02.3	+0.9
	baz=23						
SSLB	**Suanglung**	**0.26**	**202**	*e*P	Pg	14 41 58.0	-0.1
	baz=202						
SSLB				*e*S	Sg	14 42 01.0	-0.5
	baz=202						

TRN 25 15:05:21.3, 17°.69N×62°.41W, h69km, MD3.6, North-west of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.89**	**136**	*e*P	Pn	15 05 39.9	+1.6
ANBD				*e*S	Sn	15 05 53.5	+2.5
MBFL	**Flemmings, Mon**	**0.95**	**169**	*e*P	Pn	15 05 40.2	+1.0
MBFL				*e*S	Sn	15 05 54.5	+2.0
TBG	**Guadaloupe-3**	**1.97**	**158**	*e*P	Pn	15 05 54.1	+1.5
TBG				*e*S	Sn	15 06 18.2	+1.9

*BJI **25** 15:11:07.4±0.0, 17°.59S×66°.77E, h10km, mb4.7/42, mB5.3/13, Ms4.9/23, Ms7 4.5/22*
*MOS **25** 15:11:09.8±1.0, 17°.03S×66°.90E, h10km, mb4.9/47, MS4.1/4, Error ellipse: s-maj=10.2km s-min=6.8km az=106.0*
*IDC **25** 15:11:10.1±0.4, 16°.99S×66°.94E, h0km, mb4.5/24, mbtmp4.5/25, ML4.9/1, MS4.3/60, Error ellipse: s-maj=15.7km s-min=12.4km az=84.0*
*NEIC **25** 15:11:12.0±2.0, 17°.10S±0°.10×66°.78E±0°.08, h10km±1km, mb5.0/74, Error ellipse: s-maj=16.1km s-min=12.8km az=180.0*
*GCMT **25** 15:11:15.0±0.1, 16°.96S±0°.01×66°.72E±0°.01, h13km±1km, MW5.2/138, Moment Tensor Solution. s79,c95; s138,c224; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.06±.01; Mθθ=0.67±.01; Mφφ=0.72±.02; Mrθ=0.19±.04; Mφφ=0.25±.01; Mφr=0.16±.04; Best double couple: M0=0.77900×10^17 NP1:φs=54.00000°, δ89.00000°, λ=18.00000°. NP2:φs=145.00000°, δ72.00000°, λ=179.00000°. Principal axes: T 0.8110, Plg12.0000°, Azm101.0000°; N -0.0640, Plg72.0000°, Azm232.0000°; P -0.7470, Plg13.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 15:11:12.0±0.3, 17°.05S±0°.05×66°.77E±0°.05, h13km, n348, σ1s70/312, mb4.9/134, MS4.3/72, 10C-2D, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**4.20**	**230**	Pn	**Pn**	**15 12 13.6**	**-2.1**
H08S1	**Diego Carcia H**	**10.88**	**31**	T	T	15 24 50.3	
	baz=209,slow=75						
H08S2	**Diego Garcia H**	**10.89**	**32**	T	T	15 24 51.1	
	baz=209,slow=75,SNR=2968						
H08S3	**Diego Garcia H**	**10.90**	**31**	T	T	15 24 51.8	
	baz=209,slow=75,SNR=9860						
RER	**Riviere de l'E**	**11.19**	**247**	Pn	**Pn**	**15 13 49.4**	**-2.5**
MSEY	**Mahe Island**	**16.54**	**317**		**P**	**15 15 05.7**	**-0.8**
MSEY				IAmb	IAmb	15 15 10.1	
	comp=Z,133nm,1.5s						
MSEY	**Mahe Island**	**16.54**	**317**	P	**P**	**15 15 05.7**	**-0.8**
MSEY				pmax	pmax		
	comp=Z,133nm,1.5s						
ABPO	**Ambohimpanom**	**18.68**	**261**	P	**Pn**	**15 15 32.0**	**+1.4**
ABPO				IAmb	IAmb	15 15 35.0	
	comp=Z,75nm,1.2s						
ABPO	**Ambohimpanom**	**18.68**	**261**	P	**Pn**	**15 15 32.0**	**+1.4**
ABPO				pmax	pmax		
	comp=Z,75nm,1.2s						
OPO	**Ambohidratompo**	**18.70**	**262**	P	**Pn**	**15 15 33.5**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=77,slow=12,SNR=15						
	comp=Z,25nm,0.8s						
VOI	**Vohitsoka**	**19.44**	**252**	P	**P**	**15 15 38.2**	**-0.2**
PALK	**Pallekele**	**27.82**	**31**	LR	LR	15 25 36.1	
	comp=Z,330nm,19.5s,baz=315,slow=31						
H04N2	**CROZET ISLANDS**	**31.59**	**200**	T	T	15 50 52.4	
	baz=28,slow=75,SNR=6761						
H04N1	**CROZET ISLANDS**	**31.59**	**200**	T	T	15 50 53.4	
	baz=28,slow=75,SNR=5531						
H04N3	**CROZET ISLANDS**	**31.61**	**200**	T	T	15 50 42.8	
	baz=28,slow=75,SNR=6300						
KIBK	**Kibwezi**	**31.78**	**294**	P	**P**	**15 17 36.8**	**+0.3**
KIBK				IAmb	IAmb	15 17 42.7	
	comp=Z,40nm,1.8s						
KMBO	**Kilima Mbogo**	**33.07**	**295**	P	**P**	**15 17 48.6**	**+0.6**
KMBO				IAmb	IAmb	15 17 54.5	
	comp=Z,25nm,1.6s						
KMBO	**Kilima Mbogo**	**33.07**	**295**	P	**P**	**15 17 48.6**	**+0.6**
KMBO				pmax	pmax		
	comp=Z,25nm,1.6s						
MATP	**Matopo**	**36.34**	**259**	LR	LR	15 31 45.8	
	comp=Z,374nm,19.5s,baz=66,slow=34						
ATD	**Arta Tunnel**	**36.95**	**319**	LR	LR	15 31 55.8	
	comp=Z,34nm,19.2s,baz=130,slow=34						
LSZ	**Lusaka**	**37.06**	**267**	P	**P**	**15 18 22.2**	**0.0**
LSZ	**Lusaka**	**37.06**	**267**	P	**P**	**15 18 22.3**	**0.0**
LSZ				pmax	pmax		
	comp=Z,16nm,1.2s						
FURI	**Furi**	**37.89**	**311**	LR	LR	15 32 11.2	
	comp=Z,831nm,20.3s,baz=137,slow=33						
MBAR	**Mbarara**	**39.05**	**291**	LR	LR	15 32 36.0	
	comp=Z,1μm,19.3s,baz=86,slow=33						
LBTB	**Lobatse**	**39.12**	**251**	P	**P**	**15 18 40.0**	**+0.5**
LBTB	**Lobatse**	**39.12**	**251**	LR	LR	15 32 34.0	
	comp=Z,303nm,19.5s,baz=90,slow=33						
LBTB	**Lobatse**	**39.12**	**251**	P	**P**	**15 18 40.0**	**+0.5**
LBTB				pmax	pmax		
	comp=Z,16nm,1.0s						
BOSA	**Boshof**	**39.77**	**246**	P	**P**	**15 18 46.5**	**+1.6**
BOSA	**Boshof**	**39.77**	**246**	P	**P**	**15 18 46.5**	**+1.6**
	comp=Z,6.8nm,1.0s,baz=75,slow=6.7,SNR=7.1						
BOSA				LR	LR	15 31 24.0	
	comp=Z,382nm,21.5s,baz=88,slow=30						
	comp

comp=Z,23nm,1.3s
WSAR Wadi Sarin 40.82 349 LR LR 15 32 22.1
comp=Z,408nm,19.5s,baz=186,slow=31
LEM Lembang 41.16 81 P **P** **15 18 55.5 -1.1**
comp=Z,33nm,0.8s
RAYN Ar Rayn 45.36 332 P **P** **15 19 30.4 +0.2**
RAYN Ar Rayn 45.36 332 P **P** **15 19 30.5 +0.2**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
H01W3 Cape Leeuwin H 45.69 122 T T 16 08 10.2
baz=280,slow=75,SNR=3953
H01W2 Cape Leeuwin H 45.69 122 T T 16 08 10.2
baz=280,slow=75,SNR=4381
H01W1 Cape Leeuwin H 45.71 122 T T 16 08 11.7
baz=280,slow=75,SNR=4246
TSUM Tsumeb 46.67 259 LR LR 15 37 27.6
comp=Z,547nm,19.3s,baz=147,slow=34
CMAR Chiang Mai Arr 47.40 43 P **P** **15 19 46.0 -0.4**
CMAR Chiang Mai Arr 47.40 43 P **P** **15 19 46.8 +0.4**
comp=Z,3.6nm,0.9s,baz=237,slow=8.7,SNR=16
comp=Z,3.6nm,0.9s
NWAO Narrogin (SRO) 47.95 119 LR LR 15 36 20.1
comp=Z,637nm,18.9s,baz=268,slow=32
PHRA Phrae 48.29 45 P **P** **15 19 52.7 -0.5**
SHL Shillong 48.91 31 P **P** **15 19 58.5 +0.4**
SHL IAmb IAmb 15 20 18.1
comp=Z,14nm,1.0s
SHL Shillong 48.91 31 P **P** **15 19 58.5 +0.4**
SHL pmax pmax
comp=Z,14nm,1.0s
UBPT Khong Chiam 49.90 52 P **P** **15 20 04.1 -1.5**
UBPT IAmb IAmb 15 20 11.6
comp=Z,27nm,1.3s
MBWA Marble Bar 50.03 104 P **P** **15 20 07.1 +0.5**
MBWA Marble Bar 50.03 104 P **P** **15 20 06.7 +0.1**
MBWA IAmb IAmb 15 20 07.7
comp=Z,27nm,1.0s
MBWA Marble Bar 50.03 104 P **P** **15 20 07.0 +0.3**
comp=Z,38nm,3.0s,SNR=2.5
PSAC1 Pilbara Seismi 50.07 104 P **P** **15 20 06.3 -0.6**
comp=Z,41nm,1.6s,SNR=3.0
PSA00 Pilbara Seismi 50.10 104 P **P** **15 20 07.5 +0.3**
PSA00 Pilbara Seismi 50.10 104 P **P** **15 20 06.5 -0.7**
PSA00 IAmb IAmb 15 20 08.3
comp=Z,33nm,1.0s
PSA00 Pilbara Seismi 50.10 104 P **P** **15 20 04.2 -3.0**
comp=Z,36nm,1.2s,SNR=2.7
MAW Mawson 50.59 182 P **P** **15 20 11.2 +1.2**
comp=Z,12nm,0.9s,baz=358,slow=8.9,SNR=16
MAW LR LR 15 36 10.4
comp=Z,678nm,21.3s,baz=12,slow=30
comp=Z,12nm,0.9s
NIL Nilore 50.79 7 P **P** **15 20 12.2 +0.1**
KBL Kabul 51.35 2 P **P** **15 20 16.7 +0.2**
KBL Kabul 51.35 2 P **P** **15 20 16.7 +0.2**
KBL pmax pmax
comp=Z,9.0nm,1.1s
KMBL Kambalda 51.76 117 P **P** **15 20 18.9 -0.7**
comp=Z,59nm,1.2s,SNR=2.1
TNCH TengChong 52.03 37 P **P** **15 20 26.0 +4.3**
TNCH PP **PP** **15 22 24.0 +4.0**
TNCH S **S** **15 27 38.8 -6.5**
TNCH pmax pmax
comp=Z,18nm,1.5s
TNCH pmax pmax
comp=Z,180nm,3.1s
TNCH LR LR
comp=Z,310nm,9.1s
TNCH LR LR
comp=Z,180nm,8.8s
TNCH LR LR
comp=Z,340nm,12.6s
SLVN Son La 52.73 45 P **P** **15 20 26.8 -0.1**
SLVN IAmb IAmb 15 20 37.9
comp=Z,13nm,1.2s
KAPI Kappang 53.20 83 P **P** **15 20 30.1 -0.3**
KAPI Kappang 53.20 83 LR LR 15 39 50.4
comp=Z,468nm,21.3s,baz=274,slow=32
KAPI Kappang 53.20 83 *i P* **P** **15 20 26.8 -3.6**
KAPI pmax pmax
comp=Z,34nm,1.2s
BKSI Bulukumba 53.46 84 P **P** **15 20 31.0 -1.4**
comp=Z,19nm,1.2s
EDFI Ende, Flores 54.02 89 P **P** **15 20 35.8 -0.8**
comp=Z,57nm,1.4s
MMRI Maumere 54.58 89 P **P** **15 20 40.8 +0.3**
MMRI Maumere 54.58 89 P **P** **15 20 39.8 -0.7**
MMRI Maumere 54.58 89 P **P** **15 20 39.3 -1.2**
PZH PanZhiHua 55.04 39 P **P** **15 20 48.3 +4.6**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,150nm,6.0s
MPSI Mapaga 55.09 77 P **P** **15 20 43.1 -1.2**
comp=Z,22nm,1.2s
SIMJ Simiganj 55.45 2 P **P** **15 20 48.0 +1.5**
QIZ Qiongzhong 55.49 52 P **P** **15 20 47.5 +0.6**
QIZ S **S** **15 28 33.0 +0.9**
QIZ pmax pmax
comp=Z,17nm,2.3s
QIZ LR LR
comp=Z,380nm,11.8s
QIZ LR LR
comp=Z,270nm,8.3s
QIZ LR LR
comp=Z,340nm,15.1s
EIL Elat 55.67 326 LR LR 15 41 15.5
comp=Z,386nm,19.4s,baz=121,slow=32
GAR Garm 55.85 3 P **P** **15 20 49.5 +0.1**
GAR IAmb IAmb 15 20 58.3
comp=Z,18nm,1.2s
FITZ Fitzroy Crossi 55.92 101 P **P** **15 20 49.6 -0.6**
FITZ Fitzroy Crossi 55.92 101 P **P** **15 20 50.0 -0.2**
comp=Z,729nm,1.4s,SNR=7.0
TOLI2 Tolitoli 56.20 77 P **P** **15 20 52.5 +0.3**
TOLI2 Tolitoli 56.20 77 P **P** **15 20 50.6 -1.6**
SOEI Soe 56.24 90 P **P** **15 20 53.8 +1.1**
SOEI Soe 56.24 90 P **P** **15 20 53.2 +0.5**
SOEI Soe 56.24 90 P **P** **15 20 52.5 -0.2**
KSH Kashi 56.92 8 P **P** **15 20 53.8 -3.2**
KSH pmax pmax
comp=Z,14nm,1.1s
KSH LR LR
comp=Z,860nm,14.1s
KSH LR LR
comp=Z,490nm,15.8s
BTK Batken 56.94 4 P **P** **15 20 59.8 +2.8**
BTK Batken 56.94 4 P **P** **15 20 59.8 +2.8**
BTK pmax pmax
comp=Z,6.0nm,0.9s
FORT Forrest 57.05 116 P **P** **15 20 58.5 +0.4**
FORT Forrest 57.05 116 P **P** **15 20 58.0 -0.1**
FORT Forrest 57.05 116 P **P** **15 20 57.9 -0.1**
comp=Z,78nm,1.1s,SNR=3.6
LUWI Luwuk 57.31 80 P **P** **15 21 01.2 +1.1**
LUWI Luwuk 57.31 80 P **P** **15 21 00.3 +0.1**
LUWI Luwuk 57.31 80 P **P** **15 20 59.7 -0.4**
WRKA Warakurna 57.57 109 P **P** **15 21 01.3 -0.5**
comp=Z,47nm,1.2s,SNR=3.9
GYA Guiyang 58.08 43 P **P** **15 21 10.0 +4.6**
GYA pmax pmax
comp=Z,13nm,1.1s
MMAI Mount Meron Ar 58.11 329 LR LR 15 44 29.3
comp=Z,197nm,18.4s,baz=96,slow=34
KNRA Kununurra 59.28 98 P **P** **15 21 12.8 -1.1**
KNRA Kununurra 59.28 98 P **P** **15 21 13.6 -0.3**
comp=Z,44nm,1.1s,SNR=5.7
CD2 Chengdu 59.49 37 P **P** **15 21 14.8 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
AAK Ala-Archa 59.81 7 P **P** **15 21 16.8 -0.4**
AAK IAmb IAmb 15 21 23.2
comp=Z,10nm,1.2s
AAK Ala-Archa 59.81 7 P **P** **15 21 16.8 -0.4**
AAK pmax pmax
comp=Z,10.0nm,1.2s
KK31 Karatay Array 59.95 3 P **P** **15 21 16.9 -1.0**
KK31 IAmb IAmb 15 21 23.9
comp=Z,8.9nm,1.3s
KK31 Karatay Array 59.95 3 P **P** **15 21 17.0 -1.0**
KK31 pmax pmax
comp=Z,9.0nm,1.3s
KKAR Karatay Array 59.95 3 P **P** **15 21 16.9 -1.0**
KKAR Karatay Array 59.95 3 P **P** **15 21 17.0 -1.0**
GURO Guroymak-BITLI 59.97 338 P **P** **15 21 19.0 +0.7**
GURO IAmb IAmb 15 21 33.1
comp=Z,13nm,1.3s
SANI Sanana 60.03 82 P **P** **15 21 19.5 +0.4**
SANI Sanana 60.03 82 P **P** **15 21 18.2 -0.9**
ELIB Princess Elisa 60.43 194 *dP* **P** **15 21 20.8 -0.2**
comp=Z,8.5nm,0.9s
GNI Garni 60.49 341 LR LR 15 46 21.2
comp=Z,172nm,19.7s,baz=170,slow=35
GNI Garni 60.49 341 *i P* **P** **15 21 22.0 +0.1**
GNI pmax pmax
comp=Z,29nm,1.4s
GNI Garni 60.49 341 P **P** **15 21 20.8 -1.1**
comp=Z,19nm,1.0s
MTN Manton Dam 62.10 96 P **P** **15 21 31.6 -1.5**
MTN IAmb IAmb 15 21 33.9
comp=Z,24nm,1.0s
MTN Manton Dam 62.10 96 P **P** **15 21 32.3 -0.8**
comp=Z,24nm,1.2s,SNR=4.0
MULG Mulgathing 62.25 116 P **P** **15 21 33.4 -0.5**
MAK Makhachkala 62.29 344 *eP* P 15 21 27.1 -6.6
MAK *e*PPP PPP 15 25 16.3
MAK *e*S **S** **15 29 51.4 -8.1**
MAK *e*SS **SS** **15 33 57.3 -6.1**
MAK MLR MLR
comp=Z,106nm,15.0s
ASPA Alice Springs 62.80 108 P **P** **15 21 37.4 -0.4**
comp=Z,10nm,1.0s,SNR=14
ASAR Alice Springs 62.80 108 P **P** **15 21 36.5 -1.3**
ASAR Alice Springs 62.80 108 P **P** **15 21 36.8 -1.0**
comp=Z,24nm,0.9s,baz=272,slow=6.0,SNR=197
ASAR LR LR 15 46 00.2
comp=Z,2μm,18.9s,baz=282,slow=33
comp=Z,24nm,0.9s
NVL N'lazarevskaya 62.80 198 *eP* **P** **15 21 33.6 -3.3**
NVL pmax pmax
comp=Z,17nm,0.9s
AS31 Alice Springs 62.80 108 P **P** **15 21 36.5 -1.3**
AS31 IAmb IAmb 15 21 38.0
comp=Z,6.5nm,0.8s
DAV Davao City (W) 62.87 73 LR LR 15 46 51.5
comp=Z,351nm,20.8s,baz=230,slow=34
KDU Kakadu 63.41 96 P **P** **15 21 41.3 -0.5**
comp=Z,67nm,1.1s,SNR=9.3
WMQ Urumqi 63.53 17 *eP* **P** **15 21 45.0 +2.9**
WMQ pmax pmax
comp=Z,27nm,0.7s
WMQ LR LR
comp=Z,280nm,12.7s
WMQ LR LR
comp=Z,260nm,13.7s
WMQ LR LR
comp=Z,170nm,21.1s
WRA Warramunga Arr 63.76 104 P **P** **15 21 43.3 -0.8**
WRA Warramunga Arr 63.76 104 P **P** **15 21 43.7 -0.4**
comp=Z,41nm,1.0s,baz=266,slow=6.6,SNR=181
WRA LR LR 15 45 29.2
comp=Z,426nm,21.8s,baz=44,slow=32
WRA Warramunga Arr 63.76 104 P **P** **15 21 43.3 -0.8**
WRA pmax pmax
comp=Z,4.0nm,1.0s
BBOO Buckleboo 63.77 119 P **P** **15 21 42.5 -1.6**
BBOO Buckleboo 63.77 119 P **P** **15 21 42.4 -1.6**
comp=Z,38nm,1.7s,SNR=2.2
WB2 Warramunga Arr 63.77 104 P **P** **15 21 43.4 -0.9**
WRAB Tennant Creek 63.77 104 P **P** **15 21 43.7 -0.5**
WRAB Tennant Creek 63.77 104 P **P** **15 21 43.7 -0.5**
WRAB pmax pmax
comp=Z,57nm,0.9s
WB0 Warramunga Arr 63.84 104 P **P** **15 21 43.7 -1.0**
WR0 Warramunga Arr 63.94 104 P **P** **15 21 44.6 -0.7**
GTA Gaotai 64.09 28 *eP* **P** **15 21 46.8 +0.8**
GTA S **S** **15 30 21.3 -1.3**
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA LR LR
comp=Z,180nm,14.2s
GTA LR LR
comp=Z,140nm,14.2s
GTA LR LR
comp=Z,200nm,14.5s
KBZ Khabaz 64.31 341 LR LR 15 50 17.1
comp=Z,167nm,19.0s,baz=165,slow=36
KBZ Khabaz 64.31 341 *i P* **P** **15 21 44.6 -2.5**
KBZ pmax pmax
comp=Z,6.0nm,1.9s
BRTR Keskin Array B 64.38 332 P **P** **15 21 49.9 +1.9**
comp=Z,1.8nm,0.8s,baz=158,slow=8.9,SNR=7.1
BRTR LR LR 15 48 60.0
comp=Z,213nm,18.5s,baz=144,slow=35
comp=Z,1.8nm,0.8s
KIV Kislovodsk 64.58 341 *eP* **P** **15 21 47.2 -1.9**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,132nm,17.0s
MAKZ Makanchi 65.02 11 P **P** **15 21 52.8 +1.1**
MAKZ IAmb IAmb 15 21 56.4
comp=Z,5.9nm,1.1s
MAKZ Makanchi 65.02 11 P **P** **15 21 52.8 +1.1**
MAKZ pmax pmax
comp=Z,6.0nm,1.1s
MK31 Makanchi Array 65.07 12 P **P** **15 21 51.2 -0.9**
MK31 IAmb IAmb 15 21 57.5
comp=Z,14nm,1.6s
MK31 Makanchi Array 65.07 12 P **P** **15 21 51.2 -0.9**
MK31 pmax pmax
comp=Z,14nm,1.6s
MKAR Makanchi Array 65.07 12 P **P** **15 21 50.6 -1.4**
MKAR Makanchi Array 65.07 12 P **P** **15 21 51.6 -0.4**
comp=Z,2.9nm,0.9s,baz=210,slow=7.0,SNR=13
MKAR LR LR 15 48 47.5
comp=Z,159nm,20.3s,baz=227,slow=35
comp=Z,2.9nm,0.9s
SOC Sochi 65.23 339 *eP* **P** **15 21 50.4 -2.8**
SOC *e* 15 24 12.8
SOC *e*S **S** **15 30 35.0 -1.2**
SOC *e*SS **SS** **15 34 49.5 0.0**
SOC MLR MLR
comp=Z,131nm,17.0s
SWI Sorong 65.40 83 P **P** **15 21 54.2 -0.7**
comp=Z,36nm,1.5s
LCRK Leigh Creek 65.81 116 P **P** **15 21 57.4 +0.1**
WHN Wuhan 65.84 44 P P 15 22 06.8 +9.5
TROLL Troll, Antarti 66.03 198 ⇑P **P** **15 21 59.6 +1.3**
comp=Z,329nm,1.0s
HTT Hallett 66.11 119 P **P** **15 21 59.8 +0.5**
HTT Hallett 66.11 119 P **P** **15 21 59.1 -0.2**
comp=Z,30nm,4.0s,SNR=2.8
ABKAR Akbulak array 66.28 355 P **P** **15 21 59.1 -0.7**
ABKAR IAmb IAmb 15 22 04.6
comp=Z,10nm,1.2s
SNAA Sanae 67.55 199 P **P** **15 22 08.1 +0.3**
SNAA IAmb IAmb 15 22 12.5
comp=Z,13nm,1.1s
SNAA Sanae 67.55 199 ⇑P **P** **15 22 08.9 +1.1**
comp=Z,127nm,1.0s
SNAA Sanae 67.55 199 P **P** **15 22 08.4 +0.6**
comp=Z,6.5nm,0.9s,baz=101,slow=3.5,SNR=24
SNAA LR LR 15 44 53.6
comp=Z,309nm,20.9s,baz=94,slow=30
comp=Z,6.5nm,0.9s
SNAA Sanae 67.55 199 P **P** **15 22 08.1 +0.3**
SNAA pmax pmax
comp=Z,13nm,1.1s
AKTO Aktyubinsk 67.63 354 LR LR 15 50 57.9
comp=Z,250nm,19.4s,baz=20,slow=35
KURBB Kurchatov Arra 68.17 8 P **P** **15 22 11.6 -0.2**
comp=Z,6.4nm,0.9s,baz=201,slow=6.7,SNR=18
KURBB LR LR 15 50 44.6
comp=Z,198nm,19.5s,baz=178,slow=35
comp=Z,6.4nm,0.9s
KURK Kurchatov 68.27 8 P **P** **15 22 12.2 -0.2**
KURK IAmb IAmb 15 22 17.3
comp=Z,16nm,1.1s
KURK Kurchatov 68.27 8 P **P** **15 22 12.2 -0.2**
KURK pmax pmax
comp=Z,17nm,1.1s
QIS Mount Isa 68.52 106 P **P** **15 22 14.2 -0.6**
comp=Z,42nm,1.2s,SNR=7.8
STKA Stephens Creek 68.52 118 P **P** **15 22 14.9 +0.3**
STKA Stephens Creek 68.52 118 P **P** **15 22 14.0 -0.6**
STKA Stephens Creek 68.52 118 P **P** **15 22 13.8 -0.8**
comp=Z,9.2nm,0.9s,baz=293,slow=6.3,SNR=14
STKA LR LR 15 48 50.0
comp=Z,460nm,19.3s,baz=250,slow=33
comp=Z,9.2nm,0.9s
STKA Stephens Creek 68.52 118 P **P** **15 22 14.0 -0.6**
STKA pmax pmax
comp=Z,4.0nm,1.1s
VNA2 Neumayer--Watz 68.83 200 ⇑P **P** **15 22 17.1 +1.3**
comp=Z,13nm,0.7s,baz=87,slow=4.7
VNA3 Neumayer Olymp 69.61 200 ⇑P **P** **15 22 21.9 +1.2**
comp=Z,10nm,0.8s
NJ2 Nanjing 69.80 46 *eP* **P** **15 22 22.8 +0.5**
NJ2 sP **pwP** **15 22 28.5 -1.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
BVAR Borovoye Array 69.85 2 P **P** **15 22 21.8 -0.4**
comp=Z,5.1nm,0.8s,baz=165,slow=6.9,SNR=20
BVAR LR LR 15 51 53.0
comp=Z,126nm,19.6s,baz=179,slow=35
comp=Z,5.1nm,0.8s
BRVK Borovoye 69.88 2 P **P** **15 22 22.0 -0.3**
BRVK IAmb IAmb 15 22 25.2
comp=Z,5.9nm,0.9s
BRVK Borovoye 69.88 2*ceP* **P** **15 22 22.2 -0.1**
BRVK pmax pmax
comp=Z,11nm,1.7s
BTO Baotou 70.03 34 *eP* **P** **15 22 26.5 +2.8**
BTO S **S** **15 31 34.8 +0.7**
BTO SS **SS** **15 36 10.0 +5.9**
BTO pmax pmax
comp=Z,12nm,0.6s
BTO pmax pmax
comp=Z,490nm,6.7s
BTO LR LR
comp=Z,440nm,9.6s
BTO LR LR
comp=Z,310nm,14.7s
BTO LR LR
comp=Z,240nm,9.6s
TORD Torodi Ar. Bea 70.92 291 P **P** **15 22 30.8 +1.2**
comp=Z,1.3nm,0.9s,baz=100,slow=6.0,SNR=4.8
TORD LR LR 15 51 44.0
comp=Z,380nm,19.9s,baz=116,slow=34
comp=Z,1.3nm,0.9s
TOO Toolangi 71.00 124 P **P** **15 22 30.1 +0.3**
TOO IAmb IAmb 15 22 31.6
comp=Z,26nm,1.1s
TOO Toolangi 71.00 124 P **P** **15 22 30.1 +0.3**
TOO pmax pmax
comp=Z,26nm,1.1s
HHC Hu-ho-hao-te 71.03 34 *eP* **P** **15 22 32.5 +2.7**
HHC S **S** **15 31 40.8 -5.0**
HHC SS **SS** **15 36 24.3 +4.8**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,150nm,4.3s
BELG Belogornoye 71.12 348 P **P** **15 22 29.1 -0.8**
comp=Z,15nm,1.0s,baz=141,slow=4.9,SNR=3.6
BELG LR LR 15 53 29.2
comp=Z,177nm,20.6s,baz=156,slow=36
comp=Z,15nm,1.0s
BELG Belogornoye 71.12 348 *i P* **P** **15 22 25.6 -4.3**
BELG pmax pmax
comp=Z,3.0nm,1.0s
VRH Novokhopyorsk 71.41 344 *eP* **P** **15 22 31.7 0.0**
VRH pmax pmax
comp=Z,13nm,0.5s
CMSA Cobar Meteorol 72.03 118 P **P** **15 22 36.5 +0.5**
VSR Storozhevoye 72.14 342 *eP* **P** **15 22 33.0 -3.1**
VSR pmax pmax
comp=Z,10.0nm,1.5s
VRI Vrincioaia 72.34 332 P **P** **15 22 38.7 +1.2**
VRI pmax pmax
comp=Z,8.0nm,0.8s
VRI Vrincioaia 72.34 332 P **P** **15 22 37.7 +0.2**
comp=Z,8.2nm,0.8s,comp=Z,116nm
PLOR5 Plostina Array 72.36 332 P **P** **15 22 38.0 +0.4**
comp=Z,9.1nm,0.7s
PLOR3 Plostina Array 72.37 332 P **P** **15 22 37.6 -0.1**
comp=Z,7.7nm,1.5s,comp=Z,435nm
ZAA0 Zalesovo Array 72.39 11 P **P** **15 22 36.6 -0.9**
ZAA0 IAmb IAmb 15 22 44.3
comp=Z,7.5nm,0.9s
ZALV Zalesovo Beam 72.39 11 P **P** **15 22 36.2 -1.3**
ZALV Zalesovo Beam 72.39 11 P **P** **15 22 37.0 -0.5**
comp=Z,7.9nm,0.8s,baz=202,slow=5.9,SNR=16
ZALV LR LR 15 52 53.4
comp=Z,199nm,21.9s,baz=192,slow=35
comp=Z,7.9nm,0.8s
ZALV Zalesovo Beam 72.39 11 P **P** **15 22 37.0 -0.5**
MLR Muntele Rosu 72.42 331 P **P** **15 22 38.6 +0.6**
MLR IAmb IAmb 15 22 43.3
comp=Z,25nm,1.5s
MLR Muntele Rosu 72.42 331 LR LR 15 53 57.9
comp=Z,113nm,20.1s,baz=116,slow=35
MLR Muntele Rosu 72.42 331 P **P** **15 22 38.6 +0.6**
MLR pmax pmax
comp=Z,25nm,1.5s
MLR Muntele Rosu 72.42 331 P **P** **15 22 37.9 -0.2**
comp=Z,11nm,1.5s
VORR Voronezh 72.54 342 *eP* **P** **15 22 35.0 -3.4**
VORR pmax pmax
comp=Z,7.0nm,0.5s
VOIR 72.79 331 P **P** **15 22 40.5 +0.3**
VOIR pmax pmax
comp=Z,8.0nm,1.3s
VOIR 72.79 331 P **P** **15 22 39.5 -0.7**
comp=Z,8.5nm,1.3s
PUK Puka 72.98 325 P **P** **15 22 42.6 +1.2**
PUK IAmb IAmb 15 22 46.1
comp=Z,37nm,1.3s
QSPA South Pole Qui 73.04 180 P **P** **15 22 42.0 +0.4**
QSPA South Pole Qui 73.04 180 P **P** **15 22 42.5 +0.9**
comp=Z,30nm,1.0s,baz=275,slow=0.7,SNR=38
QSPA LR LR 15 49 48.2
comp=Z,297nm,20.9s,baz=298,slow=32
comp=Z,30nm,1.0s
VAE Valguarnera 73.25 319 LR LR 15 53 09.3
comp=Z,106nm,18.3s,baz=311,slow=34
MTSU Mount Surprise 73.37 104 P **P** **15 22 45.1 +0.9**
ARU Arti 73.52 355 P **P** **15 22 42.9 -1.3**
ARU Arti 73.52 355 P **P** **15 22 43.4 -0.7**
comp=Z,1.4nm,0.2s,baz=142,slow=12,SNR=1.6
ARU LR LR 15 54 12.9
comp=Z,168nm,18.5s,baz=156,slow=35
comp=Z,1.4nm,0.2s
ARU Arti 73.52 355*c i P* **P** **15 22 44.1 -0.1**
ARU 15 25 24.3
ARU S **SKiKP** **15 32 15.0 +0.4**
ARU SS **SS** **15 36 55.6 -1.2**
ARU pmax pmax
comp=Z,9.0nm,1.1s
ARU Arti 73.52 355 P **P** **15 22 42.8 -1.3**
comp=Z,7.1nm,1.0s
TABU Tabubil 73.63 91 P **P** **15 22 47.1 +1.2**
SONM Songino Array 73.68 27 P **P** **15 22 45.6 +0.1**
SONM Songino Array 73.68 27 P **P** **15 22 45.1 -0.3**
comp=Z,1.0nm,0.7s,baz=226,slow=5.7,SNR=6.4
SONM LR LR 15 53 53.9
comp=Z,112nm,21.2s,baz=234,slow=35
comp=Z,1.0nm,0.7s
SONM Songino Array 73.68 27 P **P** **15 22 45.6 +0.1**
SONM pmax pmax
comp=Z,3.0nm,1.0s
SVE Sverdlovsk 73.77 356 *eP* **P** **15 22 46.1 +0.5**
SVE pmax pmax
comp=Z,17nm,1.4s
YNG Young 73.82 121 P **P** **15 22 47.2 +0.6**
JOW Kunigami 73.92 55 LR LR 15 52 03.1
comp=Z,78nm,21.5s,baz=250,slow=33
ULN Ulaanbaatar 73.98 27*ceP* **P** **15 22 48.9 +1.6**
ULN pmax pmax
comp=Z,5.0nm,1.7s
CAN Canberra 74.13 123 P **P** **15 22 48.8 +0.3**
CAN Canberra 74.13 123 P **P** **15 22 48.8 +0.3**
CAN pmax pmax
comp=Z,90nm,1.8s
AULRC Lightning Ridg 74.34 116 P **P** **15 22 50.1 +0.4**
AUDCS Dubbo College 74.37 119 P **P** **15 22 50.6 +0.7**
VNDA Vanda 74.58 167 P **P** **15 22 50.0 -0.2**
VNDA IAmb IAmb 15 23 12.3
comp=Z,16nm,1.4s
VNDA Vanda 74.58 167 P **P** **15 22 50.4 +0.2**
comp=Z,5.2nm,1.1s,baz=278,slow=5.8,SNR=10
VNDA LR LR 15 50 40.9
comp=Z,275nm,21.9s,baz=266,slow=32
comp=Z,5.2nm,1.1s
VNDA Vanda 74.58 167 P **P** **15 22 50.0 -0.2**
VNDA pmax pmax
comp=Z,16nm,1.4s

DBIC	Dimbokro	74.58	282	LR	LR	15 54 00.8	
	comp=Z,413nm,20.6s,baz=116,slow=34						
CTA	Charters Tower	74.72	107	P	P	15 22 52.7	+0.6
CTA	Charters Tower	74.72	107	LR	LR	15 53 07.2	
	comp=Z,73nm,20.2s,baz=269,slow=34						
CTAO	Charters Tower	74.72	107	P	P	15 22 52.7	+0.6
CTAO	Charters Tower	74.72	107	P	P	15 22 51.9	-0.2
CTAO	Charters Tower	74.72	107	P	P	15 22 51.9	-0.2
CTAO				pmax	pmax		
	comp=Z,41nm,1.2s						
DRGR		74.89	330	P	P	15 22 53.0	+0.5
DRGR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
LUBAR	Lubar, Ukraine	75.04	335	P	P	15 22 53.3	+0.1
AKASG	Malin Array Be	75.08	336	P	P	15 22 52.5	-0.9
	comp=Z,1.6nm,0.5s,baz=142,slow=5.0,SNR=2.5						
AKASG				LR	LR	15 55 45.6	
	comp=Z,111nm,21.0s,baz=142,slow=36						
	comp=Z,1.6nm,0.5s						
AKBB	Malin Array Si	75.08	336	P	P	15 22 52.7	-0.7
AKBB	Malin Array Si	75.08	336	P	P	15 22 52.7	-0.7
AKBB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
AKBB	Malin Array Si	75.08	336	P	P	15 22 52.6	-0.8
KIEV	Kiev	75.08	336	P	P	15 22 52.5	-0.9
KIEV	Kiev	75.08	336	P	P	15 22 52.5	-0.9
KIEV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIEV	Kiev	75.08	336	P	P	15 22 52.3	-1.1
AK04	Malin Array Si	75.12	336	P	P	15 22 53.1	-0.5
AK19	Malin Array Si	75.18	336	P	P	15 22 53.2	-0.8
AK22	Malin Array Si	75.19	336	P	P	15 22 53.3	-0.7
AK20	Malin Array Si	75.20	336	P	P	15 22 53.0	-1.0
AK21	Malin Array Si	75.21	336	P	P	15 22 53.6	-0.5
KEST	Kesra	75.54	315	P	P	15 22 57.6	+1.1
	comp=Z,2.9nm,0.8s,baz=107,slow=10,SNR=2.9						
KEST				LR	LR	15 56 43.5	
	comp=Z,320nm,19.7s,baz=56,slow=36						
	comp=Z,2.9nm,0.8s						
SBA	Scott Base	75.54	168	P	P	15 22 59.4	+3.6
SBA				pmax	pmax		
	comp=Z,11nm,1.6s						
BELA	Belgrano 2	75.83	192	P	P	15 22 58.1	+0.7
BELA				IAmb	IAmb	15 23 01.3	
	comp=Z,35nm,1.7s						
MI28	Mi28,Pidlybu	75.87	336	P	P	15 22 56.8	-1.1
OBN	Obninsk	76.32	343⇓	eP	P	15 23 02.4	+2.1
OBN				e*PP	sP	15 23 04.3	-0.5
OBN				e		15 23 09.6	
OBN				S	S	15 32 46.0	+1.4
OBN				e		15 33 24.2	
OBN				SS	SS	15 37 43.0	+3.7
OBN				eSSS	SSS	15 41 00.2	
OBN				pmax	pmax		
	comp=Z,35nm,1.7s						
MORH	Mrgy, Hungar	76.48	328	P	P	15 23 00.7	-0.8
	comp=Z,10nm,1.4s						
LVV	L'vov	76.52	333	eP	P	15 23 02.3	+0.6
MOS	Moscow	76.57	344	eP	P	15 23 03.5	+1.7
KIRV	Kirov	76.70	351	LR	LR	15 56 50.0	
	comp=Z,208nm,19.4s,baz=166,slow=36						
KIRV	Kirov	76.70	351	ceP	P	15 23 03.0	+0.6
RNPP5	Staryi Chortor	76.81	335	P	P	15 23 02.4	-0.8
KWP	Kalwaria Pacla	76.96	332	P	P	15 23 03.4	-0.8
KWP	Kalwaria Pacla	76.96	332	P	P	15 23 03.4	-0.8
KWP	Kalwaria Pacla	76.96	332	P	P	15 23 04.4	+0.2
	comp=Z,13nm,1.3s						
CRVS	Cervenica-Dubn	77.00	331	eP	P	15 23 06.6	+2.2
CRVS	Cervenica-Dubn	77.00	331	eP	P	15 23 06.6	+2.2
ARMA	Armidale	77.24	118	P	P	15 23 07.2	+0.7
ARMA	Armidale	77.24	118	P	P	15 23 05.7	-0.8
ARMA				IAmb	IAmb	15 23 08.7	
	comp=Z,30nm,1.3s						
NRCA	Norcia	77.31	323	P	P	15 23 06.6	+0.2
NRCA				IAmb	IAmb	15 23 10.3	
	comp=Z,21nm,1.2s						
EIDS	Eidsvold	77.88	113	P	P	15 23 10.7	+0.7
EIDS	Eidsvold	77.88	113	P	P	15 23 09.7	-0.3
EIDS				IAmb	IAmb	15 23 11.5	
	comp=Z,28nm,1.3s						
VYHS	Vyhne	77.95	330	eP	P	15 23 13.7	+4.0
VYHS	Vyhne	77.95	330	eP	P	15 23 13.7	+4.0
PMG	Port Moresby	78.18	96	iP	P	15 23 11.4	-0.4
PMG				pmax	pmax		
	comp=Z,46nm,1.2s						
ZST	Bratislava	78.60	329	eP	P	15 23 15.4	+2.1
ZST	Bratislava	78.60	329	eP	P	15 23 15.4	+2.1
MNK	Minsk	78.60	338	iP	P	15 23 12.0	-1.2
MNK				iS	S	15 33 09.5	0.0
MNK				iSS	SS	15 38 17.4	+3.5
MNK				iSSS	SSS	15 41 39.1	
MNK				pmax	pmax		
	comp=E,10.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,9.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,11nm,0.8s						
MNK				MLR	MLR		
	comp=Z,109nm,17.0s						
MNK				MLR	MLR		
	comp=E,99nm,26.0s						
MNK				MLR	MLR		
	comp=N,411nm,24.0s						
MODS	Modra-Piesok	78.63	329	eP	P	15 23 16.1	+2.6
MODS	Modra-Piesok	78.63	329	eP	P	15 23 16.1	+2.6
SOKA	Soboth	78.66	327	iP	P	15 23 16.1	+2.2
	comp=N,8.3nm,1.3s						
RONA	Rosalia, Austr	78.67	328	iP	P	15 23 14.7	+0.9
	comp=N,13nm,1.4s						
JAVC	Velka Javorina	78.76	329	eP	P	15 23 16.7	+2.4
ARSA	Arzberg	78.78	327	iP	P	15 23 16.6	+2.3
	comp=N,15nm,1.3s						
JNU	Nakatsue	78.93	50	LR	LR	15 56 38.5	
	comp=N,84nm,20.4s,baz=236,slow=35						
KSRS	Korea Array	79.00	45	P	P	15 23 14.8	-1.0
	comp=N,0.9nm,0.9s,baz=246,slow=5.7,SNR=3.4						
KSRS				LR	LR	15 56 20.2	
	comp=N,99nm,19.9s,baz=255,slow=34						
	comp=N,0.9nm,0.9s						
CONA	Conrad Observa	79.04	328	iP	P	15 23 16.5	+0.6
	comp=N,16nm,1.2s						
MYKA	Terra Mystica	79.37	326	eP	P	15 23 21.0	+3.3
	comp=N,4.4nm,1.1s						
MORC	Moravsky Berou	79.45	330	eP	P	15 23 16.4	-1.6
KRUC	Moravsky	79.52	329	eP	P	15 23 18.3	-0.1
VRAC	Vranov	79.59	329	eP	P	15 23 19.1	+0.4
VRAC	Vranov	79.59	329	P	P	15 23 21.0	+2.2
	comp=N,1.8nm,0.5s,baz=132,slow=9.4,SNR=1.6						
	comp=N,1.8nm,0.5s						
VRAC	Vranov	79.59	329	P	P	15 23 21.0	+2.2
KBA	Koelnbreinsper	79.81	326	eP	P	15 23 23.5	+3.3
	comp=N,9.1nm,1.3s						
MOA	Molln	79.81	327	iP	P	15 23 20.5	+0.5
	comp=N,16nm,1.4s						
BIOA	Bad Ischl, Aus	80.04	327	eP	P	15 23 24.4	+3.2
	comp=N,5.6nm,1.1s						
ABTA	Abfaltersbach	80.05	325	epP	P	15 23 25.2	+3.8
	comp=N,10nm,0.9s						
LESA	Schwarzleotal	80.38	326	eP	P	15 23 23.0	-0.2
	comp=N,8.3nm,1.1s						
WTTA	Wattenberg	80.84	326	eP	P	15 23 28.2	+2.5
	comp=N,12nm,1.4s						
WATA	Walderalm	80.92	326	eP	P	15 23 28.7	+2.6
	comp=N,3.8nm,0.7s						
KHC	Kasperske Hory	80.98	328	P	P	15 23 25.6	-0.7
KHC	Kasperske Hory	80.98	328	eP	P	15 23 26.5	+0.2
KHC	Kasperske Hory	80.98	328	ceP	P	15 23 27.1	+0.8
KHC				pmax	pmax		
	comp=Z,14nm,1.3s						
SQTA	Sankt Quirin	81.05	325	eP	P	15 23 28.6	+1.8
	comp=Z,2.2nm,0.5s						
MOTA	Moosalm	81.18	325	eP	P	15 23 29.9	+2.4
	comp=Z,3.8nm,0.6s						
FETA	Feichten	81.19	325	iP	P	15 23 27.7	+0.1
	comp=Z,7.6nm,1.1s						
RETA	Reutte	81.45	325	epP	P	15 23 32.9	+4.0
	comp=Z,5.0nm,1.3s						
TUE	Stuetta	81.64	324	P	P	15 23 31.2	+1.2
BRG	Berggiesshubel	81.91	329	eP	P	15 23 34.5	+3.4
BRG				Amp		15 23 35.6	
	comp=Z,4.9nm,1.1s						
BRG	Berggiesshubel	81.91	329	eP	P	15 23 34.5	+3.4
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CLL	Collm	82.64	329	P	P	15 23 34.9	0.0
CLL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GUMO	Guam	82.89	74	LR	LR	15 55 57.1	
	comp=Z,37nm,21.0s,baz=246,slow=32						
MOX	Moxa	82.92	328	P	P	15 23 37.0	+0.6
MOX				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ECH	Echery	83.86	325	P	P	15 23 40.5	-0.8
ECH	Echery	83.86	325	P	P	15 23 40.5	-0.8
ECH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MDT	Midelt	84.25	307	LR	LR	16 02 36.7	
	comp=Z,141nm,18.1s,baz=142,slow=37						
FINES	FINESS Array B	84.67	342	P	P	15 23 45.1	+0.1
	comp=Z,2.1nm,0.9s,baz=146,slow=10,SNR=5.7						
FINES				LR	LR	16 02 39.1	
	comp=Z,126nm,19.7s,baz=132,slow=36						
	comp=Z,2.1nm,0.9s						
JCJ	Chichijima	85.26	60	LR	LR	15 57 27.0	
	comp=Z,85nm,21.7s,baz=179,slow=33						
JHJ	Hachijo jima 2	85.64	54	LR	LR	16 00 00.8	
	comp=Z,62nm,20.2s,baz=224,slow=34						
MJAR	Matsushiro Arr	85.85	50	P	P	15 23 51.1	-0.5
	comp=Z,2.9nm,1.0s,baz=249,slow=5.2,SNR=5.2						
MJAR				LR	LR	16 02 28.4	
	comp=Z,57nm,19.6s,baz=235,slow=36						
	comp=Z,2.9nm,1.0s						
ESDC	Sonseca Array	86.65	313	P	P	15 23 55.8	+0.2
ESDC				IAmb	IAmb	15 23 59.5	
	comp=Z,14nm,1.6s						
ESDC	Sonseca Array	86.65	313	P	P	15 23 55.3	-0.3
	comp=Z,2.2nm,0.9s,baz=104,slow=3.7,SNR=16						
	comp=Z,2.2nm,0.9s						
PAB	San Pablo	86.87	313	P	P	15 23 56.6	-0.1
PAB				IAmb	IAmb	15 24 00.6	
	comp=Z,14nm,1.4s						
PAB	San Pablo	86.87	313	P	P	15 23 56.6	-0.1
PAB				pmax	pmax		
	comp=Z,14nm,1.4s						
KLR	Kul'dur	87.41	36	LR	LR	16 04 44.6	
	comp=Z,88nm,18.0s,baz=230,slow=37						
KLR	Kul'dur	87.41	36	ceP	P	15 24 03.0	+4.1
KLR				pmax	pmax		
	comp=Z,9.0nm,2.5s						
NRIK	Noril'sk	87.42	7	LR	LR	16 04 20.8	
	comp=Z,180nm,19.2s,baz=166,slow=36						
NRIK	Noril'sk	87.42	7	iP	P	15 23 56.0	-2.5
NRIK				pmax	pmax		
	comp=Z,11nm,2.1s						
BBTS	Babate	88.01	286	LR	LR	16 02 47.2	
	comp=Z,332nm,18.9s,baz=331,slow=35						
RPZ	Rata Peaks	88.31	135	LR	LR	15 55 40.7	
	comp=Z,253nm,18.1s,baz=231,slow=30						
NOA	NORSAR Array B	89.50	336	LR	LR	16 05 39.8	
	comp=Z,80nm,19.0s,baz=90,slow=36						
PMSA	Palmer Station	90.27	199	LR	LR	16 00 01.5	
	comp=Z,93nm,18.5s,baz=130,slow=32						
HNR	Honiara	90.28	100	LR	LR	16 03 28.2	
	comp=Z,4μm,19.7s,baz=232,slow=35						
HEF	Hetta	90.70	345	eP	P	15 24 11.3	-2.6
ARCES	ARCESS Array B	91.14	347	LR	LR	16 05 35.7	
	comp=Z,129nm,19.0s,baz=124,slow=36						
ASAJ	Asahikawa	91.92	44	LR	LR	16 03 58.2	
	comp=Z,64nm,21.3s,baz=264,slow=34						
DZM	Mont Dzumac	92.31	114	eSS	SS	15 41 36.1	-0.4
	comp=Z,200nm,25.6s						
DZM	Mont Dzumac	92.31	114	eLR	LR	15 53 53.2	
	comp=Z,571nm,20.9s						
DZM	Mont Dzumac	92.31	114	LR	LR	16 03 28.1	
	comp=Z,525nm,19.8s,baz=223,slow=34						
YAK	Yakutsk	92.96	25	LR	LR	16 04 08.3	
	comp=Z,141nm,21.4s,baz=232,slow=34						
URZ	Urewera	94.71	132	LR	LR	16 00 33.4	
	comp=Z,221nm,18.2s,baz=16,slow=31						
TIXI	Tiksi	97.74	16	LR	LR	16 09 11.6	
	comp=Z,160nm,19.6s,baz=260,slow=36						
TBI	Tubuai	126.47	138	eSS	SS	15 49 09.3	-5.1
	comp=Z,660nm,28.5s						
TBI	Tubuai	126.47	138	eLR	LR	16 09 43.8	
	comp=Z,311nm,23.8s						
F28M	Old Crow	126.63	12	PKPdf	PKiKP	15 30 15.9	+0.8
ILAR	Eielson Array	127.20	17	PKP	PKPdf	15 30 15.4	-0.2
	comp=Z,0.4nm,0.9s,baz=320,slow=4.1,SNR=4.0						
EPYK	Eagle Plains	128.34	12	PKPdf	PKPdf	15 30 17.4	-0.4
PPT2	Papeete2	130.35	132	eLR	LR	16 11 33.1	
PPT2				eLR	LR	16 11 34.6	
	comp=Z,128nm,24.2s						
	comp=Z,100nm,28.0s						
HPAH	Hawaii Prepara	139.71	79	PKPdf	PKPdf	15 30 38.4	-2.2
TAOE	Nuku Hiva Isla	142.98	132	eLR	LR	16 17 25.3	
	comp=Z,290nm,25.0s						
COWI	Conover	144.78	330	PKPdf	PKPab	15 30 47.3	-0.3
E38A	The Farm, Brul	145.48	333	PKPdf	PKPdf	15 30 48.4	-1.5
EGMT	Eagleton	148.98	355	PKPbc	PKiKP	15 31 00.8	-0.3
ECSD	EROS Data Cent	149.91	336	PKPbc	PKPbc	15 31 00.7	-1.5
MSO	Missoula	150.30	1	PKPbc	PKPbc	15 31 03.5	+0.3
L34A	Svendsen Farm,	151.27	333	PKPbc	PKPbc	15 31 04.7	-0.8
T42A	Van Buren	152.11	320	PKPbc	PKPbc	15 31 06.9	-0.6
HUMO	Hull Mountain	153.21	16	PKPbc	PKPbc	15 31 08.5	-1.3
PDAR	Pinedale Array	154.18	354	PKPbc	PKiKP	15 31 12.8	+0.5
	comp=Z,0.2nm,0.4s,baz=85,slow=3.3,SNR=5.2						
NVAR	Mina Array Bea	158.24	11	PKPab	PKPab	15 31 43.6	+0.3
	comp=Z,0.7nm,0.7s,baz=2.9,slow=3.6,SNR=4.8						
TXAR	Lajitas Array	164.95	326	PKP	PKPdf	15 31 17.8	+1.2
	comp=Z,0.1nm,0.5s,baz=122,slow=1.2,SNR=1.6						
TXAR				PKPab	PKPab	15 32 12.5	-0.3
	comp=Z,1.4nm,1.0s,baz=90,slow=4.5,SNR=5.6						

*SJA **25** 15:14:50.6±0.9, 30.°63S×71.°36W, h35km±2km, ML3.6, MW3.6*

*GUC **25** 15:14:52.1±0.7, 30.°65S×71.°18W, h52km±3km, ML3.7*

ISC 25 15:14:52.5±1.2, 30.°66S±0.°02×71.°28W±0.°03, h31km±12km, n60, σ1.°48/100, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.31	268⇑	eP	Pn	15 15 02.5	+1.7
CO06				iS	Sn	15 15 10.9	+4.6
CO06				IAML		15 15 14.2	
	comp=N,8μm,0.3s						
CO03	El Pedregal	0.54	109	eP	Pb	15 15 03.6	0.0
CO03				eS	Sn	15 15 12.7	+0.6
CO03				IAML		15 15 13.1	
	comp=Z,10μm,0.2s						
CO03	El Pedregal	0.54	109⇓	eP	Pn	15 15 03.8	-0.3
CO03				iS	Sn	15 15 12.5	+0.4
CO02	Combarbal	0.59	156	eP	Pb	15 15 04.6	+0.1
CO02				eS	Sn	15 15 14.6	+1.2
CO02				IAML		15 15 14.9	
	comp=Z,7μm,0.1s						
CO02	Combarbal	0.59	156⇑	eP	Pb	15 15 04.8	+0.3
CO02				iS	Sn	15 15 14.2	+0.8
GO04	Tololo Observa	0.64	40	eP	Pn	15 15 05.4	-0.3
GO04				eS	Sn	15 15 15.4	+0.6
GO04	Tololo Observa	0.64	40⇓	iP	Pn	15 15 05.3	-0.3
GO04				iS	Sn	15 15 15.0	+0.1
CO05	La Serena	0.74	3⇑	eP	Pn	15 15 06.7	-0.1
CO05				iS	Sn	15 15 17.3	+0.3
CO05				IAML		15 15 18.0	
	comp=N,7μm,0.3s						
CO01	Juntas del Tor	1.23	57	eP	Pn	15 15 13.3	-0.5
CO01				eS	Sn	15 15 29.1	-0.4
CO01				IAML		15 15 29.6	
	comp=Z,1μm,0.3s						
CO01	Juntas del Tor	1.23	57⇓	eP	Pn	15 15 13.3	-0.5
CO01				iS	Sn	15 15 28.8	-0.9
AROD	Rodeo	1.64	73	eP	Pn	15 15 20.3	+0.9
AROD				eS	Sb	15 15 43.1	+0.4
LCO	Las Campanas	1.72	17	eP	Pn	15 15 19.4	-1.1
LCO				IAML		15 15 45.6	
	comp=Z,1μm,0.3s						
LCO	Las Campanas	1.72	17	eP	Pn	15 15 19.9	-0.6
LCO				iS	Sn	15 15 40.6	-1.0
VA06	Catapilco	1.89	180⇑	iP	Pn	15 15 22.9	+0.3
VA06				iS	Sn	15 15 46.3	+0.9
VA06				IAML		15 15 52.6	
	comp=N,1μm,0.4s						
ACCO	Cerro Coronel	1.91	88	eP	Pn	15 15 24.5	+1.3
ACCO				eS	Sn	15 15 39.7	-6.6
DOCA	Reserva Natura	1.91	99	eP	Pn	15 15 24.2	+0.9
DOCA				eS	Sb	15 15 48.6	-1.9
DOCA				IAML		15 15 57.6	
	comp=Z,524nm,0.6s						
ACDV	Cuesta del Vie	1.93	76	eP	Pn	15 15 24.2	+0.9
ACDV				eS	Sb	15 15 52.8	+2.0
AC05	El Transito	2.02	26	eP	Pn	15 15 24.5	0.0
AC05				eS	Sn	15 15 49.2	+0.5
AC05				IAML		15 15 50.8	
	comp=Z,215nm,0.2s						
AC05	El Transito	2.02	26⇓	eP	Pn	15 15 24.2	-0.3
AC05				iS	Sn	15 15 48.4	-0.4
AC05				IAML		15 15 54.8	
	comp=E,623nm,0.2s						
RTLS	Leoncito	2.04	124	eP	Pn	15 15 26.3	+1.3
RTLS				eS	Sb	15 15 54.1	-0.1
RTLS				IAML		15 15 57.5	
	comp=Z,530nm,0.3s						
VA03	San Esteban	2.19	164	eP	Pn	15 15 26.9	+0.1
VA03				eS	Sn	15 15 38.9	-14
VA03				IAML		15 16 01.3	
	comp=Z,392nm,0.2s						
VA03	San Esteban	2.19	164⇑	iP	Pn	15 15 26.8	0.0
VA03				iS	Sn	15 15 53.2	+0.4
VA03				IAML		15 16 00.7	
	comp=E,814nm,0.2s						
ROCH	El Roble	2.31	174	eP	Pn	15 15 28.9	+0.3
ROCH				iS	Sn	15 15 57.0	+0.8
VA01	Torpederas	2.37	187	eP	Pn	15 15 28.6	-0.6
VA01				IAML		15 16 09.7	
	comp=Z,115nm,0.2s						
VA01	Torpederas	2.37	187	eP	Pn	15 15 26.3	-3.0
VA01				iS	Sn	15 15 56.4	-0.9
ZON	Zonda	2.40	112	eP	Pn	15 15 29.9	+0.3
ZON				IAML		15 16 10.6	
	comp=Z,118nm,0.6s						
AC04	Llanos de Chal	2.46	4	eP	Pn	15 15 30.0	-0.4
AC04				eS	Sn	15 15 48.0	-11
AC04				IAML		15 16 08.9	
	comp=Z,286nm,0.3s						
AC04	Llanos de Chal	2.46	4	eP	Pn	15 15 30.2	-0.2
AC04				iS	Sn	15 15 59.2	-0.2
AC04				IAML		15 16 11.3	
	comp=E,388nm,0.0s						
PEL	Peldehue	2.52	169	eP	Pn	15 15 31.3	0.0
PEL				iS	Sn	15 16 01.6	+0.5
PEL				IAML		15 16 08.5	
	comp=E,72nm,0.2s						
MT02	Curacav	2.59	177	eP	Pn	15 15 32.0	-0.2
MT02				eS	Sb	15 16 08.2	-1.4
MT02				IAML		15 16 17.8	
	comp=Z,144nm,0.3s						
MT02	Curacav	2.59	177	eP	Pn	15 15 32.0	-0.2
MT02				iS	Sn	15 16 01.5	-1.2
RTCV	Cerro Valdivia	2.63	118	eP	Pn	15 15 34.5	+1.7
MT10	Hacienda Santa	2.68	167	eP	Pn	15 15 34.5	+0.9
MT10				iS	Sn	15 16 05.1	+0.1
MT10				IAML		15 16 13.0	
	comp=E,551nm,0.2s						
MT05	Renca	2.76	171	eP	Pb	15 15 54.1	+13
MT05				eS	Sn	15 16 04.7	-2.2
MT05				IAML		15 16 25.1	
	comp=Z,216nm,0.3s						
MT05	Renca	2.76	171	eP	Pn	15 15 36.8	+2.1
FCH	Farellones	2.79	163	eP	Pn	15 15 37.1	+1.9
FCH				iS	Sn	15 16 08.9	+1.0
FCH				IAML		15 16 19.1	
	comp=E,252nm,0.0s						
ASAL	Salagasta	2.84	133	eP	Pn	15 15 37.8	+2.1
ASAL				eS	Sn	15 15 59.5	-9.4
MT03	Universidad Ad	2.90	167	eP	Pn	15 15 38.5	+2.0
MT03				eP		15 15 39.7	
MT03				eS	Sn	15 16 12.5	+2.1
MT03				IAML		15 16 28.2	
	comp=Z,330nm,0.3s						
MT03	Universidad Ad	2.90	167	eP	Pn	15 15 37.6	+1.1
MT03				iS	Sn	15 16 10.3	-0.1
ARCO	CERRO ARCO	2.95	138	eP	Pn	15 15 39.6	+2.2
ARCO				eS	Sn	15 16 15.4	+3.6
ARCO				IAML		15 16 28.0	
	comp=Z,102nm,0.5s						
MT15	Las Vizcachas	3.00	168	eP	Pn	15 15 38.0	+0.1
MT15				iS	Sn	15 16 13.3	+0.4
MT15				IAML		15 16 28.1	
	comp=E,451nm,0.3s						
MT09	Talagante	3.11	176	eP	Pn	15 15 39.9	+0.3
MT09				iS	Sn	15 16 14.8	-1.0
MT09				IAML		15 16 33.7	
	comp=N,227nm,0.4s						
MT13	San Alfonso	3.19	165	eP	Pn	15 15 42.1	+1.6
MT13				IAML		15 16 37.7	
	comp=Z,102nm,0.5s						
MT13	San Alfonso	3.19	165	eP	Pn	15 15 40.9	+0.3
MT13				iS	Sn	15 16 19.0	+1.5
MT13				IAML		15 16 27.8	
	comp=E,207nm,0.4s						
GO03	Copiap	3.19	17	eP	Pn	15 15 41.2	+0.6
GO03				eS	Sn	15 16 18.0	+0.4
GO03	Copiap	3.19	17	eP	Pn	15 15 40.2	-0.4
GO03				IAML		15 16 32.9	
	comp=E,214nm,0.4s						
MT01	Popeta	3.19	180	eP	Pn	15 15 39.8	-0.7
MT01				IAML		15 16 34.6	
	comp=Z,76nm,0.8s						
MT01	Popeta	3.19	180	eP	Pn	15 15 40.2	-0.3
MT01				iS	Sn	15 16 17.2	-0.3
MT01				IAML		15 16 26.9	
	comp=E,201nm,0.2s						
VCA	Vinchina	3.29	55	eS	Sn	15 16 23.1	+2.9
VCA				IAML		15 16 34.0	
	comp=Z,291nm,0.5s						
VCA	Vinchina	3.29	55	eP	Pn	15 15 44.1	+2.0
LMEL	Las Melosas	3.30	164	eP	Pn	15 15 44.0	+1.8
BO04	La Punta	3.37	170	eP	Pn	15 15 43.2	+0.3
BO04				iS	Sn	15 16 21.4	-0.4
BO04				IAML		15 16 42.3	
	comp=E,150nm,0.5s						
AC06	Mina Casimiro	3.39	14	eP	Pn	15 15 43.0	-0.3
AC06				IAML		15 16 35.5	
	comp=E,137nm,0.2s						
BO01	Tunca	3.72	178	eP	Pn	15 15 47.4	-0.4
BO01				iS	Sn	15 16 28.0	-2.6
BO03	Pichilemu	3.87	188	eP	Pn	15 15 48.2	-1.6
BO03				iS	Sn	15 16 30.2	-3.9
ACLC	CERRO LA CRUZ	3.95	73	eP	Pn	15 15 51.4	+0.3
ACLC				IAML		15 16 58.6	
	comp=Z,43nm,0.5s						
BO02	Sierra Bellavi	4.14	174	eP	Pn	15 15 53.6	+0.1
BO02				iS	Sn	15 16 39.9	-1

s-min=85.6km az=125.0
IGQ ***25*** *15:47:04.6±1.7, 1°S±13°×9°1W±°, h2km, M4.7/3*
NEIC ***25*** *15:47:06.3±1.5, 1°0S±0°1×90°90W±0°09, h10km±2km, mb4.4/25, Error ellipse: s-maj=25.2km s-min=9.4km az=149.0*

ISC 25 15:47:06.2±1.7, 0°9S±0°2×91°0W±0°1, h10km, n46, σ0°68/38, mb4.3/18, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCH1	**Volcn Chico**	**0.20**	**322**	P	Pg	15 47 06.1	-4.4
FER2	**Fernandina2, P**	**0.65**	**317**	P	Pg	15 47 15.0	-3.7
FER1	**Fernandina1, P**	**0.66**	**314**	P	**Pg**	**15 47 18.2**	**-0.7**
I20EC	**Galapagos**	**0.69**	**61**	Pg	**Pb**	**15 47 20.0**	**-0.4**
	baz=268,slow=34						
PAYG	**Puerto Ayora**	**0.74**	**69**	Pg	**Pb**	**15 47 20.1**	**-1.1**
PAYG	**Puerto Ayora**	**0.74**	**69**	P	**Pb**	**15 47 20.8**	**-0.3**
ALCE	**Alcedo, Punta**	**1.11**	**297**	P	Pn	15 47 14.1	-14
ATAH	**Atahualpa**	**13.97**	**116**	LR	LR	15 54 53.7	
	comp=Z,230nm,20.0s,baz=291,slow=35						
TEIG	**Tepich**	**21.20**	**7**	P	**P**	**15 51 52.9**	**+0.8**
	8.1nm,1.1s,baz=163,slow=11,SNR=3.0						
TEIG				LR	LR	15 58 49.0	
	comp=Z,69nm,21.5s,baz=186,slow=33						
	8.1nm,1.1s						
BAUV	**El Baul**	**24.87**	**66**	P	**P**	**15 52 30.2**	**+0.9**
ETMB	**Extrema**	**26.16**	**111**	P	**P**	**15 52 40.8**	**-0.2**
ETMB				IAmb	IAmb	15 52 45.7	
	comp=Z,14nm,1.5s						
TXAR	**Lajitas Array**	**32.46**	**339**	P	**P**	**15 53 37.4**	**+0.4**
TXAR	**Lajitas Array**	**32.46**	**339**	P	**P**	**15 53 36.9**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=153,slow=11,SNR=7.0						
	comp=Z,0.8nm,0.9s						
TX31	**Lajitas Ar. Si**	**32.46**	**339**	P	**P**	**15 53 37.1**	**+0.1**
H03N2	**Juan Fernandez**	**34.25**	**162**	T	T	16 29 56.4	
	baz=338,slow=77,SNR=28						
H03N1	**Juan Fernandez**	**34.25**	**162**	T	T	16 29 58.4	
	baz=338,slow=77,SNR=30						
VHRN	**Van Horn**	**34.26**	**338**	P	**P**	**15 53 53.3**	**+0.6**
H03N3	**Juan Fernandez**	**34.26**	**162**	T	T	16 29 58.1	
	baz=338,slow=77,SNR=24						
ODSA	**Odessa**	**34.66**	**343**	P	**P**	**15 53 56.5**	**+0.3**
POST	**Post**	**35.26**	**345**	P	**P**	**15 54 01.7**	**+0.5**
DKNS	**Dickens**	**35.68**	**346**	P	**P**	**15 54 04.5**	**-0.3**
DKNS				IAmb	IAmb	15 54 06.8	
	comp=Z,7.9nm,1.2s						
WMOK	**Wichita Mounta**	**36.24**	**349**	P	**P**	**15 54 09.7**	**0.0**
WMOK				IAmb	IAmb	15 54 10.9	
	comp=Z,5.4nm,1.1s						
SMWD	**Samnorwood**	**36.90**	**347**	P	**P**	**15 54 16.4**	**+1.2**
T25A	**Trinidad**	**39.89**	**343**	P	**P**	**15 54 40.9**	**+0.3**
T25A				IAmb	IAmb	15 54 43.0	
	comp=Z,9.7nm,1.2s						
SDCO	**Great Sand Dun**	**40.77**	**342**	P	**P**	**15 54 48.7**	**+0.7**
WUAZ	**Wupatki**	**40.97**	**334**	P	**P**	**15 54 49.9**	**+0.4**
S22A	**4UR Ranch, Cre**	**41.20**	**341**	P	**P**	**15 54 52.6**	**+1.2**
HMU	**Henry Mountain**	**42.78**	**337**	P	**P**	**15 55 05.1**	**+0.7**
HMU				IAmb	IAmb	15 55 06.9	
	comp=Z,9.3nm,1.2s						
BSUT	**Blindstream Ca**	**45.05**	**339**	P	**P**	**15 55 23.7**	**+0.9**
BSUT				IAmb	IAmb	15 55 24.7	
	comp=Z,4.4nm,1.0s						
NVAR	**Mina Array Bea**	**46.57**	**330**	P	**P**	**15 55 35.0**	**+0.4**
NVAR	**Mina Array Bea**	**46.57**	**330**	P	**P**	**15 55 34.9**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=142,slow=9.0,SNR=8.8						
	comp=Z,1.7nm,0.9s						
PDAR	**Pinedale Array**	**46.62**	**341**	P	**P**	**15 55 34.7**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=146,slow=8.3,SNR=4.4						
	comp=Z,0.3nm,0.4s						
FXWY	**Fox Creek**	**47.88**	**340**	P	**P**	**15 55 44.0**	**-0.8**
G31M	**Satah River**	**74.23**	**344**	P	**P**	**15 58 43.9**	**+1.0**
G31M				IAmb	IAmb	15 58 44.7	
	comp=Z,3.0nm,0.9s						
N25K	**Chitina, Valde**	**74.39**	**336**	P	**P**	**15 58 44.2**	**0.0**
N25K				IAmb	IAmb	15 59 13.3	
	comp=Z,7.0nm,1.3s						
K27K	**Chicken**	**74.83**	**339**	P	**P**	**15 58 45.8**	**-0.8**
K27K				IAmb	IAmb	15 58 48.7	
	comp=Z,2.4nm,0.8s						
INK	**Inuvik**	**75.01**	**345**	P	**P**	**15 58 47.0**	**-0.5**
G29M	**Pine Creek**	**75.31**	**343**	P	**P**	**15 58 48.9**	**-0.4**
J26L	**Joseph Creek**	**75.63**	**339**	P	**P**	**15 58 51.2**	**-0.1**
J26L				IAmb	IAmb	15 58 54.0	
	comp=Z,3.1nm,0.8s						
F28M	**Old Crow**	**76.31**	**343**	P	**P**	**15 58 55.3**	**+0.3**
F28M				IAmb	IAmb	15 58 59.1	
	comp=Z,2.4nm,0.8s						
ILAR	**Eielson Array**	**76.97**	**339**	P	**P**	**15 58 57.1**	**-1.7**
ILAR	**Eielson Array**	**76.97**	**339**	P	**P**	**15 58 57.8**	**-1.0**
	comp=Z,1.5nm,0.9s,baz=143,slow=4.3,SNR=11						
	comp=Z,1.5nm,0.9s						
BMAR	**Burnt Mountain**	**77.65**	**341**	P	**P**	**15 59 02.8**	**+0.2**
H24K	**Noodor Dome**	**77.89**	**339**	P	**P**	**15 59 03.8**	**-0.2**
H24K				IAmb	IAmb	15 59 05.3	
	comp=Z,3.9nm,1.1s						
D25K	**Kavik River**	**79.26**	**343**	P	**P**	**15 59 11.4**	**-0.1**
D25K				IAmb	IAmb	15 59 14.6	
	comp=Z,3.7nm,0.9s						
ESDC	**Sonseca Array**	**88.29**	**50**	LR	LR	16 35 29.7	
	comp=Z,28nm,18.3s,baz=112,slow=33						

IDC ***25*** *15:52:44.4±1.7, 28°90N×93°77E, h0km, mb3.5/5, mbtmp3.5/6, ML3.3/1, MS3.6/13, Error ellipse: s-maj=74.8km s-min=22.5km az=65.0*

ISC 25 15:52:49.3±1.7, 28°9N±0°2×93°7E±0°4, h35km, n16, σ0°32/6, mb3.5/5, MS3.6/11, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.48**	**154**	LR	LR	16 00 44.3	
	comp=Z,163nm,18.0s,baz=345,slow=42						
MKAR	**Makanchi Array**	**19.93**	**337**	P	**Pn**	**15 57 20.0**	**+0.1**
	0.1nm,0.3s,baz=146,slow=9.0,SNR=3.7						
MKAR				LR	LR	16 06 09.8	
	comp=Z,115nm,18.7s,baz=184,slow=40						
	0.4nm,0.5s						
SONM	**Songino Array**	**21.29**	**24**	P	**P**	**15 57 32.9**	**+0.1**
	1.1nm,0.5s,baz=231,slow=9.1,SNR=2.2						
SONM				LR	LR	16 05 04.6	
	comp=Z,148nm,18.2s,baz=250,slow=35						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**24.50**	**336**	P	**P**	**15 58 05.0**	**-0.1**
	0.4nm,0.3s,baz=143,slow=10,SNR=2.3						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**25.82**	**348**	P	**P**	**15 58 16.9**	**-0.1**
	1.0nm,0.5s,baz=159,slow=9.3,SNR=4.2						
	1.0nm,0.5s						
JOW	**Kunigami**	**30.59**	**86**	LR	LR	16 12 50.4	
	comp=Z,109nm,18.0s,baz=298,slow=40						
JNU	**Nakatsue**	**32.04**	**73**	LR	LR	16 13 29.7	
	comp=Z,86nm,18.9s,baz=254,slow=39						
ARU	**Arti**	**37.02**	**328**	LR	LR	16 17 21.0	
	comp=Z,84nm,18.6s,baz=136,slow=40						
KBZ	**Khabaz**	**42.84**	**304**	LR	LR	16 20 04.2	
	comp=Z,62nm,18.7s,baz=102,slow=38						
GUMO	**Guam**	**49.71**	**97**	LR	LR	16 20 43.0	
	comp=Z,28nm,22.0s,baz=279,slow=34						
AKASG	**Malin Array Be**	**52.28**	**314**	LR	LR	16 25 36.4	
	comp=Z,56nm,21.4s,baz=79,slow=38						
FURI	**Furi**	**55.20**	**260**	LR	LR	16 25 19.1	
	comp=Z,74nm,19.1s,baz=102,slow=35						
VRAC	**Vranov**	**60.52**	**313**	LR	LR	16 31 25.2	
	comp=Z,40nm,19.4s,baz=85,slow=38						
NOA	**NORSAR Array B**	**61.55**	**327**	LR	LR	16 32 21.2	
	comp=Z,51nm,19.1s,baz=50,slow=39						
WRA	**Warramunga Arr**	**62.46**	**136**	P	**P**	**16 03 08.9**	**-0.3**
	0.2nm,0.6s,baz=328,slow=7.2,SNR=1.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**65.06**	**139**	P	**P**	**16 03 26.8**	**+0.4**
	0.2nm,0.5s,baz=323,slow=6.5,SNR=2.2						
ASAR				LR	LR	16 34 49.5	
	comp=Z,160nm,18.8s,baz=322,slow=39						
	0.2nm,0.5s						

AEIC ***25*** *16:05:49.9±2.5, 52°81N±0°08×168°61W±0°09, h46km±7km, Error ellipse: s-maj=13.2km s-min=5.8km az=154.0*

NEIC 25 16:05:52.1±2.6, 53°0N±0°1×168°7W±0°1, h43km±12km, mb3.4/29, ML3.4/10, ML3.3(AEIC), Error ellipse: s-maj=18.1km s-min=2.5km az=146.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.10**	**276**		Sn	16 06 05.1	+1.0
OKSP	**Okmok Steeple**	**0.38**	**39**		Pn	16 06 00.8	-0.7
OKCE	**Okmok Cone E**	**0.56**	**34**		Pn	16 06 03.4	-0.4
OKCE					Sn	16 06 14.6	+2.5
OKWE	**Okmok W'ng Wal**	**0.58**	**27**		Pn	16 06 03.8	-0.2
OKNC	**Okmok New Cone**	**0.60**	**34**		Pn	16 06 04.1	-0.1
OKFG	**Magazine Ridge**	**0.65**	**46**		Pn	16 06 04.1	-0.8
OKFG					Sn	16 06 14.9	+0.9
CLCO	**Concord Point,**	**0.65**	**255**		Pn	16 06 03.5	-1.5
CLCO					Sn	16 06 14.1	-0.1
CLES	**Cleveland East**	**0.75**	**260**		Pn	16 06 04.7	-1.5
CLES					Sn	16 06 16.2	-0.2
CLES				IAML		16 06 19.7	
	comp=N,3μm,0.2s						
MAPS	**Pakushin South**	**1.35**	**50**		Pn	16 06 13.0	-1.3
MGOD	**Makushin Gods**	**1.37**	**52**		Pn	16 06 13.3	-1.4
MSW	**Makushin Switc**	**1.48**	**49**		Pn	16 06 15.2	-1.0
MSW					Sn	16 06 35.3	+0.8
MTBL	**Makushin Table**	**1.57**	**49**		Pn	16 06 17.0	-0.5
AKRB	**Akutan Reef Bi**	**1.95**	**52**		Pn	16 06 22.7	+0.1
AKRB					Sn	16 06 48.7	+2.8
ZRO	**Akutan Zero**	**1.97**	**54**		Pn	16 06 22.9	0.0
LVA	**Lava Point**	**1.99**	**52**	Pn	Pn	16 06 22.9	-0.3
LVA				IAML		16 06 51.7	
	comp=E,467nm,0.6s						
AKBBA	**Akutan Broad B**	**2.00**	**54**		Pn	16 06 23.2	-0.1
AKBBA					Sn	16 06 50.2	+3.1
AKLV	**Akutan Long Va**	**2.02**	**52**		Pn	16 06 23.6	0.0
AKGG	**Akutan Green G**	**2.03**	**51**		Pn	16 06 23.8	+0.1
AHB	**Akutan Harbor**	**2.07**	**55**		Pn	16 06 24.3	+0.1
AKSA	**Akutan Strait**	**2.14**	**55**		Pn	16 06 24.6	-0.5
AKSA					Sn	16 06 51.8	+1.4
WEBT	**Westdahl Beart**	**2.85**	**53**		Pn	16 06 35.0	0.0
ATKA	**Atka Island**	**3.45**	**259**	Pn	Pn	16 06 42.6	-0.5
SPIA	**Saint Paul Isl**	**4.32**	**349**	Pn	Pn	16 06 55.3	+0.2
GSTR	**Great Sitkin T**	**4.59**	**262**	Pn	Pn	16 06 58.9	0.0
S12K	**Black Hills**	**4.75**	**52**	Pn	Pn	16 07 02.6	+1.6
S12K				IAML		16 08 24.4	
	comp=E,20nm,1.1s						
S12K				IAML		16 08 35.4	
	comp=N,17nm,1.1s						
ADK	**Adak**	**5.01**	**261**	Pn	Pn	16 07 04.7	+0.1
ADK				IAML		16 08 15.1	
	comp=N,33nm,0.8s						
ADK				IAML		16 08 23.0	
	comp=N,22nm,0.8s						
KIWB	**Kanaga Island**	**5.30**	**261**	Pn	Pn	16 07 07.5	-1.2
CHGN	**Chignik**	**6.84**	**57**	Pn	Pn	16 07 30.1	+0.5
O14K	**Tigyukauivet M**	**7.54**	**30**	Pn	Pn	16 07 40.3	+1.0
M13K	**Dall Lake**	**8.03**	**19**	Pn	Pn	16 07 48.1	+2.2
M14K	**Bethel**	**8.63**	**23**	Pn	Pn	16 07 55.5	+1.4
N15K	**Kwethluk River**	**8.64**	**30**	Pn	Pn	16 07 55.8	+1.5
O16K	**Kokwok River B**	**8.87**	**37**	Pn	Pn	16 07 58.1	+0.6
L14K	**Kuka Creek**	**9.01**	**19**	Pn	Pn	16 08 00.4	+1.1
K13K	**Kusilvak Mount**	**9.25**	**12**	Pn	Pn	16 08 05.0	+2.3
N17K	**Nushagak Hills**	**9.86**	**35**	Pn	Pn	16 08 12.1	+1.1
L16K	**Owhat River**	**10.07**	**26**	Pn	Pn	16 08 16.5	+2.6
K15K	**Wolf Creek Mou**	**10.11**	**19**	Pn	Pn	16 08 16.3	+1.9
O18K	**Koktuh Hills**	**10.16**	**42**	Pn	Pn	16 08 15.9	+0.8
J14K	**Nanvaranak Lak**	**10.18**	**13**	Pn	Pn	16 08 17.4	+2.0
M17K	**Holitna River**	**10.42**	**31**	Pn	Pn	16 08 18.7	+0.1
J16K	**Anvik River**	**11.19**	**19**	Pn	Pn	16 08 30.8	+1.7
K17K	**Iditarod**	**11.22**	**25**	Pn	Pn	16 08 30.5	+0.9
J17K	**VABM Dome**	**11.61**	**22**	Pn	Pn	16 08 35.5	+0.6
M19K	**Big River Lodg**	**11.79**	**35**	Pn	Pn	16 08 38.7	+1.3
J18K	**Innoko River**	**12.25**	**26**	Pn	Pn	16 08 45.4	+1.8
H17K	**Granite Mounta**	**12.82**	**17**	Pn	Pn	16 08 53.2	+1.8
G16K	**Koyuk River**	**12.88**	**12**	Pn	Pn	16 08 53.8	+1.6
J19K	**Poorman**	**12.96**	**26**	Pn	Pn	16 08 55.2	+1.8
J20K	**Nowinta River**	**13.52**	**28**	Pn	Pn	16 09 03.1	+2.2
H19K	**Roundabout Mou**	**14.03**	**21**	Pn	Pn	16 09 10.2	+2.4
FID	**Port Fidalgo**	**14.38**	**48**	Pn	Pn	16 09 13.8	+1.2
BPAW	**Bear Paw Mtn.**	**14.42**	**32**	Pn	Pn	16 09 14.8	+1.6
SCM	**Sheep Creek Mo**	**14.47**	**44**	Pn	Pn	16 09 10.6	-3.3
RND	**Reindeer**	**14.72**	**37**	Pn	Pn	16 09 16.8	-0.4
H21K	**Melozitna Rive**	**15.02**	**26**	P	P	16 09 24.7	-1.1
H21K				IAmb	IAmb	16 09 42.4	
	comp=Z,2.4nm,1.2s						
MLY	**Manley**	**15.15**	**30**	P	Pn	16 09 24.2	+1.4
N25K	**Chitina, Valde**	**15.55**	**47**	Pn	Pn	16 09 24.2	-3.9
WRH	**Wood River Hil**	**15.63**	**34**	Pn	Pn	16 09 27.0	-2.0
WRH				IAmb	IAmb	16 09 56.5	
	comp=Z,3.6nm,1.3s						
I23K	**Minto, Yukon-K**	**15.65**	**31**	Pn	Pn	16 09 29.6	+0.3
I23K				IAmb	IAmb	16 10 00.6	
	comp=Z,5.5nm,1.5s						
WAX	**Waxell Ridge**	**15.96**	**52**	Pn	Pn	16 09 32.5	-0.9
H23K	**Yukon River**	**16.06**	**29**	Pn	Pn	16 09 35.2	+0.7
G23K	**Banana Creek**	**16.56**	**27**	Pn	Pn	16 09 41.2	+0.3
H24K	**Noodor Dome**	**16.57**	**31**	Pn	Pn	16 09 39.8	-1.2
H24K				IAmb	IAmb	16 09 48.0	
	comp=Z,2.9nm,1.1s						
L26K	**Log Cabin Wild**	**16.67**	**43**	Pn	Pn	16 09 41.1	-1.1
L26K				IAmb	IAmb	16 09 43.5	
	comp=Z,1.4nm,0.6s						
J25K	**Salcha River,**	**16.67**	**36**	Pn	Pn	16 09 39.6	-2.7
SCRK	**Sand Creek**	**16.85**	**39**	Pn	Pn	16 09 42.7	-1.9
M27K	**Edge Creek, AK**	**17.02**	**46**	Pn	Pn	16 09 44.9	-1.9
M27K				IAmb	IAmb	16 10 28.4	
	comp=Z,4.1nm,1.3s						
J26L	**Joseph Creek**	**17.27**	**38**	Pn	Pn	16 09 46.4	-3.4
J26L				IAmb	IAmb	16 09 48.2	
	comp=Z,2.0nm,0.6s						
I26K	**Coal Creek Min**	**17.84**	**36**	Pn	Pn	16 09 52.2	-4.4
I26K				IAmb	IAmb	16 09 56.6	
	comp=Z,4.5nm,1.4s						
EGAK	**Eagle**	**18.32**	**39**	P	P	16 10 00.1	-2.1
EGAK				IAmb	IAmb	16 10 32.0	
	comp=Z,4.6nm,1.5s						
M29M	**Somme Creek**	**18.55**	**47**	P	P	16 10 02.3	-2.7
BMAR	**Burnt Mountain**	**18.61**	**30**	P	P	16 10 03.5	-2.0
N30M	**Aishikik Lake**	**18.93**	**51**	P	P	16 10 07.0	-2.1
N30M				IAmb	IAmb	16 10 10.0	
	comp=Z,2.7nm,0.9s						
I28M	**Miner Creek**	**19.08**	**38**	P	P	16 10 06.8	-4.0
I28M				IAmb	IAmb	16 10 09.1	
	comp=Z,2.9nm,1.2s						
G27K	**Doyon Strip**	**19.16**	**33**	P	P	16 10 06.8	-4.7
O30N	**Mendenhall**	**19.28**	**53**	P	P	16 10 11.8	-1.0
H29M	**Whitestone**	**20.01**	**37**	P	P	16 10 16.3	-4.4
I30M	**Mount Dempster**	**20.35**	**40**	P	P	16 10 20.4	-4.2
I30M				IAmb	IAmb	16 11 02.0	
	comp=Z,3.4nm,1.5s						
G29M	**Pine Creek**	**20.45**	**35**	P	P	16 10 21.5	-4.0
P33M	**Teslin, Yukon**	**20.82**	**55**	P	P	16 10 28.7	-0.9
P33M				IAmb	IAmb	16 10 44.0	
	comp=Z,2.7nm,1.2s						
G30M	**tAoh Zraii Nji**	**21.12**	**36**	P	P	16 10 27.5	-5.3
G30M				IAmb	IAmb	16 10 50.7	
	comp=Z,2.3nm,1.1s						
E29M	**Blow River**	**21.23**	**32**	P	P	16 10 29.2	-4.6
E29M				IAmb	IAmb	16 11 04.1	
	comp=Z,3.4nm,1.4s						
G31M	**Satah River**	**21.79**	**37**	P	P	16 10 35.7	-4.2
YBH	**Yreka Blue Hor**	**32.57**	**91**	P	P	16 12 18.9	-0.2

KRSC ***25*** *16:07:55.8±1.8, 50°31N×156°95E, h39km±19km, Ml4.6, Felt [III] at Severo-Kurilsk; [II] at Podgornay.*
MOS ***25*** *16:07:56.3±1.2, 50°35N×156°55E, h70km, mb4.0/5, Error ellipse: s-maj=13.9km s-min=6.4km az=75.3*
MOS Felt (III) at Severo-Kuril'sk.
IDC ***25*** *16:07:59.3±3.5, 50°44N×156°55E, h83km±33km, mb3.3/10, mbtmp3.7/14, MS3.4/1, Error ellipse: s-maj=29.6km s-min=14.1km az=144.0*

ISC 25 16:07:56.5±1.3, 50°25N±0°10×156°73E±0°09, h57km±11km, n56, σ1°43/62, mb3.7/11, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.59**	**318**	*e*P	**Pn**	**16 08 09.1**	**-0.2**
SKR				*e*S	**Sn**	**16 08 18.0**	**-0.5**
SKR	**Severo-Kuril's**	**0.59**	**318**	*e*PN	**Pn**	**16 08 09.1**	**-0.2**
SKR				*e*S	**Sn**	**16 08 17.9**	**-0.6**
SKR				pmax	pmax		
	comp=Z,2μm,0.4s						
SKR				smax	smax		
	comp=E,20μm,0.4s						
SKR				smax	smax		
	comp=N,49μm,0.6s						
KDTR	**Khodutka, Kamc**	**1.78**	**28**	*e*P	**Pn**	**16 08 24.2**	**-0.7**
KDTR				*e*S	**Sn**	**16 08 43.9**	**-2.5**
KDTR	**Khodutka, Kamc**	**1.78**	**28**	PN	**Pn**	**16 08 24.1**	**-0.7**
KDTR				S	**Sn**	**16 08 43.9**	**-2.5**
MTVR	**Mutnovka**	**2.42**	**22**	*e*P	**Pn**	**16 08 34.0**	**+0.2**
MTVR				*e*S	**Sn**	**16 09 01.0**	**-1.2**
MTVR	**Mutnovka**	**2.42**	**22**	PN	**Pn**	**16 08 33.9**	**+0.2**
MTVR				S	**Sn**	**16 09 01.0**	**-1.2**
APC	**Apacha**	**2.70**	**5**	*e*P	**Pn**	**16 08 37.6**	**+0.2**
APC	**Apacha**	**2.70**	**5**	PN	**Pn**	**16 08 37.6**	**+0.2**
PET	**Petropavlovsk**	**3.03**	**23**	*e*P	**Pn**	**16 08 42.5**	**+0.6**
PET				*e*S	**Sn**	**16 09 16.5**	**-0.5**
PET	**Petropavlovsk**	**3.03**	**23**	PN	**Pn**	**16 08 42.5**	**+0.6**
PET				S	**Sn**	**16 09 16.4**	**-0.5**
DALK	**Dalny**	**3.06**	**23**	*e*P	**Pn**	**16 08 42.4**	**+0.1**
DALK				*e*S	**Sn**	**16 09 16.7**	**-1.0**
DALK	**Dalny**	**3.06**	**23**	PN	**Pn**	**16 08 42.4**	**+0.1**
DALK				S	**Sn**	**16 09 16.7**	**-1.0**
AVH	**Avacha**	**3.27**	**22**	*e*P	**Pn**	**16 08 47.5**	**+2.2**
AVH				*e*S	**Sn**	**16 09 25.2**	**+2.2**
AVH	**Avacha**	**3.27**	**22**	PN	**Pn**	**16 08 47.5**	**+2.2**
AVH				S	**Sn**	**16 09 25.2**	**+2.2**
KRER	**Koryakskii**	**3.31**	**21**	*e*P	**Pn**	**16 08 47.8**	**+1.9**
KRER				*e*S	**Sn**	**16 09 26.6**	**+2.4**
KRER	**Koryakskii**	**3.31**	**21**	PN	**Pn**	**16 08 47.8**	**+1.9**
KRER				S	**Sn**	**16 09 26.5**	**+2.4**
KRX	**Arik**	**3.34**	**20**	*e*P	**Pn**	**16 08 48.9**	**+2.6**
KRX				*e*S	**Sn**	**16 09 27.2**	**+2.4**
KRX	**Arik**	**3.34**	**20**	PN	**Pn**	**16 08 48.9**	**+2.6**
KRX				S	**Sn**	**16 09 27.1**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**9.66**	**234**	*i* PN	**Pn**	**16 10 13.8**	**+1.1**
YSS	**Yuzh-Sakhalins**	**9.83**	**256**	*e*PN	**Pn**	**16 10 15.9**	**+0.9**
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
MA2	**Magadan**	**9.96**	**342**	P	**Pn**	**16 10 15.1**	**-1.6**
	comp=Z,3.6nm,0.5s,baz=148,slow=14,SNR=8.0						
ASAJ	**Asahikawa**	**11.40**	**243**	P	**Pn**	**16 10 38.6**	**+2.2**
	comp=Z,8.0nm,0.8s,baz=54,slow=8.7,SNR=9.0						
ERM	**Erimo**	**12.49**	**234**	*i* PN	**Pn**	**16 10 50.3**	**-1.1**
SEY	**Seymchan**	**12.94**	**351**	P	**Pn**	**16 10 58.0**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=152,slow=14,SNR=4.1						
SEY	**Seymchan**	**12.94**	**351**	*i* PN	**Pn**	**16 10 58.2**	**+0.9**
SEY				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TEY	**Ternei**	**14.52**	**257**	*e*P	Pn	16 11 12.9	-5.7
KLR	**Kul'dur**	**16.17**	**276**	P	**P**	**16 11 41.0**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=56,slow=11,SNR=4.7						
KLR	**Kul'dur**	**16.17**	**276**	*i* P	**Pn**	**16 11 39.7**	**0.0**
KLR				pmax	pmax		
	comp=Z,5.0nm,2.0s						
ZEA	**Zeya**	**18.42**	**292**	*i* P	**Pn**	**16 12 06.0**	**-1.5**
BILL	**Bilibino**	**18.46**	**11⇑**	*e*P	**Pn**	**16 12 07.4**	**-0.5**
BILL				S	**Sn**	**16 15 33.0**	**-0.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,59nm,18.0s						
KSRS	**Korea Array**	**24.22**	**249**	P	**P**	**16 13 08.8**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=48,slow=9.4,SNR=5.3						
	comp=Z,1.0nm,0.7s						
KSRS	**Korea Array**	**24.22**	**249**	*e*P	**P**	**16 13 09.3**	**+1.6**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**31.50**	**161**	T	T	16 47 56.4	
	baz=348,slow=76,SNR=35						
H11N1	**WAKE ISLAND Hy**	**31.52**	**161**	T	T	16 48 01.6	
	baz=348,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**31.52**	**161**	T	T	16 48 00.7	
	baz=348,slow=76,SNR=53						
ILAR	**Eielson Array**	**32.32**	**42**	P	**P**	**16 14 18.4**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=260,slow=6.4,SNR=9.6						
	comp=Z,0.6nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**32.65**	**162**	T	T	16 49 18.3	
	baz=348,slow=76,SNR=61						
H11S3	**WAKE ISLAND Hy**	**32.66**	**162**	T	T	16 49 22.8	
	baz=348,slow=76,SNR=99						
H11S2	**WAKE ISLAND Hy**	**32.67**	**162**	T	T	16 49 23.5	
	baz=348,slow=76,SNR=41						
ZALV	**Zalesovo Beam**	**42.59**	**304**	LR	LR	16 34 48.4	
	comp=Z,43nm,19.5s,baz=230,slow=38						
KURK	**Kurchatov**	**47.48**	**302**	P	**P**	**16 16 24.5**	**-0.8**
MK31	**Makanchi Array**	**47.52**	**296**	*i* P	**P**	**16 16 23.9**	**-1.8**

baz=276
NDS eS Sb 16 31 47.0 0.0
baz=276
ILA Ilan 0.70 289 eP Pn 16 31 38.2 -0.7
baz=288
EAHA Aohua 0.71 253 eP Pb 16 31 37.3 0.0
baz=250
TIPB Shuangxi 0.74 306 eP Pb 16 31 38.1 +0.3
baz=306
TWE Neicheng 0.76 284 eP Pg 16 31 37.7 +0.1
baz=283
TWE eS Sb 16 31 48.7 -0.1
baz=283
SXI1 Grass Mountain 0.78 315 P Pn 16 31 39.5 -0.6
baz=316
SXI1 S Sb 16 31 49.9 +0.5
baz=316
NWF Wu-fen Shan 0.83 310 eP Pn 16 31 39.9 -0.8
baz=310
NWF eS Sb 16 31 51.3 +0.5
baz=310
WFSB Wu-fen Shan 0.83 310 eP Pn 16 31 39.9 -0.7
baz=310
WFSB eS Sb 16 31 50.9 +0.2
baz=310
ENTT Nioudou 0.84 277 eP Pb 16 31 39.6 0.0
baz=276
ENTT eS Sb 16 31 50.6 -0.4
baz=276
FUSB Fushanzhiwuyua 0.84 286 eP Pb 16 31 39.7 0.0
baz=284
FUSB eS Sb 16 31 50.6 -0.5
baz=284
ETL Fush Village 0.87 245 eP Pg 16 31 39.8 +0.2
baz=242
LATG Datong 0.87 270 eP Pg 16 31 39.6 -0.1
baz=268
LATG eS Sb 16 31 52.2 +0.3
baz=268
NDT Datong Townshi 0.88 275 eP Pb 16 31 40.2 -0.2
baz=273
NDT eS Sb 16 31 52.1 -0.2
baz=273
NACB Ninganchiao 0.89 246 P Pg 16 31 40.0 0.0
NACB Ninganchiao 0.89 246 P Pg 16 31 39.9 0.0
baz=243
NACB eS Sb 16 31 52.1 -0.2
baz=243
TNOU National Taiwa 0.89 314 P Pn 16 31 41.0 -0.5
baz=314
TNOU S Sb 16 31 52.7 +0.4
baz=314
NWLT Wulai 0.92 285 eP Pb 16 31 41.1 0.0
baz=284
NWLT eS Sb 16 31 53.0 -0.4
baz=284
TWD Chiawan 0.93 241 eP Pn 16 31 42.5 +0.5
baz=238
TWA Mucha 0.93 299 eP Pn 16 31 42.0 0.0
baz=298
ETLH Xiulin Townshi 0.97 250 eP Pg 16 31 41.4 -0.2
baz=248
ETLH eS Sg 16 31 53.8 -0.4
baz=248
NHDH Xindian Distri 0.97 296 eP Pn 16 31 42.5 -0.1
baz=295
TATO Taipei 1.00 296 P Pn 16 31 43.1 +0.1
NNSB Datong 1.01 264 P Pg 16 31 42.2 -0.1
baz=262
NNSB eS Sb 16 31 55.8 -0.1
baz=262
NNSH Datong 1.01 264 eP Pg 16 31 42.3 0.0
baz=262
NNS Nan Shan 1.01 265 eP Pg 16 31 42.5 0.0
baz=263
NNS S Sg 16 31 55.1 -0.5
baz=263
YHNB Yeheng 1.01 278 P Pn 16 31 42.9 -0.4
YHNB Yeheng 1.01 278 eP Pn 16 31 42.9 -0.4
baz=276
YHNB eS Sb 16 31 56.2 +0.1
baz=276
TAP Taipei 1.02 300 eS Sn 16 31 56.9 -0.7
baz=299
NSK Sanguang 1.03 278 P Pn 16 31 43.1 -0.4
baz=276
NSK S Sg 16 31 55.7 -0.5
baz=276
YM08 YM08 1.04 309 S Sb 16 31 56.8 +0.1
baz=309
TEYL Yanliau Villag 1.04 231 eS Sn 16 31 59.4 +1.2
baz=229
ETM Tongmen 1.07 238 eP Pg 16 31 43.6 +0.2
baz=236
ANP Anpu 1.09 307 eP Pn 16 31 44.0 -0.3
baz=306
TWY Chenhua 1.09 313 P Pn 16 31 44.1 -0.1
baz=313
TWY S Sn 16 31 58.9 -0.4
baz=313
LXIB Xiulin Townshi 1.10 242 eP Pn 16 31 44.5 0.0
baz=240
SHUL Shoufeng 1.12 229 eP Pn 16 31 45.2 +0.5
baz=226
SHUL eS Sn 16 32 00.2 0.0
baz=226
IRIF Iriomote-Funau 1.16 100 eP Pn 16 31 44.9 -0.2
IRIF eS Sg 16 32 00.3 +0.1
FUSS Fushou 1.16 256 eP Pb 16 31 45.0 -0.2
baz=254
FUSS eS Sb 16 32 00.2 -0.3
baz=254
WHF Hehuan Shan 1.18 251 eP Pn 16 31 45.7 -0.1
baz=249
ESL Shilin 1.20 233 eP Pg 16 31 46.2 +0.2
baz=231
TWT Tachien 1.22 257 eP Pg 16 31 46.9 +0.4
baz=255
NFF Wufeng Townshi 1.25 275 eP Pg 16 31 47.8 +0.9
baz=273
NFF eS Sg 16 32 03.1 +0.1
baz=273
CHGB Renai 1.28 249 P Pg 16 31 47.6 0.0
baz=247
CHGB eS Sn 16 32 04.8 +0.4
baz=247
WARBT Fenglin Townsh 1.29 231 eP Pn 16 31 47.0 0.0
baz=229
WARBT eS Sn 16 32 04.5 +0.2
baz=229
EGFH Guangfu 1.29 228 eP Pb 16 31 47.6 +0.3
baz=226
EGFH S Sg 16 32 05.0 +0.4
baz=226
HATJ Hateruma jima 1.30 111 eS Sb 16 32 03.9 -0.2
OWD Renai 1.32 244 eP Pg 16 31 48.6 +0.2
baz=242
LIOB Emei 1.34 275 eP Pg 16 31 50.1 +1.4
baz=274
LIOB eS Sg 16 32 06.9 +0.8
baz=274
NSTT Nanjuang 1.35 274 P Pg 16 31 49.6 +0.7
baz=273
NSTT eS Sg 16 32 07.3 +0.9
baz=273
WUSB Renai 1.36 247 P Pg 16 31 49.0 0.0
baz=245
HGSD Ruisui 1.42 223 eP Pb 16 31 49.6 +0.2
baz=221
WHP Taichung City 1.42 260 eP Pg 16 31 51.5 +1.2
baz=258
JKRS Kuro-shima 1.42 102 eP Pb 16 31 49.2 -0.4
JKRS eS Sb 16 32 07.6 -0.2
VWDT VWDT 1.45 238 eP Pb 16 31 50.5 +0.5
baz=236
VWDT eS Sg 16 32 10.4 +0.7
baz=236
EHY Hungye 1.47 226 eP Pn 16 31 49.9 +0.3
baz=224
WCS Beigang Elemen 1.51 252 eP Pg 16 31 52.0 +0.1
baz=250
JIJ Ishigaki jima 1.52 96 eP Pb 16 31 50.6 -0.7
JIJ eS Sn 16 32 09.5 -0.6
NMLH Miaoli 1.54 270 eP Pg 16 31 53.5 +1.0
baz=269
TWQ1 Liyutan 1.57 264 eP Pg 16 31 54.1 +1.1
baz=262
YULB Yu-li 1.57 224 P Pb 16 31 52.3 +0.2
YULB Yu-li 1.57 224 eP Pn 16 31 51.1 +0.3
baz=222
SSLB Suanglung 1.58 242 P Pb 16 31 52.8 +0.5
SSLB Suanglung 1.58 242 eP Pb 16 31 52.1 -0.1
baz=240
SSLB eS Sg 16 32 13.8 -0.1
baz=240
SMLT Sun Moon Lake 1.58 246 eP Pb 16 31 52.0 -0.3
baz=244
TWF1 Yuli 1.60 223 eP Pn 16 31 50.6 -0.6
baz=221
TYC Yuchr 1.61 247 eP Pb 16 31 53.3 +0.5
baz=245
JISG Ishigakijimahi 1.67 88 eP Pn 16 31 52.1 0.0
WHYT Xinyi Township 1.71 241 eP Pb 16 31 54.6 +0.2
baz=239
CHN5 Tsauling 1.90 241 eP Pg 16 31 58.6 -0.6
baz=239
ELDTW Lidau 1.90 225 eP Pn 16 31 56.3 +0.9
baz=223
ELDTW eS Sn 16 32 19.4 0.0
baz=223
WDLH Douliu 1.96 245 eP Pb 16 31 59.4 +0.6
baz=243
JTJ Tarama 2.02 87 eP Pn 16 31 57.9 +0.8
WCKO Fanlu 2.03 238 eP Pb 16 31 59.9 -0.1
baz=236
STYH Taoyuan 2.07 229 eP Pb 16 31 60.0 -0.6
baz=228
TPUB Ta-pu 2.09 234 P Pb 16 32 01.6 +0.6
TPUB Ta-pu 2.09 234 eP Pb 16 32 00.3 -0.7
baz=233
WTP Ta-pu 2.14 233 eP Pb 16 32 01.6 -0.2
baz=231
TWGBT Beinan 2.14 217 eP Pn 16 31 60.0 +1.3
baz=215
TWK Hsinying 2.22 236 eP Pb 16 32 01.9 -1.2
baz=234
CHN1 Nanshi 2.24 233 eP Pb 16 32 02.8 -0.6
baz=232
CHN1 eS Sb 16 32 31.2 0.0
baz=232
SLGT Liugui 2.28 228 eP Pb 16 32 02.7 -1.4
baz=226
SCST Cishan 2.45 228 eP Pb 16 32 06.5 -0.7
baz=227
TSMG Majia 2.48 223 eP Pb 16 32 06.1 -1.5
baz=221
TWM1 Shoushan 2.54 228 eP Pb 16 32 07.7 -0.9
baz=226
MASBT Mashibuluo 2.56 222 eP Pb 16 32 07.5 -1.4
baz=220
MASBT eS Sb 16 32 39.4 -1.0
baz=220
EAST Anshuo 2.62 215 eP Pb 16 32 07.7 -2.2
baz=214

IDC 25 16:32:18.5±345.0, 54°.31N×41°.84E, h0km, Error ellipse: s-maj=142.1km s-min=74.6km az=137.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
I43RU	DUBNA INFRASON	3.57	314	I	I	I	16 54 20.0	
0.1nm,0.5s,baz=130,slow=315,SNR=4.2								
I31KZ	AKTYUBINSK INF	10.64	105	I	I	I	17 35 50.0	
baz=297,slow=322,SNR=0.7								
I26DE	FREYUNG INFRAS	18.24	264	I	I	I	18 21 10.0	
0.1nm,0.5s,baz=61,slow=333,SNR=0.3								
I37NO	I37NO	18.25	333	I	I	I	18 22 50.0	
baz=134,slow=324,SNR=1.8								

IDC 25 17:29:01.5±403.0, 58°.95N×54°.21E, h0km, Error ellipse: s-maj=161.6km s-min=138.5km az=54.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
I31KZ	AKTYUBINSK INF	8.84	164	I	I	I	18 21 30.0	
baz=346,slow=317,SNR=3.2								
I43RU	DUBNA INFRASON	9.33	264	I	I	I	18 25 00.0	
baz=69,slow=314,SNR=0.9								
I37NO	I37NO	18.29	318	I	I	I	19 18 40.0	
baz=104,slow=325,SNR=2.1								

ISN ***25*** *17:41:01.3±0.7, 33°.72N×45°.58E, h12km±14km, ML2.8*
TEH ***25*** *17:41:01.6, 33°.73N×45°.59E, h8km±62km, ML2.8*
ISC 25 17:41:02.2±0.9, 33°.75N±0°.04×45°.61E±0°.04, h13km, n11, σ0°89/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
GLG1	Gilan-e-Gharb	0.44	35	Pg	Pg	Pg	17 41 10.5	-0.5
GLG1				Sg	Sg	Sg	17 41 17.7	+0.8
ILBA	Ilam Banvizeh	0.52	104	Pg	Pg	Pg	17 41 11.6	-0.7
IBDR	Badra	0.69	157	ePg	Pg	Pg	17 41 15.0	-0.6
IBDR				eSg	Sg	Sg	17 41 24.0	-0.8
IGHG	Ghaleghazi	0.99	54	Pg	Pn	Pn	17 41 21.9	0.0
BHD	Baghdad	1.13	245	ePn	Pg	Pg	17 41 24.0	+0.1
BHD				eSn	Sn	Sn	17 41 41.0	+1.9
BHD				AML	AML	AML	17 41 52.5	
comp=E,407nm,0.6s								
IDHR	Dehrash	1.15	34	Pg	Pg	Pg	17 41 24.4	+0.1
ILIN	Lien	1.62	44	Pg	Pg	Pg	17 41 32.9	-0.3
IKFM	Kafar-mosalman	1.88	96	Pn	Pb	Pb	17 41 37.1	+0.7
IKRK	Kirkuk	1.95	328	ePn	Pb	Pb	17 41 36.0	-1.6
IKRK				eSn	Sb	Sb	17 42 02.0	+0.2
IKRK				AML	AML	AML	17 42 12.1	
comp=N,80nm,0.4s								
IKRK				AML	AML	AML	17 42 13.5	
comp=E,61nm,0.5s								
IBZA	Bozab	2.00	68	Pn	Pb	Pb	17 41 38.2	-0.5
SNQR	Sonqor, Kerman	2.00	56	Pn	Pb	Pb	17 41 38.5	-0.2

MOS ***25*** *17:46:03.6±1.0, 37°.60N×141°.36E, h49km, mb4.8/34, Error ellipse: s-maj=8.9km s-min=5.8km az=115.6*
BJI ***25*** *17:46:05.2±0.0, 37°.48N×141°.26E, h61km, mb4.6/35, mB4.8/10, Ms4.0/7, Ms7 4.0/13*
IDC ***25*** *17:46:05.6±0.5, 37°.55N×141°.35E, h51km±5km, mb3.8/20, mbtmp4.0/27, MS3.7/43, Error ellipse: s-maj=13.8km s-min=9.0km az=103.0*
NIED ***25*** *17:46:05.5, 37°.53N×141°.39E, h51km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr5.08; Mθθ-1.26; Mφφ-3.82; Mrθ3.45; Mrφ-1.84; Mθφ5.95; Fault plane solution: M08.46000×10^15 NP1:ϕs30.00000°, δ72.00000°, λ91.00000°. NP2:ϕs206.00000°, δ18.00000°, λ86.00000°.*
JMA ***25*** *17:46:05.5±0.1, 37°.5N±0°.2×141°.4E±0°.6, h51km, MD4.5/40, MW4.6/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
NEIC ***25*** *17:46:06.3±2.4, 37°.52N±0°.06×141°.27E±0°.09, h53km±6km, mb4.5/102, Error ellipse: s-maj=10.7km s-min=8.5km az=77.0*
ISC 25 17:46:05.0±0.5, 37°.54N±0°.04×141°.45E±0°.05, h50km±4km, h49km: pP-P, n476, σ1°37/421, mb4.5/99, MS3.9/41, 11C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
JMST	Minamisoumatoc	0.48	293	⇓P	Pn	Pn	17 46 16.1	0.0
JMST				⇓S	Sn	Sn	17 46 23.5	-0.4
JMST	Minamisoumatoc	0.48	293	A	A	A	17 46 16.1	
comp=E,39nm,0.8s,comp=N,34nm,0.5s								
JFK	Kawauchi	0.49	250	i P	Pn	Pn	17 46 16.1	0.0
JFK				S	Sn	Sn	17 46 23.4	-0.7
JFK	Kawauchi	0.49	250	A	A	A	17 46 16.1	
comp=E,74nm,1.2s,comp=N,37nm,1.1s								
JMM	Marumori	0.62	303	P	Pn	Pn	17 46 17.8	+0.2
JMM	Marumori	0.62	303	Pn	Pn	Pn	17 46 17.4	-0.2
JMM				Sn	Sn	Sn	17 46 26.3	-0.5
JMM	Marumori	0.62	303	⇓P	Pn	Pn	17 46 17.8	+0.2
JMM				⇓S	Sn	Sn	17 46 26.5	-0.3
JMM	Marumori	0.62	303	A	A	A	17 46 17.8	
comp=E,58nm,0.4s,comp=N,30nm,0.4s								
ONAJ	Iwakimizuishiy	0.68	230	i P	Pn	Pn	17 46 18.3	-0.1
ONAJ				S	Sn	Sn	17 46 27.3	-0.9
ONAJ	Iwakimizuishiy	0.68	230	A	A	A	17 46 18.3	
comp=E,104nm,0.4s,comp=N,46nm,0.3s								
JIKH	Ishinomakikobu	0.78	1	A	A	A	17 46 20.3	
comp=E,41nm,0.3s,comp=N,17nm,0.5s								
JFFD	Fukushimafurud	0.83	238	A	A	A	17 46 20.6	
comp=E,28nm,1.5s,comp=N,23nm,2.6s								
JOTO	OTAMA OYAMA	0.89	272	i P	Pn	Pn	17 46 21.6	+0.4
JOTO				S	Sn	Sn	17 46 33.0	0.0
JOTO	OTAMA OYAMA	0.89	272	A	A	A	17 46 21.6	
comp=E,34nm,0.4s,comp=N,55nm,0.5s								
JIO	Ouri	0.92	355	⇓i P	Pn	Pn	17 46 22.0	+0.4
JIO				⇓S	Sn	Sn	17 46 33.6	-0.2
JIO	Ouri	0.92	355	A	A	A	17 46 22.0	
comp=E,20nm,1.5s,comp=N,8.0nm,3.1s								
JOU	Okura	1.04	323	⇓i P	Pn	Pn	17 46 23.2	0.0
JOU				⇓S	Sn	Sn	17 46 36.5	-0.1
JOU	Okura	1.04	323	A	A	A	17 46 23.2	
comp=E,20nm,3.0s,comp=N,22nm,2.0s								
JYAR	Yonezawaarcadi	1.10	290	A	A	A	17 46 24.1	
comp=E,14nm,4.5s,comp=N,14nm,1.1s								
JOFO	Osakifurukawao	1.15	338	A	A	A	17 46 25.2	
comp=E,41nm,3.3s,comp=N,46nm,4.4s								
JHO	Hitachi	1.16	218	A	A	A	17 46 25.2	
comp=E,5.0nm,1.3s,comp=N,7.0nm,1.9s								
JYS	Shiratake	1.29	302	i P	Pn	Pn	17 46 26.8	+0.2
JYS	Shiratake	1.29	302	A	A	A	17 46 26.8	
comp=E,14nm,1.8s,comp=N,9.0nm,2.4s								
JSB	Shiboa	1.34	246	A	A	A	17 46 27.6	
comp=E,15nm,3.4s,comp=N,19nm,2.7s								
JHYU	Hitachinakayam	1.38	210	A	A	A	17 46 28.3	
comp=E,6.0nm,4.0s,comp=N,6.0nm,2.7s								
JFY	Yanaizu	1.39	265	⇓i P	Pn	Pn	17 46 28.2	+0.2
JFY	Yanaizu	1.39	265	A	A	A	17 46 28.2	
comp=E,7.0nm,1.8s,comp=N,8.0nm,3.7s								
JMK	Ichinoseki	1.43	353	i P	Pn	Pn	17 46 28.9	+0.4
OFUJ	Ofunato	1.55	6	A	A	A	17 46 31.4	
comp=E,5.0nm,5.1s,comp=N,4.0nm,1.7s								
JYK	Kaneyama	1.63	328	A	A	A	17 46 32.0	
comp=E,6.0nm,2.7s,comp=N,6.0nm,4.3s								
JYT	Yasato	1.65	218	A	A	A	17 46 32.1	
comp=E,16nm,0.3s,comp=N,12nm,0.4s								
JNS	Sasagawa	1.71	280	A	A	A	17 46 33.0	
comp=E,4.0nm,3.4s,comp=N,3.0nm,2.5s								
JIHU	Itakohorinouch	1.73	206	A	A	A	17 46 33.5	
comp=E,18nm,1.4s,comp=N,21nm,1.9s								
JYYZ	Yamagatayuza	1.90	322	A	A	A	17 46 35.8	
comp=E,9.0nm,4.6s,comp=N,17nm,5.1s								
JOM	Ohasama	1.94	356	A	A	A	17 46 36.7	
comp=E,7.0nm,1.1s,comp=N,4.0nm,2.6s								
JRG	Rokugo	1.97	341	A	A	A	17 46 37.0	
comp=E,5.0nm,3.7s,comp=N,5.0nm,3.2s								
JSMT	Sammumatsuo	2.05	203	A	A	A	17 46 38.0	
comp=E,14nm,3.0s,comp=N,13nm,2.8s								
JIZZ	Izumozaki	2.18	271	A	A	A	17 46 39.5	
comp=E,10.0nm,5.8s,comp=N,8.0nm,4.5s								
JYW	Yuwa	2.23	334	A	A	A	17 46 40.6	
comp=E,12nm,1.8s,comp=N,12nm,1.8s								
JSZI	Iwateshizukuis	2.24	350	A	A	A	17 46 41.0	
comp=E,8.0nm,5.5s,comp=N,8.0nm,2.4s								
TOK	Tokyo	2.29	217	A	A	A	17 46 41.4	
comp=E,10.0nm,1.5s,comp=N,9.0nm,0.5s								
JCN	Nagara	2.34	206	A	A	A	17 46 42.1	
comp=E,14nm,3.1s,comp=N,9.0nm,3.4s								
JKUC	kamogawauchiur	2.58	203	A	A	A	17 46 45.5	
comp=E,7.0nm,3.2s,comp=N,5.0nm,1.7s								
JSD	Sado	2.58	282	Pn	Pn	Pn	17 46 42.6	-1.6
JKEN	Kujiedanarisaw	2.67	4	A	A	A	17 46 47.2	
comp=E,11nm,1.5s,comp=N,11nm,0.6s								
MJAR	Matsushiro Arr	2.78	250	P	Pn	Pn	17 46 46.4	-0.6
comp=N,18nm,0.4s,baz=45,slow=11,SNR=64								
MJAR				LR	LR	LR	17 48 10.8	
comp=N,2μm,20.2s,baz=40,slow=46								
MAJO	Matsushiro	2.78	250	Pn	Pn	Pn	17 46 48.1	+1.1
MAJO	Matsushiro	2.78	250	P	Pn	Pn	17 46 48.1	+1.1
MJB9	Matsu-Tunnel	2.78	250	Pn	Pn	Pn	17 46 49.4	+2.4
TATJ	Tateyama 2	2.80	207	A	A	A	17 46 48.5	
comp=E,15nm,2.9s,comp=N,11nm,2.7s								
JANG	Nango	2.83	1	A	A	A	17 46 49.5	
comp=E,4.0nm,4.4s,comp=N,4.0nm,1.1s								
JNTW	Noshirotokiwa	2.91	340	A	A	A	17 46 50.4	
comp=E,13nm,3.6s,comp=N,10.0nm,1.8s								
JOD2	Odawara 2	2.96	221	A	A	A	17 46 50.7	
comp=E,3.0nm,2.2s,comp=N,5.0nm,2.2s								
JHHS	Hirosakihyakuz	3.23	345	A	A	A	17 46 54.9	
comp=E,9.0nm,5.1s,comp=N,6.0nm,4.5s								
JHTM	Izuhatsuma	3.24	218	A	A	A	17 46 54.7	
comp=E,5.0nm,1.4s,comp=N,7.0nm,3.0s								
JIM2	Oshima 3	3.25	211	A	A	A	17 46 55.0	
comp=E,4.0nm,2.8s,comp=N,3.0nm,5.8s								
JTM	Tenmabayashi	3.26	355	P	Pn	Pn	17 46 55.4	+1.8
JTM	Tenmabayashi	3.26	355	Pn	Pn	Pn	17 46 55.0	+1.4
JGF	Kuroka	3.82	241	Pn	Pn	Pn	17 47 01.9	+0.6
JSG	Sagara	3.89	224		Pn	Pn	17 47 01.9	-0.3
INU	Inuyama	4.19	240	P	Pn	Pn	17 47 09.2	+2.9
INU	Inuyama	4.19	240	Pn	Pn	Pn	17 47 08.0	+1.7
JHJ	Hachijo jima 2	4.61	198	P	Pn	Pn	17 47 11.5	-0.6
comp=N,122nm,0.3s,baz=316,slow=19,SNR=54								
JHJ				S	Sn	Sn	17 48 03.8	-0.6
comp=N,311nm,0.3s,baz=72,slow=22,SNR=8.7								
JHJ				LR	LR	LR	17 49 23.8	
comp=N,368nm,18.0s,baz=26,slow=43								
JHJ2	Mitsune	4.61	197	P	Pn	Pn	17 47 12.7	+0.6
JHJ2	Mitsune	4.61	197	Pn	Pn	Pn	17 47 11.5	-0.6
ERM	Erimo	4.66	16	P	Pn	Pn	17 47 13.0	+0.2
ERM	Erimo	4.66	16	ceP	Pn	Pn	17 47 12.6	-0.2
ERM				pmax	pmax			
comp=Z,31nm,1.0s								
JEM	Erimo	4.67	16	P	Pn	Pn	17 47 13.0	+0.2
ASAJ	Asahikawa	6.63	7	P	Pn	Pn	17 47 38.9	-0.9
comp=Z,10nm,0.3s,baz=220,slow=12,SNR=46								
ASAJ				S	Sn	Sn	17 48 53.2	-0.8
comp=Z,8.2nm,0.3s,baz=192,slow=3.5,SNR=4.1								
JKA	Kamikawa-asahi	6.63	7		Pn	Pn	17 47 39.7	-0.1
JMN	Monobe	7.24	241	P	Pn	Pn	17 47 51.1	+2.9
JMN	Monobe	7.24	241		Pn	Pn	17 47 49.0	+0.8
TEY	Ternei	8.33	336	eP	Pn	Pn	17 48 08.2	+5.1
TEY				e			17 49 34.6	
KUR	Kuril'sk	9.07	30	P	Pn	Pn	17 48 14.8	+1.6
KUR				S	Sn	Sn	17 49 49.4	-4.5
KUR				pmax	pmax			
comp=Z,31nm,0.7s								
KUR				smax	smax			
comp=N,72nm,0.5s								
KUR				smax	smax			
comp=E,63nm,0.4s								
VLA	Vladivostok	9.19	310	i P	Pn	Pn	17 48 12.3	-2.5
VLA				pmax	pmax			
comp=Z,35nm,1.0s								
YSS	Yuzh-Sakhalins	9.46	5	P	Pn	Pn	17 48 20.1	+1.6
YSS	Yuzh-Sakhalins	9.46	5	eP	Pn	Pn	17 48 13.2	-5.3
YSS				pmax	pmax			
comp=Z,10.0nm,1.1s								
JNU	Nakatsue	9.69	246	P	Pn	Pn	17 48 24.9	+3.1
JNU	Nakatsue	9.69	246	Pn	Pn	Pn	17 48 22.2	+0.4
JNU	Nakatsue	9.69	246	P	Pn	Pn	17 48 20.6	-1.2
comp=Z,9.3nm,1.2s,baz=37,slow=20,SNR=1.9								
JNU				LR	LR	LR	17 52 31.7	
comp=Z,528nm,20.4s,baz=50,slow=40								
USA0B	Ussuriysk Arra	9.78	316		Pn	Pn	17 48 23.5	+0.7
USA0B	Ussuriysk Arra	9.78	316	P	Pn	Pn	17 48 23.5	+0.7
USRK	Ussuriysk Ar.	9.78	316	Pn	Pn	Pn	17 48 24.4	+1.6
USRK	Ussuriysk Ar.	9.78	316	P	Pn	Pn	17 48 22.1	-0.7
comp=Z,1.0nm,0.3s,baz=128,slow=12,SNR=17								
USRK				LR	LR	LR	17 51 57.3	
comp=Z,491nm,19.1s,baz=156,slow=36								
USRK	Ussuriysk Ar.	9.78	316	P	Pn	Pn	17 48 24.4	+1.6
JCJ	Chichijima	10.43	176	P	Pn	Pn	17 48 31.0	-0.8
JCJ	Chichijima	10.43	176	Pn	Pn	Pn	17 48 28.2	-3.6
JCJ				Sn	Sn	Sn	17 50 17.3	-10
JCJ	Chichijima	10.43	176	P	Pn	Pn	17 48 25.2	-6.6
comp=Z,39nm,0.3s,baz=279,slow=23,SNR=20								
JCJ				S	Sn	Sn	17 50 15.3	-12
comp=Z,40nm,0.3s,baz=89,slow=22,SNR=2.5								
KSRS	Korea Array	10.75	274	P	Pn	Pn	17 48 37.4	+1.2
comp=Z,2.5nm,0.5s,baz=97,slow=13,SNR=14								
KSRS				LR	LR	LR	17 52 27.8	
comp=Z,319nm,20.7s,baz=85,slow=36								
KS19	Wonju Array Si	10.79	274	Pn	Pn	Pn	17 48 34.5	-2.3
KLR	Kul'dur	13.64	332	P	Pn	Pn	17 49 15.7	+0.1
comp=Z,0.7nm,0.4s,baz=137,slow=21,SNR=3.7								
KLR				LR	LR	LR	17 54 21.7	
comp=Z,220nm,19.9s,baz=156,slow=36								
KLR	Kul'dur	13.64	332	eP	P	P	17 49 20.3	-2.7
KLR				pmax	pmax			
comp=Z,8.0nm,1.4s								
JOW	Kunigami	15.42	230		P	P	17 49 41.6	-1.3
JOW	Kunigami	15.42	230	LR	LR	LR	17 55 24.2	
comp=Z,104nm,21.1s,baz=132,slow=36								
HEH	HeiHe	16.21	326	eP	P	P	17 49 58.5	+6.9

HEH pmax pmax
comp=Z,5.0nm,1.0s
ZEA Zeya 18.94 333 *e*P **Pn 17 50 22.5 -0.2**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=N,100nm,14.0s
ZEA MLR MLR
comp=Z,100nm,14.0s
NJ2 Nanjing 19.33 260 *e*P **Pn 17 50 27.3 -0.2**
NJ2 pP **pP 17 50 37.8 +0.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
TIA Tai'an 19.50 274 *e*P **P 17 50 27.3 -0.6**
TIA pmax pmax
comp=Z,8.0nm,1.1s
PET Petropavlovsk 19.58 32 P **Pn 17 50 30.7 +0.5**
PET pmax pmax
comp=Z,23nm,1.7s
XLT XiLinHaoTe 20.21 296 *e*P **P 17 50 35.3 -0.4**
XLT pmax pmax
comp=Z,16nm,1.1s
HNS HongShan 21.21 278 ⇑P **P 17 50 44.8 -1.5**
HNS pmax pmax
comp=Z,21nm,0.7s
MA2 Magadan 22.86 12 LR LR 17 59 29.8
comp=Z,96nm,19.1s,baz=124,slow=35
MA2 Magadan 22.86 12 pP pP 17 51 13.6 -1.8
comp=Z,25nm,1.5s
HHC Hu-ho-hao-te 23.34 287 *e*P **P 17 51 08.5 -0.4**
HHC sP sP 17 51 24.8 -2.3
HHC *e*S **S 17 55 11.8 -6.2**
HHC SS **SnSn 17 56 01.5 +5.1**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.5s
HHC LR LR
comp=Z,90nm,12.2s
HHC LR LR
comp=Z,200nm,12.2s
HHC LR LR
comp=Z,190nm,11.8s
WHN Wuhan 23.46 261 P **P 17 51 10.8 +0.8**
LYN LuoYang 23.58 272 *e*P **P 17 51 11.5 +0.4**
LYN pmax pmax
comp=Z,25nm,0.5s
LYN LR LR
comp=Z,360nm,8.6s
LYN LR LR
comp=Z,340nm,10.6s
LYN LR LR
comp=Z,450nm,10.8s
GUMO Guam 24.04 172 LR LR 18 01 13.1
comp=Z,40nm,20.9s,baz=17,slow=38
YAK Yakutsk 25.59 347 LR LR 18 01 57.0
comp=Z,177nm,18.9s,baz=176,slow=37
YAK Yakutsk 25.59 347 *e*P **P 17 51 27.7 -1.4**
YAK *e**PP **pP 17 51 43.9 +2.1**
YAK *e* 17 52 02.4
YAK *e*S **S 17 55 50.5 -2.8**
YAK *e**SS **sS 17 56 12.0 -2.8**
YAK *e*SS **SnSn 17 56 48.5 -2.2**
YAK pmax pmax
comp=Z,25nm,1.3s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,143nm,6.9s
YAK pmax pmax
comp=N,106nm,8.0s
YAK pmax pmax
comp=E,73nm,7.3s
YAK smax smax
comp=N,169nm,4.6s
YAK smax smax
comp=E,77nm,7.1s
SEY Seymchan 26.29 11 *ce*P **P 17 51 34.9 -0.6**
SEY pmax pmax
comp=Z,29nm,1.7s
ULN Ulaanbaatar 27.10 303 *i*P **P 17 51 42.0 -1.1**
ULN pmax pmax
comp=Z,2.0nm,0.5s
ENH Enshi 27.41 264 P **P 17 51 45.1 -0.8**
SONM Songino Array 27.53 303 P **P 17 51 46.3 -0.6**
SONM Songino Array 27.53 303 P **P 17 51 47.1 +0.1**
comp=Z,2.5nm,0.5s,baz=110,slow=8.9,SNR=6.8
SONM LR LR 18 01 49.7
comp=Z,113nm,21.2s,baz=120,slow=34
comp=Z,2.5nm,0.5s
SONM Songino Array 27.53 303 P **P 17 51 46.3 -0.6**
SONM pmax pmax
comp=Z,7.0nm,1.4s
H11N2 WAKE ISLAND Hy 28.38 122 T T 18 22 07.8
baz=316
H11N1 WAKE ISLAND Hy 28.39 122 T T 18 22 10.1
baz=316,slow=74
H11N3 WAKE ISLAND Hy 28.40 122 T T 18 22 08.3
baz=316,slow=74
H11S1 WAKE ISLAND Hy 29.11 124 T T 18 23 00.1
baz=316,slow=76,SNR=551
H11S3 WAKE ISLAND Hy 29.11 124 T T 18 23 05.0
baz=316,slow=76,SNR=527
H11S2 WAKE ISLAND Hy 29.13 124 T T 18 23 03.7
baz=316,slow=76,SNR=426
DAV Davao City (W) 33.58 209 LR LR 18 08 48.9
comp=Z,88nm,18.7s,baz=136,slow=41
TIXI Tiksi 34.80 353 LR LR 18 08 04.2
comp=Z,89nm,18.3s,baz=192,slow=38
KMI Kunming 35.07 261 ⇑P **P 17 52 55.3 +1.8**
KMI pmax pmax
comp=Z,14nm,0.7s
PZH PanZhiHua 35.18 263 P **P 17 52 55.5 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,140nm,6.0s
WMQ Urumqi 40.64 296 *e*P **P 17 53 42.5 +2.4**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ LR LR
comp=Z,160nm,23.8s
ZAA0 Zalesovo Array 41.60 312 P **P 17 53 47.4 -0.4**
ZAA0 IAmb IAmb 17 53 48.9
comp=Z,9.0nm,1.2s
ZALV Zalesovo Beam 41.60 312 P **P 17 53 47.0 -0.7**
ZALV Zalesovo Beam 41.60 312 P **P 17 53 47.7 0.0**
comp=Z,3.0nm,0.7s,baz=84,slow=7.6,SNR=11
ZALV LR LR 18 11 46.6
comp=Z,140nm,18.6s,baz=100,slow=37
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 41.65 255 P **P 17 53 48.5 -0.1**
comp=Z,0.4nm,0.4s,baz=57,slow=6.4,SNR=1.7
CMAR LR LR 18 12 29.4
comp=Z,37nm,20.1s,baz=185,slow=38
comp=Z,0.4nm,0.4s
F15K North Star Dit 41.75 30 P **P 17 53 50.6 +1.7**
baz=255
K15K Wolf Creek Mou 42.39 36 P **P 17 53 55.8 +1.7**
baz=262
NRIK Noril'sk 42.83 335 *ce*P **P 17 53 57.3 -0.2**
NRIK pmax pmax
comp=Z,8.0nm,1.6s
D17K Noatak River 42.88 28 P **P 17 53 59.4 +1.4**
baz=254
O15K Ungalikthiuk R 42.90 40 P **P 17 53 59.1 +0.9**
baz=267
E17K Hotham Inlet 43.20 29 P **P 17 54 01.3 +0.7**
baz=256
L16K Owhat River 43.28 37 P **P 17 54 02.3 +1.0**
baz=264
G17K Kiwalik Mounta 43.32 31 P **P 17 54 02.4 +0.8**
baz=259
M16K Timber Creek 43.46 38 P **P 17 54 03.0 +0.2**
baz=266
H17K Granite Mounta 43.52 32 P **P 17 54 03.8 +0.5**
baz=260
J17K VABM Dome 43.66 34 P **P 17 54 05.3 +1.0**
baz=263
E18K Tukpahlearik C 43.74 28 P **P 17 54 07.6 +2.7**
E18K IAmb IAmb 17 54 27.6
comp=Z,7.2nm,0.9s
E18K Tukpahlearik C 43.74 28 P **P 17 54 05.7 +0.8**
baz=257
B18K Kokolik River 43.80 25 P **P 17 54 04.8 -0.6**
baz=254
O16K Kokwok River B 43.80 40 P **P 17 54 05.7 +0.2**
baz=268
C18K Utukok River 43.82 26 P **P 17 54 08.1 +2.5**
C18K IAmb IAmb 17 54 27.5
comp=Z,11nm,1.1s
C18K Utukok River 43.82 26 P **P 17 54 05.8 +0.1**
baz=255
MK31 Makanchi Array 43.88 302 P **P 17 54 04.4 -2.0**
MK31 Makanchi Array 43.88 302 P **P 17 54 04.4 -2.0**
MK31 pmax pmax
comp=Z,5.0nm,1.0s
MKAR Makanchi Array 43.88 302 P **P 17 54 05.2 -1.2**
MKAR Makanchi Array 43.88 302 P **P 17 54 06.9 +0.5**
comp=Z,2.4nm,0.6s,baz=85,slow=10,SNR=24
MKAR LR LR 18 13 47.5
comp=Z,55nm,18.2s,baz=118,slow=38
comp=Z,2.4nm,0.6s
K17K Iditarod 43.93 35 P **P 17 54 07.1 +0.5**
baz=264
F18K Selawik 43.93 30 P **P 17 54 06.6 +0.1**
baz=259
MAKZ Makanchi 44.09 302 P **P 17 54 07.7 -0.4**
MAKZ IAmb IAmb 17 54 09.5
comp=Z,9.7nm,1.2s
MAKZ Makanchi 44.09 302 P **P 17 54 07.7 -0.4**
MAKZ pmax pmax
comp=Z,10.0nm,1.3s
G18K Tagagawik 44.20 31 P **P 17 54 10.2 +1.5**
G18K Tagagawik 44.20 31 P **P 17 54 09.3 +0.6**
baz=261
H18K Honhosa River 44.20 32 P **P 17 54 11.3 +2.6**
H18K IAmb IAmb 17 54 47.4
comp=Z,11nm,1.5s
H18K Honhosa River 44.20 32 P **P 17 54 09.6 +0.9**
baz=262
M17K Holitna River 44.23 37 P **P 17 54 09.8 +0.8**
baz=266
N17K Nushagak Hills 44.30 38 P **P 17 54 10.8 +1.3**
baz=268
O17K Koliganek Bris 44.32 40 P **P 17 54 10.6 +1.0**
baz=268
C19K Lookout Ridge 44.49 26 P **P 17 54 12.3 +1.3**
baz=256
F19K Shaleruckik Mo 44.71 29 P **P 17 54 13.8 +1.1**
baz=261
J18K Innoko River 44.72 34 P **P 17 54 14.0 +1.2**
baz=265
D19K Kuna River 44.88 27 P **P 17 54 14.8 +0.7**
baz=259
Q17K Contact Creek 44.93 42 P **P 17 54 15.1 +0.3**
baz=271
M18K Stony River 45.00 37 P **P 17 54 15.7 +0.6**
baz=268
E19K Redstone River 45.02 29 P **P 17 54 17.3 +2.1**
E19K IAmb IAmb 17 54 38.2
comp=Z,7.5nm,1.1s
E19K Redstone River 45.02 29 P **P 17 54 15.5 +0.3**
baz=260
H19K Roundabout Mou 45.05 31 P **P 17 54 17.5 +2.1**
H19K IAmb IAmb 17 54 33.8
comp=Z,6.2nm,1.1s
H19K Roundabout Mou 45.05 31 P **P 17 54 15.6 +0.2**
baz=263
J19K Poorman 45.25 34 P **P 17 54 19.5 +2.5**
J19K IAmb IAmb 17 54 36.4
comp=Z,9.5nm,1.2s
J19K Poorman 45.25 34 P **P 17 54 17.9 +0.8**
baz=266
D20K Etivluk River 45.47 27 P **P 17 54 19.2 +0.5**
baz=260
L19K White Mountain 45.49 36 P **P 17 54 19.7 +0.7**
baz=268
B20K Meade River 45.53 25 P **P 17 54 21.0 +1.9**
B20K Meade River 45.53 25 P **P 17 54 20.2 +1.1**
baz=258
F20K Avaraart Lake 45.54 29 P **P 17 54 19.7 +0.4**
baz=262
E20K Nigu River 45.54 28 P **P 17 54 20.4 +1.0**
baz=261
N19K Bonanza Creek 45.64 38 P **P 17 54 20.7 +0.5**
baz=270
KURK Kurchatov 45.65 308 P **P 17 54 19.9 -0.4**
KURK Kurchatov 45.65 308 P **P 17 54 19.9 -0.4**
KURK pmax pmax
comp=Z,18nm,0.9s
H20K Anotleneega Mo 45.70 31 P **P 17 54 20.9 +0.4**
baz=265
KURBB Kurchatov Arra 45.72 308 P **P 17 54 20.4 -0.5**
comp=Z,3.6nm,0.5s,baz=83,slow=8.2,SNR=30
KURBB LR LR 18 14 19.0
comp=Z,154nm,18.9s,baz=177,slow=37
comp=Z,3.6nm,0.5s
K20K Telida 45.90 35 P **P 17 54 22.8 +0.6**
baz=268
SII Sitkinak Islan 45.92 44 P **P 17 54 23.6 +1.1**
baz=274
L20K Farewell, AK 45.95 36 P **P 17 54 23.0 +0.3**
baz=269
Q19K Cape Douglas, 46.09 41 P **P 17 54 26.9 +3.1**
C21K Knifeblade Rid 46.19 26 P **P 17 54 24.8 +0.4**
baz=261
B21K Ikpikpuk River 46.32 26 P **P 17 54 27.9 +2.5**
B21K Ikpikpuk River 46.32 26 P **P 17 54 25.7 +0.3**
baz=261
G21K Allakaket 46.35 30 P **P 17 54 28.5 +2.8**
G21K Allakaket 46.35 30 P **P 17 54 26.4 +0.7**
baz=265
OHAK Old Harbor 46.37 43 P **P 17 54 26.0 +0.1**
baz=274
E21K Killik River 46.38 27 P **P 17 54 28.3 +2.4**
E21K Killik River 46.38 27 P **P 17 54 26.4 +0.4**
baz=263
F21K Alatna River 46.43 29 P **P 17 54 28.6 +2.3**
F21K Alatna River 46.43 29 P **P 17 54 27.0 +0.7**
baz=264
H21K Melozitna Rive 46.57 31 P **P 17 54 30.0 +2.5**
H21K Melozitna Rive 46.57 31 P **P 17 54 28.7 +1.2**
baz=266
Q20K Shuyak Island 46.75 41 P **P 17 54 30.2 +1.2**
baz=274
D22K Ayikyak River 46.91 27 P **P 17 54 31.4 +1.4**
baz=264,SNR=8.2
F22K John River 46.96 29 P **P 17 54 32.0 +1.5**
baz=265
SKT Skwentna 47.05 36 P **P 17 54 31.3 +0.1**
baz=271
HOM Homer 47.08 40 P **P 17 54 32.4 +1.0**
baz=273
H22K Ishtalitna Cre 47.17 31 P **P 17 54 33.2 +1.1**
baz=268
G22K Bettles 47.17 30 P **P 17 54 32.9 +0.8**
baz=267
BPAW Bear Paw Mtn. 47.29 34 P **P 17 54 33.9 +0.8**
baz=270
MLY Manley 47.41 32 P **P 17 54 34.4 +0.4**
baz=269
C23K Itkillik River 47.73 26 P **P 17 54 38.7 +2.3**
C23K Itkillik River 47.73 26 P **P 17 54 37.2 +0.8**
baz=265
G23K Bananza Creek 47.75 30 P **P 17 54 37.1 +0.5**
baz=268
H23K Yukon River 47.92 31 P **P 17 54 40.4 +2.4**
H23K IAmb IAmb 17 54 41.8
comp=Z,4.6nm,1.1s
H23K Yukon River 47.92 31 P **P 17 54 38.5 +0.5**
baz=269,SNR=6.8
RC01 Rabbit Creek A 47.95 38 P **P 17 54 38.5 +0.3**
baz=274
E23K Chandalar 47.97 28 P **P 17 54 39.5 +1.1**
baz=267,SNR=6.9
I23K Minto, Yukon-K 48.00 32 P **P 17 54 39.5 +1.0**
baz=270
TOLK Toolik Lake Re 48.01 27 P **P 17 54 40.7 +2.0**
TOLK IAmb IAmb 17 55 06.9
comp=Z,10nm,1.4s
TOLK Toolik Lake Re 48.01 27 P **P 17 54 39.6 +1.0**
baz=267
NEA2 Nenana 48.12 33 P **P 17 54 40.5 +1.0**
baz=271
MCK McKinley 48.20 34 P **P 17 54 41.6 +1.5**
baz=272
D24K Happy Valley 48.31 27 P **P 17 54 41.3 +0.4**
baz=267
C24K Franklin Bluff 48.39 26 P **P 17 54 42.7 +1.3**
baz=267
E24K Your Creek 48.39 28 P **P 17 54 44.1 +2.5**
E24K IAmb IAmb 17 55 04.9
comp=Z,4.6nm,0.8s
E24K Your Creek 48.39 28 P **P 17 54 41.5 -0.1**
baz=268,SNR=6.5
MDM Murphy Dome 48.48 32 P **P 17 54 43.6 +1.3**
MDM IAmb IAmb 17 55 01.0
comp=Z,5.6nm,1.0s
F24K Squaw Lake 48.60 29 P **P 17 54 44.2 +0.9**
baz=269
H24K Noodor Dome 48.61 31 P **P 17 54 45.4 +2.1**
H24K IAmb IAmb 17 55 06.7
comp=Z,3.7nm,1.0s
H24K Noodor Dome 48.61 31 P **P 17 54 44.7 +1.4**
baz=271
PWL Port Wells 48.64 38 P **P 17 54 43.9 +0.3**
baz=275
G24K Hadweenzic Riv 48.76 30 P **P 17 54 46.8 +2.4**
G24K IAmb IAmb 17 55 19.0
comp=Z,8.5nm,1.2s
G24K Hadweenzic Riv 48.76 30 P **P 17 54 46.7 +2.4**
baz=270
POKR Poker Plat Res 48.81 32 P **P 17 54 47.6 +2.8**
POKR Poker Plat Res 48.81 32 P **P 17 54 46.3 +1.5**
baz=272
DHY Denali Highway 48.93 35 P **P 17 54 48.8 +2.9**
DHY IAmb IAmb 17 55 12.3
comp=Z,5.3nm,1.4s
SCM Sheep Creek Mo 49.05 37 P **P 17 54 48.2 +1.5**
SCM Sheep Creek Mo 49.05 37 P **P 17 54 48.2 +1.5**
SCM pmax pmax
comp=Z,25nm,1.5s
HDA Harding Lake 49.05 33 P **P 17 54 48.4 +1.8**
baz=273
IL31 49.06 33 P **P 17 54 47.6 +1.0**
IL31 IAmb IAmb 17 55 10.5
comp=Z,3.8nm,1.0s
ILAR Eielson Array 49.06 33 P **P 17 54 47.5 +0.8**
ILAR Eielson Array 49.06 33 P **P 17 54 47.2 +0.5**
comp=Z,1.3nm,0.7s,baz=274,slow=6.4,SNR=15
comp=Z,1.3nm,0.7s
ILAR Eielson Array 49.06 33 P **P 17 54 47.5 +0.8**
D25K Kavik River 49.19 27 P **P 17 54 49.4 +1.7**
D25K IAmb IAmb 17 55 10.5
comp=Z,5.1nm,0.8s
D25K Kavik River 49.19 27 P **P 17 54 49.4 +1.7**
baz=269,SNR=6.0
BOOM Boomskoye usch 49.30 297 P **P 17 54 50.7 +1.6**
BOOM Boomskoye usch 49.30 297 P **P 17 54 50.7 +1.6**
BOOM pmax pmax
comp=Z,10.0nm,1.1s
G25K Bearman Lake 49.31 30 P **P 17 54 49.3 +0.8**
baz=272
F25K Christian Rive 49.47 29 P **P 17 54 51.4 +1.6**
baz=271
PRP Porcupine Dome 49.59 32 P **P 17 54 52.5 +1.6**
PRP Porcupine Dome 49.59 32 P **P 17 54 52.6 +1.7**
baz=273
C26K Camden Bay 49.71 26 P **P 17 54 52.3 +0.8**
baz=270
J25K Salcha River, 49.72 33 P **P 17 54 52.3 +0.5**
baz=274
HNR Honiara 49.83 156 LR LR 18 15 25.0
comp=Z,889nm,19.6s,baz=316,slow=35
BMAR Burnt Mountain 49.88 29 P **P 17 54 55.6 +2.6**
F26K Sheenjek River 50.04 29 P **P 17 54 54.6 +0.5**
baz=273,SNR=11
C27K Jago River 50.13 26 P **P 17 54 55.2 +0.4**
baz=272
G26K Porcupine Rive 50.22 30 P **P 17 54 56.4 +1.0**
baz=274
BVAR Borovoye Array 50.26 312 P **P 17 54 55.6 -0.4**
comp=Z,1.3nm,0.5s,baz=76,slow=8.4,SNR=10.0
BVAR LR LR 18 17 16.2
comp=Z,133nm,18.3s,baz=113,slow=37
comp=Z,1.3nm,0.5s
AAK Ala-Archa 50.28 298 LR LR 18 17 40.4
comp=Z,161nm,19.2s,baz=128,slow=38
AAK Ala-Archa 50.28 298 *e*P **P 17 54 56.8 +0.3**
AAK pmax pmax
comp=Z,5.0nm,1.1s
BRVK Borovoye 50.31 312 P **P 17 54 56.6 +0.3**
BRVK IAmb IAmb 17 55 17.0
comp=Z,3.4nm,0.8s
BRVK Borovoye 50.31 312 *ce*P **P 17 54 56.8 +0.4**
BRVK pmax pmax
comp=Z,9.0nm,2.5s
N25K Chitina, Valde 50.36 37 P **P 17 54 57.8 +1.0**
baz=277
SCRK Sand Creek 50.37 34 P **P 17 54 58.0 +1.2**
SCRK IAmb IAmb 17 54 59.2
comp=Z,4.6nm,1.1s
SCRK Sand Creek 50.37 34 P **P 17 54 57.6 +0.8**
baz=276
J26L Joseph Creek 50.50 33 P **P 17 54 59.6 +1.9**
J26L Joseph Creek 50.50 33 P **P 17 54 58.6 +0.8**
baz=276
L26K Log Cabin Wild 50.77 35 P **P 17 55 01.3 +1.7**
baz=277
E27K Coleen River 50.97 28 P **P 17 55 03.5 +2.4**
E27K IAmb IAmb 17 55 24.6
comp=Z,4.0nm,1.0s
E27K Coleen River 50.97 28 P **P 17 55 01.8 +0.7**
baz=275
M26K Nabesna, AK 51.01 35 P **P 17 55 01.9 +0.4**
baz=278
G27K Doyon Strip 51.06 30 P **P 17 55 02.8 +0.9**
baz=276
D27M Malcolm River 51.12 27 P **P 17 55 04.3 +2.0**
baz=274
MCARA McCarthy VSAT 51.14 37 P **P 17 55 03.6 +1.1**
baz=279
H27K Steamboat Moun 51.17 30 P **P 17 55 03.9 +1.2**
baz=276
K27K Chicken 51.20 33 P **P 17 55 03.9 +1.0**
baz=278
I27K Kandik River 51.21 31 P **P 17 55 04.0 +1.0**
baz=277
L27K Beaver Creek, 51.45 35 P **P 17 55 07.2 +2.4**
L27K Beaver Creek, 51.45 35 P **P 17 55 06.2 +1.4**
baz=279
BCAR Beaver Creek A 51.47 35 P **P 17 55 07.2 +2.2**
EGAK Eagle 51.50 32 P **P 17 55 06.2 +1.0**
baz=278
M27K Edge Creek, AK 51.53 35 P **P 17 55 08.4 +2.8**
M27K IAmb IAmb 17 55 25.1
comp=Z,4.0nm,1.0s
M27K Edge Creek, AK 51.53 35 P **P 17 55 06.3 +0.7**
baz=279
F28M Old Crow 51.67 29 P **P 17 55 08.1 +1.7**
F28M Old Crow 51.67 29 P **P 17 55 07.5 +1.1**
baz=277
E28M Babbage River 51.69 27 P **P 17 55 08.0 +1.5**
baz=276
ARSB Arslanbob 51.77 297 P **P 17 55 07.6 -0.1**
ARSB Arslanbob 51.77 297 P **P 17 55 07.6 -0.1**
ARSB pmax pmax
comp=Z,1.0nm,0.9s
I28M Miner Creek 51.92 31 P **P 17 55 10.4 +2.0**
I28M IAmb IAmb 17 55 32.0
comp=Z,8.8nm,1.4s
I28M Miner Creek 51.92 31 P **P 17 55 09.1 +0.7**
baz=278
CTG Chitna Glacier 52.02 37 P **P 17 55 09.6 +0.4**
baz=281
LOGN Logan Glacier 52.20 37 P **P 17 55 13.3 +2.6**
YUK3 Moose Creek 52.29 36 P **P 17 55 11.9 +0.6**
baz=281
E29M Blow River 52.31 28 P **P 17 55 13.3 +2.2**
E29M IAmb IAmb 17 55 34.4
comp=Z,5.8nm,1.1s
E29M Blow River 52.31 28 P **P 17 55 12.1 +0.9**
baz=278,SNR=6.1
DAWY Dawson 52.37 33 P **P 17 55 12.7 +1.1**
baz=280
H29M Whitestone 52.45 30 P **P 17 55 12.7 +0.5**
baz=279
G29M Pine Creek 52.48 29 P **P 17 55 15.2 +2.8**
G29M IAmb IAmb 17 55 16.3
comp=Z,7.1nm,1.1s
G29M Pine Creek 52.48 29 P **P 17 55 13.3 +0.9**
baz=279
O28M Mount Upton 52.61 37 P **P 17 55 13.1 -0.7**
baz=282
I29M Ogilvie Camp, 52.61 31 P **P 17 55 15.6 +2.2**
I29M IAmb IAmb 17 55 16.6
comp=Z,5.5nm,1.0s
I29M Ogilvie Camp, 52.61 31 P **P 17 55 14.8 +1.4**

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     baz=280
PINM Pinnacle          52.71  38  P      P      17 55 14.9 +0.6
     baz=282
KK31 Karatay Array     52.90 300  P      P      17 55 14.1 -1.8
KK31                              IAmb   IAmb   17 55 18.4
     comp=Z,4.7nm,1.1s
KK31 Karatay Array     52.90 300  P      P      17 55 14.1 -1.8
KK31                              pmax   pmax
     comp=Z,5.0nm,1.1s
KKAR Karatay Array     52.90 300  P      P      17 55 14.0 -1.9
KKAR                              IAmb   IAmb   17 55 18.4
     comp=Z,4.7nm,1.1s
KKAR Karatay Array     52.90 300  P      P      17 55 14.0 -1.9
KKAR                              pmax   pmax
     comp=Z,5.0nm,1.1s
TRKS Terek-Say         53.00 298  P      P      17 55 17.6 +0.8
TRKS                              pmax   pmax
     comp=Z,6.0nm,1.1s
EPYK Eagle Plains      53.08  30  P      P      17 55 18.6 +1.7
EPYK Eagle Plains      53.08  30  P      P      17 55 17.9 +1.1
     baz=280,SNR=6.5
M29M Somme Creek       53.08  35  P      P      17 55 18.9 +1.8
M29M Somme Creek       53.08  35  P      P      17 55 17.6 +0.6
     baz=282
L29M L29M              53.10  34  P      P      17 55 20.4 +3.4
L29M                              IAmb   IAmb   17 55 21.2
     comp=Z,4.3nm,0.8s
L29M L29M              53.10  34  P      P      17 55 18.0 +0.9
     baz=282,SNR=5.6
G30M tAoh Zraii Nji    53.16  29  P      P      17 55 19.3 +1.8
G30M                              IAmb   IAmb   17 55 40.2
     comp=Z,5.7nm,0.9s
G30M tAoh Zraii Nji    53.16  29  P      P      17 55 18.6 +1.1
     baz=280,SNR=7.3
K29M Barlow Dome       53.22  33  P      P      17 55 19.8 +1.8
K29M                              IAmb   IAmb   17 55 41.8
     comp=Z,6.4nm,1.2s
K29M Barlow Dome       53.22  33  P      P      17 55 19.3 +1.3
     baz=282
F30M Barrier River     53.22  28  P      P      17 55 19.1 +1.2
     baz=280,SNR=5.0
YUK4 Talbot Arm        53.22  36  P      P      17 55 19.5 +1.3
     baz=282
I30M Mount Dempster    53.43  31  P      P      17 55 21.3 +1.7
I30M Mount Dempster    53.43  31  P      P      17 55 20.3 +0.7
     baz=282,SNR=19
O29M Mount Kennedy     53.49  38  P      P      17 55 20.5 +0.5
     baz=283
J30M Hart River        53.58  32  P      P      17 55 21.9 +1.2
     baz=282
M30M Minto, Yukon      53.81  35  P      P      17 55 24.3 +2.1
     baz=283
INK  Inuvik            53.93  27  P      P      17 55 24.4 +1.5
     baz=282
N30M Aishikik Lake     53.93  36  P      P      17 55 24.2 +1.0
     baz=284
G31M Satah River       53.93  29  P      P      17 55 23.8 +0.8
     baz=282
P29M Windy Craggy      54.05  38  P      P      17 55 24.0 -0.1
P29M Windy Craggy      54.05  38  P      P      17 55 24.9 +0.8
     baz=284
NIL  Nilore            54.49 288  P      P      17 55 27.6  0.0
NIL                               IAmb   IAmb   17 55 29.8
     comp=Z,4.5nm,0.8s
NIL  Nilore            54.49 288  P      P      17 55 27.6  0.0
NIL                               pmax   pmax
     comp=Z,4.0nm,0.8s
GAR  Garm              54.51 295  P      P      17 55 27.7 -0.2
SVE  Sverdlovsk        54.79 318  eP     P      17 55 30.9 +1.5
CHGR Chuyangaron       55.48 295  P      P      17 55 34.1 -0.7
CHGR Chuyangaron       55.48 295  P      P      17 55 34.1 -0.7
CHGR                              pmax   pmax
     comp=Z,45nm,1.2s
SIMJ Simiganj          55.59 295  P      P      17 55 35.1 -0.6
A36M Sachs Harbour     55.78  22  P      P      17 55 38.7 +2.4
A36M                              IAmb   IAmb   17 55 58.8
     comp=Z,5.5nm,0.8s
A36M Sachs Harbour     55.78  22  P      P      17 55 37.3 +1.0
     baz=286
ARU  Arti              56.01 318  P      P      17 55 37.6 -0.5
ARU  Arti              56.01 318  LR     LR     18 21 54.9
     comp=Z,136nm,18.1s,baz=104,slow=38
ARU  Arti              56.01 318  e i P  P      17 55 37.7 -0.5
ARU                                       17 57 42.8
ARU                               S      S      18 03 26.7 +4.1
ARU                               SS     SS     18 07 07.9 -0.7
ARU                               pmax   pmax
     comp=Z,15nm,1.3s
ARU  Arti              56.01 318  P      P      17 55 37.5 -0.7
     comp=Z,9.7nm,1.1s
P32M Atlin             56.03  38  P      P      17 55 39.4 +1.0
     baz=288
S32K Kilisnoo          56.25  40  P      P      17 55 40.6 +0.8
     baz=288
MMPY Sheldon Lake,     56.27  34  P      P      17 55 41.1 +1.1
     baz=287
P33M Teslin, Yukon     56.28  37  P      P      17 55 43.1 +3.0
P33M                              IAmb   IAmb   17 55 43.9
     comp=Z,4.5nm,1.1s
P33M Teslin, Yukon     56.28  37  P      P      17 55 41.0 +0.8
     baz=288
C36M Paulatuk          56.96  25  P      P      17 55 45.5 +0.8
     baz=289
R33M Jennings River    57.43  37  P      P      17 55 49.2 +0.9
     baz=290
WB2  Warramunga Arr    57.56 188  P      P      17 55 49.7 +0.2
WB2                               IAmb   IAmb   17 56 07.1
     comp=Z,4.7nm,0.8s
WRA  Warramunga Arr    57.56 188  P      P      17 55 49.1 -0.4
WRA  Warramunga Arr    57.56 188  P      P      17 55 49.9 +0.4
     comp=Z,1.3nm,0.4s,baz=4.1,slow=7.3,SNR=83
     comp=Z,1.3nm,0.4s
WRA  Warramunga Arr    57.56 188  P      P      17 55 49.1 -0.4
ABKAR Akbulak array    57.64 310  P      P      17 55 48.2 -1.6
ABKAR Akbulak array    57.64 310  P      P      17 55 48.4 -1.4
AKTO Aktyubinsk        58.36 312  LR     LR     18 22 14.8
     comp=Z,68nm,20.4s,baz=218,slow=37
KIRV Kirov             59.87 323  ce P   P      17 56 04.8 -0.3
ASAR Alice Springs     61.29 188  P      P      17 56 15.9 +0.8
     comp=Z,0.7nm,0.7s,baz=7.4,slow=8.4,SNR=16
ASAR                              pP     pP     17 56 30.6 +1.6
     comp=Z,1.7nm,0.8s,baz=357,slow=5.2,SNR=6.9
     comp=Z,0.7nm,0.7s
YKA  Yellowknife Ar    63.36  30  LR     LR     18 28 13.4
     comp=Z,35nm,18.6s,baz=302,slow=40
BELG Belogornoye       63.45 317  LR     LR     18 25 46.9
     comp=Z,47nm,19.7s,baz=119,slow=38
BELG Belogornoye       63.45 317  eP     P      17 56 29.3 -0.1
BELG                              pmax   pmax
     comp=Z,2.0nm,0.9s
ARCES ARCESS Array B   63.54 339  P      P      17 56 30.3 +0.6
     comp=Z,0.5nm,0.4s,baz=59,slow=7.2,SNR=7.6
ARCES                             LR     LR     18 28 06.0
     comp=Z,73nm,18.1s,baz=85,slow=40
     comp=Z,0.5nm,0.4s
DZM  Mont Dzumac       63.79 154  LR     LR     18 22 51.3
     comp=Z,105nm,19.9s,baz=342,slow=35
OBN  Obninsk           67.71 323  eP     P      17 56 57.0 +0.2
OBN                               e      P      18 06 54.2
OBN                               pmax   pmax
     comp=Z,34nm,2.5s
OBN                               MLR    MLR
     comp=Z,48nm,18.0s
FINES FINESS Array B   68.39 332  P      P      17 57 01.1 +0.1
     comp=Z,1.7nm,0.3s,baz=30,slow=9.6,SNR=36
FINES                             LR     LR     18 31 33.2
     comp=Z,53nm,18.4s,baz=90,slow=40
     comp=Z,1.7nm,0.3s
FINES FINESS Array B   68.39 332  i P    P      17 57 01.3 +0.4
FINES                             pmax   pmax
     comp=Z,2.0nm,0.3s
NEW  Newport           69.75  44  P      P      17 57 10.6 +0.9
     baz=304
NEW  Newport           69.75  44  LR     LR     18 33 36.2
     comp=Z,30nm,18.1s,baz=312,slow=41
PINE Pine Mountain     69.99  50  P      P      17 57 13.1 +1.6
PINE                              IAmb   IAmb   17 57 32.2
     comp=Z,7.0nm,1.1s
KBZ  Khabaz            70.60 311  ce P   P      17 57 14.7 -0.2
KBZ                               pmax   pmax
     comp=Z,8.0nm,1.2s
KIV  Kislovodsk        70.60 311  eP     P      17 57 15.5 +0.4
KIV                               pmax   pmax
     comp=Z,12nm,1.1s
SHA1 Shidzhatmaz       70.74 311  ce P   P      17 57 15.9 -0.2
GNI  Garni             71.43 307  LR     LR     18 30 49.7
     comp=Z,53nm,20.1s,baz=78,slow=38
MSO  Missoula          72.34  44  P      P      17 57 26.3 +0.8
     baz=306
NC405 NORSAR Array S   73.53 337  P      P      17 57 32.5 +0.4
NC405                             IAmb   IAmb   17 57 34.4
     comp=Z,11nm,1.2s
HFS  Hagfors           73.64 336  P      P      17 57 33.1 +0.3
     comp=Z,1.6nm,0.4s,baz=57,slow=5.5,SNR=31
HFS                               LR     LR     18 32 27.8
     comp=Z,93nm,20.3s,baz=60,slow=38
     comp=Z,1.6nm,0.4s
NC204 NORSAR Array S   73.69 338  P      P      17 57 33.9 +0.7
NB2  NORSAR Subarra    73.74 337  P      P      17 57 33.5 +0.1
     comp=Z,0.9nm,0.6s,baz=32,slow=6.9
NOA  NORSAR Array B    73.74 337  P      P      17 57 33.5 +0.1
     comp=Z,0.9nm,0.5s,baz=39,slow=6.0,SNR=11
NOA                               LR     LR     18 33 21.3
     comp=Z,56nm,19.9s,baz=35,slow=38
     comp=Z,0.9nm,0.5s
EGMT Eagleton          73.88  41  P      P      17 57 34.5  0.0
     baz=309
AKASG Malin Array Be   73.92 322  P      P      17 57 34.2 -0.4
     comp=Z,1.9nm,0.4s,baz=46,slow=5.9,SNR=20
AKASG                             LR     LR     18 33 07.9
     comp=Z,89nm,18.2s,baz=56,slow=38
     comp=Z,1.9nm,0.4s
AKASG Malin Array Be   73.92 322  i P    P      17 57 34.9 +0.3
AKASG                             pmax   pmax
     comp=Z,2.0nm,0.4s
AKBB Malin Array Si    73.92 322  IAmb   IAmb   17 57 35.4
     comp=Z,8.3nm,1.1s
AKBB Malin Array Si    73.92 322  ce P   P      17 57 34.4 -0.2
AKBB                              pmax   pmax
     comp=Z,9.0nm,1.1s
AKBB Malin Array Si    73.92 322  P      P      17 57 33.7 -0.9
AK01 Malin Array Si    73.93 322  P      P      17 57 34.1 -0.5
KIEV Kiev              73.93 322  P      P      17 57 34.1 -0.5
KIEV                              IAmb   IAmb   17 57 35.5
     comp=Z,7.4nm,1.1s
KIEV Kiev              73.93 322  P      P      17 57 34.1 -0.5
KIEV                              pmax   pmax
     comp=Z,7.0nm,1.1s
KIEV Kiev              73.93 322  P      P      17 57 34.7 +0.1
AK04 Malin Array Si    73.93 322  P      P      17 57 33.7 -1.0
AK09 Malin Array Si    73.94 322  P      P      17 57 34.3 -0.4
AK08 Malin Array Si    73.95 322  P      P      17 57 34.1 -0.6
AK22 Malin Array Si    73.95 322  P      P      17 57 33.9 -0.9
AK05 Malin Array Si    73.98 322  P      P      17 57 35.0  0.0
AK05                              IAmb   IAmb   17 57 35.9
     comp=Z,9.7nm,1.2s
HLID Hailey            74.01  47  P      P      17 57 35.8 +0.2
     baz=307
AK13 Malin Array Si    74.06 322  P      P      17 57 35.1 -0.3
BOZ  Bozeman (W)       74.36  44  P      P      17 57 37.5  0.0
     baz=308
KVN  Kaiserville       74.43  53  P      P      17 57 38.3 +0.2
KVN                               IAmb   IAmb   17 57 57.9
     comp=Z,7.1nm,1.4s
KVN  Kaiserville       74.43  53  P      P      17 57 38.3 +0.2
KVN                               pmax   pmax
     comp=Z,7.0nm,1.4s
NVAR Mina Array Bea    74.67  53  P      P      17 57 39.3 -0.2
     comp=Z,0.3nm,0.5s,baz=308,slow=5.5,SNR=4.1
NVAR                              pP     PcP    17 57 53.8 +0.2
     comp=Z,1.1nm,0.8s,baz=285,slow=5.8,SNR=5.0
     comp=Z,0.3nm,0.5s
MI29 MI29, Kamyanyy    74.77 323  P      P      17 57 39.2 -0.3
LUBAR Lubar, Ukraine   75.14 322  P      P      17 57 40.9 -0.8
SFJD Kangerlussuaq     75.39   5  LR     LR     18 33 00.5
     comp=Z,24nm,18.1s,baz=341,slow=37
DSP  Deep Springs      75.50  54  P      P      17 57 44.1 +0.1
TPH  Tonopah           75.56  53  P      P      17 57 44.6  0.0
TPH  Tonopah           75.56  53  P      P      17 57 44.6  0.0
TPH                               pmax   pmax
     comp=Z,18nm,1.1s
PKM  Mcpherson Peak    75.75  57  P      P      17 57 46.2 +0.5
     baz=306
R11B Troy Canyon, C    76.43  52  P      P      17 57 49.9 +0.3
R11B Troy Canyon, C    76.43  52  P      P      17 57 49.4 -0.2
     baz=307
TPNV Topopah Spring    76.86  53  P      P      17 57 52.0 +0.1
     baz=307
EDW2 Edwards Air Fo    76.96  56  P      P      17 57 52.8 +0.4
     baz=307
DUG  Dugway, Tooele    77.01  49  P      P      17 57 52.8 +0.1
     baz=308
GWY  Greenwater Val    77.04  54  P      P      17 57 52.6 -0.4
PDAR Pinedale Array    77.30  46  P      P      17 57 55.7 +1.3
     comp=Z,0.4nm,0.5s,baz=277,slow=2.4,SNR=4.6
PDAR                              pP     pP     17 58 08.8 +0.1
     comp=Z,0.8nm,0.6s,baz=236,slow=2.3,SNR=4.4
     comp=Z,0.4nm,0.5s
PSUT Pine Spring       77.40  51  P      P      17 57 53.6 -1.4
BRTR Keskin Array B    78.54 311  P      P      17 58 01.7 +0.5
     comp=Z,0.6nm,0.6s,baz=91,slow=5.2,SNR=4.4
BRTR                              LR     LR     18 35 23.4
     comp=Z,33nm,19.5s,baz=96,slow=38
     comp=Z,0.6nm,0.6s
PFO  Pinyon Flats O    78.74  56  P      P      17 58 02.4  0.0
     baz=308
TPFO Pinon Flats       78.74  56  P      P      17 58 01.8 -0.6
     baz=308
KNB  Kanab             78.98  52  P      P      17 58 02.6 -1.1
KNB                               IAmb   IAmb   17 58 24.9
     comp=Z,10nm,1.5s
KNB  Kanab             78.98  52  P      P      17 58 02.6 -1.1
KNB                               pmax   pmax
     comp=Z,10.0nm,1.5s
MLR  Muntele Rosu      79.02 320  LR     LR     18 34 54.4
     comp=Z,103nm,21.8s,baz=52,slow=37
IRM  Iron Mountain     79.27  55  P      P      17 58 05.0 -0.2
     baz=308
BC3  Big Chuckawall    79.37  56  P      P      17 58 07.0 +1.1
     baz=308
IKP  In-Ko-Pah, Jac    79.56  57  P      P      17 58 07.2 +0.4
     baz=308
SWSC Sam W. Stewart    79.58  56  P      P      17 58 06.5 -0.4
     baz=308
O20A White River Ci    79.75  47  P      P      17 58 07.4 -0.5
     baz=311
MORC Moravsky Berou    79.95 327  P      P      17 58 08.5 -0.1
MORC Moravsky Berou    79.95 327  P      P      17 58 08.5 -0.1
MORC                              pmax   pmax
     comp=Z,4.0nm,1.0s
PSZ  Piszkesteto       80.27 324  P      P      17 58 11.3 +0.9
PSZ  Piszkesteto       80.27 324  P      P      17 58 11.3 +0.9
PSZ                               pmax   pmax
     comp=Z,4.0nm,0.9s
PV10 Paradox Valley    80.42  49  P      P      17 58 10.1 -1.5
PV10                              IAmb   IAmb   17 58 14.9
     comp=Z,8.8nm,0.9s
RAR  Rarotonga         80.43 126  LR     LR     18 27 43.0
     comp=Z,65nm,19.5s,baz=296,slow=31
PV20 West Nyswonger    80.49  49  P      P      17 58 10.7 -1.2
PV20                              IAmb   IAmb   17 58 30.5
     comp=Z,8.7nm,1.1s
RAYN Ar Rayn           80.49 292  P      P      17 58 10.3 -1.7
RAYN                              IAmb   IAmb   17 58 13.1
     comp=Z,5.9nm,1.1s
RAYN Ar Rayn           80.49 292  P      P      17 58 10.3 -1.7
RAYN                              pmax   pmax
     comp=Z,6.0nm,1.2s
PV17 East Wray Mesa    80.53  49  P      P      17 58 11.0 -1.2
PV17                              IAmb   IAmb   17 58 15.1
     comp=Z,5.5nm,0.9s
PV16 Nyswonger Mesa    80.54  49  P      P      17 58 10.2 -2.0
N23A Red Feather La    80.56  45  P      P      17 58 12.4 +0.1
N23A                              IAmb   IAmb   17 58 48.6
     comp=Z,6.7nm,1.4s
PV05 Paradox Valley    80.58  49  P      P      17 58 12.0 -0.5
PV18 Skein Mesa, Pa    80.58  49  P      P      17 58 12.0 -0.5
PV03 Paradox Valley    80.61  49  P      P      17 58 12.8 +0.1
PV03                              IAmb   IAmb   17 58 36.9
     comp=Z,7.3nm,1.5s
CLL  Collm             80.68 330  P      P      17 58 12.0 -0.4
CLL                               IAmb   IAmb   17 58 13.8
     comp=Z,5.6nm,1.2s
CLL  Collm             80.68 330  i P    P      17 58 12.8 +0.4
CLL  Collm             80.68 330  P      P      17 58 12.0 -0.4
CLL                               pmax   pmax
     comp=Z,6.0nm,1.2s
PV13 Radium Mtn., P    80.69  49  P      P      17 58 13.8 +0.7
VRAC Vranov            80.72 327  LR     LR     18 38 47.9
     comp=Z,39nm,19.0s,baz=50,slow=39
Y14A Wickenburg        80.79  54  P      P      17 58 14.3 +0.8
WUAZ Wupatki           80.83  52  P      P      17 58 13.3 -0.4
WUAZ                              IAmb   IAmb   17 58 34.6
     comp=Z,5.4nm,1.1s
MMAI Mount Meron Ar    81.70 305  LR     LR     18 37 46.0
     comp=Z,85nm,19.2s,baz=46,slow=38
KHC  Kasperske Hory    82.13 328  P      P      17 58 19.7 -0.5
KHC                               IAmb   IAmb   17 58 22.1
     comp=Z,7.3nm,1.4s
KHC  Kasperske Hory    82.13 328  eP     P      17 58 21.0 +0.8
KHC  Kasperske Hory    82.13 328  P      P      17 58 19.7 -0.5
KHC                               pmax   pmax
     comp=Z,7.0nm,1.4s
GERES GERESS Array B   82.30 328  P      P      17 58 20.4 -0.8
GERES GERESS Array B   82.30 328  P      P      17 58 21.6 +0.4
     comp=Z,0.3nm,0.4s,baz=28,slow=6.4,SNR=2.1
     comp=Z,0.3nm,0.4s
GRFO Grafenberg        82.65 330  P      P      17 58 22.4 -0.5
GRFO Grafenberg        82.65 330  P      P      17 58 22.4 -0.5
GRFO                              pmax   pmax
     comp=Z,16nm,1.4s
EKA  Eskdalemuir Ar    82.67 341  P      P      17 58 23.5 +0.6
     comp=Z,0.3nm,0.5s,baz=50,slow=4.5,SNR=4.3
     comp=Z,0.3nm,0.5s
SDCO Great Sand Dun    82.93  47  P      P      17 58 24.6 -0.3
     baz=313
EIL  Elat              84.13 303  LR     LR     18 39 33.2
     comp=Z,63nm,19.1s,baz=70,slow=38
ANMO Albuquerque       84.24  50  P      P      17 58 32.4 +0.8
     baz=312
BMRD Maredsous         84.57 334  dP     P      17 58 32.7  0.0
PPT  Papeete           84.83 117  LR     LR     18 31 55.0
     comp=Z,50nm,19.6s,baz=327,slow=32
BFO  Black Forest      84.88 331  P      P      17 58 31.7 -2.6
BFO                               IAmb   IAmb   17 58 35.7
     comp=Z,4.5nm,0.9s
BFO  Black Forest      84.88 331  P      P      17 58 31.7 -2.6
BFO                               pmax   pmax
     comp=Z,5.0nm,0.9s
DAVOX Davos/Dischmat   85.51 329  LR     LR     18 40 21.1
     comp=Z,64nm,19.5s,baz=85,slow=38
TXAR Lajitas Array     89.79  52  P      P      17 58 60.0 +1.5
     comp=Z,0.7nm,0.5s,baz=289,slow=3.1,SNR=16
TXAR                              pP     pP     17 59 14.1 +1.1
     comp=Z,0.7nm,0.7s,baz=298,slow=3.1,SNR=6.1
     comp=Z,0.7nm,0.5s
SADO Sadowa            90.24  28  LR     LR     18 43 58.3
     comp=Z,50nm,18.9s,baz=294,slow=38
VAE  Valguarnera       90.77 321  LR     LR     18 43 60.0
     comp=Z,77nm,18.6s,baz=128,slow=38
ESDC Sonseca Array     96.85 334  LR     LR     18 48 11.9
     comp=Z,58nm,19.9s,baz=20,slow=38
QSPA South Pole Qui    127.28 180 PKP    PKPdf  18 05 03.0 +0.1
     comp=Z,1.7nm,1.0s,baz=27,slow=0.5,SNR=2.6
LPAZ La Paz            146.41  59 PKPbc  PKPbc  18 05 42.1 +0.5
     comp=Z,1.3nm,0.5s,baz=354,slow=4.2,SNR=5.6
LPAZ                              pPKPbc pPKPab 18 05 58.6 +1.3
     comp=Z,3.8nm,0.6s,baz=6.9,slow=4.9,SNR=6.3
H03N2 Juan Fernandez   147.04  95 T      T      20 50 27.3
     baz=291,slow=76,SNR=25
H03N3 Juan Fernandez   147.06  95 T      T      20 50 26.7
     baz=291,slow=76,SNR=24
H03N1 Juan Fernandez   147.06  95 T      T      20 50 27.3
     baz=291,slow=76,SNR=40
```

*IDC **25** 18:30:51.9±1.7, 45°.25N×107°.22W, h0km, mbtmp3.3/2, ML2.0/1, Error ellipse: s-maj=61.5km s-min=9.2km az=132.0*

*NEIC **25** 18:30:53.2±2.1, 45°.08N±0°.03×106°.72W±0°.07, h0km±1km, ML3.0/46, Error ellipse: s-maj=9.1km s-min=4.1km az=252.0*

ISC 25 18:30:53.4±1.1, 45°.08N±0°.05×106°.59W±0°.06, h0km, n35, σ0°95/34, Montana

```
Code Station Name      Δ°   AZ°  Phase ID  Time     Res
                                Op    ISC h m s    ISC
LAO  LASA Array        1.63   9          Pn    18 31 23.8 +0.3
LAO                                IAML        18 31 49.5
     211nm,0.6s
LAO                                IAML        18 31 53.8
     140nm,1.1s
RLMT Red Lodge         1.90 272          Pn    18 31 25.5 -1.8
RLMT                               IAML        18 31 56.8
     89nm,0.8s
RSSD Black Hills       2.06 117          Pn    18 31 31.2 -0.5
RSSD                               IAML        18 32 00.9
     110nm,0.9s
RSSD                               IAML        18 32 03.1
     80nm,1.0s
K22A Casper            2.43 179          Pn    18 31 34.3 -0.2
K22A                                     Sn    18 32 05.6 +0.7
K22A                               IAML        18 32 11.4
     comp=E,70nm,0.6s
LKWY Lake              2.76 261          Pn    18 31 38.7 -0.4
LKWY                               IAML        18 32 50.7
     comp=E,64nm,0.3s
LKWY                               IAML        18 32 52.4
     comp=E,46nm,1.8s
H17A Grant Village     2.92 258          Pn    18 31 41.8 +0.4
H17A                               IAML        18 32 55.4
     comp=E,48nm,0.1s
H17A                               IAML        18 32 57.9
     comp=N,44nm,0.1s
YHH  Holmes Hill       3.04 266          Pn    18 31 44.4 +1.3
FLWY Flagg Ranch       3.10 253          Pn    18 31 44.8 +1.0
FLWY                               IAML        18 32 57.7
     comp=N,42nm,1.4s
YPP  Pitchstone Pla    3.11 256          Pn    18 31 44.6 +0.6
YMR  Madison River     3.14 264          Pn    18 31 44.5 +0.2
YMR                                IAML        18 33 00.0
     comp=E,55nm,1.1s
PD31 Pinedale Array    3.15 224          Pn    18 31 45.3 +0.8
PDAR Pinedale Array    3.15 224          Pn    18 31 43.9 -0.6
PDAR Pinedale Array    3.15 224          Pn    18 31 44.3 -0.2
     comp=E,2.1nm,0.3s,baz=54,slow=18,SNR=39
PDAR                               Lg    Lg    18 32 24.8
     comp=E,2.2nm,0.3s,baz=36,slow=33,SNR=17
LOHW Long Hollow       3.23 244          Pn    18 31 46.0 +0.4
MOOW Moose Ponds       3.26 247          Pn    18 31 46.8 +0.8
YHL  Hebgen Lake       3.27 268          Pn    18 31 46.2  0.0
YHL                                IAML        18 32 42.4
     comp=N,42nm,1.2s
YHL                                IAML        18 32 42.8
     comp=E,41nm,1.4s
YHB  Horse Butte       3.29 266          Pn    18 31 45.3 -1.1
YHB                                IAML        18 32 32.2
     comp=E,25nm,1.0s
YHB                                IAML        18 32 34.6
     comp=N,28nm,0.9s
IMW  Indian Meadow     3.33 251          Pn    18 31 47.9 +0.9
IMW                                IAML        18 32 53.5
     comp=N,28nm,0.6s
IMW                                IAML        18 32 58.5
     comp=N,26nm,0.8s
SNOW Snow King Moun    3.40 243          Pn    18 31 48.5 +0.6
SNOW                               IAML        18 32 51.3
     comp=N,29nm,1.2s
SNOW                               IAML        18 32 58.7
     comp=N,34nm,1.6s
RWWY Rawlins           3.42 188          Pn    18 31 48.5 +0.3
RWWY                               IAML        18 32 37.7
     comp=N,29nm,1.1s
RWWY                               IAML        18 32 45.4
     comp=N,37nm,0.8s
FXWY Fox Creek         3.49 247          Pn    18 31 49.6 +0.5
REDW Red Top Meadow    3.51 242          Pn    18 31 48.9 -0.5
BOZ  Bozeman (W)       3.59 280          Pn    18 31 52.2 +1.7
EGMT Eagleton          3.67 325          Pn    18 31 50.5 -0.9
DGMT Dagmar            3.77  25          Pn    18 31 54.8 +1.9
N23A Red Feather La    4.21 173          Pn    18 31 59.7 +0.6
DLMT Dillon            4.25 276          IAML  18 33 07.9
     comp=N,22nm,2.6s
LYMT Lyon Mountain     4.40 298          Pn    18 32 03.2 +1.6
OVMT Ovando            4.88 296          Pn    18 32 07.8 -0.3
BPMT Black Pine Rid    4.99 288          Pn    18 32 09.7  0.0
HWUT Hardware Ranch    5.02 228          Pn    18 32 08.2 -2.0
HWUT                               IAML        18 33 57.5
     comp=N,12nm,1.3s
BSUT Blindstream Ca    5.48 216          Pn    18 32 15.7 -0.9
P18A Preston Nutter    6.08 208          Pn    18 32 24.6 -0.2
I56US NEWPORT INFRAS   7.92 297          I     19 16 00.0
     baz=113,slow=304,SNR=2.2
ULM  Lac du Bonnet     8.89  51          Pn    18 33 02.5 -0.4
     comp=N,0.3nm,0.3s,baz=246,slow=14,SNR=2.1
ULM                                Lg    Lg    18 35 32.1
     comp=N,0.2nm,0.3s,baz=159,slow=20,SNR=2.1
```

comp=N,1.6nm,0.6s

*IDC **25** 18:44:24.7±1.4, 1.°10N×126.°03E, h0km, mb3.7/6, mbtmp3.7/6, MS3.6/2, Error ellipse: s-maj=169.9km s-min=18.8km az=66.0*

ISC 25 18:44:30.9±2.5, 1.°N±1.°×12.°6E±.°, h44km, n8, σ0.°81/6, mb3.7/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.39**	**159**	P	**P**	**18 49 25.3**	**-0.4**
	1.9nm,0.6s,baz=338,slow=11,SNR=26						
	1.9nm,0.6s						
GUMO	**Guam**	**22.51**	**55**	LR	LR	18 57 14.2	
	comp=Z,39nm,18.4s,baz=250,slow=34						
ASAR	**Alice Springs**	**25.72**	**163**	P	**P**	**18 49 57.7**	**+0.4**
	0.5nm,0.3s,baz=344,slow=9.1,SNR=17						
	0.5nm,0.3s						
STKA	**Stephens Creek**	**35.91**	**157**	LR	LR	19 07 02.8	
	comp=Z,249nm,18.4s,baz=280,slow=38						
MKAR	**Makanchi Array**	**59.36**	**327**	P	**P**	**18 54 27.5**	**-1.2**
	0.3nm,0.4s,baz=119,slow=8.4,SNR=8.7						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**62.66**	**334**	P	**P**	**18 54 51.3**	**+0.4**
	0.3nm,0.4s,baz=146,slow=6.4,SNR=3.9						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.62**	**328**	P	**P**	**18 54 57.6**	**+0.4**
	0.6nm,0.5s,baz=128,slow=6.5,SNR=6.3						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**69.18**	**328**	P	**P**	**18 55 32.9**	**+0.1**
	0.3nm,0.4s,baz=132,slow=8.6,SNR=2.7						
	0.3nm,0.4s						

*FUNV **25** 18:51:24.4, 8.°17N×71.°38W, h5km, MW3.1*
*RSNC **25** 18:51:25.1±0.0, 9.°N±1.°×7.°1W±.°, h2km±3km, M2.1, ML2.1, MLv3.0*

ISC 25 18:51:21.6±1.4, 8.°50N±0.°04×71.°43W±0.°03, h2km±12km, n15, σ1.°67/27, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.61**	**111**	⇓eP	**Pb**	**18 51 34.7**	**-0.4**
SOCV				eS	**Sg**	**18 51 42.0**	**+0.7**
SDV	**Santo Domingo**	**0.88**	**64**	P	**Pb**	**18 51 40.2**	**+0.4**
SDV				S	**Sg**	**18 51 51.3**	**+1.4**
CAPV	**Capacho**	**1.08**	**234**	eP	**Pg**	**18 51 41.9**	**-0.4**
CAPV				eS	**Sg**	**18 51 56.9**	**+0.6**
PAMC	**Pamplona, Colo**	**1.70**	**227**	P	**Pb**	**18 51 54.5**	**+0.5**
PAMC				S	**Sg**	**18 52 17.5**	**+1.1**
OCAC	**Ocana**	**1.88**	**262**	P	**Pn**	**18 51 55.9**	**+0.9**
OCAC				S	**Sb**	**18 52 20.0**	**-1.0**
TAMC	**Tame, Arauca**	**2.08**	**190**	P	**Pn**	**18 51 58.5**	**+0.8**
TAMC				S	**Sb**	**18 52 26.4**	**-0.2**
TEPV	**Terepaima**	**2.65**	**57**	eP	**Pb**	**18 52 08.4**	**-1.5**
TEPV				eS	**Sb**	**18 52 42.5**	**-0.4**
CRJC	**Cerrejon, Guaj**	**2.88**	**330**	P	**Pn**	**18 52 09.9**	**+1.2**
CRJC				S	**Sn**	**18 52 43.6**	**-0.5**
ARGC	**Ariguani, Magd**	**3.09**	**296**	P	**Pn**	**18 52 09.2**	**-2.3**
URIC	**Uribia, Colomb**	**3.23**	**350**	P	**Pn**	**18 52 16.2**	**+2.8**
URIC				S	**Sn**	**18 52 50.3**	**-2.2**
BAUV	**El Baul**	**3.38**	**82**	eP	**Pn**	**18 52 16.8**	**+1.2**
BAUV				eS	**Sn**	**18 52 56.0**	**-0.4**
SJCC	**San Jacinto, C**	**3.95**	**291**	P	**Pn**	**18 52 24.1**	**+0.7**
SJCC				S	**Sn**	**18 53 12.3**	**+1.9**
BENV	**Beln**	**4.05**	**69**	eP	**Pn**	**18 52 27.2**	**+2.4**
BENV				eS	**Sn**	**18 53 14.1**	**+1.1**
CHIC	**Chingaza**	**4.47**	**211**	P	**Pn**	**18 52 32.2**	**+1.3**
CACV	**CAICARA DEL OR**	**4.94**	**101**	eP	**Pb**	**18 52 44.2**	**-4.6**

IDC 25 19:06:10.1±3.5, 6.°36S×150.°33E, h0km, mb3.2/2, mbtmp3.3/2, Error ellipse: s-maj=131.5km s-min=46.4km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.58**	**228**	P	P	19 10 50.4	-0.4
	0.9nm,0.4s,baz=53,slow=11,SNR=13						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**23.36**	**221**	P	P	19 11 19.9	-0.5
	0.4nm,0.8s,baz=56,slow=8.3,SNR=7.6						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.39**	**285**	PKPbc	PKPbc	19 25 59.6	-0.1
	0.7nm,0.7s,baz=84,slow=3.4,SNR=8.2						

*IDC **25** 19:33:49.7±0.9, 3.°27S×136.°58E, h0km, mb4.0/9, mbtmp4.0/10, ML3.5/2, Error ellipse: s-maj=44.5km s-min=18.6km az=75.0*

ISC 25 19:33:54.4±0.8, 3.°58S±0.°08×136.°3E±0.°2, h35km, n12, σ1.°84/14, mb4.0/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.38**	**187**	Pn	**P**	**19 37 44.0**	**-0.2**
	0.4nm,0.3s,baz=9.7,slow=13,SNR=19						
WRA				Sn	**Sn**	**19 40 38.9**	**-3.6**
	1.2nm,0.3s,baz=12,slow=23,SNR=10						
	0.9nm,0.4s						
CTA	**Charters Tower**	**19.07**	**150**	P	**Pn**	**19 38 16.7**	**+1.8**
	baz=345,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**20.10**	**186**	P	**Pn**	**19 38 30.3**	**+3.1**
	10nm,0.7s,baz=10,slow=12,SNR=93						
ASAR				S	**S**	**19 42 07.3**	**-2.0**
	2.8nm,1.0s,baz=11,slow=28,SNR=4.5						
	10nm,0.7s						
CMAR	**Chiang Mai Arr**	**42.81**	**302**	P	**P**	**19 41 50.3**	**+1.1**
	1.7nm,0.8s,baz=120,slow=6.2,SNR=10						
	1.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**47.72**	**356**	P	**P**	**19 42 26.8**	**-0.9**
	1.8nm,0.6s,baz=200,slow=10,SNR=4.7						
	1.8nm,0.6s						
SONM	**Songino Array**	**57.51**	**337**	P	**P**	**19 43 39.5**	**-0.8**
	0.8nm,0.5s,baz=132,slow=4.3,SNR=2.1						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**69.03**	**323**	P	**P**	**19 44 57.7**	**+1.2**
	0.9nm,0.6s,baz=114,slow=7.4,SNR=17						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**71.49**	**331**	P	**P**	**19 45 10.6**	**-0.8**
	0.7nm,0.5s,baz=140,slow=7.0,SNR=2.7						
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**78.66**	**326**	P	**P**	**19 45 53.0**	**+0.2**
	0.7nm,0.5s,baz=111,slow=6.5,SNR=5.4						
	0.7nm,0.5s						
QSPA	**South Pole Qui**	**86.37**	**180**	P	**P**	**19 46 33.6**	**+0.7**
	1.0nm,1.0s,baz=273,slow=2.8,SNR=2.1						
	1.0nm,1.0s						
ILAR	**Eielson Array**	**87.62**	**25**	P	**P**	**19 46 37.2**	**-1.5**
	0.6nm,0.9s,baz=243,slow=6.3,SNR=4.4						
	0.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**134.16**	**285**	PKP	**PKPdf**	**19 53 09.6**	**+0.2**
	0.2nm,0.6s,baz=104,slow=1.6,SNR=1.3						

*IDC **25** 19:41:49.0±1.4, 8.°19S×107.°67E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=83.9km s-min=17.1km az=51.0*
*NEIC **25** 19:41:58.8±2.0, 8.°14S±0.°05×107.°62E±0.°06, h70km±9km, mb4.3/18, Error ellipse: s-maj=11.3km s-min=2.9km az=133.0*
*DJA **25** 19:42:00.4±0.3, 8.°S±3.°×10.°8E±.°, h46km±19km, M4.5/17, mb4.7/5, MLv4.5/17*

ISC 25 19:41:59.0±0.9, 8.°36S±0.°06×107.°69E±0.°05, h87km±8km, n63, σ1.°56/68, mb4.1/18, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBJI	**Bungbulang**	**0.89**	**358**	P	**Pn**	**19 42 17.4**	**+0.1**
CMJI	**Cimerak**	**0.95**	**53**	P	**Pn**	**19 42 17.6**	**-0.2**
CMJI				S	**Sn**	**19 42 29.9**	**-2.0**
CNJI	**Cibinong**	**1.18**	**332**	P	**Pn**	**19 42 21.3**	**+0.7**
CNJI				S	**Sn**	**19 42 36.5**	**-0.3**
LEM	**Lembang**	**1.53**	**357**	P	**Pn**	**19 42 26.2**	**+1.1**
LEM				S	**Sn**	**19 42 46.1**	**+1.3**
SKJI	**Sukabumi**	**1.75**	**320**	P	**Pn**	**19 42 27.2**	**-0.6**
SKJI				S	**Sn**	**19 42 49.5**	**-0.2**
DBJI	**Dramaga**	**2.02**	**333**	P	**Pn**	**19 42 33.1**	**+1.7**
DBJI				S	**Sn**	**19 42 56.9**	**+0.8**
YOGI	**Yogyakarta**	**2.64**	**78**	P	**Pn**	**19 42 39.7**	**+0.1**
SBJI	**Serang**	**2.71**	**325**	P	**Pn**	**19 42 42.7**	**+2.2**
UGM	**Wanagama**	**2.84**	**81**	P	**Pn**	**19 42 43.2**	**+0.8**
UGM	**Wanagama**	**2.84**	**81**	Pn	**Pn**	**19 42 43.0**	**+0.7**
UGM	**Wanagama**	**2.84**	**81**	P	**Pn**	**19 42 42.6**	**+0.2**
XMI	**Christmas Isla**	**2.86**	**223**	P	**Pn**	**19 42 44.0**	**+1.4**
XMIS	**Christmas Isla**	**2.91**	**223**	P	**Pn**	**19 42 44.2**	**+1.0**
XMIS	**Christmas Isla**	**2.91**	**223**		**Pn**	**19 42 44.3**	**+1.1**
SMRI	**Semarang**	**3.02**	**65**	P	**Pn**	**19 42 46.1**	**+1.3**
SMRI	**Semarang**	**3.02**	**65**		**Pn**	**19 42 43.1**	**-1.7**
SMRI	**Semarang**	**3.02**	**65**	P	**Pn**	**19 42 46.3**	**+1.5**
PWJI	**Pagerwojo**	**4.09**	**86**	P	**Pn**	**19 43 00.5**	**+1.3**
KASI	**Kota Agung**	**4.24**	**311**	P	**Pn**	**19 43 03.1**	**+1.9**
LWLI	**Liwa**	**4.90**	**312**	P	**Pn**	**19 43 12.5**	**+2.2**
GRJI	**Gresik**	**4.96**	**73**	P	**Pn**	**19 43 11.9**	**+0.8**
MNAI	**Manna**	**6.16**	**310**	P	**Pn**	**19 43 28.7**	**+1.3**
MNAI	**Manna**	**6.16**	**310**	Pn	**Pn**	**19 43 24.8**	**-2.6**
MNAI				Sn	**Sn**	**19 44 30.8**	**-5.6**
JAGI	**Jajag, Banyuwa**	**6.40**	**91**	P	**Pn**	**19 43 32.9**	**+2.2**
JAGI	**Jajag, Banyuwa**	**6.40**	**91**	Pn	**Pn**	**19 43 32.0**	**+1.3**
JAGI				Sn	**Sn**	**19 44 39.6**	**-2.7**
JAGI	**Jajag, Banyuwa**	**6.40**	**91**	P	**Pn**	**19 43 32.7**	**+2.0**
	40nm,1.3s,0.4nm						
SRBI	**Singaraja**	**7.46**	**88**	P	**Pn**	**19 43 46.7**	**+1.6**
	37nm,0.7s						
TWSI	**Taliwang, Sumb**	**9.10**	**93**	P	**Pn**	**19 44 07.8**	**+0.2**
BKNI	**Bangkinang**	**10.88**	**322**	Pn	Pn	19 44 24.6	-7.2
GIRL	**Giralia**	**15.53**	**157**	Pn	**Pn**	**19 45 32.8**	**-0.3**
PSA00	**Pilbara Seismi**	**17.60**	**140**	P	**P**	**19 45 57.6**	**-1.0**
PSA00				IAmb	IAmb	19 46 25.6	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**21.84**	**111**	P	**P**	**19 46 47.1**	**+2.5**
KNRA				IAmb	IAmb	19 46 57.0	
	comp=Z,15nm,1.5s						
MORW	**Morawa**	**22.05**	**160**	P	**P**	**19 46 47.9**	**+1.3**
MORW				IAmb	IAmb	19 47 05.1	
	comp=Z,31nm,1.2s						
MTN	**Manton Dam**	**23.47**	**103**	P	**P**	**19 46 59.7**	**-1.4**
MTN				IAmb	IAmb	19 47 40.9	
	comp=Z,8.6nm,1.1s						
WB0	**Warramunga Arr**	**28.23**	**117**	P	**P**	**19 47 46.0**	**+2.0**
WB0				IAmb	IAmb	19 48 27.1	
	comp=Z,9.3nm,1.4s						
WRA	**Warramunga Arr**	**28.24**	**117**	P	**P**	**19 47 44.3**	**+0.2**
WRA	**Warramunga Arr**	**28.24**	**117**	P	**P**	**19 47 45.2**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=289,slow=12,SNR=7.4						
WRA				PcP	**PcP**	**19 50 57.6**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=306,slow=1.7,SNR=1.9						
	comp=Z,0.6nm,0.8s						
WRAB	**Tennant Creek**	**28.25**	**117**	P	**P**	**19 47 45.3**	**+1.2**
WB2	**Warramunga Arr**	**28.25**	**117**	P	**P**	**19 47 45.3**	**+1.1**
WR0	**Warramunga Arr**	**28.43**	**117**	P	**P**	**19 47 47.5**	**+1.8**
WR0				IAmb	IAmb	19 48 32.1	
	comp=Z,4.6nm,1.2s						
ASAR	**Alice Springs**	**29.36**	**124**	P	**P**	**19 47 53.8**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=313,slow=8.7,SNR=3.4						
ASAR				PcP	**PcP**	**19 50 59.9**	**+1.4**
	comp=Z,0.6nm,1.1s,baz=327,slow=1.6,SNR=1.2						
	comp=Z,0.3nm,0.6s						
H08S2	**Diego Garcia H**	**34.85**	**269**	T	T	20 26 08.7	
	baz=93,slow=76,SNR=20						
H08S3	**Diego Garcia H**	**34.86**	**269**	T	T	20 26 09.4	
	baz=93,slow=76,SNR=30						
H08S1	**Diego Carcia H**	**34.87**	**269**	T	T	20 26 10.2	
	baz=93,slow=76,SNR=18						
COEN	**Coen**	**35.23**	**102**	P	**P**	**19 48 43.2**	**-2.3**
COEN				IAmb	IAmb	19 48 48.4	
	comp=Z,11nm,1.2s						
BBOO	**Buckleboo**	**35.80**	**137**	P	**P**	**19 48 50.8**	**+0.7**
STKA	**Stephens Creek**	**39.23**	**131**	P	**P**	**19 49 21.8**	**+2.7**
STKA	**Stephens Creek**	**39.23**	**131**	P	**P**	**19 49 21.0**	**+1.9**
	comp=Z,3.7nm,0.4s,baz=307,slow=7.5,SNR=9.2						
	comp=Z,3.7nm,0.4s						
KSAR	**Wonju Array Be**	**49.33**	**21**	P	**P**	**19 50 39.4**	**-0.1**
JGF	**Kuroka**	**51.91**	**31**	P	**P**	**19 50 57.0**	**-1.9**
NIL	**Nilore**	**53.05**	**324**	P	**P**	**19 51 05.6**	**-1.8**
NIL				IAmb	IAmb	19 51 31.6	
	comp=Z,3.3nm,0.7s						
SONM	**Songino Array**	**55.96**	**359**	P	**P**	**19 51 28.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=204,slow=9.2,SNR=1.9						
	comp=Z,0.6nm,0.5s						
SIMJ	**Simiganj**	**59.01**	**325**	P	**P**	**19 51 49.3**	**-0.7**
SIMJ				IAmb	IAmb	19 52 10.7	
	comp=Z,3.4nm,1.1s						
MK31	**Makanchi Array**	**59.39**	**340**	P	**P**	**19 51 52.1**	**-0.2**
MK31				IAmb	IAmb	19 52 26.2	
	comp=Z,1.6nm,1.2s						
MKAR	**Makanchi Array**	**59.39**	**340**	P	**P**	**19 51 51.5**	**-0.8**
MKAR	**Makanchi Array**	**59.39**	**340**	P	**P**	**19 51 52.1**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=156,slow=8.0,SNR=15						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**63.95**	**340**	P	**P**	**19 52 23.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=150,slow=6.9,SNR=3.3						
	comp=Z,0.2nm,0.3s						
KURK	**Kurchatov**	**64.00**	**340**	P	**P**	**19 52 23.5**	**+0.4**
ZALV	**Zalesovo Beam**	**65.01**	**345**	P	**P**	**19 52 28.8**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=147,slow=8.1,SNR=2.1						
	comp=Z,0.4nm,0.4s						
BVAR	**Borovoye Array**	**68.88**	**337**	P	**P**	**19 52 54.3**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=140,slow=9.1,SNR=6.8						
	comp=Z,0.7nm,0.5s						
ABKAR	**Akbulak array**	**70.92**	**329**	P	**P**	**19 53 07.3**	**+0.5**
BRTR	**Keskin Array B**	**83.23**	**312**	P	**P**	**19 54 17.4**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=118,slow=5.2,SNR=3.4						
	comp=Z,0.5nm,0.5s						
TXAR	**Lajitas Array**	**143.93**	**50**	PKP	**PKPdf**	**20 01 25.0**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=192,slow=1.7,SNR=4.0						

*MOS **25** 19:45:03.8±0.8, 56.°07S×27.°73W, h123km, mb5.6/22, MS4.7/4, Error ellipse: s-maj=15.8km s-min=9.3km az=107.3*
*NEIC **25** 19:45:04.5, 56.°26S×27.°28W, h130km, Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10^17^Nm; M_{rr}2.00; $M_{\theta\theta}$-2.81; $M_{\phi\phi}$0.82; $M_{r\theta}$-0.34; $M_{\theta\phi}$2.67; $M_{\phi r}$-1.63; Fault plane solution: $M_0$4.00000×10^17^ NP1: ϕ_s153.73000°, δ64.67000°, λ143.44000°. NP2: ϕ_s261.34000°, δ57.42000°, λ30.51000°. Principal axes: T 3.7318, Plg43.0000°, Azm115.0000°; N 0.5324, Plg47.0000°, Azm304.0000°; P -4.2642, Plg4.0000°, Azm209.0000°;*
*NEIC **25** 19:45:04.5, 56.°06S×27.°64W, h130km*
*NEIC **25** 19:45:05.0±2.0, 56.°06S±0.°09×27.°7W±0.°1, h125km±3km, mb5.6/179, Mww5.7/20, Error ellipse: s-maj=13.0km s-min=11.7km az=210.0*
*IDC **25** 19:45:05.6±0.4, 56.°08S×27.°57W, h129km±3km, mb5.3/28, mbtmp5.7/30, MS4.6/33, Error ellipse: s-maj=10.0km s-min=7.3km az=26.0*
*BJI **25** 19:45:05.0±0.0, 56.°20S×27.°80W, h140km, mB5.4/22*
*GCMT **25** 19:45:09.1±0.1, 56.°08S±0.°01×27.°21W±0.°01, h125km, MW5.7/160, Moment Tensor Solution. s158, c283; s160, c331; Duration: 1s8 Moment tensor: Scale 10^17^ Nm; M_{rr}2.81±.04; $M_{\theta\theta}$-3.85±.05; $M_{\phi\phi}$1.04±.05; $M_{r\theta}$-0.14±.04; $M_{\theta\phi}$2.67±.04; $M_{\phi r}$-1.76±.03; Best double couple: $M_0$4.64900×10^17^ NP1:ϕ_s146.00000°, δ61.00000°, λ137.00000°. NP2:ϕ_s261.00000°, δ53.00000°, λ38.00000°. Principal axes: T 4.2290, Plg50.0000°, Azm109.0000°; N 0.8410, Plg39.0000°, Azm298.0000°; P -5.0700, Plg4.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 19:45:05.1±0.3, 56.°19S±0.°04×27.°61W±0.°04, h130km±2km, h130km:pP-P, n944, σ1.°31/1006, mb5.6/168, 17C-12D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.43**	**287**		**Pn**	**19 46 23.4**	**-0.4**
HOPE	**Hope Point**	**5.43**	**287**	P	**Pn**	**19 46 23.4**	**-0.4**
ORCD	**Orcadas**	**10.05**	**236**		Pn	19 47 19.0	-6.9
VNA1	**Neumayer--Stat**	**16.76**	**157**	⇑P	**P**	**19 48 53.8**	**+2.1**
	comp=Z,260nm,0.6s						
VNA1				⇑S	**Sn**	**19 51 50.9**	**-7.2**
	comp=Z,68nm,0.8s						
VNA1				⇓ScP	**ScP**	**19 56 55.3**	**+1.3**
	comp=Z,39nm,0.9s						
VNA3	**Neumayer Olymp**	**16.94**	**160**	⇑P	**Pn**	**19 48 55.9**	**+1.9**
	comp=Z,503nm,0.7s						
VNA3				⇑S	**Sn**	**19 51 54.4**	**-8.2**
	comp=Z,23nm,0.4s						
VNA3				⇓ScP	**ScP**	**19 56 55.1**	**+0.7**
	comp=Z,28nm,0.7s						
VNA2	**Neumayer--Watz**	**17.16**	**157**	⇑P	**Pn**	**19 48 57.9**	**+1.4**
	comp=Z,276nm,0.7s,baz=310,slow=14						
VNA2				⇑S	**Sn**	**19 52 00.4**	**-7.2**
	comp=Z,78nm,0.9s,baz=291,slow=11						
VNA2				⇓ScP	**ScP**	**19 56 55.9**	**+1.1**
	comp=Z,33nm,0.6s,baz=311,slow=5.6						
EFI	**East Falkland**	**18.40**	**271**		**P**	**19 49 07.6**	**-2.3**
EFI	**East Falkland**	**18.40**	**271**	*i* P	**P**	**19 49 10.4**	**+0.5**
SNAA	**Sanae**	**18.71**	**156**	P	**Pn**	**19 49 15.1**	**-0.1**
SNAA	**Sanae**	**18.71**	**156**	⇑*i*P	**Pn**	**19 49 15.1**	**-0.1**
SNAA	**Sanae**	**18.71**	**156**	⇑P	**Pn**	**19 49 15.1**	**-0.1**
	comp=Z,12μm,0.8s						
SNAA				⇑S	**S**	**19 52 38.9**	**-0.4**
	comp=Z,2μm,0.9s						
SNAA				⇓ScP	**ScP**	**19 56 59.2**	**+0.9**
	comp=Z,358nm,0.6s						
SNAA	**Sanae**	**18.71**	**156**	P	**Pn**	**19 49 14.8**	**-0.3**
	comp=Z,201nm,0.5s,baz=306,slow=10.0,SNR=1031						
SNAA				S	**S**	**19 52 39.1**	**-0.1**
	comp=Z,56nm,0.8s,baz=350,slow=22,SNR=4.2						
SNAA				LR	LR	19 55 12.3	
	comp=Z,773nm,20.6s,baz=312,slow=32						
SNAA				ScP	**ScP**	**19 56 58.4**	**+0.1**
	comp=Z,13nm,0.6s,baz=276,slow=6.6,SNR=9.0						
PMSA	**Palmer Station**	**19.63**	**229**	P	**Pn**	**19 49 25.9**	**+0.1**
PMSA	**Palmer Station**	**19.63**	**229**	P	**Pn**	**19 49 26.3**	**+0.5**
	comp=Z,251nm,0.6s,baz=68,slow=7.4,SNR=44						
PMSA				S	**Sn**	**19 53 03.2**	**-3.7**
	comp=Z,20nm,0.8s,baz=12,slow=4.6,SNR=1.9						
PMSA				PcP	**PcP**	**19 53 37.6**	**+1.0**
	comp=Z,28nm,0.8s,baz=326,slow=7.3,SNR=3.2						
PMSA				LR	LR	19 56 15.6	
	comp=Z,2μm,21.8s,baz=92,slow=34						
PMSA				ScP	**ScP**	**19 56 59.4**	**-0.9**
	comp=Z,15nm,0.5s,baz=338,slow=4.2,SNR=7.1						
TROLL	**Troll, Antarti**	**20.23**	**153**	⇑P	**P**	**19 49 31.4**	**+1.7**
	comp=Z,20μm,0.6s						
TROLL				⇑S	**S**	**19 53 08.3**	**-1.0**
	comp=Z,2μm,0.6s						
TROLL				⇓ScP	**ScP**	**19 57 03.7**	**+1.9**
	comp=Z,492nm,0.6s						
SMAI	**San Martin Ant**	**21.51**	**221**	P	**P**	**19 49 45.6**	**+2.4**
BELA	**Belgrano 2**	**21.93**	**184**	P	**P**	**19 49 48.7**	**+1.1**
NVL	**N'lazarevskaya**	**22.28**	**146**	*e*P	**P**	**19 49 48.1**	**-3.1**
NVL				*e*PP	**pP**	**19 50 13.1**	**-1.4**
NVL				pmax	pmax		
	comp=Z,110nm,0.9s						
MG01	**Puerto William**	**22.45**	**256**	P	**P**	**19 49 54.0**	**+0.9**
GO10	**Punta Arenas**	**24.99**	**259**	P	**P**	**19 50 17.3**	**+0.8**
MG04	**Isla Riesco**	**25.40**	**259**		**P**	**19 50 17.9**	**-2.2**
MG04				IAmb	IAmb	19 50 57.2	
	comp=Z,249nm,1.1s						
ELIB	**Princess Elisa**	**26.16**	**147**	*d*P	**P**	**19 50 28.3**	**+1.4**
	comp=Z,82nm,0.9s						
MG05	**Puerto Natales**	**26.44**	**261**		**P**	**19 50 28.2**	**-1.3**
GO09	**Cerro Castillo**	**26.54**	**262**	P	**P**	**19 50 28.8**	**-1.7**
TRQA	**Tornquist**	**29.16**	**294**	P	**P**	**19 50 53.3**	**-0.6**
TRQA	**Tornquist**	**29.16**	**294**	P	**P**	**19 50 53.3**	**-0.6**
TRQA				pmax	pmax		
	comp=Z,120nm,1.5s						
TRQA	**Tornquist**	**29.16**	**294**	*e*P	**P**	**19 50 54.4**	**+0.6**
COYC	**Coyhaique**	**29.50**	**272**	P	**P**	**19 50 56.4**	**-0.3**
AY02	**Valle Explorad**	**29.58**	**270**	P	**P**	**19 50 57.8**	**+0.4**
AY02				IAmb	IAmb	19 51 41.9	
	comp=Z,176nm,0.9s						
PLTB	**Pedras Altas**	**30.41**	**312**	P	**P**	**19 51 04.5**	**-0.5**
PLTB				IAmb	IAmb	19 51 06.6	
	comp=Z,128nm,0.7s						
PLTB	**Pedras Altas**	**30.41**	**312**	*e*P	**P**	**19 51 05.2**	**+0.2**
LL02	**Futaleuf**	**30.86**	**276**	P	**P**	**19 51 07.7**	**-1.2**
TBOT	**Tacuaremb**	**31.47**	**309**	*e*P	**P**	**19 51 14.2**	**0.0**
CNLB	**Canela**	**31.51**	**319**	*e*P	**P**	**19 51 15.3**	**+0.6**
CPSB	**Cacapava Do Su**	**31.54**	**314**	*e*P	**P**	**19 51 15.2**	**+0.3**
LL01	**San Ignacio de**	**31.71**	**277**	P	**P**	**19 51 15.9**	**-0.3**
LL01					**PcP**	**19 54 03.0**	**-1.5**
PLCA	**Paso Flores**	**31.79**	**281**	P	**P**	**19 51 16.6**	**-0.5**
	comp=Z,12nm,1.0s,baz=141,slow=7.4,SNR=21						
PLCA				pP	**pP**	**19 51 46.0**	**+1.8**
	comp=Z,5.2nm,0.8s,baz=126,slow=12,SNR=3.2						
PLCA				PcP	**PcP**	**19 54 05.0**	**+0.1**
	comp=Z,12nm,0.8s,baz=83,slow=1.9,SNR=6.4						
PLCA				ScP	**ScP**	**19 57 34.2**	**-1.7**
	comp=Z,9.8nm,0.8s,baz=157,slow=1.4,SNR=11						
PLCA				PKiKP	**PKiKP**	**20 01 32.1**	**-1.0**
	comp=Z,2.3nm,1.0s,baz=207,slow=18,SNR=4.2						
PLCA				LR	LR	20 03 37.0	
	comp=Z,952nm,19.8s,baz=130,slow=35						
	comp=Z,12nm,1.0s						
PLCA	**Paso Flores**	**31.79**	**281**	P	**P**	**19 51 16.2**	**-0.8**
PLCA				pP	**pP**	**19 51 45.5**	**+1.3**
PLCA				PcP	**PcP**	**19 54 05.3**	**+0.3**
PLCA				ScP	**ScP**	**19 57 34.2**	**-1.7**
PLCA	**Paso Flores**	**31.79**	**281**	*e*P	**P**	**19 51 16.6**	**-0.5**
RODS	**Rosario do Sul**	**32.31**	**311**	*e*P	**P**	**19 51 22.1**	**+0.5**
LL04	**Puerto Octay**	**32.70**	**279**	IAmb	IAmb

BSCB Bom Sucesso 37.39 333 *e*P P 19 52 06.2 +0.8
VA05 Santo Domingo 37.55 288 IAmb IAmb 19 52 06.8
comp=Z,118nm,0.8s
MT02 Curacav 37.61 289 IAmb IAmb 19 52 07.9
comp=Z,78nm,0.8s
ZON Zonda 37.67 293 IAmb IAmb 19 52 08.4
comp=Z,82nm,0.6s
ZON Zonda 37.67 293 P **P 19 52 07.2 -0.4**
ZON pmax pmax
comp=Z,103nm,0.6s
VA03 San Esteban 37.68 290 IAmb IAmb 19 52 09.1
comp=Z,62nm,0.8s
RIB01 Linhares ES 38.05 340 *e*P **P 19 52 11.5 +0.7**
VA01 Torpederas 38.06 289 IAmb IAmb 19 52 55.8
comp=Z,182nm,1.5s
TRCB Terra Rica 38.10 321 P **P 19 52 10.8 -0.4**
TRCB Terra Rica 38.10 321 *e*P **P 19 52 11.5 +0.3**
VA06 Catapilco 38.23 290 IAmb IAmb 19 52 41.5
comp=Z,128nm,1.1s
BB19B Bebedouro 38.37 328 *e*P **P 19 52 13.9 +0.4**
PCMB Pacaembu 38.73 323 *e*P **P 19 52 16.6 +0.1**
SJMB Sao Joao De Ma 38.79 339 *e*P **P 19 52 17.1 +0.1**
ABR01 Abrolhos, BA 39.07 343 *e*P **P 19 52 19.4 +0.2**
CER Ceres 39.33 75 *e*P **P 19 52 21.3 -0.2**
CER IAmb IAmb 19 52 26.6
comp=Z,49nm,1.0s
PRTV Porterville,We 39.45 74 *e*P **P 19 52 23.6 +1.2**
PRTV IAmb IAmb 19 52 26.3
comp=Z,141nm,1.2s
CO01 Juntas del Tor 39.65 293 IAmb IAmb 19 52 26.5
comp=Z,76nm,0.7s
DIAM Diamantina, MG 39.72 336 *e*P **P 19 52 25.1 +0.2**
GO04 Tololo Observa 39.86 292 IAmb IAmb 19 52 45.1
comp=Z,44nm,0.7s
MATJ Matjiesfontein 40.10 76 *e*P **P 19 52 28.3 +0.4**
MATJ IAmb IAmb 19 52 32.4
comp=Z,139nm,1.1s
PMNB Patos De Minas 40.18 332 *e*P **P 19 52 29.0 +0.4**
MAW Mawson 40.18 144 P **P 19 52 29.6 +1.6**
comp=Z,104nm,0.8s,baz=231,slow=8.0,SNR=152
MAW ScP **ScP 19 58 06.7 +0.6**
comp=Z,22nm,0.8s,baz=234,slow=5.6,SNR=12
MAW LR LR 20 07 10.2
comp=Z,631nm,21.5s,baz=256,slow=33
comp=Z,104nm,0.8s
ITRB Iturama 40.21 326 *e*P **P 19 52 29.3 +0.5**
CO05 La Serena 40.29 292 IAmb IAmb 19 52 30.1
comp=Z,120nm,0.7s
GUA01 Guaratinga, BA 40.60 342 *e*P **P 19 52 32.4 +0.4**
AC05 El Transito 40.66 294 P **P 19 52 31.9 -0.7**
AC05 IAmb IAmb 19 52 34.1
comp=Z,97nm,0.7s
LCO Las Campanas 40.74 294 P **P 19 52 31.8 -1.6**
LCO IAmb IAmb 19 52 34.2
comp=Z,60nm,0.8s
LCO Las Campanas 40.74 294 P **P 19 52 31.8 -1.6**
LCO pmax pmax
comp=Z,60nm,0.8s
SUR Sutherland 40.90 75 P **P 19 52 35.2 +0.6**
SUR IAmb IAmb 19 52 39.1
comp=Z,316nm,1.8s
SUR Sutherland 40.90 75 *e*P **P 19 52 35.2 +0.6**
SUR IAmb IAmb 19 52 38.6
comp=Z,344nm,1.8s
SUR Sutherland 40.90 75 P **P 19 52 35.0 +0.4**
comp=Z,32nm,0.9s,baz=220,slow=9.5,SNR=22
SUR PcP **PcP 19 54 32.7 +0.2**
comp=Z,20nm,0.7s,baz=212,slow=5.0,SNR=7.1
SUR LR LR 20 06 24.9
comp=Z,1μm,18.7s,baz=214,slow=31
comp=Z,32nm,0.9s
SUR Sutherland 40.90 75 P **P 19 52 35.7 +1.1**
SUR pP **pwP 19 53 05.7 -4.2**
SUR PcP **PcP 19 54 34.1 +1.6**
CVNA Calvinia 41.03 73 *e*P **P 19 52 37.0 +1.4**
CVNA IAmb IAmb 19 52 39.7
comp=Z,239nm,1.5s
MERW Merweville 41.06 76 *e*P **P 19 52 34.5 -1.3**
MERW IAmb IAmb 19 52 39.1
comp=Z,200nm,1.7s
KOMG Komaggas 41.15 69 *e*P **P 19 52 36.7 +0.3**
KOMG IAmb IAmb 19 52 40.3
comp=Z,127nm,1.4s
IPMB Ipameri, GO 41.19 329 *e*P **P 19 52 37.2 +0.3**
AQDB Aquidauana 41.34 318 P **P 19 52 37.0 -1.1**
AQDB IAmb IAmb 19 52 39.4
comp=Z,74nm,0.7s
AQDB Aquidauana 41.34 318 *e*P **P 19 52 37.0 -1.1**
FRAZ Fraserburg 41.57 75 *e*P **P 19 52 39.3 -0.7**
FRAZ IAmb IAmb 19 52 44.0
comp=Z,255nm,1.6s
AC04 Llanos de Chal 41.59 294 P **P 19 52 39.0 -1.0**
GO03 Copiap 41.66 295 IAmb IAmb 19 52 41.4
comp=Z,94nm,0.7s
GRAN Grantham 41.70 76 *e*P **P 19 52 40.9 -0.1**
GRAN IAmb IAmb 19 52 44.7
comp=Z,50nm,1.2s
BUFB Buffelsbos 41.71 81 *e*P **P 19 52 41.9 +0.9**
BUFB IAmb IAmb 19 52 44.5
comp=Z,131nm,0.8s
AC06 Mina Casimiro 41.91 295 IAmb IAmb 19 52 43.5
comp=Z,253nm,1.4s
ROOI Rooidraai Farm 42.30 78 *e*P **P 19 52 47.1 +1.2**
ROOI IAmb IAmb 19 52 49.1
comp=Z,94nm,1.2s
NMMU Nelson Mandela 42.33 81 *e*P **P 19 52 46.5 +0.5**
RVDE Rio Verde (Bra 42.39 320 *e*P **P 19 52 46.3 -0.3**
BRAK Brakfontein 42.49 77 *e*P **P 19 52 47.0 -0.4**
BRAK IAmb IAmb 19 52 50.9
comp=Z,105nm,1.3s
BFON Badsfontein, M 42.91 77 *e*P **P 19 52 50.8 0.0**
BFON IAmb IAmb 19 52 54.0
comp=Z,56nm,1.2s
GRAF Camdeboo Natio 42.98 79 *e*P **P 19 52 52.4 +1.0**
GRAF IAmb IAmb 19 52 55.1
comp=Z,184nm,1.0s
JANB Januaria 42.99 336 *e*P **P 19 52 51.6 +0.1**
SOE Somerset East 43.24 80 P **P 19 52 53.8 +0.3**
SOE IAmb IAmb 19 52 57.0
comp=Z,115nm,1.0s
SOE Somerset East 43.24 80 *e*P **P 19 52 54.1 +0.6**
SOE IAmb IAmb 19 52 56.7
comp=Z,114nm,1.0s
GRHM Grahamstown, E 43.27 81 P **P 19 52 53.9 +0.3**
GRHM IAmb IAmb 19 52 56.9
comp=Z,100nm,0.8s
GRHM Grahamstown, E 43.27 81 *e*P **P 19 52 53.5 -0.1**
GRHM IAmb IAmb 19 52 56.6
comp=Z,109nm,0.9s
BDFB Brasilia 43.36 331 P **P 19 52 53.9 -0.6**
BDFB IAmb IAmb 19 52 56.7
comp=Z,182nm,1.6s
BDFB Brasilia 43.36 331 P **P 19 52 55.2 +0.6**
comp=Z,42nm,0.7s,baz=154,slow=4.7,SNR=49
BDFB LR LR 20 11 01.1
comp=Z,656nm,18.1s,baz=154,slow=36
comp=Z,42nm,0.7s
BDFB Brasilia 43.36 331 P **P 19 52 53.9 -0.6**
BDFB pmax pmax
comp=Z,182nm,1.6s
AUGR Augrabies 43.61 71 *e*P **P 19 52 55.0 -1.4**
AUGR IAmb IAmb 19 52 60.0
comp=Z,20nm,0.8s
KEIM Keimoes 43.85 72 *e*P **P 19 52 58.5 +0.1**
KEIM IAmb IAmb 19 53 01.3
comp=Z,58nm,0.9s
PB14 IPOC Station P 44.20 298 IAmb IAmb 19 53 01.9
comp=Z,80nm,0.6s
UPI Upington 44.28 72 *e*P **P 19 53 01.9 +0.2**
UPI IAmb IAmb 19 53 05.1
comp=Z,61nm,1.0s
ARAG Araguaiana, MT 44.42 326 *e*P **P 19 53 03.3 +0.4**
HVD Gariep Dam 44.81 78 *e*P **P 19 53 06.2 +0.2**
HVD IAmb IAmb 19 53 09.5
comp=Z,87nm,1.1s
PB15 IPOC Station P 44.93 300 IAmb IAmb 19 53 11.2
comp=Z,118nm,0.6s
LVC Limon Verde 45.16 301 P **P 19 53 09.7 +0.5**
LVC Limon Verde 45.16 301 LR LR 20 15 21.9
comp=Z,328nm,18.1s,baz=164,slow=40
LVC Limon Verde 45.16 301 P **P 19 53 09.7 +0.5**
LVC pmax pmax
comp=Z,245nm,0.7s
LVC Limon Verde 45.16 301 P **P 19 53 09.9 +0.8**
LVC pP **pwP 19 53 41.0 0.0**
LVC PcP **PcP 19 54 48.4 +1.1**
LVC ScP **ScP 19 58 26.9 -0.5**
LVC Limon Verde 45.16 301 *e*P **P 19 53 09.9 +0.8**
PB06 IPOC Station P 45.40 300 IAmb IAmb 19 53 12.4
comp=Z,98nm,0.6s
SALV Santo Antonio 45.54 321 *e*P **P 19 53 11.7 0.0**
SDBA SAO DESIDERIO 45.69 336 *e*P **P 19 53 12.6 -0.4**
NBLA Lagarto - SE 45.78 346 *e*P **P 19 53 13.3 -0.3**
SBA Scott Base 45.93 184 P **P 19 53 16.2 +2.2**
SBA IAmb IAmb 19 53 21.6
comp=Z,95nm,0.9s
SBA Scott Base 45.93 184 P **P 19 53 16.2 +2.2**
SBA pmax pmax
comp=Z,95nm,0.9s
SBA Scott Base 45.93 184 P **P 19 53 17.0 +2.9**
SBA PcP **PcP 19 54 50.9 +2.3**
SBA ScP **ScP 19 58 30.7 +1.4**
BOSA Boshof 46.23 76 P **P 19 53 15.9 -1.3**
BOSA IAmb IAmb 19 53 20.3
comp=Z,70nm,0.9s
BOSA Boshof 46.23 76 *e*P **P 19 53 16.9 -0.3**
BOSA IAmb IAmb 19 53 20.0
comp=Z,65nm,0.8s
BOSA Boshof 46.23 76 P **P 19 53 16.9 -0.3**
comp=Z,58nm,1.0s,baz=209,slow=7.9,SNR=37
BOSA pP **pP 19 53 48.0 +3.1**
comp=Z,24nm,0.8s,baz=204,slow=8.0,SNR=4.5
BOSA PcP **PcP 19 54 51.6 +1.0**
comp=Z,22nm,0.8s,baz=171,slow=4.3,SNR=4.0
BOSA ScP **ScP 19 58 30.6 -0.8**
comp=Z,4.8nm,0.9s,baz=186,slow=6.6,SNR=3.3
BOSA LR LR 20 09 50.2
comp=Z,1μm,18.5s,baz=223,slow=32
comp=Z,58nm,1.0s
BOSA Boshof 46.23 76 P **P 19 53 15.9 -1.3**
BOSA pmax pmax
comp=Z,69nm,0.9s
BOSA Boshof 46.23 76 P **P 19 53 16.6 -0.6**
BOSA pP **pwP 19 53 48.4 -4.5**
BOSA PcP **PcP 19 54 51.7 +1.0**
BOSA ScP **ScP 19 58 30.8 -0.6**
BBSD Serra de San D 46.23 314 *e*P **P 19 53 16.4 -0.7**
VNDA Vanda 46.43 183 P **P 19 53 20.4 +2.4**
VNDA IAmb IAmb 19 53 24.6
comp=Z,128nm,0.8s
VNDA Vanda 46.43 183 P **P 19 53 20.2 +2.3**
comp=Z,130nm,0.8s,baz=188,slow=6.0,SNR=287
VNDA ScP **ScP 19 58 32.0 +0.7**
comp=Z,5.0nm,0.8s,baz=213,slow=5.7,SNR=3.4
comp=Z,130nm,0.8s
VNDA Vanda 46.43 183 P **P 19 53 20.4 +2.4**
VNDA pmax pmax
comp=Z,128nm,0.8s
VNDA Vanda 46.43 183 P **P 19 53 20.7 +2.7**
VNDA PcP **PcP 19 54 51.9 +1.5**
VNDA ScP **ScP 19 58 32.7 +1.4**
NBAN Anadia - AL 46.90 348 *e*P **P 19 53 21.9 -0.5**
KSTD Kokstad 46.90 82 *e*P **P 19 53 23.6 +1.2**
KSTD IAmb IAmb 19 53 26.6
comp=Z,78nm,0.9s
PTLB Pontes e Lacer 47.23 317 *e*P **P 19 53 24.6 -0.3**
SWZ Schweizer 47.40 75 *e*P **P 19 53 25.8 -0.6**
SWZ IAmb IAmb 19 53 28.6
comp=Z,128nm,0.6s
TA01 Diego Aracena 47.52 301 IAmb IAmb 19 53 28.8
comp=Z,226nm,1.4s
CCD Concordia, Ant 47.58 170 P **P 19 53 29.4 +1.9**
CCD PcP **PcP 19 54 56.4 +1.4**
CCD ScP **ScP 19 58 37.0 +0.2**
H04S2 CROZET ISLANDS 47.71 114 T T 20 46 01.4
baz=230,slow=75,SNR=5.3
H04S3 CROZET ISLANDS 47.72 114 T T 20 45 57.6
baz=230,slow=75,SNR=5.5
H04S1 CROZET ISLANDS 47.73 114 T T 20 45 56.7
baz=230,slow=75,SNR=14
SNDB Serra Nova Dou 47.78 328 *e*P **P 19 53 29.4 +0.2**
SNKL Senekal, Frees 47.87 78 *e*P **P 19 53 29.5 -0.5**
SNKL IAmb IAmb 19 53 33.1
comp=Z,302nm,1.4s
H10S2 ASCENSION HYDR 48.20 17 T T 20 45 32.3
baz=30,slow=74,SNR=46
H10S3 ASCENSION HYDR 48.20 17 T T 20 45 29.6
baz=190,slow=74,SNR=74
NBCA Caruaru-PE 48.29 349 *e*P **P 19 53 33.2 0.0**
PMBG Pietermaritzbu 48.41 82 *e*P **P 19 53 34.4 +0.4**
PMBG IAmb IAmb 19 53 37.3
comp=Z,61nm,0.8s
PRYS Parys 48.70 77 *e*P **P 19 53 35.9 -0.4**
PRYS IAmb IAmb 19 53 38.8
comp=Z,124nm,0.9s
WDLM Western Deep L 49.13 76 *i*Pg **P 19 53 39.1 -0.6**
WDLM *e*P **P 19 53 39.1 -0.6**
WDLM IAmb IAmb 19 53 42.4
comp=Z,74nm,0.8s
LBTB Lobatse 49.27 73 IAmb IAmb 19 53 43.8
comp=Z,120nm,0.8s
LBTB Lobatse 49.27 73 *e*P **P 19 53 40.4 -0.2**
LBTB IAmb IAmb 19 53 43.5
comp=Z,129nm,0.8s
LBTB Lobatse 49.27 73 P **P 19 53 40.7 0.0**
comp=Z,102nm,0.7s,baz=214,slow=8.3,SNR=86
LBTB pP **pP 19 54 11.2 +2.2**
comp=Z,53nm,1.1s,baz=216,slow=8.6,SNR=2.9
LBTB PcP **PcP 19 55 01.4 -0.2**
comp=Z,17nm,0.7s,baz=247,slow=7.1,SNR=1.9
comp=Z,102nm,0.7s
LBTB Lobatse 49.27 73 P **P 19 53 40.4 -0.2**
LBTB pP **pwP 19 54 12.0 -3.4**
LBTB PcP **PcP 19 55 00.9 -0.6**
LBTB ScP **ScP 19 58 45.7 +1.4**
H10N1 ASCENSION HYDR 49.32 17 T T 20 46 54.3
baz=185,slow=75,SNR=26
H10N3 ASCENSION HYDR 49.32 17 T T 20 46 52.1
baz=185,slow=75,SNR=46
H10N2 ASCENSION HYDR 49.33 17 T T 20 46 54.6
baz=185,slow=75,SNR=41
NWCL Newcastle 49.45 80 *e*P **P 19 53 41.8 -0.3**
NWCL IAmb IAmb 19 53 44.7
comp=Z,78nm,0.6s
HRAO HartRAO 49.70 76 *e*P **P 19 53 43.8 -0.2**
SMTB Santa Maria do 49.75 334 *e*P **P 19 53 44.8 +0.6**
PDRB Porto dos Gac 49.88 321 *e*P **P 19 53 44.5 -0.7**
VILB Vilhena 49.92 317 *e*P **P 19 53 45.0 -0.5**
TSUM Tsumeb 49.95 61 P **P 19 53 45.2 -0.7**
TSUM IAmb IAmb 19 53 49.1
comp=Z,60nm,0.9s
TSUM Tsumeb 49.95 61 *e*P **P 19 53 45.8 0.0**
TSUM IAmb IAmb 19 53 48.8
comp=Z,58nm,0.9s
TSUM Tsumeb 49.95 61 P **P 19 53 46.0 +0.1**
comp=Z,42nm,0.7s,baz=197,slow=6.9,SNR=43
TSUM LR LR 20 11 41.5
comp=Z,548nm,19.1s,baz=246,slow=32
comp=Z,42nm,0.7s
TSUM Tsumeb 49.95 61 P **P 19 53 45.7 -0.2**
NYAT Nyati, Northwe 50.05 76 *e*P **P 19 53 46.2 -0.4**
NYAT IAmb IAmb 19 53 49.2
comp=Z,206nm,1.6s
CLDB Colider 50.25 323 *e*P **P 19 53 47.4 -0.6**
LPAZ La Paz 50.26 306 P **P 19 53 49.5 +0.7**
comp=Z,107nm,0.6s,baz=145,slow=6.0,SNR=357
LPAZ pP **pwP 19 54 20.7 +0.2**
comp=Z,49nm,0.8s,baz=175,slow=11,SNR=2.2
LPAZ ScP **ScP 19 58 48.5 -0.7**
comp=Z,2.9nm,0.6s,baz=135,slow=5.3,SNR=2.8
LPAZ S **S 20 00 50.9 -0.8**
comp=Z,8.1nm,1.0s,baz=246,slow=20,SNR=11
LPAZ LR LR 20 14 22.4
comp=Z,255nm,21.3s,baz=143,slow=35
comp=Z,107nm,0.6s
LPAZ La Paz 50.26 306 P **P 19 53 49.5 +0.7**
LPAZ pP **pwP 19 54 21.1 +0.6**
LPAZ sP **sP 19 54 36.9 +4.5**
LPAZ PcP **PcP 19 55 07.0 +1.1**
LPAZ ScP **ScP 19 58 48.4 -0.8**
LPAZ La Paz 50.26 306 *e*P **P 19 53 49.1 +0.3**
NHAM Northam, North 50.28 75 *e*P **P 19 53 48.0 -0.2**
NHAM IAmb IAmb 19 53 51.1
comp=Z,104nm,1.0s
TSWA Tswaing Meteor 50.29 76 *e*P **P 19 53 47.9 -0.4**
TSWA IAmb IAmb 19 53 51.1
comp=Z,269nm,1.2s
RCBR Riachuelo 50.65 349 LR LR 20 12 29.8
comp=Z,439nm,18.4s,baz=154,slow=32
RCBR Riachuelo 50.65 349 P **P 19 53 51.1 +0.1**
RCBR PcP **PcP 19 55 06.5 0.0**
RCBR Riachuelo 50.65 349 *e*P **P 19 53 51.2 +0.2**
RUST Rust De Winter 50.67 76 *e*P **P 19 53 50.9 -0.3**
RUST IAmb IAmb 19 53 54.2
comp=Z,116nm,0.9s
POGA Pongola 50.76 81 P **P 19 53 51.2 -0.5**
POGA IAmb IAmb 19 53 54.9
comp=Z,108nm,0.8s
POGA Pongola 50.76 81 *e*P **P 19 53 51.5 -0.2**
POGA IAmb IAmb 19 53 54.3
comp=Z,101nm,0.7s
CRLN Carolina, Mapu 50.89 78 *e*P **P 19 53 52.4 -0.5**
CRLN IAmb IAmb 19 53 55.6
comp=Z,77nm,0.7s
LEPH Lephalale, Lim 51.38 75 *e*P **P 19 53 55.9 -0.6**
LEPH IAmb IAmb 19 53 58.6
comp=Z,73nm,0.8s
TEMBE Tembe Elephant 51.39 81 *e*P **P 19 53 56.4 0.0**
TEMBE IAmb IAmb 19 53 58.6
comp=Z,949nm,2.2s
NBPB Pedra_Branca-C 51.39 345 *e*P **P 19 53 57.0 +0.4**
DULL Dullstroom, Mp 51.47 78 *e*P **P 19 53 57.4 +0.1**
DULL IAmb IAmb 19 54 00.3
comp=Z,138nm,0.8s
WTBG Waterberg Wild 51.69 76 *e*P **P 19 53 57.2 -1.7**
WTBG IAmb IAmb 19 54 00.6
comp=Z,32nm,0.9s
PILG Pilgrimsrest, 52.11 78 *e*P **P 19 54 01.7 -0.4**
PILG IAmb IAmb 19 54 04.5
comp=Z,148nm,0.6s
NBCL Cascavel-CE 52.51 347 *e*P **P 19 54 05.1 +0.4**
HOED Hoedspruit, Li 52.65 78 *e*P **P 19 54 05.3 -0.5**
HOED IAmb IAmb 19 54 08.6
comp=Z,182nm,1.0s
PRPB Parauapebas 52.90 332 *e*P **P 19 54 08.3 +0.7**
MOPA Mopani 53.61 78 *e*P **P 19 54 12.6 -0.2**
MOPA IAmb IAmb 19 54 16.0
comp=Z,280nm,1.0s
NPGB Novo Progresso 53.69 325 *e*P **P 19 54 13.1 -0.4**
MUSN Musina, Limpop 53.77 75 *e*P **P 19 54 13.8 -0.3**
MUSN IAmb IAmb 19 54 17.0
comp=Z,122nm,0.9s
CASY Casey 53.86 160 P **P 19 54 16.0 +2.0**
CASY IAmb IAmb 19 54 17.5
comp=Z,146nm,1.1s
CASY Casey 53.86 160 P **P 19 54 16.3 +2.3**
MATP Matopo 54.55 73 P **P 19 54 20.6 +0.8**
comp=Z,42nm,0.9s,baz=214,slow=7.3,SNR=107
MATP pP **pP 19 54 51.3 +2.4**
comp=Z,15nm,0.9s,baz=199,slow=9.4,SNR=3.2
comp=Z,42nm,0.9s
SAML Samuel 54.73 315 P **P 19 54 20.1 -0.8**
SAML IAmb IAmb 19 54 22.1
comp=Z,124nm,0.9s
SAML Samuel 54.73 315 P **P 19 54 20.2 -0.8**
SAML pmax pmax
comp=Z,124nm,0.9s
SAML Samuel 54.73 315 *e*P **P 19 54 20.4 -0.5**
ETMB Extrema 55.18 311 IAmb IAmb 19 54 25.3
comp=Z,78nm,0.9s
ETMB Extrema 55.18 311 *e*P **P 19 54 23.9 -0.3**
TMAB Tom-Au,PA,Br 56.13 335 *e*P **P 19 54 32.2 +1.3**
ITTB Itaituba 56.33 326 *e*P **P 19 54 31.8 -0.6**
CHIPN CHIPINGE 56.94 77 *e*P **P 19 54 36.9 0.0**
DRV Dumont d'Urvil 57.12 174 P **P 19 54 38.6 +1.3**
DRV PcP **PcP 19 55 31.1 +0.6**
KRI Karoi 58.10 72 *e*P **P 19 54 44.5 -0.5**
NNA Nana 58.11 299 P **P 19 54 44.4 -0.6**
NNA Nana 58.11 299 P **P 19 54 45.1 +0.2**
comp=Z,95nm,0.9s,baz=165,slow=6.5,SNR=17
NNA pP **pP 19 55 15.9 +0.9**
comp=Z,56nm,1.1s,baz=167,slow=11,SNR=2.8
NNA LR LR 20 18 26.5
comp=Z,400nm,21.3s,baz=134,slow=34
comp=Z,95nm,0.9s
NNA Nana 58.11 299*ce*P **P 19 54 45.3 +0.3**
NNA pmax pmax
comp=Z,401nm,1.7s
LSZ Lusaka 58.64 69 P **P 19 54 48.6 -0.1**
LSZ pP **pP 19 55 21.1 +2.6**
MCPB Macapa, AP 59.06 331 *e*P **P 19 54 52.1 +0.7**
MACA Manacapuru-AM 59.12 321 P **P 19 54 50.4 -1.5**
MACA Manacapuru-AM 59.12 321 *e*P **P 19 54 50.7 -1.2**
CZSB Cruzeiro do Su 59.87 306 *e*P **P 19 54 55.9 -1.2**
TEFE Tefe 60.27 316 *e*P **P 19 54 58.9 -0.9**
FOMA Nahampoana Res 61.12 92 P **P 19 55 06.3 +0.8**
FOMA IAmb IAmb 19 55 09.8
comp=Z,72nm,0.9s
FOMA Nahampoana Res 61.12 92 P **P 19 55 06.8 +1.3**
ATAH Atahualpa 63.06 300 P **P 19 55 20.4 +1.5**
comp=Z,151nm,1.0s,baz=161,slow=5.2,SNR=75
ATAH pP **pP 19 55 50.8 +1.2**
comp=Z,60nm,1.0s,baz=236,slow=6.3,SNR=2.9
ATAH LR LR 20 21 50.9
comp=Z,282nm,21.8s,baz=125,slow=35
comp=Z,151nm,1.0s
VOI Vohitsoka 63.44 90 P **P 19 55 22.2 +1.1**
VOI IAmb IAmb 19 55 25.7
comp=Z,56nm,0.8s
VOI Vohitsoka 63.44 90 *e*P **P 19 55 19.3 -1.8**
BOAV Boa Vista 64.24 323 P **P 19 55 24.9 -1.3**
BOAV Boa Vista 64.24 323 *e*P **P 19 55 25.3 -0.9**
MDP Montagnes des 64.44 332 LR LR 20 21 54.1
comp=Z,398nm,19.5s,baz=150,slow=34
MPGF Montagnes des 64.45 332 P **P 19 55 27.3 -0.2**
MPGF pP **PcP 19 56 01.2 +0.5**
LIC Lamto 64.92 25⇑*e*P **P 19 55 30.8 +0.3**
comp=Z,291nm,0.7s
KIC Kosan Boka 65.12 25⇑*e*P **P 19 55 32.1 +0.3**
comp=Z,201nm,0.7s
TIC Toumodi 65.33 25⇑*e*P **P 19 55 33.4 +0.2**
comp=Z,148nm,0.8s
DBIC Dimbokro 65.39 25 P **P 19 55 32.8 -0.8**
DBIC IAmb IAmb 19 55 34.8
comp=Z,84nm,0.7s
DBIC Dimbokro 65.39 25 *e*P **P 19 55 33.5 -0.1**
DBIC Dimbokro 65.39 25 P **P 19 55 33.2 -0.4**
comp=Z,73nm,0.6s,baz=176,slow=6.8,SNR=90
DBIC LR LR 20 18 33.3
comp=Z,721nm,18.2s,baz=162,slow=31
comp=Z,73nm,0.6s
DBIC Dimbokro 65.39 25 P **P 19 55 32.8 -0.8**
DBIC pmax pmax
comp=Z,84nm,0.7s
DBIC Dimbokro 65.39 25 P **P 19 55 33.4 -0.2**
ABPO Ambohimpanom 65.99 88 P **P 19 55 39.8 +2.1**
ABPO IAmb IAmb 19 55 43.2
comp=Z,59nm,0.9s
ABPO Ambohimpanom 65.99 88 *e*P **P 19 55 40.0 +2.3**
ABPO IAmb IAmb 19 55 42.9
comp=Z,60nm,0.9s
ABPO Ambohimpanom 65.99 88 P **P 19 55 39.8 +2.1**
ABPO pmax pmax
comp=Z,59nm,1.0s
ABPO Ambohimpanom 65.99 88 P **P 19 55 40.2 +2.5**
ANTS Antisana-Sarah 68.76 304 IAmb IAmb 19 56 05.4
comp=Z,73nm,0.9s
OTAV Otavalo 69.53 304 P **P 19 56 01.0 +0.7**
OTAV IAmb IAmb 19 56 03.7
comp=Z,89nm,0.8s
OTAV Otavalo 69.53 304 P **P 19 56 01.0 +0.7**
OTAV pmax pmax
comp=Z,89nm,0.9s
OTAV Otavalo 69.53 304 P **P 19 56 01.6 +1.4**
OTAV PcP **PcP 19 56 23.2 +0.6**
OTAV pP **pP 19 56 34.0 +2.5**
OTAV Otavalo 69.53 304 *e*P **P 19 56 01.4 +1.2**
MBO M'Bour 70.87 11 P **P 19 56 07.5 -0.2**
MBO M'Bour 70.87 11 P **P 19 56 09.6 +1.9**
SACV Santiago Islan 70.96 4 P **P 19 56 07.2 -1.1**
SACV Santiago Islan 70.96 4 P **P 19 56 08.4 +0.1**
BBTS Babate 71.19 11 LR LR 20 21 42.0
comp=Z,381nm,19.8s,baz=74,slow=31
ROSC El Rosal 71.79 310 IAmb IAmb 19 56 15.6
comp=Z,80nm,1.0s
ROSC El Rosal 71.79 310 P **P 19 56 14.7 +0.9**
comp=Z,56nm,0.8s,baz=177,slow=4.7,SNR=20
ROSC LR LR 20 30 30.7
comp=Z,658nm,19.2s,baz=206,slow=38
comp=Z,56nm,0.8s
MBAR Mbarara 72.42 63 P **P 19 56 18.0 +0.7**
MBAR IAmb IAmb 19 56 23.4
comp=Z,119nm,1.6s
MBAR Mbarara 72.42 63 *e*P **P 19 56 19.1 +1.7**
MBAR IAmb IAmb 19 56 23.0

comp=Z,112nm,1.5s
MBAR Mbarara 72.42 63 LR LR 20 25 48.5
comp=Z,431nm,18.7s,baz=202,slow=34
MBAR Mbarara 72.42 63 *i* P **P** **19 56 19.4 +2.0**
MBAR pmax pmax
comp=Z,85nm,1.6s
PCRV Puerto La Cruz 72.91 322 P **P** **19 56 20.7 +0.7**
comp=Z,188nm,0.7s,baz=153,slow=3.1,SNR=81
PCRV LR LR 20 29 24.5
comp=Z,592nm,19.8s,slow=36
comp=Z,188nm,0.7s
TORD Torodi Ar. Bea 73.29 30 P **P** **19 56 21.4 -0.7**
TORD Torodi Ar. Bea 73.29 30 P **P** **19 56 22.2 +0.1**
comp=Z,188nm,0.6s,baz=199,slow=6.0,SNR=793
TORD LR LR 20 23 52.7
comp=Z,380nm,20.1s,baz=202,slow=32
comp=Z,188nm,0.6s
SDV Santo Domingo 73.94 315 P **P** **19 56 25.6 -0.6**
SDV IAmb IAmb 19 56 27.6
comp=Z,131nm,0.8s
SDV Santo Domingo 73.94 315 P **P** **19 56 26.1 -0.1**
comp=Z,114nm,0.7s,baz=166,slow=4.9,SNR=51
SDV pP **pP** **19 56 57.0 -0.9**
comp=Z,28nm,0.6s,baz=202,slow=6.6,SNR=2.2
SDV LR LR 20 31 00.6
comp=Z,888nm,18.4s,baz=161,slow=37
comp=Z,114nm,0.7s
SDV Santo Domingo 73.94 315 *e*P **P** **19 56 26.5 +0.3**
PAYG Puerto Ayora 74.56 293 P **P** **19 56 30.4 +0.7**
PAYG IAmb IAmb 19 56 34.2
comp=Z,104nm,1.4s
KIBK Kibwezi 74.70 71 P **P** **19 56 33.0 +2.4**
KIBK IAmb IAmb 19 56 37.8
comp=Z,91nm,1.3s
KMBO Kilima Mbogo 75.31 69 P **P** **19 56 36.8 +2.5**
KMBO Kilima Mbogo 75.31 69 *e*P **P** **19 56 38.1 +3.8**
KMBO IAmb IAmb 19 56 41.4
comp=Z,87nm,1.1s
KMBO Kilima Mbogo 75.31 69 P **P** **19 56 36.8 +2.5**
KMBO pmax pmax
comp=Z,31nm,1.2s
BIM Bigot 75.81 327 IAmb IAmb 19 56 38.6
comp=Z,141nm,1.0s
FDF Fort de France 76.03 327 P **P** **19 56 37.3 -0.7**
FDF IAmb IAmb 19 56 40.9
comp=Z,68nm,0.7s
FDF Fort de France 76.03 327 P **P** **19 56 37.3 -0.7**
FDF pmax pmax
comp=Z,68nm,0.7s
MLZ Mavora Lakes 77.96 191 P **P** **19 56 48.2 -0.3**
MLZ IAmb IAmb 19 56 50.8
comp=Z,144nm,1.6s
DCZ Deep Cove 77.96 191 P **P** **19 56 48.8 +0.3**
ODZ Otahua Downs 77.98 193 IAmb IAmb 19 56 51.0
comp=Z,248nm,2.0s
BCIP Isla Barro Col 78.06 307 IAmb IAmb 19 56 52.2
comp=Z,191nm,1.4s
LBZ Lake Benmore 78.68 193 IAmb IAmb 19 58 00.5
comp=Z,115nm,1.7s
BRU2 Volcan 79.02 304 IAmb IAmb 19 57 03.6
comp=Z,174nm,1.5s
RPZ Rata Peaks 79.23 194 P **P** **19 56 56.5 +1.0**
RPZ Rata Peaks 79.23 194 LR LR 20 28 08.0
comp=Z,539nm,21.3s,baz=162,slow=33
GVZ Greta Valley S 79.69 195 IAmb IAmb 19 57 00.7
comp=Z,112nm,1.0s
SMRT St. Maarten 79.75 326 IAmb IAmb 19 56 59.3
comp=Z,112nm,0.9s
LTZ Lake Taylor 79.98 195 IAmb IAmb 19 57 02.3
comp=Z,80nm,1.0s
LCR2 La Lucha 2 80.46 304 IAmb IAmb 19 57 04.9
comp=Z,167nm,1.2s
HDC Heredia 80.74 304 *e*P **P** **19 57 05.8 +1.8**
SJG San Juan 80.81 323 P **P** **19 57 02.7 -1.4**
SJG IAmb IAmb 19 57 04.4
comp=Z,149nm,1.8s
SJG San Juan 80.81 323 P **P** **19 57 03.7 -0.3**
comp=Z,14nm,0.5s,baz=73,slow=4.7,SNR=7.7
SJG LR LR 20 35 27.7
comp=Z,148nm,18.6s,baz=164,slow=37
comp=Z,14nm,0.5s
SJG San Juan 80.81 323 P **P** **19 57 02.7 -1.4**
SJG pmax pmax
comp=Z,149nm,1.8s
THZ Tophouse 80.89 195 IAmb IAmb 19 57 12.2
comp=Z,68nm,0.6s
UUPR Utuado, UPR, P 81.13 323 IAmb IAmb 19 57 06.0
comp=Z,43nm,0.6s
TAU Tasmania Unive 81.18 176 P **P** **19 57 06.9 +0.9**
TAU IAmb IAmb 19 57 07.9
comp=Z,151nm,0.8s
TAU Tasmania Unive 81.18 176 P **P** **19 57 06.9 +0.9**
TAU pmax pmax
comp=Z,151nm,0.9s
SOCE Pocosol 81.31 303 IAmb IAmb 19 57 09.4
comp=Z,104nm,1.2s
JTS Las Juntas de 81.39 303 P **P** **19 57 08.1 +0.8**
JTS IAmb IAmb 19 57 09.8
comp=Z,173nm,1.2s
JTS Las Juntas de 81.39 303 P **P** **19 57 08.3 +0.9**
comp=Z,91nm,1.1s,baz=108,slow=1.2,SNR=20
comp=Z,91nm,1.1s
JTS Las Juntas de 81.39 303 P **P** **19 57 08.1 +0.8**
JTS pmax pmax
comp=Z,173nm,1.3s
BFZ Birch Farm 81.40 198 IAmb IAmb 19 57 09.4
comp=Z,61nm,0.9s
MOO Moorlands 81.64 176 P **P** **19 57 09.2 +0.8**
comp=Z,170nm,1.0s,SNR=3.4
ESPN Las Esperanzas 82.75 305 IAmb IAmb 19 57 15.5
comp=Z,100nm,0.7s
RTZ Ruatahuna 83.28 199 IAmb IAmb 19 57 19.5
comp=Z,102nm,1.1s
PAPH Port-au-Prince 83.38 318 IAmb IAmb 19 57 19.4
comp=Z,119nm,0.8s
SDDR Presa de Saban 83.42 319 IAmb IAmb 19 57 18.8
comp=Z,49nm,0.8s
TAM Tamanrasset 83.53 31 P **P** **19 57 20.3 +1.9**
TAM pmax pmax
comp=Z,50nm,1.5s
URZ Urewera 83.60 199 LR LR 20 31 40.1
comp=Z,281nm,18.8s,baz=248,slow=33
FURI Furi 84.56 65 LR LR 20 33 09.9
comp=Z,794nm,18.7s,baz=214,slow=34
RKGY Rocky Gully 84.67 151 P **P** **19 57 24.1 0.0**
comp=Z,118nm,0.9s,SNR=2.8
NMDO Nuevo Mundo 86.25 316 IAmb IAmb 19 57 34.4
comp=Z,61nm,1.2s
CHIV Chivirico 86.28 315 IAmb IAmb 19 57 34.3
comp=Z,78nm,1.1s
TOO Toolangi 86.42 175 P **P** **19 57 33.5 +0.8**
comp=Z,47nm,0.9s,SNR=3.7
TOO Toolangi 86.42 175 P **P** **19 57 33.7 +0.9**
TOO pmax pmax
comp=Z,47nm,0.9s
TBI Tubuai 86.81 231 *e*P **P** **19 57 32.7 -2.1**
comp=Z,587nm,29.2s
TBI Tubuai 86.81 231 *e*PP **PP** **20 00 55.8 -2.7**
comp=Z,351nm,26.5s
TBI *e*S **SKSac** **20 07 53.7 +4.1**
comp=Z,2µm,30.2s
TBI *e*SS **SS** **20 13 47.9 +2.6**
comp=Z,987nm,24.5s
TBI *e*LQ LQ 20 21 42.4
comp=Z,3µm,32.5s
TBI *e*LR LR 20 25 17.1
comp=Z,7µm,30.8s
TBI *e*LR LR 20 25 20.3
comp=Z,2µm,29.2s
ARPS Mount Arapiles 86.97 172 P **P** **19 57 35.8 +0.4**
comp=Z,117nm,0.7s,SNR=15
MILA Mila 87.08 177 P **P** **19 57 36.7 +0.7**
comp=Z,91nm,1.1s,SNR=4.9
APG El Apazote 88.10 301 P **P** **19 57 41.8 +0.6**
comp=Z,10nm,0.8s,baz=212,slow=1.7,SNR=96
comp=Z,10nm,0.8s
BLDU Ballidu 88.36 150 P **P** **19 57 42.2 +0.1**
comp=Z,85nm,1.3s,SNR=2.8
CAN Canberra 88.81 177 IAmb IAmb 19 57 46.6
comp=Z,60nm,1.2s
CAN Canberra 88.81 177 P **P** **19 57 45.4 +1.2**
comp=Z,48nm,1.2s,SNR=4.3
CAN Canberra 88.81 177 P **P** **19 57 45.6 +1.4**
CAN pmax pmax
comp=Z,48nm,1.2s
CNB Canberra Magne 88.82 178 P **P** **19 57 45.1 +0.9**
comp=Z,44nm,1.6s,SNR=3.5

ATD Arta Tunnel 88.93 67 LR LR 20 36 06.3
comp=Z,9.1nm,18.6s,baz=200,slow=34
KMBL Kambalda 89.00 154 P **P** **19 57 46.1 +1.0**
comp=Z,176nm,1.2s,SNR=7.4
PETF Flores 89.46 302 IAmb IAmb 19 57 49.0
comp=Z,115nm,1.5s
MORW Morawa 89.62 149 P **P** **19 57 48.4 +0.3**
MORW IAmb IAmb 19 57 54.8
comp=Z,34nm,0.9s
MORW Morawa 89.62 149 P **P** **19 57 47.5 -0.5**
comp=Z,42nm,1.9s,SNR=1.4
YNG Young 89.81 177 P **P** **19 57 49.9 +1.0**
comp=Z,239nm,0.9s,SNR=6.9
HTT Hallett 90.00 169 P **P** **19 57 50.9 +1.1**
comp=Z,93nm,1.2s,SNR=7.8
CCIG Comitan 90.00 300 IAmb IAmb 19 58 25.5
comp=Z,24nm,0.7s
BBOO Buckleboo 90.27 166 P **P** **19 57 51.4 +0.4**
comp=Z,65nm,1.2s,SNR=3.9
MDT Midelt 90.79 19 LR LR 20 34 00.2
comp=Z,405nm,18.5s,baz=178,slow=32
FORT Forrest 90.93 159 P **P** **19 57 55.2 +1.1**
SOR Soroa 91.51 311 IAmb IAmb 19 57 58.9
comp=Z,42nm,1.0s
TEIG Tepich 91.59 305 P **P** **19 57 57.3 +0.3**
TEIG Tepich 91.59 305 P **P** **19 57 57.6 +0.6**
comp=Z,151nm,0.6s,baz=147,slow=1.6,SNR=218
TEIG pP **pP** **19 58 29.5 -0.4**
comp=Z,74nm,1.1s,baz=349,slow=1.6,SNR=3.5
TEIG LR LR 20 41 54.1
comp=Z,159nm,19.6s,baz=32,slow=37
comp=Z,151nm,0.6s
STKA Stephens Creek 91.81 171 P **P** **19 57 59.1 +1.0**
comp=Z,22nm,0.7s,baz=160,slow=5.1,SNR=50
STKA pP **pP** **19 58 30.9 +0.1**
comp=Z,4.4nm,0.6s,baz=275,slow=14,SNR=1.5
STKA PP **PP** **20 01 37.1 -0.6**
comp=Z,5.8nm,0.9s,baz=184,slow=14,SNR=4.0
comp=Z,22nm,0.7s
PPT2 Papeete2 91.91 234 *e*P **P** **19 57 59.9 +1.0**
comp=Z,87nm,28.0s
PPT2 Papeete2 91.91 234 *e*S **S** **20 08 46.3 -3.0**
comp=Z,430nm,29.8s
PPT2 *e*SS **SS** **20 14 56.4 -3.0**
comp=Z,351nm,24.2s
PPT2 Papete2 91.91 234 *e*LR LR 20 27 38.4
PPT2 *e*LR LR 20 27 41.8
comp=Z,2µm,28.5s
PPT Papeete 91.93 234 LR LR 20 30 23.5
comp=Z,260nm,21.0s,baz=170,slow=30
CMIG Matias Romero 92.04 298 P **P** **19 57 59.7 +0.5**
comp=Z,36nm,0.7s,baz=139,slow=3.4,SNR=65
CMIG LR LR 20 34 49.2
comp=Z,117nm,20.3s,baz=182,slow=32
comp=Z,36nm,0.7s
RAR Rarotonga 92.98 224 LR LR 20 35 02.3
comp=Z,168nm,18.1s,baz=176,slow=32
TLIG Tlapa 94.28 295 IAmb IAmb 19 58 12.2
comp=Z,41nm,0.8s
PFVI Vila Bisbo 94.32 15 *e*P **P** **19 58 11.2 +2.0**
comp=Z,64nm,1.4s
MORF Marmelete 94.51 15 *e*P **P** **19 58 12.3 +2.1**
comp=Z,37nm,1.6s
MORF Marmelete 94.51 15 *e*P **P** **19 58 12.2 +2.1**
MORF IAmb IAmb 19 58 13.0
comp=Z,34nm,1.4s
MORF Marmelete 94.51 15 *e*P **P** **19 58 12.2 +2.1**
PTEO Sao Teotonio 94.74 15 *e*P **P** **19 58 14.0 +2.9**
comp=Z,46nm,1.7s
TAOE Nuku Hiva Isla 94.88 246 *e*LR LR 20 29 05.1
comp=Z,551nm,31.5s
PCVE Castro Verde 94.93 15 *e*P **P** **19 58 13.5 +1.5**
comp=Z,29nm,1.8s
MESJ Messejana 95.10 15 IAmb IAmb 19 58 16.0
comp=Z,50nm,1.7s
MESJ Messejana 95.10 15 *e*P **P** **19 58 15.2 +2.4**
comp=Z,25nm,1.6s
MESJ Messejana 95.10 15 *e*P **P** **19 58 14.8 +2.0**
MESJ IAmb IAmb 19 58 16.2
comp=Z,8.5nm,0.6s
MESJ Messejana 95.10 15 *e*P **P** **19 58 14.8 +2.0**
PNCL Nicolau / Gran 95.32 15 *e*P **P** **19 58 15.8 +2.0**
comp=Z,26nm,1.7s
PBEJ Beja 95.34 16 *e*P **P** **19 58 16.3 +2.5**
comp=Z,23nm,1.9s
PBAR Barrancos 95.61 16 *e*P **P** **19 58 17.8 +2.7**
comp=Z,27nm,2.1s
EVO Evora 95.81 15 *e*P **P** **19 58 18.2 +2.2**
comp=Z,14nm,1.8s
PESTR Estremoz 96.20 16 *e*P **P** **19 58 20.0 +2.2**
comp=Z,24nm,1.7s
PMTG Montargil 96.31 15 *e*P **P** **19 58 20.8 +2.6**
comp=Z,22nm,1.7s
PMRV Marv??o 96.78 16 *e*P **P** **19 58 22.3 +1.9**
comp=Z,24nm,1.9s
KEST Kesra 96.81 30 IAmb IAmb 19 58 25.7
comp=Z,44nm,1.8s
KEST Kesra 96.81 30 P **P** **19 58 20.8 +0.1**
comp=Z,6.5nm,0.7s,baz=320,slow=0.7,SNR=11
comp=Z,6.5nm,0.7s
PCBR Castelo Branco 97.17 15 *e*P Pdif 19 58 24.6 +2.4
comp=Z,11nm,1.9s
PCAS Casmilo, Conde 97.23 15 *e*P Pdif 19 58 25.4 +2.9
comp=Z,15nm,1.4s
PAB San Pablo 97.39 18 P **P** **19 58 22.0 -1.2**
PAB IAmb IAmb 19 58 27.2
comp=Z,31nm,1.8s
PAB San Pablo 97.39 18 P **P** **19 58 22.0 -1.2**
PAB pmax pmax
comp=Z,31nm,1.8s
ESDC Sonseca Array 97.58 18 P Pdif 19 58 25.1 +1.0
ESDC Sonseca Array 97.58 18 P Pdif 19 58 24.9 +0.8
comp=Z,2.9nm,0.7s,baz=188,slow=4.7,SNR=36
ESDC pP pwP 19 58 57.5 -1.6
comp=Z,1.3nm,0.7s,baz=180,slow=4.6,SNR=2.4
ESDC PKKPbc **PKKPbc** **20 15 00.3 +1.1**
comp=Z,0.6nm,0.8s,baz=20,slow=3.2,SNR=6.2
ESDC LR LR 20 39 23.5
comp=Z,220nm,18.8s,baz=186,slow=33
comp=Z,2.9nm,0.7s
MTE Manteigas 97.71 15 *e*P Pdif 19 58 27.5 +2.8
comp=Z,8.8nm,1.0s
ASAR Alice Springs 98.93 163 P Pdif 19 58 30.3 -0.4
ASAR Alice Springs 98.93 163 P **P** **19 58 31.1 +0.4**
comp=Z,20nm,0.7s,baz=185,slow=4.3,SNR=128
ASAR PP **PP** **20 02 29.1 -4.0**
comp=Z,11nm,1.0s,baz=192,slow=6.2,SNR=11
ASAR S **SKSac** **20 08 54.3 -2.5**
comp=Z,0.8nm,0.8s,baz=178,slow=8.2,SNR=4.5
ASAR PKKPbc **PKKPbc** **20 14 55.0 +1.0**
comp=Z,2.7nm,0.6s,baz=17,slow=2.1,SNR=36
ASAR LR LR 20 39 36.0
comp=Z,484nm,21.9s,baz=212,slow=33
comp=Z,20nm,0.7s
RAYN Ar Rayn 100.37 63 P **Pdif** **19 58 40.5 +3.6**
RAYN pmax pmax
comp=Z,8.0nm,1.3s
DZM Mont Dzumac 101.15 193 *e*LR LR 20 31 55.8
comp=Z,658nm,25.4s
WRA Warramunga Arr 102.65 163 P **Pdif** **19 58 47.2 -0.1**
comp=Z,5.9nm,0.6s,baz=194,slow=4.3,SNR=53
WRA PP **PP** **20 02 55.9 -5.2**
comp=Z,3.0nm,0.8s,baz=192,slow=6.1,SNR=5.3
WRA S **SKSac** **20 09 11.3 -3.5**
comp=Z,0.6nm,0.7s,baz=210,slow=6.6,SNR=5.0
WRA PKKPbc **PKKPbc** **20 14 44.7 +1.3**
comp=Z,3.1nm,0.5s,baz=357,slow=2.8,SNR=69
WB0 Warramunga Arr 102.83 163 Pdif **Pdif** **19 58 48.5 +0.4**
HRV Adam Dziewonsk 105.10 328 P **PKiKP** **20 03 14.0 +2.9**
baz=156
TXAR Lajitas Array 106.65 298 Pdiff **Pdif** **19 59 04.6 -0.2**
comp=Z,1.1nm,0.9s,baz=126,slow=6.4,SNR=5.2
TXAR PKiKP **PKiKP** **20 03 14.2 -0.3**
comp=Z,1.0nm,0.6s,baz=159,slow=4.5,SNR=11
TXAR PKKPbc **PKKPbc** **20 14 33.2 +1.1**
comp=Z,0.5nm,0.5s,baz=301,slow=0.4,SNR=6.6
TXAR PKKPab **PKKPab** **20 14 49.4 +2.3**
comp=Z,1.3nm,0.8s,baz=280,slow=2.9,SNR=8.2
FETA Feichten 107.74 26 *e*PKiKP **PKiKP** **20 03 16.5 +0.5**
comp=Z,2.9nm,1.1s
DAVA Damuels 107.78 26 *e*PKiKP **PKiKP** **20 03 16.8 +0.7**
comp=Z,3.0nm,0.7s
SQTA Sankt Quirin 108.04 27 *e*PKiKP **PKiKP** **20 03 16.9 +0.3**
comp=Z,2.9nm,0.7s
MOTA Moosalm 108.13 27 *e*PKiKP **PKiKP** **20 03 16.8 +0.1**
comp=Z,3.3nm,1.1s
RETA Reutte 108.18 26 *i* PKiKP **PKiKP** **20 03 17.2 +0.5**

comp=Z,2.4nm,0.7s
BRTR Keskin Array B 108.69 46 Pdiff **Pdif** **19 59 13.6 0.0**
comp=Z,0.6nm,0.9s,baz=306,slow=4.3,SNR=1.8
BRTR PKiKP **PKiKP** **20 03 16.9 -1.2**
comp=Z,1.2nm,0.8s,baz=168,slow=4.2,SNR=5.5
BRTR PKKPbc **PKKPbc** **20 14 26.1 +0.1**
comp=Z,1.0nm,0.7s,baz=142,slow=1.2,SNR=5.8
BRTR PKKPab **PKKPdf** **20 14 40.4 -0.8**
comp=Z,0.9nm,0.8s,baz=90,slow=3.1,SNR=4.5
MSTX Muleshoe 110.01 301 P **PKiKP** **20 03 21.2 +0.5**
baz=145
GERES GERESS Array B 110.18 28 PKKPbc PKKPbc 20 14 21.9 +0.4
comp=Z,0.3nm,0.6s,baz=257,slow=2.3,SNR=3.7
AMTX Amarillo 110.23 303 P **PKiKP** **20 03 21.4 +0.3**
baz=145
CKRC Cesky Krumlov 110.32 28 *e*SKKS 20 10 44.1
CKRC AMS AMS 20 45 50.0
comp=Z,400nm,23.9s
KHC Kasperske Hory 110.41 27 *es*PKP 20 04 15.5
KHC *ex* x 20 15 23.0
KHC AMS AMS 20 45 40.0
comp=Z,400nm,17.6s
ZVC Zvikov 110.86 28 AMS AMS 20 46 00.0
comp=Z,400nm,20.1s
VYHS Vyhne 111.27 31 *e*PKiKP **PKiKP** **20 03 22.3 -0.1**
VYHS Vyhne 111.27 31 *e*PKP **PKiKP** **20 03 22.3 -0.1**
121A Cookes Peak, D 111.29 297 P **PKiKP** **20 03 23.6 +0.4**
baz=144
PRU Pruhonice 111.45 28 AMS AMS 20 46 20.0
comp=Z,500nm,19.5s
PRA Prague 111.50 28 AMS AMS 20 46 40.0
comp=Z,500nm,16.2s
HSKC Hora Svate Kat 111.73 27 AMS AMS 20 47 10.0
comp=Z,300nm,15.9s
LANS Liptovska Anna 112.05 31 *e*PKiKP **PKiKP** **20 03 26.0 +2.1**
LANS Liptovska Anna 112.05 31 *e*PKP **PKiKP** **20 03 26.0 +2.1**
CLL Collm 112.27 26 *i* PKiKP **PKiKP** **20 03 24.1 -0.1**
CLL pmax pmax
comp=Z,4.0nm,1.1s
CBKS Cedar Bluff 112.55 306 P **PKiKP** **20 03 26.0 +0.8**
baz=145
ANMO Albuquerque 112.58 299 P **PKiKP** **20 03 25.8 +0.2**
baz=144
ANMO Albuquerque 112.58 299 PKiKP **PKiKP** **20 03 25.0 -0.6**
comp=Z,2.2nm,0.7s,baz=262,slow=7.6,SNR=3.9
ANMO Albuquerque 112.58 299 *i* PKiKP **PKiKP** **20 03 25.5 -0.1**
TUC Tucson 112.63 294 P **PKiKP** **20 03 26.4 +0.7**
baz=143
EKA Eskdalemuir Ar 112.93 15 PKiKP **PKiKP** **20 03 24.8 -0.6**
comp=Z,0.3nm,0.5s,baz=227,slow=2.5,SNR=5.0
EKA PP **PP** **20 04 11.3 -5.5**
comp=Z,0.9nm,0.8s,baz=214,slow=2.8,SNR=3.8
EKA PKKPbc **PKKPbc** **20 14 12.8 +0.3**
comp=Z,0.5nm,0.3s,baz=359,slow=2.6,SNR=10
T25A Trinidad 113.35 302 P **PKiKP** **20 03 28.0 +1.0**
baz=144
214A Organ Pipe Nat 113.39 293 P **PKiKP** **20 03 27.5 +0.4**
baz=143
W18A Petrified Fore 114.33 297 P **PKiKP** **20 03 29.1 +0.1**
baz=143
SDCO Great Sand Dun 114.36 302 P **PKiKP** **20 03 29.1 +0.1**
baz=143,SNR=8.9
PMG Port Moresby 114.50 174 *i* PKiKP **PKiKP** **20 03 29.1 -0.7**
S22A 4UR Ranch, Cre 114.99 301 P **PKiKP** **20 03 30.9 +0.6**
baz=143
SCHQ Schefferville 115.19 336 PKP **PKPdf** **20 03 28.8 -1.0**
comp=Z,4.8nm,0.6s,baz=180,slow=1.8,SNR=10
GLA Glamis 115.29 292 P **PKiKP** **20 03 31.2 +0.5**
baz=142
OGNE Ogallala 115.31 306 P **PKiKP** **20 03 31.7 +1.1**
baz=144
MVCO Mesa Verde 115.38 299 P **PKPdf** **20 03 30.9 0.0**
baz=142
WUAZ Wupatki 115.47 296 P **PKiKP** **20 03 31.5 +0.4**
baz=142,SNR=6.9
IKP In-Ko-Pah, Jac 115.65 291 P **PKiKP** **20 03 32.0 +0.6**
baz=142
SWSC Sam W. Stewart 115.72 291 P **PKiKP** **20 03 32.4 +1.0**
baz=142
KBZ Khabaz 115.84 49 PKP **PKPdf** **20 03 30.8 -0.4**
comp=Z,4.5nm,0.7s,baz=172,slow=4.5,SNR=7.2
PDMCI Parker Dam,Lak 115.92 293 P **PKiKP** **20 03 32.5 +0.8**
baz=142,SNR=8.1
KIV Kislovodsk 115.93 49 *i* PKiKP **PKPdf** **20 03 30.1 -1.5**
KIV *e* 20 04 36.0
KIV *e*PS **PS** **20 14 19.2 -1.0**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR 20 14 36.0
comp=Z,147nm,22.0s
MONP2 Monument Peak 116.00 291 P **PKiKP** **20 03 32.8 +0.5**
baz=142,SNR=6.3
ISCO Idaho Springs 116.05 303 P **PKiKP** **20 03 32.5 +0.2**
baz=142
BC3 Big Chuckawall 116.09 292 P **PKPdf** **20 03 32.3 0.0**
baz=142,SNR=10
IRM Iron Mountain 116.32 292 P **PKiKP** **20 03 33.3 +0.6**
baz=142,SNR=14
109C Camp Elliot, M 116.36 290 P **PKiKP** **20 03 33.4 +0.8**
baz=141
KIEV Kiev 116.44 36 PKPdf **PKPdf** **20 03 31.5 -0.7**
KIEV Kiev 116.44 36 PKiKP **PKPdf** **20 03 31.5 -0.7**
AKASG Malin Array Be 116.45 36 **PKPdf** **20 03 31.4 -0.8**
AKASG Malin Array Be 116.45 36 PKP **PKPdf** **20 03 31.5 -0.7**
comp=Z,4.0nm,0.6s,baz=247,slow=1.7,SNR=12
AKASG PKKPab **PKKPab** **20 14 05.0 +2.6**
comp=Z,1.6nm,0.7s,baz=34,slow=3.9,SNR=5.9
AKBB Malin Array Si 116.45 36 *c i* PKiKP **PKPdf** **20 03 31.8 -0.4**
NEE2 Needles Airpor 116.53 293 P **PKiKP** **20 03 33.3 +0.3**
baz=141
TPFO Pinon Flats 116.57 291 P **PKiKP** **20 03 34.0 +0.8**
baz=141
PFO Pinyon Flats O 116.58 291 PKPdf **PKiKP** **20 03 33.5 +0.2**
PFO Pinyon Flats O 116.58 291 P **PKiKP** **20 03 34.1 +0.8**
baz=141
PFO Pinyon Flats O 116.58 291 PKP **PKPdf** **20 03 33.2 0.0**
comp=Z,5.4nm,0.9s,baz=128,slow=3.7,SNR=6.2
PFO Pinyon Flats O 116.58 291 PKiKP **PKiKP** **20 03 33.5 +0.2**
BELC Belle Mtn. Jos 116.64 292 P **PKiKP** **20 03 34.2 +0.8**
baz=141,SNR=14
N23A Red Feather La 117.06 304 P **PKiKP** **20 03 34.3 +0.2**
baz=142
GMRC Granite Mounta 117.08 292 P **PKiKP** **20 03 35.0 +0.8**
baz=141,SNR=19
SCI2 San Clemente I 117.19 289 P **PKiKP** **20 03 35.1 +0.8**
baz=141
MAK Makhachkala 117.23 53 *e*P **Pdif** **19 59 59.3 +8.0**
MAK *e* 20 03 34.0
MAK *e* 20 04 08.9
MAK *e* 20 04 44.8
MAK *e*PPP PPP 20 07 17.2
MAK *e* 20 10 29.9
MAK *e*PS **PS** **20 14 37.1 +5.4**
MAK *e*SS SS 20 21 02.3 +16
MAK *e*SSS SSS 20 25 13.0
MAK pmax pmax
comp=Z,355nm,1.2s
SUW Suwalki 117.43 31 *e*P **PKPdf** **20 03 33.9 -0.1**
CIS Catalina Islan 117.44 290 P **PKiKP** **20 03 35.8 +1.0**
baz=141
HEC Hector,Ludlow 117.46 292 P **PKiKP** **20 03 35.8 +1.0**
baz=141
O20A White River Ci 117.55 301 P **PKiKP** **20 03 35.3 +0.2**
baz=142
BFSC Mount Baldy Ra 117.69 291 P **PKiKP** **20 03 35.8 +0.4**
baz=141,SNR=6.2
TUQ Turquoise Moun 117.72 293 P **PKiKP** **20 03 36.1 +0.6**
baz=141,SNR=8.3
SNCC San Nicolas Is 117.91 289 P **PKiKP** **20 03 36.6 +0.9**
baz=141
GSC Goldstone, Bar 118.07 292 P **PKiKP** **20 03 36.7 +0.7**
baz=141,SNR=11
LUWI Luwuk 118.10 146 **PKPdf** **20 03 35.8 -0.9**
SHOC Shoshone, Teco 118.26 293 P **PKiKP** **20 03 37.0 +0.7**
baz=141,SNR=5.1
EDW2 Edwards Air Fo 118.36 291 P **PKiKP** **20 03 37.3 +0.7**
baz=141,SNR=38
MPSI Mapaga 118.45 142 PKP **PKiKP** **20 03 37.8 +0.4**
OSI Osito Audit: C 118.54 290 P **PKiKP** **20 03 37.7 +0.8**
baz=140
SCZ2 Santa Cruz Isl 118.55 289 P **PKiKP** **20 03 37.7 +0.8**
baz=140
LRMC Laurel Mtn Rad 118.66 292 P **PKiKP** **20 03 38.2 +0.9**
baz=140,SNR=12
RSSD Black Hills 118.73 307 PKPdf **PKPdf** **20 03 36.5 -0.7**
RSSD Black Hills 118.73 307 PKiKP **PKPdf** **20 03 36.5 -0.7**
SBC Santa Barbara 118.93 289 P **PKiKP** **20 03 38.7 +1.1**

baz=140
PABE Paberze 118.96 31 *e*P **PKiKP 20 03 36.9 0.0**
ARVC Arvin 118.99 290 P **PKiKP 20 03 38.6 +0.9**
baz=140
FURC Furnace Creek, 119.00 293 P **PKiKP 20 03 38.8 +1.1**
baz=140,SNR=9.2
MPMC Manual Prospec 119.01 292 P **PKiKP 20 03 38.7 +0.7**
baz=140,SNR=18
TPNV Topopah Spring 119.05 294 P **PKiKP 20 03 38.9 +0.9**
baz=140,SNR=31
ISA Isabella, Lake 119.22 291 P **PKiKP 20 03 39.3 +1.0**
baz=140,SNR=7.9
MNK Minsk 119.26 33 *i* PKIKP **PKPdf 20 03 36.4 -1.1**
MNK *i* 20 04 11.2
MNK *i* PPP PPP 20 07 31.5
MNK *i* 20 10 36.1
MNK *i* SS SS 20 21 12.1 -0.3
MNK *i* SSS SSS 20 25 38.2
MNK pmax pmax
comp=Z,25nm,0.9s
MNK pmax pmax
comp=N,11nm,1.8s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK MLR MLR
comp=E,130nm,17.0s
MNK MLR MLR
comp=Z,206nm,17.0s
PKM Mcpherson Peak 119.33 290 P **PKiKP 20 03 39.7 +1.1**
baz=140
VSVD Vaisvydziai 119.36 30 *e*P **PKiKP 20 03 37.7 0.0**
TOLI2 Tolitoli 119.47 143 PKPdf **PKPdf 20 03 37.5 -1.9**
CWC Cottonwood Cre 119.61 292 P **PKiKP 20 03 40.1 +1.0**
baz=140
ISAL Salakas 119.64 32 *e*P **PKPdf 20 03 37.7 -0.5**
GRAC Grapevine Rang 119.66 293 P **PKiKP 20 03 40.0 +1.0**
baz=140,SNR=6.7
VES Vestal, Richgr 119.67 291 P **PKiKP 20 03 40.0 +1.0**
baz=140
OSL Oslo 119.71 21 *e*PKPdf **PKiKP 20 03 38.8 +0.5**
SMMC Simmler 119.75 290 P **PKiKP 20 03 40.5 +1.3**
baz=140
R11B Troy Canyon, C 119.79 295 P **PKiKP 20 03 40.2 +0.8**
baz=140,SNR=17
DUG Dugway, Tooele 119.81 298 P **PKiKP 20 03 39.9 +0.5**
baz=140,SNR=18
HYA Hoyanger 120.00 18 *e*PKPdf **PKiKP 20 03 39.2 +0.4**
TIN Tinemaha, Big 120.15 292 P **PKiKP 20 03 41.2 +1.1**
baz=140
ULM Lac du Bonnet 120.18 316 PKP **PKPdf 20 03 38.5 -0.9**
comp=Z,18nm,0.6s,baz=141,slow=1.5,SNR=30
ULM PP **PP 20 05 03.9 -3.6**
comp=Z,5.0nm,0.9s,baz=167,slow=3.9,SNR=5.3
ULM PKKPab **PKKPbc 20 13 48.2 +1.5**
comp=Z,2.7nm,0.7s,baz=312,slow=5.3,SNR=4.2
PDAR Pinedale Array 120.22 302 **PKPdf 20 03 38.6 -1.5**
PDAR Pinedale Array 120.22 302 PKP **PKPdf 20 03 39.4 -0.7**
comp=Z,5.2nm,0.6s,baz=140,slow=5.4,SNR=12
PDAR PKKPbc **PKKPab 20 13 47.8 +0.4**
comp=Z,0.9nm,0.6s,baz=75,slow=1.7,SNR=7.2
VORD Divnogorie 120.24 42 *e*PKIKP **PKPdf 20 03 37.8 -1.7**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 120.39 42 *e*PKIKP **PKPdf 20 03 38.0 -1.8**
VSR pmax pmax
comp=Z,10.0nm,0.9s
HFS Hagfors 120.50 23 PKP **PKPdf 20 03 38.5 -1.2**
comp=Z,7.2nm,0.7s,baz=158,slow=4.7,SNR=26
HFS PP **PP 20 05 02.9 -6.6**
comp=Z,4.7nm,0.8s,baz=181,slow=5.9,SNR=5.4
HFS PKKPbc **PKKPbc 20 13 46.1 +0.3**
comp=Z,4.4nm,0.7s,baz=72,slow=4.8,SNR=18
NC602 NORSAR Array S 120.60 21 *e*PKPdf **PKPdf 20 03 39.7 -0.3**
VORR Voronezh 120.78 42 *e*PKIKP **PKPdf 20 03 39.7 -0.8**
VORR pmax pmax
comp=Z,14nm,0.6s
NB2 NORSAR Subarra120.82 21 PKPdf **PKPdf 20 03 40.1 -0.3**
comp=Z,9.3nm,1.1s,baz=202,slow=1.9
NB2 PKKP **PKKPbc 20 13 45.0 +0.3**
comp=Z,3.5nm,0.7s,baz=23,slow=3.4
NB2 NORSAR Subarra120.82 21 PKPdf **PKPdf 20 03 40.1 -0.3**
baz=202,slow=1.9
NOA NORSAR Array B 120.82 21 PKP **PKPdf 20 03 40.2 -0.1**
comp=Z,7.3nm,0.8s,baz=204,slow=1.8,SNR=30
NOA pPKP **pPKPdf 20 04 13.3 -1.5**
comp=Z,1.4nm,0.8s,baz=207,slow=2.0,SNR=2.9
NOA PP **PP 20 05 06.6 -5.1**
comp=Z,0.5nm,0.6s,baz=197,slow=7.8,SNR=3.6
NOA PKKPbc **PKKPbc 20 13 45.0 +0.3**
comp=Z,2.8nm,0.7s,baz=26,slow=3.3,SNR=23
NVAR Mina Array Bea 121.23 293 PKPdf **PKiKP 20 03 42.8 +0.5**
NVAR Mina Array Bea 121.23 293 PKP **PKiKP 20 03 43.1 +0.8**
comp=Z,13nm,0.6s,baz=126,slow=3.1,SNR=94
NVAR PKKPab **PKKPab 20 13 44.7 +1.2**
comp=Z,1.4nm,0.7s,baz=296,slow=3.5,SNR=9.1
DOMB Dombas 121.33 19 *e*PKPdf **PKPdf 20 03 41.2 -0.1**
VRH Novokhopyorsk 121.35 44 *e*PKIKP **PKPdf 20 03 40.4 -1.2**
VRH pmax pmax
comp=Z,40nm,0.6s
LPSR Galich'ya Gora 121.42 41 *e*PKIKP **PKPdf 20 03 40.7 -1.0**
LPSR pmax pmax
comp=Z,20nm,0.9s
ELK Elko 121.43 297 PKP **PKiKP 20 03 43.2 +0.6**
comp=Z,14nm,0.7s,baz=197,slow=1.3,SNR=76
ELK PP **PP 20 05 14.6 -1.9**
comp=Z,2.5nm,1.0s,baz=131,slow=7.4,SNR=4.1
MOL Molde 121.54 18 *e*PKPdf **PKiKP 20 03 44.1 +2.4**
MTSE Matsula 121.69 29 *e*P **PKPdf 20 03 42.0 0.0**
LAO LASA Array 121.69 308 P **PKiKP 20 03 42.9 +0.2**
baz=140,SNR=15
ANGG Ammassalik, Gr 121.72 355 *i* P **PKPdf 20 03 41.6 -0.2**
RLMT Red Lodge 121.88 304 P **PKiKP 20 03 43.5 +0.2**
baz=139,SNR=8.8
DGMT Dagmar 122.18 310 P **PKiKP 20 03 43.9 +0.3**
baz=140
VSU Vasula 122.28 30 *i* PKIKP **PKPdf 20 03 42.9 -0.3**
OBN Obninsk 122.59 38*c* *i* PKIKP **PKPdf 20 03 43.6 -0.3**
OBN 20 05 30.0
OBN PS **PS 20 15 19.0 -0.4**
OBN *e* 20 16 35.8
OBN *i* SS SS 20 22 00.6 +5.6
OBN pmax pmax
comp=Z,22nm,0.7s
OBN MLR MLR
comp=Z,171nm,18.0s
ARBE Arbavere 122.89 29 *e*P **PKPdf 20 03 44.2 -0.1**
NIL Nilore 123.04 78 PKPdf **PKPdf 20 03 45.5 -0.1**
NIL Nilore 123.04 78 PKIKP **PKPdf 20 03 45.5 -0.1**
MEF Metsahovi 123.13 28 *e*P **PKPdf 20 03 44.1 -0.6**
HLID Hailey 123.14 300 P **PKiKP 20 03 46.4 +0.5**
baz=138,SNR=10.0
DY2G Dye2 123.14 351 *i* P **PKPdf 20 03 44.5 -0.5**
RAF Rauma 123.15 26 *e*P **PKPdf 20 03 43.9 -0.9**
BOZ Bozeman (W) 123.33 303 P **PKiKP 20 03 46.7 +0.5**
baz=138,SNR=13
MOS Moscow 123.46 38 *i* PKIKP **PKPdf 20 03 44.6 -0.9**
MOS *e* 20 05 27.8
MOS pmax pmax
comp=Z,60nm,0.9s
SFJD Kangerlussuaq 124.06 349 **PKPdf 20 03 46.1 -0.3**
SFJD Kangerlussuaq 124.06 349 PKIKP **PKPdf 20 03 46.1 -0.3**
SFJD Kangerlussuaq 124.06 349 *i* P **PKPdf 20 03 45.1 -1.2**
NSS Namsos 124.14 19 *e*PKPdf **PKPdf 20 03 46.4 -0.2**
EGMT Eagleton 124.28 306 P **PKiKP 20 03 48.1 +0.2**
baz=138
SIMJ Simiganj 124.49 71 PKPdf **PKPdf 20 03 48.2 -0.1**
BELG Belogornoye 124.60 46 *i* PKIKP **PKPdf 20 03 47.1 -0.7**
FINES FINESS Array B 124.61 28 PKPdf **PKPdf 20 03 46.8 -0.7**
FINES FINESS Array B 124.61 28 PKP **PKPdf 20 03 46.9 -0.6**
comp=Z,30nm,0.6s,baz=172,slow=1.5,SNR=152
FINES pPKP **pPKPdf 20 04 19.8 -2.2**
comp=Z,4.8nm,0.6s,baz=145,slow=5.1,SNR=2.1
FINES PKKPbc **PKKPbc 20 13 30.3 +0.4**
comp=Z,1.7nm,0.7s,baz=50,slow=6.0,SNR=6.9
KEF Keuruu 124.91 27 *e*P **PKPdf 20 03 47.7 -0.4**
VAF Ylistaro 125.11 25 *e*P **PKPdf 20 03 48.4 -0.1**
CMAR Chiang Mai Arr 125.24 111 PKP **PKiKP 20 03 50.8 +0.3**
comp=Z,25nm,0.8s,baz=232,slow=3.9,SNR=122
CMAR PP **PP 20 05 40.2 -1.4**
comp=Z,5.3nm,1.0s,baz=234,slow=6.5,SNR=4.7
CMAR PKKP **PKKPdf 20 14 10.8 +2.4**
comp=Z,1.2nm,0.7s,baz=342,slow=2.7,SNR=6.5
ICESG Greenland Ices 125.28 355 *i* P **PKPdf 20 03 48.6 -0.5**
MSO Missoula 125.32 303 P **PKiKP 20 03 50.4 +0.4**
baz=137,SNR=48
CHTO Chiang Mai 125.53 111 **PKPdf 20 03 50.9 +0.2**
CHTO Chiang Mai 125.53 111 PKIKP **PKPdf 20 03 50.9 +0.2**
VALR Valaam 125.86 30 *i* PKIKP **PKPdf 20 03 49.9 0.0**
YBH Yreka Blue Hor 125.95 293 PKP **PKiKP 20 03 51.5 +0.2**
comp=Z,16nm,0.7s,baz=71,slow=2.5,SNR=40
FFC Flin Flon 126.01 316 PKPdf **PKPdf 20 03 49.7 -0.8**
FFC Flin Flon 126.01 316 PKIKP **PKPdf 20 03 49.7 -0.8**
KONS Konsvik 126.13 19 *e*PKPdf **PKPdf 20 03 50.5 +0.2**
JOF Joensuu 127.23 29 *e*P **PKPdf 20 03 52.4 -0.2**
FAUS Fauske 127.31 19 *e*PKPdf **PKPdf 20 03 52.5 -0.1**
IUG Iuzhnay 127.56 68 *e*PKP **PKPdf 20 03 54.0 -0.1**
baz=68
IUG Iuzhnay 127.56 68 *e*PKIKP **PKPdf 20 03 53.9 -0.1**
LOF Lofoten 127.66 18 *e*PKPdf **PKPdf 20 03 53.3 +0.1**
STEI Steigen 127.79 19 *e*PKPdf **PKiKP 20 03 53.7 -0.3**
NEW Newport 127.86 302 P **PKiKP 20 03 55.1 +0.2**
baz=135,SNR=5.7
SUMG Summit 128.69 356 PKPdf **PKPdf 20 03 55.5 -0.1**
SUMG Summit 128.69 356 PKIKP **PKPdf 20 03 55.5 -0.1**
SUMG Summit 128.69 356 *i* P **PKPdf 20 03 54.9 -0.8**
KSH Kashi 128.83 75 PKP **PKiKP 20 03 57.0 -0.3**
AML Almayashu 129.47 71 P **PKiKP 20 03 58.8 0.0**
SNR=21
KIRV Kirov 129.83 42 *i* PKIKP **PKPdf 20 03 57.1 -0.5**
EKS2 Erkin-Say 129.88 70 P **PKiKP 20 03 59.3 0.0**
SNR=18
TRO Tromso 129.94 19 *e*PKPdf **PKPdf 20 03 57.4 -0.1**
UCH Uchtor 129.97 71 P **PKiKP 20 03 59.8 -0.1**
SNR=19
LSA Lhasa 130.00 95 PKP **PKPdf 20 03 59.5 0.0**
ADZR Andozero 130.01 32 *e*PKIKP **PKPdf 20 03 56.4 -1.4**
ADZR *e* 20 04 30.2
ADZR pmax pmax
comp=Z,123nm,0.9s
AAK Ala-Archa 130.25 71 P **PKiKP 20 03 59.8 -0.2**
SNR=14
AAK Ala-Archa 130.25 71 PKPdf **PKPdf 20 03 59.4 +0.2**
AAK Ala-Archa 130.25 71 PKIKP **PKPdf 20 03 59.4 +0.2**
KTK1 Kautokeino 130.26 21 *e*PKPdf **PKPdf 20 03 57.9 -0.3**
DBG Daneborg 130.31 3 *i* P **PKiKP 20 03 59.3 +0.3**
TNCH TengChong 130.38 106 *i* PKP **PKPdf 20 04 00.0 0.0**
TNCH PP **PP 20 06 14.0 -1.7**
TNCH AMB AMB
comp=Z,170nm,5.8s
KBK Karagaybulak 130.50 71 P **PKiKP 20 04 00.4 -0.1**
SNR=16
CHMS Chumysh 130.63 71 P **PKPdf 20 04 00.0 +0.3**
SNR=6.5
USP Ospenovka 130.69 70 P **PKiKP 20 04 00.5 -0.2**
SNR=12
SGDS Sogindy 130.88 70 *e*PKP **PKPdf 20 04 00.3 0.0**
baz=70
SGDS Sogindy 130.88 70 *e*PKIKP **PKPdf 20 04 00.2 0.0**
TKM2 Tokmak 2 131.03 71 P **PKPdf 20 03 59.8 -1.0**
SNR=8.6
ARCES ARCESS Array B 131.16 22 PKP **PKPdf 20 04 00.1 +0.2**
comp=Z,16nm,0.6s,baz=180,slow=2.3,SNR=59
ARCES pPKP **pPKPdf 20 04 31.7 -2.6**
comp=Z,6.6nm,0.7s,baz=226,slow=3.2,SNR=3.0
ARCES PP **PP 20 06 14.9 -5.2**
comp=Z,4.8nm,0.8s,baz=212,slow=4.9,SNR=2.7
ARCES SKPbc **SKPbc 20 07 12.3 0.0**
comp=Z,0.7nm,0.3s,baz=221,slow=3.6,SNR=5.5
ARCES PKKP **PKKPdf 20 13 57.6 -0.9**
comp=Z,1.0nm,0.6s,baz=145,slow=2.5,SNR=4.0
APA Apatity 131.43 27 *i* PKIKP **PKPdf 20 03 54.9 -5.5**
APA pmax pmax
comp=Z,19nm,0.8s
KEV Kevo 131.65 22 **PKPdf 20 04 00.5 -0.2**
KEV Kevo 131.65 22 PKIKP **PKPdf 20 04 00.5 -0.2**
BTLS Baital 131.67 68 *e*PKP **PKPdf 20 04 01.7 +0.1**
baz=68
BTLS Baital 131.67 68 *e*PKIKP **PKPdf 20 04 01.6 +0.1**
HAMF Hammerfest 131.69 20 *e*PKPdf **PKPdf 20 04 00.8 0.0**
TNSS Tian-Shan 131.82 72 *e*PKP **PKPdf 20 04 02.2 -0.3**
baz=72
TNSS Tian-Shan 131.82 72 *e*PKIKP **PKPdf 20 04 02.2 -0.3**
ARU Arti 131.96 48 *i* PKIKP **PKPdf 20 04 01.4 -0.3**
ARU 20 06 23.0
ARU PPP PPP 20 09 15.0
MDOK Medeo 131.96 72 *e*PKP **PKPdf 20 04 02.4 -0.1**
baz=72
MDOK *e*PP **PP 20 06 25.3 -0.7**
baz=72
MDOK Medeo 131.96 72 *e*PKIKP **PKPdf 20 04 02.3 -0.1**
MDOK *e* 20 06 25.2
LVZ Lovozero 131.99 27 **PKPdf 20 04 01.2 -0.3**
LVZ Lovozero 131.99 27 PKIKP **PKPdf 20 04 01.2 -0.3**
CHKK Chushkaly 132.40 71 *e*PKP **PKPdf 20 04 02.9 -0.2**
baz=72
CHKK Chushkaly 132.40 71 *e*PKIKP **PKPdf 20 04 02.8 -0.2**
VADS Vadso 132.44 23 *e*PKPdf **PKPdf 20 04 02.6 +0.3**
SATY Saty 132.62 73 *e*PKP **PKPdf 20 04 03.5 -0.2**
baz=73
SATY *e*PP **PP 20 06 29.5 -0.6**
baz=73
SATY Saty 132.62 73 *e*PKIKP **PKPdf 20 04 03.4 -0.2**
SATY *e* 20 06 29.4
KMI Kunming 132.71 110 ||PKP **PKiKP 20 04 05.5 -0.1**
DAG Danmarks Havn 132.81 3 *i* P **PKPdf 20 04 01.6 -1.3**
UZB Uzynbulak 133.01 74 *e*PKP **PKPdf 20 04 04.3 -0.2**
baz=74
UZB Uzynbulak 133.01 74 *e*PKIKP **PKPdf 20 04 04.2 -0.2**
KPKS Kokpek 133.04 73 *e*PKP **PKPdf 20 04 04.2 -0.2**
baz=73
KPKS Kokpek 133.04 73 *e*PKIKP **PKPdf 20 04 04.2 -0.2**
SVE Sverdlovsk 133.09 49*d* *i* PKIKP **PKPdf 20 04 04.4 +0.5**
SVE pmax pmax
comp=Z,59nm,0.9s
SHLS Shalkode 133.25 74 *e*PKP **PKPdf 20 04 05.2 +0.3**
baz=74
SHLS *e*PP **PP 20 06 35.1 +1.0**
baz=74
SHLS Shalkode 133.25 74 *e*PKIKP **PKPdf 20 04 05.1 +0.3**
SHLS *e* 20 06 35.1
PZH PanZhiHua 133.29 108 PKP **PKPdf 20 04 06.0 +0.6**
TDK Taldyqorghan 133.93 71 *e*PKP **PKPdf 20 04 06.2 +0.2**
baz=71
TDK Taldyqorghan 133.93 71 *e*PKIKP **PKPdf 20 04 06.1 +0.2**
BJO1 Bjornoya 134.05 16 *e*PKPdf **PKiKP 20 04 06.4 -0.1**
NEEM North Greenlan 134.17 353 *i* P **PKPdf 20 04 06.0 +0.3**
BRVK Borovoye 135.02 58 *i* PKIKP **PKPdf 20 04 06.5 -1.1**
TULEG Thule 135.03 347 *i* P **PKPdf 20 04 05.9 -1.1**
BVAR Borovoye Array 135.05 58 PKhKP PKPpre 20 03 54.6
comp=Z,1.8nm,0.6s,baz=287,slow=5.7,SNR=12
BVAR PKP **PKPdf 20 04 08.0 +0.3**
comp=Z,25nm,0.6s,baz=214,slow=1.9,SNR=35
BVAR SKPbc **SKPbc 20 07 27.1 +1.0**
comp=Z,5.1nm,0.7s,baz=248,slow=2.6,SNR=4.9
BVAR Borovoye Array 135.05 58 PKIKP **PKPdf 20 04 08.0 +0.3**
GYA Guiyang 135.83 113 PKP **PKiKP 20 04 11.5 -0.3**
GYA PP PP 20 06 58.8 +8.5
GYA AMB AMB
comp=Z,350nm,10.7s
YKA Yellowknife Ar 136.11 318 PKhKP PKPpre 20 03 57.2
comp=Z,1.7nm,0.6s,baz=122,slow=2.7,SNR=5.9
YKA PKP **PKPdf 20 04 09.2 -0.1**
comp=Z,21nm,0.6s,baz=124,slow=2.5,SNR=42
YKA pPKP pPKPdf 20 04 42.1 -1.5
comp=Z,6.6nm,0.7s,baz=132,slow=2.3,SNR=2.8
YKA PP **PP 20 06 49.1 -2.6**
comp=Z,5.4nm,0.9s,baz=120,slow=7.1,SNR=8.5
YKA SKPbc **SKPbc 20 07 27.7 -1.2**
comp=Z,3.5nm,0.6s,baz=136,slow=3.7,SNR=7.6
GOMU GeErMu 136.89 93 PKP **PKiKP 20 04 13.3 -0.7**
KBS Kingsbay 136.90 10 *e*PKPdf **PKiKP 20 04 12.1 -0.2**
MK31 Makanchi Array 137.15 72 *i* PKIKP **PKPdf 20 04 11.1 -0.7**
MKAR Makanchi Array 137.15 72 PKPpre 20 03 59.7
MKAR Makanchi Array 137.15 72 PKhKP PKPpre 20 04 00.4
comp=Z,3.0nm,0.7s,baz=248,slow=2.7,SNR=15
MKAR PKP **PKPdf 20 04 11.8 0.0**
comp=Z,10nm,0.6s,baz=208,slow=1.0,SNR=27
MKAR SKPbc **SKPbc 20 07 31.8 -0.9**
comp=Z,3.1nm,0.7s,baz=249,slow=2.5,SNR=5.0
KURBB Kurchatov Arra 137.57 65 PKhKP PKPpre 20 04 00.8
comp=Z,3.8nm,0.6s,baz=236,slow=3.3,SNR=21
KURBB PKP **PKPdf 20 04 11.6 -0.9**
comp=Z,12nm,0.7s,baz=231,slow=2.8,SNR=19
KURBB PP **PP 20 07 03.1 +2.0**
comp=Z,0.8nm,0.7s,baz=241,slow=6.2,SNR=4.5
KURBB SKPbc **SKPbc 20 07 33.1 -0.6**
comp=Z,5.4nm,0.8s,baz=228,slow=3.2,SNR=8.1
KURK Kurchatov 137.68 65 PKPpre 20 04 03.3
KURK Kurchatov 137.68 65 PKIKP **PKPdf 20 04 11.6 -1.0**
CD2 Chengdu 137.85 106 PKP **PKPdf 20 04 12.5 -1.2**
RES Resolute Bay 137.90 339 PKPdf **PKPdf 20 04 12.6 +0.3**
RES Resolute Bay 137.90 339 PKIKP **PKPdf 20 04 12.6 +0.3**
WMQ Urumqi 138.16 79 *e*PKP **PKiKP 20 04 16.5 +0.6**
TOAD Toad River Com 138.32 309 P **PKPdf 20 04 14.5 +0.9**
baz=124
SEM Semipalatinsk 138.32 66 *e*PKP **PKPdf 20 04 13.9 -0.3**
baz=66
SEM Semipalatinsk 138.32 66 *e*PKIKP **PKPdf 20 04 13.8 -0.3**
KOTAN Kotaneelee Air 138.52 311 P **PKiKP 20 04 15.0 -1.0**
baz=123
ZSN Zaisan 138.94 73 *e*PKP **PKPdf 20 04 15.2 +0.1**
baz=73
ZSN Zaisan 138.94 73 *e*PKIKP **PKPdf 20 04 15.2 +0.1**
LIRD Liard River Hi 139.00 310 P **PKPdf 20 04 15.8 +1.0**
baz=122
V35K Ketchikan 139.26 302 P **PKPdf 20 04 16.4 +1.1**
baz=124
T35M Bob Quinn 139.53 305 P **PKPdf 20 04 17.0 +1.2**
baz=123
CRAG Craig 140.06 301 P **PKPdf 20 04 17.7 +0.9**
baz=123
DLBC Dease Lake 140.21 307 P **PKPdf 20 04 18.0 +0.9**
baz=121,SNR=9.9
DLBC Dease Lake 140.21 307 PKhKP PKPpre 20 04 11.0
comp=Z,7.9nm,0.8s,baz=197,slow=1.5,SNR=8.9
U33K Whale Pass 140.41 302 P **PKPdf 20 04 18.0 +0.7**
baz=122,SNR=5.3
S34M Telegraph Cree 140.43 305 P **PKPdf 20 04 18.2 +0.8**
baz=121
WTLY Watson Lake, Y 140.53 309 P **PKPdf 20 04 18.5 +0.9**
baz=120,SNR=8.9
TGTN Hyland Airport 141.01 312 P **PKPdf 20 04 19.5 +1.1**
baz=119,SNR=15
R33M Jennings River 141.12 308 P **PKPdf 20 04 19.5 +0.7**
baz=120,SNR=24
Q32M Nakina River 141.48 306 P **PKPdf 20 04 20.3 +0.7**
baz=120,SNR=14
S32K Killisnoo 141.79 303 P **PKPdf 20 04 21.2 +1.3**
baz=120
LZH Lanzhou 141.81 101 *e*PKP **PKPdf 20 04 16.3 -4.6**
SIT Sitka 141.94 302 P **PKiKP 20 04 21.7 -1.4**
baz=120
GTA Gaotai 141.95 93 *e*PKP **PKPdf 20 04 16.5 -4.5**
GTA PP **PP 20 07 26.3 -1.9**
GTA PKS **PKSdf 20 07 59.5 +2.7**
R32K Eaglecrest 142.17 304 P **PKiKP 20 04 22.1 -1.4**
baz=119
ZAA0 Zalesovo Array 142.64 64 PKPpre 20 04 17.4
ZALV Zalesovo Beam 142.64 64 PKPdf **PKPdf 20 04 16.5 -5.0**
ZALV Zalesovo Beam 142.64 64 PKhKP PKPpre 20 04 16.8
comp=Z,24nm,0.5s,baz=235,slow=4.1,SNR=67
ZALV PKP **PKPdf 20 04 22.2 +0.7**
comp=Z,14nm,0.6s,baz=220,slow=1.5,SNR=9.0
ZALV SKPbc **SKPbc 20 07 45.7 -1.4**
comp=Z,4.3nm,0.6s,baz=235,slow=2.6,SNR=5.1
XAN Xi'an 143.03 108 PKP PKPbc 20 04 20.3 +0.1
XAN pPKP pPKPdf 20 04 56.0 -1.5
XAN PP **PP 20 07 36.3 +1.9**
XAN SS SS 20 26 06.5 +3.9
XAN AMB AMB
comp=Z,290nm,7.6s
XAN LR LR
comp=Z,290nm,19.9s
XAN LR LR
comp=Z,380nm,18.7s
XAN LR LR
comp=Z,460nm,23.7s
WHN Wuhan 143.05 118 PKP PKPbc 20 04 20.0 -0.2
N30M Aishikik Lake 144.76 308 P **PKPdf 20 04 25.6 +0.6**
baz=114,SNR=308
O29M Mount Kennedy 144.95 306 P **PKPdf 20 04 25.7 +0.1**
baz=114,SNR=25
PNL Peninsula 145.06 305 P **PKPdf 20 04 26.0 +0.4**
baz=115,SNR=23
M30M Minto, Yukon 145.08 310 P **PKPdf 20 04 26.0 +0.4**
baz=113
YUK6 Outpost Mounta 145.12 307 P **PKPab 20 04 26.3 +0.3**
baz=114,SNR=41
LYN LuoYang 145.28 112 *e*PKPbc **PKPdf 20 04 26.8 0.0**
LYN pPKP pPKPab 20 04 57.8 -2.6
LYN AMB AMB
comp=Z,250nm,8.8s
YUK4 Talbot Arm 145.40 308 P **PKPab 20 04 27.5 +0.5**
baz=113,SNR=155
F31M Tsiigehtchic 145.57 319 P **PKPbc 20 04 26.7 0.0**
baz=108,SNR=110
G31M Satah River 145.60 318 P **PKPab 20 04 27.3 0.0**
baz=108,SNR=357
J30M Hart River 145.62 314 P **PKPab 20 04 27.5 -0.1**
baz=110,SNR=411
PINM Pinnacle 145.62 305 P **PKPab 20 04 28.0 +0.2**
baz=114,SNR=41
M29M Somme Creek 145.75 309 P **PKPab 20 04 28.3 +0.1**
baz=112,SNR=365
INK Inuvik 145.76 321 P **PKPab 20 04 27.6 -0.3**
baz=107,SNR=180
L29M L29M 145.85 311 P **PKPab 20 04 28.6 +0.2**
baz=111,SNR=909
K29M Barlow Dome 145.85 312 P **PKPbc 20 04 28.2 +0.4**
baz=110,SNR=586
I30M Mount Dempster 145.86 315 P **PKPbc 20 04 28.1 +0.3**
baz=109,SNR=832
O28M Mount Upton 145.87 306 P **PKPab 20 04 29.2 +0.3**
baz=113,SNR=78
YUK8 Steele Glacier 145.88 307 P **PKPab 20 04 29.0 +0.1**
baz=112,SNR=44
JOW Kunigami 145.92 139 PKPbc **PKPab 20 04 30.1 +0.5**
comp=Z,132nm,0.7s,baz=249,slow=6.3,SNR=42
J29N Klondike Camp 146.35 313 P **PKPab 20 04 29.9 -0.5**
baz=109,SNR=29
G30M tAoh Zraii Nji 146.35 318 P **PKPbc 20 04 29.4 +0.3**
baz=107,SNR=219
EPYK Eagle Plains 146.36 317 P **PKPbc 20 04 29.3 +0.1**
baz=107,SNR=512
YUK3 Moose Creek 146.37 308 P **PKPbc 20 04 29.7 +0.1**
baz=111,SNR=54
F30M Barrier River 146.37 319 P **PKPbc 20 04 29.6 +0.4**
baz=106,SNR=189
MESA MESA 146.44 305 P **PKPab 20 04 30.5 -0.5**
baz=113,SNR=17
CTG Chitna Glacier 146.46 306 P **PKPab 20 04 30.5 -0.5**
baz=112,SNR=40
NJ2 Nanjing 146.47 122 *i* PKPbc **PKPab 20 04 31.3 -0.4**
NJ2 PKPab **PKiKP 20 04 34.3 +1.1**
NJ2 pPKP **pPKPdf 20 05 00.8 -2.6**
I29M Ogilvie Camp, 146.67 314 P **PKPbc 20 04 30.2 +0.1**
baz=108,SNR=207
DAWY Dawson 146.71 312 P **PKPbc 20 04 30.5 +0.3**
baz=109,SNR=176
H29M Whitestone 146.95 316 P **PKPbc 20 04 31.1 +0.3**
baz=106,SNR=358
G29M Pine Creek 147.01 317 P **PKPbc 20 04 31.3 +0.3**
baz=106,SNR=960
CRQE Cirque 147.18 305 P **PKPbc 20 04 32.0 +0.3**
baz=111,SNR=28
M27K Edge Creek, AK 147.20 308 P **PKPbc 20 04 32.2 +0.4**
baz=110,SNR=124
E29M Blow River 147.34 320 P **PKPbc 20 04 32.0 +0.2**
baz=104,SNR=511
I28M Miner Creek 147.35 314 P **PKPbc 20 04 32.1 0.0**
baz=106,SNR=302
MCARA McCarthy VSAT 147.37 306 P **PKPbc 20 04 32.6 +0.5**
baz=110,SNR=12
BCAR Beaver Creek A 147.40 310 PKPdf **PKPdf 20 04 27.8 -1.7**
L27K Beaver Creek, 147.41 310 P **PKPbc 20 04 32.9 +0.7**
baz=109,SNR=282
KAIM Kayak Island 147.49 303 P **PKiKP 20 04 33.5 -0.9**
baz=112,SNR=9.9
EGAK Eagle 147.66 313 P **PKPbc 20 04 32.7 -0.1**
baz=107,SNR=36
TIY Taiyuan 147.66 108 *e*PKPbc **PKPbc 20 04 34.5 +0.8**
TIY pPKP **pPKPdf 20 05 04.5 -0.9**
TIY PP **PP 20 08 09.0 +7.0**
TIY AMB AMB
comp=Z,240nm,7.0s
M26K Nabesna, AK 147.71 308 P **PKPbc 20 04 33.2 +0.2**
baz=109,SNR=41
K27K Chicken 147.82 311 P **PKiKP 20 04 34.3 -0.8**
baz=107
D28M Stokes Point 147.85 322 P **PKPbc 20 04 33.9 +0.8**
baz=101,SNR=7.4
F28M Old Crow 147.89 318 P **PKPbc 20 04 33.8 +0.5**
baz=103,SNR=630
BMRM Bremner River 147.95 305 P **PKPbc 20 04 34.3 +0.5**
baz=110,SNR=52
E28M Babbage River 147.98 320 P **PKPbc 20 04 33.6 0.0**
baz=102,SNR=88
L26K Log Cabin Wild 148.06 309 P **PKPbc 20 04 34.6 +0.7**

baz=108,SNR=167
I27K Kandik River 148.07 314 P PKPbc 20 04 34.6 +0.7
baz=105,SNR=254
N25K Chitina, Valde 148.16 306 P PKiKP 20 04 35.2 -0.7
baz=109,SNR=46
H27K Steamboat Moun 148.19 315 P PKPbc 20 04 35.0 +0.8
baz=104,SNR=599
EYAK Cordova Ski Ar 148.33 304 P PKiKP 20 04 35.5 -0.6
baz=110,SNR=29
G27K Doyon Strip 148.38 316 P PKPbc 20 04 35.2 +0.5
baz=103,SNR=127
BTO Baotou 148.43 101 *e*PKPbc **PKPdf 20 04 30.0 -2.0**
BTO PKPab **PKPbc 20 04 36.3 +0.6**
BTO pPKP **pPKPbc 20 05 08.3 -1.4**
BTO sPKP 20 05 23.5
BTO LR LR
comp=Z,300nm,18.2s
BTO LR LR
comp=Z,300nm,9.5s
BTO LR LR
comp=Z,370nm,12.7s
J26L Joseph Creek 148.57 312 P PKPbc 20 04 36.0 +0.7
baz=105,SNR=318
D27M Malcolm River 148.61 321 P PKiKP 20 04 36.2 -0.4
baz=100,SNR=151
SCRK Sand Creek 148.61 311 P PKiKP 20 04 36.4 -0.4
baz=106,SNR=188
I26K Coal Creek Min 148.61 313 P PKPbc 20 04 35.9 +0.7
baz=104
HNS HongShan 148.63 111 ||PKPbc **PKPdf 20 04 32.8 +0.6**
E27K Coleen River 148.65 319 P PKPbc 20 04 35.8 +0.5
baz=101,SNR=166
HARP HAARP 148.66 307 P PKPbc 20 04 36.2 +0.7
baz=108,SNR=23
KLU Klutina 148.72 306 P PKiKP 20 04 37.0 0.0
baz=108,SNR=17
P23K Montague Islan 148.91 302 P PKiKP 20 04 36.9 -0.5
baz=110,SNR=23
TIA Tai'an 148.96 115 PKPbc **PKPdf 20 04 33.0 +0.1**
PAX Paxson 148.97 308 P PKPbc 20 04 36.8 +0.5
baz=106,SNR=88
M24K Tolsona, Glenn 149.03 307 P PKiKP 20 04 37.9 +0.3
baz=107,SNR=8.6
GLI Glacier Island 149.06 304 P PKPbc 20 04 37.0 +0.5
baz=109,SNR=20
G26K Porcupine Rive 149.23 316 P PKiKP 20 04 37.5 -0.4
baz=101,SNR=189
NRIK Noril'sk 149.26 39 PKPbc 20 04 36.9 +0.1
NRIK Noril'sk 149.26 39 PKPbc **PKiKP 20 04 37.2 -0.6**
comp=Z,46nm,0.9s,baz=313,slow=0.7,SNR=39
K24K Donnelly Dome 149.33 310 P PKPbc 20 04 37.7 +0.6
baz=105,SNR=23
J25K Salcha River, 149.36 312 P PKiKP 20 04 37.8 -0.4
baz=104,SNR=104
HHC Hu-ho-hao-te 149.45 103 *e*PKPbc **PKPbc 20 04 38.0 -0.2**
HHC LR LR
comp=Z,130nm,14.5s
HHC LR LR
comp=Z,160nm,14.4s
SCM Sheep Creek Mo 149.47 306 P PKiKP 20 04 38.8 +0.2
baz=107,SNR=7.1
F26K Sheenjek River 149.50 318 P PKiKP 20 04 38.7 +0.3
baz=100,SNR=185
BMAR Burnt Mountain 149.62 317 PKPdf **PKPdf 20 04 31.2 -1.7**
BMAR PKPbc **PKiKP 20 04 38.3 -0.4**
C27K Jago River 149.63 322 P PKiKP 20 04 38.5 -0.1
baz=97,SNR=12
PRP Porcupine Dome 149.63 313 P PKiKP 20 04 38.6 -0.3
baz=102,SNR=12
PWL Port Wells 149.63 304 P PKiKP 20 04 38.7 -0.1
baz=108,SNR=35
M23K Glacier View 149.63 306 P PKiKP 20 04 38.7 -0.2
baz=107,SNR=11
DHY Denali Highway 149.83 308 P PKiKP 20 04 39.5 0.0
baz=105,SNR=6.4
KNK Knik Glacier 149.86 305 P PKiKP 20 04 39.2 -0.1
baz=107,SNR=30
WAT6 Susitna Watana 149.86 307 P PKiKP 20 04 39.4 0.0
baz=106,SNR=249
H25L Birch Creek 149.90 315 P PKiKP 20 04 39.3 +0.1
baz=101
SML Sawmill 149.91 305 P PKiKP 20 04 39.4 -0.1
baz=106,SNR=10
SEW Seward 149.92 302 P PKiKP 20 04 39.2 -0.2
baz=108,SNR=32
HDA Harding Lake 149.97 311 P PKPbc 20 04 38.9 +0.3
baz=103,SNR=12
MOY Mondy 149.99 77 *e*PKIKP **PKPdf 20 04 33.7 -0.4**
MOY pmax pmax
comp=Z,219nm,1.8s
JCJ Chichijima 150.02 162 PKPbc 20 04 39.1 -0.7
JCJ Chichijima 150.02 162 PKP **PKPdf 20 04 34.8 0.0**
comp=Z,180nm,0.7s,baz=98,slow=15,SNR=16
ILAR Eielson Array 150.03 312 PKPdf 20 04 31.4 -2.2
comp=Z,8.8nm,0.8s,baz=313,slow=1.3,SNR=79
ILAR PKPbc **PKPbc 20 04 38.4 -0.3**
comp=Z,269nm,0.7s,baz=133,slow=2.1,SNR=459
ILAR pPKPbc **pPKPbc 20 05 11.8 -0.9**
comp=Z,70nm,0.9s,baz=73,slow=0.7,SNR=3.7
F25K Christian Rive 150.05 317 P PKiKP 20 04 39.7 +0.1
baz=99,SNR=12
C26K Camden Bay 150.07 322 P PKiKP 20 04 39.9 +0.5
baz=95,SNR=9.4
G25K Bearman Lake 150.10 316 P PKiKP 20 04 40.2 +0.6
baz=100,SNR=11
O22K Cooper Landing 150.17 303 P PKiKP 20 04 39.9 0.0
baz=108,SNR=12
PMR Palmer 150.22 305 P PKiKP 20 04 39.9 -0.1
baz=106,SNR=7.6
WAT1 Susitna Watana 150.29 307 P PKPbc 20 04 39.9 +0.4
baz=104
POKR Poker Plat Res 150.33 312 P PKPbc 20 04 39.5 +0.1
baz=101,SNR=19
RC01 Rabbit Creek A 150.35 304 P PKiKP 20 04 40.7 +0.4
baz=107,SNR=20
BRSE Bradley Lake S 150.42 301 P PKiKP 20 04 40.5 0.0
baz=108,SNR=43
COLA College 150.45 312 PKPbc 20 04 39.4 -0.3
COLA College 150.45 312 P PKPbc 20 04 39.8 +0.1
baz=102
COLA College 150.45 312 PKIKP **PKPbc 20 04 39.4 -0.3**
D25K Kavik River 150.53 321 P PKPbc 20 04 40.2 +0.3
baz=95,SNR=21
ZAK Zakamensk 150.60 80 *e*PKIKP **PKPdf 20 04 34.7 -0.4**
ZAK pmax pmax
comp=Z,131nm,1.2s
G24K Hadweenzic Riv 150.62 315 P PKiKP 20 04 41.2 +0.4
baz=99,SNR=14
H24K Noodor Dome 150.65 314 P PKiKP 20 04 40.8 -0.1
baz=100,SNR=13
MCK McKinley 150.67 309 P PKiKP 20 04 41.1 +0.1
baz=103,SNR=8.2
M22K Willow 150.72 305 P PKiKP 20 04 41.3 +0.3
baz=105,SNR=42
OHAK Old Harbor 150.82 295 P PKiKP 20 04 41.6 +0.3
baz=111,SNR=39
HOM Homer 150.83 300 P PKiKP 20 04 41.6 +0.3
baz=108
Q20K Shuyak Island 150.86 298 P PKiKP 20 04 41.8 +0.4
baz=109,SNR=12
F24K Squaw Lake 150.90 317 P PKiKP 20 04 41.7 +0.4
baz=97,SNR=13
NEA2 Nenana 150.91 311 P PKPbc 20 04 41.0 +0.1
baz=101,SNR=12
SUA Susitna One 150.93 304 P PKiKP 20 04 41.9 +0.2
baz=105,SNR=28
CUT Chulitna 150.95 306 P PKiKP 20 04 41.9 +0.4
baz=104,SNR=43
SONM Songino Array 150.97 87 PKPdf **PKPdf 20 04 35.4 -0.4**
SONM PKPbc **PKPbc 20 04 41.5 -0.2**
SONM Songino Array 150.97 87 PKPbc **PKPbc 20 04 41.9 +0.2**
comp=Z,177nm,0.6s,baz=190,slow=2.0,SNR=25
SONM pPKPbc **pPKPbc 20 05 16.1 +0.1**
comp=Z,20nm,0.9s,baz=202,slow=4.2,SNR=2.0
SONM Songino Array 150.97 87 PKIKP **PKPdf 20 04 35.4 -0.4**
SII Sitkinak Islan 151.03 293 P PKiKP 20 04 42.3 +0.5
baz=112,SNR=26
I23K Minto, Yukon-K 151.13 312 P PKPbc 20 04 41.2 -0.1
baz=100,SNR=6.6
E24K Your Creek 151.18 318 P PKiKP 20 04 42.2 +0.3
baz=95,SNR=18
H23K Yukon River 151.32 313 P PKiKP 20 04 42.3 +0.1
baz=98,SNR=12
BJI Beijing 151.35 109 PKPbc **PKPdf 20 04 36.3 -0.1**
BJI AMB AMB
comp=Z,99nm,9.2s
ULN Ulaanbaatar 151.35 87 PKPdf **PKPdf 20 04 36.2 -0.3**
ULN Ulaanbaatar 151.35 87 PKIKP **PKPdf 20 04 36.2 -0.3**
C24K Franklin Bluff 151.37 321 P PKiKP 20 04 42.1 0.0
baz=92
D24K Happy Valley 151.39 320 P PKiKP 20 04 42.4 +0.2
baz=93,SNR=26
SKT Skwentna 151.42 305 P PKiKP 20 04 42.7 +0.2
baz=104,SNR=15
O20K Slope Mountain 151.43 301 P PKiKP 20 04 42.7 0.0
baz=107,SNR=6.4
CHIR Chirikof Islan 151.49 291 P PKiKP 20 04 43.3 +0.5
baz=112,SNR=10
R18K Karluk 151.53 295 P PKiKP 20 04 43.0 +0.2
baz=110
N20K Mount Spurr 151.54 303 P PKPbc 20 04 42.7 +0.2
baz=105,SNR=18
SPCR Spurr Chakacha 151.54 303 P PKPdf 20 04 31.9 -4.2
baz=105,SNR=16
Q19K Cape Douglas, 151.58 298 P PKiKP 20 04 43.0 0.0
baz=108,SNR=12
P19K Oil Pt 151.60 300 P PKPbc 20 04 42.8 +0.2
baz=107,SNR=17
E23K Chandalar 151.60 318 P PKiKP 20 04 42.8 0.0
baz=94,SNR=16
TOLK Toolik Lake Re 151.63 319 P PKiKP 20 04 43.2 +0.4
baz=93,SNR=24
G23K Bananza Creek 151.63 315 P PKiKP 20 04 43.7 +0.8
baz=96,SNR=14
BPAW Bear Paw Mtn. 151.64 309 P PKiKP 20 04 43.1 +0.1
baz=100,SNR=19
MLY Manley 151.69 311 P PKPbc 20 04 42.4 -0.3
baz=99,SNR=11
COLD Coldfoot 151.75 316 P PKiKP 20 04 43.9 +0.8
baz=95,SNR=17
C23K Itkillik River 152.04 322 P PKiKP 20 04 44.0 +0.5
baz=90,SNR=18
D23K Nanushuk River 152.05 320 P PKiKP 20 04 44.1 +0.5
baz=92,SNR=9.5
IRK Irkutsk 152.05 78 *e*PKIKP **PKPdf 20 04 36.4 -0.7**
IRK *e* 20 08 27.2
IRK pmax pmax
comp=Z,245nm,0.6s
H22K Ishtalitna Cre 152.08 313 P PKiKP 20 04 44.1 +0.3
baz=97,SNR=12
M20K Styx River 152.13 304 P PKPbc 20 04 44.0 +0.2
baz=103,SNR=5.3
Q18K Katmai Hardscr 152.16 297 P PKPbc 20 04 44.1 +0.1
baz=108,SNR=18
G22K Bettles 152.24 315 P PKiKP 20 04 44.6 +0.6
baz=95
Q17K Contact Creek 152.48 296 P PKPbc 20 04 44.9 +0.2
baz=108,SNR=26
P18K Big Mountain, 152.49 299 P PKPbc 20 04 44.5 -0.2
baz=106,SNR=18
N19K Bonanza Creek 152.51 302 P PKPbc 20 04 44.5 -0.2
baz=104,SNR=42
R17L Mt. Peulik Vol 152.52 295 P PKiKP 20 04 45.4 +0.4
baz=109,SNR=17
F22K John River 152.54 317 P PKiKP 20 04 45.5 +0.8
baz=93,SNR=15
JNU Nakatsue 152.55 138 PKPbc **PKPbc 20 04 45.7 +0.1**
comp=Z,53nm,0.6s,baz=319,slow=1.8,SNR=66
L20K Farewell, AK 152.61 306 P PKPbc 20 04 44.5 -0.3
baz=101,SNR=21
O18K Koktuh Hills 152.61 300 P PKPbc 20 04 45.0 +0.1
baz=106,SNR=60
H21K Melozitna Rive 152.63 313 P PKiKP 20 04 45.4 +0.5
baz=96,SNR=16
M19K Big River Lodg 152.72 304 P PKiKP 20 04 45.3 0.0
baz=102
D22K Ayikyak River 152.77 320 P PKiKP 20 04 46.0 +0.8
baz=90,SNR=8.8
K20K Telida 152.85 307 P PKPbc 20 04 45.4 +0.1
baz=100,SNR=30
B22K Teshekpuk Lake 152.99 323 P PKiKP 20 04 45.9 +0.4
baz=86,SNR=6.2
L19K White Mountain 152.99 305 P PKPbc 20 04 45.7 0.0
baz=101,SNR=11
G21K Allakaket 153.00 314 P PKiKP 20 04 46.3 +0.7
baz=94,SNR=15
J20K Nowinta River 153.02 309 P PKiKP 20 04 46.0 +0.2
baz=98,SNR=6.9
F21K Alatna River 153.03 316 P PKiKP 20 04 46.4 +0.7
baz=92,SNR=16
P17K Kvichak River 153.03 298 P PKPbc 20 04 45.8 0.0
baz=106,SNR=11
CHGN Chignik 153.13 291 P PKPbc 20 04 45.9 -0.1
baz=110,SNR=9.2
N18K Kilae Creek 153.15 301 P PKPbc 20 04 46.2 +0.1
baz=104,SNR=15
CHNA Chernabura Isl 153.20 287 P PKiKP 20 04 46.4 0.0
baz=113,SNR=16
I20K Naaghedeneel 153.24 310 P PKiKP 20 04 47.0 +0.8
baz=96,SNR=15
E21K Killik River 153.24 319 P PKiKP 20 04 46.7 +0.5
baz=90,SNR=8.9
M18K Stony River 153.30 303 P PKiKP 20 04 46.6 +0.2
baz=102,SNR=8.2
DL2 Dalian 153.31 117 PKPbc **PKPbc 20 04 46.8 -0.2**
DL2 sPKP 20 04 59.5
B21K Ikpikpuk River 153.44 321 P PKiKP 20 04 47.3 +0.9
baz=87,SNR=12
A22K Sinclair Lake 153.44 324 P PKiKP 20 04 47.0 +0.6
baz=84
H20K Anotleneega Mo 153.48 312 P PKiKP 20 04 47.9 +1.2
baz=95,SNR=20
O17K Koliganek Bris 153.51 299 P PKPbc 20 04 46.8 +0.1
baz=104,SNR=18
C21K Knifeblade Rid 153.52 320 P PKiKP 20 04 47.4 +0.7
baz=88,SNR=6.9
J19K Poorman 153.63 309 P PKiKP 20 04 47.8 +0.8
baz=97,SNR=11
S14K Fog Glacier 153.72 290 P PKiKP 20 04 48.0 +0.4
baz=110,SNR=9.3
N17K Nushagak Hills 153.74 301 P PKiKP 20 04 48.1 +0.8
baz=103,SNR=6.1
P16K Nushagak River 153.76 297 P PKiKP 20 04 48.7 +1.4
baz=105
L18K Granite Mounta 153.84 304 P PKiKP 20 04 48.6 +1.1
baz=100,SNR=16
SDPT Sand Point 153.87 288 P PKPbc 20 04 47.7 +0.1
baz=111,SNR=14
F20K Avaraart Lake 153.90 315 P PKiKP 20 04 47.7 +0.3
baz=91,SNR=7.1
O16K Kokwok River B 153.96 298 P PKPbc 20 04 47.5 -0.2
baz=104,SNR=9.4
XLT XiLinHaoTe 153.97 103 *e*PKPbc **PKPdf 20 04 40.8 +0.5**
XLT PKPab **PKPab 20 05 02.8 +0.4**
XLT PP **PP 20 08 38.0 -0.1**
M17K Holitna River 154.04 302 P PKiKP 20 04 49.1 +1.1
baz=101,SNR=19
J18K Innoko River 154.05 307 P PKiKP 20 04 49.0 +1.1
baz=97,SNR=14
E20K Nigu River 154.07 318 P PKiKP 20 04 48.6 +0.7
baz=88,SNR=18
H19K Roundabout Mou 154.13 312 P PKiKP 20 04 48.8 +0.9
baz=93,SNR=12
D20K Etivluk River 154.20 319 P PKiKP 20 04 48.8 +0.7
baz=87,SNR=12
GCSA Galena City Sc 154.26 310 P PKiKP 20 04 49.2 +0.9
baz=95,SNR=8.6
B20K Meade River 154.28 322 P PKiKP 20 04 49.0 +0.9
baz=83
G19K Purcell Mounta 154.42 313 P PKiKP 20 04 49.5 +0.9
baz=92,SNR=8.1
E19K Redstone River 154.48 316 P PKiKP 20 04 49.3 +0.6
baz=89,SNR=6.9
N16K Nishlik Lake 154.49 300 P PKiKP 20 04 50.1 +1.2
baz=102,SNR=5.8
L17K Donlin 154.57 304 P PKiKP 20 04 50.1 +1.1
baz=99,SNR=7.8
K17K Iditarod 154.66 305 P PKiKP 20 04 50.1 +1.0
baz=98,SNR=11
M16K Timber Creek 154.69 301 P PKiKP 20 04 50.5 +1.2
baz=101,SNR=5.8
F19K Shaleruckik Mo 154.71 315 P PKiKP 20 04 49.9 +0.7
baz=89,SNR=10.0
O15K Ungalikthiuk R 154.71 297 P PKiKP 20 04 50.1 +0.7
baz=104
D19K Kuna River 154.77 319 P PKiKP 20 04 50.1 +0.8
baz=86,SNR=10.0
S12K Black Hills 154.84 288 P PKiKP 20 04 50.2 +0.4
baz=110,SNR=9.2
H18K Honhosa River 154.91 311 P PKiKP 20 04 50.6 +1.0
baz=92,SNR=7.7
G18K Tagagawik 155.06 313 P PKPdf 20 04 50.8 +10
baz=91,SNR=8.5
L16K Owhat River 155.06 303 P PKPdf 20 04 51.1 +10
baz=99,SNR=6.1
N15K Kwethluk River 155.07 299 P PKPdf 20 04 51.4 +10
baz=102,SNR=6.3
KSAR Wonju Array Be 155.07 128 PKPdf **PKPdf 20 04 41.0 -0.9**
KSAR Wonju Array Be 155.07 128 PKIKP **PKPdf 20 04 41.0 -0.9**
J17K VABM Dome 155.09 307 P PKPdf 20 04 51.5 +10
baz=96,SNR=5.5
KSRS Korea Array 155.10 128 PKP **PKPdf 20 04 41.9 0.0**
comp=Z,3.1nm,0.8s,baz=212,slow=1.6,SNR=14
KSRS PKPab **PKPab 20 05 07.7 +0.4**
comp=Z,8.7nm,0.8s,baz=219,slow=4.2,SNR=11
C19K Lookout Ridge 155.24 320 PKPdf 20 04 50.9 +10
C19K Lookout Ridge 155.24 320 P PKPdf 20 04 51.4 +10
baz=83,SNR=5.6
O14K Tigyukauivet M 155.45 297 P PKPab 20 05 09.1 +0.9
baz=103,SNR=6.8
F18K Selawik 155.46 314 P PKPab 20 05 09.0 +1.0
baz=88,SNR=7.3
M15K Kasigluk River 155.46 300 P PKPab 20 05 09.6 +1.5
baz=100,SNR=7.1
H17K Granite Mounta 155.56 310 P PKPab 20 05 09.9 +1.4
baz=92,SNR=5.3
A19K Wainwright 155.58 323 P PKPab 20 05 09.7 +1.3
baz=79
J16K Anvik River 155.77 306 P PKPab 20 05 10.9 +1.5
baz=95
E18K Tukpahlearik C 155.78 316 P PKPab 20 05 10.3 +0.9
baz=86,SNR=7.7
N14K Kuskokwak Cree 155.80 298 P PKPab 20 05 11.4 +1.8
baz=101,SNR=9.8
I17K Unalakleet 155.85 308 PKPab **PKPab 20 05 10.4 +0.6**
I17K Unalakleet 155.85 308 P PKPab 20 05 11.4 +1.7
baz=93,SNR=6.6
C18K Utukok River 155.88 320 P PKPab 20 05 11.2 +1.3
baz=82
G17K Kiwalik Mounta 155.88 312 P PKPab 20 05 11.2 +1.3
baz=90,SNR=5.2
B18K Kokolik River 155.98 321 P PKPab 20 05 12.0 +1.8
baz=80,SNR=6.3
L15K Ungalak Mounta 156.00 302 P PKPab 20 05 12.0 +1.5
baz=98,SNR=5.5
M14K Bethel 156.09 300 P PKPab 20 05 12.0 +1.2
baz=99
K15K Wolf Creek Mou 156.10 304 P PKPab 20 05 12.6 +1.7
baz=96
F17K Baldwin Pennin 156.10 314 P PKPab 20 05 11.9 +1.1
baz=87
E17K Hotham Inlet 156.29 316 P PKPab 20 05 12.7 +1.2
baz=85,SNR=16
L14K Kuka Creek 156.52 301 PKPab 20 05 13.6 +0.9
L14K Kuka Creek 156.52 301 P PKPab 20 05 13.3 +0.6
baz=97
H16K Elim 156.55 310 P PKPab 20 05 14.0 +1.2
baz=90,SNR=6.8
UNV Unalaska Valle 156.56 282 P PKPab 20 05 13.4 +0.3
baz=112
RDOG Red Dog Mine 156.59 318 P PKPab 20 05 14.1 +1.2
baz=82,SNR=8.3
G16K Koyuk River 156.59 312 P PKPab 20 05 14.6 +1.7
baz=88,SNR=6.3
C17K DeLong Mountai 156.62 319 P PKPab 20 05 14.6 +1.6
baz=80,SNR=11
INU Inuyama 156.67 147 PKPab 20 05 15.3 +1.3
D17K Noatak River 156.70 317 P PKPab 20 05 14.5 +1.2
baz=82,SNR=11
M13K Dall Lake 156.71 299 P PKPab 20 05 15.3 +1.8
baz=99,SNR=5.6
CIT Chita 157.07 84 *e*PKP2 **PKPab 20 05 16.7 +1.3**
CIT *e* 20 08 59.9
CIT pmax pmax
comp=Z,107nm,2.0s
J14K Nanvaranak Lak 157.07 305 pPKPdf 20 05 16.9 -1.0
J14K Nanvaranak Lak 157.07 305 P pPKPdf 20 05 17.0 -1.0
baz=94
G15K Niukluk 157.32 311 P PKPab 20 05 17.6 +1.5
baz=88,SNR=18
C16K Lisburne Hills 157.45 319 P PKPab 20 05 17.9 +1.4
baz=78,SNR=6.4
NIKH Nikolski High 157.51 278 P PKPab 20 05 18.1 +0.8
baz=114
K13K Kusilvak Mount 157.52 303 P PKPab 20 05 18.6 +1.5
baz=94,SNR=8.4
F15K North Star Dit 157.53 312 P PKPab 20 05 18.5 +1.5
baz=85,SNR=6.1
ANM Nome 157.91 309 P PKPab 20 05 19.4 +0.7
baz=88
M11K Mekoryuk 158.11 298 P PKPab 20 05 21.5 +2.0
baz=97
MAJO Matsushiro 158.13 148 PKPdf 20 04 44.3 -1.6
MAJO Matsushiro 158.13 148 PKIKP **PKPdf 20 04 44.3 -1.6**
MJAR Matsushiro Arr 158.13 148 PKP **PKPdf 20 04 46.1 +0.1**
comp=Z,6.4nm,1.2s,baz=196,slow=1.9,SNR=14
MJAR PKPab **PKPab 20 05 21.2 +0.9**
comp=Z,12nm,0.7s,baz=185,slow=4.8,SNR=18
MJAR PP **PP 20 08 58.9 -1.6**
comp=Z,3.8nm,1.1s,baz=193,slow=5.0,SNR=3.0
F14K Arctic Creek 158.25 312 P PKPab 20 05 21.2 +1.1
baz=84,SNR=5.2
CN2 Changchun 158.87 115 PKP **PKPdf 20 04 46.3 -0.2**
CN2 LR LR
comp=Z,100nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,14.0s
TNA Tin City 158.90 312 P PKPab 20 05 24.4 +1.5
baz=82
BOD Bodaibo 159.22 69 *e*PKIKP **PKPdf 20 04 44.6 -1.9**
BOD pmax pmax
comp=Z,30nm,1.4s
SPIA Saint Paul Isl 159.61 288 P PKPab 20 05 27.5 +1.3
baz=103
GAMB Gambell 160.73 308 P PKPab 20 05 31.3 +0.4
baz=83
BNX BinXian 161.22 113 ||PKP **PKPdf 20 04 47.5 -1.6**
ADK Adak 161.42 270 PKPdf **PKPdf 20 04 46.2 -2.9**
ADK PKPab **PKPab 20 05 33.2 -1.1**
ADK Adak 161.42 270 PKIKP **PKPdf 20 04 46.2 -2.9**
ADK PKP **PKPab 20 05 33.2 -1.1**
MDJ Mudanjiang 161.52 119 PKP **PKPdf 20 04 49.0 -0.4**
TIXI Tiksi 161.58 24 PKPab **PKPab 20 05 35.1 +0.7**
comp=Z,24nm,0.7s,baz=347,slow=3.1,SNR=7.9
USRK Ussuriysk Ar. 162.35 124 PKP **PKPdf 20 04 49.7 -0.6**
comp=Z,2.6nm,0.9s,baz=268,slow=6.9,SNR=5.8
USRK PKPab **PKPab 20 05 38.3 -0.2**
comp=Z,7.6nm,0.6s,baz=207,slow=4.9,SNR=16
HEH HeiHe 163.96 101 PKP **PKPdf 20 04 50.8 -0.8**
ZEA Zeya 165.38 89 *e*PKIKP **PKPdf 20 04 51.9 -0.8**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
KLR Kul'dur 165.72 111 PKP **PKPdf 20 04 53.0 -0.2**
comp=Z,4.7nm,0.7s,baz=281,slow=1.0,SNR=12
KLR PKPab **PKPab 20 05 52.3 -1.0**
comp=Z,18nm,1.0s,baz=259,slow=3.6,SNR=13
KLR PP **PP 20 09 38.5 -2.9**
comp=Z,1.0nm,0.6s,baz=216,slow=6.7,SNR=4.0
ASAJ Asahikawa 166.41 149 PKP **PKPdf 20 04 54.5 +0.7**
comp=Z,22nm,1.3s,baz=224,slow=9.8,SNR=4.6
ASAJ PKPab **PKPab 20 05 55.4 -0.9**
comp=Z,7.7nm,0.7s,baz=208,slow=5.9,SNR=5.8
BILL Bilibino 166.50 337 *d i* PKIKP **PKPdf 20 04 49.4 -3.8**
BILL 20 05 22.0
BILL *e*PPS PPS 20 23 35.7
BILL SSS SSS 20 36 53.0
BILL pmax pmax
comp=Z,32nm,2.2s
YAK Yakutsk 166.99 54 PKP **PKPdf 20 04 51.8 -1.9**
comp=Z,15nm,0.4s,baz=11,slow=0.8,SNR=7.5
YAK PKPab **PKPab 20 05 58.8 +0.2**
comp=Z,26nm,0.7s,baz=3.6,slow=1.9,SNR=8.5
YSS Yuzh-Sakhalins 169.00 143 PKPdf 20 04 53.3 -2.2
YSS PKPab **PKPab 20 06 07.0 -0.8**
YSS Yuzh-Sakhalins 169.00 143 *i* PKIKP **PKPdf 20 04 54.8 -0.8**
YSS *e* 20 06 08.8
SEY Seymchan 173.23 0 PKP **PKPdf 20 04 55.0 -2.2**
comp=Z,11nm,0.9s,baz=75,slow=1.6,SNR=15
SEY PKPab **PKPab 20 06 26.5 +0.4**
comp=Z,6.6nm,0.8s,baz=320,slow=3.4,SNR=5.1

JMA ***25*** *19:45:33.2±0.1,24°.4N±0°.8×122°.3E±0°.3,h45km±3km, MV2.0/12,TAIWAN REGION*
TAP ***25*** *19:45:33.4,24°.50N×122°.27E,h6km,ML2.7,C*
ISC 25 19:45:32.9±0.9,24°.51N±0°.02×122°.34E±0°.02,h15km±6km, n74,o0°77/117,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.13**	**227**	⇑ *i* P	**Pg**	**19 45 36.3**	**-0.1**
	baz=239						
EOS2				*i* S	**Sg**	**19 45 38.9**	**+0.2**
	baz=239						
EOS3	**EOS3**	**0.22**	**184**	*i* P	**Pg**	**19 45 38.3**	**+0.5**
	baz=189						
EOS3				S	**Sg**	**19 45 41.9**	**+0.8**
	baz=189						
EOS4	**EOS4**	**0.39**	**182**	*i* P	**Pb**	**19 45 41.3**	**+0.1**
	baz=158						
EOS4				*i* S	**Sb**	**19 45 47.2**	**+0.4**
	baz=158						
ESAO	**Su ao**	**0.45**	**278**	*eP*	**Pg**	**19 45 41.4**	**-0.5**
	baz=281						
ESAO				*eS*	**Sg**	**19 45 46.7**	**-1.3**
	baz=281						
TWC	**Suao**	**0.46**	**283**	*eP*	**Pg**	**19 45 41.4**	**-0.6**
	baz=286						
TWC				*i* S	**Sb**	**19 45 48.9**	**-0.3**
	baz=286						
EWUT	**Wuta**	**0.51**	**263**	P	**Pg**	**19 45 42.3**	**-0.7**
	baz=275						
EWUT				*eS*	**Sg**	**19 45 49.4**	**-0.5**
	baz=275						
ENA	**Nanau**	**0.55**	**262**	*eP*	**Pg**	**19 45 43.4**	**-0.3**
	baz=273						
ENA				S	**Sg**	**19 45 49.5**	**-1.6**
	baz=273						
JYNG	**Yonagunijimaku**	**0.56**	**96**	P	**Pb**	**19 45 45.1**	**+0.8**
JYNG				*eS*	**Sn**	**19 45 54.7**	**-0.6**
EAHA	**Aohua**	**0.57**	**252**	*eP*	**Pg**	**19 45 43.9**	**-0.2**
	baz=251						
EAHA				*eS*	**Sg**	**19 45 50.7**	**-1.1**
	baz=251						
NDS	**Dongshan**	**0.58**	**282**	*eP*	**Pb**	**19 45 44.7**	**0.0**
	baz=285						
NDS				S	**Sb**	**19 45 52.5**	**-0.2**
	baz=285						
TWB1	**Santiao Chiao**	**0.59**	**328**	*i* P	**Pb**	**19 45 44.8**	**-0.1**
	baz=333						
ILA	**Ilan**	**0.59**	**296**	*eP*	**Pb**	**19 45 45.5**	**+0.6**
	baz=299						
ILA				*eS*	**Sb**	**19 45 52.9**	**-0.2**
	baz=299						
YOJ	**Yonaguni jima**	**0.62**	**94**	*i* P	**Pb**	**19 45 46.2**	**+0.9**
	baz=93						
YOJ				*i* S	**Sn**	**19 45 56.5**	**-0.3**
	baz=93						
YOJ	**Yonaguni jima**	**0.62**	**94**	*eP*	**Pb**	**19 45 46.2**	**+0.9**
YOJ				*eS*	**Sn**	**19 45 56.1**	**-0.6**
TWE	**Neicheng**	**0.64**	**289**	*eP*	**Pb**	**19 45 45.2**	**-0.6**
	baz=292						
TWE				S	**Sb**	**19 45 54.3**	**-0.3**
	baz=292						
TIPB	**Shuangxi**	**0.65**	**315**	*eP*	**Pb**	**19 45 45.9**	**-0.2**
	baz=319						
ENTT	**Nioudou**	**0.71**	**281**	*eP*	**Pb**	**19 45 46.7**	**-0.3**
	baz=282						
ENTT				*i* S	**Sb**	**19 45 56.0**	**-0.6**
	baz=282						
SXI1	**Grass Mountain**	**0.72**	**324**	*i* P	**Pb**	**19 45 47.6**	**+0.5**
	baz=329						
SXI1				*eS*	**Sn**	**19 45 58.5**	**-0.9**
	baz=329						
FUSB	**Fushanzhiwuyua**	**0.72**	**290**	*eP*	**Pb**	**19 45 47.4**	**+0.1**
	baz=293						
FUSB				*eS*	**Sb**	**19 45 57.2**	**+0.2**
	baz=293						
ETL	**Fush Village**	**0.74**	**242**	P	**Pb**	**19 45 47.5**	**0.0**
	baz=240						
LATG	**Datong**	**0.74**	**272**	P	**Pb**	**19 45 47.2**	**-0.3**
	baz=273						
LATG				*eS*	**Sb**	**19 45 57.3**	**-0.2**
	baz=273						
NWF	**Wu-fen Shan**	**0.75**	**318**	*i* P	**Pn**	**19 45 48.6**	**-0.5**
	baz=311						
NWF				*i* S	**Sb**	**19 45 58.6**	**+0.7**
	baz=311						
WFSB	**Wu-fen Shan**	**0.75**	**318**	*eP*	**Pn**	**19 45 48.8**	**-0.2**
	baz=313						
WFSB				*eS*	**Sb**	**19 45 58.8**	**+1.0**
	baz=313						
NACB	**Ninganchiao**	**0.75**	**244**	*eP*	**Pg**	**19 45 46.9**	**-0.7**
	baz=242						
NACB				*eS*	**Sg**	**19 45 56.8**	**-0.8**
	baz=242						
NDT	**Datong Townshi**	**0.76**	**277**	*eP*	**Pg**	**19 45 47.1**	**-0.5**
	baz=278						
NDT				*eS*	**Sb**	**19 45 58.1**	**+0.2**
	baz=278						
NWLT	**Wulai**	**0.80**	**290**	P	**Pb**	**19 45 48.6**	**0.0**
	baz=281						
NWLT				*i* S	**Sg**	**19 45 58.3**	**-0.8**
	baz=281						
TNOU	**National Taiwa**	**0.82**	**321**	*eP*	**Pn**	**19 45 49.5**	**-0.3**
	baz=315						
TWA	**Mucha**	**0.83**	**305**	*i* P	**Pn**	**19 45 49.7**	**-0.3**
	baz=308						
TWA				*i* S	**Sb**	**19 46 00.5**	**+0.5**
	baz=308						
ETLH	**Xiulin Townshi**	**0.83**	**249**	*eP*	**Pg**	**19 45 48.5**	**-0.6**
	baz=248						
NHDH	**Xindian Distri**	**0.86**	**302**	*eP*	**Pn**	**19 45 50.6**	**+0.1**
	baz=304						
NHDH				*eS*	**Sn**	**19 46 02.4**	**-0.4**
	baz=304						
NNSB	**Datong**	**0.87**	**265**	*eP*	**Pg**	**19 45 49.2**	**-0.6**
	baz=265						
NNSB				S	**Sg**	**19 46 00.3**	**-1.0**
	baz=265						
NNS	**Nan Shan**	**0.88**	**266**	*eP*	**Pb**	**19 45 49.7**	**-0.2**
	baz=266						
NNS				S	**Sg**	**19 46 00.0**	**-1.6**
	baz=266						
YHNB	**Yeheng**	**0.89**	**281**	*eP*	**Pb**	**19 45 50.4**	**+0.3**
	baz=282						
YHNB				S	**Sb**	**19 46 02.5**	**+0.7**
	baz=282						
NSK	**Sanguang**	**0.91**	**281**	*eP*	**Pn**	**19 45 51.0**	**-0.1**
	baz=282						
NSK				*i* S	**Sb**	**19 46 02.1**	**-0.2**
	baz=282						
TAP	**Taipei**	**0.92**	**305**	P	**Pn**	**19 45 52.1**	**+0.8**
	baz=308						
TAP				*eS*	**Sn**	**19 46 03.7**	**-0.6**
	baz=308						
TEYL	**Yanliau Villag**	**0.93**	**227**	*eS*	**Sn**	**19 46 05.6**	**+1.2**
	baz=226						
ETM	**Tongmen**	**0.94**	**235**	*eP*	**Pb**	**19 45 50.9**	**0.0**
	baz=244						
YM08	**YM08**	**0.96**	**315**	*eP*	**Pn**	**19 45 51.5**	**-0.3**
	baz=308						
YM08				*eS*	**Sn**	**19 46 05.8**	**+0.6**
	baz=308						
LXIB	**Xiulin Townshi**	**0.97**	**240**	*eP*	**Pn**	**19 45 52.4**	**+0.3**
	baz=249						
LXIB				S	**Sn**	**19 46 07.3**	**+1.6**
	baz=249						
ANP	**Anpu**	**1.00**	**312**	*eP*	**Pn**	**19 45 53.2**	**+0.7**
	baz=305						
ANP				*eS*	**Sn**	**19 46 07.5**	**+1.1**
	baz=305						
SHUL	**Shoufeng**	**1.01**	**225**	*eP*	**Pb**	**19 45 52.1**	**0.0**
	baz=205						
SHUL				*eS*	**Sn**	**19 46 07.6**	**+1.2**
	baz=205						
TWY	**Chenhua**	**1.01**	**319**	*i* P	**Pb**	**19 45 52.1**	**-0.1**
	baz=321						
TWY				*eS*	**Sn**	**19 46 06.7**	**+0.2**
	baz=321						
TWS1	**Kuangyinshan**	**1.02**	**305**	*eP*	**Pn**	**19 45 54.2**	**+1.5**
	baz=298						
TWS1				*eS*	**Sn**	**19 46 07.5**	**+0.8**
	baz=298						
FUSS	**Fushou**	**1.03**	**256**	*eP*	**Pb**	**19 45 52.8**	**+0.2**
	baz=255						
FUSS				S	**Sg**	**19 46 05.4**	**-1.0**
	baz=255						
NTST	**Danshui**	**1.04**	**309**	*eP*	**Pn**	**19 45 54.6**	**+1.8**
	baz=302						
NTST				*eS*	**Sn**	**19 46 09.1**	**+2.0**
	baz=302						
WHF	**Hehuan Shan**	**1.04**	**250**	*eP*	**Pb**	**19 45 53.0**	**+0.1**
	baz=261						
WHF				S	**Sg**	**19 46 05.8**	**-1.0**
	baz=261						
ESL	**Shilin**	**1.08**	**230**	P	**Pn**	**19 45 53.5**	**+0.1**
	baz=215						
TDCB	**Techi**	**1.10**	**257**	*eP*	**Pn**	**19 45 54.4**	**+0.4**
	baz=256						
NFF	**Wufeng Townshi**	**1.12**	**277**	*eP*	**Pn**	**19 45 54.8**	**+0.8**
	baz=277						
PCYT	**Pengchaiyu**	**1.14**	**348**	*eP*	**Pn**	**19 45 54.6**	**+0.3**
	baz=350						
NCUH	**Zhongli**	**1.14**	**294**	*eP*	**Pn**	**19 45 56.9**	**+2.6**
	baz=304						
NCUH				*eS*	**Sn**	**19 46 12.3**	**+2.6**
	baz=304						
CHGB	**Renai**	**1.15**	**247**	*eP*	**Pg**	**19 45 54.1**	**-1.0**
	baz=246						
WARBT	**Fenglin Townsh**	**1.17**	**228**	*eP*	**Pb**	**19 45 54.5**	**-0.3**
	baz=226						
EGFH	**Guangfu**	**1.18**	**225**	*eP*	**Pn**	**19 45 55.1**	**+0.3**
	baz=206						
OWD	**Renai**	**1.20**	**243**	*eP*	**Pn**	**19 45 56.2**	**+1.1**
	baz=242						
LIOB	**Emei**	**1.21**	**277**	*eP*	**Pg**	**19 45 56.5**	**+0.3**
	baz=277						
NSTT	**Nanjuang**	**1.22**	**276**	*eP*	**Pg**	**19 45 57.5**	**+1.1**
	baz=276						
WUSB	**Renai**	**1.23**	**245**	*eP*	**Pb**	**19 45 55.7**	**-0.1**
	baz=244						
IRIF	**Iriomote-Funau**	**1.28**	**97**	*eP*	**Pn**	**19 45 55.9**	**-0.3**
IRIF				*eS*	**Sb**	**19 46 13.1**	**0.0**
WHP	**Taichung City**	**1.29**	**260**	*eP*	**Pg**	**19 45 58.8**	**+1.1**
	baz=259						
HGSD	**Ruisui**	**1.31**	**220**	*eP*	**Pn**	**19 45 56.9**	**+0.3**
	baz=203						
VWDT	**VWDT**	**1.33**	**236**	*eP*	**Pn**	**19 45 56.8**	**0.0**
	baz=234						
EHY	**Hungye**	**1.36**	**223**	*eP*	**Pn**	**19 45 56.5**	**-0.8**
	baz=221						
WCS	**Beigang Elemen**	**1.38**	**251**	*eP*	**Pg**	**19 45 59.6**	**+0.2**
	baz=250						
SMLT	**Sun Moon Lake**	**1.45**	**245**	*eP*	**Pg**	**19 46 00.5**	**-0.3**
	baz=243						
SSLB	**Suanglung**	**1.45**	**241**	*eP*	**Pg**	**19 46 00.1**	**-0.8**
	baz=239						
YULB	**Yu-li**	**1.46**	**221**	*eP*	**Pn**	**19 45 58.4**	**-0.3**
	baz=205						
EYUL	**Yuli**	**1.48**	**219**	*eP*	**Pb**	**19 46 00.1**	**-0.1**
	baz=205						
TWF1	**Yuli**	**1.49**	**220**	*eP*	**Pb**	**19 46 00.7**	**+0.4**
	baz=205						
JKRS	**Kuro-shima**	**1.55**	**100**	*eS*	**Sn**	**19 46 19.4**	**-0.4**
WHYT	**Xinyi Township**	**1.58**	**239**	*eP*	**Pg**	**19 46 03.4**	**+0.1**
	baz=228						
JIJ	**Ishigaki jima**	**1.65**	**95**	*eS*	**Sn**	**19 46 21.5**	**-0.9**
JISG	**Ishigakijimahi**	**1.80**	**87**	*eP*	**Pn**	**19 46 03.4**	**0.0**
JISG				*eS*	**Sn**	**19 46 25.3**	**-0.6**
SLGT	**Liugui**	**2.16**	**226**	*eP*	**Pb**	**19 46 11.0**	**-0.7**
	baz=212						
SLGT				*eS*	**Sb**	**19 46 38.9**	**+0.5**
	baz=212						

NEIC ***25*** *19:45:58.8±1.3, 35°.093N±0°.010×97°.57W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=2.2km az=121.0*

TUL 25 19:45:59.1±1.4, 35°.084N±0°.007×97°.58W±0°.01, h5km±3km, ML2.4, mb_Lg2.2/17(NEIC), ML2.2/33(NEIC), Error ellipse: s-maj=1.8km s-min=0.5km az=120.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.23**	**41**		Pg	19 46 03.2	-0.4
FNO					Sg	19 46 06.8	+0.1
FNO				IAML		19 46 11.4	
	comp=E,484nm,0.8s						
FNO				IAML		19 46 11.4	
	comp=N,396nm,0.7s						
X34A	**Smith Ranch, M**	**0.52**	**203**	Pg	Pg	19 46 08.4	-0.8
X34A				Sg	Sb	19 46 17.7	-1.0
X34A				IAML		19 46 18.0	
	comp=N,128nm,0.4s						
OK029	**Liberty Lake**	**0.72**	**8**	Pg	Pg	19 46 12.8	-0.2
WMOK	**Wichita Mounta**	**1.04**	**251**	Pg	Pg	19 46 17.8	-1.3
CSTR	**Hydro, Custer**	**1.06**	**302**	Pg	Pg	19 46 19.5	0.0
OK052	**Battle Ridge R**	**1.11**	**35**	Pg	Pg	19 46 19.8	-0.5
LOOK	**Love County**	**1.14**	**163**	Pg	Pg	19 46 20.4	-0.5
LOOK				IAML		19 46 42.1	
	comp=N,65nm,0.2s						
LOOK				IAML		19 46 42.8	
	comp=E,59nm,0.4s						
QUOK	**Quay**	**1.30**	**33**		Pn	19 46 23.1	-0.8
OK048	**Pawnee Station**	**1.43**	**21**		Pn	19 46 25.0	-0.7
CROK	**Carrier**	**1.46**	**347**		Pn	19 46 25.8	-0.3
WTFS	**Witchita Falls**	**1.50**	**209**		Pn	19 46 25.8	-0.9
OK051	**E0350 and S346**	**1.54**	**23**		Pn	19 46 26.3	-0.9
BLOK	**Blackwell**	**1.70**	**10**		Pn	19 46 29.4	-0.1
Z35A	**Perchaven, San**	**1.77**	**171**	Pn	Pn	19 46 30.0	-0.3
GC02	**Grant County #**	**1.78**	**353**	Pn	Pn	19 46 30.6	0.0
ELIS	**Ellis County**	**1.79**	**304**	Pn	Pn	19 46 29.1	-1.6
OK032	**Salt Plains WL**	**1.79**	**344**	Pn	Pn	19 46 31.1	+0.4
OK032				IAmb_Lg		19 46 57.4	
	comp=Z,7.8nm,0.8s						
X37A	**Clayton**	**1.89**	**105**	Pn	Pn	19 46 31.9	-0.1
KAN13	**South Haven SW**	**1.93**	**3**	IAmb_Lg		19 47 00.8	
	comp=Z,12nm,0.8s						
KAN17	**Caldwell West**	**1.96**	**356**	IAmb_Lg		19 47 06.1	
	comp=Z,12nm,1.0s						
T35A	**Sooner Cattle**	**2.02**	**25**	Pn	Pn	19 46 34.3	+0.4
FW03	**Perrin-Whitt E**	**2.08**	**191**	Pn	Pn	19 46 34.2	-0.4
FW03				IAmb_Lg		19 47 05.3	
	comp=Z,10nm,0.8s						
DKNS	**Dickens**	**3.10**	**244**	IAmb_Lg		19 47 44.4	
	comp=Z,7.8nm,0.7s						
MIAR	**Mount Ida**	**3.34**	**98**	Pn	Pn	19 46 53.0	+1.1
BRDY	**Brady**	**3.97**	**198**	IAmb_Lg		19 48 07.5	
	comp=Z,5.5nm,1.1s						
FCAR	**Ozark Folk Cen**	**4.53**	**78**	IAmb_Lg		19 48 32.5	
	comp=Z,4.2nm,1.0s						
MGMO	**Mountain Grove**	**4.77**	**63**	IAmb_Lg		19 48 39.0	
	comp=Z,6.1nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.62**	**316**	IAmb_Lg		19 48 55.2	
	comp=Z,3.9nm,0.8s						

BJI ***25*** *20:13:14.2±0.0, 7°.09S×129°.62E, h134km, mb5.2/82, mB5.0/30*

NEIC ***25*** *20:13:16.1±1.5, 6°.95S±0°.07×129°.42E±0°.07, h117km±5km, mb5.1/134, Error ellipse: s-maj=10.6km s-min=9.9km az=212.0*

DJA ***25*** *20:13:16.8±0.2, 7°.S±2°×12°.9E±°, h131km±2km, M5.2/72, mb5.4/72, mB5.6/31, MLv5.7/17, Mw(mB)5.1/31, MwMwp4.9/1, Mwp5.2/1*

IDC ***25*** *20:13:17.6±1.3, 6°.98S×129°.42E, h134km±11km, mb4.6/26, mbtmp5.0/27, MS4.1/11, Error ellipse: s-maj=15.1km s-min=8.6km az=74.0*

MOS ***25*** *20:13:17.7±0.9, 6°.95S×129°.48E, h153km, mb5.1/49, Error ellipse: s-maj=10.4km s-min=5.2km az=118.2*

GCMT ***25*** *20:13:18.1±0.2, 7°.07S±0°.02×129°.47E±0°.02, h141km±3km, MW5.2/101, Moment Tensor Solution. s32,c35; s101,c149; Duration: 0 Moment tensor: Scale 1016Nm; Mrr1.39±.30; Mθθ1.50±.26; Mϕϕ-2.90±.30; Mrθ2.19±.17; Mrϕ1.81±.34; Mθϕ5.68±.21; Best double couple: Mo6.82900×1016 NP1:ϕs18.00000°, δ84.00000°, λ114.00000°. NP2:ϕs122.00000°, δ25.00000°, λ16.00000°. Principal axes: T 6.8230, Plg46.0000°, Azm313.0000°; N 0.0010, Plg24.0000°, Azm195.0000°; P -6.8340, Plg34.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 20:13:16.7±0.3, 7°.05S±0°.04×129°.42E±0°.04, h131km±2km, h130km: pP-P, n541, σ1°.32/539, mb5.1/172, 14C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.09**	**117**	P	**Pn**	**20 13 51.5**	**-0.2**
SAUI	**Saumlaki**	**2.09**	**117**	Pn	**Pn**	**20 13 51.3**	**-0.5**
SAUI	**Saumlaki**	**2.09**	**117**	P	**Pn**	**20 13 51.2**	**-0.5**
SAUI				S	**Sn**	**20 14 17.4**	**-1.2**
BNDI	**Bandanaira**	**2.56**	**11**	P	**Pn**	**20 13 58.8**	**+1.1**
BNDI	**Bandanaira**	**2.56**	**11**	P	**Pn**	**20 13 58.7**	**+1.1**
NLAI	**Namlea**	**4.43**	**329**	P	**Pn**	**20 14 24.2**	**+2.0**
FAKI	**Fak Fak**	**4.98**	**35**	P	**Pn**	**20 14 27.9**	**-1.6**
FAKI	**Fak Fak**	**4.98**	**35**	Pn	**Pn**	**20 14 27.8**	**-1.8**
FAKI	**Fak Fak**	**4.98**	**35**	P	**Pn**	**20 14 27.7**	**-1.8**
	691nm,0.7s,11μm5.4nm						
KMPI	**Kaimana, Papua**	**5.43**	**52**	P	**Pn**	**20 14 34.0**	**-1.7**
DRS	**Darwin Rock St**	**5.55**	**165**	P	**Pn**	**20 14 35.7**	**-1.4**
SOEI	**Soe**	**5.76**	**242**	P	**Pn**	**20 14 40.8**	**+0.7**
SOEI	**Soe**	**5.76**	**242**		**Pn**	**20 14 40.0**	**-0.1**
SOEI	**Soe**	**5.76**	**242**	P	**Pn**	**20 14 40.3**	**+0.1**
	703nm,0.6s,10μm12nm						
MTN	**Manton Dam**	**6.00**	**164**	P	**Pn**	**20 14 41.5**	**-1.8**
MTN	**Manton Dam**	**6.00**	**164**		**Pn**	**20 14 41.7**	**-1.6**
MTN	**Manton Dam**	**6.00**	**164**	P	**Pn**	**20 14 40.5**	**-2.8**
	1μm,0.7s,SNR=191						
SANI	**Sanana**	**6.03**	**325**	P	**Pn**	**20 14 45.7**	**+2.1**
SANI	**Sanana**	**6.03**	**325**	P	**Pn**	**20 14 46.0**	**+2.4**
	327nm,0.8s,3μm						
KDU	**Kakadu**	**6.36**	**152**	P	**Pn**	**20 14 45.7**	**-2.4**
KDU	**Kakadu**	**6.36**	**152**	P	**Pn**	**20 14 45.3**	**-2.8**
	709nm,0.4s,SNR=76						
SWI	**Sorong**	**6.41**	**17**	P	**Pn**	**20 14 47.9**	**-0.9**
	209nm,0.5s,5μm2.3nm						
BATI	**Baumata**	**6.50**	**241**	P	**Pn**	**20 14 49.8**	**-0.2**
LBMI	**Labuha**	**6.65**	**343**	P	**Pn**	**20 14 54.5**	**+2.5**
	518nm,1.0s,5μm5.3nm						
BBSI	**Bau Bau**	**6.98**	**282**	P	**Pn**	**20 14 59.8**	**+3.4**
	550nm,1.0s,6μm1.9nm						
MMRI	**Maumere**	**7.29**	**257**	P	**Pn**	**20 15 02.1**	**+1.5**
MMRI	**Maumere**	**7.29**	**257**	Pn	**Pn**	**20 14 59.4**	**-1.2**
MMRI	**Maumere**	**7.29**	**257**	P	**Pn**	**20 15 01.4**	**+0.8**
	299nm,0.9s,4μm2.5nm						
EDFI	**Ende, Flores**	**7.84**	**257**	P	**Pn**	**20 15 09.1**	**+1.0**
	120nm,0.7s,0.7nm						
TNTI	**Ternate**	**8.03**	**345**	P	**Pn**	**20 15 12.6**	**+2.0**
TNTI	**Ternate**	**8.03**	**345**	Pn	**Pn**	**20 15 07.0**	**-3.6**
TNTI	**Ternate**	**8.03**	**345**	P	**Pn**	**20 15 12.1**	**+1.5**
KNRA	**Kununurra**	**8.60**	**184**	P	**Pn**	**20 15 14.8**	**-3.5**
BSSI	**Bau Bau, Buton**	**8.91**	**275**	P	**Pn**	**20 15 25.6**	**+3.1**
	187nm,1.1s						
LUWI	**Luwuk**	**8.91**	**312**	P	**Pn**	**20 15 24.0**	**+1.5**
LUWI	**Luwuk**	**8.91**	**312**	Pn	**Pn**	**20 15 20.3**	**-2.2**
LUWI	**Luwuk**	**8.91**	**312**	P	**Pn**	**20 15 25.5**	**+3.0**
	284nm,1.7s,3μm						
BASI	**Baing, Sumba**	**9.29**	**250**	P	**Pn**	**20 15 27.5**	**0.0**
KMSI	**Cibinong**	**9.31**	**324**	P	**Pn**	**20 15 30.2**	**+2.3**
KAPI	**Kappang**	**9.82**	**281**	P	**Pn**	**20 15 36.8**	**+2.1**
KAPI	**Kappang**	**9.82**	**281**		**Pn**	**20 15 34.7**	**0.0**
KAPI	**Kappang**	**9.82**	**281**	P	**Pn**	**20 15 35.4**	**+0.7**
	55nm,1.1s,baz=105,slow=6.9,SNR=11						
KAPI				S	**Sn**	**20 17 18.4**	**-4.8**
	18nm,0.7s,baz=116,slow=6.4,SNR=1.5						
KAPI				LR	LR	20 19 17.5	
	comp=Z,525nm,19.4s,baz=82,slow=37						
KAPI	**Kappang**	**9.82**	**281**	*i* P	**Pn**	**20 15 36.3**	**+1.6**
GTOI	**Gorontalo**	**9.96**	**320**	P	Pn	20 15 42.0	+5.5
	121nm,1.1s						
TTSI	**Tana Toraja**	**10.35**	**292**	P	**Pn**	**20 15 43.4**	**+1.6**
MRSI	**Marisa**	**10.56**	**315**	P	**Pn**	**20 15 47.8**	**+3.2**
	415nm,1.2s,5μm						
MMPI	**Merauke**	**10.96**	**98**	P	**Pn**	**20 15 47.6**	**-2.3**
GENI	**Genyem**	**11.59**	**68**	P	**Pn**	**20 15 58.0**	**-0.3**
GENI	**Genyem**	**11.59**	**68**	P	**Pn**	**20 15 57.0**	**-1.3**
	264nm,0.7s,2μm						
PLAI	**Plampang**	**11.66**	**261**	P	**Pn**	**20 15 58.2**	**-1.1**
PLAI	**Plampang**	**11.66**	**261**	P	**Pn**	**20 15 57.1**	**-2.2**
	169nm,0.8s						
TOLI2	**Tolitoli**	**11.83**	**313**	P	**Pn**	**20 16 03.7**	**+2.3**
TOLI2	**Tolitoli**	**11.83**	**313**	Pn	**Pn**	**20 16 02.8**	**+1.4**
TABU	**Tabubil**	**11.87**	**82**	P	**Pn**	**20 16 00.4**	**-1.6**
MPSI	**Mapaga**	**12.00**	**307**	P	**Pn**	**20 16 06.5**	**+2.9**
	98nm,1.2s,1μm						
JAY	**Jayapura**	**12.11**	**69**	P	**Pn**	**20 16 03.1**	**-2.1**
	88nm,0.8s						
TWSI	**Taliwang, Sumb**	**12.53**	**261**	P	**Pn**	**20 16 09.5**	**-1.1**
	69nm,0.8s						
WB0	**Warramunga Arr**	**13.54**	**160**	Pn	Pn	20 16 17.5	-6.0
I07AU	**WARRAMUNGA INI**	**13.67**	**160**	S	Sn	20 18 45.0	-11
	baz=335,slow=22,SNR=2.0						
WRAB	**Tennant Creek**	**13.68**	**160**	Pn	Pn	20 16 19.8	-5.5
WRAB	**Tennant Creek**	**13.68**	**160**	*i* P	Pn	20 16 20.2	-5.1
WRA	**Warramunga Arr**	**13.68**	**160**	Pn	Pn	20 16 18.7	-6.7
WRA	**Warramunga Arr**	**13.68**	**160**	P	Pn	20 16 20.0	-5.4
	39nm,0.3s,baz=333,slow=14,SNR=312						
WRA				S	Sn	20 18 37.7	-19
	262nm,0.8s,baz=336,slow=23,SNR=9.1						
WRA				LR	LR	20 22 23.2	
	comp=Z,1μm,18.4s,baz=334,slow=40						
WRA	**Warramunga Arr**	**13.68**	**160**	P	Pn	20 16 18.7	-6.7
WB2	**Warramunga Arr**	**13.68**	**160**	Pn	Pn	20 16 20.2	-5.2
BKB	**Balikpapan**	**13.74**	**294**	Pn	**Pn**	**20 16 21.5**	**-4.7**
SRBI	**Singaraja**	**14.12**	**265**	P	**Pn**	**20 16 32.2**	**+1.2**
DNP	**Denpasar**	**14.17**	**262**	P	**Pn**	**20 16 32.8**	**+1.2**
	465nm,1.0s						
DAV	**Davao City (W)**	**14.54**	**345**	P	**Pn**	**20 16 37.7**	**+1.4**
DAV	**Davao City (W)**	**14.54**	**345**	P	**Pn**	**20 16 33.3**	**-3.0**
	172nm,0.4s,baz=56,slow=21,SNR=1.6						
ABJI	**Asem Bagus**	**15.07**	**266**	P	**P**	**20 16 44.9**	**-0.3**
	94nm,1.0s						
COEN	**Coen**	**15.16**	**118**	P	**Pn**	**20 16 42.1**	**-2.1**
COEN	**Coen**	**15.16**	**118**		**Pn**	**20 16 40.4**	**-3.8**
COEN	**Coen**	**15.16**	**118**	P	**Pn**	**20 16 40.2**	**-4.0**
JAGI	**Jajag, Banyuwa**	**15.19**	**264**	P	**P**	**20 16 45.6**	**-0.9**
JAGI	**Jajag, Banyuwa**	**15.19**	**264**		**Pn**	**20 16 41.6**	**-3.0**
JAGI	**Jajag, Banyuwa**	**15.19**	**264**	P	**Pn**	**20 16 44.0**	**-0.5**
MTKI	**Muara Teweh, K**	**15.70**	**292**	P	**P**	**20 16 53.0**	**+0.9**
	354nm,0.8s,5μm						
QIS	**Mount Isa**	**16.67**	**145**	P	**Pn**	**20 17 00.5**	**-2.2**
QIS	**Mount Isa**	**16.67**	**145**	P	**Pn**	**20 16 59.5**	**-3.2**
MBWA	**Marble Bar**	**16.87**	**213**	P	**Pn**	**20 17 05.2**	**+0.1**
MBWA	**Marble Bar**	**16.87**	**213**	P	**P**	**20 17 03.9**	**-1.1**
MBWA	**Marble Bar**	**16.87**	**213**	P	**P**	**20 17 04.6**	**-0.4**
	90nm,0.9s,SNR=6.1						
AS31	**Alice Springs**	**17.08**	**166**	P	**P**

FORT	**Forrest**	**23.64 183**	P	**P**	**20 18 16.6 +0.4**
FORT	**Forrest**	**23.64 183**	P	**P**	**20 18 16.7 +0.6**
	343nm,0.7s,SNR=14				
PPBI	**Pangkal Pinang**	**23.70 281**	P	**P**	**20 18 17.5 +0.7**
	140nm,1.4s,4µm				
QLP	**Quilpie**	**24.01 146**	P	**P**	**20 18 20.2 +0.7**
QLP	**Quilpie**	**24.01 146**	P	**P**	**20 18 20.0 +0.5**
	828nm,1.2s,SNR=102				
LCRK	**Leigh Creek**	**24.70 162**	P	**P**	**20 18 26.2 +0.5**
KASI	**Kota Agung**	**24.82 272**	P	**P**	**20 18 25.5 -1.5**
	93nm,0.9s				
PMBI	**Palembang**	**24.88 278**	P	**P**	**20 18 29.8 +2.2**
PMBI	**Palembang**	**24.88 278**	P	**P**	**20 18 28.9 +1.3**
KMBL	**Kambalda**	**25.20 195**	P	**P**	**20 18 31.4 +1.1**
KMBL	**Kambalda**	**25.20 195**	P	**P**	**20 18 30.6 +0.3**
	70nm,0.9s,SNR=2.8				
MORW	**Morawa**	**25.28 208**	P	**P**	**20 18 32.2 +1.2**
MORW	**Morawa**	**25.28 208**	P	**P**	**20 18 30.8 -0.2**
MORW			IAmb	IAmb	20 18 34.2
	comp=Z,40nm,0.8s				
MORW	**Morawa**	**25.28 208**	P	**P**	**20 18 30.8 -0.2**
	comp=Z,72nm,1.7s,SNR=2.8				
GUMO	**Guam**	**25.61 37**	P	**P**	**20 18 35.4 +1.4**
	comp=Z,44nm,0.7s,baz=209,slow=11,SNR=4.3				
	comp=Z,44nm,0.7s				
TPRI	**Tanjung Pinang**	**26.07 287**	P	**P**	**20 18 38.2 -0.1**
	comp=Z,51nm,1.2s				
BBOO	**Buckleboo**	**26.37 167**	P	**P**	**20 18 40.9 +0.1**
BBOO	**Buckleboo**	**26.37 167**	P	**P**	**20 18 40.7 0.0**
BBOO	**Buckleboo**	**26.37 167**	P	**P**	**20 18 40.8 0.0**
	comp=Z,129nm,0.8s,SNR=6.3				
BTDF	**Bukit Timah Da**	**26.92 287**	P	**P**	**20 18 47.1 +1.2**
WHYH	**Whyalla**	**26.94 165**	P	**P**	**20 18 46.3 +0.4**
STKA	**Stephens Creek**	**27.19 157**	P	**P**	**20 18 48.4 +0.2**
STKA	**Stephens Creek**	**27.19 157**	P	**P**	**20 18 47.9 -0.3**
STKA	**Stephens Creek**	**27.19 157**	P	**P**	**20 18 48.3 +0.1**
	comp=Z,27nm,1.1s,SNR=17				
STKA	**Stephens Creek**	**27.19 157**	P	**P**	**20 18 48.6 +0.4**
	comp=Z,80nm,0.7s,baz=330,slow=10,SNR=194				
	comp=Z,80nm,0.7s				
STKA	**Stephens Creek**	**27.19 157**	P	**P**	**20 18 47.9 -0.3**
STKA			pmax	pmax	
	comp=Z,18nm,0.8s				
EIDS	**Eidsvold**	**27.57 134**	P	**P**	**20 18 51.6 -0.1**
EIDS	**Eidsvold**	**27.57 134**	P	**P**	**20 18 50.8 -0.9**
EIDS	**Eidsvold**	**27.57 134**	P	**P**	**20 18 51.0 -0.6**
	comp=Z,18nm,1.1s,SNR=3.0				
HTT	**Hallett**	**27.69 163**	P	**P**	**20 18 53.1 +0.4**
HTT	**Hallett**	**27.69 163**	P	**P**	**20 18 52.8 +0.1**
	comp=Z,48nm,1.3s,SNR=4.4				
NWAO	**Narrogin (SRO)**	**28.13 202**	P	**P**	**20 18 56.3 -0.2**
NWAO	**Narrogin (SRO)**	**28.13 202**	P	**P**	**20 18 57.1 +0.6**
NWAO	**Narrogin (SRO)**	**28.13 202**	P	**P**	**20 18 56.9 +0.4**
	comp=Z,5.3nm,0.4s,baz=39,slow=8.2,SNR=11				
	comp=Z,5.3nm,0.4s				
NWAO	**Narrogin (SRO)**	**28.13 202**	P	**P**	**20 18 57.1 +0.6**
NWAO			pmax	pmax	
	comp=Z,219nm,2.0s				
CMSA	**Cobar Meteorol**	**28.72 150**	P	**P**	**20 19 02.3 +0.5**
CMSA	**Cobar Meteorol**	**28.72 150**	P	**P**	**20 19 01.9 +0.1**
	comp=Z,117nm,0.9s,SNR=16				
BKNI	**Bangkinang**	**29.24 283**	P	**P**	**20 19 08.1 +1.5**
BKNI	**Bangkinang**	**29.24 283**	P	**P**	**20 19 08.2 +1.6**
	comp=Z,72nm,0.5s				
HNR	**Honiara**	**30.30 97**	LR	LR	20 32 36.7
	comp=Z,3µm,19.9s,baz=184,slow=38				
ARMA	**Armidale**	**31.22 141**	P	**P**	**20 19 25.3 +1.3**
ARMA	**Armidale**	**31.22 141**	P	**P**	**20 19 24.9 +0.9**
ARMA			IAmb	IAmb	20 19 26.4
	comp=Z,33nm,0.9s				
ARMA	**Armidale**	**31.22 141**	P	**P**	**20 19 25.0 +0.9**
	comp=Z,48nm,1.6s,SNR=7.3				
YULB	**Yu-li**	**31.28 346**	P	**P**	**20 19 25.6 +1.2**
YULB	**Yu-li**	**31.28 346**	P	**P**	**20 19 21.3 -3.1**
TPUB	**Ta-pu**	**31.36 344**	P	**P**	**20 19 24.6 -0.6**
TPUB	**Ta-pu**	**31.36 344**	P	**P**	**20 19 23.6 -1.6**
ARPS	**Mount Arapiles**	**31.68 161**	P	**P**	**20 19 29.0 +1.2**
ARPS	**Mount Arapiles**	**31.68 161**	P	**P**	**20 19 29.2 +1.3**
	comp=Z,242nm,0.8s,SNR=28				
SSLB	**Suanglung**	**31.74 345**	P	**P**	**20 19 27.3 -1.2**
SSLB	**Suanglung**	**31.74 345**	IAmb	IAmb	20 19 29.0
	comp=Z,53nm,1.3s				
YOJ	**Yonaguni jima**	**31.93 349**	P	**P**	**20 19 29.2 -0.9**
YOJ			IAmb	IAmb	20 19 33.1
	comp=Z,46nm,1.2s				
YOJ	**Yonaguni jima**	**31.93 349**	P	**P**	**20 19 29.2 -0.9**
YOJ			pmax	pmax	
	comp=Z,46nm,1.2s				
NACB	**Ninganchiao**	**31.96 346**	P	**P**	**20 19 28.8 -1.6**
YNG	**Young**	**32.29 150**	P	**P**	**20 19 34.1 +0.9**
YNG	**Young**	**32.29 150**	P	**P**	**20 19 33.9 +0.7**
	comp=Z,376nm,1.0s,SNR=9.2				
QIZ	**Qiongzhong**	**32.31 324**	P	**P**	**20 19 32.8 -0.7**
QIZ			S	**S**	**20 24 36.5 -1.3**
QIZ			pmax	pmax	
	comp=Z,30nm,1.6s				
YHNB	**Yeheng**	**32.48 346**	P	**P**	**20 19 35.4 +0.4**
YHNB	**Yeheng**	**32.48 346**	P	**P**	**20 19 33.7 -1.3**
YHNB			IAmb	IAmb	20 19 35.1
	comp=Z,52nm,1.1s				
UBPT	**Khong Chiam**	**32.48 313**	P	**P**	**20 19 36.0 +0.9**
UBPT	**Khong Chiam**	**32.48 313**	P	**P**	**20 19 34.6 -0.5**
UBPT			IAmb	IAmb	20 19 36.7
	comp=Z,31nm,1.1s				
GSI	**Gunungsitoli**	**32.84 283**	P	**P**	**20 19 39.0 +0.8**
GSI	**Gunungsitoli**	**32.84 283**	P	**P**	**20 19 38.1 -0.2**
GSI	**Gunungsitoli**	**32.84 283**	P	**P**	**20 19 38.1 -0.2**
	comp=Z,86nm,1.3s				
KNMB	**Chin-men Tao**	**33.12 341**	P	**P**	**20 19 40.0 -0.5**
CAN	**Canberra**	**33.40 150**	P	**P**	**20 19 44.0 +1.1**
CAN	**Canberra**	**33.40 150**	P	**P**	**20 19 44.0 +1.1**
CAN	**Canberra**	**33.40 150**	P	**P**	**20 19 44.3 +1.4**
	comp=Z,72nm,1.3s,SNR=6.7				
CAN	**Canberra**	**33.40 150**	P	**P**	**20 19 44.0 +1.1**
CAN			pmax	pmax	
	comp=Z,161nm,1.5s				
CAN	**Canberra**	**33.40 150**	P	**P**	**20 19 44.5 +1.5**
CAN			pP	**pP**	**20 20 12.9 +1.6**
QZH	**Quanzhou**	**33.50 342** ⇑	*i* P	**P**	**20 19 43.5 -0.3**
QZH			pmax	pmax	
	comp=Z,130nm,0.7s				
SRIT	**Nakonsritamara**	**33.54 297**	P	**P**	**20 19 45.3 +1.0**
CNB	**Canberra Magne**	**33.58 150**	P	**P**	**20 19 45.1 +0.6**
CNB	**Canberra Magne**	**33.58 150**	P	**P**	**20 19 45.9 +1.4**
	comp=Z,48nm,1.5s,SNR=3.7				
JOW	**Kunigami**	**33.70 358**	P	**P**	**20 19 46.7 +1.2**
JOW	**Kunigami**	**33.70 358**	IAmb	IAmb	20 19 47.0
	comp=Z,54nm,1.1s				
TOO	**Toolangi**	**33.72 157**	P	**P**	**20 19 47.0 +1.4**
TOO	**Toolangi**	**33.72 157**	P	**P**	**20 19 47.4 +1.8**
TOO			IAmb	IAmb	20 19 48.2
	comp=Z,32nm,0.8s				
TOO	**Toolangi**	**33.72 157**	P	**P**	**20 19 47.3 +1.8**
TOO	**Toolangi**	**33.72 157**	P	**P**	**20 19 47.4 +1.8**
TOO			pmax	pmax	
	comp=Z,32nm,0.8s				
SURA	**Surathani**	**33.77 298**	P	**P**	**20 19 48.0 +1.7**
LHMI	**Lhok Sumawe**	**34.62 290**	P	**P**	**20 19 54.8 +1.1**
LHMI	**Lhok Sumawe**	**34.62 290**	P	**P**	**20 19 53.9 +0.2**
LHMI	**Lhok Sumawe**	**34.62 290**	P	**P**	**20 19 55.3 +1.6**
	comp=Z,193nm,0.9s				
MLSI	**Meulaboh, Aceh**	**34.81 288**	P	**P**	**20 19 55.6 +0.3**
	comp=Z,84nm,0.6s				
MILA	**Mila**	**34.86 152**	P	**P**	**20 19 57.5 +1.9**
	comp=Z,54nm,1.8s,SNR=2.8				
SLVN	**Son La**	**37.72 319**	IAmb	IAmb	20 20 21.9
	comp=Z,25nm,1.0s				
CNSH	**ChangSha**	**38.47 336**	P	**P**	**20 20 26.0 -0.1**
CNSH			pmax	pmax	
	comp=Z,20nm,0.9s				
NOUC	**Port Laguerre**	**38.57 117**	P	**P**	**20 20 27.5 +0.4**
DZM	**Mont Dzumac**	**38.69 117**	P	**P**	**20 20 29.3 +1.1**
DZM	**Mont Dzumac**	**38.69 117**	P	**P**	**20 20 28.6 +0.4**
DZM			IAmb	IAmb	20 20 29.6
	comp=Z,29nm,0.8s				
DZM	**Mont Dzumac**	**38.69 117**	P	**P**	**20 20 29.0 +0.8**
DZM			pP	**pP**	**20 20 57.4 +0.7**
YATNC	**Mamie plateau,**	**39.08 116**	P	**P**	**20 20 33.1 +1.7**
CM31	**Chiang Mai Arr**	**39.32 311**	P	**P**	**20 20 32.4 -0.9**
CM31			IAmb	IAmb	20 20 35.2
	comp=Z,34nm,0.9s				
CMAR	**Chiang Mai Arr**	**39.32 311**	P	**P**	**20 20 33.6 +0.2**
CMAR	**Chiang Mai Arr**	**39.32 311**	P	**P**	**20 20 33.9 +0.6**
	comp=Z,21nm,0.9s,baz=139,slow=7.2,SNR=103				
CMAR			PcP	**PcP**	**20 22 40.5 +1.0**
	comp=Z,6.4nm,0.8s,baz=165,slow=3.0,SNR=9.2				
CMAR			ScP	**ScP**	**20 26 15.7 -0.5**
	comp=Z,5.4nm,0.9s,baz=155,slow=3.2,SNR=14				
CMAR			LR	LR	20 38 42.5
	comp=Z,109nm,19.7s,baz=145,slow=39				
	comp=Z,21nm,0.9s				
CHTO	**Chiang Mai**	**39.53 311**	P	**P**	**20 20 35.8 +0.6**
CHTO			IAmb	IAmb	20 20 36.9
	comp=Z,43nm,0.8s				
CHTO	**Chiang Mai**	**39.53 311**	P	**P**	**20 20 35.8 +0.6**
CHTO			pmax	pmax	
	comp=Z,43nm,0.9s				
PINNC	**Pines Island,**	**39.73 117**	P	**P**	**20 20 36.8 0.0**
PINNC			IAmb	IAmb	20 20 39.2
	comp=Z,69nm,1.0s				
GYA	**Guiyang**	**39.96 327** ⇑	P	**P**	**20 20 38.8 +0.1**
GYA			PcP	**PcP**	**20 22 43.0 +1.4**
GYA			pmax	pmax	
	comp=Z,33nm,0.9s				
JNU	**Nakatsue**	**39.97 2**	P	**P**	**20 20 39.1 +0.6**
JNU	**Nakatsue**	**39.97 2**	P	**P**	**20 20 37.9 -0.6**
WHN	**Wuhan**	**40.07 340** ⇑	P	**P**	**20 20 40.0 +0.7**
WHN			sP	**sP**	**20 21 20.8 -0.7**
WHN			pmax	pmax	
	comp=Z,230nm,0.9s				
NJ2	**Nanjing**	**40.16 346** ⇑	P	**P**	**20 20 40.8 +0.7**
NJ2			pmax	pmax	
	comp=Z,67nm,0.9s				
JMN	**Monobe**	**40.77 6**	P	**P**	**20 20 45.7 +0.6**
JMN	**Monobe**	**40.77 6**	P	**P**	**20 20 45.5 +0.3**
JMN			IAmb	IAmb	20 20 46.5
	comp=Z,17nm,0.7s				
JHJ	**Hachijo jima 2**	**41.14 13**	LR	LR	20 35 56.4
	comp=Z,90nm,20.4s,baz=310,slow=33				
KMI	**Kunming**	**41.19 322** ⇑	P	**P**	**20 20 50.0 +1.1**
KMI			pmax	pmax	
	comp=Z,36nm,1.2s				
ENH	**Enshi**	**41.75 334**	P	**P**	**20 20 53.4 +0.3**
ENH	**Enshi**	**41.75 334**	IAmb	IAmb	20 20 53.8
	comp=Z,29nm,0.8s				
ENH	**Enshi**	**41.75 334**	P	**P**	**20 20 52.8 -0.3**
PZH	**PanZhiHua**	**42.81 322**	P	**P**	**20 21 01.8 -0.2**
PZH			pmax	pmax	
	comp=Z,20nm,1.0s				
PZH			pmax	pmax	
	comp=Z,180nm,7.0s				
TJN	**Taejon**	**43.24 358**	P	**P**	**20 21 05.6 +0.6**
TJN	**Taejon**	**43.24 358**	P	**P**	**20 21 04.1 -0.9**
TJN	**Taejon**	**43.24 358**	P	**P**	**20 21 04.1 -0.9**
TJN			pmax	pmax	
	comp=Z,113nm,1.1s				
TNCH	**TengChong**	**43.83 318** ⇑	*i* P	**P**	**20 21 10.3 0.0**
TNCH			pP	pP	20 21 36.0 -2.4
TNCH			PP	**PP**	**20 22 57.8 +2.8**
TNCH			pmax	pmax	
	comp=Z,26nm,1.2s				
TNCH			pmax	pmax	
	comp=Z,140nm,4.7s				
MAJO	**Matsushiro**	**44.14 10**	P	**P**	**20 21 12.2 -0.1**
MAJO	**Matsushiro**	**44.14 10**	P	**P**	**20 21 09.9 -2.4**
MAJO	**Matsushiro**	**44.14 10**	*i* P	**P**	**20 21 11.0 -1.3**
MAJO			pmax	pmax	
	comp=Z,23nm,1.0s				
MAJO	**Matsushiro**	**44.14 10**	P	**P**	**20 21 11.2 -1.0**
MJAR	**Matsushiro Arr**	**44.14 10**	P	**P**	**20 21 10.2 -2.1**
	comp=Z,9.9nm,0.9s,baz=184,slow=9.0,SNR=23				
MJAR			ScP	**ScP**	**20 26 33.0 -2.0**
	comp=Z,1.5nm,0.6s,baz=173,slow=5.4,SNR=5.5				
	comp=Z,9.9nm,0.9s				
KSAR	**Wonju Array Be**	**44.28 358**	P	**P**	**20 21 13.2 -0.1**
KSAR	**Wonju Array Be**	**44.28 358**	P	**P**	**20 21 13.2 -0.1**
KSRS	**Korea Array**	**44.29 358**	P	**P**	**20 21 13.2 -0.2**
	comp=Z,3.3nm,0.5s,baz=176,slow=9.9,SNR=25				
KSRS			PcP	**PcP**	**20 22 55.8 +0.2**
	comp=Z,1.7nm,0.7s,baz=171,slow=4.3,SNR=2.1				
KSRS			ScP	**ScP**	**20 26 33.9 -1.6**
	comp=Z,2.0nm,1.0s,baz=176,slow=3.6,SNR=4.4				
	comp=Z,3.3nm,0.5s				
KS19	**Wonju Array Si**	**44.34 358**	P	**P**	**20 21 13.2 -0.7**
KS19			IAmb	IAmb	20 21 15.2
	comp=Z,71nm,2.0s				
LYN	**LuoYang**	**44.37 340**	P	**P**	**20 21 14.3 +0.2**
LYN			pmax	pmax	
	comp=Z,60nm,1.0s				
TIA	**Tai'an**	**44.55 346**	P	**P**	**20 21 15.0 -0.6**
TIA			pmax	pmax	
	comp=Z,32nm,1.1s				
CD2	**Chengdu**	**45.04 328**	P	**P**	**20 21 18.8 -0.8**
CD2			pmax	pmax	
	comp=Z,30nm,1.0s				
XAN	**Xi'an**	**45.24 336**	P	**P**	**20 21 20.3 -0.8**
XAN			pmax	pmax	
	comp=Z,91nm,1.0s				
JMM	**Marumori**	**45.92 13**	IAmb	IAmb	20 21 48.8
	comp=Z,21nm,0.8s				
HNS	**HongShan**	**46.30 344** ⇑	P	**P**	**20 21 29.5 +0.2**
HNS			pmax	pmax	
	comp=Z,100nm,0.8s				
BJT	**Baijiatuau**	**48.40 346**	P	**P**	**20 21 46.9 +1.4**
BJT	**Baijiatuau**	**48.40 346**	P	**P**	**20 21 45.6 0.0**
BJI	**Beijing**	**48.42 346**	P	**P**	**20 21 45.5 -0.2**
BJI			PcP	**PcP**	**20 23 11.3 +1.3**
BJI			pmax	pmax	
	comp=Z,34nm,0.7s				
MSVF	**Nonsavu**	**48.54 107**	P	**P**	**20 21 47.9 +0.8**
MSVF	**Nonsavu**	**48.54 107**	P	**P**	**20 21 46.6 -0.6**
MSVF			IAmb	IAmb	20 21 49.9
	comp=Z,58nm,1.0s				
MSVF	**Nonsavu**	**48.54 107**	*i* P	**P**	**20 21 46.9 -0.2**
MSVF			pmax	pmax	
	comp=Z,62nm,1.0s				
MSVF	**Nonsavu**	**48.54 107**	P	**P**	**20 21 48.8 +1.7**
JTM	**Tenmabayashi**	**48.79 12**	IAmb	IAmb	20 21 49.8
	comp=Z,29nm,1.0s				
SHL	**Shillong**	**48.81 313**	P	**P**	**20 21 48.3 -0.9**
SHL	**Shillong**	**48.81 313**	P	**P**	**20 21 48.3 -0.9**
SHL			pmax	pmax	
	comp=Z,60nm,0.9s				
LZH	**Lanzhou**	**49.18 332**	*e*P	**P**	**20 21 52.0 +0.3**
LZH			pP	pP	20 22 20.0 -0.5
LZH			ScP	**ScP**	**20 26 56.8 +0.5**
LZH			S	**S**	**20 28 47.5 0.0**
LZH			pmax	pmax	
	comp=Z,70nm,1.1s				
VLA	**Vladivostok**	**49.98 2**	*i* P	**P**	**20 21 57.7 +0.3**
VLA			pmax	pmax	
	comp=Z,26nm,1.0s				
JCZ	**Jackson Bay**	**50.39 144**	P	**P**	**20 22 01.2 +0.4**
HHC	**Hu-ho-hao-te**	**50.41 342**	*e*P	**P**	**20 22 01.5 +0.6**
HHC			pmax	pmax	
	comp=Z,24nm,1.1s				
HHC			pmax	pmax	
	comp=Z,260nm,8.5s				
BTO	**Baotou**	**50.67 341**	*e*P	**P**	**20 22 03.0 +0.1**
BTO			pP	**pP**	**20 22 32.8 +0.7**
BTO			sP	**sP**	**20 22 45.0 -1.2**
BTO			S	**S**	**20 29 08.3 +0.3**
BTO			pmax	pmax	
	comp=Z,19nm,0.7s				
BTO			pmax	pmax	
	comp=Z,190nm,4.3s				
BTO			LR	LR	
	comp=Z,320nm,8.4s				
BTO			LR	LR	
	comp=Z,160nm,7.8s				
BTO			LR	LR	
	comp=Z,330nm,5.7s				
CN2	**Changchun**	**50.74 356**	*e*P	**P**	**20 22 02.8 -0.4**
CN2			*e*S	**S**	**20 29 06.8 -1.8**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.1s				
CN2			pmax	pmax	
	comp=Z,100nm,3.0s				
CN2			LR	LR	
	comp=Z,200nm,11.0s				
CN2			LR	LR	
	comp=Z,100nm,11.0s				
CN2			LR	LR	
	comp=Z,200nm,12.0s				
WHZ	**Wether Hill Ro**	**50.99 146**	P	**P**	**20 22 05.7 +0.6**
QRZ	**Quartz Range**	**51.01 138**	P	**P**	**20 22 07.2 +1.8**
USA0B	**Ussuriysk Arra**	**51.06 2**	*i* P	**P**	**20 22 05.5 -0.1**
USRK	**Ussuriysk Ar.**	**51.06 2**	P	**P**	**20 22 04.2 -1.4**
USRK	**Ussuriysk Ar.**	**51.06 2**	P	**P**	**20 22 05.5 -0.1**
	comp=Z,8.2nm,0.7s,baz=185,slow=6.7,SNR=19				
USRK			ScP	**ScP**	**20 27 03.0 -1.0**
	comp=Z,1.3nm,0.7s,baz=187,slow=10.0,SNR=4.5				
	comp=Z,8.2nm,0.7s				
MDJ	**Mudanjiang**	**51.42 0**	P	**P**	**20 22 08.7 +0.4**
MDJ	**Mudanjiang**	**51.42 0**	P	**P**	**20 22 08.5 +0.2**
MDJ			PcS	**PcS**	**20 27 18.5 -0.3**
MDJ			S	**S**	**20 29 21.0 +3.0**
MDJ			pmax	pmax	
	comp=Z,18nm,1.1s				
MDJ	**Mudanjiang**	**51.42 0**	P	**P**	**20 22 08.7 +0.4**
RPZ	**Rata Peaks**	**51.55 142**	P	**P**	**20 22 10.6 +1.2**
LSA	**Lhasa**	**51.83 317**	P	**P**	**20 22 13.5 +1.3**
LSA			pmax	pmax	
	comp=Z,32nm,0.8s				
LSA	**Lhasa**	**51.83 317**	*i* P	**P**	**20 22 12.8 +0.6**
	SNR=7.1				
LSA	**Lhasa**	**51.83 317**	P	**P**	**20 22 13.1 +0.9**
XLT	**XiLinHaoTe**	**52.13 348**	*e*P	**P**	**20 22 13.5 -0.1**
XLT			S	**S**	**20 29 26.8 -1.1**
XLT			sS	sS	20 30 16.5 -1.7
XLT			pmax	pmax	
	comp=Z,29nm,0.9s				
XLT			pmax	pmax	
	comp=Z,170nm,5.7s				
ASAJ	**Asahikawa**	**52.30 12**	P	**P**	**20 22 14.9 +0.1**
ASAJ			pmax	pmax	
	comp=Z,25nm,1.1s				
JKA	**Kamikawa-asahi**	**52.30 12**	P	**P**	**20 22 14.9 +0.1**
JKA			IAmb	IAmb	20 22 18.1
	comp=Z,24nm,1.1s				
KHZ	**Kahutara**	**52.45 139**	IAmb	IAmb	20 22 17.5
	comp=Z,35nm,0.8s				
BNX	**BinXian**	**52.58 358** ⇓	P	**P**	**20 22 16.5 -0.3**
BNX			S	**S**	**20 29 30.5 -3.3**
BNX			sS	**sS**	**20 30 26.0 +1.8**
BNX			pmax	pmax	
	comp=Z,12nm,1.5s				
BNX			pmax	pmax	
	comp=Z,120nm,7.3s				
BKZ	**Black Stump Fm**	**52.98 135**	P	**P**	**20 22 21.4 +1.4**
BKZ	**Black Stump Fm**	**52.98 135**	IAmb	IAmb	20 22 21.4
	comp=Z,25nm,0.7s				
RTZ	**Ruatahuna**	**53.10 134**	IAmb	IAmb	20 22 26.7
	comp=Z,41nm,1.0s				
GTA	**Gaotai**	**53.74 332** ⇑	P	**P**	**20 22 26.0 +0.4**
GTA			PcP	**PcP**	**20 23 30.5 +0.5**
GTA			ScP	**ScP**	**20 27 16.5 +0.6**
GTA			S	**S**	**20 29 48.5 -1.5**
GTA			pmax	pmax	
	comp=Z,44nm,1.1s				
GOMU	**GeErMu**	**53.90 325**	P	**P**	**20 22 27.8 +0.6**
GOMU			pmax	pmax	
	comp=Z,15nm,0.9s				
RAO	**Raoul Island**	**54.18 121**	LR	LR	20 45 25.1
	comp=Z,162nm,19.0s,baz=322,slow=36				
YSS	**Yuzh-Sakhalins**	**55.05 11**	*e*P	**P**	**20 22 34.7 -0.1**
YSS			*e*S	**S**	**20 30 09.2 +2.1**
YSS			pmax	pmax	
	comp=Z,9.0nm,0.7s				
HYB	**Hyderabad**	**55.82 296**	*e*P	**P**	**20 22 41.4 +0.6**
HYB			IVmBB		20 22 43.7
	comp=Z,250nm,0.7s				
KLR	**Kul'dur**	**56.08 2**	P	**P**	**20 22 42.5 +0.4**
	comp=Z,7.2nm,0.9s,baz=195,slow=4.6,SNR=16				
	comp=Z,7.2nm,0.9s				
KLR	**Kul'dur**	**56.08 2**	*i* P	**P**	**20 22 41.7 -0.4**
KLR			pmax	pmax	
	comp=Z,16nm,1.1s				
HEH	**HeiHe**	**57.09 358**	*e*P	**P**	**20 22 49.0 -0.2**
HEH			pmax	pmax	
	comp=Z,27nm,0.9s				
HEH			pmax	pmax	
	comp=Z,160nm,5.6s				
AFI	**Afiamalu**	**58.11 102**	P	**P**	**20 22 56.1 -1.0**
AFI	**Afiamalu**	**58.11 102**	P	**P**	**20 22 56.1 -1.0**
AFI			pmax	pmax	
	comp=Z,145nm,1.0s				
ULN	**Ulaanbaatar**	**58.13 342**	P	**P**	**20 22 56.9 +0.1**
ULN			IAmb	IAmb	20 22 59.2
	comp=Z,25nm,0.7s				
ULN	**Ulaanbaatar**	**58.13 342**	*i* P	**P**	**20 22 57.6 +0.8**
ULN			pmax	pmax	
	comp=Z,26nm,0.7s				
ULN	**Ulaanbaatar**	**58.13 342**	P	**P**	**20 22 57.9 +1.1**
SONM	**Songino Array**	**58.30 342**	P	**P**	**20 22 58.1 +0.2**
SONM			IAmb	IAmb	20 23 01.0
	comp=Z,21nm,0.8s				
SONM	**Songino Array**	**58.30 342**	P	**P**	**20 22 58.7 +0.8**
	comp=Z,18nm,0.6s,baz=157,slow=5.8,SNR=42				
	comp=Z,18nm,0.6s				
SONM	**Songino Array**	**58.30 342**	P	**P**	**20 22 58.1 +0.2**
SONM			pmax	pmax	
	comp=Z,21nm,0.8s				
CTZ	**Chatham Island**	**59.52 137**	P	**P**	**20 23 07.0 +0.7**
DRV	**Dumont d'Urvil**	**59.97 175**	P	**P**	**20 23 09.9 +1.0**
CIT	**Chita**	**60.39 349**	*e*P	**P**	**20 23 11.7 -0.4**
CIT			*e*		20 23 55.6
CIT			pmax	pmax	
	comp=Z,46nm,2.3s				
ZEA	**Zeya**	**60.58 359**	*e*P	**P**	**20 23 13.9 +0.6**
ZEA			pmax	pmax	
	comp=Z,20nm,0.8s				
ZAK	**Zakamensk**	**61.52 341**	*e*P	**P**	**20 23 20.0 +0.2**
ZAK			pmax	pmax	
	comp=Z,11nm,1.4s				
IRK	**Irkutsk**	**62.85 343**	*e*P	**P**	**20 23 28.4 -0.1**
IRK			pmax	pmax	
	comp=Z,73nm,1.6s				
WMQ	**Urumqi**	**63.12 327**	*e*P	**P**	**20 23 32.0 +1.4**
WMQ			pmax	pmax	
	comp=Z,61nm,0.9s				
WMQ			pmax	pmax	
	comp=Z,180nm,4.5s				
MOY	**Mondy**	**63.37 341**	*e*P	**P**	**20 23 33.0 +0.9**
MOY			pmax	pmax	
	comp=Z,64nm,1.8s				
WUS	**Wushi**	**66.45 321**	P	**P**	**20 23 53.6 +1.3**
NIL	**Nilore**	**66.81 311**	P	**P**	**20 23 54.6 -0.1**
NIL	**Nilore**	**66.81 311**	P	**P**	**20 23 54.6 -0.1**
NIL			pmax	pmax	
	comp=Z,121nm,0.6s				
NIL	**Nilore**	**66.81 311**	P	**P**	**20 23 55.2 +0.6**
NIL			sP	**sP**	**20 24 39.9 +1.0**
ZSN	**Zaisan**	**67.01 329**	*e*P	**P**	**20 23 55.9 +0.3**
	comp=Z,15nm,0.8s,baz=329				
ZSN	**Zaisan**	**67.01 329**	*e*P	**P**	**20 23 55.9 +0.3**
ZSN			pmax	pmax	
	comp=Z,15nm,0.8s				
SHLS	**Shalkode**	**67.40 323**	*e*P	**P**	**20 23 57.3 -1.1**
	comp=Z,21nm,0.7s,baz=323				
SHLS	**Shalkode**	**67.40 323**	*e*P	**P**	**20 23 57.2 -1.1**
SHLS			pmax	pmax	
	comp=Z,21nm,0.7s				
KSH	**Kashi**	**67.66 318**	P	**P**	**20 24 01.3 +1.3**
KSH			pmax	pmax	
	comp=Z,75nm,0.7s				
UZB	**Uzynbulak**	**67.66 322**	*e*P	**P**	**20 24 00.5 +0.5**
	comp=Z,12nm,0.7s,baz=322				
UZB

NRN	Naryn	68.63	320	IAmb	IAmb	20 24 08.1	
	comp=Z,18nm,0.7s						
YAK	Yakutsk	68.87	0	P	P	20 24 06.7	-0.1
YAK	Yakutsk	68.87	0	eP	P	20 24 06.6	-0.2
YAK				e		20 24 27.9	
YAK				e		20 26 39.0	
YAK				ePPP	PPP	20 28 18.9	
YAK				eS	S	20 32 59.5	-0.7
YAK				e*SS	sS	20 33 52.2	-0.6
YAK				eSS	SS	20 37 26.8	-1.5
YAK				pmax	pmax		
	comp=Z,85nm,1.3s						
YAK				pmax	pmax		
	comp=N,16nm,1.6s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,206nm,8.1s						
YAK				pmax	pmax		
	comp=N,119nm,8.6s						
YAK				pmax	pmax		
	comp=E,87nm,8.1s						
YAK				smax	smax		
	comp=E,84nm,2.0s						
YAK				smax	smax		
	comp=N,42nm,1.9s						
YAK	Yakutsk	68.87	0	P	P	20 24 07.1	+0.2
YAK				PcP	PcP	20 24 29.0	-1.4
TNSS	Tian-Shan	68.87	321	eP	P	20 24 08.1	+0.2
	baz=321						
TNSS	Tian-Shan	68.87	321	eP	P	20 24 08.0	+0.2
MDOK	Medeo	68.88	322	eP	P	20 24 08.1	+0.6
	baz=322						
MDOK	Medeo	68.88	322	eP	P	20 24 08.1	+0.6
AAA	Alma-Ata	68.98	322	eP	P	20 24 08.2	0.0
	comp=N,18nm,0.8s,baz=322						
AAA	Alma-Ata	68.98	322	eP	P	20 24 08.1	0.0
AAA				pmax	pmax		
	comp=Z,18nm,0.8s						
TDK	Taldyqorghan	69.08	324	eP	P	20 24 08.8	+0.3
	comp=Z,23nm,0.8s,baz=324						
TDK	Taldyqorghan	69.08	324	eP	P	20 24 08.8	+0.3
TDK				pmax	pmax		
	comp=Z,23nm,0.8s						
BOOM	Boomskoye usch	69.21	321	IAmb	IAmb	20 24 12.0	
	comp=Z,54nm,0.9s						
CHKK	Chushkaly	69.29	322	eP	P	20 24 10.5	+0.5
	baz=322						
CHKK	Chushkaly	69.29	322	eP	P	20 24 10.4	+0.5
TKM2	Tokmak 2	69.65	321	P	P	20 24 14.2	+1.8
	SNR=21						
KBK	Karagaybulak	69.93	320	P	P	20 24 16.0	+2.0
	SNR=15						
UCH	Uchtor	69.99	320	P	P	20 24 16.3	+1.5
	SNR=33						
AAK	Ala-Archa	70.20	320	P	P	20 24 17.1	+1.5
	SNR=13						
AAK	Ala-Archa	70.20	320	P	P	20 24 16.2	+0.5
AAK				IAmb	IAmb	20 24 18.4	
	comp=Z,36nm,0.7s						
AAK	Ala-Archa	70.20	320	iP	P	20 24 17.2	+1.5
	SNR=13						
AAK	Ala-Archa	70.20	320	P	P	20 24 17.2	+1.5
	comp=Z,30nm,0.7s,baz=130,slow=5.5,SNR=29						
	comp=Z,30nm,0.7s						
AAK	Ala-Archa	70.20	320	c iP	P	20 24 16.8	+1.1
AAK				pmax	pmax		
	comp=Z,38nm,0.7s						
AAK	Ala-Archa	70.20	320	P	P	20 24 17.3	+1.5
FRU1	Bishkek	70.21	320	IAmb	IAmb	20 24 17.9	
	comp=Z,18nm,0.6s						
CHMS	Chumysh	70.22	321	P	P	20 24 16.4	+0.7
	SNR=17						
KBL	Kabul	70.35	310	P	P	20 24 16.9	0.0
KBL				IAmb	IAmb	20 24 19.3	
	comp=Z,35nm,0.9s						
KBL	Kabul	70.35	310	P	P	20 24 16.9	0.0
KBL				pmax	pmax		
	comp=Z,35nm,0.9s						
AML	Almayashu	70.47	319	P	P	20 24 19.1	+1.5
	SNR=29						
DRK	Karamyk	70.47	316	P	P	20 24 18.2	+0.6
USP	Ospenovka	70.52	321	P	P	20 24 18.2	+0.7
	SNR=47						
SGDS	Sogindy	70.53	321	eP	P	20 24 18.2	+0.6
	comp=Z,19nm,0.8s,baz=321						
SGDS	Sogindy	70.53	321	eP	P	20 24 18.1	+0.6
SGDS				pmax	pmax		
	comp=Z,19nm,0.8s						
ARSB	Arslanbob	70.54	318	IAmb	IAmb	20 24 20.1	
	comp=Z,20nm,0.7s						
EKS2	Erkin-Say	70.67	320	P	P	20 24 19.4	+0.9
	SNR=35						
SEM	Semipalatinsk	71.24	329	eP	P	20 24 22.3	+0.4
	comp=Z,19nm,0.9s,baz=329						
SEM	Semipalatinsk	71.24	329	eP	P	20 24 22.3	+0.4
SEM				pmax	pmax		
	comp=Z,19nm,0.9s						
ZAA0	Zalesovo Array	71.37	334	IAmb	IAmb	20 24 24.1	
	comp=Z,48nm,1.1s						
ZALV	Zalesovo Beam	71.37	334	P	P	20 24 21.5	-0.8
ZALV	Zalesovo Beam	71.37	334	P	P	20 24 21.9	-0.4
	comp=Z,20nm,0.8s,baz=114,slow=4.4,SNR=71						
	comp=Z,20nm,0.8s						
BTK	Batken	71.41	316	IAmb	IAmb	20 24 25.1	
	comp=Z,24nm,0.9s						
BTK	Batken	71.41	316	P	P	20 24 23.3	+0.3
BTLS	Baital	71.70	322	eP	P	20 24 24.5	-0.1
	baz=322						
BTLS	Baital	71.70	322	eP	P	20 24 24.4	-0.1
CHGR	Chuyangaron	71.96	314	P	P	20 24 26.3	0.0
SEY	Seymchan	71.96	11	c iP	P	20 24 25.8	+0.2
SEY				pmax	pmax		
	comp=Z,19nm,0.7s						
SIMJ	Simiganj	72.07	314	P	P	20 24 26.7	-0.3
KURBB	Kurchatov Arra	72.25	329	P	P	20 24 27.8	+0.1
	comp=Z,54nm,0.8s,baz=127,slow=5.1,SNR=234						
	comp=Z,54nm,0.8s						
KURK	Kurchatov	72.26	329	P	P	20 24 27.5	-0.2
KURK	Kurchatov	72.26	329	P	P	20 24 27.5	-0.2
KURK				pmax	pmax		
	comp=Z,79nm,0.9s						
VNDA	Vanda	72.47	173	P	P	20 24 28.6	+0.1
VNDA	Vanda	72.47	173	P	P	20 24 29.0	+0.4
	comp=Z,3.5nm,0.7s,baz=317,slow=4.2,SNR=13						
VNDA				LR	LR	20 54 36.4	
	comp=Z,142nm,20.4s,baz=326,slow=34						
	comp=Z,3.5nm,0.7s						
VNDA	Vanda	72.47	173	P	P	20 24 28.6	+0.1
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
IUG	Iuzhnay	72.88	318	eP	P	20 24 32.2	+0.4
	comp=Z,32nm,0.8s,baz=318						
IUG	Iuzhnay	72.88	318	eP	P	20 24 32.1	+0.4
IUG				pmax	pmax		
	comp=Z,32nm,0.8s						
KK31	Karatay Array	73.00	319	IAmb	IAmb	20 24 34.9	
	comp=Z,28nm,0.9s						
KKAR	Karatay Array	73.00	319	P	P	20 24 32.1	-0.1
KKAR	Karatay Array	73.00	319	IAmb	IAmb	20 24 34.9	
	comp=Z,28nm,0.9s						
KKAR	Karatay Array	73.00	319	P	P	20 24 32.1	-0.1
SBA	Scott Base	73.36	172	P	P	20 24 35.5	+1.7
SBA	Scott Base	73.36	172	P	P	20 24 35.5	+1.7
SBA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MAW	Mawson	74.69	201	P	P	20 24 43.0	+1.4
	comp=Z,6.4nm,0.8s,baz=66,slow=9.0,SNR=8.4						
	comp=Z,6.4nm,0.8s						
MAW	Mawson	74.69	201	P	P	20 24 43.0	+1.4
WSAR	Wadi Sarin	75.37	296	P	P	20 24 46.9	+0.5
	comp=Z,14nm,0.7s,baz=118,slow=10,SNR=13						
	comp=Z,14nm,0.7s						
HRA	Herat	75.53	308	IAmb	IAmb	20 24 50.2	
	comp=Z,64nm,0.9s						
SOHO	SOHO	77.45	297	i P	P	20 24 57.8	-0.3
	SNR=7.2						
BVAR	Borovoye Array	77.80	328	P	P	20 24 59.4	0.0
	comp=Z,25nm,0.9s,baz=123,slow=7.1,SNR=53						
	comp=Z,25nm,0.9s						
BRVK	Borovoye	77.87	328	P	P	20 24 59.1	-0.7
BRVK				IAmb	IAmb	20 25 02.3	
	comp=Z,24nm,0.9s						
BRVK	Borovoye	77.87	328	i P	P	20 24 59.6	-0.2
BRVK				pmax	pmax		
	comp=Z,18nm,0.7s						
UOSS	Minazif	77.93	297	P	P	20 25 01.0	+0.3
MDH	Madha	77.93	298	P	P	20 25 01.4	+0.6
HATD	Hatta, Dubai	77.97	297	P	P	20 25 01.6	+0.6
MSFE	Esma-Masafi	78.07	298	i P	P	20 25 02.5	+0.9
	SNR=7.7						
FAQ	Al Faqa, Dubai	78.42	297	P	P	20 25 03.5	-0.1
BILL	Bilibino	79.29	13⇓	eP	P	20 25 10.2	+2.9
BILL						20 25 13.0	
BILL				e		20 36 03.6	
BILL				pmax	pmax		
	comp=Z,15nm,2.0s						
PPT	Papeete	79.36	107	P	P	20 25 11.2	+2.4
	comp=Z,52nm,0.7s,baz=276,slow=18,SNR=6.9						
	comp=Z,52nm,0.7s						
PPTF	Pamatai, Papee	79.37	107	P	P	20 25 11.8	+2.9
MZR	Muzera	79.93	295	i P	P	20 25 11.9	+0.1
	SNR=11						
VOI	Vohitsoka	80.59	249	P	P	20 25 16.0	+0.5
VOI				IAmb	IAmb	20 25 18.8	
	comp=Z,126nm,2.0s						
NRIK	Noril'sk	81.47	346	IAmb	IAmb	20 25 20.5	
	comp=Z,27nm,1.1s						
NRIK	Noril'sk	81.47	346	P	P	20 25 19.6	+0.7
	comp=Z,10nm,0.6s,baz=134,slow=6.9,SNR=14						
	comp=Z,10nm,0.6s						
NRIK	Noril'sk	81.47	346	P	P	20 25 18.8	-0.1
NRIK				pmax	pmax		
	comp=Z,24nm,0.9s						
ABKAR	Akbulak array	82.19	322	P	P	20 25 22.7	-0.4
ABKAR	Akbulak array	82.19	322	IAmb	IAmb	20 25 25.3	
	comp=Z,21nm,0.7s						
QSPA	South Pole Qui	82.93	180	P	P	20 25 27.2	+0.3
QSPA				IAmb	IAmb	20 26 07.2	
	comp=Z,37nm,1.6s						
QSPA	South Pole Qui	82.93	180	P	P	20 25 27.2	+0.3
	comp=Z,4.7nm,0.7s,baz=295,slow=1.2,SNR=17						
	comp=Z,4.7nm,0.7s						
AKTO	Aktyubinsk	83.76	322	P	P	20 25 31.6	+0.4
	comp=Z,23nm,0.8s,baz=114,slow=3.8,SNR=43						
	comp=Z,23nm,0.8s						
SVE	Sverdlovsk	84.51	329⇑	eP	P	20 25 35.2	+0.4
SVE				pmax	pmax		
	comp=Z,52nm,1.0s						
ARU	Arti	85.44	328	P	P	20 25 37.3	-2.1
ARU				IAmb	IAmb	20 25 40.3	
	comp=Z,24nm,0.8s						
ARU	Arti	85.44	328	c iP	P	20 25 38.7	-0.8
ARU				*PP	pP	20 26 13.3	+1.3
ARU						20 28 58.0	
ARU				S	SKSac	20 35 50.6	-1.7
ARU				pmax	pmax		
	comp=Z,29nm,0.8s						
ARU	Arti	85.44	328	P	P	20 25 38.2	-1.3
	comp=Z,33nm,0.9s						
M14K	Bethel	85.90	27	IAmb	IAmb	20 25 45.9	
	comp=Z,16nm,0.9s						
K15K	Wolf Creek Mou	86.67	26	P	P	20 25 45.4	0.0
K15K				IAmb	IAmb	20 25 47.1	
	comp=Z,34nm,1.5s						
K15K	Wolf Creek Mou	86.67	26	P	P	20 25 45.6	+0.2
	baz=115,SNR=5.7						
LKRN	Lenkeran, Azer	87.11	309	P	P	20 25 48.2	+0.1
RAYN	Ar Rayn	87.23	294	P	P	20 25 48.7	-0.4
RAYN	Ar Rayn	87.23	294	i P	P	20 25 49.2	+0.1
	SNR=39						
RAYN	Ar Rayn	87.23	294	P	P	20 25 48.7	-0.4
RAYN				pmax	pmax		
	comp=Z,44nm,0.8s						
L16K	Owhat River	87.37	27	IAmb	IAmb	20 25 54.1	
	comp=Z,40nm,1.9s						
M16K	Timber Creek	87.37	28	IAmb	IAmb	20 25 52.2	
	comp=Z,52nm,1.9s						
J17K	VABM Dome	88.11	25	P	P	20 25 52.5	+0.2
ELIB	Princess Elisa	88.27	197	dP	P	20 25 54.3	+1.2
SEKA	Sheki	88.77	312	P	P	20 25 55.7	-0.3
MNGR	Mingechevir, A	88.78	311	P	P	20 25 56.1	+0.2
GANJ	Ganja	89.33	311	P	P	20 25 58.6	0.0
NAX	Nakhchivan	89.71	309	P	P	20 26 00.4	-0.1
D19K	Kuna River	90.17	21	IAmb	IAmb	20 26 02.8	
	comp=Z,11nm,0.9s						
BELG	Belogornoye	90.54	323	i P	P	20 26 02.7	-1.2
BELG				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KIRV	Kirov	90.78	329	i P	P	20 26 03.5	-1.3
GHO	Glory Hole Cre	92.22	28	IAmb	IAmb	20 26 31.4	
	comp=Z,8.1nm,0.8s						
GURO	Guroymak-BITLI	92.30	308	IAmb	IAmb	20 26 16.5	
	comp=Z,13nm,1.1s						
KBZ	Khabaz	92.31	314	P	P	20 26 11.2	-1.0
	comp=Z,3.8nm,0.9s,baz=127,slow=3.7,SNR=4.6						
	comp=Z,3.8nm,0.9s						
KBZ	Khabaz	92.31	314	i P	P	20 26 11.8	-0.5
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RND	Reindeer	92.56	26	IAmb	IAmb	20 26 13.0	
	comp=Z,12nm,0.9s						
I23K	Minto, Yukon-K	92.66	25	IAmb	IAmb	20 26 14.4	
	comp=Z,8.1nm,0.9s						
SCM	Sheep Creek Mo	92.98	28	IAmb	IAmb	20 26 18.6	
	comp=Z,18nm,0.9s						
WRH	Wood River Hil	93.08	25	IAmb	IAmb	20 26 15.4	
	comp=Z,7.5nm,0.9s						
CCB	Clear Creek Bu	93.23	25	IAmb	IAmb	20 26 15.8	
	comp=Z,6.4nm,0.8s						
H24K	Noodor Dome	93.39	24	IAmb	IAmb	20 26 18.0	
	comp=Z,6.6nm,0.9s						
HDA	Harding Lake	93.55	26	IAmb	IAmb	20 26 17.6	
	comp=Z,5.5nm,0.8s						
ILAR	Eielson Array	93.64	25	P	P	20 26 16.2	-1.7
	comp=Z,2.0nm,0.8s,baz=278,slow=4.5,SNR=16						
	comp=Z,2.0nm,0.8s						
TROLL	Troll, Antarti	93.97	194	⇑P	P	20 26 20.7	+1.0
	comp=Z,258nm,1.0s						
VRH	Novokhopyorsk	93.99	321	eP	P	20 26 16.7	-3.1
VRH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BELA	Belgrano 2	94.74	183	IAmb	IAmb	20 26 30.8	
	comp=Z,24nm,1.8s						
BMAR	Burnt Mountain	94.92	23	P	P	20 26 24.1	+0.3
J26L	Joseph Creek	95.02	26	IAmb	IAmb	20 26 25.2	
	comp=Z,7.7nm,0.9s						
SNAA	Sanae	95.48	194	⇑P	P	20 26 28.0	+1.6
	comp=Z,48nm,0.8s						
SNAA	Sanae	95.48	194	P	P	20 26 27.5	+1.0
	comp=Z,3.0nm,1.0s,baz=168,slow=3.7,SNR=5.4						
SNAA				LR	LR	21 10 58.6	
	comp=Z,79nm,18.3s,baz=341,slow=36						
	comp=Z,3.0nm,1.0s						
SNAA	Sanae	95.48	194	i P	P	20 26 26.4	0.0
SNAA				pmax	pmax		
	comp=Z,22nm,3.8s						
VORD	Divnogorie	95.50	321	eP	P	20 26 24.7	-2.0
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	Storozhevoye	95.59	321	eP	P	20 26 23.8	-3.4
VSR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
VORR	Voronezh	95.60	321	eP	P	20 26 24.8	-2.4
VORR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
L27K	Beaver Creek,	95.66	27	IAmb	IAmb	20 26 28.7	
	comp=Z,6.1nm,0.9s						
BCAR	Beaver Creek A	95.68	27	P	P	20 26 27.4	0.0
LPSR	Galich'ya Gora	95.84	322	eP	P	20 26 25.1	-3.2
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
I28M	Miner Creek	96.63	25	IAmb	IAmb	20 26 33.1	
	comp=Z,5.3nm,0.8s						
DAWY	Dawson	96.81	26	IAmb	IAmb	20 26 33.8	
	comp=Z,6.5nm,1.0s						
MMAI	Mount Meron Ar	97.15	302	LR	LR	21 16 06.4	
	comp=Z,63nm,20.7s,baz=66,slow=39						
I29M	Ogilvie Camp,	97.31	25	IAmb	IAmb	20 30 19.6	
	comp=Z,5.2nm,0.6s						
OBN	Obninsk	97.36	325⇓	eP	P	20 26 32.9	-2.2
OBN				*PP	pwP	20 27 10.0	-0.2
OBN				i S	SKSac	20 37 01.1	+1.1
OBN				e		20 39 55.7	
OBN				eSS	SS	20 44 20.5	-8.7
OBN				eSSS	SSS	20 48 20.4	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
G29M	Pine Creek	97.44	23	IAmb	IAmb	20 26 36.2	
	comp=Z,4.0nm,0.8s						
BRTR	Keskin Array B	98.90	309	P	P	20 26 41.9	-0.7
	comp=Z,0.5nm,0.6s,baz=153,slow=6.6,SNR=3.8						
	comp=Z,0.5nm,0.6s						
BRTR	Keskin Array B	98.90	309	i P	P	20 26 42.0	-0.6
BOSA	Boshof	98.94	240	P	P	20 26 43.0	-0.1
	comp=Z,1.3nm,0.9s,baz=117,slow=11,SNR=2.1						
	comp=Z,1.3nm,0.9s						
BOSA	Boshof	98.94	240	P	P	20 26 43.0	-0.1
LBTB	Lobatse	99.43	243	LR	LR	21 05 36.1	
	comp=Z,52nm,19.1s,baz=100,slow=32						
JOF	Joensuu	99.93	333	eP	Pdif	20 26 44.4	-2.0
ARCES	ARCESS Array B	101.42	340	P	Pdif	20 26 51.9	-1.0
	comp=Z,5.3nm,0.8s,baz=89,slow=5.0,SNR=10						
AKASG	Malin Array Be	101.87	320	P	Pdif	20 26 54.2	-1.1
	comp=Z,0.2nm,0.3s,baz=91,slow=23,SNR=2.2						
AKASG				PKiKP	PKiKP	20 31 16.4	-1.3
	comp=Z,0.5nm,0.4s,baz=86,slow=5.4,SNR=4.2						
FINES	FINESS Array B	102.53	331	P	Pdif	20 26 56.1	-1.9
	comp=Z,0.4nm,0.4s,baz=66,slow=5.4,SNR=8.8						
FINES				PKiKP	PKiKP	20 31 18.2	-0.4
	comp=Z,1.4nm,0.7s,baz=98,slow=3.1,SNR=8.0						
VAF	Ylistaro	103.82	333	eP	Pdif	20 27 03.1	-0.5
PABE	Paberze	104.52	325	eP	Pdif	20 27 06.4	-0.5
RAF	Rauma	104.66	331	eP	Pdif	20 27 05.5	-2.0
HFS	Hagfors	108.73	332	Pdiff	Pdif	20 27 24.5	-1.2
	comp=Z,0.9nm,0.6s,baz=90,slow=4.4,SNR=12						
SRO	Srobarova	109.32	318	ePP	PP	20 32 06.8	+4.0
NB2	NORSAR Subarra	109.56	333	P	Pdif	20 27 28.4	-1.0
	comp=Z,1.9nm,0.9s,baz=67,slow=4.6						
NB2	NORSAR Subarra	109.56	333	PKPdf	PKiKP	20 31 31.3	-0.4
	comp=Z,0.4nm,0.8s,baz=68,slow=1.9						
NOA	NORSAR Array B	109.56	333	Pdiff	Pdif	20 27 28.7	-0.7
	comp=Z,0.8nm,0.7s,baz=68,slow=4.5,SNR=5.1						
NOA				PKiKP	PKiKP	20 31 31.4	-0.3
	comp=Z,1.0nm,0.9s,baz=65,slow=2.1,SNR=4.4						
MODS	Modra-Piesok	109.89	319	ePP	PP	20 32 13.7	+6.7
GERES	GERESS Array B	112.09	320	PKiKP	PKiKP	20 31 37.0	+0.1
	comp=Z,1.0nm,0.5s,baz=77,slow=2.9,SNR=7.5						
GERES				PP	PP	20 32 24.1	+1.4
	comp=Z,0.6nm,0.7s,baz=111,slow=6.3,SNR=4.4						
GERES	GERESS Array B	112.09	320	i PKiKP	PKiKP	20 31 37.0	+0.1
KHC	Kasperske Hory	112.09	320	i PKiKP	PKiKP	20 31 34.9	-1.9
KBA	Koelnbreinsper	112.77	318	i PKiKP	PKiKP	20 31 38.3	0.0
	comp=Z,0.7nm,0.3s						
LESA	Schwarzleotal	113.12	319	i PKiKP	PKiKP	20 31 38.8	-0.1
	comp=Z,0.6nm,0.3s						
ABTA	Abfaltersbach	113.41	318	i PKiKP	PKiKP	20 31 39.4	-0.1
	comp=Z,1.8nm,0.7s						
WTTA	Wattenberg	113.85	319	i PKP	PKiKP	20 31 40.2	-0.2
	comp=Z,7.7nm,0.4s						
WATA	Walderalm	113.87	319	i PKP	PKiKP	20 31 40.4	0.0
	comp=Z,1.2nm,0.3s						
MOTA	Moosalm	114.17	319	ePKP	PKPdf	20 31 40.9	-0.1
	comp=Z,2.3nm,0.4s						
RETA	Reutte	114.35	319	ePKP	PKPdf	20 31 41.2	-0.1
	comp=Z,0.7nm,0.3s						
FETA	Feichten	114.51	319	i PKP	PKiKP	20 31 41.8	+0.1
	comp=Z,0.7nm,0.4s						
DAVA	Damuels	114.98	319	i PKP	PKPdf	20 31 42.6	0.0
	comp=Z,5.0nm,0.4s						
EGMT	Eagleton	115.58	40		PKiKP	20 31 43.2	-0.4
LOHW	Long Hollow	116.36	45		PKiKP	20 31 45.4	0.0
SENIN	Lac Senin/Sane	116.96	319	PKPdf	PKiKP	20 31 47.6	+1.1
PDAR	Pinedale Array	117.33	45	PKP	PKiKP	20 31 47.7	+0.3
	comp=Z,0.8nm,0.6s,baz=248,slow=1.5,SNR=7.2						
KEST	Kesra	118.39	307	PKP	PKiKP	20 31 50.2	+0.8
	comp=Z,2.0nm,0.4s,baz=226,slow=3.6,SNR=7.6						
KEST				PP	PP	20 33 05.9	-1.6
	comp=Z,8.7nm,0.9s,baz=350,slow=7.1,SNR=8.0						
EKA	Eskdalemuir Ar	118.93	331	PKP	PKPdf	20 31 49.4	-0.3
	comp=Z,1.6nm,0.5s,baz=39,slow=2.9,SNR=18						
RSSD	Black Hills	120.68	42	PKPdf	PKPdf	20 31 53.6	-0.1
RSSD	Black Hills	120.68	42	PKiKP	PKPdf	20 31 53.6	-0.1
ANMO	Albuquerque	121.80	53	i PKiKP	PKPdf	20 31 55.2	-0.9
ULM	Lac du Bonnet	122.80	33	PKP	PKPdf	20 31 57.3	0.0
	comp=Z,1.8nm,0.6s,baz=338,slow=16,SNR=1.8						
TXAR	Lajitas Array	125.45	59	PKP	PKiKP	20 32 03.7	+0.1
	comp=Z,0.8nm,0.6s,baz=212,slow=1.6,SNR=11						
TXAR				SKPbc	SKPbc	20 35 07.5	
	comp=Z,0.8nm,0.7s,baz=234,slow=2.4,SNR=6.0						
ECSD	EROS Data Cent	125.69	40		PKiKP	20 32 03.3	-0.2
ESDC	Sonseca Array	127.13	315	PKP	PKPdf	20 32 06.2	+0.2
	comp=Z,2.3nm,1.1s,baz=11,slow=2.7,SNR=9.8						
ESDC				PP	PP	20 34 05.1	-1.0
	comp=Z,4.2nm,0.9s,baz=60,slow=7.2,SNR=24						
TOA0	Torodi Ar. Sit	128.25	281	PKPdf	PKiKP	20 32 09.1	-0.3
TORD	Torodi Ar. Bea	128.25	281		PKPdf	20 32 08.6	-0.1
TORD	Torodi Ar. Bea	128.25	281	PKP	PKPdf	20 32 08.8	+0.1
	comp=Z,2.9nm,0.6s,baz=62,slow=2.4,SNR=21						
TORD				SKPbc	SKPbc	20 35 14.5	
	comp=Z,8.7nm,1.2s,baz=50,slow=6.4,SNR=9.6						
POLO	Lamas de Olo	128.94	319	ePKPbc	PKiKP	20 32 11.1	+1.0
PLCA	Paso Flores	129.03	160	PKP	PKiKP	20 32 10.3	-0.1
	comp=Z,3.1nm,1.0s,baz=289,slow=1.2,SNR=6.3						
PLCA				SKPbc	SKPbc	20 35 18.6	-0.5
	comp=Z,5.2nm,1.1s,baz=180,slow=2.2,SNR=5.0						
PBAR	Barrancos	129.94	315	ePKPbc	PKiKP	20 32 12.2	+0.1
PBAR				eSKPab	SKPbc	20 35 22.3	+0.2
PESTR	Estremoz	130.01	316	eSKPbc	SKPbc	20 35 22.2	-0.2
PCAS	Casmilo, Conde	130.06	318	eSKPbc	SKPab	20 35 22.0	-0.2
PCAS				eSKPab	SKPbc	20 35 23.6	+1.1
PMTG	Montargil	130.35	317	eSKPbc	SKPab	20 35 23.0	-0.5
EVO	Evora	130.46	316	eSKPbc	SKPab	20 35 23.8	-0.2
EVO				eSKPab	SKPbc	20 35 24.8	+0.8
PSBE	So Bento	130.52	317	eSKPbc	SKPab	20 35 24.9	+0.7
PBEJ	Beja	130.59	315	eSKPbc	SKPab	20 35 24.5	0.0
SCHQ	Schefferville	130.60	12	SKPbc	SKPbc	20 35 23.6	-0.3
	comp=Z,16nm,0.9s,baz=358,slow=5.1,SNR=13						
S39A	Bolivar	130.73	45	PKPdf	PKiKP	20 32 13.4	-0.3
PCVE	Castro Verde	130.90	315	eSKPbc	SKPbc	20 35 25.6

CCX	**Cicese**	**0.30**	**262**			**Sn**	**20 18 09.6 -1.7**
CCX	**Cicese**	**0.30**	**262**			**Pn**	**20 18 03.9 -1.1**
CCX	**Cicese**	**0.30**	**262**		IAML		20 18 10.1
	comp=E,262µm,0.4s						
CCX					IAML		20 18 10.1
	comp=N,166µm,0.4s						
CCX	**Cicese**	**0.30**	**262**	⇑*i*	*P*	**Pn**	**20 18 04.1 -1.0**
CCX				*e*	*S*	**Sb**	**20 18 08.7 +1.6**
ESJX	**Sierra Juarez**	**0.33**	**73**			**Pb**	**20 18 02.9 0.0**
ESJX					Sg	**Sg**	**20 18 06.7 +0.2**
ESJX					IAML		20 18 07.4
	comp=E,58µm,0.3s						
ESJX					IAML		20 18 07.8
	comp=N,38µm,0.1s						
SJX	**San Joaquin**	**0.34**	**116**	⇑*i*	*P*	**Pb**	**20 18 03.1 +0.2**
SJX				*e*	*S*	**Sg**	**20 18 07.2 +0.5**
PBX	**Punta Banda**	**0.39**	**244**	⇑*i*	*P*	**Pn**	**20 18 05.5 -0.8**
PBX				*e*	*S*	**Sn**	**20 18 11.8 -1.7**
PBX				⇑*e*			20 18 12.6
PBX					IAML		20 18 12.6
	comp=E,22µm,0.2s						
PBX				⇑*e*			20 18 12.9
PBX					IAML		20 18 12.9
	comp=N,45µm,0.2s						
RSLU	**Rancho San Lui**	**0.45**	**63**	⇑*i*	*P*	**Pb**	**20 18 05.0 +0.1**
RSLU				*e*	*S*	**Sg**	**20 18 10.6 +0.3**
CBX	**Cerro Bola**	**0.50**	**324**		Pg	**Pb**	**20 18 06.2 +0.5**
CBX					IAML		20 18 14.2
	comp=N,47µm,0.4s						
CBX					IAML		20 18 14.4
	comp=E,41µm,0.7s						
CBX	**Cerro Bola**	**0.50**	**324**			**Sb**	**20 18 13.5 +0.6**
CBX	**Cerro Bola**	**0.50**	**324**	*e*	*P*	**Pb**	**20 18 06.2 +0.5**
CBX				*e*	*S*	**Sb**	**20 18 13.4 +0.4**
CBX	**Cerro Bola**	**0.50**	**324**	⇑*i*	*P*	**Pb**	**20 18 06.3 +0.5**
CBX				*e*	*S*	**Sb**	**20 18 13.1 +0.2**
CBX					IAML		20 18 14.5
	comp=E,32µm,0.3s						
CBX				⇓*e*			20 18 14.5
ALAMX	**Rancho Alamar**	**0.53**	**79**	⇑*i*	*P*	**Pb**	**20 18 06.3 +0.2**
ALAMX				*e*	*S*	**Sg**	**20 18 12.8 +0.3**
ALAMX					IAML		20 18 13.3
	comp=E,29µm,0.2s						
ALAMX				⇑*e*			20 18 13.3
ALAMX				⇑*e*			20 18 13.9
ALAMX					IAML		20 18 13.9
	comp=N,26µm,0.2s						
SV2X	**San Vicente**	**0.57**	**173**	⇓*e*	*P*	**Pb**	**20 18 07.9 +1.0**
SV2X				*e*	*S*	**Sb**	**20 18 15.9 +1.0**
SV2X					IAML		20 18 16.7
	comp=E,12µm,0.1s						
SV2X				*e*			20 18 16.7
SV2X				⇑*e*			20 18 16.8
SV2X					IAML		20 18 16.8
	comp=N,15µm,0.0s						
TJIG	**Tijuana**	**0.60**	**330**	*e*	*P*	**Pb**	**20 18 07.8 +0.3**
TJIG				*e*	*S*	**Sb**	**20 18 15.5 -0.3**
TJIG	**Tijuana**	**0.60**	**330**	⇑*i*	*P*	**Pb**	**20 18 07.8 +0.3**
TJIG				*e*	*S*	**Sb**	**20 18 15.6 -0.3**
HDI	**Ejido Heroes d**	**0.68**	**116**	⇓*i*	*P*	Pn	20 18 23.4 +13
HDI				*e*	*S*	**Sn**	**20 18 29.8 +9.0**
VTX	**Valle De La Tr**	**0.69**	**139**			**Sb**	**20 18 18.5 +0.2**
VTX	**Valle De La Tr**	**0.69**	**139**			**Pb**	**20 18 09.3 +0.3**
VTX	**Valle De La Tr**	**0.69**	**139**		IAML		20 18 19.1
	comp=N,5µm,0.3s						
VTX					IAML		20 18 20.3
	comp=E,6µm,0.2s						
VTX	**Valle De La Tr**	**0.69**	**139**	*e*	*P*	**Pb**	**20 18 09.4 +0.5**
VTX				*e*			20 18 20.3
VTX					IAML		20 18 20.3
	comp=E,8µm,0.1s						
TKX	**Tecate**	**0.70**	**339**			**Sg**	**20 18 17.8 -0.2**
TKX	**Tecate**	**0.70**	**339**			**Pg**	**20 18 08.9 +0.2**
TKX	**Tecate**	**0.70**	**339**		IAML		20 18 18.7
	comp=E,74µm,0.2s						
TKX					IAML		20 18 19.5
	comp=N,22µm,0.2s						
TKX	**Tecate**	**0.70**	**339**	⇓*e*	*P*	**Pg**	**20 18 09.0 +0.2**
TKX				*e*	*S*	**Sg**	**20 18 17.9 -0.2**
RMX	**La Rumorosa**	**0.72**	**16**			**Pg**	**20 18 08.8 -0.3**
RMX	**La Rumorosa**	**0.72**	**16**			**Sg**	**20 18 17.1 -1.6**
RMX	**La Rumorosa**	**0.72**	**16**	⇓*i*	*P*	**Pg**	**20 18 08.9 -0.2**
RMX				*e*	*S*	**Sg**	**20 18 17.1 -1.6**
IKP	**In-Ko-Pah, Jac**	**0.76**	**13**			**Pg**	**20 18 10.0 +0.1**
IKP						**Sg**	**20 18 19.0 -0.9**
IKP	**In-Ko-Pah, Jac**	**0.76**	**13**		P	**Pg**	**20 18 10.0 +0.1**
	baz=193,SNR=1000						
IKP					S	**Sg**	**20 18 19.2 -0.7**
	baz=193						
IKP	**In-Ko-Pah, Jac**	**0.76**	**13**	⇓*i*	*P*	**Pg**	**20 18 10.0 +0.1**
IKP				*e*	*S*	**Sg**	**20 18 19.1 -0.7**
DUZA	**Dulzura**	**0.80**	**331**			**Pb**	**20 18 10.8 0.0**
DUZA						**Sg**	**20 18 20.9 -0.1**
YUH	**Yuha Desert**	**0.81**	**24**			**Sg**	**20 18 20.4 -1.0**
YUH	**Yuha Desert**	**0.81**	**24**		Pg	**Pg**	**20 18 10.6 -0.2**
YUH	**Yuha Desert**	**0.81**	**24**		IAML		20 18 20.7
	comp=N,27µm,0.3s						
YUH					IAML		20 18 21.3
	comp=E,31µm,0.3s						
YUH2	**Yuha Desert**	**0.81**	**24**	⇓*i*	*P*	**Pg**	**20 18 10.9 +0.1**
YUH2				*e*	*S*	**Sg**	**20 18 20.4 -1.0**
AGUTJ	**Tijuana**	**0.81**	**314**	⇑*e*	*P*	**Pn**	**20 18 11.8 -0.4**
BAR	**Barrett**	**0.82**	**339**			**Sg**	**20 18 21.4 -0.5**
BAR	**Barrett**	**0.82**	**339**		Pg	**Pg**	**20 18 10.9 -0.2**
BAR	**Barrett**	**0.82**	**339**		IAML		20 18 22.3
	comp=N,13µm,0.2s						
BAR					IAML		20 18 23.9
	comp=E,12µm,0.2s						
BAR	**Barrett**	**0.82**	**339**	⇓*e*	*P*	**Pg**	**20 18 11.1 -0.1**
BAR				*e*	*S*	**Sg**	**20 18 21.5 -0.5**
TJX	**Tijuana**	**0.86**	**314**			**Sn**	**20 18 24.9 -0.4**
TJX	**Tijuana**	**0.86**	**314**			**Pb**	**20 18 12.2 +0.3**
TJX	**Tijuana**	**0.86**	**314**		IAML		20 18 27.3
	comp=N,23µm,0.8s						
TJX					IAML		20 18 27.5
	comp=E,17µm,0.9s						
TJX	**Tijuana**	**0.86**	**314**	*e*	*P*	**Pn**	**20 18 12.7 -0.2**
TJX				*e*	*S*	**Sn**	**20 18 24.5 -0.8**
TJX	**Tijuana**	**0.86**	**314**	⇑*e*	*P*	**Pn**	**20 18 12.5 -0.4**
TJX				*e*	*S*	**Sn**	**20 18 24.7 -0.6**
OLP	**Otay Lakes Par**	**0.87**	**323**			**Pb**	**20 18 12.1 +0.1**
OLP						**Sb**	**20 18 23.6 +0.1**
OLP	**Otay Lakes Par**	**0.87**	**323**	⇑*i*	*P*	**Pb**	**20 18 12.2 +0.2**
OLP				*e*	*S*	**Sg**	**20 18 23.3 -0.1**
JARAX	**Ej. Heriberto**	**0.88**	**45**	*i*	*P*	**Pg**	**20 18 12.5 +0.2**
JARAX				*e*	*S*	**Sg**	**20 18 23.7 -0.1**
SGL	**Mount Signal**	**0.89**	**34**			**Pg**	**20 18 12.5 +0.1**
SGL						**Sg**	**20 18 23.5 -0.6**
RHX	**Rio Hardy**	**0.91**	**75**	⇑*i*	*P*	**Pg**	**20 18 12.7 +0.1**
RHX				*e*	*S*	**Sb**	**20 18 23.9 -0.6**
CORX	**Isla Coronado**	**0.94**	**303**	*i*	*P*	**Pn**	**20 18 13.9 0.0**
CORX				*e*	*S*	**Sn**	**20 18 26.9 -0.2**
SDRC	**San Diego Road**	**0.98**	**327**			**Pb**	**20 18 13.9 0.0**
SDRC	**San Diego Road**	**0.98**	**327**	⇓*i*	*P*	**Pb**	**20 18 13.9 0.0**
SDRC				*e*	*S*	**Sb**	**20 18 26.2 -0.4**
WESC	**Westside Schoo**	**0.98**	**30**			**Pn**	**20 18 14.5 0.0**
WESC						**Sg**	**20 18 27.2 +0.3**
WESC	**Westside Schoo**	**0.98**	**30**	⇓*i*	*P*	**Pn**	**20 18 14.5 0.0**
WESC				*e*	*S*	**Sg**	**20 18 27.2 +0.3**
MONP2	**Monument Peak**	**0.98**	**355**			**Pb**	**20 18 13.9 -0.2**
MONP2						**Sb**	**20 18 26.2 -0.8**
MONP2	**Monument Peak**	**0.98**	**355**		P	**Pb**	**20 18 13.9 -0.2**
	baz=174,SNR=443						
MONP2					S	**Sb**	**20 18 26.2 -0.8**
	baz=174						
MONP2	**Monument Peak**	**0.98**	**355**	⇓*i*	*P*	**Pb**	**20 18 13.8 -0.2**
CPBX	**Cerro Prieto**	**1.00**	**59**			**Sg**	**20 18 28.0 +0.6**
CPBX	**Cerro Prieto**	**1.00**	**59**			**Pg**	**20 18 14.6 +0.2**
CPBX	**Cerro Prieto**	**1.00**	**59**		IAML		20 18 34.0
	comp=N,71µm,0.6s						
CPBX					IAML		20 18 36.0
	comp=E,90µm,0.6s						
CPBX	**Cerro Prieto**	**1.00**	**59**	*i*	*P*	**Pn**	**20 18 14.7 0.0**
CPBX				*e*	*S*	**Sg**	**20 18 27.5 +0.1**
CRR	**Carrizo Plain**	**1.02**	**17**			**Pg**	**20 18 14.7 -0.1**
5053	**Calexico**	**1.03**	**42**			**Pn**	**20 18 15.5 +0.3**
5053						**Sn**	**20 18 29.4 +0.1**
UABX	**UABC, Campus M**	**1.03**	**46**			**Sn**	**20 18 29.8 +0.3**
UABX	**UABC, Campus M**	**1.03**	**46**			**Pg**	**20 18 15.1 0.0**
UABX	**UABC, Campus M**	**1.03**	**46**		IAML		20 18 30.4
	comp=N,181µm,0.3s						
UABX					IAML		20 18 30.5
	comp=E,120µm,0.4s						
UABX	**UABC, Campus M**	**1.03**	**46**	⇓*e*	*P*	**Pn**	**20 18 15.3 +0.2**
AGSX	**Ej. Aguas Cali**	**1.04**	**70**	⇑*e*	*P*	**Pb**	**20 18 15.1 +0.1**
COK2	**Cook Ranch 2**	**1.06**	**28**			**Pg**	**20 18 15.8 +0.2**
COK2						**Sn**	**20 18 29.9 -0.2**
POT2	**Potabilizadora**	**1.06**	**48**	⇓*e*	*P*	**Pg**	**20 18 16.0 +0.4**
POT2				*e*	*S*	**Sn**	**20 18 30.7 +0.5**
MBIG	**Mexicali**	**1.07**	**62**	*e*	*P*	**Pb**	**20 18 14.7 -0.8**
MBIG				*e*	*P*	**Pg**	**20 18 15.8 +0.1**
MBIG				*e*	*S*	**Sb**	**20 18 27.7 -1.5**
MBIG				*e*	*S*	**Sn**	**20 18 31.1 +0.8**
MBIG	**Mexicali**	**1.07**	**62**	⇓*e*	*P*	**Pg**	**20 18 16.0 +0.2**
MBIG				*e*	*S*	**Sn**	**20 18 30.9 +0.6**
SDMC	**San Diego Miss**	**1.11**	**322**			**Pg**	**20 18 16.7 +0.1**
SWSC	**Sam W. Stewart**	**1.12**	**23**		P	**Pb**	**20 18 16.3 0.0**
	baz=203,SNR=1000						
SWSC					S	**Sb**	**20 18 30.6 -0.1**
	baz=203						
SWSC	**Sam W. Stewart**	**1.12**	**23**	⇓*i*	*P*	**Pb**	**20 18 16.3 0.0**
SWSC				*e*	*S*	**Sb**	**20 18 30.5 -0.1**
SPIG	**San Pedro Mart**	**1.13**	**140**	*e*	*P*	**Pg**	**20 18 17.0 +0.1**
SPIG				*e*	*S*	**Sb**	**20 18 31.6 +0.3**
SPIG	**San Pedro Mart**	**1.13**	**140**	*e*	*P*	**Pg**	**20 18 17.0 +0.1**
SPIG				*e*	*S*	**Sg**	**20 18 31.7 0.0**
CTLX	**Tlaxcala, TLX**	**1.14**	**60**	*e*	*P*	**Pg**	**20 18 17.1 -0.1**
DREC	**Desert Rsrch C**	**1.16**	**39**	⇓*e*	*P*	**Pb**	**20 18 17.1 +0.2**
DREC				*e*	*S*	**Sg**	**20 18 33.1 +0.6**
ECBX	**El Chinero**	**1.16**	**112**	⇑*i*	*P*	**Pn**	**20 18 16.7 -0.2**
ECBX				*e*	*S*	**Sb**	**20 18 32.1 +0.2**
ECBX				⇑*e*			20 18 34.2
ECBX					IAML		20 18 34.2
	comp=E,7µm,0.7s						
ECBX					IAML		20 18 35.8
	comp=N,5µm,1.1s						
RITX	**Riito Sonora**	**1.18**	**77**	⇑*e*	*P*	**Pg**	**20 18 19.0 +1.2**
109C	**Camp Elliot, M**	**1.18**	**326**			**Pn**	**20 18 17.1 -0.1**
109C					IAML		20 18 33.6
	comp=E,15µm,0.2s						
109C	**Camp Elliot, M**	**1.18**	**326**		P	**Pn**	**20 18 17.3 0.0**
	baz=144,SNR=124						
109C					S	**Sb**	**20 18 32.5 0.0**
	baz=144						
YUCAX	**Ej. Yucat¡n**	**1.25**	**56**	⇓*i*	*P*	**Pb**	**20 18 18.3 -0.1**
YUCAX				*e*	*S*	**Sb**	**20 18 34.1 -0.2**
SLH	**Sleepy Hollow**	**1.28**	**2**	⇓*i*	*P*	**Pb**	**20 18 19.1 +0.1**
SLH				*e*	*S*	**Sn**	**20 18 35.5 -0.1**
WEMD	**Westmorland, C**	**1.28**	**29**	*e*	*P*	**Pn**	**20 18 18.7 +0.1**
WEMD				*e*	*S*	**Sn**	**20 18 36.0 +0.3**
MATG	**Mataguay Scout**	**1.31**	**348**	⇓*e*	*P*	**Pn**	**20 18 19.2 0.0**
MATG				*e*	*S*	**Sb**	**20 18 36.3 -0.2**
EDOMX	**El Doctor, EDO**	**1.34**	**88**	⇑*i*	*P*	**Pn**	**20 18 19.2 -0.2**
SQX	**San Quintin**	**1.38**	**164**	⇓*e*	*P*	**Pb**	**20 18 20.9 +0.2**
SQX				*e*	*S*	**Sb**	**20 18 39.0 +0.7**
SQX					IAML		20 18 40.0
	comp=N,5µm,0.1s						
SQX					IAML		20 18 41.2
	comp=E,5µm,0.3s						
SQX				⇓*e*			20 18 41.2
EMSC	**East Mesa**	**1.40**	**53**	⇓*i*	*P*	**Pn**	**20 18 20.3 +0.1**
EMSC				*e*	*S*	**Sn**	**20 18 37.4 -1.1**
SLRCX	**San Luis Rio C**	**1.47**	**68**	⇓*e*	*P*	**Pb**	**20 18 21.8 -0.5**
SFX	**San Felipe**	**1.52**	**124**			**Pn**	**20 18 22.0 0.0**
SFX	**San Felipe**	**1.52**	**124**	*e*	*P*	**Pn**	**20 18 21.9 0.0**
SFX				*i*	S	**Sg**	**20 18 44.0 -0.3**
SFX	**San Felipe**	**1.52**	**124**	⇑*e*	*P*	**Pn**	**20 18 21.9 0.0**
GLA	**Glamis**	**1.70**	**48**			**Pn**	**20 18 24.2 -0.1**
GLA					IAML		20 18 56.6
	comp=N,4µm,0.5s						
GLA					IAML		20 18 56.9
	comp=E,4µm,0.5s						
GLA	**Glamis**	**1.70**	**48**		P	**Pn**	**20 18 24.3 -0.1**
	baz=229,SNR=187						
GLA					S	**Sn**	**20 18 44.6 -1.3**
	baz=229						
GLA	**Glamis**	**1.70**	**48**	⇓*i*	*P*	**Pn**	**20 18 24.3 -0.1**
GLA				*e*	*S*	**Sn**	**20 18 44.0 -1.9**
PFO	**Pinyon Flats O**	**1.70**	**356**		Pn	**Pn**	**20 18 24.8 +0.2**
PFO					IAML		20 18 49.0
	comp=E,3µm,0.8s						
PFO	**Pinyon Flats O**	**1.70**	**356**		P	**Pn**	**20 18 25.0 +0.5**
	baz=175,SNR=388						
PFO					S	**Sb**	**20 18 46.9 -0.6**
	baz=175						
PFO	**Pinyon Flats O**	**1.70**	**356**		Pg	**Pn**	**20 18 24.9 +0.5**
	comp=E,89nm,0.3s,baz=177,slow=14,SNR=227						
PFO					LR	LR	20 18 36.9
	comp=E,102nm,18.4s,baz=92,slow=25						
PFO					Lg	Lg	20 18 45.9
	comp=E,900nm,0.3s,baz=254,slow=13,SNR=35						
MURC	**Murrieta**	**1.84**	**336**		P	**Pb**	**20 18 27.7 -0.9**
	baz=155,SNR=173						
MURC					S	**Sb**	**20 18 50.9 -0.6**
	baz=155						
BC3	**Big Chuckawall**	**1.89**	**22**		P	**Pn**	**20 18 27.4 +0.3**
	baz=203,SNR=535						
BC3					Sb	**Sb**	**20 18 54.3 +1.5**
	baz=203						
ELS	**Elsinore Mount**	**1.97**	**332**			**Pn**	**20 18 29.1 +0.9**
ELS					IAML		20 18 55.5
	comp=E,4µm,0.5s						
ELS					IAML		20 19 01.2
	comp=N,2µm,0.9s						
BELC	**Belle Mtn. Jos**	**2.10**	**7**		P	**Pn**	**20 18 30.5 +0.4**
	baz=187,SNR=234						
BELC					S	**Sn**	**20 18 56.4 +0.4**
	baz=187						
SCI2	**San Clemente I**	**2.17**	**300**		P	**Pn**	**20 18 31.2 +0.4**
	baz=118,SNR=23						
SCI2					S	**Sn**	**20 18 58.6 +1.1**
	baz=118						
CIAC	**Catalina I. Ai**	**2.31**	**311**			**Pn**	**20 18 33.3 +0.5**
CIS	**Catalina Islan**	**2.31**	**311**		P	**Pn**	**20 18 32.7 -0.1**
	baz=129,SNR=44						
CIS					S	**Sn**	**20 19 00.4 -0.7**
	baz=129						
113A	**Mohawk Valley,**	**2.32**	**68**			**Pn**	**20 18 33.3 +0.4**
PPXB	**Puerto Peasco**	**2.36**	**103**	⇑*i*	*P*	**Pn**	**20 18 32.7 -0.7**
BLYC	**Blythe**	**2.38**	**39**		Pn	**Pn**	**20 18 34.1 +0.4**
BLYC					IAML		20 19 16.9
	comp=E,2µm,0.8s						
BLYC					IAML		20 19 18.9
	comp=N,1µm,1.0s						
BBRC	**Big Bear Solar**	**2.40**	**348**		P	**Pn**	**20 18 35.9 +1.7**
	baz=167,SNR=9.7						
BBRC					S	**Sn**	**20 19 04.8 +1.3**
	baz=167						
IRM	**Iron Mountain**	**2.45**	**23**		P	**Pn**	**20 18 35.6 +0.9**
	baz=204,SNR=205						
IRM					S	**Sn**	**20 19 06.3 +1.8**
	baz=204						
FMP	**Fort Macarthur**	**2.45**	**318**		Pb	**Pb**	**20 18 39.8 +0.8**
	baz=136						
FMP					Sb	**Sb**	**20 19 10.8 +1.8**
	baz=136						
PIX	**Pinacate**	**2.46**	**97**		Pn	**Pn**	**20 18 33.9 -0.9**
PIX	**Pinacate**	**2.46**	**97**	⇑*i*	*P*	**Pn**	**20 18 34.0 -0.8**
BFSC	**Mount Baldy Ra**	**2.58**	**334**		P	**Pn**	**20 18 37.9 +1.3**
	baz=153,SNR=94						
PASC	**Pasadena Art C**	**2.75**	**326**			**Pn**	**20 18 39.6 +0.8**
PASC					IAML		20 19 23.4
	comp=N,1µm,0.9s						
PASC					IAML		20 19 24.7
	comp=E,1µm,0.6s						
DECC	**Green Verdugo**	**2.89**	**325**		P	**Pn**	**20 18 42.0 +1.3**
	baz=143						
DECC					Sb	**Sb**	**20 19 22.7 +1.1**
	baz=143						
HEC	**Hector,Ludlow**	**2.91**	**360**		P	**Pn**	**20 18 42.3 +1.2**
	baz=179,SNR=16						
HEC					Sb	**Sb**	**20 19 24.5 +2.1**
	baz=179						
GMRC	**Granite Mounta**	**2.92**	**11**		P	**Pn**	**20 18 42.3 +1.0**
	baz=191,SNR=65						
GMRC					S	**Sn**	**20 19 16.1 -0.1**
	baz=191						
214A	**Organ Pipe Nat**	**2.98**	**88**			**Pn**	**20 18 41.6 -0.5**
214A	**Organ Pipe Nat**	**2.98**	**88**		P	**Pn**	**20 18 41.8 -0.3**
	baz=271,SNR=30						
214A					S	**Sn**	**20 19 16.2 -1.4**
	baz=271						
214A	**Organ Pipe Nat**	**2.98**	**88**	*e*	*P*	**Pn**	**20 18 41.5 -0.5**
214A				*e*	*S*	**Sn**	**20 19 13.6 -4.0**
214A	**Organ Pipe Nat**	**2.98**	**88**	⇑*e*	*P*	**Pn**	**20 18 41.7 -0.3**
PDMCI	**Parker Dam,Lak**	**3.00**	**37**		P	**Pn**	**20 18 43.4 +1.1**
	baz=218,SNR=40						
PDMCI					Sb	**Sb**	**20 19 27.6 +2.7**
	baz=218						
RRX	**Edison Barstow**	**3.01**	**349**		P	**Pn**	**20 18 43.2 +0.8**
	baz=168						
RRX					Sb	**Sb**	**20 19 27.7 +2.5**
	baz=168						
SNCC	**San Nicolas Is**	**3.02**	**297**			**Pn**	**20 18 43.2 +0.7**
SNCC	**San Nicolas Is**	**3.02**	**297**		P	**Pn**	**20 18 43.9 +1.4**
	baz=115						
SNCC					S	**Sn**	**20 19 21.1 +2.6**
	baz=115						
NEE2	**Needles Airpor**	**3.18**	**26**		P	**Pn**	**20 18 46.2 +1.4**
	baz=207,SNR=25						
NEE2					Sb	**Sb**	**20 19 32.5 +2.4**
	baz=207						
EDW2	**Edwards Air Fo**	**3.28**	**335**		P	**Pn**	**20 18 48.5 +2.4**
	baz=154,SNR=48						
EDW2					Sb	**Sb**	**20 19 34.2 +1.3**
	baz=154						
OSI	**Osito Audit: C**	**3.37**	**324**		P	**Pn**	**20 18 49.3 +1.9**
	baz=142,SNR=12						
OSI					S	**Sn**	**20 19 26.9 -0.2**
	baz=142						
GSC	**Goldstone, Bar**	**3.41**	**353**		Pn	**Pn**	**20 18 49.3 +1.3**
GSC					IAML		20 19 47.6
	comp=E,885nm,1.1s						
GSC					IAML		20 19 53.0
	comp=N,609nm,1.1s						
GSC	**Goldstone, Bar**	**3.41**	**353**		P	**Pn**	**20 18 49.6 +1.6**
	baz=173,SNR=30						
GSC					S	**Sn**	**20 19 29.7 +1.5**
	baz=173						
Y14A	**Wickenburg**	**3.44**	**53**		Pn	**Pn**	**20 18 49.4 +1.0**
SCZ2	**Santa Cruz Isl**	**3.48**	**308**		P	**Pn**	**20 18 51.2 +2.3**
	baz=125						
SCZ2					Sb	**Sg**	**20 19 43.7 -3.2**
	baz=125						
CCAC	**Calif City Air**	**3.53**	**337**			**Pn**	**20 18 51.2 +1.6**
TUQ	**Turquoise Moun**	**3.53**	**5**		P	**Pn**	**20 18 51.0 +1.3**
	baz=185,SNR=24						
TUQ					Sb	**Sb**	**20 19 43.6 +3.4**
	baz=185						
LAPR	**La Primavera**	**3.70**	**111**	*e*	*P*	**Pn**	**20 18 52.4 +0.5**
LAPR				*e*	*S*	**Sb**	**20 19 42.4 -2.6**
LAPR	**La Primavera**	**3.70**	**111**	⇑*e*	*P*	**Pn**	**20 18 52.4 +0.5**
LRMC	**Laurel Mtn Rad**	**3.74**	**343**		P	**Pn**	**20 18 54.2 +1.6**
	baz=162,SNR=33						
LRMC					Sb	**Sb**	**20 19 49.6 +3.4**
	baz=162						
W13A	**Hualapai Mount**	**3.77**	**32**			**Pn**	**20 18 54.5 +1.4**
SBC	**Santa Barbara**	**3.81**	**312**		Sg	**Sg**	**20 20 01.5 +4.1**
	baz=130						
ARVC	**Arvin**	**3.83**	**327**		P	**Pn**	**20 18 56.5 +2.8**
	baz=146						
ARVC					Sb	**Sb**	**20 19 52.7 +3.9**
	baz=146						
BCW	**Bitter Crk WRg**	**3.98**	**320**			**Pn**	**20 18 58.1 +2.3**
BCW					IAML		20 19 44.0
	comp=N,582nm,0.9s						
BCW					IAML		20 19 49.9
	comp=E,805nm,0.8s						
SHOC	**Shoshone, Teco**	**3.98**	**0**		P	**Pn**	**20 18 57.3 +1.6**
	baz=180,SNR=9.0						
SHOC					Sb	**Sb**	**20 19 56.9 +3.9**
	baz=180						
V12A	**Nelson**	**4.00**	**17**			**Pn**	**20 18 57.4 +1.3**
ISA	**Isabella, Lake**	**4.15**	**335**			**Pn**	**20 18 59.9 +1.7**
ISA					IAML		20 20 05.4
	comp=E,310nm,0.7s						
ISA	**Isabella, Lake**	**4.15**	**335**		P	**Pn**	**20 19 00.2 +2.1**
	baz=153,SNR=5.7						
ISA					Sb	**Sb**	**20 20 01.9 +3.9**
	baz=153						
PKM	**Mcpherson Peak**	**4.17**	**316**		P	**Pn**	**20 18 59.8 +1.3**
	baz=134						
PKM					S	**Sn**	**20 19 48.3 +1.2**
	baz=134						
MPMC	**Manual Prospec**	**4.25**	**347**		P	**Pn**	**20 19 01.5 +1.8**
	baz=166,SNR=29						
MPMC					Sb	**Sg**	**20 20 06.4 -5.2**
	baz=166						
GWY	**Greenwater Val**	**4.27**	**356**			**Pn**	**20 19 01.2 +1.3**
WTNK	**Soaring Height**	**4.41**	**14**			**Pn**	**20 19 02.7 +1.1**
VES	**Vestal, Richgr**	**4.55**	**330**		P	**Pn**	**20 19 06.2 +2.7**
	baz=148,SNR=12						
VES					Sb	**Sb**	**20 20 14.5 +5.1**
	baz=148						
FURC	**Furnace Creek,**	**4.57**	**354**		P	**Pn**	**20 19 05.7 +2.0**
	baz=174						
FURC					Sb	**Sb**	**20 20 15.7 +5.8**
	baz=174						
SMMC	**Simmler**	**4.58**	**319**		P	**Pn**	**20 19 06.7 +2.8**
	baz=136						
SMMC					S	**Sn**	**20 19 58.2 +1.2**
	baz=136						
SHPR	**Sheep Range**	**4.68**	**11**			**Pn**	**20 19 06.7 +1.1**
TUC	**Tucson**	**4.71**	**84**			**Pn**	**20 19 06.3 +0.4**
TUC	**Tucson**	**4.71**	**84**		P	**Pn**	**20 19 06.1 +0.3**
	baz=267						
TUC					Sb	**Sb**	**20 20 19.8 +5.6**
	baz=267						
TUC	**Tucson**	**4.71**	**84**	*e*	*P

MSU	Marysvale	7.41	26			Pn	20 19 46.0	+3.1
PNTR	Pine Nut	7.65	340	Pn		Pn	20 19 47.2	+0.9
Q16A	Castle Valley	8.15	30			Pn	20 19 54.9	+1.6
MVCO	Mesa Verde	8.34	49			Pn	20 19 57.4	+1.7
MVCO	Mesa Verde	8.34	49	P		Pn	20 19 59.7	+4.0
	baz=233,SNR=41							
BMN	Battle Mountai	8.54	355			Pn	20 20 00.1	+1.7
SRU	San Rafael Swe	8.60	32			Pn	20 20 02.3	+3.0
DUG	Dugway, Tooele	8.74	18	P		Pn	20 20 07.3	+6.1
	baz=200							
ANMO	Albuquerque	8.78	67			Pn	20 20 03.5	+1.6
ANMO	Albuquerque	8.78	67	P		Pn	20 20 04.4	+2.6
	baz=253							
ANMO	Albuquerque	8.78	67	Pn		Pn	20 20 01.9	+0.1
	comp=E,0.3nm,0.3s,baz=342,slow=12,SNR=9.5							
ANMO				Lg		Lg	20 22 23.4	
	comp=E,0.1nm,0.3s,baz=98,slow=22,SNR=0.8							
ANMO				LR		LR	20 23 39.3	
	comp=E,368nm,19.1s,baz=351,slow=40							
	comp=E,3.1nm,0.6s							
ELK	Elko	8.86	5			Pn	20 20 03.8	+0.9
ELK	Elko	8.86	5	Pn		Pn	20 20 06.0	+3.1
	comp=E,0.4nm,0.3s,baz=192,slow=12,SNR=12							
ELK				Lg		Lg	20 22 29.9	
	comp=E,0.3nm,0.3s,baz=9.5,slow=6.1,SNR=2.4							
	comp=E,1.7nm,0.4s							
P18A	Preston Nutter	9.14	31			Pn	20 20 09.8	+2.9
MNTX	Cornudas Mount	9.31	88	P		Pn	20 20 10.9	+1.9
	baz=274,SNR=12							
MNTX				S		Sn	20 21 55.3	+1.9
	baz=274							
MNTX	Cornudas Mount	9.31	88	*e*P		Pn	20 20 10.4	+1.5
MNTX				*e*S		Sn	20 21 49.8	-3.7
S22A	4UR Ranch, Cre	9.73	51			Pn	20 20 16.8	+1.9
S22A	4UR Ranch, Cre	9.73	51	P		Pn	20 20 18.3	+3.4
	baz=236							
VHRN	Van Horn	9.76	94			Pn	20 20 16.3	+1.1
O20A	White River Ci	10.49	36	P		Pn	20 20 29.2	+3.9
	baz=221							
SDCO	Great Sand Dun	10.62	54			Pn	20 20 28.6	+1.4
SDCO	Great Sand Dun	10.62	54	P		Pn	20 20 30.7	+3.5
	baz=240							
YBH	Yreka Blue Hor	11.06	334	Pn		Pn	20 20 37.7	+4.8
	comp=E,0.1nm,0.3s,baz=185,slow=11,SNR=4.1							
YBH				LR		LR	20 24 03.8	
	comp=E,16nm,21.7s,baz=256,slow=33							
	comp=E,1.5nm,0.8s							
T25A	Trinidad	11.12	59	P		Pn	20 20 37.3	+3.4
	baz=246							
TX31	Lajitas Ar. Si	11.19	100			Pn	20 20 35.4	+0.5
TXAR	Lajitas Array	11.20	100			Pn	20 20 36.0	+1.1
TXAR	Lajitas Array	11.20	100	Pn		Pn	20 20 38.0	+3.1
	comp=E,0.9nm,0.3s,baz=281,slow=14,SNR=54							
TXAR				Lg		Lg	20 23 43.4	
	comp=E,0.1nm,0.3s,baz=289,slow=35,SNR=3.3							
TXAR				LR		LR	20 25 15.6	
	comp=E,158nm,20.2s,baz=274,slow=40							
	comp=E,1.3nm,0.4s							
Q24A	Divide	11.50	49	P		Pn	20 20 43.2	+4.0
	baz=236							
MSTX	Muleshoe	11.56	76	P		Pn	20 20 44.2	+4.3
	baz=264							
ISCO	Idaho Springs	11.71	45	P		Pn	20 20 46.7	+4.6
	baz=231							
HLID	Hailey	11.73	7	P		Pn	20 20 46.5	+4.3
	baz=188							
BW06	Boulder Array	12.09	24	P		Pn	20 20 51.4	+4.2
	baz=208							
PD31	Pinedale Array	12.09	24			Pn	20 20 45.0	-2.2
PDAR	Pinedale Array	12.09	24			Pn	20 20 47.2	0.0
PDAR	Pinedale Array	12.09	24	Pn		Pn	20 20 51.2	+4.1
	comp=E,0.2nm,0.3s,baz=215,slow=12,SNR=24							
PDAR				Lg		Lg	20 24 21.2	
	comp=E,0.1nm,0.3s,baz=205,slow=27,SNR=1.7							
PDAR				LR		LR	20 24 54.3	
	comp=E,41nm,21.4s,baz=208,slow=35							
	comp=E,4.7nm,1.0s							
REDW	Red Top Meadow	12.22	19			Pn	20 20 46.9	-2.0
N23A	Red Feather La	12.25	40	P		Pn	20 20 52.9	+3.5
	baz=226							
I04A	Tendick Farm,	12.80	340			Pn	20 20 54.3	-2.3
K22A	Casper	13.24	33			Pn	20 21 01.3	-1.6
K22A	Casper	13.24	33	P		Pn	20 21 06.8	+3.9
	baz=219							
BOZ	Bozeman (W)	14.14	14			Pn	20 21 12.7	-2.4
BOZ	Bozeman (W)	14.14	14	P		P	20 21 21.0	-1.7
	baz=196							
RLMT	Red Lodge	14.29	21	P		P	20 21 22.7	-1.8
	baz=205							
BRDY	Brady	14.77	88	Pn		Pn	20 21 23.4	-0.3
WMOK	Wichita Mounta	14.93	74			Pn	20 21 24.6	-1.2
WMOK	Wichita Mounta	14.93	74	P		Pn	20 21 28.3	+2.5
	baz=264							
MSO	Missoula	15.01	6	P		P	20 21 31.3	-1.0
	baz=188							
F03A	Seaside	15.08	340	P		Pn	20 21 24.9	-2.8
RSSD	Black Hills	15.54	35			Pn	20 21 31.8	-2.2
RSSD				IAmb		IAmb	20 21 42.9	
	comp=Z,14nm,0.9s							
RSSD	Black Hills	15.54	35	P		Pn	20 21 33.6	-0.4
	baz=222							
E03A	Lebam	15.64	341	P		Pn	20 21 36.3	+1.2
X34A	Smith Ranch, M	15.70	75			Pn	20 21 34.0	-1.9
WHTX	Lake Whitney,	16.01	85			Pn	20 21 38.7	-1.3
WHTX				IAmb		IAmb	20 21 55.1	
	comp=Z,26nm,0.9s							
NEW	Newport	16.35	358			Pn	20 21 41.4	-2.7
NEW	Newport	16.35	358	P		Pn	20 21 44.3	+0.2
	baz=178							
NEW	Newport	16.35	358	Pn		P	20 21 47.7	+0.7
	comp=Z,0.2nm,0.3s,baz=175,slow=14,SNR=5.9							
NEW				LR		LR	20 27 24.9	
	comp=Z,69nm,21.3s,baz=176,slow=35							
	comp=Z,3.0nm,0.8s							
B08A	Colville Reser	16.59	353			Pn	20 21 45.9	-1.3
OK048	Pawnee Station	16.65	69			Pn	20 21 46.5	-1.5
OK048				IAmb		IAmb	20 22 02.2	
	comp=Z,26nm,0.9s							
LAO	LASA Array	16.68	25			Pn	20 21 45.9	-2.5
LAO				IAmb		IAmb	20 21 56.3	
	comp=Z,33nm,1.2s							
LAO	LASA Array	16.68	25	P		Pn	20 21 48.0	-0.3
	baz=211							
OK051	E0350 and S346	16.75	69			Pn	20 21 49.0	-0.4
QUOK	Quay	16.80	70	P		Pn	20 21 48.7	-1.2
EGMT	Eagleton	16.85	15			Pn	20 21 48.8	-1.8
EGMT	Eagleton	16.85	15	P		Pn	20 21 51.3	+0.7
	baz=200							
T35A	Sooner Cattle	17.08	68	Pn		Pn	20 21 49.2	-4.3
237A	Washetta, Mont	17.41	84	Pn		Pn	20 21 54.6	-3.0
237A				IAmb		IAmb	20 22 22.6	
	comp=Z,26nm,1.1s							
TUL3	Leonard	17.49	71	Pn		Pn	20 21 58.4	-0.3
TUL3				IAmb		IAmb	20 22 09.9	
	comp=Z,12nm,0.7s							
KSU1	Kansas State U	17.56	60	Pn		Pn	20 21 58.5	-1.0
KSU1				IAmb		IAmb	20 22 13.1	
	comp=Z,18nm,0.8s							
X37A	Clayton	17.72	76			Pn	20 21 59.6	-1.9
X37A				IAmb		IAmb	20 22 15.1	
	comp=Z,36nm,0.9s							
Z38A	Mt. Pleasant	18.03	80	Pn		Pn	20 22 01.4	-3.9
Z38A				IAmb		IAmb	20 22 19.5	
	comp=Z,32nm,1.1s							
NATX	Nacogdoches	18.40	85	P		P	20 22 06.9	-2.9
NATX				IAmb		IAmb	20 22 21.5	
	comp=Z,44nm,1.4s							
U38A	Gravette	18.69	70	P		P	20 22 11.2	-1.8
N35A	Tabor	18.86	56	P		P	20 22 10.8	-3.9
N35A				IAmb		IAmb	20 22 28.3	
	comp=Z,40nm,1.4s							
DGMT	Dagmar	18.91	26	P		P	20 22 12.1	-3.2
DGMT				IAmb		IAmb	20 22 20.8	
	comp=Z,14nm,0.9s							
E28A	Huff	18.94	35	P		P	20 22 12.6	-3.1
HHAR	Hobbs	19.03	71			P	20 22 15.1	-1.6
MIAR	Mount Ida	19.20	76	P		Pn	20 22 20.5	+1.0
	baz=269,SNR=8.7							
WLAR	White Oak Lake	19.58	79	P		P	20 22 22.5	-0.2
S39A	Bolivar	19.72	67	P		P	20 22 22.9	-1.4
UALR	University of	20.22	75	P		P	20 22 29.1	-0.6
UALR				IAmb		IAmb	20 22 42.9	
	comp=Z,18nm,1.2s							
WHAR	Wooly Hollow	20.28	74	P		P	20 22 28.0	-2.4
FCAR	Ozark Folk Cen	20.45	72	P		P	20 22 29.7	-2.6
FCAR				IAmb		IAmb	20 22 45.0	
	comp=Z,16nm,1.3s							
MGMO	Mountain Grove	20.47	69	P		P	20 22 31.0	-1.5
R40A	Maddies Statio	20.65	65	P		P	20 22 34.8	+0.5
R40A				IAmb		IAmb	20 22 46.1	
	comp=Z,14nm,0.8s							
CCAR	Cane Creek	20.69	78	P		P	20 22 32.9	-2.0
F33A	5 Mile Ranch,	20.81	42	P		P	20 22 31.8	-4.3
F33A				IAmb		IAmb	20 22 38.9	
	comp=Z,13nm,1.0s							
P40A	Paris	21.08	62	P		P	20 22 36.2	-2.8
LCAR	Lake Charles	21.25	72	P		P	20 22 39.8	-1.0
LCAR				IAmb		IAmb	20 22 55.1	
	comp=Z,29nm,1.4s							
T42A	Van Buren	21.39	69	P		P	20 22 42.2	-0.1
T42A				IAmb		IAmb	20 22 52.9	
	comp=Z,13nm,0.9s							
CCM	Cathedral Cave	21.41	66	P		P	20 22 42.3	-0.2
CCM				IAmb		IAmb	20 22 56.4	
	comp=Z,22nm,1.2s							
CCM	Cathedral Cave	21.41	66	P		P	20 22 43.0	+0.5
	baz=261							
I37A	Lemond, Waseca	21.66	50	P		P	20 22 44.5	-0.6
PBMO	Poplar Bluff	21.89	70	P		P	20 22 45.5	-2.2
PBMO				IAmb		IAmb	20 22 58.3	
	comp=Z,7.3nm,0.8s							
FVM	French Village	22.03	67	P		P	20 22 46.5	-2.8
N41A	Harden Midland	22.26	60	P		P	20 22 50.2	-1.4
N41A				IAmb		IAmb	20 22 55.7	
	comp=Z,20nm,1.3s							
CGM3	Cape Girardeau	22.55	69	P		P	20 22 52.8	-2.0
I40A	Norwalk	23.44	52	P		P	20 23 04.6	+0.7
I40A				IAmb		IAmb	20 23 15.2	
	comp=Z,12nm,0.9s							
ULM	Lac du Bonnet	23.80	34	P		P	20 23 05.4	-2.0
ULM				IAmb		IAmb	20 23 09.5	
	comp=Z,14nm,1.4s							
ULM	Lac du Bonnet	23.80	34	P		P	20 23 09.1	+1.7
	comp=Z,4.9nm,0.8s,baz=250,slow=11,SNR=5.0							
	comp=Z,4.9nm,0.8s							
SFIN	Lafayette	24.98	62	P		P	20 23 15.0	-3.2
SFIN				IAmb		IAmb	20 23 30.5	
	comp=Z,9.8nm,1.1s							
FFC	Flin Flon	24.98	20	P		P	20 23 14.7	-3.5
FFC				IAmb		IAmb	20 23 21.7	
	comp=Z,6.4nm,0.8s							
CLTN	Cedars of Leba	25.16	72	P		P	20 23 20.4	+0.5
CLTN				IAmb		IAmb	20 23 24.9	
	comp=Z,9.8nm,1.0s							
BLO	Bloomington	25.23	65	P		P	20 23 17.4	-3.1
250A	Grady	25.46	82	P		P	20 23 19.9	-2.8
DLBC	Dease Lake	28.12	345	LR		LR	20 34 56.8	
	comp=Z,63nm,21.9s,baz=132,slow=36							
MCWV	Mont Chateau	30.42	65	P		P	20 24 06.2	-0.8
YKA	Yellowknife Ar	30.62	2	LR		LR	20 37 27.5	
	comp=Z,132nm,18.7s,baz=112,slow=38							
I28M	Miner Creek	36.53	344	P		P	20 24 59.3	-0.8
HATHI	Halema'uma'u T	37.05	260	P		P	20 25 05.3	+0.4
BYL	Byron's Ledge	37.05	260	P		P	20 25 04.5	-0.5
ILAR	Eielson Array	37.90	339	P		P	20 25 14.2	+2.7
	comp=Z,1.2nm,0.7s,baz=151,slow=7.5,SNR=12							
	comp=Z,1.2nm,0.7s							
G26K	Porcupine Rive	38.68	343	P		P	20 25 19.0	+1.0
	baz=141,SNR=6.0							
MLY	Manley	39.28	338	P		P	20 25 23.6	+0.4
L18K	Granite Mounta	39.80	332	P		P	20 25 27.3	-0.1
L18K				IAmb		IAmb	20 25 31.8	
	comp=Z,8.2nm,1.1s							
H22K	Ishtalitna Cre	40.05	338	P		P	20 25 29.8	+0.3
	baz=131,SNR=6.6							
H21K	Melozitna Rive	40.35	338	P		P	20 25 32.2	+0.2
H21K				IAmb		IAmb	20 25 36.3	
	comp=Z,4.6nm,0.9s							
H21K	Melozitna Rive	40.35	338	P		P	20 25 33.1	+1.1
	baz=129,SNR=7.5							
M15K	Kasigluk River	40.80	328	P		P	20 25 36.7	+1.0
	baz=114,SNR=5.2							
IMAR	Indian Mountai	40.85	338	P		P	20 25 38.8	+2.6
H20K	Anotleneega Mo	40.93	337	P		P	20 25 37.8	+0.9
	baz=126,SNR=7.5							
J17K	VABM Dome	41.34	332	P		P	20 25 41.6	+1.4
	baz=119,SNR=5.7							
J16K	Anvik River	41.89	332	P		P	20 25 45.8	+1.1
	baz=117,SNR=7.3							
H17K	Granite Mounta	42.41	334	P		P	20 25 50.5	+1.5
	baz=120,SNR=5.9							
E19K	Redstone River	42.85	338	P		P	20 25 54.3	+1.8
E19K				IAmb		IAmb	20 26 14.8	
	comp=Z,7.6nm,0.9s							
E19K	Redstone River	42.85	338	P		P	20 25 53.8	+1.3
	baz=125,SNR=6.5							
G17K	Kiwalik Mounta	42.96	335	P		P	20 25 53.5	+0.1
	baz=119,SNR=7.2							
D19K	Kuna River	43.72	339	P		P	20 25 59.8	+0.3
	baz=125,SNR=5.7							
H11N3	WAKE ISLAND Hy	68.92	281	T		T	21 44 10.5	
	baz=62							
H11N2	WAKE ISLAND Hy	68.92	281	T		T	21 44 07.8	
	baz=62							
H11N1	WAKE ISLAND Hy	68.93	281	T		T	21 44 11.3	
	baz=62							
H11S1	WAKE ISLAND Hy	69.65	280	T		T	21 44 50.2	
	baz=62							
H11S2	WAKE ISLAND Hy	69.65	280	T		T	21 44 49.7	
	baz=62							
H11S3	WAKE ISLAND Hy	69.67	280	T		T	21 45 01.2	
	baz=62							
NB2	NORSAR Subarra	78.03	23	P		P	20 29 54.8	+1.8
	comp=Z,0.4nm,0.8s,baz=317,slow=5.6							
NOA	NORSAR Array B	78.03	23	P		P	20 29 54.6	+1.6
	comp=Z,0.6nm,0.8s,baz=312,slow=5.2,SNR=4.0							
	comp=Z,0.6nm,0.8s							
CPUP	Villa Florida	80.72	129	P		P	20 30 09.5	+1.5
	comp=Z,1.9nm,0.8s,baz=325,slow=5.1,SNR=3.1							
	comp=Z,1.9nm,0.8s							
FINES	FINESS Array B	82.09	17	P		P	20 30 16.6	+1.7
	comp=Z,1.4nm,0.7s,baz=349,slow=1.4,SNR=5.5							
	comp=Z,1.4nm,0.7s							
ESDC	Sonseca Array	85.13	46	P		P	20 30 32.6	+1.6
	comp=Z,0.8nm,0.8s,baz=300,slow=5.7,SNR=5.9							
	comp=Z,0.8nm,0.8s							
HHC	Hu-ho-hao-te	95.16	326	*e*P		P	20 31 18.3	0.0
HHC				pmax		pmax		
	comp=Z,17nm,0.7s							
HHC				pmax		pmax		
	comp=Z,110nm,5.8s							

IDC ***25*** *20:39:58.0± 3.2, 7.°06S× 129.°57E, h113km± 28km, mb4.1/15, mbtmp4.5/17, MS4.0/3, Error ellipse: s-maj=24.8km s-min=10.3km az=69.0*

DJA ***25*** *20:40:00.6± 0.2, 7.°S± 2.°× 13.°0E± .°, h137km± 3km, M5.2/58, mb5.0/58, mB5.6/22, MLv5.4/17, Mw(mB)5.1/22, MwMwp4.8/2, Mwp5.1/2*

NEIC ***25*** *20:40:00.3± 1.3, 7.°08S± 0.°08× 129.°56E± 0.°09, h136km± 2km, mb4.6/31, Error ellipse: s-maj=12.5km s-min=11.3km az=78.0*

ISC 25 20:40:00.4± 0.3, 7.°20S± 0.°04× 129.°58E± 0.°05, h139km, n173, σ1 48/177, mb4.6/44, 2C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
SAUI	Saumlaki	1.88	115	P	Pn	20 40 34.3		+0.8
SAUI	Saumlaki	1.88	115	Pn	Pn	20 40 34.1		+0.7
SAUI	Saumlaki	1.88	115	P	Pn	20 40 34.2		+0.8
SAUI				S	Sn	20 40 59.1		+0.3
BNDI	Bandanaira	2.68	7	P	Pn	20 40 43.9		+0.6
BNDI	Bandanaira	2.68	7	P	Pn	20 40 43.7		+0.4
BNDI				S	Sn	20 41 17.5		+1.1
NLAI	Namlea	4.64	328	P	Pn	20 41 11.0		+2.1
FAKI	Fak Fak	5.02	32	Pn	Pn	20 41 11.3		-2.7
FAKI	Fak Fak	5.02	32	P	Pn	20 41 11.2		-2.7
	171nm,0.6s,10μm2.4nm							
DRS	Darwin Rock St	5.36	166	P	Pn	20 41 19.1		+0.6
KMPI	Kaimana, Papua	5.41	50	P	Pn	20 41 17.2		-1.9
	422nm,0.8s,5μm14nm							
MTN	Manton Dam	5.81	165	P	Pn	20 41 25.1		+0.5
MTN	Manton Dam	5.81	165	Pn	Pn	20 41 24.7		+0.2
MTN				Sn	Sn	20 42 26.3		-4.0
MTN	Manton Dam	5.81	165	P	Pn	20 41 24.8		+0.2
	482nm,0.5s,SNR=74							
MTN				S	Sn	20 42 26.5		-3.8
SOEI	Soe	5.83	244	P	Pn	20 41 26.0		+1.1
SOEI	Soe	5.83	244	Pn	Pn	20 41 25.2		+0.3
SOEI	Soe	5.83	244	P	Pn	20 41 25.7		+0.8
KDU	Kakadu	6.15	153	P	Pn	20 41 29.0		-0.1
KDU	Kakadu	6.15	153	P	Pn	20 41 28.8		-0.3
	526nm,0.4s,SNR=64							
SANI	Sanana	6.24	325	P	Pn	20 41 32.4		+2.1
SANI	Sanana	6.24	325	P	Pn	20 41 31.9		+1.6
	101nm,0.7s							
SWI	Sorong	6.52	15	P	Pn	20 41 31.7		-2.3
	94nm,0.7s,2μm1.0nm							
BATI	Baumata	6.56	243	P	Pn	20 41 35.3		+0.7
LBMI	Labuha	6.84	342	P	Pn	20 41 39.3		+1.0
	162nm,0.7s,1.1nm							
BBSI	Bau Bau	7.17	283	P	Pn	20 41 45.2		+2.5
	593nm,1.2s,6μm1.8nm							
MMRI	Maumere	7.41	258	P	Pn	20 41 47.3		+1.4
MMRI	Maumere	7.41	258	Pn	Pn	20 41 45.1		-0.9
MMRI	Maumere	7.41	258	P	Pn	20 41 46.2		+0.3
	206nm,0.9s,0.9nm							
EDFI	Ende, Flores	7.96	258	P	Pn	20 41 53.9		+0.5
	116nm,1.1s,0.4nm							
TNTI	Ternate	8.22	344	P	Pn	20 41 57.0		+0.1
KNRA	Kunumurra	8.46	185	P	Pn	20 41 58.8		-1.3
	447nm,0.5s,SNR=65							
BSSI	Bau Bau, Buton	9.08	276	P	Pn	20 42 09.9		+1.5
	136nm,0.9s							
LUWI	Luwuk	9.13	312	P	Pn	20 42 10.1		+1.0
	66nm,1.1s,3μm							
BASI	Baing, Sumba	9.38	251	P	Pn	20 42 12.0		-0.5
KAPI	Kappang	10.01	282	P	Pn	20 42 23.3		+2.5
KAPI	Kappang	10.01	282	P	Pn	20 42 18.9		-1.8
	26nm,0.9s,baz=117,slow=16,SNR=9.0							
MRSI	Marisa	10.78	315	P	Pn	20 42 33.6		+2.6
	114nm,1.3s,1μm							
MMPI	Merauke	10.78	97	P	Pn	20 42 29.8		-1.3
FITZ	Fitzroy Crossi	11.49	199	Pn	Pn	20 42 37.8		-2.6
FITZ	Fitzroy Crossi	11.49	199	P	Pn	20 42 37.7		-2.6
GENI	Genyem	11.50	67	P	Pn	20 42 40.6		0.0
GENI	Genyem	11.50	67	P	Pn	20 42 40.6		0.0
	126nm,0.5s,2μm							
TABU	Tabubil	11.74	81	P	Pn	20 42 43.5		-0.3
PLAI	Plampang	11.79	261	P	Pn	20 42 43.9		-0.5
PLAI	Plampang	11.79	261	P	Pn	20 42 42.9		-1.5
	234nm,0.8s							
JAY	Jayapura	12.03	68	P	Pn	20 42 47.5		0.0
	47nm,0.8s							
TOLI2	Tolitoli	12.05	313	P	Pn	20 42 49.5		+1.8
TOLI2	Tolitoli	12.05	313	Pn	Pn	20 42 48.4		+0.7
MPSI	Mapaga	12.22	307	P	Pn	20 42 51.3		+1.4
TWSI	Taliwang, Sumb	12.66	262	P	Pn	20 42 54.6		-1.1
	60nm,0.7s							
WB0	Warramunga Arr	13.34	160	Pn	Pn	20 43 01.1		-3.3
WRA	Warramunga Arr	13.48	160	Pn	Pn	20 43 01.9		-4.4
WRA	Warramunga Arr	13.48	160	P	Pn	20 43 02.4		-3.9
	49nm,0.8s,baz=327,slow=13,SNR=183							
WRA				S	Sn	20 45 22.3		-13
	89nm,0.8s,baz=335,slow=22,SNR=7.7							
WB2	Warramunga Arr	13.49	160	Pn	Pn	20 43 03.0		-3.3
WR0	Warramunga Arr	13.57	160	P	Pn	20 43 03.9		-3.5
SRBI	Singaraja	14.26	266	P	Pn	20 43 16.2		0.0
	39nm,0.8s							
COEN	Coen	14.96	118	P	Pn	20 43 22.3		-2.6
COEN				IAmb	IAmb	20 43 29.7		
	comp=Z,43nm,0.7s							
COEN	Coen	14.96	118	P	Pn	20 43 22.6		-2.3
	comp=Z,48nm,0.8s,SNR=5.9							
JAGI	Jajag, Banyuwa	15.33	264	Pn	Pn	20 43 25.3		-4.3
MTKI	Muara Teweh, K	15.90	292	P	P	20 43 38.0		+0.5
	comp=Z,223nm,0.7s,comp=Z,3μm							
QIS	Mount Isa	16.45	145	P	Pn	20 43 43.1		-0.3
QIS	Mount Isa	16.45	145	P	Pn	20 43 42.6		-0.7
	comp=Z,75nm,0.8s,SNR=14							
MBWA	Marble Bar	16.83	213	P	Pn	20 43 48.6		+0.7
MBWA	Marble Bar	16.83	213	P	Pn	20 43 47.8		0.0
	comp=Z,44nm,1.1s,SNR=3.2							
BWJI	Bawean	16.86	274	P	Pn	20 43 48.3		0.0
	comp=Z,471nm,1.4s							
AS31	Alice Springs	16.89	166	P	P	20 43 47.4		-1.0
AS31				IAmb	IAmb	20 43 52.7		
	comp=Z,20nm,0.5s							
ASAR	Alice Springs	16.89	166	P	P	20 43 47.5		-0.9
ASAR	Alice Springs	16.89	166	P	P	20 43 47.8		-0.6
	comp=Z,47nm,0.5s,baz=340,slow=8.9,SNR=319							
ASAR				S	Sn	20 46 39.5		-18
	comp=Z,9.9nm,0.6s,baz=343,slow=17,SNR=4.1							
ASPA	Alice Springs	16.89	166	P	P	20 43 48.0		-0.4
	comp=Z,28nm,0.6s,SNR=37							
AS01	Alice Springs	16.90	166	P	P	20 43 48.2		-0.3
GRJI	Gresik	16.97	270	P	Pn	20 43 49.7		+0.1
	comp=Z,228nm,1.3s							
PSAC1	Pilbara Seismi	17.09	213	P	Pn	20 43 51.8		+0.8
	comp=Z,82nm,0.9s,SNR=5.7							
PSA00	Pilbara Seismi	17.10	212	P	Pn	20 43 52.4		+1.2
PSA00	Pilbara Seismi	17.10	212	P	P	20 43 50.5		-0.2
PSA00	Pilbara Seismi	17.10	212	P	Pn	20 43 52.1		+0.9
	comp=Z,91nm,0.9s,SNR=6.3							
PMG	Port Moresby	17.54	98	P	Pn	20 43 57.1		+0.6
PMG	Port Moresby	17.54	98	P	Pn	20 43 57.2		+0.7
PMG	Port Moresby	17.54	98	P	P	20 43 55.4	

YNG	Young	32.08	150	P	P	20 46 15.7	+1.5
	comp=Z,113nm,0.9s,SNR=3.2						
GSI	Gunungsitoli	33.03	284	P	P	20 46 22.7	-0.1
	comp=Z,31nm,1.1s						
MLSI	Meulaboh, Aceh	35.01	288	P	P	20 46 40.1	+0.2
	comp=Z,51nm,1.0s						
DZM	Mont Dzumac	38.48	117	LR	LR	21 05 29.0	
	comp=Z,92nm,18.1s,baz=248,slow=40						
CM31	Chiang Mai Arr	39.54	311	P	P	20 47 17.1	-1.0
CM31				IAmb	IAmb	20 47 18.5	
	comp=Z,5.7nm,0.7s						
CMAR	Chiang Mai Arr	39.54	311	P	P	20 47 16.9	-1.2
CMAR	Chiang Mai Arr	39.54	311	P	P	20 47 17.5	-0.6
	comp=Z,4.5nm,0.8s,baz=137,slow=6.9,SNR=32						
	comp=Z,4.5nm,0.8s						
CHTO	Chiang Mai	39.75	311	P	P	20 47 18.3	-1.5
CHTO				IAmb	IAmb	20 47 20.6	
	comp=Z,11nm,0.8s						
NJ2	Nanjing	40.35	346	eP	P	20 47 25.5	+1.0
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PZH	PanZhiHua	43.03	322	P	P	20 47 45.3	-1.3
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,140nm,5.5s						
MJAR	Matsushiro Arr	44.26	10	P	P	20 47 55.9	-0.3
	comp=Z,0.9nm,0.5s,baz=177,slow=9.0,SNR=1.9						
	comp=Z,0.9nm,0.5s						
KSRS	Korea Array	44.45	358	P	P	20 47 56.6	-0.9
	comp=Z,0.6nm,0.6s,baz=169,slow=7.8,SNR=1.9						
	comp=Z,0.6nm,0.6s						
HNS	HongShan	46.49	344	⇓P	P	20 48 14.0	+0.3
HNS				pmax	pmax		
	comp=Z,11nm,0.7s						
SHL	Shillong	49.03	313	P	P	20 48 31.7	-2.0
SHL				IAmb	IAmb	20 48 34.6	
	comp=Z,7.8nm,0.6s						
HHC	Hu-ho-hao-te	50.60	342	eP	P	20 48 47.8	+2.6
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,4.8s						
GTA	Gaotai	53.95	332	P	P	20 49 10.3	+0.3
SONM	Songino Array	58.50	342	P	P	20 49 41.6	-0.5
	comp=Z,1.5nm,0.6s,baz=170,slow=8.4,SNR=6.0						
	comp=Z,1.5nm,0.6s						
NIL	Nilore	67.03	311	P	P	20 50 39.5	+0.7
NIL				IAmb	IAmb	20 50 45.2	
	comp=Z,10nm,0.6s						
MKAR	Makanchi Array	68.16	327	P	P	20 50 45.3	-0.4
MKAR	Makanchi Array	68.16	327	P	P	20 50 45.7	0.0
	comp=Z,3.5nm,0.5s,baz=116,slow=8.2,SNR=53						
	comp=Z,3.5nm,0.5s						
MAKZ	Makanchi	68.34	327	P	P	20 50 46.4	-0.3
MAKZ				IAmb	IAmb	20 50 48.0	
	comp=Z,3.4nm,0.7s						
MA2	Magadan	68.68	11	LR	LR	21 20 42.3	
	comp=Z,131nm,20.0s,baz=76,slow=36						
YAK	Yakutsk	69.02	0	P	P	20 50 50.6	0.0
	comp=Z,4.0nm,0.4s,baz=180,slow=3.9,SNR=4.0						
YAK				LR	LR	21 22 27.1	
	comp=Z,168nm,19.9s,baz=278,slow=37						
	comp=Z,4.0nm,0.4s						
ZAA0	Zalesovo Array	71.58	334	P	P	20 51 03.6	-2.7
ZAA0				IAmb	IAmb	20 51 07.9	
	comp=Z,6.8nm,1.1s						
ZALV	Zalesovo Beam	71.58	334	P	P	20 51 03.7	-2.6
ZALV	Zalesovo Beam	71.58	334	P	P	20 51 05.3	-1.0
	comp=Z,3.8nm,0.7s,baz=145,slow=6.0,SNR=17						
	comp=Z,3.8nm,0.7s						
SIMJ	Simiganj	72.28	314	P	P	20 51 08.9	-2.2
SIMJ				IAmb	IAmb	20 51 13.5	
	comp=Z,4.8nm,0.8s						
VNDA	Vanda	72.30	173	P	P	20 51 11.2	+0.9
VNDA	Vanda	72.30	173	P	P	20 51 11.4	+1.1
	comp=Z,2.3nm,0.5s,baz=308,slow=11,SNR=22						
	comp=Z,2.3nm,0.5s						
KURBB	Kurchatov Arra	72.46	329	P	P	20 51 11.8	+0.1
	comp=Z,4.8nm,0.5s,baz=132,slow=5.4,SNR=44						
	comp=Z,4.8nm,0.5s						
KURK	Kurchatov	72.47	329	P	P	20 51 10.7	-1.0
KURK				IAmb	IAmb	20 51 14.0	
	comp=Z,7.8nm,0.9s						
SBA	Scott Base	73.19	172	P	P	20 51 17.3	+1.8
KK31	Karatay Array	73.21	319	P	P	20 51 16.1	-0.2
KKAR	Karatay Array	73.21	319	P	P	20 51 15.9	-0.4
MAW	Mawson	74.61	201	P	P	20 51 25.7	+1.8
	comp=Z,7.4nm,0.6s,baz=84,slow=5.2,SNR=17						
	comp=Z,7.4nm,0.6s						
BVAR	Borovoye Array	78.01	328	P	P	20 51 42.9	-0.4
	comp=Z,1.7nm,0.5s,baz=122,slow=8.9,SNR=14						
	comp=Z,1.7nm,0.5s						
BRVK	Borovoye	78.08	328	P	P	20 51 43.1	-0.6
HMH	Humu'ula Sheep	78.38	68	P	P	20 51 43.2	-3.3
ABKAR	Akbulak array	82.40	322	P	P	20 52 06.0	-1.0
QSPA	South Pole Qui	82.78	180	P	P	20 52 08.9	+0.1
QSPA				IAmb	IAmb	20 52 09.9	
	comp=Z,7.0nm,0.8s						
QSPA	South Pole Qui	82.78	180	P	P	20 52 09.3	+0.5
	comp=Z,6.3nm,0.7s,baz=357,slow=1.4,SNR=21						
	comp=Z,6.3nm,0.7s						
ARU	Arti	85.65	328	P	P	20 52 22.2	-1.1
RAYN	Ar Rayn	87.44	294	P	P	20 52 32.0	-0.8
RAYN				IAmb	IAmb	20 52 36.2	
	comp=Z,5.6nm,0.7s						
ELIB	Princess Elisa	88.17	197	dP	P	20 52 36.8	+1.4
ILAR	Eielson Array	93.71	25	P	P	20 52 59.5	-1.5
	comp=Z,0.4nm,0.6s,baz=236,slow=5.0,SNR=5.2						
	comp=Z,0.4nm,0.6s						
TROLL	Troll, Antarti	93.86	194	⇑P	P	20 53 03.5	+1.7
	comp=Z,128nm,0.6s						
BELA	Belgrano 2	94.60	183	P	P	20 53 05.3	+0.3
BELA				IAmb	IAmb	20 53 05.9	
	comp=Z,3.5nm,0.8s						
SNAA	Sanae	95.37	194	⇑P	P	20 53 10.2	+1.5
	comp=Z,32nm,0.5s						
SNAA	Sanae	95.37	194	P	P	20 53 10.0	+1.3
	comp=Z,1.6nm,0.6s,baz=131,slow=3.7,SNR=6.2						
	comp=Z,1.6nm,0.6s						
TXAR	Lajitas Array	125.39	59	PKP	PKiKP	20 58 46.4	+0.3
	comp=Z,0.3nm,0.5s,baz=204,slow=2.0,SNR=1.9						
TORD	Torodi Ar. Bea	128.43	281	PKP	PKiKP	20 58 52.6	+0.2
	comp=Z,0.9nm,0.6s,baz=73,slow=2.0,SNR=9.2						
PLCA	Paso Flores	128.83	160	PKP	PKiKP	20 58 53.4	+0.7
	comp=Z,1.7nm,0.9s,baz=244,slow=2.9,SNR=6.2						
CPUP	Villa Florida	146.00	169	PKPbc	PKPab	20 59 25.5	+0.1
	comp=Z,11nm,0.9s,baz=187,slow=2.3,SNR=17						
LPAZ	La Paz	150.81	143	PKP	PKPdf	20 59 31.9	-0.6
	comp=Z,1.5nm,0.6s,baz=154,slow=2.8,SNR=6.6						
LPAZ				PKPbc	PKiKP	20 59 40.0	+1.1
	comp=Z,5.8nm,0.4s,baz=218,slow=14,SNR=28						

*IDC **25** 20:43:49.9±1.2, 26°.16N×143°.50E, h0km, mb3.8/14, mbtmp3.8/16, ML3.4/2, Error ellipse: s-maj=30.2km s-min=25.2km az=76.0*
*JMA **25** 20:43:50.8±0.2, 26°.2N±0°.9×143°.8E±0°.8, h89km, MV4.4/26, NEAR CHICHIJIMA ISLAND*
ISC 25 20:43:55.2±0.9, **26°.25N**±0°.08×**143°.57E**±0°.09, **h35**km, **n33,** σ**1**§**48**/32, **mb3.8**/14, **1D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	1.31	287	P	Pn	20 44 16.8	-0.2
JHH2				S	Sn	20 44 37.1	+3.8
CBIJ	Chichi jima	1.50	304	P	Pn	20 44 19.6	-0.1
CBIJ				eS	Sn	20 44 41.0	+2.9
JCJ	Chichijima	1.50	304	Pn	Pn	20 44 15.0	-4.7
	184nm,0.3s,baz=350,slow=3.4,SNR=555						
JCJ				Sn	Sn	20 44 35.2	-2.8
	290nm,0.3s,baz=290,slow=23,SNR=9.0						
BSO1	Boso 1	8.67	346	eP	Pn	20 45 56.9	-0.7
BSO1				eS	Sn	20 47 35.1	+1.2
BSO3	Boso 3	8.92	344	eP	Pn	20 46 01.1	-0.2
BSO3				eS	Sn	20 47 42.6	+2.1
JKUC	kamogawauchiur	9.34	343	eP	Pn	20 46 07.0	-0.3
JHU	Hanno	10.25	340	eP	Pn	20 46 18.6	-1.3
JHU				eS	Sn	20 48 15.3	+1.8
JYT	Yasato	10.36	345	eP	Pn	20 46 20.8	-0.5
JAG	Ashikaga	10.74	342	eP	Pn	20 46 24.9	-1.6
JAG				eS	Sn	20 48 22.4	-3.0
MJAR	Matsushiro Arr	11.23	337	Pn	Pn	20 46 32.7	-0.6
	0.2nm,0.3s,baz=160,slow=12,SNR=5.5						
	1.7nm,0.4s						
KSRS	Korea Array	17.34	314	P	Pn	20 47 54.1	-0.3
	0.2nm,0.3s,baz=125,slow=12,SNR=5.2						
	1.1nm,0.6s						
USRK	Ussuriysk Ar.	20.22	335	P	P	20 48 27.7	+0.6
	4.6nm,0.6s,baz=157,slow=10,SNR=12						
	4.6nm,0.6s						
H11N2	WAKE ISLAND Hy	22.41	102	T	T	21 11 58.9	
	baz=291,slow=75,SNR=35						
H11N1	WAKE ISLAND Hy	22.41	102	T	T	21 11 57.2	
	baz=291,slow=75,SNR=28						
H11N3	WAKE ISLAND Hy	22.43	102	T	T	21 11 57.3	
	baz=291,slow=75,SNR=28						
H11S3	WAKE ISLAND Hy	22.70	105	T	T	21 12 16.6	
	baz=294,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	22.71	105	T	T	21 12 17.4	
	baz=294,slow=75,SNR=10						
H11S2	WAKE ISLAND Hy	22.72	105	T	T	21 12 18.8	
	baz=294,slow=75,SNR=11						
BNX	BinXian	23.36	331	⇓P	P	20 49 00.5	+0.1
BNX				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KLR	Kul'dur	24.71	341	P	P	20 49 14.4	+1.4
	comp=Z,1.5nm,0.6s,baz=163,slow=14,SNR=7.9						
	comp=Z,1.5nm,0.6s						
SONM	Songino Array	36.18	316	P	P	20 50 53.6	-0.9
	comp=Z,0.9nm,0.7s,baz=123,slow=5.3,SNR=1.1						
	comp=Z,0.9nm,0.7s						
CMAR	Chiang Mai Arr	41.84	269	P	P	20 51 41.1	-0.9
	comp=Z,0.2nm,0.4s,baz=56,slow=6.7,SNR=1.7						
	comp=Z,0.2nm,0.4s						
WRA	Warramunga Arr	46.78	192	P	P	20 52 21.5	0.0
	comp=Z,1.3nm,0.6s,baz=14,slow=8.7,SNR=1.8						
	comp=Z,1.3nm,0.6s						
MKAR	Makanchi Array	51.97	310	P	P	20 53 00.7	-0.1
	comp=Z,0.4nm,0.6s,baz=99,slow=8.9,SNR=0.8						
	comp=Z,0.4nm,0.6s						
KURBB	Kurchatov Arra	54.52	315	P	P	20 53 19.5	0.0
	comp=Z,1.8nm,0.2s,baz=97,slow=7.0,SNR=4.5						
	comp=Z,1.8nm,0.2s						
ILAR	Eielson Array	57.86	28	P	P	20 53 45.1	+2.0
	comp=Z,0.6nm,0.8s,baz=260,slow=5.4,SNR=3.3						
	comp=Z,0.6nm,0.8s						
BVAR	Borovoye Array	59.50	318	P	P	20 53 55.0	+0.2
	comp=Z,1.6nm,0.5s,baz=92,slow=7.9,SNR=7.4						
	comp=Z,1.6nm,0.5s						
FINES	FINESS Array B	79.25	334	P	P	20 55 56.6	0.0
	comp=Z,0.5nm,0.6s,baz=52,slow=9.0,SNR=4.2						
	comp=Z,0.5nm,0.6s						
NVAR	Mina Array Bea	80.06	52	P	P	20 56 01.5	-0.3
	comp=Z,0.3nm,0.5s,baz=278,slow=6.3,SNR=2.6						
	comp=Z,0.3nm,0.5s						
HFS	Hagfors	84.69	337	P	P	20 56 24.7	-0.5
	comp=Z,0.4nm,0.5s,baz=58,slow=11,SNR=1.5						
	comp=Z,0.4nm,0.5s						
NB2	NORSAR Subarra	84.85	339	P	P	20 56 31.3	+5.2
	comp=Z,0.4nm,0.6s,baz=41,slow=5.1						
NOA	NORSAR Array B	84.85	339	P	P	20 56 26.2	+0.1
	comp=Z,0.3nm,0.7s,baz=40,slow=5.0,SNR=1.6						
	comp=Z,0.3nm,0.7s						
BRTR	Keskin Array B	87.49	313	P	P	20 56 39.0	-0.6
	comp=Z,0.6nm,0.8s,baz=67,slow=5.2,SNR=2.0						
	comp=Z,0.6nm,0.8s						

*NEIC **25** 20:45:21.6±1.6, 31°.94N±0°.03×116°.27W±0°.03, h28km±7km, Error ellipse: s-maj=4.2km s-min=3.7km az=209.0*
*PAS **25** 20:45:23.2±2.7, 31°.95N±0°.03×116°.29W±0°.02, h21km±5km, ML3.0/98, ML2.9/32(NEIC), Error ellipse: s-maj=3.9km s-min=2.7km az=201.0*
*ECX **25** 20:45:23.1±0.7, 31°.95N×116°.26W, h20km±2km, MD2.8, ML3.0*
ISC 25 20:45:22.4±0.9, **31°.95N**±0°.02×**116°.28W**±0°.02, **h19**km±2km, **n63,** σ**0**§**41**/78, **8C-7D, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RACA	Rancho agua Ca	0.07	343	⇓iP	Pg	20 45 26.7	+0.5
RACA				eS	Sg	20 45 29.2	+0.5
OJOX	Ej. Ojos Negro	0.17	121	⇓iP	Pg	20 45 27.4	+0.2
OJOX				eS	Sg	20 45 30.4	0.0
ESJX	Sierra Juarez	0.28	78		Pg	20 45 29.2	+0.3
ESJX					Sb	20 45 33.3	+0.1
ESJX	Sierra Juarez	0.28	78	IAML		20 45 33.6	
	comp=E,6μm,0.1s						
ESJX				IAML		20 45 33.7	
	comp=N,4μm,0.2s						
SJX	San Joaquin	0.33	124	⇑iP	Pg	20 45 29.2	-0.2
SJX				i S	Sg	20 45 33.4	-0.9
SJX				e		20 45 33.6	
SJX				e		20 45 33.7	
CCX	Cicese	0.34	257		Pb	20 45 30.3	+0.4
CCX				IAML		20 45 35.9	
	comp=N,2μm,0.3s						
CCX	Cicese	0.34	257		Sb	20 45 35.7	+0.8
CCX	Cicese	0.34	257	⇑iP	Pb	20 45 30.3	+0.4
CCX				i S	Sb	20 45 35.7	+0.8
CCX				⇑e		20 45 36.0	
CCX				IAML		20 45 36.0	
	comp=N,3μm,0.3s						
RSLU	Rancho San Lui	0.41	65	⇑iP	Pb	20 45 31.2	+0.1
RSLU				eS	Sg	20 45 36.7	0.0
PBX	Punta Banda	0.43	242	⇑iP	Pb	20 45 31.8	+0.2
PBX				e		20 45 38.6	
PBX				e		20 45 40.0	
PBX				IAML		20 45 40.0	
	comp=E,290nm,0.1s						
ALAMX	Rancho Alamar	0.48	83	⇑iP	Pb	20 45 32.4	+0.1
ALAMX				eS	Sg	20 45 38.6	-0.3
CBX	Cerro Bola	0.49	318		Sg	20 45 39.3	+0.1
CBX	Cerro Bola	0.49	318		Pb	20 45 32.4	0.0
CBX	Cerro Bola	0.49	318	IAML		20 45 40.8	
	comp=E,736nm,0.3s						
CBX				IAML		20 45 41.8	
	comp=N,925nm,0.4s						
CBX	Cerro Bola	0.49	318	⇑eP	Pb	20 45 32.5	0.0
CBX				i S	Sg	20 45 39.4	+0.2
CBX				IAML		20 45 41.5	
	comp=E,517nm,0.2s						
CBX				⇑e		20 45 41.5	
TJIG	Tijuana	0.59	325	eP	Pb	20 45 34.0	-0.1
TJIG				i S	Sb	20 45 41.8	-0.1
SV2X	San Vicente	0.61	177	eP	Pb	20 45 34.0	-0.3
SV2X				eS	Sb	20 45 42.1	-0.2
SV2X				⇓e		20 45 42.4	
SV2X				IAML		20 45 42.4	
	comp=E,1μm,0.1s						
RMX	La Rumorosa	0.67	14		Pb	20 45 35.0	-0.5
RMX				IAML		20 45 44.1	
	comp=N,1μm,0.3s						
RMX	La Rumorosa	0.67	14	⇓iP	Pb	20 45 35.1	-0.5
RMX				⇓e		20 45 44.2	
RMX				IAML		20 45 44.2	
	comp=N,1μm,0.1s						
TKX	Tecate	0.68	336		Sb	20 45 44.2	-0.4
TKX	Tecate	0.68	336		Pg	20 45 35.9	+0.1
TKX	Tecate	0.68	336	IAML		20 45 44.7	
	comp=E,2μm,0.1s						
TKX				IAML		20 45 45.0	
	comp=N,840nm,0.1s						
VTX	Valle De La Tr	0.69	143		Pb	20 45 35.7	-0.1
VTX	Valle De La Tr	0.69	143	IAML		20 45 45.1	
	comp=N,698nm,0.1s						
VTX				IAML		20 45 45.5	
	comp=E,372nm,0.3s						
VTX	Valle De La Tr	0.69	143	eP	Pb	20 45 35.8	-0.1
VTX				eS	Sb	20 45 44.8	-0.2
VTX				IAML		20 45 45.5	
	comp=E,507nm,0.1s						
VTX				⇓e		20 45 45.5	
IKP	In-Ko-Pah, Jac	0.71	11		Pb	20 45 36.2	0.0
IKP					Sb	20 45 45.7	0.0
YUH	Yuha Desert	0.76	23		Pb	20 45 37.1	+0.1
YUH					Sb	20 45 46.7	-0.2
YUH	Yuha Desert	0.76	23		Pb	20 45 37.0	0.0
YUH	Yuha Desert	0.76	23	IAML		20 45 47.4	
	comp=E,784nm,0.3s						
YUH				IAML		20 45 47.5	
	comp=N,624nm,0.1s						
DUZA	Dulzura	0.78	327		Pb	20 45 37.1	-0.3
BAR	Barrett	0.80	335		Pb	20 45 37.3	-0.4
BAR					Sb	20 45 47.8	-0.4
BAR	Barrett	0.80	335	IAML		20 45 49.8	
	comp=E,318nm,0.2s						
SGL	Mount Signal	0.84	34		Pb	20 45 38.7	+0.3
OLP	Otay Lakes Par	0.86	320		Pb	20 45 38.5	-0.2
OLP					Sb	20 45 49.5	-0.4
TJX	Tijuana	0.87	311	Pn	Pb	20 45 38.0	-0.8
TJX				IAML		20 45 53.1	
	comp=E,575nm,0.5s						
TJX				IAML		20 45 53.0	
	comp=N,482nm,0.3s						
WESC	Westside Schoo	0.93	29		Sn	20 45 53.5	+0.3
CPBX	Cerro Prieto	0.95	60		Pn	20 45 40.6	0.0
MONP2	Monument Peak	0.95	352		Sb	20 45 52.2	-0.4
SDRC	San Diego Road	0.97	324		Pb	20 45 40.5	-0.1
SDRC					Sb	20 45 52.5	-0.4
CRR	Carrizo Plain	0.97	15		Pb	20 45 40.8	+0.3
CRR					Sn	20 45 54.2	0.0
COK2	Cook Ranch 2	1.01	27		Pn	20 45 41.8	+0.3
SWSC	Sam W. Stewart	1.07	22		Pb	20 45 42.4	+0.1
SWSC					Sn	20 45 57.0	+0.3
SDMC	San Diego Miss	1.11	319		Sn	20 45 57.4	-0.1
109C	Camp Elliot, M	1.17	323		Pn	20 45 43.9	+0.2
109C				IAML		20 45 59.8	
	comp=E,341nm,0.2s						
CPE	Camp Elliot	1.17	323		Pn	20 45 43.2	-0.5
DPP	Dos Picos Cty	1.19	332		Pn	20 45 43.9	-0.1
BORC	Borrego Spring	1.32	355		Pb	20 45 46.5	-0.1
BORC					Sb	20 46 03.4	+0.2
COA	Coachella	1.33	47		Pn	20 45 46.3	+0.3
EMSC	East Mesa	1.35	54		Pn	20 45 46.3	+0.2
SQX	San Quintin	1.41	166	eP	Pn	20 45 47.3	+0.3
SQX				eS	Sn	20 46 05.1	+0.1
SQX				⇓e		20 46 05.9	
SQX				IAML		20 46 05.9	
	comp=E,218nm,0.3s						
GORC	Green Oak Ranc	1.45	326		Sn	20 46 06.2	+0.3
PLM	Palomar	1.49	341		Pn	20 45 48.6	+0.4
PLM					Sn	20 46 07.5	+0.3
RUN	Ruthven	1.50	47		Pn	20 45 48.2	0.0
SFX	San Felipe	1.52	126	Pn	Pn	20 45 48.2	-0.3
SFX				IAML		20 46 11.8	
	comp=E,109nm,0.5s						
SFX				IAML		20 46 14.5	
	comp=N,94nm,0.8s						
FRD	Ford Ranch, An	1.57	350		Pn	20 45 50.0	+0.8
GLA	Glamis	1.65	48		Pn	20 45 50.5	+0.2
GLA				IAML		20 46 16.5	
	comp=N,78nm,0.4s						
PFO	Pinyon Flats O	1.67	355		Pn	20 45 50.8	+0.1
ELS	Elsinore Mount	1.95	331		Pn	20 45 54.4	-0.1
113A	Mohawk Valley,	2.27	68		Pn	20 45 59.2	+0.3
PIX	Pinacate	2.43	98		Pn	20 46 00.1	-0.9
SBI	Santa Barbara	2.78	304		Pn	20 46 04.1	-1.7
DECC	Green Verdugo	2.88	324		Pn	20 46 06.3	-0.9
214A	Organ Pipe Nat	2.94	89	Pn	Pn	20 46 08.1	-0.1

*KRNET **25** 20:48:23.2±0.1, 39°.89N×77°.46E, mb3.2*
*SOME **25** 20:48:23.8, 39°.97N×77°.52E, h10km*
*NNC **25** 20:48:25.7±2.0, 39°.60N×77°.78E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=14.6km s-min=11.6km az=179.0*
ISC 25 20:48:22.5±1.6, **39°.87N**±0°.07×**77°.56E**±0°.04, **h10**km, **n60,** σ**2**§**26**/98, **21C-15D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.87	6	⇑eP	Pb	20 48 57.5	+0.5
	baz=8.0						
TARG				⇑iS	Sg	20 49 22.4	-0.2
	baz=8.0						
NRN	Naryn	1.96	323	⇓eP	Pb	20 48 58.2	-0.4
	baz=24						
NRN				⇓iS	Sb	20 49 24.0	+0.8
	baz=24						
KDJ	Kajisay	2.28	353	⇓eP	Pb	20 49 02.9	-0.9
	baz=55						
KDJ				⇓iS	Sb	20 49 31.9	-0.2
	baz=55						
PRZ	Przheval'sk	2.69	13	⇑eP	Pb	20 49 09.5	-1.3
	baz=15						
PRZ				⇑eS	Sb	20 49 43.3	-0.6
	baz=15						
BOOM	Boomskoye usch	2.89	335	⇑eP	Pn	20 49 11.2	+2.4
	baz=37						
BOOM				⇑eS	Sn	20 49 46.4	+2.7
	baz=37						
SFK	Sufi-Kurgan	3.12	274	⇓eP	Pn	20 49 14.3	+2.2
	baz=74						
SFK				⇓eS	Sn	20 49 51.7	+2.1
	baz=74						
ARLS	Aral	3.16	310	⇑eP	Pn	20 49 14.4	+1.9
	baz=11						
ARLS				⇑eS	Sn	20 49 51.9	+1.5
	baz=11						
TNSS	Tian-Shan	3.20	352	eP	Pg	20 49 22.2	-1.6
	24nm,0.4s						
TNSS				eS	Sg	20 50 04.1	-1.2
	26nm,0.5s						
TNSS	Tian-Shan	3.20	352	Pg	Pg	20 49 22.2	-1.6
	24nm,0.4s						
TNSS				Lg	Lg	20 50 04.1	
	26nm,0.5s						
SATY	Saty	3.25	11	eP	Pg	20 49 22.9	-1.8
	28nm,0.1s						
SATY				eS	Sg	20 50 05.2	-1.6
	26nm,0.4s						
SATY	Saty	3.25	11	Pg	Pg	20 49 22.9	-1.8
	28nm,0.1s						
SATY				Lg	Lg	20 50 05.3	
	26nm,0.4s						
UCH	Uchtor	3.30	317	⇓eP	Pn	20 49 16.9	+2.3
	baz=17						
UCH				⇓eS	Sn	20 49 56.0	+1.9
	baz=17						
MDOK	Medeo	3.31	353	eP	Pg	20 49 24.1	-1.9
	11nm,0.5s						
MDOK				eS	Sg	20 50 07.3	-1.6
	33nm,0.9s						
MDOK	Medeo	3.31	353	⇓Pn	Pg	20 49 23.8	-2.2
	18nm,0.6s						
MDOK				Pg	Pg	20 49 24.1	-1.9
	11nm,0.5s						
MDOK				Lg	Lg	20 50 07.3	
	33nm,0.9s						
MDOK				Sn	Sg	20 50 07.3	-1.6
	23nm,0.5s						
MTBS	Maitube	3.37	346	eP	Pg	20 49 25.4	-1.7
	6.1nm,0.2s						
MTBS				eS	Sg	20 50 09.3	-1.3
	18nm,0.4s						
MTBS	Maitube	3.37	346	Pg	Pg	20 49 25.4	-1.7
	6.1nm,0.2s

	baz=26							
KBK				⇑iS		Sn	20 49 58.7	+2.1
	baz=26							
UZB	**Uzynbulak**	**3.45**	**18**	*e*P		**Pg**	**20 49 26.3**	**-2.4**
	3.7nm,0.2s							
UZB				*e*S		**Sg**	**20 50 11.0**	**-2.4**
	14nm,0.7s							
UZB	**Uzynbulak**	**3.45**	**18**	Pg		**Pg**	**20 49 26.3**	**-2.4**
	3.7nm,0.2s							
UZB				Lg		Lg	20 50 11.0	
	14nm,0.7s							
SHLS	**Shalkode**	**3.58**	**23**	*e*P		**Pg**	**20 49 31.8**	**+0.6**
	7.8nm,0.3s							
SHLS				*e*S		**Sg**	**20 50 20.4**	**+2.9**
	25nm,0.5s							
AAK	**Ala-Archa**	**3.61**	**321**	⇑Pn		**Pb**	**20 49 28.6**	**+2.1**
	4.5nm,0.6s							
AAK				⇑Sn		**Sg**	**20 50 15.8**	**-2.5**
	20nm,0.8s							
DGS	**Degeres**	**3.63**	**339**	*e*P		**Pg**	**20 49 30.1**	**-1.9**
	8.0nm,0.7s							
DGS				*e*S		**Sg**	**20 50 17.4**	**-1.6**
	17nm,0.0s							
DGS	**Degeres**	**3.63**	**339**	Pg		**Pg**	**20 49 30.1**	**-1.9**
	8.0nm,0.7s							
DGS				Lg		Lg	20 50 17.4	
	17nm,0.0s							
KURS	**Kuram**	**3.64**	**7**	*e*P		**Pg**	**20 49 29.6**	**-2.7**
	3.3nm,0.6s							
KURS				*e*S		**Sg**	**20 50 16.3**	**-3.3**
	17nm,0.5s							
FRU1	**Bishkek**	**3.68**	**324**	⇑*e*P		**Pn**	**20 49 22.4**	**+2.9**
	baz=25							
FRU1				⇑*e*S		**Sn**	**20 50 05.7**	**+2.8**
	baz=25							
KPKS	**Kokpek**	**3.69**	**13**	*e*P		**Pg**	**20 49 30.9**	**-2.3**
	9.2nm,0.3s							
KPKS				*e*S		**Sg**	**20 50 18.8**	**-2.2**
	26nm,0.5s							
KPKS	**Kokpek**	**3.69**	**13**	Pg		**Pg**	**20 49 30.9**	**-2.3**
	9.2nm,0.3s							
KPKS				Lg		Lg	20 50 18.8	
	26nm,0.5s							
AML	**Almayashu**	**3.70**	**309**	⇑*e*P		**Pn**	**20 49 22.2**	**+2.1**
	baz=9.0							
AML				⇑*i*S		**Sn**	**20 50 05.4**	**+1.5**
	baz=9.0							
PDGK	**Podgornoye**	**3.75**	**22**	Pg		**Pg**	**20 49 31.6**	**-2.6**
	2.3nm,0.2s							
PDGK				Lg		Lg	20 50 20.3	
	10.0nm,0.2s							
PDGK	**Podgornoye**	**3.75**	**22**	⇑Pn		**Pb**	**20 49 28.3**	**-0.5**
	5.7nm,0.5s							
PDGK				⇑Sn		**Sb**	**20 50 16.0**	**+1.7**
	15nm,0.6s							
CHMS	**Chumysh**	**3.77**	**327**	⇓Pn		**Pb**	**20 49 28.8**	**-0.5**
	4.2nm,0.6s							
CHMS				⇓Sn		**Sb**	**20 50 19.2**	**+4.2**
	10nm,0.6s							
ARSB	**Arslanbob**	**3.78**	**294**	⇓*e*P		**Pn**	**20 49 23.1**	**+2.1**
	baz=94							
ARSB				⇓*e*S		**Sn**	**20 50 07.1**	**+1.5**
	baz=94							
KTBS	**Karatobe**	**3.90**	**351**	*e*P		**Pg**	**20 49 34.3**	**-2.8**
	3.6nm,0.8s							
KTBS				*e*S		**Sg**	**20 50 24.8**	**-2.8**
	27nm,0.6s							
KTBS	**Karatobe**	**3.90**	**351**	Lg		Lg	20 50 24.8	
	27nm,0.6s							
CHKK	**Chushkaly**	**4.00**	**354**	*e*P		**Pg**	**20 49 36.6**	**-2.6**
	3.5nm,0.3s							
CHKK				*e*S		**Sg**	**20 50 28.4**	**-2.7**
	20nm,0.3s							
CHKK	**Chushkaly**	**4.00**	**354**	Pg		**Pg**	**20 49 36.6**	**-2.6**
	3.5nm,0.3s							
CHKK				Lg		Lg	20 50 28.4	
	20nm,0.3s							
KRBS	**Karabastau**	**4.08**	**340**	*e*P		**Pg**	**20 49 37.9**	**-2.7**
	3.2nm,1.0s							
KRBS				*e*S		**Sg**	**20 50 30.9**	**-2.5**
	10nm,0.9s							
KRBS	**Karabastau**	**4.08**	**340**	Pg		**Pg**	**20 49 37.9**	**-2.7**
	3.2nm,1.0s							
KRBS				Lg		Lg	20 50 30.9	
	10nm,0.9s							
KTMS	**Ketmen**	**4.14**	**29**	*e*P		**Pg**	**20 49 39.1**	**-2.7**
	0.8nm,0.2s							
KTMS				*e*S		**Sg**	**20 50 33.0**	**-2.4**
	3.8nm,0.2s							
BLB	**Baldybastay**	**4.28**	**9**	Pg		**Pg**	**20 49 41.7**	**-2.8**
	13nm,0.1s							
BLB				Lg		Lg	20 50 37.3	
	18nm,0.1s							
ARXS	**Arharly**	**4.34**	**2**	*e*P		**Pg**	**20 49 43.1**	**-2.6**
	4.4nm,0.4s							
ARXS				*e*S		**Sg**	**20 50 39.8**	**-2.2**
	12nm,0.6s							
ARXS	**Arharly**	**4.34**	**2**	Pg		**Pg**	**20 49 43.1**	**-2.6**
	4.4nm,0.4s							
ARXS				Lg		Lg	20 50 39.8	
	12nm,0.6s							
MRKS	**Merke**	**4.35**	**313**	*e*P		**Pg**	**20 49 43.0**	**-2.9**
	1.5nm,0.3s							
MRKS				*e*S		**Sg**	**20 50 39.7**	**-2.5**
	8.4nm,0.5s							
MRKS	**Merke**	**4.35**	**313**	Pg		**Pg**	**20 49 43.0**	**-2.9**
	1.5nm,0.3s							
MRKS				Lg		Lg	20 50 39.7	
	8.4nm,0.5s							
KNOS	**Konyrlen**	**4.64**	**14**	Pg		**Pg**	**20 49 48.4**	**-3.1**
	1.2nm,0.3s							
KNOS				Lg		Lg	20 50 48.8	
	9.3nm,0.7s							
DJR	**Jarkent**	**4.76**	**20**	*e*P		**Pg**	**20 49 49.8**	**-3.8**
	1.6nm,0.3s							
DJR				*e*S		**Sg**	**20 50 51.3**	**-3.9**
	5.4nm,0.0s							
DJR	**Jarkent**	**4.76**	**20**	Lg		Lg	20 50 51.3	
	5.4nm,0.0s							
BTLS	**Baital**	**5.79**	**334**	*e*P		**Pg**	**20 50 09.8**	**-3.4**
	1.6nm,0.6s							
BTLS				*e*S		**Sg**	**20 51 26.0**	**-2.2**
	5.2nm,0.4s							
BTLS	**Baital**	**5.79**	**334**	Lg		Lg	20 51 26.0	
	5.2nm,0.4s							
IUG	**Iuzhnay**	**6.14**	**294**	*e*P		**Pg**	**20 50 16.0**	**-4.0**
	4.2nm,0.4s							
IUG				*e*S		**Sg**	**20 51 36.5**	**-3.0**
	3.9nm,1.0s							
IUG	**Iuzhnay**	**6.14**	**294**	Pg		**Pg**	**20 50 16.0**	**-4.0**
	4.2nm,0.4s							

NEIC ***25*** *20:58:45.8±1.1,31°.95N±0°.02×116°.27W±0°.03,h26km±7km, Error ellipse: s-maj=3.3km s-min=3.1km az=211.0*
PAS ***25*** *20:58:47.2±1.7,31°.97N±0°.02×116°.28W±0°.02,h18km±7km, ML3.0/144,ML2.9/34(NEIC),Error ellipse: s-maj=3.0km s-min=1.9km az=210.0*
ECX ***25*** *20:58:47.0±0.6,31°.96N×116°.26W,h20km±1km,MD2.8, ML3.0,Fault plane solution: NP1:φs151.00000°, δ57.00000°,λ-142.00000°.*

ISC 25 20:58:46.4±0.9,31°.96N±0°.02×116°.27W±0°.02,h18km±3km, n63,σ0.53/81,9C-3D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RACA	**Rancho agua Ca**	**0.07**	**335**	⇓*i*P		**Pg**	**20 58 50.4**	**+0.5**
RACA				*e*S		**Sg**	**20 58 52.9**	**+0.6**
OJOX	**Ej. Ojos Negro**	**0.17**	**125**	⇓*i*P		**Pg**	**20 58 51.4**	**+0.4**
OJOX				*e*S		**Sg**	**20 58 54.4**	**+0.3**
ESJX	**Sierra Juarez**	**0.27**	**80**	Pg		**Pb**	**20 58 53.0**	**+0.3**
ESJX				IAML			20 58 57.5	
	comp=N,2μm,0.1s							
SJX	**San Joaquin**	**0.32**	**126**	⇑*i*P		**Pg**	**20 58 53.0**	**-0.3**
SJX				*i* S		**Sg**	**20 58 57.1**	**-0.9**
CCX	**Cicese**	**0.35**	**256**			**Pb**	**20 58 54.2**	**+0.1**
CCX	**Cicese**	**0.35**	**256**			**Sb**	**20 58 59.7**	**+0.4**
CCX	**Cicese**	**0.35**	**256**	⇑*i*P		**Pb**	**20 58 54.2**	**+0.1**
CCX				*i* S		**Sb**	**20 58 59.7**	**+0.4**
RSLU	**Rancho San Lui**	**0.39**	**66**	⇑*i*P		**Pb**	**20 58 54.9**	**0.0**
RSLU				*e*S		**Sg**	**20 59 00.4**	**+0.1**
PBX	**Punta Banda**	**0.45**	**242**	⇑*i*P		**Pb**	**20 58 55.8**	**0.0**
PBX				*e*S		**Sb**	**20 59 02.2**	**+0.1**
PBX				IAML			20 59 03.2	
	comp=E,793nm,0.1s							
PBX				⇑*e*			20 59 03.4	
	comp=N,1μm,0.1s							
ALAMX	**Rancho Alamar**	**0.48**	**84**	⇑*i*P		**Pb**	**20 58 56.3**	**0.0**
CBX	**Cerro Bola**	**0.49**	**317**			**Pg**	**20 58 56.3**	**-0.1**
CBX						**Sb**	**20 59 03.3**	**-0.2**
CBX	**Cerro Bola**	**0.49**	**317**	IAML			20 59 03.8	
	comp=N,1μm,0.4s							
CBX				IAML			20 59 04.1	
	comp=E,1μm,0.5s							
CBX	**Cerro Bola**	**0.49**	**317**	⇑*e*P		**Pg**	**20 58 56.3**	**-0.1**
CBX				*e*S		**Sb**	**20 59 03.2**	**-0.2**
CBX				IAML			20 59 03.9	
	comp=N,922nm,0.3s							
CBX				⇓*e*			20 59 03.9	
CBX				IAML			20 59 04.9	
	comp=E,676nm,0.2s							
CBX				⇑*e*			20 59 04.9	
TJIG	**Tijuana**	**0.59**	**324**	*e*P		**Pb**	**20 58 57.6**	**-0.5**
TJIG				*e*S		**Sb**	**20 59 05.5**	**-0.6**
SV2X	**San Vicente**	**0.61**	**178**	*e*P		**Pb**	**20 58 58.1**	**-0.4**
SV2X				*e*S		**Sb**	**20 59 06.3**	**-0.5**
SV2X				IAML			20 59 07.0	
	comp=E,1μm,0.1s							
SV2X				⇑*e*			20 59 07.0	
RMX	**La Rumorosa**	**0.66**	**14**			**Pb**	**20 58 58.8**	**-0.7**
RMX	**La Rumorosa**	**0.66**	**14**			**Sb**	**20 59 07.2**	**-1.3**
RMX	**La Rumorosa**	**0.66**	**14**	*e*P		**Pb**	**20 58 58.8**	**-0.7**
RMX				*i* S		**Sb**	**20 59 07.4**	**-1.0**
TKX	**Tecate**	**0.68**	**335**	Pg		**Pb**	**20 58 59.2**	**-0.5**
TKX	**Tecate**	**0.68**	**335**			**Sb**	**20 59 07.9**	**-0.8**
TKX	**Tecate**	**0.68**	**335**	IAML			20 59 08.4	
	comp=E,1μm,0.1s							
TKX				IAML			20 59 08.9	
	comp=N,770nm,0.1s							
VTX	**Valle De La Tr**	**0.70**	**144**			**Pb**	**20 58 59.6**	**-0.4**
VTX	**Valle De La Tr**	**0.70**	**144**			**Sb**	**20 59 09.0**	**-0.3**
VTX	**Valle De La Tr**	**0.70**	**144**	IAML			20 59 09.3	
	comp=E,412nm,0.1s							
VTX				IAML			20 59 09.5	
	comp=N,751nm,0.1s							
VTX	**Valle De La Tr**	**0.70**	**144**	*e*P		**Pb**	**20 58 59.5**	**-0.5**
VTX				*e*S		**Sb**	**20 59 08.8**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**0.70**	**11**			**Pb**	**20 58 59.9**	**-0.2**
IKP						**Sb**	**20 59 09.3**	**-0.3**
YUH	**Yuha Desert**	**0.75**	**23**	Pg		**Pb**	**20 59 00.8**	**-0.1**
YUH				IAML			20 59 11.0	
	comp=E,922nm,0.3s							
YUH				IAML			20 59 11.1	
	comp=N,772nm,0.3s							
YUH	**Yuha Desert**	**0.75**	**23**			**Sb**	**20 59 10.2**	**-0.5**
DUZA	**Dulzura**	**0.78**	**327**			**Pb**	**20 59 00.9**	**-0.5**
DUZA						**Sb**	**20 59 10.8**	**-0.8**
BAR	**Barrett**	**0.80**	**335**	IAML			20 59 15.1	
	comp=E,342nm,0.2s							
BAR				IAML			20 59 20.3	
	comp=N,368nm,0.7s							
BAR	**Barrett**	**0.80**	**335**			**Pb**	**20 59 01.1**	**-0.6**
BAR						**Sb**	**20 59 11.6**	**-0.7**
SGL	**Mount Signal**	**0.83**	**33**			**Pb**	**20 59 02.4**	**+0.1**
SGL						**Sb**	**20 59 13.2**	**+0.2**
OLP	**Otay Lakes Par**	**0.86**	**319**			**Pb**	**20 59 02.3**	**-0.5**
OLP						**Sb**	**20 59 13.1**	**-0.9**
WESC	**Westside Schoo**	**0.92**	**29**			**Pn**	**20 59 04.2**	**-0.2**
CPBX	**Cerro Prieto**	**0.94**	**60**			**Pg**	**20 59 04.8**	**+0.2**
MONP2	**Monument Peak**	**0.94**	**352**			**Sb**	**20 59 16.0**	**-0.5**
CRR	**Carrizo Plain**	**0.96**	**15**			**Pb**	**20 59 04.6**	**+0.1**
CRR						**Sg**	**20 59 17.6**	**-0.2**
SDRC	**San Diego Road**	**0.97**	**324**			**Pb**	**20 59 04.0**	**-0.6**
SDRC						**Sb**	**20 59 16.1**	**-0.9**
UABX	**UABC, Campus M**	**0.97**	**46**			**Sn**	**20 59 19.7**	**+1.3**
COK2	**Cook Ranch 2**	**1.00**	**27**			**Sg**	**20 59 19.8**	**+0.8**
SWSC	**Sam W. Stewart**	**1.06**	**22**			**Pb**	**20 59 06.2**	**-0.1**
SUP	**Superstition M**	**1.06**	**20**			**Sn**	**20 59 20.9**	**+0.1**
SDMC	**San Diego Miss**	**1.11**	**318**			**Sb**	**20 59 20.6**	**-0.5**
JUEM	**Julian Eagle M**	**1.16**	**346**			**Pn**	**20 59 07.4**	**-0.4**
JUEM						**Sb**	**20 59 22.4**	**-0.2**
109C	**Camp Elliot, M**	**1.17**	**323**			**Pn**	**20 59 07.6**	**-0.2**
109C				IAML			20 59 22.4	
	comp=E,265nm,0.2s							
CPE	**Camp Elliot**	**1.17**	**323**			**Pn**	**20 59 07.5**	**-0.4**
SLH	**Sleepy Hollow**	**1.23**	**0**			**Pb**	**20 59 09.2**	**0.0**
MATG	**Mataguay Scout**	**1.28**	**346**			**Pn**	**20 59 09.4**	**0.0**
MATG						**Sb**	**20 59 26.1**	**-0.1**
BORC	**Borrego Spring**	**1.31**	**354**			**Pn**	**20 59 10.0**	**+0.1**
BORC						**Sn**	**20 59 26.9**	**0.0**
COA	**Coachella**	**1.32**	**47**			**Pn**	**20 59 09.9**	**0.0**
EMSC	**East Mesa**	**1.34**	**54**			**Pn**	**20 59 10.3**	**+0.2**
SFX	**San Felipe**	**1.52**	**127**	Pn		**Pn**	**20 59 12.6**	**0.0**
SFX				IAML			20 59 35.9	
	comp=E,103nm,0.7s							
SFX				IAML			20 59 38.7	
	comp=N,109nm,0.7s							
GLA	**Glamis**	**1.63**	**48**			**Pn**	**20 59 13.9**	**-0.4**
GLA				IAML			20 59 40.2	
	comp=N,100nm,0.4s							
GLA				IAML			20 59 46.6	
	comp=E,72nm,0.5s							
PFO	**Pinyon Flats O**	**1.66**	**354**			**Pn**	**20 59 14.6**	**-0.1**
ELS	**Elsinore Mount**	**1.95**	**330**			**Pn**	**20 59 19.3**	**+0.7**
ELS				IAML			20 59 50.1	
	comp=E,72nm,0.4s							
113A	**Mohawk Valley,**	**2.26**	**68**	Pn		**Pn**	**20 59 23.6**	**+0.8**
BLYC	**Blythe**	**2.31**	**39**			**Pn**	**20 59 23.5**	**-0.1**
PIX	**Pinacate**	**2.42**	**99**	Pn		**Pn**	**20 59 24.1**	**-0.9**
214A	**Organ Pipe Nat**	**2.94**	**89**	Pn		**Pn**	**20 59 31.5**	**-0.6**
214A				IAML			21 00 06.8	
	comp=E,26nm,0.6s							
GSC	**Goldstone, Bar**	**3.37**	**352**			**Pn**	**20 59 38.7**	**+0.6**
W13A	**Hualapai Mount**	**3.71**	**32**	Pn		**Pn**	**20 59 43.8**	**+0.8**
GWY	**Greenwater Val**	**4.23**	**356**	Pn		**Pn**	**20 59 51.4**	**+1.3**
X16A	**Lo Mia Camp, P**	**4.73**	**57**	Pn		**Pn**	**20 59 57.5**	**+0.5**

SOME ***25*** *20:59:42.3,40°.73N×77°.62E,h15km*
NNC ***25*** *20:59:44.5±3.6,45°.66N×76°.68E,h0km,mb3.3,mpv3.0, Error ellipse: s-maj=28.0km s-min=18.1km az=161.0*

KRNET 25 20:59:42.6±0.1,40°.80N×77°.68E,h17km,mb2.6,12C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.93**	**6**	⇑*e*P		Pb	21 00 00.4	-0.1
	baz=6.0							
TARG				⇑*i*S		Sg	21 00 13.4	+0.3
	baz=6.0							
KDJ	**Kajisay**	**1.38**	**344**	⇑*e*P		Pb	21 00 08.5	+0.5
	baz=45							
KDJ				⇑*i*S		Sg	21 00 27.3	+0.1
	baz=45							
NRN	**Naryn**	**1.42**	**297**	⇓*e*P		Pg	21 00 09.5	-0.5
	baz=96							
NRN				⇓*e*S		Sg	21 00 28.9	+0.4
	baz=96							
PRZ	**Przheval'sk**	**1.76**	**18**	⇓*e*P		Pb	21 00 15.5	+0.9
	baz=17							
PRZ				⇓*e*S		Sg	21 00 39.6	+0.1
	baz=17							
BOOM	**Boomskoye usch**	**2.13**	**323**	⇓*e*P		Pb	21 00 21.0	+0.1
	baz=23							
BOOM				⇓*e*S		Sg	21 00 49.4	-1.8
	baz=23							
TNSS	**Tian-Shan**	**2.30**	**346**	*e*P		Pg	21 00 25.8	-0.9
	5.6nm,0.4s							
TNSS				*e*S		Sg	21 00 56.9	+0.3
	7.7nm,0.3s							
TNSS	**Tian-Shan**	**2.30**	**346**	Pg		Pg	21 00 25.8	-0.9
	5.6nm,0.4s							
TNSS				Lg		Lg	21 00 56.9	
	7.7nm,0.3s							
SATY	**Saty**	**2.32**	**13**	*e*P		Pg	21 00 26.1	-1.1
	1.9nm,0.1s							
SATY				*e*S		Sg	21 00 57.4	+0.2
	23nm,0.6s							
SATY	**Saty**	**2.32**	**13**	Pg		Pg	21 00 26.0	-1.1
	1.9nm,0.1s							
SATY				Lg		Lg	21 00 57.4	
	23nm,0.6s							
MDOK	**Medeo**	**2.41**	**349**	*e*P		Pg	21 00 27.8	-1.0
	2.9nm,0.1s							
MDOK				*e*S		Sg	21 01 00.4	+0.5
	8.4nm,0.5s							
MDOK	**Medeo**	**2.41**	**349**	⇓Pn		Pb	21 00 26.2	+0.7
	18nm,1.5s							
MDOK				Pg		Pg	21 00 27.8	-1.0
	2.9nm,0.1s							
MDOK				⇓Sn		Sg	21 00 58.2	-1.7
	13nm,0.8s							
MDOK				Lg		Lg	21 01 00.4	
	8.4nm,0.5s							
KOTS	**Kotyrbulak**	**2.47**	**350**	*e*P		Pg	21 00 28.8	-1.1
	3.5nm,0.4s							
KOTS				*e*S		Sg	21 01 02.2	+0.3
	7.9nm,0.7s							
KOTS	**Kotyrbulak**	**2.47**	**350**	Pg		Pg	21 00 28.8	-1.1
	3.5nm,0.4s							
KOTS				Lg		Lg	21 01 02.2	
	7.9nm,0.7s							
UZB	**Uzynbulak**	**2.55**	**23**	*e*P		Pg	21 00 30.1	-1.4
	1.7nm,0.2s							
UZB				*e*S		Sg	21 01 04.2	-0.3
	6.9nm,0.4s							
UZB	**Uzynbulak**	**2.55**	**23**	Pg		Pg	21 00 30.1	-1.4
	1.7nm,0.2s							
UZB				Lg		Lg	21 01 04.2	
	6.9nm,0.4s							
KST	**Kastek**	**2.58**	**331**	*e*P		Pg	21 00 30.4	-1.7
	3.5nm,0.2s							
KST				*e*S		Sg	21 01 04.8	-0.7
	4.5nm,0.1s							
KST	**Kastek**	**2.58**	**331**	Pg		Pg	21 00 30.4	-1.7
	3.5nm,0.2s							
KST				Lg		Lg	21 01 04.8	
	4.5nm,0.1s							
TKM2	**Tokmak 2**	**2.63**	**324**	⇑Pn		Pb	21 00 31.1	+1.8
	10.0nm,1.4s							
TKM2				⇑Sn		Sg	21 01 08.4	+1.4
	7.2nm,1.1s							
TKM2	**Tokmak 2**	**2.63**	**324**	⇑*i*P		Pb	21 00 28.1	-1.2
	baz=24							
TKM2				⇑*i*S		Sb	21 01 01.2	-0.2
	baz=24							
SHLS	**Shalkode**	**2.70**	**29**	*e*P		Pg	21 00 36.0	+1.6
	2.9nm,0.5s							
SHLS				*e*S		Sg	21 01 14.5	+5.0
	17nm,0.4s							
SHLS	**Shalkode**	**2.70**	**29**	Pg		Pg	21 00 36.0	+1.6
	2.9nm,0.5s							
SHLS				Lg		Lg	21 01 14.5	
	17nm,0.4s							
KURS	**Kuram**	**2.71**	**8**	*e*P		Pb	21 00 32.1	+1.5
	3.9nm,0.5s							
KURS				*e*S		Sg	21 01 07.5	-2.1
	5.1nm,0.4s							
ARLS	**Aral**	**2.74**	**294**	⇓*e*P		Pb	21 00 29.5	-1.7
	baz=94							
ARLS				⇓*e*S		Sb	21 01 04.1	-0.5
	baz=94							
KBK	**Karagaybulak**	**2.76**	**313**	⇑*i*P		Pb	21 00 29.9	-1.7
	baz=13							
KBK				⇑*i*S		Sb	21 01 04.2	-1.0
	baz=13							
KPKS	**Kokpek**	**2.76**	**15**	*e*P		Pb	21 00 33.6	+2.0
	4.0nm,0.3s							
KPKS				*e*S		Sg	21 01 10.3	-1.2
	13nm,0.3s							
KPKS	**Kokpek**	**2.76**	**15**	Pg		Pb	21 00 33.6	+2.0
	4.0nm,0.5s							
KPKS				Lg		Lg	21 01 10.3	
	13nm,0.3s							
UCH	**Uchtor**	**2.77**	**302**	⇑*e*P		Pb	21 00 30.2	-1.7
	baz=2.0							
UCH				⇑*i*S		Sb	21 01 04.8	-1.0
	baz=2.0							
DGS	**Degeres**	**2.82**	**330**	*e*P		Pg	21 00 35.1	-1.6
	4.1nm,0.6s							
DGS				*e*S		Sg	21 01 12.9	-0.4
	4.5nm,0.8s							
DGS	**Degeres**	**2.82**	**330**	Pg		Pg	21 00 35.1	-1.6
	4.1nm,0.6s							
DGS				Lg		Lg	21 01 12.9	
	4.5nm,0.8s							
PDGK	**Podgornoye**	**2.86**	**27**	Pg		Pg	21 00 35.8	-1.7
	1.5nm,0.6s							
PDGK				Lg		Lg	21 01 14.1	
	5.7nm,0.6s							
PDGK	**Podgornoye**	**2.86**	**27**	Pn		Pb	21 00 34.7	+1.4
	1.4nm,0.4s							
PDGK				⇓Sn		Sg	21 01 13.6	-1.0
	16nm,0.9s							
KTBS	**Karatobe**	**3.00**	**346**	*e*P		Pb	21 00 37.7	+2.1
	1.7nm,0.2s							
KTBS				*e*S		Sg	21 01 17.4	-1.6
	2.6nm,0.3s							
KTBS	**Karatobe**	**3.00**	**346**	Lg		Lg	21 01 17.4	
	2.6nm,0.3s							
CHKK	**Chushkaly**	**3.09**	**351**	*e*P		Pg	21 00 39.7	-2.1
	1.5nm,0.2s							
CHKK				*e*S		Sg	21 01 20.9	-1.0
	5.8nm,0.0s							
CHKK	**Chushkaly**	**3.09**	**351**	Pg		Pg	21 00 39.7	-2.1
	1.5nm,0.2s							
CHKK				Lg		Lg	21 01 20.9	
	5.8nm,0.0s							
KRBS	**Karabastau**	**3.25**	**333**	*e*P		Pb	21 00 41.9	+2.0
	2.8nm,0.3s							
KRBS				*e*S		Sg	21 01 24.7	-2.4
	3.1nm,0.8s							
KRBS	**Karabastau**	**3.25**	**333**	Lg		Lg	21 01 24.7	
	3.1nm,0.8s							

NEIC 25 21:06:21.6±2.7,44°.44N±0°.05×126°.0W±0°.1,h10km±2km, ML2.9/62,Error ellipse: s-maj=13.7km s-min=8.5km az=259.0,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COR	**Corvallis**	**1.95**	**85**		Pn	21 06 54.3	-0.5
COR				Sn	Sn	21 07 17.4	-1.9
COR				IAML		21 07 18.0	
	139nm,0.4s						
COR				IAML		21 07 18.4	
	120nm,0.6s						
J01E	**Myrtle Point**	**1.98**	**129**	Pn	Pn	21 06 54.8	-0.4
J01E					Sn	21 07 18.8	-1.2
J01E				IAML		21 07 23.4	
	comp=N,154nm,0.3s						
I03D	**Drain, OR**	**2.06**	**110**		Pn	21 06 56.1	-0.1
I03D				IAML		21 07 23.6	
	comp=E,112nm,0.3s						
I03D				IAML		21 07 23.8	
	comp=N,116nm,0.7s						
G03D	**McMinnville, O**	**2.11**	**67**		Pn	21 06 56.2	-0.7
G03D				IAML		21 07 21.9	
	comp=N,110nm,0.6s						
G03D				IAML		21 07 23.6	
	comp=E,61nm

NLWA	**Neilton Lookou**	**3.31**	**26**		Pn	21 07 12.6	-1.0
NLWA				IAML		21 07 51.7	
comp=E,45nm,0.5s							
I05D	**Terrebonne, OR**	**3.36**	**90**		Pn	21 07 14.1	-0.1
I05D				IAML		21 08 09.8	
comp=E,19nm,0.9s							
G05A	**Wamic**	**3.44**	**75**		Pn	21 07 16.4	+1.1
G05A				IAML		21 08 02.1	
comp=N,18nm,1.0s							
G05A				IAML		21 08 25.8	
comp=E,18nm,1.1s							
J05D	**Fort Rock, OR**	**3.65**	**107**	Pn	Pn	21 07 19.4	+1.1
PINE	**Pine Mountain**	**3.71**	**98**	Pn	Pn	21 07 20.4	+1.2
PINE				IAML		21 08 29.7	
comp=N,14nm,1.1s							
LON	**Longmire**	**3.75**	**50**		Pn	21 07 20.0	+0.4
LON				IAML		21 08 04.5	
comp=E,16nm,0.7s							
LON				IAML		21 08 05.6	
comp=N,14nm,0.5s							
GNW	**Green Mountain**	**3.84**	**34**		Pn	21 07 19.9	-0.8
G06A	**Carlson Farm,**	**3.91**	**76**		Pn	21 07 22.6	+0.8
D05A	**Enumclaw**	**3.94**	**44**		Pn	21 07 22.0	-0.1
D05A				IAML		21 08 10.6	
comp=E,18nm,1.0s							
D05A				IAML		21 08 11.1	
comp=N,33nm,0.7s							
B04A	**Port Angeles**	**4.02**	**25**	Pn	Pn	21 07 22.8	-0.4
OZB	**Mount Ozzard**	**4.54**	**4**	Pn	Pn	21 07 29.3	-1.1
MXC	**Moxie City**	**4.56**	**60**		Pn	21 07 31.6	+0.9
I07A	**Izee**	**4.69**	**92**	Pn	Pn	21 07 33.9	+1.3
E07A	**Sunnyside**	**4.83**	**62**		Pn	21 07 34.8	+0.5
E07A				IAML		21 08 36.6	
comp=N,6.6nm,0.5s							
E07A				IAML		21 08 49.8	
comp=E,6.5nm,0.6s							
HAWA	**Hanford**	**4.97**	**65**	Pn	Pn	21 07 37.3	+1.0
G08A	**Pilot Rock**	**5.09**	**78**	Pn	Pn	21 07 38.6	+0.5
E08A	**Dider Farm, El**	**5.31**	**65**	Pn	Pn	21 07 41.8	+0.9
D08A	**Wollman Farm,**	**5.62**	**60**	Pn	Pn	21 07 45.8	+0.6
BMO	**Blue Mountains**	**6.23**	**83**	Pn	Pn	21 07 54.2	+0.5
NEW	**Newport**	**7.25**	**55**		Pn	21 08 07.4	-0.2
MDPB	**Devils Postpil**	**8.58**	**140**	Pn	Pn	21 08 23.6	-2.5
OMMB	**Old Mammoth Mi**	**8.63**	**140**	Pn	Pn	21 08 23.7	-3.2
MSO	**Missoula**	**8.80**	**70**	Pn	Pn	21 08 28.7	-0.2
BPMT	**Black Pine Rid**	**9.07**	**73**	Pn	Pn	21 08 32.2	-0.5

*TEH **25** 21:07:01.8, 38°.80N×43°.44E, h10km, ML2.3*
*ISK **25** 21:07:03.3, 38°.88N×43°.60E, h3km, ML2.7/9*
*AFAD **25** 21:07:04.7±0.0, 38°.90N×43°.51E, h16km±1km, ML2.7*

ISC 25 21:07:04.0±0.9,**38°.88N**±0°.02×**43°.53E**±0°.02,**h15**km±6km, **n25**,σ0^{s}**99**/44,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.12**	**17**	P	**Pg**	**21 07 07.9**	**+0.1**
VMUR				S	**Sg**	**21 07 10.8**	**+0.7**
VMUR				*i* AML	AML	21 07 11.0	
comp=Z,2μm,0.3s							
VMUR				*i* AML	AML	21 07 11.0	
comp=N,2μm,0.1s							
VMUR				*i* AML	AML	21 07 11.0	
comp=E,5μm,0.4s							
ERCV	**ERCIS-VAN**	**0.21**	**314**	Pg	**Pg**	**21 07 09.2**	**+0.3**
VANB	**Van**	**0.30**	**201**	Pg	**Pn**	**21 07 12.5**	**-1.5**
VANB				Sg	**Sb**	**21 07 18.4**	**+2.5**
TVAN	**Van**	**0.36**	**195**	P	**Pb**	**21 07 12.3**	**+0.1**
TVAN				S	**Sb**	**21 07 19.5**	**+1.8**
TVAN				*i* AML	AML	21 07 20.0	
comp=N,877nm,0.4s							
TVAN				*i* AML	AML	21 07 20.0	
comp=E,1μm,0.3s							
TVAN				*i* AML	AML	21 07 21.0	
comp=Z,587nm,0.3s							
CLDR	**Caldiran**	**0.41**	**49**	Pg	**Pg**	**21 07 10.7**	**-1.6**
CLDR				Sg	**Sg**	**21 07 17.0**	**-0.9**
CLDR	**Caldiran**	**0.41**	**49**	P	**Pg**	**21 07 10.6**	**-1.7**
CLDR				S	**Sg**	**21 07 17.1**	**-0.9**
OZAP	**Van, Ozalp-Mer**	**0.42**	**120**	P	**Pb**	**21 07 13.4**	**+0.1**
OZAP				S	**Sb**	**21 07 21.6**	**+2.0**
ADCV	**BITLIS_Adilcev**	**0.63**	**264**	P	**Pb**	**21 07 17.2**	**+0.3**
ADCV				S	**Sb**	**21 07 26.7**	**+1.2**
ADCV				*i* AML	AML	21 07 27.0	
comp=E,333nm,0.5s							
ADCV				*i* AML	AML	21 07 28.0	
comp=N,338nm,0.3s							
GEVA	**Gevas**	**0.67**	**213**	P	**Pb**	**21 07 17.1**	**-0.4**
GEVA				S	**Sn**	**21 07 28.9**	**-0.5**
DYDN	**Diyadin**	**0.68**	**11**	P	**Pb**	**21 07 18.1**	**+0.4**
DYDN				S	**Sb**	**21 07 27.6**	**+0.7**
AKDM	**Akdamar-Van**	**0.69**	**218**	Pg	**Pb**	**21 07 17.7**	**-0.2**
AKDM				Sg	**Sn**	**21 07 29.3**	**-0.7**
DORK	**Agr/Tutak/Do**	**0.77**	**312**	P	**Pb**	**21 07 18.7**	**-0.6**
DORK				S	**Sb**	**21 07 30.2**	**+0.5**
MLAZ	**Malazgirt-MUS**	**0.81**	**289**	Pg	**Pn**	**21 07 20.8**	**-0.2**
MLAZ				Sg	**Sn**	**21 07 33.1**	**+0.3**
AGRB	**Hanur-Agry**	**0.81**	**329**	Pg	**Pb**	**21 07 19.9**	**-0.1**
AGRB				Sg	**Sn**	**21 07 32.7**	**-0.3**
KOTA	**Agri, Merkez-K**	**0.96**	**345**	P	**Pn**	**21 07 22.8**	**-0.3**
KOTA				S	**Sn**	**21 07 35.6**	**-1.0**
MAKU	**Maku**	**1.02**	**62**	Pg	**Pb**	**21 07 23.3**	**-0.1**
MAKU				Sg	**Sn**	**21 07 39.8**	**+1.7**
IGDI	**IGDIR**	**1.08**	**23**	P	**Pn**	**21 07 24.8**	**+0.1**
IGDI				S	**Sn**	**21 07 41.0**	**+1.6**
BLIS	**Bitlis-Merkez**	**1.20**	**248**	P	**Pg**	**21 07 26.5**	**-0.6**
BLIS				S	**Sn**	**21 07 42.4**	**0.0**
EATA	**Eleskirt**	**1.27**	**321**	P	**Pg**	**21 07 28.0**	**-0.6**
EATA				S	**Sn**	**21 07 46.3**	**+1.8**
SRTM	**Siirt_Merkez**	**1.54**	**235**	P	**Pg**	**21 07 33.4**	**-0.2**
SRTM				S	**Sg**	**21 07 53.6**	**0.0**
VRTB	**Varto-Mus**	**1.64**	**281**	Pn	**Pg**	**21 07 34.8**	**-0.7**
IMRD	**Marand**	**1.71**	**95**	Pg	**Pg**	**21 07 36.4**	**-0.4**
ISHB	**Shabestar**	**1.74**	**109**	Pg	**Pb**	**21 07 35.4**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.91**	**332**	Pn	**Pb**	**21 07 38.1**	**-0.6**
BNGB	**Bingl**	**2.22**	**274**	Pn	**Pb**	**21 07 43.2**	**-0.8**

*IDC **25** 21:08:50.0±0.8, 1°.79N×126°.33E, h0km, mb4.1/9, mbtmp4.1/10, ML3.8/1, MS2.7/1, Error ellipse: s-maj=57.5km s-min=15.1km az=69.0*
*DJA **25** 21:08:55.1±0.4, 2°N±4°×12°6E±°, h10km, M4.1/10, mb4.3/2, MLv4.1/10*
*NEIC **25** 21:08:57.4±2.2, 1°.73N±0°.09×126°.21E±0°.05, h48km±8km, mb4.4/22, Error ellipse: s-maj=13.7km s-min=5.2km az=200.0*

ISC 25 21:08:57.5±0.5,**1°.71N**±0°.07×**126°.23E**±0°.07,**h54**km,**n52**, σ1^{s}**05**/49,**mb4.4**/20,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.47**	**129**	Pn	**Pn**	**21 09 21.2**	**-0.4**
TNTI				Sn	**Sn**	**21 09 39.3**	**-0.5**
TNTI	**Ternate**	**1.47**	**129**	P	**Pn**	**21 09 20.8**	**-0.9**
KMSI	**Cibinong**	**2.51**	**243**	P	**Pn**	**21 09 36.2**	**+0.3**
GTOI	**Gorontalo**	**3.39**	**252**	P	**Pn**	**21 09 51.3**	**+3.4**
SANI	**Sanana**	**3.74**	**184**	P	**Pn**	**21 09 52.1**	**-0.6**
LUWI	**Luwuk**	**4.40**	**232**		**Pn**	**21 10 03.2**	**+1.4**
MRSI	**Marisa**	**4.46**	**254**	P	**Pn**	**21 10 03.2**	**+0.7**
NLAI	**Namlea**	**4.99**	**170**	P	**Pn**	**21 10 10.6**	**+0.7**
DAV	**Davao City (W)**	**5.37**	**353**	LR	LR	21 12 25.6	
comp=Z,89nm,21.5s,baz=257,slow=41							
TOLI2	**Tolitoli**	**5.47**	**264**		**Pn**	**21 10 14.7**	**-1.8**
MPSI	**Mapaga**	**6.47**	**258**	P	Pn	21 10 44.5	+14
KAPI	**Kappang**	**9.30**	**224**	Pn	**Pn**	**21 11 08.2**	**-0.7**
KAPI	**Kappang**	**9.30**	**224**	Pn	**Pn**	**21 11 07.8**	**-1.1**
1.0nm,0.3s,baz=354,slow=4.4,SNR=1.9							
3.6nm,0.3s							
TPUB	**Ta-pu**	**22.14**	**346**	P	**P**	**21 13 48.3**	**-0.5**
WB0	**Warramunga Arr**	**22.80**	**160**	P	**P**	**21 13 55.4**	**-0.5**
WB0				IAmb	IAmb	21 13 57.1	
comp=Z,26nm,1.2s							
COEN	**Coen**	**22.90**	**133**	P	**P**	**21 13 57.5**	**+0.6**
COEN				IAmb	IAmb	21 14 06.9	
comp=Z,14nm,1.4s							
WRA	**Warramunga Arr**	**22.94**	**160**	P	**P**	**21 13 55.6**	**-1.8**
WRA	**Warramunga Arr**	**22.94**	**160**	P	**P**	**21 13 56.2**	**-1.1**
comp=Z,9.0nm,0.5s,baz=337,slow=10,SNR=86							
comp=Z,9.0nm,0.5s							
MBWA	**Marble Bar**	**23.60**	**195**	P	**P**	**21 14 03.0**	**-0.6**
MBWA				IAmb	IAmb	21 14 14.9	
comp=Z,20nm,1.3s							
AS31	**Alice Springs**	**26.30**	**164**		**P**	**21 14 28.5**	**+0.2**
ASAR	**Alice Springs**	**26.30**	**164**	P	**P**	**21 14 28.2**	**-0.1**
ASAR	**Alice Springs**	**26.30**	**164**	P	**P**	**21 14 27.8**	**-0.5**
comp=Z,2.7nm,0.5s,baz=345,slow=7.4,SNR=62							
ASAR				PcP	**PcP**	**21 17 54.1**	**+0.5**
comp=Z,0.7nm,0.4s,baz=352,slow=2.4,SNR=4.8							
comp=Z,2.7nm,0.5s							
FORT	**Forrest**	**32.35**	**177**	P	**P**	**21 15 22.3**	**+0.5**
NWAO	**Narrogin (SRO)**	**35.48**	**193**	P	**P**	**21 15 48.8**	**-0.2**
BBOO	**Buckleboo**	**35.57**	**166**	P	**P**	**21 15 50.0**	**+0.2**
STKA	**Stephens Creek**	**36.44**	**158**	P	**P**	**21 15 57.9**	**+0.7**
STKA	**Stephens Creek**	**36.44**	**158**	P	**P**	**21 15 57.6**	**+0.3**
comp=Z,6.4nm,0.7s,baz=327,slow=9.4,SNR=19							
comp=Z,6.4nm,0.7s							
ARMA	**Armidale**	**40.09**	**145**	P	**P**	**21 16 29.3**	**+1.2**
ARMA				IAmb	IAmb	21 16 30.3	
comp=Z,6.8nm,0.8s							
USA0B	**Ussuriysk Arra**	**42.62**	**6**	P	**P**	**21 16 49.1**	**+0.7**
USA0B				IAmb	IAmb	21 16 50.8	
comp=Z,8.9nm,1.1s							
USRK	**Ussuriysk Ar.**	**42.62**	**6**	P	**P**	**21 16 48.9**	**+0.4**
H11S3	**WAKE ISLAND Hy**	**43.03**	**64**	T	T	22 03 36.4	
baz=252,slow=75,SNR=8.8							
H11S1	**WAKE ISLAND Hy**	**43.04**	**64**	T	T	22 03 41.6	
baz=252,slow=75,SNR=6.4							
H11S2	**WAKE ISLAND Hy**	**43.04**	**65**	T	T	22 03 41.6	
baz=252,slow=75,SNR=9.2							
SONM	**Songino Array**	**49.05**	**342**	P	**P**	**21 17 39.0**	**-0.3**
comp=Z,0.1nm,0.3s,baz=169,slow=8.4,SNR=2.1							
comp=Z,0.1nm,0.3s							
MK31	**Makanchi Array**	**58.93**	**326**	P	**P**	**21 18 50.2**	**-1.1**
MKAR	**Makanchi Array**	**58.93**	**326**	P	**P**	**21 18 50.1**	**-1.2**
MKAR	**Makanchi Array**	**58.93**	**326**	P	**P**	**21 18 50.0**	**-1.3**
comp=Z,0.8nm,0.5s,baz=120,slow=7.4,SNR=15							
comp=Z,0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**62.16**	**334**	P	**P**	**21 19 12.7**	**-0.3**
comp=Z,0.3nm,0.3s,baz=157,slow=7.7,SNR=2.0							
comp=Z,0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**63.17**	**328**	P	**P**	**21 19 20.8**	**+1.0**
comp=Z,1.0nm,0.3s,baz=126,slow=6.1,SNR=8.5							
comp=Z,1.0nm,0.3s							
KURK	**Kurchatov**	**63.17**	**328**	P	**P**	**21 19 18.7**	**-1.2**
KURK				IAmb	IAmb	21 19 21.7	
comp=Z,2.6nm,0.7s							
ABKAR	**Akbulak array**	**73.39**	**321**	P	**P**	**21 20 22.5**	**-1.4**
ABKAR	**Akbulak array**	**73.39**	**321**	P	**P**	**21 20 22.9**	**-1.0**
ABKAR				IAmb	IAmb	21 20 37.6	
comp=Z,1.6nm,1.1s							
L16K	**Owhat River**	**81.09**	**28**	P	**P**	**21 21 08.0**	**+1.3**
L16K				IAmb	IAmb	21 21 16.3	
comp=Z,8.0nm,1.5s							
VNDA	**Vanda**	**81.50**	**173**	P	**P**	**21 21 08.9**	**+0.3**
VNDA				IAmb	IAmb	21 21 16.5	
comp=Z,4.6nm,1.4s							
VNDA	**Vanda**	**81.50**	**173**	P	**P**	**21 21 08.5**	**0.0**
comp=Z,0.6nm,0.5s,baz=311,slow=8.8,SNR=6.8							
comp=Z,0.6nm,0.5s							
SBA	**Scott Base**	**82.41**	**172**	P	**P**	**21 21 13.5**	**+0.1**
L18K	**Granite Mounta**	**82.48**	**27**	P	**P**	**21 21 15.8**	**+1.8**
L18K				IAmb	IAmb	21 21 35.3	
comp=Z,5.1nm,1.4s							
J18K	**Innoko River**	**82.70**	**26**	P	**P**	**21 21 15.8**	**+0.6**
J18K				IAmb	IAmb	21 21 16.4	
comp=Z,5.7nm,1.5s							
D19K	**Kuna River**	**83.18**	**21**	P	**P**	**21 21 18.6**	**+1.1**
D19K				IAmb	IAmb	21 21 46.4	
comp=Z,5.6nm,1.4s							
H19K	**Roundabout Mou**	**83.21**	**24**	P	**P**	**21 21 19.6**	**+1.9**
H19K				IAmb	IAmb	21 21 26.1	
comp=Z,3.1nm,0.8s							
QSPA	**South Pole Qui**	**91.63**	**180**	P	**P**	**21 21 58.8**	**+0.2**
FINES	**FINESS Array B**	**93.36**	**332**	P	**P**	**21 22 05.9**	**-0.6**
comp=Z,0.9nm,0.8s,baz=38,slow=7.0,SNR=4.1							
comp=Z,0.9nm,0.8s							

*IDC **25** 21:11:27.6±1.7, 5°.35S×131°.64E, h0km, mb4.0/5, mbtmp4.1/7, ML3.7/2, Error ellipse: s-maj=118.9km s-min=21.6km az=68.0*
*NEIC **25** 21:11:38.6±1.6, 5°.56S±0°.07×131°.3E±0°.2, h87km±4km, mb4.1/7, Error ellipse: s-maj=36.0km s-min=9.0km az=97.0*

ISC 25 21:11:34.0±0.8,**5°.41S**±0°.08×**131°.7E**±0°.1,**h54**km,**n34**, σ1^{s}**56**/33,**mb4.1**/8,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.00**	**296**	P	**Pn**	**21 12 07.8**	**+2.4**
FAKI	**Fak Fak**	**2.53**	**12**	P	Pn	21 12 21.2	+8.5
FAKI	**Fak Fak**	**2.53**	**12**		Pn	21 12 21.2	+8.5
FAKI				Sn	Sn	21 12 51.7	+9.4
SAUI	**Saumlaki**	**2.59**	**189**	P	**Pn**	**21 12 15.8**	**+2.3**
SAUI	**Saumlaki**	**2.59**	**189**	Pn	**Pn**	**21 12 16.9**	**+3.4**
SAUI				Sn	**Sn**	**21 12 43.1**	**-0.7**
SANI	**Sanana**	**6.61**	**300**	P	**Pn**	**21 13 09.7**	**+1.1**
DRS	**Darwin Rock St**	**7.02**	**186**	P	**Pn**	**21 13 15.6**	**+1.3**
KDU	**Kakadu**	**7.27**	**174**	P	**Pn**	**21 13 19.5**	**+1.8**
MTN	**Manton Dam**	**7.41**	**184**	P	**Pn**	**21 13 21.1**	**+1.5**
MTN	**Manton Dam**	**7.41**	**184**		**Pn**	**21 13 21.0**	**+1.3**
KNRA	**Kununurra**	**10.61**	**196**	Pn	**Pn**	**21 14 01.9**	**-1.5**
COEN	**Coen**	**14.13**	**128**	P	**P**	**21 14 57.3**	**-0.3**
COEN	**Coen**	**14.13**	**128**	Pn	**P**	**21 14 55.8**	**-1.9**
WB0	**Warramunga Arr**	**14.51**	**170**	Pn	**Pn**	**21 14 56.5**	**0.0**
WRA	**Warramunga Arr**	**14.67**	**170**	Pn	**Pn**	**21 14 55.5**	**-3.1**
0.2nm,0.3s,baz=348,slow=13,SNR=1.5							
WRA				Sn	Sn	21 17 27.0	-13
2.4nm,0.3s,baz=348,slow=19,SNR=10.0							
0.8nm,0.3s							
AS31	**Alice Springs**	**18.28**	**174**	P	**Pn**	**21 15 44.4**	**+0.5**
AS31				IAmb	IAmb	21 15 48.0	
comp=Z,3.0nm,0.6s							
ASAR	**Alice Springs**	**18.28**	**174**		**Pn**	**21 15 44.1**	**+0.2**
ASAR	**Alice Springs**	**18.28**	**174**	P	**P**	**21 15 43.7**	**+0.2**
comp=Z,0.9nm,0.3s,baz=353,slow=10,SNR=13							
ASAR				S	Sn	21 18 54.4	-13
comp=Z,2.1nm,0.7s,baz=351,slow=26,SNR=6.7							
comp=Z,5.1nm,0.6s							
MBWA	**Marble Bar**	**19.50**	**215**	P	**P**	**21 15 54.1**	**-2.7**
MBWA				IAmb	IAmb	21 16 01.6	
comp=Z,18nm,1.5s							
PSA00	**Pilbara Seismi**	**19.75**	**214**	P	**P**	**21 15 58.2**	**-1.5**
PSA00	**Pilbara Seismi**	**19.75**	**214**	P	**P**	**21 15 57.7**	**-1.9**
WRKA	**Warakurna**	**19.75**	**189**	P	**P**	**21 16 00.1**	**0.0**
OOD	**Oodnadatta**	**22.58**	**171**	P	**P**	**21 16 31.5**	**+1.4**
MEEK	**Meekatharra**	**24.53**	**209**	P	**P**	**21 16 47.5**	**-1.3**
STKA	**Stephens Creek**	**27.91**	**162**	P	**P**	**21 17 21.1**	**+1.9**
STKA	**Stephens Creek**	**27.91**	**162**	P	**P**	**21 17 20.7**	**+1.5**
comp=Z,1.0nm,0.4s,baz=335,slow=11,SNR=2.8							
comp=Z,1.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**40.07**	**307**	P	**P**	**21 19 04.3**	**-0.2**
comp=Z,0.5nm,0.4s,baz=135,slow=6.7,SNR=3.1							
comp=Z,0.5nm,0.4s							
MKAR	**Makanchi Array**	**67.85**	**326**	P	**P**	**21 22 27.1**	**+0.4**
MKAR	**Makanchi Array**	**67.85**	**326**	P	**P**	**21 22 27.9**	**+1.2**
comp=Z,0.8nm,0.4s,baz=114,slow=7.9,SNR=16							
comp=Z,0.8nm,0.4s							
MAKZ	**Makanchi**	**68.03**	**326**	P	**P**	**21 22 27.4**	**-0.4**
MAKZ				IAmb	IAmb	21 22 29.3	
comp=Z,1.4nm,0.6s							
ZALV	**Zalesovo Beam**	**70.93**	**333**	P	**P**	**21 22 45.8**	**+0.3**
comp=Z,0.3nm,0.3s,baz=125,slow=6.4,SNR=2.1							
comp=Z,0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**72.06**	**328**	P	**P**	**21 22 52.1**	**-0.4**
comp=Z,1.0nm,0.2s,baz=123,slow=6.8,SNR=2.3							
comp=Z,1.0nm,0.2s							
VNDA	**Vanda**	**73.82**	**173**	P	**P**	**21 23 02.4**	**-0.1**
VNDA				IAmb	IAmb	21 23 11.0	
comp=Z,3.0nm,1.4s							
QSPA	**South Pole Qui**	**84.56**	**180**	P	**P**	**21 24 01.3**	**-0.1**
QSPA				IAmb	IAmb	21 24 04.4	
comp=Z,2.9nm,1.2s							

*IDC **25** 21:21:37.3±6.9, 36°.13N×71°.49E, h113km±61km, mb3.3/5, mbtmp3.8/8, Error ellipse: s-maj=70.6km s-min=47.5km az=133.0*
*NNC **25** 21:21:41.5±9.9, 36°.91N×70°.99E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=77.4km s-min=75.2km az=140.0*

ISC 25 21:21:39.3±1.8,**36°.5N**±0°.1×**71°.1E**±0°.2,**h100**km,**n12**, σ1^{s}**37**/14,**mb3.5**/4,**3C**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.63**	**357**	⇑P	**Pn**	**21 23 14.7**	**+0.6**
1.5nm,0.2s,baz=162,slow=11,SNR=4.5							
KK31				⇑S	**Sn**	**21 24 26.1**	**-2.1**
8.7nm,0.4s,baz=236,slow=22							
AAK	**Ala-Archa**	**6.70**	**22**	P	**Pn**	**21 23 15.4**	**+0.2**
4.5nm,0.4s,baz=205,slow=5.2,SNR=4.8							
AAK				S	**Sn**	**21 24 30.7**	**+0.6**
2.7nm,0.3s,baz=209,slow=13,SNR=5.5							
CHMS	**Chumysh**	**7.11**	**22**	P	**Pn**	**21 23 21.9**	**+1.3**
7.4nm,0.7s							
TKM2	**Tokmak 2**	**7.33**	**27**	P	**Pn**	**21 23 23.8**	**0.0**
23nm,2.0s							
AB31	**Akbulak array**	**15.12**	**331**	⇑P	**Pn**	**21 25 06.7**	**-0.8**
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**15.13**	**19**	P	**P**	**21 25 09.4**	**-0.9**
0.7nm,0.2s,baz=201,slow=13,SNR=1.5							
AKTO	**Aktyubinsk**	**16.82**	**330**	P	**P**	**21 25 31.9**	**+2.8**
1.1nm,0.4s,baz=167,slow=8.2,SNR=5.2							
ZALV	**Zalesovo Beam**	**19.92**	**24**	P	**P**	**21 26 01.6**	**-1.3**
0.6nm,0.3s,baz=226,slow=12,SNR=4.6							
0.6nm,0.3s							
FINES	**FINESS Array B**	**37.53**	**326**	P	**P**	**21 28 44.3**	**+1.0**
8.2nm,1.3s,baz=110,slow=8.5,SNR=2.2							
8.2nm,1.3s							
HFS	**Hagfors**	**43.11**	**322**	P	**P**	**21 29 29.8**	**+0.5**
0.6nm,0.6s,baz=98,slow=7.8,SNR=2.3							
0.6nm,0.6s							
NOA	**NORSAR Array B**	**44.42**	**323**	P	**P**	**21 29 39.5**	**-0.3**
0.4nm,0.7s,baz=96,slow=7.6,SNR=3.4							
0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**65.76**	**269**	P	**P**	**21 32 12.8**	**-1.1**
0.3nm,0.5s,baz=50,slow=6.0,SNR=5.1							
0.3nm,0.5s							

*SJA **25** 21:37:35.7±0.6, 28°.95S×67°.31W, h134km±2km, ML3.7, MW3.6*
*NEIC **25** 21:37:35.6±2.8, 28°.97S±0°.07×67°.20W±0°.10, h115km±9km, mb4.2/9, Error ellipse: s-maj=12.6km s-min=9.9km az=102.0*
*IDC **25** 21:37:36.3±3.3, 28°.97S×67°.29W, h119km±31km, mb3.6/4, mbtmp3.9/6, Error ellipse: s-maj=37.3km s-min=21.1km az=103.0*

ISC 25 21:37:36.2±0.7,**28°.92S**±0°.03×**67°.31W**±0°.04,**h131**km±6km, **n81**,σ1^{s}**47**/106,**mb4.1**/6,**La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**0.59**	**148**	*e*P	**Pn**	**21 37 56.8**	**+0.7**
ACLC				*e*S	**Sn**	**21 38 11.7**	**+0.5**
ACLC				IAML		21 38 13.0	
comp=Z,853nm,0.3s							
VCA	**Vinchina**	**0.81**	**283**	*e*P	**Pn**	**21 37 58.3**	**+0.7**
VCA				*e*S	**Sn**	**21 38 14.5**	**+0.6**
VCA				*e*S		21 38 15.1	
VCA				IAML		21 38 17.0	
comp=Z,4μm,0.3s							
CYA	**Choya**	**1.41**	**70**	*e*P	**Pn**	**21 38 04.1**	**+0.8**
CYA				*e*S	**Sn**	**21 38 25.0**	**+1.0**
CYA				IAML		21 38 25.6	
comp=Z,492nm,1.4s							
AVFE	**Valle Fertil**	**1.73**	**184**	*e*P	**Pn**	**21 38 07.4**	**+0.3**
AVFE				*e*S	**Sn**	**21 38 25.0**	**-5.8**
AVFE				*e*S		21 38 30.7	
ACDV	**Cuesta del Vie**	**2.01**	**231**	*e*P	**Pn**	**21 38 11.2**	**+0.8**
ACDV				IAML		21 38 39.1	
comp=Z,172nm,0.8s							
ACCO	**Cerro Coronel**	**2.26**	**222**	*e*P	**Pn**	**21 38 13.9**	**+0.3**
ACCO				*e*S	**Sn**	**21 38 43.2**	**+0.9**
AROD	**Rodeo**	**2.26**	**236**	*e*P	**Pn**	**21 38 14.5**	**+0.8**
AROD				*e*P		21 38 14.6	
AROD				*e*S	**Sn**	**21 38 43.4**	**+1.0**
ACHE	**Chepes**	**2.30**	**166**	*e*P	**Pn**	**21 38 14.8**	**+0.8**
ACHE				*e*S	**Sn**	**21 38 42.9**	**-0.2**
DOCA	**Reserva Natura**	**2.54**	**217**	*e*P	**Pn**	**21 38 17.3**	**0.0**
DOCA				*e*S	**Sn**	**21 38 48.9**	**+0.1**
DOCA				IAML		21 38 49.6	
comp=Z,383nm,0.3s							
AC05	**El Transito**	**2.60**	**271**		**Pn**	**21 38 18.7**	**+0.9**
AC05				Sn	**Sn**	**21 38 50.2**	**+0.4**
AC05	**El Transito**	**2.60**	**271**	*e*P	**Pn**	**21 38 18.3**	**+0.5**
AC05				*e*S	**Sn**	**21 38 50.5**	**+0.6**
AC05				IAML		21 38 52.1	
comp=Z,160nm,0.5s							
CO01	**Juntas del Tor**	**2.65**	**246**		**Pn**	**21 38 19.9**	**+1.4**
CO01				Sn	**Sn**	**21 38 52.2**	**+1.2**
CO01	**Juntas del Tor**	**2.65**	**246**	*e*P	**Pn**	**21 38 19.2**	**+0.7**
CO01				*e*S	**Sn**	**21 38 53.1**	**+2.0**
ZON	**Zon

BO01	**Tunca**	**6.33**	**210**	Pn		**Pn**	**21 39 04.9**	**-2.2**
LVC	**Limon Verde**	**6.45**	**347**	P		**Pn**	**21 39 09.9**	**+0.7**
	comp=Z,2.7nm,0.4s,baz=230,slow=6.8,SNR=6.8							
LVC				S		**Sn**	**21 40 18.7**	**-3.0**
	comp=Z,5.7nm,0.4s,baz=179,slow=15,SNR=7.1							
BO02	**Sierra Bellavi**	**6.55**	**206**			**Pn**	**21 39 08.4**	**-1.7**
PB05	**IPOC Station P**	**6.58**	**336**	Pn		**Pn**	**21 39 09.6**	**-1.1**
GO05	**Huala**	**7.23**	**212**	Pn		**Pn**	**21 39 15.2**	**-3.9**
BI02	**San Fabin de**	**8.41**	**202**	Pn		**Pn**	**21 39 32.0**	**-3.1**
CPUP	**Villa Florida**	**9.22**	**76**	Pn		**Pn**	**21 39 42.5**	**-3.5**
TRQA	**Tornquist**	**10.13**	**155**	Pn		**Pn**	**21 39 57.4**	**-0.8**
PLTB	**Pedras Altas**	**12.17**	**107**	Pn		**Pn**	**21 40 24.4**	**-0.8**
LPAZ	**La Paz**	**12.60**	**356**	Pn		**Pn**	**21 40 32.1**	**+0.6**
LPAZ	**La Paz**	**12.60**	**356**	P		**Pn**	**21 40 33.2**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=100,slow=2.3,SNR=2.3							
VILB	**Vilhena**	**17.21**	**24**	P		**P**	**21 41 27.1**	**-1.2**
VILB				IAmb		IAmb	21 41 28.6	
	comp=Z,12nm,0.7s							
SAML	**Samuel**	**20.25**	**12**	P		**P**	**21 42 01.3**	**0.0**
BDFB	**Brasilia**	**22.17**	**58**	P		**P**	**21 42 21.1**	**-0.7**
BDFB				IAmb		IAmb	21 42 30.2	
	comp=Z,8.5nm,1.4s							
BDFB	**Brasilia**	**22.17**	**58**	P		**P**	**21 42 21.4**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=210,slow=6.6,SNR=3.6							
	comp=Z,1.4nm,0.4s							
SNAA	**Sanae**	**54.83**	**160**	P		**P**	**21 46 52.4**	**+0.1**
SNAA	**Sanae**	**54.83**	**160**	P		**P**	**21 46 53.8**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=304,slow=10.0,SNR=14							
	comp=Z,0.6nm,0.3s							
QSPA	**South Pole Qui**	**61.30**	**180**	P		**P**	**21 47 37.4**	**-0.2**
QSPA				IAmb		IAmb	21 47 44.7	
	comp=Z,2.5nm,1.1s							
QSPA	**South Pole Qui**	**61.30**	**180**	P		**P**	**21 47 38.5**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=227,slow=1.2,SNR=11							
	comp=Z,1.3nm,0.5s							
DBIC	**Dimbokro**	**69.68**	**70**	P		**P**	**21 48 33.5**	**+1.4**
TOA0	**Torodi Ar. Sit**	**78.62**	**68**	P		**P**	**21 49 25.2**	**+1.3**
TOA0				IAmb		IAmb	21 49 50.7	
	comp=Z,7.8nm,1.4s							
TORD	**Torodi Ar. Bea**	**78.62**	**68**	P		**P**	**21 49 25.6**	**+1.7**
TORD	**Torodi Ar. Bea**	**78.62**	**68**	P		**P**	**21 49 25.8**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=280,slow=6.4,SNR=11							
	comp=Z,0.8nm,0.6s							
BOSA	**Boshof**	**78.77**	**116**	P		**P**	**21 49 25.6**	**+0.8**
BOSA				IAmb		IAmb	21 49 28.6	
	comp=Z,8.9nm,1.4s							
ASAR	**Alice Springs**	**123.87**	**204**	PKP		**PKiKP**	**21 56 19.4**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=145,slow=2.2,SNR=4.9							
WRA	**Warramunga Arr**	**127.11**	**206**	PKP		**PKiKP**	**21 56 26.4**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=162,slow=1.8,SNR=27							
KURBB	**Kurchatov Arra**	**146.40**	**40**	PKPbc		**PKPab**	**21 57 01.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=294,slow=2.2,SNR=3.0							
ZALV	**Zalesovo Beam**	**147.80**	**31**	PKPbc		**PKiKP**	**21 57 07.2**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=305,slow=2.9,SNR=2.8							
MKAR	**Makanchi Array**	**150.35**	**45**	PKPbc		**PKiKP**	**21 57 13.5**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=325,slow=1.5,SNR=5.4							

*AEIC **25** 21:38:39.2±1.9, 53°.42N±0°.07×159°.58W±0°.10, h11km±7km, Error ellipse: s-maj=13.2km s-min=3.3km az=141.0*

NEIC 25 21:38:36.0±1.8, 53°.51N±0°.07×159°.67W±0°.10, h10km±2km, mb3.7/14, ML3.3/18, ML3.3(AEIC), Error ellipse: s-maj=13.3km s-min=7.5km az=147.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**1.31**	**2**		Pn	21 38 59.4	-1.0
CNBA					Sb	21 39 16.5	-1.1
SDPT	**Sand Point**	**1.90**	**346**		Pn	21 39 07.8	-0.7
SDPT					Sn	21 39 31.1	-1.3
HAG	**Hague Volcano**	**2.23**	**325**		Pn	21 39 12.6	-0.4
HAG					Sn	21 39 38.8	-1.9
PS4A	**Pavlof South-4**	**2.24**	**326**		Pn	21 39 12.7	-0.4
PS4A					Sn	21 39 39.9	-0.9
PVV	**Pavlof Volcano**	**2.24**	**327**		Pn	21 39 12.7	-0.4
PS1A	**Pavlof South-1**	**2.26**	**328**		Pn	21 39 13.2	-0.3
FALS	**False Pass**	**2.58**	**303**		Pn	21 39 17.6	-0.2
S12K	**Black Hills**	**2.60**	**329**		Pn	21 39 18.0	-0.1
S12K				IAML		21 39 50.3	
	comp=N,192nm,0.4s						
S12K				IAML		21 39 51.5	
	comp=E,239nm,0.4s						
ISLZ	**Isanotski Laza**	**2.67**	**299**		Pn	21 39 18.1	-1.0
ISLZ					Sn	21 39 48.7	-2.9
ISNN	**Isanotski Nort**	**2.75**	**300**		Pn	21 39 20.1	-0.1
SSLS	**Shishaldin Sou**	**2.82**	**297**		Pn	21 39 20.5	-0.6
CHGN	**Chignik**	**2.89**	**14**	Pn	Pn	21 39 22.1	+0.1
CHGN				IAML		21 39 58.2	
	comp=N,62nm,0.2s						
CHGN				IAML		21 40 00.1	
	comp=E,115nm,0.4s						
WESE	**West Dahl East**	**3.06**	**290**		Pn	21 39 23.6	-0.8
WECS	**Westdahl Cape**	**3.18**	**291**		Pn	21 39 25.5	-0.7
CHIR	**Chirikof Islan**	**3.30**	**44**		Pn	21 39 26.4	-1.2
CHIR				IAML		21 39 56.2	
	comp=N,66nm,1.4s						
CHIR				IAML		21 40 12.5	
	comp=E,80nm,1.3s						
ANNE	**Aniakchak Nort**	**3.53**	**14**		Pn	21 39 31.5	+0.6
AKSA	**Akutan Strait**	**3.63**	**282**		Pn	21 39 31.6	-0.6
AHB	**Akutan Harbor**	**3.69**	**282**		Pn	21 39 32.5	-0.6
AKLV	**Akutan Long Va**	**3.78**	**282**		Pn	21 39 33.6	-0.7
ZRO	**Akutan Zero**	**3.79**	**281**		Pn	21 39 33.8	-0.7
AKGG	**Akutan Green G**	**3.81**	**283**		Pn	21 39 34.1	-0.6
LVA	**Lava Point**	**3.83**	**282**	Pn	Pn	21 39 34.2	-0.8
MSW	**Makushin Switc**	**4.25**	**278**		Pn	21 39 39.5	-1.2
MGOD	**Makushin Gods**	**4.30**	**277**		Pn	21 39 40.3	-1.2
MAPS	**Pakushin South**	**4.34**	**277**		Pn	21 39 41.0	-1.0
SII	**Sitkinak Islan**	**4.39**	**44**		Pn	21 39 41.3	-1.3
PLK4	**Peulik 4**	**4.54**	**23**	Pn	Pn	21 39 45.3	+0.6
PLK4				IAML		21 40 40.5	
	comp=N,22nm,1.2s						
PLK4				IAML		21 40 41.4	
	comp=E,34nm,1.1s						
PLK5	**Peulik 5**	**4.76**	**18**		Pn	21 39 48.3	+0.6
OKTU	**Okmok Mt. Tuli**	**5.01**	**272**		Pn	21 39 50.2	-1.0
OKCE	**Okmok Cone E**	**5.08**	**272**		Pn	21 39 51.7	-0.4
OHAK	**Old Harbor**	**5.20**	**42**	Pn	Pn	21 39 52.6	-1.2
OHAK				IAML		21 41 24.6	
	comp=E,12nm,1.4s						
OHAK				IAML		21 42 38.8	
	comp=N,16nm,1.3s						
CNTC	**Contact Creek**	**5.22**	**23**		Pn	21 39 54.3	+0.2
ANCK	**Angle Creek**	**5.25**	**25**		Pn	21 39 54.7	+0.2
O15K	**Ungalikthiuk R**	**5.68**	**359**		Pn	21 40 01.2	+0.9
O14K	**Tigyukauivet M**	**5.82**	**352**		Pn	21 40 02.3	0.0
CLCO	**Concord Point,**	**6.10**	**267**		Pn	21 40 05.2	-0.9
O16K	**Kokwok River B**	**6.16**	**7**	Pn	Pn	21 40 06.9	0.0
CLES	**Cleveland East**	**6.19**	**268**	Pn	Pn	21 40 06.0	-1.4
Q19K	**Cape Douglas,**	**6.38**	**29**	Pn	Pn	21 40 11.2	+1.2
O17K	**Koliganek Bris**	**6.43**	**12**		Pn	21 40 11.2	+0.5
N14K	**Kuskokwak Cree**	**6.52**	**351**		Pn	21 40 12.2	+0.3
N15K	**Kwethluk River**	**6.68**	**358**		Pn	21 40 13.7	-0.4
O18K	**Koktuh Hills**	**6.81**	**19**	Pn	Pn	21 40 16.4	+0.5
N16K	**Nishlik Lake**	**7.00**	**4**		Pn	21 40 19.1	+0.7
N17K	**Nushagak Hills**	**7.16**	**10**	Pn	Pn	21 40 20.3	-0.4
M13K	**Dall Lake**	**7.21**	**345**	Pn	Pn	21 40 21.1	-0.2
M15K	**Kasigluk River**	**7.22**	**356**		Pn	21 40 21.5	0.0
M14K	**Bethel**	**7.36**	**351**	Pn	Pn	21 40 23.8	+0.4
N18K	**Kilae Creek**	**7.47**	**14**	Pn	Pn	21 40 25.7	+0.8
M16K	**Timber Creek**	**7.54**	**3**	Pn	Pn	21 40 26.4	+0.6
N19K	**Bonanza Creek**	**7.84**	**19**	Pn	Pn	21 40 30.3	+0.2
L14K	**Kuka Creek**	**8.02**	**350**	Pn	Pn	21 40 31.9	-0.4
K13K	**Kusilvak Mount**	**8.85**	**344**	Pn	Pn	21 40 44.0	+0.2
K15K	**Wolf Creek Mou**	**8.86**	**354**	Pn	Pn	21 40 44.5	+0.5
ATKA	**Atka Island**	**8.89**	**267**	Pn	Pn	21 40 43.5	-0.9
L19K	**White Mountain**	**9.06**	**14**	Pn	Pn	21 40 47.4	+0.6
M20K	**Styx River**	**9.09**	**20**	Pn	Pn	21 40 47.4	+0.2
K17K	**Iditarod**	**9.26**	**4**	Pn	Pn	21 40 49.7	+0.3
SUA	**Susitna One**	**9.30**	**27**	Pn	Pn	21 40 50.7	+0.7
J14K	**Nanvaranak Lak**	**9.49**	**349**	Pn	Pn	21 40 52.4	-0.1
PWL	**Port Wells**	**9.58**	**35**	Pn	Pn	21 40 53.3	-0.5
J16K	**Anvik River**	**9.81**	**358**	Pn	Pn	21 40 57.0	0.0
J17K	**VABM Dome**	**9.92**	**2**	Pn	Pn	21 40 58.3	-0.1
GSTR	**Great Sitkin T**	**10.03**	**268**	Pn	Pn	21 40 59.1	-1.0
GHO	**Glory Hole Cre**	**10.07**	**30**	Pn	Pn	21 41 01.1	+0.5
FID	**Port Fidalgo**	**10.18**	**39**	Pn	Pn	21 41 00.6	-1.4
ADK	**Adak**	**10.46**	**268**	Pn	Pn	21 41 04.3	-1.5
KAIM	**Kayak Island**	**10.54**	**46**	Pn	Pn	21 41 06.8	-0.2
SCM	**Sheep Creek Mo**	**10.62**	**33**	Pn	Pn	21 41 07.8	-0.3
KIWB	**Kanaga Island**	**10.75**	**268**	Pn	Pn	21 41 08.2	-1.6
KLU	**Klutina**	**10.87**	**37**	Pn	Pn	21 41 11.7	+0.2
J20K	**Nowinta River**	**11.06**	**13**	Pn	Pn	21 41 14.9	+0.8
DHY	**Denali Highway**	**11.54**	**29**	Pn	Pn	21 41 19.9	-0.9
H19K	**Roundabout Mou**	**12.16**	**6**	Pn	Pn	21 41 29.0	0.0
H21K	**Melozitna River**	**12.65**	**13**	Pn	Pn	21 41 36.8	+0.9
SCRK	**Sand Creek**	**13.23**	**31**	Pn	Pn	21 41 41.8	-2.0
J26L	**Joseph Creek**	**13.73**	**30**	Pn	Pn	21 41 50.2	-0.4
E19K	**Redstone River**	**14.04**	**4**	Pn	Pn	21 41 55.9	+1.2
F21K	**Alatna River**	**14.08**	**10**	Pn	Pn	21 41 55.1	-0.1
M29M	**Somme Creek**	**14.30**	**43**	Pn	Pn	21 41 58.7	+0.3
M30M	**Minto, Yukon**	**15.05**	**44**	Pn	Pn	21 42 10.2	+1.7
D19K	**Kuna River**	**15.05**	**2**	Pn	P	21 42 11.4	-2.5
C16K	**Lisburne Hills**	**15.06**	**352**	Pn	Pn	21 42 09.6	+1.1
E21K	**Killik River**	**15.22**	**8**	Pn	Pn	21 42 11.4	+0.6
E21K				IAmb	IAmb	21 42 36.7	
	comp=Z,5.5nm,1.4s						
I28M	**Miner Creek**	**15.51**	**32**	Pn	Pn	21 42 15.2	+0.6
I28M				IAmb	IAmb	21 42 26.7	
	comp=Z,2.4nm,0.7s						
E24K	**Your Creek**	**15.55**	**16**	Pn	Pn	21 42 14.8	-0.3
BMAR	**Burnt Mountain**	**15.74**	**22**	Pn	Pn	21 42 17.8	+0.3
D22K	**Ayikyak River**	**15.76**	**9**	Pn	Pn	21 42 18.2	+0.4
D22K				IAmb	IAmb	21 42 26.3	
	comp=Z,8.5nm,1.3s						
TOLK	**Toolik Lake Re**	**15.90**	**14**	Pn	Pn	21 42 21.1	+1.5
H29M	**Whitestone**	**16.50**	**31**	P	P	21 42 29.8	-0.1
H29M				IAmb	IAmb	21 42 37.3	
	comp=Z,4.2nm,0.6s						
I30M	**Mount Dempster**	**16.55**	**36**		P	21 42 30.3	-0.3
I30M				IAmb	IAmb	21 42 40.0	
	comp=Z,3.7nm,0.7s						
C23K	**Itkillik River**	**16.90**	**11**		P	21 42 33.6	-0.7
C23K				IAmb	IAmb	21 42 38.3	
	comp=Z,7.9nm,1.2s						
G29M	**Pine Creek**	**17.06**	**30**		P	21 42 36.6	+0.4
G29M				IAmb	IAmb	21 42 49.0	
	comp=Z,4.3nm,0.8s						
EPYK	**Eagle Plains**	**17.11**	**32**		P	21 42 38.4	+1.6
G31M	**Satah River**	**18.23**	**33**		Pn	21 42 48.6	-0.2
G31M				IAmb	IAmb	21 42 53.7	
	comp=Z,3.6nm,0.8s						

ISC 25 22:32:04.6±1.1, 44°.71N±0°.02×14°.79E±0°.04, h2km±9km, n17, σ1§07/33, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABC	**Rab**	**0.04**	**349**	*e*Pg	**Pg**	**22 32 05.0**	**-0.5**
RABC				Sg	**Sg**	**22 32 05.5**	**-0.7**
NVLJ	**Novalja**	**0.15**	**159**	*e*Pg	**Pg**	**22 32 07.7**	**+0.1**
NVLJ				Sg	**Sg**	**22 32 10.4**	**+0.8**
VIRC	**Vir**	**0.46**	**156**	*e*Pg	**Pg**	**22 32 13.2**	**-0.1**
VIRC				Sg	**Sg**	**22 32 20.5**	**+1.3**
SMRN	**Sveta Marina**	**0.56**	**306**	*e*Pg	**Pg**	**22 32 14.7**	**-0.7**
SMRN				Sg	**Sg**	**22 32 23.1**	**+0.4**
PLIT	**Plitvice**	**0.61**	**74**	*e*Pg	**Pg**	**22 32 15.5**	**-0.9**
PLIT				Sg	**Sg**	**22 32 24.6**	**+0.2**
RIY	**Rijeka**	**0.66**	**340**	*e*Pg	**Pg**	**22 32 16.9**	**-0.3**
RIY				Sg	**Sg**	**22 32 26.5**	**+0.8**
DUGI	**Dugi Otok**	**0.74**	**165**	*e*Pg	**Pg**	**22 32 18.0**	**-0.8**
DUGI				Sg	**Sg**	**22 32 29.9**	**+1.5**
BRJN	**Brijuni**	**0.77**	**285**	*e*Pg	**Pg**	**22 32 18.7**	**-0.7**
OZLJ	**Ozalj**	**1.02**	**27**	*e*Pg	**Pg**	**22 32 23.2**	**-1.1**
OZLJ				Sg	**Sg**	**22 32 38.0**	**+0.4**
MORI	**Morici**	**1.07**	**142**	*e*Pg	**Pg**	**22 32 24.8**	**-0.2**
MORI				Sg	**Sn**	**22 32 40.9**	**-1.0**
VISS	**Visnje**	**1.10**	**2**	*i* Pn	**Pg**	**22 32 25.1**	**-0.5**
VISS				*i* Sn	**Sn**	**22 32 41.6**	**-1.1**
VISS				IAML		22 32 45.6	
	comp=Z,1.6nm,0.2s						
ZIRJ	**Zirje**	**1.22**	**150**	*e*Pn	**Pn**	**22 32 26.7**	**-1.9**
ZIRJ				Sg	**Sn**	**22 32 45.4**	**-0.3**
GBAS	**Gorenja Brezov**	**1.25**	**349**	*i* Pn	**Pg**	**22 32 29.4**	**+0.8**
GBAS				*i* Sn	**Sn**	**22 32 47.3**	**+0.7**
GBAS				IAML		22 32 48.6	
	comp=Z,2.8nm,0.2s						
KIJV	**Kijevo**	**1.35**	**121**	*e*Pn	**Pn**	**22 32 30.4**	**-0.1**
KIJV				Sg	**Sg**	**22 32 50.3**	**+2.2**
PDKS	**Podkum**	**1.36**	**6**	*i* Pn	**Pg**	**22 32 31.1**	**+0.3**
PDKS				*i* Sn	**Sg**	**22 32 50.4**	**+2.0**
CRNS	**Crni Vrh**	**1.42**	**345**	*i* Pn	**Pg**	**22 32 32.0**	**+0.1**
CRNS				*i* Sn	**Sg**	**22 32 52.7**	**+2.3**
CRNS				IAML		22 32 56.1	
	comp=Z,2.2nm,0.2s						
RICI	**Ricice**	**2.08**	**125**	*e*Pn	**Pn**	**22 32 41.6**	**+1.1**
RICI				Sn	**Sg**	**22 33 11.1**	**-0.2**

*IDC **25** 22:43:47.6±0.6, 29°.33S×112°.39W, h0km, mb4.1/13, mbtmp4.1/14, ML4.5/1, MS4.6/49, Error ellipse: s-maj=27.9km s-min=17.8km az=99.0*

*MOS **25** 22:43:50.2±1.6, 29°.47S×111°.97W, h10km, mb5.0/20, Error ellipse: s-maj=17.1km s-min=10.2km az=71.4*

*NEIC **25** 22:43:53.0±2.0, 29°.42S±0°.10×112°.0W±0°.1, h10km±1km, mb5.0/80, Error ellipse: s-maj=18.7km s-min=15.5km az=302.0*

*BJI **25** 22:43:55.0±0.0, 29°.40S×111°.90W, h10km, Ms7.5/2*

*GCMT **25** 22:43:57.0±0.1, 29°.52S±0°.01×112°.45W±0°.01, h12km, MW5.2/145, Moment Tensor Solution. s89, c129; s145, c244; Duration: 1§0 Moment tensor: Scale 10^{16} Nm; M_{rr}=1.84±.13; $M_{\theta\theta}$=2.78±.13; $M_{\phi\phi}$=4.63±.12; $M_{r\theta}$=0.78±.33; $M_{r\phi}$=7.06±.10; $M_{\theta\phi}$=0.78±.31; Best double couple: M_0=8.03300×10^{16} NP1:ϕ_s=284.00000°, δ88.00000°, λ174.00000°. NP2:ϕ_s=14.00000°, δ84.00000°, λ2.00000°. Principal axes: T 9.0030, Plg6.0000°, Azm239.0000°; N -1.9310, Plg84.0000°, Azm87.0000°; P -7.0620, Plg3.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 22:43:52.6±0.3, 29°.45S±0°.08×111°.98W±0°.06, h16km, n293, σ1§62/240, mb4.9/61, MS4.6/52, 5C-2D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**3.20**	**45**		**Pn**	**22 44 40.2**	**-2.1**
RPN	**Rapa Nui**	**3.29**	**46**	Pn	**Pn**	**22 44 41.7**	**-1.8**
RPN	**Rapa Nui**	**3.29**	**46**	Pn	**Pn**	**22 44 42.6**	**-0.9**
	42nm,0.3s,baz=231,slow=16,SNR=18						
RPN				T	T	22 48 11.1	
	28nm,0.4s,baz=207,slow=2.2,SNR=1.7						
	110nm,0.3s						
H03N2	**Juan Fernandez**	**28.40**	**107**	T	T	23 19 57.9	
	baz=273,slow=74,SNR=5147						
H03S2	**Juan Fernandez**	**28.40**	**107**	T	T	23 20 05.8	
	baz=259,slow=74,SNR=25						
H03N3	**Juan Fernandez**	**28.41**	**107**	T	T	23 20 01.8	
	baz=273,slow=74,SNR=5221						
H03S3	**Juan Fernandez**	**28.42**	**107**	T	T	23 20 07.5	
	baz=259,slow=74,SNR=16						
H03N1	**Juan Fernandez**	**28.42**	**107**	T	T	23 19 59.5	
	baz=273,slow=74,SNR=5538						
H03S1	**Juan Fernandez**	**28.42**	**107**	T	T	23 20 05.1	
	baz=259,slow=74,SNR=12						
VA04	**Juan Fernndez**	**28.49**	**107**	P	**P**	**22 49 46.9**	**-0.2**
TAOE	**Nuku Hiva Isla**	**33.42**	**302**	*e*S	**S**	**22 55 55.1**	**+3.3**
	54nm,22.8s						
TAOE				*e*LQ	LQ	22 57 57.0	
	2μm,30.8s						
TAOE				*e*LR	LR	22 59 20.5	
	600nm,23.1s						
TBI	**Tubuai**	**34.02**	**271**	*e*P	**P**	**22 50 39.0**	**+3.1**
	276nm,31.8s						
TBI				*e*S	**S**	**22 55 59.8**	**-0.9**
	2μm,27.5s						
TBI				*e*LQ	LQ	22 58 14.3	
	12μm,28.0s						
TBI				*e*LR	LR	22 59 29.2	
	3μm,21.5s						
LL02	**Futaleuf**	**34.78**	**124**	P	**P**	**22 50 41.9**	**-0.4**
LL02				IAmb	IAmb	22 51 00.6	
	comp=Z,34nm,1.8s						
PLCA	**Paso Flores**	**35.42**	**120**	LR	LR	23 00 57.7	
	comp=Z,228nm,19.0s,baz=275,slow=29						
MT03	**Universidad Ad**	**35.43**	**107**	P	**P**	**22 50 50.4**	**+2.2**
MT03				IAmb	IAmb	22 51 13.4	
	comp=Z,22nm,1.1s						
LMEL	**Las Melosas**	**35.66**	**108**	P	**P**	**22 50 52.4**	**+2.2**
PPT2	**Papeete2**	**36.29**	**280**	*e*S	**S**	**22 56 37.3**	**+1.4**
	comp=Z,468nm,26.2s						
PPT2				*e*LQ	LQ	22 59 07.8	
	comp=Z,2μm,27.5s						
PPT2				*e*LR	LR	23 00 29.2	
	comp=Z,1μm,30.0s						
NNA	**Nana**	**36.98**	**69**	LR	LR	23 02 17.2	
	comp=Z,2μm,21.1s,baz=240,slow=30						
ZON	**Zonda**	**37.19**	**104**	P	**P**	**22 51 05.0**	**+1.8**
ZON	**Zonda**	**37.19**	**104**	P	**P**	**22 51 05.0**	**+1.8**
ZON				pmax	pmax		
	comp=Z,23nm,1.2s						
ATAH	**Atahualpa**	**38.61**	**62**	LR	LR	23 03 21.4	
	comp=Z,2μm,19.1s,baz=242,slow=30						
LVC	**Limon Verde**	**39.13**	**90**	LR	LR	23 03 31.7	
	comp=Z,663nm,20.9s,baz=254,slow=30						
PB11	**IPOC Station P**	**39.49**	**86**	P	**P**	**22 51 23.7**	**+1.0**
PB11				IAmb	IAmb	22 51 33.6	
	comp=Z,31nm,1.2s						
ARNL	**Arenillas**	**39.73**	**56**	P	**P**	**22 51 24.9**	**+0.2**
ARNL				IAmb	IAmb	22 51 29.9	
	comp=Z,37nm,0.9s						
USHA	**Ushuaia**	**40.11**	**142**	LR	LR	23 04 19.7	
	comp=Z,3μm,20.8s,baz=318,slow=30						
LPAZ	**La Paz**	**42.23**	**82**	P	**P**	**22 51 46.3**	**+0.3**
LPAZ	**La Paz**	**42.23**	**82**	LR	LR	23 05 46.5	
	comp=Z,664nm,19.1s,baz=247,slow=31						
LPAZ	**La Paz**	**42.23**	**82**	P	**P**	**22 51 46.3**	**+0.3**
LPAZ				pmax	pmax		
	comp=Z,16nm,1.3s						
CZSB	**Cruzeiro do Su**	**42.74**	**68**	P	**P**	**22 51 51.1**	**+1.7**
CZSB				IAmb	IAmb	22 51 55.8	
	comp=Z,41nm,1.0s						
CZSB	**Cruzeiro do Su**	**42.74**	**68**	*e*P	**P**	**22 51 51.4**	**+2.0**
SLOR	**San Lorenzo -**	**42.81**	**54**	P	**P**	**22 51 51.5**	**+1.0**
ANTS	**Antisana-Sarah**	**43.21**	**54**	P	**P**	**22 51 55.6**	**+1.7**
ANTS				IAmb	IAmb	22 52 05.3	
	comp=Z,36nm,1.0s						
PULU	**Pululahua**	**43.34**	**53**	P	**P**	**22 51 55.3**	**+0.6**
OTAV	**Otavalo**	**43.53**	**53**	P	**P**	**22 51 57.5**	**+1.2**
OTAV	**Otavalo**	**43.53**	**53**	P	**P**	**22 51 57.5**	**+1.2**
OTAV				pmax	pmax		
	comp=Z,18nm,1.3s						
OTAV	**Otavalo**	**43.53**	**53**	*e*P	**P**	**22 51 57.9**	**+1.6**
RAR	**Rarotonga**	**43.72**	**269**	LR	LR	23 04 43.5	
	comp=Z,399nm,20.3s,baz=112,slow=29						
PMSA	**Palmer Station**	**46.17**	**154**	LR	LR	23 06 35.3	
	comp=Z,546nm,19.0s,baz=276,slow=29						
ETMB	**Extrema**	**46.96**	**75**	P	**P**	**22 52 23.2**	**+0.1**
ETMB				IAmb	IAmb	22 52 31.9	
	comp=Z,10nm,1.1s						
ETMB	**Extrema**	**46.96**	**75**	*e*P	**P**	**22 52 24.9**	**+1.8**
JTS	**Las Juntas de**	**47.33**	**37**	LR	LR	23 07 29.4	
	comp=Z,998nm,20.0s,baz=205,slow=30						
CPUP	**Villa Florida**	**48.03**	**100**	LR	LR	23 09 21.8	
	comp=Z,355nm,20.8s,baz=259,slow=32						
BBSD	**Serra de San D**	**48.38**	**87**	*e*P	**P**	**22 52 35.3**	**+1.2**
SIV	**San Ignacio**	**48.48**	**86**	LR	LR	23 10 39.1	
	comp=Z,587nm,18.2s,baz=272,slow=33						
MTO3	**Montecristo**	**48.76**	**30**	P	**P**	**22 52 37.3**	**+0.2**
MTO3				IAmb	IAmb	22 52 48.0	
	comp=Z,21nm,1.3s						
APG	**El Apazote**	**48.84**	**28**	LR	LR	23 08 13.4	
	comp=Z,56nm,21.8s,baz=212,slow=30						
CMIG	**Matias Romero**	**49.13**	**22**	LR	LR	23 08 26.9	
	comp=Z,250nm,19.6s,baz=189,slow=30						
ROSC	**El Rosal**	**49.68**	**53**	P	**P**	**22 52 46.1**	**+1.7**
ROSC	**El Rosal**	**49.68**	**53**	P	**P**	**22 52 44.7**	**+0.2**
	comp=Z,8.4nm,0.4s,baz=151,slow=21,SNR=1.5						
ROSC				LR	LR	23 10 15.9	
	comp=Z,1μm,20.1s,baz=225,slow=32						
	comp=Z,8.4nm,0.4s						
ROSC	**El Rosal**	**49.68**	**53**	P	**P**	**22 52 46.1**	**+1.7**
ROSC				pmax	pmax		
	comp=Z,25nm,1.0s						
SAML	**Samuel**	**49.97**	**76**	P	**P**	**22 52 46.0**

comp=Z,2.7nm,1.0s
214A Organ Pipe Nat 61.08 359 P P 22 54 06.8 +1.1
214A IAmb IAmb 22 54 16.6
comp=Z,13nm,1.2s
214A Organ Pipe Nat 61.08 359 P P 22 54 07.7 +1.9
baz=179
MNTX Cornudas Mount 61.14 6 P P 22 54 06.8 +0.6
baz=186
RPZ Rata Peaks 61.35 234 LR LR 23 14 10.9
comp=Z,725nm,21.7s,baz=132,slow=30
TUC Tucson 61.44 1 P P 22 54 10.8 +2.5
TUC Tucson 61.44 1 P P 22 54 08.4 +0.1
baz=181
TUC Tucson 61.44 1 P P 22 54 10.8 +2.5
TUC pmax pmax
comp=Z,11nm,1.4s
RMX La Rumorosa 61.84 356 P P 22 54 10.9 -0.2
IKP In-Ko-Pah, Jac 61.89 356 P P 22 54 12.7 +1.4
baz=176
113A Mohawk Valley, 61.91 358 P P 22 54 12.7 +1.4
MONP2 Monument Peak 62.15 356 P P 22 54 14.9 +1.7
baz=176
BC3 Big Chuckawall 62.85 357 P P 22 54 18.9 +1.2
baz=177
PFO Pinyon Flats O 62.87 356 P P 22 54 19.5 +1.6
PFO IAmb IAmb 22 54 25.6
comp=Z,11nm,1.3s
PFO Pinyon Flats O 62.87 356 P P 22 54 19.5 +1.6
baz=176
PFO Pinyon Flats O 62.87 356 LR LR 23 15 31.7
comp=Z,342nm,19.0s,baz=182,slow=30
PFO Pinyon Flats O 62.87 356 P P 22 54 19.5 +1.6
PFO pmax pmax
comp=Z,11nm,1.3s
BLYC Blythe 62.91 358 P P 22 54 18.4 +0.4
BLYC IAmb IAmb 22 54 25.8
comp=Z,14nm,1.1s
BELC Belle Mtn. Jos 63.23 356 P P 22 54 21.4 +1.1
baz=176
IRM Iron Mountain 63.34 357 P P 22 54 22.1 +1.2
baz=177
SMTB Santa Maria do 63.42 85 *e*P **P 22 54 19.4 -2.6**
JANB Januaria 63.48 93 *e*P **P 22 54 18.8 -3.5**
BFSC Mount Baldy Ra 63.58 355 P P 22 54 25.1 +2.5
baz=174
GMRC Granite Mounta 63.99 357 P P 22 54 26.0 +0.7
baz=176
HEC Hector,Ludlow 64.07 356 P P 22 54 27.7 +1.9
baz=176
SDBA SAO DESIDERIO 64.13 90 *e*P **P 22 54 23.0 -3.7**
ANMO Albuquerque 64.27 5 LR LR 23 17 38.2
comp=Z,344nm,18.4s,baz=282,slow=32
PKM Mcpherson Peak 64.42 353 P P 22 54 29.3 +1.0
baz=172
BCW Bitter Crk WRg 64.43 353 P P 22 54 30.2 +2.0
GSC Goldstone, Bar 64.57 356 P P 22 54 29.9 +0.8
baz=175
TUQ Turquoise Moun 64.65 356 P P 22 54 30.7 +1.1
baz=176
SJG San Juan 64.73 49 LR LR 23 20 38.8
comp=Z,222nm,18.3s,baz=228,slow=34
MPMC Manual Prospec 65.37 355 P P 22 54 35.0 +0.6
baz=175
GWY Greenwater Val 65.44 356 P P 22 54 35.1 +0.4
FURC Furnace Creek, 65.73 356 P P 22 54 37.4 +1.0
baz=175
CWC Cottonwood Cre 65.80 355 P P 22 54 37.8 +0.7
baz=174
MIAR Mount Ida 65.99 17 P P 22 54 38.6 +0.5
baz=198
WCT Wildcat Mounta 66.04 356 P P 22 54 39.5 +1.0
WCT IAmb IAmb 22 54 46.7
comp=Z,15nm,1.1s
TPNV Topopah Spring 66.17 356 P P 22 54 40.1 +0.6
baz=176
VNA3 Neumayer Olymp 66.25 160 ⇑P **P 22 54 39.9 +0.5**
comp=Z,4.5nm,0.8s
MDP Montagnes des 66.43 69 LR LR 23 20 14.9
comp=Z,386nm,21.2s,baz=249,slow=33
LRAL Lakeview Retre 66.51 23 P P 22 54 43.0 +1.5
baz=204
TUL3 Leonard 66.78 14 P P 22 54 44.0 +0.8
TUL3 IAmb IAmb 22 54 50.7
comp=Z,15nm,1.1s
TUL3 Leonard 66.78 14 P P 22 54 44.5 +1.3
baz=195
VNA1 Neumayer--Stat 66.90 159 ⇑P **P 22 54 45.2 +1.6**
comp=Z,5.0nm,1.1s
S22A 4UR Ranch, Cre 67.02 4 P P 22 54 45.7 +0.6
baz=185
VNA2 Neumayer--Watz 67.06 160 ⇑P **P 22 54 45.4 +0.8**
comp=Z,0.8nm,0.5s,baz=266,slow=2.1
TPH Tonopah 67.36 356 P P 22 54 47.7 +0.6
TPH Tonopah 67.36 356 P P 22 54 47.7 +0.6
TPH pmax pmax
comp=Z,86nm,1.3s
R11B Troy Canyon, C 67.53 357 P P 22 54 48.4 +0.2
baz=177
CMB Columbia Colle 67.60 353 P P 22 54 50.5 +2.1
CMB IAmb IAmb 22 54 58.9
comp=Z,9.3nm,1.2s
CMB Columbia Colle 67.60 353 P P 22 54 50.5 +2.1
CMB pmax pmax
comp=Z,9.0nm,1.2s
NVAR Mina Array Bea 67.79 355 P P 22 54 48.9 -0.9
NVAR Mina Array Bea 67.79 355 P P 22 54 46.9 -2.9
comp=Z,0.9nm,0.7s,baz=188,slow=9.0,SNR=17
NVAR LR LR 23 18 16.6
comp=Z,695nm,19.3s,baz=172,slow=31
comp=Z,0.9nm,0.7s
WAKR Walker 67.97 354 P P 22 54 52.2 +1.3
WAKR IAmb IAmb 22 55 00.3
comp=Z,15nm,1.5s
SNAA Sanae 68.06 161 P P 22 54 50.8 -0.2
SNAA IAmb IAmb 22 55 02.4
comp=Z,18nm,1.8s
SNAA Sanae 68.06 161 ⇑P **P 22 54 51.2 +0.1**
comp=Z,34nm,0.7s
SNAA Sanae 68.06 161 P P 22 54 49.6 -1.4
comp=Z,1.5nm,0.8s,baz=248,slow=5.9,SNR=6.3
SNAA LR LR 23 20 26.1
comp=Z,137nm,19.2s,baz=108,slow=32
comp=Z,1.5nm,0.8s
SNAA Sanae 68.06 161 P P 22 54 50.8 -0.2
SNAA pmax pmax
comp=Z,17nm,1.8s
AFDM Forest Hills D 68.56 352 P P 22 54 55.3 +0.9
AFDM IAmb IAmb 22 55 02.4
comp=Z,14nm,1.2s
MGMO Mountain Grove 68.79 17 P P 22 54 56.7 +0.8
MGMO IAmb IAmb 22 55 03.9
comp=Z,11nm,1.1s
NLU North Lily Min 69.06 360 P 22 54 59.0 +1.3
PAHR Pah Rah Range 69.15 354 P P 22 54 59.8 +1.6
PAHR IAmb IAmb 22 55 06.5
comp=Z,16nm,1.4s
DUG Dugway, Tooele 69.30 359 P P 22 55 01.2 +2.1
DUG Dugway, Tooele 69.30 359 P P 22 55 01.2 +2.1
DUG pmax pmax
comp=Z,4.0nm,1.1s
TROLL Troll, Antarti 69.36 162 ⇑P **P 22 55 00.1 +0.9**
comp=Z,160nm,0.9s
BSUT Blindstream Ca 69.64 1 P P 22 55 03.4 +1.9
BSUT IAmb IAmb 22 55 09.4
comp=Z,17nm,1.5s
BMN Battle Mountai 69.70 356 P P 22 55 02.1 +0.5
BMN Battle Mountai 69.70 356 P P 22 55 02.1 +0.5
BMN pmax pmax
comp=Z,22nm,1.2s
RDMU Red Mountain 69.71 2 P P 22 55 02.4 +0.7
RDMU IAmb IAmb 22 55 12.3
comp=Z,20nm,1.3s
CCM Cathedral Cave 69.90 17 P P 22 55 02.7 0.0
CCM IAmb IAmb 22 55 10.2
comp=Z,13nm,1.4s
CCM Cathedral Cave 69.90 17 P P 22 55 03.1 +0.4
baz=199
CCM Cathedral Cave 69.90 17 P P 22 55 02.7 0.0
CCM pmax pmax
comp=Z,13nm,1.4s
ELK Elko 69.91 357 P P 22 55 04.9 +1.9
ELK Elko 69.91 357 P P 22 55 04.9 +1.9
ELK pmax pmax
comp=Z,5.0nm,1.2s
TKL Tuckaleechee C 70.00 24 LR LR 23 21 39.4
comp=Z,228nm,19.7s,baz=200,slow=32

T47A Sharon Grove 70.09 21 P P 22 55 03.8 -0.1
T47A IAmb IAmb 22 55 11.0
comp=Z,16nm,1.1s
YBH Yreka Blue Hor 71.52 352 LR LR 23 19 31.2
comp=Z,602nm,20.2s,baz=173,slow=30
WVOR Wild Horse Val 71.80 355 P P 22 55 15.7 +1.4
WVOR IAmb IAmb 22 55 22.1
comp=Z,16nm,1.2s
WVOR Wild Horse Val 71.80 355 P P 22 55 15.7 +1.4
WVOR pmax pmax
comp=Z,16nm,1.2s
PDAR Pinedale Array 71.90 2 P P 22 55 15.2 +0.1
PDAR Pinedale Array 71.90 2 P P 22 55 13.6 -1.4
comp=Z,1.4nm,1.1s,baz=198,slow=4.4,SNR=1.4
PDAR LR LR 23 22 05.7
comp=Z,116nm,19.1s,baz=180,slow=32
comp=Z,1.4nm,1.1s
K22A Casper 71.92 4 P P 22 55 16.2 +1.1
baz=185
DZM Mont Dzumac 72.47 254 *e*S **S 23 04 39.1 -3.6**
comp=Z,315nm,25.7s
DZM Mont Dzumac 72.47 254 *e*LR LR 23 17 31.4
comp=Z,2μm,28.4s
DZM Mont Dzumac 72.47 254 LR LR 23 19 18.5
comp=Z,517nm,21.5s,baz=122,slow=30
BLA Blacksburg 72.62 26 P P 22 55 19.5 +0.2
baz=208
HLID Hailey 72.69 358 P 22 55 20.2 +0.5
HLID IAmb IAmb 22 55 27.9
comp=Z,16nm,1.3s
HLID Hailey 72.69 358 P P 22 55 21.2 +1.5
baz=178
J08A Circle Bar Ran 72.70 355 P 22 55 20.2 +0.5
J05D Fort Rock, OR 72.88 353 P 22 55 21.1 +0.3
I05D Terrebonne, OR 73.93 353 P P 22 55 27.9 +1.1
I05D IAmb IAmb 22 55 34.3
comp=Z,17nm,1.0s
BMO Blue Mountains 74.11 356 P P 22 55 28.7 +0.8
BMO Blue Mountains 74.11 356 P P 22 55 28.7 +0.8
BMO pmax pmax
comp=Z,7.0nm,1.2s
P52A Corning 74.14 24 P P 22 55 29.0 +1.0
baz=207
ECSD EROS Data Cent 74.18 12 P P 22 55 29.1 +0.8
ECSD EROS Data Cent 74.18 12 P P 22 55 28.5 +0.3
baz=194
ELIB Princess Elisa 74.25 167 *d*P **P 22 55 30.0 +1.4**
RCBR Riachuelo 75.04 88 LR LR 23 26 15.2
comp=Z,306nm,20.8s,baz=158,slow=34
BPMT Black Pine Rid 75.55 359 P P 22 55 37.5 +1.1
M53A Wt Miller and 76.25 24 P P 22 55 41.5 +1.3
baz=208
NEW Newport 77.50 356 P P 22 55 47.4 +0.3
NEW IAmb IAmb 22 55 57.6
comp=Z,14nm,1.4s
NEW Newport 77.50 356 P P 22 55 47.5 +0.3
baz=175
NEW Newport 77.50 356 LR LR 23 24 39.8
comp=Z,750nm,18.6s,baz=180,slow=32
NEW Newport 77.50 356 P P 22 55 47.4 +0.3
NEW pmax pmax
comp=Z,14nm,1.4s
L56A Greenwood 77.99 25 P P 22 55 50.8 +0.7
EYMN Ely 79.22 14 P P 22 55 56.9 +0.3
SADO Sadowa 79.71 23 LR LR 23 27 12.3
comp=Z,276nm,21.3s,baz=244,slow=33
ULM Lac du Bonnet 80.63 10 P P 22 56 05.9 +1.7
ULM Lac du Bonnet 80.63 10 P P 22 56 00.4 -3.7
comp=Z,2.3nm,0.8s,baz=155,slow=17,SNR=1.9
ULM LR LR 23 28 17.1
comp=Z,206nm,20.4s,baz=226,slow=33
comp=Z,2.3nm,0.8s
ULM Lac du Bonnet 80.63 10 P P 22 56 05.9 +1.7
ULM pmax pmax
comp=Z,44nm,1.9s
LONY Lake Ozonia 81.24 26 P P 22 56 08.1 +0.5
LONY Lake Ozonia 81.24 26 P P 22 56 07.6 0.0
baz=212
BBB Bella Bella 82.51 350 LR LR 23 24 59.6
comp=Z,238nm,19.9s,baz=192,slow=30
TRQ Mont Tremblant 82.60 25 P P 22 56 15.4 +0.7
TRQ IAmb IAmb 22 56 23.1
comp=Z,15nm,1.1s
MAW Mawson 83.17 178 LR LR 23 30 50.3
comp=Z,215nm,18.6s,baz=180,slow=34
HNR Honiara 83.77 263 LR LR 23 25 45.4
comp=Z,2μm,21.5s,baz=122,slow=30
V35K Ketchikan 86.10 349 P P 22 56 33.3 +1.1
V35K Ketchikan 86.10 349 P P 22 56 32.6 +0.4
baz=163
STKA Stephens Creek 87.29 235 LR LR 23 30 38.0
comp=Z,219nm,18.4s,baz=142,slow=32
DLBC Dease Lake 88.85 351 P P 22 56 46.5 +1.1
DLBC Dease Lake 88.85 351 P P 22 56 46.3 +0.8
baz=164
DLBC Dease Lake 88.85 351 LR LR 23 29 04.2
comp=Z,195nm,18.7s,baz=112,slow=31
CTA Charters Tower 90.01 247 LR LR 23 32 25.7
comp=Z,18nm,19.2s,baz=132,slow=32
CTAO Charters Tower 90.01 247 P P 22 56 52.7 +0.8
CTAO IAmb IAmb 22 56 58.7
comp=Z,9.0nm,1.0s
CTAO Charters Tower 90.01 247 P P 22 56 52.7 +0.8
CTAO pmax pmax
comp=Z,9.0nm,1.0s
YKA Yellowknife Ar 91.65 359 P P 22 56 55.9 -2.4
comp=Z,0.4nm,0.6s,baz=178,slow=6.3,SNR=2.1
YKA LR LR 23 33 25.9
comp=Z,545nm,18.8s,baz=164,slow=32
comp=Z,0.4nm,0.6s
H11S2 WAKE ISLAND Hy 91.68 290 T T 00 38 15.8
baz=118,slow=75,SNR=8.3
H11S1 WAKE ISLAND Hy 91.69 290 T T 00 38 13.4
baz=118,slow=75,SNR=5.4
H11S3 WAKE ISLAND Hy 91.69 290 T T 00 38 12.8
baz=118,slow=78,SNR=5.1
H11N3 WAKE ISLAND Hy 92.13 291 T T 00 38 39.8
baz=116,slow=78,SNR=4.9
H11N1 WAKE ISLAND Hy 92.14 291 T T 00 38 41.7
baz=116,slow=78,SNR=6.1
H11N2 WAKE ISLAND Hy 92.14 291 T T 00 38 41.1
baz=116,slow=78,SNR=5.0
SCHQ Schefferville 92.47 24 LR LR 23 36 28.6
comp=Z,74nm,18.0s,baz=222,slow=34
KDAK Kodiak Island 93.35 340 LR LR 23 28 51.1
comp=Z,331nm,21.5s,baz=178,slow=29
ASAR Alice Springs 97.56 238 P P 22 57 24.0 -2.6
comp=Z,0.1nm,0.4s,baz=87,slow=4.6,SNR=0.9
ASAR LR LR 23 34 43.3
comp=Z,377nm,21.1s,baz=152,slow=31
comp=Z,0.1nm,0.4s
ASAR Alice Springs 97.56 238 P P 22 57 24.0 -2.6
ILAR Eielson Array 97.79 346 P P 22 57 21.2 -5.2
comp=Z,0.2nm,0.8s,baz=174,slow=3.4,SNR=2.0
ILAR LR LR 23 32 33.8
comp=Z,144nm,21.8s,baz=144,slow=30
comp=Z,0.2nm,0.8s
INK Inuvik 98.78 352 LR LR 23 34 56.0
comp=Z,283nm,21.1s,baz=94,slow=31
WRA Warramunga Arr 99.42 241 P Pdif 22 57 29.8 -5.2
comp=Z,0.4nm,0.9s,baz=158,slow=9.7,SNR=2.2
WRA LR LR 23 35 60.0
comp=Z,933nm,21.9s,baz=146,slow=32
comp=Z,0.4nm,0.9s
H01W1 Cape Leeuwin H 102.61 217 T T 00 52 19.7
baz=138,slow=76,SNR=17
H01W2 Cape Leeuwin H 102.61 217 T T 00 52 17.9
baz=138,slow=76,SNR=15
H01W3 Cape Leeuwin H 102.62 217 T T 00 52 18.7
baz=138,slow=76,SNR=14
CLL Collm 134.00 46 *e*SS SS 23 23 30.0 +2.9
CLL *e*SSS SSS 23 28 18.0
CLL *e*SSSS 23 32 12.0
CLL AMS AMS 00 00 00.0
comp=Z,100nm,19.2s
NJ2 Nanjing 136.56 287 *e*PKP **PKiKP 23 03 16.5 +0.6**
BURAR Bucovina Array 142.48 49 PKPdf **PKPdf 23 03 25.8 +1.2**
HHC Hu-ho-hao-te 142.97 300 *e*PKP **PKPdf 23 03 24.5 -1.2**
MLR Muntele Rosu 143.43 52 PKIKP PKPbc 23 03 23.4 -0.2
KIEV Kiev 144.07 43 PKPdf **PKPab 23 03 23.3 -1.3**
KIEV Kiev 144.07 43 PKIKP **PKPab 23 03 23.3 -1.3**
AKASG Malin Array Be 144.08 43 PKP **PKPab 23 03 23.6 -1.1**
comp=Z,1.1nm,0.5s,baz=280,slow=4.0,SNR=5.8
AKBB Malin Array Si 144.08 43 PKPdf **PKPab 23 03 23.1 -1.6**
AKBB Malin Array Si 144.08 43 PKIKP **PKPab 23 03 23.1 -1.6**
ALN Alexandroupoli 144.15 60 PKPdf **PKPab 23 03 25.3 0.0**
ALN Alexandroupoli 144.15 60 PKIKP **PKPab 23 03 25.3 0.0**

ULN Ulaanbaatar 144.87 313 PKPdf **PKPab 23 03 26.2 -1.8**
ULN Ulaanbaatar 144.87 313 PKIKP **PKPab 23 03 26.2 -1.8**
XAN Xi'an 145.09 288 PKPbc **PKiKP 23 03 33.0 -0.4**
SONM Songino Array 145.31 313 PKPbc **PKPbc 23 03 27.1 -2.3**
SONM Songino Array 145.31 313 PKP **PKPbc 23 03 24.7 -4.7**
comp=Z,4.1nm,0.9s,baz=48,slow=2.2,SNR=11
SONM Songino Array 145.31 313 PKP2 **PKPbc 23 03 27.1 -2.3**
OBN Obninsk 145.88 32 PKPdf **PKPdf 23 03 30.1 +0.1**
MOS Moscow 145.99 31 *e*PKP2 **PKPab 23 03 31.6 0.0**
ZAK Zakamensk 146.28 318 *e*PKP2 **PKPdf 23 03 30.4 -0.7**
ZAK pmax pmax
comp=Z,17nm,1.3s
SLVN Son La 146.69 264 PKPdf **PKPdf 23 03 32.7 +0.1**
MOY Mondy 146.98 322 *e*PKP2 **PKiKP 23 03 42.4 +5.6**
MOY pmax pmax
comp=Z,26nm,2.4s
ELL Elmali 147.42 67 PKPdf **PKPdf 23 03 31.6 -1.9**
ELL Elmali 147.42 67 PKIKP **PKPdf 23 03 31.6 -1.9**
LPSR Galich'ya Gora 148.49 35 *e*PKP2 **PKPbc 23 03 38.2 +0.1**
LPSR pmax pmax
comp=Z,20nm,1.2s
KMI Kunming 148.92 270 ⇓PKPbc **PKPdf 23 03 38.5 +2.1**
VORR Voronezh 149.17 36 *e*PKP2 **PKiKP 23 03 40.7 -0.4**
VORR pmax pmax
comp=Z,15nm,0.9s
LZH Lanzhou 149.28 292 *e*PKPbc **PKPab 23 03 45.0 -0.6**
VSR Storozhevoye 149.40 37 *e*PKHKP **PKPbc 23 03 38.5 -2.0**
VSR pmax pmax
comp=Z,9.0nm,0.9s
VORD Divnogorie 149.61 37 *e*PKP2 **PKiKP 23 03 42.3 +0.3**
VORD pmax pmax
comp=Z,10.0nm,1.2s
CMAR Chiang Mai Arr 149.78 256 PKPdf **PKPdf 23 03 37.2 -0.5**
CMAR Chiang Mai Arr 149.78 256 PKPbc **PKPdf 23 03 39.1 +1.4**
comp=Z,0.8nm,0.3s,baz=130,slow=2.8,SNR=1.6
CHTO Chiang Mai 149.94 256 PKPbc **PKPbc 23 03 41.3 -1.5**
CHTO Chiang Mai 149.94 256 PKHKP **PKPbc 23 03 41.3 -1.5**
BRTR Keskin Array B 150.06 61 PKPbc **PKPdf 23 03 39.3 +1.6**
comp=Z,0.2nm,0.4s,baz=302,slow=5.7,SNR=4.3
PZH PanZhiHua 150.13 273 PKPbc **PKPdf 23 03 40.3 +2.1**
VRH Novokhopyorsk 150.71 35 *e*PKIKP **PKPdf 23 03 40.6 +2.5**
VRH pmax pmax
comp=Z,10.0nm,0.7s
GTA Gaotai 152.08 299 PKPbc **PKiKP 23 03 51.3 +3.6**
ZAA0 Zalesovo Array 152.64 338 PKPdf **PKPdf 23 03 41.6 +0.7**
ZALV Zalesovo Beam 152.64 338 PKPdf **PKPdf 23 03 41.6 +0.7**
ZALV Zalesovo Beam 152.64 338 PKPbc **PKPbc 23 03 44.6 -3.4**
comp=Z,0.4nm,0.4s,baz=38,slow=2.3,SNR=1.9
ZALV PKPab **sPKPbc 23 03 53.7 -0.4**
comp=Z,0.3nm,0.3s,baz=17,slow=6.0,SNR=4.4
BRVK Borovoye 156.36 357 PKPdf **PKPdf 23 03 46.1 -0.1**
BRVK Borovoye 156.36 357 PKIKP **PKPdf 23 03 46.1 -0.1**
BVAR Borovoye Array 156.38 356 PKP **PKPdf 23 03 43.1 -3.2**
comp=Z,0.2nm,0.4s,baz=318,slow=2.4,SNR=1.7
KURK Kurchatov 157.31 342 PKIKP **PKPdf 23 03 43.8 -3.6**
KURK 23 04 16.1
KURBB Kurchatov Arra 157.42 342 PKP **PKPdf 23 03 43.8 -3.8**
comp=Z,0.1nm,0.5s,baz=30,slow=1.9,SNR=2.8
KURBB PKPab **PKPab 23 04 16.1 -3.0**
comp=Z,0.6nm,0.9s,baz=26,slow=3.9,SNR=3.5
MAK Makhachkala 158.72 45 *e*PKIKP **PKPdf 23 03 46.7 -2.7**
MAK *e* 23 08 02.7
MAK *e* 23 10 55.0
MAK *e*SS SS 23 28 01.9 -5.6
MAK *e*SSS SSS 23 34 19.6
MAK pmax pmax
comp=Z,294nm,1.2s
WMQ Urumqi 158.75 318 *e*PKP **PKPdf 23 03 52.0 +2.4**
WMQ PKPab **pPKPab 23 04 28.8 -0.8**
ABKAR Akbulak array 159.28 15 PKPdf **PKPdf 23 03 49.9 0.0**
ABKAR Akbulak array 159.28 15 PKPdf **PKPdf 23 03 50.0 0.0**
MKAR Makanchi Array 159.43 331 PKP **PKPdf 23 03 48.0 -2.2**
comp=Z,0.1nm,0.5s,baz=45,slow=2.9,SNR=2.0
MKAR PKPab **PKPab 23 04 23.4 -4.6**
comp=Z,0.2nm,0.6s,baz=68,slow=8.0,SNR=0.9

NOU 25 23:00:06.4,16°.96S×167°.78E,h0km,MLv4.0/7,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.85**	**153**	P	Pb	23 00 24.4	+0.3
LIFNC	**LIFOU**	**3.83**	**188**	P	Pn	23 01 05.1	-1.6
KOUNC	**Koumac, New Ca**	**4.87**	**222**	P	Pn	23 01 21.8	+0.8
YATNC	**Mamie plateau,**	**5.14**	**189**	P	Pn	23 01 23.4	-1.3
DZM	**Mont Dzumac**	**5.24**	**194**	P	Pn	23 01 26.4	+0.3

*IDC **25** 23:42:39.1±0.5,29°.92S×111°.84W,h0km,mb4.1/15, mbtmp4.0/16,ML4.1/1,MS5.0/51,Error ellipse: s-maj=22.7km s-min=16.8km az=94.0*
*MOS **25** 23:42:44.6±1.2,29°.21S×112°.18W,h10km,mb5.1/30, Error ellipse: s-maj=14.0km s-min=9.4km az=72.0*
*NEIC **25** 23:42:46.6,29°.31S×112°.25W,h12km*
*NEIC **25** 23:42:46.6±2.0,29°.3S±0°.1×112°.2W±0°.1,h10km±1km, mb5.1/125,Ms_20 5.0/418,Mwb5.5/16,Mww5.5/15,Error ellipse: s-maj=20.3km s-min=15.2km az=308.0,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr0.65; Mθθ-1.45; Mφφ0.80; Mrθ-0.41; Mrφ-1.21; Mθφ-0.57; Fault plane solution: M0 1.88000×10^17^ NP1: φs205.33000°,δ80.99000°,λ27.87000°. NP2: φs110.60000°,δ62.50000°,λ169.84000°. Principal axes: T 1.4985, Plg26.0000°, Azm71.0000°; N 0.6121, Plg61.0000°, Azm222.0000°; P -2.1106, Plg12.0000°, Azm335.0000°;*
*NEIC **25** 23:42:46.6,29°.51S×112°.36W,h12km,Moment Tensor Solution. Duration: 28s Moment tensor: Scale 10^17^Nm; Mrr-0.39; Mθθ-0.69; Mφφ1.08; Mrθ0.31; Mrφ-1.50; Mθφ-0.92; Fault plane solution: M0 1.93000×10^17^ NP1: φs195.43000°,δ84.11000°,λ22.12000°. NP2: φs103.04000°,δ68.00000°,λ173.65000°. Principal axes: T 2.2781, Plg20.0000°, Azm61.0000°; N -0.6961, Plg67.0000°, Azm210.0000°; P -1.5820, Plg11.0000°, Azm327.0000°;*
*NEIC **25** 23:42:48.3,29°.37S×112°.26W,h10km*
*GCMT **25** 23:42:49.6±0.1,29°.56S±0°.01×112°.47W±0°.01,h12km, MW5.5/160,Moment Tensor Solution. s136,c242; s160,c313; Duration: 1s4 Moment tensor: Scale 10^17^ Nm; Mrr-0.53±.02; Mθθ-0.72±.02; Mφφ1.26±.03; Mrθ0.10±.06; Mrφ-1.93±.02; Mθφ-0.03±.06; Best double couple: M0 2.17200×10^17^ NP1:φs284.00000°,δ89.00000°, λ-177.00000°. NP2:φs194.00000°,δ87.00000°, λ-1.00000°. Principal axes: T 2.4400, Plg1.0000°, Azm59.0000°; N -0.5310, Plg87.0000°, Azm302.0000°; P -1.9050, Plg3.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 23:42:46.2±0.3,29°.37S±0°.06×112°.20W±0°.05,h16km, n677,σ1§72/416,mb5.1/91,MS5.0/262,6C-1D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**3.28**	**49**	Pn	**Pn**	**23 43 36.5**	**-0.4**
VA02	**Isla de Pascua**	**3.28**	**49**	⇑*i*P	**Pn**	**23 43 36.4**	**-0.5**
VA02				*i* S	**Sb**	**23 44 24.4**	**+0.6**
RPN	**Rapa Nui**	**3.37**	**49**	Pn	**Pn**	**23 43 36.6**	**-1.6**
RPN	**Rapa Nui**	**3.37**	**49**	Pn	**Pn**	**23 43 35.8**	**-2.3**
	18nm,0.3s,baz=216,slow=18,SNR=18						
RPN				T	T	23 47 11.4	
	59nm,0.3s,baz=256,slow=15,SNR=9.2						
	62nm,0.3s						
RPN	**Rapa Nui**	**3.37**	**49**	*e*P	**Pn**	**23 43 37.1**	**-1.1**
RPN				*i* S	**Sb**	**23 44 27.5**	**+1.1**
RPN	**Rapa Nui**	**3.37**	**49**	P	**Pn**	**23 43 36.6**	**-1.6**
H03N2	**Juan Fernandez**	**28.61**	**107**	T	T	00 18 53.9	
	baz=273,slow=73,SNR=5988						
H03S2	**Juan Fernandez**	**28.61**	**108**	T	T	00 19 03.0	
	baz=258,slow=74,SNR=28						
H03N3	**Juan Fernandez**	**28.62**	**107**	T	T	00 18 55.2	
	baz=273,slow=73,SNR=5333						
H03S3	**Juan Fernandez**	**28.63**	**108**	T	T	00 18 58.5	
	baz=258,slow=74,SNR=19						
H03N1	**Juan Fernandez**	**28.63**	**107**	T	T	00 18 56.7	
	baz=273,slow=73,SNR=7578						
H03S1	**Juan Fernandez**	**28.63**	**108**	T	T	00 19 00.8	
	baz=258,slow=74,SNR=18						
TAOE	**Nuku Hiva Isla**	**33.21**	**302**	*e*PKP1	**P**	**23 49 20.1**	**-2.5**

39nm,24.4s
TAOE eS **S** **23 54 43.5 +1.4**
308nm,28.8s
TAOE eLQ LQ 23 56 49.3
3µm,33.4s
TAOE eLR LR 23 58 15.4
2µm,22.9s
TBI Tubuai 33.82 271 eP **P** **23 49 28.7 +0.9**
387nm,34.2s
TBI Tubuai 33.82 271 ePP **PP** **23 50 49.8 +5.4**
225nm,22.2s
TBI eS **S** **23 54 53.7 +2.4**
3µm,35.5s
TBI eLQ LQ 23 57 08.6
29µm,27.2s
TBI eLR LR 23 58 22.6
7µm,20.8s
LL04 Puerto Octay 34.25 120 P **P** **23 49 33.1 +1.7**
LL04 Puerto Octay 34.25 120 eP P 23 49 41.7 +10
LL03 Petrohue 34.28 121 P **P** **23 49 34.7 +3.1**
LL03 IAmb IAmb 23 49 41.4
comp=Z,33nm,1.1s
LL01 San Ignacio de 34.45 123 P **P** **23 49 35.3 +2.3**
ML02 Panimavida 34.77 111 P **P** **23 49 37.3 +1.4**
ML02 IAmb IAmb 23 49 46.0
comp=Z,37nm,1.1s
GO06 Curarrehue 34.83 118 P **P** **23 49 38.1 +1.6**
BI02 San Fabin de 34.88 113 P **P** **23 49 38.3 +1.4**
BI02 IAMs_20 IAMs_20 23 59 43.0
comp=Z,2µm,19.0s
LL02 Futaleuf 34.99 124 P **P** **23 49 40.0 +2.2**
LL02 IAmb IAmb 23 49 48.3
comp=Z,34nm,1.3s
BO01 Tunca 35.10 109 P **P** **23 49 39.6 +0.8**
BO01 IAmb IAmb 23 49 50.6
comp=Z,42nm,1.7s
COYC Coyhaique 35.30 128 P **P** **23 49 42.1 +1.7**
COYC IAmb IAmb 23 49 50.8
comp=Z,38nm,1.1s
BO02 Sierra Bellavi 35.33 110 P **P** **23 49 42.2 +1.3**
AY03 Cochrane 35.38 131 P **P** **23 49 42.6 +1.6**
BO04 La Punta 35.52 108 P **P** **23 49 44.1 +1.6**
BO04 IAmb IAmb 23 49 54.8
comp=Z,31nm,1.3s
PLCA Paso Flores 35.63 120 P **P** **23 49 45.6 +2.2**
PLCA IAmb IAmb 23 49 54.8
comp=Z,76nm,2.0s
PLCA Paso Flores 35.63 120 P **P** **23 49 42.4 -0.9**
comp=Z,3.8nm,1.1s,baz=298,slow=9.4,SNR=4.2
PLCA LR LR 00 00 47.6
comp=Z,793nm,18.2s,baz=275,slow=31
PLCA Paso Flores 35.63 120 P **P** **23 49 45.6 +2.2**
PLCA pmax pmax
comp=Z,76nm,2.0s
MT13 San Alfonso 35.81 108 P **P** **23 49 46.5 +1.5**
MT13 IAmb IAmb 23 49 56.9
comp=Z,35nm,1.2s
LMEL Las Melosas 35.87 108 P **P** **23 49 47.0 +1.4**
LMEL IAmb IAmb 23 49 53.6
comp=Z,34nm,1.0s
PPT2 Papeete2 36.08 281 ePKP1 **P** **23 49 44.2 -3.2**
comp=Z,92nm,35.2s
PPT2 Papeete2 36.08 281 ePP **PP** **23 51 16.9 +7.4**
comp=Z,204nm,37.5s
PPT2 eS **S** **23 55 31.4 +5.1**
comp=Z,1µm,25.5s
PPT2 eLQ LQ 23 57 54.8
comp=Z,5µm,27.8s
PPT2 eLR LR 23 59 09.5
comp=Z,5µm,39.5s
AC05 El Transito 36.50 100 P **P** **23 49 53.0 +2.0**
AC05 IAmb IAmb 23 50 02.4
comp=Z,67nm,1.8s
GO09 Cerro Castillo 36.82 138 P **P** **23 49 53.9 +0.6**
NNA Nana 37.13 70 LR LR 00 01 11.7
comp=Z,5µm,21.1s,baz=239,slow=30
ZON Zonda 37.40 105 P **P** **23 49 59.5 +0.9**
ZON IAmb IAmb 23 50 06.9
comp=Z,52nm,1.3s
ZON Zonda 37.40 105 P **P** **23 49 59.5 +0.9**
ZON pmax pmax
comp=Z,52nm,1.3s
ATAH Atahualpa 38.74 62 LR LR 00 02 15.9
comp=Z,4µm,19.0s,baz=243,slow=30
LVC Limon Verde 39.32 90 P **P** **23 50 16.6 +1.4**
LVC Limon Verde 39.32 90 IAMs_20 IAMs_20 00 02 04.1
comp=Z,2µm,20.0s
LVC Limon Verde 39.32 90 LR LR 00 02 26.3
comp=Z,2µm,20.7s,baz=253,slow=30
LVC Limon Verde 39.32 90 P **P** **23 50 16.6 +1.4**
LVC pmax pmax
comp=Z,33nm,1.5s
ARNL Arenillas 39.84 56 P **P** **23 50 19.1 0.0**
ARNL IAmb IAmb 23 50 25.6
comp=Z,84nm,1.3s
AF01 San Pedro de A 39.85 91 P **P** **23 50 20.1 +0.6**
USHA Ushuaia 40.30 142 LR LR 00 03 12.5
comp=Z,6µm,20.1s,baz=278,slow=31
TRQA Tornquist 42.23 116 P **P** **23 50 39.5 +0.8**
TRQA Tornquist 42.23 116 P **P** **23 50 39.5 +0.8**
TRQA pmax pmax
comp=Z,10.0nm,0.9s
LPAZ La Paz 42.41 82 P **P** **23 50 41.1 +0.1**
LPAZ La Paz 42.41 82 P P 23 50 33.1 -7.9
comp=Z,0.5nm,0.7s,baz=210,slow=10,SNR=1.7
LPAZ LR LR 00 04 41.1
comp=Z,2µm,19.4s,baz=246,slow=31
comp=Z,0.5nm,0.7s
LPAZ La Paz 42.41 82 P **P** **23 50 41.1 +0.1**
LPAZ pmax pmax
comp=Z,12nm,1.2s
LPAZ La Paz 42.41 82 eP **P** **23 50 41.6 +0.6**
CZSB Cruzeiro do Su 42.88 68 P **P** **23 50 44.6 +0.5**
CZSB IAmb IAmb 23 51 02.7
comp=Z,72nm,1.3s
CZSB Cruzeiro do Su 42.88 68 eP **P** **23 50 45.5 +1.3**
SLOR San Lorenzo - 42.92 55 P **P** **23 50 44.8 -0.2**
ANTS Antisana-Sarah 43.31 55 P **P** **23 50 49.1 +0.8**
ANTS IAmb IAmb 23 51 08.9
comp=Z,45nm,1.0s
PULU Pululahua 43.44 54 P **P** **23 50 49.9 +0.8**
RAR Rarotonga 43.53 269 LR LR 00 03 36.8
comp=Z,1µm,20.4s,baz=111,slow=29
OTAV Otavalo 43.63 54 P **P** **23 50 51.4 +0.7**
OTAV Otavalo 43.63 54 P **P** **23 50 51.4 +0.7**
OTAV pmax pmax
comp=Z,20nm,1.2s
OTAV Otavalo 43.63 54 eP **P** **23 50 49.5 -1.2**
IMBA Imbabura, San 43.84 54 P **P** **23 50 52.2 -0.2**
IMBA IAmb IAmb 23 51 04.5
comp=Z,54nm,1.1s
TULM Tulcn-Chalpat 44.44 54 P **P** **23 50 55.1 -2.0**
TULM IAmb IAmb 23 52 05.7
comp=Z,31nm,0.8s
PMSA Palmer Station 46.34 154 LR LR 00 05 18.8
comp=Z,2µm,20.9s,baz=291,slow=30
ETMB Extrema 47.12 75 P **P** **23 51 16.9 -1.0**
ETMB Extrema 47.12 75 eP **P** **23 51 18.2 +0.3**
TBTG Tabatinga, AM 47.20 66 P **P** **23 51 17.0 -1.5**
JTS Las Juntas de 47.38 38 LR LR 00 06 24.2
comp=Z,2µm,19.9s,baz=208,slow=30
H06S1 SOCORRO T 47.83 2 T T 00 41 51.4
SNR=5.6
ITQB Itaqui 47.95 105 eP **P** **23 51 25.7 +1.5**
TBOT Tacuaremb 48.06 108 eP **P** **23 51 26.8 +1.8**
SNET Serv Nac Est T 48.20 31 IAMs_20 IAMs_20 00 06 24.0
comp=Z,2µm,21.0s
CPUP Villa Florida 48.24 100 P P 23 51 19.2 -7.3
comp=Z,0.7nm,0.3s,baz=207,slow=7.2,SNR=1.7
CPUP LR LR 00 08 06.1
comp=Z,794nm,19.8s,baz=259,slow=32
comp=Z,0.7nm,0.3s
CNGN Cerro Negro 48.36 34 IAMs_20 IAMs_20 00 06 35.7
comp=Z,2µm,21.0s
TLIG Tlapa 48.48 17 P **P** **23 51 29.8 +1.5**
TLIG IAmb IAmb 23 51 40.5
comp=Z,19nm,1.0s
BBSD Serra de San D 48.57 87 eP **P** **23 51 29.1 0.0**
SIV San Ignacio 48.66 86 LR LR 00 08 30.3
comp=Z,2µm,20.5s,baz=272,slow=32
MTO3 Montecristo 48.78 30 P **P** **23 51 31.8 +0.9**
MTO3 IAmb IAmb 23 51 45.8
comp=Z,36nm,1.2s
APG El Apazote 48.85 28 LR LR 00 07 08.2
comp=Z,136nm,21.9s,baz=204,slow=30
RODS Rosario do Sul 48.99 106 eP **P** **23 51 33.7 +1.5**
CMIG Matias Romero 49.12 22 LR LR 00 07 21.8
comp=Z,612nm,19.4s,baz=194,slow=30
CCIG Comitan 49.34 26 P **P** **23 51 37.2 +2.1**
TGUH Tegucigalpa,Un 49.43 33 P **P** **23 51 36.1 +0.4**
MURT Porto Murtinho 49.49 94 eP **P** **23 51 36.4 +0.3**
ROSC El Rosal 49.78 53 P **P** **23 51 39.8 +1.0**
ROSC El Rosal 49.78 53 P P 23 51 33.7 -5.1
comp=Z,4.6nm,0.3s,baz=253,slow=20,SNR=1.4
ROSC LR LR 00 09 10.8
comp=Z,3µm,20.0s,baz=220,slow=32
comp=Z,4.6nm,0.3s
ROSC El Rosal 49.78 53 P **P** **23 51 39.8 +1.0**
ROSC pmax pmax
comp=Z,100nm,1.4s
UNM Universidad Na 50.02 16 IAMs_20 IAMs_20 00 08 02.5
comp=Z,2µm,21.0s
SAML Samuel 50.13 76 P **P** **23 51 40.9 -0.2**
SAML Samuel 50.13 76 P **P** **23 51 40.9 -0.2**
SAML pmax pmax
comp=Z,16nm,1.3s
SAML Samuel 50.13 76 eP **P** **23 51 41.3 +0.2**
CPSB Cacapava Do Su 50.45 107 eP **P** **23 51 44.6 +1.3**
PTLB Pontes e Lacer 50.58 86 P **P** **23 51 44.5 +0.1**
PTLB Pontes e Lacer 50.58 86 eP **P** **23 51 45.7 +1.3**
VILB Vilhena 50.76 83 P **P** **23 51 46.1 +0.3**
VILB Vilhena 50.76 83 eP **P** **23 51 46.2 +0.3**
PETF Flores 50.81 28 P **P** **23 51 46.6 +0.6**
AQDB Aquidauana 51.58 94 P **P** **23 51 52.2 +0.3**
AQDB IAmb IAmb 23 52 02.2
comp=Z,26nm,1.1s
TEFE Tefe 51.86 69 eP **P** **23 51 54.7 +0.6**
ZAIG Zacatecas 52.66 11 P **P** **23 52 01.5 +1.4**
RVDE Rio Verde (Bra 52.79 92 eP **P** **23 52 02.2 +1.2**
LPIG La Paz 53.19 2 LR LR 00 09 37.3
comp=Z,1µm,20.3s,baz=192,slow=30
SALV Santo Antonio 53.39 88 eP **P** **23 52 06.9 +1.5**
TRCB Terra Rica 53.42 98 P **P** **23 52 06.8 +1.3**
PDRB Porto dos Gac 54.38 83 eP **P** **23 52 13.5 +0.8**
TEIG Tepich 54.44 28 LR LR 00 10 35.8
comp=Z,909nm,20.7s,baz=206,slow=31
LDASE Londrina, Braz 54.52 99 eP **P** **23 52 13.6 0.0**
PCMB Pacaembu 55.03 97 eP **P** **23 52 19.4 +2.1**
SDV Santo Domingo 55.22 53 P **P** **23 52 18.6 -0.3**
SDV IAmb IAmb 23 52 32.4
comp=Z,26nm,1.1s
SDV Santo Domingo 55.22 53 LR LR 00 13 20.1
comp=Z,2µm,18.6s,baz=223,slow=33
SDV Santo Domingo 55.22 53 eP **P** **23 52 18.8 -0.1**
MACA Manacapuru-AM 55.31 72 P **P** **23 52 19.1 -0.3**
MACA Manacapuru-AM 55.31 72 eP **P** **23 52 19.0 -0.4**
FRTB Fartura 55.88 100 eP **P** **23 52 23.6 +0.2**
HPIG 56.33 7 P **P** **23 52 26.4 -0.2**
RAO Raoul Island 56.57 253 LR LR 00 10 27.2
comp=Z,2µm,21.5s,baz=144,slow=29
BAUV El Baul 57.09 55 P **P** **23 52 30.4 -1.6**
HBVL Hebbronville 57.59 14 P **P** **23 52 37.2 +2.0**
HBVL IAmb IAmb 23 52 47.6
comp=Z,30nm,1.2s
SPB Sao Paulo 57.62 101 IAMs_20 IAMs_20 00 13 53.7
comp=Z,1µm,18.0s
NPGB Novo Progresso 57.77 79 eP **P** **23 52 37.5 +0.6**
URZ Urewera 58.12 241 LR LR 00 11 57.4
comp=Z,3µm,19.8s,baz=237,slow=30
VAO Valinhos 58.23 100 eP **P** **23 52 41.3 +1.2**
BOAV Boa Vista 58.63 67 P **P** **23 52 42.5 -0.4**
BOAV IAmb IAmb 23 53 01.0
comp=Z,31nm,1.5s
BOAV Boa Vista 58.63 67 eP **P** **23 52 43.5 +0.6**
833A Chaparral WMA, 58.66 13 P **P** **23 52 43.7 +0.9**
833A IAmb IAmb 23 53 02.5
comp=Z,15nm,0.8s
833A Chaparral WMA, 58.66 13 P **P** **23 52 43.6 +0.9**
baz=193
HATO Hato, Curacao 58.70 52 IAMs_20 IAMs_20 00 14 24.7
comp=Z,1µm,22.0s
BELA Belgrano 2 58.90 166 P **P** **23 52 41.8 -2.1**
BELA IAmb IAmb 23 52 53.0
comp=Z,33nm,1.6s
BELA IAMs_20 IAMs_20 00 13 44.3
comp=Z,1µm,20.0s
TXAR Lajitas Array 58.94 9 P **P** **23 52 45.3 +0.5**
TXAR Lajitas Array 58.94 9 P **P** **23 52 44.9 +0.1**
comp=Z,1.2nm,1.0s,baz=176,slow=13,SNR=7.4
TXAR LR LR 00 14 15.8
comp=Z,212nm,19.3s,baz=187,slow=32
comp=Z,1.2nm,1.0s
TXAR Lajitas Array 58.94 9 P **P** **23 52 45.3 +0.5**
TX31 Lajitas Ar. Si 58.94 9 P **P** **23 52 47.2 +2.4**
TX31 IAmb IAmb 23 53 06.7
comp=Z,17nm,1.4s
SNDB Serra Nova Dou 58.94 87 eP **P** **23 52 46.3 +1.2**
BHW Baring Head 59.05 237 IAMs_20 IAMs_20 00 13 54.3
comp=Z,1µm,19.0s
IPMB Ipameri, GO 59.07 94 eP **P** **23 52 47.2 +1.2**
TOZ Tahuroa Road 59.48 241 IAMs_20 IAMs_20 00 12 02.9
comp=Z,2µm,22.0s
SBA Scott Base 59.63 194 P **P** **23 52 52.1 +3.2**
SBA IAmb IAmb 23 52 55.1
comp=Z,33nm,1.6s
SBA Scott Base 59.63 194 IAMs_20 IAMs_20 00 12 14.0
comp=Z,1µm,19.0s
SBA Scott Base 59.63 194 P **P** **23 52 52.1 +3.2**
SBA pmax pmax
comp=Z,33nm,1.6s
ALPN Alpine 59.97 9 P **P** **23 52 53.6 +1.7**
ALPN IAmb IAmb 23 53 00.5
comp=Z,13nm,1.1s
BDFB Brasilia 60.20 92 P **P** **23 52 54.5 +0.5**
BDFB IAmb IAmb 23 53 04.4
comp=Z,37nm,1.5s
BDFB Brasilia 60.20 92 P P 23 52 48.3 -5.6
comp=Z,0.8nm,0.3s,baz=162,slow=20,SNR=1.9
BDFB LR LR 00 15 44.8
comp=Z,490nm,20.9s,baz=257,slow=33
comp=Z,0.8nm,0.3s
BDFB Brasilia 60.20 92 P **P** **23 52 54.5 +0.5**
BDFB pmax pmax
comp=Z,37nm,1.5s
VHRN Van Horn 60.21 7 P **P** **23 52 55.3 +1.7**
PCRV Puerto La Cruz 60.38 57 LR LR 00 15 42.0
comp=Z,2µm,20.9s,slow=33
319A Douglas 60.47 3 P **P** **23 52 57.1 +1.7**
319A IAmb IAmb 23 53 04.7
comp=Z,17nm,0.9s
PIX Pinacate 60.60 359 P **P** **23 52 59.7 +3.6**
PIX IAmb IAmb 23 53 04.8
comp=Z,22nm,1.2s
GTBY Guantanamo Bay 60.67 41 IAMs_20 IAMs_20 00 14 33.2
comp=Z,1µm,19.0s
JCT Junction City 60.67 12 P **P** **23 52 57.4 +0.7**
JCT IAmb IAmb 23 53 13.8
comp=Z,21nm,0.9s
JCT IAMs_20 IAMs_20 00 14 49.2
comp=Z,1µm,20.0s
JCT Junction City 60.67 12 P **P** **23 52 58.0 +1.4**
baz=192
JCT Junction City 60.67 12 P **P** **23 52 57.4 +0.7**
JCT pmax pmax
comp=Z,21nm,0.9s
VNDA Vanda 60.68 194 P **P** **23 52 58.7 +2.6**
VNDA IAmb IAmb 23 53 08.3
comp=Z,21nm,1.6s
VNDA Vanda 60.68 194 P P 23 52 49.2 -7.0
comp=Z,0.2nm,0.5s,baz=99,slow=11,SNR=3.7
VNDA LR LR 00 14 43.2
comp=Z,1µm,18.2s,baz=89,slow=32
comp=Z,0.2nm,0.5s
VNDA Vanda 60.68 194 P **P** **23 52 58.7 +2.6**
VNDA pmax pmax
comp=Z,21nm,1.6s
QSPA South Pole Qui 60.81 180 P **P** **23 52 57.4 0.0**
QSPA South Pole Qui 60.81 180 P P 23 52 50.1 -7.3
comp=Z,0.9nm,1.0s,baz=16,slow=7.4,SNR=1.6
QSPA LR LR 00 15 47.5
comp=Z,861nm,19.2s,baz=106,slow=33
comp=Z,0.9nm,1.0s
BSCB Bom Sucesso 60.86 99 eP **P** **23 52 59.2 +0.9**
214A Organ Pipe Nat 60.99 359 P **P** **23 53 00.0 +1.3**
214A IAmb IAmb 23 53 07.0
comp=Z,21nm,1.2s
214A Organ Pipe Nat 60.99 359 P **P** **23 53 01.0 +2.2**
baz=179
HKT Hockley 61.02 16 P **P** **23 53 03.3 +4.5**
HKT pmax pmax
comp=Z,13nm,1.4s
MNTX Cornudas Mount 61.07 7 P **P** **23 53 00.5 +1.1**
baz=187
RPZ Rata Peaks 61.24 234 LR LR 00 14 03.5
comp=Z,2µm,19.5s,baz=124,slow=31
TUC Tucson 61.35 1 P **P** **23 53 02.4 +1.1**
TUC Tucson 61.35 1 IAMs_20 IAMs_20 00 14 31.1
comp=Z,988nm,18.0s
TUC Tucson 61.35 1 P **P** **23 53 03.4 +2.2**
baz=181
TUC Tucson 61.35 1 P **P** **23 53 02.4 +1.1**
TUC pmax pmax
comp=Z,9.0nm,1.1s
OUZ Omahuta 61.66 244 IAMs_20 IAMs_20 00 12 46.6
comp=Z,1µm,21.0s
121A Cookes Peak, D 61.70 4 P **P** **23 53 04.9 +1.1**
121A IAmb IAmb 23 53 14.9
comp=Z,20nm,1.4s
121A Cookes Peak, D 61.70 4 P **P** **23 53 06.3 +2.5**
baz=184
YUH Yuha Desert 61.78 356 P **P** **23 53 05.3 +1.4**
IKP In-Ko-Pah, Jac 61.79 356 P **P** **23 53 05.3 +1.1**
baz=176
MONP2 Monument Peak 62.05 356 P **P** **23 53 06.4 +0.3**
baz=176
SWSC Sam W. Stewart 62.06 357 P **P** **23 53 06.8 +0.9**
baz=176
GLA Glamis 62.13 358 P **P** **23 53 06.7 +0.3**
GLA Glamis 62.13 358 P **P** **23 53 07.9 +1.4**
baz=178
GLA Glamis 62.13 358 P **P** **23 53 06.7 +0.3**
GLA pmax pmax
comp=Z,26nm,1.2s
SDDR Presa de Saban 62.19 44 IAMs_20 IAMs_20 00 13 32.9
comp=Z,1µm,20.0s
WHTX Lake Whitney, 62.61 14 P **P** **23 53 11.9 +2.3**
baz=194
BC3 Big Chuckawall 62.76 357 P **P** **23 53 11.6 +0.9**
baz=177
PFO Pinyon Flats O 62.77 356 P **P** **23 53 11.3 +0.6**
baz=176
PFO Pinyon Flats O 62.77 356 LR LR 00 13 59.0
comp=Z,1µm,21.8s,baz=180,slow=30
PFO Pinyon Flats O 62.77 356 P **P** **23 53 13.8 +3.0**
PFO pmax pmax
comp=Z,48nm,1.8s
ABTX Abilene, Hawle 62.79 12 P **P** **23 53 11.6 +0.8**
ABTX IAmb IAmb 23 53 22.9
comp=Z,23nm,1.4s
ABTX Abilene, Hawle 62.79 12 P **P** **23 53 12.6 +1.8**
baz=192
DIAM Diamantina, MG 62.88 97 eP **P** **23 53 13.7 +1.7**
BELC Belle Mtn. Jos 63.13 356 P **P** **23 53 14.2 +1.0**
baz=176
IRM Iron Mountain 63.24 357 P **P** **23 53 16.1 +2.3**
baz=177
Y22D IRIS PASSCAL I 63.29 5 IAMs_20 IAMs_20 00 15 33.5
comp=Z,1µm,21.0s
PDMCI Parker Dam,Lak 63.35 358 P **P** **23 53 15.6 +1.1**
baz=178
BFSC Mount Baldy Ra 63.47 355 P **P** **23 53 16.5 +1.0**
baz=175
SMTB Santa Maria do 63.61 85 eP **P** **23 53 18.5 +1.8**
MSTX Muleshoe 63.62 9 P **P** **23 53 17.5 +1.0**
MSTX Muleshoe 63.62 9 P **P** **23 53 18.8 +2.3**
baz=189
JANB Januaria 63.68 93 eP **P** **23 53 17.6 +0.3**
GRGR Grenville 63.86 57 IAMs_20 IAMs_20 00 17 16.3
comp=Z,1µm,21.0s
GMRC Granite Mounta 63.89 357 P **P** **23 53 19.2 +0.9**
baz=177
HEC Hector,Ludlow 63.97 356 P **P** **23 53 20.4 +1.7**
baz=176
MCPB Macapa, AP 64.05 75 eP **P** **23 53 21.8 +2.2**
EDW2 Edwards Air Fo 64.14 355 P **P** **23 53 20.9 +1.1**
baz=174
MSVF Nonsavu 64.17 263 IAMs_20 IAMs_20 00 13 26.5
comp=Z,1µm,21.0s
ANMO Albuquerque 64.20 5 LR LR 00 16 42.1
comp=Z,872nm,18.1s,baz=282,slow=32
PKM Mcpherson Peak 64.31 353 P **P** **23 53 22.3 +1.3**
baz=173
GSC Goldstone, Bar 64.47 356 P **P** **23 53 22.6 +0.7**
baz=176
WUAZ Wupatki 64.54 1 P **P** **23 53 24.0 +1.4**
TUQ Turquoise Moun 64.55 357 P **P** **23 53 22.8 +0.3**
baz=176
LRMC Laurel Mtn Rad 64.71 355 P **P** **23 53 24.6 +1.0**
baz=175
V12A Nelson 64.79 358 P **P** **23 53 25.3 +1.2**
V12A IAmb IAmb 23 53 33.5
comp=Z,13nm,1.2s
SJG San Juan 64.82 49 LR LR 00 19 33.9
comp=Z,503nm,18.7s,baz=217,slow=34
SJMB Sao Joao De Ma 64.87 98 eP **P** **23 53 25.9 +0.9**
ISA Isabella, Lake 64.95 354 P **P** **23 53 26.7 +1.6**
baz=174
WMOK Wichita Mounta 65.01 12 IAMs_20 IAMs_20 00 17 14.9
comp=Z,924nm,21.0s
WMOK Wichita Mounta 65.01 12 P **P** **23 53 26.3 +0.9**
baz=193
SHOC Shoshone, Teco 65.03 356 P **P** **23 53 26.3 +0.7**
baz=176
MPMC Manual Prospec 65.27 355 P **P** **23 53 26.8 -0.4**
baz=175
RIB01 Linhares ES 65.30 99 eP **P** **23 53 29.5 +1.7**
FURC Furnace Creek, 65.63 356 P **P** **23 53 28.9 -0.4**
baz=176
CWC Cottonwood Cre 65.69 355 P **P** **23 53 30.2 +0.2**
baz=174
CCAR Cane Creek 65.84 19 P **P** **23 53 33.1 +2.4**
FDF Fort de France 65.94 55 IAMs_20 IAMs_20 00 17 45.6
comp=Z,978nm,22.0s
MIAR Mount Ida 65.96 17 P **P** **23 53 32.3 +0.8**
MIAR Mount Ida 65.96 17 P **P** **23 53 31.3 -0.2**
baz=198
MIAR Mount Ida 65.96 17 P **P** **23 53 32.3 +0.8**
MIAR pmax pmax
comp=Z,10.0nm,1.0s
MPOM Morne Pois Mar 65.96 56 IAMs_20 IAMs_20 00 18 08.1
comp=Z,905nm,22.0s
SVN Savane Anatole 66.00 55 IAMs_20 IAMs_20 00 19 58.2
comp=Z,1µm,20.0s
KNB Kanab 66.04 359 P **P** **23 53 33.8 +1.6**
KNB IAmb IAmb 23 53 49.1
comp=Z,22nm,1.4s
KNB Kanab 66.04 359 P **P** **23 53 33.8 +1.6**
KNB pmax pmax
comp=Z,21nm,1.4s
TPNV Topopah Spring 66.08 356 P **P** **23 53 32.9 +0.4**
baz=176
NAN01 Guarapari, ES 66.14 98 eP **P** **23 53 34.6 +1.4**
ILAM Ilet Lapin Mar 66.17 56 IAMs_20 IAMs_20 00 18 18.5
comp=Z,996nm,19.0s
GRAC Grapevine Rang 66.19 355 P **P** **23 53 33.6 +0.6**
baz=175
OK029 Liberty Lake 66.29 13 IAMs_20 IAMs_20 00 18 16.8
comp=Z,905nm,21.0s
MVCO Mesa Verde 66.32 3 IAMs_20 IAMs_20 00 17 44.3
comp=Z,908nm,18.0s
MVCO Mesa Verde 66.32 3 P **P** **23 53 35.2 +1.1**
baz=184
VNA3 Neumayer Olymp 66.40 160 ⇑P **P** **23 53 32.0 -2.0**
comp=Z,6.8nm,0.9s
SEUS St. Eustatius 66.52 52 IAMs_20 IAMs_20 00 20 19.0
comp=Z,963nm,21.0s
T25A Trinidad 66.56 7 P **P** **23 53 37.1 +1.5**
OK031 S. Brethren Rd 66.56 14 IAMs_20 IAMs_20 00 18 53.1
comp=Z,897nm,19.0s
MDP Montagnes des 66.58 69 LR LR 00 19 09.2
comp=Z,1µm,20.8s,baz=250,slow=33
OK052 Battle Ridge R 66.61 14 IAMs_20 IAMs_20 00 18 45.3
comp=Z,923nm,20.0s
TUL3 Leonard 66.74 14 P **P** **23 53 37.6 +1.1**
TUL3 Leonard 66.74 14 P **P** **23 53 37.7 +1.2**
baz=196
ABD La Joyeuse, An 66.87 54 IAMs_20 IAMs_20 00 18 57.1
comp=Z,929nm,19.0s
S22A 4UR Ranch, Cre 66.95 5 P **P** **23 53 39.1 +0.9**
VNA1 Neumayer–Stat 67.05 159 ⇑P **P** **23 53 38.3 +0.2**
comp=Z,7.2nm,1.0s
SDCO Great Sand Dun 67.06 6 P **P** **23 53 39.6 +0.8**
SDCO IAMs_20 IAMs_20 00 18 09.1
comp=Z,887nm,19.0s
SDCO Great Sand Dun 67.06 6 P **P** **23 53 39.5 +0.6**
baz=186
GDSD La Dsirade Is 67.06 54 IAMs_20 IAMs_20 00 19 18.1
comp=Z,907nm,21.0s

OK051 E0350 and S346 67.10 13 IAMs_20 IAMs_20 00 19 12.1
comp=Z,948nm,21.0s
OK032 Salt Plains WL 67.12 12 IAMs_20 IAMs_20 00 18 40.8
comp=Z,905nm,21.0s
VNA2 Neumayer--Watz 67.21 160 ⇑P **P** **23 53 37.5 -1.6**
comp=Z,6.3nm,0.8s,baz=261,slow=5.7
TPH Tonopah 67.25 356 P **P** **23 53 40.7 +0.7**
TPH Tonopah 67.25 356 P **P** **23 53 40.7 +0.7**
R11B Troy Canyon, C 67.44 357 P **P** **23 53 42.8 +1.7**
baz=177
HHAR Hobbs 67.52 16 P **P** **23 53 42.4 +1.0**
HHAR IAmb IAmb 23 53 53.3
comp=Z,18nm,1.2s
NV11 Mina Array Sit 67.68 355 P **P** **23 53 42.5 -0.1**
NVAR Mina Array Bea 67.69 355 P **P** **23 53 42.3 -0.5**
NVAR Mina Array Bea 67.69 355 P **P** **23 53 42.0 -0.8**
comp=Z,7.0nm,0.8s,baz=186,slow=8.5,SNR=20
NVAR LR LR 00 17 11.4
comp=Z,2μm,19.5s,baz=168,slow=30
comp=Z,7.0nm,0.8s
GOGA Godfrey 68.11 26 P **P** **23 53 46.3 +1.1**
baz=207
SNAA Sanae 68.21 161 P **P** **23 53 44.2 -1.3**
SNAA IAmb IAmb 23 53 53.0
comp=Z,16nm,1.3s
SNAA Sanae 68.21 161 ⇑P **P** **23 53 44.3 -1.3**
comp=Z,124nm,1.0s
SNAA Sanae 68.21 161 P P 23 53 35.7 -10
comp=Z,0.4nm,0.7s,baz=246,slow=19,SNR=1.5
SNAA LR LR 00 17 38.4
comp=Z,443nm,21.9s,baz=284,slow=31
comp=Z,0.4nm,0.7s
SNAA Sanae 68.21 161 P **P** **23 53 44.2 -1.3**
SNAA pmax pmax
comp=Z,17nm,1.3s
SMCO Snowmass 68.36 4 P **P** **23 53 47.8 +0.6**
SMCO IAMs_20 IAMs_20 00 18 54.7
comp=Z,890nm,19.0s
KSCO Kaye Shedlock' 68.61 8 P **P** **23 53 49.8 +1.4**
SWET Sewanee 68.85 23 P **P** **23 53 49.8 0.0**
SWET IAmb IAmb 23 53 59.8
comp=Z,19nm,1.0s
T42A Van Buren 68.95 18 P **P** **23 53 51.3 +0.9**
T42A IAmb IAmb 23 53 58.2
comp=Z,12nm,1.1s
WVT Waverly 69.06 21 P **P** **23 53 52.4 +1.3**
WVT Waverly 69.06 21 P **P** **23 53 52.8 +1.6**
baz=203
WVT Waverly 69.06 21 P **P** **23 53 52.4 +1.3**
WVT pmax pmax
comp=Z,7.0nm,0.9s
ISCO Idaho Springs 69.08 5 IAMs_20 IAMs_20 00 19 16.8
comp=Z,972nm,18.0s
ISCO Idaho Springs 69.08 5 P **P** **23 53 53.8 +2.2**
baz=186
DUG Dugway, Tooele 69.21 359 P **P** **23 53 55.0 +2.9**
DUG IAMs_20 IAMs_20 00 18 28.1
comp=Z,743nm,19.0s
DUG Dugway, Tooele 69.21 359 P **P** **23 53 53.1 +1.0**
baz=180
DUG Dugway, Tooele 69.21 359 P **P** **23 53 55.0 +2.9**
DUG pmax pmax
comp=Z,7.0nm,1.1s
O20A White River Ci 69.25 3 P **P** **23 53 53.3 +0.9**
baz=184
TROLL Troll, Antarti 69.50 162 ⇑P **P** **23 53 52.2 -1.4**
comp=Z,444nm,1.2s
KSU1 Kansas State U 69.65 13 IAMs_20 IAMs_20 00 20 09.8
comp=Z,843nm,21.0s
CTU Camp Tracy 69.70 0 P **P** **23 53 56.7 +1.5**
CTU IAmb IAmb 23 54 03.9
comp=Z,16nm,1.2s
ELK Elko 69.81 358 P **P** **23 53 56.2 +0.2**
ELK Elko 69.81 358 LR LR 00 19 05.9
comp=Z,1μm,18.3s,baz=186,slow=31
ELK Elko 69.81 358 P **P** **23 53 56.2 +0.2**
ELK pmax pmax
comp=Z,16nm,1.8s
CCM Cathedral Cave 69.88 17 P **P** **23 53 56.5 +0.4**
CCM IAmb IAmb 23 54 08.5
comp=Z,15nm,1.1s
CCM Cathedral Cave 69.88 17 P **P** **23 53 57.4 +1.2**
baz=199
CCM Cathedral Cave 69.88 17 P **P** **23 53 56.5 +0.4**
CCM pmax pmax
comp=Z,15nm,1.2s
BRIGG Briggsdale 69.98 6 IAMs_20 IAMs_20 00 20 02.4
comp=Z,867nm,18.0s
TKL Tuckaleechee C 70.00 24 LR LR 00 20 44.3
comp=Z,685nm,19.9s,baz=200,slow=32
N23A Red Feather La 70.15 5 P **P** **23 53 58.6 +0.6**
N23A IAmb IAmb 23 54 07.7
comp=Z,21nm,1.2s
N23A Red Feather La 70.15 5 P **P** **23 53 58.6 +0.6**
baz=186
HATC Hat Creek Radi 70.35 353 P **P** **23 53 58.8 -0.3**
HATC IAMs_20 IAMs_20 00 17 44.4
comp=Z,1μm,20.0s
KMSC Kings Mountain 70.46 26 P **P** **23 54 01.3 +1.5**
baz=208
OGNE Ogallala 70.59 8 P **P** **23 54 02.7 +2.2**
baz=189
HWUT Hardware Ranch 70.62 1 IAMs_20 IAMs_20 00 19 50.4
comp=Z,800nm,19.0s
JCC Jacoby Creek, 70.69 351 IAMs_20 IAMs_20 00 17 38.2
comp=Z,1μm,20.0s
P38A Dawn 70.80 15 P **P** **23 54 02.9 +1.1**
P38A IAmb IAmb 23 54 14.1
comp=Z,16nm,0.9s
YBH Yreka Blue Hor 71.41 352 LR LR 00 18 26.0
comp=Z,2μm,20.1s,baz=170,slow=30
WVOR Wild Horse Val 71.69 355 P **P** **23 54 07.3 +0.1**
WVOR IAmb IAmb 23 54 15.5
comp=Z,26nm,1.1s
WVOR Wild Horse Val 71.69 355 P **P** **23 54 07.3 +0.1**
WVOR pmax pmax
comp=Z,27nm,1.2s
AHID Auburn Hatcher 71.78 1 IAMs_20 IAMs_20 00 19 59.2
comp=Z,730nm,20.0s
BW06 Boulder Array 71.82 2 P **P** **23 54 10.1 +2.0**
baz=182
PD31 Pinedale Array 71.82 2 P **P** **23 54 08.6 +0.5**
PD31 IAmb IAmb 23 54 16.7
comp=Z,22nm,1.4s
PDAR Pinedale Array 71.82 2 P **P** **23 54 08.8 +0.7**
PDAR Pinedale Array 71.82 2 P **P** **23 54 06.3 -1.8**
comp=Z,0.8nm,0.8s,baz=156,slow=7.5,SNR=12
PDAR LR LR 00 20 40.6
comp=Z,303nm,20.5s,baz=180,slow=32
comp=Z,0.8nm,0.8s
K22A Casper 71.85 4 P **P** **23 54 10.8 +2.6**
baz=185
LIFNC LIFOU 72.18 256 IAMs_20 IAMs_20 00 18 18.6
comp=Z,1μm,21.0s
HUMO Hull Mountain 72.30 352 P **P** **23 54 10.4 -0.3**
HUMO IAmb IAmb 23 54 20.3
comp=Z,36nm,1.4s
DZM Mont Dzumac 72.30 254 *e*S **S** **00 03 35.3 +0.9**
DZM *e*LQ LQ 00 13 14.8
comp=Z,927nm,28.2s
DZM *e*LR LR 00 16 25.4
comp=Z,4μm,28.1s
DZM Mont Dzumac 72.30 254 LR LR 00 18 12.2
comp=Z,1μm,21.7s,baz=118,slow=29
SNOW Snow King Moun 72.48 1 IAMs_20 IAMs_20 00 20 12.7
comp=Z,809nm,21.0s
TPAW Teton Pass 72.51 1 IAMs_20 IAMs_20 00 20 54.4
comp=Z,781nm,20.0s
HLID Hailey 72.60 358 P **P** **23 54 12.5 -0.2**
HLID IAmb IAmb 23 54 23.2
comp=Z,36nm,1.4s
HLID IAMs_20 IAMs_20 00 20 06.8
comp=Z,966nm,20.0s
HLID Hailey 72.60 358 P **P** **23 54 12.7 0.0**
baz=178
BLA Blacksburg 72.62 26 P **P** **23 54 14.0 +1.2**
BLA IAmb IAmb 23 54 19.0
comp=Z,30nm,1.1s
BLA Blacksburg 72.62 26 P **P** **23 54 13.1 +0.2**
baz=209
BLA Blacksburg 72.62 26 P **P** **23 54 14.0 +1.2**
BLA pmax pmax
comp=Z,30nm,1.2s
NVL N'lazarevskaya 72.64 163 *e*P **P** **23 54 10.3 -2.2**
NVL pmax pmax
comp=Z,10.0nm,1.0s

FXWY Fox Creek 72.66 1 P **P** **23 54 13.9 +0.8**
FXWY IAmb IAmb 23 54 22.1
comp=Z,21nm,1.3s
FXWY IAMs_20 IAMs_20 00 21 42.3
comp=Z,804nm,18.0s
J05D Fort Rock, OR 72.77 353 P **P** **23 54 13.5 -0.2**
MOOW Moose Ponds 72.77 1 IAMs_20 IAMs_20 00 20 22.3
comp=Z,815nm,21.0s
IMW Indian Meadow 72.92 1 IAMs_20 IAMs_20 00 21 07.0
comp=Z,797nm,20.0s
SCIA State Center 73.05 15 P **P** **23 54 16.2 +1.0**
SCIA IAmb IAmb 23 54 27.3
comp=Z,20nm,1.1s
FLWY Flagg Ranch 73.11 1 IAMs_20 IAMs_20 00 21 26.2
comp=Z,717nm,20.0s
P49A Miami Univ. Ec 73.17 22 P **P** **23 54 16.5 +0.5**
baz=205
SFIN Lafayette 73.20 20 P **P** **23 54 16.1 0.0**
baz=203
RSSD Black Hills 73.51 6 P **P** **23 54 18.3 +0.1**
RSSD Black Hills 73.51 6 P **P** **23 54 19.9 +1.7**
baz=187
RSSD Black Hills 73.51 6 P **P** **23 54 18.3 +0.1**
RSSD pmax pmax
comp=Z,10.0nm,1.2s
LKWY Lake 73.59 1 IAMs_20 IAMs_20 00 22 03.1
comp=Z,845nm,20.0s
BMO Blue Mountains 74.01 356 P **P** **23 54 21.4 +0.5**
BMO Blue Mountains 74.01 356 P **P** **23 54 21.4 +0.5**
BMO pmax pmax
comp=Z,14nm,1.3s
P52A Corning 74.13 24 P **P** **23 54 22.3 +0.7**
baz=207
ECSD EROS Data Cent 74.13 12 P **P** **23 54 22.5 +0.9**
ECSD IAmb IAmb 23 54 31.5
comp=Z,30nm,1.8s
ECSD EROS Data Cent 74.13 12 P **P** **23 54 22.8 +1.3**
baz=194
RLMT Red Lodge 74.18 2 P **P** **23 54 23.4 +1.4**
baz=183
COR Corvallis 74.29 352 IAMs_20 IAMs_20 00 19 34.6
comp=Z,1μm,21.0s
ELIB Princess Elisa 74.38 167 *d*P **P** **23 54 22.4 -0.5**
comp=Z,7.8nm,1.1s
G08A Pilot Rock 74.55 355 P **P** **23 54 23.9 -0.2**
G08A IAmb IAmb 23 54 34.2
comp=Z,28nm,1.3s
CBN Corbin Frederi 74.69 28 IAMs_20 IAMs_20 00 24 18.5
comp=Z,812nm,19.0s
MCWV Mont Chateau 74.98 25 P **P** **23 54 28.7 +2.2**
baz=209
O53A New Philadelph 75.00 24 IAMs_20 IAMs_20 00 22 58.9
comp=Z,841nm,22.0s
O53A New Philadelph 75.00 24 P **P** **23 54 28.4 +1.7**
baz=208
RCBR Riachuelo 75.23 88 IAMs_20 IAMs_20 00 24 57.8
comp=Z,996nm,21.0s
RCBR Riachuelo 75.23 88 LR LR 00 25 09.7
comp=Z,708nm,20.8s,baz=244,slow=34
BPMT Black Pine Rid 75.45 359 P **P** **23 54 30.5 +1.1**
HAWA Hanford 75.69 355 IAMs_20 IAMs_20 00 21 19.7
comp=Z,848nm,19.0s
MSO Missoula 75.86 359 P **P** **23 54 31.7 +0.2**
MSO IAMs_20 IAMs_20 00 22 31.9
comp=Z,749nm,20.0s
MSO Missoula 75.86 359 P **P** **23 54 32.6 +1.1**
baz=178
LAO LASA Array 75.89 4 P **P** **23 54 33.6 +2.0**
LAO LASA Array 75.89 4 P **P** **23 54 32.3 +0.7**
baz=185
LYMT Lyon Mountain 75.98 360 P **P** **23 54 33.3 +0.9**
BBSR BB Station 76.17 40 IAMs_20 IAMs_20 00 21 23.8
comp=Z,770nm,22.0s
M53A WI Miller and 76.25 24 IAMs_20 IAMs_20 00 24 08.0
comp=Z,663nm,20.0s
M53A WI Miller and 76.25 24 P **P** **23 54 34.6 +0.8**
baz=208
SSPA Standing Stone 76.57 26 P **P** **23 54 35.8 +0.1**
baz=210
EGMT Eagleton 77.06 2 IAMs_20 IAMs_20 00 22 51.0
comp=Z,701nm,21.0s
NLWA Neilton Lookou 77.12 352 P **P** **23 54 39.0 +0.4**
NLWA IAMs_20 IAMs_20 00 21 30.5
comp=Z,1μm,20.0s
NEW Newport 77.40 357 P **P** **23 54 40.7 +0.6**
NEW IAmb IAmb 23 54 49.7
comp=Z,24nm,1.3s
NEW Newport 77.40 357 P **P** **23 54 41.0 +0.8**
baz=176
NEW Newport 77.40 357 LR LR 00 23 34.6
comp=Z,2μm,18.7s,baz=182,slow=32
NEW Newport 77.40 357 P **P** **23 54 40.7 +0.6**
NEW pmax pmax
comp=Z,24nm,1.3s
BINY Binghamton 78.65 27 P **P** **23 54 48.7 +1.5**
baz=212
EYMN Ely 79.18 14 P **P** **23 54 50.6 +0.7**
EYMN Ely 79.18 14 IAMs_20 IAMs_20 00 26 27.9
comp=Z,817nm,19.0s
EYMN Ely 79.18 14 P **P** **23 54 51.2 +1.3**
baz=198
SADO Sadowa 79.71 23 P **P** **23 54 54.2 +1.3**
SADO IAmb IAmb 23 55 05.0
comp=Z,19nm,1.1s
SADO Sadowa 79.71 23 LR LR 00 26 07.4
comp=Z,655nm,21.8s,baz=232,slow=33
ULM Lac du Bonnet 80.58 11 P **P** **23 54 56.2 -1.2**
comp=Z,3.7nm,0.6s,baz=194,slow=4.6,SNR=4.7
ULM LR LR 00 27 01.9
comp=Z,578nm,21.8s,baz=212,slow=33
comp=Z,3.7nm,0.6s
HRV Adam Dziewonsk 80.72 29 IAMs_20 IAMs_20 00 29 29.0
comp=Z,602nm,18.0s
WES Weston 80.72 29 IAMs_20 IAMs_20 00 29 28.1
comp=Z,867nm,18.0s
LONY Lake Ozonia 81.24 26 P **P** **23 55 01.3 +0.1**
LONY IAmb IAmb 23 55 08.2
comp=Z,29nm,1.1s
LONY Lake Ozonia 81.24 26 P **P** **23 55 02.7 +1.5**
baz=213
WBO Williamsburg 81.30 26 P **P** **23 55 01.5 +0.1**
WBO IAmb IAmb 23 55 16.4
comp=Z,39nm,1.6s
VT1 Waterbury 81.72 27 IAMs_20 IAMs_20 00 28 25.4
comp=Z,642nm,18.0s
BBB Bella Bella 82.39 350 LR LR 00 24 05.4
comp=Z,523nm,20.9s,baz=170,slow=30
TRQ Mont Tremblant 82.60 25 P **P** **23 55 09.2 +0.9**
MAW Mawson 83.26 178 P P 23 55 04.1 -7.4
comp=Z,1.1nm,0.8s,baz=205,slow=6.9,SNR=3.0
MAW LR LR 00 29 05.6
comp=Z,472nm,19.2s,baz=180,slow=34
comp=Z,1.1nm,0.8s
EIDS Eidsvold 83.37 245 P **P** **23 55 13.2 +0.3**
EIDS IAmb IAmb 23 55 15.3
comp=Z,15nm,1.4s
FFC Flin Flon 84.21 6 P **P** **23 55 16.4 +0.1**
FFC IAmb IAmb 23 55 25.3
comp=Z,16nm,1.2s
FFC Flin Flon 84.21 6 P **P** **23 55 16.4 +0.1**
FFC pmax pmax
comp=Z,16nm,1.3s
EMMW East Machias 84.26 30 IAMs_20 IAMs_20 00 27 42.8
comp=Z,921nm,22.0s
V35K Ketchikan 85.98 349 P **P** **23 55 26.2 +1.0**
baz=163
U33K Whale Pass 86.99 348 P **P** **23 55 30.8 +0.7**
baz=162
STKA Stephens Creek 87.18 235 LR LR 00 26 37.2
comp=Z,670nm,21.9s,baz=116,slow=30
DLBC Dease Lake 88.73 351 P **P** **23 55 38.9 +0.4**
baz=165
DLBC Dease Lake 88.73 351 LR LR 00 29 10.2
comp=Z,573nm,18.7s,baz=122,slow=31
JIS Juneau Island 89.26 348 IAMs_20 IAMs_20 00 27 01.6
comp=Z,524nm,20.0s
Q32M Nakina River 89.56 350 P **P** **23 55 42.0 -0.6**
baz=163
R33M Jennings River 89.79 351 P **P** **23 55 45.0 +1.5**
baz=164
CTA Charters Tower 89.86 247 LR LR 00 29 57.4
comp=Z,53nm,20.9s,baz=126,slow=32
CTAO Charters Tower 89.86 247 P **P** **23 55 43.4 -1.4**
CTAO IAmb IAmb 23 55 53.2
comp=Z,30nm,1.6s
CTAO Charters Tower 89.86 247 P **P** **23 55 43.4 -1.4**
CTAO pmax pmax
comp=Z,30nm,1.6s

P32M Atlin 90.40 349 IAMs_20 IAMs_20 00 27 53.6
comp=Z,771nm,21.0s
H11S2 WAKE ISLAND Hy 91.46 290 T T 01 37 01.9
baz=118
H11S1 WAKE ISLAND Hy 91.48 290 T T 01 37 01.9
baz=118,slow=74
H11S3 WAKE ISLAND Hy 91.48 290 T T 01 37 01.9
baz=118,slow=74
YKA Yellowknife Ar 91.56 359 P **P** **23 55 49.6 -1.9**
comp=Z,1.0nm,0.7s,baz=177,slow=4.8,SNR=6.7
YKA LR LR 00 32 21.0
comp=Z,1μm,19.0s,baz=170,slow=32
comp=Z,1.0nm,0.7s
BCPM Bancas Point 91.82 347 IAMs_20 IAMs_20 00 29 31.2
comp=Z,498nm,18.0s
O30N Mendenhall 91.91 349 IAMs_20 IAMs_20 00 30 45.6
comp=Z,497nm,18.0s
H11N3 WAKE ISLAND Hy 91.92 291 T T 01 37 34.9
baz=122,slow=76,SNR=5.7
H11N1 WAKE ISLAND Hy 91.93 291 T T 01 37 33.6
baz=122,slow=76,SNR=10
H11N2 WAKE ISLAND Hy 91.93 291 T T 01 37 32.4
baz=122,slow=76,SNR=9.4
SCHQ Schefferville 92.47 24 LR LR 00 34 28.0
comp=Z,202nm,20.9s,baz=216,slow=34
N31M Braeburn, Yuko 92.53 349 IAMs_20 IAMs_20 00 28 59.0
comp=Z,494nm,20.0s
TABL Table Mountain 92.57 346 IAMs_20 IAMs_20 00 29 54.2
comp=Z,517nm,19.0s
N30M Aishikik Lake 92.73 348 IAMs_20 IAMs_20 00 31 21.3
comp=Z,507nm,19.0s
LOGN Logan Glacier 92.89 346 IAMs_20 IAMs_20 00 30 04.7
comp=Z,613nm,18.0s
MMPY Sheldon Lake, 92.93 351 P **P** **23 55 58.1 +0.2**
baz=164
WAX Waxell Ridge 92.95 345 IAMs_20 IAMs_20 00 27 56.2
comp=Z,640nm,22.0s
GRNC Granite Creek 92.97 346 IAMs_20 IAMs_20 00 28 03.6
comp=Z,564nm,21.0s
ISLE Juniper Island 92.98 346 IAMs_20 IAMs_20 00 34 38.9
comp=Z,504nm,18.0s
M31M Drury Creek, Y 92.98 350 IAMs_20 IAMs_20 00 30 04.9
comp=Z,606nm,20.0s
CTGM Chitina Glacie 93.09 346 IAMs_20 IAMs_20 00 30 09.9
comp=Z,517nm,19.0s
HMT Hamilton 93.17 345 IAMs_20 IAMs_20 00 29 46.9
comp=Z,549nm,18.0s
KDAK Kodiak Island 93.20 340 LR LR 00 28 07.8
comp=Z,795nm,21.9s,baz=162,slow=29
TGL Tana Glacier 93.22 345 IAMs_20 IAMs_20 00 30 52.3
comp=Z,484nm,18.0s
CRQM Cirque 93.29 345 IAMs_20 IAMs_20 00 30 53.8
comp=Z,513nm,18.0s
HIN Hinchinbrook I 93.75 344 IAMs_20 IAMs_20 00 28 40.5
comp=Z,572nm,20.0s
M29M Somme Creek 93.89 348 IAMs_20 IAMs_20 00 30 15.0
comp=Z,556nm,20.0s
M29M Somme Creek 93.89 348 P **P** **23 56 00.9 -1.6**
baz=157
GLB Gilahina Butte 94.05 345 IAMs_20 IAMs_20 00 31 37.3
comp=Z,416nm,18.0s
FID Port Fidalgo 94.06 344 IAMs_20 IAMs_20 00 28 32.7
comp=Z,508nm,20.0s
CNPM China Poot 94.25 341 IAMs_20 IAMs_20 00 29 21.7
comp=Z,660nm,21.0s
GLI Glacier Island 94.32 344 IAMs_20 IAMs_20 00 28 24.4
comp=Z,491nm,21.0s
BRLK Bradley Lake 94.36 342 IAMs_20 IAMs_20 00 28 23.3
comp=Z,645nm,22.0s
L29M L29M 94.45 348 P **P** **23 56 04.8 -0.1**
baz=158
M27K Edge Creek, AK 94.47 347 IAMs_20 IAMs_20 00 31 26.2
comp=Z,649nm,19.0s
PWL Port Wells 94.61 343 IAMs_20 IAMs_20 00 28 42.1
comp=Z,478nm,18.0s
Q17K Contact Creek 94.62 339 P **P** **23 56 04.6 -1.3**
baz=143
O22K Cooper Landing 94.65 342 IAMs_20 IAMs_20 00 29 03.1
comp=Z,554nm,21.0s
M26K Nabesna, AK 94.73 346 P **P** **23 56 06.4 +0.2**
baz=153
S12K Black Hills 94.80 334 IAMs_20 IAMs_20 00 30 43.4
comp=Z,604nm,19.0s
K29M Barlow Dome 95.03 349 P **P** **23 56 07.2 -0.4**
K29M IAmb IAmb 23 56 16.8
comp=Z,12nm,1.5s
K29M IAMs_20 IAMs_20 00 35 25.0
comp=Z,422nm,18.0s
K29M Barlow Dome 95.03 349 P **P** **23 56 07.3 -0.4**
baz=158
BCAR Beaver Creek A 95.09 347 P **P** **23 56 06.5 -1.3**
L27K Beaver Creek, 95.09 347 IAMs_20 IAMs_20 00 32 04.8
comp=Z,578nm,19.0s
KNK Knik Glacier 95.12 343 IAMs_20 IAMs_20 00 29 02.5
comp=Z,429nm,19.0s
RC01 Rabbit Creek A 95.17 343 IAMs_20 IAMs_20 00 29 06.8
comp=Z,441nm,19.0s
SCM Sheep Creek Mo 95.20 344 IAMs_20 IAMs_20 00 28 36.8
comp=Z,486nm,21.0s
P18K Big Mountain, 95.32 339 IAMs_20 IAMs_20 00 29 23.9
comp=Z,624nm,21.0s
FIS Fire Island 95.34 343 IAMs_20 IAMs_20 00 28 22.3
comp=Z,531nm,19.0s
L26K Log Cabin Wild 95.37 346 IAMs_20 IAMs_20 00 31 44.0
comp=Z,489nm,19.0s
O18K Koktuh Hills 95.68 340 IAMs_20 IAMs_20 00 28 51.5
comp=Z,621nm,21.0s
K27K Chicken 96.02 347 IAMs_20 IAMs_20 00 32 52.1
comp=Z,418nm,18.0s
K27K Chicken 96.02 347 P **P** **23 56 11.1 -0.9**
baz=154
I30M Mount Dempster 96.13 350 P **P** **23 56 10.9 -1.8**
baz=159
O17K Koliganek Bris 96.20 339 P **P** **23 56 11.1 -1.8**
baz=142
N19K Bonanza Creek 96.24 341 IAMs_20 IAMs_20 00 29 35.3
comp=Z,595nm,22.0s
DHY Denali Highway 96.29 345 IAMs_20 IAMs_20 00 34 08.5
comp=Z,483nm,18.0s
SCRK Sand Creek 96.35 346 P **P** **23 56 13.3 -0.3**
SCRK IAmb IAmb 23 58 21.8
comp=Z,11nm,1.7s
SCRK IAMs_20 IAMs_20 00 29 46.9
comp=Z,560nm,22.0s
SCRK Sand Creek 96.35 346 P **P** **23 56 12.9 -0.7**
baz=152
O16K Kokwok River B 96.37 338 IAMs_20 IAMs_20 00 29 21.9
comp=Z,555nm,22.0s
SKT Skwentna 96.38 342 IAMs_20 IAMs_20 00 30 00.0
comp=Z,554nm,21.0s
SKT Skwentna 96.38 342 P **P** **23 56 15.0 +1.2**
baz=146
CUT Chulitna 96.42 343 P **P** **23 56 12.6 -1.2**
CUT Chulitna 96.42 343 P **P** **23 56 15.2 +1.4**
baz=147
N18K Kilae Creek 96.55 340 IAMs_20 IAMs_20 00 29 18.4
comp=Z,661nm,22.0s
I29M Ogilvie Camp, 96.56 349 IAMs_20 IAMs_20 00 33 44.7
comp=Z,490nm,21.0s
I29M Ogilvie Camp, 96.56 349 P **P** **23 56 14.1 -0.4**
baz=157
J26L Joseph Creek 96.73 347 IAMs_20 IAMs_20 00 33 05.0
comp=Z,570nm,19.0s
J26L Joseph Creek 96.73 347 P **P** **23 56 15.1 -0.2**
baz=153
M20K Styx River 96.73 342 IAMs_20 IAMs_20 00 29 19.3
comp=Z,503nm,21.0s
N17K Nushagak Hills 96.82 339 IAMs_20 IAMs_20 00 31 10.6
comp=Z,700nm,20.0s
I28M Miner Creek 96.92 349 IAMs_20 IAMs_20 00 32 39.0
comp=Z,479nm,20.0s
I28M Miner Creek 96.92 349 P **P** **23 56 15.0 -1.2**
baz=156
RND Reindeer 96.92 344 IAMs_20 IAMs_20 00 29 40.2
comp=Z,592nm,22.0s
M19K Big River Lodg 97.10 341 IAMs_20 IAMs_20 00 29 28.9
comp=Z,477nm,22.0s
O14K Tigyukauivet M 97.16 337 IAMs_20 IAMs_20 00 30 26.8
comp=Z,508nm,21.0s
J25K Salcha River, 97.19 346 IAMs_20 IAMs_20 00 33 00.4
comp=Z,480nm,19.0s
J25K Salcha River, 97.19 346 P **P** **23 56 16.6 -0.9**
baz=151
EPYK Eagle Plains 97.26 350 IAMs_20 IAMs_20 00 34 44.0
comp=Z,447nm,19.0s
HDA Harding Lake 97.35 346 IAMs_20 IAMs_20 00 33 33.5
comp=Z,440nm,18.0s

I27K	Kandik River	97.35	348	P	Pdif	23 56 19.9	+1.8	
	baz=154							
ASAR	Alice Springs	97.44	238	P	P	23 56 13.3	-6.4	
	comp=Z,0.3nm,0.8s,baz=124,slow=6.1,SNR=1.6							
ASAR				LR	LR	00 33 25.2		
	comp=Z,949nm,21.9s,baz=148,slow=31							
	comp=Z,0.3nm,0.8s							
G31M	Satah River	97.44	351	IAMs_20	IAMs_20	00 34 06.7		
	comp=Z,477nm,18.0s							
L19K	White Mountain	97.45	341	IAMs_20	IAMs_20	00 30 25.3		
	comp=Z,428nm,20.0s							
N15K	Kwethluk River	97.46	338	IAMs_20	IAMs_20	00 31 49.7		
	comp=Z,561nm,19.0s							
M17K	Holitna River	97.58	340	IAMs_20	IAMs_20	00 30 45.8		
	comp=Z,619nm,20.0s							
ATKA	Atka Island	97.60	327	IAMs_20	IAMs_20	00 30 34.9		
	comp=Z,620nm,22.0s							
ILAR	Eielson Array	97.65	346	P	**P**	**23 56 17.7**	**-1.7**	
ILAR	Eielson Array	97.65	346	P	**P**	**23 56 16.6**	**-2.8**	
	comp=Z,0.7nm,0.9s,baz=177,slow=5.7,SNR=5.9							
ILAR				LR	LR	00 32 45.5		
	comp=Z,233nm,19.4s,baz=126,slow=31							
	comp=Z,0.7nm,0.9s							
ILAR	Eielson Array	97.65	346	P	**P**	**23 56 17.7**	**-1.7**	
WRH	Wood River Hil	97.66	345	IAMs_20	IAMs_20	00 33 15.6		
	comp=Z,416nm,18.0s							
CCB	Clear Creek Bu	97.75	345	P	**P**	**23 56 18.5**	**-1.3**	
M16K	Timber Creek	97.75	339	IAMs_20	IAMs_20	00 31 51.4		
	comp=Z,573nm,19.0s							
G30M	tAoh Zraii Nji	97.76	351	IAMs_20	IAMs_20	00 32 30.2		
	comp=Z,464nm,20.0s							
F31M	Tsiigehtchic	97.86	352	IAMs_20	IAMs_20	00 32 42.0		
	comp=Z,530nm,21.0s							
F31M	Tsiigehtchic	97.86	352	P	**P**	**23 56 19.9**	**-0.4**	
	baz=161							
COLA	College	97.95	345	IAMs_20	IAMs_20	00 33 52.4		
	comp=Z,409nm,18.0s							
L18K	Granite Mounta	98.00	341	IAMs_20	IAMs_20	00 31 31.9		
	comp=Z,492nm,20.0s							
BPAW	Bear Paw Mtn.	98.02	344	P	**P**	**23 56 19.7**	**-1.4**	
PRP	Porcupine Dome	98.02	347	IAMs_20	IAMs_20	00 33 53.2		
	comp=Z,522nm,19.0s							
MDM	Murphy Dome	98.11	345	IAMs_20	IAMs_20	00 33 57.6		
	comp=Z,466nm,18.0s							
L16K	Owhat River	98.44	339	IAMs_20	IAMs_20	00 32 02.5		
	comp=Z,583nm,20.0s							
G27K	Doyon Strip	98.45	349	IAMs_20	IAMs_20	00 33 26.5		
	comp=Z,531nm,20.0s							
M14K	Bethel	98.52	338	IAMs_20	IAMs_20	00 32 31.5		
	comp=Z,472nm,20.0s							
ADK	Adak	98.61	326	IAMs_20	IAMs_20	00 32 02.7		
	comp=Z,522nm,20.0s							
INK	Inuvik	98.66	352	LR	LR	00 33 40.4		
	comp=Z,672nm,21.8s,baz=94,slow=31							
M13K	Dall Lake	98.73	337	IAMs_20	IAMs_20	00 31 57.3		
	comp=Z,601nm,20.0s							
MLY	Manley	98.74	344	P	**P**	**23 56 23.9**	**-0.5**	
	baz=147							
C36M	Paulatuk	98.81	356	IAMs_20	IAMs_20	00 34 16.8		
	comp=Z,623nm,20.0s							
K17K	Iditarod	98.86	340	IAMs_20	IAMs_20	00 31 14.6		
	comp=Z,507nm,21.0s							
FYU	Fort Yukon	98.89	347	IAMs_20	IAMs_20	00 34 40.0		
	comp=Z,486nm,19.0s							
F28M	Old Crow	98.89	350	IAMs_20	IAMs_20	00 35 26.1		
	comp=Z,583nm,20.0s							
G26K	Porcupine Rive	98.95	348	P	**P**	**23 56 25.1**	**0.0**	
	baz=152							
FRB	Frobisher Bay	98.98	18	LR	LR	00 38 08.4		
	comp=Z,411nm,21.3s,baz=212,slow=34							
J18K	Innoko River	98.99	341	IAMs_20	IAMs_20	00 30 48.1		
	comp=Z,563nm,22.0s							
J18K	Innoko River	98.99	341	P	Pdif	23 56 27.2	+1.7	
	baz=142							
H23K	Yukon River	99.14	345	IAMs_20	IAMs_20	00 34 38.7		
	comp=Z,495nm,18.0s							
WRA	Warramunga Arr	99.30	241	LR	LR	00 34 53.0		
	comp=Z,2μm,21.9s,baz=145,slow=32							
E29M	Blow River	99.31	351	IAMs_20	IAMs_20	00 37 41.2		
	comp=Z,434nm,18.0s							
G24K	Hadweenzic Riv	99.45	347	IAMs_20	IAMs_20	00 34 29.9		
	comp=Z,444nm,19.0s							
G24K	Hadweenzic Riv	99.45	347	P	**Pdif**	**23 56 28.6**	**+1.2**	
	baz=149							
K15K	Wolf Creek Mou	99.52	339	IAMs_20	IAMs_20	00 32 58.1		
	comp=Z,646nm,20.0s							
BMAR	Burnt Mountain	99.53	348		**Pdif**	**23 56 27.4**	**-0.4**	
H22K	Ishtalitna Cre	99.61	345	P	**Pdif**	**23 56 29.1**	**+1.0**	
	baz=146							
J17K	VABM Dome	99.61	341	IAMs_20	IAMs_20	00 32 02.5		
	comp=Z,444nm,20.0s							
F26K	Sheenjek River	99.68	348	P	**Pdif**	**23 56 28.7**	**+0.2**	
	baz=152							
E27K	Coleen River	99.69	349	IAMs_20	IAMs_20	00 35 51.2		
	comp=Z,464nm,20.0s							
E27K	Coleen River	99.69	349	P	**Pdif**	**23 56 28.1**	**-0.4**	
	baz=154							
H21K	Melozitna Rive	99.75	344	P	**Pdif**	**23 56 29.2**	**+0.5**	
	baz=145							
E28M	Babbage River	99.75	350	IAMs_20	IAMs_20	00 36 30.8		
	comp=Z,463nm,18.0s							
G23K	Bananza Creek	99.99	346	P	**Pdif**	**23 56 30.5**	**+0.6**	
	baz=147							
H20K	Anotleneega Mo	100.12	343	P	**Pdif**	**23 56 30.4**	**0.0**	
	baz=143							
F24K	Squaw Lake	100.24	347	IAMs_20	IAMs_20	00 35 12.7		
	comp=Z,480nm,19.0s							
K13K	Kusilvak Mount	100.27	338	IAMs_20	IAMs_20	00 32 15.9		
	comp=Z,479nm,20.0s							
I17K	Unalakleet	100.46	340	IAMs_20	IAMs_20	00 32 48.8		
	comp=Z,470nm,20.0s							
J14K	Nanvaranak Lak	100.50	339	IAMs_20	IAMs_20	00 33 37.9		
	comp=Z,646nm,20.0s							
H18K	Honhosa River	100.76	342	IAMs_20	IAMs_20	00 32 08.8		
	comp=Z,510nm,22.0s							
E24K	Your Creek	100.83	347	IAMs_20	IAMs_20	00 35 42.5		
	comp=Z,438nm,18.0s							
H17K	Granite Mounta	101.02	341	IAMs_20	IAMs_20	00 32 15.7		
	comp=Z,722nm,22.0s							
A36M	Sachs Harbour	101.48	356	IAMs_20	IAMs_20	00 36 57.6		
	comp=Z,498nm,19.0s							
D25K	Kavik River	101.51	348	IAMs_20	IAMs_20	00 34 56.4		
	comp=Z,451nm,20.0s							
TOLK	Toolik Lake Re	101.53	347	IAMs_20	IAMs_20	00 36 03.8		
	comp=Z,493nm,18.0s							
D24K	Happy Valley	101.82	347	IAMs_20	IAMs_20	00 33 58.5		
	comp=Z,533nm,22.0s							
G16K	Koyuk River	102.06	341	IAMs_20	IAMs_20	00 34 29.0		
	comp=Z,492nm,20.0s							
D22K	Ayikyak River	102.36	346	IAMs_20	IAMs_20	00 34 07.9		
	comp=Z,434nm,20.0s							
ANM	Nome	102.36	339	IAMs_20	IAMs_20	00 33 59.2		
	comp=Z,564nm,21.0s							
F17K	Baldwin Pennin	102.52	342	IAMs_20	IAMs_20	00 33 13.3		
	comp=Z,471nm,22.0s							
H01W1	Cape Leeuwin H	102.56	218	T	T	01 51 03.8		
	baz=141							
H01W2	Cape Leeuwin H	102.56	218	T	T	01 51 03.8		
	baz=141							
H01W3	Cape Leeuwin H	102.57	218	T	T	01 51 03.8		
	baz=141							
C23K	Itkillik River	102.73	347	IAMs_20	IAMs_20	00 37 23.8		
	comp=Z,461nm,20.0s							
D19K	Kuna River	103.27	344	IAMs_20	IAMs_20	00 42 48.0		
	comp=Z,363nm,18.0s							
B21K	Ikpikpuk River	103.37	346	IAMs_20	IAMs_20	00 35 57.5		
	comp=Z,432nm,20.0s							
B22K	Teshekpuk Lake	103.70	347	IAMs_20	IAMs_20	00 37 53.3		
	comp=Z,487nm,20.0s							
C19K	Lookout Ridge	104.09	344	IAMs_20	IAMs_20	00 40 01.6		
	comp=Z,366nm,18.0s							
RDOG	Red Dog Mine	104.14	343	IAMs_20	IAMs_20	00 36 27.1		
	comp=Z,420nm,20.0s							
B20K	Meade River	104.22	345	IAMs_20	IAMs_20	00 38 11.1		
	comp=Z,426nm,19.0s							
C16K	Lisburne Hills	104.94	342	IAMs_20	IAMs_20	00 35 24.3		
	comp=Z,564nm,21.0s							
TULEG	Thule	109.00	10	IAMs_20	IAMs_20	00 43 17.4		
	comp=Z,448nm,19.0s							
PMOZ	Porto Moniz, M	109.11	63	*e*SS	SS	00 17 25.6	+22	
PMOZ				*e*LQ	LQ	00 27 12.5		
PMOZ				*e*LR	LR	00 34 43.4		
	comp=Z,461nm,18.0s							
SUMG	Summit	113.06	18	IAMs_20	IAMs_20	00 46 52.0		
	comp=Z,444nm,19.0s							
POGA	Pongola	113.86	145	IAMs_20	IAMs_20	00 39 27.3		
	comp=Z,557nm,21.0s							
TORD	Torodi Ar. Bea	117.05	90	PKP	**PKPdf**	**00 01 27.9**	**-3.1**	
	comp=Z,0.7nm,0.9s,baz=181,slow=2.7,SNR=2.3							
COI	Coimbra	118.23	58	IAMs_20	IAMs_20	00 48 20.3		
	comp=Z,446nm,21.0s							
MA2	Magadan	118.32	325	IAMs_20	IAMs_20	00 42 05.2		
	comp=Z,326nm,20.0s							
PBAR	Barrancos	118.70	60	*e*LR	LR	00 39 05.9		
	comp=Z,376nm,20.0s							
PMRV	Marv??o	118.78	59	*e*SS	SS	00 19 33.3	+22	
PMRV	Marv??o	118.78	59	*e*LR	LR	00 39 13.9		
	comp=Z,278nm,22.0s							
MTE	Manteigas	118.92	58	IAMs_20	IAMs_20	00 47 24.6		
	comp=Z,323nm,20.0s							
MTE	Manteigas	118.92	58	*e*SS	SS	00 19 26.4	+13	
MTE	Manteigas	118.92	58	*e*LR	LR	00 39 24.6		
	comp=Z,246nm,20.0s							
POLO	Lamas de Olo	118.99	56	*e*LR	LR	00 39 30.7		
	comp=Z,171nm,18.0s							
PAB	San Pablo	121.08	59	IAMs_20	IAMs_20	00 53 00.8		
	comp=Z,406nm,18.0s							
ESDC	Sonseca Array	121.40	59	PKP	**PKPdf**	**00 01 35.9**	**-2.8**	
	comp=Z,0.3nm,0.4s,baz=289,slow=2.5,SNR=5.6							
MJB9	Matsu-Tunnel	121.67	297	PKPdf	**PKPdf**	**00 01 39.0**	**-0.4**	
TOLI2	Tolitoli	122.33	251	IAMs_20	IAMs_20	00 46 49.3		
	comp=Z,502nm,22.0s							
CART	Cartagena	123.17	62	IAMs_20	IAMs_20	00 49 58.1		
	comp=Z,388nm,21.0s							
TIXI	Tiksi	126.62	340	IAMs_20	IAMs_20	00 52 03.3		
	comp=Z,368nm,20.0s							
JOW	Kunigami	127.11	283	IAMs_20	IAMs_20	00 45 42.1		
	comp=Z,400nm,20.0s							
CLF	Chambon-Foret	127.17	50	IAMs_20	IAMs_20	01 02 16.5		
	comp=Z,316nm,19.0s							
YAK	Yakutsk	128.62	328	IAMs_20	IAMs_20	00 50 35.0		
	comp=Z,383nm,20.0s							
WLF	Walferdange	129.81	48	IAMs_20	IAMs_20	00 59 04.1		
	comp=Z,316nm,20.0s							
KONO	Kongsberg	130.83	35	IAMs_20	IAMs_20	00 52 23.2		
	comp=Z,292nm,20.0s							
NOA	NORSAR Array B	131.31	33	PKP	**PKPdf**	**00 01 52.2**	**-4.8**	
	comp=Z,0.1nm,0.5s,baz=339,slow=15,SNR=3.2							
STU	Stuttgart	131.81	49	IAMs_20	IAMs_20	00 54 19.2		
	comp=Z,312nm,21.0s							
TUE	Stuetta	131.93	52	IAMs_20	IAMs_20	00 59 48.6		
	comp=Z,352nm,20.0s							
DAVA	Damuels	132.30	51	*e*PKP	**PKiKP**	**00 02 02.9**	**+2.3**	
	comp=Z,4.2nm,1.0s							
FUORN	Ofenpass-Fuorn	132.56	52	IAMs_20	IAMs_20	00 57 01.3		
	comp=Z,308nm,20.0s							
FETA	Feichten	132.88	52	*e*PKP	**PKiKP**	**00 02 02.3**	**+0.6**	
	comp=Z,4.8nm,1.3s							
RETA	Reutte	132.89	51	*e*PKiKP	**PKiKP**	**00 02 05.6**	**+4.0**	
	comp=Z,2.2nm,1.0s							
GRFO	Grafenberg	133.10	48	IAMs_20	IAMs_20	00 58 30.1		
	comp=Z,375nm,19.0s							
GRA1	Grafenberg Arr	133.10	48	IAMs_20	IAMs_20	00 58 30.1		
	comp=Z,370nm,19.0s							
MOTA	Moosalm	133.13	51	*e*PKP	**PKiKP**	**00 02 02.2**	**0.0**	
	comp=Z,7.8nm,1.5s							
SQTA	Sankt Quirin	133.20	51	*e*PKP	**PKiKP**	**00 02 02.6**	**+0.3**	
	comp=Z,3.0nm,0.9s							
KEV	Kevo	133.43	18	IAMs_20	IAMs_20	01 02 00.3		
	comp=Z,310nm,18.0s							
WATA	Walderalm	133.45	51	*e*PKP	**PKiKP**	**00 02 02.4**	**-0.5**	
	comp=Z,2.2nm,0.7s							
WTTA	Wattenberg	133.49	51	*e*PKiKP	**PKiKP**	**00 02 07.3**	**+4.3**	
	comp=Z,8.3nm,1.3s							
RGN	Rugen	133.79	41	IAMs_20	IAMs_20	00 59 53.1		
	comp=Z,378nm,19.0s							
CLL	Collm	134.08	46	IAMs_20	IAMs_20	00 52 57.6		
	comp=Z,295nm,20.0s							
CLL	Collm	134.08	46	*e*SS	SS	00 22 28.0	+6.4	
CLL				*e*SSS	SSS	00 27 12.0		
CLL				*e*SSSS		00 31 06.0		
CLL				AMS	AMS	00 59 00.0		
	comp=N,100nm,19.4s							
CLL				AMS	AMS	00 59 00.0		
	comp=E,200nm,20.4s							
CLL				AMS	AMS	00 59 00.0		
	comp=Z,300nm,19.3s							
ABTA	Abfaltersbach	134.11	52	*i* PKiKP	**PKiKP**	**00 02 07.6**	**+3.4**	
	comp=Z,2.0nm,1.1s							
LESA	Schwarzleotal	134.19	51	*e*PKP	**PKiKP**	**00 02 04.6**	**+0.4**	
	comp=Z,2.1nm,0.8s							
KBA	Koelnbreinsper	134.67	51	*e*PKP	**PKiKP**	**00 02 05.5**	**+0.1**	
	comp=Z,1.3nm,0.5s							
BRG	Berggiesshubel	134.72	46	*e*P	**PKiKP**	**00 02 09.2**	**+4.0**	
BRG				Amp		00 02 11.3		
	comp=Z,1.5nm,0.9s							
BRG	Berggiesshubel	134.72	46	*e*PKIKP	**PKiKP**	**00 02 09.1**	**+4.0**	
BRG				pmax	pmax			
	comp=Z,2.0nm,0.9s							
GERES	GERESS Array B	134.78	49	PKP	**PKPdf**	**00 01 59.1**	**-4.9**	
	comp=Z,0.2nm,0.4s,baz=258,slow=1.8,SNR=1.7							
BIOA	Bad Ischl, Aus	134.83	51	*e*PKP	**PKiKP**	**00 02 05.8**	**+0.3**	
	comp=Z,1.3nm,0.5s							
MYKA	Terra Mystica	134.89	52	*i* pPKP	pPKPdf	00 02 10.7	+1.9	
	comp=Z,1.7nm,0.5s							
MOA	Molln	135.24	50	*e*PKiKP	**PKiKP**	**00 02 10.3**	**+4.0**	
	comp=Z,3.1nm,1.6s							
SOKA	Soboth	135.85	52	*e*PKiKP	**PKiKP**	**00 02 10.8**	**+3.2**	
	comp=Z,2.4nm,1.0s							
CONA	Conrad Observa	136.30	50	*e*PKP	**PKiKP**	**00 02 09.5**	**+0.9**	
	comp=Z,1.0nm,0.5s							
NJ2	Nanjing	136.35	287	*e*PKP	**PKiKP**	**00 02 11.5**	**+2.5**	
RONA	Rosalia, Austr	136.62	50	*e*PKiKP	**PKiKP**	**00 02 12.5**	**+3.3**	
	comp=Z,2.5nm,0.8s							
TIP	Timpagrande	137.19	63	IAMs_20	IAMs_20	00 56 41.2		
	comp=Z,384nm,22.0s							
KIBK	Kibwezi	137.51	133	IAMs_20	IAMs_20	00 58 35.1		
	comp=Z,399nm,20.0s							
FINES	FINESS Array B	137.81	28	PKP	**PKPdf**	**00 02 03.9**	**-5.1**	
	comp=Z,1.4nm,1.0s,baz=254,slow=1.2,SNR=2.0							
PABE	Paberze	139.42	37	IAMs_20	IAMs_20	01 03 02.1		
	comp=Z,350nm,19.0s							
SUW	Suwalki	139.51	40	IAMs_20	IAMs_20	01 08 57.5		
	comp=Z,342nm,18.0s							
LODK	Lodwar	139.85	124	IAMs_20	IAMs_20	00 56 38.6		
	comp=Z,299nm,20.0s							
HHC	Hu-ho-hao-te	142.76	300	*e*PKP	**PKPdf**	**00 02 19.8**	**+0.9**	
SANT	Santorini	143.98	68	IAMs_20	IAMs_20	01 01 29.3		
	comp=Z,323nm,22.0s							
KIEV	Kiev	144.14	43	IAMs_20	IAMs_20	01 09 35.5		
	comp=Z,294nm,19.0s							
AKASG	Malin Array Be	144.14	43	PKPdf	**PKPdf**	**00 02 20.8**	**0.0**	
AKASG	Malin Array Be	144.14	43	PKP	**PKPab**	**00 02 16.2**	**-2.3**	
	comp=Z,0.3nm,0.4s,baz=293,slow=1.7,SNR=1.3							
AKASG	Malin Array Be	144.14	43	PKIKP	**PKPdf**	**00 02 20.8**	**0.0**	
AKBB	Malin Array Si	144.14	43	PKPdf	PKPbc	00 02 19.4	+0.4	
AKBB	Malin Array Si	144.14	43	PKIKP	PKPbc	00 02 19.4	+0.5	
ALN	Alexandroupoli	144.28	60		**PKPab**	**00 02 18.8**	**-0.5**	
ALN	Alexandroupoli	144.28	60	PKIKP	**PKPab**	**00 02 18.8**	**-0.5**	
ULN	Ulaanbaatar	144.67	313	PKPdf	**PKPab**	**00 02 19.1**	**-1.7**	
ULN	Ulaanbaatar	144.67	313	IAMs_20	IAMs_20	00 58 26.2		
	comp=Z,387nm,22.0s							
ULN	Ulaanbaatar	144.67	313	PKIKP	**PKPab**	**00 02 19.1**	**-1.7**	
XAN	Xi'an	144.87	288	PKPbc	**PKPab**	**00 02 19.5**	**-2.3**	
SONM	Songino Array	145.10	313	PKPbc	**PKPbc**	**00 02 20.0**	**-2.3**	
SONM	Songino Array	145.10	313	PKPbc	**PKPbc**	**00 02 18.0**	**-4.2**	
	comp=Z,5.3nm,0.9s,baz=81,slow=2.3,SNR=18							
SONM	Songino Array	145.10	313	PKP2	**PKPbc**	**00 02 20.0**	**-2.3**	
KARP	Karpathos	145.34	69		**PKPbc**	**00 02 21.6**	**-1.7**	
KARP				IAMs_20	IAMs_20	01 02 58.4		
	comp=Z,291nm,22.0s							
GYA	Guiyang	145.64	275	PKPbc	**PKPdf**	**00 02 23.5**	**-0.9**	
OBN	Obninsk	145.91	32	PKPdf	**PKPbc**	**00 02 24.2**	**-0.2**	
MOS	Moscow	146.01	31	*i* PKP2	**PKPab**	**00 02 26.0**	**+0.8**	
MOS				pmax	pmax			
	comp=Z,34nm,1.3s							
MOS				MLR	MLR			
	comp=Z,400nm,19.0s							
ZAK	Zakamensk	146.09	318	*e*PKIKP	**PKPdf**	**00 02 23.7**	**-0.6**	
ZAK				pmax	pmax			
	comp=Z,31nm,1.3s							
SLVN	Son La	146.51	265	PKPdf	**PKPdf**	**00 02 25.1**	**-0.8**	
MOY	Mondy	146.79	322	*e*PKP2	**PKPbc**	**00 02 26.6**	**-0.7**	
MOY				pmax	pmax			
	comp=Z,50nm,1.9s							
ELL	Elmali	147.56	67	PKPdf	**PKPdf**	**00 02 26.4**	**-0.9**	
ELL	Elmali	147.56	67	PKIKP	**PKPdf**	**00 02 26.4**	**-0.9**	
LPSR	Galich'ya Gora	148.53	34	*e*PKP2	**PKiKP**	**00 02 32.8**	**-0.5**	
LPSR				pmax	pmax			
	comp=Z,30nm,1.1s							
LZH	Lanzhou	149.07	292	*e*PKPbc	**PKPab**	**00 02 39.0**	**+0.7**	
LZH				sPKP		00 02 52.5		
VORR	Voronezh	149.21	36	*e*PKP2	**PKPbc**	**00 02 33.9**	**+0.4**	
VORR				pmax	pmax			
	comp=Z,50nm,0.4s							
VSR	Storozhevoye	149.45	36	*e*PKP2	**PKPbc**	**00 02 33.3**	**-0.9**	
VSR				pmax	pmax			
	comp=Z,20nm,1.0s							
ANTO	Ankara	149.52	60		**PKPbc**	**00 02 34.1**	**-0.7**	
ANTO	Ankara	149.52	60	IAMs_20	IAMs_20	01 06 10.5		
	comp=Z,310nm,21.0s							
ANTO	Ankara	149.52	60	PKP2	**PKPbc**	**00 02 34.1**	**-0.7**	
CMAR	Chiang Mai Arr	149.62	256		**PKPdf**	**00 02 33.3**	**+2.3**	
CMAR	Chiang Mai Arr	149.62	256	PKPbc	**PKPdf**	**00 02 32.1**	**+1.1**	
	comp=Z,1.2nm,0.3s,baz=172,slow=1.9,SNR=11							
CMAR	Chiang Mai Arr	149.62	256	PKHKP	**PKPdf**	**00 02 33.3**	**+2.3**	
CHTO	Chiang Mai	149.78	257		**PKPbc**	**00 02 34.6**	**-1.4**	
CHTO	Chiang Mai	149.78	257	PKHKP	**PKPbc**	**00 02 34.6**	**-1.4**	
ILGA	Ilgaz	149.99	58		**PKPbc**	**00 02 34.3**	**-1.9**	
BR131	Keskin Array S	150.18	61		**PKPbc**	**00 02 35.1**	**-1.5**	
BR131	Keskin Array S	150.18	61	PKIKP	**PKPbc**	**00 02 35.1**	**-1.5**	
BRTR	Keskin Array B	150.18	61		**PKPbc**	**00 02 35.8**	**-0.8**	
BRTR	Keskin Array B	150.18	61	PKP	**PKPdf**	**00 02 25.0**	**-6.5**	
	comp=Z,0.5nm,1.0s,baz=348,slow=12,SNR=2.1							
BRTR				PKPbc	**pPKPdf**	**00 02 32.5**	**-3.6**	
	comp=Z,9.5nm,1.1s,baz=262,slow=2.1,SNR=21							
BRTR	Keskin Array B	150.18	61	PKIKP	**PKPbc**	**00 02 35.8**	**-0.8**	
CSS	Mathiatis	150.39	70		**PKPbc**	**00 02 36.4**	**-0.6**	
VRH	Novokhopyorsk	150.75	34	*e*PKIKP	**PKPbc**	**00 02 35.9**	**-1.4**	
VRH				pmax	pmax			
	comp=Z,22nm,0.9s							
GTA	Gaotai	151.87	299	PKPbc	**PKPbc**	**00 02 40.0**	**-0.5**	
GTA				LR	LR			
	comp=N,230nm,17.8s							
GTA				LR	LR			
	comp=E,170nm,18.5s							
GTA				LR	LR			
	comp=Z,260nm,19.6s							
BNN	Bunyan	152.02	62		**PKPbc**	**00 02 41.0**	**+0.2**	
MMAI	Mount Meron Ar	152.11	74	PKPab	**PKiKP**	**00 02 44.1**	**+2.6**	
	comp=Z,4.4nm,0.9s,baz=231,slow=5.3,SNR=5.0							
ARU	Arti	152.17	11	PKPdf	**PKPdf**	**00 02 34.4**	**+0.6**	
ZALV	Zalesovo Beam	152.49	338	PKPbc	**PKPbc**	**00 02 38.4**	**-2.8**	
	comp=Z,4.0nm,1.0s,baz=38,slow=2.6,SNR=11							
ARPR	Arapgir-MALATY	153.88	60	PKPdf	**PKPdf**	**00 02 38.3**	**+1.3**	
ARPR				IAMs_20	IAMs_20	01 17 04.8		
	comp=Z,239nm,22.0s							
KBZ	Khabaz	155.51	47	PKPab	**PKPab**	**00 02 59.2**	**-5.5**	
	comp=Z,3.4nm,1.0s,baz=270,slow=2.0,SNR=1.0							
BVAR	Borovoye Array	156.28	356	PKP	**PKPdf**	**00 02 33.9**	**-5.7**	
	comp=Z,1.5nm,0.7s,baz=60,slow=4.0,SNR=1.8							
BVAR				PKPab	**PKPab**	**00 03 06.3**	**-1.4**	
	comp=Z,3.9nm,0.8s,baz=48,slow=2.2,SNR=9.8							
KURK	Kurchatov	157.17	342	PKPdf	**PKPdf**	**00 02 41.5**	**+0.6**	
KURK	Kurchatov	157.17	342	PKIKP	**PKPdf**	**00 02 41.5**	**+0.6**	
KURBB	Kurchatov Arra	157.28	342	PKP	**PKPdf**	**00 02 35.6**	**-5.4**	
	comp=Z,0.2nm,0.5s,baz=49,slow=2.4,SNR=1.9							
KURBB				PKPab	**PKPab**	**00 03 10.6**	**-1.4**	
	comp=Z,9.6nm,1.1s,baz=28,slow=4.0,SNR=7.8							
GNI	Garni	158.28	54	IAMs_20	IAMs_20	01 23 26.8		
	comp=Z,284nm,21.0s							
WMQ	Urumqi	158.55	318	*e*PKP	**PKPdf**	**00 02 46.5**	**+3.6**	
MAK	Makhachkala	158.80	45	*e*PKIKP	**PKPdf**	**00 02 43.1**	**0.0**	
MAK				*e*		00 06 56.0		
MAK				*e*SS	SS	00 27 06.9	+5.0	
MAK				pmax	pmax			
	comp=Z,220nm,1.1s							
ABKAR	Akbulak array	159.25	15	PKPdf	**PKPdf**	**00 02 43.5**	**+0.1**	
ABKAR	Akbulak array	159.25	15	PKPdf	**PKP

EBER			*i* Vmb_Lg			23 47 19.8
PSIM	**Granatula de C**	**3.01 273**	Pn	**Pn**		**23 46 13.7 +0.8**
PSIM			Sn	**Sn**		**23 46 48.5 -0.4**
ESAC	**San Caprasio**	**3.04 352**	Pn	**Pn**		**23 46 14.7 +1.3**
ESAC			Sn	**Sn**		**23 46 52.7 +3.2**
ESAC			*i* Vmb_Lg			23 47 04.5
EQUE	**Quentar**	**3.17 243**	Pn	**Pn**		**23 46 17.9 +2.7**
EQUE			Sn	**Sn**		**23 46 56.1 +3.2**
EQUE			*i* Vmb_Lg			23 47 12.3
EQTA	**Presa de Quent**	**3.17 243**	Pn	**Pn**		**23 46 17.2 +2.0**
EQTA			Sn	**Sn**		**23 46 54.0 +1.1**
ESDC	**Sonseca Array**	**3.29 288**	Pn	**Pn**		**23 46 17.6 +0.8**
ESDC			Sn	**Sn**		**23 46 56.4 +0.5**
ESDC			*i* Vmb_Lg			23 47 15.0
EMIR	**Miracle**	**3.38 18**	Pn	**Pn**		**23 46 19.6 +1.5**
EMIR			Sn	**Sn**		**23 46 59.2 +1.2**
EMIR			*i* Vmb_Lg			23 47 02.3
ELGU	**Los Guajares,**	**3.47 239**	Pn	**Pn**		**23 46 21.4 +2.1**
ELGU	**Los Guajares,**	**3.47 239**	Pn	**Pn**		**23 46 21.6 +2.2**
ELGU			Sn	**Sn**		**23 47 02.2 +1.9**
ELGU			*i* Vmb_Lg			23 47 19.7
PAB	**San Pablo**	**3.55 285**	⇓Pn	**Pn**		**23 46 21.1 +0.7**
PAB			Sn	**Sn**		**23 47 04.7 +2.4**
PAB			*i* Vmb_Lg			23 47 23.8
EGOR	**Sierra Gorda,**	**3.69 246**	Pn	**Pn**		**23 46 24.3 +1.9**
EGOR	**Sierra Gorda,**	**3.69 246**	Pn	**Pn**		**23 46 24.4 +2.0**
EGOR			Sn	**Sn**		**23 47 07.1 +1.4**
EGOR			*i* Vmb_Lg			23 47 11.6
EADA	**Adamuz**	**3.71 263**	Pn	**Pn**		**23 46 22.8 +0.2**
EADA			Sn	**Sn**		**23 47 05.3 -0.7**
EADA	**Adamuz**	**3.71 263**	⇓Pn	**Pn**		**23 46 22.7 +0.2**
EADA			Sn	**Sn**		**23 47 05.3 -0.7**
EADA			*i* Vmb_Lg			23 47 27.7
GUD	**Guadarrama**	**3.80 302**	Pn	**Pn**		**23 46 25.3 +1.4**
GUD			Sn	**Sn**		**23 47 09.3 +0.8**
GUD			*i* Vmb_Lg			23 47 35.3
ECHI	**Chisagues Biel**	**3.95 1**	Pn	**Pn**		**23 46 27.9 +1.9**
ECHI			*i* Vmb_Lg			23 47 57.9
ETSF	**Etsaut**	**4.21 353**	*e*Pn	**Pn**		**23 46 30.8 +1.3**
ETSF			*e*Sn	**Sn**		**23 47 17.2 -1.3**
	9.6nm,0.4s					
EORO	**Oroz-Betelu**	**4.31 346**	Pn	**Pn**		**23 46 32.6 +1.7**
EORO			*i* Vmb_Lg			23 48 03.6
EPF	**Esparros**	**4.32 2**	*e*Pn	**Pn**		**23 46 32.7 +1.8**
EPF			*e*Sn	**Sn**		**23 47 21.0 -0.1**
	14nm,0.5s					
ECAB	**El Cabril**	**4.38 263**	Pn	**Pn**		**23 46 31.8 0.0**
ECAB			Sn	**Sn**		**23 47 21.5 -1.0**
ECAB	**El Cabril**	**4.38 263**	Pn	**Pn**		**23 46 31.8 0.0**
ECAB			Sn	**Sn**		**23 47 22.2 -0.3**
ECAB			*i* Vmb_Lg			23 47 45.7
EMIJ	**Mijas**	**4.42 242**	Pn	**Pn**		**23 46 34.5 +2.2**
SJPF	**Ste Jean**	**4.51 348**	*e*Pn	**Pn**		**23 46 35.0 +1.5**
SJPF			*e*Sn	**Sn**		**23 47 25.3 -0.5**
	33nm,0.9s					
LIJA	**Lijar**	**4.71 249**	Pn	**Pn**		**23 46 38.1 +1.8**
MTLF	**Montolieu**	**4.89 19**	*e*Pn	**Pn**		**23 46 41.1 +2.3**
MTLF			*e*Sn	**Sn**		**23 47 33.7 -1.6**
	16nm,0.8s					
EPLA	**Plasencia**	**4.97 288**	Pn	**Pn**		**23 46 40.9 +1.0**
EPLA			Sn	**Sn**		**23 47 35.9 -1.2**
EPLA			*i* Vmb_Lg			23 48 08.8
ELAN	**Lanestosa**	**5.24 331**	Pn	**Pn**		**23 46 45.3 +1.6**
ELAN			Sn	**Sn**		**23 47 43.8 -0.1**
ELAN			*i* Vmb_Lg			23 47 57.6
EMIN	**Mina Concepcio**	**5.41 262**	Sn	**Sn**		**23 47 45.2 -2.7**
EMIN	**Mina Concepcio**	**5.41 262**	Pn	**Pn**		**23 46 46.1 +0.2**
EMIN			*i* Vmb_Lg			23 48 24.6
EBAD	**Badajoz**	**5.55 273**	Pn	**Pn**		**23 46 47.9 0.0**
EBAD			Sn	**Sn**		**23 47 50.0 -1.6**
EBAD			*i* Vmb_Lg			23 48 26.1
PBAR	**Barrancos**	**5.62 267**	*e*Pn	**Pn**		**23 46 49.0 +0.2**
PBAR			*e*Sn	**Sn**		**23 47 52.8 -0.5**
PBAR			*e*Sg	**Sg**		**23 48 25.9 -0.2**
PBAR			A	A		23 48 28.3
	10nm,0.5s					
PBAR	**Barrancos**	**5.62 267**	Pn	**Pn**		**23 46 48.5 -0.4**
PMRV	**Marv??o**	**5.87 279**	*e*Pn	**Pn**		**23 46 55.6 +3.4**
PMRV			*e*Sn	**Sn**		**23 47 56.2 -3.1**
PMRV			*e*Sg	**Sg**		**23 48 33.0 -0.9**
PMRV			A	A		23 48 35.8
	15nm,0.5s					
PCBR	**Castelo Branco**	**5.98 283**	*e*Pn	**Pn**		**23 46 55.1 +1.4**
PCBR			*e*Sn	**Sn**		**23 48 01.4 -0.6**
PCBR			*e*Sg	**Sg**		**23 48 36.7 -0.8**
PCBR			A	A		23 48 41.4
	11nm,0.6s					
PESTR	**Estremoz**	**6.00 274**	*e*Pn	**Pn**		**23 46 55.7 +1.6**
PESTR			*e*Sn	**Sn**		**23 48 02.5 -0.1**
PESTR			A	A		23 48 41.6
	14nm,0.8s					
LASF	**Ste Croix**	**6.06 27**	*e*Pn	**Pn**		**23 46 56.2 +1.4**
LASF			*e*Sn	**Sn**		**23 48 01.7 -2.3**
	11nm,1.0s					
PBRG	**Braganca**	**6.07 303**	*e*Pn	**Pn**		**23 46 56.1 +1.1**
PBRG			*e*Sn	**Sn**		**23 48 04.1 -0.2**
PBRG			*e*Sg	**Sg**		**23 48 40.0 -0.4**
PBRG			A	A		23 48 45.6
	7.1nm,0.5s					
EARI	**Arriondas**	**6.09 321**	Pn	**Pn**		**23 46 56.8 +1.6**
EARI			Sn	**Sn**		**23 48 03.6 -1.2**
EARI			*i* Vmb_Lg			23 48 26.3
ECAL	**Calabor**	**6.13 304**	Pn	**Pn**		**23 46 56.5 +0.6**
ECAL	**Calabor**	**6.13 304**	Pn	**Pn**		**23 46 56.6 +0.6**
ECAL			*i* Vmb_Lg			23 48 46.9
MTE	**Manteigas**	**6.13 288**	*e*Pn	**Pn**		**23 46 57.0 +1.1**
MTE			A	A		23 48 49.4
	14nm,0.6s					
LFF	**La Frestale**	**6.24 4**	*e*Pn	**Pn**		**23 46 58.6 +1.3**
LFF			*e*Sn	**Sn**		**23 48 06.7 -1.7**
EVO	**Evora**	**6.35 271**	*e*Sn	**Sn**		**23 48 10.9 -0.2**
EVO			*e*Sg	**Sg**		**23 48 47.9 -1.4**
EVO			A	A		23 48 51.2
	11nm,0.8s					
CAF	**Calviac**	**6.38 13**	*e*Pn	**Pn**		**23 47 00.0 +0.7**
CAF			*e*Sn	**Sn**		**23 48 09.9 -2.0**
PVIS	**Viseu**	**6.47 290**	*e*Pn	**Pn**		**23 47 01.2 +0.6**
PVIS			*e*Sn	**Sn**		**23 48 13.3 -1.0**
PVIS			*e*Sg	**Sg**		**23 48 52.9 -0.4**
PVIS			A	A		23 49 03.6
	5.1nm,0.6s					
PCVE	**Castro Verde**	**6.50 263**	*e*Sn	**Sn**		**23 48 14.3 -0.5**
PCVE			*e*Sg	**Sg**		**23 48 51.9 -2.1**
PCVE			A	A		23 49 07.4
	6.8nm,0.8s					
PMTG	**Montargil**	**6.50 276**	*e*Sn	**Sn**		**23 48 14.8 0.0**
PMTG			A	A		23 48 55.8
	6.7nm,0.5s					
PBDV	**Barranco-do-Ve**	**6.50 259**	*e*Sn	**Sn**		**23 48 14.8 -0.2**
PBDV			A	A		23 48 58.1
	5.2nm,0.6s					
PVRL	**Vila Real**	**6.52 296**	*e*Pn	**Pn**		**23 47 02.2 +1.0**
PVRL			A	A		23 49 06.5
	5.6nm,0.6s					
MESJ	**Messejana**	**6.60 265**	*e*Sn	**Sn**		**23 48 16.9 -0.3**
MESJ			A	A		23 49 02.7
	6.2nm,0.5s					
POLO	**Lamas de Olo**	**6.61 296**	*e*Pn	**Pn**		**23 47 02.8 +0.4**
POLO			*e*Sn	**Sn**		**23 48 17.2 -0.4**
POLO			A	A		23 49 06.0
	3.7nm,0.7s					
RJF	**Les Rejaudoux**	**6.67 9**	*e*Pn	**Pn**		**23 47 04.3 +1.1**
RJF			*e*Sn	**Sn**		**23 48 16.5 -2.5**
LMR	**La Mourre**	**6.70 44**	*e*Pn	**Pn**		**23 47 05.9 +2.3**
LMR			*e*Sn	**Sn**		**23 48 14.9 -4.7**
	1.3nm,0.3s					
PCAS	**Casmilo, Conde**	**6.79 284**	*e*Pn	**Pn**		**23 47 06.5 +1.7**
PCAS			*e*Sn	**Sn**		**23 48 19.3 -2.6**
PCAS			A	A		23 49 24.4
	11nm,0.5s					
PNCL	**Nicolau / Gran**	**6.79 268**	*e*Sn	**Sn**		**23 48 20.9 -1.2**
PNCL			A	A		23 49 09.0
	4.6nm,0.5s					
ELOB	**Lobios**	**6.98 299**	Pn	**Pn**		**23 47 08.9 +1.3**
ELOB			*i* Vmb_Lg			23 48 32.0
PFVI	**Vila Bisbo**	**7.22 260**	*e*Pn	**Pn**		**23 47 11.8 +1.0**
TCF	**Toulx Ste Croi**	**7.73 11**	*e*Pn	**Pn**		**23 47 17.9 +0.1**
PGF	**Pioggiola**	**7.78 58**	*e*Pn	**Pn**		**23 47 20.8 +2.2**
MFF	**Saint Martin d**	**7.88 359**	*e*Pn	**Pn**		**23 47 21.2 +1.3**
BGF	**Bois d'Agland**	**8.10 14**	*e*Pn	**Pn**		**23 47 23.5 +0.7**
AVF	**Avril sur Loir**	**8.42 15**	*e*Pn	**Pn**		**23 47 27.9 +0.7**
AVF	**Avril sur Loir**	**8.42 15**	*e*P	Pn		23 47 34.4 +7.2
HYF	**Humbligny**	**8.75 11**	*e*Pn	**Pn**		**23 47 32.4 +0.6**
CABF	**La Chapelle**	**9.04 27**	*e*Pn	**Pn**		**23 47 36.5 +0.7**
CABF	**La Chapelle**	**9.04 27**	*e*P	Pn		23 47 42.5 +6.7
QUIF	**Quistinic**	**9.50 347**	*e*Pn	**Pn**		**23 47 42.9 +0.9**
GRR	**Gorron**	**9.70 356**	*e*Pn	**Pn**		**23 47 45.9 +1.2**
LDF	**La Druitiere**	**9.88 359**	*e*Pn	**Pn**		**23 47 48.3 +1.1**
ROSF	**Rostrenen**	**9.92 347**	*e*Pn	**Pn**		**23 47 49.9 +2.1**
FLN	**La Foliniere**	**10.05 358**	*e*Pn	**Pn**		**23 47 50.1 +0.5**
	baz=178					
SFTF	**Sexfontaines**	**10.14 19**	*e*Pn	**Pn**		**23 47 52.2 +1.4**
MEZF	**Maizieres J'vi**	**10.42 19**	*e*Pn	**Pn**		**23 47 55.0 +0.4**
	baz=206					
PAGF	**Fort de Pagny**	**10.65 21**	*e*Pn	**Pn**		**23 47 58.8 +1.1**
BAIF	**Baives**	**11.72 13**	*e*Pn	**Pn**		**23 48 13.7 +1.4**

GUC 25 23:53:12.6±0.7, 34°00S×72°35W, h24km±10km, ML3.7, 9C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.59**	**148**	⇓*i*P	Pb	23 53 23.2	-1.1
BO03				*i* S	Sb	23 53 31.5	-0.8
BO03				IAML		23 53 32.0	
	comp=E,9μm,0.2s						
VA05	**Santo Domingo**	**0.70**	**61**	⇓*i*P	Pb	23 53 25.2	-0.9
VA05				*i* S	Sb	23 53 34.3	-1.0
VA05				IAML		23 53 36.1	
	comp=N,7μm,0.3s						
MT01	**Popeta**	**0.92**	**82**	⇓*i*P	Pb	23 53 28.4	-1.5
MT01				*i* S	Sb	23 53 40.3	-1.4
MT01				IAML		23 53 41.8	
	comp=N,3μm,0.3s						
GO05	**Huala**	**1.07**	**161**	⇓*i*P	Pn	23 53 31.1	-1.0
GO05				*i* S	Sb	23 53 45.1	-0.9
GO05				IAML		23 53 47.1	
	comp=E,2μm,0.3s						
BO01	**Tunca**	**1.12**	**111**	⇓*i*P	Pn	23 53 30.8	-1.9
BO01				*i* S	Sn	23 53 45.9	-1.4
VA01	**Torpederas**	**1.13**	**31**	*e*P	Pn	23 53 32.1	-0.7
VA01				*i* S	Sn	23 53 46.4	-1.2
MT09	**Talagante**	**1.15**	**79**	⇓*i*P	Pn	23 53 31.9	-1.4
MT09				*i* S	Sn	23 53 47.1	-1.2
BO04	**La Punta**	**1.44**	**90**	⇓*i*P	Pn	23 53 36.5	-0.7
BO04				*i* S	Sn	23 53 55.0	-0.4
MT05	**Renca**	**1.47**	**66**	⇓*i*P	Pb	23 53 38.9	-0.4
MT05				*i* S	Sb	23 53 57.4	-0.2
ROCH	**El Roble**	**1.51**	**48**	⇑*i*P	Pn	23 53 37.7	-0.6
ROCH				*i* S	Sn	23 53 57.4	0.0
ROCH				IAML		23 54 04.7	
	comp=N,1μm,0.4s						
MT12	**Pirque**	**1.52**	**81**	⇑*i*P	Pn	23 53 37.7	-0.5
MT12				*i* S	Sn	23 53 57.3	0.0
MT12				IAML		23 54 06.6	
	comp=E,2μm,0.5s						
BO02	**Sierra Bellavi**	**1.52**	**122**	*e*P	Pn	23 53 37.3	-1.0
BO02				*e*S	Sn	23 53 57.8	+0.4
BO02				IAML		23 54 03.7	
	comp=N,3μm,0.3s						
MT15	**Las Vizcachas**	**1.58**	**76**	*e*P	Pn	23 53 38.9	-0.3
MT15				*i* S	Sn	23 53 57.2	-1.7
MT15				IAML		23 54 05.2	
	comp=E,2μm,0.3s						
MT03	**Universidad Ad**	**1.61**	**72**	⇑*i*P	Pn	23 53 38.9	-0.6
MT03				*i* S	Sn	23 54 00.1	+0.5
MT16	**CCHEN**	**1.62**	**70**	*e*P	Pn	23 53 39.4	-0.4
MT16				*i* S	Sn	23 54 00.5	+0.7
MT14	**Cerro Cal¡n**	**1.62**	**69**	⇑*i*P	Pn	23 53 39.5	-0.2
MT14				*i* S	Sn	23 53 59.8	-0.1
PEL	**Peldehue**	**1.63**	**59**	*e*P	Pn	23 53 39.6	-0.1
PEL				*e*S	Sn	23 54 00.4	+0.4
PEL				IAML		23 54 06.1	
	comp=E,1μm,0.5s						
MT10	**Hacienda Santa**	**1.67**	**65**	⇑*i*P	Pn	23 53 40.4	-0.1
MT10				*i* S	Sn	23 54 02.2	+1.0
MT10				IAML		23 54 10.1	
	comp=E,2μm,0.5s						
VA06	**Catapilco**	**1.68**	**32**	⇑*i*P	Pn	23 53 39.4	-1.0
VA06				*i* S	Sn	23 54 00.0	-1.1
VA06				IAML		23 54 11.0	
	comp=E,2μm,0.5s						
MT13	**San Alfonso**	**1.73**	**82**	⇑*i*P	Pn	23 53 41.2	0.0
MT13				*i* S	Sn	23 54 03.2	+0.5
LMEL	**Las Melosas**	**1.79**	**86**	⇑*i*P	Pn	23 53 42.1	0.0
LMEL				*e*S	Sn	23 54 04.9	+0.8
LMEL				IAML		23 54 12.7	
	comp=N,807nm,0.3s						
FCH	**Farellones**	**1.84**	**69**	⇑*i*P	Pn	23 53 42.5	-0.4
FCH				*i* S	Sn	23 54 05.9	+0.3
ML02	**Panimavida**	**1.92**	**157**	*e*P	Pn	23 53 44.4	+0.6
ML02				*e*S	Sn	23 54 07.7	+0.6
ML02				IAML		23 54 22.4	
	comp=E,1μm,0.4s						
VA03	**San Esteban**	**1.94**	**51**	*e*P	Pn	23 53 44.1	0.0
VA03				*e*S	Sn	23 54 09.2	+1.5
VA03				IAML		23 54 18.2	
	comp=N,1μm,0.5s						
CO02	**Combarbal**	**3.01**	**23**	*e*P	Pn	23 53 58.4	-0.5
CO02				*i* S	Sn	23 54 32.8	-1.3
CO06	**Fray Jorge**	**3.37**	**10**	*e*P	Pn	23 54 02.3	-1.4
CO06				*i* S	Sn	23 54 39.1	-3.7
CO03	**El Pedregal**	**3.44**	**24**	*e*P	Pn	23 54 04.7	-0.2
CO03				*i* S	Sn	23 54 44.5	-0.5

*ATH **26** 00:06:39.2, 38°28N×20°54E, h44km±3km, ML2.5/7, Error ellipse: s-maj=4.1km s-min=1.3km az=275.0*
*THE **26** 00:06:41.0, 38°29N×20°76E, h14km±5km, ML2.3/4, Error ellipse: s-maj=7.8km s-min=1.2km az=250.0*

ISC 26 00:06:40.1±1.0, 38°28N±0°04×20°65E±0°04, h32km±8km, n27, σ0°71/40, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.20**	**339**	P	**Pb**	**00 06 46.0**	**-0.5**
FSK				S	**Sb**	**00 06 51.1**	**+0.2**
	1μm,0.3s						
FSK	**Fiskardo**	**0.20**	**339**	P	**Pb**	**00 06 46.0**	**-0.5**
FSK				S	**Sn**	**00 06 51.3**	**+0.2**
FSK				AML	AML	00 06 51.5	
	comp=N,1814μm,0.3s						
FSK				AML	AML	00 06 51.8	
	comp=E,2256μm,0.3s						
DMLN	**Damoulianata-K**	**0.22**	**260**	P	**Pb**	**00 06 46.7**	**-0.1**
DMLN				S	**Sn**	**00 06 52.0**	**+0.2**
EVGI	**Lefkada island**	**0.34**	**0**	P	**Pb**	**00 06 47.7**	**-0.7**
EVGI	**Lefkada island**	**0.34**	**0**	P	**Pb**	**00 06 47.7**	**-0.7**
EVGI				S	**Sb**	**00 06 54.5**	**+0.6**
NYDR	**Nydri-Lefkada**	**0.44**	**5**	P	**Pb**	**00 06 48.9**	**-0.8**
NYDR	**Nydri-Lefkada**	**0.44**	**5**	P	**Pb**	**00 06 48.8**	**-0.8**
NYDR				S	**Sb**	**00 06 56.9**	**+0.7**
LKD2	**Lefkada island**	**0.51**	**0**	P	**Pb**	**00 06 50.3**	**-0.6**
LKD2				S	**Sb**	**00 06 58.9**	**+0.6**
	comp=E,398nm,0.3s						
LKD2	**Lefkada island**	**0.51**	**0**	P	**Pb**	**00 06 50.2**	**-0.7**
LKD2				S	**Sb**	**00 06 58.0**	**-0.3**
LKD2				AML	AML	00 06 60.0	
	comp=E,821μm,0.5s						
LKD2				AML	AML	00 07 00.6	
	comp=N,758μm,0.2s						
TSLK	**Tsoukalades, L**	**0.55**	**0**	P	**Pb**	**00 06 50.9**	**-0.6**
LTHK	**Lithakia**	**0.58**	**166**	P	**Pb**	**00 06 51.2**	**-0.8**
RLS	**Riolos of Patr**	**0.68**	**109**	P	**Pb**	**00 06 52.4**	**-1.1**
RLS	**Riolos of Patr**	**0.68**	**109**	P	**Pb**	**00 06 52.5**	**-1.1**
RLS				S	**Sb**	**00 07 03.8**	**+1.1**
RLS				AML	AML	00 07 04.2	
	comp=N,782μm,0.4s						
RLS				AML	AML	00 07 04.7	
	comp=E,277μm,0.2s						
PVO	**Paravola**	**0.77**	**63**	P	**Pn**	**00 06 54.4**	**-0.3**
PVO				S	**Sb**	**00 07 05.9**	**+0.8**
DRO	**Drossia**	**0.89**	**111**	P	**Pn**	**00 06 56.0**	**-0.5**
DRO				S	**Sb**	**00 07 10.0**	**+1.2**
	comp=E,660nm,0.3s						
DRO	**Drossia**	**0.89**	**111**	P	**Pn**	**00 06 56.0**	**-0.5**
DRO				S	**Sn**	**00 07 08.6**	**+0.2**
DRO				AML	AML	00 07 11.3	
	comp=N,1477μm,0.4s						
DRO				AML	AML	00 07 11.4	
	comp=E,1035μm,0.8s						
EFP	**Efpalio**	**1.00**	**81**	P	**Pn**	**00 06 57.3**	**-0.6**
EFP	**Efpalio**	**1.00**	**81**	P	**Pn**	**00 06 57.3**	**-0.6**
EFP				S	**Sn**	**00 07 11.9**	**+1.1**
EFP				AML	AML	00 07 13.6	
	comp=E,506μm,0.4s						
EFP				AML	AML	00 07 17.9	
	comp=N,326μm,0.3s						
ANX	**Ano Chora**	**1.04**	**72**	P	**Pn**	**00 06 58.4**	**-0.3**
ANX				AML	AML	00 07 14.8	
	comp=N,576μm,0.4s						
ANX				AML	AML	00 07 15.3	
	comp=E,588μm,0.5s						
EVR	**Evrytania**	**1.11**	**54**	P	**Pn**	**00 07 00.1**	**+0.6**
ALIK	**Aliki, Aigiali**	**1.15**	**90**	P	**Pn**	**00 06 59.9**	**-0.1**
KALE	**Kalithea**	**1.18**	**84**	P	**Pn**	**00 07 00.1**	**-0.3**
KLV	**Kalavryta, Ach**	**1.20**	**101**	P	**Pn**	**00 07 00.4**	**-0.4**
KLV				S	**Sb**	**00 07 18.8**	**+1.2**
	comp=E,45nm,0.4s						
KLV	**Kalavryta, Ach**	**1.20**	**101**	P	**Pn**	**00 07 00.3**	**-0.5**
KLV				AML	AML	00 07 21.6	
	comp=E,77μm,0.3s						
KLV				AML	AML	00 07 21.8	
	comp=N,108μm,0.3s						
MAKR	**Makrakomi, Fth**	**1.37**	**57**	P	**Pn**	**00 07 03.6**	**+0.5**
GUR	**Goura**	**1.38**	**104**	P	**Pn**	**00 07 02.4**	**-0.9**
ITM	**Ithomi**	**1.49**	**137**	P	**Pn**	**00 07 05.2**	**+0.5**

*IDC **26** 00:17:33.0±0.9, 10°40S×161°45E, h0km, mb4.1/9, mbtmp4.1/10, ML3.1/2, MS4.2/7, Error ellipse: s-maj=30.4km s-min=22.4km az=93.0*
*NEIC **26** 00:17:39.9±0.9, 10°55S±0°10×161°3E±0°1, h37km±9km, mb4.4/11, Error ellipse: s-maj=20.4km s-min=3.0km az=225.0*

ISC 26 00:17:38.9±0.7, 10°56S±0°08×161°4E±0°1, h35km, n40, σ0°90/30, mb4.2/15, MS4.1/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.80**	**308**	Pn	**Pn**	**00 18 07.6**	**+0.2**
HNR				Sn	**Sn**	**00 18 28.1**	**-0.9**
LIFNC	**LIFOU**	**11.62**	**152**	Pn	**Pn**	**00 20 22.3**	**0.0**
DZM	**Mont Dzumac**	**12.44**	**158**	Pn	**Pn**	**00 20 34.3**	**+0.8**
DZM	**Mont Dzumac**	**12.44**	**158**	Pn	**Pn**	**00 20 34.8**	**+1.2**
	0.3nm,0.3s,baz=359,slow=12,SNR=8.9						
DZM				Sn	**Sn**	**00 22 48.2**	**-2.7**
	0.1nm,0.3s,baz=168,slow=18,SNR=2.0						
	5.3nm,0.8s						
CTA	**Charters Tower**	**17.37**	**235**	P	**P**	**00 21 40.8**	**+0.9**
	baz=64,slow=14,SNR=5.9						
ARMA	**Armidale**	**21.74**	**203**	P	**P**	**00 22 28.3**	**+0.9**
ARMA				IAmb	IAmb	00 22 41.5	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**27.48**	**247**	P	**P**	**00 23 22.1**	**-0.1**
WR0				IAmb	IAmb	00 23 30.4	
	comp=Z,6.5nm,1.4s						
WB0	**Warramunga Arr**	**27.57**	**247**	P	**P**	**00 23 23.2**	**+0.3**
WB0				IAmb	IAmb	00 23 30.6	
	comp=Z,9.9nm,1.4s						
WRA	**Warramunga Arr**	**27.66**	**247**	P	**P**	**00 23 24.1**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=77,slow=8.9,SNR=16						
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**29.24**	**240**	P	**P**	**00 23 37.5**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=72,slow=9.2,SNR=6.7						
	comp=Z,0.4nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**29.34**	**10**	T	T	00 54 45.7	
	baz=189,slow=76,SNR=5.9						
H11S3	**WAKE ISLAND Hy**	**29.34**	**10**	T	T	00 54 45.7	
	baz=189,slow=76,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**29.36**	**10**	T	T	00 54 45.7	
	baz=189,slow=76,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**30.57**	**10**	T	T	00 56 20.3	
	baz=188						
H11N3	**WAKE ISLAND Hy**	**30.58**	**10**	T	T	00 56 22.5	
	baz=188						
H11N2	**WAKE ISLAND Hy**	**30.59**	**10**	T	T	00 56 19.5	
	baz=188						
KNRA	**Kununurra**	**32.14**	**257**	P	**P**	**00 24 02.6**	**-0.8**
KNRA				IAmb	IAmb	00 24 22.4	
	comp=Z,8.6nm,1.2s						
BBOO	**Buckleboo**	**32.14**	**223**	P	**P**	**00 24 03.5**	**+0.2**
JCJ	**Chichijima**	**41.81**	**334**	LR	LR	00 41 09.7	
	comp=Z,266nm,19.0s,baz=112,slow=34						
JHJ	**Hachijo jima 2**	**48.07**	**335**	LR	LR	00 46 10.4	
	comp=Z,86nm,19.6s,baz=199,slow=36						
JOW	**Kunigami**	**49.13**	**320**	LR	LR	00 45 39.1	
	comp=Z,311nm,21.6s,baz=104,slow=34						
MJAR	**Matsushiro Arr**	**51.68**	**336**	LR	LR	00 45 40.9	
	comp=Z,151nm,21.9s,baz=136,slow=33						
JNU	**Nakatsue**	**52.27**	**327**	LR	LR	00 44 51.9	
	comp=Z,160nm,22.0s,baz=137,slow=31						
KIWB	**Kanaga Island**	**64.87**	**15**	P	**P**	**00 28 14.8**	**+0.5**
VNDA	**Vanda**	**66.94**	**180**	P	**P**	**00 28 28.0**	**+0.5**
VNDA	**Vanda**	**66.94**	**180**	P	**P**	**00 28 27.9**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=342,slow=6.3,SNR=6.1						
	comp=Z,1.3nm,0.8s						
SONM	**Songino Array**	**75.78**	**325**	P	**P**	**00 29 21.0**	**-0.4**
SONM	**Songino Array**	**75.78**	**325**	P	**P**	**00 29 21.3**	**0.0**
	comp=Z,1.2nm,0.6s,baz=140,slow=5.4,SNR=5.6						
	comp=Z,1.2nm,0.6s						
M16K	**Timber Creek**	**77.91**	**19**	P	**P**	**00 29 33.6**	**+0.8**
M16K				IAmb	IAmb	00 29

MK31	Makanchi Array	58.84 326	P	P	00 32 08.3	-0.1
MK31			IAmb	IAmb	00 32 21.8	
	comp=Z,3.2nm,1.5s					
MKAR	Makanchi Array	58.84 326	P	P	00 32 08.3	-0.2
MKAR	Makanchi Array	58.84 326	P	P	00 32 08.8	+0.4
	comp=Z,0.4nm,0.4s,baz=122,slow=6.9,SNR=5.8					
	comp=Z,0.4nm,0.4s					
ZALV	Zalesovo Beam	62.01 334	LR	LR	01 02 51.8	
	comp=Z,176nm,21.2s,baz=44,slow=39					
KURBB	Kurchatov Arra	63.06 328	P	P	00 32 38.0	+1.0
	comp=Z,0.6nm,0.5s,baz=126,slow=6.7,SNR=6.2					
	comp=Z,0.6nm,0.5s					
KURK	Kurchatov	63.07 328	P	P	00 32 37.5	+0.5
AKTO	Aktyubinsk	74.87 322	LR	LR	01 11 08.1	
	comp=Z,182nm,20.8s,baz=334,slow=39					
VNDA	Vanda	81.79 173	P	P	00 34 28.2	0.0
VNDA			IAmb	IAmb	00 34 54.6	
	comp=Z,0.8nm,1.2s					
VNDA	Vanda	81.79 173	P	P	00 34 26.2	-2.1
	comp=Z,0.5nm,0.7s,baz=311,slow=5.9,SNR=2.4					
	comp=Z,0.5nm,0.7s					

*IDC **26** 00:31:34.4±9.0, 1°.31N×97°.86E, h0km, mb4.1/6, mbtmp4.1/6, MS4.4/2, Error ellipse: s-maj=348.9km s-min=117.9km az=101.0*
*DJA **26** 00:31:43.2±0.8, 1°N±3°×9°8E±°, h35km±20km, M4.0/7, MLv4.0/7*
ISC 26 00:31:42.1±1.0, **1°.43N**±0°.07×**98°.27E**±0°.09, **h50**km, **n16**, σ1§**30**/13, **mb4.2**/6, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.70	260	P	Pn	00 31 57.4	+1.5
PBSI	Pulau Batu	1.48	180	P	Pn	00 32 07.8	+1.5
KCSI	Kotacane, Aceh	2.14	347	P	Pn	00 32 16.8	+1.5
SNSI	Sinabang, Aceh	2.17	297	P	Pn	00 32 16.3	+0.5
SISI	Saibi	2.86	163	P	Pn	00 32 26.1	+0.9
PDSI	Padang	3.20	137	P	Pn	00 32 31.0	+1.1
LHMI	Lhok Sumawe	4.00	341	P	Pn	00 32 42.8	+2.0
H08S2	Diego Garcia H	27.25	250	T	T	01 04 57.8	
	baz=73						
H08S3	Diego Garcia H	27.25	250	T	T	01 04 57.0	
	baz=73						
H08S1	Diego Carcia H	27.26	250	T	T	01 04 59.5	
	baz=73						
MKAR	Makanchi Array	47.29	345	P	P	00 40 10.1	-0.4
	1.0nm,0.5s,baz=153,slow=9.2,SNR=14						
	1.0nm,0.5s						
KURBB	Kurchatov Arra	51.80	344	P	P	00 40 44.0	-0.7
	1.4nm,0.3s,baz=172,slow=7.2,SNR=1.7						
KURBB				LR	LR	01 07 35.6	
	comp=Z,462nm,21.4s,baz=8.5,slow=42						
	1.4nm,0.3s						
ZALV	Zalesovo Beam	53.51	350	P	P	00 40 56.5	-0.9
	1.3nm,0.4s,baz=171,slow=7.0,SNR=7.6						
	1.3nm,0.4s						
BVAR	Borovoye Array	56.39	340	P	P	00 41 16.9	-1.4
	0.7nm,0.5s,baz=148,slow=9.0,SNR=5.5						
BVAR				LR	LR	01 09 47.6	
	comp=Z,377nm,21.9s,baz=355,slow=41						
	0.7nm,0.5s						
FINES	FINESS Array B	80.29	332	P	P	00 43 46.5	-0.9
	2.0nm,1.1s,baz=108,slow=6.2,SNR=7.0						
	2.0nm,1.1s						
ARCES	ARCESS Array B	82.68	340	P	P	00 43 59.8	-0.2
	3.9nm,1.1s,baz=115,slow=4.1,SNR=3.6						
	3.9nm,1.1s						

*JMA **26** 00:44:21.3±0.2, 24°N±1°×122°.3E±0°.5, h24km±4km, MV3.0/14, TAIWAN REGION*
*TAP **26** 00:44:21.2, 24°.08N×122°.30E, h25km, ML3.3, C*
ISC 26 00:44:20.9±0.9, **24°.04N**±0°.02×**122°.27E**±0°.02, **h26**km±6km, **n78**, σ0§**55**/110, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.09	28	i P	Pb	00 44 25.2	0.0
	baz=23						
EOS4				eS	Sb	00 44 28.2	0.0
	baz=23						
EOS3	EOS3	0.25	9	i P	Pb	00 44 27.1	-0.1
	baz=343						
EOS3				i S	Sb	00 44 31.9	+0.5
	baz=343						
EOS2	EOS2	0.38	354	P	Pb	00 44 29.2	+0.1
	baz=335						
EOS2				eS	Sb	00 44 35.2	+0.5
	baz=335						
EAHA	Aohua	0.56	300	eP	Pn	00 44 32.8	-0.5
	baz=303						
EWUT	Wuta	0.60	312	eP	Pb	00 44 32.9	0.0
	baz=315						
ETL	Fush Village	0.60	281	eP	Pn	00 44 33.9	0.0
	baz=261						
ENA	Nanau	0.62	308	eP	Pb	00 44 32.6	-0.6
	baz=312						
TWD	Chiawan	0.62	274	eP	Pn	00 44 33.8	-0.3
	baz=270						
NACB	Ninganchiao	0.63	282	i P	Pb	00 44 33.5	+0.1
	baz=262						
ESAO	Su ao	0.66	324	eP	Pb	00 44 33.9	0.0
	baz=324						
TWC	Suao	0.68	326	eP	Pb	00 44 33.2	-1.0
	baz=322						
TWC				eS	Sb	00 44 41.1	-2.2
	baz=322						
SHUL	Shoufeng	0.70	249	eP	Pn	00 44 35.2	+0.2
	baz=247						
SHUL				eS	Sn	00 44 45.3	+0.3
	baz=247						
ETM	Tongmen	0.72	264	eP	Pn	00 44 35.6	+0.2
	baz=250						
JYNG	Yonagunijimaku	0.74	56	S	Sb	00 44 44.3	-0.6
ETLH	Xiulin Townshi	0.74	283	eP	Pb	00 44 35.3	0.0
	baz=279						
NDS	Dongshan	0.78	319	eP	Pn	00 44 36.1	-0.2
	baz=320						
LXIB	Xiulin Townshi	0.79	269	eP	Pb	00 44 35.9	-0.2
	baz=266						
YOJ	Yonaguni jima	0.79	58	P	Pb	00 44 36.0	-0.1
	baz=58						
YOJ				S	Sn	00 44 47.4	0.0
	baz=58						
YOJ	Yonaguni jima	0.79	58	P	Pn	00 44 36.3	-0.1
YOJ				S	Sb	00 44 46.2	-0.3
LATG	Datong	0.84	306	eP	Pb	00 44 37.1	+0.1
	baz=302						
TWE	Neicheng	0.87	321	P	Pb	00 44 37.7	+0.2
	baz=318						
WARBT	Fenglin Townsh	0.87	248	eP	Pn	00 44 37.3	-0.2
	baz=238						
WARBT				eS	Sb	00 44 48.6	-0.2
	baz=238						
ENTT	Nioudou	0.88	313	eP	Pb	00 44 37.6	0.0
	baz=309						
NDT	Datong Townshi	0.89	309	eP	Pb	00 44 38.1	+0.3
	baz=310						
NDT				eS	Sb	00 44 49.0	-0.3
	baz=310						
NNSB	Datong	0.90	296	eP	Pn	00 44 38.0	0.0
	baz=278						
NNS	Nan Shan	0.91	296	i P	Pb	00 44 38.4	+0.1
	baz=292						
NNS				eS	Sn	00 44 50.6	+0.1
	baz=292						
WHF	Hehuan Shan	0.93	277	i P	Pn	00 44 38.3	-0.3
	baz=262						
WHF				eS	Sn	00 44 51.1	-0.2
	baz=262						
FUSB	Fushanzhiwuyua	0.95	319	eP	Pb	00 44 39.0	+0.1
	baz=315						
HGSD	Ruisui	0.95	235	eP	Pn	00 44 38.5	-0.1
	baz=234						
TWB1	Santiao Chiao	1.00	345	eP	Pb	00 44 39.7	+0.1
	baz=329						
TWB1				eS	Sn	00 44 52.1	-0.4
	baz=329						
CHGB	Renai	1.00	271	eP	Pn	00 44 39.6	0.0
	baz=256						
OWD	Renai	1.01	265	eP	Pb	00 44 40.2	+0.3
	baz=263						
TIPB	Shuangxi	1.01	336	i P	Pb	00 44 39.7	-0.1
	baz=332						
TIPB				eS	Sn	00 44 51.9	-1.0
	baz=332						

NWLT	Wulai	1.01 316	eP	Pb	00 44 40.1	+0.2
	baz=312					
NWLT			eS	Sb	00 44 53.4	+0.5
	baz=312					
EHY	Hungye	1.02 239	eP	Pb	00 44 40.2	+0.2
	baz=238					
EHY			eS	Sb	00 44 53.3	+0.3
	baz=238					
YHNB	Yeheng	1.03 308	eP	Pb	00 44 40.1	0.0
	baz=304					
TDCB	Techi	1.04 282	eP	Pb	00 44 40.4	+0.1
	baz=267					
NSK	Sanguang	1.05 307	P	Pb	00 44 40.4	-0.1
	baz=304					
WUSB	Renai	1.06 268	eP	Pn	00 44 40.5	+0.3
	baz=255					
VWDT	VWDT	1.07 255	eP	Pb	00 44 40.8	0.0
	baz=245					
YULB	Yu-li	1.10 234	eP	Pn	00 44 40.6	-0.1
	baz=233					
SXI1	Grass Mountain	1.11 341	eP	Pn	00 44 40.7	-0.2
	baz=346					
EYUL	Yuli	1.11 232	eP	Pb	00 44 41.3	-0.3
	baz=220					
EYUL			eS	Sb	00 44 56.2	+0.6
	baz=220					
NWF	Wu-fen Shan	1.12 336	eP	Pn	00 44 41.2	+0.2
	baz=332					
NWF			eS	Sn	00 44 55.5	0.0
	baz=332					
WFSB	Wu-fen Shan	1.12 336	eP	Pn	00 44 41.2	+0.3
	baz=332					
WFSB			eS	Sb	00 44 56.0	+0.2
	baz=332					
TWA	Mucha	1.13 326	eP	Pb	00 44 42.4	+0.6
	baz=322					
TWA			eS	Sb	00 44 56.4	+0.4
	baz=322					
TWF1	Yuli	1.13 233	P	Pb	00 44 41.5	-0.3
	baz=221					
TWF1			eS	Sb	00 44 56.2	+0.2
	baz=221					
NHDH	Xindian Distri	1.14 324	eP	Pb	00 44 42.0	0.0
	baz=333					
CHKH	Chenggong	1.17 224	eP	Pn	00 44 41.2	-0.3
	baz=213					
CHKH			eS	Sn	00 44 55.4	-1.3
	baz=213					
NFF	Wufeng Townshi	1.21 299	eP	Pb	00 44 43.5	+0.3
	baz=296					
FULB	Fuli	1.23 227	eP	Pn	00 44 42.3	-0.1
	baz=214					
FULB			eS	Sn	00 44 57.6	-0.6
	baz=214					
SSLB	Suanglung	1.23 258	eP	Pb	00 44 43.2	-0.4
	baz=245					
WHP	Taichung City	1.23 281	eP	Pb	00 44 44.5	+0.8
	baz=268					
WCS	Beigang Elemen	1.25 271	eP	Pb	00 44 43.3	-0.5
	baz=269					
SMLT	Sun Moon Lake	1.27 263	eP	Pb	00 44 43.9	-0.3
	baz=261					
SMLT			eS	Sb	00 44 60.0	-0.1
	baz=261					
LIOB	Emei	1.29 298	eP	Pb	00 44 45.0	+0.3
	baz=295					
YM08	YM08	1.30 332	eP	Pb	00 44 45.5	+0.8
	baz=343					
NSTT	Nanjuang	1.30 297	eP	Pb	00 44 44.7	0.0
	baz=294					
WHYT	Xinyi Township	1.34 255	eP	Pb	00 44 45.8	+0.3
	baz=245					
IRIF	Iriomote-Funau	1.36 77	P	Pb	00 44 45.3	-0.4
IRIF			eS	Sb	00 45 03.3	+0.6
HATJ	Hateruma jima	1.40 89	eP	Pb	00 44 46.9	+0.5
HATJ			eS	Sb	00 45 04.4	+0.5
TWQ1	Liyutan	1.40 283	eP	Pb	00 44 47.1	+0.6
	baz=280					
CHN5	Tsauling	1.53 253	eP	Pb	00 44 49.2	+0.6
	baz=242					
CHN5			S	Sb	00 45 08.2	+0.6
	baz=242					
LONT	Longtian	1.54 223	eS	Sn	00 45 06.1	+0.1
	baz=216					
LDUT	Ludao	1.55 209	eP	Pn	00 44 46.4	-0.4
	baz=210					
LDUT			eS	Sn	00 45 04.1	-2.0
	baz=210					
PCYT	Pengchaiyu	1.59 353	eP	Pn	00 44 47.6	+0.2
	baz=350					
JKRS	Kuro-shima	1.60 83	P	Pb	00 44 49.6	-0.1
JKRS			S	Sb	00 45 09.6	0.0
WDLH	Douliu	1.63 258	eS	Sb	00 45 11.6	+1.2
	baz=257					
WCKO	Fanlu	1.64 249	eS	Sb	00 45 11.9	+1.0
	baz=238					
TPUB	Ta-pu	1.68 244	eP	Pb	00 44 50.8	-0.4
	baz=244					
WTP	Ta-pu	1.71 243	eP	Pb	00 44 51.6	-0.2
	baz=242					
JIJ	Ishigaki jima	1.74 79	eP	Pn	00 44 50.2	+0.8
JIJ			eS	Sb	00 45 12.0	-1.5
WRL	Guolierlin Hig	1.74 266	eP	Pb	00 44 51.6	-0.6
	baz=265					
WRL			eS	Sb	00 45 14.4	+0.7
	baz=265					
CHN1	Nanshi	1.81 242	eP	Pb	00 44 53.6	+0.2
	baz=242					
CHN1			eS	Sb	00 45 16.1	+0.3
	baz=242					
SLGT	Liugui	1.82 235	eS	Sb	00 45 17.3	+1.3
	baz=226					
JISG	Ishigakijimahi	1.94 73	eP	Pn	00 44 53.0	+0.8
JISG			eS	Sn	00 45 15.6	0.0
SCST	Cishan	2.00 235	eS	Sb	00 45 22.2	+1.2
	baz=223					
JTJ	Tarama	2.29 74	eS	Sn	00 45 24.9	+0.5

*IDC **26** 00:52:48.9±0.9, 6°.63S×71°.77E, h0km, mb4.0/13, mbtmp4.0/14, ML4.2/1, Error ellipse: s-maj=28.3km s-min=16.3km az=54.0*
*NEIC **26** 00:52:49.5±1.8, 6°.75S±0°.08×71°.74E±0°.08, h10km±1km, mb4.4/12, Error ellipse: s-maj=18.8km s-min=4.4km az=226.0*
ISC 26 00:52:50.4±0.6, **6°.70S**±0°.07×**71°.73E**±0°.10, **h16**km, **n43**, σ0§**98**/41, **mb4.1**/17, **Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	Diego Garcia	1.00	135	Pn	Pb	00 53 09.0	-0.5
DGAR				Sn	Sb	00 53 22.7	+0.2
H08S3	Diego Garcia H	1.19	141	Pn	Pb	00 53 12.2	-0.2
H08S3				Sn	Sg	00 53 28.2	-0.5
H08S1	Diego Carcia H	1.19	142	Pn	Pb	00 53 12.4	-0.2
H08S1				Sn	Sn	00 53 28.4	+0.4
H08S2	Diego Garcia H	1.20	141	Pn	Pb	00 53 12.5	-0.2
H08S2				Sn	Sn	00 53 28.4	+0.2
KAAM	Kaadhehdhoo	7.26	10	Pn	Pn	00 54 35.5	-0.4
PALK	Pallekele	16.52	33	Pn	Pn	00 56 42.1	+0.5
PALK				IAmb	IAmb	00 56 47.8	
	comp=Z,38nm,1.2s						
PALK	Pallekele	16.52	33	Pn	Pn	00 56 41.0	-0.6
	comp=Z,0.9nm,0.3s,baz=273,slow=10,SNR=2.1						
PALK				Sn	Sn	00 59 30.1	-15
	comp=Z,0.4nm,0.3s,baz=274,slow=13,SNR=2.5						
	comp=Z,5.6nm,0.4s						
CMAR	Chiang Mai Arr	36.68	47	P	P	00 59 58.4	+1.5
	comp=Z,1.7nm,0.5s,baz=238,slow=9.4,SNR=7.8						
	comp=Z,1.7nm,0.5s						
HRA	Herat	41.84	348	P	P	01 00 39.8	-0.2
SLVN	Son La	42.11	48	P	P	01 00 41.5	-0.8
SLVN				IAmb	IAmb	01 00 48.0	
	comp=Z,6.4nm,1.1s						
H04N2	CROZET ISLANDS	42.92	200	T	T	01 46 35.3	
	baz=30,slow=75						
H04N1	CROZET ISLANDS	42.92	200	T	T	01 46 36.1	
	baz=30,slow=75						
H04N3	CROZET ISLANDS	42.93	200	T	T	01 46 34.9	
	baz=30,slow=75						
H01W3	Cape Leeuwin H	48.01	132	T	T	01 52 41.9	
	baz=297,slow=75,SNR=44						
H01W2	Cape Leeuwin H	48.02	132	T	T	01 52 42.3	
	baz=297,slow=75,SNR=58						
H01W1	Cape Leeuwin H	48.03	132	T	T	01 52 51.8	
	baz=297,slow=75,SNR=69						

BOSA	Boshof	48.95 238	P	P	01 01 36.2	-0.3
BOSA			IAmb	IAmb	01 01 36.8	
	comp=Z,7.1nm,1.4s					
MK31	Makanchi Array	54.08 9	P	P	01 02 12.6	-1.8
MKAR	Makanchi Array	54.08 9	P	P	01 02 12.5	-1.9
MKAR	Makanchi Array	54.08 9	P	P	01 02 14.4	0.0
	comp=Z,1.1nm,0.5s,baz=191,slow=8.0,SNR=12					
	comp=Z,1.1nm,0.5s					
KBZ	Khabaz	56.57 335	P	P	01 02 33.8	+1.5
	comp=Z,4.8nm,0.9s,baz=137,slow=2.2,SNR=7.2					
	comp=Z,4.8nm,0.9s					
ABKAR	Akbulak array	56.67 351	P	P	01 02 32.6	-0.3
ABKAR	Akbulak array	56.67 351	P	P	01 02 32.9	0.0
ABKAR			IAmb	IAmb	01 02 34.0	
	comp=Z,3.3nm,0.8s					
KURBB	Kurchatov Arra	57.40 5	P	P	01 02 37.4	-0.6
	comp=Z,1.0nm,0.8s,baz=198,slow=7.3,SNR=7.9					
	comp=Z,1.0nm,0.8s					
BVAR	Borovoye Array	59.51 359	P	P	01 02 52.7	-0.1
	comp=Z,0.7nm,0.7s,baz=168,slow=9.1,SNR=4.6					
	comp=Z,0.7nm,0.7s					
ZALV	Zalesovo Beam	61.42 9	P	P	01 03 04.0	-1.8
ZALV	Zalesovo Beam	61.42 9	P	P	01 03 04.9	-0.9
	comp=Z,0.3nm,0.3s,baz=217,slow=7.1,SNR=5.0					
	comp=Z,0.3nm,0.3s					
ASAR	Alice Springs	61.88 113	P	P	01 03 10.4	+0.9
	comp=Z,1.0nm,0.6s,baz=271,slow=7.0,SNR=4.4					
	comp=Z,1.0nm,0.6s					
WRA	Warramunga Arr	62.02 109	P	P	01 03 10.6	0.0
WRA	Warramunga Arr	62.02 109	P	P	01 03 11.6	+1.0
	comp=Z,1.3nm,0.6s,baz=282,slow=6.7,SNR=18					
	comp=Z,1.3nm,0.6s					
WB2	Warramunga Arr	62.03 109	P	P	01 03 09.9	-0.7
SONM	Songino Array	62.31 26	P	P	01 03 12.4	+0.4
SONM			IAmb	IAmb	01 03 14.1	
	comp=Z,4.1nm,1.0s					
SONM	Songino Array	62.31 26	P	P	01 03 13.0	+1.0
	comp=Z,3.3nm,0.9s,baz=219,slow=6.7,SNR=10					
	comp=Z,3.3nm,0.9s					
TOA0	Torodi Ar. Sit	72.29 286	P	P	01 04 14.4	-1.4
TOA0			IAmb	IAmb	01 04 42.4	
	comp=Z,5.7nm,1.4s					
TORD	Torodi Ar. Bea	72.29 286	P	P	01 04 17.2	+1.4
	comp=Z,0.1nm,0.4s,baz=132,slow=6.3,SNR=4.3					
	comp=Z,0.1nm,0.4s					
FINES	FINESS Array B	76.59 339	P	P	01 04 38.9	-1.0
FINES	FINESS Array B	76.59 339	P	P	01 04 39.5	-0.3
	comp=Z,1.4nm,0.9s,baz=101,slow=7.2,SNR=1.9					
	comp=Z,1.4nm,0.9s					
GRFO	Grafenberg	76.74 324	P	P	01 04 38.8	-2.2
ARCES	ARCESS Array B	82.35 345	P	P	01 05 11.8	+0.6
ARCES	ARCESS Array B	82.35 345	P	P	01 05 11.9	+0.8
	comp=Z,0.9nm,0.6s,baz=124,slow=1.6,SNR=4.7					
	comp=Z,0.9nm,0.6s					
ESDC	Sonseca Array	83.36 311	P	P	01 05 18.6	+1.5
	comp=Z,0.9nm,0.8s,baz=95,slow=4.0,SNR=2.9					
	comp=Z,0.9nm,0.8s					
NVAR	Mina Array Bea	147.13 15	PKPbc	PKiKP	01 12 35.6	-0.4
	comp=Z,1.6nm,0.8s,baz=315,slow=0.8,SNR=11					
TXAR	Lajitas Array	157.07 350	PKPab	PKPab	01 13 17.9	+1.4
	comp=Z,0.5nm,0.8s,baz=48,slow=2.7,SNR=5.8					

*TRN **26** 00:55:49.9, 15°.15N×60°.63W, h27km, MD4.2, South-east of Dominica. Felt in Martinique MMI VI; Dominica V; Saint Lucia IV.*
*NEIC **26** 00:55:50.0±1.4, 15°.18N±0°.05×60°.49W±0°.07, h20km±5km, mb4.2/16, Error ellipse: s-maj=9.4km s-min=6.8km az=77.0*
*IDC **26** 00:55:51.5±2.5, 15°.13N×60°.61W, h35km±21km, mb3.7/15, mbtmp3.9/17, ML3.9/2, MS2.8/1, Error ellipse: s-maj=19.2km s-min=12.0km az=92.0*
ISC 26 00:55:49.5±0.9, **15°.17N**±0°.03×**60°.56W**±0°.04, **h22**km±7km, **n112**, σ1§**36**/135, **mb4.1**/20, **1D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	Ilet Lapin Mar	0.50	218	Pg	Pn	00 56 01.4	+0.1
ILAM				Sg	Sn	00 56 08.3	-0.9
ILAM	Ilet Lapin Mar	0.50	218	eP	Pn	00 56 01.4	+0.1
BAMF	Morne Balai	0.67	239	eP	Pn	00 56 04.2	+0.4
SVN	Savane Anatole	0.67	241		Pn	00 56 04.1	+0.4
SVN				Sg	Sn	00 56 13.7	+0.1
SVN	Savane Anatole	0.67	241	eP	Pn	00 56 04.1	+0.4
SVN				eS	Sn	00 56 13.9	+0.3
CXM	Morne La Croix	0.69	239	eP	Pn	00 56 04.8	+0.8
MVM	Montagne Vaucl	0.69	208	eP	Pn	00 56 04.3	+0.3
GBMF	Grand Be	0.69	238	eP	Pn	00 56 04.3	+0.3
LPMF	Morne Lapointe	0.71	214	eP	Pn	00 56 04.0	-0.2
FDF	Fort de France	0.72	233		Pn	00 56 04.5	+0.2
FDF	Fort de France	0.72	233	eP	Pn	00 56 04.2	+0.3
PCM	Pelee Case Pet	0.72	241	eP	Pb	00 56 04.2	+0.7
PCM	Pelee Case Pet	0.72	241	eP	Pn	00 56 04.8	+0.4
MPOM	Morne Pois Mar	0.78	202		Pb	00 56 04.8	+0.5
MPOM	Morne Pois Mar	0.78	202	eP	Pn	00 56 05.3	+0.2
H05S1	Guadeloupe/Mar	0.79	200	Pn	Pn	00 56 05.5	+0.2
H05S1				Sn	Sb	00 56 15.2	+0.4
TRMF	Trois Ilets	0.79	217	eP	Pn	00 56 05.3	0.0
BIM	Bigot	0.82	218		Pn	00 56 06.0	+0.4
BIM	Bigot	0.82	218	eP	Pn	00 56 06.1	+0.4
BIM				eS	Sn	00 56 17.1	-0.1
MAGL	Barre de l'ile	1.04	318	Pn	Pb	00 56 09.2	+0.3
MAGL	Barre de l'ile	1.04	318	eP	Pb	00 56 09.2	+0.3
SLBI	Saint Lucia, B	1.21	200	eP	Pn	00 56 11.4	+0.3
SLBI				eS	Sb	00 56 29.8	+2.9
SLBI	Saint Lucia, B	1.21	200	eS	Sb	00 56 29.8	+2.9
SLBI				e	Sb	00 56 26.6	-0.2
GDSD	La Dsirade Is	1.24	337	Pn	Pn	00 56 11.6	+0.1
H05N1	Guadeloupe/Mar	1.24	337	Pn	Pn	00 56 11.9	+0.4
H05N1				Sn	Sn	00 56 25.7	-1.8
TDBA	Terre de Bas,	1.24	303	eP	Pb	00 56 12.2	0.0
TBG	Guadaloupe-3	1.25	303	eP	Pn	00 56 12.3	+0.7
CBE	Ff, Capester	1.35	312	Pn	Pb	00 56 14.0	-0.2
SLB	Belfond	1.41	199	eP	Pb	00 56 15.6	+0.4
ABD	La Joyeuse, An	1.58	325	Pn	Pn	00 56 16.9	+0.7
ABD	La Joyeuse, An	1.58	325	eP	Pn	00 56 17.1	+0.9
GDHS	Morne Mazeau,	1.60	313	Pn	Pn	00 56 17.6	+1.1
SVB	Belmont	2.00	200	eP	Pn	00 56 22.9	+0.9
SVB				eS	Sb	00 56 48.7	-1.0
SVB	Belmont	2.00	200	eS	Sb	00 56 48.7	-1.0
SVB				e	Sn	00 56 47.5	+1.1
SVT	Saint Vincent	2.10	199	eP	Pn	00 56 24.0	+0.7
SVT				eS	Sn	00 56 49.0	+0.3
SVOC	Richmond Hill,	2.10	198	eP	Pn	00 56 24.4	+1.0
SVOC	Richmond Hill,	2.10	198	e	Sn	00 56 49.6	+0.8
BCHC	Barbados, Cave	2.21	156	eP	Pb	00 56 27.6	-1.2
BCHC				eS	Sn	00 56 53.9	+2.3
BBGH	Gun Hill	2.23	154	eP	Pb	00 56 28.0	-1.2
BBGH				eS	Sn	00 56 54.1	+2.0
MBFL	Flemmings, Mon	2.24	315	eP	Pn	00 56 26.9	+1.7
MBFL				eS	Sn	00 56 53.3	+1.1
GCMP	Grenada, Carri	2.80	198	eP	Pn	00 56 34.3	+1.3
GCMP				eS	Sn	00 57 06.3	+0.3
GRSS	Sisters	3.03	200	eP	Pn	00 56 37.2	+1.1
GRSS				eS	Sn	00 57 12.3	+0.5
GRIC	Isle de Caille	3.04	199	eP	Pn	00 56 37.6	+1.4
GRIC				eS	Sn	00 57 11.5	-0.4
GRHS	Sauteurs	3.11	200	eP	Pn	00 56 38.3	+1.0
GRHS				eS	Sn	00 57 13.7	-0.1
GRW	Mount Saint Ca	3.18	200	eP	Pn	00 56 39.9	+1.7
GRW				eS	Sn	00 57 16.8	+1.2
GRGR	Grenville	3.20	200		Pn	00 56 39.7	+1.2
GRGR	Grenville	3.20	200	eP	Pn	00 56 40.3	+1.8
G

GCPR	Guaynabo City	6.15 301		Pn	00 57 21.3	+2.3
PCRV	Puerto La Cruz	6.36 219	Pn	Pn	00 57 23.3	+1.3
	1.9nm,0.3s,baz=34,slow=2.3,SNR=20					
PCRV			Sn	Sn	00 58 30.2	-3.8
	1.5nm,0.3s,baz=230,slow=12,SNR=6.6					
	7.2nm,0.4s					
PCRV	Puerto La Cruz	6.36 219	eP	Pn	00 57 24.2	+2.2
PCRV			eS	Sn	00 58 30.8	-3.3
CELP	Cerrillos	6.46 297	Pn	Pn	00 57 24.6	+1.4
OBIP	Obispado Ponce	6.46 297		Pn	00 57 24.4	+1.0
UUPR	Utuado, UPR, P	6.65 298		Pn	00 57 27.9	+1.9
AOPR	Arecibo Observ	6.72 299	Pn	Pn	00 57 28.9	+1.9
AOPR	Arecibo Observ	6.72 299	eP	Pn	00 57 29.1	+2.2
AOPR			eS	Sn	00 58 40.0	-3.0
MLPR	Magueyes Islan	6.82 295	Pn	Pn	00 57 28.4	+0.3
CRPR	Cabo Rojo, PR	6.89 295	Pn	Pn	00 57 30.5	+1.3
BAUV	El Baul	9.58 231		Pn	00 58 07.1	+0.9
BAUV	El Baul	9.58 231	eP	Pn	00 58 07.2	+1.0
LOBA2	Hotel Casa Bon	10.51 287	‖ePg	Pn	00 58 20.9	+2.0
SDDR	Presa de Saban	10.94 292	Pn	Pn	00 58 27.0	+2.2
SDDR	Presa de Saban	10.94 292	ePg	Pn	00 58 29.5	+4.7
SDDR			IAML		00 58 33.0	
	comp=E,11nm,0.8s					
SDDR			IAML		00 58 33.4	
	comp=N,16nm,0.6s					
SDDR			IAML		00 58 41.9	
	comp=N,16nm,2.9s					
REDR	Restauracion	11.09 293	ePg	Pn	00 58 34.8	+7.9
REDR			IAML		00 58 50.9	
	comp=N,14nm,1.1s					
MDP	Montagnes des	12.68 141	Pn	Pn	00 58 44.2	-4.3
	comp=N,0.4nm,0.3s,baz=334,slow=14,SNR=5.3					
MDP			Sn	Sn	01 00 52.2	-17
	comp=N,0.7nm,0.3s,baz=143,slow=7.0,SNR=2.6					
BOAV	Boa Vista	12.69 180	Pn	Pn	00 58 46.6	-2.2
GTBY	Guantanamo Bay	14.66 291	Pn	Pn	00 59 15.7	0.0
BBSR	BB Station	17.54 348	Pn	Pn	00 59 50.2	-2.3
BBSR			IAmb	IAmb	00 59 53.4	
	comp=Z,38nm,1.3s					
MACA	Manacapuru-AM	18.21 180	P	Pn	01 00 00.3	-0.7
SOR	Soroa	22.52 293	P	P	01 00 47.6	-0.4
SOR			IAmb	IAmb	01 00 50.8	
	comp=Z,7.3nm,0.9s					
OTAV	Otavalo	23.08 232	P	P	01 00 53.9	-0.4
SAML	Samuel	24.10 186	P	P	01 01 03.4	-0.3
BOAB	BOACO BROADBA	24.53 267	P	P	01 01 08.3	+0.6
MTO3	Montecristo	27.85 272	P	P	01 01 37.6	-0.4
SSPA	Standing Stone	29.52 333	P	P	01 01 53.2	+0.9
LPAZ	La Paz	32.14 194	P	P	01 02 16.6	+0.4
LPAZ			IAmb	IAmb	01 02 21.8	
	comp=Z,2.3nm,0.8s					
LPAZ	La Paz	32.14 194	P	P	01 02 16.2	0.0
	comp=Z,1.9nm,0.8s,baz=353,slow=5.6,SNR=9.9					
	comp=Z,1.9nm,0.8s					
BRDY	Brady	38.57 301	P	P	01 03 10.3	-0.6
BRDY			IAmb	IAmb	01 03 11.5	
	comp=Z,3.8nm,0.8s					
SCHQ	Schefferville	39.88 354	P	P	01 03 22.3	+0.8
	comp=Z,2.9nm,0.8s,baz=46,slow=17,SNR=3.0					
	comp=Z,2.9nm,0.8s					
TXAR	Lajitas Array	42.08 297	P	P	01 03 40.4	+0.3
	comp=Z,0.4nm,0.5s,baz=111,slow=7.4,SNR=6.9					
TXAR			PcP	PcP	01 05 36.0	+1.3
	comp=Z,0.3nm,0.6s,baz=120,slow=7.4,SNR=4.2					
	comp=Z,0.4nm,0.5s					
VHRN	Van Horn	43.46 299	P	P	01 03 51.2	-0.1
ULM	Lac du Bonnet	45.16 328	P	P	01 04 04.5	+0.1
	comp=Z,2.2nm,0.8s,baz=135,slow=11,SNR=2.0					
	comp=Z,2.2nm,0.8s					
PD31	Pinedale Array	50.03 314	P	P	01 04 42.6	-0.2
PD31			IAmb	IAmb	01 05 01.5	
	comp=Z,4.9nm,1.4s					
BSUT	Blindstream Ca	50.26 310	P	P	01 04 44.8	+0.2
BSUT			IAmb	IAmb	01 05 11.0	
	comp=Z,4.0nm,1.4s					
BO02	Sierra Bellavi	50.63 191	P	P	01 04 46.8	-0.2
BO02			IAmb	IAmb	01 04 48.6	
	comp=Z,3.9nm,0.8s					
H10N3	ASCENSION HYDR	51.05 113	T	T	01 59 56.3	
	baz=296,slow=75,SNR=102					
H10N2	ASCENSION HYDR	51.05 113	T	T	01 59 51.6	
	baz=296,slow=75,SNR=136					
H10N1	ASCENSION HYDR	51.07 113	T	T	01 59 59.8	
	baz=296,slow=75,SNR=103					
NVAR	Mina Array Bea	55.55 306	P	P	01 05 22.7	-0.9
	comp=Z,0.2nm,0.3s,baz=87,slow=8.2,SNR=4.0					
	comp=Z,0.2nm,0.3s					
PLCA	Paso Flores	56.38 189	P	P	01 05 28.1	-1.1
	comp=Z,1.5nm,0.6s,baz=3.2,slow=5.4,SNR=5.1					
	comp=Z,1.5nm,0.6s					
EKA	Eskdalemuir Ar	59.29 34	P	P	01 05 50.3	+0.9
	comp=Z,0.5nm,0.6s,baz=250,slow=8.8,SNR=4.0					
	comp=Z,0.5nm,0.6s					
TOA0	Torodi Ar. Sit	60.22 83	P	P	01 05 56.1	-0.3
TORD	Torodi Ar. Bea	60.22 83	P	P	01 05 56.4	-0.1
TORD			IAmb	IAmb	01 05 59.6	
	comp=Z,2.2nm,1.0s					
TORD	Torodi Ar. Bea	60.22 83	P	P	01 05 57.0	+0.6
	comp=Z,1.0nm,0.7s,baz=290,slow=4.4,SNR=6.6					
	comp=Z,1.0nm,0.7s					
YKA	Yellowknife Ar	60.43 334	P	P	01 05 56.4	-0.7
	comp=Z,0.4nm,0.4s,baz=92,slow=9.6,SNR=4.1					
	comp=Z,0.4nm,0.4s					
KEST	Kesra	65.09 57	P	P	01 06 29.6	+0.8
	comp=Z,2.4nm,0.6s,baz=270,slow=7.1,SNR=5.2					
	comp=Z,2.4nm,0.6s					
NB2	NORSAR Subarra	68.03 30	P	P	01 06 48.7	+1.7
	comp=Z,0.4nm,0.6s,baz=262,slow=6.5					
NOA	NORSAR Array B	68.03 30	P	P	01 06 47.7	+0.7
	comp=Z,0.4nm,0.6s,baz=261,slow=6.2,SNR=5.0					
	comp=Z,0.4nm,0.6s					
ARCES	ARCESS Array B	74.53 21	P	P	01 07 26.5	+0.4
	comp=Z,1.8nm,0.8s,baz=232,slow=5.5,SNR=3.9					
	comp=Z,1.8nm,0.8s					
ILAR	Eielson Array	74.84 334	P	P	01 07 27.9	-0.2
	comp=Z,0.6nm,0.8s,baz=88,slow=6.1,SNR=6.4					
	comp=Z,0.6nm,0.8s					
FINES	FINESS Array B	75.21 30	P	P	01 07 31.0	+0.8
	comp=Z,1.4nm,0.8s,baz=236,slow=2.1,SNR=6.2					
	comp=Z,1.4nm,0.8s					
BRTR	Keskin Array B	83.62 51	P	P	01 08 16.9	+0.2
	comp=Z,0.8nm,0.7s,baz=251,slow=4.6,SNR=6.2					
	comp=Z,0.8nm,0.7s					
WRA	Warramunga Arr	165.03 249	PKPab	PKPab	01 16 49.4	-0.1
	comp=Z,0.2nm,0.6s,baz=99,slow=4.2,SNR=9.6					

IDC ***26*** *01:01:05.9±1.4, 58.°75S×24.°92W, h0km, mb4.0/4, mbtmp4.3/6, ML4.8/2, Error ellipse: s-maj=36.8km s-min=30.2km az=148.0*

NEIC ***26*** *01:01:06.8±1.8, 58.°85S±0.°09×24.°7W±0.°2, h10km±1km, mb4.5/17, Error ellipse: s-maj=23.3km s-min=6.1km az=51.0*

ISC 26 01:01:08.2±0.6, 58.°84S±0.°09×24.°8W±0.°1, h18km, n30, σ2°92°/31, mb4.4/10, 9C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.91	300	Pn	Pn	01 03 02.4	+0.3
VNA1	Neumayer--Stat	13.71	156	⇑P	Pn	01 04 24.6	+3.2
	comp=Z,26nm,0.3s						
VNA1				⇑S	Sn	01 06 45.0	-8.0
	comp=Z,1.8nm,0.6s						
VNA3	Neumayer Olymp	13.92	159	⇑P	Pn	01 04 26.9	+2.6
	comp=Z,13nm,0.3s						
VNA3				⇑S	Sn	01 06 48.8	-9.3
	comp=Z,0.8nm,0.2s						
VNA2	Neumayer--Watz	14.11	156	⇑P	Pn	01 04 29.5	+2.6
	comp=Z,27nm,0.3s,baz=328,slow=16						
VNA2				⇑S	Sn	01 06 52.8	-10
	comp=Z,1.0nm,0.3s,baz=318,slow=19						
SNAA	Sanae	15.66	154		Pn	01 04 50.3	+2.7
SNAA				IAmb	IAmb	01 04 52.6	
	comp=Z,19nm,0.6s						
SNAA	Sanae	15.66	154	⇑P	Pn	01 04 50.5	+2.9
	comp=Z,408nm,0.3s						
SNAA				⇓S	Sn	01 07 31.4	-9.1
	comp=Z,55nm,0.6s						
SNAA	Sanae	15.66	154	Pn	Pn	01 04 49.8	+2.1
	comp=Z,4.1nm,0.3s,baz=321,slow=14,SNR=235						
SNAA				Sn	Sn	01 07 33.0	-7.4
	comp=Z,0.1nm,0.3s,baz=293,slow=20,SNR=2.3						
	comp=Z,26nm,0.6s						
TROLL	Troll, Antarti	17.17	151	⇑P	P	01 05 09.6	+1.2
	comp=Z,233nm,0.6s						
TROLL				⇑S	Sn	01 08 05.4	-12
	comp=Z,19nm,0.3s						
PMSA	Palmer Station	19.21	235	P	P	01 05 30.4	-0.4
PMSA				IAmb	IAmb	01 05 43.0	
	comp=Z,61nm,1.4s						
PMSA	Palmer Station	19.21	235	P	P	01 05 30.0	-0.8
	comp=Z,2.1nm,0.3s,baz=176,slow=12,SNR=5.8						
	comp=Z,5.3nm,0.3s						
EFI	East Falkland	20.11	276	P	P	01 05 41.8	+1.2
GO09	Cerro Castillo	27.74	265	P	P	01 06 55.7	+0.4
QSPA	South Pole Qui	31.40	180	P	P	01 07 27.9	0.0
PLCA	Paso Flores	33.81	282	P	P	01 07 49.9	+0.8
PLCA				IAmb	IAmb	01 08 01.1	
	comp=Z,7.6nm,1.2s						
PLCA	Paso Flores	33.81	282	P	P	01 07 49.1	0.0
	comp=Z,1.8nm,0.8s,baz=143,slow=11,SNR=4.6						
	comp=Z,1.8nm,0.8s						
BO02	Sierra Bellavi	38.51	288	P	P	01 08 30.7	+1.4
BO02				IAmb	IAmb	01 08 46.7	
	comp=Z,11nm,1.4s						
GO05	Huala	38.91	287	P	P	01 08 31.6	-0.9
GO05				IAmb	IAmb	01 08 37.6	
	comp=Z,8.8nm,1.1s						
MT09	Talagante	39.43	289	P	P	01 08 36.4	-0.7
MT09				IAmb	IAmb	01 08 38.5	
	comp=Z,16nm,1.4s						
MT01	Popeta	39.49	288	P	P	01 08 37.2	-0.1
MT01				IAmb	IAmb	01 08 47.1	
	comp=Z,11nm,1.2s						
AC05	El Transito	43.14	294	P	P	01 09 07.0	-0.5
BOSA	Boshof	45.53	71	P	P	01 09 26.7	+0.1
BDFB	Brasilia	46.43	328	P	P	01 09 33.4	-0.4
	comp=Z,1.6nm,0.7s,baz=150,slow=8.1,SNR=3.1						
	comp=Z,1.6nm,0.7s						
LPAZ	La Paz	53.04	304	P	P	01 10 24.3	-0.4
	comp=Z,0.8nm,0.5s,baz=126,slow=3.8,SNR=4.7						
	comp=Z,0.8nm,0.5s						
SAML	Samuel	57.68	313	P	P	01 10 56.3	-1.1
SAML				IAmb	IAmb	01 10 57.2	
	comp=Z,2.5nm,0.7s						
MAL2	Monte Alegre,	61.14	326	P	P	01 11 21.6	+0.3
TBTG	Tabatinga, AM	64.67	309	P	P	01 11 43.2	-1.5
BOAV	Boa Vista	67.28	321	P	P	01 12 00.3	-1.3
BOAV				IAmb	IAmb	01 12 01.1	
	comp=Z,2.3nm,0.8s						
TORD	Torodi Ar. Bea	74.91	27	P	P	01 12 47.3	-0.4
TORD	Torodi Ar. Bea	74.91	27	P	P	01 12 47.8	+0.1
	comp=Z,0.8nm,0.4s,baz=200,slow=5.8,SNR=25						
	comp=Z,0.8nm,0.4s						
ILAR	Eielson Array	152.90	307	PKPbc	PKiKP	01 21 03.5	+0.8
	comp=Z,0.6nm,0.6s,baz=112,slow=1.0,SNR=6.7						

WEL 26 01:07:51.4±1.0, 36.°5S×8.°×18.°0E±1.°1, h12km, M3.4/12, ML3.5/17, MLv3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=119.5, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.69	223	P	Pn	01 08 20.5	-0.2
MXZ				S	Sn	01 08 42.5	+0.2
WMGZ	Waiomatatini S	1.83	216	P	Pn	01 08 23.2	+0.5
WMGZ				S	Sb	01 08 47.1	-0.5
PKGZ	Pakihiroa	2.03	221	P	Pn	01 08 26.0	+0.5
PKGZ				S	Sn	01 08 52.1	+1.3
PUZ	Puketiti	2.11	214	P	Pn	01 08 26.4	-0.1
PUZ				S	Sn	01 08 53.0	+0.4
HAZ	Te Kaha	2.12	228	P	Pn	01 08 27.0	+0.3
HAZ				S	Sn	01 08 54.4	+1.4
TWGZ	Tauwhareparae	2.32	217	P	Pn	01 08 29.7	+0.2
TWGZ				S	Sn	01 08 59.8	+1.8
RUGZ	Raukumara Rang	2.33	225	P	Pn	01 08 30.1	+0.5
CNGZ	Carnagh Statio	2.47	210	P	Pn	01 08 32.1	+0.6
MWZ	Matawai	2.67	221	P	Pn	01 08 34.0	-0.2
MWZ				S	Sn	01 09 06.3	-0.3
RIGZ	Rimuhau	2.85	213	P	Pn	01 08 35.9	-0.8
RIGZ				S	Sn	01 09 11.7	+0.7
RAGZ	Rawiri	2.85	220	P	Pn	01 08 36.5	-0.3
URZ	Urewera	2.86	227	P	Pn	01 08 36.6	-0.1
URZ				S	Sn	01 09 10.5	-0.5
PRGZ	Paritu Road	2.98	210	P	Pn	01 08 37.9	-0.5
SNGZ	Shannon Statio	3.11	218	P	Pn	01 08 39.9	-0.4
MHGZ	Mahia Peninsul	3.17	207	P	Pn	01 08 40.3	-0.8
MUGZ	Murupara	3.20	227	P	Pn	01 08 40.9	-0.6
KUZ	Kuaotunu	3.28	262	P	Pn	01 08 42.3	-0.3
RAHZ	Arahi	3.34	219	P	Pn	01 08 43.1	-0.3
MTHZ	Maungataniwha	3.42	222	P	Pn	01 08 44.6	+0.1
NMHZ	Naumai	3.62	220	P	Pn	01 08 46.8	-0.5
ARHZ	Aropaoanui	3.65	216	P	Pn	01 08 46.6	-1.1
TOZ	Tahuroa Road	3.68	247	P	Pn	01 08 48.2	+0.1
MKAZ	Moumakai	3.78	257	P	Pn	01 08 49.9	+0.5
BKZ	Black Stump Fm	3.83	222	P	Pn	01 08 49.6	-0.6
MOVZ	Moawhango	4.41	225	P	Pn	01 08 57.2	-1.0

IDC ***26*** *01:09:40.7±0.5, 18.°99N×121.°20E, h0km, mb4.2/23, mbtmp4.2/26, ML4.1/3, MS4.2/38, Error ellipse: s-maj=18.9km s-min=12.3km az=72.0*

MOS ***26*** *01:09:41.7±1.0, 19.°00N×121.°19E, h19km, mb4.9/32, MS4.2/7, Error ellipse: s-maj=10.3km s-min=5.5km az=102.1*

DJA ***26*** *01:09:43.8±0.2, 19.°N±2.°×12.°1E±.°, h10km, M4.9/14, mb4.6/14, mB5.3/5, MLv5.1/5, Mw(mB)4.7/5, MwMwp5.2/2, Mwp5.5/2*

NEIC ***26*** *01:09:44.3±1.1, 19.°09N±0.°08×121.°04E±0.°09, h16km±4km, mb5.0/164, Error ellipse: s-maj=13.3km s-min=10.8km az=136.0*

GCMT ***26*** *01:09:46.3±0.3, 19.°27N±0.°02×120.°91E±0.°03, h41km±1km, MW5.1/82, Moment Tensor Solution. s47,c65; s82,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.90±.28; $M_{\theta\theta}$-0.00±.18; $M_{\phi\phi}$-3.90±.17; $M_{r\theta}$-1.38±.22; $M_{\theta\phi}$-2.53±.10; $M_{\phi r}$-1.04±.18; Best double couple: $M_0$4.87500×10^{16} NP1:ϕ_s219.00000°, δ56.00000°, λ106.00000°. NP2: ϕ_s11.00000°, δ37.00000°, λ67.00000°. Principal axes: T 4.3460, Plg73.0000°, Azm173.0000°; N 1.0530, Plg14.0000°, Azm30.0000°; P -5.4030, Plg10.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***26*** *01:09:50.4±0.0, 19.°55N×121.°01E, h40km, mb4.4/57, mB5.0/31, ML4.2/3, Ms4.5/57, Ms7 4.5/56*

ISC 26 01:09:47.7±0.6, 19.°04N±0.°04×121.°11E±0.°05, h47km±5km, n569, σ1°17°/507, mb4.8/143, MS4.3/52, 22C-8D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZP	Santa	1.61	203	P	Pn	01 10 15.7	+2.1
TWGBT	Beinan	3.75	360	P	Pn	01 10 43.7	+0.6
TWG	Pinlang	3.76	360	Pn	Pn	01 10 41.7	-1.4
TWG				Sn	Sn	01 11 20.4	-5.7
TPUB	Ta-pu	4.26	354	Pn	Pn	01 10 48.1	-2.0
YULB	Yu-li	4.33	2	P	Pn	01 10 52.3	+1.3
YULB	Yu-li	4.33	2		Pn	01 10 49.1	-1.9
SSLB	Suanglung	4.72	358	P	Pn	01 10 56.9	+0.5
SSLB	Suanglung	4.72	358		Pn	01 10 54.8	-1.6
NACB	Ninganchiao	5.12	5	P	Pn	01 11 02.3	+0.4
NACB	Ninganchiao	5.12	5		Pn	01 10 59.8	-2.1
YHNB	Yeheng	5.60	3	P	Pn	01 11 09.1	+0.5
YHNB	Yeheng	5.60	3		Pn	01 11 07.5	-1.0
YOJ	Yonaguni jima	5.67	18	P	Pn	01 11 10.8	+1.4
YOJ	Yonaguni jima	5.67	18	Pn	Pn	01 11 07.4	-2.1
YOJ	Yonaguni jima	5.67	18	P	Pn	01 11 07.4	-2.1
KNMB	Chin-men Tao	5.96	335	Pn	Pn	01 11 09.8	-3.5
QZH	Quanzhou	6.32	339	P	Pn	01 11 15.0	-3.2
QZH				S	Sn	01 12 22.8	-6.3
QZH				smax	smax		
	comp=N,81nm,0.7s						
QZH				smax	smax		
	comp=E,120nm,0.7s						
QZH				LR	LR		
	comp=N,2μm,14.6s						
QZH				LR	LR		
	comp=E,1μm,14.9s						
QZH				LR	LR		
	comp=Z,3μm,19.2s						
HKPS	Hong Kong Po S	7.27	297	P	Pn	01 11 29.4	-2.0
HKPS	Hong Kong Po S	7.27	297		Pn	01 11 29.1	-2.3
JOW	Kunigami	10.18	39	Pn	Pn	01 12 10.8	-0.5
JOW	Kunigami	10.18	39	Pn	Pn	01 12 09.6	-1.7
	6.4nm,0.3s,baz=197,slow=10,SNR=9.9						
JOW				Sn	Sn	01 13 58.5	-5.6
	1.0nm,0.3s,baz=234,slow=19,SNR=1.3						
	15nm,0.3s						
QIZ	Qiongzhong	10.65	272	P	Pn	01 12 15.0	-2.7
QIZ				S	Sn	01 14 14.0	-1.6
QIZ				pmax	pmax		
	comp=Z,15nm,0.7s						
QIZ				LR	LR		
	comp=N,1μm,15.1s						
QIZ				LR	LR		
	comp=E,1μm,20.2s						
QIZ				LR	LR		
	comp=Z,2μm,16.0s						
QIZ	Qiongzhong	10.65	272		Pn	01 12 15.0	-2.7
SSE	Sheshan	12.00	0	P	Pn	01 12 37.0	+0.9
SSE				S	Sn	01 14 51.0	+2.5
SSE				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SSE				LR	LR		
	comp=Z,360nm,23.0s						
SSE				LR	LR		
	comp=Z,420nm,13.1s						
SSE				LR	LR		
	comp=Z,550nm,20.9s						
DAV	Davao City (W)	12.67	159	LR	LR	01 18 34.4	
	comp=Z,3μm,19.0s,baz=4.5,slow=42						
NJ2	Nanjing	13.11	352	eP	Pn	01 12 51.0	-0.2
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,430nm,5.2s						
NJ2				LR	LR		
	comp=Z,1μm,17.1s						
NJ2				LR	LR		
	comp=Z,710nm,19.9s						
NJ2				LR	LR		
	comp=Z,1μm,17.1s						
GYA	Guiyang	15.22	302	P	Pn	01 13 19.3	-0.4
GYA				S	Sn	01 16 07.0	-0.2
GYA				pmax	pmax		
	comp=Z,14nm,0.9s						
GYA				pmax	pmax		
	comp=Z,330nm,7.4s						
GYA				LR	LR		
	comp=Z,1μm,15.0s						
GYA				LR	LR		
	comp=Z,1μm,14.9s						
GYA				LR	LR		
	comp=Z,3μm,14.8s						
SLVN	Son La	16.31	281		Pn	01 13 33.1	-0.4
JNU	Nakatsue	16.53	30	Pn	Pn	01 13 35.1	-1.1
JNU	Nakatsue	16.53	30	Pn	Pn	01 13 34.0	-2.3
	comp=Z,0.3nm,0.3s,baz=193,slow=8.0,SNR=16						
JNU				LR	LR	01 20 14.6	
	comp=Z,482nm,20.9s,baz=188,slow=38						
	comp=Z,24nm,0.9s						
LYN	LuoYang	17.25	335	eP	P	01 13 45.8	-0.3
LYN				pP	pP	01 13 55.0	-1.3
LYN				PP	pwP	01 14 02.0	+2.1
LYN				sS	S	01 17 06.5	+3.3
LYN				pmax	pmax		
	comp=Z,23nm,0.8s						
LYN				pmax	pmax		
	comp=Z,600nm,5.1s						
LYN				LR	LR		
	comp=Z,890nm,11.3s						
LYN				LR	LR		
	comp=Z,770nm,14.8s						
LYN				LR	LR		
	comp=Z,2μm,16.8s						
TIA	Tai'an	17.46	349	P	P	01 13 52.5	+4.0
TIA				S	S	01 17 07.8	+0.3
TIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TIA				pmax	pmax		
	comp=Z,160nm,3.9s						
TIA				LR	LR		
	comp=N,770nm,13.7s						
TIA				LR	LR		
	comp=E,430nm,12.2s						
TIA				LR	LR		
	comp=Z,1μm,12.9s						
TOLI2	Tolitoli	17.82	181		Pn	01 13 51.3	-1.1
KMI	Kunming	18.05	293	⇑P	Pn	01 13 57.5	+2.1
KMI				sP	pwP	01 14 10.0	+0.5
KMI				pmax	pmax		
	comp=Z,11nm,1.5s						
KMI				LR	LR		
	comp=Z,840nm,12.0s						
KMI				LR	LR		
	comp=Z,2μm,14.7s						
KMI				LR	LR		
	comp=Z,2μm,13.7s						
TJN	Taejon	18.13	16	iP	P	01 13 53.7	-2.1
GTOI	Gorontalo	18.39	174	P	P	01 13 57.3	-1.5
XAN	Xi'an	18.46	326	P	Pn	01 14 00.5	+0.4
XAN				pP	pP	01 14 12.0	+2.3
XAN				pmax	pmax		
	comp=Z,19nm,1.4s						
XAN				pmax	pmax		
	comp=Z,760nm,7.9s						
XAN				LR	LR		
	comp=Z,2μm,15.3s						
XAN				LR	LR		
	comp=Z,1μm,13.9s						
XAN				LR	LR		
	comp=Z,2μm,14.4s						
JMN	Monobe	18.54	35	P	P	01 13 58.3	-2.2
SBUM	Sibu	18.64	209	P	P	01 14 02.4	+0.7
HNS	HongShan	19.13	344	⇑P	Pn	01 14 09.5	+1.5
HNS				pmax	pmax		
	comp=Z,12nm,1.3s						
HNS				LR	LR		
	comp=Z,1μm,17.3s						
HNS				LR	LR		
	comp=Z,550nm,18.6s						
HNS				LR	LR		
	comp=Z,1μm,17.3s						
KSAR	Wonju Array Be	19.27	17	P	P	01 14 07.6	-0.7
KSAR	Wonju Array Be	19.27	17	P	P	01 14 07.6	-0.7
KSRS	Korea Array	19.29	17	P	P	01 14 07.5	-1.0
	comp=Z,0.5nm,0.3s,baz=198,slow=12,SNR=23						
KSRS				LR	LR	01 22 35.4	
	comp=Z,643nm,19.6s,baz=205,slow=40						
	comp=Z,8.2nm,0.9s						
KS19	Wonju Array Si	19.32	16	P	P	01 14 08.1	-0.8
PZH	PanZhiHua	19.32	296	P	Pn	01 14 12.0	+1.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,550nm,5.3s						
PZH				LR	LR		
	comp=Z,590nm,15.3s						
PZH				LR	LR		
	comp=Z,1μm,16.0s						
PZH				LR	LR		
	comp=Z,2μm,16.7s						
CD2	Chengdu	19.64	310	P	Pn	01 14 14.0	-0.2
CD2				sP	pwP	01 14 26.8	+0.2
CD2				S	S	01 17 50.0	-1.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2				pmax	pmax		
	comp=Z,590nm,3.6s						
CD2				LR	LR		
	comp=Z,1μm,15.9s						
CD2				LR	LR		
	comp=Z,2μm,14.6s						
CD2				LR	LR		
	comp=Z,2μm,14.9s						
PHRA	Phrae	19.77	272		P	01 14 13.5

BJT	**Baijiatuau**	**21.33 350**	P	**P**	**01 14 31.1 +0.4**
BJT			pmax	pmax	
comp=Z,58nm,1.4s					
BJI	**Beijing**	**21.35 350**	P	**P**	**01 14 31.5 +0.7**
BJI			pP	**pP**	**01 14 39.5 -2.1**
BJI			sP	**pwP**	**01 14 45.3 +1.5**
BJI			S	**S**	**01 18 25.0 -0.3**
BJI			pmax	pmax	
comp=Z,15nm,1.1s					
BJI			LR	LR	
comp=Z,360nm,18.6s					
BJI			LR	LR	
comp=Z,230nm,18.8s					
BJI			LR	LR	
comp=Z,370nm,16.7s					
INU	**Inuyama**	**21.49 38**	P	**P**	**01 14 31.9 -0.6**
INU			IAmb	IAmb	01 14 44.6
comp=Z,77nm,1.0s					
SANI	**Sanana**	**21.50 167**	P	**P**	**01 14 35.1 +2.4**
comp=Z,14nm,0.6s					
TNCH	**TengChong**	**21.75 290**	P	**P**	**01 14 38.5 +3.0**
TNCH			pP	pP	01 14 46.0 +0.1
TNCH			S	**S**	**01 18 31.3 -2.6**
TNCH			sS	Sn	01 18 42.0 -3.1
TNCH			pmax	pmax	
comp=Z,28nm,0.7s					
TNCH			pmax	pmax	
comp=Z,220nm,4.3s					
TNCH			LR	LR	
comp=Z,490nm,12.9s					
TNCH			LR	LR	
comp=Z,1μm,15.3s					
TNCH			LR	LR	
comp=Z,2μm,15.9s					
JHJ	**Hachijo jima 2**	**21.81 46**	LR	LR	01 21 42.8
comp=Z,558nm,21.6s,baz=258,slow=33					
JGF	**Kuroka**	**21.87 38**	P	**P**	**01 14 36.0 -0.5**
JGF			IAmb	IAmb	01 14 45.5
comp=Z,65nm,1.0s					
LZH	**Lanzhou**	**22.79 322**	*e*P	**P**	**01 14 48.0 +1.5**
LZH			pP	pP	01 14 53.5 -3.4
LZH			pmax	pmax	
comp=Z,19nm,1.1s					
LZH			LR	LR	
comp=Z,980nm,13.7s					
LZH			LR	LR	
comp=Z,710nm,14.4s					
LZH			LR	LR	
comp=Z,1μm,16.7s					
SNY	**Shenyang**	**22.81 5**	⇓P	**P**	**01 14 46.5 +0.1**
SNY			S	**S**	**01 18 48.5 -3.6**
SNY			pmax	pmax	
comp=Z,20nm,1.0s					
SNY			pmax	pmax	
comp=Z,71nm,3.6s					
SNY			LR	LR	
comp=Z,250nm,16.3s					
SNY			LR	LR	
comp=Z,470nm,17.5s					
SNY			LR	LR	
comp=Z,310nm,20.6s					
MAJO	**Matsushiro**	**23.02 37**	P	**P**	**01 14 46.5 -2.2**
MAJO	**Matsushiro**	**23.02 37**	*i* P	**P**	**01 14 46.6 -2.1**
MAJO			pmax	pmax	
comp=Z,34nm,1.1s					
MJAR	**Matsushiro Arr**	**23.02 37**	P	**P**	**01 14 47.7 -0.9**
comp=Z,3.2nm,0.5s,baz=229,slow=9.9,SNR=8.9					
comp=Z,3.2nm,0.5s					
MJB9	**Matsu-Tunnel**	**23.02 37**	P	**P**	**01 14 48.0 -0.7**
HHC	**Hu-ho-hao-te**	**23.22 341**	*e*P	P	01 14 41.5 -9.2
HHC	**Hu-ho-hao-te**	**23.22 341**	*e*P	**P**	**01 14 53.0 +2.3**
HHC			pP	pP	01 15 03.5 +2.2
HHC			S	**S**	**01 19 00.3 +1.0**
HHC			sS	Sn	01 19 08.8 -11
HHC			pmax	pmax	
comp=Z,20nm,0.8s					
HHC			pmax	pmax	
comp=Z,220nm,4.1s					
HHC			LR	LR	
comp=Z,1μm,15.5s					
HHC			LR	LR	
comp=Z,430nm,17.3s					
HHC			LR	LR	
comp=Z,1μm,15.4s					
GUMO	**Guam**	**23.43 100**	LR	LR	01 22 05.0
comp=Z,651nm,20.7s,baz=276,slow=32					
BTO	**Baotou**	**23.50 338**	*e*P	**P**	**01 14 55.5 +2.1**
BTO			pP	**pP**	**01 15 05.0 +0.8**
BTO			sP	**sP**	**01 15 12.5 +2.9**
BTO			PP	**PnPn**	**01 15 27.8 +6.1**
BTO			pmax	pmax	
comp=Z,19nm,0.5s					
BTO			pmax	pmax	
comp=Z,510nm,4.5s					
BTO			LR	LR	
comp=Z,2μm,16.1s					
BTO			LR	LR	
comp=Z,1μm,14.1s					
BTO			LR	LR	
comp=Z,2μm,17.1s					
KAPI	**Kappang**	**23.94 183**	LR	LR	01 24 55.6
comp=Z,619nm,18.9s,baz=360,slow=38					
XLT	**XiLinHaoTe**	**25.14 351**	*e*P	**P**	**01 15 09.0 +0.6**
XLT			pP	pP	01 15 21.0 +0.7
XLT			S	**S**	**01 19 31.0 +1.0**
XLT			pmax	pmax	
comp=Z,20nm,1.5s					
XLT			LR	LR	
comp=Z,39nm,15.8s					
XLT			LR	LR	
comp=Z,370nm,20.1s					
XLT			LR	LR	
comp=Z,500nm,16.9s					
JMM	**Marumori**	**25.43 38**	P	**P**	**01 15 11.5 +0.6**
JMM			IAmb	IAmb	01 15 19.7
comp=Z,46nm,1.0s					
MDJ	**Mudanjiang**	**26.47 14**	P	**P**	**01 15 23.0 +2.7**
MDJ			pmax	pmax	
comp=Z,11nm,1.0s					
USA0B	**Ussuriysk Arra**	**26.69 18**	P	**P**	**01 15 21.8 -0.5**
USA0B	**Ussuriysk Arra**	**26.69 18**	P	**P**	**01 15 21.8 -0.5**
USA0B			pmax	pmax	
comp=Z,7.0nm,0.9s					
USRK	**Ussuriysk Ar.**	**26.69 18**	P	**P**	**01 15 22.3 +0.1**
USRK	**Ussuriysk Ar.**	**26.69 18**	P	**P**	**01 15 22.0 -0.3**
comp=Z,5.4nm,0.8s,baz=197,slow=10,SNR=9.9					
USRK			LR	LR	01 25 27.4
comp=Z,270nm,21.7s,baz=191,slow=35					
comp=Z,5.4nm,0.8s					
BNX	**BinXian**	**27.13 10**	⇑P	**P**	**01 15 26.5 +0.3**
BNX			pmax	pmax	
comp=Z,7.0nm,1.0s					
GTA	**Gaotai**	**27.39 322**	P	P	01 15 38.5 +10
GTA			pP	sP	01 15 47.0 +1.2
GTA			S	S	01 20 19.0 +13
GTA			pmax	pmax	
comp=Z,5.0nm,1.1s					
GTA			LR	LR	
comp=N,330nm,16.7s					
GTA			LR	LR	
comp=E,450nm,14.7s					
GTA			LR	LR	
comp=Z,650nm,16.7s					
JTM	**Tenmabayashi**	**27.61 34**	P	**P**	**01 15 30.9 +0.4**
ERM	**Erimo**	**29.58 35**	P	**P**	**01 15 47.6 -0.5**
ERM			IAmb	IAmb	01 16 05.7
comp=Z,17nm,0.9s					
ERM	**Erimo**	**29.58 35**	P	**P**	**01 15 47.6 -0.5**
ERM			pmax	pmax	
comp=Z,17nm,0.9s					
ASAJ	**Asahikawa**	**30.80 31**	LR	LR	01 28 55.3
comp=Z,318nm,21.6s,baz=340,slow=38					
ULN	**Ulaanbaatar**	**30.94 341**	P	**P**	**01 15 59.6 -0.7**
ULN	**Ulaanbaatar**	**30.94 341**	P	**P**	**01 15 59.6 -0.7**
ULN			pmax	pmax	
comp=Z,18nm,1.1s					
SONM	**Songino Array**	**31.12 341**	P	**P**	**01 16 01.2 -0.6**
SONM	**Songino Array**	**31.12 341**	P	**P**	**01 16 02.7 +0.9**
comp=Z,2.5nm,0.9s,baz=167,slow=7.3,SNR=10					
SONM			PcP	**PcP**	**01 18 56.0 -0.2**
comp=Z,0.6nm,0.7s,baz=141,slow=5.0,SNR=4.2					
SONM			LR	LR	01 29 50.9
comp=Z,839nm,18.6s,baz=184,slow=39					
comp=Z,2.5nm,0.9s					
SONM	**Songino Array**	**31.12 341**	P	**P**	**01 16 01.2 -0.6**
SONM			pmax	pmax	
comp=Z,11nm,0.9s					
KLR	**Kul'dur**	**31.31 13**	LR	LR	01 29 51.3
comp=Z,574nm,20.9s,baz=192,slow=39					
KLR	**Kul'dur**	**31.31 13**	*ce*P	**P**	**01 16 03.9 +0.6**
KLR			pmax	pmax	
comp=Z,16nm,1.7s					
HEH	**HeiHe**	**31.54 8**	*e*P	**P**	**01 16 06.3 +1.0**
HEH			pmax	pmax	
comp=Z,6.0nm,0.9s					
HEH			LR	LR	
comp=Z,410nm,15.9s					
HEH			LR	LR	
comp=Z,250nm,14.3s					
HEH			LR	LR	
comp=Z,670nm,16.4s					
YSS	**Yuzh-Sakhalins**	**33.01 28**	*e*P	**P**	**01 16 19.3 +1.1**
YSS			pmax	pmax	
comp=Z,30nm,1.1s					
ZAK	**Zakamensk**	**34.34 340**	*e*P	**P**	**01 16 30.3 +0.4**
ZAK			pmax	pmax	
comp=Z,8.0nm,1.3s					
ZEA	**Zeya**	**34.95 6**	*e*P	**P**	**01 16 35.5 +0.5**
ZEA			MLR	MLR	
comp=N,300nm,17.0s					
MOY	**Mondy**	**36.20 339**	*e*P	**P**	**01 16 47.5 +1.6**
MOY			pmax	pmax	
comp=Z,25nm,2.2s					
WMQ	**Urumqi**	**37.31 319**	*e*P	**P**	**01 16 57.8 +2.4**
BOD	**Bodaibo**	**39.07 354**	*e*P	**P**	**01 17 10.9 +1.0**
BOD			pmax	pmax	
comp=Z,17nm,1.7s					
WRA	**Warramunga Arr**	**40.86 161**	P	**P**	**01 17 22.5 -2.7**
comp=Z,2.0nm,0.6s,baz=334,slow=10,SNR=36					
WRA			PcP	**PcP**	**01 19 25.5 +0.1**
comp=Z,2.3nm,0.6s,baz=343,slow=3.3,SNR=13					
comp=Z,2.0nm,0.6s					
WB2	**Warramunga Arr**	**40.87 161**	P	**P**	**01 17 24.7 -0.5**
PALK	**Pallekele**	**40.94 259**	LR	LR	01 34 03.8
comp=Z,465nm,19.6s,baz=104,slow=36					
WR0	**Warramunga Arr**	**40.94 161**	P	**P**	**01 17 25.3 -0.5**
MK31	**Makanchi Array**	**42.09 320**	P	**P**	**01 17 36.1 +1.0**
MK31	**Makanchi Array**	**42.09 320**	P	**P**	**01 17 36.1 +1.0**
MK31			pmax	pmax	
comp=Z,5.0nm,0.9s					
MKAR	**Makanchi Array**	**42.09 320**	P	**P**	**01 17 35.8 +0.7**
MKAR	**Makanchi Array**	**42.09 320**	P	**P**	**01 17 36.5 +1.5**
comp=Z,1.8nm,0.7s,baz=114,slow=10.0,SNR=15					
MKAR			PcP	**PcP**	**01 19 29.4 +0.4**
comp=Z,1.8nm,0.7s,baz=87,slow=5.6,SNR=2.8					
comp=Z,1.8nm,0.7s					
MAKZ	**Makanchi**	**42.29 320**	P	**P**	**01 17 35.2 -1.4**
MAKZ	**Makanchi**	**42.29 320**	P	**P**	**01 17 35.3 -1.4**
MAKZ			pmax	pmax	
comp=Z,5.0nm,1.0s					
H11S3	**WAKE ISLAND Hy**	**43.07 83**	T	T	02 03 25.5
baz=279,slow=75,SNR=177					
H11S1	**WAKE ISLAND Hy**	**43.08 83**	T	T	02 03 27.6
baz=279,slow=75,SNR=241					
H11S2	**WAKE ISLAND Hy**	**43.09 83**	T	T	02 03 26.8
baz=279,slow=75,SNR=186					
H11N1	**WAKE ISLAND Hy**	**43.10 81**	T	T	02 03 25.4
baz=278,slow=75,SNR=1324					
H11N2	**WAKE ISLAND Hy**	**43.10 81**	T	T	02 03 25.1
baz=278,slow=75,SNR=1043					
H11N3	**WAKE ISLAND Hy**	**43.11 81**	T	T	02 03 26.6
baz=278,slow=75,SNR=783					
YAK	**Yakutsk**	**43.36 6**	LR	LR	01 37 33.3
comp=Z,309nm,19.7s,baz=184,slow=38					
KSH	**Kashi**	**43.80 308**	P	**P**	**01 17 53.0 +3.9**
KSH			pmax	pmax	
comp=Z,7.0nm,0.8s					
KSH			LR	LR	
comp=Z,340nm,14.8s					
KSH			LR	LR	
comp=Z,670nm,18.6s					
KSH			LR	LR	
comp=Z,1μm,19.6s					
ASAR	**Alice Springs**	**44.25 163**	P	**P**	**01 17 51.1 -1.6**
comp=Z,1.6nm,0.4s,baz=341,slow=6.9,SNR=20					
comp=Z,1.6nm,0.4s					
NRN	**Naryn**	**44.29 310**	P	**P**	**01 17 51.7 -1.5**
NRN	**Naryn**	**44.29 310**	P	**P**	**01 17 51.7 -1.5**
NRN			pmax	pmax	
comp=Z,13nm,1.1s					
ZAA0	**Zalesovo Array**	**44.58 330**	P	**P**	**01 17 54.8 -0.1**
ZALV	**Zalesovo Beam**	**44.58 330**	P	**P**	**01 17 55.0 +0.1**
comp=Z,1.6nm,0.6s,baz=117,slow=8.2,SNR=8.0					
comp=Z,1.6nm,0.6s					
NIL	**Nilore**	**44.90 299**	P	**P**	**01 17 58.0 +0.2**
NIL			IAmb	IAmb	01 17 59.5
comp=Z,18nm,0.8s					
NIL	**Nilore**	**44.90 299**	P	**P**	**01 17 58.0 +0.2**
NIL			pmax	pmax	
comp=Z,18nm,0.9s					
AAK	**Ala-Archa**	**45.70 311**	LR	LR	01 38 27.1
comp=Z,500nm,20.8s,baz=128,slow=38					
MA2	**Magadan**	**45.77 21**	LR	LR	01 37 48.0
comp=Z,291nm,21.4s,baz=222,slow=37					
KURK	**Kurchatov**	**46.06 323**	*ce*P	**P**	**01 18 08.0 +1.2**
KURK			pmax	pmax	
comp=Z,12nm,1.7s					
KURBB	**Kurchatov Arra**	**46.07 323**	P	**P**	**01 18 07.8 +0.9**
comp=Z,2.7nm,0.7s,baz=120,slow=8.3,SNR=22					
KURBB			PcP	**PcP**	**01 19 41.7 -0.8**
comp=Z,0.8nm,0.9s,baz=119,slow=4.6,SNR=4.1					
comp=Z,2.7nm,0.7s					
HNR	**Honiara**	**47.61 123**	LR	LR	01 38 11.3
comp=Z,3μm,18.4s,baz=315,slow=36					
BTK	**Batken**	**47.79 307**	P	**P**	**01 18 20.8 +0.2**
BTK	**Batken**	**47.79 307**	P	**P**	**01 18 20.8 +0.2**
BTK			pmax	pmax	
comp=Z,11nm,1.3s					
GAR	**Garm**	**47.99 306**	P	**P**	**01 18 22.2 +0.1**
KK31	**Karatay Array**	**48.65 311**	P	**P**	**01 18 27.2 +0.1**
KK31	**Karatay Array**	**48.65 311**	P	**P**	**01 18 27.2 +0.1**
KK31			pmax	pmax	
comp=Z,5.0nm,0.9s					
KKAR	**Karatay Array**	**48.65 311**	P	**P**	**01 18 27.0 0.0**
KKAR	**Karatay Array**	**48.65 311**	P	**P**	**01 18 27.1 0.0**
KKAR			IAmb	IAmb	01 18 36.8
comp=Z,4.9nm,0.9s					
KKAR	**Karatay Array**	**48.65 311**	P	**P**	**01 18 27.1 0.0**
KKAR			pmax	pmax	
comp=Z,5.0nm,0.9s					
SEY	**Seymchan**	**48.83 18**	*i* P	**P**	**01 18 29.3 +1.2**
SEY			pmax	pmax	
comp=Z,13nm,1.5s					
BVAR	**Borovoye Array**	**51.66 323**	P	**P**	**01 18 50.9 +1.2**
comp=Z,1.3nm,0.5s,baz=108,slow=7.6,SNR=11					
BVAR			PcP	**PcP**	**01 20 02.6 -0.1**
comp=Z,2.3nm,0.7s,baz=117,slow=3.7,SNR=5.1					
comp=Z,1.3nm,0.5s					
BRVK	**Borovoye**	**51.74 323**	P	**P**	**01 18 50.0 -0.2**
BRVK	**Borovoye**	**51.74 323**	*ce*P	**P**	**01 18 51.6 +1.4**
BRVK			pmax	pmax	
comp=Z,16nm,1.7s					
TIXI	**Tiksi**	**52.81 3**	P	**P**	**01 18 56.5 -1.3**
TIXI	**Tiksi**	**52.81 3**	LR	LR	01 42 49.1
comp=Z,297nm,20.8s,baz=218,slow=38					
TIXI	**Tiksi**	**52.81 3**	*ce*P	**P**	**01 18 57.8 0.0**
TIXI			pmax	pmax	
comp=Z,101nm,2.5s					
SHEM	**Shemya Is, Ala**	**52.86 38**	LR	LR	01 43 09.8
comp=Z,64nm,20.1s,baz=289,slow=38					
STKA	**Stephens Creek**	**54.31 158**	P	**P**	**01 19 08.5 -0.9**
comp=Z,1.3nm,0.4s,baz=335,slow=3.6,SNR=3.5					
comp=Z,1.3nm,0.4s					
NRIK	**Noril'sk**	**54.34 346**	P	**P**	**01 19 09.3 +0.2**
NRIK	**Noril'sk**	**54.34 346**	P	**P**	**01 19 09.6 +0.6**
comp=Z,13nm,0.6s,baz=128,slow=6.6,SNR=20					
NRIK			LR	LR	01 44 19.3
comp=Z,483nm,18.6s,baz=163,slow=38					
comp=Z,13nm,0.6s					
NRIK	**Noril'sk**	**54.34 346**	*ce*P	**P**	**01 19 09.3 +0.2**
NRIK			pmax	pmax	
comp=Z,52nm,1.4s					
BILL	**Bilibino**	**56.54 19**	⇓*e*P	**P**	**01 19 24.8 -0.1**
BILL			*e*		01 20 19.0
BILL			*e*		01 21 29.7
BILL			pmax	pmax	
comp=Z,28nm,2.5s					
BILL			MLR	MLR	
comp=Z,211nm,19.0s					
ABKAR	**Akbulak array**	**57.05 317**	P	**P**	**01 19 29.2 +0.3**
ABKAR	**Akbulak array**	**57.05 317**	P	**P**	**01 19 28.7 -0.1**
ABKAR			IAmb	IAmb	01 19 39.6
comp=Z,6.0nm,1.0s					
SVE	**Sverdlovsk**	**58.18 326**	*e*P	**P**	**01 19 37.8 +1.1**
SVE			pmax	pmax	
comp=Z,22nm,1.4s					
ARU	**Arti**	**59.20 325**	P	**P**	**01 19 43.8 0.0**
ARU			IAmb	IAmb	01 19 44.4
comp=Z,6.5nm,0.5s					
ARU	**Arti**	**59.20 325**	LR	LR	01 47 12.5
comp=Z,248nm,18.4s,baz=100,slow=38					
ARU	**Arti**	**59.20 325**	*c i* P	**P**	**01 19 43.9 +0.1**
ARU					01 20 33.3
ARU			S	**S**	**01 27 51.6 +3.6**
ARU			SS	**SS**	**01 31 49.4 +6.7**
ARU			pmax	pmax	
comp=Z,22nm,1.7s					
ARU			MLR	MLR	
comp=Z,374nm,17.0s					
DZM	**Mont Dzumac**	**60.29 131**	*e*LR	LR	01 37 40.3
comp=Z,461nm,22.3s					
DZM	**Mont Dzumac**	**60.29 131**	LR	LR	01 42 21.0
comp=Z,302nm,21.1s,baz=274,slow=33					
KIRV	**Kirov**	**64.41 327**	LR	LR	01 50 35.7
comp=Z,463nm,18.4s,baz=103,slow=38					
KIRV	**Kirov**	**64.41 327**	*ce*P	**P**	**01 20 18.9 +0.2**
TNA	**Tin City**	**64.96 26**	P	**P**	**01 20 22.4 +0.2**
baz=261					
M11K	**Mekoryuk**	**65.08 32**	P	**P**	**01 20 23.9 +0.8**
baz=265					
F14K	**Arctic Creek**	**65.61 26**	P	**P**	**01 20 27.2 +0.8**
baz=262,SNR=6.2					
ANM	**Nome**	**65.89 27**	P	**P**	**01 20 29.0 +0.7**
baz=264					
K13K	**Kusilvak Mount**	**65.97 30**	P	**P**	**01 20 29.0 +0.3**
K13K			IAmb	IAmb	01 20 30.5
comp=Z,14nm,1.1s					
K13K	**Kusilvak Mount**	**65.97 30**	P	**P**	**01 20 29.4 +0.6**
baz=266					
F15K	**North Star Dit**	**66.33 26**	P	**P**	**01 20 31.6 +0.5**
F15K	**North Star Dit**	**66.33 26**	P	**P**	**01 20 31.8 +0.7**
baz=264,SNR=5.9					
C16K	**Lisburne Hills**	**66.38 23**	P	**P**	**01 20 31.7 +0.4**
baz=262					
M13K	**Dall Lake**	**66.50 32**	P	**P**	**01 20 32.8 +0.6**
baz=267					
G15K	**Niukluk**	**66.51 27**	P	**P**	**01 20 32.7 +0.5**
baz=265					
J14K	**Nanvaranak Lak**	**66.54 29**	P	**P**	**01 20 32.9 +0.5**
J14K			IAmb	IAmb	01 20 34.1
comp=Z,11nm,1.0s					
J14K	**Nanvaranak Lak**	**66.54 29**	P	**P**	**01 20 33.1 +0.6**
baz=266					
L14K	**Kuka Creek**	**66.87 31**	P	**P**	**01 20 35.1 +0.6**
L14K	**Kuka Creek**	**66.87 31**	P	**P**	**01 20 35.2 +0.6**
baz=268,SNR=15					
S12K	**Black Hills**	**67.09 37**	P	**P**	**01 20 36.9 +0.8**
baz=270					
D17K	**Noatak River**	**67.15 24**	P	**P**	**01 20 37.2 +0.9**
baz=264,SNR=14					
M14K	**Bethel**	**67.20 31**	P	**P**	**01 20 36.9 +0.3**
M14K	**Bethel**	**67.20 31**	P	**P**	**01 20 36.9 +0.3**
baz=268					
H16K	**Elim**	**67.25 27**	P	**P**	**01 20 37.2 +0.3**
baz=266					
G16K	**Koyuk River**	**67.25 26**	P	**P**	**01 20 37.3 +0.4**
G16K			IAmb	IAmb	01 20 38.6
comp=Z,19nm,1.4s					
G16K	**Koyuk River**	**67.25 26**	P	**P**	**01 20 37.3 +0.4**
baz=266,SNR=5.6					
RDOG	**Red Dog Mine**	**67.25 23**	P	**P**	**01 20 37.6 +0.7**
baz=264					
N14K	**Kuskokwak Cree**	**67.31 32**	P	**P**	**01 20 37.4 +0.1**
baz=269					
K15K	**Wolf Creek Mou**	**67.45 30**	P	**P**	**01 20 38.4 +0.1**
K15K	**Wolf Creek Mou**	**67.45 30**	P	**P**	**01 20 38.9 +0.6**
baz=268,SNR=5.4					
L15K	**Ungalak Mounta**	**67.45 30**	P	**P**	**01 20 38.5 +0.2**
baz=268					
E17K	**Hotham Inlet**	**67.58 24**	P	**P**	**01 20 39.9 +0.9**
baz=266					
GNI	**Garni**	**67.71 306**	LR	LR	01 54 55.1
comp=Z,147nm,21.5s,baz=98,slow=40					
F17K	**Baldwin Pennin**	**67.77 25**	P	**P**	**01 20 39.9 -0.2**
F17K			IAmb	IAmb	01 20 42.2
comp=Z,9.4nm,0.9s					
F17K	**Baldwin Pennin**	**67.77 25**	P	**P**	**01 20 41.1 +0.9**
baz=267					
B18K	**Kokolik River**	**67.78 22**	P	**P**	**01 20 41.3 +1.1**
baz=265					
M15K	**Kasigluk River**	**67.82 31**	P	**P**	**01 20 40.7 +0.1**
baz=270					
I17K	**Unalakleet**	**67.89 28**	P	**P**	**01 20 41.0 +0.1**
I17K			IAmb	IAmb	01 20 43.0
comp=Z,16nm,1.1s					
I17K	**Unalakleet**	**67.89 28**	P	**P**	**01 20 41.8 +0.8**
baz=268,SNR=5.4					
J16K	**Anvik River**	**67.91 29**	P	**P**	**01 20 41.5 +0.4**
J16K			IAmb	IAmb	01 20 42.4
comp=Z,15nm,1.4s					
J16K	**Anvik River**	**67.91 29**	P	**P**	**01 20 41.8 +0.6**
baz=269					
C18K	**Utukok River**	**67.94 23**	P	**P**	**01 20 41.5 +0.2**
C18K	**Utukok River**	**67.94 23**	P	**P**	**01 20 41.7 +0.4**
baz=266					
G17K	**Kiwalik Mounta**	**67.97 26**	P	**P**	**01 20 42.1 +0.6**
baz=268,SNR=11					
E18K	**Tukpahlearik C**	**68.08 24**	P	**P**	**01 20 42.6 +0.4**
E18K	**Tukpahlearik C**	**68.08 24**	P	**P**	**01 20 42.8 +0.7**
baz=267					
A19K	**Wainwright**	**68.11 21**	P	**P**	**01 20 41.8 -0.4**
baz=265					
N15K	**Kwethluk River**	**68.12 32**	P	**P**	**01 20 42.1 -0.4**
N15K	**Kwethluk River**	**68.12 32**	P	**P**	**01 20 42.7 +0.2**
baz=270,SNR=6.0					
H17K	**Granite Mounta**	**68.26 27**	P	**P**	**01 20 43.2 -0.1**
H17K			IAmb	IAmb	01 20 45.3
comp=Z,17nm,1.1s					
H17K	**Granite Mounta**	**68.26 27**	P	**P**	**01 20 44.0 +0.7**
baz=268,SNR=8.5					
O15K	**Ungalikthiuk R**	**68.26 33**	P	**P**	**01 20 43.4 0.0**
baz=271					
L16K	**Owhat River**	**68.41 30**	P	**P**	**01 20 44.6 +0.3**
L16K			IAmb	IAmb	01 20 45.9
comp=Z,17nm,1.2s					
L16K	**Owhat River**	**68.41 30**	P	**P**	**01 20 44.4 +0.1**
baz=270,SNR=5.7					
F18K	**Selawik**	**68.42 25**	P	**P**	**01 20 44.7 +0.5**
baz=268,SNR=16					
S14K	**Fog Glacier**	**68.48 36**	P	**P**	**01 20 45.3 +0.4**
baz=272					
C19K	**Lookout Ridge**	**68.55 22**	P	**P**	**01 20 45.9 +0.8**
baz=267					
J17K	**VABM Dome**	**68.60 28**	P	**P**	**01 20 46.3 +0.8**
J17K	**VABM Dome**	**68.60 28**	P	**P**	**01 20 46.2 +0.8**
baz=270,SNR=12					
M16K	**Timber Creek**	**68.67 31**	P	**P**	**01 20 46.6 +0.7**
M16K	**Timber Creek**	**68.67 31**	P	**P**	**01 20 46.2 +0.3**
baz=271					
KBZ	**Khabaz**	**68.68 310**	P	**P**	**01 20 47.0 +0.7**
comp=Z,1.7nm,0.7s,baz=119,slow=9.2,SNR=4.2					
KBZ			LR	LR	01 54 54.6
comp=Z,262nm,18.3s,baz=72,slow=40					
comp=Z,1.7nm,0.7s					
KBZ	**Khabaz**	**68.68 310**	*ce*P	**P**	**01 20 46.5 +0.2**
KBZ			pmax	pmax	
comp=Z,9.0nm,1.5s					
N16K	**Nishlik Lake**	**68.77 32**	P	**P**	**01 20 47.0 +0.4**
baz=271					
VRH	**Novokhopyorsk**	**68.79 318**	*e*P	P	01 20 41.6 -5.2
VRH			pmax	pmax	
comp=Z,15nm,0.6s					
G18K	**Tagagawik**	**68.80 26**	P	**P**	**01 20 47.2 +0.5**
G18K			IAmb	IAmb	01 20 48.1
comp=Z,16nm,1.2s					
G18K	**Tagagawik**	**68.80 26**	P	**P**	**01 20 46.8 +0.1**
baz=269,SNR=11					
KIV	**Kislovodsk**	**68.81 311**	*e*P	**P**	**01 20 47.4 +0.2**
KIV			pmax	pmax	
comp=Z,6.0nm,1.1s					
KIV			MLR	MLR	
comp=Z,198nm,17.0s					
H18K	**Honhosa River**	**68.92 27**	P	**P**	**01 20 48.1 +0.7**
H18K			IAmb	IAmb	01 20 49.0
comp=Z,14nm,1.3s					
H18K	**Honhosa River**	**68.92 27**	P	**P**	**01 20 47.6 +0.2**
baz=270					
K17K	**Iditarod**	**68.95 29**	P	**P**	**01 20 48.5 +0.8**
K17K	**Iditarod**	**68.95 29**	P	**P**	**01 20 48.4 +0.8**
baz=271,SNR=7.5					

L17K	**Donlin**	68.97	30	P	P	01 20 48.6	+0.8
	baz=271,SNR=6.5						
D19K	**Kuna River**	69.06	23	P	P	01 20 48.7	+0.5
D19K	**Kuna River**	69.06	23	P	P	01 20 48.8	+0.5
	baz=269,SNR=8.7						
O16K	**Kokwok River B**	69.14	33	P	P	01 20 48.3	-0.6
O16K				IAmb	IAmb	01 20 50.2	
	comp=Z,12nm,1.1s						
O16K	**Kokwok River B**	69.14	33	P	P	01 20 48.9	0.0
	baz=272						
F19K	**Shaleruckik Mo**	69.17	25	P	P	01 20 48.4	-0.5
F19K	**Shaleruckik Mo**	69.17	25	P	P	01 20 48.8	-0.1
	baz=270,SNR=6.7						
E19K	**Redstone River**	69.38	24	P	P	01 20 50.8	+0.5
E19K				IAmb	IAmb	01 20 52.1	
	comp=Z,20nm,1.4s						
E19K	**Redstone River**	69.38	24	P	P	01 20 50.8	+0.5
	baz=270,SNR=9.1						
M17K	**Holitna River**	69.39	31	P	P	01 20 51.1	+0.6
M17K	**Holitna River**	69.39	31	P	P	01 20 51.0	+0.6
	baz=272,SNR=6.5						
B20K	**Meade River**	69.43	21	P	P	01 20 51.2	+0.7
	baz=269						
G19K	**Purcell Mounta**	69.44	25	P	P	01 20 50.9	+0.3
G19K				IAmb	IAmb	01 20 52.2	
	comp=Z,15nm,1.2s						
G19K	**Purcell Mounta**	69.44	25	P	P	01 20 50.9	+0.3
	baz=271,SNR=9.0						
N17K	**Nushagak Hills**	69.55	31	P	P	01 20 51.7	+0.3
N17K				IAmb	IAmb	01 20 53.5	
	comp=Z,20nm,1.1s						
N17K	**Nushagak Hills**	69.55	31	P	P	01 20 51.6	+0.1
	baz=273,SNR=5.6						
GCSA	**Galena City Sc**	69.55	27	P	P	01 20 51.4	+0.1
	baz=271						
D20K	**Etivluk River**	69.61	23	P	P	01 20 51.9	+0.2
	baz=270						
O17K	**Koliganek Bris**	69.63	32	P	P	01 20 51.7	-0.2
	baz=273						
J18K	**Innoko River**	69.66	28	P	P	01 20 52.0	-0.1
J18K				IAmb	IAmb	01 20 53.5	
	comp=Z,22nm,1.4s						
J18K	**Innoko River**	69.66	28	P	P	01 20 52.1	+0.1
	baz=272,SNR=7.8						
H19K	**Roundabout Mou**	69.72	26	P	P	01 20 52.9	+0.6
H19K	**Roundabout Mou**	69.72	26	P	P	01 20 53.0	+0.7
	baz=271,SNR=16						
L18K	**Granite Mounta**	69.72	30	P	P	01 20 53.1	+0.6
L18K				IAmb	IAmb	01 20 54.4	
	comp=Z,10nm,0.9s						
L18K	**Granite Mounta**	69.72	30	P	P	01 20 53.0	+0.6
	baz=272,SNR=6.8						
E20K	**Nigu River**	69.77	23	P	P	01 20 53.1	+0.4
	baz=271,SNR=11						
RAYN	**Ar Rayn**	69.84	289	P	P	01 20 52.8	-1.1
RAYN				IAmb	IAmb	01 20 54.4	
	comp=Z,12nm,1.2s						
RAYN	**Ar Rayn**	69.84	289	P	P	01 20 52.8	-1.1
RAYN				pmax	pmax		
	comp=Z,12nm,1.2s						
F20K	**Avaraart Lake**	69.97	24	P	P	01 20 54.1	+0.3
F20K				IAmb	IAmb	01 20 55.8	
	comp=Z,15nm,1.4s						
F20K	**Avaraart Lake**	69.97	24	P	P	01 20 54.5	+0.7
	baz=272						
GURO	**Guroymak-BITLI**	70.01	305	P	P	01 20 54.1	-0.7
GURO				IAmb	IAmb	01 20 57.2	
	comp=Z,16nm,1.6s						
J19K	**Poorman**	70.12	28	P	P	01 20 55.0	+0.1
J19K				IAmb	IAmb	01 20 56.7	
	comp=Z,20nm,1.4s						
J19K	**Poorman**	70.12	28	P	P	01 20 55.1	+0.1
	baz=273,SNR=6.3						
M18K	**Stony River**	70.16	30	P	P	01 20 55.9	+0.8
	baz=274						
N18K	**Kilae Creek**	70.18	31	P	P	01 20 55.7	+0.4
	baz=274						
C21K	**Knifeblade Rid**	70.27	22	P	P	01 20 56.2	+0.6
	baz=272,SNR=6.1						
VORR	**Voronezh**	70.32	319	*e*P	P	01 20 55.3	-0.9
B21K	**Ikpikpuk River**	70.32	22	P	P	01 20 56.5	+0.6
B21K	**Ikpikpuk River**	70.32	22	P	P	01 20 56.1	+0.2
	baz=272,SNR=5.6						
Q17K	**Contact Creek**	70.36	34	P	P	01 20 57.1	+0.6
	baz=275						
H20K	**Anotleneega Mo**	70.37	26	P	P	01 20 57.0	+0.6
	baz=273,SNR=8.1						
I20K	**Naaghedeneel**	70.58	27	P	P	01 20 58.5	+0.9
I20K	**Naaghedeneel**	70.58	27	P	P	01 20 58.1	+0.5
	baz=274,SNR=7.0						
L19K	**White Mountain**	70.58	30	P	P	01 20 58.4	+0.7
L19K				IAmb	IAmb	01 20 59.6	
	comp=Z,16nm,1.1s						
L19K	**White Mountain**	70.58	30	P	P	01 20 58.1	+0.4
	baz=274,SNR=7.8						
O18K	**Koktuh Hills**	70.58	32	P	P	01 20 58.2	+0.5
O18K	**Koktuh Hills**	70.58	32	P	P	01 20 57.7	0.0
	baz=275						
E21K	**Killik River**	70.59	23	P	P	01 20 58.1	+0.4
E21K	**Killik River**	70.59	23	P	P	01 20 57.9	+0.2
	baz=273						
P18K	**Big Mountain,**	70.61	33	P	P	01 20 58.5	+0.6
	baz=275						
B22K	**Teshekpuk Lake**	70.70	21	P	P	01 20 59.1	+0.9
	baz=272						
J20K	**Nowinta River**	70.76	28	P	P	01 20 59.5	+0.8
J20K				IAmb	IAmb	01 21 00.8	
	comp=Z,25nm,1.4s						
J20K	**Nowinta River**	70.76	28	P	P	01 20 59.4	+0.6
	baz=274,SNR=11						
IMAR	**Indian Mountai**	70.81	26	P	P	01 20 59.6	+0.6
M19K	**Big River Lodg**	70.82	30	P	P	01 20 59.6	+0.5
M19K	**Big River Lodg**	70.82	30	P	P	01 20 59.7	+0.5
	baz=275						
F21K	**Alatna River**	70.84	24	P	P	01 21 00.2	+1.0
	baz=274						
K20K	**Telida**	70.85	28	P	P	01 20 59.7	+0.3
K20K				IAmb	IAmb	01 21 01.5	
	comp=Z,24nm,1.4s						
K20K	**Telida**	70.85	28	P	P	01 20 59.9	+0.5
	baz=274,SNR=7.5						
N19K	**Bonanza Creek**	70.86	31	IAmb	IAmb	01 21 01.3	
	comp=Z,24nm,1.4s						
N19K	**Bonanza Creek**	70.86	31	P	P	01 21 00.1	+0.5
	baz=275						
G21K	**Allakaket**	70.88	25	P	P	01 20 59.8	+0.4
	baz=274,SNR=14						
SOC	**Sochi**	70.99	311	*e*P	P	01 20 58.7	-1.8
SOC				*e*		01 23 36.2	
SOC				*e*PPP	PPP	01 25 17.1	
SOC				*e*S	S	01 30 12.7	-0.4
SOC				*e*SS	SS	01 34 46.2	-0.2
SOC				MLR	MLR		
	comp=Z,113nm,14.0s						
L20K	**Farewell, AK**	71.01	29	P	P	01 21 00.7	+0.4
	baz=275						
D22K	**Ayikyak River**	71.04	22	IAmb	IAmb	01 21 02.4	
	comp=Z,21nm,1.2s						
D22K	**Ayikyak River**	71.04	22	P	P	01 21 01.1	+0.7
	baz=274,SNR=8.0						
H21K	**Melozitna Rive**	71.22	26	P	P	01 21 02.0	+0.4
	baz=275,SNR=18						
F22K	**John River**	71.32	24	P	P	01 21 02.4	+0.3
	baz=275						
M20K	**Styx River**	71.41	30	P	P	01 21 03.2	+0.3
	baz=276						
G22K	**Bettles**	71.64	25	P	P	01 21 03.6	-0.4
	baz=275						
C23K	**Itkillik River**	71.70	21	IAmb	IAmb	01 21 06.0	
	comp=Z,16nm,1.2s						
C23K	**Itkillik River**	71.70	21	P	P	01 21 04.2	-0.1
	baz=275						
D23K	**Nanushuk River**	71.75	22	P	P	01 21 05.3	+0.7
	baz=276						
H22K	**Ishtalitna Cre**	71.79	26	P	P	01 21 05.9	+0.9
	baz=276,SNR=17						
N20K	**Mount Spurr**	71.92	31	P	P	01 21 05.7	-0.2
	baz=277						
COLD	**Coldfoot**	72.11	24	P	P	01 21 06.6	-0.2
	baz=276,SNR=5.3						
MLY	**Manley**	72.15	26	IAmb	IAmb	01 21 08.9	
	comp=Z,26nm,1.3s						
MLY	**Manley**	72.15	26	P	P	01 21 07.6	+0.5
	baz=277,SNR=14						
BPAW	**Bear Paw Mtn.**	72.15	27	P	P	01 21 07.5	+0.3
	baz=277,SNR=14						
KDAK	**Kodiak Island**	72.15	34	P	P	01 21 07.9	+0.7
	baz=278						
SKT	**Skwentna**	72.16	30	P	P	01 21 07.8	+0.6
	baz=277						
TOLK	**Toolik Lake Re**	72.19	23	IAmb	IAmb	01 21 09.1	
	comp=Z,26nm,1.4s						
TOLK	**Toolik Lake Re**	72.19	23	P	P	01 21 07.5	+0.2
	baz=277,SNR=6.5						
E23K	**Chandalar**	72.24	23	P	P	01 21 08.1	+0.4
	baz=277,SNR=9.2						
G23K	**Bananza Creek**	72.24	25	IAmb	IAmb	01 21 09.7	
	comp=Z,27nm,1.4s						
G23K	**Bananza Creek**	72.24	25	P	P	01 21 08.3	+0.6
	baz=277,SNR=12						
C24K	**Franklin Bluff**	72.37	21	P	P	01 21 08.6	+0.3
	baz=277						
D24K	**Happy Valley**	72.40	22	IAmb	IAmb	01 21 10.3	
	comp=Z,15nm,1.1s						
D24K	**Happy Valley**	72.40	22	P	P	01 21 08.9	+0.3
	baz=277,SNR=6.2						
H23K	**Yukon River**	72.54	26	P	P	01 21 10.6	+1.1
	baz=278,SNR=16						
SUA	**Susitna One**	72.59	30	P	P	01 21 09.3	-0.7
	baz=278						
E24K	**Your Creek**	72.66	23	IAmb	IAmb	01 21 12.0	
	comp=Z,28nm,1.4s						
E24K	**Your Creek**	72.66	23	P	P	01 21 10.3	+0.1
	baz=278						
CUT	**Chulitna**	72.69	29	P	P	01 21 09.6	-0.7
	baz=278						
I23K	**Minto, Yukon-K**	72.71	26	IAmb	IAmb	01 21 12.1	
	comp=Z,25nm,1.4s						
I23K	**Minto, Yukon-K**	72.71	26	P	P	01 21 10.4	0.0
	baz=278,SNR=10						
M22K	**Willow**	72.85	30	P	P	01 21 10.3	-1.0
	baz=278						
NEA2	**Nenana**	72.91	27	IAmb	IAmb	01 21 12.9	
	comp=Z,18nm,1.2s						
NEA2	**Nenana**	72.91	27	P	P	01 21 11.7	0.0
	baz=278,SNR=8.1						
F24K	**Squaw Lake**	72.96	24	IAmb	IAmb	01 21 13.8	
	comp=Z,22nm,1.4s						
F24K	**Squaw Lake**	72.96	24	P	P	01 21 12.5	+0.5
	baz=278,SNR=12						
MCK	**McKinley**	73.10	28	P	P	01 21 12.2	-0.6
	baz=279,SNR=6.9						
H24K	**Noodor Dome**	73.22	25	IAmb	IAmb	01 21 15.6	
	comp=Z,21nm,1.4s						
H24K	**Noodor Dome**	73.22	25	P	P	01 21 13.9	+0.3
	baz=279,SNR=9.9						
D25K	**Kavik River**	73.24	22	IAmb	IAmb	01 21 15.1	
	comp=Z,14nm,0.9s						
D25K	**Kavik River**	73.24	22	P	P	01 21 13.4	-0.2
	baz=279,SNR=18						
G24K	**Hadweenzic Riv**	73.25	25	IAmb	IAmb	01 21 15.5	
	comp=Z,19nm,1.1s						
G24K	**Hadweenzic Riv**	73.25	25	P	P	01 21 14.1	+0.5
	baz=279,SNR=11						
WRH	**Wood River Hil**	73.35	27	IAmb	IAmb	01 21 16.0	
	comp=Z,24nm,1.4s						
WAT1	**Susitna Watana**	73.41	29	P	P	01 21 14.1	-0.6
	baz=279						
SEW	**Seward**	73.42	32	P	P	01 21 15.0	+0.3
	baz=279						
POKR	**Poker Flat Res**	73.52	26	P	P	01 21 15.1	-0.1
	baz=280						
C26K	**Camden Bay**	73.64	21	P	P	01 21 16.2	+0.4
	baz=280						
SML	**Sawmill**	73.68	30	P	P	01 21 15.8	-0.5
	baz=280						
KNK	**Knik Glacier**	73.69	30	IAmb	IAmb	01 21 17.6	
	comp=Z,23nm,1.1s						
KNK	**Knik Glacier**	73.69	30	P	P	01 21 16.0	-0.3
	baz=280						
G25K	**Bearman Lake**	73.77	24	P	P	01 21 17.2	+0.5
	baz=280						
F25K	**Christian Rive**	73.80	23	P	P	01 21 17.9	+1.0
	baz=280,SNR=9.6						
ILAR	**Eielson Array**	73.81	26	P	P	01 21 15.8	-1.2
	comp=Z,1.5nm,0.9s,baz=136,slow=1.6,SNR=11						
	comp=Z,1.5nm,0.9s						
WAT6	**Susitna Watana**	73.82	29	P	P	01 21 16.5	-0.8
	baz=280,SNR=6.2						
PWL	**Port Wells**	73.84	31	P	P	01 21 16.3	-0.9
	baz=280						
HDA	**Harding Lake**	73.85	27	IAmb	IAmb	01 21 17.2	
	comp=Z,17nm,1.3s						
HDA	**Harding Lake**	73.85	27	P	P	01 21 16.1	-1.1
	baz=280						
DHY	**Denali Highway**	73.90	28	P	P	01 21 17.5	-0.1
	baz=280						
M23K	**Glacier View**	73.97	30	P	P	01 21 17.7	-0.2
	baz=280						
H25L	**Birch Creek**	73.98	25	P	P	01 21 18.1	+0.3
	baz=281						
C27K	**Jago River**	74.11	21	P	P	01 21 18.6	+0.1
	baz=282,SNR=7.7						
SCM	**Sheep Creek Mo**	74.14	30	P	P	01 21 18.7	-0.3
	baz=281						
FYU	**Fort Yukon**	74.15	25	IAmb	IAmb	01 21 20.8	
	comp=Z,14nm,1.1s						
BMAR	**Burnt Mountain**	74.23	24	P	P	01 21 20.1	+0.7
PRP	**Porcupine Dome**	74.24	26	P	P	01 21 19.8	+0.2
	baz=281						
ARCES	**ARCESS Array B**	74.27	339	P	P	01 21 19.8	+0.3
	comp=Z,2.3nm,0.6s,baz=64,slow=8.2,SNR=12						
ARCES				LR	LR	01 57 48.5	
	comp=Z,238nm,19.2s,baz=99,slow=39						
	comp=Z,2.3nm,0.6s						
F26K	**Sheenjek River**	74.34	23	P	P	01 21 20.4	+0.4
	baz=282,SNR=6.5						
GLI	**Glacier Island**	74.43	30	P	P	01 21 20.0	-0.6
	baz=281						
P23K	**Montague Islan**	74.45	31	P	P	01 21 20.8	+0.1
	baz=281						
K24K	**Donnelly Dome**	74.47	27	P	P	01 21 21.6	+0.7
	baz=282						
J25K	**Salcha River,**	74.48	27	P	P	01 21 21.1	+0.2
	baz=282						
M24K	**Tolsona, Glenn**	74.63	29	P	P	01 21 21.8	0.0
	baz=282						
G26K	**Porcupine Rive**	74.64	24	P	P	01 21 22.1	+0.4
	baz=282,SNR=5.9						
PAX	**Paxson**	74.77	28	P	P	01 21 22.8	+0.1
	baz=282,SNR=5.1						
KLU	**Klutina**	74.87	30	P	P	01 21 23.1	-0.1
	baz=282						
HARP	**HAARP**	75.03	29	P	P	01 21 24.1	0.0
	baz=282						
D27M	**Malcolm River**	75.14	21	P	P	01 21 24.9	+0.3
	baz=284						
EYAK	**Cordova Ski Ar**	75.15	31	P	P	01 21 25.2	+0.4
	baz=282						
E27K	**Coleen River**	75.17	23	IAmb	IAmb	01 21 26.6	
	comp=Z,27nm,1.3s						
E27K	**Coleen River**	75.17	23	P	P	01 21 25.2	+0.4
	baz=284,SNR=9.0						
SCRK	**Sand Creek**	75.20	27	P	P	01 21 24.4	-0.8
	baz=283						
I26K	**Coal Creek Min**	75.25	26	P	P	01 21 24.6	-0.6
	baz=283						
J26L	**Joseph Creek**	75.27	26	P	P	01 21 24.7	-0.8
	baz=283						
N25K	**Chitina, Valde**	75.46	30	P	P	01 21 26.3	-0.4
	baz=283						
G27K	**Doyon Strip**	75.49	24	P	P	01 21 26.8	+0.1
	baz=284,SNR=7.9						
BMRM	**Bremner River**	75.60	30	P	P	01 21 27.2	-0.3
	baz=283						
H27K	**Steamboat Moun**	75.68	25	P	P	01 21 28.1	+0.3
	baz=285						
L26K	**Log Cabin Wild**	75.70	28	P	P	01 21 27.4	-0.5
	baz=284						
E28M	**Babbage River**	75.80	22	P	P	01 21 28.6	+0.2
	baz=286						
I27K	**Kandik River**	75.80	25	P	P	01 21 28.7	+0.2
	baz=285,SNR=7.7						
FINES	**FINESS Array B**	75.84	330	P	P	01 21 28.4	-0.3
	comp=Z,0.7nm,0.5s,baz=72,slow=6.2,SNR=5.0						
FINES				LR	LR	01 57 34.7	
	comp=Z,190nm,18.6s,baz=84,slow=38						
	comp=Z,0.7nm,0.5s						
FINES	**FINESS Array B**	75.84	330	*i*P	P	01 21 31.7	+3.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
F28M	**Old Crow**	75.95	23	IAmb	IAmb	01 21 30.9	
	comp=Z,22nm,1.2s						
F28M	**Old Crow**	75.95	23	P	P	01 21 29.3	0.0
	baz=286,SNR=6.9						
K27K	**Chicken**	76.01	27	IAmb	IAmb	01 21 31.5	
	comp=Z,23nm,1.2s						
K27K	**Chicken**	76.01	27	P	P	01 21 30.2	+0.5
	baz=285						
M26K	**Nabesna, AK**	76.01	29	P	P	01 21 29.6	-0.2
	baz=284,SNR=8.0						
BRTR	**Keskin Array B**	76.19	307	P	P	01 21 30.4	-0.9
BRTR	**Keskin Array B**	76.19	307	P	P	01 21 31.5	+0.2
	comp=Z,0.4nm,0.6s,baz=118,slow=3.5,SNR=3.1						
	comp=Z,0.4nm,0.6s						
EGAK	**Eagle**	76.20	26	IAmb	IAmb	01 21 31.7	
	comp=Z,17nm,1.4s						
EGAK	**Eagle**	76.20	26	P	P	01 21 30.2	-0.5
	baz=285,SNR=5.5						
VSU	**Vasula**	76.23	327	*ce*P	P	01 21 31.8	+0.9
VSU				pmax	pmax		
	comp=Z,12nm,1.7s						
MCARA	**McCarthy VSAT**	76.25	30	P	P	01 21 31.0	-0.1
	baz=284						
L27K	**Beaver Creek,**	76.36	28	IAmb	IAmb	01 21 33.8	
	comp=Z,18nm,1.4s						
L27K	**Beaver Creek,**	76.36	28	P	P	01 21 32.3	+0.6
	baz=285,SNR=6.8						
CRQE	**Cirque**	76.38	30	P	P	01 21 31.6	-0.4
	baz=285						
BCAR	**Beaver Creek A**	76.38	28	P	P	01 21 31.9	+0.1
E29M	**Blow River**	76.44	22	P	P	01 21 32.1	+0.1
	baz=287						
I28M	**Miner Creek**	76.52	25	IAmb	IAmb	01 21 34.5	
	comp=Z,27nm,1.3s						
I28M	**Miner Creek**	76.52	25	P	P	01 21 33.1	+0.4
	baz=286,SNR=9.9						
M27K	**Edge Creek, AK**	76.53	28	P	P	01 21 32.9	+0.1
	baz=285						
AKASG	**Malin Array Be**	76.67	319	P	P	01 21 32.2	-1.4
	comp=Z,1.1nm,0.7s,baz=67,slow=5.6,SNR=6.6						
AKASG				LR	LR	01 57 19.0	
	comp=Z,111nm,18.3s,baz=89,slow=37						
	comp=Z,1.1nm,0.7s						
AKBB	**Malin Array Si**	76.67	319	*ce*P	P	01 21 32.8	-0.8
AKBB				pmax	pmax		
	comp=Z,8.0nm,1.8s						
G29M	**Pine Creek**	76.84	23	P	P	01 21 34.3	0.0
	baz=288,SNR=6.2						
H29M	**Whitestone**	76.92	24	IAmb	IAmb	01 21 36.2	
	comp=Z,26nm,1.2s						
H29M	**Whitestone**	76.92	24	P	P	01 21 34.7	0.0
	baz=287,SNR=9.6						
DAWY	**Dawson**	77.14	26	IAmb	IAmb	01 21 37.4	
	comp=Z,17nm,1.2s						
DAWY	**Dawson**	77.14	26	P	P	01 21 35.6	-0.4
	baz=287,SNR=6.0						
CTGM	**Chitina Glacie**	77.15	30	IAmb	IAmb	01 21 38.7	
	comp=Z,15nm,0.9s						
I29M	**Ogilvie Camp,**	77.20	25	IAmb	IAmb	01 21 37.6	
	comp=Z,25nm,1.4s						
I29M	**Ogilvie Camp,**	77.20	25	P	P	01 21 35.9	-0.5
	baz=288,SNR=6.2						
YUK3	**Moose Creek**	77.33	29	P	P	01 21 37.6	+0.2
	baz=287						
LOGN	**Logan Glacier**	77.34	30	IAmb	IAmb	01 21 43.8	
	comp=Z,9.6nm,0.8s						
F30M	**Barrier River**	77.44	22	P	P	01 21 37.8	+0.1
	baz=289,SNR=5.3						
G30M	**tAoh Zrail Nji**	77.49	23	IAmb	IAmb	01 21 39.2	
	comp=Z,25nm,1.2s						
G30M	**tAoh Zraii Nji**	77.49	23	P	P	01 21 37.3	-0.7
	baz=289,SNR=8.8						
EPYK	**Eagle Plains**	77.50	24	IAmb	IAmb	01 21 38.9	
	comp=Z,30nm,1.4s						
EPYK	**Eagle Plains**	77.50	24	P	P	01 21 37.4	-0.7
	baz=289,SNR=5.1						
J29N	**Klondike Camp**	77.51	26	IAmb	IAmb	01 21 40.2	
	comp=Z,15nm,0.8s						
J29N	**Klondike Camp**	77.51	26	P	P	01 21 38.5	+0.3
	baz=288						
O28M	**Mount Upton**	77.74	30	P	P	01 21 39.9	+0.1
	baz=287						
YUK8	**Steele Glacier**	77.79	29	P	P	01 21 40.5	+0.4
	baz=287						
PINM	**Pinnacle**	77.91	30	P	P	01 21 41.0	+0.5
	baz=287						
L29M	**L29M**	77.96	27	P	P	01 21 41.2	+0.5
	baz=288,SNR=10						
K29M	**Barlow Dome**	77.99	26	IAmb	IAmb	01 21 42.7	
	comp=Z,19nm,1.2s						
K29M	**Barlow Dome**	77.99	26	P	P	01 21 41.1	+0.2
	baz=289,SNR=9.8						
INK	**Inuvik**	78.00	22	IAmb	IAmb	01 21 41.5	
	comp=Z,17nm,1.1s						
INK	**Inuvik**	78.00	22	P	P	01 21 40.1	-0.6
	baz=291,SNR=8.2						
I30M	**Mount Dempster**	78.01	25	IAmb	IAmb	01 21 42.3	
	comp=Z,20nm,1.3s						
I30M	**Mount Dempster**	78.01	25	P	P	01 21 40.8	-0.2
	baz=289,SNR=9.7						
M29M	**Somme Creek**	78.03	28	P	P	01 21 41.7	+0.6
	baz=288,SNR=13						
G31M	**Satah River**	78.23	23	IAmb	IAmb	01 21 42.5	
	comp=Z,13nm,1.1s						
G31M	**Satah River**	78.23	23	P	P	01 21 41.0	-1.0
	baz=291						
F31M	**Tsiigehtchic**	78.24	22	P	P	01 21 41.2	-0.8
	baz=291						
J30M	**Hart River**	78.25	25	P	P	01 21 42.3	0.0
	baz=290,SNR=5.4						
YUK4	**Talbot Arm**	78.28	29	P	P	01 21 42.7	-0.1
	baz=288						
PNL	**Peninsula**	78.45	31	P	P	01 21 43.8	+0.4
	baz=288						
PABE	**Paberze**	78.47	325	P	P	01 21 43.4	-0.2
PABE				IAmb	IAmb	01 21 44.8	
	comp=Z,13nm,0.9s						
YUK6	**Outpost Mounta**	78.54	29	P	P	01 21 44.6	+0.4
	baz=288,SNR=5.7						
M30M	**Minto, Yukon**	78.72	27	P	P	01 21 45.3	+0.4
	baz=290						
N30M	**Aishikik Lake**	78.96	29	IAmb	IAmb	01 21 48.4	
	comp=Z,29nm,1.3s						
N30M	**Aishikik Lake**	78.96	29	P	P	01 21 46.9	+0.7
	baz=290,SNR=8.1						
A36M	**Sachs Harbour**	79.04	17	P	P	01 21 45.6	-0.7
	baz=298						
P29M	**Windy Craggy**	79.26	30	IAmb	IAmb	01 21 49.9	
	comp=Z,19nm,1.2s						
P29M	**Windy Craggy**	79.26	30	P	P	01 21 48.5	+0.6
	baz=289						
SUW	**Suwalki**	79.35	324	*e*P	P	01 21 48.2	-0.2
SUW	**Suwalki**	79.35	324	IAmb	IAmb	01 21 48.9	
	comp=Z,20nm,1.1s						
P30M	**Million Dollar**	79.47	30	P	P	01 21 49.6	+0.5
	baz=290						
VRI	**Vrincioaia**	79.54	315	⇓P	P	01 21 50.3	+0.7
VRI	**Vrincioaia**	79.54	315	⇓P	P	01 21 50.3	+0.7
N31M	**Braeburn, Yuko**	79.54	28	IAmb	IAmb	01 21 51.4	
	comp=Z,23nm,1.2s						
N31M	**Braeburn, Yuko**	79.54	28	P	P	01 21 50.0	+0.6
	baz=291,SNR=6.4						
O30N	**Mendenhall**	79.65	29	IAmb	IAmb	01 21 51.9	
	comp=Z,20nm,1.4s						
O30N	**Mendenhall**	79.65	29	P	P	01 21 50.6	+0.6

R32K	Eaglecrest	81.30	31	P	P	01 21 59.2	+0.4
	baz=292						
SIT	Sitka	81.35	32	IAmb	IAmb	01 22 08.3	
	comp=Z,13nm,1.0s						
SIT	Sitka	81.35	32	P	P	01 21 59.5	+0.4
	baz=292						
P33M	Teslin, Yukon	81.36	29	IAmb	IAmb	01 22 00.9	
	comp=Z,14nm,1.2s						
P33M	Teslin, Yukon	81.36	29	P	P	01 21 59.5	+0.3
	baz=293,SNR=7.3						
JIS	Juneau Island	81.37	31	IAmb	IAmb	01 22 01.3	
	comp=Z,20nm,1.2s						
DAG	Danmarks Havn	81.41	351	*i* P	P	01 21 57.4	-1.7
KOLS	Kolonicke sedl	81.49	319	*e*P	P	01 22 01.7	+1.7
KOLS	Kolonicke sedl	81.49	319	*e*P	P	01 22 01.7	+1.7
S32K	Killisnoo	81.58	32	IAmb	IAmb	01 22 01.8	
	comp=Z,18nm,1.4s						
S32K	Killisnoo	81.58	32	P	P	01 22 00.4	+0.2
	baz=292						
MARR	Marisel-Cluj	81.68	316	⇑P	P	01 22 01.5	+0.3
DRGR		81.91	317	⇑P	P	01 22 02.2	-0.2
HFS	Hagfors	82.00	331	P	P	01 22 01.5	-1.0
	comp=Z,1.9nm,0.7s,baz=92,slow=7.2,SNR=2.8						
HFS				LR	LR	02 01 09.0	
	comp=Z,228nm,19.1s,baz=64,slow=38						
	comp=Z,1.9nm,0.7s						
Q32M	Nakina River	82.12	30	P	P	01 22 03.3	-0.1
	baz=294						
NC405	NORSAR Array S	82.47	332	IAmb	IAmb	01 22 14.1	
	comp=Z,34nm,1.9s						
R33M	Jennings River	82.55	29	P	P	01 22 05.9	+0.4
	baz=295,SNR=6.1						
OJC	Ojcow	82.56	321	*e*P	P	01 22 05.7	+0.1
OJC	Ojcow	82.56	321	P	P	01 22 05.0	-0.7
OJC				IAmb	IAmb	01 22 07.0	
	comp=Z,16nm,1.5s						
OJC	Ojcow	82.56	321	P	P	01 22 05.0	-0.7
OJC				pmax	pmax		
	comp=Z,16nm,1.5s						
SURR	Surduc	82.63	316	⇓P	P	01 22 06.2	+0.1
NB2	NORSAR Subarra	82.72	333	P	P	01 22 04.9	-1.4
	comp=Z,27nm,2.5s,baz=64,slow=4.6						
NB2	NORSAR Subarra	82.72	333	P	P	01 22 04.9	-1.4
	baz=64,slow=4.6						
NOA	NORSAR Array B	82.72	333	P	P	01 22 05.0	-1.4
	comp=Z,0.6nm,0.8s,baz=63,slow=5.0,SNR=6.3						
NOA				LR	LR	02 02 01.9	
	comp=Z,470nm,19.1s,baz=65,slow=38						
	comp=Z,0.6nm,0.8s						
TGTN	Hyland Airport	82.82	27	P	P	01 22 07.2	+0.4
	baz=297						
U33K	Whale Pass	82.84	33	P	P	01 22 07.4	+0.5
	baz=294						
S34M	Telegraph Cree	83.09	31	P	P	01 22 08.9	+0.7
	baz=295						
CRAG	Craig	83.10	34	P	P	01 22 08.9	+0.6
	baz=294						
LANS	Liptovska Anna	83.14	320	*e*P	P	01 22 11.8	+3.1
MDVR	Moldovita	83.24	315	⇑P	P	01 22 08.6	-0.7
DLBC	Dease Lake	83.40	30	IAmb	IAmb	01 22 13.2	
	comp=Z,18nm,1.4s						
DLBC	Dease Lake	83.40	30	P	P	01 22 10.6	+0.7
	baz=296,SNR=6.8						
NEEM	North Greenlan	83.60	358	*i* P	P	01 22 12.5	+1.6
RES	Resolute Bay	83.72	9	LR	LR	02 04 20.7	
	comp=Z,80nm,19.1s,baz=8.0,slow=39						
JMIC	Jan Mayen	83.76	345	LR	LR	02 03 57.2	
	comp=Z,120nm,18.7s,baz=50,slow=39						
VYHS	Vyhne	83.77	319	*e*P	P	01 22 11.8	-0.2
T35M	Bob Quinn	83.92	31	P	P	01 22 13.3	+0.7
	baz=296						
V35K	Ketchikan	83.94	33	P	P	01 22 12.5	-0.1
	baz=295						
WRGLY	Wrigley	83.96	24	P	P	01 22 12.4	-0.2
	baz=301						
MORC	Moravsky Berou	84.08	321	*e*P	P	01 22 13.5	0.0
JAVC	Velka Javorina	84.35	320	*e*P	P	01 22 16.1	+1.1
FRGS	Fruska Gora	84.37	316	⇓P	P	01 22 15.5	+0.5
KSP	Ksiaz	84.40	322	*e*P	P	01 22 15.6	+0.5
MORH	Mrgy, Hungar	84.74	317	⇓P	P	01 22 17.0	+0.2
VRAC	Vranov	84.83	320	*e*P	P	01 22 17.0	-0.3
VRAC	Vranov	84.83	320	LR	LR	02 03 11.1	
	comp=Z,145nm,19.9s,baz=66,slow=38						
KRUC	Moravsky	85.05	320	*e*P	P	01 22 18.2	-0.2
TOAD	Toad River Com	85.43	29	P	P	01 22 20.2	+0.1
	baz=300,SNR=12						
BRG	Berggiesshubel	85.75	323	*e*P	P	01 22 22.1	+0.2
BRG				Amp		01 22 23.9	
	comp=Z,5.0nm,1.3s						
BRG	Berggiesshubel	85.75	323	P	P	01 22 30.4	+8.6
BRG				Amp		01 22 33.4	
	comp=Z,1.8nm,0.8s						
BRG	Berggiesshubel	85.75	323	*e*P	P	01 22 22.0	+0.2
BRG						01 22 30.3	
BRG				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BRG				MLR	MLR		
	comp=E,147nm,17.5s						
BRG				MLR	MLR		
	comp=N,62nm,14.3s						
BRG				MLR	MLR		
	comp=Z,203nm,16.6s						
CLL	Collm	86.10	323	*e*P	P	01 22 23.0	-0.5
	comp=Z,15nm,1.9s						
CLL				*es*P	PcP	01 22 31.0	+4.9
CLL				*e*PP	PP	01 25 44.0	+0.2
CLL				AMS	AMS	02 06 00.0	
	comp=Z,200nm,19.0s						
KHC	Kasperske Hory	86.71	321	*c*eP	P	01 22 27.6	+1.0
KHC				pmax	pmax		
	comp=Z,9.0nm,2.5s						
GERES	GERESS Array B	86.76	321	P	P	01 22 27.1	+0.1
GERES	GERESS Array B	86.76	321	P	P	01 22 27.1	+0.1
RAR	Rarotonga	87.14	113	LR	LR	01 53 11.2	
	comp=Z,67nm,21.2s,baz=292,slow=30						
YKA	Yellowknife Ar	87.72	23	P	P	01 22 31.0	-0.2
YKA	Yellowknife Ar	87.72	23	P	P	01 22 31.1	-0.1
	comp=Z,4.4nm,0.7s,baz=315,slow=4.6,SNR=27						
	comp=Z,4.4nm,0.7s						
VAE	Valguarnera	91.13	310	LR	LR	02 10 15.6	
	comp=Z,52nm,18.1s,baz=121,slow=40						
BORG	Borgarnes	91.64	345	LR	LR	02 05 35.5	
	comp=Z,43nm,21.6s,baz=30,slow=37						
EKA	Eskdalemuir Ar	92.19	332	P	P	01 22 52.2	0.0
	comp=Z,0.6nm,0.7s,baz=35,slow=3.8,SNR=2.6						
	comp=Z,0.6nm,0.7s						
B08A	Colville Reser	93.99	36	IAmb	IAmb	01 23 02.4	
	comp=Z,14nm,1.4s						
MXC	Moxie City	94.45	37	IAmb	IAmb	01 23 04.8	
	comp=Z,11nm,1.3s						
PPT	Papeete	94.97	107	LR	LR	01 55 45.4	
	comp=Z,91nm,21.9s,baz=312,slow=29						
PPT2	Papeete2	94.97	107	*e*P	P	01 23 04.0	-1.8
	comp=Z,66nm,25.0s						
PPT2	Papeete2	94.97	107	*e*S	S	01 34 12.7	-4.4
	comp=Z,101nm,25.2s						
PPT2				*e*SS	SS	01 40 46.2	+2.7
	comp=Z,80nm,27.8s						
PPT2	Papeete2	94.97	107	*e*LR	LR	01 53 46.3	
	comp=Z,239nm,25.2s						
PPT2				*e*LR	LR	01 53 47.7	
	comp=Z,161nm,26.0s						
NEW	Newport	95.25	35	P	P	01 23 06.3	-0.2
	baz=306						
TBI	Tubuai	96.85	112	*e*LR	LR	01 54 41.5	
	comp=Z,860nm,31.8s						
FRB	Frobisher Bay	97.14	4	LR	LR	02 10 30.3	
	comp=Z,99nm,19.1s,baz=32,slow=38						
VNDA	Vanda	99.25	172	P	Pdif	01 23 24.5	+0.8
	comp=Z,1.3nm,1.0s,baz=306,slow=6.2,SNR=3.8						
	comp=Z,1.3nm,1.0s						
HLID	Hailey	99.59	37	P	Pdif	01 23 25.6	-0.8
	baz=308						
NVAR	Mina Array Bea	100.21	43	P	Pdif	01 23 30.4	+1.0
	comp=Z,0.9nm,1.1s,baz=270,slow=3.0,SNR=5.6						
TAOE	Nuku Hiva Isla	101.06	96	*e*LR	LR	01 56 35.0	
	comp=Z,267nm,24.4s						
TORD	Torodi Ar. Bea	112.28	293	PKiKP	PKiKP	01 28 18.6	-0.6
	comp=Z,0.6nm,0.9s,baz=48,slow=1.5,SNR=2.4						
MNTX	Cornudas Mount	112.68	42	P	PKiKP	01 28 19.4	-0.2
	baz=312						
PKME	Peaks-Kenny Pk	115.31	8	P	PKiKP	01 28 24.4	+0.2
	baz=349						
TX31	Lajitas Ar. Si	115.36	43		PKiKP	01 28 23.8	-1.1
TXAR	Lajitas Array	115.36	43	PKP	PKiKP	01 28 25.2	+0.3
	comp=Z,0.6nm,0.7s,baz=332,slow=0.6,SNR=11						
TROLL	Troll, Antarti	116.67	198	⇑PKiKP	PKPdf	01 28 26.1	0.0
	comp=Z,111nm,0.8s						
ACSO	Alum Creek Sta	116.90	21	P	PKPdf	01 28 27.2	-0.3
	baz=334						
MIAR	Mount Ida	117.32	32	P	PKPdf	01 28 28.2	-0.2
	baz=323						
HRV	Adam Dziewonsk	117.65	11	P	PKPdf	01 28 28.8	0.0
	baz=347						
P52A	Corning	117.72	20	P	PKPdf	01 28 29.0	0.0
	baz=335						
833A	Chaparral WMA,	118.75	41	P	PKPdf	01 28 31.1	-0.2
	baz=316						
VNA2	Neumayer--Watz	119.99	197	⇑PKiKP	PKPdf	01 28 32.2	-0.1
	comp=Z,4.8nm,0.6s,baz=98,slow=0.7						
VNA3	Neumayer Olymp	120.45	197	⇑PKiKP	PKPdf	01 28 32.7	-0.5
	comp=Z,3.3nm,0.7s						
LRAL	Lakeview Retre	121.66	28	P	PKPdf	01 28 36.6	-0.2
	baz=329						
KMSC	Kings Mountain	122.05	22	P	PKPdf	01 28 37.4	-0.1
	baz=335						
NHSC	New Hope	124.30	22	P	PKPdf	01 28 41.7	-0.1
	baz=336						
TIGA	Tifton	124.49	26	P	PKPdf	01 28 42.2	0.0
	baz=332						
GO10	Punta Arenas	144.67	167		PKPbc	01 29 18.9	+1.1
BAUV	El Baul	150.76	19		PKPbc	01 29 34.8	-1.0
COYC	Coyhaique	151.38	160		PKiKP	01 29 37.1	+0.4
ROSC	El Rosal	151.82	34	PKPbc	PKiKP	01 29 39.5	+0.4
	comp=Z,12nm,0.6s,baz=300,slow=6.6,SNR=7.6						
PLCA	Paso Flores	156.18	158	PKPab	PKPab	01 30 06.7	+1.6
	comp=Z,5.7nm,1.0s,baz=221,slow=5.2,SNR=6.6						
LPAZ	La Paz	170.78	74	PKP	PKPdf	01 29 53.7	+1.5
	comp=Z,0.7nm,0.6s,baz=340,slow=2.5,SNR=4.4						

IDC 26 01:30:23.1±1.8, 2°.92N×127°.57E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=158.1km s-min=21.4km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.67	164	P	P	01 35 36.4	-0.1
	0.4nm,0.7s,baz=344,slow=11,SNR=5.0						
	0.4nm,0.7s						
ASAR	Alice Springs	27.13	167	P	P	01 36 08.1	0.0
	0.2nm,0.7s,baz=355,slow=9.4,SNR=1.5						
	0.2nm,0.7s						
MKAR	Makanchi Array	58.70	325	P	P	01 40 22.7	+0.1
	0.6nm,0.5s,baz=119,slow=6.9,SNR=8.5						
	0.6nm,0.5s						
KURBB	Kurchatov Arra	62.87	327	P	P	01 40 51.0	+0.1
	0.7nm,0.5s,baz=126,slow=6.5,SNR=11						
	0.7nm,0.5s						
BVAR	Borovoye Array	68.45	327	P	P	01 41 26.6	-0.3
	0.6nm,0.7s,baz=108,slow=4.8,SNR=3.8						
	0.6nm,0.7s						

NNC ***26*** *01:30:41.5±0.4, 44°.86N×80°.90E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=6.6km s-min=2.5km az=125.0*
SOME ***26*** *01:30:42.5, 44°.90N×80°.78E, h15km*
ISC 26 01:30:42.0±1.4, 44°.76N±0°.03×81°.03E±0°.04, h5km±11km, n46, σ1s25/74, 7C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	0.98	245	*e*P	Pg	01 31 00.5	-0.4
	34nm,0.1s						
DJR				*e*S	Sg	01 31 13.7	+0.1
	36nm,0.2s						
DJR	Jarkent	0.98	245	P	Pg	01 31 00.5	-0.4
	40nm,0.3s						
DJR				S	Sg	01 31 13.7	+0.1
	50nm,0.4s						
KNOS	Konyrlen	1.38	254	P	Pn	01 31 07.3	-0.9
	1.6nm,0.6s						
KNOS				S	Sb	01 31 25.2	-1.2
	34nm,0.2s						
KTMS	Ketmen	1.40	200	*e*P	Pb	01 31 09.1	+0.4
	4.8nm,0.1s						
KTMS				*e*S	Sg	01 31 28.2	+1.2
	41nm,0.1s						
KTMS	Ketmen	1.40	200	P	Pb	01 31 09.1	+0.4
	4.8nm,0.1s						
KTMS				S	Sg	01 31 28.2	+1.2
	41nm,0.1s						
PDGK	Podgornoye	1.81	218	P	Pn	01 31 14.9	+0.9
	8.2nm,0.2s						
PDGK				S	Sb	01 31 39.6	+0.8
	71nm,0.3s						
PDGK	Podgornoye	1.81	218	⇓Pn	Pn	01 31 14.5	+0.5
	5.0nm,0.3s						
PDGK				⇓Sn	Sb	01 31 39.6	+0.8
	80nm,0.5s						
BLB	Baldybastay	1.94	251	P	Pb	01 31 17.0	-0.9
	142nm,0.2s						
BLB				S	Sb	01 31 42.0	-0.6
	62nm,0.2s						
SHLS	Shalkode	1.96	216	*e*P	Pn	01 31 15.7	-0.4
	15nm,0.1s						
SHLS				*e*S	Sn	01 31 39.4	-1.8
	137nm,0.1s						
SHLS	Shalkode	1.96	216	P	Pn	01 31 16.1	0.0
	15nm,0.1s						
SHLS				S	Sn	01 31 40.3	-0.9
	128nm,0.3s						
KPKS	Kokpek	2.12	233	*e*P	Pb	01 31 20.0	-1.1
	63nm,0.2s						
KPKS				*e*S	Sb	01 31 47.2	-0.6
	167nm,0.3s						
KPKS	Kokpek	2.12	233	Pg	Pb	01 31 20.0	-1.1
	63nm,0.2s						
KPKS				Lg	Lg	01 31 47.5	
	167nm,0.3s						
MAKZ	Makanchi	2.15	18	⇓Pn	Pn	01 31 17.7	-0.9
	0.9nm,0.2s						
MAKZ				⇓Sn	Sn	01 31 45.1	-0.7
	10nm,0.4s						
UZB	Uzynbulak	2.17	223	*e*P	Pn	01 31 20.4	+1.5
	7.1nm,0.1s						
UZB				*e*S	Sb	01 31 47.7	-1.4
	83nm,0.2s						
UZB	Uzynbulak	2.17	223	Pg	Pn	01 31 20.4	+1.5
	7.2nm,0.2s						
UZB				Lg	Lg	01 31 47.7	
	83nm,0.2s						
MK31	Makanchi Array	2.22	23	Pn	Pn	01 31 18.6	-0.9
	1.5nm,0.3s,baz=202,slow=15,SNR=111						
MK31				⇑Sn	Sn	01 31 46.4	-1.0
	12nm,0.4s,baz=202,slow=26,SNR=34						
ARXS	Arharly	2.35	258	*e*P	Pb	01 31 23.6	-1.4
	21nm,0.1s						
ARXS				*e*S	Sb	01 31 53.2	-1.2
	49nm,0.2s						
ARXS	Arharly	2.35	258	Pg	Pb	01 31 23.6	-1.4
	21nm,0.3s						
ARXS				Lg	Lg	01 31 53.2	
	35nm,0.3s						
KURS	Kuram	2.42	239	*e*P	Pb	01 31 25.6	-0.4
	3.7nm,0.2s						
KURS				*e*S	Sb	01 31 56.5	+0.3
	18nm,0.2s						
KURS	Kuram	2.42	239	Pg	Pb	01 31 25.6	-0.4
	6.0nm,0.3s						
KURS				Lg	Lg	01 31 56.5	
	18nm,0.3s						
SATY	Saty	2.54	229	*e*P	Pb	01 31 28.4	+0.1
	12nm,0.1s						
SATY				*e*S	Sb	01 32 01.3	+1.4
	143nm,0.2s						
SATY	Saty	2.54	229	Pg	Pb	01 31 28.4	+0.1
	12nm,0.1s						
SATY				Lg	Lg	01 32 02.1	
	143nm,0.2s						
CHKK	Chushkaly	3.04	254	*e*P	Pb	01 31 35.7	-0.9
	4.2nm,0.1s						
CHKK				*e*S	Sb	01 32 13.7	-0.3
	34nm,0.2s						
CHKK	Chushkaly	3.04	254	Pg	Pb	01 31 35.7	-0.9
	4.2nm,0.2s						
CHKK				Lg	Lg	01 32 14.5	
	34nm,0.2s						
KOTS	Kotyrbulak	3.21	243	*e*P	Pb	01 31 39.3	-0.3
	4.3nm,0.1s						
KOTS				*e*S	Sb	01 32 20.2	+1.1
	51nm,0.4s						
KOTS	Kotyrbulak	3.21	243	Pg	Pb	01 31 39.3	-0.3
	5.9nm,0.1s						
KOTS				Lg	Lg	01 32 20.2	
	51nm,0.4s						
MDOK	Medeo	3.29	242	*e*P	Pb	01 31 40.4	-0.6
	8.1nm,0.5s						
MDOK				*e*S	Sb	01 32 21.7	+0.5
	17nm,0.5s						
MDOK	Medeo	3.29	242	Pg	Pb	01 31 40.3	-0.6
	5.0nm,0.4s						
MDOK				Pg	Pb	01 31 40.3	-0.6
	8.1nm,0.5s						
MDOK				Lg	Lg	01 31 58.4	
	3.0nm,0.1s						
MDOK				Lg	Lg	01 32 21.7	
	17nm,0.5s						
MDOK				Lg	Lg	01 32 24.3	
	14nm,0.6s						
KTBS	Karatobe	3.29	253	*e*P	Pb	01 31 40.9	0.0
	6.0nm,0.3s						
KTBS				*e*S	Sb	01 32 22.8	+1.4
	28nm,0.2s						
KTBS	Karatobe	3.29	253	Pg	Pb	01 31 40.9	0.0
	6.0nm,0.3s						
KTBS				Lg	Lg	01 32 22.8	
	20nm,0.2s						
TNSS	Tian-Shan	3.41	241	*e*P	Pb	01 31 43.4	+0.2
	3.0nm,0.1s						
TNSS				*e*S	Sb	01 32 27.3	+2.1
	4.0nm,0.1s						
TNSS	Tian-Shan	3.41	241	Pg	Pb	01 31 43.4	+0.2
	3.2nm,0.3s						
TNSS				Lg	Lg	01 32 27.3	
	2.5nm,0.3s						
MTBS	Maitube	3.70	245	*e*P	Pb	01 31 47.7	-0.2
	4.7nm,0.1s						
MTBS				*e*S	Sb	01 32 34.3	+1.2
	25nm,0.1s						
MTBS	Maitube	3.70	245	Pg	Pb	01 31 47.7	-0.2
	6.2nm,0.3s						
MTBS				Lg	Lg	01 32 34.3	
	25nm,0.2s						
ZSN	Zaisan	3.79	43	*e*P	Pb	01 31 48.4	-1.1
	3.3nm,0.1s						
ZSN				*e*S	Sb	01 32 35.6	-0.1
	12nm,0.3s						
ZSN	Zaisan	3.79	43	Pg	Pb	01 31 49.7	+0.3
	4.3nm,0.3s						
ZSN				Lg	Lg	01 32 37.8	
	12nm,0.6s						
KRBS	Karabastau	3.99	256	*e*P	Pb	01 31 54.1	+1.2
	3.2nm,0.5s						
KRBS				*e*S	Sg	01 32 45.5	-4.6
	2.9nm,0.1s						
KRBS	Karabastau	3.99	256	Pg	Pb	01 31 54.1	+1.2
	3.2nm,0.5s						
KRBS				Lg	Lg	01 32 45.5	
	0.4nm,0.4s						
KST	Kastek	4.04	247	*e*P	Pb	01 31 54.3	+0.5
	2.1nm,0.0s						
KST				*e*S	Sb	01 32 45.7	+2.7
	6.0nm,0.2s						
KST	Kastek	4.04	247	Pg	Pb	01 31 54.3	+0.5
	2.9nm,0.4s						
KST				Lg	Lg	01 32 45.7	
	5.6nm,0.6s						
DGS	Degeres	4.08	250	*e*P	Pb	01 31 53.7	-0.8
	10nm,0.2s						
DGS				*e*S	Sb	01 32 44.8	+0.7
	8.8nm,0.2s						
DGS	Degeres	4.08	250	Pg	Pb	01 31 53.7	-0.8
	10.0nm,0.4s						
DGS				Lg	Lg	01 32 44.8	
	9.2nm,0.5s						
TKM2	Tokmak 2	4.34	247	⇑Pg	Pb	01 31 59.9	+1.1
	2.3nm,0.5s						
TKM2				⇑Lg	Lg	01 32 56.7	
	4.6nm,0.6s						
KURBB	Kurchatov Arra	6.10	345	⇑Pn	Pn	01 32 16.2	+3.3
	0.3nm,0.3s						
KURBB				⇑Lg	Lg	01 33 54.0	
	7.9nm,1.2s						
KURK	Kurchatov	6.17	346	⇑Pn	Pn	01 32 15.1	+1.3
	0.1nm,0.3s						
KURK				⇑Lg	Lg	01 33 55.6	
	2.7nm,0.7s						
OTUK	Ortayu	6.93	303	Pg	Pb	01 32 46.8	+3.9
	0.4nm,0.5s						
OTUK				Lg	Lg	01 34 15.7	
	1.1nm,0.5s						

SOME 26 01:31:47.4, 42°.90N×77°.08E, h0km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	Tian-Shan	0.17	324	*e*P	Pg	01 31 51.1	+0.5
	3.0nm,0.2s						
TNSS				*e*S	Sg	01 31 53.9	+1.0
	8.1nm,0.2s						
TNSS	Tian-Shan	0.17	324	P	Pg	01 31 51.1	+0.5
	3.0nm,0.2s						
TNSS	Tian-Shan	0.17	324	S	Sg	01 31 53.9	+1.0
	8.1nm,0.2s						
MDOK	Medeo	0.26	354	*e*P	Pg	01 31 53.2	+0.8
	3.2nm,0.2s						
MDOK				*e*S	Sg	01 31 57.6	+1.7
	3.0nm,0.1s						
MDOK	Medeo	0.26	354	Pg	Pg	01 31 53.5	+1.1
	3.2nm,0.2s						
MTBS	Maitube	0.53	296	*e*P	Pg	01 31 58.4	+0.8
	2.7nm,0.1s						
MTBS				*e*S	Sb	01 32 06.6	-1.3
	4.2nm,0.1s						
MTBS	Maitube	0.53	296	P	Pb	01 31 58.7	-1.0
	2.1nm,0.2s						
MTBS	Maitube	0.53	296	S	Sb	01 32 07.2	-0.7
	3.4nm,0.1s						

IDC 26 01:33:08.4±7.3, 17°.91S×176°.84W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=320.6km s-min=37.7km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.10	259	P	P	01 41 34.4	-0.3
	0.8nm,0.4s,baz=95,slow=7.1,SNR=16						
	0.8nm,0.4s						
ASAR	Alice Springs	46.22	254	P	P	01 41 35.6	0.0
	2.1nm,0.6s,baz=90,slow=8.0,SNR=21						
	2.1nm,0.6s						
ILAR	Eielson Array	85.56	12	P	P	01 45 48.1	+0.1
	0.4nm,0.8s,baz=193,slow=5.5,SNR=4.9						
	0.4nm,0.8s						

IDC ***26*** *01:38:21.8±2.0, 38°.67N×122°.92W, h0km, mbtmp3.3/6, ML3.3/6, Error ellipse: s-maj=22.4km s-min=10.9km az=59.0*
NEIC ***26*** *01:38:22.6±2.1, 38°.82N±0°.01×122°.83W±0°.02, h12km±5km, Error ellipse: s-maj=2.6km s-min=1.8km az=63.0*
NCEDC ***26*** *01:38:22.7±2.0, 38°.83N±0°.01×122°.81W±0°.02, h3km±3km, ML3.4/78, ML3.1/86(NEIC), Error ellipse: s-maj=2.4km s-min=1.6km az=77.0*
ISC 26 01:38:22.4±1.0, 38°.81N±0°.02×122°.82W±0°.02, h6km±7km, n177, σ0s85/172, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	Geysers	0.02	89		Pg	01 38 23.5	-0.1
GDXM	Geysers	0.02	89	IAML		01 38 23.8	
	comp=N,46μm,0.2s						
GDXM				IAML		01 38 23.8	
	comp=E,53μm,0.1s						
GGPM	Geyser Peak	0.05	208		Pg	01 38 24.4	+0.5
GSGM	Seigler Mounta	0.10	54		Pg	01 38 25.0	+0.4
GBGM	Boggs Mountain	0.11	87		Pg	01 38 25.1	+0.4
GAXM	Alexander Vall	0.11	154		Pg	01 38 25.2	+0.6
GPMM	Pine Mountain	0.11	291		Pg	01 38 25.3	+0.5
GCVM	Cloverdale	0.16	256		Pg	01 38 26.6	+1.0

GHLM	Highland Sprin	0.28	326		Pb	01 38 28.3	-1.6
NMTM	Middletown	0.29	90		Pg	01 38 28.5	+0.5
MNRC	McLaughlin Min	0.30	76		Pg	01 38 29.1	+0.8
GSNM	Snow Mountain	0.32	294		Pb	01 38 29.5	-1.1
GHCM	House Creek	0.36	236		Pb	01 38 30.6	-0.6
GBMM	Baldy Mountain	0.42	37		Pg	01 38 31.1	+0.6
GTSM	Trough Springs	0.53	18		Pb	01 38 33.3	-0.9
GGUM	Gualala	0.54	275		Pb	01 38 33.8	-0.5
CVS	Carmenet Viney	0.54	149		Pb	01 38 33.5	-0.8
CVS					Sb	01 38 41.8	-0.5
GWRM	Wonder Ranch	0.55	317		Pb	01 38 33.5	-1.0
NAPC	Atlas Peak	0.57	130		Pg	01 38 34.1	+0.7
GFC	Funks Creek	0.66	38		Pn	01 38 37.8	-0.5
MCCM	Marconi Confer	0.66	184		Pb	01 38 36.6	+0.2
SNT	Sears Point	0.69	155		Pb	01 38 36.1	-0.7
SNT					Sb	01 38 46.1	-0.3
GHMM	Hull Mountain	0.69	353		Pb	01 38 36.8	-0.2
NGVM		0.71	138		Pb	01 38 36.7	-0.4
NADM	Allendale	0.75	117		Pn	01 38 38.8	-0.7
NOLM	Olema	0.77	179		Pn	01 38 38.5	-1.3
DCMP	DeCamp, Califo	0.78	329		Pb	01 38 37.7	-0.7
GCK	Clark Valley	0.79	22		Pn	01 38 39.7	-0.4
GTC	Three Chop Rid	0.82	316		Pb	01 38 38.7	-0.4
NPRM	Point Reyes	0.82	191		Pn	01 38 39.3	-1.3
OSUM	Sutter Buttes	0.88	58		Pg	01 38 39.3	0.0
HERB	Hercules	0.91	151		Pb	01 38 40.6	+0.2
SUTB	Sutter Butte	0.91	62		Pg	01 38 39.8	+0.1
CPMM	Point Molate	0.92	159		Pb	01 38 40.5	-0.2
CSPM	San Pablo Ridg	0.94	155		Pn	01 38 41.4	-0.7
CPIM	Pinole Ridge	0.94	150		Pb	01 38 41.1	-0.1
RFSB	Richmond Field	0.97	157		Pb	01 38 41.5	0.0
GVV	Valley View	0.97	6		Pn	01 38 42.5	-0.2
CTAM	Taylor	1.00	141		Pn	01 38 42.8	-0.2
BL88	Building 88, L	1.03	154		Pn	01 38 42.8	-0.6
BRK	Berkeley--Havi	1.03	155		Pb	01 38 42.6	0.0
BRK					Sn	01 38 57.6	-0.5
BL67	Building 67, L	1.03	154		Pb	01 38 42.5	-0.2
VAK	Adit at Lawren	1.03	154		Pb	01 38 42.5	-0.1
CVPM	Vollmer Peak	1.03	153		Pn	01 38 43.1	-0.4
BKS	Berkeley--Byer	1.04	154		Pg	01 38 42.0	-0.2
JPRM	Presidio of Sa	1.05	165		Pn	01 38 42.9	-0.7
CYBM	Yerba Buena Is	1.06	160		Pb	01 38 42.7	-0.4
KCPM	Cahto Peak	1.06	326		Pn	01 38 43.9	0.0
OSTM	Stimpson Lane	1.10	59		Pg	01 38 42.9	-0.6
GROM	Round Mountain	1.11	6		Pn	01 38 44.6	-0.1
SMCB	Saint Mary's C	1.11	150		Pb	01 38 43.7	-0.3
FARB	Farallon Islan	1.12	188		Pb	01 38 43.6	-0.5
KBNM	Bluenose Ridge	1.12	345		Pn	01 38 45.4	+0.6
KIPM	Iron Peak	1.12	333		Pn	01 38 45.2	+0.3
CRPB	Russellman Par	1.14	141		Pb	01 38 44.4	-0.2
BGC	Bolinger Road	1.15	149		Pg	01 38 44.3	-0.2
JSBM	San Bruno Moun	1.17	164		Pb	01 38 44.7	-0.4
PAM	Palermo	1.19	57		Pb	01 38 44.2	-1.2
JMGM	Milagra Ridge	1.20	167		Pn	01 38 45.4	-0.4
CSLM	San Leandro Hi	1.21	153		Pb	01 38 45.2	-0.5
CLCB	Lake Chabot	1.22	151		Pg	01 38 46.4	+0.6
SAC	San Andreas	1.26	165		Pn	01 38 45.9	-0.7
ORV	Oroville	1.27	53		Pn	01 38 45.2	-1.5
CMOB	Morgan Territo	1.27	141		Pn	01 38 46.3	-0.6
JCPM	Coyote Point	1.28	162		Pg	01 38 46.8	-0.1
JCHM	Cahill Ridge	1.33	165		Pn	01 38 46.5	-1.1
CBSNC	Byron Hot Spri	1.35	137		Pn	01 38 46.7	-1.1
O02D	Mt. Diablo Mer	1.37	1		Pg	01 38 49.0	+0.4
O02D	Mt. Diablo Mer	1.37	1	IAML		01 38 55.4	
	comp=N,270nm,0.8s						
O02D				IAML		01 39 19.7	
	comp=E,171nm,1.1s						
CNIC	Niles Canyon	1.37	151		Pn	01 38 47.1	-1.1
KPK	Kanaka Peak	1.41	56		Pg	01 38 50.4	+1.1
CVLM	Vallecito	1.41	147		Pn	01 38 47.9	-0.7
CBZL	Buffer Zone	1.41	142		Pb	01 38 49.1	0.0
AFDM	Forest Hills D	1.45	84		Pn	01 38 47.5	-1.7
AFDM	Forest Hills D	1.45	84	IAML		01 38 55.7	
	comp=N,99nm,0.6s						
AFDM				IAML		01 38 57.6	
	comp=E,129nm,0.5s						
WENL	Wente Vineyard	1.45	145		Pn	01 38 48.6	-0.6
JRSC	Jasper Ridge	1.47	162		Pn	01 38 48.4	-1.1
JSFB	Stanford Teles	1.49	160		Pn	01 38 49.2	-0.5
LBPM	Beegum Peak	1.51	358		Pg	01 38 51.6	+0.3
BGH	Bear Gulch	1.51	165		Pg	01 38 51.1	-0.2
JFP	Foothills Park	1.53	161		Pn	01 38 49.5	-0.7
CSTL	Corral Hollow	1.56	138		Pn	01 38 50.0	-0.7
CALM	Calaveras Res.	1.57	149		Pn	01 38 50.1	-0.7
KMRM	Mail Ridge	1.57	334		Pg	01 38 53.5	+1.0
KMRM	Mail Ridge	1.57	334	IAML		01 39 24.2	
	comp=N,334nm,1.0s						
KMRM				IAML		01 39 26.5	
	comp=E,396nm,1.1s						
JBMM	Black Mountain	1.58	160		Pn	01 38 50.4	-0.6
JSJM	St Joseph	1.58	159		Pn	01 38 50.9	0.0
CMLM	Mount Lewis	1.61	145		Pn	01 38 50.9	-0.7
JPSM		1.65	167		Pn	01 38 51.2	-0.6
O03E	Paynes Creek	1.68	27		Pn	01 38 51.5	-1.0
CMMM	Mount Mocho	1.71	142		Pn	01 38 52.2	-0.5
JJOM	Saint Joseph's	1.73	157		Pn	01 38 52.5	-0.6
MHC	Mount Hamilton	1.73	147		Pn	01 38 52.3	-0.8
MTOS	Mt Oso, Westle	1.75	138		Pn	01 38 52.2	-1.1
ARN	Arnold Ranch	1.77	145		Pn	01 38 52.5	-1.2
CCOB	Coe Ranch Numb	1.79	149		Pn	01 38 53.7	-0.2
LDBM	Digger Butte	1.81	26		Pn	01 38 54.7	+0.5
JLAB	Laurel Hill	1.86	152		Pn	01 38 53.8	-1.0
CADM	Anderson Res.	1.89	150		Pn	01 38 55.2	0.0
KMPM	Mount Pierce	1.90	328	Pn	Pb	01 38 56.2	-1.3
KMPM				IAML		01 39 09.9	
	comp=N,263nm,0.7s						
KMPM				IAML		01 39 52.4	
	comp=E,203nm,1.3s						
LRDM	Redding Peak	1.96	32		Pn	01 38 56.3	+0.1
HLPM	Lions Peak	2.00	152		Pn	01 38 55.9	-0.8
DONR	Donner Summit	2.02	74		Pn	01 38 57.4	+0.2
GHS	Gilroy Hot Spr	2.02	147		Pn	01 38 56.5	-0.6
CMB	Columbia Colle	2.06	111		Pn	01 38 57.2	-0.4
CMB	Columbia Colle	2.06	111	IAML		01 39 27.2	
	comp=N,93nm,1.3s						
LSHM	Sage Hen Hill	2.07	17		Pn	01 38 57.7	-0.1
EMB	Emerald Bay	2.12	85		Pn	01 38 59.1	+0.4
EMB	Emerald Bay	2.12	85	IAML		01 39 10.0	
	comp=E,220nm,0.6s						
HPCM	Pacheco Lake	2.13	145		Pn	01 38 57.7	-0.8
HFEM	San Felipe	2.14	148		Pn	01 38 58.0	-0.7
SLD	San Luis Dam	2.14	143		Pn	01 38 56.5	-2.2
PACP	Pacheco Peak	2.17	146		Pn	01 38 58.6	-0.5
BEKR	Beckworth	2.18	60		Pn	01 38 59.9	+0.5
KHMM	Horse Mountain	2.18	341	Pn	Pb	01 39 00.5	-1.8
KHMM				IAML		01 39 19.4	
	comp=E,95nm,0.9s						
KHMM				IAML		01 40 04.3	
	comp=N,110nm,1.7s						
HTUM	Tustin Road	2.18	154		Pn	01 38 58.1	-1.1
JCC	Jacoby Creek,	2.21	335	Pn	Pn	01 38 59.6	-0.1
JCC				IAML		01 39 57.7	
	comp=E,76nm,2.5s						
JCC				IAML		01 40 02.0	
	comp=N,95nm,2.4s						
MPK	Martis Peak	2.22	76		Pn	01 39 00.0	0.0
HSFM	Saint Francis	2.25	152		Pn	01 38 59.1	-1.1
BABR	Babbit Peak	2.25	68		Pn	01 39 01.9	+1.5
HATC	Hat Creek Radi	2.26	27		Pb	01 39 01.9	-1.8
HATC	Hat Creek Radi	2.26	27	IAML		01 40 07.9	
	comp=E,151nm,2.6s						
HATC				IAML		01 40 09.0	
	comp=N,82nm,1.2s						
FRP	Fremont Peak	2.30	152		Pn	01 38 59.4	-1.6
SAO	San Andreas Ge	2.31	152		Pn	01 39 00.1	-0.9
PEAR	Peavine Mounta	2.36	69		Pn	01 39 02.6	+0.8
MYLM	Yosemite Lake	2.36	126		Pn	01 39 02.2	+0.4
BSRM	Salinas Radio	2.37	154		Pn	01 39 00.9	-1.0
BPCNC	Pine Canyon	2.42	157		Pn	01 39 01.7	-0.8
SCZ	Santa Cruz	2.47	153		Pn	01 39 01.6	-1.7
BJCM	Johnson Can.	2.52	153		Pn	01 39 02.4	-1.5
PNTR	Pine Nut	2.52	83		Pn	01 39 05.8	+1.6
BPRM	Ponciano Ridge	2.55	160		Pn	01 39 02.8	-1.5
BVL	Bear Valley	2.58	149		Pn	01 39 03.4	-1.2
HAST	Hastings Reser	2.62	157		Pn	01 39 04.0	-1.3
BBGB	Big Mountain B	2.63	147		Pn	01 39 05.7	+0.1
WAKR	Walker	2.66	95		Pn	01 39 08.0	+1.9
WAKR	Walker	2.66	95	IAML		01 39 47.1	
	comp=E,109nm,0.6s						
WAKR				IAML		01 39 49.6	
	comp=N,92nm,0.8s						
YERR	Yerington	2.79	85		Pn	01 39 08.1	+0.2
YERR				IAML		01 40 01.1	
	comp=N,101nm,1.0s						
PAHR	Pah Rah Range	2.81	70		Pn	01 39 07.9	-0.2
PAHR				IAML		01 39 59.3	
	comp=E,42nm,0.9s						
PAHR				IAML		01 40 05.0	
	comp=N,55nm,1.3s						
KRMB	Red Mountain	2.84	343		Pn	01 39 09.2	+0.9
KRMB				IAML		01 40 31.0	
	comp=N,38nm,3.5s						
YBH	Yreka Blue Hor	2.92	2		Pn	01 39 09.3	-0.2
YBH	Yreka Blue Hor	2.92	2	Pn	Pb	01 39 14.4	-0.6
	comp=N,1.9nm,0.3s,baz=179,slow=9.4,SNR=5.6						
YBH				Lg	Lg	01 39 59.5	
	baz=108,slow=10						
	comp=N,5.0nm,0.4s						
PMPB	Monarch Peak	3.04	148	Pn	Pn	01 39 10.9	-0.2
PMPB				IAML		01 40 02.1	
	comp=N,88nm,1.8s						
PMPB				IAML		01 40 26.6	
	comp=E,92nm,1.7s						
KSXB	Camp Six Broad	3.13	345		Pn	01 39 13.1	+0.7
KSXB				IAML		01 40 43.4	
	comp=N,32nm,2.4s						
MDPB	Devils Postpil	3.17	111		Pn	01 39 13.8	+0.8
MDPB				IAML		01 40 02.7	
	comp=E,75nm,0.9s						
OMMB	Old Mammoth Mi	3.23	110		Pn	01 39 14.4	+0.4
OMMB				IAML		01 40 04.9	
	comp=N,53nm,1.1s						
OMMB				IAML		01 40 07.7	
	comp=E,56nm,1.4s						
L02F	Cave Junction	3.36	350	Pn	Pn	01 39 16.6	+1.2
LHV	Little Huntoon	3.43	98		Pn	01 39 17.1	+0.7
NVAR	Mina Array Bea	3.55	95	Pn	Pn	01 39 18.4	0.0
NVAR	Mina Array Bea	3.55	95	Pn	Pn	01 39 19.5	+1.2
	comp=E,1.4nm,0.3s,baz=268,slow=15,SNR=37						
NVAR				Pg	Pb	01 39 26.1	+0.2
	comp=E,5.7nm,0.3s,baz=268,slow=17,SNR=36						
NVAR				Lg	Lg	01 40 16.8	
	comp=E,1.6nm,0.3s,baz=13,slow=32,SNR=1.1						
	comp=E,4.7nm,0.7s						
NV11	Mina Array Sit	3.67	94	Pn	Pn	01 39 20.5	+0.6
NV11				IAML		01 40 22.7	
	comp=E,43nm,1.8s						
NV11				IAML		01 40 37.0	
	comp=N,47nm,1.3s						
KVN	Kaiserville	3.69	85	Pn	Pn	01 39 20.1	0.0
KVN				IAML		01 39 44.5	
	comp=E,25nm,1.0s						
KVN				IAML		01 40 28.0	
	comp=N,24nm,1.8s						
HUMO	Hull Mountain	3.80	358	Pn	Pn	01 39 22.4	+1.0
DSP	Deep Springs	4.08	109	Pn	Pn	01 39 25.8	+0.5
DSP				IAML		01 40 32.4	
	comp=E,17nm,1.1s						
DSP				IAML		01 40 41.4	
	comp=N,28nm,1.7s						
MZP	Montezuma Peak	4.42	103	Pn	Pn	01 39 30.2	0.0
TPH	Tonopah	4.45	98	Pn	Pn	01 39 31.1	+0.4
BMN	Battle Mountai	4.61	68	Pn	Pn	01 39 34.1	+1.3
BMN				IAML		01 41 08.5	
	comp=N,9.1nm,3.6s						
J05D	Fort Rock, OR	4.63	14		Pn	01 39 33.9	+0.8
J05D				IAML		01 41 37.6	
	comp=E,13nm,2.8s						
J05D				IAML		01 41 42.2	
	comp=N,12nm,3.9s						
ISA	Isabella, Lake	4.67	131	Pn	Pn	01 39 33.9	+0.3
ISA				IAML		01 40 47.8	
	comp=E,23nm,1.6s						
ISA				IAML		01 40 56.0	
	comp=N,11nm,1.0s						
WVOR	Wild Horse Val	4.82	40	Pn	Pn	01 39 35.1	-0.5
GWY	Greenwater Val	5.54	116	Pn	Pn	01 39 47.1	+1.5
J08A	Circle Bar Ran	5.61	34	Pn	Pn	01 39 46.1	-0.3
S11A	Rachel	5.69	100	Pn	Pn	01 39 48.0	+0.5
ELK	Elko	6.15	69	Pn	Pn	01 39 55.9	+1.9
ELK	Elko	6.15	69	Pn	Pn	01 39 55.3	+1.3
	comp=N,0.1nm,0.3s,baz=242,slow=12,SNR=10						
	comp=N,2.1nm,0.8s						
PRN	Pahroc Range	6.28	100	Pn	Pn	01 39 56.8	+1.0
SPR3	Spring Creek 3	6.62	86	Pn	Pn	01 40 00.4	-0.1
PSUT	Pine Spring	7.02	89	Pn	Pn	01 40 06.8	+0.9
PFO	Pinyon Flats O	7.30	133	Pn	Pn	01 40 10.3	+0.6
	comp=N,0.4nm,0.3s,baz=286,slow=12,SNR=5.1						
	comp=N,0.9nm,0.3s						
KNB	Kanab	8.10	100	Pn	Pn	01 40 21.6	+0.9
PDAR	Pinedale Array	10.80	64	Pn	Pn	01 41 00.7	+2.9
	comp=N,0.1nm,0.3s,baz=236,slow=13,SNR=11						
	comp=N,1.9nm,1.0s						
TXAR	Lajitas Array	18.43	115	P	Pn	01 42 39.1	+0.4
	baz=294,slow=9.4,SNR=2.1						
	comp=N,1.0nm,0.9s						

TAP ***26*** *01:44:24.3,24°.37N×122°.66E,h75km±1km,ML3.1,C*
JMA ***26*** *01:44:24.1±0.1,24°.N±2°.×122°.7E±0°.5,h79km±1km,*
MV2.4/14,NW OFF ISHIGAKIJIMA IS
ISC 26 01:44:24.6±1.3,24°.36N±0°.05×122°.69E±0°.02,h76km±8km,
n64,σ0°78/113,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.25	69	P	Pn	01 44 36.1	-0.1
JYNG				eS	Sn	01 44 44.7	0.0
YOJ	Yonaguni jima	0.31	71	P	Pn	01 44 36.5	-0.1
YOJ	baz=72			S	Sn	01 44 45.3	0.0
YOJ	Yonaguni jima	0.31	71	P	Pn	01 44 36.4	-0.1
YOJ				S	Sn	01 44 45.2	-0.1
EOS3	EOS3	0.34	257	P	Pn	01 44 37.4	+0.9
EOS3	baz=254						
EOS4	EOS4	0.41	235	eP	Pn	01 44 37.3	+0.5
EOS4	baz=231						
EOS2	EOS2	0.42	278	P	Pn	01 44 37.6	+0.5
EOS2	baz=277			eS	Sn	01 44 48.1	+1.7
EOS2							
ESAO	Su ao	0.80	286	eP	Pn	01 44 41.0	0.0
ESAO	baz=285						
TWC	Suao	0.80	288	P	Pn	01 44 40.6	-0.5
TWC	baz=288			i S	Sn	01 44 52.3	-1.0
EWUT	Wuta	0.83	276	eP	Pn	01 44 41.4	0.0
EWUT	baz=275			eS	Sn	01 44 53.6	-0.4
ENA	Nanau	0.86	275	eP	Pn	01 44 41.7	-0.2
ENA	baz=273			eS	Sn	01 44 54.4	-0.2
IRIF	Iriomote-Funau	0.95	91	P	Pn	01 44 42.8	-0.1
IRIF				S	Sn	01 44 56.7	+0.3
TIPB	Shuangxi	0.99	308	eP	Pn	01 44 42.9	-0.5
TIPB	baz=308			eS	Sn	01 44 55.6	-1.7
ETL	Fush Village	0.99	258	eP	Pn	01 44 43.0	-0.4
TWE	baz=257 Neicheng	0.99	291	eP	Pn	01 44 43.2	-0.2
NACB	baz=291 Ninganchiao	1.01	260	P	Pn	01 44 42.9	-0.7
NACB	baz=258			eS	Sn	01 44 57.2	-0.6
SXI1	Grass Mountain	1.04	315	eP	Pn	01 44 44.0	0.0
ENTT	baz=315 Nioudou	1.06	285	i P	Pn	01 44 44.4	+0.3
ENTT	baz=285			S	Sn	01 44 58.8	0.0
HATJ	Hateruma jima	1.06	106	eP	Pn	01 44 44.9	+0.6
HATJ	baz=285			eS	Sn	01 45 00.3	+1.5
LATG	Datong	1.07	280	eP	Pn	01 44 44.5	0.0
LATG	baz=279			eS	Sn	01 44 59.0	-0.3
FUSB	Fushanzhiwuyua	1.08	292	eP	Pn	01 44 44.4	0.0
FUSB	baz=291			eS	Sn	01 44 58.7	-0.6
NDT	Datong Townshi	1.10	283	eP	Pn	01 44 44.9	+0.3
ETLH	baz=282 Xiulin Townshi	1.11	262	eP	Pn	01 44 44.5	-0.4
ETLH	baz=261			eS	Sn	01 44 59.3	-0.7
TEYL	Yanliau Villag	1.11	244	eP	Pn	01 44 44.7	-0.1
TEYL	baz=244			eS	Sn	01 44 59.8	-0.1
NWLT	Wulai	1.16	291	eP	Pn	01 44 45.4	0.0
NWLT	baz=291			S	Sn	01 45 00.0	-1.0
ETM	Tongmen	1.16	250	eP	Pn	01 44 45.0	-0.5
SHUL	baz=249 Shoufeng	1.18	241	eP	Pn	01 44 45.2	-0.4
SHUL	baz=239			eS	Sn	01 45 01.4	+0.1
NNSB	baz=239 Datong	1.19	273	P	Pn	01 44 45.6	-0.4
NNSB	baz=272			S	Sn	01 45 01.3	-0.6
LXIB	Xiulin Townshi	1.21	254	eP	Pn	01 44 45.6	-0.7
LXIB	baz=252			eS	Sn	01 45 01.8	-0.6
JKRS	baz=252 Kuro-shima	1.21	96	P	Pn	01 44 46.5	+0.4
JKRS				S	Sn	01 45 03.0	+0.8
YHNB	Yeheng	1.23	285	P	Pn	01 44 46.4	0.0
YHNB	baz=284			i S	Sn	01 45 02.2	-0.6
NSK	baz=284 Sanguang	1.25	285	eP	Pn	01 44 46.8	+0.2
NSK	baz=284			eS	Sn	01 45 02.7	-0.5
ESL	baz=284 Shilin	1.27	245	eP	Pn	01 44 46.3	-0.5
WHF	baz=243 Hehuan Shan	1.31	261	P	Pn	01 44 47.5	-0.3
WHF	baz=259			S	Sn	01 45 04.6	-0.6
FUSS	baz=259 Fushou	1.32	265	P	Pn	01 44 47.9	+0.1
FUSS	baz=264			S	Sn	01 45 04.5	-0.5
JIJ	baz=264 Ishigaki jima	1.33	90	P	Pn	01 44 47.3	-0.3
JIJ				S	Sn	01 45 03.8	-1.0
EGFH	Guangfu	1.34	239	eP	Pn	01 44 47.4	-0.4
EGFH	baz=238			eS	Sn	01 45 05.0	-0.2
WARBT	baz=238 Fenglin Townsh	1.35	242	eP	Pn	01 44 47.3	-0.6
WARBT	baz=240			eS	Sn	01 45 04.2	-1.2
TDCB	baz=240 Techi	1.40	266	eP	Pn	01 44 48.9	+0.3
TDCB	baz=265			eS	Sn	01 45 06.2	-0.4
CHGB	baz=265 Renai	1.41	258	eP	Pn	01 44 49.0	+0.1
CHGB	baz=257			eS	Sn	01 45 06.8	-0.3
OWD	baz=257 Renai	1.44	254	eP	Pn	01 44 49.0	-0.1
OWD	baz=252			eS	Sn	01 45 06.5	-1.1
HGSD	baz=252 Ruisui	1.44	233	eP	Pn	01 44 48.7	-0.3
HGSD	baz=232			eS	Sn	01 45 07.6	+0.1
NFF	baz=232 Wufeng Townshi	1.45	281	eP	Pn	01 44 49.5	+0.3
NFF	baz=280			eS	Sn	01 45 07.7	-0.2
WUSB	baz=280 Renai	1.48	256	eP	Pn	01 44 49.9	+0.3
WUSB	baz=255			eS	Sn	01 45 08.1	-0.4
JISG	baz=255 Ishigakijimahi	1.50	81	eP	Pn	01 44 49.3	-0.4
JISG				S	Sn	01 45 07.5	-1.1
EHY	Hungye	1.51	236	eP	Pn	01 44 49.3	-0.7
VWDT	baz=234 VWDT	1.54	247	P	Pn	01 44 50.4	+0.2
VWDT	baz=246			eS	Sn	01 45 09.4	-0.2
LIOB	baz=246 Emei	1.55	281	eS	Sn	01 45 10.3	+0.3
WHP	baz=280 Taichung City	1.59	267	eP	Pn	01 44 52.1	+1.0
WHP	baz=266			eS	Sn	01 45 11.5	+0.5
YULB	baz=266 Yu-li	1.60	233	eP	Pn	01 44 50.6	-0.5
EYUL	baz=231 Yuli	1.61	231	eP	Pn	01 44 51.4	+0.2
EYUL	baz=230			eS	Sn	01 45 11.4	+0.1
TWF1	baz=230 Yuli	1.62	232	eP	Pn	01 44 51.1	-0.3
WCS	baz=230 Beigang Elemen	1.65	260	eP	Pn	01 44 52.5	+0.7
CHKH	baz=258 Chenggong	1.66	226	eP	Pn	01 44 51.0	-0.9
CHKH	baz=224			eS	Sn	01 45 10.5	-2.0
SSLB	baz=224 Suanglung	1.68	250	eP	Pn	01 44 52.4	+0.2
SSLB	baz=249			eS	Sn	01 45 12.6	-0.6
SMLT	baz=249 Sun Moon Lake	1.70	254	eP	Pn	01 44 53.1	+0.6
TYC	baz=253 Yuchr	1.73	255	eP	Pn	01 44 53.6	+0.8
TYC	baz=254			eS	Sn	01 45 15.3	+1.0
CHKT	baz=254 Chengkung	1.75	224	eP	Pn	01 44 52.2	-0.8
CHKT	baz=222			eS	Sn	01 45 12.9	-1.6
WHYT	baz=222 Xinyi Township	1.80	249	eP	Pn	01 44 55.0	+1.1
WHYT	baz=247			eS	Sn	01 45 17.0	+1.0
JTJ	baz=247 Tarama	1.86	81	eP	Pn	01 44 54.6	+0.1
JTJ				S	Sn	01 45 17.1	-0.1
WJS	Zhushan	1.87	254	eP	Pn	01 44 56.6	+2.0
WJS	baz=252			eS	Sn	01 45 19.9	+2.3
CHN5	baz=252 Tsauling	1.99	248	eP	Pn	01 44 58.2	+1.8
CHN5	baz=246			eS	Sn	01 45 22.0	+1.5
LDUT	baz=246 Ludao	2.02	214	eP	Pn	01 44 55.9	-0.8
LDUT	baz=212			eS	Sn	01 45 19.2	-1.8
STYH	baz=212 Taoyuan	2.12	236	eP	Pn	01 44 59.0	+1.0
STYH	baz=235			eS	Sn	01 45 23.8	+0.4
TPUB	baz=235 Ta-pu	2.16	241	eP	Pn	01 45 00.1	+1.5
TPUB	baz=240			eS	Sn	01 45 26.3	+1.7
	baz=240						

ISK ***26*** *01:45:31.5,39°.25N×40°.30E,h8km,ML2.5/10*
AFAD ***26*** *01:45:31.4±0.0,39°.28N×40°.28E,h7km±4km,ML1.7*
ISC 26 01:45:31.5±1.0,39°.25N±0°.03×40°.30E±0°.02,h11km±9km,
n15,σ0°46/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	Yedisu-Bingol	0.27	44	Pg	Pg	01 45 37.3	+0.2
YEDI				Sg	Sg	01 45 41.3	+0.4
BNGB	Bingl	0.39	131	Pg	Pg	01 45 39.4	+0.2
BNGB				Sg	Sb	01 45 46.1	-0.3
ERZN	Erzincan	0.56	307	Pg	Pb	01 45 42.8	-0.6
ERZN				Sg	Sb	01 45 51.4	-0.1
KARO	Karliova-Bingo	0.58	84	Pg	Pg	01 45 43.1	+0.2
KARO				Sg	Sb	01 45 51.8	-0.3
SLHN	Bingol, Solhan	0.63	117	P	Pb	01 45 44.7	+0.1

SLHN			S	Sn	01 45 56.4	-0.2
SLHN			*i* AML	AML	01 46 02.0	
comp=Z,59nm,0.4s						
EUZM	**Uzumlu**	**0.66 315**	P	**Pb**	**01 45 44.5**	**-0.5**
EUZM			S	**Sg**	**01 45 52.4**	**-0.5**
KOVA	**Elazig, Kovanc**	**0.66 215**	P	**Pb**	**01 45 45.0**	**0.0**
KOVA			S	**Sb**	**01 45 54.9**	**+0.7**
KOVA			*i* AML	AML	01 46 01.0	
comp=Z,34nm,0.8s						
PTK	**Pertek**	**0.79 244**	Pg	**Pg**	**01 45 46.6**	**-0.2**
PTK			Sg	**Sb**	**01 45 58.7**	**+0.6**
HANI	**Diyarbakir_Han**	**0.83 175**	P	**Pg**	**01 45 48.1**	**+0.6**
HANI			S	**Sg**	**01 45 57.6**	**-0.8**
VRTB	**Varto-Mus**	**0.90 95**	Pg	**Pg**	**01 45 48.9**	**0.0**
MUSM	**Mu-Merkez**	**1.08 119**	P	**Pg**	**01 45 52.0**	**-0.2**
MUSM			S	**Sg**	**01 46 05.4**	**-0.8**
BAYT	**Aydıntepe-Bayb**	**1.15 354**	Pn	**Pb**	**01 45 53.6**	**+0.1**
ILIC	**ilic-Erzincan**	**1.36 279**	Pn	**Pg**	**01 45 57.9**	**+0.3**
KOPR	**Koprukoy-ERZUR**	**1.41 58**	Pn	**Pn**	**01 45 57.7**	**+0.5**
ARPR	**Arapgir-MALATY**	**1.54 265**	Pn	**Pb**	**01 45 59.9**	**-0.1**

*DNK **26** 01:51:15.6±1.4, 80°.03N×1°.03E, h36km±10km, ML2.1*
*BER **26** 01:51:15.4±2.6, 80°.05N×0°.59E, h24km±29km, mb(Pn)3.5, ML2.1(DNK), Confirmed Earthquake*

ISC 26 01:51:11.4±1.1, 79°.99N±0°.08×0°.45E±0°.05, h18km, n14, σ1991/22, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.37**	**111**	*e*P		**Pn**	**01 51 50.9**	**+1.7**
KBS				*e*S		**Sn**	**01 52 16.0**	**-1.6**
KBS				IAML			01 52 17.6	
comp=Z,7.2nm,0.1s								
KBS	**Kingsbay**	**2.37**	**111**	*i* P		**Pn**	**01 51 50.0**	**+0.8**
KBS				*i* S		**Sn**	**01 52 15.2**	**-2.4**
NOR	**Nord**	**3.18**	**309**	*i* P		**Pn**	**01 52 03.0**	**+2.6**
NOR				*i* S		**Sn**	**01 52 37.2**	**-0.6**
NOR				IAML			01 52 40.5	
comp=Z,2.7nm,1.2s								
NOR	**Nord**	**3.18**	**309**	*i* P		**Pn**	**01 52 03.0**	**+2.6**
NOR				*i* S		**Sn**	**01 52 37.2**	**-0.6**
NOR				IAML			01 52 40.5	
comp=Z,2.7nm,1.2s								
BRBA	**Barentsburg A**	**3.26**	**119**	*e*P		**Pn**	**01 52 05.2**	**+3.7**
BRBA				*e*S		**Sn**	**01 52 40.3**	**+0.5**
BRBA				IAML			01 52 43.9	
comp=Z,6.2nm,0.6s								
DAG	**Danmarks Havn**	**5.01**	**240**	*i* P		**Pn**	**01 52 27.0**	**+1.6**
DAG				*i* S		**Sn**	**01 53 21.7**	**-1.0**
DAG				IAML			01 53 25.1	
comp=Z,5.0nm,0.9s								
DAG	**Danmarks Havn**	**5.01**	**240**	*i* P		**Pn**	**01 52 27.0**	**+1.6**
DAG				*i* S		**Sn**	**01 53 21.7**	**-1.0**
DAG				IAML			01 53 25.1	
comp=Z,5.0nm,0.9s								
HOPEN	**Hopen**	**6.06**	**112**	*e*P		**Pn**	**01 52 41.2**	**+1.4**
HOPEN				*e*S		**Sn**	**01 53 45.2**	**-3.2**
HOPEN				IAML			01 54 07.0	
comp=Z,8.1nm,0.6s								
DBG	**Daneborg**	**7.27**	**229**	*i* P		**Pn**	**01 52 58.4**	**+2.0**
DBG				*i* S		Sn	01 54 13.5	-4.8
DBG				IAML			01 54 18.5	
comp=Z,5.7nm,0.3s								
DBG	**Daneborg**	**7.27**	**229**	*i* P		**Pn**	**01 52 58.4**	**+2.0**
DBG				*i* S		Sn	01 54 13.5	-4.8
DBG				IAML			01 54 18.5	
comp=Z,5.7nm,0.3s								
NEEM	**North Greenlan**	**10.09**	**282**	*i* P		**Pn**	**01 53 35.0**	**-0.3**
NEEM				*i* S		Sn	01 55 18.0	-10
NEEM				IAML			01 55 53.9	
comp=Z,5.4nm,1.7s								
NEEM	**North Greenlan**	**10.09**	**282**	*i* P		**Pn**	**01 53 35.0**	**-0.3**
NEEM				*i* S		Sn	01 55 18.0	-10
NEEM				IAML			01 55 53.9	
comp=Z,5.4nm,1.7s								
SUMG	**Summit**	**11.52**	**251**	*i* P		**Pn**	**01 53 54.2**	**-0.7**
SUMG				*i* S		Sn	01 55 52.5	-11
SUMG				IAML			01 56 07.5	
comp=Z,11nm,2.4s								
SUMG	**Summit**	**11.52**	**251**	*i* P		**Pn**	**01 53 54.2**	**-0.7**
SUMG				*i* S		Sn	01 55 52.5	-11
SUMG				IAML			01 56 07.5	
comp=Z,11nm,2.4s								

*IDC **26** 01:55:55.5±2.3, 19°.60N×155°.36W, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=74.9km s-min=14.8km az=169.0*
*NEIC **26** 01:55:55.7±1.2, 19°.424N±0°.007×155°.290W±0°.007, h3km±2km, Error ellipse: s-maj=1.0km s-min=0.8km az=156.0*
*HVO **26** 01:55:55.1±1.1, 19°.416N±0°.004×155°.276W±0°.007, h0km±4km, ML3.6/48, ML3.7/27(NEIC), Error ellipse: s-maj=0.9km s-min=0.6km az=82.0*

ISC 26 01:55:55.6±0.9, 19°.44N±0°.03×155°.28W±0°.02, h4km±5km, n45, σ0984/43, mb3.4/4, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.01**	**180**			**Pg**	**01 55 56.1**	**-0.5**
SBLHI	**Steaming Bluff**	**0.01**	**140**			**Pg**	**01 55 56.2**	**-0.3**
HATHI	**Halema'uma'u T**	**0.02**	**134**			**Pg**	**01 55 56.1**	**-0.5**
OBL	**Observatory Le**	**0.02**	**195**			**Pg**	**01 55 56.1**	**-0.5**
UWE	**Uwekahuna**	**0.02**	**219**			**Pg**	**01 55 56.1**	**-0.6**
BYL	**Byron's Ledge**	**0.03**	**147**			**Pg**	**01 55 56.1**	**-0.6**
WRMHI	**West Rim**	**0.04**	**213**			**Pg**	**01 55 57.1**	**+0.3**
KKO	**Keanakako`i**	**0.04**	**164**			**Pg**	**01 55 56.7**	**-0.2**
RIM	**Rim**	**0.04**	**175**			**Pg**	**01 55 56.8**	**-0.1**
SDHHI	**Sand Hill**	**0.05**	**197**			**Pg**	**01 55 57.3**	**+0.3**
MLH	**Mauna Loa**	**0.12**	**298**			**Pg**	**01 55 58.2**	**+0.1**
MLH				IAML			01 56 01.4	
comp=N,19μm,0.8s								
MLH	**Mauna Loa**	**0.12**	**298**			**Sg**	**01 56 01.7**	**+1.9**
KNHH	**Kane Nui o Ham**	**0.12**	**120**			**Pg**	**01 55 57.9**	**-0.2**
HLP	**Hilina Pali**	**0.14**	**191**			**Pg**	**01 55 58.3**	**-0.3**
HLP	**Hilina Pali**	**0.14**	**191**			**Sg**	**01 56 01.3**	**+0.9**
STCH	**Steam Cracks**	**0.15**	**110**			**Pg**	**01 55 58.7**	**0.0**
STCH						**Sg**	**01 56 01.8**	**+1.0**
STCH	**Steam Cracks**	**0.15**	**110**	IAML			01 56 02.1	
comp=N,19μm,0.9s								
STCH				IAML			01 56 02.6	
comp=E,20μm,0.7s								
NPOC	**North of Pu'u**	**0.17**	**106**			**Pg**	**01 55 58.4**	**-0.5**
NPOC						**Sg**	**01 56 01.1**	**0.0**
JCUZ	**Jacuzzi**	**0.17**	**108**			**Pg**	**01 55 59.1**	**0.0**
JCUZ						**Sg**	**01 56 01.5**	**+0.1**
HTC	**Hot Caves**	**0.23**	**209**			**Pg**	**01 56 00.0**	**-0.1**
HMH	**Humu'ula Sheep**	**0.25**	**310**			**Pg**	**01 56 01.1**	**+0.5**
HMH						**Sg**	**01 56 05.9**	**+1.9**
HMH	**Humu'ula Sheep**	**0.25**	**310**	IAML			01 56 09.3	
comp=N,10μm,0.5s								
HMH				IAML			01 56 09.7	
comp=E,12μm,0.8s								
JOKA	**Jonika Flow**	**0.26**	**91**			**Pg**	**01 56 00.3**	**-0.3**
JOKA						**Sg**	**01 56 04.6**	**+0.6**
JOKA	**Jonika Flow**	**0.26**	**91**	IAML			01 56 08.5	
comp=E,6μm,0.8s								
JOKA				IAML			01 56 08.9	
comp=N,14μm,0.9s								
MLOA	**Mauna Loa Obse**	**0.30**	**289**			**Pg**	**01 56 01.8**	**+0.3**
MLOA	**Mauna Loa Obse**	**0.30**	**289**	IAML			01 56 09.4	
comp=N,9μm,0.6s								
MLOA				IAML			01 56 10.8	
comp=E,10μm,1.3s								
MWH	**Moku'aweowe**	**0.30**	**279**			**Pg**	**01 56 01.5**	**-0.2**
MWH	**Moku'aweowe**	**0.30**	**279**	IAML			01 56 08.4	
comp=E,17μm,0.7s								
MWH				IAML			01 56 09.3	
comp=N,15μm,0.9s								
PAH	**Pahoa**	**0.32**	**80**	Pg		**Pg**	**01 56 01.9**	**+0.2**
PAH	**Pahoa**	**0.32**	**80**			**Sg**	**01 56 07.8**	**+1.8**
ALEP	**Alea Permanent**	**0.36**	**287**			**Pg**	**01 56 02.7**	**0.0**
ALEP						**Sb**	**01 56 10.2**	**-0.8**
KHU	**Kahuku**	**0.37**	**239**			**Pg**	**01 56 02.4**	**-0.4**
KHU				IAML			01 56 14.1	
comp=N,6μm,0.8s								
POHA	**Pohakuloa**	**0.40**	**323**			**Pg**	**01 56 03.0**	**-0.4**
POHA				IAML			01 56 12.5	
comp=N,8μm,0.6s								
POHA				IAML			01 56 13.7	
comp=N,9μm,0.7s								
POHA	**Pohakuloa**	**0.40**	**323**			**Sg**	**01 56 08.4**	**-0.2**
HPO	**Honuapo**	**0.43**	**217**			**Pg**	**01 56 03.9**	**-0.1**
HUH	**Hualalai**	**0.58**	**295**			**Pg**	**01 56 06.9**	**+0.1**
I59US	**HAWAII INFRASO**	**0.60**	**285**	Pg		**Pg**	**01 56 05.0**	**-2.2**
baz=140,slow=7.6								
HPAH	**Hawaii Prepara**	**0.71**	**326**			**Sg**	**01 56 17.9**	**-0.6**
H11N3	**WAKE ISLAND Hy**	**35.58**	**277**	T		T	02 39 59.2	
baz=84,slow=74,SNR=7.8								
H11N2	**WAKE ISLAND Hy**	**35.59**	**277**	T		T	02 40 00.4	
baz=84,slow=74,SNR=6.8								
H11N1	**WAKE ISLAND Hy**	**35.60**	**277**	T		T	02 39 57.9	
baz=84,slow=74,SNR=5.8								
NVAR	**Mina Array Bea**	**37.16**	**51**	P		**P**	**02 03 06.4**	**-1.6**
comp=N,0.2nm,0.7s,baz=239,slow=10,SNR=1.4								
comp=N,0.2nm,0.7s								
PDAR	**Pinedale Array**	**44.85**	**48**	P		**P**	**02 04 10.5**	**-0.8**
comp=N,0.1nm,0.4s,baz=255,slow=5.5,SNR=1.9								
comp=N,0.1nm,0.4s								
ILAR	**Eielson Array**	**45.65**	**5**	P		**P**	**02 04 17.1**	**0.0**
comp=N,0.8nm,0.8s,baz=196,slow=7.1,SNR=6.9								
comp=N,0.8nm,0.8s								
TXAR	**Lajitas Array**	**47.70**	**68**	P		**P**	**02 04 35.4**	**+1.6**
comp=N,1.3nm,0.9s,baz=250,slow=8.8,SNR=15								
comp=N,1.3nm,0.9s								

*HVO **26** 01:57:46.2±0.6, 19°.399N±0°.007×155°.28W±0°.01, h-1km±2km, ML3.9/12, ML3.4/24(NEIC), Error ellipse: s-maj=3.1km s-min=1.7km az=110.0*
*NEIC **26** 01:57:47.1±1.0, 19°.411N±0°.007×155°.28W±0°.01, h5km±1km, Error ellipse: s-maj=3.1km s-min=1.8km az=107.0*
*IDC **26** 01:57:52.8±4.3, 19°.42N×155°.52W, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=98.7km s-min=12.0km az=8.0*

ISC 26 01:57:46.2±1.4, 19°.42N±0°.05×155°.29W±0°.05, h6km±8km, n21, σ0991/11, mb3.8/7, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.00**	**151**		Pg	**Pg**	**01 57 47.6**	**+0.2**
HATHI	**Halema'uma'u T**	**0.03**	**89**		Pg	**Pg**	**01 57 47.9**	**+0.3**
BYL	**Byron's Ledge**	**0.03**	**108**		Pg	**Pg**	**01 57 47.8**	**+0.3**
RSD	**Rainshed**	**0.04**	**20**		IAML		01 57 47.6	
comp=E,24μm,0.9s								
RSD					IAML		01 57 48.2	
comp=N,20μm,1.8s								
RSD					Pg	**Pg**	**01 57 48.6**	**+0.8**
PUH	**Pauahi**	**0.09**	**123**		IAML		01 57 48.1	
comp=E,16μm,1.4s								
PUH					IAML		01 57 48.2	
comp=N,44μm,1.2s								
PUH					Pg	**Pg**	**01 57 48.7**	**+0.4**
MLH	**Mauna Loa**	**0.11**	**309**		Pg	**Pg**	**01 57 49.8**	**+1.0**
MLH					IAML		01 57 51.6	
comp=E,21μm,1.0s								
MLH					IAML		01 57 52.5	
comp=N,40μm,1.4s								
KNHH	**Kane Nui o Ham**	**0.12**	**110**		Pg	**Pg**	**01 57 49.8**	**+0.9**
HLP	**Hilina Pali**	**0.13**	**186**		Pg	**Pg**	**01 57 49.9**	**+1.0**
STCH	**Steam Cracks**	**0.16**	**103**		IAML		01 57 49.6	
comp=N,16μm,1.4s								
STCH					Pg	**Pg**	**01 57 50.4**	**+0.8**
STCH					IAML		01 57 50.4	
comp=E,8μm,1.5s								
HPO	**Honuapo**	**0.41**	**217**		Pg	**Pg**	**01 57 54.8**	**+0.6**
I59US	**HAWAII INFRASO**	**0.59**	**287**		Pg	**Pn**	**01 58 00.3**	**-1.0**
baz=130,slow=11								
I59US					I	I	02 01 30.0	
baz=106,slow=309,SNR=3.6								
YBH	**Yreka Blue Hor**	**35.47**	**44**		P	P	02 04 51.8	+8.2
comp=E,1.3nm,0.8s,baz=253,slow=11,SNR=3.3								
comp=E,1.3nm,0.8s								
H11N3	**WAKE ISLAND Hy**	**35.57**	**277**		T	T	02 41 56.1	
baz=84,slow=74,SNR=3.5								
H11N2	**WAKE ISLAND Hy**	**35.58**	**277**		T	T	02 41 56.4	
baz=84,slow=74,SNR=4.6								
H11N1	**WAKE ISLAND Hy**	**35.58**	**277**		T	T	02 41 58.0	
baz=84,slow=74,SNR=4.4								
NVAR	**Mina Array Bea**	**37.19**	**51**		P	P	02 05 07.4	+8.8
comp=E,0.5nm,0.8s,baz=249,slow=9.4,SNR=2.5								
comp=E,0.5nm,0.8s								
NEW	**Newport**	**42.12**	**38**		P	P	02 05 46.9	+7.6
comp=E,1.2nm,0.6s,baz=245,slow=6.7,SNR=3.3								
comp=E,1.2nm,0.6s								
PDAR	**Pinedale Array**	**44.87**	**48**		P	P	02 06 09.8	+8.0
comp=E,1.0nm,0.9s,baz=258,slow=7.1,SNR=5.5								
comp=E,1.0nm,0.9s								
ILAR	**Eielson Array**	**45.67**	**5**		P	P	02 06 16.0	+8.5
comp=E,2.2nm,0.9s,baz=198,slow=6.7,SNR=15								
comp=E,2.2nm,0.9s								
TXAR	**Lajitas Array**	**47.73**	**68**		P	P	02 06 33.7	+9.4
comp=E,3.3nm,0.8s,baz=259,slow=6.7,SNR=20								
comp=E,3.3nm,0.8s								
YKA	**Yellowknife Ar**	**51.32**	**23**		P	P	02 06 59.4	+8.4
comp=E,0.8nm,0.7s,baz=235,slow=7.8,SNR=4.9								
comp=E,0.8nm,0.7s								

ISC 26 02:05:29.8±1.1, 66°.62N±0°.03×135°.76W±0°.04, h23km±13km, n22, σ2919/30, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
G30M	**tAoh Zraii Nji**	**0.41**	**333**		P	**Pb**	**02 05 38.4**	**0.0**
baz=154,SNR=65								
G30M					S	**Sb**	**02 05 44.5**	**+0.3**
baz=154								
EPYK	**Eagle Plains**	**0.46**	**237**		P	**Pb**	**02 05 38.8**	**-0.5**
baz=58,SNR=31								
EPYK					S	**Sb**	**02 05 45.0**	**-0.7**
baz=58								
G31M	**Satah River**	**0.66**	**62**		P	**Pn**	**02 05 42.6**	**-1.1**
baz=242,SNR=106								
G31M					S	**Sn**	**02 05 51.9**	**-1.6**
baz=242								
G29M	**Pine Creek**	**0.94**	**289**		P	**Pb**	**02 05 48.1**	**+0.6**
baz=108,SNR=36								
G29M					S	**Sb**	**02 06 01.1**	**+1.5**
baz=108								
F30M	**Barrier River**	**0.99**	**359**		P	**Pb**	**02 05 48.7**	**+0.4**
baz=180,SNR=33								
F30M					S	**Sb**	**02 06 03.2**	**+2.2**
baz=180								
H29M	**Whitestone**	**1.12**	**250**		P	**Pb**	**02 05 50.7**	**+0.2**
baz=69,SNR=52								
H29M					S	**Sb**	**02 06 06.0**	**+1.3**
baz=69								
F31M	**Tsiigehtchic**	**1.14**	**43**		P	**Pb**	**02 05 50.7**	**-0.1**
baz=224,SNR=31								
F31M					S	**Sb**	**02 06 06.9**	**+1.7**
baz=224								
I30M	**Mount Dempster**	**1.43**	**191**		P	**Pb**	**02 05 54.6**	**-1.2**
baz=10.0,SNR=27								
I30M					S	**Sb**	**02 06 13.5**	**0.0**
baz=10.0								
I29M	**Ogilvie Camp,**	**1.64**	**221**		Sb	**Sb**	**02 06 20.3**	**+0.7**
baz=39								
F28M	**Old Crow**	**1.89**	**304**		Sb	**Sb**	**02 06 29.0**	**+2.2**
baz=120								
INK	**Inuvik**	**1.90**	**26**		P	**Pb**	**02 06 01.6**	**-2.1**
baz=208								
E29M	**Blow River**	**1.96**	**336**		Sb	**Sb**	**02 06 31.6**	**+2.9**
baz=154								
J30M	**Hart River**	**2.07**	**187**		Sb	**Sb**	**02 06 32.7**	**+0.8**
baz=6.3								
I28M	**Miner Creek**	**2.07**	**237**		Sb	**Sb**	**02 06 33.1**	**+1.1**
baz=54								
G27K	**Doyon Strip**	**2.35**	**277**		S	**Sb**	**02 06 37.3**	**-2.7**
baz=92								
H27K	**Steamboat Moun**	**2.35**	**263**		S	**Sb**	**02 06 36.5**	**-3.6**
baz=78								
J29N	**Klondike Camp**	**2.41**	**206**		Sg	**Sb**	**02 06 48.1**	**+6.5**
baz=24								
I27K	**Kandik River**	**2.59**	**250**		S	**Sb**	**02 06 43.0**	**-4.0**
baz=64								
K29M	**Barlow Dome**	**2.89**	**196**		S	**Sn**	**02 06 49.9**	**+1.4**
baz=14								
DAWY	**Dawson**	**2.98**	**212**		S	**Sn**	**02 06 52.0**	**+1.2**
baz=29								
F26K	**Sheenjek River**	**3.44**	**292**		S	**Sn**	**02 07 03.1**	**+0.9**
baz=105								
L29M	**L29M**	**3.67**	**197**		Sb	**Sb**	**02 07 19.6**	**+1.7**
baz=15								

NAM 26 02:13:06.2±4.2, 19°.74S×14°.51E, h24km±17km, ML0.2,

Namibia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ST3N	**ST3**	**0.01**	**234**	*i* P		Pb	02 13 12.4	+1.9
ST3N				*i* S		Sb	02 13 14.1	+0.7
ST3N				IAML			02 13 14.2	
comp=Z,3.3nm,0.1s								
ST3N	**ST3**	**0.01**	**234**	*i* P		Pb	02 13 12.4	+1.9
ST3N				*i* S		Sb	02 13 14.0	+0.7
ST3N				IAML			02 13 14.2	
comp=Z,3.4nm,0.1s								
ST9N	**ST9**	**0.07**	**151**	*i* P		Pb	02 13 11.3	+0.6
ST9N				*i* S		Sb	02 13 12.2	-1.5
ST9N				IAML			02 13 12.7	
comp=Z,71nm,0.1s								
ST9N	**ST9**	**0.07**	**151**	*i* P		Pb	02 13 11.2	+0.6
ST9N				*i* S		Sb	02 13 12.2	-1.5
ST9N				IAML			02 13 12.7	
comp=Z,70nm,0.1s								
ST1N	**ST1**	**0.10**	**91**	*i* P		Pb	02 13 10.1	-0.8
ST1N				*i* S		Sb	02 13 13.5	-0.5
ST1N				IAML			02 13 13.6	
comp=Z,2.4nm,0.1s								
ST1N	**ST1**	**0.10**	**91**	*i* P		Pb	02 13 10.8	0.0
ST1N				*i* S		Sb	02 13 13.5	-0.5
ST1N				IAML			02 13 13.6	
comp=Z,2.4nm,0.1s								
ST6N	**ST6**	**0.12**	**237**	*i* P		Pn	02 13 13.3	+0.5
ST6N				*i* S		Sb	02 13 15.9	+1.6
ST6N				IAML			02 13 16.2	
comp=Z,1.7nm,0.1s								
ST6N	**ST6**	**0.12**	**237**	*i* P		Pn	02 13 13.4	+0.6
ST6N				*i* S		Sb	02 13 15.9	+1.6
ST6N				IAML			02 13 16.0	
comp=Z,1.7nm,0.1s								
ST8N	**ST8**	**0.18**	**284**	*i* P		Pn	02 13 13.8	+0.1
ST8N				*i* S		Sb	02 13 19.8	+4.4
ST8N				IAML			02 13 20.4	
comp=Z,0.4nm,0.1s								
ST8N	**ST8**	**0.18**	**284**	*i* P		Pn	02 13 15.5	+1.9
ST8N				*i* S		Sb	02 13 19.8	+4.4
ST8N				IAML			02 13 20.4	
comp=Z,0.4nm,0.1s								
ST2N	**ST2**	**0.21**	**156**	*i* P		Pb	02 13 12.1	+0.1
ST2N				*i* S		Sb	02 13 13.7	-2.3
ST2N				IAML			02 13 15.1	
comp=Z,1.5nm,0.1s								
ST2N	**ST2**	**0.21**	**156**	*i* P		Pb	02 13 12.1	+0.1
ST2N				*i* S		Sb	02 13 13.7	-2.3
ST2N				IAML			02 13 14.0	
comp=Z,1.5nm,0.1s								
ST5N	**ST5**	**0.24**	**103**	*i* P		Pb	02 13 13.3	+0.9
ST5N				*i* S		Sb	02 13 15.7	-1.0
ST5N				IAML			02 13 15.7	
comp=Z,2.1nm,0.1s								
ST5N	**ST5**	**0.24**	**103**	*i* P		Pb	02 13 13.3	+0.9
ST5N				*i* S		Sb	02 13 15.7	-1.0
ST5N				IAML			02 13 15.7	
comp=Z,2.1nm,0.1s								
ST10N	**ST10**	**0.28**	**204**	*i* P		Pn	02 13 14.8	-0.2
ST10N				*i* S		Sb	02 13 18.1	+0.5
ST10N				IAML			02 13 18.3	
comp=Z,6.4nm,0.1s								
ST10N	**ST10**	**0.28**	**204**	*i* P		Pn	02 13 14.8	-0.2
ST10N				*i* S		Sb	02 13 18.1	+0.5
ST10N				IAML			02 13 18.4	
comp=Z,6.3nm,0.1s								
ST4N	**ST4**	**0.47**	**110**	*i* P		Pb	02 13 14.7	-1.2
ST4N				*i* S		Sb	02 13 22.0	-0.5
ST4N				IAML			02 13 22.5	
comp=Z,1.2nm,0.1s								

IDC 26 02:18:16.4±2.1, 17°.69S×177°.87W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=129.6km s-min=27.3km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.17**	**259**	P		P	02 26 35.2	-0.2
0.6nm,0.5s,baz=98,slow=6.4,SNR=18								
0.6nm,0.5s								
ASAR	**Alice Springs**	**45.34**	**254**	P		P	02 26 36.8	0.0
4.0nm,0.5s,baz=90,slow=8.4,SNR=65								
4.0nm,0.5s								
TXAR	**Lajitas Array**	**85.45**	**57**	P		P	02 30 57.1	+0.6
0.3nm,0.6s,baz=218,slow=6.1,SNR=7.2								
0.3nm,0.6s								
ILAR	**Eielson Array**	**85.56**	**13**	P		P	02 30 55.4	-0.8
0.1nm,0.4s,baz=213,slow=6.0,SNR=4.7								
0.1nm,0.4s								

*RHSSO **26** 02:19:54.7±0.8, 42°.29N×20°.17E, h7km±2km, ML2.0/9*
*PDG **26** 02:19:56.4±0.1, 42°.37N×20°.05E, h2km, MD2.0/1, ML1.9/10, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*

BEO 26 02:19:57.3±0.5, 42°.37N×20°.06E, h1km±4km, ML1.7/9, 5C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.24**	**342**	⇑*i*Pg		Pg	02 20 00.8	-1.1
PVY				*i* Sg		Sg	02 20 04.6	-0.5
IVA	**Berane**	**0.52**	**346**	⇓*i*Pg		Pg	02 20 05.9	-1.4
IVA				*i* Sg		Sg	02 20 13.9	-0.1
PDG	**Podgorica**	**0.60**	**276**	*e*Pg		Pg	02 20 07.1	-1.7
PDG				*e*Sg		Sg	02 20 16.1	-0.5
PDG	**Podgorica**	**0.60**	**276**	⇓*i*Pg		Pg	02 20 06.3	-2.5
PDG				*e*Sg		Sg	02 20 16.3	-0.3
PDG	**Podgorica**	**0.60**	**276**	⇑*i*Pg		Pg	02 20 06.8	-2.0
PDG				*i* Sg		Sg	02 20 16.6	0.0
KOME	**Kolasin**	**0.63**	**320**	*e*Pg		Pg	02 20 08.5	-0.9
KOME				*e*Sg		Sg	02 20 17.2	-0.3
KOME	**Kolasin**	**0.63**	**320**	⇓*i*Pg		Pg	02 20 07.9	-1.5
KOME				*i* Sg		Sg	02 20 17.4	-0.1
DRME	**Dracevica, Mon**	**0.68**	**255**	*e*Pg		Pg	02 20 08.9	-1.3
DRME				*e*Sg		Sg	02 20 20.2	+1.2
**D

STON	**Ston**	**1.81 287**	*e*Pn	Pn	02 20 29.2	-0.4
STON	**Ston**	**1.81 287**	*e*Pn	Pn	02 20 28.1	-1.5
STON			*e*Sn	Sn	02 20 52.0	-1.3
HAPS	**Han Pijesak,BI**	**1.90 335**	*e*Pn	Pn	02 20 29.4	-1.6
HAPS			*e*Sn	Sn	02 20 53.7	-1.9
MAKA	**Makarska**	**2.42 293**	*e*Pn	Pn	02 20 38.8	+0.8
RICI	**Ricice**	**2.43 299**	*e*Pn	Pb	02 20 40.2	-1.6
HVAR	**Hvar**	**2.78 288**	*e*Pn	Pn	02 20 43.4	+0.5
KIJV	**Kijevo**	**3.13 303**	*e*Pn	Pb	02 20 51.8	-2.1
A050A	**Klekovaca**	**3.33 311**	*e*Pn	Pn	02 20 48.0	-2.6
A050A			*e*Sn	Sn	02 21 28.6	-2.2
MORI	**Morici**	**3.52 297**	*e*Pn	Pn	02 20 53.9	+0.8
DUGI	**Dugi Otok**	**4.00 296**	*e*Pn	Pn	02 20 59.9	+0.1

RHSSO ***26*** *03:10:38.9±0.7, 42°.38N×20°.11E, h6km±2km, ML1.9/9*
PDG ***26*** *03:10:39.6±0.2, 42°.38N×20°.03E, h12km±2km, ML1.9/10,*
Error ellipse: s-maj=0.7km s-min=1.0km az=0.0

BEO 26 03:10:40.9±0.4, 42°.41N×20°.01E, h8km±4km, ML1.6/8, 5C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.19 348**		⇑*i*Pg	Pg	03 10 44.2	-0.6
PVY				*i* Sg	Sg	03 10 48.3	+0.8
IVA	**Berane**	**0.47 349**		⇓*i*Pg	Pg	03 10 49.0	-1.0
IVA				*i* Sg	Sg	03 10 57.3	+1.1
PDG	**Podgorica**	**0.56 272**		*e*Pg	Pg	03 10 50.3	-1.4
PDG				*e*Sg	Sg	03 10 59.6	+0.5
PDG	**Podgorica**	**0.56 272**		⇓*i*Pg	Pg	03 10 50.2	-1.5
PDG				*e*Sg	Sg	03 10 59.3	+0.2
PDG	**Podgorica**	**0.56 272**		⇑*i*Pg	Pg	03 10 49.6	-2.1
PDG				*i* Sg	Sg	03 10 59.4	+0.3
KOME	**Kolasin**	**0.57 320**		*e*Pg	Pg	03 10 51.9	-0.1
KOME				*e*Sg	Sg	03 11 00.3	+0.8
KOME	**Kolasin**	**0.57 320**		⇑*i*Pg	Pg	03 10 51.2	-0.8
KOME				*i* Sg	Sg	03 11 00.3	+0.8
DRME	**Dracevica, Mon**	**0.65 250**		*e*Pg	Pg	03 10 51.8	-1.7
DRME				*e*Sg	Sb	03 11 03.2	-0.6
DRME	**Dracevica, Mon**	**0.65 250**		*e*Pg	Pg	03 10 51.6	-1.9
DRME				*e*Sg	Sg	03 11 02.2	+0.2
DRME	**Dracevica, Mon**	**0.65 250**		⇓*i*Pg	Pg	03 10 51.7	-1.8
DRME				*i* Sg	Sg	03 11 02.2	+0.2
CEME	**Cevo**	**0.82 280**		⇑*i*Pg	Pg	03 10 54.8	-1.9
CEME				*i* Sg	Sb	03 11 08.5	-0.2
BUM	**Brajici-Budva**	**0.84 263**		⇓*i*Pg	Pg	03 10 55.7	-1.3
BUM				*i* Sg	Sb	03 11 08.6	-0.5
SJES	**Sjenica**	**0.85 358**		*e*Pg	Pg	03 10 56.1	-1.2
SJES				*e*Sg	Sg	03 11 08.5	+0.1
SJES	**Sjenica**	**0.85 358**		*e*Pg	Pg	03 10 54.7	-2.6
SJES				*e*Sg	Sg	03 11 07.5	-0.8
NKME	**Niksic**	**0.86 295**		⇓*i*Pg	Pg	03 10 56.3	-1.1
NKME				*i* Sg	Sb	03 11 09.9	+0.1
PLE	**Pljevlja**	**1.03 334**		⇑*i*Pg	Pg	03 10 59.6	-1.0
PLE				*i* Sg	Sn	03 11 16.1	-0.3
SELS	**Selova**	**1.15 45**		*e*Pg	Pg	03 11 02.5	-0.4
SELS				*e*Sg	Sg	03 11 17.6	-0.2
SELS	**Selova**	**1.15 45**		*e*Pg	Pg	03 11 02.5	-0.4
SELS				*e*Sg	Sn	03 11 19.7	+0.5
IVAS	**Ivanjica**	**1.17 5**		*e*Pg	Pg	03 11 01.0	-2.4
IVAS				*e*Sg	Sg	03 11 16.7	-1.8
BRY	**Bratogost**	**1.19 295**		*e*Pg	Pg	03 11 01.3	-2.5
BRY				*e*Sg	Sg	03 11 19.3	0.0
BRY	**Bratogost**	**1.19 295**		⇓*i*Pg	Pg	03 11 02.1	-1.7
BRY				*i* Sg	Sn	03 11 21.4	+0.9
TREB	**Trebinje**	**1.27 285**		*e*Pg	Pn	03 11 03.3	-1.6
TREB				*e*Sg	Sn	03 11 22.1	0.0
KLINJ	**Klinje**	**1.29 306**		*e*Pg	Pn	03 11 03.7	-1.7
KLINJ				*e*Sg	Sg	03 11 22.7	+0.1
RUDO	**Rudo**	**1.29 339**		*e*Pg	Pn	03 11 03.3	-2.0
RUDO				*e*Sg	Sb	03 11 21.5	-0.8
DBRK	**Dubrovnik**	**1.40 281**		*e*Pn	Pb	03 11 07.3	0.0
DBRK				Sn	Sg	03 11 29.1	+3.1
BBLS	**Lazi&#263i**	**1.52 343**		*e*Pn	Pn	03 11 07.0	-1.5
BBLS				*e*Sn	Sn	03 11 28.1	-0.4
PRVS	**Prvonek**	**1.53 86**		*e*Pn	Pn	03 11 07.6	-1.0
PRVS				*e*Sn	Sn	03 11 28.8	+0.1
GRUS	**Gruza**	**1.56 19**		*e*Pn	Pn	03 11 09.0	0.0
GRUS				*e*Sn	Sg	03 11 30.7	-0.5
GRUS	**Gruza**	**1.56 19**		*e*Pg	Pn	03 11 09.1	+0.1
STON	**Ston**	**1.77 286**		*e*Pn	Pb	03 11 13.2	-0.3
STON				Sn	Sg	03 11 39.4	+1.7
STON	**Ston**	**1.77 286**		*e*Pn	Pn	03 11 10.8	-0.9
STON				*e*Sn	Sn	03 11 34.7	+0.3
HAPS	**Han Pijesak,BI**	**1.84 336**		*e*Pn	Pn	03 11 12.5	-0.5
HAPS				*e*Sn	Sn	03 11 36.1	-0.5
MAKA	**Makarska**	**2.37 293**		*e*Pn	Pb	03 11 22.1	-1.7
RICI	**Ricice**	**2.38 298**		*e*Pn	Pb	03 11 23.6	-0.3
HVAR	**Hvar**	**2.73 287**		*e*Pn	Pn	03 11 26.8	+1.8
A050A	**Klekovaca**	**3.27 310**		*e*Sn	Sn	03 12 11.4	-0.3
MORI	**Morici**	**3.47 296**		*e*Pn	Pn	03 11 38.4	+3.2
DUGI	**Dugi Otok**	**3.95 295**		*e*Pn	Pn	03 11 43.8	+1.9
PLIT	**Plitvice**	**4.03 309**		Sg	Sb	03 12 39.6	-1.4
VIRC	**Vir**	**4.08 299**		*e*Pn	Pn	03 11 46.2	+2.7
KALN	**Kalnik**	**4.51 327**		Sg	Sn	03 12 30.9	-11
OZLJ	**Ozalj**	**4.58 316**		Sg	Sn	03 12 35.0	-8.8

BGR ***26*** *03:46:31.8, 19°.99S×170°.44E, h33km, Ms4.0, Hypocentre*
not reviewed by the ISC
NOU ***26*** *03:47:02.8, 19°.04S×169°.69E, h227km, ML4.5/12,*
Vanuatu Islands
IDC ***26*** *03:47:03.2±1.8, 19°.05S×169°.50E, h267km±16km,*
mb3.8/17, mbtmp4.3/18, Error ellipse: s-maj=14.2km
s-min=13.4km az=129.0
NEIC ***26*** *03:47:03.4±1.1, 19°.1S±0°.1×169°.5E±0°.1, h262km±9km,*
mb4.5/73, Error ellipse: s-maj=19.3km s-min=13.5km
az=146.0

ISC 26 03:47:01.2±0.4, 19°.07S±0°.06×169°.54E±0°.07, h246km, n321, σ1°.93/321, mb4.5/61, 4C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.65 320**		P	**Pn**	**03 47 42.5**	**+2.1**
DVP	**Devils Point**	**1.85 316**		P	**Pn**	**03 47 43.9**	**+1.8**
LIFNC	**LIFOU**	**2.75 231**		P	**Pn**	**03 47 52.1**	**+1.4**
LIFNC	**LIFOU**	**2.75 231**		Pn	**Pn**	**03 47 52.4**	**+1.6**
MARNC	**Mare, Loyalty**	**2.78 210**		P	**Pn**	**03 47 52.9**	**+1.8**
YATNC	**Mamie plateau,**	**3.87 219**		P	**Pn**	**03 48 04.6**	**+1.3**
PINNC	**Pines Island,**	**4.03 209**		P	**Pn**	**03 48 07.5**	**+2.3**
PINNC	**Pines Island,**	**4.03 209**			**Pn**	**03 48 07.7**	**+2.5**
DZM	**Mont Dzumac**	**4.16 224**		P	**Pn**	**03 48 09.5**	**+2.6**
DZM	**Mont Dzumac**	**4.16 224**		Pn	**Pn**	**03 48 09.7**	**+2.9**
DZM	**Mont Dzumac**	**4.16 224**		P	**Pn**	**03 48 09.4**	**+2.6**
	62nm,0.8s,baz=56,slow=16,SNR=40						
DZM				S	**S**	**03 48 58.5**	**-0.4**
	36nm,0.5s,baz=109,slow=20,SNR=1.9						
ONTNC	**Ouen Toro**	**4.32 221**		P	**Pn**	**03 48 11.5**	**+2.8**
ONTNC	**Ouen Toro**	**4.32 221**			**Pn**	**03 48 11.1**	**+2.4**
KOUNC	**Koumac, New Ca**	**5.16 253**		P	**Pn**	**03 48 22.2**	**+3.4**
KOUNC	**Koumac, New Ca**	**5.16 253**		Pn	**Pn**	**03 48 21.3**	**+2.4**
MSVF	**Nonsavu**	**8.19 82**		Pn	**Pn**	**03 48 57.9**	**+0.8**
EIDS	**Eidsvold**	**18.19 247**		P	**P**	**03 50 58.0**	**+1.8**
ARMA	**Armidale**	**19.77 232**		P	**P**	**03 51 11.9**	**-1.4**
URZ	**Urewera**	**20.23 163**		P	**P**	**03 51 19.8**	**+1.9**
	5.2nm,0.6s,baz=315,slow=10.0,SNR=1.4						
	5.2nm,0.6s						
CTA	**Charters Tower**	**21.96 263**		P	**P**	**03 51 36.0**	**+0.7**
	0.3nm,0.6s,baz=89,slow=8.3,SNR=9.6						
CTAO	**Charters Tower**	**21.96 263**		P	**P**	**03 51 35.8**	**+0.5**
SNZO	**South Karori**	**22.60 170**		P	**P**	**03 51 42.9**	**+2.0**
MSWZ	**Moikau Station**	**22.80 169**		P	**P**	**03 51 43.2**	**+0.4**
PLWZ	**Palliser**	**22.95 169**		P	**P**	**03 51 44.7**	**+0.5**
TOO	**Toolangi**	**27.93 224**		P	**P**	**03 52 29.5**	**+0.5**
TOO				IAmb	IAmb	03 52 36.2	
	comp=Z,27nm,1.5s						
STKA	**Stephens Creek**	**28.17 238**		P	**P**	**03 52 32.2**	**+1.1**
STKA	**Stephens Creek**	**28.17 238**		P	**P**	**03 52 32.0**	**+0.9**
	comp=Z,5.9nm,0.6s,baz=64,slow=8.8,SNR=16						
	comp=Z,5.9nm,0.6s						
WRA	**Warramunga Arr**	**33.15 263**		P	**P**	**03 53 13.8**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=82,slow=5.9,SNR=49						
WRA				S	**S**	**03 58 09.3**	**-6.7**
	comp=Z,0.5nm,0.8s,baz=94,slow=14,SNR=5.1						
WRA				ScP	**ScP**	**03 59 09.9**	**-2.7**
	comp=Z,0.6nm,1.0s,baz=87,slow=2.9,SNR=5.6						
	comp=Z,2.0nm,0.5s						
AS31	**Alice Springs**	**33.44 256**		P	**P**	**03 53 17.1**	**-0.3**
ASAR	**Alice Springs**	**33.44 256**		P	**P**	**03 53 17.1**	**-0.3**
ASAR	**Alice Springs**	**33.44 256**		P	**P**	**03 53 17.0**	**-0.4**
	comp=Z,16nm,0.5s,baz=84,slow=9.0,SNR=170						
ASAR				ScP	**ScP**	**03 59 11.5**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=97,slow=3.9,SNR=4.7						
	comp=Z,16nm,0.5s						
VNDA	**Vanda**	**58.61 182**		P	**P**	**03 56 31.3**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=49,slow=6.3,SNR=5.8						
	comp=Z,0.9nm,0.8s						
MJAR	**Matsushiro Arr**	**62.74 332**		P	**P**	**03 56 59.2**	**-1.2**
	comp=Z,3.6nm,0.9s,baz=165,slow=6.8,SNR=7.2						
	comp=Z,3.6nm,0.9s						
NJ2	**Nanjing**	**70.28 316**		*e*P	**P**	**03 57 51.0**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
QSPA	**South Pole Qui**	**70.98 180**		P	**P**	**03 57 52.1**	**0.0**
QSPA	**South Pole Qui**	**70.98 180**		P	**P**	**03 57 51.7**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=316,slow=0.4,SNR=25						
	comp=Z,4.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**71.72 333**		P	**P**	**03 57 56.4**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=116,slow=6.6,SNR=5.0						
	comp=Z,3.1nm,0.7s						
GYA	**Guiyang**	**75.95 305**		P	**P**	**03 58 22.3**	**+0.7**
GYA				pmax	pmax		
	comp=Z,13nm,0.5s						
HEH	**HeiHe**	**78.39 334**		*e*P	**P**	**03 58 34.0**	**-0.4**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**78.69 294**		P	**P**	**03 58 37.5**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=125,slow=4.4,SNR=4.1						
	comp=Z,1.4nm,0.3s						
S14K	**Fog Glacier**	**79.46 17**		P	**P**	**03 58 39.4**	**-0.7**
	baz=210						
PZH	**PanZhiHua**	**79.85 303**		P	**P**	**03 58 44.8**	**+1.8**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,240nm,7.0s						
HHC	**Hu-ho-hao-te**	**80.28 319**		*e*P	**P**	**03 58 48.8**	**+3.8**
HHC				pmax	pmax		
	comp=Z,180nm,5.6s						
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
O14K	**Tigyukauivet M**	**81.63 15**		P	**P**	**03 58 51.2**	**-0.3**
	baz=208						
R18K	**Karluk**	**82.03 19**		P	**P**	**03 58 53.5**	**-0.1**
	baz=214						
OHAK	**Old Harbor**	**82.10 19**		P	**P**	**03 58 53.9**	**0.0**
	baz=215						
N14K	**Kuskokwak Cree**	**82.13 14**		P	**P**	**03 58 53.9**	**-0.1**
	baz=207						
Q17K	**Contact Creek**	**82.19 18**		P	**P**	**03 58 54.4**	**-0.2**
	baz=213						
M13K	**Dall Lake**	**82.20 13**		P	**P**	**03 58 54.7**	**+0.4**
	baz=206						
BELA	**Belgrano 2**	**82.24 175**		P	**P**	**03 58 53.8**	**-0.8**
Q16K	**King Salmon**	**82.32 17**		P	**P**	**03 58 54.7**	**-0.3**
	baz=212						
O16K	**Kokwok River B**	**82.72 16**		P	**P**	**03 58 56.7**	**-0.4**
	baz=211						
N15K	**Kwethluk River**	**82.72 15**		P	**P**	**03 58 57.5**	**+0.3**
N15K				IAmb	IAmb	03 58 58.8	
	comp=Z,11nm,0.9s						
N15K	**Kwethluk River**	**82.72 15**		P	**P**	**03 58 57.4**	**+0.3**
	baz=209						
Q18K	**Katmai Hardscr**	**82.77 18**		P	**P**	**03 58 57.3**	**-0.2**
	baz=214						
M14K	**Bethel**	**82.81 14**		P	**P**	**03 58 57.5**	**+0.1**
	baz=207						
M15K	**Kasigluk River**	**83.04 14**		P	**P**	**03 58 59.0**	**+0.2**
	baz=208						
O17K	**Koliganek Bris**	**83.14 16**		P	**P**	**03 58 59.3**	**+0.1**
	baz=212						
L14K	**Kuka Creek**	**83.18 13**		P	**P**	**03 58 60.0**	**+0.6**
L14K				IAmb	IAmb	03 59 00.6	
	comp=Z,6.1nm,0.8s						
L14K	**Kuka Creek**	**83.18 13**		P	**P**	**03 58 59.6**	**+0.3**
	baz=206						
K13K	**Kusilvak Mount**	**83.31 12**		P	**P**	**03 59 00.5**	**+0.4**
	baz=204						
N16K	**Nishlik Lake**	**83.31 15**		P	**P**	**03 59 01.1**	**+0.9**
	baz=210						
P18K	**Big Mountain,**	**83.32 17**		P	**P**	**03 58 59.9**	**-0.4**
	baz=213						
Q19K	**Cape Douglas,**	**83.40 18**		P	**P**	**03 58 59.7**	**-1.0**
	baz=215						
Q20K	**Shuyak Island**	**83.51 19**		P	**P**	**03 59 00.3**	**-0.9**
	baz=216						
O18K	**Koktuh Hills**	**83.72 17**		P	**P**	**03 59 01.9**	**-0.3**
	baz=213						
L15K	**Ungalak Mounta**	**83.74 13**		P	**P**	**03 59 02.1**	**-0.1**
	baz=207,SNR=5.4						
M16K	**Timber Creek**	**83.74 15**		P	**P**	**03 59 03.1**	**+0.8**
M16K	**Timber Creek**	**83.74 15**		P	**P**	**03 59 02.9**	**+0.6**
	baz=210,SNR=12						
N17K	**Nushagak Hills**	**83.76 16**		P	**P**	**03 59 03.1**	**+0.7**
N17K				IAmb	IAmb	03 59 04.4	
	comp=Z,11nm,1.0s						
N17K	**Nushagak Hills**	**83.76 16**		P	**P**	**03 59 02.7**	**+0.3**
	baz=211,SNR=5.6						
GAMB	**Gambell**	**83.86 8**		P	**P**	**03 59 03.0**	**+0.2**
	baz=198						
L16K	**Owhat River**	**84.22 14**		P	**P**	**03 59 04.9**	**+0.2**
L16K	**Owhat River**	**84.22 14**		P	**P**	**03 59 05.1**	**+0.4**
	baz=209,SNR=10						
N18K	**Kilae Creek**	**84.23 16**		P	**P**	**03 59 04.9**	**+0.1**
	baz=213						
J14K	**Nanvaranak Lak**	**84.27 12**		P	**P**	**03 59 05.6**	**+0.7**
J14K	**Nanvaranak Lak**	**84.27 12**		P	**P**	**03 59 05.2**	**+0.3**
	baz=205						
K15K	**Wolf Creek Mou**	**84.28 13**		P	**P**	**03 59 05.8**	**+0.8**
K15K	**Wolf Creek Mou**	**84.28 13**		P	**P**	**03 59 05.5**	**+0.5**
	baz=207,SNR=14						
M17K	**Holitna River**	**84.44 15**		P	**P**	**03 59 06.6**	**+0.7**
M17K	**Holitna River**	**84.44 15**		P	**P**	**03 59 06.8**	**+0.9**
	baz=211						
L17K	**Donlin**	**84.87 15**		P	**P**	**03 59 09.0**	**+1.1**
	baz=210,SNR=5.8						
M18K	**Stony River**	**84.93 16**		P	**P**	**03 59 08.4**	**+0.2**
	baz=213,SNR=12						
L18K	**Granite Mounta**	**85.33 15**		P	**P**	**03 59 10.6**	**+0.4**
	baz=212						
J16K	**Anvik River**	**85.35 13**		P	**P**	**03 59 10.7**	**+0.4**
J16K	**Anvik River**	**85.35 13**		P	**P**	**03 59 10.7**	**+0.4**
	baz=208,SNR=14						
K17K	**Iditarod**	**85.37 14**		P	**P**	**03 59 10.6**	**+0.2**
K17K				IAmb	IAmb	03 59 12.7	
	comp=Z,10nm,0.9s						
K17K	**Iditarod**	**85.37 14**		P	**P**	**03 59 10.8**	**+0.4**
	baz=210						
L19K	**White Mountain**	**85.76 16**		P	**P**	**03 59 13.2**	**+0.9**
L19K				IAmb	IAmb	03 59 15.1	
	comp=Z,6.1nm,0.8s						
L19K	**White Mountain**	**85.76 16**		P	**P**	**03 59 12.6**	**+0.3**
	baz=214						
J17K	**VABM Dome**	**85.78 14**		P	**P**	**03 59 12.2**	**-0.2**
J17K				IAmb	IAmb	03 59 14.7	
	comp=Z,7.2nm,0.9s						
J17K	**VABM Dome**	**85.78 14**		P	**P**	**03 59 12.7**	**+0.3**
	baz=210,SNR=5.4						
KHMM	**Horse Mountain**	**85.89 44**		P	**P**	**03 59 14.5**	**+0.8**
O02D	**Mt. Diablo Mer**	**86.19 45**		P	**P**	**03 59 15.3**	**+0.2**
G15K	**Niukluk**	**86.22 11**		P	**P**	**03 59 15.0**	**+0.6**
	baz=205						
H16K	**Elim**	**86.23 12**		P	**P**	**03 59 15.2**	**+0.7**
	baz=207						
F14K	**Arctic Creek**	**86.27 10**		P	**P**	**03 59 15.4**	**+0.7**
	baz=203						
RC01	**Rabbit Creek A**	**86.31 19**		P	**P**	**03 59 15.5**	**+0.5**
	baz=218						
J18K	**Innoko River**	**86.39 14**		P	**P**	**03 59 15.1**	**-0.3**
J18K				IAmb	IAmb	03 59 16.2	
	comp=Z,5.4nm,0.8s						
J18K	**Innoko River**	**86.39 14**		P	**P**	**03 59 15.5**	**+0.1**
	baz=212,SNR=9.2						
CMB	**Columbia Colle**	**86.84 48**			**P**	**03 59 17.0**	**-1.3**
CMB				IAmb	IAmb	03 59 19.5	
	comp=Z,6.2nm,0.9s						
AFDM	**Forest Hills D**	**86.84 47**		P	**P**	**03 59 18.5**	**+0.3**
AFDM				IAmb	IAmb	03 59 19.6	
	comp=Z,9.6nm,1.1s						
G16K	**Koyuk River**	**86.89 11**		P	**P**	**03 59 18.7**	**+1.0**
G16K				IAmb	IAmb	03 59 19.2	
	comp=Z,6.4nm,0.8s						
G16K	**Koyuk River**	**86.89 11**		P	**P**	**03 59 17.8**	**+0.1**
	baz=206						
H17K	**Granite Mounta**	**86.96 13**			**P**	**03 59 18.9**	**+0.8**
H17K				IAmb	IAmb	03 59 19.4	
	comp=Z,4.8nm,0.8s						
H17K	**Granite Mounta**	**86.96 13**		P	**P**	**03 59 18.1**	**0.0**
	baz=209,SNR=5.6						
YBH	**Yreka Blue Hor**	**86.98 44**			**P**	**03 59 18.7**	**-0.2**
YBH				IAmb	IAmb	03 59 20.8	
	comp=Z,8.5nm,1.1s						
YBH	**Yreka Blue Hor**	**86.98 44**		P	**P**	**03 59 19.2**	**+0.3**
	comp=Z,4.4nm,0.9s,baz=174,slow=1.9,SNR=11						
	comp=Z,4.4nm,0.9s						
J19K	**Poorman**	**87.09 15**		P	**P**	**03 59 18.5**	**-0.3**
	baz=213						
BFSC	**Mount Baldy Ra**	**87.15 52**		P	**P**	**03 59 19.3**	**-0.6**
	baz=245						
ISA	**Isabella, Lake**	**87.16 51**		P	**P**	**03 59 20.1**	**+0.3**
	baz=244						
EDW2	**Edwards Air Fo**	**87.17 52**		P	**P**	**03 59 19.1**	**-0.8**
	baz=244						
CUT	**Chulitna**	**87.19 18**		P	**P**	**03 59 19.7**	**+0.5**
	baz=218						
MURC	**Murrieta**	**87.23 53**		P	**P**	**03 59 19.6**	**-0.6**
	baz=245						
HUMO	**Hull Mountain**	**87.25 43**			**P**	**03 59 20.0**	**0.0**
HUMO				IAmb	IAmb	03 59 22.1	
	comp=Z,5.7nm,0.9s						
SONM	**Songino Array**	**87.25 323**		P	**P**	**03 59 20.1**	**0.0**
	comp=Z,2.5nm,0.8s,baz=143,slow=4.7,SNR=7.5						
	comp=Z,2.5nm,0.8s						
G17K	**Kiwalik Mounta**	**87.31 12**		P	**P**	**03 59 20.0**	**+0.3**
	baz=208,SNR=5.1						
H18K	**Honhosa River**	**87.47 13**		P	**P**	**03 59 20.7**	**+0.2**
	baz=210						
MONP2	**Monument Peak**	**87.52 54**		P	**P**	**03 59 21.0**	**-0.8**
	baz=245						
MDPB	**Devils Postpil**	**87.58 49**		P	**P**	**03 59 22.0**	**-0.1**
MDPB				IAmb	IAmb	03 59 23.6	
	comp=Z,7.2nm,1.1s						
J20K	**Nowinta River**	**87.61 15**		P	**P**	**03 59 21.7**	**+0.5**
	baz=214						
LRMC	**Laurel Mtn Rad**	**87.66 51**		P	**P**	**03 59 22.5**	**+0.2**
	baz=245						
IKP	**In-Ko-Pah, Jac**	**87.66 54**		P	**P**	**03 59 21.7**	**-0.6**
	baz=246						
WAKR	**Walker**	**87.71 48**		P	**P**	**03 59 22.8**	**+0.2**
WAKR				IAmb	IAmb	03 59 24.4	
	comp=Z,15nm,1.4s						
CWC	**Cottonwood Cre**	**87.78 50**		P	**P**	**03 59 22.6**	**-0.3**
	baz=244						
PFO	**Pinyon Flats O**	**87.79 53**		P	**P**	**03 59 22.6**	**-0.3**
	baz=245						
PFO	**Pinyon Flats O**	**87.79 53**		P	**P**	**03 59 23.2**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=211,slow=4.9,SNR=3.6						
	comp=Z,0.9nm,0.4s						
WAT1	**Susitna Watana**	**88.02 18**		P	**P**	**03 59 24.0**	**+0.8**
	baz=219						
SWSC	**Sam W. Stewart**	**88.02 54**		P	**P**	**03 59 24.3**	**+0.5**
	baz=246						
F17K	**Baldwin Pennin**	**88.03 11**			**P**	**03 59 24.0**	**+0.9**
F17K	**Baldwin Pennin**	**88.03 11**		P	**P**	**03 59 23.9**	**+0.9**
	baz=208,SNR=5.5						
I20K	**Naaghedeneel**	**88.04 15**		P	**P**	**03 59 23.3**	**+0.1**
	baz=214						
MPMC	**Manual Prospec**	**88.05 51**		P	**P**	**03 59 24.6**	**+0.4**
	baz=245						
G18K	**Tagagawik**	**88.05 13**			**P**	**03 59 22.8**	**-0.5**
G18K				IAmb	IAmb	03 59 24.7	
	comp=Z,4.4nm,0.9s						
G18K	**Tagagawik**	**88.05 13**		P	**P**	**03 59 23.1**	**-0.2**
	baz=210						
H19K	**Roundabout Mou**	**88.21 13**			**P**	**03 59 23.5**	**-0.4**
H19K	**Roundabout Mou**	**88.21 13**		P	**P**	**03 59 23.8**	**-0.1**
	baz=212						
GSC	**Goldstone, Bar**	**88.23 52**		P	**P**	**03 59 25.1**	**+0.1**
	baz=245						
DSP	**Deep Springs**	**88.26 49**			**P**	**03 59 25.2**	**+0.4**
DSP				IAmb	IAmb	03 59 26.7	
	comp=Z,8.0nm,1.2s						
LHV	**Little Huntoon**	**88.26 49**		P	**P**	**03 59 25.2**	**+0.4**
LHV				IAmb	IAmb	03 59 26.9	
	comp=Z,10nm,1.3s						
BELC	**Belle Mtn. Jos**	**88.30 53**		P	**P**	**03 59 25.4**	**0.0**
	baz=246						
RND	**Reindeer**	**88.38 17**			**P**	**03 59 23.4**	**-1.6**
RND				IAmb	IAmb	03 59 24.1	
	comp=Z,13nm,1.4s						
F18K	**Selawik**	**88.47 12**		P	**P**	**03 59 25.6**	**+0.5**
	baz=209						
NVAR	**Mina Array Bea**	**88.48 48**			**P**	**03 59 26.6**	**+0.4**
NVAR	**Mina Array Bea**	**88.48 48**		P	**P**	**03 59 26.7**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=228,slow=7.5,SNR=15						
	comp=Z,1.7nm,0.8s						
E17K	**Hotham Inlet**	**88.50 11**		P	**P**	**03 59 26.0**	**+0.7**

E19K	Redstone River	89.69	12	P		P	03 59 31.0	+0.1
E19K	Redstone River	89.69	12	P		P	03 59 30.7	-0.2
	baz=211,SNR=5.0							
HDA	Harding Lake	89.69	17	P		P	03 59 30.5	-0.5
	baz=221							
G21K	Allakaket	89.70	14			P	03 59 30.6	-0.3
G21K					IAmb	IAmb	03 59 30.9	
	comp=Z,3.2nm,0.8s							
G21K	Allakaket	89.70	14	P		P	03 59 30.5	-0.4
	baz=215							
GNW	Green Mountain	89.73	39			P	03 59 31.4	-0.1
GNW					IAmb	IAmb	03 59 33.0	
	comp=Z,8.2nm,0.9s							
MDM	Murphy Dome	89.76	17	P		P	03 59 29.1	-2.2
MDM					IAmb	IAmb	03 59 30.6	
	comp=Z,4.5nm,1.0s							
PLBC	Pleasant Camp	89.77	24	P		P	03 59 31.3	-0.1
	baz=230							
PDMCI	Parker Dam,Lak	89.83	54	P		P	03 59 31.2	-1.1
	baz=247							
V12A	Nelson	89.86	52			P	03 59 31.5	-1.1
VNA3	Neumayer Olymp	89.92	180	⇑P		P	03 59 30.8	-1.3
	comp=Z,3.4nm,0.7s							
P30M	Million Dollar	89.97	24	P		P	03 59 32.1	-0.4
	baz=229							
IL31		89.99	17	P		P	03 59 29.9	-2.3
ILAR	Eielson Array	89.99	17	P		P	03 59 30.1	-2.2
	comp=Z,1.6nm,0.8s,baz=234,slow=5.5,SNR=22							
	comp=Z,1.6nm,0.8s							
C18K	Utukok River	90.00	10	P		P	03 59 32.2	-0.2
	baz=208							
H23K	Yukon River	90.09	16	P		P	03 59 33.2	+0.3
	baz=218							
POKR	Poker Plat Res	90.10	17	P		P	03 59 32.2	-0.7
	baz=220							
I07A	Izee	90.16	43			P	03 59 33.8	0.0
I07A					IAmb	IAmb	03 59 35.4	
	comp=Z,6.3nm,0.9s							
VNA2	Neumayer-Watz	90.22	181	⇑P		P	03 59 32.7	-0.8
	comp=Z,2.2nm,0.6s,baz=185,slow=3.9							
SCRK	Sand Creek	90.24	19			P	03 59 33.0	-0.7
SCRK	Sand Creek	90.24	19	P		P	03 59 32.7	-1.0
	baz=223							
F21K	Alatna River	90.28	14			P	03 59 33.7	0.0
F21K	Alatna River	90.28	14	P		P	03 59 33.2	-0.5
	baz=215							
J25K	Salcha River,	90.30	18	P		P	03 59 33.2	-0.7
	baz=222							
R11B	Troy Canyon, C	90.38	49			P	03 59 32.8	-2.2
R11B	Troy Canyon, C	90.38	49	P		P	03 59 34.5	-0.5
	baz=246							
PRN	Pahroc Range	90.39	50			P	03 59 35.0	0.0
D19K	Kuna River	90.42	11	P		P	03 59 34.2	-0.1
	baz=210							
G22K	Bettles	90.49	14	P		P	03 59 34.5	-0.1
	baz=216							
J08A	Circle Bar Ran	90.51	44			P	03 59 35.5	0.0
J08A					IAmb	IAmb	03 59 36.9	
	comp=Z,6.4nm,0.9s							
H24K	Noodor Dome	90.54	16	P		P	03 59 35.5	+0.6
	baz=220							
E20K	Nigu River	90.58	12	P		P	03 59 35.0	-0.1
	baz=212							
G23K	Bananza Creek	90.68	15	P		P	03 59 35.7	+0.1
	baz=218							
C19K	Lookout Ridge	90.69	11	P		P	03 59 35.8	+0.3
	baz=209							
O30N	Mendenhall	90.72	24	P		P	03 59 35.0	-0.9
	baz=230							
J26L	Joseph Creek	90.75	18	P		P	03 59 35.3	-0.7
	baz=224							
F22K	John River	90.81	14	P		P	03 59 35.7	-0.4
	baz=216							
K27K	Chicken	90.86	19	P		P	03 59 36.3	-0.1
	baz=225							
D20K	Etivluk River	90.89	12	P		P	03 59 36.3	-0.1
	baz=212							
P32M	Atlin	90.91	25	P		P	03 59 36.0	-0.8
	baz=232							
PRP	Porcupine Dome	90.93	17	P		P	03 59 36.3	-0.6
	baz=222							
M29M	Somme Creek	90.96	22	P		P	03 59 36.6	-0.4
	baz=228							
S34M	Telegraph Cree	90.98	27	P		P	03 59 36.9	-0.1
	baz=234							
COLD	Coldfoot	91.04	15	P		P	03 59 37.0	-0.1
	baz=218							
G08A	Pilot Rock	91.05	42			P	03 59 38.1	+0.2
G08A					IAmb	IAmb	03 59 39.8	
	comp=Z,5.1nm,1.0s							
WHY	Whitehorse	91.11	24	P		P	03 59 36.7	-1.0
	baz=231							
Q32M	Nakina River	91.12	26	P		P	03 59 37.2	-0.7
	baz=233							
E21K	Killik River	91.19	13	P		P	03 59 37.5	-0.4
	baz=214							
N31M	Braeburn, Yuko	91.30	23	P		P	03 59 37.3	-1.2
	baz=230							
G24K	Hadweenzic Riv	91.31	16	P		P	03 59 37.8	-0.6
	baz=220							
E22K	Anaktuvuk Pass	91.40	14	P		P	03 59 38.3	-0.5
	baz=216							
I26K	Coal Creek Min	91.45	18	P		P	03 59 38.8	-0.3
	baz=224							
L29M	L29M	91.52	21	P		P	03 59 39.2	-0.3
	baz=228							
C21K	Knifeblade Rid	91.62	12	P		P	03 59 39.7	-0.2
	baz=214							
M30M	Minto, Yukon	91.63	22	P		P	03 59 39.2	-0.9
	baz=230							
P33M	Teslin, Yukon	91.64	25	P		P	03 59 39.1	-1.1
	baz=233							
EGAK	Eagle	91.67	19	P		P	03 59 39.5	-0.7
	baz=226							
TUC	Tucson	91.68	56	P		P	03 59 40.1	-1.0
	baz=248							
DLBC	Dease Lake	91.76	27			P	03 59 40.3	-0.5
DLBC					IAmb	IAmb	03 59 41.8	
	comp=Z,6.1nm,1.0s							
DLBC	Dease Lake	91.76	27	P		P	03 59 40.3	-0.5
	baz=235							
D22K	Ayikyak River	91.82	13			P	03 59 40.8	+0.1
D22K	Ayikyak River	91.82	13	P		P	03 59 40.4	-0.3
	baz=215							
F24K	Squaw Lake	91.83	15	P		P	03 59 40.9	0.0
	baz=220							
E23K	Chandalar	91.84	14	P		P	03 59 40.6	-0.3
	baz=218							
B20K	Meade River	91.90	11	P		P	03 59 40.4	-0.6
	baz=211							
R33M	Jennings River	91.92	26			P	03 59 40.6	-1.0
R33M					IAmb	IAmb	03 59 42.6	
	comp=Z,7.4nm,1.2s							
R33M	Jennings River	91.92	26	P		P	03 59 41.2	-0.4
	baz=235							
B21K	Ikpikpuk River	92.05	12	P		P	03 59 41.5	-0.2
	baz=214							
U15A	North Rim	92.05	52			P	03 59 43.0	0.0
U15A					IAmb	IAmb	03 59 44.8	
	comp=Z,3.8nm,0.8s							
N32M	Quiet Lake	92.11	24	P		P	03 59 41.7	-0.6
	baz=233							
I27K	Kandik River	92.12	18	P		P	03 59 41.8	-0.5
	baz=225							
E24K	Your Creek	92.12	15	P		P	03 59 41.6	-0.6
	baz=219							
K29M	Barlow Dome	92.21	21	P		P	03 59 41.8	-1.0
	baz=229							
M31M	Drury Creek, Y	92.26	23	P		P	03 59 41.7	-1.3
	baz=232							
MFID	Camas Ranch	92.28	45			P	03 59 43.4	-0.3
TOLK	Toolik Lake Re	92.31	14	P		P	03 59 42.6	-0.4
	baz=218							
D23K	Nanushuk River	92.32	13	P		P	03 59 43.3	+0.2
	baz=217							
WUAZ	Wupatki	92.40	53	P		P	03 59 44.4	0.0
	baz=248							
G26K	Porcupine Rive	92.47	17	P		P	03 59 42.4	-1.3
	baz=224							
I28M	Miner Creek	92.51	19	P		P	03 59 43.2	-1.0
	baz=227							
FARO	Faro, Yukon	92.66	23	P		P	03 59 44.0	-0.8
	baz=233							
B22K	Teshekpuk Lake	92.87	12	P		P	03 59 45.0	-0.5
	baz=215							
D24K	Happy Valley	92.88	14	P		P	03 59 45.4	-0.2
	baz=219							
I29M	Ogilvie Camp,	92.96	19	P		P	03 59 46.1	0.0
	baz=228							
C23K	Itkillik River	93.03	13			P	03 59 44.6	-1.6
C23K	Itkillik River	93.03	13	P		P	03 59 46.2	0.0
	baz=217							
HLID	Hailey	93.28	45	P		P	03 59 47.3	-1.0
HLID	Hailey	93.28	45	P		P	03 59 47.1	-1.2
	baz=247							
I30M	Mount Dempster	93.48	20	P		P	03 59 47.8	-0.9
	baz=230							
H29M	Whitestone	93.51	19	P		P	03 59 46.7	-1.9
	baz=228							
MMPY	Sheldon Lake,	93.67	23	P		P	03 59 47.7	-1.8
	baz=234							
E27K	Coleen River	93.94	16	P		P	03 59 48.0	-2.5
	baz=226							
F28M	Old Crow	94.02	17	P		P	03 59 50.1	-0.8
	baz=227							
G29M	Pine Creek	94.08	18	P		P	03 59 51.3	+0.1
	baz=229							
TOAD	Toad River Com	94.10	28	P		P	03 59 51.4	-0.1
	baz=239							
EPYK	Eagle Plains	94.12	19	P		P	03 59 50.8	-0.6
	baz=230							
C26K	Camden Bay	94.36	14	P		P	03 59 52.5	+0.1
	baz=223							
C27K	Jago River	94.43	15	P		P	03 59 53.2	+0.4
	baz=224							
G30M	tAoh Zraii Nji	94.66	19	P		P	03 59 54.2	+0.3
	baz=230							
E28M	Babbage River	94.78	17	P		P	03 59 54.6	+0.2
	baz=227							
D27M	Malcolm River	94.85	16	P		P	03 59 54.3	-0.4
	baz=226							
E29M	Blow River	95.09	17	P		P	03 59 55.2	-0.5
	baz=229							
F30M	Barrier River	95.19	18	P		P	03 59 56.1	-0.2
	baz=231							
G31M	Satah River	95.22	19	P		P	03 59 55.3	-1.1
	baz=232							
MNTX	Cornudas Mount	95.78	59	P		P	03 59 58.2	-1.6
	baz=251							
BOZ	Bozeman (W)	95.89	44	P		P	03 59 58.9	-1.2
	baz=249							
BW06	Boulder Array	96.30	47	P		P	04 00 00.0	-2.1
	baz=250							
PDAR	Pinedale Array	96.30	47	P		P	04 00 01.8	-0.4
	comp=Z,0.1nm,0.5s,baz=217,slow=4.3,SNR=1.9							
	comp=Z,0.1nm,0.5s							
INK	Inuvik	96.30	18	P		P	03 59 59.8	-1.4
	baz=233							
TXAR	Lajitas Array	96.44	61	P		P	04 00 03.1	+0.2
	comp=Z,0.4nm,0.9s,baz=290,slow=2.7,SNR=3.1							
	comp=Z,0.4nm,0.9s							
WMQ	Urumqi	97.29	314	*e*P		P	04 00 06.5	+0.1
WMQ					pmax	pmax		
	comp=Z,30nm,0.9s							
C36M	Paulatuk	99.75	19	P		Pdif	04 00 15.3	-1.3
	baz=242							
YKA	Yellowknife Ar	100.39	27	P		Pdif	04 00 20.0	+0.4
	comp=Z,0.5nm,0.6s,baz=243,slow=2.6,SNR=2.6							
MKAR	Makanchi Array	101.81	315	P		Pdif	04 00 26.4	0.0
	comp=Z,0.6nm,0.7s,baz=99,slow=7.5,SNR=5.5							
BOSA	Boshof	121.36	217	PKP		PKPdf	04 05 24.6	-1.3
	comp=Z,1.7nm,1.1s,baz=191,slow=5.2,SNR=1.4							
ARCES	ARCESS Array B	124.98	345	PKP		PKPdf	04 05 30.0	-1.4
	comp=Z,0.5nm,0.3s,baz=80,slow=2.4,SNR=14							
EKA	Eskdalemuir Ar	143.38	353	PKhKP		PKPpre	04 06 02.2	
	comp=Z,0.4nm,0.4s,baz=360,slow=2.6,SNR=4.7							
TANN	Tannenbergstha	143.79	335	*e*PKPbc			04 06 04.4	
	baz=37,slow=3.1							
GTTG	Gottingen	143.82	338	*e*PKPbc			04 06 04.5	
	baz=37,slow=3.1							
PLN	Plauen	143.86	335	*e*PKPbc			04 06 04.6	
	baz=37,slow=3.1							
IBBN	Ibbenburen	143.90	341	*e*PKPbc			04 06 04.4	
	baz=37,slow=3.1							
MOX	Moxa	143.94	336	*e*PKPbc			04 06 04.8	
	baz=37,slow=3.1							
MOX				*e*L			05 15 06.3	
	comp=Z,24nm,21.3s							
RONA	Rosalia, Austr	144.09	329	*e*PKP		PKPab	04 06 06.2	+0.4
CONA	Conrad Observa	144.14	329	*i* PKP		PKPbc	04 06 07.1	+0.6
	comp=Z,2.9nm,1.0s							
MANZ	Manzenberg	144.27	335	*e*PKPbc			04 06 06.0	
	baz=37,slow=3.1							
ROTZ	Rotzenmuhle	144.40	335	*e*PKPbc			04 06 06.5	
	baz=37,slow=3.1							
GEC2	GERESS Array S	144.47	332	*e*PKPbc			04 06 06.4	
	baz=37,slow=3.1							
GERES	GERESS Array B	144.47	332	PKP		PKPab	04 06 05.0	-2.3
	comp=Z,1.4nm,0.7s,baz=18,slow=4.6,SNR=7.6							
WET	Wettzell	144.60	333	*e*PKPbc			04 06 07.0	
	baz=37,slow=3.1							
ARSA	Arzberg	144.78	329	*i* PKP		PKPbc	04 06 06.9	-1.4
	comp=Z,2.8nm,0.8s							
GRF	Grafenberg Arr	144.86	335	*e*L			05 06 09.3	
	comp=Z,28nm,21.1s							
MOA	Molln	144.95	331	*i* PKP		PKPbc	04 06 08.5	-0.4
	comp=Z,10.0nm,0.9s							
BIOA	Bad Ischl, Aus	145.36	331	*e*PKP		PKPdf	04 06 09.4	-0.4
	comp=Z,2.9nm,1.1s							
SOKA	Soboth	145.42	329	*e*PKP		PKPdf	04 06 10.3	+0.3
	comp=Z,1.7nm,0.7s							
RJOB	Jochberg	145.71	332	*e*PKPbc			04 06 10.3	
	baz=37,slow=3.1							
KBA	Koelnbreinsper	145.94	330	*e*PKP		PKPdf	04 06 10.8	-0.2
	comp=Z,2.5nm,0.8s							
LESA	Schwarzleotal	145.99	332	*i* PKP		PKPdf	04 06 11.1	+0.1
	comp=Z,2.8nm,0.5s							
WATA	Walderalm	146.55	332	*i* PKP		PKPdf	04 06 12.7	+0.8
	comp=Z,6.3nm,1.2s							
RCHB	Rochefort	146.55	342	*d*PcP		PKPdf	04 06 11.9	+0.3
BMRD	Maredsous	146.55	342	*d*PKP		PKPdf	04 06 12.0	+0.4
ABTA	Abfaltersbach	146.57	331	*i* PKP		PKPdf	04 06 11.9	-0.1
	comp=Z,6.4nm,1.3s							
WTTA	Wattenberg	146.58	332	*e*PKP		PKPdf	04 06 12.7	+0.7
	comp=Z,3.4nm,0.8s							
WLF	Walferdange	146.70	340	*d*PKP		PKPbc	04 06 13.9	-0.1
WLF	Walferdange	146.70	340	*e*PKPbc			04 06 14.0	
	baz=37,slow=3.1							
MOTA	Moosalm	146.75	333	*i* PKP		PKPdf	04 06 13.1	+0.8
	comp=Z,5.3nm,0.9s							
RETA	Reutte	146.78	333	*e*PKP		PKPdf	04 06 13.6	+1.4
	comp=Z,1.0nm,0.6s							
DOU	Dourbes	146.79	342	*d*PKP		PKPdf	04 06 13.3	+1.3
SQTA	Sankt Quirin	146.80	333	*i* PKP		PKPdf	04 06 13.5	+1.2
	comp=Z,6.1nm,0.8s							
UBR	Ueberruh	146.90	334	*e*PKPbc			04 06 13.9	
	baz=37,slow=3.1							
BFO	Black Forest	147.07	337	*e*PKPbc			04 06 14.1	
	baz=37,slow=3.1							
FETA	Feichten	147.16	333	*i* PKP		PKPdf	04 06 14.6	+1.6
	comp=Z,6.4nm,0.9s							
DAVA	Damuels	147.31	334	*i* PKP		PKPbc	04 06 15.3	-0.7
	comp=Z,4.4nm,0.8s							
TORD	Torodi Ar. Bea	166.92	245	PKP		PKPdf	04 06 37.4	-0.9
	comp=Z,0.6nm,0.9s,baz=120,slow=2.3,SNR=2.8							

ISC 26 03:48:39.8±1.1, 27°58N±0°08×111°47W±0°04, h10km, n4, σ0°95/8, 3C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	Guaymas	0.62	59	*e*P		Pg	03 48 52.5	+0.7
GUYB				*i* S		Sg	03 49 01.1	+1.2
GUYB				⇓*e*			03 49 01.6	
GUYB					IAML		03 49 01.6	
	comp=E,766nm,0.2s							
GUYB					IAML		03 49 01.7	
	comp=N,710nm,0.4s							
GUYB				⇑*e*			03 49 01.7	
SRIG	Santa Rosalia	0.73	249	⇑*e*P		Pg	03 48 54.4	+0.4
SRIG				*e*S		Sg	03 49 04.5	+1.0
SRIG					IAML		03 49 05.2	
	comp=N,536nm,0.4s							
SRIG				⇓*e*			03 49 05.2	
SRIG				⇓*e*			03 49 13.1	
SRIG					IAML		03 49 13.1	
	comp=E,354nm,0.4s							
CDOB	Cd. Obregon	1.20	98	⇑*i*P		Pb	03 49 02.1	-0.6
CDOB				*i* S		Sn	03 49 18.3	-0.6
BKIRB	Bahia Kino	1.36	340	*e*P		Pn	03 49 04.2	-0.6
BKIRB				*e*S		Sn	03 49 22.4	-0.5

NEIC ***26*** *04:04:05.8±2.1, 21°54S±0°05×50°17W±0°07, h10km±2km, mb3.5/3, Error ellipse: s-maj=11.1km s-min=7.8km az=101.0*
OSUNB ***26*** *04:04:20.7±0.2, 21°87S×50°45W, h0km, mR2.8/17, Error ellipse: s-maj=1.3km s-min=1.2km az=0.0*
VAO ***26*** *04:04:21.4±0.2, 21°93S×50°51W, h0km, mbR2.9*

ISC 26 04:04:20.6±1.5, 21°90S±0°03×50°48W±0°03, h3km±11km, n48, σ1°15/60, Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCMB	Pacaembu	0.79	291	*e*P		Pg	04 04 35.8	+0.2
PCMB				*e*S		Sb	04 04 47.6	-0.5
PCMB	Pacaembu	0.79	291	*e*P		Pg	04 04 35.3	-0.3
PCMB				*e*S		Sg	04 04 47.2	+1.4
LDASE	Londrina, Braz	1.60	202	*e*P		Pn	04 04 49.4	-0.6
LDASE				*e*S		Sn	04 05 10.7	-0.5
FRTB	Fartura	1.67	150	*e*P		Pn	04 04 51.2	+0.3
FRTB				*e*S		Sn	04 05 13.2	+0.4
FRTB	Fartura	1.67	150	*e*P		Pn	04 04 51.2	+0.3
BB19B	Bebedouro	2.00	66	*e*P		Pn	04 04 56.1	+0.8
BB19B	Bebedouro	2.00	66	*e*P		Pn	04 04 56.1	+0.8
BB19B				*e*S		Sg	04 05 23.6	-1.1
ITRB	Iturama	2.19	3	*e*S		Sb	04 05 28.2	-0.2
ITRB	Iturama	2.19	3	*e*S		Sb	04 05 28.6	+0.2
TRCB	Terra Rica	2.19	245	Pn		Pn	04 04 49.5	-8.5
TRCB	Terra Rica	2.19	245	*e*P		Pb	04 05 00.4	-0.5
TRCB				*e*S		Sn	04 05 28.0	+2.3
TRCB	Terra Rica	2.19	245	*e*P		Pn	04 04 58.1	+0.1
TRCB				*e*S		Sn	04 05 26.6	+0.9
RCLB	Rio Claro- Sao	2.78	101	*e*S		Sn	04 05 38.4	-1.9
PTGB	Pitanga	3.16	207	*e*P		Pn	04 05 12.6	+1.2
PTGB	Pitanga	3.16	207	*e*P		Pn	04 05 11.5	+0.1
PTGB				*e*S		Sn	04 05 50.1	+0.3
RPRD	Ribas do Rio P	3.32	295	*e*P		Pn	04 05 13.4	-0.2
VABB	Valinhos	3.42	109	*e*P		Pn	04 05 16.0	+0.9
VABB				*e*S		Sn	04 05 55.3	-1.0
VAO	Valinhos	3.43	109	Pn		Pn	04 04 59.8	-15
VAO	Valinhos	3.43	109	*e*P		Pn	04 05 16.3	+1.2
VAO				*e*S		Sn	04 05 58.9	+2.5
TIJ01	Guaruva-PR	3.67	159	*e*S		Sn	04 06 06.2	+4.0
PET01	Itanhaem-SP	3.79	130	*e*P		Pn	04 05 19.9	-0.1
PET01				*e*S		Sn	04 06 04.1	-1.1
PET01	Itanhaem-SP	3.79	130	*e*P		Pn	04 05 20.3	+0.3
ITU3	Corumbazu	3.96	23	*e*P		Pn	04 05 23.7	+1.4
ITU3				*e*S		Sn	04 06 11.2	+1.8
COR01	UHE Corumb¡	4.26	25	*e*P		Pn	04 05 27.3	+0.8
COR01				*e*S		Sn	04 06 15.2	-1.6
AMBA	Amambai (Brazi	4.30	255	*e*P		Pn	04 05 27.0	-0.1
AMBA				*e*S		Sn	04 06 17.4	-0.4
IPMB	Ipameri, GO	4.44	29	*e*P		Pn	04 05 29.8	+0.9
IPMB				*e*S		Sn	04 06 22.2	+0.9
IPMB	Ipameri, GO	4.44	29	*e*P		Pn	04 05 29.6	+0.7
PARB	Paraibuna	4.71	109	*e*P		Pn	04 05 32.9	+0.2
PMNB	Patos De Minas	5.05	49	*e*P		Pn	04 05 37.5	0.0
PMNB	Patos De Minas	5.05	49	*e*P		Pn	04 05 38.4	+0.9
RVDE	Rio Verde (Bra	5.06	304	*e*P		Pn	04 05 38.4	+0.7
RVDE				*e*S		Sn	04 06 36.4	-0.2
RVDE	Rio Verde (Bra	5.06	304	*e*P		Pn	04 05 38.3	+0.7
AQDB	Aquidauana	5.08	285	Pn		Pn	04 05 27.2	-10
AQDB	Aquidauana	5.08	285	*e*P		Pn	04 05 38.2	+0.5
AQDB				*e*S		Sn	04 06 35.5	-1.3
AQDB	Aquidauana	5.08	285	*e*P		Pn	04 05 38.2	+0.5
SLP01	Ubatuba-SP	5.12	107	*e*P		Pn	04 05 38.2	-0.2
BAT3	Ipameri	5.26	32	*e*P		Pn	04 05 41.2	+0.9
BAT3				*e*S		Sn	04 06 42.5	+0.9
BAT2	UHE Batalha	5.33	33	*e*P		Pn	04 05 42.6	+1.3
BAT2				*e*S		Sn	04 06 43.7	+0.4
ITAB	Concordia	5.52	195	Pn		Pn	04 05 34.2	-10
ARAG	Araguaiana, MT	6.29	348	*e*P		Pn	04 05 53.6	-0.7
ARAG				*e*S		Sn	04 07 05.7	-1.1
BDFB	Brasilia	6.64	21	Pn		Pn	04 05 38.7	-21
BDFB	Brasilia	6.64	21	*e*P		Pn	04 05 59.8	+0.4
BDFB				*e*S		Sn	04 07 13.4	-2.3
JQT1	Jequitai-MG	7.40	52	*e*P		Pn	04 06 08.4	-1.2
JQT1				*e*S		Sn	04 07 32.3	-2.0
CPUP	Villa Florida	7.66	233	Pn		Pn	04 06 06.1	-7.0
ITQB	Itaqui	9.52	214	Pn		Pn	04 06 31.1	-7.5
LPAZ	La Paz	17.59	285	Pn		Pn	04 08 12.8	-15
LPAZ				IAmb		IAmb	04 08 35.1	
	comp=Z,2.7nm,1.4s							
PB06	IPOC Station P	17.69	264	Pn		Pn	04 08 15.4	-13
PB06				IAmb		IAmb	04 08 53.6	
	comp=Z,11nm,0.8s							
SAML	Samuel	17.75	315			Pn	04 08 13.7	-15
SAML				IAmb		IAmb	04 08 19.0	
	comp=Z,4.9nm,1.5s							

IDC ***26*** *04:18:31.9±57.0, 19°08S×175°13W, h0km, mb4.1/3, mbtmp4.1/3, MS3.9/1, Error ellipse: s-maj=1075.0km s-min=172.7km az=82.0*
NEIC ***26*** *04:18:43.3±0.8, 18°9S±0°2×174°9W±0°2, h107km±5km, mb4.4/14, Error ellipse: s-maj=29.8km s-min=16.0km az=140.0*

ISC 26 04:18:47.5±0.8, 18°9S±0°2×175°1W±0°2, h147km, n18, σ0°85/18, mb4.1/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.99	243	P		P	04 26 16.6	+0.4
STKA	Stephens Creek	40.99	243	P		P	04 26 16.1	-0.1
	1.3nm,0.5s,baz=93,slow=8.8,SNR=6.4							
	1.3nm,0.5s							
BBOO	Buckleboo	45.76	242	P		P	04 26 54.0	-0.3
BBOO				IAmb		IAmb	04 27 00.6	
	comp=Z,22nm,1.4s							
WR0	Warramunga Arr	47.41	260	P		P	04 27 07.5	+0.1
WR0				IAmb		IAmb	04 27 17.3	
	comp=Z,5.5nm,1.2s							
WB0	Warramunga Arr	47.57	260	P		P	04 27 08.2	-0.4
WB0				IAmb		IAmb	04 27 25.6	
	comp=Z,3.6nm,1.1s							
WB2	Warramunga Arr	47.59	260	P		P	04 27 08.6	-0.2
WB2				IAmb		IAmb	04 27 24.1	
	comp=Z,8.1nm,1.4s							
WRA	Warramunga Arr	47.60	260	P		P	04 27 08.5	-0.4
WRA	Warramunga Arr	47.60	260	P		P	04 27 08.6	-0.3
	comp

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QSPA South Pole Qui   33.36 180  P    P    04 54 43.4 +1.2
QSPA                             IAmb IAmb 04 54 44.2
     comp=Z,2.2nm,0.7s
LL05 Los Muermos      34.03 276  P    P    04 54 48.2 +0.1
GO06 Curarrehue       34.23 281  P    P    04 54 53.7 +3.7
GO06                             IAmb IAmb 04 54 57.6
     comp=Z,4.7nm,1.1s
ML02 Panimavida       37.01 285  P    P    04 55 11.4 -2.4
ML02                             IAmb IAmb 04 55 14.6
     comp=Z,6.7nm,1.0s
AC05 El Transito      41.87 293  P    P    04 55 53.7 -0.8
AC05                             IAmb IAmb 04 55 53.7
     comp=Z,5.2nm,0.9s
VNDA Vanda            45.77 182  P    P    04 56 24.8 -0.2
LBTB Lobatse          48.52  71  P    P    04 56 48.0 +0.7
LBTB                             IAmb IAmb 04 56 56.5
     comp=Z,2.7nm,1.0s
HMBC Humberstone      48.85 300  P    P    04 56 51.2 +1.4
HMBC                             IAmb IAmb 04 56 54.8
     comp=Z,5.6nm,1.2s
GO01 Chusmiza         49.05 301  P    P    04 56 50.8 -0.9
GO01                             IAmb IAmb 04 56 56.6
     comp=Z,4.5nm,1.1s
PB11 IPOC Station P   49.19 300  P    P    04 56 52.5 +0.1
PB18 Visviri          50.98 302  P    P    04 57 06.8 +0.3
PB18                             IAmb IAmb 04 57 15.1
     comp=Z,11nm,1.2s
LPAZ La Paz           51.50 304  P    P    04 57 09.7 -0.8
LPAZ                             IAmb IAmb 04 57 11.1
     comp=Z,1.7nm,0.8s
LPAZ La Paz           51.50 304  P    P    04 57 09.6 -0.8
     comp=Z,1.6nm,0.3s,baz=131,slow=5.3,SNR=13
     comp=Z,1.6nm,0.3s
SAML Samuel           55.95 314  P    P    04 57 41.6 -0.7
BOAV Boa Vista        65.42 321  P    P    04 58 45.8 -0.9
BOAV                             IAmb IAmb 04 58 49.7
     comp=Z,6.1nm,1.4s
TORD Torodi Ar. Bea   73.42  28  P    P    04 59 36.6 +0.5
TORD Torodi Ar. Bea   73.42  28  P    P    04 59 36.8 +0.7
     comp=Z,0.6nm,0.5s,baz=200,slow=5.9,SNR=12
     comp=Z,0.6nm,0.5s
ILAR Eielson Array   151.26 310  PKPbc PKPbc 05 07 55.7 -0.1
     comp=Z,0.3nm,0.8s,baz=113,slow=2.3,SNR=5.3
```

PDG ***26*** *04:50:37.0±0.2, 42°.43N×19°.97E, h11km, ML2.0/9, Error ellipse: s-maj=0.8km s-min=1.0km az=0.0*

BEO 26 04:50:37.5±0.4, 42°.38N×20°.04E, h6km±4km, ML1.7/8, 6C-2D, Northwestern Balkan Peninsula

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Code Station Name     Δ°  AZ°  Phase ID        Time      Res
                                Op    ISC       h m  s    ISC
PVY  Plav             0.23 346 i/Pg  Pg        04 50 40.7 -1.3
PVY                            i Sg  Sg        04 50 43.9 -1.1
IVA  Berane           0.51 348 ⇓i/Pg Pg        04 50 45.4 -1.9
IVA                            i Sg  Sg        04 50 53.1 -0.8
PDG  Podgorica        0.58 276 ePg   Pg        04 50 47.1 -1.6
PDG                            eSg   Sg        04 50 56.1 -0.1
PDG  Podgorica        0.58 276 ⇑i/Pg Pg        04 50 46.8 -1.9
PDG                            i Sg  Sg        04 50 55.8 -0.4
KOME Kolasin          0.61 321 ePg   Pg        04 50 48.4 -0.9
KOME                           eSg   Sg        04 50 57.0 -0.2
KOME Kolasin          0.61 321 ⇑i/Pg Pg        04 50 47.0 -2.3
KOME                           i Sg  Sg        04 50 56.4 -0.8
DRME Dracevica, Mon   0.66 254 ePg   Pg        04 50 48.7 -1.5
DRME                           eSg   Sb        04 51 00.1 -0.7
DRME Dracevica, Mon   0.66 254 ⇑i/Pg Pg        04 50 48.6 -1.6
DRME                           i Sg  Sg        04 50 58.9 +0.2
CEME Cevo             0.84 282 ↓i/Pg Pg        04 50 51.5 -2.2
CEME                           i Sg  Sg        04 51 04.1 -0.6
BUM  Brajici-Budva    0.85 265 ⇑i/Pg Pg        04 50 52.6 -1.2
BUM                            i Sg  Sg        04 51 05.3 +0.5
SJES Sjenica          0.89 357 ePg   Pg        04 50 53.0 -1.5
SJES                           eSg   Sg        04 51 06.4 +0.4
NKME Niksic           0.89 296 ⇑i/Pg Pg        04 50 52.6 -2.0
NKME                           i Sg  Sg        04 51 05.9 -0.2
SELS Selova           1.16  43 ePg   Pg        04 50 59.1 -0.7
SELS                           eSg   Sg        04 51 14.7 -0.1
SELS Selova           1.16  43 ePg   Pg        04 50 59.1 -0.7
SELS                           eSg   Sn        04 51 16.9 +0.4
IVAS Ivanjica         1.20   4 ePg   Pg        04 50 58.2 -2.4
IVAS                           eSg   Sg        04 51 14.9 -1.3
BRY  Bratogost        1.22 296 ePg   Pg        04 50 58.3 -2.7
BRY                            i Sg  Sg        04 51 16.5 -0.3
DBRK Dubrovnik        1.43 282 ePn   Pg        04 51 05.5 +0.7
DBRK                           Sn    Sg        04 51 25.8 +2.5
PRVS Prvonek          1.52  84 ePg   Pn        04 51 04.3 -0.9
PRVS                           eSg   Sn        04 51 25.0 -0.3
GRUS Gruza            1.59  18 ePn   Pn        04 51 05.3 -0.9
DIVS Divibare         1.72 359 ePn   Pb        04 51 09.1 -0.5
STON Ston             1.79 287 ePn   Pb        04 51 09.9 -0.8
STON                           Sn    Sg        04 51 36.5 +1.4
MAKA Makarska         2.40 293 ePn   Pb        04 51 19.8 -1.2
RICI Ricice           2.41 299 ePn   Pb        04 51 21.1 -0.1
RICI                           Sn    Sg        04 51 54.1 -0.7
```

IDC ***26*** *05:09:45.3±0.8, 41°.44N×100°.23W, h0km, mb3.7/4, mbtmp3.7/11, ML3.5/7, Error ellipse: s-maj=11.8km s-min=9.6km az=135.0*

ANF ***26*** *05:09:45.5±0.1, 41°.35N×100°.11W, h5km, Error ellipse: s-maj=2.3km s-min=1.7km az=161.0*

NEIC ***26*** *05:09:45, 41°.40N×100°.15W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=1.34; $M_{\theta\theta}$=-1.10; $M_{\phi\phi}$=-0.24; $M_{r\theta}$=-1.24; $M_{\theta\phi}$=-2.09; $M_{r\phi}$=0.84; Fault plane solution: M_0=2.85000×10^{14} NP1:ϕ_s=15.00000°, δ55.00000°, λ30.00000°. NP2:ϕ_s=267.00000°, δ66.00000°, λ141.00000°. Principal axes: T 2.8513, Plg44.0000°, Azm227.0000°; N 0.0027, Plg45.0000°, Azm60.0000°; P -2.8540, Plg7.0000°, Azm323.0000°;*

NEIC ***26*** *05:09:46.7±1.0, 41°.38N±0°.03×100°.12W±0°.03, h1km±6km, mb_Lg3.5/139, Mwr3.6/8(SLM) Error ellipse: s-maj=3.9km s-min=3.2km az=140.0*

ISC 26 05:09:45.1±1.4, 41°.37N±0°.03×100°.09W±0°.03, h4km±10km, n247, σ1§18/262, mb3.7/4, Nebraska

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Code Station Name     Δ°  AZ°  Phase ID        Time      Res
                                Op    ISC       h m  s    ISC
K30B Basset           1.36  15        Pg        05 10 10.4 -0.7
K30B                            Sg    Sg        05 10 27.9 -0.8
BGNE Belgrade         1.46  88        Pn        05 10 12.3 +0.1
BGNE                                    Sg        05 10 32.2 +0.1
BGNE Belgrade         1.46  88  P     Pn        05 10 12.4 +0.1
     baz=269
BGNE                            S     Sg        05 10 32.5 +0.4
     baz=269
OGNE Ogallala         1.53 255  Pg    Pn        05 10 12.7 -0.5
OGNE                                    Sg        05 10 32.4 -1.8
OGNE Ogallala         1.53 255  P     Pn        05 10 12.7 -0.5
     baz=73,SNR=152
OGNE                            S     Sg        05 10 32.7 -1.4
     baz=73
CBKS Cedar Bluff      2.56 174  Pn    Pn        05 10 29.1 +1.7
CBKS                                    Sb        05 11 04.5 +1.0
CBKS Cedar Bluff      2.56 174  P     Pn        05 10 28.9 +1.4
     baz=354,SNR=34
CBKS                            Sb    Sb        05 11 04.9 +1.4
     baz=354
L34A Svendsen Farm,   2.85  77  Pn    Pn        05 10 32.0 +0.7
KSCO Kaye Shedlock'   3.05 220        Pn        05 10 35.0 +0.7
KSCO                                    Sn        05 11 11.6 +0.3
KSCO Kaye Shedlock'   3.05 220  P     Pn        05 10 35.0 +0.7
     baz=38,SNR=51
KSCO                            S     Sn        05 11 11.3  0.0
     baz=38
R32A Long Quarter,    3.12 160  Pn    Pn        05 10 36.5 +1.3
SUSD Miller           3.19  15        Pn        05 10 37.5 +1.5
SUSD                            IAmb_Lg         05 11 28.2
     comp=Z,117nm,0.8s
SUSD Miller           3.19  15  P     Pn        05 10 37.2 +1.2
     baz=196
SUSD                            S     Sn        05 11 16.1 +1.6
     baz=196
BRIGG Briggsdale      3.30 258        Pn        05 10 38.9 +1.2
N35A Tabor            3.40  97        Pn        05 10 40.7 +1.8
ECSD EROS Data Cent   3.49  46  Pn    Pn        05 10 41.8 +1.6
ECSD                            IAmb_Lg         05 11 40.8
     comp=Z,99nm,0.7s
ECSD EROS Data Cent   3.49  46  P     Pn        05 10 41.7 +1.6
     baz=229
ECSD                            S     Sn        05 11 24.2 +2.3
     baz=229
KSU1 Kansas State U   3.49 129  Pn    Pn        05 10 42.0 +1.8
KSU1                            IAmb_Lg         05 11 44.7
     comp=Z,144nm,1.1s
KSU1 Kansas State U   3.49 129  P     Pn        05 10 41.9 +1.6
     baz=311,SNR=9.5
KSU1                            Sb    Sb        05 11 34.2 +3.9
     baz=311
RSSD Black Hills      4.00 315        Pn        05 10 49.1 +1.6
RSSD                            IAmb_Lg         05 12 03.0
     comp=Z,93nm,0.8s
RSSD Black Hills      4.00 315  P     Pn        05 10 48.6 +1.2
     baz=132
RSSD                            Sb    Sb        05 11 48.3 +3.1
     baz=132
PHWY Pilot Hill       4.04 271        Pn        05 10 48.1 +0.1
PHWY                            IAmb_Lg         05 11 53.0
     comp=Z,124nm,0.8s
KAN12 Harper NE Stat  4.37 158  Pn    Pn        05 10 52.9 +0.6
KAN08 Anthony NE Sta  4.45 158        Pn        05 10 54.6 +1.2
N23A Red Feather La   4.45 266  Pn    Pn        05 10 53.9 +0.4
N23A Red Feather La   4.45 266  P     Pn        05 10 54.0 +0.5
     baz=82,SNR=19
N23A                            Sb    Sb        05 12 00.1 +2.1
     baz=82
KS21 Milan North St   4.49 154  Pn    Pn        05 10 56.1 +2.2
ISCO Idaho Springs    4.49 251        Pn        05 10 54.9 +0.7
ISCO                            IAmb_Lg         05 12 18.6
     comp=Z,71nm,0.7s
ISCO Idaho Springs    4.49 251  P     Pn        05 10 54.5 +0.4
     baz=68
ISCO                            S     Sn        05 11 45.8 -1.2
     baz=68
Q24A Divide           4.56 240        Pn        05 10 55.2 +0.1
Q24A                            IAmb_Lg         05 12 14.8
     comp=Z,128nm,0.7s
Q24A Divide           4.56 240  P     Pn        05 10 55.0 -0.2
     baz=56,SNR=8.7
Q24A                            S     Sn        05 11 47.9 -0.8
     baz=56
KAN01 Argonia South   4.58 156  Pn    Pn        05 10 56.9 +1.8
KAN05 Bluff City Nor  4.59 157  Pn    Pn        05 10 57.1 +1.9
KAN09 Caldwell North  4.64 155  Pn    Pn        05 10 57.2 +1.3
KAN09                           IAmb_Lg         05 12 18.6
     comp=Z,130nm,0.8s
KAN17 Caldwell West   4.68 157  Pn    Pn        05 10 58.1 +1.6
KAN14 Manchester OK   4.70 159        Pn        05 10 57.9 +1.0
KAN14                           IAmb_Lg         05 12 20.5
     comp=Z,99nm,0.8s
OK032 Salt Plains WL  4.78 162        Pn        05 10 59.4 +1.4
OK032                           IAmb_Lg         05 12 25.8
     comp=Z,80nm,0.7s
KAN13 South Haven SW  4.80 154        Pn        05 10 59.8 +1.6
KAN13                           IAmb_Lg         05 12 29.9
     comp=Z,112nm,0.7s
NOKA Waynoka          4.81 169  Pn    Pn        05 11 00.0 +1.7
GC02 Grant County #   4.83 158        Pn        05 11 00.4 +1.8
K22A Casper           4.96 287        Pn        05 11 00.6 +0.1
K22A Casper           4.96 287  P     Pn        05 11 00.7 +0.1
     baz=103,SNR=8.0
K22A                            Sb    Sb        05 12 17.0 +4.2
     baz=103
OK038 West end E0370  4.99 167  Pn    Pn        05 11 01.7 +0.9
U32A Winter Ranch,    5.05 170  Pn    Pn        05 11 02.8 +1.2
U32A                            IAmb_Lg         05 12 38.0
     comp=Z,102nm,0.8s
BLOK Blackwell        5.11 153        Pn        05 11 03.4 +0.9
CROK Carrier          5.12 161  Pn    Pn        05 11 03.4 +0.8
SCIA State Center     5.18  82  Pn    Pn        05 11 05.8 +2.4
SCIA State Center     5.18  82  P     Pn        05 11 04.9 +1.5
     baz=266
SCIA                            S     Sn        05 12 04.6 +1.0
     baz=266
N38A Joes South For   5.21  94  Pn    Pn        05 11 05.1 +1.2
N38A                            IAmb_Lg         05 12 39.9
     comp=Z,90nm,0.8s
E28A Huff             5.23 355        Pn        05 11 04.6 +0.6
T35A Sooner Cattle    5.24 147  Pn    Pn        05 11 04.8 +0.5
F33A 5 Mile Ranch,    5.25  30        Pn        05 11 04.8 +0.4
F33A                            IAmb_Lg         05 12 36.7
     comp=Z,97nm,0.7s
P38A Dawn             5.29 107        Pn        05 11 05.8 +0.9
P38A                            IAmb_Lg         05 12 43.5
     comp=Z,68nm,0.7s
ELIS Ellis County     5.32 174  Pn    Pn        05 11 06.7 +1.4
ELIS                            IAmb_Lg         05 12 44.5
     comp=Z,103nm,0.8s
RTBA Rita Blanca      5.33 204  Pn    Pn        05 11 06.0 +0.3
RTBA                            IAmb_Lg         05 12 41.5
     comp=Z,66nm,0.8s
RWWY Rawlins          5.36 276        Pn        05 11 07.4 +1.4
T25A Trinidad         5.39 220        Pn        05 11 06.6  0.0
T25A Trinidad         5.39 220  P     Pn        05 11 06.5  0.0
     baz=37
T25A                            Sb    Sb        05 12 29.5 +4.4
     baz=37
OK051 E0350 and S346  5.47 151        Pn        05 11 09.1 +1.6
OK051                           IAmb_Lg         05 12 55.1
     comp=Z,100nm,1.2s
OK048 Pawnee Station  5.52 153        Pn        05 11 09.4 +1.4
SDCO Great Sand Dun   5.53 231        Pn        05 11 09.1 +0.6
SDCO Great Sand Dun   5.53 231  P     Pn        05 11 08.8 +0.4
     baz=47,SNR=9.8
I37A Lemond, Waseca   5.60  60  Pn    Pn        05 11 10.4 +1.4
SMCO Snowmass         5.70 250        Pn        05 11 12.3 +1.4
SMCO                            IAmb_Lg         05 12 49.0
     comp=Z,81nm,0.9s
CSTR Hydro, Custer    5.81 169        Pn        05 11 12.6 +0.5
QUOK Quay             5.82 152  Pn    Pn        05 11 12.6 +0.4
OK052 Battle Ridge R  5.95 153  Pn    Pn        05 11 14.9 +1.0
OK031 S. Brethren Rd  5.97 154  Pn    Pn        05 11 15.2 +1.0
ADOK Arcadia Dam      6.09 159  Pn    Pn        05 11 17.7 +1.8
DEOK Depew            6.19 152  Pn    Pn        05 11 18.1 +0.8
SMWD Samnorwood       6.25 181        Pn        05 11 19.1 +1.0
SMWD                            IAmb_Lg         05 13 19.4
     comp=Z,86nm,0.8s
OKCSW OKLAHOMA CITY   6.30 160  IAmb_Lg         05 13 09.5
     comp=Z,74nm,0.8s
O20A White River Ci   6.31 261        Pn        05 11 20.7 +1.5
O20A                            IAmb_Lg         05 13 13.8
     comp=Z,90nm,1.2s
O20A White River Ci   6.31 261  P     Pn        05 11 19.3 +0.2
     baz=76,SNR=8.8
O20A                            Sb    Sb        05 12 58.5 +6.9
     baz=76
S22A 4UR Ranch, Cre   6.34 237        Pn        05 11 19.6  0.0
S22A 4UR Ranch, Cre   6.34 237  P     Pn        05 11 19.4 -0.2
     baz=53
S39A Bolivar          6.39 123        Pn        05 11 20.7 +0.7
TUL3 Leonard          6.40 147        Pn        05 11 20.1  0.0
TUL3                            IAmb_Lg         05 13 14.5
     comp=Z,71nm,0.9s
TUL3 Leonard          6.40 147  P     Pn        05 11 20.1  0.0
     baz=330,SNR=11
TUL3                            S     Sn        05 12 31.3 -2.3
     baz=330
P40A Paris            6.40 104        Pn        05 11 20.8 +0.6
P40A                            IAmb_Lg         05 13 10.9
     comp=Z,77nm,0.9s
FNO  Franklin         6.45 160  Pn    Pn        05 11 21.9 +1.0
MDND Maddock          6.49  3  Pn    Pn        05 11 21.2 -0.2
MDND Maddock          6.49  3  P     Pn        05 11 21.7 +0.3
     baz=183
MDND                            S     Sn        05 12 33.5 -2.4
     baz=183
RLO  Rose Lookout     6.53 141        Pn        05 11 22.6 +0.7
RLO                             IAmb_Lg         05 13 31.3
     comp=Z,40nm,0.9s
SPMN Marine on St.    6.57  52        Pn        05 11 23.5 +1.0
SPMN                            IAmb_Lg         05 13 11.6
     comp=Z,58nm,0.8s
SPMN Marine on St.    6.57  52  P     Pn        05 11 23.7 +1.2
     baz=237
SPMN                            S     Sn        05 12 38.4 +0.7
     baz=237
AMTX Amarillo         6.59 191        Pn        05 11 23.8 +0.9
AMTX Amarillo         6.59 191  P     Pn        05 11 23.5 +0.6
     baz=10
U38A Gravette         6.63 136        Pn        05 11 23.5 +0.2
L40A Anamosa          6.67  81        Pn        05 11 24.6 +0.8
L40A                            IAmb_Lg         05 13 23.0
     comp=Z,59nm,0.8s
WMOK Wichita Mounta   6.70 171        Pn        05 11 24.8 +0.6
WMOK                            IAmb_Lg         05 13 37.8
     comp=Z,53nm,1.0s
WMOK Wichita Mounta   6.70 171  P     Pn        05 11 24.5 +0.3
     baz=351,SNR=9.1
WMOK                            S     Sn        05 12 38.8 -2.2
     baz=351
R40A Maddies Statio   6.76 114        Pn        05 11 25.3 +0.3
R40A                            IAmb_Lg         05 13 29.7
     comp=Z,66nm,0.8s
LAO  LASA Array       6.92 322        Pn        05 11 27.0 -0.3
LAO                             IAmb_Lg         05 13 35.6
     comp=Z,51nm,0.9s
LAO  LASA Array       6.92 322  P     Pn        05 11 26.8 -0.5
     baz=138
X34A Smith Ranch, M   6.98 165  Pn    Pn        05 11 29.9 +1.7
HHAR Hobbs            6.99 135        Pn        05 11 28.9 +0.7
HHAR                            IAmb_Lg         05 13 37.7
     comp=Z,56nm,1.1s
N41A Harden Midland   7.01  92  IAmb_Lg         05 13 47.3
     comp=Z,58nm,0.8s
BW06 Boulder Array    7.18 284  P     Pn        05 11 30.9 -0.3
     baz=98
PD31 Pinedale Array   7.18 284        Pn        05 11 31.7 +0.6
PDAR Pinedale Array   7.18 284        Pn        05 11 32.0 +0.9
PDAR Pinedale Array   7.18 284  Pn    Pn        05 11 31.6 +0.5
     comp=Z,0.7nm,0.3s,baz=103,slow=14,SNR=23
PDAR                            Lg    Lg        05 13 24.4
     comp=Z,1.8nm,0.3s,baz=100,slow=30,SNR=4.1
     comp=Z,1.3nm,0.5s
RDMU Red Mountain     7.22 267        Pn        05 11 33.0 +1.4
RDMU                            IAmb_Lg         05 13 41.7
     comp=Z,40nm,1.0s
MGMO Mountain Grove   7.38 122        Pn        05 11 34.3 +0.7
MGMO                            IAmb_Lg         05 13 39.0
     comp=Z,38nm,0.8s
I40A Norwalk          7.43  67  Pn    Pn        05 11 35.6 +1.4
I40A                            IAmb_Lg         05 13 52.8
     comp=Z,51nm,0.7s
JFWS Jewell Farm      7.48  75  Pn    Pn        05 11 34.5 -0.4
JFWS Jewell Farm      7.48  75  P     Pn        05 11 34.5 -0.4
     baz=261
AGMN Agassiz Nation   7.55  22        Pn        05 11 35.3 -0.7
AGMN                            IAmb_Lg         05 13 53.1
     comp=Z,38nm,0.7s
AGMN Agassiz Nation   7.55  22  P     Pn        05 11 35.7 -0.3
     baz=205
CCM  Cathedral Cave   7.58 113        Pn        05 11 36.0 -0.3
CCM  Cathedral Cave   7.58 113  P     Pn        05 11 36.2 -0.1
     baz=299
DGMT Dagmar           7.68 339        Pn        05 11 38.2 +0.5
DGMT                            IAmb_Lg         05 14 00.6
     comp=Z,64nm,0.7s
DGMT Dagmar           7.68 339  P     Pn        05 11 38.1 +0.4
     baz=156
RLMT Red Lodge        7.68 302        Pn        05 11 39.1 +1.2
RLMT Red Lodge        7.68 302  P     Pn        05 11 38.6 +0.6
     baz=116
MSTX Muleshoe         7.68 197        Pn        05 11 38.0 +0.1
MSTX Muleshoe         7.68 197  P     Pn        05 11 37.7 -0.2
     baz=15,SNR=5.4
WTFS Witchita Falls   7.69 170  Pn    Pn        05 11 39.3 +1.4
LOOK Love County      7.71 162  Pn    Pn        05 11 39.3 +1.1
DKNS Dickens          7.71 185  Pn    Pn        05 11 41.0 +2.7
DKNS                            IAmb_Lg         05 14 13.6
     comp=Z,65nm,1.0s
X37A Clayton          7.72 150        Pn        05 11 38.3  0.0
MVCO Mesa Verde       7.73 240  Pn    Pn        05 11 40.4 +1.8
MVCO Mesa Verde       7.73 240  P     Pn        05 11 38.0 -0.6
     baz=55
L42A Oliver, Polo     7.83  82  Pn    Pn        05 11 40.4 +0.6
P18A Preston Nutter   7.93 261        Pn        05 11 42.5 +1.0
APMT Aspermont        8.03 180        Pn        05 11 42.8 +0.3
APMT                            IAmb_Lg         05 14 14.6
     comp=Z,36nm,0.8s
SLM  Saint Louis      8.04 107  Pn    Pn        05 11 43.5 +0.8
SLM                             IAmb_Lg         05 14 11.8
     comp=Z,49nm,1.1s
E38A The Farm, Brul   8.08  47  Pn    Pn        05 11 44.2 +1.0
E38A                            IAmb_Lg         05 14 08.4
     comp=Z,37nm,0.8s
LOHW Long Hollow      8.09 290  Pn    Pn        05 11 44.9 +1.4
YMP  Mirror Lake PI   8.11 298  Pn    Pn        05 11 44.1 +0.3
BSUT Blindstream Ca   8.12 268        Pn        05 11 45.6 +1.5
ANMO Albuquerque      8.14 220  Pn    Pn        05 11 44.8 +0.7
ANMO Albuquerque      8.14 220  Pn    Pn        05 11 44.3 +0.2
     comp=Z,0.1nm,0.3s,baz=96,slow=18,SNR=3.0
ANMO                            Pg    Pb        05 12 13.1 +6.4
     comp=Z,1.8nm,0.3s,baz=341,slow=2.9,SNR=24
ANMO                            Lg    Lg        05 13 57.4
     comp=Z,0.7nm,0.3s,baz=36,slow=14,SNR=3.7
     comp=Z,0.4nm,0.4s
SNOW Snow King Moun   8.16 288  Pn    Pn        05 11 44.6  0.0
FVM  French Village   8.18 111        Pn        05 11 45.8 +1.2
FVM                             IAmb_Lg         05 14 17.1
     comp=Z,39nm,1.0s
G40A Rib Lake         8.20  58        Pn        05 11 46.2 +1.4
LKWY Lake             8.21 296  Pn    Pn        05 11 46.1 +0.9
HDIL Hopedale         8.21  92        Pn        05 11 44.8 -0.2
HDIL Hopedale         8.21  92  P     Pn        05 11 45.0  0.0
     baz=279
REDW Red Top Meadow   8.22 288  Pn    Pn        05 11 45.7 +0.4
T42A Van Buren        8.22 119        Pn        05 11 45.9 +0.8
MOOW Moose Ponds      8.22 290  Pn    Pn        05 11 45.3  0.0
P43A Skaggs, Pawnee   8.23  99  Pn    Pn        05 11 46.3 +1.0
FLWY Flagg Ranch      8.27 293  Pn    Pn        05 11 46.0  0.0
SN07 Snyder 07        8.28 185        Pn        05 11 46.9 +0.8
SN07                            IAmb_Lg         05 14 16.9
     comp=Z,51nm,0.8s
FCAR Ozark Folk Cen   8.29 129        Pn        05 11 46.3 +0.2
FCAR                            IAmb_Lg         05 14 15.1
     comp=Z,34nm,0.9s
TPAW Teton Pass       8.31 288  Pn    Pn        05 11 47.6 +1.0
Z35A Perchaven, San   8.33 163  Pn    Pn        05 11 47.1 +0.4
P17A Butcher Ranch,   8.34 260  Pn    Pn        05 11 46.4 -0.5
POST Post             8.36 188        Pn        05 11 47.9 +0.8
IMW  Indian Meadow    8.39 291        Pn        05 11 47.7  0.0
FXWY Fox Creek        8.39 289  Pn    Pn        05 11 47.7  0.0
YPP  Pitchstone Pla   8.39 294  Pn    Pn        05 11 47.4 -0.4
MIAR Mount Ida        8.53 141  Pn    Pn        05 11 49.8 +0.4
MIAR                            IAmb_Lg         05 14 29.1
     comp=Z,34nm,0.8s
MIAR Mount Ida        8.53 141  P     Pn        05 11 49.5 +0.1
     baz=325,SNR=8.7
TCUT Toone Canyon     8.53 272  Pn    Pn        05 11 50.1 +0.4
FW06 Azle             8.62 166  Pn    Pn        05 11 50.9 +0.3
FW06                            IAmb_Lg         05 14 30.7
     comp=Z,32nm,0.9s
I42A Draeger Farm,    8.62  69  Pn    Pn        05 11 50.0 -0.6
HWUT Hardware Ranch   8.62 275        Pn        05 11 49.6 -1.1
WHAR Wooly Hollow     8.62 132  Pn    Pn        05 11 50.3 -0.4
WHAR                            IAmb_Lg         05 14 28.5
     comp=Z,36nm,0.9s
JLU  Jordanelle       8.63 269        Pn        05 11 51.5 +0.5
PLPT Palo Pinto       8.65 170        Pn        05 11 50.9 -0.2
ABTX Abilene, Hawle   8.73 178  Pn    Pn        05 11 52.5 +0.3
ABTX                            IAmb_Lg         05 14 44.8
     comp=Z,35nm,0.9s
ABTX Abilene, Hawle   8.73 178  P     Pn        05 11 52.3 +0.1
     baz=358
TMUT Trail Mountain   8.74 260  Pn    Pn        05 11 51.6 -0.9
LCAR Lake Charles     8.76 124  Pn    Pn        05 11 53.1 +0.6
PBMO Poplar Bluff     8.80 118        Pn        05 11 53.6 +0.6
PBMO                            IAmb_Lg         05 14 41.0
     comp=Z,38nm,0.8s
YHL  Hebgen Lake      8.83 297  Pn    Pn        05 11 55.7 +1.9
Q16A Castle Valley    8.83 258  Pn    Pn        05 11 53.2 -0.6
CTU  Camp Tracy       8.84 269  Pn    Pn        05 11 54.2 +0.4
K43A Burlington       8.85  77  Pn    Pn        05 11 52.7 -1.1
MPU  Maple Canyon     8.87 265        Pn        05 11 55.1 +0.8
X40A Basin Creek Fa   8.94 138  Pn    Pn        05 11 54.3 -0.8
UALR University of    8.97 135  Pn    Pn        05 11 56.1 +0.6
EYMN Ely              8.98  40  Pn    Pn        05 11 56.2 +0.6
EYMN                            IAmb_Lg         05 14 28.1
     comp=Z,46nm,0.8s
EYMN Ely              8.98  40  P     Pn        05 11 55.9 +0.3
     baz=226
CGM3 Cape Girardeau   9.04 113  Pn    Pn        05 11 55.7 -0.7
Y22D IRIS PASSCAL I   9.07 219  IAmb_Lg         05 14 54.7
     comp=Z,51nm,1.1s
TREL Terrell          9.19 158  IAmb_Lg         05 14 48.5
     comp=Z,42nm,0.9s
NLU  North Lily Min   9.22 265  Pn    Pn        05 11 59.1 +0.1
FW16 Waxahatchie      9.23 163  IAmb_Lg         05 15 05.2
     comp=Z,48nm,0.9s
COWI Conover          9.23  55        Pn        05 11 59.9 +0.9
FW13 Cleburne         9.24 166  IAmb_Lg         05 15 03.6
```

comp=Z,30nm,1.2s
FW14 Alvarado 9.24 165 IAmb_Lg 05 15 05.9
comp=Z,34nm,0.9s
SPUT South Promonto 9.30 274 Pn **Pn** **05 11 59.7 -0.4**
PARMO Parma 9.31 117 Pn **Pn** **05 12 00.7 +0.6**
ULM Lac du Bonnet 9.36 17 Pn **Pn** **05 11 59.8 -0.9**
ULM IAmb_Lg 05 14 47.9
comp=Z,37nm,1.0s
ULM Lac du Bonnet 9.36 17 Pn **Pn** **05 11 59.3 -1.4**
comp=Z,1.8nm,0.3s,baz=199,slow=13,SNR=23
ULM Sn Sn 05 13 37.3 -9.0
comp=Z,2.1nm,0.3s,baz=218,slow=18,SNR=3.5
ULM Lg Lg 05 14 31.2
comp=Z,2.3nm,0.3s,baz=270,slow=20,SNR=5.8
comp=Z,3.4nm,0.3s
ODSA Odessa 9.44 193 IAmb_Lg 05 14 50.2
comp=Z,27nm,0.9s
WLAR White Oak Lake 9.45 142 Pn **Pn** **05 12 02.4 +0.3**
WLAR IAmb_Lg 05 15 10.5
comp=Z,27nm,0.7s
H43A Windswept, Lux 9.56 67 Pn **Pn** **05 12 03.2 -0.2**
EGMT Eagleton 9.57 317 **Pn** **05 12 04.1 +0.4**
EGMT IAmb_Lg 05 14 50.3
comp=Z,28nm,0.9s
EGMT Eagleton 9.57 317 P **Pn** **05 12 03.0 -0.7**
baz=131
WHTX Lake Whitney, 9.59 166 Pn **Pn** **05 12 03.6 -0.4**
WHTX IAmb_Lg 05 15 05.8
comp=Z,39nm,1.3s
WHTX Lake Whitney, 9.59 166 P **Pn** **05 12 03.5 -0.4**
baz=348
DUG Dugway, Tooele 9.72 267 Pn **Pn** **05 12 05.4 -0.5**
DUG Dugway, Tooele 9.72 267 P **Pn** **05 12 05.4 -0.5**
baz=79
LNXT Lenox 9.80 119 Pn **Pn** **05 12 08.7 +1.9**
CCAR Cane Creek 9.93 136 Pn **Pn** **05 12 09.7 +1.1**
CCAR IAmb_Lg 05 15 27.7
comp=Z,27nm,0.9s
237A Washetta, Mont 9.96 158 IAmb_Lg 05 15 13.3
comp=Z,33nm,0.9s
P46A Rosedale 9.97 96 Pn **Pn** **05 12 09.1 +0.1**
BRDY Brady 10.10 175 Pn **Pn** **05 12 10.6 -0.3**
LYMT Lyon Mountain 10.40 307 Pn **Pn** **05 12 15.1 -0.1**
OZNA Ozona 10.46 185 Pn **Pn** **05 12 14.6 -1.2**
OXF Oxford 10.85 126 Pn **Pn** **05 12 22.0 +0.8**
OXF Oxford 10.85 126 P **Pn** **05 12 21.3 +0.1**
baz=312
JCT Junction City 10.87 179 Pn **Pn** **05 12 21.2 -0.2**
OVMT Ovando 10.87 306 Pn **Pn** **05 12 21.4 -0.1**
N47A Urbana 10.87 88 Pn **Pn** **05 12 22.6 +1.1**
WVT Waverly 10.90 115 P **Pn** **05 12 21.6 -0.3**
baz=302
T47A Sharon Grove 10.98 109 Pn **Pn** **05 12 23.3 +0.3**
WCI Wyandotte Cave 11.07 102 P **Pn** **05 12 23.1 -1.0**
baz=291
P48A Milroy 11.34 95 Pn **Pn** **05 12 26.8 -1.1**
PLAL Pickwick Lake 11.40 120 Pn **Pn** **05 12 28.0 -0.6**
J47A Sunmer 11.46 76 Pn **Pn** **05 12 29.0 -0.5**
SAND Sanderson 11.50 189 Pn **Pn** **05 12 29.1 -1.1**
V48A Smith Brothers 11.80 114 Pn **Pn** **05 12 33.7 -0.5**
GLMI Grayling 11.83 68 Pn **Pn** **05 12 34.6 +0.1**
GLMI Grayling 11.83 68 P **Pn** **05 12 33.6 -0.9**
baz=258
P49A Miami Univ. Ec 11.86 94 Pn **Pn** **05 12 33.9 -1.1**
P49A Miami Univ. Ec 11.86 94 P **Pn** **05 12 33.6 -1.3**
baz=284
R49A Shelbyville 11.87 100 **Pn** **05 12 34.4 -0.8**
DRIO Del Rio 11.92 182 Pn **Pn** **05 12 35.1 -0.8**
TX31 Lajitas Ar. Si 12.35 195 Pn **Pn** **05 12 42.8 +0.9**
TXAR Lajitas Array 12.35 195 Pn **Pn** **05 12 42.7 +0.8**
comp=Z,0.2nm,0.3s,baz=22,slow=12,SNR=10
TXAR Pg 05 13 30.4
comp=Z,0.5nm,0.3s,baz=10.0,slow=13,SNR=11
TXAR Lg Lg 05 16 04.6
comp=Z,0.2nm,0.3s,baz=19,slow=25,SNR=4.4
comp=Z,0.3nm,0.4s
E46A Sault Ste Mari 12.43 61 Pn **Pn** **05 12 43.6 +0.8**
Z47A Carrollton 12.56 127 Pn **Pn** **05 12 45.8 +1.2**
T50A Nancy 12.60 105 Pn **Pn** **05 12 44.9 -0.2**
W50A Signal Mountai 13.13 113 Pn **Pn** **05 12 53.4 +1.0**
Y49A Blount Mountai 13.17 120 Pn **Pn** **05 12 52.3 -0.6**
S51A Beattyville 13.27 101 Pn **Pn** **05 12 53.5 -0.8**
LRAL Lakeview Retre 13.33 124 Pn **Pn** **05 12 54.6 -0.5**
TZTN Tazewell 13.74 105 P **Pn** **05 12 59.5 -1.2**
baz=296
P52A Corning 13.78 91 Pn **Pn** **05 13 01.2 0.0**
P52A Corning 13.78 91 P **Pn** **05 13 00.4 -0.7**
baz=283
X51A Calhoun 13.79 115 Pn **Pn** **05 13 02.8 +1.4**
Q52A Bidwell 13.84 94 Pn **Pn** **05 13 02.4 +0.3**
TKL Tuckaleechee C 13.98 109 Pn **Pn** **05 13 03.2 -0.8**
TKL Tuckaleechee C 13.98 109 Pn **Pn** **05 13 02.4 -1.6**
comp=Z,0.6nm,0.3s,baz=283,slow=8.0,SNR=7.0
TKL Lg Lg 05 16 57.3
comp=Z,0.4nm,0.3s,baz=289,slow=18,SNR=2.5
comp=Z,1.5nm,0.3s
V52A Sevierville 14.02 108 Pn **Pn** **05 13 04.4 -0.1**
SADO Sadowa 15.68 70 Pn **Pn** **05 13 25.0 -1.8**
comp=Z,0.1nm,0.3s,baz=274,slow=13,SNR=2.6
SADO Lg Lg 05 17 49.1
comp=Z,0.2nm,0.3s,baz=277,slow=16,SNR=1.7
comp=Z,3.3nm,0.8s
YBH Yreka Blue Hor 16.93 279 Pn **Pn** **05 13 43.8 +0.8**
baz=70,slow=16,SNR=5.5
comp=Z,2.2nm,1.0s
YKA Yellowknife Ar 22.87 343 P **P** **05 14 47.3 -1.9**
comp=Z,1.0nm,0.9s,baz=153,slow=9.6,SNR=2.9
comp=Z,1.0nm,0.9s
ILAR Eielson Array 35.35 327 P **P** **05 16 41.2 0.0**
comp=Z,0.7nm,0.9s,baz=114,slow=7.5,SNR=6.4
comp=Z,0.7nm,0.9s
FINES FINESS Array B 68.66 25 P **P** **05 20 48.5 -0.6**
comp=Z,1.1nm,0.8s,baz=312,slow=21,SNR=2.6
comp=Z,1.1nm,0.8s
BVAR Borovoye Array 85.63 6 P **P** **05 22 23.9 -0.7**
comp=Z,0.4nm,0.4s,baz=337,slow=2.2,SNR=3.8
comp=Z,0.4nm,0.4s
WRA Warramunga Arr 129.43 278 PKP **PKPdf** **05 28 53.7 -1.6**
comp=Z,0.2nm,0.6s,baz=39,slow=2.4,SNR=2.1

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*NEIC **26** 05:09:47.4±1.0, 20°.4S±0°.2×177°.57W±0°.06, h512km±12km, mb4.1/21, Error ellipse: s-maj=24.8km s-min=4.4km az=163.0*
*IDC **26** 05:09:51.4±4.1, 19°.54S×178°.38W, h528km±47km, mb3.3/8, mbtmp4.2/10, Error ellipse: s-maj=26.5km s-min=15.3km az=121.0*
ISC 26 05:09:47.7±0.6, 20°.2S±0°.1×177°.80W±0°.10, h500km, n39, σ1§43/38, mb4.0/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.61**	**301**	P	**P**	**05 11 14.7**	**+3.2**
NIUE	**Niue**	**7.50**	**83**	P	**P**	**05 11 37.4**	**-1.6**
AFI	**Afiamalu**	**8.47**	**44**	P	**P**	**05 11 47.4**	**-1.8**
PINNC	**Pines Island,**	**13.96**	**257**	P	**P**	**05 12 47.6**	**+0.6**
DZM	**Mont Dzumac**	**14.83**	**260**	P	**P**	**05 12 55.5**	**-0.8**
8.0nm,0.9s,baz=86,slow=18,SNR=3.8							
ONTNC	**Ouen Toro**	**14.84**	**259**	P	**P**	**05 12 55.8**	**-0.6**
URZ	**Urewera**	**18.57**	**193**	P	**P**	**05 13 38.0**	**+4.9**
2.7nm,0.3s,baz=0.0,slow=1.0,SNR=1.7							
URZ				S	S	05 16 47.5	+11
12nm,0.9s,baz=279,slow=17,SNR=2.0							
KHZ	**Kahutara**	**23.36**	**196**	P	**P**	**05 14 13.7**	**-2.8**
WHZ	**Wether Hill Ro**	**28.22**	**201**	P	**P**	**05 14 59.3**	**-0.1**
WHZ				IAmb	IAmb	05 15 16.0	
comp=Z,6.8nm,0.9s							
EIDS	**Eidsvold**	**29.12**	**254**	P	**P**	**05 15 07.2**	**-0.4**
EIDS				IAmb	IAmb	05 15 08.1	
comp=Z,4.2nm,1.1s							
CTAO	**Charters Tower**	**33.71**	**264**	P	**P**	**05 15 46.8**	**-0.2**
CTAO				IAmb	IAmb	05 15 47.4	
comp=Z,9.3nm,1.1s							
TOO	**Toolangi**	**36.25**	**233**	P	**P**	**05 16 07.7**	**-0.4**
TOO				IAmb	IAmb	05 16 22.2	
comp=Z,5.0nm,1.0s							
COEN	**Coen**	**37.75**	**273**	P	**P**	**05 16 20.9**	**+0.3**
COEN				IAmb	IAmb	05 16 34.8	
comp=Z,7.5nm,1.1s							
STKA	**Stephens Creek**	**38.11**	**244**		**P**	**05 16 22.9**	**-0.5**
STKA	**Stephens Creek**	**38.11**	**244**	P	**P**	**05 16 22.4**	**-1.0**
comp=Z,2.5nm,0.4s,baz=84,slow=11,SNR=8.2							
comp=Z,2.5nm,0.4s							
BBOO	**Buckleboo**	**42.87**	**243**	P	**P**	**05 17 00.0**	**-1.5**
BBOO				IAmb	IAmb	05 17 08.0	
comp=Z,9.5nm,1.1s							
WR0	**Warramunga Arr**	**44.65**	**262**	P	**P**	**05 17 14.2**	**-1.3**
WR0				IAmb	IAmb	05 17 15.3	
comp=Z,3.1nm,0.5s							
AS31	**Alice Springs**	**44.78**	**256**	P	**P**	**05 17 15.5**	**-1.1**
AS31				IAmb	IAmb	05 17 16.2	
comp=Z,2.9nm,0.6s							
ASAR	**Alice Springs**	**44.78**	**256**	P	**P**	**05 17 15.7**	**-0.8**
ASAR	**Alice Springs**	**44.78**	**256**	P	**P**	**05 17 15.6**	**-1.0**
comp=Z,10nm,0.8s,baz=90,slow=8.2,SNR=79							
comp=Z,10nm,0.8s							
WB0	**Warramunga Arr**	**44.81**	**262**	P	**P**	**05 17 16.1**	**-0.8**
WB2	**Warramunga Arr**	**44.83**	**262**	P	**P**	**05 17 16.0**	**-0.9**
WB2				IAmb	IAmb	05 17 16.3	
comp=Z,3.9nm,0.5s							
WRAB	**Tennant Creek**	**44.83**	**262**	P	**P**	**05 17 16.0**	**-0.9**
WRA	**Warramunga Arr**	**44.84**	**262**	P	**P**	**05 17 15.6**	**-1.4**
comp=Z,1.8nm,0.3s,baz=97,slow=7.4,SNR=114							
comp=Z,1.8nm,0.3s							
FORT	**Forrest**	**49.60**	**246**	P	**P**	**05 17 51.3**	**-1.5**
KNRA	**Kununurra**	**50.87**	**266**	P	**P**	**05 18 01.5**	**-0.8**
KNRA				IAmb	IAmb	05 18 01.9	
comp=Z,5.2nm,0.8s							
FITZ	**Fitzroy Crossi**	**53.26**	**262**	P	**P**	**05 18 19.2**	**-0.3**
PSA00	**Pilbara Seismi**	**57.93**	**257**	P	**P**	**05 18 51.0**	**-1.0**
MBWA	**Marble Bar**	**58.11**	**257**	P	**P**	**05 18 52.2**	**-1.0**
ERM	**Erimo**	**71.62**	**330**	P	**P**	**05 20 17.7**	**-0.4**
KIWB	**Kanaga Island**	**71.70**	**0**	P	**P**	**05 20 19.1**	**+0.8**
ADK	**Adak**	**71.74**	**1**	P	**P**	**05 20 19.1**	**+0.6**
ADK				IAmb	IAmb	05 20 35.3	
comp=Z,4.1nm,1.0s							
YBH	**Yreka Blue Hor**	**79.91**	**39**	P	**P**	**05 21 05.3**	**+1.0**
comp=Z,2.3nm,0.8s,baz=176,slow=4.1,SNR=6.1							
comp=Z,2.3nm,0.8s							
NVAR	**Mina Array Bea**	**80.65**	**43**	P	**P**	**05 21 09.6**	**+1.2**
comp=Z,0.9nm,0.9s,baz=225,slow=8.8,SNR=6.4							
comp=Z,0.9nm,0.9s							
TXAR	**Lajitas Array**	**86.71**	**57**	P	**P**	**05 21 39.5**	**+0.9**
comp=Z,0.6nm,0.7s,baz=220,slow=8.6,SNR=6.2							
comp=Z,0.6nm,0.7s							
ILAR	**Eielson Array**	**87.94**	**13**	P	**P**	**05 21 42.7**	**-0.7**
comp=Z,0.6nm,0.7s,baz=222,slow=6.2,SNR=7.7							
comp=Z,0.6nm,0.7s							
PDAR	**Pinedale Array**	**88.58**	**43**	P	**P**	**05 21 47.2**	**0.0**
comp=Z,0.6nm,0.7s,baz=223,slow=2.1,SNR=5.9							
comp=Z,0.6nm,0.7s							
AKASG	**Malin Array Be**	**142.81**	**331**	PKP		05 28 20.3	
comp=Z,1.3nm,0.5s,baz=46,slow=3.9,SNR=7.2							
EKA	**Eskdalemuir Ar**	**144.65**	**5**	PKP	**PKPdf**	**05 28 26.5**	**-0.3**
comp=Z,0.3nm,0.4s,baz=343,slow=2.2,SNR=3.2							

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*UCR **26** 05:39:46.0±0.6, 10°.88N×86°.86W, h14km±8km, MW3.5*
*CATAC **26** 05:39:56.8±1.2, 11°.69N×86°.73W, h71km±14km, ML2.8*
ISC 26 05:39:48.5±1.7, 10°.98N±0°.08×86°.86W±0°.08, h50km, n19, σ1§56/23, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	**La Cruz**	**1.21**	**85**	*e*P	**Pn**	**05 40 08.7**	**-0.4**
LCRUZ				*e*S	**Sn**	**05 40 26.2**	**+1.8**
SAPS	**Ciudad Sandino**	**1.27**	**21**	*i* P	**Pn**	**05 40 10.6**	**+0.7**
SAPS				*i* S	**Sn**	**05 40 23.2**	**-2.6**
SAPS				IAML		05 40 48.3	
comp=Z,220nm,1.0s							
ALIBA	**Liberia Airpor**	**1.35**	**106**	*e*P	**Pn**	**05 40 10.2**	**-0.7**
DELF	**Filadelfia**	**1.39**	**112**	*e*P	**Pn**	**05 40 11.0**	**-0.4**
LEVN	**Ruinas Leon Vi**	**1.44**	**10**	*i* P	**Pn**	**05 40 13.3**	**+1.1**
LEVN				IAML		05 40 13.5	
comp=Z,540nm,1.0s							
MOM2	**El Cardon**	**1.50**	**14**	*i* P	**Pn**	**05 40 14.0**	**+1.0**
MOM2				IAML		05 40 30.9	
comp=Z,210nm,1.0s							
HUEN		**1.51**	**26**	*i* P	**Pn**	**05 40 14.1**	**+0.9**
HUEN				IAML		05 40 48.9	
comp=Z,96nm,1.0s							
ROCN	**Rota Cerro Neg**	**1.54**	**4**	*i* P	**Pn**	**05 40 14.6**	**+1.0**
ROCN				IAML		05 40 39.2	
comp=Z,120nm,1.0s							
PKGN	**Cerro Pekin**	**1.69**	**356**	*i* P	**Pn**	**05 40 16.8**	**+1.2**
PKGN				IAML		05 40 43.7	
comp=Z,320nm,1.0s							
CUI	**Cuipilapa**	**1.70**	**101**	*e*P	**Pn**	**05 40 15.6**	**-0.2**
CUI				*e*S	**Sn**	**05 40 36.7**	**+0.3**
CRIN	**San Cristobal**	**1.72**	**354**	*e*P	**Pn**	**05 40 17.5**	**+1.3**
BOAB	**BOACO BROADBAN**	**.88**	**39**	*i* P	**Pn**	**05 40 18.6**	**+0.5**
BOAB				IAML		05 40 41.6	
comp=Z,65nm,1.0s							
JTS	**Las Juntas de**	**2.00**	**110**	*e*P	**Pn**	**05 40 19.0**	**-0.8**
ARE1	**Arenal 1**	**2.17**	**103**	*e*P	**Pn**	**05 40 24.3**	**+2.1**
CNCH	**Conchagua**	**2.48**	**338**	*i* P	**Pn**	**05 40 27.8**	**+1.3**
CNCH				IAML		05 41 00.9	
comp=Z,200nm,1.0s							
LCND	**La Caada**	**2.53**	**337**	*i* P	**Pn**	**05 40 27.5**	**+0.4**
LCND				IAML		05 41 06.6	
comp=Z,57nm,1.0s							
PACA	**Pacayal**	**2.86**	**330**	*i* P	**Pn**	**05 40 33.4**	**+1.6**
PACA				*i* S	**Sn**	**05 41 01.1**	**-4.0**
PACA				IAML		05 41 13.5	
comp=Z,430nm,1.0s							
ABE2	**San Pablo**	**3.04**	**114**	*e*P	**Pn**	**05 40 35.4**	**+1.1**
SCLA	**Alcaldia de Sa**	**3.27**	**326**	*i* P	**Pn**	**05 40 38.9**	**+1.6**
SCLA				IAML		05 41 20.0	
comp=Z,20nm,1.0s							

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*IDC **26** 05:44:13.8±12.0, 19°.66N×145°.27E, h175km±120km, mb3.2/10, mbtmp3.7/10, MS3.0/1, Error ellipse: s-maj=34.0km s-min=22.5km az=71.0*
ISC 26 05:44:10.7±1.1, 19°.7N±0°.2×145°.3E±0°.2, h147km, n11, σ0§92/10, mb3.5/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**23.31**	**323**	P	**P**	**05 49 05.6**	**+0.1**
1.0nm,0.5s,baz=143,slow=9.5,SNR=3.1							
1.0nm,0.5s							
ASAJ	**Asahikawa**	**24.49**	**355**	LR	LR	06 00 34.3	
comp=Z,29nm,18.1s,baz=114,slow=40							
WRA	**Warramunga Arr**	**40.79**	**196**	P	**P**	**05 51 37.8**	**0.0**
0.2nm,0.7s,baz=16,slow=8.8,SNR=5.0							
0.2nm,0.7s							
SONM	**Songino Array**	**42.14**	**321**	P	**P**	**05 51 48.9**	**+0.2**
0.6nm,0.6s,baz=131,slow=15,SNR=2.2							
0.6nm,0.6s							
ZALV	**Zalesovo Beam**	**57.01**	**322**	P	**P**	**05 53 41.8**	**+0.8**
0.7nm,0.4s,baz=94,slow=9.3,SNR=2.1							
0.7nm,0.4s							
MKAR	**Makanchi Array**	**57.51**	**313**	P	**P**	**05 53 45.7**	**+1.1**
0.3nm,0.5s,baz=106,slow=7.9,SNR=3.0							
0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**60.34**	**318**	P	**P**	**05 54 04.2**	**+0.2**
0.8nm,0.5s,baz=96,slow=8.0,SNR=6.9							
0.8nm,0.5s							
ILAR	**Eielson Array**	**62.97**	**26**	P	**P**	**05 54 21.2**	**-0.2**
0.3nm,0.5s,baz=265,slow=5.5,SNR=5.9							
0.3nm,0.5s							
BVAR	**Borovoye Array**	**65.48**	**320**	P	**P**	**05 54 38.0**	**0.0**
1.3nm,0.5s,baz=90,slow=8.9,SNR=7.2							
1.3nm,0.5s							
NVAR	**Mina Array Bea**	**82.87**	**52**	P	**P**	**05 56 20.1**	**+0.7**
0.4nm,0.6s,baz=276,slow=6.4,SNR=4.4							
0.4nm,0.6s							
FINES	**FINESS Array B**	**85.84**	**335**	P	**P**	**05 56 31.7**	**-1.9**
0.9nm,0.9s,baz=64,slow=4.4,SNR=5.1							
0.9nm,0.9s							

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*IDC **26** 05:58:32.8±0.5, 6°.02S×102°.26E, h0km, mb4.6/21, mbtmp4.6/21, MS3.7/12, Error ellipse: s-maj=25.0km s-min=12.2km az=63.0*
*BJI **26** 05:58:32.0±0.0, 6°.60S×102°.26E, h34km, mb4.8/55, mB4.9/16, Ms4.5/15, Ms7 4.3/14*
*MOS **26** 05:58:32.8±0.9, 6°.04S×102°.28E, h15km, mb4.9/49, Error ellipse: s-maj=10.3km s-min=5.2km az=113.2*
*DJA **26** 05:58:34.9±0.7, 6°.S±3°.×10°.2E±°, h13km±4km, M4.9/38, mB5.5/7, mb5.1/38, MLv4.9/14, Mw(mB)4.9/7*
*NEIC **26** 05:58:35.8±1.0, 6°.10S±0°.06×102°.27E±0°.07, h18km±3km, mb4.9/66, Error ellipse: s-maj=10.4km s-min=9.0km az=66.0*
ISC 26 05:58:37.7±0.7, 6°.08S±0°.05×102°.30E±0°.06, h34km±3km, n335, σ1§04/329, mb4.8/110, MS3.9/21, 20C, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**2.04**	**59**	P	**Pn**	**05 59 09.3**	**-0.5**
KASI	**Kota Agung**	**2.25**	**76**	P	**Pn**	**05 59 11.8**	**-0.8**
BLSI	**Bandar Lampung**	**3.02**	**77**	P	**Pn**	**05 59 23.2**	**+0.1**
SBJI	**Serang**	**3.81**	**91**	P	**Pn**	**05 59 34.4**	**+0.4**
PMBI	**Palembang**	**3.98**	**38**	Pn	**Pn**	**05 59 36.7**	**+0.2**
PPSI	**Pulau Pagai**	**4.01**	**325**	P	**Pn**	**05 59 35.6**	**-1.2**
SKJI	**Sukabumi**	**4.33**	**103**	P	**Pn**	**05 59 41.1**	**-0.1**
DBJI	**Dramaga**	**4.45**	**96**	P	**Pn**	**05 59 43.1**	**+0.3**
CBJI	**Citeko**	**4.54**	**95**	P	**Pn**	**05 59 45.9**	**+1.9**
CNJI	**Cibinong**	**4.95**	**105**	P	**Pn**	**05 59 48.7**	**-1.0**
LEM	**Lembang**	**5.34**	**98**	P	**Pn**	**05 59 56.4**	**+1.2**
274nm,0.8s,0.8nm							
LEM	**Lembang**	**5.34**	**98**	P	**Pn**	**05 59 56.7**	**+1.5**
PDSI	**Padang**	**5.45**	**340**	P	**Pn**	**05 59 55.6**	**-1.0**
133nm,0.5s,1.0nm							
PPBI	**Pangkal Pinang**	**5.46**	**45**	P	**Pn**	**05 59 56.4**	**-0.3**
BBJI	**Bungbulang**	**5.49**	**105**	P	**Pn**	**05 59 56.6**	**-0.6**
XMIS	**Christmas Isla**	**5.49**	**143**	Pn	Pn	05 59 52.0	-5.1
SISI	**Saibi**	**5.71**	**326**	P	**Pn**	**05 59 59.5**	**-0.6**
110nm,0.6s,0.5nm							
CMJI	**Cimerak**	**6.33**	**106**	P	**Pn**	**06 00 08.4**	**-0.3**
BKNI	**Bangkinang**	**6.49**	**349**	Pn	**Pn**	**06 00 08.1**	**-2.8**
COCO	**West Island**	**8.12**	**221**	P	**Pn**	**06 00 33.0**	**-0.3**
COCO	**West Island**	**8.12**	**221**		**Pn**	**06 00 31.5**	**-1.8**
COCO	**West Island**	**8.12**	**221**	P	**Pn**	**06 00 31.5**	**-1.8**
SMRI	**Semarang**	**8.14**	**97**	P	**Pn**	**06 00 35.3**	**+1.7**
SMRI	**Semarang**	**8.14**	**97**	Pn	**Pn**	**06 00 33.6**	**0.0**
SMRI	**Semarang**	**8.14**	**97**	P	**Pn**	**06 00 34.3**	**+0.7**
183nm,1.0s							
UGM	**Wanagama**	**8.36**	**103**		**Pn**	**06 00 36.5**	**-0.2**
UGM	**Wanagama**	**8.36**	**103**	P	**Pn**	**06 00 36.8**	**+0.1**
335nm,1.1s							
GSI	**Gunungsitoli**	**8.72**	**327**	Pn	**Pn**	**06 00 39.6**	**-2.0**
GSI	**Gunungsitoli**	**8.72**	**327**	P	**Pn**	**06 00 40.6**	**-0.9**
52nm,1.2s							
PWJI	**Pagerwojo**	**9.63**	**102**	P	**Pn**	**06 00 53.2**	**-0.8**
130nm,0.8s							
GRJI	**Gresik**	**10.15**	**95**	P	**Pn**	**06 01 01.9**	**+0.8**
KSM	**Kuching**	**10.96**	**47**	Pn	**Pn**	**06 01 12.8**	**+0.5**
KULM	**Kulim**	**11.41**	**352**	Pn	**Pn**	**06 01 17.8**	**-0.7**
ABJI	**Asem Bagus**	**11.97**	**99**	P	**Pn**	**06 01 26.3**	**+0.3**
JAGI	**Jajag, Banyuwa**	**11.99**	**102**	Pn	**Pn**	**06 01 24.8**	**-1.6**
JAGI	**Jajag, Banyuwa**	**11.99**	**102**	P	**Pn**	**06 01 26.4**	**0.0**
85nm,0.8s							
LHMI	**Lhok Sumawe**	**12.44**	**334**	Pn	**Pn**	**06 01 31.2**	**-1.3**
SRBI	**Singaraja**	**12.97**	**100**	P	**Pn**	**06 01 39.4**	**-0.3**
67nm,1.0s							
SBUM	**Sibu**	**13.04**	**50**	Pn	**Pn**	**06 01 40.5**	**-0.1**
PLAI	**Plampang**	**15.59**	**101**	P	**P**	**06 02 17.7**	**-1.2**
PLAI	**Plampang**	**15.59**	**101**	P	**Pn**	**06 02 13.8**	**-1.3**
133nm,1.0s							
MPSI	**Mapaga**	**18.69**	**71**	P	**P**	**06 02 53.0**	**-0.3**
51nm,1.2s							
EDFI	**Ende, Flores**	**19.41**	**99**	P	**P**	**06 02 58.8**	**-2.5**
MYLDM	**Lahad Datu**	**19.66**	**56**		**P**	**06 03 03.8**	**-0.1**
MYLDM				IAmb	IAmb	06 03 19.5	
comp=Z,115nm,1.2s							
TOLI2	**Tolitoli**	**19.79**	**69**	P	**P**	**06 03 04.8**	**-0.5**
TOLI2	**Tolitoli**	**19.79**	**69**	P	**P**	**06 03 05.1**	**-0.2**
TOLI2				IAmb	IAmb	06 03 06.0	
comp=Z,55nm,0.8s							
MMRI	**Maumere**	**19.93**	**99**	P	**P**	**06 03 06.1**	**-0.8**
MMRI				IAmb	IAmb	06 03 18.1	
comp=Z,68nm,0.9s							
NAYO	**Nakonayok**	**20.29**	**357**	P	**P**	**06 03 10.2**	**-0.5**
UBPT	**Khong Chiam**	**21.45**	**8**	P	**P**	**06 03 23.6**	**+0.3**
UBPT	**Khong Chiam**	**21.45**	**8**	P	**P**	**06 03 21.5**	**-1.8**
UBPT				IAmb	IAmb	06 03 31.4	
comp=Z,30nm,0.9s							
BATI	**Baumata**	**21.54**	**102**	P	**P**	**06 03 24.0**	**-0.3**
comp=Z,250nm,1.0s							
SOEI	**Soe**	**22.06**	**101**	P	**P**	**06 03 30.9**	**+0.9**
SOEI	**Soe**	**22.06**	**101**	P	**P**	**06 03 28.8**	**-1.2**
SOEI	**Soe**	**22.06**	**101**	P	**P**	**06 03 28.6**	**-1.4**
comp=Z,145nm,0.9s							
MBWA	**Marble Bar**	**22.58**	**133**	P	**P**	**06 03 34.7**	**-0.7**
PSAC1	**Pilbara Seismi**	**22.87**	**134**	P	**P**	**06 03 39.1**	**+0.7**
comp=Z,7.8nm,SNR=7.8							
PSA00	**Pilbara Seismi**	**22.92**	**134**	P	**P**	**06 03 39.3**	**+0.3**
PSA00	**Pilbara Seismi**	**22.92**	**134**	P	**P**	**06 03 38.3**	**-0.7**
PSA00	**Pilbara Seismi**	**22.92**	**134**	P	**P**	**06 03 39.6**	**+0.6**
comp=Z,5.5nm,SNR=5.5							
SANI	**Sanana**	**23.96**	**81**	P	**P**	**06 03 48.6**	**-0.6**
NONG	**Nongkai**	**24.00**	**2**	P	**P**	**06 03 48.9**	**-0.6**
PHRA	**Phrae**	**24.51**	**355**	P	**P**	**06 03 53.3**	**-0.8**
CM31	**Chiang Mai Arr**	**24.61**	**352**	P	**P**	**06 03 54.8**	**-0.2**
CM31				IAmb	IAmb	06 04 09.2	
comp=Z,26nm,1.4s							
CMAR	**Chiang Mai Arr**	**24.61**	**352**	P	**P**	**06 03 54.5**	**-0.5**
comp=Z,4.7nm,0.7s,baz=181,slow=8.3,SNR=21							
CMAR				PcP	**PcP**	**06 07 33.9**	**+1.5**
comp=Z,1.3nm,0.3s,baz=201,slow=3.9,SNR=4.8							
comp=Z,4.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**24.61**	**352**	*i* P	**P**	**06 03 54.9**	**-0.1**
CMAR				pmax	pmax		
comp=Z,5.0nm,0.8s							
CHTO	**Chiang Mai**	**24.96**	**352**	P	**P**	**06 03 57.6**	**-0.6**
CHTO	**Chiang Mai**	**24.96**	**352**	P	**P**	**06 03 57.6**	**-0.6**
CHTO				pmax	pmax		
comp=Z,10.0nm,1.0s							
PALK	**Pallekele**	**25.30**	**301**	LR	LR	06 13 27.8	
comp=Z,184nm,18.4s,baz=210,slow=36							
FITZ	**Fitzroy Crossi**	**25.72**	**120**	P	**P**	**06 04 05.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**25.72**	**120

WRA Warramunga Arr 34.03 117 P **P** **06 05 18.6 -0.3**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRAB Tennant Creek 34.04 117 P **P** **06 05 18.6 -0.3**
WRAB Tennant Creek 34.04 117 *i* P **P** **06 05 16.9 -2.1**
WRAB pmax pmax
comp=Z,23nm,0.8s
WB2 Warramunga Arr 34.04 117 P **P** **06 05 18.4 -0.6**
WR0 Warramunga Arr 34.22 117 P **P** **06 05 20.2 -0.3**
ASPA Alice Springs 35.06 123 P **P** **06 05 28.2 +0.5**
comp=Z,4.8nm,0.9s,SNR=6.8
AS31 Alice Springs 35.06 123 P **P** **06 05 27.4 -0.3**
ASAR Alice Springs 35.06 123 P **P** **06 05 27.2 -0.6**
ASAR Alice Springs 35.06 123 P **P** **06 05 28.2 +0.5**
comp=Z,8.8nm,0.7s,baz=300,slow=7.9,SNR=69
ASAR PcP **PcP** **06 07 59.3 0.0**
comp=Z,1.3nm,0.8s,baz=312,slow=2.1,SNR=4.6
ASAR LR LR 06 19 21.5
comp=Z,128nm,21.8s,baz=328,slow=36
comp=Z,8.8nm,0.7s
ASAR Alice Springs 35.06 123 P **P** **06 05 27.2 -0.6**
AS01 Alice Springs 35.10 123 P **P** **06 05 28.8 +0.7**
CD2 Chengdu 36.81 2 P **P** **06 05 41.8 -0.8**
CD2 pP pP 06 05 51.0 -0.9
CD2 pmax pmax
comp=Z,20nm,0.5s
LSA Lhasa 37.15 344 P **P** **06 05 45.2 -0.8**
LSA Lhasa 37.15 344 P **P** **06 05 45.2 -0.8**
LSA pmax pmax
comp=Z,10.0nm,0.8s
WHN Wuhan 38.20 17 P **P** **06 05 54.3 0.0**
WHN pP **pP** **06 06 03.3 -0.4**
WHN sP **sP** **06 06 09.5 +2.6**
WHN pmax pmax
comp=Z,48nm,1.1s
OOD Oodnadatta 38.34 128 P **P** **06 05 55.8 +0.2**
QIS Mount Isa 38.92 115 P **P** **06 06 01.3 +0.6**
QIS Mount Isa 38.92 115 P **P** **06 06 01.2 +0.5**
comp=Z,25nm,1.0s,SNR=5.2
XAN Xi'an 40.39 8 P **P** **06 06 10.8 -1.8**
XAN pP pP 06 06 20.5 -1.5
XAN pmax pmax
comp=Z,31nm,1.0s
XAN pmax pmax
comp=Z,96nm,3.9s
XAN LR LR
comp=Z,300nm,15.3s
XAN LR LR
comp=Z,270nm,13.9s
XAN LR LR
comp=Z,580nm,16.7s
COEN Coen 40.95 104 P **P** **06 06 19.3 +1.7**
COEN Coen 40.95 104 P **P** **06 06 16.7 -0.8**
COEN IAmb IAmb 06 06 18.0
comp=Z,24nm,1.0s
COEN Coen 40.95 104 P **P** **06 06 17.3 -0.2**
comp=Z,32nm,0.9s,SNR=4.8
NJ2 Nanjing 41.07 22 *e*P **P** **06 06 21.8 +3.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
LCRK Leigh Creek 41.53 130 P **P** **06 06 23.6 +1.5**
LYN LuoYang 41.54 13 *e*P **P** **06 06 20.5 -1.5**
LYN sP pP 06 06 32.0 +0.6
LYN PcP **PcP** **06 08 20.5 +1.4**
LYN pmax pmax
comp=Z,43nm,1.1s
LYN pmax pmax
comp=Z,120nm,3.8s
LYN LR LR
comp=Z,580nm,17.5s
LYN LR LR
comp=Z,260nm,14.4s
LYN LR LR
comp=Z,380nm,16.5s
LZH Lanzhou 41.97 2 *e*P **P** **06 06 26.3 +0.6**
LZH sP pP 06 06 35.8 +0.7
LZH pmax pmax
comp=Z,20nm,1.1s
LZH LR LR
comp=Z,440nm,12.9s
LZH LR LR
comp=Z,320nm,13.7s
LZH LR LR
comp=Z,350nm,14.8s
INKA Innaminka 42.35 125 P **P** **06 06 30.9 +2.1**
MTSU Mount Surprise 42.68 110 P **P** **06 06 33.2 +1.5**
TIA Tai'an 44.31 17 P **P** **06 06 43.3 -1.1**
TIA pmax pmax
comp=Z,5.0nm,0.8s
PMG Port Moresby 44.55 97 P **P** **06 06 46.0 -0.7**
PMG Port Moresby 44.55 97 *ce*P **P** **06 06 46.4 -0.3**
PMG pmax pmax
comp=Z,19nm,0.8s
STKA Stephens Creek 44.76 130 P **P** **06 06 48.5 +0.3**
STKA Stephens Creek 44.76 130 P **P** **06 06 48.1 -0.1**
STKA Stephens Creek 44.76 130 P **P** **06 06 49.2 +1.0**
comp=Z,5.5nm,1.2s,SNR=2.9
STKA Stephens Creek 44.76 130 P **P** **06 06 49.2 +1.0**
comp=Z,16nm,0.7s,baz=302,slow=8.6,SNR=33
comp=Z,16nm,0.7s
STKA Stephens Creek 44.76 130 P **P** **06 06 48.1 -0.1**
STKA pmax pmax
comp=Z,4.0nm,0.8s
QLP Quilpie 44.82 122 P **P** **06 06 50.7 +1.9**
QLP Quilpie 44.82 122 P **P** **06 06 50.4 +1.6**
comp=Z,56nm,0.8s,SNR=6.4
CTA Charters Tower 44.86 112 P **P** **06 06 50.2 +1.0**
CTA pmax pmax
comp=Z,2.0nm,1.1s
CTAO Charters Tower 44.86 112 P **P** **06 06 50.5 +1.3**
CTAO Charters Tower 44.86 112 P **P** **06 06 48.7 -0.5**
CTAO IAmb IAmb 06 06 51.2
comp=Z,22nm,1.0s
CTAO Charters Tower 44.86 112 P **P** **06 06 48.7 -0.5**
CTAO pmax pmax
comp=Z,22nm,1.0s
TV1H Townsville Har 45.20 111 P **P** **06 06 53.2 +1.4**
GTA Gaotai 45.32 357 P **P** **06 06 53.0 +0.4**
GTA pP pP 06 07 03.3 +1.2
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA LR LR
comp=Z,150nm,15.9s
GTA LR LR
comp=Z,290nm,16.7s
GTA LR LR
comp=Z,210nm,16.3s
BTO Baotou 46.99 8 *e*P **P** **06 07 06.5 +0.8**
BTO pP **pP** **06 07 14.0 -1.2**
BTO sP **sP** **06 07 19.5 +0.7**
BTO S **S** **06 13 57.5 +2.4**
BTO SS **SS** **06 17 22.5 0.0**
BTO pmax pmax
comp=Z,34nm,0.9s
BTO pmax pmax
comp=Z,130nm,4.5s
BTO LR LR
comp=Z,260nm,6.8s
BTO LR LR
comp=Z,650nm,14.3s
BTO LR LR
comp=Z,150nm,8.5s
HHC Hu-ho-hao-te 47.47 10⇑ *i*P **P** **06 07 10.3 +0.9**
HHC sP pP 06 07 20.3 +1.4
HHC pmax pmax
comp=Z,26nm,0.9s
HHC pmax pmax
comp=Z,64nm,4.2s
HHC LR LR
comp=Z,190nm,14.9s
HHC LR LR
comp=Z,160nm,13.6s
HHC LR LR
comp=Z,160nm,13.5s
JNU Nakatsue 47.50 33 P **P** **06 07 08.7 -1.0**
JNU IAmb IAmb 06 07 24.6
comp=Z,7.2nm,0.9s
BJT Baijiatuau 47.62 14 P **P** **06 07 10.5 0.0**
BJT Baijiatuau 47.62 14 P **P** **06 07 10.2 -0.3**
BJT IAmb IAmb 06 07 11.1
comp=Z,12nm,1.1s
BJT Baijiatuau 47.62 14 P **P** **06 07 10.2 -0.3**
BJT pmax pmax
comp=Z,12nm,1.1s
CMSA Cobar Meteorol 47.79 128 P **P** **06 07 13.6 +1.5**
CMSA Cobar Meteorol 47.79 128 P **P** **06 07 13.4 +1.4**
comp=Z,42nm,0.8s,SNR=6.1
NIL Nilore 48.15 327 P **P** **06 07 14.1 -0.7**
NIL IAmb IAmb 06 07 15.3
comp=Z,12nm,0.8s
NIL Nilore 48.15 327 P **P** **06 07 14.1 -0.7**
NIL pmax pmax
comp=Z,12nm,0.9s
KSAR Wonju Array Be 49.44 27 P **P** **06 07 24.2 -0.3**
KSAR Wonju Array Be 49.44 27 P **P** **06 07 24.2 -0.3**
KSRS Korea Array 49.47 27 P **P** **06 07 24.1 -0.6**
comp=Z,4.1nm,1.0s,baz=211,slow=44,SNR=14
comp=Z,4.1nm,1.0s
AUDCS Dubbo College 50.37 127 P **P** **06 07 33.0 +1.2**
EIDS Eidsvold 50.38 118 P **P** **06 07 33.0 +1.0**
EIDS Eidsvold 50.38 118 P **P** **06 07 31.1 -0.9**
JCJ Chichijima 50.76 48 LR LR 06 28 50.6
comp=Z,29nm,21.1s,baz=166,slow=36
YNG Young 50.96 130 P **P** **06 07 37.8 +1.6**
YNG Young 50.96 130 P **P** **06 07 37.8 +1.6**
comp=Z,68nm,0.3s,SNR=2.1
KBL Kabul 51.16 324 P **P** **06 07 37.2 -0.7**
KBL Kabul 51.16 324 P **P** **06 07 37.2 -0.7**
KBL pmax pmax
comp=Z,6.0nm,0.9s
XLT XiLinHaoTe 51.28 13 *e*P **P** **06 07 39.0 +0.5**
XLT pmax pmax
comp=Z,17nm,0.8s
XLT pmax pmax
comp=Z,57nm,4.3s
WMQ Urumqi 51.40 346 *e*P **P** **06 07 40.5 +1.2**
WMQ pmax pmax
comp=Z,29nm,1.1s
KSH Kashi 51.48 334 P **P** **06 07 39.0 -1.1**
KSH pP pP 06 07 45.0 -4.6
KSH pmax pmax
comp=Z,18nm,0.7s
AUPHS Peel High Scho 51.81 125 P **P** **06 07 44.3 +1.7**
CAN Canberra 51.81 131 P **P** **06 07 44.7 +2.1**
CAN Canberra 51.81 131 P **P** **06 07 41.8 -0.8**
CAN IAmb IAmb 06 07 45.2
comp=Z,17nm,0.9s
CAN Canberra 51.81 131 P **P** **06 07 43.2 +0.6**
comp=Z,24nm,1.0s,SNR=2.7
CAN Canberra 51.81 131 P **P** **06 07 41.8 -0.8**
CAN pmax pmax
comp=Z,17nm,0.9s
AUWSH Wavell State H 52.58 120 P **P** **06 07 50.0 +1.6**
NRN Naryn 53.06 335 P **P** **06 07 51.9 -0.1**
NRN IAmb IAmb 06 07 53.0
comp=Z,13nm,1.1s
NRN Naryn 53.06 335 P **P** **06 07 51.9 -0.1**
NRN pmax pmax
comp=Z,13nm,1.1s
SHLS Shalkode 53.20 339 *e*P **P** **06 07 51.2 -1.6**
comp=Z,3.6nm,0.4s,baz=340
SHLS Shalkode 53.20 339 *e*P **P** **06 07 51.2 -1.6**
SHLS pmax pmax
comp=Z,4.0nm,0.4s
UZB Uzynbulak 53.35 339 *e*P **P** **06 07 53.6 -0.3**
comp=Z,3.9nm,0.5s,baz=339
UZB Uzynbulak 53.35 339 *e*P **P** **06 07 53.6 -0.3**
UZB pmax pmax
comp=Z,4.0nm,0.5s
DRK Karamyk 53.38 331 P **P** **06 07 53.8 -0.6**
DRK IAmb IAmb 06 08 05.0
comp=Z,13nm,1.0s
DRK Karamyk 53.38 331 P **P** **06 07 53.8 -0.6**
DRK pmax pmax
comp=Z,13nm,1.0s
SATY Saty 53.50 338 *e*P **P** **06 07 54.3 -0.8**
comp=Z,5.5nm,0.6s,baz=338
SATY Saty 53.50 338 *e*P **P** **06 07 54.2 -0.8**
SATY pmax pmax
comp=Z,6.0nm,0.6s
OHH Osh 53.73 332 P **P** **06 07 57.3 +0.6**
OHH pmax pmax
comp=Z,16nm,1.4s
KPKS Kokpek 53.75 339 *e*P **P** **06 07 56.2 -0.7**
baz=339
KPKS Kokpek 53.75 339 *e*P **P** **06 07 56.1 -0.7**
SONM Songino Array 53.80 3 P **P** **06 07 57.5 +0.4**
SONM IAmb IAmb 06 07 59.2
comp=Z,12nm,0.8s
SONM Songino Array 53.80 3 P **P** **06 07 57.7 +0.6**
comp=Z,12nm,0.8s,baz=184,slow=8.7,SNR=43
SONM PcP **PcP** **06 09 03.3 +0.6**
comp=Z,6.5nm,0.6s,baz=181,slow=5.1,SNR=7.5
SONM LR LR 06 32 35.8
comp=Z,58nm,19.5s,baz=239,slow=38
comp=Z,12nm,0.8s
SONM Songino Array 53.80 3 P **P** **06 07 57.5 +0.4**
SONM pmax pmax
comp=Z,12nm,0.8s
ULN Ulaanbaatar 53.88 4 P **P** **06 07 58.0 +0.4**
ULN IAmb IAmb 06 07 59.1
comp=Z,9.6nm,0.9s
ULN Ulaanbaatar 53.88 4 *ce*P **P** **06 07 58.3 +0.6**
ULN pmax pmax
comp=Z,12nm,1.0s
CN2 Changchun 53.88 21 *e*P **P** **06 07 56.0 -1.6**
CN2 *e*S **S** **06 15 28.0 -2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,70nm,11.0s
CN2 LR LR
comp=Z,100nm,11.0s
TNSS Tian-Shan 54.03 337 *e*P **P** **06 07 58.3 -0.9**
baz=337
TNSS Tian-Shan 54.03 337 *e*P **P** **06 07 58.3 -0.9**
CHGR Chuyangaron 54.09 328 P **P** **06 07 58.5 -0.9**
CHGR IAmb IAmb 06 07 59.4
comp=Z,17nm,1.1s
CHGR Chuyangaron 54.09 328 P **P** **06 07 58.5 -0.9**
CHGR pmax pmax
comp=Z,17nm,1.1s
MDOK Medeo 54.10 337 *e*P **P** **06 07 58.9 -0.5**
baz=337
MDOK Medeo 54.10 337 *e*P **P** **06 07 58.9 -0.5**
ARSB Arslanbob 54.28 333 P **P** **06 08 01.1 +0.3**
ARSB IAmb IAmb 06 08 02.0
comp=Z,5.8nm,0.8s
ARSB Arslanbob 54.28 333 P **P** **06 08 01.1 +0.3**
ARSB pmax pmax
comp=Z,6.0nm,0.8s
BTK Batken 54.30 330 P **P** **06 08 01.0 +0.1**
BTK IAmb IAmb 06 08 02.2
comp=Z,9.3nm,1.0s
BTK Batken 54.30 330 P **P** **06 08 01.0 +0.1**
BTK pmax pmax
comp=Z,9.0nm,1.0s
UCH Uchtor 54.34 335 P **P** **06 08 02.0 +0.4**
SNR=5.8
TKM2 Tokmak 2 54.47 336 P **P** **06 08 02.5 +0.3**
SNR=8.7
AML Almayashu 54.61 334 P **P** **06 08 03.6 +0.1**
SNR=7.1
AAK Ala-Archa 54.68 335 LR LR 06 35 08.6
comp=Z,82nm,18.1s,baz=151,slow=40
AAK Ala-Archa 54.68 335 *ce*P **P** **06 08 03.7 0.0**
AAK pmax pmax
comp=Z,3.0nm,1.0s
CHKK Chushkaly 54.71 338 *e*P **P** **06 08 03.0 -0.7**
baz=338
CHKK Chushkaly 54.71 338 *e*P **P** **06 08 03.0 -0.7**
EKS2 Erkin-Say 55.01 335 P **P** **06 08 07.0 +1.0**
SNR=12
ARK Arkit 55.12 333 P **P** **06 08 07.1 +0.3**
ARK pmax pmax
comp=Z,7.0nm,0.6s
USP Ospenovka 55.20 335 P **P** **06 08 07.4 +0.1**
SNR=5.6
SGDS Sogindy 55.30 336 *e*P **P** **06 08 07.3 -0.8**
comp=Z,5.4nm,0.7s,baz=336
SGDS Sogindy 55.30 336 *e*P **P** **06 08 07.2 -0.8**
SGDS pmax pmax
comp=Z,5.0nm,0.7s
ZSN Zaisan 55.48 346 *e*P **P** **06 08 08.7 -0.5**
comp=Z,7.9nm,0.7s,baz=346
ZSN Zaisan 55.48 346 *e*P **P** **06 08 08.7 -0.5**
ZSN pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 55.56 343 P **P** **06 08 09.9 +0.2**
MK31 IAmb IAmb 06 08 11.0
comp=Z,9.1nm,1.0s
MK31 Makanchi Array 55.56 343 P **P** **06 08 09.9 +0.2**
MK31 pmax pmax
comp=Z,9.0nm,1.0s
MKAR Makanchi Array 55.56 343 P **P** **06 08 09.6 -0.2**
MKAR Makanchi Array 55.56 343 P **P** **06 08 09.8 +0.1**
comp=Z,10.0nm,0.8s,baz=149,slow=7.9,SNR=64
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 55.56 343 P **P** **06 08 09.6 -0.2**
MAKZ Makanchi 55.66 343 P **P** **06 08 10.6 +0.1**
MAKZ Makanchi 55.66 343 P **P** **06 08 10.6 +0.1**
MAKZ pmax pmax
comp=Z,5.0nm,1.0s
ZAK Zakamensk 56.24 1 *e*P **P** **06 08 14.8 +0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
BNX BinXian 56.25 21⇑ P **P** **06 08 14.3 -0.4**
BNX pmax pmax
comp=Z,23nm,1.1s
IUG Iuzhnay 56.29 331 *e*P **P** **06 08 14.2 -1.0**
comp=Z,7.0nm,1.0s,baz=331
IUG Iuzhnay 56.29 331 *e*P **P** **06 08 14.2 -1.0**
IUG pmax pmax
comp=Z,7.0nm,1.0s
CHM Chimkent 56.63 331 *e*P **P** **06 08 16.5 -1.0**
baz=331
CHM Chimkent 56.63 331 *e*P **P** **06 08 16.5 -1.0**
USA0B Ussuriysk Arra 56.75 25 P **P** **06 08 17.9 -0.4**
USA0B IAmb IAmb 06 08 18.2
comp=Z,16nm,1.1s
USA0B Ussuriysk Arra 56.75 25 P **P** **06 08 17.9 -0.4**
USA0B pmax pmax
comp=Z,15nm,1.1s
USRK Ussuriysk Ar. 56.75 25 P **P** **06 08 17.4 -0.9**
USRK Ussuriysk Ar. 56.75 25 P **P** **06 08 17.5 -0.7**
comp=Z,4.7nm,0.7s,baz=222,slow=7.4,SNR=11
comp=Z,4.7nm,0.7s
USRK Ussuriysk Ar. 56.75 25 P **P** **06 08 17.4 -0.9**
KK31 Karatay Array 56.81 333 P **P** **06 08 18.3 -0.4**
KK31 Karatay Array 56.81 333 P **P** **06 08 18.3 -0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 56.81 333 P **P** **06 08 18.4 -0.3**
KKAR Karatay Array 56.81 333 P **P** **06 08 18.4 -0.3**
BTLS Baital 56.85 336 *e*P **P** **06 08 18.0 -1.0**
baz=336
BTLS Baital 56.85 336 *e*P **P** **06 08 17.9 -1.0**
H04N2 CROZET ISLANDS 58.98 219 T T 07 12 33.5
baz=62,slow=75
H04N1 CROZET ISLANDS 58.99 219 T T 07 12 33.9
baz=62,slow=75
H04N3 CROZET ISLANDS 59.00 219 T T 07 12 32.6
baz=62,slow=75
H04S1 CROZET ISLANDS 59.22 218 T T 07 12 54.3
baz=63,slow=75,SNR=490
H04S3 CROZET ISLANDS 59.23 218 T T 07 12 52.6
baz=63,slow=75,SNR=969
H04S2 CROZET ISLANDS 59.24 218 T T 07 12 54.3
baz=63,slow=75,SNR=616
SEM Semipalatinsk 59.41 344 *e*P **P** **06 08 35.7 -1.4**
comp=Z,4.4nm,0.8s,baz=344
SEM Semipalatinsk 59.41 344 *e*P **P** **06 08 35.7 -1.4**
SEM pmax pmax
comp=Z,4.0nm,0.8s
KURBB Kurchatov Arra 60.09 343 P **P** **06 08 41.4 0.0**
comp=Z,7.3nm,0.8s,baz=159,slow=6.6,SNR=27
comp=Z,7.3nm,0.8s
KURK Kurchatov 60.15 343 P **P** **06 08 41.5 -0.4**
KURK IAmb IAmb 06 08 42.7
comp=Z,13nm,0.9s
KURK Kurchatov 60.15 343 *ce*P **P** **06 08 42.0 +0.2**
KURK pmax pmax
comp=Z,19nm,1.3s
HEH HeiHe 60.17 18 *e*P **P** **06 08 41.5 -0.5**
HEH pmax pmax
comp=Z,11nm,0.8s
KLR Kul'dur 60.78 22 LR LR 06 37 06.8
comp=Z,90nm,18.2s,baz=222,slow=38
KLR Kul'dur 60.78 22 *ce*P **P** **06 08 45.7 -0.5**
KLR pmax pmax
comp=Z,11nm,2.5s
ZAA0 Zalesovo Array 61.59 348 P **P** **06 08 51.1 -0.5**
ZALV Zalesovo Beam 61.59 348 P **P** **06 08 50.7 -0.9**
ZALV Zalesovo Beam 61.59 348 P **P** **06 08 51.3 -0.3**
comp=Z,51nm,1.2s,baz=160,slow=4.7,SNR=36
ZALV LR LR 06 38 52.7
comp=Z,71nm,20.2s,baz=140,slow=39
comp=Z,51nm,1.2s
ZALV Zalesovo Beam 61.59 348 *i* P **P** **06 08 51.5 -0.1**
ZALV pmax pmax
comp=Z,48nm,1.2s
ZEA Zeya 63.19 16 *e*P **P** **06 09 02.8 +0.5**
BVA0 Borovoye Array 64.78 339 *i* P **P** **06 09 12.3 -0.5**
BVAR Borovoye Array 64.78 339 P **P** **06 09 12.4 -0.4**
comp=Z,14nm,0.7s,baz=145,slow=8.2,SNR=48
comp=Z,14nm,0.7s
BRVK Borovoye 64.85 339 P **P** **06 09 12.7 -0.5**
BRVK IAmb IAmb 06 09 13.6
comp=Z,7.5nm,0.7s
BRVK Borovoye 64.85 339 *ce*P **P** **06 09 13.0 -0.2**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
FURI Furi 65.14 283 LR LR 06 35 02.5
comp=Z,50nm,18.6s,baz=86,slow=34
AB31 Akbulak array 66.30 331 *i* P **P** **06 09 22.5 -0.1**
ABKAR Akbulak array 66.30 331 P **P** **06 09 22.6 -0.1**
GNI Garni 70.04 317 P **P** **06 09 46.8 +0.2**
comp=Z,12nm,1.0s
SVE Sverdlovsk 71.31 337 *e*P **P** **06 09 54.5 +0.8**
SVE pmax pmax
comp=Z,19nm,1.1s
MBAR Mbarara 71.60 271 LR LR 06 36 50.7
comp=Z,61nm,19.4s,baz=70,slow=32
MARD Mardin 71.67 312 P **P** **06 09 56.8 +0.4**
MARD IAmb IAmb 06 09 58.1
comp=Z,14nm,1.1s
ARU Arti 71.84 336 P **P** **06 09 57.0 +0.1**
ARU IAmb IAmb 06 09 57.9
comp=Z,18nm,1.3s
ARU Arti 71.84 336 *c i*P **P** **06 09 57.1 +0.2**
ARU 06 12 34.9
ARU S **S** **06 19 19.7 +4.7**
ARU SS **SS** **06 23 55.4 +3.5**
ARU pmax pmax
comp=Z,14nm,1.3s
ARU Arti 71.84 336 P **P** **06 09 57.2 +0.3**
comp=Z,11nm,1.1s
KBZ Khabaz 72.87 319 P **P** **06 10 04.1 +0.8**
comp=Z,4.8nm,0.9s,baz=128,slow=6.1,SNR=6.0
comp=Z,4.8nm,0.9s
KBZ Khabaz 72.87 319 *ce*P **P** **06 10 03.1 -0.2**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 73.11 319 *e*P **P** **06 10 01.8 -3.1**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 73.11 319 P **P** **06 10 04.5 -0.4**
comp=Z,9.4nm,0.4s
LBTB Lobatse 75.42 246 LR LR 06 40 34.1
comp=Z,64nm,19.6s,baz=144,slow=33
PET Petropavlovsk 75.58 31 P **P** **06 10 19.7 +0.8**
comp=Z,15nm,1.6s
NRIK Noril'sk 75.94 355 P **P** **06 10 20.4 -0.2**
NRIK IAmb IAmb 06 10 21.1
comp=Z,11nm,1.1s
NRIK Noril'sk 75.94 355 P **P** **06 10 20.0 -0.7**
comp=Z,4.9nm,0.8s,baz=166,slow=5.2,SNR=5.1
comp=Z,4.9nm,0.8s
NRIK Noril'sk 75.94 355 *ce*P **P** **06 10 18.6 -2.0**
NRIK pmax pmax
comp=Z,11nm,1.1s
KIRV Kirov 77.02 335 *ce*P **P** **06 10 28.4 +1.5**
VNDA Vanda 77.74 169 P **P** **06 10 31.4 +0.6**
VNDA Vanda 77.74 169 P **P** **06 10 31.6 +0.8**
comp=Z,2.1nm,0.9s,baz=314,slow=6.2,SNR=11
comp=Z,2.1nm,0.9s
VNDA Vanda 77.74 169 P **P** **06 10 31.4 +0.6**
VNDA pmax pmax
comp=Z,3.0nm,1.1s
BR104 Keskin Array S 77.75 313 P **P** **06 10 31.3 -0.4**
comp=Z,4.0nm,0.9s
BR131 Keskin Array S 77.75 313 P **P** **06 10 31.0 -0.7**
BR131 Keskin Array S 77.75 313 P **P** **06 10 31.0 -0.7**
BR131 pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 77.75 313 P **P** **06 10 31.3 -0.4**
comp=Z,2.6nm,0.8s,baz=131,slow=7.5,SNR=13

comp=Z,2.6nm,0.8s
BRTR Keskin Array B 77.75 313 *i* P **P 06 10 31.7 0.0**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BR105 Keskin Array S 77.77 313 P **P 06 10 31.8 0.0**
comp=Z,4.3nm,0.9s
BR106 Keskin Array S 77.77 313 P **P 06 10 31.3 -0.5**
comp=Z,4.2nm,0.9s,comp=Z,34nm
SEY Seymchan 78.56 21 *ce*P **P 06 10 33.4 -2.0**
SEY pmax pmax
comp=Z,12nm,1.7s
YLV Yalova 81.13 313 P **P 06 10 48.5 -1.5**
comp=Z,19nm,0.9s
KARP Karpathos 81.54 307 P **P 06 10 52.6 +0.4**
comp=Z,31nm,1.0s
KLYT Kilyos 81.55 313 P **P 06 10 52.5 +0.4**
TIRR Tirgusor 82.86 316 P **P 06 10 58.3 -0.6**
TIRR Tirgusor 82.86 316 P **P 06 10 58.3 -0.6**
TIRR Tirgusor 82.86 316 P **P 06 10 57.7 -1.2**
QSPA South Pole Qui 83.91 180 P **P 06 11 04.6 +0.6**
comp=Z,5.2nm,0.8s,baz=304,slow=3.6,SNR=16
comp=Z,5.2nm,0.8s
AK09 Malin Array Si 84.03 322 P **P 06 11 04.9 +0.1**
AK10 Malin Array Si 84.05 322 P **P 06 11 05.1 +0.3**
AKASG Malin Array Be 84.09 322 P **P 06 11 04.7 -0.3**
comp=Z,0.5nm,0.3s,baz=91,slow=4.6,SNR=6.3
comp=Z,0.5nm,0.3s
AKASG Malin Array Be 84.09 322 *i* P **P 06 11 04.9 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 84.09 322 *e*P **P 06 11 04.5 -0.6**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
AK18 Malin Array Si 84.20 322 P **P 06 11 05.5 -0.1**
AK22 Malin Array Si 84.20 322 P **P 06 11 05.2 -0.4**
LUBAR Lubar, Ukraine 84.78 321 P **P 06 11 09.0 +0.4**
MLR Muntele Rosu 84.82 317 P **P 06 11 08.8 -0.3**
MLR IAmb IAmb 06 11 29.9
comp=Z,9.3nm,1.1s
MLR Muntele Rosu 84.82 317 P **P 06 11 08.8 -0.3**
MLR pmax pmax
comp=Z,9.0nm,1.1s
BURAR Bucovina Array 85.82 319 P **P 06 11 14.4 +0.4**
BURAR IAmb IAmb 06 11 16.8
comp=Z,3.4nm,0.7s
BURAR Bucovina Array 85.82 319 P **P 06 11 14.4 +0.4**
BURAR pmax pmax
comp=Z,3.0nm,0.7s
BUR08 Bucovina Ar. S 85.84 319 P **P 06 11 14.2 +0.2**
BUR08 IAmb IAmb 06 11 16.6
comp=Z,4.2nm,0.8s
TROLL Troll, Antarti 87.27 198 ⇑P **P 06 11 22.4 +1.7**
comp=Z,124nm,0.7s
VSU Vasula 87.66 329 *ce*P **P 06 11 22.0 -0.5**
VSU pmax pmax
comp=Z,13nm,1.7s
KOLS Kolonicke sedl 88.02 319 *e*P **P 06 11 26.7 +2.2**
KOLS pmax pmax
comp=Z,15nm,0.7s
KOLS Kolonicke sedl 88.02 319 *e*P **P 06 11 26.7 +2.2**
SUW Suwalki 88.52 325 P **P 06 11 26.4 -0.3**
SUW Suwalki 88.52 325 P **P 06 11 26.4 -0.3**
SUW pmax pmax
comp=Z,26nm,1.0s
FIA1 FINESS Array S 88.77 332 P **P 06 11 28.2 +0.5**
FINES FINESS Array B 88.77 332 P **P 06 11 28.4 +0.7**
comp=Z,2.1nm,0.6s,baz=120,slow=5.0,SNR=9.4
FINES LR LR 06 55 26.6
comp=Z,44nm,18.7s,baz=116,slow=38
comp=Z,2.1nm,0.6s
KIWB Kanaga Island 88.93 38 P **P 06 11 28.3 -0.4**
SNAA Sanae 88.99 198 P **P 06 11 30.7 +1.9**
SNAA IAmb IAmb 06 11 32.7
comp=Z,6.7nm,1.0s
SNAA Sanae 88.99 198 ⇑P **P 06 11 31.3 +2.6**
comp=Z,103nm,0.9s
SNAA Sanae 88.99 198 *ce*P **P 06 11 30.1 +1.3**
SNAA pmax pmax
comp=Z,19nm,2.5s
VNA2 Neumayer--Watz 90.62 198 ⇑P **P 06 11 38.4 +2.0**
comp=Z,2.1nm,0.6s,baz=99,slow=3.7
VNA1 Neumayer--Stat 90.99 198 ⇑P **P 06 11 38.8 +0.8**
comp=Z,2.0nm,0.2s
ARCES ARCESS Array B 91.06 340 P **P 06 11 38.4 0.0**
comp=Z,2.3nm,0.9s,baz=98,slow=5.6,SNR=3.7
comp=Z,2.3nm,0.9s
GERES GERESS Array B 93.61 319 P **P 06 11 51.1 +0.4**
comp=Z,0.4nm,0.4s,baz=106,slow=7.2,SNR=2.0
comp=Z,0.4nm,0.4s
CLL Collm 94.26 321 *e*P **P 06 11 53.0 -0.4**
HFS Hagfors 94.53 330 P **P 06 11 53.0 -1.5**
comp=Z,1.2nm,0.8s,baz=103,slow=6.2,SNR=2.0
HFS LR LR 06 59 53.3
comp=Z,32nm,18.4s,baz=83,slow=39
comp=Z,1.2nm,0.8s
HFS Hagfors 94.53 330 P **P 06 11 53.0 -1.5**
NVAR Mina Array Bea 131.16 43 PKP **PKPdf 06 17 47.3 +0.4**
comp=Z,0.2nm,0.6s,baz=289,slow=2.8,SNR=2.5
ULM Lac du Bonnet 133.41 16 PKP **PKPdf 06 17 51.2 +0.7**
comp=Z,6.2nm,0.9s,baz=27,slow=4.4,SNR=3.2
PDAR Pinedale Array 133.88 33 PKP **PKPdf 06 17 52.4 +0.5**
comp=Z,0.2nm,0.6s,baz=291,slow=0.8,SNR=2.6
BDFB Brasilia 143.53 233 PKP PKPbc 06 18 08.9 +1.5
comp=Z,1.3nm,0.6s,baz=129,slow=6.5,SNR=3.4
VHRN Van Horn 144.51 43 PKPdf **PKPdf 06 18 11.4 -0.1**
ODSA Odessa 145.22 39 **PKPdf 06 18 13.4 +0.8**
WMOK Wichita Mounta 145.47 32 **PKPbc 06 18 12.3 -0.6**
WMOK Wichita Mounta 145.47 32 PKIKP **PKPbc 06 18 12.3 -0.6**
TXAR Lajitas Array 146.30 44 PKPbc **PKPab 06 18 16.7 +0.2**
comp=Z,4.3nm,0.7s,baz=302,slow=1.7,SNR=71
LPAZ La Paz 155.84 203 PKPab **PKPab 06 18 58.1 +1.5**
comp=Z,1.2nm,0.7s,baz=135,slow=4.3,SNR=5.7

IDC 26 06:28:44.5±8.5, 17°.10S×178°.97W, h650km±97km, mb3.0/5, mbtmp4.0/5, Error ellipse: s-maj=180.8km s-min=26.9km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.26**	**259**	P	P	06 35 59.4	+0.1
	1.2nm,0.3s,baz=94,slow=7.4,SNR=53						
WRA				PcP	PcP	06 37 28.8	-0.1
	0.2nm,0.4s,baz=102,slow=2.6,SNR=2.0						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**44.50**	**253**	P	P	06 36 01.1	0.0
	5.0nm,0.5s,baz=87,slow=8.8,SNR=79						
ASAR				PcP	PcP	06 37 29.4	-0.3
	0.3nm,0.6s,baz=95,slow=5.7,SNR=2.2						
	5.0nm,0.5s						
NVAR	**Mina Array Bea**	**79.22**	**44**	P	P	06 39 44.8	+0.2
	0.5nm,0.7s,baz=218,slow=5.6,SNR=4.3						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**86.02**	**58**	P	P	06 40 18.6	0.0
	0.6nm,0.8s,baz=220,slow=6.7,SNR=9.1						
	0.6nm,0.8s						
PDAR	**Pinedale Array**	**87.14**	**44**	P	P	06 40 23.8	0.0
	0.4nm,0.7s,baz=214,slow=3.1,SNR=3.7						
	0.4nm,0.7s						

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*IDC **26** 06:44:20.4±1.9, 40°.62N×23°.81E, h0km, mb3.4/3, mbtmp3.3/4, ML2.6/1, Error ellipse: s-maj=62.8km s-min=26.1km az=153.0*
*ISK **26** 06:44:24.9, 37°.66N×26°.70E, h11km, ML3.3/31*
*AFAD **26** 06:44:25.5±0.0, 37°.67N×26°.71E, h7km±2km, MW3.4*
*ATH **26** 06:44:26.0, 37°.69N×26°.69E, h9km±2km, ML3.5/3, Error ellipse: s-maj=2.7km s-min=0.8km az=72.0*
*THE **26** 06:44:26.3, 37°.69N×26°.70E, h0km, ML3.2/7, Error ellipse: s-maj=0.9km s-min=0.5km az=206.0*
ISC 26 06:44:25.8±0.8, 37°.69N±0°.02×26°.75E±0°.02, h15km±5km, n91, σ0.82/119, mb3.2/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.07**	**79**	P	**Pg**	**06 44 28.9**	**-0.1**
SMG				S	**Sg**	**06 44 31.0**	**+0.1**
	43μm,0.2s						
SMG	**Samos**	**0.07**	**79**	P	**Pg**	**06 44 28.8**	**-0.1**
SMG				S	**Sg**	**06 44 30.7**	**-0.2**
SMG				AML	AML	06 44 31.4	
	comp=E,69321μm,0.2s						
SMG				AML	AML	06 44 31.4	
DGB	**zmir**	**0.37**	**17**	P	**Pg**	**06 44 33.5**	**+0.1**
DGB				S	**Sb**	**06 44 39.8**	**+0.1**
DGB				*i* AML	AML	06 44 42.0	
	comp=E,2μm,0.3s						
DGB				*i* AML	AML	06 44 43.0	
	comp=E,1μm,0.4s						
GCAM	**G?zelcaml?**	**0.39**	**89**	Pg	**Pg**	**06 44 33.9**	**+0.3**
GCAM				Sg	**Sb**	**06 44 39.8**	**-0.3**
GCAM	**G?zelcaml?**	**0.39**	**89**	P	**Pg**	**06 44 34.0**	**+0.3**
GCAM				S	**Sb**	**06 44 40.2**	**+0.2**
GCAM				*i* AML	AML	06 44 43.0	
	comp=E,1μm,0.7s						
GCAM				*i* AML	AML	06 44 44.0	
	comp=E,1μm,0.6s						
GMLD	**Gumuldur**	**0.41**	**19**	Pg	**Pg**	**06 44 34.2**	**+0.2**
GMLD				Sg	**Sb**	**06 44 40.5**	**-0.1**
DDIM	**Aydin, Didim**	**0.46**	**121**	P	**Pg**	**06 44 35.0**	**0.0**
DDIM				S	**Sn**	**06 44 45.1**	**-0.6**
DDIM				*i* AML	AML	06 44 46.0	
	comp=E,3μm,0.4s						
DDIM				*i* AML	AML	06 44 46.0	
	comp=E,2μm,0.4s						
DIDI	**Didim-Aydin**	**0.51**	**129**	Pg	**Pg**	**06 44 35.6**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**0.58**	**341**	P	**Pg**	**06 44 37.0**	**-0.2**
ZEYE				S	**Sb**	**06 44 45.8**	**+0.2**
ZEYE				*i* AML	AML	06 44 47.0	
	comp=E,4μm,0.3s						
ZEYE				*i* AML	AML	06 44 47.0	
	comp=E,2μm,0.4s						
URLA	**Izmir**	**0.68**	**350**	Pg	**Pg**	**06 44 38.9**	**-0.2**
URLA				Sg	**Sb**	**06 44 49.2**	**+0.8**
URLA	**Izmir**	**0.68**	**350**	P	**Pg**	**06 44 38.9**	**-0.2**
URLA				S	**Sb**	**06 44 48.8**	**+0.4**
URLA				*i* AML	AML	06 44 51.0	
	comp=E,2μm,0.3s						
URLA				*i* AML	AML	06 44 52.0	
	comp=E,2μm,0.5s						
YKAV	**Yalikavak-Bodr**	**0.71**	**143**	Pg	**Pg**	**06 44 39.3**	**-0.4**
YKAV				Sg	**Sb**	**06 44 49.5**	**+0.1**
CESE	**eme**	**0.73**	**331**	Pg	**Pg**	**06 44 39.6**	**-0.4**
CESE				Sg	**Sb**	**06 44 50.3**	**+0.4**
KLNA	**Kalymnos**	**0.76**	**166**	P	**Pg**	**06 44 40.5**	**-0.1**
KLNA				S	**Sb**	**06 44 51.6**	**+0.9**
BODT	**Bodrum**	**0.78**	**144**	Pg	**Pg**	**06 44 40.4**	**-0.5**
BODT	**Bodrum**	**0.78**	**144**	P	**Pg**	**06 44 41.0**	**+0.1**
BODT				S	**Sn**	**06 44 53.6**	**+0.1**
BDRM	**Kayabasi**	**0.84**	**138**	P	**Pb**	**06 44 39.8**	**-2.2**
BDRM				*i* AML	AML	06 44 56.0	
	comp=E,451nm,0.5s						
CHOS	**Chios island**	**0.88**	**322**	P	**Pg**	**06 44 42.9**	**0.0**
CHOS				S	**Sn**	**06 44 55.9**	**-0.3**
	comp=E,3μm,0.4s						
CHOS	**Chios island**	**0.88**	**322**	P	**Pb**	**06 44 42.1**	**-0.7**
CHOS				S	**Sb**	**06 44 54.2**	**-0.2**
MLSB	**Milas**	**0.91**	**116**	Pg	**Pb**	**06 44 43.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.94**	**74**	Pg	**Pn**	**06 44 44.4**	**-0.1**
KARB	**zmir-Karabur**	**1.00**	**345**	P	**Pb**	**06 44 44.7**	**-0.2**
KARB				*i* AML	AML	06 44 59.0	
	comp=E,223nm,0.6s						
KARB				*i* AML	AML	06 44 59.0	
	comp=E,335nm,0.4s						
KARB				S	**Sn**	**06 44 59.4**	**+0.3**
FOCM	**Foa**	**1.02**	**359**	Pg	**Pg**	**06 44 45.2**	**-0.3**
NISR	**Nisiros**	**1.12**	**164**	P	**Pg**	**06 44 47.9**	**+0.4**
NISR				S	**Sg**	**06 45 04.4**	**+2.3**
	comp=E,740nm,0.5s						
NISR	**Nisiros**	**1.12**	**164**	P	**Pn**	**06 44 47.1**	**+0.2**
APE	**Apeiranthos**	**1.15**	**238**	Pn	**Pn**	**06 44 46.3**	**-1.1**
APE	**Apeiranthos**	**1.15**	**238**	P	**Pn**	**06 44 47.1**	**-0.3**
APE				S	**Sg**	**06 45 04.0**	**+0.9**
	comp=E,588nm,0.4s						
APE	**Apeiranthos**	**1.15**	**238**	P	**Pn**	**06 44 46.0**	**-1.3**
APE				S	**Sb**	**06 45 01.9**	**-0.3**
APE				AML	AML	06 45 06.8	
	comp=E,1192μm,0.4s						
APE				AML	AML	06 45 10.6	
	comp=N,1431μm,0.3s						
YAZI	**Mula-Dat§a-**	**1.16**	**151**	P	**Pn**	**06 44 46.5**	**-0.9**
DAT	**Datca**	**1.17**	**145**	Pn	**Pn**	**06 44 47.5**	**-0.2**
DAT	**Datca**	**1.17**	**145**	P	**Pn**	**06 44 46.7**	**-1.0**
DAT	**Datca**	**1.17**	**145**	P	**Pb**	**06 44 48.0**	**+0.2**
DATC	**Datca-Mugla**	**1.19**	**142**	Pn	**Pn**	**06 44 47.7**	**-0.1**
NAZL	**Nazilli-Aydin**	**1.25**	**77**	Pn	**Pn**	**06 44 48.8**	**0.0**
CAND	**Candarli**	**1.26**	**2**	Pn	**Pb**	**06 44 49.4**	**+0.2**
PSRA	**Psara**	**1.26**	**313**	P	**Pn**	**06 44 48.8**	**+0.1**
PSRA				S	**Sn**	**06 45 05.5**	**+0.1**
MULA	**Mugla, Merkez-**	**1.33**	**109**	P	**Pn**	**06 44 49.7**	**-0.2**
GOMA	**Golmarmara-Man**	**1.37**	**42**	Pn	**Pb**	**06 44 51.5**	**+0.4**
DKL	**Dikili**	**1.38**	**5**	Pn	**Pb**	**06 44 51.2**	**-0.1**
KIRA	**zmir-Kiraz**	**1.40**	**69**	P	**Pn**	**06 44 49.8**	**-1.1**
AKS	**Akhisar**	**1.45**	**35**	Pn	**Pb**	**06 44 52.4**	**-0.1**
MRSB	**Marmaris-Mugla**	**1.52**	**130**	Pn	**Pn**	**06 44 52.9**	**+0.6**
SOMA	**Soma-Manisa**	**1.59**	**23**	Pn	**Pb**	**06 44 54.5**	**-0.3**
PRK	**Paraskevi**	**1.59**	**347**	P	**Pb**	**06 44 54.5**	**-0.4**
PRK				S	**Sg**	**06 45 16.7**	**-0.5**
PRK	**Paraskevi**	**1.59**	**347**	P	**Pn**	**06 44 53.5**	**+0.1**
PRK				AML	AML	06 45 24.1	
	comp=N,4005μm,0.5s						
PRK				AML	AML	06 45 24.4	
	comp=E,4382μm,0.7s						
CMBO	**Columbo, Santo**	**1.62**	**222**	P	**Pn**	**06 44 54.6**	**+0.8**
THR8	**Santorini-Mono**	**1.64**	**219**	P	**Pb**	**06 44 55.7**	**+0.1**
SNT1	**Gialos, Santor**	**1.66**	**229**	P	**Pb**	**06 44 55.2**	**-0.7**
SIGR	**SIGRI**	**1.67**	**336**	Pn	**Pn**	**06 44 54.9**	**+0.5**
SIGR	**SIGRI**	**1.67**	**336**	P	**Pn**	**06 44 55.1**	**+0.7**
SIGR				S	**Sg**	**06 45 18.9**	**-0.6**
	comp=E,562nm,0.6s						
THR3	**Thira Island,**	**1.67**	**220**	P	**Pb**	**06 44 55.5**	**-0.8**
SANT	**Santorini**	**1.68**	**218**	Pn	**Pn**	**06 44 54.3**	**-0.2**
SAP3	**Santorini-Thir**	**1.68**	**222**	P	**Pb**	**06 44 55.7**	**-0.7**
SAP3				S	**Sg**	**06 45 19.1**	**-0.9**
THR5	**Thira Island,**	**1.70**	**222**	P	**Pn**	**06 44 55.4**	**+0.6**
KULA	**Kula-Manisa**	**1.72**	**61**	Pn	**Pb**	**06 44 56.3**	**-0.8**
KULA	**Kula-Manisa**	**1.72**	**61**	P	**Pb**	**06 44 57.3**	**+0.2**
KULA				S	**Sg**	**06 45 21.0**	**-0.2**
GPNR	**Gulpinar-Canak**	**1.82**	**345**	Pn	**Pn**	**06 44 57.3**	**+0.8**
ARG	**Arkhangelos**	**1.84**	**143**	Pn	**Pn**	**06 44 56.9**	**+0.1**
ARG	**Arkhangelos**	**1.84**	**143**	P	**Pb**	**06 44 58.7**	**-0.5**
APMY	**Acipayam-Deniz**	**2.04**	**95**	Pn	**Pn**	**06 45 00.7**	**+1.0**
MHLO	**Agia Marina, M**	**2.12**	**243**	P	**Pn**	**06 45 01.9**	**+1.2**
FETY	**Fethiye**	**2.15**	**119**	Pn	**Pn**	**06 45 02.0**	**+1.0**
EZN	**Ezine**	**2.15**	**351**	Pn	**Pn**	**06 45 02.1**	**+1.0**
EZN	**Ezine**	**2.15**	**351**	P	**Pn**	**06 45 02.6**	**+1.5**
KARP	**Karpathos**	**2.17**	**171**	Pn	**Pn**	**06 45 01.5**	**+0.2**
KARP	**Karpathos**	**2.17**	**171**	P	**Pn**	**06 45 00.7**	**-0.6**
CAME	**Cameli-Denizli**	**2.17**	**109**	Pn	**Pn**	**06 45 02.4**	**+0.9**
SIMA	**Simav-Kutahya**	**2.24**	**51**	Pn	**Pn**	**06 45 03.7**	**+1.3**
DION	**Dionisos Attik**	**2.26**	**281**	P	**Pn**	**06 45 03.5**	**+0.9**
DION	**Dionisos Attik**	**2.26**	**281**	P	**Pn**	**06 45 02.4**	**-0.2**
YENI	**Yenice-Canakka**	**2.27**	**10**	Pn	**Pn**	**06 45 03.9**	**+1.2**
PTL	**Penteli**	**2.31**	**280**	P	**Pn**	**06 45 02.8**	**-0.4**
VLY	**Voula,Athens**	**2.34**	**275**	P	**Pn**	**06 45 03.7**	**0.0**
VLY	**Voula,Athens**	**2.34**	**275**	P	**Pn**	**06 45 03.5**	**-0.3**
ATHU	**Athens Univers**	**2.36**	**278**	P	**Pn**	**06 45 03.7**	**-0.2**
LIA	**Limnos Island**	**2.52**	**331**	P	**Pn**	**06 45 07.3**	**+1.2**
LIA				S	**Sb**	**06 45 38.9**	**-2.5**
	comp=E,265nm,0.8s						
LIA	**Limnos Island**	**2.52**	**331**	P	**Pn**	**06 45 06.2**	**+0.1**
ZKR	**Zakros**	**2.61**	**190**	P	**Pn**	**06 45 08.8**	**+1.4**
ZKR				S	**Sb**	**06 45 42.5**	**-1.6**
	comp=E,178nm,0.7s						
ZKR	**Zakros**	**2.61**	**190**	P	**Pn**	**06 45 07.6**	**+0.2**
IDI	**Anoyia**	**2.83**	**212**	P	**Pn**	**06 45 11.4**	**+0.9**
IDI				S	**Sn**	**06 45 46.9**	**+2.6**
SMTH	**Samothraki Isl**	**2.93**	**342**	P	**Pn**	**06 45 12.7**	**+0.9**
SMTH	**Samothraki Isl**	**2.93**	**342**	P	**Pn**	**06 45 11.7**	**-0.1**
ENEZ	**Enez**	**3.07**	**352**	P	**Pn**	**06 45 14.5**	**+0.8**
ALN	**Alexandroupoli**	**3.24**	**351**	P	**Pn**	**06 45 17.6**	**+1.5**
ALN	**Alexandroupoli**	**3.24**	**351**	P	**Pn**	**06 45 16.3**	**+0.3**
KLV	**Kalavryta, Ach**	**3.65**	**277**	P	**Pn**	**06 45 22.4**	**+0.6**
KLV	**Kalavryta, Ach**	**3.65**	**277**	P	**Pn**	**06 45 22.0**	**+0.3**
BRTR	**Keskin Array B**	**5.76**	**67**	Pn	**Pg**	**06 46 13.2**	**-2.8**
	comp=E,0.1nm,0.3s,baz=276,slow=13,SNR=2.3						
	comp=E,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**33.11**	**229**	P	**P**	**06 51 01.9**	**+0.6**
	comp=E,0.6nm,0.6s,baz=30,slow=10,SNR=3.5						
	comp=E,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**38.56**	**53**	P	**P**	**06 51 46.0**	**-1.6**
	comp=E,0.3nm,0.6s,baz=264,slow=8.5,SNR=1.8						
	comp=E,0.3nm,0.6s						
MKAR	**Makanchi Array**	**41.34**	**59**	P	**P**	**06 52 12.0**	**+1.2**
	comp=E,0.3nm,0.6s,baz=282,slow=7.3,SNR=4.3						
	comp=E,0.3nm,0.6s						

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*THE **26** 07:10:33.4, 41°.29N×20°.05E, h7km±2km, ML2.7/2, Error ellipse: s-maj=3.4km s-min=0.9km az=38.0*
*BEO **26** 07:10:34.4±0.7, 41°.09N×20°.22E, h0km, ML2.5/8*
*SKO **26** 07:10:34.8, 41°.12N×19°.95E, h15km*
*TIR **26** 07:10:34.7, 41°.12N×20°.07E, h15km±1km, Md3.1, Ml2.7*
*PDG **26** 07:10:36.6±0.1, 41°.16N×19°.88E, h15km, ML2.6/9, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
ISC 26 07:10:35.2±1.0, 41°.14N±0°.02×20°.06E±0°.02, h16km±9km, n50, σ1.08/78, 3C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.26**	**326**	P	**Pb**	**07 10 40.9**	**-0.5**
	baz=326						
TIR				S	**Sb**	**07 10 45.7**	**+0.1**
	baz=326						
TIR				AMP			
	comp=N,3.5nm,0.5s,baz=326						
TIR	**Tirane**	**0.26**	**326**	*e*Pg	**Pb**	**07 10 41.0**	**-0.5**
TIR				*e*Sg	**Sb**	**07 10 45.8**	**+0.1**
OHR	**Ohrid**	**0.56**	**92**	*i* Pg	**Pb**	**07 10 46.6**	**-0.1**
OHR				*i* Sg	**Sn**	**07 10 56.7**	**-0.9**
VLO	**Vlora**	**0.79**	**213**	P	**Pn**	**07 10 50.6**	**-1.1**
	baz=215						
VLO				S	**Sn**	**07 11 02.0**	**-1.1**
	baz=215						
PUK	**Puka**	**0.91**	**352**	P	**Pb**	**07 10 52.5**	**-0.3**
	baz=352						
PUK				S	**Sn**	**07 11 07.0**	**+0.6**
	baz=352						
PUK				AMP			
	comp=E,0.5nm,0.5s,baz=352						
NEST	**Nestorio**	**1.04**	**133**	P	**Pn**	**07 10 55.1**	**-0.2**
NEST				S	**Sn**	**07 11 12.2**	**+2.7**
FNA	**Florina**	**1.06**	**109**	P	**Pn**	**07 10 55.0**	**-0.5**
	baz=108						
FNA				S	**Sn**	**07 11 10.5**	**+0.6**
	baz=108						
FNA				AMP			
	comp=N,0.8nm,0.5s,baz=108						
FNA	**Florina**	**1.06**	**109**	P	**Pb**	**07 10 54.6**	**-0.6**
FNA				S	**Sn**	**07 11 10.8**	**+0.9**
	comp=N,465nm,0.5s						
FNA	**Florina**	**1.06**	**109**	*i* Pg	**Pn**	**07 10 55.0**	**-0.5**
FNA				*i* Sg	**Sn**	**07 11 10.9**	**+1.0**
LSK	**Leskovik**	**1.07**	**157**	P	**Pb**	**07 10 54.6**	**-0.8**
	baz=157						
LSK				S	**Sn**	**07 11 10.4**	**+0.3**
	baz=157						
LSK				AMP			
	comp=E,1.1nm,0.6s,baz=157						
LSK	**Leskovik**	**1.07**	**157**	P	**Pg**	**07 10 55.4**	**-0.5**
LSK				S	**Sn**	**07 11 13.4**	**+3.2**
BCI	**Bajram Curri**	**1.23**	**0**	P	**Pg**	**07 10 59.0**	**0.0**
	baz=0.0						
BCI				S	**Sg**	**07 11 16.8**	**+1.8**
	baz=0.0						
BCI				AMP			
	comp=E,0.7nm,0.5s,baz=0.0						
DRME	**Dracevica, Mon**	**1.23**	**328**	*e*Pg	**Pg**	**07 10 58.9**	**-0.2**
DRME				*e*Sg	**Sg**	**07 11 18.9**	**+3.7**
DRME	**Dracevica, Mon**	**1.23**	**328**	⇓*i*Pg	**Pb**	**07 10 58.3**	**+0.1**
DRME				*i* Sg	**Sg**	**07 11 16.1**	**+0.9**
SRN	**Sarande**	**1.26**	**182**	P	**Pg**	**07 10 59.3**	**-0.2**
	baz=183						
SRN				S	**Sg**	**07 11 16.5**	**+0.7**
	baz=183						
SRN				AMP			
	comp=N,0.5nm,0.8s,baz=183						
SKO	**Skopje**	**1.33**	**51**	*i* Pg	**Pg**	**07 11 00.2**	**-0.7**
SKO				*i* Sg	**Sg**	**07 11 19.4**	**+1.1**
PDG	**Podgorica**	**1.42**	**335**	*e*Pn	**Pb**	**07 11 00.8**	**-0.6**
PDG				*e*Sg	**Sg**	**07 11 22.4**	**+1.2**
PDG	**Podgorica**	**1.42**	**335**	⇓*i*Pg	**Pb**	**07 11 01.5**	**+0.1**
PDG				*i* Sg	**Sg**	**07 11 22.3**	**+1.1**
KEK	**Kerkira**	**1.44**	**188**	P	**Pb**	**07 11 01.3**	**-0.3**
KEK				S	**Sg**	**07 11 22.6**	**+1.0**
	comp=N,125nm,0.4s						
BUM	**Brajici-Budva**	**1.45**	**324**	⇑*i*Pg	**Pb**	**07 11 01.8**	**-0.1**
BUM				*i* Sg	**Sg**	**07 11 22.3**	**+0.2**
PVY	**Plav**	**1.46**	**357**	⇓*i*Pg	**Pg**	**07 11 03.2**	**-0.1**
PVY				*i* Sg	**Sg**	**07 11 24.2**	**+1.8**
SCTE	**Santa Cesarea**	**1.61**	**229**	P	**Pb**	**07 11 04.5**	**-0.1**
	baz=231						
SCTE				AMP			
	comp=E,0.2nm,0.2s,baz=231						
CEME	**Cevo**	**1.65**	**329**	⇓*i*Pg	**Pb**	**07 11 04.8**	**-0.4**
CEME				*i* Sg	**Sg**	**07 11 27.5**	**-0.8**
IVA	**Berane**	**1.74**	**356**	⇓*i*Pn	**Pb**	**07 11 06.8**	**0.0**
IVA				*i* Sn	**Sg**	**07 11 30.5**	**-0.8**
KOME	**Kolasin**	**1.76**	**347**	*e*Pg	**Pb**	**07 11 07.6**	**+0.4**
KOME				*e*Sg	**Sg**	**07 11 31.9**	**0.0**
KOME	**Kolasin**	**1.76**	**347**	⇓*i*Pn	**Pb**	**07 11 07.1**	**-0.1**
KOME				*i* Sn	**Sg**	**07 11 31.1**	**-0.8**
NKME	**Niksic**	**1.82**	**334**	⇑*i*Pn	**Pb**	**07 11 07.1**	**-1.2**
NKME				*i* Sn	**Sb**	**07 11 31.6**	**+0.7**
VAY	**Valandovo**	**1.91**	**84**	*i* Pn	**Pg**	**07 11 10.6**	**-1.2**
PRVS	**Prvonek**	**2.04**	**47**	*e*Pn	**Pn**	**07 11 10.0**	**+1.1**
BRY	**Bratogost**	**2.09**	**328**	⇑*i*Pn	**Pn**	**07 11 11.1**	**+1.3**
BRY				*i* Sn	**Sb**	**07 11 37.9**	**-0.8**
SJES	**Sjenica**	**2.12**	**358**	*e*Pn	**Pb**	**07 11 12.0**	**-1.4**
SJES				*e*Sg	**Sg**	**07 11 43.1**	**-0.5**
KNT	**Kendrikon**	**2.15**	**88**	*i* Pn	**Pn**	**07 11 11.7**	**+1.3**
SELS	**Selova**	**2.23**	**20**	*e*Pn	**Pb**	**07 11 13.7**	**-1.4**
BOSS	**Bosilegrad**	**2.27**	**52**	*e*Pn	**Pn**	**07 11 12.4**	**+0.4**
LKD2	**Lefkada island**	**2.39**	**169**	P	**Pn**	**07 11 13.5**	**-0.2**
	baz=168						
IVAS	**Ivanjica**	**2.44**	**2**	*e*Pn	**Pn**	**07 11 15.9**	**+1.5**
STON	**Ston**	**2.47**	**315**	*e*Pn	**Pn**	**07 11 15.2**	**+0.4**
**G

comp=N,44μm,0.5s
MPK IAML 07 22 30.3
comp=E,24μm,0.3s
DONR Donner Summit 0.21 308 Pg 07 22 29.7 -0.4
DONR Sg 07 22 33.2 -0.1
EMB Emerald Bay 0.24 180 Pg 07 22 30.5 -0.1
EMB Sg 07 22 34.5 +0.4
EMB Emerald Bay 0.24 180 IAML 07 22 34.7
comp=E,9μm,0.3s
EMB IAML 07 22 34.9
comp=N,12μm,0.3s
BABR Babbit Peak 0.38 360 Pg 07 22 32.7 -0.4
BABR Sg 07 22 38.1 -0.2
REN Reno 0.39 35 Pg 07 22 32.9 -0.4
REN Sg 07 22 38.5 0.0
PEAR Peavine Mounta 0.40 16 Pg 07 22 32.9 -0.6
PEAR Sg 07 22 38.8 -0.1
PNTR Pine Nut 0.41 108 Pg 07 22 33.5 -0.2
PNTR Sg 07 22 39.6 +0.4
PNTR Pine Nut 0.41 108 IAML 07 22 39.8
comp=N,3μm,0.6s
PNTR IAML 07 22 40.9
comp=E,3μm,0.7s
BEKR Beckworth 0.68 343 Pg 07 22 37.8 -0.8
BEKR Sb 07 22 47.3 -1.7
YERR Yerington 0.71 109 Pg 07 22 38.8 -0.5
YERR Yerington 0.71 109 IAML 07 22 49.8
comp=N,1μm,0.4s
YERR IAML 07 22 54.2
comp=E,2μm,0.6s
AFDM Forest Hills D 0.73 248 Pg 07 22 39.0 -0.6
PAHR Pah Rah Range 0.74 49 Pg 07 22 39.1 -0.6
PAHR Pah Rah Range 0.74 49 IAML 07 22 49.9
comp=N,2μm,0.3s
PAHR IAML 07 22 50.1
comp=E,1μm,0.3s
WVA Winnemucca Val 0.75 16 Pg 07 22 39.5 -0.7
WAKR Walker 0.88 144 Pg 07 22 42.1 -0.4
WAKR Walker 0.88 144 IAML 07 23 00.9
comp=E,623nm,0.6s
KPK Kanaka Peak 1.00 292 Pn 07 22 47.0 +1.4
OHCM Honcut 1.08 277 Pb 07 22 45.1 -1.1
OWYM Wyandotte 1.10 283 Pb 07 22 45.4 -1.1
PAM Palermo 1.12 282 Pb 07 22 45.2 -1.7
ORV Oroville 1.13 288 Pb 07 22 45.4 -1.8
ORV IAML 07 23 01.6
comp=N,527nm,0.4s
ORV IAML 07 23 04.5
comp=E,593nm,0.4s
OSTM Stimpson Lane 1.17 278 Pb 07 22 46.6 -1.1
CMB Columbia Colle 1.21 191 Pn 07 22 46.8 -1.7
CMB IAML 07 23 08.9
comp=E,620nm,0.8s
CMB IAML 07 23 10.3
comp=N,529nm,0.6s
OGOM Van Goodin Ran 1.25 291 Pn 07 22 48.1 -0.8
TVH1 TV Hill, Hawth 1.29 126 Pg 07 22 49.9 -0.4
SUTB Sutter Butte 1.31 271 Pn 07 22 49.1 -0.7
OSUM Sutter Buttes 1.36 273 Pn 07 22 50.3 -0.7
LCMM Colby Mountain 1.43 311 Pb 07 22 51.5 -0.9
KVN Kaiserville 1.57 96 Pb 07 22 53.7 -0.9
LHV Little Huntoon 1.58 127 Pb 07 22 54.1 -0.6
LHV Little Huntoon 1.58 127 IAML 07 23 03.0
comp=E,458nm,0.4s
LHV IAML 07 23 03.3
comp=N,580nm,0.4s
NV09 Mina Array Sit 1.59 119 Pn 07 22 53.6 -0.2
NV08 Mina Array Sit 1.61 120 Pn 07 22 53.9 -0.3
LRDM Redding Peak 1.62 320 Pb 07 22 55.1 -0.5
NADM Allendale 1.65 243 Pg 07 22 56.5 -0.5
O03E Paynes Creek 1.69 310 Pb 07 22 55.8 -0.9
GFC Funks Creek 1.70 274 Pb 07 22 56.6 -0.2
NV11 Mina Array Sit 1.71 117 Pn 07 22 55.4 -0.1
NV11 IAML 07 23 23.3
comp=E,212nm,0.5s
MDCM Deadman Creek 1.72 151 Pb 07 22 56.7 -0.6
LMEM Manzanita Entr 1.73 320 Pg 07 22 58.0 -0.8
MINS Minaret Summit 1.77 152 Pb 07 22 57.4 -0.7
LDBM Digger Butte 1.77 314 Pb 07 22 57.1 -1.0
MDPB Devils Postpil 1.78 153 Pb 07 22 57.1 -1.2
MDYM Dry Creek 1.78 151 Pb 07 22 57.9 -0.4
MGNR McGee Canyon 1.79 141 Pb 07 22 58.6 +0.1
MMLB Mammoth Lakes 1.79 150 Pg 07 22 59.0 -0.9
MLIM Lincoln Peak 1.80 151 Pg 07 22 59.0 -1.0
MMSM Mammoth Summit 1.80 152 Pb 07 22 58.0 -0.7
MEMM East Mammoth H 1.80 149 Pg 07 22 59.1 -0.9
MMPM Mammoth Pass 1.82 152 Pb 07 22 58.7 -0.3
MRDM Red Cones 1.82 153 Pb 07 22 58.2 -0.8
OMMB Old Mammoth Mi 1.82 151 Pb 07 22 58.0 -1.1
MCSM Casa Diablo Ho 1.82 149 Pb 07 22 59.1 +0.1
MCBM Casa Benchmark 1.84 149 Pg 07 22 59.8 -0.9
GCK Clark Valley 1.84 281 Pb 07 22 58.7 -0.5
MLHM Little Hot Cre 1.84 146 Pg 07 22 59.8 -1.0
LTCM Tuscan Springs 1.84 303 Pb 07 22 58.9 -0.4
CBSNC Byron Hot Spri 1.85 221 Pb 07 22 58.8 -0.6
MYLM Yosemite Lake 1.85 188 Pb 07 22 58.5 -0.8
NAPC Atlas Peak 1.85 246 Pb 07 22 58.7 -0.8
MNRC McLaughlin Min 1.85 260 Pb 07 22 58.7 -0.8
MLCM Laurel Creek C 1.86 149 Pg 07 23 00.0 -1.1
GBMM Baldy Mountain 1.86 268 Pb 07 22 58.6 -1.0
MDRNC Doe Ridge 1.87 147 Pg 07 23 00.5 -0.8
NMTM Middletown 1.87 258 Pb 07 22 58.5 -1.2
MLAC Mammoth, Mammo 1.87 148 Pg 07 23 00.4 -1.0
MLAC Mammoth, Mammo 1.87 148 P **Pg 07 23 00.5 -1.0**
baz=328,SNR=9.4
HATC Hat Creek Radi 1.91 327 Pb 07 22 58.8 -1.6
HATC IAML 07 23 34.8
comp=N,248nm,0.7s
HATC IAML 07 23 38.1
comp=E,384nm,0.9s
MCVM Convict Lake 1.91 148 Pg 07 23 01.1 -1.0
CTAM Taylor 1.92 232 Pn 07 22 58.8 +0.7
CSTL Corral Hollow 1.92 215 Pb 07 22 59.2 -1.3
BENR Benton 1.92 141 Pb 07 22 59.3 -1.4
CRPB Russellman Par 1.93 228 Pb 07 22 59.6 -1.0
CMOB Morgan Territo 1.94 224 Pb 07 22 59.6 -1.3
GTSM Trough Springs 1.94 273 Pb 07 22 59.6 -1.4
MTOS Mt Oso, Westle 1.96 210 Pb 07 22 60.0 -1.4
CBZL Buffer Zone 1.98 220 Pb 07 23 00.1 -1.6
MRCM Red Rock Canyo 1.99 140 Pb 07 23 01.6 -0.3
KCC Kaiser Creek 1.99 162 Pb 07 23 01.9 0.0
GRTM Round Top Moun 2.02 263 Pb 07 23 00.6 -1.6
CVS Carmenet Viney 2.04 245 Pn 07 23 00.7 +0.8
NHSM Mount Saint He 2.04 255 Pn 07 23 00.8 +0.8
GBGM Boggs Mountain 2.05 259 Pb 07 23 01.6 -1.2
WENL Wente Vineyard 2.06 220 Pb 07 23 01.2 -1.7
GSGM Seigler Mounta 2.06 261 Pb 07 23 01.7 -1.3
CPIM Pinole Ridge 2.06 234 Pb 07 23 01.7 -1.3
GVV Valley View 2.07 286 Pb 07 23 01.3 -1.8
CMMM Mount Mocho 2.07 212 Pn 07 23 01.1 +0.7
BGC Bolinger Road 2.08 228 Pn 07 23 01.3 +0.8
CVLM Vallecito 2.10 221 Pn 07 22 59.7 -0.9
CVLM Pb 07 23 02.0 -1.5
GROM Round Mountain 2.10 290 Pn 07 23 01.8 +0.9
SNT Sears Point 2.11 241 Pb 07 23 02.6 -1.2
MCDM Chidago Canyon 2.12 142 Pg 07 23 04.7 -1.5
CMLM Mount Lewis 2.12 215 Pn 07 23 01.9 +0.8
GAXM Alexander Vall 2.13 257 Pn 07 23 01.8 +0.7
GDXM Geysers 2.14 260 Pn 07 23 01.5 +0.3
BKS Berkeley--Byer 2.15 232 Pn 07 23 02.3 +1.0
VAK Adit at Lawren 2.15 232 Pb 07 23 03.1 -1.4
BL67 Building 67, L 2.16 232 Pb 07 23 03.2 -1.5
BRK Berkeley--Havi 2.16 232 Pb 07 23 02.8 -1.8
LSHM Sage Hen Hill 2.16 317 Pb 07 23 02.8 -2.0
CNIC Niles Canyon 2.17 223 Pn 07 23 02.7 +1.0
CSLM San Leandro Hi 2.18 227 Pb 07 23 03.2 -1.8
ARN Arnold Ranch 2.18 212 Pb 07 23 03.3 -1.8
GGPM Geyser Peak 2.19 259 Pb 07 23 03.7 -1.5
CPMM Point Molate 2.21 236 Pb 07 23 04.2 -1.2
GHMM Hull Mountain 2.21 278 Pb 07 23 04.0 -1.7
CALM Calaveras Res. 2.21 218 Pn 07 23 03.1 +0.9
MHC Mount Hamilton 2.22 213 Pn 07 23 04.0 +1.4
FRI Friant 2.25 172 Pb 07 23 04.9 -1.2
CYBM Yerba Buena Is 2.26 232 Pn 07 23 00.8 -2.1
GHLM Highland Sprin 2.28 266 Pn 07 23 04.3 +1.1
BHPR Bishop 2.30 146 Pn 07 23 04.9 +1.3
Q09A Carvers 2.31 99 Pb 07 23 05.0 -2.3
CCOB Coe Ranch Numb 2.32 213 Pb 07 23 05.7 -1.7
SLD San Luis Dam 2.32 203 Pn 07 23 03.5 -0.2
HOPS Hopland Field 2.32 265 Pn 07 23 04.9 +1.1
JPRM Presidio of Sa 2.34 233 Pn 07 23 05.5 +1.5
JSBM San Bruno Moun 2.37 230 Pn 07 23 05.6 +1.2
GHS Gilroy Hot Spr 2.37 207 Pn 07 23 06.0 +1.6
JCPM Coyote Point 2.39 228 Pn 07 23 05.0 +0.4
PACP Pacheco Peak 2.40 203 Pn 07 23 06.5 +1.7
LBPM Beegum Peak 2.41 298 Pn 07 23 06.1 +1.1
NOLM Olema 2.42 242 Pn 07 23 06.4 +1.5
GSNM Snow Mountain 2.42 264 Pn 07 23 06.3 +1.1
MCCM Marconi Confer 2.42 245 Pn 07 23 06.0 +0.9
MCCM Marconi Confer 2.42 245 IAML 07 23 39.6
comp=N,199nm,1.1s
JLAB Laurel Hill 2.43 212 Pn 07 23 06.4 +1.2
JSFB Stanford Teles 2.44 223 Pn 07 23 06.5 +1.2
JMGM Milagra Ridge 2.44 230 Pn 07 23 06.4 +1.0
SAC San Andreas 2.45 229 Pn 07 23 06.4 +1.0
JSJM St Joseph 2.45 220 Pn 07 23 07.0 +1.6
HFEM San Felipe 2.46 205 Pb 07 23 07.4 -2.3
JCHM Cahill Ridge 2.47 227 Pn 07 23 06.8 +1.0
JRSC Jasper Ridge 2.47 223 Pn 07 23 06.8 +1.1
JFP Foothills Park 2.48 222 Pn 07 23 07.0 +1.2
KBNM Bluenose Ridge 2.48 287 Pb 07 23 08.0 -2.2
GWRM Wonder Ranch 2.48 271 Pn 07 23 07.4 +1.4
HLPM Lions Peak 2.49 209 Pn 07 23 07.2 +1.2
GHCM House Creek 2.49 257 Pn 07 23 07.2 +1.1
JBMM Black Mountain 2.49 221 Pn 07 23 07.2 +1.0
DSP Deep Springs 2.50 137 Pn **Pn 07 23 06.8 +0.8**
JJOM Saint Joseph's 2.50 217 Pn 07 23 07.1 +1.0
DCMP DeCamp, Califo 2.52 277 Pn 07 23 08.0 +1.5
BMN Battle Mountai 2.53 60 Pn 07 23 05.6 -1.1
TPH Tonopah 2.53 116 Pn 07 23 06.9 +0.1
M03C McCloud 2.57 324 Pb 07 23 11.2 -0.5
BGH Bear Gulch 2.57 224 Pn 07 23 08.4 +1.3
HCBM Chamberlain 2.60 209 Pn 07 23 08.9 +1.4
ANZ Anzar Road 2.61 207 Pn 07 23 09.4 +1.7
TIN Tinemaha, Big 2.62 145 Pg **Pg 07 23 14.9 -0.8**
baz=326
MZP Montezuma Peak 2.62 125 Pn 07 23 08.4 +0.3
BSLM Silva Ranch 2.63 202 Pn 07 23 09.8 +1.9
HSFM Saint Francis 2.65 205 Pn 07 23 10.2 +2.0
HCOM Corn Cob Canyo 2.65 209 Pn 07 23 09.7 +1.4
N02D Trinity Center 2.66 312 Pn 07 23 09.6 +1.2
JELB Ellicott, Sant 2.66 211 Pn 07 23 09.3 +0.9
GGUM Gualala 2.67 263 Pn 07 23 10.5 +2.0
BAVM Antelope Valle 2.67 196 Pn 07 23 10.0 +1.4
SAO San Andreas Ge 2.67 204 Pn 07 23 09.9 +1.3
HTUM Tustin Road 2.68 207 Pn 07 23 09.1 +0.5
JPSM 2.68 222 Pn 07 23 09.5 +0.8
GTC Three Chop Rid 2.69 275 Pn 07 23 10.0 +1.3
LGPM Granite Peak 2.69 310 Pn 07 23 10.0 +1.1
FRP Fremont Peak 2.70 204 Pn 07 23 10.2 +1.3
LGMM Garner Mountai 2.72 331 Pb 07 23 14.1 -0.2
BBGB Big Mountain B 2.74 196 Pn 07 23 11.1 +1.5
LMPM Military Pass 2.76 326 Pb 07 23 15.8 +0.8
BVL Bear Valley 2.78 198 Pb 07 23 13.1 -2.1
PDRM Domengine Ranc 2.89 184 Pb 07 23 14.2 -2.8
BPCNC Pine Canyon 2.91 205 Pn 07 23 13.0 +1.3
GMN Gold Mountain 2.95 130 Pn 07 23 12.8 +0.2
KMRM Mail Ridge 2.96 291 Pn 07 23 14.3 +1.7
BSMM Soledad Missio 3.02 201 Pn 07 23 15.2 +1.8
PMPB Monarch Peak 3.05 191 Pn 07 23 15.2 +1.4
HAST Hastings Reser 3.05 203 Pn 07 23 15.4 +1.7
GRAC Grapevine Rang 3.10 135 Pg **Pg 07 23 22.6 -2.2**
baz=317
YBH Yreka Blue Hor 3.20 322 Pn 07 23 18.4 +2.5
CWC Cottonwood Cre 3.20 149 Pb **Pg 07 23 24.3 -2.6**
baz=331
CWC Sg **Sg 07 24 06.4 -2.0**
baz=331
KHMM Horse Mountain 3.24 302 Pn 07 23 18.4 +1.9
SGV South Grapevin 3.30 132 Pn 07 23 18.0 +0.7
KMPM Mount Pierce 3.32 292 Pn 07 23 17.8 +0.3
VES Vestal, Richgr 3.47 166 P **Pb 07 23 23.9 -3.1**
baz=347
VES Sb **Sb 07 24 12.0 +2.9**
baz=347
TRAM Private Proper 3.54 182 Pn 07 23 20.4 -0.1
R11B Troy Canyon, C 3.63 102 Pn **Pn 07 23 21.3 -0.6**
R11B IAML 07 24 21.3
comp=N,34nm,0.5s
R11B Troy Canyon, C 3.63 102 P **Pn 07 23 21.5 -0.5**
baz=286,SNR=9.0
FURC Furnace Creek, 3.76 136 Pb **Pb 07 23 32.5 +0.7**
baz=318
MPMC Manual Prospec 3.78 146 Pb **Pb 07 23 33.3 +0.9**
baz=328,SNR=19
MPMC Sg **Sg 07 24 24.7 -2.1**
baz=328
ISA Isabella, Lake 3.78 159 P **Pb 07 23 29.0 -3.3**
baz=340,SNR=7.9
ISA Sb **Sb 07 24 21.9 +3.7**
baz=340
TPNV Topopah Spring 3.79 126 Pn 07 23 25.2 +1.1
TPNV Topopah Spring 3.79 126 IAML 07 24 39.5
comp=N,33nm,1.1s
TPNV Topopah Spring 3.79 126 P **Pn 07 23 24.8 +0.7**
baz=308,SNR=14
NSP Numbskull Pass 3.95 128 Pn 07 23 27.4 +1.1
ELK Elko 4.03 66 Pn 07 23 27.3 -0.2
ELK IAML 07 24 34.9
comp=N,36nm,0.5s
ELK IAML 07 24 36.9
comp=N,32nm,0.4s
Q12A Willow Creek R 4.10 91 Pn 07 23 29.0 +0.6
MCY Mercury 4.15 127 Pn 07 23 30.3 +1.3
LRMC Laurel Mtn Rad 4.20 152 Pb **Pb 07 23 42.0 +2.5**
baz=334
LRMC Sg **Sg 07 24 38.0 -2.5**
baz=334
ARVC Arvin 4.21 166 Sb **Sb 07 24 34.9 +4.5**
baz=346
PRN Pahroc Range 4.37 113 Pn 07 23 32.8 +0.8
SPR3 Spring Creek 3 4.49 91 Pn 07 23 35.0 +1.2
SHOC Shoshone, Teco 4.50 136 Pg **Pg 07 23 48.3 -3.3**
baz=319
EDW2 Edwards Air Fo 4.65 158 Pb **Pb 07 23 49.3 +2.2**
baz=339
GSC Goldstone, Bar 4.71 145 Pg **Pg 07 23 53.4 -2.4**
baz=327
OSI Osito Audit: C 4.73 166 Sb **Sb 07 24 49.2 +3.7**
baz=347
BGU Big Grassy Mou 5.69 70 Pn **Pn 07 23 51.4 +1.3**
DUG Dugway, Tooele 5.71 78 Pn **Pn 07 23 51.8 +1.5**
DUG Dugway, Tooele 5.71 78 P **Pn 07 23 50.9 +0.6**
baz=263

*IDC **26** 07:37:32.5±1.7, 6°.22N×125°.53E, h96km±20km, mb4.1/3, mbtmp4.4/3, Error ellipse: s-maj=101.5km s-min=18.6km az=70.0*
*NEIC **26** 07:37:33.1±1.1, 6°.30N±0°.08×125°.7E±0°.2, h101km±6km, mb4.2/13, Error ellipse: s-maj=24.5km s-min=10.6km az=79.0*
ISC 26 07:37:32.7±0.6, 6°.28N±0°.06×125°.7E±0°.1, h100km, n26, σ0°76/29, mb4.2/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.79**	**353**	Pn	**Pn**	**07 37 50.9**	**-0.2**
DAV	**Davao City (W)**	**0.79**	**353**	P	**Pn**	**07 37 51.4**	**+0.4**
	446nm,0.3s,baz=212,slow=15,SNR=12						
DAV				S	**Sn**	**07 38 05.6**	**+0.9**
	1μm,0.4s,baz=106,slow=23,SNR=16						
DAV				LR	LR	07 38 19.7	
	comp=Z,112nm,21.5s,baz=186,slow=56						
TNTI	**Ternate**	**5.72**	**163**	Pn	**Pn**	**07 38 56.2**	**+0.9**
TOLI2	**Tolitoli**	**7.09**	**224**	Pn	**Pn**	**07 39 14.0**	**+0.1**
SAUI	**Saumlaki**	**15.24**	**158**	Pn	**Pn**	**07 41 01.2**	**-1.4**
MTN	**Manton Dam**	**19.76**	**164**	P	**P**	**07 41 55.3**	**+0.4**
MTN				IAmb	IAmb	07 42 26.2	
	comp=Z,20nm,1.5s						
KNRA	**Kununurra**	**22.03**	**172**	P	**P**	**07 42 19.1**	**-0.1**
KNRA				IAmb	IAmb	07 42 37.7	
	comp=Z,8.2nm,0.9s						
COEN	**Coen**	**26.57**	**139**	P	**P**	**07 43 00.3**	**-1.3**
COEN				IAmb	IAmb	07 43 01.0	
	comp=Z,8.1nm,1.1s						
WB0	**Warramunga Arr**	**27.27**	**162**	P	**P**	**07 43 06.6**	**-1.3**
WB0				IAmb	IAmb	07 43 14.0	
	comp=Z,5.1nm,1.1s						
WRA	**Warramunga Arr**	**27.41**	**162**	P	**P**	**07 43 07.8**	**-1.4**
WRA	**Warramunga Arr**	**27.41**	**162**	P	**P**	**07 43 08.5**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=341,slow=9.1,SNR=29						
WRA				PcP	**PcP**	**07 46 25.9**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=338,slow=2.2,SNR=2.3						

comp=Z,1.5nm,0.5s
PSA00 Pilbara Seismi 28.27 192 P **P 07 43 17.4 +0.6**
AS31 Alice Springs 30.83 165 P **P 07 43 39.0 -0.4**
AS31 IAmb IAmb 07 43 40.8
comp=Z,1.9nm,0.4s
ASAR Alice Springs 30.83 165 P **P 07 43 39.3 -0.2**
ASAR Alice Springs 30.83 165 P **P 07 43 39.5 +0.1**
comp=Z,2.7nm,0.5s,baz=346,slow=7.2,SNR=57
ASAR PcP **PcP 07 46 34.2 -0.2**
comp=Z,0.4nm,0.5s,baz=343,slow=2.8,SNR=5.1
comp=Z,2.7nm,0.5s
MORW Morawa 36.35 194 P **P 07 44 27.2 0.0**
STKA Stephens Creek 40.87 159 P **P 07 45 04.7 -0.3**
STKA Stephens Creek 40.87 159 P **P 07 45 05.3 +0.3**
comp=Z,5.2nm,0.5s,baz=333,slow=8.5,SNR=17
comp=Z,5.2nm,0.5s
MK31 Makanchi Array 54.88 325 P **P 07 46 52.5 -0.4**
MKAR Makanchi Array 54.88 325 P **P 07 46 52.1 -0.8**
MKAR Makanchi Array 54.88 325 P **P 07 46 52.8 -0.2**
comp=Z,0.2nm,0.4s,baz=118,slow=5.8,SNR=4.2
C23K Itkillik River 81.97 20 PKP **P 07 49 43.0 +1.8**
C23K IAmb IAmb 07 50 03.0
comp=Z,4.8nm,1.3s
FYU Fort Yukon 83.92 24 P **P 07 49 51.3 0.0**
FYU IAmb IAmb 07 49 58.5
comp=Z,6.7nm,1.4s
BMAR Burnt Mountain 84.14 23 P **P 07 49 52.4 -0.1**
TXAR Lajitas Array 120.83 50 PKP **PKPdf 07 56 14.3 +0.2**
comp=Z,0.1nm,0.5s,baz=332,slow=3.1,SNR=1.9
TORD Torodi Ar. Bea 121.11 289 PKP **PKPdf 07 56 14.5 -0.4**
comp=Z,0.3nm,0.5s,baz=60,slow=3.3,SNR=2.0

*ISN **26** 07:42:07.2±1.2, 34°.69N×46°.27E, h18km±17km, ML2.7*
*TEH **26** 07:42:07.6, 34°.67N×46°.28E, h10km±15km, ML2.5*
ISC 26 07:42:07.5±1.0, 34°.66N±0°.05×46°.28E±0°.04, h12km±8km, n11, σ0°43/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.09**	**67**	Pg	**Pg**	**07 42 10.7**	**+0.1**
IDHR				Sg	**Sg**	**07 42 12.7**	**0.0**
IGHG	**Ghaleghazi**	**0.41**	**145**	Pg	**Pg**	**07 42 16.4**	**+0.7**
KGS1	**Ghasr-e-Shirin**	**0.59**	**255**	Pg	**Pb**	**07 42 19.4**	**-0.5**
ILIN	**Lien**	**0.61**	**65**	Pg	**Pb**	**07 42 19.8**	**-0.6**
GLG1	**Gilan-e-Gharb**	**0.63**	**210**	Pg	**Pg**	**07 42 20.1**	**+0.3**
KCHF	**Cheshme Sefid,**	**0.73**	**122**	Pg	**Pg**	**07 42 22.0**	**+0.1**
ILBA	**Ilam Banvizeh**	**1.04**	**184**	Pg	**Pg**	**07 42 27.7**	**+0.2**
SNQR	**Sonqor, Kerman**	**1.12**	**80**	Pg	**Pb**	**07 42 28.9**	**-0.2**
IBZA	**Bozab**	**1.32**	**98**	Pg	**Pg**	**07 42 33.0**	**+0.1**
IBDR	**Badra**	**1.58**	**191**	*e*Pg	**Pb**	**07 42 36.0**	**-0.6**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**07 42 58.0**	**-0.3**
IBDR				AML	AML	07 43 05.0	
	comp=E,123nm,0.4s						
IBDR				AML	AML	07 43 15.4	
	comp=N,86nm,0.6s						
IKRK	**Kirkuk**	**1.76**	**295**	*e*Pn	**Pn**	**07 42 38.0**	**+0.2**
IKRK				*e*Sn	**Sb**	**07 43 02.0**	**+0.3**

*IDC **26** 07:57:47.9±1.9, 25°.14N×94°.43E, h0km, mb3.5/4, mbtmp3.5/5, Error ellipse: s-maj=82.6km s-min=21.6km az=68.0*
*NDI **26** 07:57:56.9±3.2, 25°.29N×94°.28E, h57km±24km, ML3.8, MW3.9*
ISC 26 07:57:55.5±1.0, 25°.22N±0°.05×94°.29E±0°.07, h67km±9km, n13, σ1°97/20, mb3.5/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.49**	**219**	*e*Pg	**Pn**	**07 58 07.9**	**-0.3**
IMP				*i* Sg	**Sn**	**07 58 20.7**	**+3.3**
KOHI	**KOHIMA**	**0.53**	**342**	*e*Pg	**Pn**	**07 58 07.2**	**-1.4**
KOHI				*i* Sg	**Sn**	**07 58 16.0**	**-2.1**
KOHI				IAML		07 58 21.6	
	comp=N,2μm,0.4s						
KOHI				IAML		07 58 22.1	
	comp=E,1μm,0.4s						
MOKO	**MOKOCHONG**	**1.12**	**11**	*e*P	**Pn**	**07 58 15.1**	**-0.5**
MOKO				*e*S	**Sn**	**07 58 31.1**	**+0.6**
JORH	**JORHAT**	**1.52**	**359**	*e*P	**Pn**	**07 58 22.9**	**+2.2**
JORH				*ex*	**Sn**	**07 58 43.7**	**+4.0**
JORH				IAML		07 58 44.0	
	comp=N,10μm,0.4s						
JORH				IAML		07 58 44.3	
	comp=E,5μm,0.2s						
TEZP	**TEZPUR**	**1.93**	**316**	*e*P	**Pn**	**07 58 25.9**	**-0.3**
TEZP				*e*S	**Sn**	**07 58 48.3**	**-1.2**
SHL	**Shillong**	**2.20**	**280**	*e*P	**Pn**	**07 58 30.4**	**+0.4**
SHL				*i* x	x	07 58 36.5	
SHL				*e*S	**Sn**	**07 58 57.3**	**+1.0**
SHL				*ex*	x	07 59 05.4	
SHL				IAML		07 59 07.8	
	comp=N,266nm,0.1s						
SHL				IAML		07 59 08.2	
	comp=E,252nm,0.2s						
ZIRO	**ZIRO**	**2.33**	**350**	*e*P	**Pn**	**07 58 31.1**	**-0.7**
ZIRO				*e*S	**Sn**	**07 58 58.4**	**-1.2**
ZIRO				IAML		07 59 18.9	
	comp=E,2μm,0.8s						
ZIRO				IAML		07 59 19.2	
	comp=N,2μm,0.5s						
GUWA	**GUWAHATI**	**2.54**	**293**	*ex*	x	07 58 42.2	
GUWA				*e*S	**Sn**	**07 59 03.4**	**-0.8**
GUWA				IAML		07 59 05.0	
	comp=N,378nm,0.1s						
GUWA				IAML		07 59 05.1	
	comp=E,577nm,0.4s						
CMAR	**Chiang Mai Arr**	**8.00**	**146**	Pn	**Pn**	**07 59 45.2**	**-3.9**
	comp=E,0.8nm,0.3s,baz=322,slow=13,SNR=1.2						
MKAR	**Makanchi Array**	**23.56**	**339**	P	**P**	**08 03 01.4**	**+1.4**
	comp=E,0.7nm,0.4s,baz=149,slow=9.7,SNR=15						
	comp=E,0.7nm,0.4s						
SONM	**Songino Array**	**24.52**	**20**	P	**P**	**08 03 09.5**	**+0.7**
	comp=E,0.6nm,0.6s,baz=204,slow=9.7,SNR=3.7						
	comp=E,0.6nm,0.6s						
WRA	**Warramunga Arr**	**59.43**	**135**	P	**P**	**08 07 51.2**	**-0.3**
	comp=E,0.5nm,0.9s,baz=322,slow=7.5,SNR=13						
	comp=E,0.5nm,0.9s						
ASAR	**Alice Springs**	**61.92**	**138**	P	**P**	**08 08 08.6**	**+0.1**
	comp=E,0.3nm,0.5s,baz=319,slow=6.2,SNR=6.3						
	comp=E,0.3nm,0.5s						

JMA 26 08:08:13.8±0.2, 24°.2N±0°.4×123°.8E±0°.7, h16km±2km, MV0.3/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**325**	P	Pg	08 08 17.4	0.0
IRIF				*e*S	Sg	08 08 19.9	+0.1
HATJ	**Hateruma jima**	**0.18**	**180**	*e*P	Pg	08 08 18.1	-0.1
HATJ				*i* S	Sg	08 08 21.5	+0.2
JKRS	**Kuro-shima**	**0.19**	**90**	P	Pg	08 08 18.3	-0.1
JIJ	**Ishigaki jima**	**0.33**	**68**	*e*P	Pg	08 08 20.5	-0.3
JISG	**Ishigakijimahi**	**0.58**	**53**	P	Pg	08 08 25.3	+0.1
JYNG	**Yonagunijimaku**	**0.81**	**285**	S	Sb	08 08 38.8	-1.3

TAP 26 08:08:29.4, 24°.11N×122°.51E, h7km, ML1.9, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.17**	**275**	P	Pg	08 08 33.6	+0.8
	baz=274						
EOS4				S	Sg	08 08 37.2	+2.1
	baz=274						
EOS3	**EOS3**	**0.25**	**316**	*i* P	Pb	08 08 35.4	-0.8
	baz=315						
EOS3				*i* S	Sb	08 08 39.9	-0.8
	baz=315						
EOS2	**EOS2**	**0.40**	**321**	*e*P	Pb	08 08 39.1	+0.3
	baz=320						
EOS2				S	Sb	08 08 44.8	-0.3
	baz=320						
ESAO	**Su ao**	**0.77**	**308**	*e*P	Pb	08 08 45.2	+0.2
	baz=307						
ENA	**Nanau**	**0.77**	**295**	*e*P	Pb	08 08 45.5	+0.4
	baz=294						
ETL	**Fush Village**	**0.81**	**274**	*e*P	Pn	08 08 47.0	-0.3
	baz=273						
NACB	**Ninganchiao**	**0.84**	**275**	*e*P	Pb	08 08 46.0	-0.3

	baz=274						
NACB				eS	Sb	08 08 59.0	+1.2
	baz=274						
LATG	**Datong**	**0.99 296**		eP	Pg	08 08 47.8	-0.7
	baz=295						
LXIB	**Xiulin Townshi**	**1.00 265**		eP	Pg	08 08 49.0	+0.3
	baz=265						
FUSB	**Fushanzhiwuyua**	**1.06 308**		eP	Pg	08 08 50.0	+0.2
	baz=307						
WARBT	**Fenglin Townsh**	**1.10 250**		eP	Pn	08 08 51.1	-0.1
	baz=249						
SXI1	**Grass Mountain**	**1.14 330**		eP	Pb	08 08 51.6	+0.1
	baz=329						

IDC ***26*** *08:17:49.0±0.5,37°.62N×26°.76E,h0km,mb4.2/23, mbtmp4.3/37,ML3.8/9,MS3.6/34,Error ellipse: s-maj=10.9km s-min=9.7km az=134.0*
ISK ***26*** *08:17:50.3,37°.66N×26°.65E,h10km,ML4.6/43*
AFAD ***26*** *08:17:51.6±0.0,37°.66N×26°.67E,h4km±1km,MW4.5*
NEIC ***26*** *08:17:51.7±1.7,37°.59N±0°.05×26°.69E±0°.03,h10km±1km, mb4.5/39,Error ellipse: s-maj=8.9km s-min=4.1km az=169.0*
MOS ***26*** *08:17:51.1±1.1,37°.69N×26°.75E,h19km,mb4.7/18,Error ellipse: s-maj=5.2km s-min=3.4km az=85.3*
MED_RC ***26*** *08:17:51.0±0.3,37°.74N×26°.72E,h18km±1km,MW4.5/22, Moment Tensor Solution.Mantle waves: s22,c25; Duration: 1§0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.60±.10; $M_{\theta\theta}$0.79±.06; $M_{\phi\phi}$-0.18±.05; $M_{r\theta}$0.37±.06; $M_{\theta\phi}$-0.06±.03; $M_{\phi r}$0.18±.07; Best double couple: $M_0$0.82000×10^{16} NP1:ϕ_s256.00000°,δ61.00000°, λ-111.00000°. NP2:ϕ_s114.00000°,δ35.00000°, λ-58.00000°. Principal axes: T 0.8800, Plg14.0000°, Azm1.0000°; N -0.1200, Plg18.0000°, Azm266.0000°; P -0.7600, Plg67.0000°, Azm127.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
ATH ***26*** *08:17:51.9,37°.70N×26°.74E,h14km,Mw4.4,Moment Tensor Solution. s9 Moment tensor: M_{rr}-4.04; $M_{\theta\theta}$4.36; $M_{\phi\phi}$-0.32; $M_{r\theta}$0.54; $M_{\theta\phi}$-0.85; $M_{\phi r}$-0.36; Fault plane solution: NP1:ϕ_s284.00000°,δ49.00000°,λ-85.00000°. NP2:ϕ_s96.00000°,δ41.00000°,λ-96.00000°.*
THE ***26*** *08:17:52.1,37°.74N×26°.72E,h0km,ML4.4/7 Error ellipse: s-maj=0.6km s-min=0.3km az=2.0*
NAO ***26*** *08:18:36.2,40°.71N×20°.43E,h33km,mb3.6*
ISC 26 08:17:51.7±0.6,37°.68N±0°.01×26°.71E±0°.01,h13km±3km, **n699,σ1§20**/786,**mb4.5**/63,**MS3.6**/28,**22C-25D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.10**	**73**	P	**Pg**	**08 17 54.6**	**-0.2**
SMG				S	**Sg**	**08 17 56.9**	**0.0**
SMG	**Samos**	**0.10**	**73**	P	**Pg**	**08 17 54.5**	**-0.3**
SMG				S	**Sg**	**08 17 56.8**	**-0.1**
SMG				AML	AML	08 17 57.2	
SMG				AML	AML	08 17 57.2	
DGB	**zmir**	**0.40**	**20**	P	**Pg**	**08 17 59.3**	**-0.4**
DGB				S	**Sg**	**08 18 05.1**	**+0.1**
GCAM	**G?zelcaml?**	**0.41**	**87**	Pg	**Pg**	**08 17 59.6**	**-0.3**
GCAM	**G?zelcaml?**	**0.41**	**87**	P	**Pg**	**08 17 59.6**	**-0.3**
GCAM				S	**Sg**	**08 18 06.0**	**+0.5**
GMLD	**Gumuldur**	**0.43**	**22**	Pg	**Pg**	**08 18 00.2**	**0.0**
GMLD	**Gumuldur**	**0.43**	**22**	P	**Pg**	**08 17 59.7**	**-0.6**
GMLD				S	**Sb**	**08 18 06.6**	**-0.9**
DDIM	**Aydin, Didim**	**0.47**	**117**	P	**Pb**	**08 18 01.5**	**-0.4**
DDIM				S	**Sb**	**08 18 08.5**	**-0.3**
KUSD	**Kusadasi-Aydin**	**0.49**	**68**	P	**Pg**	**08 18 01.3**	**0.0**
KUSD				S	**Sb**	**08 18 08.5**	**-0.8**
DIDI	**Didim-Aydin**	**0.52**	**125**	Pg	**Pg**	**08 18 01.7**	**-0.1**
DIDI	**Didim-Aydin**	**0.52**	**125**	P	**Pg**	**08 18 01.9**	**+0.1**
ZEYE	**Izmir, Urla-Ze**	**0.58**	**344**	P	**Pg**	**08 18 02.6**	**-0.5**
ZEYE				S	**Sb**	**08 18 11.2**	**-0.7**
URLA	**Izmir**	**0.69**	**352**	**Pg**	**Pg**	**08 18 04.4**	**-0.7**
URLA				Sg	**Sb**	**08 18 14.6**	**-0.4**
URLA	**Izmir**	**0.69**	**352**	P	**Pg**	**08 18 04.0**	**-1.1**
URLA				S	**Sb**	**08 18 15.7**	**+0.7**
YKAV	**Yalikavak-Bodr**	**0.71**	**140**	Pg	**Pg**	**08 18 05.2**	**-0.3**
YKAV				Sg	**Sb**	**08 18 15.5**	**-0.1**
YKAV	**Yalikavak-Bodr**	**0.71**	**140**	P	**Pg**	**08 18 04.9**	**-0.6**
YKAV				S	**Sb**	**08 18 16.8**	**+1.2**
CESE	**eme**	**0.73**	**334**	Pg	**Pg**	**08 18 04.9**	**-0.9**
CESE				Sg	**Sb**	**08 18 15.6**	**-0.4**
CESE	**eme**	**0.73**	**334**	P	**Pg**	**08 18 04.6**	**-1.2**
CESE				S	**Sb**	**08 18 15.7**	**-0.4**
BODT	**Bodrum**	**0.78**	**142**	Pg	**Pg**	**08 18 06.2**	**-0.6**
BODT				Sg	**Sb**	**08 18 17.5**	**0.0**
BODT	**Bodrum**	**0.78**	**142**	P	**Pg**	**08 18 06.0**	**-0.7**
BODT				S	**Sb**	**08 18 18.7**	**+1.2**
BODT	**Bodrum**	**0.78**	**142**	P	**Pb**	**08 18 07.8**	**+0.7**
BODT				S	**Sn**	**08 18 20.8**	**+0.9**
BDRM	**Kayabasi**	**0.84**	**136**	P	**Pg**	**08 18 06.5**	**-1.5**
BDRM				S	**Sb**	**08 18 19.5**	**+0.1**
CHOS	**Chios island**	**0.88**	**324**	P	**Pg**	**08 18 08.6**	**-0.1**
CHOS				S	**Sb**	**08 18 21.3**	**+0.8**
	47μm,0.7s						
CHOS	**Chios island**	**0.88**	**324**	P	**Pg**	**08 18 08.2**	**-0.5**
CHOS				S	**Sg**	**08 18 20.0**	**-0.2**
CHOS				AML	AML	08 18 24.2	
CHOS				AML	AML	08 18 26.1	
	comp=N,88984μm,0.7s						
KRBN	**Karaburun**	**0.92**	**352**	P	**Pg**	**08 18 08.8**	**-0.7**
KRBN				S	**Sn**	**08 18 22.9**	**-0.6**
MLSB	**Milas**	**0.93**	**114**	Pg	**Pg**	**08 18 09.2**	**-0.4**
MLSB				Sg	**Sb**	**08 18 22.6**	**+0.7**
MLSB	**Milas**	**0.93**	**114**	P	**Pg**	**08 18 09.3**	**-0.3**
MLSB				S	**Sb**	**08 18 22.9**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**0.97**	**74**	Pg	**Pb**	**08 18 10.4**	**0.0**
AYDB				Sg	**Sn**	**08 18 24.9**	**+0.1**
EAG2	**Marmaro, Chios**	**0.99**	**331**	P	**Pg**	**08 18 10.3**	**-0.5**
EAG2				S	**Sb**	**08 18 23.7**	**+0.2**
KARB	**zmir-Karabur**	**1.01**	**347**	P	**Pg**	**08 18 10.4**	**-0.8**
KARB				S	**Sb**	**08 18 24.9**	**+0.6**
FOCM	**Foa**	**1.03**	**1**	Pg	**Pg**	**08 18 10.9**	**-0.7**
FOCM				Sg	**Sn**	**08 18 25.9**	**-0.3**
FOCM	**Foa**	**1.03**	**1**	P	**Pg**	**08 18 09.9**	**-1.7**
FOCM				S	**Sb**	**08 18 25.4**	**+0.5**
IZMR	**zmir-demi**	**1.08**	**65**	P	**Pg**	**08 18 11.9**	**-0.6**
IZMR				S	**Sg**	**08 18 24.9**	**-1.8**
NISR	**Nisiros**	**1.11**	**162**	P	**Pn**	**08 18 13.9**	**+1.0**
NISR				S	**Sn**	**08 18 31.4**	**+3.3**
	comp=N,16μm,0.6s						
NISR	**Nisiros**	**1.11**	**162**	P	**Pg**	**08 18 13.2**	**+0.1**
NISR				S	**Sb**	**08 18 26.4**	**-0.8**
NISR				AML	AML	08 18 34.3	
	comp=N,24617μm,0.6s						
NISR				AML	AML	08 18 41.1	
	comp=E,37098μm,0.6s						
APE	**Apeiranthos**	**1.12**	**238**	Pg	**Pb**	**08 18 11.5**	**-1.4**
APE				Sg	**Sb**	**08 18 26.2**	**-1.2**
APE	**Apeiranthos**	**1.12**	**238**	P	**Pb**	**08 18 11.3**	**-1.6**
APE				S	**Sb**	**08 18 27.6**	**+0.2**
APE	**Apeiranthos**	**1.12**	**238**	P	**Pg**	**08 18 13.4**	**+0.1**
APE				S	**Sn**	**08 18 30.8**	**+2.4**
	comp=E,13μm,0.4s						
APE	**Apeiranthos**	**1.12**	**238**	⇓P	**Pb**	**08 18 11.8**	**-1.1**
APE				⇓S	**Sb**	**08 18 25.6**	**-1.8**
APE	**Apeiranthos**	**1.12**	**238**	P	**Pg**	**08 18 13.4**	**+0.1**
APE				S	**Sn**	**08 18 30.8**	**+2.4**
YAZI	**Mula-Dat§a-**	**1.16**	**149**	P	**Pb**	**08 18 12.0**	**-1.5**
YAZI				S	**Sn**	**08 18 32.2**	**+3.0**
DAT	**Datca**	**1.17**	**144**	Pn	**Pb**	**08 18 13.2**	**-0.6**
DAT				Sn	**Sn**	**08 18 30.2**	**+0.5**
DAT	**Datca**	**1.17**	**144**	P	**Pb**	**08 18 12.2**	**-1.7**
DAT				S	**Sn**	**08 18 31.2**	**+1.5**
DAT	**Datca**	**1.17**	**144**	P	**Pg**	**08 18 14.5**	**+0.2**
DAT				S	**Sn**	**08 18 32.7**	**+3.0**
DATC	**Datca-Mugla**	**1.19**	**140**	Pn	**Pb**	**08 18 13.7**	**-0.3**
DATC	**Datca-Mugla**	**1.19**	**140**	P	**Pb**	**08 18 12.9**	**-1.1**
DATC				S	**Sb**	**08 18 29.5**	**+0.2**
CAND	**Candarli**	**1.28**	**3**	Pn	**Pb**	**08 18 15.4**	**-0.2**
CAND				Sn	**Sn**	**08 18 33.3**	**+1.1**
CAND	**Candarli**	**1.28**	**3**	P	**Pg**	**08 18 15.7**	**-0.6**
CAND				S	**Sb**	**08 18 31.7**	**-0.2**
ESEN	**Aydn-Nazilli**	**1.30**	**84**	P	**Pn**	**08 18 14.7**	**-0.8**
ESEN				S	**Sg**	**08 18 34.9**	**+1.2**
ZEDA	**zmir-Bergama**	**1.32**	**12**	P	**Pn**	**08 18 14.8**	**-1.0**
ZEDA				S	**Sg**	**08 18 35.6**	**+1.4**
MULA	**Mugla, Merkez-**	**1.35**	**108**	P	**Pn**	**08 18 15.2**	**-1.1**
MULA				S	**Sb**	**08 18 33.1**	**-0.9**
DKL	**Dikili**	**1.40**	**6**	Pn	**Pn**	**08 18 16.7**	**-0.2**
DKL	**Dikili**	**1.40**	**6**	P	**Pn**	**08 18 14.9**	**-2.0**
DKL				S	**Sg**	**08 18 38.6**	**+1.8**
GOMA	**Golmarmara-Man**	**1.40**	**42**	Pn	**Pb**	**08 18 17.4**	**-0.3**
GOMA	**Golmarmara-Man**	**1.40**	**42**	P	**Pg**	**08 18 17.9**	**-0.7**
GOMA				S	**Sg**	**08 18 36.7**	**-0.1**
KIRA	**zmir-Kiraz**	**1.43**	**68**	P	**Pn**	**08 18 17.8**	**+0.4**
KIRA				S	**Sn**	**08 18 35.5**	**-0.6**
AKHS	**Akhisar**	**1.48**	**36**	P	**Pn**	**08 18 16.2**	**-1.8**
AKHS				S	**Sg**	**08 18 41.3**	**+1.9**
AKS	**Akhisar**	**1.48**	**36**	Pn	**Pb**	**08 18 18.8**	**-0.2**
AKS	**Akhisar**	**1.48**	**36**	P	**Pn**	**08 18 18.2**	**+0.2**
AKS				S	**Sg**	**08 18 39.7**	**+0.4**
MRSB	**Marmaris-Mugla**	**1.53**	**129**	Pn	**Pn**	**08 18 18.5**	**-0.1**
MRSB	**Marmaris-Mugla**	**1.53**	**129**	S	**Sg**	**08 18 43.9**	**+3.1**
CMBO	**Columbo, Santo**	**1.59**	**221**	P	**Pb**	**08 18 21.1**	**+0.1**
CMBO				S	**Sg**	**08 18 44.1**	**+1.1**
CMBO	**Columbo, Santo**	**1.59**	**221**	P	**Pn**	**08 18 20.0**	**+0.5**
CMBO				AML	AML	08 18 50.0	
	comp=N,60119μm,0.6s						
CMBO				AML	AML	08 18 52.9	
	comp=E,82058μm,0.6s						
THR2	**Thira island,**	**1.60**	**220**	P	**Pb**	**08 18 21.3**	**+0.3**
PRK	**Paraskevi**	**1.60**	**348**	P	**Pn**	**08 18 20.1**	**+0.4**
PRK				S	**Sb**	**08 18 41.6**	**+0.3**
PRK	**Paraskevi**	**1.60**	**348**	P	**Pn**	**08 18 20.1**	**+0.4**
PRK				S	**Sb**	**08 18 41.6**	**+0.3**
PRK	**Paraskevi**	**1.60**	**348**	P	**Pn**	**08 18 18.6**	**-1.0**
PRK				AML	AML	08 18 49.9	
	comp=N,67502μm,0.7s						
PRK				AML	AML	08 18 50.1	
	comp=E,73112μm,0.6s						
THR8	**Santorini-Mono**	**1.61**	**218**	P	**Pb**	**08 18 20.9**	**-0.3**
SNT1	**Gialos, Santor**	**1.62**	**220**	P	**Pn**	**08 18 20.9**	**+1.0**
SNT1				S	**Sg**	**08 18 45.1**	**+1.1**
AYVA	**Ayvalik**	**1.63**	**359**	P	**Pn**	**08 18 18.0**	**-2.0**
AYVA				S	**Sg**	**08 18 43.3**	**-0.8**
THR3	**Thira Island,**	**1.64**	**220**	P	**Pb**	**08 18 21.9**	**+0.1**
SANT	**Santorini**	**1.65**	**218**	Pn	**Pn**	**08 18 19.2**	**-1.0**
SANT	**Santorini**	**1.65**	**218**		**Pn**	**08 18 19.9**	**-0.3**
SANT	**Santorini**	**1.65**	**218**	P	**Pn**	**08 18 19.3**	**-1.0**
SANT				S	**Sg**	**08 18 46.4**	**+1.8**
SANT	**Santorini**	**1.65**	**218**	P	**Pb**	**08 18 21.6**	**-0.3**
SANT				S	**Sg**	**08 18 45.7**	**+1.1**
SANT	**Santorini**	**1.65**	**218**	P	**Pn**	**08 18 20.0**	**-0.3**
SANT				AML	AML	08 18 51.0	
	comp=E,31912μm,0.6s						
SANT				AML	AML	08 18 53.6	
	comp=N,10952μm,0.8s						
SAP3	**Santorini-Thir**	**1.65**	**222**	P	**Pb**	**08 18 22.1**	**+0.1**
SAP3				S	**Sg**	**08 18 45.3**	**+0.5**
THR5	**Thira Island,**	**1.67**	**221**	P	**Pn**	**08 18 21.5**	**+1.0**
MANT	**Manisa**	**1.67**	**60**	P	**Pg**	**08 18 23.6**	**-0.1**
MANT				S	**Sb**	**08 18 43.5**	**+0.1**
SIGR	**SIGRI**	**1.67**	**337**	P	**Pn**	**08 18 20.4**	**-0.2**
SIGR				S	**Sb**	**08 18 43.3**	**0.0**
	comp=N,8μm,0.7s						
SIGR	**SIGRI**	**1.67**	**337**	P	**Pn**	**08 18 19.6**	**-1.1**
SIGR				AML	AML	08 18 48.2	
	comp=N,16812μm,0.8s						
SIGR				AML	AML	08 18 50.5	
	comp=E,14457μm,0.7s						
THR6	**Thira Island,**	**1.69**	**219**	P	**Pb**	**08 18 22.5**	**0.0**
THR9	**Santorini-Faro**	**1.71**	**220**	P	**Pb**	**08 18 22.8**	**-0.1**
KULA	**Kula-Manisa**	**1.75**	**61**	Pn	**Pn**	**08 18 22.3**	**+0.5**
KULA	**Kula-Manisa**	**1.75**	**61**	P	**Pn**	**08 18 20.7**	**-1.1**
KULA				S	**Sg**	**08 18 47.2**	**-0.8**
KULA	**Kula-Manisa**	**1.75**	**61**	P	**Pn**	**08 18 21.0**	**-0.3**
KULA				S	**Sb**	**08 18 46.0**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.76**	**96**	P	**Pn**	**08 18 20.9**	**-1.1**
GPNR	**Gulpinar-Canak**	**1.83**	**346**	Pn	**Pn**	**08 18 22.8**	**0.0**
GPNR	**Gulpinar-Canak**	**1.83**	**346**	P	**Pn**	**08 18 21.8**	**-1.1**
GPNR				S	**Sg**	**08 18 50.2**	**-0.4**
BUHA	**Balikesir, Bur**	**1.84**	**9**	P	**Pn**	**08 18 21.0**	**-1.9**
BUHA				S	**Sg**	**08 18 52.3**	**+1.4**
ARG	**Arkhangelos**	**1.85**	**142**	Pn	**Pn**	**08 18 22.5**	**-0.6**
ARG	**Arkhangelos**	**1.85**	**142**		**Pn**	**08 18 22.4**	**-0.6**
ARG	**Arkhangelos**	**1.85**	**142**	P	**Pn**	**08 18 23.4**	**+0.4**
ARG				S	**Sb**	**08 18 49.6**	**+1.3**
	comp=E,6μm,1.3s						
ARG	**Arkhangelos**	**1.85**	**142**	P	**Pn**	**08 18 22.4**	**-0.6**
ARG				S	**Sb**	**08 18 49.6**	**+1.3**
ARG	**Arkhangelos**	**1.85**	**142**	P	**Pn**	**08 18 22.5**	**-0.6**
ARG				AML	AML	08 18 57.0	
	comp=E,10909μm,1.2s						
ARG				AML	AML	08 18 57.8	
	comp=N,11657μm,1.2s						
DNIZ	**Denizli-Tavas-**	**1.85**	**91**	P	**Pn**	**08 18 22.7**	**-0.4**
DNIZ				S	**Sg**	**08 18 52.5**	**+1.4**
STEP	**BALIKESIR_Sava**	**1.87**	**25**	P	**Pn**	**08 18 23.2**	**-0.2**
STEP				S	**Sg**	**08 18 52.8**	**+1.0**
KOCA	**Canakkale, Ayv**	**1.88**	**346**	S	**Sb**	**08 18 49.5**	**+0.3**
SABU	**Mula-Dalaman**	**1.99**	**115**	P	**Pn**	**08 18 25.1**	**0.0**
BAYC	**CANAKKALE_Bayr**	**2.06**	**356**	P	**Pn**	**08 18 24.4**	**-1.7**
BAYC				S	**Sg**	**08 18 57.8**	**-0.2**
APMY	**Acipayam-Deniz**	**2.07**	**95**	Pn	**Pn**	**08 18 26.8**	**+0.6**
SKY	**Skiros Island**	**2.08**	**306**	P	**Pn**	**08 18 26.2**	**-0.1**
SKY	**Skiros Island**	**2.08**	**306**	P	**Pn**	**08 18 25.9**	**-0.3**
SKY				AML	AML	08 19 01.0	
	comp=E,3515μm,0.5s						
SKY				AML	AML	08 19 01.2	
	comp=N,3927μm,0.9s						
USAK	**Uak-Merkez**	**2.09**	**60**	P	**Pb**	**08 18 29.7**	**+0.3**
USAK				S	**Sg**	**08 18 57.5**	**-1.4**
KARP	**Karpathos**	**2.16**	**170**	Pn	**Pn**	**08 18 26.6**	**-0.8**
KARP	**Karpathos**	**2.16**	**170**		**Pn**	**08 18 26.2**	**-1.1**
KARP	**Karpathos**	**2.16**	**170**	P	**Pn**	**08 18 28.0**	**+0.7**
KARP				S	**Sb**	**08 18 57.9**	**+0.7**
KARP	**Karpathos**	**2.16**	**170**	P	**Pn**	**08 18 26.5**	**-0.8**
KARP	**Karpathos**	**2.16**	**170**	P	**Pn**	**08 18 26.5**	**-0.8**
KARP				AML	AML	08 19 10.3	
	comp=N,7634μm,0.7s						
KARP				AML	AML	08 19 10.5	
	comp=E,11798μm,0.8s						
FETY	**Fethiye**	**2.16**	**118**	Pn	**Pn**	**08 18 27.9**	**+0.5**
FETY	**Fethiye**	**2.16**	**118**	P	**Pn**	**08 18 27.4**	**0.0**
FETY				S	**Sb**	**08 18 58.5**	**+1.1**
EZN	**Ezine**	**2.17**	**352**	Pn	**Pn**	**08 18 26.9**	**-0.4**
EZN	**Ezine**	**2.17**	**352**	P	**Pn**	**08 18 25.6**	**-1.8**
EZN				S	**Sg**	**08 19 02.9**	**+1.6**
EZN	**Ezine**	**2.17**	**352**	P	**Pn**	**08 18 27.0**	**-0.4**
EZN				S	**Sn**	**08 18 55.6**	**+1.5**
EZN	**Ezine**	**2.17**	**352**	P	**Pn**	**08 18 27.0**	**-0.4**
EZN				S	**Sn**	**08 18 55.6**	**+1.5**
BALY	**Balya**	**2.18**	**19**	P	**Pn**	**08 18 25.9**	**-1.7**
BALY				S	**Sg**	**08 19 01.7**	**0.0**
CAME	**Cameli-Denizli**	**2.19**	**109**	Pn	**Pn**	**08 18 28.2**	**+0.3**
DION	**Dionisos Attik**	**2.23**	**281**	P	**Pn**	**08 18 29.4**	**+1.0**
DION	**Dionisos Attik**	**2.23**	**281**	P	**Pn**	**08 18 28.7**	**+0.4**
DION				AML	AML	08 18 55.2	
	comp=N,6039μm,0.8s						
DION				AML	AML	08 18 55.9	
	comp=E,8725μm,0.6s						
BKES	**Balkesir-Mer**	**2.26**	**25**	P	**Pn**	**08 18 26.9**	**-1.9**
BKES				S	**Sg**	**08 19 03.4**	**-1.0**
KYMI	**Kymi, Euboea I**	**2.27**	**296**	P	**Pn**	**08 18 29.4**	**+0.6**
KYMI				S	**Sb**	**08 18 59.3**	**-1.1**
KYMI	**Kymi, Euboea I**	**2.27**	**296**	P	**Pn**	**08 18 28.5**	**-0.3**
KYMI				AML	AML	08 19 15.1	
	comp=N,2058μm,0.9s						
KYMI				AML	AML	08 19 19.2	
	comp=E,1733μm,1.5s						
SIMA	**Simav-Kutahya**	**2.27**	**51**	Pn	**Pn**	**08 18 29.6**	**+0.7**
INCE	**Denizli-Bozkur**	**2.27**	**88**	P	**Pn**	**08 18 30.4**	**+1.4**
SMAA	**Simav-Kutahya**	**2.28**	**51**	Pn	**Pn**	**08 18 29.7**	**+0.6**
PTL	**Penteli**	**2.28**	**280**	P	**Pn**	**08 18 29.1**	**0.0**
PTL	**Penteli**	**2.28**	**280**	P	**Pn**	**08 18 28.7**	**-0.4**
PTL				AML	AML	08 19 04.5	
	comp=E,3139μm,0.5s						
PTL				AML	AML	08 19 08.0	
	comp=N,4358μm,0.5s						
YENI	**Yenice-Canakka**	**2.29**	**10**	Pn	**Pn**	**08 18 29.6**	**+0.4**
GOLH	**Golhisar**	**2.31**	**100**	P	**Pn**	**08 18 30.4**	**+0.9**
VLY	**Voula,Athens**	**2.32**	**275**	P	**Pn**	**08 18 29.7**	**+0.2**
VLY	**Voula,Athens**	**2.32**	**275**	P	**Pn**	**08 18 29.3**	**-0.2**
VLY				AML	AML	08 19 07.9	
	comp=N,5173μm,0.8s						
VLY				AML	AML	08 19 09.5	
	comp=E,3756μm,0.7s						
ATHU	**Athens Univers**	**2.34**	**278**	P	**Pn**	**08 18 29.8**	**0.0**
ATHU	**Athens Univers**	**2.34**	**278**	P	**Pn**	**08 18 29.5**	**-0.3**
IZZE	**Mula-Seydike**	**2.36**	**121**	P	**Pn**	**08 18 30.9**	**+0.8**
IZZE				S	**Sb**	**08 19 02.9**	**-0.3**
SHAP	**Saphane-Kutahy**	**2.39**	**55**	Pn	**Pn**	**08 18 31.6**	**+1.0**
ATH	**Athens Observa**	**2.39**	**278**	P	**Pn**	**08 18 30.6**	**+0.1**
ATH	**Athens Observa**	**2.39**	**278**	P	**Pn**	**08 18 30.6**	**+0.1**
ATH	**Athens Observa**	**2.39**	**278**	P	**Pn**	**08 18 30.4**	**-0.1**
ATH				AML	AML	08 19 12.7	
	comp=N,3743μm,0.4s						
ATH				AML	AML	08 19 12.8	
	comp=E,4278μm,0.6s						
COMU	**Canakkale**	**2.42**	**356**	Pn	**Pn**	**08 18 30.8**	**-0.2**
DST	**Dursunbey**	**2.44**	**37**	Pn	**Pn**	**08 18 32.4**	**+1.2**
DST	**Dursunbey**	**2.44**	**37**	P	**Pb**	**08 18 35.3**	**0.0**
GONE	**Gonen-Balikesi**	**2.48**	**18**	Pn	**Pn**	**08 18 31.5**	**-0.3**
GONE	**Gonen-Balikesi**	**2.48**	**18**	P	**Pn**	**08 18 30.6**	**-1.2**
LIA	**Limnos Island**	**2.52**	**332**	P	**Pn**	**08 18 31.9**	**-0.3**
LIA				S	**Sn**	**08 19 04.3**	**+1.5**
	comp=E,5μm,0.9s						
LIA	**Limnos Island**	**2.52**	**332**	P	**Pn**	**08 18 31.8**	**-0.5**
LIA				AML	AML	08 19 13.8	
	comp=E,11388μm,0.8s						
LIA				AML	AML	08 19 19.9	
	comp=N,7716μm,1.1s						
SUSR	**Susurluk-Balik**	**2.52**	**25**	Pn	**Pn**	**08 18 32.6**	**+0.3**
GEDZ	**Gediz**	**2.52**	**56**	Pn	**Pn**	**08 18 33.6**	**+1.2**
GEDZ	**Gediz**	**2.52**	**56**	P	**Pb**	**08 18 37.0**	**+0.1**
GADA	**Gvkgeada**	**2.59**	**346**	Pn	**Pn**	**08 18 32.8**	**-0.4**
ZKR	**Zakros**	**2.59**	**189**	P	**Pn**	**08 18 34.2**	**+1.0**
ZKR				S	**Sb**	**08 19 08.2**	**-1.4**
	comp=N,4μm,0.7s						
ZKR	**Zakros**	**2.59**	**189**	P	**Pn**	**08 18 32.9**	**-0.3**
ZKR				AML	AML	08 19 20.6	
	comp=N,4167μm,0.7s						
ZKR				AML	AML	08 19 22.9	
	comp=E,10650μm,0.6s						
GDZ	**Gediz**	**2.59**	**56**	P	**Pb**	**08 18 38.1**	**0.0**
BASM	**Basmaki-Afyon**	**2.66**	**84**	Pn	**Pn**	**08 18 34.9**	**+0.7**
EMET	**Ktahya-Emet**	**2.66**	**50**	P	**Pb**	**08 18 40.5**	**+1.3**
BNAZ	**Uak-Banaz**	**2.69**	**67**	P	**Pb**	**08 18 40.6**	**+0.9**
LPK	**Lapseki**	**2.69**	**1**	Pn	**Pn**	**08 18 34.9**	**+0.3**
KSTL	**Kastelli Herak**	**2.71**	**210**	P	**Pn**	**08 18 34.9**	**-0.1**
KSTL				AML	AML	08 19 26.1	
	comp=N,5702μm,0.5s						
KSTL				AML	AML	08 19 27.6	
	comp=E,3125μm,0.7s						
ELL	**Elmali**	**2.71**	**109**	Pn	**Pn**	**08 18 36.2**	**+1.1**
ELL	**Elmali**	**2.71**	**109**	Pn	**Pn**	**08 18 36.2**	**+1.1**
ELL	**Elmali**	**2.71**	**109**	P	**Pn**	**08 18 36.2**	**+1.1**
AKAS	**Kas**	**2.73**	**121**	Pn	**Pn**	**08 18 36.6**	**+1.3**
AKAS	**Kas**	**2.73**	**121**	P	**Pn**	**08 18 36.3**	**+1.0**
AKAS				S	**Sg**	**08 18 19.9**	**-2.5**
VILL	**Villia**	**2.73**	**281**	P	**Pn**	**08 18 35.4**	**+0.2**
KRBG	**Karabiga-Canak**	**2.75**	**9**	Pn	**Pn**	**08 18 35.5**	**+0.1**
KSL	**Kastellorizon**	**2.76**	**123**	P	**Pn**	**08 18 36.2**	**+0.6**
KSL				AML	AML	08 19 26.9	
	comp=N,3024μm,2.2s						
KSL				AML	AML	08 19 27.1	
	comp=E,3988μm,1.2s						
VIL2	**Platees**	**2.77**	**282**	P	**Pn**	**08 18 35.1**	**-0.7**
VIL2				AML	AML	08 19 33.2	
	comp=N,2315μm,0.8s						
VIL2				AML	AML	08 19 34.3	
	comp=E,4713μm,0.9s						
IDI	**Anoyia**	**2.80**	**212**	P	**Pn**	**08 18 37.5**	**+1.3**
IDI	**Anoyia**	**2.80**	**212**	Pn	**Pn**	**08 18 35.3**	**-0.9**
	comp=E,41nm,0.5s,baz=343,slow=7.3,SNR=45						
IDI				Sn	**Sn**	**08 19 07.9**	**-2.0**
	comp=E,35nm,0.3s,baz=295,slow=17,SNR=6.5						
IDI	**Anoyia**	**2.80**	**212**	P	**Pn**	**08 18 35.9**	**-0.3**
IDI				AML	AML	08 19 25.3	
	comp=E,2057μm,0.5s						
IDI				AML	AML	08 19 25.6	
	comp=N,2696μm,0.6s						
EDC	**Edincik

MAKR Makrakomi, Fth 3.84 292 P **Pn 08 18 51.5 +1.0**
ISK Istanbul-Kandi 3.84 28 P **Pn 08 18 50.5 +0.1**
ISK Istanbul-Kandi 3.84 28 P **Pn 08 18 50.5 +0.1**
ITM Ithomi 3.84 264 Pn **Pn 08 18 51.3 +0.9**
ITM Ithomi 3.84 264 P **Pn 08 18 51.6 +1.1**
ITM Ithomi 3.84 264 P **Pn 08 18 51.4 +0.9**
EFP Efpalio 3.87 283 P **Pn 08 18 51.4 +0.6**
EFP AML AML 08 20 08.1
comp=N,773μm,1.2s
EFP AML AML 08 20 09.1
comp=E,1022μm,0.9s
ANX Ano Chora 3.89 285 P **Pn 08 18 52.2 +1.0**
ANX Ano Chora 3.89 285 P **Pn 08 18 51.9 +0.7**
ANX AML AML 08 20 06.1
comp=N,2076μm,0.9s
ANX AML AML 08 20 10.9
comp=E,1555μm,1.1s
DRO Drossia 3.97 275 P **Pn 08 18 52.9 +0.6**
DRO Drossia 3.97 275 P **Pn 08 18 52.8 +0.6**
DRO AML AML 08 20 09.1
comp=N,1106μm,1.1s
DRO AML AML 08 20 17.3
comp=E,1034μm,1.2s
PYL PYLOS 4.04 260 P **Pn 08 18 54.5 +1.4**
PYL AML AML 08 20 06.4
comp=N,403μm,1.1s
PYL AML AML 08 20 16.9
comp=E,571μm,1.2s
HORT Hortiatis 4.05 317 P **Pn 08 18 53.6 +0.2**
TYRN Tyrnavos 4.05 301 P **Pn 08 18 54.1 +0.8**
EVR Evrytania 4.05 289 P **Pn 08 18 54.8 +1.3**
EVR Evrytania 4.05 289 P **Pn 08 18 54.7 +1.3**
SOH Sokhos 4.08 321 P **Pn 08 18 53.9 +0.1**
SOH Sokhos 4.08 321 P **Pn 08 18 53.8 +0.1**
THL Klokotos Trika 4.13 299 P **Pn 08 18 55.1 +0.7**
THL Klokotos Trika 4.13 299 P **Pn 08 18 54.9 +0.5**
EDRB Edirne 4.16 0 P **Pn 08 18 55.4 +0.5**
RLS Riolos of Patr 4.17 277 P **Pn 08 18 56.0 +1.1**
RLS Riolos of Patr 4.17 277 P **Pn 08 18 55.7 +0.8**
PVO Paravola 4.19 285 P **Pn 08 18 57.1 +1.8**
PVO Paravola 4.19 285 P **Pn 08 18 56.5 +1.2**
SRS Serrai 4.20 326 P **Pn 08 18 55.5 +0.1**
SRS Serrai 4.20 326 P **Pn 08 18 55.2 -0.2**
NVR Nevrokopi 4.28 330 P **Pn 08 18 57.3 +0.8**
NVR Nevrokopi 4.28 330 P **Pn 08 18 57.2 +0.8**
MDUB Mudurnu 4.47 50 Pn **Pn 08 19 02.0 +2.9**
KNT Kendrikon 4.56 321 P **Pn 08 19 01.0 +0.6**
LKD2 Lefkada island 4.89 285 P **Pn 08 19 06.9 +2.0**
LKD2 Lefkada island 4.89 285 P **Pn 08 19 07.4 +2.4**
FSK Fiskardo 4.92 281 P **Pn 08 19 06.6 +1.4**
PEHC Pehcevo 5.04 326 *i* Pn **Pn 08 19 07.9 +0.8**
FNA Florina 5.17 308 P **Pn 08 19 10.4 +1.6**
BR231 Keskin MP Arra 5.21 64 Pn **Pn 08 19 11.2 +1.8**
ANTO Ankara 5.23 63 P **Pn 08 19 10.8 +1.2**
ANTO Ankara 5.23 63 P **Pn 08 19 10.8 +1.2**
ELND Elena 5.28 353 ⇓P **Pn 08 19 09.9 -0.4**
OHR Ohrid 5.72 309 *i* Pn Pn 08 19 22.4 +6.1
KEK Kerkira 5.78 293 Pn **Pn 08 19 18.9 +1.9**
BR131 Keskin Array S 5.79 67 **Pn 08 19 18.3 +0.9**
BR131 Keskin Array S 5.79 67 P **Pn 08 19 18.3 +0.9**
BRTR Keskin Array B 5.79 67 **Pn 08 19 17.5 +0.1**
BRTR Keskin Array B 5.79 67 Pn **Pn 08 19 18.5 +1.1**
comp=E,1.3nm,0.3s,baz=246,slow=14,SNR=35
BRTR Lg Lg 08 20 56.0
baz=275,slow=14
comp=E,12nm,0.7s
CSS Mathiatis 5.99 115 Pn **Pn 08 19 20.2 +0.2**
CSS Mathiatis 5.99 115 P **Pn 08 19 20.8 +0.8**
TIR Tirane 6.44 307 Pn **Pn 08 19 27.4 +1.3**
TIR Tirane 6.44 307 ⇓P **Pn 08 19 24.5 -1.6**
TIR Tirane 6.44 307 P **Pn 08 19 27.4 +1.3**
PUK Puka 6.82 312 **Pn 08 19 34.3 +2.9**
BOVS Bovan 7.06 329 ⇑P **Pn 08 19 35.0 +0.3**
HARR Harsova 7.07 7 ⇑P **Pn 08 19 34.7 -0.1**
HARR Harsova 7.07 7 P **Pn 08 19 34.6 -0.1**
BNN Bunyan 7.28 78 Pn **Pn 08 19 40.2 +2.4**
PDG Podgorica 7.43 312 **Pn 08 19 41.7 +2.0**
PDG Podgorica 7.43 312 ⇑P **Pn 08 19 37.8 -1.9**
ISR Istrita 7.44 359 ⇑P **Pn 08 19 40.8 +1.0**
ISR Istrita 7.44 359 P **Pn 08 19 40.8 +1.0**
TLCR 7.67 11 ⇑P **Pn 08 19 43.2 +0.2**
TLCR 7.67 11 P **Pn 08 19 43.1 +0.2**
MLR Muntele Rosu 7.83 356 Pn **Pn 08 19 45.8 +0.5**
comp=E,0.6nm,0.3s,baz=183,slow=8.0,SNR=8.9
MLR Sn **Sn 08 21 16.4 +2.6**
comp=E,0.9nm,0.3s,baz=95,slow=19,SNR=1.3
MLR Lg Lg 08 21 59.4
comp=E,0.7nm,0.3s,baz=107,slow=20,SNR=1.9
comp=E,15nm,0.9s
MLR Muntele Rosu 7.83 356 ⇓P **Pn 08 19 46.0 +0.7**
SNOP Sinop 7.84 54 Pn **Pn 08 19 47.1 +1.7**
VOIR 7.85 351 ⇑P **Pn 08 19 45.5 -0.2**
VOIR 7.85 351 P **Pn 08 19 45.4 -0.2**
BISRR Bisoca 7.86 360 ⇑P **Pn 08 19 47.0 +1.3**
HERR Herculane 7.89 337 ⇓P **Pn 08 19 45.5 -0.5**
TIP Timpagrande 7.96 284 **Pn 08 19 47.0 0.0**
MDVR Moldovita 8.03 334 ⇓P **Pn 08 19 47.9 -0.2**
LOT Lotru 8.07 345 ⇓P **Pn 08 19 47.9 -0.8**
PLOR Plostina 8.17 360 ⇓P **Pn 08 19 51.1 +1.2**
PLOR Plostina 8.17 360 P **Pn 08 19 51.1 +1.2**
COVR Voineasa-Covas 8.17 358 ⇓P **Pn 08 19 51.5 +1.6**
TNR Turnu Rosu 8.17 348 ⇓P **Pn 08 19 51.0 +1.0**
TNR Turnu Rosu 8.17 348 P **Pn 08 19 51.0 +1.0**
VRI Vrincioaia 8.18 0 ⇓P **Pn 08 19 51.6 +1.5**
VRI Vrincioaia 8.18 0 P **Pn 08 19 51.5 +1.5**
GZR Gura Zlata 8.25 340 ⇓P **Pn 08 19 50.2 -0.8**
MATE Matera 8.32 294 ⇓P **Pn 08 19 49.8 -2.2**
DOPR Dopca 8.34 354 ⇓P **Pn 08 19 52.5 +0.3**
TURR Turia 8.39 357 ⇓P **Pn 08 19 54.4 +1.5**
OZUR 8.44 356 ⇑P **Pn 08 19 54.7 +1.0**
MMA0 Mount Meron ar 8.49 121 P **Pn 08 19 52.7 -1.6**
MMAI Mount Meron Ar 8.49 121 Pn **Pn 08 19 51.9 -2.4**
comp=E,12nm,0.4s,baz=311,slow=13,SNR=30
MMAI Sn **Sn 08 21 23.3 -6.7**
comp=E,6.7nm,0.3s,baz=305,slow=24,SNR=2.9
MMAI LR LR 08 23 58.6
comp=E,309nm,18.2s,baz=256,slow=44
NATI Neve Ativ 8.58 118 P **Pn 08 19 54.0 -1.5**
SEV Sevastopol' 8.64 35 *e*P **Pn 08 19 58.6 +2.4**
SEV *e*S **Sn 08 21 25.6 -7.8**
ONER Baraj Valea Uz 8.65 359 ⇑P **Pn 08 19 57.2 +0.6**
SURR Surduc 8.77 338 ⇑P **Pn 08 19 57.5 -0.5**
CUC Castrocucco 8.87 289 **Pn 08 19 59.1 +0.4**
TESR Tescani 8.83 360 ⇓P **Pn 08 19 59.4 +0.5**
SHMJ Saham 8.90 121 P **Pn 08 19 59.0 -1.0**
QRNJ Al-Qirein 9.01 124 P **Pn 08 20 01.3 -0.1**
HMDT Nahal Hemdat 9.03 124 P **Pn 08 20 01.6 -0.1**
SIM Simferopol' 9.15 35 *e*P **Pn 08 20 05.5 +2.2**
ARPR Arapgir-MALATY 9.24 78 **Pn 08 20 06.8 +2.1**
MAKA Makarska 9.27 310 *i* P **Pn 08 20 04.4 -0.5**
KZIT Kziot 9.27 134 P **Pn 08 20 03.4 -1.7**
MILM Milestii Mici 9.37 9 *e*P **Pn 08 20 06.0 -0.2**
MILM *e*S **Sn 08 21 52.0 +0.7**
MILM *e*L L 08 23 52.0
MILM LRM MLR 08 24 04.0
comp=E,1μm,11.0s
MILM Milestii Mici 9.37 9 *e*P **Pn 08 20 06.0 -0.2**
MILM *e*S **Sn 08 21 52.0 +0.7**
MILM MLR MLR
comp=N,800nm,11.0s
MILM MLR MLR
comp=Z,1μm,11.0s
SIRR Siria 9.37 338 ⇓P **Pn 08 20 06.2 -0.1**
MARR Marisel-Cluj 9.38 345 ⇑P **Pn 08 20 06.4 -0.1**
SUDU Sudak 9.53 38 *e*P **Pn 08 20 11.8 +3.4**
SUDU *e* 08 21 51.6
DRGR 9.58 343 P **Pn 08 20 11.3 +2.1**
VAE Valguarnera 9.77 273 Pn **Pn 08 20 13.7 +1.8**
comp=Z,13nm,0.4s,baz=108,slow=20,SNR=5.9
RAFF Raffo Rosso 9.83 271 **Pn 08 20 12.8 +0.1**
PAOL Paolisi 9.98 293 **Pn 08 20 15.8 +1.0**
ZFRI Zfri 9.98 133 P **Pn 08 20 14.2 -0.5**
BURAR Bucovina Array 9.99 354 **Pn 08 20 15.8 +0.9**
BURAR Bucovina Array 9.99 354 ⇑P **Pn 08 20 16.4 +1.5**
BURAR Bucovina Array 9.99 354 P **Pn 08 20 16.4 +1.5**
ASF Jabal al Asfar 10.00 120 Pn **Pn 08 20 14.5 -0.6**
comp=Z,1.2nm,0.3s,baz=232,slow=20,SNR=7.4
comp=Z,6.4nm,0.6s
ASF Jabal al Asfar 10.00 120 P **Pn 08 20 14.8 -0.3**
BUR08 Bucovina Ar. S 10.02 354 **Pn 08 20 15.8 +0.5**
HRFI Mount Harif 10.29 135 P **Pn 08 20 17.1 -1.9**
MORI Morici 10.38 310 *i* P **Pn 08 20 19.1 -1.0**

MBRI Mt Berech 10.41 137 P **Pn 08 20 18.6 -2.1**
SORM Soroca 10.52 6 ⇑P **Pn 08 20 22.8 +0.8**
SORM Soroca 10.52 6 P **Pn 08 20 22.8 +0.8**
EIL Elat 10.53 137 Pn **Pn 08 20 19.3 -3.0**
comp=Z,1.2nm,0.3s,baz=326,slow=9.5,SNR=8.9
EIL Sn Sn 08 22 10.7 -9.3
comp=Z,2.6nm,0.3s,baz=22,slow=20,SNR=4.9
EIL LR LR 08 26 34.4
comp=Z,84nm,18.4s,baz=252,slow=50
comp=Z,3.7nm,0.5s
EIL Elat 10.53 137 P **Pn 08 20 21.8 -0.4**
AQBJ Aqaba 10.54 136 P **Pn 08 20 20.7 -1.6**
CLTB Caltabellotta 10.71 274 **Pn 08 20 25.1 +0.4**
ANN Anapa 10.75 45 *e*P **Pn 08 20 24.6 -0.7**
ANN *e*S **Sn 08 22 26.5 +1.1**
ANN pmax pmax
comp=Z,31nm,0.7s
INTR Introdacqua 10.75 298 **Pn 08 20 27.6 +2.3**
CAMP Campotosto 11.28 300 Pn **Pn 08 20 33.0 +0.3**
PSZ Piszkesteto 11.39 336 Pn **Pn 08 20 34.6 +0.6**
PSZ Piszkesteto 11.39 336 P **Pn 08 20 34.6 +0.6**
SOC Sochi 11.50 55 *e*P **Pn 08 20 35.2 -0.3**
SOC *e* 08 22 45.3
SOC MLR MLR
comp=Z,179nm,12.0s
NRCA Norcia 11.59 301 **Pn 08 20 36.5 -0.3**
VYHS Vyhne 12.24 335 *e*PN **Pn 08 20 46.9 +1.3**
SOKA Soboth 12.47 320 *e*Pn **Pn 08 20 51.0 +2.1**
comp=Z,2.3nm,0.8s
RONA Rosalia, Austr 12.60 326 *e*Pn **Pn 08 20 50.9 +0.4**
comp=Z,0.5nm,0.4s
LANS Liptovska Anna 12.61 338 *e*P **Pn 08 20 46.9 -3.8**
OBKA Obir 12.62 318 *e*Pn **Pn 08 20 50.9 +0.1**
comp=Z,2.3nm,0.6s
ARSA Arzberg 12.63 323 *e*Pn **Pn 08 20 51.1 +0.2**
comp=Z,7.1nm,1.5s
CONA Conrad Observa 12.96 326 *i* Pn **Pn 08 20 55.9 +0.3**
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 13.14 7 Pn **Pn 08 20 57.6 -0.3**
comp=Z,0.8nm,0.3s,baz=195,slow=12,SNR=2.4
AKASG LR LR 08 26 41.4
comp=Z,225nm,19.9s,baz=218,slow=40
AKBB Malin Array Si 13.14 7 ⇓*e*P **Pn 08 21 00.7 +2.8**
AKBB pmax pmax
comp=Z,7.0nm,1.5s
STAL STALIGIAL 13.48 314 Pn **Pn 08 21 05.5 +3.0**
KRUC Moravsky 13.61 330 *e*P **P 08 21 14.6 +1.3**
KIV Kislovodsk 13.62 58 *e*P **Pn 08 21 06.3 +1.8**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,123nm,13.0s
KBZ Khabaz 13.68 59 Pn **Pn 08 21 07.8 +2.6**
comp=Z,0.2nm,0.3s,baz=225,slow=2.9,SNR=1.8
comp=Z,2.0nm,0.9s
VRAC Vranov 13.73 331 *e*P **P 08 21 16.2 +1.6**
VRAC Vranov 13.73 331 Pn **Pn 08 21 08.8 +2.8**
comp=Z,0.1nm,0.3s,baz=104,slow=8.3,SNR=1.2
VRAC LR LR 08 26 38.7
comp=Z,113nm,18.4s,baz=146,slow=38
comp=Z,1.5nm,0.3s
BIOA Bad Ischl, Aus 13.86 320 *e*Pn **Pn 08 21 08.5 +0.8**
comp=Z,5.6nm,0.7s
ABTA Abfaltersbach 13.87 315 *e*Pn **Pn 08 21 09.8 +1.9**
comp=Z,2.0nm,0.6s
CTI Castel Tesino 13.98 311 Pn **Pn 08 21 09.5 0.0**
CTI Castel Tesino 13.98 311 P **Pn 08 21 09.5 0.0**
KEST Kesra 14.07 267 **Pn 08 21 11.2 +0.5**
KEST Kesra 14.07 267 Pn **Pn 08 21 11.9 +1.2**
comp=Z,5.2nm,1.0s,baz=28,slow=11,SNR=3.8
KEST LR LR 08 26 03.9
comp=Z,84nm,20.8s,baz=266,slow=35
LESA Schwarzleotal 14.19 318 *e*Pn **Pn 08 21 14.6 +2.3**
comp=Z,4.6nm,0.9s
GNI Garni 14.26 74 Pn **Pn 08 21 15.7 +2.4**
GNI Garni 14.26 74 Pn **Pn 08 21 14.0 +0.6**
comp=Z,0.9nm,0.3s,baz=343,slow=24,SNR=1.3
comp=Z,3.2nm,0.3s
GNI Garni 14.26 74 P **Pn 08 21 15.7 +2.4**
GERES GERESS Array B 14.62 324 Pn **Pn 08 21 19.2 +1.0**
comp=Z,5.7nm,0.3s,baz=106,slow=7.2,SNR=2.1
WTTA Wattenberg 14.66 316 *e*Pn **P 08 21 24.1 -0.9**
comp=Z,9.9nm,0.9s
WATA Walderalm 14.73 316 *e*Pn **P 08 21 24.4 -1.5**
comp=Z,14nm,1.3s
SQTA Sankt Quirin 14.87 315 *e*Pn **P 08 21 24.8 -2.6**
comp=Z,0.1nm,0.2s
KHC Kasperske Hory 14.88 324 Pn **Pn 08 21 23.9 +2.3**
KHC Kasperske Hory 14.88 324 ⇑*e*P **Pn 08 21 24.7 +3.0**
KHC pmax pmax
comp=Z,22nm,1.3s
MOTA Moosalm 15.00 315 *e*Pn **Pn 08 21 23.1 -0.3**
comp=Z,6.1nm,1.0s
FETA Feichten 15.04 313 *i* Pn **Pn 08 21 24.6 +0.7**
comp=Z,10nm,1.1s
FUORN Ofenpass-Fuorn 15.10 311 Pn **Pn 08 21 26.8 +2.0**
KSP Ksiaz 15.11 334 P **P 08 21 28.0 -1.9**
KSP pmax pmax
comp=Z,5.0nm,1.6s
RETA Reutte 15.27 315 *e*Pn **P 08 21 30.1 -1.7**
comp=Z,4.6nm,0.8s
DAVOX Davos/Dischmat 15.41 311 Pn **Pn 08 21 30.2 +1.3**
comp=Z,0.4nm,0.3s,baz=174,slow=13,SNR=3.0
DAVOX LR LR 08 27 31.0
comp=Z,148nm,20.2s,baz=101,slow=38
comp=Z,1.6nm,0.4s
DAVA Damuels 15.67 313 *e*Pn **P 08 21 35.1 -1.1**
comp=Z,21nm,1.1s
VORD Divnogorie 16.02 30 *e*P **Pn 08 21 37.6 +1.1**
VORD pmax pmax
comp=Z,7.0nm,0.4s
BRG Berggiesshubel 16.02 330 *e*P **P 08 21 41.7 +1.7**
BRG Berggiesshubel 16.02 330 *e*P **P 08 21 41.6 +1.7**
BRG pmax pmax
comp=Z,11nm,1.1s
BRG MLR MLR
comp=N,290nm,9.6s
BRG MLR MLR
comp=Z,447nm,8.3s
BRG MLR MLR
comp=E,161nm,8.0s
VSR Storozhevoye 16.16 29 *e*P **Pn 08 21 37.1 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VORR Voronezh 16.54 28 *e*P **Pn 08 21 42.5 -0.7**
VORR pmax pmax
comp=Z,72nm,0.4s
MAK Makhachkala 16.70 65 *e*P **Pn 08 21 42.4 -2.8**
MAK *e*S **Sn 08 24 47.9 -2.6**
MAK pmax pmax
comp=Z,160nm,0.9s
MAK MLR MLR
comp=Z,404nm,12.0s
BNI Bardonecchia 16.72 302 P **P 08 21 48.0 +0.1**
BNI Bardonecchia 16.72 302 P **P 08 21 48.0 +0.1**
BNI pmax pmax
comp=Z,15nm,1.1s
CLL Collm 16.73 329 P **P 08 21 47.7 -0.2**
CLL Collm 16.73 329 *e*P **P 08 21 49.0 +1.1**
CLL *i* sP **sP 08 21 53.6 +0.2**
comp=Z,9.0nm,1.0s
CLL *e*x x 08 24 24.0
CLL *e*S **S 08 25 00.0 -2.2**
CLL Collm 16.73 329 P **P 08 21 47.7 -0.2**
CLL pmax pmax
comp=Z,5.0nm,0.8s
SENIN Lac Senin/Sane 16.80 307 P **P 08 21 48.4 -0.5**
SENIN IAmb IAmb 08 21 54.9
comp=Z,53nm,1.0s
LPG La Plagne 16.82 304 *e*P **P 08 21 51.2 +1.9**
LPG pmax pmax
comp=Z,18nm,1.0s
MNK Minsk 16.85 2 *i* P **Pn 08 21 47.2 +0.1**
comp=E,6.0nm,0.8s
MNK *i* P **Pn 08 21 47.2 +0.1**
comp=N,30nm,0.8s
MNK *i* P **Pn 08 21 47.2 +0.1**
comp=Z,27nm,1.1s,baz=183
MNK *i* PP **PnPn 08 21 56.4 -0.1**
MNK *i* S **Sn 08 24 56.4 +2.5**
MNK *i* SS **SnSn 08 25 10.3 +3.1**
MNK *i* LR LR 08 26 57.7
MNK *i* LRM MLR 08 28 34.8
comp=Z,226nm,11.6s
MNK *i* LRM MLR 08 28 37.4
comp=N,216nm,11.9s

MNK *i* LRM MLR 08 29 14.2
comp=E,62nm,11.8s
MNK Minsk 16.85 2 *i* P **Pn 08 21 47.1 +0.1**
MNK *i* S **Sn 08 24 56.4 +2.5**
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=N,30nm,0.9s
MNK pmax pmax
comp=Z,27nm,1.1s
MNK MLR MLR
comp=Z,226nm,12.0s
MNK MLR MLR
comp=N,216nm,12.0s
MNK MLR MLR
comp=E,62nm,12.0s
BFO Black Forest 17.11 314 P **P 08 21 52.7 +0.6**
BFO Black Forest 17.11 314 P **P 08 21 52.7 +0.6**
BFO pmax pmax
comp=Z,9.0nm,1.0s
LPSR Galich'ya Gora 17.19 26 *e*P **Pn 08 21 52.0 +0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 17.21 33 *e*P **Pn 08 21 52.0 +0.5**
VRH pmax pmax
comp=Z,10.0nm,0.9s
NACGM Naroch 17.23 0 *e*P **Pn 08 21 50.2 -1.6**
comp=N,721nm,0.8s,baz=178
ECH Echery 17.72 313 P **P 08 21 59.1 +0.2**
ECH Echery 17.72 313 P **P 08 21 59.1 +0.2**
ECH pmax pmax
comp=Z,6.0nm,1.0s
PABE Paberze 17.93 355 P **P 08 22 01.6 +0.6**
PABE IAmb IAmb 08 22 03.2
comp=Z,50nm,1.0s
OBN Obninsk 18.68 18 P **P 08 22 09.3 0.0**
comp=Z,28nm,0.4s,baz=189,slow=0.8,SNR=2.1
OBN Obninsk 18.68 18 ⇑*e*P **Pn 08 22 10.5 +0.8**
OBN *e*S **Sn 08 25 32.6 -5.7**
OBN pmax pmax
comp=Z,9.0nm,0.4s
OBN MLR MLR
comp=Z,154nm,14.0s
WLF Walferdange 19.03 316 *d*P **Pn 08 22 20.8 +6.8**
SMF Signal de Mont 19.12 305 *e*P **Pn 08 22 15.2 +0.1**
SMF pmax pmax
comp=Z,15nm,1.1s
MOS Moscow 19.51 19 *e*P **P 08 22 13.9 -4.5**
CAF Calviac 19.84 299 *e*P **Pn 08 22 23.8 +0.1**
CAF pmax pmax
comp=Z,5.0nm,1.0s
BCLA Clavier 19.89 317 *d*P **Pn 08 22 23.8 -0.4**
comp=Z,8.1nm,1.0s
CEST Esterri de Car 20.04 292 P **P 08 22 25.1 +0.6**
CEST IAmb IAmb 08 22 32.2
comp=Z,15nm,1.0s
DOU Dourbes 20.11 315 *d*P **P 08 22 26.0 +1.0**
CLF Chambon-Foret 20.61 308 P **P 08 22 31.8 +1.3**
BELG Belogornoye 20.75 38 P **P 08 22 31.8 0.0**
comp=Z,10nm,0.6s,baz=253,slow=17,SNR=3.4
BELG LR LR 08 31 40.5
comp=Z,46nm,19.6s,baz=234,slow=40
comp=Z,10nm,0.6s
BELG Belogornoye 20.75 38 ⇑*e*P Pn 08 22 34.0 -0.2
BELG pmax pmax
comp=Z,7.0nm,0.9s
LFF La Frestale 20.76 299 *e*P **P 08 22 32.9 +0.8**
LFF pmax pmax
comp=Z,3.0nm,0.3s
VSU Vasula 20.80 0 *ce*P Pn 08 22 33.9 -0.9
VSU pmax pmax
comp=Z,56nm,1.7s
MFF Saint Martin d 21.74 303 *e*P **P 08 22 43.3 +0.7**
MFF pmax pmax
comp=Z,19nm,1.1s
TAM Tamanrasset 23.49 237 P **P 08 23 01.1 -0.2**
TAM IAmb IAmb 08 23 04.8
comp=Z,12nm,1.2s
TAM Tamanrasset 23.49 237 P **P 08 23 01.1 -0.2**
TAM pmax pmax
comp=Z,12nm,1.2s
FINES FINESS Array B 23.79 359 P **P 08 23 03.3 -0.5**
comp=Z,9.9nm,0.9s,baz=156,slow=10.0,SNR=14
comp=Z,9.9nm,0.9s
VALR Valaam 23.85 5 ⇑*e*P **P 08 23 07.3 +3.0**
VALR pmax pmax
comp=Z,34nm,1.0s
HFS Hagfors 23.96 344 P **P 08 23 03.9 -1.5**
comp=Z,2.6nm,0.8s,baz=160,slow=9.3,SNR=8.2
HFS LR LR 08 32 58.1
comp=Z,120nm,18.3s,baz=164,slow=38
comp=Z,2.6nm,0.8s
ESBB Sonseca Array 23.98 284 P **P 08 23 05.4 -0.4**
ESBB IAmb IAmb 08 23 07.9
comp=Z,9.7nm,1.0s
ESDC Sonseca Array 23.98 284 P **P 08 23 05.7 -0.1**
ESDC Sonseca Array 23.98 284 P **P 08 23 05.3 -0.6**
comp=Z,7.5nm,1.0s,baz=78,slow=9.6,SNR=35
ESDC LR LR 08 33 06.2
comp=Z,64nm,18.5s,baz=80,slow=38
comp=Z,7.5nm,1.0s
KONO Kongsberg 24.58 339 ⇑*e*P **P 08 23 12.6 +1.6**
NC602 NORSAR Array S 24.99 342 P **P 08 23 15.9 +1.1**
NC602 IAmb IAmb 08 23 28.8
comp=Z,19nm,1.2s
NAO01 NORSAR Array S 25.25 342 P **P 08 23 17.1 0.0**
NAO01 IAmb IAmb 08 23 33.1
comp=Z,15nm,1.1s
NB201 NORSAR Array S 25.32 342 P **P 08 23 18.7 +0.8**
NB201 IAmb IAmb 08 23 54.3
comp=Z,14nm,1.2s
NB2 NORSAR Subarra 25.34 342 P **P 08 23 17.9 -0.1**
comp=Z,3.2nm,0.8s,baz=160,slow=11
NOA NORSAR Array B 25.34 342 P **P 08 23 17.9 -0.1**
comp=Z,1.3nm,1.0s,baz=123,slow=13,SNR=6.2
NOA LR LR 08 35 36.7
comp=Z,63nm,19.9s,baz=150,slow=42
comp=Z,1.3nm,1.0s
AKTO Aktyubinsk 25.65 50 P **P 08 23 20.0 -0.9**
comp=Z,3.5nm,0.9s,baz=262,slow=8.5,SNR=8.7
comp=Z,3.5nm,0.9s
PBRG Braganca 25.95 290 *e*P **P 08 23 24.2 +0.4**
comp=Z,15nm,1.7s
MDT Midelt 25.96 269 LR LR 08 36 15.2
comp=Z,54nm,18.5s,baz=108,slow=43
ABKAR Akbulak array 26.54 53 P **P 08 23 29.0 +0.1**
PBAR Barrancos 26.55 282 *e*P **P 08 23 29.1 0.0**
comp=Z,19nm,1.6s
PMRV Marv??o 26.64 284 *e*P **P 08 23 30.1 +0.1**
comp=Z,17nm,1.5s
MTE Manteigas 26.65 287 P **P 08 23 30.4 +0.2**
MTE IAmb IAmb 08 23 31.5
comp=Z,7.2nm,0.8s
MTE Manteigas 26.65 287 *e*P **P 08 23 30.6 +0.5**
PCBR Castelo Branco 26.66 285 *e*P **P 08 23 30.5 +0.4**
comp=Z,13nm,1.1s
POLO Lamas de Olo 26.76 289 *e*P **P 08 23 31.6 +0.4**
comp=Z,7.4nm,1.8s
EKA Eskdalemuir Ar 26.79 321 P **P 08 23 32.0 +0.8**
comp=Z,1.1nm,0.7s,baz=116,slow=9.7,SNR=1.9
comp=Z,1.1nm,0.7s
EKA Eskdalemuir Ar 26.79 321 P **P 08 23 32.0 +0.8**
PESTR Estremoz 26.87 283 *e*P **P 08 23 32.1 +0.1**
comp=Z,15nm,1.6s
PVIS Viseu 26.89 287 *e*P **P 08 23 34.7 +2.4**
PBEJ Beja 27.21 281 *e*P **P 08 23 35.7 +0.5**
comp=Z,15nm,1.2s
PMTG Montargil 27.33 284 *e*P **P 08 23 37.4 +1.2**
PBDV Barranco-do-Ve 27.41 280 *e*P **P 08 23 36.9 -0.1**
comp=Z,34nm,1.0s
MESJ Messejana 27.52 281 P **P 08 23 37.5 -0.5**
MESJ Messejana 27.52 281 *e*P **P 08 23 38.1 +0.2**
comp=Z,20nm,1.0s
MESJ Messejana 27.52 281 *e*P **P 08 23 37.7 -0.2**
MESJ IAmb IAmb 08 23 39.6
comp=Z,12nm,0.9s
MESJ Messejana 27.52 281 P **P 08 23 37.5 -0.5**
MESJ pmax pmax
comp=Z,13nm,0.9s
ARU Arti 28.30 38 P **P 08 23 48.0 +3.4**
ARU 08 24 34.8
ARU S **S 08 28 37.7 +7.3**
ARU SS **SnSn 08 29 53.5 +6.2**
FURI Furi 30.63 156 LR LR 08 36 33.3
comp=Z,79nm,19.0s,baz=360,slow=37
ARCES ARCESS Array B 31.92 359 P **P 08 24 15.9 -0.6**

comp=Z,2.1nm,0.8s,baz=137,slow=11,SNR=4.2
ARCES LR LR 08 37 49.0
comp=Z,102nm,19.0s,baz=152,slow=38
comp=Z,2.1nm,0.8s
SIMJ Simiganj 33.06 75 P **P 08 24 27.7 +0.7**
TOA0 Torodi Ar. Sit 33.07 229 P **P 08 24 26.8 -0.4**
TORD Torodi Ar. Bea 33.07 229 P **P 08 24 26.6 -0.6**
TORD IAmb IAmb 08 24 28.0
comp=Z,5.3nm,0.8s
TORD Torodi Ar. Bea 33.07 229 P **P 08 24 26.9 -0.2**
comp=Z,11nm,0.6s,baz=38,slow=9.4,SNR=84
TORD PcP **PcP 08 27 09.5 -1.1**
comp=Z,0.5nm,0.5s,baz=76,slow=1.7,SNR=2.0
comp=Z,11nm,0.6s
CHGR Chuyangaron 33.17 75 P **P 08 24 28.7 +0.8**
CHGR Chuyangaron 33.17 75 P **P 08 24 28.7 +0.8**
CHGR pmax pmax
comp=Z,38nm,0.8s
KKAR Karatay Array 33.51 67 P **P 08 24 30.5 -0.2**
KKAR Karatay Array 33.51 67 P **P 08 24 30.9 +0.2**
KKAR IAmb IAmb 08 24 35.6
comp=Z,7.2nm,1.1s
KKAR Karatay Array 33.51 67 P **P 08 24 30.9 +0.2**
KKAR pmax pmax
comp=Z,7.0nm,1.1s
BVAR Borovoye Array 33.73 49 P **P 08 24 32.5 0.0**
comp=Z,0.4nm,0.5s,baz=190,slow=7.3,SNR=3.8
BVAR LR LR 08 39 60.0
comp=Z,80nm,18.5s,baz=234,slow=39
comp=Z,0.4nm,0.5s
BTK Batken 34.16 72 P **P 08 24 36.2 -0.4**
BTK pmax pmax
comp=Z,12nm,0.5s
ARSB Arslanbob 35.56 69 P **P 08 24 50.1 +1.4**
ARSB Arslanbob 35.56 69 P **P 08 24 50.1 +1.4**
ARSB pmax pmax
comp=Z,3.0nm,1.1s
ARLS Aral 36.47 68 P **P 08 24 57.8 +1.3**
ARLS pmax pmax
comp=Z,13nm,0.9s
AAK Ala-Archa 36.47 67 P **P 08 24 57.6 +1.1**
AAK IAmb IAmb 08 25 02.0
comp=Z,9.8nm,1.0s
AAK Ala-Archa 36.47 67 P **P 08 24 57.6 +1.1**
AAK pmax pmax
comp=Z,10.0nm,1.0s
NIL Nilore 37.73 82 P **P 08 25 08.0 +0.9**
NIL pmax pmax
comp=Z,18nm,0.8s
NRN Naryn 37.78 68 P **P 08 25 08.2 +0.4**
NRN IAmb IAmb 08 25 13.5
comp=Z,11nm,1.1s
NRN Naryn 37.78 68 P **P 08 25 08.2 +0.4**
NRN pmax pmax
comp=Z,11nm,1.1s
KSH Kashi 38.16 72 P **P 08 25 09.3 -1.5**
KSH pP pP 08 25 14.0 -1.0
KSH pmax pmax
comp=Z,4.0nm,0.6s
KURBB Kurchatov Arra 38.59 53 P **P 08 25 14.4 +0.3**
comp=Z,2.4nm,0.5s,baz=278,slow=8.5,SNR=16
KURBB PcP **PcP 08 27 25.8 -0.5**
comp=Z,0.9nm,0.3s,baz=265,slow=3.9,SNR=4.8
comp=Z,2.4nm,0.5s
KURK Kurchatov 38.65 53 P **P 08 25 14.9 +0.3**
KURK IAmb IAmb 08 25 21.0
comp=Z,6.5nm,0.9s
KURK Kurchatov 38.65 53⇑ *iP* **P 08 25 15.2 +0.6**
KURK pmax pmax
comp=Z,17nm,2.5s
BORG Borgarnes 38.98 330 LR LR 08 44 03.9
comp=Z,66nm,18.5s,baz=114,slow=40
TARG Taragay, Kyrgy 39.05 68 P **P 08 25 18.7 +0.1**
TARG pmax pmax
comp=Z,7.0nm,1.5s
MAKZ Makanchi 41.16 59 P **P 08 25 35.4 -0.2**
MAKZ IAmb IAmb 08 25 40.4
comp=Z,3.3nm,0.8s
MAKZ Makanchi 41.16 59 P **P 08 25 35.4 -0.2**
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 41.38 59 P **P 08 25 37.5 +0.1**
MK31 IAmb IAmb 08 25 42.0
comp=Z,7.2nm,0.7s
MK31 Makanchi Array 41.38 59 P **P 08 25 37.5 +0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 41.38 59 P **P 08 25 37.8 +0.4**
comp=Z,8.8nm,0.7s,baz=284,slow=6.5,SNR=38
MKAR PcP **PcP 08 27 34.7 -0.7**
comp=Z,0.3nm,0.3s,baz=273,slow=3.9,SNR=2.7
MKAR LR LR 08 44 26.9
comp=Z,60nm,20.3s,baz=184,slow=39
comp=Z,8.8nm,0.7s
DBIC Dimbokro 42.12 231 P **P 08 25 43.2 -0.5**
comp=Z,12nm,0.6s,baz=23,slow=9.1,SNR=13
comp=Z,12nm,0.6s
TIC Toumodi 42.24 231⇓ *eP* **P 08 25 44.2 -0.5**
comp=Z,24nm,0.7s
KIC Kosan Boka 42.29 230⇓ *eP* **P 08 25 44.5 -0.6**
comp=Z,26nm,0.7s
ZAA0 Zalesovo Array 42.38 48 P **P 08 25 44.9 -0.5**
ZALV Zalesovo Beam 42.38 48 P **P 08 25 45.0 -0.4**
ZALV Zalesovo Beam 42.38 48 P **P 08 25 45.2 -0.1**
comp=Z,3.0nm,0.6s,baz=269,slow=7.4,SNR=7.7
ZALV LR LR 08 45 22.3
comp=Z,56nm,19.1s,baz=180,slow=39
comp=Z,3.0nm,0.6s
LIC Lamto 42.57 231⇓ *eP* **P 08 25 47.0 -0.4**
comp=Z,47nm,0.7s
SFJD Kangerlussuaq 51.09 330 LR LR 08 48 10.6
comp=Z,61nm,21.7s,baz=80,slow=36
SHL Shillong 55.80 82 P **P 08 27 28.0 -0.8**
SONM Songino Array 56.94 52 P **P 08 27 36.0 -0.6**
comp=Z,2.2nm,0.8s,baz=286,slow=8.7,SNR=9.5
SONM LR LR 08 56 15.3
comp=Z,73nm,18.4s,baz=253,slow=40
comp=Z,2.2nm,0.8s
TSUM Tsumeb 57.22 190 LR LR 08 53 23.7
comp=Z,90nm,18.2s,baz=335,slow=37
ULN Ulaanbaatar 57.34 52⇑ *eP* **P 08 27 38.9 -0.6**
ULN pmax pmax
comp=Z,4.0nm,0.9s
TIXI Tiksi 58.37 21 LR LR 08 57 33.7
comp=Z,86nm,18.3s,baz=271,slow=41
TIXI Tiksi 58.37 21⇑ *eP* **P 08 27 48.0 +1.9**
TIXI pmax pmax
comp=Z,20nm,1.1s
FRB Frobisher Bay 59.15 329 LR LR 08 55 01.2
comp=Z,40nm,18.6s,baz=7.0,slow=38
RES Resolute Bay 61.56 345 LR LR 08 55 42.0
comp=Z,52nm,19.1s,baz=20,slow=37
PZH PanZhiHua 63.01 76 P **P 08 28 21.8 +3.2**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,120nm,4.9s
YAK Yakutsk 63.08 31 LR LR 08 57 40.0
comp=Z,59nm,18.6s,baz=234,slow=38
HHC Hu-ho-hao-te 63.22 58 *eP* **P 08 28 20.3 +0.5**
HHC pmax pmax
comp=Z,110nm,5.6s
HHC pmax pmax
comp=Z,11nm,0.8s
XAN Xi'an 64.63 66 P **P 08 28 29.3 +0.2**
XAN pmax pmax
comp=Z,11nm,1.4s
CMAR Chiang Mai Arr 65.08 85 P **P 08 28 31.9 -0.2**
comp=Z,3.1nm,0.6s,baz=301,slow=8.2,SNR=3.3
comp=Z,3.1nm,0.6s
BOSA Boshof 65.96 181 P **P 08 28 37.1 -0.4**
comp=Z,4.6nm,0.8s,baz=354,slow=8.5,SNR=7.0
BOSA LR LR 08 58 34.5
comp=Z,41nm,18.1s,baz=29,slow=37
comp=Z,4.6nm,0.8s
A36M Sachs Harbour 68.86 351 P **P 08 28 55.4 +0.1**
baz=24
TIA Tai'an 69.31 60 P **P 08 28 58.8 +0.1**
TIA pmax pmax
comp=Z,8.0nm,1.0s
SUR Sutherland 69.92 185 LR LR 09 01 54.7
comp=Z,80nm,18.6s,baz=89,slow=38
KLR Kul'dur 71.06 42 LR LR 09 02 50.4
comp=Z,96nm,18.4s,baz=215,slow=38
LONY Lake Ozonia 71.63 312 P **P 08 29 12.8 -0.1**
baz=55
C26K Camden Bay 72.54 357 P **P 08 29 18.3 +0.5**
baz=7.0
MA2 Magadan 72.67 26 LR LR 09 06 56.7
comp=Z,31nm,18.9s,baz=264,slow=40
D28M Stokes Point 72.77 355 P **P 08 29 19.2 +0.1**
baz=12
C27K Jago River 72.78 357 P **P 08 29 19.3 +0.1**
baz=8.0
C23K Itkillik River 72.78 359 P **P 08 29 19.5 +0.3**
baz=2.2
D27M Malcolm River 73.00 355 P **P 08 29 20.6 -0.1**
baz=10
B21K Ikpikpuk River 73.01 0 P **P 08 29 20.0 -0.5**
baz=359
B18K Kokolik River 73.09 3 P **P 08 29 20.8 -0.2**
baz=353
D25K Kavik River 73.19 357 P **P 08 29 21.6 -0.2**
baz=5.7
INK Inuvik 73.30 352 P **P 08 29 21.7 -0.5**
baz=16
D24K Happy Valley 73.43 358 P **P 08 29 23.0 -0.1**
baz=3.7
C21K Knifeblade Rid 73.47 1 P **P 08 29 23.2 -0.1**
baz=359
E28M Babbage River 73.54 355 P **P 08 29 23.1 -0.6**
baz=11
E29M Blow River 73.62 354 P **P 08 29 24.1 -0.2**
E29M Blow River 73.62 354 P **P 08 29 23.6 -0.6**
baz=13
D23K Nanushuk River 73.65 359 P **P 08 29 24.3 -0.1**
baz=2.2
D22K Ayikyak River 73.76 360 P **P 08 29 24.2 -0.9**
baz=0.5
C18K Utukok River 73.83 3 P **P 08 29 25.0 -0.5**
baz=354
D20K Etivluk River 73.90 1 P **P 08 29 25.8 0.0**
baz=357
C17K Delong Mountai 73.91 4 P **P 08 29 25.3 -0.6**
baz=352
TOLK Toolik Lake Re 73.96 359 P **P 08 29 26.0 -0.3**
baz=3.1
C16K Lisburne Hills 73.98 5 P **P 08 29 25.3 -1.0**
baz=350
D19K Kuna River 74.08 2 P **P 08 29 26.6 -0.4**
baz=356
E27K Coleen River 74.09 355 P **P 08 29 26.8 -0.2**
baz=9.6
USRK Ussuriysk Ar. 74.19 46 P **P 08 29 26.5 -1.4**
comp=Z,2.3nm,0.7s,baz=290,slow=6.1,SNR=4.7
comp=Z,2.3nm,0.7s
F30M Barrier River 74.20 353 P **P 08 29 26.8 -0.8**
baz=14
E21K Killik River 74.20 0 P **P 08 29 27.3 -0.3**
baz=359
E20K Nigu River 74.36 1 P **P 08 29 28.1 -0.5**
baz=358
E24K Your Creek 74.50 358 P **P 08 29 29.0 -0.4**
baz=4.0
F28M Old Crow 74.54 355 P **P 08 29 29.5 -0.1**
baz=11
E23K Chandalar 74.55 359 P **P 08 29 29.6 -0.1**
baz=3.0
D17K Noatak River 74.68 4 P **P 08 29 30.9 +0.5**
baz=352
G31M Satah River 74.71 352 P **P 08 29 29.8 -0.8**
baz=16
F26K Sheenjek River 74.72 356 P **P 08 29 30.4 -0.3**
baz=7.5
G30M tAoh Zraii Nji 74.85 353 P **P 08 29 31.3 -0.2**
baz=14
F25K Christian Rive 74.89 357 P **P 08 29 31.1 -0.6**
baz=6.3
F24K Squaw Lake 75.05 358 P **P 08 29 32.6 0.0**
baz=4.5
E18K Tukpahlearik C 75.08 3 P **P 08 29 32.1 -0.6**
baz=354
G29M Pine Creek 75.08 354 P **P 08 29 31.8 -1.0**
baz=12
F22K John River 75.13 360 P **P 08 29 32.2 -0.8**
baz=0.9
E19K Redstone River 75.14 2 P **P 08 29 31.6 -1.5**
baz=357,SNR=6.0
E17K Hotham Inlet 75.36 3 P **P 08 29 33.3 -1.0**
baz=353
COLD Coldfoot 75.39 359 P **P 08 29 33.7 -0.8**
baz=2.5
F21K Alatna River 75.42 0 P **P 08 29 34.6 -0.1**
F21K IAmb IAmb 08 29 46.0
comp=Z,5.2nm,1.0s
F21K Alatna River 75.42 0 P **P 08 29 35.2 +0.5**
baz=360,SNR=6.4
YKA Yellowknife Ar 75.43 343 P **P 08 29 34.0 -0.8**
comp=Z,3.1nm,0.8s,baz=39,slow=5.5,SNR=11
YKA LR LR 09 04 03.3
comp=Z,64nm,18.5s,baz=336,slow=37
comp=Z,3.1nm,0.8s
YKA Yellowknife Ar 75.43 343 *i* P **P 08 29 34.2 -0.6**
YKA pmax pmax
comp=Z,3.0nm,0.8s
G26K Porcupine Rive 75.44 356 P **P 08 29 35.6 +0.8**
baz=7.8,SNR=5.5
G27K Doyon Strip 75.46 355 P **P 08 29 35.1 +0.1**
baz=9.5
EPYK Eagle Plains 75.50 353 P **P 08 29 34.5 -0.7**
baz=14
F20K Avaraart Lake 75.58 1 P **P 08 29 35.1 -0.4**
baz=358
G22K Bettles 75.72 359 P **P 08 29 36.2 -0.1**
baz=1.5
G25K Bearman Lake 75.74 357 P **P 08 29 36.4 -0.1**
baz=5.9
F19K Shaleruckik Mo 75.76 2 P **P 08 29 35.7 -0.9**
baz=356
KSRS Korea Array 75.77 54 P **P 08 29 36.6 -0.5**
comp=Z,1.8nm,0.6s,baz=303,slow=4.8,SNR=8.1
KSRS LR LR 09 06 27.5
comp=Z,28nm,18.7s,baz=235,slow=38
comp=Z,1.8nm,0.6s
H29M Whitestone 75.79 354 P **P 08 29 36.5 -0.4**
H29M IAmb IAmb 08 29 53.5
comp=Z,5.2nm,1.1s
H29M Whitestone 75.79 354 P **P 08 29 36.4 -0.4**
baz=12
G24K Hadweenzic Riv 75.85 358 P **P 08 29 37.0 -0.2**
baz=4.8
G23K Bananza Creek 75.91 359 P **P 08 29 37.3 -0.2**
baz=2.7
F18K Selawik 75.93 3 P **P 08 29 37.5 -0.1**
baz=355
H27K Steamboat Moun 76.02 355 P **P 08 29 38.2 0.0**
baz=9.6,SNR=8.0
F17K Baldwin Pennin 76.03 3 P **P 08 29 38.3 +0.2**
baz=354
G21K Allakaket 76.13 0 P **P 08 29 38.5 -0.3**
baz=360,SNR=6.8
H25L Birch Creek 76.22 357 P **P 08 29 39.2 -0.1**
baz=6.1
G19K Purcell Mounta 76.47 2 P **P 08 29 40.4 -0.3**
baz=357
I30M Mount Dempster 76.58 353 P **P 08 29 41.0 -0.5**
baz=14,SNR=5.9
I29M Ogilvie Camp, 76.63 354 P **P 08 29 40.8 -0.8**
baz=12,SNR=12
WRGLY Wrigley 76.65 347 P **P 08 29 41.6 -0.1**
baz=24
I27K Kandik River 76.65 355 P **P 08 29 41.3 -0.5**
baz=9.5
G18K Tagagawik 76.67 2 P **P 08 29 41.0 -0.9**
baz=356
I28M Miner Creek 76.68 354 P **P 08 29 41.5 -0.5**
baz=11
H24K Noodor Dome 76.73 358 P **P 08 29 41.8 -0.5**
baz=4.4
H22K Ishtalitna Cre 76.75 359 P **P 08 29 42.2 -0.1**
baz=1.6,SNR=5.8
H23K Yukon River 76.79 358 P **P 08 29 42.7 +0.1**
baz=3.1,SNR=6.3
PRP Porcupine Dome 76.96 357 P **P 08 29 43.3 -0.4**
baz=6.3
G17K Kiwalik Mounta 76.99 3 P **P 08 29 43.0 -0.6**
baz=354
H21K Melozitna Rive 77.00 360 P **P 08 29 44.1 +0.4**
baz=0.4,SNR=6.9
G16K Koyuk River 77.02 4 P **P 08 29 43.5 -0.2**
baz=353
I26K Coal Creek Min 77.04 356 P **P 08 29 43.4 -0.5**
baz=8.2
H19K Roundabout Mou 77.10 1 P **P 08 29 44.3 +0.1**
baz=357
H20K Anotleneega Mo 77.15 1 P **P 08 29 44.5 -0.1**
baz=359
J30M Hart River 77.21 353 P **P 08 29 45.2 +0.1**
J30M Hart River 77.21 353 P **P 08 29 44.6 -0.5**
baz=14,SNR=12
G15K Niukluk 77.31 5 P **P 08 29 44.8 -0.6**
baz=351
H18K Honhosa River 77.43 2 P **P 08 29 44.9 -1.2**
baz=356
EGAK Eagle 77.43 355 P **P 08 29 45.0 -1.2**
baz=9.8
POKR Poker Plat Res 77.44 357 P **P 08 29 45.5 -0.7**
baz=4.8
I23K Minto, Yukon-K 77.46 358 P **P 08 29 45.5 -0.7**
baz=3.2
MLY Manley 77.61 359 P **P 08 29 46.5 -0.7**
baz=2.1
ILAR Eielson Array 77.76 357 P **P 08 29 47.6 -0.3**
comp=Z,0.9nm,1.0s,baz=353,slow=5.4,SNR=10.0
comp=Z,0.9nm,1.0s
J25K Salcha River, 77.85 357 P **P 08 29 47.9 -0.6**
baz=6.4
I20K Naaghedeneel 77.86 1 P **P 08 29 47.6 -0.8**
baz=359
J26L Joseph Creek 77.87 356 P **P 08 29 48.4 -0.3**
baz=7.9
DAWY Dawson 78.00 354 P **P 08 29 48.9 -0.5**
baz=11,SNR=8.8
NEA2 Nenana 78.01 358 P **P 08 29 48.7 -0.7**
baz=3.4
K29M Barlow Dome 78.04 353 P **P 08 29 49.1 -0.6**
baz=13
HDA Harding Lake 78.13 357 P **P 08 29 49.2 -0.8**
baz=5.2
K27K Chicken 78.24 355 P **P 08 29 50.2 -0.4**
baz=9.1
SCRK Sand Creek 78.41 356 P **P 08 29 51.4 -0.4**
baz=7.5,SNR=5.7
J20K Nowinta River 78.48 0 P **P 08 29 52.1 +0.1**
baz=359
J19K Poorman 78.65 1 P **P 08 29 53.0 +0.1**
baz=358
L29M L29M 78.82 353 P **P 08 29 53.5 -0.4**
baz=12
MCK McKinley 78.87 358 P **P 08 29 54.0 -0.2**
baz=3.5
ULM Lac du Bonnet 78.91 327 LR LR 09 05 15.9
comp=Z,58nm,18.6s,baz=337,slow=36
TGTN Hyland Airport 79.07 348 P **P 08 29 55.1 -0.2**
baz=20
FARO Faro, Yukon 79.14 351 P **P 08 29 55.1 -0.5**
baz=16
J17K VABM Dome 79.16 3 P **P 08 29 55.3 -0.4**
baz=355
J18K Innko River 79.16 2 P **P 08 29 55.8 +0.1**
baz=357
BCAR Beaver Creek A 79.17 355 P **P 08 29 56.2 +0.3**
L27K Beaver Creek, 79.18 355 P **P 08 29 55.6 -0.3**
baz=9.2
M30M Minto, Yukon 79.21 352 P **P 08 29 56.1 0.0**
baz=13
M31M Drury Creek, Y 79.30 351 P **P 08 29 56.2 -0.3**
baz=15,SNR=6.4
K20K Telida 79.30 0 P **P 08 29 56.6 +0.1**
baz=359
L26K Log Cabin Wild 79.32 355 P **P 08 29 56.5 -0.2**
baz=8.0
DHY Denali Highway 79.48 357 P **P 08 29 57.0 -0.6**
baz=4.8
PAX Paxson 79.50 356 P **P 08 29 57.2 -0.5**
baz=6.3
M29M Somme Creek 79.51 353 P **P 08 29 58.3 +0.5**
M29M Somme Creek 79.51 353 P **P 08 29 57.5 -0.3**
baz=12,SNR=12
M27K Edge Creek, AK 79.88 355 P **P 08 29 59.5 -0.3**
baz=9.2
M26K Nabesna, AK 79.92 355 P **P 08 29 60.0 0.0**
baz=8.3
WAT6 Susitna Watana 79.98 357 P **P 08 30 00.3 -0.1**
baz=4.5
N32M Quiet Lake 80.15 350 P **P 08 30 01.1 -0.1**
baz=16
L20K Farewell, AK 80.19 0 P **P 08 30 00.7 -0.6**
baz=360
YUK3 Moose Creek 80.35 354 P **P 08 30 02.4 -0.1**
baz=10,SNR=5.6
L18K Granite Mounta 80.41 2 P **P 08 30 01.6 -0.9**
baz=357
L17K Donlin 80.45 2 P **P 08 30 01.8 -0.9**
baz=356
L19K White Mountain 80.48 1 P **P 08 30 01.8 -1.1**
baz=359
WTLY Watson Lake, Y 80.49 348 P **P 08 30 01.9 -1.1**
baz=20,SNR=6.4
YUK4 Talbot Arm 80.61 353 P **P 08 30 02.7 -1.2**
baz=12
LIRD Liard River Hi 80.67 346 P **P 08 30 02.9 -1.1**
baz=22
SKT Skwentna 80.68 359 P **P 08 30 02.7 -1.3**
baz=1.4
SCM Sheep Creek Mo 80.72 357 P **P 08 30 03.1 -1.2**
baz=4.8
SML Sawmill 80.78 358 P **P 08 30 03.3 -1.2**
baz=4.0
M20K Styx River 80.79 360 P **P 08 30 04.6 -0.1**
baz=0.1
N25K Chitina, Valde 80.81 356 P **P 08 30 04.6 -0.2**
baz=7.0
L16K Owhat River 80.83 3 P **P 08 30 04.3 -0.5**
baz=355
WHY Whitehorse 80.86 351 P **P 08 30 04.2 -0.9**
baz=15
P33M Teslin, Yukon 81.02 350 P **P 08 30 04.7 -1.2**
baz=16
PMR Palmer 81.02 358 P **P 08 30 05.0 -0.7**
baz=3.4
TOAD Toad River Com 81.03 346 P **P 08 30 05.5 -0.5**
baz=22,SNR=11
M18K Stony River 81.16 1 P **P 08 30 06.0 -0.5**
baz=359
SUA Susitna One 81.19 359 P **P 08 30 06.4 -0.4**
baz=2.1
O28M Mount Upton 81.31 354 P **P 08 30 07.3 -0.4**
baz=10
R33M Jennings River 81.52 349 P **P 08 30 09.3 +0.7**
R33M Jennings River 81.52 349 P **P 08 30 08.3 -0.4**
baz=18,SNR=14
P32M Atlin 81.74 350 P **P 08 30 09.4 -0.3**
baz=16
M15K Kasigluk River 81.79 4 P **P 08 30 08.8 -1.0**
baz=354
N19K Bonanza Creek 81.85 1 P **P 08 30 09.1 -1.2**
baz=359
M13K Dall Lake 81.91 5 P **P 08 30 10.4 -0.1**
baz=352
N16K Nishlik Lake 82.10 3 P **P 08 30 10.6 -0.9**
baz=356
Q32M Nakina River 82.14 349 P **P 08 30 10.7 -1.3**
baz=17
DLBC Dease Lake 82.29 348 P **P 08 30 11.6 -1.0**
baz=18
KAIM Kayak Island 82.47 356 P **P 08 30 12.6 -0.9**
baz=7.1
S34M Telegraph Cree 82.97 348 P **P 08 30 15.1 -1.0**
baz=18
ECSD EROS Data Cent 84.07 322 P **P 08 30 21.0 -1.0**
baz=42
SIT Sitka 84.41 350 P **P 08 30 22.9 -0.5**
baz=14
CCM Cathedral Cave 85.41 316 P **P 08 30 28.0 -0.9**
baz=45
LAO LASA Array 86.02 330 P **P 08 30 31.4 -0.5**
baz=36
EGMT Eagleton 86.28 332 P **P 08 30 32.5 -0.6**
baz=33
LRAL Lakeview Retre 86.43 310 P **P 08 30 33.4 -0.7**
baz=47
BDFB Brasilia 87.81 248 P **P 08 30 41.2 +0.2**
comp=Z,4.0nm,0.7s,baz=75,slow=6.0,SNR=7.1
comp=Z,4.0nm,0.7s
BBB Bella Bella 87.85 345 LR LR 09 13 35.6
comp=Z,47nm,18.2s,baz=322,slow=38
RLMT Red Lodge 88.52 331 P **P 08 30 43.4 -0.8**
baz=33
NEW Newport 88.58 337 P **P 08 30 44.0 -0.2**
baz=28
NIKH Nikolski High 88.71 9 P **P 08 30 44.3 -0.3**
baz=348

MSO	Missoula	88.78	334	P	P	08 30 44.3	-1.0
baz=30							
BOZ	Bozeman (W)	89.01	332	P	P	08 30 45.0	-1.4
baz=32							
MIAR	Mount Ida	89.24	315	P	P	08 30 46.8	-0.7
baz=43							
PDAR	Pinedale Array	90.60	329	P	P	08 30 51.9	-2.1
comp=Z,0.1nm,0.5s,baz=46,slow=2.6,SNR=2.0							
PDAR				LR	LR	09 12 49.7	
comp=Z,19nm,18.1s,baz=334,slow=36							
comp=Z,0.1nm,0.5s							
NVAR	Mina Array Bea	97.69	333	LR	LR	09 18 32.0	
comp=Z,41nm,20.1s,baz=349,slow=37							
WRA	Warramunga Arr	115.62	96	PKP	PKPdf	08 36 31.7	-2.2
comp=Z,0.6nm,0.7s,baz=307,slow=1.8,SNR=5.5							
ASAR	Alice Springs	117.26	100	PKP	PKPdf	08 36 35.6	-1.4
comp=Z,0.6nm,0.7s,baz=324,slow=1.6,SNR=7.7							
STKA	Stephens Creek	127.15	104	PKP	PKPdf	08 36 54.1	-1.5
comp=Z,1.6nm,0.9s,baz=339,slow=8.8,SNR=3.6							
QSPA	South Pole Qui	127.53	180	PKP	PKPdf	08 36 53.2	-2.2
comp=Z,1.8nm,1.1s,baz=278,slow=1.9,SNR=2.6							

*ISK **26** 08:22:29.9, 37.°66N×26.°72E, h15km, ML2.5/18*
*THE **26** 08:22:30.7, 37.°67N×26.°70E, h0km±2km, ML3.2/1, Error ellipse: s-maj=2.8km s-min=1.1km az=249.0*
*AFAD **26** 08:22:30.8±0.0, 37.°68N×26.°74E, h7km±2km, ML2.5*
ISC 26 08:22:30.8±1.0, 37.°67N±0.°03×26.°71E±0.°03, h11km±7km, n28, σ0°65/41, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.11	67	P		Pg	08 22 33.6	0.0
SMG				S		Sg	08 22 35.6	-0.1
22μm,0.2s								
DGB	zmir	0.41	20	P		Pg	08 22 38.7	-0.2
DGB				S		Sg	08 22 44.8	+0.5
DGB				*i*	AML	AML	08 22 47.0	
comp=E,381nm,0.3s								
DGB				*i*	AML	AML	08 22 48.0	
comp=N,372nm,0.2s								
GCAM	G?zelcaml?	0.42	85	Pg		Pg	08 22 38.8	-0.2
GCAM				Sg		Sg	08 22 44.7	+0.2
GCAM	G?zelcaml?	0.42	85	P		Pg	08 22 38.6	-0.4
GCAM				S		Sg	08 22 44.7	+0.2
GCAM				*i*	AML	AML	08 22 46.0	
comp=N,510nm,0.5s								
GCAM				*i*	AML	AML	08 22 49.0	
comp=E,387nm,0.3s								
GMLD	Gumuldur	0.44	22	Pg		Pg	08 22 39.2	-0.3
GMLD				Sg		Sg	08 22 45.5	+0.2
DDIM	Aydin, Didim	0.47	116	P		Pg	08 22 40.2	+0.2
DDIM				S		Sb	08 22 49.5	+1.4
DDIM				*i*	AML	AML	08 22 51.0	
comp=N,488nm,0.5s								
DDIM				*i*	AML	AML	08 22 51.0	
comp=E,291nm,0.3s								
DIDI	Didim-Aydin	0.51	124	Pg		Pg	08 22 40.6	-0.1
DIDI				Sg		Sg	08 22 47.9	+0.4
ZEYE	Izmir, Urla-Ze	0.59	344	P		Pg	08 22 42.5	+0.2
ZEYE				S		Sg	08 22 50.9	+0.7
ZEYE				*i*	AML	AML	08 22 52.0	
comp=N,531nm,0.2s								
ZEYE				*i*	AML	AML	08 22 52.0	
comp=E,449nm,0.5s								
URLA	Izmir	0.70	353	Pg		Pg	08 22 44.1	-0.2
URLA				Sg		Sb	08 22 54.2	-0.5
YKAV	Yalikavak-Bodr	0.71	140	Pg		Pg	08 22 43.9	-0.5
YKAV				Sg		Sg	08 22 54.1	+0.4
CESE	eme	0.74	334	Pg		Pg	08 22 44.7	-0.4
BODT	Bodrum	0.77	141	Pg		Pg	08 22 45.3	-0.3
BODT	Bodrum	0.77	141	P		Pg	08 22 45.5	-0.1
BODT				S		Sb	08 22 58.3	+1.6
CHOS	Chios island	0.89	325	Pg		Pg	08 22 47.7	-0.2
CHOS	Chios island	0.89	325	P		Pg	08 22 48.0	+0.1
CHOS				S		Sb	08 23 00.6	+0.5
MLSB	Milas	0.93	113	Pg		Pg	08 22 47.8	-0.8
AYDB	Zeytinkoy-Aydi	0.98	73	Pg		Pg	08 22 49.4	-0.2
FOCM	Foa	1.05	1	Pg		Pg	08 22 50.7	-0.2
APE	Apeiranthos	1.11	238	Pn		Pg	08 22 51.8	-0.3
DAT	Datca	1.16	143	Pn		Pg	08 22 52.0	-1.2
DAT	Datca	1.16	143	P		Pg	08 22 52.0	-1.2
DAT				S		Sn	08 23 10.1	+1.0
CAND	Candarli	1.29	3	Pn		Pn	08 22 54.0	-0.8
NAZL	Nazilli-Aydin	1.29	76	Pn		Pn	08 22 53.8	-1.0
DKL	Dikili	1.41	6	Pn		Pn	08 22 55.8	-0.6
AKS	Akhisar	1.49	35	Pn		Pn	08 22 56.6	-1.0
PRK	Paraskevi	1.61	348	P		Pb	08 23 00.7	+0.1
KULA	Kula-Manisa	1.76	61	Pn		Pn	08 23 00.6	-0.7
APMY	Acipayam-Deniz	2.07	95	Pn		Pn	08 23 04.9	-0.7

*TEH **26** 08:23:11.5, 34.°61N×46.°27E, h8km±28km, ML2.6*
*ISN **26** 08:23:12.7±1.2, 34.°58N×46.°25E, h29km±24km, ML2.5*
ISC 26 08:23:11.1±1.5, 34.°63N±0.°05×46.°27E±0.°04, h14km±16km, n9, σ0°74/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.12	52	Pg		Pb	08 23 14.6	-0.8
IDHR				Sg		Sb	08 23 17.3	-0.9
IGHG	Ghaleghazi	0.39	140	Pg		Pg	08 23 19.4	+0.4
GLG1	Gilan-e-Gharb	0.59	210	Pg		Pb	08 23 23.0	-0.3
ILIN	Lien	0.64	63	Pg		Pb	08 23 24.1	-0.2
KCHF	Cheshme Sefid,	0.73	119	Pg		Pb	08 23 25.2	-0.5
SNQR	Sonqor, Kerman	1.14	78	Pg		Pn	08 23 33.3	+0.3
IBZA	Bozab	1.32	96	Pg		Pb	08 23 36.9	+1.0
IBDR	Badra	1.54	191	*e*Pg		Pb	08 23 39.0	-0.4
baz=10.0								
IBDR				*e*Sg		Sg	08 24 00.0	-0.7
IBDR				AML		AML	08 24 07.2	
comp=E,102nm,0.6s								
IBDR				AML		AML	08 24 19.9	
comp=N,56nm,0.3s								
IKRK	Kirkuk	1.76	297	*e*Pn		Pb	08 23 43.0	-0.2
IKRK				*e*Sn		Sb	08 24 06.0	+0.8

*ISN **26** 08:24:34.9±1.3, 34.°64N×46.°26E, h20km±24km, ML2.9*
*TEH **26** 08:24:34.5, 34.°63N×46.°28E, h12km±25km, ML2.9*
ISC 26 08:24:34.5±1.0, 34.°64N±0.°05×46.°27E±0.°04, h14km±8km, n10, σ0°38/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.11	57	Pg		Pg	08 24 37.8	-0.1
IDHR				Sg		Sg	08 24 40.6	+0.3
IGHG	Ghaleghazi	0.39	141	Pg		Pg	08 24 42.9	+0.4
KGS1	Ghasr-e-Shirin	0.58	257	Pg		Pg	08 24 46.0	+0.1
GLG1	Gilan-e-Gharb	0.60	210	Pg		Pg	08 24 46.5	+0.1
ILIN	Lien	0.63	64	Pg		Pg	08 24 47.1	+0.2
KCHF	Cheshme Sefid,	0.73	119	Pg		Pg	08 24 48.3	-0.4
SNQR	Sonqor, Kerman	1.14	78	Pg		Pb	08 24 56.1	-0.1
IBZA	Bozab	1.32	97	Pg		Pg	08 24 59.9	-0.1
IBDR	Badra	1.55	191	*e*Pg		Pn	08 25 02.0	+0.3
baz=10.0								
IBDR				*e*Sg		Sg	08 25 24.0	-0.4
IBDR				AML		AML	08 25 30.4	
comp=E,244nm,0.9s								
IBDR				AML		AML	08 25 31.8	
comp=N,134nm,0.5s								
IKRK	Kirkuk	1.76	296	*e*Pn		Pb	08 25 06.0	-0.6
IKRK				*e*Sn		Sb	08 25 29.0	+0.4

IDC 26 08:28:56.4±5.3, 11.°74S×166.°85E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=273.6km s-min=31.6km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.28	251	P		P	08 35 27.2	0.0
0.3nm,0.7s,baz=84,slow=8.8,SNR=4.7								
0.3nm,0.7s								
ASAR	Alice Springs	33.47	245	P		P	08 35 37.5	-0.1
0.4nm,0.5s,baz=70,slow=9.4,SNR=9.1								
0.4nm,0.5s								
ILAR	Eielson Array	83.82	18	P		P	08 41 27.4	0.0
0.6nm,0.6s,baz=233,slow=4.4,SNR=11								
0.6nm,0.6s								

*NEIC **26** 08:33:32.7±0.7, 31.°0S±0.°1×178.°0W±0.°1, h22km±6km, mb4.5/13, Error ellipse: s-maj=17.7km s-min=14.4km az=123.0*
*IDC **26** 08:33:37.4±2.7, 30.°78S×178.°18W, h58km±24km, mb4.0/5, mbtmp4.3/5, MS3.5/2, Error ellipse: s-maj=27.4km s-min=17.9km az=126.0*
ISC 26 08:33:34.7±0.6, 31.°05S±0.°07×178.°2W±0.°1, h46km, n45, σ2°05/42, mb4.5/14, 5C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.81	8			Pn	08 34 01.8	-1.6
RAO	Raoul Island	1.81	8	P		Pn	08 34 03.0	-0.4
338nm,0.4s,baz=198,slow=15,SNR=9.3								
RAO				S		Sn	08 34 21.3	-3.8
1μm,0.3s,baz=181,slow=18,SNR=14								
URZ	Urewera	8.17	207	P		Pn	08 35 27.6	-3.0
1.8nm,0.3s,baz=349,slow=4.4,SNR=17								
URZ				S		Sn	08 36 59.3	-2.2
9.7nm,0.3s,baz=115,slow=23,SNR=15								
BKZ	Black Stump Fm	9.19	207			Pn	08 35 41.0	-3.8
BFZ	Birch Farm	10.62	204	Pn		Pn	08 36 01.1	-3.1
MRZ	Mangatainoka R	10.84	206			Pn	08 36 03.3	-3.9
THZ	Tophouse	12.86	211	Pn		Pn	08 36 31.6	-3.3
KHZ	Kahutara	13.13	208			Pn	08 36 33.8	-4.7
LTZ	Lake Taylor	13.96	210	Pn		Pn	08 36 47.8	-2.1
DZM	Mont Dzumac	16.38	299	LR		LR	08 42 17.9	
comp=Z,99nm,19.3s,baz=186,slow=32								
CTAO	Charters Tower	33.74	280	P		P	08 40 12.8	+0.7
CTAO				IAmb		IAmb	08 40 14.6	
comp=Z,5.8nm,1.2s								
STKA	Stephens Creek	34.17	258	P		P	08 40 17.1	+1.4
STKA	Stephens Creek	34.17	258	P		P	08 40 18.4	+2.7
comp=Z,2.2nm,0.4s,baz=99,slow=11,SNR=20								
comp=Z,2.2nm,0.4s								
BBOO	Buckleboo	38.64	255	P		P	08 40 55.0	+1.2
BBOO				IAmb		IAmb	08 41 33.1	
comp=Z,23nm,1.5s								
COEN	Coen	39.29	287	P		P	08 41 00.5	+1.1
COEN				IAmb		IAmb	08 41 16.9	
comp=Z,5.7nm,1.0s								
AS31	Alice Springs	42.91	268			P	08 41 30.2	+1.0
ASAR	Alice Springs	42.91	268	P		P	08 41 30.3	+1.2
ASAR	Alice Springs	42.91	268	P		P	08 41 30.6	+1.5
comp=Z,6.1nm,0.6s,baz=105,slow=7.4,SNR=112								
ASAR				LR		LR	08 57 10.4	
comp=Z,76nm,18.5s,baz=332,slow=33								
comp=Z,6.1nm,0.6s								
WR0	Warramunga Arr	43.78	273	P		P	08 41 37.1	+0.9
WR0				IAmb		IAmb	08 41 39.1	
comp=Z,3.9nm,0.8s								
WRA	Warramunga Arr	43.96	273			P	08 41 38.2	+0.7
WRA	Warramunga Arr	43.96	273	P		P	08 41 38.5	+0.9
comp=Z,6.8nm,0.6s,baz=112,slow=7.8,SNR=108								
comp=Z,6.8nm,0.6s								
KNRA	Kununurra	50.59	275	P		P	08 42 30.7	+1.5
KNRA				IAmb		IAmb	08 42 33.1	
comp=Z,8.6nm,1.4s								
FITZ	Fitzroy Crossi	52.19	270	P		P	08 42 42.2	+1.0
QSPA	South Pole Qui	59.06	180	P		P	08 43 32.2	+2.2
QSPA				IAmb		IAmb	08 43 40.7	
comp=Z,4.8nm,0.9s								
QSPA	South Pole Qui	59.06	180	P		P	08 43 33.0	+3.0
comp=Z,1.2nm,0.7s,baz=73,slow=0.5,SNR=12								
comp=Z,1.2nm,0.7s								
BELA	Belgrano 2	69.17	172	P		P	08 44 35.5	-0.4
TROLL	Troll, Antarti	77.23	180	⇑P		P	08 45 24.7	+1.1
comp=Z,54nm,0.3s								
SNAA	Sanae	77.51	178	P		P	08 45 26.8	+1.6
SNAA				IAmb		IAmb	08 45 32.2	
comp=Z,8.2nm,1.4s								
SNAA	Sanae	77.51	178	⇑P		P	08 45 26.8	+1.6
comp=Z,27nm,0.3s								
VNA3	Neumayer Olymp	77.67	176	⇑P		P	08 45 27.5	+1.5
comp=Z,4.8nm,0.4s								
VNA2	Neumayer--Watz	78.10	177	⇑P		P	08 45 30.3	+1.9
comp=Z,4.8nm,0.4s,baz=178,slow=4.5								
VNA1	Neumayer--Stat	78.33	177	⇑P		P	08 45 31.6	+2.0
comp=Z,3.5nm,0.6s								
H03S2	Juan Fernandez	80.25	124	T		T	10 14 48.7	
baz=238,slow=74,SNR=46								
H03S1	Juan Fernandez	80.26	124	T		T	10 14 38.5	
baz=238,slow=74,SNR=48								
H03S3	Juan Fernandez	80.27	124	T		T	10 14 37.5	
baz=238,slow=74,SNR=53								
KIWB	Kanaga Island	82.55	1	P		P	08 45 52.4	+0.2
ADK	Adak	82.58	1	P		P	08 45 53.2	+0.8
NVAR	Mina Array Bea	88.83	43	P		P	08 46 25.8	+1.8
comp=Z,0.3nm,0.7s,baz=219,slow=7.0,SNR=3.0								
comp=Z,0.3nm,0.7s								
ARCES	ARCESS Array B	139.19	348	PKP		PKiKP	08 52 56.4	-1.5
comp=Z,1.4nm,0.9s,baz=331,slow=3.4,SNR=3.7								
FINES	FINESS Array B	145.69	339	PKPbc		PKPab	08 53 07.4	-0.8
comp=Z,3.8nm,0.5s,baz=52,slow=4.3,SNR=24								
NB2	NORSAR Subarra	149.36	351	PKP		PKiKP	08 53 18.0	-1.1
comp=Z,0.8nm,0.5s,baz=15,slow=4.1								
NOA	NORSAR Array B	149.36	351	PKPbc		PKiKP	08 53 17.7	-1.3
comp=Z,0.7nm,0.6s,baz=14,slow=4.1,SNR=7.6								
HFS	Hagfors	149.84	348	PKPbc		PKiKP	08 53 19.1	-0.9
comp=Z,0.7nm,0.4s,baz=359,slow=5.8,SNR=12								
GERES	GERESS Array B	160.06	336	PKPab		PKPab	08 54 07.8	-0.9
comp=Z,1.9nm,0.4s,baz=35,slow=5.4,SNR=1.2								
TORD	Torodi Ar. Bea	162.18	180	PKPab		PKPab	08 54 19.7	+1.2
comp=Z,0.5nm,0.8s,baz=214,slow=2.4,SNR=4.1								

*HVO **26** 08:34:51.6±0.8, 19.°397N±0.°007×155.°279W±0.°005, h0km±3km, ML3.6/37, ML3.1/36(NEIC), Error ellipse: s-maj=1.0km s-min=0.6km az=196.0*
*NEIC **26** 08:34:51.7±1.3, 19.°386N±0.°009×155.°276W±0.°009, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.5km az=94.0*
*IDC **26** 08:34:53.2±13.0, 19.°62N×155.°34W, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=275.8km s-min=57.9km az=35.0*
ISC 26 08:34:53.0±1.0, 19.°40N±0.°04×155.°27W±0.°03, h10km, n30, σ1°99/29, mb3.2/4, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KKO	Keanakako`i	0.01	116			Pg	08 34 52.3	-2.6
BYL	Byron's Ledge	0.02	40			Pg	08 34 52.2	-2.8
OBL	Observatory Le	0.02	324			Pg	08 34 52.2	-2.7
SDHHI	Sand Hill	0.02	245			Pg	08 34 52.3	-2.7
HATHI	Halema`uma`u T	0.03	22			Pg	08 34 52.3	-2.7
UWB	Uwekahuna B	0.03	344			Pg	08 34 52.7	-2.3
SBLHI	Steaking Bluff	0.03	5			Pg	08 34 52.9	-2.1
WRMHI	West Rim	0.03	283			Pg	08 34 52.1	-2.9
UWE	Uwekahuna	0.03	315			Pg	08 34 51.9	-3.1
PUH	Pauahi	0.06	117			Pg	08 34 52.9	-2.3
PUH					IAML		08 34 54.4	
comp=N,9μm,0.6s								
PUH					IAML		08 34 54.7	
comp=E,18μm,0.8s								
RSD	Rainshed	0.06	354			Pg	08 34 53.0	-2.3
RSD					IAML		08 34 54.2	
comp=E,5μm,0.8s								
RSD					IAML		08 34 54.6	
comp=N,9μm,0.6s								
KNHH	Kane Nui o Ham	0.10	102			Pg	08 34 54.0	-1.6
HLP	Hilina Pali	0.11	199			Pg	08 34 54.2	-1.6
HLP					IAML		08 34 56.2	
comp=E,9μm,0.9s								
HLP					IAML		08 34 56.4	
comp=N,10μm,1.2s								
STCH	Steam Cracks	0.14	96			Pg	08 34 54.7	-1.5
STCH					IAML		08 34 58.9	
comp=E,7μm,0.8s								
MLH	Mauna Loa	0.14	311			Pg	08 34 55.3	-1.1
MLH	Mauna Loa	0.14	311		IAML		08 34 58.5	
comp=N,8μm,1.1s								
MLH					IAML		08 34 58.6	
comp=E,12μm,0.9s								
NPOC	North of Pu'u	0.15	93			Pg	08 34 55.3	-1.1
JCUZ	Jacuzzi	0.16	96			Pg	08 34 55.5	-1.1
HTC	Hot Caves	0.20	217			Pg	08 34 55.9	-1.3
HMH	Humu`ula Sheep	0.28	315			Pg	08 34 57.5	-1.4
HMH					IAML		08 35 06.2	
comp=E,4μm,1.1s								
HMH					IAML		08 35 06.5	
comp=N,4μm,0.9s								
MLOA	Mauna Loa Obse	0.32	295	Pg		Pg	08 34 58.3	-1.2
MLOA					IAML		08 35 04.5	
comp=E,3μm,1.0s								
MLOA					IAML		08 35 07.0	
comp=N,3μm,1.0s								
MWH	Moku'aweowe	0.32	285	Pg		Pg	08 34 58.0	-1.6
KHU	Kahuku	0.36	245			Pg	08 34 59.1	-1.1
KHU					IAML		08 35 01.6	
comp=N,2μm,1.6s								
KHU					IAML		08 35 09.3	
comp=E,3μm,0.8s								
ALEP	Alea Permanent	0.38	292			Pg	08 34 59.3	-1.3
POHA	Pohakuloa	0.43	325	Pg		Pg	08 35 00.6	-1.0
POHA					IAML		08 35 12.2	
comp=E,3μm,0.8s								
HUH	Hualalai	0.60	298			Pg	08 35 04.0	-0.8
NVAR	Mina Array Bea	37.18	51	P		P	08 42 05.4	+0.7
comp=E,0.2nm,0.6s,baz=245,slow=14,SNR=2.1								
comp=E,0.2nm,0.6s								
PDAR	Pinedale Array	44.87	48	P		P	08 43 09.1	+1.2
comp=E,0.2nm,0.7s,baz=237,slow=7.4,SNR=2.1								
comp=E,0.2nm,0.7s								
ILAR	Eielson Array	45.69	5	P		P	08 43 13.6	-0.1
comp=E,0.3nm,0.8s,baz=195,slow=7.7,SNR=4.6								
comp=E,0.3nm,0.8s								
TXAR	Lajitas Array	47.71	68	P		P	08 43 31.7	+1.4
comp=E,0.9nm,0.8s,baz=258,slow=7.8,SNR=13								
comp=E,0.9nm,0.8s								

WEL 26 08:40:48.8, 38.°S±37.°×17.°6E±3.°6, h41km±41km, M2.2/7, ML2.4/6, MLv2.2/7, Error ellipse: s-maj=0.1km s-min=0.1km az=41.5, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMRZ	Kaimai	0.48	343	P		Pn	08 40 59.3	0.0
MUGZ	Murupara	0.54	109	P		Pn	08 41 00.1	-0.1
URZ	Urewera	0.78	87	P		Pn	08 40 56.2	-7.1
MTHZ	Maungataniwha	0.79	134	P		Pn	08 41 03.7	+0.3
BKZ	Black Stump Fm	0.91	161	P		Pn	08 41 08.2	+3.0
NMHZ	Naumai	0.96	146	P		Pn	08 41 06.6	+0.7
MWZ	Matawai	1.11	92	P		Pn	08 40 56.2	-12
ARHZ	Aropaoanui	1.18	145	P		Pn	08 41 07.4	-1.4
MTVZ	Mangateitei	1.19	205	P		Pn	08 41 01.2	-7.9
RUGZ	Raukumara Rang	1.27	75	P		Pn	08 40 51.4	-19
RIGZ	Rimuhau	1.35	108	P		Pn	08 40 58.7	-12
KRHZ	Kereru	1.35	172	P		Pn	08 41 13.1	+1.9
HAZ	Te Kaha	1.42	68	P		Pn	08 40 49.5	-23
TWGZ	Tauwhareparae	1.47	86	P		Pn	08 40 54.2	-19
KAHZ	Kahuranaki	1.60	159	P		Pn	08 41 13.6	-1.1
PKGZ	Pakihiroa	1.61	75	P		Pn	08 40 50.6	-24
CNGZ	Carnagh Statio	1.65	97	P		Pn	08 40 57.3	-18
PUZ	Puketiti	1.70	83	P		Pn	08 40 52.1	-24
TSZ	Takapari Road	1.76	184	P		Pn	08 41 18.6	+1.8
WMGZ	Waiomatatini S	1.88	76	P		Pn	08 40 50.1	-28
MXZ	Matakaoa Point	1.88	68	P		Pn	08 40 47.2	-31
BFZ	Birch Farm	2.38	178	P		Pn	08 41 24.6	-0.6
MRZ	Mangatainoka R	2.39	190	P		Pn	08 41 26.4	+1.0
TIWZ	Tintock	2.48	184	P		Pn	08 41 26.9	+0.2
OGWZ	Otaki Gorge	2.62	196	P		Pn	08 41 29.8	+1.3
HOWZ	Holdsworth Sta	2.63	190	P		Pn	08 41 29.2	+0.4
MTW	Mount Morrison	2.89	189	P		Pn	08 41 31.9	-0.4

IDC 26 08:54:24.4±3.5, 53.°55N×87.°78E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=32.9km s-min=17.7km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.80	284		I	I	09 06 06.5	
0.1nm,0.8s,baz=100,slow=320,SNR=1.6								
ZALV	Zalesovo Beam	1.80	284	Pg		Pn	08 54 56.5	-0.3
1.5nm,0.3s,baz=101,slow=15,SNR=13								
ZALV				Lg		Lg	08 55 21.6	
3.0nm,0.3s,baz=105,slow=26,SNR=13								
KURBB	Kurchatov Arra	6.41	246	Pn		Pn	08 56 01.0	+1.0
0.2nm,0.3s,baz=65,slow=15,SNR=3.7								
0.7nm,0.3s								
MKAR	Makanchi Array	7.63	210	Pn		Pn	08 56 17.7	+1.0
0.1nm,0.3s,baz=25,slow=12,SNR=2.0								
0.1nm,0.3s								

IDC 26 08:55:43.2±2.5, 54.°26N×86.°16E, h0km, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=19.8km s-min=11.5km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.85	249	I		I	09 00 23.2	
baz=69,slow=333,SNR=6.5								
ZALV	Zalesovo Beam	0.85	249	Pg		Pg	08 55 58.3	-1.2
1.6nm,0.3s,baz=65,slow=18,SNR=7.3								
ZALV				Lg		Lg	08 56 11.9	
4.5nm,0.3s,baz=68,slow=28,SNR=12								
KURBB	Kurchatov Arra	5.92	235	Pn		Pn	08 57 13.0	+0.9
0.3nm,0.3s,baz=53,slow=13,SNR=1.6								
1.3nm,0.3s								
MKAR	Makanchi Array	7.87	200	Pn		Pn	08 57 40.0	+1.1
0.3nm,0.3s,baz=24,slow=14,SNR=14								
0.4nm,0.2s								

NNC 26 09:00:16.1±3.6, 40.°74N×84.°48E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=123.2km s-min=23.4km az=34.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	4.46	305	Pg		Pb	09 01 32.9	-2.4
3.0nm,0.3s								
SHLS				Lg		Lg	09 02 30.5	
7.3nm,0.2s								
PDGK	Podgornoye	4.53	307	Pg		Pb	09 01 39.3	+2.8
0.3nm,0.1s								
PDGK				Lg		Lg	09 02 41.1	
0.8nm,0.3s								
UZB	Uzynbulak	4.73	302	Pg		Pb	09 01 41.5	+1.6
1.9nm,0.3s								
UZB				Lg		Lg	09 02 44.8	
2.3nm,0.3s								
S

TKGZ	**Te Karaka**	**4.27 201**	P	**Pn**	**09 05 41.6 +0.8**
TKGZ			S	**Sn**	**09 06 28.0 -1.5**
MWZ	**Matawai**	**4.28 205**	P	**Pn**	**09 05 42.0 +1.0**
MWZ			S	**Sn**	**09 06 27.1 -2.7**
OPRZ	**Ohinepanea**	**4.29 217**	P	**Pn**	**09 05 43.0 +2.0**
MARZ	**Manawahe**	**4.34 215**	P	**Pn**	**09 05 43.4 +1.6**
TGRZ	**Tauranga**	**4.35 221**	P	**Pn**	**09 05 44.2 +2.3**
URZ	**Urewera**	**4.37 209**	P	**Pn**	**09 05 42.7 +0.5**
URZ	**Urewera**	**4.37 209**	P	**Pn**	**09 05 42.3 +0.1**
	47nm,0.3s,baz=344,slow=4.3,SNR=193				
URZ			S	**Sn**	**09 06 28.3 -3.7**
	99nm,0.3s,baz=336,slow=19,SNR=9.2				
URZ	**Urewera**	**4.37 209**	P	**Pn**	**09 05 42.4 +0.3**
URZ			S	**Sn**	**09 06 27.8 -4.2**
EDRZ	**Edgecumbe**	**4.41 214**	P	**Pn**	**09 05 44.3 +1.6**
RAGZ	**Rawiri**	**4.46 205**	P	**Pn**	**09 05 44.3 +0.7**
RIGZ	**Rimuhau**	**4.54 201**	P	**Pn**	**09 05 45.1 +0.6**
KARZ	**Kaharoa**	**4.58 218**	P	**Pn**	**09 05 46.8 +1.8**
OMRZ	**Omania**	**4.58 217**	P	**Pn**	**09 05 48.1 +3.1**
RRRZ	**Republican Roa**	**4.70 214**	P	**Pn**	**09 05 48.9 +2.3**
MUGZ	**Murupara**	**4.70 211**	P	**Pn**	**09 05 47.0 +0.4**
HLRZ	**Highlands Stat**	**4.70 216**	P	**Pn**	**09 05 49.9 +3.2**
PRGZ	**Paritu Road**	**4.71 199**	P	**Pn**	**09 05 47.0 +0.2**
WCZ	**Waipu Caves**	**4.73 250**	P	**Pn**	**09 05 47.8 +0.9**
RTZ	**Ruatahuna**	**4.73 208**	Pn	**Pn**	**09 05 46.8 -0.4**
RTZ	**Ruatahuna**	**4.73 208**	P	**Pn**	**09 05 47.3 +0.1**
SNGZ	**Shannon Statio**	**4.75 204**	P	**Pn**	**09 05 47.9 +0.6**
TOZ	**Tahuroa Road**	**4.78 226**	Pn	**Pn**	**09 05 50.0 +2.2**
TOZ	**Tahuroa Road**	**4.78 226**	P	**Pn**	**09 05 50.4 +2.7**
HSRZ	**Hossack Road**	**4.80 216**	P	**Pn**	**09 05 50.7 +2.7**
KNZ	**Kokohu**	**4.86 200**	P	**Pn**	**09 05 48.4 -0.3**
PRRZ	**Plateau Road**	**4.88 214**	P	**Pn**	**09 05 50.1 +0.9**
MHGZ	**Mahia Peninsul**	**4.92 198**	P	**Pn**	**09 05 49.8 +0.2**
RAHZ	**Arahi**	**4.96 206**	P	**Pn**	**09 05 50.1 0.0**
ALRZ	**Allen Road**	**4.96 214**	P	**Pn**	**09 05 51.4 +1.3**
MTHZ	**Maungataniwha**	**4.99 208**	P	**Pn**	**09 05 50.9 +0.3**
WHHZ	**Waihua**	**5.05 204**	P	**Pn**	**09 05 51.3 -0.1**
MRHZ	**Matea Rd**	**5.15 211**	P	**Pn**	**09 05 51.5 -1.2**
KUTZ	**Kaahu Road**	**5.15 218**	P	**Pn**	**09 05 54.8 +2.0**
TLZ	**Tolley Road**	**5.18 221**	P	**Pn**	**09 05 56.2 +3.0**
OUZ	**Omahuta**	**5.18 260**	P	**Pn**	**09 05 53.2 0.0**
OUZ	**Omahuta**	**5.18 260**	P	**Pn**	**09 05 53.4 +0.2**
NMHZ	**Naumai**	**5.22 207**	P	**Pn**	**09 05 53.4 -0.3**
ARHZ	**Aropaoanui**	**5.30 205**	P	**Pn**	**09 05 54.1 -0.6**
WATZ	**Wairara**	**5.36 217**	P	**Pn**	**09 05 56.8 +1.1**
BKZ	**Black Stump Fm**	**5.40 209**	P	**Pn**	**09 05 55.4 -0.8**
BKZ	**Black Stump Fm**	**5.40 209**	Pn	**Pn**	**09 05 55.3 -0.8**
BKZ	**Black Stump Fm**	**5.40 209**	P	**Pn**	**09 05 55.4 -0.8**
RATZ	**Rangitukua**	**5.47 215**	P	**Pn**	**09 05 58.5 +1.4**
RITZ	**Rihia Road**	**5.51 214**	P	**Pn**	**09 05 59.4 +1.7**
GLKZ	**Green Lake**	**5.53 21**	P	Pn	09 05 59.7 +1.8
GLKZ			S	Sn	09 07 06.9 +6.6
RAO	**Raoul Island**	**5.54 21**	P	Pn	09 06 00.3 +2.2
	149nm,0.3s,baz=162,slow=20,SNR=2.3				
MCHZ	**McNeill Hill**	**5.56 206**	P	**Pn**	**09 05 58.1 -0.2**
CKHZ	**Cape Kidnapper**	**5.63 202**	P	**Pn**	**09 05 58.3 -0.9**
KWHZ	**Kaweka Forest**	**5.65 208**	P	**Pn**	**09 05 59.0 -0.5**
HIZ	**Hauiti**	**5.69 223**	P	**Pn**	**09 06 02.2 +2.2**
HIZ	**Hauiti**	**5.69 223**	Pn	**Pn**	**09 06 01.6 +1.6**
HIZ	**Hauiti**	**5.69 223**	P	**Pn**	**09 06 02.2 +2.2**
NNVZ	**North Ngauruho**	**5.75 215**	P	**Pn**	**09 06 02.4 +1.3**
OTVZ	**Oturere**	**5.75 214**	P	**Pn**	**09 06 02.5 +1.4**
SNVZ	**South Ngauruho**	**5.78 214**	P	**Pn**	**09 06 02.5 +1.0**
TWVZ	**Taurewa**	**5.79 216**	P	**Pn**	**09 06 02.1 +0.6**
NGZ	**Ngauruhoe**	**5.79 215**	P	**Pn**	**09 06 02.3 +0.7**
KAHZ	**Kahuranaki**	**5.81 203**	P	**Pn**	**09 06 00.4 -1.4**
KRHZ	**Kereru**	**5.86 207**	P	**Pn**	**09 06 00.2 -2.1**
FWVZ	**Far West T-bar**	**5.88 214**	P	**Pn**	**09 06 03.0 +0.1**
WHVZ	**Whangaehu Hut**	**5.88 214**	P	**Pn**	**09 06 03.3 +0.4**
MAVZ	**Matarangi**	**5.89 214**	P	**Pn**	**09 06 04.6 +1.6**
MOVZ	**Moawhango**	**5.91 212**	P	**Pn**	**09 06 01.9 -1.3**
TRVZ	**Turoa**	**5.92 214**	P	**Pn**	**09 06 03.8 +0.5**
WNVZ	**Wahianoa**	**5.92 214**	P	**Pn**	**09 06 03.3 0.0**
PXZ	**Pawanui**	**6.03 202**	P	**Pn**	**09 06 02.4 -2.3**
PNHZ	**Pukenui**	**6.16 207**	P	**Pn**	**09 06 03.9 -2.6**
VRZ	**Vera Road**	**6.18 220**	P	**Pn**	**09 06 08.3 +1.6**
WPHZ	**Waipukurau**	**6.20 205**	P	**Pn**	**09 06 04.7 -2.3**
PRHZ	**Porangahau**	**6.32 203**	P	**Pn**	**09 06 06.5 -2.1**
DVHZ	**Danneviirke**	**6.51 206**	P	**Pn**	**09 06 08.3 -2.9**
WAZ	**Wanganui**	**6.54 215**	P	**Pn**	**09 06 10.9 -0.7**
ANWZ	**Angora Road**	**6.55 203**	P	**Pn**	**09 06 09.0 -2.6**
KHEZ	**Kahui Hut**	**6.70 222**	P	**Pn**	**09 06 15.9 +2.0**
POWZ	**Post Office Ro**	**6.74 208**	P	**Pn**	**09 06 12.6 -1.6**
PRWZ	**Pori Road**	**6.80 206**	P	**Pn**	**09 06 13.1 -2.0**
BFZ	**Birch Farm**	**6.82 204**	P	**Pn**	**09 06 12.4 -3.0**
BFZ	**Birch Farm**	**6.82 204**	P	**Pn**	**09 06 12.5 -2.9**
CPWZ	**Castlepoint**	**7.04 203**	P	**Pn**	**09 06 15.4 -3.0**
SNZO	**South Karori**	**7.94 209**	P	**Pn**	**09 06 27.6 -3.0**
TUWZ	**Tuamarina**	**8.36 212**		**Pn**	**09 06 33.9 -2.4**
NNZ	**Nelson**	**8.45 215**	Pn	**Pn**	**09 06 34.7 -2.8**
QRZ	**Quartz Range**	**8.59 220**	P	**Pn**	**09 06 39.1 -0.3**
KHZ	**Kahutara**	**9.34 210**	P	**Pn**	**09 06 46.4 -3.2**
DSZ	**Denniston Nort**	**9.63 219**	Pn	**Pn**	**09 06 52.4 -1.2**
RPZ	**Rata Peaks**	**11.47 214**	P	**Pn**	**09 07 16.1 -2.4**
RPZ	**Rata Peaks**	**11.47 214**	P	Pn	09 07 12.6 -6.0
	10nm,0.7s,baz=302,slow=19,SNR=3.1				
RPZ			S	Sn	09 09 09.2 -15
	4.7nm,0.4s,baz=14,slow=19,SNR=1.8				
ODZ	**Otahua Downs**	**12.70 211**	P	Pn	09 07 29.6 -5.2
JCZ	**Jackson Bay**	**12.84 218**	P	**Pn**	**09 07 33.1 -3.7**
ONTNC	**Ouen Toro**	**16.88 312**	Pn	**Pn**	**09 08 23.1 -4.9**
DZM	**Mont Dzumac**	**17.06 313**	P	P	09 08 34.3 +3.6
	4.7nm,0.5s,baz=148,slow=12,SNR=8.6				
RAR	**Rarotonga**	**22.30 59**	LR	LR	09 17 43.2
	comp=Z,20nm,20.5s,baz=220,slow=35				
STKA	**Stephens Creek**	**31.99 264**	P	**P**	**09 10 54.6 -0.1**
	2.0nm,0.9s,baz=94,slow=14,SNR=2.8				
	2.0nm,0.9s				
COEN	**Coen**	**38.88 293**	P	**P**	**09 11 53.9 0.0**
COEN			IAmb	IAmb	09 11 56.4
	comp=Z,7.3nm,0.9s				
AS31	**Alice Springs**	**41.26 273**	P	**P**	**09 12 14.1 +0.6**
AS31			IAmb	IAmb	09 12 15.9
	comp=Z,1.7nm,0.3s				
ASAR	**Alice Springs**	**41.26 273**	P	**P**	**09 12 11.9 -1.6**
ASAR	**Alice Springs**	**41.26 273**	P	**P**	**09 12 11.4 -2.1**
	comp=Z,1.4nm,0.4s,baz=116,slow=8.0,SNR=24				
	comp=Z,1.4nm,0.4s				
WR0	**Warramunga Arr**	**42.45 278**	P	**P**	**09 12 22.2 -1.0**
WR0			IAmb	IAmb	09 12 30.2
	comp=Z,9.8nm,1.4s				
WB2	**Warramunga Arr**	**42.61 278**	P	**P**	**09 12 23.2 -1.3**
WB2			IAmb	IAmb	09 12 25.3
	comp=Z,5.2nm,0.6s				
WRAB	**Tennant Creek**	**42.62 278**	P	**P**	**09 12 23.5 -1.1**
WRAB			IAmb	IAmb	09 12 25.3
	comp=Z,4.9nm,0.7s				
WRA	**Warramunga Arr**	**42.62 278**	P	**P**	**09 12 22.9 -1.7**
	comp=Z,2.9nm,0.5s,baz=118,slow=7.7,SNR=49				
	comp=Z,2.9nm,0.5s				
WB0	**Warramunga Arr**	**42.66 278**	P	**P**	**09 12 23.5 -1.5**
WB0			IAmb	IAmb	09 12 27.0
	comp=Z,7.0nm,1.2s				
FORT	**Forrest**	**43.38 260**	P	**P**	**09 12 31.4 +0.8**
MTN	**Manton Dam**	**48.99 284**	P	**P**	**09 13 16.0 +1.3**
MTN			IAmb	IAmb	09 13 55.1
	comp=Z,10nm,1.2s				
KNRA	**Kununurra**	**49.36 279**	P	**P**	**09 13 18.5 +1.0**
QSPA	**South Pole Qui**	**55.65 180**	P	P	09 14 06.9 +3.5
QSPA			IAmb	IAmb	09 14 07.6
	comp=Z,4.6nm,0.7s				
QSPA	**South Pole Qui**	**55.65 180**	P	**P**	**09 14 06.5 +3.1**
	comp=Z,5.1nm,0.7s,baz=6.4,slow=0.2,SNR=31				
	comp=Z,5.1nm,0.7s				
BELA	**Belgrano 2**	**66.00 172**	P	**P**	**09 15 15.9 +2.6**
MAW	**Mawson**	**67.86 202**	P	**P**	**09 15 23.8 -1.3**
	comp=Z,2.3nm,0.5s,baz=249,slow=21,SNR=6.4				
	comp=Z,2.3nm,0.5s				
TROLL	**Troll, Antarti**	**73.80 181**	⇓P	**P**	**09 16 02.3 +1.1**
	comp=Z,59nm,0.5s				
SNAA	**Sanae**	**74.14 179**	P	**P**	**09 16 05.0 +2.0**
SNAA	**Sanae**	**74.14 179**	⇓P	**P**	**09 16 04.6 +1.5**
	comp=Z,17nm,0.5s				
SNAA	**Sanae**	**74.14 179**	P	**P**	**09 16 04.3 +1.3**
	comp=Z,1.8nm,0.9s,baz=240,slow=4.1,SNR=8.2				
	comp=Z,1.8nm,0.9s				
VNA3	**Neumayer Olymp**	**74.36 177**	⇓P	**P**	**09 16 06.3 +2.0**
	comp=Z,9.7nm,0.7s				
VNA2	**Neumayer--Watz**	**74.77 178**	⇓P	**P**	**09 16 08.9 +2.2**
	comp=Z,9.0nm,0.6s,baz=186,slow=5.1				
VNA1	**Neumayer--Stat**	**75.02 177**	⇓P	**P**	**09 16 10.4 +2.4**
	comp=Z,4.3nm,0.5s				
H03S2	**Juan Fernandez**	**79.73 124**	T	T	10 45 18.0
	baz=232				
H03S1	**Juan Fernandez**	**79.74 124**	T	T	10 44 59.6
	baz=232,slow=74				
H03S3	**Juan Fernandez**	**79.75 124**	T	T	10 44 58.0
	baz=232,slow=74				
H03N3	**Juan Fernandez**	**79.95 124**	T	T	10 45 30.4
	baz=237,slow=72,SNR=11				
H03N2	**Juan Fernandez**	**79.95 124**	T	T	10 45 32.7
	baz=237,slow=72,SNR=9.3				
H03N1	**Juan Fernandez**	**79.97 124**	T	T	10 45 27.0
	baz=237,slow=72,SNR=8.3				
ADK	**Adak**	**86.04 2**	P	P	09 17 07.7 +0.8
NVAR	**Mina Array Bea**	**92.45 44**	P	P	09 17 40.5 +2.7
	comp=Z,0.7nm,0.8s,baz=214,slow=8.6,SNR=6.2				
	comp=Z,0.7nm,0.8s				
CMAR	**Chiang Mai Arr**	**93.05 290**	P	P	09 17 41.9 +1.2
	comp=Z,1.6nm,0.3s,baz=116,slow=4.9,SNR=4.2				
	comp=Z,1.6nm,0.3s				
ZALV	**Zalesovo Beam**	**119.81 317**	PKP	**PKiKP**	**09 23 15.8 -0.2**
	comp=Z,0.4nm,0.3s,baz=131,slow=3.4,SNR=1.7				
ARCES	**ARCESS Array B**	**142.12 346**	PKhKP	PKPpre	09 23 55.1
	comp=Z,1.5nm,0.8s,baz=43,slow=2.1,SNR=3.8				
FINES	**FINESS Array B**	**148.23 336**	PKPbc	**PKPab**	**09 24 12.0 -2.8**
	comp=Z,2.7nm,0.5s,baz=37,slow=4.4,SNR=22				
MMAI	**Mount Meron Ar**	**150.48 277**	PKPbc	**PKiKP**	**09 24 17.9 -0.9**
	comp=Z,1.1nm,0.4s,baz=86,slow=3.6,SNR=1.7				
DBIC	**Dimbokro**	**152.00 170**	PKPbc	**PKiKP**	**09 24 23.6 +1.2**
	comp=Z,2.1nm,0.4s,baz=192,slow=1.6,SNR=5.4				
NB2	**NORSAR Subarra**	**152.42 348**	PKP	**PKiKP**	**09 24 22.1 +0.2**
	comp=Z,0.4nm,0.6s,baz=17,slow=2.6				
NOA	**NORSAR Array B**	**152.42 348**	PKPbc	**PKiKP**	**09 24 21.9 0.0**
	comp=Z,0.6nm,0.6s,baz=15,slow=3.9,SNR=6.1				
BRTR	**Keskin Array B**	**152.63 291**	PKPbc	**PKiKP**	**09 24 22.6 -0.6**
	comp=Z,0.8nm,0.4s,baz=154,slow=4.2,SNR=6.3				
HFS	**Hagfors**	**152.78 345**	PKPbc	**PKiKP**	**09 24 22.5 -0.1**
	comp=Z,1.2nm,0.6s,baz=96,slow=4.3,SNR=7.2				
TORD	**Torodi Ar. Bea**	**158.70 185**	PKPab	**PKPab**	**09 25 00.5 +0.4**
	comp=Z,0.2nm,0.3s,baz=152,slow=4.9,SNR=4.4				

*IDC **26** 09:16:29.2±1.1, 13°.18N×125°.81E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=60.1km s-min=17.2km az=64.0*

ISC 26 09:16:34.7±1.1, 13°.2N±0°.2×125°.8E±0°.4, h40km, n9, σ0s86/9, mb3.9/9, Philippine Islands region

Code	Station Name	Δ° AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**26.39 285**	P	**P**		**09 22 07.1**	**-0.5**
	1.0nm,0.3s,baz=100,slow=8.3,SNR=9.0						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**33.96 166**	P	**P**		**09 23 13.2**	**-1.3**
	0.3nm,0.7s,baz=344,slow=9.4,SNR=2.6						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**37.46 168**	P	**P**		**09 23 45.5**	**+1.0**
	0.2nm,0.3s,baz=351,slow=7.1,SNR=7.1						
	0.2nm,0.3s						
SONM	**Songino Array**	**38.17 339**	P	**P**		**09 23 50.4**	**0.0**
	0.6nm,0.6s,baz=138,slow=8.8,SNR=2.2						
	0.6nm,0.6s						
STKA	**Stephens Creek**	**47.27 162**	P	**P**		**09 25 04.5**	**+0.3**
	1.4nm,0.6s,baz=346,slow=6.0,SNR=5.6						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**49.49 321**	P	**P**		**09 25 21.9**	**+0.7**
	1.0nm,0.8s,baz=120,slow=8.6,SNR=6.5						
	1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**51.90 330**	P	**P**		**09 25 38.4**	**-0.8**
	0.3nm,0.2s,baz=124,slow=8.0,SNR=1.6						
	0.3nm,0.2s						
KURBB	**Kurchatov Arra**	**53.47 324**	P	**P**		**09 25 51.3**	**+0.4**
	1.1nm,0.6s,baz=120,slow=7.9,SNR=5.7						
	1.1nm,0.6s						
FINES	**FINESS Array B**	**83.15 332**	P	**P**		**09 28 56.5**	**+0.2**
	0.8nm,0.6s,baz=157,slow=4.5,SNR=2.3						
	0.8nm,0.6s						

*WEL **26** 09:23:23.5, 42°.34S×174°.13E, h2km, ML4.0, Mw4.0, Moment Tensor Solution. s4 Moment tensor: Mrr=24.89; Mθθ57.77; Mφφ-32.89; Mrθ87.07; Mθφ92.65; Mφr6.88; Fault plane solution: NP1:φs168.00000°, δ49.00000°, λ-6.00000°. NP2:φs262.00000°, δ86.00000°, λ-138.00000°. Principal axes: T 151.0800, Plg24.0000°, Azm28.0000°; N -115.7000, Plg49.0000°, Azm266.0000°; P -35.3900, Plg31.0000°, Azm133.0000°; OFF E. COAST OF S. ISLAND*

WEL 26 09:23:23.3±0.3, 42°.S±2°.×17°.4E±°, h12km, M3.9/31, ML4.1/32, MLv3.9/31 Error ellipse: s-maj=0.0km s-min=0.0km az=132.0, confirmed, Off east coast of South Island

Code	Station Name	Δ° AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KIKS	**Kaikoura**	**0.34 260**	P	P	Pg	09 23 30.6	+0.4
KEKS	**Kekerengu Vall**	**0.43 345**	P	P	Pg	09 23 31.2	-0.6
KEKS			S	S	Sb	09 23 38.4	-0.8
KHZ	**Kahutara**	**0.44 264**	P	P	Pg	09 23 31.8	-0.3
WDFS	**Ward Fire Stat**	**0.54 0**	P	P	Pg	09 23 33.5	-0.3
CMWZ	**Cape Campbell**	**0.62 6**	P	P	Pb	09 23 36.0	-0.1
BSWZ	**Blackbirch Sta**	**0.68 343**	P	P	Pg	09 23 35.4	-1.1
SEDS	**Seddon Fire St**	**0.70 356**	P	P	Pg	09 23 36.8	0.0
SEDS			S	S	Sb	09 23 47.9	+0.9
CECS	**Cheviot Emerge**	**0.78 235**	P	Pn	Pg	09 23 40.0	0.0
TUWZ	**Tuamarina**	**0.95 351**	P	P	Pg	09 23 41.6	0.0
TUWZ			S	Sn	Sg	09 23 57.3	+1.4
GVZ	**Greta Valley S**	**1.01 233**	P	Pn	Pg	09 23 43.5	+0.2
GVZ			S	Sn	Sg	09 23 59.3	+1.9
THZ	**Tophouse**	**1.10 303**	P	Pb	Pg	09 23 42.6	-1.7
BHW	**Baring Head**	**1.10 30**	P	Pb	Pg	09 23 44.1	-0.2
PLWZ	**Palliser**	**1.16 47**	P	Pb	Pg	09 23 44.9	-0.3
TCW	**Tory Channel**	**1.16 5**	P	Pb	Pg	09 23 44.4	-0.9
TCW			S	Sn	Sg	09 24 01.6	+0.5
WEL	**Wellington**	**1.18 24**	P	Pn	Pg	09 23 45.2	-0.4
WEL			S	Sn	Sg	09 24 02.4	+0.8
MSWZ	**Moikau Station**	**1.26 42**	P	Pn	Pg	09 23 46.2	-0.6
NNZ	**Nelson**	**1.28 334**	P	Pn	Pg	09 23 46.1	-1.0
AMCZ	**Amberley**	**1.36 233**	P	Pb	Pg	09 23 48.5	-0.2
PAWZ	**Paruwai Farm**	**1.38 45**	P	Pn	Pg	09 23 47.7	-0.7
PAWZ			S	Sg	Pg	09 24 07.5	-0.2
MRNZ	**Matariki Terra**	**1.41 313**	P	Pn	Pg	09 23 48.4	-0.4
MRNZ			S	Sg	Pg	09 24 08.5	-0.2
LTZ	**Lake Taylor**	**1.44 253**	P	Pn	Pg	09 23 49.0	-0.3
LTZ			S	Sb	Pg	09 24 08.8	+0.5
CAW	**Cannon Point**	**1.44 29**	P	Pn	Pg	09 23 48.7	-0.5
CAW			S	Sb	Pg	09 24 09.0	+0.6
TRWZ	**Traveller**	**1.51 51**	P	Pn	Pg	09 23 49.8	-0.5
OKCZ	**Okains Bay**	**1.57 210**	P	Pn	Pg	09 23 51.5	+0.5
OKCZ			S	Sg	Pg	09 24 14.5	+0.7
DUWZ	**D'Urville Isla**	**1.57 354**	P	Pn	Pg	09 23 51.1	+0.1
MTW	**Mount Morrison**	**1.58 41**	P	Pn	Pg	09 23 50.3	-0.9
MTW			S	Sb	Pg	09 24 12.9	+0.4
TKNZ	**Takaka Hill**	**1.60 326**	P	Pn	Pg	09 23 51.0	-0.4
TKNZ			S	Sb	Pg	09 24 12.6	-0.3
KIW	**Kapiti Island**	**1.61 21**	P	Pn	Pg	09 23 51.3	-0.3
MQZ	**McQueen's Vall**	**1.72 219**	P	Pn	Pg	09 23 52.5	-0.5
MQZ			S	Sb	Pg	09 24 15.9	-0.6
OGWZ	**Otaki Gorge**	**1.73 27**	P	Pn	Pg	09 23 52.7	-0.5
AKCZ	**Akaroa Harbour**	**1.75 210**	P	Pn	Pg	09 23 53.6	+0.1
HOWZ	**Holdsworth Sta**	**1.80 36**	P	Pn	Pg	09 23 53.4	-0.7
HOWZ			S	Sn	Pg	09 24 16.7	-0.2
OXZ	**Oxford**	**1.81 237**	P	Pn	Pg	09 23 53.8	-0.6
OXZ			S	Sn	Pg	09 24 17.9	+0.5
TMWZ	**Te Maipa**	**1.82 47**	P	Pn	Pg	09 23 53.8	-0.7
DSZ	**Denniston Nort**	**1.84 289**	P	Pn	Pg	09 23 55.4	+0.6
DSZ			S	Sb	Pg	09 24 20.6	+0.6
QRZ	**Quartz Range**	**1.96 321**	P	Pn	Pg	09 23 56.4	+0.1
QRZ			S	Sn	Pg	09 24 21.9	+1.2
RACZ	**Rakaia**	**2.00 226**	P	Pn	Pg	09 23 56.5	-0.3
RACZ			S	Sn	Pg	09 24 22.6	+0.9
INZ	**Inchbonnie**	**2.02 259**	P	Pn	Pg	09 23 57.1	-0.1
INZ			S	Sn	Pg	09 24 23.3	+1.0
MRZ	**Mangatainoka R**	**2.02 33**	P	Pn	Pg	09 23 56.4	-0.9
TIWZ	**Tintock**	**2.06 40**	P	Pn	Pg	09 23 56.7	-1.1
MHCZ	**Mount Hutt**	**2.21 237**	P	Pn	Pg	09 23 59.4	-0.6
MHCZ			S	Sn	Pg	09 24 27.0	-0.3
PRWZ	**Pori Road**	**2.28 38**	P	Pn	Pg	09 24 00.8	+0.1
WACZ	**Wakanui South**	**2.30 226**	P	Pn	Pg	09 24 00.8	-0.2
WACZ			S	Sn	Pg	09 24 30.5	+1.2
BFZ	**Birch Farm**	**2.31 44**	P	Pn	Pg	09 24 00.1	-1.1
POWZ	**Post Office Ro**	**2.33 32**	P	Pb	Pg	09 24 03.7	-1.5
WVZ	**Waitaha Valley**	**2.60 253**	P	Pn	Pg	09 24 05.3	+0.2
WVZ			S	Sn	Pg	09 24 35.7	-0.9
RPZ	**Rata Peaks**	**2.63 238**	P	Pn	Pg	09 24 05.0	-0.5
RPZ			S	Sn	Pg	09 24 36.6	-0.8
ARCZ	**Arundel**	**2.68 233**	P	Pn	Pg	09 24 06.0	-0.3
ARCZ			S	Sn	Pg	09 24 38.2	-0.5
TSZ	**Takapari Road**	**2.69 31**	P	Pn	Pg	09 24 05.2	-1.2
WAZ	**Wanganui**	**2.69 14**	P	Pn	Pg	09 24 07.7	+1.3
PNHZ	**Pukenui**	**2.91 33**	P	Pn	Pg	09 24 08.0	-1.4
TMZ	**Timaru**	**3.04 227**	P	Pn	Pg	09 24 11.3	0.0
TMZ			S	Sn	Pg	09 24 47.5	-0.2
KHEZ	**Kahui Hut**	**3.07 358**	P	Pb	Pg	09 24 17.0	-1.0
NBEZ	**Newall Road No**	**3.10 356**	P	Pb	Pg	09 24 17.6	-0.8
MTVZ	**Mangateitei**	**3.15 19**	P	Pb	Pg	09 24 16.2	-3.1
MOVZ	**Moawhango**	**3.20 23**	P	Pn	Pg	09 24 13.6	+0.1
WNVZ	**Wahianoa**	**3.23 21**	P	Pn	Pg	09 24 14.2	+0.1
TRVZ	**Turoa**	**3.25 20**	P	Pn	Pg	09 24 15.6	+1.3
WHVZ	**Whangaehu Hut**	**3.27 20**	P	Pn	Pg	09 24 16.2	+1.6
VRZ	**Vera Road**	**3.27 9**	P	Pn	Pg	09 24 15.4	+1.0
MAVZ	**Matarangi**	**3.28 20**	P	Pn	Pg	09 24 17.3	+2.5
FWVZ	**Far West T-bar**	**3.29 20**	P	Pn	Pg	09 24 16.1	+1.2
COVZ	**Chateau Observ**	**3.34 19**	P	Pn	Pg	09 24 17.1	+1.7
FOZ	**Fox Glacier**	**3.38 248**	P	Pn	Pg	09 24 16.9	+1.1
NGZ	**Ngauruhoe**	**3.38 20**	P	Pn	Pg	09 24 17.4	+1.4
NNVZ	**North Ngauruho**	**3.42 20**	P	Pn	Pg	09 24 17.3	+0.7
TWVZ	**Taurewa**	**3.44 17**	P	Pn	Pg	09 24 15.9	-0.9
LBZ	**Lake Benmore**	**3.52 234**	P	Pn	Pg	09 24 17.9	+0.2
BKZ	**Black Stump Fm**	**3.67 30**	P	Pn	Pg	09 24 22.2	+2.4
ODZ	**Otahua Downs**	**3.68 222**	P	Pn	Pg	09 24 19.9	-0.2
HIZ	**Hauiti**	**3.89 8**	P	Pn	Pg	09 24 23.8	+0.9
JCZ	**Jackson Bay**	**4.26 245**	P	Pn	Pg	09 24 29.1	+1.0
HHSZ	**Highcliff Hill**	**4.34 215**	P	Pn	Pg	09 24 29.8	+0.7
EAZ	**Earnscleugh**	**4.52 229**	P	Pn	Pg	09 24 31.5	0.0
TOZ	**Tahuroa Road**	**4.75 13**	P	Pn	Pg	09 24 36.1	+1.4
TUZ	**Tuapeka**	**4.83 221**	P	Pn	Pg	09 24 35.9	+0.1
MLZ	**Mavora Lakes**	**5.28 233**	P	Pn	Pg	09 24 41.7	-0.3
AWAZ	**Awhitu Peninsu**	**5.31 4**	P	Pn	Pg	09 24 43.3	+0.9
MKAZ	**Moumakai**	**5.32 9**	P	Pn	Pg	09 24 42.6	+0.1
ETAZ	**East Tamaki Re**	**5.44 7**	P	Pn	Pg	09 24 46.8	+2.6
SYZ	**Scrubby Hill**	**5.49 219**	P	Pn	Pg	09 24 44.7	-0.2
WIAZ	**Waiheke Island**	**5.62 8**	P	Pn	Pg	09 24 47.8	+1.1
MBAZ	**Motutapu North**	**5.62 6**	P	Pn	Pg	09 24 48.8	+2.1
CTZ	**Chatham Island**	**6.91 105**	P	Pn	Pg	09 25 05.1	+0.7
CTZ			S	Sn	Pg	09 26 19.3	-3.6

*DJA **26** 09:26:30.3±0.7, 10°.S±12°.×12°.4E±°, h16km±19km, M3.0/6, MLv3.0/6*

*IDC **26** 09:26:41.4±8.1, 9°.43S×125°.58E, h236km±89km, mb2.7/1, mbtmp3.2/3, Error ellipse: s-maj=123.8km s-min=34

BLY	**Banja Luka**	**1.22**	**123**	*e*Pg		**Pn**	**09 30 15.8 0.0**
BLY				*e*Sg		**Sn**	**09 30 33.5 +1.0**
BLY	**Banja Luka**	**1.22**	**123**	*e*Pg		**Pg**	**09 30 14.6 -0.9**
BLY				*e*Sg		**Sn**	**09 30 32.9 +0.4**
BLY	**Banja Luka**	**1.22**	**123**	⇑*i*Pg		**Pg**	**09 30 15.1 -0.4**
BLY				*e*Sg		**Sb**	**09 30 31.9 +0.3**
SKDS	**Skadanscina**	**1.23**	**277**	*e*Pg		**Pg**	**09 30 15.2 -0.5**
SKDS				*e*Sg		**Sn**	**09 30 32.6 -0.2**
SKDS	**Skadanscina**	**1.23**	**277**	⇑*i*Pg		**Pg**	**09 30 14.9 -0.8**
SKDS				*e*Sg		**Sb**	**09 30 32.0 +0.1**
VIRC	**Vir**	**1.23**	**204**	*e*Pn		**Pn**	**09 30 15.9 0.0**
VIRC				Sg		**Sn**	**09 30 33.7 +1.0**
CRNS	**Crni Vrh**	**1.23**	**303**	*i*Pg		**Pg**	**09 30 15.7 -0.2**
MOZS	**Mozjanca**	**1.27**	**314**	*i*Pg		**Pn**	**09 30 16.6 +0.1**
JAVS	**Javornik**	**1.27**	**293**	*i*Pg		**Pg**	**09 30 16.4 -0.2**
JAVS					IAML		09 30 42.0
	comp=Z,27nm,0.2s						
BEHE	**Becsehely**	**1.28**	**34**	⇑*i*Pg		**Pb**	**09 30 17.6 +0.9**
BEHE				*e*Sg		**Sn**	**09 30 36.2 +2.2**
PERS	**Pernice**	**1.30**	**340**	*i*Pg		**Pn**	**09 30 16.9 -0.1**
SOKA	**Soboth**	**1.36**	**339**	Pn		**Pn**	**09 30 17.4 -0.5**
	comp=Z,17nm,0.3s,SNR=45						
SOKA				*e*Sg		**Sn**	**09 30 37.1 +0.9**
	comp=Z,43nm,0.6s						
OBKA	**Obir**	**1.38**	**323**	*e*Pg		**Pg**	**09 30 18.7 0.0**
	comp=Z,25nm,0.4s,SNR=34						
OBKA				*e*Sg		**Sn**	**09 30 38.2 +1.5**
	comp=Z,111nm,0.5s						
OBKA	**Obir**	**1.38**	**323**	*e*Pg		**Pg**	**09 30 18.6 0.0**
OBKA				*e*Sg		**Sn**	**09 30 38.4 +1.7**
MGRS	**Mrkonjic Grad**	**1.38**	**136**	⇑*i*Pg		**Pb**	**09 30 18.4 0.0**
MGRS				*e*Sg		**Sn**	**09 30 37.2 +0.6**
VOJS	**Vojsko**	**1.44**	**296**	*i*Pg		**Pn**	**09 30 19.0 +0.1**
KIJV	**Kijevo**	**1.49**	**161**	*e*Pn		**Pb**	**09 30 19.9 -0.3**
BRJN	**Brijuni**	**1.50**	**251**	*e*Pn		**Pg**	**09 30 20.8 -0.2**
DUGI	**Dugi Otok**	**1.50**	**199**	*e*Pn		**Pn**	**09 30 20.1 +0.4**
MORI	**Morici**	**1.55**	**181**	*e*Pn		**Pb**	**09 30 21.3 0.0**
MORI				Sn		**Sg**	**09 30 42.6 +0.7**
ZIRJ	**Zirje**	**1.76**	**182**	*e*Pn		**Pb**	**09 30 25.0 +0.1**
DOB	**Doboj**	**1.80**	**111**	*e*Sn		**Sb**	**09 30 48.9 +0.5**
ARSA	**Arzberg**	**1.84**	**355**	*e*Pn		**Pn**	**09 30 24.1 -0.3**
	comp=Z,11nm,0.4s						
ARSA				*e*Sn		**Sn**	**09 30 48.8 +0.8**
	comp=Z,1.7nm,0.2s						
ARSA	**Arzberg**	**1.84**	**355**	*e*Pn		**Pb**	**09 30 26.4 +0.1**
ARSA				*e*Sn		**Sg**	**09 30 50.8 -0.6**
MYKA	**Terra Mystica**	**1.91**	**310**	*e*Pn		**Pn**	**09 30 25.3 0.0**
	comp=Z,1.4nm,0.2s						
MYKA				*e*Sg		**Sg**	**09 30 54.8 +1.4**
	comp=Z,8.2nm,0.3s						
RICI	**Ricice**	**2.16**	**152**	*e*Pn		**Pb**	**09 30 30.5 -1.3**
MORH	**Mrgy, Hungar**	**2.18**	**67**	*e*Pn		**Pb**	**09 30 31.4 -0.6**
MORH				*e*Sn		**Sb**	**09 30 58.2 -1.0**
HVAR	**Hvar**	**2.29**	**167**	*e*Pn		**Pb**	**09 30 32.5 -1.4**
MAKA	**Makarska**	**2.31**	**156**	*e*Pn		**Pb**	**09 30 33.2 -1.1**
RONA	**Rosalia, Austr**	**2.32**	**9**	*e*Pn		**Pn**	**09 30 31.2 +0.3**
	comp=Z,20nm,0.4s,SNR=21						
RONA				*e*Sn		**Sn**	**09 31 01.2 +1.4**
	comp=Z,11nm,0.4s						
KBA	**Koelnbreinsper**	**2.35**	**316**	Pg		**Pg**	**09 30 37.1 -0.2**
	comp=Z,0.2nm,0.1s						
KBA				*e*Sn		**Sn**	**09 31 02.2 +1.3**
	comp=Z,6.9nm,0.4s						
CONA	**Conrad Observa**	**2.52**	**2**	Pn		**Pn**	**09 30 33.8 0.0**
	SNR=8.3						
HAPS	**Han Pijesak,BI**	**2.64**	**119**	*e*Pn		**Pb**	**09 30 39.2 -0.8**
HAPS	**Han Pijesak,BI**	**2.64**	**119**	*e*Pn		**Pn**	**09 30 36.8 +1.3**
HAPS	**Han Pijesak,BI**	**2.64**	**119**	*e*Pn		**Pn**	**09 30 36.5 +1.0**
HAPS				*e*Sn		**Sn**	**09 31 09.0 +1.2**
MOA	**Molln**	**2.64**	**338**	*e*Pn		**Pn**	**09 30 36.3 +0.9**
	comp=Z,1.8nm,0.1s,SNR=11						
MOA				*e*Sn		**Sn**	**09 31 08.6 +0.9**
	comp=Z,3.7nm,0.3s						
MOA	**Molln**	**2.64**	**338**	*e*Pg		**Pn**	**09 30 36.8 +1.4**
TEKS	**Tekeris**	**2.82**	**107**	*e*Pn		**Pb**	**09 30 40.9 -2.1**
TEKS	**Tekeris**	**2.82**	**107**	*e*Pn		**Pn**	**09 30 38.9 +1.1**
TEKS	**Tekeris**	**2.82**	**107**	*e*Sn		**Sn**	**09 31 13.8 +1.7**
FRGS	**Fruska Gora**	**2.88**	**94**	*e*Pn		**Pb**	**09 30 42.5 -1.5**
FRGS	**Fruska Gora**	**2.88**	**94**	*e*Pn		**Pb**	**09 30 41.8 -2.2**
FRGS	**Fruska Gora**	**2.88**	**94**	⇑*i*Pn		**Pn**	**09 30 41.2 +2.5**
FRGS				*e*Sn		**Sn**	**09 31 15.9 +2.3**
STON	**Ston**	**2.91**	**150**	*e*Pn		**Pn**	**09 30 41.0 +2.0**
STON	**Ston**	**2.91**	**150**	*e*Pn		**Pn**	**09 30 40.9 +2.0**
STON	**Ston**	**2.91**	**150**	*e*Pn		**Pn**	**09 30 40.6 +1.6**
STON	**Ston**	**2.91**	**150**	*e*Pn		**Pn**	**09 30 40.7 +1.8**
STON				*e*Sn		**Sn**	**09 31 14.9 +0.8**
KLINJ	**Klinje**	**3.03**	**137**	*e*Pn		**Pn**	**09 30 42.0 +1.2**
KLINJ				*e*Sn		**Sn**	**09 31 18.1 +0.6**
BBLS	**Lazi&#263i**	**3.04**	**119**	*e*Pn		**Pn**	**09 30 42.9 +2.1**
BBLS				*e*Sn		**Sn**	**09 31 18.7 +1.2**
MODS	**Modra-Piesok**	**3.14**	**19**	*e*PN		**Pn**	**09 30 41.4 -0.8**
MODS				*e*SN		**Sn**	**09 31 16.6 -3.4**
RUDO	**Rudo**	**3.15**	**123**	*e*Sn		**Sn**	**09 31 21.1 +0.8**
BRY	**Bratogost**	**3.22**	**140**	*e*Pn		**Pn**	**09 30 44.4 +1.0**
TREB	**Trebinje**	**3.29**	**144**	*e*Pn		**Pb**	**09 30 47.7 -3.2**
TREB	**Trebinje**	**3.29**	**144**	*e*Pn		**Pn**	**09 30 45.6 +1.4**
TREB				*e*Sn		**Sn**	**09 31 24.3 +0.7**
DIVS	**Divibare**	**3.30**	**112**	*e*Pn		**Pb**	**09 30 48.3 -2.9**
DIVS	**Divibare**	**3.30**	**112**	*e*Pn		**Pn**	**09 30 47.5 +3.0**
CKRC	**Cesky Krumlov**	**3.54**	**344**	*e*PN		**Pn**	**09 30 49.2 +1.4**
KRUC	**Moravsky**	**3.67**	**7**	*e*PN		**Pn**	**09 30 49.2 -0.4**
KRUC				*e*SN		**Sn**	**09 31 29.9 -3.3**
KOME	**Kolasin**	**3.73**	**132**	*e*Pn		**Pb**	**09 30 54.8 -3.8**
VYHS	**Vyhne**	**3.74**	**33**	*e*PN		**Pn**	**09 30 46.7 -3.7**
GRUS	**Gruza**	**3.86**	**112**	*e*Pn		**Pn**	**09 30 54.8 +2.7**
VRAC	**Vranov**	**3.94**	**8**	*e*PN		**Pn**	**09 30 52.7 -0.5**
KHC	**Kasperske Hory**	**4.00**	**339**	*e*PN		**Pn**	**09 30 54.6 +0.5**
KHC				*e*SN		**Sn**	**09 31 38.6 -2.7**
DRME	**Dracevica, Mon**	**4.08**	**141**	*e*Pn		**Pn**	**09 30 56.6 +1.5**
DRME				*e*Sn		**Sn**	**09 31 42.4 -0.6**
SELS	**Selova**	**4.44**	**118**	*e*Pn		**Pn**	**09 31 01.6 +1.6**
CLL	**Collm**	**6.17**	**344**	*e*Sg		**Sg**	**09 33 11.0 +0.7**
	comp=Z,10.0nm,0.9s						

*SNET **26** 09:36:27.3±1.2, 13°.23N×89°.91W, h28km, ML4.2*
*CATAC **26** 09:36:27.6±0.5, 13°.27N×89°.88W, h22km±3km, ML4.2*
*NEIC **26** 09:36:28.7±1.1, 13°.33N±0°.08×89°.86W±0°.07, h56km±14km, mb4.2/13, Error ellipse: s-maj=12.1km s-min=8.3km az=209.0*
*GCG **26** 09:36:42.7±1.3, 14°.33N×90°.51W, h50km±28km, MD4.0*

ISC 26 09:36:24.9±1.2, 13°.25N±0°.04×89°.93W±0°.03, h16km±8km, n107, σ0s89/143, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.62**	**49**	*e*P		**Pn**	**09 36 40.0 +0.8**
JAYA				*e*S		**Sn**	**09 36 49.8 +0.8**
JAYA	**Jayaque - finc**	**0.62**	**49**	*i*P		**Pn**	**09 36 40.0 +0.8**
JAYA				*i*S		**Sn**	**09 36 49.3 +0.3**
JAYA					IAML		09 36 53.2
	comp=Z,28μm,1.0s						
LALI	**Alcalda de L**	**0.64**	**68**	*e*P		**Pn**	**09 36 40.0 +0.6**
LALI				*e*S		**Sn**	**09 36 49.5 +0.2**
LALI	**Alcalda de L**	**0.64**	**68**	*i*P		**Pn**	**09 36 40.0 +0.6**
LALI				*i*S		**Sn**	**09 36 49.6 +0.4**
LALI					IAML		09 36 52.0
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**0.65**	**27**	*i*P		**Pn**	**09 36 40.8 +1.0**
CEVE				*e*S		**Sn**	**09 36 51.9 +2.0**
CEVE	**Cerro Verde**	**0.65**	**27**	*i*P		**Pn**	**09 36 40.7 +1.0**
CEVE				*i*S		**Sn**	**09 36 50.0 +0.2**
CEVE					IAML		09 36 57.1
	comp=Z,10μm,1.0s						
SBLS	**San Blas**	**0.66**	**27**	*i*P		**Pn**	**09 36 40.9 +1.0**
NUBE	**Las Nubes**	**0.67**	**13**	*e*P		**Pn**	**09 36 41.0 +1.1**
NUBE	**Las Nubes**	**0.67**	**13**	*i*P		**Pn**	**09 36 40.8 +0.9**
NUBE				*i*S		**Sn**	**09 36 50.6 +0.5**
NUBE					IAML		09 36 55.4
	comp=Z,19μm,1.0s						
SNJE	**San Jose**	**0.69**	**27**	*i*P		**Pn**	**09 36 41.2 +0.9**
RTR	**El Retiro**	**0.70**	**23**	*i*P		**Pn**	**09 36 41.5 +1.1**
PMON	**Piamonte**	**0.76**	**52**	*e*P		**Pn**	**09 36 42.0 +0.9**
PMON	**Piamonte**	**0.76**	**52**	*i*P		**Pn**	**09 36 42.2 +1.1**
PMON				*i*S		**Sn**	**09 36 52.0 -0.3**
PMON					IAML		09 37 00.9
	comp=Z,12μm,1.0s						
CEDA	**San Andres**	**0.76**	**43**	*e*P		**Pn**	**09 36 41.9 +0.9**
CEDA				*e*S		**Sn**	**09 36 52.9 +0.7**
CEDA	**San Andres**	**0.76**	**43**	*i*P		**Pn**	**09 36 42.0 +0.9**
CEDA				*i*S		**Sn**	**09 36 52.6 +0.3**
CEDA					IAML		09 36 57.4
	comp=Z,27μm,1.0s						
LOAL	**Lomas de Alarc**	**0.76**	**11**	*e*P		**Pn**	**09 36 42.5 +1.4**
LOAL				*e*S		**Sn**	**09 36 54.1 +1.8**
MAGS	**Ministerio de**	**0.76**	**55**	*e*P		**Pn**	**09 36 41.6 +0.4**
ITCA	**Escuela Especi**	**0.76**	**56**	*e*P		**Pn**	**09 36 41.8 +0.7**
ITCA	**Escuela Especi**	**0.76**	**56**	*i*P		**Pn**	**09 36 41.9 +0.7**
ITCA				*i*S		**Sn**	**09 36 52.4 0.0**
ITCA					IAML		09 36 56.4
	comp=Z,14μm,1.0s						
SLOZ	**Alcaldia de Sa**	**0.79**	**10**	*e*P		**Pn**	**09 36 42.7 +1.3**
BOQS	**Boqueron**	**0.80**	**53**	*i*P		**Pn**	**09 36 42.7 +1.0**
SNET	**Serv Nac Est T**	**0.81**	**57**			**Pn**	**09 36 42.3 +0.5**
SNET	**Serv Nac Est T**	**0.81**	**57**	*e*P		**Pn**	**09 36 42.5 +0.7**
SNET				*e*S		**Sn**	**09 36 54.0 +0.5**
SNET	**Serv Nac Est T**	**0.81**	**57**	*i*P		**Pn**	**09 36 42.4 +0.7**
SNET					IAML		09 36 42.9
	comp=Z,14μm,1.0s						
SNET				*i*S		**Sn**	**09 36 53.4 -0.1**
PANCS	**Alcalda de**	**0.82**	**64**	*e*P		**Pn**	**09 36 42.3 +0.4**
PANCS	**Alcalda de**	**0.82**	**64**	*i*P		**Pn**	**09 36 42.2 +0.4**
PANCS				*i*S		**Sn**	**09 36 52.9 -0.8**
PANCS					IAML		09 36 53.7
	comp=Z,16μm,1.0s						
UEES	**Universidad Ev**	**0.82**	**55**	*e*P		**Pn**	**09 36 42.6 +0.7**
UEES	**Universidad Ev**	**0.82**	**55**	*i*P		**Pn**	**09 36 42.7 +0.8**
UEES				*i*S		**Sn**	**09 36 54.2 +0.4**
UEES					IAML		09 36 56.3
	comp=Z,5μm,1.0s						
UNIC	**Universidad Ca**	**0.82**	**27**	*e*P		**Pn**	**09 36 43.0 +1.1**
UNIC	**Universidad Ca**	**0.82**	**27**	*i*P		**Pn**	**09 36 43.0 +1.1**
UNIC				*i*S		**Sn**	**09 36 54.2 +0.4**
UNIC					IAML		09 36 56.5
	comp=Z,2μm,1.0s						
PIC2	**El Picacho**	**0.82**	**53**	*e*P		**Pn**	**09 36 43.2 +1.1**
LOMA	**Loma Larga**	**0.84**	**62**	*e*P		**Pn**	**09 36 43.0 +0.7**
LOMA	**Loma Larga**	**0.84**	**62**	*i*P		**Pn**	**09 36 42.7 +0.5**
LOMA				*i*S		**Sn**	**09 36 54.9 +0.6**
LOMA					IAML		09 37 01.0
	comp=Z,8μm,1.0s						
UESS	**Universidad de**	**0.85**	**57**	*e*P		**Pn**	**09 36 43.2 +0.8**
QUEZ	**Alcaldia de Qu**	**0.87**	**48**	*e*P		**Pn**	**09 36 43.6 +1.1**
QUEZ	**Alcaldia de Qu**	**0.87**	**48**	*i*P		**Pn**	**09 36 43.6 +1.1**
QUEZ				*i*S		**Sn**	**09 36 55.4 +0.5**
QUEZ					IAML		09 36 57.7
	comp=Z,28μm,1.0s						
IGN	**Direccin Gen**	**0.87**	**58**	*e*P		**Pn**	**09 36 43.4 +0.8**
UDBS	**Universidad Do**	**0.89**	**58**	*e*P		**Pn**	**09 36 43.6 +0.8**
UDBS	**Universidad Do**	**0.89**	**58**	*i*P		**Pn**	**09 36 43.5 +0.7**
UDBS				*i*S		**Sn**	**09 36 55.9 +0.5**
UDBS					IAML		09 37 00.1
	comp=Z,6μm,1.0s						
AEIL	**Aeropuerto Ilo**	**0.91**	**61**	*i*P		**Pn**	**09 36 44.1 +1.0**
AEIL				*e*S		**Sn**	**09 36 57.6 +1.6**
LFRS	**El Faro**	**0.93**	**66**	*i*P		**Pn**	**09 36 43.7 +0.3**
PAVA	**Las Pavas**	**1.07**	**64**	*e*P		**Pn**	**09 36 46.7 +1.3**
COEG	**Centro de Oper**	**1.09**	**70**	*e*P		**Pg**	**09 36 46.5 +0.6**
COEG	**Centro de Oper**	**1.09**	**70**	*i*P		**Pg**	**09 36 46.4 +0.5**
COEG				*i*S		**Sn**	**09 37 00.9 +0.5**
COEG					IAML		09 37 06.1
	comp=Z,5μm,1.0s						
TECO	**Alcaldia de Te**	**1.16**	**75**	*e*P		**Pg**	**09 36 47.0 -0.2**
TECO	**Alcaldia de Te**	**1.16**	**75**	*i*P		**Pg**	**09 36 47.2 0.0**
TECO				*i*S		**Sg**	**09 37 01.8 -0.6**
TECO					IAML		09 37 09.0
	comp=Z,2μm,1.0s						
UESV	**Universidad de**	**1.18**	**71**	*e*P		**Pg**	**09 36 48.0 +0.3**
UESV	**Universidad de**	**1.18**	**71**	*i*P		**Pg**	**09 36 48.0 +0.3**
UESV				*i*S		**Sg**	**09 37 03.5 +0.4**
UESV					IAML		09 37 09.0
	comp=Z,4μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.25**	**69**	*e*P		**Pg**	**09 36 49.2 +0.1**
SCLA	**Alcaldia de Sa**	**1.25**	**69**	*i*P		**Pg**	**09 36 49.0 -0.1**
SCLA				*i*S		**Sg**	**09 37 06.0 +0.5**
SCLA					IAML		09 37 11.0
	comp=Z,2μm,1.0s						
MTO3	**Montecristo**	**1.27**	**26**			**Pg**	**09 36 49.4 -0.1**
MTO3	**Montecristo**	**1.27**	**26**	*e*P		**Pb**	**09 36 48.9 +0.2**
MTO3	**Montecristo**	**1.27**	**26**	*i*P		**Pg**	**09 36 49.3 -0.1**
MTO3				*i*S		**Sg**	**09 37 05.7 -0.4**
MTO3					IAML		09 37 07.9
	comp=Z,2μm,1.0s						
PCG	**Pacaya**	**1.31**	**330**	*e*P		**Pg**	**09 36 51.4 +1.1**
LLGN	**La Laguna**	**1.32**	**46**	*e*P		**Pg**	**09 36 49.8 -0.5**
LLGN				*e*S		**Sn**	**09 37 06.6 +0.4**
LLGN	**La Laguna**	**1.32**	**46**	*i*P		**Pg**	**09 36 49.9 -0.5**
LLGN				*i*S		**Sn**	**09 37 06.5 +0.3**
LLGN					IAML		09 37 09.1
	comp=Z,2μm,1.0s						
PQSS	**Presa 15 de Se**	**1.39**	**74**	*e*P		**Pb**	**09 36 50.8 +0.3**
PQSS	**Presa 15 de Se**	**1.39**	**74**	*i*P		**Pb**	**09 36 50.9 +0.4**
PQSS				*i*S		**Sg**	**09 37 08.9 -0.8**
PQSS					IAML		09 37 11.1
	comp=Z,2μm,1.0s						
COEB	**Comit de Eme**	**1.39**	**80**	*e*P		**Pb**	**09 36 50.4 -0.1**
COEB				*e*S		**Sn**	**09 37 07.9 0.0**
COEB	**Comit de Eme**	**1.39**	**80**	*i*P		**Pb**	**09 36 50.5 -0.1**
COEB				*i*S		**Sb**	**09 37 08.3 +0.2**
COEB					IAML		09 37 10.7
	comp=Z,2μm,1.0s						
NBG	**Las Nubes**	**1.39**	**343**	*e*P		**Pg**	**09 36 53.0 +1.3**
TECA	**Tecapa**	**1.41**	**80**	*e*P		**Pb**	**09 36 50.7 -0.3**
GCG4	**OSOP**	**1.45**	**336**	*i*P		**Pg**	**09 36 52.8 -0.1**
GCG4				*i*S		**Sg**	**09 37 11.8 -0.1**
GCG4					IAML		09 37 17.6
	comp=Z,2μm,1.0s						
FUG	**Fuego 3**	**1.48**	**324**	*e*P		**Pg**	**09 36 53.2 -0.3**
GUMI	**Mixco**	**1.53**	**334**	*i*P		**Pg**	**09 36 53.9 -0.4**
GUMI				*i*S		**Sg**	**09 37 13.7 -0.5**
GUMI					IAML		09 37 17.5
	comp=Z,3μm,1.0s						
PACA	**Pacayal**	**1.58**	**82**	*e*P		**Pb**	**09 36 53.5 -0.4**
PACA	**Pacayal**	**1.58**	**82**	*i*P		**Pb**	**09 36 54.3 +0.4**
PACA				*i*S		**Sb**	**09 37 14.3 +0.6**
PACA					IAML		09 37 17.7
	comp=Z,17μm,1.0s						
RANC	**El Ranchito**	**1.61**	**83**	*i*P		**Pb**	**09 36 54.0 -0.4**
RANC				*i*S		**Sb**	**09 37 14.7 +0.1**
RANC					IAML		09 37 23.6
	comp=Z,2μm,1.0s						
JUCU	**Jucuarn**	**1.64**	**90**	*e*P		**Pn**	**09 36 53.9 +0.7**
CNRM	**Centro Naciona**	**1.73**	**82**	*e*P		**Pn**	**09 36 54.9 +0.6**
CHTG	**Tecpan**	**1.82**	**326**	*i*P		**Pb**	**09 36 58.2 +0.2**
CHTG				*i*S		**Sb**	**09 37 20.5 -0.2**
CHTG					IAML		09 37 27.2
	comp=Z,4μm,1.0s						
INTP	**Intipuca**	**1.83**	**91**	*e*P		**Pn**	**09 36 56.9 +1.2**
MRL	**Marmol**	**1.84**	**7**	*e*P		**Pb**	**09 36 58.6 +0.2**
SULM	**Suchitepequez,**	**1.90**	**304**	*e*P		**Pb**	**09 36 59.7 +0.4**
LCND	**La Caada**	**1.99**	**88**	*e*P		**Pn**	**09 36 59.1 +1.2**
CNCH	**Conchagua**	**2.04**	**89**	*e*P		**Pn**	**09 36 59.7 +0.9**
RTAL	**Retalhuleu**	**2.13**	**307**	Pn		**Pn**	**09 37 01.2 +1.3**
RTAL	**Retalhuleu**	**2.13**	**307**	*e*P		**Pn**	**09 37 01.2 +1.3**
STG3	**Santiaguito 3,**	**2.15**	**313**	*e*P		**Pb**	**09 37 02.7 -1.0**
HUEH	**Huehuetenango**	**2.56**	**324**			**Pb**	**09 37 08.6 -2.1**
TGUH	**Tegucigalpa,Un**	**2.71**	**72**	Pn		**Pn**	**09 37 08.6 +0.6**
CRIN	**San Cristobal**	**2.86**	**101**			**Pn**	**09 37 10.8 +0.8**
CNGN	**Cerro Negro**	**3.24**	**103**	Pn		**Pn**	**09 37 16.0 +0.8**
PETF	**Flores**	**3.65**	**1**			**Pn**	**09 37 21.4 +0.6**
CCIG	**Comitan**	**3.69**	**325**	Pn		**Pn**	**09 37 23.5 +1.9**
BOAB	**BOACO BROADBAN**	**3.24**	**100**	Pn		**Pn**	**09 37 29.0 +0.2**
ACON	**Acoyapa**	**4.81**	**105**			**Pn**	**09 37 38.3 +1.5**
JUD3	**Juan Diaz 3**	**5.28**	**125**	Pn		**Pn**	**09 37 45.9 +2.6**
ESPN	**Las Esperanzas**	**5.59**	**100**	Pn		**Pn**	**09 37 48.1 +0.6**
JTS	**Las Juntas de**	**5.69**	**121**			**Pn**	**09 37 51.0 +2.0**
HDC	**Heredia**	**6.55**	**119**	Pn		**Pn**	**09 38 02.3 +1.5**
LCR2	**La Lucha 2**	**6.77**	**120**	Pn		**Pn**	**09 38 05.1 +1.1**
TEIG	**Tepich**	**7.12**	**13**	Pn		**Pn**	**09 38 08.7 +0.3**
TLIG	**Tlapa**	**9.37**	**298**	Pn		**Pn**	**09 38 40.9 +1.4**
UNM	**Universidad Na**	**10.74**	**305**	Pn		**Pn**	**09 38 58.6 +0.1**
TULM	**Tulcn-Chalpat**	**17.31**	**135**			**Pn**	**09 40 27.1 +0.4**
IMBA	**Imbabura, San**	**17.36**	**137**	P		**Pn**	**09 40 27.2 +0.1**
HNDO	**Hondo**	**18.38**	**333**	P		**Pn**	**09 40 40.8 +1.6**
SDV	**Santo Domingo**	**19.43**	**101**	P		**P**	**09 40 49.0 -2.0**
SDV					IAmb	IAmb	09 41 14.4
	comp=Z,7.9nm,0.5s						
BRDY	**Brady**	**19.80**	**337**	P		**P**	**09 40 54.4 -0.4**
BRDY					IAmb	IAmb	09 40 56.6
	comp=Z,5.0nm,0.7s						
WHTX	**Lake Whitney,**	**19.89**	**341**	P		**P**	**09 40 54.6 -1.2**
WHTX					IAmb	IAmb	09 40 57.2
	comp=Z,10nm,0.7s						
FW14	**Alvarado**	**20.19**	**342**	P		**P**	**09 40 58.4 -0.6**
FW13	**Cleburne**	**20.22**	**341**	P		**P**	**09 40 59.0 -0.3**
FW13					IAmb	IAmb	09 41 00.5
	comp=Z,11nm,0.8s						
154A	**Montrose**	**20.26**	**17**	P		**P**	**09 40 57.7 -2.1**
APMT	**Aspermont**	**22.04**	**337**	P		**P**	**09 41 17.9 -1.1**
WMOK	**Wichita Mounta**	**22.85**	**341**	P		**P**	**09 41 26.1 -1.5**
WMOK					IAmb	IAmb	09 41 27.3
	comp=Z,7.1nm,1.5s						
OK029	**Liberty Lake**	**23.45**	**344**	P		**P**	**09 41 32.8 -1.0**
OK029					IAmb	IAmb	09 41 45.6
	comp=Z,12nm,0.9s						

*IDC **26** 09:54:08.1±6.0, 14°.69S×177°.93W, h409km±64km, mb3.1/7, mbtmp3.9/8, Error ellipse: s-maj=48.1km s-min=22.7km az=149.0*

ISC 26 09:54:07.3±0.9, 14°.7S±0°.3×177°.9W±0°.2, h400km, n8, σ0s86/10, mb3.3/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.59**	**242**	P		**P**	**09 57 38.2 +1.2**
	3.4nm,0.8s,baz=64,slow=18,SNR=7.4						
STKA	**Stephens Creek**	**40.70**	**238**	P		**P**	**10 01 11.3 +0.3**
	1.5nm,0.8s,baz=90,slow=11,SNR=3.7						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**45.81**	**256**	P		**P**	**10 01 50.3 -1.3**
	0.5nm,0.4s,baz=79,slow=5.9,SNR=18						
WRA				PcP		**PcP**	**10 03 21.8 +0.4**
	0.2nm,0.6s,baz=97,slow=3.5,SNR=1.4						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**46.24**	**251**	P		**P**	**10 01 54.4 -0.5**
	7.6nm,0.5s,baz=84,slow=8.6,SNR=94						
ASAR				PcP		**PcP**	**10 03 23.2 +0.3**
	0.3nm,0.4s,baz=92,slow=3.8,SNR=1.9						
	7.6nm,0.5s						
QSPA	**South Pole Qui**	**75.32**	**180**	P		**P**	**10 05 07.2 -0.6**
	1.0nm,0.8s,baz=18,slow=3.2,SNR=2.7						
	1.0nm,0.8s						
NVAR	**Mina Array Bea**	**76.77**	**44**	P		**P**	**10 05 16.3 -0.1**
	0.2nm,0.6s,baz=219,slow=7.0,SNR=2.8						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**83.85**	**58**	P		**P**	**10 05 54.5 +0.8**
	0.5nm,0.7s,baz=210,slow=5.9,SNR=7.1						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**84.68**	**43**	P		**P**	**10 05 57.1 -0.6**
	0.1nm,0.5s,baz=232,slow=4.4,SNR=2.4						
	0.1nm,0.5s						

IDC 26 09:56:10.9±394.0, 17°.21S×168°.35E, h0km, Error ellipse: s-maj=236.1km s-min=106.2km az=2.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I22FR	**PORTLAGUERRE I**	**5.15**	**196**	I		I	10 28 35.0
	0.3nm,1.5s,baz=16,slow=320,SNR=12						

PRVG Vayda Guba 5.11 5 S **Sn** **10 02 16.2 -3.4**
ARCES ARCESS Array B 5.31 339 P **Pn** **10 01 23.3 +0.4**
ARCES S **Sn** **10 02 23.5 -1.3**
ARCES ARCESS Array B 5.31 339 Pn **Pn** **10 01 23.3 +0.4**
comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=11
ARCES Sn **Sn** **10 02 23.5 -1.3**
comp=Z,0.2nm,0.3s,baz=160,slow=24,SNR=1.9
ARCES Lg Lg 10 02 43.2
comp=Z,0.4nm,0.3s,baz=136,slow=37,SNR=3.6
comp=Z,0.9nm,0.7s
BREU Bredtraesk 5.44 267 P **Pn** **10 01 23.1 -1.6**
VADS Vadso 5.49 354 S **Sn** **10 02 27.8 -1.4**
RAF Rauma 5.58 233 *e*P **Pn** **10 01 29.8 +3.2**
I37NO I37NO 6.55 318 I I 10 37 20.0
baz=127,slow=325,SNR=1.9
HFS Hagfors 9.20 248 Pn **Pn** **10 02 14.1 -2.1**
comp=Z,0.1nm,0.3s,baz=50,slow=12,SNR=5.3
HFS Lg Lg 10 04 43.8
comp=Z,0.1nm,0.3s,baz=45,slow=27,SNR=2.2
comp=Z,0.3nm,0.3s

IDC 26 10:02:29.8±13.0, 14.°60S×165.°18E, h0km, mb3.7/3, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=225.0km s-min=36.1km az=53.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.53**	**171**	Pn	Pn	10 04 21.4	+0.4
0.4nm,0.3s,baz=310,slow=21,SNR=10							
DZM				Sn	Sn	10 05 46.7	-0.5
0.2nm,0.3s,baz=149,slow=14,SNR=1.8							
3.9nm,0.8s							
STKA	**Stephens Creek**	**27.56**	**227**	P	P	10 08 18.4	-0.3
1.1nm,0.5s,baz=46,slow=11,SNR=4.8							
1.1nm,0.5s							
WRA	**Warramunga Arr**	**29.90**	**255**	P	P	10 08 39.7	+0.1
0.1nm,0.3s,baz=84,slow=8.7,SNR=4.7							
0.1nm,0.3s							
ASAR	**Alice Springs**	**30.84**	**248**	P	P	10 08 48.0	+0.1
0.4nm,0.4s,baz=76,slow=9.4,SNR=12							
0.4nm,0.4s							

NAM 26 10:02:40.1±3.4, 19.°77S×14.°54E, h13km±15km, ML0.8, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ST9N	**ST9**	**0.03**	**163**	*i* P	Pg	10 02 42.6	0.0
ST9N				IAML		10 02 43.6	
comp=Z,981nm,0.1s							
ST9N				*i* S	Sg	10 02 43.6	-0.7
ST9N	**ST9**	**0.03**	**163**	*i* P	Pg	10 02 42.6	0.0
ST9N				*i* S	Sg	10 02 43.0	-1.3
ST9N				IAML		10 02 43.5	
comp=Z,584nm,0.1s							
ST3N	**ST3**	**0.04**	**307**	*i* P	Pg	10 02 43.8	+1.1
ST3N				*i* S	Sg	10 02 45.5	+1.1
ST3N				IAML		10 02 46.4	
comp=Z,9.3nm,0.1s							
ST3N	**ST3**	**0.04**	**307**	*i* P	Pg	10 02 43.7	+1.1
ST3N				*i* S	Sg	10 02 44.9	+0.4
ST3N				IAML		10 02 45.5	
comp=Z,14nm,0.0s							
ST1N	**ST1**	**0.08**	**67**	*i* S	Sg	10 02 45.0	0.0
ST1N	**ST1**	**0.08**	**67**	*i* P	Pg	10 02 43.7	+0.7
ST1N				*i* S	Sg	10 02 45.0	0.0
ST1N				IAML		10 02 45.2	
comp=Z,22nm,0.1s							
ST6N	**ST6**	**0.13**	**256**	*i* P	Pb	10 02 45.0	+0.4
ST6N				*i* P	Pg	10 02 45.0	+1.4
ST2N	**ST2**	**0.17**	**160**	*i* P	Pg	10 02 44.4	+0.2
ST2N				*i* S	Sg	10 02 46.5	-0.4
ST2N				IAML		10 02 47.0	
comp=Z,6.4nm,0.1s							
ST2N	**ST2**	**0.17**	**160**	*i* P	Pg	10 02 44.6	+0.5
ST2N				*i* S	Sg	10 02 45.5	-1.4
ST2N				IAML		10 02 48.8	
comp=Z,16nm,0.0s							
ST5N	**ST5**	**0.21**	**96**	*e*P	Pb	10 02 45.7	-0.2
ST5N				*i* S	Sg	10 02 48.5	+0.5
ST8N	**ST8**	**0.22**	**291**	*i* P	Pb	10 02 47.1	+1.0
ST8N				*i* S	Sb	10 02 50.5	+0.4
ST8N				IAML		10 02 51.2	
comp=Z,2.5nm,0.1s							
ST8N	**ST8**	**0.22**	**291**	*i* P	Pb	10 02 47.0	+0.9
ST8N				IAML		10 02 50.9	
comp=Z,2.2nm,0.1s							
ST10N	**ST10**	**0.27**	**212**	*i* P	Pb	10 02 46.9	0.0
ST10N				*i* S	Sg	10 02 50.4	+0.8
ST10N				IAML		10 02 50.5	
comp=Z,23nm,0.1s							
ST10N	**ST10**	**0.27**	**212**	*i* P	Pb	10 02 46.8	0.0
ST10N				*i* S	Sb	10 02 50.7	-0.7
ST10N				IAML		10 02 51.2	
comp=Z,7.6nm,0.1s							

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*VIE **26** 10:08:53.2±0.9, 46.°24N×15.°99E, h0km, mb1.5/1, ml1.6/1, Error ellipse: s-maj=6.0km s-min=2.9km az=81.0, Suspected Mining explosion.*

LJU 26 10:08:53.9, 46.°25N×15.°90E, h0km, ML0.9, Suspected explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLS	**Golise**	**0.31**	**219**	*i* Pg	Pg	10 09 00.1	+0.3
GOLS				IAML		10 09 06.1	
comp=Z,13nm,0.2s							
DOBS	**Dobrina**	**0.32**	**252**	*i* Pg	Pg	10 09 00.8	+0.9
DOBS				IAML		10 09 07.3	
comp=Z,7.3nm,0.2s							
PTJ	**Puntijarka**	**0.35**	**172**	*e*Pg	Pg	10 09 00.5	0.0
PTJ				E		10 09 00.6	
PTJ				Sg	Sg	10 09 04.5	-0.5
KALN	**Kalnik**	**0.40**	**107**	Sg	Sg	10 09 08.1	+1.2
KALN				E		10 09 08.2	
GCIS	**Gornji Cirnik**	**0.43**	**206**	*i* Pg	Pg	10 09 02.0	-0.1
LEGS	**Legarje**	**0.51**	**234**	*i* Pg	Pg	10 09 03.9	+0.4
CRES	**Cresnjev**	**0.53**	**216**	*i* Pg	Pg	10 09 03.9	0.0
CRES				*e*Sg	Sg	10 09 11.5	+0.8
CRES				IAML		10 09 12.7	
comp=Z,3.6nm,0.2s							
MOSL	**Moslavina**	**0.87**	**137**	*e*Pg	Pb	10 09 11.6	-0.3
MOSL				E		10 09 11.8	
MOSL				Sg	Sb	10 09 23.8	-0.3
OBKA	**Obir**	**0.97**	**286**	*e*Pg	Pg	10 09 12.7	+0.2
comp=Z,0.4nm,0.1s							
OBKA				*e*Sg	Sg	10 09 25.8	+0.7
comp=Z,0.3nm,0.1s							

ROM 26 10:09:40.9±0.1, 46.°191N±0.°005×11.°182E±0.°009, h0km, ML0.8/29, Error ellipse: s-maj=0.8km s-min=0.6km az=292.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANI	**Panarotta**	**0.18**	**143**	*e*Pg	Pg	10 09 45.0	+0.7
PANI	**Panarotta**	**0.18**	**143**	P	Pg	10 09 45.0	+0.7
PANI				AML	AML		
comp=N,53μm,0.2s							
PANI				AML	AML		
comp=E,29μm,0.2s							
GAGG	**Gaggia**	**0.19**	**235**	*e*Pg	Pg	10 09 45.6	+1.1
GAGG	**Gaggia**	**0.19**	**235**	P	Pg	10 09 45.6	+1.1
GAGG				AML	AML		
comp=E,41μm,0.6s							
GAGG				AML	AML		
comp=N,35μm,0.3s							
GAGG				AML	AML		
comp=E,35μm,0.7s							
GAGG				AML	AML		
comp=N,47μm,0.8s							
GAGG				AML	AML		
comp=N,33μm,0.2s							
GAGG				AML	AML		
comp=E,39μm,0.2s							
OZOL	**Ozolo**	**0.23**	**337**	*e*Pg	Pg	10 09 46.5	+1.1
OZOL	**Ozolo**	**0.23**	**337**	P	Pg	10 09 46.4	+1.0
OZOL				AML	AML		
comp=N,62μm,0.8s							
OZOL				AML	AML		
comp=E,161μm,0.9s							
OZOL				AML	AML		
comp=N,33μm,0.3s							
OZOL				AML	AML		
comp=E,40μm,0.3s							
OZOL				AML	AML		
comp=E,161μm,1.1s							
ZIAN	**Ziano**	**0.28**	**72**	*e*Pg	Pg	10 09 46.9	+0.7
ZIAN	**Ziano**	**0.28**	**72**	P	Pg	10 09 46.9	+0.7
ZIAN				AML	AML		
comp=N,19μm,0.7s							
ZIAN				AML	AML		
comp=N,80μm,1.1s							
ZIAN				AML	AML		
comp=E,37μm,0.2s							
ZIAN				AML	AML		
comp=N,19μm,1.3s							
ZIAN				AML	AML		
comp=N,80μm,0.9s							
ZIAN				AML	AML		
comp=E,40μm,0.0s							
LUSI	**Trento, Gardas**	**0.28**	**216**	P	Pg	10 09 47.3	+1.0
LUSI				AML	AML		
comp=E,19μm,0.2s							
LUSI				AML	AML		
comp=N,36μm,0.4s							
LUSI				AML	AML		
comp=N,36μm,1.6s							
APPI	**Appiano**	**0.29**	**6**	P	Pg	10 09 47.4	+0.9
KOSI	**Kohlern**	**0.30**	**26**	P	Pg	10 09 47.7	+0.9
KOSI				AML	AML		
comp=N,19μm,0.5s							
KOSI				AML	AML		
comp=E,20μm,0.2s							
KOSI				AML	AML		
comp=E,20μm,1.8s							
KOSI				AML	AML		
comp=N,19μm,1.5s							
DOSS	**Dosso del Somm**	**0.31**	**179**	*e*Pg	Pg	10 09 47.7	+0.8
DOSS	**Dosso del Somm**	**0.31**	**179**	P	Pg	10 09 47.6	+0.8
DOSS				AML	AML		
comp=E,39μm,0.1s							
DOSS				AML	AML		
comp=N,34μm,0.8s							
DOSS				AML	AML		
comp=E,21μm,0.5s							
DOSS				AML	AML		
comp=E,59μm,0.4s							
DOSS				AML	AML		
comp=E,59μm,1.6s							
DOSS				AML	AML		
comp=E,21μm,1.5s							
DOSS				AML	AML		
comp=N,30μm,0.3s							
DOSS				AML	AML		
comp=N,71μm,0.9s							
CARE	**Lago del Cares**	**0.41**	**305**	P	Pg	10 09 49.8	+1.0
CARE				AML	AML		
comp=E,6μm,0.1s							
VARA	**Varagna**	**0.42**	**209**	P	Pb	10 09 50.0	-1.2
VARA				AML	AML		
comp=E,25μm,0.4s							
VARA				AML	AML		
comp=N,68μm,0.7s							
VARA				AML	AML		
comp=E,48μm,0.6s							
VARA				AML	AML		
comp=N,19μm,0.4s							
VARA				AML	AML		
comp=N,68μm,1.3s							
VARA				AML	AML		
comp=E,25μm,1.6s							
MABI	**Malga Bissina**	**0.48**	**254**	P	Pg	10 09 51.1	+1.0
MABI				AML	AML		
comp=E,7μm,0.4s							
MABI				AML	AML		
comp=N,8μm,0.5s							
MABI				AML	AML		
comp=E,4μm,0.2s							
MABI				AML	AML		
comp=N,5μm,0.1s							

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*IDC **26** 10:26:35.6±0.9, 6.°15S×146.°38E, h0km, mb4.0/10, mbtmp4.0/11, ML3.8/1, Error ellipse: s-maj=38.0km s-min=17.9km az=89.0*

ISC 26 10:26:41.5±0.8, 6.°10S±0.°09×146.°1E±0.°2, h32km, n21, σ1§18/20, mb4.1/14, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.46**	**162**	P	**Pb**	**10 27 42.3**	**+0.2**
PMG	**Port Moresby**	**3.46**	**162**	P	**Pb**	**10 27 42.2**	**+0.2**
COEN	**Coen**	**8.32**	**200**	P	Pn	10 28 48.1	+8.2
WRA	**Warramunga Arr**	**17.88**	**219**	P	**Pn**	**10 30 47.3**	**-0.6**
0.4nm,0.3s,baz=42,slow=12,SNR=25							
1.3nm,0.6s							
AS01	**Alice Springs**	**21.01**	**213**	P	**P**	**10 31 24.0**	**+1.5**
3.6nm,1.0s							
ASAR	**Alice Springs**	**21.03**	**213**	P	**P**	**10 31 22.2**	**-0.6**
0.5nm,0.4s,baz=48,slow=8.0,SNR=26							
0.5nm,0.4s							
INKA	**Innaminka**	**22.11**	**193**	P	**P**	**10 31 36.8**	**+2.5**
21nm,2.4s							
FITZ	**Fitzroy Crossi**	**23.24**	**237**	P	**P**	**10 31 45.4**	**-0.8**
17nm,2.4s							
OOD	**Oodnadatta**	**23.73**	**203**	P	**P**	**10 31 50.5**	**-0.4**
WRKA	**Warakurna**	**25.40**	**220**	P	**P**	**10 32 05.0**	**-1.2**
STKA	**Stephens Creek**	**25.99**	**189**	P	**P**	**10 32 11.1**	**-0.4**
2.8nm,0.7s,baz=352,slow=9.2,SNR=6.5							
2.8nm,0.7s							
NTLH	**Newcastle Hard**	**27.17**	**170**	P	**P**	**10 32 24.1**	**+2.0**
36nm,1.0s							
USRK	**Ussuriysk Ar.**	**51.66**	**347**	P	**P**	**10 35 45.8**	**+0.6**
1.2nm,0.7s,baz=164,slow=5.5,SNR=3.9							
1.2nm,0.7s							
CMAR	**Chiang Mai Arr**	**52.49**	**299**	P	**P**	**10 35 53.6**	**+1.7**
2.0nm,0.5s,baz=122,slow=6.1,SNR=12							
2.0nm,0.5s							
VNDA	**Vanda**	**71.87**	**176**	P	**P**	**10 38 00.1**	**-0.7**
0.8nm,0.9s,baz=332,slow=9.3,SNR=3.9							
0.8nm,0.9s							
MKAR	**Makanchi Array**	**76.99**	**321**	P	**P**	**10 38 31.5**	**+0.3**
1.8nm,0.8s,baz=100,slow=8.0,SNR=12							
1.8nm,0.8s							
ZALV	**Zalesovo Beam**	**78.61**	**328**	P	**P**	**10 38 39.5**	**-0.5**
0.8nm,0.5s,baz=105,slow=9.3,SNR=3.6							
0.8nm,0.5s							
KURBB	**Kurchatov Arra**	**80.76**	**323**	P	**P**	**10 38 52.3**	**+0.5**
0.8nm,0.3s,baz=110,slow=5.0,SNR=1.2							
0.8nm,0.3s							
QSPA	**South Pole Qui**	**83.87**	**180**	P	**P**	**10 39 06.5**	**-1.4**
0.8nm,0.4s,baz=295,slow=1.8,SNR=10							
0.8nm,0.4s							
ILAR	**Eielson Array**	**85.93**	**23**	P	**P**	**10 39 17.1**	**-0.9**
1.1nm,0.6s,baz=253,slow=5.0,SNR=19							
1.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**144.23**	**284**	PKP	**PKPab**	**10 46 12.3**	**-0.8**
1.1nm,0.8s,baz=100,slow=3.8,SNR=5.9							

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*IDC **26** 10:33:02.0±0.8, 13.°10N×144.°06E, h128km±7km, mb3.8/15, mbtmp4.2/15, MS3.2/1, Error ellipse: s-maj=19.9km s-min=13.7km az=90.0*

*NEIC **26** 10:33:02.4±1.5, 13.°02N±0.°08×143.°9E±0.°1, h120km±7km, mb4.3/45, Error ellipse: s-maj=18.5km s-min=9.5km az=115.0*

ISC 26 10:33:02.9±0.5, 13.°00N±0.°08×144.°0E±0.°1, h138km, n74, σ1§37/72, mb4.2/39, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.00**	**54**	P	**Pn**	**10 33 24.4**	**-2.2**
84nm,0.2s,baz=292,slow=6.2,SNR=45							
GUMO				S	**Sn**	**10 33 41.3**	**-3.4**
852nm,0.3s,baz=0.0,slow=20,SNR=21							
DAV	**Davao City (W)**	**19.09**	**254**	LR	LR	10 47 03.4	
comp=Z,58nm,18.1s,baz=149,slow=44							
JOW	**Kunigami**	**20.18**	**315**	P	**P**	**10 37 27.6**	**+0.8**
JOW				IAmb	IAmb	10 37 30.4	
comp=Z,16nm,1.0s							
JOW	**Kunigami**	**20.18**	**315**	P	**P**	**10 37 26.4**	**-0.5**
comp=Z,7.7nm,0.4s,baz=114,slow=19,SNR=6.1							
comp=Z,7.7nm,0.4s							
H11S3	**WAKE ISLAND Hy**	**22.47**	**73**	T	T	11 01 55.9	
baz=254,slow=75,SNR=6.6							
H11S1	**WAKE ISLAND Hy**	**22.49**	**73**	T	T	11 01 58.8	
baz=254,slow=75,SNR=2.7							
H11S2	**WAKE ISLAND Hy**	**22.49**	**73**	T	T	11 01 57.5	
baz=254,slow=75,SNR=2.5							
YOJ	**Yonaguni jima**	**22.90**	**303**	P	**P**	**10 37 54.1**	**-0.8**
JGF	**Kuroka**	**23.29**	**346**	P	**P**	**10 38 00.7**	**+2.2**
JNU	**Nakatsue**	**23.35**	**331**	P	**P**	**10 37 59.5**	**+0.4**
JNU				IAmb	IAmb	10 38 00.1	
comp=Z,9.2nm,0.9s							
YULB	**Yu-li**	**23.91**	**299**	P	**P**	**10 38 03.6**	**-0.6**
MJAR	**Matsushiro Arr**	**24.02**	**348**	P	**P**	**10 38 04.1**	**-0.9**
comp=Z,3.5nm,0.5s,baz=170,slow=8.6,SNR=11							
comp=Z,3.5nm,0.5s							
MAJO	**Matsushiro**	**24.02**	**348**	P	**P**	**10 38 05.8**	**+0.7**
MAJO				IAmb	IAmb	10 38 06.0	
comp=Z,7.6nm,0.6s							
MJB9	**Matsu-Tunnel**	**24.02**	**348**	P	**P**	**10 38 07.1**	**+2.1**
MJB9				IAmb	IAmb	10 38 07.4	
comp=Z,7.6nm,0.5s							
SSLB	**Suanglung**	**24.34**	**299**	P	**P**	**10 38 07.0**	**-1.2**
JMM	**Marumori**	**24.93**	**354**	P	**P**	**10 38 13.8**	**+0.6**
COEN	**Coen**	**26.80**	**182**	P	**P**	**10 38 26.7**	**-3.6**
COEN				IAmb	IAmb	10 38 50.4	
comp=Z,6.0nm,1.1s							
KSRS	**Korea Array**	**28.29**	**332**	P	**P**	**10 38 43.0**	**-0.3**
comp=Z,0.9nm,0.6s,baz=141,slow=9.9,SNR=6.2							
comp=Z,0.9nm,0.6s							
USA0B	**Ussuriysk Arra**	**32.76**	**344**	P	**P**	**10 39 23.2**	**+0.6**
TIA	**Tai'an**	**33.44**	**318**	P	**P**	**10 39 24.5**	**-4.3**
TIA				pmax	pmax		
comp=Z,4.0nm,0.3s							
MDJ	**Mudanjiang**	**33.84**	**341**	P	**P**	**10 39 33.4**	**+1.4**
MDJ				IAmb	IAmb	10 39 53.5	
comp=Z,4.2nm,0.6s							
WB0	**Warramunga Arr**	**33.92**	**196**	P	**P**	**10 39 34.0**	**+1.0**
WB0				IAmb	IAmb	10 39 34.5	
comp=Z,2.9nm,0.6s							
WR0	**Warramunga Arr**	**34.06**	**196**	P	**P**	**10 39 34.9**	**+0.7**
WRAB	**Tennant Creek**	**34.09**	**196**	P	**P**	**10 39 33.4**	**-1.0**
WRAB				IAmb	IAmb	10 39 36.5	
comp=Z,6.2nm,1.1s							
WB2	**Warramunga Arr**	**34.09**	**196**	P	**P**	**10 39 35.6**	**+1.1**
WB2				IAmb	IAmb	10 39 35.9	
comp=Z,4.9nm,0.8s							
WRA	**Warramunga Arr**	**34.10**	**196**	P	**P**	**10 39 34.6**	**0.0**
WRA	**Warramunga Arr**	**34.10**	**196**	P	**P**	**10 39 35.2**	**+0.6**
comp=Z,3.4nm,0.8s,baz=18,slow=9.3,SNR=44							
comp=Z,3.4nm,0.8s							
AS31	**Alice Springs**	**37.76**	**195**	P	**P**	**10 40 06.6**	**+0.9**
ASAR	**Alice Springs**	**37.76**	**195**	P	**P**	**10 40 07.0**	**+1.3**
ASAR	**Alice Springs**	**37.76**	**195**	P	**P**	**10 40 06.3**	**+0.5**
comp=Z,0.7nm,0.6s,baz=17,slow=8.9,SNR=24							
comp=Z,0.7nm,0.6s							
HHC	**Hu-ho-hao-te**	**39.69**	**320**	*e*P	**P**	**10 40 22.0**	**+0.2**
HHC				sP	pwP	10 40 59.5	+3.6
HHC				PP	**PP**	**10 41 54.5**	**-1.3**
HHC				pmax	pmax		
comp=Z,63nm,6.5s							
HHC				pmax	pmax		
comp=Z,11nm,0.5s							
ARMA	**Armidale**	**43.78**	**170**	P	**P**	**10 40 55.0**	**-0.1**
ARMA				IAmb	IAmb	10 41 18.7	
comp=Z,4.3nm,1.0s							
STKA	**Stephens Creek**	**44.68**	**183**	P	**P**	**10 41 02.9**	**+0.8**
FORT	**Forrest**	**46.16**	**199**	P	**P**	**10 41 13.6**	**-0.1**
SONM	**Songino Array**	**46.74**	**326**	P	**P**	**10 41 18.3**	**-0.1**
comp=Z,0.5nm,0.4s,baz=123,slow=7.1,SNR=1.9							
comp=Z,0.5nm,0.4s							
ADK	**Adak**	**49.98**	**31**	P	**P**	**10 41 43.7**	**+0.8**
ADK				IAmb	IAmb	10 41 49.3	
comp=Z,5.4nm,1.1s							
TOO	**Toolangi**	**50.32**	**178**	P	**P**	**10 41 48.2**	**+2.6**
MXZ	**Matakaoa Point**	**59.71**	**149**	P	**P**	**10 42 53.3**	**+0.2**
MK31	**Makanchi Array**	**61.35**	**316**	P	**P**	**10 43 04.6**	**+0.4**
MKAR	**Makanchi Array**	**61.35**	**316**	P	**P**	**10 43 04.3**	**+0.2**
MKAR	**Makanchi Array**	**61.35**	**316**	P	**P**	**10 43 03.9**	**-0.3**
comp=Z,1.0nm,0.5s,baz=91,slow=9.6,SNR=12							
comp=Z,1.0nm,0.5s							
L14K	**Kuka Creek**	**61.53**	**26**	P	**P**	**10 43 06.5**	**+1.5**
L14K				IAmb	IAmb	10 43 15.1	
comp=Z,2.5nm,1.0s							
MAKZ	**Makanchi**	**61.56**	**316**	P	**P**	**10 43 05.9**	**+0.3**
MAKZ				IAmb	IAmb	10 43 07.2	
comp=Z,2.2nm,0.8s							
ZAA0	**Zalesovo Array**	**61.62**	**325**	P	**P**	**10 43 05.3**	**-0.6**
ZAA0				IAmb	IAmb	10 43 06.5	
comp=Z,2.1nm,0.9s							
ZALV	**Zalesovo Beam**	**61.62**	**325**	P	**P**	**10 43 05.1**	**-0.8**
comp=Z,1.3nm,0.5s,baz=104,slow=7.5,SNR=5.3							
comp=Z,1.3nm,0.5s							
M17K	**Holitna River**	**63.85**	**27**	P	**P**	**10 43 22.3**	**+1.8**
M17K				IAmb	IAmb	10 43 50.2	
comp=Z,5.7nm,1.1s							
KURBB	**Kurchatov Arra**	**64.55**	**320**	P	**P**	**10 43 24.9**	**-0.3**
comp=Z,4.5nm,0.6s,baz=106,slow=6.8,SNR=13							
comp=Z,4.5nm,0.6s							
H18K	**Honhosa River**	**64.96**	**23**	P	**P**	**10 43 28.1**	**+0.5**
N19K	**Bonanza Creek**	**64.98**	**28**	P	**P**	**10 43 29.4**	**+1.5**
N19K				IAmb	IAmb	10 43 45.8	
comp=Z,5.5nm,1.1s							
G19K	**Purcell Mounta**	**65.85**	**22**	P	**P**	**10 43 34.0**	**+0.7**
C19K	**Lookout Ridge**	**66.28**	**19**	P	**P**	**10 43 37.6**	**+1.5**
C19K				IAmb	IAmb	10 43 38.0	
comp=Z,2.3nm,0.8s							
B20K	**Meade River**	**67.45**	**19**	P	**P**	**10 43 44.4**	**+1.1**
B20K				IAmb	IAmb	10 43 45.8	
comp=Z,4.2nm,0.9s							
B21K	**Ikpikpuk River**	**68.10**	**19**	P	**P**	**10 43 48.9**	**+1.5**
B21K				IAmb	IAmb	10 44 08.1	
comp=Z,4.2nm,1.1s							
ILAR	**Eielson Array**	**69.45**	**25**	P	**P**	**10 43 54.1**	**-1.8**
comp=Z,0.7nm,0.5s,baz=248,slow=5.8,SNR=13							
comp=Z,0.7nm,0.5s							
G24K	**Hadweenzic Riv**	**69.68**	**23**	P	**P**	**10 43 58.0**	**+0.7**
BVAR	**Borovoye Array**	**69.88**	**322**	P	**P**	**10 43 58.8**	**0.0**
comp=Z,4.0nm,0.4s,baz=102,slow=8.2,SNR=18							
comp=Z,4.0nm,0.4s							
BMAR	**Burnt Mountain**	**70.96**	**23**	P	**P**	**10 44 06.1**	**+0.9**
ABKAR	**Akbulak array**	**76.43**	**318**	P	**P**	**10 44 36.7**	**-0.6**
C36M	**Paulatuk**	**78.61**	**21**	P	**P**	**10 44 49.5**	**+0.5**
HUMO	**Hull Mountain**	**83.52**	**48**	P	**P**	**10 45 17.6**	**+2.0**
HUMO				IAmb	IAmb	10 45 18.0	
comp=Z,3.4nm,1.0s							
YKA	**Yellowknife Ar**	**83.75**	**27**	P	**P**	**10 45 16.3**	**-0.1**
comp=Z,1.1nm,0.6s,baz=292,slow=5.7,SNR=9.0							
comp=Z,1.1nm,0.6s							
YBH	**Yreka Blue Hor**	**83.87**	**49**	P	**P**	**10 45 19.2**	**+1.7**
YBH				IAmb	IAmb	10 45 19.8	
comp=Z,3.6nm,0.8s							
LTY	**Liberty**	**84.13**	**43**	P	**P**	**10 45 20.1**	**+1.4**
LTY				IAmb	IAmb	10 45 20.1	
comp=Z,2.6nm,0.8s							
K04D	**Chiloquin, OR**	**84.38**	**48**	P	**P**	**10 45 22.0**	**+1.9**
J05D	**Fort Rock, OR**	**84.61**	**47**	P	**P**	**10 45 23.2**	**+1.9**
PINE	**Pine Mountain**	**84.71**	**46**	P	**P**	**10 45 23.6**	**+1.7**
B08A	**Colville Reser**	**84.75**	**42**	P	**P**	**10 45 23.1**	**+1.3**
B08A				IAmb	IAmb	10 45 23.2	
comp=Z,3.1nm,0.6s							
HATC	**Hat Creek Radi**	**84.99**	**49**	P	**P**	**10 45 25.0**	**+1.8**
ARCES	**ARCESS Array B**	**87.39**	**342**	P	**P**	**10 45 34.3**	**+0.1**
comp=Z,0.9nm,0.8s,baz=74,slow=9.5,SNR=1.4							
comp=Z,0.9nm,0.8s							
NVAR	**Mina Array Bea**	**87.92**	**51**	P	**P**	**10 45 38.8**	**+1.1**
comp=Z,4.7nm,0.5s,baz=264,slow=5.7,SNR=47							
MFID	**Camas Ranch**	**88.39**	**46**	P	**P**	**10 45 40.8**	**+1.2**
FINES	**FINESS Array B**	**91.34**	**335**	P	**P**	**10 45 51.4**	**-1.4**
comp=Z,0.9nm,0.5s,baz=59,slow=5.4,SNR=5.1							
comp=Z,0.9nm,0.5s							
PDAR	**

SISI	**Saibi**	**0.86 299**	P	**Pn**	**10 35 12.4**	**-2.7**
PPSI	**Pulau Pagai**	**1.02 171**	P	**Pn**	**10 35 16.5**	**-0.8**
PDSI	**Padang**	**1.03 37**	P	**Pn**	**10 35 17.2**	**-0.2**
PDSI			S	**Sb**	**10 35 32.1**	**+0.3**
PBSI	**Pulau Batu**	**2.30 317**	P	**Pn**	**10 35 34.6**	**-0.2**
BKNI	**Bangkinang**	**2.38 30**	Pn	**Pb**	**10 35 38.0**	**-3.4**
BKNI	**Bangkinang**	**2.38 30**	P	**Pn**	**10 35 36.3**	**+0.4**
GSI	**Gunungsitoli**	**3.79 323**	Pn	**Pn**	**10 35 59.2**	**+3.9**
GSI	**Gunungsitoli**	**3.79 323**	P	**Pn**	**10 35 55.1**	**-0.2**
KULM	**Kulim**	**7.03 7**	Pn	**Pn**	**10 36 40.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**20.09 357**	P	**P**	**10 39 29.6**	**-0.6**
	0.6nm,0.3s,baz=190,slow=9.8,SNR=1.9					
	0.6nm,0.3s					
H08S2	**Diego Garcia H**	**27.87 257**	T	T	11 09 17.4	
	baz=79,slow=75					
H08S3	**Diego Garcia H**	**27.88 257**	T	T	11 09 20.3	
	baz=79,slow=75					
H08S1	**Diego Carcia H**	**27.89 257**	T	T	11 09 28.5	
	baz=79,slow=75,SNR=53					
FITZ	**Fitzroy Crossi**	**30.08 124**	P	**P**	**10 41 05.9**	**+0.1**
KNRA	**Kununurra**	**31.69 118**	P	**P**	**10 41 19.4**	**-0.6**
KNRA			IAmb	IAmb	10 41 29.0	
	comp=Z,7.6nm,1.1s					
H01W3	**Cape Leeuwin H**	**35.56 160**	T	T	11 19 51.5	
	baz=336					
H01W2	**Cape Leeuwin H**	**35.57 160**	T	T	11 19 58.8	
	baz=336,slow=74					
H01W1	**Cape Leeuwin H**	**35.57 160**	T	T	11 19 51.7	
	baz=336,slow=74					
WB0	**Warramunga Arr**	**38.23 120**	P	**P**	**10 42 16.4**	**-0.1**
WB0			IAmb	IAmb	10 42 17.1	
	comp=Z,3.6nm,0.6s					
WRA	**Warramunga Arr**	**38.25 121**	P	**P**	**10 42 16.2**	**-0.5**
WRA	**Warramunga Arr**	**38.25 121**	P	**P**	**10 42 16.3**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=303,slow=9.0,SNR=34					
	comp=Z,2.2nm,0.6s					
WRAB	**Tennant Creek**	**38.26 121**	P	**P**	**10 42 16.2**	**-0.5**
WRAB			IAmb	IAmb	10 42 17.7	
	comp=Z,4.2nm,0.6s					
WB2	**Warramunga Arr**	**38.26 121**	P	**P**	**10 42 16.4**	**-0.3**
WB2			IAmb	IAmb	10 42 25.2	
	comp=Z,15nm,1.5s					
WR0	**Warramunga Arr**	**38.43 121**	P	**P**	**10 42 17.7**	**-0.5**
WR0			IAmb	IAmb	10 42 18.9	
	comp=Z,3.4nm,0.6s					
AS31	**Alice Springs**	**39.52 126**	P	**P**	**10 42 27.8**	**+0.4**
ASAR	**Alice Springs**	**39.52 126**	P	**P**	**10 42 28.6**	**+1.3**
ASAR	**Alice Springs**	**39.52 126**	P	**P**	**10 42 27.4**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=301,slow=7.9,SNR=37					
ASAR			PcP	**PcP**	**10 44 35.0**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=306,slow=3.3,SNR=4.2					
	comp=Z,1.6nm,0.6s					
KSRS	**Korea Array**	**46.88 31**	P	**P**	**10 43 25.7**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=232,slow=7.7,SNR=2.5					
	comp=Z,0.6nm,0.6s					
STKA	**Stephens Creek**	**49.43 132**	P	**P**	**10 43 47.2**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=351,slow=8.0,SNR=3.5					
	comp=Z,1.3nm,0.5s					
SONM	**Songino Array**	**49.71 6**	P	**P**	**10 43 48.0**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=188,slow=9.3,SNR=4.6					
SONM			PcP	**PcP**	**10 45 09.5**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=183,slow=5.2,SNR=2.1					
	comp=Z,1.6nm,0.9s					
MK31	**Makanchi Array**	**50.74 344**		**P**	**10 43 56.8**	**+0.8**
MK31			IAmb	IAmb	10 43 57.3	
	comp=Z,2.0nm,0.8s					
MKAR	**Makanchi Array**	**50.74 344**	P	**P**	**10 43 56.6**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=146,slow=8.0,SNR=23					
MKAR			LR	LR	11 08 23.0	
	comp=Z,65nm,18.6s,baz=173,slow=40					
	comp=Z,2.8nm,0.6s					
USRK	**Ussuriysk Ar.**	**54.00 28**	P	**P**	**10 44 20.7**	**+0.5**
USRK	**Ussuriysk Ar.**	**54.00 28**	P	**P**	**10 44 19.9**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=287,slow=5.1,SNR=5.1					
	comp=Z,1.5nm,0.7s					
KURBB	**Kurchatov Arra**	**55.26 344**	P	**P**	**10 44 29.4**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=161,slow=7.1,SNR=10					
	comp=Z,2.0nm,0.7s					
ZAA0	**Zalesovo Array**	**56.89 349**	P	**P**	**10 44 41.1**	**+0.4**
ZALV	**Zalesovo Beam**	**56.89 349**	P	**P**	**10 44 41.1**	**+0.4**
	comp=Z,7.1nm,0.7s,baz=177,slow=5.0,SNR=23					
	comp=Z,7.1nm,0.7s					
BVAR	**Borovoye Array**	**59.89 340**	P	**P**	**10 45 01.7**	**0.0**
	comp=Z,1.0nm,0.4s,baz=154,slow=8.0,SNR=4.6					
	comp=Z,1.0nm,0.4s					
H04N2	**CROZET ISLANDS**	**60.91 216**	T	T	11 50 45.2	
	baz=58,slow=75,SNR=186					
H04N1	**CROZET ISLANDS**	**60.92 216**	T	T	11 50 45.7	
	baz=58,slow=75,SNR=185					
H04N3	**CROZET ISLANDS**	**60.93 216**	T	T	11 50 44.3	
	baz=58,slow=75,SNR=175					
H04S1	**CROZET ISLANDS**	**61.20 216**	T	T	11 51 08.0	
	baz=55,slow=75,SNR=34					
H04S3	**CROZET ISLANDS**	**61.22 216**	T	T	11 51 07.7	
	baz=55,slow=75,SNR=72					
H04S2	**CROZET ISLANDS**	**61.22 216**	T	T	11 51 09.0	
	baz=55,slow=75,SNR=27					
ABKAR	**Akbulak array**	**61.34 331**	P	**P**	**10 45 11.7**	**0.0**
FINES	**FINESS Array B**	**83.82 332**	P	**P**	**10 47 25.9**	**+0.8**
FINES	**FINESS Array B**	**83.82 332**	P	**P**	**10 47 25.4**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=102,slow=6.6,SNR=6.5					
	comp=Z,1.0nm,0.5s					
ARCES	**ARCESS Array B**	**86.18 340**	P	**P**	**10 47 37.5**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=129,slow=3.4,SNR=4.8					
	comp=Z,0.8nm,0.6s					
QSPA	**South Pole Qui**	**88.22 180**	P	**P**	**10 47 48.0**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=7.4,slow=1.3,SNR=2.1					
	comp=Z,0.8nm,0.9s					
CPUP	**Villa Florida**	**144.44 217**	PKP	**PKPdf**	**10 54 33.0**	**0.0**
	comp=Z,3.1nm,1.0s,baz=186,slow=6.3,SNR=4.1					
TXAR	**Lajitas Array**	**144.59 37**	PKP	**PKPdf**	**10 54 33.4**	**0.0**
	comp=Z,0.9nm,0.5s,baz=277,slow=1.0,SNR=20					

IDC 26 10:35:37.5±3.1, 30°.37S×177°.48W, h0km, mb3.9/2, mbtmp3.9/3, ML3.0/1, Error ellipse: s-maj=68.1km s-min=24.1km az=103.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.18**	**341**	Pn	Pb	10 36 00.8	+0.2
	128nm,0.3s,baz=15,slow=20,SNR=17						
RAO				Sn	Sg	10 36 11.4	-3.9
	694nm,0.3s,baz=32,slow=23,SNR=30						
URZ	**Urewera**	**9.05**	**208**	Pn	Pn	10 37 48.6	-0.7
	0.2nm,0.3s,baz=324,slow=4.7,SNR=0.8						
URZ				Sn	Sn	10 39 32.2	+0.3
	0.5nm,0.3s,baz=308,slow=20,SNR=6.3						
	6.0nm,0.9s						
ASAR	**Alice Springs**	**43.56**	**267**	P	P	10 43 43.5	+0.1
	0.5nm,0.4s,baz=105,slow=7.3,SNR=7.5						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**44.55**	**272**	P	P	10 43 51.2	0.0
	1.0nm,0.3s,baz=110,slow=8.1,SNR=21						
	1.0nm,0.3s						
FINES	**FINESS Array B**	**145.27**	**340**	PKPbc	PKPbc	10 55 15.5	-0.7
	0.8nm,0.5s,baz=63,slow=3.7,SNR=5.8						

*IDC **26** 10:53:16.4±2.2, 3°.23S×129°.76E, h0km, mb3.8/3, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=164.9km s-min=25.7km az=70.0*
*DJA **26** 10:53:18.9±2.2, 3°.5±.6°×13°.0E±°, h12km±18km, M3.6/6, MLv3.6/6*

ISC 26 10:53:19.5±0.9, 3°.01S±0°.06×130°.11E±0°.06, h25km, n10, σ2°52/13, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.52**	**188**	P	**Pb**	**10 53 47.4**	**+0.4**
BNDI				S	**Sb**	**10 54 10.1**	**+4.2**
FAKI	**Fak Fak**	**2.14**	**88**	P	**Pn**	**10 53 54.3**	**+0.6**
SWI	**Sorong**	**2.42**	**28**	P	**Pn**	**10 53 57.4**	**-0.1**
SWI				S	**Sn**	**10 54 27.2**	**+0.8**
NLAI	**Namlea**	**3.01**	**266**	P	**Pn**	**10 54 06.2**	**+0.6**
KMPI	**Kaimana, Papua**	**3.65**	**100**	P	**Pn**	**10 54 15.7**	**+1.2**
SANI	**Sanana**	**4.22**	**283**	P	**Pn**	**10 54 22.3**	**0.0**
WRA	**Warramunga Arr**	**17.33**	**167**	P	**Pn**	**10 57 16.6**	**-3.3**
	0.4nm,0.3s,baz=348,slow=13,SNR=21						
WRA				S	Sn	11 00 21.2	-11
	0.2nm,0.4s,baz=350,slow=24,SNR=2.0						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**20.86**	**170**	P	**P**	**10 57 59.4**	**-0.5**
	4.2nm,0.4s,baz=346,slow=11,SNR=121						
ASAR				S	**S**	**11 01 46.0**	**-5.5**
	1.0nm,0.8s,baz=350,slow=21,SNR=7.3						
	4.2nm,0.4s						
MKAR	**Makanchi Array**	**64.98**	**326**	P	**P**	**11 03 58.1**	**+0.7**
	0.2nm,0.3s,baz=112,slow=8.1,SNR=5.0						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**69.20**	**328**	P	**P**	**11 04 24.9**	**+0.8**
	0.5nm,0.4s,baz=126,slow=6.0,SNR=3.1						
	0.5nm,0.4s						

IDC 26 11:06:41.5±2.5, 18°.32S×177°.40W, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=145.4km s-min=31.2km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.51**	**260**	P	P	11 15 03.4	+0.2
	0.1nm,0.3s,baz=97,slow=7.4,SNR=7.6						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**45.61**	**255**	P	P	11 15 03.5	-0.4
	0.1nm,0.4s,baz=92,slow=7.3,SNR=6.2						
	0.1nm,0.4s						
TXAR	**Lajitas Array**	**85.41**	**57**	P	P	11 19 21.8	+0.5
	0.2nm,0.7s,baz=237,slow=6.3,SNR=2.8						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**86.08**	**13**	P	P	11 19 23.2	-0.6
	0.1nm,0.5s,baz=207,slow=3.8,SNR=2.0						
	0.1nm,0.5s						

IDC 26 11:13:05.0±5.4, 29°.59S×179°.23W, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=264.1km s-min=82.5km az=166.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.09**	**267**	P	P	11 20 58.4	-0.5
	0.2nm,0.5s,baz=100,slow=7.5,SNR=5.4						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**43.00**	**272**	P	P	11 21 06.7	+0.3
	0.2nm,0.4s,baz=112,slow=8.0,SNR=7.4						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**144.02**	**340**	PKP	PKPdf	11 32 41.1	-0.7
	0.6nm,0.4s,baz=18,slow=4.8,SNR=8.3						

*IDC **26** 11:45:55.8±1.7, 24°.35N×141°.57E, h119km±13km, mb3.7/19, mbtmp4.2/22, Error ellipse: s-maj=15.8km s-min=13.1km az=92.0*
*NEIC **26** 11:45:59.9±2.5, 24°.28N±0°.09×141°.7E±0°.1, h151km±8km, mb4.3/38, Error ellipse: s-maj=15.4km s-min=12.1km az=114.0*
*JMA **26** 11:46:00.5±0.3, 25°.N±1°.×14°.1E±°, h173km±1km, MV5.4/29, IOTO ISLANDS REGION*

ISC 26 11:45:59.3±0.5, 24°.40N±0°.06×141°.77E±0°.08, h150km, n103, σ2°03/104, mb4.2/39, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**2.25**	**9**	*e*P	**Pn**	**11 46 39.1**	**+1.8**
JHH2				*e*S	**Sn**	**11 47 08.2**	**+1.5**
JHH2	**Haha-jima-NKT2**	**2.25**	**9**	A	A	11 46 39.1	
	comp=E,8.0nm,2.0s,comp=N,6.0nm,0.4s						
CBIJ	**Chichi jima**	**2.71**	**8**	P	**Pn**	**11 46 44.0**	**+1.1**
JCJ	**Chichijima**	**2.71**	**8**	P	**Pn**	**11 46 44.5**	**+1.6**
JCJ	**Chichijima**	**2.71**	**8**	Pn	**Pn**	**11 46 44.2**	**+1.3**
JCJ	**Chichijima**	**2.71**	**8**	P	**Pn**	**11 46 39.8**	**-3.1**
	comp=N,952nm,0.2s,baz=121,slow=3.2,SNR=375						
JCJ				S	**Sn**	**11 47 12.6**	**-4.1**
	comp=N,266nm,0.3s,baz=89,slow=24,SNR=11						
JHCJ	**Hachijojimakas**	**8.81**	**349**	*e*P	**Pn**	**11 48 01.9**	**-1.5**
JHJ2	**Mitsune**	**8.84**	**349**	P	**Pn**	**11 48 04.0**	**+0.1**
JHJ2	**Mitsune**	**8.84**	**349**	Pn	**Pn**	**11 48 02.8**	**-1.1**
JHJ2	**Mitsune**	**8.84**	**349**	*e*P	**Pn**	**11 48 03.7**	**-0.1**
JHJ	**Hachijo jima 2**	**8.86**	**349**	P	**Pn**	**11 48 02.1**	**-1.9**
	comp=N,86nm,0.6s,baz=88,slow=23,SNR=10						
JHJ				S	**Sn**	**11 49 38.8**	**-3.6**
	comp=N,94nm,0.6s,baz=233,slow=20,SNR=1.4						
JMKN	**Mikurajimanish**	**9.64**	**349**	*e*P	**Pn**	**11 48 13.1**	**-1.4**
BSO3	**Boso 3**	**10.42**	**354**	P	**Pn**	**11 48 23.0**	**-1.5**
BSO4	**Boso 4**	**10.62**	**354**	*e*P	**Pn**	**11 48 26.4**	**-0.9**
BSO4				*e*S	**Sn**	**11 50 19.8**	**-4.9**
JHU	**Hanno**	**11.61**	**350**	*e*P	**Pn**	**11 48 38.0**	**-2.4**
JGF	**Kuroka**	**11.79**	**342**	Pn	**Pn**	**11 48 41.2**	**-1.6**
JAG	**Ashikaga**	**12.15**	**351**	*e*P	**Pn**	**11 48 43.5**	**-3.8**
JHO	**Hitachi**	**12.21**	**355**	P	**Pn**	**11 48 45.6**	**-2.6**
JOW	**Kunigami**	**12.42**	**284**	P	**P**	**11 48 58.8**	**+2.0**
MJAR	**Matsushiro Arr**	**12.48**	**347**	P	**Pn**	**11 48 50.3**	**-1.5**
	comp=N,1.3nm,0.4s,baz=134,slow=13,SNR=11						
MAJO	**Matsushiro**	**12.48**	**347**	P	**Pn**	**11 48 51.2**	**-0.5**
MAJO	**Matsushiro**	**12.48**	**347**	Pn	**Pn**	**11 48 50.3**	**-1.5**
MJB9	**Matsu-Tunnel**	**12.49**	**347**	Pn	**Pn**	**11 48 51.5**	**-0.3**
JMM	**Marumori**	**13.45**	**357**	P	**Pn**	**11 49 01.8**	**-2.3**
JMM	**Marumori**	**13.45**	**357**	Pn	**Pn**	**11 49 02.1**	**-2.0**
JTU	**Tsushima**	**14.75**	**316**	P	**P**	**11 49 26.0**	**+3.4**
JTM	**Tenmabayashi**	**16.35**	**358**	P	**P**	**11 49 41.3**	**+1.1**
YOJ	**Yonaguni jima**	**17.09**	**274**	P	**P**	**11 49 48.4**	**-0.1**
YOJ				IAmb	IAmb	11 49 55.2	
	comp=Z,20nm,1.2s						
KSRS	**Korea Array**	**17.59**	**321**	P	**P**	**11 49 53.3**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=136,slow=11,SNR=2.9						
ERM	**Erimo**	**17.60**	**3**	P	**Pn**	**11 49 56.1**	**+0.9**
JEM	**Erimo**	**17.60**	**3**	P	**P**	**11 49 48.3**	**-5.7**
YHNB	**Yeheng**	**18.56**	**275**	P	**Pn**	**11 50 09.7**	**+2.9**
YULB	**Yu-li**	**18.75**	**271**	P	**Pn**	**11 50 07.8**	**-1.2**
YULB				IAmb	IAmb	11 50 08.6	
	comp=Z,16nm,1.2s						
SSLB	**Suanglung**	**19.02**	**272**	P	**Pn**	**11 50 12.5**	**+0.4**
SSLB	**Suanglung**	**19.02**	**272**	Pn	**P**	**11 50 10.2**	**+0.5**
SSLB				IAmb	IAmb	11 50 17.6	
	comp=Z,12nm,0.7s						
JKA	**Kamikawa-asahi**	**19.68**	**2**	P	**Pn**	**11 50 18.6**	**-1.0**
JKA				IAmb	IAmb	11 50 42.6	
	comp=Z,15nm,1.2s						
ASAJ	**Asahikawa**	**19.68**	**2**	P	**Pn**	**11 50 19.9**	**+0.3**
	comp=Z,4.9nm,0.5s,baz=222,slow=12,SNR=9.8						
ASAJ				S	**S**	**11 53 47.6**	**-2.7**
	comp=Z,7.9nm,1.2s,baz=43,slow=19,SNR=2.0						
USRK	**Ussuriysk Ar.**	**21.31**	**340**	P	**P**	**11 50 33.9**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=181,slow=13,SNR=4.4						
	comp=Z,2.2nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**23.73**	**96**	T	T	12 15 23.8	
	baz=282,slow=74						
H11N2	**WAKE ISLAND Hy**	**23.73**	**96**	T	T	12 15 40.0	
	baz=282,slow=74						
H11N3	**WAKE ISLAND Hy**	**23.75**	**96**	T	T	12 15 34.5	
	baz=282						
H11S3	**WAKE ISLAND Hy**	**23.91**	**99**	T	T	12 16 40.5	
	baz=289						
H11S1	**WAKE ISLAND Hy**	**23.91**	**99**	T	T	12 16 32.2	
	baz=289						
H11S2	**WAKE ISLAND Hy**	**23.92**	**99**	T	T	12 16 36.6	
	baz=289						
TIA	**Tai'an**	**24.24**	**305**	P	**P**	**11 51 02.3**	**0.0**
TIA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**30.07**	**310**	*e*P	**P**	**11 51 55.5**	**+1.0**
HHC				pP	pP	11 52 17.0	-8.6
HHC				*e*S	**S**	**11 56 49.3**	**+7.3**
HHC				pmax	pmax		
	comp=Z,97nm,4.0s						
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH	**PanZhiHua**	**36.10**	**282**	P	**P**	**11 52 47.5**	**+0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
COEN	**Coen**	**38.15**	**178**	P	**P**	**11 53 02.1**	**-2.1**
COEN				IAmb	IAmb	11 53 02.3	
	comp=Z,10nm,1.2s						
MTN	**Manton Dam**	**38.45**	**197**	P	**P**	**11 53 04.6**	**-2.1**
MTN				IAmb	IAmb	11 53 27.8	
	comp=Z,6.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**40.19**	**270**	P	**P**	**11 53 20.6**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=60,slow=7.6,SNR=7.6						
	comp=Z,1.3nm,0.6s						
KIWB	**Kanaga Island**	**41.53**	**38**	P	**P**	**11 53 33.9**	**+2.2**
ADK	**Adak**	**41.81**	**38**	P	**P**	**11 53 36.8**	**+2.9**
ADK				IAmb	IAmb	11 54 17.1	
	comp=Z,13nm,1.3s						
WB0	**Warramunga Arr**	**44.49**	**190**	P	**P**	**11 53 54.4**	**-1.4**
WRAB	**Tennant Creek**	**44.66**	**190**	P	**P**	**11 53 55.9**	**-1.2**
WRAB				IAmb	IAmb	11 53 59.5	
	comp=Z,6.3nm,1.1s						
WB2	**Warramunga Arr**	**44.67**	**190**	P	**P**	**11 53 55.7**	**-1.5**
WB2				IAmb	IAmb	11 53 59.5	
	comp=Z,7.7nm,1.1s						
WRA	**Warramunga Arr**	**44.67**	**190**	P	**P**	**11 53 55.8**	**-1.4**
WRA	**Warramunga Arr**	**44.67**	**190**	P	**P**	**11 53 55.8**	**-1.4**
	comp=Z,1.6nm,0.4s,baz=8.7,slow=8.7,SNR=36						
WRA				PcP	**PcP**	**11 55 36.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=6.0,slow=3.8,SNR=4.8						
	comp=Z,1.6nm,0.4s						
SHL	**Shillong**	**45.02**	**282**	P	**P**	**11 54 00.3**	**0.0**
SHL				IAmb	IAmb	11 54 00.8	
	comp=Z,10nm,1.0s						
AS31	**Alice Springs**	**48.39**	**190**	P	**P**	**11 54 23.8**	**-2.4**
ASAR	**Alice Springs**	**48.39**	**190**	P	**P**	**11 54 24.6**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=4.1,slow=6.4,SNR=8.2						
	comp=Z,0.3nm,0.5s						
LVA	**Lava Point**	**48.63**	**38**	P	**P**	**11 54 29.7**	**+2.0**
ZALV	**Zalesovo Beam**	**51.30**	**321**	P	**P**	**11 54 47.0**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=114,slow=6.6,SNR=3.9						
ZALV				PcP	**PcP**	**11 55 58.5**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=82,slow=3.1,SNR=5.2						
	comp=Z,0.7nm,0.4s						
MK31	**Makanchi Array**	**51.93**	**311**	P	**P**	**11 54 51.8**	**-0.8**
MKAR	**Makanchi Array**	**51.93**	**311**	P	**P**	**11 54 52.1**	**-0.6**
MKAR	**Makanchi Array**	**51.93**	**311**	P	**P**	**11 54 52.0**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=87,slow=9.4,SNR=24						
	comp=Z,1.3nm,0.4s						
CNBA	**Chernabura Isl**	**52.44**	**39**	P	**P**	**11 54 57.5**	**+1.3**
N15K	**Kwethluk River**	**53.38**	**32**	P	**P**	**11 55 05.1**	**+2.0**
N15K				IAmb	IAmb	11 55 12.0	
	comp=Z,7.7nm,1.2s						
KURK	**Kurchatov**	**54.62**	**316**	P	**P**	**11 55 13.0**	**+0.8**
KURBB	**Kurchatov Arra**	**54.68**	**316**	P	**P**	**11 55 11.4**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=94,slow=7.9,SNR=24						
	comp=Z,2.8nm,0.7s						
H17K	**Granite Mounta**	**54.85**	**26**	P	**P**	**11 55 16.3**	**+2.6**
H17K				IAmb	IAmb	11 55 17.5	
	comp=Z,4.2nm,1.0s						
NRIK	**Noril'sk**	**55.02**	**339**	P	**P**	**11 55 13.6**	**-1.2**
	comp=Z,3.1nm,0.5s,baz=84,slow=6.4,SNR=4.4						
	comp=Z,3.1nm,0.5s						
C18K	**Utukok River**	**55.67**	**22**	P	**P**	**11 55 21.1**	**+1.6**
C19K	**Lookout Ridge**	**56.38**	**22**	P	**P**	**11 55 27.1**	**+2.6**
H19K	**Roundabout Mou**	**56.42**	**26**	P	**P**	**11 55 27.3**	**+2.6**
H19K				IAmb	IAmb	11 55 45.4	
	comp=Z,4.1nm,1.3s						
BOOM	**Boomskoye usch**	**56.45**	**306**	P	**P**	**11 55 25.3**	**-0.4**
KSH	**Kashi**	**56.67**	**302**	P	**P**	**11 55 30.5**	**+3.3**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
J20K	**Nowinta River**	**57.05**	**28**	P	**P**	**11 55 31.9**	**+2.7**
J20K				IAmb	IAmb	11 56 14.9	
	comp=Z,7.4nm,1.5s						
RND	**Reindeer**	**59.24**	**29**	P	**P**	**11 55 46.3**	**+1.7**
RND				IAmb	IAmb	11 56 14.9	
	comp=Z,5.3nm,1.4s						
C23K	**Itkillik River**	**59.62**	**22**	P	**P**	**11 55 49.0**	**+2.0**
C23K				IAmb	IAmb	11 55 51.3	
	comp=Z,2.6nm,0.8s						
BVAR	**Borovoye Array**	**59.78**	**319**	P	**P**	**11 55 47.7**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=97,slow=9.2,SNR=13						
	comp=Z,1.6nm,0.3s						
SCM	**Sheep Creek Mo**	**59.79**	**31**	P	**P**	**11 55 49.5**	**+1.1**
E24K	**Your Creek**	**60.04**	**24**	P	**P**	**11 55 52.7**	**+2.7**
G24K	**Hadweenzic Riv**	**60.23**	**26**	P	**P**	**11 55 53.6**	**+2.4**
ILAR	**Eielson Array**	**60.25**	**28**	P	**P**	**11 55 52.6**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=265,slow=5.7,SNR=15						
	comp=Z,1.0nm,0.7s						
KK31	**Karatay Array**	**60.38**	**307**	P	**P**	**11 55 52.2**	**-0.5**
KKAR	**Karatay Array**	**60.38**	**307**	P	**P**	**11 55 52.1**	**-0.6**
D25K	**Kavik River**	**60.99**	**23**	P	**P**	**11 55 58.9**	**+2.5**
SCRK	**Sand Creek**	**61.45**	**29**	P	**P**	**11 56 01.6**	**+1.9**
SCRK				IAmb	IAmb	11 56 38.2	
	comp=Z,3.3nm,1.1s						
D27M	**Malcolm River**	**62.90**	**23**	P	**P**	**11 56 11.3**	**+2.2**
D27M				IAmb	IAmb	11 56 15.1	
	comp=Z,4.4nm,1.5s						
F28M	**Old Crow**	**63.26**	**25**	P	**P**	**11 56 13.8**	**+2.3**
F28M				IAmb	IAmb	11 56 16.0	
	comp=Z,2.2nm,0.7s						
ARU	**Arti**	**66.33**	**323**	P	**P**	**11 56 31.6**	**+0.1**
	comp=Z,2.9nm,0.4s,baz=47,slow=0.9,SNR=3.1						
	comp=Z,2.9nm,0.4s						
ABKAR	**Akbulak array**	**66.72**	**315**	P	**P**	**11 56 33.0**	**-1.0**
ABKAR				IAmb	IAmb	11 56 33.8	
	comp=Z,3.0nm,0.6s						
YKA	**Yellowknife Ar**	**74.68**	**28**	P	**P**	**11 57 23.1**	**+1.1**
	comp=Z,0.4n

SKR *e*S **Sn** **12 05 00.3 -1.7**
SKR A A 12 05 02.8
comp=Z,70nm,0.3s
SKR A A 12 05 02.8
comp=Z,110nm,0.3s
SKR Severo-Kuril's 5.05 28⇑ *i*PN **Pn** **12 04 05.0 0.0**
SKR pmax pmax
comp=Z,95nm,0.8s
SKR MLR MLR
comp=Z,800nm,16.0s
SKR MLR MLR
comp=N,2μm,15.0s
SKR MLR MLR
comp=E,2μm,14.0s
YUK Yuzh-Kuril'sk 5.16 247 *e*P **Pn** **12 04 09.7 +3.3**
YUK AMB AMB 12 04 12.0
comp=E,180nm,0.3s
YUK *e*S **Sn** **12 05 06.5 +2.0**
YUK A A 12 05 15.0
comp=E,480nm,0.5s
YUK A A 12 05 15.0
comp=E,370nm,0.5s
YUK Yuzh-Kuril'sk 5.16 247 *e*PN **Pn** **12 04 10.0 +3.6**
YUK *e*S **Sn** **12 05 06.6 +2.0**
YUK pmax pmax
comp=E,222nm,0.2s
YUK pmax pmax
comp=Z,270nm,0.2s
YUK pmax pmax
comp=N,194nm,0.4s
YUK smax smax
comp=N,480nm,0.4s
YUK smax smax
comp=E,559nm,0.4s
RUSJ Misakicho 5.52 249 *e*PN **Pn** **12 04 15.2 +3.8**
RUSJ *e*S **Sn** **12 05 18.4 +4.9**
NEM2 Nemuro 2 5.57 241 *i* P **Pn** **12 04 13.5 +1.3**
NEM2 S **Sn** **12 05 15.6 +0.8**
NMR Nemuro--Hokkai 5.58 241 *e*P **Pn** **12 04 13.2 +1.0**
NMR *e*S **Sn** **12 05 15.0 0.0**
NMR Nemuro--Hokkai 5.58 241 *e*PN **Pn** **12 04 13.2 +1.0**
JRA Rausu 5.67 248 P **Pn** **12 04 17.7 +4.2**
JNK Nakash 6.10 247 *i* P **Pn** **12 04 22.2 +2.9**
JNK *e*S **Sn** **12 05 30.6 +2.9**
AKK Akkeshi 6.31 242 *e*P **Pn** **12 04 23.5 +1.2**
JAK Akkeshi 6.41 242 P **Pn** **12 04 25.0 +1.3**
JAK *e*S **Sn** **12 05 35.4 -0.1**
JTKR Abashiri--Toko 6.45 252 P **Pn** **12 04 27.9 +3.7**
YSS Yuzh-Sakhalins 6.70 279 Pn **Pn** **12 04 24.8 -2.8**
YSS Yuzh-Sakhalins 6.70 279 *e*P **Pn** **12 04 30.7 +3.1**
YSS AMB AMB 12 04 32.4
comp=E,60nm,0.5s
YSS *e*S **Sn** **12 05 44.6 +2.1**
YSS Yuzh-Sakhalins 6.70 279 *e*PN **Pn** **12 04 30.7 +3.1**
YSS *e*S **Sn** **12 05 44.6 +2.1**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=Z,200nm,3.2s
YSS smax smax
comp=N,30nm,0.4s
YSS smax smax
comp=E,20nm,0.5s
YSS MLR MLR
comp=Z,300nm,16.0s
JAR Ashorobuto 6.84 247 P **Pn** **12 04 32.6 +3.1**
JAR *e*S **Sn** **12 05 48.8 +2.8**
JOB Onbets 7.00 244 P **Pn** **12 04 33.9 +2.2**
JOB S **Sn** **12 05 50.2 +0.3**
JKK2 Kamakawa 2 7.26 254 P **Pn** **12 04 39.5 +4.2**
JKA Kamikawa-asahi 7.27 256 Pn **Pn** **12 04 33.2 -2.2**
JKA Kamikawa-asahi 7.27 256 *e*P **Pn** **12 04 39.7 +4.3**
ASAJ Asahikawa 7.27 256 P **Pn** **12 04 39.7 +4.3**
comp=Z,76nm,0.9s,baz=75,slow=16,SNR=48
ASAJ S **Sn** **12 06 04.2 +7.6**
comp=Z,6.7nm,0.7s,baz=237,slow=29,SNR=1.2
ASAJ LR LR 12 07 21.4
comp=Z,105nm,21.3s,baz=31,slow=37
JCH Churui 7.45 244 *i* P **Pn** **12 04 39.3 +1.5**
JCH S **Sn** **12 06 00.1 -0.7**
UGL Uglegorsk 7.54 296 *e*P **Pn** **12 04 41.4 +2.3**
UGL AMB AMB 12 04 43.3
comp=Z,70nm,0.6s
JAB Ashibetsu 7.76 253 P **Pn** **12 04 46.7 +4.6**
PET Petropavlovsk 7.87 29 Pn **Pn** **12 04 41.2 -2.4**
PET Petropavlovsk 7.87 29 *e*P **Pn** **12 04 46.1 +2.5**
PET *e*S **Sn** **12 06 09.5 -1.7**
PET Petropavlovsk 7.87 29 *e*PN **Pn** **12 04 46.1 +2.5**
PET pmax pmax
comp=Z,11nm,0.7s
ERM Erimo 7.91 241 Pn **Pn** **12 04 42.9 -1.3**
ERM Erimo 7.91 241 *de*PN **Pn** **12 04 47.2 +3.1**
TYV Tymovskoe 7.95 309 *e*P **Pn** **12 04 47.5 +2.9**
TYV *e*S **Sn** **12 06 16.0 +3.0**
TYV Tymovskoe 7.95 309 *e*PN Pn 12 04 55.1 +10
TYV pmax pmax
comp=Z,14nm,0.8s
TYV pmax pmax
comp=Z,100nm,3.5s
JNBK Urakawa-nobuka 8.01 244 P **Pn** **12 04 46.6 +1.1**
JNBK S **Sn** **12 06 12.7 -2.0**
OKH Okha 9.52 323 *e*P Pn 12 05 10.5 +4.4
JANG Nango 9.89 237 P **Pn** **12 05 10.3 -1.0**
JANG *e*S **Sn** **12 06 54.0 -6.9**
JTM Tenmabayashi 9.90 240 Pn **Pn** **12 05 09.7 -1.8**
JSD Sado 13.33 237 Pn **Pn** **12 05 56.7 -1.6**
KLR Kul'dur 14.22 290 P **Pn** **12 06 10.5 +0.3**
comp=Z,1.4nm,0.8s,baz=208,slow=16,SNR=2.5
KLR LR LR 12 11 47.2
comp=Z,108nm,18.0s,baz=128,slow=38
KLR Kul'dur 14.22 290⇑ *e*P **P** **12 06 13.5 -2.7**
KLR pmax pmax
comp=Z,6.0nm,1.0s
MJAR Matsushiro Arr 14.41 233 P **P** **12 06 17.0 -1.5**
comp=Z,5.2nm,0.8s,baz=31,slow=12,SNR=2.6
MJAR LR LR 12 11 45.2
comp=Z,63nm,20.1s,baz=30,slow=37
MJB9 Matsu-Tunnel 14.41 233 Pn **Pn** **12 06 11.5 -1.4**
MAJO Matsushiro 14.41 233 Pn **Pn** **12 06 12.2 -0.7**
MAJO Matsushiro 14.41 233 *d i*P **P** **12 06 17.4 -1.1**
MAJO pmax pmax
comp=Z,12nm,0.6s
USA0B Ussuriysk Arra 14.55 269 Pn **Pn** **12 06 11.8 -2.8**
USA0B Ussuriysk Arra 14.55 269 *d i*P **P** **12 06 17.4 -2.5**
USRK Ussuriysk Ar. 14.55 269 P **Pn** **12 06 15.6 +1.0**
comp=Z,5.4nm,0.5s,baz=66,slow=13,SNR=18
SHEM Shemya Is, Ala 15.46 57 LR LR 12 13 32.4
comp=Z,32nm,18.3s,baz=326,slow=41
JGF Kuroka 15.57 232 **Pn** **12 06 26.3 -1.7**
JGF IAmb IAmb 12 07 00.8
comp=Z,24nm,1.5s
INU Inuyama 15.94 232 **Pn** **12 06 34.3 +1.6**
MDJ Mudanjiang 16.11 272 **Pn** **12 06 32.0 -2.7**
SEY Seymchan 16.70 360 P **Pn** **12 06 41.8 -0.2**
comp=Z,1.7nm,0.5s,baz=202,slow=13,SNR=7.0
SEY Seymchan 16.70 360 *e*P **Pn** **12 06 41.3 -0.7**
SEY Seymchan 16.70 360‖ *e*P **Pn** **12 06 41.3 -0.7**
SEY pmax pmax
comp=Z,14nm,1.7s
ZEA Zeya 17.76 304 *e*P **P** **12 06 58.5 +3.1**
KSRS Korea Array 20.20 253 P Pn 12 07 24.7 +0.2
comp=Z,6.0nm,0.8s,baz=56,slow=11,SNR=23
KSRS LR LR 12 14 29.0
comp=Z,32nm,18.6s,baz=45,slow=34
comp=Z,6.0nm,0.8s
KS19 Wonju Array Si 20.21 253 P **P** **12 07 18.4 -4.0**
KS19 IAmb IAmb 12 07 31.2
comp=Z,6.9nm,0.7s
KSAR Wonju Array Be 20.24 253 P **P** **12 07 22.9 +0.3**
KSAR Wonju Array Be 20.24 253 P **P** **12 07 22.9 +0.3**
YAK Yakutsk 20.48 329 P **P** **12 07 22.6 -2.3**
YAK Yakutsk 20.48 329 P **P** **12 07 23.8 -1.2**
comp=Z,15nm,0.5s,baz=18,slow=1.0,SNR=1.8
YAK LR LR 12 14 54.7
comp=Z,52nm,20.1s,baz=157,slow=36
comp=Z,15nm,0.5s
YAK Yakutsk 20.48 329 *e*P Pn 12 07 28.3 +0.7
YAK *e* 12 07 45.8
YAK *e**SS sS 12 11 33.9 +4.8
YAK *e* 12 11 38.3
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s

YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=Z,106nm,4.3s
KIWB Kanaga Island 20.61 63 P **P** **12 07 27.6 +1.2**
JCJ Chichijima 20.79 207 P Pn 12 07 33.0 +1.5
comp=Z,26nm,0.4s,baz=284,slow=21,SNR=1.5
comp=Z,26nm,0.4s
JNU Nakatsue 21.07 239 **P** **12 07 30.6 -1.0**
JNU IAmb IAmb 12 07 46.3
comp=Z,21nm,1.5s
JNU Nakatsue 21.07 239 P **P** **12 07 33.8 +2.2**
comp=Z,5.3nm,0.8s,baz=80,slow=16,SNR=2.8
comp=Z,5.3nm,0.8s
TJN Taejon 21.18 251 *ce*P **P** **12 07 36.4 +3.6**
BILL Bilibino 22.97 13 *e*P **P** **12 07 52.0 +0.5**
BILL Bilibino 22.97 13‖ *e*P **P** **12 07 52.0 +0.5**
BILL *e* 12 08 22.7
BILL pmax pmax
comp=Z,6.0nm,1.3s
BILL MLR MLR
comp=Z,66nm,16.0s
JOW Kunigami 27.26 233 LR LR 12 21 15.2
comp=Z,66nm,18.2s,baz=226,slow=40
TIK Tiksi 27.79 344 *e*P **P** **12 08 36.1 +0.7**
TIXI Tiksi 27.80 344 LR LR 12 19 58.3
comp=Z,56nm,18.0s,baz=176,slow=37
TIXI Tiksi 27.80 344‖ *e*P **P** **12 08 36.1 +0.6**
TIXI pmax pmax
comp=Z,16nm,0.9s
H11N2 WAKE ISLAND Hy 29.02 151 T T 12 40 10.7
baz=339,slow=76,SNR=2151
H11N1 WAKE ISLAND Hy 29.03 151 T T 12 40 09.9
baz=339,slow=76,SNR=1574
H11N3 WAKE ISLAND Hy 29.03 151 T T 12 40 08.6
baz=339,slow=76,SNR=1591
H11S1 WAKE ISLAND Hy 30.09 152 T T 12 41 36.3
baz=340,slow=76,SNR=1568
H11S3 WAKE ISLAND Hy 30.10 152 T T 12 41 29.8
baz=340,slow=76,SNR=1357
H11S2 WAKE ISLAND Hy 30.11 152 T T 12 41 29.5
baz=340,slow=76,SNR=1303
O14K Tigyukauivet M 30.22 48 P **P** **12 08 57.3 +0.2**
ULN Ulaanbaatar 30.61 290 *e*P **P** **12 09 03.8 +2.8**
ULN Ulaanbaatar 30.61 290‖ *e*P **P** **12 09 03.8 +2.8**
ULN pmax pmax
comp=Z,2.0nm,0.6s
C16K Lisburne Hills 30.71 29 P **P** **12 09 00.3 -1.1**
SONM Songino Array 31.05 290 P **P** **12 09 04.3 -0.5**
comp=Z,0.3nm,0.3s,baz=60,slow=9.6,SNR=2.2
comp=Z,0.3nm,0.3s
M16K Timber Creek 31.52 44 P **P** **12 09 09.8 +1.2**
M16K IAmb IAmb 12 09 17.1
comp=Z,8.5nm,1.4s
F17K Baldwin Pennin 31.56 34 P **P** **12 09 09.7 +0.8**
F17K IAmb IAmb 12 09 29.9
comp=Z,4.6nm,0.8s
C18K Utukok River 32.27 30 P **P** **12 09 15.1 -0.1**
G18K Tagagawik 32.44 35 P **P** **12 09 16.7 0.0**
C19K Lookout Ridge 32.98 29 P **P** **12 09 21.2 -0.1**
C19K IAmb IAmb 12 09 49.9
comp=Z,6.9nm,1.4s
GUMO Guam 33.19 194 LR LR 12 22 34.9
comp=Z,20nm,19.4s,baz=345,slow=35
H19K Roundabout Mou 33.26 36 P **P** **12 09 24.1 +0.3**
H19K IAmb IAmb 12 09 43.9
comp=Z,3.5nm,1.0s
IMAR Indian Mountai 34.44 36 P **P** **12 09 34.1 +0.2**
B21K Ikpikpuk River 34.81 29 P **P** **12 09 37.6 +0.5**
XAN Xi'an 35.01 265 P **P** **12 09 40.3 +1.0**
XAN pmax pmax
comp=Z,10.0nm,0.7s
D22K Ayikyak River 35.32 31 P **P** **12 09 41.8 +0.2**
C23K Itkillik River 36.22 29 P **P** **12 09 49.5 +0.2**
C23K IAmb IAmb 12 09 53.9
comp=Z,2.8nm,0.9s
E24K Your Creek 36.74 33 P **P** **12 09 54.0 +0.2**
E24K IAmb IAmb 12 10 10.9
comp=Z,3.8nm,1.2s
G24K Hadweenzic Riv 37.02 35 P **P** **12 09 56.5 +0.4**
G24K IAmb IAmb 12 10 08.0
comp=Z,5.6nm,1.3s
ILAR Eielson Array 37.22 38 P **P** **12 09 57.8 0.0**
comp=Z,0.2nm,0.5s,baz=256,slow=8.1,SNR=6.5
comp=Z,0.2nm,0.5s
ILAR Eielson Array 37.22 38 *e*P **P** **12 10 00.0 +2.2**
D25K Kavik River 37.63 31 P **P** **12 10 00.9 -0.4**
D25K IAmb IAmb 12 10 18.7
comp=Z,2.2nm,0.8s
NRIK Noril'sk 38.93 329 LR LR 12 27 09.8
comp=Z,70nm,19.8s,baz=88,slow=38
BCAR Beaver Creek A 39.57 41 P **P** **12 10 18.5 +0.9**
F28M Old Crow 39.99 33 P **P** **12 10 21.2 +0.2**
G29M Pine Creek 40.76 34 P **P** **12 10 27.4 0.0**
G29M IAmb IAmb 12 10 50.6
comp=Z,5.7nm,1.2s
I30M Mount Dempster 41.63 37 P **P** **12 10 35.2 +0.5**
INK Inuvik 42.31 32 P **P** **12 10 40.1 +0.1**
INK Inuvik 42.31 32 P **P** **12 10 40.1 +0.1**
INK pmax pmax
comp=Z,3.0nm,1.0s
ZALV Zalesovo Beam 42.51 306 P **P** **12 10 40.7 -1.1**
comp=Z,0.6nm,0.4s,baz=72,slow=9.4,SNR=1.6
ZALV PcP **PcP** **12 12 33.4 -0.2**
comp=Z,0.6nm,0.3s,baz=70,slow=4.9,SNR=4.7
ZALV LR LR 12 29 34.4
comp=Z,82nm,18.2s,baz=68,slow=38
comp=Z,0.6nm,0.4s
C36M Paulatuk 45.47 30 P **P** **12 11 05.4 +0.1**
MK31 Makanchi Array 46.74 297 P **P** **12 11 14.5 -1.2**
MK31 IAmb IAmb 12 11 17.1
comp=Z,1.9nm,0.6s
MK31 Makanchi Array 46.74 297 *c i*P **P** **12 11 14.5 -1.2**
MKAR Makanchi Array 46.74 297 P **P** **12 11 14.6 -1.1**
MKAR Makanchi Array 46.74 297 P **P** **12 11 14.1 -1.6**
comp=Z,2.2nm,0.7s,baz=69,slow=8.1,SNR=15
MKAR PcP **PcP** **12 12 48.3 0.0**
comp=Z,0.8nm,0.6s,baz=65,slow=3.7,SNR=6.6
MKAR LR LR 12 31 28.6
comp=Z,74nm,20.2s,baz=136,slow=37
comp=Z,2.2nm,0.7s
MAKZ Makanchi 46.93 298 P **P** **12 11 15.9 -1.2**
MAKZ IAmb IAmb 12 11 18.5
comp=Z,4.3nm,1.2s
MAKZ Makanchi 46.93 298 P **P** **12 11 15.9 -1.2**
MAKZ pmax pmax
comp=Z,4.0nm,1.3s
KURK Kurchatov 47.24 304 P **P** **12 11 17.6 -1.8**
KURK IAmb IAmb 12 11 20.1
comp=Z,3.3nm,1.1s
KURK Kurchatov 47.24 304 P **P** **12 11 17.6 -1.8**
KURK pmax pmax
comp=Z,3.0nm,1.1s
KURBB Kurchatov Arra 47.33 304 P **P** **12 11 18.6 -1.6**
comp=Z,0.7nm,0.4s,baz=71,slow=9.0,SNR=8.0
KURBB PcP **PcP** **12 12 50.0 -0.3**
comp=Z,0.2nm,0.3s,baz=74,slow=4.0,SNR=1.5
comp=Z,0.7nm,0.4s
BVAR Borovoye Array 50.80 309 P **P** **12 11 46.5 -0.2**
comp=Z,1.6nm,0.6s,baz=57,slow=8.3,SNR=6.3
BVAR LR LR 12 36 21.7
comp=Z,53nm,18.8s,baz=140,slow=40
comp=Z,1.6nm,0.6s
CHTO Chiang Mai 51.55 256 P **P** **12 11 52.5 -0.2**
CHTO Chiang Mai 51.55 256 P **P** **12 11 52.5 -0.2**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 51.80 256 P **P** **12 11 55.8 +1.2**
comp=Z,1.8nm,0.6s,baz=40,slow=7.3,SNR=10
CMAR LR LR 12 35 29.3
comp=Z,27nm,18.2s,baz=220,slow=38
comp=Z,1.8nm,0.6s
CMAR Chiang Mai Arr 51.80 256 *e*P **P** **12 11 56.9 +2.4**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
ARU Arti 55.05 317 *e*P **P** **12 12 17.2 -0.7**
ARU Arti 55.05 317 *c i*P **P** **12 12 17.2 -0.7**
ARU 12 13 17.2
ARU 12 14 17.7
ARU S **S** **12 19 53.2 -2.9**
ARU SS **SS** **12 23 33.8 -5.9**
ARU pmax pmax
comp=Z,2.0nm,0.6s
KK31 Karatay Array 55.82 299 P **P** **12 12 21.8 -1.8**
KK31 Karatay Array 55.82 299 P **P** **12 12 21.8 -1.8**
KK31 pmax pmax
comp=Z,3.0nm,1.3s
KKAR Karatay Array 55.82 299 P **P** **12 12 22.1 -1.5**
KKAR Karatay Array 55.82 299 P **P** **12 12 22.1 -1.5**
ARCES ARCESS Array B 58.15 341 P **P** **12 12 38.8 -0.9**
comp=Z,0.6nm,0.6s,baz=56,slow=7.5,SNR=4.2
comp=Z,0.6nm,0.6s
ARCES ARCESS Array B 58.15 341 *e*P **P** **12 12 40.1 +0.4**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 58.37 310 P **P** **12 12 40.0 -1.5**
ABKAR IAmb IAmb 12 12 42.5
comp=Z,4.2nm,1.1s
NVAR Mina Array Bea 63.08 62 P **P** **12 13 15.7 +1.7**
comp=Z,0.2nm,0.6s,baz=294,slow=6.5,SNR=2.1
comp=Z,0.2nm,0.6s
FINES FINESS Array B 64.27 335 P **P** **12 13 19.9 -1.3**
comp=Z,0.9nm,0.4s,baz=35,slow=5.0,SNR=14
comp=Z,0.9nm,0.4s
PDAR Pinedale Array 65.41 53 P **P** **12 13 30.4 +1.2**
comp=Z,0.5nm,0.6s,baz=307,slow=2.6,SNR=5.2
comp=Z,0.5nm,0.6s
WRA Warramunga Arr 67.91 198 P **P** **12 13 46.8 +1.9**
comp=Z,0.5nm,0.7s,baz=17,slow=6.9,SNR=6.2
comp=Z,0.5nm,0.7s
WRA Warramunga Arr 67.91 198 *e*P **P** **12 13 49.1 +4.2**
WRA pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 68.53 341 P **P** **12 13 47.3 -1.2**
comp=Z,0.9nm,0.5s,baz=28,slow=6.5
NOA NORSAR Array B 68.53 341 P **P** **12 13 47.8 -0.7**
comp=Z,1.3nm,0.5s,baz=28,slow=6.4,SNR=10
NOA LR LR 12 47 49.3
comp=Z,18nm,18.1s,baz=100,slow=40
comp=Z,1.3nm,0.5s
HFS Hagfors 68.74 339 P **P** **12 13 48.7 -1.1**
comp=Z,2.9nm,0.4s,baz=46,slow=4.3,SNR=24
HFS LR LR 12 45 58.4
comp=Z,40nm,21.0s,baz=61,slow=38
comp=Z,2.9nm,0.4s
KBZ Khabaz 70.85 314 P **P** **12 14 01.9 -1.0**
comp=Z,3.6nm,0.9s,baz=192,slow=3.5,SNR=5.4
comp=Z,3.6nm,0.9s
KBZ Khabaz 70.85 314 *e*P **P** **12 14 04.5 +1.5**
KBZ Khabaz 70.85 314 *d i*P **P** **12 14 04.5 +1.5**
ASAR Alice Springs 71.60 198 P **P** **12 14 10.1 +2.5**
comp=Z,0.3nm,0.4s,baz=15,slow=5.3,SNR=7.9
comp=Z,0.3nm,0.4s
AKASG Malin Array Be 71.68 326 P **P** **12 14 06.8 -1.1**
comp=Z,0.8nm,0.3s,baz=37,slow=6.1,SNR=4.5
comp=Z,0.8nm,0.3s
AKBB Malin Array Si 71.68 326‖ *e*P **P** **12 14 07.8 -0.1**
GNI Garni 72.48 310 LR LR 12 49 50.2
comp=Z,34nm,19.3s,baz=129,slow=39
EKA Eskdalemuir Ar 76.69 346 P **P** **12 14 36.3 -0.7**
comp=Z,0.4nm,0.4s,baz=24,slow=3.7,SNR=4.2
comp=Z,0.4nm,0.4s
CLL Collm 76.71 335 *i* P **P** **12 14 36.1 -1.0**
comp=Z,4.0nm,0.9s
MODS Modra-Piesok 77.94 331 *e*P **P** **12 14 44.9 +0.8**
MODS Modra-Piesok 77.94 331 *e*P **P** **12 14 44.9 +0.8**
TXAR Lajitas Array 78.14 60 P **P** **12 14 46.9 +1.3**
comp=Z,0.5nm,0.6s,baz=297,slow=4.6,SNR=10
comp=Z,0.5nm,0.6s
BR131 Keskin Array S 78.42 316‖ *e*P **P** **12 14 47.4 +0.3**
BRTR Keskin Array B 78.42 316 P **P** **12 14 47.0 -0.1**
comp=Z,2.0nm,0.8s,baz=67,slow=4.2,SNR=8.8
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 78.42 316 *e*P **P** **12 14 47.8 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
KHC Kasperske Hory 78.46 334‖ *e*P **P** **12 14 46.9 -0.1**
KHC pmax pmax
comp=Z,5.0nm,0.7s
TORD Torodi Ar. Bea 115.26 328 PKP **PKiKP** **12 21 27.4 -0.5**
comp=Z,0.1nm,0.4s,baz=16,slow=2.8,SNR=1.2
MAW Mawson 131.55 211 PKP **PKiKP** **12 21 58.7 +0.5**
comp=Z,2.1nm,0.6s,baz=282,slow=17,SNR=8.7
QSPA South Pole Qui 136.00 180 PKP **PKiKP** **12 22 07.3 -0.1**
comp=Z,0.5nm,0.6s,baz=5.1,slow=3.6,SNR=3.6
H03N2 Juan Fernandez 139.22 90 T T 14 57 50.3
baz=308,slow=77,SNR=58
H03N1 Juan Fernandez 139.24 90 T T 14 57 52.1
baz=308,slow=77,SNR=71
H03N3 Juan Fernandez 139.24 90 T T 14 57 49.7
baz=308,slow=77,SNR=51
PLCA Paso Flores 148.63 96 PKPbc **PKiKP** **12 22 34.4 +0.2**
comp=Z,1.5nm,0.6s,baz=210,slow=1.2,SNR=6.0
SNAA Sanae 151.96 196 PKPbc **PKiKP** **12 22 40.5 +0.4**
comp=Z,1.1nm,0.8s,baz=184,slow=5.7,SNR=5.0

WEL 26 12:24:01.2±1.0, 32°S±10'×18°0W±2°7, h300km, M4.1/7, mB4.5/5, ML4.5/9, MLv4.3/7, Mw(mB)3.7/5, Error ellipse: s-maj=0.0km s-min=0.0km az=105.9, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.81**	**196**	P	Pn	12 25 30.2	+2.1
WMGZ	**Waiomatatini S**	**6.04**	**194**	P	Pn	12 25 31.8	+1.0
WMGZ				S	S	12 26 45.3	+2.3
HAZ	**Te Kaha**	**6.13**	**199**	P	Pn	12 25 32.7	+0.8
HAZ				S	S	12 26 47.0	+1.9
PKGZ	**Pakihiroa**	**6.18**	**197**	P	Pn	12 25 34.3	+1.7
PKGZ				S	S	12 26 48.5	+2.2
PUZ	**Puketiti**	**6.31**	**195**	P	Pn	12 25 32.6	-1.5
PUZ				S	S	12 26 48.9	-0.2
RUGZ	**Raukumara Rang**	**6.36**	**199**	P	Pn	12 25 35.5	+0.7
TWGZ	**Tauwhareparae**	**6.48**	**196**	P	Pn	12 25 36.6	+0.4
TWGZ				S	S	12 26 54.2	+1.4
EPAZ	**Eden Park BICE**	**6.71**	**222**	P	Pn	12 25 42.8	+3.9
CNGZ	**Carnagh Statio**	**6.72**	**194**	P	Pn	12 25 39.3	+0.3
MWZ	**Matawai**	**6.74**	**199**	P	Pn	12 25 38.9	-0.5
MWZ				S	S	12 26 58.8	+0.2
URZ	**Urewera**	**6.79**	**202**	P	Pn	12 25 38.4	-1.5
URZ				S	S	12 26 59.4	-0.3
RAGZ	**Rawiri**	**6.92**	**199**	P	Pn	12 25 42.0	+0.4
RIGZ	**Rimuhau**	**7.03**	**196**	S	S	12 27 07.2	+2.2
MUGZ	**Murupara**	**7.10**	**203**	P	Pn	12 25 42.5	-1.2
HRRZ	**Handcock Road**	**7.20**	**206**	P	Pn	12 25 44.1	-0.8
SNGZ	**Shannon Statio**	**7.21**	**199**	P	Pn	12 25 45.2	+0.1
RAHZ	**Arahi**	**7.41**	**200**	P	Pn	12 25 46.4	-1.1
RAHZ				S	S	12 27 11.1	-2.3
MTHZ	**Maungataniwha**	**7.42**	**201**	P	Pn	12 25 47.2	-0.4
MTHZ				S	S	12 27 11.5	-2.3
NMHZ	**Naumai**	**7.66**	**201**	P	Pn	12 25 48.8	-1.8
NMHZ				S	S	12 27 18.6	-0.5
KAHZ	**Kahuranaki**	**8.28**	**199**	P	Pn	12 25 56.1	-2.1
PXZ	**Pawanui**	**8.51**	**198**	P	Pn	12 25 58.4	-2.5

NEIC ***26*** *12:46:51.5±0.9, 49°.3N±0°.1×154°.4E±0°.2, h127km±10km, mb4.3/27, Error ellipse: s-maj=20.9km s-min=9.9km az=141.0*
MOS ***26*** *12:46:52.4±1.0, 49°.46N×154°.48E, h149km, mb4.0/7, Error ellipse: s-maj=12.2km s-min=4.9km az=67.5*
KRSC ***26*** *12:46:52.1±1.7, 49°.00N×155°.81E, h131km±23km, Ml4.7*
IDC ***26*** *12:46:53.8±0.7, 49°.52N×154°.34E, h139km±6km, mb3.6/19, mbtmp4.0/21, MS3.0/3, Error ellipse: s-maj=15.1km s-min=11.6km az=156.0*
ISC 26 12:46:53.1±0.6, 49°.41N±0°.07×154°.54E±0°.06, h140km±5km, h140km:pP-P, n123, σ1.9 63/140, mb4.2/38, 7C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.63**	**38**	*e*P	**Pn**	**12 47 23.6**	**+0.3**
SKR				*e*S	**Sn**	**12 47 46.5**	**+0.1**
SKR	**Severo-Kuril's**	**1.63**	**38**⇑	*i*PN	**Pn**	**12 47 23.2**	**-0.1**
SKR				*i* S	**Sn**	**12 47 45.7**	**-0.7**
SKR				pmax	pmax		
SKR	comp=Z,614nm,0.5s						
SKR	comp=E,2μm,0.4s			smax	smax		
SKR	comp=N,3μm,0.6s			smax	smax		
KDTR	**Khodutka, Kamc**	**3.29**	**42**	*e*P	**Pn**	**12 47 42.8**	**-1.0**
KDTR				*e*S	**Sn**	**12 48 19.3**	**-3.7**
KDTR	**Khodutka, Kamc**	**3.29**	**42**	PN	**Pn**	**12 47 42.7**	**-1.0**
KDTR				S	**Sn**	**12 48 19.2**	**-3.7**
ASAK	**Asacha**	**3.66**	**34**	*e*P	**Pn**	**12 47 49.0**	**+0.4**
ASAK	**Asacha**	**3.66**	**34**	PN	**Pn**	**12 47 48.9**	**+0.4**
MTVR	**Mutnovka**	**3.84**	**35**	*e*P	**Pn**	**12 47 51.5**	**+0.5**
MTVR				*e*S	**Sn**	**12 48 35.6**	**-0.5**

MTVR	**Mutnovka**	**3.84**	**35**	PN	**Pn**	**12 47 51.5 +0.5**
MTVR				S	**Sn**	**12 48 35.5 -0.5**
GRL	**Gorelyy**	**3.86**	**34**	*e*P	**Pn**	**12 47 52.2 +0.9**
GRL				*e*S	**Sn**	**12 48 37.4 +1.0**
GRL	**Gorelyy**	**3.86**	**34**	PN	**Pn**	**12 47 52.1 +0.9**
GRL				S	**Sn**	**12 48 37.3 +1.0**
KRMR	**Karymshinskiy**	**4.10**	**32**	*e*P	**Pn**	**12 47 54.8 +0.4**
KRMR	**Karymshinskiy**	**4.10**	**32**	PN	**Pn**	**12 47 54.7 +0.4**
PET	**Petropavlovsk**	**4.45**	**34**	Pn	**Pn**	**12 47 58.8 0.0**
PET				Sn	**Sn**	**12 48 49.5 -0.5**
PET	**Petropavlovsk**	**4.45**	**34**	*e*P	**Pn**	**12 47 58.7 -0.1**
PET				*e*S	**Sn**	**12 48 48.4 -1.6**
PET	**Petropavlovsk**	**4.45**	**34**	*e*PN	**Pn**	**12 47 57.1 -1.7**
PET				*e*S	**Sn**	**12 48 47.9 -2.1**
PET				smax	smax	
	comp=E,72nm,0.8s					
PET				smax	smax	
	comp=N,104nm,0.7s					
INSR	**Institute**	**4.46**	**33**	*e*P	**Pn**	**12 48 00.8 +1.7**
INSR				*e*S	**Sn**	**12 48 50.1 -0.3**
INSR	**Institute**	**4.46**	**33**	PN	**Pn**	**12 48 00.7 +1.7**
INSR				S	**Sn**	**12 48 50.1 -0.3**
DALK	**Dalny**	**4.49**	**35**	*e*P	**Pn**	**12 47 59.5 +0.1**
DALK				*e*S	**Sn**	**12 48 48.7 -2.3**
DALK	**Dalny**	**4.49**	**35**	PN	**Pn**	**12 47 59.5 +0.1**
DALK				S	**Sn**	**12 48 48.7 -2.3**
UGLR	**Uglovaya**	**4.66**	**34**	*e*P	**Pn**	**12 48 03.0 +1.3**
UGLR	**Uglovaya**	**4.66**	**34**	PN	**Pn**	**12 48 03.0 +1.3**
KOK	**Koryaka**	**4.66**	**32**	*e*P	**Pn**	**12 48 03.0 +1.3**
KOK	**Koryaka**	**4.66**	**32**	PN	**Pn**	**12 48 03.0 +1.3**
AVH	**Avacha**	**4.67**	**33**	*e*P	**Pn**	**12 48 03.8 +1.9**
AVH	**Avacha**	**4.67**	**33**	PN	**Pn**	**12 48 03.8 +1.9**
SMAR	**Somma**	**4.69**	**33**	*e*P	**Pn**	**12 48 03.1 +0.8**
SMAR	**Somma**	**4.69**	**33**	PN	**Pn**	**12 48 03.1 +0.8**
KRER	**Koryakskii**	**4.71**	**32**	*e*P	**Pn**	**12 48 01.9 -0.6**
KRER	**Koryakskii**	**4.71**	**32**	PN	**Pn**	**12 48 01.9 -0.6**
KRX	**Arik**	**4.72**	**32**	*e*P	**Pn**	**12 48 03.7 +1.1**
KRX	**Arik**	**4.72**	**32**	PN	**Pn**	**12 48 03.6 +1.1**
GNL	**Ganaly**	**4.79**	**25**	*e*P	**Pn**	**12 48 04.9 +1.4**
GNL	**Ganaly**	**4.79**	**25**	PN	**Pn**	**12 48 04.8 +1.4**
NLC	**Nalytchevo**	**4.82**	**37**	*e*P	**Pn**	**12 48 02.4 -1.4**
NLC	**Nalytchevo**	**4.82**	**37**	PN	**Pn**	**12 48 02.4 -1.4**
SPN	**Mys Shipunski**	**5.05**	**41**	*e*P	**Pn**	**12 48 06.1 -0.7**
SPN				*e*S	**Sn**	**12 48 58.3 -6.1**
SPN	**Mys Shipunski**	**5.05**	**41**	PN	**Pn**	**12 48 06.1 -0.7**
SPN				S	**Sn**	**12 48 58.2 -6.1**
KUR	**Kuril'sk**	**6.17**	**230**	*e*PN	**Pn**	**12 48 23.8 +2.0**
KUR				*e*S	**Sn**	**12 49 36.6 +5.4**
KUR				pmax	pmax	
	comp=Z,55nm,0.5s					
KUR				smax	smax	
	comp=E,68nm,0.7s					
KUR				smax	smax	
	comp=N,57nm,0.5s					
TUMR	**Tumrok**	**6.81**	**28**	*e*P	**Pn**	**12 48 31.2 +0.7**
TUMR	**Tumrok**	**6.81**	**28**	PN	**Pn**	**12 48 31.1 +0.7**
SHO	**Shikotan**	**7.67**	**227**	*e*PN	**Pn**	**12 48 39.6 -2.4**
SHO				pmax	pmax	
	comp=Z,20nm,0.2s					
JKA	**Kamikawa-asahi**	**9.75**	**242**	Pn	**Pn**	**12 49 08.4 -1.4**
ASAJ	**Asahikawa**	**9.75**	**242**	P	**Pn**	**12 49 11.5 +1.6**
	comp=Z,6.4nm,0.7s,baz=41,slow=14,SNR=8.8					
MA2	**Magadan**	**10.42**	**349**	LR	LR	12 53 14.5
	comp=Z,68nm,18.4s,baz=152,slow=37					
ERM	**Erimo**	**10.86**	**231**	Pn	**Pn**	**12 49 22.6 -1.9**
ERM				Sn	**Sn**	**12 51 16.8 -7.5**
SHEM	**Shemya Is, Ala**	**12.74**	**67**	LR	LR	12 56 20.4
	comp=Z,44nm,18.4s,baz=156,slow=44					
SEY	**Seymchan**	**13.61**	**356**	P	**Pn**	**12 49 59.0 -1.0**
	comp=Z,1.4nm,0.7s,baz=139,slow=22,SNR=1.9					
KLR	**Kul'dur**	**14.86**	**278⇑**	*e*P	**P**	**12 50 16.5 -1.6**
KLR				pmax	pmax	
	comp=Z,14nm,2.3s					
AMKA	**Amchitka**	**15.89**	**73**	Pn	**Pn**	**12 50 27.9 -0.8**
USA0B	**Ussuriysk Arra**	**16.27**	**260**		**Pn**	**12 50 32.1 -1.3**
USA0B	**Ussuriysk Arra**	**16.27**	**260**	P	**Pn**	**12 50 32.1 -1.3**
USA0B				pmax	pmax	
	comp=Z,8.0nm,1.1s					
USRK	**Ussuriysk Ar.**	**16.27**	**260**		**Pn**	**12 50 31.8 -1.6**
USRK	**Ussuriysk Ar.**	**16.27**	**260**	P	**Pn**	**12 50 31.8 -1.6**
ZEA	**Zeya**	**17.45**	**295**	*e*P	**Pn**	**12 50 52.4 +4.8**
KIWB	**Kanaga Island**	**18.08**	**71**	P	**P**	**12 50 53.8 +0.2**
ADK	**Adak**	**18.36**	**71**	P	**P**	**12 50 56.3 -0.4**
ADK	**Adak**	**18.36**	**71**	P	**P**	**12 50 56.3 -0.4**
ADK				pmax	pmax	
	comp=Z,18nm,1.5s					
YAK	**Yakutsk**	**18.70**	**322**	*e*P	**Pn**	**12 51 01.6 -0.7**
YAK				pmax	pmax	
	comp=Z,45nm,0.9s					
YAK				pmax	pmax	
	comp=E,18nm,1.1s					
YAK				pmax	pmax	
	comp=N,6.0nm,1.1s					
BILL	**Bilibino**	**19.58**	**13**	*c e*P	**P**	**12 51 07.7 -2.1**
BILL				pmax	pmax	
	comp=Z,10.0nm,1.3s					
TIXI	**Tiksi**	**25.22**	**341**	LR	LR	13 02 47.5
	comp=Z,42nm,21.6s,baz=180,slow=38					
F15K	**North Star Dit**	**26.63**	**37**	P	**P**	**12 52 18.5 +0.4**
F15K				IAmb	IAmb	12 52 53.3
	comp=Z,9.9nm,1.2s					
N15K	**Kwethluk River**	**27.72**	**50**	P	**P**	**12 52 29.2 +1.3**
N15K				IAmb	IAmb	12 53 06.1
	comp=Z,12nm,1.4s					
F17K	**Baldwin Pennin**	**28.17**	**36**	P	**P**	**12 52 32.8 +1.1**
J17K	**VABM Dome**	**28.48**	**43**	P	**P**	**12 52 35.4 +0.9**
J17K				IAmb	IAmb	12 52 36.7
	comp=Z,11nm,1.2s					
C18K	**Utukok River**	**28.85**	**32**	P	**P**	**12 52 38.2 +0.4**
C18K				IAmb	IAmb	12 52 38.8
	comp=Z,5.2nm,0.8s					
H18K	**Honhosa River**	**29.05**	**40**	P	**P**	**12 52 40.6 +1.0**
H18K				IAmb	IAmb	12 52 42.7
	comp=Z,10nm,1.4s					
G18K	**Tagagawik**	**29.07**	**38**	P	**P**	**12 52 40.5 +0.8**
G18K				IAmb	IAmb	12 52 41.4
	comp=Z,8.7nm,1.1s					
M17K	**Holitna River**	**29.07**	**47**	P	**P**	**12 52 40.9 +1.1**
M17K				IAmb	IAmb	12 52 45.9
	comp=Z,5.8nm,1.1s					
J18K	**Innoko River**	**29.54**	**43**	P	**P**	**12 52 44.7 +0.7**
C19K	**Lookout Ridge**	**29.54**	**31**	P	**P**	**12 52 44.4 +0.4**
C19K				IAmb	IAmb	12 52 45.3
	comp=Z,6.5nm,1.1s					
F19K	**Shaleruckik Mo**	**29.61**	**36**	P	**P**	**12 52 44.8 +0.3**
G19K	**Purcell Mounta**	**29.75**	**38**	P	**P**	**12 52 46.2 +0.4**
D19K	**Kuna River**	**29.88**	**33**	P	**P**	**12 52 47.4 +0.4**
H19K	**Roundabout Mou**	**29.90**	**39**	P	**P**	**12 52 48.0 +0.9**
E19K	**Redstone River**	**29.95**	**35**	P	**P**	**12 52 48.4 +0.9**
E19K				IAmb	IAmb	12 52 49.2
	comp=Z,6.8nm,0.9s					
J19K	**Poorman**	**30.07**	**42**	P	**P**	**12 52 49.2 +0.5**
J19K				IAmb	IAmb	12 52 49.9
	comp=Z,4.2nm,0.8s					
B20K	**Meade River**	**30.63**	**30**	P	**P**	**12 52 53.8 +0.4**
K20K	**Telida**	**30.72**	**44**	P	**P**	**12 52 55.4 +1.1**
K20K				IAmb	IAmb	12 52 56.6
	comp=Z,4.2nm,0.9s					
J20K	**Nowinta River**	**30.73**	**42**	P	**P**	**12 52 55.3 +0.8**
J20K				IAmb	IAmb	12 52 56.1
	comp=Z,4.8nm,0.9s					
IMAR	**Indian Mountai**	**31.07**	**38**	P	**P**	**12 52 57.8 +0.4**
H11N2	**WAKE ISLAND Hy**	**31.23**	**157**	T	T	13 25 45.5
	baz=345,slow=74					
G21K	**Allakaket**	**31.23**	**37**	P	**P**	**12 52 59.8 +1.0**
G21K				IAmb	IAmb	12 53 00.5
	comp=Z,5.9nm,0.9s					
H11N1	**WAKE ISLAND Hy**	**31.24**	**157**	T	T	13 25 22.5
	baz=345,slow=74					
H11N3	**WAKE ISLAND Hy**	**31.24**	**157**	T	T	13 26 27.0
	baz=345					
H11S1	**WAKE ISLAND Hy**	**32.35**	**158**	T	T	13 26 47.6
	baz=345,slow=76,SNR=209					
H11S3	**WAKE ISLAND Hy**	**32.36**	**158**	T	T	13 27 17.4
	baz=345,slow=76,SNR=454					
H11S2	**WAKE ISLAND Hy**	**32.37**	**158**	T	T	13 27 16.2
	baz=345,slow=76,SNR=174					
COLA	**College**	**33.47**	**41**	*c i*P	**P**	**12 53 19.0 +0.7**
COLA				pmax	pmax	
	comp=Z,16nm,0.9s					
ILAR	**Eielson Array**	**33.89**	**41**	P	**P**	**12 53 22.3 +0.3**
	comp=Z,3.8nm,1.0s,baz=263,slow=9.9,SNR=35					
	comp=Z,3.8nm,1.0s					
E29M	**Blow River**	**37.28**	**34**	P	**P**	**12 53 51.9 +1.1**
INK	**Inuvik**	**38.90**	**34**	P	**P**	**12 54 05.3 +1.0**
INK				IAmb	IAmb	12 54 06.3
	comp=Z,6.4nm,0.8s					
INK	**Inuvik**	**38.90**	**34**	P	**P**	**12 54 05.3 +1.0**
INK				pmax	pmax	
	comp=Z,6.0nm,0.9s					
ZALV	**Zalesovo Beam**	**41.88**	**304**	P	**P**	**12 54 27.7 -1.3**
	comp=Z,1.4nm,0.8s,baz=58,slow=7.2,SNR=4.9					
	comp=Z,1.4nm,0.8s					
ZALV	**Zalesovo Beam**	**41.88**	**304**	*e*P	**P**	**12 54 28.4 -0.6**
ZALV				pmax	pmax	
	comp=Z,1.0nm,0.5s					
R33M	**Jennings River**	**42.27**	**47**	P	**P**	**12 54 34.0 +1.7**
MK31	**Makanchi Array**	**46.60**	**296**	*c i*P	**P**	**12 55 07.0 +0.2**
MKAR	**Makanchi Array**	**46.60**	**296**		**P**	**12 55 05.9 -0.8**
MKAR	**Makanchi Array**	**46.60**	**296**	P	**P**	**12 55 06.3 -0.4**
	comp=Z,2.0nm,0.8s,baz=63,slow=8.7,SNR=11					
	comp=Z,2.0nm,0.8s					
KURK	**Kurchatov**	**46.72**	**302⇑**	*i*P	**P**	**12 55 06.6 -0.9**
KURK				pmax	pmax	
	comp=Z,6.0nm,1.1s					
KURBB	**Kurchatov Arra**	**46.82**	**302**	P	**P**	**12 55 07.9 -0.4**
	comp=Z,3.5nm,0.9s,baz=66,slow=8.2,SNR=16					
KURBB				pP	**pwP**	**12 55 40.5 -1.2**
	comp=Z,1.7nm,0.9s,baz=65,slow=8.1,SNR=3.5					
	comp=Z,3.5nm,0.9s					
YKA	**Yellowknife Ar**	**48.23**	**38**	P	**P**	**12 55 20.1 +1.0**
	comp=Z,3.3nm,0.8s,baz=305,slow=9.3,SNR=15					
	comp=Z,3.3nm,0.8s					
BVAR	**Borovoye Array**	**49.93**	**308**	P	**P**	**12 55 31.4 -0.7**
	comp=Z,1.2nm,0.4s,baz=64,slow=10,SNR=7.4					
	comp=Z,1.2nm,0.4s					
BRVK	**Borovoye**	**49.97**	**308**	*d i*P	**P**	**12 55 31.9 -0.5**
BRVK				pmax	pmax	
	comp=Z,2.0nm,0.7s					
ARU	**Arti**	**53.71**	**317**	P	**P**	**12 55 58.9 -1.2**
ARU	**Arti**	**53.71**	**317**	*c i*P	**P**	**12 55 59.0 -1.0**
ARU				*PP	**pP**	**12 56 33.7 +1.6**
ARU						12 57 04.4
ARU				S	**S**	**13 03 22.3 -0.6**
ARU				SS	**SS**	**13 07 03.7 -1.0**
ARU				pmax	pmax	
	comp=Z,7.0nm,1.0s					
CMAR	**Chiang Mai Arr**	**53.94**	**256**	P	**P**	**12 56 02.8 +0.5**
	comp=Z,0.7nm,0.6s,baz=29,slow=8.3,SNR=5.2					
	comp=Z,0.7nm,0.6s					
CMAR	**Chiang Mai Arr**	**53.94**	**256**	*i*P	**P**	**12 56 04.5 +2.3**
CMAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
ARCES	**ARCESS Array B**	**55.65**	**341**	P	**P**	**12 56 13.1 -0.8**
	comp=Z,0.6nm,0.5s,baz=22,slow=9.7,SNR=1.5					
	comp=Z,0.6nm,0.5s					
ABKAR	**Abkulak array**	**57.47**	**309**	P	**P**	**12 56 26.4 -0.5**
ABKAR	**Abkulak array**	**57.47**	**309**	P	**P**	**12 56 26.8 -0.2**
ABKAR				IAmb	IAmb	12 56 27.3
	comp=Z,4.3nm,1.1s					
NVAR	**Mina Array Bea**	**60.38**	**64**	P	**P**	**12 56 49.2 +1.6**
	comp=Z,0.5nm,0.7s,baz=291,slow=7.2,SNR=5.6					
	comp=Z,0.5nm,0.7s					
FINES	**FINESS Array B**	**62.04**	**335**	P	**P**	**12 56 57.3 -0.7**
	comp=Z,1.2nm,0.3s,baz=35,slow=7.5,SNR=23					
	comp=Z,1.2nm,0.3s					
PDAR	**Pinedale Array**	**62.43**	**56**	P	**P**	**12 57 01.8 +0.6**
PDAR	**Pinedale Array**	**62.43**	**56**	P	**P**	**12 57 02.9 +1.6**
	comp=Z,0.6nm,0.7s,baz=326,slow=5.1,SNR=6.7					
	comp=Z,0.6nm,0.7s					
NOA	**NORSAR Array B**	**66.01**	**341**	P	**P**	**12 57 23.6 -0.4**
	comp=Z,0.2nm,0.3s,baz=26,slow=6.5,SNR=5.0					
	comp=Z,0.2nm,0.3s					
HFS	**Hagfors**	**66.29**	**340**	P	**P**	**12 57 25.3 -0.5**
	comp=Z,0.8nm,0.3s,baz=40,slow=5.0,SNR=17					
	comp=Z,0.8nm,0.3s					
SCHQ	**Schefferville**	**70.48**	**24**	P	**P**	**12 57 52.4 +0.5**
	comp=Z,3.6nm,0.3s,baz=0.9,slow=6.7,SNR=17					
	comp=Z,3.6nm,0.3s					
WRA	**Warramunga Arr**	**71.34**	**200**	P	**P**	**12 57 57.5 +0.1**
	comp=Z,1.5nm,1.1s,baz=15,slow=6.3,SNR=5.1					
WRA				pP	**pP**	**12 58 31.3 -0.4**
	comp=Z,0.6nm,0.8s,baz=15,slow=6.3,SNR=4.3					
	comp=Z,1.5nm,1.1s					
EKA	**Eskdalemuir Ar**	**73.97**	**347**	P	**P**	**12 58 12.7 +0.2**
	comp=Z,0.9nm,0.3s,baz=18,slow=5.3,SNR=14					
	comp=Z,0.9nm,0.3s					
ASAR	**Alice Springs**	**75.04**	**200**	P	**P**	**12 58 20.5 +1.4**
	comp=Z,0.5nm,0.6s,baz=10,slow=5.3,SNR=8.3					
ASAR				pP	**pP**	**12 58 55.2 +1.7**
	comp=Z,0.5nm,0.9s,baz=19,slow=6.0,SNR=2.5					
	comp=Z,0.5nm,0.6s					
TXAR	**Lajitas Array**	**75.37**	**62**	P	**P**	**12 58 22.6 +1.4**
	comp=Z,0.7nm,0.6s,baz=294,slow=4.5,SNR=14					
TXAR				pP	**pP**	**12 58 56.4 +0.7**
	comp=Z,0.5nm,0.6s,baz=287,slow=4.3,SNR=4.4					
	comp=Z,0.7nm,0.6s					
BRTR	**Keskin Array B**	**77.09**	**317**	*e*P	**P**	**12 58 31.4 +0.6**
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.9s					
ESDC	**Sonseca Array**	**89.28**	**344**	P	**P**	**12 59 33.0 -0.2**
	comp=Z,0.2nm,0.6s,baz=1.8,slow=4.1,SNR=2.4					
	comp=Z,0.2nm,0.6s					

NEIC ***26*** *12:56:47.6±2.4, 56°.84S±0°.09×26°.3W±0°.2, h35km±1km, mb5.4/91, Mww5.3/11, Error ellipse: s-maj=15.5km s-min=14.3km az=188.0*

MOS ***26*** *12:56:49.5±1.0, 56°.79S×26°.48W, h61km, mb5.6/12, Error ellipse: s-maj=19.5km s-min=10.6km az=111.9*

NEIC ***26*** *12:56:50.1, 56°.87S×26°.36W, h30km*

NEIC ***26*** *12:56:50.1, 56°.27S×26°.91W, h30km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.37; $M_{\theta\theta}$0.23; $M_{\phi\phi}$0.14; $M_{r\theta}$-0.89; $M_{\theta\phi}$-0.06; $M_{\phi r}$0.93; Fault plane solution: $M_0$1.32000×10^{17} NP1: ϕ_s135.90000°, δ83.29000°, λ-87.82000°. NP2: ϕ_s297.86000°, δ7.05000°, λ-107.91000°. Principal axes: T 1.2620, Plg38.0000°, Azm224.0000°; N 0.1201, Plg2.0000°, Azm316.0000°; P -1.3821, Plg52.0000°, Azm48.0000°;*

GCMT ***26*** *12:56:54.6±0.2, 56°.87S±0°.01×25°.92W±0°.02, h69km±1km, MW5.3/128, Moment Tensor Solution. s82, c120; s128, c213; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.16±.02; $M_{\theta\theta}$0.71±.02; $M_{\phi\phi}$-0.55±.02; $M_{r\theta}$-0.48±.01; $M_{\theta\phi}$-0.20±.02; $M_{\phi r}$0.60±.01; Best double couple: $M_0$1.02200×10^{17} NP1: ϕ_s140.00000°, δ84.00000°, λ-50.00000°. NP2: ϕ_s236.00000°, δ40.00000°, λ-171.00000°. Principal axes: T 1.0470, Plg28.0000°, Azm199.0000°; N -0.0500, Plg40.0000°, Azm315.0000°; P -0.9970, Plg37.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***26*** *12:56:54.3±1.2, 56°.73S×26°.24W, h92km±9km, mb4.9/15, mbtmp5.2/17, MS4.0/36 Error ellipse: s-maj=13.9km s-min=11.1km az=56.0*

ISC 26 12:56:53.0±0.3, 56°.87S±0°.04×26°.29W±0°.05, h85km±2km, h84km: pP-P, n667, σ1§42/669, mb5.4/106, 16C-14D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.34**	**290**		**Pn**	**12 58 22.6**	**-1.1**
HOPE	**Hope Point**	**6.34**	**290**	P	**Pn**	**12 58 22.6**	**-1.1**
ORCD	**Orcadas**	**10.31**	**240**		Pn	12 59 12.1	-5.7
VNA1	**Neumayer--Stat**	**15.85**	**158**	⇑P	**P**	**13 00 33.9**	**+1.1**
	comp=Z,802nm,0.8s						
VNA1				⇑S	**Sn**	**13 03 16.9**	**-8.4**
	comp=Z,33nm,0.8s						
VNA3	**Neumayer Olymp**	**16.05**	**160**	⇑P	**P**	**13 00 35.9**	**+0.8**
	comp=Z,701nm,0.6s						
VNA3				⇓S	Sn	13 03 19.2	-11
	comp=Z,68nm,1.0s						
VNA2	**Neumayer--Watz**	**16.24**	**158**	⇑P	**P**	**13 00 37.9**	**+0.7**
	comp=Z,248nm,0.5s,baz=315,slow=16						
VNA2				⇑S	Sn	13 03 23.7	-11
	comp=Z,44nm,0.8s,baz=312,slow=16						
SNAA	**Sanae**	**17.79**	**156**	P	**P**	**13 00 54.5**	**+0.3**
SNAA				IAmb	IAmb	13 01 01.8	
	comp=Z,259nm,0.5s						
SNAA	**Sanae**	**17.79**	**156**	*e*P	**P**	**13 00 54.6**	**+0.3**
SNAA				IAmb	IAmb	13 01 01.6	
	comp=Z,15μm,0.5s						
SNAA	**Sanae**	**17.79**	**156**	⇑P	**Pn**	**13 00 55.7**	**+1.1**
	comp=Z,7μm,0.6s						
SNAA				⇑S	**Sn**	**13 04 02.0**	**-10**
	comp=Z,731nm,0.7s						
SNAA	**Sanae**	**17.79**	**156**	P	**Pn**	**13 00 55.4**	**+0.8**
	comp=Z,159nm,0.7s,baz=305,slow=11,SNR=220						
SNAA				S	**Sn**	**13 04 04.3**	**-8.0**
	comp=Z,27nm,0.6s,baz=345,slow=18,SNR=3.7						
SNAA				ScP	**ScP**	**13 08 53.6**	**-0.4**
	comp=Z,12nm,1.0s,baz=333,slow=4.4,SNR=8.3						
EFI	**East Falkland**	**19.16**	**272**	P	**P**	**13 01 09.2**	**-0.1**
EFI				IAmb	IAmb	13 01 17.8	
	comp=Z,266nm,1.0s						
EFI	**East Falkland**	**19.16**	**272**	P	**P**	**13 01 09.2**	**-0.1**
EFI				pmax	pmax		
	comp=Z,266nm,1.0s						
TROLL	**Troll, Antarti**	**19.29**	**153**	⇑P	**P**	**13 01 11.5**	**+0.8**
	comp=Z,12μm,1.0s						
TROLL				⇑S	**S**	**13 04 39.9**	**-4.4**
	comp=Z,689nm,0.7s						
PMSA	**Palmer Station**	**19.75**	**231**	P	**Pn**	**13 01 17.7**	**-0.2**
PMSA	**Palmer Station**	**19.75**	**231**	P	**Pn**	**13 01 18.8**	**+0.9**
	comp=Z,481nm,0.8s,baz=81,slow=9.1,SNR=97						
PMSA				LR	LR	13 08 02.3	
	comp=Z,782nm,18.3s,baz=85,slow=34						
PMSA	**Palmer Station**	**19.75**	**231**	*e*P	**Pn**	**13 01 18.9**	**+0.9**
BELA	**Belgrano 2**	**21.30**	**185**	P	**P**	**13 01 32.1**	**-0.1**
NVL	**N'lazarevskaya**	**21.30**	**146⇑**	*i*P	**P**	**13 01 28.5**	**-3.8**
NVL				pmax	pmax		
	comp=Z,70nm,0.8s						
SMAI	**San Martin Ant**	**21.48**	**222**	P	**P**	**13 01 35.1**	**+1.0**
SMAI				IAmb	IAmb	13 01 39.1	
	comp=Z,244nm,1.0s						
MG01	**Puerto William**	**23.01**	**257**	P	**P**	**13 01 50.2**	**-0.2**
MG01				IAmb	IAmb	13 02 15.1	
	comp=Z,185nm,1.2s						
ELIB	**Princess Elisa**	**25.18**	**146**	*d*P	**P**	**13 02 11.0**	**+0.8**
	comp=Z,55nm,0.7s						
GO10	**Punta Arenas**	**25.58**	**259**	P	**P**	**13 02 13.7**	**-0.1**
GO10				IAmb	IAmb	13 02 15.5	
	comp=Z,197nm,1.1s						
MG05	**Puerto Natales**	**27.06**	**261**	P	**P**	**13 02 26.4**	**-0.7**
MG05				IAmb	IAmb	13 02 54.2	
	comp=Z,77nm,1.1s						
GO09	**Cerro Castillo**	**27.17**	**262**	P	**P**	**13 02 27.5**	**-0.6**
GO09				IAmb	IAmb	13 02 54.9	
	comp=Z,62nm,0.9s						
TRQA	**Tornquist**	**30.11**	**293**	P	**P**	**13 02 52.7**	**-1.6**
TRQA	**Tornquist**	**30.11**	**293**	P	**P**	**13 02 52.7**	**-1.6**
TRQA				pmax	pmax		
	comp=Z,31nm,1.2s						
COYC	**Coyhaique**	**30.25**	**272**	P	**P**	**13 02 55.2**	**-0.3**
COYC	**Coyhaique**	**30.25**	**272**	P	**P**	**13 02 55.5**	**0.0**
PLTB	**Pedras Altas**	**31.42**	**311**	P	**P**	**13 03 05.5**	**-0.5**
LL02	**Futaleuf**	**31.66**	**276**	P	**P**	**13 03 07.8**	**-0.1**
PLCA	**Paso Flores**	**32.64**	**280**	P	**P**	**13 03 15.1**	**-1.5**
PLCA				IAmb	IAmb	13 03 36.6	
	comp=Z,42nm,1.2s						
PLCA	**Paso Flores**	**32.64**	**280**	P	**P**	**13 03 15.2**	**-1.5**
	comp=Z,6.0nm,0.9s,baz=148,slow=7.1,SNR=11						
PLCA				ScP	**ScP**	**13 09 34.5**	**-2.1**
	comp=Z,7.0nm,0.7s,baz=156,slow=4.2,SNR=19						
PLCA				LR	LR	13 16 08.8	
	comp=Z,421nm,19.3s,baz=138,slow=35						
	comp=Z,6.0nm,0.9s						
PLCA	**Paso Flores**	**32.64**	**280**	P	**P**	**13 03 15.1**	**-1.5**
PLCA				pmax	pmax		
	comp=Z,42nm,1.3s						
PLCA	**Paso Flores**	**32.64**	**280**	P	**P**	**13 03 14.8**	**-1.8**
PLCA				pP	**pP**	**13 03 34.6**	**-0.9**
PLCA				sP	**sP**	**13 03 42.6**	**-2.5**
PLCA				ScP	**ScP**	**13 09 34.5**	**-2.1**
PLCA	**Paso Flores**	**32.64**	**280**	*e*P	**P**	**13 03 15.2**	**-1.5**
QSPA	**South Pole Qui**	**33.38**	**180**	P	**P**	**13 03 24.6**	**+1.7**
QSPA	**South Pole Qui**	**33.38**	**180**	P	**P**	**13 03 24.7**	**+1.7**
	comp=Z,364nm,0.7s,baz=205,slow=3.1,SNR=1856						
QSPA				ScP	**ScP**	**13 09 39.2**	**+0.4**
	comp=Z,58nm,1.1s,baz=150,slow=2.0,SNR=14						
QSPA				LR	LR	13 16 41.4	
	comp=Z,261nm,19.5s,baz=188,slow=35						
QSPA	**South Pole Qui**	**33.38**	**180**	P	**P**	**13 03 24.7**	**+1.8**
QSPA				ScP	**ScP**	**13 09 38.6**	**-0.1**
LL04	**Puerto Octay**	**33.52**	**278**	P	**P**	**13 03 22.5**	**-1.7**
GO06	**Curarrehue**	**33.95**	**281**	P	**P**	**13 03 28.3**	**+0.2**
SPB	**Sao Paulo**	**36.64**	**326**	P	**P**	**13 03 52.2**	**+1.2**
SPB				IAmb	IAmb	13 04 22.1	
	comp=Z,48nm,1.3s						
VAO	**Valinhos**	**37.05**	**327**	P	**P**	**13 03 56.6**	**+1.9**
VAO				IAmb	IAmb	13 04 22.6	
	comp=Z,46nm,1.1s						
BO04	**La Punta**	**37.68**	**288**	P	**P**	**13 03 58.5**	**-1.4**
CPUP	**Villa Florida**	**37.73**	**311**	P	**P**	**13 03 59.7**	**-0.6**
CPUP	**Villa Florida**	**37.73**	**311**	P	**P**	**13 03 59.7**	**-0.6**
	comp=Z,5.0nm,0.6s,baz=152,slow=7.5,SNR=9.9						
CPUP				ScP	**ScP**	**13 09 53.9**	**-1.1**
	comp=Z,9.9nm,1.1s,baz=146,slow=3.8,SNR=5.4						
	comp=Z,5.0nm,0.6s						
CPUP

GRHM Grahamstown, E 42.66 79 *eP* **P 13 04 38.9 -2.1**
GRHM IAmb IAmb 13 04 40.8
comp=Z,43nm,1.0s
RVDE Rio Verde (Bra 43.39 319 *eP* **P 13 04 47.5 +0.5**
UPI Upington 43.81 70 *eP* **P 13 04 50.2 -0.2**
UPI IAmb IAmb 13 04 51.3
comp=Z,99nm,1.2s
JANB Januaria 43.93 334 *eP* **P 13 04 52.0 +0.7**
HVD Gariep Dam 44.25 76 *eP* **P 13 04 52.6 -1.3**
HVD IAmb IAmb 13 04 54.9
comp=Z,75nm,1.1s
BDFB Brasilia 44.33 329 P **P 13 04 54.6 0.0**
BDFB Brasilia 44.33 329 P **P 13 04 55.1 +0.5**
comp=Z,1.8nm,0.3s,baz=42,slow=7.2,SNR=3.5
comp=Z,1.8nm,0.3s
BDFB Brasilia 44.33 329 P **P 13 04 54.6 0.0**
BDFB pmax pmax
comp=Z,18nm,0.9s
SBA Scott Base 45.29 184 P **P 13 05 03.1 +1.6**
SBA IAmb IAmb 13 05 04.9
comp=Z,69nm,0.8s
SBA Scott Base 45.29 184 P **P 13 05 03.1 +1.6**
SBA pmax pmax
comp=Z,69nm,0.9s
SBA Scott Base 45.29 184 P **P 13 05 03.6 +2.2**
SBA ScP **ScP 13 10 25.3 +1.0**
ARAG Araguaiana, MT 45.41 324 *eP* **P 13 05 03.7 +0.7**
BOSA Boshof 45.70 74 P **P 13 05 03.6 -1.9**
BOSA IAmb IAmb 13 05 06.0
comp=Z,99nm,1.2s
BOSA Boshof 45.70 74 *eP* **P 13 05 04.3 -1.1**
BOSA IAmb IAmb 13 05 05.7
comp=Z,102nm,1.2s
BOSA Boshof 45.70 74 P **P 13 05 04.7 -0.8**
comp=Z,46nm,1.0s,baz=215,slow=8.2,SNR=39
BOSA LR LR 13 19 54.2
comp=Z,631nm,21.9s,baz=218,slow=30
comp=Z,46nm,1.0s
BOSA Boshof 45.70 74 P **P 13 05 04.8 -0.6**
BOSA pmax pmax
comp=Z,75nm,1.2s
BOSA Boshof 45.70 74 P **P 13 05 04.3 -1.1**
BOSA pP **pP 13 05 25.1 +0.7**
VNDA Vanda 45.77 182 P **P 13 05 06.8 +1.5**
VNDA Vanda 45.77 182 P **P 13 05 07.2 +1.9**
comp=Z,96nm,0.7s,baz=188,slow=6.6,SNR=546
VNDA ScP **ScP 13 10 26.9 +0.5**
comp=Z,20nm,0.9s,baz=218,slow=3.5,SNR=16
VNDA LR LR 13 23 05.7
comp=Z,164nm,21.1s,baz=172,slow=34
comp=Z,96nm,0.7s
VNDA Vanda 45.77 182 P **P 13 05 06.8 +1.5**
VNDA pmax pmax
comp=Z,102nm,0.7s
VNDA Vanda 45.77 182 P **P 13 05 07.2 +1.9**
VNDA sP **sP 13 05 35.2 +0.9**
VNDA ScP **ScP 13 10 27.4 +1.1**
LVC Limon Verde 46.15 300 P **P 13 05 08.8 -0.4**
LVC IAmb IAmb 13 05 45.0
comp=Z,30nm,0.8s
LVC Limon Verde 46.15 300 LR LR 13 25 45.4
comp=Z,73nm,19.9s,baz=162,slow=38
LVC Limon Verde 46.15 300 P **P 13 05 08.8 -0.4**
LVC pmax pmax
comp=Z,30nm,0.9s
KSTD Kokstad 46.29 80 *eP* **P 13 05 08.9 -1.2**
KSTD IAmb IAmb 13 05 11.1
comp=Z,59nm,1.1s
SALV Santo Antonio 46.54 319 *eP* **P 13 05 12.4 +0.5**
WIN Windhoek 46.55 61 IAmb IAmb 13 05 13.5
comp=Z,141nm,1.8s
SDBA SAO DESIDERIO 46.62 335 *eP* **P 13 05 13.0 +0.3**
NBLA Lagarto - SE 46.63 344 *eP* **P 13 05 10.6 -2.0**
H04S2 CROZET ISLANDS 46.76 113 T T 13 56 19.0
baz=226,slow=75,SNR=31
H04S3 CROZET ISLANDS 46.77 113 T T 13 56 14.7
baz=226,slow=75,SNR=8.3
CCD Concordia, Ant 46.78 170 P **P 13 05 14.5 +0.9**
CCD ScP **ScP 13 10 37.0 +6.0**
H04S1 CROZET ISLANDS 46.78 113 T T 13 56 26.1
baz=226,slow=75,SNR=24
BBSD Serra de San D 47.24 313 *eP* **P 13 05 16.8 -0.6**
SNKL Senekal, Frees 47.30 76 *eP* **P 13 05 17.3 -0.7**
SNKL IAmb IAmb 13 05 18.6
comp=Z,112nm,1.1s
NBAN Anadia - AL 47.73 347 *eP* **P 13 05 20.9 -0.2**
PMBG Pietermaritzbu 47.80 80 *eP* **P 13 05 20.9 -0.9**
PMBG IAmb IAmb 13 05 22.9
comp=Z,89nm,1.0s
PRYS Parys 48.16 75 *eP* **P 13 05 22.6 -2.1**
PRYS IAmb IAmb 13 05 24.7
comp=Z,127nm,1.3s
PTLB Pontes e Lacer 48.23 315 IAmb IAmb 13 05 59.1
comp=Z,62nm,1.2s
PTLB Pontes e Lacer 48.23 315 *eP* **P 13 05 24.6 -0.5**
SIV San Ignacio 48.50 313 LR LR 13 26 21.3
comp=Z,71nm,20.1s,baz=194,slow=36
H10S2 ASCENSION HYDR 48.65 15 T T 13 58 13.3
baz=189,slow=74,SNR=355
H10S3 ASCENSION HYDR 48.66 15 T T 13 58 13.6
baz=31,slow=74,SNR=347
SNDB Serra Nova Dou 48.76 327 *eP* **P 13 05 29.7 +0.6**
LBTB Lobatse 48.78 72 *eP* **P 13 05 27.8 -1.5**
LBTB IAmb IAmb 13 05 29.6
comp=Z,297nm,1.9s
LBTB Lobatse 48.78 72 LR LR 13 21 55.8
comp=Z,269nm,20.8s,baz=208,slow=31
LBTB Lobatse 48.78 72 P **P 13 05 28.7 -0.6**
LBTB pP **pP 13 05 48.8 -0.1**
GO01 Chusmiza 48.80 301 IAmb IAmb 13 05 53.0
comp=Z,33nm,0.8s
NWCL Newcastle 48.87 78 *eP* **P 13 05 28.7 -1.3**
NWCL IAmb IAmb 13 05 30.1
comp=Z,48nm,0.8s
HRAO HartRAO 49.17 74 *eP* **P 13 05 30.4 -2.0**
NYAT Nyati, Northwe 49.52 74 *eP* **P 13 05 33.7 -1.3**
NYAT IAmb IAmb 13 05 35.4
comp=Z,131nm,1.5s
TSUM Tsumeb 49.66 59 P **P 13 05 35.1 -1.0**
TSUM IAmb IAmb 13 05 37.1
comp=Z,85nm,1.3s
TSUM Tsumeb 49.66 59 *eP* **P 13 05 35.9 -0.2**
TSUM IAmb IAmb 13 05 36.8
comp=Z,90nm,1.4s
TSUM Tsumeb 49.66 59 LR LR 13 23 48.5
comp=Z,108nm,19.5s,baz=171,slow=33
TSUM Tsumeb 49.66 59 P **P 13 05 35.5 -0.6**
TSWA Tswaing Meteor 49.75 74 *eP* **P 13 05 36.0 -0.8**
TSWA IAmb IAmb 13 05 36.9
comp=Z,187nm,1.4s
NHAM Northam, North 49.76 73 *eP* **P 13 05 36.0 -0.8**
NHAM IAmb IAmb 13 05 37.1
comp=Z,190nm,1.6s
H10N1 ASCENSION HYDR 49.77 15 T T 13 59 37.4
baz=188
H10N3 ASCENSION HYDR 49.77 15 T T 13 59 34.2
baz=188
H10N2 ASCENSION HYDR 49.79 15 T T 13 59 42.2
baz=188
RUST Rust De Winter 50.13 75 *eP* **P 13 05 38.1 -1.5**
RUST IAmb IAmb 13 05 39.9
comp=Z,161nm,1.7s
POGA Pongola 50.15 79 IAmb IAmb 13 05 40.3
comp=Z,66nm,0.9s
POGA Pongola 50.15 79 *eP* **P 13 05 37.7 -2.0**
POGA IAmb IAmb 13 05 39.6
comp=Z,53nm,0.7s
MTLB Matlabas, Limp 50.52 72 *eP* **P 13 05 41.2 -1.3**
MTLB IAmb IAmb 13 05 42.2
comp=Z,65nm,1.1s
SMTB Santa Maria do 50.69 332 *eP* **P 13 05 44.4 +0.6**
PB18 Visviri 50.74 303 P **P 13 05 45.5 +0.7**
PB18 IAmb IAmb 13 06 39.5
comp=Z,44nm,0.7s
TEMBE Tembe Elephant 50.78 80 *eP* **P 13 05 44.1 -0.2**
TEMBE IAmb IAmb 13 05 45.4
comp=Z,206nm,1.3s
LEPH Lephalale, Lim 50.87 73 *eP* **P 13 05 43.4 -1.8**
LEPH IAmb IAmb 13 05 45.3
comp=Z,102nm,1.4s
PDRB Porto dos Gac 50.88 320 *eP* **P 13 05 44.6 -0.5**
DULL Dullstroom, Mp 50.91 76 *eP* **P 13 05 44.3 -1.3**
DULL IAmb IAmb 13 05 46.0
comp=Z,46nm,1.1s
LPAZ La Paz 51.26 305 P **P 13 05 49.2 +0.4**
comp=Z,62nm,0.6s,baz=130,slow=4.0,SNR=143
LPAZ ScP **ScP 13 10 49.2 -2.0**
comp=Z,6.1nm,1.1s,baz=134,slow=4.2,SNR=4.5
comp=Z,62nm,0.6s
LPAZ La Paz 51.26 305 P **P 13 05 49.1 +0.4**
LPAZ pP **pP 13 06 09.3 0.0**
LPAZ sP **sP 13 06 19.0 +0.3**
LPAZ La Paz 51.26 305 *eP* **P 13 05 49.1 +0.4**
RCBR Riachuelo 51.47 348 LR LR 13 22 52.9
comp=Z,62nm,21.3s,baz=154,slow=30
PILG Pilgrimsrest, 51.54 76 *eP* **P 13 05 49.4 -1.0**
PILG IAmb IAmb 13 05 50.0
comp=Z,43nm,0.9s
CRAIL Swartwater, Li 51.97 73 *eP* **P 13 05 51.8 -1.6**
NBPB Pedra_Branca-C 52.26 343 *eP* **P 13 05 55.5 0.0**
MPHEP Siloam, Limpop 52.90 74 *eP* **P 13 05 59.3 -1.0**
MPHEP IAmb IAmb 13 06 00.5
comp=Z,139nm,1.0s
MOPA Mopani 53.05 76 *eP* **P 13 06 00.4 -0.9**
MOPA IAmb IAmb 13 06 01.8
comp=Z,378nm,1.4s
MUSN Musina, Limpop 53.24 74 *eP* **P 13 06 00.7 -2.0**
MUSN IAmb IAmb 13 06 03.1
comp=Z,163nm,1.1s
PRPB Paraupapebas 53.85 331 *eP* **P 13 06 08.2 +1.0**
MATP Matopo 54.06 71 LR LR 13 26 00.2
comp=Z,104nm,20.6s,baz=238,slow=32
NPGB Novo Progresso 54.68 324 *eP* **P 13 06 13.0 -0.2**
SAML Samuel 55.74 314 P **P 13 06 20.2 -0.6**
SAML IAmb IAmb 13 06 54.7
comp=Z,30nm,1.0s
SAML Samuel 55.74 314 P **P 13 06 20.2 -0.6**
SAML pmax pmax
comp=Z,30nm,1.0s
SAML Samuel 55.74 314 *eP* **P 13 06 20.6 -0.2**
ETMB Extrema 56.18 310 IAmb IAmb 13 06 24.8
comp=Z,47nm,0.9s
ETMB Extrema 56.18 310 *eP* **P 13 06 23.7 -0.3**
DRV Dumont d'Urvil 56.35 173 P **P 13 06 25.1 +0.6**
DRV ScP **ScP 13 11 13.6 +1.6**
CHIPN CHIPINGE 56.40 75 *eP* **P 13 06 25.7 +0.1**
ITTB Itaituba 57.31 324 *eP* **P 13 06 32.0 +0.1**
KRI Karoi 57.63 70 *eP* **P 13 06 33.8 -0.6**
LSZ Lusaka 58.21 68 P **P 13 06 37.8 -0.6**
LSZ pP **pP 13 06 58.6 +0.2**
LSZ sP **sP 13 07 07.7 +0.2**
NNA Nana 59.08 298 LR LR 13 29 03.6
comp=Z,41nm,20.5s,baz=142,slow=33
NNA Nana 59.08 298 *eP* **P 13 06 43.4 -1.0**
NNA pmax pmax
comp=Z,66nm,1.4s
MCPB Macapa, AP 60.02 330 *eP* **P 13 06 51.8 +1.0**
MACA Manacapuru-AM 60.12 319 P **P 13 06 50.3 -1.1**
MACA Manacapuru-AM 60.12 319 *eP* **P 13 06 50.7 -0.7**
FOMA Nahampoana Res 60.37 91 P **P 13 06 52.5 -0.6**
CZSB Cruzeiro do Su 60.87 305 P **P 13 06 54.6 -1.9**
CZSB Cruzeiro do Su 60.87 305 *eP* **P 13 06 55.1 -1.4**
TEFE Tefe 61.27 315 *eP* **P 13 06 58.6 -0.6**
VOI Vohitsoka 62.72 89 P **P 13 07 08.4 -0.7**
VOI IAmb IAmb 13 07 11.4
comp=Z,34nm,1.1s
VOI Vohitsoka 62.72 89 *eP* **P 13 07 09.0 0.0**
RPN Rapa Nui 64.01 260 LR LR 13 30 49.3
comp=Z,155nm,20.9s,baz=114,slow=32
BOAV Boa Vista 65.24 322 P **P 13 07 24.3 -1.1**
BOAV IAmb IAmb 13 07 26.3
comp=Z,18nm,0.8s
LIC Lamto 65.24 23 *eP* **P 13 07 25.1 -0.3**
comp=Z,150nm,0.6s
ABPO Ambohimpanom 65.28 87 P **P 13 07 26.8 +0.8**
ABPO IAmb IAmb 13 07 28.7
comp=Z,54nm,1.2s
ABPO Ambohimpanom 65.28 87 *eP* **P 13 07 26.6 +0.7**
ABPO IAmb IAmb 13 07 28.4
comp=Z,56nm,1.2s
ABPO Ambohimpanom 65.28 87 P **P 13 07 26.8 +0.8**
ABPO pmax pmax
comp=Z,54nm,1.3s
ABPO Ambohimpanom 65.28 87 P **P 13 07 27.6 +1.6**
MDP Montagnes des 65.40 331 LR LR 13 32 58.3
comp=Z,90nm,21.5s,baz=114,slow=33
KIC Kosan Boka 65.44 24 *eP* **P 13 07 26.2 -0.5**
comp=Z,81nm,0.8s
OPO Ambohidratompo 65.62 87 LR LR 13 31 35.7
comp=Z,119nm,19.8s,baz=4.0,slow=32
TIC Toumodi 65.65 23 *eP* **P 13 07 27.6 -0.5**
comp=Z,44nm,0.4s
DBIC Dimbokro 65.71 23 P **P 13 07 28.1 -0.3**
comp=Z,26nm,0.5s,baz=175,slow=6.5,SNR=55
comp=Z,26nm,0.5s
DBIC Dimbokro 65.71 23 P **P 13 07 28.1 -0.3**
DBIC pP **pP 13 07 50.3 +1.5**
SLOR San Lorenzo - 69.69 303 IAmb IAmb 13 08 31.5
comp=Z,24nm,0.8s
OTAV Otavalo 70.53 303 P **P 13 07 59.1 -0.1**
OTAV IAmb IAmb 13 08 35.7
comp=Z,67nm,1.2s
OTAV Otavalo 70.53 303 P **P 13 07 59.1 -0.1**
OTAV pmax pmax
comp=Z,67nm,1.2s
OTAV Otavalo 70.53 303 P **P 13 08 00.0 +0.9**
OTAV pP **pwP 13 08 21.6 +1.0**
OTAV sP **sP 13 08 29.3 -0.4**
OTAV Otavalo 70.53 303 *eP* **P 13 08 00.1 +1.0**
BBTS Babate 71.73 10 LR LR 13 34 43.9
comp=Z,112nm,18.7s,baz=116,slow=32
MBAR Mbarara 72.09 62 P **P 13 08 10.2 +2.0**
MBAR IAmb IAmb 13 08 11.8
comp=Z,56nm,1.4s
MBAR Mbarara 72.09 62 P **P 13 08 09.4 +1.2**
comp=Z,17nm,1.0s,baz=156,slow=3.9,SNR=5.4
MBAR LR LR 13 37 25.3
comp=Z,100nm,18.3s,baz=210,slow=34
comp=Z,17nm,1.0s
MBAR Mbarara 72.09 62 P **P 13 08 10.3 +2.0**
MBAR pmax pmax
comp=Z,56nm,1.4s
ROSC El Rosal 72.79 309 P **P 13 08 12.8 +0.2**
ROSC IAmb IAmb 13 08 14.1
comp=Z,31nm,0.8s
ROSC El Rosal 72.79 309 P **P 13 08 13.1 +0.4**
comp=Z,39nm,0.8s,baz=193,slow=8.7,SNR=10.0
ROSC LR LR 13 42 06.7
comp=Z,58nm,19.3s,baz=260,slow=37
comp=Z,39nm,0.8s
ROSC El Rosal 72.79 309 P **P 13 08 12.8 +0.2**
ROSC pmax pmax
comp=Z,31nm,0.8s
TOA0 Torodi Ar. Sit 73.53 28 P **P 13 08 16.2 -0.2**
TORD Torodi Ar. Bea 73.53 28 P **P 13 08 16.0 -0.4**
TORD Torodi Ar. Bea 73.53 28 P **P 13 08 16.4 0.0**
comp=Z,72nm,0.5s,baz=202,slow=6.1,SNR=1001
TORD LR LR 13 34 10.6
comp=Z,118nm,21.7s,baz=180,slow=30
comp=Z,72nm,0.5s
PCRV Puerto La Cruz 73.90 321 LR LR 13 43 31.7
comp=Z,66nm,18.9s,slow=38
BAUV El Baul 74.00 317 IAmb IAmb 13 08 53.4
comp=Z,81nm,1.1s
KIBK Kibwezi 74.24 69 IAmb IAmb 13 08 25.5
comp=Z,78nm,1.4s
KMBO Kilima Mbogo 74.87 68 P **P 13 08 27.6 +2.9**
KMBO Kilima Mbogo 74.87 68 *eP* **P 13 08 27.6 +2.9**
KMBO IAmb IAmb 13 08 29.2
comp=Z,88nm,1.2s
KMBO Kilima Mbogo 74.87 68 P **P 13 08 27.6 +2.9**
KMBO pmax pmax
comp=Z,29nm,1.3s
SDV Santo Domingo 74.94 314 P **P 13 08 24.1 -0.8**
SDV IAmb IAmb 13 08 59.1
comp=Z,26nm,0.8s
SDV Santo Domingo 74.94 314 LR LR 13 45 05.2
comp=Z,112nm,18.1s,baz=253,slow=39
DCZ Deep Cove 77.41 190 P **P 13 08 38.5 +0.1**
DCZ IAmb IAmb 13 08 44.6
comp=Z,49nm,0.9s
ODZ Otahua Downs 77.47 192 IAmb IAmb 13 08 40.3
comp=Z,41nm,1.1s
LODK Lodwar 77.83 64 P **P 13 08 43.4 +2.2**
LBZ Lake Benmore 78.17 192 IAmb IAmb 13 08 45.3
comp=Z,53nm,1.0s
MQZ McQueen's Vall 78.53 194 IAmb IAmb 13 08 47.3
comp=Z,45nm,1.0s
RPZ Rata Peaks 78.73 193 P **P 13 08 46.4 +0.7**
OXZ Oxford 78.99 194 IAmb IAmb 13 08 49.4
comp=Z,35nm,0.9s
GVZ Greta Valley S 79.21 194 P **P 13 08 49.7 +1.4**
LTZ Lake Taylor 79.49 194 P **P 13 08 50.7 +0.8**
KHZ Kahutara 79.68 195 IAmb IAmb 13 08 52.8
comp=Z,36nm,0.9s
KHZ Kahutara 79.68 195 P **P 13 08 51.2 +0.4**
THZ Tophouse 80.41 194 P **P 13 08 56.2 +1.3**
PAWZ Paruwai Farm 80.42 196 P **P 13 08 55.9 +0.9**
BHW Baring Head 80.47 196 P **P 13 08 56.0 +0.8**
DSZ Denniston Nort 80.57 194 P **P 13 08 55.2 -0.6**
DSZ Denniston Nort 80.57 194 P **P 13 08 55.0 -0.8**
TUWZ Tuamarina 80.59 195 P **P 13 08 55.8 0.0**
TMWZ Te Maipa 80.61 197 P **P 13 08 56.5 +0.6**
CAW Cannon Point 80.74 196 P **P 13 08 57.5 +0.9**
TCW Tory Channel 80.76 196 P **P 13 08 57.5 +0.8**
MRNZ Matariki Terra 80.79 194 P **P 13 08 57.1 +0.3**
HOWZ Holdsworth Sta 80.88 197 P **P 13 08 58.3 +0.9**
NNZ Nelson 80.88 195 P **P 13 08 57.9 +0.6**
BFZ Birch Farm 80.97 197 P **P 13 08 58.0 +0.1**
DUWZ D'Urville Isla 81.21 195 P **P 13 08 58.6 -0.6**
QRZ Quartz Range 81.38 194 P **P 13 08 58.5 -1.5**
LCR2 La Lucha 2 81.45 303 IAmb IAmb 13 09 02.4
comp=Z,28nm,0.9s
SJG San Juan 81.80 322 LR LR 13 48 20.8
comp=Z,35nm,18.3s,baz=170,slow=38
WAZ Wanganui 82.08 196 P **P 13 09 05.8 +2.1**
JTS Las Juntas de 82.38 302 P **P 13 09 05.3 -0.2**
JTS IAmb IAmb 13 09 41.5
comp=Z,65nm,1.4s
JTS Las Juntas de 82.38 302 LR LR 13 47 02.6
comp=Z,20nm,21.7s,baz=144,slow=36
JTS Las Juntas de 82.38 302 P **P 13 09 05.3 -0.2**
JTS pmax pmax
comp=Z,65nm,1.5s
WNVZ Wahianoa 82.40 197 P **P 13 09 07.1 +1.5**
BKZ Black Stump Fm 82.41 198 IAmb IAmb 13 09 15.3
comp=Z,25nm,0.7s
BKZ Black Stump Fm 82.41 198 P **P 13 09 06.7 +1.2**
TRVZ Turoa 82.43 197 P **P 13 09 06.8 +0.9**
WHVZ Whangaehu Hut 82.44 197 P **P 13 09 07.1 +1.2**
FWVZ Far West T-bar 82.47 197 P **P 13 09 07.3 +1.2**
COVZ Chateau Observ 82.53 197 P **P 13 09 07.3 +1.1**
NGZ Ngauruhoe 82.54 197 P **P 13 09 08.4 +2.0**
ETVZ East Tongariro 82.57 197 P **P 13 09 07.5 +1.1**
TWVZ Taurewa 82.67 197 P **P 13 09 08.5 +1.5**
KHEZ Kahui Hut 82.67 196 P **P 13 09 05.3 -1.6**
NEZ North Egmont 82.69 196 P **P 13 09 07.8 +0.8**
NBEZ Newall Road No 82.72 196 P **P 13 09 07.2 +0.1**
VRZ Vera Road 82.73 196 P **P 13 09 07.2 +0.1**
URZ Urewera 83.19 198 LR LR 13 42 55.3
comp=Z,88nm,18.8s,baz=220,slow=33
HIZ Hauiti 83.31 197 P **P 13 09 09.6 -0.5**
TAM Tamanrasset 83.76 29 P **P 13 09 13.6 +1.1**
TAM IAmb IAmb 13 09 15.6
comp=Z,40nm,1.4s
TAM Tamanrasset 83.76 29 P **P 13 09 13.6 +1.1**
TAM pmax pmax
comp=Z,40nm,1.4s
TOZ Tahuroa Road 83.97 197 IAmb IAmb 13 09 14.2
comp=Z,34nm,1.0s
FURI Furi 84.19 64 LR LR 13 43 22.9
comp=Z,147nm,21.8s,baz=192,slow=33
TOO Toolangi 85.66 173 P **P 13 09 22.5 +0.5**
comp=Z,22nm,1.6s,SNR=1.9
ARPS Mount Arapiles 86.18 170 P **P 13 09 25.2 +0.6**
comp=Z,28nm,0.7s,SNR=3.9
TBI Tubuai 86.95 230 *e*S **S 13 19 57.4 -2.6**
comp=Z,916nm,36.5s
TBI Tubuai 86.95 230 *e*LR LR 13 37 04.4
comp=Z,3µm,30.8s
TBI *e*LR LR 13 37 07.8
comp=Z,975nm,27.8s
MTO3 Montecristo 88.03 300 IAmb IAmb 13 09 34.5
comp=Z,25nm,0.9s
CAN Canberra 88.08 176 P **P 13 09 33.8 0.0**
CAN IAmb IAmb 13 09 43.1
comp=Z,67nm,1.8s
CAN Canberra 88.08 176 P **P 13 09 33.8 0.0**
CAN pmax pmax
comp=Z,67nm,1.8s
CNB Canberra Magne 88.10 176 P **P 13 09 34.3 +0.4**
comp=Z,22nm,0.8s,SNR=2.6
YNG Young 89.08 176 P **P 13 09 38.8 +0.3**
comp=Z,70nm,0.8s,SNR=2.4
HTT Hallett 89.18 168 P **P 13 09 39.3 +0.3**
comp=Z,43nm,0.8s,SNR=4.9
BBOO Buckleboo 89.42 165 P **P 13 09 42.2 +2.1**
comp=Z,34nm,0.8s,SNR=3.0
FORT Forrest 90.03 158 P **P 13 09 44.9 +1.9**
comp=Z,84nm,0.9s,SNR=5.0
RAO Raoul Island 90.91 205 LR LR 13 45 18.4
comp=Z,79nm,18.1s,baz=252,slow=32
STKA Stephens Creek 91.00 170 P **P 13 09 48.9 +1.4**
STKA Stephens Creek 91.00 170 P **P 13 09 48.8 +1.3**
comp=Z,7.7nm,0.7s,baz=152,slow=5.4,SNR=17
STKA LR LR 13 48 07.6
comp=Z,122nm,19.7s,baz=202,slow=34
comp=Z,7.7nm,0.7s
STKA Stephens Creek 91.00 170 P **P 13 09 48.9 +1.4**
STKA pmax pmax
comp=Z,2.0nm,0.8s
MDT Midelt 91.21 18 LR LR 13 46 23.2
comp=Z,151nm,19.9s,baz=177,slow=33
PPT2 Papeete2 92.09 233 *eP* **P 13 09 53.1 +0.3**
comp=Z,48nm,24.2s
PPT2 Papeete2 92.09 233 *e*S **S 13 20 48.4 +0.4**
comp=Z,172nm,31.8s
PPT2 Papeete2 92.09 233 *e*LR LR 13 39 27.9
comp=Z,822nm,31.2s
PPT2 *e*LR LR 13 39 28.7
comp=Z,1µm,30.2s
PPT Papeete 92.11 233 LR LR 13 42 52.6
comp=Z,112nm,20.2s,baz=145,slow=30
TEIG Tepich 92.58 304 P **P 13 09 53.6 -1.1**
RAR Rarotonga 92.98 223 LR LR 13 45 31.2
comp=Z,55nm,19.4s,baz=126,slow=31
CMIG Matias Romero 93.01 297 LR LR 13 47 20.0
comp=Z,38nm,18.8s,baz=178,slow=32
TAOE Nuku Hiva Isla 95.26 245 *e*LR LR 13 40 59.7
comp=Z,192nm,31.2s
KEST Kesra 97.05 29 P **P 13 10 14.6 -0.3**
comp=Z,3.0nm,1.0s,baz=286,slow=0.3,SNR=3.5
KEST PP **PP 13 14 10.2 -2.2**
comp=Z,1.7nm,0.8s,baz=134,slow=6.9,SNR=4.5
KEST LR LR 13 50 51.6
comp=Z,78nm,19.6s,baz=54,slow=33
comp=Z,3.0nm,1.0s
ESDC Sonseca Array 98.01 17 P **P 13 10 18.9 -0.2**
comp=Z,0.9nm,0.8s,baz=187,slow=4.5,SNR=6.3
ESDC PP **PP 13 14 18.0 -1.6**
comp=Z,0.4nm,0.7s,baz=167,slow=7.2,SNR=4.2
ESDC PKKPbc **PKKPbc 13 26 52.2 +0.9**
comp=Z,0.2nm,0.3s,baz=338,slow=3.2,SNR=4.3
ESDC LR LR 13 50 49.9
comp=Z,74nm,20.3s,baz=184,slow=33
comp=Z,0.9nm,0.8s
ASAR Alice Springs 98.05 162 P **P 13 10 18.6 -1.3**
ASAR Alice Springs 98.05 162 P **P 13 10 19.3 -0.6**
comp=Z,13nm,0.7s,baz=188,slow=3.7,SNR=49
ASAR PP **PP 13 14 20.0 +1.2**
comp=Z,3.8nm,0.8s,baz=186,slow=7.1,SNR=5.5
ASAR PKKPbc **PKKPbc 13 26 48.7 -1.0**
comp=Z,0.2nm,0.3s,baz=4.0,slow=2.7,SNR=4.1
ASAR LR LR 13 53 25.8
comp=Z,60nm,18.7s,baz=188,slow=34
comp=Z,13nm,0.7s
AS31 Alice Springs 98.05 162 P Pdif 13 10 22.1 +2.1
DZM Mont Dzumac 100.64 192 *e*LR LR 13 43 28.8
comp=Z,240nm,29.9s
WRA Warramunga Arr 101.77 161 P **Pdif 13 10 36.1 -0.4**
comp=Z,1.5nm,0.7s,baz=195,slow=4.5,SNR=7.2
WRA PP **PP 13 14 47.7 +0.7**
comp=Z,2.4nm,0.9s,baz=187,slow=6.4,SNR=6.9
WRA PKKPbc **PKKPbc 13 26 36.7 -2.5**
comp=Z,0.4nm,0.5s,baz=8.1,slow=3.1,SNR=7.6
TXAR Lajitas Array 107.61 297 Pdiff **Pdif 13 11 03.3 +1.2**
comp=Z,0.3nm,0.7s,baz=160,slow=5.6,SNR=3.3
TXAR PKKPab **PKKPab 13 26 38.5 +2.3**
comp=Z,0.3nm,0.8s,baz=328,slow=3.3,SNR=3.6
BRTR Keskin Array B 108.65 45 P **PP 13 15 38.3 -0.8**
comp=Z,4.1nm,1.2s,baz=170,slow=15,SNR=5.9
BRTR PKKPab **PKKPdf 13 26 38.4 +3.8**
comp=Z,1.0nm,0.8s,baz=28,slow=2.9,SNR=3.6
SOEI Soe 109.31 149 P **PKiKP 13 15 16.0 +2.6**
CKRC Cesky Krumlov 110.59 27 AMS AMS 13 52 50.0
comp=Z,200nm,25.1s

KHC Kasperske Hory 110.69 27 AMS AMS 13 55 00.0
comp=Z,100nm,20.6s
PRU Pruhonice 111.72 27 AMS AMS 13 54 10.0
comp=Z,100nm,24.6s
EKA Eskdalemuir Ar 113.41 14 PKKPbc PKKPbc 13 26 04.3 +0.2
comp=Z,0.7nm,0.6s,baz=358,slow=2.2,SNR=4.3
PMG Port Moresby 113.74 173c i PKIKP PKiKP 13 15 21.6 -0.1
VSLR Vesyoloye 114.35 47 ⇓i PKIKP PKiKP 13 15 23.9 +2.1
KIV Kislovodsk 115.83 49 i PKIKP PKPdf 13 15 24.7 -0.1
KIV pmax pmax
comp=Z,7.0nm,1.1s
N23A Red Feather La 118.05 302 P PKiKP 13 15 30.5 +1.0
baz=142
TUQ Turquoise Moun 118.66 291 P PKiKP 13 15 31.0 +0.4
baz=141
MSU Marysvale 119.17 296 PKPdf PKiKP 13 15 32.1 +0.5
MSU Marysvale 119.17 296 PKIKP PKiKP 13 15 32.1 +0.5
MVU Marysvale 119.18 296 PKiKP 13 15 32.0 +0.3
MNK Minsk 119.43 33 i PKIKP PKiKP 13 15 32.6 +1.3
MNK i 13 15 52.8
MNK i 13 16 55.5
MNK i PPP PPP 13 19 27.7
MNK i 13 22 38.6
MNK i SS SS 13 33 14.9 +3.9
MNK i SSS SSS 13 37 40.7
MNK pmax pmax
comp=N,11nm,0.7s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK MLR MLR
comp=N,558nm,16.0s
MNK MLR MLR
comp=E,279nm,15.0s
MNK MLR MLR
comp=Z,30nm,13.0s
SCZ2 Santa Cruz Isl 119.46 288 P PKiKP 13 15 33.9 +1.9
baz=141
MPMC Manual Prospec 119.94 291 P PKiKP 13 15 34.4 +1.2
baz=141
TPNV Topopah Spring 120.00 292 P PKiKP 13 15 34.8 +1.6
baz=141
PSUT Pine Spring 120.02 295 PKPdf 13 15 33.1 -0.1
ISA Isabella, Lake 120.14 290 P PKiKP 13 15 34.8 +1.4
baz=141
NLU North Lily Min 120.24 297 PKPdf PKPdf 13 15 32.6 -1.0
PKM Mcpherson Peak 120.24 288 P PKiKP 13 15 35.0 +1.2
baz=141
CWC Cottonwood Cre 120.54 291 P PKiKP 13 15 35.8 +1.5
baz=141
GRAC Grapevine Rang 120.60 292 P PKiKP 13 15 35.2 +1.0
baz=140
R11B Troy Canyon, C 120.74 294 P PKiKP 13 15 35.2 +0.6
baz=140
DUG Dugway, Tooele 120.78 297 PKPdf PKiKP 13 15 35.0 +0.3
DUG Dugway, Tooele 120.78 297 P PKiKP 13 15 35.4 +0.7
baz=140
DUG Dugway, Tooele 120.78 297 PKIKP PKiKP 13 15 35.0 +0.3
HFS Hagfors 120.86 22 PKP PKPdf 13 15 32.0 -1.8
comp=Z,0.7nm,0.6s,baz=190,slow=4.0,SNR=2.5
HFS PKKPbc PKKPbc 13 25 37.7 +0.1
comp=Z,1.6nm,0.7s,baz=55,slow=6.2,SNR=7.4
Q12A Willow Creek R 120.89 295 PKiKP 13 15 35.1 +0.2
ULM Lac du Bonnet 121.19 315 PKP PKPdf 13 15 33.8 -0.9
comp=Z,2.1nm,0.5s,baz=190,slow=8.2,SNR=2.3
BW06 Boulder Array 121.20 301 P PKiKP 13 15 36.7 +1.2
baz=141
PDAR Pinedale Array 121.20 301 PKPdf 13 15 34.7 -0.6
PDAR Pinedale Array 121.20 301 PKP PKiKP 13 15 36.9 +1.4
comp=Z,0.5nm,0.4s,baz=118,slow=5.3,SNR=10.0
PDAR PP PP 13 17 05.6 -2.0
comp=Z,0.3nm,0.3s,baz=129,slow=4.7,SNR=4.7
PDAR PKKPab PKKPab 13 25 36.5 +0.1
comp=Z,0.5nm,0.8s,baz=29,slow=3.4,SNR=4.1
NB2 NORSAR Subarra121.20 20 PKPdf PKPdf 13 15 33.8 -0.7
comp=Z,2.4nm,1.2s,baz=202,slow=1.9
NB2 PKKP PKKPbc 13 25 36.7 +0.3
comp=Z,0.6nm,0.7s,baz=33,slow=4.4
NOA NORSAR Array B121.20 20 PKP PKPdf 13 15 34.4 -0.1
comp=Z,0.8nm,0.7s,baz=204,slow=1.9,SNR=5.8
NOA PKKPbc PKKPbc 13 25 36.7 +0.3
comp=Z,1.1nm,0.7s,baz=25,slow=4.3,SNR=7.3
NV11 Mina Array Sit 122.10 292 PKPdf 13 15 34.4 -2.8
NVAR Mina Array Bea 122.17 292 PKPdf PKPdf 13 15 36.3 -1.1
NVAR Mina Array Bea 122.17 292 PKP PKiKP 13 15 38.3 +0.8
comp=Z,0.4nm,0.6s,baz=122,slow=2.1,SNR=6.0
NVAR SKP SKPdf 13 19 03.9 -0.9
comp=Z,1.7nm,1.0s,baz=151,slow=2.1,SNR=3.4
NVAR PKKPab PKKPab 13 25 33.8 +1.1
comp=Z,0.7nm,0.8s,baz=278,slow=3.5,SNR=4.8
NIL Nilore 122.47 77 PKPdf 13 15 37.1 -0.7
NIL Nilore 122.47 77 PKIKP PKPdf 13 15 37.1 -0.7
VSU Vasula 122.50 30 ⇓i PKIKP PKiKP 13 15 39.4 +2.2
OBN Obninsk 122.69 37 ⇓i PKIKP PKPdf 13 15 36.6 -0.8
OBN e 13 17 16.0
OBN pmax pmax
comp=Z,8.0nm,0.5s
LAO LASA Array 122.69 306 P PKiKP 13 15 39.6 +1.5
baz=140
RLMT Red Lodge 122.87 303 P PKiKP 13 15 39.1 +0.5
baz=140
DGMT Dagmar 123.18 309 P PKiKP 13 15 39.5 +0.6
baz=140
SIMJ Simiganj 124.03 70 PKPdf PKiKP 13 15 41.1 0.0
HLID Hailey 124.12 299 P PKiKP 13 15 41.8 +0.6
baz=139
CMAR Chiang Mai Arr 124.31 110 PKPdf PKPdf 13 15 41.2 -0.5
CMAR Chiang Mai Arr 124.31 110 PKP PKPdf 13 15 41.9 +0.1
comp=Z,2.5nm,0.9s,baz=228,slow=4.2,SNR=10
BELG Belogornoye 124.55 46 ⇓e PKIKP PKPdf 13 15 41.0 -0.1
FINES FINESS Array B 124.88 28 PKPdf PKPdf 13 15 40.4 -1.0
FINES FINESS Array B 124.88 28 PKP PKPdf 13 15 41.0 -0.4
comp=Z,6.3nm,0.6s,baz=162,slow=1.9,SNR=44
FIA1 FINESS Array S 124.88 28 PKPdf PKPdf 13 15 40.2 -1.2
EGMT Eagleton 125.28 305 P PKiKP 13 15 43.7 +0.5
baz=138
MSO Missoula 126.31 302 P PKiKP 13 15 46.1 +0.8
baz=137
I07A Izee 126.99 296 PKiKP 13 15 46.9 +0.2
BYL Byron's Ledge 127.02 247 PKPdf 13 15 45.2 -1.9
HATHI Halema'uma'u T 127.03 247 PKPdf 13 15 45.1 -2.0
UWE Uwekahuna 127.04 247 PKPdf 13 15 46.8 -0.3
ABKAR Akbulak array 127.42 55 PKPdf PKPdf 13 15 45.5 -1.2
HUMO Hull Mountain 127.65 292 PKPdf PKPdf 13 15 47.8 +0.3
KSH Kashi 128.31 74 PKP PKiKP 13 15 49.3 -0.3
KSH sPKP 13 16 22.8
AAK Ala-Archa 129.78 71 ⇑i PKIKP PKPdf 13 15 51.9 +0.2
KIRV Kirov 129.86 41 c i PKIKP PKPdf 13 15 50.8 -0.2
QIZ Qiongzhong 130.19 121 PKP PKiKP 13 15 56.0 +2.2
QIZ PP PP 13 18 09.0 +2.2
QIZ SS SS 13 35 26.5 +0.4
QIZ LR LR
comp=Z,190nm,10.3s
QIZ LR LR
comp=Z,230nm,16.8s
ARCES ARCESS Array B 131.52 22 PKP PKPdf 13 15 53.6 -0.3
comp=Z,1.8nm,0.6s,baz=193,slow=3.7,SNR=8.5
ARCES PP PP 13 18 13.8 -1.4
comp=Z,3.6nm,0.6s,baz=198,slow=7.6,SNR=6.1
ARCES SKPab SKPbc 13 19 10.2 -1.1
comp=Z,4.7nm,0.9s,baz=241,slow=6.5,SNR=3.9
ARU Arti 131.88 48 PKPdf 13 15 54.6 -0.3
ARU Arti 131.88 48 i PKIKP PKPdf 13 15 54.7 -0.3
ARU 13 18 18.4
ARU SS SS 13 35 45.3 -1.5
ARU Arti 131.88 48 PKP PKPdf 13 15 55.3 +0.4
PZH PanZhiHua 132.38 107 PKP PKiKP 13 15 59.8 +1.6
BRVK Borovoye 134.77 58 PKPdf PKPdf 13 16 00.2 -0.4
BRVK Borovoye 134.77 58 de PKIKP PKPdf 13 16 00.1 -0.4
BVAR Borovoye Array 134.80 58 PKP PKPdf 13 15 59.2 -1.4
comp=Z,4.3nm,0.5s,baz=278,slow=1.6,SNR=17
MAKZ Makanchi 136.52 71 PKPdf 13 16 03.0 -1.0
MAKZ Makanchi 136.52 71 PKIKP PKPdf 13 16 03.1 -1.0
MK31 Makanchi Array 136.67 72 ce PKIKP PKiKP 13 16 05.3 -0.8
MKAR Makanchi Array 136.67 72 PKhKP PKPpre 13 15 56.9
comp=Z,0.6nm,0.7s,baz=212,slow=2.7,SNR=4.9
MKAR PKP PKPdf 13 16 04.2 -0.1
comp=Z,1.1nm,0.5s,baz=235,slow=3.4,SNR=9.8
MKAR PP PP 13 18 45.0 -3.3
comp=Z,0.9nm,0.8s,baz=218,slow=5.6,SNR=3.6
MKAR SKPbc SKPbc 13 19 27.6 -1.4
comp=Z,1.3nm,1.0s,baz=266,slow=4.9,SNR=4.9
CD2 Chengdu 136.96 105 PKP PKiKP 13 16 06.5 -0.7
YKA Yellowknife Ar 137.12 317 PKPdf PKPdf 13 16 04.4 -0.2
YKA Yellowknife Ar 137.12 317 PKP PKPdf 13 16 03.4 -1.2
comp=Z,1.2nm,0.8s,baz=118,slow=3.1,SNR=4.1
YKA PP PP 13 18 49.8 -1.0
comp=Z,1.9nm,0.9s,baz=120,slow=7.8,SNR=6.6
YKA SKPbc SKPbc 13 19 27.8 -1.9
comp=Z,6.7nm,1.0s,baz=126,slow=2.1,SNR=11
KURBB Kurchatov Arra 137.20 65 PKP PKPdf 13 16 04.5 -0.6
comp=Z,2.2nm,0.5s,baz=232,slow=2.9,SNR=15
KURBB SKPbc SKPbc 13 19 27.9 -2.5
comp=Z,4.8nm,1.1s,baz=232,slow=3.4,SNR=15
KURBB SKKPbc SKKPbc 13 28 18.1 -2.5
comp=Z,1.1nm,0.2s,baz=55,slow=4.1,SNR=6.3
KURK Kurchatov 137.30 65 PKPdf PKPdf 13 16 04.1 -1.2
KURK Kurchatov 137.30 65 PKIKP PKPdf 13 16 04.5 -0.8
WMQ Urumqi 137.58 79 e PKP PKiKP 13 16 07.3 -0.8
TOAD Toad River Com 139.32 308 P PKPdf 13 16 09.7 +0.9
baz=124
V35K Ketchikan 140.25 300 P PKPdf 13 16 11.5 +1.0
baz=124
T35M Bob Quinn 140.53 303 P PKPdf 13 16 11.7 +0.6
baz=123
CRAG Craig 141.04 300 P PKPdf 13 16 11.9 0.0
baz=123
GTA Gaotai 141.18 93 PKP PKPdf 13 16 12.8 -0.1
GTA LR LR
comp=Z,87nm,9.2s
GTA LR LR
comp=Z,120nm,13.9s
GTA LR LR
comp=Z,94nm,14.7s
DLBC Dease Lake 141.21 305 P PKPdf 13 16 12.4 +0.2
baz=122
U33K Whale Pass 141.39 301 P PKPdf 13 16 12.7 +0.2
baz=123
S34M Telegraph Cree 141.43 304 P PKPdf 13 16 13.5 +0.9
baz=122
WTLY Watson Lake, Y 141.53 308 P PKPdf 13 16 13.4 +0.6
baz=121
WHN Wuhan 142.08 117 PKP PKPdf 13 16 15.5 +0.9
XAN Xi'an 142.12 108 PKP PKPdf 13 16 10.0 -4.7
XAN pPKP pPKPdf 13 16 35.0 -2.3
R33M Jennings River 142.12 306 P PKPdf 13 16 14.0 +0.1
baz=120
ZAA0 Zalesovo Array 142.28 64 PKPpre 13 16 10.8
ZALV Zalesovo Beam 142.28 64 PKPdf PKiKP 13 16 16.4 -0.9
ZALV Zalesovo Beam 142.28 64 PKhKP PKPpre 13 16 08.5
comp=Z,1.5nm,0.5s,baz=224,slow=4.4,SNR=9.7
ZALV PKP PKPdf 13 16 14.5 +0.3
comp=Z,5.0nm,0.4s,baz=248,slow=3.9,SNR=18
ZALV SKPbc SKPbc 13 19 42.6 -1.4
comp=Z,4.7nm,1.0s,baz=270,slow=1.5,SNR=5.8
ZALV SKKPbc SKKPbc 13 27 58.1 -2.6
comp=Z,2.0nm,0.9s,baz=36,slow=5.5,SNR=4.7
Q32M Nakina River 142.48 305 P PKPdf 13 16 14.6 -0.1
baz=120
S32K Killisnoo 142.78 302 P PKPdf 13 16 14.7 -0.3
baz=121
SIT Sitka 142.92 301 P PKPdf 13 16 15.1 -0.1
baz=121
LYN LuoYang 144.35 111 PKP PKPab 13 16 17.0 +0.2
LYN pPKP pPKPdf 13 16 42.0 +0.8
WHY Whitehorse 144.45 307 P PKPab 13 16 16.5 0.0
baz=117
FARO Faro, Yukon 144.48 310 P PKPbc 13 16 16.7 0.0
baz=116
PLBC Pleasant Camp 144.57 304 P PKPbc 13 16 17.2 +0.2
baz=117
M31M Drury Creek, Y 144.91 309 P PKPab 13 16 18.4 +0.2
baz=115
JOW Kunigami 144.92 138 PKPbc PKPdf 13 16 19.7 0.0
comp=Z,26nm,1.0s,baz=203,slow=6.2,SNR=5.2
O30N Mendenhall 145.03 306 P PKPbc 13 16 18.6 +0.1
baz=116
P30M Million Dollar 145.14 305 P PKPdf 13 16 19.2 +0.1
baz=116
A36M Sachs Harbour 145.17 327 P PKPdf 13 16 19.3 +0.6
baz=108
N31M Braeburn, Yuko 145.20 308 P PKPab 13 16 19.6 +0.3
baz=115
P29M Windy Craggy 145.27 304 P PKPdf 13 16 19.4 0.0
baz=116
NJ2 Nanjing 145.49 121 ⇓PKPbc PKPab 13 16 21.3 +0.2
NJ2 pPKP pPKPdf 13 16 46.3 +3.1
NJ2 sPKP 13 16 55.5
N30M Aishikik Lake 145.76 307 P PKPbc 13 16 20.9 0.0
baz=114
O29M Mount Kennedy 145.94 305 P PKPbc 13 16 21.4 -0.1
baz=115
PNL Peninsula 146.05 303 P PKPbc 13 16 21.4 -0.3
baz=115
M30M Minto, Yukon 146.08 309 P PKPbc 13 16 21.8 0.0
baz=113
YUK6 Outpost Mounta 146.11 306 P PKPdf 13 16 21.6 +0.6
baz=114
YUK4 Talbot Arm 146.40 306 P PKPbc 13 16 22.6 -0.4
baz=114
F31M Tsiigehtchic 146.57 318 P PKPbc 13 16 22.8 -0.1
baz=108
G31M Satah River 146.61 317 P PKPbc 13 16 23.2 +0.1
baz=108
PINM Pinnacle 146.62 304 P PKPbc 13 16 22.7 -0.8
baz=114
J30M Hart River 146.63 313 P PKPbc 13 16 23.2 -0.2
baz=110
M29M Somme Creek 146.75 308 P PKPbc 13 16 23.4 -0.4
baz=112
INK Inuvik 146.76 320 P PKPbc 13 16 23.5 0.0
baz=107
TIY Taiyuan 146.76 107 PKPbc PKPdf 13 16 22.0 -0.7
TIY PP PP 13 19 53.3 +3.8
TIY SS SS 13 38 43.5 +1.6
TIY AMB AMB
comp=Z,150nm,6.4s
L29M L29M 146.85 309 P PKPbc 13 16 23.9 -0.1
baz=111
K29M Barlow Dome 146.86 311 P PKPbc 13 16 23.6 -0.5
baz=111
O28M Mount Upton 146.86 305 P PKPbc 13 16 24.2 -0.2
baz=113
I30M Mount Dempster 146.87 314 P PKPbc 13 16 24.1 0.0
baz=110
YUK8 Steele Glacier 146.88 306 P PKPbc 13 16 24.2 -0.2
baz=113
J29N Klondike Camp 147.35 312 P PKPbc 13 16 25.4 0.0
baz=109
G30M tAoh Zraii Nji 147.36 317 P PKPbc 13 16 24.7 -0.6
baz=107
EPYK Eagle Plains 147.36 316 P PKPbc 13 16 24.9 -0.4
baz=108
YUK3 Moose Creek 147.37 306 P PKPbc 13 16 25.1 -0.6
baz=112
F30M Barrier River 147.37 318 P PKPbc 13 16 24.9 -0.3
baz=106
MESA MESA 147.43 303 P PKPbc 13 16 25.0 -0.9
baz=113
CTG Chitna Glacier 147.46 305 P PKPbc 13 16 25.8 -0.1
baz=112
BTO Baotou 147.58 101 e PKPbc PKPbc 13 16 26.8 0.0
BTO PKPab PKPab 13 16 34.5 +5.3
BTO pPKP pPKPab 13 16 50.5 -0.6
BTO SKS SKSdf 13 23 23.3 -1.3
BTO LR LR
comp=Z,340nm,12.2s
HNS HongShan 147.70 110 ⇓PKPbc PKPbc 13 16 27.0 0.0
DAWY Dawson 147.71 311 P PKPbc 13 16 26.7 +0.4
baz=109
H29M Whitestone 147.96 315 P PKPbc 13 16 26.7 -0.1
baz=107,SNR=22
TIA Tai'an 148.01 115 PKPbc PKPbc 13 16 28.0 +0.1
G29M Pine Creek 148.02 316 P PKPbc 13 16 26.7 -0.3
baz=106,SNR=21
CRQE Cirque 148.17 304 P PKPbc 13 16 26.9 -0.8
baz=112
M27K Edge Creek, AK 148.20 307 P PKPbc 13 16 27.7 -0.1
baz=110
E29M Blow River 148.34 319 P PKPbc 13 16 27.4 -0.4
baz=104,SNR=35
I28M Miner Creek 148.36 313 P PKPbc 13 16 27.6 -0.4
baz=107,SNR=5.3
MCARA McCarthy VSAT 148.37 305 P PKPbc 13 16 27.4 -0.7
baz=111
BCAR Beaver Creek A 148.40 308 PKPdf PKPdf 13 16 26.3 +1.8
L27K Beaver Creek, 148.41 308 P PKPbc 13 16 27.7 -0.5
baz=109
HHC Hu-ho-hao-te 148.58 102 e PKPbc PKPdf 13 16 24.8 -0.8
EGAK Eagle 148.66 312 P PKPbc 13 16 28.2 -0.5
baz=107
M26K Nabesna, AK 148.71 307 P PKPbc 13 16 28.5 -0.5
baz=109
K27K Chicken 148.82 310 P PKPbc 13 16 28.7 -0.4
baz=107
D28M Stokes Point 148.84 321 P PKPbc 13 16 29.1 +0.1
baz=101
F28M Old Crow 148.89 317 P PKPbc 13 16 29.3 +0.1
baz=103
BMRM Bremner River 148.94 304 P PKPbc 13 16 29.2 -0.4
baz=111
E28M Babbage River 148.98 319 P PKPbc 13 16 29.5 +0.1
baz=102
L26K Log Cabin Wild 149.06 308 P PKPbc 13 16 29.4 -0.4
baz=108
I27K Kandik River 149.07 313 P PKPbc 13 16 29.5 -0.3
baz=105
JCJ Chichijima 149.12 160 PKPbc PKiKP 13 16 33.3 +1.1
comp=Z,66nm,0.5s,baz=286,slow=21,SNR=4.2
N25K Chitina, Valde 149.16 305 P PKPbc 13 16 30.0 -0.1
baz=110
H27K Steamboat Moun 149.20 314 P PKPbc 13 16 29.9 -0.2
baz=104
EYAK Cordova Ski Ar 149.32 303 P PKPbc 13 16 30.3 -0.1
baz=111
NRIK Noril'sk 149.33 40 PKPbc PKPbc 13 16 30.3 +0.1
comp=Z,16nm,1.0s,baz=306,slow=1.8,SNR=10
NRIK Noril'sk 149.33 40 d i PKP2 PKPbc 13 16 30.1 -0.1
G27K Doyon Strip 149.38 315 P PKPbc 13 16 30.2 -0.3
baz=103
J26L Joseph Creek 149.58 311 P PKPbc 13 16 31.1 0.0
baz=106
D27M Malcolm River 149.61 320 P PKPbc 13 16 30.6 -0.4
baz=100,SNR=38
SCRK Sand Creek 149.61 309 P PKPbc 13 16 30.8 -0.5
baz=106
I26K Coal Creek Min 149.62 312 P PKPbc 13 16 31.0 -0.1
baz=104,SNR=15
E27K Coleen River 149.65 318 P PKPbc 13 16 30.8 -0.3
baz=101
HARP HAARP 149.66 306 P PKPbc 13 16 30.6 -0.7
baz=108
KLU Klutina 149.72 304 P PKPbc 13 16 31.1 -0.4
baz=109
P23K Montague Islan 149.90 301 P PKPbc 13 16 32.1 +0.2
baz=110
PAX Paxson 149.97 307 P PKPbc 13 16 32.5 +0.4
baz=107
ZAK Zakamensk 149.99 81 e PKIKP PKPbc 13 16 31.7 -0.9
ZAK pmax pmax
comp=Z,25nm,1.2s
M24K Tolsona, Glenn 150.03 305 P PKPbc 13 16 32.3 +0.1
baz=108
GLI Glacier Island 150.06 303 P PKiKP 13 16 32.8 -0.2
baz=109
G26K Porcupine Rive 150.23 315 P PKiKP 13 16 33.3 +0.1
baz=101
SONM Songino Array 150.27 87 PKP PKPdf 13 16 27.6 -0.5
comp=Z,6.9nm,1.4s,baz=228,slow=1.8,SNR=4.5
SONM PKPbc PKPbc 13 16 33.1 -0.2
comp=Z,28nm,0.6s,baz=225,slow=2.5,SNR=108
SONM PKPab PKPab 13 16 40.2 +0.2
comp=Z,38nm,0.8s,baz=231,slow=2.3,SNR=35
J25K Salcha River, 150.36 310 P PKiKP 13 16 33.8 +0.1
baz=104
BJT Baijiatuau 150.42 109 PKPbc 13 16 33.7 -0.1
BJT Baijiatuau 150.42 109 PKIKP PKPbc 13 16 33.7 -0.1
BJI Beijing 150.44 109 PKPbc PKPbc 13 16 34.0 +0.2
BJI sPKP 13 16 59.0
SCM Sheep Creek Mo 150.46 304 P PKiKP 13 16 34.3 +0.3
baz=108
F26K Sheenjek River 150.51 317 P PKiKP 13 16 34.4 +0.6
baz=100
C27K Jago River 150.62 321 P PKiKP 13 16 35.0 +1.0
baz=97
PWL Port Wells 150.62 302 P PKiKP 13 16 34.6 +0.3
baz=108
BMAR Burnt Mountain 150.63 316 PKPdf PKPdf 13 16 28.6 +0.7
M23K Glacier View 150.63 304 P PKiKP 13 16 34.8 +0.6
baz=107
PRP Porcupine Dome 150.63 312 P PKiKP 13 16 35.0 +0.7
baz=102
ULN Ulaanbaatar 150.65 88 d i PKIKP PKPbc 13 16 33.4 -0.9
DHY Denali Highway 150.83 307 PKiKP 13 16 34.6 -0.2
DHY Denali Highway 150.83 307 P PKiKP 13 16 35.4 +0.5
baz=105
KNK Knik Glacier 150.85 303 P PKiKP 13 16 35.5 +0.8
baz=108
WAT6 Susitna Watana 150.86 306 P PKiKP 13 16 35.6 +0.7
baz=106
H25L Birch Creek 150.90 314 P PKiKP 13 16 36.1 +1.5
baz=101
SEW Seward 150.90 300 P PKiKP 13 16 36.1 +1.3
baz=109
SML Sawmill 150.91 304 P PKiKP 13 16 35.9 +1.0
baz=107
HDA Harding Lake 150.98 310 P PKiKP 13 16 36.0 +1.1
baz=103
ILAR Eielson Array 151.03 310 PKPbc 13 16 33.7 -0.8
ILAR Eielson Array 151.03 310 PKPbc PKPbc 13 16 34.3 -0.2
comp=Z,20nm,1.0s,baz=97,slow=2.9,SNR=20
ILAR PKPab PKPab 13 16 41.8 -0.7
comp=Z,30nm,1.0s,baz=138,slow=5.6,SNR=27
F25K Christian Rive 151.06 316 P PKiKP 13 16 35.8 +0.8
baz=99
C26K Camden Bay 151.07 321 P PKiKP 13 16 35.2 +0.3
baz=95
G25K Bearman Lake 151.10 315 P PKiKP 13 16 35.8 +0.8
baz=100
PMR Palmer 151.21 303 P PKiKP 13 16 36.3 +0.9
baz=107
WAT1 Susitna Watana 151.29 306 P PKiKP 13 16 36.4 +0.8
baz=105
POKR Poker Plat Res 151.33 311 P PKiKP 13 16 36.7 +1.1
baz=102
RC01 Rabbit Creek A 151.34 302 P PKiKP 13 16 36.5 +0.7
baz=107
BRSE Bradley Lake S 151.40 299 P PKiKP 13 16 37.0 +1.1
baz=109
COLA College 151.46 310 PKPbc 13 16 34.8 -0.6
COLA College 151.46 310 P PKiKP 13 16 37.0 +1.2
baz=102
COLA College 151.46 310 PKIKP PKPbc 13 16 34.8 -0.6
IRK Irkutsk 151.48 78 e PKIKP PKPbc 13 16 34.4 -1.5
IRK pmax pmax
comp=Z,57nm,0.8s
D25K Kavik River 151.53 320 P PKiKP 13 16 35.9 -0.1
baz=95,SNR=6.0
JNU Nakatsue 151.55 137 PKPbc PKiKP 13 16 37.5 +0.4
comp=Z,7.2nm,0.6s,baz=288,slow=5.6,SNR=4.1
KDAK Kodiak Island 151.62 295 PKiKP 13 16 36.3 0.0
KDAK Kodiak Island 151.62 295 P PKiKP 13 16 37.4 +1.1
baz=112
KDAK Kodiak Island 151.62 295 PKIKP PKiKP 13 16 36.3 0.0
G24K Hadweenzic Riv 151.63 314 P PKiKP 13 16 36.8 +0.6
baz=99
H24K Noodor Dome 151.65 312 P PKiKP 13 16 37.2 +0.9
baz=100
MCK McKinley 151.68 308 P PKiKP 13 16 36.9 +0.5
baz=103
M22K Willow 151.71 304 P PKiKP 13 16 36.8 +0.4
baz=106
OHAK Old Harbor 151.77 293 P PKiKP 13 16 37.0 +0.3
baz=112
HOM Homer 151.81 299 P PKPbc 13 16 36.5 +0.1
baz=109
Q20K Shuyak Island 151.82 296 P PKPbc 13 16 35.9 -0.5
baz=110
F24K Squaw Lake 151.90 316 P PKiKP 13 16 37.1 +0.3
baz=97
NEA2 Nenana 151.91 310 P PKiKP 13 16 36.9 +0.1
baz=101
SUA Susitna One 151.92 303 P PKPbc 13 16 36.9 +0.1
baz=106
CUT Chulitna 151.95 305 P PKiKP 13 16 37.4 +0.5
baz=105
SII Sitkinak Islan 151.97 292 P PKiKP 13 16 38.5 +1.3
baz=113
I23K Minto, Yukon-K 152.14 311 P PKiKP 13 16 38.8 +1.6
baz=100
E24K Your Creek 152.19 317 P PKiKP 13 16 39.0 +1.6
baz=95
H23K Yukon River 152.32 312 P PKiKP 13 16 39.3 +1.6
baz=99
D24K Happy Valley 152.39 319 P PKiKP 13 16 39.2 +1.5
baz=93
O20K Slope Mountain 152.41 299 P PKiKP 13 16 40.0 +1.9
baz=107
SKT Skwentna 152.42 304 P PKiKP 13 16 39.9 +1.9

baz=105
R18K Karluk 152.48 294 P **PKiKP** 13 16 39.8 +1.7
baz=111
N20K Mount Spurr 152.53 302 P **PKiKP** 13 16 39.8 +1.5
baz=106
Q19K Cape Douglas, 152.54 297 P **PKiKP** 13 16 39.8 +1.5
baz=109
P19K Oil Pt 152.57 298 P **PKiKP** 13 16 39.9 +1.5
baz=108
E23K Chandalar 152.61 317 P **PKiKP** 13 16 39.7 +1.5
baz=94
TOLK Toolik Lake Re 152.63 318 P **PKiKP** 13 16 40.4 +2.2
baz=93
G23K Bananza Creek 152.64 314 P **PKiKP** 13 16 41.1 +2.8
baz=97
BPAW Bear Paw Mtn. 152.64 308 P **PKiKP** 13 16 40.6 +2.2
baz=101
MLY Manley 152.70 310 P **PKiKP** 13 16 41.3 +2.8
baz=99
COLD Coldfoot 152.76 315 P **PKiKP** 13 16 41.5 +3.1
baz=96
C23K Itkillik River 153.03 321 PKPdf **PKPdf** 13 16 33.9 +2.5
C23K Itkillik River 153.03 321 P **PKiKP** 13 16 41.7 +2.8
baz=90
D23K Nanushuk River 153.05 319 P **PKiKP** 13 16 41.2 +2.1
baz=92
H22K Ishtalitna Cre 153.08 312 P **PKiKP** 13 16 41.8 +2.6
baz=97
XLT XiLinHaoTe 153.10 103 *e*PKPbc **PKPab** 13 16 51.0 -0.9
M20K Styx River 153.13 303 P **PKiKP** 13 16 41.7 +2.2
baz=104
Q18K Katmai Hardscr 153.13 296 P **PKiKP** 13 16 41.9 +2.3
baz=109
G22K Bettles 153.24 314 P **PKiKP** 13 16 41.2 +1.8
baz=95
O19K Port Alsworth 153.25 299 P **PKiKP** 13 16 40.9 +1.2
baz=106
Q17K Contact Creek 153.44 294 P **PKiKP** 13 16 42.8 +2.5
baz=109
P18K Big Mountain, 153.46 297 P **PKiKP** 13 16 42.4 +2.2
baz=107
R17L Mt. Peulik Vol 153.47 293 P **PKiKP** 13 16 42.4 +2.2
baz=110
N19K Bonanza Creek 153.50 300 P **PKiKP** 13 16 42.3 +2.0
baz=105
F22K John River 153.54 316 P **PKiKP** 13 16 42.0 +1.9
baz=93
O18K Koktuh Hills 153.59 298 P **PKiKP** 13 16 42.8 +2.4
baz=106
L20K Farewell, AK 153.60 304 P **PKiKP** 13 16 42.7 +2.3
baz=102
H21K Melozitna Rive 153.64 311 P **PKiKP** 13 16 42.8 +2.4
baz=96
M19K Big River Lodg 153.71 303 P **PKiKP** 13 16 42.9 +2.3
baz=103
D22K Ayikyak River 153.77 319 P **PKiKP** 13 16 42.5 +2.0
baz=90
K20K Telida 153.85 306 P **PKiKP** 13 16 43.3 +2.4
baz=100
B22K Teshekpuk Lake 153.98 322 P **PKiKP** 13 16 42.7 +1.9
baz=86
L19K White Mountain 153.99 303 P **PKiKP** 13 16 42.7 +1.5
baz=102
P17K Kvichak River 154.00 296 P **PKiKP** 13 16 42.6 +1.4
baz=107
G21K Allakaket 154.00 313 P **PKiKP** 13 16 43.0 +1.9
baz=94
J20K Nowinta River 154.02 308 P **PKiKP** 13 16 43.7 +2.5
baz=98
F21K Alatna River 154.03 315 P **PKiKP** 13 16 43.8 +2.7
baz=93
CHGN Chignik 154.05 289 P **PKiKP** 13 16 43.2 +1.8
baz=112
IMAR Indian Mountai 154.06 312 PKPdf **PKPdf** 13 16 34.9 +1.9
KSAR Wonju Array Be 154.07 128 **PKPbc** 13 16 40.5 -1.5
KSAR Wonju Array Be 154.07 128 PKIKP **PKPbc** 13 16 40.5 -1.5
KSRS Korea Array 154.10 128 PKPbc **PKPbc** 13 16 42.0 -0.1
comp=Z,1.2nm,0.8s,baz=225,slow=1.7,SNR=8.8
KSRS PKPab **pPKPdf** 13 16 55.6 -1.0
comp=Z,3.5nm,0.9s,baz=230,slow=2.7,SNR=7.4
CHNA Chernabura Isl 154.10 285 P **PKiKP** 13 16 44.1 +2.5
baz=114
N18K Kilae Creek 154.13 300 P **PKiKP** 13 16 43.7 +2.2
baz=104
I20K Naaghedeneel 154.24 309 P **PKiKP** 13 16 43.9 +2.4
baz=97
M18K Stony River 154.29 301 P **PKiKP** 13 16 44.2 +2.4
baz=103
B21K Ikpikpuk River 154.43 320 PKPdf **PKPdf** 13 16 36.0 +2.6
B21K Ikpikpuk River 154.43 320 P **PKiKP** 13 16 44.9 +3.1
baz=87
H20K Anotleneega Mo 154.48 311 P **PKiKP** 13 16 45.2 +3.1
baz=95
O17K Koliganek Bris 154.48 297 P **PKiKP** 13 16 45.2 +3.0
baz=105
C21K Knifeblade Rid 154.52 319 P **PKiKP** 13 16 46.3 +4.2
baz=88
J19K Poorman 154.63 307 P **PKiKP** 13 16 45.9 +3.5
baz=98
S14K Fog Glacier 154.64 289 P **PKiKP** 13 16 45.3 +2.5
baz=111
SDPT Sand Point 154.77 286 P **PKiKP** 13 16 44.9 +2.0
baz=113
L18K Granite Mounta 154.84 303 P **PKiKP** 13 16 44.9 +2.0
baz=101
F20K Avaraart Lake 154.90 314 P **PKiKP** 13 16 46.0 +3.2
baz=91
O16K Kokwok River B 154.92 297 P **PKiKP** 13 16 45.2 +2.1
baz=105
M17K Holitna River 155.03 301 P PKPdf 13 16 46.5 +12
baz=102
J18K Innoko River 155.05 306 P **PKPab** 13 16 60.0 +0.5
baz=98
E20K Nigu River 155.07 317 P **PKPab** 13 17 00.7 +1.2
baz=88
H19K Roundabout Mou 155.14 311 P **PKPab** 13 17 00.4 +0.7
baz=94
GCSA Galena City Sc 155.26 309 P **PKPab** 13 17 00.7 +0.4
baz=95
B20K Meade River 155.28 322 P **PKPab** 13 17 01.1 +0.9
baz=83
G19K Purcell Mounta 155.43 312 P **PKPab** 13 17 01.4 +0.4
baz=92
N16K Nishlik Lake 155.47 298 P **PKPab** 13 17 01.6 +0.2
baz=103
E19K Redstone River 155.49 315 P **PKPab** 13 17 01.4 +0.1
baz=89
L17K Donlin 155.56 302 P **PKPab** 13 17 02.0 +0.3
baz=100
K17K Iditarod 155.66 304 P **PKPab** 13 17 01.8 -0.3
baz=98
O15K Ungalikthiuk R 155.67 295 P **PKPab** 13 17 01.8 -0.4
baz=105
M16K Timber Creek 155.67 300 P **PKPab** 13 17 02.7 +0.5
baz=102
F19K Shaleruckik Mo 155.71 314 P **PKPab** 13 17 03.0 +0.8
baz=90
S12K Black Hills 155.74 286 P **PKPab** 13 17 03.3 +0.6
baz=111
D19K Kuna River 155.77 318 P **PKPab** 13 17 03.4 +0.9
baz=86
H18K Honhosa River 155.92 310 P **PKPab** 13 17 04.1 +0.9
baz=93
N15K Kwethluk River 156.04 297 P **PKPab** 13 17 04.3 +0.4
baz=103
L16K Owhat River 156.04 301 P **PKPab** 13 17 04.6 +0.8
baz=100
G18K Tagagawik 156.06 312 P **PKPab** 13 17 04.9 +1.1
baz=91
J17K VABM Dome 156.09 305 P **PKPab** 13 17 04.7 +0.7
baz=96
FALS False Pass 156.15 283 P **PKPab** 13 17 04.8 +0.4
baz=113
C19K Lookout Ridge 156.24 320 P **PKPab** 13 17 05.1 +0.6
baz=83
O14K Tigyukauivet M 156.41 295 P **PKPab** 13 17 05.5 +0.1
baz=104
M15K Kasigluk River 156.44 298 P **PKPab** 13 17 06.0 +0.5
baz=101
F18K Selawik 156.46 313 P **PKPab** 13 17 06.0 +0.5
baz=88
H17K Granite Mounta 156.57 309 P **PKPab** 13 17 05.8 -0.2
baz=92
A19K Wainwright 156.57 323 P **PKPab** 13 17 06.5 +0.7
baz=79
J16K Anvik River 156.77 305 P **PKPab** 13 17 06.5 -0.4
baz=95
N14K Kuskokwak Cree 156.77 296 P **PKPab** 13 17 06.3 -0.6
baz=102
I17K Unalakleet 156.85 306 P **PKPab** 13 17 07.4 +0.2
baz=94
C18K Utukok River 156.88 319 P **PKPab** 13 17 07.8 +0.5
baz=82
G17K Kiwalik Mounta 156.89 311 P **PKPab** 13 17 08.0 +0.7
baz=90
B18K Kokolik River 156.98 321 P **PKPab** 13 17 08.7 +1.1
baz=80
L15K Ungalak Mounta 156.99 301 P **PKPab** 13 17 08.7 +0.8
baz=98
M14K Bethel 157.06 298 P **PKPab** 13 17 09.2 +1.0
baz=100
K15K Wolf Creek Mou 157.09 302 P **PKPab** 13 17 09.1 +0.9
baz=97
F17K Baldwin Pennin 157.11 313 P **PKPab** 13 17 08.9 +0.7
baz=87
E17K Rotham Inlet 157.29 315 P **PKPab** 13 17 09.6 +0.6
baz=85
UNV Unalaska Valle 157.41 279 P **PKPab** 13 17 10.1 +0.2
baz=114
L14K Kuka Creek 157.50 300 P **PKPab** 13 17 10.1 0.0
baz=98
H16K Elim 157.56 308 P **PKPab** 13 17 11.3 +1.1
baz=91
RDOG Red Dog Mine 157.59 317 P **PKPab** 13 17 11.8 +1.5
baz=82
G16K Koyuk River 157.60 310 P **PKPab** 13 17 11.6 +1.2
baz=89
C17K DeLong Mountai 157.62 319 P **PKPab** 13 17 11.8 +1.3
baz=80
M13K Dall Lake 157.68 297 P **PKPab** 13 17 11.6 +0.7
baz=100
D17K Noatak River 157.71 316 P **PKPab** 13 17 11.8 +1.0
baz=82
CN2 Changchun 157.91 114 *e*PKP **PKPdf** 13 16 37.0 -1.8
J14K Nanvaranak Lak 158.06 303 P **PKPab** 13 17 13.5 +1.1
baz=94
G15K Niukluk 158.32 309 P **PKPab** 13 17 14.1 +0.5
baz=88
NIKH Nikolski High 158.32 276 P **PKPab** 13 17 13.9 0.0
baz=116
C16K Lisburne Hills 158.45 318 P **PKPab** 13 17 14.8 +0.8
baz=79
K13K Kusilvak Mount 158.51 301 P **PKPab** 13 17 15.0 +0.6
baz=95
F15K North Star Dit 158.54 311 P **PKPab** 13 17 15.6 +1.1
baz=86
BOD Bodaibo 158.76 71 *e*PKP2 **PKPab** 13 17 15.4 -0.2
BOD pmax pmax
comp=Z,26nm,0.8s
M11K Mekoryuk 159.07 296 P **PKPab** 13 17 18.4 +1.5
baz=98
F14K Arctic Creek 159.25 311 P **PKPab** 13 17 18.5 +0.9
baz=85
TNA Tin City 159.90 311 P **PKPab** 13 17 20.8 +0.5
baz=83
P08K Saint George I 160.00 285 P **PKPab** 13 17 20.9 -0.1
baz=106
SPIA Saint Paul Isl 160.52 286 P **PKPab** 13 17 23.3 0.0
baz=104
USRK Ussuriysk Ar. 161.36 124 PKPab **PKPab** 13 17 26.8 -0.5
comp=Z,3.2nm,0.8s,baz=229,slow=3.7,SNR=6.0
GAMB Gambell 161.73 306 P **PKPab** 13 17 26.0 -2.4
baz=84
ADK Adak 162.13 266 PKPab **PKPab** 13 17 28.7 -1.8
ADK Adak 162.13 266 PKP2 **PKPab** 13 17 28.7 -1.8
HEH HeiHe 163.10 102 PKP PKPdf 13 16 52.3 +8.1
HEH PKPab PKPab 13 17 42.8 +8.0
KLR Kul'dur 164.79 111 PKP **PKPdf** 13 16 46.2 +0.4
comp=Z,0.8nm,0.7s,baz=242,slow=9.3,SNR=2.0
KLR PKPab **PKPab** 13 17 41.6 -0.7
comp=Z,8.5nm,1.0s,baz=250,slow=3.4,SNR=10
YAK Yakutsk 166.78 57 *e*PKP2 **PKPab** 13 17 50.9 +0.2
YAK pmax pmax
comp=Z,17nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.3s
BILL Bilibino 167.42 338⇑ *e*PKIKP **PKPdf** 13 16 50.4 +3.1
BILL *e* 13 21 47.4
BILL *e*SS SS 13 43 20.1 +59
BILL pmax pmax
comp=Z,12nm,1.6s

*IDC **26** 12:59:50.7±1.2, 1°.89S×139°.35E, h0km, mb3.9/8, mbtmp3.9/9, ML4.1/1, MS3.5/4, Error ellipse: s-maj=50.0km s-min=19.2km az=84.0*
*NEIC **26** 12:59:53.0±1.4, 1°.8S±0°.1×139°.5E±0°.1, h10km±1km, mb4.1/14, Error ellipse: s-maj=24.6km s-min=16.2km az=42.0*
ISC 26 12:59:55.9±0.7, 1°.93S±0°.08×139°.19E±0°.08, h29km, n49, σ2ˢ19/38, mb3.9/11, MS3.9/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.18**	**124**	P	**Pb**	**13 00 18.3**	**+0.7**
FAKI	**Fak Fak**	**7.00**	**262**	P	**Pn**	**13 01 36.7**	**+0.1**
FAKI	**Fak Fak**	**7.00**	**262**	Pn	**Pn**	**13 01 37.1**	**+0.5**
COEN	**Coen**	**12.58**	**162**	P	**Pn**	**13 02 57.6**	**+4.5**
KDU	**Kakadu**	**12.59**	**212**	P	**Pn**	**13 02 52.9**	**-0.2**
DRS	**Darwin Rock St**	**13.28**	**218**	P	**Pn**	**13 03 05.2**	**+2.7**
MTN	**Manton Dam**	**13.46**	**216**	P	**Pn**	**13 03 05.2**	**+0.1**
MTN	**Manton Dam**	**13.46**	**216**		**Pn**	**13 03 04.9**	**-0.1**
GUMO	**Guam**	**16.42**	**20**	LR	LR	13 09 56.6	
	comp=Z,22nm,19.5s,baz=266,slow=37						
SOEI	**Soe**	**16.75**	**242**	Pn	**P**	**13 03 50.5**	**-0.2**
SOEI				IAmb	IAmb	13 04 04.1	
	comp=Z,30nm,1.0s						
KNRA	**Kununurra**	**17.09**	**216**	Pn	**P**	**13 03 53.8**	**-0.6**
KNRA				IAmb	IAmb	13 04 02.4	
	comp=Z,9.0nm,0.8s						
WB0	**Warramunga Arr**	**18.34**	**194**	P	**Pn**	**13 04 08.2**	**0.0**
WR0	**Warramunga Arr**	**18.48**	**194**	P	**Pn**	**13 04 10.5**	**+0.5**
WR0				IAmb	IAmb	13 04 20.6	
	comp=Z,11nm,1.2s						
WRAB	**Tennant Creek**	**18.51**	**194**	P	**Pn**	**13 04 11.3**	**+1.0**
WRAB				IAmb	IAmb	13 04 19.8	
	comp=Z,9.5nm,0.6s						
WB2	**Warramunga Arr**	**18.52**	**194**	P	**Pn**	**13 04 11.4**	**+1.0**
WB2				IAmb	IAmb	13 04 19.6	
	comp=Z,8.6nm,0.6s						
WRA	**Warramunga Arr**	**18.52**	**195**	P	**Pn**	**13 04 11.1**	**+0.7**
WRA	**Warramunga Arr**	**18.52**	**195**	P	**P**	**13 04 10.1**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=4.7,slow=12,SNR=35						
WRA				S	**Sn**	**13 07 28.8**	**-7.9**
	comp=Z,2.6nm,0.8s,baz=12,slow=22,SNR=4.9						
	comp=Z,3.7nm,0.8s						
CTAO	**Charters Tower**	**19.32**	**160**	P	**P**	**13 04 19.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.86**	**219**	P	Pn	13 04 38.0	-0.2
HNR	**Honiara**	**21.94**	**111**	P	**P**	**13 04 42.7**	**-4.7**
AS01	**Alice Springs**	**22.19**	**193**	P	**P**	**13 04 51.1**	**+1.1**
AS31	**Alice Springs**	**22.20**	**193**	P	**P**	**13 04 50.7**	**+0.6**
AS31				IAmb	IAmb	13 04 59.5	
	comp=Z,2.6nm,0.5s						
ASAR	**Alice Springs**	**22.20**	**193**	P	**P**	**13 04 50.1**	**0.0**
ASAR	**Alice Springs**	**22.20**	**193**	P	**P**	**13 04 50.6**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=17,slow=9.8,SNR=20						
	comp=Z,2.2nm,0.6s						
WRKA	**Warakurna**	**25.26**	**204**	P	**P**	**13 05 21.6**	**+1.8**
INKA	**Innaminka**	**25.71**	**177**	P	**P**	**13 05 28.6**	**+4.9**
OOD	**Oodnadatta**	**25.93**	**187**	P	**P**	**13 05 28.3**	**+2.5**
EIDS	**Eidsvold**	**25.97**	**155**	P	**P**	**13 05 24.7**	**-1.5**
EIDS				IAmb	IAmb	13 05 34.3	
	comp=Z,7.7nm,1.1s						
LCRK	**Leigh Creek**	**28.38**	**182**	P	**P**	**13 05 50.7**	**+3.0**
STKA	**Stephens Creek**	**29.87**	**176**	P	**P**	**13 05 59.3**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=309,slow=18,SNR=1.0						
	comp=Z,0.8nm,0.6s						
FORT	**Forrest**	**30.57**	**199**	P	**P**	**13 06 07.8**	**+0.6**
H11S3	**WAKE ISLAND Hy**	**33.82**	**52**	T	T	13 42 16.9	
	baz=236,slow=76,SNR=194						
H11S2	**WAKE ISLAND Hy**	**33.84**	**52**	T	T	13 42 14.8	
	baz=236,slow=76,SNR=136						
H11S1	**WAKE ISLAND Hy**	**33.84**	**52**	T	T	13 42 18.2	
	baz=236,slow=76,SNR=111						
H11N1	**WAKE ISLAND Hy**	**34.67**	**50**	T	T	13 43 21.8	
	baz=233,slow=75,SNR=31						
H11N2	**WAKE ISLAND Hy**	**34.69**	**50**	T	T	13 43 25.7	
	baz=233,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**34.69**	**50**	T	T	13 43 23.6	
	baz=233,slow=75,SNR=18						
NWAO	**Narrogin (SRO)**	**37.09**	**211**	LR	LR	13 22 32.0	
	comp=Z,142nm,18.1s,baz=43,slow=37						
CMAR	**Chiang Mai Arr**	**44.48**	**299**	P	**P**	**13 08 04.8**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=113,slow=6.4,SNR=5.3						
	comp=Z,1.2nm,0.8s						
SONM	**Songino Array**	**57.23**	**334**	P	**P**	**13 09 40.9**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=152,slow=6.5,SNR=2.3						
	comp=Z,0.6nm,0.7s						
MK31	**Makanchi Array**	**69.47**	**322**	P	**P**	**13 11 01.9**	**+0.3**
MK31				IAmb	IAmb	13 11 03.1	
	comp=Z,3.4nm,1.3s						
MKAR	**Makanchi Array**	**69.47**	**322**	P	**P**	**13 11 01.5**	**-0.2**
MKAR	**Makanchi Array**	**69.47**	**322**	P	**P**	**13 11 02.1**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=104,slow=7.6,SNR=14						
	comp=Z,1.5nm,0.6s						
ZALV	**Zalesovo Beam**	**71.51**	**330**	P	**P**	**13 11 12.9**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=119,slow=5.2,SNR=4.9						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**73.37**	**325**	P	**P**	**13 11 24.3**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=111,slow=5.5,SNR=8.5						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**84.93**	**24**	P	**P**	**13 12 27.4**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=250,slow=5.2,SNR=5.6						
	comp=Z,0.8nm,0.9s						
GNI	**Garni**	**94.64**	**310**	LR	LR	14 01 39.0	
	comp=Z,38nm,18.8s,baz=211,slow=39						
KBZ	**Khabaz**	**95.88**	**314**	LR	LR	14 02 35.0	
	comp=Z,35nm,19.5s,baz=181,slow=39						
DBIC	**Dimbokro**	**143.85**	**279**	PKP	PKPbc	13 19 27.7	+0.4
	comp=Z,2.1nm,0.5s,baz=229,slow=7.8,SNR=1.7						

*PRE **26** 13:01:58.5±1.1, 21°.17S×25°.18E, h5km, ML2.5*
ISC 26 13:01:59.4±2.0, 21°.20S±0°.09×25°.2E±0°.1, h10km, n7, σ1ˢ41/13, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEPH	**Lephalale, Lim**	**3.58**	**138**	*e*P	**Pn**	**13 02 55.3**	**+0.3**
LEPH				*e*S	**Sn**	**13 03 37.2**	**-0.3**
LEPH				IAML		13 03 43.6	
	comp=Z,21nm,0.4s						
LBTB	**Lobatse**	**3.82**	**174**	*e*P	**Pn**	**13 02 59.5**	**+1.2**
LBTB				*e*S	**Sn**	**13 03 44.5**	**+1.2**
LBTB				IAML		13 03 56.8	
	comp=Z,5.6nm,0.3s						
MUSN	**Musina, Limpop**	**4.48**	**105**	*e*P	**Pn**	**13 03 08.4**	**+1.1**
MUSN				*e*S	**Sn**	**13 03 59.4**	**-0.2**
MUSN				IAML		13 04 13.8	
	comp=Z,21nm,0.5s						
HRAO	**HartRAO**	**5.20**	**154**	*e*P	**Pn**	**13 03 18.2**	**+0.8**
HRAO				*e*S	**Sn**	**13 04 17.3**	**-0.3**
HRAO				IAML		13 04 43.6	
	comp=Z,6.7nm,0.4s						
KRI	**Karoi**	**6.03**	**45**	*i*P	**Pg**	**13 03 54.4**	**-0.6**
MOPA	**Mopani**	**6.19**	**113**	*e*P	**Pn**	**13 03 32.8**	**+1.8**
MOPA				*e*S	**Sn**	**13 04 39.9**	**-2.0**
MOPA				IAML		13 05 06.0	
	comp=Z,20nm,0.3s						
BOSA	**Boshof**	**7.38**	**180**	*e*P	**Pn**	**13 03 47.8**	**+0.4**
BOSA				*e*S	**Sn**	**13 05 08.6**	**-2.7**
BOSA				IAML		13 05 48.1	
	comp=Z,3.1nm,0.6s						

*SOME **26** 14:21:47.0, 40°.90N×79°.85E, h0km*
*KRNET **26** 14:21:48.1±0.1, 40°.63N×80°.16E, mb2.5*
*NNC **26** 14:21:48.5±5.3, 40°.85N×79°.78E, h0km, mb3.2, mpv3.1, Error ellipse: s-maj=38.9km s-min=35.2km az=72.0*
ISC 26 14:21:47.5±4.0, 40°.5N±0°.2×80°.2E±0°.2, h10km, n15, σ2ˢ30/25, 6C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**2.23**	**306**	⇑*i*P	**Pn**	**14 22 24.1**	**-0.9**
	baz=2.0						
TARG				⇑*i*S	**Sn**	**14 22 50.3**	**-2.6**
	baz=2.0						
PRZ	**Przheval'sk**	**2.45**	**326**	⇓*i*P	**Pn**	**14 22 26.8**	**-1.0**
	baz=25						
PRZ				⇓*i*S	**Sn**	**14 22 55.0**	**-2.9**
	baz=25						
PDGK	**Podgornoye**	**2.93**	**349**	Pg	**Pn**	**14 22 33.7**	**-0.5**
	2.4nm,0.4s						
PDGK				Lg	Lg	14 23 07.4	
	3.3nm,0.5s						
SATY	**Saty**	**2.94**	**333**	*e*P	**Pn**	**14 22 34.1**	**-0.3**
	1.8nm,0.1s						
SATY				*e*S	**Sn**	**14 23 08.1**	**-1.8**
	13nm,0.4s						
SATY	**Saty**	**2.94**	**333**	Pg	**Pn**	**14 22 34.1**	**-0.3**
	2.1nm,0.1s						
SATY				Lg	Lg	14 23 08.1	
	13nm,0.4s						
KPKS	**Kokpek**	**3.22**	**340**	*e*P	**Pn**	**14 22 38.0**	**-0.3**
	2.9nm,0.1s						
KPKS				*e*S	**Sn**	**14 23 14.8**	**-2.0**
	9.7nm,0.2s						
NRN	**Naryn**	**3.35**	**288**	⇑*i*P	**Pn**	**14 22 40.3**	**0.0**
	baz=85						
NRN				⇑*i*S	**Sn**	**14 23 18.6**	**-1.7**
	baz=85						
TNSS	**Tian-Shan**	**3.56**	**317**	*e*P	**Pn**	**14 22 44.7**	**+1.4**
	1.8nm,0.3s						
TNSS				*e*S	**Sn**	**14 23 26.6**	**+0.9**
	2.3nm,0.5s						
TNSS	**Tian-Shan**	**3.56**	**317**	Pg	**Pn**	**14 22 44.7**	**+1.4**
	1.8nm,0.3s						
TNSS				Lg	Lg	14 23 26.6	
	2.3nm,0.5s						
KOTS	**Kotyrbulak**	**3.63**	**321**	*e*P	**Pn**	**14 22 44.6**	**+0.7**
	2.0nm,0.2s						
KOTS				*e*S	**Sn**	**14 23 26.0**	**-0.8**
	8.8nm,0.2s						
BOOM	**Boomskoye usch**	**3.81**	**304**	⇑*e*P	**Pn**	**14 22 46.1**	**-0.4**
	baz=2.0						
BOOM				⇑*e*S	**Sn**	**14 23 27.7**	**-3.8**
	baz=2.0						
BLB	**Baldybastay**	**3.87**	**341**	Pg	**Pn**	**14 22 49.6**	**+2.4**
	7.3nm,0.7s						
BLB				Lg	Lg	14 23 34.4	
	5.3nm,0.5s						
KST	**Kastek**	**4.11**	**310**	*e*P	**Pn**	**14 22 55.2**	**+4.7**
	2.1nm,0.2s						
KST				*e*S	**Sn**	**14 23 44.2**	**+5.5**
	8.7nm,0.3s						
CHKK	**Chushkaly**	**4.17**	**326**	*e*P	**Pn**	**14 22 53.7**	**+2.5**
	0.6nm,0.1s						
CHKK				*e*S	**Sn**	**14 23 41.7**	**+1.8**
	5.0nm,0.2s						
CHKK	**Chushkaly**	**4.17**	**326**	Pg	**Pn**	**14 22 52.3**	**+1.1**
	0.8nm,0.1s						
CHKK				Lg	Lg	14 23 39.4	
	5.0nm,0.3s						

*IDC **26** 14:26:38.9±2.4, 7°.50S×117°.18E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=103.8km s-min=22.3km az=58.0*
*DJA **26** 14:27:08.9±0.8, 8°.S±9°.×11°.8E±°., h267km±8km, M3.4/7, MLv3.4/7*
ISC 26 14:27:07.7±1.1, 7°.8S±0°.1×117°.55E±0°.08, h250km, n12, σ3ˢ07/11, mb3.5/4, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.02**	**167**	P	**Pn**	**14 27 45.4**	**+2.6**
PLAI				S	**S**	**14 28 14.3**	**+3.8**
TWSI	**Taliwang, Sumb**	**1.12**	**216**	P	**Pn**	**14 27 46.3**	**+2.9**
BSSI	**Bau Bau, Buton**	**3.36**	**60**	P	**Pn**	**14 28 06.9**	**+2.7**
JAGI	**Jajag, Banyuwa**	**3.42**	**259**	P	**Pn**	**14 28 06.6**	**+1.7**
BKSI	**Bulukumba**	**3.57**	**46**	P	**Pn**	**14 28 09.9**	**+3.4**
BASI	**Baing, Sumba**	**3.82**	**129**	P	**Pn**	**14 28 10.8**	**+1.4**
EDFI	**Ende, Flores**	**4.20**	**103**	P	**Pn**	**14 28 14.7**	**+0.7**
WRA	**Warramunga Arr**	**20.24**	**128**	P	**P**	**14 31 21.9**	**-2.6**
	0.4nm,0.4s,baz=302,slow=13,SNR=18						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**22.22**	**137**	P	**P**	**14 31 42.0**	**-1.8**
	1.1nm,0.4s,baz=312,slow=9.7,SNR=47						
	1.1nm,0.4s						
USRK	**Ussuriysk Ar.**	**53.41**	**13**	P	P	14 35 58.3	-3.6
	1.2nm,0.5s,baz=190,slow=7.3,SNR=4.3						
	1.2nm,0.5s						
SONM	**Songino Array**	**56.29**	**351**	P	P	14 36 18.8	-3.8
	0.8nm,0.6s,baz=174,slow=5.0,SNR=3.1						
	0.8nm,0.6s						

MKAR Makanchi Array 62.77 334 P **P 14 37 03.1 -3.6**
0.1nm,0.4s,baz=152,slow=6.5,SNR=1.6
0.1nm,0.4s

*IDC **26** 14:38:28.4±0.8,28°.18N×57°.07E,h0km,mb3.7/17,*
mbtmp3.7/19,ML4.2/2,Error ellipse: s-maj=18.1km
s-min=17.2km az=40.0
*DSN **26** 14:38:31.3±1.6,28°.48N×57°.09E,h15km,ML3.3/10,Error*
ellipse: s-maj=46.6km s-min=14.4km az=98.0
*TEH **26** 14:38:31.6,28°.29N×57°.30E,h8km±30km,ML3.8*
*OMAN **26** 14:38:35.4±0.1,28°.07N×57°.14E,h10km,mb4.7/7,*
ml3.5/18,Error ellipse: s-maj=1.3km s-min=0.7km az=31.0
ISC 26 14:38:33.4±0.6,**28°.31N**±0°.04×**57°.21E**±0°.04,**h31**km,**n84,**
σ1**99**/108,**mb3.6**/17,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**1.04**	**215**	Pg	**Pn**	**14 38 52.4**	**+0.6**
GENO	**Geno**	**1.29**	**226**	Pg	**Pn**	**14 38 57.5**	**+2.1**
KBAM	**BAM**	**1.37**	**52**	Pg	**Pn**	**14 38 56.8**	**+0.4**
NGRK	**Negar Kerman**	**1.40**	**343**	Pg	**Pn**	**14 38 58.2**	**+1.1**
CHMN	**Cheshme madani**	**1.58**	**10**	Pg	**Pn**	**14 39 01.0**	**+1.4**
TVBK	**TV Kerman**	**1.72**	**347**	Pg	**Pn**	**14 39 04.0**	**+2.5**
KHGB	**Koh Gabri**	**2.16**	**343**	Pn	**Pn**	**14 39 10.9**	**+3.4**
KRM1	**Kerman Provinc**	**2.19**	**1**	Pn	**Pn**	**14 39 10.8**	**+2.9**
SHME	**Shamm**	**2.44**	**203**	P	**Pn**	**14 39 12.0**	**+0.9**
SHME	**Shamm**	**2.44**	**203**	P	**Pn**	**14 39 12.6**	**+1.5**
SHME				S	**Sn**	**14 39 41.7**	**+1.8**
JASK	**Jask - Hormozg**	**2.50**	**166**	Pn	**Pn**	**14 39 13.8**	**+1.9**
JASK	**Jask - Hormozg**	**2.50**	**166**	P	**Pn**	**14 39 14.1**	**+2.3**
JASK	SNR=13			S	**Sn**	**14 39 44.4**	**+3.1**
BANOM	**Banah**	**2.51**	**199**	P	**Pn**	**14 39 13.5**	**+1.4**
BANOM	**Banah**	**2.51**	**199**	P	**Pn**	**14 39 13.8**	**+1.7**
BANOM				S	**Sn**	**14 39 42.1**	**+0.5**
ZRDN	**Zarand Kerman**	**2.72**	**348**	Pn	**Pn**	**14 39 18.5**	**+3.4**
MASF	**Masafi**	**3.07**	**198**	P	**Pn**	**14 39 22.8**	**+3.0**
UMQ	**Umm Al-Quwin**	**3.10**	**207**	P	**Pn**	**14 39 22.9**	**+2.8**
MDH	**Madha**	**3.10**	**195**	P	**Pn**	**14 39 20.7**	**+0.5**
MDH	**Madha**	**3.10**	**195**	P	**Pn**	**14 39 20.9**	**+0.7**
ZHDN	**Zahedan**	**3.34**	**70**	Pn	**Pn**	**14 39 26.0**	**+2.4**
UOSS	**Minazif**	**3.47**	**195**	P	**Pn**	**14 39 26.4**	**+1.1**
UOSS	**Minazif**	**3.47**	**195**	P	**Pn**	**14 39 26.6**	**+1.3**
IBAF	**Bafgh**	**3.57**	**337**	Pn	**Pn**	**14 39 30.3**	**+3.4**
HATD	**Hatta, Dubai**	**3.60**	**196**	P	**Pn**	**14 39 30.4**	**+3.3**
HATD	**Hatta, Dubai**	**3.60**	**196**	P	**Pn**	**14 39 29.4**	**+2.3**
GHIR	**Ghir-Karzin**	**3.73**	**271**	Pn	**Pn**	**14 39 32.5**	**+3.6**
ASHO	**Ashiyiah**	**3.75**	**196**	P	**Pn**	**14 39 30.9**	**+1.7**
ASHO				S	**Sn**	**14 40 17.3**	**+5.0**
ASHO	**Ashiyiah**	**3.75**	**196**	P	**Pn**	**14 39 31.2**	**+2.1**
IMEH	SNR=7.7 **Mehriz**	**3.81**	**324**	Pn	**Pn**	**14 39 33.8**	**+3.6**
FAQ	**Al Faqa, Dubai**	**3.83**	**203**	P	**Pn**	**14 39 32.2**	**+1.9**
FAQ	**Al Faqa, Dubai**	**3.83**	**203**	P	**Pn**	**14 39 32.4**	**+2.1**
NHDN	**Nehbandan**	**3.94**	**38**	Pn	**Pn**	**14 39 34.3**	**+2.5**
BSRN	**Basiran**	**4.01**	**24**	Pn	**Pn**	**14 39 35.3**	**+2.5**
ASUD	**Al Ashush, Dub**	**4.03**	**205**	P	**Pn**	**14 39 34.4**	**+1.4**
ASUD	**Al Ashush, Dub**	**4.03**	**205**	P	**Pn**	**14 39 35.6**	**+2.6**
ASUD	SNR=7.5			S	**Sn**	**14 40 22.5**	**+3.3**
SOHO	**SOHO**	**4.20**	**189**	P	**Pn**	**14 39 36.7**	**+1.4**
AJN	**Ajban**	**4.23**	**209**	P	**Pn**	**14 39 36.6**	**+0.9**
AJN	**Ajban**	**4.23**	**209**	P	**Pn**	**14 39 37.4**	**+1.7**
AJN	SNR=15			S	**Sn**	**14 40 24.8**	**+0.8**
ALNE	**Al Ain**	**4.43**	**198**	P	**Pn**	**14 39 40.4**	**+1.9**
ALNE	**Al Ain**	**4.43**	**198**	P	**Pn**	**14 39 40.7**	**+2.2**
ALNE				S	**Sn**	**14 40 32.1**	**+3.0**
HOQ	**Hoqain**	**4.70**	**179**	P	**Pn**	**14 39 42.5**	**+0.2**
HOQ	SNR=8.8			S	**Sn**	**14 40 34.5**	**-1.3**
BIDO	**Bidbid**	**4.83**	**170**	P	**Pn**	**14 39 44.2**	**+0.1**
BIDO	SNR=7.0			S	**Sn**	**14 40 39.3**	**+0.3**
ARQ	**Araqi**	**4.99**	**187**	P	**Pn**	**14 39 48.5**	**+2.3**
ARQ	SNR=45			S	**Sn**	**14 40 44.3**	**+1.5**
JRN	**Qarnain Island**	**5.14**	**230**	P	**Pn**	**14 39 50.9**	**+2.6**
JRN				S	**Sn**	**14 40 46.6**	**0.0**
WSAR	**Wadi Sarin**	**5.20**	**165**	Pn	**Pn**	**14 39 47.5**	**-1.6**
WSAR	7.2nm,0.3s,baz=4.0,slow=11,SNR=68 8.8nm,0.3s,baz=257,slow=24,SNR=11 19nm,0.3s			Sn	**Sn**	**14 40 46.5**	**-1.6**
AHBU	**AHRAM**	**5.23**	**278**	Pn	**Pn**	**14 39 53.5**	**+4.0**
SMDO	**Samad**	**5.28**	**172**	P	**Pn**	**14 39 51.3**	**+1.1**
SMDO				S	**Sn**	**14 40 50.2**	**+0.1**
IRAM	**Rameshesh**	**5.45**	**311**	Pn	**Pn**	**14 39 55.9**	**+3.1**
BSY	**Bisya**	**5.54**	**180**	P	**Pn**	**14 39 56.0**	**+2.2**
BSY				S	**Sn**	**14 40 58.8**	**+2.5**
KLNJ	**Kolanjah**	**5.58**	**300**	Pn	**Pn**	**14 39 58.4**	**+3.7**
UMZA	**Um Al Zommool**	**5.87**	**199**	P	**Pn**	**14 39 59.5**	**+1.3**
UMZA				S	**Sn**	**14 41 04.2**	**-0.3**
WBK	**Wadi Bani Khal**	**5.89**	**164**	Pn	**Pn**	**14 40 00.1**	**+1.5**
WBK	**Wadi Bani Khal**	**5.89**	**164**	P	**Pn**	**14 39 59.3**	**+0.7**
WBK				S	**Sn**	**14 41 04.4**	**-0.7**
JMDO	**Jabal Madar**	**5.96**	**172**	P	**Pn**	**14 40 01.4**	**+1.8**
JMDO				S	**Sn**	**14 41 06.0**	**-0.8**
SHMA	**Al-Shehemyia**	**6.08**	**248**	P	**Pn**	**14 40 02.9**	**+1.8**
SHMA	SNR=21			S	**Sn**	**14 41 08.5**	**-1.2**
IZEF	**Zefreh**	**6.22**	**319**	Pn	**Pn**	**14 40 06.1**	**+2.9**
MZR	**Muzera**	**6.26**	**213**	P	**Pn**	**14 40 05.4**	**+1.7**
MZR				S	**Sn**	**14 41 12.5**	**-1.8**
SAKB	**Bahrain**	**6.38**	**250**	P	**Pn**	**14 40 07.3**	**+2.0**
SAKB				S	**Sn**	**14 41 15.3**	**-1.8**
JLN	**Jalan Bani Buh**	**6.44**	**162**	P	**Pn**	**14 40 06.9**	**+0.7**
JLN	SNR=14			S	**Sn**	**14 41 16.6**	**-2.0**
TRNA	**Turayna**	**6.44**	**238**	P	**Pn**	**14 40 07.0**	**+0.8**
TRNA				S	**Sn**	**14 41 16.6**	**-2.0**
SMRA	**Abu-Samra**	**6.73**	**240**	P	**Pn**	**14 40 12.0**	**+1.9**
SMRA	SNR=14			S	**Sn**	**14 41 23.7**	**-2.0**
MHTO	**MHTO**	**7.32**	**174**	P	**Pn**	**14 40 20.0**	**+1.8**
MHTO	SNR=7.9			S	**Sn**	**14 41 39.1**	**-1.1**
DMTO	**DMTO**	**10.74**	**192**	P	**Pn**	**14 41 03.9**	**-1.2**
WHFO	**Wadi Hawf**	**10.81**	**198**	P	**Pn**	**14 41 05.2**	**-0.9**
ABTO	**Aybut**	**11.48**	**199**	P	**Pn**	**14 41 13.7**	**-1.6**
RAYN	**Ar Rayn**	**11.56**	**248**	P	**Pn**	**14 41 14.0**	**-2.4**
MMAI	**Mount Meron Ar**	**19.33**	**289**	P	**P**	**14 42 53.9**	**-2.4**
	0.9nm,0.3s,baz=91,slow=15,SNR=1.7 0.3nm,0.2s						
AKTO	**Aktyubinsk**	**22.11**	**1**	P	**P**	**14 43 27.4**	**+1.4**
	2.4nm,0.5s,baz=192,slow=9.2,SNR=9.8 2.4nm,0.5s						
BRTR	**Keskin Array B**	**22.55**	**306**	P	**P**	**14 43 31.9**	**+0.9**
	1.8nm,0.8s,baz=125,slow=11,SNR=10 1.8nm,0.8s						
BVAR	**Borovoye Array**	**26.55**	**18**	P	**P**	**14 44 09.8**	**+1.5**
	1.0nm,0.6s,baz=215,slow=9.0,SNR=4.9 1.0nm,0.6s						
MKAR	**Makanchi Array**	**26.94**	**40**	P	**P**	**14 44 12.1**	**+0.2**
	0.3nm,0.4s,baz=220,slow=8.6,SNR=4.8 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**27.52**	**30**	P	**P**	**14 44 18.4**	**+1.4**
	0.2nm,0.3s,baz=227,slow=8.4,SNR=4.4 0.2nm,0.3s						
AKASG	**Malin Array Be**	**30.78**	**324**	P	**P**	**14 44 45.8**	**-0.1**
	0.6nm,0.4s,baz=125,slow=8.3,SNR=4.4 0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**32.61**	**31**	P	**P**	**14 45 02.9**	**+0.8**
	1.2nm,0.3s,baz=239,slow=8.0,SNR=6.9 1.2nm,0.3s						
FINES	**FINESS Array B**	**39.07**	**337**	P	**P**	**14 45 56.9**	**-0.4**
	0.5nm,0.4s,baz=134,slow=9.9,SNR=10 0.5nm,0.4s						
SONM	**Songino Array**	**42.53**	**49**	P	**P**	**14 46 27.3**	**+1.2**
	0.4nm,0.6s,baz=262,slow=10.0,SNR=1.8 0.4nm,0.6s						
HFS	**Hagfors**	**43.25**	**330**	P	**P**	**14 46 31.5**	**-0.1**
	0.4nm,0.5s,baz=115,slow=10,SNR=6.0 0.4nm,0.5s						
ARCES	**ARCESS Array B**	**45.14**	**345**	P	**P**	**14 46 46.3**	**-0.4**
	2.1nm,0.9s,baz=141,slow=5.8,SNR=2.2 2.1nm,0.9s						
EKA	**Eskdalemuir Ar**	**50.49**	**320**	P	**P**	**14 47 27.4**	**-0.8**
	0.2nm,0.3s,baz=97,slow=7.6,SNR=3.9 0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**53.64**	**266**	P	**P**	**14 47 51.5**	**-0.8**
	1.0nm,0.6s,baz=64,slow=7.9,SNR=6.4 1.0nm,0.6s						

DBIC	**Dimbokro**	**62.31**	**262**	P	**P**	**14 48 50.6**	**-2.5**
	2.2nm,0.7s,baz=113,slow=7.7,SNR=1.6 2.2nm,0.7s						
ILAR	**Eielson Array**	**85.34**	**10**	P	**P**	**14 51 06.4**	**-0.8**
	0.1nm,0.5s,baz=333,slow=5.8,SNR=2.1 0.1nm,0.5s						
WRA	**Warramunga Arr**	**88.57**	**113**	P	**P**	**14 51 23.9**	**+0.3**
	0.6nm,0.8s,baz=323,slow=3.8,SNR=8.4 0.6nm,0.8s						
ASAR	**Alice Springs**	**90.12**	**117**	P	**P**	**14 51 31.5**	**+0.7**
	0.2nm,0.7s,baz=296,slow=4.9,SNR=1.8 0.2nm,0.7s						

IDC 26 14:51:40.4±1.7,**2°.48S**×**128°.76E,h0**km,**mb3.5**/3,
mbtmp3.6/4,**ML3.7**/1,**Error ellipse: s-maj=108.6km**
s-min=24.4km az=69.0,**Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.20**	**163**	P	Pn	14 55 53.7	-1.0
	0.3nm,0.3s,baz=343,slow=12,SNR=18 2.2nm,0.8s						
ASAR	**Alice Springs**	**21.65**	**167**	P		14 56 32.4	-0.3
	4.0nm,0.8s,baz=348,slow=11,SNR=36 4.0nm,0.8s						
MKAR	**Makanchi Array**	**63.79**	**326**	P	P	15 02 13.5	-1.0
	0.1nm,0.6s,baz=108,slow=4.7,SNR=1.8 0.1nm,0.6s						
KURBB	**Kurchatov Arra**	**68.03**	**328**	P	P	15 02 43.3	+1.6
	0.2nm,0.3s,baz=123,slow=5.4,SNR=2.2 0.2nm,0.3s						

*IDC **26** 15:09:57.0±0.9,1°.88S×99°.70E,h0km,mb3.9/14,*
mbtmp3.9/14,Error ellipse: s-maj=40.2km s-min=15.0km
az=61.0
*DJA **26** 15:10:00.3±0.5,2°.S±3°.×10°.0E±°,h10km±6km,M4.6/7,*
mb5.0/1,MLv4.4/7
*NEIC **26** 15:10:01.8±0.6,1°.9S±0°.1×99°.7E±0°.2,h35km±10km,*
mb4.3/9,Error ellipse: s-maj=26.6km s-min=11.5km
az=52.0
ISC 26 15:10:01.3±0.5,**1°.85S**±0°.07×**99°.74E**±0°.06,**h30**km,**n52,**
σ0**76**/43,**mb4.1**/18,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.83**	**308**	P	**Pn**	**15 10 15.8**	**-1.1**
SISI				S	**Sn**	**15 10 27.9**	**-0.2**
PPSI	**Pulau Pagai**	**0.95**	**163**	P	**Pb**	**15 10 20.6**	**+1.3**
PDSI	**Padang**	**1.18**	**38**	P	**Pn**	**15 10 20.7**	**-1.1**
PDSI				S	**Sn**	**15 10 36.6**	**-0.2**
PBSI	**Pulau Batu**	**2.30**	**321**	P	**Pn**	**15 10 37.4**	**+0.2**
BKNI	**Bangkinang**	**2.52**	**31**	P	**Pn**	**15 10 41.4**	**+1.2**
RPSI	**Rantau Prapat**	**4.58**	**350**		**Pn**	**15 11 09.6**	**+0.9**
PMBI	**Palembang**	**5.14**	**102**	Pn	**Pn**	**15 11 14.6**	**-1.7**
SNSI	**Sinabang, Aceh**	**5.43**	**321**	P	**Pn**	**15 11 21.0**	**+0.7**
KULM	**Kulim**	**7.15**	**7**	Pn	**Pn**	**15 11 44.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**20.19**	**358**	P	Pn	15 14 35.7	0.0
CMAR	**Chiang Mai Arr**	**20.19**	**358**	P	**P**	**15 14 33.6**	**-0.1**
	0.5nm,0.5s,baz=185,slow=9.2,SNR=2.4 0.5nm,0.5s						
H08S2	**Diego Garcia H**	**27.74**	**257**	T	T	15 44 32.0	
	baz=80						
H08S3	**Diego Garcia H**	**27.75**	**257**	T	T	15 44 27.3	
	baz=80						
H08S1	**Diego Carcia H**	**27.76**	**257**	T	T	15 44 30.2	
	baz=80						
H01W3	**Cape Leeuwin H**	**35.50**	**159**	T	T	15 54 53.3	
	baz=334,slow=76						
H01W2	**Cape Leeuwin H**	**35.52**	**159**	T	T	15 54 55.1	
	baz=334,slow=76						
H01W1	**Cape Leeuwin H**	**35.52**	**159**	T	T	15 54 54.1	
	baz=334,slow=76						
WB0	**Warramunga Arr**	**38.27**	**120**	P	**P**	**15 17 18.9**	**-0.5**
WB0				IAmb	IAmb	15 17 29.6	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**38.30**	**120**	P	**P**	**15 17 19.0**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=303,slow=9.0,SNR=23						
WRA				PcP	**PcP**	**15 19 34.6**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=307,slow=3.0,SNR=2.6 comp=Z,1.5nm,0.5s						
WB2	**Warramunga Arr**	**38.31**	**120**	P	**P**	**15 17 19.1**	**-0.6**
WB2				IAmb	IAmb	15 17 20.4	
	comp=Z,8.7nm,1.2s						
AS31	**Alice Springs**	**39.55**	**126**	P	**P**	**15 17 29.2**	**-0.8**
ASAR	**Alice Springs**	**39.55**	**126**	P	**P**	**15 17 30.4**	**+0.3**
ASAR	**Alice Springs**	**39.55**	**126**	P	**P**	**15 17 30.6**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=301,slow=7.9,SNR=26						
ASAR				PcP	**PcP**	**15 19 37.6**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=320,slow=4.2,SNR=2.3 comp=Z,1.7nm,0.7s						
KSRS	**Korea Array**	**47.02**	**31**	P	**P**	**15 18 30.1**	**+0.1**
	comp=Z,1.2nm,1.0s,baz=220,slow=11,SNR=4.8 comp=Z,1.2nm,1.0s						
CTAO	**Charters Tower**	**48.90**	**115**	P	**P**	**15 18 44.0**	**-0.9**
STKA	**Stephens Creek**	**49.45**	**132**	P	**P**	**15 18 47.8**	**-1.2**
STKA	**Stephens Creek**	**49.45**	**132**	P	**P**	**15 18 49.0**	**0.0**
	comp=Z,1.9nm,0.8s,baz=339,slow=9.0,SNR=4.7 comp=Z,1.9nm,0.8s						
SONM	**Songino Array**	**49.82**	**6**	P	**P**	**15 18 52.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=187,slow=11,SNR=2.5 comp=Z,0.7nm,0.6s						
HRA	**Herat**	**50.37**	**319**	P	**P**	**15 18 54.4**	**-1.7**
HRA				IAmb	IAmb	15 18 57.4	
	comp=Z,3.8nm,0.8s						
MK31	**Makanchi Array**	**50.81**	**345**	P	**P**	**15 18 58.9**	**-0.1**
MK31				IAmb	IAmb	15 19 09.7	
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**50.81**	**345**	P	**P**	**15 18 58.6**	**-0.4**
MKAR	**Makanchi Array**	**50.81**	**345**	P	**P**	**15 18 59.6**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=148,slow=8.0,SNR=13 comp=Z,1.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**54.14**	**28**	P	**P**	**15 19 23.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**54.14**	**28**	P	**P**	**15 19 24.5**	**+0.8**
	comp=Z,2.6nm,1.0s,baz=198,slow=9.1,SNR=3.0 comp=Z,2.6nm,1.0s						
KURBB	**Kurchatov Arra**	**55.33**	**344**	P	**P**	**15 19 32.9**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=152,slow=7.5,SNR=4.8 comp=Z,0.7nm,0.6s						
ZAA0	**Zalesovo Array**	**56.97**	**350**	P	**P**	**15 19 43.6**	**-0.2**
ZALV	**Zalesovo Beam**	**56.97**	**350**	P	**P**	**15 19 43.5**	**-0.3**
ZALV	**Zalesovo Beam**	**56.97**	**350**	P	**P**	**15 19 44.0**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=188,slow=5.6,SNR=12 comp=Z,1.6nm,0.6s						
BVAR	**Borovoye Array**	**59.95**	**340**	P	**P**	**15 20 04.5**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=139,slow=9.1,SNR=5.3 comp=Z,0.6nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.77**	**216**	T	T	16 25 48.0	
	baz=58,slow=75,SNR=172						
H04N1	**CROZET ISLANDS**	**60.78**	**216**	T	T	16 25 48.4	
	baz=58,slow=75,SNR=146						
H04N3	**CROZET ISLANDS**	**60.78**	**216**	T	T	16 25 47.1	
	baz=58,slow=75,SNR=167						
H04S1	**CROZET ISLANDS**	**61.06**	**216**	T	T	16 26 11.4	
	baz=56,slow=75,SNR=31						
H04S3	**CROZET ISLANDS**	**61.07**	**216**	T	T	16 26 03.9	
	baz=56,slow=75,SNR=66						
H04S2	**CROZET ISLANDS**	**61.08**	**216**	T	T	16 26 06.6	
	baz=56,slow=75,SNR=35						
ABKAR	**Akbulak array**	**61.38**	**331**	P	**P**	**15 20 13.8**	**-0.6**
ABKAR				IAmb	IAmb	15 20 24.3	
	comp=Z,3.2nm,1.0s						
ABKAR	**Akbulak array**	**61.38**	**331**	P	**P**	**15 20 13.9**	**-0.5**
FINES	**FINESS Array B**	**83.85**	**332**	P	**P**	**15 22 28.5**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=108,slow=6.2,SNR=6.0 comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**86.24**	**340**	P	**P**	**15 22 40.4**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=38,slow=4.6,SNR=1.5 comp=Z,1.3nm,0.8s						
QSPA	**South Pole Qui**	**88.12**	**180**	P	**P**	**15 22 49.7**	**+0.7**
	comp=Z,0.9nm,1.0s,baz=243,slow=2.3,SNR=1.4 comp=Z,0.9nm,1.0s						
CPUP	**Villa Florida**	**144.29**	**217**	PKP	**PKPab**	**15 29 33.4**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=211,slow=3.0,SNR=2.9						
TXAR	**Lajitas Array**	**144.74**	**37**	PKP	**PKPdf**	**15 29 35.8**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=276,slow=2.6,SNR=5.4						

*DJA **26** 15:12:47.7±0.6,2°.S±3°.×10°.0E±°,h14km±7km,M4.9/9,*
mb5.0/3,mB5.9/1,MLv4.9/9,Mw(mB)5.4/1
*NEIC **26** 15:12:47.4±0.8,1°.9S±0°.1×99°.6E±0°.1,h20km±5km,*
mb4.5/36,Error ellipse: s-maj=19.6km s-min=11.6km
az=45.0
*IDC **26** 15:12:50.6±1.9,1°.79S×99°.89E,h42km±16km,mb4.0/17,*
mbtmp4.2/17,MS3.8/13,Error ellipse: s-maj=26.9km
s-min=9.1km az=55.0
ISC 26 15:12:48.9±0.4,**1°.80S**±0°.05×**99°.68E**±0°.06,**h30**km,**n94,**
σ1**62**/81,**mb4.5**/39,**MS3.9**/17,**2C,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.75**	**308**	P	**Pn**	**15 13 03.1**	**-0.4**
SISI				S	**Sb**	**15 13 13.2**	**-0.3**
PPSI	**Pulau Pagai**	**1.01**	**161**	P	**Pb**	**15 13 07.6**	**-0.4**
PPSI				S	**Sb**	**15 13 25.0**	**+4.0**
PDSI	**Padang**	**1.18**	**42**	P	**Pn**	**15 13 07.7**	**-1.7**
PBSI	**Pulau Batu**	**2.23**	**321**	P	**Pb**	**15 13 27.3**	**-1.2**
GSI	**Gunungsitoli**	**3.73**	**326**	Pn	**Pn**	**15 13 46.0**	**+1.5**
GSI	**Gunungsitoli**	**3.73**	**326**	P	**Pn**	**15 13 42.3**	**-2.2**
LWLI	**Liwa**	**5.42**	**126**	P	**Pn**	**15 14 07.7**	**-0.1**
	314nm,0.7s,10μm1.2nm						
KASI	**Kota Agung**	**6.07**	**128**	P	**Pn**	**15 14 16.8**	**+0.1**
	81nm,0.6s,0.4nm						
SRIT	**Nakonsritamara**	**10.32**	**360**	Pn	**Pn**	**15 15 17.9**	**+2.8**
KSM	**Kuching**	**11.11**	**73**	Pn	**Pn**	**15 15 26.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**20.14**	**358**	P	**P**	**15 17 20.9**	**+0.1**
	2.6nm,0.7s,baz=186,slow=9.3,SNR=11						
CMAR				LR	LR	15 26 26.9	
	comp=Z,158nm,18.9s,baz=175,slow=40 2.6nm,0.7s						
PHRA	**Phrae**	**20.18**	**2**		**P**	**15 17 22.0**	**+0.8**
KAPI	**Kappang**	**20.29**	**100**	P	**P**	**15 17 21.9**	**-0.5**
KAPI				IAmb	IAmb	15 17 52.1	
	comp=Z,17nm,1.1s						
CHTO	**Chiang Mai**	**20.49**	**358**	P	**P**	**15 17 24.7**	**+0.1**
QIZ	**Qiongzhong**	**22.98**	**25**	P	**P**	**15 17 52.8**	**+1.5**
QIZ				S	**S**	**15 22 05.3**	**+5.4**
QIZ				pmax	pmax		
	comp=Z,18nm,1.7s						
QIZ				LR	LR		
	comp=N,270nm,10.8s						
QIZ				LR	LR		
	comp=E,360nm,12.8s						
QIZ				LR	LR		
	comp=Z,580nm,9.8s						
DAV	**Davao City (W)**	**27.30**	**71**	LR	LR	15 31 41.3	
	comp=Z,95nm,18.6s,baz=198,slow=42						
H08S2	**Diego Garcia H**	**27.70**	**257**	T	T	15 47 21.2	
	baz=79,slow=75,SNR=54						
H08S3	**Diego Garcia H**	**27.70**	**257**	T	T	15 47 22.1	
	baz=79,slow=75,SNR=48						
H08S1	**Diego Carcia H**	**27.72**	**257**	T	T	15 47 17.4	
	baz=79,slow=75,SNR=53						
PZH	**PanZhiHua**	**28.20**	**4**	P	**P**	**15 18 44.0**	**+4.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
SHL	**Shillong**	**28.23**	**345**	P	**P**	**15 18 39.0**	**-0.6**
SHL				IAmb	IAmb	15 19 15.5	
	comp=Z,15nm,1.0s						
FITZ	**Fitzroy Crossi**	**30.19**	**124**	P	**P**	**15 18 54.5**	**-2.4**
TPUB	**Ta-pu**	**32.23**	**38**		**P**	**15 19 15.1**	**+0.3**
H01W3	**Cape Leeuwin H**	**35.57**	**159**	T	T	15 57 39.4	
	baz=334,slow=76,SNR=3.5						
H01W2	**Cape Leeuwin H**	**35.58**	**159**	T	T	15 57 42.4	
	baz=334,slow=76,SNR=3.5						
H01W1	**Cape Leeuwin H**	**35.58**	**159**	T	T	15 57 40.6	
	baz=334,slow=76,SNR=4.6						
XAN	**Xi'an**	**36.69**	**13**	P	**P**	**15 19 51.8**	**-1.5**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XAN				LR	LR		
	comp=N,830nm,12.4s						
XAN				LR	LR		
	comp=E,350nm,11.9s						
XAN				LR	LR		
	comp=Z,930nm,12.7s						
LYN	**LuoYang**	**38.10**	**17**	*e*P	P	15 20 13.5	+8.3
LYN				pmax	pmax		
	comp=Z,19nm,0.7s						
LYN				pmax	pmax		
	comp=Z,200nm,7.1s						
WB0	**Warramunga Arr**	**38.35**	**120**	P	**P**	**15 20 06.1**	**-1.4**
WB0				IAmb	IAmb	15 20 07.9	
	comp=Z,6.5nm,0.6s						
WRA	**Warramunga Arr**	**38.37**	**120**	P	**P**	**15 20 06.3**	**-1.4**
WRA	**Warramunga Arr**	**38.37**	**120**	P	**P**	**15 20 06.7**	**-1.1**
	comp=Z,3.5nm,0.5s,baz=303,slow=9.1,SNR=54						
WRA				PcP	**PcP**	**15 22 20.6**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=307,slow=2.6,SNR=2.0						
WRA				S	**S**	**15 25 55.7**	**-5.2**
	comp=Z,0.4nm,0.9s,baz=299,slow=21,SNR=2.6 comp=Z,3.5nm,0.5s						
WRAB	**Tennant Creek**	**38.38**	**120**	P	**P**	**15 20 06.7**	**-1.1**
WRAB				IAmb	IAmb	15 20 08.7	
	comp=Z,5.6nm,0.6s						
WB2	**Warramunga Arr**	**38.38**	**120**	P	**P**	**15 20 06.4**	**-1.4**
WB2				IAmb	IAmb	15 20 08.6	
	comp=Z,5.0nm,0.6s						
WR0	**Warramunga Arr**	**38.55**	**120**	P	**P**

MKAR S **S** **15 28 59.3 -0.5**
comp=Z,0.9nm,1.0s,baz=150,slow=12,SNR=4.1
MKAR LR LR 15 46 36.8
comp=Z,48nm,18.4s,baz=167,slow=40
comp=Z,5.2nm,0.7s
MAKZ Makanchi 50.85 344 P **P** **15 21 46.8 -0.1**
USRK Ussuriysk Ar. 54.13 28 P **P** **15 22 11.3 +0.1**
comp=Z,3.2nm,0.7s,baz=232,slow=6.6,SNR=6.0
USRK LR LR 15 46 37.3
comp=Z,100nm,18.0s,baz=197,slow=38
comp=Z,3.2nm,0.7s
EIDS Eidsvold 54.73 120 P **P** **15 22 13.1 -2.9**
EIDS IAmb IAmb 15 22 31.3
comp=Z,4.7nm,0.9s
KURBB Kurchatov Arra 55.27 344 P **P** **15 22 19.7 +0.4**
comp=Z,1.2nm,0.4s,baz=162,slow=7.3,SNR=8.9
KURBB S **S** **15 30 03.0 +1.9**
comp=Z,0.2nm,0.4s,baz=136,slow=21,SNR=4.2
comp=Z,1.2nm,0.4s
KURK Kurchatov 55.33 344 P **P** **15 22 19.7 -0.1**
KURK IAmb IAmb 15 22 31.7
comp=Z,6.7nm,1.1s
ZAA0 Zalesovo Array 56.91 350 P **P** **15 22 31.1 +0.1**
ZAA0 IAmb IAmb 15 22 33.8
comp=Z,8.1nm,0.8s
ZALV Zalesovo Beam 56.91 350 P **P** **15 22 31.1 0.0**
comp=Z,6.4nm,0.7s,baz=165,slow=6.2,SNR=18
ZALV S **S** **15 30 23.7 +0.9**
comp=Z,0.8nm,0.7s,baz=160,slow=8.9,SNR=4.8
comp=Z,6.4nm,0.7s
KLR Kul'dur 57.88 24 LR LR 15 49 34.8
comp=Z,54nm,18.7s,baz=221,slow=38
JKA Kamikawa-asahi 59.63 35 P **P** **15 22 52.9 +2.7**
BVAR Borovoye Array 59.88 340 P **P** **15 22 51.2 -0.7**
comp=Z,2.4nm,0.5s,baz=146,slow=9.2,SNR=12
comp=Z,2.4nm,0.5s
H04N2 CROZET ISLANDS 60.77 216 T T 16 28 33.2
baz=58,slow=75,SNR=224
H04N1 CROZET ISLANDS 60.78 216 T T 16 28 36.6
baz=58,slow=75,SNR=303
H04N3 CROZET ISLANDS 60.79 216 T T 16 28 35.3
baz=58,slow=75,SNR=217
H04S1 CROZET ISLANDS 61.06 216 T T 16 28 47.7
baz=56,slow=75,SNR=92
H04S3 CROZET ISLANDS 61.08 216 T T 16 28 59.2
baz=56,slow=75,SNR=156
H04S2 CROZET ISLANDS 61.08 216 T T 16 29 00.4
baz=56,slow=75,SNR=78
ABKAR Abkulak array 61.31 331 P **P** **15 23 01.7 +0.1**
ABKAR IAmb IAmb 15 23 02.7
comp=Z,3.7nm,0.9s
ABKAR Abkulak array 61.31 331 P **P** **15 23 01.4 -0.2**
YAK Yakutsk 67.63 15 LR LR 15 54 04.0
comp=Z,101nm,18.5s,baz=210,slow=37
KBZ Khabaz 67.95 319 P **P** **15 23 45.2 +0.2**
comp=Z,1.5nm,0.4s,baz=116,slow=8.1,SNR=3.6
comp=Z,1.5nm,0.4s
BRTR Keskin Array B 72.95 313 P **P** **15 24 15.6 -0.3**
comp=Z,0.8nm,0.7s,baz=128,slow=8.0,SNR=4.4
BRTR LR LR 15 59 11.8
comp=Z,88nm,18.4s,baz=117,slow=38
comp=Z,0.8nm,0.7s
MA2 Magadan 72.98 24 LR LR 15 59 31.8
comp=Z,48nm,18.9s,baz=206,slow=38
BKZ Black Stump Fm 78.65 129 P **P** **15 24 48.6 +0.2**
URZ Urewera 79.02 128 LR LR 16 01 37.4
comp=Z,92nm,19.2s,baz=27,slow=37
BUR08 Bucovina Ar. S 80.92 319 P **P** **15 25 01.3 +0.7**
BUR08 IAmb IAmb 15 25 03.5
comp=Z,3.6nm,0.9s
LVZ Lovozero 82.48 340 P **P** **15 25 08.2 -0.1**
CRVS Cervenica-Dubn 83.61 319 *eP* **P** **15 25 16.7 +2.1**
FIA1 FINESS Array S 83.78 332 P **P** **15 25 15.8 +0.7**
FINES FINESS Array B 83.78 332 P **P** **15 25 16.1 +0.9**
FINES FINESS Array B 83.78 332 P **P** **15 25 15.6 +0.5**
comp=Z,0.9nm,0.5s,baz=96,slow=4.2,SNR=12
comp=Z,0.9nm,0.5s
ARCES ARCESS Array B 86.17 340 P **P** **15 25 27.8 +0.8**
ARCES ARCESS Array B 86.17 340 P **P** **15 25 27.9 +0.8**
comp=Z,4.4nm,0.9s,baz=90,slow=5.4,SNR=9.2
comp=Z,4.4nm,0.9s
QSPA South Pole Qui 88.16 180 P **P** **15 25 38.9 +2.0**
QSPA South Pole Qui 88.16 180 P **P** **15 25 38.1 +1.3**
comp=Z,2.4nm,0.9s,baz=320,slow=0.8,SNR=8.6
comp=Z,2.4nm,0.9s
HFS Hagfors 89.54 330 P **P** **15 25 43.9 +0.6**
comp=Z,0.8nm,0.7s,baz=156,slow=7.3,SNR=6.3
comp=Z,0.8nm,0.7s
VNA2 Neumayer--Watz 93.84 198 ⇑P P 15 26 11.8 +8.8
comp=Z,0.7nm,0.2s,baz=6.2,slow=14
VNA1 Neumayer--Stat 94.20 199 ⇑P P 15 26 10.2 +5.6
comp=Z,2.5nm,0.4s
CPUP Villa Florida 144.29 217 PKP **PKPdf** **15 32 23.2 +0.3**
comp=Z,5.4nm,0.9s,baz=136,slow=3.6,SNR=7.2
TXAR Lajitas Array 144.73 37 PKP **PKPdf** **15 32 23.6 -0.2**
comp=Z,1.5nm,0.6s,baz=239,slow=0.6,SNR=14

*DJA **26** 15:29:57.1±0.5,2°S±4°×10°0E±°, h10km, M3.5/3, MLv3.5/3*
*IDC **26** 15:29:58.5±6.7,0°96S×101°10E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=348.0km s-min=24.7km az=54.0*
ISC 26 15:29:56.4±0.9,**1°65S**±0°07×**99°9E**±0°1,**h10**km,**n7**, σ1$52/8,**mb3.2**/4,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.83**	**292**	P	**Pg**	**15 30 11.7**	**-0.6**
PDSI	**Padang**	**0.95**	**40**	P	**Pn**	**15 30 16.5**	**+0.7**
PPSI	**Pulau Pagai**	**1.12**	**172**	P	**Pb**	**15 30 18.6**	**+0.7**
PPSI				S	**Sb**	**15 30 33.3**	**+0.8**
WRA	**Warramunga Arr**	**38.30**	**121**	P	**P**	**15 37 15.1**	**-2.4**
	0.3nm,0.5s,baz=302,slow=9.4,SNR=7.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**39.58**	**126**	P	**P**	**15 37 26.8**	**-1.5**
	0.4nm,0.7s,baz=302,slow=8.1,SNR=8.9						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**50.65**	**344**	P	**P**	**15 38 56.8**	**+1.0**
	0.1nm,0.3s,baz=166,slow=8.8,SNR=2.0						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**56.80**	**349**	P	**P**	**15 39 41.6**	**+1.0**
	0.4nm,0.3s,baz=158,slow=7.6,SNR=1.5						
	0.4nm,0.3s						

*SNET **26** 15:37:30.3±0.4, 13°90N×89°64W, h165km±7km, ML2.5*
CATAC 26 15:37:33.6±0.7,**13°94N**×**89°49W**,**h132**km±5km,**ML2.7,1C, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNIC	**Universidad Ca**	**0.07**	**307**	*i* P	Pn	15 37 52.1	+0.5
UNIC				IAML		15 37 52.6	
	comp=Z,530nm,1.0s						
UNIC				*i* S	Sn	15 38 05.7	+0.6
SNJE	**San Jose**	**0.13**	**236**	*i* P	Pn	15 37 52.8	+1.0
SNJE				IAML		15 37 53.2	
	comp=Z,192nm,0.3s						
RTR	**El Retiro**	**0.15**	**254**	*eP*	Pn	15 37 52.8	+1.0
RTR				IAML		15 37 53.9	
	comp=Z,191nm,0.2s						
CEVE	**Cerro Verde**	**0.17**	**228**	*eP*	Pn	15 37 53.0	+1.1
CEVE	**Cerro Verde**	**0.17**	**228**	*i* P	Pn	15 37 52.7	+0.7
CEVE				*i* S	Sn	15 38 07.4	+1.6
CEVE				IAML		15 38 27.6	
	comp=Z,390nm,1.0s						
NUBE	**Las Nubes**	**0.28**	**262**	*eP*	Pn	15 37 52.5	+0.4
NUBE	**Las Nubes**	**0.28**	**262**	*i* P	Pn	15 37 52.0	-0.1
NUBE				IAML		15 37 53.1	
	comp=Z,460nm,1.0s						
NUBE				*i* S	Sn	15 38 07.6	+1.5
PMON	**Piamonte**	**0.29**	**142**	*i* P	Pn	15 37 53.3	+1.2
PMON	**Piamonte**	**0.29**	**142**	*i* P	Pn	15 37 53.2	+1.1
PMON				IAML		15 37 53.6	
	comp=Z,1μm,1.0s						
JAYA	**Jayaque - finc**	**0.29**	**171**	*eP*	Pn	15 37 52.8	+0.6
JAYA	**Jayaque - finc**	**0.29**	**171**	*i* P	Pn	15 37 52.8	+0.6
JAYA				IAML		15 37 54.9	
	comp=Z,1μm,1.0s						
JAYA				*i* S	Sn	15 38 07.7	+1.5
UDBS	**Universidad Do**	**0.40**	**124**	*i* P	Pn	15 37 54.0	+1.5
UDBS				IAML		15 37 54.2	
	comp=Z,2μm,1.0s						
LFU	**La Fuente**	**0.42**	**117**	*eP*	Pn	15 37 53.9	+1.4
LFU				IAML		15 37 54.9	
	comp=Z,5.4nm,0.3s						
LOMA	**Loma Larga**	**0.43**	**133**	*i* P	Pn	15 37 54.1	+1.4

LALI	**Alcaldia de L**	**0.48**	**159**	*i* P	Pn	15 37 54.0	+1.2
LALI				IAML		15 37 54.1	
	comp=Z,520nm,1.0s						
LALI				*i* S	Sn	15 38 09.3	+2.0
LFRS	**El Faro**	**0.53**	**127**	*i* P	Pn	15 37 54.5	+1.3
PAVA	**Las Pavas**	**0.59**	**113**	⇑*i* P	Pn	15 37 55.2	+1.6
SCLA	**Alcaldia de Sa**	**0.78**	**108**	*i* P	Pn	15 37 54.8	-0.1
SCLA				IAML		15 37 56.6	
	comp=Z,190nm,1.0s						
SCLA				*i* S	Sn	15 38 12.5	+1.6
TECO	**Alcaldia de Te**	**0.80**	**120**	*i* P	Pn	15 37 55.4	+0.4
TECO				IAML		15 37 59.3	
	comp=Z,160nm,1.0s						
PQSS	**Presa 15 de Se**	**0.96**	**109**	*i* P	Pn	15 37 56.4	+0.1
PQSS				IAML		15 37 57.7	
	comp=Z,220nm,1.0s						
PQSS				*i* S	Sn	15 38 15.1	+1.6
PACA	**Pacayal**	**1.23**	**112**	*i* P	Pn	15 37 59.5	+0.4
PACA				*i* S	Sn	15 38 18.5	+0.1
PACA				IAML		15 38 32.9	
	comp=Z,1μm,1.0s						
CNCH	**Conchagua**	**1.74**	**112**	*eP*	Pn	15 38 05.6	+0.8
PKGN	**Cerro Pekin**	**2.76**	**117**	*i* P	Pn	15 38 17.2	0.0
COPN	**Copaltepe**	**3.33**	**121**	*i* P	Pn	15 38 24.7	+0.1

*NAO **26** 15:50:56.4, 31°71N×47°39E, h33km, mb3.4*
*MOS **26** 15:51:16.9±1.7, 34°26N×45°46E, h16km, mb4.2/20, Error ellipse: s-maj=8.5km s-min=4.9km az=96.4*
*IDC **26** 15:51:17.7±0.8, 34°34N×45°67E, h0km, mb3.8/17, mbtmp3.9/26, ML3.7/8, MS3.5/28, Error ellipse: s-maj=14.7km s-min=11.3km az=155.0*
*NEIC **26** 15:51:17.4±3.0, 34°18N±0°04×45°60E±0°09, h10km±1km, mb4.1/31, Error ellipse: s-maj=12.2km s-min=5.7km az=100.0*
*TEH **26** 15:51:19.2, 34°32N×45°62E, h12km±12km, ML4.0*
*ISN **26** 15:51:22.0±1.6, 34°32N×45°62E, h32km±50km, ML4.4*
*OMAN **26** 15:51:30.6±1.1, 33°80N×46°51E, h10km, mb4.2/23, ms3.7/2, Error ellipse: s-maj=13.5km s-min=8.2km az=46.0*
*GII **26** 15:52:04.7±0.2, 34°24N×45°54E, h10km, mB4.4, Md4.2/1, confirmed*
ISC 26 15:51:18.6±0.3,**34°30N**±0°03×**45°61E**±0°03,**h10**km,**n234**, σ2$40/235,**mb4.0**/38,**MS3.4**/23,**7C-5D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**355**	Pg	**Pg**	**15 51 24.5**	**+1.7**
KGS1				Sg	**Sg**	**15 51 28.4**	**+2.6**
GLG1	**Gilan-e-Gharb**	**0.31**	**127**	Pg	**Pb**	**15 51 27.1**	**+0.8**
IDHR	**Dehrash**	**0.76**	**58**	Pg	**Pb**	**15 51 34.6**	**+0.7**
IGHG	**Ghaleghazi**	**0.80**	**88**	Pg	**Pb**	**15 51 35.3**	**+0.6**
ILBA	**Ilam Banvizeh**	**0.84**	**143**	Pg	**Pb**	**15 51 36.3**	**+1.0**
KCHF	**Cheshme Sefid,**	**1.19**	**91**	Pg	**Pn**	**15 51 42.5**	**+1.1**
KCHF				Sg	**Sn**	**15 52 00.6**	**+3.0**
IBDR	**Badra**	**1.22**	**167**	*e*Pg	**Pg**	**15 51 44.0**	**+2.0**
	baz=348						
IBDR				*e*Sg	**Sn**	**15 52 02.0**	**+3.8**
IBDR				AML	AML	15 52 06.7	
	comp=E,12μm,0.5s						
IBDR				AML	AML	15 52 07.5	
	comp=N,8μm,0.7s						
ILIN	**Lien**	**1.27**	**61**	Pg	**Pg**	**15 51 44.1**	**+1.0**
SLY	**Sulaymaniyah**	**1.30**	**356**	Pg	**Pg**	**15 51 44.3**	**+0.8**
IKRK	**Kirkuk**	**1.51**	**317**	*e*Pn	**Pg**	**15 51 48.0**	**+0.4**
IKRK				*e*Sn	**Sg**	**15 52 09.0**	**+1.8**
IKRK				AML	AML	15 52 12.1	
	comp=E,7μm,0.5s						
IKRK				AML	AML	15 52 12.2	
	comp=N,3μm,0.6s						
SNQR	**Sonqor, Kerman**	**1.76**	**71**	Pg	**Pg**	**15 51 52.8**	**+0.5**
SDS1	**Sardasht. Az.**	**1.84**	**357**	Pn	**Pb**	**15 51 53.6**	**+1.1**
IBZA	**Bozab**	**1.87**	**84**	Pn	**Pb**	**15 51 53.9**	**+1.0**
IKFM	**Kafar-mosalman**	**2.02**	**112**	Pn	**Pb**	**15 51 56.1**	**+0.9**
MAHB	**Mahabad**	**2.46**	**2**	Pn	**Pb**	**15 52 02.1**	**-0.9**
HSAM	**Samen**	**2.48**	**91**	Pn	**Pb**	**15 52 02.4**	**-1.0**
IHSH	**Hashtrud**	**3.28**	**24**	Pn	**Pn**	**15 52 13.7**	**+3.4**
IAZR	**Azarshahr**	**3.38**	**5**	Pn	**Pn**	**15 52 14.9**	**+3.2**
ISRB	**Sarab**	**3.89**	**25**	Pn	**Pn**	**15 52 22.2**	**+3.6**
ISHB	**Shabestar**	**3.97**	**0**	Pn	**Pn**	**15 52 21.8**	**+2.1**
IHRS	**Heris**	**4.17**	**16**	Pn	**Pn**	**15 52 25.6**	**+3.2**
IMRD	**Marand**	**4.40**	**1**	Pn	**Pn**	**15 52 28.7**	**+3.1**
IQOM	**Qom**	**4.54**	**82**	Pn	**Pn**	**15 52 29.9**	**+2.4**
IPIR	**Pirpir**	**4.70**	**109**	Pn	**Pn**	**15 52 32.1**	**+2.3**
JHBN	**Jahan bin**	**4.71**	**115**	Pn	**Pn**	**15 52 32.9**	**+2.9**
GAS1	**Astara - Iran**	**4.84**	**32**	Pn	**Pn**	**15 52 34.3**	**+2.9**
QAMS	**Qamsar**	**4.84**	**95**	Pn	**Pn**	**15 52 35.1**	**+3.4**
GRMI	**Germi**	**4.86**	**22**	Pn	**Pn**	**15 52 35.0**	**+3.2**
IKLH	**Kolahrood**	**5.07**	**100**	Pn	**Pn**	**15 52 37.8**	**+3.0**
IVRN	**Varamin**	**5.09**	**80**	Pn	**Pn**	**15 52 37.7**	**+2.8**
MAKU	**Maku**	**5.10**	**352**	Pn	**Pn**	**15 52 38.7**	**+3.5**
GURO	**Guroymak-BITLI**	**5.13**	**327**		**Pn**	**15 52 33.4**	**-2.2**
IBRJ	**Brojen**	**5.31**	**115**	Pn	**Pn**	**15 52 40.6**	**+2.4**
KBD	**Kabd**	**5.41**	**160**	P	**Pn**	**15 52 42.2**	**+2.9**
KBD				S	**Sn**	**15 53 41.0**	**-0.7**
KRSH	**Karshahi**	**5.42**	**92**	Pn	**Pn**	**15 52 42.7**	**+3.0**
IDMV	**Damavand**	**5.43**	**75**	Pn	**Pn**	**15 52 42.6**	**+2.8**
ISFB	**Sefidab**	**5.49**	**88**	Pn	**Pn**	**15 52 42.7**	**+2.3**
IGAR	**Gharneh**	**5.71**	**108**	Pn	**Pn**	**15 52 46.5**	**+2.9**
IZEF	**Zefreh**	**5.78**	**102**	Pn	**Pn**	**15 52 47.5**	**+2.9**
GNI	**Garni**	**5.88**	**353**	Pn	**Pn**	**15 52 45.0**	**-0.9**
GNI	**Garni**	**5.88**	**353**	Pb	**Pb**	**15 52 58.4**	**-2.8**
GNI	**Garni**	**5.88**	**353**	Pn	Pn	15 52 50.7	+4.9
	comp=N,1.0nm,0.3s,baz=261,slow=15,SNR=1.5						
GNI				Pg	**Pb**	**15 53 03.8**	**+2.6**
	comp=N,1.4nm,0.3s,baz=197,slow=19,SNR=4.6						
GNI				Lg	Lg	15 54 23.4	
	baz=227,slow=18						
	comp=N,3.5nm,0.4s						
GNI	**Garni**	**5.88**	**353**	P	**Pn**	**15 52 45.0**	**-0.9**
IRAM	**Rameshеb**	**6.21**	**112**	Pn	**Pn**	**15 52 52.8**	**+2.4**
ANAR	**Anarak**	**6.85**	**97**	Pn	**Pn**	**15 53 01.6**	**+2.4**
GAZ	**Gaziantep**	**7.40**	**295**	Pn	**Pn**	**15 53 04.6**	**-2.1**
ARPR	**Arapgir-MALATY**	**7.55**	**311**		**Pn**	**15 53 08.3**	**-0.5**
ASF	**Jabal al Asfar**	**7.60**	**256**	Pn	**Pn**	**15 53 11.6**	**+2.1**
	comp=N,0.9nm,0.3s,baz=165,slow=0.1,SNR=3.8						
ASF				Pg	Pb	15 53 38.0	+7.5
	comp=N,1.6nm,0.3s,baz=145,slow=0.1,SNR=4.6						
ASF				Lg	Lg	15 55 24.9	
	comp=N,1.9nm,0.3s,baz=127,slow=0.1,SNR=2.4						
	comp=N,2.7nm,0.3s						
ASF	**Jabal al Asfar**	**7.60**	**256**	P	**Pg**	**15 53 48.2**	**+4.1**
ASF				S	**Sg**	**15 55 19.9**	**-2.6**
NATI	**Neve Ativ**	**8.28**	**266**	P	**Pg**	**15 54 00.2**	**+3.1**
MMAI	**Mount Meron Ar**	**8.61**	**264**	Pn	**Pn**	**15 53 25.0**	**+1.7**
	comp=N,0.8nm,0.3s,baz=83,slow=15,SNR=2.9						
MMAI				Pg	Pg	15 53 55.1	-8.2
	comp=N,1.1nm,0.3s,baz=95,slow=17,SNR=2.3						
MMAI				Lg	Lg	15 55 52.0	
	comp=N,2.6nm,0.3s,baz=79,slow=37,SNR=4.4						
MMAI				LR	LR	15 57 30.0	
	comp=N,327nm,18.7s,baz=20,slow=43						
	comp=N,1.0nm,0.4s						
QRNJ	**Al-Qirein**	**8.62**	**260**	P	**Pg**	**15 54 02.7**	**-0.9**
BALJ	**Balqa**	**8.64**	**258**	Pn	**Pn**	**15 53 22.5**	**-1.2**
BALJ	**Balqa**	**8.64**	**258**	P	**Pg**	**15 54 03.1**	**-0.9**
HMDT	**Nahal Hemdat**	**8.69**	**259**	P	**Pg**	**15 54 03.6**	**-1.2**
HMDT	**Nahal Hemdat**	**8.69**	**259**	P	Pg	15 54 09.4	+4.5
HMDT	**Nahal Hemdat**	**8.69**	**259**	S	Sg	15 55 46.4	-11
MMLI	**Mount Malkishu**	**8.72**	**261**	P	**Pg**	**15 54 09.6**	**+4.1**
MMLI	**Mount Malkishu**	**8.72**	**261**	S	Sg	15 55 47.4	-11
MAK	**Makhachkala**	**8.77**	**9**	*eP*	**Pn**	**15 53 22.8**	**-2.6**
MAK				*e*S	**Sn**	**15 55 02.3**	**-2.0**
MAK				pmax	pmax		
	comp=Z,347nm,1.0s						
MAK				MLR	MLR		
	comp=Z,393nm,9.0s						
BLGI	**Bet Lehem HaGe**	**8.84**	**263**	S	Sg	15 55 47.9	-14
BLGI	**Bet Lehem HaGe**	**8.84**	**263**	P	**Pg**	**15 54 10.9**	**+3.1**
GHAJ	**Ghor Haditha**	**8.97**	**253**	Pn	**Pn**	**15 53 25.8**	**-2.3**
GHAJ	**Ghor Haditha**	**8.97**	**253**	P	**Pg**	**15 54 12.9**	**+2.7**
DSI	**Dead Sea**	**9.02**	**255**	P	Pn	15 54 13.2	+44
YTIR	**Yattir**	**9.30**	**255**	P	Pn	15 54 17.8	+45
ZFRI	**Zfri**	**9.57**	**250**	P	Pn	15 54 21.0	+45
SHMA	**Al-Shehemyia**	**9.61**	**150**	P	**Pn**	**15 53 38.4**	**+1.5**
SHMA				S	**Sn**	**15 55 20.7**	**-4.2**
KBZ	**Khabaz**	**9.64**	**348**	Pn	**Pn**	**15 53 41.1**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=166,slow=10,SNR=3.6						
KBZ				LR	LR	15 58 11.1	
	comp=Z,211nm,20.8s,baz=152,slow=43						
	comp=Z,1.7nm,0.7s						

SHA1	**Shidzhatmaz**	**9.70**	**347**	*de*P	**Pn**	**15 53 42.5**	**+4.2**
KIV	**Kislovodsk**	**9.90**	**348**	*eP*	**Pn**	**15 53 41.4**	**+0.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,87nm,12.0s						
KZIT	**Kziot**	**10.04**	**253**	P	Pn	15 54 28.0	+45
EIL	**Elat**	**10.16**	**246**	Pn	**Pn**	**15 53 44.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=107,slow=7.3,SNR=5.2						
EIL				Lg	Lg	15 56 45.7	
	comp=Z,1.0nm,0.3s,baz=75,slow=19,SNR=2.9						
EIL				LR	LR	15 58 40.3	
	comp=Z,331nm,19.8s,baz=71,slow=43						
	comp=Z,1.0nm,0.3s						
EIL	**Elat**	**10.16**	**246**	P	Pn	15 54 29.1	+45
SOC	**Sochi**	**10.34**	**335**	*eP*	**Pn**	**15 53 42.6**	**-4.2**
SOC				*e*		15 55 37.1	
SOC				MLR	MLR		
	comp=Z,206nm,12.0s						
SMRA	**Abu-Samra**	**10.55**	**153**	P	**Pn**	**15 53 51.3**	**+1.5**
SMRA				S	**Sn**	**15 55 43.0**	**-5.1**
TRNA	**Turayna**	**10.71**	**151**	P	**Pn**	**15 53 53.5**	**+1.5**
TRNA				S	**Sn**	**15 55 46.6**	**-5.3**
RAYN	**Ar Rayn**	**10.74**	**181**	Pn	**Pn**	**15 53 49.5**	**-3.1**
RAYN	**Ar Rayn**	**10.74**	**181**	P	**Pn**	**15 53 49.5**	**-3.1**
BR131	**Keskin Array S**	**10.99**	**303**	⇑*eP*	**Pn**	**15 53 58.1**	**+2.1**
BRTR	**Keskin Array B**	**10.99**	**303**	Pn	**Pn**	**15 53 55.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=137,slow=17,SNR=2.4						
JRN	**Qarnain Island**	**11.25**	**144**	P	**Pn**	**15 54 02.0**	**+2.6**
SLWR	**Sila**	**11.49**	**151**	P	**Pn**	**15 54 05.6**	**+2.9**
SLWR				P	**Pn**	**15 54 05.6**	**+2.9**
SLWR				S	**Sn**	**15 56 05.1**	**-6.1**
SLWR				S	**Sn**	**15 56 05.1**	**-6.1**
GHWR	**Ruwais**	**12.10**	**146**	S	**Sn**	**15 56 19.8**	**-6.2**
ANN	**Anapa**	**12.23**	**331**	*eP*	**Pn**	**15 54 10.3**	**-2.4**
ANN				*e*S	**Sn**	**15 56 27.4**	**-1.6**
ANN				pmax	pmax		
	comp=Z,24nm,0.9s						
SHME	**Shamm**	**12.27**	**129**	Pn	**Pn**	**15 54 12.5**	**-0.8**
SHME				Sn	Sn	15 56 20.1	-10
SHME	**Shamm**	**12.27**	**129**	P	**Pn**	**15 54 14.4**	**+1.0**
SHME				S	**Sn**	**15 56 23.2**	**-6.9**
BANOM	**Banah**	**12.46**	**129**	P	**Pn**	**15 54 17.0**	**+1.0**
BANOM				S	**Sn**	**15 56 29.5**	**-5.3**
AJN	**Ajban**	**12.68**	**137**	Pn	**Pn**	**15 54 22.4**	**+3.5**
AJN	**Ajban**	**12.68**	**137**	P	**Pn**	**15 54 21.1**	**+2.1**
AJN				S	**Sn**	**15 56 34.7**	**-5.6**
NAZ	**Nazwa, Dubai**	**12.74**	**134**	Pn	**Pn**	**15 54 19.9**	**+0.1**
NAZ	**Nazwa, Dubai**	**12.74**	**134**	P	**Pn**	**15 54 20.8**	**+1.0**
	SNR=12						
NAZ				S	**Sn**	**15 56 36.0**	**-5.8**
MZWR	**Madinat Zayed**	**12.75**	**143**	P	**Pn**	**15 54 21.6**	**+1.7**
MZWR				S	**Sn**	**15 56 35.4**	**-6.5**
MASF	**Masafi**	**12.76**	**131**	P	**Pn**	**15 54 21.0**	**+0.9**
	SNR=14						
MASF				S	Sn	15 56 33.6	-8.8
MSFE	**Esma-Masafi**	**12.77**	**131**	Pn	**Pn**	**15 54 19.6**	**-0.7**
ASUD	**Al Ashush, Dub**	**12.82**	**136**	P	**Pn**	**15 54 22.1**	**+1.2**
FAQ	**Al Faqa, Dubai**	**12.88**	**135**	Pn	**Pn**	**15 54 19.2**	**-2.6**
FAQ	**Al Faqa, Dubai**	**12.88**	**135**	P	**Pn**	**15 54 22.3**	**+0.5**
MDH	**Madha**	**12.90**	**131**	Pn	**Pn**	**15 54 21.2**	**-0.8**
MDH	**Madha**	**12.90**	**131**	P	**Pn**	**15 54 22.8**	**+0.8**
UOSS	**Minazif**	**13.10**	**133**		**Pn**	**15 54 22.4**	**-2.4**
UOSS	**Minazif**	**13.10**	**133**	Pn	**Pn**	**15 54 22.7**	**-2.1**
UOSS	**Minazif**	**13.10**	**133**	P	**Pn**	**15 54 26.0**	**+1.3**
UOSS				S	Sn	15 56 40.9	-10
HATD	**Hatta, Dubai**	**13.15**	**133**	Pn	**Pn**	**15 54 25.2**	**-0.2**
HATD	**Hatta, Dubai**	**13.15**	**133**	P	**Pn**	**15 54 26.9**	**+1.5**
HATD				S	Sn	15 56 43.1	-8.6
MZR	**Muzera**	**13.20**	**146**	P	**Pn**	**15 54 27.2**	**+1.1**
MZR				S	**Sn**	**15 56 48.2**	**-4.9**
ASHO	**Ashiyiah**	**13.21**	**134**	Pn	**Pn**	**15 54 25.4**	**-0.9**
ASHO	**Ashiyiah**	**13.21**	**134**	P	**Pn**	**15 54 26.2**	**0.0**
ASHO				S	Sn	15 56 44.8	-8.4
ASHO				S	Sn	15 56 44.8	-8.4
ALNE	**Al Ain**	**13.51**	**136**	Pn	**Pn**	**15 54 30.0**	**-0.3**
ALNE	**Al Ain**	**13.51**	**136**	P	**Pn**	**15 54 30.6**	**+0.2**
ALNE				S	Sn	15 56 51.9	-8.7
JASK	**Jask - Hormozg**	**13.53**	**125**	P	**Pn**	**15 54 30.9**	**+0.3**
JASK				S	**Sn**	**15 56 54.4**	**-6.7**
SOHO	**SOHO**	**13.90**	**134**	Pn	**Pn**	**15 54 34.8**	**-0.9**
SOHO	**SOHO**	**13.90**	**134**	P	**Pn**	**15 54 35.0**	**-0.7**
SOHO				S	Sn	15 56 60.0	-10
UMZA	**Um Al Zommool**	**14.27**	**142**	P	**Pn**	**15 54 41.0**	**+0.3**
UMZA				S	Sn	15 57 08.3	-11
ARQ	**Araqi**	**14.51**	**136**	P	**Pn**	**15 54 44.0**	**-0.1**
	SNR=5.3						
ARQ				S	Sn	15 57 15.8	-9.2
BSY	**Bisya**	**15.36**	**136**	P	**Pn**	**15 54 56.1**	**+0.6**
BSY				S	Sn	15 57 34.3	-11
SMDO	**Samad**	**15.63**	**133**	P	**Pn**	**15 54 59.0**	**-0.1**
SMDO				S	**Sn**	**15 57 43.4**	**-8.9

AKBB Malin Array Si 20.28 329 P **P 15 55 51.5 -2.8**
AKBB IAmb IAmb 15 56 02.3
comp=Z,4.8nm,0.7s
AKBB Malin Array Si 20.28 329 *de*P **P 15 55 55.5 +1.3**
AKBB pmax pmax
comp=Z,6.0nm,1.0s
KIEV Kiev 20.29 329 P **P 15 55 51.1 -3.1**
KIEV IAmb IAmb 15 56 02.3
comp=Z,4.3nm,0.7s
KIEV Kiev 20.29 329 P **P 15 55 51.1 -3.1**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
BUR08 Bucovina Ar. S 20.29 317 P **P 15 55 51.2 -3.3**
BUR08 IAmb IAmb 15 56 04.0
comp=Z,7.7nm,1.2s
GAR Garm 20.35 70 P **P 15 55 52.7 -2.5**
GAR IAmb IAmb 15 56 08.3
comp=Z,11nm,1.0s
BTK Batken 20.86 67 P **P 15 56 00.6 -0.1**
BTK IAmb IAmb 15 56 20.5
comp=Z,6.2nm,1.0s
BTK Batken 20.86 67 P **P 15 56 00.6 -0.1**
BTK pmax pmax
comp=Z,6.0nm,1.0s
KK31 Karatay Array 21.27 58 P **P 15 56 05.2 +0.2**
KK31 IAmb IAmb 15 56 20.4
comp=Z,6.8nm,1.2s
KK31 Karatay Array 21.27 58 P **P 15 56 05.2 +0.2**
KK31 pmax pmax
comp=Z,7.0nm,1.3s
KKAR Karatay Array 21.27 58 P **P 15 56 05.4 +0.4**
KKAR Karatay Array 21.27 58 P **P 15 56 05.4 +0.4**
KKAR pmax pmax
comp=Z,7.0nm,1.3s
OBN Obninsk 21.74 346 P **P 15 56 09.8 -0.1**
comp=Z,17nm,0.4s,baz=164,slow=15,SNR=3.3
OBN LR LR 16 05 44.3
comp=Z,148nm,20.0s,baz=182,slow=40
comp=Z,17nm,0.4s
OBN Obninsk 21.74 346 *de*P **P 15 56 09.7 -0.2**
OBN *e* 15 56 32.8
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN MLR MLR
comp=Z,134nm,19.0s
MOS Moscow 22.14 348 *e*P **P 15 56 12.4 -1.7**
ARSB Arslanbob 22.67 64 P **P 15 56 19.9 -0.3**
ARSB Arslanbob 22.67 64 P **P 15 56 19.9 -0.3**
ARSB pmax pmax
comp=Z,3.0nm,1.3s
NIL Nilore 22.91 84 P **P 15 56 22.9 +0.3**
NIL IAmb IAmb 15 56 43.2
comp=Z,13nm,1.4s
NIL Nilore 22.91 84 P **P 15 56 23.0 +0.3**
NIL pmax pmax
comp=Z,13nm,1.5s
ARU Arti 23.84 18 P **P 15 56 30.9 -0.9**
ARU IAmb IAmb 15 56 40.5
comp=Z,4.7nm,0.7s
ARU Arti 23.84 18 LR LR 16 08 36.2
comp=Z,44nm,18.5s,baz=184,slow=44
ARU Arti 23.84 18 *d i*P P 15 56 39.5 +7.8
ARU 15 57 07.4
ARU pmax pmax
comp=Z,5.0nm,0.7s
AAK Ala-Archa 24.01 61 LR LR 16 07 55.6
comp=Z,108nm,19.1s,baz=205,slow=42
KIRV Kirov 24.42 5 LR LR 16 08 18.4
comp=Z,113nm,18.4s,baz=191,slow=42
KIRV Kirov 24.42 5 *c i*P **P 15 56 37.4 +0.4**
SUW Suwalki 25.25 328 P **P 15 56 43.6 -1.0**
SUW Suwalki 25.25 328 P **P 15 56 43.6 -1.0**
SUW pmax pmax
comp=Z,53nm,1.3s
BRVK Borovoye 25.67 36 P **P 15 56 48.5 +0.1**
BRVK IAmb IAmb 15 57 14.9
comp=Z,3.5nm,0.9s
BRVK Borovoye 25.67 36⇑ *e*P **P 15 56 51.3 +2.9**
BRVK pmax pmax
comp=Z,6.0nm,1.8s
BVAR Borovoye Array 25.70 36 P **P 15 56 49.8 +1.0**
comp=Z,0.7nm,0.4s,baz=218,slow=7.0,SNR=7.1
BVAR PcP **PcP 16 00 20.3 +1.6**
comp=Z,0.9nm,0.6s,baz=318,slow=2.0,SNR=4.1
BVAR LR LR 16 08 38.2
comp=Z,81nm,20.4s,baz=205,slow=41
comp=Z,0.7nm,0.4s
MORC Moravsky Berou 25.75 315 P **P 15 56 47.6 -1.7**
MORC IAmb IAmb 15 57 16.2
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 25.75 315 P **P 15 56 47.6 -1.7**
MORC pmax pmax
comp=Z,3.0nm,0.8s
FURI Furi 26.08 196 LR LR 16 07 42.1
comp=Z,213nm,18.6s,baz=62,slow=38
VSU Vasula 27.26 338⇓ *e*P **P 15 57 02.0 -0.7**
VSU pmax pmax
comp=Z,12nm,1.3s
KURBB Kurchatov Arra 28.95 46 P **P 15 57 19.8 +1.9**
comp=Z,2.0nm,0.2s,baz=256,slow=7.5,SNR=4.8
KURBB LR LR 16 11 03.1
comp=Z,100nm,19.1s,baz=164,slow=41
comp=Z,2.0nm,0.2s
KURK Kurchatov 29.03 46⇑ *i*P **P 15 57 22.1 +3.5**
KURK pmax pmax
comp=Z,6.0nm,2.1s
FIA1 FINESS Array S 29.90 341 P **P 15 57 25.3 -0.9**
FINES FINESS Array B 29.90 341 P **P 15 57 25.6 -0.6**
FINES FINESS Array B 29.90 341 P **P 15 57 26.0 -0.2**
comp=Z,0.8nm,0.4s,baz=151,slow=9.6,SNR=13
FINES LR LR 16 10 38.8
comp=Z,88nm,18.6s,baz=134,slow=39
comp=Z,0.8nm,0.4s
FINES FINESS Array B 29.90 341 *e*P **P 15 57 26.8 +0.6**
FINES pmax pmax
comp=Z,1.0nm,0.4s
MK31 Makanchi Array 30.26 55 P **P 15 57 28.9 -0.7**
MK31 Makanchi Array 30.26 55 P **P 15 57 28.9 -0.7**
MK31 pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 30.26 55 P **P 15 57 30.7 +1.1**
comp=Z,0.5nm,0.6s,baz=259,slow=5.9,SNR=6.1
comp=Z,0.5nm,0.6s
MKAR Makanchi Array 30.26 55 *e*P **P 15 57 31.2 +1.6**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
BNI Bardonecchia 31.55 302 P **P 15 57 38.5 -2.6**
BNI Bardonecchia 31.55 302 P **P 15 57 38.5 -2.6**
BNI pmax pmax
comp=Z,4.0nm,0.9s
ECH Echery 31.72 308 P **P 15 57 40.5 -1.9**
ECH IAmb IAmb 15 57 46.5
comp=Z,1.9nm,0.9s
ECH Echery 31.72 308 P **P 15 57 40.5 -1.9**
ECH pmax pmax
comp=Z,2.0nm,0.9s
WLF Walferdange 32.68 310 P **P 15 57 48.6 -2.2**
WLF Walferdange 32.68 310 P **P 15 57 48.6 -2.2**
WLF pmax pmax
comp=Z,4.0nm,0.7s
SSB Saint Sauveur 33.08 302 P **P 15 57 52.0 -2.4**
SSB IAmb IAmb 15 58 18.6
comp=Z,1.9nm,0.7s
SSB Saint Sauveur 33.08 302 P **P 15 57 52.0 -2.4**
SSB pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 33.14 331 P **P 15 57 55.3 +0.6**
comp=Z,2.4nm,0.5s,baz=138,slow=9.4,SNR=24
HFS LR LR 16 13 04.9
comp=Z,69nm,19.0s,baz=112,slow=40
comp=Z,2.4nm,0.5s
WMQ Urumqi 33.72 61 *e*P **P 15 58 01.3 +1.2**
WMQ pmax pmax
comp=Z,18nm,1.1s
ZALV Zalesovo Beam 33.73 42 P **P 15 57 59.4 -0.6**
comp=Z,0.5nm,0.3s,baz=242,slow=9.6,SNR=4.7
ZALV LR LR 16 14 40.5
comp=Z,94nm,19.0s,baz=215,slow=42
comp=Z,0.5nm,0.3s
ZALV Zalesovo Beam 33.73 42 *e*P **P 15 58 02.4 +2.5**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
NB2 NORSAR Subarra 34.66 331 P **P 15 58 07.9 -0.1**
comp=Z,0.5nm,0.8s,baz=125,slow=8.6
NOA NORSAR Array B 34.66 331 P **P 15 58 07.7 -0.3**
comp=Z,0.3nm,0.5s,baz=125,slow=8.6,SNR=4.4
NOA LR LR 16 14 01.3
comp=Z,61nm,19.9s,baz=145,slow=39
comp=Z,0.3nm,0.5s
KEV Kevo 36.97 349 P **P 15 58 27.6 0.0**
KEV Kevo 36.97 349 P **P 15 58 27.6 0.0**
KEV pmax pmax
comp=Z,19nm,1.3s
ARCES ARCESS Array B 37.01 348 P **P 15 58 28.1 +0.2**
ARCES ARCESS Array B 37.01 348 P **P 15 58 28.4 +0.4**
comp=Z,0.9nm,0.5s,baz=155,slow=8.8,SNR=13
ARCES LR LR 16 14 56.9
comp=Z,103nm,19.7s,baz=114,slow=38
comp=Z,0.9nm,0.5s
ARCES ARCESS Array B 37.01 348 P **P 15 58 28.1 +0.2**
ARCES pmax pmax
comp=Z,14nm,1.5s
MBAR Mbarara 37.42 205 LR LR 16 15 56.9
comp=Z,21nm,21.0s,baz=104,slow=40
EKA Eskdalemuir Ar 39.45 317 P **P 15 58 48.6 0.0**
comp=Z,0.2nm,0.3s,baz=101,slow=9.5,SNR=5.6
comp=Z,0.2nm,0.3s
ESDC Sonseca Array 39.55 293 P **P 15 58 49.8 0.0**
comp=Z,0.2nm,0.4s,baz=72,slow=9.2,SNR=1.8
comp=Z,0.2nm,0.4s
NRIK Noril'sk 42.01 21 P **P 15 59 09.6 -0.1**
NRIK IAmb IAmb 15 59 19.9
comp=Z,7.0nm,1.3s
NRIK Noril'sk 42.01 21 LR LR 16 19 41.8
comp=Z,53nm,20.0s,baz=143,slow=41
NRIK Noril'sk 42.01 21 P **P 15 59 09.6 -0.1**
NRIK pmax pmax
comp=Z,7.0nm,1.3s
TORD Torodi Ar. Bea 44.95 253 P **P 15 59 34.7 +0.7**
comp=Z,0.8nm,0.9s,baz=48,slow=8.9,SNR=3.1
TORD LR LR 16 21 36.9
comp=Z,56nm,18.1s,baz=148,slow=40
comp=Z,0.8nm,0.9s
JMIC Jan Mayen 46.45 339 LR LR 16 19 47.1
comp=Z,53nm,19.7s,baz=332,slow=37
SONM Songino Array 46.63 54 LR LR 16 22 45.8
comp=Z,71nm,19.1s,baz=228,slow=40
PZH PanZhiHua 48.52 83 P **P 16 00 02.0 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
CMAR Chiang Mai Arr 49.78 94 P **P 16 00 10.8 -0.7**
comp=Z,0.7nm,0.6s,baz=297,slow=8.3,SNR=4.9
comp=Z,0.7nm,0.6s
CMAR Chiang Mai Arr 49.78 94 *e*P **P 16 00 12.2 +0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
HHC Hu-ho-hao-te 51.58 62 *e*P **P 16 00 23.3 -1.8**
HHC pP pP 16 00 28.0 -0.4
HHC sP sP 16 00 32.3 +2.6
HHC PP **PP 16 02 27.8 +5.5**
HHC pmax pmax
comp=Z,53nm,5.5s
HHC pmax pmax
comp=Z,11nm,0.8s
DBIC Dimbokro 53.97 251 LR LR 16 26 51.3
comp=Z,83nm,18.2s,baz=148,slow=40
TIA Tai'an 57.16 66 P P 16 01 13.5 +7.8
TIA pmax pmax
comp=Z,6.0nm,0.8s
KSRS Korea Array 64.67 61 P **P 16 01 56.4 -0.2**
comp=Z,0.5nm,0.5s,baz=283,slow=7.1,SNR=5.2
comp=Z,0.5nm,0.5s
KSRS Korea Array 64.67 61 *e*P **P 16 01 57.1 +0.5**
KSRS pmax pmax
comp=Z,1.0nm,0.8s
BOSA Boshof 65.47 200 P **P 16 02 03.6 +1.7**
comp=Z,1.2nm,0.8s,baz=30,slow=8.1,SNR=1.6
comp=Z,1.2nm,0.8s
SEY Seymchan 67.07 28⇑ *e*P **P 16 02 13.0 +1.3**
SEY pmax pmax
comp=Z,30nm,2.5s
MA2 Magadan 68.12 32 LR LR 16 38 46.1
comp=Z,49nm,18.0s,baz=220,slow=42
ASAJ Asahikawa 71.54 49 LR LR 16 38 07.7
comp=Z,59nm,21.2s,baz=235,slow=39
MJAR Matsushiro Arr 72.40 58 LR LR 16 37 55.7
comp=Z,52nm,18.9s,baz=236,slow=39
ILAR Eielson Array 80.77 5 P **P 16 03 31.2 -0.6**
comp=Z,0.2nm,0.7s,baz=0.0,slow=6.1,SNR=2.5
comp=Z,0.2nm,0.7s
PDAR Pinedale Array 100.00 342 LR LR 16 54 04.3
comp=Z,35nm,18.1s,baz=16,slow=38

AFAD 26 15:52:53.2±0.0, 37°.07N×35°.11E, h7km±3km, ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DED	**Mersin**	**0.27**	**247**	P	Pg		15 52 59.0	+0.5
DED				S	Sb		15 53 03.8	-1.4
GULE	**Gulek**	**0.34**	**309**	P	Pg		15 52 59.9	0.0
GULE				S	Sb		15 53 06.3	-1.2
GULE				*i* AML	AML		15 53 08.0	
comp=E,34nm,0.4s								
AKO	**Adana**	**0.48**	**34**	P	Pg		15 53 02.4	-0.1
AKO				S	Sg		15 53 09.4	+0.7
YURE	**YUREGIR**	**0.48**	**120**	P	Pg		15 53 03.1	+0.6
YURE				*i* AML	AML		15 53 13.0	
comp=E,27nm,2.1s								
YURE				*i* AML	AML		15 53 29.0	
comp=N,34nm,1.8s								
KERG	**Konya-Eregli**	**0.86**	**294**	P	Pg		15 53 07.0	-2.7
KERG				*i* AML	AML		15 53 17.0	
comp=E,15nm,1.1s								
KERG				S	Sg		15 53 17.3	-3.6

*IDC **26** 16:05:41.1±1.4, 25°.25N×109°.83W, h0km, mbtmp3.1/4, ML3.6/4, Error ellipse: s-maj=25.3km s-min=11.4km az=114.0*
*MEX **26** 16:05:46.7±0.3, 25°.24N×109°.75W, h5km, MD3.9*
ISC 26 16:05:43.3±0.9, 25°.19N±0°.06×109°.79W±0°.07, h10km, n12, σ1§10/14, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.79**	**59**	*i* P		**Pb**	**16 05 59.6**	**+0.4**
TSIG				*e*S		**Sg**	**16 06 09.6**	**+0.6**
LPIG	**La Paz**	**1.18**	**203**	Pg		**Pb**	**16 06 05.6**	**-0.3**
9.1nm,0.3s,baz=16,slow=1.6,SNR=1.8								
LPIG				Lg		Lg	16 06 19.9	
46nm,0.3s,baz=72,slow=19,SNR=6.3								
LPIG	**La Paz**	**1.18**	**203**	*e*P		**Pg**	**16 06 06.6**	**+0.5**
SLBS	**Sierra La Lagu**	**1.51**	**185**	*e*P		**Pb**	**16 06 11.5**	**0.0**
CSIG	**Choix**	**2.07**	**38**	*e*P		**Pn**	**16 06 18.0**	**-0.2**
CSIG				*e*S		**Sb**	**16 06 46.0**	**-0.9**
GUYB	**Guaymas**	**2.86**	**340**	*e*P		**Pn**	**16 06 30.7**	**+1.6**
PDIG	**Papasquiaro**	**3.99**	**91**	*e*P		**Pn**	**16 06 44.2**	**-0.6**
CGIG		**5.40**	**17**	*e*P		Pn	16 07 09.1	+5.0
TXAR	**Lajitas Array**	**6.83**	**52**	Pn		**Pn**	**16 07 23.1**	**-0.6**
0.2nm,0.3s,baz=230,slow=13,SNR=8.5								
TXAR				Sn		**Sn**	**16 08 40.4**	**-1.3**
0.6nm,0.3s,baz=233,slow=26,SNR=12								
TXAR				Lg		Lg	16 09 14.8	
0.2nm,0.3s,baz=243,slow=27,SNR=3.3								
0.3nm,0.3s								
PFO	**Pinyon Flats O**	**10.20**	**327**	Pn		**Pn**	**16 08 08.1**	**-1.8**
0.2nm,0.3s,baz=140,slow=18,SNR=2.2								
1.6nm,0.7s								
NVAR	**Mina Array Bea**	**15.04**	**333**	Pn		**Pn**	**16 09 17.9**	**+1.8**
0.1nm,0.3s,baz=156,slow=8.9,SNR=1.4								
0.1nm,0.5s								
PDAR	**Pinedale Array**	**17.53**	**1**	P		**Pn**	**16 09 48.0**	**-0.1**
0.1nm,0.3s,baz=176,slow=12,SNR=1.5								
0.3nm,0.6s								

*IDC **26** 16:22:20.1±2.3, 6°.38S×129°.91E, h0km, mb3.6/1, mbtmp3.7/3, ML4.0/2, Error ellipse: s-maj=118.3km s-min=32.8km az=69.0*
ISC 26 16:22:27.6±1.6, 7°.5S±0°.2×129°.3E±0°.2, h10km, n15, σ2§36/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DRS	**Darwin Rock St**	**5.17**	**162**	P		**Pb**	**16 23 58.4**	**+0.2**
46nm,0.6s								
MTN	**Manton Dam**	**5.63**	**162**	P		**Pb**	**16 24 04.7**	**-1.3**
KDU	**Kakadu**	**6.05**	**149**	P		**Pb**	**16 24 09.9**	**-3.2**
WRA	**Warramunga Arr**	**13.32**	**159**	Pn		**P**	**16 25 42.4**	**-4.3**
0.5nm,0.3s,baz=342,slow=12,SNR=38								
WRA				Sn		**Sn**	**16 28 04.2**	**-1.0**
0.7nm,0.3s,baz=325,slow=24,SNR=8.1								
0.4nm,0.5s								
COEN	**Coen**	**15.07**	**116**	P		**P**	**16 26 08.8**	**+2.7**
QIS	**Mount Isa**	**16.39**	**144**	P		**P**	**16 26 23.6**	**+2.8**
ASAR	**Alice Springs**	**16.70**	**165**	P		**P**	**16 26 26.9**	**+2.8**
0.8nm,0.3s,baz=344,slow=11,SNR=110								
ASAR				S		**Sn**	**16 29 27.3**	**-0.1**
0.3nm,0.5s,baz=348,slow=26,SNR=5.9								
3.6nm,0.6s								
AS01	**Alice Springs**	**16.71**	**165**	P		**P**	**16 26 26.5**	**+2.2**
6.6nm,0.7s								
WRKA	**Warakurna**	**17.49**	**183**	P		**P**	**16 26 35.6**	**+2.6**
OOD	**Oodnadatta**	**21.10**	**164**	P		**P**	**16 27 13.7**	**+1.4**
MULG	**Mulgathing**	**23.13**	**169**	P		**P**	**16 27 33.1**	**-0.9**
FORT	**Forrest**	**23.22**	**183**	P		**P**	**16 27 35.1**	**+0.2**
LCRK	**Leigh Creek**	**24.34**	**161**	P		**P**	**16 27 46.3**	**+0.6**
BKNI	**Bangkinang**	**29.23**	**284**	P		**P**	**16 28 28.2**	**-1.8**
MKAR	**Makanchi Array**	**68.25**	**327**	P		P	16 33 19.1	-9.5
0.2nm,0.4s,baz=115,slow=8.0,SNR=3.1								
0.2nm,0.4s								

*IDC **26** 16:39:11.4±2.0, 27°.53S×67°.38W, h0km, mb3.7/1, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=52.0km s-min=28.4km az=30.0*
ISC 26 16:39:13.5±0.9, 27°.26S±0°.06×67°.54W±0°.06, h10km, n9, σ1§78/11, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CYA	**Choya**	**1.94**	**128**	*e*P		**Pg**	**16 39 50.9**	**+0.2**
CYA				*e*S		**Sg**	**16 40 18.4**	**+2.5**
AC06	**Mina Casimiro**	**2.50**	**267**	*e*P		**Pg**	**16 40 02.5**	**+1.1**
CO01	**Juntas del Tor**	**3.51**	**219**	*e*P		**Pg**	**16 40 19.6**	**-1.3**
LVC	**Limon Verde**	**4.79**	**345**	Pn		**Pn**	**16 40 29.1**	**+3.0**
0.5nm,0.3s,baz=159,slow=14,SNR=3.9								
LVC				Pg		**Pg**	**16 40 44.4**	**-1.0**
0.8nm,0.3s,baz=168,slow=13,SNR=9.3								
4.3nm,0.8s								
CPUP	**Villa Florida**	**9.17**	**87**	Pn		**Pn**	**16 41 25.4**	**-0.6**
0.1nm,0.3s,baz=257,slow=0.7,SNR=1.8								
CPUP				Lg		Lg	16 43 58.2	
0.4nm,0.3s,baz=252,slow=3.2,SNR=1.7								
0.7nm,0.4s								
TORD	**Torodi Ar. Bea**	**78.20**	**69**	P		**P**	**16 51 11.6**	**-2.1**
0.7nm,0.9s,baz=242,slow=3.1,SNR=2.3								
0.7nm,0.9s								
KURBB	**Kurchatov Arra**	**145.26**	**39**	PKPbc		**PKPbc**	**16 58 49.6**	**-1.3**
0.7nm,0.7s,baz=300,slow=3.8,SNR=5.5								
ZALV	**Zalesovo Beam**	**146.47**	**30**	PKPbc		**PKPab**	**16 58 54.8**	**-0.6**
0.9nm,0.5s,baz=302,slow=3.3,SNR=6.4								
MKAR	**Makanchi Array**	**149.30**	**43**	PKPbc		**PKPbc**	**16 59 02.2**	**-0.3**
0.4nm,0.7s,baz=318,slow=2.7,SNR=4.0								

*TEH **26** 16:40:29.4, 34°.61N×46°.25E, h8km±26km, ML2.8*
*ISN **26** 16:40:29.8±1.4, 34°.62N×46°.26E, h23km±26km, ML2.8*
ISC 26 16:40:29.4±1.0, 34°.61N±0°.04×46°.26E±0°.04, h12km±9km, n11, σ0§29/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**48**	P		**Pg**	**16 40 32.7**	**-0.2**
IDHR				Sg		**Sg**	**16 40 35.7**	**+0.3**
IGHG	**Ghaleghazi**	**0.38**	**137**	Pg		**Pg**	**16 40 37.4**	**+0.5**
KGS1	**Ghasr-e-Shirin**	**0.56**	**260**	Pg		**Pg**	**16 40 40.4**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.57**	**211**	Pg		**Pg**	**16 40 40.7**	**+0.1**
ILIN	**Lien**	**0.66**	**61**	Pg		**Pg**	**16 40 42.3**	**+0.1**
KCHF	**Cheshme Sefid,**	**0.72**	**117**	Pg		**Pg**	**16 40 43.3**	**-0.1**
ILBA	**Ilam Banvizeh**	**0.98**	**183**	Pg		**Pb**	**16 40 48.3**	**-0.1**
SNQR	**Sonqor, Kerman**	**1.15**	**77**	Pg		**Pn**	**16 40 51.5**	**-0.1**
IBZA	**Bozab**	**1.33**	**95**	Pg		**Pg**	**16 40 55.1**	**+0.2**
IBDR	**Badra**	**1.52**	**191**	*e*Pg		**Pb**	**16 40 57.0**	**-0.5**
baz=10.0								
IBDR				*e*sg		**Sg**	**16 41 18.0**	**-0.2**
IKRK	**Kirkuk**	**1.77**	**297**	*e*Pn		**Pn**	**16 41 00.0**	**+0.2**
IKRK				*e*Sn		**Sb**	**16 41 24.0**	**+0.2**
IKRK				AML		AML	16 41 30.4	
comp=E,129nm,1.3s								
IKRK				AML		AML	16 41 36.4	
comp=N,135nm,0.7s								

*NNC **26** 16:42:46.8±3.2, 47°.57N×88°.65E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=27.5km s-min=16.7km az=64.0*
*ASRS **26** 16:42:52.9±0.4, 48°.N±2°.×8°.9E±°., h10km, MLh3.1/15, Error ellipse: s-maj=6.8km s-min=4.1km az=74.8, confirmed*
ISC 26 16:42:44.4±1.8, 47°.54N±0°.07×89°.06E±0°.07, h10km, n14, σ2§32/34, 7C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DGZ	**Jazzator, Alta**	**2.42**	**334**	Pn		**Pb**	**16 43 28.7**	**+0.7**
DGZ				Pg		**Pg**	**16 43 30.0**	**-0.7**
DGZ				Sg		**Sg**	**16 44 00.9**	**-1.0**
CUR	**Chagan-Uzun**	**2.60**	**350**	Pn		**Pb**	**16 43 31.3**	**+0.1**
CUR				Pg		**Pg**	**16 43 33.6**	**-0.7**
CUR				Sg		**Sg**	**16 44 07.1**	**-0.9**
AKAR	**Aktash**	**2.94**	**342**	Pn		**Pb**	**16 43 36.6**	**-0.3**
AKAR				Pg		**Pg**	**16 43 39.5**	**-1.1**
AKAR				Sg		**Sg**	**16 44 16.5**	**-2.2**
ULGR	**Ulagan, Altay**	**3.17**	**347**	Pn		**Pb**	**16 43 41.1**	**+0.3**
ULGR				Pg		**Pg**	**16 43 45.6**	**+0.5**
ULGR				Sg		**Sg**	**16 44 24.0**	**-2.1**
TEL	**Teeli**	**3.56**	**12**	Pn		**Pn**	**16 43 42.7**	**+3.0**
TEL				Pg		**Pg**	**16 43 50.2**	**-2.3**
TEL				Sg		**Sg**	**16 44 35.4**	**-3.3**
ELDR	**Elanda**	**4.16**	**333**	Pn		**Pn**	**16 43 51.6**	**+3.7**
ELDR				Pg		**Pg**	**16 44 03.0**	**-1.0**
ELDR				Sg		**Sg**	**16 44 54.0**	**-3.8**
YALR	**Yailyu, Altay**	**4.33**	**348**	Pn		**Pn**	**16 43 54.8**	**+4.5**
YALR				Pg		**Pg**	**16 44 04.6**	**-2.7**
YALR				Sg		**Sg**	**16 44 59.7**	**-3.8**
UKR	**Ust'-Kan**	**4.41**	**322**	Pn		**Pn**	**16 43 55.1**	**+3.7**
UKR				Pg		**Pg**	**16 44 06.8**	**-1.9**
UKR				Sg		**Sg**	**16 45 04.6**	**-1.2**
ARTR	**Artybash**	**4.41**	**345**	Pg		**Pg**	**16 44 08.5**	**-0.4**
MK31	**Makanchi Array**	**4.68**	**263**	⇑Pn		**Pn**	**16 43 56.0**	**+1.0**
0.3nm,0.2s,baz=88,slow=15,SNR=23								
MK31				⇑Pg		**Pb**	**16 44 06.5**	**0.0**
0.4nm,0.3s,baz=78,slow=18,SNR=12								
MK31				⇑Lg		Lg	16 45 08.8	
3.1nm,0.5s,baz=82,slow=31,SNR=5.8								
MAKZ	**Makanchi**	**4.89**	**264**	⇑Pn		**Pn**	**16 43 57.6**	**-0.4**
0.3nm,0.3s								
MAKZ				⇓Pg		**Pb**	**16 44 10.0**	**0.0**
0.6nm,0.3s								
MAKZ				⇑Lg		Lg	16 45 12.2	
2.1nm,0.7s								
TASR	**Tashtagol**	**5.28**	**352**	Sg		**Sg**	**16 45 32.1**	**-1.6**
KURK	**Kurchatov**	**7.55**	**299**	⇓Pg		**Pb**	**16 44 59.4**	**+4.0**
0.3nm,0.3s								
KURK				⇑Sn		**Sn**	**16 45 57.7**	**-2.2**
1.3nm,0.7s								
KURK				⇑Lg		Lg	16 46 42.8	
2.3nm,0.8s								
KURBB	**Kurchatov Arra**	**7.57**	**298**	⇓Pg		**Pb**	**16 44 59.0**	**+3.3**
0.3nm,0.3s								
KURBB				⇓Sn		**Sn**	**16 46 00.3**	**-0.2**
2.4nm,0.7s								
KURBB				⇓Lg		Lg	16 46 40.7	
8.9nm,0.9s								

*IDC **26** 17:01:13.4±0.9, 67°.07N×21°.08E, h0km, mbtmp2.6/4, ML1.8/4, Error ellipse: s-maj=16.6km s-min=7.9km az=118.0*
*UPP **26** 17:01:13.0±0.1, 67°.06N×21°.00E, h0km, ML2.3, Unknown*
*HEL **26** 17:01:13.4±0.3, 67°.05N×20°.90E, h0km, ML2.1, Explosion*
*BER **26** 17:01:15.7±2.1, 67°.01N×21°.11E, h0km, ML1.6, Suspected explosion*
ISC 26 17:01:12.8±0.7, 67°.06N±0°.02×20°.89E±0°.02, h0km, n54, σ1§32/80, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.14**	**298**	P		**Pg**	**17 01 16.6**	**+1.1**
ERTU	**Ertsjaerv**	**0.72**	**134**	P		**Pg**	**17 01 26.1**	**-0.5**
ERTU	**Ertsjaerv**	**0.72**	**134**	PG		**Pg**	**17 01 25.9**	**-0.7**
ERTU				SG		**Sg**	**17 01 36.0**	**+0.1**

HARU	**Harads**	**0.90 178**	P	**Pg**	**17 01 29.6**	**-0.3**
KUA	**Kurravaara**	**0.93 347**	P	**Pg**	**17 01 30.3**	**-0.2**
SALU	**Saltoluokta**	**0.98 290**	*e*S	**Sn**	**17 01 48.5**	**0.0**
SALU	**Saltoluokta**	**0.98 290**	P	**Pg**	**17 01 32.0**	**+0.4**
LANU	**Lannavaara**	**1.08 23**	P	**Pg**	**17 01 32.9**	**-0.6**
LANU	**Lannavaara**	**1.08 23**	PG	**Pg**	**17 01 32.7**	**-0.8**
LANU			SN	**Sn**	**17 01 51.2**	**+0.2**
KOVU	**Salmi**	**1.21 347**	P	**Pg**	**17 01 35.5**	**-0.3**
KLF	**Kolari**	**1.21 80**	PG	**Pg**	**17 01 35.0**	**-1.0**
KLF			MSG		17 01 50.2	
	comp=Z,27nm,0.2s					
KLF			SB	**Sg**	**17 01 51.6**	**-0.1**
KALU	**Kalix**	**1.56 139**	P	**Pn**	**17 01 41.1**	**-0.6**
KALU	**Kalix**	**1.56 139**	PG	**Pn**	**17 01 41.0**	**-0.7**
	baz=318					
KALU			SN	**Sg**	**17 02 04.7**	**+2.0**
SJUU	**Sjulsmark**	**1.58 169**	P	**Pn**	**17 01 41.8**	**-0.2**
TOF	**Tornio**	**1.69 124**	PG	**Pn**	**17 01 43.2**	**-0.3**
TOF			MSG		17 02 03.7	
	comp=Z,14nm,0.2s					
TOF			SN	**Sn**	**17 02 05.6**	**-0.1**
HEF	**Hetta**	**1.72 37**	*e*P	**Pn**	**17 01 43.7**	**-0.2**
HEF			*e*S	**Sn**	**17 02 06.9**	**+0.3**
HEF	**Hetta**	**1.72 37**	PG	**Pn**	**17 01 43.9**	**-0.1**
	baz=215					
HEF			MSG		17 02 04.7	
	comp=Z,27nm,0.2s					
HEF			SG	**Sb**	**17 02 07.7**	**+0.3**
RNF	**Rovaniemi**	**2.08 100**	PG	**Pn**	**17 01 49.4**	**+0.6**
RNF			SG	**Sb**	**17 02 18.7**	**+1.1**
KTK1	**Kautokeino**	**2.15 23**	*e*P	**Pb**	**17 01 52.1**	**-0.5**
KTK1	**Kautokeino**	**2.15 23**	PG	**Pb**	**17 01 51.9**	**-0.7**
KTK1			SG	**Sg**	**17 02 21.6**	**-0.3**
I37NO	**I37NO**	**2.20 338**	I	I	17 15 17.3	
	baz=155,slow=323,SNR=6.1					
FAUS	**Fauske**	**2.21 281**	*e*P	**Pb**	**17 01 52.1**	**-1.4**
FAUS			*e*S	**Sb**	**17 02 21.5**	**+0.2**
FAUS			IAML		17 02 25.6	
	comp=Z,20nm,0.1s					
SGF	**Sodankyl**	**2.23 77**	PB	**Pn**	**17 01 51.5**	**+0.6**
	baz=260					
SGF			SG	**Sb**	**17 02 22.6**	**+0.7**
STEI	**Steigen**	**2.34 295**	*e*P	**Pn**	**17 01 53.6**	**+1.1**
STEI			*e*S	**Sb**	**17 02 25.0**	**-0.3**
STEI			IAML		17 02 35.1	
	comp=Z,3.3nm,0.3s					
RANF	**Ranua**	**2.58 111**	PN	**Pn**	**17 01 56.1**	**+0.3**
RANF			SG	**Sb**	**17 02 31.8**	**-0.3**
TRO	**Tromso**	**2.69 345**	*e*P	**Pn**	**17 01 58.9**	**+1.7**
TRO			IAML		17 02 39.3	
	comp=Z,5.6nm,0.3s					
TRO	**Tromso**	**2.69 345**	PB	**Pb**	**17 01 59.9**	**-1.8**
TRO			SG	**Sb**	**17 02 36.2**	**+1.0**
OBF4	**Vikkela, Lumij**	**2.84 141**	PB	**Pn**	**17 02 00.9**	**+1.6**
OBF4			MSG		17 02 36.8	
	comp=Z,3.9nm,0.2s					
OUL	**Oulu**	**2.84 132**	PB	**Pn**	**17 02 01.3**	**+2.0**
	baz=312					
OUL			SB	**Sn**	**17 02 36.2**	**+1.9**
OBF0	**Syolatti, Pyha**	**2.92 150**	PB	**Pn**	**17 02 01.4**	**+1.0**
OBF0			MSG		17 02 38.9	
	comp=Z,3.9nm,0.2s					
OBF8	**Ulkokalla**	**2.93 158**	PB	**Pn**	**17 02 02.3**	**+1.7**
OBF8			MSG		17 02 39.4	
	comp=Z,9.1nm,0.2s					
ARA0	**ARCESS Array S**	**3.02 32**	PN	**Pn**	**17 02 02.5**	**+0.6**
ARCES	**ARCESS Array B**	**3.02 32**	Pn	**Pn**	**17 02 02.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=213,slow=13,SNR=37					
ARCES			Sn	**Sn**	**17 02 37.8**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=212,slow=29,SNR=5.8					
	comp=Z,0.5nm,0.2s					
OUF	**Merijarvi**	**3.13 148**	PN	**Pn**	**17 02 04.4**	**+1.1**
OUF			SB	**Sn**	**17 02 44.6**	**+3.2**
OUF			MSG		17 02 45.1	
	comp=Z,4.7nm,0.2s					
RAJF	**Raja-Jooseppi**	**3.16 60**	PB	**Pn**	**17 02 06.1**	**+2.4**
RAJF			SG	**Sb**	**17 02 49.2**	**+0.5**
UMAU	**Umeaa**	**3.19 182**	PN	**Pn**	**17 02 04.9**	**+0.8**
	baz=360					
UMAU			SB	**Sn**	**17 02 44.3**	**+1.6**
VRF	**Varrio**	**3.44 74**	PN	**Pn**	**17 02 08.3**	**+0.7**
VRF			SG	**Sb**	**17 02 58.5**	**+1.8**
MSF	**Maaselka**	**3.46 106**	PN	**Pn**	**17 02 08.6**	**+0.7**
	baz=291					
MSF			SN	**Sn**	**17 02 51.2**	**+1.6**
OLKF	**Oulanka, Finla**	**3.46 98**	PN	**Pn**	**17 02 08.8**	**+0.9**
KEV	**Kevo**	**3.53 37**	PN	**Pn**	**17 02 09.7**	**+1.0**
	baz=218					
KU6	**Riekki**	**3.75 102**	PN	**Pn**	**17 02 12.1**	**+0.4**
	baz=286					
KU6			SB	**Sb**	**17 03 02.9**	**-2.7**
HUSU	**Husum**	**3.80 191**	PN	**Pn**	**17 02 13.8**	**+1.3**
	baz=14					
VAF	**Ylistaro**	**4.10 169**	*e*P	**Pn**	**17 02 18.2**	**+1.5**
VAF	**Ylistaro**	**4.10 169**	PN	**Pn**	**17 02 18.2**	**+1.5**
NOD	**Norderasen**	**4.43 218**	*e*P	**Pn**	**17 02 21.6**	**+0.5**
NOD			*e*S	**Sn**	**17 03 12.4**	**-0.9**
HEMU	**Hemsoen**	**4.56 197**	PN	**Pn**	**17 02 23.5**	**+0.6**
	baz=15					
NIF	**Nilsia**	**4.69 138**	PN	**Pn**	**17 02 26.5**	**+1.7**
	baz=324					
NIF			SN	**Sn**	**17 03 20.5**	**+0.7**
RMF	**Romuvaara**	**4.70 123**	PN	**Pn**	**17 02 26.7**	**+1.8**
KEF	**Keuruu**	**5.20 159**	*e*P	**Pn**	**17 02 33.2**	**+1.5**
JOF	**Joensuu**	**6.06 128**	*e*P	**Pn**	**17 02 43.7**	**+0.2**
FINES	**FINESS Array B**	**6.07 156**	Pn	**Pn**	**17 02 44.5**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=344,slow=14,SNR=8.1					
FINES			Sn	**Sn**	**17 03 53.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=347,slow=22,SNR=7.8					
	comp=Z,0.4nm,0.6s					
RAF	**Rauma**	**6.07 176**	*e*P	**Pn**	**17 02 44.6**	**+1.0**
NOA	**NORSAR Array B**	**7.37 220**	Pn	**Pn**	**17 03 01.4**	**-0.1**
	baz=9.7,slow=13,SNR=8.1					
NOA			Sn	**Sn**	**17 04 24.0**	**-1.9**
	baz=317,slow=26,SNR=1.6					
	comp=Z,0.1nm,0.5s					
HFS	**Hagfors**	**7.65 208**	Pn	**Pn**	**17 03 05.1**	**-0.2**
	baz=27,slow=14,SNR=12					
HFS			Sn	**Sn**	**17 04 26.6**	**-6.0**
	baz=29,slow=15,SNR=1.5					
	comp=Z,0.4nm,0.2s					

IDC 26 17:21:02.0±9.9, 2°.00S×128°.13E, h0km, mb3.6/2, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=155.2km s-min=133.1km az=103.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.83**	**162**	P	Pn	17 25 24.3	+0.3
	0.3nm,0.3s,baz=341,slow=12,SNR=29						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**22.25**	**166**	P	P	17 25 59.7	-1.0
	0.5nm,0.3s,baz=345,slow=11,SNR=25						
	0.5nm,0.3s						
STKA	**Stephens Creek**	**32.31**	**158**	P	P	17 27 33.4	+0.5
	1.5nm,1.0s,baz=326,slow=7.3,SNR=1.9						
	1.5nm,1.0s						

*IDC **26** 17:28:55.4±1.2, 43°.80N×77°.97E, h0km, mb3.2/2, mbtmp3.7/9, ML3.3/7, Error ellipse: s-maj=17.6km s-min=8.5km az=145.0*
*MOS **26** 17:28:58.2±0.9, 44°.04N×77°.93E, h15km, mb4.0/4, Error ellipse: s-maj=6.4km s-min=4.3km az=64.5*
*NNC **26** 17:28:58.7±0.3, 43°.90N×77°.94E, h7km±2km, mb4.8, mpv4.7, Error ellipse: s-maj=2.9km s-min=1.8km az=164.0*
*KRNET **26** 17:29:00.5±0.1, 43°.98N×77°.89E, h35km, mb4.4*
*SOME **26** 17:29:00.1, 43°.90N×77°.88E, h25km, MS2.7*
*NEIC **26** 17:29:01.4±1.9, 44°.00N±0°.05×77°.90E±0°.07, h29km±8km, mb3.8/6, Error ellipse: s-maj=9.7km s-min=1.9km az=136.0*

ISC 26 17:28:59.8±0.8, 43°.93N±0°.02×77°.90E±0°.01, h26km±6km, n167, σ1°.78/263, mb4.0/3, 36C-34D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXS	**Arharly**	**0.29**	**349**	*e*P	**Pb**	**17 29 07.2**	**+0.4**
	4μm,0.2s						
ARXS				*e*S	**Sb**	**17 29 12.3**	**+0.7**
	29μm,0.3s						
ARXS	**Arharly**	**0.29**	**349**	P	**Pb**	**17 29 07.2**	**+0.4**
	4μm,0.2s						
ARXS				S	**Sb**	**17 29 12.3**	**+0.7**
	26μm,0.2s						
ARXS	**Arharly**	**0.29**	**349**	*e*PG	**Pb**	**17 29 07.2**	**+0.4**
BLB	**Baldybastay**	**0.45**	**68**	P	**Pb**	**17 29 09.1**	**-0.2**
	9μm,0.1s						
BLB				S	**Sb**	**17 29 15.6**	**-0.1**
	21μm,0.2s						
KURS	**Kuram**	**0.48**	**156**	*e*P	**Pb**	**17 29 09.2**	**-0.6**
	2μm,0.2s						
KURS				*e*S	**Sb**	**17 29 15.6**	**-1.0**
	4μm,0.3s						
KURS	**Kuram**	**0.48**	**156**	P	**Pb**	**17 29 09.3**	**-0.5**
	2μm,0.2s						
KURS				S	**Sb**	**17 29 15.6**	**-1.0**
	4μm,0.3s						
CHKK	**Chushkaly**	**0.67**	**264**	*e*P	**Pb**	**17 29 12.5**	**-0.3**
	2μm,0.2s						
CHKK				*e*S	**Sb**	**17 29 21.2**	**-0.5**
	5μm,0.3s						
CHKK	**Chushkaly**	**0.67**	**264**	P	**Pb**	**17 29 12.5**	**-0.3**
	2μm,0.2s						
CHKK				S	**Sb**	**17 29 21.2**	**-0.5**
	5μm,0.3s						
KPKS	**Kokpek**	**0.73**	**129**	*e*P	**Pb**	**17 29 13.1**	**-0.9**
	565nm,0.1s						
KPKS				*e*S	**Sb**	**17 29 22.4**	**-1.3**
	11μm,0.4s						
KPKS	**Kokpek**	**0.73**	**129**	P	**Pb**	**17 29 13.1**	**-0.9**
	565nm,0.1s						
KPKS				S	**Sb**	**17 29 22.9**	**-0.8**
	7μm,0.2s						
KPKS	**Kokpek**	**0.73**	**129**	*e*PG	**Pb**	**17 29 13.0**	**-0.9**
ZHN	**Zhinishke**	**0.85**	**153**	*e*P	**Pb**	**17 29 15.3**	**-0.8**
	703nm,0.2s						
ZHN				*e*S	**Sb**	**17 29 26.0**	**-1.2**
	13μm,0.2s						
ZHN	**Zhinishke**	**0.85**	**153**	P	**Pb**	**17 29 15.1**	**-1.0**
	703nm,0.2s						
ZHN				S	**Sb**	**17 29 26.2**	**-1.1**
	13μm,0.2s						
ZHN	**Zhinishke**	**0.85**	**153**	*e*PG	**Pb**	**17 29 15.1**	**-1.0**
KOTS	**Kotyrbulak**	**0.90**	**220**	*e*P	**Pn**	**17 29 16.6**	**-0.3**
	466nm,0.2s						
KOTS				*e*S	**Sb**	**17 29 28.4**	**-0.2**
	3μm,0.2s						
KOTS	**Kotyrbulak**	**0.90**	**220**	P	**Pn**	**17 29 16.3**	**-0.6**
	466nm,0.2s						
KOTS				S	**Sb**	**17 29 28.9**	**+0.3**
	3μm,0.2s						
KTBS	**Karatobe**	**0.91**	**257**	*e*P	**Pn**	**17 29 16.6**	**-0.4**
	822nm,0.3s						
KTBS				*e*S	**Sb**	**17 29 28.3**	**-0.4**
	7μm,0.3s						
KTBS	**Karatobe**	**0.91**	**257**	P	**Pn**	**17 29 16.5**	**-0.4**
	823nm,0.2s						
KTBS				S	**Sb**	**17 29 28.9**	**+0.2**
	7μm,0.3s						
SATY	**Saty**	**0.95**	**157**	*e*P	**Pn**	**17 29 16.9**	**-0.6**
	337nm,0.1s						
SATY				*e*S	**Sb**	**17 29 28.8**	**-1.0**
	17μm,0.1s						
SATY	**Saty**	**0.95**	**157**	P	**Pn**	**17 29 16.9**	**-0.6**
	337nm,0.1s						
SATY				S	**Sb**	**17 29 27.9**	**-1.9**
	2μm,0.2s						
KNDC	**Almaty**	**0.99**	**224**	⇓P	**Pn**	**17 29 18.0**	**+0.1**
	473nm,0.3s						
KNDC				⇑S	**Sb**	**17 29 31.1**	**+0.2**
	3μm,0.6s						
KNDC	**Almaty**	**0.99**	**224**	PG	**Pn**	**17 29 18.4**	**+0.4**
KNDC				S	**Sb**	**17 29 31.7**	**+0.8**
MDOK	**Medeo**	**0.99**	**219**	*e*P	**Pn**	**17 29 17.6**	**-0.5**
	467nm,0.2s						
MDOK				*e*S	**Sb**	**17 29 29.9**	**-1.1**
	3μm,0.6s						
MDOK	**Medeo**	**0.99**	**219**	⇑P	**Pn**	**17 29 17.5**	**-0.6**
	283nm,0.4s						
MDOK				Pg	**Pn**	**17 29 17.6**	**-0.6**
	467nm,0.2s						
MDOK				Lg	Lg	17 29 30.7	
	3μm,0.3s						
MDOK				⇑S	**Sb**	**17 29 31.0**	**-0.1**
	3μm,0.6s						
MDOK	**Medeo**	**0.99**	**219**	PG	**Pn**	**17 29 17.5**	**-0.6**
MDOK				S	**Sb**	**17 29 30.9**	**-0.1**
KNOS	**Konyrlen**	**1.01**	**65**	P	**Pn**	**17 29 18.5**	**0.0**
KNOS				S	**Sn**	**17 29 32.2**	**+0.2**
AAA	**Alma-Ata**	**1.02**	**225**	*e*P	**Pn**	**17 29 18.8**	**+0.3**
	476nm,0.2s						
AAA				*e*S	**Sn**	**17 29 31.9**	**0.0**
	2μm,0.2s						
AAA	**Alma-Ata**	**1.02**	**225**	P	**Pn**	**17 29 18.4**	**0.0**
	476nm,0.2s						
AAA				S	**Sn**	**17 29 32.1**	**+0.2**
	2μm,0.2s						
AAA	**Alma-Ata**	**1.02**	**225**	*e*PG	**Pn**	**17 29 18.4**	**0.0**
TDK	**Taldyqorghan**	**1.13**	**18**	*e*P	**Pb**	**17 29 20.7**	**0.0**
	1μm,0.4s						
TDK				*e*S	**Sb**	**17 29 35.4**	**+0.4**
	2μm,0.3s						
UZB	**Uzynbulak**	**1.13**	**133**	*e*P	**Pn**	**17 29 19.8**	**-0.3**
	329nm,0.1s						
UZB				*e*S	**Sn**	**17 29 33.9**	**-1.0**
	3μm,0.2s						
UZB	**Uzynbulak**	**1.13**	**133**	P	**Pn**	**17 29 19.8**	**-0.3**
	329nm,0.1s						
UZB				S	**Sn**	**17 29 34.3**	**-0.5**
	3μm,0.2s						
UZB	**Uzynbulak**	**1.13**	**133**	*e*PG	**Pn**	**17 29 19.7**	**-0.4**
TNSS	**Tian-Shan**	**1.13**	**218**	*e*P	**Pn**	**17 29 20.3**	**-0.1**
	641nm,0.2s						
TNSS				*e*S	**Sn**	**17 29 34.6**	**-0.6**
	2μm,0.4s						
TNSS	**Tian-Shan**	**1.13**	**218**	P	**Pn**	**17 29 20.2**	**-0.1**
	641nm,0.2s						
TNSS				S	**Sn**	**17 29 34.6**	**-0.6**
	2μm,0.4s						
PDGK	**Podgornoye**	**1.30**	**117**	P	**Pn**	**17 29 22.4**	**+0.1**
	114nm,0.2s						
PDGK				S	**Sn**	**17 29 39.3**	**+0.3**
	914nm,0.4s						
PDGK	**Podgornoye**	**1.30**	**117**	⇑P	**Pn**	**17 29 22.5**	**+0.1**
	328nm,0.5s						
PDGK				⇑S	**Sn**	**17 29 39.4**	**+0.4**
	2μm,0.5s						
PDGK	**Podgornoye**	**1.30**	**117**	PG	**Pn**	**17 29 22.5**	**+0.1**
PDGK				S	**Sn**	**17 29 39.4**	**+0.4**
MTBS	**Maitube**	**1.34**	**234**	*e*P	**Pn**	**17 29 23.6**	**+0.7**
	163nm,0.2s						
MTBS				*e*S	**Sn**	**17 29 40.3**	**+0.5**
	7μm,0.3s						
MTBS	**Maitube**	**1.34**	**234**	P	**Pn**	**17 29 23.6**	**+0.7**
	163nm,0.2s						
MTBS				S	**Sn**	**17 29 40.7**	**+0.9**
	7μm,0.4s						
SHLS	**Shalkode**	**1.37**	**124**	*e*P	**Pb**	**17 29 28.4**	**+3.5**
	843nm,0.2s						
SHLS				*e*S	**Sb**	**17 29 48.5**	**+6.4**
	5μm,0.3s						
SHLS	**Shalkode**	**1.37**	**124**	P	**Pb**	**17 29 28.4**	**+3.5**
	843nm,0.2s						
SHLS				S	**Sb**	**17 29 49.2**	**+7.2**
	5μm,0.4s						
SHLS	**Shalkode**	**1.37**	**124**	*e*PN	**Pb**	**17 29 27.5**	**+2.6**
DJR	**Jarkent**	**1.42**	**73**	*e*P	**Pb**	**17 29 25.3**	**-0.3**
	1μm,0.3s						
DJR				*e*S	**Sb**	**17 29 43.2**	**-0.1**
	4μm,0.5s						
DJR	**Jarkent**	**1.42**	**73**	P	**Pb**	**17 29 25.0**	**-0.6**
	1μm,0.4s						
DJR				S	**Sb**	**17 29 43.2**	**-0.1**
	4μm,0.4s						
PRZ	**Przheval'sk**	**1.49**	**166**	Pn	**Pb**	**17 29 26.8**	**-0.1**
PRZ	**Przheval'sk**	**1.49**	**166**	⇑*i*P	**Pb**	**17 29 27.3**	**+0.4**
	baz=66						
PRZ				⇑*i*S	**Sb**	**17 29 46.8**	**+1.3**
	baz=66						
PRZ	**Przheval'sk**	**1.49**	**166**	*i* PN	**Pb**	**17 29 27.3**	**+0.4**
PRZ				*i* S	**Sb**	**17 29 46.8**	**+1.3**
KRBS	**Karabastau**	**1.63**	**262**	*e*P	**Pb**	**17 29 28.3**	**-0.8**
	610nm,0.5s						
KRBS				*e*S	**Sn**	**17 29 48.5**	**+1.5**
	2μm,0.3s						
KRBS	**Karabastau**	**1.63**	**262**	P	**Pn**	**17 29 27.7**	**+0.8**
	393nm,0.3s						
KRBS				S	**Sb**	**17 29 49.9**	**+0.5**
	2μm,0.3s						
KST	**Kastek**	**1.67**	**238**	*e*P	**Pb**	**17 29 29.1**	**-0.8**
	209nm,0.3s						
KST				*e*S	**Sn**	**17 29 49.8**	**+1.8**
	4μm,0.6s						
KST	**Kastek**	**1.67**	**238**	P	**Pb**	**17 29 29.1**	**-0.8**
	209nm,0.3s						
KST				S	**Sn**	**17 29 49.7**	**+1.8**
	4μm,0.5s						
DGS	**Degeres**	**1.69**	**247**	*e*P	**Pb**	**17 29 29.5**	**-0.8**
	832nm,0.4s						
DGS				*e*S	**Sn**	**17 29 50.5**	**+1.8**
	6μm,0.6s						
DGS	**Degeres**	**1.69**	**247**	P	**Pb**	**17 29 29.5**	**-0.8**
	832nm,0.4s						
DGS				S	**Sb**	**17 29 50.8**	**-0.4**
	4μm,0.5s						
KTMS	**Ketmen**	**1.84**	**104**	*e*P	**Pn**	**17 29 31.4**	**+1.6**
	210nm,0.2s						
KTMS				*e*S	**Sn**	**17 29 53.7**	**+1.4**
	237nm,0.3s						
KTMS	**Ketmen**	**1.84**	**104**	P	**Pn**	**17 29 30.4**	**+0.5**
	210nm,0.2s						
KTMS				S	**Sn**	**17 29 53.8**	**+1.4**
	237nm,0.3s						
KDJ	**Kajisay**	**1.88**	**197**	⇓*i*P	**Pb**	**17 29 32.7**	**-0.8**
	baz=96						
KDJ				⇓*i*S	**Sb**	**17 29 56.3**	**-0.2**
	baz=96						
KDJ	**Kajisay**	**1.88**	**197**	*i* PN	**Pb**	**17 29 32.7**	**-0.8**
KDJ				*i* S	**Sb**	**17 29 56.3**	**-0.2**
TKM2	**Tokmak 2**	**1.96**	**240**	P	**Pn**	**17 29 33.1**	**+1.6**
	SNR=74						
TKM2	**Tokmak 2**	**1.96**	**240**	⇑Pn	**Pb**	**17 29 33.8**	**-1.1**
	102nm,0.6s						
TKM2				⇑Sn	**Sb**	**17 29 59.6**	**+0.6**
	965nm,0.4s						
TKM2	**Tokmak 2**	**1.96**	**240**	⇓*i*P	**Pn**	**17 29 33.5**	**+2.0**
	baz=38						
TKM2				⇓*i*S	**Sb**	**17 29 57.9**	**-1.1**
	baz=38						
TKM2	**Tokmak 2**	**1.96**	**240**	*i* PN	**Pn**	**17 29 33.5**	**+2.0**
TKM2				*i* S	**Sb**	**17 29 57.9**	**-1.1**
BOOM	**Boomskoye usch**	**2.03**	**226**	Pn	**Pn**	**17 29 34.3**	**+1.8**
BOOM	**Boomskoye usch**	**2.03**	**226**	⇓*i*P	**Pn**	**17 29 34.4**	**+1.9**
	baz=24						
BOOM				⇓*i*S	**Sn**	**17 29 59.8**	**+2.7**
	baz=24						
BOOM	**Boomskoye usch**	**2.03**	**226**	*i* PN	**Pn**	**17 29 34.4**	**+1.9**
BOOM				*i* S	**Sn**	**17 29 59.8**	**+2.7**
ULHL	**Ulahol**	**2.08**	**216**	P	**Pb**	**17 29 35.9**	**-1.1**
	SNR=39						
ULHL	**Ulahol**	**2.08**	**216**	⇓*i*P	**Pn**	**17 29 35.5**	**+2.4**
	baz=15						
ULHL				⇓*i*S	**Sn**	**17 30 01.0**	**+2.7**
	baz=15						
ULHL	**Ulahol**	**2.08**	**216**	*i* PN	**Pn**	**17 29 35.5**	**+2.4**
ULHL				*i* S	**Sn**	**17 30 01.0**	**+2.7**
TARG	**Taragay, Kyrgy**	**2.20**	**182**		**Pn**	**17 29 36.6**	**+1.6**
TARG	**Taragay, Kyrgy**	**2.20**	**182**	PN	**Pn**	**17 29 36.6**	**+1.6**
SGDS	**Sogindy**	**2.42**	**260**	*e*PN	**Pn**	**17 29 40.4**	**+2.7**
CHMS	**Chumysh**	**2.48**	**249**	P	**Pb**	**17 29 42.6**	**-1.0**
	SNR=55						
CHMS	**Chumysh**	**2.48**	**249**	⇑Pn	**Pn**	**17 29 39.8**	**+1.3**
	180nm,0.6s						
CHMS				⇓Lg	Lg	17 30 13.9	
	692nm,0.6s						
CHMS	**Chumysh**	**2.48**	**249**	⇓*i*P	**Pn**	**17 29 40.5**	**+2.1**
	baz=48						
CHMS				⇓*i*S	**Sn**	**17 30 09.9**	**+2.1**
	baz=48						
CHMS	**Chumysh**	**2.48**	**249**	*i* PN	**Pn**	**17 29 40.5**	**+2.1**
CHMS				*i* S	**Sn**	**17 30 09.9**	**+2.1**
KBK	**Karagaybulak**	**2.50**	**240**	P	**Pn**	**17 29 41.1**	**+2.1**
	SNR=33						
KBK	**Karagaybulak**	**2.50**	**240**	⇑*i*P	**Pn**	**17 29 41.1**	**+2.1**
	baz=39						
KBK				⇑*i*S	**Sn**	**17 30 10.9**	**+2.1**
	baz=39						
KBK	**Karagaybulak**	**2.50**	**240**	*i* PN	**Pn**	**17 29 41.1**	**+2.1**
KBK				*i* S	**Sn**	**17 30 10.9**	**+2.1**
USP	**Ospenovka**	**2.56**	**256**	P	**Pb**	**17 29 43.7**	**-1.3**
	SNR=72						
USP	**Ospenovka**	**2.56**	**256**	⇑*i*P	**Pn**	**17 29 41.4**	**+1.8**
	baz=55						
USP				⇑*i*S	**Sn**	**17 30 11.8**	**+1.9**
	baz=55						
USP	**Ospenovka**	**2.56**	**256**	*i* PN	**Pn**	**17 29 41.4**	**+1.8**
USP				*i* S	**Sn**	**17 30 11.8**	**+1.9**
FRU1	**Bishkek**	**2.63**	**246**		**Pn**	**17 29 42.3**	**+1.6**
FRU1	**Bishkek**	**2.63**	**246**	⇑*i*P	**Pn**	**17 29 42.8**	**+2.1**
	baz=45						
FRU1				⇑*i*S	**Sn**	**17 30 13.7**	**+1.9**
	baz=45						
FRU1	**Bishkek**	**2.63**	**246**	*i* PN	**Pn**	**17 29 42.8**	**+2.1**
FRU1				*i* S	**Sn**	**17 30 13.7**	**+1.9**
AAK	**Ala-Archa**	**2.80**	**244**	P	**Pn**	**17 29 44.8**	**+1.7**
	SNR=49						
AAK	**Ala-Archa**	**2.80**	**244**		**Pn**	**17 29 44.9**	**+1.7**
AAK	**Ala-Archa**	**2.80**	**244**	Pn	**Pn**	**17 29 44.5**	**+1.5**
	23nm,0.3s,baz=103,slow=8.4,SNR=18						
AAK				Lg	Lg	17 30 24.6	
	125nm,0.3s,baz=345,slow=20,SNR=52						
	20nm,0.3s						
AAK	**Ala-Archa**	**2.80**	**244**	Pn	**Pb**	**17 29 48.1**	**-1.2**
	108nm,0.5s						
AAK				⇓Sn	**Sb**	**17 30 24.9**	**+1.7**
	647nm,0.4s						
AAK	**Ala-Archa**	**2.80**	**244**	⇓*i*P	**Pn**	**17 29 45.2**	**+2.1**
	baz=43						
AAK				⇓*i*S	**Sn**	**17 30 18.0**	**+1.9**
	baz=43						
AAK	**Ala-Archa**	**2.80**	**244**	*i* PN	**Pn**	**17 29 45.2**	**+2.1**
AAK				*i* S	**Sn**	**17 30 18.0**	**+1.9**
NRN	**Naryn**	**2.86**	**210**	Pn	**Pn**	**17 29 47.0**	**+2.9**
NRN	**Naryn**	**2.86**	**210**	⇓*i*P	**Pn**	**17 29 46.8**	**+2.8**
	baz=10.0						
NRN				⇓*i*S	**Sn**	**17 30 20.7**	**+2.9**
	baz=10.0						
NRN	**Naryn**	**2.86**	**210**	*i* PN	**Pn**	**17 29 46.8**	**+2.8**
NRN				*i* S	**Sn**	**17 30 20.7**	**+2.9**
BTLS	**Baital**	**2.97**	**293**	*e*P	**Pb**	**17 29 52.5**	**+0.5**
	90nm,0.4s						
BTLS				*e*S	**Sb**	**17 30

MAKZ ⇓Pg **Pb** **17 30 10.6 0.0**
20nm,0.6s
MAKZ ⇓Sn **Sn** **17 30 47.8 +0.7**
25nm,0.6s
MAKZ ⇑Lg Lg 17 31 04.9
114nm,0.8s
MAKZ Makanchi 4.07 44 PN **Pb** **17 30 10.6 0.0**
MAKZ SN **Sn** **17 30 47.7 +0.7**
MNAS Manas 4.20 252⇑*i*P **Pn** **17 30 04.2 +1.9**
baz=51
MNAS ⇑*i*S **Sn** **17 30 51.4 +0.8**
baz=51
MNAS Manas 4.20 252 *i* PN **Pn** **17 30 04.2 +1.9**
MNAS *i* S **Sn** **17 30 51.4 +0.8**
MK31 Makanchi Array 4.21 46 Pn **Pn** **17 30 04.2 +1.8**
MK31 Makanchi Array 4.21 46⇑Pn **Pn** **17 30 01.5 -0.8**
1.1nm,0.2s,baz=221,slow=15,SNR=244
MK31 ⇑Pg **Pb** **17 30 14.5 +1.3**
26nm,0.5s,baz=227,slow=14,SNR=15
MK31 ⇑Sn **Sn** **17 30 52.4 +1.7**
85nm,0.6s,baz=226,slow=21,SNR=10.0
MK31 ⇓Lg Lg 17 31 10.6
54nm,0.6s,baz=224,slow=29,SNR=8.8
MK31 Makanchi Array 4.21 46 PN **Pn** **17 30 01.5 -0.8**
MK31 S **Sn** **17 30 52.4 +1.7**
MKAR Makanchi Array 4.21 46 Pn **Pn** **17 30 04.1 +1.8**
3.6nm,0.3s,baz=223,slow=16,SNR=223
MKAR Sn **Sn** **17 30 52.7 +2.0**
35nm,0.3s,baz=222,slow=21,SNR=6.9
MKAR Lg Lg 17 31 10.4
36nm,0.3s,baz=223,slow=28,SNR=12
4.6nm,0.3s
ARSB Arslanbob 4.47 236 Pn **Pn** **17 30 08.9 +2.9**
ARSB Arslanbob 4.47 236 PN **Pn** **17 30 08.9 +2.9**
KSH Kashi 4.64 199 Pn Pb 17 30 25.8 +5.3
KSH smax smax
comp=N,99nm,0.8s
KSH smax smax
comp=E,100nm,0.9s
ARK Arkit 4.86 246⇑*i*P **Pn** **17 30 13.5 +2.2**
baz=45
ARK ⇑*i*S **Sn** **17 31 06.9 +0.2**
baz=45
ARK Arkit 4.86 246 *i* PN **Pn** **17 30 13.5 +2.2**
OHH Osh 5.10 230⇓*i*P **Pn** **17 30 17.0 +2.4**
baz=29
OHH ⇓*i*S **Sn** **17 31 13.1 +0.5**
baz=29
OHH Osh 5.10 230 *i* PN **Pn** **17 30 17.0 +2.4**
KK31 Karatay Array 5.44 264 Pn **Pn** **17 30 19.1 0.0**
KK31 Karatay Array 5.44 264⇑Pg **Pb** **17 30 38.2 +4.2**
comp=E,26nm,0.5s,baz=78,slow=16,SNR=44
KK31 ⇓Lg Lg 17 31 47.4
comp=E,114nm,0.7s,baz=82,slow=28,SNR=19
KK31 Karatay Array 5.44 264 PN **Pn** **17 30 19.1 0.0**
KKAR Karatay Array 5.44 264 **Pn** **17 30 20.1 +0.9**
KKAR Karatay Array 5.44 264 PN **Pn** **17 30 20.1 +0.9**
TRKS Terek-Say 5.53 247⇑*e*P **Pn** **17 30 23.0 +2.5**
baz=45
TRKS ⇑*i*S **Sn** **17 31 23.3 0.0**
baz=45
TRKS Terek-Say 5.53 247 *i* PN **Pn** **17 30 23.0 +2.5**
OTUK Ortayu 5.79 320⇑Pn **Pn** **17 30 24.1 +0.1**
comp=E,5.6nm,0.5s
OTUK ⇓Lg Lg 17 31 58.2
comp=E,459nm,1.2s
OTUK Ortayu 5.79 320 PN **Pn** **17 30 24.1 +0.1**
ZSN Zaisan 6.01 52 *e*P **Pb** **17 30 47.4 +3.5**
comp=E,5.6nm,0.4s
ZSN *e*S Sb 17 32 04.0 +8.7
comp=E,112nm,1.1s
IUG Iuzhnay 6.04 256 Pg Pb 17 30 49.6 +5.3
comp=E,36nm,0.4s
IUG Lg Lg 17 32 08.2
comp=E,182nm,0.8s
BTK Batken 6.54 236 **Pn** **17 30 34.6 +0.2**
BTK Batken 6.54 236⇑*e*P **Pn** **17 30 36.9 +2.5**
baz=36
BTK ⇑*i*S **Sn** **17 31 47.2 -1.0**
baz=36
BTK Batken 6.54 236 *i* PN **Pn** **17 30 36.9 +2.5**
KURBB Kurchatov Arra 6.71 3 Pn **Pn** **17 30 37.0 +0.4**
comp=E,0.5nm,0.3s,baz=183,slow=13,SNR=23
KURBB Sn **Sn** **17 31 50.1 -1.9**
comp=E,1.2nm,0.3s,baz=146,slow=26,SNR=2.8
KURBB Lg Lg 17 32 31.5
comp=E,2.4nm,0.3s,baz=227,slow=38,SNR=5.4
comp=E,2.2nm,0.4s
KURBB Kurchatov Arra 6.71 3⇓Pn **Pn** **17 30 37.0 +0.4**
comp=E,4.0nm,0.3s
KURBB ⇑Lg Lg 17 32 33.5
comp=E,218nm,0.8s
KURK Kurchatov 6.81 4 Pn **Pn** **17 30 38.0 +0.2**
KURK Kurchatov 6.81 4⇓Pn **Pn** **17 30 38.0 +0.2**
comp=E,7.6nm,0.4s
KURK ⇓Lg Lg 17 32 32.6
comp=E,155nm,0.8s
KURK Kurchatov 6.81 4*de*PN **Pn** **17 30 38.1 +0.2**
GAR Garm 7.53 232 Pn **Pn** **17 30 50.5 +2.6**
BVAR Borovoye Array 10.37 334 Pn **Pn** **17 31 26.6 -0.2**
comp=E,0.1nm,0.3s,baz=149,slow=13,SNR=16
BVAR Sn **Sn** **17 33 16.4 -5.6**
comp=E,0.2nm,0.3s,baz=147,slow=22,SNR=4.3
BVAR Lg Lg 17 34 25.8
comp=E,0.5nm,0.3s,baz=150,slow=27,SNR=3.4
comp=E,1.4nm,0.3s
BRVK Borovoye 10.43 334 Pn **Pn** **17 31 27.8 +0.3**
BRVK Borovoye 10.43 334 P **Pn** **17 31 27.8 +0.3**
ZAA0 Zalesovo Array 11.00 22 Pn **Pn** **17 31 34.8 -0.5**
ZALV Zalesovo Beam 11.00 22 **Pn** **17 31 35.1 -0.2**
ZALV Zalesovo Beam 11.00 22 Pn **Pn** **17 31 34.5 -0.8**
comp=E,1.0nm,0.3s,baz=214,slow=14,SNR=17
ZALV Sn **Sn** **17 33 32.1 -5.3**
comp=E,1.4nm,0.3s,baz=208,slow=26,SNR=5.6
ZALV Lg Lg 17 34 51.2
comp=E,0.7nm,0.3s,baz=201,slow=26,SNR=2.6
comp=E,2.3nm,0.3s
ZALV Zalesovo Beam 11.00 22 *e*P **Pn** **17 31 35.5 +0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 13.44 300 Pn **Pn** **17 32 05.9 -2.7**
AKTO Aktyubinsk 14.98 303 Pn **Pn** **17 32 27.1 -2.5**
comp=Z,0.5nm,0.3s,baz=117,slow=12,SNR=4.7
comp=Z,1.9nm,0.5s
GTA Gaotai 16.97 98 P **P** **17 32 57.8 +0.7**
GTA pmax pmax
comp=Z,3.0nm,1.5s
ARU Arti 17.52 322 P **P** **17 33 03.3 +0.4**
ARU lAmb lAmb 17 33 14.7
comp=Z,2.6nm,0.9s
ARU Arti 17.52 322 P **Pn** **17 33 01.1 -0.9**
baz=108,slow=20,SNR=1.9
ARU Sn **Sn** **17 36 06.7 -9.5**
baz=74,slow=16,SNR=2.4
comp=Z,1.2nm,0.4s
ARU Arti 17.52 322 P **P** **17 33 05.4 +2.4**
SONM Songino Array 20.16 69 P **P** **17 33 31.8 -0.3**
SONM Songino Array 20.16 69 P **P** **17 33 30.5 -1.7**
comp=Z,0.3nm,0.6s,baz=269,slow=12,SNR=3.1
comp=Z,0.3nm,0.6s
SONM Songino Array 20.16 69 P **P** **17 33 31.8 -0.3**
SONM pmax pmax
comp=Z,1.0nm,1.0s
ULN Ulaanbaatar 20.61 69 P **P** **17 33 36.0 -0.9**
ULN lAmb lAmb 17 33 53.2
comp=Z,1.9nm,0.5s
ULN Ulaanbaatar 20.61 69⇓*e*P Pn 17 33 40.8 +1.5
ULN pmax pmax
comp=Z,6.0nm,2.7s
KBZ Khabaz 25.14 282⇓*e*P **P** **17 34 25.0 +2.5**
KBZ pmax pmax
comp=Z,4.0nm,1.1s
RAYN Ar Rayn 33.45 243 P **P** **17 35 37.3 +0.6**
RAYN lAmb lAmb 17 35 38.9
comp=Z,7.9nm,1.4s
RAYN Ar Rayn 33.45 243 P **P** **17 35 37.3 +0.6**
RAYN pmax pmax
comp=Z,8.0nm,1.4s
FINES FINESS Array B 34.83 319 P **P** **17 35 47.7 -0.4**
comp=Z,0.8nm,0.9s,baz=97,slow=8.9,SNR=3.3
comp=Z,0.8nm,0.9s
FINES FINESS Array B 34.83 319 *e*P **P** **17 35 50.3 +2.2**

DJA 26 17:32:23.5±0.5,2°S±4°×10°0E±°,h75km±11km,M4.0/7,
mb4.7/2,mB5.5/1,MLv3.6/7,Mw(mB)5.0/1,Southern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.69**	**304**	P	Pn	17 32 39.4	+0.8
PPSI	**Pulau Pagai**	**1.10**	**162**	P	Pn	17 32 43.9	+0.3
PDSI	**Padang**	**1.13**	**45**	P	Pn	17 32 43.9	0.0
PDSI				S	Sn	17 32 59.6	+0.5
PBSI	**Pulau Batu**	**2.15**	**320**	P	Pn	17 32 57.4	+0.1
LWLI	**Liwa**	**5.48**	**127**	P	Pn	17 33 42.2	-0.6

*IDC **26** 17:32:43.4±0.6,43°.84N×77°.88E,h0km,mb3.7/15,*
mbtmp3.9/22,MLv3.8/7,MS3.2/5,Error ellipse:
s-maj=10.8km s-min=6.3km az=143.0
*MOS **26** 17:32:46.9±1.5,44°.04N×77°.87E,h16km,mb4.1/8,Error*
ellipse: s-maj=7.6km s-min=5.0km az=88.1
*NNC **26** 17:32:47.3±0.3,43°.89N×77°.94E,h5km±2km,mb5.2,*
mpv5.1,Error ellipse: s-maj=2.7km s-min=1.7km az=166.0
*KRNET **26** 17:32:48.1±0.1,44°.08N×77°.93E,mb4.6*
*SOME **26** 17:32:48.3,43°.88N×77°.92E,h25km,MS2.9*
ISC 26 17:32:48.2±0.8,43°.90N±0°.02×77°.90E±0°.01,h31km±5km,
n144,σ1§93/224,mb3.6/16,35C-35D,Lake Issyk-Kul
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXS	**Arharly**	**0.32**	**351**	*e*P	**Pb**	**17 32 55.6**	**-0.5**
	17μm,0.3s						
ARXS				*e*S	**Sb**	**17 33 00.9**	**-0.6**
	65μm,0.3s						
ARXS	**Arharly**	**0.32**	**351**	P	**Pb**	**17 32 55.6**	**-0.5**
	17μm,0.3s						
ARXS				S	**Sb**	**17 33 01.0**	**-0.4**
	63μm,0.3s						
ARXS	**Arharly**	**0.32**	**351**	*e*PG	**Pb**	**17 32 55.5**	**-0.6**
KURS	**Kuram**	**0.45**	**154**	*e*P	**Pb**	**17 32 57.7**	**-0.2**
	1μm,0.1s						
KURS				*e*S	**Sb**	**17 33 04.1**	**-0.6**
	10μm,0.3s						
KURS	**Kuram**	**0.45**	**154**	P	**Pb**	**17 32 57.8**	**-0.2**
	1μm,0.1s						
KURS				S	**Sb**	**17 33 03.8**	**-0.8**
	10μm,0.3s						
BLB	**Baldybastay**	**0.46**	**64**	P	**Pb**	**17 32 57.5**	**-0.7**
	15μm,0.1s						
CHKK	**Chushkaly**	**0.66**	**267**	*e*P	**Pb**	**17 33 00.9**	**-0.3**
	4μm,0.1s						
CHKK				*e*S	**Sb**	**17 33 09.9**	**-0.3**
	23μm,0.2s						
CHKK	**Chushkaly**	**0.66**	**267**	P	**Pb**	**17 33 00.9**	**-0.3**
	4μm,0.1s						
CHKK				S	**Sb**	**17 33 09.6**	**-0.5**
	23μm,0.2s						
KPKS	**Kokpek**	**0.71**	**127**	*e*P	**Pb**	**17 33 01.6**	**-0.6**
	2μm,0.2s						
KPKS				*e*S	**Sb**	**17 33 11.2**	**-0.7**
	25μm,0.4s						
KPKS	**Kokpek**	**0.71**	**127**	P	**Pb**	**17 33 01.5**	**-0.8**
	2μm,0.2s						
KPKS				S	**Sb**	**17 33 11.2**	**-0.7**
	26μm,0.4s						
KPKS	**Kokpek**	**0.71**	**127**	*e*PG	**Pb**	**17 33 01.4**	**-0.8**
ZHN	**Zhinishke**	**0.83**	**152**	*e*P	**Pn**	**17 33 03.7**	**-0.2**
	1μm,0.2s						
ZHN				*e*S	**Sb**	**17 33 14.6**	**-0.4**
	25μm,0.2s						
ZHN	**Zhinishke**	**0.83**	**152**	P	**Pn**	**17 33 03.6**	**-0.3**
	1μm,0.2s						
ZHN				S	**Sb**	**17 33 14.7**	**-0.4**
	25μm,0.2s						
ZHN	**Zhinishke**	**0.83**	**152**	*e*PG	**Pn**	**17 33 03.5**	**-0.3**
KOTS	**Kotyrbulak**	**0.88**	**221**	*e*P	**Pb**	**17 33 05.2**	**+0.3**
	788nm,0.1s						
KOTS				*e*S	**Sn**	**17 33 17.4**	**+1.1**
	5μm,0.2s						
KOTS	**Kotyrbulak**	**0.88**	**221**	P	**Pb**	**17 33 05.7**	**+0.7**
	665nm,0.1s						
KOTS				S	**Sn**	**17 33 17.4**	**+1.1**
	5μm,0.2s						
KTBS	**Karatobe**	**0.90**	**259**	*e*P	**Pb**	**17 33 05.0**	**-0.3**
	2μm,0.4s						
KTBS				*e*S	**Sn**	**17 33 16.9**	**+0.2**
	17μm,0.3s						
KTBS	**Karatobe**	**0.90**	**259**	P	**Pb**	**17 33 05.0**	**-0.3**
	2μm,0.3s						
KTBS				S	**Sn**	**17 33 17.3**	**+0.5**
	17μm,0.3s						
SATY	**Saty**	**0.92**	**156**	*e*P	**Pn**	**17 33 05.2**	**+0.1**
	802nm,0.1s						
SATY				*e*S	**Sb**	**17 33 17.4**	**-0.2**
	12μm,0.2s						
SATY	**Saty**	**0.92**	**156**	P	**Pn**	**17 33 05.2**	**+0.1**
	802nm,0.1s						
SATY				S	**Sb**	**17 33 17.4**	**-0.2**
	12μm,0.2s						
KNDC	**Almaty**	**0.96**	**225**	⇑P	**Pb**	**17 33 06.2**	**0.0**
	1μm,0.3s						
KNDC				⇓S	**Sn**	**17 33 19.9**	**+1.7**
	9μm,0.3s						
KNDC	**Almaty**	**0.96**	**225**	PG	**Pb**	**17 33 06.3**	**0.0**
KNDC				S	**Sn**	**17 33 19.9**	**+1.7**
MDOK	**Medeo**	**0.96**	**220**	*e*P	**Pb**	**17 33 06.5**	**+0.2**
	1μm,0.2s						
MDOK				*e*S	**Sn**	**17 33 19.5**	**+1.1**
	8μm,0.5s						
MDOK	**Medeo**	**0.96**	**220**	⇑P	**Pb**	**17 33 06.0**	**-0.4**
	707nm,0.4s						
MDOK				Pg	**Pb**	**17 33 06.0**	**-0.4**
	1μm,0.2s						
MDOK				⇑S	**Sn**	**17 33 19.4**	**+1.0**
	7μm,0.6s						
MDOK				Lg	Lg	17 33 19.5	
	8μm,0.5s						
MDOK	**Medeo**	**0.96**	**220**	PG	**Pb**	**17 33 05.9**	**-0.4**
MDOK				S	**Sn**	**17 33 19.4**	**+1.0**
AAA	**Alma-Ata**	**0.99**	**226**	*e*P	**Pb**	**17 33 07.2**	**+0.3**
	804nm,0.2s						
AAA				*e*S	**Sb**	**17 33 20.8**	**+1.2**
	13μm,0.3s						
AAA	**Alma-Ata**	**0.99**	**226**	P	**Pb**	**17 33 07.0**	**+0.1**
	804nm,0.2s						
AAA				S	**Sb**	**17 33 20.8**	**+1.2**
	4μm,0.2s						
AAA	**Alma-Ata**	**0.99**	**226**	*e*PG	**Pb**	**17 33 06.9**	**+0.1**
KNOS	**Konyrlen**	**1.03**	**63**	P	**Pn**	**17 33 07.0**	**+0.2**
KNOS				S	**Sn**	**17 33 20.1**	**-0.1**
TNSS	**Tian-Shan**	**1.10**	**219**	*e*P	**Pb**	**17 33 08.7**	**-0.3**
	2μm,0.2s						
TNSS				*e*S	**Sb**	**17 33 23.4**	**+0.3**
	4μm,0.3s						
TNSS	**Tian-Shan**	**1.10**	**219**	P	**Pb**	**17 33 08.7**	**-0.3**
	2μm,0.2s						
TNSS				S	**Sb**	**17 33 24.0**	**+0.8**
	3μm,0.3s						
UZB	**Uzynbulak**	**1.11**	**132**	*e*P	**Pn**	**17 33 08.2**	**+0.5**
	563nm,0.1s						
UZB				*e*S	**Sn**	**17 33 22.5**	**+0.4**
	8μm,0.2s						
UZB	**Uzynbulak**	**1.11**	**132**	P	**Pn**	**17 33 08.1**	**+0.3**
	563nm,0.1s						
UZB				S	**Sn**	**17 33 22.5**	**+0.4**
	8μm,0.2s						
UZB	**Uzynbulak**	**1.11**	**132**	*e*PG	**Pn**	**17 33 08.1**	**+0.3**
TDK	**Taldyqorghan**	**1.16**	**18**	*e*P	**Pn**	**17 33 08.9**	**+0.5**
	3μm,0.4s						
TDK				*e*S	**Sn**	**17 33 23.6**	**+0.3**
	10μm,0.2s						
PDGK	**Podgornoye**	**1.29**	**116**	P	**Pn**	**17 33 10.9**	**+0.7**
	235nm,0.1s						
PDGK				S	**Sb**	**17 33 27.7**	**-0.5**
	2μm,0.3s						
PDGK	**Podgornoye**	**1.29**	**116**	⇑P	**Pn**	**17 33 10.9**	**+0.7**
	460nm,0.5s						
PDGK				⇓S	**Sn**	**17 33 27.5**	**+1.0**
	6μm,0.5s						
PDGK	**Podgornoye**	**1.29**	**116**	PG	**Pn**	**17 33 10.9**	**+0.7**
MTBS	**Maitube**	**1.31**	**235**	*e*P	**Pb**	**17 33 12.3**	**0.0**
	736nm,0.3s						
MTBS				*e*S	**Sb**	**17 33 29.5**	**+0.7**
	18μm,0.4s						
MTBS	**Maitube**	**1.31**	**235**	P	**Pb**	**17 33 12.1**	**-0.2**
	593nm,0.2s						
MTBS				S	**Sb**	**17 33 29.5**	**+0.7**
	18μm,0.3s						
SHLS	**Shalkode**	**1.36**	**122**	*e*P	**Pb**	**17 33 16.9**	**+3.8**
	1μm,0.2s						
SHLS				*e*S	**Sb**	**17 33 37.5**	**+7.4**
	9μm,0.4s						
SHLS	**Shalkode**	**1.36**	**122**	P	**Pb**	**17 33 16.5**	**+3.5**
	1μm,0.4s						
SHLS				S	**Sb**	**17 33 38.2**	**+8.1**
	10μm,0.4s						
SHLS	**Shalkode**	**1.36**	**122**	*e*PN	**Pb**	**17 33 16.2**	**+3.1**
DJR	**Jarkent**	**1.43**	**72**	*e*P	**Pb**	**17 33 13.3**	**-0.9**
	2μm,0.3s						
DJR				*e*S	**Sb**	**17 33 31.4**	**-0.8**
	8μm,0.5s						
DJR	**Jarkent**	**1.43**	**72**	P	**Pb**	**17 33 13.3**	**-0.9**
	2μm,0.3s						
DJR				S	**Sb**	**17 33 31.4**	**-0.8**
	8μm,0.5s						
PRZ	**Przheval'sk**	**1.46**	**165**⇑*i*P	**Pb**	**17 33 15.3**	**+0.5**
	baz=68						
PRZ			⇑*i*S	**Sb**	**17 33 35.1**	**+2.0**
	baz=68						
PRZ	**Przheval'sk**	**1.46**	**165**	PN	**Pb**	**17 33 15.6**	**+0.8**
PRZ						17 33 36.1	
KRBS	**Karabastau**	**1.62**	**264**	P	**Pb**	**17 33 16.4**	**-1.1**
KRBS				S	**Sb**	**17 33 37.8**	**+0.2**
KST	**Kastek**	**1.65**	**239**	*e*P	**Pb**	**17 33 17.4**	**-0.6**
	572nm,0.2s						
KST				*e*S	**Sb**	**17 33 38.1**	**-0.3**
	9μm,0.6s						
KST	**Kastek**	**1.65**	**239**	P	**Pb**	**17 33 17.4**	**-0.6**
	572nm,0.2s						
KST				S	**Sb**	**17 33 38.1**	**-0.3**
	9μm,0.7s						
DGS	**Degeres**	**1.68**	**248**	*e*P	**Pb**	**17 33 17.8**	**-0.7**
	2μm,0.3s						
DGS				*e*S	**Sb**	**17 33 39.1**	**-0.2**
	14μm,0.6s						
DGS	**Degeres**	**1.68**	**248**	P	**Pb**	**17 33 17.8**	**-0.7**
	2μm,0.3s						
DGS				S	**Sb**	**17 33 39.1**	**-0.2**
	12μm,0.6s						
KTMS	**Ketmen**	**1.84**	**103**	*e*P	**Pb**	**17 33 19.6**	**-1.6**
	306nm,0.1s						
KTMS				*e*S	**Sb**	**17 33 42.3**	**-1.5**
	661nm,0.2s						
KTMS	**Ketmen**	**1.84**	**103**	P	**Pb**	**17 33 19.6**	**-1.6**
	306nm,0.1s						
KTMS				S	**Sb**	**17 33 42.5**	**-1.3**
	442nm,0.3s						
KDJ	**Kajisay**	**1.84**	**197**⇓*i*P	**Pb**	**17 33 21.0**	**-0.3**
	baz=96						
KDJ			⇓*i*S	**Sb**	**17 33 44.9**	**+0.9**
	baz=96						
TKM2	**Tokmak 2**	**1.94**	**241**	P	**Pb**	**17 33 22.4**	**-0.6**
	SNR=22						
TKM2	**Tokmak 2**	**1.94**	**241**⇑Pn	**Pb**	**17 33 22.0**	**-1.1**
	190nm,0.6s						
TKM2			⇑Sn	**Sb**	**17 33 48.1**	**+1.3**
	2μm,0.3s						
TKM2	**Tokmak 2**	**1.94**	**241**⇑*i*P	**Pb**	**17 33 21.3**	**-1.7**
	baz=37						
TKM2			⇑*i*S	**Sb**	**17 33 45.8**	**-1.1**
	baz=37						
TKM2	**Tokmak 2**	**1.94**	**241** PN	**Pb**	**17 33 21.9**	**-1.1**
TKM2			S	**Sb**	**17 33 48.1**	**+1.3**
BOOM	**Boomskoye usch**	**2.01**	**226**⇓*i*P	**Pb**	**17 33 22.8**	**-1.3**
	baz=23						
BOOM			⇓*i*S	**Sb**	**17 33 48.0**	**-0.7**
	baz=23						
BOOM	**Boomskoye usch**	**2.01**	**226** PN	**Pb**	**17 33 24.0**	**-0.1**
BOOM						17 33 50.0	
ULHL	**Ulahol**	**2.05**	**217** P	**Pb**	**17 33 23.9**	**-1.0**
	SNR=72						
ULHL	**Ulahol**	**2.05**	**217**⇓*i*P	**Pb**	**17 33 23.6**	**-1.2**
	baz=15						
ULHL			⇓*i*S	**Sb**	**17 33 49.6**	**-0.4**
	baz=15						
TARG	**Taragay, Kyrgy**	**2.17**	**182**⇓*i*P	**Pb**	**17 33 25.6**	**-1.4**
	baz=82						
TARG			⇓*i*S	**Sb**	**17 33 53.0**	**-0.6**
	baz=82						
SGDS	**Sogindy**	**2.41**	**261** *e*PN	**Pb**	**17 33 28.3**	**-2.6**
CHMS	**Chumysh**	**2.46**	**250** P	**Pb**	**17 33 31.0**	**-0.7**
	SNR=26						
CHMS	**Chumysh**	**2.46**	**250**⇑Pn	**Pb**	**17 33 29.5**	**-2.2**
	256nm,0.5s						
CHMS			⇑Lg	Lg	17 34 04.7		
	2μm,0.7s						
CHMS	**Chumysh**	**2.46**	**250**⇓*i*P	**Pn**	**17 33 28.2**	**+2.0**
	baz=46						
CHMS			⇓*i*S	**Sn**	**17 33 57.2**	**+1.9**
	baz=46						
CHMS	**Chumysh**	**2.46**	**250** PN	**Pb**	**17 33 29.5**	**-2.2**
CHMS			LG	Lg	17 34 04.7		
KBK	**Karagaybulak**	**2.48**	**241** P	**Pb**	**17 33 29.5**	**-2.8**
	SNR=17						
KBK	**Karagaybulak**	**2.48**	**241**⇓*e*P	**Pn**	**17 33 28.9**	**+2.2**
	baz=38						
KBK			⇓*i*S	**Sn**	**17 33 58.6**	**+2.5**
	baz=38						
USP	**Ospenovka**	**2.55**	**257** P	**Pb**	**17 33 32.1**	**-1.2**
	SNR=32						
USP	**Ospenovka**	**2.55**	**257**⇓*i*P	**Pn**	**17 33 29.1**	**+1.7**
	baz=53						
USP			⇓*i*S	**Sn**	**17 33 59.1**	**+1.7**
	baz=53						
FRU1	**Bishkek**	**2.62**	**247**⇑*i*P	**Pn**	**17 33 30.5**	**+2.1**
	baz=43						
FRU1			⇑*i*S	**Sn**	**17 34 01.4**	**+2.2**
	baz=43						
AAK	**Ala-Archa**	**2.79**	**244** P	**Pb**	**17 33 36.1**	**-1.3**
	SNR=8.6						
AAK	**Ala-Archa**	**2.79**	**244** Pn	**Pn**	**17 33 33.0**	**+2.2**
	45nm,0.3s,baz=117,slow=2.8,SNR=17						
AAK			Pg	**Pb**	**17 33 36.4**	**-0.9**
	43nm,0.3s,baz=108,slow=5.5,SNR=30						
AAK			Lg	Lg	17 34 12.4		
	284nm,0.3s,baz=344,slow=19,SNR=46						
	55nm,0.3s						
AAK	**Ala-Archa**	**2.79**	**244**⇑Pn	**Pb**	**17 33 35.8**	**-1.5**
	130nm,0.5s						
AAK			⇓Sn	**Sb**	**17 34 13.2**	**+2.1**
	2μm,0.5s						
AAK	**Ala-Archa**	**2.79**	**244**⇓*e*P	**Pn**	**17 33 33.0**	**+2.2**
	baz=41						
AAK			⇓*i*S	**Sn**	**17 34 05.6**	**+2.1**
	baz=41						
AAK	**Ala-Archa**	**2.79**	**244** PN	**Pb**	**17 33 36.1**	**-1.3**
AAK						17 34 12.6	
NRN	**Naryn**	**2.83**	**210**⇓*i*P	**Pn**	**17 33 34.8**	**+3.2**
	baz=9.0						
NRN			⇓*i*S	**Sb**	**17 34 09.0**	**-3.6**
	baz=9.0						
NRN	**Naryn**	**2.83**	**210** PN	**Pb**	**17 33 36.7**	**-1.5**
NRN						17 34 14.7	
BTLS	**Baital**	**2.98**	**294** *e*P	**Pb**	**17 33 42.0**	**+1.4**
	201nm,0.4s						
BTLS			*e*S	**Sb**	**17 34 20.4**	**+3.7**
	310nm,0.4s						
BTLS	**Baital**	**2.98**	**294** Pg	**Pb**	**17 33 42.0**	**+1.4**
	201nm,0.4s						
BTLS			Lg	Lg	17 34 19.1		
	265nm,0.3s						
BTLS	**Baital**	**2.98**	**294** *e*PN	**Pn**	**17 33 34.8**	**+1.4**
UCH	**Uchtor**	**2.99**	**237** P	**Pb**	**17 33 40.4**	**-0.6**
	SNR=13						
UCH	**Uchtor**	**2.99**	**237**⇓*i*P	**Pn**	**17 33 36.1**	**+2.2**
	baz=35						
UCH			⇓*i*S	**Sn**	**17 34 11.2**	**+2.3**
	baz=35						
EKS2	**Erkin-Say**	**3.25**	**249** P	**Pn**	**17 33 40.1**	**+2.9**
	SNR=10						
EKS2	**Erkin-Say**	**3.25**	**249**⇓*e*P	**Pn**	**17 33 39.2**	**+2.0**
	baz=46						
EKS2			⇓*i*S	**Sn**	**17 34 16.6**	**+1.7**
	baz=46						
ARLS	**Aral**	**3.32**	**233**⇑*e*P	**Pn**	**17 33 40.6**	**+2.4**
	baz=31						
ARLS			⇑*e*S	**Sn**	**17 34 19.0**	**+2.3**
	baz=31						
ARLS	**Aral**	**3.32**	**233** PN	**Pb**	**17 33 47.5**	**+1.0**
ARLS						17 34 29.9	
AML	**Almayashu**	**3.55**	**242** P	**Pb**	**17 33 54.5**	**+3.9**
	SNR=12						
AML	**Almayashu**	**3.55**	**242**⇓*i*P	**Pn**	**17 33 43.8**	**+2.2**
	baz=39						
AML			⇓*i*S	**Sn**	**17 34 24.5**	**+1.8**
	baz=39						
MRKS	**Merke**	**3.60**	**253** *e*P	**Pb**	**17 33 53.0**	**+1.9**

278nm,0.5s
MRKS *e*S **Sb** **17 34 39.0 +4.6**
1μm,0.4s
MRKS Merke 3.60 253 Pg **Pb** **17 33 53.0 +1.9**
182nm,0.4s
MRKS Lg Lg 17 34 39.0
557nm,0.3s
MAKZ Makanchi 4.09 43 ⇑Pn **Pn** **17 33 50.9 +2.3**
4.4nm,0.3s
MAKZ ⇑Pg **Pb** **17 34 00.4 +0.9**
66nm,0.5s
MAKZ ⇓Sn **Sn** **17 34 37.1 +1.6**
24nm,0.3s
MAKZ ⇑Lg Lg 17 34 52.7
305nm,0.9s
MAKZ Makanchi 4.09 43 PN **Pn** **17 33 50.9 +2.3**
MAKZ PG **Pb** **17 34 00.4 +0.9**
MAKZ SN **Sn** **17 34 37.6 +2.1**
MNAS Manas 4.19 252⇑*i*P **Pn** **17 33 52.1 +2.0**
baz=50
MNAS ⇑*i*S **Sn** **17 34 38.8 +0.8**
baz=50
MK31 Makanchi Array 4.24 45 Pn **Pn** **17 33 52.8 +2.1**
7.3nm,0.2s,baz=219,slow=15,SNR=40
MK31 ⇑Pg **Pb** **17 34 02.7 +0.7**
76nm,0.6s,baz=226,slow=16,SNR=6.2
MK31 ⇑Sn **Sn** **17 34 40.7 +1.6**
66nm,0.4s
MK31 ⇑Lg Lg 17 34 59.2
181nm,0.7s,baz=223,slow=28,SNR=7.1
MK31 Makanchi Array 4.24 45 PN **Pn** **17 33 52.8 +2.1**
MK31 PG **Pb** **17 34 02.7 +0.7**
MK31 SN **Sn** **17 34 40.7 +1.6**
MKAR Makanchi Array 4.24 45 Pn **Pn** **17 33 52.9 +2.2**
13nm,0.3s,baz=219,slow=14,SNR=14
MKAR Pg **Pb** **17 34 01.6 -0.4**
16nm,0.3s,baz=220,slow=15,SNR=7.6
MKAR Sn **Sn** **17 34 40.1 +1.0**
65nm,0.3s,baz=224,slow=24,SNR=12
MKAR Lg Lg 17 34 59.6
90nm,0.3s,baz=226,slow=30,SNR=9.7
16nm,0.3s
KSH Kashi 4.61 199 Pn Pb 17 34 14.5 +6.2
KSH smax smax
comp=N,160nm,0.8s
KSH smax smax
comp=E,180nm,0.9s
KK31 Karatay Array 5.43 264 ⇑Pg **Pb** **17 34 26.1 +3.8**
comp=E,73nm,0.6s,baz=82,slow=19,SNR=26
KK31 ⇑Lg Lg 17 35 37.5
comp=E,187nm,0.7s,baz=86,slow=27,SNR=12
KKAR Karatay Array 5.43 264⇑*i*P **Pn** **17 34 08.6 +1.6**
baz=62
KKAR ⇑*i*S **Sn** **17 35 07.2 -1.3**
baz=62
OTUK Ortayu 5.82 320 ⇑Pn **Pn** **17 34 11.4 -0.9**
comp=E,34nm,0.6s
OTUK ⇑Sn **Sn** **17 35 23.5 +5.5**
comp=E,64nm,0.4s
OTUK ⇓Lg Lg 17 35 54.0
comp=E,599nm,0.8s
OTUK Ortayu 5.82 320 PN **Pn** **17 34 11.4 -0.9**
OTUK SN **Sn** **17 35 23.5 +5.5**
IUG Iuzhnay 6.03 256 Pg Pb 17 34 41.1 +8.6
comp=E,115nm,0.6s
IUG Lg Lg 17 36 00.7
comp=E,900nm,1.1s
KURBB Kurchatov Arra 6.74 3 Pn **Pn** **17 34 25.7 +0.7**
comp=E,0.5nm,0.3s,baz=84,slow=26,SNR=1.4
KURBB Sn **Sn** **17 35 39.0 -1.7**
comp=E,3.3nm,0.3s,baz=258,slow=29,SNR=4.8
KURBB Lg Lg 17 36 18.6
comp=E,6.1nm,0.3s,baz=170,slow=27,SNR=7.3
KURBB LR LR 17 37 16.8
comp=E,148nm,19.0s,baz=195,slow=40
comp=E,3.4nm,0.4s
KURBB Kurchatov Arra 6.74 3 ⇓Pn **Pn** **17 34 29.3 +4.3**
comp=E,14nm,0.4s
KURBB ⇓Lg Lg 17 36 20.5
comp=E,587nm,0.7s
KURK Kurchatov 6.84 4 ⇑Pn **Pn** **17 34 29.3 +3.0**
comp=E,25nm,0.4s
KURK ⇓Lg Lg 17 36 22.9
comp=E,336nm,0.7s
KURK Kurchatov 6.84 4 PN **Pn** **17 34 25.7 -0.6**
BVAR Borovoye Array 10.40 334 Pn **Pn** **17 35 15.2 +0.1**
comp=E,0.5nm,0.3s,baz=143,slow=13,SNR=7.2
BVAR Sn **Sn** **17 37 02.7 -7.7**
comp=E,0.3nm,0.3s,baz=152,slow=18,SNR=1.9
BVAR Lg Lg 17 38 18.2
comp=E,1.6nm,0.3s,baz=141,slow=27,SNR=7.0
BVAR LR LR 17 39 24.5
comp=E,91nm,18.8s,baz=155,slow=38
comp=E,7.9nm,0.4s
BRVK Borovoye 10.46 334*d i*P **Pn** **17 35 16.0 +0.1**
ZALV Zalesovo Beam 11.04 22 Pn **Pn** **17 35 23.7 -0.1**
comp=E,2.3nm,0.3s,baz=210,slow=13,SNR=8.1
ZALV Sn **Sn** **17 37 20.1 -5.9**
comp=E,2.5nm,0.3s,baz=213,slow=21,SNR=3.1
ZALV Lg Lg 17 38 38.7
comp=E,0.9nm,0.3s,baz=196,slow=27,SNR=2.7
comp=E,6.4nm,0.4s
AKTO Aktyubinsk 15.00 303 Pn Pn 17 36 12.8 -4.9
comp=E,1.7nm,0.3s,baz=93,slow=11,SNR=10
AKTO Sn **Sn** **17 38 54.8 -8.0**
comp=E,0.5nm,0.3s,baz=142,slow=19,SNR=1.5
AKTO Lg Lg 17 40 40.8
comp=E,0.6nm,0.3s,baz=148,slow=19,SNR=2.2
AKTO LR LR 17 42 32.8
comp=E,87nm,18.2s,baz=338,slow=39
comp=E,6.3nm,0.5s
GTA Gaotai 16.97 98 P **P** **17 36 47.5 +2.5**
GTA pP pP 17 36 54.0 +0.7
GTA pmax pmax
comp=Z,4.0nm,0.9s
ARU Arti 17.55 322 P **Pn** **17 36 48.3 -1.9**
baz=139,slow=13,SNR=5.4
ARU Sn Sn 17 39 51.7 -13
baz=90,slow=20,SNR=1.6
ARU Lg Lg 17 42 03.1
baz=107,slow=19,SNR=5.0
ARU LR LR 17 43 52.6
comp=Z,55nm,19.9s,baz=134,slow=38
comp=Z,4.2nm,0.3s
ARU Arti 17.55 322*c i*P **P** **17 36 52.8 +1.7**
ARU S **S** **17 40 09.1 -2.6**
ARU pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 20.18 69 P **P** **17 37 21.2 +1.0**
comp=Z,1.8nm,0.7s,baz=267,slow=13,SNR=8.7
comp=Z,1.8nm,0.7s
SONM Songino Array 20.18 69 *e*P Pn 17 37 25.0 +2.8
SONM pmax pmax
comp=Z,2.0nm,0.7s
ULN Ulaanbaatar 20.62 69⇓*e*P Pn 17 37 28.5 +1.1
ULN pmax pmax
comp=Z,5.0nm,1.6s
BELG Belogornoye 21.78 304 P **P** **17 37 36.5 -0.7**
comp=Z,5.0nm,0.5s,baz=128,slow=9.1,SNR=1.7
comp=Z,5.0nm,0.5s
BELG Belogornoye 21.78 304⇑*e*P **P** **17 37 39.5 +2.3**
BELG pmax pmax
comp=Z,3.0nm,0.8s
NRIK Noril'sk 25.99 8⇓*e*P **P** **17 38 21.1 +3.3**
NRIK pmax pmax
comp=Z,8.0nm,1.3s
CMAR Chiang Mai Arr 30.93 138 P **P** **17 39 01.7 -0.6**
comp=Z,0.3nm,0.3s,baz=304,slow=6.4,SNR=1.6
comp=Z,0.3nm,0.3s
BRTR Keskin Array B 32.95 278 P **P** **17 39 18.0 -2.1**
comp=Z,0.7nm,0.7s,baz=54,slow=8.0,SNR=4.1
comp=Z,0.7nm,0.7s
BRTR Keskin Array B 32.95 278 *i* P **P** **17 39 21.0 +0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 33.20 299 P **P** **17 39 21.0 -0.8**
comp=Z,0.3nm,0.4s,baz=76,slow=7.4,SNR=2.2
comp=Z,0.3nm,0.4s
FINES FINESS Array B 34.85 319 P **P** **17 39 36.1 0.0**
comp=Z,1.3nm,0.5s,baz=105,slow=8.8,SNR=11
comp=Z,1.3nm,0.5s
FINES FINESS Array B 34.85 319 *e*P **P** **17 39 37.0 +0.9**
FINES pmax pmax
comp=Z,1.0nm,0.5s
YAK Yakutsk 34.90 40⇑*e*P **P** **17 39 40.1 +3.6**
YAK pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 36.68 332 P **P** **17 39 50.9 -0.9**
comp=Z,2.2nm,0.5s,baz=99,slow=9.6,SNR=18
comp=Z,2.2nm,0.5s
ARCES ARCESS Array B 36.68 332 *e*P **P** **17 39 52.7 +0.9**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
HFS Hagfors 40.92 317 P **P** **17 40 27.6 +0.3**
comp=Z,0.4nm,0.3s,baz=84,slow=15,SNR=5.8
comp=Z,0.4nm,0.3s
NB2 NORSAR Subarra 42.02 318 P **P** **17 40 36.7 +0.3**
comp=Z,0.2nm,0.5s,baz=82,slow=8.6
NOA NORSAR Array B 42.02 318 P **P** **17 40 36.5 +0.1**
comp=Z,0.3nm,0.5s,baz=84,slow=8.1,SNR=4.4
comp=Z,0.3nm,0.5s
NOA NORSAR Array B 42.02 318 *e*P **P** **17 40 36.4 0.0**
JNU Nakatsue 42.18 86 LR LR 18 00 57.2
comp=Z,100nm,18.6s,baz=246,slow=40
ESDC Sonseca Array 58.78 297 P **P** **17 42 41.9 -1.5**
comp=Z,0.3nm,0.6s,baz=52,slow=5.0,SNR=2.9
comp=Z,0.3nm,0.6s
ILAR Eielson Array 66.15 19 P **P** **17 43 31.8 -0.3**
comp=Z,0.3nm,0.7s,baz=264,slow=3.6,SNR=4.1
comp=Z,0.3nm,0.7s
ILAR Eielson Array 66.15 19 *e*P **P** **17 43 32.3 +0.2**
TORD Torodi Ar. Bea 71.09 270 P **P** **17 44 02.3 -1.3**
comp=Z,0.3nm,0.4s,baz=20,slow=3.1,SNR=2.2
comp=Z,0.3nm,0.4s
YKA Yellowknife Ar 73.48 6 P **P** **17 44 17.2 0.0**
comp=Z,0.3nm,0.5s,baz=344,slow=11,SNR=2.0
comp=Z,0.3nm,0.5s
WRA Warramunga Arr 81.86 128 P **P** **17 45 03.4 -1.0**
comp=Z,0.2nm,0.9s,baz=327,slow=4.6,SNR=1.6
comp=Z,0.2nm,0.9s
ASAR Alice Springs 84.56 130 P **P** **17 45 17.6 -0.8**
comp=Z,0.3nm,0.8s,baz=256,slow=3.5,SNR=3.3
comp=Z,0.3nm,0.8s

IDC 26 17:41:55.1±968.0, 55°.16N×40°.06E, h0km, Error ellipse: s-maj=383.3km s-min=54.7km az=135.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**2.24**	**316**	I		I	17 56 11.6	
baz=133,slow=313,SNR=1.0								
I37NO	**I37NO**	**17.03**	**333**	I		I	19 24 30.0	
baz=135,slow=325,SNR=1.1								
I26DE	**FREYUNG INFRAS**	**17.34**	**260**	I		I	19 24 10.0	
baz=58,slow=327,SNR=0.5								

IDC 26 17:42:41.2±2.9, 5°.17S×149°.45E, h0km, mb3.0/3, mbtmp3.1/3, Error ellipse: s-maj=307.6km s-min=32.1km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.79**	**224**	P		P	17 47 23.5	-0.6
0.2nm,0.5s,baz=37,slow=11,SNR=2.2								
0.2nm,0.5s								
ASAR	**Alice Springs**	**23.73**	**218**	P		P	17 47 55.3	+0.1
0.2nm,0.5s,baz=56,slow=8.7,SNR=10								
0.2nm,0.5s								
ILAR	**Eielson Array**	**83.77**	**23**	P		P	17 55 12.3	+0.2
0.2nm,0.5s,baz=238,slow=5.2,SNR=2.1								
0.2nm,0.5s								

JMA 26 17:51:51.1±0.2, 34°.1N±0°.3×135°.2E±0°.9, h5km±1km, MV-0.2/10, NW WAKAYAMA PREF, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.28**	**142**	*e*P		Pg	17 51 56.7	+0.2
JWM						S	Sg	17 52 00.6	+0.4

IDC 26 17:52:55.7±4.2, 17°.59S×173°.55W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=191.8km s-min=40.9km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.24**	**259**	P		P	18 01 45.8	-0.6
0.6nm,0.5s,baz=98,slow=6.7,SNR=30								
0.6nm,0.5s								
ASAR	**Alice Springs**	**49.33**	**254**	P		P	18 01 47.1	0.0
3.7nm,0.6s,baz=89,slow=8.4,SNR=132								
ASAR				PcP		PcP	18 03 10.8	+0.9
0.3nm,0.8s,baz=102,slow=4.1,SNR=2.0								
3.7nm,0.6s								
ILAR	**Eielson Array**	**84.61**	**11**	P		P	18 05 30.3	-0.3
0.2nm,0.5s,baz=188,slow=6.2,SNR=2.5								
0.2nm,0.5s								

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*IDC **26** 17:57:07.5±1.3, 38°.05N×22°.06E, h0km, mb3.6/7, mbtmp3.6/9, ML3.1/2, Error ellipse: s-maj=30.4km s-min=19.8km az=147.0*
*ATH **26** 17:57:15.6, 38°.10N×22°.09E, h58km±1km, ML3.4/21, Error ellipse: s-maj=2.0km s-min=0.8km az=223.0*
*THE **26** 17:57:16.2, 38°.10N×22°.12E, h54km, ML3.3/6, Error ellipse: s-maj=0.6km s-min=0.3km az=355.0*
*AFAD **26** 17:57:22.8±0.0, 38°.36N×23°.27E, h6km±3km, ML2.7*
*NAO **26** 17:57:28.3, 39°.41N×20°.21E, h33km, mb2.8*
ISC 26 17:57:14.7±0.8, 38°.10N±0°.03×22°.12E±0°.02, h61km±4km, n148, σ1°.71/190, mb3.7/6, 6C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.07**	**156**	P		**Pn**	**17 57 23.9**	**0.0**
KLV				S		**Sn**	**17 57 30.4**	**-0.1**
4μm,0.2s								
KLV	**Kalavryta, Ach**	**0.07**	**156**	P		**Pn**	**17 57 23.4**	**-0.4**
KLV				S		**Sn**	**17 57 29.8**	**-0.7**
KLV				AML		AML	17 57 31.0	
comp=N,5950μm,0.2s								
KLV				AML		AML	17 57 31.1	
comp=E,9644μm,0.3s								
ALIK	**Aliki, Aigiali**	**0.16**	**359**	P		**Pn**	**17 57 24.4**	**+0.3**
ALIK				S		**Sn**	**17 57 31.2**	**+0.4**
GUR	**Goura**	**0.24**	**133**	P		**Pn**	**17 57 24.7**	**0.0**
GUR				S		**Sn**	**17 57 31.5**	**-0.3**
comp=E,7μm,0.3s								
GUR	**Goura**	**0.24**	**133**	P		**Pn**	**17 57 24.6**	**0.0**
GUR				S		**Sn**	**17 57 31.4**	**-0.5**
GUR				AML		AML	17 57 33.8	
comp=N,13725μm,0.3s								
GUR				AML		AML	17 57 34.4	
comp=E,12454μm,0.3s								
KALE	**Kalithea**	**0.29**	**4**	P		**Pn**	**17 57 25.4**	**+0.5**
KALE				S		**Sn**	**17 57 32.7**	**+0.4**
KALE	**Kalithea**	**0.29**	**4**	P		**Pn**	**17 57 25.1**	**+0.1**
KALE				S		**Sn**	**17 57 32.6**	**+0.2**
KALE				AML		AML	17 57 33.5	
comp=E,31931μm,0.2s								
KALE				AML		AML	17 57 33.7	
comp=N,29574μm,0.4s								
UPR	**University Cam**	**0.32**	**305**	P		**Pn**	**17 57 25.6**	**+0.6**
UPR				S		**Sn**	**17 57 33.2**	**+0.7**
DRO	**Drossia**	**0.35**	**245**	P		**Pn**	**17 57 24.8**	**-0.6**
DRO				S		**Sn**	**17 57 33.2**	**+0.1**
DRO				AML		AML	17 57 34.0	
comp=N,23269μm,0.4s								
DRO				AML		AML	17 57 35.0	
comp=E,18726μm,0.4s								
EFP	**Efpalio**	**0.36**	**333**	P		**Pn**	**17 57 26.1**	**+0.7**
EFP				S		**Sn**	**17 57 33.8**	**+0.6**
comp=E,4μm,0.3s								
EFP	**Efpalio**	**0.36**	**333**	P		**Pn**	**17 57 25.6**	**+0.1**
EFP				S		**Sn**	**17 57 33.0**	**-0.2**
EFP				AML		AML	17 57 34.9	
comp=N,7258μm,0.2s								
EFP				AML		AML	17 57 35.3	
comp=E,6925μm,0.4s								
ANX	**Ano Chora**	**0.51**	**343**	P		**Pn**	**17 57 27.9**	**+0.9**
ANX				S		**Sn**	**17 57 36.8**	**+0.8**
ANX	**Ano Chora**	**0.51**	**343**	P		**Pn**	**17 57 27.8**	**+0.7**
ANX				S		**Sn**	**17 57 36.3**	**+0.3**
ANX				AML		AML	17 57 39.5	
comp=E,6457μm,0.4s								
ANX				AML		AML	17 57 41.2	
comp=N,6136μm,0.5s								
RLS	**Riolos of Patr**	**0.52**	**265**	P		**Pn**	**17 57 26.3**	**-0.6**
RLS				S		**Sn**	**17 57 35.1**	**-0.7**
RLS				AML		AML	17 57 36.5	
comp=N,5002μm,0.4s								
RLS				AML		AML	17 57 37.6	
comp=E,1990μm,0.5s								
LOUT Loutraki 0.69 99				P		**Pn**	**17 57 29.6 +0.7**	
LOUT				S		**Sn**	**17 57 40.4 +1.2**	
LOUT Loutraki 0.69 99				P		**Pn**	**17 57 29.6 +0.7**	
LOUT				S		**Sn**	**17 57 39.4 +0.2**	
LOUT				AML		AML	17 57 41.1	
comp=N,869μm,0.2s								
LOUT				AML		AML	17 57 41.2	
comp=E,765μm,0.2s								
PVO Paravola 0.69 318				P		**Pn**	**17 57 30.1 +1.1**	
PVO				S		**Sn**	**17 57 40.4 +1.1**	
PVO Paravola 0.69 318				P		**Pn**	**17 57 30.0 +1.1**	
PVO				S		**Sn**	**17 57 40.0 +0.7**	
AXAR Agios Charalam 0.79 33				P		**Pn**	**17 57 31.2 +1.0**	
AXAR				S		**Sn**	**17 57 43.0 +1.6**	
AXAR Agios Charalam 0.79 33				P		**Pn**	**17 57 31.1 +1.0**	
AXAR				S		**Sn**	**17 57 41.8 +0.4**	
AXAR				AML		AML	17 57 43.6	
comp=E,7533μm,0.3s								
AXAR				AML		AML	17 57 46.5	
comp=N,10147μm,0.4s								
EVR Evrytania 0.85 344				P		**Pn**	**17 57 33.2 +2.3**	
EVR				AML		AML	17 57 49.0	
comp=E,2789μm,0.7s								
EVR				AML		AML	17 57 49.2	
comp=N,3538μm,0.7s								
MAKR Makrakomi, Fth 0.91 1				P		**Pn**	**17 57 33.0 +1.3**	
MAKR Makrakomi, Fth 0.91 1				P		**Pn**	**17 57 32.9 +1.3**	
MAKR				AML		AML	17 57 47.6	
comp=N,4132μm,0.6s								
MAKR				AML		AML	17 57 52.2	
comp=E,5475μm,0.3s								
VIL2 Platees 0.91 83				P		**Pn**	**17 57 32.9 +1.2**	
VIL2				S		**Sn**	**17 57 46.3 +2.0**	
VIL2				AML		AML	17 57 47.1	
comp=E,2998μm,0.4s								
VIL2				AML		AML	17 57 49.5	
comp=N,2595μm,0.3s								
EPID Epidavros 0.93 121				P		**Pn**	**17 57 32.7 +0.8**	
EPID				S		**Sn**	**17 57 46.2 +1.6**	
EPID Epidavros 0.93 121				P		**Pn**	**17 57 32.4 +0.4**	
EPID				S		**Sn**	**17 57 45.9 +1.2**	
ITM Ithomi 0.93 189				P		**Pn**	**17 57 33.4 +1.4**	
ITM				S		**Sn**	**17 57 46.0 +1.3**	
ITM Ithomi 0.93 189				P		**Pn**	**17 57 33.4 +1.4**	
ITM				AML		AML	17 57 50.2	
comp=N,3702μm,0.6s								
ITM				AML		AML	17 57 50.3	
comp=E,2530μm,0.3s								
VILL Villia 0.94 86				P		**Pn**	**17 57 33.1 +1.0**	
VILL				S		**Sn**	**17 57 46.5 +1.5**	
comp=E,2μm,0.3s								
RTZL Ratzakli, Kefa 1.06 269				P		**Pn**	**17 57 34.2 +0.6**	
RTZL				S		**Sn**	**17 57 49.3 +1.7**	
LTHK Lithakia 1.09 249				P		**Pn**	**17 57 34.7 +0.8**	
LTHK Lithakia 1.09 249				P		**Pn**	**17 57 34.2 +0.3**	
LTHK				AML		AML	17 57 51.5	
comp=N,3616μm,0.2s								
LTHK				AML		AML	17 57 52.9	
comp=E,4817μm,0.2s								
KRND KRANIDI 1.09 131				P		**Pn**	**17 57 34.7 +0.7**	
KRND				S		**Sn**	**17 57 49.7 +1.4**	
KRND KRANIDI 1.09 131				P		**Pn**	**17 57 34.5 +0.6**	
PSDA Pessada-Kefalo 1.21 271				P		**Pn**	**17 57 36.3 +0.8**	
PSDA				S		**Sn**	**17 57 53.1 +2.1**	
PSDA Pessada-Kefalo 1.21 271				P		**Pn**	**17 57 35.4 -0.1**	
PYL PYLOS 1.24 194				P		**Pn**	**17 57 37.2 +1.2**	
PYL				S		**Sn**	**17 57 53.6 +1.8**	
comp=E,1μm,0.3s								
PYL PYLOS 1.24 194				P		**Pn**	**17 57 37.0 +1.0**	
PYL				S		**Sn**	**17 57 52.6 +0.8**	
PYL				AML		AML	17 57 56.5	
comp=N,2008μm,0.4s								
PYL				AML		AML	17 57 57.0	
comp=E,2914μm,0.3s								
EVGI Lefkada island 1.26 295				P		**Pn**	**17 57 36.4 +0.2**	
ATH Athens Observa 1.27 95				P		**Pn**	**17 57 37.5 +1.2**	
ATH				S		**Sn**	**17 57 54.2 +1.7**	
comp=E,962nm,0.3s								
ATH Athens Observa 1.27 95				P		**Pn**	**17 57 37.3 +1.0**	
ATH				S		**Sn**	**17 57 52.6 +0.1**	
ATH				AML		AML	17 57 54.7	
comp=E,2421μm,0.4s								
ATH				AML		AML	17 57 54.7	
comp=N,1704μm,0.2s								
NYDR Nydri-Lefkada 1.27 299				P		**Pn**	**17 57 36.6 +0.2**	
FSK Fiskardo 1.27 287				P		**Pn**	**17 57 37.3 +0.9**	
FSK Fiskardo 1.27 287				P		**Pn**	**17 57 35.8 -0.6**	
FSK				AML		AML	17 57 57.9	
comp=N,1108μm,0.6s								
FSK				AML		AML	17 57 58.4	
comp=E,1546μm,0.5s								
ATHU Athens Univers 1.32 95				P		**Pn**	**17 57 38.2 +1.1**	
ATHU				S		**Sn**	**17 57 55.4 +1.6**	
ATHU Athens Univers 1.32 95				P		**Pn**	**17 57 38.0 +0.9**	
ATHU				S		**Sn**	**17 57 53.6 -0.2**	
ATHU				AML		AML	17 57 55.3	
comp=N,1300μm,0.2s								
ATHU				AML		AML	17 57 55.6	
comp=E,371μm,0.1s								
LKD2 Lefkada island 1.33 301				P		**Pn**	**17 57 38.1 +0.9**	
LKD2 Lefkada island 1.33 301				P		**Pn**	**17 57 37.7 +0.4**	
VLY Voula,Athens 1.35 100				P		**Pn**	**17 57 38.5 +1.1**	
VLY Voula,Athens 1.35 100				P		**Pn**	**17 57 38.3 +0.9**	
VLY				S		**Sn**	**17 57 55.4 +0.9**	
TSLK Tsoukalades, L 1.35 303				P		**Pn**	**17 57 38.5 +1.0**	
TSLK Tsoukalades, L 1.35 303				P		**Pn**	**17 57 38.0 +0.5**	
DMLN Damoulianata-K 1.38 276				P		**Pn**	**17 57 37.5 -0.4**	
PTL Penteli 1.38 92				P		**Pn**	**17 57 39.1 +1.2**	
PTL				S		**Sn**	**17 57 56.6 +1.4**	
PTL Penteli 1.38 92				P		**Pn**	**17 57 39.0 +1.1**	
PTL				S		**Sn**	**17 57 55.9 +0.6**	
PTL				AML		AML	17 57 57.4	
comp=E,3554μm,0.4s								
PTL				AML		AML	17 57 57.5	
comp=N,2157μm,0.4s								
DION Dionisos Attik 1.43 90				P		**Pn**	**17 57 40.6 +2.0**	
DION				S		**Sn**	**17 57 57.6 +1.2**	
DION				AML		AML	17 57 60.0	
comp=E,6849μm,0.2s								
DION				AML		AML	17 58 01.2	
comp=N,4478μm,0.3s								
THL Klokotos Trika 1.46 357				P		**Pn**	**17 57 40.2 +1.3**	
THL Klokotos Trika 1.46 357				P		**Pn**	**17 57 39.6 +0.7**	
NEO Neokhori 1.48 35				P		**Pn**	**17 57 40.2 +0.9**	
NEO				S		**Sn**	**17 57 57.9 +0.2**	
TYRN Tyrnavos 1.61 3				P		**Pn**	**17 57 42.2 +1.3**	
TYRN Tyrnavos 1.61 3				P		**Pn**	**17 57 41.4 +0.5**	
KYMI Kymi, Euboea I 1.65 71				P		**Pn**	**17 57 42.9 +1.5**	
KYMI Kymi, Euboea I 1.65 71				P		**Pn**	**17 57 42.6 +1.1**	
KYMI				S		**Sn**	**17 58 01.6 0.0**	
KYMI				AML		AML	17 58 03.6	
comp=E,798μm,0.5s								
KYMI				AML		AML	17 58 05.9	
comp=N,905μm,0.4s								
JAN Janina 1.84 328				P		**Pn**	**17 57 45.9 +1.8**	
JAN Janina 1.84 328				P		**Pn**	**17 57 45.8 +1.8**	
KPRO Kipourio 1.94 343				P		**Pn**	**17 57 47.3 +1.8**	
KPRO Kipourio 1.94 343				P		**Pn**	**17 57 47.3 +1.8**	
LIT Litokhoron 2.02 8				P		**Pn**	**17 57 47.9 +1.4**	
SKY Skiros Island 2.06 67				P		**Pn**	**17 57 48.2 +1.2**	
SKY Skiros Island 2.06 67				P		**Pn**	**17 57 48.2 +1.2**	
KZN Kozani 2.22 353				P		**Pn**	**17 57 51.1 +1.8**	
PENT Pentalofos 2.22 340				P		**Pn**	**17 57 51.7 +2.4**	
MHLO Agia Marina, M 2.30 127				P		**Pn**	**17 57 51.4 +1.1**	
MHLO Agia Marina, M 2.30 127				P		**Pn**	**17 57 51.0 +0.7**	
KEK Kerkira 2.42 312				P		**Pn**	**17 57 51.7 -0.2**	
PLG Polygyros 2.49 24				P		**Pn**	**17 57 54.4 +1.5**	
PLG Polygyros 2.49 24				P		**Pn**	**17 57 53.5 +0.6**	
HORT Hortiatis 2.61 17				P		**Pn**	**17 57 56.1 +1.6**	
HORT Hortiatis 2.61 17				P		**Pn**	**17 57 54.7 +0.2**	
OUR Ouranopolis 2.66 32				P		**Pn**	**17 57 56.0 +0.9**	
FNA Florina 2.74 348				P		**Pn**	**17 57 58.1 +1.8**	
FNA				S		**Sn**	**17 58 30.7 +2.4**	
FNA Florina 2.74 348				P		**Pn**	**17 57 57.6 +1.3**	
APE Apeiranthos 2.90 110				⇑P		**Pn**	**17 57 59.5 +1.0**	
APE Apeiranthos 2.90 110				P		**Pn**	**17 57 59.6 +1.1**	
LIA Limnos Island 2.99 52				P		**Pn**	**17 58 01.4 +1.8**	
LIA Limnos Island 2.99 52				P		**Pn**	**17 58 00.6 +1.0**	
IMMV Iera Moni Meta 3.03 150				P		**Pn**	**17 58 01.7 +1.4**	

CHOS	**Chios island**	**3.11**	**84**	P		**Pn**	**17 58 03.3**	**+1.8**
CHOS	**Chios island**	**3.11**	**84**	P		**Pn**	**17 58 03.2**	**+1.7**
SIGR	**SIGRI**	**3.13**	**68**	P		**Pn**	**17 58 03.5**	**+1.9**
SIGR	**SIGRI**	**3.13**	**68**	P		**Pn**	**17 58 02.7**	**+1.1**
OHR	**Ohrid**	**3.17**	**342**	*i* Pn		**Pn**	**17 58 04.7**	**+2.4**
THAS	**Thassos island**	**3.21**	**38**	P		**Pn**	**17 58 03.0**	**+0.3**
SRS	**Serrai**	**3.22**	**20**	P		**Pn**	**17 58 03.8**	**+0.9**
VAY	**Valandovo**	**3.23**	**6**	*i* Pn		**Pn**	**17 58 04.8**	**+1.7**
KARB	**zmir-Karabur**	**3.42**	**79**	P		**Pn**	**17 58 06.6**	**+1.0**
KARB				S		**Sn**	**17 58 39.1**	**-5.8**
KOCA	**Canakkale, Ayv**	**3.44**	**65**	P		**Pn**	**17 58 07.4**	**+1.6**
KOCA				S		**Sn**	**17 58 41.3**	**-4.0**
KOCA				*i* AML	AML		17 58 45.0	
	comp=N,39nm,0.4s							
KOCA				*i* AML	AML		17 58 49.0	
	comp=N,42nm,0.7s							
ZEYE	**Izmir, Urla-Ze**	**3.46**	**86**	P		**Pn**	**17 58 06.7**	**+0.6**
ZEYE				S		**Sn**	**17 58 43.4**	**-2.4**
BOZC	**Bozcaada**	**3.52**	**59**	P		**Pn**	**17 58 08.6**	**+1.6**
BOZC				S		**Sn**	**17 58 42.3**	**-5.1**
URLA	**Izmir**	**3.54**	**84**	P		**Pn**	**17 58 08.4**	**+1.2**
URLA				*i* AML	AML		17 58 53.0	
	comp=N,33nm,1.2s							
URLA				*i* AML	AML		17 58 55.0	
	comp=N,27nm,0.5s							
IDI	**Anoyia**	**3.59**	**141**	P		**Pn**	**17 58 09.7**	**+1.8**
GOAD	**anakkale-G¶**	**3.59**	**54**	P		**Pn**	**17 58 08.6**	**+0.7**
GOAD				S		**Sn**	**17 58 41.7**	**-7.5**
GOAD				*i* AML	AML		17 58 52.0	
	comp=N,37nm,0.6s							
GOAD				*i* AML	AML		17 58 59.0	
	comp=N,34nm,0.9s							
SMG	**Samos**	**3.75**	**95**	P		**Pn**	**17 58 12.0**	**+1.8**
DGB	**zmir**	**3.76**	**89**	P		**Pn**	**17 58 11.6**	**+1.4**
BAYC	**CANAKKALE_Bayr**	**3.82**	**63**	P		**Pn**	**17 58 12.1**	**+1.0**
BAYC				S		**Sn**	**17 58 49.3**	**-5.4**
BAYC				*i* AML	AML		17 58 55.0	
	comp=N,21nm,0.3s							
CNKL	**anakkale-Mer**	**3.86**	**58**	P		**Pn**	**17 58 13.3**	**+1.7**
CNKL				S		Sn	17 58 47.0	-8.6
BUHA	**Balikesir, Bur**	**4.12**	**69**	P		**Pn**	**17 58 16.7**	**+1.5**
TIP	**Timpagrande**	**4.33**	**286**	⇑P		**Pn**	**17 58 17.9**	**-0.2**
DRME	**Dracevica, Mon**	**4.66**	**332**	*e*Pn		**Pn**	**17 58 21.5**	**-1.0**
KARP	**Karpathos**	**4.78**	**121**	P		**Pn**	**17 58 26.9**	**+2.6**
BKES	**Balkesir-Mer**	**4.82**	**68**	P		**Pn**	**17 58 25.8**	**+1.1**
PDG	**Podgorica**	**4.84**	**334**	*e*Pn		Pn	17 58 32.8	+7.8
BLKS	**Balkesir-Sus**	**4.89**	**67**	P		**Pn**	**17 58 28.9**	**+3.2**
BLKS				S		**Sn**	**17 59 14.2**	**-6.8**
SJES	**Sjenica**	**5.40**	**343**	*e*Pn		Pn	17 58 40.7	+7.9
TREB	**Trebinje**	**5.43**	**329**	*e*Pn		**Pn**	**17 58 30.9**	**-2.2**
DBRK	**Dubrovnik**	**5.47**	**328**	*e*Pn		**Pn**	**17 58 31.8**	**-1.9**
DBRK				Sn		Sn	17 59 27.7	-7.6
BOVS	**Bovan**	**5.54**	**357**	⇑P		**Pn**	**17 58 36.4**	**+1.9**
ELND	**Elena**	**5.61**	**30**	⇑P		**Pn**	**17 58 37.6**	**+2.1**
STON	**Ston**	**5.83**	**326**	*e*Pn		**Pn**	**17 58 36.4**	**-2.2**
STON				Sn		Sn	17 59 36.5	-7.5
STON	**Ston**	**5.83**	**326**	*e*Pn		**Pn**	**17 58 35.8**	**-2.7**
RUDO	**Rudo**	**5.89**	**340**	*e*Pn		Pn	17 58 35.1	-4.3
BBLS	**Lazi&#263i**	**6.11**	**341**	*e*Pn		**Pn**	**17 58 40.2**	**-2.3**
HAPS	**Han Pijesak,Bl**	**6.44**	**339**	*e*Pn		**Pn**	**17 58 44.8**	**-2.2**
RICI	**Ricice**	**6.58**	**327**	*e*Pn		**Pn**	**17 58 47.2**	**-1.6**
HVAR	**Hvar**	**6.65**	**321**	*e*Pn		**Pn**	**17 58 47.7**	**-2.1**
KIJV	**Kijevo**	**7.30**	**326**	*e*Pn		**Pn**	**17 58 56.7**	**-2.0**
BANR	**Banloc**	**7.31**	**355**	⇑P		**Pn**	**17 59 00.6**	**+1.8**
ZIRJ	**Zirje**	**7.40**	**321**	*e*Pn		**Pn**	**17 58 57.6**	**-2.4**
BLY	**Banja Luka**	**7.60**	**332**	*e*Pn		**Pn**	**17 59 01.0**	**-1.8**
A050A	**Klekovaca**	**7.63**	**328**	*e*Pn		**Pn**	**17 59 02.0**	**-1.3**
VOIR		**7.65**	**16**	⇓P		**Pn**	**17 59 02.3**	**-1.2**
MLR	**Muntele Rosu**	**7.92**	**20**	Pn		**Pn**	**17 59 08.0**	**+0.8**
	comp=N,0.2nm,0.3s,baz=190,slow=12,SNR=3.5							
	comp=N,4.0nm,0.8s							
MLR	**Muntele Rosu**	**7.92**	**20**	⇓P		**Pn**	**17 59 11.6**	**+4.4**
A051A	**Mrakovica**	**7.93**	**332**	*e*Pn		Pn	17 59 02.8	-4.5
DUGI	**Dugi Otok**	**7.94**	**320**	*e*Pn		**Pn**	**17 59 05.3**	**-2.1**
PLOR	**Plostina**	**8.45**	**22**	⇓P		Pn	17 59 19.2	+4.8
TURR	**Turia**	**8.46**	**19**	⇓P		**Pn**	**17 59 18.2**	**+3.7**
VRI	**Vrincioaia**	**8.48**	**22**	⇑P		Pn	17 59 19.5	+4.7
BRTR	**Keskin Array B**	**9.13**	**76**	Pn		**Pn**	**17 59 23.5**	**-0.4**
	baz=259,slow=12,SNR=1.6							
	comp=N,0.3nm,0.5s							
CEY	**Cerknica**	**9.54**	**326**	*e*Pn		**Pn**	**17 59 26.7**	**-2.6**
ESDC	**Sonseca Array**	**20.34**	**283**	P		**P**	**18 01 45.2**	**-0.8**
	comp=N,1.0nm,0.7s,baz=86,slow=10,SNR=9.9							
	comp=N,1.0nm,0.7s							
FINES	**FINESS Array B**	**23.50**	**5**	P		**P**	**18 02 18.0**	**-0.8**
	comp=N,0.4nm,0.6s,baz=169,slow=7.9,SNR=4.1							
	comp=N,0.4nm,0.6s							
NB2	**NORSAR Subarra**	**23.96**	**347**	P		**P**	**18 02 22.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=161,slow=10							
NOA	**NORSAR Array B**	**23.96**	**347**	P		**P**	**18 02 22.8**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=180,slow=18,SNR=6.3							
	comp=Z,0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**30.79**	**222**	P		**P**	**18 03 24.8**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=36,slow=10.0,SNR=5.0							
	comp=Z,0.8nm,0.6s							
BVAR	**Borovoye Array**	**36.20**	**50**	P		**P**	**18 04 13.0**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=255,slow=5.7,SNR=5.9							
	comp=Z,0.8nm,0.6s							
MKAR	**Makanchi Array**	**44.27**	**59**	P		**P**	**18 05 18.7**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=280,slow=6.1,SNR=18							
	comp=Z,0.9nm,0.5s							
ZALV	**Zalesovo Beam**	**44.80**	**48**	P		**P**	**18 05 22.5**	**+0.2**
	comp=Z,2.3nm,0.4s,baz=275,slow=8.3,SNR=13							
	comp=Z,2.3nm,0.4s							

DJA 26 18:07:47.6±2.7, 11°S±26°×11°5E±°, h10km, M4.0/6, mb4.3/1, MLv3.8/6, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.62**	**347**	P		Pn	18 08 29.9	-0.1
SRBI	**Singaraja**	**2.97**	**9**	P		Pn	18 08 35.3	+0.4
TWSI	**Taliwang, Sumb**	**3.11**	**43**	P		Pn	18 08 36.1	-0.7
PWJI	**Pagerwojo**	**4.17**	**316**	P		Pn	18 08 51.4	+0.1
WBSI	**Waikabubak, Su**	**4.78**	**74**	P		Pg	18 09 21.0	+1.7
BSSI	**Bau Bau, Buton**	**7.48**	**50**	P		Pn	18 09 37.4	+0.5

*CATAC **26** 18:09:43.4±0.7, 7°.13N×85°.71W, h5km, MB5.0, mb5.0, ML4.7*

ISC 26 18:09:46.7±2.8, 7°.3N±0°.1×85°.51W±0°.05, h10km, n31, σ1§70/52, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INDI	**Punta indio, G**	**2.59**	**0**	*i* P		**Pn**	**18 10 26.8**	**-1.8**
INDI					IAML		18 10 27.9	
	comp=Z,490nm,1.0s							
INDI				*i* S		**Sn**	**18 11 02.6**	**+2.4**
OCHAL	**Ojochal**	**2.59**	**45**	*i* P		**Pn**	**18 10 25.3**	**-3.5**
OCHAL				*i* S		**Sn**	**18 11 04.4**	**+4.0**
OCHAL					IAML		18 11 08.0	
	comp=Z,300nm,1.0s							
BUS1	**Rivas**	**2.87**	**37**	*e*P		**Pn**	**18 10 29.9**	**-3.0**
BUS1				*e*S		**Sb**	**18 11 14.5**	**+0.9**
LCR2	**La Lucha 2**	**2.88**	**31**	*i* P		**Pn**	**18 10 29.7**	**-3.1**
LCR2				*i* S		**Sn**	**18 11 12.2**	**+4.5**
LCR2					IAML		18 11 20.8	
	comp=Z,180nm,1.0s							
JUD3	**Juan Diaz 3**	**2.88**	**359**	*e*P		**Pn**	**18 10 32.0**	**-0.7**
DRK0	**Durika**	**3.00**	**48**	*i* P		**Pn**	**18 10 31.3**	**-3.1**
DRK0				*i* S		**Sn**	**18 11 15.6**	**+5.1**
DRK0					IAML		18 11 20.6	
	comp=Z,2μm,1.0s							
JTS	**Las Juntas de**	**3.06**	**10**	*e*P		**Pn**	**18 10 34.6**	**-0.6**
SOCE	**Pocosol**	**3.22**	**16**	*i* P		**Pn**	**18 10 37.1**	**-0.3**
SOCE					IAML		18 10 38.8	
	comp=Z,2μm,1.0s							
SOCE				*i* S		**Sb**	**18 11 21.6**	**-1.8**
SOCE	**Pocosol**	**3.22**	**16**	*e*P		**Pn**	**18 10 37.5**	**+0.1**
CEDE	**Laguna Cedeo**	**3.30**	**14**	*e*P		**Pn**	**18 10 38.8**	**+0.2**
CUI	**Cuipilapa**	**3.39**	**6**	*e*P		**Pn**	**18 10 39.7**	**-0.1**
COLC	**Colonia**	**3.39**	**5**	*e*P		**Pn**	**18 10 40.0**	**+0.2**
GPS2	**Hotel Rincn d**	**3.47**	**3**	*e*P		**Pn**	**18 10 41.0**	**+0.1**
COVE	**Coope Vega, Sa**	**3.60**	**18**	*i* P		**Pn**	**18 10 42.4**	**-0.2**
COVE				*i* S		**Sb**	**18 11 34.2**	**-0.2**
COVE					IAML		18 11 40.7	
	comp=Z,310nm,1.0s							
LCRUZ	**La Cruz**	**3.79**	**358**	*e*P		**Pn**	**18 10 45.6**	**+0.3**
NANN	**Nandasmo**	**4.68**	**353**	*i* P		**Pn**	**18 10 58.3**	**+0.8**
NANN					IAML		18 11 00.1	
	comp=Z,6μm,1.0s							
NANN				*i* S		**Sn**	**18 11 51.6**	**-0.4**
ACON	**Acoyapa**	**4.69**	**4**	*i* P		**Pn**	**18 10 57.4**	**-0.1**
ACON					IAML		18 11 05.4	
	comp=Z,110nm,1.0s							
ACON				*i* S		**Sn**	**18 11 50.4**	**-1.6**
ACON	**Acoyapa**	**4.69**	**4**	*e*P		**Pn**	**18 10 57.4**	**-0.2**
COPN	**Copaltepe**	**5.00**	**348**	*i* P		**Pn**	**18 11 03.2**	**+1.4**
COPN					IAML		18 11 13.3	
	comp=Z,120nm,1.0s							
COPN					IVmB_BB		18 11 13.3	
	comp=Z,1μm,1.0s							
COPN					IAmb	IAmb	18 11 14.8	
	comp=Z,76nm,0.8s							
HUEN		**5.08**	**353**	*i* P		**Pn**	**18 11 03.4**	**+0.4**
HUEN					IAML		18 11 04.5	
	comp=Z,83nm,1.0s							
HUEN					IAmb	IAmb	18 11 04.8	
	comp=Z,67nm,0.6s							
HUEN				*i* S		**Sn**	**18 12 00.7**	**-1.1**
HUEN					IVmB_BB		18 12 01.3	
	comp=Z,1μm,1.0s							
BOAB	**BOACO BROADBAN**	**5.16**	**358**	*i* P		**Pn**	**18 11 03.9**	**-0.1**
BOAB					IAML		18 11 15.7	
	comp=Z,43nm,1.0s							
BOAB				*i* S		**Sn**	**18 12 02.4**	**-1.2**
MOM2	**El Cardon**	**5.23**	**350**	*i* P		**Pn**	**18 11 04.6**	**-0.4**
MOM2					IAML		18 11 07.6	
	comp=Z,130nm,1.0s							
MOM2					IAmb	IAmb	18 11 07.9	
	comp=Z,90nm,0.5s							
MOM2				*i* S		**Sn**	**18 12 04.7**	**-0.7**
MACN	**El Madrono**	**5.29**	**348**	*i* P		**Pn**	**18 11 06.9**	**+1.0**
MACN					IVmB_BB		18 11 17.3	
	comp=Z,1μm,1.0s							
MACN					IAML		18 11 17.4	
	comp=Z,87nm,1.0s							
MACN				*i* S		**Sn**	**18 12 06.7**	**-0.4**
PKGN	**Cerro Pekin**	**5.56**	**345**	*i* P		**Pn**	**18 11 10.0**	**+0.4**
PKGN					IVmB_BB		18 11 11.4	
	comp=Z,4μm,1.0s							
PKGN					IAmb	IAmb	18 11 13.2	
	comp=Z,210nm,0.5s							
PKGN				*i* S		**Sn**	**18 12 12.7**	**-0.9**
PKGN					IAML		18 12 26.4	
	comp=Z,470nm,1.0s							
CNCH	**Conchagua**	**6.40**	**339**	*i* P		**Pn**	**18 11 22.0**	**+0.8**
CNCH					IAML		18 11 22.8	
	comp=Z,500nm,1.0s							
CNCH				*i* S		**Sn**	**18 12 33.3**	**-1.1**
COEB	**Comit de Eme**	**6.87**	**335**	*i* P		**Pn**	**18 11 29.4**	**+1.7**
COEB				*i* S		**Sn**	**18 12 46.5**	**+0.5**
COEB					IAML		18 13 11.1	
	comp=Z,310nm,1.0s							
PQSS	**Presa 15 de Se**	**7.00**	**335**	*i* P		**Pn**	**18 11 30.5**	**+1.2**
PQSS					IAML		18 11 31.1	
	comp=Z,78nm,1.0s							
PQSS				*i* S		**Sn**	**18 12 48.3**	**-0.7**
COEG	**Centro de Oper**	**7.13**	**333**	*i* P		**Pn**	**18 11 32.4**	**+1.2**
COEG				*i* S		**Sn**	**18 12 51.0**	**-1.4**
COEG					IAML		18 12 58.1	
	comp=Z,190nm,1.0s							
JAYA	**Jayaque - finc**	**7.44**	**329**	*i* P		**Pn**	**18 11 35.8**	**+0.3**
JAYA					IAML		18 11 36.3	
	comp=Z,400nm,1.0s							
JAYA				*i* S		**Sn**	**18 12 59.8**	**-0.3**
NUBE	**Las Nubes**	**7.82**	**328**	*i* P		**Pn**	**18 11 41.4**	**+0.7**
NUBE					IAML		18 11 42.4	
	comp=Z,92nm,1.0s							
NUBE				*i* S		**Sn**	**18 13 10.0**	**+0.6**
MTO3	**Montecristo**	**8.04**	**332**	*i* P		**Pn**	**18 11 44.7**	**+0.9**
MTO3				*i* S		**Sn**	**18 13 14.0**	**-0.9**

*SJA **26** 18:40:41.1±0.6, 20°.41S×69°.83W, h67km±2km, ML3.7, MW3.8*

*GUC **26** 18:40:43.9±0.6, 20°.38S×69°.82W, h57km±2km, ML3.5*

ISC 26 18:40:43.9±1.3, 20°.38S±0°.03×69°.85W±0°.05, h54km±7km, n25, σ1§44/47, 3C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.11**	**339**	*e*P		**Pn**	**18 40 52.2**	**-0.2**
HMBC				*e*S		**Sn**	**18 40 59.8**	**+1.4**
HMBC					IAML		18 41 01.0	
	comp=Z,3μm,0.2s							
HMBC	**Humberstone**	**0.11**	**339**	⇑*i*P		**Pn**	**18 40 52.5**	**+0.1**
HMBC				*e*S		**Sn**	**18 40 59.0**	**+0.6**
HMBC					IAML		18 41 00.0	
	comp=E,5μm,0.3s							
PX03	**IPOC Station P**	**0.20**	**97**	*e*P		**Pn**	**18 40 52.3**	**-0.5**
TA02	**Huaiquique**	**0.29**	**292**	*e*P		**Pn**	**18 40 52.6**	**-0.6**
TA02				*e*P			18 40 53.2	
TA02				*e*S		**Sn**	**18 41 00.1**	**+0.1**
TA02					IAML		18 41 01.8	
	comp=Z,14μm,0.1s							
TA02	**Huaiquique**	**0.29**	**292**	*e*P		**Pn**	**18 40 53.2**	**0.0**
TA02				*e*S		**Sn**	**18 41 00.3**	**+0.3**
TA01	**Diego Aracena**	**0.36**	**239**	*e*P		**Pn**	**18 40 53.2**	**-0.7**
TA01				*e*S		**Sn**	**18 41 02.0**	**+0.8**
TA01	**Diego Aracena**	**0.36**	**239**	⇑*i*P		**Pn**	**18 40 53.6**	**-0.3**
TA01				*e*S		**Sn**	**18 41 01.2**	**0.0**
PATCX	**Punta Patache**	**0.53**	**213**	*e*P		**Pn**	**18 40 54.7**	**-1.1**
PATCX				*e*S		**Sn**	**18 41 04.9**	**+0.6**
PATCX					IAML		18 41 05.6	
	comp=Z,2μm,0.3s							
PATCX	**Punta Patache**	**0.53**	**213**	⇑*i*P		**Pn**	**18 40 55.4**	**-0.4**
PATCX				*e*S		**Sn**	**18 41 04.6**	**+0.3**
PATCX					IAML		18 41 05.4	
	comp=E,2μm,0.2s							
PB11	**IPOC Station P**	**0.64**	**16**	*e*P		**Pn**	**18 40 56.5**	**-0.8**
PB11				*e*S		**Sn**	**18 41 07.8**	**+0.9**
PB11					IAML		18 41 09.2	
	comp=Z,3μm,0.2s							
PB11	**IPOC Station P**	**0.64**	**16**	⇓*i*P		**Pn**	**18 40 56.9**	**-0.4**
PB11				*e*S		**Sn**	**18 41 06.6**	**-0.3**
PB11					IAML		18 41 09.0	
	comp=N,6μm,0.2s							
PB01	**IPOC Station P**	**0.74**	**153**	*e*P		**Pn**	**18 40 57.1**	**-1.3**
PB01				*e*S		**Sn**	**18 41 07.4**	**-1.6**
PB01					IAML		18 41 10.8	
	comp=Z,2μm,0.2s							
PB01	**IPOC Station P**	**0.74**	**153**	⇓*i*P		**Pn**	**18 40 57.8**	**-0.6**
PB01				*e*S		**Sn**	**18 41 08.6**	**-0.5**
PB01					IAML		18 41 09.2	
	comp=E,3μm,0.2s							
GO01	**Chusmiza**	**0.94**	**41**	*e*P		**Pn**	**18 41 00.4**	**-0.9**
GO01				*e*S		**Sn**	**18 41 14.8**	**+0.7**
GO01					IAML		18 41 15.9	
	comp=Z,4μm,0.2s							
GO01	**Chusmiza**	**0.94**	**41**	*e*P		**Pn**	**18 41 01.1**	**-0.2**
GO01				*e*S		**Sn**	**18 41 14.2**	**+0.2**
PB09	**IPOC Station P**	**1.52**	**158**	*e*P		**Pn**	**18 41 08.7**	**-0.2**
PB09				*e*S		**Sn**	**18 41 24.0**	**-3.7**
PB09					IAML		18 41 35.5	
	comp=Z,1μm,0.5s							
PB09	**IPOC Station P**	**1.52**	**158**	*i* P		**Pn**	**18 41 09.2**	**+0.4**
PB09				*e*S		**Sn**	**18 41 28.9**	**+1.2**
PB09					IAML		18 41 31.6	
	comp=E,1μm,0.2s							
PB04	**IPOC Station P**	**1.96**	**188**	*e*P		**Pn**	**18 41 13.8**	**-1.2**
PB04				*e*S		**Sn**	**18 41 40.7**	**+2.1**
PB04					IAML		18 41 45.1	
	comp=Z,540nm,0.4s							
PB04	**IPOC Station P**	**1.96**	**188**	*e*P		**Pn**	**18 41 14.1**	**-0.9**
PB04				*e*S		**Sn**	**18 41 38.2**	**-0.3**
PB04					IAML		18 41 44.1	
	comp=E,791nm,0.5s							
AP01	**Chacalluta**	**2.05**	**347**	*e*P		**Pn**	**18 41 15.4**	**-0.5**
AP01				*e*S		**Sn**	**18 41 41.0**	**+0.5**
AP01					IAML		18 41 52.7	
	comp=Z,751nm,0.2s							
AP01	**Chacalluta**	**2.05**	**347**	*e*P		**Pn**	**18 41 15.7**	**-0.3**
AP01				*e*S		**Sn**	**18 41 40.5**	**+0.1**
AP01					IAML		18 41 52.4	
	comp=N,956nm,0.3s							
PB06	**IPOC Station P**	**2.33**	**174**	*e*P		**Pn**	**18 41 18.9**	**-1.1**
PB06				*e*S		**Sn**	**18 41 50.6**	**+3.1**
PB06					IAML		18 41 57.1	
	comp=Z,245nm,0.2s							
LVC	**Limon Verde**	**2.38**	**159**	*e*P		**Pn**	**18 41 19.5**	**-1.4**
LVC				*e*S		**Sn**	**18 41 55.3**	**+6.1**
LVC	**Limon Verde**	**2.38**	**159**	*e*P		**Pn**	**18 41 20.9**	**0.0**
PB05	**IPOC Station P**	**2.48**	**188**	*e*P		**Pn**	**18 41 20.6**	**-1.5**
PB05				*e*S		Sn	18 41 59.1	+7.9
PB05					IAML		18 42 04.7	
	comp=Z,210nm,1.2s							

*IDC **26** 18:43:55.9±5.3, 4°.19S×103°.77E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=277.8km s-min=29.3km az=51.0*

*DJA **26** 18:43:57.9±1.2, 5°S±8°×10°3E±°, h19km±16km, M3.8/6, mb3.9/1, MLv3.8/6*

ISC 26 18:43:55.5±1.3, 5°.0S±0°.2×102°.9E±0°.1, h10km, n8, σ1§60/8, mb3.1/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.14**	**91**	P		**Pn**	**18 44 19.2**	**+1.6**
KASI	**Kota Agung**	**1.66**	**108**	P		**Pb**	**18 44 25.8**	**-0.3**
PPSI	**Pulau Pagai**	**3.66**	**307**	P		**Pn**	**18 44 53.8**	**+1.6**
PDSI	**Padang**	**4.75**	**329**	P		**Pn**	**18 45 08.5**	**+1.3**
CNJI	**Cibinong**	**4.77**	**119**	P		**Pn**	**18 45 08.9**	**+1.4**
WRA	**Warramunga Arr**	**33.99**	**119**	P		**P**	**18 50 38.8**	**-0.9**
	0.2nm,0.8s,baz=296,slow=9.4,SNR=6.5							
	0.2nm,0.8s							
ASAR	**Alice Springs**	**35.15**	**125**	P		**P**	**18 50 49.5**	**-0.2**
	0.1nm,0.4s,baz=302,slow=8.2,SNR=7.7							
	0.1nm,0.4s							
MKAR	**Makanchi Array**	**54.71**	**343**	P		**P**	**18 53 23.3**	**-1.7**
	0.2nm,0.5s,baz=151,slow=8.9,SNR=4.3							
	0.2nm,0.5s							

*NEIC **26** 18:46:41.5±1.2, 34°.01N±0°.02×117°.03W±0°.01, h20km±3km, Error ellipse: s-maj=2.6km s-min=1.3km az=157.0*

*ANF **26** 18:46:41.4±0.1, 34°.00N×117°.01W, h20km±1km, ML3.1/29, Error ellipse: s-maj=0.9km s-min=0.8km az=68.0*

*PAS **26** 18:46:42.4±1.6, 34°.00N±0°.02×117°.02W±0°.02, h16km±4km, ML3.1/278, ML2.7/64(NEIC), Error ellipse: s-maj=2.2km s-min=1.8km az=185.0*

ISC 26 18:46:41.9±0.8, 33°.99N±0°.01×117°.02W±0°.01, h18km±2km, n128, σ0§76/183, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSC	**Beaumont Base**	**0.07**	**156**		**Pg**	**18 46 45.8**	**+0.3**
BBSC					**Sg**	**18 46 48.9**	**+1.0**
SVD	**Seven Oaks Dam**	**0.14**	**330**		**Pg**	**18 46 45.9**	**-0.2**
SVD					**Sg**	**18 46 48.7**	**-0.2**
PEC	**Perris**	**0.15**	**231**		**Pg**	**18 46 46.5**	**+0.2**
PEC					**Sg**	**18 46 49.6**	**+0.4**
HLNC	**Highland**	**0.21**	**308**		**Pb**	**18 46 47.0**	**+0.1**
HLNC					**Sb**	**18 46 50.8**	**+0.4**
CFSC	**Central Fire S**	**0.25**	**298**		**Pg**	**18 46 47.7**	**+0.1**
CFSC					**Sg**	**18 46 52.1**	**+0.6**
RSBC	**Riverside Bore**	**0.26**	**266**		**Pg**	**18 46 47.8**	**0.0**
RSBC					**Sg**	**18 46 51.7**	**-0.1**
RSBC	**Riverside Bore**	**0.26**	**266**		**Pg**	**18 46 47.8**	**0.0**
RSBC					**Sg**	**18 46 51.8**	**0.0**
CLTC	**Calectric**	**0.27**	**293**		**Pg**	**18 46 48.4**	**+0.4**
CLTC					**Sb**	**18 46 53.2**	**+0.9**
HMTC	**Hemet**	**0.28**	**178**		**Pg**	**18 46 48.4**	**+0.2**
BBRC	**Big Bear Solar**	**0.28**	**16**	P	**Pg**	**18 46 47.9**	**-0.5**
	baz=198,SNR=28						
BBRC				S	**Sg**	**18 46 52.3**	**-0.5**
	baz=198						
RVR	**Riverside**	**0.30**	**271**		**Sg**	**18 46 52.8**	**-0.1**
POB	**Polly Butte**	**0.31**	**165**		**Pg**	**18 46 49.0**	**+0.2**
POB					**Sb**	**18 46 54.1**	**+0.4**
DGR	**Domenigoni Val**	**0.34**	**179**		**Sg**	**18 46 54.4**	**+0.3**
FON	**Fontana**	**0.37**	**288**		**Pg**	**18 46 49.5**	**-0.1**
FON					**Sg**	**18 46 55.0**	**+0.2**
BACC	**Bachelor Mtn.**	**0.38**	**183**		**Sg**	**18 46 55.2**	**+0.1**
MURC	**Murrieta**	**0.42**	**201**	P	**Pg**	**18 46 50.5**	**0.0**
	baz=20,SNR=50						
MURC				S	**Sg**	**18 46 56.4**	**+0.1**
	baz=20						
CRNC	**Corona**	**0.47**	**256**		**Pg**	**18 46 51.2**	**-0.2**
CRNC					**Sg**	**18 46 57.7**	**-0.1**
ELS	**Elsinore Mount**	**0.48**	**225**		**Pg**	**18 46 51.5**	**-0.2**
EW2	**E Wide Canyon**	**0.51**	**95**		**Sg**	**18 46 59.2**	**+0.1**
BLAC	**Blackrock camp**	**0.53**	**81**		**Sg**	**18 46 59.5**	**-0.2**
SNDA	**J Saunders Pla**	**0.55**	**142**		**Pg**	**18 46 53.1**	**+0.1**
BZNA	**

baz=103,SNR=6.4
DECC S **Sb** 18 47 17.4 +0.3
baz=103
RPV Rancho Palos V 1.18 258 Sb 18 47 18.9 +0.2
DJJ Donna J Jenkin 1.20 276 Pn 18 47 03.2 -0.6
DJJ **Sb** 18 47 19.4 +0.2
EDW2 Edwards Air Fo 1.20 318 Pn 18 47 03.8 -0.1
EDW2 **Sb** 18 47 19.4 0.0
EDW2 Edwards Air Fo 1.20 318 Pb **Pn 18 47 03.8 -0.1**
baz=137,SNR=48
EDW2 S **Sb** 18 47 19.6 +0.2
baz=137
MONP2 Monument Peak 1.20 155 Pn 18 47 04.2 +0.1
MONP2 **Sn** 18 47 20.1 +0.1
MONP2 Monument Peak 1.20 155 Pb **Pn 18 47 04.0 0.0**
baz=336,SNR=46
MONP2 S **Sn** 18 47 20.1 +0.1
baz=336
SDMC San Diego Miss 1.21 185 Sb 18 47 19.7 +0.3
SDRC San Diego Road 1.25 177 Pn 18 47 04.0 -0.5
CIAC Catalina I. Ai 1.30 244 Pn 18 47 05.0 -0.3
CIAC **Sb** 18 47 22.7 +0.4
CIS Catalina Islan 1.30 244 Pb **Pn 18 47 05.8 +0.6**
baz=62,SNR=7.2
CIS S **Sn** 18 47 22.5 +0.2
baz=62
GSC Goldstone, Bar 1.32 8 Pn 18 47 05.2 -0.4
GSC Goldstone, Bar 1.32 8 Pn **Pn 18 47 05.5 -0.1**
GSC IAML 18 47 25.9
comp=N,94nm,0.4s
GSC IAML 18 47 26.4
comp=E,140nm,0.4s
GSC Goldstone, Bar 1.32 8 Pb **Pn 18 47 05.5 -0.1**
baz=188,SNR=79
GSC S **Sn** 18 47 22.0 -0.7
baz=188
BAR Barrett 1.34 167 Pn **Pn 18 47 05.7 0.0**
BAR IAML 18 47 24.8
comp=N,111nm,0.2s
BAR IAML 18 47 25.8
comp=E,187nm,0.2s
BC3 Big Chuckawall 1.34 104 P **Pn 18 47 05.1 -0.7**
baz=285,SNR=82
BC3 S **Sn** 18 47 23.0 -0.3
baz=285
GMRC Granite Mounta 1.37 54 P **Pn 18 47 05.6 -0.7**
baz=236,SNR=56
GMRC S **Sn** 18 47 23.2 -0.9
baz=236
CCAC Calif City Air 1.42 325 Pn 18 47 06.9 -0.1
SWSC Sam W. Stewart 1.46 135 P **Pn 18 47 06.7 -0.6**
baz=316,SNR=17
SWSC S **Sn** 18 47 25.3 -0.6
baz=316
TKX Tecate 1.46 166 Pn **Pn 18 47 07.6 +0.2**
IKP In-Ko-Pah, Jac 1.54 150 P **Pn 18 47 07.8 -0.7**
baz=331
IKP Sb **Sb** 18 47 30.1 +1.1
baz=331
OSI Osito Audit: C 1.54 294 Pb **Pn 18 47 09.1 +0.5**
baz=113
OSI Sb **Sb** 18 47 30.0 +0.7
baz=113
IRM Iron Mountain 1.56 83 P **Pn 18 47 08.0 -0.9**
baz=265,SNR=79
LRMC Laurel Mtn Rad 1.58 340 P **Pn 18 47 08.6 -0.7**
baz=160
LRMC Sb **Sb** 18 47 31.3 +0.8
baz=160
RMX La Rumorosa 1.59 150 Pn 18 47 10.1 +0.8
RMX IAML 18 47 34.2
comp=E,107nm,0.5s
RMX IAML 18 47 35.3
comp=N,71nm,0.4s
YUH Yuha Desert 1.62 145 Pn 18 47 10.6 +1.0
SCI2 San Clemente I 1.63 232 Pb **Pn 18 47 10.8 +1.1**
baz=51
SCI2 S **Sn** 18 47 30.2 0.0
baz=51
CBX Cerro Bola 1.70 170 Pn 18 47 11.4 +0.7
TUQ Turquoise Moun 1.70 32 P **Pn 18 47 10.1 -0.7**
baz=212,SNR=8.9
TUQ Sb **Sb** 18 47 34.7 +0.9
baz=212
ARVC Arvin 1.88 308 P **Pn 18 47 12.6 -0.5**
baz=126,SNR=5.2
ARVC Sb **Sb** 18 47 40.6 +1.8
baz=126
SHOC Shoshone, Teco 2.00 18 Pb **Pb 18 47 18.3 +0.5**
baz=198
SHOC Sb **Sb** 18 47 43.9 +1.5
baz=198
GLA Glamis 2.06 116 Pn 18 47 14.3 -1.3
GLA IAML 18 47 50.1
comp=E,100nm,0.5s
GLA IAML 18 47 50.5
comp=N,60nm,0.6s
GLA Glamis 2.06 116 P **Pn 18 47 14.9 -0.7**
baz=298,SNR=9.1
GLA S **Sn** 18 47 40.8 0.0
baz=298
ISA Isabella, Lake 2.06 325 Pn 18 47 15.6 0.0
ISA IAML 18 47 48.8
comp=E,62nm,0.5s
ISA IAML 18 47 49.1
comp=N,42nm,0.5s
ISA Isabella, Lake 2.06 325 S **Sn 18 47 41.1 +0.2**
baz=144
BLYC Blythe 2.09 96 Pn 18 47 14.7 -1.3
BLYC IAML 18 47 49.6
comp=E,71nm,0.4s
BLYC IAML 18 47 50.2
comp=N,74nm,0.5s
MPMC Manual Prospec 2.10 350 P **Pn 18 47 15.6 -0.8**
baz=169,SNR=30
MPMC Sb **Sb** 18 47 47.0 +1.6
baz=169
NEE2 Needles Airpor 2.13 68 Sb **Sb 18 47 48.0 +1.9**
baz=250
ESJX Sierra Juarez 2.17 155 Pn 18 47 17.3 -0.1
ESJX IAML 18 47 50.4
comp=E,56nm,0.2s
ESJX IAML 18 47 50.5
comp=N,44nm,0.4s
BCW Bitter Crk WRg 2.19 296 Pn 18 47 17.3 -0.3
BCW IAML 18 47 53.2
comp=E,87nm,0.6s
GWY Greenwater Val 2.21 7 Pn 18 47 17.5 -0.3
GWY IAML 18 47 53.0
comp=N,77nm,0.3s
GWY IAML 18 47 53.7
comp=E,75nm,0.3s
V12A Nelson 2.48 45 Pn 18 47 21.4 -0.1
V12A IAML 18 48 01.3
comp=E,54nm,0.5s
V12A IAML 18 48 01.5
comp=N,44nm,0.3s
WTNK Soaring Height 2.75 36 Pn **Pn 18 47 25.4 +0.3**
W13A Hualapai Mount 2.81 66 Pn **Pn 18 47 26.0 -0.2**
W13A IAML 18 48 12.0
comp=N,18nm,0.4s
W13A IAML 18 48 16.1
comp=E,20nm,0.4s
SHPR Sheep Range 2.93 31 Pn **Pn 18 47 28.2 +0.4**
113A Mohawk Valley, 2.98 113 Pn 18 47 27.8 -0.4
GRAC Grapevine Rang 3.01 355 IAML 18 48 23.1
comp=N,32nm,1.2s
GRAC IAML 18 48 24.4
comp=E,20nm,0.6s
GMN Gold Mountain 3.31 357 Pn 18 47 33.2 +0.1
Y14A Wickenburg 3.33 90 Pn 18 47 32.5 -0.7
Y14A IAML 18 48 30.1
comp=N,14nm,0.5s
Y14A IAML 18 48 34.1
comp=E,13nm,0.5s
DSP Deep Springs 3.46 347 Pn 18 47 34.4 -0.4
MZP Montezuma Peak 3.71 356 Pn 18 47 38.5 -0.1
PRN Pahroc Range 3.77 25 Pn 18 47 39.2 0.0
S11A Rachel 3.79 15 Pn 18 47 39.9 +0.3
PMPB Monarch Peak 3.81 307 Pn **Pn 18 47 40.0 +0.2**
OMMB Old Mammoth Mi 3.96 337 Pn 18 47 40.9 -1.1
LCMT Little Creek M 4.31 45 Pn 18 47 45.3 -1.4
LHV Little Huntoon 4.42 345 Pn 18 47 46.5 -1.5
R11B Troy Canyon, C 4.50 14 Pg **Pb 18 48 04.8 +4.2**
NV11 Mina Array Sit 4.53 349 Pg **Pg 18 48 05.7 -3.0**
NV11 IAML 18 49 26.5
comp=N,4.0nm,4.1s
NV11 IAML 18 50 02.8
comp=E,5.2nm,3.7s
NVAR Mina Array Bea 4.55 347 Pg **Pb 18 48 05.7 +4.3**
KNB Kanab 4.56 47 Pn 18 47 49.3 -0.9
U15A North Rim 4.57 57 Pn **Pn 18 47 50.6 +0.2**
CCUT Cedar City 4.63 39 Pn 18 47 52.5 +1.3
X16A Lo Mia Camp, P 4.64 83 Pn **Pn 18 47 51.5 +0.2**
WUAZ Wupatki 4.89 70 Pn 18 47 55.7 +1.0
WUAZ IAML 18 49 20.7
comp=E,6.8nm,0.7s
WUAZ IAML 18 49 22.0
comp=E,9.0nm,0.5s

*IDC **26** 18:49:56.6±0.8, 67°.19N×21°.04E, h0km, mbtmp3.2/5, ML2.5/4, Error ellipse: s-maj=14.6km s-min=6.6km az=116.0*
*HEL **26** 18:49:57.8±0.1, 67°.20N×20°.68E, h0km, ML2.0, ML2.8(UPP), Confirmed Induced event*
*UPP **26** 18:49:57.3±0.1, 67°.20N×20°.68E, h0km, ML2.8, Confirmed Induced event*
*DNK **26** 18:49:57.7±0.7, 67°.20N×20°.69E, h0km, ML2.8(UPP), Suspected explosion*
*BER **26** 18:49:58.9±2.0, 67°.14N×20°.58E, h0km, ML2.6, Confirmed Induced event*

ISC 26 18:49:56.6±0.7, 67°.20N±0°.02×20°.64E±0°.02, h0km, n76, σ1§10/105, 5D, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.09**	**199**	P	**Pg**	**18 49 59.3**	**+1.1**
DUNU				S	**Sg**	**18 50 01.0**	**+1.7**
DUNU	**Dundret**	**0.09**	**199**	P	**Pg**	**18 49 59.3**	**+1.1**
DUNU				S	**Sg**	**18 50 01.0**	**+1.7**
DUNU	**Dundret**	**0.09**	**199**	*i* P	**Pg**	**18 49 59.3**	**+1.1**
DUNU				*i* S	**Sg**	**18 50 01.0**	**+1.7**
MASU	**Masugnsbyn**	**0.58**	**64**	P	**Pg**	**18 50 08.4**	**+0.7**
MASU				S	**Sg**	**18 50 16.1**	**+0.9**
MASU	**Masugnsbyn**	**0.58**	**64**	P	**Pg**	**18 50 08.4**	**+0.7**
MASU				S	**Sg**	**18 50 16.1**	**+0.9**
MASU	**Masugnsbyn**	**0.58**	**64**	*i* P	**Pg**	**18 50 08.4**	**+0.7**
MASU				*i* S	**Sg**	**18 50 16.1**	**+0.9**
KUA	**Kurravaara**	**0.76**	**351**	P	**Pg**	**18 50 11.6**	**+0.5**
KUA	**Kurravaara**	**0.76**	**351**	P	**Pg**	**18 50 11.6**	**+0.5**
KUA	**Kurravaara**	**0.76**	**351**	*i* P	**Pg**	**18 50 11.6**	**+0.5**
SALU	**Saltoluokta**	**0.85**	**283**	‖ *i* P	**Pb**	**18 50 13.6**	**-0.5**
SALU				*e*S	**Sb**	**18 50 25.5**	**-0.5**
SALU	**Saltoluokta**	**0.85**	**283**	P	**Pb**	**18 50 13.6**	**-0.5**
SALU	**Saltoluokta**	**0.85**	**283**	P	**Pb**	**18 50 13.6**	**-0.5**
SALU	**Saltoluokta**	**0.85**	**283**	*i* P	**Pb**	**18 50 13.6**	**-0.5**
ERTU	**Ertsjaerv**	**0.89**	**136**	P	**Pg**	**18 50 13.4**	**-0.3**
ERTU	**Ertsjaerv**	**0.89**	**136**	P	**Pg**	**18 50 13.4**	**-0.3**
ERTU	**Ertsjaerv**	**0.89**	**136**	*e*P	**Pg**	**18 50 12.9**	**-0.7**
ERTU				*e*S	**Sg**	**18 50 25.7**	**+0.5**
LANU	**Lannavaara**	**0.99**	**31**	P	**Pg**	**18 50 15.7**	**+0.1**
LANU	**Lannavaara**	**0.99**	**31**	P	**Pg**	**18 50 15.7**	**+0.1**
LANU	**Lannavaara**	**0.99**	**31**	*e*P	**Pg**	**18 50 15.6**	**+0.1**
LANU				*e*SB	**Sb**	**18 50 30.7**	**+0.5**
KOVU	**Salmi**	**1.04**	**350**	P	**Pg**	**18 50 16.7**	**+0.3**
KOVU	**Salmi**	**1.04**	**350**	P	**Pg**	**18 50 16.7**	**+0.3**
KOVU	**Salmi**	**1.04**	**350**	*e*P	**Pg**	**18 50 16.7**	**+0.3**
HARU	**Harads**	**1.05**	**173**	P	**Pg**	**18 50 16.3**	**-0.4**
HARU	**Harads**	**1.05**	**173**	P	**Pg**	**18 50 16.3**	**-0.4**
HARU	**Harads**	**1.05**	**173**	*e*P	**Pg**	**18 50 16.3**	**-0.4**
KLF	**Kolari**	**1.29**	**87**	*e*P	**Pg**	**18 50 20.3**	**-1.0**
KLF				MSG		18 50 37.2	
KLF	comp=Z,9.6nm,0.2s			*e*SB	**Sg**	**18 50 38.5**	**+0.4**
HEF	**Hetta**	**1.67**	**42**	‖ *i* P	**Pn**	**18 50 27.2**	**+0.2**
HEF				*e*S	**Sn**	**18 50 49.1**	**0.0**
HEF	**Hetta**	**1.67**	**42**	*e*P	**Pn**	**18 50 26.9**	**-0.1**
HEF				MSG		18 50 48.1	
HEF	comp=Z,13nm,0.2s			*e*SN	**Sn**	**18 50 49.3**	**+0.3**
KALU	**Kalix**	**1.73**	**140**	P	**Pn**	**18 50 28.1**	**+0.3**
KALU	**Kalix**	**1.73**	**140**	P	**Pn**	**18 50 28.1**	**+0.3**
KALU	**Kalix**	**1.73**	**140**	*e*P	**Pn**	**18 50 27.9**	**+0.1**
KALU				*e*SN	**Sb**	**18 50 51.7**	**+0.3**
SJUU	**Sjulsmark**	**1.75**	**167**	P	**Pn**	**18 50 28.6**	**+0.5**
SJUU	**Sjulsmark**	**1.75**	**167**	P	**Pn**	**18 50 28.6**	**+0.5**
SJUU	**Sjulsmark**	**1.75**	**167**	*e*P	**Pn**	**18 50 28.6**	**+0.5**
TOF	**Tornio**	**1.85**	**126**	*e*P	**Pn**	**18 50 29.7**	**+0.2**
TOF				MSG		18 50 52.5	
TOF	comp=Z,18nm,0.2s			*e*SN	**Sb**	**18 50 54.9**	**+0.1**
KTK1	**Kautokeino**	**2.06**	**27**	*e*P	**Pb**	**18 50 34.5**	**-0.3**
KTK1				*e*S	**Sb**	**18 51 00.6**	**-0.3**
KTK1				IAML		18 51 03.3	
KTK1	comp=Z,125nm,0.8s			*e*PG	**Pb**	**18 50 34.2**	**-0.5**
KTK1	**Kautokeino**	**2.06**	**27**	*e*SG	**Sb**	**18 51 01.2**	**+0.3**
KTK1				‖ *i* P	**Pb**	**18 50 35.0**	**-0.2**
FAUS	**Fauske**	**2.08**	**277**	*e*Sg	**Sg**	**18 51 03.1**	**-0.3**
FAUS				IAML		18 51 05.8	
FAUS	comp=Z,74nm,1.0s			*e*Pg	**Pb**	**18 50 37.5**	**+0.5**
STEI	**Steigen**	**2.20**	**292**	*e*Sg	**Sg**	**18 51 07.0**	**0.0**
STEI				IAML		18 51 08.4	
STEI	comp=Z,73nm,0.5s						
RNF	**Rovaniemi**	**2.20**	**103**	*e*P	**Pn**	**18 50 35.3**	**+1.0**
RNF				*e*SG	**Sb**	**18 51 05.5**	**+0.6**
SGF	**Sodankyl**	**2.29**	**81**	*e*P	**Pn**	**18 50 36.1**	**+0.5**
SGF				*e*SG	**Sb**	**18 51 07.8**	**+0.2**
TRO	**Tromso**	**2.52**	**346**	*e*PB	**Pb**	**18 50 41.0**	**-1.6**
TRO				*e*SG	**Sg**	**18 51 17.1**	**-0.3**
RANF	**Ranua**	**2.73**	**113**	*e*P	**Pn**	**18 50 42.4**	**+0.9**
RANF				*e*SG	**Sb**	**18 51 20.4**	**+0.4**
ARCES	**ARCESS Array B**	**2.96**	**35**	Pn	**Pn**	**18 50 45.6**	**+1.0**
ARCES	comp=Z,1.4nm,0.3s,baz=214,slow=13,SNR=172			Lg	Lg	18 51 24.1	
OBF4	**Vikkela, Lumij**	**3.01**	**141**	*e*PB	**Pb**	**18 50 50.3**	**-0.7**
OBF4				MSG		18 51 25.4	
OBF4	comp=Z,4.6nm,0.2s						
OUL	**Oulu**	**3.01**	**132**	*e*PB	**Pb**	**18 50 49.6**	**-1.4**
OBF0	**Syolatti, Pyha**	**3.09**	**150**	*e*PG	**Pb**	**18 50 52.3**	**-0.1**
OBF0				MSG		18 51 27.2	
OBF0	comp=Z,5.7nm,0.2s						
RAJF	**Raja-Jooseppi**	**3.17**	**63**	*e*P	**Pn**	**18 50 47.9**	**+0.2**
RAJF				*e*SB	**Sb**	**18 51 33.2**	**+0.3**
OUF	**Merijarvi**	**3.31**	**147**	*e*P	**Pn**	**18 50 51.5**	**+2.0**
UMAU	**Umeaa**	**3.34**	**180**	*e*P	**Pn**	**18 50 50.9**	**+1.0**
UMAU				*e*S	**Sn**	**18 51 30.7**	**+0.6**
KEV	**Kevo**	**3.47**	**40**	‖ *i* P	**Pn**	**18 50 52.7**	**+0.9**
KEV				*e*S	**Sn**	**18 51 34.0**	**+0.4**
KEV	**Kevo**	**3.47**	**40**	*e*P	**Pn**	**18 50 52.4**	**+0.7**
VRF	**Varrio**	**3.50**	**77**	*e*P	**Pn**	**18 50 52.8**	**+0.7**
VRF				*e*SG	**Sb**	**18 51 44.3**	**+2.2**
OLKF	**Oulanka, Finla**	**3.58**	**100**	*e*P	**Pn**	**18 50 54.0**	**+0.7**
OLKF				*e*SG	**Sg**	**18 51 49.1**	**-2.5**
MSF	**Maaselka**	**3.60**	**107**	*e*P	**Pn**	**18 50 54.5**	**+1.0**
MSF				*e*SG	**Sb**	**18 51 47.8**	**+2.7**
KU6	**Riekki**	**3.87**	**103**	*e*P	**Pn**	**18 50 58.1**	**+0.8**
KU6				*e*SG	**Sb**	**18 51 55.0**	**+2.0**
HUSU	**Husum**	**3.92**	**189**	*e*P	**Pn**	**18 50 59.3**	**+1.4**
HUSU				*e*S	**Sn**	**18 51 44.6**	**0.0**
VAF	**Ylistaro**	**4.27**	**167**	*e*P	**Pn**	**18 51 04.0**	**+1.4**
VAF				*e*S	**Sn**	**18 51 52.5**	**-0.6**
NOD	**Norderasen**	**4.49**	**215**	*e*P	**Pn**	**18 51 05.0**	**-0.7**
HEMU	**Hemsoen**	**4.68**	**195**	*e*P	**Pn**	**18 51 09.5**	**+1.2**
HEMU				*e*S	**Sn**	**18 52 02.9**	**-0.4**
NIF	**Nilsia**	**4.87**	**139**	*e*P	**Pn**	**18 51 12.3**	**+1.4**
NIF				*e*S	**Sn**	**18 52 07.7**	**-0.1**
SUF	**Sumiainen**	**5.07**	**150**	*e*P	**Pn**	**18 51 15.0**	**+1.2**
SUF				*e*S	**Sn**	**18 52 12.5**	**-0.4**
KEF	**Keuruu**	**5.37**	**158**	*e*P	**Pn**	**18 51 19.3**	**+1.5**
KEF				*e*S	**Sn**	**18 52 18.5**	**-1.8**
FINES	**FINESS Array B**	**6.25**	**155**	Pn	**Pn**	**18 51 30.2**	**+0.4**
FINES	comp=Z,0.3nm,0.3s,baz=346,slow=14,SNR=17			Sn	**Sn**	**18 52 38.5**	**-3.2**
FINES	comp=Z,1.0nm,0.3s,baz=346,slow=24,SNR=13			Lg	Lg	18 53 09.0	
NOA	**NORSAR Array B**	**7.43**	**218**	Pn	**Pn**	**18 51 45.2**	**-0.9**
NOA				Sn	**Sn**	**18 53 06.9**	**-4.1**
NOA	comp=Z,0.1nm,0.3s,baz=33,slow=23,SNR=4.6			Lg	Lg	18 53 44.2	
HFS	**Hagfors**	**7.73**	**207**	Pn	**Pn**	**18 51 49.7**	**-0.5**
HFS	comp=Z,0.2nm,0.3s,baz=23,slow=13,SNR=15			Sn	**Sn**	**18 53 14.5**	**-3.9**
HFS	comp=Z,1.1nm,0.3s,baz=24,slow=26,SNR=11			Lg	Lg	18 53 54.9	
STRU	**Stroemstad**	**9.24**	**212**	*e*Lg	Lg	18 54 44.2	
TJOU	**Tjoern**	**10.08**	**208**	*e*Lg	Lg	18 55 08.9	
BORU	**Boraas**	**10.26**	**204**	*e*Lg	Lg	18 55 14.2	
ONAU	**Onsala**	**10.63**	**206**	*e*Lg	Lg	18 55 17.8	
SNART	**Snartemo**	**10.78**	**221**	*e*Lg	Lg	18 55 25.6	
FABU	**Falkenberg**	**10.88**	**204**	*e*Lg	Lg	18 55 29.2	
DEL	**Delary**	**11.23**	**200**	‖ *e*Lg	Lg	18 55 44.1	
BJUU	**Bjuv**	**11.73**	**201**	*e*Lg	Lg	18 55 56.3	
LUNU	**Lund**	**12.10**	**200**	*e*Lg	Lg	18 56 11.3	
AKASG	**Malin Array Be**	**17.10**	**161**	P	**Pn**	**18 53 56.4**	**-0.3**
AKASG	comp=Z,1.2nm,0.6s,baz=348,slow=12,SNR=3.0						

*HVO **26** 18:56:48.9±2.1, 19°.416N±0°.009×155°.263W±0°.008, h0km±4km, ML3.5/51, ML3.2/24(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=177.0*
*NEIC **26** 18:56:49.3±1.8, 19°.388N±0°.009×155°.296W±0°.009, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.5km az=90.0*
*IDC **26** 18:56:51.1±2.5, 19°.62N×155°.31W, h0km, mb3.4/3, mbtmp3.4/3, MS3.6/1, Error ellipse: s-maj=79.9km s-min=16.6km az=168.0*

ISC 26 18:56:49.7±0.8, 19°.47N±0°.04×155°.29W±0°.03, h10km, n36, σ1§63/37, mb3.5/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSD	**Rainshed**	**0.01**	**110**		**Pg**	**18 56 50.1**	**-1.6**
UWB	**Uwekahuna B**	**0.04**	**167**		**Pg**	**18 56 50.3**	**-1.5**
SBLHI	**Steaming Bluff**	**0.04**	**154**		**Pg**	**18 56 50.1**	**-1.7**
UWE	**Uwekahuna**	**0.04**	**186**	IAML		18 56 49.8	
UWE	comp=E,28μm,0.8s				**Pg**	**18 56 50.6**	**-1.3**
OBL	**Observatory Le**	**0.05**	**175**		**Pg**	**18 56 50.6**	**-1.2**
HATHI	**Halema'uma'u T**	**0.05**	**149**		**Pg**	**18 56 49.4**	**-2.5**
BYL	**Byron's Ledge**	**0.06**	**154**		**Pg**	**18 56 49.6**	**-2.3**
WRMHI	**West Rim**	**0.06**	**191**		**Pg**	**18 56 51.6**	**-0.4**
KKO	**Keanakako`i**	**0.07**	**163**		**Pg**	**18 56 50.5**	**-1.6**
RIM	**Rim**	**0.07**	**169**		**Pg**	**18 56 50.4**	**-1.7**
SDHHI	**Sand Hill**	**0.08**	**184**		**Pg**	**18 56 52.0**	**-0.2**
MLH	**Mauna Loa**	**0.10**	**286**		**Pg**	**18 56 51.5**	**-1.0**
MLH				IAML		18 56 55.3	
MLH	comp=E,10μm,0.5s			IAML		18 56 55.5	
PUH	**Pauahi**	**0.11**	**144**		**Pg**	**18 56 51.1**	**-1.6**
PUH					**Sg**	**18 56 53.2**	**-1.5**
KNHH	**Kane Nui o Ham**	**0.14**	**128**		**Pg**	**18 56 51.8**	**-1.2**
STCH	**Steam Cracks**	**0.17**	**118**		**Pg**	**18 56 52.3**	**-1.2**
STCH					**Sg**	**18 56 55.6**	**-0.5**
STCH	**Steam Cracks**	**0.17**	**118**	IAML		18 56 55.6	
STCH	comp=E,11μm,0.6s			IAML		18 56 55.8	
NPOC	**North of Pu'u**	**0.18**	**113**		**Pg**	**18 56 53.0**	**-0.7**
NPOC					**Sg**	**18 56 55.9**	**-0.5**
JCUZ	**Jacuzzi**	**0.19**	**115**		**Pg**	**18 56 52.8**	**-1.0**
JCUZ					**Sg**	**18 56 55.8**	**-0.9**
HMH	**Humu'ula Sheep**	**0.23**	**306**		**Pg**	**18 56 52.8**	**-1.8**
HMH				IAML		18 57 00.9	
HMH	comp=N,7μm,0.7s						
HTC	**Hot Caves**	**0.25**	**204**		**Pg**	**18 56 54.2**	**-0.7**
JOKA	**Jonika Flow**	**0.27**	**97**		**Pg**	**18 56 54.7**	**-0.5**
JOKA	**Jonika Flow**	**0.27**	**97**	IAML		18 56 58.2	
JOKA	comp=E,4μm,1.4s			IAML		18 57 00.7	
JOKA	comp=N,8μm,1.6s						
MLOA	**Mauna Loa Obse**	**0.28**	**284**		**Pg**	**18 56 53.9**	**-1.7**
MWH	**Moku'aweowe**	**0.29**	**274**	Pg	**Pg**	**18 56 55.9**	**0.0**
PAH	**Pahoa**	**0.32**	**85**		**Pg**	**18 56 52.9**	**-3.3**
POHA	**Pohakuloa**	**0.37**	**322**		**Pn**	**18 56 59.6**	**-1.8**
KHU	**Kahuku**	**0.38**	**235**		**Pg**	**18 56 54.9**	**-2.4**
HPO	**Honuapo**	**0.45**	**214**		**Pg**	**18 56 56.7**	**-1.9**
HUH	**Hualalai**	**0.56**	**293**		**Pg**	**18 56 59.3**	**-1.4**
I59US	**HAWAII INFRASO**	**0.58**	**282**	Pg	**Pb**	**18 57 01.6**	**-0.5**
I59US	baz=120,slow=28						
HPAH	**Hawaii Prepara**	**0.68**	**326**		**Pg**	**18 57 01.7**	**-1.3**
KHLH	**Kahului Airpor**	**1.78**	**323**		**Pn**	**18 57 18.8**	**-1.8**
PPT	**Papeete**	**37.23**	**171**	LR	LR	19 17 36.5	
PPT	comp=N,87nm,19.1s,baz=158,slow=33						
PDAR	**Pinedale Array**	**44.84**	**48**	P	**P**	**19 05 05.7**	**+1.3**
PDAR	comp=N,0.1nm,0.4s,baz=252,slow=7.7,SNR=2.2						
PDAR	comp=N,0.1nm,0.4s						
ILAR	**Eielson Array**	**45.63**	**5**	P	**P**	**19 05 12.0**	**+2.0**
ILAR	comp=N,0.3nm,0.6s,baz=200,slow=6.6,SNR=4.3						
ILAR	comp=N,0.3nm,0.6s						
TXAR	**Lajitas Array**	**47.70**	**68**	P	**P**	**19 05 29.9**	**+2.9**
TXAR	comp=N,1.1nm,1.0s,baz=261,slow=5.4,SNR=7.4						
TXAR	comp=N,1.1nm,1.0s						

*IDC **26** 18:57:11.8±2.0, 29°.48S×112°.48W, h0km, mb3.9/3, mbtmp3.9/3, MS3.9/12, Error ellipse: s-maj=79.3km s-min=38.1km az=32.0*

ISC 26 18:57:12.5±2.1, 29°.6S±0°.5×112°.6W±0°.4, h10km, n23, σ0§86/9, mb4.0/3, MS3.8/12, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N2	**Juan Fernandez**	**28.89**	**106**	T	T	19 33 26.8	
H03N2	baz=273,slow=73,SNR=329						
H03N3	**Juan Fernandez**	**28.90**	**106**	T	T	19 33 28.0	
H03N3	baz=273,slow=73,SNR=304						
H03N1	**Juan Fernandez**	**28.91**	**106**	T	T	19 33 27.8	
H03N1	baz=273,slow=73,SNR=330						
NNA	**Nana**	**37.57**	**70**	LR	LR	19 15 40.8	
NNA	comp=Z,99nm,20.4s,baz=204,slow=30						
ATAH	**Atahualpa**	**39.19**	**62**	LR	LR	19 16 45.0	
ATAH	comp=Z,106nm,18.4s,baz=239,slow=30						
LVC	**Limon Verde**	**39.69**	**90**	P	**P**	**19 04 45.8**	**+0.3**
LVC	2.1nm,0.6s,baz=218,slow=13,SNR=2.3						
LVC	comp=Z,186nm,21.6s,baz=214,slow=29			LR	LR	19 16 32.4	
LVC	2.1nm,0.6s						
LPAZ	**La Paz**	**42.81**	**82**	LR	LR	19 17 28.8	
LPAZ	comp=Z,61nm,19.6s,baz=220,slow=28						
RAR	**Rarotonga**	**43.16**	**270**	LR	LR	19 17 54.6	
RAR	comp=Z,77nm,20.9s,baz=134,slow=29						
JTS	**Las Juntas de**	**47.81**	**38**	LR	LR	19 20 41.7	
JTS	comp=Z,87nm,21.8s,baz=202,slow=30						
LPIG	**La Paz**	**53.47**	**3**	LR	LR	19 23 57.4	
LPIG	comp=Z,67nm,19.5s,baz=200,slow=30						
SDV	**Santo Domingo**	**55.67**	**53**	LR	LR	19 26 30.2	
SDV	comp=Z,84nm,20.4s,baz=204,slow=32						
URZ	**Urewera**	**57.67**	**241**	LR	LR	19 28 08.5	
URZ	comp=Z,89nm,18.5s,baz=198,slow=32						
BDFB	**Brasilia**	**60.56**	**92**	LR	LR	19 30 02.2	
BDFB	comp=Z,91nm,18.8s,baz=141,slow=33						
NVAR	**Mina Array Bea**	**67.91**	**355**	P	**P**	**19 08 12.8**	**+1.3**
NVAR	1.3nm,0.8s,baz=185,slow=8.7,SNR=7.7						
NVAR	1.3nm,0.8s						
PDAR	**Pinedale Array**	**72.09**	**2**	P	**P**	**19 08 35.9**	**-1.3**
PDAR	0.1nm,0.3s,baz=208,slow=5.0,SNR=4.4						
PDAR	0.1nm,0.3s						
HNR	**Honiara**	**83.19**	**263**	LR	LR	19 44 56.1	
HNR	comp=Z,525nm,18.4s,baz=80,slow=34						
WRA	**Warramunga Arr**	**98.84**	**241**	LR	LR	19 49 11.2	
WRA	comp=Z,95nm,20.5s,baz=325,slow=32						
AKASG	**Malin Array Be**	**144.59**	**43**	PKP	**PKPdf**	**19 16 49.1**	**+0.1**
AKASG	0.2nm,0.3s,baz=289,slow=2.9,SNR=4.0						
SONM	**Songino Array**	**145.01**	**312**	PKPbc	**PKPdf**	**19 16 50.2**	**+0.2**
SONM	1.6nm,0.7s,baz=88,slow=1.8,SNR=8.9						
BRTR	**Keskin Array B**	**150.63**	**61**	PKPbc	**PKPbc**	**19 17 04.3**	**-0.7**
BRTR	1.3nm,0.9s,baz=247,slow=1.1,SNR=5.7						
ZALV	**Zalesovo Beam**	**152.59**	**337**	PKPab	**PKPab**	**19 17 19.8**	**+0.5**
ZALV	0.8nm,0.7s,baz=80,slow=1.7,SNR=4.8		

ML3.3/19, MLv3.1/15, Error ellipse: s-maj=0.0km s-min=0.0km az=111.8, confirmed

ISC 26 19:14:45.8±2.6, 37°13S±0°06×179°2E±0°1, h16km±9km, n47, σ1§43/71, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.83**	**238**	P	**Pg**	**19 15 02.0**	**+0.1**
MXZ	**Matakaoa Point**	**0.83**	**238**	P	**Pg**	**19 15 02.0**	**+0.1**
MXZ				S	**Sg**	**19 15 10.9**	**-1.9**
WMGZ	**Waiomatatini S**	**0.93**	**222**	P	**Pn**	**19 15 05.4**	**+1.2**
WMGZ				S	**Sb**	**19 15 17.8**	**+2.2**
PKGZ	**Pakihiroa**	**1.17**	**229**	P	**Pb**	**19 15 08.3**	**+0.7**
PKGZ				S	**Sg**	**19 15 23.3**	**-0.2**
PUZ	**Puketiti**	**1.20**	**218**	P	**Pg**	**19 15 08.9**	**0.0**
PUZ				S	**Sg**	**19 15 23.7**	**-0.8**
HAZ	**Te Kaha**	**1.28**	**241**	P	**Pn**	**19 15 08.9**	**-0.1**
HAZ				S	**Sb**	**19 15 26.7**	**+0.8**
TWGZ	**Tauwhareparae**	**1.42**	**222**	P	**Pb**	**19 15 12.7**	**+0.7**
TWGZ				S	**Sb**	**19 15 30.5**	**+0.7**
RUGZ	**Raukumara Rang**	**1.46**	**235**	P	**Pn**	**19 15 13.1**	**+1.4**
RUGZ				S	**Sn**	**19 15 32.4**	**+1.8**
CNGZ	**Carnagh Statio**	**1.56**	**210**	P	**Pb**	**19 15 14.9**	**+0.6**
MWZ	**Matawai**	**1.79**	**227**	P	**Pn**	**19 15 17.0**	**+1.0**
MWZ				S	**Sn**	**19 15 38.4**	**0.0**
WHRZ	**Whale Island**	**1.91**	**247**	P	**Pn**	**19 15 19.2**	**+1.5**
WHRZ				S	**Sn**	**19 15 42.4**	**+1.0**
RIGZ	**Rimuhau**	**1.94**	**215**	P	**Pn**	**19 15 19.1**	**+1.0**
RAGZ	**Rawiri**	**1.96**	**225**	P	**Pn**	**19 15 19.2**	**+0.8**
URZ	**Urewera**	**2.00**	**235**	P	**Pn**	**19 15 20.4**	**+1.5**
URZ	**Urewera**	**2.00**	**235**	P	**Pn**	**19 15 20.3**	**+1.4**
URZ				S	**Sn**	**19 15 43.4**	**-0.2**
SNGZ	**Shannon Statio**	**2.21**	**221**	P	**Pn**	**19 15 22.6**	**+0.8**
SNGZ				S	**Sn**	**19 15 48.4**	**-0.4**
KNZ	**Kokohu**	**2.24**	**212**	P	**Pn**	**19 15 22.1**	**-0.1**
MHGZ	**Mahia Peninsul**	**2.26**	**206**	P	**Pn**	**19 15 23.3**	**+0.7**
RTZ	**Ruatahuna**	**2.29**	**229**	P	**Pn**	**19 15 23.8**	**+0.7**
RTZ				S	**Sn**	**19 15 50.4**	**-0.6**
MUGZ	**Murupara**	**2.34**	**234**	P	**Pn**	**19 15 24.0**	**+0.3**
MUGZ				S	**Sn**	**19 15 51.9**	**-0.2**
RAHZ	**Arahi**	**2.44**	**222**	P	**Pn**	**19 15 25.7**	**+0.7**
RAHZ				S	**Sn**	**19 15 54.7**	**+0.1**
MTHZ	**Maungataniwha**	**2.53**	**227**	P	**Pn**	**19 15 27.5**	**+1.2**
MTHZ				S	**Sn**	**19 15 56.6**	**-0.2**
PRRZ	**Plateau Road**	**2.60**	**238**	P	**Pb**	**19 15 31.7**	**-0.4**
NMHZ	**Naumai**	**2.72**	**223**	P	**Pn**	**19 15 30.1**	**+1.2**
NMHZ				S	**Sn**	**19 16 01.1**	**-0.4**
ARHZ	**Aropaoanui**	**2.74**	**218**	P	**Pn**	**19 15 29.7**	**+0.5**
ARHZ				S	**Sn**	**19 16 02.1**	**+0.1**
KUZ	**Kuaotunu**	**2.81**	**277**	P	**Pn**	**19 15 30.1**	**+0.1**
KUZ	**Kuaotunu**	**2.81**	**277**	P	**Pn**	**19 15 29.9**	**-0.2**
KUZ				S	**Sn**	**19 15 59.1**	**-4.5**
BKZ	**Black Stump Fm**	**2.94**	**226**	P	**Pn**	**19 15 32.6**	**+0.6**
TOZ	**Tahuroa Road**	**3.00**	**257**	P	**Pn**	**19 15 33.1**	**+0.4**
MCHZ	**McNeill Hill**	**3.03**	**220**	P	**Pn**	**19 15 33.2**	**+0.1**
GRZ	**Great Barrier**	**3.13**	**285**	P	**Pn**	**19 15 35.4**	**+1.0**
GRZ				S	**Sn**	**19 16 09.8**	**-1.7**
KAHZ	**Kahuranaki**	**3.22**	**214**	P	**Pn**	**19 15 35.1**	**-0.7**
MKAZ	**Moumakai**	**3.22**	**269**	P	**Pn**	**19 15 35.1**	**-0.6**
WIAZ	**Waiheke Island**	**3.27**	**275**	P	**Pn**	**19 15 36.6**	**+0.2**
KRHZ	**Kereru**	**3.35**	**221**	P	**Pn**	**19 15 37.3**	**-0.2**
KRHZ				S	**Sn**	**19 16 14.3**	**-2.7**
TMVZ	**Te Maari**	**3.39**	**233**	P	**Pn**	**19 15 39.0**	**+0.9**
TMVZ				S	**Sn**	**19 16 15.5**	**-2.6**
ETVZ	**East Tongariro**	**3.40**	**233**	P	**Pn**	**19 15 38.8**	**+0.5**
NNVZ	**North Ngauruho**	**3.46**	**234**	P	**Pn**	**19 15 40.8**	**+1.7**
MBAZ	**Motutapu North**	**3.46**	**275**	P	**Pn**	**19 15 39.9**	**+0.9**
NGZ	**Ngauruhoe**	**3.49**	**233**	P	**Pn**	**19 15 39.9**	**+0.3**
NGZ				S	**Sn**	**19 16 18.1**	**-2.5**
TUVZ	**Tukino**	**3.51**	**232**	P	**Pn**	**19 15 40.4**	**+0.5**
WNVZ	**Wahianoa**	**3.58**	**231**	P	**Pn**	**19 15 40.7**	**-0.2**
PNHZ	**Pukenui**	**3.64**	**219**	P	**Pn**	**19 15 39.3**	**-2.2**
PNHZ				S	**Sn**	**19 16 20.8**	**-3.3**
HIZ	**Hauiti**	**3.70**	**247**	P	**Pn**	**19 15 44.9**	**+2.6**
HIZ	**Hauiti**	**3.70**	**247**	P	**Pn**	**19 15 44.8**	**+2.5**
TSZ	**Takapari Road**	**3.87**	**220**	P	**Pn**	**19 15 42.9**	**-1.8**
TSZ				S	**Sn**	**19 16 25.9**	**-3.8**
OUZ	**Omahuta**	**4.91**	**291**	P	**Pn**	**19 16 01.0**	**+2.0**

*TEH **26** 19:16:58.3, 34°60N×46°25E, h8km±50km, ML2.6*
*ISN **26** 19:16:59.7±1.2, 34°58N×46°25E, h29km±24km, ML2.8*

ISC 26 19:16:58.2±1.3, 34°61N±0°05×46°25E±0°04, h13km±14km, n10, σ0§74/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**51**	Pg	**Pb**	**19 17 01.6**	**-1.2**
IGHG	**Ghaleghazi**	**0.38**	**137**	Pg	**Pb**	**19 17 06.0**	**+0.1**
KGS1	**Ghasr-e-Shirin**	**0.56**	**260**	Pg	**Pg**	**19 17 09.6**	**+0.5**
GLG1	**Gilan-e-Gharb**	**0.57**	**210**	Pg	**Pg**	**19 17 08.9**	**-0.5**
GLG1				Sg	**Sb**	**19 17 17.8**	**-0.2**
ILIN	**Lien**	**0.66**	**62**	Pg	**Pb**	**19 17 11.0**	**-0.7**
ILBA	**Ilam Banvizeh**	**0.98**	**182**	Pg	**Pn**	**19 17 17.5**	**-0.2**
SNQR	**Sonqor, Kerman**	**1.16**	**77**	Pg	**Pb**	**19 17 21.2**	**+0.9**
IBZA	**Bozab**	**1.34**	**96**	Pg	**Pb**	**19 17 24.1**	**+0.9**
IBDR	**Badra**	**1.52**	**190**	*e*Pg	**Pb**	**19 17 26.0**	**-0.1**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**19 17 47.0**	**-0.1**
IBDR				AML	AML	19 17 54.5	
	comp=E,142nm,0.7s						
IBDR				AML	AML	19 17 59.7	
	comp=N,129nm,1.0s						
IKRK	**Kirkuk**	**1.76**	**297**	*e*Pn	**Pb**	**19 17 30.0**	**-0.2**
IKRK				*e*Sn	**Sb**	**19 17 53.0**	**+0.8**
IKRK				AML	AML	19 17 60.0	
	comp=E,143nm,0.6s						
IKRK				AML	AML	19 18 03.0	
	comp=N,185nm,0.6s						

DJA 26 19:21:50.3±0.4, 2°S±5°×12°6E±°, h13km±3km, M3.9/9, mb4.3/5, MLv3.7/9, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.22**	**90**	P	Pb	19 21 56.2	+0.1
SANI				S	Sb	19 22 00.1	+0.1
NLAI	**Namlea**	**1.78**	**132**	P	Pn	19 22 20.7	-0.1
NLAI				S	Sn	19 22 42.6	-0.6
LUWI	**Luwuk**	**3.16**	**288**	P	Pn	19 22 38.6	-1.2
GTOI	**Gorontalo**	**3.84**	**314**	P	Pn	19 22 51.4	+2.3
SWI	**Sorong**	**5.61**	**78**	P	Pn	19 23 13.9	+0.4
	26nm,0.8s,0.1nm						
BKSI	**Bulukumba**	**6.50**	**240**	P	Pn	19 23 26.5	+0.7
FAKI	**Fak Fak**	**6.53**	**98**	P	Pn	19 23 25.0	-1.2
BSSI	**Bau Bau, Buton**	**6.65**	**232**	P	Pn	19 23 27.7	-0.1

IDC 26 19:35:29.8±6.8, 14°45N×56°87E, h0km, mb3.6/6, mbtmp3.6/6, MS3.5/15, Error ellipse: s-maj=155.4km s-min=37.8km az=171.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**8.90**	**11**	LR	LR	19 40 54.8	
	comp=Z,426nm,20.9s,baz=244,slow=36						
EIL	**Elat**	**25.27**	**310**	LR	LR	19 51 03.5	
	comp=Z,104nm,18.1s,baz=70,slow=37						
GNI	**Garni**	**27.72**	**340**	LR	LR	19 53 23.2	
	comp=Z,57nm,19.1s,baz=139,slow=39						
MBAR	**Mbarara**	**29.87**	**242**	LR	LR	19 52 05.9	
	comp=Z,71nm,18.4s,baz=116,slow=33						
KBZ	**Khabaz**	**31.54**	**340**	LR	LR	19 57 03.7	
	comp=Z,57nm,18.5s,baz=162,slow=41						
AAK	**Ala-Archa**	**31.94**	**25**	LR	LR	19 57 46.2	
	comp=Z,68nm,18.0s,baz=154,slow=42						
AKTO	**Aktyubinsk**	**35.90**	**1**	LR	LR	19 59 14.7	
	comp=Z,100nm,19.5s,baz=248,slow=40						
BELG	**Belogornoye**	**38.57**	**351**	LR	LR	20 02 35.3	
	comp=Z,52nm,18.0s,baz=245,slow=42						
MKAR	**Makanchi Array**	**38.62**	**28**	P	P	19 42 53.7	-1.1
	0.2nm,0.6s,baz=216,slow=7.5,SNR=2.4						
MKAR				LR	LR	20 01 27.8	
	comp=Z,82nm,18.7s,baz=200,slow=40						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**40.13**	**21**	LR	LR	20 00 19.2	
	comp=Z,99nm,20.0s,baz=166,slow=37						
ARU	**Arti**	**41.92**	**1**	LR	LR	20 03 39.2	
	comp=Z,46nm,20.5s,baz=146,slow=40						
OBN	**Obninsk**	**43.54**	**343**	LR	LR	20 05 34.3	
	comp=Z,40nm,18.4s,baz=188,slow=41						
ZALV	**Zalesovo Beam**	**45.11**	**23**	P	P	19 43 46.0	-1.7
	0.3nm,0.4s,baz=219,slow=8.1,SNR=3.8						
	0.3nm,0.4s						
TSUM	**Tsumeb**	**51.12**	**230**	LR	LR	20 06 29.7	
	comp=Z,91nm,19.9s,baz=20,slow=36						
FINES	**FINESS Array B**	**51.88**	**342**	P	P	19 44 40.7	+0.9
	1.1nm,0.7s,baz=126,slow=7.1,SNR=6.0						
	1.1nm,0.7s						
SONM	**Songino Array**	**52.64**	**40**	P	P	19 44 47.5	+1.6
	0.6nm,0.6s,baz=249,slow=6.9,SNR=2.5						
	0.6nm,0.6s						
HFS	**Hagfors**	**55.37**	**335**	P	P	19 45 06.2	+0.7
	0.6nm,0.7s,baz=107,slow=9.7,SNR=1.6						
	0.6nm,0.7s						
NOA	**NORSAR Array B**	**56.90**	**335**	LR	LR	20 12 21.3	
	comp=Z,25nm,18.8s,baz=335,slow=39						
ARCES	**ARCESS Array B**	**58.47**	**348**	LR	LR	20 12 52.5	
	comp=Z,30nm,19.6s,baz=112,slow=38						
ESDC	**Sonseca Array**	**58.53**	**308**	P	P	19 45 27.3	-1.0
	0.3nm,0.5s,baz=87,slow=6.0,SNR=5.2						
	0.3nm,0.5s						
H01W3	**Cape Leeuwin H**	**73.17**	**134**	T	T	21 07 19.1	
	baz=303,slow=75,SNR=3.9						
H01W2	**Cape Leeuwin H**	**73.18**	**134**	T	T	21 07 23.1	
	baz=303,slow=75,SNR=5.3						
H01W1	**Cape Leeuwin H**	**73.19**	**134**	T	T	21 07 22.1	
	baz=303,slow=75,SNR=5.0						

*IDC **26** 19:46:20.7±3.5, 18°73N×145°77E, h176km±34km, mb3.2/9, mbtmp3.7/10, Error ellipse: s-maj=30.8km s-min=18.5km az=96.0*
*NEIC **26** 19:46:23.8±1.4, 18°6N±0°1×145°3E±0°2, h204km±8km, mb4.1/24, Error ellipse: s-maj=29.2km s-min=14.8km az=97.0*

ISC 26 19:46:22.9±0.6, 18°56N±0°09×145°5E±0°2, h200km, n39, σ1§15/39, mb4.0/21, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.97**	**187**	Pn	**Pn**	**19 47 36.8**	**-0.2**
GUMO	**Guam**	**4.97**	**187**	P	**Pn**	**19 47 37.0**	**0.0**
	15nm,0.3s,baz=315,slow=0.8,SNR=6.2						
WB0	**Warramunga Arr**	**39.61**	**196**	P	**P**	**19 53 35.7**	**+0.5**
WB0				IAmb	IAmb	19 53 50.3	
	comp=Z,6.2nm,1.2s						
WR0	**Warramunga Arr**	**39.75**	**196**	P	**P**	**19 53 36.5**	**+0.2**
WR0				IAmb	IAmb	19 54 09.9	
	comp=Z,7.3nm,1.4s						
WB2	**Warramunga Arr**	**39.78**	**196**	P	**P**	**19 53 38.0**	**+1.3**
WRA	**Warramunga Arr**	**39.79**	**196**	P	**P**	**19 53 36.4**	**-0.3**
WRA	**Warramunga Arr**	**39.79**	**196**	P	**P**	**19 53 38.5**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=12,slow=8.4,SNR=18						
	comp=Z,0.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**41.31**	**209**	P	**P**	**19 53 50.7**	**+1.6**
ASAR	**Alice Springs**	**43.46**	**196**	P	**P**	**19 54 08.2**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=21,slow=8.4,SNR=5.4						
	comp=Z,0.2nm,0.4s						
EIDS	**Eidsvold**	**44.00**	**173**	P	**P**	**19 54 09.8**	**-0.8**
ADK	**Adak**	**44.56**	**33**	P	**P**	**19 54 15.2**	**+0.5**
ADK				IAmb	IAmb	19 54 46.1	
	comp=Z,10nm,1.1s						
GSTR	**Great Sitkin T**	**44.99**	**33**	P	**P**	**19 54 19.9**	**+1.6**
S12K	**Black Hills**	**53.99**	**34**	P	**P**	**19 55 26.2**	**+0.1**
CNBA	**Chernabura Isl**	**55.02**	**35**	P	**P**	**19 55 32.5**	**-1.0**
J16K	**Anvik River**	**57.68**	**26**	P	**P**	**19 55 54.3**	**+2.1**
MKAR	**Makanchi Array**	**58.41**	**314**	P	**P**	**19 55 56.5**	**-1.1**
MKAR	**Makanchi Array**	**58.41**	**314**	P	**P**	**19 55 59.3**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=86,slow=7.9,SNR=4.3						
	comp=Z,0.2nm,0.5s						
H17K	**Granite Mounta**	**58.66**	**24**	P	**P**	**19 55 59.0**	**+0.1**
H17K				IAmb	IAmb	19 56 21.1	
	comp=Z,5.8nm,1.4s						
G18K	**Tagagawik**	**59.54**	**23**	P	**P**	**19 56 06.2**	**+1.3**
K20K	**Telida**	**60.45**	**27**	P	**P**	**19 56 11.7**	**+0.5**
K20K				IAmb	IAmb	19 56 13.8	
	comp=Z,4.7nm,1.4s						
C19K	**Lookout Ridge**	**60.61**	**20**	P	**P**	**19 56 12.8**	**+0.6**
C19K				IAmb	IAmb	19 56 38.3	
	comp=Z,8.8nm,1.4s						
D19K	**Kuna River**	**60.82**	**21**	P	**P**	**19 56 14.6**	**+1.0**
D19K				IAmb	IAmb	19 56 53.0	
	comp=Z,8.5nm,1.5s						
SKT	**Skwentna**	**61.17**	**29**	P	**P**	**19 56 16.4**	**+0.4**
SKT				IAmb	IAmb	19 56 23.1	
	comp=Z,8.2nm,1.4s						
KURBB	**Kurchatov Arra**	**61.28**	**318**	P	**P**	**19 56 17.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=93,slow=8.6,SNR=1.8						
	comp=Z,0.5nm,0.3s						
CAST	**Castle Rocks**	**61.32**	**27**	P	**P**	**19 56 17.7**	**+0.6**
B20K	**Meade River**	**61.77**	**19**	P	**P**	**19 56 20.6**	**+0.7**
D22K	**Ayikyak River**	**62.80**	**21**	P	**P**	**19 56 28.0**	**+1.1**
D22K				IAmb	IAmb	19 56 59.3	
	comp=Z,5.5nm,1.4s						
G23K	**Bananza Creek**	**63.09**	**24**	P	**P**	**19 56 29.9**	**+1.1**
G23K				IAmb	IAmb	19 56 45.2	
	comp=Z,3.8nm,1.5s						
TOLK	**Toolik Lake Re**	**63.80**	**22**	P	**P**	**19 56 33.8**	**+0.3**
TOLK				IAmb	IAmb	19 56 49.8	
	comp=Z,4.4nm,1.4s						
C23K	**Itkillik River**	**63.81**	**20**	P	**P**	**19 56 33.8**	**+0.4**
C23K				IAmb	IAmb	19 56 59.7	
	comp=Z,4.9nm,1.3s						
ILAR	**Eielson Array**	**63.87**	**26**	P	**P**	**19 56 32.0**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=248,slow=5.2,SNR=4.6						
	comp=Z,0.4nm,0.7s						
D24K	**Happy Valley**	**64.21**	**21**	P	**P**	**19 56 37.6**	**+1.6**
BMAR	**Burnt Mountain**	**65.33**	**24**	P	**P**	**19 56 43.7**	**+0.3**
BVAR	**Borovoye Array**	**66.45**	**320**	P	**P**	**19 56 51.7**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=92,slow=7.2,SNR=4.9						
	comp=Z,1.1nm,0.5s						
ABKAR	**Akbulak array**	**73.30**	**317**	P	**P**	**19 57 31.8**	**-0.7**
YKA	**Yellowknife Ar**	**78.21**	**28**	P	**P**	**19 57 57.6**	**-2.5**
	comp=Z,0.3nm,0.6s,baz=284,slow=5.3,SNR=1.5						
	comp=Z,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**83.39**	**52**	P	**P**	**19 58 28.8**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=258,slow=6.4,SNR=3.9						
	comp=Z,0.9nm,0.8s						
FINES	**FINESS Array B**	**86.92**	**335**	P	**P**	**19 58 44.0**	**-1.0**
FINES	**FINESS Array B**	**86.92**	**335**	P	**P**	**19 58 43.8**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=44,slow=4.6,SNR=3.7						
	comp=Z,0.7nm,0.8s						

*NEIC **26** 19:53:23.7±0.3, 35°80N±0°02×97°20W±0°02, h5km, ML2.6, mb_Lg2.3/30(NEIC), ML2.5/50(NEIC), Error ellipse: s-maj=2.2km s-min=1.9km az=218.0, Oklahoma*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.20**	**225**	Pg	Pg	19 53 28.2	+0.4
OK029	**Liberty Lake**	**0.21**	**270**	Pg	Pg	19 53 28.3	+0.3
OK029				IAML		19 53 31.8	
	1μm,0.3s						
OK031	**S. Brethren Rd**	**0.33**	**62**	Pg	Pg	19 53 30.8	+0.4
OK031				IAML		19 53 35.8	
	409nm,0.1s						
OK031				IAML		19 53 35.8	
	826nm,0.2s						
OK052	**Battle Ridge R**	**0.38**	**58**		Pg	19 53 31.5	+0.2
OK052				IAML		19 53 37.3	
	792nm,0.2s						
OK052				IAML		19 53 37.5	
	501nm,0.1s						
QUOK	**Quay**	**0.55**	**47**		Pg	19 53 34.6	+0.2
QUOK				IAML		19 53 42.6	
	comp=E,322nm,0.3s						
QUOK				IAML		19 53 48.6	
	comp=N,234nm,0.3s						
FNO	**Franklin**	**0.56**	**197**	Pg	Pg	19 53 34.7	0.0
FNO				IAML		19 53 43.3	
	comp=N,246nm,0.3s						
DEOK	**Depew**	**0.57**	**85**	Pg	Pg	19 53 35.0	+0.1
DEOK				IAML		19 53 43.5	
	comp=E,198nm,0.3s						
DEOK				IAML		19 53 43.8	
	comp=N,231nm,0.2s						
OK048	**Pawnee Station**	**0.65**	**18**		Pg	19 53 36.6	+0.1
OK048				IAML		19 53 48.0	
	comp=N,197nm,0.5s						
OK051	**E0350 and S346**	**0.77**	**22**	Pg	Pg	19 53 38.5	-0.1
OK051				IAML		19 53 51.3	
	comp=N,378nm,0.3s						
OK051				IAML		19 53 51.5	
	comp=N,184nm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.95**	**318**	Pg	Pg	19 53 42.0	-0.1
CROK				IAML		19 53 57.1	
	comp=E,210nm,0.4s						
BLOK	**Blackwell**	**0.96**	**359**	Pg	Pg	19 53 42.1	-0.2
TUL3	**Leonard**	**1.15**	**84**		Pg	19 53 45.3	-0.6
GC02	**Grant County #**	**1.18**	**333**	Pg	Pg	19 53 46.0	-0.6
CSTR	**Hydro, Custer**	**1.22**	**263**		Pg	19 53 46.9	-0.5
OK032	**Salt Plains WL**	**1.30**	**321**		Pn	19 53 48.1	-0.6
X34A	**Smith Ranch, M**	**1.30**	**204**		Pn	19 53 48.3	-0.4
X34A				IAML		19 54 07.8	
	comp=E,110nm,0.5s						
X34A				IAML		19 54 08.0	
	comp=N,140nm,0.3s						
KAN01	**Argonia South**	**1.43**	**342**		Pn	19 53 50.3	-0.1
KAN08	**Anthony NE Sta**	**1.56**	**337**	IAmb_Lg		19 54 15.1	
	comp=Z,22nm,0.9s						
WMOK	**Wichita Mounta**	**1.67**	**231**		Pn	19 53 53.6	-0.2
RLO	**Rose Lookout**	**1.80**	**78**	Pn	Pn	19 53 55.4	-0.2
ELIS	**Ellis County**	**1.82**	**279**		Pb	19 53 57.0	-0.8
X37A	**Clayton**	**1.92**	**128**	Pn	Pn	19 53 56.9	-0.3
X37A				IAmb_Lg		19 54 27.0	
	comp=Z,20nm,1.0s						
U38A	**Gravette**	**2.37**	**73**	IAmb_Lg		19 54 44.6	
	comp=Z,13nm,0.9s						
CBKS	**Cedar Bluff**	**3.63**	**327**	IAmb_Lg		19 55 25.0	
	comp=Z,6.7nm,0.8s						
ABTX	**Abilene, Hawle**	**3.76**	**213**	IAmb_Lg		19 55 27.0	
	comp=Z,7.1nm,0.8s						
AMTX	**Amarillo**	**3.78**	**257**		Pn	19 54 22.4	-0.4
X40A	**Basin Creek Fa**	**3.81**	**109**	IAmb_Lg		19 55 30.1	
	comp=Z,13nm,0.8s						
WHAR	**Wooly Hollow**	**4.04**	**96**	IAmb_Lg		19 55 38.0	
	comp=Z,5.8nm,0.7s						
UALR	**University of**	**4.10**	**103**	IAmb_Lg		19 55 41.9	
	comp=Z,8.8nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.12**	**87**	IAmb_Lg		19 55 41.2	
	comp=Z,7.1nm,0.8s						
MGMO	**Mountain Grove**	**4.20**	**70**	IAmb_Lg		19 55 39.0	
	comp=Z,6.4nm,0.7s						
SN05	**Snyder 5**	**4.21**	**227**	IAmb_Lg		19 55 38.6	
	comp=Z,8.3nm,0.8s						
R40A	**Maddies Statio**	**4.66**	**56**	IAmb_Lg		19 55 53.6	
	comp=Z,5.9nm,0.9s						
P38A	**Dawn**	**4.80**	**36**	IAmb_Lg		19 56 08.2	
	comp=Z,7.0nm,1.0s						
LCAR	**Lake Charles**	**4.91**	**85**	IAmb_Lg		19 56 05.7	
	comp=Z,4.8nm,1.0s						
CCM	**Cathedral Cave**	**5.28**	**63**	IAmb_Lg		19 56 25.7	
	comp=Z,5.2nm,0.8s						
PBMO	**Poplar Bluff**	**5.55**	**78**	IAmb_Lg		19 56 27.5	
	comp=Z,7.2nm,0.9s						

NNC 26 19:57:01.2±8.1, 36°35N×69°91E, h74km±263km, mb3.7, mpv3.7, 3C-2D, Error ellipse: s-maj=70.6km s-min=53.0km az=149.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.76**	**4**	⇑P	Pn	19 58 40.3	+2.5
	1.6nm,0.3s,baz=183,slow=13						
KK31				⇓S	Sn	19 59 56.4	+3.2
	9.4nm,0.6s,baz=194,slow=23						
AAK	**Ala-Archa**	**7.21**	**28**	⇑P	Pn	19 58 43.4	-0.6
	1.4nm,0.3s						
AAK				S	Sn	20 00 04.7	+0.3
	6.5nm,0.6s						
CHMS	**Chumysh**	**7.61**	**28**	⇓P	Pn	19 58 48.6	-0.9
	2.3nm,0.3s						
CHMS				S	Sn	20 00 12.9	-1.2
	11nm,0.6s						
TKM2	**Tokmak 2**	**7.89**	**32**	⇑P	Pn	19 58 52.2	-1.2
	1.4nm,0.4s						
TKM2				S	Sn	20 00 20.2	-1.0
	3.4nm,0.7s						
AB31	**Akbulak array**	**14.81**	**334**	P	P	20 00 28.7	-1.8
	2.8nm,0.5s,baz=154,slow=13,SNR=54						
AB31				S	Sn	20 03 08.3	-1.1
	0.8nm,0.6s,baz=154,slow=23,SNR=8.4						

*IDC **26** 19:59:31.6±6.4, 8°79S×127°74E, h0km, mb3.7/1, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=139.8km s-min=73.9km az=66.0*

ISC 26 19:59:27.7±2.5, 8°0S±0°2×128°9E±0°2, h10km, n11, σ2§45/13, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRS	**Darwin Rock St**	**4.80**	**155**	P	**Pb**	**20 00 51.7**	**-0.4**
SOEI	**Soe**	**4.84**	**249**	P	**Pn**	**20 00 40.1**	**-0.7**
MTN	**Manton Dam**	**5.27**	**155**	P	**Pb**	**20 00 57.6**	**-2.4**
KDU	**Kakadu**	**5.83**	**143**	P	**Pb**	**20 01 05.2**	**-4.3**
FITZ	**Fitzroy Crossi**	**10.47**	**197**	P	**Pn**	**20 01 58.7**	**+0.6**
	15nm,1.6s						
WRA	**Warramunga Arr**	**12.97**	**156**	Pn	**Pn**	**20 02 34.9**	**+2.6**
	0.4nm,0.3s,baz=326,slow=14,SNR=28						
WRA				Sn	**Sn**	**20 04 59.4**	**+

KARP				AML	AML	20 19 18.1
	comp=N,17nm,0.2s					
ARG	**Arkhangelos**	**0.73**	**51**	Pg	**Pb**	**20 19 19.4 +0.7**
ARG				Sg	**Sb**	**20 19 29.5 +1.2**
ARG	**Arkhangelos**	**0.73**	**51**	P	**Pb**	**20 19 19.2 +0.5**
ARG				S	**Sb**	**20 19 29.7 +1.4**
	comp=N,4μm,0.2s					
ARG	**Arkhangelos**	**0.73**	**51**	P	**Pb**	**20 19 19.1 +0.3**
ARG				S	**Sb**	**20 19 29.0 +0.7**
ARG				AML	AML	20 19 31.7
	comp=E,8737μm,0.3s					
ARG				AML	AML	20 19 31.8
	comp=N,5849μm,0.2s					
ARG	**Arkhangelos**	**0.73**	**51**	P	**Pb**	**20 19 19.0 +0.3**
ARG				AML	AML	20 19 31.4
	comp=N,8.8nm,0.3s					
ARG				AML	AML	20 19 31.5
	comp=N,5.9nm,0.2s					
NISR	**Nisiros**	**0.88**	**344**	P	**Pb**	**20 19 22.0 +0.8**
NISR				S	**Sn**	**20 19 34.8 +2.0**
	comp=N,2μm,0.4s					
NISR	**Nisiros**	**0.88**	**344**	P	**Pb**	**20 19 21.5 +0.3**
NISR				S	**Sb**	**20 19 33.2 +0.6**
NISR				AML	AML	20 19 36.7
	comp=N,2289μm,0.5s					
NISR				AML	AML	20 19 41.7
	comp=E,4232μm,0.5s					
YAZI	**Mula-Dat§a-**	**0.92**	**2**	P	**Pb**	**20 19 21.6 -0.3**
YAZI				S	**Sb**	**20 19 31.9 -1.8**
DAT	**Datca**	**0.97**	**7**	Pg	**Pb**	**20 19 23.2 +0.3**
DAT				Sg	**Sn**	**20 19 36.5 +1.2**
DAT	**Datca**	**0.97**	**7**	P	**Pb**	**20 19 23.0 +0.2**
DAT				S	**Sb**	**20 19 34.1 -1.3**
DAT	**Datca**	**0.97**	**7**	P	**Pb**	**20 19 23.5 +0.6**
DAT				S	**Sn**	**20 19 38.0 +2.7**
DATC	**Datca-Mugla**	**1.01**	**11**	Pg	**Pb**	**20 19 23.8 +0.3**
DATC				Sg	**Sn**	**20 19 37.9 +1.8**
MRSB	**Marmaris-Mugla**	**1.14**	**33**	Pn	**Pb**	**20 19 26.5 +0.9**
ZKR	**Zakros**	**1.18**	**237**	Pn	**Pb**	**20 19 26.9 +0.6**
ZKR				Sn	**Sn**	**20 19 43.8 +3.6**
ZKR	**Zakros**	**1.18**	**237**	P	**Pb**	**20 19 27.0 +0.6**
ZKR				S	**Sn**	**20 19 44.2 +4.0**
	comp=E,2μm,0.5s					
ZKR	**Zakros**	**1.18**	**237**	P	**Pb**	**20 19 26.8 +0.5**
ZKR				S	**Sb**	**20 19 41.0 -0.2**
ZKR				AML	AML	20 19 45.3
	comp=E,5171μm,0.3s					
ZKR				AML	AML	20 19 46.1
	comp=N,3143μm,0.7s					
ZKR	**Zakros**	**1.18**	**237**	P	**Pb**	**20 19 26.6 +0.3**
ZKR				S	**Sn**	**20 19 42.6 +2.4**
ZKR				AML	AML	20 19 45.0
	comp=N,3.0nm,0.8s					
ZKR				AML	AML	20 19 49.5
	comp=N,4.9nm,0.5s					
KLNA	**Kalymnos**	**1.24**	**343**	P	**Pn**	**20 19 26.5 +0.5**
BDRM	**Kayabasi**	**1.30**	**1**	P	**Pn**	**20 19 27.3 +0.5**
BDRM				S	**Sn**	**20 19 41.7 -1.5**
BODT	**Bodrum**	**1.30**	**356**	Pn	**Pn**	**20 19 28.1 +1.2**
BODT				Sn	**Sb**	**20 19 45.8 +1.2**
BODT	**Bodrum**	**1.30**	**356**	P	**Pn**	**20 19 28.0 +1.2**
BODT				S	**Sb**	**20 19 47.0 +2.4**
YKAV	**Yalikavak-Bodr**	**1.36**	**355**	Pn	**Pn**	**20 19 29.0 +1.3**
MLSB	**Milas**	**1.55**	**10**	Pn	**Pn**	**20 19 32.2 +1.9**
FETY	**Fethiye**	**1.60**	**57**	Pn	**Pb**	**20 19 33.9 +0.4**
IZZE	**Mula-Seydike**	**1.61**	**65**	P	**Pb**	**20 19 33.8 +0.3**
DIDI	**Didim-Aydin**	**1.62**	**355**	Pn	**Pn**	**20 19 32.9 +1.8**
SABU	**Mula-Dalaman**	**1.64**	**49**	P	**Pb**	**20 19 34.8 +0.7**
SABU				S	**Sn**	**20 19 52.7 +1.2**
MULA	**Mugla, Merkez-**	**1.66**	**26**	P	**Pn**	**20 19 34.1 +2.3**
MULA				S	**Sn**	**20 19 53.0 +0.9**
DDIM	**Aydin, Didim**	**1.70**	**355**	P	**Pn**	**20 19 33.7 +1.4**
DDIM				S	**Sn**	**20 19 53.6 +0.6**
THR8	**Santorini-Mono**	**1.70**	**293**	P	**Pn**	**20 19 34.0 +1.7**
THR8	**Santorini-Mono**	**1.70**	**293**	P	**Pn**	**20 19 32.4 +0.1**
SANT	**Santorini**	**1.70**	**291**	Pn	**Pn**	**20 19 34.1 +1.7**
SANT	**Santorini**	**1.70**	**291**	P	**Pn**	**20 19 34.5 +2.1**
SANT				S	**Sb**	**20 19 57.5 +1.3**
SANT	**Santorini**	**1.70**	**291**	P	**Pn**	**20 19 34.3 +1.9**
SNT1	**Gialos, Santor**	**1.74**	**293**	P	**Pn**	**20 19 34.5 +1.7**
SNT1	**Gialos, Santor**	**1.74**	**293**	P	**Pn**	**20 19 32.8 -0.1**
THR6	**Thira Island,**	**1.74**	**290**	P	**Pn**	**20 19 34.7 +1.8**
THR6	**Thira Island,**	**1.74**	**290**	P	**Pn**	**20 19 34.1 +1.2**
THR2	**Thira island,**	**1.75**	**294**	P	**Pn**	**20 19 34.1 +1.1**
THR3	**Thira Island,**	**1.76**	**292**	P	**Pn**	**20 19 34.7 +1.6**
THR3	**Thira Island,**	**1.76**	**292**	P	**Pn**	**20 19 34.3 +1.2**
SNT5	**Nea Kammeni, S**	**1.76**	**292**	P	**Pn**	**20 19 34.4 +1.2**
THR9	**Santorini-Faro**	**1.77**	**290**	P	**Pn**	**20 19 35.3 +2.0**
THR9	**Santorini-Faro**	**1.77**	**290**	P	**Pn**	**20 19 33.8 +0.5**
CMBO	**Columbo, Santo**	**1.78**	**294**	P	**Pn**	**20 19 35.1 +1.7**
CMBO				S	**Sb**	**20 19 58.7 +0.3**
CMBO	**Columbo, Santo**	**1.78**	**294**	P	**Pn**	**20 19 33.7 +0.3**
KSL	**Kastellorizon**	**1.79**	**77**	P	**Pb**	**20 19 37.0 +0.3**
KSL				S	**Sb**	**20 19 59.6 +0.8**
KSL				AML	AML	20 20 02.4
	comp=N,0.7nm,0.4s					
KSL				AML	AML	20 20 04.8
	comp=N,0.5nm,0.4s					
THR5	**Thira Island,**	**1.80**	**292**	P	**Pn**	**20 19 34.9 +1.2**
SAP3	**Santorini-Thir**	**1.81**	**292**	P	**Pn**	**20 19 36.1 +2.3**
SAP3	**Santorini-Thir**	**1.81**	**292**	P	**Pn**	**20 19 35.4 +1.6**
AKAS	**Kas**	**1.83**	**75**	Pn	**Pb**	**20 19 37.4 -0.1**
AKAS	**Kas**	**1.83**	**75**	P	**Pb**	**20 19 37.3 -0.1**
AKAS				S	**Sn**	**20 19 56.8 +0.3**
CAME	**Cameli-Denizli**	**1.92**	**52**	Pn	**Pb**	**20 19 38.4 -0.6**
GCAM	**G?zelcaml?**	**1.94**	**356**	Pn	**Pn**	**20 19 37.4 +1.8**
GCAM	**G?zelcaml?**	**1.94**	**356**	P	**Pn**	**20 19 36.1 +0.5**
KSTL	**Kastelli Herak**	**1.97**	**257**	P	**Pn**	**20 19 36.0 0.0**
DNZT	**Denizli-Tavas-**	**1.99**	**40**	P	**Pb**	**20 19 39.8 -0.3**
DNZT				S	**Sb**	**20 20 06.3 +1.8**
SMG	**Samos**	**2.00**	**347**	P	**Pn**	**20 19 37.8 +1.4**
SMG	**Samos**	**2.00**	**347**	P	**Pn**	**20 19 36.9 +0.5**
APE	**Apeiranthos**	**2.01**	**311**	Pn	**Pn**	**20 19 37.7 +1.1**
APE	**Apeiranthos**	**2.01**	**311**	P	**Pn**	**20 19 38.2 +1.6**
APE				S	**Sb**	**20 20 05.3 +0.3**
APE	**Apeiranthos**	**2.01**	**311**	P	**Pn**	**20 19 37.5 +0.9**
APE				S	**Sn**	**20 20 00.2 -0.5**
APE				AML	AML	20 20 02.8
	comp=N,434μm,0.4s					
APE				AML	AML	20 20 11.6
	comp=E,392μm,0.3s					
CAEL	**Denizli, Camel**	**2.04**	**48**	P	**Pn**	**20 19 40.2 +3.0**
CAEL				S	**Sn**	**20 20 04.9 +3.1**
KNIK	**Mula-Seydike**	**2.04**	**58**	P	**Pb**	**20 19 40.6 -0.5**
KNIK				S	**Sn**	**20 20 05.2 +3.4**
TAVA	**DENIZLI_Tavas**	**2.08**	**35**	P	**Pb**	**20 19 41.4 -0.2**
TAVA				S	**Sb**	**20 20 07.3 +0.2**
IDI	**Anoyia**	**2.12**	**258**	P	**Pn**	**20 19 40.0 +1.9**
IDI				S	**Sb**	**20 20 08.0 -0.3**
	comp=E,310nm,0.4s					
IDI	**Anoyia**	**2.12**	**258**	Pn	**Pn**	**20 19 39.4 +1.2**
	comp=E,50nm,0.3s,baz=28,slow=7.6,SNR=73					
IDI				Sn	**Sn**	**20 20 04.8 +1.3**
	comp=E,29nm,0.3s,baz=84,slow=9.2,SNR=7.5					
IDI	**Anoyia**	**2.12**	**258**	P	**Pn**	**20 19 39.5 +1.3**
IDI				S	**Sn**	**20 20 04.9 +1.3**
IDI				AML	AML	20 20 07.0
	comp=E,665μm,0.3s					
IDI				AML	AML	20 20 09.5
	comp=N,828μm,0.4s					
ESEN	**Aydn-Nazilli**	**2.16**	**20**	P	**Pn**	**20 19 40.4 +1.8**
ESEN				S	**Sn**	**20 20 03.3 -1.2**
AYDB	**Zeytinkoy-Aydi**	**2.21**	**10**	Pn	**Pn**	**20 19 41.7 +2.3**
ELL	**Elmali**	**2.24**	**63**	Pn	**Pn**	**20 19 43.2 +3.4**
ELL	**Elmali**	**2.24**	**63**	P	**Pb**	**20 19 43.6 -0.8**
ELL				AML	AML	20 20 16.3
	comp=N,1.2nm,0.8s					
ELL				AML	AML	20 20 30.8
	comp=N,1.2nm,0.8s					
GOLH	**Golhisar**	**2.26**	**49**	P	**Pb**	**20 19 43.8 -1.1**
GOLH				S	**Sb**	**20 20 12.4 -0.1**
DNIZ	**Denizli-Tavas-**	**2.27**	**34**	P	**Pb**	**20 19 43.7 -1.2**
DNIZ				S	**Sn**	**20 20 10.3 +3.1**
APMY	**Acipayam-Deniz**	**2.28**	**41**	Pn	**Pn**	**20 19 43.2 +2.9**
NAZL	**Nazilli-Aydin**	**2.30**	**17**	Pn	**Pn**	**20 19 43.0 +2.4**
GMLD	**Gumuldur**	**2.34**	**350**	Pn	**Pn**	**20 19 43.4 +2.3**
IZMR	**zmir-demi**	**2.41**	**10**	P	**Pn**	**20 19 42.3 +0.3**
IZMR				S	**Sn**	**20 20 11.7 +1.2**
AKUM	**Antalya-Kumluc**	**2.43**	**76**	P	**Pn**	**20 19 45.7 +3.4**
KIRA	**zmir-Kiraz**	**2.55**	**18**	P	**Pn**	**20 19 45.6 +1.5**
ZEYE	**Izmir, Urla-Ze**	**2.58**	**344**	P	**Pn**	**20 19 45.0 +0.7**
INCE	**Denizli-Bozkur**	**2.60**	**41**	P	**Pn**	**20 19 47.8 +3.1**
URLA	**Izmir**	**2.67**	**346**	Pn	**Pn**	**20 19 47.4 +1.7**
URLA	**Izmir**	**2.67**	**346**	P	**Pn**	**20 19 47.2 +1.5**
IMMV	**Iera Moni Meta**	**2.82**	**265**	P	**Pn**	**20 19 49.7 +2.0**
IMMV				S	**Sn**	**20 20 24.9 +4.2**
	comp=N,300nm,0.5s					
IMMV	**Iera Moni Meta**	**2.82**	**265**	P	**Pn**	**20 19 49.0 +1.3**
CHOS	**Chios island**	**2.84**	**338**	P	**Pn**	**20 19 49.7 +1.7**
CHOS	**Chios island**	**2.84**	**338**	P	**Pn**	**20 19 48.5 +0.5**
BRDR	**BURDUR-Merkez**	**2.87**	**47**	P	**Pn**	**20 19 52.5 +4.1**
MANT	**Manisa**	**2.87**	**18**	P	**Pn**	**20 19 50.5 +1.9**
GVD	**Gavdhos**	**2.88**	**252**	P	**Pn**	**20 19 50.6 +2.1**
KULA	**Kula-Manisa**	**2.92**	**19**	Pn	**Pn**	**20 19 51.5 +2.4**
KULA	**Kula-Manisa**	**2.92**	**19**	P	**Pn**	**20 19 51.0 +1.9**
GOMA	**Golmarmara-Man**	**2.96**	**8**	Pn	**Pn**	**20 19 52.5 +2.8**
BUCA	**Burdur, Bucak-**	**2.97**	**57**	P	**Pn**	**20 19 53.6 +3.8**
RODP	**Rodopos**	**2.99**	**267**	P	**Pn**	**20 19 52.6 +2.5**
PASA	**Karahalli, USA**	**3.06**	**32**	P	**Pn**	**20 19 53.9 +2.8**
KNDR	**Palaiochora Ch**	**3.10**	**261**	P	**Pn**	**20 19 53.4 +2.0**
AKHS	**Akhisar**	**3.12**	**6**	P	**Pn**	**20 19 53.3 +1.4**
USAK	**Uak-Merkez**	**3.21**	**23**	P	**Pn**	**20 19 54.7 +1.6**
ATHU	**Athens Univers**	**3.65**	**308**	P	**Pn**	**20 20 01.1 +2.0**
KRND	**KRANIDI**	**3.80**	**296**	P	**Pn**	**20 20 03.7 +2.5**
EPID	**Epidavros**	**3.92**	**299**	P	**Pn**	**20 20 05.2 +2.4**
AKMS	**Akamas**	**4.08**	**99**	P	**Pn**	**20 20 06.6 +1.6**
AKMS				S	**Sn**	**20 20 53.8 +1.9**
AKMS				AML	AML	20 20 56.9
	comp=N,0.3nm,0.5s					
AKMS				AML	AML	20 20 58.1
	comp=N,0.3nm,0.4s					
NATA	**Nata**	**4.32**	**102**	P	**Pn**	**20 20 10.1 +1.7**
NATA				S	**Sn**	**20 20 59.6 +1.7**
NATA				AML	AML	20 21 02.2
	comp=N,1.0nm,0.3s					
NATA				AML	AML	20 21 04.5
	comp=N,0.5nm,0.6s					
TROD	**Troodos**	**4.52**	**99**	P	**Pn**	**20 20 12.9 +1.6**
TROD				S	**Sn**	**20 21 04.1 +1.0**
TROD				AML	AML	20 21 14.0
	comp=N,0.1nm,0.4s					
TROD				AML	AML	20 21 15.8
	comp=N,0.1nm,0.8s					
KLV	**Kalavryta, Ach**	**4.80**	**300**	P	**Pn**	**20 20 17.4 +2.4**
ASGA	**Asgata**	**4.86**	**100**	P	**Pn**	**20 20 17.8 +2.0**
ASGA				AML	AML	20 21 19.6
	comp=N,0.2nm,0.3s					
ASGA				AML	AML	20 21 19.8
	comp=N,0.1nm,0.2s					
CSS	**Mathiatis**	**4.89**	**98**	P	**Pn**	**20 20 18.1 +1.9**
CSS				S	**Sn**	**20 21 13.8 +1.9**
CSS				AML	AML	20 21 16.7
	comp=N,0.1nm,0.6s					
CSS				AML	AML	20 21 24.5
	comp=N,0.1nm,0.5s					
ATHAL	**Athalassa**	**4.92**	**96**	S	**Sn**	**20 21 15.1 +2.7**
ATHAL				AML	AML	20 21 27.5
	comp=N,0.2nm,0.6s					
ATHAL				AML	AML	20 21 28.2
	comp=N,0.3nm,0.5s					
KALE	**Kalithea**	**4.97**	**303**	P	**Pn**	**20 20 19.8 +2.5**
MVOU	**Mavrovouni**	**5.13**	**97**	P	**Pn**	**20 20 20.8 +1.4**
MVOU				S	**Sn**	**20 21 20.0 +2.4**
MVOU				AML	AML	20 21 26.9
	comp=N,0.1nm,0.5s					
MVOU				AML	AML	20 21 30.6
	comp=N,0.1nm,0.4s					
BRTR	**Keskin Array B**	**6.32**	**49**	Pn	**Pn**	**20 20 36.4 +0.5**
	comp=N,0.2nm,0.3s,baz=220,slow=16,SNR=6.1					
BRTR				Sn	**Sn**	**20 21 44.5 -2.7**
	baz=214,slow=24					
	comp=N,0.3nm,0.3s					
MMAI	**Mount Meron Ar**	**7.14**	**110**	Pn	**Pn**	**20 20 46.7 -0.5**
	comp=N,1.6nm,0.3s,baz=316,slow=13,SNR=12					
MMAI				Sn	**Sn**	**20 22 05.5 -2.0**
	comp=N,4.2nm,0.3s,baz=298,slow=20,SNR=3.2					
	comp=N,1.2nm,0.4s					
EIL	**Elat**	**8.78**	**132**	Pn	**Pn**	**20 21 09.6 0.0**
	comp=N,0.4nm,0.3s,baz=281,slow=3.0,SNR=11					
EIL				Sn	**Sn**	**20 22 42.7 -5.0**
	comp=N,1.2nm,0.3s,baz=18,slow=20,SNR=5.8					
	comp=N,1.1nm,0.3s					
VAE	**Valguarnera**	**10.60**	**283**	Sn	**Sn**	**20 23 28.6 -3.6**
	comp=N,0.5nm,0.3s,baz=62,slow=17,SNR=1.7					
ESDC	**Sonseca Array**	**25.06**	**288**	P	**P**	**20 24 26.5 0.0**
	comp=N,0.4nm,0.6s,baz=79,slow=10,SNR=6.7					
	comp=N,0.4nm,0.6s					
FINES	**FINESS Array B**	**25.71**	**359**	P	**P**	**20 24 30.4 -1.6**
	comp=N,2.4nm,1.1s,baz=165,slow=12,SNR=2.2					
	comp=N,2.4nm,1.1s					
HFS	**Hagfors**	**25.95**	**344**	P	**P**	**20 24 32.9 -1.3**
	comp=N,0.6nm,0.4s,baz=153,slow=11,SNR=9.0					
	comp=N,0.6nm,0.4s					
NB2	**NORSAR Subarra**	**27.33**	**343**	P	P	20 24 56.3 +10
	comp=Z,0.5nm,0.6s,baz=158,slow=11					
TORD	**Torodi Ar. Bea**	**32.30**	**232**	P	**P**	**20 25 32.7 +1.5**
	comp=Z,1.2nm,0.3s,baz=36,slow=9.3,SNR=37					
	comp=Z,1.2nm,0.3s					
KURBB	**Kurchatov Arra**	**39.30**	**52**	P	**P**	**20 26 29.1 -1.6**
	comp=Z,0.4nm,0.7s,baz=274,slow=8.4,SNR=2.1					
	comp=Z,0.4nm,0.7s					
DBIC	**Dimbokro**	**41.40**	**233**	P	**P**	**20 26 48.1 -0.4**
	comp=Z,1.1nm,0.3s,baz=50,slow=5.6,SNR=1.5					
	comp=Z,1.1nm,0.3s					
MKAR	**Makanchi Array**	**41.90**	**57**	P	**P**	**20 26 49.4 -3.0**
	comp=Z,0.3nm,0.8s,baz=262,slow=14,SNR=2.3					
	comp=Z,0.3nm,0.8s					
SCHQ	**Schefferville**	**63.92**	**320**	P	**P**	**20 29 34.3 -0.3**
	comp=Z,2.5nm,0.6s,baz=79,slow=5.2,SNR=7.0					
	comp=Z,2.5nm,0.6s					

NAM 26 20:28:23.6±4.4, 19°.68S×14°.50E, h23km±19km, ML1.1, 19C-12D, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ST3N	**ST3**	**0.06**	**185**	⇓*iP*	Pb	20 28 29.9	+2.0
ST3N				*i* S	Sb	20 28 31.3	+0.5
ST3N				IAML		20 28 31.4	
	comp=Z,10nm,0.1s						
ST3N	**ST3**	**0.06**	**185**	⇓*iP*	Pb	20 28 29.9	+2.0
ST3N				*i* S	Sb	20 28 31.3	+0.5
ST3N				IAML		20 28 31.4	
	comp=Z,10nm,0.1s						
ST3N	**ST3**	**0.06**	**185**	⇑*iP*	Pb	20 28 29.9	+1.9
ST3N				*i* S	Sb	20 28 31.2	+0.4
ST3N	**ST3**	**0.06**	**185**	⇑*iP*	Pb	20 28 29.9	+1.9
ST3N				IAML		20 28 31.2	
	comp=Z,32nm,0.1s						
ST3N				*i* S	Sb	20 28 31.3	+0.4
ST1N	**ST1**	**0.12**	**120**	⇑*iP*	Pn	20 28 29.6	-0.6
ST1N				*i* S	Sb	20 28 30.7	-0.8
ST1N				IAML		20 28 30.9	
	comp=Z,58nm,0.1s						
ST1N	**ST1**	**0.12**	**120**	⇑*iP*	Pn	20 28 29.6	-0.6
ST1N				*i* S	Sb	20 28 30.8	-0.7
ST1N				IAML		20 28 30.9	
	comp=Z,57nm,0.1s						
ST1N	**ST1**	**0.12**	**120**	⇓*iP*	Pn	20 28 29.6	-0.6
ST1N				*i* S	Sb	20 28 30.7	-0.8
ST1N				IAML		20 28 30.7	
	comp=Z,196nm,0.0s						
ST1N	**ST1**	**0.12**	**120**	⇓*iP*	Pn	20 28 29.6	-0.6
ST1N				*i* S	Sb	20 28 30.7	-0.8
ST1N				IAML		20 28 30.7	
	comp=Z,192nm,0.0s						
ST9N	**ST9**	**0.13**	**162**	⇑*iP*	Pb	20 28 29.1	+0.7
ST9N				*i* S	Sb	20 28 29.9	-1.7
ST9N				IAML		20 28 30.4	
	comp=Z,482nm,0.1s						
ST9N	**ST9**	**0.13**	**162**	⇑*iP*	Pb	20 28 29.1	+0.7
ST9N				*i* S	Sb	20 28 29.9	-1.7
ST9N				IAML		20 28 30.4	
	comp=Z,480nm,0.1s						
ST9N	**ST9**	**0.13**	**162**	⇑*iP*	Pb	20 28 29.0	+0.6
ST9N				*i* S	Sb	20 28 29.8	-1.9
ST9N				IAML		20 28 30.3	
	comp=Z,607nm,0.1s						
ST9N	**ST9**	**0.13**	**162**	⇑*iP*	Pb	20 28 29.0	+0.6
ST9N				*i* S	Sb	20 28 29.8	-1.8
ST9N				IAML		20 28 30.3	
	comp=Z,601nm,0.1s						
ST6N	**ST6**	**0.16**	**219**	⇓*iP*	Pn	20 28 31.2	+0.5
ST6N				*i* S	Sb	20 28 33.6	+1.4
ST6N				IAML		20 28 33.8	
	comp=Z,11nm,0.1s						
ST6N	**ST6**	**0.16**	**219**	⇓*iP*	Pn	20 28 31.2	+0.5
ST6N				*i* S	Sb	20 28 33.6	+1.5
ST6N				IAML		20 28 33.8	
	comp=Z,12nm,0.1s						
ST6N	**ST6**	**0.16**	**219**	⇑*iP*	Pn	20 28 31.2	+0.4
ST6N				*i* S	Sb	20 28 33.5	+1.3
ST6N				IAML		20 28 33.8	
	comp=Z,28nm,0.1s						
ST6N	**ST6**	**0.16**	**219**	*i* S	Sb	20 28 33.5	+1.4
ST6N				IAML		20 28 33.8	
	comp=Z,28nm,0.1s						
ST8N	**ST8**	**0.18**	**266**	⇑*iP*	Pn	20 28 33.1	+2.2
ST8N				*i* S	Sb	20 28 36.8	+4.3
ST8N				IAML		20 28 37.6	
	comp=Z,5.0nm,0.1s						
ST8N	**ST8**	**0.18**	**266**	⇑*iP*	Pn	20 28 33.2	+2.2
ST8N				*i* S	Sb	20 28 36.8	+4.3
ST8N				IAML		20 28 37.6	
	comp=Z,5.0nm,0.1s						
ST8N	**ST8**	**0.18**	**266**	⇑*iP*	Pn	20 28 33.1	+2.1
ST8N				*i* S	Sb	20 28 36.6	+4.1
ST8N				IAML		20 28 36.7	
	comp=Z,12nm,0.1s						
ST8N	**ST8**	**0.18**	**266**	⇑*iP*	Pn	20 28 33.1	+2.1
ST8N				*i* S	Sb	20 28 36.6	+4.1
ST8N				IAML		20 28 36.7	
	comp=Z,12nm,0.1s						
ST2N	**ST2**	**0.26**	**160**	⇓*iP*	Pb	20 28 30.7	+0.6
ST2N				*i* S	Sb	20 28 32.8	-1.7
ST2N				IAML		20 28 32.8	
	comp=Z,12nm,0.1s						
ST2N	**ST2**	**0.26**	**160**	⇓*iP*	Pb	20 28 30.7	+0.6
ST2N				*i* S	Sb	20 28 32.8	-1.7
ST2N				IAML		20 28 32.8	
	comp=Z,12nm,0.1s						
ST2N	**ST2**	**0.26**	**160**	⇓*iP*	Pb	20 28 30.6	+0.5
ST2N				*i* S	Sb	20 28 32.7	-1.8
ST2N				IAML		20 28 32.7	
	comp=Z,33nm,0.0s						
ST2N	**ST2**	**0.26**	**160**	⇓*iP*	Pb	20 28 30.6	+0.5
ST2N				*i* S	Sb	20 28 32.6	-1.8
ST2N				IAML		20 28 32.7	
	comp=Z,33nm,0.0s						
ST5N	**ST5**	**0.26**	**115**	*i* P	Pb	20 28 29.7	-0.3
ST5N				*i* S	Sb	20 28 33.8	-0.7
ST5N				IAML		20 28 34.0	
	comp=Z,16nm,0.1s						
ST5N	**ST5**	**0.26**	**115**	⇓*iP*	Pb	20 28 28.8	-1.3
ST5N				*i* S	Sb	20 28 33.8	-0.7
ST5N				IAML		20 28 34.0	
	comp=Z,16nm,0.1s						
ST10N	**ST10**	**0.33**	**199**	⇑*iP*	Pn	20 28 33.0	-0.1
ST10N				*i* S	Sb	20 28 36.5	+0.3
ST10N				IAML		20 28 36.8	
	comp=Z,24nm,0.1s						
ST10N	**ST10**	**0.33**	**199**	⇑*iP*	Pn	20 28 33.0	-0.1
ST10N				*i* S	Sb	20 28 36.6	+0.4
ST10N				IAML		20 28 36.8	
	comp=Z,24nm,0.1s						
ST10N	**ST10**	**0.33**	**199**	⇑*iP*	Pn	20 28 33.0	-0.2
ST10N				*i* S	Sb	20 28 36.4	+0.1
ST10N				IAML		20 28 36.6	
	comp=Z,30nm,0.1s						
ST10N	**ST10**	**0.33**	**199**	⇑*iP*	Pn	20 28 33.0	-0.2
ST10N				*i* S	Sb	20 28 36.4	+0.2
ST10N				IAML		20 28 36.6	
	comp=Z,29nm,0.1s						
ST4N	**ST4**	**0.49**	**116**	⇓*iP*	Pn	20 28 35.4	+0.1
ST4N				IAML		20 28 41.7	
	comp=Z,8.5nm,0.1s						
ST4N	**ST4**	**0.49**	**116**	⇑*iP*	Pn	20 28 35.3	0.0
ST4N	**ST4**	**0.49**	**116**	⇑*iP*	Pn	20 28 35.3	0.0
ST4N				IAML		20 28 41.4	
	comp=Z,12nm,0.1s						

*VAO **26** 20:30:17.8±1.0, 10°.45S×75°.59W, h114km±6km, mb4.2*
*IDC **26** 20:30:18.6±1.7, 10°.23S×75°.80W, h121km±18km, mb3.5/6, mbtmp3.9/9, MS2.5/1, Error ellipse: s-maj=28.1km s-min=10.0km az=75.0*
ISC 26 20:30:16.6±0.6, 10°.24S±0°.06×75°.66W±0°.06, h100km, n23, σ19=63/30, mb3.6/6, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.09**	**214**	P	**Pn**	**20 30 52.7**	**+2.2**
	66nm,0.4s,baz=36,slow=8.4,SNR=44						
NNA				S	**Sn**	**20 31 18.6**	**+2.3**
	520nm,0.3s,baz=308,slow=19,SNR=19						
NNA				LR	LR	20 31 37.8	
	comp=Z,107nm,18.6s,baz=170,slow=39						
CZSB	**Cruzeiro do Su**	**3.84**	**50**	*eP*	**Pn**	**20 31 16.2**	**+2.5**
CZSB				*eS*	**Sn**	**20 32 02.1**	**+4.2**
ATAH	**Atahualpa**	**4.10**	**319**	P	**Pn**	**20 31 19.1**	**+1.6**
	19nm,0.3s,baz=179,slow=6.7,SNR=35						
ATAH				S	**Sn**	**20 32 06.3**	**+1.6**
	14nm,0.3s,baz=135,slow=1.4,SNR=5.5						
ETMB	**Extrema**	**9.31**	**88**	*eP*	**Pn**	**20 32 28.6**	**+0.6**
ETMB	

WB0 Warramunga Arr 13.25 156 Pn 20 36 57.7 -0.8
WRAB Tennant Creek 13.38 156 Pn 20 36 59.6 -0.6
WRA Warramunga Arr 13.39 156 P **Pn 20 37 00.4 +0.1**
WRA Warramunga Arr 13.39 156 P **Pn 20 37 00.0 -0.2**
1.4nm,0.3s,baz=324,slow=14,SNR=37
WRA S **Sn 20 39 23.4 -5.0**
3.8nm,0.4s,baz=334,slow=22,SNR=10
1.4nm,0.3s
WB2 Warramunga Arr 13.39 156 Pn 20 37 00.0 -0.2
WR0 Warramunga Arr 13.48 156 Pn 20 37 00.7 -0.8
COEN Coen 15.53 115 P **P 20 37 30.9 +2.7**
COEN IAmb IAmb 20 37 39.4
comp=Z,5.6nm,0.9s
PSA00 Pilbara Seismi 16.27 211 P 20 37 37.3 +1.0
PSA00 IAmb IAmb 20 38 10.9
comp=Z,20nm,1.3s
AS31 Alice Springs 16.69 163 P **Pn 20 37 43.8 +2.5**
AS31 IAmb IAmb 20 37 45.3
comp=Z,2.8nm,0.6s
ASAR Alice Springs 16.69 163 P **Pn 20 37 44.3 +3.1**
ASAR Alice Springs 16.69 163 P **Pn 20 37 43.6 +2.4**
comp=Z,1.1nm,0.3s,baz=338,slow=10,SNR=104
ASAR S **S 20 40 41.3 -5.6**
comp=Z,1.1nm,0.6s,baz=333,slow=19,SNR=5.4
comp=Z,5.0nm,0.5s
AS01 Alice Springs 16.70 163 P **Pn 20 37 43.6 +2.2**
WRKA Warakurna 17.30 181 P **Pn 20 37 50.9 +2.4**
OOD Oodnadatta 21.10 163 P **P 20 38 31.2 +2.4**
FORT Forrest 23.02 181 P **P 20 38 50.8 +2.9**
FORT IAmb IAmb 20 39 33.1
comp=Z,14nm,1.0s
MORW Morawa 24.42 208 P **P 20 39 02.5 +1.7**
BBOO Buckleboo 25.95 166 P **P 20 39 15.5 +0.9**
BBOO IAmb IAmb 20 39 47.2
comp=Z,18nm,1.4s
STKA Stephens Creek 26.93 155 P **P 20 39 24.4 +1.0**
STKA Stephens Creek 26.93 155 P **P 20 39 25.4 +2.0**
comp=Z,0.6nm,0.5s,baz=0.0,slow=10,SNR=3.4
comp=Z,0.6nm,0.5s
MJAR Matsushiro Arr 44.85 11 P P 20 41 46.2 -9.2
comp=Z,1.3nm,0.9s,baz=199,slow=10,SNR=1.8
comp=Z,1.3nm,0.9s
ASAJ Asahikawa 53.03 12 LR LR 21 02 36.0
comp=Z,30nm,20.4s,baz=204,slow=33
MKAR Makanchi Array 68.07 328 P **P 20 44 37.9 -1.6**
comp=Z,1.0nm,0.6s,baz=123,slow=7.4,SNR=14
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 71.60 334 P **P 20 44 57.6 -3.2**
comp=Z,0.7nm,0.6s,baz=116,slow=6.8,SNR=4.4
comp=Z,0.7nm,0.6s
KURBB Kurchatov Arra 72.40 329 P **P 20 45 03.6 -2.0**
comp=Z,0.8nm,0.5s,baz=125,slow=5.3,SNR=15
comp=Z,0.8nm,0.5s
BVAR Borovoye Array 77.93 328 P **P 20 45 34.9 -2.4**
comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=3.4
comp=Z,0.4nm,0.4s

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*NEIC **26** 20:42:48.9±0.3, 35°.794N±0°.004×97°.19W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.5km az=267.0*
TUL 26 20:42:49±0.4, 35°.796N±0°.008×97°.19W±0°.01, h5km±2km, ML3.0, mb_Lg2.6/66(NEIC), ML2.8/54(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=76.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.20**	**225**		Pg	20 42 53.2	+0.2
ADOK				Sg	Sg	20 42 56.4	+0.7
OK029	**Liberty Lake**	**0.21**	**270**		Pg	20 42 53.5	+0.3
OK029				Sg	Sg	20 42 56.6	+0.6
OK029				IAML		20 42 57.0	
	2μm,0.5s						
OK029				IAML		20 43 00.9	
	1μm,0.5s						
OK031	**S. Brethren Rd**	**0.33**	**61**		Pg	20 42 55.9	+0.5
OK031				Sg	Sg	20 43 00.7	+1.0
OK031				IAML		20 43 00.9	
	1μm,0.2s						
OK052	**Battle Ridge R**	**0.37**	**58**		Pg	20 42 56.7	+0.5
OK052				IAML		20 43 02.4	
	640nm,0.2s						
OK052				IAML		20 43 02.4	
	951nm,0.2s						
QUOK	**Quay**	**0.54**	**46**		Pg	20 42 59.9	+0.4
QUOK				IAML		20 43 07.7	
	comp=E,450nm,0.3s						
QUOK				IAML		20 43 13.7	
	comp=N,460nm,0.3s						
FNO	**Franklin**	**0.56**	**197**		Pg	20 42 59.6	-0.2
FNO				IAML		20 43 08.3	
	comp=E,1μm,0.4s						
FNO				IAML		20 43 08.3	
	comp=N,410nm,0.3s						
DEOK	**Depew**	**0.57**	**85**		Pg	20 43 00.2	+0.2
DEOK				IAML		20 43 08.6	
	comp=E,429nm,0.3s						
DEOK				IAML		20 43 08.9	
	comp=N,653nm,0.3s						
OK048	**Pawnee Station**	**0.65**	**18**		Pg	20 43 01.8	+0.2
OK048				IAML		20 43 13.1	
	comp=N,427nm,0.5s						
OK051	**E0350 and S346**	**0.77**	**22**		Pg	20 43 03.7	0.0
OK051				IAML		20 43 17.0	
	comp=N,522nm,0.2s						
CROK	**Carrier**	**0.95**	**318**		Pg	20 43 07.1	-0.2
CROK				IAML		20 43 22.5	
	comp=N,502nm,0.4s						
CROK				IAML		20 43 23.0	
	comp=E,369nm,0.3s						
BLOK	**Blackwell**	**0.96**	**359**	Pg	Pg	20 43 07.3	-0.2
BLOK				IAML		20 43 25.2	
	comp=E,532nm,0.2s						
TUL3	**Leonard**	**1.15**	**84**	Pg	Pg	20 43 09.9	-1.1
TUL3				IAML		20 43 30.5	
	comp=N,134nm,0.4s						
GC02	**Grant County #**	**1.18**	**333**		Pg	20 43 11.2	-0.5
CSTR	**Hydro, Custer**	**1.23**	**263**		Pg	20 43 12.0	-0.5
OK032	**Salt Plains WL**	**1.30**	**321**		Pn	20 43 13.2	-0.6
X34A	**Smith Ranch, M**	**1.30**	**204**	Pg	Pn	20 43 13.5	-0.3
X34A				IAML		20 43 32.5	
	comp=N,254nm,0.3s						
X34A				IAML		20 43 34.8	
	comp=E,260nm,0.5s						
KAN17	**Caldwell West**	**1.33**	**340**		Pn	20 43 13.8	-0.4
KAN01	**Argonia South**	**1.43**	**342**		Pn	20 43 15.4	-0.2
KAN08	**Anthony NE Sta**	**1.56**	**337**	IAmb_Lg		20 43 38.3	
	comp=Z,26nm,0.7s						
NOKA	**Waynoka**	**1.64**	**301**		Pn	20 43 18.1	-0.3
WMOK	**Wichita Mounta**	**1.67**	**231**		Pn	20 43 18.9	-0.1
LOOK	**Love County**	**1.80**	**180**	IAmb_Lg		20 43 50.0	
	comp=Z,22nm,0.8s						
RLO	**Rose Lookout**	**1.80**	**78**		Pn	20 43 20.7	0.0
ELIS	**Ellis County**	**1.82**	**279**	Pn	Pn	20 43 21.0	-0.1
X37A	**Clayton**	**1.92**	**128**		Pn	20 43 22.6	+0.4
X37A				IAmb_Lg		20 43 54.1	
	comp=Z,31nm,0.8s						
U38A	**Gravette**	**2.36**	**73**		Pn	20 43 27.8	-0.6
SMWD	**Samnorwood**	**2.58**	**255**		Pn	20 43 30.9	-0.6
HHAR	**Hobbs**	**2.68**	**79**		Pn	20 43 32.5	-0.3
R32A	**Long Quarter,**	**2.89**	**336**	Pg	Pg	20 43 43.0	-1.3
PLPT	**Palo Pinto**	**3.12**	**198**		Pb	20 43 46.6	+1.7
MIAR	**Mount Ida**	**3.21**	**112**	IAmb_Lg		20 44 38.1	
	comp=Z,13nm,0.8s						
KSU1	**Kansas State U**	**3.33**	**8**	IAmb_Lg		20 44 38.0	
	comp=Z,22nm,0.8s						
DKNS	**Dickens**	**3.73**	**236**		Pn	20 43 47.5	+0.1
DKNS				IAmb_Lg		20 44 51.0	
	comp=Z,11nm,0.8s						
ABTX	**Abilene, Hawle**	**3.76**	**213**	IAmb_Lg		20 44 53.7	
	comp=Z,15nm,0.9s						
AMTX	**Amarillo**	**3.78**	**257**		Pn	20 43 47.6	-0.4
X40A	**Basin Creek Fa**	**3.80**	**109**	IAmb_Lg		20 44 55.4	
	comp=Z,14nm,0.8s						
WHAR	**Wooly Hollow**	**4.03**	**96**	Pn	Pn	20 43 50.1	-1.2
WHAR				IAmb_Lg		20 45 03.7	
	comp=Z,15nm,1.0s						
SN07	**Snyder 07**	**4.08**	**230**	IAmb_Lg		20 44 59.0	
	comp=Z,12nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.12**	**87**		Pn	20 43 53.2	+0.7
FCAR				IAmb_Lg		20 45 04.5	
	comp=Z,14nm,0.9s						
MGMO	**Mountain Grove**	**4.19**	**70**	IAmb_Lg		20 45 05.2	
	comp=Z,12nm,0.7s						
SN05	**Snyder 5**	**4.22**	**227**	IAmb_Lg		20 45 03.0	
	comp=Z,20nm,0.9s						
POST	**Post**	**4.48**	**234**	IAmb_Lg		20 45 14.9	
	comp=Z,8.7nm,0.8s						
RTBA	**Rita Blanca**	**4.53**	**280**	IAmb_Lg		20 45 22.8	
	comp=Z,10.0nm,0.8s						
R40A	**Maddes Statio**	**4.66**	**56**	Pn	Pn	20 43 59.6	-0.3
R40A				IAmb_Lg		20 45 21.1	
	comp=Z,8.8nm,0.8s						
BRDY	**Brady**	**4.74**	**199**	IAmb_Lg		20 45 22.0	
	comp=Z,16nm,1.1s						
P38A	**Dawn**	**4.80**	**36**	IAmb_Lg		20 45 33.2	
	comp=Z,11nm,0.9s						
LCAR	**Lake Charles**	**4.91**	**85**	IAmb_Lg		20 45 27.4	
	comp=Z,8.2nm,0.9s						
MSTX	**Muleshoe**	**4.93**	**250**	IAmb_Lg		20 45 39.1	
	comp=Z,8.3nm,1.1s						
435B	**Jarrell**	**5.01**	**184**	IAmb_Lg		20 45 41.4	
	comp=Z,14nm,0.8s						
SGCY	**Sterling City**	**5.07**	**221**	IAmb_Lg		20 45 32.0	
	comp=Z,12nm,0.9s						
T42A	**Van Buren**	**5.07**	**74**	IAmb_Lg		20 45 39.8	
	comp=Z,11nm,1.2s						
CCM	**Cathedral Cave**	**5.27**	**63**	IAmb_Lg		20 45 49.8	
	comp=Z,9.8nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.39**	**308**	IAmb_Lg		20 45 41.0	
	comp=Z,14nm,0.9s						
PBMO	**Poplar Bluff**	**5.55**	**78**	IAmb_Lg		20 45 43.0	
	comp=Z,10nm,0.7s						
CGM3	**Cape Girardeau**	**6.25**	**74**	IAmb_Lg		20 46 07.1	
	comp=Z,7.1nm,0.7s						
MNHN	**Monahans**	**6.43**	**228**	IAmb_Lg		20 46 20.3	
	comp=Z,5.8nm,0.9s						
SDCO	**Great Sand Dun**	**6.95**	**289**	IAmb_Lg		20 46 39.1	
	comp=Z,5.4nm,0.9s						
DRIO	**Del Rio**	**6.98**	**205**	IAmb_Lg		20 46 31.7	
	comp=Z,5.4nm,0.7s						
SAND	**Sanderson**	**7.15**	**217**	IAmb_Lg		20 46 51.6	
	comp=Z,7.2nm,0.7s						
N23A	**Red Feather La**	**8.55**	**309**	IAmb_Lg		20 47 36.8	
	comp=Z,7.5nm,0.8s						

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*TAP **26** 20:45:45.7, 24°.95N×122°.32E, h12km, ML3.9, C*
*ASIES **26** 20:45:45.7, 24°.95N×122°.32E, h12km, ML3.9, Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}=0.27; $M_{\theta\theta}$0.22; $M_{\phi\phi}$0.05; $M_{r\theta}$-0.10; $M_{\theta\phi}$0.19; $M_{\phi r}$-1.06; Fault plane solution: $M_0$1.10748×10^{22} NP1:ϕ_s8.98000°, δ84.89000°, λ-100.97000°. NP2:ϕ_s254.29000°, δ12.09000°, λ-25.18000°. Principal axes: T Plg38.9330°, Azm108.9400°; N Plg10.9260°, Azm9.9680°; P Plg48.9760°, Azm267.1490°;*
*IDC **26** 20:45:46.7±4.6, 24°.90N×122°.25E, h22km±29km, mb3.6/11, mbtmp3.7/12, ML3.2/1, MS3.3/9 Error ellipse: s-maj=28.3km s-min=15.4km az=62.0*
*JMA **26** 20:45:46.1±0.1, 24°.9N±0°.6×122°.4E±0°.2, h48km±1km, MV3.4/16, TAIWAN REGION*
ISC 26 20:45:45.5±0.9, 24°.94N±0°.02×122°.37E±0°.02, h17km±6km, n146, σ1$01/209, mb3.7/10, MS3.4/7, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.35**	**282**	*i* P	**Pg**	**20 45 52.7**	**-0.1**
	baz=273						
TWB1				S	**Sg**	**20 45 57.1**	**-0.7**
	baz=273						
EGS		**0.40**	**257**	*e*P	**Pg**	**20 45 53.8**	**0.0**
	baz=254						
EGS				S	**Sg**	**20 45 57.7**	**-1.7**
	baz=254						
SXI1	**Grass Mountain**	**0.47**	**289**	*i* P	**Pb**	**20 45 55.5**	**0.0**
	baz=284						
SXI1				S	**Sb**	**20 46 01.5**	**-0.7**
	baz=284						
TIPB	**Shuangxi**	**0.49**	**274**	P	**Pg**	**20 45 55.4**	**0.0**
	baz=274						
TIPB				S	**Sb**	**20 46 01.8**	**-1.0**
	baz=274						
NTC	**Toucheng**	**0.49**	**260**	*e*P	**Pb**	**20 45 55.5**	**-0.3**
	baz=259						
EOS2	**EOS2**	**0.53**	**193**	*e*P	**Pb**	**20 45 56.9**	**+0.6**
	baz=211						
EOS2				*e*S	**Sb**	**20 46 05.3**	**+1.6**
	baz=211						
NWF	**Wu-fen Shan**	**0.55**	**284**	P	**Pb**	**20 45 56.9**	**+0.1**
	baz=284						
NWF				*i* S	**Sb**	**20 46 04.4**	**+0.1**
	baz=284						
WFSB	**Wu-fen Shan**	**0.55**	**284**	⇑P	**Pb**	**20 45 56.8**	**+0.1**
	baz=284						
WFSB				*i* S	**Sb**	**20 46 04.6**	**+0.4**
	baz=284						
TWC	**Suao**	**0.57**	**235**	*i* P	**Pg**	**20 45 56.4**	**-0.5**
	baz=231						
TWC				*e*S	**Sg**	**20 46 03.9**	**-0.6**
	baz=231						
TNOU	**National Taiwa**	**0.58**	**292**	⇑*i*P	**Pb**	**20 45 57.2**	**0.0**
	baz=292						
TNOU				*e*S	**Sb**	**20 46 04.9**	**-0.3**
	baz=292						
ILA	**Ilan**	**0.59**	**253**	*e*P	**Pb**	**20 45 57.6**	**+0.2**
	baz=237						
ILA				*e*S	**Sb**	**20 46 06.1**	**+0.7**
	baz=237						
ESAO	**Su ao**	**0.60**	**233**	*e*P	**Pg**	**20 45 57.0**	**-0.3**
	baz=230						
ESAO				*e*S	**Sg**	**20 46 04.8**	**-0.5**
	baz=230						
EOS3	**EOS3**	**0.65**	**184**	P	**Pb**	**20 45 59.2**	**+0.8**
	baz=175						
EOS3				S	**Sb**	**20 46 09.1**	**+2.0**
	baz=175						
NDS	**Dongshan**	**0.66**	**243**	*e*P	**Pg**	**20 45 58.4**	**-0.2**
	baz=231						
NDS				*e*S	**Sn**	**20 46 08.9**	**-1.4**
	baz=231						
TWE	**Neicheng**	**0.67**	**251**	*e*P	**Pg**	**20 45 58.4**	**-0.3**
	baz=237						
TWE				*e*S	**Sb**	**20 46 08.0**	**+0.2**
	baz=237						
TWA	**Mucha**	**0.71**	**274**	*e*P	**Pb**	**20 45 59.5**	**0.0**
	baz=273						
TWA				S	**Sn**	**20 46 09.5**	**-2.0**
	baz=273						
JYNG	**Yonagunijimaku**	**0.72**	**132**	*i* P	**Pb**	**20 45 59.8**	**+0.2**
JYNG				S	**Sb**	**20 46 09.8**	**+0.7**
EWUT	**Wuta**	**0.73**	**228**	*e*P	**Pg**	**20 45 59.5**	**-0.3**
	baz=225						
EWUT				*e*S	**Sg**	**20 46 08.7**	**-0.6**
	baz=225						
FUSB	**Fushanzhiwuyua**	**0.73**	**256**	*e*P	**Pg**	**20 45 59.6**	**-0.2**
	baz=255						
FUSB				*e*S	**Sn**	**20 46 10.1**	**-1.9**
	baz=255						
PCYT	**Pengchaiyu**	**0.74**	**339**	*e*P	**Pb**	**20 46 00.5**	**+0.5**
	baz=324						
PCYT				*e*S	**Sb**	**20 46 11.1**	**+1.3**
	baz=324						
YM08	**YM08**	**0.75**	**290**	P	**Pb**	**20 46 00.5**	**+0.4**
	baz=290						
YM08				*e*S	**Sb**	**20 46 10.1**	**0.0**
	baz=290						
YOJ	**Yonaguni jima**	**0.76**	**129**	P	**Pb**	**20 46 00.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.76**	**129**	*i* P	**Pb**	**20 46 00.5**	**+0.2**
	baz=116						
YOJ				*i* S	**Sb**	**20 46 11.4**	**+1.1**
	baz=116						
YOJ	**Yonaguni jima**	**0.76**	**129**	*i* P	**Pb**	**20 46 00.3**	**+0.1**
YOJ				S	**Sb**	**20 46 10.6**	**+0.3**
ENA	**Nanau**	**0.76**	**228**	*e*P	**Pb**	**20 45 60.0**	**-0.4**
	baz=217						
ENA				*e*S	**Sg**	**20 46 09.5**	**-1.0**
	baz=217						
NHDH	**Xindian Distri**	**0.76**	**272**	*i* P	**Pn**	**20 46 01.2**	**-0.4**
	baz=272						
NHDH				*i* S	**Sn**	**20 46 11.2**	**-1.5**
	baz=272						
TWY	**Chenhua**	**0.77**	**296**	P	**Pg**	**20 46 01.2**	**+0.6**
	baz=297						
TWY				*i* S	**Sn**	**20 46 11.6**	**-1.3**
	baz=297						
ENTT	**Nioudou**	**0.79**	**248**	*e*P	**Pb**	**20 46 00.7**	**-0.1**
	baz=236						
ENTT				*e*S	**Sn**	**20 46 12.3**	**-1.0**
	baz=236						
TAP	**Taipei**	**0.79**	**278**	P	**Pn**	**20 46 01.6**	**-0.3**
	baz=277						
TAP				*i* S	**Sn**	**20 46 12.1**	**-1.2**
	baz=277						
TATO	**Taipei**	**0.80**	**273**	P	**Pn**	**20 46 01.7**	**-0.3**
NWLT	**Wulai**	**0.80**	**259**	*e*P	**Pg**	**20 46 01.3**	**+0.1**
	baz=257						
NWLT				S	**Sg**	**20 46 11.2**	**-0.5**
	baz=257						
ANP	**Anpu**	**0.81**	**288**	*i* P	**Pg**	**20 46 01.7**	**+0.4**
	baz=275						
ANP				*i* S	**Sn**	**20 46 12.4**	**-1.5**
	baz=275						
EOS4	**EOS4**	**0.81**	**183**	*i* P	**Pg**	**20 46 02.1**	**+0.7**
	baz=180						
EOS4				*e*S	**Sn**	**20 46 13.7**	**+0.2**
	baz=180						
EAHA	**Aohua**	**0.83**	**223**	*i* P	**Pb**	**20 46 01.6**	**0.0**
	baz=221						
EAHA				*i* S	**Sg**	**20 46 12.9**	**+0.2**
	baz=221						
NDT	**Datong Townshi**	**0.84**	**247**	*e*P	**Pg**	**20 46 01.8**	**-0.2**
	baz=245						
NDT				*e*S	**Sg**	**20 46 13.2**	**0.0**
	baz=245						
NTST	**Danshui**	**0.86**	**285**	*e*P	**Pn**	**20 46 02.8**	**-0.1**
	baz=286						
NTST				*e*S	**Sn**	**20 46 14.5**	**-0.6**
	baz=286						
LATG	**Datong**	**0.86**	**242**	*i* P	**Pg**	**20 46 02.2**	**-0.1**
	baz=228						
LATG				*e*S	**Sn**	**20 46 14.3**	**-1.1**
	baz=228						
TWS1	**Kuangyinshan**	**0.88**	**281**	*e*P	**Pn**	**20 46 03.1**	**0.0**
	baz=281						
TWS1				*i* S	**Sn**	**20 46 14.9**	**-0.6**
	baz=281						
YHNB	**Yeheng**	**0.94**	**254**	P	**Pg**	**20 46 03.7**	**-0.1**
YHNB	**Yeheng**	**0.94**	**254**	*e*P	**Pg**	**20 46 03.5**	**-0.3**
	baz=268						
YHNB				*e*S	**Sg**	**20 46 15.7**	**-0.4**
	baz=268						
NNSB	**Datong**	**1.03**	**241**	*i* P	**Pg**	**20 46 05.2**	**-0.3**
	baz=228						
NNSB				S	**Sn**	**20 46 18.7**	**-0.7**
	baz=228						
ETL	**Fush Village**	**1.03**	**221**	*e*P	**Pb**	**20 46 04.9**	**-0.1**
	baz=219						
NNS	**Nan Shan**	**1.03**	**241**	*e*P	**Pb**	**20 46 05.1**	**0.0**
	baz=229						
NNS				*e*S	**Sg**	**20 46 18.5**	**-0.6**
	baz=229						
NACB	**Ninganchiao**	**1.04**	**223**	P	**Pb**	**20 46 05.2**	**+0.2**
NACB	**Ninganchiao**	**1.04**	**223**	*e*P	**Pb**	**20 46 04.7**	**-0.4**
	baz=221						
NACB				*i* S	**Sg**	**20 46 18.3**	**-0.8**
	baz=221						
NCUH	**Zhongli**	**1.07**	**272**	*e*P	**Pg**	**20 46 06.3**	**0.0**
	baz=272						
NCUH				*e*S	**Sn**	**20 46 20.1**	**-0.3**
	baz=272						
ETLH	**Xiulin Townshi**	**1.08**	**228**	P	**Pg**	**20 46 06.4**	**-0.1**
	baz=216						
ETLH				*e*S	**Sn**	**20 46 20.6**	**-0.2**
	baz=216						
TWD	**Chiawan**	**1.10**	**220**	*e*P	**Pn**	**20 46 06.5**	**+0.3**
	baz=217						
TWD				*e*S	**Sg**	**20 46 21.4**	**+0.1**
	baz=217						
NFF	**Wufeng Townshi**	**1.17**	**255**	*i* P	**Pn**	**20 46 07.4**	**+0.1**
	baz=267						
NFF				*i* S	**Sg**	**20 46 23.2**	**-0.4**
	baz=267						
HWA	**Hwalien**	**1.18**	**216**	*e*P	**Pb**	**20 46 08.1**	**+0.6**
	baz=214						
ETM	**Tongmen**	**1.25**	**220**	*e*P	**Pb**	**20 46 09.2**	**+0.4**
	baz=218						
LXIB	**Xiulin Townshi**	**1.26**	**224**	*e*P	**Pb**	**20 46 09.1**	**+0.1**
	baz=222						
LIOB	**Emei**	**1.26**	**257**	*e*P	**Pb**	**20 46 08.8**	**-0.1**
	baz=256						
LIOB				*e*S	**Sn**	**20 46 24.8**	**-0.2**
	baz=256						
SBCB	**Hsinchu**	**1.26**	**264**	*e*P	**Pb**	**20 46 08.6**	**-0.3**
	baz=282						
SBCB				S	**Sg**	**20 46 25.1**	**-1.2**
	baz=282						
TEYL	**Yanliau Villag**	**1.27**	**213**	*e*P	**Pb**	**20 46 09.4**	**+0.3**
	baz=213						
WHF	**Hehuan Shan**	**1.28**	**232**	*e*P	**Pn**	**20 46 09.2**	**+0.2**
	baz=230						
WHF				*e*S	**Sb**	**20 46 25.1**	**-0.6**
	baz=230						
NSTT	**Nanjuang**	**1.28**	**256**	*e*P	**Pb**	**20 46 09.0**	**-0.2**
	baz=256						
NSTT				*e*S	**Sn**	**20 46 25.1**	**-0.3**
	baz=256						
TWT	**Tachien**	**1.28**	**238**	*i* P	**Pg**	**20 46 09.8**	**-0.4**
	baz=227						
TWT				*e*S	**Sg**	**20 46 27.6**	**+0.6**
	baz=227						
TDCB	**Techi**	**1.29**	**238**	*e*P	**Pb**	**20 46 09.9**	**+0.4**
	baz=227						
TDCB				*e*S	**Sn**	**20 46 25.5**	**-0.5**
	baz=227						
SHUL	**Shoufeng**	**1.36**	**213**	*e*P	**Pb**	**20 46 10.8**	**+0.2**
	baz=193						
SHUL				*e*S	**Sb**	**20 46 28.1**	**+0.4**
	baz=193						
IRIF	**Iriomote-Funau**	**1.38**	**116**	P	**Pn**	**20 46 09.1**	**-1.0**
CHGB	**Renai**	**1.39**	**231**	*e*P	**Pg**	**20 46 11.9**	**-0.5**
	baz=230						
CHGB				*e*S	**Sb**	**20 46 28.6**	**-0.2**
	baz=230						
ESL	**Shilin**	**1.41**	**217**	*e*P	**Pn**	**20 46 10.9**	**+0.5**
	baz=218						
ESL				*e*S	**Sg**	**20 46 29.7**	**-1.3**
	baz=218						
WHP	**Taichung City**	**1.45**	**243**	*e*P	**Pb**	**20 46 12.5**	**+0.4**
	baz=233						
OWD	**Renai**	**1.46**	**228**	*e*P	**Pb**	**20 46 12.8**	**+0.4**
	baz=235						
OWD				*e*S	**Sb**	**20 46 30.7**	**0.0**
	baz=235						
WUSB	**Renai**	**1.48**	**231**	*i* P	**Pb**	**20 46 13.1**	**+0.4**
	baz=229						
WUSB				*e*S	**Sb**	**20 46 31.1**	**-0.1**
	baz=229						
WARBT	**Fenglin Townsh**	**1.51**	**217**	*e*P	**Pn**	**20 46 12.2**	**+0.4**
	baz=232						
WARBT				*e*S	**Sn**	**20 46 30.8**	**-0.3**
	baz=232						
NSY	**Sanyi**	**1.55**	**251**	*e*P	**Pg**	**20 46 15.6**	**+0.3**
	baz=267						
TWQ1	**Liyutan**	**1.56**	**248**	*e*P	**Pg**	**20 46 15.5**	**-0.1**
	baz=264						
HATJ	**Hateruma jima**	**1.58**	**124**	*e*P	**Pn**	**20 46 12.5**	**-0.2**
WCS	**Beigang Elemen**	**1.59**	**237**	*e*P	**Pg**	**20 46 15.4**	**-0.7**
	baz=221						
VWDT	**VWDT**	**1.62**	**224**	*e*P	**Pb**	**20 46 15.3**	**+0.2**
	baz=224						
JKRS	**Kuro-shima**	**1.65**	**115**	P	**Pn**	**20 46 13.2**	**-0.6**
HGSD	**Ruisui**	**1.68**	**211**	*e*P	**Pn**	**20 46 14.8**	**+0.7**
	baz=195						
SMLT	**Sun Moon Lake**	**1.70**	**232**	*e*P	**Pb**	**20 46 16.7**	**+0.3**
	baz=214						
EHYH	**Wanrong**	**1.71**	**213**	*e*P	**Pn**	**20 46 14.8**	**+0.1**
	baz=213						
EHY	**Hungye**	**1.71**	**214**	*e*P	**Pn**	**20 46 14.7**	**0.0**
	baz=212						
JIJ	**Ishigaki jima**	**1.72**	**109**	*e*P	**Pn**	**20 46 14.0**	**-0.7**
TYC	**Yuchr**	**1.72**	**233**	*e*P	**Pb**	**20 46 17.1**	**+0.4**
	baz=232						
SSLB	**Suanglung**	**1.72**	**229**	P	**Pb**	**20 46 16.7**	**-0.1**
SSLB	**Suanglung**	**1.72**	**229**	*i* P	**Pb**	**20 46 16.9**	**+0.1**
	baz=227						
SSLB				*e*S	**Sb**	**20 46 38.5**	**+0.2**
	baz=227						
JISG	**Ishigakijimahi**	**1.80**	**101**	P	**Pn**	**20 46 15.2**	**-0.6**
JISG				S	**Sn**	**20 46 35.3**	**-3.1**

baz=212
WNT Mingjian 1.86 236 *e*P **Pb 20 46 19.2 +0.1**
baz=236
WJS Zhushan 1.86 234 *e*P **Pb 20 46 20.1 +1.0**
WJS baz=236 *e*S **Sg 20 46 44.8 -0.7**
CHKH Chenggong 1.95 207 *e*P **Pn 20 46 18.2 +0.3**
baz=188
FULB Fuli 1.99 210 *e*P **Pn 20 46 19.2 +0.7**
baz=190
CHN5 Tsauling 2.04 229 *e*P **Pb 20 46 21.9 -0.3**
CHN5 baz=231 *e*S **Sg 20 46 48.7 -2.5**
CHKT Chengkung 2.05 207 *e*P **Pn 20 46 19.7 +0.4**
baz=188
EHD Haiduan 2.07 211 *e*P **Pn 20 46 21.1 +1.5**
baz=211
WDLH Douliu 2.08 234 *e*P **Pb 20 46 22.5 -0.3**
baz=234
WRL Guolierlin Hig 2.09 241 *e*P **Pn 20 46 21.3 +1.5**
baz=256
ECS Chishang 2.11 210 *e*P **Pn 20 46 20.9 +0.7**
baz=210
ELDTW Lidau 2.13 216 *e*P **Pn 20 46 20.6 0.0**
ELDTW baz=200 *e*S **Sn 20 46 47.4 +0.7**
JTJ Tarama 2.14 97 *e*P **Pn 20 46 19.9 -0.7**
WCKO Fanlu 2.19 227 *e*P **Pb 20 46 24.0 -0.8**
WCKO baz=230 *e*S **Sg 20 46 53.7 -2.5**
CHN2 Minshiung 2.22 231 *e*P **Pb 20 46 25.3 0.0**
baz=249
TPUB Ta-pu 2.27 225 P **Pb 20 46 25.1 -1.1**
TPUB Ta-pu 2.27 225 *e*P **Pb 20 46 25.1 -1.1**
baz=208
STYH Taoyuan 2.28 220 *e*P **Pb 20 46 24.7 -1.6**
baz=204
LONT Longtian 2.32 209 *e*P **Pn 20 46 22.9 0.0**
baz=210
WTP Ta-pu 2.32 224 *e*P **Pb 20 46 25.7 -1.4**
baz=225
TWK Hsinying 2.39 226 *e*P **Pb 20 46 27.2 -1.0**
baz=227
LDUT Ludao 2.40 200 *e*P **Pn 20 46 23.8 -0.3**
LDUT baz=198 *e*S **Sn 20 46 52.2 -0.9**
SNST Tainan City 2.42 225 *e*P **Pb 20 46 27.4 -1.3**
baz=227
TWGBT Beinan 2.42 209 P **Pn 20 46 24.3 0.0**
TWGBT Beinan 2.42 209 *e*P **Pn 20 46 23.7 -0.7**
baz=210
TWG Pinlang 2.42 210 *e*P **Pn 20 46 24.2 -0.1**
baz=210
CHN1 Nanshi 2.42 224 *e*P **Pb 20 46 27.1 -1.7**
baz=226
SGST Jiashian 2.46 222 *e*P **Pn 20 46 26.9 +1.9**
baz=223
ICHU Yijhu 2.47 231 *e*P **Pb 20 46 27.6 -1.9**
baz=232
SLGT Liugui 2.50 219 P **Pb 20 46 28.2 -1.7**
baz=222
SLGT baz=222 *e*S **Sb 20 46 59.5 -0.9**
MATB Ma-tsu 2.50 299 *e*P **Pn 20 46 25.1 -0.3**
baz=299
JIRB Irabujima 2.55 92 *e*P **Pn 20 46 24.0 -2.2**
ECL Taimali 2.67 209 *e*P **Pn 20 46 28.2 +0.5**
baz=209
SCST Cishan 2.67 220 *e*P **Pb 20 46 30.6 -2.3**
baz=222
JMJ2 Miyako jima3 2.70 94 *e*P **Pn 20 46 26.6 -1.6**
TSMG Majia 2.73 216 *e*P **Pn 20 46 30.9 +2.3**
baz=199
MASBT Mashibuluo 2.81 215 *e*P **Pn 20 46 31.4 +1.6**
baz=216
LYJJ Jianjiangzhen 2.84 305 *e*P **Pn 20 46 30.1 -0.1**
baz=304
EAST Anshuo 2.90 209 *e*P **Pn 20 46 32.0 +1.0**
baz=195
PTMZ Houxiangcun 2.95 273 *e*P **Pn 20 46 31.1 -0.5**
baz=273
LYUB Lan-yu 3.01 194 *e*P **Pn 20 46 30.5 -2.0**
baz=192
JOW Kunigami 5.65 69 Pn **Pn 20 47 11.6 +2.8**
1.4nm,0.3s,baz=100,slow=24,SNR=2.1
JOW Sn **Sn 20 48 07.5 -5.8**
0.3nm,0.3s,baz=44,slow=22,SNR=1.7
3.8nm,0.4s
KSRS Korea Array 13.35 20 Pn **Pn 20 48 58.9 +4.6**
0.1nm,0.3s,baz=190,slow=12,SNR=1.8
KSRS LR LR 20 54 43.8
comp=Z,56nm,18.8s,baz=205,slow=40
DAV Davao City (W) 18.03 170 LR LR 20 56 31.7
comp=Z,64nm,21.3s,baz=2.0,slow=36
USRK Ussuriysk Ar. 20.76 20 P **P 20 50 24.6 -0.9**
0.7nm,0.7s,baz=208,slow=12,SNR=1.8
USRK LR LR 20 58 39.6
comp=Z,32nm,21.2s,baz=140,slow=37
0.7nm,0.7s
CMAR Chiang Mai Arr 22.68 258 P **P 20 50 44.6 -1.8**
0.4nm,0.3s,baz=70,slow=7.8,SNR=2.5
0.4nm,0.3s
KLR Kul'dur 25.34 14 LR LR 21 01 17.1
comp=Z,61nm,18.9s,baz=209,slow=37
SONM Songjino Array 26.12 335 P **P 20 51 19.6 +0.9**
0.8nm,0.6s,baz=144,slow=8.4,SNR=4.3
SONM LR LR 21 01 08.4
comp=Z,69nm,20.0s,baz=210,slow=35
0.8nm,0.6s
MKAR Makanchi Array 38.56 315 P **P 20 53 07.7 +0.2**
1.2nm,0.7s,baz=101,slow=10,SNR=12
1.2nm,0.7s
ZALV Zalesovo Beam 40.21 326 P **P 20 53 20.8 -0.3**
0.8nm,0.5s,baz=95,slow=8.8,SNR=5.4
0.8nm,0.5s
KURBB Kurchatov Arra 42.24 319 P **P 20 53 37.8 0.0**
0.9nm,1.0s,baz=114,slow=9.6,SNR=4.7
0.9nm,1.0s
AAK Ala-Archa 42.91 307 LR LR 21 13 44.3
comp=Z,82nm,19.0s,baz=166,slow=39
WRA Warramunga Arr 46.11 164 P **P 20 54 09.2 +0.2**
2.3nm,0.7s,baz=346,slow=8.4,SNR=24
WRA PcP **PcP 20 55 44.8 -0.4**
0.8nm,0.6s,baz=345,slow=3.5,SNR=9.1
2.3nm,0.7s
BVAR Borovoye Array 47.78 320 P **P 20 54 21.5 -0.3**
0.6nm,0.5s,baz=111,slow=8.3,SNR=3.8
0.6nm,0.5s
ASAR Alice Springs 49.59 166 P **P 20 54 36.5 +0.4**
0.9nm,0.7s,baz=344,slow=7.4,SNR=12
ASAR PcP **PcP 20 55 57.4 -0.2**
0.9nm,0.7s,baz=342,slow=2.7,SNR=6.2
ASAR ScP **ScP 20 59 51.3 -1.1**
0.5nm,1.0s,baz=348,slow=8.5,SNR=2.7
0.9nm,0.7s
FINES FINESS Array B 71.34 330 P **P 20 57 04.9 +0.7**
0.8nm,0.8s,baz=41,slow=4.4,SNR=1.7
FINES LR LR 21 31 36.6
comp=Z,76nm,18.9s,baz=118,slow=39
0.8nm,0.8s
BRTR Keskin Array B 73.59 307 P **P 20 57 18.0 -0.2**
0.4nm,0.7s,baz=144,slow=5.4,SNR=2.4
0.4nm,0.7s
HFS Hagfors 77.43 331 LR LR 21 36 17.6
comp=Z,41nm,18.0s,baz=76,slow=39
NOA NORSAR Array B 78.06 332 LR LR 21 34 11.7
comp=Z,18nm,20.1s,baz=250,slow=37

NEIC ***26*** *21:02:00.6±0.8, 36°.439N×0°.007×98°.77W±0°.03, h5km±1km, Error ellipse: s-maj=3.8km s-min=2.9km az=277.0*
TUL 26 21:02:00.9±0.8, 36°.45N±0°.02×98°.78W±0°.03, h8km±5km, ML3.3, mb_Lg3.0/95(NEIC), ML3.2/14(NEIC), Error ellipse: s-maj=3.2km s-min=2.1km az=119.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.04**	**43**		Pg	21 02 02.8	+0.2
U32A	**Winter Ranch,**	**0.19**	**250**	Pg	Pg	21 02 05.0	+0.2
U32A				IAML		21 02 08.6	
	comp=N,7μm,0.4s						
NOKA	**Waynoka**	**0.23**	**327**	Pg	Pg	21 02 05.8	+0.4
NOKA				IAML		21 02 09.7	
	comp=N,8μm,0.3s						
OK032	**Salt Plains WL**	**0.58**	**52**	Pg	Pg	21 02 12.2	+0.1
OK032				IAML		21 02 20.5	
	comp=N,1μm,0.3s						
OK032				IAML		21 02 25.6	
	comp=N,1μm,0.2s						
ELIS	**Ellis County**	**0.64**	**234**	Pg	Pg	21 02 13.4	+0.1
ELIS				IAML		21 02 23.1	
	comp=N,1μm,0.5s						
CROK	**Carrier**	**0.64**	**85**	Pg	Pg	21 02 13.2	-0.1
CROK				IAML		21 02 22.8	
	comp=N,1μm,0.4s						
CROK				IAML		21 02 31.1	
	comp=E,1μm,0.2s						
CSTR	**Hydro, Custer**	**0.80**	**175**	Pg	Pg	21 02 16.2	-0.1
KAN14	**Manchester OK**	**0.83**	**52**		Pg	21 02 16.6	-0.3
GC02	**Grant County #**	**0.84**	**61**		Pg	21 02 16.8	-0.3
KAN05	**Bluff City Nor**	**0.98**	**47**		Pg	21 02 18.2	-1.6
KAN17	**Caldwell West**	**1.01**	**53**		Pg	21 02 19.8	-0.5
KAN08	**Anthony NE Sta**	**1.01**	**40**		Pg	21 02 19.5	-0.8
KAN12	**Harper NE Stat**	**1.05**	**36**		Pg	21 02 20.6	-0.6
KAN01	**Argonia South**	**1.08**	**49**	Pg	Pg	21 02 21.3	-0.4
KAN09	**Caldwell North**	**1.16**	**53**		Pg	21 02 22.6	-0.6
KAN13	**South Haven SW**	**1.19**	**61**		Pb	21 02 22.8	-0.9
KS21	**Milan North St**	**1.23**	**47**		Pb	21 02 22.5	-1.9
KS21					Sg	21 02 40.0	-0.4
OK029	**Liberty Lake**	**1.25**	**121**		Pn	21 02 23.9	-0.8
BLOK	**Blackwell**	**1.30**	**76**		Pn	21 02 24.2	-1.1
ADOK	**Arcadia Dam**	**1.39**	**124**		Pn	21 02 26.0	-0.6
OK048	**Pawnee Station**	**1.48**	**91**		Pn	21 02 27.7	-0.2
OKCSW	**OKLAHOMA CITY**	**1.50**	**133**		Pn	21 02 28.4	+0.2
OK051	**E0350 and S346**	**1.57**	**87**		Pn	21 02 29.5	+0.4
FNO	**Franklin**	**1.63**	**136**	Pg	Pn	21 02 29.7	-0.3
OK031	**S. Brethren Rd**	**1.64**	**107**		Pn	21 02 30.1	-0.1
OK052	**Battle Ridge R**	**1.66**	**105**		Pn	21 02 30.8	+0.5
QUOK	**Quay**	**1.69**	**99**		Pn	21 02 31.4	+0.5
WMOK	**Wichita Mounta**	**1.71**	**180**	Pn	Pn	21 02 30.5	-0.5
SMWD	**Samnorwood**	**1.79**	**222**		Pn	21 02 32.6	+0.5
T35A	**Sooner Cattle**	**1.88**	**75**		Pn	21 02 32.8	-0.6
DEOK	**Depew**	**1.94**	**107**		Pn	21 02 34.0	-0.2
R32A	**Long Quarter,**	**1.97**	**2**		Pn	21 02 35.3	+0.6
R32A				Sg	Sb	21 03 02.9	+1.0
X34A	**Smith Ranch, M**	**2.00**	**157**		Pn	21 02 35.3	+0.3
X34A				Sg	Sb	21 03 03.6	+1.1
TUL3	**Leonard**	**2.48**	**102**		Pn	21 02 41.5	0.0
TUL3				IAmb_Lg		21 03 17.6	
	comp=Z,37nm,0.9s						
CBKS	**Cedar Bluff**	**2.48**	**342**		Pn	21 02 42.4	+0.7
WTFS	**Witchita Falls**	**2.69**	**174**	Pn	Pn	21 02 44.4	0.0
LOOK	**Love County**	**2.78**	**151**		Pn	21 02 41.3	-4.4
LOOK				IAmb_Lg		21 03 32.6	
	comp=Z,42nm,0.7s						
AMTX	**Amarillo**	**2.83**	**237**		Pn	21 02 47.1	+0.5
AMTX					Sb	21 03 28.4	+1.8
RLO	**Rose Lookout**	**3.05**	**94**		Pn	21 02 47.3	-2.2
RLO				IAmb_Lg		21 03 45.4	
	comp=Z,31nm,0.8s						
KSU1	**Kansas State U**	**3.16**	**32**		Pn	21 02 49.9	-1.0
KSU1				IAmb_Lg		21 03 42.7	
	comp=Z,43nm,1.0s						
RTBA	**Rita Blanca**	**3.19**	**271**		Pn	21 02 52.1	+0.6
DKNS	**Dickens**	**3.28**	**213**		Pn	21 02 53.1	+0.4
DKNS				IAmb_Lg		21 03 51.0	
	comp=Z,29nm,0.7s						
APMT	**Aspermont**	**3.30**	**200**		Pn	21 02 54.2	+1.2
X37A	**Clayton**	**3.34**	**123**		Pn	21 02 52.7	-0.7
Z35A	**Perchaven, San**	**3.35**	**158**		Pn	21 02 50.4	-3.2
FW03	**Perrin-Whitt E**	**3.45**	**170**		Pn	21 02 51.5	-3.5
U38A	**Gravette**	**3.54**	**89**		Pb	21 03 04.4	+0.6
U38A				IAmb_Lg		21 04 00.2	
	comp=Z,33nm,0.7s						
PLPT	**Palo Pinto**	**3.65**	**174**	IAmb_Lg		21 03 59.2	
	comp=Z,25nm,1.2s						
SN07	**Snyder 07**	**3.77**	**208**	IAmb_Lg		21 04 08.0	
	comp=Z,42nm,1.1s						
SN05	**Snyder 5**	**3.96**	**207**	IAmb_Lg		21 04 07.9	
	comp=Z,42nm,0.8s						
POST	**Post**	**4.05**	**214**	IAmb_Lg		21 04 10.6	
	comp=Z,35nm,1.0s						
MSTX	**Muleshoe**	**4.10**	**234**	IAmb_Lg		21 04 16.1	
	comp=Z,36nm,0.9s						
FW14	**Alvarado**	**4.25**	**162**	IAmb_Lg		21 04 19.9	
	comp=Z,22nm,0.8s						
FW16	**Waxahatchie**	**4.25**	**158**	IAmb_Lg		21 04 17.1	
	comp=Z,32nm,0.8s						
Z38A	**Mt. Pleasant**	**4.45**	**134**	IAmb_Lg		21 04 24.7	
	comp=Z,36nm,0.9s						
S39A	**Bolivar**	**4.54**	**72**	IAmb_Lg		21 04 33.7	
	comp=Z,33nm,0.7s						
T25A	**Trinidad**	**4.57**	**280**	IAmb_Lg		21 04 31.0	
	comp=Z,41nm,0.8s						
SGCY	**Sterling City**	**4.92**	**204**	IAmb_Lg		21 04 46.3	
	comp=Z,23nm,0.9s						
BGNE	**Belgrade**	**4.98**	**5**	IAmb_Lg		21 04 49.1	
	comp=Z,31nm,0.8s						
237A	**Washetta, Mont**	**5.07**	**150**	IAmb_Lg		21 04 54.3	
	comp=Z,23nm,0.8s						
P38A	**Dawn**	**5.22**	**51**	IAmb_Lg		21 04 57.2	
	comp=Z,27nm,0.9s						
X40A	**Basin Creek Fa**	**5.23**	**110**	IAmb_Lg		21 04 55.8	
	comp=Z,20nm,0.9s						
MGMO	**Mountain Grove**	**5.27**	**80**	IAmb_Lg		21 04 52.0	
	comp=Z,18nm,0.8s						
WHAR	**Wooly Hollow**	**5.39**	**100**	IAmb_Lg		21 05 00.3	
	comp=Z,20nm,0.8s						
WLAR	**White Oak Lake**	**5.40**	**119**	IAmb_Lg		21 05 07.3	
	comp=Z,27nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.41**	**94**	IAmb_Lg		21 04 57.0	
	comp=Z,22nm,0.8s						
UALR	**University of**	**5.50**	**106**	IAmb_Lg		21 05 08.4	
	comp=Z,17nm,0.8s						
R40A	**Maddies Statio**	**5.50**	**69**	IAmb_Lg		21 05 03.1	
	comp=Z,28nm,0.8s						
SDCO	**Great Sand Dun**	**5.53**	**286**	IAmb_Lg		21 05 06.5	
	comp=Z,16nm,1.0s						
Q24A	**Divide**	**5.64**	**298**	IAmb_Lg		21 05 00.5	
	comp=Z,34nm,1.1s						
435B	**Jarrell**	**5.74**	**170**	IAmb_Lg		21 05 15.6	
	comp=Z,26nm,0.8s						
BRIGG	**Briggsdale**	**5.99**	**315**	IAmb_Lg		21 05 20.6	
	comp=Z,24nm,0.8s						
T42A	**Van Buren**	**6.20**	**82**	IAmb_Lg		21 05 28.7	
	comp=Z,13nm,0.7s						
ISCO	**Idaho Springs**	**6.34**	**304**	IAmb_Lg		21 05 27.0	
	comp=Z,16nm,1.0s						
PBMO	**Poplar Bluff**	**6.72**	**85**	IAmb_Lg		21 05 45.7	
	comp=Z,24nm,0.8s						
FVM	**French Village**	**6.84**	**75**	IAmb_Lg		21 05 39.0	
	comp=Z,17nm,0.7s						
PHWY	**Pilot Hill**	**7.12**	**315**	IAmb_Lg		21 05 46.4	
	comp=Z,17nm,0.8s						
SLM	**Saint Louis**	**7.13**	**70**	IAmb_Lg		21 05 49.2	
	comp=Z,27nm,0.7s						
CGM3	**Cape Girardeau**	**7.36**	**81**	IAmb_Lg		21 05 53.8	
	comp=Z,12nm,0.9s						
S44A	**Carbondale**	**7.71**	**78**	IAmb_Lg		21 06 23.1	
	comp=Z,16nm,0.8s						
O20A	**White River Ci**	**8.30**	**299**	IAmb_Lg		21 06 46.0	
	comp=Z,10nm,1.3s						
RWWY	**Rawlins**	**8.39**	**311**	IAmb_Lg		21 06 28.4	
	comp=Z,13nm,1.0s						
I37A	**Leond, Waseca**	**8.60**	**27**	IAmb_Lg		21 06 50.9	
	comp=Z,14nm,0.7s						
K22A	**Casper**	**8.61**	**318**	IAmb_Lg		21 06 43.5	
	comp=Z,16nm,0.9s						
RSSD	**Black Hills**	**8.65**	**334**	IAmb_Lg		21 06 44.2	
	comp=Z,12nm,0.8s						
JFWS	**Jewell Farm**	**9.21**	**43**	IAmb_Lg		21 07 15.0	
	comp=Z,16nm,0.8s						
F33A	**5 Mile Ranch,**	**9.57**	**11**	IAmb_Lg		21 07 28.7	
	comp=Z,7.7nm,1.0s						

SJA ***26*** *21:03:12.9±0.7, 28°.96S×71°.60W, h16km±3km, ML3.3, MW3.5*
GUC ***26*** *21:03:17.6±0.6, 28°.94S×71°.46W, h15km±4km, ML3.3*
ISC 26 21:03:12.2±1.3, 28°.94S±0°.02×71°.64W±0°.05, h9km±10km, n26, σ2°01/51, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.82**	**95**	*e*P	**Pb**	**21 03 28.9**	**+0.1**
LCO				*e*S	**Sb**	**21 03 39.8**	**-0.3**
LCO				IAML		21 03 41.4	
	comp=Z,3μm,0.3s						
LCO	**Las Campanas**	**0.82**	**95**	*e*P	**Pn**	**21 03 29.2**	**-1.0**
LCO				*e*S	**Sg**	**21 03 38.3**	**-0.6**
AC04	**Llanos de Chal**	**0.88**	**34**	*e*P	**Pg**	**21 03 30.2**	**+1.0**
AC04				*e*S	**Sg**	**21 03 42.4**	**+1.7**
AC04				IAML		21 03 42.9	
	comp=Z,871nm,0.2s						
AC04	**Llanos de Chal**	**0.88**	**34**	⇓*i*P	**Pn**	**21 03 30.8**	**+0.1**
AC04				*e*S	**Sb**	**21 03 41.5**	**-0.1**
AC04				IAML		21 03 45.2	
	comp=E,2μm,0.2s						
CO05	**La Serena**	**1.04**	**160**	*e*P	**Pg**	**21 03 34.0**	**+1.9**
CO05				*e*S	**Sn**	**21 03 46.4**	**-1.0**
CO05				IAML		21 03 50.8	
	comp=N,1μm,0.4s						
AC05	**El Transito**	**1.20**	**85**	*e*P	**Pg**	**21 03 35.4**	**+0.1**
AC05				*e*S	**Sn**	**21 03 50.3**	**-1.5**
AC05				IAML		21 03 50.4	
	comp=Z,818nm,0.3s						
AC05	**El Transito**	**1.20**	**85**	*e*P	**Pg**	**21 03 35.4**	**+0.1**
AC05				*e*S	**Sb**	**21 03 48.6**	**-2.3**
AC05				IAML		21 03 51.0	
	comp=E,1μm,0.4s						
GO04	**Tololo Observa**	**1.43**	**149**	*e*P	**Pg**	**21 03 39.3**	**-0.4**
GO04				*e*S	**Sg**	**21 03 58.7**	**+0.5**
GO04				IAML		21 04 01.3	
	comp=Z,773nm,0.3s						
GO04	**Tololo Observa**	**1.43**	**149**	*e*P	**Pg**	**21 03 39.7**	**+0.1**
GO04				*e*S	**Sg**	**21 03 57.3**	**-0.9**
GO04				IAML		21 04 05.8	
	comp=E,1μm,0.5s						
CO01	**Juntas del Tor**	**1.70**	**128**	*e*P	**Pb**	**21 03 43.7**	**0.0**
CO01				IAML		21 04 08.8	
	comp=Z,149nm,0.3s						
CO01	**Juntas del Tor**	**1.70**	**128**	*e*P	**Pb**	**21 03 43.7**	**0.0**
CO01				*e*S	**Sb**	**21 04 03.8**	**-1.5**
CO06	**Fray Jorge**	**1.73**	**180**	⇓*e*P	**Pb**	**21 03 43.6**	**-0.4**
CO06				*e*S	**Sn**	**21 04 03.5**	**-1.1**
CO06				IAML		21 04 15.6	
	comp=E,194nm,0.4s						
GO03	**Copiap**	**1.82**	**43**	*e*P	**Pb**	**21 03 45.1**	**-0.6**
GO03				*e*S	**Sb**	**21 04 09.4**	**+0.7**
GO03				IAML		21 04 10.6	
	comp=Z,384nm,0.2s						
GO03	**Copiap**	**1.82**	**43**	*e*P	**Pn**	**21 03 44.6**	**+0.9**
GO03				*e*S	**Sn**	**21 04 06.9**	**-0.1**
GO03				IAML		21 04 12.7	
	comp=N,761nm,0.2s						
AC06	**Mina Casimiro**	**1.94**	**36**	⇓*i*P	**Pb**	**21 03 46.8**	**-0.9**
AC06				*i* S	**Sn**	**21 04 10.4**	**+0.6**
AC06				IAML		21 04 14.6	
	comp=E,556nm,0.5s						
AROD	**Rodeo**	**2.25**	**124**	*e*P	**Pb**	**21 03 53.1**	**0.0**
AROD				*e*S	**Sg**	**21 04 22.6**	**-1.9**
CO02	**Combarbal**	**2.32**	**166**	*e*P	**Pb**	**21 03 52.2**	**-2.1**
CO02				*e*S	**Sg**	**21 04 28.7**	**+1.8**
CO02				IAML		21 04 33.6	
	comp=Z,240nm,0.5s						
CO02	**Combarbal**	**2.32**	**166**	⇓*i*P	**Pb**	**21 03 52.4**	**-2.0**
CO02				*i* S	**Sn**	**21 04 18.8**	**-0.6**
CO02				IAML		21 04 30.6	
	comp=E,1μm,0.3s						
ACCO	**Cerro Coronel**	**2.78**	**127**	*e*P	**Pb**	**21 04 01.3**	**-0.8**
ACCO				*e*S	**Sb**	**21 04 35.7**	**-0.7**
DOCA	**Reserva Natura**	**2.99**	**133**	*e*P	**Pb**	**21 04 03.7**	**-2.1**
DOCA				*e*S	**Sb**	**21 04 38.7**	**-3.8**
DOCA				IAML		21 04 49.8	
	comp=Z,64nm,0.7s						
AVFE	**Valle Fertil**	**4.02**	**116**	*e*P	**Pn**	**21 04 17.2**	**+3.3**
AVFE				*e*S	**Sn**	**21 05 04.5**	**+3.2**
AVFE				IAML		21 05 22.1	
	comp=Z,40nm,0.9s						
ACLC	**CERRO LA CRUZ**	**4.13**	**98**	*e*P	**Pn**	**21 04 18.8**	**+3.3**
ACLC				*e*S	**Sn**	**21 05 07.7**	**+3.7**
ACLC				IAML		21 05 14.3	
	comp=Z,24nm,0.4s						
GO02	**Mina Guanaco**	**4.18**	**26**	*e*P	**Pn**	**21 04 17.2**	**+0.8**
GO02				*e*P	**Pn**	**21 04 17.2**	**+0.8**
GO02				*e*S	**Sg**	**21 05 23.7**	**-2.8**
GO02				IAML		21 05 33.0	
	comp=Z,102nm,0.6s						
ASAL	**Salagasta**	**4.37**	**147**	*e*S	**Sn**	**21 05 12.2**	**+2.4**
ASAL				IAML		21 05 40.8	
	comp=Z,32nm,0.7s						
ACHE	**Chepes**	**4.85**	**118**	*e*P	**Pn**	**21 04 28.6**	**+3.1**
ACHE				*e*S	**Sn**	**21 05 23.2**	**+1.5**
CYA	**Choya**	**5.15**	**86**	*e*P	**Pn**	**21 04 32.2**	**+2.7**
CYA				*e*S	**Sb**	**21 05 37.4**	**-7.1**
CYA				IAML		21 05 37.5	
	comp=Z,11nm,0.7s						

TAP ***26*** *21:08:16.7, 24°.95N×122°.32E, h14km, ML3.8, C*
ASIES ***26*** *21:08:16.7, 24°.95N×122°.32E, h14km, ML3.8, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}=0.84; $M_{\theta\theta}$=6.42; $M_{\phi\phi}$=-5.59; $M_{r\theta}$=-1.09; $M_{\theta\phi}$=-1.80; $M_{\phi r}$=1.30; Fault plane solution: M_0=6.53309×10^{21} NP1: ϕ_s=142.84000°, δ87.90000°, λ=-15.52000°. NP2: ϕ_s=233.43000°, δ74.49000°, λ=-177.82000°. Principal axes: T Plg=9.3910°, Azm=189.1710°; N Plg=74.3410°, Azm=315.3280°; P Plg=12.4160°, Azm=97.0840°;*
NIED ***26*** *21:08:16.9, 24°.94N×122°.38E, h46km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=7.72; $M_{\theta\theta}$=8.25; $M_{\phi\phi}$=-0.53; $M_{r\theta}$=-4.99; $M_{\theta\phi}$=1.93; $M_{\phi r}$=1.27; Fault plane solution: M_0=9.70000×10^{14} NP1:ϕ_s=92.00000°, δ61.00000°, λ=-75.00000°. NP2:ϕ_s=243.00000°, δ32.00000°, λ=-115.00000°.*
JMA ***26*** *21:08:16.9±0.1, 24°.9N±0°.5×122°.4E±0°.2, h46km±1km, MV3.5/14, TAIWAN REGION*
IDC ***26*** *21:08:22.2±4.3, 24°.98N×122°.44E, h63km±40km, mb3.3/12, mbtmp3.6/14, ML3.3/2, MS3.0/3, Error ellipse: s-maj=33.4km s-min=14.8km az=66.0*
ISC 26 21:08:16.3±1.0, 24°.95N±0°.02×122°.35E±0°.02, h15km±7km, n145, σ0°87/197, mb3.6/11, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.34**	**281**	*i* P	**Pb**	**21 08 23.5**	**-0.5**
TWB1				S	**Sb**	**21 08 28.2**	**-1.0**
	baz=281						
EGS		**0.39**	**255**	P	**Pb**	**21 08 24.8**	**-0.2**
	baz=253						
SXI1	**Grass Mountain**	**0.46**	**289**	*i* P	**Pb**	**21 08 26.3**	**+0.2**
	baz=290						
TIPB	**Shuangxi**	**0.48**	**273**	P	**Pb**	**21 08 26.2**	**-0.3**
TIPB				*e*S	**Sb**	**21 08 32.5**	**-0.8**
	baz=273						
NTC	**Toucheng**	**0.48**	**259**	*e*P	**Pb**	**21 08 26.1**	**-0.4**
NTC				*e*S	**Sb**	**21 08 33.2**	**-0.3**
	baz=270						
NWF	**Wu-fen Shan**	**0.53**	**284**	*i* P	**Pb**	**21 08 27.7**	**+0.3**
NWF				*e*S	**Sb**	**21 08 34.9**	**-0.1**
	baz=284						
WFSB	**Wu-fen Shan**	**0.53**	**284**	⇑*i*P	**Pb**	**21 08 27.6**	**+0.3**
WFSB				*e*S	**Sb**	**21 08 35.0**	**+0.1**
	baz=284						
EOS2	**EOS2**	**0.54**	**192**	P	**Pb**	**21 08 27.9**	**+0.6**
EOS2				S	**Sb**	**21 08 35.5**	**+0.7**
	baz=211						
TNOU	**National Taiwa**	**0.56**	**291**	⇑P	**Pb**	**21 08 28.2**	**+0.3**
TNOU				S	**Sb**	**21 08 35.3**	**-0.5**
	baz=292						
TWC	**Suao**	**0.57**	**234**	*e*P	**Pg**	**21 08 27.2**	**-0.3**
TWC				*e*S	**Sg**	**21 08 33.1**	**-1.9**
	baz=231						
ILA	**Ilan**	**0.58**	**252**	*e*P	**Pb**	**21 08 28.5**	**+0.4**
	baz=250						
ESAO	**Su ao**	**0.59**	**232**	*e*P	**Pb**	**21 08 27.9**	**-0.4**
ESAO				*e*S	**Sg**	**21 08 35.9**	**+0.1**
	baz=229						
NDS	**Dongshan**	**0.66**	**242**	*e*P	**Pb**	**21 08 29.2**	**-0.3**
NDS				*e*S	**Sb**	**21 08 38.7**	**+0.3**
	baz=231						

EOS3	EOS3	0.66 183	*i* P	Pb	21 08 29.9	+0.6
	baz=186					
TWE	Neicheng	0.66 250	*e*P	Pb	21 08 29.2	-0.3
TWE	baz=237		*e*S	Sn	21 08 39.8	-1.5
	baz=237					
TWA	Mucha	0.70 273	*i* P	Pn	21 08 30.9	-0.8
TWA	baz=273		S	Sb	21 08 39.8	+0.1
	baz=273					
FUSB	Fushanzhiwuyua	0.72 255	*e*P	Pb	21 08 30.8	+0.2
FUSB	baz=255		*e*S	Sb	21 08 39.8	-0.5
	baz=255					
EWUT	Wuta	0.72 226	*e*P	Pb	21 08 30.8	+0.2
EWUT	baz=216		*e*S	Sb	21 08 41.1	+0.8
	baz=216					
PCYT	Pengchaiyu	0.73 340	P	Pn	21 08 31.4	-0.7
	baz=342					
JYNG	Yonagunijimaku	0.73 132	*i* P	Pb	21 08 30.6	-0.1
JYNG			S	Sg	21 08 40.4	+0.2
YM08	YM08	0.73 289	*i* P	Pn	21 08 31.1	-1.0
	baz=290					
YM08			*e*S	Sb	21 08 40.3	-0.4
	baz=290					
NHDH	Xindian Distri	0.75 271	*i* P	Pn	21 08 31.9	-0.4
	baz=271					
NHDH			S	Sb	21 08 41.3	+0.1
	baz=271					
TWY	Chenhua	0.76 296	*e*P	Pn	21 08 31.8	-0.7
TWY	baz=296		*e*S	Sn	21 08 42.1	-1.6
	baz=296					
ENA	Nanau	0.76 227	*e*P	Pg	21 08 30.8	-0.3
	baz=217					
ENA			*e*S	Sb	21 08 41.8	+0.5
	baz=217					
YOJ	Yonaguni jima	0.77 129	P	Pg	21 08 31.0	-0.3
YOJ	Yonaguni jima	0.77 129	*i* P	Pg	21 08 31.1	-0.1
	baz=116					
YOJ			S	Sb	21 08 41.6	0.0
	baz=116					
YOJ	Yonaguni jima	0.77 129	*i* P	Pg	21 08 31.1	-0.1
YOJ			S	Sb	21 08 41.7	0.0
TAP	Taipei	0.77 277	*e*P	Pn	21 08 32.2	-0.5
	baz=277					
TAP			S	Sn	21 08 42.8	-1.2
	baz=277					
ENTT	Nioudou	0.78 247	*e*P	Pb	21 08 31.6	0.0
	baz=236					
ENTT			*e*S	Sb	21 08 42.8	+0.9
	baz=236					
TATO	Taipei	0.79 272	P	Pn	21 08 32.6	-0.2
NWLT	Wulai	0.79 258	*e*P	Pb	21 08 31.7	0.0
	baz=257					
NWLT			*e*S	Sb	21 08 42.1	-0.2
	baz=257					
ANP	Anpu	0.79 288	P	Pn	21 08 32.4	-0.7
	baz=275					
ANP			S	Sn	21 08 43.1	-1.6
	baz=275					
EOS4	EOS4	0.82 182	*e*P	Pn	21 08 32.8	-0.2
	baz=165					
EOS4			*e*S	Sn	21 08 44.2	-0.5
	baz=165					
EAHA	Aohua	0.83 222	*e*P	Pb	21 08 32.4	0.0
	baz=221					
EAHA			*e*S	Sg	21 08 43.3	0.0
	baz=221					
NDT	Datong Townshi	0.84 246	*e*P	Pb	21 08 32.6	+0.1
	baz=256					
NDT			*e*S	Sn	21 08 45.0	-0.6
	baz=256					
NTST	Danshui	0.85 285	*e*P	Pn	21 08 33.1	-0.6
	baz=285					
NTST			*e*S	Sn	21 08 44.6	-1.3
	baz=285					
LATG	Datong	0.85 242	*e*P	Pn	21 08 33.3	-0.6
	baz=230					
LATG			*e*S	Sb	21 08 44.8	+0.5
	baz=230					
TWS1	Kuangyinshan	0.86 281	P	Pn	21 08 33.6	-0.3
	baz=281					
TWS1			*i* S	Sn	21 08 45.7	-0.6
	baz=281					
YHNB	Yeheng	0.93 253	P	Pn	21 08 35.0	+0.1
YHNB	Yeheng	0.93 253	P	Pn	21 08 34.2	-0.7
	baz=253					
YHNB			*e*S	Sn	21 08 47.2	-0.9
	baz=253					
NSK	Sanguang	0.94 254	*i* P	Pg	21 08 34.4	-0.1
	baz=253					
NSK			S	Sg	21 08 47.2	+0.3
	baz=253					
NNSB	Datong	1.02 240	*i* P	Pg	21 08 35.8	-0.2
	baz=230					
NNSB			S	Sg	21 08 49.2	-0.2
	baz=230					
NNS	Nan Shan	1.02 241	*i* P	Pn	21 08 36.0	-0.3
	baz=231					
NNS			S	Sg	21 08 49.8	+0.3
	baz=231					
ETL	Fush Village	1.03 220	*i* P	Pg	21 08 35.8	-0.3
	baz=220					
ETL			*e*S	Sg	21 08 49.7	+0.2
	baz=220					
NACB	Ninganchiao	1.03 222	P	Pg	21 08 35.9	-0.3
NACB	Ninganchiao	1.03 222	*i* P	Pb	21 08 35.5	-0.4
	baz=221					
NACB			*e*S	Sb	21 08 48.9	-0.3
	baz=221					
NCUH	Zhongli	1.06 271	*e*P	Pg	21 08 37.4	+0.6
	baz=272					
ETLH	Xiulin Townshi	1.08 227	*i* P	Pg	21 08 37.1	-0.1
	baz=217					
ETLH			*e*S	Sn	21 08 52.0	+0.2
	baz=217					
TWD	Chiawan	1.10 219	*e*P	Pb	21 08 37.0	-0.1
	baz=226					
TWD			*e*S	Sg	21 08 52.1	+0.1
	baz=226					
NFF	Wufeng Townshi	1.16 255	*e*P	Pg	21 08 38.1	-0.6
	baz=268					
NFF			*e*S	Sn	21 08 53.4	-0.4
	baz=268					
HWA	Hwalien	1.18 215	*e*P	Pg	21 08 39.0	0.0
	baz=215					
ETM	Tongmen	1.25 219	*e*P	Pb	21 08 39.3	-0.3
	baz=221					
ETM			*e*S	Sg	21 08 56.5	-0.3
	baz=221					
LIOB	Emei	1.25 256	P	Pb	21 08 39.5	-0.1
	baz=257					
LIOB			*e*S	Sg	21 08 56.2	-0.5
	baz=257					
SBCB	Hsinchu	1.25 263	*e*P	Pg	21 08 39.6	-0.8
	baz=280					
SBCB			*e*S	Sn	21 08 55.7	-0.2
	baz=280					
LXIB	Xiulin Townshi	1.26 223	*e*P	Pb	21 08 39.5	-0.3
	baz=224					
NSTT	Nanjuang	1.27 256	P	Pb	21 08 39.9	0.0
	baz=256					
NSTT			*e*S	Sn	21 08 55.9	-0.4
	baz=256					
WHF	Hehuan Shan	1.27 231	*e*P	Pg	21 08 40.5	-0.3
	baz=231					
WHF			*e*S	Sn	21 08 56.8	-0.2
	baz=231					
TWT	Tachien	1.27 237	*e*P	Pg	21 08 40.7	-0.2
	baz=229					
TWT			*e*S	Sg	21 08 57.0	-0.5
	baz=229					
TEYL	Yanliau Villag	1.27 213	*e*P	Pb	21 08 40.1	+0.1
	baz=214					
TDCB	Techi	1.29 238	P	Pg	21 08 40.5	-0.6
	baz=229					
TDCB			*e*S	Sg	21 08 57.8	-0.1
	baz=229					
SHUL	Shoufeng	1.36 212	P	Pb	21 08 41.3	-0.1
	baz=213					
CHGB	Renai	1.39 231	*e*P	Pg	21 08 42.5	-0.6
	baz=231					
IRIF	Iriomote-Funau	1.39 116	P	Pn	21 08 39.9	-1.3
ESL	Shilin	1.40 217	P	Pb	21 08 41.8	-0.4
	baz=220					
ESL			*e*S	Sn	21 08 58.1	-1.5
	baz=220					
WHP	Taichung City	1.44 243	*e*P	Pg	21 08 44.0	-0.1
	baz=259					
OWD	Renai	1.46 228	*e*P	Pb	21 08 43.5	+0.3
	baz=212					
WUSB	Renai	1.47 230	*e*P	Pg	21 08 44.0	-0.6
	baz=215					
WARBT	Fenglin Townsh	1.51 216	*e*P	Pn	21 08 42.6	-0.3
	baz=219					
WARBT			*e*S	Sn	21 09 02.6	+0.3
	baz=219					
NSY	Sanyi	1.54 250	*e*P	Pb	21 08 44.3	-0.2
	baz=266					
TWQ1	Liyutan	1.56 248	*e*P	Pg	21 08 45.3	-0.9
	baz=264					
WCS	Beigang Elemen	1.58 236	*e*P	Pg	21 08 46.1	-0.6
	baz=224					
HATJ	Hateruma jima	1.59 123	P	Pn	21 08 43.0	-1.0
HATJ			*e*S	Sn	21 09 02.0	-2.3
VWDT	VWDT	1.62 223	*i* P	Pb	21 08 45.9	-0.1
	baz=225					
JKRS	Kuro-shima	1.67 115	P	Pn	21 08 44.2	-0.8
JKRS			S	Sn	21 09 03.7	-2.4
HGSD	Ruisui	1.68 211	*e*P	Pn	21 08 45.2	+0.1
	baz=194					
SMLT	Sun Moon Lake	1.69 232	*e*P	Pb	21 08 47.5	+0.2
	baz=216					
TYC	Yuchr	1.71 233	*e*P	Pb	21 08 47.9	+0.4
	baz=234					
EHY	Hungye	1.71 213	*e*P	Pn	21 08 45.4	-0.3
	baz=213					
SSLB	Suanglung	1.72 228	P	Pb	21 08 47.5	-0.2
SSLB	Suanglung	1.72 228	*e*P	Pb	21 08 47.4	-0.2
	baz=230					
JIJ	Ishigaki jima	1.73 109	P	Pn	21 08 44.6	-1.3
JIJ			*e*S	Sn	21 09 04.1	-3.6
JISG	Ishigakijimahi	1.82 101	*e*P	Pn	21 08 46.2	-0.8
YULB	Yu-li	1.82 212	P	Pn	21 08 46.7	-0.4
YULB	Yu-li	1.82 212	*e*P	Pn	21 08 46.7	-0.4
	baz=214					
WHYT	Xinyi Township	1.85 228	*e*P	Pb	21 08 50.1	+0.3
	baz=215					
EYUL	Yuli	1.85 211	*e*P	Pn	21 08 47.5	0.0
	baz=213					
WNT	Mingjian	1.85 235	*e*P	Pg	21 08 50.8	-1.2
	baz=237					
TWF1	Yuli	1.86 211	*e*P	Pn	21 08 47.1	-0.5
	baz=213					
WJS	Zhushan	1.86 233	*e*P	Pb	21 08 49.6	-0.4
	baz=235					
CHKH	Chenggong	1.95 207	*e*P	Pn	21 08 48.9	0.0
	baz=189					
FULB	Fuli	1.99 209	*e*P	Pn	21 08 49.8	+0.3
	baz=192					
CHN5	Tsauling	2.03 229	*e*P	Pb	21 08 53.2	+0.2
	baz=231					
CHKT	Chengkung	2.05 206	*e*P	Pn	21 08 49.6	-0.6
	baz=189					
EHD	Haiduan	2.07 211	*e*P	Pn	21 08 50.2	-0.4
	baz=213					
WDLH	Douliu	2.07 233	*e*P	Pb	21 08 53.5	-0.1
	baz=235					
WRL	Guolierlin Hig	2.08 240	*e*P	Pb	21 08 52.4	-1.3
	baz=257					
ELDTW	Lidau	2.13 215	*e*P	Pn	21 08 51.5	0.0
	baz=203					
JTJ	Tarama	2.16 98	*e*P	Pn	21 08 51.8	+0.1
WTK	Tuku	2.19 235	*e*P	Pn	21 08 51.6	-0.5
	baz=238					
EDH	Donghe	2.19 206	*e*P	Pn	21 08 51.0	-1.2
	baz=191					
WCKO	Fanlu	2.19 227	*e*P	Pb	21 08 55.1	-0.6
	baz=230					
TPUB	Ta-pu	2.27 224	P	Pb	21 08 56.0	-1.0
TPUB	Ta-pu	2.27 224	*e*P	Pb	21 08 55.8	-1.2
	baz=210					
STYH	Taoyuan	2.28 220	*e*P	Pn	21 08 55.1	+1.7
	baz=206					
WTP	Ta-pu	2.32 224	*e*P	Pb	21 08 56.6	-1.3
	baz=226					
TWK	Hsinying	2.39 226	*e*P	Pb	21 08 57.9	-1.1
	baz=228					
LDUT	Ludao	2.40 200	*e*P	Pn	21 08 54.4	-0.7
	baz=202					
TWGBT	Beinan	2.42 209	P	Pn	21 08 56.2	+0.9
TWGBT	Beinan	2.42 209	*e*P	Pn	21 08 55.4	+0.1
	baz=211					
TWG	Pinlang	2.42 209	*e*P	Pn	21 08 55.6	+0.2
	baz=211					
CHN1	Nanshi	2.42 224	*e*P	Pb	21 08 57.9	-1.7
	baz=227					
SGST	Jiashian	2.46 221	*e*P	Pn	21 08 56.5	+0.5
	baz=224					
ICHU	Yijhu	2.46 231	*e*P	Pn	21 08 57.9	+1.9
	baz=233					
MATB	Ma-tsu	2.48 299	*e*P	Pn	21 08 55.7	-0.5
	baz=298					
SLGT	Liugui	2.49 219	*e*P	Pb	21 08 58.6	-2.2
	baz=222					
CHN3	Shinhua	2.60 225	*e*P	Pn	21 08 58.3	+0.4
	baz=227					
VWUC	VWUC	2.63 272	*e*P	Pn	21 08 57.5	-0.8
	baz=272					
SCST	Cishan	2.66 220	*e*P	Pb	21 09 01.5	-2.2
	baz=223					
ECL	Taimali	2.67 209	*e*P	Pn	21 08 59.0	+0.3
	baz=211					
TSMG	Majia	2.72 215	*e*P	Pn	21 09 01.4	+1.9
	baz=203					
TWM1	Shoushan	2.75 220	*e*P	Pn	21 09 00.9	+1.0
	baz=223					
XPSS	Dashiqiu	2.77 316	*e*P	Pn	21 09 00.3	+0.1
	baz=314					
MASBT	Mashibuluo	2.81 214	*e*P	Pn	21 09 02.2	+1.5
	baz=217					
LYJJ	Jianjiangzhen	2.83 305	*e*P	Pn	21 09 00.8	-0.2
	baz=304					
PNG	Penghu	2.90 242	*e*P	Pn	21 09 01.9	0.0
	baz=246					
EAST	Anshuo	2.90 209	*e*P	Pn	21 09 02.9	+0.8
	baz=197					
PTMZ	Houxiangcun	2.93 273	*e*P	Pn	21 09 00.9	-1.5
	baz=273					
WDGT	Dungji	2.98 236	*e*P	Pn	21 09 03.6	+0.6
	baz=239					
SCZT	Fangliau	3.01 212	*e*P	Pn	21 09 05.3	+1.7
	baz=200					
JOW	Kunigami	5.66 69	P	Pn	21 09 42.2	+2.3
	1.7nm,0.3s,baz=270,slow=11,SNR=4.6					
	5.0nm,0.4s					
KSRS	Korea Array	13.35 20	P	Pn	21 11 28.6	+3.4
	0.2nm,0.3s,baz=173,slow=23,SNR=2.6					
KSRS			LR	LR	21 16 34.3	
	comp=Z,31nm,20.2s,baz=195,slow=37					
	0.3nm,0.3s					
MJAR	Matsushiro Arr	17.84 46	LR	LR	21 20 03.5	
	comp=Z,63nm,20.2s,baz=185,slow=40					
DAV	Davao City (W)	18.04 170	LR	LR	21 18 35.5	
	comp=Z,60nm,20.4s,baz=335,slow=34					
USRK	Ussuriysk Ar.	20.75 20	P	P	21 12 56.2	-0.3
	1.2nm,0.6s,baz=207,slow=9.8,SNR=2.1					
	1.2nm,0.6s					
KLR	Kul'dur	25.33 14	P	P	21 13 42.6	+0.2
	1.9nm,0.9s,baz=221,slow=8.5,SNR=5.9					
	1.9nm,0.9s					
MKAR	Makanchi Array	38.55 315	P	P	21 15 39.1	+0.8
	0.7nm,0.6s,baz=95,slow=12,SNR=7.4					
	0.7nm,0.6s					
ZALV	Zalsovo Beam	40.20 326	P	P	21 15 50.3	-1.6
	0.6nm,0.5s,baz=111,slow=8.1,SNR=4.4					
	0.6nm,0.5s					
KURBB	Kurchatov Arra	42.22 319	P	P	21 16 09.1	+0.4
	0.3nm,0.6s,baz=108,slow=9.9,SNR=2.7					
	0.3nm,0.6s					
WRA	Warramunga Arr	46.12 164	P	P	21 16 40.4	+0.2
	1.5nm,0.7s,baz=346,slow=8.5,SNR=15					
WRA			PcP	PcP	21 18 15.3	-0.9
	0.5nm,0.6s,baz=348,slow=3.6,SNR=8.2					
	1.5nm,0.7s					
BVAR	Borovoye Array	47.77 320	P	P	21 16 53.2	+0.4
	0.6nm,0.6s,baz=103,slow=8.7,SNR=3.2					
	0.6nm,0.6s					
ASAR	Alice Springs	49.60 166	P	P	21 17 07.9	+0.7
	0.7nm,0.8s,baz=347,slow=7.2,SNR=9.1					
ASAR			PcP	PcP	21 18 25.8	-2.9
	0.5nm,0.6s,baz=343,slow=2.8,SNR=6.4					
	0.7nm,0.8s					
ILAR	Eielson Array	68.05 28	P	P	21 19 15.1	+0.2
	0.2nm,0.5s,baz=206,slow=6.0,SNR=1.6					
	0.2nm,0.5s					
FINES	FINESS Array B	71.33 330	P	P	21 19 36.3	+1.1
	0.8nm,0.8s,baz=45,slow=4.1,SNR=1.7					
	0.8nm,0.8s					
BRTR	Keskin Array B	73.58 307	P	P	21 19 50.1	+0.9
	0.5nm,0.9s,baz=59,slow=6.6,SNR=2.3					
	0.5nm,0.9s					
NOA	NORSAR Array B	78.05 332	P	P	21 20 13.4	-0.8
	0.3nm,0.8s,baz=325,slow=2.1,SNR=1.7					
	0.3nm,0.8s					

BJI ***26*** *21:36:46.0±0.0, 9°.10S×121°.30E, h94km, mb5.0/54, mB5.0/17*
MOS ***26*** *21:36:47.2±1.2, 8°.77S×121°.34E, h101km, mb5.1/52, Error ellipse: s-maj=9.4km s-min=4.6km az=115.7*
IDC ***26*** *21:36:48.9±1.3, 8°.74S×121°.42E, h105km±10km, mb4.7/25, mbtmp5.0/26, MS3.5/13, Error ellipse: s-maj=17.2km s-min=8.6km az=82.0*
NEIC ***26*** *21:36:49.0±2.6, 8°.96S±0°.06×121°.28E±0°.06, h97km±5km, mb5.1/170, Mww4.9/15, Error ellipse: s-maj=9.5km s-min=8.2km az=216.0*
NEIC ***26*** *21:36:49.2, 9°.26S×121°.38E, h90km, Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10¹⁶Nm; Mrr1.43; Mθθ-0.41; Mφφ-1.03; Mrθ1.16; Mφθ-1.86; Mφr-0.39; Fault plane solution: M0 2.56000×10¹⁶ NP1:φs73.48000°, δ63.53000°, λ136.57000°. NP2:φs186.35000°, δ52.02000°, λ34.43000°. Principal axes: T 2.4692, Plg49.0000°, Azm34.0000°; N 0.1883, Plg41.0000°, Azm228.0000°; P -2.6575, Plg7.0000°, Azm132.0000°;*
DJA ***26*** *21:36:49.9±0.1, 9°S±1°×12°1E±°, h100km±2km, M5.1/69, mb5.3/69, mB5.5/30, MLv5.4/19, Mw(mB)5.0/30*
NEIC ***26*** *21:36:49.2, 8°.96S×121°.28E, h90km*
GCMT ***26*** *21:36:50.2±0.2, 9°.09S±0°.02×121°.37E±0°.02, h94km±3km, MW4.9/87, Moment Tensor Solution. s34,c40; s87,c134; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.81±.11; Mθθ0.07±.10; Mφφ-1.88±.10; Mrθ1.43±.06; Mφθ-2.12±.09; Mφr-0.66±.09; Best double couple: M0 3.22100×10¹⁶ NP1:φs66.00000°, δ60.00000°, λ140.00000°. NP2: φs179.00000°, δ56.00000°, λ37.00000°. Principal axes: T 3.1940, Plg49.0000°, Azm30.0000°; N 0.0550, Plg41.0000°, Azm216.0000°; P -3.2490, Plg3.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 21:36:48.9±0.3, 8°.96S±0°.03×121°.25E±0°.04, h102km±2km, h102km: pP-P, n784, σ1°.93/790, mb5.1/169, 24C-17D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	Ende, Flores	0.48	65	P	Pn	21 37 05.2	+0.4
MMRI	Maumere	1.02	72	P	Pn	21 37 10.9	+1.2
MMRI	Maumere	1.02	72		Pn	21 37 10.3	+0.6
MMRI	Maumere	1.02	72	P	Pn	21 37 10.7	+1.0
MMRI				S	Sn	21 37 25.9	+0.5
BASI	Baing, Sumba	1.42	208	P	Pn	21 37 14.0	-0.3
BASI				S	Sn	21 37 32.2	-1.3
BATI	Baumata	2.68	118	P	Pn	21 37 31.1	+0.6
BSSI	Bau Bau, Buton	2.90	345	P	Pn	21 37 35.5	+2.2
SOEI	Soe	3.08	105	P	Pn	21 37 37.2	+1.3
SOEI	Soe	3.08	105		Pn	21 37 36.5	+0.6
SOEI	Soe	3.08	105	P	Pn	21 37 36.9	+1.0
PLAI	Plampang	3.44	272	P	Pn	21 37 43.3	+2.8
PLAI	Plampang	3.44	272	P	Pn	21 37 42.6	+2.1
BBSI	Bau Bau	3.69	21	P	Pn	21 37 46.7	+2.8
KAPI	Kappang	4.19	339	P	Pn	21 37 54.8	+4.1
KAPI	Kappang	4.19	339	P	Pn	21 37 53.2	+2.5
	600nm,0.5s,baz=175,slow=11,SNR=370						
KAPI				S	Sn	21 38 37.9	-0.8
	195nm,0.5s,baz=79,slow=20,SNR=1.0						
KAPI	Kappang	4.19	339	P	Pn	21 37 50.6	-0.1
TWSI	Taliwang, Sumb	4.32	273	P	Pn	21 37 54.4	+1.9
DNP	Denpasar	5.98	272	P	Pn	21 38 16.0	+1.1
SRBI	Singaraja	6.04	278	P	Pn	21 38 16.1	+0.4
	285nm,0.5s,5μm1.7nm						
TTSI	Tana Toraja	6.04	346	P	Pn	21 38 20.4	+4.6
JAGI	Jajag, Banyuwa	7.04	273	P	Pn	21 38 28.3	-1.0
JAGI	Jajag, Banyuwa	7.04	273	Pn	Pn	21 38 28.1	-1.2
JAGI	Jajag, Banyuwa	7.04	273	P	Pn	21 38 28.1	-1.2
ABJI	Asem Bagus	7.04	279	P	Pn	21 38 30.6	+1.2
	392nm,0.7s,1.4nm						
LUWI	Luwuk	8.01	11	P	Pn	21 38 47.6	+5.1
LUWI	Luwuk	8.01	11	Pn	Pn	21 38 42.9	+0.4
LUWI	Luwuk	8.01	11	P	Pn	21 38 47.0	+4.5
	344nm,0.9s,3μm						
NLAI	Namlea	8.13	46	P	Pn	21 38 49.9	+5.7
	527nm,0.9s,6μm						
SANI	Sanana	8.32	35	P	Pn	21 38 51.2	+4.3
SANI	Sanana	8.32	35	P	Pn	21 38 50.0	+3.1
	263nm,0.6s,3μm						
BKB	Balikpapan	8.79	330	P	Pn	21 39 00.8	+7.6
BKB	Balikpapan	8.79	330		Pn	21 38 56.2	+3.0
GRJI	Gresik	8.92	283	P	Pn	21 38 56.0	+1.0
	205nm,1.0s						
MPSI	Mapaga	9.33	352	P	Pn	21 39 04.7	+4.2
PWJI	Pagerwojo	9.39	275	P	Pn	21 39 02.0	+0.6
	127nm,0.6s,3μm						
MRSI	Marisa	9.40	4	P	Pn	21 39 05.4	+4.0
	111nm,1.1s						
GTOI	Gorontalo	9.69	11	P	Pn	21 39 10.1	+4.7
	54nm,1.0s						
KNRA	Kununurra	9.92	133		Pn	21 39 05.8	-2.7
KNRA	Kununurra	9.92	133	P	Pn	21 39 05.1	-3.4
	10μm,SNR=15						
SAUI	Saumlaki	9.99	85	P	Pn	21 39 09.5	0.0
SAUI	Saumlaki	9.99	85	Pn	Pn	21 39 08.8	-0.7
SAUI	Saumlaki	9.99	85	P	Pn	21 39 09.2	-0.3
TOLI2	Tolitoli	10.01	357	P	Pn	21 39 14.8	+5.0
TOLI2	Tolitoli	10.01	357	Pn	Pn	21 39 10.0	+0.2
FITZ	Fitzroy Crossi	10.04	155	Pn	Pn	21 39 08.0	-2.1
DRS	Darwin Rock St	10.09	111	P	Pn	21 39 09.2	-1.7
MTKI	Muara Teweh, K	10.17	321	P	Pn	21 39 17.1	+5.1
LBMI	Labuha	10.34	37	P	Pn	21 39 19.3	+4.9
	315nm,1.2s,4μm						
MTN	Manton Dam	10.44	113	P	Pn	21 39 13.4	-2.3
MTN	Manton Dam	10.44	113	Pn	Pn	21 39 13.4	-2.3
MTN	Manton Dam	10.44	113	P	Pn	21 39 12.6	-3.1
	12μm,SNR=30						
UGM	Wanagama	10.66	275	P	Pn	21 39 19.0	+0.3
UGM	Wanagama	10.66	275		Pn	21 39 17.8	-0.9
UGM	Wanagama	10.66	275	P	Pn	21 39 18.8	+0.1
	165nm,0.6s						
SMRI	Semarang	10.87	279	P	Pn	21 39 23.3	+1.8
SMRI	Semarang	10.87	279	Pn	Pn	21 39 21.8	+0.2
SMRI	Semarang	10.87	279	P	Pn	21 39 23.4	+1.9
	181nm,0.6s						
TNTI	Ternate	11.42	33	P	Pn	21 39 33.1	+4.1
TNTI	Ternate	11.42	33	Pn	Pn	21 39 29.1	+0.2
TNTI	Ternate	11.42	33	P	Pn	21 39 32.6	+3.6
	54nm,1.0s,1μm						
KDU	Kakadu	11.63	110	P	Pn	21 39 28.0	-3.6
	3μm,SNR=5.0						
MBWA	Marble Bar	12.22	187	P	Pn	21 39 36.2	-3.3
MBWA	Marble Bar	12.22	187		Pn	21 39 36.7	-2.8
MBWA	Marble Bar	12.22	187	P	Pn	21 39 36.1	-3.3
FAKI	Fak Fak	12.47	62	P	Pn	21 39 43.0	+0.1
FAKI	Fak Fak	12.47	62	Pn	Pn	21 39 42.6	-0.3
FAKI	Fak Fak	12.47	62	P	Pn	21 39 43.0	+0.1
	196nm,0.7s,2μm						
PSAC1	Pilbara Seismi	12.58	186	P	Pn	21 39 40.1	-4.2
PSA00	Pilbara Seismi	12.62	186	P	Pn	21 39 41.8	-2.9
PSA00	Pilbara Seismi	12.62	186		Pn	21 39 42.6	-2.1
PSA00	Pilbara Seismi	12.62	186		Pn	21 39 42.0	-2.7
PSA00	Pilbara Seismi	12.62	186	P	Pn	21 39 40.2	-4.5
SWI	Sorong	12.80	52	P	Pn	21 39 48.1	+0.9
	228nm,1.1s,3μm						
STKI	Sintang	13.23	312	P	Pn	21 39 55.9	+3.0
	153nm,0.5s						
BBJI	Bungbulang	13.54	275	P	Pn	21 39 56.9	-0.1
LEM	Lembang	13.67	278	P	Pn	21 39 58.7	-0.1
	95nm,0.6s						
CNJI	Cibinong	14.08	276	P	Pn	21 40 02.3	-1.6
	195nm,0.6s,3μm						
MYLDM	Lahad Datu	14.31	349	P	P	21 40 10.9	0.0
SBUM	Sibu	14.47	321		Pn	21 40 08.9	0.0
DBJI	Dramaga

KSM Kuching 15.04 313 P **P** **21 40 21.4 +2.3**
KSM Kuching 15.04 313 **Pn** **21 40 17.1 +0.9**
GIRL Giralia 15.19 206 **Pn** **21 40 17.2 -0.8**
GIRL IAmb IAmb 21 40 19.3
comp=Z,129nm,0.6s
XMI Christmas Isla 15.41 263 P **Pn** **21 40 20.3 -0.6**
XMIS Christmas Isla 15.45 263 P **Pn** **21 40 20.6 -0.8**
XMIS Christmas Isla 15.45 263 P **Pn** **21 40 20.3 -1.1**
XMIS IAmb IAmb 21 40 25.9
comp=Z,118nm,0.6s
KKM Kota Kinabalu 15.72 341 P **P** **21 40 29.2 +2.4**
KKM Kota Kinabalu 15.72 341 P **P** **21 40 27.1 +0.3**
PPBI Pangkal Pinang 16.48 293 P **P** **21 40 35.1 0.0**
DAV Davao City (W) 16.50 15 LR LR 21 48 12.7
comp=Z,102nm,18.1s,baz=196,slow=42
WB0 Warramunga Arr 16.65 132 **Pn** **21 40 33.5 -2.7**
WRA Warramunga Arr 16.71 132 **Pn** **21 40 35.0 -2.1**
WRA Warramunga Arr 16.71 132 P **Pn** **21 40 32.8 -4.2**
comp=Z,28nm,0.4s,baz=303,slow=13,SNR=320
WRA S Sn 21 43 26.4 -16
comp=Z,44nm,0.9s,baz=303,slow=24,SNR=9.5
WRA LR LR 21 47 19.3
comp=Z,255nm,18.1s,baz=351,slow=38
WRA PKiKP **PKiKP** **21 53 12.8 -1.0**
comp=Z,0.8nm,0.8s,baz=316,slow=1.1,SNR=4.5
WRA Warramunga Arr 16.71 132 P **Pn** **21 40 35.0 -2.1**
WRA pmax pmax
comp=Z,21nm,0.7s
WRAB Tennant Creek 16.72 132 *c iP* **Pn** **21 40 34.5 -2.6**
WRAB Tennant Creek 16.72 132 *c iP* **P** **21 40 38.6 +0.9**
WRAB pmax pmax
comp=Z,136nm,0.6s
WB2 Warramunga Arr 16.72 132 **Pn** **21 40 34.8 -2.3**
WR0 Warramunga Arr 16.87 132 **Pn** **21 40 36.7 -2.3**
KASI Kota Agung 16.97 280 P **P** **21 40 41.2 +0.8**
WRKA Warakurna 17.34 158 P **P** **21 40 44.5 -0.1**
WRKA Warakurna 17.34 158 P **P** **21 40 44.4 -0.2**
comp=Z,189nm,0.8s,SNR=21
LWLI Liwa 17.51 282 P **Pn** **21 40 47.7 +0.9**
comp=Z,294nm,0.6s,comp=Z,5μm
MEEK Meekatharra 17.76 188 P **Pn** **21 40 50.7 +0.9**
MEEK Meekatharra 17.76 188 P **Pn** **21 40 49.9 +0.1**
comp=Z,44nm,0.8s,SNR=2.3
ASPA Alice Springs 18.99 142 P **P** **21 41 03.1 +0.5**
comp=Z,103nm,0.6s,SNR=173
AS31 Alice Springs 18.99 142 P **P** **21 41 02.7 +0.1**
AS31 IAmb IAmb 21 41 09.1
comp=Z,81nm,0.6s
ASAR Alice Springs 18.99 142 P **P** **21 41 02.7 +0.1**
comp=Z,126nm,0.9s,baz=328,slow=13,SNR=277
ASAR S S 21 44 21.1 -12
comp=Z,5.2nm,0.5s,baz=315,slow=25,SNR=3.7
ASAR PcP **PcP** **21 45 24.2 0.0**
comp=Z,14nm,0.5s,baz=343,slow=2.1,SNR=4.4
ASAR LR LR 21 48 29.3
comp=Z,303nm,19.1s,baz=313,slow=37
ASAR ScP **ScP** **21 48 50.0 -0.9**
comp=Z,6.5nm,0.6s,baz=332,slow=1.9,SNR=5.4
ASAR PKiKP **PKiKP** **21 53 13.1 -1.5**
comp=Z,0.5nm,0.6s,baz=339,slow=2.3,SNR=3.0
AS01 Alice Springs 19.01 142 P **P** **21 41 03.7 +0.8**
TPRI Tanjung Pinang 19.34 300 P **Pn** **21 41 08.7 +0.2**
comp=Z,54nm,0.7s
GENI Genyem 19.84 73 P **Pn** **21 41 15.0 +0.5**
GENI Genyem 19.84 73 P **Pn** **21 41 13.3 -1.2**
comp=Z,180nm,0.7s,comp=Z,2μm
TABU Tabubil 20.15 81 P **P** **21 41 15.4 +0.1**
BTDF Bukit Timah Da 20.21 300 P Pn 21 41 18.2 -0.5
JAY Jayapura 20.38 73 P **P** **21 41 18.2 +0.4**
comp=Z,66nm,0.9s
MORW Morawa 20.60 193 P **P** **21 41 20.6 +0.7**
MORW Morawa 20.60 193 P **P** **21 41 19.6 -0.3**
MORW IAmb IAmb 21 41 21.3
comp=Z,43nm,0.7s
MORW Morawa 20.60 193 P **P** **21 41 20.2 +0.2**
QIS Mount Isa 21.14 125 P **P** **21 41 26.2 +0.3**
QIS Mount Isa 21.14 125 P **P** **21 41 26.1 +0.2**
BLDU Ballidu 21.96 191 P **P** **21 41 34.1 -0.4**
BLDU Ballidu 21.96 191 P **P** **21 41 34.3 -0.2**
comp=Z,57nm,1.1s,SNR=2.9
COEN Coen 22.05 105 P **P** **21 41 35.8 +0.2**
COEN Coen 22.05 105 P **P** **21 41 35.1 -0.4**
COEN IAmb IAmb 21 41 43.3
comp=Z,71nm,0.7s
COEN Coen 22.05 105 P **P** **21 41 35.5 0.0**
comp=Z,111nm,0.7s,SNR=21
BKNI Bangkinang 22.14 294 P **P** **21 41 40.2 +3.6**
BKNI Bangkinang 22.14 294 P **P** **21 41 37.6 +1.0**
KMBL Kambalda 22.31 179 P **P** **21 41 37.7 -0.4**
KMBL Kambalda 22.31 179 P **P** **21 41 37.4 -0.8**
comp=Z,82nm,0.8s,SNR=4.7
FORT Forrest 22.62 165 P **P** **21 41 40.9 -0.5**
FORT Forrest 22.62 165 P **P** **21 41 40.0 -1.4**
FORT IAmb IAmb 21 41 49.1
comp=Z,140nm,0.9s
FORT Forrest 22.62 165 P **P** **21 41 40.7 -0.7**
comp=Z,148nm,0.7s,SNR=12
KLBR Kellerberrin 22.76 188 P **P** **21 41 42.5 -0.2**
KLBR Kellerberrin 22.76 188 P **P** **21 41 42.4 -0.3**
comp=Z,146nm,0.7s,SNR=13
OOD Oodnadatta 23.17 146 P **P** **21 41 46.6 -0.1**
MUN Mundaring 23.38 191 P **P** **21 41 48.8 +0.1**
MUN Mundaring 23.38 191 P **P** **21 41 48.7 0.0**
NWAO Narrogin (SRO) 24.14 188 P **P** **21 41 56.3 +0.8**
NWAO Narrogin (SRO) 24.14 188 P **P** **21 41 55.7 +0.2**
NWAO Narrogin (SRO) 24.14 188 P **P** **21 41 54.6 -0.8**
NWAO IAmb IAmb 21 42 19.9
comp=Z,40nm,0.6s
NWAO Narrogin (SRO) 24.14 188 P **P** **21 41 55.9 +0.4**
comp=Z,200nm,0.7s,SNR=3.3
NWAO Narrogin (SRO) 24.14 188 P **P** **21 41 55.6 +0.1**
comp=Z,18nm,0.5s,baz=6.2,slow=7.3,SNR=28
NWAO S **S** **21 46 05.8 -0.4**
comp=Z,16nm,0.6s,baz=11,slow=10,SNR=2.5
NWAO LR LR 21 52 30.4
comp=Z,300nm,19.1s,baz=32,slow=39
comp=Z,18nm,0.5s
NWAO Narrogin (SRO) 24.14 188 P **P** **21 41 54.7 -0.8**
NWAO pmax pmax
comp=Z,40nm,0.6s
MTSU Mount Surprise 24.18 115 P **P** **21 41 58.0 +1.9**
MULG Mulgathing 24.36 152 P **P** **21 41 58.0 +0.5**
KULM Kulim 24.94 304 P **P** **21 42 04.2 +1.2**
PMG Port Moresby 25.58 93 P **P** **21 42 10.3 +1.5**
PMG Port Moresby 25.58 93 P **P** **21 42 12.4 +3.6**
PMG Port Moresby 25.58 93 P **P** **21 42 09.2 +0.4**
PMG Port Moresby 25.58 93⇓ *eP* **P** **21 42 10.1 +1.3**
PMG pmax pmax
comp=Z,32nm,0.8s
INKA Innaminka 26.22 138 P **P** **21 42 15.8 +1.4**
CTA Charters Tower 26.57 117 P **P** **21 42 19.0 +1.3**
CTA Charters Tower 26.57 117 P **P** **21 42 18.8 +1.1**
comp=Z,2.9nm,1.1s,SNR=6.3
CTA Charters Tower 26.57 117 P **P** **21 42 15.3 -2.3**
comp=Z,0.3nm,0.9s,baz=353,slow=9.1,SNR=2.0
CTA PcP **PcP** **21 45 40.0 +0.2**
comp=Z,0.7nm,0.7s,baz=347,slow=6.1,SNR=3.9
CTA LR LR 21 53 12.6
comp=Z,16nm,20.1s,baz=288,slow=37
CTAO Charters Tower 26.57 117 P **P** **21 42 18.8 +1.1**
CTAO Charters Tower 26.57 117 P **P** **21 42 17.6 -0.1**
CTAO **pwP** **21 42 43.3 +0.1**
CTAO Charters Tower 26.57 117 P **P** **21 42 17.6 -0.1**
LCRK Leigh Creek 26.61 146 P **P** **21 42 18.8 +0.9**
BBOO Buckleboo 27.41 152 P **P** **21 42 25.1 +0.1**
BBOO Buckleboo 27.41 152 P **P** **21 42 24.7 -0.3**
BBOO IAmb IAmb 21 42 26.8
comp=Z,78nm,0.8s
BBOO Buckleboo 27.41 152 P **P** **21 42 25.2 +0.1**
QLP Quilpie 27.95 132 P **P** **21 42 31.7 +1.7**
QLP Quilpie 27.95 132 P **P** **21 42 30.5 +0.5**
SURA Surathani 28.07 309 P **P** **21 42 35.7 +4.6**
WHYH Whyalla 28.31 150 P **P** **21 42 33.5 +0.5**
UBPT Khong Chiam 28.71 327 P **P** **21 42 39.7 +2.9**
UBPT Khong Chiam 28.71 327 P **P** **21 42 37.9 +1.1**
HTT Hallett 29.31 149 P **P** **21 42 43.2 +1.3**
HTT Hallett 29.31 149 P **P** **21 42 42.8 +0.8**
comp=Z,99nm,1.7s,SNR=13
STKA Stephens Creek 29.61 143 P **P** **21 42 45.5 +0.9**
STKA Stephens Creek 29.61 143 P **P** **21 42 44.6 0.0**
STKA Stephens Creek 29.61 143 P **P** **21 42 45.1 +0.5**
comp=Z,18nm,0.6s,SNR=15
STKA Stephens Creek 29.61 143 P **P** **21 42 44.7 +0.1**
comp=Z,55nm,0.5s,baz=318,slow=9.3,SNR=294
STKA S **S** **21 47 30.5 -2.1**
comp=Z,3.3nm,0.7s,baz=15,slow=24,SNR=1.4
comp=Z,55nm,0.5s
STKA Stephens Creek 29.61 143 P **P** **21 42 44.6 0.0**
STKA pmax pmax
comp=Z,12nm,0.6s
SRDT SRDT 31.91 316 P **P** **21 43 07.0 +2.0**
CMSA Cobar Meteorol 31.95 138 P **P** **21 43 06.4 +1.2**
CMSA Cobar Meteorol 31.95 138 P **P** **21 43 06.4 +1.2**
comp=Z,55nm,0.6s,SNR=12
TPUB Ta-pu 32.06 359 P **P** **21 43 07.1 +0.8**
TPUB Ta-pu 32.06 359 IAmb IAmb 21 43 19.9
comp=Z,17nm,0.6s
YULB Yu-li 32.15 0 P **P** **21 43 05.4 -1.6**
AULRC Lightning Ridg 32.29 133 P **P** **21 43 09.4 +1.2**
GUMO Guam 32.42 47 LR LR 21 55 09.3
comp=Z,27nm,21.9s,baz=203,slow=34
YOJ Yonaguni jima 33.26 3 P **P** **21 43 17.4 +0.8**
YOJ Yonaguni jima 33.26 3 P **P** **21 43 15.7 -0.9**
YOJ IAmb IAmb 21 43 18.5
comp=Z,20nm,0.7s
YOJ Yonaguni jima 33.26 3 P **P** **21 43 15.7 -0.9**
YOJ pmax pmax
comp=Z,20nm,0.7s
ARPS Mount Arapiles 33.40 149 P **P** **21 43 19.1 +1.3**
ARPS Mount Arapiles 33.40 149 P **P** **21 43 18.9 +1.1**
YHNB Yeheng 33.42 0 P **P** **21 43 17.3 -0.9**
PHRA Phrae 34.27 323 P **P** **21 43 26.4 +0.9**
AUDCS Dubbo College 34.35 136 P **P** **21 43 27.9 +1.8**
SLVN Son La 34.59 331 P **P** **21 43 30.3 +2.0**
CM31 Chiang Mai Arr 35.02 321 **PcP** **21 46 02.7 +0.6**
CMAR Chiang Mai Arr 35.02 321 P **P** **21 43 32.6 +0.6**
CMAR **pP** **21 43 54.3 -0.9**
CMAR PcP **PcP** **21 46 03.0 +0.8**
CMAR Chiang Mai Arr 35.02 321 P **P** **21 43 32.2 +0.2**
comp=Z,3.2nm,0.8s,baz=149,slow=6.8,SNR=21
CMAR PcP **PcP** **21 46 03.1 +1.0**
comp=Z,12nm,0.8s,baz=174,slow=2.8,SNR=22
CMAR ScP **ScP** **21 49 38.8 +0.2**
comp=Z,0.9nm,0.4s,baz=161,slow=3.4,SNR=2.6
CMAR LR LR 21 58 38.8
comp=Z,79nm,18.3s,baz=160,slow=38
comp=Z,3.2nm,0.8s
CHTO Chiang Mai 35.29 322 P **P** **21 43 35.2 +0.9**
CHTO **PcP** **21 46 03.5 +0.6**
AUPHS Peel High Scho 35.30 133 P **P** **21 43 36.9 +2.5**
YNG Young 35.45 139 P **P** **21 43 37.6 +2.0**
YNG Young 35.45 139 P **P** **21 43 37.3 +1.7**
comp=Z,488nm,0.9s,SNR=17
ARMA Armidale 35.49 131 P **P** **21 43 36.2 +0.1**
ARMA Armidale 35.49 131 P **P** **21 43 38.8 +2.7**
comp=Z,14nm,1.1s,SNR=2.5
TOO Toolangi 35.93 146 P **P** **21 43 41.8 +2.1**
TOO Toolangi 35.93 146 P **P** **21 43 40.0 +0.3**
TOO IAmb IAmb 21 43 43.5
comp=Z,49nm,1.1s
TOO Toolangi 35.93 146 P **P** **21 43 42.1 +2.4**
comp=Z,48nm,0.9s,SNR=6.0
TOO Toolangi 35.93 146 P **P** **21 43 40.0 +0.3**
TOO pmax pmax
comp=Z,49nm,1.1s
JOW Kunigami 36.22 11 LR LR 21 59 42.3
comp=Z,42nm,20.4s,baz=328,slow=38
CAN Canberra 36.48 140 P **P** **21 43 46.7 +2.3**
CAN Canberra 36.48 140 P **P** **21 43 45.3 +0.9**
CAN IAmb IAmb 21 43 49.1
comp=Z,31nm,1.4s
CAN Canberra 36.48 140 P **P** **21 43 45.9 +1.5**
comp=Z,17nm,0.8s,SNR=1.9
CAN Canberra 36.48 140 P **P** **21 43 45.3 +0.9**
CAN pmax pmax
comp=Z,31nm,1.4s
CAN Canberra 36.48 140 P **P** **21 43 46.3 +1.9**
CNB Canberra Magne 36.71 140 P **P** **21 43 48.1 +1.8**
CNB Canberra Magne 36.71 140 P **P** **21 43 48.2 +1.8**
GYA Guiyang 37.95 338 P **P** **21 43 59.0 +2.1**
GYA pmax pmax
comp=Z,7.0nm,0.6s
HNR Honiara 38.19 94 LR LR 22 01 04.6
comp=Z,1μm,18.1s,baz=245,slow=38
KMI Kunming 38.38 332 ⇓P **P** **21 44 03.8 +3.1**
KMI pmax pmax
comp=Z,10.0nm,0.6s
WHN Wuhan 39.83 351 P **P** **21 44 12.0 -0.4**
WHN pP **pP** **21 44 38.0 +2.7**
PZH PanZhiHua 40.02 332 P **P** **21 44 16.0 +1.8**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,170nm,6.0s
TNCH TengChong 40.40 327 P **P** **21 44 19.3 +1.9**
TNCH pP pP 21 44 41.5 +0.4
TNCH pmax pmax
comp=Z,25nm,1.0s
TNCH pmax pmax
comp=Z,130nm,3.9s
NJ2 Nanjing 40.84 357 *eP* **P** **21 44 22.5 +1.8**
NJ2 pmax pmax
comp=Z,14nm,0.7s
JCJ Chichijima 41.19 29 P **P** **21 44 22.5 -1.1**
CD2 Chengdu 43.05 338 P **P** **21 44 39.5 +0.7**
CD2 pmax pmax
comp=Z,20nm,0.3s
PALK Pallekele 43.51 290 LR LR 22 03 25.6
comp=Z,73nm,18.3s,baz=198,slow=37
LYN LuoYang 44.06 350 *eP* **P** **21 44 49.5 +2.7**
LYN PcP **PcP** **21 46 31.0 +0.5**
LYN pmax pmax
comp=Z,19nm,0.5s
LYN pmax pmax
comp=Z,84nm,5.7s
JMN Monobe 44.11 15 P **P** **21 44 46.5 -0.7**
SHL Shillong 44.66 321 P **P** **21 44 51.5 -0.5**
SHL IAmb IAmb 21 44 52.4
comp=Z,32nm,0.7s
SHL Shillong 44.66 321 P **P** **21 44 51.5 -0.5**
SHL pmax pmax
comp=Z,32nm,0.7s
TIA Tai'an 45.09 355 P P 21 44 46.0 -9.0
TIA pmax pmax
comp=Z,5.0nm,0.4s
DZM Mont Dzumac 45.28 112 LR LR 22 03 40.1
comp=Z,112nm,18.3s,baz=290,slow=36
ONTNC Ouen Toro 45.33 112 P **P** **21 44 58.5 +1.4**
TJN Taejon 45.46 7 *de*P **P** **21 44 58.3 +0.5**
YATNC Mamie plateau, 45.69 112 P **P** **21 45 01.8 +1.8**
KSRS Korea Array 46.59 7 P **P** **21 45 04.5 -2.1**
comp=Z,1.7nm,0.6s,baz=193,slow=7.0,SNR=2.6
KSRS PcP **PcP** **21 46 38.8 -0.4**
comp=Z,4.3nm,0.8s,baz=189,slow=3.8,SNR=14
KSRS LR LR 22 06 19.8
comp=Z,29nm,19.1s,baz=185,slow=38
comp=Z,1.7nm,0.6s
LZH Lanzhou 47.71 341 *eP* **P** **21 45 17.5 +1.9**
LZH pP pP 21 45 39.3 -0.4
LZH pmax pmax
comp=Z,19nm,1.0s
MAJO Matsushiro 47.98 18 P **P** **21 45 16.4 -1.2**
MAJO Matsushiro 47.98 18⇓ *eP* **P** **21 45 15.5 -2.1**
MAJO pmax pmax
comp=Z,12nm,1.2s
MJAR Matsushiro Arr 47.98 18 P **P** **21 45 14.5 -3.1**
comp=Z,6.0nm,0.5s,baz=190,slow=8.0,SNR=25
MJAR LR LR 22 05 35.9
comp=Z,24nm,20.6s,baz=210,slow=36
comp=Z,6.0nm,0.5s
MJB9 Matsu-Tunnel 47.98 18 P **P** **21 45 17.7 +0.2**
LSA Lhasa 48.13 324 P **P** **21 45 20.0 +0.6**
LSA pmax pmax
comp=Z,71nm,0.7s
BJT Baijiatuau 48.95 355 IAmb IAmb 21 45 26.5
comp=Z,19nm,0.5s
BJT Baijiatuau 48.95 355 P **P** **21 45 23.2 -1.7**
BJT pP **pP** **21 45 47.5 -1.4**
BJI Beijing 48.98 355 P **P** **21 45 23.0 -2.0**
BJI pP **pP** **21 45 49.5 +0.5**
BJI PcP **PcP** **21 46 48.0 +0.3**
BJI pmax pmax
comp=Z,12nm,0.6s
JMM Marumori 50.03 20 P **P** **21 45 33.4 +0.2**
JMM IAmb IAmb 21 45 35.7
comp=Z,25nm,0.8s
HHC Hu-ho-hao-te 50.36 350 *eP* **P** **21 45 39.0 +3.3**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.0s
GTA Gaotai 52.08 339 P **P** **21 45 50.0 +1.4**
GTA pP pP 21 46 18.5 +5.3
GTA PcP **PcP** **21 47 00.3 +0.9**
GTA pmax pmax
comp=Z,29nm,1.1s
GTA LR LR
comp=Z,77nm,13.5s
GTA LR LR
comp=Z,65nm,15.9s
GTA LR LR
comp=Z,93nm,11.2s
MSHR Mys Shultsa 52.08 9⇑ *eP* **P** **21 45 46.1 -2.3**
MSHR pmax pmax
comp=Z,20nm,2.4s
CN2 Changchun 52.65 4 *eP* **P** **21 45 53.0 +0.5**
CN2 *es*P sP 21 46 32.0 +3.7
CN2 *eS* **S** **21 53 11.0 -1.3**
CN2 *es*S sS 21 53 57.0 +3.8
CN2 *eS*S **SS** **21 56 50.3 -2.0**
CN2 LR LR
comp=Z,180nm,10.0s
CN2 LR LR
comp=Z,110nm,10.0s
USA0B Ussuriysk Arra 53.79 10 IAmb IAmb 21 46 03.3
comp=Z,8.2nm,0.6s
USA0B Ussuriysk Arra 53.79 10⇑ *eP* **P** **21 46 00.2 -0.8**
USRK Ussuriysk Ar. 53.79 10 P **P** **21 45 59.1 -1.9**
USRK Ussuriysk Ar. 53.79 10 P **P** **21 45 58.1 -2.8**
comp=Z,10nm,0.7s,baz=190,slow=6.6,SNR=23
comp=Z,10nm,0.7s
USRK Ussuriysk Ar. 53.79 10 P **P** **21 45 59.1 -1.9**
MDJ Mudanjiang 53.85 7 P **P** **21 45 58.5 -2.9**
MDJ pmax pmax
comp=Z,4.0nm,0.6s
ERM Erimo 54.55 20 P **P** **21 46 07.7 +1.2**
MSVF Nonsavu 55.77 105 P **P** **21 46 16.5 +0.6**
MSVF Nonsavu 55.77 105 P **P** **21 46 16.5 +0.6**
ASAJ Asahikawa 56.26 18 P **P** **21 46 16.8 -1.9**
comp=Z,20nm,0.7s,baz=249,slow=12,SNR=20
comp=Z,20nm,0.7s
ASAJ Asahikawa 56.26 18 P **P** **21 46 19.3 +0.6**
ASAJ pmax pmax
comp=Z,20nm,0.8s
JKA Kamikawa-asahi 56.26 18 P **P** **21 46 19.3 +0.6**
JKA IAmb IAmb 21 46 20.8
comp=Z,20nm,0.8s
MQZ McQueen's Vall 56.39 137 P **P** **21 46 20.9 +1.1**
MQZ IAmb IAmb 21 46 31.0
comp=Z,48nm,1.5s
BKZ Black Stump Fm 57.64 131 P **P** **21 46 30.0 +1.2**
ULN Ulaanbaatar 57.96 349 P **P** **21 46 29.8 -1.0**
ULN Ulaanbaatar 57.96 349 P **P** **21 46 29.8 -1.0**
ULN pmax pmax
comp=Z,8.0nm,0.7s
ULN Ulaanbaatar 57.96 349 P **P** **21 46 29.5 -1.3**
SONM Songino Array 58.06 348 P **P** **21 46 30.3 -1.2**
SONM IAmb IAmb 21 46 32.8
comp=Z,8.9nm,0.7s
SONM Songino Array 58.06 348 P **P** **21 46 30.1 -1.4**
comp=Z,8.9nm,0.6s,baz=165,slow=8.5,SNR=32
SONM PcP **PcP** **21 47 20.7 -1.6**
comp=Z,4.0nm,0.6s,baz=170,slow=5.9,SNR=4.2
comp=Z,8.9nm,0.6s
SONM Songino Array 58.06 348 P **P** **21 46 30.3 -1.2**
SONM pmax pmax
comp=Z,9.0nm,0.7s
KLR Kul'dur 58.67 8 P **P** **21 46 32.9 -2.7**
comp=Z,1.2nm,0.5s,baz=183,slow=8.8,SNR=7.1
comp=Z,1.2nm,0.5s
KLR Kul'dur 58.67 8⇑ *iP* **P** **21 46 33.0 -2.5**
KLR pmax pmax
comp=Z,2.0nm,0.6s
YSS Yuzh-Sakhalins 58.87 17⇑ *iP* **P** **21 46 38.1 +1.2**
YSS pmax pmax
comp=Z,96nm,2.5s
DRV Dumont d'Urvil 59.03 171 P **P** **21 46 39.2 +1.4**
DRV pP **pwP** **21 47 04.5 -0.6**
HEH HeiHe 59.21 5 *eP* **P** **21 46 37.0 -2.2**
HEH pmax pmax
comp=Z,9.0nm,0.8s
WMQ Urumqi 60.71 333 *eP* **P** **21 46 51.0 +1.2**
WMQ pmax pmax
comp=Z,33nm,0.7s
ZAK Zakamensk 61.13 347 *eP* **P** **21 46 50.2 -2.3**
ZAK pmax pmax
comp=Z,5.0nm,0.9s
NIL Nilore 62.22 316 P **P** **21 46 58.6 -1.5**
NIL IAmb IAmb 21 46 59.3
comp=Z,20nm,0.8s
NIL Nilore 62.22 316 P **P** **21 46 58.6 -1.5**
NIL pmax pmax
comp=Z,20nm,0.8s
NIL Nilore 62.22 316 P **P** **21 46 58.5 -1.6**
TYV Tymovskoe 62.40 15 *eP* **P** **21 47 02.5 +1.6**
TYV *eS* **S** **21 55 24.8 +5.1**
TYV pmax pmax
comp=Z,100nm,3.0s
TYV pmax pmax
comp=Z,12nm,0.8s
TYV smax smax
comp=N,100nm,6.0s
TYV smax smax
comp=E,100nm,6.0s
ZEA Zeya 62.66 4 *eP* **P** **21 47 01.0 -1.5**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
MOY Mondy 62.86 346 *eP* **P** **21 47 04.1 +0.1**
KSH Kashi 63.91 322 P **P** **21 47 10.5 -0.8**
KSH pP pP 21 47 34.8 -2.0
KSH pmax pmax
comp=Z,42nm,0.8s
KSH LR LR
comp=Z,870nm,18.2s
KSH LR LR
comp=Z,550nm,17.9s
TARG Taragay, Kyrgy 64.26 325 IAmb IAmb 21 47 22.4
comp=Z,16nm,0.9s
SHLS Shalkode 64.30 327 *eP* **P** **21 47 11.5 -2.3**
comp=Z,16nm,0.6s,baz=327
SHLS Shalkode 64.30 327 *eP* **P** **21 47 11.4 -2.3**
SHLS pmax pmax
comp=Z,16nm,0.6s
PRZ Przheval'sk 64.42 326 P **P** **21 47 15.5 +0.9**
PRZ IAmb IAmb 21 47 16.3
comp=Z,27nm,0.8s
PRZ Przheval'sk 64.42 326 P **P** **21 47 15.5 +0.9**
PRZ pmax pmax
comp=Z,27nm,0.8s
UZB Uzynbulak 64.53 327 *eP* **P** **21 47 14.3 -1.0**
comp=Z,11nm,0.8s,baz=327
UZB Uzynbulak 64.53 327 *eP* **P** **21 47 14.3 -1.0**
UZB pmax pmax
comp=Z,11nm,0.8s
ZSN Zaisan 64.77 334 *eP* **P** **21 47 15.7 -1.0**
comp=Z,14nm,1.1s,baz=334
ZSN Zaisan 64.77 334 *eP* **P** **21 47 15.6 -1.0**
ZSN pmax pmax
comp=Z,14nm,1.1s
SATY Saty 64.81 327 *eP* **P** **21 47 16.2 -0.9**
comp=Z,19nm,0.8s,baz=327
SATY Saty 64.81 327 *eP* **P** **21 47 16.1 -1.0**
SATY pmax pmax
comp=Z,19nm,0.8s
ZHN Zhinishke 64.86 327 *eP* **P** **21 47 16.6 -0.8**
comp=Z,1.5nm,0.1s,baz=327
ZHN Zhinishke 64.86 327 *eP* **P** **21 47 16.6 -0.8**
ZHN pmax pmax
comp=Z,1.0nm,0.1s
KPKS Kokpek 64.93 327 *eP* **P** **21 47 16.7 -1.1**
comp=Z,18nm,0.7s,baz=327
KPKS *eS* **S** **21 55 49.8 -1.8**
baz=327
KPKS Kokpek 64.93 327 *eP* **P** **21 47 16.7 -1.1**
KPKS *eS* **S** **21 55 49.7 -1.8**
KPKS pmax pmax
comp=Z,18nm,0.7s
NRN Naryn 65.10 324 P **P** **21 47 19.1 -0.2**
NRN IAmb IAmb 21 47 19.4
comp=Z,16nm,0.7s
NRN Naryn 65.10 324 P **P** **21 47 19.1 -0.2**
NRN pmax pmax
comp=Z,16nm,0.7s
MSEY Mahe Island 65.38 269 P **P** **21 47 21.9 +0.6**
MSEY IAmb IAmb 21 47 23.7

comp=Z,18nm,0.8s
MSEY Mahe Island 65.38 269 P **P 21 47 23.0 +1.7**
MSEY Mahe Island 65.38 269 P **P 21 47 21.9 +0.6**
MSEY pmax pmax
comp=Z,18nm,0.8s
MSEY Mahe Island 65.38 269 P **P 21 47 22.9 +1.6**
MSEY PcP **PcP 21 47 53.2 +0.5**
MK31 Makanchi Array 65.45 332 P **P 21 47 20.4 -0.6**
MK31 Makanchi Array 65.45 332 P **P 21 47 20.4 -0.6**
MK31 pmax pmax
comp=Z,43nm,0.8s
MKAR Makanchi Array 65.45 332 P **P 21 47 20.5 -0.5**
MKAR Makanchi Array 65.45 332 P **P 21 47 19.4 -1.6**
comp=Z,58nm,0.6s,baz=143,slow=6.7,SNR=240
MKAR PKP2bc **P'P'bc 22 16 04.2 -0.5**
comp=Z,0.8nm,1.1s,baz=53,slow=2.4,SNR=3.6
comp=Z,58nm,0.6s
MKAR Makanchi Array 65.45 332 *i* P **P 21 47 20.0 -1.0**
MKAR pmax pmax
comp=Z,58nm,0.6s
TNSS Tian-Shan 65.59 326 *e*P **P 21 47 21.3 -1.2**
baz=326
TNSS Tian-Shan 65.59 326 *e*P **P 21 47 21.3 -1.2**
MAKZ Makanchi 65.61 331 P **P 21 47 21.1 -0.9**
MAKZ IAmb IAmb 21 47 22.8
comp=Z,25nm,0.7s
MAKZ Makanchi 65.61 331 P **P 21 47 21.1 -0.9**
MAKZ pmax pmax
comp=Z,25nm,0.7s
MAKZ Makanchi 65.61 331 P **P 21 47 20.9 -1.2**
MDOK Medeo 65.62 326 *e*P **P 21 47 21.6 -0.7**
baz=326
MDOK Medeo 65.62 326 *e*P **P 21 47 21.6 -0.7**
KBL Kabul 65.64 314 P **P 21 47 21.7 -1.0**
KBL IAmb IAmb 21 47 22.2
comp=Z,18nm,0.8s
KBL Kabul 65.64 314 P **P 21 47 21.7 -1.0**
KBL pmax pmax
comp=Z,18nm,0.9s
AAA Alma-Ata 65.72 326 *e*P **P 21 47 22.0 -1.0**
baz=326
AAA Alma-Ata 65.72 326 *e*P **P 21 47 21.9 -1.0**
BOOM Boomskoye usch 65.81 325 P **P 21 47 23.7 +0.1**
BOOM IAmb IAmb 21 47 24.2
comp=Z,22nm,0.8s
BOOM Boomskoye usch 65.81 325 P **P 21 47 23.7 +0.1**
BOOM pmax pmax
comp=Z,22nm,0.8s
CCD Concordia, Ant 66.12 179 P **P 21 47 27.7 +2.3**
CCD pP **pwP 21 47 53.3 0.0**
CCD PcP **PcP 21 47 56.1 +1.1**
TKM2 Tokmak 2 66.28 325 P **P 21 47 26.2 -0.4**
SNR=11
UCH Uchtor 66.46 324 P **P 21 47 28.0 -0.2**
SNR=13
DRK Karamyk 66.48 320 P **P 21 47 28.4 +0.3**
DRK IAmb IAmb 21 47 28.7
comp=Z,28nm,0.7s
DRK Karamyk 66.48 320 P **P 21 47 28.4 +0.3**
DRK pmax pmax
comp=Z,28nm,0.7s
KBK Karagaybulak 66.48 324 P **P 21 47 27.9 0.0**
SNR=11
AAK Ala-Archa 66.73 324 P **P 21 47 29.4 -0.1**
SNR=7.9
AAK Ala-Archa 66.73 324 P **P 21 47 29.3 -0.1**
AAK IAmb IAmb 21 47 30.2
comp=Z,20nm,0.7s
AAK Ala-Archa 66.73 324 P **P 21 47 29.1 -0.3**
AAK Ala-Archa 66.73 324*c i*P **P 21 47 29.4 -0.1**
AAK pmax pmax
comp=Z,24nm,0.8s
AAK Ala-Archa 66.73 324 P **P 21 47 29.4 -0.1**
AAK PcP **PcP 21 47 58.2 +0.4**
BOD Bodaibo 66.81 356 *e*P **P 21 47 27.5 -1.9**
BOD pmax pmax
comp=Z,14nm,1.1s
CHMS Chumysh 66.81 325 P **P 21 47 28.6 -1.2**
SNR=6.0
ARSB Arslanbob 66.82 322 P **P 21 47 30.0 -0.1**
ARSB Arslanbob 66.82 322 P **P 21 47 30.0 -0.1**
ARSB pmax pmax
comp=Z,11nm,0.8s
AML Almayashu 66.89 323 P **P 21 47 30.6 -0.2**
SNR=26
USP Ospenovka 67.12 325 P **P 21 47 31.2 -0.5**
SNR=20
GAR Garm 67.16 319 IAmb IAmb 21 47 32.4
comp=Z,40nm,1.0s
SGDS Sogindy 67.16 325 *e*P **P 21 47 31.0 -1.1**
baz=325
SGDS Sogindy 67.16 325 *e*P **P 21 47 30.9 -1.1**
EKS2 Erkin-Say 67.16 324 P **P 21 47 32.2 0.0**
SNR=16
CHGR Chuyangaron 67.73 318 IAmb IAmb 21 47 35.3
comp=Z,43nm,1.2s
SIMJ Simiganj 67.83 318 P **P 21 47 35.6 -0.8**
SIMJ IAmb IAmb 21 47 38.2
comp=Z,16nm,0.9s
SIMJ Simiganj 67.83 318 P **P 21 47 35.1 -1.4**
SIMJ PcP **pP 21 48 01.5 -0.7**
BTLS Baital 68.48 326 *e*P **P 21 47 39.0 -1.3**
baz=326
BTLS Baital 68.48 326 *e*P **P 21 47 38.9 -1.3**
SEM Semipalatinsk 69.01 333 *e*P **P 21 47 42.1 -1.6**
comp=Z,17nm,0.8s,baz=333
SEM Semipalatinsk 69.01 333 *e*P **P 21 47 42.0 -1.6**
SEM pmax pmax
comp=Z,17nm,0.8s
IUG Iuzhnay 69.10 322 *e*P **P 21 47 43.7 -0.5**
comp=Z,11nm,0.5s,baz=322
IUG Iuzhnay 69.10 322 *e*P **P 21 47 43.7 -0.5**
IUG pmax pmax
comp=Z,11nm,0.5s
KK31 Karatay Array 69.35 323 P **P 21 47 45.4 -0.3**
KK31 Karatay Array 69.35 323 P **P 21 47 45.4 -0.3**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 69.35 323 P **P 21 47 45.1 -0.6**
KKAR Karatay Array 69.35 323 P **P 21 47 45.8 +0.1**
KKAR IAmb IAmb 21 47 47.4
comp=Z,5.8nm,0.7s
KKAR Karatay Array 69.35 323 P **P 21 47 45.1 -0.6**
KKAR pmax pmax
comp=Z,6.0nm,0.7s
PET Petropavlovsk 69.46 23⇑*i*P **P 21 47 46.6 +0.5**
PET pmax pmax
comp=Z,26nm,1.0s
ZAA0 Zalesovo Array 69.81 338 P **P 21 47 46.7 -1.6**
ZAA0 IAmb IAmb 21 47 48.7
comp=Z,21nm,0.8s
ZALV Zalesovo Beam 69.81 338 P **P 21 47 46.4 -1.8**
ZALV Zalesovo Beam 69.81 338 P **P 21 47 46.0 -2.2**
comp=Z,14nm,0.5s,baz=142,slow=5.2,SNR=53
ZALV S **S 21 56 45.8 -3.6**
comp=Z,0.9nm,0.7s,baz=139,slow=9.9,SNR=3.6
comp=Z,14nm,0.5s
ZALV Zalesovo Beam 69.81 338 P **P 21 47 46.4 -1.8**
KURBB Kurchatov Arra 69.94 333 P **P 21 47 47.7 -1.3**
comp=Z,20nm,0.8s,baz=145,slow=5.6,SNR=94
comp=Z,20nm,0.8s
KURK Kurchatov 69.96 333 P **P 21 47 48.4 -0.8**
KURK Kurchatov 69.96 333 P **P 21 47 48.4 -0.8**
KURK pmax pmax
comp=Z,57nm,1.0s
KURK Kurchatov 69.96 333 P **P 21 47 48.0 -1.2**
MAW Mawson 70.04 200 P **P 21 47 49.7 +0.3**
comp=Z,5.3nm,0.6s,baz=71,slow=6.6,SNR=11
comp=Z,5.3nm,0.6s
YAK Yakutsk 71.07 4 P **P 21 47 53.4 -2.3**
comp=Z,19nm,0.4s,baz=174,slow=2.0,SNR=7.1
comp=Z,19nm,0.4s
YAK Yakutsk 71.07 4 *e*P **P 21 47 55.3 -0.4**
YAK *e* 21 48 11.9
YAK *e**PP **pP 21 48 20.8 -0.7**
YAK *e* 21 50 30.5
YAK *e*S **S 21 57 05.4 +1.6**
YAK *e**SS **sS 21 57 45.7 +0.4**
YAK *e* 21 57 48.7
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,104nm,4.2s
YAK pmax pmax
comp=N,66nm,3.8s
YAK pmax pmax
comp=E,47nm,3.8s
YAK smax smax
comp=E,41nm,2.8s
YAK smax smax
comp=N,20nm,2.8s
SOHO SOHO 71.18 299 P **P 21 47 55.5 -1.7**
OTUK Ortayu 71.40 328 *i* P **P 21 47 57.1 -1.0**
OTUK pmax pmax
comp=Z,54nm,0.7s
VNDA Vanda 71.69 171 P **P 21 48 00.6 +1.3**
VNDA Vanda 71.69 171 P **P 21 48 00.2 +0.9**
comp=Z,3.0nm,0.5s,baz=316,slow=7.3,SNR=25
comp=Z,3.0nm,0.5s
VNDA Vanda 71.69 171 P **P 21 48 00.6 +1.3**
VNDA pmax pmax
comp=Z,7.0nm,0.9s
VNDA Vanda 71.69 171 P **P 21 48 00.6 +1.3**
VNDA pP **pwP 21 48 26.4 -1.1**
UOSS Minazif 71.73 300 P **P 21 47 59.7 -0.8**
HATD Hatta, Dubai 71.75 300 P **P 21 48 00.6 -0.1**
ASHO Ashiyiah 71.77 300 P **P 21 47 59.0 -1.8**
ALNE Al Ain 71.83 299 P **P 21 48 00.3 -0.8**
MSFE Esma-Masafi 71.91 300 P **P 21 48 01.9 +0.3**
ABPO Ambohimpanom 72.10 253 P **P 21 48 04.3 +1.2**
ABPO IAmb IAmb 21 48 06.4
comp=Z,26nm,1.4s
ABPO Ambohimpanom 72.10 253 P **P 21 48 04.3 +1.2**
ABPO pmax pmax
comp=Z,26nm,1.4s
FAQ Al Faqa, Dubai 72.19 300 P **P 21 48 02.5 -0.7**
NAZ Nazwa, Dubai 72.21 300 P **P 21 48 01.5 -1.8**
MA2 Magadan 72.28 15 P **P 21 48 03.9 +0.9**
MA2 Magadan 72.28 15 P **P 21 48 02.2 -0.8**
comp=Z,30nm,0.6s,baz=171,slow=7.6,SNR=9.7
comp=Z,30nm,0.6s
MA2 Magadan 72.28 15*c i*P **P 21 48 03.8 +0.8**
MA2 pmax pmax
comp=Z,30nm,0.6s
VOI Vohitsoka 72.35 250 P **P 21 48 05.7 +1.3**
VOI IAmb IAmb 21 48 07.6
comp=Z,37nm,1.4s
ASUD Al Ashush, Dub 72.38 299 P **P 21 48 03.5 -0.8**
SBA Scott Base 72.67 171 P **P 21 48 06.6 +1.5**
SBA Scott Base 72.67 171 P **P 21 48 06.6 +1.5**
SBA pmax pmax
comp=Z,10.0nm,1.3s
MZR Muzera 73.48 297 P **P 21 48 10.1 -0.9**
BVAR Borovoye Array 75.32 331 P **P 21 48 19.8 -1.2**
comp=Z,18nm,0.7s,baz=129,slow=6.2,SNR=63
BVAR S **S 21 57 47.9 -4.4**
comp=Z,0.9nm,0.7s,baz=112,slow=16,SNR=4.8
comp=Z,18nm,0.7s
BRVK Borovoye 75.39 331 P **P 21 48 20.9 -0.4**
BRVK Borovoye 75.39 331 P **P 21 48 20.9 -0.4**
BRVK pmax pmax
comp=Z,12nm,0.8s
SEY Seymchan 75.56 14 P **P 21 48 20.3 -1.8**
comp=Z,33nm,0.6s,baz=220,slow=4.8,SNR=60
comp=Z,33nm,0.6s
SEY Seymchan 75.56 14*d i*P **P 21 48 21.6 -0.5**
SEY pmax pmax
comp=Z,35nm,0.7s
AB31 Akbulak array 78.82 324 *i* P **P 21 48 39.1 -1.5**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 78.82 324 P **P 21 48 40.0 -0.6**
ABKAR IAmb IAmb 21 48 40.5
comp=Z,25nm,1.3s
ABKAR Akbulak array 78.82 324 P **P 21 48 39.8 -0.8**
KIWB Kanaga Island 80.20 34 P **P 21 48 48.4 +0.3**
ADK Adak 80.47 34 P **P 21 48 49.6 +0.1**
ADK IAmb IAmb 21 48 50.9
comp=Z,25nm,0.8s
ADK Adak 80.47 34 P **P 21 48 49.6 +0.1**
ADK pmax pmax
comp=Z,25nm,0.9s
TIXI Tiksi 80.59 2 P **P 21 48 48.9 -0.8**
TIXI IAmb IAmb 21 48 49.6
comp=Z,49nm,1.2s
TIXI Tiksi 80.59 2 P **P 21 48 48.9 -0.8**
TIXI pmax pmax
comp=Z,49nm,1.3s
RAYN Ar Rayn 80.69 296 P **P 21 48 51.1 -0.2**
RAYN Ar Rayn 80.69 296 P **P 21 48 50.2 -1.1**
RAYN Ar Rayn 80.69 296 P **P 21 48 51.1 -0.2**
RAYN pmax pmax
comp=Z,11nm,0.8s
QSPA South Pole Qui 81.04 180 P **P 21 48 53.4 +1.0**
QSPA South Pole Qui 81.04 180 P **P 21 48 53.5 +1.0**
comp=Z,5.9nm,0.6s,baz=307,slow=1.0,SNR=24
QSPA S **S 21 58 53.5 +0.1**
comp=Z,0.3nm,0.4s,baz=147,slow=17,SNR=1.1
QSPA PKKPbc **PKKPbc 22 07 28.2 -4.0**
comp=Z,1.4nm,0.6s,baz=122,slow=0.7,SNR=9.1
comp=Z,5.9nm,0.6s
NRIK Noril'sk 81.54 349*de*P **P 21 48 54.7 -0.1**
NRIK pmax pmax
comp=Z,9.0nm,1.5s
SVE Sverdlovsk 82.11 331 *e*P **P 21 48 57.2 -0.8**
LKRN Lenkeran, Azer 82.16 311 P **P 21 48 58.9 +0.2**
ARU Arti 82.92 330 P **P 21 49 00.7 -1.6**
ARU Arti 82.92 330*c i*P **P 21 49 00.1 -2.2**
ARU S **S 21 59 11.0 -1.6**
ARU pmax pmax
comp=Z,16nm,1.4s
KMBO Kilima Mbogo 83.90 270 P **P 21 49 10.1 +1.6**
KMBO IAmb IAmb 21 49 11.2
comp=Z,17nm,1.1s
KMBO Kilima Mbogo 83.90 270 P **P 21 49 10.0 +1.4**
KMBO Kilima Mbogo 83.90 270 P **P 21 49 10.1 +1.6**
KMBO pmax pmax
comp=Z,17nm,1.1s
SEKA Sheki 84.07 313 P **P 21 49 08.9 +0.3**
GANJ Ganja 84.54 312 P **P 21 49 11.3 +0.3**
NIKH Nikolski High 85.28 35 P **P 21 49 13.1 -1.2**
baz=248
POGA Pongola 85.55 243 P **P 21 49 18.3 +2.0**
GNI Garni 85.57 312⇑*e*P **P 21 49 16.6 +0.3**
GNI pmax pmax
comp=Z,15nm,1.0s
SPIA Saint Paul Isl 86.13 31 P **P 21 49 18.6 +0.3**
LODK Lodwar 86.47 274 P **P 21 49 22.2 +1.0**
UNV Unalaska Valle 86.91 34 P **P 21 49 21.0 -1.2**
baz=250
KARS Kars 86.92 312 P **P 21 49 23.8 +0.9**
KARS Kars 86.92 312 P **P 21 49 23.8 +0.9**
KARS pmax pmax
comp=Z,56nm,0.8s
GURO Guroymak-BITLI 87.20 310 P **P 21 49 24.4 +0.1**
GURO IAmb IAmb 21 49 25.9
comp=Z,23nm,1.2s
BELG Belogornoye 87.22 324*d i*P **P 21 49 22.4 -1.4**
BELG pmax pmax
comp=Z,4.0nm,1.1s
NCK Nalchik 87.27 315⇓*i*P **P 21 49 24.3 0.0**
NCK pmax pmax
comp=Z,29nm,1.5s
KBZ Khabaz 87.82 315 P **P 21 49 26.2 -0.7**
comp=Z,8.9nm,0.9s,baz=120,slow=3.6,SNR=16
KBZ PKKPbc **PKKPbc 22 07 15.6 +0.5**
comp=Z,2.4nm,0.8s,baz=274,slow=4.2,SNR=5.3
comp=Z,8.9nm,0.9s
KBZ Khabaz 87.82 315*c i*P **P 21 49 26.4 -0.5**
KBZ pmax pmax
comp=Z,13nm,0.9s
MARD Mardin 87.88 308 P **P 21 49 26.8 -0.8**
MARD IAmb IAmb 21 49 28.4
comp=Z,7.9nm,0.7s
SHA1 Shidzhatmaz 87.99 315*c i*P **P 21 49 27.3 -0.7**
KIV Kislovodsk 88.03 315 P **P 21 49 27.3 -0.7**
KIV Kislovodsk 88.03 315 *e*P **P 21 49 26.9 -1.1**
KIV pmax pmax
comp=Z,6.0nm,1.0s
GOF Gofitskoye 88.05 316*ce*P **P 21 49 28.0 0.0**
KIRV Kirov 88.31 330*d i*P **P 21 49 27.5 -1.3**
VSLR Vesyoloye 89.78 314*de*P **P 21 49 35.5 -0.7**
VSLR pmax pmax
comp=Z,45nm,1.5s
S12K Black Hills 89.93 33 P **P 21 49 35.2 -1.4**
baz=254
TROLL Troll, Antarti 90.03 196⇑P **P 21 49 39.0 +2.0**
comp=Z,229nm,0.6s
TROLL ⇑pP **pwP 21 50 05.7 -0.5**
comp=Z,708nm,0.7s
ARPR Arapgir-MALATY 90.13 309 IAmb IAmb 21 49 39.5
comp=Z,13nm,1.0s
MBAR Mbarara 90.42 269 P **P 21 49 39.3 -0.7**
MBAR Mbarara 90.42 269⇓*e*P **P 21 49 40.8 +0.8**
MBAR pmax pmax
comp=Z,5.0nm,0.8s
K13K Kusilvak Mount 90.47 27 IAmb IAmb 21 49 40.4
comp=Z,22nm,1.5s
K13K Kusilvak Mount 90.47 27 P **P 21 49 38.1 -0.8**
baz=252
LSZ Lusaka 90.60 255 P **P 21 49 42.5 +1.7**
LSZ Lusaka 90.60 255 P **P 21 49 42.5 +1.7**
LSZ pmax pmax
comp=Z,17nm,0.6s
SDPT Sand Point 90.70 34 P **P 21 49 39.2 -0.9**
baz=255
F14K Arctic Creek 90.92 23 P **P 21 49 40.4 -0.5**
baz=250
BOSA Boshof 90.98 241 P **P 21 49 42.1 -0.1**
BOSA IAmb IAmb 21 49 45.0
comp=Z,7.8nm,0.7s
BOSA Boshof 90.98 241 P **P 21 49 43.7 +1.4**
comp=Z,4.9nm,0.5s,baz=110,slow=3.8,SNR=23
comp=Z,4.9nm,0.5s
BOSA Boshof 90.98 241 P **P 21 49 42.2 -0.1**
BOSA pmax pmax
comp=Z,8.0nm,0.7s
ANM Nome 91.00 24 P **P 21 49 41.0 -0.3**
baz=251
L14K Kuka Creek 91.19 28 P **P 21 49 42.8 +0.6**
L14K IAmb IAmb 21 49 45.1
comp=Z,11nm,1.2s
L14K Kuka Creek 91.19 28 P **P 21 49 41.7 -0.6**
baz=254
J14K Nanvaranak Lak 91.21 26 P **P 21 49 41.7 -0.6**
baz=253
N14K Kuskokwak Cree 91.27 29 P **P 21 49 42.0 -0.7**
baz=254
O14K Tigyukauivet M 91.30 30 P **P 21 49 42.1 -0.7**
baz=255
LBTB Lobatse 91.33 245 P **P 21 49 43.5 -0.5**
LBTB IAmb IAmb 21 49 47.4
comp=Z,11nm,0.9s
LBTB Lobatse 91.33 245 P **P 21 49 43.5 -0.5**
LBTB pmax pmax
comp=Z,11nm,1.0s
MMAI Mount Meron Ar 91.36 303 P **P 21 49 43.7 -0.2**
comp=Z,4.0nm,0.8s,baz=94,slow=7.8,SNR=6.2
comp=Z,4.0nm,0.8s
M14K Bethel 91.37 29 IAmb IAmb 21 49 43.5
comp=Z,20nm,1.1s
M14K Bethel 91.37 29 P **P 21 49 42.5 -0.6**
baz=254,SNR=5.1
S14K Fog Glacier 91.44 33 P **P 21 49 42.5 -1.2**
baz=256
SNAA Sanae 91.63 195 P **P 21 49 46.3 +2.0**
SNAA Sanae 91.63 195⇑P **P 21 49 46.1 +1.8**
SNAA ⇑pP **pwP 21 50 12.1 -1.2**
comp=Z,80nm,0.4s
comp=Z,309nm,0.6s
SNAA Sanae 91.63 195 P **P 21 49 45.3 +1.0**
comp=Z,4.5nm,0.6s,baz=185,slow=5.6,SNR=30
SNAA LR LR 22 29 12.6
comp=Z,149nm,19.0s,baz=289,slow=34
comp=Z,4.5nm,0.6s
SNAA Sanae 91.63 195 P **P 21 49 46.3 +2.0**
SNAA pmax pmax
comp=Z,16nm,0.7s
F15K North Star Dit 91.65 23 P **P 21 49 43.6 -0.7**
baz=252
G15K Niukluk 91.68 24 P **P 21 49 44.0 -0.5**
baz=252
L15K Ungalak Mounta 91.84 28 P **P 21 49 44.4 -0.8**
baz=255
M15K Kasigluk River 91.95 29 P **P 21 49 44.9 -0.9**
baz=255
K15K Wolf Creek Mou 91.98 27 P **P 21 49 45.4 -0.5**
baz=255
O15K Ungalikthiuk R 92.00 30 P **P 21 49 45.4 -0.7**
baz=256
N15K Kwethluk River 92.11 29 P **P 21 49 45.9 -0.7**
baz=256
C16K Lisburne Hills 92.21 21 P **P 21 49 46.8 0.0**
C16K Lisburne Hills 92.21 21 P **P 21 49 46.5 -0.3**
baz=251
BELA Belgrano 2 92.26 185 IAmb IAmb 21 50 17.5
comp=Z,8.3nm,0.9s
H16K Elim 92.31 25 P **P 21 49 46.7 -0.7**
baz=254
G16K Koyuk River 92.47 24 IAmb IAmb 21 49 48.4
comp=Z,11nm,0.7s
G16K Koyuk River 92.47 24 P **P 21 49 47.8 -0.3**
baz=254
J16K Anvik River 92.65 26 P **P 21 49 49.5 +0.5**
J16K IAmb IAmb 21 50 17.2
comp=Z,16nm,1.4s
J16K Anvik River 92.65 26 P **P 21 49 48.6 -0.4**
baz=255
I17K Unalakleet 92.76 26 P **P 21 49 48.9 -0.6**
baz=255
L16K Owhat River 92.77 28 IAmb IAmb 21 49 49.6
comp=Z,6.3nm,0.7s
L16K Owhat River 92.77 28 P **P 21 49 48.9 -0.7**
baz=256
N16K Nishlik Lake 92.82 29 P **P 21 49 49.0 -0.9**
baz=257
D17K Noatak River 92.84 22 P **P 21 49 49.4 -0.4**
baz=253,SNR=11
M16K Timber Creek 92.86 29 IAmb IAmb 21 49 50.2
comp=Z,9.0nm,0.9s
M16K Timber Creek 92.86 29 P **P 21 49 49.2 -0.7**
baz=257
O16K Kokwok River B 92.96 30 P **P 21 49 51.5 +1.0**
O16K Kokwok River B 92.96 30 P **P 21 49 49.8 -0.6**
baz=257
C17K DeLong Mountai 93.03 21 P **P 21 49 50.0 -0.7**
baz=253,SNR=5.7
E17K Hotham Inlet 93.14 22 P **P 21 49 50.7 -0.5**
baz=254
G17K Kiwalik Mounta 93.19 24 P **P 21 49 51.0 -0.4**
baz=256,SNR=12
F17K Baldwin Pennin 93.19 23 P **P 21 49 50.7 -0.6**
baz=255
VNA2 Neumayer--Watz 93.25 195⇑P **P 21 49 53.3 +1.6**
comp=Z,3.4nm,0.6s,baz=150,slow=4.5
VNA2 ⇑pP **pwP 21 50 20.3 -0.5**
comp=Z,7.3nm,0.8s,baz=149,slow=5.9
J17K VABM Dome 93.34 26 P **P 21 49 51.7 -0.5**
baz=257
H17K Granite Mounta 93.35 25 IAmb IAmb 21 49 52.7
comp=Z,11nm,0.8s
H17K Granite Mounta 93.35 25 P **P 21 49 51.7 -0.5**
baz=256,SNR=7.0
L17K Donlin 93.41 28 P **P 21 49 51.7 -0.8**
baz=257
K17K Iditarod 93.54 27 IAmb IAmb 21 49 53.5
comp=Z,9.6nm,0.8s
K17K Iditarod 93.54 27 P **P 21 49 52.3 -0.8**
baz=257
N17K Nushagak Hills 93.60 29 P **P 21 49 52.3 -1.1**
baz=258
VNA3 Neumayer Olymp 93.61 194⇑P P 21 49 59.6 +6.2
comp=Z,2.7nm,0.7s
VNA3 ⇑pP pwP 21 50 21.6 -0.9
comp=Z,3.2nm,0.5s
M17K Holitna River 93.66 28 IAmb IAmb 21 49 54.3
comp=Z,12nm,1.1s
M17K Holitna River 93.66 28 P **P 21 49 53.1 -0.6**
baz=258
E18K Tukpahlearik C 93.69 22 IAmb IAmb 21 49 54.2
comp=Z,11nm,0.9s
E18K Tukpahlearik C 93.69 22 P **P 21 49 53.2 -0.4**
baz=256,SNR=9.2
B18K Kokolik River 93.76 20 P **P 21 49 53.7 -0.2**
baz=255
C18K Utukok River 93.78 21 IAmb IAmb 21 49 54.5
comp=Z,4.8nm,0.8s
C18K Utukok River 93.78 21 P **P 21 49 53.4 -0.8**
baz=255
BR131 Keskin Array S 93.83 309 IAmb IAmb 21 49 55.2
comp=Z,7.1nm,1.1s
BR131 Keskin Array S 93.83 309*d i*P **P 21 49 53.9 -1.2**
BRTR Keskin Array B 93.83 309 P **P 21 49 53.3 -1.8**
BRTR Keskin Array B 93.83 309 P **P 21 49 54.0 -1.2**

comp=Z,3.6nm,0.9s,baz=116,slow=5.6,SNR=20
comp=Z,3.6nm,0.9s
BRTR **Keskin Array B** 93.83 309 P **P** 21 49 54.0 -1.2
F18K **Selawik** 93.85 23 P **P** 21 49 53.5 -0.9
baz=256
H18K **Honhosa River** 94.04 25 P **P** 21 49 54.2 -1.2
baz=258
G18K **Tagagawik** 94.08 24 P **P** 21 49 54.3 -1.3
baz=257,SNR=5.2
L18K **Granite Mounta** 94.17 28 IAmb IAmb 21 49 56.5
comp=Z,7.6nm,0.8s
L18K **Granite Mounta** 94.17 28 P **P** 21 49 55.3 -0.7
baz=259,SNR=5.2
A19K **Wainwright** 94.22 19 P **P** 21 49 55.6 -0.5
baz=255
OBN **Obninsk** 94.24 325⇑ *e*P **P** 21 49 57.5 +1.0
OBN *e**PP **pP** 21 50 21.6 -1.9
OBN *e* 21 53 46.9
OBN *e*PPP PPP 21 55 46.1
OBN *e*S **S** 22 01 02.1 +3.0
OBN pmax pmax
comp=Z,11nm,0.5s
J18K **Innoko River** 94.40 26 IAmb IAmb 21 49 57.0
comp=Z,7.8nm,1.1s
J18K **Innoko River** 94.40 26 P **P** 21 49 55.9 -1.1
baz=259,SNR=5.9
M18K **Stony River** 94.43 29 P **P** 21 49 56.4 -0.9
baz=260
C19K **Lookout Ridge** 94.46 21 P **P** 21 49 56.8 -0.5
baz=257,SNR=9.4
F19K **Shaleruckik Mo** 94.63 23 P **P** 21 49 57.0 -1.0
baz=258
G19K **Purcell Mounta** 94.76 24 P **P** 21 49 57.9 -0.8
baz=259
D19K **Kuna River** 94.85 21 P **P** 21 49 58.5 -0.5
baz=258,SNR=12
H19K **Roundabout Mou** 94.90 24 P **P** 21 49 58.9 -0.3
baz=259
N19K **Bonanza Creek** 94.96 29 IAmb IAmb 21 49 60.0
comp=Z,11nm,0.9s
N19K **Bonanza Creek** 94.96 29 P **P** 21 49 58.9 -0.9
baz=261
E19K **Redstone River** 94.96 23 P **P** 21 49 59.3 -0.3
baz=259,SNR=26
J19K **Poorman** 94.97 26 P **P** 21 49 58.7 -1.0
baz=260
L19K **White Mountain** 95.01 28 IAmb IAmb 21 50 00.2
comp=Z,6.2nm,0.9s
L19K **White Mountain** 95.01 28 P **P** 21 49 59.2 -0.7
baz=260,SNR=5.9
M19K **Big River Lodg** 95.18 28 P **P** 21 50 00.1 -0.6
baz=261
D20K **Etivluk River** 95.43 21 P **P** 21 50 01.2 -0.4
baz=259,SNR=11
F20K **Avaraart Lake** 95.46 23 IAmb IAmb 21 50 02.3
comp=Z,7.5nm,0.8s
F20K **Avaraart Lake** 95.46 23 P **P** 21 50 01.5 -0.3
baz=260,SNR=9.6
B20K **Meade River** 95.48 20 P **P** 21 50 01.6 -0.3
baz=259
E20K **Nigu River** 95.50 22 P **P** 21 50 01.5 -0.6
baz=260,SNR=28
L20K **Farewell, AK** 95.50 28 P **P** 21 50 01.5 -0.6
baz=261
H20K **Anotleneega Mo** 95.54 25 P **P** 21 50 01.6 -0.6
baz=261,SNR=7.0
K20K **Telida** 95.55 27 IAmb IAmb 21 50 02.7
comp=Z,5.2nm,0.7s
K20K **Telida** 95.55 27 P **P** 21 50 01.6 -0.7
baz=261,SNR=7.3
I20K **Naaghedeneel** 95.60 25 P **P** 21 50 01.9 -0.6
baz=261
J20K **Nowinta River** 95.64 26 IAmb IAmb 21 50 03.1
comp=Z,5.5nm,0.8s
J20K **Nowinta River** 95.64 26 P **P** 21 50 02.0 -0.7
baz=261
M20K **Styx River** 95.76 28 IAmb IAmb 21 50 03.5
comp=Z,5.1nm,0.8s
M20K **Styx River** 95.76 28 P **P** 21 50 02.6 -0.8
baz=262
IMAR **Indian Mountai** 96.08 24 P **P** 21 50 03.7 -1.0
C21K **Knifeblade Rid** 96.16 21 P **P** 21 50 04.5 -0.5
baz=261
G21K **Allakaket** 96.25 24 IAmb IAmb 21 50 05.8
comp=Z,11nm,1.2s
G21K **Allakaket** 96.25 24 P **P** 21 50 04.7 -0.7
baz=262,SNR=6.4
B21K **Ikpikpuk River** 96.29 21 P **P** 21 50 04.9 -0.6
baz=261,SNR=11
E21K **Killik River** 96.34 22 IAmb IAmb 21 50 06.2
comp=Z,6.9nm,0.9s
E21K **Killik River** 96.34 22 P **P** 21 50 05.0 -0.9
baz=262
F21K **Alatna River** 96.36 23 P **P** 21 50 05.1 -0.9
baz=262
A22K **Sinclair Lake** 96.38 19 P **P** 21 50 05.7 -0.2
baz=261
H21K **Melozitna Rive** 96.42 25 IAmb IAmb 21 50 07.3
comp=Z,6.9nm,1.4s
H21K **Melozitna Rive** 96.42 25 P **P** 21 50 05.6 -0.7
baz=263,SNR=5.5
SKT **Skwentna** 96.53 28 P **P** 21 50 04.3 -2.5
baz=263
B22K **Teshekpuk Lake** 96.80 20 P **P** 21 50 07.4 -0.4
baz=263,SNR=9.1
SUA **Susitna One** 96.84 29 P **P** 21 50 06.6 -1.7
baz=264
D22K **Ayikyak River** 96.87 21 P **P** 21 50 07.9 -0.3
baz=263
F22K **John River** 96.89 23 P **P** 21 50 08.1 -0.3
baz=263,SNR=12
LVZ **Lovozero** 96.95 338⇓ *e*P **P** 21 50 09.9 +1.3
LVZ pmax pmax
comp=Z,61nm,1.6s
BPAW **Bear Paw Mtn.** 97.01 26 P **P** 21 50 08.5 -0.4
BPAW IAmb IAmb 21 50 33.2
comp=Z,7.3nm,0.8s
BPAW **Bear Paw Mtn.** 97.01 26 P **P** 21 50 08.2 -0.8
baz=264
H22K **Ishtalitna Cre** 97.03 24 P **P** 21 50 08.4 -0.7
baz=264,SNR=5.7
MLY **Manley** 97.21 25 IAmb IAmb 21 50 09.8
comp=Z,8.2nm,1.1s
MLY **Manley** 97.21 25 P **P** 21 50 08.6 -1.3
baz=264,SNR=9.9
RC01 **Rabbit Creek A** 97.29 29 P **P** 21 50 09.0 -1.2
baz=265
D23K **Nanushuk River** 97.60 21 P **P** 21 50 11.0 -0.5
baz=265
COLD **Coldfoot** 97.63 23 P **P** 21 50 11.1 -0.5
baz=265,SNR=8.7
G23K **Bananza Creek** 97.65 24 IAmb IAmb 21 50 12.6
comp=Z,8.8nm,0.9s
G23K **Bananza Creek** 97.65 24 P **P** 21 50 11.4 -0.4
baz=265,SNR=11
C23K **Itkillik River** 97.70 20 P **P** 21 50 11.7 -0.2
baz=265,SNR=9.1
H23K **Yukon River** 97.78 25 IAmb IAmb 21 50 12.8
comp=Z,4.8nm,0.8s
H23K **Yukon River** 97.78 25 P **P** 21 50 11.8 -0.6
baz=266,SNR=9.0
I23K **Minto, Yukon-K** 97.80 25 P **P** 21 50 11.5 -0.9
baz=266,SNR=15
MCK **McKinley** 97.88 27 P **P** 21 50 11.2 -1.7
baz=266
NEA2 **Nenana** 97.88 26 IAmb IAmb 21 50 14.1
comp=Z,4.7nm,1.0s
NEA2 **Nenana** 97.88 26 P **P** 21 50 12.1 -0.8
baz=266
RND **Reindeer** 97.89 27 P **P** 21 50 11.9 -1.1
RND **Reindeer** 97.89 27 P **P** 21 50 11.9 -1.1
RND pmax pmax
comp=Z,16nm,0.7s
E23K **Chandalar** 97.92 22 P **P** 21 50 12.6 -0.4
baz=266,SNR=10
KNK **Knik Glacier** 97.93 29 P **P** 21 50 11.8 -1.4
baz=266
PWL **Port Wells** 97.95 30 P **P** 21 50 11.9 -1.4
baz=266
VALR **Valaam** 97.97 331⇑ *e*P **P** 21 50 11.2 -2.0
VALR pmax pmax
comp=Z,10.0nm,1.3s
TOLK **Toolik Lake Re** 97.97 22 P Pdif 21 50 13.4 +0.1
TOLK IAmb IAmb 21 50 13.9
comp=Z,6.1nm,0.8s
TOLK **Toolik Lake Re** 97.97 22 P **P** 21 50 12.7 -0.5
baz=266
WAT1 **Susitna Watana** 97.99 28 P **P** 21 50 11.8 -1.6
baz=266
SML **Sawmill** 98.02 29 P **P** 21 50 12.6 -1.0
SML **Sawmill** 98.02 29 P **P** 21 50 12.3 -1.3
baz=266
SML **Sawmill** 98.02 29 P **P** 21 50 12.6 -1.0
SML pmax pmax
comp=Z,12nm,0.8s
AKBB **Malin Array Si** 98.14 320⇓ *e*P **P** 21 50 12.2 -2.1
AKBB pmax pmax
comp=Z,4.0nm,0.9s
D24K **Happy Valley** 98.28 21 P **P** 21 50 13.8 -0.7
baz=267
WRH **Wood River Hil** 98.30 26 IAmb IAmb 21 50 13.8
comp=Z,8.7nm,0.9s
M23K **Glacier View** 98.31 29 P **P** 21 50 13.3 -1.5
baz=267
E24K **Your Creek** 98.34 22 P Pdif 21 50 15.5 +0.6
E24K **Your Creek** 98.34 22 P **P** 21 50 14.0 -0.9
baz=267
WAT6 **Susitna Watana** 98.35 28 P **P** 21 50 13.9 -1.2
baz=267,SNR=5.5
CCB **Clear Creek Bu** 98.43 26 IAmb IAmb 21 50 14.2
comp=Z,7.3nm,0.8s
KARP **Karpathos** 98.45 305 **P** 21 50 16.0 -0.1
H24K **Noodor Dome** 98.46 25 IAmb IAmb 21 50 16.0
comp=Z,6.8nm,0.9s
H24K **Noodor Dome** 98.46 25 P **P** 21 50 14.9 -0.6
baz=267,SNR=7.3
SCM **Sheep Creek Mo** 98.50 29 P **P** 21 50 14.5 -1.3
baz=267
DHY **Denali Highway** 98.54 27 P **P** 21 50 14.8 -1.2
baz=267,SNR=8.1
F24K **Squaw Lake** 98.54 23 IAmb IAmb 21 50 16.7
comp=Z,5.2nm,1.0s
F24K **Squaw Lake** 98.54 23 P **P** 21 50 15.4 -0.3
baz=267,SNR=6.0
G24K **Hadweenzic Riv** 98.66 24 IAmb IAmb 21 50 17.9
comp=Z,7.9nm,1.4s
G24K **Hadweenzic Riv** 98.66 24 P **P** 21 50 15.8 -0.5
baz=268
HDA **Harding Lake** 98.79 26 IAmb IAmb 21 50 15.5
comp=Z,6.4nm,0.8s
HDA **Harding Lake** 98.79 26 P **P** 21 50 14.8 -2.1
baz=268,SNR=6.0
ILAR **Eielson Array** 98.83 26 P **P** 21 50 15.4 -1.7
ILAR **Eielson Array** 98.83 26 P **P** 21 50 14.1 -3.0
comp=Z,1.1nm,0.6s,baz=241,slow=5.3,SNR=20
ILAR PKKPbc **PKKPbc** 22 06 45.4 -1.7
comp=Z,0.8nm,0.8s,baz=96,slow=1.4,SNR=8.4
comp=Z,1.1nm,0.6s
ILAR **Eielson Array** 98.83 26 P **P** 21 50 15.4 -1.7
M24K **Tolsona, Glenn** 99.05 28 P **Pdif** 21 50 17.0 -1.2
baz=268
D25K **Kavik River** 99.16 21 IAmb IAmb 21 50 23.6
comp=Z,2.6nm,0.8s
D25K **Kavik River** 99.16 21 P **Pdif** 21 50 17.4 -1.1
baz=269
G25K **Bearman Lake** 99.21 24 P **Pdif** 21 50 18.2 -0.5
baz=269
K24K **Donnelly Dome** 99.28 27 P **Pdif** 21 50 17.9 -1.3
baz=269
H25L **Birch Creek** 99.32 24 P **Pdif** 21 50 18.9 -0.3
baz=269
F25K **Christian Rive** 99.40 23 P **Pdif** 21 50 19.0 -0.7
baz=269
PAX **Paxson** 99.40 28 P **Pdif** 21 50 18.8 -1.0
baz=269,SNR=5.2
J25K **Salcha River,** 99.48 26 P **Pdif** 21 50 18.0 -2.0
baz=269,SNR=6.0
C26K **Camden Bay** 99.67 20 P **Pdif** 21 50 20.4 -0.3
baz=270
BMAR **Burnt Mountain** 99.81 23 Pdif **Pdif** 21 50 21.1 -0.4
VSU **Vasula** 99.93 328⇓ *e*P **Pdif** 21 50 19.9 -2.2
VSU pmax pmax
comp=Z,10.0nm,0.8s
F26K **Sheenjek River** 99.97 23 P **Pdif** 21 50 22.0 -0.2
baz=271,SNR=5.4
SCRK **Sand Creek** 100.08 27 P **Pdif** 21 50 21.9 -0.9
baz=270
C27K **Jago River** 100.09 21 P **Pdif** 21 50 22.5 -0.1
baz=272,SNR=7.1
G26K **Porcupine Rive** 100.13 23 P **Pdif** 21 50 22.5 -0.2
baz=271
J26L **Joseph Creek** 100.26 26 P **Pdif** 21 50 22.7 -0.8
baz=271,SNR=13
FINES **FINESS Array B** 100.28 331 P **Pdif** 21 50 21.1 -2.5
comp=Z,2.2nm,0.6s,baz=51,slow=6.1,SNR=12
FINES PKiKP **PKiKP** 21 54 50.3 +0.1
comp=Z,0.7nm,0.5s,baz=100,slow=4.8,SNR=9.8
FINES **FINESS Array B** 100.28 331 *i* P **Pdif** 21 50 22.1 -1.5
FINES pmax pmax
comp=Z,2.0nm,0.6s
ARCES **ARCESS Array B** 100.34 339 P **Pdif** 21 50 21.9 -1.9
comp=Z,2.7nm,0.7s,baz=71,slow=11,SNR=5.2
ARCES PKiKP **PKiKP** 21 54 50.1 -0.1
comp=Z,0.9nm,0.5s,baz=20,slow=3.9,SNR=1.3
I26K **Coal Creek Min** 100.42 25 P **Pdif** 21 50 23.1 -1.0
baz=271
K27K **Chicken** 100.92 26 P **Pdif** 21 50 26.6 +0.2
baz=272
E27K **Coleen River** 100.92 22 P **Pdif** 21 50 26.0 -0.4
baz=273,SNR=11
G27K **Doyon Strip** 100.97 24 P **Pdif** 21 50 26.8 +0.1
baz=273,SNR=6.1
I27K **Kandik River** 101.05 25 P **Pdif** 21 50 27.0 0.0
baz=273,SNR=11
H27K **Steamboat Moun** 101.05 24 P **Pdif** 21 50 26.8 -0.2
baz=273,SNR=6.7
L27K **Beaver Creek,** 101.06 27 P **Pdif** 21 50 26.9 -0.2
baz=272,SNR=5.2
M27K **Edge Creek, AK** 101.07 28 P **Pdif** 21 50 26.9 -0.4
baz=272
BCAR **Beaver Creek A** 101.08 27 Pdif **Pdif** 21 50 26.9 -0.3
EGAK **Eagle** 101.28 26 P **Pdif** 21 50 27.4 -0.6
baz=273
CTG **Chitna Glacier** 101.37 30 P **Pdif** 21 50 27.9 -0.8
baz=272
F28M **Old Crow** 101.61 23 P **Pdif** 21 50 29.2 -0.3
baz=275
E28M **Babbage River** 101.65 22 P **Pdif** 21 50 29.3 -0.3
baz=275
I28M **Miner Creek** 101.76 25 P **Pdif** 21 50 29.8 -0.4
baz=274,SNR=12
D28M **Stokes Point** 101.86 21 P **Pdif** 21 50 30.3 -0.2
baz=276
YUK8 **Steele Glacier** 102.12 29 P **Pdif** 21 50 31.4 -0.8
baz=274
E29M **Blow River** 102.27 22 P **Pdif** 21 50 31.9 -0.4
baz=277
H29M **Whitestone** 102.33 24 P **Pdif** 21 50 32.3 -0.4
baz=276
G29M **Pine Creek** 102.39 23 P **Pdif** 21 50 32.7 -0.2
baz=276
I29M **Ogilvie Camp,** 102.44 25 P **Pdif** 21 50 32.9 -0.3
baz=276,SNR=5.4
M29M **Somme Creek** 102.65 28 P **Pdif** 21 50 34.1 -0.2
baz=275
L29M **L29M** 102.74 27 P **Pdif** 21 50 35.0 +0.4
baz=275
K29M **Barlow Dome** 102.94 26 P **Pdif** 21 50 35.0 -0.5
baz=276
EPYK **Eagle Plains** 102.98 24 P **Pdif** 21 50 35.7 +0.1
baz=277
G30M **tAoh Zaii Nji** 103.09 23 P **Pdif** 21 50 34.9 -1.1
baz=278
F30M **Barrier River** 103.17 23 P **Pdif** 21 50 35.9 -0.4
baz=279
I30M **Mount Dempster** 103.27 25 P **Pdif** 21 50 36.3 -0.7
baz=278
M30M **Minto, Yukon** 103.41 28 P **Pdif** 21 50 37.2 -0.3
baz=276
G31M **Satah River** 103.86 23 P **Pdif** 21 50 38.9 -0.4
baz=280
O30N **Mendenhall** 103.95 30 P **Pdif** 21 50 39.6 -0.4
baz=277
HFS **Hagfors** 106.44 330 Pdiff **Pdif** 21 50 48.9 -2.1
comp=Z,2.9nm,0.8s,baz=114,slow=5.5,SNR=14
NB2 **NORSAR Subarra** 107.45 331 P **Pdif** 21 50 53.6 -2.0
comp=Z,0.9nm,0.7s,baz=75,slow=4.6
NOA **NORSAR Array B** 107.45 331 Pdiff **Pdif** 21 50 53.0 -2.6
comp=Z,0.9nm,0.7s,baz=75,slow=4.6,SNR=8.0
MOA **Molln** 107.98 317 *e*PKiKP **PKiKP** 21 55 05.9 +1.1
comp=Z,0.6nm,0.4s
CLL **Collm** 108.34 321 *e*PKiKP **PKiKP** 21 55 06.0 +0.7
CLL *ex* x 21 55 14.0
LESA **Schwarzleotal** 109.10 317 *e*PKiKP **PKiKP** 21 55 07.7 +0.7
comp=Z,0.7nm,0.3s
ABTA **Abfaltersbach** 109.30 316 *e*PKiKP **PKiKP** 21 55 08.2 +0.8
WTTA **Wattenberg** 109.83 317 *e*PKiKP **PKiKP** 21 55 08.4 -0.2
comp=Z,1.5nm,0.3s
WATA **Walderalm** 109.86 317 *e*PKiKP **PKiKP** 21 55 08.8 +0.3
comp=Z,0.5nm,0.2s
SQTA **Sankt Quirin** 110.12 317 *e*PKiKP **PKiKP** 21 55 09.5 +0.5
comp=Z,1.1nm,0.4s
MOTA **Moosalm** 110.17 317 *e*PKiKP **PKiKP** 21 55 10.0 +0.9
comp=Z,0.7nm,0.4s
YKA **Yellowknife Ar** 113.23 25 PKiKP **PKiKP** 21 55 13.8 -0.5
comp=Z,2.8nm,0.6s,baz=310,slow=2.0,SNR=17
EKA **Eskdalemuir Ar** 116.48 328 PKP **PKPdf** 21 55 20.6 -0.2
comp=Z,0.3nm,0.3s,baz=44,slow=3.6,SNR=6.8
EKA PKKPbc **PKKPab** 22 05 54.5 +1.0
comp=Z,0.6nm,0.6s,baz=54,slow=4.2,SNR=3.9
NEW **Newport** 117.47 40 P **PKPdf** 21 55 22.8 -0.1
baz=289
PKM **Mcpherson Peak** 118.75 55 P **PKiKP** 21 55 26.2 +0.2
baz=280
VES **Vestal, Richgr** 119.17 54 P **PKPdf** 21 55 26.5 0.0
baz=281
NVAR **Mina Array Bea** 119.27 51 PKP **PKPdf** 21 55 25.9 -1.0
comp=Z,3.6nm,0.7s,baz=251,slow=2.3,SNR=23
NVAR PKKPbc **PKKPab** 22 05 42.2 +0.2
comp=Z,1.1nm,0.8s,baz=113,slow=4.6,SNR=4.9
ISA **Isabella, Lake** 119.69 54 P **PKiKP** 21 55 28.0 +0.3
baz=281
CWC **Cottonwood Cre** 119.86 53 P **PKiKP** 21 55 28.3 +0.2
baz=282
MSO **Missoula** 119.98 41 P **PKiKP** 21 55 28.2 +0.2
baz=291
SCI2 **San Clemente I** 120.10 57 P **PKiKP** 21 55 28.6 +0.2
baz=279
CIS **Catalina Islan** 120.14 57 P **PKPdf** 21 55 28.3 -0.2
baz=280
EDW2 **Edwards Air Fo** 120.22 55 P **PKiKP** 21 55 29.3 +0.5
baz=281
GRAC **Grapevine Rang** 120.30 52 P **PKiKP** 21 55 29.8 +0.9
baz=282
LRMC **Laurel Mtn Rad** 120.36 54 P **PKiKP** 21 55 29.9 +0.8
baz=281
MPMC **Manual Prospec** 120.40 53 P **PKiKP** 21 55 29.8 +0.6
baz=282
BFSC **Mount Baldy Ra** 120.61 56 P **PKiKP** 21 55 30.1 +0.5
baz=281
TORD **Torodi Ar. Bea** 120.64 280 PKP **PKPdf** 21 55 29.3 -0.6
comp=Z,9.8nm,0.6s,baz=66,slow=2.6,SNR=78
TORD PKKPbc **PKKPbc** 22 05 34.3 -0.6
comp=Z,0.7nm,0.9s,baz=298,slow=3.1,SNR=3.5
HLID **Hailey** 120.75 44 P **PKiKP** 21 55 30.8 +1.1
baz=288
FURC **Furnace Creek,** 120.81 53 P **PKiKP** 21 55 30.7 +1.0
baz=282
GSC **Goldstone, Bar** 121.10 54 P **PKiKP** 21 55 31.3 +0.8
baz=282
MURC **Murrieta** 121.11 56 P **PKiKP** 21 55 31.6 +1.1
baz=280
TPNV **Topopah Spring** 121.19 52 P **PKiKP** 21 55 31.2 +0.5
baz=283
R11B **Troy Canyon, C** 121.37 50 P **PKiKP** 21 55 31.9 +0.8
baz=284
SHOC **Shoshone, Teco** 121.40 53 P **PKiKP** 21 55 31.8 +0.9
baz=282
HEC **Hector,Ludlow** 121.57 55 P **PKiKP** 21 55 32.1 +0.6
baz=282
PFO **Pinyon Flats O** 121.71 56 P **PKiKP** 21 55 32.5 +0.7
baz=281
TPFO **Pinon Flats** 121.72 56 P **PKiKP** 21 55 32.6 +0.8
baz=281
TUQ **Turquoise Moun** 121.78 54 P **PKiKP** 21 55 32.6 +0.7
baz=282
MONP2 **Monument Peak** 121.88 57 P **PKiKP** 21 55 32.9 +0.6
baz=281
BOZ **Bozeman (W)** 121.92 41 P **PKiKP** 21 55 32.5 +0.6
baz=292
BELC **Belle Mtn. Jos** 122.01 55 P **PKiKP** 21 55 33.3 +0.9
baz=282
GMRC **Granite Mounta** 122.13 55 P **PKiKP** 21 55 33.5 +0.9
baz=282
EGMT **Eagleton** 122.14 38 P **PKiKP** 21 55 32.4 +0.2
baz=295
IKP **In-Ko-Pah, Jac** 122.18 57 P **PKiKP** 21 55 33.7 +1.0
baz=281
SWSC **Sam W. Stewart** 122.38 57 P **PKiKP** 21 55 34.1 +1.1
baz=281
BC3 **Big Chuckawall** 122.53 56 P **PKiKP** 21 55 34.2 +0.8
baz=282
ESDC **Sonseca Array** 122.55 312 PKP **PKPdf** 21 55 32.6 -0.3
comp=Z,0.8nm,0.6s,baz=21,slow=2.7,SNR=11
IRM **Iron Mountain** 122.67 55 P **PKiKP** 21 55 34.5 +0.9
baz=282
DUG **Dugway, Tooele** 122.93 48 P **PKiKP** 21 55 35.1 +1.1
baz=286
GLA **Glamis** 123.16 56 P **PKiKP** 21 55 34.9 +0.3
baz=282
PDMCI **Parker Dam,Lak** 123.45 55 P **PKiKP** 21 55 35.1 +0.1
baz=283
RLMT **Red Lodge** 123.64 41 P **PKiKP** 21 55 35.5 +0.2
baz=294
BW06 **Boulder Array** 124.36 44 P **PKPdf** 21 55 36.8 +0.2
baz=292
PDAR **Pinedale Array** 124.36 44 PKP **PKPdf** 21 55 35.2 -1.4
comp=Z,0.7nm,0.4s,baz=214,slow=1.6,SNR=11
PDAR PKKPbc **PKKPab** 22 05 20.6 +0.7
comp=Z,0.9nm,0.5s,baz=101,slow=7.7,SNR=7.4
LAO **LASA Array** 124.88 38 P **PKiKP** 21 55 38.0 +0.4
baz=298
WUAZ **Wupatki** 125.36 53 P **PKiKP** 21 55 39.9 +0.9
baz=286
O20A **White River Ci** 126.25 46 P **PKiKP** 21 55 40.9 +0.2
baz=291
KIC **Kosan Boka** 126.45 271⇓ *e*PKP1 **PKiKP** 21 55 41.6 0.0
comp=Z,24nm,0.7s
K22A **Casper** 126.46 43 P **PKiKP** 21 55 41.1 +0.1
baz=295
DBIC **Dimbokro** 126.60 272 PKP **PKPdf** 21 55 40.7 -0.7
comp=Z,14nm,0.8s,baz=100,slow=2.0,SNR=14
TUC **Tucson** 126.65 56 P **PKiKP** 21 55 42.4 +0.9
baz=284
LIC **Lamto** 126.72 271⇓ *i*PKP1 **PKiKP** 21 55 42.3 +0.2
comp=Z,43nm,0.8s
TIC **Toumodi** 126.76 272⇑ *i*PKP1 **PKiKP** 21 55 42.6 +0.4
comp=Z,30nm,0.8s
W18A **Petrified Fore** 126.76 53 P **PKiKP** 21 55 42.6 +0.7
baz=287
MVCO **Mesa Verde** 127.07 50 P **PKiKP** 21 55 42.9 +0.4
baz=289
RSSD **Black Hills** 127.44 40 P **PKPdf** 21 55 42.6 +0.2
baz=298
N23A **Red Feather La** 127.57 45 P **PKiKP** 21 55 43.4 0.0
baz=294
S22A **4UR Ranch, Cre** 128.13 49 P **PKiKP** 21 55 44.9 +0.2
baz=291
ISCO **Idaho Springs** 128.24 46 P **PKiKP** 21 55 44.9 0.0
baz=293
ULM **Lac du Bonnet** 128.63 30 PKP **PKPdf** 21 55 42.7 -1.5
comp=Z,8.2nm,0.8s,baz=334,slow=3.4,SNR=8.2
121A **Cookes Peak, D** 129.04 55 P **PKiKP** 21 55 46.5 +0.1
baz=286
SDCO **Great Sand Dun** 129.12 48 P **PKiKP** 21 55 46.6 0.0
baz=292
ANMO **Albuquerque** 129.37 52 P **PKiKP** 21 55 47.4 +0.3
baz=289
PLCA **Paso Flores** 129.37 168 PKP **PKPdf** 21 55 46.2 +0.1
comp=Z,3.1nm,0.9s,baz=257,slow=2.0,SNR=8.3
T25A **Trinidad** 130.15 48 P **PKiKP** 21 55 48.9 +0.3
baz=292
MNTX **Cornudas Mount** 131.23 55 P **PKiKP** 21 55 51.2 +0.5
baz=287
ECSD **EROS Data Cent** 132.22 37 P **PKiKP** 21 55 52.3 0.0
baz=305
MSTX **Muleshoe** 132.56 52 P **PKiKP** 21 55 53.3 -0.2
baz=291
CBKS **Cedar Bluff** 132.78 44 P **PKiKP** 21 55 53.6 -0.1
baz=298
AMTX **Amarillo** 133.06 50 P **PKiKP** 21 55 54.2 -0.2
baz=293
TXAR **Lajitas Array** 133.33 58 PKhKP PKPpre 21 55 43.3
comp=Z,0.4nm,0.5s,baz=254,slow=2.1,SNR=8.5
TXAR PKP **PKPdf** 21 55 54.2 +0.3
comp=Z,1.9nm,0.8s,baz=224,slow=2.0,SNR=16
TXAR SKPbc **SKPbc** 21 59 12.0 -1.2
comp=Z,0.8nm,0.8s,baz=227,slow=1.9,SNR=5.6
SPMN **Marine on St.** 133.46 33 P **PKiKP** 21 55 54.8 0.0
baz=310
SCHQ **Schefferville** 133.79 6 PKP **PKPdf** 21 55 53.6 -0.3
comp=Z,7.5nm,0.5s,baz=321,slow=1.8,SNR=15
SCHQ SKPbc **SKPbc** 21 59 11.5 -2.2
comp=Z,6.6nm,0.9s,baz=17,slow=2.4,SNR=5.2

DKNS	**Dickens**	**134.10**	**51**	PKPdf	**PKiKP**	**21 55 56.5**	**0.0**
WMOK	**Wichita Mounta**	**135.29**	**49**	P	**PKiKP**	**21 55 59.0**	**+0.2**
	baz=296						
JCT	**Junction City**	**136.16**	**55**	P	**PKiKP**	**21 56 00.5**	**-0.2**
	baz=291						
JFWS	**Jewell Farm**	**136.37**	**34**	P	**PKPdf**	**21 55 59.9**	**+0.8**
	baz=312						
833A	**Chaparral WMA,**	**137.21**	**58**	P	**PKiKP**	**21 56 02.8**	**-0.1**
	baz=289						
WHTX	**Lake Whitney,**	**137.45**	**52**	P	**PKiKP**	**21 56 03.4**	**+0.2**
	baz=294						
MIAR	**Mount Ida**	**139.18**	**46**	P	**PKiKP**	**21 56 06.1**	**-0.6**
	baz=300						
O48B	**Farmland**	**140.96**	**33**	P	**PKiKP**	**21 56 09.5**	**-0.7**
	baz=316						
P49A	**Miami Univ. Ec**	**141.72**	**33**	P	**PKiKP**	**21 56 11.3**	**-0.5**
	baz=316						
WVT	**Waverly**	**142.16**	**40**	P	**PKiKP**	**21 56 12.4**	**-0.4**
	baz=309						
PKME	**Peaks-Kenny Pk**	**142.70**	**12**	P	**PKiKP**	**21 56 13.2**	**-0.4**
	baz=343						
O53A	**New Philadelph**	**142.97**	**29**	P	**PKiKP**	**21 56 13.9**	**-0.4**
	baz=321						
P52A	**Corning**	**142.99**	**31**	P	**PKiKP**	**21 56 14.1**	**-0.3**
	baz=319						
LBNH	**Lisbon**	**143.03**	**16**	P	**PKiKP**	**21 56 13.9**	**-0.5**
	baz=338						
BINY	**Binghamton**	**143.58**	**22**	P	**PKiKP**	**21 56 15.2**	**-0.4**
	baz=330						
TZTN	**Tazewell**	**144.48**	**36**	P	**PKPab**	**21 56 12.3**	**-0.1**
	baz=315						
LRAL	**Lakeview Retre**	**144.59**	**43**	P	**PKPab**	**21 56 12.6**	**-0.2**
	baz=306						
HRV	**Adam Dziewonsk**	**144.74**	**16**	P	**PKPab**	**21 56 12.9**	**-0.2**
	baz=338						
CPUP	**Villa Florida**	**144.90**	**182**	PKPbc	**PKPdf**	**21 56 14.9**	**0.0**
	comp=Z,10nm,0.7s,baz=185,slow=2.2,SNR=15						
CPUP				SKPbc	**SKPbc**	**21 59 42.0**	**-3.2**
	comp=Z,2.4nm,0.7s,baz=98,slow=3.2,SNR=2.7						
PAL	**Palisades**	**145.37**	**20**	P	**PKPdf**	**21 56 14.7**	**-0.5**
	baz=333						
BRAL	**Brewton**	**145.62**	**46**	P	**PKPbc**	**21 56 16.5**	**+0.2**
	baz=304						
BLA	**Blacksburg**	**145.70**	**32**	P	**PKPdf**	**21 56 15.7**	**-0.3**
	baz=320						
CBN	**Corbin Frederi**	**146.39**	**27**	P	**PKPbc**	**21 56 17.9**	**-0.5**
	baz=325						
GOGA	**Godfrey**	**146.66**	**40**	P	**PKPbc**	**21 56 19.2**	**-0.2**
	baz=311						
KMSC	**Kings Mountain**	**146.74**	**35**	P	**PKPbc**	**21 56 19.8**	**+0.2**
	baz=316,SNR=15						
TIGA	**Tifton**	**147.84**	**42**	P	**PKPbc**	**21 56 22.6**	**-0.2**
	baz=309						
CNNC	**Cliffs of the**	**148.52**	**31**	P	**PKPbc**	**21 56 24.5**	**+0.1**
	baz=322						
NHSC	**New Hope**	**148.87**	**36**	P	**PKPbc**	**21 56 25.5**	**+0.2**
	baz=316						
DWPF	**Disney Wildern**	**151.37**	**45**	P	**PKPbc**	**21 56 31.6**	**+0.2**
	baz=307						
LPAZ	**La Paz**	**153.25**	**160**	PKP	**PKPdf**	**21 56 29.8**	**+0.5**
	comp=Z,4.1nm,0.9s,baz=162,slow=2.2,SNR=9.6						
LPAZ				PKPbc	**PKiKP**	**21 56 38.6**	**+1.6**
	comp=Z,6.6nm,1.0s,baz=107,slow=2.7,SNR=8.6						
LPAZ				SKP	**SKPdf**	**21 59 50.0**	**-3.4**
	comp=Z,2.1nm,0.3s,baz=297,slow=4.2,SNR=16						
BDFB	**Brasilia**	**153.35**	**204**	PKP	**PKPdf**	**21 56 28.6**	**-0.2**
	comp=Z,8.4nm,0.8s,baz=225,slow=1.7,SNR=11						
BDFB				PKPbc	**PKiKP**	**21 56 37.4**	**+0.9**
	comp=Z,7.0nm,0.8s,baz=116,slow=6.4,SNR=7.1						

*SJA **26** 21:36:57.5±0.8, 31°.16S×69°.14W, h118km±3km, ML3.7, MW3.8*
*IDC **26** 21:37:50.2±1.6, 23°.53S×64°.87W, h280km±38km, mb3.2/1, mbtmp3.4/3, Error ellipse: s-maj=157.8km s-min=24.0km az=20.0*
ISC 26 21:36:57.4±0.9, **31°.19S**±0°.03×**69°.06W**±0°.04, **h119**km±7km, **n36**, σ1°**79**/51, **San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOCA	**Reserva Natura**	**0.24**	**356**	*e*P	**Pn**	**21 37 14.4**	**-0.1**
DOCA				*e*S	**Sn**	**21 37 27.6**	**+0.3**
DOCA				IAML		21 37 28.4	
	comp=Z,3μm,0.3s						
ZON	**Zonda**	**0.48**	**137**	*e*P	**Pn**	**21 37 15.4**	**+0.3**
ZON				IAML		21 37 30.6	
	comp=Z,3μm,0.6s						
SJA	**San Juan**	**0.54**	**128**	*e*P	**Pn**	**21 37 17.2**	**+1.7**
SJA				IAML		21 37 34.5	
	comp=Z,1μm,0.8s						
ACCO	**Cerro Coronel**	**0.60**	**360**	*e*P	**Pn**	**21 37 17.1**	**+0.8**
RTLS	**Leoncito**	**0.64**	**198**	*e*P	**Pn**	**21 37 17.0**	**+0.5**
RTLS				IAML		21 37 31.8	
	comp=Z,3μm,0.7s						
ACDV	**Cuesta del Vie**	**1.02**	**357**	*e*P	**Pn**	**21 37 20.6**	**+0.9**
ACDV				*e*S	**Sn**	**21 37 37.7**	**+1.2**
ACDV				IAML		21 37 37.8	
	comp=Z,1μm,0.8s						
AROD	**Rodeo**	**1.08**	**341**	*e*P	**Pn**	**21 37 21.2**	**+0.7**
ASAL	**Salagasta**	**1.41**	**172**	*e*P	**Pn**	**21 37 25.5**	**+1.7**
CO03	**El Pedregal**	**1.44**	**284**	*e*P	**Pn**	**21 37 24.1**	**0.0**
CO03				*e*S	**Sn**	**21 37 44.3**	**-0.1**
CO03				IAML		21 37 44.8	
	comp=Z,1μm,0.1s						
AVFE	**Valle Fertil**	**1.48**	**69**	*e*P	**Pn**	**21 37 26.3**	**+1.7**
AVFE				*e*S	**Sn**	**21 37 41.4**	**-3.8**
AVFE				IAML		21 37 48.7	
	comp=Z,841nm,0.3s						
CO01	**Juntas del Tor**	**1.50**	**323**	*e*P	**Pn**	**21 37 26.1**	**+1.1**
CO01				*e*S	**Sn**	**21 37 47.0**	**+1.1**
CO01				IAML		21 37 47.5	
	comp=Z,605nm,0.6s						
ARCO	**CERRO ARCO**	**1.65**	**176**	*e*P	**Pn**	**21 37 28.5**	**+1.8**
ARCO				*e*S	**Sn**	**21 37 44.5**	**-4.5**
ARCO				IAML		21 37 53.6	
	comp=Z,496nm,0.4s						
CO02	**Combarbal**	**1.66**	**269**	*e*P	**Pn**	**21 37 26.2**	**-0.5**
CO02				*e*S	**Sn**	**21 37 49.1**	**0.0**
CO02				IAML		21 37 50.5	
	comp=Z,638nm,0.4s						
GO04	**Tololo Observa**	**1.81**	**304**	*e*P	**Pn**	**21 37 27.5**	**-1.1**
AAGR	**Agrelo**	**1.90**	**174**	*e*P	**Pn**	**21 37 31.5**	**+1.9**
AAGR				*e*S	**Sn**	**21 37 57.7**	**+3.4**
VA03	**San Esteban**	**2.01**	**219**	*e*P	**Pn**	**21 37 31.6**	**+0.5**
VA03				*e*S	**Sn**	**21 37 58.1**	**+1.1**
VA03				IAML		21 37 59.8	
	comp=Z,172nm,0.3s						
ACHE	**Chepes**	**2.06**	**90**	*e*P	**Pn**	**21 37 33.5**	**+1.9**
ACHE				*e*S	**Sn**	**21 37 53.7**	**-4.1**
AVIZ	**Vizcacheras**	**2.32**	**169**	*e*P	**Pn**	**21 37 36.8**	**+1.9**
AVIZ				*e*S	**Sn**	**21 38 00.2**	**-3.4**
PEL	**Peldehue**	**2.38**	**215**	*e*P	**Pn**	**21 37 36.1**	**+0.5**
PEL				*e*S	**Sn**	**21 38 05.3**	**+0.3**
ROC1	**El Roble**	**2.43**	**222**	*e*P	**Pn**	**21 37 35.9**	**-0.6**
ROC1				*e*S	**Sn**	**21 38 05.3**	**-1.2**
ACLC	**CERRO LA CRUZ**	**2.54**	**47**	*e*P	**Pn**	**21 37 39.3**	**+1.6**
ACLC				IAML		21 38 13.6	
	comp=Z,148nm,0.4s						
VCA	**Vinchina**	**2.56**	**17**	*e*P	**Pn**	**21 37 39.2**	**+1.1**
VCA				IAML		21 38 14.6	
	comp=Z,289nm,0.6s						
AC05	**El Transito**	**2.57**	**336**	*e*P	**Pn**	**21 37 38.5**	**+0.3**
AC05				*e*S	**Sn**	**21 38 09.6**	**+0.1**
AC05				IAML		21 38 10.8	
	comp=Z,142nm,0.3s						
LCO	**Las Campanas**	**2.60**	**326**	*e*P	**Pn**	**21 37 38.7**	**+0.1**
LCO				IAML		21 38 09.4	
	comp=Z,520nm,0.4s						
LCO				*e*S	**Sn**	**21 38 09.5**	**-0.8**
MT03	**Universidad Ad**	**2.60**	**208**	*e*P	**Pn**	**21 37 39.8**	**+1.3**
MT03				*e*S	**Sn**	**21 38 11.9**	**+1.7**
MT03				IAML		21 38 13.0	
	comp=Z,257nm,0.5s						
MT05	**Renca**	**2.61**	**212**	*e*P	**Pn**	**21 37 40.9**	**+2.3**
MT05				*e*S	**Sn**	**21 38 06.7**	**-3.6**
MT05				IAML		21 38 14.8	
	comp=Z,185nm,0.2s						
VA01	**Torpederas**	**2.85**	**230**	*e*P	Pn	21 37 36.3	-5.4
MRA	**San Martin**	**3.10**	**114**	*e*S	Sn	21 38 12.3	-9.4
MT01	**Popeta**	**3.24**	**214**	*e*S	Sn	21 38 12.3	-13
RFA	**San Rafael**	**3.60**	**172**	*e*P	**Pn**	**21 37 52.1**	**+0.5**
RFA				*e*S	**Sn**	**21 38 32.8**	**-0.9**
BO01	**Tunca**	**3.62**	**208**	*e*P	**Pn**	**21 37 50.8**	**-0.9**
BO01				*e*S	Sn	21 38 18.9	-15
BO01				IAML		21 38 26.9	
	comp=Z,63nm,0.5s						
GO03	**Copiap**	**3.73**	**344**	*e*P	**Pn**	**21 37 53.9**	**+0.6**
LVC	**Limon Verde**	**8.55**	**1**	P	**Pn**	**21 38 55.4**	**-3.3**
	comp=Z,1.5nm,0.3s,baz=110,slow=12,SNR=3.5						
LVC				S	Sn	21 39 44.3	-49
	comp=Z,2.3nm,0.4s,baz=108,slow=20,SNR=2.1						
CPUP	**Villa Florida**	**11.38**	**68**	P	**Pn**	**21 39 35.8**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=250,slow=11,SNR=1.6						
TORD	**Torodi Ar. Bea**	**80.87**	**69**	P	**P**	**21 48 59.2**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=238,slow=5.7,SNR=10.0						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**153.02**	**47**	PKP	**PKPab**	**21 56 53.3**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=306,slow=3.1,SNR=3.8						

*TIR **26** 21:43:27.7, 42°.42N×20°.01E, h8km, Md2.3, Ml2.6*
*RHSSO **26** 21:43:29.6±0.6, 42°.36N×20°.08E, h4km±2km, ML2.5/13*
*BEO **26** 21:43:30.3±0.2, 42°.35N×20°.09E, h0km, ML2.3/16*
*PDG **26** 21:43:30.4±0.0, 42°.39N×19°.98E, h3km, MD2.5/1, ML2.4/10, Error ellipse: s-maj=0.0km s-min=0.1km az=0.0*
ISC 26 21:43:29.7±0.9, **42°.38N**±0°.02×**20°.05E**±0°.02, **h2**km±7km, **n70**, σ1°**03**/123, **7C-11D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.02**	**142**	P	**Pg**	**21 43 29.9**	**-0.4**
	baz=140						
BCI				S	**Sg**	**21 43 31.3**	**+0.7**
	baz=140						
PVY	**Plav**	**0.22**	**342**	⇓*i*Pg	**Pg**	**21 43 34.2**	**+0.1**
PVY				*i* Sg	**Sg**	**21 43 37.4**	**+0.4**
PUK	**Puka**	**0.36**	**199**	P	**Pg**	**21 43 35.8**	**-0.8**
	baz=193						
PUK				S	**Sg**	**21 43 41.7**	**+0.4**
	baz=193						
PUK				AMP			
	comp=E,3.0nm,0.1s,baz=193						
IVA	**Berane**	**0.50**	**347**	⇓*i*Pg	**Pg**	**21 43 39.3**	**-0.1**
IVA				*i* Sg	**Sg**	**21 43 46.9**	**+1.0**
PDG	**Podgorica**	**0.59**	**275**	*e*Pg	**Pg**	**21 43 40.2**	**-0.9**
PDG				*e*Sg	**Sg**	**21 43 49.1**	**+0.4**
PDG	**Podgorica**	**0.59**	**275**	⇑*i*Pg	**Pg**	**21 43 40.0**	**-1.0**
PDG				*e*Sg	**Sg**	**21 43 49.2**	**+0.5**
PDG	**Podgorica**	**0.59**	**275**	⇓*i*Pg	**Pg**	**21 43 40.1**	**-1.0**
PDG				*i* Sg	**Sg**	**21 43 48.8**	**+0.1**
KOME	**Kolasin**	**0.61**	**320**	*e*Pg	**Pg**	**21 43 41.7**	**+0.2**
KOME				*e*Sg	**Sg**	**21 43 50.3**	**+0.9**
KOME	**Kolasin**	**0.61**	**320**	⇓*i*Pg	**Pg**	**21 43 41.1**	**-0.4**
KOME				*i* Sg	**Sg**	**21 43 50.0**	**+0.6**
DRME	**Dracevica, Mon**	**0.67**	**253**	*e*Pg	**Pg**	**21 43 41.8**	**-0.9**
DRME				*e*Sg	**Sb**	**21 43 52.9**	**-1.1**
DRME	**Dracevica, Mon**	**0.67**	**253**	⇑*i*Pg	**Pg**	**21 43 41.4**	**-1.2**
DRME				*e*Sg	**Sg**	**21 43 52.0**	**+0.7**
DRME	**Dracevica, Mon**	**0.67**	**253**	⇓*i*Pg	**Pg**	**21 43 41.7**	**-0.9**
DRME				*i* Sg	**Sg**	**21 43 51.8**	**+0.5**
CEME	**Cevo**	**0.85**	**281**	⇑*i*Pg	**Pg**	**21 43 45.0**	**-1.1**
CEME				*i* Sg	**Sg**	**21 43 57.7**	**+0.5**
BUM	**Brajici-Budva**	**0.86**	**265**	⇑*i*Pg	**Pg**	**21 43 45.4**	**-0.8**
BUM				*i* Sg	**Sg**	**21 43 58.1**	**+0.7**
SJES	**Sjenica**	**0.88**	**356**	*e*Pg	**Pg**	**21 43 46.8**	**+0.2**
SJES				*e*Sg	**Sg**	**21 43 58.5**	**+0.5**
SJES	**Sjenica**	**0.88**	**356**	⇑*i*Pg	**Pg**	**21 43 46.0**	**-0.6**
SJES				*e*Sg	**Sg**	**21 43 58.7**	**+0.7**
NKME	**Niksic**	**0.90**	**296**	⇓*i*Pg	**Pg**	**21 43 46.1**	**-0.8**
NKME				*i* Sg	**Sg**	**21 43 59.2**	**+0.6**
TIR	**Tirane**	**1.04**	**188**	P	**Pg**	**21 43 49.9**	**+0.2**
	baz=186						
TIR				S	**Sb**	**21 44 04.5**	**-0.2**
	baz=186						
TIR				AMP			
	comp=E,0.3nm,0.4s,baz=186						
TIR	**Tirane**	**1.04**	**188**	*e*Pg	**Pb**	**21 43 50.3**	**-0.2**
TIR				*e*Sg	**Sg**	**21 44 03.6**	**+0.4**
PLE	**Pljevlja**	**1.06**	**333**	⇓*i*Pg	**Pg**	**21 43 49.5**	**-0.7**
PLE				*i* Sg	**Sb**	**21 44 05.7**	**+0.2**
SKO	**Skopje**	**1.11**	**111**	*i* Pn	**Pg**	**21 43 51.0**	**0.0**
SELS	**Selova**	**1.15**	**43**	*e*Pg	**Pg**	**21 43 51.2**	**-0.5**
SELS				*e*Sg	**Sb**	**21 44 07.9**	**+0.1**
SELS	**Selova**	**1.15**	**43**	*e*Pg	**Pg**	**21 43 51.2**	**-0.5**
SELS				*e*Sg	**Sn**	**21 44 08.8**	**-0.5**
BRY	**Bratogost**	**1.23**	**295**	⇓*i*Pg	**Pg**	**21 43 52.0**	**-1.3**
BRY				*e*Sg	**Sb**	**21 44 09.9**	**-0.3**
BRY	**Bratogost**	**1.23**	**295**	⇓*i*Pg	**Pg**	**21 43 52.1**	**-1.3**
BRY				*i* Sg	**Sb**	**21 44 10.5**	**+0.3**
TREB	**Trebinje**	**1.30**	**285**	⇑*i*Pg	**Pg**	**21 43 53.1**	**-1.6**
TREB				*e*Sg	**Sb**	**21 44 12.2**	**+0.1**
RUDO	**Rudo**	**1.33**	**338**	*e*Pg	**Pg**	**21 43 53.8**	**-1.5**
RUDO				*e*Sg	**Sg**	**21 44 12.6**	**+0.1**
KLINJ	**Klinje**	**1.34**	**307**	*e*Pg	**Pg**	**21 43 54.2**	**-1.1**
KLINJ				*e*Sg	**Sb**	**21 44 13.4**	**+0.2**
OHR	**Ohrid**	**1.39**	**156**	*i* Pn	**Pb**	**21 43 57.5**	**+1.0**
DBRK	**Dubrovnik**	**1.44**	**282**	*e*Pn	**Pn**	**21 43 56.4**	**-0.5**
PRVS	**Prvonek**	**1.50**	**85**	*e*Pg	**Pn**	**21 43 57.2**	**-0.6**
PRVS				*e*Sg	**Sg**	**21 44 18.7**	**+0.7**
BBLS	**Lazi&#263i**	**1.56**	**343**	*e*Pg	**Pn**	**21 43 58.5**	**-0.1**
BBLS				*e*Sg	**Sg**	**21 44 21.6**	**+1.8**
BBLS	**Lazi&#263i**	**1.56**	**343**	⇑*i*Pn	**Pn**	**21 43 58.2**	**-0.4**
BBLS				*e*Sn	**Sn**	**21 44 19.5**	**+0.1**
GRUS	**Gruza**	**1.58**	**18**	*e*Pg	**Pn**	**21 43 58.5**	**-0.3**
GRUS				*e*Sg	**Sg**	**21 44 22.8**	**+2.2**
DIVS	**Divibare**	**1.72**	**359**	*e*Pn	**Pn**	**21 43 59.8**	**-1.0**
DIVS				*e*Sg	**Sg**	**21 44 26.8**	**+1.9**
DIVS	**Divibare**	**1.72**	**359**	*e*Pg	**Pn**	**21 44 01.1**	**+0.3**
DIVS				*e*Sg	**Sg**	**21 44 26.8**	**+1.9**
BOVS	**Bovan**	**1.74**	**44**	*e*Pg	**Pn**	**21 43 59.8**	**-1.3**
BOVS				*e*Sg	**Sb**	**21 44 24.9**	**0.0**
BOSS	**Bosilegrad**	**1.80**	**86**	*e*Pg	**Pn**	**21 44 01.0**	**-0.9**
BOSS				*e*Sg	**Sn**	**21 44 25.6**	**+0.3**
BOSS	**Bosilegrad**	**1.80**	**86**	*e*Pg	**Pn**	**21 44 01.0**	**-0.9**
BOSS				*e*Sg	**Sn**	**21 44 24.9**	**-0.4**
STON	**Ston**	**1.80**	**287**	*e*Pn	**Pn**	**21 44 02.0**	**+0.2**
STON	**Ston**	**1.80**	**287**	⇓*i*Pn	**Pn**	**21 44 02.2**	**+0.4**
STON				*e*Sn	**Sn**	**21 44 25.7**	**+0.4**
TRUS	**Trudelj**	**1.86**	**8**	*e*Pn	**Pn**	**21 44 03.4**	**+0.7**
TRUS				*e*Sg	**Sg**	**21 44 29.9**	**+0.5**
TRUS	**Trudelj**	**1.86**	**8**	*e*Pg	**Pb**	**21 44 04.9**	**+0.4**
TRUS				*e*Sg	**Sg**	**21 44 29.9**	**+0.5**
FNA	**Florina**	**1.88**	**148**	P	**Pn**	**21 44 03.8**	**+0.8**
	baz=147						
FNA				S	**Sb**	**21 44 28.5**	**-0.4**
	baz=147						
FNA				AMP			
	comp=E,0.2nm,0.4s,baz=147						
HAPS	**Han Pijesak,BI**	**1.88**	**335**	⇓*i*Pn	**Pn**	**21 44 02.6**	**-0.5**
HAPS				*e*Sn	**Sn**	**21 44 27.3**	**-0.2**
ZAPS	**Zavoj**	**2.10**	**64**	*e*Pn	**Pn**	**21 44 05.3**	**-0.7**
ZAPS				*e*Sn	**Sn**	**21 44 32.9**	**+0.2**
ZAPS	**Zavoj**	**2.10**	**64**	*e*Pg	**Pb**	**21 44 08.7**	**+0.1**
ZAPS				*e*Sg	**Sb**	**21 44 34.5**	**-0.6**
ZAGS	**Zajecar**	**2.14**	**47**	*e*Pn	**Pn**	**21 44 05.4**	**-1.2**
ZAGS				*e*Sg	**Sg**	**21 44 38.6**	**0.0**
ZAGS	**Zajecar**	**2.14**	**47**	*e*Pg	**Pb**	**21 44 08.8**	**-0.5**
ZAGS				*e*Sg	**Sg**	**21 44 38.6**	**0.0**
TEKS	**Tekeris**	**2.20**	**350**	*e*Pn	**Pn**	**21 44 07.2**	**-0.2**
TEKS				*e*Sn	**Sn**	**21 44 34.6**	**-0.6**
AVAS	**Avala Beograd**	**2.34**	**8**	*e*Pg	**Pg**	**21 44 14.2**	**-0.3**
AVAS				*e*Sg	**Sg**	**21 44 44.7**	**-0.1**
KUBS	**Kucevo**	**2.35**	**30**	*e*Pn	**Pn**	**21 44 08.7**	**-0.7**
MAKA	**Makarska**	**2.41**	**293**	*e*Pn	**Pb**	**21 44 12.4**	**-1.3**
MAKA				*e*Sn	**Sb**	**21 44 44.4**	**+0.5**
RICI	**Ricice**	**2.41**	**298**	*e*Pn	**Pb**	**21 44 13.2**	**-0.7**
SRN	**Sarande**	**2.50**	**181**	P	**Pb**	**21 44 13.7**	**-1.7**
	baz=181						
SRN				S	**Sn**	**21 44 43.5**	**+1.0**
	baz=181						
HVAR	**Hvar**	**2.77**	**288**	*e*Pn	**Pn**	**21 44 16.4**	**+1.2**
KIJV	**Kijevo**	**3.12**	**303**	*e*Pn	**Pb**	**21 44 23.8**	**-2.1**
BLY	**Banja Luka**	**3.15**	**320**	*e*Pn	**Pn**	**21 44 20.7**	**+0.3**
BLY				*e*Sn	**Sn**	**21 44 58.2**	**-0.4**
SGRT	**San Giovanni R**	**3.27**	**260**	P	**Pn**	**21 44 22.9**	**+0.8**
	baz=260						
A050A	**Klekovaca**	**3.31**	**310**	*e*Pn	**Pn**	**21 44 22.7**	**0.0**
A050A				*e*Sn	**Sn**	**21 45 01.7**	**-1.0**
ZIRJ	**Zirje**	**3.47**	**293**	*e*Pn	**Pn**	**21 44 26.8**	**+2.0**
A051A	**Mrakovica**	**3.48**	**320**	*e*Pn	**Pn**	**21 44 25.3**	**+0.3**
A051A				*e*Sn	**Sn**	**21 45 06.0**	**-0.8**
MORI	**Morici**	**3.51**	**296**	*e*Pn	**Pn**	**21 44 28.7**	**+3.4**
DUGI	**Dugi Otok**	**3.99**	**295**	*i* Pn	**Pn**	**21 44 33.7**	**+1.8**
DUGI				Sn	**Sn**	**21 45 22.2**	**+2.9**
VIRC	**Vir**	**4.12**	**299**	*e*Pn	**Pn**	**21 44 36.4**	**+2.7**
NVLJ	**Novalja**	**4.36**	**302**	*e*Pn	**Pn**	**21 44 39.3**	**+2.4**
CRES	**Cresnjev**	**4.77**	**318**	*e*Pn	**Pn**	**21 44 41.9**	**-0.8**
BRJN	**Brijuni**	**5.22**	**301**	*e*Pn	**Pn**	**21 44 50.1**	**+1.2**
CEY	**Cerknica**	**5.26**	**312**	*e*Pn	**Pn**	**21 44 49.4**	**0.0**
ABTA	**Abfaltersbach**	**6.93**	**312**	*e*Pn	**Pn**	**21 45 15.9**	**+3.5**
	comp=E,1.8nm,0.5s						

*NEIC **26** 22:09:11.3, 19°.40N×155°.27W, h12km*
*IDC **26** 22:09:11.6±1.2, 19°.43N×155°.21W, h0km, mb3.7/10, mbtmp3.7/10, MS4.3/59, Error ellipse: s-maj=35.4km s-min=14.3km az=175.0*
*HVO **26** 22:09:11.3±0.7, 19°.40N±0°.01×155°.269W±0°.007, h0km±5km, ML4.0/48, mb4.5/23(NEIC), ML3.2/34(NEIC), Mww5.3/23(NEIC), Error ellipse: s-maj=2.0km s-min=0.9km az=179.0*
*NEIC **26** 22:09:11.3, 19°.40N×155°.27W, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17Nm; Mrr-1.04; Mθθ0.54; Mφφ0.51; Mrθ-0.40; Mθφ0.47; Mφr0.21; Fault plane solution: M0 1.10000×10^17 NP1:φs64.62000°, δ52.09000°, λ-66.21000°. NP2:φs208.96000°, δ43.79000°, λ-117.38000°. Principal axes: T 1.0004, Plg4.0000°, Azm138.0000°; N 0.1985, Plg19.0000°, Azm229.0000°; P -1.1989, Plg71.0000°, Azm35.0000°;*
*BJI **26** 22:09:12.8±0.0, 19°.40N×155°.30W, h10km, mb4.7/12, mB5.6/18, Ms5.1/22, Ms7 4.9/24*
*NEIC **26** 22:09:12.1±0.7, 19°.40N±0°.01×155°.268W±0°.008, h3km±1km, Error ellipse: s-maj=1.7km s-min=1.0km az=190.0*
*GCMT **26** 22:09:20.3±0.1, 19°.31N±0°.01×155°.17W±0°.01, h12km, MW5.3/154, Moment Tensor Solution. s92, c143; s154, c278; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-1.07±.01; Mθθ0.58±.01; Mφφ0.49±.01; Mrθ0.15±.03; Mθφ0.37±.01; Mφr-0.22±.03; Best double couple: M0 1.01700×10^17 NP1:φs37.00000°, δ47.00000°, λ-106.00000°. NP2:φs240.00000°, δ45.00000°, λ-73.00000°. Principal axes: T 0.9070, Plg1.0000°, Azm138.0000°; N 0.2220, Plg12.0000°, Azm48.0000°; P -1.1270, Plg78.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 22:09:12.5±0.8, **19°.41N**±0°.03×**155°.28W**±0°.02, **h5**km±3km, **n148**, σ2°**02**/97, **mb4.5**/28, **MS4.5**/76, **1C, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**176**		**Pg**	**22 09 11.9**	**-1.6**
KKO	**Keanakako`i**	**0.01**	**135**		**Pg**	**22 09 12.2**	**-1.4**
OBL	**Observatory Le**	**0.01**	**323**		**Pg**	**22 09 13.2**	**-0.4**
BYL	**Byron's Ledge**	**0.01**	**67**	Pg	**Pg**	**22 09 11.9**	**-1.7**
UWB	**Uwekahuna B**	**0.02**	**351**		**Pg**	**22 09 13.3**	**-0.3**
HATHI	**Halema'uma'u T**	**0.02**	**38**		**Pg**	**22 09 12.6**	**-1.0**
SBLHI	**Steaming Bluff**	**0.02**	**17**		**Pg**	**22 09 13.3**	**-0.3**
UWE	**Uwekahuna**	**0.02**	**311**	IAML		22 09 12.2	
	comp=E,3μm,0.4s						
UWE					**Pg**	**22 09 12.6**	**-1.1**
SDHHI	**Sand Hill**	**0.02**	**228**		**Pg**	**22 09 12.9**	**-0.8**
WRMHI	**West Rim**	**0.02**	**271**		**Pg**	**22 09 13.2**	**-0.4**
RSD	**Rainshed**	**0.06**	**357**	Pg	**Pg**	**22 09 13.4**	**-0.6**
RSD				IAML		22 09 14.3	
	comp=E,2μm,0.3s						
PUH	**Pauahi**	**0.06**	**120**	Pg	**Pg**	**22 09 13.4**	**-0.7**
PUH				IAML		22 09 14.0	
	comp=E,4μm,0.6s						
PUH				IAML		22 09 14.1	
	comp=N,3μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.10**	**105**		**Pg**	**22 09 14.4**	**-0.3**
HLP	**Hilina Pali**	**0.11**	**196**		**Pg**	**22 09 14.4**	**-0.5**
HLP				IAML		22 09 15.9	
	comp=N,9μm,1.1s						
HLP				IAML		22 09 16.6	
	comp=E,9μm,0.6s						
MLH	**Mauna Loa**	**0.14**	**310**	Pg	**Pg**	**22 09 15.5**	**+0.1**
MLH				IAML		22 09 19.0	
	comp=N,8μm,0.8s						
M

KDAK	**Kodiak Island**	**38.38**	**2**	LR	LR	22 28 41.7	
	comp=Z,1μm,21.2s,baz=210,slow=30						
WVOR	**Wild Horse Val**	**38.49**	**45**	P	**P**	**22 16 36.2**	**+0.3**
G06A	**Carlson Farm,**	**38.52**	**40**	P	**P**	**22 16 36.8**	**+0.8**
G06A				IAmb	IAmb	22 17 17.0	
	comp=Z,43nm,1.8s						
I07A	**Izee**	**38.66**	**42**	P	**P**	**22 16 38.7**	**+1.4**
I07A				IAmb	IAmb	22 17 09.1	
	comp=Z,19nm,1.7s						
BBB	**Bella Bella**	**38.98**	**27**	LR	LR	22 28 47.3	
	comp=Z,284nm,20.1s,baz=229,slow=30						
SHPR	**Sheep Range**	**38.99**	**56**	P	**P**	**22 16 41.3**	**+1.0**
J08A	**Circle Bar Ran**	**38.99**	**44**	P	**P**	**22 16 40.5**	**+0.4**
R11B	**Troy Canyon, C**	**39.18**	**53**	P	**P**	**22 16 41.8**	**0.0**
R11B				IAmb	IAmb	22 16 52.4	
	comp=Z,11nm,1.8s						
PRN	**Pahroc Range**	**39.32**	**54**	P	**P**	**22 16 43.7**	**+0.8**
ELK	**Elko**	**40.20**	**49**	LR	LR	22 29 09.3	
	comp=Z,277nm,21.5s,baz=260,slow=30						
RAR	**Rarotonga**	**40.61**	**186**	LR	LR	22 30 07.8	
	comp=Z,716nm,18.1s,baz=11,slow=31						
SHEM	**Shemya Is, Ala**	**40.88**	**332**	LR	LR	22 30 28.2	
	comp=Z,1μm,21.6s,baz=136,slow=31						
LPIG	**La Paz**	**41.89**	**75**	LR	LR	22 29 35.1	
	comp=Z,441nm,21.5s,baz=256,slow=29						
NEW	**Newport**	**42.12**	**38**	LR	LR	22 33 35.8	
	comp=Z,198nm,18.5s,baz=232,slow=35						
TBI	**Tubuai**	**42.87**	**172**	*e*P	**P**	**22 17 08.7**	**-3.3**
	comp=Z,1μm,39.5s						
TBI				*e*S	**S**	**22 23 34.6**	**-2.7**
	comp=Z,1μm,26.8s						
TBI				*e*LQ	LQ	22 27 10.5	
	comp=Z,3μm,26.0s						
TBI				*e*LR	LR	22 28 57.8	
	comp=Z,13μm,28.5s						
TBI				*e*LR	LR	22 29 01.7	
	comp=Z,3μm,26.5s						
DLBC	**Dease Lake**	**43.12**	**19**	LR	LR	22 31 53.2	
	comp=Z,482nm,18.9s,baz=252,slow=32						
PDAR	**Pinedale Array**	**44.87**	**48**	P	**P**	**22 17 27.6**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=249,slow=8.0,SNR=2.0						
PDAR				LR	LR	22 32 24.0	
	comp=Z,71nm,21.7s,baz=264,slow=31						
	comp=Z,0.3nm,0.6s						
ANMO	**Albuquerque**	**45.66**	**60**	LR	LR	22 33 54.5	
	comp=Z,193nm,18.1s,baz=358,slow=32						
J25K	**Salcha River,**	**45.67**	**6**	P	**P**	**22 17 34.2**	**+0.1**
J25K				IAmb	IAmb	22 17 43.1	
	comp=Z,12nm,1.3s						
ILAR	**Eielson Array**	**45.68**	**5**	P	**P**	**22 17 34.0**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=200,slow=7.7,SNR=11						
ILAR				LR	LR	22 33 37.4	
	comp=Z,498nm,19.6s,baz=191,slow=32						
	comp=Z,1.2nm,0.6s						
MDM	**Murphy Dome**	**45.77**	**4**	P	**P**	**22 17 35.3**	**+0.5**
I23K	**Minto, Yukon-K**	**45.88**	**3**	P	**P**	**22 17 36.4**	**+0.7**
H19K	**Roundabout Mou**	**46.10**	**359**	P	**P**	**22 17 38.2**	**+0.8**
EGAK	**Eagle**	**46.32**	**8**	P	**P**	**22 17 39.4**	**+0.2**
EGAK				IAmb	IAmb	22 17 51.5	
	comp=Z,6.6nm,0.9s						
H23K	**Yukon River**	**46.55**	**3**	P	**P**	**22 17 40.5**	**-0.5**
H23K				IAmb	IAmb	22 17 49.6	
	comp=Z,12nm,1.6s						
VHRN	**Van Horn**	**46.59**	**66**	P	**P**	**22 17 41.7**	**-0.3**
VHRN				IAmb	IAmb	22 17 54.9	
	comp=Z,6.4nm,1.1s						
G19K	**Purcell Mounta**	**46.73**	**359**	P	**P**	**22 17 43.5**	**+1.1**
G19K				IAmb	IAmb	22 17 59.6	
	comp=Z,8.7nm,1.4s						
SDCO	**Great Sand Dun**	**46.80**	**56**	P	**P**	**22 17 44.4**	**+0.7**
SDCO				IAmb	IAmb	22 17 55.9	
	comp=Z,8.6nm,1.2s						
K22A	**Casper**	**46.99**	**49**	P	**P**	**22 17 45.4**	**+0.4**
N23A	**Red Feather La**	**47.02**	**52**	P	**P**	**22 17 45.5**	**+0.1**
TXAR	**Lajitas Array**	**47.71**	**68**	P	**P**	**22 17 50.1**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=350,slow=9.1,SNR=15						
TXAR				LR	LR	22 33 52.9	
	comp=Z,86nm,20.4s,baz=234,slow=31						
	comp=Z,1.7nm,0.9s						
INK	**Inuvik**	**50.76**	**10**	LR	LR	22 37 58.6	
	comp=Z,537nm,18.8s,baz=94,slow=34						
YKA	**Yellowknife Ar**	**51.32**	**23**	P	**P**	**22 18 15.7**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=227,slow=6.9,SNR=3.1						
YKA				LR	LR	22 36 53.1	
	comp=Z,190nm,20.7s,baz=220,slow=32						
	comp=Z,0.3nm,0.6s						
RAO	**Raoul Island**	**53.08**	**205**	LR	LR	22 36 49.5	
	comp=Z,157nm,22.0s,baz=276,slow=31						
DZM	**Mont Dzumac**	**55.67**	**224**	*e*S	**S**	**22 26 35.0**	**-2.4**
	comp=Z,271nm,24.6s						
DZM				*e*SS	**SS**	**22 30 23.3**	**+0.3**
	comp=Z,230nm,23.6s						
DZM				*e*LR	LR	22 35 01.4	
	comp=Z,555nm,30.2s						
DZM	**Mont Dzumac**	**55.67**	**224**	LR	LR	22 40 07.4	
	comp=Z,160nm,18.8s,baz=50,slow=33						
ULM	**Lac du Bonnet**	**55.83**	**42**	LR	LR	22 40 34.0	
	comp=Z,137nm,18.4s,baz=259,slow=34						
SEY	**Seymchan**	**56.12**	**334**	LR	LR	22 41 08.9	
	comp=Z,333nm,20.9s,baz=148,slow=34						
CMIG	**Matias Romero**	**57.15**	**82**	LR	LR	22 37 40.4	
	comp=Z,280nm,21.6s,baz=292,slow=30						
GUMO	**Guam**	**57.45**	**274**	LR	LR	22 38 28.6	
	comp=Z,380nm,21.9s,baz=78,slow=30						
JCJ	**Chichijima**	**57.48**	**290**	LR	LR	22 39 41.5	
	comp=Z,338nm,19.4s,baz=84,slow=32						
JHJ	**Hachijo jima 2**	**59.00**	**298**	LR	LR	22 41 11.3	
	comp=Z,378nm,20.1s,baz=104,slow=32						
MJAR	**Matsushiro Arr**	**60.09**	**302**	P	**P**	**22 19 20.6**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=86,slow=3.2,SNR=1.6						
MJAR				LR	LR	22 41 04.8	
	comp=Z,297nm,21.3s,baz=72,slow=32						
	comp=Z,0.4nm,0.4s						
APG	**El Apazote**	**61.76**	**83**	LR	LR	22 41 01.5	
	comp=Z,22nm,19.7s,baz=268,slow=31						
TEIG	**Tepich**	**62.62**	**77**	LR	LR	22 43 10.3	
	comp=Z,125nm,20.3s,baz=230,slow=33						
URZ	**Urewera**	**62.95**	**204**	LR	LR	22 42 27.8	
	comp=Z,343nm,20.7s,baz=142,slow=32						
RES	**Resolute Bay**	**63.74**	**15**	LR	LR	22 43 30.4	
	comp=Z,462nm,21.7s,baz=221,slow=32						
TKL	**Tuckaleechee C**	**64.18**	**59**	LR	LR	22 46 08.1	
	comp=Z,90nm,19.1s,baz=278,slow=35						
RPN	**Rapa Nui**	**64.20**	**135**	LR	LR	22 40 27.0	
	comp=Z,572nm,21.2s,baz=322,slow=29						
KLR	**Kul'dur**	**64.50**	**316**	LR	LR	22 43 00.3	
	comp=Z,413nm,21.0s,baz=120,slow=31						
JNU	**Nakatsue**	**66.42**	**298**	LR	LR	22 48 22.0	
	comp=Z,349nm,18.2s,baz=90,slow=35						
SADO	**Sadowa**	**66.86**	**49**	LR	LR	22 47 55.6	
	comp=Z,66nm,18.9s,baz=284,slow=35						
TIXI	**Tiksi**	**67.27**	**341**	LR	LR	22 49 02.9	
	comp=Z,346nm,19.6s,baz=144,slow=36						
KSRS	**Korea Array**	**68.19**	**303**	LR	LR	22 48 37.7	
	comp=Z,277nm,18.8s,baz=75,slow=35						
JTS	**Las Juntas de**	**68.20**	**86**	LR	LR	22 42 39.7	
	comp=Z,349nm,21.5s,baz=292,slow=30						
CTA	**Charters Tower**	**69.44**	**239**	LR	LR	22 47 02.7	
	comp=Z,11nm,20.1s,baz=70,slow=33						
JOW	**Kunigami**	**69.76**	**292**	LR	LR	22 46 25.0	
	comp=Z,185nm,21.1s,baz=116,slow=32						
FRB	**Frobisher Bay**	**71.35**	**28**	LR	LR	22 47 43.5	
	comp=Z,113nm,21.3s,baz=296,slow=32						
DL2	**Dalian**	**72.84**	**306**	P	**P**	**22 20 46.0**	**+3.4**
DL2				S	**SKiKP**	**22 30 16.3**	**-0.9**
DL2				pmax	pmax		
	comp=Z,19nm,0.8s						
DL2				pmax	pmax		
	comp=Z,540nm,5.1s						
DL2				LR	LR		
	comp=Z,350nm,21.8s						
DL2				LR	LR		
	comp=Z,300nm,23.0s						
DL2				LR	LR		
	comp=Z,990nm,28.8s						
SCHQ	**Schefferville**	**73.49**	**37**	LR	LR	22 52 38.0	
	comp=Z,81nm,18.1s,baz=274,slow=36						
XLT	**XiLinHaoTe**	**75.86**	**312**	*e*P	**P**	**22 21 05.0**	**+4.7**
XLT				SKS	**SKSac**	**22 31 02.8**	**-8.9**
XLT				pmax	pmax		
	comp=Z,390nm,7.8s						
XLT				LR	LR		
	comp=Z,470nm,23.9s						
XLT				LR	LR		
	comp=Z,710nm,24.0s						
NJ2	**Nanjing**	**76.58**	**299**	*e*P	**P**	**22 21 03.0**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TIA	**Tai'an**	**76.93**	**304**	P	P	22 21 13.0	+6.6
TIA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIA				pmax	pmax		
	comp=Z,610nm,4.5s						
TIA				LR	LR		
	comp=Z,130nm,15.8s						
TIA				LR	LR		
	comp=Z,280nm,14.4s						
TIA				LR	LR		
	comp=Z,250nm,14.4s						
DAV	**Davao City (W)**	**77.48**	**273**	LR	LR	22 48 36.0	
	comp=Z,297nm,21.6s,baz=68,slow=30						
SFJD	**Kangerlussuaq**	**77.89**	**23**	LR	LR	22 51 31.8	
	comp=Z,298nm,21.8s,baz=304,slow=33						
HNS	**HongShan**	**78.49**	**306**	↑P	**P**	**22 21 16.0**	**+1.0**
HNS				PP	**PP**	**22 24 17.8**	**+5.5**
HNS				S	**S**	**22 31 13.5**	**+1.4**
HNS				pmax	pmax		
	comp=Z,570nm,8.9s						
HNS				LR	LR		
	comp=Z,390nm,23.2s						
HNS				LR	LR		
	comp=Z,490nm,24.9s						
QZH	**Quanzhou**	**78.68**	**293**	P	**P**	**22 21 19.0**	**+2.7**
QZH				pmax	pmax		
	comp=Z,410nm,7.6s						
QZH				LR	LR		
	comp=Z,440nm,22.7s						
STKA	**Stephens Creek**	**79.08**	**231**	LR	LR	22 50 00.4	
	comp=Z,156nm,21.6s,baz=32,slow=31						
WRA	**Warramunga Arr**	**79.28**	**244**	P	**P**	**22 21 20.6**	**+1.0**
	comp=Z,0.9nm,1.2s,baz=67,slow=6.7,SNR=2.9						
WRA				LR	LR	22 51 19.5	
	comp=Z,319nm,22.0s,baz=24,slow=32						
	comp=Z,0.9nm,1.2s						
HHC	**Hu-ho-hao-te**	**79.88**	**310**	*e*P	**P**	**22 21 23.0**	**+0.2**
HHC				PP	**PP**	**22 24 27.0**	**+3.1**
HHC				*e*S	**S**	**22 31 23.5**	**-3.6**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,380nm,7.3s						
HHC				LR	LR		
	comp=Z,190nm,17.8s						
HHC				LR	LR		
	comp=Z,470nm,17.9s						
HHC				LR	LR		
	comp=Z,580nm,18.4s						
ROSC	**El Rosal**	**79.89**	**88**	LR	LR	22 48 26.2	
	comp=Z,199nm,21.1s,baz=250,slow=30						
ATAH	**Atahualpa**	**80.10**	**101**	LR	LR	22 50 17.7	
	comp=Z,292nm,18.7s,baz=295,slow=31						
NRIK	**Noril'sk**	**81.04**	**341**	LR	LR	22 55 44.6	
	comp=Z,305nm,21.8s,baz=54,slow=34						
ASAR	**Alice Springs**	**81.23**	**241**	P	**P**	**22 21 29.4**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=58,slow=5.2,SNR=2.1						
ASAR				LR	LR	22 55 52.6	
	comp=Z,133nm,18.8s,baz=52,slow=34						
	comp=Z,0.3nm,0.8s						
SONM	**Songino Array**	**81.26**	**318**	P	**P**	**22 21 29.1**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=69,slow=6.3,SNR=2.3						
	comp=Z,0.5nm,0.5s						
SDV	**Santo Domingo**	**82.08**	**83**	LR	LR	22 52 53.9	
	comp=Z,139nm,21.2s,baz=268,slow=32						
CNSH	**ChangSha**	**82.58**	**297**	P	P	22 21 43.0	+5.8
CNSH				pmax	pmax		
	comp=Z,440nm,6.5s						
CNSH				LR	LR		
	comp=Z,220nm,26.6s						
CNSH				LR	LR		
	comp=Z,380nm,23.8s						
CNSH				LR	LR		
	comp=Z,460nm,23.0s						
NNA	**Nana**	**83.28**	**105**	LR	LR	22 49 37.8	
	comp=Z,364nm,21.4s,baz=284,slow=29						
KAPI	**Kappang**	**86.92**	**264**	LR	LR	22 57 57.8	
	comp=Z,124nm,19.5s,baz=76,slow=34						
JMIC	**Jan Mayen**	**86.95**	**10**	LR	LR	22 57 29.8	
	comp=Z,170nm,21.9s,baz=20,slow=33						
LZH	**Lanzhou**	**87.17**	**307**	P	**P**	**22 22 00.5**	**+0.1**
LZH				S	**S**	**22 32 40.0**	**-1.1**
LZH				pmax	pmax		
	comp=Z,440nm,4.6s						
LZH				LR	LR		
	comp=Z,210nm,14.6s						
LZH				LR	LR		
	comp=Z,360nm,16.5s						
LZH				LR	LR		
	comp=Z,580nm,18.7s						
QIZ	**Qiongzhong**	**88.22**	**289**	P	**P**	**22 22 04.8**	**-0.7**
QIZ				S	**S**	**22 32 49.0**	**-2.3**
QIZ				SS	**SS**	**22 38 38.8**	**-1.2**
QIZ				pmax	pmax		
	comp=Z,280nm,7.6s						
QIZ				LR	LR		
	comp=Z,240nm,15.1s						
QIZ				LR	LR		
	comp=Z,190nm,16.8s						
QIZ				LR	LR		
	comp=Z,250nm,20.2s						
GYA	**Guiyang**	**88.41**	**297**	P	**P**	**22 22 05.5**	**-1.0**
GYA				S	**S**	**22 32 57.5**	**+4.3**
GYA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,400nm,6.6s						
GYA				LR	LR		
	comp=Z,450nm,21.5s						
GYA				LR	LR		
	comp=Z,390nm,21.8s						
GYA				LR	LR		
	comp=Z,650nm,25.4s						
GTA	**Gaotai**	**88.81**	**312**	P	P	22 22 15.0	+6.9
GTA	**Gaotai**	**88.81**	**312**	SKS	**SKSac**	**22 32 46.0**	**+7.2**
BORG	**Borgarnes**	**89.00**	**18**	LR	LR	22 58 42.6	
	comp=Z,113nm,21.9s,baz=326,slow=33						
CD2	**Chengdu**	**89.17**	**302**	*e*P	**P**	**22 22 07.0**	**-2.9**
H03N2	**Juan Fernandez**	**89.70**	**126**	T	T	00 01 18.5	
	baz=298,slow=76,SNR=12						
H03N3	**Juan Fernandez**	**89.72**	**126**	T	T	00 01 19.5	
	baz=298,slow=76,SNR=14						
H03N1	**Juan Fernandez**	**89.72**	**126**	T	T	00 01 21.8	
	baz=298,slow=76,SNR=15						
ZALV	**Zalesovo Beam**	**90.67**	**329**	P	**P**	**22 22 17.0**	**+0.7**
	comp=Z,0.3nm,0.2s,baz=62,slow=5.5,SNR=1.8						
	comp=Z,0.3nm,0.2s						
ARCES	**ARCESS Array B**	**91.30**	**360**	LR	LR	22 58 54.7	
	comp=Z,184nm,21.8s,baz=348,slow=33						
PZH	**PanZhiHua**	**92.49**	**299**	P	**P**	**22 22 23.3**	**-2.2**
PZH				S	**S**	**22 33 26.0**	**-4.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,210nm,4.9s						
PZH				LR	LR		
	comp=Z,230nm,18.4s						
PZH				LR	LR		
	comp=Z,280nm,19.0s						
PZH				LR	LR		
	comp=Z,520nm,24.5s						
LPAZ	**La Paz**	**92.69**	**106**	LR	LR	22 55 46.5	
	comp=Z,124nm,21.7s,baz=273,slow=30						
WMQ	**Urumqi**	**94.74**	**320**	*e*P	**P**	**22 22 35.3**	**-0.1**
WMQ				LR	LR		
	comp=Z,540nm,18.9s						
WMQ				LR	LR		
	comp=Z,310nm,23.9s						
WMQ				LR	LR		
	comp=Z,380nm,22.1s						
BVAR	**Borovoye Array**	**97.77**	**334**	LR	LR	23 07 37.5	
	comp=Z,211nm,20.0s,baz=49,slow=36						
CMAR	**Chiang Mai Arr**	**98.03**	**293**	LR	LR	23 06 36.4	
	comp=Z,165nm,19.2s,baz=60,slow=35						
NOA	**NORSAR Array B**	**99.10**	**7**	LR	LR	23 05 14.3	
	comp=Z,127nm,20.8s,baz=340,slow=34						
VNDA	**Vanda**	**99.90**	**189**	LR	LR	22 58 13.8	
	comp=Z,222nm,21.8s,baz=46,slow=29						
ZVC	**Zvikov**	**110.83**	**7**	*e*PP	PP	22 28 05.7	-17
ZVC				*ex*	x	22 37 57.5	
ZVC				AMS	AMS	23 16 10.0	
	comp=Z,200nm,17.0s						
KHC	**Kasperske Hory**	**111.05**	**8**	*e*PP	PP	22 28 16.3	-8.3
KHC				*e*SP	SP	22 38 00.8	+5.9
KHC				AMS	AMS	23 15 00.0	
	comp=Z,200nm,16.8s						
CKRC	**Cesky Krumlov**	**111.45**	**7**	*e*PP	PP	22 28 01.6	-26
CKRC				*ex*	x	22 44 11.6	
CKRC				AMS	AMS	23 16 40.0	
	comp=Z,200nm,15.9s						

ATH 26 22:38:43.6, 38°.52N×21°.66E, h29km±1km, ML1.0/6, Manual Solution by N.Liadopoulou This location: 2020/06/16 06:16:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVO	**Paravola**	**0.14**	**312**	P	Pn	22 38 49.6	-0.3
PVO				S	Sb	22 38 53.0	+0.1
EFP	**Efpalio**	**0.21**	**116**	P	Pb	22 38 49.9	+0.1
EFP				S	Sb	22 38 54.1	0.0
ANX	**Ano Chora**	**0.22**	**70**	P	Pb	22 38 50.0	0.0
ANX				S	Sb	22 38 54.6	+0.3
KALE	**Kalithea**	**0.40**	**109**	P	Pb	22 38 52.8	+0.4
KALE				S	Sb	22 38 59.0	+0.6
RLS	**Riolos of Patr**	**0.49**	**198**	P	Pb	22 38 53.9	+0.1
RLS				S	Sb	22 39 00.9	+0.2
DRO	**Drossia**	**0.57**	**176**	P	Pb	22 38 55.0	-0.1
DRO				S	Sb	22 39 03.2	+0.3
KLV	**Kalavryta, Ach**	**0.61**	**141**	P	Pb	22 38 55.9	+0.1
KLV				S	Sb	22 39 04.4	+0.2
GUR	**Goura**	**0.79**	**137**	P	Pn	22 38 59.0	+0.1
GUR				S	Sn	22 39 09.7	-0.1

ATH 26 22:38:45.9, 39°.34N×22°.17E, h18km±5km, ML1.0/3, Error ellipse: s-maj=5.6km s-min=0.9km az=321.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THL	**Klokotos Trika**	**0.26**	**331**	P	Pg	22 38 51.4	-0.3
THL				S	Sg	22 38 55.6	0.0
THL				AML	AML	22 38 56.7	
	comp=E,35μm,0.3s						
THL				AML	AML	22 38 58.2	
	comp=N,26μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.33**	**186**	P	Pg	22 38 52.7	-0.3
MAKR				S	Sg	22 38 57.8	+0.1
MAKR				AML	AML	22 38 59.1	
	comp=N,132μm,0.2s						
MAKR				AML	AML	22 38 59.3	
	comp=E,179μm,0.2s						
AGG	**Agios Georgios**	**0.34**	**159**	P	Pg	22 38 52.8	-0.3
AGG				S	Sg	22 38 58.2	+0.2
TYRN	**Tyrnavos**	**0.37**	**7**	P	Pg	22 38 53.8	+0.1
TYRN				S	Sg	22 38 59.2	+0.2
EVR	**Evrytania**	**0.51**	**214**	P	Pg	22 38 55.7	-0.5
EVR				S	Sb	22 39 03.5	0.0
EVR				AML	AML	22 39 04.0	
	comp=N,59μm,0.2s						
EVR				AML	AML	22 39 04.6	
	comp=E,33μm,0.2s						

*IDC **26** 23:01:42.3±9.0, 7°.36S×126°.86E, h199km±95km, mb3.3/3, mbtmp4.0/5, Error ellipse: s-maj=143.5km s-min=23.7km az=54.0*

ISC 26 23:01:41.9±1.1, 7°.4S±0°.1×127°.1E±0°.2, h200km, n14, σ1§80/13, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.66**	**230**	P	**Pn**	**23 02 40.9**	**+1.3**
DRS	**Darwin Rock St**	**6.25**	**144**	P	Pn	23 03 17.6	+5.2
MTN	**Manton Dam**	**6.72**	**144**	P	Pn	23 03 23.5	+5.0
WRA	**Warramunga Arr**	**14.32**	**151**	P	**P**	**23 04 57.2**	**-0.1**
	1.5nm,0.4s,baz=327,slow=12,SNR=35						
WRA				S	**S**	**23 07 31.9**	**-3.2**
	0.4nm,0.3s,baz=334,slow=22,SNR=4.5						
ASAR	**Alice Springs**	**17.45**	**159**	P	**Pn**	**23 05 34.6**	**+1.0**
	5.7nm,0.4s,baz=333,slow=12,SNR=75						
AS01	**Alice Springs**	**17.47**	**159**	P	**Pn**	**23 05 34.7**	**+0.9**
WRKA	**Warakurna**	**17.59**	**176**	P	**Pn**	**23 05 34.6**	**-0.6**
QIS	**Mount Isa**	**17.83**	**139**	P	**Pn**	**23 05 40.2**	**+2.2**
MEEK	**Meekatharra**	**20.78**	**202**	P	**P**	**23 06 05.7**	**-1.9**
FORT	**Forrest**	**23.29**	**178**	P	**P**	**23 06 33.1**	**+1.3**
MULG	**Mulgathing**	**23.69**	**165**	P	**P**	**23 06 37.7**	**+2.2**
STKA	**Stephens Creek**	**27.86**	**153**	P	**P**	**23 07 14.3**	**+1.3**
	2.1nm,0.6s,baz=334,slow=10.0,SNR=5.6						
	2.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**37.84**	**313**	P	**P**	**23 08 38.4**	**-1.2**
	0.9nm,0.7s,baz=138,slow=6.7,SNR=7.3						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**67.01**	**328**	P	**P**	**23 12 12.8**	**-0.5**
	0.3nm,0.7s,baz=126,slow=8.0,SNR=2.4						
	0.3nm,0.7s						

*JMA **26** 23:06:34.8±0.7, 45°.N±4°.×15°.1E±°, h30km, MV4.2/12, KURILE ISLANDS REGION*
*IDC **26** 23:06:35.7±1.4, 45°.53N×150°.42E, h0km, mb3.9/16, mbtmp3.9/19, ML3.5/3, MS3.1/3, Error ellipse: s-maj=35.1km s-min=19.4km az=155.0*
*SKHL **26** 23:06:38.6±0.0, 44°.70N×150°.70E, h67km±7km, mb4.6/3*
*MOS **26** 23:06:38.5±1.0, 45°.03N×150°.64E, h53km, mb4.4/18, Error ellipse: s-maj=12.1km s-min=8.5km az=30.2*
*NEIC **26** 23:06:41.8±1.0, 45°.4N±0°.3×150°.4E±0°.2, h41km±17km, mb4.3/21, Error ellipse: s-maj=43.9km s-min=2.5km az=159.0*

ISC 26 23:06:39.1±0.8, 44°.92N±0°.08×150°.53E±0°.07, h39km, n116, σ1§60/124, mb4.2/37, 5C-4D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.91**	**280**	*e*P	**Pn**	**23 07 10.6**	**+1.5**
KUR				AMB	AMB	23 07 17.6	
	210nm,0.4s						
KUR				*e*S	**Sn**	**23 07 34.6**	**+2.7**
KUR				A	A	23 07 52.4	
	440nm,0.4s						
KUR				A	A	23 07 52.4	
	230nm,0.4s						
KUR	**Kuril'sk**	**1.91**	**280**	PN	**Pn**	**23 07 11.6**	**+2.5**
KUR				*e*S	**Sn**	**23 07 34.9**	**+3.0**
KUR				pmax	pmax		
	comp=Z,209nm,0.5s						
KUR				smax	smax		
	comp=N,320nm,0.6s						
KUR				smax	smax		
	comp=E,121nm,0.7s						
SHO	**Shikotan**	**2.85**	**250**	*e*P	**Pn**	**23 07 23.3**	**+1.3**
SHO				AMB	AMB	23 07 27.1	
	comp=E,30nm,0.5s						
SHO				*e*S	**Sn**	**23 07 54.5**	**-0.6**
SHO				A	A	23 07 59.3	
	comp=E,50nm,0.5s						
SHO				A	A	23 07 59.3	
	comp=E,140nm,0.5s						
SHO	**Shikotan**	**2.85**	**250**	PN	**Pn**	**23 07 23.3**	**+1.3**
SHO				*e*S	**Sn**	**23 07 55.1**	**0.0**
SHO				smax	smax		
	comp=N,74nm,0.3s						
SHO				smax	smax		
	comp=E,143nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.46**	**257**	*e*P	**Pn**	**23 07 30.8**	**+0.5**
YUK				AMB	AMB	23 07 33.3	
	comp=E,110nm,0.3s						
YUK				*e*S	**Sn**	**23 08 10.0**	**0.0**
YUK				A	A	23 08 23.3	
	comp=E,390nm,0.4s						
YUK				A	A	23 08 23.3	
	comp=E,480nm,0.4s						
NEM2	**Nemuro 2**	**3.78**	**247**	*e*S	**Sn**	**23 08 18.9**	**+0.9**
NMR	**Nemuro--Hokkai**	**3.79**	**248**	*e*P	**Pn**	**23 07 34.8**	**-0.1**
NMR				*e*S	**Sn**	**23 08 17.0**	**-1.2**
JNK	**Nakash**	**4.38**	**254**	P	**Pn**	**23 07 44.2**	**+1.1**
JNK				*e*S	**Sn**

JKK2 Kamakawa 2 5.67 262 *e*P **Pn 23 08 03.5 +2.7**
JCH Churui 5.68 249 *e*P **Pn 23 08 01.4 +0.5**
JCH *e*S **Sn 23 09 05.0 +0.2**
JKA Kamikawa-asahi 5.73 265 Pn **Pn 23 08 03.2 +1.6**
JKA Kamikawa-asahi 5.73 265 *e*P **Pn 23 08 03.7 +2.2**
ASAJ Asahikawa 5.73 265 Pn **Pn 23 08 03.7 +2.1**
comp=E,1.1nm,0.3s,baz=98,slow=16,SNR=14
ASAJ LR LR 23 10 27.2
comp=E,189nm,20.2s,baz=144,slow=40
comp=E,14nm,0.8s
ERM Erimo 6.10 244 Pn 23 08 10.4 +3.8
ERM Erimo 6.10 244 PN **Pn 23 08 10.4 +3.8**
JNBK Urakawa-nobuka 6.23 248 *e*P **Pn 23 08 08.2 -0.3**
JNBK *e*S **Sn 23 09 17.6 -0.8**
SKR Severo-Kuril's 6.88 31 *e*P **Pn 23 08 18.6 +1.3**
JANG Nango 8.05 239 *e*S **Sn 23 09 57.4 -5.7**
USRK Ussuriysk Ar. 13.25 273 Pn **Pn 23 09 45.4 +1.0**
comp=E,0.2nm,0.3s,baz=84,slow=13,SNR=6.5
comp=E,3.7nm,0.7s
KLR Kul'dur 13.50 295 Pn **P 23 09 54.5 -1.9**
comp=E,0.2nm,0.3s,baz=100,slow=10,SNR=6.7
KLR LR LR 23 15 21.8
comp=E,123nm,18.0s,baz=180,slow=40
KLR Kul'dur 13.50 295 *e*P **P 23 09 54.5 -1.9**
KLR pmax pmax
comp=Z,4.0nm,1.1s
MSHR Mys Shultsa 14.20 267⇓*e*P **Pn 23 09 59.4 +2.0**
MSHR pmax pmax
comp=Z,4.0nm,1.0s
MA2 Magadan 14.68 0 LR LR 23 15 38.3
comp=Z,56nm,19.0s,baz=258,slow=39
MA2 Magadan 14.68 0c*e*P **P 23 10 09.9 +0.5**
MA2 pmax pmax
comp=Z,42nm,1.7s
ZEA Zeya 17.48 309 *e*P **Pn 23 10 39.3 -0.4**
ZEA Zeya 17.48 309 *e*P **P 23 10 41.4 +0.9**
SEY Seymchan 18.08 3 *e*P **P 23 10 50.5 +3.5**
SEY Seymchan 18.08 3⇓*e*P **P 23 10 50.5 +3.5**
SEY pmax pmax
comp=Z,27nm,3.0s
KSRS Korea Array 18.54 254 P **Pn 23 10 54.1 +1.4**
comp=Z,0.2nm,0.3s,baz=70,slow=11,SNR=2.4
comp=Z,0.6nm,0.3s
YAK Yakutsk 20.99 332⇑*e*P **P 23 11 18.5 -0.2**
YAK pmax pmax
comp=Z,6.0nm,0.5s
H11N2 WAKE ISLAND Hy 28.56 146 T T 23 43 24.4
baz=336,slow=75,SNR=36
H11N1 WAKE ISLAND Hy 28.57 146 T T 23 43 20.9
baz=336,slow=75,SNR=18
H11N3 WAKE ISLAND Hy 28.58 146 T T 23 43 20.3
baz=336,slow=75,SNR=23
H11S1 WAKE ISLAND Hy 29.59 148 T T 23 44 40.8
baz=337,slow=76,SNR=45
H11S3 WAKE ISLAND Hy 29.60 148 T T 23 44 44.1
baz=337,slow=76,SNR=30
H11S2 WAKE ISLAND Hy 29.61 148 T T 23 44 47.1
baz=337,slow=76,SNR=30
ULN Ulaanbaatar 29.84 291 P **P 23 12 40.9 -1.7**
ULN Ulaanbaatar 29.84 291 *e*P **P 23 12 43.6 +1.0**
ULN Ulaanbaatar 29.84 291⇓*i*P **P 23 12 43.6 +1.0**
ULN pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 30.28 291 P **P 23 12 46.0 -0.4**
comp=Z,1.8nm,0.8s,baz=85,slow=8.6,SNR=7.3
comp=Z,1.8nm,0.8s
SONM Songino Array 30.28 291 *e*P **P 23 12 47.0 +0.6**
SONM pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 39.10 37 P **P 23 14 01.1 -1.0**
comp=Z,0.4nm,0.8s,baz=279,slow=7.9,SNR=4.1
comp=Z,0.4nm,0.8s
D25K Kavik River 39.46 30 P **P 23 14 05.1 0.0**
L27K Beaver Creek, 41.44 40 P **P 23 14 21.4 -0.2**
ZALV Zalesovo Beam 42.24 307 P **P 23 14 26.6 -1.4**
comp=Z,0.2nm,0.3s,baz=129,slow=2.0,SNR=1.6
comp=Z,0.2nm,0.3s
I30M Mount Dempster 43.51 36 P **P 23 14 37.9 -0.6**
MK31 Makanchi Array 46.19 298 P **P 23 14 59.1 -0.8**
MK31 IAmb IAmb 23 15 01.1
comp=Z,2.2nm,0.8s
MK31 Makanchi Array 46.19 298 P **P 23 14 59.1 -0.8**
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 46.19 298 P **P 23 14 59.6 -0.3**
MKAR Makanchi Array 46.19 298 P **P 23 14 59.4 -0.5**
comp=Z,2.2nm,0.7s,baz=71,slow=8.0,SNR=21
comp=Z,2.2nm,0.7s
MKAR Makanchi Array 46.19 298 *e*P **P 23 15 00.1 +0.2**
MKAR Makanchi Array 46.19 298 *e*P **P 23 15 00.1 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 46.88 304 P **P 23 15 03.6 -1.6**
KURK IAmb IAmb 23 15 05.4
comp=Z,1.7nm,0.7s
KURK Kurchatov 46.88 304 *e*P **P 23 15 04.0 -1.2**
KURK Kurchatov 46.88 304⇓*e*P **P 23 15 04.0 -1.2**
KURK pmax pmax
comp=Z,6.0nm,1.8s
KURBB Kurchatov Arra 46.97 304 P **P 23 15 05.0 -0.9**
comp=Z,2.1nm,0.2s,baz=72,slow=9.0,SNR=6.0
comp=Z,2.1nm,0.2s
CMAR Chiang Mai Arr 50.17 256 P **P 23 15 31.9 +1.0**
comp=Z,0.6nm,0.5s,baz=38,slow=7.9,SNR=4.1
comp=Z,0.6nm,0.5s
CMAR Chiang Mai Arr 50.17 256 *e*P **P 23 15 32.7 +1.8**
BVAR Borovoye Array 50.63 310 P **P 23 15 33.3 -0.6**
comp=Z,0.8nm,0.7s,baz=52,slow=12,SNR=4.8
comp=Z,0.8nm,0.7s
BRVK Borovoye 50.67 310 *e*P **P 23 15 33.9 -0.4**
BRVK Borovoye 50.67 310⇑*e*P **P 23 15 33.9 -0.4**
BRVK pmax pmax
comp=Z,5.0nm,2.2s
AAK Ala-Archa 53.03 296 *e*P **P 23 15 53.3 +1.2**
AAK Ala-Archa 53.03 296⇑*e*P **P 23 15 53.3 +1.2**
AAK pmax pmax
comp=Z,9.0nm,2.5s
YKA Yellowknife Ar 53.46 35 P **P 23 15 53.7 -1.1**
comp=Z,0.4nm,0.6s,baz=245,slow=2.6,SNR=4.0
comp=Z,0.4nm,0.6s
ARSB Arslanbob 54.67 296 P **P 23 16 04.4 +0.2**
ARSB Arslanbob 54.67 296 P **P 23 16 04.4 +0.2**
ARSB pmax pmax
comp=Z,1.0nm,0.8s
ARU Arti 55.14 317 *e*P **P 23 16 06.5 -0.6**
ARU Arti 55.14 317c *i*P **P 23 16 06.5 -0.6**
ARU 23 18 08.5
ARU S **S 23 23 41.7 -5.3**
ARU SS **SS 23 27 26.4 -4.2**
ARU pmax pmax
comp=Z,7.0nm,2.8s
KK31 Karatay Array 55.30 299 P **P 23 16 08.1 -0.4**
KK31 IAmb IAmb 23 16 09.3
comp=Z,2.5nm,0.8s
KK31 Karatay Array 55.30 299 P **P 23 16 08.1 -0.4**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 55.30 299 P **P 23 16 08.7 +0.2**
KKAR Karatay Array 55.30 299 P **P 23 16 07.5 -1.0**
KKAR IAmb IAmb 23 16 09.3
comp=Z,2.5nm,0.8s
KKAR Karatay Array 55.30 299 P **P 23 16 07.5 -1.0**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
BTK Batken 56.74 295 P **P 23 16 19.0 +0.1**
BTK IAmb IAmb 23 16 20.0
comp=Z,7.4nm,1.1s
BTK Batken 56.74 295 P **P 23 16 19.0 +0.1**
BTK pmax pmax
comp=Z,7.0nm,1.1s
GAR Garm 57.65 295 P **P 23 16 25.7 +0.3**
ABKAR Akbulak array 58.21 310 P **P 23 16 28.8 -0.1**
ABKAR Akbulak array 58.21 310 P **P 23 16 28.1 -0.9**
ABKAR IAmb IAmb 23 16 29.7
comp=Z,2.1nm,0.7s
CHGR Chuyangaron 58.59 295 P **P 23 16 32.0 +0.1**
CHGR Chuyangaron 58.59 295 P **P 23 16 32.0 +0.1**
CHGR pmax pmax
comp=Z,20nm,0.8s
SIMJ Simiganj 58.68 295 P **P 23 16 32.7 0.0**
NIL Nilore 58.76 288 P **P 23 16 33.9 +0.8**
NIL Nilore 58.76 288 P **P 23 16 33.9 +0.8**
NIL pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 64.91 334 P **P 23 17 10.6 -3.4**
comp=Z,1.0nm,0.7s,baz=43,slow=8.6,SNR=6.0
comp=Z,1.0nm,0.7s
FINES FINESS Array B 64.91 334 *e*P **P 23 17 12.3 -1.7**
FINES pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 69.36 340 P **P 23 17 40.6 -1.7**
comp=Z,0.4nm,0.8s,baz=28,slow=6.5
NOA NORSAR Array B 69.36 340 P **P 23 17 40.4 -1.9**
comp=Z,0.7nm,0.7s,baz=30,slow=6.3,SNR=4.4
comp=Z,0.7nm,0.7s
NOA NORSAR Array B 69.36 340 *e*P **P 23 17 40.8 -1.5**
NOA pmax pmax
comp=Z,1.0nm,0.8s
HFS Hagfors 69.52 339 P **P 23 17 41.4 -1.8**
comp=Z,0.5nm,0.7s,baz=124,slow=2.6,SNR=1.9
comp=Z,0.5nm,0.7s
KIV Kislovodsk 70.76 313 *e*P **P 23 17 52.0 +0.7**
KIV Kislovodsk 70.76 313 *e*P **P 23 17 51.9 +0.7**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 70.81 313 P **P 23 17 52.5 +1.1**
comp=Z,4.7nm,0.8s,baz=47,slow=3.8,SNR=11
comp=Z,4.7nm,0.8s
AKASG Malin Array Be 72.04 325 P **P 23 17 56.8 -1.9**
comp=Z,1.2nm,0.7s,baz=34,slow=5.6,SNR=1.8
comp=Z,1.2nm,0.7s
GURO Guroymak-BITLI 74.93 310 P **P 23 18 17.7 +1.6**
GURO IAmb IAmb 23 18 19.2
comp=Z,2.4nm,0.7s
BUR08 Bucovina Ar. S 76.08 325 P **P 23 18 22.3 -0.1**
BUR08 IAmb IAmb 23 18 25.1
comp=Z,4.0nm,0.8s
BURAR Bucovina Array 76.09 325 P **P 23 18 22.1 -0.5**
BURAR IAmb IAmb 23 18 25.0
comp=Z,2.5nm,0.8s
BURAR Bucovina Array 76.09 325 P **P 23 18 22.1 -0.5**
BURAR pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 77.19 331 *e*P **P 23 18 28.6 0.0**
CLL Collm 77.36 334 *i* P **P 23 18 28.9 -0.6**
comp=Z,4.0nm,0.8s
CLL *e*(pP) **sP 23 18 45.0 +0.4**
EKA Eskdalemuir Ar 77.66 345 P **P 23 18 30.6 -0.5**
comp=Z,0.9nm,0.6s,baz=26,slow=6.0,SNR=3.9
comp=Z,0.9nm,0.6s
JAVC Velka Javorina 77.92 330 *e*P **P 23 18 34.0 +1.3**
KRUC Moravsky 78.19 331 *e*P **P 23 18 34.4 +0.2**
BRTR Keskin Array B 78.45 315 P **P 23 18 36.3 +0.3**
comp=Z,1.0nm,0.8s,baz=87,slow=3.7,SNR=8.7
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 78.45 315 *e*P **P 23 18 36.6 +0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 79.28 333 P **P 23 18 40.2 0.0**
comp=Z,0.5nm,0.7s,baz=30,slow=8.3,SNR=3.9
comp=Z,0.5nm,0.7s
GERES GERESS Array B 79.28 333 *e*P **P 23 18 40.5 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.6s
KBA Koelnbreinsper 80.94 332 *e*P **P 23 18 49.7 +0.4**
comp=Z,1.3nm,0.4s
OBKA Obir 81.02 331 *e*P **P 23 18 50.5 +0.8**
comp=Z,0.4nm,0.3s
RDO Rodhopi 81.17 321 P **P 23 18 49.9 -0.5**
RDO IAmb IAmb 23 18 52.4
comp=Z,2.9nm,0.7s
MAW Mawson 129.71 210 PKP **PKiKP 23 25 45.9 +2.5**
comp=Z,7.4nm,0.6s,baz=18,slow=5.4,SNR=20
QSPA South Pole Qui 134.66 180 PKP **PKiKP 23 25 56.9 +3.4**
comp=Z,0.6nm,0.6s,baz=35,slow=0.5,SNR=7.3

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*SKHL **26** 23:09:58.3±0.2, 44°.00N×150°.80E, h34km±2km, mb4.3/2*
*IDC **26** 23:10:00.9±1.9, 46°.57N×149°.71E, h0km, mb3.7/9,*
mbtmp3.7/11, ML3.4/2, Error ellipse: s-maj=42.0km
s-min=32.0km az=100.0
ISC 26 23:09:51.5±1.4, 44°.3N±0°.2×151°.2E±0°.1, h35km, n14,
σ2°35/16, mb3.8/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.52**	**292**	*e*P	Pn	23 10 35.9	+6.0
KUR				AMB	AMB	23 10 37.4	
	140nm,0.5s						
KUR				*e*S	**Sn**	**23 11 03.2**	**+3.8**
KUR				A	A	23 11 06.9	
	170nm,0.5s						
KUR				A	A	23 11 06.9	
	170nm,0.5s						
SHO	**Shikotan**	**3.17**	**263**	*e*P	**Pn**	**23 10 41.8**	**+3.0**
SHO				AMB	AMB	23 10 44.4	
	20nm,0.3s						
SHO				*e*S	**Sn**	**23 11 14.3**	**-1.0**
SHO				A	A	23 11 18.4	
	50nm,0.4s						
SHO				A	A	23 11 18.4	
	50nm,0.4s						
NMR	**Nemuro--Hokkai**	**4.06**	**258**	*e*P	**Pn**	**23 10 53.6**	**+2.5**
NMR				*e*S	**Sn**	**23 11 36.3**	**-1.0**
ASAJ	**Asahikawa**	**6.17**	**271**	Pn	**Pn**	**23 11 23.4**	**+3.3**
	1.4nm,0.3s,baz=130,slow=7.6,SNR=3.7						
	4.2nm,0.3s						
USRK	**Ussuriysk Ar.**	**13.76**	**276**	Pn	**Pn**	**23 13 01.2**	**-2.7**
	0.1nm,0.3s,baz=146,slow=37,SNR=3.7						
	1.9nm,0.6s						
SONM	**Songino Array**	**30.93**	**293**	P	**P**	**23 16 03.2**	**-1.8**
	0.4nm,0.3s,baz=61,slow=10,SNR=3.2						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**46.87**	**299**	P	**P**	**23 18 18.6**	**+0.6**
	1.0nm,0.7s,baz=70,slow=7.5,SNR=7.6						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**47.69**	**305**	P	**P**	**23 18 23.6**	**-0.6**
	0.5nm,0.2s,baz=74,slow=8.9,SNR=4.1						
	0.5nm,0.2s						
BVAR	**Borovoye Array**	**51.36**	**310**	P	**P**	**23 18 51.4**	**-0.8**
	0.3nm,0.6s,baz=69,slow=7.9,SNR=2.7						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**65.64**	**334**	P	**P**	**23 20 30.5**	**-1.0**
	1.0nm,0.8s,baz=32,slow=11,SNR=4.4						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**69.50**	**197**	P	**PcP**	**23 21 23.2**	**+3.9**
	0.3nm,0.6s,baz=69,slow=8.0,SNR=2.6						
	0.3nm,0.6s						
NOA	**NORSAR Array B**	**70.06**	**341**	P	**P**	**23 20 58.2**	**-1.2**
	0.2nm,0.6s,baz=28,slow=6.3,SNR=2.6						
	0.2nm,0.6s						
KBZ	**Khabaz**	**71.55**	**313**	P	**P**	**23 21 08.7**	**0.0**
	1.8nm,0.8s,baz=62,slow=2.5,SNR=4.7						
	1.8nm,0.8s						
BRTR	**Keskin Array B**	**79.20**	**316**	P	**P**	**23 21 53.4**	**+0.5**
	0.5nm,0.7s,baz=54,slow=6.3,SNR=4.3						
	0.5nm,0.7s						

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*IDC **26** 23:13:47.0±0.4, 26°.27N×44°.90W, h0km, mb4.5/29,*
mbtmp4.5/29, MS4.2/69, Error ellipse: s-maj=14.4km
s-min=11.5km az=150.0
*MOS **26** 23:13:47.4±0.9, 26°.17N×44°.84W, h11km, mb5.1/89,*
MS4.2/4, Error ellipse: s-maj=6.7km s-min=4.7km az=47.2
*NEIC **26** 23:13:50.2±1.3, 26°.17N±0°.09×44°.89W±0°.09, h10km±1km,*
mb5.1/524, Error ellipse: s-maj=15.1km s-min=14.0km
az=155.0
*GCMT **26** 23:13:51.2±0.2, 26°.26N±0°.02×44°.85W±0°.01, h12km,*
MW5.1/124, Moment Tensor Solution. s53,c59;
s124,c203; Duration: 0 Moment tensor: Scale 10^{16}Nm;
M_{rr}-4.87±.10; $M_{\theta\theta}$0.17±.10; $M_{\phi\phi}$4.70±.08; $M_{r\theta}$1.12±.40;
$M_{\theta\phi}$-0.00±.08; $M_{\phi r}$1.26±.30; Best double couple:
$M_0$5.06400×10^{16} NP1:ϕ_s192.00000°, δ54.00000°,
λ-76.00000°. NP2:ϕ_s349.00000°, δ39.00000°,
λ-108.00000°. Principal axes: T 4.8680, Plg8.0000°,
Azm272.0000°; N 0.3940, Plg11.0000°, Azm3.0000°; P
-5.2600, Plg76.0000°, Azm148.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
*BGR **26** 23:13:54.2, 26°.76N×44°.59W, h10km, mb5.0, Ms4.2,*
Hypocentre not reviewed by the ISC
ISC 26 23:13:48.9±0.7, 26°.18N±0°.05×44°.86W±0°.05, h8km±3km,
n1111, σ0°.93/940, mb5.1/368, MS4.3/85, 25C-28D,
Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSR	**BB Station**	**18.36**	**294**	Pn	**Pn**	**23 18 02.3**	**-1.5**
MAGL	**Barre de l'ile**	**18.38**	**240**		**P**	**23 18 04.2**	**0.0**
GDHS	**Morne Mazeau,**	**18.57**	**241**	P	**P**	**23 18 05.3**	**-1.1**
GDHS				IAmb	IAmb	23 18 10.3	
	comp=Z,158nm,1.4s						
SVN	**Savane Anatole**	**18.96**	**237**	P	**P**	**23 18 10.8**	**0.0**
MPOM	**Morne Pois Mar**	**18.99**	**235**	P	**P**	**23 18 07.7**	**-3.3**
MPOM				IAmb	IAmb	23 18 15.3	
	comp=Z,153nm,1.2s						
FDF	**Fort de France**	**19.02**	**236**	P	**P**	**23 18 10.7**	**-0.7**
FDF				IAmb	IAmb	23 18 25.5	
	comp=Z,199nm,1.4s						
FDF	**Fort de France**	**19.02**	**236**	P	**P**	**23 18 10.7**	**-0.7**
FDF				pmax	pmax		
	comp=Z,199nm,1.4s						
BIM	**Bigot**	**19.10**	**236**	P	**P**	**23 18 12.2**	**0.0**
CMLA	**Cha da Macela**	**20.02**	**50**	P	Pn	23 18 23.0	-0.8
CMLA				IAmb	IAmb	23 18 30.8	
	comp=Z,125nm,0.9s						
CMLA	**Cha da Macela**	**20.02**	**50**	P	**P**	**23 18 23.0**	**+0.9**
CMLA				pmax	pmax		
	comp=Z,125nm,1.0s						
HUMP	**Col San Antoni**	**21.00**	**252**	P	**P**	**23 18 32.4**	**-0.4**
GCPR	**Guaynabo City**	**21.13**	**253**	P	**P**	**23 18 33.4**	**-0.9**
SJG	**San Juan**	**21.27**	**252**	P	**P**	**23 18 35.5**	**-0.3**
SJG	**San Juan**	**21.27**	**252**	P	**P**	**23 18 34.5**	**-1.3**
	comp=Z,3.1nm,0.2s,baz=34,slow=11,SNR=1.6						
SJG				LR	LR	23 25 00.9	
	comp=Z,1μm,21.9s,baz=78,slow=32						
	comp=Z,3.1nm,0.2s						
SJG	**San Juan**	**21.27**	**252**	P	**P**	**23 18 35.5**	**-0.3**
SJG				pmax	pmax		
	comp=Z,68nm,1.4s						
IGPR	**InterUniversit**	**21.30**	**252**	P	**P**	**23 18 36.0**	**0.0**
IGPR				IAmb	IAmb	23 18 45.7	
	comp=Z,98nm,1.1s						
EMPR	**Esperanza - Ma**	**21.44**	**253**	P	**P**	**23 18 37.2**	**-0.4**
CELP	**Cerrillos**	**21.65**	**253**	P	**P**	**23 18 39.8**	**-0.2**
AOPR	**Arecibo Observ**	**21.69**	**253**	P	**P**	**23 18 39.4**	**-0.9**
AOPR				IAmb	IAmb	23 18 50.1	
	comp=Z,195nm,1.6s						
OBIP	**Obispado Ponce**	**21.69**	**252**	P	**P**	**23 18 39.5**	**-0.9**
UUPR	**Utuado, UPR, P**	**21.70**	**253**	P	**P**	**23 18 39.4**	**-1.0**
UUPR				IAmb	IAmb	23 18 51.0	
	comp=Z,157nm,1.4s						
PRSN	**Puerto Rico Se**	**22.08**	**253**	P	**P**	**23 18 43.5**	**-1.0**
PRSN				IAmb	IAmb	23 18 54.7	
	comp=Z,131nm,1.6s						
MLPR	**Magueyes Islan**	**22.10**	**253**	P	**P**	**23 18 44.2**	**-0.4**
MLPR				IAmb	IAmb	23 18 52.9	
	comp=Z,164nm,1.6s						
MDP	**Montagnes des**	**22.25**	**201**	LR	LR	23 25 19.3	
	comp=Z,345nm,20.9s,baz=26,slow=31						
SACV	**Santiago Islan**	**22.78**	**115**	P	**P**	**23 18 53.2**	**+1.2**
SACV				IAmb	IAmb	23 19 00.8	
	comp=Z,65nm,1.1s						
PCDR	**Punta Cana, DR**	**23.03**	**255**	P	**P**	**23 18 55.9**	**+1.3**
GBN	**Guysborough**	**23.37**	**329**	P	**P**	**23 18 58.9**	**+1.1**
GBN				IAmb	IAmb	23 19 07.1	
	comp=Z,134nm,1.7s						
HAL	**Halifax**	**23.82**	**325**	P	**P**	**23 19 02.5**	**+0.3**
HAL				IAmb	IAmb	23 19 11.4	
	comp=Z,62nm,1.2s						
HAL	**Halifax**	**23.82**	**325**	P	**P**	**23 19 02.5**	**+0.3**
HAL				pmax	pmax		
	comp=Z,62nm,1.2s						
PCRV	**Puerto La Cruz**	**24.57**	**233**	LR	LR	23 27 10.7	
	comp=Z,452nm,21.6s,slow=33						
PMOZ	**Porto Moniz, M**	**24.93**	**68**	P	**P**	**23 19 14.1**	**+1.3**
DRLN	**Deer Lake**	**25.04**	**340**	P	**P**	**23 19 14.4**	**+1.0**
DRLN				IAmb	IAmb	23 19 21.9	
	comp=Z,60nm,1.1s						
LMN	**Caledonia Moun**	**25.28**	**326**	P	**P**	**23 19 16.5**	**+0.9**
LMN				IAmb	IAmb	23 19 25.7	
	comp=Z,48nm,1.0s						
SDDR	**Presa de Saban**	**25.40**	**259**	P	**P**	**23 19 17.6**	**+0.6**
BATG	**Bathurst New B**	**26.89**	**327**	P	**P**	**23 19 30.9**	**+0.7**
BATG				IAmb	IAmb	23 19 41.5	
	comp=Z,42nm,0.9s						
HRV	**Adam Dziewonsk**	**27.24**	**313**	P	**P**	**23 19 34.1**	**+0.7**
	baz=118						
MCPB	**Macapa, AP**	**27.29**	**196**	*e*P	**P**	**23 19 33.6**	**-0.4**
PKME	**Peaks-Kenny Pk**	**27.32**	**320**	P	**P**	**23 19 34.7**	**+0.7**
	baz=126						
PQI	**Presque Isle**	**27.48**	**324**	P	**P**	**23 19 36.2**	**+0.7**
PQI				IAmb	IAmb	23 19 47.0	
	comp=Z,32nm,1.1s						
BAUV	**El Baul**	**27.88**	**236**	P	**P**	**23 19 39.0**	**-0.4**
L61B	**Northampton**	**27.95**	**313**	P	**P**	**23 19 40.4**	**+0.6**
	baz=117						
BOAV	**Boa Vista**	**28.03**	**215**	P	**P**	**23 19 39.7**	**-1.0**
BOAV	**Boa Vista**	**28.03**	**215**	*e*P	**P**	**23 19 40.9**	**+0.2**
PAL	**Palisades**	**28.19**	**309**	P	**P**	**23 19 42.8**	**+0.9**
	baz=113						
HNH	**Hanover**	**28.29**	**315**	P	**P**	**23 19 42.9**	**+0.1**
LBNH	**Lisbon**	**28.33**	**316**	P	**P**	**23 19 44.5**	**+1.3**
	baz=121						
TRNY	**Table Rock, Ra**	**28.46**	**309**	P	**P**	**23 19 45.0**	**+0.6**
BBTS	**Babate**	**28.85**	**108**	LR	LR	23 28 07.6	
	comp=Z,661nm,20.2s,baz=162,slow=30						
ACCN	**Adirondack Com**	**29.02**	**314**	P	**P**	**23 19 49.3**	**0.0**
ACCN				IAmb	IAmb	23 19 54.4	
	comp=Z,66nm,1.9s						
WUPA	**West Chester U**	**29.02**	**306**	P	**P**	**23 19 49.1**	**-0.3**
LMQ	**La Malbaie**	**29.26**	**323**	P	**P**	**23 19 52.2**	**+0.8**
MVL	**Millersville**	**29.59**	**306**	P	**P**	**23 19 54.9**	**+0.5**
CHIV	**Chivirico**	**29.63**	**265**	P	**P**	**23 19 55.0**	**+0.1**
CHIV				IAmb	IAmb	23 20 04.1	
	comp=Z,76nm,1.6s						
KSPA	**Keystone Colle**	**29.70**	**309**	P	**P**	**23 19 55.9**	**+0.6**
KSPA				IAmb	IAmb	23 20 19.6	
	comp=Z,64nm,1.8s						
SDMD	**Soldier's Deli**	**29.77**	**304**	P	**P**	**23 19 55.9**	**-0.1**
Y60A	**Bolivia**	**29.79**	**293**	P	**P**	**23 19 57.0**	**+0.8**
SDV	**Santo Domingo**	**29.89**	**240**	LR	LR	23 30 22.4	
	comp=Z,348nm,21.7s,baz=82,slow=33						
BINY	**Binghamton**	**30.09**	**310**	P	**P**	**23 19 59.8**	**+1.0**
	baz=112						
W59A	**Clinton**	**30.12**	**295**	P	**P**	**23 19 59.9**	**+0.7**
W59A				IAmb	IAmb	23 20 11.9	
	comp=Z,19nm,0.9s						
LONY	**Lake Ozonia**	**30.18**	**315**	P	**P**	**23 20 00.1**	**+0.5**
	baz=118						
S57A	**Dark Hollow, R**	**30.97**	**300**	P	**P**	**23 20 08.1**	**+1.4**
S57A				IAmb	IAmb	23 20 16.3	
	comp=Z,32nm,1.1s						
NHSC	**New Hope**	**31.35**	**291**	P	**P**	**23 20 10.0**	**0.0**
	baz=93						
W57A	**Gilead**	**31.38**	**295**	P	**P**	**23 20 11.4**	**+1.1**
W57A				IAmb	IAmb	23 20 19.4	
	comp=Z,28nm,1.1s						
Q56A	**Snyder Ridge,**	**31.44**	**303**	P	**P**	**23 20 11.9**	**+1.2**
Q56A				IAmb	IAmb	23 20 20.4	
	comp=Z,27nm,1.1s						
BIRD	**Birdtown, Kers**	**31.71**	**294**	P	**P**	**23 20 13.1**	**0.0**
BIRD				IAmb	IAmb	23 20 22.7	
	comp=Z,19nm,1.0s						
M55A	**Ridgway**	**31.79**	**307**	P	**P**	**23 20 13.9**	**+0.1**
U56A	**King**	**31.85**	**297**	P	**P**	**23 20 15.1**	**+0.7**
U56A				IAmb	IAmb	23 20 24.7	
	comp=Z,34nm,0.9s						
R55A	**Marlinton**	**31.98**	**301**	P	**P**	**23 20 16.1**	**+0.5**
BLA	**Blacksburg**	**32.02**	**299**	P	**P**	**23 20 15.9**	**0.0**
BLA				IAmb	IAmb	23 20 26.1	
	comp=Z,34nm,1.1s						
BLA	**Blacksburg**	**32.02**	**299**	P	**P**	**23 20 16.2**	**+0.2**
	baz=100						
BLA	**Blacksburg**	**32.02**	**299**	P	**P**	**23 20 15.9**	**0.0**
BLA				pmax	pmax		
	comp=Z,35nm,1.1s						
MCWV	**Mont Chateau**	**32.08**	**304**	P	**P**	**23 20 16.9**	**+0.5**
MCWV				IAmb	IAmb	23 20 26.4	
	comp=Z,35nm,1.0s						
MCWV	**Mont Chateau**	**32.08**	**304**	P	**P**	**23 20 16.6**	**+0.3**
	baz=104						
ITTB	**Itaituba**	**32.14**	**201**	*e*P	**P**	**23 20 17.3**	**+0.2**
PRPB	**Parauapebas**	**32.52**	**189**	*e*P	**P**	**23 20 20.3**	**0.0**
O54A	**Avella**	**32.61**	**304**	P	**P**	**23 20 21.1**	**+0.1**
O54A				IAmb	IAmb	23 20 30.2	
	comp=Z,28nm,1.0s						
S54A	**Dingess, Beckl**	**32.82**	**300**	P	**P**	**23 20 22.1**	**-0.9**
S54A				IAmb	IAmb	23 20 32.2	
	comp=Z,14nm,0.7s						
ALLY	**Alegheny Colle**	**32.83**	**307**	P	**P**	**23 20 22.6**	**-0.3**
ALLY				IAmb	IAmb	23 20 37.5	
	comp=Z,27nm,0.9s						
PAULI	**Pauline**	**32.83**	**294**	P	**P**	**23 20 22.6**	**-0.4**
PAULI				IAmb	IAmb	23 20 32.8	

comp=Z,17nm,1.0s
SCHQ Schefferville 32.85 336 P **P 23 20 24.0 +1.1**
SCHQ IAmb IAmb 23 20 31.3
comp=Z,26nm,1.1s
SCHQ Schefferville 32.85 336 P **P 23 20 20.8 -2.2**
comp=Z,5.0nm,0.8s,baz=186,slow=8.7,SNR=1.6
SCHQ LR LR 23 32 58.1
comp=Z,263nm,18.9s,baz=146,slow=35
comp=Z,5.0nm,0.8s
ERPA Erie 32.86 308 P **P 23 20 22.6 -0.6**
ERPA Erie 32.86 308 P **P 23 20 23.5 +0.3**
baz=108
456A Hilliard 32.88 287 P **P 23 20 24.3 +0.8**
MACA Manacapuru-AM 32.95 210 P **P 23 20 24.0 -0.1**
MACA IAmb IAmb 23 20 25.4
comp=Z,19nm,0.9s
MACA Manacapuru-AM 32.95 210 *e*P **P 23 20 24.9 +0.8**
RCBR Riachuelo 32.99 163 LR LR 23 30 44.0
comp=Z,215nm,18.7s,baz=337,slow=31
U54A Nelsons Funny 33.02 297 P **P 23 20 24.8 +0.1**
U54A IAmb IAmb 23 20 34.2
comp=Z,24nm,0.9s
PCVE Castro Verde 33.08 61 *e*P **P 23 20 23.8 -1.4**
PBDV Barranco-do-Ve 33.11 61 *e*P P 23 20 32.7 +7.3
HODGE Hodges 33.15 293 P **P 23 20 26.2 +0.4**
HODGE IAmb IAmb 23 20 35.6
comp=Z,38nm,1.5s
SADO Sadowa 33.19 313 LR LR 23 31 26.4
comp=Z,788nm,21.5s,baz=86,slow=32
PMTG Montargil 33.20 58 *e*P **P 23 20 26.0 -0.2**
comp=Z,18nm,1.2s
P53A Whipple 33.20 303 P **P 23 20 26.7 +0.5**
PCAS Casmilo, Conde 33.21 56 *e*P **P 23 20 26.9 +0.6**
comp=Z,25nm,1.7s
O53A New Philadelph 33.24 304 P **P 23 20 26.6 +0.1**
baz=104
EVO Evora 33.26 59 *e*P P 23 20 34.8 +8.1
PBEJ Beja 33.28 60 *e*P **P 23 20 28.1 +1.2**
comp=Z,21nm,1.3s
COI Coimbra 33.31 56 P **P 23 20 27.9 +0.8**
COI IAmb IAmb 23 20 35.2
comp=Z,28nm,0.9s
COI Coimbra 33.31 56 *e*P **P 23 20 28.8 +1.7**
comp=Z,46nm,1.1s
COI Coimbra 33.31 56 P **P 23 20 27.9 +0.8**
COI pmax pmax
comp=Z,28nm,1.0s
V53A Saluda 33.72 296 P **P 23 20 30.8 -0.1**
BG3 Lake Jocassee 33.76 294 P **P 23 20 31.4 +0.2**
BG3 IAmb IAmb 23 20 40.5
comp=Z,22nm,1.3s
Q52A Bidwell 33.76 302 P **P 23 20 31.4 +0.3**
Q52A IAmb IAmb 23 20 40.6
comp=Z,21nm,0.9s
P52A Corning 33.80 303 P **P 23 20 31.9 +0.5**
baz=102
PVIS Viseu 33.81 55 *e*P **P 23 20 32.0 +0.4**
PMRV Marv??o 33.91 58 *e*P **P 23 20 32.0 -0.4**
comp=Z,24nm,1.3s
PMRV *e*S **S 23 26 03.3 +6.1**
PMRV *e*LR LR 23 29 23.5
comp=Z,543nm,20.0s
PCBR Castelo Branco 33.93 57 *e*P **P 23 20 32.9 +0.4**
comp=Z,17nm,1.3s
PBAR Barrancos 33.95 60 *e*P P 23 20 39.7 +7.0
PCAB Cabril 33.97 53 *e*P **P 23 20 32.2 -0.7**
comp=Z,27nm,1.4s
MTE Manteigas 34.00 56 P **P 23 20 32.3 -0.9**
MTE IAmb IAmb 23 20 41.1
comp=Z,28nm,1.0s
MTE Manteigas 34.00 56 *e*P **P 23 20 33.9 +0.7**
comp=Z,45nm,1.1s
MTE *e*S **S 23 26 06.3 +7.6**
MTE *e*LR LR 23 29 25.4
comp=Z,547nm,22.0s
POLO Lamas de Olo 34.05 54 *e*P **P 23 20 34.5 +0.8**
comp=Z,14nm,1.2s
PVRL Vila Real 34.08 54 *e*P **P 23 20 34.7 +0.8**
comp=Z,26nm,1.2s
GOGA Godfrey 34.12 292 P **P 23 20 34.1 -0.1**
GOGA IAmb IAmb 23 20 44.1
comp=Z,21nm,1.0s
GOGA Godfrey 34.12 292 P **P 23 20 35.2 +0.9**
baz=92
GOGA Godfrey 34.12 292 P **P 23 20 34.1 -0.1**
GOGA pmax pmax
comp=Z,21nm,1.0s
TIGA Tifton 34.21 288 P **P 23 20 35.2 +0.2**
baz=89
V52A Sevierville 34.38 296 P **P 23 20 36.5 0.0**
V52A IAmb IAmb 23 20 45.6
comp=Z,17nm,0.9s
TZTN Tazewell 34.41 297 P **P 23 20 37.5 +0.7**
TZTN IAmb IAmb 23 20 46.0
comp=Z,18nm,0.9s
TZTN Tazewell 34.41 297 P **P 23 20 37.6 +0.8**
baz=96
TKL Tuckaleechee C 34.50 295 P **P 23 20 38.1 +0.5**
TKL IAmb IAmb 23 20 47.1
comp=Z,24nm,0.9s
TKL Tuckaleechee C 34.50 295 LR LR 23 31 49.1
comp=Z,1μm,21.9s,baz=100,slow=31
TKL Tuckaleechee C 34.50 295 P **P 23 20 38.1 +0.5**
TKL pmax pmax
comp=Z,24nm,1.0s
ACSO Alum Creek Sta 34.56 304 P **P 23 20 38.4 +0.4**
ACSO Alum Creek Sta 34.56 304 P **P 23 20 39.0 +1.0**
baz=102
NPGB Novo Progresso 34.57 199 *e*P **P 23 20 38.0 -0.2**
S51A Beattyville 34.58 299 **P 23 20 38.8 +0.6**
W52A Murphy 34.59 294 P **P 23 20 39.2 +0.8**
W52A IAmb IAmb 23 20 47.4
comp=Z,23nm,1.2s
Y52A Lilburn 34.63 292 P **P 23 20 38.8 +0.1**
SOR Soroa 34.80 273 P **P 23 20 40.7 +0.5**
SOR IAmb IAmb 23 20 49.5
comp=Z,37nm,1.2s
SOR Soroa 34.80 273 P **P 23 20 40.7 +0.5**
SOR pmax pmax
comp=Z,37nm,1.2s
PBRG Braganca 34.92 54 *e*P **P 23 20 41.8 +0.6**
comp=Z,15nm,1.5s
SMTB Santa Maria do 34.94 185 *e*P **P 23 20 41.5 +0.1**
152A Waverly Hall 35.16 290 P **P 23 20 44.3 +1.1**
TEFE Tefe 35.18 216 *e*P **P 23 20 44.5 +0.9**
ROSC El Rosal 35.27 238 LR LR 23 35 01.4
comp=Z,508nm,19.5s,baz=54,slow=36
X51A Calhoun 35.32 293 P **P 23 20 44.3 -0.3**
X51A IAmb IAmb 23 20 53.6
comp=Z,18nm,0.8s
T50A Nancy 35.49 298 P **P 23 20 46.4 +0.3**
T50A IAmb IAmb 23 20 55.4
comp=Z,16nm,0.8s
MDT Midelt 35.50 70 LR LR 23 31 55.5
comp=Z,749nm,21.1s,baz=292,slow=31
O49A Covington 35.56 303 P **P 23 20 48.1 +1.5**
O49A IAmb IAmb 23 20 55.1
comp=Z,22nm,0.8s
W50A Signal Mountai 35.72 294 P **P 23 20 48.8 +0.6**
P49A Miami Univ. Ec 35.74 302 P **P 23 20 48.0 -0.2**
P49A IAmb IAmb 23 20 57.2
comp=Z,29nm,0.9s
P49A Miami Univ. Ec 35.74 302 P **P 23 20 48.1 0.0**
baz=100
R49A Shelbyville 35.90 300 P **P 23 20 46.9 -2.7**
R49A IAmb IAmb 23 20 53.4
comp=Z,72nm,1.8s
FPAL Fort Paine 35.94 293 P **P 23 20 50.1 +0.1**
U49A Red Boiling Sp 36.19 297 P **P 23 20 52.3 +0.2**
O48B Farmland 36.20 303 P **P 23 20 52.2 +0.1**
O48B IAmb IAmb 23 21 00.7
comp=Z,33nm,0.8s
O48B Farmland 36.20 303 P **P 23 20 52.5 +0.4**
baz=100
PAB San Pablo 36.25 58 P **P 23 20 53.3 +0.7**
PAB San Pablo 36.25 58 P **P 23 20 53.3 +0.7**
PAB pmax pmax
comp=Z,9.0nm,1.3s
P48A Milroy 36.27 302 P **P 23 20 53.6 +0.9**
P48A IAmb IAmb 23 21 01.2
comp=Z,26nm,1.1s
ESDC Sonseca Array 36.56 58 P **P 23 20 55.8 +0.6**
ESDC Sonseca Array 36.56 58 P **P 23 20 52.8 -2.5**
comp=Z,1.6nm,0.9s,baz=263,slow=8.6,SNR=14
ESDC PcP **PcP 23 23 18.7 0.0**
comp=Z,0.5nm,0.5s,baz=328,slow=12,SNR=2.4
ESDC LR LR 23 32 11.0
comp=Z,376nm,21.2s,baz=259,slow=30
comp=Z,1.6nm,0.9s
Y49A Blount Mountai 36.59 292 P **P 23 20 54.8 -0.7**
CLTN Cedars of Leba 36.61 296 P **P 23 20 55.6 0.0**
N47A Urbana 36.71 304 P **P 23 20 56.2 -0.3**
WCI Wyandotte Cave 36.77 299 P **P 23 20 57.4 +0.4**
baz=97
V48A Smith Brothers 36.98 295 P **P 23 20 59.7 +0.8**
LRAL Lakeview Retre 37.07 291 P **P 23 20 59.6 0.0**
LRAL Lakeview Retre 37.07 291 P **P 23 21 00.6 +0.9**
baz=89
X48A Hartselle 37.12 293 P **P 23 21 01.2 +1.2**
T47A Sharon Grove 37.29 297 P **P 23 21 02.3 +0.9**
P46A Rosedale 37.65 302 P **P 23 21 04.7 +0.2**
P46A IAmb IAmb 23 21 13.9
comp=Z,36nm,0.8s
SFIN Lafayette 37.68 303 P **P 23 21 04.8 +0.1**
SFIN Lafayette 37.68 303 P **P 23 21 05.3 +0.6**
baz=99
WVT Waverly 37.82 296 P **P 23 21 05.7 -0.2**
WVT Waverly 37.82 296 P **P 23 21 06.4 +0.4**
baz=93
WVT Waverly 37.82 296 P **P 23 21 05.7 -0.2**
WVT pmax pmax
comp=Z,19nm,0.9s
PLAL Pickwick Lake 37.98 294 P **P 23 21 07.7 +0.4**
PLAL IAmb IAmb 23 21 16.5
comp=Z,25nm,0.9s
OLIL Olney 38.23 300 P **P 23 21 10.3 +0.9**
OLIL IAmb IAmb 23 21 19.1
comp=Z,49nm,1.4s
NUUK Nuuk 38.26 355 *i* P P 23 21 16.3 +7.1
NUUK IAmb IAmb 23 21 18.1
comp=Z,29nm,1.0s
CLDB Colider 38.34 197 *e*P **P 23 21 10.2 -0.2**
SDBA SAO DESIDERIO 38.36 180 *e*P **P 23 21 11.3 +0.7**
SNDB Serra Nova Dou 38.44 190 *e*P **P 23 21 11.6 +0.3**
L44A Lake County Fo 38.59 306 P **P 23 21 12.4 +0.1**
baz=100
CART Cartagena 38.63 62 P **P 23 21 12.8 +0.1**
S44A Carbondale 39.05 298 P **P 23 21 16.3 0.0**
OXF Oxford 39.07 293 P **P 23 21 16.9 +0.4**
baz=90
SAML Samuel 39.20 209 P **P 23 21 16.6 -1.0**
SAML Samuel 39.20 209 P **P 23 21 16.6 -1.0**
SAML pmax pmax
comp=Z,11nm,1.0s
SAML Samuel 39.20 209 *e*P **P 23 21 17.1 -0.6**
PDRB Porto dos Gac 39.30 199 *e*P **P 23 21 18.8 +0.3**
HDIL Hopedale 39.36 303 P **P 23 21 19.7 +0.9**
baz=97
ISOG Isortoq, Green 39.55 4 *i* P **P 23 21 21.4 +1.4**
ISOG IAmb IAmb 23 21 28.1
comp=Z,54nm,1.0s
ESPN Las Esperanzas 39.59 257 P **P 23 21 21.2 +0.3**
ESPN IAmb IAmb 23 21 31.2
comp=Z,66nm,1.1s
SLM Saint Louis 39.89 300 P **P 23 21 23.6 +0.3**
SLM IAmb IAmb 23 21 32.5
comp=Z,39nm,0.8s
SLM Saint Louis 39.89 300 P **P 23 21 23.6 +0.3**
SLM pmax pmax
comp=Z,39nm,0.8s
PBMO Poplar Bluff 39.94 297 P **P 23 21 24.3 +0.6**
FVM French Village 40.00 299 P **P 23 21 24.4 +0.3**
FVM French Village 40.00 299 P **P 23 21 24.5 +0.3**
FVM pmax pmax
comp=Z,14nm,1.0s
VBMS Vicksburg 40.07 290 P **P 23 21 24.6 -0.2**
TEIG Tepich 40.20 271 P **P 23 21 26.0 0.0**
TEIG IAmb IAmb 23 21 35.9
comp=Z,34nm,0.9s
TEIG Tepich 40.20 271 LR LR 23 35 45.4
comp=Z,480nm,21.6s,baz=48,slow=33
COWI Conover 40.28 311 P **P 23 21 26.9 +0.4**
JFWS Jewell Farm 40.41 306 P **P 23 21 28.2 +0.7**
JFWS IAmb IAmb 23 21 36.4
comp=Z,28nm,0.8s
JFWS Jewell Farm 40.41 306 P **P 23 21 28.1 +0.5**
baz=100
JFWS Jewell Farm 40.41 306 P **P 23 21 28.2 +0.7**
JFWS pmax pmax
comp=Z,28nm,0.8s
T42A Van Buren 40.48 297 P **P 23 21 27.9 -0.3**
LCAR Lake Charles 40.51 296 P **P 23 21 29.4 +1.0**
N41A Harden Midland 40.56 303 P **P 23 21 29.2 +0.4**
N41A IAmb IAmb 23 21 37.7
comp=Z,48nm,0.8s
FRB Frobisher Bay 40.62 344 LR LR 23 36 33.4
comp=Z,396nm,21.7s,baz=168,slow=34
CCM Cathedral Cave 40.65 299 P **P 23 21 29.9 +0.3**
CCM IAmb IAmb 23 21 38.6
comp=Z,32nm,0.8s
CCM Cathedral Cave 40.65 299 P **P 23 21 30.2 +0.6**
baz=93
CCM Cathedral Cave 40.65 299 P **P 23 21 29.9 +0.3**
CCM pmax pmax
comp=Z,32nm,0.9s
MFF Saint Martin d 40.70 48 *e*P **P 23 21 30.9 +1.0**
MFF pmax pmax
comp=Z,20nm,1.1s
SFJD Kangerlussuaq 40.98 357 LR LR 23 35 12.7
comp=Z,137nm,21.2s,baz=186,slow=31
JANB Januaria 41.00 179 *e*P **P 23 21 31.3 -1.3**
L40A Anamosa 41.00 305 P **P 23 21 32.8 +0.4**
L40A IAmb IAmb 23 21 41.4
comp=Z,28nm,0.8s
JTS Las Juntas de 41.02 255 LR LR 23 36 40.4
comp=Z,165nm,21.8s,baz=65,slow=34
FCAR Ozark Folk Cen 41.30 295 P **P 23 21 36.0 +1.1**
P40A Paris 41.37 301 IAmb IAmb 23 21 43.9
comp=Z,31nm,0.8s
ETMB Extrema 41.37 213 P **P 23 21 34.9 -0.8**
ETMB Extrema 41.37 213 *e*P **P 23 21 33.9 -1.7**
OTAV Otavalo 41.38 237 P **P 23 21 35.8 -0.6**
OTAV Otavalo 41.38 237 P **P 23 21 35.8 -0.6**
OTAV pmax pmax
comp=Z,34nm,1.4s
OTAV Otavalo 41.38 237 *e*P **P 23 21 37.0 +0.6**
MGMO Mountain Grove 41.42 297 P **P 23 21 36.3 +0.3**
BORG Borgarnes 41.43 15 LR LR 23 34 54.1
comp=Z,102nm,21.9s,baz=221,slow=31
WHAR Wooly Hollow 41.43 294 P **P 23 21 36.8 +0.8**
R40A Maddies Statio 41.46 299 P **P 23 21 38.4 +2.1**
NBRS Nobres 41.64 196 *e*P **P 23 21 38.1 +0.2**
VILB Vilhena 41.66 203 P **P 23 21 38.1 0.0**
VILB IAmb IAmb 23 21 46.4
comp=Z,49nm,1.0s
VILB Vilhena 41.66 203 *e*P **P 23 21 38.5 +0.5**
BDFB Brasilia 41.69 185 P **P 23 21 38.1 -0.2**
BDFB Brasilia 41.69 185 P **P 23 21 38.8 +0.5**
comp=Z,5.5nm,0.8s,baz=5.1,slow=3.6,SNR=10
BDFB LR LR 23 37 01.2
comp=Z,248nm,20.6s,baz=327,slow=33
comp=Z,5.5nm,0.8s
BDFB Brasilia 41.69 185 P **P 23 21 38.1 -0.2**
BDFB pmax pmax
comp=Z,10.0nm,1.0s
BDFB Brasilia 41.69 185 *e*P **P 23 21 38.8 +0.5**
CAF Calviac 41.86 51 *e*P **P 23 21 40.0 +0.5**
CAF pmax pmax
comp=Z,12nm,1.4s
X40A Basin Creek Fa 41.90 293 P **P 23 21 40.3 +0.4**
ESK Eskdalemuir 41.94 35 P **P 23 21 40.9 +1.0**
ESK Eskdalemuir 41.94 35 P **P 23 21 40.9 +1.0**
ESK pmax pmax
comp=Z,25nm,1.1s
EKA Eskdalemuir Ar 41.97 35 P **P 23 21 38.8 -1.4**
comp=Z,9.9nm,0.9s,baz=243,slow=7.9,SNR=19
EKA PcP **PcP 23 23 35.0 -0.4**
comp=Z,0.4nm,0.6s,baz=252,slow=6.5,SNR=2.9
comp=Z,9.9nm,0.9s
WLAR White Oak Lake 42.17 292 P **P 23 21 42.6 +0.5**
ARAG Araguaiana, MT 42.18 190 *e*P **P 23 21 42.6 +0.3**
EYMN Ely 42.29 313 P **P 23 21 42.7 -0.3**
baz=104
MIAR Mount Ida 42.51 293 P **P 23 21 45.5 +0.7**
MIAR Mount Ida 42.51 293 P **P 23 21 45.0 +0.1**
baz=88
MIAR Mount Ida 42.51 293 P **P 23 21 45.6 +0.7**
MIAR pmax pmax
comp=Z,15nm,1.3s
P38A Dawn 42.52 301 P **P 23 21 45.0 +0.2**
P38A IAmb IAmb 23 21 53.3
comp=Z,30nm,0.9s
SPMN Marine on St. 42.62 309 P **P 23 21 46.2 +0.6**
baz=100
TIC Toumodi 42.63 110⇑ *e*P **P 23 21 46.9 +0.8**
comp=Z,18nm,0.9s
DBIC Dimbokro 42.75 110 P **P 23 21 48.0 +0.9**
DBIC IAmb IAmb 23 21 53.8
comp=Z,38nm,1.2s
DBIC Dimbokro 42.75 110 P **P 23 21 47.9 +0.9**
comp=Z,14nm,0.9s,baz=284,slow=7.7,SNR=12
DBIC LR LR 23 36 39.6
comp=Z,724nm,19.6s,baz=294,slow=32
comp=Z,14nm,0.9s
DBIC Dimbokro 42.75 110 P **P 23 21 48.0 +0.9**
DBIC pmax pmax
comp=Z,38nm,1.3s
HHAR Hobbs 42.76 296 P **P 23 21 47.3 +0.4**
LIC Lamto 42.84 111⇓ *e*P **P 23 21 46.9 -0.9**
comp=Z,46nm,0.9s
PTET Porto Estrela 43.01 198 *e*P **P 23 21 49.2 +0.3**
KIC Kosan Boka 43.01 110⇑ *e*P **P 23 21 48.7 -0.5**
comp=Z,38nm,0.9s
ICESG Greenland Ices 43.04 3 *i* P **P 23 21 48.6 -0.5**
VBST Vila Bela da S 43.07 202 *e*P **P 23 21 49.8 +0.3**
U38A Gravette 43.12 296 **P 23 21 50.0 +0.1**
SALV Santo Antonio 43.14 195 *e*P **P 23 21 50.1 +0.1**
DVLD Doverlandia 43.15 190 *e*P **P 23 21 50.9 +0.7**
MTO3 Montecristo 43.16 263 P **P 23 21 50.8 +0.3**
MTO3 IAmb IAmb 23 21 59.9
comp=Z,40nm,1.1s
CZSB Cruzeiro do Su 43.22 223 *e*P **P 23 21 50.1 -0.7**
SSF Saint Saulge 43.25 48 *e*P **P 23 21 50.3 -0.4**
SSF pmax pmax
comp=Z,20nm,1.3s
NATX Nacogdoches 43.62 289 P **P 23 21 53.8 -0.1**
baz=84
PTLB Pontes e Lacer 43.65 200 P **P 23 21 54.1 0.0**
PTLB Pontes e Lacer 43.65 200 *e*P **P 23 21 53.7 -0.4**
APG El Apazote 43.91 265 LR LR 23 36 43.4
comp=Z,19nm,21.9s,baz=68,slow=31
POCN Pocone 44.09 196 *e*P **P 23 21 58.6 +1.0**
DIAM Diamantina, MG 44.23 178 *e*P **P 23 21 58.8 -0.1**
TUL3 Leonard 44.27 295 P **P 23 21 59.7 +0.6**
baz=88
SIV San Ignacio 44.79 202 LR LR 23 39 17.8
comp=Z,287nm,19.3s,baz=58,slow=34
L34A Svendsen Farm, 44.81 304 P **P 23 22 04.3 +1.0**
HKT Hockley 44.84 287 *ce*P **P 23 22 03.6 0.0**
H10N2 ASCENSION HYDR 44.87 135 T T 00 09 42.5
baz=320,slow=75,SNR=1472
H10N3 ASCENSION HYDR 44.87 135 T T 00 09 40.9
baz=320,slow=75,SNR=735
KSU1 Kansas State U 44.88 300 P **P 23 22 04.6 +0.7**
baz=91
H10N1 ASCENSION HYDR 44.89 135 T T 00 09 41.8
baz=320,slow=75,SNR=1443
BGES Gesves 44.99 44 *d*P **P 23 22 04.4 -0.2**
BNI Bardonecchia 45.12 52 P **P 23 22 06.9 +1.0**
BNI IAmb IAmb 23 22 14.7
comp=Z,26nm,1.2s
BNI Bardonecchia 45.12 52 P **P 23 22 06.9 +1.0**
BNI pmax pmax
comp=Z,26nm,1.2s
ECSD EROS Data Cent 45.12 307 P **P 23 22 06.1 +0.3**
ECSD EROS Data Cent 45.12 307 P **P 23 22 05.9 +0.1**
baz=95
BCLA Clavier 45.13 44 *d*P **P 23 22 06.0 +0.3**
LPL La Plagne 45.21 51 *e*P **P 23 22 09.3 +2.6**
LPL pmax pmax
comp=Z,12nm,1.3s
AGMN Agassiz Nation 45.23 313 IAmb IAmb 23 22 14.7
comp=Z,24nm,0.8s
AGMN Agassiz Nation 45.23 313 P **P 23 22 06.7 +0.1**
baz=100
TORD Torodi Ar. Bea 45.49 97 P **P 23 22 07.4 -1.6**
comp=Z,5.9nm,0.8s,baz=311,slow=7.4,SNR=26
TORD LR LR 23 40 36.7
comp=Z,597nm,18.4s,baz=300,slow=35
comp=Z,5.9nm,0.8s
ULM Lac du Bonnet 45.62 316 IAmb IAmb 23 22 17.1
comp=Z,30nm,0.9s
ULM Lac du Bonnet 45.62 316 P **P 23 22 07.8 -1.9**
comp=Z,8.7nm,0.9s,baz=91,slow=9.0,SNR=6.5
ULM LR LR 23 38 57.1
comp=Z,282nm,21.0s,baz=100,slow=33
comp=Z,8.7nm,0.9s
ULM Lac du Bonnet 45.62 316 *ce*P **P 23 22 09.6 0.0**
H10S3 ASCENSION HYDR 45.62 136 H H 00 10 33.7
baz=319,slow=74,SNR=1245
H10S2 ASCENSION HYDR 45.64 136 T T 00 10 34.8
baz=261,slow=74,SNR=1273
KAN09 Caldwell North 45.70 297 P **P 23 22 10.6 +0.2**
KAN09 IAmb IAmb 23 22 19.3
comp=Z,23nm,0.7s
SENIN Lac Senin/Sane 45.71 50 P **P 23 22 11.1 +0.4**
BBSD Serra de San D 45.75 201 *e*P **P 23 22 10.8 -0.1**
TAM Tamanrasset 45.75 83 P **P 23 22 11.6 +0.4**
TAM Tamanrasset 45.75 83 P **P 23 22 11.6 +0.4**
TAM pmax pmax
comp=Z,11nm,1.4s
WHTX Lake Whitney, 45.96 290 P **P 23 22 12.7 +0.2**
baz=83
RVDE Rio Verde (Bra 45.99 193 *e*P **P 23 22 13.3 +0.4**
X34A Smith Ranch, M 46.01 294 **P 23 22 13.9 +1.0**
SCO Scoresbysund 46.25 10 P **P 23 22 14.8 +0.5**
SCO Scoresbysund 46.25 10 P **P 23 22 14.8 +0.5**
SCO pmax pmax
comp=Z,54nm,1.0s
SCO Scoresbysund 46.25 10 *i* P **P 23 22 15.0 +0.8**
SCO IAmb IAmb 23 22 16.9
comp=Z,36nm,1.0s
AHRW Bad Neuenahr-A 46.26 44 *e*P 23 22 15.7
comp=Z,23nm,1.4s,baz=261,slow=7.6
ATAH Atahualpa 46.44 229 LR LR 23 43 19.6
comp=Z,261nm,18.9s,baz=34,slow=38
SUMG Summit 46.57 3 P **P 23 22 17.3 +0.1**
SUMG IAmb IAmb 23 22 19.9
comp=Z,22nm,1.1s
SUMG Summit 46.57 3 P **P 23 22 17.3 +0.1**
SUMG pmax pmax
comp=Z,22nm,1.1s
SUMG Summit 46.57 3 *i* P **P 23 22 16.0 -1.3**
SUMG IAmb IAmb 23 22 20.2
comp=Z,25nm,1.1s
PLPT Palo Pinto 46.58 291 IAmb IAmb 23 22 26.3
comp=Z,24nm,1.1s
BBLB La Banda, Boli 46.59 198 *e*P **P 23 22 17.6 +0.1**
BFO Black Forest 46.68 47 P **P 23 22 18.1 +0.1**
BFO IAmb IAmb 23 22 25.5
comp=Z,24nm,1.3s
BFO Black Forest 46.68 47 P **P 23 22 18.1 +0.1**
BFO pmax pmax
comp=Z,24nm,1.3s
BFO Black Forest 46.68 47 *e*P 23 22 17.9
comp=Z,22nm,1.2s,baz=261,slow=7.6
BFO *e*L 23 37 09.8
comp=Z,240nm,22.0s
WMOK Wichita Mounta 46.78 294 **P 23 22 19.0 0.0**
WMOK IAmb IAmb 23 22 28.1
comp=Z,22nm,0.9s
WMOK Wichita Mounta 46.78 294 P **P 23 22 19.5 +0.5**
baz=85,SNR=10
WMOK Wichita Mounta 46.78 294 P **P 23 22 19.0 0.0**
WMOK pmax pmax
comp=Z,22nm,0.9s
SUSD Miller 46.87 307 P **P 23 22 19.9 +0.4**
baz=94
KEST Kesra 46.95 65 P **P 23 22 20.6 +0.3**
comp=Z,14nm,0.9s,baz=233,slow=3.3,SNR=20
KEST LR LR 23 40 57.8
comp=Z,364nm,18.6s,baz=242,slow=35
comp=Z,14nm,0.9s
TNS Taunus Mts 47.06 45 *e*P 23 22 21.6
comp=Z,40nm,1.7s,baz=261,slow=7.6
TNS *e*L 23 38 02.3
comp=Z,363nm,21.8s
MSSA Maissana 47.06 53 P **P 23 22 21.5 +0.4**
MSSA IAmb IAmb 23 22 28.4
comp=Z,23nm,1.1s
FCC Fort Churchill 47.12 327 P **P 23 22 22.0 +0.7**
FCC Fort Churchill 47.12 327 P **P 23 22 22.0 +0.7**
FCC pmax pmax
comp=Z,37nm,1.2s
CMIG Matias Romero 47.13 269 LR LR 23 41 26.6
comp=Z,240nm,19.8s,baz=64,slow=35
TUE Stuetta 47.13 50 IAmb IAmb 23 22 30.0

comp=Z,20nm,1.4s
TUE Stuetta 47.13 50 P **P 23 22 21.8 0.0**
comp=Z,48nm,1.6s
KASTN Kahler Asten 47.23 43 *e*P 23 22 22.3
comp=Z,8.0nm,1.3s,baz=261,slow=7.6
K30B Basset 47.25 305 P **P 23 22 23.2 +0.6**
STU Stuttgart 47.31 47 *e*P 23 22 22.1
comp=Z,25nm,1.0s,baz=261,slow=7.6
CBKS Cedar Bluff 47.32 300 P **P 23 22 23.0 -0.2**
baz=88
DAVOX Davos/Dischmat 47.53 50 LR LR 23 39 13.5
comp=Z,377nm,20.2s,baz=269,slow=32
DAVA Damuels 47.58 49 *e*P **P 23 22 25.8 +0.6**
comp=Z,24nm,1.1s
MDND Maddock 47.64 312 P **P 23 22 25.8 +0.3**
baz=97
PRMA PARMA 47.66 52 P **P 23 22 26.6 +1.0**
FUORN Ofenpass-Fuorn 47.77 50 P **P 23 22 27.3 +0.4**
UBR Ueberruh 47.78 48 *e*P 23 22 25.9
comp=Z,22nm,1.5s,baz=261,slow=7.6
HBVL Hebbronville 47.80 284 P **P 23 22 26.4 -0.6**
HBVL IAmb IAmb 23 22 38.7
comp=Z,34nm,1.4s
HNDO Hondo 47.87 287 P **P 23 22 28.1 +0.6**
HNDO IAmb IAmb 23 22 35.6
comp=Z,11nm,1.0s
LPAZ La Paz 47.90 211 IAmb IAmb 23 22 36.0
comp=Z,16nm,0.9s
LPAZ La Paz 47.90 211 P **P 23 22 27.7 -0.8**
comp=Z,14nm,0.9s,baz=349,slow=6.4,SNR=31
LPAZ LR LR 23 41 26.2
comp=Z,337nm,21.0s,baz=20,slow=35
comp=Z,14nm,0.9s
LPAZ La Paz 47.90 211 *e*P **P 23 22 28.3 -0.2**
SMWD Samnorwood 47.95 295 P **P 23 22 29.2 +1.1**
FETA Feichten 48.13 49 *e*P **P 23 22 29.8 +0.2**
comp=Z,15nm,1.1s
JCT Junction City 48.16 288 P **P 23 22 30.9 +1.1**
JCT Junction City 48.16 288 P **P 23 22 30.3 +0.5**
baz=81
JCT Junction City 48.16 288 P **P 23 22 30.9 +1.1**
JCT pmax pmax
comp=Z,11nm,1.0s
833A Chaparral WMA, 48.18 286 P **P 23 22 29.2 -0.7**
833A IAmb IAmb 23 22 36.9
comp=Z,17nm,1.4s
833A Chaparral WMA, 48.18 286 P **P 23 22 30.6 +0.6**
baz=79
RETA Reutte 48.20 49 *i* P **P 23 22 30.2 +0.3**
comp=Z,6.3nm,1.0s
E28A Huff 48.25 310 P **P 23 22 30.4 +0.1**
OSSC Osservatorio P 48.27 54 IAmb IAmb 23 22 37.6
comp=Z,26nm,1.1s
MOTA Moosalm 48.41 49 *e*P **P 23 22 32.2 +0.5**
comp=Z,18nm,1.7s
SQTA Sankt Quirin 48.47 49 *i* P **P 23 22 32.4 +0.2**
comp=Z,15nm,1.5s
FUR Furstenfeldbru 48.61 48 *e*L 23 38 05.8
comp=Z,173nm,19.3s
DKNS Dickens 48.66 293 P **P 23 22 34.1 +0.4**
DKNS IAmb IAmb 23 22 41.9
comp=Z,20nm,1.2s
TEOL Teolo 48.66 52 P **P 23 22 35.0 +1.6**
SN07 Snyder 07 48.70 292 P **P 23 22 34.9 +0.9**
SN07 IAmb IAmb 23 22 42.2
comp=Z,17nm,0.9s
SN05 Snyder 5 48.72 292 P **P 23 22 34.6 +0.4**
SN05 IAmb IAmb 23 22 42.6
comp=Z,16nm,1.0s
WATA Walderalm 48.73 49 *i* P **P 23 22 34.2 0.0**
comp=Z,7.8nm,0.9s
GRFO Grafenberg 48.75 46 P **P 23 22 34.9 +0.8**
GRFO Grafenberg 48.75 46 P **P 23 22 34.9 +0.8**
GRFO pmax pmax
comp=Z,17nm,1.4s
GRF Grafenberg Arr 48.75 46 *e*P 23 22 34.1
comp=Z,4.9nm,0.8s,baz=261,slow=7.6
GRF *e*L 23 38 49.9
comp=Z,252nm,20.9s
WTTA Wattenberg 48.77 49 *e*P **P 23 22 34.8 +0.3**
comp=Z,8.9nm,1.0s
MUD Monsted U'grnd 48.85 37 *i* P **P 23 22 33.9 -0.7**
MUD IAmb IAmb 23 22 36.6
comp=Z,6.6nm,1.0s
KULLO Kullorsuaq 48.88 356 *i* P **P 23 22 34.7 +0.1**
KULLO IAmb IAmb 23 22 38.6
comp=Z,18nm,0.8s
BSEG Bad Segeberg 48.91 40 *e*P 23 22 35.5
comp=Z,108nm,2.1s,baz=261,slow=7.6
BSEG *e*L 23 39 19.8
comp=Z,201nm,19.8s
DRIO Del Rio 49.03 287 P **P 23 22 36.8 +0.3**
OGNE Ogallala 49.04 303 P **P 23 22 37.2 +0.7**
OGNE Ogallala 49.04 303 P **P 23 22 37.3 +0.7**
baz=89
SGCY Sterling City 49.06 291 P **P 23 22 37.0 +0.3**
SGCY IAmb IAmb 23 22 45.1
comp=Z,30nm,1.1s
NNA Nana 49.06 223 P **P 23 22 36.4 -0.4**
NNA Nana 49.06 223 LR LR 23 42 21.9
comp=Z,198nm,21.5s,baz=22,slow=35
NNA Nana 49.06 223 P **P 23 22 36.4 -0.4**
NNA pmax pmax
comp=Z,46nm,1.4s
MOX Moxa 49.13 45 *e*P 23 22 37.0
comp=Z,17nm,1.7s,baz=261,slow=7.6
MOX *e*L 23 39 15.9
comp=Z,368nm,21.1s
AMTX Amarillo 49.14 295 P **P 23 22 38.0 +0.6**
AMTX Amarillo 49.14 295 P **P 23 22 37.7 +0.3**
baz=84
FLTG Flechtingen 49.15 42 *e*P 23 22 37.1
comp=Z,32nm,1.7s,baz=261,slow=7.6
OZNA Ozona 49.21 289 P **P 23 22 38.3 +0.4**
OZNA IAmb IAmb 23 22 46.0
comp=Z,19nm,1.2s
CESX Cesi 49.23 55 P **P 23 22 37.4 -0.5**
JMIC Jan Mayen 49.32 15 LR LR 23 38 43.1
comp=Z,115nm,20.1s,baz=266,slow=30
ABTA Abfaltersbach 49.33 50 *e*P **P 23 22 38.5 -0.2**
comp=Z,7.1nm,1.0s
MANZ Manzenberg 49.36 45 *e*P 23 22 39.0
comp=Z,5.8nm,1.8s,baz=261,slow=7.6
STAL STALIGIAL 49.43 50 P **P 23 22 40.1 +0.7**
LESA Schwarzleotal 49.49 49 *e*P **P 23 22 39.7 -0.2**
comp=Z,3.6nm,1.0s
KSCO Kaye Shedlock' 49.57 300 P **P 23 22 41.7 +1.0**
FDMO Fiordimonte 49.61 55 P **P 23 22 40.8 0.0**
NRCA Norcia 49.63 55 P **P 23 22 40.5 -0.5**
TANN Tannenbergstha 49.64 45 *e*P 23 22 40.1
comp=Z,25nm,1.9s,baz=261,slow=7.6
LDASE Londrina, Braz 49.66 188 *e*P **P 23 22 41.2 +0.1**
PB18 Visviri 49.66 211 IAmb IAmb 23 23 01.0
comp=Z,28nm,1.1s
WET Wettzell 49.77 47 *e*P 23 22 41.7
comp=Z,21nm,1.6s,baz=261,slow=7.6
WET *e*L 23 40 34.0
comp=Z,154nm,20.9s
RTBA Rita Blanca 49.84 297 P **P 23 22 43.0 +0.2**
RTBA IAmb IAmb 23 22 51.2
comp=Z,22nm,1.3s
CAMP Campotosto 49.84 55 IAmb IAmb 23 22 49.8
comp=Z,27nm,1.2s
KBA Koelnbreinsper 49.92 49 *e*P **P 23 22 43.0 -0.2**
comp=Z,1.9nm,0.6s
KONO Kongsberg 49.96 33 P **P 23 22 44.0 +0.9**
KONO IAmb IAmb 23 22 52.4
comp=Z,20nm,1.2s
KONO Kongsberg 49.96 33 P **P 23 22 44.0 +0.9**
KONO pmax pmax
comp=Z,19nm,1.2s
CLL Collm 50.09 44⇑ *i*P **P 23 22 44.1 -0.1**
CLL *i* pP **sP 23 22 48.1 +1.7**
CLL *i* sP **pwP 23 22 49.3 -0.7**
comp=Z,34nm,2.1s
CLL *i* x x 23 22 50.0
CLL *i* x x 23 22 53.7
CLL *e*PcP **PcP 23 24 02.0 -1.8**
CLL *e*PP **PP 23 24 44.0 +4.9**
CLL *e*PPP PPP 23 25 33.0
CLL *e*S **S 23 29 52.0 -3.6**
CLL *e*SS SS 23 33 12.0 -16
CLL *e*SSS SSS 23 35 00.0
CLL Collm 50.09 44⇑ *i*P **P 23 22 44.1 -0.1**
CLL *i* 23 22 48.1
CLL *e*S **S 23 29 52.0 -3.6**

CLL Collm 50.09 44 *e*P **P 23 22 43.3 -0.9**
comp=Z,6.6nm,1.2s
CLL Collm 50.09 44 *e*P 23 22 44.1
comp=Z,42nm,2.1s,baz=261,slow=7.6
CLL *e*L 23 39 44.1
comp=Z,396nm,21.8s
MYKA Terra Mystica 50.10 50 *e*pP pP 23 22 48.5 +2.5
comp=Z,6.4nm,1.0s
MSTX Muleshoe 50.15 293 IAmb IAmb 23 22 53.9
comp=Z,18nm,1.0s
MSTX Muleshoe 50.15 293 P **P 23 22 45.5 +0.4**
baz=83
BIOA Bad Ischl, Aus 50.15 49 *e*P **P 23 22 44.5 -0.3**
comp=Z,6.8nm,1.2s
FFC Flin Flon 50.17 321 P **P 23 22 44.9 +0.1**
FFC IAmb IAmb 23 22 53.4
comp=Z,22nm,0.9s
FFC Flin Flon 50.17 321 P **P 23 22 44.9 +0.1**
FFC pmax pmax
comp=Z,22nm,1.0s
KHC Kasperske Hory 50.22 47 *e*P **P 23 22 45.1 -0.3**
KHC *e*S **S 23 29 57.4 -0.3**
KHC AMS AMS 23 45 00.0
comp=Z,200nm,13.5s
KHC Kasperske Hory 50.22 47 P **P 23 22 44.8 -0.6**
comp=Z,9.7nm,1.8s
GERES GERESS Array B 50.28 47 P **P 23 22 45.5 -0.3**
GERES GERESS Array B 50.28 47 P **P 23 22 45.1 -0.8**
comp=Z,0.9nm,0.7s,baz=267,slow=8.7,SNR=4.7
comp=Z,0.9nm,0.7s
GERES GERESS Array B 50.28 47 P **P 23 22 45.6 -0.3**
GEC2 GERESS Array S 50.28 47 *e*P 23 22 45.1
comp=Z,19nm,1.4s,baz=261,slow=7.6
MOA Molln 50.59 48 *e*P **P 23 22 47.6 -0.6**
comp=Z,5.2nm,1.1s
BRG Berggiesshubel 50.62 45 *e*P **P 23 22 48.4 0.0**
BRG Amp 23 22 52.1
comp=Z,3.5nm,1.0s
BRG Berggiesshubel 50.62 45 S S 23 30 13.0 +10
BRG Berggiesshubel 50.62 45 *e*P **P 23 22 48.3 0.0**
BRG S S 23 30 13.0 +10
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG MLR MLR
comp=Z,351nm,19.3s
BRG MLR MLR
comp=E,262nm,18.4s
BRG MLR MLR
comp=N,117nm,22.7s
BRG Berggiesshubel 50.62 45 *e*P 23 22 47.5
comp=N,31nm,2.1s,baz=261,slow=7.6
ZVC Zvikov 50.65 46 *e*P **P 23 22 48.3 -0.2**
CKRC Cesky Krumlov 50.68 47 *e*P **P 23 22 48.7 -0.1**
CKRC *e*S **S 23 30 01.3 -2.7**
CKRC AMS AMS 23 44 40.0
comp=N,100nm,15.8s
OBKA Obir 50.72 50 *e*P **P 23 22 48.9 -0.3**
comp=N,12nm,1.0s
DGMT Dagmar 50.76 312 P **P 23 22 50.3 +0.8**
baz=94
VAE Valguarnera 50.87 62 LR LR 23 42 04.9
comp=N,754nm,19.3s,baz=34,slow=33
PRU Pruhonice 50.92 46 AMS AMS 23 42 50.0
comp=N,200nm,12.3s
SOKA Soboth 51.05 50 *e*P **P 23 22 50.7 -1.0**
comp=N,2.4nm,1.1s
GOPC GO Pecny, Ondr 51.07 46 AMS AMS 23 42 30.0
comp=N,200nm,15.9s
T25A Trinidad 51.11 298 P **P 23 22 52.4 -0.1**
baz=84
NB2 NORSAR Subarra 51.14 31 P **P 23 22 51.9 -0.2**
comp=Z,14nm,1.0s,baz=252,slow=7.9
NOA NORSAR Array B 51.14 31 P **P 23 22 51.2 -0.9**
comp=Z,6.0nm,0.9s,baz=254,slow=7.8,SNR=28
NOA PcP **PcP 23 24 07.8 +0.2**
comp=Z,0.4nm,0.9s,baz=256,slow=5.7,SNR=2.0
NOA LR LR 23 40 54.4
comp=Z,311nm,19.8s,baz=240,slow=32
comp=Z,6.0nm,0.9s
NB201 NORSAR Array S 51.18 31 IAmb IAmb 23 23 00.3
comp=Z,18nm,0.9s
GO01 Chusmiza 51.34 210 IAmb IAmb 23 23 01.2
comp=Z,33nm,0.9s
ARSA Arzberg 51.41 49 *e*P **P 23 22 53.4 -1.0**
comp=Z,7.3nm,1.3s
NEEM North Greenlan 51.42 358 *i* P **P 23 22 53.9 -0.4**
NEEM IAmb IAmb 23 22 55.9
comp=Z,17nm,0.9s
Q24A Divide 51.53 300 IAmb IAmb 23 23 04.7
comp=Z,24nm,1.1s
Q24A Divide 51.53 300 P **P 23 22 55.6 -0.1**
baz=85
TXAR Lajitas Array 51.66 288 P **P 23 22 56.7 +0.1**
TXAR Lajitas Array 51.66 288 P **P 23 22 56.0 -0.6**
comp=Z,1.0nm,0.7s,baz=98,slow=8.5,SNR=12
TXAR PcP **PcP 23 24 10.9 +0.7**
comp=Z,2.2nm,0.9s,baz=106,slow=4.5,SNR=6.8
TXAR LR LR 23 43 31.5
comp=Z,63nm,21.8s,baz=65,slow=35
comp=Z,1.0nm,0.7s
CONA Conrad Observa 51.66 48 *e*P **P 23 22 55.7 -0.6**
comp=Z,4.2nm,1.1s
CUC Castrocucco 51.76 59 IAmb IAmb 23 23 04.5
comp=Z,20nm,1.1s
ISCO Idaho Springs 51.83 301 P **P 23 22 57.1 -0.8**
baz=86
UPC Upice 51.90 45 AMS AMS 23 45 40.0
comp=Z,300nm,16.1s
SDCO Great Sand Dun 51.92 299 P **P 23 22 58.2 -0.4**
baz=84
CHVC Chvalec 51.94 45 *e*P **P 23 22 58.7 +0.5**
CHVC AMS AMS 23 45 30.0
comp=Z,200nm,13.1s
RONA Rosalia, Austr 51.95 49 *e*P **P 23 22 57.0 -1.4**
comp=Z,4.4nm,0.9s
N23A Red Feather La 52.00 303 P **P 23 22 59.0 -0.2**
baz=86
OSTC Ostas 52.04 45 *e*P **P 23 22 58.1 -0.8**
OSTC *e*S **S 23 30 20.2 -2.5**
OSTC AMS AMS 23 45 50.0
comp=Z,200nm,13.5s
LAO LASA Array 52.06 310 P **P 23 22 59.0 -0.3**
baz=91
KRUC Moravsky 52.07 47 *e*P **P 23 22 58.0 -1.1**
HFS Hagfors 52.08 33 P **P 23 22 58.6 -0.4**
comp=Z,9.0nm,0.9s,baz=243,slow=6.5,SNR=24
HFS LR LR 23 42 08.3
comp=Z,258nm,19.2s,baz=234,slow=33
comp=Z,9.0nm,0.9s
DPC Dobruska-Polom 52.09 45 AMS AMS 23 48 20.0
comp=Z,200nm,14.7s
KSP Ksiaz 52.11 45 P **P 23 22 58.4 -1.0**
comp=Z,4.6nm,2.1s
VRAC Vranov 52.21 47 *e*P **P 23 22 59.6 -0.6**
VRAC Vranov 52.21 47 LR LR 23 42 12.7
comp=Z,129nm,21.8s,baz=252,slow=33
DAG Danmarks Havn 52.21 7 P **P 23 22 59.1 -0.7**
DAG Danmarks Havn 52.21 7 *i* P **P 23 22 59.2 -0.6**
DAG IAmb IAmb 23 23 01.4
comp=Z,15nm,0.9s
KRLC Kraliky 52.37 46 *e*P **P 23 23 01.3 -0.1**
TIP Timpagrande 52.55 59⇑ P **P 23 23 02.8 -0.2**
MODS Modra-Piesok 52.62 48 *e*P **P 23 23 02.7 -0.6**
MODS pmax pmax
comp=Z,16nm,1.3s
MODS Modra-Piesok 52.62 48 *e*P **P 23 23 02.7 -0.6**
MNTX Cornudas Mount 52.67 291 P **P 23 23 03.4 -0.5**
baz=80
MPLH Magyarpolny 52.78 49 P **P 23 23 02.6 -1.9**
comp=Z,30nm,1.4s
MORC Moravsky Berou 52.85 46 *e*P **P 23 23 03.7 -1.3**
MORC Moravsky Berou 52.85 46⇓ P **P 23 23 05.1 +0.1**
MORC Moravsky Berou 52.85 46 P **P 23 23 05.1 +0.1**
RWWY Rawlins 52.90 304 IAmb IAmb 23 23 14.6
comp=Z,29nm,1.2s
S22A 4UR Ranch, Cre 52.96 299 P **P 23 23 05.9 -0.5**
baz=84
ANMO Albuquerque 53.03 295 P **P 23 23 08.9 +2.2**
ANMO Albuquerque 53.03 295 P **P 23 23 06.0 -0.8**
baz=82
ANMO Albuquerque 53.03 295 LR LR 23 43 51.1
comp=Z,538nm,20.0s,baz=182,slow=34
ANMO Albuquerque 53.03 295 P **P 23 23 08.9 +2.2**
ANMO pmax pmax
comp=Z,17nm,1.3s
SRO Srobarova 53.31 49 *e*P **P 23 23 07.8 -0.6**
SRO pmax pmax

comp=Z,6.0nm,1.1s
SRO Srobarova 53.31 49 *e*P **P 23 23 07.8 -0.6**
MORH Mrgy, Hungar 53.55 51⇑ P **P 23 23 09.7 -0.5**
MORH Mrgy, Hungar 53.55 51 P **P 23 23 08.6 -1.5**
comp=Z,7.4nm,1.6s
CPUP Villa Florida 53.58 194 LR LR 23 44 43.3
comp=Z,99nm,19.2s,baz=16,slow=35
VYHS Vyhne 53.66 48 *e*P **P 23 23 10.4 -0.6**
LVC Limon Verde 53.81 208 P **P 23 23 13.8 +1.2**
LVC IAmb IAmb 23 23 20.2
comp=Z,18nm,1.1s
LVC Limon Verde 53.81 208 LR LR 23 45 55.4
comp=Z,318nm,19.9s,baz=8.5,slow=36
LVC Limon Verde 53.81 208 P **P 23 23 13.8 +1.2**
LVC pmax pmax
comp=Z,18nm,1.2s
LVC Limon Verde 53.81 208 *e*P **P 23 23 11.9 -0.8**
O20A White River Ci 53.81 302 IAmb IAmb 23 23 22.1
comp=Z,24nm,1.3s
O20A White River Ci 53.81 302 P **P 23 23 12.3 -0.2**
baz=84
LANS Liptovska Anna 54.09 47 *e*P **P 23 23 10.4 -3.7**
LANS pmax pmax
comp=Z,3.0nm,1.0s
PDG Podgorica 54.17 55 IAmb IAmb 23 23 22.4
comp=Z,32nm,1.4s
RLMT Red Lodge 54.21 308 IAmb IAmb 23 23 24.2
comp=Z,20nm,1.1s
RLMT Red Lodge 54.21 308 P **P 23 23 15.4 +0.1**
baz=87
OJC Ojcow 54.31 46 P **P 23 23 20.4 +4.7**
MVCO Mesa Verde 54.35 298 IAmb IAmb 23 23 31.7
comp=Z,29nm,1.3s
MVCO Mesa Verde 54.35 298 P **P 23 23 16.3 -0.2**
baz=82
EGMT Eagleton 54.46 312 P **P 23 23 17.4 +0.5**
baz=89,SNR=9.8
121A Cookes Peak, D 54.52 293 IAmb IAmb 23 23 27.3
comp=Z,36nm,1.2s
121A Cookes Peak, D 54.52 293 P **P 23 23 17.8 +0.1**
baz=79,SNR=6.6
BW06 Boulder Array 54.57 305 P **P 23 23 17.9 -0.1**
baz=86
PD31 Pinedale Array 54.57 305 IAmb IAmb 23 23 26.6
comp=Z,20nm,1.0s
PDAR Pinedale Array 54.57 305 P **P 23 23 17.9 0.0**
PDAR Pinedale Array 54.57 305 P **P 23 23 16.8 -1.2**
comp=Z,6.0nm,1.0s,baz=89,slow=7.9,SNR=30
comp=Z,6.0nm,1.0s
NIE Niedzica 54.63 47 P **P 23 23 19.1 +1.0**
comp=Z,4.8nm,1.6s
PUK Puka 54.67 56 IAmb IAmb 23 23 32.4
comp=Z,20nm,1.4s
RDMU Red Mountain 54.77 303 IAmb IAmb 23 23 28.0
comp=Z,34nm,1.4s
RES Resolute Bay 54.80 346 LR LR 23 45 16.4
comp=Z,208nm,18.9s,baz=70,slow=34
LOHW Long Hollow 55.26 306 IAmb IAmb 23 23 31.4
comp=Z,22nm,1.2s
FLWY Flagg Ranch 55.30 307 IAmb IAmb 23 23 32.1
comp=Z,24nm,1.2s
P18A Preston Nutter 55.40 301 IAmb IAmb 23 23 38.5
comp=Z,24nm,1.1s
CRVS Cervenica-Dubn 55.40 47 *e*P **P 23 23 24.6 +1.0**
CRVS pmax pmax
comp=Z,16nm,1.4s
CRVS Cervenica-Dubn 55.40 47 *e*P **P 23 23 24.6 +1.0**
TPAW Teton Pass 55.52 306 IAmb IAmb 23 23 33.5
comp=Z,36nm,1.2s
FXWY Fox Creek 55.57 306 IAmb IAmb 23 23 33.7
comp=Z,17nm,1.2s
YHL Hebgen Lake 55.59 308 IAmb IAmb 23 23 34.7
comp=Z,42nm,1.4s
SIRR Siria 55.64 50⇓ P **P 23 23 25.5 +0.1**
BZS Buzias 55.65 51⇓ P **P 23 23 25.8 +0.3**
BZS Buzias 55.65 51 P **P 23 23 25.7 +0.3**
W18A Petrified Fore 55.66 296 P **P 23 23 25.7 -0.2**
baz=80
SRU San Rafael Swe 55.68 301 IAmb IAmb 23 23 34.6
comp=Z,17nm,1.0s
AHID Auburn Hatcher 55.70 305 IAmb IAmb 23 23 34.3
comp=Z,35nm,1.4s
MDVR Moldovita 55.77 52⇓ P **P 23 23 26.2 -0.2**
P17A Butcher Ranch, 55.80 301 IAmb IAmb 23 23 35.5
comp=Z,23nm,1.4s
PBUR Paburge 55.81 39 *e*P **P 23 23 27.6 +1.2**
BOZ Bozeman (W) 55.85 309 IAmb IAmb 23 23 36.2
comp=Z,27nm,1.6s
BOZ Bozeman (W) 55.85 309 P **P 23 23 27.2 +0.2**
baz=86
KOLS Kolonicke sedl 55.94 47 *e*P **P 23 23 31.5 +4.1**
KOLS Kolonicke sedl 55.94 47 *e*P **P 23 23 31.5 +4.1**
SURR Surduc 55.99 51⇑ P **P 23 23 28.2 +0.3**
TCUT Toone Canyon 56.10 303 IAmb IAmb 23 23 37.8
comp=Z,27nm,1.1s
RAF Rauma 56.16 33 *e*P **P 23 23 29.1 +0.4**
HWUT Hardware Ranch 56.16 304 IAmb IAmb 23 23 38.2
comp=Z,24nm,1.4s
JLU Jordanelle 56.20 303 IAmb IAmb 23 23 38.9
comp=Z,18nm,1.1s
Q16A Castle Valley 56.20 301 IAmb IAmb 23 23 38.5
comp=Z,43nm,1.6s
BERU Beregovo 56.21 48 P **P 23 23 29.5 +0.1**
PB14 IPOC Station P 56.22 208 IAmb IAmb 23 23 36.6
comp=Z,29nm,1.2s
MUKU Mukachevo 56.23 48 P **P 23 23 31.1 +1.6**
HERR Herculane 56.27 52⇑ P **P 23 23 29.6 -0.3**
DRGR 56.33 50⇑ P **P 23 23 30.5 0.0**
DRGR 56.33 50 P **P 23 23 30.4 0.0**
GO02 Mina Guanaco 56.35 207 IAmb IAmb 23 23 37.6
comp=Z,20nm,1.0s
MPU Maple Canyon 56.41 302 IAmb IAmb 23 23 39.8
comp=Z,34nm,1.4s
BRIU Brid 56.45 48 P **P 23 23 31.5 +0.4**
GZR Gura Zlata 56.48 51⇓ P **P 23 23 31.4 -0.1**
GZR Gura Zlata 56.48 51 P **P 23 23 31.3 -0.1**
KORU Korolevo 56.54 48 P **P 23 23 30.8 -0.9**
DLMT Dillon 56.54 309 IAmb IAmb 23 23 40.9
comp=Z,30nm,1.4s
NOR Nord 56.59 5 *i* P **P 23 23 30.4 -1.3**
NOR IAmb IAmb 23 23 32.5
comp=Z,23nm,1.0s
MARR Marisel-Cluj 56.62 50⇑ P **P 23 23 32.4 -0.1**
SHIU Shidnytsya 56.64 47 P **P 23 23 31.4 -1.1**
ITQB Itaqui 56.67 192 pwP 23 23 38.8 -0.3
EUNU Eureka 56.70 352 P **P 23 23 33.3 +0.9**
EUNU IAmb IAmb 23 23 34.1
comp=Z,19nm,1.0s
NLU North Lily Min 56.75 302 IAmb IAmb 23 23 42.4
comp=Z,30nm,1.3s
VAF Ylistaro 56.83 30 *e*P **P 23 23 34.2 +0.7**
WUAZ Wupatki 56.91 297 IAmb IAmb 23 23 44.4
comp=Z,38nm,1.3s
WUAZ Wupatki 56.91 297 P **P 23 23 34.9 +0.1**
baz=80,SNR=6.7
PABE Paberze 56.94 39 *e*P **P 23 23 34.4 0.0**
MTSE Matsula 56.98 35 *e*P **P 23 23 35.0 +0.3**
MORS Morshin 56.99 47 P **P 23 23 35.1 +0.2**
HVU Hansel Valley 57.04 304 P **P 23 23 36.4 +0.8**
HVU Hansel Valley 57.04 304 P **P 23 23 36.4 +0.8**
HVU pmax pmax
comp=Z,17nm,1.4s
MSU Marysvale 57.04 300 P **P 23 23 36.7 +0.9**
MSU Marysvale 57.04 300 P **P 23 23 36.7 +0.9**
LVV L'vov 57.05 46 *e*P **P 23 23 35.8 +0.5**
TUC Tucson 57.05 293 P **P 23 23 37.4 +1.6**
TUC IAmb IAmb 23 23 45.0
comp=Z,16nm,1.1s
TUC Tucson 57.05 293 P **P 23 23 36.0 +0.2**
baz=78
TUC Tucson 57.05 293 P **P 23 23 37.4 +1.6**
TUC pmax pmax
comp=Z,16nm,1.2s
MVU Marysvale 57.07 300 P **P 23 23 36.6 +0.6**
X16A Lo Mia Camp, P 57.17 295 P **P 23 23 37.4 +0.7**
RAKU Rahkiv 57.24 48 P **P 23 23 35.8 -0.9**
DUG Dugway, Tooele 57.28 302 P **P 23 23 37.5 +0.2**
DUG IAmb IAmb 23 23 46.7
comp=Z,39nm,1.4s
DUG Dugway, Tooele 57.28 302 P **P 23 23 37.1 -0.3**
baz=82,SNR=11
DUG Dugway, Tooele 57.28 302 P **P 23 23 37.5 +0.2**
DUG pmax pmax
comp=Z,39nm,1.4s
PKCU Pink Cliffs 57.32 299 P **P 23 23 37.4 -0.5**
PKCU IAmb IAmb 23 23 52.3

comp=Z,29nm,1.4s
BGU Big Grassy Mou 57.34 303 P P 23 23 37.3 -0.5
BGU IAmb IAmb 23 23 46.2
comp=Z,40nm,1.4s
MSO Missoula 57.36 310 P P 23 23 37.5 -0.2
MSO IAmb IAmb 23 23 45.8
comp=Z,25nm,1.6s
MSO Missoula 57.36 310 P P 23 23 38.1 +0.4
baz=85
MEF Metsahovi 57.38 34 *eP* **P 23 23 37.3 -0.2**
STNU Starunia 57.42 47 P **P 23 23 37.7 -0.3**
ARCR ARCALIA 57.43 49 ⇓P **P 23 23 38.2 +0.1**
U15A North Rim 57.48 298 P **P 23 23 38.2 -0.8**
U15A IAmb IAmb 23 23 48.6
comp=Z,40nm,1.5s
KEF Keuruu 57.75 31 *eP* **P 23 23 40.4 +0.3**
VLAD Vladila 57.77 53 ⇓P **P 23 23 41.2 +0.7**
YKA Yellowknife Ar 57.78 329 P **P 23 23 39.8 -0.5**
YKA Yellowknife Ar 57.78 329 P **P 23 23 39.0 -1.3**
comp=Z,4.4nm,0.9s,baz=97,slow=7.7,SNR=20
YKA LR LR 23 47 37.1
comp=Z,428nm,20.3s,baz=109,slow=35
comp=Z,4.4nm,0.9s
YKA Yellowknife Ar 57.78 329 *i* P **P 23 23 39.7 -0.5**
YKA pmax pmax
comp=Z,4.0nm,0.9s
ARR Arges 57.78 51 ⇑P **P 23 23 40.5 -0.1**
KNB Kanab 57.79 299 P **P 23 23 40.4 -0.6**
KNB IAmb IAmb 23 23 49.3
comp=Z,21nm,1.3s
KNB Kanab 57.79 299 P **P 23 23 40.4 -0.6**
KNB pmax pmax
comp=Z,21nm,1.3s
KSV Kosov 57.82 48 P **P 23 23 39.2 -1.6**
SZCU Shurtz Canyon 57.90 299 P **P 23 23 41.6 -0.3**
SZCU IAmb IAmb 23 23 50.6
comp=Z,30nm,1.8s
BURAR Bucovina Array 57.98 49 P **P 23 23 42.5 +0.4**
BURAR Bucovina Array 57.98 49 ⇓P **P 23 23 41.6 -0.5**
BURAR Bucovina Array 57.98 49 P **P 23 23 42.5 +0.4**
BURAR pmax pmax
comp=Z,6.0nm,1.0s
HLID Hailey 58.02 307 P **P 23 23 42.9 +0.3**
HLID Hailey 58.02 307 P **P 23 23 42.4 -0.1**
baz=83,SNR=6.7
VOIR 58.07 51 ⇓P **P 23 23 42.5 -0.3**
VOIR 58.07 51 P **P 23 23 42.4 -0.3**
VOIR 58.07 51 P **P 23 23 42.0 -0.7**
CCUT Cedar City 58.12 299 P **P 23 23 44.0 +0.6**
CCUT IAmb IAmb 23 23 52.6
comp=Z,32nm,1.3s
LCMT Little Creek M 58.12 299 P **P 23 23 43.7 +0.4**
RNPP8 Varash 58.14 44 P **P 23 23 42.2 -0.7**
ARBE Arbavere 58.14 35 *eP* **P 23 23 43.2 +0.5**
RNPP9 Sopachiv 58.16 44 P **P 23 23 42.3 -0.8**
RNPP5 Staryi Chortor 58.16 44 P **P 23 23 42.2 -0.9**
DOPR Dopca 58.25 51 ⇑P **P 23 23 43.7 -0.2**
FINES FINESS Array B 58.27 32 P **P 23 23 43.5 -0.2**
FINES FINESS Array B 58.27 32 P **P 23 23 43.0 -0.7**
comp=Z,6.1nm,0.9s,baz=289,slow=5.8,SNR=18
FINES LR LR 23 45 50.9
comp=Z,307nm,19.2s,baz=257,slow=33
comp=Z,6.1nm,0.9s
FINES FINESS Array B 58.27 32 P **P 23 23 43.5 -0.2**
FIA1 FINESS Array S 58.27 32 P **P 23 23 43.9 +0.2**
PSUT Pine Spring 58.34 301 P **P 23 23 45.5 +0.6**
PSUT IAmb IAmb 23 23 54.2
comp=Z,20nm,1.4s
VSU Vasula 58.50 36*c i* P **P 23 23 44.7 -0.7**
VSU pmax pmax
comp=Z,19nm,1.7s
Y14A Wickenburg 58.53 295 P **P 23 23 46.6 +0.5**
Y14A IAmb IAmb 23 23 55.5
comp=Z,20nm,1.1s
HORU Horodok 58.65 47 P **P 23 23 44.5 -2.1**
HORU Horodok 58.65 47 P **P 23 23 44.5 -2.1**
MLR Muntele Rosu 58.69 51 IAmb IAmb 23 23 55.5
comp=Z,19nm,1.0s
MLR Muntele Rosu 58.69 51 LR LR 23 48 01.5
comp=Z,220nm,18.0s,baz=267,slow=35
MLR Muntele Rosu 58.69 51 ⇓P **P 23 23 47.1 0.0**
MLR Muntele Rosu 58.69 51 P **P 23 23 47.1 0.0**
MLR Muntele Rosu 58.69 51 P **P 23 23 47.1 0.0**
comp=Z,22nm,1.1s
KMPD K-Podol'skiy 58.72 47 P **pP 23 23 45.1 -3.6**
KMPD P **P 23 23 44.8 -2.3**
214A Organ Pipe Nat 58.81 293 P **P 23 23 48.9 +0.9**
214A Organ Pipe Nat 58.81 293 P **P 23 23 48.1 0.0**
baz=77,SNR=6.1
COVR Voineasa-Covas 58.83 51 ⇓P **P 23 23 48.5 +0.6**
ARCES ARCESS Array B 58.87 23 P **P 23 23 48.0 +0.2**
ARCES IAmb IAmb 23 23 55.2
comp=Z,14nm,0.9s
ARCES ARCESS Array B 58.87 23 P **P 23 23 46.2 -1.6**
comp=Z,3.9nm,0.8s,baz=243,slow=5.3,SNR=10
ARCES LR LR 23 44 36.6
comp=Z,88nm,20.2s,baz=282,slow=32
comp=Z,3.9nm,0.8s
ARCES ARCESS Array B 58.87 23 P **P 23 23 48.0 +0.2**
ARCES pmax pmax
comp=Z,14nm,1.0s
ELND Elena 58.97 54 ⇓P **P 23 23 48.8 -0.2**
Q12A Willow Creek R 59.00 301 P **P 23 23 50.1 +0.7**
W13A Hualapai Mount 59.00 297 P **P 23 23 51.1 +1.5**
W13A IAmb IAmb 23 23 59.2
comp=Z,31nm,1.6s
ELK Elko 59.03 303 IAmb IAmb 23 23 57.9
comp=Z,22nm,1.2s
TESR Tescani 59.06 50 ⇑P **P 23 23 48.8 -0.7**
MFID Camas Ranch 59.06 307 P **P 23 23 49.9 +0.1**
BRLDA Berland Lookou 59.11 319 IAmb IAmb 23 23 57.7
comp=Z,18nm,0.8s
PLOR3 Plostina Array 59.13 51 P **P 23 23 49.2 -0.9**
comp=Z,10nm,1.5s
MNK Minsk 59.21 40 *i* P **P 23 23 47.0 -3.4**
MNK *i* 23 24 35.0
MNK *i* 23 25 58.2
MNK *i* S **S 23 31 55.9 -2.3**
MNK *i* SS **SS 23 35 49.1 -3.1**
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=Z,14nm,1.1s
MNK MLR MLR
comp=Z,140nm,15.0s
MNK MLR MLR
comp=E,52nm,12.0s
MNK MLR MLR
comp=N,84nm,16.0s
MI28 Mi28,Pidlybu 59.30 45 P **P 23 23 49.8 -1.3**
NEW Newport 59.37 312 P **P 23 23 52.2 +0.5**
baz=84,SNR=27
NEW Newport 59.37 312 LR LR 23 48 00.1
comp=N,532nm,20.0s,baz=84,slow=35
PDMCI Parker Dam,Lak 59.38 296 P **P 23 23 52.6 +0.8**
baz=78
LUBAR Lubar, Ukraine 59.45 46 P **P 23 23 50.8 -1.3**
PRN Pahroc Range 59.47 300 P **P 23 23 53.9 +1.2**
PRN IAmb IAmb 23 24 02.1
comp=Z,20nm,1.3s
V12A Nelson 59.65 298 IAmb IAmb 23 24 03.0
comp=Z,20nm,1.2s
MI30 MI30,Zelenitsa 59.65 45 P **P 23 23 53.0 -0.5**
R11B Troy Canyon, C 59.71 301 P **P 23 23 54.8 +0.5**
baz=79,SNR=5.2
F10A Beach Ranch, E 59.71 310 IAmb IAmb 23 24 02.2
comp=Z,31nm,1.4s
EZN Ezine 59.80 58 P **P 23 23 53.5 -1.2**
comp=Z,16nm,1.1s,comp=Z,540nm
BMO Blue Mountains 59.91 308 IAmb IAmb 23 24 04.2
comp=Z,26nm,1.7s
SORM Soroca 60.02 48 ⇓P **P 23 23 54.7 -1.4**
SORM Soroca 60.02 48 P **P 23 23 54.6 -1.4**
SORM Soroca 60.02 48 P **P 23 23 54.4 -1.7**
comp=Z,11nm,0.8s
AK20 Malin Array Si 60.17 45 P **P 23 23 57.1 +0.1**
C09A Chrisman Ranch 60.19 312 IAmb IAmb 23 24 05.2
comp=Z,19nm,1.1s
GLA Glamis 60.21 295 P **P 23 23 57.9 +0.2**
baz=76
IRM Iron Mountain 60.22 296 P **P 23 23 58.6 +0.8**
baz=77,SNR=5.6
AK12 Malin Array Si 60.27 45 P **P 23 23 56.3 -1.4**

AK11 Malin Array Si 60.27 45 P **P 23 23 56.5 -1.3**
KIEV Kiev 60.30 45 P **P 23 23 57.2 -0.7**
KIEV Kiev 60.30 45 ⇓P **P 23 23 57.5 -0.4**
KIEV Kiev 60.30 45 P **P 23 23 57.2 -0.7**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
AK02 Malin Array Si 60.30 45 P **P 23 23 57.0 -0.9**
AK01 Malin Array Si 60.30 45 P **P 23 23 56.4 -1.5**
AK05 Malin Array Si 60.30 45 P **P 23 23 56.6 -1.4**
AKASG Malin Array Be 60.31 45 P **P 23 23 55.7 -2.3**
comp=Z,9.6nm,0.9s,baz=276,slow=6.0,SNR=13
AKASG LR LR 23 46 22.6
comp=Z,178nm,21.3s,baz=279,slow=32
comp=Z,9.6nm,0.9s
AKASG Malin Array Be 60.31 45 *i* P **P 23 23 57.0 -1.0**
AKASG pmax pmax
comp=Z,10.0nm,0.9s
AKBB Malin Array Si 60.31 45*c i* P **P 23 23 57.1 -0.9**
AKBB pmax pmax
comp=Z,11nm,1.1s
AK08 Malin Array Si 60.33 45 P **P 23 23 56.6 -1.6**
AK10 Malin Array Si 60.34 45 P **P 23 23 56.8 -1.4**
MILM Milestii Mici 60.49 49 ⇑P **P 23 23 58.0 -1.2**
MILM Milestii Mici 60.49 49 P **P 23 23 58.0 -1.2**
GMRC Granite Mounta 60.49 297 P **P 23 24 00.3 +0.6**
baz=77
TPNV Topopah Spring 60.50 299 P **P 23 24 00.1 +0.4**
baz=78,SNR=7.5
BMN Battle Mountai 60.57 303 P **P 23 24 00.5 +0.3**
BMN IAmb IAmb 23 24 08.5
comp=Z,17nm,1.3s
BMN Battle Mountai 60.57 303 P **P 23 24 00.5 +0.3**
BMN pmax pmax
comp=Z,17nm,1.3s
BC3 Big Chuckawall 60.58 295 P **P 23 24 00.9 +0.5**
baz=77
VALR Valaam 60.58 32⇓*eP* **P 23 23 58.1 -1.6**
VALR pmax pmax
comp=Z,12nm,1.5s
D08A Wollman Farm, 60.72 311 P **P 23 24 01.5 +0.6**
JOF Joensuu 60.76 31 *eP* **P 23 24 01.0 +0.2**
WCT Wildcat Mounta 60.83 299 P **P 23 24 02.8 +0.9**
WCT IAmb IAmb 23 24 11.3
comp=Z,24nm,1.3s
CO01 Juntas del Tor 60.85 205 P **P 23 24 02.1 -0.1**
CO01 IAmb IAmb 23 24 10.5
comp=Z,13nm,1.1s
E08A Dider Farm, El 60.90 310 P **P 23 24 02.3 +0.2**
BELC Belle Mtn. Jos 60.94 296 P **P 23 24 04.1 +1.3**
baz=76
J08A Circle Bar Ran 60.98 307 P **P 23 24 03.7 +0.8**
GWY Greenwater Val 60.99 299 IAmb IAmb 23 24 12.4
comp=Z,23nm,1.4s
G08A Pilot Rock 61.01 309 IAmb IAmb 23 24 11.6
comp=Z,16nm,1.3s
FURC Furnace Creek, 61.08 299 P **P 23 24 04.5 +1.0**
baz=78
YUH Yuha Desert 61.20 294 IAmb IAmb 23 24 13.9
comp=Z,23nm,1.1s
MZP Montezuma Peak 61.23 300 P **P 23 24 04.6 -0.2**
HAWA Hanford 61.24 310 P **P 23 24 05.0 +0.6**
WVOR Wild Horse Val 61.25 306 IAmb IAmb 23 24 13.1
comp=Z,16nm,1.4s
PURM Purcari 61.26 49 ⇓P **P 23 24 04.1 -0.4**
PURM Purcari 61.26 49 P **P 23 24 04.0 -0.6**
comp=Z,49nm,1.0s
GSC Goldstone, Bar 61.30 298 P **P 23 24 05.1 0.0**
GSC IAmb IAmb 23 24 14.2
comp=Z,21nm,1.4s
GSC Goldstone, Bar 61.30 298 P **P 23 24 05.6 +0.4**
baz=77
GSC Goldstone, Bar 61.30 298 P **P 23 24 05.1 0.0**
GSC pmax pmax
comp=Z,21nm,1.5s
KARP Karpathos 61.31 62 P **P 23 24 04.2 -0.9**
IKP In-Ko-Pah, Jac 61.36 294 P **P 23 24 06.0 +0.4**
baz=76
GRAC Grapevine Rang 61.36 300 P **P 23 24 05.1 -0.4**
ESJX Sierra Juarez 61.38 294 P **P 23 24 06.1 +0.2**
ESJX IAmb IAmb 23 24 15.3
comp=Z,17nm,1.3s
VTX Valle De La Tr 61.40 293 P **P 23 24 06.4 +0.5**
VTX IAmb IAmb 23 24 29.7
comp=Z,10nm,0.7s
TPFO Pinon Flats 61.41 296 P **P 23 24 06.1 +0.2**
baz=76
PFO Pinyon Flats O 61.41 296 P **P 23 24 05.4 -0.6**
PFO IAmb IAmb 23 24 15.2
comp=Z,14nm,1.2s
PFO Pinyon Flats O 61.41 296 P **P 23 24 05.9 -0.1**
baz=76
PFO Pinyon Flats O 61.41 296 LR LR 23 48 20.2
comp=Z,235nm,21.0s,baz=60,slow=34
PFO Pinyon Flats O 61.41 296 P **P 23 24 05.4 -0.6**
PFO pmax pmax
comp=Z,14nm,1.2s
KVN Kaiserville 61.50 302 IAmb IAmb 23 24 14.7
comp=Z,23nm,1.5s
MONP2 Monument Peak 61.55 295 P **P 23 24 07.2 +0.2**
baz=76
F07A Phinny Hill Vi 61.59 310 P **P 23 24 06.9 +0.1**
I07A Izee 61.59 308 P **P 23 24 08.0 +0.9**
I07A IAmb IAmb 23 24 16.0
comp=Z,12nm,1.1s
MPMC Manual Prospec 61.67 299 P **P 23 24 07.3 -0.5**
baz=77,SNR=9.4
ZON Zonda 61.75 203 P **P 23 24 08.4 +0.4**
ZON IAmb IAmb 23 24 17.8
comp=Z,32nm,1.8s
ZON Zonda 61.75 203 P **P 23 24 08.4 +0.4**
ZON pmax pmax
comp=Z,32nm,1.8s
DSP Deep Springs 61.75 300 IAmb IAmb 23 24 17.5
comp=Z,20nm,1.3s
NVAR Mina Array Bea 61.78 301 P **P 23 24 09.0 +0.5**
NVAR Mina Array Bea 61.78 301 P **P 23 24 06.2 -2.4**
comp=Z,2.1nm,0.9s,baz=90,slow=4.8,SNR=6.4
NVAR LR LR 23 49 02.9
comp=Z,639nm,21.5s,baz=91,slow=34
comp=Z,2.1nm,0.9s
WRGLY Wrigley 61.85 330 P **P 23 24 08.3 +0.1**
baz=87
MURC Murrieta 62.01 296 P **P 23 24 09.9 0.0**
baz=76
BFSC Mount Baldy Ra 62.23 297 P **P 23 24 11.7 +0.2**
baz=76
KOTAN Kotaneelee Air 62.34 326 P **P 23 24 12.3 +0.7**
baz=85
PAHR Pah Rah Range 62.34 303 P **P 23 24 12.0 -0.2**
EDW2 Edwards Air Fo 62.34 297 P **P 23 24 12.6 +0.5**
baz=76,SNR=5.2
A36M Sachs Harbour 62.37 340 P **P 23 24 12.2 +0.6**
A36M Sachs Harbour 62.37 340 P **P 23 24 12.0 +0.5**
baz=90,SNR=5.1
OMMB Old Mammoth Mi 62.50 301 P **P 23 24 15.4 +1.9**
OMMB IAmb IAmb 23 24 22.8
comp=Z,11nm,1.2s
ISA Isabella, Lake 62.54 298 P **P 23 24 14.5 +1.0**
ISA Isabella, Lake 62.54 298 P **P 23 24 14.5 +1.0**
ISA pmax pmax
comp=Z,35nm,1.3s
MDPB Devils Postpil 62.55 301 P **P 23 24 14.3 +0.5**
MDPB IAmb IAmb 23 24 23.1
comp=Z,11nm,1.1s
PNTR Pine Nut 62.63 302 P **P 23 24 13.8 -0.4**
WAKR Walker 62.64 302 P **P 23 24 15.0 +0.7**
WAKR IAmb IAmb 23 24 23.1
comp=Z,21nm,1.3s
ARVC Arvin 62.95 298 P **P 23 24 16.1 0.0**
baz=76
VES Vestal, Richgr 62.98 299 P **P 23 24 16.5 +0.2**
baz=76
TOAD Toad River Com 63.06 325 P **P 23 24 16.5 0.0**
baz=84
SCI2 San Clemente I 63.26 295 P **P 23 24 18.3 +0.1**
baz=75
MDUB Mudurnu 63.33 56 P **P 23 24 18.6 -0.1**
H04A Detroit Lake 63.37 309 IAmb IAmb 23 24 26.9
comp=Z,19nm,1.0s
LIRD Liard River Hi 63.44 326 P **P 23 24 19.2 +0.3**
baz=83
I04A Tendick Farm, 63.71 308 IAmb IAmb 23 24 28.8
comp=Z,22nm,1.1s
SNCC San Nicolas Is 63.98 296 P **P 23 24 23.1 +0.1**
baz=75
MT16 CCHEN 64.11 204 P **P 23 24 25.2 +1.5**

OBN Obninsk 64.14 39 LR LR 23 49 51.5
comp=Z,290nm,19.4s,baz=246,slow=34
OBN Obninsk 64.14 39*deP* **P 23 24 23.0 -0.6**
OBN *e* 23 25 01.8
OBN *e* 23 26 43.6
OBN pmax pmax
comp=Z,21nm,1.3s
TGTN Hyland Airport 64.24 328 P **P 23 24 24.7 +0.5**
baz=82
YBH Yreka Blue Hor 64.36 306 P **P 23 24 25.1 -0.4**
YBH IAmb IAmb 23 24 33.8
comp=Z,9.9nm,1.0s
YBH Yreka Blue Hor 64.36 306 LR LR 23 50 22.1
comp=Z,319nm,21.4s,baz=74,slow=34
YBH Yreka Blue Hor 64.36 306 P **P 23 24 25.1 -0.4**
YBH pmax pmax
comp=Z,10.0nm,1.0s
LMEL Las Melosas 64.37 203 IAmb IAmb 23 24 33.1
comp=Z,13nm,1.0s
DBO Dodson Butte 64.44 307 P **P 23 24 26.3 +0.4**
DBO IAmb IAmb 23 24 33.6
comp=Z,22nm,1.1s
MT09 Talagante 64.59 204 P **P 23 24 26.6 -0.3**
MOS Moscow 64.64 38 *eP* **P 23 24 25.4 -1.4**
BO04 La Punta 64.64 204 P **P 23 24 27.0 -0.1**
BR231 Keskin MP Arra 64.65 56 P **P 23 24 27.5 0.0**
BR231 IAmb IAmb 23 24 35.1
comp=Z,12nm,0.8s
ANTO Ankara 64.66 56 P **P 23 24 27.4 0.0**
ANTO Ankara 64.66 56 P **P 23 24 27.4 0.0**
ANTO pmax pmax
comp=Z,29nm,1.3s
WTLY Watson Lake, Y 64.69 327 P **P 23 24 27.9 +0.6**
baz=81
MT01 Popeta 64.76 204 P **P 23 24 27.2 -0.6**
MT01 IAmb IAmb 23 26 36.5
comp=Z,16nm,1.1s
BO01 Tunca 65.17 204 P **P 23 24 30.9 +0.4**
KSXB Camp Six Broad 65.19 306 P **P 23 24 30.3 -0.6**
HOPS Hopland Field 65.28 303 P **P 23 24 33.0 +1.5**
BR105 Keskin Array S 65.31 56 P **P 23 24 32.2 +0.5**
comp=Z,14nm,1.1s,comp=Z,105nm
BR131 Keskin Array S 65.32 56 P **P 23 24 31.9 +0.1**
BR131 IAmb IAmb 23 24 39.3
comp=Z,15nm,1.1s
BR131 Keskin Array S 65.32 56 P **P 23 24 31.9 +0.1**
BR131 pmax pmax
comp=Z,15nm,1.1s
BRTR Keskin Array B 65.32 56 P **P 23 24 31.5 -0.3**
BRTR Keskin Array B 65.32 56 P **P 23 24 30.7 -1.1**
comp=Z,6.9nm,0.9s,baz=275,slow=5.0,SNR=38
BRTR LR LR 23 50 56.4
comp=Z,148nm,19.9s,baz=274,slow=34
comp=Z,6.9nm,0.9s
BRTR Keskin Array B 65.32 56 *i* P **P 23 24 31.7 -0.1**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
KMRM Mail Ridge 65.46 304 P **P 23 24 33.2 +0.6**
MMPY Sheldon Lake, 65.47 330 IAmb IAmb 23 24 41.2
comp=Z,18nm,1.2s
MMPY Sheldon Lake, 65.47 330 P **P 23 24 32.2 -0.1**
baz=80
INK Inuvik 65.47 336 P **P 23 24 31.9 -0.2**
INK Inuvik 65.47 336 P **P 23 24 31.8 -0.2**
baz=81
INK Inuvik 65.47 336 LR LR 23 52 00.8
comp=Z,219nm,20.1s,baz=112,slow=35
INK Inuvik 65.47 336 P **P 23 24 31.9 -0.2**
INK pmax pmax
comp=Z,26nm,1.1s
JCC Jacoby Creek, 65.55 305 P **P 23 24 33.2 +0.2**
DLBC Dease Lake 65.60 325 P **P 23 24 33.9 +0.7**
DLBC IAmb IAmb 23 24 41.4
comp=Z,14nm,1.1s
DLBC Dease Lake 65.60 325 P **P 23 24 33.1 -0.1**
baz=80
DLBC Dease Lake 65.60 325 LR LR 23 51 09.1
comp=Z,142nm,21.8s,baz=116,slow=34
F31M Tsiigehtchic 65.69 335 P **P 23 24 34.3 +0.8**
baz=80
BBB Bella Bella 65.74 318 LR LR 23 52 58.5
comp=Z,242nm,18.4s,baz=82,slow=36
R33M Jennings River 65.90 326 P **P 23 24 35.9 +0.7**
baz=79,SNR=8.9
LPSR Galich'ya Gora 65.98 42 *eP* **P 23 24 34.5 -1.1**
LPSR pmax pmax
comp=Z,30nm,0.8s
G31M Satah River 65.98 334 P **P 23 24 35.3 -0.1**
baz=80,SNR=9.4
T35M Bob Quinn 66.00 323 P **P 23 24 35.8 +0.1**
baz=79
VORR Voronezh 66.35 43 *eP* **P 23 24 37.6 -0.4**
VORR pmax pmax
comp=Z,28nm,0.6s
VSR Storozhevoye 66.42 43 *eP* **P 23 24 37.4 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.7s
F30M Barrier River 66.43 335 P **P 23 24 38.4 +0.1**
baz=79
FARO Faro, Yukon 66.49 329 P **P 23 24 39.3 +0.5**
baz=78,SNR=7.3
ML02 Panimavida 66.52 203 P **P 23 24 39.0 -0.1**
VORD Divnogorie 66.56 43 *eP* **P 23 24 37.6 -1.7**
VORD pmax pmax
comp=Z,10.0nm,0.8s
N32M Quiet Lake 66.59 328 IAmb IAmb 23 24 47.7
comp=Z,14nm,0.9s
N32M Quiet Lake 66.59 328 P **P 23 24 39.7 +0.2**
baz=78
Q32M Nakina River 66.64 326 IAmb IAmb 23 24 48.4
comp=Z,14nm,0.9s
Q32M Nakina River 66.64 326 P **P 23 24 40.0 0.0**
baz=78
P33M Teslin, Yukon 66.66 327 IAmb IAmb 23 24 47.7
comp=Z,13nm,0.8s
P33M Teslin, Yukon 66.66 327 P **P 23 24 40.2 +0.2**
baz=78,SNR=7.8
G30M tAoh Zraii Nji 66.73 335 P **P 23 24 40.7 +0.4**
ANN Anapa 66.80 50 *eP* **P 23 24 37.0 -4.0**
ANN *e**PP **pP 23 24 41.3 -1.3**
ANN *eS* **S 23 33 27.9 -5.7**
ANN pmax pmax
comp=Z,39nm,1.0s
M31M Drury Creek, Y 66.97 329 IAmb IAmb 23 24 50.3
comp=Z,24nm,1.3s
M31M Drury Creek, Y 66.97 329 P **P 23 24 41.9 0.0**
baz=78,SNR=5.3
E29M Blow River 67.04 336 P **P 23 24 42.1 -0.1**
baz=77
EPYK Eagle Plains 67.05 334 IAmb IAmb 23 24 50.0
comp=Z,18nm,1.0s
EPYK Eagle Plains 67.05 334 P **P 23 24 43.5 +1.2**
baz=77
V35K Ketchikan 67.09 322 P **P 23 24 43.6 +0.9**
baz=77
D28M Stokes Point 67.13 337 P **P 23 24 43.3 +0.7**
baz=77,SNR=6.1
I30M Mount Dempster 67.17 333 IAmb IAmb 23 24 50.8
comp=Z,15nm,1.0s
I30M Mount Dempster 67.17 333 P **P 23 24 42.7 -0.5**
baz=77,SNR=8.7
P32M Atlin 67.23 327 P **P 23 24 44.9 +1.3**
P32M Atlin 67.23 327 P **P 23 24 43.3 -0.3**
baz=77
BI02 San Fabin de 67.28 203 P **P 23 24 44.0 -0.1**
BI02 IAmb IAmb 23 24 51.5
comp=Z,10nm,1.0s
J30M Hart River 67.30 332 P **P 23 24 43.9 -0.1**
baz=77,SNR=41
G29M Pine Creek 67.43 335 IAmb IAmb 23 24 52.5
comp=Z,22nm,1.2s
G29M Pine Creek 67.43 335 P **P 23 24 44.8 +0.1**
baz=76
WHY Whitehorse 67.55 328 P **P 23 24 45.7 0.0**
baz=76
E28M Babbage River 67.58 337 IAmb IAmb 23 24 53.8
comp=Z,13nm,0.9s
E28M Babbage River 67.58 337 P **P 23 24 45.6 0.0**
baz=76,SNR=11
H29M Whitestone 67.74 334 P **P 23 24 47.0 +0.4**
baz=76,SNR=25
N31M Braeburn, Yuko 67.78 329 P **P 23 24 46.9 -0.1**
baz=76,SNR=21
D27M Malcolm River 67.92 338 P **P 23 24 48.2 +0.4**
baz=75,SNR=12
I29M Ogilvie Camp, 67.92 333 IAmb IAmb 23 24 56.0

comp=Z,22nm,1.1s
I29M Ogilvie Camp, 67.92 333 P P 23 24 47.9 0.0
baz=76,SNR=13
R32K Eaglecrest 67.95 325 P P 23 24 48.7 +0.6
baz=76
F28M Old Crow 67.95 336 IAmb IAmb 23 24 56.5
comp=Z,20nm,1.0s
F28M Old Crow 67.95 336 P P 23 24 48.0 0.0
baz=75
M30M Minto, Yukon 67.98 330 IAmb IAmb 23 24 56.2
comp=Z,22nm,1.2s
M30M Minto, Yukon 67.98 330 P P 23 24 48.8 +0.6
baz=76
K29M Barlow Dome 67.98 331 IAmb IAmb 23 24 56.8
comp=Z,16nm,1.1s
K29M Barlow Dome 67.98 331 P P 23 24 48.1 -0.2
baz=76,SNR=8.2
VRH Novokhopyorsk 67.99 43 *e*P **P 23 24 47.6 -0.8**
VRH pmax pmax
comp=Z,20nm,0.8s
O30N Mendenhall 68.10 328 P P 23 24 49.0 -0.1
baz=76,SNR=11
J29N Klondike Camp 68.12 332 P P 23 24 49.3 +0.2
baz=75
S32K Killisnoo 68.18 324 IAmb IAmb 23 24 58.0
comp=Z,10nm,0.9s
S32K Killisnoo 68.18 324 P P 23 24 48.7 -0.8
baz=75
N30M Aishikik Lake 68.40 329 IAmb IAmb 23 24 59.6
comp=Z,18nm,1.0s
N30M Aishikik Lake 68.40 329 P P 23 24 50.5 -0.4
baz=75,SNR=9.4
E27K Coleen River 68.43 336 IAmb IAmb 23 24 59.1
comp=Z,16nm,1.0s
E27K Coleen River 68.43 336 P P 23 24 51.1 +0.2
baz=74,SNR=9.6
L29M L29M 68.43 331 IAmb IAmb 23 24 59.1
comp=Z,13nm,0.9s
L29M L29M 68.43 331 P P 23 24 51.0 -0.1
baz=75,SNR=8.2
I28M Miner Creek 68.56 333 IAmb IAmb 23 24 59.7
comp=Z,15nm,1.1s
I28M Miner Creek 68.56 333 P P 23 24 51.4 -0.5
baz=74,SNR=6.5
SIT Sitka 68.68 324 P P 23 24 52.5 -0.1
baz=75
P30M Million Dollar 68.69 328 P P 23 24 51.9 -0.9
baz=74
SOC Sochi 68.71 51 *e*P **P 23 24 53.1 0.0**
SOC *e*PPP PPP 23 29 01.4
SOC *e*S **S 23 33 58.9 +2.4**
SOC *e*SS **SS 23 38 19.1 -1.6**
SOC pmax pmax
comp=Z,12nm,0.7s
SOC MLR MLR
comp=Z,102nm,16.0s
DAWY Dawson 68.72 332 P P 23 24 52.8 -0.1
baz=74
C27K Jago River 68.74 338 P P 23 24 53.0 +0.1
baz=72,SNR=18
M29M Somme Creek 68.76 330 IAmb IAmb 23 25 02.6
comp=Z,10.0nm,0.8s
M29M Somme Creek 68.76 330 P P 23 24 53.2 0.0
baz=74,SNR=12
G27K Doyon Strip 68.84 335 IAmb IAmb 23 25 01.6
comp=Z,15nm,1.2s
G27K Doyon Strip 68.84 335 P P 23 24 53.4 -0.2
baz=73,SNR=6.6
VSLR Vesyoloye 68.96 51 *d i*P **P 23 24 54.9 +0.2**
VSLR pmax pmax
comp=Z,35nm,1.1s
H27K Steamboat Moun 68.97 334 P P 23 24 54.6 +0.2
baz=73,SNR=10
ARPR Arapgir-MALATY 69.00 56 IAmb IAmb 23 25 03.0
comp=Z,12nm,1.0s
BALJ Balqa 69.03 64 P P 23 24 56.1 +0.7
BALJ IAmb IAmb 23 25 03.8
comp=Z,15nm,1.1s
C26K Camden Bay 69.04 339 P P 23 24 55.2 +0.5
baz=71,SNR=23
YUK6 Outpost Mounta 69.13 329 P P 23 24 55.3 -0.4
baz=74,SNR=7.1
I27K Kandik River 69.19 334 P P 23 24 55.9 +0.1
baz=73,SNR=13
P29M Windy Craggy 69.20 327 IAmb IAmb 23 25 04.9
comp=Z,14nm,0.8s
P29M Windy Craggy 69.20 327 P P 23 24 56.0 +0.1
baz=74
EIL Elat 69.24 66 LR LR 23 54 46.4
comp=Z,151nm,20.9s,baz=248,slow=36
EGAK Eagle 69.25 333 IAmb IAmb 23 25 04.1
comp=Z,13nm,1.1s
EGAK Eagle 69.25 333 P P 23 24 55.3 -0.7
baz=73,SNR=5.4
O29M Mount Kennedy 69.41 328 P P 23 24 57.4 +0.1
baz=73
F26K Sheenjek River 69.49 336 P P 23 24 57.4 -0.2
baz=71,SNR=27
G26K Porcupine Rive 69.60 335 P P 23 24 58.0 -0.2
baz=71,SNR=10
YUK8 Steele Glacier 69.68 329 P P 23 24 59.2 0.0
baz=73
D25K Kavik River 69.72 338 P P 23 24 59.6 +0.6
baz=70,SNR=20
BMAR Burnt Mountain 69.74 336 P P 23 24 59.6 +0.5
YUK3 Moose Creek 69.85 330 P P 23 25 00.8 +0.6
baz=72
K27K Chicken 69.86 332 IAmb IAmb 23 25 08.0
comp=Z,17nm,1.1s
K27K Chicken 69.86 332 P P 23 25 00.1 +0.3
baz=72
I26K Coal Creek Min 69.89 334 P P 23 25 00.1 +0.1
baz=71
H09N1 TRISTAN DA CUN 69.97 153 T T 00 41 20.8
SNR=2.6
GO06 Curarrehue 69.98 202 P P 23 25 00.7 -0.2
GO06 IAmb IAmb 23 25 02.9
comp=Z,42nm,1.9s
H09W1 TRISTAN DA CUN 69.99 153 T T 00 41 12.2
SNR=12
PNL Peninsula 70.00 327 P P 23 25 00.9 +0.1
baz=72
BCPM Bancas Point 70.02 328 P P 23 25 01.7 +0.8
BCPM IAmb IAmb 23 25 10.1
comp=Z,24nm,1.1s
O28M Mount Upton 70.04 329 P P 23 25 00.9 -0.5
baz=72,SNR=5.1
BCAR Beaver Creek A 70.04 331 P P 23 25 00.7 -0.3
L27K Beaver Creek, 70.06 331 IAmb IAmb 23 25 09.7
comp=Z,20nm,1.1s
L27K Beaver Creek, 70.06 331 P P 23 25 01.5 +0.4
baz=72,SNR=13
F25K Christian Rive 70.07 336 P P 23 25 01.2 0.0
baz=70,SNR=15
KIRV Kirov 70.20 34 LR LR 23 52 43.8
comp=Z,174nm,19.5s,baz=297,slow=33
KIRV Kirov 70.20 34⇑ *e*P **P 23 25 00.9 -1.1**
PINM Pinnacle 70.28 328 P P 23 25 02.5 -0.1
baz=72
M27K Edge Creek, AK 70.30 331 IAmb IAmb 23 25 11.4
comp=Z,24nm,1.1s
M27K Edge Creek, AK 70.30 331 P P 23 25 02.7 -0.1
baz=71,SNR=8.4
J26L Joseph Creek 70.32 333 IAmb IAmb 23 25 11.0
comp=Z,12nm,1.1s
J26L Joseph Creek 70.32 333 P P 23 25 02.0 -0.8
baz=71,SNR=6.4
C24K Franklin Bluff 70.34 339 P P 23 25 02.3 -0.4
baz=68
CTGM Chitina Glacie 70.51 329 IAmb IAmb 23 25 12.6
comp=Z,19nm,0.9s
CTG Chitna Glacier 70.51 329 P P 23 25 03.9 -0.2
baz=71
G25K Bearman Lake 70.53 336 P P 23 25 04.0 +0.1
baz=69
TABL Table Mountain 70.59 328 P P 23 25 05.8 +1.1
D24K Happy Valley 70.60 338 P P 23 25 04.5 +0.2
D24K IAmb IAmb 23 25 13.1
comp=Z,14nm,0.9s
D24K Happy Valley 70.60 338 P P 23 25 04.6 +0.3
baz=68
H25L Birch Creek 70.60 335 P P 23 25 04.4 +0.1
baz=69
KIV Kislovodsk 70.65 50 P P 23 25 06.0 +0.7
KIV IAmb IAmb 23 25 13.5
comp=Z,17nm,1.0s
KIV Kislovodsk 70.65 50 ⇑P P 23 25 05.9 +0.7
KIV Kislovodsk 70.65 50 *e*P **P 23 25 05.1 -0.1**
KIV pmax pmax
comp=Z,14nm,1.0s
SCRK Sand Creek 70.67 333 P P 23 25 04.9 -0.1
SCRK Sand Creek 70.67 333 P P 23 25 03.7 -1.3
baz=70
SHA1 Shidzhatmaz 70.70 50 *d i*P **P 23 25 06.2 +0.5**
PLCA Paso Flores 70.73 200 IAmb IAmb 23 25 12.6
comp=Z,11nm,0.9s
PLCA Paso Flores 70.73 200 P P 23 25 04.5 -1.0
comp=Z,6.7nm,0.8s,baz=21,slow=6.1,SNR=23
PLCA LR LR 23 56 01.5
comp=Z,149nm,19.1s,baz=190,slow=36
comp=Z,6.7nm,0.8s
PLCA Paso Flores 70.73 200 *e*P **P 23 25 04.8 -0.7**
PRP Porcupine Dome 70.75 334 P P 23 25 05.2 -0.2
baz=69
GRNC Granite Creek 70.78 329 P P 23 25 06.5 +0.7
M26K Nabesna, AK 70.78 331 IAmb IAmb 23 25 13.9
comp=Z,12nm,1.0s
M26K Nabesna, AK 70.78 331 P P 23 25 06.2 +0.5
baz=70
KBZ Khabaz 70.87 50 P P 23 25 06.3 -0.1
comp=Z,8.4nm,0.9s,baz=305,slow=3.8,SNR=17
comp=Z,8.4nm,0.9s
KBZ Khabaz 70.87 50 *de*P **P 23 25 07.0 +0.6**
KBZ pmax pmax
comp=Z,11nm,1.0s
E24K Your Creek 70.90 337 P P 23 25 06.3 +0.1
baz=68,SNR=13
F24K Squaw Lake 70.90 337 IAmb IAmb 23 25 16.1
comp=Z,20nm,0.9s
F24K Squaw Lake 70.90 337 P P 23 25 06.5 +0.2
baz=68,SNR=14
C23K Itkillik River 70.91 339 P P 23 25 06.2 0.0
baz=66,SNR=13
J25K Salcha River, 71.01 333 P P 23 25 07.2 +0.3
baz=69,SNR=5.8
TOLK Toolik Lake Re 71.05 338 IAmb IAmb 23 25 15.9
comp=Z,22nm,1.2s
TOLK Toolik Lake Re 71.05 338 P P 23 25 07.3 +0.1
baz=67,SNR=7.0
MESA MESA 71.05 328 P P 23 25 07.5 +0.1
baz=70
G24K Hadweenzic Riv 71.06 336 P P 23 25 07.1 -0.1
baz=68,SNR=10
MCARA McCarthy VSAT 71.14 330 P P 23 25 07.8 +0.1
baz=70
BELG Belogornoye 71.16 40 LR LR 23 54 42.9
comp=Z,208nm,18.2s,baz=286,slow=34
BELG Belogornoye 71.16 40 *d i*P **P 23 25 07.1 -0.9**
BELG pmax pmax
comp=Z,5.0nm,1.0s
TGL Tana Glacier 71.27 329 P P 23 25 09.2 +0.5
D23K Nanushuk River 71.29 338 P P 23 25 07.8 -0.7
baz=66
E23K Chandalar 71.30 337 P P 23 25 08.3 -0.4
baz=66,SNR=7.1
CRQE Cirque 71.39 329 P P 23 25 08.8 -0.6
baz=70,SNR=5.2
NCK Nalchik 71.42 50⇑ *i*P **P 23 25 11.0 +1.2**
NCK pmax pmax
comp=Z,13nm,0.6s
LL04 Puerto Octay 71.48 202 IAmb IAmb 23 25 16.7
comp=Z,17nm,1.1s
H24K Noodor Dome 71.54 335 P P 23 25 10.2 0.0
H24K IAmb IAmb 23 25 18.8
comp=Z,15nm,1.1s
H24K Noodor Dome 71.54 335 P P 23 25 10.0 -0.1
baz=67,SNR=6.0
IL31 71.56 334 IAmb IAmb 23 25 18.7
comp=Z,23nm,1.1s
ILAR Eielson Array 71.56 334 P P 23 25 10.3 +0.1
ILAR Eielson Array 71.56 334 P P 23 25 09.8 -0.4
comp=Z,5.5nm,0.8s,baz=68,slow=4.6,SNR=65
ILAR LR LR 23 57 16.6
comp=Z,187nm,18.1s,baz=70,slow=36
comp=Z,5.5nm,0.8s
ILAR Eielson Array 71.56 334 P P 23 25 10.3 +0.1
B22K Teshekpuk Lake 71.57 340 P P 23 25 11.1 +0.9
B22K Teshekpuk Lake 71.57 340 P P 23 25 10.3 +0.1
baz=64
POKR Poker Plat Res 71.64 334 P P 23 25 10.4 -0.3
baz=68
PAX Paxson 71.65 332 P P 23 25 09.8 -1.1
baz=68,SNR=6.3
HDA Harding Lake 71.72 333 IAmb IAmb 23 25 19.0
comp=Z,30nm,1.7s
HDA Harding Lake 71.72 333 P P 23 25 11.1 -0.1
baz=68
HARP HAARP 71.72 331 P P 23 25 10.7 -0.6
baz=69
A22K Sinclair Lake 71.73 341 P P 23 25 10.6 -0.5
baz=63
N25K Chitina, Valde 71.77 330 IAmb IAmb 23 25 20.1
comp=Z,26nm,1.2s
N25K Chitina, Valde 71.77 330 P P 23 25 11.6 0.0
baz=69,SNR=5.2
COLD Coldfoot 71.84 337 P P 23 25 12.0 +0.2
baz=66,SNR=5.5
COLA College 71.90 334⇑ *i*P **P 23 25 12.5 +0.3**
COLA pmax pmax
comp=Z,9.0nm,0.9s
D22K Ayikyak River 71.98 339 P P 23 25 13.2 +0.5
baz=64,SNR=15
G23K Bananza Creek 71.99 336 P P 23 25 12.9 +0.1
baz=66,SNR=19
KARS Kars 71.99 53 P P 23 25 14.0 +0.5
KARS Kars 71.99 53 P P 23 25 14.0 +0.5
KARS pmax pmax
comp=Z,34nm,0.9s
BMRM Bremner River 72.00 330 P P 23 25 13.3 +0.2
baz=69
MDM Murphy Dome 72.02 334 IAmb IAmb 23 25 21.6
comp=Z,26nm,1.3s
H23K Yukon River 72.17 335 P P 23 25 14.0 +0.1
baz=66,SNR=16
B21K Ikpikpuk River 72.26 340 P P 23 25 14.8 +0.5
baz=63,SNR=13
KLU Klutina 72.40 330 P P 23 25 14.8 -0.6
baz=68,SNR=8.4
F22K John River 72.41 337 P P 23 25 14.5 -0.8
baz=64
DHY Denali Highway 72.41 332 IAmb IAmb 23 25 23.4
comp=Z,15nm,1.1s
DHY Denali Highway 72.41 332 P P 23 25 14.6 -1.0
baz=67
G22K Bettles 72.43 337 P P 23 25 15.8 +0.4
baz=65
NEA2 Nenana 72.50 334 IAmb IAmb 23 25 23.8
comp=Z,20nm,1.2s
NEA2 Nenana 72.50 334 P P 23 25 14.7 -1.2
baz=66
C21K Knifeblade Rid 72.53 339 P P 23 25 15.8 -0.2
baz=62,SNR=5.8
E21K Killik River 72.60 339 IAmb IAmb 23 25 24.9
comp=Z,14nm,1.1s
E21K Killik River 72.60 339 P P 23 25 16.5 +0.1
baz=63
EYAK Cordova Ski Ar 72.68 329 P P 23 25 17.1 +0.1
baz=68
WAT6 Susitna Watana 72.76 332 P P 23 25 17.2 -0.5
baz=66
MCK McKinley 72.79 333 P P 23 25 17.3 -0.4
baz=66
LL01 San Ignacio de 72.81 201 IAmb IAmb 23 25 27.7
comp=Z,20nm,1.4s
H22K Ishtalitna Cre 72.83 336 P P 23 25 17.5 -0.4
baz=64,SNR=13
B20K Meade River 72.85 341 P P 23 25 19.0 +1.2
B20K Meade River 72.85 341 P P 23 25 17.2 -0.6
baz=60,SNR=6.1
SCM Sheep Creek Mo 72.89 331 P P 23 25 17.7 -0.6
baz=67
MLY Manley 72.96 335 P P 23 25 18.4 -0.3
baz=65,SNR=6.5
F21K Alatna River 72.99 337 P P 23 25 19.1 +0.4
F21K Alatna River 72.99 337 P P 23 25 18.5 -0.2
baz=63
WAT1 Susitna Watana 73.01 332 P P 23 25 18.7 -0.2
baz=66
M23K Glacier View 73.08 331 P P 23 25 19.5 +0.2
baz=66
D20K Etivluk River 73.32 339 P P 23 25 20.9 +0.2
baz=61,SNR=14
G21K Allakaket 73.32 337 IAmb IAmb 23 25 30.1
comp=Z,29nm,1.1s
G21K Allakaket 73.32 337 P P 23 25 21.4 +0.7
baz=63,SNR=13
SML Sawmill 73.33 331 P P 23 25 21.4 +0.5
baz=66
GNI Garni 73.35 53 P P 23 25 21.9 +0.4
GNI IAmb IAmb 23 25 30.4
comp=Z,24nm,0.9s
GNI Garni 73.35 53 *d i*P **P 23 25 22.0 +0.4**
GNI pmax pmax
comp=Z,31nm,1.7s
Q23K Middleton Isla 73.40 328 P P 23 25 21.5 +0.3
baz=67
E20K Nigu River 73.41 339 P P 23 25 21.6 +0.3
baz=61,SNR=7.9
BPAW Bear Paw Mtn. 73.46 334 IAmb IAmb 23 25 31.1
comp=Z,15nm,1.2s
BPAW Bear Paw Mtn. 73.46 334 P P 23 25 21.7 +0.1
baz=64,SNR=8.5
H21K Melozitna Rive 73.46 336 IAmb IAmb 23 25 30.3
comp=Z,17nm,1.1s
H21K Melozitna Rive 73.46 336 P P 23 25 21.8 +0.2
baz=63,SNR=9.7
KNK Knik Glacier 73.55 331 P P 23 25 22.2 0.0
baz=66
GHO Glory Hole Cre 73.60 331 P P 23 25 22.6 +0.1
GHO IAmb IAmb 23 25 30.5
comp=Z,15nm,1.0s
PWL Port Wells 73.72 330 P P 23 25 22.5 -0.7
baz=66
F20K Avaraart Lake 73.85 338 P P 23 25 24.0 +0.3
baz=61,SNR=5.4
A19K Wainwright 73.89 341 P P 23 25 24.4 +0.5
baz=57
CUT Chulitna 73.91 332 P P 23 25 24.4 +0.2
baz=64
D19K Kuna River 73.91 339 P P 23 25 24.3 +0.1
baz=59,SNR=12
C19K Lookout Ridge 74.05 340 IAmb IAmb 23 25 34.3
comp=Z,19nm,1.1s
C19K Lookout Ridge 74.05 340 P P 23 25 25.2 +0.2
baz=58,SNR=6.3
M22K Willow 74.13 331 P P 23 25 25.9 +0.5
M22K Willow 74.13 331 P P 23 25 25.6 +0.1
baz=64
E19K Redstone River 74.15 338 P P 23 25 25.9 +0.3
baz=60,SNR=7.0
NAX Nakhchivan 74.23 54 P P 23 25 26.9 +0.2
RC01 Rabbit Creek A 74.25 331 P P 23 25 26.3 +0.1
baz=64
GANJ Ganja 74.30 52 P P 23 25 27.5 +0.5
H20K Anotleneega Mo 74.30 336 P P 23 25 26.6 +0.1
baz=61,SNR=11
I20K Naaghedeneel 74.49 335 P P 23 25 27.6 +0.1
baz=62
SUA Susitna One 74.52 331 P P 23 25 28.7 +0.8
baz=64
SEW Seward 74.55 330 P P 23 25 28.2 +0.3
baz=64
B18K Kokolik River 74.57 341 P P 23 25 27.1 -0.9
baz=56
SKT Skwentna 74.62 332 IAmb IAmb 23 25 36.2
comp=Z,18nm,1.2s
SKT Skwentna 74.62 332 P P 23 25 28.7 +0.3
baz=63
F19K Shaleruckik Mo 74.65 338 P P 23 25 28.5 0.0
baz=59
J20K Nowinta River 74.66 335 P P 23 25 28.2 -0.4
baz=62,SNR=6.0
SEKA Sheki 74.72 51 P P 23 25 30.0 +0.6
G19K Purcell Mounta 74.77 337 IAmb IAmb 23 25 38.5
comp=Z,28nm,1.2s
G19K Purcell Mounta 74.77 337 P P 23 25 29.4 +0.2
baz=60,SNR=6.9
C18K Utukok River 74.79 340 IAmb IAmb 23 25 38.8
comp=Z,37nm,1.3s
C18K Utukok River 74.79 340 P P 23 25 29.4 +0.1
baz=57,SNR=5.7
MNGR Mingechevir, A 74.79 52 P P 23 25 30.1 +0.3
H19K Roundabout Mou 74.86 336 P P 23 25 28.8 -0.8
baz=60
K20K Telida 75.02 334 IAmb IAmb 23 25 38.8
comp=Z,24nm,1.1s
K20K Telida 75.02 334 P P 23 25 29.8 -0.9
baz=61,SNR=6.5
SPU Mount Spurr 75.21 331 IAmb IAmb 23 25 40.1
comp=Z,22nm,1.1s
E18K Tukpahlearik C 75.28 339 IAmb IAmb 23 25 40.8
comp=Z,17nm,1.2s
E18K Tukpahlearik C 75.28 339 P P 23 25 31.8 -0.2
baz=57
J19K Poorman 75.31 335 IAmb IAmb 23 25 40.8
comp=Z,16nm,1.1s
J19K Poorman 75.31 335 P P 23 25 32.1 -0.3
baz=60,SNR=7.4
M20K Styx River 75.34 332 IAmb IAmb 23 25 40.8
comp=Z,25nm,1.0s
M20K Styx River 75.34 332 P P 23 25 31.6 -1.1
baz=62,SNR=9.6
L20K Farewell, AK 75.37 333 P P 23 25 31.5 -1.2
baz=61,SNR=8.6
F18K Selawik 75.41 338 P P 23 25 33.0 +0.2
baz=58
G18K Tagagawik 75.45 337 P P 23 25 34.3 +1.2
G18K Tagagawik 75.45 337 P P 23 25 33.2 +0.1
baz=58
C17K DeLong Mountai 75.49 340 P P 23 25 33.5 +0.2
baz=55,SNR=5.1
ARU Arti 75.58 34 P P 23 25 34.4 +0.4
ARU IAmb IAmb 23 25 35.3
comp=Z,23nm,1.6s
ARU Arti 75.58 34 LR LR 23 56 28.8
comp=Z,150nm,18.7s,baz=284,slow=34
ARU Arti 75.58 34 *d i*P **P 23 25 33.2 -0.8**
ARU 23 25 51.3
ARU S **S 23 35 15.6 +0.6**
ARU 23 35 59.7
ARU SS **SS 23 40 00.0 -5.1**
ARU pmax pmax
comp=Z,17nm,1.6s
RDOG Red Dog Mine 75.65 340 P P 23 25 34.8 +0.6
baz=55
HOM Homer 75.73 330 P P 23 25 34.8 0.0
baz=63
H18K Honhosa River 75.74 336 P P 23 25 34.7 -0.1
baz=58
M19K Big River Lodg 75.86 333 IAmb IAmb 23 25 43.5
comp=Z,23nm,1.1s
M19K Big River Lodg 75.86 333 P P 23 25 35.4 -0.1
baz=61
E17K Hotham Inlet 75.86 339 P P 23 25 35.4 0.0
baz=56
D17K Noatak River 75.91 340 P P 23 25 36.0 +0.4
baz=55
L19K White Mountain 75.91 333 P P 23 25 35.7 -0.1
baz=60,SNR=8.4
O20K Slope Mountain 75.97 331 P P 23 25 36.4 +0.1
baz=62
J18K Innoko River 76.00 335 IAmb IAmb 23 25 45.0
comp=Z,18nm,1.3s
J18K Innoko River 76.00 335 P P 23 25 36.2 -0.1
baz=59
C16K Lisburne Hills 76.25 341 P P 23 25 37.5 -0.1
baz=53
G17K Kiwalik Mounta 76.36 337 P P 23 25 38.5 +0.2
baz=56
H17K Granite Mounta 76.41 337 IAmb IAmb 23 25 48.0
comp=Z,21nm,1.2s
H17K Granite Mounta 76.41 337 P P 23 25 38.8 +0.2
baz=57,SNR=6.6
N19K Bonanza Creek 76.43 332 P P 23 25 38.9 0.0
baz=60
SVE Sverdlovsk 76.43 33 *e*P **P 23 25 39.2 +0.4**
SVE pmax pmax
comp=Z,16nm,1.6s
M18K Stony River 76.65 333 P P 23 25 39.5 -0.5
baz=60,SNR=7.6
LKRN Lenkeran, Azer 76.78 53 P P 23 25 41.5 +0.3
J17K VABM Dome 76.94 335 IAmb IAmb 23 25 50.6
comp=Z,26nm,1.4s
J17K VABM Dome 76.94 335 P P 23 25 41.4 -0.2
baz=57,SNR=5.4
G16K Koyuk River 77.00 338 IAmb IAmb 23 25 50.8
comp=Z,17nm,1.2s
G16K Koyuk River 77.00 338 P P 23 25 41.1 -0.8
baz=55
K17K Iditarod 77.01 334 IAmb IAmb 23 25 51.2
comp=Z,30nm,1.1s
K17K Iditarod 77.01 334 P P 23 25 41.9 -0.1
baz=58,SNR=6.0

KDAK	Kodiak Island	77.05	328	P	P	23 25 42.2	-0.1
	baz=61						
KDAK	Kodiak Island	77.05	328	LR	LR	00 01 39.4	
	comp=Z,155nm,18.1s,baz=79,slow=37						
N18K	Kilae Creek	77.09	332	IAmb	IAmb	23 25 50.9	
	comp=Z,15nm,1.1s						
O18K	Koktuh Hills	77.22	331	P	P	23 25 42.9	-0.4
	baz=60						
L17K	Donlin	77.32	334	P	P	23 25 43.6	-0.2
	baz=58,SNR=6.2						
M17K	Holitna River	77.36	333	IAmb	IAmb	23 25 52.3	
	comp=Z,23nm,1.3s						
M17K	Holitna River	77.36	333	P	P	23 25 44.0	0.0
	baz=58						
F15K	North Star Dit	77.59	338	IAmb	IAmb	23 25 54.5	
	comp=Z,30nm,1.4s						
F15K	North Star Dit	77.59	338	P	P	23 25 46.0	+0.7
	baz=53						
OHAK	Old Harbor	77.66	328	P	P	23 25 46.0	+0.4
	baz=61						
G15K	Niukluk	77.81	338	P	P	23 25 46.5	+0.1
	baz=53						
AKTO	Aktyubinsk	77.92	40	LR	LR	23 58 15.1	
	comp=Z,270nm,19.6s,baz=214,slow=34						
L16K	Owhat River	78.02	334	P	P	23 25 49.1	+1.4
L16K	Owhat River	78.02	334	P	P	23 25 48.4	+0.7
	baz=57						
O17K	Koliganek Bris	78.08	331	P	P	23 25 48.6	+0.6
	baz=58						
M16K	Timber Creek	78.19	333	P	P	23 25 49.0	+0.3
	baz=57						
F14K	Arctic Creek	78.29	339	P	P	23 25 49.9	+0.9
	baz=52						
Q17K	Contact Creek	78.34	330	P	P	23 25 49.3	-0.3
	baz=59						
N16K	Nishlik Lake	78.41	332	P	P	23 25 50.3	+0.4
	baz=57						
K15K	Wolf Creek Mou	78.49	335	P	P	23 25 50.5	+0.2
	baz=55						
O16K	Kokwok River B	78.61	332	P	P	23 25 51.0	+0.1
	baz=57						
NRIK	Noril'sk	78.75	15	P	P	23 25 51.0	-0.5
	comp=Z,2.0nm,0.7s,baz=309,slow=7.2,SNR=7.0						
	comp=Z,2.0nm,0.7s						
NRIK	Noril'sk	78.75	15	*c iP*	P	23 25 53.1	+1.6
NRIK				pmax	pmax		
	comp=Z,15nm,1.6s						
L15K	Ungalak Mounta	78.83	334	P	P	23 25 51.8	-0.3
	baz=55						
R17L	Mt. Peulik Vol	78.88	329	P	P	23 25 52.1	-0.4
	baz=58						
J14K	Nanvaranak Lak	78.99	336	P	P	23 25 53.8	+0.9
	baz=53						
M15K	Kasigluk River	79.08	333	P	P	23 25 53.6	+0.1
	baz=55						
N15K	Kwethluk River	79.13	333	P	P	23 25 54.4	+0.5
	baz=56						
L14K	Kuka Creek	79.49	334	P	P	23 25 56.5	+0.8
L14K				IAmb	IAmb	23 26 05.0	
	comp=Z,37nm,1.5s						
L14K	Kuka Creek	79.49	334	P	P	23 25 56.1	+0.4
	baz=54						
M14K	Bethel	79.56	334	P	P	23 25 56.7	+0.6
M14K	Bethel	79.56	334	P	P	23 25 57.5	+1.4
	baz=54						
ABKAR	Akbulak array	79.57	40	P	P	23 25 56.4	0.0
ABKAR	Akbulak array	79.57	40	IAmb	IAmb	23 26 04.5	
	comp=Z,5.8nm,0.9s						
K13K	Kusilvak Mount	79.89	335	P	P	23 25 58.3	+0.3
K13K				IAmb	IAmb	23 26 07.8	
	comp=Z,27nm,1.2s						
K13K	Kusilvak Mount	79.89	335	P	P	23 25 58.3	+0.3
	baz=52						
O14K	Tigyukauivet M	80.14	332	P	P	23 26 00.1	+0.8
	baz=55						
RAYN	Ar Rayn	80.28	69	P	P	23 26 01.4	+0.6
FURI	Furi	80.37	85	LR	LR	23 59 34.6	
	comp=Z,250nm,20.2s,baz=230,slow=34						
S14K	Fog Glacier	81.08	329	P	P	23 26 05.6	+1.0
	baz=56						
GAMB	Gambell	81.15	339	P	P	23 26 04.8	+0.2
	baz=47						
TIXI	Tiksi	82.34	2⇓	*eP*	P	23 26 10.8	+0.1
TIXI				pmax	pmax		
	comp=Z,18nm,0.9s						
ATD	Arta Tunnel	82.97	81	LR	LR	00 00 02.4	
	comp=Z,8.5nm,22.0s,baz=246,slow=33						
BRVK	Borovoye	83.14	33	P	P	23 26 15.7	+0.4
BRVK	Borovoye	83.14	33	P	P	23 26 15.7	+0.4
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BVAR	Borovoye Array	83.21	33	P	P	23 26 14.9	-0.7
	comp=Z,4.6nm,0.8s,baz=297,slow=4.3,SNR=26						
BVAR				LR	LR	00 01 27.0	
	comp=Z,95nm,18.2s,baz=286,slow=34						
	comp=Z,4.6nm,0.8s						
BVAR	Borovoye Array	83.21	33	P	P	23 26 15.0	-0.7
BILL	Bilibino	83.26	349⇑	*eP*	P	23 26 15.8	+0.2
BILL				*e*		23 26 22.7	
BILL				*e*		23 29 24.5	
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,104nm,22.0s						
LBTB	Lobatse	84.94	121	LR	LR	23 59 09.5	
	comp=Z,197nm,19.6s,baz=346,slow=32						
SUR	Sutherland	85.45	129	LR	LR	23 57 54.7	
	comp=Z,108nm,21.6s,baz=345,slow=31						
BOSA	Boshof	86.58	124	LR	LR	23 57 46.4	
	comp=Z,186nm,21.7s,baz=337,slow=30						
KURK	Kurchatov	88.65	32	P	P	23 26 43.2	+0.6
KURK	Kurchatov	88.65	32	P	P	23 26 43.2	+0.6
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KURBB	Kurchatov Arra	88.67	32	P	P	23 26 42.1	-0.6
	comp=Z,1.3nm,0.8s,baz=314,slow=4.9,SNR=10						
KURBB				LR	LR	00 04 32.4	
	comp=Z,145nm,19.0s,baz=186,slow=34						
	comp=Z,1.3nm,0.8s						
ZAA0	Zalesovo Array	89.15	27	IAmb	IAmb	23 26 45.7	
	comp=Z,10.0nm,1.2s						
ZALV	Zalesovo Beam	89.15	27	P	P	23 26 44.2	-0.6
ZALV	Zalesovo Beam	89.15	27	P	P	23 26 44.0	-0.8
	comp=Z,4.5nm,0.9s,baz=308,slow=5.5,SNR=17						
	comp=Z,4.5nm,0.9s						
ZALV	Zalesovo Beam	89.15	27	*i P*	P	23 26 44.9	0.0
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SEY	Seymchan	90.13	352⇓	*eP*	P	23 26 49.5	+0.2
SEY				pmax	pmax		
	comp=Z,16nm,1.4s						
SIMJ	Simiganj	90.67	46	P	P	23 26 52.4	-0.1
CHGR	Chuyangaron	90.77	46	P	P	23 26 53.4	+0.5
CHGR	Chuyangaron	90.77	46	P	P	23 26 53.4	+0.5
CHGR				pmax	pmax		
	comp=Z,15nm,0.9s						
WSAR	Wadi Sarin	91.19	63	LR	LR	00 10 48.9	
	comp=Z,144nm,19.2s,baz=276,slow=38						
AAK	Ala-Archa	91.66	40	LR	LR	00 06 02.2	
	comp=Z,230nm,20.4s,baz=314,slow=34						
MKAR	Makanchi Array	93.09	33	P	P	23 27 02.7	-0.7
	comp=Z,0.7nm,0.9s,baz=300,slow=2.4,SNR=3.9						
	comp=Z,0.7nm,0.9s						
SHEM	Shemya Is, Ala	94.39	337	LR	LR	00 09 21.8	
	comp=Z,121nm,21.7s,baz=294,slow=35						
BOD	Bodaibo	94.46	11	*eP*	P	23 27 08.5	-0.9
BOD				pmax	pmax		
	comp=Z,13nm,2.1s						
KSH	Kashi	94.48	42	P	P	23 27 11.5	+1.4
KSH				sP	pwP	23 27 18.0	+2.0
KSH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KSH				LR	LR		
	comp=N,450nm,19.2s						
KSH				LR	LR		
	comp=E,360nm,18.2s						
KSH				LR	LR		
	comp=Z,310nm,19.6s						
WMQ	Urumqi	97.88	33	*eP*	Pdif	23 27 27.3	+1.9
WMQ				LR	LR		
	comp=Z,84nm,20.3s						
ULN	Ulaanbaatar	102.08	19⇑	*eP*	Pdif	23 27 46.2	+2.1
ULN				pmax	pmax		
	comp=Z,4.0nm,1.6s						
PPT2	Papeete2	110.45	260	*e*LR	LR	00 04 55.5	
	comp=Z,176nm,35.2s						
PPT2				*e*LR	LR	00 04 56.5	
	comp=Z,295nm,34.0s						
TBI	Tubuai	112.40	254	*e*LR	LR	00 05 57.7	
	comp=Z,1μm,35.8s						
CD2	Chengdu	115.79	30	PKP	PKiKP	23 32 32.0	-0.5
NJ2	Nanjing	120.04	16	*eP*	PKPdf	23 32 40.5	-0.1
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CMAR	Chiang Mai Arr	123.38	42	PKP	PKPdf	23 32 46.4	-1.0
	comp=Z,1.5nm,0.9s,baz=294,slow=2.4,SNR=7.4						
VNDA	Vanda	127.08	187	PKP	PKPdf	23 32 52.6	-0.1
	comp=Z,1.7nm,1.0s,baz=152,slow=1.9,SNR=5.9						
DZM	Mont Dzumac	151.17	271	*e*LR	LR	00 23 50.3	
	comp=Z,159nm,25.1s						
DZM	Mont Dzumac	151.17	271	PKPbc	PKPbc	23 33 43.6	+0.1
	comp=Z,17nm,0.9s,baz=88,slow=9.1,SNR=9.4						
WRA	Warramunga Arr	173.75	7		PKPab	23 35 29.3	+0.1
WRA	Warramunga Arr	173.75	7	PKPab	PKPab	23 35 28.0	-1.2
	comp=Z,3.2nm,1.1s,baz=352,slow=4.6,SNR=8.4						
WRA	Warramunga Arr	173.75	7	PKP2	PKPab	23 35 29.3	+0.1
ASAR	Alice Springs	177.26	24	PKP	PKPdf	23 33 59.1	-1.4
	comp=Z,0.9nm,1.0s,baz=56,slow=0.8,SNR=4.9						
ASAR				PKPab	PKPab	23 35 45.4	+0.6
	comp=Z,1.0nm,0.9s,baz=340,slow=3.7,SNR=5.1						

*IDC **26** 23:14:02.8±7.4, 10°.62S×161°.72E, h125km±76km, mb3.4/7, mbtmp3.8/9, MS3.4/5, Error ellipse: s-maj=42.6km s-min=26.7km az=160.0*

ISC 26 23:13:59.9±0.9, 10°.56S±0°.10×161°.8E±0°.1, h100km, n19, σ1§27/9, mb3.7/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.29	159	P	Pn	23 16 53.2	+1.6
	2.0nm,0.3s,baz=343,slow=19,SNR=17						
DZM				S	Sn	23 19 04.8	-2.1
	4.6nm,0.8s,baz=56,slow=13,SNR=2.1						
DZM				LR	LR	23 20 43.5	
	comp=Z,186nm,19.7s,baz=108,slow=33						
CTA	Charters Tower	17.68	236	P	Pn	23 18 01.0	+1.0
	0.7nm,1.0s,baz=67,slow=10,SNR=5.1						
CTA				LR	LR	23 24 11.4	
	comp=Z,7.6nm,18.5s,baz=78,slow=34						
WRA	Warramunga Arr	28.01	247	P	P	23 19 41.6	-0.2
	0.7nm,0.8s,baz=77,slow=9.0,SNR=7.7						
	0.7nm,0.8s						
STKA	Stephens Creek	28.24	218	LR	LR	23 30 57.5	
	comp=Z,97nm,18.0s,baz=13,slow=36						
GUMO	Guam	29.27	325	LR	LR	23 30 52.5	
	comp=Z,48nm,20.4s,baz=196,slow=34						
H11S2	WAKE ISLAND Hy	29.28	10	T	T	23 50 58.1	
	baz=188,slow=76,SNR=8.6						
H11S3	WAKE ISLAND Hy	29.28	10	T	T	23 50 59.2	
	baz=188,slow=76,SNR=8.0						
H11S1	WAKE ISLAND Hy	29.30	10	T	T	23 50 59.5	
	baz=188,slow=76,SNR=10						
ASAR	Alice Springs	29.57	240	P	P	23 19 54.6	-1.0
	0.3nm,0.4s,baz=67,slow=10,SNR=2.7						
ASAR				LR	LR	23 29 55.4	
	comp=Z,118nm,18.6s,baz=56,slow=32						
	0.3nm,0.4s						
H11N1	WAKE ISLAND Hy	30.51	10	T	T	23 52 29.9	
	baz=192						
H11N3	WAKE ISLAND Hy	30.52	10	T	T	23 52 29.9	
	baz=192						
H11N2	WAKE ISLAND Hy	30.53	10	T	T	23 52 29.9	
	baz=192						
DAV	Davao City (W)	40.05	294	LR	LR	23 38 33.5	
	comp=Z,47nm,18.3s,baz=214,slow=37						
JHJ	Hachijo jima 2	48.23	335	P	P	23 22 30.2	-0.5
	254nm,1.0s,baz=135,slow=5.7,SNR=1.9						
KSRS	Korea Array	57.34	328	P	P	23 23 38.5	+0.9
	0.5nm,0.4s,baz=154,slow=6.9,SNR=1.6						
	0.5nm,0.4s						
SONM	Songino Array	76.00	325	P	P	23 25 37.0	+0.7
	0.8nm,0.8s,baz=138,slow=5.1,SNR=3.7						
	0.8nm,0.8s						
ILAR	Eielson Array	84.34	20	P	P	23 26 20.0	-0.6
	1.0nm,1.0s,baz=260,slow=5.2,SNR=1.0						
	1.0nm,1.0s						
NVAR	Mina Array Bea	88.73	51	P	P	23 26 43.5	+0.7
	0.7nm,0.7s,baz=240,slow=5.0,SNR=3.8						
	0.7nm,0.7s						
MKAR	Makanchi Array	90.51	318	P	P	23 26 50.6	-0.1
	0.3nm,0.5s,baz=86,slow=6.4,SNR=5.8						
	0.3nm,0.5s						

AUST 26 23:21:55.5±0.4, 35°.31S×138°.42E, h10km, Mjma3.5/9, ML2.6/8, MLv3.1/9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDAN	Sedan	1.10	44	P	Pb	23 22 15.9	-0.7
	0.1nm,SNR=5.6						
SDAN				S	Sg	23 22 30.6	-0.2
KELC	Kelly Hill Cav	1.40	241	P	Pn	23 22 20.3	-0.9
	0.2nm,SNR=6.1						
KELC				S	Sn	23 22 39.6	-0.1
HTT	Hallett	1.92	13	P	Pn	23 22 28.9	+0.6
	0.1nm,SNR=2.0						
NAPP	Napperby	2.13	354	P	Pn	23 22 32.2	+1.1
	0.1nm,SNR=9.4						
ARPS	Mount Arapiles	3.13	119	P	Pn	23 22 44.4	-0.5
	SNR=3.4						
BBOO	Buckleboo	3.17	321	P	Pn	23 22 46.4	+0.9
	0.1nm,SNR=2.0						
BBOO				S	Sn	23 23 22.4	-0.9
LCRK	Leigh Creek	4.85	358	P	Pn	23 23 08.9	+0.3
	0.1nm,SNR=1.4						
MULG	Mulgathing	6.21	323	P	Pn	23 23 27.7	+0.5
	0.1nm,SNR=0.9						
MULG				S	Sn	23 24 36.3	-2.1

IDC 26 23:21:59.4±4.1, 6°.32S×149°.97E, h0km, mb3.2/2, mbtmp3.3/2, Error ellipse: s-maj=140.4km s-min=52.8km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.34	227	P	P	23 26 37.4	-0.2
	1.1nm,0.5s,baz=53,slow=11,SNR=17						
	1.1nm,0.5s						
ASAR	Alice Springs	23.16	220	P	P	23 27 07.8	+0.1
	0.4nm,0.7s,baz=41,slow=10,SNR=5.6						
	0.4nm,0.7s						
TORD	Torodi Ar. Bea	148.03	285	PKPbc	PKPbc	23 41 47.4	-0.7
	0.1nm,0.5s,baz=93,slow=2.8,SNR=1.6						

*BEO **26** 23:25:24.7±0.4, 42°.62N×18°.32E, h1km±3km, ML1.6/9*

RHSSO 26 23:25:24.2±0.3, 42°.65N×18°.36E, h4km±1km, ML1.9/12, 4C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TREB	Trebinje	0.07	355	*e*Pg	Pg	23 25 25.7	-0.1
TREB				*e*Sg	Sg	23 25 27.2	+0.4
TREB	Trebinje	0.07	355⇑	*i*Pg	Pg	23 25 25.8	0.0
TREB				*e*Sg	Sg	23 25 27.1	+0.3
DBRK	Dubrovnik	0.16	278	*e*Pg	Pg	23 25 27.2	-0.1
DBRK				Sg	Sg	23 25 30.0	+0.6
BRY	Bratogost	0.29	27⇓	*i*Pg	Pg	23 25 29.1	-0.7
BRY				*e*Sg	Sg	23 25 34.3	+0.7
STON	Ston	0.54	295	*e*Pg	Pg	23 25 33.7	-0.8
STON				*e*Sg	Sg	23 25 42.0	+0.6
STON	Ston	0.54	295	*e*Pg	Pg	23 25 33.6	-0.8
STON				Sg	Sg	23 25 42.1	+0.7
STON	Ston	0.54	295⇑	*i*Pg	Pg	23 25 33.3	-1.2
STON				*e*Sg	Sg	23 25 41.9	+0.5
KLINJ	Klinje	0.55	18	*e*Pg	Pg	23 25 33.6	-1.1
KLINJ				*e*Sg	Sg	23 25 42.1	+0.2
PDG	Podgorica	0.70	108	*e*Pg	Pg	23 25 37.0	-0.6
PDG				*e*Sg	Sb	23 25 48.6	-0.2
PDG	Podgorica	0.70	108	*e*Pg	Pg	23 25 36.7	-0.9
PDG				*e*Sg	Sg	23 25 47.2	+0.6
DRME	Dracevica, Mon	0.77	127	*e*Pg	Pg	23 25 38.2	-0.7
DRME				*e*Sg	Sb	23 25 50.5	-0.3
DRME	Dracevica, Mon	0.77	127⇑	*i*Pg	Pg	23 25 37.6	-1.3
DRME				*e*Sg	Sg	23 25 49.2	+0.4
KOME	Kolasin	0.88	76	*e*Pg	Pg	23 25 40.4	-0.6
KOME				*e*Sg	Sb	23 25 55.1	+1.0
MAKA	Makarska	1.17	304	*e*Pg	Pg	23 25 44.5	-2.1
RUDO	Rudo	1.22	37	*e*Pg	Pg	23 25 46.1	-1.5
RUDO				*e*Sg	Sb	23 26 04.3	+0.3
RUDO	Rudo	1.22	37	*e*Pg	Pg	23 25 45.8	-1.8
RUDO				*e*Sg	Sg	23 26 03.0	-0.4
RICI	Ricice	1.23	314	*e*Pg	Pg	23 25 45.9	-2.0
SJES	Sjenica	1.33	62	*e*Pg	Pn	23 25 49.4	-0.3
SJES				*e*Sg	Sn	23 26 09.7	+1.7
SJES	Sjenica	1.33	62⇑	*i*Pg	Pn	23 25 48.3	-1.4
SJES				*e*Sg	Sg	23 26 06.3	-0.8
BBLS	Lazi&#263i	1.44	32	*e*Pg	Pb	23 25 51.5	-0.1
BBLS				*e*Sg	Sn	23 26 13.7	+3.2
BBLS	Lazi&#263i	1.44	32⇓	*i*Pg	Pn	23 25 50.1	-1.0
BBLS				*e*Sg	Sb	23 26 10.2	-0.1
HVAR	Hvar	1.50	291	*e*Pn	Pn	23 25 50.5	-1.4
HAPS	Han Pijesak,Bl	1.50	16	*e*Pg	Pg	23 25 53.6	+0.6
HAPS				*e*Sg	Sg	23 26 14.2	+1.7
HAPS	Han Pijesak,Bl	1.50	16	*e*Pg	Pn	23 25 51.2	-0.8
HAPS				*e*Sg	Sb	23 26 12.2	0.0
DIVS	Divibare	1.88	39	*e*Pg	Pg	23 26 00.0	-0.2
DIVS				*e*Sg	Sb	23 26 23.3	+0.4
KIJV	Kijevo	1.97	314	*e*Pn	Pn	23 25 55.7	-2.7
MGRS	Mrkonjic Grad	2.00	333	*e*Pn	Pn	23 25 58.8	0.0
MGRS				*e*Sn	Sn	23 26 24.2	0.0
SELS	Selova	2.11	73	*e*Pg	Pn	23 26 01.4	+1.1
SELS				*e*Sg	Sg	23 26 31.7	-0.1
A050A	Klekovaca	2.27	325	*e*Pn	Pn	23 26 02.6	+0.1
A050A				*e*Sn	Sn	23 26 30.6	-0.3
MORI	Morici	2.29	303	*e*Pn	Pb	23 26 04.7	-1.4
A051A	Mrakovica	2.59	337	*e*Pn	Pn	23 26 06.8	-0.1
A051A				*e*Sn	Sn	23 26 38.8	0.0
DUGI	Dugi Otok	2.76	300	*e*Pn	Pn	23 26 09.4	+0.2

ATH 26 23:26:22.1, 36°.63N×21°.64E, h18km±1km, ML2.3/10, Error ellipse: s-maj=3.5km s-min=2.1km az=35.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.28	16	P	Pg	23 26 28.1	-0.3
PYL				S	Sb	23 26 33.2	+0.3
PYL				AML	AML	23 26 34.3	
	comp=N,2069μm,0.2s						
PYL				AML	AML	23 26 35.5	
	comp=E,1841μm,0.3s						
ITM	Ithomi	0.60	22	P	Pb	23 26 33.0	-0.9
ITM				S	Sg	23 26 42.4	+0.4
ITM				AML	AML	23 26 44.5	
	comp=N,948μm,0.4s						
ITM				AML	AML	23 26 45.8	
	comp=E,666μm,0.2s						
LTHK	Lithakia	1.26	329	P	Pn	23 26 44.3	-0.5
LTHK				AML	AML	23 27 16.7	
	comp=E,199μm,0.3s						
LTHK				AML	AML	23 27 19.6	
	comp=N,197μm,0.5s						
DRO	Drossia	1.33	2	P	Pn	23 26 44.6	-1.1
DRO				AML	AML	23 27 14.2	
	comp=N,455μm,0.5s						
DRO				AML	AML	23 27 14.2	
	comp=E,516μm,0.5s						
GUR	Goura	1.42	23	P	Pn	23 26 47.0	-0.2
GUR				AML	AML	23 27 16.3	
	comp=E,225μm,0.5s						
GUR				AML	AML	23 27 19.8	
	comp=N,256μm,0.5s						
KRND	KRANIDI	1.42	57	P	Pn	23 26 46.6	-0.4
KRND				AML	AML	23 27 13.4	
	comp=N,128μm,0.5s						
KRND				AML	AML	23 27 18.1	
	comp=E,148μm,0.6s						
RLS	Riolos of Patr	1.44	354	P	Pn	23 26 46.2	-1.0
KLV	Kalavryta, Ach	1.47	16	P	Pn	23 26 46.9	-0.9
EPID	Epidavros	1.54	50	P	Pn	23 26 47.9	-0.7
ANKY	Antikythira Is	1.54	119	P	Pn	23 26 49.0	+0.4
PSDA	Pessada-Kefalo	1.71	331	P	Pn	23 26 50.8	-0.2
LOUT	Loutraki	1.73	38	P	Pn	23 26 50.5	-0.6
KALE	Kalithea	1.81	12	P	Pn	23 26 52.5	+0.1
KALE				AML	AML	23 27 29.6	
	comp=E,95μm,0.5s						
KALE				AML	AML	23 27 34.0	
	comp=N,116μm,0.7s						
EFP	Efpalio	1.81	7	P	Pn	23 26 52.1	-0.3
EFP				AML	AML	23 27 30.1	
	comp=E,63μm,0.8s						
EFP				AML	AML	23 27 39.3	
	comp=N,70μm,0.7s						
DMLN	Damoulianata-K	1.90	328	P	Pn	23 26 52.3	-1.3
ANX	Ano Chora	1.98	6	P	Pn	23 26 54.9	+0.2
ANX				AML	AML	23 27 40.2	
	comp=E,125μm,0.6s						
ANX				AML	AML	23 27 40.6	
	comp=N,91μm,0.8s						
PVO	Paravola	1.99	357	P	Pn	23 26 53.3	-1.5
FSK	Fiskardo	2.02	335	P	Pn	23 26 54.4	-0.8
VIL2	Platees	2.04	39	P	Pn	23 26 53.8	-1.8
VIL2				AML	AML	23 27 33.8	
	comp=N,51μm,0.6s						
VIL2				AML	AML	23 27 38.6	
	comp=E,93μm,0.9s						
VLY	Voula,Athens	2.11	54	P	Pn	23 26 55.0	-1.4
EVGI	Lefkada island	2.14	339	P	Pn	23 26 56.2	-0.7
ATHU	Athens Univers	2.17	51	P	Pn	23 26 55.9	-1.4
NYDR	Nydri-Lefkada	2.21	340	P	Pn	23 26 57.4	-0.5
NYDR				S	Sn	23 27 23.8	-1.0
IMMV	Iera Moni Meta	2.22	121	P	Pn	23 26 58.3	+0.3
PTL	Penteli	2.27	51	P	Pn	23 26 57.4	-1.3
AXAR	Agios Charalam	2.28	20	P	Pn	23 26 58.2	-0.7
LKD2	Lefkada island	2.30	340	P	Pn	23 26 58.3	-0.8
DION	Dionisos Attik	2.33	51	P	Pn	23 26 59.0	-0.5
MAKR	Makrakomi, Fth	2.42	9	P	Pn	23 27 01.0	+0.3
AGG	Agios Georgios	2.45	13	P	Pn	23 27 00.8	-0.5

IDC 26 23:29:43.1±2.0, 5°.89S×152°.34E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=90.5km s-min=27.2km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.39	230	P	P	23 34 43.3	0.0
	0.7nm,0.6s,baz=55,slow=10,SNR=12						
	0.7nm,0.6s						
ASAR	Alice Springs	25.04	223	P	P	23 35 09.3	+0.1
	1.0nm,0.6s,baz=58,slow=8.7,SNR=8.8						
	1.0nm,0.6s						
MKAR	Makanchi Array	80.84	319	P	P	23 41 59.4	+0.4
	0.4nm,0.8s,baz=95,slow=4.7,SNR=2.4						
	0.4nm,0.8s						
ILAR	Eielson Array	83.34	22	P	P	23 42 11.9	+0.2
	0.5nm,0.7s,baz=246,slow=5.2,SNR=6.7						
	0.5nm,0.7s						
TORD	Torodi Ar. Bea	150.18	286	PKPbc	PKPbc	23 49 36.0	-1.2
	0.3nm,0.6s,baz=63,slow=2.7,SNR=1.7						

*TEH **26** 23:44:10.6, 34°.63N×46°.26E, h8km

Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.73**	**296**	*e*P	Pn	23 47 51.2	-0.4
LVC				*e*S	S	23 48 19.8	-1.9
LVC				IAML		23 48 21.7	
	comp=Z,94nm,0.6s						
PB15	**IPOC Station P**	**2.07**	**274**	*e*P	Pn	23 47 54.5	0.0
PB15				*e*S	S	23 48 26.4	-0.6
PB06	**IPOC Station P**	**2.26**	**287**	*e*P	Pn	23 47 56.3	0.0
PB06				*e*S	S	23 48 29.3	-1.0
PB06				IAML		23 48 31.1	
	comp=N,248nm,0.1s						
PB09	**IPOC Station P**	**2.44**	**310**	*e*P	Pn	23 47 58.6	+0.4
PB09				*e*S	S	23 48 32.6	-1.1
GO02	**Mina Guanaco**	**2.79**	**230**	*e*P	Pn	23 48 02.1	+0.1
GO02				*e*S	S	23 48 40.5	-0.2
GO02				IAML		23 48 42.5	
	comp=E,246nm,0.1s						
PB04	**IPOC Station P**	**2.88**	**291**	*e*P	Pn	23 48 03.2	+0.2
PB04				*e*S	S	23 48 41.3	-1.0
PB04				IAML		23 48 44.9	
	comp=N,112nm,0.2s						
PB14	**IPOC Station P**	**3.15**	**246**	*e*P	Pn	23 48 06.3	+0.2
PB14				*e*S	S	23 48 47.3	-0.7
PB14				IAML		23 48 49.1	
	comp=N,42nm,0.1s						
PATCX	**Punta Patache**	**3.72**	**313**	*e*P	Pn	23 48 12.6	+0.1
HMBC	**Humberstone**	**3.95**	**321**	*e*P	Pn	23 48 14.5	-0.8
HMBC				*e*S	S	23 49 01.6	-3.0
GO01	**Chusmiza**	**4.12**	**333**	*e*S	S	23 49 07.0	-1.8
PB11	**IPOC Station P**	**4.25**	**327**	*e*P	Pn	23 48 17.4	-1.6
PB11				*e*S	S	23 49 07.5	-3.7

IDC 26 23:54:24.1±2.3, 1°.03S×127°.87E, h0km, mb3.6/2, mbtmp3.4/3, ML3.6/1, MS3.9/1, Error ellipse: s-maj=168.4km s-min=27.5km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.84**	**162**	P	P	23 58 55.9	-0.8
	0.2nm,0.3s,baz=340,slow=11,SNR=15						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**23.25**	**166**	P	P	23 59 33.9	+0.5
	1.2nm,0.6s,baz=345,slow=9.1,SNR=14						
	1.2nm,0.6s						
URZ	**Urewera**	**58.34**	**136**	LR	LR	00 32 30.8	
	comp=Z,101nm,18.4s,baz=209,slow=39						
MKAR	**Makanchi Array**	**62.11**	**326**	P	P	00 04 46.9	0.0
	0.5nm,0.8s,baz=125,slow=6.7,SNR=3.5						
	0.5nm,0.8s						

WEL 27 00:03:48.1±0.9, 36°S±5°×17°9E±1°0, h12km, M3.3/10, ML3.5/19, MLv3.3/10, Error ellipse: s-maj=0.0km s-min=0.0km az=106.0, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.46**	**213**	P	Pn	00 04 14.5	+0.1
MXZ				S	Sb	00 04 34.2	+0.5
WMGZ	**Waiomatatini S**	**1.64**	**205**	P	Pb	00 04 17.9	-0.4
WMGZ				S	Sg	00 04 41.1	+0.1
PKGZ	**Pakihiroa**	**1.81**	**212**	P	Pn	00 04 20.0	+0.8
PKGZ				S	Sb	00 04 44.1	+0.2
HAZ	**Te Kaha**	**1.87**	**220**	P	Pn	00 04 20.8	+0.9
HAZ				S	Sb	00 04 45.9	+0.5
PUZ	**Puketiti**	**1.92**	**205**	P	Pn	00 04 21.0	+0.3
PUZ				S	Sb	00 04 46.7	-0.4
RUGZ	**Raukumara Rang**	**2.08**	**218**	P	Pn	00 04 23.2	+0.2
RUGZ				S	Sb	00 04 52.6	+0.9
TWGZ	**Tauwhareparae**	**2.12**	**209**	P	Pn	00 04 23.2	-0.2
TWGZ				S	Sn	00 04 51.1	+1.4
CNGZ	**Carnagh Statio**	**2.31**	**202**	P	Pn	00 04 26.3	+0.2
TKGZ	**Te Karaka**	**2.40**	**208**	P	Pn	00 04 26.8	-0.3
TKGZ				S	Sn	00 04 57.9	+1.4
WHRZ	**Whale Island**	**2.40**	**230**	P	Pn	00 04 27.8	+0.5
MWZ	**Matawai**	**2.44**	**215**	P	Pn	00 04 27.6	-0.3
MWZ				S	Sn	00 04 58.2	+0.5
PRGZ	**Paritu Road**	**2.82**	**203**	P	Pn	00 04 32.5	-0.6
PRGZ				S	Sn	00 05 06.6	-0.3
SNGZ	**Shannon Statio**	**2.90**	**212**	P	Pn	00 04 33.8	-0.3
SNGZ				S	Sn	00 05 08.7	-0.2
RTZ	**Ruatahuna**	**2.93**	**218**	P	Pn	00 04 33.8	-0.8
MUGZ	**Murupara**	**2.94**	**222**	P	Pn	00 04 34.5	-0.1
MUGZ				S	Sn	00 05 09.7	-0.2
RAHZ	**Arahi**	**3.12**	**214**	P	Pn	00 04 37.7	+0.5
RAHZ				S	Sn	00 05 14.2	-0.1
MTHZ	**Maungataniwha**	**3.18**	**217**	P	Pn	00 04 37.8	-0.3
MTHZ				S	Sn	00 05 16.1	+0.1
TOZ	**Tahuroa Road**	**3.34**	**244**	P	Pn	00 04 39.7	-0.4
NMHZ	**Naumai**	**3.39**	**215**	P	Pn	00 04 41.1	+0.1
NMHZ				S	Sn	00 05 21.9	+0.7
MKAZ	**Moumakai**	**3.41**	**256**	P	Pn	00 04 39.8	-1.3
ARHZ	**Aropaoanui**	**3.45**	**211**	P	Pn	00 04 40.8	-0.8
ARHZ				S	Sn	00 05 21.4	-1.0
BKZ	**Black Stump Fm**	**3.60**	**217**	P	Pn	00 04 41.8	-1.9
ETVZ	**East Tongariro**	**3.99**	**224**	P	Pn	00 04 48.1	-1.1
OUZ	**Omahuta**	**4.76**	**282**	P	Pn	00 05 01.1	+1.4

*SJA **27** 00:11:47.0±0.7, 30°.68S×71°.63W, h18km±2km, ML3.4, MW3.5*
*GUC **27** 00:11:50.9±0.6, 30°.69S×71°.38W, h42km±2km, ML3.4*
ISC 27 00:11:50.9±1.0, 30°.69S±0°.02×71°.42W±0°.04, h34km±8km, n35, σ1°95/64, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.19**	**275**	*e*P	**Pn**	**00 11 57.8**	**+1.8**
CO06				*i* S	**Sb**	**00 12 03.1**	**+1.1**
CO06				IAML		00 12 04.5	
	comp=E,9μm,0.3s						
CO02	**Combarbal**	**0.62**	**145**	*e*P	**Pb**	**00 12 02.1**	**-1.5**
CO02				*e*S	**Sn**	**00 12 13.0**	**+0.8**
CO02				IAML		00 12 13.2	
	comp=Z,3μm,0.1s						
CO02	**Combarbal**	**0.62**	**145**	*e*P	**Pb**	**00 12 03.0**	**-0.6**
CO02				*i* S	**Sb**	**00 12 11.9**	**-0.5**
CO03	**El Pedregal**	**0.64**	**104**	*e*P	**Pb**	**00 12 02.8**	**-1.1**
CO03				*e*S	**Sb**	**00 12 13.2**	**+0.4**
CO03				IAML		00 12 13.7	
	comp=Z,1μm,0.5s						
CO03	**El Pedregal**	**0.64**	**104**	*e*P	**Pb**	**00 12 03.5**	**-0.4**
CO03				*i* S	**Sb**	**00 12 12.2**	**-0.6**
CO03				IAML		00 12 14.5	
	comp=E,2μm,0.2s						
GO04	**Tololo Observa**	**0.74**	**46**	*e*P	**Pb**	**00 12 04.5**	**-1.1**
GO04				*e*S	**Sn**	**00 12 16.6**	**+1.2**
GO04				IAML		00 12 21.6	
	comp=Z,1μm,0.3s						
GO04	**Tololo Observa**	**0.74**	**46**	*e*P	**Pb**	**00 12 05.1**	**-0.5**
GO04				*i* S	**Sb**	**00 12 15.3**	**-0.3**
GO04				IAML		00 12 23.1	
	comp=E,3μm,0.5s						
CO05	**La Serena**	**0.78**	**11**	*e*P	**Pn**	**00 12 05.5**	**0.0**
CO05				*i* S	**Sn**	**00 12 16.6**	**+0.6**
CO05				IAML		00 12 22.8	
	comp=E,2μm,0.4s						
CO01	**Juntas del Tor**	**1.35**	**58**	*e*P	**Pn**	**00 12 14.5**	**+1.1**
CO01				*e*S	**Sb**	**00 12 33.0**	**+0.2**
CO01				IAML		00 12 36.8	
	comp=Z,321nm,0.3s						
CO01	**Juntas del Tor**	**1.35**	**58↑**	*e*P	**Pn**	**00 12 14.3**	**+0.8**
CO01				*i* S	**Sn**	**00 12 31.5**	**+1.3**
CO01				IAML		00 12 36.9	
	comp=N,634nm,0.4s						
AROD	**Rodeo**	**1.76**	**73**	*e*P	**Pb**	**00 12 22.1**	**-0.6**
AROD				*e*S	**Sb**	**00 12 46.1**	**+1.5**
LCO	**Las Campanas**	**1.79**	**21**	*e*P	**Pn**	**00 12 20.4**	**+0.9**
LCO				*e*S	**Sn**	**00 12 37.8**	**-3.4**
LCO				*e*S	**Sb**	**00 12 45.0**	**-0.3**
LCO				IAML		00 12 52.9	
	comp=Z,663nm,0.4s						
LCO	**Las Campanas**	**1.79**	**21**	*i* P	**Pn**	**00 12 19.8**	**+0.3**
LCO				*e*S	**Sn**	**00 12 41.8**	**+0.7**
LCO				IAML		00 12 44.0	
	comp=Z,2μm,0.3s						
VA06	**Catapilco**	**1.87**	**177⇓**	*e*P	**Pn**	**00 12 20.2**	**-0.2**
VA06				*e*S	**Sn**	**00 12 42.5**	**-0.3**
VA06				IAML		00 12 52.1	
	comp=E,732nm,0.5s						
DOCA	**Reserva Natura**	**2.02**	**98**	*e*P	**Pb**	**00 12 25.4**	**-1.8**
DOCA				*e*S	Sn	00 12 37.8	-9.4
DOCA				IAML		00 12 38.0	
	comp=Z,176nm,0.5s						
ACCO	**Cerro Coronel**	**2.03**	**88**	*e*P	**Pb**	**00 12 26.2**	**-1.1**
ACCO				*e*S	Sn	00 12 38.7	-8.6
ACDV	**Cuesta del Vie**	**2.05**	**76**	*e*P	**Pb**	**00 12 26.9**	**-0.7**
AC05	**El Transito**	**2.10**	**29**	*e*P	**Pn**	**00 12 25.2**	**+1.5**
AC05				*e*S	**Sn**	**00 12 45.8**	**-2.9**
AC05				IAML		00 13 00.2	
	comp=Z,146nm,0.4s						
AC05	**El Transito**	**2.10**	**29**	*e*P	**Pn**	**00 12 25.0**	**+1.3**
AC05				*i* S	**Sn**	**00 12 51.2**	**+2.5**
RTLS	**Leoncito**	**2.12**	**122**	*e*P	**Pb**	**00 12 27.2**	**-1.7**
RTLS				*e*S	Sn	00 12 40.1	-10
RTLS				IAML		00 13 00.0	
	comp=Z,478nm,0.3s						
VA03	**San Esteban**	**2.19**	**161**	*e*P	**Pn**	**00 12 25.9**	**+0.9**
VA03				*e*S	**Sb**	**00 12 55.4**	**-1.5**
VA03				IAML		00 13 06.1	
	comp=Z,220nm,0.3s						
AC04	**Llanos de Chal**	**2.50**	**7**	*e*P	**Pn**	**00 12 29.3**	**+0.3**
AC04				*e*S	**Sb**	**00 13 01.8**	**-3.6**
AC04				IAML		00 13 09.1	
	comp=Z,143nm,0.6s						
AC04	**Llanos de Chal**	**2.50**	**7**	*e*P	**Pn**	**00 12 29.3**	**+0.3**
AC04				*e*S	**Sn**	**00 13 00.4**	**+2.1**
AC04				IAML		00 13 11.9	
	comp=N,160nm,0.4s						
MT03	**Universidad Ad**	**2.90**	**165**	*e*P	**Pn**	**00 12 35.8**	**+1.1**
MT03				*e*S	**Sn**	**00 13 11.8**	**+3.4**
MT03				IAML		00 13 25.8	
	comp=Z,158nm,0.8s						
ASAL	**Salagasta**	**2.91**	**131**	*e*P	**Pn**	**00 12 38.2**	**+3.5**
ASAL				*e*S	**Sb**	**00 13 14.8**	**-2.4**
ASAL				IAML		00 13 34.1	
	comp=Z,72nm,0.6s						
MT01	**Popeta**	**3.17**	**178**	*e*P	**Pn**	**00 12 38.3**	**0.0**
MT01				*e*S	**Sn**	**00 13 17.3**	**+2.4**
MT01				IAML		00 13 32.0	
	comp=Z,79nm,0.6s						
MT13	**San Alfonso**	**3.19**	**163**	*e*P	**Pn**	**00 12 40.5**	**+1.7**
MT13				*e*S	**Sn**	**00 13 19.3**	**+3.6**
MT13				IAML		00 13 40.9	
	comp=Z,93nm,0.6s						
GO03	**Copiap**	**3.25**	**19**	*e*P	**Pn**	**00 12 40.7**	**+1.1**
GO03				*e*S	**Sb**	**00 13 29.3**	**+2.1**
GO03				IAML		00 13 35.0	
	comp=Z,140nm,0.7s						
LMEL	**Las Melosas**	**3.31**	**162**	*e*P	**Pn**	**00 12 41.7**	**+1.3**
LMEL				*e*S	**Sn**	**00 13 23.1**	**+4.4**
LMEL				IAML		00 13 41.1	
	comp=Z,84nm,0.8s						
VCA	**Vinchina**	**3.41**	**56**	*e*P	**Pn**	**00 12 45.1**	**+3.4**
VCA				*e*S	**Sb**	**00 13 30.3**	**-1.3**
VCA				IAML		00 13 39.0	
	comp=Z,305nm,0.4s						
AVFE	**Valle Fertil**	**3.41**	**90**	*e*P	**Pn**	**00 12 38.3**	**-3.4**
AVFE				*e*P	Pb	00 12 43.8	-6.9
AVFE				*e*S	**Sb**	**00 13 27.8**	**-4.0**
AVFE				IAML		00 13 48.0	
	comp=Z,51nm,0.5s						
BO01	**Tunca**	**3.70**	**176**	*e*P	**Pn**	**00 12 45.4**	**-0.2**
BO01				*e*S	**Sb**	**00 13 37.5**	**-2.4**
BO01				IAML		00 13 47.3	
	comp=Z,39nm,0.5s						
ACLC	**CERRO LA CRUZ**	**4.07**	**73**	*e*P	**Pn**	**00 12 53.4**	**+2.6**
ACLC				IAML		00 13 51.0	
	comp=Z,95nm,0.6s						
BO02	**Sierra Bellavi**	**4.13**	**173**	*e*P	**Pn**	**00 12 52.1**	**+0.6**
BO02				IAML		00 13 57.5	
	comp=Z,53nm,0.8s						
RFA	**San Rafael**	**4.77**	**149**	*e*S	**Sb**	**00 14 06.8**	**-3.9**

*CNRM **27** 00:32:05.6, 36°.27N×7°.69W, h70km, ML2.2*
*MDD **27** 00:32:06.6±0.6, 36°.42N×7°.60W, h29km±6km, mb_Lg2.9/35, Error ellipse: s-maj=3.1km s-min=2.2km az=48.0*
*SFS **27** 00:32:06.7, 36°.45N×7°.57W, h45km, mb3.6/4, ML2.8/30, ML2.7/22, MLv2.4/30*
*IGIL **27** 00:32:07.7, 36°.43N×7°.56W, h31km, ML1.8*
*INMG **27** 00:32:07.3±1.6, 36°.43N×7°.56W, h32km±5km, ML2.2, Error ellipse: s-maj=2.9km s-min=2.7km az=48.0*
ISC 27 00:32:04.2±1.1, 36°.44N±0°.03×7°.53W±0°.02, h31km±12km, n97, σ1°56/157, 1C-5D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.87**	**338⇓**	*i*P	**Pn**	**00 32 21.8**	**+1.5**
PBDV				*e*S	**Sn**	**00 32 32.5**	**+0.6**
PBDV				A	A	00 32 33.1	
	17nm,0.3s						
PBDV	**Barranco-do-Ve**	**0.87**	**338**	Pn	**Pn**	**00 32 21.8**	**+1.5**
PBDV				Sn	**Sn**	**00 32 32.3**	**+0.4**
ARNO	**Arenosillo**	**0.92**	**44**	Pn	**Pn**	**00 32 23.4**	**+2.5**
ARNO				Sn	**Sn**	**00 32 35.3**	**+2.2**
EGRO	**El Granado**	**1.10**	**2**	Pn	**Pb**	**00 32 25.2**	**+0.6**
EGRO				Sn	**Sn**	**00 32 38.4**	**+0.9**
EGRO	**El Granado**	**1.10**	**2**	P	**Pb**	**00 32 25.2**	**+0.6**
EGRO				S	**Sn**	**00 32 38.7**	**+1.3**
EGRO				*i* Vmb_Lg		00 32 39.3	
MORF	**Marmelete**	**1.25**	**314**	*e*P	**Pb**	**00 32 26.7**	**-0.5**
MORF				A	A	00 32 50.9	
	19nm,0.2s						
MORF	**Marmelete**	**1.25**	**314**	*e*P	**Pb**	**00 32 26.7**	**-0.5**
PFVI	**Vila Bisbo**	**1.25**	**304**	*e*P	**Pb**	**00 32 26.8**	**-0.4**
PFVI				*e*S	**Sn**	**00 32 41.6**	**+0.3**
PFVI				A	A	00 32 43.7	
	16nm,0.4s						
PFVI	**Vila Bisbo**	**1.25**	**304**	Pn	**Pb**	**00 32 26.8**	**-0.4**
PFVI				Sn	**Sn**	**00 32 40.8**	**-0.5**
PFVI	**Vila Bisbo**	**1.25**	**304**	P	**Pb**	**00 32 26.8**	**-0.4**
PFVI	**Vila Bisbo**	**1.25**	**304**	S	**Sb**	**00 32 44.5**	**+1.5**
PCVE	**Castro Verde**	**1.26**	**341**	*e*P	**Pb**	**00 32 27.4**	**+0.1**
PCVE				*e*S	**Sb**	**00 32 42.5**	**-0.7**
PCVE				A	A	00 32 43.0	
	29nm,0.3s						
PCVE	**Castro Verde**	**1.26**	**341**	Pn	**Pb**	**00 32 27.5**	**+0.1**
PCVE				Sn	**Sb**	**00 32 42.3**	**-0.9**
ESPR	**Espera**	**1.41**	**72**	Pn	**Pb**	**00 32 29.8**	**-0.1**
ESPR				Sn	**Sn**	**00 32 46.1**	**+0.8**
ESPR	**Espera**	**1.41**	**72**	P	**Pb**	**00 32 29.8**	**-0.1**
ESPR				S	**Sb**	**00 32 46.7**	**-0.9**
ESPR				*i* Vmb_Lg		00 32 47.4	
PTEO	**Sao Teotonio**	**1.46**	**320⇓**	*i*P	**Pb**	**00 32 30.1**	**-0.7**
PTEO				*e*S	**Sn**	**00 32 47.3**	**+0.8**
PTEO				A	A	00 32 48.5	
	8.2nm,0.6s						
EMIN	**Mina Concepcio**	**1.50**	**27**	Pn	**Pb**	**00 32 30.3**	**-1.1**
EMIN				Sn	**Sn**	**00 32 47.6**	**+0.3**
EMIN	**Mina Concepcio**	**1.50**	**27**	P	**Pb**	**00 32 30.6**	**-0.8**
EMIN				S	**Sn**	**00 32 47.8**	**+0.4**
EMIN				*i* Vmb_Lg		00 32 54.9	
MESJ	**Messejana**	**1.50**	**339⇓**	*i*P	**Pb**	**00 32 30.7**	**-0.8**
MESJ				*e*S	**Sn**	**00 32 47.9**	**+0.3**
MESJ				A	A	00 32 49.9	
	13nm,0.3s						
MESJ	**Messejana**	**1.50**	**339**	*e*P	**Pb**	**00 32 30.4**	**-1.1**
MESJ				*e*S	**Sn**	**00 32 47.1**	**-0.5**
MESJ				IAML		00 32 50.7	
	comp=N,11nm,0.1s						
PBEJ	**Beja**	**1.61**	**351**	*e*P	**Pb**	**00 32 32.2**	**-1.1**
PBEJ				*e*S	**Sn**	**00 32 50.8**	**+0.6**
PBEJ				A	A	00 32 51.8	
	comp=N,11nm,0.3s						
LIJA	**Lijar**	**1.77**	**74**	Pn	**Pb**	**00 32 35.2**	**-0.9**
PBAR	**Barrancos**	**1.78**	**13⇑**	*e*P	**Pb**	**00 32 34.7**	**-1.4**
PBAR				*e*S	**Sn**	**00 32 55.2**	**+0.9**
PBAR				A	A	00 33 01.3	
	comp=N,6.3nm,0.2s						
PBAR	**Barrancos**	**1.78**	**13**	Pn	**Pb**	**00 32 34.7**	**-1.4**
PBAR				Sn	**Sn**	**00 32 54.5**	**+0.1**
ECEU	**Ceuta**	**1.82**	**106**	Pn	**Pb**	**00 32 36.2**	**-0.7**
ECEU	**Ceuta**	**1.82**	**106**	P	**Pb**	**00 32 36.2**	**-0.7**
ECEU				S	**Sb**	**00 32 59.2**	**-0.2**
CEU	**Ceuta**	**1.83**	**106**	Pn	**Pb**	**00 32 36.4**	**-0.5**
PNCL	**Nicolau / Gran**	**1.85**	**335⇓**	*e*P	**Pb**	**00 32 35.3**	**-2.1**
PNCL				*e*S	**Sn**	**00 32 56.5**	**+0.4**
PNCL				A	A	00 33 01.6	
	comp=N,6.1nm,0.1s						
PNCL	**Nicolau / Gran**	**1.85**	**335**	Pn	**Pb**	**00 32 35.3**	**-2.1**
PNCL				Sn	**Sn**	**00 32 54.9**	**-1.2**
EVO	**Evora**	**2.13**	**350**	*e*P	**Pn**	**00 32 39.4**	**+1.8**
EVO				*e*S	**Sn**	**00 33 03.2**	**+0.3**
EVO				A	A	00 33 04.1	
	comp=N,10.0nm,0.4s						
EVO	**Evora**	**2.13**	**350**	Pn	**Pn**	**00 32 39.4**	**+1.8**
EVO				Sn	**Sn**	**00 33 00.9**	**-2.1**
EMIJ	**Mijas**	**2.23**	**86**	Pn	**Pn**	**00 32 40.5**	**+1.6**
EMIJ	**Mijas**	**2.23**	**86**	P	**Pb**	**00 32 41.3**	**-2.4**
EMIJ				S	**Sn**	**00 33 07.6**	**+2.2**
ECAB	**El Cabril**	**2.35**	**45**	Pn	**Pn**	**00 32 42.0**	**+1.3**
ECAB				Sn	**Sn**	**00 33 07.2**	**-1.3**
ECAB	**El Cabril**	**2.35**	**45**	P	**Pn**	**00 32 42.2**	**+1.6**
ECAB				S	**Sn**	**00 33 07.7**	**-1.3**
EBAD	**Badajoz**	**2.35**	**10**	Pn	**Pn**	**00 32 41.6**	**+1.0**
EBAD				Sn	**Sn**	**00 33 07.8**	**-0.6**
EBAD	**Badajoz**	**2.35**	**10**	P	**Pn**	**00 32 42.2**	**+1.6**
EBAD				S	**Sn**	**00 33 07.7**	**-0.7**
EBAD				*i* Vmb_Lg		00 33 15.1	
PESTR	**Estremoz**	**2.43**	**359**	*e*P	**Pn**	**00 32 43.2**	**+1.5**
PESTR				*e*S	**Sn**	**00 33 09.6**	**-0.8**
PESTR				A	A	00 33 11.2	
	comp=N,6.1nm,0.2s						
PESTR	**Estremoz**	**2.43**	**359**	Pn	**Pn**	**00 32 43.2**	**+1.5**
PESTR				Sn	**Sn**	**00 33 09.1**	**-1.2**
PESTR	**Estremoz**	**2.43**	**359**	P	**Pn**	**00 32 43.2**	**+1.5**
EMAL	**Malaga-Limoner**	**2.52**	**82**	Pn	**Pn**	**00 32 45.5**	**+2.6**
EMAL				Sn	**Sn**	**00 33 12.3**	**-0.2**
PMTG	**Montargil**	**2.69**	**348**	*e*P	**Pn**	**00 32 46.9**	**+1.7**
PMTG				*e*S	**Sn**	**00 33 16.7**	**0.0**
PMTG				A	A	00 33 19.4	
	comp=N,5.7nm,0.2s						
EGOR	**Sierra Gorda,**	**2.83**	**75**	S	**Sn**	**00 33 21.0**	**+0.6**
PMAFR	**Mafra**	**2.87**	**332**	*e*P	**Pn**	**00 32 49.6**	**+1.8**
PMAFR				*e*S	**Sn**	**00 33 20.6**	**-0.7**
PMAFR				A	A	00 33 22.7	
	comp=N,14nm,0.3s						
PMAFR	**Mafra**	**2.87**	**332**	Pn	**Pn**	**00 32 49.6**	**+1.8**
EADA	**Adamuz**	**2.92**	**53**	Pn	**Pn**	**00 32 50.5**	**+2.0**
EADA				Sn	**Sn**	**00 33 20.6**	**-1.9**
EADA	**Adamuz**	**2.92**	**53**	P	**Pn**	**00 32 50.6**	**+2.0**
EADA				S	**Sn**	**00 33 22.6**	**+0.1**
EADA				*i* Vmb_Lg		00 33 24.4	
PMRV	**Marv??o**	**2.99**	**2⇓**	*e*P	**Pn**	**00 32 51.1**	**+1.7**
PMRV				*e*S	**Sn**	**00 33 23.6**	**-0.6**
PMRV				A	A	00 33 26.0	
	comp=N,6.4nm,0.1s						
ZHG	**ZHG**	**3.07**	**166**	P	**Pn**	**00 32 52.4**	**+1.7**
ZHG	**ZHG**	**3.07**	**166**	S	**Sn**	**00 33 26.5**	**+0.2**
AVE	**Averroes**	**3.13**	**178**	Pn	**Pn**	**00 32 53.3**	**+1.9**
ELGU	**Los Guajares,**	**3.17**	**81**	Pn	**Pn**	**00 32 54.4**	**+2.4**
ELGU				Sn	**Sn**	**00 33 29.3**	**+0.6**
ELGU	**Los Guajares,**	**3.17**	**81**	P	**Pn**	**00 32 54.7**	**+2.7**
ELGU				S	**Sn**	**00 33 31.5**	**+2.7**
ELGU				*i* Vmb_Lg		00 33 34.5	
PSBE	**So Bento**	**3.23**	**342**	*e*P	**Pn**	**00 32 54.8**	**+2.0**
PSBE				*e*S	**Sn**	**00 33 31.2**	**+1.0**
EQTA	**Presa de Quent**	**3.37**	**76**	Sn	**Sn**	**00 33 33.4**	**-0.3**
EQUE	**Quentar**	**3.37**	**76**	P	**Pn**	**00 32 57.5**	**+2.8**
EQUE				S	**Sn**	**00 33 34.8**	**+1.1**
PCBR	**Castelo Branco**	**3.40**	**1**	*e*P	**Pn**	**00 32 56.8**	**+1.8**
PCBR				*e*S	**Sn**	**00 33 34.2**	**-0.1**
PCBR				A	A	00 33 35.4	
	comp=N,7.9nm,0.2s						
IFR	**Ifrane**	**3.52**	**145**	Pn	**Pn**	**00 32 57.2**	**+0.4**
AKLM	**AKL**	**3.56**	**122**	P	**Pn**	**00 32 58.8**	**+1.5**
AKLM	**AKL**	**3.56**	**122**	S	**Sn**	**00 33 37.1**	**-1.2**
E0802	**Ubeda,Jaen**	**3.68**	**63**	S	**Sn**	**00 33 41.2**	**-0.1**
PCAS	**Casmilo, Conde**	**3.69**	**348**	*e*P	**Pn**	**00 33 01.3**	**+2.2**
PCAS				*e*S	**Sn**	**00 33 41.4**	**-0.1**
PCAS				A	A	00 33 45.5	
	comp=N,2.0nm,0.6s						
EBER	**Berja**	**3.76**	**82**	Pn	**Pn**	**00 33 02.3**	**+2.1**
EBER	**Berja**	**3.76**	**82**	P	**Pn**	**00 33 02.6**	**+2.4**
EBER				S	**Sn**	**00 33 45.5**	**+2.0**
EBER				*i* Vmb_Lg		00 33 57.2	
EPLA	**Plasencia**	**3.80**	**17**	P	**Pn**	**00 33 03.4**	**+2.8**
EPLA				S	**Sn**	**00 33 42.7**	**-1.5**
EPLA				*i* Vmb_Lg		00 33 45.8	
EQES	**Quesada**	**3.82**	**68**	P	**Pn**	**00 33 04.0**	**+3.1**
EQES				S	**Sn**	**00 33 44.1**	**-0.7**
EQES				*i* Vmb_Lg		00 33 51.3	
PSIM	**Granatula de C**	**3.83**	**50**	P	**Pn**	**00 33 02.9**	**+1.9**
PSIM				S	**Sn**	**00 33 44.0**	**-1.0**
MTE	**Manteigas**	**3.96**	**360**	*e*P	**Pn**	**00 33 04.3**	**+1.5**
MTE				*e*S	**Sn**	**00 33 47.0**	**-1.2**
MTE				A	A	00 33 50.5	
	comp=N,3.2nm,0.2s						
PAB	**San Pablo**	**4.00**	**38**	P	**Pn**	**00 33 05.3**	**+1.9**
PAB				S	**Sn**	**00 33 46.1**	**-3.0**
PAB				*i* Vmb_Lg		00 33 49.0	
MD31	**MD31**	**4.23**	**147**	P	**Pn**	**00 33 07.3**	**+0.8**
MD31	**MD31**	**4.23**	**147**	S	**Sn**	**00 33 53.5**	**-1.4**
PVIS	**Viseu**	**4.28**	**356**	*e*P	**Pn**	**00 33 08.4**	**+1.2**
PVIS				*e*S	**Sn**	**00 33 55.7**	**-0.5**
PVIS				A	A	00 33 56.9	
	comp=N

GLG1	Gilan-e-Gharb	1.12 176	Pg	Pb	00 38 15.0	-1.1
IKRK	Kirkuk	1.22 278	*e*Pg	Pg	00 38 18.0	+0.1
	baz=105					
IKRK			*e*Sg	Sn	00 38 34.0	-0.2
IKRK			AML	AML	00 38 38.2	
	comp=N,122nm,0.3s					
IKRK			AML	AML	00 38 38.3	
	comp=E,76nm,0.4s					
KCHF	Cheshme Sefid,	1.39 133	Pg	Pb	00 38 20.6	-0.1
ILBA	Ilam Banvizeh	1.64 168	Pg	Pb	00 38 24.5	-0.4
IBZA	Bozab	1.85 114	Pn	Pb	00 38 27.8	-0.8
IBDR	Badra	2.12 177	*e*Pn	Pn	00 38 31.0	+0.9
IBDR			*e*Sn	Sn	00 38 57.0	+0.5
IBDR			AML	AML	00 39 13.4	
	comp=E,34nm,0.4s					
IBDR			AML	AML	00 39 15.5	
	comp=N,24nm,0.3s					

*IDC **27** 00:48:51.1±1.1,5°45S×151°46E, h0km, mb4.0/7, mbtmp4.0/7, MS3.7/2, Error ellipse: s-maj=46.4km s-min=20.7km az=103.0*
*NEIC **27** 00:48:57.3±2.0,5°90S±0°06×151°84E±0°08, h35km±2km, mb4.5/17, Error ellipse: s-maj=13.8km s-min=8.7km az=291.0*

ISC 27 00:48:58.2±0.6,5°74S±0°06×151°70E±0°09, h57km, n34, σ1§36/33, mb4.4/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.61	17		Pn	00 49 24.7	+0.3
RABL				Sn	Sn	00 49 45.9	+1.8
MANU	Manus Island	5.67	310	Pn	Pn	00 50 20.7	+0.7
PMG	Port Moresby	5.79	231		Pn	00 50 21.5	0.0
PMG				Sn	Sn	00 51 25.5	-1.1
HNR	Honiara	8.96	115	Pn	Pn	00 50 58.6	-6.5
HNR	Honiara	8.96	115	LR	LR	00 54 32.2	
	comp=Z,805nm,18.6s,baz=242,slow=37						
COEN		11.71	225	Pn	Pn	00 51 42.4	-0.3
CTA	Charters Tower	15.21	200	Pn	P	00 52 36.1	+2.6
	baz=22,slow=14,SNR=6.5						
CTAO	Charters Tower	15.21	200	P	P	00 52 35.5	+2.0
EIDS	Eidsvold	19.53	182	Pn	Pn	00 53 23.8	+0.9
MTN	Manton Dam	21.47	249	P	P	00 53 42.3	+0.1
MTN				IAmb	IAmb	00 54 01.9	
	comp=Z,9.5nm,0.7s						
WB0	Warramunga Arr	21.86	229	P	P	00 53 45.7	-0.6
WB0				IAmb	IAmb	00 53 49.3	
	comp=Z,13nm,0.8s						
WR0	Warramunga Arr	21.86	228	P	P	00 53 45.7	-0.7
WR0				IAmb	IAmb	00 53 49.4	
	comp=Z,14nm,0.8s						
WRAB	Tennant Creek	21.99	229	P	P	00 53 48.2	+0.4
WRAB				IAmb	IAmb	00 53 50.4	
	comp=Z,23nm,0.8s						
WB2	Warramunga Arr	21.99	228	P	P	00 53 47.1	-0.7
WB2				IAmb	IAmb	00 53 50.6	
	comp=Z,14nm,0.8s						
WRA	Warramunga Arr	22.00	229	P	P	00 53 47.2	-0.7
WRA	Warramunga Arr	22.00	229	P	P	00 53 47.4	-0.5
	comp=Z,11nm,0.7s,baz=53,slow=9.8,SNR=32						
	comp=Z,11nm,0.7s						
KNRA	Kununurra	24.57	244	P	P	00 54 13.4	+0.3
KNRA				IAmb	IAmb	00 54 23.2	
	comp=Z,9.7nm,0.8s						
AS31	Alice Springs	24.72	222	P	P	00 54 14.5	+0.1
ASAR	Alice Springs	24.72	222	P	P	00 54 14.5	+0.1
ASAR	Alice Springs	24.72	222	P	P	00 54 15.2	+0.8
	comp=Z,9.5nm,0.8s,baz=60,slow=8.7,SNR=59						
	comp=Z,9.5nm,0.8s						
STKA	Stephens Creek	27.67	199	P	P	00 54 42.4	+1.6
	comp=Z,2.8nm,0.8s,baz=353,slow=14,SNR=5.8						
	comp=Z,2.8nm,0.8s						
FITZ	Fitzroy Crossi	28.25	242	P	P	00 54 46.0	-0.2
BBOO	Buckleboo	30.62	206	P	P	00 55 07.5	+0.4
BBOO				IAmb	IAmb	00 55 10.3	
	comp=Z,6.0nm,1.1s						
FORT	Forrest	33.37	219	P	P	00 55 31.4	+0.2
MBWA	Marble Bar	34.55	241	P	P	00 55 43.2	+1.5
PSA00	Pilbara Seismi	34.61	240	P	P	00 55 40.5	-1.6
PSA00				IAmb	IAmb	00 55 50.2	
	comp=Z,13nm,1.1s						
RAO	Raoul Island	37.02	133	P	P	00 55 59.0	-3.6
RTZ	Ruatahuna	39.95	149	P	P	00 56 27.0	-0.2
RTZ				IAmb	IAmb	00 56 40.3	
	comp=Z,19nm,1.2s						
MJAR	Matsushiro Arr	43.92	344	LR	LR	01 12 08.4	
	comp=Z,39nm,19.7s,baz=172,slow=32						
KSRS	Korea Array	48.35	335	P	P	00 57 32.5	-1.8
	comp=Z,0.5nm,0.5s,baz=148,slow=10.0,SNR=4.7						
	comp=Z,0.5nm,0.5s						
VNDA	Vanda	71.94	178	P	P	01 00 17.9	+2.8
	comp=Z,1.2nm,0.8s,baz=329,slow=7.3,SNR=7.5						
	comp=Z,1.2nm,0.8s						
ZALV	Zalesovo Beam	81.32	327	P	P	01 01 06.5	-1.9
	comp=Z,0.4nm,0.6s,baz=103,slow=4.6,SNR=2.1						
	comp=Z,0.4nm,0.6s						
ILAR	Eielson Array	83.44	22	P	P	01 01 19.4	+0.1
	comp=Z,0.2nm,0.6s,baz=255,slow=6.5,SNR=3.5						
	comp=Z,0.2nm,0.6s						
TORD	Torodi Ar. Bea	149.53	286	PKPbc	PKPbc	01 08 42.4	+0.1
	comp=Z,1.8nm,0.8s,baz=99,slow=3.6,SNR=11						

IDC 27 00:50:47.9±7.6,2°89S×105°92W, h0km, mb3.6/3, mbtmp3.6/3, MS3.7/15, Error ellipse: s-maj=419.7km s-min=71.4km az=104.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	22.65	28	LR	LR	01 02 35.8	
	comp=Z,184nm,19.2s,baz=220,slow=31						
APG	El Apazote	23.46	40	LR	LR	01 02 44.6	
	comp=Z,21nm,21.3s,baz=14,slow=30						
JTS	Las Juntas de	24.65	58	LR	LR	01 02 39.4	
	comp=Z,250nm,21.1s,baz=258,slow=29						
LPIG	La Paz	27.17	351	LR	LR	01 05 04.1	
	comp=Z,95nm,19.7s,baz=176,slow=32						
TEIG	Tepich	28.77	36	LR	LR	01 06 20.7	
	comp=Z,163nm,20.1s,baz=207,slow=32						
SDV	Santo Domingo	37.08	71	LR	LR	01 10 06.1	
	comp=Z,103nm,19.3s,baz=298,slow=31						
PFO	Pinyon Flats O	37.65	346	LR	LR	01 10 27.4	
	comp=Z,94nm,19.6s,baz=182,slow=31						
NVAR	Mina Array Bea	42.68	346	LR	LR	01 13 53.2	
	comp=Z,57nm,19.1s,baz=268,slow=32						
TKL	Tuckaleechee C	43.60	26	LR	LR	01 18 46.6	
	comp=Z,54nm,18.2s,baz=170,slow=38						
PDAR	Pinedale Array	45.57	356	P	P	00 59 09.3	-0.6
	0.4nm,0.8s,baz=156,slow=7.6,SNR=4.1						
	0.4nm,0.8s						
PLCA	Paso Flores	49.35	145	LR	LR	01 15 37.9	
	comp=Z,161nm,18.5s,baz=204,slow=30						
NEW	Newport	51.88	351	LR	LR	01 19 50.2	
	comp=Z,107nm,18.4s,baz=214,slow=34						
CPUP	Villa Florida	52.05	121	LR	LR	01 17 10.2	
	comp=Z,123nm,18.9s,baz=210,slow=30						
YKA	Yellowknife Ar	65.54	356	P	P	01 01 33.7	+0.7
	1.3nm,0.9s,baz=165,slow=6.5,SNR=4.3						
	1.3nm,0.9s						
SCHQ	Schefferville	65.95	24	LR	LR	01 29 51.0	
	comp=Z,46nm,19.5s,baz=194,slow=36						
KDAK	Kodiak Island	71.04	336	LR	LR	01 25 39.5	
	comp=Z,118nm,19.6s,baz=195,slow=29						
ILAR	Eielson Array	73.86	343	P	P	01 02 24.1	-0.1
	0.8nm,1.0s,baz=154,slow=4.5,SNR=6.0						
	0.8nm,1.0s						
URZ	Urewera	77.98	232	LR	LR	01 28 10.2	
	comp=Z,83nm,20.6s,baz=208,slow=29						
H11N3	WAKE ISLAND Hy	88.30	290	T	T	02 43 43.8	
	baz=94,slow=75,SNR=7.6						
H11N2	WAKE ISLAND Hy	88.31	290	T	T	02 43 40.6	
	baz=94,slow=75,SNR=9.1						
H11N1	WAKE ISLAND Hy	88.31	290	T	T	02 43 43.9	
	baz=94,slow=75,SNR=6.1						
H11S2	WAKE ISLAND Hy	88.41	288	T	T	02 43 55.6	
	baz=94,slow=75,SNR=8.9						
H11S1	WAKE ISLAND Hy	88.42	289	T	T	02 43 57.5	
	baz=94,slow=75,SNR=8.4						
H11S3	WAKE ISLAND Hy	88.43	288	T	T	02 43 51.8	
	baz=94,slow=75,SNR=6.8						
CMAR	Chiang Mai Arr	151.15	304	PKPbc	PKPbc	01 10 43.8	-0.4
	0.7nm,0.3s,baz=5.7,slow=2.7,SNR=4.8						

IDC 27 00:59:33.0±63.0, 13°24S×163°99E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1054.0km s-min=109.2km az=61.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	27.68	224	P	P	01 05 22.7	-0.3
	1.8nm,0.7s,baz=24,slow=10.0,SNR=4.5						
	1.8nm,0.7s						
WRA	Warramunga Arr	29.16	253	P	P	01 05 36.3	0.0
	0.4nm,0.7s,baz=84,slow=9.3,SNR=5.2						
	0.4nm,0.7s						
ASAR	Alice Springs	30.31	246	P	P	01 05 46.6	+0.2
	0.6nm,0.6s,baz=68,slow=9.2,SNR=7.9						
	0.6nm,0.6s						

*IDC **27** 01:02:05.8±0.6, 14°47N×60°98W, h162km±5km, mb3.3/6, mbtmp3.8/8, Error ellipse: s-maj=22.9km s-min=8.7km az=88.0*
*TRN **27** 01:02:06.1, 14°38N×61°18W, h153km, MD3.7, Near West of Martinique.*
*NEIC **27** 01:02:07.1±1.1, 14°48N±0°08×61°1W±0°1, h158km±2km, mb4.2/9, Error ellipse: s-maj=16.7km s-min=8.9km az=58.0*

ISC 27 01:02:05.7±0.6, 14°39N±0°03×61°08W±0°06, h159km±5km, n67, σ1§35/92, mb3.9/10, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIM	Bigot	0.12	5		Pn	01 02 27.6	+0.5
BIM				Sn	Sn	01 02 44.2	+0.8
BIM	Bigot	0.12	5	*e*P	Pn	01 02 27.7	+0.7
BIM				*e*S	Sn	01 02 43.4	-0.1
TRMF	Trois Ilets	0.14	12	*e*P	Pn	01 02 27.9	+0.8
LPMF	Morne Lapointe	0.21	32	*e*P	Pn	01 02 28.4	+1.2
MPOM	Morne Pois Mar	0.22	77		Pn	01 02 27.9	+0.8
MPOM				Sn	Sn	01 02 43.9	+0.5
MPOM	Morne Pois Mar	0.22	77	*e*P	Pn	01 02 27.8	+0.6
H05S1	Guadeloupe/Mar	0.24	83	P	Pn	01 02 28.2	+1.0
H05S1				S	Sn	01 02 44.2	+0.7
MVM	Montagne Vaucl	0.24	49	*e*P	Pn	01 02 28.2	+0.9
FDF	Fort de France	0.34	349		Pn	01 02 28.4	+0.7
FDF	Fort de France	0.34	349	*e*P	Pn	01 02 28.3	+0.7
SLBI	Saint Lucia, B	0.38	164	*e*P	Pn	01 02 28.0	+0.3
SLBI				*e*S	Sn	01 02 44.2	-0.2
GBMF	Grand Be	0.41	349	*e*P	Pn	01 02 28.6	+0.7
CXM	Morne La Croix	0.42	349	*e*P	Pn	01 02 29.7	+1.7
BAMF	Morne Balai	0.42	351	*e*P	Pn	01 02 28.7	+0.8
ILAM	Ilet Lapin Mar	0.43	28	Pn	Pn	01 02 28.8	+0.9
ILAM				Sn	Sn	01 02 45.3	+0.6
ILAM	Ilet Lapin Mar	0.43	28	*e*P	Pn	01 02 29.0	+1.2
ILAM				*e*S	Sn	01 02 45.4	+0.6
PCM	Pelee Case Pet	0.44	344	*e*P	Pn	01 02 28.4	+0.5
PCM	Pelee Case Pet	0.44	344	*e*P	Pn	01 02 28.5	+0.5
SVN	Savane Anatole	0.45	349		Pn	01 02 28.5	+0.5
SVN	Savane Anatole	0.45	349	*e*P	Pn	01 02 29.3	+1.3
SVN				*e*S	Sn	01 02 45.0	-0.1
SLB	Belfond	0.56	176	*e*P	Pn	01 02 28.9	+0.3
SLB				*e*S	Sn	01 02 45.8	-0.2
SSV	Crater Summit	1.07	186	*e*P	Pn	01 02 32.1	+0.1
SVB	Belmont	1.13	188	*e*P	Pn	01 02 32.6	+0.1
SVB				*e*S	Sn	01 02 52.0	-1.1
SVT	Saint Vincent	1.23	187	*e*P	Pn	01 02 33.1	-0.3
SVT				*e*S	Sn	01 02 54.6	-0.1
SVOC	Richmond Hill,	1.24	186	*e*P	Pn	01 02 33.3	-0.2
SVOC				*e*S	Sn	01 02 54.4	-0.5
TDBA	Terre de Bas,	1.54	340	*e*P	Pn	01 02 37.1	+0.7
TBG	Guadaloupe-3	1.55	340	*e*P	Pn	01 02 36.9	+0.4
MAGL	Barre de l'ile	1.56	353	Pn	Pn	01 02 37.0	+0.4
MAGL	Barre de l'ile	1.56	353	*e*P	Pn	01 02 37.0	+0.4
CBE	Ff, Capester	1.74	343		Pn	01 02 39.7	+1.1
CBE	Ff, Capester	1.74	343	*e*P	Pn	01 02 39.4	+0.8
GDSD	La Dsirade Is	1.91	0		Pn	01 02 40.7	+0.3
H05N1	Guadeloupe/Mar	1.91	1	P	Pn	01 02 40.6	+0.1
H05N1				S	Sn	01 03 06.3	-1.0
GCMP	Grenada, Carri	1.93	190	*e*P	Pn	01 02 40.6	0.0
GCMP				*e*S	Sn	01 03 06.3	-1.2
BBGH	Gun Hill	1.93	130	Pn	Pn	01 02 43.7	+3.0
BBGH	Gun Hill	1.93	130	*e*P	Pn	01 02 43.6	+2.9
BBGH				*e*S	Sn	01 03 09.3	+1.7
GDHS	Morne Mazeau,	1.98	341		Pn	01 02 42.3	+1.0
ABD	La Joyeuse, An	2.10	349	Pn	Pn	01 02 43.2	+0.6
ABD	La Joyeuse, An	2.10	349	*e*P	Pn	01 02 43.2	+0.6
GRHS	Sauteurs	2.23	194	*e*P	Pn	01 02 45.0	+1.0
GRHS				*e*S	Sn	01 03 13.4	-0.3
GRGR	Grenville	2.32	194	*e*P	Pn	01 02 46.0	+0.9
GRGR				*e*S	Sn	01 03 15.8	+0.2
GRFF	Grenada Fort F	2.42	195	*e*P	Pn	01 02 46.8	+0.4
GRFF				*e*S	Sn	01 03 17.6	-0.2
MBFL	Flemmings, Mon	2.58	335	*e*P	Pn	01 02 48.7	+0.4
MBFL				*e*S	Sn	01 03 21.5	+0.2
ANBD	Bethesda, Anti	2.72	346	*e*P	Pn	01 02 50.0	+0.1
ANBD				*e*S	Sn	01 03 23.5	-0.8
TCE	Chacachacare	3.73	190	*e*P	Pn	01 03 04.4	+1.5
TCE				*e*S	Sn	01 03 45.2	-2.1
TRN	Trinidad (W)	3.74	185	*e*P	Pn	01 03 03.7	+0.8
TRN				*e*S	Sn	01 03 45.2	-2.1
TBH	Brigand Hill	3.89	180	*e*P	Pn	01 03 05.2	+0.4
TBH				*e*S	Sn	01 03 49.4	-1.4
PCRV	Puerto La Cruz	5.44	220	P	Pn	01 03 27.9	+2.7
	2.5nm,0.4s,baz=50,slow=4.2,SNR=10						
PCRV				S	Sn	01 04 30.6	+3.2
	11nm,0.8s,baz=347,slow=19,SNR=2.4						
BAUV	El Baul	8.71	232	Pn	Pn	01 04 11.9	+3.4
SDDR	Presa de Saban	10.79	296	Pn	Pn	01 04 35.6	-0.5
BOAV	Boa Vista	11.94	177	Pn	Pn	01 04 48.3	-2.7
MDP	Montagnes des	12.42	137	P	Pn	01 04 57.8	+0.4
	2.9nm,0.7s,baz=344,slow=17,SNR=1.2						
MDP				S	Sn	01 07 08.5	-6.5
	19nm,0.5s,baz=28,slow=8.2,SNR=11						
MACA	Manacapuru-AM	17.45	179		P	01 06 00.2	+1.8
SAML	Samuel	23.29	185		P	01 07 00.5	+1.1
W50A	Signal Mountai	30.07	318	P	P	01 08 00.5	+0.4
W50A				IAmb	IAmb	01 08 32.6	
	comp=Z,11nm,1.5s						
LPAZ	La Paz	31.27	193	P	P	01 08 12.6	+1.1
	comp=Z,0.8nm,0.7s,baz=3.3,slow=6.2,SNR=3.6						
	comp=Z,0.8nm,0.7s						
TXAR	Lajitas Array	41.98	298	P	P	01 09 40.3	-1.2
	comp=Z,0.2nm,0.5s,baz=101,slow=8.4,SNR=4.7						
	comp=Z,0.2nm,0.5s						
ULM	Lac du Bonnet	45.55	329	P	P	01 10 08.1	-1.3
	comp=Z,1.6nm,0.5s,baz=131,slow=10,SNR=4.1						
	comp=Z,1.6nm,0.5s						
PD31	Pinedale Array	50.20	314	P	P	01 10 45.6	0.0
PD31				IAmb	IAmb	01 10 46.1	
	comp=Z,1.8nm,0.6s						
PDAR	Pinedale Array	50.20	314	P	P	01 10 45.9	+0.3
	comp=Z,1.3nm,0.5s,baz=119,slow=10.0,SNR=13						
	comp=Z,1.3nm,0.5s						
TMUT	Trail Mountain	50.37	309	P	P	01 10 47.5	+0.5
TMUT				IAmb	IAmb	01 10 48.3	
	comp=Z,2.2nm,0.6s						
BSUT	Blindstream Ca	50.37	311	P	P	01 10 48.0	+0.9
FCC	Fort Churchill	50.63	338	P	P	01 10 48.2	0.0
FCC				IAmb	IAmb	01 11 08.0	
	comp=Z,11nm,1.4s						
BGU	Big Grassy Mou	52.14	311	P	P	01 11 00.3	+0.3
BGU				IAmb	IAmb	01 11 01.1	
	comp=Z,3.1nm,0.8s						
DBIC	Dimbokro	55.70	92	P	P	01 11 28.7	+2.7
YKA	Yellowknife Ar	60.91	335	P	P	01 12 00.3	-1.0
	comp=Z,0.8nm,0.6s,baz=104,slow=7.4,SNR=5.7						
	comp=Z,0.8nm,0.6s						
ILAR	Eielson Array	75.31	334	P	P	01 13 31.0	-0.1
	comp=Z,0.6nm,0.7s,baz=96,slow=4.3,SNR=9.9						
	comp=Z,0.6nm,0.7s						

*IDC **27** 01:10:03.0±1.0, 34°57N×26°49E, h0km, mb3.7/11, mbtmp3.7/18, ML3.4/7, MS3.2/4, Error ellipse: s-maj=21.4km s-min=16.5km az=3.0*
*ISK **27** 01:10:06.6, 34°55N×26°59E, h9km, ML3.3/14*
*ATH **27** 01:10:08.2, 34°60N×26°57E, h9km±3km, ML3.0/4, Error ellipse: s-maj=7.4km s-min=1.7km az=350.0*
*THE **27** 01:10:08.6, 34°60N×26°66E, h0km±1km, ML3.0/3, Error ellipse: s-maj=2.8km s-min=0.7km az=133.0*
*GII **27** 01:10:10.5±0.5, 34°293N±0°003×27°131E±0°001, h12km, Md3.4/2, Mws3.6/3, confirmed*
*AFAD **27** 01:10:12.2±0.0, 35°01N×27°10E, h10km±2km, ML2.9*

ISC 27 01:10:04.9±1.4, 34°40N±0°05×26°67E±0°03, h16km±9km, n141, σ1§92/157, mb3.6/11, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.80	332	Pg	Pg	01 10 19.3	-1.2
ZKR				Sg	Sg	01 10 29.1	-2.0
ZKR	Zakros	0.80	332	P	Pg	01 10 20.9	+0.4
ZKR				S	Sg	01 10 31.2	+0.1
	2μm,0.4s						
ZKR	Zakros	0.80	332	P	Pg	01 10 19.2	-1.3
ZKR				AML	AML	01 10 35.1	
	comp=E,4134μm,0.5s						
ZKR				AML	AML	01 10 36.1	
	comp=N,2086μm,0.3s						
KARP	Karpathos	1.21	19	Pn	Pn	01 10 28.6	+1.5
KARP				Sn	Sb	01 10 43.9	+1.1
KARP	Karpathos	1.21	19	P	Pg	01 10 29.0	+0.7
KARP	Karpathos	1.21	19	P	Pn	01 10 28.2	+1.0
KARP				AML	AML	01 10 58.5	
	comp=N,3355μm,0.7s						
KARP				AML	AML	01 10 58.9	
	comp=E,2128μm,0.5s						
KSTL	Kastelli Herak	1.59	305	P	Pn	01 10 31.9	-0.4
KSTL				S	Sn	01 10 50.1	-2.5
KSTL	Kastelli Herak	1.59	305	P	Pn	01 10 29.8	-2.6
KSTL				AML	AML	01 10 56.7	
	comp=N,2358μm,0.6s						
KSTL				AML	AML	01 10 59.0	
	comp=E,702μm,0.6s						
TMBK	Timbaki Herakl	1.71	294	P	Pg	01 10 37.1	-0.5
TMBK				S	Sg	01 10 59.3	-0.5
TMBK	Timbaki Herakl	1.71	294	P	Pb	01 10 36.2	+0.4
IDI	Anoyia	1.71	302	Pn	Pn	01 10 35.5	+1.5
IDI				Sn	Sn	01 10 56.6	+1.0
IDI	Anoyia	1.71	302	P	Pb	01 10 36.1	+0.2
IDI				S	Sg	01 10 58.8	-1.2
	comp=E,260nm,0.6s						
IDI	Anoyia	1.71	302	Pn	Pn	01 10 35.0	+1.0
	comp=E,6.6nm,0.3s,baz=86,slow=16,SNR=32						
IDI				Sn	Sg	01 10 58.9	-1.2
	comp=E,16nm,0.3s,baz=31,slow=23,SNR=8.4						
IDI	Anoyia	1.71	302	P	Pn	01 10 35.0	+1.0
IDI				AML	AML	01 11 04.3	
	comp=N,449μm,0.6s						
IDI				AML	AML	01 11 12.3	
	comp=E,650μm,0.7s						
PRNS	Prines Rethymn	2.02	299	P	Pb	01 10 41.5	+0.3
ARG	Arkhangelos	2.17	33	Pn	Pn	01 10 43.2	+3.0
ARG	Arkhangelos	2.17	33	P	Pn	01 10 43.0	+2.8
GVD	Gavdhos	2.17	282	Pn	Pn	01 10 42.8	+2.5
GVD	Gavdhos	2.17	282	P	Pb	01 10 43.3	-0.5
GVD	Gavdhos	2.17	282	P	Pn	01 10 42.1	+1.7
SANT	Santorini	2.20	334	Pn	Pn	01 10 42.2	+1.5
THR6	Thira Island,	2.21	332	P	Pn	01 10 42.9	+2.1
THR6	Thira Island,	2.21	332	P	Pn	01 10 41.5	+0.7
THR8	Santorini-Mono	2.22	334	P	Pn	01 10 42.3	+1.3
NISR	Nisiros	2.23	9	P	Pn	01 10 43.5	+2.3
NISR	Nisiros	2.23	9	P	Pn	01 10 42.8	+1.7
SNT5	Nea Kammeni, S	2.25	333	P	Pn	01 10 43.4	+2.0
THR3	Thira Island,	2.25	333	P	Pn	01 10 43.5	+2.1
THR2	Thira island,	2.27	334	P	Pn	01 10 43.3	+1.6
THR5	Thira Island,	2.28	332	P	Pn	01 10 43.0	+1.2
CMBO	Columbo, Santo	2.31	334	P	Pn	01 10 43.6	+1.4
YAZI	Mula-Dat§a-	2.36	15	P	Pn	01 10 44.0	+1.1
DAT	Datca	2.44	17	Pn	Pn	01 10 45.5	+1.5
DAT	Datca	2.44	17	P	Pn	01 10 45.3	+1.2
DAT	Datca	2.44	17	P	Pn	01 10 45.6	+1.5
IMMV	Iera Moni Meta	2.45	296	Pn	Pn	01 10 46.3	+2.2
IMMV	Iera Moni Meta	2.45	296	P	Pb	01 10 47.2	-1.3
IMMV				S	Sb	01 11 18.3	-0.1
	comp=E,320nm,0.8s						
IMMV	Iera Moni Meta	2.45	296	P	Pn	01 10 46.3	+2.2
KNDR	Palaiochora Ch	2.59	289	Pn	Pn	01 10 48.9	+2.8
KNDR	Palaiochora Ch	2.59	289	P	Pn	01 10 48.2	+2.1
RODP	Rodopos	2.66	297	Pn	Pn	01 10 49.2	+2.2
BODT	Bodrum	2.70	11	Pn	Pn	01 10 49.6	+2.0
BODT	Bodrum	2.70	11	P	Pn	01 10 49.1	+1.5
BDRM	Kayabasi	2.73	13	P	Pn	01 10 49.5	+1.5
APE	Apeiranthos	2.82	341	Pn	Pn	01 10 50.5	+1.3
APE	Apeiranthos	2.82	341	P	Pn	01 10 50.1	+0.9
APE	Apeiranthos	2.82	341	P	Pn	01 10 49.7	+0.4
IZZE	Mula-Seydike	2.91	45	P	Pn	01 10 51.8	+1.3
IZZE				S	Sn	01 11 22.1	-3.0
IZZE				*i* AML	AML	01 11 29.0	
	comp=E,77nm,0.5s						
IZZE				*i* AML	AML	01 11 38.0	
	comp=E,86nm,0.5s						
KSL	Kastellorizon	2.95	53	P	Pn	01 10 53.4	+2.4
FETY	Fethiye	2.97	41	Pn	Pn	01 10 53.3	+2.0
AKAS	Kas	3.02	52	P	Pn	01 10 53.9	+1.9
AKAS				S	Sn	01 11 24.0	-3.9
AKAS				*i* AML	AML	01 11 35.0	
	comp=E,127nm,0.5s						
AKAS				*i* AML	AML	01 11 36.0	
	comp=E,96nm,0.7s						
SABU	Mula-Dalaman	3.06	37	P	Pn	01 10 54.8	+2.3
SABU				S	Sn	01 11 25.4	-3.3
DDIM	Aydin, Didim	3.08	8	P	Pn	01 10 56.8	+3.9
ANKY	Antikythira Is	3.12	299	P	Pn	01 10 54.1	+0.7
MULA	Mugla, Merkez-	3.15	25	P	Pn	01 10 55.8	+2.0
SMG	Samos	3.30	2	P	Pn	01 10 56.4	+0.6
KNIK	Mula-Seydike	3.40	43	P	Pn	01 10 58.0	+0.8
DNZT	Denizli-Tavas-	3.45	33	P	Pn	01 10 59.4	+1.4
DNZT

KZIT	Kziot	7.39	116	P	Pn	01 11 52.4	+0.4
MMA0B	Mount Meron ar	7.41	98	P	Pn	01 11 54.5	+2.1
MMAI	Mount Meron Ar	7.41	98	Pn	Pn	01 11 53.3	+0.9
	comp=E,1.9nm,0.3s,baz=298,slow=11,SNR=13						
MMAI				Sn	Sn	01 13 15.3	-0.8
	comp=E,4.6nm,0.3s,baz=271,slow=23,SNR=8.3						
	comp=E,2.1nm,0.4s						
AMAZ	Amatzia	7.50	110	P	Pn	01 11 54.2	+0.7
AMAZ	Amatzia	7.50	110	S	Sn	01 13 15.5	-2.7
GEM	Giv'at Ha'Em	7.58	97	P	Pn	01 11 55.5	+0.9
NATI	Neve Ativ	7.63	96	P	Pn	01 11 55.9	+0.7
BRTR	Keskin Array B	7.70	44	Pn	Pn	01 11 57.9	+1.6
	comp=E,0.2nm,0.3s,baz=223,slow=16,SNR=5.7						
	comp=E,0.6nm,0.5s						
HMDT	Nahal Hemdat	7.71	104	P	Pn	01 11 57.1	+0.7
YTIR	Yattir	7.72	111	P	Pn	01 11 57.9	+1.3
YTIR	Yattir	7.72	111	S	Sn	01 13 20.9	-2.9
KSHT	Keshet	7.75	98	P	Pn	01 11 58.4	+1.4
DSI	Dead Sea	7.84	109	S	Sn	01 13 24.4	-2.2
DSI	Dead Sea	7.84	109	P	Pn	01 11 59.3	+1.1
MDBI	Mazsada	7.93	110	P	Pn	01 12 00.4	+1.0
GHAJ	Ghor Haditha	8.10	110	P	Pn	01 12 03.3	+1.7
PRNI	Paran	8.12	118	S	Sn	01 13 31.2	-2.4
PRNI	Paran	8.12	118	P	Pn	01 12 03.0	+0.9
HRFI	Mount Harif	8.32	119	S	Sn	01 13 35.9	-2.4
HRFI	Mount Harif	8.32	119	P	Pn	01 12 06.4	+1.7
MBRI	Mt Berech	8.37	121	P	Pn	01 12 06.4	+0.9
EIL	Elat	8.46	122	Pn	Pn	01 12 08.7	+1.9
	comp=E,0.7nm,0.3s,baz=324,slow=3.6,SNR=27						
EIL				Sn	Sn	01 13 37.8	-4.2
	comp=E,1.7nm,0.3s,baz=9.5,slow=18,SNR=3.6						
	comp=E,5.0nm,0.5s						
EIL	Elat	8.46	122	P	Pn	01 12 08.3	+1.6
EIL	Elat	8.46	122	S	Sn	01 13 38.7	-3.2
ASF	Jabal al Asfar	8.85	102	Pn	Pn	01 12 13.6	+1.5
	comp=E,0.2nm,0.3s,baz=213,slow=2.6,SNR=6.1						
ASF				Sn	Sn	01 13 46.2	-5.2
	comp=E,0.4nm,0.3s,baz=204,slow=1.0,SNR=1.6						
	comp=E,1.8nm,0.4s						
MLR	Muntele Rosu	11.09	357	LR	LR	01 16 54.3	
	comp=E,53nm,19.5s,baz=222,slow=38						
GNI	Garni	15.48	63	LR	LR	01 21 07.8	
	comp=E,59nm,19.2s,baz=278,slow=43						
KBZ	Khabaz	15.65	49	Pn	Pn	01 13 48.3	+3.8
	comp=E,0.1nm,0.3s,baz=101,slow=5.2,SNR=2.6						
	comp=E,3.5nm,1.0s						
AKASG	Malin Array Be	16.39	6	Pn	Pn	01 13 53.3	-0.8
	comp=E,0.4nm,0.3s,baz=194,slow=11,SNR=2.6						
	comp=E,0.5nm,0.4s						
GERES	GERESS Array B	17.35	330	P	Pn	01 14 06.9	+0.7
	comp=E,0.3nm,0.5s,baz=140,slow=8.5,SNR=4.1						
DAVOX	Davos/Dischmat	17.72	319	P	Pn	01 14 10.0	-0.9
	comp=E,0.2nm,0.3s,baz=162,slow=19,SNR=2.6						
DAVOX				LR	LR	01 22 25.8	
	comp=E,53nm,19.1s,baz=72,slow=42						
	comp=E,0.4nm,0.4s						
ESDC	Sonseca Array	24.94	291	P	P	01 15 26.9	-0.4
	comp=E,0.3nm,0.5s,baz=79,slow=9.8,SNR=5.6						
	comp=E,0.3nm,0.5s						
FINES	FINESS Array B	27.06	359	P	P	01 15 44.8	-1.4
	comp=E,0.9nm,0.6s,baz=156,slow=10,SNR=7.2						
	comp=E,0.9nm,0.6s						
HFS	Hagfors	27.10	346	P	P	01 15 44.5	-2.2
	comp=E,1.2nm,0.8s,baz=140,slow=12,SNR=5.6						
	comp=E,1.2nm,0.8s						
NOA	NORSAR Array B	28.45	344	P	P	01 15 57.2	-1.6
	comp=E,0.2nm,0.6s,baz=146,slow=9.7,SNR=1.9						
	comp=E,0.2nm,0.6s						
TORD	Torodi Ar. Bea	30.99	233	P	P	01 16 22.1	+0.6
	comp=E,0.7nm,0.6s,baz=36,slow=9.5,SNR=8.9						
	comp=E,0.7nm,0.6s						
ARCES	ARCESS Array B	35.19	359	P	P	01 16 55.3	-2.4
	comp=E,1.3nm,0.7s,baz=177,slow=9.7,SNR=7.6						
	comp=E,1.3nm,0.7s						
KURBB	Kurchatov Arra	40.64	50	P	P	01 17 45.5	+1.7
	comp=E,1.1nm,0.7s,baz=276,slow=8.5,SNR=14						
	comp=E,1.1nm,0.7s						
MKAR	Makanchi Array	43.16	56	P	P	01 18 06.0	+1.4
	comp=E,0.6nm,0.6s,baz=273,slow=7.0,SNR=6.1						
	comp=E,0.6nm,0.6s						
ZALV	Zalesovo Beam	44.64	46	P	P	01 18 17.2	+0.9
	comp=E,0.8nm,0.4s,baz=268,slow=7.8,SNR=5.5						
	comp=E,0.8nm,0.4s						
SONM	Songino Array	59.00	51	P	P	01 20 05.7	+1.9
	comp=E,1.1nm,0.6s,baz=269,slow=7.5,SNR=4.2						
	comp=E,1.1nm,0.6s						
SUR	Sutherland	66.66	185	LR	LR	01 51 39.6	
	comp=E,75nm,18.7s,baz=144,slow=37						
ILAR	Eielson Array	81.02	357	P	P	01 22 18.1	-0.4
	comp=E,0.2nm,0.8s,baz=13,slow=9.3,SNR=2.8						
	comp=E,0.2nm,0.8s						

*IDC **27** 01:16:39.6±1.1, 34°.59N×26°.50E, h0km, mb3.7/10, mbtmp3.7/13, ML3.4/3, Error ellipse: s-maj=24.8km s-min=18.0km az=174.0*
*ISK **27** 01:16:45.2, 34°.70N×26°.54E, h14km, ML3.0/12*
*ATH **27** 01:16:45.6, 34°.64N×26°.52E, h6km±2km, ML2.8/4, Error ellipse: s-maj=6.1km s-min=1.5km az=344.0*
*AFAD **27** 01:16:48.5±0.0, 34°.96N×27°.12E, h8km±2km, ML2.6*
ISC 27 01:16:42.2±1.8, 34°.49N±0°.08×26°.64E±0°.03, h14km±9km, n85, σ1°90/91, mb3.5/10, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.71	331	Pg	Pg	01 16 55.5	-0.6
ZKR				Sg	Sg	01 17 02.9	-2.6
ZKR	Zakros	0.71	331	P	Pg	01 16 55.8	-0.3
ZKR				S	Sn	01 17 13.3	+4.7
ZKR	Zakros	0.71	331	P	Pg	01 16 55.9	-0.2
ZKR				AML	AML	01 17 15.5	
	comp=N,1395μm,0.6s						
ZKR				AML	AML	01 17 17.9	
	comp=E,3314μm,0.4s						
KARP	Karpathos	1.14	22	Pg	Pg	01 17 05.5	+1.4
KARP				Sg	Sg	01 17 18.7	-0.2
KARP	Karpathos	1.14	22	P	Pg	01 17 05.5	+1.4
KARP	Karpathos	1.14	22	P	Pg	01 17 05.0	+0.9
KARP				AML	AML	01 17 35.2	
	comp=N,1695μm,0.7s						
KARP				AML	AML	01 17 39.6	
	comp=E,1376μm,0.6s						
KSTL	Kastelli Herak	1.52	303	P	Pn	01 17 06.3	-2.6
KSTL				S	Sb	01 17 27.1	-2.2
KSTL	Kastelli Herak	1.52	303	P	Pn	01 17 06.5	-2.4
KSTL				AML	AML	01 17 31.1	
	comp=N,1694μm,0.6s						
KSTL				AML	AML	01 17 36.5	
	comp=E,490μm,0.7s						
IDI	Anoyia	1.65	299	Pn	Pn	01 17 12.1	+1.4
IDI				Sn	Sn	01 17 32.2	+0.5
IDI	Anoyia	1.65	299	P	Pn	01 17 12.2	+1.5
IDI				S	Sg	01 17 35.2	+0.1
IDI	Anoyia	1.65	299	Pn	Pn	01 17 12.0	+1.4
	comp=E,7.6nm,0.3s,baz=131,slow=11,SNR=30						
IDI				Sn	Sg	01 17 35.0	-0.1
	comp=E,22nm,0.3s,baz=341,slow=23,SNR=9.4						
IDI	Anoyia	1.65	299	P	Pn	01 17 11.5	+0.8
IDI				AML	AML	01 17 46.4	
	comp=E,373μm,0.6s						
IDI				AML	AML	01 17 47.7	
	comp=N,313μm,0.5s						
TMBK	Timbaki Herakl	1.65	291	P	Pn	01 17 12.9	+2.3
ARG	Arkhangelos	2.10	35	Pn	Pn	01 17 19.8	+2.9
ARG	Arkhangelos	2.10	35	P	Pn	01 17 19.9	+3.0
ARG	Arkhangelos	2.10	35	P	Pn	01 17 20.1	+3.1
SANT	Santorini	2.11	333	Pn	Pn	01 17 17.9	+0.9
SANT	Santorini	2.11	333	P	Pn	01 17 18.4	+1.3
THR6	Thira Island,	2.12	332	P	Pn	01 17 18.5	+1.4
GVD	Gavdhos	2.13	280	Pn	Pn	01 17 20.1	+2.8
GVD	Gavdhos	2.13	280	P	Pn	01 17 19.6	+2.2
THR8	Santorini-Mono	2.13	334	P	Pn	01 17 18.9	+1.6
SNT5	Nea Kammeni, S	2.16	332	P	Pn	01 17 19.8	+2.0
THR3	Thira Island,	2.17	332	P	Pn	01 17 19.3	+1.5
THR2	Thira island,	2.19	334	P	Pn	01 17 20.2	+2.1
THR5	Thira Island,	2.19	332	P	Pn	01 17 19.4	+1.3
CMBO	Columbo, Santo	2.22	333	P	Pn	01 17 19.8	+1.3
YAZI	Mula-Dat§a-	2.28	17	P	Pn	01 17 20.9	+1.5
DAT	Datca	2.36	19	Pn	Pn	01 17 22.0	+1.4
DAT	Datca	2.36	19	P	Pn	01 17 22.3	+1.8
DAT	Datca	2.36	19	P	Pn	01 17 22.0	+1.4
IMMV	Iera Moni Meta	2.39	295	Pn	Pn	01 17 22.9	+2.0
IMMV	Iera Moni Meta	2.39	295	P	Pn	01 17 22.2	+1.3
IMMV	Iera Moni Meta	2.39	295	P	Pn	01 17 23.2	+2.3
KNDR	Palaiochora Ch	2.54	288	Pn	Pn	01 17 25.7	+2.8
KNDR	Palaiochora Ch	2.54	288	P	Pn	01 17 24.9	+2.0
RODP	Rodopos	2.60	295	Pn	Pn	01 17 25.9	+2.2
BODT	Bodrum	2.62	12	Pn	Pn	01 17 25.7	+1.6
BDRM	Kayabasi	2.65	14	P	Pn	01 17 26.1	+1.6
APE	Apeiranthos	2.73	341	Pn	Pn	01 17 26.9	+1.4
APE	Apeiranthos	2.73	341	P	Pn	01 17 26.6	+1.1
APE				S	Sn	01 18 00.3	+2.0
APE	Apeiranthos	2.73	341	P	Pn	01 17 26.7	+1.1
IZZE	Mula-Seydike	2.87	47	P	Pn	01 17 28.7	+1.3
IZZE				S	Sn	01 18 00.1	-1.6
IZZE				*i* AML	AML	01 18 12.0	
	comp=N,49nm,0.4s						
IZZE				*i* AML	AML	01 18 14.0	
	comp=N,39nm,0.4s						
KSL	Kastellorizon	2.92	55	P	Pn	01 17 29.9	+1.8
AKAS	Kas	2.98	54	P	Pn	01 17 30.4	+1.3
AKAS				S	Sn	01 18 02.4	-2.3
AKAS				*i* AML	AML	01 18 13.0	
	comp=N,48nm,0.8s						
SABU	Mula-Dalaman	3.00	38	P	Pn	01 17 31.1	+1.8
ANKY	Antikythira Is	3.06	298	P	Pn	01 17 31.4	+1.3
SMG	Samos	3.21	3	P	Pn	01 17 34.8	+2.6
KNIK	Mula-Seydike	3.35	45	P	Pn	01 17 35.6	+1.5
KNIK				S	Sn	01 18 03.4	-10
DNZT	Denizli-Tavas-	3.39	34	P	Pn	01 17 37.0	+2.3
DNZT				S	Sn	01 18 07.3	-7.4
CAEL	Denizli, Camel	3.41	39	P	Pn	01 17 36.8	+1.8
CAEL				S	Sn	01 18 09.8	-5.5
CAEL				*i* AML	AML	01 18 30.0	
	comp=N,56nm,0.9s						
TAVA	DENIZLI_Tavas	3.49	31	P	Pn	01 17 38.1	+1.9
AKUM	Antalya-Kumluc	3.53	58	P	Pn	01 17 36.9	+0.3
AKUM				S	Sn	01 18 15.1	-3.0
ESEN	Aydn-Nazilli	3.58	22	P	Pn	01 17 39.3	+2.1
GOLH	Golhisar	3.62	40	P	Pn	01 17 40.5	+2.6
GOLH				S	Sn	01 18 16.9	-3.7
GOLH				*i* AML	AML	01 18 28.0	
	comp=N,23nm,0.5s						
GOLH				*i* AML	AML	01 19 01.0	
	comp=N,25nm,1.0s						
DNIZ	Denizli-Tavas-	3.68	31	P	Pn	01 17 40.5	+1.7
DNIZ				*i* AML	AML	01 18 38.0	
	comp=N,27nm,0.4s						
DNIZ				*i* AML	AML	01 18 44.0	
	comp=N,42nm,0.7s						
CHOS	Chios island	3.92	353	P	Pn	01 17 42.6	+0.7
KIRA	zmir-Kiraz	3.96	20	P	Pn	01 17 44.4	+1.9
INCE	Denizli-Bozkur	3.99	36	P	Pn	01 17 44.1	+1.1
INCE				*i* AML	AML	01 19 02.0	
	comp=N,13nm,1.1s						
VLY	Voula,Athens	4.07	326	P	Pn	01 17 46.5	+2.6
ATHU	Athens Univers	4.17	327	P	Pn	01 17 46.8	+1.6
EPID	Epidavros	4.22	319	P	Pn	01 17 47.3	+1.2
BRDR	BURDUR-Merkez	4.23	40	P	Pn	01 17 47.7	+1.4
BUCA	Burdur, Bucak-	4.26	47	P	Pn	01 17 50.2	+3.6
BUCA				*i* AML	AML	01 19 01.0	
	comp=N,14nm,0.9s						
BUCA				*i* AML	AML	01 19 05.0	
	comp=N,13nm,0.7s						
KYMI	Kymi, Euboea I	4.61	334	P	Pn	01 17 53.0	+1.6
PYL	PYLOS	4.65	302	P	Pn	01 17 53.3	+1.3
GUR	Goura	4.89	316	P	Pn	01 17 56.1	+0.8
KLV	Kalavryta, Ach	5.07	316	P	Pn	01 17 59.2	+1.4
KLV	Kalavryta, Ach	5.07	316	P	Pn	01 17 58.6	+0.8
KALE	Kalithea	5.32	318	P	Pn	01 18 03.7	+2.5
MMAI	Mount Meron Ar	7.44	99	Pn	Pn	01 18 29.9	-0.5
	comp=N,1.3nm,0.3s,baz=283,slow=11,SNR=9.8						
MMAI				Sn	Sn	01 19 51.7	-3.0
	comp=N,5.2nm,0.3s,baz=275,slow=21,SNR=12						
	comp=N,0.9nm,0.3s						
BRTR	Keskin Array B	7.65	45	Pn	Pn	01 18 35.2	+1.9
	comp=N,0.1nm,0.3s,baz=209,slow=13,SNR=2.7						
	comp=N,0.2nm,0.3s						
EIL	Elat	8.53	122	Pn	Pn	01 18 44.6	-0.7
	comp=N,0.7nm,0.3s,baz=309,slow=3.2,SNR=24						
EIL				Sn	Sn	01 20 14.2	-7.1
	comp=N,3.0nm,0.3s,baz=201,slow=4.5,SNR=8.7						
	comp=N,2.2nm,0.2s						
ASF	Jabal al Asfar	8.89	102	Sn	Sn	01 20 25.0	-5.2
	comp=N,0.4nm,0.3s,baz=195,slow=0.2,SNR=5.9						
GERES	GERESS Array B	17.26	330	P	Pn	01 20 42.9	+0.2
	comp=N,0.3nm,0.4s,baz=164,slow=11,SNR=2.4						
ESDC	Sonseca Array	24.89	291	P	P	01 22 04.0	-0.6
	comp=N,0.3nm,0.4s,baz=78,slow=9.6,SNR=7.5						
	comp=N,0.3nm,0.4s						
FINES	FINESS Array B	26.97	359	P	P	01 22 20.7	-2.3
	comp=N,0.5nm,0.6s,baz=154,slow=11,SNR=6.1						
	comp=N,0.5nm,0.6s						
HFS	Hagfors	27.01	346	P	P	01 22 21.3	-2.1
	comp=N,0.4nm,0.5s,baz=133,slow=6.3,SNR=5.5						
	comp=N,0.4nm,0.5s						
TORD	Torodi Ar. Bea	31.02	233	P	P	01 22 58.7	-0.9
	comp=N,0.3nm,0.4s,baz=39,slow=8.9,SNR=6.2						
	comp=N,0.3nm,0.4s						
ARCES	ARCESS Array B	35.10	359	P	P	01 23 32.0	-2.6
	comp=N,1.7nm,0.8s,baz=171,slow=8.6,SNR=7.2						
	comp=N,1.7nm,0.8s						
KURBB	Kurchatov Arra	40.60	50	P	P	01 24 22.0	+0.8
	comp=N,0.8nm,0.7s,baz=278,slow=8.5,SNR=9.4						
	comp=N,0.8nm,0.7s						
MKAR	Makanchi Array	43.13	56	P	P	01 24 42.4	+0.4
	comp=N,0.5nm,0.6s,baz=263,slow=8.0,SNR=4.9						
	comp=N,0.5nm,0.6s						
ZALV	Zalesovo Beam	44.59	46	P	P	01 24 54.1	+0.5
	comp=N,0.8nm,0.5s,baz=264,slow=8.5,SNR=1.8						
	comp=N,0.8nm,0.5s						
SONM	Songino Array	58.97	51	P	P	01 26 41.7	+0.5
	comp=N,0.5nm,0.5s,baz=292,slow=7.6,SNR=1.8						
	comp=N,0.5nm,0.5s						
SCHQ	Schefferville	64.48	320	P	P	01 27 16.8	-1.3
	comp=N,1.7nm,0.5s,baz=36,slow=8.7,SNR=4.4						
	comp=N,1.7nm,0.5s						

*TEH **27** 01:21:36.2, 34°.63N×46°.29E, h8km±29km, ML2.7*
*ISN **27** 01:21:37.8±1.4, 34°.62N×46°.26E, h23km±26km, ML2.7*
ISC 27 01:21:36.0±1.0, 34°.65N±0°.04×46°.26E±0°.04, h9km±10km, n11, σ0°37/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.12	63	Pg	Pg	01 21 38.9	-0.1
IDHR				Sg	Sg	01 21 41.4	+0.2
IGHG	Ghaleghazi	0.41	140	Pg	Pg	01 21 44.2	+0.1
KGS1	Ghasr-e-Shirin	0.57	256	Pg	Pb	01 21 48.0	-0.2
GLG1	Gilan-e-Gharb	0.60	208	Pg	Pg	01 21 47.7	0.0
ILIN	Lien	0.64	65	Pg	Pg	01 21 48.3	-0.2
KCHF	Cheshme Sefid,	0.75	119	Pg	Pg	01 21 49.4	-1.0
ILBA	Ilam Banvizeh	1.02	182	Pg	Pb	01 21 55.8	-0.1
SNQR	Sonqor, Kerman	1.15	79	Pg	Pg	01 21 58.3	+0.2
IBZA	Bozab	1.34	97	Pg	Pn	01 22 01.4	+0.4
IBDR	Badra	1.56	190	*e*Pg	Pb	01 22 05.0	+0.1
	baz=10.0						
IBDR				*e*Sg	Sg	01 22 26.0	0.0
IKRK	Kirkuk	1.74	296	*e*Pn	Pb	01 22 08.0	-0.2
IKRK				*e*Sn	Sg	01 22 32.0	-0.1
IKRK				AML	AML	01 22 37.2	
	comp=N,101nm,0.2s						
IKRK				AML	AML	01 22 41.8	
	comp=E,92nm,0.7s						

IDC 27 01:22:01.6±1.8, 5°.69S×142°.03E, h0km, mb3.9/1, mbtmp3.8/3, ML3.7/2, Error ellipse: s-maj=183.0km s-min=32.2km az=114.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.02	207	Pn	Pn	01 25 46.5	-2.0
	0.2nm,0.3s,baz=29,slow=13,SNR=11						
WRA				Sn	Sn	01 28 35.2	-12
	0.3nm,0.3s,baz=31,slow=23,SNR=3.9						
	0.4nm,0.4s						
ASAR	Alice Springs	19.52	203	P	Pn	01 26 31.6	-0.2
	0.5nm,0.3s,baz=33,slow=9.9,SNR=47						
ASAR				S	Sn	01 29 59.4	-12
	0.7nm,0.6s,baz=21,slow=27,SNR=4.5						
	4.3nm,0.7s						
ILAR	Eielson Array	87.17	24	P	P	01 34 49.2	-0.1
	0.7nm,0.7s,baz=257,slow=4.9,SNR=8.1						
	0.7nm,0.7s						

NAM 27 01:24:10.6±2.5, 19°.81S×14°.57E, h6km±11km, ML0.6, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ST9N	ST9	0.03	283	*i* P	Pg	01 24 12.1	+0.2
ST9N				*i* S	Sg	01 24 13.0	+0.3
ST9N				IAML		01 24 13.6	
	comp=Z,6.5nm,0.0s						
ST9N	ST9	0.03	283	*i* P	Pg	01 24 12.1	+0.2
ST9N				*i* S	Sg	01 24 13.0	+0.2
ST9N				IAML		01 24 13.6	
	comp=Z,6.5nm,0.0s						
ST1N	ST1	0.08	29	*i* P	Pg	01 24 12.6	+0.1
ST1N				*i* S	Sg	01 24 13.8	+0.1
ST1N				IAML		01 24 13.9	
	comp=Z,1.7nm,0.0s						
ST1N	ST1	0.08	29	*i* P	Pg	01 24 12.5	+0.1
ST1N				*i* S	Sg	01 24 13.8	+0.1
ST1N				IAML		01 24 13.9	
	comp=Z,1.7nm,0.0s						
ST2N	ST2	0.12	170	*i* P	Pg	01 24 13.5	+0.2
ST2N				*i* S	Sg	01 24 15.2	+0.2
ST2N				IAML		01 24 15.5	
	comp=Z,1.3nm,0.1s						
ST2N	ST2	0.12	170	*i* P	Pg	01 24 13.4	+0.2
ST2N				*i* S	Sg	01 24 15.2	+0.1
ST2N				IAML		01 24 15.5	
	comp=Z,1.3nm,0.1s						
ST6N	ST6	0.17	271	*i* S	Sg	01 24 16.6	+0.4
ST6N	ST6	0.17	271	*i* P	Pg	01 24 14.2	+0.3
ST6N				*i* S	Sg	01 24 16.6	+0.4
ST6N				IAML		01 24 16.8	
	comp=Z,0.7nm,0.1s						
ST5N	ST5	0.17	85	*i* P	Pg	01 24 12.2	-1.9
ST5N				IAML		01 24 16.8	
	comp=Z,0.6nm,0.0s						
ST5N	ST5	0.17	85	*i* P	Pg	01 24 12.4	-1.7
ST5N				*i* S	Sg	01 24 16.2	-0.2
ST5N				IAML		01 24 16.8	
	comp=Z,0.6nm,0.0s						
ST10N	ST10	0.26	223	*i* P	Pg	01 24 14.4	-1.3
ST10N				IAML		01 24 20.1	
	comp=Z,0.5nm,0.1s						
ST10N	ST10	0.26	223	*i* P	Pg	01 24 14.4	-1.3
ST10N				*i* S	Sg	01 24 19.5	+0.3
ST10N				IAML		01 24 20.1	
	comp=Z,0.5nm,0.1s						
ST4N	ST4	0.39	103	*i* P	Pb	01 24 20.6	+0.6
ST4N				IAML		01 24 23.4	
	comp=Z,0.3nm,0.1s						

*IDC **27** 01:25:24.4±0.7, 26°.42N×128°.82E, h0km, mb4.2/20, mbtmp4.2/23, ML3.8/3, MS3.8/22, Error ellipse: s-maj=19.8km s-min=12.4km az=60.0*
*MOS **27** 01:25:24.4±1.0, 26°.39N×128°.80E, h14km, mb4.8/30, MS4.1/5, Error ellipse: s-maj=10.3km s-min=5.5km az=111.7*
*NEIC **27** 01:25:26.1±1.4, 26°.27N±0°.06×128°.85E±0°.06, h16km±4km, mb4.6/52, Error ellipse: s-maj=10.2km s-min=6.1km az=221.0*
*JMA **27** 01:25:26.8±0.3, 26°.4N±0°.8×12°.9E±°, h34km±4km, MD4.2/20, MV4.0/20, NEAR OKINAWAJIMA ISLAND*
*NIED **27** 01:25:26.8, 26°.38N×128°.97E, h34km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}3.54; $M_{\theta\theta}$-1.32; $M_{\phi\phi}$-2.22; $M_{r\theta}$2.05; $M_{\theta\phi}$-3.11; $M_{\phi r}$1.31; Fault plane solution: $M_0$4.90000×10^15^ NP1:ϕ_s53.00000°, δ61.00000°, λ104.00000°. NP2:ϕ_s206.00000°, δ32.00000°, λ67.00000°.*
ISC 27 01:25:26.6±0.7, 26°.32N±0°.04×128°.96E±0°.04, h20km±2km, n273, σ1°34/274, mb4.5/93, MS3.9/29, 16C-19D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	0.79	310	Pg	Pg	01 25 41.1	-1.0
JOW				Sg	Sg	01 25 50.9	-1.9
JOW	Kunigami	0.79	310	Pn	Pg	01 25 41.2	-1.0
	1μm,0.3s,baz=125,slow=23,SNR=2403						
JOW				Sn	Sg	01 25 52.5	-0.3
	942nm,0.3s,baz=320,slow=14,SNR=17						
JOW	Kunigami	0.79	310	P	Pg	01 25 41.2	-1.0
JOW	Kunigami	0.79	310	A	A	01 25 41.2	
	comp=E,12nm,1.3s,comp=N,10.0nm,1.1s						
JYRO	Yoronjima	0.83	327	P	Pg	01 25 41.5	-1.3
JYRO				*e*S	Sg	01 25 52.0	-2.0
JNTH	Nagotoyohara	0.86	283	P	Pg	01 25 42.4	-1.0
JJT3	Tamagusuku3	1.07	261	P	Pg	01 25 46.4	-0.9
JJT3				S	Sg	01 26 00.8	-0.7
JJT3	Tamagusuku3	1.07	261	A	A	01 25 46.4	
	comp=E,23nm,1.2s,comp=N,26nm,1.4s						
JOKE	Okinoerabujima	1.09	342	P	Pg	01 25 45.7	-2.1
JIH	Iheya	1.13	309	P	Pb	01 25 46.5	-1.0
JIH	Iheya	1.13	309	A	A	01 25 46.5	
	comp=E,12nm,2.5s,comp=N,8.0nm,1.7s						
JTK	Tokunoshima	1.46	360	P	Pn	01 25 50.5	-1.3
JAGN	Aguni-jima	1.56	280	P	Pn	01 25 53.3	+0.1
JAGN	Aguni-jima	1.56	280	A	A	01 25 53.3	
	comp=E,7.0nm,1.2s,comp=N,10.0nm,1.8s						
JAMN	Amaminishikomi	1.92	6	P	Pn	01 25 57.1	-1.1
JMZ	Minamidaito 2	2.10	103	Pn	Pn	01 26 00.3	-0.4
JMZ	Minamidaito 2	2.10	103	P	Pn	01 26 00.5	-0.2
JMZ				S	Sn

BJI LR LR
comp=E,150nm,13.4s
BJI LR LR
comp=Z,330nm,12.2s
CN2 Changchun 17.67 352 P **Pn** **01 29 31.8 +0.3**
CN2 *e*S **Sn** **01 32 47.3 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=N,700nm,12.0s
CN2 LR LR
comp=E,400nm,12.0s
CN2 LR LR
comp=Z,700nm,12.0s
USA0B Ussuriysk Arra 18.00 7 *e*P **Pn** **01 29 35.4 -0.2**
USRK Ussuriysk Ar. 18.00 7 P **Pn** **01 29 34.7 -1.0**
comp=Z,0.5nm,0.3s,baz=187,slow=8.1,SNR=7.4
comp=Z,4.4nm,0.8s
MDJ Mudanjiang 18.26 1 P **Pn** **01 29 40.0 +1.2**
MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,150nm,10.3s
XAN Xi'an 18.93 299 P **P** **01 29 46.8 +0.4**
XAN sP pwP 01 29 54.0 -0.5
XAN S **S** **01 33 22.5 +1.7**
XAN pmax pmax
comp=Z,43nm,0.7s
XAN pmax pmax
comp=Z,210nm,6.9s
XAN LR LR
comp=N,470nm,12.9s
XAN LR LR
comp=E,470nm,13.6s
XAN LR LR
comp=Z,790nm,13.6s
QIZ Qiongzhong 19.06 252 P **P** **01 29 47.5 -0.3**
QIZ S **Sn** **01 33 20.5 -1.3**
QIZ LR LR
comp=N,230nm,10.1s
QIZ LR LR
comp=E,230nm,9.3s
QIZ LR LR
comp=Z,370nm,15.1s
BNX BinXian 19.41 357 ⇓P **P** **01 29 51.0 -0.5**
BNX pmax pmax
comp=Z,3.0nm,0.9s
GUMO Guam 19.57 127 LR LR 01 37 39.6
comp=Z,110nm,18.8s,baz=276,slow=37
GYA Guiyang 19.97 275 P **P** **01 29 57.8 -0.1**
GYA S **S** **01 33 44.0 +2.1**
GYA pmax pmax
comp=Z,8.0nm,0.7s
GYA pmax pmax
comp=Z,170nm,7.5s
GYA LR LR
comp=N,340nm,13.4s
GYA LR LR
comp=E,770nm,13.7s
GYA LR LR
comp=Z,970nm,12.2s
XLT XiLinHaoTe 20.41 332 *e*P **P** **01 30 03.3 +0.8**
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT pmax pmax
comp=Z,82nm,5.8s
XLT LR LR
comp=N,31nm,13.4s
XLT LR LR
comp=E,280nm,12.8s
XLT LR LR
comp=Z,480nm,12.9s
HHC Hu-ho-hao-te 20.43 319 *e*P **P** **01 30 03.5 +0.7**
HHC pP Pn 01 30 07.5 +2.5
HHC sP pwP 01 30 10.5 -0.9
HHC pmax pmax
comp=Z,70nm,5.1s
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC LR LR
comp=N,420nm,11.0s
HHC LR LR
comp=E,410nm,11.2s
HHC LR LR
comp=Z,550nm,11.1s
ASAJ Asahikawa 20.91 28 P **P** **01 30 09.2 +1.4**
comp=Z,4.0nm,0.4s,baz=222,slow=20,SNR=5.7
ASAJ LR LR 01 38 22.1
comp=Z,199nm,21.2s,baz=178,slow=37
comp=Z,4.0nm,0.4s
BTO Baotou 21.21 317 *e*P **P** **01 30 14.0 +2.8**
BTO pP **pwP** **01 30 18.3 -1.6**
BTO sP **sP** **01 30 21.0 +3.2**
BTO PP **PnPn** **01 30 38.0 +7.3**
BTO S Sn 01 34 14.0 +0.6
BTO sS pS 01 34 26.0 +10
BTO SS SnSn 01 34 44.5 +16
BTO pmax pmax
comp=Z,23nm,0.7s
BTO pmax pmax
comp=Z,240nm,8.8s
BTO LR LR
comp=N,750nm,11.4s
BTO LR LR
comp=E,580nm,11.6s
BTO LR LR
comp=Z,880nm,13.8s
KLR Kul'dur 22.97 5 *e*P **P** **01 30 27.2 -2.6**
KLR pmax pmax
comp=Z,3.0nm,1.2s
YSS Yuzh-Sakhalins 23.31 24 *e*P **P** **01 30 34.8 +1.6**
YSS *e* 01 30 39.4
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,200nm,9.9s
SLVN Son La 23.43 263 P **P** **01 30 33.6 -1.1**
LZH Lanzhou 23.52 301 *e*P P 01 30 26.5 -9.2
LZH sP pP 01 30 34.5 -6.1
LZH S **S** **01 34 54.0 +5.2**
LZH pmax pmax
comp=Z,23nm,1.0s
LZH LR LR
comp=N,410nm,11.0s
LZH LR LR
comp=E,340nm,14.4s
LZH LR LR
comp=Z,390nm,13.7s
KMI Kunming 23.64 273 ⇓P **P** **01 30 38.5 +1.5**
KMI pmax pmax
comp=Z,13nm,0.8s
KMI LR LR
comp=N,250nm,16.6s
KMI LR LR
comp=E,580nm,11.8s
KMI LR LR
comp=Z,510nm,12.8s
PZH PanZhiHua 24.36 277 P **P** **01 30 43.3 -0.3**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
TYV Tymovskoe 26.65 20 *e*P **P** **01 31 10.5 +6.6**
TYV pmax pmax
comp=Z,6.0nm,1.1s
TYV pmax pmax
comp=Z,100nm,3.1s
ZEA Zeya 27.41 358 *e*P **P** **01 31 09.0 -1.8**
TNCH TengChong 27.43 274 *e*P **P** **01 31 10.5 -1.0**
TNCH pP pP 01 31 13.0 -3.3
TNCH pmax pmax
comp=Z,130nm,0.4s
ULN Ulaanbaatar 27.53 327 P **P** **01 31 10.9 -1.2**
ULN Ulaanbaatar 27.53 327 P **P** **01 31 10.9 -1.2**
ULN pmax pmax
comp=Z,7.0nm,0.9s
GTA Gaotai 27.61 305 P **P** **01 31 11.5 -1.3**
GTA pP pP 01 31 14.8 -3.1
GTA sS sS 01 36 09.8 +9.3
GTA pmax pmax
comp=Z,13nm,0.7s
GTA LR LR
comp=N,270nm,13.9s
GTA LR LR
comp=E,270nm,13.9s
GTA LR LR

comp=Z,450nm,15.1s
SONM Songino Array 27.83 326 P **P** **01 31 14.1 -0.7**
SONM IAmb IAmb 01 31 17.2
comp=Z,7.5nm,0.9s
SONM Songino Array 27.83 326 P **P** **01 31 16.1 +1.3**
comp=Z,8.7nm,0.8s,baz=135,slow=10,SNR=22
SONM LR LR 01 44 12.8
comp=Z,158nm,18.2s,baz=201,slow=41
comp=Z,8.7nm,0.8s
SONM Songino Array 27.83 326 P **P** **01 31 14.1 -0.7**
SONM pmax pmax
comp=Z,8.0nm,0.9s
CMAR Chiang Mai Arr 28.78 260 P **P** **01 31 24.1 +0.7**
comp=Z,0.7nm,0.6s,baz=64,slow=8.6,SNR=4.8
comp=Z,0.7nm,0.6s
SHL Shillong 33.27 277 P **P** **01 32 01.1 -2.0**
SHL Shillong 33.27 277 P **P** **01 32 01.1 -2.0**
SHL pmax pmax
comp=Z,24nm,0.3s
YAK Yakutsk 35.70 1 LR LR 01 47 32.2
comp=Z,65nm,18.3s,baz=164,slow=37
MA2 Magadan 36.51 19 LR LR 01 47 09.4
comp=Z,52nm,19.6s,baz=166,slow=36
WMQ Urumqi 37.57 308 *e*P **P** **01 32 41.3 +1.6**
SEY Seymchan 39.74 17 *e*P **P** **01 32 57.7 +0.1**
SEY pmax pmax
comp=Z,17nm,1.8s
KNRA Kununurra 41.75 180 P **P** **01 33 12.4 -2.2**
KNRA IAmb IAmb 01 33 37.7
comp=Z,14nm,1.2s
MK31 Makanchi Array 41.96 312 P **P** **01 33 15.0 -1.2**
MK31 Makanchi Array 41.96 312 P **P** **01 33 15.0 -1.2**
MK31 pmax pmax
comp=Z,3.0nm,1.1s
MKAR Makanchi Array 41.96 312 P **P** **01 33 15.4 -0.8**
MKAR Makanchi Array 41.96 312 P **P** **01 33 15.6 -0.6**
comp=Z,0.7nm,0.5s,baz=92,slow=9.3,SNR=12
MKAR LR LR 01 53 05.9
comp=Z,62nm,20.8s,baz=96,slow=40
comp=Z,0.7nm,0.5s
ZAA0 Zalesovo Array 42.57 323 P **P** **01 33 19.0 -2.0**
ZALV Zalesovo Beam 42.57 323 P **P** **01 33 18.8 -2.2**
ZALV Zalesovo Beam 42.57 323 P **P** **01 33 19.4 -1.6**
comp=Z,4.6nm,0.6s,baz=111,slow=8.6,SNR=19
comp=Z,4.6nm,0.6s
TARG Taragay, Kyrgy 44.45 304 P **P** **01 33 35.4 -1.4**
TARG IAmb IAmb 01 33 39.1
comp=Z,6.7nm,0.9s
TARG Taragay, Kyrgy 44.45 304 P **P** **01 33 35.4 -1.4**
TARG pmax pmax
comp=Z,7.0nm,0.9s
KURK Kurchatov 45.20 316 P **P** **01 33 40.6 -1.6**
KURK Kurchatov 45.20 316 P **P** **01 33 40.6 -1.6**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 45.23 316 P **P** **01 33 41.1 -1.3**
comp=Z,1.7nm,0.6s,baz=103,slow=9.3,SNR=10
comp=Z,1.7nm,0.6s
TIXI Tiksi 45.36 360 LR LR 01 52 48.3
comp=Z,114nm,18.0s,baz=182,slow=36
NRN Naryn 45.79 303 P **P** **01 33 46.8 -0.6**
NRN Naryn 45.79 303 P **P** **01 33 46.8 -0.6**
NRN pmax pmax
comp=Z,4.0nm,0.8s
WB0 Warramunga Arr 46.12 173 P **P** **01 33 49.1 -0.6**
WRA Warramunga Arr 46.29 173 P **P** **01 33 50.3 -0.7**
WRA Warramunga Arr 46.29 173 P **P** **01 33 52.8 +1.7**
comp=Z,1.6nm,0.5s,baz=353,slow=8.4,SNR=11
WRA LR LR 01 50 27.6
comp=Z,73nm,21.5s,baz=78,slow=32
comp=Z,1.6nm,0.5s
WRA Warramunga Arr 46.29 173 P **P** **01 33 50.3 -0.7**
HNR Honiara 46.58 136 LR LR 01 52 40.4
comp=Z,644nm,18.1s,baz=316,slow=35
AAK Ala-Archa 46.95 305 LR LR 01 57 18.3
comp=Z,100nm,18.5s,baz=144,slow=41
AAK Ala-Archa 46.95 305 *e*P **P** **01 33 57.5 +1.2**
AAK pmax pmax
comp=Z,2.0nm,0.5s
BILL Bilibino 47.38 18 *e*P **P** **01 34 00.9 +1.8**
BILL *e* 01 35 28.0
BILL *e* 01 35 52.8
BILL *e*PPP PPP 01 36 37.5
BILL pmax pmax
comp=Z,3.0nm,1.0s
ARSB Arslanbob 48.06 303 P **P** **01 34 04.9 0.0**
ARSB Arslanbob 48.06 303 P **P** **01 34 04.9 0.0**
NRIK Noril'sk 49.36 342 P **P** **01 34 14.3 0.0**
comp=Z,1.0nm,0.4s,baz=100,slow=6.1,SNR=1.6
comp=Z,1.0nm,0.4s
KK31 Karatay Array 49.89 305 P **P** **01 34 18.0 -0.8**
KK31 IAmb IAmb 01 34 20.3
comp=Z,12nm,1.4s
KK31 Karatay Array 49.89 305 P **P** **01 34 18.0 -0.8**
KK31 pmax pmax
comp=Z,12nm,1.5s
KKAR Karatay Array 49.89 305 P **P** **01 34 18.2 -0.6**
KKAR Karatay Array 49.89 305 P **P** **01 34 18.2 -0.6**
ASAR Alice Springs 49.93 174 P **P** **01 34 18.3 -0.8**
ASAR Alice Springs 49.93 174 P **P** **01 34 21.4 +2.2**
comp=Z,0.8nm,0.6s,baz=3.3,slow=14,SNR=7.9
comp=Z,0.8nm,0.6s
BVAR Borovoye Array 50.64 318 P **P** **01 34 23.2 -1.1**
comp=Z,3.2nm,0.8s,baz=72,slow=9.8,SNR=14
BVAR LR LR 01 57 46.3
comp=Z,190nm,18.1s,baz=99,slow=38
comp=Z,3.2nm,0.8s
BRVK Borovoye 50.71 318 P **P** **01 34 23.7 -1.1**
BRVK IAmb IAmb 01 34 39.4
comp=Z,5.6nm,0.8s
BRVK Borovoye 50.71 318 P **P** **01 34 23.7 -1.1**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
ABKAR Abkulak array 57.06 313 P **P** **01 35 10.6 -0.6**
ABKAR Abkulak array 57.06 313 P **P** **01 35 10.2 -1.1**
ABKAR IAmb IAmb 01 35 12.3
comp=Z,3.0nm,0.7s
ARU Arti 57.72 322 LR LR 02 03 45.0
comp=Z,78nm,19.8s,baz=92,slow=40
ARU Arti 57.72 322*c i*P **P** **01 35 14.4 -1.4**
ARU 01 37 19.0
ARU S **S** **01 43 13.0 -0.5**
ARU SS **SS** **01 47 01.0 -2.6**
ARU pmax pmax
comp=Z,10.0nm,1.6s
ARU MLR MLR
comp=Z,211nm,15.0s
ARU Arti 57.72 322 P **P** **01 35 14.8 -1.0**
comp=Z,5.5nm,1.2s
C18K Utukok River 58.42 24 P **P** **01 35 21.1 +0.5**
C18K IAmb IAmb 01 35 30.5
comp=Z,5.5nm,1.0s
J17K VABM Dome 58.74 30 P **P** **01 35 23.3 +0.5**
J17K IAmb IAmb 01 35 27.6
comp=Z,4.0nm,1.0s
STKA Stephens Creek 59.12 167 P **P** **01 35 27.4 +1.6**
comp=Z,0.9nm,0.3s,baz=321,slow=6.5,SNR=3.5
comp=Z,0.9nm,0.3s
E21K Killik River 61.05 24 P **P** **01 35 39.6 +0.9**
IMAR Indian Mountai 61.10 27 P **P** **01 35 40.6 +1.5**
E22K Anaktuvuk Pass 61.85 25 P **P** **01 35 45.2 +1.0**
SUA Susitna One 62.64 32 P **P** **01 35 49.5 -0.1**
E24K Your Creek 63.10 25 P **P** **01 35 53.8 +1.3**
E24K IAmb IAmb 01 36 00.3
comp=Z,3.6nm,0.8s
MDM Murphy Dome 63.45 28 P **P** **01 35 55.7 +0.9**
COLA College 63.62 28 *e*P **P** **01 35 56.6 +0.7**
COLA pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 64.05 28 P **P** **01 35 59.1 +0.4**
comp=Z,0.9nm,0.8s,baz=266,slow=6.7,SNR=9.7
comp=Z,0.9nm,0.8s
HDA Harding Lake 64.06 29 P **P** **01 35 58.8 0.0**
HDA IAmb IAmb 01 36 17.8
comp=Z,5.0nm,1.0s
BELG Belogornoye 64.44 318 *e*P **P** **01 36 01.2 -0.3**
BELG pmax pmax
comp=Z,2.0nm,0.8s
SCRK Sand Creek 65.41 29 P **P** **01 36 08.0 +0.2**
SCRK IAmb IAmb 01 36 15.2
comp=Z,5.8nm,1.4s
J26L Joseph Creek 65.50 28 P **P** **01 36 08.3 0.0**
J26L IAmb IAmb 01 36 11.2
comp=Z,3.3nm,0.9s
M26K Nabesna, AK 66.14 31 P **P** **01 36 13.3 +0.9**
I28M Miner Creek 66.83 27 P **P** **01 36 17.4 +0.5**

I28M IAmb IAmb 01 36 25.3
comp=Z,4.0nm,0.9s
EPYK Eagle Plains 67.89 26 P **P** **01 36 23.3 -0.2**
EPYK IAmb IAmb 01 36 31.0
comp=Z,3.7nm,0.8s
L29M L29M 68.16 29 P **P** **01 36 26.6 +1.3**
L29M IAmb IAmb 01 36 34.5
comp=Z,5.0nm,1.1s
M29M Somme Creek 68.18 30 P **P** **01 36 26.4 +1.0**
J30M Hart River 68.53 28 P **P** **01 36 27.8 +0.2**
J30M IAmb IAmb 01 36 39.1
comp=Z,6.1nm,1.4s
NCK Nalchik 69.19 309 *e*P **P** **01 36 32.3 +0.3**
NCK pmax pmax
comp=Z,2.0nm,0.3s
KBZ Khabaz 69.60 310 P **P** **01 36 35.3 +0.8**
comp=Z,4.4nm,0.9s,baz=213,slow=4.1,SNR=9.4
comp=Z,4.4nm,0.9s
KBZ Khabaz 69.60 310 *e*P **P** **01 36 35.2 +0.8**
KBZ pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 69.68 310 P **P** **01 36 34.4 -0.7**
KIV Kislovodsk 69.68 310 *e*P **P** **01 36 35.2 +0.1**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,36nm,17.0s
KIV Kislovodsk 69.68 310 P **P** **01 36 35.2 +0.1**
comp=Z,8.5nm,1.2s
OBN Obninsk 70.15 322 *e*P **P** **01 36 39.1 +1.5**
OBN *e* 01 36 59.7
OBN *e* 01 39 10.9
OBN *e*PPP PPP 01 40 52.7
OBN pmax pmax
comp=Z,7.0nm,0.9s
ARCES ARCESS Array B 70.16 339 LR LR 02 13 54.5
comp=Z,32nm,18.8s,baz=96,slow=42
JOF Joensuu 70.27 331 *e*P **P** **01 36 38.3 +0.1**
FARO Faro, Yukon 70.53 29 P **P** **01 36 40.6 +0.8**
FARO IAmb IAmb 01 36 44.4
comp=Z,4.1nm,0.9s
VALR Valaam 70.99 330 *e*P **P** **01 36 42.4 -0.2**
VALR pmax pmax
comp=Z,8.0nm,1.0s
N32M Quiet Lake 71.01 31 P **P** **01 36 43.7 +0.9**
N32M IAmb IAmb 01 37 10.8
comp=Z,4.3nm,0.8s
JIS Juneau Island 71.37 34 P **P** **01 36 48.1 +3.2**
JIS IAmb IAmb 01 36 48.7
comp=Z,5.2nm,0.7s
P33M Teslin, Yukon 71.46 31 P **P** **01 36 47.2 +1.6**
FIA1 FINESS Array S 73.10 331 P **P** **01 36 54.6 -0.6**
FINES FINESS Array B 73.10 331 P **P** **01 36 55.4 +0.2**
comp=Z,3.8nm,0.7s,baz=66,slow=6.7,SNR=18
FINES LR LR 02 12 32.0
comp=Z,53nm,18.7s,baz=80,slow=39
comp=Z,3.8nm,0.7s
KEF Keuruu 73.33 332 *e*P **P** **01 36 56.6 0.0**
VSU Vasula 74.02 328 *e*P **P** **01 37 01.0 +0.3**
VSU pmax pmax
comp=Z,7.0nm,0.9s
MEF Metsahovi 74.36 330 *e*P **P** **01 37 03.0 +0.3**
RAYN Ar Rayn 74.40 289 P **P** **01 37 02.7 -1.0**
RAYN IAmb IAmb 01 37 05.7
comp=Z,8.9nm,1.1s
RAYN Ar Rayn 74.40 289 P **P** **01 37 02.7 -1.0**
RAYN pmax pmax
comp=Z,9.0nm,1.2s
MNK Minsk 75.06 324 *i* P **P** **01 37 05.0 -1.9**
MNK *i* 01 37 18.7
MNK *i* 01 39 52.3
MNK *i* PPP PPP 01 41 38.0
MNK *i* S **S** **01 46 43.0 -0.9**
MNK *i* 01 47 17.0
MNK *i* SS **SS** **01 51 30.1 -2.0**
MNK *i* SSS SSS 01 54 54.3
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=Z,4.0nm,0.7s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK MLR MLR
comp=N,35nm,14.0s
MNK MLR MLR
comp=Z,179nm,17.0s
MNK MLR MLR
comp=E,53nm,15.0s
RAF Rauma 75.16 331 *e*P **P** **01 37 07.6 +0.3**
MTSE Matsula 75.29 329 *e*P **P** **01 37 08.4 +0.3**
AK03 Malin Array Si 75.87 320 P **P** **01 37 11.1 -0.5**
AK09 Malin Array Si 75.88 320 P **P** **01 37 11.7 +0.1**
AKASG Malin Array Be 75.88 320 P **P** **01 37 11.3 -0.3**
comp=E,2.6nm,0.6s,baz=58,slow=5.5,SNR=6.4
AKASG LR LR 02 13 18.1
comp=E,134nm,18.1s,baz=66,slow=38
comp=E,2.6nm,0.6s
AKBB Malin Array Si 75.88 320 *e*P **P** **01 37 11.6 0.0**
AKBB pmax pmax
comp=Z,4.0nm,0.7s
AK01 Malin Array Si 75.89 320 P **P** **01 37 11.3 -0.4**
AK08 Malin Array Si 75.89 320 P **P** **01 37 11.9 +0.2**
AK04 Malin Array Si 75.91 320 P **P** **01 37 11.1 -0.7**
AK10 Malin Array Si 75.91 320 P **P** **01 37 11.6 -0.2**
AK02 Malin Array Si 75.91 320 P **P** **01 37 10.8 -1.0**
AK05 Malin Array Si 75.93 320 P **P** **01 37 11.2 -0.7**
AK22 Malin Array Si 75.95 320 P **P** **01 37 11.6 -0.4**
AK07 Malin Array Si 75.95 320 P **P** **01 37 11.9 -0.2**
AK21 Malin Array Si 75.96 320 P **P** **01 37 12.0 -0.1**
AK20 Malin Array Si 75.99 320 P **P** **01 37 12.1 -0.1**
AK19 Malin Array Si 76.00 320 P **P** **01 37 12.0 -0.3**
MI30 MI30,Zelenitsa 76.46 320 P **P** **01 37 15.0 +0.1**
LUBAR Lubar, Ukraine 77.06 319 P **P** **01 37 18.1 -0.3**
PBUR Paburge 77.44 327 *e*P **P** **01 37 20.4 +0.1**
SORM Soroca 77.48 318 ⇓P **P** **01 37 20.6 -0.1**
SORM Soroca 77.48 318 ⇓P **P** **01 37 20.6 -0.1**
SORM Soroca 77.48 318 P **P** **01 37 20.5 -0.1**
comp=Z,7.3nm,1.0s
RNPP9 Sopachiv 77.48 321 P **P** **01 37 20.6 0.0**
BR131 Keskin Array S 77.49 308 P **P** **01 37 20.7 -0.4**
BR131 IAmb IAmb 01 37 22.6
comp=Z,7.5nm,1.0s
BR131 Keskin Array S 77.49 308 P **P** **01 37 20.7 -0.4**
BR131 pmax pmax
comp=Z,8.0nm,1.0s
BRTR Keskin Array B 77.49 308 P **P** **01 37 21.4 +0.2**
BRTR Keskin Array B 77.49 308 P **P** **01 37 21.6 +0.4**
comp=Z,3.5nm,0.8s,baz=91,slow=5.8,SNR=25
comp=Z,3.5nm,0.8s
BR104 Keskin Array S 77.50 308 P **P** **01 37 21.1 -0.1**
comp=Z,5.5nm,1.0s,comp=Z,43nm
BR106 Keskin Array S 77.50 308 P **P** **01 37 21.4 +0.2**
comp=Z,5.3nm,0.9s,comp=Z,39nm
BR105 Keskin Array S 77.51 308 P **P** **01 37 21.5 +0.2**
comp=Z,5.1nm,0.9s,comp=Z,47nm
TPGR Topolog 78.85 315 ⇓P **P** **01 37 29.2 +0.7**
CFR Carcaliu 78.89 315 ⇓P **P** **01 37 29.0 +0.4**
CFR Carcaliu 78.89 315 ⇓P **P** **01 37 29.0 +0.4**
HFS Hagfors 79.04 333 P **P** **01 37 28.7 -0.4**
comp=Z,2.7nm,0.9s,baz=106,slow=3.2,SNR=6.9
HFS LR LR 02 17 19.4
comp=Z,43nm,18.9s,baz=85,slow=40
comp=Z,2.7nm,0.9s
TESR Tescani 79.23 317 ⇑P **P** **01 37 30.7 +0.3**
HARR Harsova 79.24 315 ⇑P **P** **01 37 30.4 -0.1**
HARR Harsova 79.24 315 ⇑P **P** **01 37 30.4 -0.1**
NC405 NORSAR Array S 79.28 334 P **P** **01 37 29.9 -0.6**
NC405 IAmb IAmb 01 37 32.7
comp=Z,9.8nm,1.1s
NC303 NORSAR Array S 79.34 334 P **P** **01 37 30.4 -0.4**
NC303 IAmb IAmb 01 37 32.4
comp=Z,11nm,1.4s
VRI Vrincioaia 79.47 316 ⇑P **P** **01 37 31.2 -0.6**
VRI Vrincioaia 79.47 316 ⇑P **P** **01 37 31.2 -0.6**
NB2 NORSAR Subarra 79.52 334 P **P** **01 37 31.2 -0.6**
comp=Z,5.0nm,1.0s,baz=52,slow=5.9
NOA NORSAR Array B 79.52 334 P **P** **01 37 31.2 -0.6**
comp=Z,2.1nm,0.8s,baz=51,slow=5.5,SNR=13
NOA LR LR 02 16 29.4
comp=Z,51nm,18.0s,baz=35,slow=39
comp=Z,2.1nm,0.8s
PLOR Plostina 79.53 316 ⇓P **P** **01 37 33.1 +0.9**
PLOR Plostina 79.53 316 ⇓P **P** **01 37 33.1 +0.9**
NC204 NORSAR Array S 79.55 334 P **P** **01 37 31.6 -0.4**
NC204 IAmb IAmb 01 37 53.7

comp=Z,10nm,1.4s
BUR08 Bucovina Ar. S 79.59 318 P P 01 37 32.2 -0.4
BUR08 IAmb IAmb 01 37 34.2
comp=Z,5.8nm,1.2s
BURAR Bucovina Array 79.60 318 P P 01 37 32.8 +0.2
BURAR Bucovina Array 79.60 318 ⇓P P 01 37 33.5 +1.0
TURR Turia 79.83 316 ⇓P P 01 37 34.4 +0.7
BOSR Bodos 80.04 317 ⇓P P 01 37 33.1 -1.8
KWP Kalwaria Pacla 80.11 321 P P 01 37 34.9 -0.3
KWP Kalwaria Pacla 80.11 321 P P 01 37 34.9 -0.3
KWP pmax pmax
comp=Z,18nm,1.4s
KWP Kalwaria Pacla 80.11 321 P P 01 37 35.9 +0.7
comp=Z,8.5nm,1.2s
MLR Muntele Rosu 80.13 316 LR LR 02 14 52.2
comp=Z,53nm,19.5s,baz=50,slow=37
MLR Muntele Rosu 80.13 316 ⇑P P 01 37 35.4 -0.2
MLR Muntele Rosu 80.13 316 ⇑P P 01 37 35.4 -0.2
MLR Muntele Rosu 80.13 316 P P 01 37 35.8 +0.2
comp=Z,5.1nm,1.3s
BRIU Brid 80.55 319 P P 01 37 38.8 +1.2
MUKU Mukachevo 80.69 320 P P 01 37 40.4 +2.1
SUMG Summit 80.98 356 P P 01 37 39.1 -0.8
SUMG Summit 80.98 356 P P 01 37 39.1 -0.8
SUMG pmax pmax
comp=Z,10.0nm,1.0s
ARR Arges 81.01 316 ⇓P P 01 37 41.2 +1.1
MARR Marisel-Cluj 81.30 318 ⇑P P 01 37 42.3 +0.6
ELND Elena 81.37 314 ⇓P P 01 37 42.8 +0.8
OJC Ojcow 81.44 322 P P 01 37 43.4 +1.1
comp=Z,9.5nm,0.5s
DRGR 81.49 318 ⇑P P 01 37 43.5 +0.8
DRGR 81.49 318 ⇑P P 01 37 43.5 +0.8
GZR Gura Zlata 82.14 317 ⇓P P 01 37 46.0 -0.1
GZR Gura Zlata 82.14 317 ⇓P P 01 37 46.0 -0.1
SURR Surduc 82.36 317 ⇓P P 01 37 48.0 +0.8
RDO Rodhopi 82.42 312 P P 01 37 46.6 -1.0
RDO IAmb IAmb 01 37 49.1
comp=Z,5.9nm,1.3s
EZN Ezine 82.52 311 P P 01 37 47.9 -0.2
comp=Z,3.1nm,1.2s
VYHS Vyhne 82.88 321 *e*P P 01 37 51.6 +1.7
VYHS Vyhne 82.88 321 *e*P P 01 37 51.6 +1.7
MORC Moravsky Berou 82.91 323 *e*P P 01 37 51.1 +1.0
MDVR Moldovita 83.10 317 ⇓P P 01 37 51.8 +0.7
DPC Dobruska-Polom 83.26 323 P P 01 37 53.3 +1.5
comp=Z,3.1nm,2.3s
JAVC Velka Javorina 83.34 322 *e*P P 01 37 53.9 +1.6
VRAC Vranov 83.69 322 *e*P P 01 37 55.2 +1.2
VRAC Vranov 83.69 322 LR LR 02 18 18.3
comp=Z,113nm,18.5s,baz=82,slow=38
VRAC Vranov 83.69 322 ⇑P P 01 37 55.3 +1.2
VRAC Vranov 83.69 322 ⇑P P 01 37 55.3 +1.2
KRUC Moravsky 83.93 322 *e*P P 01 37 57.0 +1.7
FRGS Fruska Gora 84.06 318 ⇓P P 01 37 56.9 +0.8
FRGS Fruska Gora 84.06 318 P P 01 37 56.5 +0.5
comp=Z,7.7nm,0.9s
MORH Mrgy, Hungar 84.20 319 ⇑P P 01 37 57.8 +1.1
MORH Mrgy, Hungar 84.20 319 P P 01 37 56.0 -0.7
comp=Z,3.1nm,1.5s
BRG Berggiesshubel 84.21 325 Amp 01 37 58.7
comp=Z,2.8nm,0.9s
BRG Berggiesshubel 84.21 325 *e*P P 01 37 57.7 +1.1
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG MLR MLR
comp=E,124nm,14.5s
BRG MLR MLR
comp=Z,143nm,13.8s
BRG MLR MLR
comp=N,77nm,14.9s
BRG Berggiesshubel 84.21 325 *e*P P 01 37 57.8 +1.1
MPLH Magyarpolny 84.33 320 P P 01 37 58.4 +1.1
comp=N,11nm,1.6s
CLL Collm 84.44 325 P P 01 37 57.3 -0.5
CLL Collm 84.44 325 ⇑*i*P P 01 37 58.6 +0.8
CLL *i* 01 38 07.2
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 84.44 325 P P 01 37 58.2 +0.4
comp=Z,8.3nm,0.8s
CONA Conrad Observa 84.86 322 *e*PcP P 01 38 01.6 +1.5
comp=Z,4.6nm,1.1s
KHC Kasperske Hory 85.42 323 *i*P P 01 38 01.8 -1.0
KHC pmax pmax
comp=Z,4.0nm,1.3s
KHC Kasperske Hory 85.42 323 P P 01 38 03.1 +0.3
comp=Z,2.5nm,1.4s
GERES GERESS Array B 85.52 323 P P 01 38 03.5 +0.1
comp=Z,0.5nm,0.7s,baz=355,slow=5.9,SNR=5.1
comp=Z,0.5nm,0.7s
MOA Molln 85.78 322 *e*PcP P 01 38 06.6 +1.9
comp=Z,3.3nm,0.9s
SOKA Soboth 86.03 321 *e*PcP P 01 38 06.9 +1.0
comp=Z,3.1nm,1.0s
BORG Borgarnes 86.33 348 *i*P P 01 38 07.7 +0.8
OBKA Obir 86.40 321 *e*PcP P 01 38 09.0 +1.2
comp=Z,3.6nm,1.1s
ITM Ithomi 86.82 310 P P 01 38 09.3 -0.6
LESA Schwarzleotal 86.91 322 *e*PcP P 01 38 11.0 +0.8
comp=Z,2.5nm,1.0s
WTTA Wattenberg 87.57 323 *e*pP P 01 38 15.2 +1.6
comp=Z,3.2nm,0.9s
SQTA Sankt Quirin 87.83 323 *e*pP P 01 38 16.5 +1.7
comp=Z,3.3nm,1.2s
FFC Flin Flon 88.21 27 P P 01 38 16.2 -0.1
FFC Flin Flon 88.21 27 P P 01 38 16.2 -0.1
FFC pmax pmax
comp=Z,7.0nm,1.1s
DAVOX Davos/Dischmat 88.82 323 LR LR 02 21 52.1
comp=Z,99nm,18.0s,baz=68,slow=38
EKA Eskdalemuir Ar 88.97 335 P P 01 38 22.1 +2.3
comp=Z,0.2nm,0.4s,baz=14,slow=5.9,SNR=3.8
comp=Z,0.2nm,0.4s
FRB Frobisher Bay 89.18 8 LR LR 02 20 16.8
comp=Z,55nm,20.2s,baz=38,slow=37
TIP Timpagrande 89.20 314 P P 01 38 23.2 +1.9

IDC 27 01:33:05.6±11.0, 7°.38S×130°.36E, h424km±160km, mb2.9/2, mbtmp3.5/4, Error ellipse: s-maj=85.3km s-min=76.9km az=56.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.07**	**163**	P	P	P	01 35 54.9	-1.6
	2.0nm,0.3s,baz=346,slow=11,SNR=8.7							
WRA				S	S	S	01 38 17.9	+0.2
	0.2nm,0.3s,baz=332,slow=23,SNR=7.2							
ASAR	**Alice Springs**	**16.55**	**169**	P	P	P	01 36 35.5	+1.7
	0.4nm,0.4s,baz=345,slow=11,SNR=3.1							
MKAR	**Makanchi Array**	**68.74**	**327**	P	P	P	01 43 25.3	-0.1
	0.4nm,0.4s,baz=114,slow=7.9,SNR=6.8							
	0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**73.02**	**328**	P	P	P	01 43 51.0	+0.3
	0.2nm,0.4s,baz=110,slow=5.0,SNR=1.7							
	0.2nm,0.4s							

PRU 27 01:37:11.8, 50°.20N×18°.59E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.80**	**238**	*e*PG	Pg	Pg	01 37 26.1	-1.0
MORC				*e*SG	Sg	Sg	01 37 36.8	-0.6
MAUC	**Maruska**	**0.97**	**211**	*e*PG	Pg	Pg	01 37 29.1	-1.3
KRLC	**Kraliky**	**1.17**	**265**	*e*SG	Sg	Sg	01 37 49.0	-0.4
	comp=Z,1.6nm,0.3s							
DPC	**Dobruska-Polom**	**1.46**	**277**	*e*SG	Sg	Sg	01 37 58.0	-0.8
	comp=Z,1.8nm,0.6s							

IDC 27 02:08:18.2±1.4, 22°.40N×142°.20E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=76.0km s-min=35.5km az=97.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.78**	**191**	P	P	P	02 16 17.7	-0.1
	0.2nm,0.5s,baz=12,slow=8.7,SNR=5.4							
	0.2nm,0.5s							
FINES	**FINESS Array B**	**82.15**	**334**	P	P	P	02 20 40.8	0.0
	0.3nm,0.4s,baz=49,slow=5.8,SNR=6.6							
	0.3nm,0.4s							
NVAR	**Mina Array Bea**	**83.42**	**51**	P	P	P	02 20 48.1	0.0
	0.2nm,0.7s,baz=267,slow=6.9,SNR=1.9							
	0.2nm,0.7s							

NAM 27 02:32:27.1±2.8, 19°.72S×14°.53E, h23km±12km, ML0.2, 3C-8D, Namibia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ST1N	**ST1**	**0.08**	**100**	*i*P	P	Pb	02 32 32.7	+1.3
ST1N				*i*S	S	Sb	02 32 34.2	-0.1
ST1N				IAML			02 32 34.7	
	comp=Z,2.2nm,0.1s							
ST1N	**ST1**	**0.08**	**100**	⇓*i*P	P	Pb	02 32 32.7	+1.3
ST1N				*i*S	S	Sb	02 32 34.2	-0.2
ST1N				IAML			02 32 34.7	
	comp=Z,2.3nm,0.1s							
ST9N	**ST9**	**0.08**	**172**	⇓*i*P	P	Pb	02 32 32.1	+0.7
ST9N				*i*S	S	Sb	02 32 33.2	-1.2
ST9N				IAML			02 32 33.5	
	comp=Z,58nm,0.1s							
ST9N	**ST9**	**0.08**	**172**	⇓*i*P	P	Pb	02 32 32.1	+0.7
ST9N				*i*S	S	Sb	02 32 33.2	-1.2
ST9N				IAML			02 32 33.5	
	comp=Z,57nm,0.1s							
ST6N	**ST6**	**0.15**	**239**	⇓*i*P	P	Pn	02 32 34.2	0.0
ST6N				*e*P	P	Pn	02 32 34.2	0.0
ST6N				IAML			02 32 34.4	
	comp=Z,2.6nm,0.1s							
ST6N				*i*S	S	Sb	02 32 36.6	+1.2
ST6N	**ST6**	**0.15**	**239**	⇓*i*P	P	Pn	02 32 34.2	0.0
ST6N				⇓*i*P	P	Pn	02 32 34.2	0.0
ST6N				IAML			02 32 37.1	
	comp=N,1.4nm,0.1s							
ST6N				IAML			02 32 37.9	
	comp=Z,1.0nm,0.1s							
ST8N	**ST8**	**0.21**	**279**	*i*S	S	Sb	02 32 40.0	+3.5
ST8N	**ST8**	**0.21**	**279**	*i*P	P	Pn	02 32 36.2	+1.3
ST8N				⇓*i*P	P	Pb	02 32 36.3	+3.5
ST8N				IAML			02 32 41.2	
	comp=N,0.7nm,0.1s							
ST8N				IAML			02 32 41.6	
	comp=Z,0.4nm,0.1s							
ST2N	**ST2**	**0.21**	**164**	⇑*i*P	P	Pb	02 32 32.9	+0.1
ST2N				*i*S	S	Sb	02 32 34.6	-2.1
ST2N				IAML			02 32 35.0	
	comp=Z,8.7nm,0.1s							
ST2N	**ST2**	**0.21**	**164**	⇓*i*P	P	Pb	02 32 32.9	+0.1
ST2N				⇑*i*P	P	Pb	02 32 32.9	+0.1
ST2N				IAML			02 32 35.0	
	comp=Z,8.5nm,0.1s							
ST2N				IAML			02 32 35.1	
	comp=N,12nm,0.1s							
ST5N	**ST5**	**0.22**	**108**	⇑*i*P	P	Pb	02 32 33.9	+1.0
ST5N				*i*S	S	Sb	02 32 36.2	-0.6
ST5N				IAML			02 32 36.6	
	comp=Z,1.2nm,0.1s							
ST5N	**ST5**	**0.22**	**108**	*i*P	P	Pb	02 32 33.9	+1.0
ST5N				*i*S	S	Sb	02 32 36.3	-0.6
ST5N				IAML			02 32 36.6	
	comp=Z,1.2nm,0.1s							
ST4N	**ST4**	**0.45**	**112**	*i*S	S	Sb	02 32 42.8	+0.1

IDC 27 02:45:34.0±1.6, 6°.35S×150°.18E, h0km, mb3.7/4, mbtmp3.7/4, MS2.0/1, Error ellipse: s-maj=77.9km s-min=27.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.18**	**195**	LR	LR	LR	02 53 25.2	
	comp=Z,5.5nm,19.1s,baz=5.5,slow=33							
WRA	**Warramunga Arr**	**20.48**	**227**	P	P	P	02 50 14.2	+0.6
	3.9nm,0.6s,baz=52,slow=11,SNR=68							
	3.9nm,0.6s							
ASAR	**Alice Springs**	**23.27**	**221**	P	P	P	02 50 43.3	-0.2
	0.9nm,0.7s,baz=55,slow=9.4,SNR=13							
	0.9nm,0.7s							
STKA	**Stephens Creek**	**26.64**	**196**	P	P	P	02 51 13.8	-0.7
	1.1nm,0.6s,baz=12,slow=7.9,SNR=3.0							
	1.1nm,0.6s							
ILAR	**Eielson Array**	**84.57**	**23**	P	P	P	02 58 09.1	+0.1
	0.4nm,0.8s,baz=247,slow=6.5,SNR=4.4							
	0.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**148.24**	**285**	PKPbc	PKPbc	PKPbc	03 05 22.7	-0.5
	1.2nm,0.5s,baz=64,slow=3.8,SNR=26							

AUST 27 02:53:19.8±0.2, 33°.27S×139°.11E, h10km, Mjma3.9/11, ML2.6/10, MLv3.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**0.23**	**224**	P	P	Pg	02 53 24.9	+0.4
	0.3nm,SNR=10							
HTT				S	S	Sg	02 53 28.9	+1.2
AUJCS	**Jamestown Cent**	**0.42**	**279**	P	P	Pg	02 53 28.4	+0.3
AUJCS				S	S	Sb	02 53 34.8	-1.0
NAPP	**Napperby**	**0.81**	**276**	P	P	Pg	02 53 35.4	0.0
	0.1nm,SNR=15							
SDAN	**Sedan**	**1.25**	**171**	P	Pn		02 53 42.4	-0.9
	SNR=5.8							
SDAN				S	S	Sg	02 54 00.2	0.0
STKA	**Stephens Creek**	**2.52**	**57**	P	Pn		02 54 00.7	0.0
	SNR=1.6							
STKA				S	S	Sn	02 54 31.8	+0.3
BBOO	**Buckleboo**	**2.60**	**279**	P	Pn		02 54 02.0	+0.1
	0.1nm,SNR=1.3							
LCRK	**Leigh Creek**	**2.91**	**345**	P	Pn		02 54 06.2	+0.1
	0.1nm,SNR=1.4							
LCRK				S	S	Sn	02 54 41.9	+0.7
KELC	**Kelly Hill Cav**	**3.26**	**213**	P	Pn		02 54 13.1	+2.2
	SNR=2.1							
ARPS	**Mount Arapiles**	**4.15**	**148**	P	Pn		02 54 23.3	+0.1
	SNR=2.1							
MULG	**Mulgathing**	**5.23**	**303**	P	Pn		02 54 38.9	+0.9
	0.1nm,SNR=1.0							
MULG				S	S	Sn	02 55 38.1	-0.2
CMSA	**Cobar Meteorol**	**5.83**	**75**	S	Pn		02 54 44.7	-1.6
CMSA				P	Pn		02 54 44.7	-1.5
	SNR=1.6							
OOD	**Oodnadatta**	**6.20**	**331**	P	Pn		02 54 52.3	+0.9
	SNR=1.7							

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*NEIC **27** 02:59:07.3±1.0, 56°.0S±0°.1×26°.7W±0°.2, h35km±7km, mb4.5/26, Error ellipse: s-maj=20.3km s-min=16.8km az=50.0*
*IDC **27** 02:59:10.6±9.5, 55°.99S×26°.55W, h70km±88km, mb3.6/5, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=40.5km s-min=22.0km az=64.0*
ISC 27 02:59:06.9±0.7, 56°.0S±0°.1×26°.8W±0°.1, h35km, n37, σ0°.99/37, mb4.4/17, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.85**	**283**	Pn	P	Pn	03 00 29.8	-1.2
VNA1	**Neumayer--Stat**	**16.72**	**158**	⇑P	P	Pn	03 02 57.6	-0.4
	comp=Z,1.9nm,0.5s							
VNA3	**Neumayer Olymp**	**16.92**	**161**	⇑P	P	Pn	03 03 01.3	+0.7
	comp=Z,2.1nm,0.6s							
VNA2	**Neumayer--Watz**	**17.11**	**158**	⇑P	P	P	03 03 03.8	-0.6
	comp=Z,1.5nm,0.6s,baz=317,slow=13							
SNAA	**Sanae**	**18.66**	**156**	P	P	P	03 03 20.1	-1.4
SNAA	**Sanae**	**18.66**	**156**	⇑P	P	Pn	03 03 24.3	+2.3
	comp=Z,40nm,0.7s							
SNAA	**Sanae**	**18.66**	**156**	P	P	Pn	03 03 24.3	+2.3
	comp=Z,0.1nm,0.3s,baz=312,slow=13,SNR=11							
	comp=Z,1.0nm,0.5s							
BELA	**Belgrano 2**	**22.11**	**184**	P	P	P	03 03 57.3	-1.4
GO09	**Cerro Castillo**	**27.03**	**261**	P	P	P	03 04 45.8	+0.3
TRQA	**Tornquist**	**29.54**	**293**	P	P	P	03 05 08.5	+0.5
TRQA				IAmb	IAmb	IAmb	03 05 08.5	
	comp=Z,14nm,1.5s							
PLTB	**Pedras Altas**	**30.67**	**311**	P	P	P	03 05 18.8	+0.8
QSPA	**South Pole Qui**	**34.21**	**180**	P	P	P	03 05 49.2	+0.4
QSPA				IAmb	IAmb	IAmb	03 06 03.5	
	comp=Z,7.2nm,1.4s							
QSPA	**South Pole Qui**	**34.21**	**180**	P	P	P	03 05 48.6	-0.2
	comp=Z,0.9nm,0.4s,baz=174,slow=2.4,SNR=5.6							
	comp=Z,0.9nm,0.4s							
BO02	**Sierra Bellavi**	**36.65**	**287**	P	P	P	03 06 10.0	0.0
BO02				IAmb	IAmb	IAmb	03 06 18.6	
	comp=Z,11nm,1.4s							
CPUP	**Villa Florida**	**36.98**	**311**	P	P	P	03 06 13.0	+0.2
CPUP				IAmb	IAmb	IAmb	03 06 39.4	
	comp=Z,8.5nm,1.5s							
CPUP	**Villa Florida**	**36.98**	**311**	P	P	P	03 06 12.8	0.0
	comp=Z,0.5nm,0.3s,baz=170,slow=6.1,SNR=1.5							
	comp=Z,0.5nm,0.3s							
MT09	**Talagante**	**37.53**	**288**	P	P	P	03 06 16.3	-1.2
MT09				IAmb	IAmb	IAmb	03 06 24.6	
	comp=Z,11nm,1.4s							
MT01	**Popeta**	**37.61**	**287**	P	P	P	03 06 16.7	-1.4
MT01				IAmb	IAmb	IAmb	03 06 44.8	
	comp=Z,12nm,1.4s							
VA03	**San Esteban**	**38.08**	**289**	P	P	P	03 06 22.6	+0.4
CO02	**Combarbal**	**39.54**	**290**	P	P	P	03 06 34.1	-0.3
CO02				IAmb	IAmb	IAmb	03 06 43.8	
	comp=Z,17nm,1.3s							
CO03	**El Pedregal**	**39.66**	**291**	P	P	P	03 06 35.7	+0.3
CO01	**Juntas del Tor**	**40.03**	**292**	P	P	P	03 06 40.0	+1.3
CO01				IAmb	IAmb	IAmb	03 06 40.4	
	comp=Z,2.9nm,0.6s							
AC05	**El Transito**	**41.04**	**293**	P	P	P	03 06 47.4	+0.5
AC05				IAmb	IAmb	IAmb	03 06 47.9	
	comp=Z,4.2nm,0.8s							
AC04	**Llanos de Chal**	**41.96**	**293**	P	P	P	03 06 54.2	-0.1
AC04				IAmb	IAmb	IAmb	03 07 08.2	
	comp=Z,16nm,1.2s							
GO02	**Mina Guanaco**	**43.70**	**297**	P	P	P	03 07 09.4	+0.7
LVC	**Limon Verde**	**45.50**	**300**	P	P	P	03 07 23.0	-0.2
LVC				IAmb	IAmb	IAmb	03 07 25.2	
	comp=Z,3.7nm,0.7s							
PB09	**IPOC Station P**	**46.35**	**300**	P	P	P	03 07 31.3	+1.6
PB09				IAmb	IAmb	IAmb	03 07 37.1	
	comp=Z,9.5nm,1.2s							
VNDA	**Vanda**	**46.59**	**183**	P	P	P	03 07 31.5	+0.8
VNDA	**Vanda**	**46.59**	**183**	P	P	P	03 07 30.8	+0.1
	comp=Z,0.9nm,0.8s,baz=190,slow=5.4,SNR=6.2							
	comp=Z,0.9nm,0.8s							
LPAZ	**La Paz**	**50.57**	**305**	P	P	P	03 08 03.7	+1.1
LPAZ	**La Paz**	**50.57**	**305**	P	P	P	03 08 03.5	+0.9
	comp=Z,1.3nm,0.5s,baz=152,slow=3.8,SNR=12							
	comp=Z,1.3nm,0.5s							
RCBR	**Riachuelo**	**50.60**	**348**	P	P	P	03 08 02.3	+0.1
SAML	**Samuel**	**54.97**	**314**	P	P	P	03 08 34.8	+0.4
SAML				IAmb	IAmb	IAmb	03 08 40.7	
	comp=Z,3.8nm,1.3s							
BOAV	**Boa Vista**	**64.42**	**322**	P	P	P	03 09 39.8	+0.4
BOAV				IAmb	IAmb	IAmb	03 09 52.2	
	comp=Z,3.4nm,1.0s							
TORD	**Torodi Ar. Bea**	**72.93**	**29**	P	P	P	03 10 31.1	-1.2
TORD	**Torodi Ar. Bea**	**72.93**	**29**	P	P	P	03 10 31.2	-1.2
	comp=Z,0.9nm,0.7s,baz=196,slow=4.4,SNR=6.7							
	comp=Z,0.9nm,0.7s							
ILAR	**Eielson Array**	**150.29**	**312**	PKPbc	PKPbc	PKPbc	03 18 52.5	-0.2
	comp=Z,1.2nm,0.8s,baz=130,slow=1.4,SNR=18							

IDC 27 02:59:53.4±2.2, 6°.39S×129°.10E, h0km, mb4.0/1, mbtmp3.7/3, ML3.4/2, MS4.2/2, Error ellipse: s-maj=180.6km s-min=33.2km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.40**	**160**	P	Pn	Pn	03 03 17.5	-1.3
	0.1nm,0.3s,baz=342,slow=13,SNR=10							
WRA				Sn	Sn	Sn	03 05 44.1	-15
	0.3nm,0.3s,baz=336,slow=22,SNR=11							
	0.8nm,0.9s							
ASAR	**Alice Springs**	**17.79**	**165**	P	P	P	03 04 03.4	-0.1
	0.2nm,0.3s,baz=344,slow=11,SNR=8.0							
ASAR				S	Sn	Sn	03 07 09.7	-12
	0.2nm,0.4s,baz=350,slow=26,SNR=2.6							
	0.7nm,0.4s							
HNR	**Honiara**	**30.70**	**98**	LR	LR	LR	03 19 01.4	
	comp=Z,1μm,19.7s,baz=180,slow=37							
ZALV	**Zalesovo Beam**	**70.64**	**334**	P	P	P	03 11 10.8	+0.1
	0.6nm,0.4s,baz=115,slow=6.5,SNR=1.9							
	0.6nm,0.4s							
ARU	**Arti**	**84.72**	**328**	LR	LR	LR	03 51 58.4	
	comp=Z,47nm,20.8s,baz=208,slow=37							

IDC 27 03:01:15.2±10.0, 31°.31N×139°.98E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=416.3km s-min=28.3km az=67.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.36**	**307**	P	P	P	03 09 43.5	+0.4
	0.3nm,0.5s,baz=88,slow=9.7,SNR=4.4							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**48.76**	**312**	P	P	P	03 10 00.9	-0.7
	0.2nm,0.3s,baz=92,slow=9.8,SNR=2.1							
	0.2nm,0.3s							
WRA	**Warramunga Arr**	**51.25**	**187**	P	P	P	03 10 19.9	-0.9
	0.2nm,0.5s,baz=4.4,slow=7.6,SNR=6.0							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**54.98**	**187**	P	P	P	03 10 49.1	+0.9
	0.1nm,0.3s,baz=7.6,slow=7.7,SNR=1.6							
	0.1nm,0.3s							

IDC 27 03:24:03.4±27.0, 22°.42S×173°.24W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=504.0km s-min=151.9km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.74**	**266**	P	P	P	03 31 22.2	+1.0
	0.3nm,0.4s,baz=98,slow=11,SNR=6.9							
	0.3nm,0.4s							
STKA	**Stephens Creek**	**41.03**	**247**	P	P	P	03 31 46.7	-1.9
	0.7nm,0.5s,baz=86,slow=14,SNR=4.1							
	0.7nm,0.5s							
ASAR	**Alice Springs**	**48.42**	**258**	P	P	P	03 32 46.9	-0.9
	0.4nm,0.4s,baz=91,slow=7.4,SNR=6.9							
	0.4nm,0.4s							
WRA	**Warramunga Arr**	**48.74**	**263**	P	P	P	03 32 51.1	+0.9
	2.0nm,0.5s,baz=98,slow=8.3,SNR=49							
	2.0nm,0.5s							

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*IDC **27** 03:32:15.1±1.3, 34°.96N×135°.67E, h373km±17km, mb2.7/3, mbtmp3.4/5, Error ellipse: s-maj=33.8km s-min=21.4km az=112.0*
*JMA **27** 03:32:15.5±0.1, 35°.1N±0°.8×135°.6E±0°.6, h366km±1km, MV3.1/28, MID KYOTO PREF*
ISC 27 03:32:15.5±1.0, 35°.03N±0°.10×135°.60E±0°.08, h350km, n18, σ2°.30/22, mb2.9/3, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.31**	**327**	P	Pn	Pn	03 33 01.2	+1.8
JWT				S	S	S	03 33 37.3	+2.8
JWY	**Kouya**	**0.81**	**181**	P	Pn	Pn	03 33 02.9	+2.1
JYTA	**Yamagatataniai**	**1.08**	**58**	P	Pn	Pn	03 33 03.7	+2.2
JIE	**Ise**	**1.11**	**125**	P	Pn	Pn	03 33 03.9	+2.2
JIE				*e*S	S	S	03 33 41.8	+3.0
JTNC	**Tanabenakahech**	**1.20**	**180**	P	Pn	Pn	03 33 04.1	+1.9
JTNC				S	S	S	03 33 42.3	+2.6
JKG	**Kaga**	**1.38**	**25**	P	Pn	Pn	03 33 04.8	+1.9
JAI	**Aioi**	**1.56**	**218**	P	Pn	Pn	03 33 05.7	+1.7
JMN	**Monobe**	**1.93**	**228**	*e*P	Pn	Pn	03 33 08.1	+1.7
JHS	**Saijyo**	**2.04**	**270**	P	Pn	Pn	03 33 08.7	+1.6
JHS				S	S	S	03 33 51.2	+2.7
JOI	**OKI**	**2.30**	**304**	*e*P	Pn	Pn	03 33 10.4	+1.5
JGT2	**ShimaneMisato**	**2.54**	**272**	P	Pn	Pn	03 33 12.2	+1.3
MAT	**Matsushiro**	**2.60**	**54**	P	Pn	Pn	03 33 12.8	+1.4
MJAR	**Matsushiro Arr**	**2.60**	**54**	P	Pn	Pn	03 33 13.1	+1.8
	6.6nm,0.5s,baz=222,slow=7.4,SNR=16							
JHT	**

MJAR	**Matsushiro Arr**	**15.43 345**	P	**P**	**03 39 33.1**	**+0.1**
	1.4nm,0.7s,baz=169,slow=10,SNR=4.0					
KSRS	**Korea Array**	**20.46 324**	P	**P**	**03 40 27.5**	**+0.8**
	0.5nm,0.6s,baz=146,slow=9.6,SNR=2.1					
	0.5nm,0.6s					
WRA	**Warramunga Arr**	**42.18 192**	P	**P**	**03 43 35.0**	**-0.1**
	0.5nm,0.6s,baz=15,slow=8.8,SNR=7.2					
	0.5nm,0.6s					
MKAR	**Makanchi Array**	**54.61 313**	P	**P**	**03 45 09.3**	**+0.4**
	0.3nm,0.7s,baz=121,slow=5.6,SNR=3.1					
MKAR			PcP	**PcP**	**03 46 08.1**	**+0.4**
	0.3nm,0.6s,baz=72,slow=4.7,SNR=2.7					
	0.3nm,0.7s					
KURBB	**Kurchatov Arra**	**57.45 317**	P	**P**	**03 45 28.8**	**0.0**
	0.8nm,0.4s,baz=95,slow=7.7,SNR=9.1					
	0.8nm,0.4s					
BVAR	**Borovoye Array**	**62.61 320**	P	**P**	**03 46 03.8**	**+0.3**
	1.8nm,0.3s,baz=97,slow=9.0,SNR=7.5					
	1.8nm,0.3s					
ARCES	**ARCESS Array B**	**78.93 341**	P	**P**	**03 47 40.2**	**-0.7**
	0.8nm,0.5s,baz=69,slow=8.9,SNR=6.3					
	0.8nm,0.5s					
FINES	**FINESS Array B**	**83.16 334**	P	**P**	**03 48 02.0**	**-1.2**
	0.7nm,0.5s,baz=78,slow=5.5,SNR=8.9					
	0.7nm,0.5s					
NVAR	**Mina Array Bea**	**83.32 51**	P	**P**	**03 48 05.5**	**+0.6**
	0.3nm,0.7s,baz=286,slow=6.5,SNR=2.3					
	0.3nm,0.7s					
HFS	**Hagfors**	**88.72 337**	P	**P**	**03 48 28.8**	**-1.5**
	1.4nm,1.0s,baz=102,slow=5.1,SNR=7.0					
	1.4nm,1.0s					
PLCA	**Paso Flores**	**145.84 132**	PKPbc	**PKPbc**	**03 55 15.4**	**+0.3**
	1.1nm,0.9s,baz=235,slow=6.3,SNR=4.4					
LPAZ	**La Paz**	**150.12 85**	PKPbc	**PKPbc**	**03 55 27.4**	**-0.2**
	1.1nm,0.7s,baz=254,slow=3.2,SNR=5.7					

*TEH **27** 03:36:24.5,34°.60N×46°.26E,h8km±59km,ML2.8*
*ISN **27** 03:36:25.7±1.2,34°.58N×46°.25E,h29km±24km,ML2.8*
ISC 27 03:36:24.7±1.5,**34°.60N**±0°.05×**46°.25E**±0°.03,**h18**km±4km,
n10,σ0**s54**/13,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.15**	**49**	Pg	**Pb**	**03 36 27.9**	**-0.4**
IDHR				Sg	**Sb**	**03 36 30.8**	**+0.2**
IGHG	**Ghaleghazi**	**0.38**	**135**	Pg	**Pg**	**03 36 32.5**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.55**	**260**	Pg	**Pg**	**03 36 35.5**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.56**	**210**	Pg	**Pg**	**03 36 35.9**	**0.0**
KCHF	**Cheshme Sefid,**	**0.73**	**116**	Pg	**Pb**	**03 36 38.2**	**-0.8**
ILBA	**Ilam Banvizeh**	**0.97**	**182**	Pg	**Pb**	**03 36 43.4**	**+0.3**
SNQR	**Sonqor, Kerman**	**1.17**	**77**	Pg	**Pg**	**03 36 47.7**	**+0.3**
IBZA	**Bozab**	**1.34**	**95**	Pg	**Pb**	**03 36 50.0**	**+0.6**
IBDR	**Badra**	**1.51**	**190**	*e*Pg	**Pb**	**03 36 52.0**	**-0.1**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**03 37 13.0**	**-0.4**
IBDR				AML	AML	03 37 20.6	
	comp=N,67nm,0.7s						
IKRK	**Kirkuk**	**1.76**	**298**	*e*Pn	**Pb**	**03 36 56.0**	**-0.4**
IKRK				*e*Sn	**Sb**	**03 37 19.0**	**+0.9**
IKRK				AML	AML	03 37 24.4	
	comp=E,157nm,1.5s						
IKRK				AML	AML	03 37 28.7	
	comp=N,257nm,0.4s						

*TAP **27** 03:55:44.9,22°.01N×121°.50E,h19km,ML3.1,C*
*JMA **27** 03:55:45.3±0.1,22°.1N±0°.5×121°.6E±0°.3,h25km,MV3.6/8,*
TAIWAN REGION
ISC 27 03:55:44.8±1.0,**22°.06N**±0°.04×**121°.54E**±0°.03,**h23**km±7km,
n106,σ1**s15**/138,**3C-2D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.02**	**161**	⇓P	**Pb**	**03 55 49.0**	**+0.2**
	baz=67						
LAY				S	**Sb**	**03 55 51.3**	**0.0**
	baz=67						
LYUB	**Lan-yu**	**0.07**	**147**	⇓ *i*P	**Pb**	**03 55 48.6**	**-0.3**
	baz=99						
LYUB				*i* S	**Sb**	**03 55 50.6**	**-1.0**
	baz=99						
LDUT	**Ludao**	**0.61**	**354**	⇑P	**Pb**	**03 55 57.1**	**+0.2**
	baz=358						
LDUT				*e*S	**Sb**	**03 56 05.6**	**+0.4**
	baz=358						
SMST	**Manzhou Townsh**	**0.66**	**267**	*e*P	**Pb**	**03 55 58.2**	**+0.6**
	baz=284						
TAWH	**Dawu Township**	**0.67**	**295**	P	**Pb**	**03 55 57.3**	**-0.5**
	baz=300						
TAWH				S	**Sb**	**03 56 06.1**	**-0.6**
	baz=300						
TAW	**Tawu**	**0.67**	**296**	*e*P	**Pb**	**03 55 57.6**	**-0.2**
	baz=302						
TAW				*e*S	**Sb**	**03 56 05.7**	**-0.9**
	baz=302						
TWKBT	**Hengchun**	**0.69**	**260**	⇑*e*P	**Pb**	**03 55 57.5**	**-0.7**
	baz=277						
TWKBT				*e*S	**Sb**	**03 56 05.8**	**-1.4**
	baz=277						
TWK1	**Hengchun**	**0.69**	**261**	*e*P	**Pb**	**03 55 57.7**	**-0.5**
	baz=276						
TWK1				*e*S	**Sb**	**03 56 06.4**	**-1.0**
	baz=276						
SLIU	**Shizi**	**0.71**	**283**	*e*P	**Pb**	**03 55 57.9**	**-0.6**
	baz=288						
SLIU				*e*S	**Sb**	**03 56 06.5**	**-1.3**
	baz=288						
EAST	**Anshuo**	**0.72**	**297**	P	**Pb**	**03 55 58.1**	**-0.6**
	baz=302						
EAST				*e*S	**Sb**	**03 56 06.7**	**-1.5**
	baz=302						
SNW	**Nanwan**	**0.74**	**262**	*e*P	**Pb**	**03 55 58.5**	**-0.6**
	baz=278						
SNW				*e*S	**Sb**	**03 56 08.7**	**-0.1**
	baz=278						
HEN	**Hengchun**	**0.75**	**266**	*e*P	**Pb**	**03 55 58.5**	**-0.7**
	baz=281						
HEN				S	**Sb**	**03 56 08.3**	**-0.7**
	baz=281						
TTN	**Taitung**	**0.78**	**332**	P	**Pn**	**03 56 00.4**	**-0.1**
	baz=346						
TTN				*e*S	**Sn**	**03 56 12.5**	**+1.0**
	baz=346						
TWGBT	**Beinan**	**0.87**	**330**	*e*P	**Pb**	**03 56 00.9**	**-0.3**
	baz=320						
TWGBT				S	**Sb**	**03 56 12.8**	**+0.4**
	baz=320						
TWGBT	**Beinan**	**0.87**	**330**	*e*S	**Sb**	**03 56 12.9**	**+0.6**
	baz=207						
TWG	**Pinlang**	**0.87**	**330**	*e*P	**Pb**	**03 56 01.3**	**0.0**
	baz=320						
TWG				*e*S	**Sb**	**03 56 12.7**	**+0.2**
	baz=320						
TWG	**Pinlang**	**0.87**	**330**	*e*S	**Sb**	**03 56 13.0**	**+0.4**
	baz=207						
SCZT	**Fangliau**	**0.91**	**290**	*e*P	**Pb**	**03 56 00.6**	**-1.3**
	baz=302						
LONT	**Longtian**	**0.93**	**336**	*e*P	**Pb**	**03 56 02.0**	**-0.2**
	baz=349						
EDH	**Donghe**	**0.94**	**346**	*e*P	**Pb**	**03 56 02.4**	**+0.1**
	baz=350						
MASBT	**Mashibuluo**	**1.01**	**303**	⇑*e*P	**Pn**	**03 56 02.8**	**-0.8**
	baz=316						
CHKT	**Chengkung**	**1.05**	**351**	*e*P	**Pn**	**03 56 03.6**	**-0.5**
	baz=2.0						
TSMG	**Majia**	**1.05**	**308**	*e*P	**Pb**	**03 56 05.2**	**+0.9**
	baz=319						
ECS	**Chishang**	**1.07**	**344**	*e*P	**Pb**	**03 56 05.5**	**+0.8**
	baz=354						
SSD	**Sandimen**	**1.08**	**309**	*e*P	**Pb**	**03 56 05.4**	**+0.5**
	baz=320						
EHD	**Haiduan**	**1.13**	**344**	P	**Pb**	**03 56 05.6**	**-0.1**
	baz=353						
TWP	**Hsiaoliuchiu**	**1.13**	**285**	*e*P	**Pn**	**03 56 04.7**	**-0.6**
	baz=288						
CHKH	**Chenggong**	**1.14**	**353**	*e*P	**Pn**	**03 56 05.2**	**-0.1**
	baz=2.0						
FULB	**Fuli**	**1.16**	**349**	*e*P	**Pn**	**03 56 05.5**	**-0.1**
	baz=359						
ELDTW	**Lidau**	**1.22**	**337**	*e*P	**Pn**	**03 56 06.9**	**+0.2**
	baz=340						
SLGT	**Liugui**	**1.25**	**318**	*e*P	**Pb**	**03 56 08.1**	**+0.5**
	baz=328						
ECBN	**Changbin**	**1.25**	**356**	*e*P	**Pn**	**03 56 06.9**	**0.0**
	baz=7.0						
ECBN				*e*S	**Sb**	**03 56 23.3**	**-0.1**
	baz=7.0						
SCST	**Cishan**	**1.27**	**310**	*e*P	**Pb**	**03 56 09.3**	**+1.3**
	baz=313						
TWM1	**Houshan**	**1.28**	**306**	*e*P	**Pb**	**03 56 10.4**	**+2.1**
	baz=309						
EYUL	**Yuli**	**1.30**	**351**	*e*P	**Pb**	**03 56 08.2**	**-0.3**
	baz=2.0						
TWF1	**Yuli**	**1.31**	**350**	*e*P	**Pn**	**03 56 08.1**	**+0.4**
	baz=1.0						
STYH	**Taoyuan**	**1.31**	**327**	*e*P	**Pb**	**03 56 09.0**	**+0.3**
	baz=339						
STYT	**Tauyuan**	**1.32**	**327**	*e*P	**Pb**	**03 56 08.9**	**+0.1**
	baz=339						
YULB	**Yu-li**	**1.35**	**350**	*e*P	**Pn**	**03 56 08.7**	**+0.5**
SGST	**Jiashian**	**1.35**	**319**	*e*P	**Pb**	**03 56 09.4**	**0.0**
	baz=322						
HGSD	**Ruisui**	**1.43**	**356**	*e*P	**Pn**	**03 56 09.3**	**-0.1**
	baz=5.0						
EHY	**Hungye**	**1.45**	**352**	*e*P	**Pn**	**03 56 09.7**	**0.0**
WTP	**Ta-pu**	**1.46**	**324**	*e*P	**Pb**	**03 56 11.7**	**+0.4**
	baz=327						
CHN1	**Nanshi**	**1.46**	**320**	*e*P	**Pb**	**03 56 11.8**	**+0.5**
	baz=323						
TPUB	**Ta-pu**	**1.50**	**326**	*e*P	**Pb**	**03 56 12.1**	**+0.2**
	baz=328						
SNST	**Tainan City**	**1.50**	**320**	*e*P	**Pb**	**03 56 12.7**	**+0.7**
	baz=323						
YUS	**Yu-Shan**	**1.52**	**339**	*e*P	**Pn**	**03 56 11.7**	**+0.6**
	baz=342						
TWK	**Hsinying**	**1.55**	**321**	*e*P	**Pb**	**03 56 12.9**	**+0.1**
	baz=324						
WCKO	**Fanlu**	**1.62**	**328**	*e*P	**Pb**	**03 56 14.7**	**+0.7**
	baz=330						
WARBT	**Fenglin Townsh**	**1.66**	**355**	*e*P	**Pn**	**03 56 12.8**	**+0.3**
	baz=6.0						
WARBT				*e*S	**Sb**	**03 56 34.9**	**-0.2**
	baz=6.0						
SHUL	**Shoufeng**	**1.72**	**1**	*e*P	**Pn**	**03 56 14.3**	**+0.9**
	baz=8.0						
SHUL				*e*S	**Sb**	**03 56 36.1**	**-0.7**
	baz=8.0						
CHN5	**Tsauling**	**1.73**	**333**	*e*P	**Pb**	**03 56 16.1**	**+0.3**
	baz=334						
VWDT	**VWDT**	**1.73**	**348**	*e*P	**Pb**	**03 56 15.0**	**-0.8**
	baz=349						
TSCK	**Chigu Township**	**1.73**	**309**	*e*P	**Pn**	**03 56 14.4**	**+0.9**
	baz=311						
WHYT	**Xinyi Township**	**1.75**	**339**	*e*P	**Pb**	**03 56 16.4**	**+0.2**
	baz=340						
ESL	**Shilin**	**1.75**	**357**	*e*P	**Pb**	**03 56 15.0**	**-1.2**
	baz=5.0						
ESL				*e*S	**Sb**	**03 56 36.5**	**-1.2**
	baz=5.0						
TEYL	**Yanliau Villag**	**1.80**	**2**	*e*P	**Pb**	**03 56 16.4**	**-0.6**
	baz=2.0						
SSLB	**Suanglung**	**1.80**	**343**	*e*P	**Pb**	**03 56 16.6**	**-0.6**
	baz=354						
WDLH	**Douliu**	**1.87**	**330**	*e*P	**Pb**	**03 56 17.4**	**-0.8**
	baz=315						
ETM	**Tongmen**	**1.90**	**359**	*e*P	**Pn**	**03 56 16.8**	**+1.0**
	baz=7.0						
ETM				*e*S	**Sb**	**03 56 40.7**	**-1.3**
	baz=7.0						
SMLT	**Sun Moon Lake**	**1.91**	**342**	*e*P	**Pb**	**03 56 19.1**	**+0.1**
	baz=352						
OWD	**Renai**	**1.92**	**350**	*e*P	**Pb**	**03 56 18.1**	**-1.0**
	baz=2.0						
TYC	**Yuchr**	**1.94**	**341**	*e*P	**Pb**	**03 56 19.2**	**-0.2**
	baz=326						
TYC				*e*S	**Sb**	**03 56 44.5**	**+1.2**
	baz=326						
LXIB	**Xiulin Townshi**	**1.96**	**357**	*e*P	**Pn**	**03 56 17.3**	**+0.6**
	baz=357						
WUSB	**Renai**	**1.96**	**349**	*e*P	**Pb**	**03 56 18.7**	**-1.2**
	baz=360						
WUSB				*e*S	**Sb**	**03 56 43.0**	**-1.1**
	baz=360						
WNT	**Mingjian**	**1.98**	**337**	*e*P	**Pb**	**03 56 19.7**	**-0.4**
	baz=321						
CHGB	**Renai**	**2.02**	**350**	*e*P	**Pb**	**03 56 19.8**	**-1.2**
	baz=1.0						
DPDB	**Guoxing**	**2.04**	**344**	*e*P	**Pb**	**03 56 21.3**	**+0.1**
	baz=329						
WCS	**Beigang Elemen**	**2.07**	**344**	*e*P	**Pb**	**03 56 21.2**	**-0.5**
	baz=329						
WCS				*e*S	**Sb**	**03 56 47.0**	**0.0**
	baz=329						
WHF	**Hehuan Shan**	**2.09**	**353**	*e*P	**Pn**	**03 56 20.4**	**+1.5**
	baz=4.0						
NACB	**Ninganchiao**	**2.10**	**1**	*e*P	**Pn**	**03 56 19.1**	**+0.5**
	baz=9.0						
NACB				*e*S	**Sn**	**03 56 45.3**	**+1.2**
	baz=9.0						
WDGT	**Dungji**	**2.11**	**305**	*e*P	**Pn**	**03 56 19.1**	**+0.4**
	baz=306						
WDGT				*e*S	**Sn**	**03 56 44.3**	**0.0**
	baz=306						
ETLH	**Xiulin Townshi**	**2.14**	**358**	*e*P	**Pn**	**03 56 20.2**	**+1.1**
	baz=348						
ETLH				*e*S	**Sb**	**03 56 46.6**	**-2.4**
	baz=348						
EOS4	**EOS4**	**2.17**	**19**	*e*P	**Pn**	**03 56 20.3**	**+1.1**
	baz=18						
FUSS	**Fushou**	**2.19**	**353**	*e*P	**Pn**	**03 56 21.6**	**+1.5**
	baz=2.0						
TWT	**Tachien**	**2.21**	**351**	*e*P	**Pb**	**03 56 23.0**	**-1.2**
	baz=1.0						
TDCB	**Techi**	**2.21**	**351**	*e*P	**Pb**	**03 56 22.6**	**-1.6**
	baz=1.0						
VCHM	**Qimei**	**2.26**	**301**	P	**Pn**	**03 56 20.9**	**+0.1**
	baz=302						
VCHM				*e*S	**Sn**	**03 56 48.1**	**0.0**
	baz=302						
WHP	**Taichung City**	**2.27**	**346**	*e*P	**Pb**	**03 56 24.8**	**-0.4**
	baz=356						
EOS3	**EOS3**	**2.33**	**18**	*e*P	**Pn**	**03 56 23.1**	**+1.5**
	baz=15						
NNSB	**Datong**	**2.36**	**356**	*e*P	**Pn**	**03 56 24.1**	**+1.8**
	baz=356						
NNSB				*e*S	**Sb**	**03 56 53.6**	**-1.9**
	baz=356						
ENA	**Nanau**	**2.36**	**4**	*e*P	**Pn**	**03 56 23.4**	**+1.2**
	baz=13						
ENA				*e*S	**Sb**	**03 56 52.4**	**-3.1**
	baz=13						
NNS	**Nan Shan**	**2.37**	**356**	*e*P	**Pb**	**03 56 24.7**	**-2.3**
	baz=357						
TWQ1	**Liyutan**	**2.38**	**343**	*e*P	**Pb**	**03 56 25.7**	**-1.4**
	baz=327						
EOS2	**EOS2**	**2.43**	**15**	*e*P	**Pn**	**03 56 25.0**	**+2.0**
	baz=12						
LATG	**Datong**	**2.46**	**360**	*e*P	**Pn**	**03 56 25.5**	**+1.8**
	baz=359						
NDT	**Datong Townshi**	**2.53**	**359**	*e*P	**Pb**	**03 56 27.8**	**-1.7**
	baz=360						
TWC	**Suao**	**2.55**	**6**	*e*P	**Pn**	**03 56 27.0**	**+2.2**
	baz=15						
ENTT	**Nioudou**	**2.57**	**0**	*e*P	**Pn**	**03 56 27.3**	**+2.3**
NFF	**Wufeng Townshi**	**2.59**	**351**	*e*P	**Pb**	**03 56 29.5**	**-1.1**
	baz=334						
YHNB	**Yeheng**	**2.60**	**357**	*e*P	**Pb**	**03 56 28.4**	**-2.4**
	baz=6.0						
NSK	**Sanguang**	**2.61**	**356**	*e*P	**Pb**	**03 56 28.2**	**-2.7**
	baz=6.0						
FUSB	**Fushanzhiwuyua**	**2.69**	**1**	*e*P	**Pn**	**03 56 29.2**	**+2.4**
NWLT	**Wulai**	**2.71**	**359**	*e*P	**Pb**	**03 56 30.1**	**-2.4**
	baz=359						
YOJ	**Yonaguni jima**	**2.75**	**29**	*e*P	**Pn**	**03 56 29.0**	**+1.5**
	baz=27						
YOJ				*e*S	**Sn**	**03 57 01.9**	**+2.0**
	baz=27						
YOJ	**Yonaguni jima**	**2.75**	**29**	*e*P	**Pn**	**03 56 29.0**	**+1.5**
HATJ	**Hateruma jima**	**2.88**	**46**	*e*P	**Pn**	**03 56 30.6**	**+1.3**
HATJ				*e*S	**Sn**	**03 57 03.7**	**+0.5**
TIPB	**Shuangxi**	**2.91**	**5**	*e*P	**Pn**	**03 56 32.4**	**+2.6**
	baz=352						
TIPB				*e*S	**Sb**	**03 57 07.2**	**-4.0**
	baz=352						
JIJ	**Ishigaki jima**	**3.31**	**46**	*e*P	**Pn**	**03 56 36.4**	**+1.2**
JIJ				*e*S	**Sn**	**03 57 13.9**	**0.0**
VWUC	**VWUC**	**3.49**	**327**	*e*P	**Pn**	**03 56 38.7**	**+0.9**
	baz=327						
JISG	**Ishigakijimahi**	**3.58**	**45**	*e*P	**Pn**	**03 56 39.9**	**+1.0**
PTMZ	**Houxiangcun**	**3.71**	**324**	*e*P	**Pn**	**03 56 41.7**	**+1.0**
	baz=324						
KNMB	**Chin-men Tao**	**3.76**	**310**	*e*P	**Pn**	**03 56 42.2**	**+0.8**
	baz=311						
MHZQ	**Yeshan**	**4.63**	**331**	*e*P	**Pn**	**03 56 54.0**	**+0.7**
	baz=330						
VDOS	**Pratas Island**	**4.68**	**254**	*e*P	**Pn**	**03 56 55.3**	**+1.2**
	baz=257						
SXFK	**Yanhouchang**	**5.60**	**321**	*e*P	**Pn**	**03 57 06.9**	**+0.2**
	baz=320						

TAP 27 03:56:04.8,22°.96N×121°.16E,h15km,ML1.9,1D,B,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONT	**Longtian**	**0.06**	**208**	⇓ *i*P	Pg	03 56 08.3	+0.5
	baz=208						
LONT				S	Sg	03 56 10.4	+0.7
	baz=208						
EDH	**Donghe**	**0.13**	**85**	P	Pb	03 56 09.1	+0.1
	baz=85						
EDH				S	Sb	03 56 11.9	+0.1
	baz=85						
ECS	**Chishang**	**0.14**	**22**	*e*P	Pb	03 56 09.0	-0.2
	baz=21						
ECS				*e*S	Sb	03 56 12.8	+0.7
	baz=21						
TWGBT	**Beinan**	**0.16**	**208**	*e*P	Pb	03 56 09.3	-0.2
	baz=207						
TWG	**Pinlang**	**0.16**	**211**	*e*P	Pb	03 56 09.3	-0.2
	baz=207						
EHD	**Haiduan**	**0.19**	**12**	*e*P	Pb	03 56 09.8	-0.2
	baz=12						
ELDTW	**Lidau**	**0.26**	**329**	*e*P	Pg	03 56 10.9	+0.3
	baz=330						
ECL	**Taimali**	**0.41**	**208**	*e*P	Pb	03 56 13.8	0.0
	baz=206						
YULB	**Yu-li**	**0.45**	**16**	*e*P	Pn	03 56 15.8	-0.8
	baz=16						

*ISN **27** 03:57:42.9±2.0,34°.71N×45°.92E,h25km,ML2.8*
*TEH **27** 03:57:43.6,34°.75N×45°.86E,h10km±89km,ML2.6*
ISC 27 03:57:43.9±1.0,**34°.73N**±0°.07×**45°.84E**±0°.05,**h10**km,**n6**,
σ1**s13**/9,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.30**	**223**	Pg	**Pg**	**03 57 50.1**	**+0.2**
KGS1				Sg	**Sb**	**03 57 56.0**	**-0.4**
IDHR	**Dehrash**	**0.45**	**93**	Pg	**Pg**	**03 57 52.5**	**-0.4**
IDHR				Sg	**Sg**	**03 57 59.8**	**+0.9**
GLG1	**Gilan-e-Gharb**	**0.61**	**174**	Pg	**Pg**	**03 57 56.0**	**+0.1**
ILBA	**Ilam Banvizeh**	**1.14**	**164**	Pg	**Pg**	**03 58 05.4**	**-0.4**
IKRK	**Kirkuk**	**1.40**	**299**	*e*Pg	**Pn**	**03 58 08.0**	**-1.5**
	baz=118						
IKRK				*e*Sg	**Sn**	**03 58 30.0**	**+1.9**
IKRK				AML	AML	03 58 32.2	
	comp=N,125nm,0.6s						
IKRK				AML	AML	03 58 32.2	
	comp=E,220nm,0.4s						
IBZA	**Bozab**	**1.69**	**98**	Pg	**Pb**	**03 58 15.7**	**+0.4**

*IDC **27** 04:00:26.7±3.8,34°.36N×46°.86E,h0km,mb3.5/7,*
mbtmp3.6/10,ML2.8/3,Error ellipse: s-maj=64.7km
s-min=28.4km az=117.0
*TEH **27** 04:00:32.0,34°.58N×46°.31E,h6km±33km,ML3.6*
*ISN **27** 04:00:33.0±0.7,34°.64N×46°.31E,h14km±4km,ML3.8*
ISC 27 04:00:32.7±0.6,**34°.57N**±0°.03×**46°.30E**±0°.03,**h10**km,**n53**,
σ1**s94**/51,**mb3.6**/10,**5C-4D**,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.15**	**28**	Pg	**Pg**	**04 00 36.1**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.56**	**216**	Pg	**Pb**	**04 00 44.1**	**-0.5**
GLG1				Sg	**Sb**	**04 00 53.1**	**+0.4**
KGS1	**Ghasr-e-Shirin**	**0.59**	**264**	Pg	**Pb**	**04 00 44.4**	**-0.7**
ILIN	**Lien**	**0.65**	**57**	Pg	**Pb**	**04 00 45.5**	**-0.7**
KCHF	**Cheshme Sefid,**	**0.68**	**115**	Pg	**Pb**	**04 00 46.4**	**-0.3**
ILBA	**Ilam Banvizeh**	**0.94**	**185**	Pg	**Pn**	**04 00 51.4**	**-0.7**
SNQR	**Sonqor, Kerman**	**1.13**	**75**	Pg	**Pn**	**04 00 54.9**	**0.0**
IBZA	**Bozab**	**1.29**	**94**	Pg	**Pg**	**04 00 57.7**	**+0.2**
IBDR	**Badra**	**1.48**	**192**	*e*Pg	**Pg**	**04 01 01.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**04 01 22.0**	**+1.5**
IKFM	**Kafar-mosalman**	**1.65**	**129**	Pg	**Pg**	**04 01 04.4**	**0.0**
SDS1	**Sardasht. Az.**	**1.71**	**337**	Pg	**Pg**	**04 01 04.4**	**-1.2**
IKRK	**Kirkuk**	**1.81**	**298**	*e*Pn	**Pb**	**04 01 05.0**	**-1.0**
IKRK				*e*Sn	**Sb**	**04 01 29.0**	**+0.3**
IKRK				AML	AML	04 01 35.1	
	comp=E,1μm,0.3s						
IKRK				AML	AML	04 01 41.1	
	comp=N,1μm,0.6s						
HSAM	**Samen**	**1.94**	**100**	Pn	**Pg**	**04 01 09.2**	**-0.6**
MAHB	**Mahabad**	**2.25**	**348**	Pn	**Pb**	**04 01 12.9**	**-0.5**
RAFI	**Al-Rafai**	**2.84**	**183**	*e*Pn	**Pb**	**04 01 21.0**	**-2.5**
RAFI				*e*Sn	**Sb**	**04 01 56.0**	**-2.3**
IHSH	**Hashtrud**	**2.84**	**16**	Pn	**Pb**	**04 01 21.5**	**-2.2**
IAZR	**Azarshahr**	**3.12**	**355**	Pn	**Pb**	**04 01 25.4**	**-3.0**
ISRB	**Sarab**	**3.43**	**18**	Pn	**Pb**	**04 01 30.8**	**-3.0**
ISHB	**Shabestar**	**3.75**	**352**	Pn	**Pn**	**04 01 33.9**	**+3.0**
IHRS	**Heris**	**3.79**	**9**	Pn	**Pn**	**04 01 34.4**	**+3.0**
IPIR	**Pirpir**	**4.26**	**115**	Pn	**Pn**	**04 01 40.9**	**+2.9**
JHBN	**Jahan bin**	**4.33**	**121**	Pn	**Pn**	**04 01 42.1**	**+3.2**
GRMI	**Germi**	**4.42**	**16**	Pn	**Pn**	**04 01 43.0**	**+3.1**
IVRN	**Varamin**	**4.49**	**83**	Pn	**Pn**	**04 01 44.0**	**+3.2**
ZNGN	**Zangian**	**4.53**	**121**	Pn	**Pn**	**04 01 44.5**	**+2.9**
KRSH	**Karshahi**	**4.87**	**95**	Pn	**Pn**	**04 01 49.3**	**+3.1**
ISFB	**Sefidab**	**4.91**	**91**	Pn	**Pn**	**04 01 49.2**	**+2.5**
IZEF	**Zefreh**	**5.29**	**107**	Pn	**Pn**	**04 01 55.5**	**+3.4**
GNI	**Garni**	**5.71**	**348**	Pg	**Pb**	**04 02 15.5**	**+3.0**
	comp=N,0.9nm,0.3s,baz=115,slow=13,SNR=2.2						
GNI				Lg	Lg	04 03 28.9	
	comp=N,1.0nm,0.3s,baz=346,slow=17,SNR=2.1						
ASF	**Jabal al Asfar**	**8.22**	**256**	Pn	**Pn**	**04 02 33.5**	**+1.3**
	comp=N,0.5nm,0.3s,baz=235,slow=0.5,SNR=3.7						
ASF				Sn	Sn	04 04 17.5	+12
	comp=N,0.5nm,0.3s,baz=314,slow=1.4,SNR=2.7						
	comp=N,1.7nm,0.4s						
BRTR	**Keskin Array B**	**11.34**	**301**	Pn	Pn	04 03 20.2	+5.4

ML2.3, mb_Lg2.3/68(NEIC), ML2.1/24(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=78.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.23**	**31**	Pg	Pg	04 48 47.9	+1.1
FNO				Sg	Sg	04 48 50.8	+1.0
FNO				IAML		04 48 54.4	
	comp=E,328nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**0.35**	**14**	Pg	Pg	04 48 49.7	+0.5
OKCSW				IAML		04 48 58.4	
	comp=N,228nm,1.0s						
OKCSW				IAML		04 48 58.6	
	comp=E,167nm,0.7s						
X34A	**Smith Ranch, M**	**0.52**	**207**		Pg	04 48 52.9	+0.7
X34A				Sg	Sg	04 48 59.7	+0.7
X34A				IAML		04 49 01.3	
	comp=E,150nm,0.3s						
OK029	**Liberty Lake**	**0.74**	**6**	Pg	Pg	04 48 56.6	+0.1
OK029				IAML		04 49 17.0	
	comp=E,57nm,0.7s						
WMOK	**Wichita Mounta**	**1.07**	**253**	Pg	Pg	04 49 02.1	-0.6
LOOK	**Love County**	**1.11**	**164**		Pg	04 49 03.7	+0.1
CROK	**Carrier**	**1.48**	**346**		Pn	04 49 09.7	+0.1
CROK				IAmb_Lg		04 49 28.3	
	comp=Z,23nm,1.1s						
WTFS	**Witchita Falls**	**1.50**	**211**		Pn	04 49 09.0	-0.8
OK051	**E0350 and S346**	**1.55**	**22**		Pn	04 49 10.3	-0.2
BLOK	**Blackwell**	**1.71**	**9**		Pn	04 49 13.2	+0.4
BLOK				IAmb_Lg		04 49 39.5	
	comp=Z,14nm,0.8s						
OK038	**West end E0370**	**1.71**	**326**		Pn	04 49 12.8	0.0
Z35A	**Perchaven, San**	**1.75**	**172**		Pn	04 49 13.0	-0.1
OK032	**Salt Plains WL**	**1.82**	**343**	Pn	Pn	04 49 14.7	+0.5
ELIS	**Ellis County**	**1.82**	**304**	IAmb_Lg		04 49 42.0	
	comp=Z,21nm,0.8s						
X37A	**Clayton**	**1.85**	**104**	Pn	Pn	04 49 15.4	+0.8
X37A				IAmb_Lg		04 49 45.6	
	comp=Z,21nm,0.9s						
KAN13	**South Haven SW**	**1.95**	**2**		Pn	04 49 16.3	+0.3
KAN17	**Caldwell West**	**1.98**	**355**	IAmb_Lg		04 49 44.9	
	comp=Z,12nm,0.7s						
FW03	**Perrin-Whitt E**	**2.06**	**192**	IAmb_Lg		04 49 48.4	
	comp=Z,16nm,0.8s						
KAN01	**Argonia South**	**2.09**	**355**	IAmb_Lg		04 49 48.5	
	comp=Z,16nm,1.1s						
RLO	**Rose Lookout**	**2.33**	**61**	IAmb_Lg		04 49 59.6	
	comp=Z,13nm,0.8s						
PLPT	**Palo Pinto**	**2.33**	**196**	IAmb_Lg		04 49 56.6	
	comp=Z,9.2nm,0.8s						
FW07	**Weatherford**	**2.36**	**185**	IAmb_Lg		04 49 58.3	
	comp=Z,11nm,0.7s						
TREL	**Terrell**	**2.62**	**152**	IAmb_Lg		04 50 06.1	
	comp=Z,16nm,0.7s						
FW14	**Alvarado**	**2.67**	**174**	IAmb_Lg		04 50 13.3	
	comp=Z,11nm,0.8s						
FW13	**Cleburne**	**2.71**	**178**	IAmb_Lg		04 50 13.7	
	comp=Z,14nm,1.1s						
Z38A	**Mt. Pleasant**	**2.78**	**130**	IAmb_Lg		04 50 12.4	
	comp=Z,11nm,0.7s						
U38A	**Gravette**	**2.91**	**61**	IAmb_Lg		04 50 14.5	
	comp=Z,8.2nm,1.2s						
ABTX	**Abilene, Hawle**	**2.99**	**216**	IAmb_Lg		04 50 15.1	
	comp=Z,7.1nm,0.8s						
AMTX	**Amarillo**	**3.40**	**268**	IAmb_Lg		04 50 37.9	
	comp=Z,6.4nm,1.0s						
SN07	**Snyder 07**	**3.40**	**236**	IAmb_Lg		04 50 36.8	
	comp=Z,8.1nm,0.7s						
SN05	**Snyder 5**	**3.53**	**233**	IAmb_Lg		04 50 39.3	
	comp=Z,9.0nm,0.9s						
X40A	**Basin Creek Fa**	**3.92**	**97**	IAmb_Lg		04 50 49.9	
	comp=Z,9.6nm,1.3s						
BRDY	**Brady**	**3.96**	**198**	IAmb_Lg		04 50 53.0	
	comp=Z,5.6nm,0.8s						
S39A	**Bolivar**	**4.30**	**51**	IAmb_Lg		04 51 05.7	
	comp=Z,5.0nm,0.9s						
SGCY	**Sterling City**	**4.34**	**225**	IAmb_Lg		04 51 09.6	
	comp=Z,7.5nm,0.7s						
MSTX	**Muleshoe**	**4.45**	**257**	IAmb_Lg		04 51 04.7	
	comp=Z,5.9nm,0.9s						
T42A	**Van Buren**	**5.58**	**68**	IAmb_Lg		04 51 39.7	
	comp=Z,4.9nm,0.9s						
HNDO	**Hondo**	**5.71**	**195**	IAmb_Lg		04 51 59.6	
	comp=Z,5.4nm,0.9s						
MNHN	**Monahans**	**5.74**	**231**	IAmb_Lg		04 51 59.9	
	comp=Z,5.3nm,0.7s						
T25A	**Trinidad**	**5.93**	**292**	IAmb_Lg		04 52 04.4	
	comp=Z,6.0nm,0.9s						
DRIO	**Del Rio**	**6.20**	**206**	IAmb_Lg		04 52 08.1	
	comp=Z,3.4nm,0.7s						
SAND	**Sanderson**	**6.39**	**218**	IAmb_Lg		04 52 21.1	
	comp=Z,5.2nm,0.8s						
PECS	**Pecos**	**6.45**	**237**	IAmb_Lg		04 52 16.1	
	comp=Z,5.8nm,1.1s						
Q24A	**Divide**	**7.22**	**305**	IAmb_Lg		04 52 45.0	
	comp=Z,4.0nm,0.8s						
PHWY	**Pilot Hill**	**8.81**	**317**	IAmb_Lg		04 53 36.1	
	comp=Z,2.4nm,0.7s						

*BJI **27** 04:54:07.0±0.0, 45°.41N×148°.07E, h140km, mb5.6/87, mB5.3/39*
*MOS **27** 04:54:08.5±1.2, 45°.40N×147°.90E, h150km, mb5.0/56, Error ellipse: s-maj=5.5km s-min=4.0km az=108.1*
MOS Felt (II) at Kuril'sk.
*IDC **27** 04:54:08.9±0.4, 45°.54N×147°.82E, h133km±3km, mb4.6/32, mbtmp5.0/37, MS3.7/46, Error ellipse: s-maj=9.0km s-min=8.1km az=117.0*
*NEIC **27** 04:54:09.5±1.6, 45°.37N±0°.07×148°.0E±0°.1, h140km±5km, mb4.9/608, Error ellipse: s-maj=11.7km s-min=9.5km az=136.0*
*SKHL **27** 04:54:09.3±0.2, 45°.10N×148°.20E, h143km±3km, mb6.0/4, mbv5.7/1, msha6.4/3*
*JMA **27** 04:54:10.3±0.7, 45°N±2°×14°8E±°, h154km, MD4.8/33, MW5.1/33, NEAR ETOROFU ISLAND*
JMA Felt I J1 at NEAR ETOROFU ISLAND .
*NIED **27** 04:54:10.3, 44°.97N×148°.14E, h154km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr1.00; Mθθ-1.25; Mφφ0.25; Mrθ-0.52; Mθφ-0.60; Mφr-2.23; Fault plane solution: M0 2.57000×10^16 NP1: φs206.00000°, δ80.00000°, λ66.00000°. NP2: φs94.00000°, δ26.00000°, λ156.00000°.*
*GCMT **27** 04:54:11.5±0.2, 45°.34N±0°.02×148°.12E±0°.02, h145km±2km, MW5.1/126, Moment Tensor Solution. s52, c67; s126, c203; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.36±.14; Mθθ1.16±.15; Mφφ-0.79±.16; Mrθ-2.85±.10; Mφφ0.83±.18; Mφr-4.64±.10; Best double couple: M0 5.60200×10^16 NP1: φs32.00000°, δ88.00000°, λ-103.00000°. NP2: φs292.00000°, δ13.00000°, λ-10.00000°. Principal axes: T 5.6640, Plg41.0000°, Azm134.0000°; N -0.1250, Plg13.0000°, Azm32.0000°; P -5.5400, Plg46.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 04:54:09.3±0.2, 45°.41N±0°.03×148°.02E±0°.03, h140km±1km, h140km: pP-P, n1612, σ1§21/1573, mb4.9/473, 25C-74D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.20**	**211**	*i* P	**Pn**	**04 54 28.2**	**-0.1**
KUR				AMB	AMB	04 54 31.6	
	13μm,0.7s						
KUR				*i* S	**Sn**	**04 54 42.5**	**-0.2**
KUR				A	A	04 54 43.8	
	18μm,0.9s						
KUR				A	A	04 54 43.8	
	14μm,0.9s						
KUR				A	A	04 54 44.0	
	241μm,2.0s						
KUR				A	A	04 54 44.0	
	191μm,2.0s						
KUR	**Kuril'sk**	**0.20**	**211**	*d* iPN	**Pn**	**04 54 28.2**	**-0.1**
KUR				*i* S	**Sn**	**04 54 42.5**	**-0.2**
KUR				pmax	pmax		
	comp=N,3μm,0.7s						
KUR				pmax	pmax		
	comp=Z,13μm,0.7s						
KUR				pmax	pmax		
	comp=E,3μm,0.5s						
KUR				smax	smax		
	comp=E,14μm,0.9s						
KUR				smax	smax		
	comp=N,241μm,2.0s						
KUR				smax	smax		
	comp=E,191μm,1.8s						
SHO	**Shikotan**	**1.75**	**209**	*i* P	**Pn**	**04 54 39.0**	**-1.9**
SHO				AMB	AMB	04 54 42.2	
	comp=E,810nm,0.2s						
SHO				*e*S	**Sn**	**04 55 01.2**	**-3.9**
SHO				A	A	04 55 03.2	
	comp=E,6μm,0.3s						
SHO				A	A	04 55 03.2	
	comp=E,6μm,0.3s						
SHO	**Shikotan**	**1.75**	**209**	*d* iPN	**Pn**	**04 54 39.0**	**-1.9**
SHO				*e*S	**Sn**	**04 55 01.0**	**-4.1**
SHO				pmax	pmax		
	comp=N,418nm,0.2s						
SHO				pmax	pmax		
	comp=Z,808nm,0.2s						
SHO				pmax	pmax		
	comp=E,837nm,0.4s						
SHO				smax	smax		
	comp=N,6μm,0.2s						
SHO				smax	smax		
	comp=E,6μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.06**	**229**	*i* P	**Pn**	**04 54 44.5**	**0.0**
YUK				AMB	AMB	04 54 45.5	
	comp=E,7μm,0.3s						
YUK				*e*S	**Sn**	**04 55 10.9**	**-0.5**
YUK				A	A	04 55 14.8	
	comp=E,6μm,0.4s						
YUK				A	A	04 55 14.8	
	comp=E,7μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.06**	**229**	*d* iPN	**Pn**	**04 54 44.8**	**+0.3**
YUK				*e*S	**Sn**	**04 55 10.9**	**-0.5**
YUK				pmax	pmax		
	comp=N,467nm,0.3s						
YUK				pmax	pmax		
	comp=Z,7μm,0.3s						
YUK				smax	smax		
	comp=N,6μm,0.2s						
YUK				smax	smax		
	comp=E,7μm,0.6s						
RUSJ	**Misakicho**	**2.36**	**238**	*d* iPN	**Pn**	**04 54 48.5**	**+0.3**
RUSJ				*i* S	**Sn**	**04 55 18.2**	**+0.2**
JRA	**Rausu**	**2.53**	**236**	P	**Pn**	**04 54 50.5**	**+0.2**
JRA	**Rausu**	**2.53**	**236**	A	A	04 54 50.5	
	comp=E,9.0nm,5.0s,comp=N,8.0nm,2.3s						
NEM2	**Nemuro 2**	**2.61**	**219**	P	**Pn**	**04 54 49.6**	**-1.7**
NEM2				S	**Sn**	**04 55 20.2**	**-3.4**
NEM2	**Nemuro 2**	**2.61**	**219**	A	A	04 54 49.6	
	comp=E,4.0nm,3.5s,comp=N,6.0nm,7.1s						
NMR	**Nemuro--Hokkai**	**2.62**	**220**	*i* P	**Pn**	**04 54 49.8**	**-1.5**
NMR				*i* S	**Sn**	**04 55 20.3**	**-3.4**
NMR	**Nemuro--Hokkai**	**2.62**	**220**	*d* iPN	**Pn**	**04 54 49.8**	**-1.5**
NMR				*i* S	**Sn**	**04 55 20.3**	**-3.4**
JNSB	**Nemuroshibetsu**	**2.70**	**234**	A	A	04 54 52.5	
	comp=E,17nm,3.1s,comp=N,24nm,5.2s						
JNK	**Nakash**	**2.98**	**233**	A	A	04 54 56.0	
	comp=E,11nm,1.8s,comp=N,7.0nm,1.2s						
JKHN	**Kushirohamanak**	**3.10**	**222**	P	**Pn**	**04 54 56.3**	**-1.2**
JKHN				S	**Sn**	**04 55 31.3**	**-3.4**
JTKR	**Abashiri--Toko**	**3.26**	**245**	P	**Pn**	**04 55 00.3**	**+0.7**
JTKR				*e*S	**Sn**	**04 55 39.9**	**+1.5**
JTKR	**Abashiri--Toko**	**3.26**	**245**	A	A	04 55 00.3	
	comp=E,5.0nm,2.1s,comp=N,5.0nm,2.0s						
AKK	**Akkeshi**	**3.30**	**225**	*i* P	**Pn**	**04 54 58.9**	**-1.2**
JAK	**Akkeshi**	**3.39**	**226**	P	**Pn**	**04 54 60.0**	**-1.3**
JAK				*e*S	**Sn**	**04 55 38.2**	**-3.2**
JAK	**Akkeshi**	**3.39**	**226**	A	A	04 54 60.0	
	comp=E,10.0nm,0.8s,comp=N,8.0nm,1.3s						
JMP	**Maruseppu**	**3.60**	**249**	A	A	04 55 05.4	
	comp=E,7.0nm,2.3s,comp=N,11nm,2.0s						
JAR	**Ashorobuto**	**3.71**	**237**	P	**Pn**	**04 55 06.1**	**+0.8**
JAR	**Ashorobuto**	**3.71**	**237**	A	A	04 55 06.1	
	comp=E,6.0nm,3.5s,comp=N,7.0nm,2.3s						
JSE	**Soyaes**	**3.87**	**265**	P	**Pn**	**04 55 09.1**	**+1.7**
JSE	**Soyaes**	**3.87**	**265**	A	A	04 55 09.1	
	comp=E,9.0nm,2.1s,comp=N,5.0nm,3.0s						
JOB	**Onbets**	**3.91**	**232**	A	A	04 55 07.7	
	comp=E,7.0nm,5.1s,comp=N,5.0nm,3.2s						
YSS	**Yuzh-Sakhalins**	**3.97**	**295**	P	**Pn**	**04 55 10.6**	**+1.9**
YSS	**Yuzh-Sakhalins**	**3.97**	**295**	Pn	**Pn**	**04 55 10.8**	**+2.0**
YSS	**Yuzh-Sakhalins**	**3.97**	**295**	*e*PN	**Pn**	**04 55 10.8**	**+2.0**
YSS				*e*S	**Sn**	**04 55 57.9**	**+3.0**
YSS				pmax	pmax		
	comp=Z,400nm,0.5s						
YSS				smax	smax		
	comp=N,630nm,1.0s						
YSS				smax	smax		
	comp=E,1μm,1.2s						
YSS				smax	smax		
	comp=N,4μm,3.1s						
YSS				smax	smax		
	comp=E,8μm,3.1s						
YSS				MLR	MLR		
	comp=Z,1μm,13.0s						
YSS				MLR	MLR		
	comp=E,1μm,11.0s						
JKK2	**Kamakawa 2**	**4.06**	**250**	P	**Pn**	**04 55 11.4**	**+1.4**
JKA	**Kamikawa-asahi**	**4.07**	**253**	Pn	**Pn**	**04 55 11.6**	**+1.5**
ASAJ	**Asahikawa**	**4.07**	**253**	P	**Pn**	**04 55 12.0**	**+1.8**
	comp=E,950nm,0.8s,baz=86,slow=15,SNR=501						
ASAJ				S	**Sn**	**04 55 58.2**	**+0.9**
	comp=E,308nm,0.8s,baz=149,slow=18,SNR=1.8						
ASAJ	**Asahikawa**	**4.07**	**253**	PN	**Pn**	**04 55 11.6**	**+1.5**
JWK2	**Keihoku**	**4.31**	**271**	P	**Pn**	**04 55 16.6**	**+3.3**
JWK2	**Keihoku**	**4.31**	**271**	A	A	04 55 16.6	
	comp=E,16nm,3.6s,comp=N,9.0nm,3.2s						
JCH	**Churui**	**4.37**	**232**	P	**Pn**	**04 55 13.3**	**-0.7**
JCH				*e*S	**Sn**	**04 56 00.7**	**-3.7**
JCH	**Churui**	**4.37**	**232**	A	A	04 55 13.3	
	comp=E,6.0nm,2.6s,comp=N,5.0nm,3.1s						
JSS	**Shosan**	**4.49**	**259**	A	A	04 55 18.1	
	comp=E,11nm,3.7s,comp=N,4.0nm,3.1s						
JAB	**Ashibetsu**	**4.56**	**247**	A	A	04 55 17.8	
	comp=E,6.0nm,3.5s,comp=N,6.0nm,4.8s						
JRR	**Rishiri**	**4.74**	**269**	A	A	04 55 22.4	
	comp=E,23nm,4.5s,comp=N,19nm,2.5s						
JHR	**Hokuryu**	**4.79**	**252**	P	**Pn**	**04 55 21.8**	**+2.1**
JHR	**Hokuryu**	**4.79**	**252**	A	A	04 55 21.8	
	comp=E,5.0nm,3.3s,comp=N,6.0nm,2.5s						
JEM	**Erimo**	**4.89**	**228**	P	**Pn**	**04 55 20.8**	**-0.2**
JEM	**Erimo**	**4.89**	**228**	A	A	04 55 20.1	
	comp=E,3.0nm,1.4s,comp=N,5.0nm,1.0s						
ERM	**Erimo**	**4.89**	**228**	P	**Pn**	**04 55 20.7**	**-0.3**
ERM	**Erimo**	**4.89**	**228**	Pn	**Pn**	**04 55 19.8**	**-1.2**
ERM	**Erimo**	**4.89**	**228**	PN	**Pn**	**04 55 19.8**	**-1.2**
JRBN	**Rebuntou**	**4.89**	**273**	P	**Pn**	**04 55 23.2**	**+2.2**
JRBN	**Rebuntou**	**4.89**	**273**	A	A	04 55 23.2	
	comp=E,3.0nm,4.2s,comp=N,2.0nm,3.1s						
JNBK	**Urakawa-nobuka**	**4.92**	**232**	P	**Pn**	**04 55 19.9**	**-1.6**
JNBK	**Urakawa-nobuka**	**4.92**	**232**	A	A	04 55 19.9	
	comp=E,5.0nm,3.0s,comp=N,4.0nm,2.6s						
JEW	**Eniwo**	**5.38**	**244**	P	**Pn**	**04 55 28.7**	**+1.2**
UGL	**Uglegorsk**	**5.47**	**314**	*e*PN	**Pn**	**04 55 31.2**	**+2.6**
UGL				pmax	pmax		
	comp=Z,1μm,0.9s						
UGL				pmax	pmax		
	comp=Z,800nm,0.8s						
JAHD	**Aomorihigashid**	**6.39**	**232**	A	A	04 55 40.5	
	comp=E,13nm,1.1s,comp=N,11nm,0.7s						
JOT	**Ohata**	**6.47**	**234**	P	**Pn**	**04 55 39.4**	**-2.8**
JOT				S	**Sn**	**04 56 47.2**	**-7.6**
TYV	**Tymovskoe**	**6.53**	**329**	*e*PN	**Pn**	**04 55 45.4**	**+2.6**
TYV				*e*S	**Sn**	**04 56 58.1**	**+2.1**
TYV				pmax	pmax		
	comp=Z,600nm,3.2s						
TYV				pmax	pmax		
	comp=Z,131nm,0.8s						
TYV				smax	smax		
	comp=N,34nm,2.2s						
TYV				smax	smax		
	comp=E,50nm,2.2s						
TYV				smax	smax		
	comp=N,700nm,3.6s						
TYV				smax	smax		
	comp=E,600nm,3.6s						
JTM	**Tenmabayashi**	**6.87**	**230**	P	**Pn**	**04 55 44.5**	**-3.0**
JTM	**Tenmabayashi**	**6.87**	**230**	Pn	**Pn**	**04 55 44.2**	**-3.2**
JANG	**Nango**	**6.93**	**226**	P	**Pn**	**04 55 44.2**	**-4.2**
SKR	**Severo-Kuril's**	**7.57**	**43**	AMB	AMB	04 55 57.5	
	comp=E,900nm,3.4s						
SKR				*e*P	**Pn**	**04 55 57.7**	**+0.9**
SKR				AMB	AMB	04 55 58.9	
	comp=E,770nm,1.0s						
SKR				*e*S	**Sn**	**04 57 21.2**	**+0.2**
SKR	**Severo-Kuril's**	**7.57**	**43**	*e*PN	**Pn**	**04 55 57.3**	**+0.5**
SKR				*e*S	**Sn**	**04 57 21.2**	**+0.2**
SKR				pmax	pmax		
	comp=Z,900nm,3.4s						
SKR				pmax	pmax		
	comp=Z,770nm,1.0s						
SKR				MLR	MLR		
	comp=Z,400nm,16.0s						
OKH	**Okha**	**8.79**	**340**	*d* iPN	**Pn**	**04 56 14.2**	**+1.1**
OKH				pmax	pmax		
	comp=Z,200nm,6.6s						
NKL	**Nikolayevsk**	**9.11**	**331**	*e*PN	**Pn**	**04 56 16.6**	**-0.7**
JMM	**Marumori**	**9.27**	**218**	P	**Pn**	**04 56 15.8**	**-3.9**
JMM	**Marumori**	**9.27**	**218**	Pn	**Pn**	**04 56 15.5**	**-4.2**
GRNR	**Gornyy**	**9.43**	**309**	⇓iPN	**Pn**	**04 56 24.3**	**+2.6**
GRNR				pmax	pmax		
	comp=N,80nm,1.0s						
GRNR				pmax	pmax		
	comp=E,150nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,170nm,1.0s						
GRNR				MLR	MLR		
	comp=N,380nm,15.0s						
PET	**Petropavlovsk**	**10.31**	**39**	P	**Pn**	**04 56 33.1**	**-0.3**
PET	**Petropavlovsk**	**10.31**	**39**	Pn	**Pn**	**04 56 32.1**	**-1.2**
PET	**Petropavlovsk**	**10.31**	**39**	*e*PN	**Pn**	**04 56 32.2**	**-1.2**
PET				*e*S	**Sn**	**04 58 25.7**	**-1.5**
PET				pmax	pmax		
	comp=Z,48nm,0.6s						
PET				pmax	pmax		
	comp=Z,400nm,5.5s						
PET				pmax	pmax		
	comp=Z,200nm,6.0s						
PET				MLR	MLR		
	comp=Z,500nm,16.0s						
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
USA0B	**Ussuriysk Arra**	**11.45**	**270**		**Pn**	**04 56 49.0**	**+0.4**
USA0B	**Ussuriysk Arra**	**11.45**	**270**	PN	**Pn**	**04 56 49.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**11.45**	**270**		**Pn**	**04 56 48.8**	**+0.2**
USRK	**Ussuriysk Ar.**	**11.45**	**270**	P	**Pn**	**04 56 49.6**	**+1.0**
	comp=Z,145nm,0.7s,baz=88,slow=13,SNR=158						
USRK				LR	LR	05 01 19.3	
	comp=Z,369nm,19.6s,baz=97,slow=38						
USRK	**Ussuriysk Ar.**	**11.45**	**270**	PN	**Pn**	**04 56 48.8**	**+0.2**
MJB9	**Matsu-Tunnel**	**11.54**	**223**	Pn	**Pn**	**04 56 47.7**	**-2.1**
MAJO	**Matsushiro**	**11.54**	**223**	P	**Pn**	**04 56 47.8**	**-2.0**
MAJO	**Matsushiro**	**11.54**	**223**	Pn	**Pn**	**04 56 46.7**	**-3.1**
MAJO	**Matsushiro**	**11.54**	**223**	PN	**Pn**	**04 56 46.7**	**-3.1**
MJAR	**Matsushiro Arr**	**11.54**	**223**	P	**Pn**	**04 56 46.5**	**-3.3**
	comp=Z,9.2nm,0.5s,baz=28,slow=14,SNR=17						
MJAR				LR	LR	05 01 26.1	
	comp=Z,123nm,20.6s,baz=32,slow=38						
KLR	**Kul'dur**	**11.68**	**295**	P	**Pn**	**04 56 53.5**	**+2.0**
	comp=Z,68nm,0.9s,baz=103,slow=15,SNR=130						
KLR				LR	LR	05 00 59.6	
	comp=Z,676nm,21.4s,baz=134,slow=36						
KLR				PcP	**PcP**	**05 02 29.3**	**+0.9**
	comp=Z,4.8nm,0.6s,baz=181,slow=2.2,SNR=4.5						
KLR				ScP	**ScP**	**05 05 48.4**	**+0.5**
	comp=Z,7.0nm,0.7s,baz=80,slow=1.4,SNR=14						
KLR	**Kul'dur**	**11.68**	**295**	*e*P	**Pn**	**04 56 53.0**	**+1.5**
KLR	**Kul'dur**	**11.68**	**295**	*e*PN	**Pn**	**04 56 50.9**	**-0.6**
KLR				pmax	pmax		
	comp=Z,112nm,1.1s						
VLA	**Vladivostok**	**11.79**	**265**	*i* PN	**Pn**	**04 56 53.0**	**0.0**
MSHR	**Mys Shultsa**	**12.47**	**263**	*i* PN	**Pn**	**04 57 01.0**	**-0.8**
JGF	**Kuroka**	**12.71**	**223**	P	**Pn**	**04 57 04.6**	**-0.4**
JGF	**Kuroka**	**12.71**	**223**		**Pn**	**04 57 01.9**	**-3.1**
MDJ	**Mudanjiang**	**13.06**	**273**	P	**Pn**	**04 57 09.3**	**-0.2**
MDJ	**Mudanjiang**	**13.06**	**273**	P	**Pn**	**04 57 10.3**	**+0.8**
MDJ				S	**Sn**	**04 59 30.3**	**-3.4**
MDJ				PcS	**PcS**	**05 06 08.5**	**+4.1**
MDJ				pmax	pmax		
	comp=Z,80nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,450nm,4.3s						
MDJ				LR	LR		
	comp=Z,440nm,10.9s						
MDJ				LR	LR		
	comp=Z,340nm,5.9s						
MDJ				LR	LR		
	comp=Z,520nm,10.7s						
MDJ	**Mudanjiang**	**13.06**	**273**	P	**Pn**	**04 57 09.1**	**-0.4**
INU	**Inuyama**	**13.07**	**224**	P	**Pn**	**04 57 08.8**	**-0.9**
INU	**Inuyama**	**13.07**	**224**	Pn	**Pn**	**04 57 07.4**	**-2.3**
MA2	**Magadan**	**14.29**	**6**	Pn	**Pn**	**04 57 25.8**	**+0.9**
MA2	**Magadan**	**14.29**	**6**	P	**Pn**	**04 57 24.6**	**-0.3**
	comp=Z,40nm,0.8s,baz=151,slow=8.9,SNR=9.6						
MA2				LR	LR	05 02 09.1	
	comp=Z,132nm,21.9s,baz=180,slow=34						
MA2	**Magadan**	**14.29**	**6**	P	**Pn**	**04 57 25.8**	**+0.9**
BNX	**BinXian**	**14.44**	**279**	⇓P	**Pn**	**04 57 26.0**	**-1.0**
BNX				S	**Sn**	**05 00 05.8**	**-1.0**
BNX				ScP	**ScP**	**05 05 52.0**	**-0.4**
BNX				ScS	**ScS**	**05 09 29.0**	**-0.9**
BNX				pmax	pmax		
	comp=Z,61nm,1.3s						
BNX				pmax	pmax		
	comp=Z,340nm,6.7s						
HEH	**HeiHe**	**14.65**	**297**	*e*P	**Pn**	**04 57 30.3**	**+0.8**
HEH				sP	**sPn**	**04 58 03.3**	**-2.3**
HEH				S	**S**	**05 00 17.5**	**-3.1**
HEH				ScP	**ScP**	**05 05 52.8**	**+0.1**
HEH				ScS	**ScS**	**05 09 28.5**	**-1.7**
HEH				pmax	pmax		
	comp=Z,250nm,1.0s						
HEH				pmax	pmax		
	comp=Z,1μm,6.2s						
ZEA	**Zeya**	**15.79**	**309**	*e*P	**P**	**04 57 44.9**	**+0.2**
ZEA	**Zeya**	**15.79**	**309**	*d* iP	**P**	**04 57 45.1**	**+0.4**
ZEA				pmax	pmax		
	comp=N,100nm,0.8s						
ZEA				pmax	pmax		
	comp=E,80nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,160nm,0.9s						
ZEA				pmax	pmax		
	comp=N,200nm,2.4s						
ZEA				pmax	pmax		
	comp=Z,200nm,1.7s						
ZEA				MLR	MLR		
	comp=E,300nm,6.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,7.0s						
JMN	**Monobe**	**15.94**	**228**		**Pn**	**04 57 42.8**	**-2.9**
CN2	**Changchun**	**16.15**	**272**	*e*P	**Pn**	**04 57 46.0**	**-2.2**
CN2				ScP	**ScP**	**05 05 55.5**	**-0.1**
CN2				pmax	pmax		
	comp=Z,60nm,0.6s						
CN2				pmax	pmax		
	comp=Z,300nm,6.0s						
KSRS	**Korea Array**	**17.00**	**249**	P	**P**	**04 57 56.7

comp=Z,730nm,3.7s
SNY LR LR
comp=Z,130nm,9.8s
SNY LR LR
comp=Z,110nm,6.1s
SNY LR LR
comp=Z,170nm,10.8s
SHEM Shemya Is, Ala 18.52 57 P **Pn 04 58 16.4 -0.2**
comp=Z,270nm,1.0s,baz=8.7,slow=1.8,SNR=8.8
HIA Hailar 19.49 292 P **P 04 58 23.5 -1.8**
HIA Hailar 19.49 292 P **P 04 58 22.8 -2.5**
HIA Hailar 19.49 292 P **P 04 58 22.8 -2.5**
YAK Yakutsk 19.75 334 P **P 04 58 26.9 -0.9**
YAK Yakutsk 19.75 334 P **P 04 58 26.7 -1.2**
comp=Z,194nm,0.8s,baz=336,slow=2.4,SNR=34
YAK Yakutsk 19.75 334 *e*P **P 04 58 27.0 -0.9**
YAK *e*S **S 05 02 01.0 -1.6**
YAK pmax pmax
comp=Z,348nm,0.9s
YAK pmax pmax
comp=N,132nm,1.0s
YAK pmax pmax
comp=E,62nm,1.0s
YAK smax smax
comp=N,269nm,2.0s
YAK smax smax
comp=E,251nm,1.9s
DL2 Dalian 20.56 261 P **P 04 58 36.8 0.0**
DL2 pmax pmax
comp=E,260nm,1.0s
AMKA Amchitka 21.51 63 P **P 04 58 45.6 -1.3**
XLT XiLinHaoTe 22.69 278 *e*P **P 04 58 58.3 -0.7**
XLT pP pwP 04 59 28.0 -0.4
XLT ScP **ScP 05 06 11.8 +1.1**
XLT pmax pmax
comp=E,110nm,1.0s
XLT LR LR
comp=E,320nm,9.7s
XLT LR LR
comp=E,400nm,9.3s
CIT Chita 23.52 299 *e*P **P 04 59 03.9 -2.6**
CIT *e* 04 59 39.2
CIT *e* 04 59 52.3
CIT pmax pmax
comp=Z,153nm,1.9s
KIWB Kanaga Island 23.74 62 P **P 04 59 06.7 -1.7**
BJI Beijing 23.90 268 P **P 04 59 10.3 +0.3**
BJI pP **pwP 04 59 41.5 +0.4**
BJI ScP **ScP 05 06 15.0 +1.2**
BJI pmax pmax
comp=Z,34nm,1.0s
BJI pmax pmax
comp=Z,260nm,6.4s
BJT Baijiatuau 23.92 268 P **P 04 59 10.0 -0.1**
BJT Baijiatuau 23.92 268 P **P 04 59 09.7 -0.4**
BJT IAmb IAmb 04 59 42.7
comp=Z,53nm,0.9s
BJT Baijiatuau 23.92 268 P **P 04 59 09.7 -0.4**
BJT pmax pmax
comp=Z,53nm,0.9s
ADK Adak 24.03 62 P **P 04 59 10.5 -0.5**
ADK Adak 24.03 62 P **P 04 59 09.9 -1.1**
ADK Adak 24.03 62 P **P 04 59 09.9 -1.1**
ADK pmax pmax
comp=Z,115nm,0.9s
JOW Kunigami 24.34 227 P **P 04 59 14.2 +0.1**
JOW Kunigami 24.34 227 P **P 04 59 13.4 -0.7**
JOW Kunigami 24.34 227 P **P 04 59 14.4 +0.4**
comp=Z,109nm,0.7s,baz=46,slow=7.4,SNR=30
comp=Z,109nm,0.7s
GSTR Great Sitkin T 24.42 61 P **P 04 59 13.7 -1.0**
BILL Bilibino 24.60 16 P **P 04 59 14.3 -1.7**
BILL Bilibino 24.60 16*ce*P **P 04 59 14.7 -1.3**
BILL *e**PP **pwP 04 59 46.8 -1.6**
BILL *e* 04 59 58.0
BILL *e**SP **sP 05 00 05.1 +4.9**
BILL *e* 05 02 48.4
BILL pmax pmax
comp=Z,25nm,1.1s
BILL MLR MLR
comp=Z,156nm,15.0s
TIA Tai'an 24.99 259 P **P 04 59 20.0 +0.1**
TIA pmax pmax
comp=Z,240nm,0.9s
TIA pmax pmax
comp=Z,440nm,3.7s
TIA LR LR
comp=Z,300nm,9.6s
ATKA Atka Island 25.57 61 P **P 04 59 25.0 0.0**
ATKA Atka Island 25.57 61 P **P 04 59 23.9 -1.1**
ATKA IAmb IAmb 04 59 27.9
comp=Z,56nm,1.0s
HNS HongShan 26.09 264 ⇓P **P 04 59 30.5 +0.7**
HNS sP **sP 05 00 18.0 +3.9**
HNS S **S 05 03 51.8 +1.2**
HNS sS **sS 05 04 41.5 -1.1**
HNS pmax pmax
comp=Z,130nm,1.3s
HNS LR LR
comp=Z,120nm,11.8s
HNS LR LR
comp=Z,260nm,10.3s
HNS LR LR
comp=Z,170nm,12.6s
NJ2 Nanjing 26.21 250 ⇓P **P 04 59 31.3 +0.4**
NJ2 pP **pP 04 59 59.3 -0.4**
NJ2 pmax pmax
comp=Z,44nm,0.6s
HHC Hu-ho-hao-te 26.84 273 ⇓*i*P **P 04 59 37.5 +0.9**
HHC *e*S **S 05 04 07.5 +4.9**
HHC sS sS 05 04 51.5 -3.2
HHC SS **SnSn 05 05 24.5 +0.5**
HHC pmax pmax
comp=Z,180nm,1.0s
HHC pmax pmax
comp=Z,410nm,3.6s
HHC LR LR
comp=Z,220nm,8.8s
HHC LR LR
comp=Z,230nm,12.8s
HHC LR LR
comp=Z,360nm,11.0s
TIY Taiyuan 27.54 266 P **P 04 59 44.0 +1.1**
TIY pP **pP 05 00 12.0 +0.5**
TIY S **S 05 04 13.3 -0.4**
TIY sS **sS 05 05 05.3 -0.5**
TIY pmax pmax
comp=Z,65nm,0.9s
TIXI Tiksi 27.87 347 *i* P **P 04 59 43.3 -2.0**
TIXI pmax pmax
comp=Z,28nm,1.5s
ULN Ulaanbaatar 28.00 290 P **P 04 59 45.9 -1.1**
ULN Ulaanbaatar 28.00 290 P **P 04 59 48.0 +1.0**
ULN Ulaanbaatar 28.00 290 *e*P **P 04 59 45.8 -1.1**
ULN Ulaanbaatar 28.00 290 P **P 04 59 45.9 -1.1**
ULN pmax pmax
comp=Z,93nm,1.6s
BTO Baotou 28.02 274 ⇓*i*P **P 04 59 48.0 +0.9**
BTO pP **pP 05 00 17.5 +1.7**
BTO sP **sP 05 00 34.5 +3.0**
BTO PP **PnPn 05 00 43.3 +1.0**
BTO S **S 05 04 26.8 +5.6**
BTO sS **sS 05 05 12.5 -0.8**
BTO SS **SnSn 05 05 51.3 -1.2**
BTO pmax pmax
comp=Z,130nm,1.3s
BTO pmax pmax
comp=Z,970nm,7.1s
BTO LR LR
comp=Z,1μm,21.0s
SPIA Saint Paul Isl 28.17 50 P **P 04 59 48.7 +0.5**
baz=263
SONM Songino Array 28.44 290 P **P 04 59 49.2 -1.7**
SONM Songino Array 28.44 290 P **P 04 59 49.7 -1.2**
comp=Z,8.4nm,0.5s,baz=79,slow=9.2,SNR=31
SONM PcP **PcP 05 03 00.1 +0.8**
comp=Z,2.9nm,0.6s,baz=131,slow=2.5,SNR=3.4
SONM ScP **ScP 05 06 27.5 +0.2**
comp=Z,5.8nm,1.0s,baz=120,slow=2.7,SNR=11
SONM LR LR 05 11 33.0
comp=Z,219nm,21.8s,baz=84,slow=37
comp=Z,8.4nm,0.5s
SONM Songino Array 28.44 290 P **P 04 59 49.2 -1.7**
SONM pmax pmax
comp=Z,145nm,1.8s

YOJ Yonaguni jima 29.07 232 P **P 04 59 56.2 -0.2**
YOJ Yonaguni jima 29.07 232 P **P 04 59 53.7 -2.7**
YOJ IAmb IAmb 04 59 57.4
comp=Z,19nm,0.6s
YOJ Yonaguni jima 29.07 232 P **P 04 59 53.7 -2.7**
YOJ pmax pmax
comp=Z,19nm,0.6s
LYN LuoYang 29.10 261 ⇓P **P 04 59 57.5 +0.9**
LYN S **S 05 04 38.8 +0.7**
LYN pmax pmax
comp=Z,120nm,1.3s
LYN pmax pmax
comp=Z,370nm,3.8s
YHNB Yeheng 29.84 235 P **P 05 00 03.7 +0.4**
YHNB Yeheng 29.84 235 P **P 05 00 02.0 -1.3**
YHNB IAmb IAmb 05 00 06.9
comp=Z,22nm,0.7s
H11N2 WAKE ISLAND Hy 29.99 142 T T 05 31 16.0
baz=333,slow=76,SNR=120
H11N1 WAKE ISLAND Hy 30.01 142 T T 05 31 18.1
baz=333,slow=76,SNR=341
H11N3 WAKE ISLAND Hy 30.01 142 T T 05 31 14.5
baz=333,slow=76,SNR=282
ZAK Zakamensk 30.05 296 *e*P **P 05 00 03.2 -1.8**
ZAK pmax pmax
comp=Z,13nm,1.6s
NACB Ninganchiao 30.09 234 P **P 05 00 05.6 +0.1**
WHN Wuhan 30.15 252 ⇓P **P 05 00 06.3 +0.4**
WHN ScP **ScP 05 06 34.8 +2.0**
WHN pmax pmax
comp=Z,430nm,0.6s
SSLB Suanglung 30.76 235 P **P 05 00 12.1 +0.7**
SSLB Suanglung 30.76 235 P **P 05 00 10.0 -1.4**
SSLB IAmb IAmb 05 00 18.9
comp=Z,22nm,0.6s
YULB Yu-li 30.87 234 P **P 05 00 13.0 +0.6**
YULB Yu-li 30.87 234 P **P 05 00 11.6 -0.7**
YULB IAmb IAmb 05 00 23.6
comp=Z,18nm,0.6s
H11S1 WAKE ISLAND Hy 31.00 144 T T 05 32 30.8
baz=334,slow=76,SNR=119
H11S3 WAKE ISLAND Hy 31.00 144 T T 05 32 28.5
baz=334,slow=76,SNR=41
H11S2 WAKE ISLAND Hy 31.02 144 T T 05 32 27.4
baz=334,slow=76,SNR=78
TNA Tin City 31.13 34 P **P 05 00 14.6 +0.5**
baz=251
QZH Quanzhou 31.27 239 P **P 05 00 17.0 +1.1**
QZH S **S 05 05 16.5 +4.3**
TPUB Ta-pu 31.32 234 P **P 05 00 16.8 +0.4**
TPUB Ta-pu 31.32 234 P **P 05 00 16.6 +0.2**
TWGBT Beinan 31.45 233 P **P 05 00 16.9 -0.5**
TWG Pinlang 31.45 233 P **P 05 00 16.6 -0.8**
K13K Kusilvak Mount 31.66 41 P **P 05 00 19.4 +0.5**
baz=261
F14K Arctic Creek 31.73 35 P **P 05 00 20.2 +0.7**
baz=253
KNMB Chin-men Tao 31.75 239 P **P 05 00 20.8 +0.7**
XAN Xi'an 31.85 263 ⇓P **P 05 00 21.0 +0.1**
XAN pP pP 05 00 47.3 -2.6
XAN S **S 05 05 22.5 +1.4**
XAN ScP **ScP 05 06 39.5 +1.0**
XAN pmax pmax
comp=Z,160nm,1.0s
XAN pmax pmax
comp=Z,170nm,3.8s
XAN LR LR
comp=Z,300nm,14.1s
XAN LR LR
comp=Z,300nm,14.6s
XAN LR LR
comp=Z,300nm,14.6s
ANM Nome 31.88 36 P **P 05 00 21.2 +0.4**
ANM IAmb IAmb 05 00 36.8
comp=Z,46nm,1.8s
ANM Nome 31.88 36 P **P 05 00 21.9 +1.1**
baz=256
ANM Nome 31.88 36 P **P 05 00 21.2 +0.4**
ANM pmax pmax
comp=Z,46nm,1.8s
M13K Dall Lake 32.09 45 P **P 05 00 24.0 +1.3**
baz=264
J14K Nanvaranak Lak 32.30 40 P **P 05 00 24.8 +0.3**
J14K IAmb IAmb 05 00 26.1
comp=Z,13nm,0.8s
J14K Nanvaranak Lak 32.30 40 P **P 05 00 25.3 +0.8**
baz=260,SNR=5.0
L14K Kuka Creek 32.51 43 P **P 05 00 26.8 +0.5**
L14K Kuka Creek 32.51 43 P **P 05 00 27.3 +1.0**
baz=264,SNR=7.6
G15K Niukluk 32.54 36 P **P 05 00 27.6 +1.0**
baz=256
CNSH ChangSha 32.61 250 P **P 05 00 27.5 -0.1**
CNSH S **S 05 05 40.0 +7.0**
CNSH pmax pmax
comp=Z,66nm,0.7s
CNSH LR LR
comp=Z,170nm,10.2s
CNSH LR LR
comp=Z,170nm,5.9s
CNSH LR LR
comp=Z,170nm,16.0s
S12K Black Hills 32.67 53 P **P 05 00 28.8 +1.0**
baz=273
M14K Bethel 32.80 44 P **P 05 00 29.6 +0.8**
M14K IAmb IAmb 05 00 38.0
comp=Z,20nm,0.9s
M14K ScP **ScP 05 06 40.6 -0.6**
M14K Bethel 32.80 44 P **P 05 00 29.6 +0.8**
baz=265,SNR=5.7
N14K Kuskokwak Cree 32.88 46 P **P 05 00 29.8 +0.2**
baz=267
C16K Lisburne Hills 32.99 30 P **P 05 00 29.8 -0.5**
C16K IAmb IAmb 05 00 30.8
comp=Z,20nm,0.8s
C16K Lisburne Hills 32.99 30 P **P 05 00 29.9 -0.5**
baz=250
O14K Tigyukauivet M 33.06 47 P **P 05 00 32.2 +1.1**
baz=268
L15K Ungalak Mounta 33.12 42 P **P 05 00 32.4 +0.8**
baz=264
K15K Wolf Creek Mou 33.17 41 P **P 05 00 32.7 +0.7**
baz=263
H16K Elim 33.22 37 P **P 05 00 33.3 +0.9**
baz=259
G16K Koyuk River 33.32 35 P **P 05 00 33.4 +0.1**
G16K Koyuk River 33.32 35 P **P 05 00 33.3 0.0**
baz=258
M15K Kasigluk River 33.42 44 P **P 05 00 34.9 +0.6**
baz=266,SNR=10
D17K Noatak River 33.62 31 P **P 05 00 36.1 +0.3**
baz=254
ENH Enshi 33.62 257 P **P 05 00 36.0 -0.3**
ENH Enshi 33.62 257 P **P 05 00 35.7 -0.6**
ENH Enshi 33.62 257 P **P 05 00 36.1 -0.3**
ENH PcP **PcP 05 03 14.1 +0.8**
N15K Kwethluk River 33.69 45 P **P 05 00 37.0 +0.4**
N15K IAmb IAmb 05 00 38.6
comp=Z,42nm,1.1s
N15K Kwethluk River 33.69 45 P **P 05 00 37.4 +0.7**
baz=268,SNR=6.9
J16K Anvik River 33.71 40 P **P 05 00 37.6 +0.9**
baz=263
I17K Unalakleet 33.75 38 P **P 05 00 37.2 +0.2**
I17K IAmb IAmb 05 00 39.4
comp=Z,22nm,1.2s
I17K Unalakleet 33.75 38 P **P 05 00 37.4 +0.3**
baz=262
O15K Ungalikthiuk R 33.80 47 P **P 05 00 37.8 +0.3**
baz=269,SNR=6.8
C17K DeLong Mountai 33.81 30 P **P 05 00 37.5 -0.1**
baz=252,SNR=11
E17K Hotham Inlet 33.92 33 P **P 05 00 39.1 +0.6**
baz=256
F17K Baldwin Pennin 33.99 34 P **P 05 00 39.4 +0.3**
F17K IAmb IAmb 05 00 40.6
comp=Z,24nm,0.6s
F17K Baldwin Pennin 33.99 34 P **P 05 00 39.8 +0.7**
baz=257,SNR=16
S14K Fog Glacier 34.04 52 P **P 05 00 39.3 -0.5**
baz=274
G17K Kiwalik Mounta 34.04 36 P **P 05 00 40.4 +0.9**
baz=259,SNR=23
L16K Owhat River 34.08 42 P **P 05 00 40.2 +0.3**
L16K Owhat River 34.08 42 P **P 05 00 40.4 +0.5**
baz=266,SNR=7.0

H17K Granite Mounta 34.25 37 P **P 05 00 42.2 +0.8**
H17K Granite Mounta 34.25 37 P **P 05 00 42.4 +1.0**
baz=261,SNR=9.1
M16K Timber Creek 34.29 44 P **P 05 00 42.4 +0.7**
M16K IAmb IAmb 05 01 16.3
comp=Z,38nm,1.4s
M16K Timber Creek 34.29 44 P **P 05 00 42.4 +0.7**
baz=268,SNR=12
N16K Nishlik Lake 34.36 45 P **P 05 00 43.4 +1.0**
baz=268,SNR=18
LZH Lanzhou 34.36 270 ⇓*i*P **P 05 00 43.8 +0.9**
LZH pP pP 05 01 09.5 -2.6
LZH ScP **ScP 05 06 49.0 +1.6**
LZH pmax pmax
comp=Z,290nm,1.1s
LZH pmax pmax
comp=Z,640nm,4.4s
J17K VABM Dome 34.41 39 P **P 05 00 43.6 +0.9**
J17K IAmb IAmb 05 00 46.1
comp=Z,62nm,1.8s
J17K ScP **ScP 05 06 48.0 +1.1**
J17K VABM Dome 34.41 39 P **P 05 00 43.8 +1.1**
baz=264,SNR=10
E18K Tukpahlearik C 34.46 32 P **P 05 00 43.4 +0.2**
E18K IAmb IAmb 05 00 44.9
comp=Z,9.7nm,0.6s
E18K Tukpahlearik C 34.46 32 P **P 05 00 43.4 +0.2**
baz=256,SNR=12
B18K Kokolik River 34.56 29 P **P 05 00 43.7 -0.2**
baz=252
C18K Utukok River 34.56 30 P **P 05 00 43.6 -0.4**
C18K Utukok River 34.56 30 P **P 05 00 43.7 -0.4**
baz=254,SNR=16
F18K Selawik 34.65 34 P **P 05 00 45.2 +0.5**
baz=259,SNR=8.7
L17K Donlin 34.66 42 P **P 05 00 45.6 +0.7**
baz=266,SNR=8.0
O16K Kokwok River B 34.69 46 P **P 05 00 45.8 +0.7**
O16K IAmb IAmb 05 00 47.0
comp=Z,20nm,1.2s
O16K Kokwok River B 34.69 46 P **P 05 00 45.9 +0.7**
baz=270,SNR=5.4
K17K Iditarod 34.70 41 P **P 05 00 45.0 -0.3**
K17K IAmb IAmb 05 00 47.4
comp=Z,16nm,0.8s
K17K ScP **ScP 05 06 47.9 0.0**
K17K Iditarod 34.70 41 P **P 05 00 46.5 +1.3**
baz=266,SNR=11
P16K Nushagak River 34.75 47 P **P 05 00 46.9 +1.2**
baz=271
G18K Tagagawik 34.92 35 P **P 05 00 47.7 +0.6**
G18K IAmb IAmb 05 01 01.5
comp=Z,26nm,0.7s
G18K Tagagawik 34.92 35 P **P 05 00 47.8 +0.7**
baz=261,SNR=36
H18K Honhosa River 34.93 36 P **P 05 00 48.1 +0.9**
H18K IAmb IAmb 05 00 53.2
comp=Z,24nm,0.8s
H18K Honhosa River 34.93 36 P **P 05 00 48.5 +1.2**
baz=262,SNR=16
M17K Holitna River 35.03 43 P **P 05 00 49.2 +1.1**
M17K IAmb IAmb 05 01 24.2
comp=Z,34nm,0.8s
M17K Holitna River 35.03 43 P **P 05 00 49.4 +1.3**
baz=268,SNR=14
N17K Nushagak Hills 35.14 45 P **P 05 00 49.8 +0.7**
N17K Nushagak Hills 35.14 45 P **P 05 00 50.1 +1.0**
baz=270,SNR=7.4
O17K Koliganek Bris 35.20 46 P **P 05 00 50.5 +1.0**
baz=271
C19K Lookout Ridge 35.24 30 P **P 05 00 49.9 0.0**
C19K IAmb IAmb 05 00 50.8
comp=Z,29nm,0.8s
C19K Lookout Ridge 35.24 30 P **P 05 00 49.9 0.0**
baz=255,SNR=12
L18K Granite Mounta 35.42 42 P **P 05 00 52.9 +1.5**
L18K IAmb IAmb 05 01 27.3
comp=Z,15nm,0.9s
L18K Granite Mounta 35.42 42 P **P 05 00 52.6 +1.2**
baz=268,SNR=11
F19K Shaleruckik Mo 35.43 34 P **P 05 00 51.5 0.0**
F19K IAmb IAmb 05 00 55.8
comp=Z,30nm,1.0s
F19K Shaleruckik Mo 35.43 34 P **P 05 00 51.7 +0.3**
baz=260,SNR=30
Q16K King Salmon 35.46 48 P **P 05 00 52.8 +1.1**
baz=273
J18K Innoko River 35.47 40 P **P 05 00 52.2 +0.3**
J18K Innoko River 35.47 40 P **P 05 00 52.5 +0.6**
baz=266,SNR=14
P17K Kvichak River 35.55 47 P **P 05 00 53.2 +0.7**
baz=272
G19K Purcell Mounta 35.59 35 P **P 05 00 52.6 -0.3**
G19K IAmb IAmb 05 00 57.5
comp=Z,18nm,0.8s
G19K Purcell Mounta 35.59 35 P **P 05 00 52.9 +0.1**
baz=262,SNR=23
D19K Kuna River 35.62 31 P **P 05 00 52.6 -0.5**
D19K Kuna River 35.62 31 P **P 05 00 53.0 -0.1**
baz=258,SNR=56
GTA Gaotai 35.66 278 ⇓P **P 05 00 54.5 +0.6**
GTA pP pwP 05 01 29.0 +1.7
GTA sP sP 05 01 40.3 +1.5
GTA PcP **PcP 05 03 20.8 +1.6**
GTA ScP **ScP 05 06 52.3 +0.3**
GTA PcS **PcS 05 07 06.0 -0.7**
GTA ScS **ScS 05 10 58.5 +1.2**
GTA pmax pmax
comp=Z,88nm,1.3s
GTA pmax pmax
comp=Z,95nm,6.8s
R17L Mt. Peulik Vol 35.68 50 P **P 05 00 53.9 +0.2**
baz=274
E19K Redstone River 35.74 33 P **P 05 00 54.4 +0.2**
E19K IAmb IAmb 05 01 27.3
comp=Z,28nm,0.8s
E19K Redstone River 35.74 33 P **P 05 00 54.8 +0.6**
baz=260,SNR=40
H19K Roundabout Mou 35.78 36 P **P 05 00 55.1 +0.7**
H19K Roundabout Mou 35.78 36 P **P 05 00 55.5 +1.2**
baz=263,SNR=46
N18K Kilae Creek 35.78 44 P **P 05 00 54.7 +0.1**
N18K IAmb IAmb 05 01 30.3
comp=Z,24nm,1.1s
N18K Kilae Creek 35.78 44 P **P 05 00 55.9 +1.3**
baz=271,SNR=8.8
M18K Stony River 35.81 43 P **P 05 00 55.6 +0.8**
baz=270,SNR=5.8
Q17K Contact Creek 35.89 48 P **P 05 00 56.0 +0.4**
baz=274,SNR=9.1
HKPS Hong Kong Po S 35.98 242 P **P 05 00 57.9 +1.3**
HKPS Hong Kong Po S 35.98 242 P **P 05 00 57.7 +1.1**
J19K Poorman 35.99 39 IAmb IAmb 05 01 31.6
comp=Z,26nm,1.1s
J19K Poorman 35.99 39 P **P 05 00 56.7 +0.4**
baz=266,SNR=22
O18K Koktuh Hills 36.15 46 IAmb IAmb 05 01 35.0
comp=Z,19nm,0.9s
O18K Koktuh Hills 36.15 46 P **P 05 00 58.5 +0.9**
baz=272
P18K Big Mountain, 36.16 46 P **P 05 00 58.3 +0.5**
baz=273
D20K Etivluk River 36.20 31 P **P 05 00 58.2 +0.1**
baz=259,SNR=53
F20K Avaraart Lake 36.26 33 P **P 05 00 58.7 +0.2**
baz=262
E20K Nigu River 36.27 31 P **P 05 00 59.0 +0.3**
baz=260,SNR=76
L19K White Mountain 36.28 42 P **P 05 00 59.0 +0.2**
baz=270
CHIR Chirikof Islan 36.28 53 P **P 05 00 58.3 -0.5**
CHIR Chirikof Islan 36.28 53 P **P 05 00 58.8 0.0**
baz=278
B20K Meade River 36.29 28 P **P 05 00 58.4 -0.3**
baz=257
Q18K Katmai Hardscr 36.32 48 P **P 05 00 59.3 +0.1**
baz=274,SNR=7.5
H20K Anotleneega Mo 36.42 36 P **P 05 01 00.7 +0.7**
baz=265,SNR=25
N19K Bonanza Creek 36.47 44 IAmb IAmb 05 01 35.6
comp=Z,29nm,1.1s
N19K Bonanza Creek 36.47 44 P **P 05 01 01.7 +1.2**
baz=272
M19K Big River Lodg 36.49 42 P **P 05 01 01.9 +1.3**
baz=270
I20K Naaghedeneel 36.54 37 IAmb IAmb 05 01 36.2

comp=Z,17nm,0.8s
I20K Naaghedeneel 36.54 37 P P 05 01 02.2 +1.3
baz=266
J20K Nowinta River 36.65 38 IAmb IAmb 05 01 37.2
comp=Z,29nm,0.8s
J20K Nowinta River 36.65 38 P P 05 01 03.2 +1.4
baz=267,SNR=17
K20K Telida 36.66 40 IAmb IAmb 05 01 37.8
comp=Z,25nm,1.2s
K20K Telida 36.66 40 P P 05 01 03.1 +1.1
baz=269,SNR=6.7
R18K Karluk 36.71 50 P P 05 01 01.9 -0.5
baz=276
L20K Farewell, AK 36.73 41 P P 05 01 03.6 +0.9
baz=270
A21K Barrow 36.78 26 P P 05 01 02.6 -0.2
baz=255,SNR=6.7
IMAR Indian Mountai 36.93 35 P P 05 01 04.3 +0.1
C21K Knifeblade Rid 36.94 30 P P 05 01 04.7 +0.5
baz=260,SNR=32
SII Sitkinak Islan 36.98 51 P P 05 01 05.5 +0.8
baz=278
Q19K Cape Douglas, 37.00 47 P P 05 01 05.3 +0.4
baz=275
G21K Allakaket 37.07 35 IAmb IAmb 05 01 11.6
comp=Z,33nm,0.8s
G21K Allakaket 37.07 35 P P 05 01 06.1 +0.7
baz=265,SNR=49
B21K Ikpikpuk River 37.08 29 P P 05 01 05.5 +0.1
baz=260
M20K Styx River 37.09 42 IAmb IAmb 05 01 41.3
comp=Z,26nm,0.9s
M20K Styx River 37.09 42 P P 05 01 06.8 +1.1
baz=271
E21K Killik River 37.12 31 IAmb IAmb 05 01 06.6
comp=Z,15nm,0.8s
F21K Alatna River 37.15 33 IAmb IAmb 05 01 39.6
comp=Z,18nm,0.9s
F21K Alatna River 37.15 33 P P 05 01 06.3 +0.2
baz=264,SNR=22
P19K Oil Pt 37.16 46 P P 05 01 06.7 +0.5
baz=274
A22K Sinclair Lake 37.23 27 P P 05 01 06.5 -0.1
baz=258
H21K Melozitna Rive 37.30 36 IAmb IAmb 05 01 21.7
comp=Z,18nm,1.1s
H21K Melozitna Rive 37.30 36 P P 05 01 08.0 +0.7
baz=267,SNR=37
OHAK Old Harbor 37.38 50 P P 05 01 07.7 -0.3
OHAK Old Harbor 37.38 50 IAmb IAmb 05 01 08.7
comp=Z,23nm,0.9s
OHAK Old Harbor 37.38 50 P P 05 01 08.1 0.0
baz=277
O20K Slope Mountain 37.43 45 P P 05 01 09.1 +0.5
baz=274
N20K Mount Spurr 37.56 43 P P 05 01 10.7 +1.0
baz=273
B22K Teshekpuk Lake 37.61 28 P P 05 01 09.4 -0.4
baz=260
SPU Mount Spurr 37.64 43 IAmb IAmb 05 01 46.0
comp=Z,31nm,1.0s
D22K Ayikyak River 37.64 31 P P 05 01 10.6 +0.4
baz=263,SNR=38
F22K John River 37.68 33 P P 05 01 11.2 +0.6
baz=265
KDAK Kodiak Island 37.68 49 P P 05 01 10.4 -0.2
KDAK Kodiak Island 37.68 49 P P 05 01 10.2 -0.5
baz=277
KDAK Kodiak Island 37.68 49 P P 05 01 10.5 -0.1
comp=Z,42nm,0.9s,baz=299,slow=5.9,SNR=33
KDAK ScP **ScP 05 06 59.3 +0.4**
comp=Z,7.8nm,0.8s,baz=25,slow=6.0,SNR=4.2
KDAK LR LR 05 17 33.5
comp=Z,63nm,19.6s,baz=246,slow=37
comp=Z,42nm,0.9s
KDAK Kodiak Island 37.68 49 P P 05 01 10.4 -0.2
KDAK pmax pmax
comp=Z,66nm,1.2s
KDAK Kodiak Island 37.68 49 P P 05 01 10.4 -0.2
KDAK pP **pP 05 01 40.5 +0.3**
KDAK ScP **ScP 05 06 59.5 +0.6**
Q20K Shuyak Island 37.68 48 P P 05 01 10.4 -0.2
baz=276
SKT Skwentna 37.84 42 P P 05 01 11.9 -0.1
SKT Skwentna 37.84 42 P P 05 01 12.7 +0.7
baz=273
E22K Anaktuvuk Pass 37.88 32 IAmb IAmb 05 01 45.5
comp=Z,28nm,0.8s
H22K Ishtalitna Cre 37.90 36 P P 05 01 13.4 +1.0
baz=268,SNR=22
G22K Bettles 37.90 34 P P 05 01 12.6 +0.3
baz=266
GYA Guiyang 37.95 254 ⇓P **P 05 01 13.5 +0.1**
GYA sP sP 05 02 02.5 +3.6
GYA pmax pmax
comp=Z,180nm,0.8s
BPAW Bear Paw Mtn. 38.03 39 P P 05 01 14.2 +0.6
BPAW IAmb IAmb 05 01 49.0
comp=Z,18nm,0.8s
BPAW Bear Paw Mtn. 38.03 39 P P 05 01 14.3 +0.7
baz=270,SNR=18
NRIK Noril'sk 38.11 330 P P 05 01 12.5 -1.6
comp=Z,4.6nm,0.9s,baz=106,slow=8.4,SNR=6.0
NRIK PcP **PcP 05 03 26.6 +0.7**
comp=Z,20nm,0.5s,baz=103,slow=2.8,SNR=15
NRIK ScP **ScP 05 07 00.6 +0.2**
comp=Z,9.9nm,1.1s,baz=121,slow=4.6,SNR=4.3
comp=Z,4.6nm,0.9s
MLY Manley 38.14 37 P P 05 01 14.9 +0.4
MLY IAmb IAmb 05 01 50.2
comp=Z,17nm,0.8s
MLY Manley 38.14 37 P P 05 01 15.7 +1.2
baz=269,SNR=15
SUA Susitna One 38.25 43 P P 05 01 15.4 0.0
SUA IAmb IAmb 05 01 49.6
comp=Z,25nm,0.9s
SUA Susitna One 38.25 43 P P 05 01 15.8 +0.3
baz=274
D23K Nanushuk River 38.37 31 P P 05 01 16.6 +0.3
baz=264
BRSE Bradley Lake S 38.41 46 P P 05 01 17.8 +1.1
baz=276
CUT Chulitna 38.41 41 P P 05 01 17.2 +0.6
baz=273
COLD Coldfoot 38.42 34 P P 05 01 17.2 +0.5
baz=267,SNR=26
G23K Bananza Creek 38.47 34 IAmb IAmb 05 01 18.4
comp=Z,14nm,0.6s
G23K Bananza Creek 38.47 34 P P 05 01 17.7 +0.5
baz=268,SNR=27
C23K Itkillik River 38.49 29 P P 05 01 17.3 +0.1
baz=264,SNR=24
M22K Willow 38.53 42 P P 05 01 18.1 +0.5
baz=274
H23K Yukon River 38.65 36 IAmb IAmb 05 01 54.7
comp=Z,25nm,0.8s
H23K Yukon River 38.65 36 P P 05 01 20.0 +1.3
baz=270,SNR=30
E23K Chandalar 38.69 32 P P 05 01 19.7 +0.6
baz=267,SNR=37
BWN Browne 38.70 38 P P 05 01 20.7 +1.6
I23K Minto, Yukon-K 38.73 37 IAmb IAmb 05 01 54.5
comp=Z,15nm,0.8s
I23K Minto, Yukon-K 38.73 37 P P 05 01 20.4 +1.2
baz=271,SNR=19
TOLK Toolik Lake Re 38.75 31 IAmb IAmb 05 01 20.4
comp=Z,18nm,0.6s
TOLK Toolik Lake Re 38.75 31 P P 05 01 19.5 0.0
baz=266,SNR=25
RC01 Rabbit Creek A 38.77 43 P P 05 01 19.5 -0.1
RC01 Rabbit Creek A 38.77 43 P P 05 01 19.8 +0.1
baz=275
O22K Cooper Landing 38.83 44 P P 05 01 20.3 +0.1
baz=276
NEA2 Nenana 38.86 38 P P 05 01 21.5 +1.1
baz=272,SNR=29
MCK McKinley 38.95 39 P P 05 01 21.8 +0.6
baz=273,SNR=6.8
RND Reindeer 39.01 40 IAmb IAmb 05 01 56.9
comp=Z,27nm,1.0s
SEW Seward 39.01 45 P P 05 01 21.9 +0.3
baz=277
PMR Palmer 39.01 43 P P 05 01 22.4 +0.8
PMR Palmer 39.01 43 P P 05 01 22.1 +0.4
baz=275,SNR=5.1
D24K Happy Valley 39.05 30 P P 05 01 22.2 +0.3
baz=266,SNR=42
GHO Glory Hole Cre 39.09 42 IAmb IAmb 05 01 57.1
comp=Z,27nm,0.9s
E24K Your Creek 39.12 32 IAmb IAmb 05 01 24.0
comp=Z,26nm,0.7s
E24K Your Creek 39.12 32 P P 05 01 23.2 +0.7
baz=268
C24K Franklin Bluff 39.14 30 P P 05 01 22.5 -0.1
baz=266
WAT1 Susitna Watana 39.18 41 P P 05 01 23.0 -0.2
baz=274
MDM Murphy Dome 39.21 37 IAmb IAmb 05 01 58.9
comp=Z,20nm,0.9s
F24K Squaw Lake 39.33 33 IAmb IAmb 05 01 29.5
comp=Z,13nm,0.7s
F24K Squaw Lake 39.33 33 P P 05 01 24.4 0.0
baz=269,SNR=18
H24K Noodor Dome 39.33 36 IAmb IAmb 05 02 00.5
comp=Z,24nm,1.1s
H24K Noodor Dome 39.33 36 P P 05 01 25.5 +1.1
baz=271,SNR=14
KNK Knik Glacier 39.35 43 P P 05 01 25.0 +0.5
baz=276
SML Sawmill 39.37 42 P P 05 01 25.1 +0.4
baz=276,SNR=12
COLA College 39.37 37 P P 05 01 25.5 +0.9
COLA College 39.37 37 P P 05 01 24.8 +0.2
COLA College 39.37 37 P P 05 01 25.1 +0.5
baz=272
COLA College 39.37 37 P P 05 01 24.8 +0.2
COLA pmax pmax
comp=Z,84nm,1.2s
COLA College 39.37 37 P P 05 01 25.8 +1.2
COLA pP **pwP 05 01 56.5 -1.6**
COLA PcP **PcP 05 03 29.5 -0.4**
PWL Port Wells 39.47 44 P P 05 01 25.8 +0.3
baz=277
G24K Hadweenzic Riv 39.49 34 IAmb IAmb 05 01 59.5
comp=Z,26nm,0.9s
G24K Hadweenzic Riv 39.49 34 P P 05 01 26.5 +0.9
baz=270,SNR=29
POKR Poker Plat Res 39.54 37 P P 05 01 28.0 +1.9
baz=272,SNR=9.2
WAT6 Susitna Watana 39.57 41 P P 05 01 26.4 -0.2
baz=275
M23K Glacier View 39.66 42 P P 05 01 27.6 +0.5
baz=276
DHY Denali Highway 39.70 40 IAmb IAmb 05 02 02.4
comp=Z,24nm,1.2s
DHY Denali Highway 39.70 40 P P 05 01 27.6 0.0
baz=275,SNR=19
HDA Harding Lake 39.79 38 IAmb IAmb 05 02 03.8
comp=Z,14nm,0.8s
HDA Harding Lake 39.79 38 P P 05 01 28.6 +0.5
baz=274,SNR=20
IL31 39.79 37 IAmb IAmb 05 02 03.7
comp=Z,34nm,1.2s
ILAR Eielson Array 39.79 37 P P 05 01 28.3 +0.1
ILAR Eielson Array 39.79 37 P P 05 01 28.4 +0.3
comp=Z,8.4nm,0.9s,baz=266,slow=6.7,SNR=59
ILAR ScP **ScP 05 07 06.2 -0.8**
comp=Z,1.5nm,0.7s,baz=290,slow=4.2,SNR=7.8
ILAR LR LR 05 20 19.5
comp=Z,78nm,18.4s,baz=244,slow=40
comp=Z,8.4nm,0.9s
SCM Sheep Creek Mo 39.84 42 IAmb IAmb 05 02 04.1
comp=Z,27nm,0.9s
SCM Sheep Creek Mo 39.84 42 P P 05 01 28.9 +0.2
baz=276
D25K Kavik River 39.93 30 P P 05 01 29.3 0.0
baz=268
G25K Bearman Lake 40.03 34 P P 05 01 30.9 +0.9
baz=272,SNR=10
P23K Montague Islan 40.04 45 P P 05 01 30.1 -0.1
baz=278
GLI Glacier Island 40.07 43 P P 05 01 30.5 0.0
baz=278
H25L Birch Creek 40.16 35 P P 05 01 32.5 +1.4
baz=272,SNR=27
F25K Christian Rive 40.19 33 P P 05 01 32.4 +0.9
baz=271,SNR=17
PRP Porcupine Dome 40.32 36 P P 05 01 32.0 -0.7
PRP IAmb IAmb 05 02 08.4
comp=Z,22nm,0.9s
PRP Porcupine Dome 40.32 36 P P 05 01 33.6 +1.0
baz=274,SNR=9.2
K24K Donnelly Dome 40.34 39 P P 05 01 33.0 +0.3
baz=275
M24K Tolsona, Glenn 40.35 41 P P 05 01 33.6 +0.7
baz=277
J25K Salcha River, 40.45 38 P P 05 01 33.7 +0.1
baz=275,SNR=9.8
C26K Camden Bay 40.46 29 P P 05 01 34.0 +0.4
baz=269,SNR=24
ZALV Zalesovo Beam 40.51 306 P P 05 01 31.1 -3.1
ZALV Zalesovo Beam 40.51 306 P P 05 01 32.0 -2.2
comp=Z,2.1nm,0.4s,baz=82,slow=6.7,SNR=7.0
ZALV PcP **PcP 05 03 34.4 +0.6**
comp=Z,25nm,0.6s,baz=86,slow=2.8,SNR=26
ZALV ScP **ScP 05 07 09.6 -0.4**
comp=Z,8.7nm,0.7s,baz=65,slow=4.8,SNR=14
ZALV LR LR 05 17 56.8
comp=Z,135nm,21.8s,baz=69,slow=35
comp=Z,2.1nm,0.4s
KLU Klutina 40.55 42 IAmb IAmb 05 02 09.6
comp=Z,30nm,0.9s
KLU Klutina 40.55 42 P P 05 01 35.1 +0.6
baz=278,SNR=9.6
PAX Paxson 40.57 40 P P 05 01 35.5 +0.8
baz=277
BMAR Burnt Mountain 40.60 33 P P 05 01 34.5 -0.3
GOMU GeErMu 40.65 276 P P 05 01 36.0 0.0
GOMU S **S 05 07 37.8 +2.1**
GOMU pmax pmax
comp=Z,200nm,0.9s
GOMU LR LR
comp=Z,430nm,15.7s
GOMU LR LR
comp=Z,300nm,14.8s
GOMU LR LR
comp=Z,270nm,15.5s
Q23K Middleton Isla 40.66 46 P P 05 01 35.9 +0.6
baz=280
F26K Sheenjek River 40.76 33 P P 05 01 37.1 +1.0
baz=272,SNR=30
EYAK Cordova Ski Ar 40.77 44 P P 05 01 37.1 +0.9
baz=279
HARP HAARP 40.78 41 P P 05 01 37.0 +0.7
baz=278
C27K Jago River 40.88 30 P P 05 01 37.3 +0.3
baz=270,SNR=53
G26K Porcupine Rive 40.94 34 P P 05 01 38.8 +1.3
baz=273,SNR=19
QIZ Qiongzhong 41.07 243 P P 05 01 41.5 +2.4
SCRK Sand Creek 41.12 38 P P 05 01 39.4 +0.3
SCRK Sand Creek 41.12 38 P P 05 01 39.4 +0.3
baz=277,SNR=26
N25K Chitina, Valde 41.16 42 P P 05 01 40.8 +1.3
N25K Chitina, Valde 41.16 42 P P 05 01 40.2 +0.7
baz=279
J26L Joseph Creek 41.24 38 P P 05 01 40.1 -0.1
baz=276,SNR=10.0
BMRM Bremner River 41.26 43 P P 05 01 41.3 +1.0
baz=280,SNR=5.8
PZH PanZhiHua 41.29 259 P P 05 01 40.5 -0.6
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.5s
I26K Coal Creek Min 41.33 36 P P 05 01 41.0 +0.3
baz=276
KMI Kunming 41.49 256 ⇓P **P 05 01 43.3 +0.5**
KMI PP **PP 05 03 21.5 +0.1**
KMI pmax pmax
comp=Z,110nm,1.0s
L26K Log Cabin Wild 41.52 40 IAmb IAmb 05 02 18.3
comp=Z,22nm,1.0s
KAIM Kayak Island 41.53 45 P P 05 01 43.1 +0.7
baz=281
GLB Gilahina Butte 41.56 42 P P 05 01 44.4 +1.7
E27K Coleen River 41.70 32 P P 05 01 44.3 +0.5
baz=274,SNR=11
VRDI Verde Repeater 41.76 43 P P 05 01 45.0 +0.4
M26K Nabesna, AK 41.78 41 IAmb IAmb 05 02 20.7
comp=Z,32nm,0.8s
M26K Nabesna, AK 41.78 41 P P 05 01 45.9 +1.4
baz=279,SNR=27
G27K Doyon Strip 41.79 34 P P 05 01 45.5 +1.0
baz=275,SNR=15
D27M Malcolm River 41.86 30 P P 05 01 45.3 +0.2
baz=273
H27K Steamboat Moun 41.90 35 P P 05 01 46.9 +1.5
baz=276,SNR=8.5
I27K Kandik River 41.93 36 P P 05 01 46.9 +1.2
baz=277,SNR=7.4
MCARA McCarthy VSAT 41.94 42 IAmb IAmb 05 02 22.4
comp=Z,22nm,0.8s
MCARA McCarthy VSAT 41.94 42 P P 05 01 46.9 +1.1
baz=280
K27K Chicken 41.94 38 IAmb IAmb 05 02 22.3
comp=Z,43nm,1.1s
K27K Chicken 41.94 38 P P 05 01 46.8 +1.1
baz=278
CRQE Cirque 42.02 43 P P 05 01 47.7 +1.1
baz=281,SNR=8.4
WMQ Urumqi 42.08 290 *eP* **P 05 01 49.5 +2.3**
L27K Beaver Creek, 42.20 40 P P 05 01 48.6 +0.6
L27K IAmb IAmb 05 02 23.7
comp=Z,22nm,0.8s
L27K Beaver Creek, 42.20 40 P P 05 01 49.4 +1.4
baz=279,SNR=31
BCAR Beaver Creek A 42.22 40 P P 05 01 49.0 +0.9
EGAK Eagle 42.23 37 IAmb IAmb 05 02 23.9
comp=Z,25nm,0.9s
EGAK Eagle 42.23 37 P P 05 01 48.4 +0.3
baz=278,SNR=21
M27K Edge Creek, AK 42.30 41 IAmb IAmb 05 02 24.9
comp=Z,26nm,0.8s
M27K Edge Creek, AK 42.30 41 P P 05 01 50.5 +1.6
baz=280,SNR=21
F28M Old Crow 42.40 33 P P 05 01 50.3 +0.9
baz=276,SNR=21
ISLE Juniper Island 42.42 43 IAmb IAmb 05 02 25.2
comp=Z,30nm,0.8s
E28M Babbage River 42.42 31 P P 05 01 50.3 +0.7
baz=275,SNR=18
D28M Stokes Point 42.64 30 P P 05 01 51.5 +0.2
baz=275
I28M Miner Creek 42.65 36 IAmb IAmb 05 01 54.5
comp=Z,20nm,0.7s
I28M Miner Creek 42.65 36 P P 05 01 52.8 +1.2
baz=278,SNR=70
MESA MESA 42.70 44 P P 05 01 53.1 +1.0
baz=282
CTG Chitna Glacier 42.82 43 P P 05 01 54.1 +1.0
baz=282,SNR=6.8
CTGM Chitina Glacie 42.83 43 IAmb IAmb 05 02 28.8
comp=Z,29nm,0.9s
LOGN Logan Glacier 43.01 43 IAmb IAmb 05 02 30.7
comp=Z,32nm,1.2s
TABL Table Mountain 43.03 43 IAmb IAmb 05 02 30.1
comp=Z,25nm,0.8s
E29M Blow River 43.05 31 IAmb IAmb 05 02 30.0
comp=Z,23nm,1.0s
E29M Blow River 43.05 31 P P 05 01 55.6 +1.0
baz=277,SNR=24
YUK3 Moose Creek 43.07 41 P P 05 01 55.4 +0.3
baz=282,SNR=5.7
DAWY Dawson 43.10 38 P P 05 01 55.9 +0.7
baz=280,SNR=9.8
H29M Whitestone 43.17 35 IAmb IAmb 05 02 31.2
comp=Z,25nm,1.1s
H29M Whitestone 43.17 35 P P 05 01 57.0 +1.4
baz=279,SNR=20
G29M Pine Creek 43.20 34 IAmb IAmb 05 02 30.7
comp=Z,27nm,0.8s
G29M Pine Creek 43.20 34 P P 05 01 57.4 +1.6
baz=278,SNR=26
SLVN Son La 43.26 251 P P 05 01 57.5 +0.6
I29M Ogilvie Camp, 43.33 36 IAmb IAmb 05 02 32.1
comp=Z,40nm,1.1s
I29M Ogilvie Camp, 43.33 36 P P 05 01 58.1 +1.1
baz=280,SNR=24
O28M Mount Upton 43.41 43 P P 05 01 58.8 +0.8
baz=283,SNR=8.0
YUK8 Steele Glacier 43.50 42 P P 05 01 59.5 +0.9
baz=283
PINM Pinnacle 43.54 44 P P 05 01 59.4 +0.6
baz=284
EPYK Eagle Plains 43.80 34 IAmb IAmb 05 02 02.5
comp=Z,27nm,0.6s
EPYK Eagle Plains 43.80 34 P P 05 02 01.4 +0.7
baz=280,SNR=33
M29M Somme Creek 43.84 40 P P 05 02 02.4 +1.2
baz=283,SNR=13
L29M L29M 43.85 39 P P 05 02 03.0 +1.8
baz=282,SNR=18
G30M tAoh Zraii Nji 43.89 33 IAmb IAmb 05 02 10.5
comp=Z,24nm,0.6s
G30M tAoh Zraii Nji 43.89 33 P P 05 02 02.1 +0.7
baz=280,SNR=11
F30M Barrier River 43.95 32 P P 05 02 03.1 +1.3
baz=280,SNR=29
K29M Barlow Dome 43.96 38 IAmb IAmb 05 02 39.2
comp=Z,38nm,1.5s
K29M Barlow Dome 43.96 38 P P 05 02 03.1 +1.0
baz=282,SNR=9.9
YUK4 Talbot Arm 44.01 42 P P 05 02 03.6 +0.9
baz=284
PNL Peninsula 44.07 44 P P 05 02 03.6 +0.7
baz=285
I30M Mount Dempster 44.16 36 IAmb IAmb 05 02 38.9
comp=Z,57nm,1.2s
I30M Mount Dempster 44.16 36 P P 05 02 04.8 +1.1
baz=282,SNR=48
YUK6 Outpost Mounta 44.24 42 P P 05 02 05.2 +0.7
baz=284
O29M Mount Kennedy 44.30 43 P P 05 02 04.8 -0.1
baz=285
J30M Hart River 44.31 37 P P 05 02 06.4 +1.5
baz=282,SNR=22
MK31 Makanchi Array 44.38 296 P P 05 02 04.6 -1.0
MK31 IAmb IAmb 05 03 48.2
comp=Z,18nm,0.7s
MK31 Makanchi Array 44.38 296 P P 05 02 04.6 -1.0
MK31 pmax pmax
comp=Z,18nm,0.7s
MKAR Makanchi Array 44.38 296 P P 05 02 04.5 -1.1
comp=Z,9.2nm,0.5s,baz=78,slow=8.2,SNR=72
MKAR PcP **PcP 05 03 47.5 +0.6**
comp=Z,21nm,0.7s,baz=68,slow=4.3,SNR=15
MKAR ScP **ScP 05 07 25.6 -0.1**
comp=Z,3.8nm,0.7s,baz=60,slow=4.8,SNR=10.0
MKAR LR LR 05 20 54.6
comp=Z,215nm,20.9s,baz=76,slow=36
comp=Z,9.2nm,0.5s
TNCH TengChong 44.46 260 ⇓P **P 05 02 07.8 +1.1**
TNCH pmax pmax
comp=Z,140nm,0.8s
M30M Minto, Yukon 44.56 40 P P 05 02 08.6 +1.7
baz=284
MAKZ Makanchi 44.57 297 P P 05 02 05.7 -1.4
MAKZ IAmb IAmb 05 02 10.8
comp=Z,42nm,1.5s
MAKZ Makanchi 44.57 297 P P 05 02 05.7 -1.4
MAKZ pmax pmax
comp=Z,42nm,1.5s
MAKZ Makanchi 44.57 297 P P 05 02 06.0 -1.1
MAKZ PcP **PcP 05 03 47.6 0.0**
G31M Satah River 44.65 33 P P 05 02 08.0 +0.6
baz=282,SNR=40
INK Inuvik 44.66 31 IAmb IAmb 05 02 42.9
comp=Z,26nm,1.1s
INK Inuvik 44.66 31 P P 05 02 08.0 +0.5
baz=281,SNR=21
N30M Aishikik Lake 44.71 41 P P 05 02 09.2 +1.2
baz=285
F31M Tsiigehtchic 44.75 32 P P 05 02 08.4 +0.3
baz=282
P29M Windy Craggy 44.89 44 IAmb IAmb 05 02 45.9
comp=Z,39nm,0.8s
P29M Windy Craggy 44.89 44 P P 05 02 11.4 +2.0
baz=286,SNR=13
P30M Million Dollar 45.13 43 P P 05 02 13.2 +1.8
baz=286
KURK Kurchatov 45.13 303 P P 05 02 09.8 -1.6
KURK IAmb IAmb 05 03 50.5
comp=Z,23nm,0.7s
KURK Kurchatov 45.13 303 P P 05 02 09.9 -1.6
KURK Kurchatov 45.13 303 P P 05 02 09.8 -1.6
KURK pmax pmax
comp=Z,23nm,0.7s
KURK Kurchatov 45.13 303 P P 05 02 09.5 -1.9
KURK PcP **PcP 05 03 49.5 +0.1**
KURK ScP **ScP 05 07 29.0 +0.3**
KURBB Kurchatov Arra 45.22 303 LR LR 05 21 57.6
comp=Z,65nm,19.6s,baz=167,slow=37

KURBB **Kurchatov Arra** 45.22 303 P **P** **05 02 09.3 -2.8**
N31M **Braeburn, Yuko** 45.31 41 IAmb IAmb 05 02 52.5
comp=Z,22nm,1.0s
N31M **Braeburn, Yuko** 45.31 41 P **P** **05 02 13.9 +1.1**
baz=286
O30N **Mendenhall** 45.36 42 P **P** **05 02 14.8 +1.6**
baz=286,SNR=6.6
PLBC **Pleasant Camp** 45.61 44 P **P** **05 02 16.9 +1.9**
baz=287,SNR=7.2
M31M **Drury Creek, Y** 45.74 40 P **P** **05 02 17.9 +1.8**
baz=286,SNR=14
WHY **Whitehorse** 45.96 42 P **P** **05 02 19.9 +1.9**
baz=287,SNR=7.0
NONG **Nongkai** 46.08 249 P **P** **05 02 20.0 +0.8**
SKAG **Skagway** 46.11 44 P **P** **05 02 20.8 +1.8**
SKAG **Skagway** 46.11 44 P **P** **05 02 20.1 +1.1**
baz=288
S31K **Pelican** 46.14 46 P **P** **05 02 20.3 +1.2**
baz=289
A36M **Sachs Harbour** 46.61 25 IAmb IAmb 05 02 23.5
comp=Z,30nm,0.7s
A36M **Sachs Harbour** 46.61 25 P **P** **05 02 22.6 0.0**
baz=285,SNR=14
UBPT **Khong Chiam** 46.63 244 P **P** **05 02 24.3 +0.8**
UBPT **Khong Chiam** 46.63 244 IAmb IAmb 05 02 25.5
comp=Z,50nm,1.1s
N32M **Quiet Lake** 46.65 41 P **P** **05 02 23.1 -0.2**
baz=288
LSA **Lhasa** 46.77 271 P **P** **05 02 27.3 +2.2**
LSA pmax pmax
comp=Z,82nm,0.9s
LSA **Lhasa** 46.77 271 P **P** **05 02 26.7 +1.6**
LSA **Lhasa** 46.77 271 P **P** **05 02 26.9 +1.8**
LSA **Lhasa** 46.77 271 P **P** **05 02 26.7 +1.6**
P32M **Atlin** 46.85 43 P **P** **05 02 24.6 -0.2**
baz=289
R32K **Eaglecrest** 46.89 45 IAmb IAmb 05 03 01.5
comp=Z,18nm,0.8s
R32K **Eaglecrest** 46.89 45 P **P** **05 02 26.2 +1.1**
baz=290
SIT **Sitka** 46.90 47 P **P** **05 02 26.4 +1.3**
baz=290
JIS **Juneau Island** 46.96 45 P **P** **05 02 27.5 +1.9**
JIS **Juneau Island** 46.96 45 IAmb IAmb 05 03 02.1
comp=Z,26nm,1.0s
P33M **Teslin, Yukon** 47.07 42 P **P** **05 02 27.7 +1.1**
baz=289,SNR=8.5
S32K **Killisnoo** 47.14 46 P **P** **05 02 27.7 +0.7**
baz=290
DLV **T Lat** 47.34 238 P **P** **05 02 30.6 +1.3**
DLV **T Lat** 47.34 238 P **P** **05 02 29.3 0.0**
DLV IAmb IAmb 05 02 31.5
comp=Z,42nm,0.9s
MYLDM **Lahad Datu** 47.61 222 P **P** **05 02 31.4 +0.3**
MYLDM IAmb IAmb 05 02 59.5
comp=Z,26nm,1.0s
PDGK **Podgornoye** 47.66 293 P **P** **05 02 30.7 -0.8**
PHRA **Phrae** 47.70 252 P **P** **05 02 32.2 +0.4**
C36M **Paulatuk** 47.73 29 P **P** **05 02 31.3 0.0**
baz=288,SNR=24
SHLS **Shalkode** 47.76 293 *eP* **P** **05 02 28.8 -3.4**
SHLS pmax pmax
comp=Z,7.0nm,0.5s
Q32M **Nakina River** 47.76 44 P **P** **05 02 32.9 +0.9**
baz=291
UZB **Uzynbulak** 48.05 293 *eP* **P** **05 02 33.0 -1.5**
UZB pmax pmax
comp=Z,54nm,3.2s
R33M **Jennings River** 48.23 43 P **P** **05 02 36.6 +1.0**
baz=291,SNR=9.2
ARXS **Arharly** 48.33 295 *eP* **P** **05 02 35.1 -1.4**
CHTO **Chiang Mai** 48.34 253 P **P** **05 02 37.4 +0.6**
CHTO **Chiang Mai** 48.34 253 P **P** **05 02 37.4 +0.6**
CHTO pmax pmax
comp=Z,122nm,0.8s
U33K **Whale Pass** 48.38 47 P **P** **05 02 37.6 +1.1**
baz=292
ZHN **Zhinishke** 48.42 294 *eP* P 05 02 29.8 -7.5
ZHN pmax pmax
comp=Z,3.0nm,0.3s
CMAR **Chiang Mai Arr** 48.59 253 P **P** **05 02 39.6 +0.9**
comp=Z,27nm,0.7s,baz=38,slow=7.4,SNR=101
CMAR PcP **PcP** **05 04 03.6 +1.5**
comp=Z,6.0nm,0.7s,baz=8.9,slow=2.1,SNR=6.0
CMAR ScP **ScP** **05 07 45.5 +1.8**
comp=Z,8.7nm,0.9s,baz=17,slow=3.5,SNR=30
CMAR LR LR 05 24 08.1
comp=Z,59nm,18.1s,baz=65,slow=37
comp=Z,27nm,0.7s
CRAG **Craig** 48.63 48 P **P** **05 02 39.2 +0.7**
baz=293
S34M **Telegraph Cree** 48.70 45 P **P** **05 02 40.7 +1.6**
baz=292
SHL **Shillong** 48.76 266 P **P** **05 02 40.1 0.0**
SHL **Shillong** 48.76 266 P **P** **05 02 40.3 +0.2**
SNR=28
SHL **Shillong** 48.76 266 P **P** **05 02 40.1 0.0**
SHL pmax pmax
comp=Z,157nm,0.7s
WUS **Wushi** 48.85 291 P **P** **05 02 40.9 +0.3**
WUS pP **pwP** **05 03 14.7 -1.1**
WUS PcP **PcP** **05 04 03.6 +0.6**
BVAR **Borovoye Array** 48.94 309 P **P** **05 02 39.1 -1.9**
comp=Z,8.3nm,0.7s,baz=57,slow=11,SNR=18
BVAR PcP **PcP** **05 04 03.4 +0.4**
comp=Z,34nm,0.7s,baz=73,slow=2.9,SNR=18
BVAR ScP **ScP** **05 07 44.9 +0.2**
comp=Z,4.4nm,0.8s,baz=72,slow=4.8,SNR=6.8
BVAR LR LR 05 25 09.3
comp=Z,83nm,18.7s,baz=72,slow=38
comp=Z,8.3nm,0.7s
BRVK **Borovoye** 48.99 309 P **P** **05 02 40.2 -1.1**
BRVK IAmb IAmb 05 04 04.5
comp=Z,28nm,0.9s
BRVK **Borovoye** 48.99 309 P **P** **05 02 40.1 -1.2**
BRVK **Borovoye** 48.99 309 *eP* **P** **05 02 39.0 -2.3**
BRVK **Borovoye** 48.99 309 P **P** **05 02 40.2 -1.1**
BRVK pmax pmax
comp=Z,28nm,0.9s
BRVK **Borovoye** 48.99 309 P **P** **05 02 39.7 -1.6**
BRVK pP **pP** **05 03 11.5 -0.7**
BRVK PcP **PcP** **05 04 03.6 +0.6**
BRVK ScP **ScP** **05 07 45.0 +0.1**
DLBC **Dease Lake** 49.04 44 P **P** **05 02 42.9 +1.1**
DLBC **Dease Lake** 49.04 44 P **P** **05 02 43.3 +1.6**
baz=293,SNR=7.0
DLBC **Dease Lake** 49.04 44 LR LR 05 24 53.1
comp=Z,40nm,19.1s,baz=228,slow=38
MDOK **Medeo** 49.32 294 P **P** **05 02 42.5 -1.6**
T35M **Bob Quinn** 49.51 45 IAmb IAmb 05 02 49.3
comp=Z,19nm,1.0s
T35M **Bob Quinn** 49.51 45 P **P** **05 02 46.5 +1.3**
baz=294,SNR=6.6
TARG **Taragay, Kyrgy** 49.52 292 IAmb IAmb 05 04 08.0
comp=Z,27nm,0.8s
OTUK **Ortayu** 49.88 302 P **P** **05 02 45.9 -2.3**
KIP **Kipapa** 49.92 100 P **P** **05 02 49.8 +1.0**
KIP **Kipapa** 49.92 100 P **P** **05 02 48.8 0.0**
KIP **Kipapa** 49.92 100 P **P** **05 02 48.8 0.0**
KIP pmax pmax
comp=Z,141nm,1.1s
KIP **Kipapa** 49.92 100 P **P** **05 02 49.7 +1.0**
NAYO **Nakonayok** 50.00 247 P **P** **05 02 50.4 +1.0**
ULHL **Ulahol** 50.28 294 P **P** **05 02 51.8 +0.3**
SNR=14
BTLS **Baital** 50.32 298 *eP* **P** **05 02 50.2 -1.3**
TKM2 **Tokmak 2** 50.37 295 P **P** **05 02 52.2 +0.1**
SNR=12
TKM2 **Tokmak 2** 50.37 295 P **P** **05 02 51.6 -0.5**
KBK **Karagaybulak** 50.91 295 P **P** **05 02 56.4 +0.2**
SNR=8.2
GRNB **Grenville Isla** 50.98 49 IAmb IAmb 05 02 58.9
comp=Z,28nm,0.8s
TOAD **Toad River Com** 51.16 42 P **P** **05 02 59.4 +1.7**
baz=296,SNR=7.7
AAK **Ala-Archa** 51.21 295 P **P** **05 02 58.8 +0.4**
SNR=5.3
AAK **Ala-Archa** 51.21 295 P **P** **05 02 57.1 -1.3**
AAK IAmb IAmb 05 02 59.5
comp=Z,30nm,1.3s
AAK **Ala-Archa** 51.21 295 P **P** **05 02 58.6 +0.2**
AAK **Ala-Archa** 51.21 295 LR LR 05 25 07.8
comp=Z,114nm,19.3s,baz=79,slow=36
AAK **Ala-Archa** 51.21 295 P **P** **05 02 56.9 -1.5**
AAK **Ala-Archa** 51.21 295 *eP* **P** **05 02 58.3 -0.1**
AAK **Ala-Archa** 51.21 295 P **P** **05 02 57.1 -1.3**
AAK pmax pmax
comp=Z,30nm,1.3s
AAK **Ala-Archa** 51.21 295 P **P** **05 02 57.5 -0.9**
AAK PcP **PcP** **05 04 12.2 +0.5**
UCH **Uchtor** 51.40 294 P **P** **05 03 00.1 -0.1**
SNR=8.7
ALE **Alert** 51.41 5 P **P** **05 02 57.1 -1.9**
ALE PcP **PcP** **05 04 12.1 +0.5**
SRDT **SRDT** 51.41 249 P **P** **05 03 01.0 +1.0**
EKS2 **Erkin-Say** 51.66 295 P **P** **05 03 01.8 +0.1**
SNR=8.4
KSH **Kashi** 51.84 291 P **P** **05 03 07.3 +4.2**
KSH pmax pmax
comp=Z,26nm,1.0s
AML **Almayashu** 51.98 295 P **P** **05 03 04.8 +0.5**
SNR=12
SVE **Sverdlovsk** 52.37 316 *eP* **P** **05 03 05.4 -1.1**
SVE pmax pmax
comp=Z,31nm,0.9s
POHA **Pohakuloa** 52.76 100 P **P** **05 03 11.3 +1.1**
POHA **Pohakuloa** 52.76 100 P **P** **05 03 11.1 +0.9**
SBUM **Sibu** 53.06 227 P **P** **05 03 12.1 0.0**
RES **Resolute Bay** 53.20 17 IAmb IAmb 05 03 14.3
comp=Z,11nm,0.7s
RES **Resolute Bay** 53.20 17 LR LR 05 29 39.4
comp=Z,37nm,18.1s,baz=12,slow=40
KK31 **Karatay Array** 53.49 297 IAmb IAmb 05 03 17.4
comp=Z,10nm,0.7s
KK31 **Karatay Array** 53.49 297 *i* P **P** **05 03 14.1 -0.9**
KKAR **Karatay Array** 53.49 297 P **P** **05 03 14.2 -0.8**
KKAR IAmb IAmb 05 03 17.5
comp=Z,10nm,0.7s
KKAR **Karatay Array** 53.49 297 P **P** **05 03 13.9 -1.1**
KKAR **Karatay Array** 53.49 297 P **P** **05 03 13.9 -1.1**
KKAR pmax pmax
comp=Z,10.0nm,0.7s
ARU **Arti** 53.57 316 P **P** **05 03 13.1 -2.2**
ARU **Arti** 53.57 316 LR LR 05 28 12.7
comp=Z,96nm,18.6s,baz=71,slow=38
ARU **Arti** 53.57 316*c* *i*P **P** **05 03 13.2 -2.1**
ARU *PP **pP** **05 03 48.7 +2.0**
ARU 05 04 18.3
ARU S **S** **05 10 33.8 -3.5**
ARU SS **SKiKP** **05 14 14.3 -0.6**
ARU pmax pmax
comp=Z,31nm,0.9s
ARU **Arti** 53.57 316 P **P** **05 03 13.3 -2.1**
comp=Z,40nm,0.8s
ARU **Arti** 53.57 316 P **P** **05 03 13.2 -2.1**
ARU PcP **PcP** **05 04 20.1 +0.1**
YKA **Yellowknife Ar** 54.08 35 P **P** **05 03 18.5 -0.4**
YKA **Yellowknife Ar** 54.08 35 P **P** **05 03 19.2 +0.3**
comp=Z,3.0nm,0.7s,baz=297,slow=7.0,SNR=17
YKA pP **pP** **05 03 51.1 +0.5**
comp=Z,6.6nm,0.8s,baz=299,slow=7.1,SNR=7.5
YKA ScP **ScP** **05 08 07.4 +0.7**
comp=Z,1.5nm,0.8s,baz=306,slow=4.7,SNR=5.3
comp=Z,3.0nm,0.7s
IUG **Iuzhnay** 54.30 296 *eP* **P** **05 03 20.0 -1.0**
KSM **Kuching** 54.88 228 P **P** **05 03 26.7 +1.4**
KSM **Kuching** 54.88 228 P **P** **05 03 25.8 +0.5**
BTK **Batken** 54.91 294 P **P** **05 03 25.2 -0.3**
SURA **Surathani** 54.95 244 P **P** **05 03 27.2 +1.4**
SRIT **Nakonsritamara** 55.40 244 P **P** **05 03 30.7 +1.6**
HNR **Honiara** 55.63 166 LR LR 05 26 36.9
comp=Z,910nm,19.1s,baz=332,slow=35
AB31 **Akbulak array** 56.52 308 *i* P **P** **05 03 35.5 -1.1**
ABKAR **Akbulak array** 56.52 308 P **P** **05 03 34.9 -1.7**
ABKAR **Akbulak array** 56.52 308 P **P** **05 03 35.3 -1.3**
ABKAR IAmb IAmb 05 03 38.1
comp=Z,26nm,0.5s
VADS **Vadso** 56.54 339 *eP* **P** **05 03 34.4 -2.0**
LVZ **Lovozero** 56.55 335 P **P** **05 03 34.5 -2.1**
LVZ **Lovozero** 56.55 335 P **P** **05 03 34.5 -2.1**
LVZ pmax pmax
comp=Z,134nm,1.8s
KIRV **Kirov** 56.67 322 LR LR 05 29 59.4
comp=Z,71nm,19.2s,baz=58,slow=38
KIRV **Kirov** 56.67 322 *eP* **P** **05 03 35.5 -2.0**
CHGR **Chuyangaron** 56.76 293 P **P** **05 03 38.0 -0.6**
CHGR **Chuyangaron** 56.76 293 P **P** **05 03 38.0 -0.6**
SIMJ **Simiganj** 56.86 293 P **P** **05 03 39.3 -0.1**
SIMJ **Simiganj** 56.86 293 P **P** **05 03 39.0 -0.4**
SIMJ PcP **PcP** **05 04 33.2 -0.1**
NIL **Nilore** 56.91 286 P **P** **05 03 40.1 +0.4**
NIL **Nilore** 56.91 286 P **P** **05 03 40.7 +1.0**
NIL **Nilore** 56.91 286 P **P** **05 03 40.1 +0.4**
NIL pmax pmax
comp=Z,236nm,1.1s
NIL **Nilore** 56.91 286 P **P** **05 03 40.2 +0.5**
NIL pP **pwP** **05 04 13.8 -1.8**
NIL PcP **PcP** **05 04 34.1 +0.6**
AKTO **Aktyubinsk** 56.93 310 LR LR 05 30 30.1
comp=Z,103nm,18.6s,baz=77,slow=38
APA **Apatity** 57.12 335 *i*,*i*P **P** **05 03 41.5 +0.9**
APA *i* 05 04 18.5
APA pmax pmax
comp=Z,7.0nm,0.7s
APA MLR MLR
comp=Z,200nm,12.0s
BRLDA **Berland Lookou** 57.29 44 P **P** **05 03 42.7 +0.6**
BRLDA IAmb IAmb 05 03 44.1
comp=Z,16nm,0.9s
KULM **Kulim** 57.31 241 P **P** **05 03 42.6 +0.1**
KEV **Kevo** 57.38 339 P **P** **05 03 40.0 -2.3**
KEV IAmb IAmb 05 04 35.6
comp=Z,13nm,0.8s
KEV **Kevo** 57.38 339 P **P** **05 03 40.1 -2.3**
KEV pmax pmax
comp=Z,13nm,0.8s
KEV **Kevo** 57.38 339 P **P** **05 03 40.0 -2.3**
KEV PcP **PcP** **05 04 34.8 +0.2**
HAMF **Hammerfest** 57.54 341 *eP* **P** **05 03 40.8 -2.7**
NLWA **Neilton Lookou** 57.55 54 IAmb IAmb 05 03 46.3
comp=Z,21nm,1.0s
PBA **Port Blair** 57.62 252 P **P** **05 03 45.8 +1.1**
ARCES **ARCESS Array B** 57.91 340 P **P** **05 03 44.0 -2.1**
ARCES IAmb IAmb 05 04 37.6
comp=Z,8.3nm,0.7s
ARCES **ARCESS Array B** 57.91 340 P **P** **05 03 44.1 -2.1**
comp=Z,2.0nm,0.4s,baz=52,slow=9.0,SNR=23
ARCES PcP **PcP** **05 04 37.1 +0.4**
comp=Z,8.4nm,0.7s,baz=35,slow=4.4,SNR=9.9
ARCES LR LR 05 32 42.7
comp=Z,52nm,19.2s,baz=72,slow=40
comp=Z,2.0nm,0.4s
E03A **Lebam** 58.20 54 P **P** **05 03 49.1 +0.7**
E03A IAmb IAmb 05 03 51.3
comp=Z,25nm,1.1s
D05A **Enumclaw** 58.73 53 IAmb IAmb 05 04 42.4
comp=Z,22nm,1.2s
KTK1 **Kautokeino** 58.85 340 *eP* **P** **05 03 50.6 -1.9**
KTK1 IAmb IAmb 05 03 51.3
comp=Z,12nm,0.9s
KBL **Kabul** 59.21 289 P **P** **05 03 55.3 -0.7**
KBL **Kabul** 59.21 289 P **P** **05 03 55.2 -0.7**
SNR=27
KBL **Kabul** 59.21 289 P **P** **05 03 55.3 -0.7**
KBL pmax pmax
comp=Z,115nm,1.2s
COEN **Coen** 59.24 185 P **P** **05 03 56.6 +0.7**
COEN **Coen** 59.24 185 P **P** **05 03 56.3 +0.4**
COEN IAmb IAmb 05 03 58.0
comp=Z,22nm,1.0s
COEN **Coen** 59.24 185 P **P** **05 03 56.5 +0.7**
comp=Z,23nm,1.2s,SNR=3.6
TRO **Tromso** 59.38 342 *eP* **P** **05 03 54.2 -2.0**
TRO IAmb IAmb 05 03 54.8
comp=Z,33nm,1.2s
LTY **Liberty** 59.43 52 IAmb IAmb 05 03 58.7
comp=Z,18nm,1.5s
COR **Corvallis** 59.46 56 P **P** **05 03 58.9 +1.7**
COR pP **pwP** **05 04 31.3 -0.6**
KDU **Kakadu** 59.51 198 P **P** **05 03 57.5 -0.2**
KDU **Kakadu** 59.51 198 P **P** **05 03 57.4 -0.3**
comp=Z,18nm,0.9s,SNR=3.6
B08A **Colville Reser** 59.53 51 IAmb IAmb 05 03 59.4
comp=Z,27nm,1.5s
H04D **Lebanon** 59.83 56 IAmb IAmb 05 04 02.4
comp=Z,15nm,0.9s
MTN **Manton Dam** 59.95 199 P **P** **05 04 01.3 +0.5**
MXC **Moxie City** 60.03 53 IAmb IAmb 05 04 03.9
comp=Z,15nm,1.1s
E07A **Sunnyside** 60.29 53 IAmb IAmb 05 04 05.5
comp=Z,16nm,1.1s
K02D **Willamette Mer** 60.34 58 IAmb IAmb 05 04 05.3
comp=Z,12nm,0.8s
C09A **Chrisman Ranch** 60.43 51 IAmb IAmb 05 04 04.9
comp=Z,9.9nm,0.6s
I04A **Tendick Farm,** 60.44 56 IAmb IAmb 05 04 06.1
comp=Z,18nm,0.8s
D08A **Wollman Farm,** 60.52 52 P **P** **05 04 04.9 +0.5**
D08A IAmb IAmb 05 04 06.0
comp=Z,20nm,1.4s
HAWA **Hanford** 60.57 53 IAmb IAmb 05 04 06.8
comp=Z,19nm,1.2s
G06A **Carlson Farm,** 60.62 54 IAmb IAmb 05 04 39.1
comp=Z,15nm,1.1s
L02F **Cave Junction** 60.74 58 IAmb IAmb 05 04 08.3
comp=Z,11nm,0.8s
I05D **Terrebonne, OR** 60.75 55 IAmb IAmb 05 04 08.1
comp=Z,14nm,1.0s
E08A **Dider Farm, El** 60.77 52 IAmb IAmb 05 04 07.9
comp=Z,14nm,1.0s
NEW **Newport** 60.78 50 IAmb IAmb 05 04 07.9
comp=Z,10.0nm,0.8s
NEW **Newport** 60.78 50 P **P** **05 04 06.3 +0.1**
baz=306,SNR=11
NEW **Newport** 60.78 50 LR LR 05 28 29.1
comp=Z,28nm,20.0s,baz=302,slow=34
HUMO **Hull Mountain** 60.82 58 P **P** **05 04 08.1 +1.5**
HUMO IAmb IAmb 05 04 09.3
comp=Z,27nm,1.6s
JOF **Joensuu** 60.91 332 *eP* **P** **05 04 05.0 -1.8**
BELG **Belogornoye** 61.12 316 *i* P **P** **05 04 06.8 -1.5**
BELG pmax pmax
comp=Z,4.0nm,0.6s
E09A **Wood Farm, Sta** 61.27 52 IAmb IAmb 05 04 12.0
comp=Z,26nm,1.1s
YBH **Yreka Blue Hor** 61.49 58 P **P** **05 04 12.0 +0.9**
YBH IAmb IAmb 05 04 13.6
comp=Z,10nm,0.8s
YBH **Yreka Blue Hor** 61.49 58 LR LR 05 25 41.6
comp=Z,23nm,20.5s,baz=301,slow=31
YBH **Yreka Blue Hor** 61.49 58 P **P** **05 04 12.0 +0.9**
YBH pmax pmax
comp=Z,10.0nm,0.8s
STEI **Steigen** 61.55 342 *eP* **P** **05 04 09.0 -2.0**
LOF **Lofoten** 61.76 342 *eP* **P** **05 04 11.2 -1.1**
FAUS **Fauske** 61.99 341 *eP* **P** **05 04 12.0 -1.9**
FAUS IAmb IAmb 05 04 13.1
comp=Z,20nm,1.1s
VALR **Valaam** 62.15 331 *i* P **P** **05 04 13.2 -1.8**
VALR pmax pmax
comp=Z,45nm,0.8s
SUMG **Summit** 62.23 2 P **P** **05 04 15.0 -0.9**
SUMG IAmb IAmb 05 04 17.6
comp=Z,16nm,0.8s
SUMG **Summit** 62.23 2 P **P** **05 04 15.0 -0.9**
SUMG pmax pmax
comp=Z,16nm,0.8s
GSI **Gunungsitoli** 62.32 241 P **P** **05 04 17.9 +1.1**
BMO **Blue Mountains** 62.74 53 P **P** **05 04 20.1 +0.7**
BMO IAmb IAmb 05 04 54.0
comp=Z,38nm,2.0s
BMO **Blue Mountains** 62.74 53 P **P** **05 04 20.1 +0.7**
BMO pmax pmax
comp=Z,38nm,2.0s
J08A **Circle Bar Ran** 62.99 55 IAmb IAmb 05 04 23.5
comp=Z,16nm,1.1s
MTSU **Mount Surprise** 63.33 184 P **P** **05 04 24.0 +0.7**
MSO **Missoula** 63.36 50 IAmb IAmb 05 04 58.0
comp=Z,21nm,1.1s
MSO **Missoula** 63.36 50 P **P** **05 04 23.9 +0.4**
baz=309,SNR=26
WVOR **Wild Horse Val** 63.47 56 IAmb IAmb 05 04 58.7
comp=Z,13nm,0.9s
MOS **Moscow** 63.48 324 *eP* **P** **05 04 20.9 -3.0**
MOS *e**PP **PcP** **05 04 58.5 -0.9**
MOS *e*S **SKSac** **05 13 59.1 -4.2**
VAF **Ylistaro** 63.51 335 *eP* **P** **05 04 22.3 -1.7**
KEF **Keuruu** 63.52 334 *eP* **P** **05 04 21.9 -2.2**
ORV **Oroville** 63.54 60 IAmb IAmb 05 04 25.9
comp=Z,9.1nm,0.8s
FIA1 **FINESS Array S** 63.68 333 P **P** **05 04 23.6 -1.5**
FINES **FINESS Array B** 63.68 333 P **P** **05 04 23.2 -1.9**
comp=Z,30nm,0.5s,baz=37,slow=7.8,SNR=341
FINES PcP **PcP** **05 05 00.1 0.0**
comp=Z,13nm,0.6s,baz=97,slow=4.3,SNR=6.6
FINES LR LR 05 34 07.5
comp=Z,43nm,19.9s,baz=35,slow=38
comp=Z,30nm,0.5s
HRA **Herat** 63.77 293 P **P** **05 04 26.3 -0.2**
FFC **Flin Flon** 64.00 37 P **P** **05 04 27.6 +0.2**
FFC IAmb IAmb 05 05 02.8
comp=Z,13nm,0.9s
FFC **Flin Flon** 64.00 37 P **P** **05 04 27.6 +0.2**
FFC pmax pmax
comp=Z,13nm,0.9s
FFC **Flin Flon** 64.00 37 P **P** **05 04 28.1 +0.7**
FFC pP **PcP** **05 05 01.5 -0.1**
AFDM **Forest Hills D** 64.24 60 P **P** **05 04 29.4 +0.2**
FCC **Fort Churchill** 64.28 31 P **P** **05 04 29.7 +0.6**
FCC IAmb IAmb 05 04 30.7
comp=Z,20nm,0.9s
FCC **Fort Churchill** 64.28 31 P **P** **05 04 29.7 +0.6**
FCC pmax pmax
comp=Z,20nm,0.9s
OBN **Obninsk** 64.35 324 *eP* **P** **05 04 27.7 -1.9**
OBN **Obninsk** 64.35 324 *de*P **P** **05 04 27.7 -1.9**
OBN *e* 05 05 02.4
OBN *e**PP **pwP** **05 05 06.8 +0.4**
OBN *e**SP **sP** **05 05 24.1 +7.3**
OBN *e* 05 06 50.1
OBN *e*PPP PPP 05 08 28.8
OBN pmax pmax
comp=Z,37nm,1.3s
OBN MLR MLR
comp=Z,51nm,14.0s
MFID **Camas Ranch** 64.47 53 IAmb IAmb 05 05 05.3
comp=Z,43nm,2.0s
MPK **Martis Peak** 64.59 59 P **P** **05 04 32.2 +0.3**
MPK pP **pP** **05 05 05.3 +0.1**
AUAYR **Ayr State High** 64.68 181 P **P** **05 04 34.8 +2.8**
VRH **Novokhopyorsk** 64.70 318 *eP* **P** **05 04 29.3 -2.7**
VRH pmax pmax
comp=Z,19nm,0.7s
PAHR **Pah Rah Range** 64.72 58 IAmb IAmb 05 04 34.4
comp=Z,20nm,1.2s
PAHR pP pP 05 05 04.2 -1.6
EMB **Emerald Bay** 64.75 59 P **P** **05 04 33.9 +1.1**
EMB IAmb IAmb 05 04 34.3
comp=Z,16nm,0.8s
EGMT **Eagleton** 64.79 46 IAmb IAmb 05 05 07.4
comp=Z,21nm,1.0s
EGMT **Eagleton** 64.79 46 P **P** **05 04 33.6 +0.9**
baz=310,SNR=12
PNTR **Pine Nut** 64.98 59 IAmb IAmb 05 05 09.8
comp=Z,14nm,0.8s
DLMT **Dillon** 65.02 50 IAmb IAmb 05 05 09.8
comp=Z,14nm,0.9s
LPSR **Galich'ya Gora** 65.04 321 *eP* **P** **05 04 32.2 -2.0**
LPSR pmax pmax
comp=Z,20nm,0.7s
NSS **Namsos** 65.12 341 *eP* **P** **05 04 32.6 -1.9**
NSS IAmb IAmb 05 04 46.3
comp=Z,12nm,0.7s
MEF **Metsahovi** 65.15 333 *eP* **P** **05 04 32.8 -1.9**
CMB **Columbia Colle** 65.17 60 IAmb IAmb 05 04 37.2
comp=Z,19nm,1.1s
HLID **Hailey** 65.17 53 P **P** **05 04 36.0 +0.6**
baz=310,SNR=15
CTAO **Charters Tower** 65.20 182 P **P** **05 04 35.1 -0.4**
CTAO **Charters Tower** 65.20 182 P **P** **05 04 35.5 0.0**
CTAO **Charters Tower** 65.20 182 P **P** **05 04 35.5 0.0**
CTAO pmax pmax
comp=Z,70nm,1.9s
ARBE **Arbavere** 65.22 331 *eP* **P** **05 04 34.0 -1.1**
YERR **Yerington** 65.27 59 P **P** **05 04 35.4 -0.8**
YERR **pP** **05 05 09.6 +0.1**
RAF **Rauma** 65.35 334 *eP* **P** **05 04 33.8 -2.1**
BOZ **Bozeman (W)** 65.39 49 IAmb IAmb 05 05 11.6
comp=Z,16nm,0.9s
BOZ **Bozeman (W)** 65.39 49 P **P** **05 04 37.9 +1.2**
baz=310,SNR=39
WAKR **Walker** 65.45 60 IAmb IAmb 05 04 39.6
comp=Z,23nm,1.2s
VORR **Voronezh** 65.55 320 *eP* **P** **05 04 34.3 -3.1**
VORR pmax pmax
comp=Z,50nm,0.3s

BMN	**Battle Mountai**	65.55	57	P	P	05 04 39.1	+1.2
BMN				IAmb	IAmb	05 04 40.0	
	comp=Z,17nm,1.0s						
BMN				pP	pP	05 05 10.9	0.0
VSU	**Vasula**	65.70	330	*i* P	P	05 04 36.5	-1.8
VSU				pmax	pmax		
	comp=Z,35nm,1.3s						
VSR	**Storozhevoye**	65.88	319	*e*P	P	05 04 37.3	-2.3
VSR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KVN	**Kaiserville**	65.91	58	IAmb	IAmb	05 04 42.3	
	comp=Z,24nm,1.0s						
RYN	**Ryan**	65.92	59	P	P	05 04 39.8	-0.5
RYN				IAmb	IAmb	05 04 42.3	
	comp=Z,16nm,1.0s						
RYN				pP	P	05 05 13.8	+0.1
VORD	**Divnogorie**	65.99	319	*e*P	P	05 04 38.5	-1.8
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WB0	**Warramunga Arr**	66.04	194	IAmb	IAmb	05 05 14.5	
	comp=Z,22nm,1.1s						
QIS	**Mount Isa**	66.09	189	P	P	05 04 40.7	-0.5
QIS	**Mount Isa**	66.09	189	P	P	05 04 40.7	-0.5
	comp=Z,12nm,1.4s,SNR=3.5						
YHL	**Hebgen Lake**	66.11	50	IAmb	IAmb	05 05 16.5	
	comp=Z,12nm,0.9s						
YHB	**Horse Butte**	66.17	50	P	P	05 04 39.6	-2.3
YHB				pP	PcP	05 05 12.2	+1.1
YHB				IAmb	IAmb	05 05 13.4	
	comp=Z,15nm,0.8s						
NVAR	**Mina Array Bea**	66.18	59	P	P	05 04 42.5	+0.5
NVAR	**Mina Array Bea**	66.18	59	P	P	05 04 43.0	+0.9
	comp=Z,13nm,0.8s,baz=292,slow=6.8,SNR=67						
NVAR				pP	pP	05 05 15.8	+0.4
	comp=Z,8.1nm,0.7s,baz=290,slow=6.6,SNR=7.2						
	comp=Z,13nm,0.8s						
WR0	**Warramunga Arr**	66.20	194	IAmb	IAmb	05 05 15.0	
	comp=Z,25nm,1.4s						
WRAB	**Tennant Creek**	66.20	194	P	P	05 04 41.3	-0.7
WRAB				IAmb	IAmb	05 05 15.7	
	comp=Z,21nm,1.1s						
WRAB	**Tennant Creek**	66.20	194	P	P	05 04 41.3	-0.7
WRAB				pmax	pmax		
	comp=Z,21nm,1.2s						
WB2	**Warramunga Arr**	66.22	194	IAmb	IAmb	05 05 15.7	
	comp=Z,21nm,1.1s						
WB2	**Warramunga Arr**	66.22	194	P	P	05 04 41.4	-0.6
	comp=Z,16nm,1.0s,SNR=3.8						
WRA	**Warramunga Arr**	66.22	194	P	P	05 04 41.4	-0.6
	comp=Z,5.0nm,0.5s,baz=10,slow=6.7,SNR=82						
WRA				PcP	PcP	05 05 12.4	+1.4
	comp=Z,11nm,1.0s,baz=7.7,slow=6.5,SNR=9.2						
WRA				PKP2bc		05 33 18.4	
	comp=Z,1.2nm,1.0s,baz=204,slow=3.0,SNR=6.3						
	comp=Z,5.0nm,0.5s						
MDPB	**Devils Postpil**	66.22	60	P	P	05 04 42.6	+0.3
MDPB				IAmb	IAmb	05 04 44.4	
	comp=Z,13nm,1.0s						
MDPB				pP	pP	05 05 15.7	-0.1
WB1	**Warramunga Ar.**	66.23	194	P	P	05 04 41.2	-0.9
NV11	**Mina Array Sit**	66.27	59	P	P	05 04 42.9	+0.4
NV11				IAmb	IAmb	05 04 44.6	
	comp=Z,16nm,1.1s						
YHH	**Holmes Hill**	66.33	50	P	P	05 04 43.5	+0.6
YHH					pP	05 05 16.4	+0.1
YMR	**Madison River**	66.35	50	P	P	05 04 43.0	0.0
YMR					pP	05 05 16.2	-0.1
MLAC	**Mammoth, Mammo**	66.37	60	P	P	05 04 44.6	+1.3
	baz=310						
FITZ	**Fitzroy Crossi**	66.39	203	P	P	05 04 43.5	+0.4
FITZ	**Fitzroy Crossi**	66.39	203	P	P	05 04 43.9	+0.7
MTSE	**Matsula**	66.50	332	*e*P	P	05 04 42.4	-0.9
ELK	**Elko**	66.51	55	LR	LR	05 34 31.4	
	comp=Z,29nm,18.6s,baz=298,slow=36						
AAL	**Aland**	66.56	335	*e*P	P	05 04 42.0	-1.7
TBLU	**Trondheim**	66.61	341	*e*P	P	05 04 41.6	-2.5
LKWY	**Lake**	66.72	50	IAmb	IAmb	05 04 50.9	
	comp=Z,14nm,0.8s						
YMP	**Mirror Lake Pl**	66.73	49	IAmb	IAmb	05 05 21.7	
	comp=Z,32nm,1.6s						
H17A	**Grant Village**	66.74	50	P	P	05 04 46.8	+1.3
H17A					pP	05 05 20.3	+1.4
H17A				IAmb	IAmb	05 05 22.1	
	comp=Z,25nm,1.1s						
H17A	**Grant Village**	66.74	50	P	P	05 04 47.8	+2.3
	baz=311,SNR=13						
IMW	**Indian Meadow**	66.87	50	IAmb	IAmb	05 05 22.0	
	comp=Z,16nm,1.1s						
FLWY	**Flagg Ranch**	66.88	50	P	P	05 04 47.9	+1.5
FLWY					pP	05 05 21.4	+1.7
FLWY				IAmb	IAmb	05 05 22.2	
	comp=Z,13nm,0.9s						
RLMT	**Red Lodge**	66.95	49	P	P	05 04 46.4	-0.5
RLMT					pP	05 05 20.8	+0.6
RLMT				IAmb	IAmb	05 05 22.8	
	comp=Z,16nm,1.1s						
RLMT	**Red Lodge**	66.95	49	P	P	05 04 47.7	+0.8
	baz=312,SNR=6.2						
FXWY	**Fox Creek**	66.99	51	IAmb	IAmb	05 05 23.4	
	comp=Z,26nm,1.4s						
SFJD	**Kangerlussuaq**	67.03	8	LR	LR	05 34 36.4	
	comp=Z,50nm,18.8s,baz=354,slow=36						
DSP	**Deep Springs**	67.07	60	IAmb	IAmb	05 04 49.9	
	comp=Z,30nm,1.1s						
TPAW	**Teton Pass**	67.13	51	IAmb	IAmb	05 05 23.7	
	comp=Z,26nm,0.9s						
MAK	**Makhachkala**	67.19	308	*e*P	P	05 04 48.4	+0.4
MAK				*e**PP	pP	05 05 19.7	-1.0
MAK				*e*		05 07 20.4	
MAK				*e*PPP	PPP	05 09 01.2	
MAK				*e*S	S	05 13 34.0	+2.8
MAK				*e**SS	sS	05 14 27.8	0.0
MAK				*e*SS	SS	05 17 57.8	+5.4
MAK				MLR	MLR		
	comp=Z,143nm,16.0s						
SNOW	**Snow King Moun**	67.26	51	IAmb	IAmb	05 05 24.4	
	comp=Z,16nm,0.9s						
DGMT	**Dagmar**	67.26	43	P	P	05 04 48.1	-0.3
DGMT					pP	05 05 22.5	+0.7
DGMT	**Dagmar**	67.26	43	P	P	05 04 49.4	+0.9
	baz=313						
KOUNC	**Koumac, New Ca**	67.29	163	IAmb	IAmb	05 04 51.5	
	comp=Z,28nm,0.9s						
VES	**Vestal, Richgr**	67.37	62	P	P	05 04 49.4	+0.1
	baz=310,SNR=7.7						
FRB	**Frobisher Bay**	67.42	17	LR	LR	05 38 59.4	
	comp=Z,30nm,18.2s,baz=343,slow=40						
LAO	**LASA Array**	67.47	46	P	P	05 04 50.4	+0.5
LAO					pP	05 05 23.9	+0.7
LAO				IAmb	IAmb	05 05 27.0	
	comp=Z,14nm,0.8s						
LAO	**LASA Array**	67.47	46	P	P	05 04 50.9	+1.0
	baz=313,SNR=6.9						
UPP	**Uppsala**	67.52	335	*e*P	P	05 04 48.3	-1.5
AHID	**Auburn Hatcher**	67.53	51	P	P	05 04 51.6	+1.2
AHID					pP	05 05 22.9	-0.9
PKM	**Mcpherson Peak**	67.53	63	P	P	05 04 51.8	+1.2
	baz=310						
CWC	**Cottonwood Cre**	67.60	60	P	P	05 04 51.3	+0.4
	baz=311						
GRAC	**Grapevine Rang**	67.67	60	P	P	05 04 51.4	+0.2
GRAC					pP	05 05 25.4	+0.6
GRAC	**Grapevine Rang**	67.67	60	P	P	05 04 52.7	+1.4
	baz=311,SNR=9.2						
SPUT	**South Promonto**	67.74	53	IAmb	IAmb	05 04 54.0	
	comp=Z,16nm,1.1s						
Q12A	**Willow Creek R**	67.86	57	IAmb	IAmb	05 04 54.6	
	comp=Z,16nm,1.0s						
ISA	**Isabella, Lake**	67.86	61	P	P	05 04 52.3	-0.2
	baz=311,SNR=6.1						
R11B	**Troy Canyon, C**	67.86	58	P	P	05 04 52.9	+0.3
	baz=311,SNR=26						
DOMB	**Dombas**	67.94	340	*e*P	P	05 04 51.2	-1.3
DOMB				IAmb	IAmb	05 04 53.5	
	comp=Z,5.3nm,0.7s						
ARVC	**Arvin**	67.99	62	P	P	05 04 53.6	+0.4
	baz=311						
HWUT	**Hardware Ranch**	68.04	53	IAmb	IAmb	05 04 55.9	
	comp=Z,31nm,1.4s						
NC303	**NORSAR Array S**	68.08	339	IAmb	IAmb	05 05 06.0	
	comp=Z,31nm,1.3s						
ISAL	**Salakas**	68.11	329	*e*P	P	05 04 52.7	-0.9
GOF	**Gofitskoye**	68.18	312	*ce*P	P	05 04 54.2	0.0
NC204	**NORSAR Array S**	68.19	339	IAmb	IAmb	05 05 06.8	
	comp=Z,20nm,0.7s						
MPMC	**Manual Prospec**	68.21	60	P	P	05 04 55.2	+0.3
	baz=311,SNR=18						
S11A	**Rachel**	68.23	58	IAmb	IAmb	05 05 31.0	
	comp=Z,22nm,0.9s						
WCT	**Wildcat Mounta**	68.26	59	IAmb	IAmb	05 04 56.9	
	comp=Z,20nm,1.3s						
DUG	**Dugway, Tooele**	68.27	54	IAmb	IAmb	05 04 57.2	
	comp=Z,30nm,1.2s						
DUG	**Dugway, Tooele**	68.27	54	P	P	05 04 55.8	+0.7
	baz=312,SNR=22						
DUG	**Dugway, Tooele**	68.27	54	P	P	05 04 56.2	+1.1
MNK	**Minsk**	68.27	327	*i* P	P	05 04 52.9	-1.7
MNK				*i*		05 05 17.2	
MNK				*i* *PP	pP	05 05 29.0	+1.6
MNK				*i*		05 07 25.3	
MNK				*i* PPP	PPP	05 09 06.1	
MNK				*i* S	S	05 13 42.1	-1.6
MNK				*i*		05 14 37.7	
MNK				*i* SS	SS	05 18 09.2	+0.9
MNK				pmax	pmax		
	comp=Z,23nm,0.8s						
MNK				pmax	pmax		
	comp=N,17nm,0.9s						
MNK				pmax	pmax		
	comp=E,8.0nm,0.9s						
MNK				MLR	MLR		
	comp=N,82nm,20.0s						
MNK				MLR	MLR		
	comp=Z,80nm,18.0s						
MNK				MLR	MLR		
	comp=E,56nm,18.0s						
NB2	**NORSAR Subarra**	68.28	339	P	P	05 04 52.6	-2.0
	comp=Z,24nm,1.1s,baz=30,slow=6.5						
NB2	**NORSAR Subarra**	68.28	339	P	P	05 04 52.6	-2.0
	baz=30,slow=6.5						
NOA	**NORSAR Array B**	68.28	339	P	P	05 04 52.9	-1.7
	comp=Z,5.6nm,0.6s,baz=32,slow=6.6,SNR=72						
NOA				LR	LR	05 39 21.9	
	comp=Z,37nm,19.7s,baz=25,slow=40						
	comp=Z,5.6nm,0.6s						
FURC	**Furnace Creek,**	68.33	60	P	P	05 04 56.2	+1.0
	baz=311,SNR=23						
BW06	**Boulder Array**	68.37	51	P	P	05 04 56.2	+0.4
	baz=312,SNR=16						
PD31	**Pinedale Array**	68.37	51	IAmb	IAmb	05 05 30.3	
	comp=Z,13nm,0.9s						
PDAR	**Pinedale Array**	68.37	51	P	P	05 04 55.7	-0.1
PDAR	**Pinedale Array**	68.37	51	P	P	05 04 56.3	+0.5
	comp=Z,6.1nm,0.7s,baz=276,slow=1.2,SNR=66						
PDAR				pP	pP	05 05 28.9	-0.2
	comp=Z,8.1nm,0.8s,baz=256,slow=1.6,SNR=9.8						
PDAR				LR	LR	05 36 36.8	
	comp=Z,20nm,18.9s,baz=326,slow=37						
	comp=Z,6.1nm,0.7s						
TPNV	**Topopah Spring**	68.38	59	P	P	05 04 56.8	+0.9
	baz=311,SNR=19						
NBO00	**NORSAR Array S**	68.40	339	IAmb	IAmb	05 05 08.1	
	comp=Z,20nm,0.9s						
HFS	**Hagfors**	68.40	337	P	P	05 04 53.3	-2.0
	comp=Z,5.5nm,0.4s,baz=53,slow=5.7,SNR=56						
HFS				LR	LR	05 37 55.1	
	comp=Z,63nm,22.0s,baz=34,slow=38						
	comp=Z,5.5nm,0.4s						
TCUT	**Toone Canyon**	68.45	53	P	P	05 04 57.0	+0.6
TCUT					pP	05 05 29.8	0.0
TCUT				IAmb	IAmb	05 05 30.7	
	comp=Z,14nm,0.9s						
NC602	**NORSAR Array S**	68.46	339	*e*P	P	05 04 53.6	-2.1
LRMC	**Laurel Mtn Rad**	68.47	61	P	P	05 04 56.3	0.0
	baz=311,SNR=7.8						
CCAC	**Calif City Air**	68.48	61	P	P	05 04 56.7	+0.3
CCAC				IAmb	IAmb	05 04 57.9	
	comp=Z,30nm,1.1s						
MSVF	**Nonsavu**	68.51	149	P	P	05 04 58.7	+2.1
MSVF	**Nonsavu**	68.51	149	P	P	05 04 55.7	-0.8
MSVF				IAmb	IAmb	05 04 59.7	
	comp=Z,26nm,0.9s						
MSVF	**Nonsavu**	68.51	149	P	P	05 04 55.7	-0.8
MSVF				pmax	pmax		
	comp=Z,26nm,0.9s						
MSVF	**Nonsavu**	68.51	149	P	P	05 04 58.6	+2.1
MSVF				pP	pP	05 05 31.8	+1.3
NAO01	**NORSAR Array S**	68.53	339	IAmb	IAmb	05 05 09.1	
	comp=Z,19nm,0.8s						
GWY	**Greenwater Val**	68.63	60	IAmb	IAmb	05 04 59.1	
	comp=Z,20nm,0.9s						
EDW2	**Edwards Air Fo**	68.67	62	P	P	05 04 58.1	+0.5
	baz=311,SNR=9.1						
JLU	**Jordanelle**	68.77	53	IAmb	IAmb	05 05 33.2	
	comp=Z,17nm,1.2s						
PRN	**Paoc Ro Range**	68.80	58	IAmb	IAmb	05 05 33.2	
	comp=Z,31nm,1.6s						
NLU	**North Lily Min**	68.85	54	IAmb	IAmb	05 05 00.8	
	comp=Z,16nm,1.1s						
DECC	**Green Verdugo**	68.87	62	P	P	05 04 59.6	+0.8
	baz=311						
VIKU	**Vikbolandet**	68.91	335	*e*P	P	05 04 55.8	-2.6
NCK	**Nalchik**	68.95	311	*i* P	P	05 04 59.7	+0.6
NCK				pmax	pmax		
	comp=Z,23nm,0.4s						
PALK	**Pallekele**	68.97	259	P	P	05 04 58.9	-0.7
PALK	**Pallekele**	68.97	259	P	P	05 04 59.9	+0.2
PALK	**Pallekele**	68.97	259	P	P	05 04 58.9	-0.7
PALK				pmax	pmax		
	comp=Z,52nm,0.9s						
PALK	**Pallekele**	68.97	259	P	P	05 04 59.8	+0.2
PALK				pP	pwP	05 05 35.4	-0.9
GD1S	**Gladstone Soft**	68.97	177	P	P	05 04 58.9	-0.3
ERBR	**Yeremizino-Bor**	69.04	314	*e*P	P	05 04 58.6	-0.9
ERBR				*e*S	S	05 13 51.0	-2.1
ERBR				pmax	pmax		
	comp=Z,86nm,0.8s						
MPU	**Maple Canyon**	69.06	54	IAmb	IAmb	05 05 02.0	
	comp=Z,22nm,1.2s						
KIV	**Kislovodsk**	69.12	312	P	P	05 04 59.3	-0.9
KIV	**Kislovodsk**	69.12	312	*i* P	P	05 05 00.9	+0.6
	SNR=12						
KIV	**Kislovodsk**	69.12	312	P	P	05 05 01.0	+0.8
KIV	**Kislovodsk**	69.12	312	*e*P	P	05 05 00.6	+0.4
KIV	**Kislovodsk**	69.12	312	*e*P	P	05 05 00.3	+0.1
KIV				pmax	pmax		
	comp=Z,51nm,1.0s						
KIV				MLR	MLR		
	comp=Z,93nm,17.0s						
KIV	**Kislovodsk**	69.12	312	P	P	05 05 00.8	+0.6
	comp=Z,50nm,0.7s,comp=Z,532nm						
KIV	**Kislovodsk**	69.12	312	P	P	05 05 00.6	+0.4
GSC	**Goldstone, Bar**	69.13	61	P	P	05 04 59.6	-0.8
GSC					pP	05 05 32.6	-1.4
GSC	**Goldstone, Bar**	69.13	61	P	P	05 05 01.4	+1.1
	baz=311,SNR=10						
GSC	**Goldstone, Bar**	69.13	61	P	P	05 04 59.6	-0.8
GSC				*PP	pP	05 05 32.6	-1.4
GSC				pmax	pmax		
	comp=Z,15nm,1.1s						
KBZ	**Khabaz**	69.16	312	P	P	05 05 00.3	0.0
	comp=Z,31nm,0.9s,baz=61,slow=3.6,SNR=32						
KBZ				LR	LR	05 39 51.6	
	comp=Z,136nm,18.6s,baz=43,slow=40						
	comp=Z,31nm,0.9s						
KBZ	**Khabaz**	69.16	312	*i* P	P	05 05 00.3	0.0
KBZ				pmax	pmax		
	comp=Z,30nm,0.8s						
NOUC	**Port Laguerre**	69.22	162	P	P	05 05 02.9	+2.1
DZM	**Mont Dzumac**	69.22	162	P	P	05 05 03.2	+2.3
DZM	**Mont Dzumac**	69.22	162	*e*P	P	05 05 01.7	+0.8
	comp=Z,108nm,1.2s						
DZM	**Mont Dzumac**	69.22	162	P	P	05 05 03.0	+2.1
	comp=Z,27nm,1.0s,baz=16,slow=9.1,SNR=9.5						
DZM				pP	pP	05 05 34.1	-0.8
	comp=Z,15nm,0.9s,baz=66,slow=10,SNR=3.4						
DZM				LR	LR	05 33 10.5	
	comp=Z,53nm,19.1s,baz=339,slow=34						
	comp=Z,27nm,1.0s						
DZM	**Mont Dzumac**	69.22	162	P	P	05 05 03.0	+2.1
SHA1	**Shidzhatmaz**	69.28	312	*i* P	P	05 05 01.6	+0.2
RRX	**Edison Barstow**	69.29	61	P	P	05 05 02.4	+1.1
	baz=312						
BFSC	**Mount Baldy Ra**	69.30	62	P	P	05 05 02.1	+0.6
	baz=311,SNR=7.4						
SHPR	**Sheep Range**	69.33	59	P	P	05 05 01.3	-0.4
SHPR					pP	05 05 34.8	-0.6
CIS	**Catalina Islan**	69.38	63	P	P	05 05 02.2	+0.3
	baz=311						
SCI2	**San Clemente I**	69.57	64	P	P	05 05 03.8	+0.8
	baz=312						
TUQ	**Turquoise Moun**	69.58	60	P	P	05 05 04.3	+1.1
	baz=312,SNR=8.1						
LABN	**Labinsk**	69.66	313	*e*P	P	05 05 01.6	-1.8
LABN				*e*S	S	05 13 57.4	-3.0
LABN				pmax	pmax		
	comp=Z,50nm,0.7s						
HEC	**Hector,Ludlow**	69.73	61	P	P	05 05 04.8	+0.7
	baz=312,SNR=6.2						
BBRC	**Big Bear Solar**	69.74	62	P	P	05 05 05.3	+0.9
	baz=312						
SUE	**Sulen**	69.78	342	*e*P	P	05 05 02.8	-1.0
TMUT	**Trail Mountain**	69.79	54	P	P	05 05 04.5	-0.1
TMUT				IAmb	IAmb	05 05 06.6	
	comp=Z,17nm,1.2s						
TMUT					pP	05 05 38.2	+0.1
ULM	**Lac du Bonnet**	69.81	38	IAmb	IAmb	05 05 40.9	
	comp=Z,30nm,1.8s						
ULM	**Lac du Bonnet**	69.81	38	P	P	05 05 03.3	-0.9
	comp=Z,4.1nm,0.7s,baz=304,slow=8.6,SNR=8.6						
ULM				pP	pP	05 05 37.6	-0.1
	comp=Z,5.0nm,0.6s,baz=328,slow=11,SNR=4.8						
	comp=Z,4.1nm,0.7s						
ELS	**Elsinore Mount**	69.83	62	IAmb	IAmb	05 05 06.2	
	comp=Z,28nm,1.2s						
BORG	**Borgarnes**	69.87	355	LR	LR	05 34 44.5	
	comp=Z,24nm,18.6s,baz=8.1,slow=35						
MDND	**Maddock**	69.88	42	IAmb	IAmb	05 05 42.2	
	comp=Z,22nm,0.8s						
MDND	**Maddock**	69.88	42	P	P	05 05 04.0	-0.7
	baz=316						
AS01	**Alice Springs**	69.92	194	P	P	05 05 05.3	+0.2
ASAR	**Alice Springs**	69.93	194	P	P	05 05 05.1	-0.1
ASAR	**Alice Springs**	69.93	194	P	P	05 05 05.5	+0.3
	comp=Z,4.6nm,0.6s,baz=10,slow=5.5,SNR=55						
ASAR				PKPPKP	P'P'df	05 33 07.6	+1.3
	comp=Z,0.7nm,0.8s,baz=186,slow=2.3,SNR=6.3						
	comp=Z,4.6nm,0.6s						
P17A	**Butcher Ranch,**	69.94	54	IAmb	IAmb	05 05 40.3	
	comp=Z,18nm,0.9s						
MURC	**Murrieta**	70.01	62	P	P	05 05 05.5	-0.2
	baz=312,SNR=6.2						
STRU	**Stroemstad**	70.01	338	*i* P	P	05 05 02.9	-2.3
K22A	**Casper**	70.09	49	IAmb	IAmb	05 05 41.0	
	comp=Z,30nm,1.4s						
K22A	**Casper**	70.09	49	P	P	05 05 06.0	-0.2
	baz=314,SNR=6.7						
LCMT	**Little Creek M**	70.14	57	IAmb	IAmb	05 05 08.8	
	comp=Z,14nm,0.9s						
GMRC	**Granite Mounta**	70.17	60	P	P	05 05 07.8	+1.0
	baz=312,SNR=13						
ASK	**Askoy**	70.20	341	*e*P	P	05 05 05.5	-0.8
ASK				IAmb	IAmb	05 05 06.6	
	comp=Z,19nm,1.3s						
E28A	**Huff**	70.28	43	IAmb	IAmb	05 05 44.0	
	comp=Z,14nm,0.8s						
SRU	**San Rafael Swe**	70.31	54	IAmb	IAmb	05 05 42.3	
	comp=Z,27nm,0.9s						
RSSD	**Black Hills**	70.36	47	P	P	05 05 07.5	-0.5
RSSD				IAmb	IAmb	05 05 43.2	
	comp=Z,24nm,1.2s						
RSSD	**Black Hills**	70.36	47	P	P	05 05 07.8	-0.2
	baz=315						
RSSD	**Black Hills**	70.36	47	P	P	05 05 07.5	-0.5
RSSD				pmax	pmax		
	comp=Z,24nm,1.3s						
RSSD	**Black Hills**	70.36	47	P	P	05 05 08.1	+0.1
RSSD				pP	pP	05 05 41.6	-0.1
RWWY	**Rawlins**	70.38	50	P	P	05 05 07.9	-0.3
RWWY					pP	05 05 41.6	-0.1
RWWY				IAmb	IAmb	05 05 42.8	
	comp=Z,19nm,1.1s						
KNB	**Kanab**	70.39	57	IAmb	IAmb	05 05 10.6	
	comp=Z,15nm,1.0s						
PKCU	**Pink Cliffs**	70.40	56	P	P	05 05 08.7	+0.3
PKCU					pP	05 05 42.2	-0.2
SUW	**Suwalki**	70.40	329	*e*P	P	05 05 06.3	-1.4
SUW	**Suwalki**	70.40	329	*e*P	P	05 05 06.8	-0.9
PFO	**Pinyon Flats O**	70.46	62	P	P	05 05 08.3	-0.2
PFO				IAmb	IAmb	05 05 10.7	
	comp=Z,18nm,1.2s						
PFO	**Pinyon Flats O**	70.46	62	P	P	05 05 08.7	+0.1
	baz=312,SNR=9.4						
PFO	**Pinyon Flats O**	70.46	62	P	P	05 05 08.4	-0.2
PFO				pmax	pmax		
	comp=Z,18nm,1.2s						
PFO	**Pinyon Flats O**	70.46	62	P	P	05 05 09.1	+0.4
TPFO	**Pinon Flats**	70.47	62	P	P	05 05 08.5	-0.1
	baz=312,SNR=9.4						
BELC	**Belle Mtn. Jos**	70.49	61	P	P	05 05 08.8	0.0
	baz=312,SNR=7.2						
EIDS	**Eidsvold**	70.49	177	P	P	05 05 06.8	-1.7
EIDS	**Eidsvold**	70.49	177	P	P	05 05 06.9	-1.6
109C	**Camp Elliot, M**	70.54	63	IAmb	IAmb	05 05 11.0	
	comp=Z,22nm,0.9s						
109C	**Camp Elliot, M**	70.54	63	P	P	05 05 09.1	+0.2
	baz=312						
AK03	**Malin Array Si**	70.59	324	P	P	05 05 07.4	-1.5
AK23	**Malin Array Si**	70.60	324	P	P	05 05 07.6	-1.4
AKASG	**Malin Array Be**	70.61	324	P	P	05 05 08.4	-0.6
AKASG	**Malin Array Be**	70.61	324	P	P	05 05 07.6	-1.4
	comp=Z,8.1nm,0.5s,baz=38,slow=6.2,SNR=28						
	comp=Z,8.1nm,0.5s						
AKASG	**Malin Array Be**	70.61	324	P	P	05 05 08.4	-0.6
AKASG				pmax	pmax		
	comp=Z,13nm,1.2s						
AKBB	**Malin Array Si**	70.61	324	IAmb	IAmb	05 05 08.6	
	comp=Z,32nm,1.1s						
AKBB	**Malin Array Si**	70.61	324	*i* P	P	05 05 07.5	-1.5
AKBB				pmax	pmax		
	comp=Z,35nm,1.1s						
AKBB	**Malin Array Si**	70.61	324	P	P	05 05 07.6	-1.5
AK04	**Malin Array Si**	70.62	324	P	P	05 05 07.4	-1.7
GNI	**Garni**	70.62	308	P	P	05 05 10.4	+0.9
GNI	**Garni**	70.62	308	LR	LR	05 38 36.1	
	comp=Z,52nm,18.3s,baz=50,slow=38						
GNI	**Garni**	70.62	308	P	P	05 05 11.4	+1.9
GNI	**Garni**	70.62	308	P	P	05 05 10.4	+0.9
GNI				pmax	pmax		
	comp=Z,108nm,1.6s						
GNI	**Garni**	70.62	308	P	P	05 05 10.5	+1.0
	comp=Z,44nm,1.4s,

SOC *e*SS **SS** **05 18 50.1 +0.5**
SOC pmax pmax
comp=Z,15nm,0.5s
MONP2 Monument Peak 70.96 62 P **P** **05 05 11.7 -0.1**
baz=312,SNR=6.6
BLEU Blekinge 71.00 334 *i* P **P** **05 05 08.2 -3.0**
MI30 MI30,Zelenitsa 71.00 324 P **P** **05 05 10.0 -1.4**
BC3 Big Chuckawall 71.05 61 P **P** **05 05 12.6 +0.4**
baz=312,SNR=11
MI28 MI28,Pidlybu 71.07 325 P **P** **05 05 10.7 -1.1**
ANN Anapa 71.21 315 *e*P **P** **05 05 11.0 -1.7**
ANN *e**PP **pwP** **05 05 48.6 -1.6**
ANN *e*S **S** **05 14 15.7 -2.6**
ANN pmax pmax
comp=Z,26nm,0.7s
ONAU Onsala 71.22 337 *i* P **P** **05 05 10.3 -2.3**
AGMN Agassiz Nation 71.26 39 P **P** **05 05 12.7 -0.4**
baz=318
SWSC Sam W. Stewart 71.32 62 P **P** **05 05 13.8 +0.2**
baz=312,SNR=5.7
IKP In-Ko-Pah, Jac 71.32 62 P **P** **05 05 14.1 +0.3**
baz=312,SNR=5.4
KMY Karmoy 71.33 341 *e*P **P** **05 05 14.1 +0.9**
FABU Falkenberg 71.33 336 *i* P **P** **05 05 12.5 -0.7**
RNPP9 Sopachiv 71.41 326 P **P** **05 05 12.8 -1.1**
PDMCI Parker Dam,Lak 71.42 60 P **P** **05 05 15.1 +0.9**
baz=313,SNR=7.1
BCA Borcka 71.42 310 ⇑P **P** **05 05 14.6 +0.4**
DEL Delary 71.45 335 *i* P **P** **05 05 12.3 -1.7**
RNPP8 Varash 71.49 326 P **P** **05 05 13.1 -1.2**
RNPP5 Staryi Chortor 71.56 326 P **P** **05 05 13.6 -1.1**
BLYC Blythe 71.56 61 P **P** **05 05 13.9 -1.2**
BLYC IAmb IAmb 05 05 17.0
comp=Z,22nm,1.0s
BLYC **pP** **05 05 47.2 -1.8**
N23A Red Feather La 71.62 50 IAmb IAmb 05 05 54.4
comp=Z,17nm,1.1s
N23A Red Feather La 71.62 50 P **P** **05 05 15.9 +0.3**
baz=315,SNR=7.7
SNART Snartemo 71.64 339 IAmb IAmb 05 05 15.4
comp=Z,23nm,1.0s
SNART *e*P **P** **05 05 15.7 +0.7**
SNART Snartemo 71.64 339 *i* P **P** **05 05 18.8 +3.7**
QLP Quilpie 71.73 184 P **P** **05 05 16.7 +0.9**
QLP Quilpie 71.73 184 P **P** **05 05 16.8 +0.9**
comp=Z,22nm,1.3s,SNR=2.6
LUBAR Lubar, Ukraine 71.81 324 P **P** **05 05 14.9 -1.4**
GLA Glamis 71.85 61 P **P** **05 05 17.4 +0.5**
GLA IAmb IAmb 05 05 18.8
comp=Z,24nm,1.0s
GLA **pP** **05 05 50.7 -0.1**
GLA Glamis 71.85 61 P **P** **05 05 17.2 +0.3**
baz=313,SNR=5.4
GLA Glamis 71.85 61 P **P** **05 05 17.4 +0.5**
GLA *PP **pP** **05 05 50.7 -0.1**
GLA pmax pmax
comp=Z,24nm,1.0s
ESJX Sierra Juarez 71.86 63 P **P** **05 05 16.6 -0.5**
ESJX **pP** **05 05 49.6 -1.3**
BJUU Bjuv 72.03 335 *i* P **P** **05 05 16.9 -0.6**
JASK Jask - Hormozg 72.16 289 P **P** **05 05 20.2 +1.4**
SNR=5.6
WUAZ Wupatki 72.26 57 P **P** **05 05 20.1 +0.7**
baz=314,SNR=8.6
LUNU Lund 72.29 335 *i* P **P** **05 05 18.0 -1.0**
Y14A Wickenburg 72.36 60 IAmb IAmb 05 05 21.9
comp=Z,20nm,1.1s
WRKA Warakurna 72.37 199 P **P** **05 05 20.7 +0.9**
WRKA Warakurna 72.37 199 P **P** **05 05 20.3 +0.5**
comp=Z,18nm,1.3s,SNR=2.5
ISCO Idaho Springs 72.57 51 P **P** **05 05 21.6 +0.2**
baz=315,SNR=9.9
SUSD Miller 72.67 44 IAmb IAmb 05 06 03.6
comp=Z,19nm,0.8s
SUSD Miller 72.67 44 P **P** **05 05 21.7 +0.1**
baz=317
BRIGG Briggsdale 72.72 49 IAmb IAmb 05 05 57.4
comp=Z,22nm,0.9s
MVCO Mesa Verde 72.77 54 IAmb IAmb 05 05 57.3
comp=Z,16nm,0.8s
MVCO Mesa Verde 72.77 54 P **P** **05 05 23.0 +0.5**
baz=314,SNR=11
HORU Horodok 72.91 324 P **P** **05 05 21.8 -1.0**
HORU Horodok 72.91 324 P **P** **05 05 21.8 -1.0**
SORM Soroca 72.94 322 ⇓P **P** **05 05 21.9 -1.1**
SORM Soroca 72.94 322 P **P** **05 05 21.8 -1.1**
SORM Soroca 72.94 322 P **P** **05 05 21.7 -1.3**
X16A Lo Mia Camp, P 72.98 58 IAmb IAmb 05 05 26.1
comp=Z,16nm,0.9s
BEL Belsk 73.01 329 *e*P **P** **05 05 23.4 +0.1**
BANOM Banah 73.17 290 P **P** **05 05 25.4 +0.7**
BANOM Banah 73.17 290 P **P** **05 05 25.5 +0.7**
SHME Shamm 73.19 290 *i* P **P** **05 05 25.1 +0.3**
SNR=18
SHME Shamm 73.19 290 P **P** **05 05 25.1 +0.3**
SNR=18
S22A 4UR Ranch, Cre 73.34 53 P **P** **05 05 26.3 +0.3**
baz=315,SNR=15
LVV L'vov 73.40 326 *e*P **P** **05 05 24.7 -1.0**
LVV L'vov 73.40 326 P **P** **05 05 25.6 -0.1**
KMPD K-Podol'skiy 73.40 324 P **P** **05 05 24.6 -1.1**
KMPD **P** **05 05 24.0 -1.7**
Q24A Divide 73.42 51 P **P** **05 05 27.2 +0.8**
baz=315
EYMN Ely 73.43 37 IAmb IAmb 05 05 31.1
comp=Z,26nm,1.4s
EYMN Ely 73.43 37 P **P** **05 05 25.9 -0.1**
baz=321
W18A Petrified Fore 73.50 57 P **P** **05 05 27.8 +1.0**
baz=314
BIDO Bidbid 73.57 287 P **P** **05 05 29.0 +1.9**
SNR=8.4
COCO West Island 73.57 233 P **P** **05 05 28.6 +1.6**
MDH Madha 73.59 289 *i* P **P** **05 05 27.0 -0.2**
SNR=9.7
MDH Madha 73.59 289 P **P** **05 05 26.9 -0.2**
SNR=9.6
WBK Wadi Bani Khal 73.61 286 P **P** **05 05 28.7 +1.3**
JLN Jalan Bani Buh 73.62 285 P **P** **05 05 28.9 +1.4**
SNR=5.2
MASF Masafi 73.63 290 P **P** **05 05 27.9 +0.4**
SNR=13
MSFE Esma-Masafi 73.64 290 *i* P **P** **05 05 28.0 +0.4**
SNR=13
K30B Basset 73.64 45 IAmb IAmb 05 06 02.2
comp=Z,29nm,0.9s
OGNE Ogallala 73.67 48 P **P** **05 05 28.4 +0.8**
baz=316
MILM Milestii Mici 73.67 321 ⇓*i*P **P** **05 05 26.1 -1.2**
comp=Z,150nm,2.2s
MILM Milestii Mici 73.67 321 *d*P **P** **05 05 26.1 -1.2**
MILM pmax pmax
comp=Z,150nm,2.2s
PIX Pinacate 73.71 62 IAmb IAmb 05 06 03.6
comp=Z,16nm,0.9s
OOD Oodnadatta 73.71 191 P **P** **05 05 27.9 +0.3**
214A Organ Pipe Nat 73.84 61 P **P** **05 05 29.2 +0.6**
baz=314,SNR=7.4
UMQ Umm Al-Quwin 73.86 290 P **P** **05 05 29.4 +0.7**
UOSS Minazif 73.89 289 P **P** **05 05 28.7 -0.3**
UOSS Minazif 73.89 289 *i* P **P** **05 05 29.2 +0.2**
SNR=6.0
UOSS Minazif 73.89 289 P **P** **05 05 29.2 +0.2**
SMDO Samad 73.93 287 P **P** **05 05 30.2 +0.8**
SNR=5.2
MORS Morshin 74.00 326 P **P** **05 05 28.6 -0.6**
HATD Hatta, Dubai 74.02 289 *i* P **P** **05 05 30.1 +0.4**
SNR=58
HATD Hatta, Dubai 74.02 289 P **P** **05 05 30.5 +0.7**
SNR=18
KWP Kalwaria Pacla 74.07 327 *e*P **P** **05 05 29.5 -0.1**
KWP Kalwaria Pacla 74.07 327 P **P** **05 05 29.5 -0.1**
comp=Z,49nm,1.0s,comp=Z,709nm
HOQ Hoqain 74.07 287 P **P** **05 05 30.7 +0.7**
SNR=12
SDCO Great Sand Dun 74.08 52 P **P** **05 05 30.7 +0.4**
baz=316,SNR=15
STNU Starunia 74.09 325 P **P** **05 05 29.3 -0.5**
SHIU Shidnytsya 74.14 326 P **P** **05 05 30.0 0.0**
ASHO Ashiyiah 74.16 289 *i* P **P** **05 05 31.0 +0.4**
SNR=32
ASHO Ashiyiah 74.16 289 P **P** **05 05 31.0 +0.4**
SNR=13
KSV Kosov 74.17 324 P **P** **05 05 29.6 -0.7**
SOHO SOHO 74.22 288 *i* P **P** **05 05 31.0 +0.2**
SNR=42
SOHO SOHO 74.22 288 P **P** **05 05 31.1 +0.2**
NAZ Nazwa, Dubai 74.22 290 *i* P **P** **05 05 31.0 +0.2**
SNR=12
NAZ Nazwa, Dubai 74.22 290 P **P** **05 05 31.1 +0.2**
SNR=5.2
ECSD EROS Data Cent 74.33 43 P **P** **05 05 31.2 0.0**
baz=319,SNR=12
JMDO Jabal Madar 74.36 286 P **P** **05 05 32.7 +0.9**
SNR=5.7
FAQ Al Faqa, Dubai 74.43 289 *i* P **P** **05 05 32.1 0.0**
SNR=34
FAQ Al Faqa, Dubai 74.43 289 P **P** **05 05 32.3 +0.2**
SNR=5.8
E38A The Farm, Brul 74.45 38 IAmb IAmb 05 06 07.7
comp=Z,17nm,0.7s
DIKM Dikmen 74.59 314 ⇓P **P** **05 05 33.7 +1.0**
DIKM Dikmen 74.59 314 P **P** **05 05 33.5 +0.7**
comp=Z,40nm,1.1s,comp=Z,744nm
MEZ Mezhgor'ye 74.64 325 P **P** **05 05 32.3 -0.7**
BURAR Bucovina Array 74.67 324 ⇑P **P** **05 05 33.2 0.0**
ASUD Al Ashush, Dub 74.69 290 *i* P **P** **05 05 33.7 +0.1**
SNR=25
ASUD Al Ashush, Dub 74.69 290 P **P** **05 05 34.2 +0.6**
SNR=5.5
OJC Ojcow 74.69 328 *e*P **P** **05 05 32.7 -0.5**
OJC Ojcow 74.69 328 IAmb IAmb 05 05 33.9
comp=Z,24nm,1.1s
OJC Ojcow 74.69 328 P **P** **05 05 32.8 -0.4**
comp=Z,23nm,1.0s
BSY Bisya 74.72 287 P **P** **05 05 34.8 +1.0**
SNR=7.9
KSCO Kaye Shedlock' 74.75 50 P **P** **05 05 34.2 +0.3**
baz=317
ARQ Araqi 74.77 288 P **P** **05 05 34.9 +0.8**
SNR=7.4
RAKU Rahkiv 74.77 325 P **P** **05 05 33.2 -0.5**
ALNE Al Ain 74.80 289 *i* P **P** **05 05 34.5 +0.3**
SNR=47
ALNE Al Ain 74.80 289 P **P** **05 05 34.8 +0.5**
SNR=12
KOLS Kolonicke sedl 74.80 326 *e*P **P** **05 05 33.6 -0.2**
KOLS Kolonicke sedl 74.80 326 *e*P **P** **05 05 33.6 -0.2**
TUC Tucson 74.83 59 P **P** **05 05 35.2 +0.8**
TUC Tucson 74.83 59 P **P** **05 05 34.9 +0.5**
baz=314
TUC Tucson 74.83 59 P **P** **05 05 35.2 +0.8**
TUC pmax pmax
comp=Z,9.0nm,1.0s
TESR Tescani 74.93 322 ⇓P **P** **05 05 34.1 -0.5**
TESR Tescani 74.93 322 P **P** **05 05 34.1 -0.5**
comp=Z,35nm,1.3s,comp=Z,474nm
AJN Ajban 74.96 290 *i* P **P** **05 05 34.9 -0.3**
SNR=9.0
AJN Ajban 74.96 290 P **P** **05 05 35.0 -0.1**
SPMN Marine on St. 74.96 40 P **P** **05 05 35.3 +0.5**
baz=320
BRIU Brid 74.98 326 P **P** **05 05 35.0 +0.1**
BZK Bozkurt 74.99 315 ⇑P **P** **05 05 35.1 +0.1**
KORU Korolevo 75.08 325 P **P** **05 05 35.4 0.0**
T25A Trinidad 75.12 52 P **P** **05 05 36.6 +0.4**
baz=316
CRVS Cervenica-Dubn 75.14 327 *e*P **P** **05 05 35.3 -0.6**
CRVS pmax pmax
comp=Z,22nm,1.1s
CRVS Cervenica-Dubn 75.14 327 *e*P **P** **05 05 35.2 -0.6**
NIE Niedzica 75.16 328 *e*P **P** **05 05 36.0 +0.1**
NIE Niedzica 75.16 328 P **P** **05 05 36.0 +0.1**
comp=Z,9.2nm,1.0s
TRSU Trosnyk 75.20 325 P **P** **05 05 36.5 +0.4**
BERU Beregovo 75.22 326 P **P** **05 05 36.0 -0.2**
BGNE Belgrade 75.31 45 P **P** **05 05 37.5 +0.5**
baz=318
CFR Carcaliu 75.31 321 ⇓P **P** **05 05 37.1 +0.3**
CFR Carcaliu 75.31 321 P **P** **05 05 37.1 +0.3**
MHTO MHTO 75.39 285 P **P** **05 05 38.6 +0.9**
SNR=14
VRI Vrincioaia 75.40 322 ⇑P **P** **05 05 37.0 -0.3**
VRI Vrincioaia 75.40 322 P **P** **05 05 37.0 -0.3**
VRI Vrincioaia 75.40 322 P **P** **05 05 38.2 +0.9**
comp=Z,7.7nm,0.7s,comp=Z,118nm
KSP Ksiaz 75.42 331 *e*P **P** **05 05 36.7 -0.7**
KSP Ksiaz 75.42 331 P **P** **05 05 37.2 -0.2**
comp=Z,16nm,1.1s
TPGR Topolog 75.44 320 ⇓P **P** **05 05 37.4 -0.1**
PLOR Plostina 75.44 322 ⇑P **P** **05 05 37.8 +0.1**
PLOR Plostina 75.44 322 P **P** **05 05 37.7 +0.1**
ANMO Albuquerque 75.53 55 P **P** **05 05 39.0 +0.4**
ANMO Albuquerque 75.53 55 P **P** **05 05 38.9 +0.4**
baz=316
ANMO Albuquerque 75.53 55 P **P** **05 05 39.0 +0.4**
ANMO pmax pmax
comp=Z,7.0nm,0.9s
ARMA Armidale 75.54 177 P **P** **05 05 40.3 +2.1**
ARMA Armidale 75.54 177 IAmb IAmb 05 05 41.1
comp=Z,16nm,0.9s
ARMA Armidale 75.54 177 P **P** **05 05 36.7 -1.5**
I37A Lemond, Waseca 75.62 41 IAmb IAmb 05 06 13.8
comp=Z,27nm,0.8s
COVR Voineasa-Covas 75.64 322 ⇑P **P** **05 05 39.3 +0.6**
DUN6 Lazy B Ranch 75.68 58 IAmb IAmb 05 05 41.5
comp=Z,40nm,1.0s
OSTC Ostas 75.69 331 *e*P **P** **05 05 39.5 +0.6**
LANS Liptovska Anna 75.69 328 *e*P **P** **05 05 39.7 +0.7**
LANS pmax pmax
comp=Z,13nm,0.9s
LANS Liptovska Anna 75.69 328 *e*P **P** **05 05 39.7 +0.7**
TIRR Tirgusor 75.75 320 P **P** **05 05 40.4 +1.1**
comp=Z,25nm,1.0s,comp=Z,2μm
L34A Svendsen Farm, 75.77 44 IAmb IAmb 05 06 13.8
comp=Z,21nm,0.7s
HARR Harsova 75.78 320 ⇓P **P** **05 05 39.3 -0.2**
HARR Harsova 75.78 320 P **P** **05 05 39.3 -0.2**
UPC Upice 75.80 331 *e*P **P** **05 05 39.9 +0.3**
DPC Dobruska-Polom 75.83 330 *e*P **P** **05 05 39.7 -0.1**
DPC Dobruska-Polom 75.83 330 P **P** **05 05 39.6 -0.2**
comp=Z,14nm,1.5s,comp=Z,214nm
SCHQ Schefferville 75.85 20 P **P** **05 05 39.9 +0.1**
comp=Z,27nm,0.5s,baz=342,slow=5.4,SNR=75
comp=Z,27nm,0.5s
MORC Moravsky Berou 75.88 329 IAmb IAmb 05 05 41.0
comp=Z,18nm,0.9s
MORC Moravsky Berou 75.88 329 *e*P **P** **05 05 39.5 -0.5**
MORC Moravsky Berou 75.88 329 ⇓P **P** **05 05 40.0 -0.1**
MORC Moravsky Berou 75.88 329 P **P** **05 05 40.3 +0.3**
DOPR Dopca 75.89 323 ⇓P **P** **05 05 40.8 +0.6**
KRLC Kraliky 75.90 330 *e*P **P** **05 05 37.6 -2.6**
LCRK Leigh Creek 76.02 189 P **P** **05 05 41.7 +0.9**
MLR Muntele Rosu 76.03 322 IAmb IAmb 05 05 42.3
comp=Z,20nm,1.1s
MLR Muntele Rosu 76.03 322 LR LR 05 40 52.5
comp=Z,62nm,18.8s,baz=48,slow=37
MLR Muntele Rosu 76.03 322 ⇑P **P** **05 05 40.8 -0.3**
MLR Muntele Rosu 76.03 322 P **P** **05 05 41.3 +0.2**
MLR Muntele Rosu 76.03 322 P **P** **05 05 41.3 +0.2**
comp=Z,18nm,1.5s
ISR Istrita 76.06 322 ⇓P **P** **05 05 41.5 +0.2**
ISR Istrita 76.06 322 P **P** **05 05 41.4 +0.2**
ISR Istrita 76.06 322 P **P** **05 05 41.4 +0.2**
comp=Z,40nm,0.6s
UMZA Um Al Zommool 76.11 288 P **P** **05 05 41.7 0.0**
CLL Collm 76.13 333 IAmb IAmb 05 05 41.4
comp=Z,20nm,0.6s
CLL Collm 76.13 333 *ex* x x 05 06 23.0
CLL Collm 76.13 333 ⇓*i*P **P** **05 05 40.4 -0.9**
CLL *e*S **S** **05 15 05.0 -8.3**
CLL pmax pmax
comp=Z,24nm,0.6s
CLL Collm 76.13 333 P **P** **05 05 40.2 -1.1**
comp=Z,33nm,0.8s
CLL Collm 76.13 333 ⇓*i*P **P** **05 05 40.4 -0.9**
comp=Z,24nm,0.6s
CLL Collm 76.13 333 *i* PcP **PcP** **05 05 52.4 -0.5**
BRG Berggiesshubel 76.19 332 *e*P **P** **05 05 41.1 -0.6**
BRG Amp 05 05 42.1
comp=Z,8.4nm,1.1s
BRG Berggiesshubel 76.19 332 P P 05 05 47.9 +6.2
BRG Amp 05 05 49.3
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 76.19 332 *e*P **P** **05 05 41.1 -0.6**
BRG 05 05 47.8
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG MLR MLR
comp=Z,75nm,13.3s
MZWR Madinat Zayed 76.24 290 P **P** **05 05 42.2 -0.2**
MARR Marisel-Cluj 76.28 324 ⇑P **P** **05 05 42.5 +0.1**
ICOR Ion Corvin 76.29 320 ⇑P **P** **05 05 43.0 +0.6**
DRGR 76.35 325 ⇑P **P** **05 05 42.8 0.0**
DRGR 76.35 325 P **P** **05 05 42.8 0.0**
MULG Mulgathing 76.39 192 P **P** **05 05 43.8 +0.9**
319A Douglas 76.39 59 IAmb IAmb 05 05 45.4
comp=Z,31nm,0.9s
DQM DQM 76.41 285 P **P** **05 05 43.8 +0.3**
VOIR 76.46 323 ⇑P **P** **05 05 43.9 +0.4**
VOIR 76.46 323 P **P** **05 05 43.8 +0.4**
VOIR 76.46 323 P **P** **05 05 43.5 0.0**
comp=Z,19nm,1.0s
VYHS Vyhne 76.47 328 *e*P **P** **05 05 43.3 -0.1**
VYHS pmax pmax
comp=Z,90nm,2.5s
VYHS Vyhne 76.47 328 *e*P **P** **05 05 43.3 -0.1**
121A Cookes Peak, D 76.47 57 IAmb IAmb 05 05 46.4
comp=Z,22nm,1.2s
121A Cookes Peak, D 76.47 57 P **P** **05 05 44.5 +0.6**
baz=316,SNR=9.4
KBD Kabd 76.48 298 P **P** **05 05 43.9 +0.2**
PSZ Piszkesteto 76.55 327 ⇓P **P** **05 05 44.4 +0.5**
PSZ Piszkesteto 76.55 327 P **P** **05 05 44.3 +0.5**
HSKC Hora Svate Kat 76.59 332 *e*P **P** **05 05 44.1 +0.1**
JAVC Velka Javorina 76.60 329 *e*P **P** **05 05 44.5 +0.4**
CMSA Cobar Meteorol 76.61 182 P **P** **05 05 45.5 +1.4**
CMSA Cobar Meteorol 76.61 182 P **P** **05 05 45.4 +1.4**
comp=Z,16nm,1.3s,SNR=3.8
VRAC Vranov 76.61 330 *e*P **P** **05 05 43.9 -0.2**
VRAC Vranov 76.61 330 ⇑P **P** **05 05 44.4 +0.2**
VRAC Vranov 76.61 330 P **P** **05 05 44.3 +0.2**
SHMA Al-Shehemyia 76.71 293 P **P** **05 05 45.1 +0.1**
EKA Eskdalemuir Ar 76.71 344 P **P** **05 05 43.7 -0.8**
comp=Z,6.2nm,0.5s,baz=20,slow=5.5,SNR=26
comp=Z,6.2nm,0.5s
GOPC GO Pecny, Ondr 76.73 331 *e*P **P** **05 05 45.0 +0.2**
PRU Pruhonice 76.75 331 *e*P **P** **05 05 44.9 0.0**
GHWR Ruwais 76.77 291 P **P** **05 05 45.2 -0.2**
BR131 Keskin Array S 76.85 314 IAmb IAmb 05 05 47.3
comp=Z,37nm,1.0s
BR131 Keskin Array S 76.85 314 *i* P **P** **05 05 45.9 +0.1**
BRTR Keskin Array B 76.85 314 P **P** **05 05 45.9 +0.1**
BRTR Keskin Array B 76.85 314 P **P** **05 05 46.0 +0.2**
comp=Z,18nm,0.8s,baz=72,slow=4.4,SNR=97
BRTR LR LR 05 44 09.0
comp=Z,33nm,20.4s,baz=62,slow=39
comp=Z,18nm,0.8s
BR106 Keskin Array S 76.85 314 P **P** **05 05 46.1 +0.3**
comp=Z,28nm,1.0s,comp=Z,222nm
BR104 Keskin Array S 76.86 314 P **P** **05 05 46.2 +0.3**
comp=Z,31nm,1.0s,comp=Z,233nm
BR105 Keskin Array S 76.86 314 P **P** **05 05 46.2 +0.3**
comp=Z,33nm,1.0s,comp=Z,257nm
KRUC Moravsky 76.89 330 *e*P **P** **05 05 45.3 -0.4**
SAKB Bahrain 76.90 294 P **P** **05 05 45.9 -0.2**
N35A Tabor 76.97 44 IAmb IAmb 05 06 21.4
comp=Z,21nm,0.6s
I40A Norwalk 76.98 39 IAmb IAmb 05 05 46.9
comp=Z,11nm,0.5s
MZR Muzera 77.03 290 *i* P **P** **05 05 46.9 0.0**
SNR=23
MZR Muzera 77.03 290 P **P** **05 05 47.3 +0.4**
SNR=12
STKA Stephens Creek 77.14 186 P **P** **05 05 47.9 +0.8**
STKA Stephens Creek 77.14 186 P **P** **05 05 47.7 +0.6**
comp=Z,1.7nm,1.1s,SNR=2.0
STKA Stephens Creek 77.14 186 P **P** **05 05 47.7 +0.6**
comp=Z,2.5nm,0.5s,baz=350,slow=6.7,SNR=10.0
comp=Z,2.5nm,0.5s
MODS Modra-Piesok 77.15 329 *e*P **P** **05 05 47.8 +0.6**
MODS pmax pmax
comp=Z,63nm,1.3s
MODS Modra-Piesok 77.15 329 *e*P **P** **05 05 47.8 +0.6**
ANTO Ankara 77.17 314 P **P** **05 05 48.1 +0.6**
ANTO Ankara 77.17 314 P **P** **05 05 48.5 +1.0**
ANTO Ankara 77.17 314 ⇓P **P** **05 05 48.1 +0.6**
ANTO Ankara 77.17 314 P **P** **05 05 48.1 +0.6**
ANTO Ankara 77.17 314 P **P** **05 05 48.2 +0.7**
comp=Z,49nm,1.0s,comp=Z,381nm
NEF NEVSHA 77.19 320 *i* P **P** **05 05 47.4 -0.1**
SIRR Siria 77.20 325 ⇑P **P** **05 05 47.8 +0.2**
PRD Provadia 77.21 320 *i* P **P** **05 05 47.4 -0.2**
AUDCS Dubbo College 77.27 179 P **P** **05 05 49.4 +1.6**
TRNA Turayna 77.32 292 P **P** **05 05 47.9 -0.5**
ZVC Zvikov 77.33 331 *e*P **P** **05 05 47.3 -0.9**
SCIA State Center 77.34 42 IAmb IAmb 05 06 23.8
comp=Z,24nm,0.8s
SCIA State Center 77.34 42 P **P** **05 05 48.6 +0.3**
baz=321
COPA Copaceanca 77.42 322 ⇑P **P** **05 05 48.6 -0.1**
SURR Surduc 77.43 324 ⇑P **P** **05 05 48.9 +0.2**
GZR Gura Zlata 77.45 324 ⇑P **P** **05 05 48.9 -0.1**
GZR Gura Zlata 77.45 324 P **P** **05 05 48.9 -0.1**
SLWR Sila 77.47 291 P **P** **05 05 49.2 -0.1**
SMRA Abu-Samra 77.57 293 P **P** **05 05 49.6 -0.3**
BZS Buzias 77.75 325 ⇑P **P** **05 05 50.3 -0.3**
BZS Buzias 77.75 325 P **P** **05 05 50.2 -0.3**
SZH Strazhitsa 77.78 321 *i* P **P** **05 05 50.6 -0.1**
KHC Kasperske Hory 77.81 331 IAmb IAmb 05 05 53.3
comp=Z,15nm,0.7s
KHC Kasperske Hory 77.81 331 *e*P **P** **05 05 50.9 +0.1**
KHC Kasperske Hory 77.81 331 *i* P **P** **05 05 50.4 -0.4**
KHC pmax pmax
comp=Z,52nm,1.2s
KHC Kasperske Hory 77.81 331 P **P** **05 05 50.6 -0.2**
comp=Z,25nm,0.8s
CKRC Cesky Krumlov 77.82 331 *e*P **P** **05 05 50.4 -0.5**
KSU1 Kansas State U 77.82 46 P **P** **05 05 51.4 +0.3**
baz=320
JFWS Jewell Farm 77.92 40 P **P** **05 05 51.6 +0.1**
baz=322
KLYT Kilyos 77.94 318 P **P** **05 05 51.8 +0.2**
comp=Z,34nm,1.2s
FORT Forrest 77.97 197 P **P** **05 05 52.6 +0.9**
FORT Forrest 77.97 197 P **P** **05 05 52.4 +0.7**
comp=Z,36nm,0.6s,SNR=2.8
GERES GERESS Array B 78.01 331 P **P** **05 05 51.1 -1.0**
GERES GERESS Array B 78.01 331 P **P** **05 05 51.5 -0.6**
comp=Z,2.1nm,0.4s,baz=43,slow=6.8,SNR=14
comp=Z,2.1nm,0.4s
HERR Herculane 78.02 324 ⇓P **P** **05 05 51.5 -0.6**
CONA Conrad Observa 78.03 329 *i* P **P** **05 05 52.6 +0.4**
comp=Z,15nm,0.8s,SNR=15
MPLH Magyarpolny 78.06 328 P **P** **05 05 52.4 +0.2**
comp=Z,70nm,0.9s,comp=Z,1μm
RONA Rosalia, Austr 78.07 329 *i* P **P** **05 05 52.8 +0.5**
comp=Z,21nm,1.1s,SNR=11
GRA1 Grafenberg Arr 78.10 333 IAmb IAmb 05 05 53.4
comp=Z,24nm,0.7s
GRFO Grafenberg 78.10 333 P **P** **05 05 51.7 -0.7**
GRFO IAmb IAmb 05 05 53.4
comp=Z,24nm,0.7s
GRFO Grafenberg 78.10 333 P **P** **05 05 51.7 -0.7**
GRFO pmax pmax
comp=Z,24nm,0.7s
CTYL Yalikoy Yolu 78.12 318 P **P** **05 05 52.6 0.0**
comp=Z,27nm,1.3s,comp=Z,1μm
N38A Joes South For 78.19 43 IAmb IAmb 05 06 33.2
comp=Z,19nm,0.7s
AMTX Amarillo 78.28 52 IAmb IAmb 05 06 29.1
comp=Z,27nm,1.0s
AMTX Amarillo 78.28 52 P **P** **05 05 54.1 +0.3**
baz=318
MSTX Muleshoe 78.34 53 P **P** **05 05 54.0 -0.1**
baz=317,SNR=5.8
MDVR Moldovita 78.39 324 ⇑P **P** **05 05 53.5 -0.7**
MORH Mrgy, Hungar 78.44 327 ⇓P **P** **05 05 53.7 -0.6**
MORH Mrgy, Hungar 78.44 327 P **P** **05 05 53.4 -0.9**
comp=Z,14nm,1.3s
MNTX Cornudas Mount 78.49 56 P **P** **05 05 54.7 -0.1**
baz=317,SNR=19
VALD Valchedram 78.55 322 *i* P **P** **05 05 55.1 +0.1**
MOA Molln 78.67 330 *e*P **P** **05 05 55.0 -0.5**
comp=Z,7.6nm,0.8s,SNR=7.8
MPEP Malo Peshtene 78.69 322 *i* P **P** **05 05 55.2 -0.6**
OK038 West end E0370 78.69 49 IAmb IAmb 05 06 30.9
comp=Z,24nm,1.0s
KAN01 Argonia South 78.70 48 IAmb IAmb 05 06 30.9
comp=Z,36nm,1.4s
VLDQ Val d'Or 78.71 29 IAmb IAmb 05 06 00.0
comp=Z,19nm,0.7s
ARSA Arzberg 78.73 329 *e*P **P** **05 05 56.2 +0.3**
comp=Z,6.9nm,0.8s
BEBN Eben Emael 78.78 337 *d*P **P** **05 05 55.9 -0.2**

BTNL Ternell 78.84 336 *d*P **P 05 05 55.5 -1.0**
comp=Z,8.2nm,0.9s
FRGS Fruska Gora 78.85 325 ⇓*i*P **P 05 05 56.1 -0.6**
FRGS Fruska Gora 78.85 325 ⇓P **P 05 05 56.4 -0.3**
FRGS Fruska Gora 78.85 325 P **P 05 05 56.3 -0.3**
comp=Z,42nm,1.4s,comp=Z,529nm
MEM Membach 78.85 336 *d*P **P 05 05 55.4 -1.1**
comp=Z,10nm,0.9s
SMWD Samnorwood 78.91 51 P **P 05 05 57.4 +0.2**
SMWD IAmb IAmb 05 05 59.6
comp=Z,19nm,0.8s
P38A Dawn 78.95 44 P **P 05 05 57.3 0.0**
KAN13 South Haven SW 78.96 48 P **P 05 05 57.3 0.0**
KAN13 IAmb IAmb 05 06 31.8
comp=Z,22nm,1.1s
BSTI Sart Tilman 79.00 337 *d*P **P 05 05 57.4 +0.1**
comp=Z,4.3nm,0.7s
BIOA Bad Ischl, Aus 79.02 331 *i*P **P 05 05 57.9 +0.4**
comp=Z,19nm,1.2s,SNR=8.3
SHAO Shalim 79.03 284 P **P 05 05 58.3 +0.3**
CROK Carrier 79.08 49 **P 05 05 58.3 +0.3**
CROK IAmb IAmb 05 06 32.8
comp=Z,31nm,1.1s
BHOU Houvegnez 79.08 336 *d*P **P 05 05 54.2 -3.6**
comp=Z,15nm,1.0s
PGB Panagyurishte 79.17 321 *i*P **P 05 05 57.9 -0.6**
PLD Plovdiv 79.21 321 *i*P **P 05 05 58.4 -0.2**
BCLA Clavier 79.22 337 *d*P **P 05 05 58.2 -0.3**
comp=Z,17nm,0.7s
BGES Gesves 79.31 337 *d*P **P 05 05 58.3 -0.7**
comp=Z,9.4nm,0.7s
YNG Young 79.33 180 P **P 05 06 00.8 +1.7**
YNG Young 79.33 180 P **P 05 06 00.9 +1.8**
comp=Z,53nm,1.8s,SNR=2.2
KDZ Kurdzhali 79.36 320 *i*P **P 05 05 59.4 -0.1**
VHRN Van Horn 79.38 57 P **P 05 05 59.6 -0.3**
SOKA Soboth 79.39 329 *i*P **P 05 05 59.1 -0.6**
comp=Z,19nm,0.7s,SNR=19
PERS Pernice 79.40 329 *i*P **P 05 05 59.2 -0.4**
TEKS Tekeris 79.47 325 ⇓*i*P **P 05 05 58.9 -1.1**
BMRD Maredsous 79.48 337 *d*P **P 05 05 59.3 -0.6**
comp=Z,17nm,1.0s
RCHB Rochefort 79.48 337 *d*P **P 05 05 59.5 -0.4**
LESA Schwarzleotal 79.58 331 *i*P **P 05 06 01.1 +0.4**
comp=Z,34nm,1.3s
DKNS Dickens 79.60 52 P **P 05 06 01.1 +0.2**
PECS Pecos 79.61 56 P **P 05 06 01.1 0.0**
ALN Alexandroupoli 79.62 319 P **P 05 06 00.6 -0.2**
ALN Alexandroupoli 79.62 319 P **P 05 06 00.6 -0.2**
DOK Doka 79.63 286 P **P 05 06 01.4 +0.1**
KBA Koelnbreinsper 79.65 330 *i*P **P 05 06 00.0 -1.1**
comp=Z,23nm,0.6s,SNR=26
RDO Rodhopi 79.66 320 P **P 05 06 00.9 -0.1**
WLF Walferdange 79.66 336 *d*P **P 05 06 03.9 +3.0**
comp=Z,14nm,1.1s
OK048 Pawnee Station 79.69 48 **P 05 06 01.6 +0.3**
OK048 IAmb IAmb 05 06 36.2
comp=Z,24nm,1.0s
DMTO DMTO 79.70 285 P **P 05 06 01.7 0.0**
DOU Dourbes 79.71 337 *d*P **P 05 05 58.4 -2.8**
comp=Z,7.4nm,1.1s
OBKA Obir 79.71 329 *i*P **P 05 06 01.3 -0.1**
comp=Z,12nm,1.1s,SNR=5.1
OBKA Obir 79.71 329 ⇑*i*P **P 05 06 01.1 -0.3**
POST Post 79.72 53 P **P 05 06 01.5 -0.1**
POST IAmb IAmb 05 06 03.7
comp=Z,20nm,1.0s
P40A Paris 79.74 43 P **P 05 06 01.6 0.0**
ODSA Odessa 79.83 54 P **P 05 06 02.6 +0.4**
ODSA IAmb IAmb 05 06 04.4
comp=Z,22nm,1.0s
OK029 Liberty Lake 79.89 49 **P 05 06 02.7 +0.3**
MYKA Terra Mystica 79.93 330 *i*P **P 05 06 02.1 -0.4**
comp=Z,11nm,1.0s,SNR=5.4
CRES Cresnjev 79.97 328 ⇓*i*P **P 05 06 01.8 -0.8**
WMOK Wichita Mounta 79.98 50 **P 05 06 02.8 -0.2**
WMOK Wichita Mounta 79.98 50 P **P 05 06 03.5 +0.5**
baz=319,SNR=9.4
WMOK Wichita Mounta 79.98 50 P **P 05 06 02.8 -0.2**
WMOK pmax pmax
comp=Z,6.0nm,0.8s
QUOK Quay 80.00 48 **P 05 06 02.2 -0.8**
QUOK IAmb IAmb 05 06 38.6
comp=Z,29nm,1.3s
WATA Walderalm 80.03 332 *i*P **P 05 06 03.3 +0.2**
comp=Z,42nm,1.1s,SNR=11
SN07 Snyder 07 80.05 53 P **P 05 06 03.1 -0.2**
WTTA Wattenberg 80.08 332 *i*P **P 05 06 03.4 0.0**
comp=Z,23nm,0.5s,SNR=15
OK052 Battle Ridge R 80.08 48 **P 05 06 04.0 +0.5**
OK052 IAmb IAmb 05 06 38.5
comp=Z,25nm,1.2s
BBLS Lazi&#263i 80.09 325 ⇓*i*P **P 05 06 03.2 -0.2**
HAPS Han Pijesak,BI 80.09 325 ⇓*i*P **P 05 06 03.1 -0.4**
OK031 S. Brethren Rd 80.09 48 **P 05 06 03.8 +0.3**
OK031 IAmb IAmb 05 06 38.7
comp=Z,21nm,1.1s
A051A Mrakovica 80.11 327 ⇓*i*P **P 05 06 02.4 -1.1**
LJU Ljubljana 80.12 329 *i*P **P 05 06 02.7 -0.8**
RETA Reutte 80.17 332 *i*P **P 05 06 04.0 +0.2**
comp=Z,29nm,1.2s,SNR=7.9
MOTA Moosalm 80.18 332 *i*P **P 05 06 04.2 +0.2**
comp=Z,50nm,1.0s
BFO Black Forest 80.20 334 P **P 05 06 03.8 -0.1**
BFO Black Forest 80.20 334 P **P 05 06 03.8 -0.1**
BFO pmax pmax
comp=Z,12nm,1.0s
SN05 Snyder 5 80.21 53 P **P 05 06 04.3 0.0**
PRIJ Prijedor 80.21 327 *e*P **P 05 06 02.6 -1.4**
HDIL Hopedale 80.22 41 P **P 05 06 04.4 +0.3**
baz=323
ABTA Abfaltersbach 80.22 331 *i*P **P 05 06 03.5 -0.6**
comp=Z,16nm,1.3s
BLY Banja Luka 80.22 327 ⇓*i*P **P 05 06 03.2 -0.8**
SQTA Sankt Quirin 80.26 332 *i*P **P 05 06 04.3 0.0**
comp=Z,32nm,1.1s,SNR=11
MNHN Monahans 80.28 55 P **P 05 06 05.2 +0.6**
APMT Aspermont 80.30 52 P **P 05 06 04.9 +0.2**
APMT IAmb IAmb 05 06 39.5
comp=Z,13nm,0.8s
RUDO Rudo 80.31 325 ⇑*i*P **P 05 06 03.2 -1.3**
BOJS Bojanci 80.31 328 *i*P **P 05 06 03.9 -0.7**
EZN Ezine 80.34 318 P **P 05 06 04.7 0.0**
comp=Z,43nm,1.0s,comp=Z,2μm
SJES Sjenica 80.36 324 ⇓*i*P **P 05 06 04.7 -0.2**
CNB Canberra Magne 80.36 179 P **P 05 06 06.6 +1.9**
comp=Z,12nm,1.3s,SNR=1.8
RBK Rabkut 80.36 285 P **P 05 06 05.2 -0.1**
WHFO Wadi Hawf 80.36 286 P **P 05 06 05.1 -0.2**
CEY Cerknica 80.42 329 ⇓*i*P **P 05 06 04.0 -1.1**
ALPN Alpine 80.47 56 P **P 05 06 05.5 -0.3**
MGRS Mrkonjic Grad 80.54 327 ⇑*i*P **P 05 06 06.2 +0.4**
S39A Bolivar 80.56 45 P **P 05 06 06.4 +0.4**
STAL STALIGIAL 80.58 330 P **P 05 06 05.0 -1.0**
FETA Feichten 80.59 332 *i*P **P 05 06 06.0 -0.2**
comp=Z,15nm,1.0s,SNR=11
CSS Mathiatis 80.60 311 P **P 05 06 05.7 -0.6**
CSS Mathiatis 80.60 311 P **P 05 06 06.3 0.0**
comp=Z,53nm,1.0s,comp=Z,614nm
R40A Maddies Statio 80.61 44 P **P 05 06 05.7 -0.5**
DAVA Damuels 80.64 333 *i*P **P 05 06 06.4 0.0**
comp=Z,19nm,0.7s,SNR=8.5
ECH Echery 80.66 335 P **P 05 06 06.1 -0.3**
ECH Echery 80.66 335 P **P 05 06 06.1 -0.3**
ECH pmax pmax
comp=Z,12nm,0.9s
TUL3 Leonard 80.67 48 **P 05 06 07.0 +0.3**
TUL3 Leonard 80.67 48 P **P 05 06 06.9 +0.3**
baz=320
A050A Klekovaca 80.70 327 ⇓*i*P **P 05 06 05.5 -1.2**
SKDS Skadanscina 80.73 329 ⇓*i*P **P 05 06 05.0 -1.8**
SGCY Sterling City 80.79 54 P **P 05 06 08.2 +0.8**
SGCY IAmb IAmb 05 06 09.4
comp=Z,21nm,0.9s
SKO Skopje 80.80 323 *i*P **P 05 06 07.6 +0.4**
BLDU Ballidu 80.84 207 P **P 05 06 06.9 -0.4**
comp=Z,22nm,0.8s,SNR=1.3
VAY Valandovo 80.84 322 *i*P **P 05 06 06.0 -1.4**
LDAQ Lac Daran 80.85 26 P **P 05 06 07.6 +0.2**
MMAI Mount Meron Ar 80.95 308 P **P 05 06 09.0 +0.8**
comp=Z,40nm,0.7s,baz=38,slow=7.3,SNR=26
MMAI LR LR 05 44 46.9
comp=Z,60nm,19.4s,baz=340,slow=38
comp=Z,40nm,0.7s
SADO Sadowa 80.97 32 LR LR 05 44 33.6
comp=Z,44nm,18.9s,baz=48,slow=37
U38A Gravette 80.99 46 P **P 05 06 08.7 +0.4**
ELL Elmali 81.01 314 P **P 05 06 08.1 -0.4**
ELL Elmali 81.01 314 P **P 05 06 08.1 -0.4**
ELL pmax pmax
comp=Z,166nm,0.8s
ABTO Aybut 81.08 286 P **P 05 06 09.0 -0.1**
DAVOX Davos/Dischmat 81.08 332 LR LR 05 44 45.2
comp=Z,49nm,18.0s,baz=70,slow=38
ABTX Abilene, Hawle 81.09 52 P **P 05 06 09.4 +0.4**
baz=319,SNR=7.8
FUORN Ofenpass-Fuorn 81.09 332 P **P 05 06 07.8 -1.2**
FUORN IAmb IAmb 05 06 10.3
comp=Z,17nm,0.9s
CTI Castel Tesino 81.13 331 P **P 05 06 08.3 -0.7**
CTI Castel Tesino 81.13 331 P **P 05 06 08.3 -0.7**
CTI pmax pmax
comp=Z,18nm,1.1s
RABC Rab 81.13 328 *i*P **P 05 06 07.6 -1.2**
KIJV Kijevo 81.15 327 *i*P **P 05 06 08.1 -0.9**
TX31 Lajitas Ar. Si 81.22 57 P **P 05 06 10.6 +0.8**
TX31 IAmb IAmb 05 06 11.6
comp=Z,19nm,0.8s
TXAR Lajitas Array 81.22 57 P **P 05 06 10.5 +0.8**
comp=Z,19nm,0.9s,baz=296,slow=4.0,SNR=182
TXAR pP **pP 05 06 43.9 -0.5**
comp=Z,9.5nm,0.6s,baz=303,slow=4.2,SNR=7.8
TXAR PKKPbc **PKKPbc 05 24 44.5 +2.6**
comp=Z,0.7nm,0.8s,baz=152,slow=4.1,SNR=7.7
comp=Z,19nm,0.9s
BRY Bratogost 81.24 325 ⇓*i*P **P 05 06 08.3 -1.3**
NVLJ Novalja 81.26 328 *i*P **P 05 06 06.9 -2.6**
CCM Cathedral Cave 81.29 43 P **P 05 06 09.9 +0.1**
CCM IAmb IAmb 05 06 44.6
comp=Z,17nm,1.0s
CCM Cathedral Cave 81.29 43 P **P 05 06 10.1 +0.3**
baz=322
CCM Cathedral Cave 81.29 43 P **P 05 06 09.9 +0.1**
CCM pmax pmax
comp=Z,17nm,1.0s
RICI Ricice 81.30 326 *i*P **P 05 06 08.6 -1.2**
TRQ Mont Tremblant 81.34 28 P **P 05 06 10.1 +0.1**
PDG Podgorica 81.34 324 P **P 05 06 08.9 -1.1**
PDG Podgorica 81.34 324 ⇓*i*P **P 05 06 09.3 -0.7**
PDG Podgorica 81.34 324 ⇓P **P 05 06 09.6 -0.4**
HHAR Hobbs 81.34 46 P **P 05 06 10.9 +0.7**
PUK Puka 81.40 324 P **P 05 06 10.1 -0.3**
PUK IAmb IAmb 05 06 17.5
comp=Z,20nm,0.9s
KLBR Kellerberrin 81.42 206 P **P 05 06 10.5 +0.2**
KLBR Kellerberrin 81.42 206 P **P 05 06 10.7 +0.4**
comp=Z,3.5nm,SNR=3.5
TREB Trebinje 81.47 325 *e*P **P 05 06 07.7 -3.0**
LMQ La Malbaie 81.50 25 P **P 05 06 10.8 0.0**
BALJ Balqa 81.51 307 P **P 05 06 12.2 +1.1**
MAKA Makarska 81.52 326 *i*P **P 05 06 09.2 -1.6**
RAR Rarotonga 81.52 132 LR LR 05 43 49.6
comp=Z,27nm,18.2s,baz=303,slow=36
OZNA Ozona 81.53 54 P **P 05 06 11.2 0.0**
TUE Stuetta 81.53 333 P **P 05 06 11.2 0.0**
TUE IAmb IAmb 05 06 15.2
comp=Z,15nm,0.8s
TUE Stuetta 81.53 333 P **P 05 06 10.9 -0.3**
MORI Morici 81.54 327 *i*P **P 05 06 09.6 -1.4**
DRME Dracevica, Mon 81.57 324 ⇓*i*P **P 05 06 10.7 -0.5**
STON Ston 81.60 325 *i*P **P 05 06 10.1 -1.3**
STON Ston 81.60 325 ⇓*i*P **P 05 06 09.3 -2.0**
FW03 Perrin-Whitt E 81.65 51 IAmb IAmb 05 06 13.8
comp=Z,26nm,1.2s
DUGI Dugi Otok 81.68 328 *i*P **P 05 06 10.0 -1.8**
TEOL Teolo 81.72 331 P **P 05 06 10.9 -1.0**
TEOL IAmb IAmb 05 06 15.2
comp=Z,21nm,0.7s
OHR Ohrid 81.78 323 *i*P **P 05 06 12.5 +0.1**
FNA Florina 81.80 322 P **P 05 06 12.4 -0.1**
FNA Florina 81.80 322 P **P 05 06 12.4 -0.1**
HVAR Hvar 81.83 326 *i*P **P 05 06 11.0 -1.6**
RAYN Ar Rayn 81.86 295 P **P 05 06 13.8 +0.7**
RAYN IAmb IAmb 05 06 14.2
comp=Z,30nm,0.8s
RAYN Ar Rayn 81.86 295 *i*P **P 05 06 13.6 +0.5**
SNR=29
RAYN Ar Rayn 81.86 295 P **P 05 06 13.8 +0.7**
RAYN Ar Rayn 81.86 295 P **P 05 06 13.8 +0.7**
RAYN pmax pmax
comp=Z,31nm,0.8s
Z35A Perchaven, San 81.87 50 IAmb IAmb 05 06 14.6
comp=Z,24nm,0.8s
FW06 Azle 81.98 51 IAmb IAmb 05 06 15.4
comp=Z,20nm,1.1s
TIR Tirane 81.98 323 P **P 05 06 13.4 0.0**
TIR Tirane 81.98 323 P **P 05 06 13.4 0.0**
MILA Mila 82.09 179 P **P 05 06 15.9 +2.2**
comp=Z,20nm,1.4s,SNR=1.7
GHAJ Ghor Haditha 82.14 307 P **P 05 06 15.0 +0.6**
T42A Van Buren 82.17 44 P **P 05 06 14.6 +0.2**
CLF Chambon-Foret 82.23 338 P **P 05 06 14.7 +0.2**
CLF IAmb IAmb 05 06 17.0
comp=Z,23nm,0.9s
SENIN Lac Senin/Sane 82.27 334 P **P 05 06 14.0 -1.1**
D62A Allapoint, All 82.30 25 P **P 05 06 14.9 0.0**
D62A IAmb IAmb 05 06 23.6
comp=Z,61nm,2.0s
O48B Farmland 82.32 38 P **P 05 06 14.9 -0.2**
baz=325
ARG Arkhangelos 82.32 315 P **P 05 06 15.6 +0.4**
ARG Arkhangelos 82.32 315 P **P 05 06 15.6 +0.4**
ARG pmax pmax
comp=Z,205nm,1.4s
BRDY Brady 82.46 53 P **P 05 06 16.1 0.0**
FW13 Cleburne 82.52 51 IAmb IAmb 05 06 18.4
comp=Z,12nm,0.7s
FCAR Ozark Folk Cen 82.56 45 P **P 05 06 16.3 -0.2**
JCT Junction City 82.61 54 IAmb IAmb 05 06 18.4
comp=Z,15nm,0.8s
JCT Junction City 82.61 54 P **P 05 06 17.3 +0.4**
baz=319,SNR=6.2
PBMO Poplar Bluff 82.70 44 P **P 05 06 17.8 +0.6**
PBMO IAmb IAmb 05 06 58.1
comp=Z,20nm,1.1s
SSF Saint Saulge 82.77 336 *e*P **P 05 06 17.0 -0.4**
SSF pmax pmax
comp=Z,11nm,0.8s
WHTX Lake Whitney, 82.78 51 P **P 05 06 17.6 -0.1**
WHTX IAmb IAmb 05 06 19.8
comp=Z,15nm,0.8s
WHTX Lake Whitney, 82.78 51 P **P 05 06 18.2 +0.5**
baz=320,SNR=6.1
ZCCA Zocca 82.84 330 IAmb IAmb 05 06 41.6
comp=Z,31nm,1.2s
MIAR Mount Ida 82.88 47 P **P 05 06 18.6 +0.4**
MIAR IAmb IAmb 05 06 59.9
comp=Z,17nm,1.1s
MIAR Mount Ida 82.88 47 P **P 05 06 18.5 +0.4**
baz=322,SNR=7.7
MIAR Mount Ida 82.88 47 P **P 05 06 18.6 +0.4**
MIAR pmax pmax
comp=Z,17nm,1.2s
DRIO Del Rio 82.94 55 P **P 05 06 19.2 +0.6**
DRIO IAmb IAmb 05 06 20.7
comp=Z,32nm,1.0s
WHAR Wooly Hollow 82.95 46 P **P 05 06 19.0 +0.5**
WHAR IAmb IAmb 05 06 59.1
comp=Z,15nm,1.1s
F62A Pittston Farm, 83.09 26 P **P 05 06 19.4 +0.3**
F62A IAmb IAmb 05 06 20.1
comp=Z,16nm,0.9s
P49A Miami Univ. Ec 83.10 38 P **P 05 06 19.6 +0.4**
baz=326
GUMA Gualdo di Mace 83.12 328 P **P 05 06 19.7 +0.4**
GUMA IAmb IAmb 05 06 42.5
comp=Z,55nm,1.1s
M53A WI Miller and 83.20 35 P **P 05 06 19.9 +0.2**
baz=328
LPL La Plagne 83.21 334 *e*P **P 05 06 19.6 -0.4**
LPL pmax pmax
comp=Z,33nm,1.1s
FDMO Fiordimonte 83.23 328 P **P 05 06 20.0 +0.2**
ACSO Alum Creek Sta 83.27 37 P **P 05 06 20.2 +0.1**
baz=327
X40A Basin Creek Fa 83.30 47 P **P 05 06 19.8 -0.6**
KARP Karpathos 83.33 315 P **P 05 06 20.2 -0.3**
KEK Kerkira 83.37 322 P **P 05 06 20.1 -0.5**
MSSA Maissana 83.37 331 P **P 05 06 20.3 -0.3**
MSSA IAmb IAmb 05 06 20.6
comp=Z,21nm,1.0s
NRCA Norcia 83.40 328 P **P 05 06 21.0 +0.2**
WCI Wyandotte Cave 83.47 40 P **P 05 06 21.2 0.0**
baz=325
CAMP Campotosto 83.54 328 P **P 05 06 21.4 -0.2**
BNI Bardonecchia 83.64 334 P **P 05 06 22.2 +0.1**
BNI IAmb IAmb 05 06 26.9
comp=Z,13nm,0.8s
BNI Bardonecchia 83.64 334 P **P 05 06 22.2 +0.1**
BNI pmax pmax
comp=Z,13nm,0.8s
EIL Elat 83.72 306 LR LR 05 47 03.5
comp=Z,52nm,18.1s,baz=68,slow=38
J59A Piesco 83.77 30 P **P 05 06 22.5 -0.1**
WLAR White Oak Lake 83.79 47 P **P 05 06 23.7 +0.9**
WLAR IAmb IAmb 05 06 58.4
comp=Z,19nm,1.0s
INTR Introdacqua 83.81 327 P **P 05 06 22.5 -0.4**
PKME Peaks-Kenny Pk 83.87 25 P **P 05 06 23.2 +0.2**
baz=335
MATE Matera 83.87 325 ⇓P **P 05 06 22.7 -0.4**
H62A Milan 83.91 27 P **P 05 06 23.7 +0.5**
H62A IAmb IAmb 05 06 24.6
comp=Z,17nm,0.8s
M55A Ridgway 83.93 33 P **P 05 06 23.7 +0.2**
LBNH Lisbon 83.96 28 P **P 05 06 23.1 -0.4**
baz=333
O53A New Philadelph 83.99 36 P **P 05 06 23.4 -0.4**
baz=328
SSB Saint Sauveur 84.09 335 P **P 05 06 24.2 0.0**
SSB IAmb IAmb 05 06 25.7
comp=Z,16nm,0.6s
SSB Saint Sauveur 84.09 335 P **P 05 06 24.2 0.0**
SSB pmax pmax
comp=Z,16nm,0.6s
T47A Sharon Grove 84.11 41 P **P 05 06 25.1 +0.7**
T47A IAmb IAmb 05 07 01.0
comp=Z,11nm,0.7s
Q51A Peebles 84.12 38 P **P 05 06 24.7 +0.3**
Q51A IAmb IAmb 05 07 00.9
comp=Z,15nm,0.8s
P52A Corning 84.13 37 P **P 05 06 24.2 -0.2**
baz=327
MFF Saint Martin d 84.18 339 *e*P **P 05 06 24.4 -0.2**
MFF pmax pmax
comp=Z,21nm,0.7s
BINY Binghamton 84.35 31 P **P 05 06 25.4 -0.1**
baz=331
PPT Papeete 84.36 122 P **P 05 06 27.6 +1.8**
comp=Z,30nm,0.9s,baz=302,slow=3.8,SNR=3.7
PPT LR LR 05 37 31.2
comp=Z,77nm,21.5s,baz=309,slow=31
comp=Z,30nm,0.9s
PPT2 Papeete2 84.37 122 *e*P **P 05 06 26.8 +0.9**
comp=Z,49nm,28.0s
PPT2 Papeete2 84.37 122 *e*S **SKSac 05 16 37.8 +1.2**
comp=Z,58nm,27.5s
PPT2 *e*SS **SS 05 22 12.9 -1.2**
comp=Z,45nm,23.8s
PPT2 Papeete2 84.37 122 *e*LR LR 05 32 48.6
comp=Z,87nm,21.2s
O54A Avella 84.39 35 P **P 05 06 26.0 +0.2**
O54A IAmb IAmb 05 07 02.0
comp=Z,12nm,0.8s
PAOL Paolisi 84.40 327 IAmb IAmb 05 06 26.0
comp=Z,24nm,1.2s
SSFO Shawnee State 84.46 38 P **P 05 06 26.6 +0.5**
SSFO IAmb IAmb 05 07 07.3
comp=Z,19nm,0.9s
WVT Waverly 84.46 42 P **P 05 06 27.0 +0.8**
WVT IAmb IAmb 05 07 02.3
comp=Z,10nm,0.7s
WVT Waverly 84.46 42 P **P 05 06 27.0 +0.8**
baz=324
WVT Waverly 84.46 42 P **P 05 06 27.0 +0.8**
WVT pmax pmax
comp=Z,10.0nm,0.7s
833A Chaparral WMA, 84.47 55 P **P 05 06 27.1 +0.7**
baz=319
NATX Nacogdoches 84.47 49 P **P 05 06 26.3 0.0**
baz=321
ITM Ithomi 84.51 320 P **P 05 06 25.5 -0.9**
IDI Anoyia 84.65 317 P **P 05 06 26.2 -1.0**
M57A Sunshine Farm, 84.67 32 P **P 05 06 27.1 0.0**
M57A IAmb IAmb 05 06 28.1
comp=Z,12nm,0.7s
CUC Castrocucco 84.79 325 P **P 05 06 26.6 -1.2**
CUC IAmb IAmb 05 06 27.5
comp=Z,38nm,1.3s
SSPA Standing Stone 84.99 33 P **P 05 06 29.1 +0.3**
SSPA IAmb IAmb 05 07 48.5
comp=Z,29nm,1.6s
SSPA Standing Stone 84.99 33 P **P 05 06 29.0 +0.3**
baz=330
OXF Oxford 85.00 44 P **P 05 06 29.5 +0.6**
OXF IAmb IAmb 05 07 04.2
comp=Z,28nm,1.1s
OXF Oxford 85.00 44 P **P 05 06 29.4 +0.6**
baz=324
OXF Oxford 85.00 44 P **P 05 06 29.5 +0.6**
OXF pmax pmax
comp=Z,28nm,1.1s
MCWV Mont Chateau 85.05 35 P **P 05 06 29.4 +0.3**
baz=328
TIP Timpagrande 85.09 324 P **P 05 06 28.5 -0.9**
TIP Timpagrande 85.09 324 ⇑P **P 05 06 29.5 +0.1**
U49A Red Boiling Sp 85.11 41 P **P 05 06 29.8 +0.4**
U49A IAmb IAmb 05 07 05.7
comp=Z,12nm,0.7s
T50A Nancy 85.12 40 P **P 05 06 30.2 +0.7**
T50A IAmb IAmb 05 07 05.6
comp=Z,14nm,0.8s
CAF Calviac 85.13 336 *e*P **P 05 06 29.3 -0.1**
CAF pmax pmax
comp=Z,52nm,1.2s
S51A Beattyville 85.16 39 P **P 05 06 29.8 +0.1**
CLTN Cedars of Leba 85.20 41 P **P 05 06 30.5 +0.6**
CLTN IAmb IAmb 05 07 06.2
comp=Z,13nm,0.8s
Q54A Coxs Mills 85.22 36 P **P 05 06 30.6 +0.6**
Q54A IAmb IAmb 05 06 32.8
comp=Z,13nm,0.8s
PLAL Pickwick Lake 85.28 43 P **P 05 06 30.8 +0.6**
L61B Northampton 85.30 29 P **P 05 06 29.9 -0.3**
baz=333
Y45A Yeager Farm, C 85.45 45 P **P 05 06 31.6 +0.5**
Y45A IAmb IAmb 05 07 07.0
comp=Z,22nm,0.9s
LFF La Frestale 85.48 337 *e*P **P 05 06 31.2 +0.1**
LFF pmax pmax
comp=Z,24nm,0.7s
HRV Adam Dziewonsk 85.62 28 P **P 05 06 31.8 -0.1**
baz=333
HBVL Hebbronville 85.84 55 P **P 05 06 34.1 +0.9**
HBVL IAmb IAmb 05 07 09.9
comp=Z,24nm,1.3s
TZTN Tazewell 86.09 39 P **P 05 06 34.9 +0.6**
baz=326
SWET Sewanee 86.10 42 P **P 05 06 34.2 -0.2**
SWET IAmb IAmb 05 07 10.2
comp=Z,16nm,0.7s
PAL Palisades 86.14 30 P **P 05 06 35.0 +0.5**
baz=332
X48A Hartselle 86.20 43 P **P 05 06 35.0 +0.1**
CPCT Cooper Cave 86.56 40 P **P 05 06 36.6 0.0**
V52A Sevierville 86.66 40 P **P 05 06 38.0 +0.9**
146A Union 86.68 45 P **P 05 06 36.6 -0.7**
Z47A Carrollton 86.72 44 P **P 05 06 37.7 +0.3**
Z47A IAmb IAmb 05 07 12.8
comp=Z,15nm,1.1s
TKL Tuckaleechee C 86.73 40 P **P 05 06 37.6 +0.2**
TKL Tuckaleechee C 86.73 40 LR LR 05 46 25.4
comp=Z,34nm,20.7s,baz=336,slow=36
TKL Tuckaleechee C 86.73 40 P **P 05 06 37.6 +0.2**
TKL pmax pmax
comp=Z,7.0nm,0.7s
ZAIG Zacatecas 86.73 61 P **P 05 06 37.2 -0.8**
BLA Blacksburg 86.89 37 P **P 05 06 39.1 +0.9**
baz=328
LRAL Lakeview Retre 87.38 44 P **P 05 06 40.9 +0.4**
baz=325
CEST Esterri de Car 87.50 336 P **P 05 06 40.9 -0.3**
CEST IAmb IAmb 05 06 43.8
comp=Z,31nm,1.1s
BG3 Lake Jocassee 87.66 40 P **P 05 06 42.6 +0.7**
BG3 IAmb IAmb 05 07 20.6

	comp=Z,34nm,1.6s						
Y52A	**Lilburn**	**88.08**	**41**	P	**P**	**05 06 44.5**	**+0.5**
Y52A				IAmb	IAmb	05 07 20.6	
	comp=Z,9.2nm,0.9s						
KMSC	**Kings Mountain**	**88.25**	**38**	P	**P**	**05 06 45.5**	**+0.8**
	baz=328						
250A	**Grady**	**88.59**	**44**	P	**P**	**05 06 46.7**	**+0.4**
GOGA	**Godfrey**	**88.74**	**41**	P	**P**	**05 06 47.5**	**+0.5**
	baz=327						
BRAL	**Brewton**	**88.87**	**45**	P	**P**	**05 06 48.6**	**+1.0**
	baz=325						
TBI	**Tubuai**	**88.91**	**125**	*e*LR	LR	05 34 48.4	
	comp=Z,386nm,25.0s						
THZ	**Tophouse**	**89.59**	**162**	P	**P**	**05 06 51.5**	**+0.9**
CNNC	**Cliffs of the**	**89.63**	**36**	P	**P**	**05 06 51.9**	**+0.8**
	baz=330						
352A	**Blakely**	**89.65**	**43**	P	**P**	**05 06 52.2**	**+0.9**
PBRG	**Braganca**	**90.29**	**341**	*e*P	**P**	**05 06 53.0**	**-1.2**
	comp=Z,14nm,1.4s						
TIGA	**Tifton**	**90.32**	**42**	P	**P**	**05 06 55.4**	**+1.0**
	baz=327						
NHSC	**New Hope**	**90.48**	**39**	P	**P**	**05 06 55.4**	**+0.3**
	baz=328						
PCAB	**Cabril**	**90.66**	**342**	*e*P	**P**	**05 06 54.9**	**-1.0**
POLO	**Lamas de Olo**	**90.93**	**342**	*e*P	**P**	**05 06 56.0**	**-1.2**
	comp=Z,13nm,1.3s						
PVRL	**Vila Real**	**91.01**	**342**	*e*P	**P**	**05 06 56.5**	**-1.0**
	comp=Z,18nm,0.8s						
KEST	**Kesra**	**91.02**	**327**	P	**P**	**05 06 57.5**	**-0.2**
KEST	**Kesra**	**91.02**	**327**	P	**P**	**05 06 56.8**	**-1.0**
	comp=Z,12nm,0.7s,baz=341,slow=1.2,SNR=23						
KEST				LR	LR	05 51 53.1	
	comp=Z,102nm,18.9s,baz=293,slow=38						
	comp=Z,12nm,0.7s						
PVIS	**Viseu**	**91.58**	**342**	*e*P	**P**	**05 06 59.0**	**-1.2**
ESBB	**Sonseca Array**	**91.64**	**339**	P	**P**	**05 06 59.8**	**-0.7**
ESDC	**Sonseca Array**	**91.64**	**339**	P	**P**	**05 06 59.8**	**-0.7**
ESDC	**Sonseca Array**	**91.64**	**339**	P	**P**	**05 06 59.5**	**-0.9**
	comp=Z,4.5nm,0.9s,baz=14,slow=3.9,SNR=28						
ESDC				LR	LR	05 56 44.6	
	comp=Z,29nm,18.2s,baz=18,slow=41						
	comp=Z,4.5nm,0.9s						
MTE	**Manteigas**	**91.81**	**342**	P	**P**	**05 07 00.3**	**-1.0**
MTE				IAmb	IAmb	05 07 01.0	
	comp=Z,11nm,0.8s						
MTE	**Manteigas**	**91.81**	**342**	*e*P	**P**	**05 07 00.2**	**-1.0**
	comp=Z,15nm,0.9s						
PAB	**San Pablo**	**91.86**	**339**	P	**P**	**05 07 00.6**	**-0.9**
PAB	**San Pablo**	**91.86**	**339**	P	**P**	**05 07 00.6**	**-0.9**
PAB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
COI	**Coimbra**	**92.18**	**342**	P	**P**	**05 07 02.7**	**-0.2**
COI	**Coimbra**	**92.18**	**342**	P	**P**	**05 07 02.7**	**-0.2**
COI				pmax	pmax		
	comp=Z,19nm,0.9s						
PCBR	**Castelo Branco**	**92.33**	**341**	*e*P	**P**	**05 07 02.3**	**-1.3**
	comp=Z,12nm,1.5s						
PCAS	**Casmilo, Conde**	**92.35**	**342**	*e*P	**P**	**05 07 02.4**	**-1.3**
	comp=Z,4.9nm,0.6s						
PMRV	**Marv??o**	**92.70**	**341**	*e*P	**P**	**05 07 03.7**	**-1.6**
PMTG	**Montargil**	**93.23**	**342**	*e*P	**P**	**05 07 06.7**	**-1.1**
EVO	**Evora**	**93.70**	**341**	*e*P	**P**	**05 07 08.9**	**-1.0**
	comp=Z,14nm,1.7s						
PBAR	**Barrancos**	**93.82**	**341**	*e*P	**P**	**05 07 09.3**	**-1.2**
PBEJ	**Beja**	**94.15**	**341**	*e*P	**P**	**05 07 11.8**	**-0.2**
PNCL	**Nicolau / Gran**	**94.22**	**342**	*e*P	**P**	**05 07 10.9**	**-1.4**
PTEO	**Sao Teotonio**	**94.80**	**342**	*e*P	**P**	**05 07 13.9**	**-1.1**
MSEY	**Mahe Island**	**95.08**	**269**	P	**P**	**05 07 17.2**	**+0.6**
PFVI	**Vila Bisbo**	**95.22**	**342**	*e*P	**P**	**05 07 16.2**	**-0.7**
FURI	**Furi**	**96.97**	**290**	LR	LR	05 59 31.2	
	comp=Z,63nm,18.3s,baz=54,slow=40						
MDT	**Midelt**	**98.28**	**337**	LR	LR	05 57 57.2	
	comp=Z,21nm,18.8s,baz=26,slow=39						
TORD	**Torodi Ar. Bea**	**114.24**	**324**	PKP	**PKiKP**	**05 12 31.6**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=45,slow=2.4,SNR=22						
TORD				SKP		05 15 54.1	
	comp=Z,1.1nm,0.7s,baz=42,slow=2.5,SNR=5.7						
TORD				PKKPbc	**PKKPbc**	**05 23 12.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=190,slow=2.7,SNR=5.8						
DBIC	**Dimbokro**	**122.74**	**327**	PKP	**PKPdf**	**05 12 48.5**	**-0.3**
	comp=Z,5.6nm,0.6s,baz=355,slow=1.5,SNR=13						
DBIC				pPKP	**pPKPdf**	**05 13 24.6**	**-0.7**
	comp=Z,4.8nm,0.8s,baz=8.8,slow=4.7,SNR=2.8						
VNDA	**Vanda**	**122.95**	**176**	PKP	**PKPdf**	**05 12 47.0**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=312,slow=3.9,SNR=10						
VNDA				pPKP	**pPKPdf**	**05 13 23.4**	**-1.2**
	comp=Z,2.7nm,0.7s,baz=321,slow=5.3,SNR=9.4						
VNDA				PKKPbc	**PKKPab**	**05 22 38.7**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=207,slow=1.6,SNR=7.6						
ATAH	**Atahualpa**	**124.72**	**61**	pPKP	pPKPdf	05 13 29.0	-1.2
	comp=Z,4.4nm,0.8s,baz=332,slow=5.6,SNR=3.9						
MDP	**Montagnes des**	**126.43**	**26**	PKP	**PKiKP**	**05 12 56.7**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=169,slow=5.2,SNR=1.5						
MAW	**Mawson**	**129.25**	**210**	PKP	**PKPdf**	**05 12 59.3**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=91,slow=4.0,SNR=6.1						
MAW				SKPbc	SKPbc	05 16 09.1	+1.0
	comp=Z,3.1nm,0.8s,baz=37,slow=3.9,SNR=7.2						
BOSA	**Boshof**	**132.32**	**270**	PKhKP	PKPpre	05 13 02.5	
	comp=Z,3.0nm,0.9s,baz=52,slow=1.8,SNR=3.4						
BOSA				PKP	**PKPdf**	**05 13 06.4**	**-0.4**
	comp=Z,3.9nm,0.8s,baz=319,slow=1.5,SNR=3.2						
BOSA				SKPbc	**SKPbc**	**05 16 20.8**	**+0.4**
	comp=Z,5.3nm,0.8s,baz=37,slow=4.3,SNR=5.7						
LPAZ	**La Paz**	**138.09**	**58**	PKP	**PKPdf**	**05 13 19.4**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=18,slow=3.0,SNR=8.3						
LPAZ				pPKP	**pPKPdf**	**05 13 53.2**	**-2.5**
	comp=Z,3.0nm,0.8s,baz=31,slow=4.8,SNR=4.9						
LPAZ				SKPbc	**SKPbc**	**05 16 38.5**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=1.2,slow=3.6,SNR=7.4						
SIV	**San Ignacio**	**141.85**	**49**	PKhKP	PKPpre	05 13 18.9	
	comp=Z,1.3nm,0.5s,baz=301,slow=4.2,SNR=9.2						
SIV				pPKP	pPKPdf	05 14 00.0	-1.6
	comp=Z,4.0nm,0.8s,baz=315,slow=3.5,SNR=5.0						
SIV				SKP		05 16 46.4	
	comp=Z,10.0nm,1.0s,baz=285,slow=3.6,SNR=14						
LVC	**Limon Verde**	**142.34**	**65**	SKPbc	**SKPbc**	**05 16 49.7**	**-0.7**
	comp=Z,9.8nm,1.1s,baz=323,slow=0.8,SNR=5.9						
ELIB	**Princess Elisa**	**143.06**	**205**	*d*PKPdf	PKPbc	05 13 22.1	-0.5
ELIB				*dp*PKPdf	pPKPdf	05 13 58.4	-4.1
ELIB				*ds*PKP		05 14 12.4	
NVL	**N'lazarevskaya**	**146.94**	**205**	*e*PKIKP	**PKPdf**	**05 13 30.0**	**-1.7**
NVL				pmax	pmax		
	comp=Z,20nm,0.8s						
BDFB	**Brasilia**	**147.40**	**30**	PKP	**PKPdf**	**05 13 34.9**	**+0.6**
	comp=Z,9.1nm,0.8s,baz=347,slow=2.5,SNR=8.6						
BDFB				PKPbc	**PKPbc**	**05 13 37.8**	**+0.8**
	comp=Z,9.1nm,0.8s,baz=224,slow=1.6,SNR=13						
BDFB				pPKP	**pPKPdf**	**05 14 09.5**	**-1.7**
	comp=Z,6.1nm,0.7s,baz=294,slow=3.4,SNR=3.1						
SNAA	**Sanae**	**150.22**	**198**	PKPbc	**PKPbc**	**05 13 42.7**	**+0.3**
	comp=Z,7.4nm,0.6s,baz=184,slow=4.0,SNR=38						
SNAA				pPKPbc	**pPKPdf**	**05 14 16.5**	**+2.0**
	comp=Z,12nm,0.9s,baz=94,slow=2.1,SNR=5.0						
PLCA	**Paso Flores**	**151.63**	**94**	PKPbc	**PKiKP**	**05 13 47.3**	**+0.3**
	comp=Z,8.6nm,0.5s,baz=291,slow=2.6,SNR=69						
PLCA				pPKPbc	**pPKPbc**	**05 14 22.6**	**-1.1**
	comp=Z,34nm,0.8s,baz=248,slow=2.7,SNR=20						
CPUP	**Villa Florida**	**152.19**	**55**	PKPbc	**PKiKP**	**05 13 48.6**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=328,slow=3.2,SNR=5.3						
CPUP				PKPab	**PKPab**	**05 13 58.9**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=334,slow=3.1,SNR=4.4						
CPUP				pPKPbc	**pPKPbc**	**05 14 23.4**	**-1.6**
	comp=Z,4.1nm,0.8s,baz=285,slow=4.8,SNR=3.2						

ROM 27 05:03:00.5±0.1, 42°.903N±0°.004×13°.022E±0°.006, h11km, ML0.9/6, 1C, Error ellipse: s-maj=0.6km s-min=0.1km az=61.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.06**	**19**	P	Pg	05 03 03.3	+0.3
FEMA				S	Sg	05 03 05.2	+0.4
NRCA	**Norcia**	**0.10**	**135**	P	Pg	05 03 03.6	+0.4
NRCA				S	Sg	05 03 05.7	+0.5
NRCA				AML	AML		
	comp=E,176μm,0.1s						
NRCA				AML	AML		
	comp=N,310μm,0.1s						
CESI	**CESI - Serrava**	**0.13**	**320**	P	Pg	05 03 04.3	+0.5
CESI				S	Sg	05 03 06.8	+0.7
CESI				AML	AML		
	comp=E,46μm,0.9s						
CESI				AML	AML		
	comp=N,80μm,0.3s						
CESI				AML	AML		
	comp=N,80μm,1.7s						
CESI				AML	AML		
	comp=E,46μm,0.9s						
FDMO	**Fiordimonte**	**0.14**	**20**	P	Pg	05 03 04.3	+0.4
FDMO				S	Sg	05 03 07.0	+0.8
FDMO				AML	AML		
	comp=E,68μm,0.1s						
FDMO				AML	AML		
	comp=N,45μm,0.3s						
CSP1	**Cessapalombo**	**0.23**	**35**	⇑P	Pg	05 03 05.9	+0.4
LNSS	**Leonessa**	**0.30**	**177**	P	Pg	05 03 07.1	+0.5

*IDC **27** 05:06:43.9±10.0, 20°.09S×178°.28W, h580km±97km, mb3.3/3, mbtmp4.3/4, Error ellipse: s-maj=128.9km s-min=68.1km az=138.0*

ISC 27 05:06:45.2±2.2, 20°.05±0°.8×178°.3W±0°.5, h602km, n10, σ0ˢ.85/10, mb4.1/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.40**	**259**	P	**P**	**05 09 48.2**	**+0.3**
	3.2nm,0.6s,baz=85,slow=18,SNR=1.8						
STKA	**Stephens Creek**	**37.76**	**244**	P	**P**	**05 13 11.3**	**-0.2**
	2.5nm,0.9s,baz=91,slow=12,SNR=3.4						
	2.5nm,0.9s						
ASAR	**Alice Springs**	**44.36**	**256**	P	**P**	**05 14 03.6**	**-0.2**
	4.6nm,0.6s,baz=92,slow=7.6,SNR=44						
ASAR				PcP	**PcP**	**05 15 35.4**	**+1.0**
	0.7nm,0.6s,baz=116,slow=3.7,SNR=5.0						
	4.6nm,0.6s						
WRA	**Warramunga Arr**	**44.40**	**262**	P	**P**	**05 14 03.6**	**-0.5**
	2.2nm,0.3s,baz=97,slow=7.8,SNR=32						
	2.2nm,0.3s						
MKAR	**Makanchi Array**	**110.66**	**314**	PKiKP	**PKiKP**	**05 24 10.4**	**0.0**
	0.2nm,0.6s,baz=64,slow=3.4,SNR=2.4						
ARCES	**ARCESS Array B**	**128.38**	**350**	PKP	**PKPdf**	**05 24 44.2**	**+0.5**
	2.5nm,0.9s,baz=20,slow=2.9,SNR=3.7						
HFS	**Hagfors**	**139.01**	**351**	PKhKP	PKPpre	05 24 58.1	
	0.4nm,0.3s,baz=31,slow=3.5,SNR=6.2						
AKASG	**Malin Array Be**	**142.45**	**331**	PKP	**PKPdf**	**05 25 08.5**	**-1.7**
	1.8nm,0.5s,baz=41,slow=4.0,SNR=6.7						
BRTR	**Keskin Array B**	**146.30**	**313**	PKPbc	**PKPbc**	**05 25 20.4**	**+0.6**
	0.8nm,0.6s,baz=125,slow=4.0,SNR=4.2						
MMAI	**Mount Meron Ar**	**147.33**	**300**	PKPbc	**PKiKP**	**05 25 24.6**	**+0.3**
	0.6nm,0.3s,baz=205,slow=3.6,SNR=3.7						

NAM 27 05:12:24.4±4.2, 19°.69S×14°.48E, h24km±24km, ML1.0, 10C-26D, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ST3N	**ST3**	**0.06**	**167**	⇓*i*P	Pb	05 12 30.2	+1.4
ST3N				⇑*i*P		05 12 30.3	
ST3N				IAML		05 12 31.9	
	comp=Z,7.3nm,0.1s						
ST3N				IAML		05 12 32.5	
	comp=N,12nm,0.1s						
ST3N	**ST3**	**0.06**	**167**	⇓*i*P	Pb	05 12 30.2	+1.4
ST3N				*i* S	Sb	05 12 31.6	-0.2
ST3N				IAML		05 12 32.0	
	comp=Z,7.3nm,0.1s						
ST3N	**ST3**	**0.06**	**167**	⇓*i*P	Pb	05 12 30.2	+1.4
ST3N				*i* S	Sb	05 12 31.4	-0.4
ST3N				IAML		05 12 31.8	
	comp=Z,7.1nm,0.1s						
ST3N	**ST3**	**0.06**	**167**	⇓*i*P	Pb	05 12 30.2	+1.4
ST3N				*i* S	Sb	05 12 31.7	-0.1
ST3N				IAML		05 12 31.8	
	comp=Z,7.1nm,0.1s						
ST9N	**ST9**	**0.12**	**153**	⇑*i*P	Pb	05 12 29.4	+0.2
ST9N				⇓*i*P	Pb	05 12 29.4	+0.2
ST9N				IAML		05 12 30.5	
	comp=Z,384nm,0.1s						
ST9N				IAML		05 12 30.9	
	comp=N,245nm,0.1s						
ST9N	**ST9**	**0.12**	**153**	⇓*i*P	Pb	05 12 29.4	+0.1
ST9N				*i* S	Sb	05 12 30.2	-2.4
ST9N				IAML		05 12 30.5	
	comp=Z,377nm,0.1s						
ST9N	**ST9**	**0.12**	**153**	⇓*i*P	Pb	05 12 29.4	+0.1
ST9N				*i* S	Sb	05 12 30.1	-2.5
ST9N				IAML		05 12 30.6	
	comp=Z,201nm,0.1s						
ST9N	**ST9**	**0.12**	**153**	⇓*i*P	Pb	05 12 29.4	+0.1
ST9N				*i* S	Sb	05 12 30.1	-2.5
ST9N				IAML		05 12 30.6	
	comp=Z,200nm,0.1s						
ST1N	**ST1**	**0.13**	**112**	⇑*i*P	Pb	05 12 29.9	+0.6
ST1N				*i* S	Sb	05 12 31.0	-1.6
ST1N				IAML		05 12 31.2	
	comp=Z,57nm,0.1s						
ST1N	**ST1**	**0.13**	**112**	⇑*i*P	Pb	05 12 30.0	+0.7
ST1N				*i* S	Sb	05 12 31.0	-1.6
ST1N				IAML		05 12 31.2	
	comp=Z,57nm,0.1s						
ST1N	**ST1**	**0.13**	**112**	⇓*i*P	Pb	05 12 29.9	+0.6
ST1N				*i* S	Sb	05 12 31.0	-1.6
ST1N				IAML		05 12 31.1	
	comp=Z,152nm,0.0s						
ST1N	**ST1**	**0.13**	**112**	⇓*i*P	Pb	05 12 29.9	+0.6
ST1N				*i* S	Sb	05 12 31.0	-1.6
ST1N				IAML		05 12 31.1	
	comp=Z,154nm,0.0s						
ST6N	**ST6**	**0.14**	**216**	⇓*i*P	Pn	05 12 31.6	+0.3
ST6N				*i* S	Sb	05 12 33.9	+1.1
ST6N				IAML		05 12 34.3	
	comp=Z,5.3nm,0.1s						
ST6N	**ST6**	**0.14**	**216**	⇓*i*P	Pn	05 12 31.6	+0.4
ST6N				*i* S	Sb	05 12 34.0	+1.1
ST6N				IAML		05 12 34.3	
	comp=Z,5.3nm,0.1s						
ST6N	**ST6**	**0.14**	**216**	⇓*i*P	Pn	05 12 31.5	+0.3
ST6N				*i* S	Sb	05 12 34.0	+1.2
ST6N				IAML		05 12 34.2	
	comp=Z,9.4nm,0.1s						
ST6N	**ST6**	**0.14**	**216**	⇓*i*P	Pn	05 12 31.5	+0.3
ST6N				*i* S	Sb	05 12 34.0	+1.2
ST6N				IAML		05 12 34.2	
	comp=Z,9.6nm,0.1s						
ST8N	**ST8**	**0.16**	**269**	⇑*i*P	Pn	05 12 33.5	+2.0
ST8N				*i* S	Sb	05 12 37.4	+4.3
ST8N				IAML		05 12 38.0	
	comp=Z,1.5nm,0.1s						
ST8N	**ST8**	**0.16**	**269**	⇑*i*P	Pn	05 12 33.5	+2.0
ST8N				*i* S	Sb	05 12 37.4	+4.3
ST8N				IAML		05 12 39.0	
	comp=Z,1.4nm,0.1s						
ST8N	**ST8**	**0.16**	**269**	⇓*i*P	Pn	05 12 33.4	+2.0
ST8N				*i* S	Sb	05 12 37.0	+3.9
ST8N				IAML		05 12 37.4	
	comp=Z,2.2nm,0.1s						
ST8N	**ST8**	**0.16**	**269**	⇓*i*P	Pn	05 12 33.4	+2.0
ST8N				*i* S	Sb	05 12 37.0	+3.9
ST8N				IAML		05 12 37.4	
	comp=Z,2.3nm,0.1s						
ST2N	**ST2**	**0.26**	**156**	⇑*i*P	Pb	05 12 31.1	+0.2
ST2N				*i* S	Sb	05 12 33.0	-2.4
ST2N				IAML		05 12 33.7	
	comp=Z,4.5nm,0.1s						
ST2N	**ST2**	**0.26**	**156**	⇓*i*P	Pb	05 12 31.1	+0.2
ST2N				*i* S	Sb	05 12 32.7	-2.6
ST2N				IAML		05 12 33.7	
	comp=Z,4.5nm,0.1s						
ST2N	**ST2**	**0.26**	**156**	⇓*i*P	Pb	05 12 31.1	+0.2
ST2N				⇓*i*P	Pn	05 12 31.1	-1.8
ST2N				IAML		05 12 33.3	
	comp=N,20nm,0.0s						
ST2N				IAML		05 12 34.0	
	comp=Z,12nm,0.1s						
ST2N	**ST2**	**0.26**	**156**	⇓*i*P	Pb	05 12 31.1	+0.1
ST2N				⇑*i*P	Pn	05 12 31.2	-1.7
ST2N				IAML		05 12 33.3	
	comp=N,19nm,0.0s						
ST2N				IAML		05 12 34.0	
	comp=Z,12nm,0.1s						
ST5N	**ST5**	**0.28**	**112**	⇓*i*P	Pb	05 12 31.8	+0.7
ST5N				*i* S	Sb	05 12 34.2	-1.5
ST5N				IAML		05 12 34.4	
	comp=Z,12nm,0.1s						
ST5N	**ST5**	**0.28**	**112**	⇓*i*P	Pb	05 12 31.8	+0.7
ST5N				*i* S	Sb	05 12 34.2	-1.5
ST5N				IAML		05 12 34.4	
	comp=Z,12nm,0.1s						
ST5N	**ST5**	**0.28**	**112**	⇓*i*P	Pb	05 12 31.8	+0.7
ST5N				*i* S	Sb	05 12 34.2	-1.4
ST5N				IAML		05 12 34.3	
	comp=Z,10nm,0.0s						
ST5N	**ST5**	**0.28**	**112**	⇓*i*P	Pb	05 12 31.8	+0.6
ST5N				IAML		05 12 34.6	
	comp=Z,9.9nm,0.0s						
ST10N	**ST10**	**0.32**	**197**	*i* P	Pn	05 12 33.4	-0.3
ST10N				IAML		05 12 33.7	
	comp=Z,12nm,0.1s						
ST10N				*i* S	Sb	05 12 37.4	+0.6
ST10N	**ST10**	**0.32**	**197**	⇑*i*P	Pn	05 12 33.4	-0.3
ST10N				*i* S	Sb	05 12 37.4	+0.6
ST10N				IAML		05 12 37.9	
	comp=Z,7.3nm,0.1s						
ST10N	**ST10**	**0.32**	**197**	⇓*i*P	Pn	05 12 33.4	-0.3
ST10N				*i* S	Sb	05 12 36.9	+0.1
ST10N				IAML		05 12 37.7	
	comp=Z,5.4nm,0.1s						
ST10N	**ST10**	**0.32**	**197**	⇓*i*P	Pn	05 12 33.4	-0.3
ST10N				⇑*i*P	Pb	05 12 33.5	+1.7
ST10N				IAML		05 12 37.7	
	comp=Z,5.4nm,0.1s						
ST10N				IAML		05 12 37.8	
	comp=N,5.9nm,0.1s						

*ISN **27** 05:23:42.2±1.2, 34°.69N×46°.27E, h18km±17km, ML2.5*
*TEH **27** 05:23:42.7, 34°.68N×46°.28E, h7km±115km, ML2.6*

ISC 27 05:23:42.5±1.1, 34°.67N±0°.05×46°.27E±0°.06, h9km±9km, n6, σ0ˢ.36/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.10**	**74**	Pg	**Pg**	**05 23 45.0**	**-0.1**
IDHR				Sg	**Sg**	**05 23 47.2**	**+0.2**
IGHG	**Ghaleghazi**	**0.42**	**144**	Pg	**Pg**	**05 23 51.2**	**+0.4**
ILIN	**Lien**	**0.62**	**66**	Pg	**Pg**	**05 23 54.7**	**+0.2**
ILIN				Sg	**Sb**	**05 24 04.3**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.63**	**208**	Pg	**Pb**	**05 23 55.4**	**-0.4**
IBDR	**Badra**	**1.58**	**190**	*e*Pg	**Pn**	**05 24 11.0**	**+0.3**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**05 24 33.0**	**-0.4**
IKRK	**Kirkuk**	**1.74**	**295**	*e*Pn	**Pn**	**05 24 13.0**	**0.0**
IKRK				*e*Sn	**Sb**	**05 24 37.0**	**+0.3**
IKRK				AML	AML	05 24 43.5	
	comp=E,56nm,0.4s						
IKRK				AML	AML	05 24 43.9	
	comp=N,71nm,0.7s						

*TEH **27** 05:29:10.3, 34°.82N×45°.74E, h10km±124km, ML2.8*
*ISN **27** 05:29:11.0±1.6, 34°.81N×45°.71E, h25km, ML3.1*

ISC 27 05:29:10.5±1.1, 34°.82N±0°.06×45°.68E±0°.05, h10km, n7, σ1ˢ.42/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.32**	**193**	Pg	**Pg**	**05 29 17.3**	**+0.4**
GLG1	**Gilan-e-Gharb**	**0.73**	**165**	Pg	**Pg**	**05 29 24.0**	**-0.6**
GLG1				Sg	**Sb**	**05 29 35.4**	**0.0**
IGHG	**Ghaleghazi**	**0.88**	**123**	Pg	**Pg**	**05 29 26.4**	**-1.2**
ILIN	**Lien**	**1.06**	**84**	Pg	**Pg**	**05 29 30.2**	**-0.7**
ILIN				Sg	**Sg**	**05 29 44.5**	**-0.3**
IKRK	**Kirkuk**	**1.24**	**298**	*e*Pg	**Pn**	**05 29 33.0**	**-0.9**
	baz=118						
IKRK				*e*Sg	**Sb**	**05 29 52.0**	**+1.9**
IKRK				AML	AML	05 29 58.4	
	comp=E,347nm,0.5s						
IKRK				AML	AML	05 29 58.6	
	comp=N,386nm,0.2s						
ILBA	**Ilam Banvizeh**	**1.27**	**160**	Pg	**Pb**	**05 29 33.7**	**-0.9**
IBZA	**Bozab**	**1.83**	**100**	Pg	**Pn**	**05 29 44.8**	**+2.5**

*IDC **27** 05:39:55.9±1.6, 36°.89N×3°.60E, h0km, mb3.2/2, mbtmp3.3/5, ML3.2/3, MS2.9/1, Error ellipse: s-maj=32.3km s-min=22.1km az=4.0*
*CRAAG **27** 05:39:56.9, 36°.86N×3°.62E, Ml3.5, Algerie 09km NE Zemmouri*
*MDD **27** 05:39:59.3±0.6, 36°.87N×3°.67E, h26km±12km, Mb4.1/30, M_mb3.5/30, Error ellipse: s-maj=12.5km s-min=2.8km az=134.0*
*LDG **27** 05:40:00.1±0.1, 36°.98N×3°.56E, h10km, Ml3.3/15, Error ellipse: s-maj=3.2km s-min=1.9km az=151.0*

ISC 27 05:39:57.0±0.8, 37°.04N±0°.05×3°.58E±0°.04, h12km, n71, σ1ˢ.94/108, 19C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKED	**El Kharrouba**	**0.41**	**199**	P	**Pg**	**05 40 03.4**	**-1.7**
ABA	**Alger-Bouzarea**	**0.49**	**242**	P	**Pb**	**05 40 07.6**	**-0.1**
ATKB	**Taksebt**	**0.56**	**130**	P	**Pg**	**05 40 06.5**	**-1.5**
ADOR	**Douera**	**0.65**	**235**	P	**Pb**	**05 40 10.1**	**-0.4**
ATKJ	**Tikjda**	**0.73**	**143**	P	**Pg**	**05 40 09.5**	**-1.7**
EMHD	**Djebel Mahouad**	**0.97**	**211**	P	**Pg**	**05 40 14.9**	**-0.9**
EIBI	**Ibiza**	**2.66**	**319**	Pn	**Pn**	**05 40 41.5**	**+1.8**
EIBI				Sn	**Sn**	**05 41 12.5**	**+0.6**
EIBI	**Ibiza**	**2.66**	**319**	P	**Pn**	**05 40 41.8**	**+2.1**
EIBI				⇑*i*Vmb_V		05 40 49.2	
	435nm,SNR=4.3						
EIBI				S	**Sn**	**05 41 12.3**	**+0.4**
ETOS	**Mallorca**	**2.79**	**348**	Pn	**Pn**	**05 40 43.6**	**+2.1**
ETOS	**Mallorca**

EBER ⇑iVmb_V 05 41 16.2
64nm,SNR=1.2
EBER S **Sn** **05 42 11.3 -3.1**
EQES Quesada 5.35 280 P **Pn** **05 41 19.3 +2.6**
EQES ⇑iVmb_V 05 41 23.1
147nm,SNR=4.3
EQES S **Sn** **05 42 18.0 -0.4**
EJON La Jonquera 5.43 355 Pn **Pn** **05 41 20.8 +2.9**
EJON Sn **Sn** **05 42 18.4 -1.9**
EJON La Jonquera 5.43 355 P **Pn** **05 41 20.4 +2.6**
EJON ⇑iVmb_V 05 41 24.0
282nm,SNR=5.3
EJON S **Sn** **05 42 19.4 -0.9**
EQTA Presa de Quent 5.62 274 Pn **Pn** **05 41 21.2 +0.8**
ELGU Los Guajares, 5.77 271 Pn **Pn** **05 41 22.4 -0.2**
ELGU Sn **Sn** **05 42 25.8 -2.9**
ELGU Los Guajares, 5.77 271 P **Pn** **05 41 23.0 +0.4**
ELGU ⇑iVmb_V 05 41 26.6
79nm,SNR=1.6
ELGU S **Sn** **05 42 24.9 -3.9**
ETOR Torete 5.79 312 P **Pn** **05 41 25.6 +2.7**
ETOR ⇑iVmb_V 05 41 32.1
41nm,SNR=1.2
ETOR S **Sn** **05 42 26.8 -2.5**
PSIM Granatula de C 6.07 289 P **Pn** **05 41 28.0 +1.4**
PSIM S **Sn** **05 42 33.0 -3.0**
FIGM Figuig 6.31 221 S **Pn** **05 41 30.1 +0.1**
MTLF Montolieu 6.38 351 *e*Pn **Pn** **05 41 33.0 +2.1**
MTLF *e*Sn **Sn** **05 42 41.8 -1.9**
6.7nm,0.6s
MTLF Montolieu 6.38 351 Pg **Pn** **05 41 33.1 +2.3**
EPF Esparros 6.48 338 *e*Pn **Pn** **05 41 33.0 +0.7**
EPF *e*Sn **Sn** **05 42 43.8 -2.4**
4.1nm,0.4s
ESDC Sonseca Array 6.49 296 Pn **Pn** **05 41 33.8 +1.4**
0.3nm,0.3s,baz=112,slow=13,SNR=14
ESDC Sn **Sn** **05 42 50.7 +4.4**
baz=111,slow=25
1.2nm,0.4s
ETSF Etsaut 6.66 333 *e*Pn **Pn** **05 41 36.0 +1.2**
ETSF *e*Sn **Sn** **05 42 48.3 -2.3**
1.9nm,0.4s
LMR La Mourre 6.68 19 *e*Pn **Pn** **05 41 36.0 +1.1**
LMR *e*Sn **Sn** **05 42 49.1 -1.8**
3.0nm,0.3s
PAB San Pablo 6.72 294 P **Pn** **05 41 36.6 +1.0**
PAB ⇑iVmb_V 05 41 39.8
57nm,SNR=2.4
PAB S **Sn** **05 42 50.8 -1.3**
PGF Pioggiola 6.91 35 *e*Pn **Pn** **05 41 39.5 +1.3**
PGF *e*Sn **Sn** **05 42 52.7 -4.0**
2.1nm,0.3s
LASF Ste Croix 7.04 2 *e*Pn **Pn** **05 41 41.4 +1.5**
LASF *e*Sn **Sn** **05 42 56.7 -3.1**
9.5nm,0.7s
SMRF Simiane la Rot 7.10 12 *e*Pn **Pn** **05 41 42.1 +1.4**
SMRF *e*Sn **Sn** **05 43 00.2 -1.1**
1.3nm,0.2s
SJPF Ste Jean 7.10 330 *e*Pn **Pn** **05 41 41.9 +1.2**
SJPF *e*Sn **Sn** **05 42 58.5 -2.8**
2.7nm,0.4s
SBF Sospel 7.43 22 *e*Pn **Pn** **05 41 46.9 +1.7**
SBF *e*Sn **Sn** **05 43 07.4 -2.0**
2.0nm,0.2s
VIVF Saint-Julien-l 7.86 6 *e*Pn **Pn** **05 41 52.2 +1.1**
VIVF *e*Sn **Sn** **05 43 17.5 -2.5**
4.5nm,0.5s
MDT Midelt 7.93 240 Pn **Pn** **05 41 52.2 0.0**
0.1nm,0.3s,baz=61,slow=15,SNR=8.0
0.4nm,0.3s
MDT Midelt 7.93 240 S **Pn** **05 41 52.8 +0.6**
CAF Calviac 7.97 352 *e*Pn **Pn** **05 41 54.1 +1.5**
MD31 MD31 8.01 241 S **Pn** **05 41 54.4 +1.1**
MBDF Montbardon 8.05 16 *e*Pn **Pn** **05 41 55.5 +1.6**
LPG La Plagne 8.79 15 *e*Pn **Pn** **05 42 03.7 -0.4**
LPG *e*Sn **Sn** **05 43 39.9 -3.2**
2.2nm,0.3s
LPL La Plagne 8.80 15 *e*Sn **Sn** **05 43 40.3 -3.1**
5.1nm,0.2s
GOLM Goulmima 8.83 235 S **Pn** **05 42 08.6 +4.0**
TCF Toulx Ste Croi 9.30 354 *e*Pn **Pn** **05 42 12.5 +1.6**
ECAL Calabor 9.36 305 P **Pn** **05 42 13.1 +1.4**
ECAL ⇑iVmb_V 05 42 19.5
84nm,SNR=1.6
BGF Bois d'Agland 9.53 357 *e*Pn **Pn** **05 42 15.8 +1.8**
BGF *e*Sn **Sn** **05 43 56.7 -4.3**
4.6nm,0.3s
SMF Signal de Mont 9.61 1 *e*Pn **Pn** **05 42 14.8 -0.3**
AVF Avril sur Loir 9.75 359 *e*Pn **Pn** **05 42 19.1 +2.1**
CABF La Chapelle 9.75 10 *e*Pn **Pn** **05 42 21.7 +4.6**
QUIF Quistinic 11.95 338 *e*Pn **Pn** **05 42 48.8 +1.7**
SGMF Saint Gilles 12.08 340 *e*Pn **Pn** **05 42 50.8 +1.9**
GERES GERESS Array B 13.92 29 LR LR 05 49 31.7
comp=Z,40nm,18.3s,baz=36,slow=41
TORD Torodi Ar. Bea 23.85 185 P **P** **05 45 09.1 -1.1**
0.6nm,0.8s,baz=19,slow=9.2,SNR=3.6
0.6nm,0.8s
MKAR Makanchi Array 57.09 53 P **P** **05 49 44.3 +1.2**
0.1nm,0.4s,baz=272,slow=7.1,SNR=2.2
0.1nm,0.4s

*SOME **27** 05:41:05.9, 44.°88N×81.°03E, h20km*
*NNC **27** 05:41:06.8±0.5, 44.°90N×80.°88E, h0km, mb3.8, mpv3.6,*
Error ellipse: s-maj=5.3km s-min=2.9km az=125.0
ISC 27 05:41:07.5±1.4, 44.°83N±0.°04×80.°85E±0.°04, h2km±11km,
n49, σ1°28/70, 7C-7D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.90**	**237**	*e*P	**Pb**	**05 41 25.5**	**-0.5**
	35nm,0.3s						
DJR				*e*S	**Sn**	**05 41 39.4**	**-1.6**
	69nm,0.4s						
DJR	**Jarkent**	**0.90**	**237**	P	**Pg**	**05 41 26.3**	**+1.5**
	35nm,0.3s						
DJR				S	**Sn**	**05 41 39.7**	**-1.3**
	88nm,0.4s						
KNOS	**Konyrlen**	**1.28**	**249**	P	**Pb**	**05 41 32.3**	**-0.2**
	1.2nm,0.5s						
KNOS				S	**Sg**	**05 41 50.6**	**+2.0**
	42nm,0.3s						
KTMS	**Ketmen**	**1.43**	**195**	*e*P	**Pn**	**05 41 33.8**	**-0.8**
	8.7nm,0.1s						
KTMS				*e*S	**Sg**	**05 41 54.1**	**+0.8**
	60nm,0.1s						
KTMS	**Ketmen**	**1.43**	**195**	P	**Pn**	**05 41 33.8**	**-0.8**
	8.7nm,0.1s						
KTMS				S	**Sg**	**05 41 54.1**	**+0.8**
	60nm,0.1s						
PDGK	**Podgornoye**	**1.79**	**214**	P	**Pb**	**05 41 40.5**	**-0.6**
	9.2nm,0.2s						
PDGK				S	**Sg**	**05 42 05.7**	**+0.8**
	110nm,0.3s						
PDGK	**Podgornoye**	**1.79**	**214**	⇓Pg	**Pb**	**05 41 41.1**	**0.0**
	5.6nm,0.3s						
PDGK				⇑Lg	Lg	05 42 05.7	
	109nm,0.6s						
BLB	**Baldybastay**	**1.85**	**248**	Pg	**Pb**	**05 41 42.9**	**+0.8**
	202nm,0.2s						
BLB				Lg	Lg	05 42 09.5	
	106nm,0.3s						
SHLS	**Shalkode**	**1.95**	**211**	*e*P	**Pn**	**05 41 40.8**	**-0.9**
	52nm,0.2s						
SHLS				*e*S	**Sn**	**05 42 06.1**	**-0.8**
	181nm,0.3s						
SHLS	**Shalkode**	**1.95**	**211**	P	**Pn**	**05 41 41.2**	**-0.5**
	52nm,0.2s						
SHLS				S	**Sn**	**05 42 06.1**	**-0.8**
	181nm,0.3s						
KPKS	**Kokpek**	**2.07**	**230**	*e*P	**Pb**	**05 41 45.7**	**-0.1**
	79nm,0.1s						
KPKS				*e*S	**Sg**	**05 42 14.5**	**+0.6**
	294nm,0.5s						
KPKS	**Kokpek**	**2.07**	**230**	Pg	**Pb**	**05 41 45.9**	**+0.1**
	76nm,0.1s						
KPKS				Lg	Lg	05 42 14.5	
	294nm,0.5s						
MAKZ	**Makanchi**	**2.13**	**21**	⇓Pg	**Pn**	**05 41 43.6**	**-0.6**
	2.6nm,0.3s						
MAKZ				⇑Lg	Lg	05 42 11.0	
	8.5nm,0.3s						
UZB	**Uzynbulak**	**2.14**	**219**	*e*P	**Pb**	**05 41 46.7**	**-0.3**
	8.1nm,0.2s						
UZB				*e*S	**Sg**	**05 42 16.3**	**+0.2**
	130nm,0.2s						
UZB	**Uzynbulak**	**2.14**	**219**	Pg	**Pb**	**05 41 46.7**	**-0.3**
	8.1nm,0.2s						
UZB				Lg	Lg	05 42 16.3	
	130nm,0.2s						
MK31	**Makanchi Array**	**2.21**	**27**	⇓Pg	**Pn**	**05 41 44.8**	**-0.4**
	1.6nm,0.2s,baz=207,slow=13,SNR=101						
MK31				⇑Lg	Lg	05 42 12.6	
	19nm,0.3s,baz=202,slow=24,SNR=29						
ARXS	**Arharly**	**2.25**	**255**	*e*P	**Pb**	**05 41 49.5**	**+0.6**
	29nm,0.2s						
ARXS				*e*S	**Sg**	**05 42 20.9**	**+1.3**
	71nm,0.3s						
ARXS	**Arharly**	**2.25**	**255**	Pg	**Pb**	**05 41 49.4**	**+0.6**
	25nm,0.3s						
ARXS				Lg	Lg	05 42 20.9	
	71nm,0.3s						
KURS	**Kuram**	**2.35**	**236**	Pg	**Pb**	**05 41 50.9**	**+0.4**
	5.5nm,0.2s						
KURS				Lg	Lg	05 42 23.4	
	45nm,0.3s						
ZHN	**Zhinishke**	**2.41**	**227**	*e*P	**Pb**	**05 41 51.5**	**0.0**
	9.3nm,0.1s						
ZHN				*e*S	**Sg**	**05 42 24.5**	**-0.3**
	235nm,0.2s						
ZHN	**Zhinishke**	**2.41**	**227**	Pg	**Pb**	**05 41 51.5**	**0.0**
	9.3nm,0.1s						
ZHN				Lg	Lg	05 42 24.5	
	235nm,0.2s						
SATY	**Saty**	**2.50**	**226**	*e*P	**Pb**	**05 41 53.8**	**+0.6**
	11nm,0.2s						
SATY				*e*S	**Sg**	**05 42 28.3**	**+0.6**
	233nm,0.2s						
SATY	**Saty**	**2.50**	**226**	Pg	**Pb**	**05 41 53.8**	**+0.6**
	11nm,0.2s						
SATY				Lg	Lg	05 42 27.5	
	214nm,0.2s						
CHKK	**Chushkaly**	**2.94**	**252**	*e*P	**Pb**	**05 42 01.5**	**+0.9**
	5.3nm,0.3s						
CHKK				*e*S	**Sg**	**05 42 41.5**	**-0.2**
	52nm,0.3s						
CHKK	**Chushkaly**	**2.94**	**252**	Pg	**Pb**	**05 42 01.5**	**+0.9**
	5.3nm,0.3s						
CHKK				Lg	Lg	05 42 41.5	
	52nm,0.3s						
KOTS	**Kotyrbulak**	**3.13**	**241**	*e*P	**Pb**	**05 42 04.4**	**+0.5**
	6.8nm,0.2s						
KOTS				*e*S	**Sg**	**05 42 46.6**	**-1.4**
	33nm,0.4s						
KOTS	**Kotyrbulak**	**3.13**	**241**	Pg	**Pb**	**05 42 04.4**	**+0.5**
	6.8nm,0.2s						
KOTS				Lg	Lg	05 42 46.6	
	33nm,0.4s						
KTBS	**Karatobe**	**3.19**	**251**	*e*P	**Pb**	**05 42 05.8**	**+0.8**
	3.4nm,0.4s						
KTBS				*e*S	**Sg**	**05 42 48.9**	**-1.1**
	42nm,0.3s						
KTBS	**Karatobe**	**3.19**	**251**	Pg	**Pb**	**05 42 05.8**	**+0.8**
	3.4nm,0.4s						
KTBS				Lg	Lg	05 42 48.9	
	42nm,0.3s						
MDOK	**Medeo**	**3.21**	**240**	*e*P	**Pb**	**05 42 05.4**	**+0.1**
	9.1nm,0.3s						
MDOK				*e*S	**Sg**	**05 42 48.2**	**-2.3**
	30nm,0.5s						
MDOK	**Medeo**	**3.21**	**240**	Pg	**Pb**	**05 42 05.4**	**+0.1**
	9.1nm,0.3s						
MDOK				Pg	**Pg**	**05 42 09.2**	**+0.3**
	11nm,0.5s						
MDOK				Lg	Lg	05 42 48.2	
	30nm,0.5s						
MDOK				Lg	Lg	05 42 48.3	
	13nm,0.4s						
TNSS	**Tian-Shan**	**3.34**	**239**	*e*P	**Pb**	**05 42 08.2**	**+0.5**
	4.2nm,0.3s						
TNSS				*e*S	**Sg**	**05 42 53.0**	**-1.7**
	4.8nm,0.3s						
TNSS	**Tian-Shan**	**3.34**	**239**	Pg	**Pb**	**05 42 08.2**	**+0.5**
	4.2nm,0.3s						
TNSS				Lg	Lg	05 42 53.0	
	4.8nm,0.3s						
MTBS	**Maitube**	**3.61**	**244**	*e*P	**Pb**	**05 42 12.4**	**+0.2**
	3.9nm,0.2s						
MTBS				*e*S	**Sb**	**05 43 00.2**	**+3.7**
	38nm,0.3s						
MTBS	**Maitube**	**3.61**	**244**	Pg	**Pb**	**05 42 12.4**	**+0.2**
	3.9nm,0.2s						
MTBS				Lg	Lg	05 43 00.2	
	38nm,0.3s						
ZSN	**Zaisan**	**3.83**	**45**	*e*P	**Pn**	**05 42 08.8**	**+1.3**
	1.8nm,0.1s						
ZSN				*e*S	**Sn**	**05 42 53.9**	**+0.7**
	3.6nm,0.2s						
ZSN	**Zaisan**	**3.83**	**45**	Pg	**Pb**	**05 42 14.2**	**-1.6**
	3.0nm,0.2s						
ZSN				Lg	Lg	05 43 03.3	
	16nm,0.5s						
KRBS	**Karabastau**	**3.88**	**255**	*e*P	**Pb**	**05 42 18.5**	**+1.7**
	4.8nm,0.5s						
KRBS				*e*S	**Sg**	**05 43 10.7**	**-1.6**
	4.6nm,0.3s						
KRBS	**Karabastau**	**3.88**	**255**	Pg	**Pb**	**05 42 18.5**	**+1.7**
	4.8nm,0.5s						
KRBS				Lg	Lg	05 43 10.6	
	4.6nm,0.3s						
KST	**Kastek**	**3.95**	**245**	*e*P	**Pb**	**05 42 18.9**	**+0.9**
	3.6nm,0.4s						
KST				*e*S	**Sg**	**05 43 11.3**	**-3.1**
	7.7nm,0.5s						
KST	**Kastek**	**3.95**	**245**	Pg	**Pb**	**05 42 18.9**	**+0.9**
	3.6nm,0.4s						
KST				Lg	Lg	05 43 11.3	
	7.7nm,0.5s						
DGS	**Degeres**	**3.99**	**248**	*e*P	**Pb**	**05 42 21.1**	**+2.5**
	14nm,0.4s						
DGS				*e*S	**Sg**	**05 43 14.8**	**-0.8**
	14nm,0.4s						
DGS	**Degeres**	**3.99**	**248**	Pg	**Pb**	**05 42 19.5**	**+0.9**
	14nm,0.4s						
DGS				Lg	Lg	05 43 12.4	
	18nm,0.4s						
TKM2	**Tokmak 2**	**4.25**	**245**	⇓Pg	**Pg**	**05 42 26.6**	**-2.3**
	3.1nm,0.4s						
TKM2				⇓Lg	Lg	05 43 19.9	
	6.5nm,0.3s						
CHMS	**Chumysh**	**4.77**	**250**	⇓Lg	Lg	05 43 37.0	
	4.8nm,0.4s						
AAK	**Ala-Archa**	**5.10**	**247**	Lg	Lg	05 43 48.5	
	5.0nm,0.5s						
KURBB	**Kurchatov Arra**	**6.00**	**346**	⇑Lg	Lg	05 44 15.9	
	8.9nm,0.6s						
KURK	**Kurchatov**	**6.08**	**347**	⇑Lg	Lg	05 44 17.9	
	2.5nm,0.4s						
OTUK	**Ortayu**	**6.79**	**303**	⇓Pn	**Pn**	**05 42 44.7**	**-3.5**
	0.4nm,0.5s						
OTUK				⇑Sn	**Sn**	**05 44 08.7**	**+2.6**
	1.1nm,0.5s						
OTUK				⇑Lg	Lg	05 44 41.1	
	3.0nm,0.6s						

STR 27 05:41:17.6±0.6, 43.°N±3.°×±.°, h0km, MLv0.8/3, Error ellipse: s-maj=0.0km s-min=0.0km az=127.7, preliminary, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FILF	**Fillols**	**0.19**	**237**	Pg	Pg	05 41 23.1	+2.0
FILF				Sg	Sg	05 41 27.7	+4.2
SJAF	**Saint Jean de**	**0.19**	**155**	Pg	Pg	05 41 21.3	0.0
SJAF				Sg	Sg	05 41 24.5	+0.7
CARF	**Carcanieres**	**0.49**	**277**	Pg	Pg	05 41 26.8	-0.3
CARF				Sg	Sg	05 41 33.7	+0.3
CLAF	**Gruissan**	**0.53**	**26**	Pg	Pg	05 41 28.2	+0.5
CLAF				Sg	Sg	05 41 34.8	+0.2
FNEB	**Nbias**	**0.55**	**297**	Pg	Pg	05 41 28.8	+0.7

*IDC **27** 06:01:01.9±0.5, 6.°00N×77.°39W, h0km, mb4.3/19,*
mbtmp4.3/22, ML4.0/3, MS3.5/28, Error ellipse:
s-maj=18.5km s-min=13.4km az=57.0
*NEIC **27** 06:01:04.5±2.3, 6.°13N±0.°05×77.°41W±0.°05, h10km±1km,*
mb4.5/33, Error ellipse: s-maj=9.7km s-min=7.3km
az=138.0
*RSNC **27** 06:01:05.4±0.0, 6.°N±1.°×7.°8W±.°, h10km±2km, M4.1, mb5.0,*
mB5.2, ML3.6, Mw4.5, Mw(mB)4.6
*UPA **27** 06:01:05.8±2.4, 6.°01N×77.°56W, h18km±25km, MW4.8*
*VAO **27** 06:01:59.2±0.7, 4.°23N×74.°57W, h345km±8km, mb4.3*
ISC 27 06:01:05.0±0.7, 6.°00N±0.°03×77.°50W±0.°03, h20km±5km,
n202, σ1°79/224, mb4.5/30, MS3.5/20, 1C-6D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.24**	**22**	P	**Pb**	**06 01 10.9**	**+0.1**
SOLC				S	**Sb**	**06 01 15.5**	**+0.8**
PIZC	**Pizarro, Choco**	**1.04**	**172**	P	**Pn**	**06 01 24.7**	**+0.2**
PIZC				S	**Sn**	**06 01 39.1**	**+0.7**
PTAC	**Punta Ardita,**	**1.18**	**345**	*i* P	**Pn**	**06 01 25.7**	**-0.7**
PTAC				*i* S	**Sb**	**06 01 41.5**	**-0.2**
PTAC	**Punta Ardita,**	**1.18**	**345**	P	**Pn**	**06 01 25.3**	**-1.1**
PTAC				S	**Sb**	**06 01 39.4**	**-2.2**
PLMC	**San Jos del P**	**1.63**	**132**	P	**Pn**	**06 01 30.4**	**-2.3**
PLMC				S	**Sn**	**06 01 50.8**	**-2.3**
DBBC	**Dabeiba**	**1.63**	**52**	P	**Pn**	**06 01 32.0**	**-0.7**
DBBC				S	**Sn**	**06 01 51.2**	**-2.0**
MALC	**Bahia Malaga**	**1.98**	**175**	P	**Pn**	**06 01 38.3**	**+0.9**
MALC				S	**Sn**	**06 02 02.4**	**+0.7**
APAC	**Apartado, Choc**	**2.10**	**26**	P	**Pn**	**06 01 39.9**	**+0.8**
APAC				S	**Sb**	**06 02 11.2**	**+3.1**
GUY2C	**Guyana, Caldas**	**2.26**	**110**	P	**Pn**	**06 01 41.1**	**-0.6**
GUY2C				S	**Sn**	**06 02 11.0**	**+1.7**
YOTC	**Yotoco, Valle**	**2.31**	**150**	P	**Pn**	**06 01 40.9**	**-1.2**
RECRC	**Villamaria, Ca**	**2.38**	**116**	P	**Pn**	**06 01 44.7**	**+1.3**
RECRC				S	**Sb**	**06 02 15.1**	**-1.5**
ANIL	**Santa Ana**	**2.57**	**126**	P	**Pn**	**06 01 46.9**	**+1.1**
ANIL				S	**Sb**	**06 02 19.7**	**-2.3**
UREC	**San Jos de Ur**	**2.62**	**48**	⇑iP	**Pn**	**06 01 46.6**	**+0.4**
UREC	**San Jos de Ur**	**2.62**	**48**	P	**Pn**	**06 01 46.7**	**+0.4**
UREC				S	**Sb**	**06 02 21.0**	**-2.0**
CAPC	**Capurgana**	**2.62**	**3**	P	**Pn**	**06 01 47.5**	**+1.2**
NORC	**Norcasia**	**2.65**	**99**	P	**Pn**	**06 01 47.1**	**+0.3**
NORC				S	**Sn**	**06 02 20.3**	**+1.9**
PEDA3	**Pedasi**	**2.93**	**301**	⇓iP	**Pn**	**06 01 49.2**	**-1.3**
ZARC	**Zaragoza, Cauc**	**3.02**	**60**	P	**Pn**	**06 01 52.4**	**+0.7**
ZARC				S	**Sn**	**06 02 29.6**	**+2.3**
TOTI	**Torti**	**3.02**	**345**	*e*P	**Pn**	**06 01 52.1**	**+0.4**
GR1C	**Gorgona, Isla**	**3.05**	**193**	P	**Pn**	**06 01 55.1**	**+2.9**
LCBC	**Los crdobas,**	**3.05**	**22**	*e*P	**Pn**	**06 01 53.6**	**+1.4**
LCBC	**Los crdobas,**	**3.05**	**22**	P	**Pn**	**06 01 54.2**	**+2.0**
LCBC				S	**Sn**	**06 02 31.6**	**+3.4**
ORTC	**Ortega, Tolima**	**3.06**	**133**	P	**Pn**	**06 01 53.2**	**+0.9**
ORTC				S	**Sn**	**06 02 31.8**	**+3.4**
PTBC	**PUERTO BERRIO,**	**3.07**	**80**	P	**Pn**	**06 01 53.4**	**+0.9**
PTBC				S	**Sb**	**06 02 32.6**	**-3.6**
PCRI3	**Pocri, Los San**	**3.08**	**303**	⇓iP	**Pn**	**06 01 51.8**	**-0.8**
PCRI3				*i* S	**Sn**	**06 02 27.7**	**-1.1**
TOSI3	**Tonosi**	**3.24**	**296**	⇓iP	**Pn**	**06 01 53.9**	**-0.9**
TOSI3				*i* S	**Sn**	**06 02 29.4**	**-3.3**
AZU	**Azuero**	**3.28**	**303**	⇓iP	**Pn**	**06 01 54.5**	**-0.8**
AZU				*i* S	**Sn**	**06 02 31.3**	**-2.4**
AZU	**Azuero**	**3.28**	**303**	P	**Pn**	**06 01 54.5**	**-0.8**
AZU				S	**Sn**	**06 02 32.7**	**-1.1**
ROSC	**El Rosal**	**3.37**	**110**	Pn	**Pn**	**06 01 59.3**	**+2.4**
	22nm,0.3s,baz=274,slow=4.6,SNR=60						
ROSC				LR	LR	06 02 47.5	
	comp=Z,828nm,19.9s,baz=211,slow=32						
ROSC	**El Rosal**	**3.37**	**110**	P	**Pn**	**06 01 59.1**	**+2.2**
SPBC	**San Pablo de B**	**3.43**	**96**	P	**Pn**	**06 01 58.2**	**+0.7**
SPBC				S	**Sb**	**06 02 43.6**	**-2.9**
PRAC	**Prado**	**3.46**	**131**	P	**Pn**	**06 01 59.4**	**+1.6**
PRAC				S	**Sb**	**06 02 45.5**	**-1.7**
CNTA3	**Canitas, Panam**	**3.48**	**337**	*e*P	**Pn**	**06 01 59.5**	**+1.4**
CHIT3	**Chitre**	**3.49**	**304**	*i* P	**Pn**	**06 01 58.0**	**-0.2**
CHIT3				*e*S	**Sn**	**06 02 38.4**	**-0.6**
CHPO	**Chepo, Panama**	**3.53**	**333**	*e*P	**Pn**	**06 01 58.8**	**0.0**
POPC	**Popayan, Colom**	**3.53**	**167**	P	**Pn**	**06 01 59.8**	**+0.8**
UPA	**Univ. de Panam**	**3.58**	**326**	*i* P	**Pn**	**06 01 58.5**	**-1.0**
CACAO	**El Cacao, Vera**	**3.59**	**292**	⇓iP	**Pn**	**06 01 58.5**	**-1.2**
CACAO				*e*S	**Sn**	**06 02 34.0**	**-7.6**
CACAO	**El Cacao, Vera**	**3.59**	**292**	P	**Pn**	**06 01 58.4**	**-1.2**
CACAO				S	**Sn**	**06 02 38.4**	**-3.2**
PESE3	**Pese, Herrera**	**3.62**	**302**	*e*P	**Pn**	**06 01 59.8**	**-0.3**
PESE3				*i* S	**Sn**	**06 02 41.6**	**-0.7**
ARRA3	**Arraijan, Pana**	**3.64**	**324**	*e*P	**Pn**	**06 01 59.4**	**-0.9**
ZANG	**Zanguenga, Cho**	**3.76**	**322**	*e*P	**Pn**	**06 02 01.2**	**-0.8**
CRIS3	**El Cristo, Coc**	**3.82**	**306**	*e*P	**Pn**	**06 02 02.5**	**-0.3**
BETC	**Betania**	**3.88**	**148**	P	**Pn**	**06 02 06.5**	**+2.8**
FRIJ	**El Hiral**	**3.89**	**326**	*i* P	**Pn**	**06 02 02.4**	**-1.3**
BCIP	**Isla Barro Col**	**3.91**	**324**		**Pn**	**06 02 02.7**	**-1.3**
BCIP	**Isla Barro Col**	**3.91**	**324**	*e*P	**Pn**	**06 02 02.4**	**-1.6**
BCIP	**Isla Barro Col**	**3.91**	**324**	P	**Pn**	**06 02 02.6**	**-1.3**
BBAC	**Balboa, Cauca**	**3.96**	**176**	P	**Pn**	**06 02 04.7**	**-0.2**
CHIC	**Chingaza**	**3.99**	**110**	P	**Pn**	**06 02 07.9**	**+2.4**
STIA3	**Santiago, Vera**	**4.03**	**301**	*i* P	**Pn**	**06 02 05.6**	**0.0**
STIA3				*i* S	**Sn**	**06 02 48.1**	**-4.1**
CALO3	**Calobre, Verag**	**4.04**	**305**	*i* P	**Pn**	**06 02 06.1**	**+0.3**
CALO3				*e*S	**Sn**	**06 02 52.4**	**-0.1**
GMAL	**Guarumal, Vera**	**4.10**	**296**	⇓iP	**Pn**	**06 02 06.7**	**+0.1**
GMAL				*e*S	**Sn**	**06 02 51.9**	**-2.1**
GMAL	**Guarumal, Vera**	**4.10**	**296**	P	**Pn**	**06 02 06.8**	**+0.2**
GMAL				S	**Sn**	**06 02 54.5**	**+0.5**
RSUS3	**Rio de Jesus,**	**4.13**	**299**	*i* P	**Pn**	**06 02 07.3**	**+0.2**
VILC	**Villavicencio,**	**4.23**	**116**	P	**Pn**	**06 02 11.9**	**+3.4**
MESA3	**La Mesa, Verag**	**4.23**	**300**	*e*P	**Pn**	**06 02 09.2**	**+0.8**
GARC	**Garzon, Huila**	**4.28**	**152**	P	**Pn**	**06 02 11.5**	**+2.1**
GARC				P	Pb	06 02 11.6	-8.3
GARC				S	**Sn**	**06 03 03.8**	**+4.9**
SJCC	**San Jacinto, C**	**4.50**	**31**	P	**Pn**	**06 02 14.3**	**+2.1**
SJCC				S	**Sn**	**06 03 09.2**	**+5.1**
OCAC	**Ocana**	**4.71**	**62**	P	**Pn**	**06 02 17.1**	**+2.0**
OCAC				S	**Sn**	**06 03 13.1**	**+3.8**
FLOC	**Florencia**	**4.76**	**157**	P	**Pn**	**06 02 17.8**	**+2.1**
FLOC				P	Pb	06 02 18.6	-9.2
PAMC	**Pamplona, Colo**	**4.95**	**74**	P	**Pn**	**06 02 20.3**	**+1.5**
PAMC				P	**Pn**	**06 02 20.5**	**+1.7**
PAMC				P	**Pn**	**06 02 20.8**	**+2.0**
ARGC	**Ariguani, Magd**	**5.01**	**40**	P	Pn	06 02 24.7	+5.6
TULM	**Tulcn-Chalpat**	**5.26**	**183**	Pn	**Pn**	**06 02 25.8**	**+2.8**
LOMA3	**Las Lomas, Chi**	**5.42**	**297**	*e*P	**Pn**	**06 02 26.1**	**+1.3**
CHGR2	**Aguacate**	**5.45**	**303**	*e*P	**Pn**	**06 02 25.6**	**+0.4**
CHGR2				*e*S	**Sn**	**06 03 29.1**	**+1.7**
DVD	**David**	**5.47**	**297**	*e*P	**Pn**	**06 02 27.1**	**+1.6**
PTGC	**Puerto Gaitan,**	**5.64**	**108**	P	**Pn**	**06 02 29.0**	**+1.2**
	147nm,0.9s,1μm						
TAMC	**Tame, Arauca**	**5.69**	**85**	P	**Pn**	**06 02 29.6**	**+1.0**
	267nm,1.3s,2μm						
IMBA	**Imbabura, San**	**5.73**	**187**	Pn	**Pn**	**06 02 31.1**	**+1.7**
PTPM	**Petroterminale**	**5.77**	**293**	*e*P	**Pn**	**06 02 29.4**	**-0.2**
**O

TBTG Tabatinga, AM 12.64 143 Pn 06 04 03.0 -0.9
TBTG Tabatinga, AM 12.64 143 *e*P **P 06 04 14.2 -1.0**
ATAH Atahualpa 13.08 184 Pn 06 04 13.0 +2.8
0.4nm,0.3s,baz=357,slow=1.2,SNR=5.7
ATAH LR LR 06 09 42.6
comp=Z,444nm,19.3s,baz=19,slow=40
PCRV Puerto La Cruz 13.39 71 Pn Pn 06 04 12.4 -1.8
0.8nm,0.3s,baz=231,slow=7.3,SNR=16
14nm,0.7s
PAPH Port-au-Prince 13.44 22 Pn Pn 06 04 12.0 -2.8
SDDR Presa de Saban 14.25 25 Pn Pn 06 04 25.5 -0.4
CZSB Cruzeiro do Su 14.45 161 *e*P **P 06 04 38.0 +2.7**
APG El Apazote 15.56 306 LR LR 06 11 15.6
comp=Z,38nm,20.3s,baz=97,slow=39
CRPR Cabo Rojo, PR 15.66 39 Pn Pn 06 04 43.0 -1.7
MLPR Magueyes Islan 15.68 40 Pn **Pn 06 04 42.2 -2.7**
MLPR IAmb IAmb 06 05 03.8
comp=Z,22nm,0.8s
TEFE Tefe 15.95 126 *e*P **P 06 04 50.5 -1.4**
CELP Cerrillos 16.05 41 Pn **Pn 06 04 46.1 -3.6**
CELP IAmb IAmb 06 05 05.0
comp=Z,26nm,0.9s
UUPR Utuado, UPR, P 16.09 40 Pn 06 04 48.1 -2.2
AOPR Arecibo Observ 16.14 40 Pn **Pn 06 04 48.9 -2.1**
AOPR IAmb IAmb 06 05 13.8
comp=Z,27nm,0.7s
IGPR InterUniversit 16.29 42 Pn **Pn 06 04 51.2 -1.5**
IGPR IAmb IAmb 06 05 07.2
comp=Z,41nm,1.1s
SJG San Juan 16.36 42 Pn **Pn 06 04 51.5 -2.2**
SJG IAmb IAmb 06 05 09.8
comp=Z,48nm,1.2s
SJG San Juan 16.36 42 Pn **Pn 06 04 51.1 -2.6**
comp=Z,2.0nm,0.3s,baz=234,slow=16,SNR=2.9
SJG LR LR 06 11 29.5
comp=Z,206nm,19.2s,baz=216,slow=38
comp=Z,7.8nm,0.5s
HUMP Col San Antoni 16.58 42 P **Pn 06 04 55.7 -0.8**
HUMP IAmb IAmb 06 05 07.3
comp=Z,60nm,1.2s
BOAV Boa Vista 17.30 101 Pn **Pn 06 05 03.6 -2.0**
BOAV Boa Vista 17.30 101 *e*P Pn 06 04 56.5 -9.1
TEIG Tepich 17.59 324 Pn 06 05 08.6 -0.6
TEIG Tepich 17.59 324 LR LR 06 12 29.0
comp=Z,327nm,18.8s,baz=145,slow=39
NNA Nana 17.88 178 P **P 06 05 17.6 +4.3**
comp=Z,7.3nm,0.8s,baz=5.4,slow=13,SNR=3.9
NNA LR LR 06 13 35.2
comp=Z,121nm,20.3s,baz=358,slow=42
MACA Manacapuru-AM 19.10 118 P **P 06 05 26.1 -0.7**
MACA IAmb IAmb 06 05 41.9
comp=Z,20nm,0.8s
ETMB Extrema 19.32 144 P **P 06 05 28.0 -1.1**
ETMB IAmb IAmb 06 05 30.8
comp=Z,34nm,0.8s
ETMB Extrema 19.32 144 *e*P **P 06 05 27.7 -1.5**
CMIG Matias Romero 20.26 304 P **P 06 05 39.6 +0.1**
comp=Z,3.5nm,0.9s,baz=94,slow=16,SNR=4.3
CMIG LR LR 06 14 05.6
comp=Z,76nm,20.5s,baz=124,slow=38
comp=Z,3.5nm,0.9s
SAML Samuel 20.60 136 P **P 06 05 40.8 -2.2**
SAML IAmb IAmb 06 05 41.9
comp=Z,29nm,0.9s
SAML Samuel 20.60 136 *e*P **P 06 05 41.0 -2.1**
LPAZ La Paz 24.01 157 P **P 06 06 17.9 -1.5**
LPAZ La Paz 24.01 157 P **P 06 06 17.8 -1.6**
comp=Z,3.8nm,0.8s,baz=346,slow=12,SNR=15
comp=Z,3.8nm,0.8s
LPAZ La Paz 24.01 157 *e*P **P 06 06 16.8 -2.6**
VILB Vilhena 25.50 138 P **P 06 06 31.2 -1.1**
VILB Vilhena 25.50 138 *e*P **P 06 06 30.6 -1.7**
NPGB Novo Progresso 25.61 120 *e*P **P 06 06 31.1 -2.3**
PB11 IPOC Station P 26.74 163 P **P 06 06 44.2 +0.6**
PDRB Porto dos Gac 27.08 130 *e*P **P 06 06 44.4 -2.3**
HMBC Humberstone 27.16 164 P **P 06 06 47.9 +0.5**
HMBC IAmb IAmb 06 06 48.9
comp=Z,10nm,1.0s
PTLB Pontes e Lacer 28.02 140 P **P 06 06 52.9 -2.1**
PTLB Pontes e Lacer 28.02 140 *e*P **P 06 06 53.4 -1.6**
BBSD Serra de San D 28.45 144 *e*P **P 06 06 57.2 -1.6**
TKL Tuckaleechee C 30.08 350 LR LR 06 21 34.2
comp=Z,48nm,18.1s,baz=156,slow=41
WVT Waverly 31.45 344 P **P 06 07 25.8 +0.6**
WVT IAmb IAmb 06 07 26.8
comp=Z,3.6nm,0.7s
BRDY Brady 32.23 324 P **P 06 07 32.6 +0.4**
BRDY IAmb IAmb 06 07 39.4
comp=Z,5.6nm,0.9s
PBMO Poplar Bluff 32.84 341 P **P 06 07 37.8 +0.4**
PBMO IAmb IAmb 06 07 38.9
comp=Z,5.0nm,0.7s
ABTX Abilene, Hawle 33.58 325 P **P 06 07 43.6 -0.3**
MURT Porto Murtinho 33.70 145 *e*P **P 06 07 42.9 -2.2**
TXAR Lajitas Array 33.90 316 P **P 06 07 48.7 +1.8**
comp=Z,0.3nm,0.7s,baz=129,slow=10,SNR=5.5
TXAR PcP **PcP 06 10 25.7 +0.3**
comp=Z,0.6nm,0.6s,baz=139,slow=6.1,SNR=7.3
comp=Z,0.3nm,0.7s
AQDB Aquidauana 33.93 141 P **P 06 07 46.1 -1.0**
AQDB IAmb IAmb 06 07 46.6
comp=Z,6.4nm,0.7s
AQDB Aquidauana 33.93 141 *e*P **P 06 07 45.3 -1.8**
CCM Cathedral Cave 34.27 341 P **P 06 07 49.7 -0.1**
BDFB Brasilia 36.27 127 P **P 06 08 05.7 -1.8**
comp=Z,4.4nm,0.8s,baz=262,slow=16,SNR=8.2
BDFB LR LR 06 24 52.4
comp=Z,126nm,20.4s,baz=317,slow=40
comp=Z,4.4nm,0.8s
LPIG La Paz 36.28 303 LR LR 06 24 04.4
comp=Z,57nm,18.9s,baz=159,slow=38
CPUP Villa Florida 37.62 150 P P 06 08 13.8 -4.9
comp=Z,2.8nm,0.9s,baz=306,slow=4.4,SNR=4.2
ZON Zonda 38.27 168 P **P 06 08 26.0 +1.8**
SADO Sadowa 38.64 358 LR LR 06 24 49.3
comp=Z,64nm,19.9s,baz=210,slow=37
ANMO Albuquerque 39.27 321 LR LR 06 28 18.8
comp=Z,29nm,18.0s,baz=220,slow=42
T25A Trinidad 39.54 325 P **P 06 08 36.3 +1.3**
T25A IAmb IAmb 06 08 45.0
comp=Z,12nm,0.9s
CRSM Crissiumal (Br 40.29 147 *e*P **P 06 08 37.8 -3.3**
SDCO Great Sand Dun 40.59 325 P **P 06 08 44.7 +0.9**
K30B Basset 41.44 335 P **P 06 08 50.7 +0.3**
RSSD Black Hills 44.53 333 P **P 06 09 16.2 +0.5**
RSSD IAmb IAmb 06 09 24.4
comp=Z,18nm,1.5s
RPN Rapa Nui 45.09 222 LR LR 06 23 37.8
comp=Z,93nm,20.1s,baz=350,slow=30
PFO Pinyon Flats O 45.36 312 LR LR 06 30 30.1
comp=Z,68nm,18.3s,baz=93,slow=39
PDAR Pinedale Array 46.29 327 P **P 06 09 30.6 +0.9**
comp=Z,0.2nm,0.4s,baz=119,slow=11,SNR=2.8
PDAR PcP **PcP 06 11 04.4 -0.6**
comp=Z,0.5nm,0.8s,baz=151,slow=3.9,SNR=2.6
PDAR LR LR 06 31 57.0
comp=Z,17nm,18.9s,baz=136,slow=40
ULM Lac du Bonnet 46.72 344 P **P 06 09 31.4 -1.1**
comp=Z,4.9nm,0.7s,baz=157,slow=7.0,SNR=8.4
ULM LR LR 06 30 35.1
comp=Z,77nm,19.1s,baz=242,slow=38
comp=Z,4.9nm,0.7s
PLCA Paso Flores 46.94 173 P **P 06 09 35.9 +1.3**
PLCA Paso Flores 46.94 173 P **P 06 09 35.8 +1.3**
comp=Z,6.3nm,0.8s,baz=352,slow=8.7,SNR=18
comp=Z,6.3nm,0.8s
PLCA Paso Flores 46.94 173 *e*P **P 06 09 36.3 +1.8**
NVAR Mina Array Bea 49.04 317 LR LR 06 35 12.9
comp=Z,75nm,18.4s,baz=106,slow=42
SCHQ Schefferville 49.45 8 P **P 06 09 53.0 -0.6**
comp=Z,7.5nm,0.8s,baz=193,slow=5.4,SNR=6.9
comp=Z,7.5nm,0.8s
HLID Hailey 49.51 325 P **P 06 09 55.0 +0.5**
YBH Yreka Blue Hor 53.61 319 LR LR 06 35 14.3
comp=Z,25nm,20.1s,baz=172,slow=38
BBB Bella Bella 61.94 327 LR LR 06 41 48.6
comp=Z,52nm,18.5s,baz=147,slow=40
YKA Yellowknife Ar 62.60 342 P **P 06 11 27.4 -0.2**
comp=Z,3.3nm,0.9s,baz=135,slow=7.4,SNR=12
comp=Z,3.3nm,0.9s
SFJD Kangerlussuaq 63.63 11 LR LR 06 41 04.5
comp=Z,36nm,18.0s,baz=232,slow=38
ICESG Greenland Ices 67.74 14 *i*P **P 06 12 00.1 -1.1**
RES Resolute Bay 69.37 355 LR LR 06 43 09.6
comp=Z,45nm,19.5s,baz=26,slow=36
PNCL Nicolau / Gran 69.80 52 *e*P **P 06 12 15.8 +1.5**

PCAS Casmilo, Conde 70.12 50 *e*P **P 06 12 17.2 +1.0**
comp=Z,20nm,2.3s
PMTG Montargil 70.17 51 *e*P **P 06 12 17.1 +0.5**
SUMG Summit 70.63 12 *i*P **P 06 12 17.7 -1.5**
TULEG Thule 70.65 2 *i*P P 06 12 08.7 -10
BORG Borgarnes 70.65 22 LR LR 06 43 38.2
comp=Z,19nm,18.1s,baz=225,slow=36
PVIS Viseu 70.68 49 *e*P **P 06 12 20.5 +0.8**
comp=Z,18nm,1.4s
PCAB Cabril 70.73 48 *e*P **P 06 12 20.7 +0.7**
POLO Lamas de Olo 70.85 48 *e*P **P 06 12 21.8 +1.0**
comp=Z,9.5nm,1.7s
MTE Manteigas 70.89 49 *e*P **P 06 12 21.6 +0.6**
PBRG Braganca 71.70 48 *e*P **P 06 12 26.3 +0.4**
A36M Sachs Harbour 72.14 346 P **P 06 12 27.2 -0.6**
DBIC Dimbokro 72.14 85 P **P 06 12 28.6 -0.3**
comp=Z,11nm,0.8s,baz=262,slow=6.3,SNR=12
comp=Z,11nm,0.8s
NEEM North Greenlan 72.77 6 *i*P **P 06 12 31.3 -0.6**
ESDC Sonseca Array 73.53 51 P **P 06 12 37.2 +0.4**
ESDC IAmb IAmb 06 12 38.8
comp=Z,4.7nm,1.1s
ESDC Sonseca Array 73.53 51 P **P 06 12 37.4 +0.6**
comp=Z,2.7nm,0.9s,baz=270,slow=6.0,SNR=18
comp=Z,2.7nm,0.9s
PPT Papeete 74.88 250 LR LR 06 38 26.4
comp=Z,66nm,18.4s,baz=104,slow=30
ILAR Eielson Array 75.88 336 P **P 06 12 50.1 +0.3**
comp=Z,0.6nm,0.6s,baz=125,slow=4.5,SNR=9.7
comp=Z,0.6nm,0.6s
EKA Eskdalemuir Ar 76.20 35 P **P 06 12 51.8 0.0**
comp=Z,3.7nm,0.9s,baz=257,slow=8.7,SNR=5.8
comp=Z,3.7nm,0.9s
TORD Torodi Ar. Bea 78.17 78 P **P 06 13 03.5 -0.1**
comp=Z,2.2nm,0.7s,baz=290,slow=5.4,SNR=18
TORD LR LR 06 46 14.1
comp=Z,22nm,21.5s,baz=182,slow=35
comp=Z,2.2nm,0.7s
KEST Kesra 83.98 55 P **P 06 13 34.2 -0.2**
comp=Z,3.1nm,0.8s,baz=255,slow=5.4,SNR=4.3
comp=Z,3.1nm,0.8s
NB2 NORSAR Subarra 84.17 29 P **P 06 13 35.7 +0.9**
comp=Z,0.5nm,0.7s,baz=272,slow=5.1
NOA NORSAR Array B 84.17 29 P **P 06 13 35.2 +0.4**
comp=Z,1.0nm,0.8s,baz=274,slow=5.1,SNR=4.9
NOA LR LR 06 47 43.7
comp=Z,15nm,19.7s,baz=255,slow=33
comp=Z,1.0nm,0.8s
GERES GERESS Array B 86.32 41 P **P 06 13 46.2 +0.3**
comp=Z,0.9nm,0.7s,baz=306,slow=4.5,SNR=4.2
comp=Z,0.9nm,0.7s
ARCES ARCESS Array B 88.94 20 P **P 06 13 58.0 +0.1**
comp=Z,2.0nm,0.7s,baz=318,slow=1.6,SNR=5.9
comp=Z,2.0nm,0.7s
SNAA Sanae 90.88 162 P **P 06 14 06.3 -0.6**
comp=Z,1.2nm,0.8s,baz=320,slow=4.9,SNR=4.3
comp=Z,1.2nm,0.8s
AKASG Malin Array Be 95.85 38 LR LR 06 54 37.0
comp=Z,20nm,21.4s,baz=228,slow=34
QSPA South Pole Qui 96.01 180 P **P 06 14 31.1 +0.4**
comp=Z,1.7nm,0.8s,baz=120,slow=2.4,SNR=5.5
comp=Z,1.7nm,0.8s
KSRS Korea Array 130.69 333 PKP **PKPdf 06 20 15.6 +0.4**
comp=Z,0.9nm,0.8s,baz=8.2,slow=1.2,SNR=7.1
ASAR Alice Springs 145.06 237 PKPbc **PKPbc 06 20 40.9 -0.5**
comp=Z,2.2nm,0.6s,baz=118,slow=3.9,SNR=22
WRA Warramunga Arr 146.11 243 PKPbc **PKPdf 06 20 44.0 +0.1**
comp=Z,3.0nm,0.9s,baz=101,slow=3.9,SNR=22

TAP 27 06:05:29.1,24°.39N×121°.45E,h14km±1km,ML1.4,1C-3D, A,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong** baz=300	**0.07**	**301**	⇓*i*P	Pg	06 05 32.9	+0.9
NNSB	baz=300			*i*S	Sg	06 05 34.2	+0.2
NNSH	**Datong** baz=300	**0.07**	**301**	⇓*i*P	Pg	06 05 32.9	+0.9
NNSH	baz=300			*i*S	Sg	06 05 34.4	+0.3
NNS	**Nan Shan** baz=305	**0.08**	**304**	⇓*i*P	Pg	06 05 33.1	+0.9
NNS	baz=305			*i*S	Sg	06 05 34.7	+0.4
LATG	**Datong** baz=26	**0.16**	**27**	⇑*i*P	Pb	06 05 34.1	+0.1
LATG	baz=26			*i*S	Sb	06 05 36.9	-0.3
ETLH	**Xiulin Townshi** baz=170	**0.19**	**171**	P	Pb	06 05 34.9	+0.4
ETLH	baz=170			S	Sb	06 05 37.7	-0.3
NDT	**Datong Townshi** baz=15	**0.22**	**16**	S	Sb	06 05 38.5	-0.2
FUSS	**Fushou** baz=232	**0.24**	**232**	P	Pb	06 05 35.4	0.0
FUSS	baz=232			S	Sb	06 05 38.9	-0.6
ENA	**Nanau** baz=83	**0.27**	**83**	*e*P	Pg	06 05 35.1	+0.3
ENA	baz=83			S	Sb	06 05 39.6	-0.6
YHNB	**Yeheng** baz=346	**0.28**	**347**	*e*P	Pb	06 05 36.0	0.0
YHNB	baz=346			S	Sb	06 05 40.8	0.0
NSK	**Sanguang** baz=345	**0.29**	**344**	*e*S	Sb	06 05 40.9	-0.2
WHF	**Hehuan Shan** baz=212	**0.30**	**214**	*e*P	Pg	06 05 35.7	+0.2
WHF	baz=212			*e*S	Sb	06 05 40.7	-0.8
TDCB	**Techi** baz=241	**0.30**	**242**	*e*S	Sb	06 05 40.5	-0.8
EWUT	**Wuta** baz=80	**0.31**	**80**	*e*P	Pb	06 05 36.4	0.0
EWUT	baz=80			*e*S	Sg	06 05 40.2	+0.5
LXIB	**Xiulin Townshi** baz=184	**0.37**	**185**	*e*P	Pb	06 05 38.3	+0.7
LXIB	baz=184			*e*S	Sb	06 05 43.6	+0.2
NFF	**Wufeng Townshi** baz=308	**0.38**	**308**	*e*S	Sb	06 05 43.0	-0.6
NWLT	**Wulai** baz=7.0	**0.39**	**7**	*e*P	Pb	06 05 37.8	0.0
NWLT	baz=7.0			*e*S	Sb	06 05 43.2	-0.4
FUSB	**Fushanzhiwuyua** baz=19	**0.39**	**19**	*e*P	Pb	06 05 38.6	+0.7
FUSB	baz=19			*e*S	Sb	06 05 43.3	-0.5
CHGB	**Renai** baz=217	**0.41**	**217**	*e*S	Sb	06 05 44.7	0.0

JMA 27 06:06:11.2±0.5,25°.N±2°×123°.4E±0°.8,h13km,MV1.6/7, NW OFF ISHIGAKIJIMA IS,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.63**	**223**	*e*P	Pg	06 06 23.2	-0.2
IRIF	**Iriomote-Funau**	**0.64**	**154**	*e*P	Pg	06 06 23.5	-0.1
IRIF				*e*S	Sg	06 06 30.7	-1.3
JIJ	**Ishigaki jima**	**0.85**	**129**	*e*P	Pg	06 06 27.2	-0.5
JKRS	**Kuro-shima**	**0.86**	**141**	*e*P	Pb	06 06 28.0	+0.1
JKRS				*e*S	Sn	06 06 40.7	-0.7
JISG	**Ishigakijimahi**	**0.87**	**111**	*e*P	Pg	06 06 27.2	-0.9
JISG				*e*S	Sg	06 06 38.7	-0.7

DJA ***27*** *06:06:54.4±2.4,2°.N±15°.×12°.8E±1°.5,h140km±16km, M4.4/7,mb4.8/1,MLv4.2/7*
IDC ***27*** *06:07:02.8±7.7,1°.55N×127°.25E,h186km±73km,mb3.3/6, mbtmp3.9/7,Error ellipse: s-maj=62.7km s-min=15.2km az=62.0*

ISC 27 06:06:58.8±1.0,1°.56N±0°.10×127°.4E±0°.1,h150km,n12, σ1§17/14,mb3.5/6,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.79**	**185**	P	**Pn**	**06 07 22.8**	**+0.9**
TNTI				S	**Sn**	**06 07 38.6**	**-1.0**

KMSI Cibinong 3.59 254 P **Pn 06 07 53.5 -0.2**
SANI Sanana 3.87 202 P **Pn 06 07 57.0 -0.3**
GTOI Gorontalo 4.52 258 P **Pn 06 08 06.8 +0.9**
LUWI Luwuk 5.33 241 P **Pn 06 08 16.3 -0.3**
KAPI Kappang 10.08 230 P **Pn 06 09 22.6 +2.7**
16nm,0.4s,baz=44,slow=5.6,SNR=6.9
KAPI S **Sn 06 11 10.0 -1.6**
2.3nm,0.3s,baz=197,slow=19,SNR=1.3
WRA Warramunga Arr 22.42 163 P **P 06 11 46.0 +0.8**
0.8nm,0.6s,baz=342,slow=9.4,SNR=12
0.8nm,0.6s
ASAR Alice Springs 25.85 166 P **P 06 12 17.6 +1.0**
0.3nm,0.4s,baz=348,slow=7.2,SNR=7.4
0.3nm,0.4s
SONM Songino Array 49.57 341 P **P 06 15 34.0 -0.6**
0.5nm,0.4s,baz=159,slow=9.1,SNR=3.6
0.5nm,0.4s
MKAR Makanchi Array 59.73 326 P **P 06 16 47.6 -0.2**
1.6nm,0.3s,baz=112,slow=8.0,SNR=33
1.6nm,0.3s
KURBB Kurchatov Arra 63.94 328 P **P 06 17 15.2 -0.5**
1.9nm,0.5s,baz=126,slow=6.3,SNR=12
1.9nm,0.5s
VNDA Vanda 81.20 173 P **P 06 18 57.8 +0.5**
0.3nm,0.6s,baz=308,slow=6.1,SNR=2.1
0.3nm,0.6s

MOS ***27*** *06:24:48.6±1.0,39°.76N×141°.84E,h68km,mb4.7/17,Error ellipse: s-maj=9.7km s-min=5.9km az=105.1*
NIED ***27*** *06:24:49.5,39°.76N×141°.84E,h59km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.16; Mθθ-0.21; Mφφ-0.95; Mrθ0.45; Mθφ-0.21; Mφr1.21; Fault plane solution: M₀1.69000×10¹⁵ NP1:φs19.00000°, δ70.00000°,λ92.00000°. NP2:φs192.00000°,δ20.00000°, λ83.00000°.*
JMA ***27*** *06:24:49.5±0.1,39°.8N±0°.2×141°.8E±0°.4,h59km,MD4.1/32, MV4.2/32,NORTHERN IWATE PREF*
JMA Felt II J1 at NORTHERN IWATE PREF .
NEIC ***27*** *06:24:51.1±2.1,39°.79N±0°.06×141°.8E±0°.1,h67km±9km, mb4.3/25,Error ellipse: s-maj=12.9km s-min=7.9km az=103.0*
IDC ***27*** *06:24:53.7±2.5,39°.69N×141°.70E,h100km±22km, mb3.9/17,mbtmp4.2/21,MS3.1/9,Error ellipse: s-maj=20.1km s-min=13.7km az=76.0*

ISC 27 06:24:50.2±0.5,39°.74N±0°.04×141°.88E±0°.05,h65km±3km, n139,σ1§45/136,mb4.3/47,6C-17D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.17**	**197**	*i*P	**Pn**	**06 24 58.9**	**-1.3**
MIYJ				S	**Sn**	**06 25 05.3**	**-2.0**
MIYJ	**Miyakonagasawa**	**0.17**	**197**	A	A	06 24 58.9	
	comp=E,21nm,1.2s,comp=N,12nm,1.4s						
JTH	**Tanohata**	**0.20**	**356**	P	**Pn**	**06 24 58.8**	**-1.5**
JTH				S	**Sn**	**06 25 05.5**	**-2.3**
JTH	**Tanohata**	**0.20**	**356**	A	A	06 24 58.8	
	comp=E,60nm,0.3s,comp=N,30nm,0.3s						
JKEN	**Kujiedanarisaw**	**0.49**	**344**	*i*P	**Pn**	**06 25 01.0**	**-1.6**
JKEN				S	**Sn**	**06 25 09.1**	**-2.4**
JKEN	**Kujiedanarisaw**	**0.49**	**344**	A	A	06 25 01.0	
	comp=E,66nm,0.9s,comp=N,61nm,1.1s						
JKZ	**Kuzumaki**	**0.49**	**300**	⇓P	**Pn**	**06 25 01.0**	**-1.6**
JKZ				⇓S	**Sn**	**06 25 09.2**	**-2.5**
JKZ	**Kuzumaki**	**0.49**	**300**	A	A	06 25 01.0	
	comp=E,47nm,0.5s,comp=N,23nm,0.5s						
JOM	**Ohasama**	**0.53**	**240**	⇓*i*P	**Pn**	**06 25 01.4**	**-1.5**
JOM				⇓S	**Sn**	**06 25 09.9**	**-2.3**
JOM	**Ohasama**	**0.53**	**240**	A	A	06 25 01.4	
	comp=E,40nm,0.3s,comp=N,23nm,0.3s						
OFUJ	**Ofunato**	**0.68**	**194**	*i*P	**Pn**	**06 25 03.5**	**-1.0**
OFUJ				S	**Sn**	**06 25 13.6**	**-1.5**
OFUJ	**Ofunato**	**0.68**	**194**	A	A	06 25 03.5	
	comp=E,21nm,0.3s,comp=N,18nm,0.4s						
JANG	**Nango**	**0.70**	**336**	⇓*i*P	**Pn**	**06 25 03.0**	**-1.8**
JANG				⇓S	**Sn**	**06 25 12.9**	**-2.6**
JANG	**Nango**	**0.70**	**336**	A	A	06 25 03.0	
	comp=E,17nm,0.6s,comp=N,20nm,0.6s						
JSZI	**Iwateshizukuis**	**0.72**	**271**	A	A	06 25 03.5	
	comp=E,14nm,1.1s,comp=N,18nm,0.4s						
JMK	**Ichinoseki**	**0.94**	**214**	⇓*i*P	**Pn**	**06 25 06.7**	**-1.0**
JMK				⇓S	**Sn**	**06 25 18.8**	**-1.7**
JMK	**Ichinoseki**	**0.94**	**214**	A	A	06 25 06.7	
	comp=E,13nm,0.9s,comp=N,6.0nm,0.6s						
JRG	**Rokugo**	**1.02**	**251**	⇓*i*P	**Pn**	**06 25 07.3**	**-1.5**
JRG				⇓S	**Sn**	**06 25 20.2**	**-2.3**
JRG	**Rokugo**	**1.02**	**251**	A	A	06 25 07.3	
	comp=E,20nm,0.5s,comp=N,16nm,0.8s						
JAH	**Hinai**	**1.06**	**296**	⇓*i*P	**Pn**	**06 25 07.7**	**-1.5**
JAH				⇓S	**Sn**	**06 25 21.9**	**-1.5**
JAH	**Hinai**	**1.06**	**296**	A	A	06 25 07.7	
	comp=E,11nm,0.9s,comp=N,7.0nm,1.1s						
JTM	**Tenmabayashi**	**1.22**	**330**	Pn	**Pn**	**06 25 09.7**	**-1.6**
JTM	**Tenmabayashi**	**1.22**	**330**	*i*P	**Pn**	**06 25 09.9**	**-1.4**
JTM				S	**Sn**	**06 25 25.1**	**-2.0**
JYW	**Yuwa**	**1.31**	**262**	A	A	06 25 11.5	
	comp=E,10.0nm,0.7s,comp=N,12nm,1.1s						
JOU	**Okura**	**1.67**	**215**	A	A	06 25 16.9	
	comp=E,3.0nm,2.5s,comp=N,3.0nm,2.5s						
JYA	**Atsumi**	**2.04**	**237**	A	A	06 25 22.0	
	comp=E,4.0nm,0.6s,comp=N,4.0nm,1.2s						
JMM	**Marumori**	**2.05**	**205**		**Pn**	**06 25 21.0**	**-1.5**
ERM	**Erimo**	**2.47**	**23**	Pn	**Pn**	**06 25 27.1**	**-1.0**
ERM	**Erimo**	**2.47**	**23**	P	**Pn**	**06 25 27.2**	**-1.0**
MJAR	**Matsushiro Arr**	**4.31**	**223**	P	**Pn**	**06 25 54.9**	**+1.6**
	comp=N,12nm,0.5s,baz=27,slow=14,SNR=21						
MJAR				LR	LR	06 27 44.3	
	comp=N,104nm,19.9s,baz=55,slow=41						
MJB9	**Matsu-Tunnel**	**4.31**	**223**		**Pn**	**06 25 55.8**	**+2.6**
MAJO	**Matsushiro**	**4.31**	**223**		**Pn**	**06 25 54.6**	**+1.3**
MAJO	**Matsushiro**	**4.31**	**223**	P	**Pn**	**06 25 54.6**	**+1.3**
ASAJ	**Asahikawa**	**4.41**	**7**	P	**Pn**	**06 25 54.4**	**-0.2**
	comp=N,10nm,0.3s,baz=210,slow=16,SNR=9.7						
ASAJ				S	**Sn**	**06 26 46.0**	**+1.3**
	comp=N,31nm,0.6s,baz=192,slow=19,SNR=1.7						
ASAJ	**Asahikawa**	**4.41**	**7**	P	**Pn**	**06 25 53.9**	**-0.7**
JKA	**Kamikawa-asahi**	**4.41**	**7**	Pn	**Pn**	**06 25 53.9**	**-0.7**
JGF	**Kuroka**	**5.47**	**222**	Pn	**Pn**	**06 26 10.3**	**+1.1**
SHO	**Shikotan**	**5.54**	**40**	P	**Pn**	**06 26 09.2**	**-0.9**
SHO				*e*S	**Sn**	**06 27 06.2**	**-6.2**
SHO				smax	smax		
	comp=N,108nm,0.4s						
SHO				smax	smax		
	comp=E,136nm,0.2s						
INU	**Inuyama**	**5.84**	**223**	Pn	**Pn**	**06 26 16.0**	**+1.8**
TEY	**Ternei**	**6.58**	**325**	⇑*e*P	**Pn**	**06 26 26.6**	**+2.3**
TEY				pmax	pmax		
	comp=N,40nm,0.7s						
TEY				pmax	pmax		
	comp=E,40nm,0.7s						
TEY				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.24**	**5**	*e*P	**Pn**	**06 26 34.5**	**+1.2**
YSS				MLR	MLR		
	comp=Z,200nm,11.0s						
YSS				MLR	MLR		
	comp=E,200nm,14.0s						
MSHR	**Mys Shultsa**	**8.58**	**293**	*ce*P	**Pn**	**06 26 50.3**	**-1.3**
USA0B	**Ussuriysk Arra**	**8.61**	**304**		**Pn**	**06 26 51.7**	**-0.4**
USA0B	**Ussuriysk Arra**	**8.61**	**304**	P	**Pn**	**06 26 51.7**	**-0.4**
USRK	**Ussuriysk Ar.**	**8.61**	**304**		**Pn**	**06 26 52.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**8.61**	**304**	P	**Pn**	**06 26 53.1**	**+1.0**
	comp=E,9.4nm,0.7s,baz=117,slow=13,SNR=15						
USRK				LR	LR	06 30 07.4	
	comp=E,74nm,19.2s,baz=134,slow=37						
KSRS	**Korea Array**	**11.16**	**263**	P	**Pn**	**06 27 29.7**	**+2.8**
	comp=E,2.2nm,0.3s,baz=74,slow=13,SNR=12						
KSRS				LR	LR	06 31 20.9	
	comp=E,44nm,19.5s,baz=70,slow=35						
KLR	**Kul'dur**	**11.92**	**326**	P	**Pn**	**06 27 40.9**	**+3.7**
	comp=E,1.5nm,0.6s,baz=125,slow=12,SNR=4.6						
KLR				LR	LR	06 31 51.1	
	comp=E,68nm,20.9s,baz=167,slow=35						
KLR	**Kul'dur**	**11.92**	**326**	*e*P	**Pn**	**06 27 40.4**	**+3.2**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BNX	**BinXian**	**12.21**	**304**	⇓P	**Pn**	**06 27 41.3**	**+0.1**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ZEA	**Zeya**	**17.18**	**329**	*e*P	**P**	**06 28 46.8**	**+0.5**
TIA	**Tai'an**	**19.82**	**268**	*e*P	**P**	**06 29 13.8**	**-1.6**
TIA				pmax	pmax		
	comp=Z,19nm,1.0s						

MA2 Magadan 20.64 13 P **P** **06 29 23.5 -0.6**
MA2 IAmb IAmb 06 30 05.0
comp=Z,26nm,1.2s
MA2 Magadan 20.64 13 P **P** **06 29 23.5 -0.6**
MA2 pmax pmax
comp=Z,26nm,1.2s
YOJ Yonaguni jima 22.01 232 P **P** **06 29 37.1 -2.0**
YOJ Yonaguni jima 22.01 232 P **P** **06 29 37.1 -2.0**
YOJ pmax pmax
comp=Z,11nm,0.5s
HHC Hu-ho-hao-te 23.10 283 *e*P **P** **06 29 52.0 +1.4**
HHC pmax pmax
comp=Z,110nm,5.1s
HHC pmax pmax
comp=Z,7.0nm,0.7s
YAK Yakutsk 23.53 346⇑ *e*P **P** **06 29 53.3 -0.9**
YAK pmax pmax
comp=Z,21nm,0.5s
SEY Seymchan 24.07 12 *e*P **P** **06 29 58.2 -0.9**
SEY pmax pmax
comp=Z,19nm,1.1s
ULN Ulaanbaatar 26.24 300⇑ *i*P **P** **06 30 18.4 -0.8**
ULN pmax pmax
comp=Z,3.0nm,1.2s
SONM Songino Array 26.68 299 P **P** **06 30 21.8 -1.3**
comp=Z,1.1nm,0.6s,baz=94,slow=8.4,SNR=6.7
SONM LR LR 06 40 18.1
comp=Z,51nm,18.8s,baz=82,slow=35
comp=Z,1.1nm,0.6s
H11N2 WAKE ISLAND Hy 29.32 126 T T 07 01 22.7
baz=318,slow=76,SNR=408
H11N1 WAKE ISLAND Hy 29.32 126 T T 07 01 21.1
baz=318,slow=76,SNR=318
H11N3 WAKE ISLAND Hy 29.33 126 T T 07 01 24.7
baz=318,slow=76,SNR=336
H11S1 WAKE ISLAND Hy 30.11 127 T T 07 02 26.2
baz=319,slow=76,SNR=72
H11S3 WAKE ISLAND Hy 30.11 127 T T 07 02 29.5
baz=319,slow=76,SNR=62
H11S2 WAKE ISLAND Hy 30.13 127 T T 07 02 27.2
baz=319,slow=76,SNR=59
BILL Bilibino 31.34 17 *e*P **P** **06 31 04.5 +0.5**
BILL *e**PP **pP** **06 31 20.0 +0.1**
BILL *e**SP **sP** **06 31 29.9 +2.3**
BILL *e* 06 32 04.9
BILL *e* 06 33 55.1
BILL pmax pmax
comp=Z,14nm,2.5s
TIXI Tiksi 32.66 352 P **P** **06 31 17.5 +2.0**
TIXI pmax pmax
comp=Z,19nm,0.8s
PZH PanZhiHua 35.82 261 P **P** **06 31 44.5 +0.9**
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.2s
WMQ Urumqi 40.01 294 *e*P **P** **06 32 20.0 +1.4**
ZAA0 Zalesovo Array 40.41 310 P **P** **06 32 20.6 -1.1**
ZALV Zalesovo Beam 40.41 310 P **P** **06 32 20.5 -1.2**
ZALV Zalesovo Beam 40.41 310 P **P** **06 32 21.2 -0.5**
comp=Z,11nm,0.5s,baz=92,slow=8.0,SNR=41
ZALV PcP **PcP** **06 34 22.6 -0.8**
comp=Z,1.0nm,0.4s,baz=90,slow=4.3,SNR=3.2
comp=Z,11nm,0.5s
PHRA Phrae 41.62 252 P **P** **06 32 32.4 +0.4**
E18K Tukpahlearik C 41.65 29 P **P** **06 32 32.8 +1.1**
E18K IAmb IAmb 06 33 11.6
comp=Z,4.7nm,1.2s
G18K Tagagawik 42.15 32 P **P** **06 32 36.6 +0.8**
H18K Honhosa River 42.17 33 P **P** **06 32 37.1 +1.1**
H18K IAmb IAmb 06 33 12.1
comp=Z,6.2nm,1.2s
CMAR Chiang Mai Arr 42.59 253 LR LR 06 52 40.1
comp=Z,26nm,19.7s,baz=235,slow=39
F19K Shaleruckik Mo 42.63 31 P **P** **06 32 40.6 +1.0**
E19K Redstone River 42.93 30 P **P** **06 32 43.7 +1.6**
H19K Roundabout Mou 43.01 33 P **P** **06 32 44.3 +1.6**
MK31 Makanchi Array 43.05 300 P **P** **06 32 42.4 -1.0**
MK31 IAmb IAmb 06 32 43.3
comp=Z,4.5nm,0.7s
MK31 Makanchi Array 43.05 300 P **P** **06 32 42.4 -1.0**
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 43.05 300 P **P** **06 32 42.3 -1.1**
MKAR Makanchi Array 43.05 300 P **P** **06 32 42.6 -0.8**
comp=Z,4.7nm,0.6s,baz=86,slow=10.0,SNR=41
comp=Z,4.7nm,0.6s
MAKZ Makanchi 43.25 300 P **P** **06 32 44.0 -1.0**
MAKZ IAmb IAmb 06 32 45.0
comp=Z,4.5nm,0.8s
MAKZ Makanchi 43.25 300 P **P** **06 32 44.1 -1.0**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
IMAR Indian Mountai 44.16 32 P **P** **06 32 53.4 +1.4**
G21K Allakaket 44.29 31 P **P** **06 32 53.5 +0.5**
KURK Kurchatov 44.60 306 P **P** **06 32 54.5 -1.2**
KURK Kurchatov 44.60 306 P **P** **06 32 54.5 -1.2**
KURK pmax pmax
comp=Z,13nm,0.9s
KURBB Kurchatov Arra 44.67 306 P **P** **06 32 55.4 -0.9**
comp=Z,8.7nm,0.6s,baz=82,slow=8.7,SNR=70
comp=Z,8.7nm,0.6s
D22K Ayikyak River 44.80 28 P **P** **06 32 58.1 +1.0**
H23K Yukon River 45.88 32 P **P** **06 33 07.3 +1.7**
H23K IAmb IAmb 06 33 35.1
comp=Z,6.5nm,1.5s
GHO Glory Hole Cre 46.34 38 P **P** **06 33 09.5 +0.1**
ILAR Eielson Array 47.03 34 P **P** **06 33 15.6 +0.9**
comp=Z,0.8nm,0.6s,baz=263,slow=5.9,SNR=13
comp=Z,0.8nm,0.6s
BMAR Burnt Mountain 47.80 30 P **P** **06 33 22.2 +1.5**
SCRK Sand Creek 48.36 35 P **P** **06 33 25.3 +0.2**
SCRK IAmb IAmb 06 33 26.4
comp=Z,1.9nm,0.5s
BOOM Boomskoye usch 48.62 296 P **P** **06 33 26.9 -0.6**
BOOM pmax pmax
comp=Z,3.0nm,1.2s
BVAR Borovoye Array 49.06 311 P **P** **06 33 29.8 -0.7**
comp=Z,1.5nm,0.4s,baz=65,slow=8.4,SNR=8.5
comp=Z,1.5nm,0.4s
BRVK Borovoye 49.11 311⇓ *e*P **P** **06 33 29.7 -1.2**
BRVK pmax pmax
comp=Z,9.0nm,3.2s
G29M Pine Creek 50.40 30 P **P** **06 33 42.1 +1.6**
G29M IAmb IAmb 06 34 13.6
comp=Z,4.3nm,1.3s
I30M Mount Dempster 51.38 32 P **P** **06 33 48.8 +0.8**
I30M IAmb IAmb 06 33 50.4
comp=Z,3.5nm,0.8s
G31M Satah River 51.85 30 P **P** **06 33 52.0 +0.7**
G31M IAmb IAmb 06 34 15.3
comp=Z,5.5nm,1.4s
KK31 Karatay Array 52.13 298 P **P** **06 33 52.6 -1.2**
KK31 IAmb IAmb 06 33 53.5
comp=Z,4.1nm,1.1s
KK31 Karatay Array 52.13 298 P **P** **06 33 52.6 -1.2**
KK31 pmax pmax
comp=Z,4.0nm,1.1s
KKAR Karatay Array 52.13 298 P **P** **06 33 52.9 -0.9**
KKAR Karatay Array 52.13 298 P **P** **06 33 52.9 -0.9**
ARU Arti 54.60 317 LR LR 06 57 59.6
comp=Z,25nm,18.6s,baz=172,slow=36
ARU Arti 54.60 317 *d i*P **P** **06 34 11.2 -0.5**
ARU *PP **pP** **06 34 31.5 +2.6**
ARU 06 36 09.3
ARU S **S** **06 41 47.9 +1.8**
ARU pmax pmax
comp=Z,6.0nm,0.7s
CHGR Chuyangaron 54.87 294 P **P** **06 34 12.8 -1.2**
CHGR pmax pmax
comp=Z,12nm,1.0s
ABKAR Akbulak array 56.51 309 P **P** **06 34 24.5 -0.9**
WRA Warramunga Arr 59.78 188 P **P** **06 34 47.6 -0.9**
comp=Z,1.2nm,0.7s,baz=5.0,slow=7.0,SNR=16
comp=Z,1.2nm,0.7s
ARCES ARCESS Array B 61.61 339 P **P** **06 34 59.7 -0.7**
comp=Z,1.8nm,0.8s,baz=61,slow=8.5,SNR=11
comp=Z,1.8nm,0.8s
ASAR Alice Springs 63.51 188 P **P** **06 35 13.1 -0.5**
comp=Z,0.6nm,0.7s,baz=1.0,slow=5.0,SNR=9.2
comp=Z,0.6nm,0.7s
OBN Obninsk 66.16 323 *e*P **P** **06 35 30.3 -0.2**
OBN *e**PP **pP** **06 35 49.4 +1.3**
OBN *e**SP **sP** **06 35 54.1 -1.4**
OBN *e* 06 36 00.2
OBN *e* 06 37 56.7
OBN pmax pmax
comp=Z,7.0nm,0.8s
FINES FINESS Array B 66.60 332 P **P** **06 35 32.5 -0.7**
comp=Z,5.0nm,0.7s,baz=49,slow=8.8,SNR=21
comp=Z,5.0nm,0.7s
NCK Nalchik 69.16 310⇓ *e*P **P** **06 35 49.9 +0.3**
KIV Kislovodsk 69.43 310 *e*P **P** **06 35 49.7 -1.7**
KIV pmax pmax
comp=Z,12nm,1.1s
KBZ Khabaz 69.44 310 P **P** **06 35 51.9 +0.6**
comp=Z,2.4nm,0.5s,baz=78,slow=7.9,SNR=5.5
comp=Z,2.4nm,0.5s
KBZ Khabaz 69.44 310 *i* P **P** **06 35 51.3 +0.1**
SHA1 Shidzhatmaz 69.57 310⇑ *e*P **P** **06 35 53.1 +0.7**
HFS Hagfors 71.78 336 P **P** **06 36 04.8 -0.5**
comp=Z,2.1nm,0.3s,baz=45,slow=6.8,SNR=27
HFS LR LR 07 09 37.2
comp=Z,26nm,20.0s,baz=70,slow=37
comp=Z,2.1nm,0.3s
NB2 NORSAR Subarra 71.84 337 P **P** **06 36 05.3 -0.4**
comp=Z,1.2nm,0.6s,baz=36,slow=6.5
NOA NORSAR Array B 71.84 337 P **P** **06 36 05.1 -0.6**
comp=Z,1.7nm,0.6s,baz=38,slow=6.1,SNR=12
NOA LR LR 07 10 06.4
comp=Z,12nm,20.5s,baz=250,slow=38
comp=Z,1.7nm,0.6s
AKASG Malin Array Be 72.39 322 P **P** **06 36 08.2 -0.8**
comp=Z,1.8nm,0.4s,baz=46,slow=6.1,SNR=12
comp=Z,1.8nm,0.4s
AKBB Malin Array Si 72.39 322⇑ *e*P **P** **06 36 08.3 -0.8**
AKBB pmax pmax
comp=Z,6.0nm,1.1s
PDAR Pinedale Array 75.52 46 P **P** **06 36 28.2 +0.4**
comp=Z,0.3nm,0.6s,baz=233,slow=0.7,SNR=5.4
comp=Z,0.3nm,0.6s
BUR08 Bucovina Ar. S 76.41 322 P **P** **06 36 32.4 -0.2**
BUR08 IAmb IAmb 06 36 33.8
comp=Z,3.3nm,0.9s
BURAR Bucovina Array 76.42 322 P **P** **06 36 32.2 -0.5**
BURAR IAmb IAmb 06 36 33.6
comp=Z,2.7nm,0.8s
BURAR Bucovina Array 76.42 322 P **P** **06 36 32.2 -0.5**
BURAR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 77.34 311 P **P** **06 36 36.9 -1.1**
comp=Z,0.5nm,0.5s,baz=92,slow=4.4,SNR=2.5
comp=Z,0.5nm,0.5s
DPC Dobruska-Polom 78.37 328 P **P** **06 36 43.5 +0.1**
DPC pmax pmax
comp=Z,2.0nm,1.5s
CLL Collm 78.94 330 *e*P **P** **06 36 46.0 -0.4**
comp=Z,4.0nm,0.9s
CLL Collm 78.94 330 *e*P **P** **06 36 46.0 -0.4**
CLL pmax pmax
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 80.44 328⇓ *e*P **P** **06 36 53.9 -0.8**
KHC pmax pmax
comp=Z,15nm,2.5s
TXAR Lajitas Array 88.19 53 P **P** **06 37 34.6 +0.3**
comp=Z,0.2nm,0.5s,baz=252,slow=3.0,SNR=5.6
comp=Z,0.2nm,0.5s
SNAA Sanae 143.43 198 PKP PKPbc 06 44 12.3 -1.2
comp=Z,1.2nm,0.8s,baz=135,slow=1.4,SNR=8.0

*JMA **27** 06:30:42.4±0.3, 39°N±1°×14°4E±°, h44km, MV3.7/14, FAR E OFF SANRIKU*
*NIED **27** 06:30:42.4, 39.43°N×144.12°E, h44km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr1.95; Mθθ0.54; Mφφ-2.49; Mrθ0.49; Mφθ-0.65; Mφr0.63; Fault plane solution: M0 2.44000×10^14 NP1:φs 24.00000°, δ55.00000°, λ106.00000°. NP2:φs 177.00000°, δ38.00000°, λ69.00000°.*
*IDC **27** 06:31:05.6±17.0, 39.08°N×142.03°E, h127km±55km, mb3.3/3, mbtmp3.6/5, MS2.5/1 Error ellipse: s-maj=273.1km s-min=48.6km az=96.0*
ISC 27 06:30:50.4±4.0, 39.5°N±0.2°×143.5°E±0.4°, h35km, n8, σ0°62°/7, mb3.8/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.46**	**255**	P	**Pn**	**06 31 13.8**	**-0.4**
JOM	**Ohasama**	**1.69**	**270**	*e*P	**Pn**	**06 31 17.7**	**+0.2**
ASAJ	**Asahikawa**	**4.68**	**352**	LR	LR	06 34 05.8	
	comp=Z,49nm,18.9s,baz=60,slow=36						
MJAR	**Matsushiro Arr**	**5.09**	**236**	P	**Pn**	**06 32 04.2**	**0.0**
	2.4nm,0.4s,baz=41,slow=12,SNR=12						
KLR	**Kul'dur**	**12.85**	**323**	P	**P**	**06 34 00.2**	**-0.5**
	0.6nm,0.4s,baz=130,slow=12,SNR=3.8						
ZALV	**Zalesovo Beam**	**41.52**	**310**	P	**P**	**06 38 34.0**	**0.0**
	0.5nm,0.3s,baz=96,slow=7.4,SNR=2.2						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**44.24**	**300**	P	**P**	**06 38 57.2**	**+1.0**
	0.6nm,0.8s,baz=89,slow=9.1,SNR=2.7						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**45.82**	**306**	P	**P**	**06 39 08.9**	**+0.3**
	0.4nm,0.3s,baz=81,slow=8.4,SNR=4.2						
	0.4nm,0.3s						

*SNET **27** 06:33:34.0±0.9, 13°.27N×88°.04W, h8km±3km, ML2.7*
*CATAC **27** 06:33:34.5±0.2, 13°.25N×88°.06W, h4km±2km, ML2.6*
ISC 27 06:33:33.9±0.9, 13°.28N±0°.05×88°.04W±0°.03, h15km±7km, n28, σ0°50/46, 2C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.08**	**190**⇓	*i*P	**Pg**	**06 33 37.2**	**+0.1**
INTP				*e*S	**Sg**	**06 33 38.8**	**-0.3**
LCND	**La Caada**	**0.15**	**77**⇑	*i*P	**Pb**	**06 33 38.8**	**+0.3**
LCND				*e*S	**Sb**	**06 33 41.5**	**+0.2**
LCND	**La Caada**	**0.15**	**77**	*i* P	**Pb**	**06 33 38.7**	**+0.3**
LCND				IAML		06 33 38.9	
	comp=Z,2μm,1.0s						
LCND				*i* S	**Sb**	**06 33 41.7**	**+0.3**
CNCH	**Conchagua**	**0.20**	**90**⇑	*i*P	**Pb**	**06 33 39.7**	**+0.3**
CNCH				*e*S	**Sb**	**06 33 43.1**	**+0.2**
CNCH	**Conchagua**	**0.20**	**90**	*i* P	**Pb**	**06 33 39.6**	**+0.3**
CNCH				*i* S	**Sb**	**06 33 43.3**	**+0.3**
CNCH				IAML		06 33 45.2	
	comp=Z,2μm,1.0s						
CNRM	**Centro Naciona**	**0.23**	**327**⇓	*e*P	**Pb**	**06 33 40.0**	**+0.2**
CNRM				*e*S	**Sb**	**06 33 44.2**	**+0.4**
CNRM	**Centro Naciona**	**0.23**	**327**	*i* P	**Pb**	**06 33 39.9**	**0.0**
CNRM				IAML		06 33 40.1	
	comp=Z,2μm,1.0s						
BLLM	**Bellamira**	**0.25**	**311**	*e*P	**Pb**	**06 33 40.5**	**+0.2**
LCY	**Lacayo**	**0.29**	**301**	*e*P	**Pb**	**06 33 41.0**	**+0.2**
RANC	**El Ranchito**	**0.29**	**303**	*e*P	**Pb**	**06 33 41.1**	**+0.2**
RANC				*e*S	**Sb**	**06 33 45.9**	**+0.3**
RANC	**El Ranchito**	**0.29**	**303**	*i* P	**Pb**	**06 33 41.1**	**+0.2**
RANC				*i* S	**Sb**	**06 33 45.9**	**+0.3**
RANC				IAML		06 33 48.4	
	comp=Z,440nm,1.0s						
PACA	**Pacayal**	**0.34**	**305**	*e*P	**Pb**	**06 33 41.9**	**+0.2**
PACA	**Pacayal**	**0.34**	**305**	*i* P	**Pb**	**06 33 41.8**	**+0.1**
PACA				*i* S	**Sb**	**06 33 46.9**	**0.0**
PACA				IAML		06 33 50.2	
	comp=Z,2μm,1.0s						
TECA	**Tecapa**	**0.50**	**296**	*e*P	**Pb**	**06 33 45.0**	**+0.5**
COEB	**Comit de Eme**	**0.53**	**295**	*e*P	**Pb**	**06 33 45.2**	**+0.3**
COEB				*e*S	**Sb**	**06 33 52.6**	**+0.2**
TECO	**Alcaldia de Te**	**0.77**	**290**	*e*P	**Pb**	**06 33 49.1**	**+0.2**
COEG	**Centro de Oper**	**0.89**	**293**	*e*P	**Pg**	**06 33 51.4**	**+0.2**
COEG	**Centro de Oper**	**0.89**	**293**	*i* P	**Pg**	**06 33 51.4**	**+0.2**
COEG				*i* S	**Sg**	**06 34 03.5**	**+0.7**
COEG				IAML		06 34 04.4	
	comp=Z,160nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.08**	**44**	*i* P	**Pg**	**06 33 54.5**	**-0.3**
TGUH				*i* S	**Sn**	**06 34 09.7**	**+0.4**
TGUH				IAML		06 34 10.9	
	comp=Z,150nm,1.0s						
LOMA	**Loma Larga**	**1.16**	**289**	*i* P	**Pn**	**06 33 54.9**	**-0.8**
LOMA				*i* S	**Sg**	**06 34 11.8**	**+0.3**
LOMA				IAML		06 34 13.8	
	comp=Z,120nm,1.0s						
PKGN	**Cerro Pekin**	**1.20**	**120**	*i* P	**Pb**	**06 33 56.5**	**+0.2**
PKGN				*i* S	**Sg**	**06 34 13.3**	**+0.6**
PKGN				IAML		06 34 14.5	
	comp=Z,250nm,1.0s						
QUEN	**Al S del Volca**	**1.34**	**120**	*i* P	**Pb**	**06 33 59.2**	**+0.4**
QUEN				IAML		06 34 19.5	
	comp=Z,100nm,1.0s						
HERN	**Volcan Telica**	**1.35**	**119**	*i* P	**Pn**	**06 33 57.6**	**-0.7**
HERN				IAML		06 34 01.7	
	comp=Z,210nm,1.0s						
HERN				*i* S	**Sg**	**06 34 17.5**	**-0.1**
TELN	**Telica**	**1.35**	**119**	*i* P	**Pn**	**06 33 57.7**	**-0.6**
TELN				IAML		06 34 02.2	
	comp=Z,14nm,1.0s						
PACN	**Al O del Volca**	**1.44**	**122**	*i* P	**Pb**	**06 34 00.0**	**-0.4**
PACN				*i* S	**Sg**	**06 34 20.6**	**+0.2**
PACN				IAML		06 34 22.1	
	comp=Z,80nm,1.0s						
MACN	**El Madrono**	**1.56**	**121**	*i* P	**Pg**	**06 34 03.3**	**-0.6**
MACN				*i* S	**Sb**	**06 34 22.8**	**+0.9**
MACN				IAML		06 34 29.8	
	comp=Z,21nm,1.0s						
NUBE	**Las Nubes**	**1.80**	**290**	*i* S	**Sg**	**06 34 31.0**	**-1.1**
BOAB	**BOACO BROADBAN**	**2.46**	**109**	*i* P	**Pb**	**06 34 17.1**	**-0.7**
BOAB				*i* S	**Sb**	**06 34 49.6**	**+1.8**
BOAB				IAML		06 34 53.6	
	comp=Z,18nm,1.0s						

*SFS **27** 06:44:45.0, 35°.79N×4°.64W, h69km, ML1.6/4, ML2.0/4, MLv1.4/4*
*CNRM **27** 06:44:45.2, 35°.70N×4°.83W, h75km*
*MDD **27** 06:44:45.2±0.9, 35°.80N×4°.65W, h60km±11km, Mb2.9/9, Error ellipse: s-maj=7.3km s-min=4.4km az=3.0*
*INMG **27** 06:44:45.1±1.9, 35°.82N×4°.67W, h63km±19km, ML1.9, Error ellipse: s-maj=7.5km s-min=5.3km az=18.0*
ISC 27 06:44:43.6±1.2, 35°.82N±0°.03×4°.67W±0°.03, h80km±10km, n37, σ1°33/60, 9C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEU	**Ceuta**	**0.58**	**278**	Sn	**Sn**	**06 45 08.5**	**-0.2**
CEU				Pn	**Pn**	**06 44 58.2**	**+0.2**
EMIJ	**Mijas**	**0.75**	**354**	Pn	**Pn**	**06 45 00.2**	**+0.4**
EMIJ				Sn	**Sn**	**06 45 11.2**	**-0.6**
EMIJ	**Mijas**	**0.75**	**354**	P	**Pn**	**06 44 60.0**	**+0.2**
EMIJ				S	**Sn**	**06 45 10.6**	**-1.2**
PALE	**Palemas**	**0.85**	**135**	P	**Pn**	**06 45 02.2**	**+1.3**
PALE	**Palemas**	**0.85**	**135**	S	**Sn**	**06 45 15.4**	**+1.6**
EALB	**Alboran**	**1.33**	**84**	Pn	**Pn**	**06 45 06.9**	**+0.2**
EALB				Sn	**Sn**	**06 45 22.8**	**-1.4**
EALB	**Alboran**	**1.33**	**84**	P	**Pn**	**06 45 06.7**	**0.0**
EALB				⇑ *i*Vmb_V		06 45 07.7	
	248nm,SNR=1.9						
EALB				S	**Sn**	**06 45 22.6**	**-1.5**
ELGU	**Los Guajares,**	**1.34**	**39**	Pn	**Pn**	**06 45 07.2**	**+0.2**
ELGU				Sn	**Sn**	**06 45 24.2**	**-0.3**
ELGU	**Los Guajares,**	**1.34**	**39**	P	**Pn**	**06 45 07.1**	**+0.1**
ELGU				⇑ *i*Vmb_V		06 45 08.6	
	200nm,SNR=3.5						
ELGU				S	**Sn**	**06 45 23.6**	**-1.0**
EGOR	**Sierra Gorda,**	**1.36**	**19**	P	**Pn**	**06 45 07.4**	**+0.1**
EGOR				⇑ *i*Vmb_V		06 45 09.3	
	51nm,SNR=1.5						
EGOR				S	**Sn**	**06 45 21.8**	**-3.3**
ESPR	**Espera**	**1.42**	**318**	P	**Pn**	**06 45 08.9**	**+1.1**
ESPR				⇑ *i*Vmb_V		06 45 10.4	
	119nm,SNR=2.1						
ESPR				S	**Sn**	**06 45 26.7**	**+0.6**
AKLM	**AKL**	**1.47**	**153**	P	**Pn**	**06 45 07.8**	**-0.8**
AKLM	**AKL**	**1.47**	**153**	S	**Sn**	**06 45 25.2**	**-2.2**
GOG	**Mont Gurugu**	**1.49**	**113**	P	**Pn**	**06 45 11.0**	**+2.2**
GOG	**Mont Gurugu**	**1.49**	**113**	S	**Sn**	**06 45 31.0**	**+3.1**
ECAB	**El Cabril**	**2.33**	**345**	P	**Pn**	**06 45 21.1**	**+1.2**
ECAB				⇑ *i*Vmb_V		06 45 22.2	
	32nm,SNR=1.0						
ECAB				S	**Sn**	**06 45 47.0**	**-0.6**
EADA	**Adamuz**	**2.34**	**2**	P	**Pn**	**06 45 21.8**	**+1.7**
EADA				⇑ *i*Vmb_V		06 45 24.3	
	40nm,SNR=1.4						
EADA				S	**Sn**	**06 45 48.6**	**+0.6**
EMIN	**Mina Concepcio**	**2.52**	**321**	P	**Pn**	**06 45 23.7**	**+1.2**
EMIN				⇑ *i*Vmb_V		06 45 24.8	
	255nm,SNR=6.0						
EMIN				S	**Sn**	**06 45 51.5**	**-0.8**
CZD	**Col de Zad**	**2.80**	**186**	P	**Pn**	**06 45 26.2**	**-0.3**
CZD	**Col de Zad**	**2.80**	**186**	S	**Sn**	**06 45 58.5**	**-1.0**
EGRO	**El Granado**	**2.83**	**308**	P	**Pn**	**06 45 27.8**	**+1.1**
EGRO				S	**Sn**	**06 45 59.0**	**-0.9**
MD31	**MD31**	**2.95**	**181**	P	**Pn**	**06 45 28.8**	**+0.5**
MD31	**MD31**	**2.95**	**181**	S	**Sn**	**06 46 01.3**	**-1.5**
PBDV	**Barranco-do-Ve**	**2.98**	**299**	*e*P	**Pn**	**06 45 29.7**	**+0.9**
PBDV				*e*S	**Sn**	**06 46 02.1**	**-1.4**
PBDV				A	A	06 46 03.7	
	3.2nm,0.7s						
MDT	**Midelt**	**3.00**	**179**	P	**Pn**	**06 45 29.7**	**+0.6**
MDT	**Midelt**	**3.00**	**179**	S	**Sn**	**06 46 02.8**	**-1.3**
PBAR	**Barrancos**	**3.02**	**322**	*e*P	**Pn**	**06 45 30.4**	**+1.2**
PBAR				*e*S	**Sn**	**06 46 03.2**	**-1.1**
PBAR				A	A	06 46 05.1	
	2.2nm,0.7s						
PSIM	**Granatula de C**	**3.08**	**13**	S	**Sn**	**06 46 03.9**	**-2.0**
PCVE	**Castro Verde**	**3.25**	**305**	*e*S	**Sn**	**06 46 09.5**	**-0.5**
EBAD	**Badajoz**	**3.47**	**328**	P	**Pn**	**06 45 36.8**	**+1.4**
EBAD				⇑ *i*Vmb_V		06 45 37.4	
	141nm,SNR=3.3						
EBAD				S	**Sn**	**06 46 14.6**	**-0.8**
MESJ	**Messejana**	**3.49**	**306**	*e*P	**Pn**	**06 45 36.7**	**+1.1**
MESJ				*e*S	**Sn**	**06 46 14.8**	**-0.9**
PAB	**San Pablo**	**3.73**	**4**	P	**Pn**	**06 45 40.2**	**+1.3**
PAB				⇑ *i*Vmb_V		06 45 42.5	
	36nm,SNR=1.2						
PAB				S	**Sn**	**06 46 19.3**	**-2.4**
EVO	**Evora**	**3.80**	**316**	*e*P	**Pn**	**06 45 41.4**	**+1.6**
EVO				*e*S	**Sn**	**06 46 22.4**	**-0.9**
EVO				A	A	06 46 23.5	
	3.1nm,0.1s						
PESTR	**Estremoz**	**3.83**	**323**	*e*P	**Pn**	**06 45 41.7**	**+1.5**
PESTR				*e*S	**Sn**	**06 46 22.9**	**-1.1**
PESTR				A	A	06 46 34.5	
	1.9nm,0.5s						
PNCL	**Nicolau / Gran**	**3.84**	**308**	*e*P	**Pn**	**06 45 41.3**	**+0.9**
PNCL				*e*S	**Sn**	**06 46 23.3**	**-1.1**
PNCL				A	A	06 46 23.9	
	2.0nm,0.7s						
PMRV	**Marv??o**	**4.20**	**330**	*e*P	**Pn**	**06 45 46.9**	**+1.7**
PMRV				*e*S	**Sn**	**06 46 31.9**	**-1.2**
PMRV				A	A	06 46 33.0	
	0.9nm,0.2s						
PMTG	**Montargil**	**4.30**	**320**	*e*P	**Pn**	**06 45 48.2**	**+1.6**
PMTG				*e*S	**Sn**	**06 46 33.9**	**-1.6**

*IDC **27** 06:50:30.1±3.3, 22°.55N×143°.11E, h106km±26km, mb3.6/9, mbtmp4.0/10, Error ellipse: s-maj=38.6km s-min=21.6km az=84.0*
ISC 27 06:50:29.3±1.2, 22°.5N±0°.1×143°.2E±0°.3, h100km, n11, σ1°17/12, mb3.9/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.69**	**349**	P	**Pn**	**06 51 38.6**	**+0.9**
	38nm,0.3s,baz=119,slow=22,SNR=5.8						
JCJ				S	**Sn**	**06 52 29.9**	**-1.2**
	70nm,0.4s,baz=300,slow=23,SNR=7.3						
KSRS	**Korea Array**	**19.91**	**322**	P	**Pn**	**06 54 57.5**	**+2.0**
	2.2nm,0.4s,baz=148,slow=8.8,SNR=11						
SONM	**Songino Array**	**38.76**	**320**	P	**P**	**06 57 44.3**	**+0.2**
	0.4nm,0.5s,baz=138,slow=10,SNR=2.1						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.05**	**192**	P	**P**	**06 58 19.5**	**+0.2**
	0.2nm,0.5s,baz=13,slow=8.5,SNR=5.6						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**53.62**	**321**	P	**P**	**06 59 39.9**	**-0.3**
	1.7nm,0.5s,baz=103,slow=7.0,SNR=1.6						
	1.7nm,0.5s						
MKAR	**Makanchi Array**	**54.19**	**312**	P	**P**	**06 59 42.9**	**-1.6**
	0.4nm,0.5s,baz=98,slow=7.9,SNR=4.4						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**56.98**	**317**	P	**P**	**07 00 04.0**	**-0.3**
	2.0nm,0.5s,baz=92,slow=8.0,SNR=15						
	2.0nm,0.5s						
ILAR	**Eielson Array**	**61.33**	**27**	P	**P**	**07 00 34.8**	**+0.6**
	0.2nm,0.6s,baz=264,slow=6.9,SNR=4.8						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**62.10**	**319**	P	**P**	**07 00 39.1**	**-0.4**
	3.8nm,0.4s,baz=84,slow=7.6,SNR=15						
	3.8nm,0.4s						
ARCES	**ARCESS Array B**	**78.19**	**341**	P	**P**	**07 02 16.2**	**-1.2**
	2.3nm,0.8s,baz=73,slow=6.7,SNR=4.0						
	2.3nm,0.8s						

FINES FINESS Array B 82.49 334 P **P 07 02 39.4 -1.1**
0.5nm,0.3s,baz=53,slow=5.8,SNR=7.4
0.5nm,0.3s

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*IDC **27** 06:54:59.5±2.9,53°.75N×88°.06E,h0km,mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=23.5km s-min=16.6km az=60.0*
*NNC **27** 06:54:59.6±2.5,53°.62N×88°.12E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=18.7km s-min=14.6km az=71.0, Suspected Mining explosion.*
ISC 27 06:55:01.1±3.6,53°.8N±0°.1×87°.9E±0°.2,h0km,n8,σ1§08/13, 9C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**277**	I	I	07 07 30.0	
	0.4nm,0.9s,baz=92,slow=319,SNR=4.5						
ZAA0	**Zalesovo Array**	**1.85**	**277**	⇑Pn	**Pn**	**06 55 33.9**	**-0.2**
	2.7nm,0.9s						
ZAA0				⇑Sn	**Sg**	**06 56 01.5**	**+1.1**
	7.6nm,0.7s						
ZALV	**Zalesovo Beam**	**1.85**	**277**	Pn	**Pn**	**06 55 34.0**	**-0.1**
	2.1nm,0.3s,baz=92,slow=14,SNR=46						
ZALV				Lg	Lg	06 56 01.8	
	7.1nm,0.3s,baz=94,slow=25,SNR=31						
KURK	**Kurchatov**	**6.47**	**246**	⇓Pn	**Pn**	**06 56 37.1**	**-0.4**
	1.2nm,0.7s						
KURK				⇑Sn	**Sn**	**06 57 53.5**	**+1.6**
	1.4nm,0.7s						
KURK				⇑Lg	Lg	06 58 27.9	
	14nm,1.1s						
KURBB	**Kurchatov Arra**	**6.57**	**245**	Pn	**Pn**	**06 56 38.8**	**0.0**
	0.2nm,0.3s,baz=63,slow=14,SNR=7.1						
KURBB				Sn	**Sn**	**06 57 51.8**	**-2.6**
	0.1nm,0.3s,baz=65,slow=13,SNR=2.3						
KURBB				Lg	Lg	06 58 30.3	
	0.1nm,0.3s,baz=64,slow=32,SNR=15						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**6.57**	**245**	⇑Pn	**Pn**	**06 56 38.9**	**0.0**
	1.2nm,0.3s						
KURBB				⇑Sn	**Sn**	**06 57 53.2**	**-1.2**
	3.5nm,0.7s						
KURBB				⇑Lg	Lg	06 58 28.5	
	4.0nm,0.7s						
MK31	**Makanchi Array**	**7.84**	**210**	⇑Pn	**Pn**	**06 56 56.3**	**0.0**
	0.2nm,0.4s,baz=31,slow=15,SNR=4.3						
MK31				⇓Sn	**Sn**	**06 58 25.7**	**0.0**
	0.3nm,0.5s,baz=312,slow=23,SNR=4.8						
MK31				⇑Lg	Lg	06 59 06.9	
	2.4nm,0.8s,baz=6.1,slow=39,SNR=5.5						
MKAR	**Makanchi Array**	**7.84**	**210**	Pn	**Pn**	**06 56 56.5**	**+0.2**
	0.1nm,0.3s,baz=31,slow=15,SNR=6.0						
MKAR				Sn	**Sn**	**06 58 25.8**	**0.0**
	0.2nm,0.3s,baz=31,slow=25,SNR=3.5						
MKAR				Lg	Lg	06 59 09.0	
	0.1nm,0.3s,baz=39,slow=32,SNR=8.0						
	0.2nm,0.4s						

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*IDC **27** 07:15:18.9±5.2,8°.11S×123°.92E,h150km±49km,mb3.7/9, mbtmp4.1/11,MS2.9/1,Error ellipse: s-maj=46.3km s-min=13.0km az=69.0*
*DJA **27** 07:15:20.0±1.4,8°.S±8°.×12°.4E±°,h165km±14km,M4.0/7, MLv4.0/7*
*NEIC **27** 07:15:21.5±2.0,8°.33S±0°.08×123°.8E±0°.1,h170km±4km, mb4.3/16,Error ellipse: s-maj=16.4km s-min=8.9km az=58.0*
ISC 27 07:15:19.2±0.5,8°.20S±0°.06×123°.92E±0°.07,h150km,n81, σ1§73/82,mb4.2/20,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.58**	**167**	P	**Pn**	**07 15 52.8**	**+3.0**
SOEI	**Soe**	**1.58**	**167**	Pn	**Pn**	**07 15 52.8**	**+3.0**
SOEI	**Soe**	**1.58**	**167**	P	**Pn**	**07 15 53.1**	**+3.3**
SOEI				S	**Sn**	**07 16 19.1**	**+5.8**
MMRI	**Maumere**	**1.72**	**255**	P	**Pn**	**07 15 54.1**	**+3.0**
MMRI	**Maumere**	**1.72**	**255**	Pn	**Pn**	**07 15 53.6**	**+2.5**
MMRI	**Maumere**	**1.72**	**255**	P	**Pn**	**07 15 54.2**	**+3.1**
BATI	**Baumata**	**2.01**	**187**	P	**Pn**	**07 15 57.6**	**+3.1**
EDFI	**Ende, Flores**	**2.27**	**256**	P	**Pn**	**07 16 00.7**	**+3.1**
BASI	**Baing, Sumba**	**3.86**	**238**	P	**Pn**	**07 16 18.2**	**+0.6**
KAPI	**Kappang**	**5.21**	**307**	Pn	**Pn**	**07 16 38.2**	**+2.8**
KAPI	**Kappang**	**5.21**	**307**	P	**Pn**	**07 16 37.6**	**+2.2**
	10nm,0.5s,baz=124,slow=12,SNR=5.5						
KAPI				LR	LR	07 19 25.2	
	comp=Z,123nm,18.2s,baz=24,slow=48						
PLAI	**Plampang**	**6.11**	**264**	P	**Pn**	**07 16 48.2**	**+0.8**
DRS	**Darwin Rock St**	**8.05**	**122**	P	**Pn**	**07 17 13.5**	**+0.2**
MTN	**Manton Dam**	**8.46**	**124**	P	**Pn**	**07 17 19.0**	**+0.2**
MTN	**Manton Dam**	**8.46**	**124**	Pn	**Pn**	**07 17 18.7**	**-0.1**
KNRA	**Kununurra**	**8.81**	**148**	Pn	**Pn**	**07 17 22.3**	**-1.2**
KDU	**Kakadu**	**9.52**	**119**	P	**Pn**	**07 17 32.2**	**-0.7**
TOLI2	**Tolitoli**	**9.76**	**341**	Pn	**Pn**	**07 17 39.7**	**+3.6**
FITZ	**Fitzroy Crossi**	**9.98**	**171**	P	**Pn**	**07 17 37.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**9.98**	**171**	Pn	**Pn**	**07 17 37.2**	**-1.8**
UGM	**Wanagama**	**13.27**	**270**	P	**Pn**	**07 18 25.2**	**-1.1**
UGM	**Wanagama**	**13.27**	**270**	Pn	**Pn**	**07 18 21.3**	**-0.7**
MBWA	**Marble Bar**	**13.50**	**197**	P	**Pn**	**07 18 26.3**	**+1.4**
MBWA	**Marble Bar**	**13.50**	**197**	Pn	**Pn**	**07 18 24.2**	**-0.7**
PSA00	**Pilbara Seismi**	**13.86**	**196**	Pn	**Pn**	**07 18 28.1**	**-1.3**
WB0	**Warramunga Arr**	**15.34**	**140**	P	**Pn**	**07 18 46.4**	**-1.4**
WRA	**Warramunga Arr**	**15.43**	**140**	P	**Pn**	**07 18 47.6**	**-1.4**
WRA	**Warramunga Arr**	**15.43**	**140**	P	**Pn**	**07 18 47.9**	**-1.1**
	4.7nm,0.4s,baz=314,slow=14,SNR=67						
WRA				S	Sn	07 21 30.9	-10
	4.7nm,0.5s,baz=317,slow=24,SNR=7.7						
WR0	**Warramunga Arr**	**15.57**	**140**	P	**Pn**	**07 18 50.1**	**-0.6**
BBJI	**Bungbulang**	**16.13**	**271**	P	**P**	**07 18 58.9**	**+0.8**
WRKA	**Warakurna**	**17.26**	**167**	P	**P**	**07 19 11.6**	**+1.2**
AS31	**Alice Springs**	**18.11**	**149**		**P**	**07 19 20.7**	**+0.9**
AS31				IAmb	IAmb	07 19 48.1	
	comp=Z,3.3nm,0.5s						
ASAR	**Alice Springs**	**18.11**	**149**		**P**	**07 19 21.4**	**+1.5**
ASAR	**Alice Springs**	**18.11**	**149**	P	**P**	**07 19 20.1**	**+0.3**
	comp=Z,6.4nm,0.6s,baz=326,slow=12,SNR=100						
ASAR				S	**S**	**07 22 34.5**	**-5.2**
	comp=Z,1.6nm,0.6s,baz=314,slow=18,SNR=4.5						
AS01	**Alice Springs**	**18.14**	**149**	P	**P**	**07 19 20.0**	**-0.1**
MEEK	**Meekatharra**	**19.02**	**195**	P	**P**	**07 19 30.7**	**+1.1**
QIS	**Mount Isa**	**19.52**	**131**	P	**P**	**07 19 36.5**	**+1.4**
COEN	**Coen**	**19.74**	**109**	P	**P**	**07 19 37.4**	**-0.1**
COEN				IAmb	IAmb	07 20 14.3	
	comp=Z,6.0nm,0.9s						
MORW	**Morawa**	**22.04**	**199**	P	**P**	**07 20 01.1**	**-0.8**
MORW				IAmb	IAmb	07 20 25.3	
	comp=Z,14nm,1.1s						
OOD	**Oodnadatta**	**22.44**	**152**	P	**P**	**07 20 06.6**	**+0.8**
FORT	**Forrest**	**22.80**	**171**	P	**P**	**07 20 09.1**	**0.0**
FORT	**Forrest**	**22.80**	**171**	P	**P**	**07 20 08.0**	**-1.1**
FORT				IAmb	IAmb	07 20 42.9	
	comp=Z,15nm,0.8s						
KMBL	**Kambalda**	**23.13**	**184**	P	**P**	**07 20 12.0**	**-0.2**
BLDU	**Ballidu**	**23.30**	**196**	P	**P**	**07 20 13.6**	**-0.1**
MULG	**Mulgathing**	**23.93**	**158**	P	**P**	**07 20 19.9**	**+0.4**
KLBR	**Kellerberrin**	**23.97**	**193**	P	**P**	**07 20 19.7**	**-0.1**
CTAO	**Charters Tower**	**24.63**	**121**	P	**P**	**07 20 26.0**	**0.0**
CTAO				IAmb	IAmb	07 20 39.8	
	comp=Z,6.0nm,1.1s						
NWAO	**Narrogin (SRO)**	**25.37**	**193**	P	**P**	**07 20 32.3**	**-0.2**
NWAO	**Narrogin (SRO)**	**25.37**	**193**	P	**P**	**07 20 30.7**	**-1.8**
LCRK	**Leigh Creek**	**25.87**	**151**	P	**P**	**07 20 38.5**	**+1.5**
QLP	**Quilpie**	**26.57**	**136**	P	**P**	**07 20 43.9**	**+0.5**
BBOO	**Buckleboo**	**26.95**	**157**	P	**P**	**07 20 47.0**	**+0.3**
BBOO	**Buckleboo**	**26.95**	**157**	P	**P**	**07 20 46.1**	**-0.6**
BBOO				IAmb	IAmb	07 20 56.9	
	comp=Z,16nm,1.3s						
HTT	**Hallett**	**28.68**	**153**	P	**P**	**07 21 03.3**	**+1.1**
STKA	**Stephens Creek**	**28.73**	**147**	P	**P**	**07 21 02.3**	**-0.3**
STKA	**Stephens Creek**	**28.73**	**147**	P	**P**	**07 21 03.5**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=319,slow=12,SNR=4.6						
	comp=Z,1.5nm,0.5s						
CMSA	**Cobar Meteorol**	**30.83**	**142**	P	**P**	**07 21 22.6**	**+1.5**
SSLB	**Suanglung**	**31.92**	**355**	P	**P**	**07 21 33.5**	**+2.7**
SSLB				IAmb	IAmb	07 22 08.0	
	comp=Z,5.0nm,0.8s						
ARPS	**Mount Arapiles**	**32.78**	**153**	P	**P**	**07 21 39.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**36.18**	**317**	P	**P**	**07 22 07.3**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=141,slow=7.0,SNR=7.0						
	comp=Z,1.4nm,0.5s						
PZH	**PanZhiHua**	**40.66**	**329**	P	**P**	**07 22 42.0**	**-3.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,4.7s						
XAN	**Xi'an**	**44.35**	**342**	P	**P**	**07 23 13.3**	**-1.3**
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC	**Hu-ho-hao-te**	**50.12**	**348**	*e*P	P	07 24 04.8	+5.6
HHC				pP	pwP	07 24 39.0	+1.9
HHC				pmax	pmax		
	comp=Z,110nm,5.0s						
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**52.66**	**7**	P	**P**	**07 24 17.5**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=193,slow=6.1,SNR=4.9						
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**57.91**	**346**	P	**P**	**07 24 54.6**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=166,slow=6.3,SNR=6.1						
	comp=Z,1.4nm,0.8s						
WMQ	**Urumqi**	**61.30**	**331**	*e*P	**P**	**07 25 20.0**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,90nm,0.7s						
KSH	**Kashi**	**64.97**	**321**	P	**P**	**07 25 43.3**	**+0.1**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MK31	**Makanchi Array**	**66.08**	**330**	P	**P**	**07 25 49.0**	**-1.0**
MKAR	**Makanchi Array**	**66.08**	**330**	P	**P**	**07 25 49.5**	**-0.5**
MKAR	**Makanchi Array**	**66.08**	**330**	P	**P**	**07 25 49.2**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=134,slow=7.4,SNR=16						
	comp=Z,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**70.51**	**331**	P	**P**	**07 26 16.2**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=140,slow=5.4,SNR=7.5						
	comp=Z,0.4nm,0.3s						
VNDA	**Vanda**	**72.05**	**172**	P	**P**	**07 26 26.4**	**0.0**
VNDA	**Vanda**	**72.05**	**172**	P	**P**	**07 26 26.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=325,slow=7.7,SNR=11						
	comp=Z,0.9nm,0.6s						
ABKAR	**Akbulak array**	**79.77**	**323**	P	**P**	**07 27 09.4**	**-1.2**
QSPA	**South Pole Qui**	**81.79**	**180**	P	**P**	**07 27 20.9**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=259,slow=1.7,SNR=4.0						
	comp=Z,1.4nm,0.7s						
SNAA	**Sanae**	**93.04**	**195**	P	**P**	**07 28 15.6**	**+0.1**
SNAA	**Sanae**	**93.04**	**195**	P	**P**	**07 28 16.0**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=166,slow=4.2,SNR=5.0						
	comp=Z,0.7nm,0.7s						
BELA	**Belgrano 2**	**93.23**	**184**	P	**P**	**07 28 15.8**	**-0.4**
BELA				IAmb	IAmb	07 28 16.5	
	comp=Z,7.0nm,1.5s						
TORD	**Torodi Ar. Bea**	**123.11**	**280**	PKP	**PKPdf**	**07 33 57.0**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=70,slow=2.6,SNR=2.1						
TXAR	**Lajitas Array**	**130.70**	**58**	PKP	**PKPdf**	**07 34 12.1**	**-1.1**
	comp=Z,0.1nm,0.6s,baz=223,slow=4.9,SNR=2.6						
CPUP	**Villa Florida**	**145.66**	**178**	PKPbc	**PKPdf**	**07 34 41.4**	**+0.9**
	comp=Z,2.4nm,0.6s,baz=285,slow=2.1,SNR=3.0						

IDC 27 07:25:33.5±3.1,53°.67N×88°.11E,h0km,mbtmp2.7/2, ML2.4/2,Error ellipse: s-maj=25.0km s-min=17.4km az=62.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**279**	I	I	07 38 00.0	
	0.1nm,0.8s,baz=94,slow=318,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.97**	**279**	Pn	Pn	07 26 07.9	-0.2
	0.7nm,0.3s,baz=98,slow=14,SNR=11						
ZALV				Lg	Lg	07 26 36.6	
	1.4nm,0.3s,baz=93,slow=25,SNR=10.0						
KURBB	**Kurchatov Arra**	**6.64**	**247**	Pn	Pn	07 27 12.5	+0.2
	baz=62,slow=14,SNR=4.2						
KURBB				Sn	Sn	07 28 27.9	-0.6
	baz=53,slow=27,SNR=1.3						
KURBB				Lg	Lg	07 29 04.0	
	baz=62,slow=34,SNR=4.1						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**7.83**	**211**	Pn	Pn	07 27 30.5	+1.9
	0.1nm,0.3s,baz=26,slow=12,SNR=2.1						
MKAR				Sn	Sn	07 28 56.9	-1.0
	baz=31,slow=22,SNR=2.2						
MKAR				Lg	Lg	07 29 39.5	
	baz=30,slow=26						
	0.1nm,0.3s						

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*IDC **27** 07:43:05.4±1.2,0°.11N×121°.69E,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=93.8km s-min=20.7km az=65.0*
*DJA **27** 07:43:23.8±1.5,0°.N±5°.×12°.2E±°,h27km±16km,M3.7/4, MLv3.7/4*
ISC 27 07:43:17.5±1.2,0°.1N±0°.2×121°.9E±0°.1,h100km,n7, σ1§75/7,mb3.7/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.18**	**65**	P	**Pn**	**07 43 40.6**	**+0.7**
GTOI				S	**Sn**	**07 43 55.6**	**-1.3**
LUWI	**Luwuk**	**1.44**	**145**	P	Pn	07 43 48.4	+5.4
WRA	**Warramunga Arr**	**23.36**	**149**	P	**P**	**07 48 16.0**	**-1.4**
	1.6nm,0.7s,baz=326,slow=10,SNR=15						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**26.36**	**155**	P	**P**	**07 48 44.6**	**+0.1**
	0.2nm,0.3s,baz=344,slow=15,SNR=9.6						
	0.2nm,0.3s						
SONM	**Songino Array**	**49.39**	**346**	P	**P**	**07 51 55.8**	**-1.3**
	0.5nm,0.5s,baz=158,slow=9.3,SNR=3.0						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**57.94**	**329**	P	**P**	**07 52 58.9**	**-0.5**
	0.8nm,0.5s,baz=118,slow=8.9,SNR=9.2						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**90.38**	**25**	P	**P**	**07 56 09.8**	**+2.5**
	0.5nm,0.7s,baz=285,slow=3.7,SNR=4.7						
	0.5nm,0.7s						

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*IDC **27** 07:44:10.3±1.6,52°.04N×178°.25E,h108km±12km, mb3.7/17,mbtmp4.1/19,MS3.2/1,Error ellipse: s-maj=24.6km s-min=10.5km az=3.0*
*NEIC **27** 07:44:11.4±1.2,51°.9N±0°.2×178°.09E±0°.09,h127km±7km, mb4.2/59,ML3.8(AEIC),Error ellipse: s-maj=22.5km s-min=7.8km az=181.0*
*AEIC **27** 07:44:13.1±1.0,51°.9N±0°.1×178°.19E±0°.10,h126km±6km, Error ellipse: s-maj=18.3km s-min=8.8km az=181.0*
ISC 27 07:44:10.7±0.6,51°.99N±0°.10×178°.13E±0°.04,h112km, n141,σ1§24/140,mb4.1/40,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.24**	**94**		**Pn**	**07 44 29.6**	**+3.2**
LSPA	**Little Sitkin**	**0.28**	**97**		**Pn**	**07 44 29.9**	**+3.3**
LSSE	**Little Sitkin**	**0.28**	**101**		**Pn**	**07 44 30.3**	**+3.7**
CESW	**Semis' Southwe**	**0.89**	**95**		**Pn**	**07 44 33.3**	**+2.4**
CEAP	**Semis' Anvil P**	**0.89**	**89**		**Pn**	**07 44 33.9**	**+2.9**
CEPE	**Semis' Perret**	**0.94**	**91**		**Pn**	**07 44 34.1**	**+2.7**
AMKA	**Amchitka**	**0.95**	**130**		**Pn**	**07 44 33.5**	**+2.0**
AMKA				Sn	**Sn**	**07 44 48.2**	**+1.0**
GASW	**Gareloi Southw**	**1.88**	**95**		**Pn**	**07 44 44.1**	**+1.9**
GASW					**Sn**	**07 45 08.2**	**+1.9**
GANE	**Gareloi Northe**	**1.92**	**94**		**Pn**	**07 44 44.3**	**+1.5**
GAEA	**Gareloi East**	**1.94**	**95**		**Pn**	**07 44 44.9**	**+1.9**
TANO	**Tanaga North**	**2.32**	**90**		**Pn**	**07 44 49.5**	**+1.7**
TASE	**Tanaga Southea**	**2.38**	**92**		**Pn**	**07 44 50.0**	**+1.4**
TAFP	**Tanaga Falls P**	**2.41**	**91**		**Pn**	**07 44 50.1**	**+1.2**
TAFP					**Sn**	**07 45 19.4**	**+1.1**
SHEM	**Shemya Is, Ala**	**2.58**	**288**	P	**Pn**	**07 44 52.6**	**+1.5**
	391nm,0.4s,baz=57,slow=3.8,SNR=123						
SHEM				S	**Sn**	**07 45 23.2**	**+0.9**
	269nm,0.3s,baz=282,slow=19,SNR=20						
KICM	**Kanaga Island**	**2.89**	**90**		**Pn**	**07 44 56.8**	**+1.6**
KIWB	**Kanaga Island**	**2.92**	**91**		**Pn**	**07 44 56.5**	**+0.8**
KIRH	**Kanaga Island**	**2.96**	**90**		**Pn**	**07 44 57.4**	**+1.3**
ADK	**Adak**	**3.21**	**90**	P	**Pn**	**07 44 59.9**	**+0.5**
ADK	**Adak**	**3.21**	**90**		**Pn**	**07 45 00.3**	**+0.8**
ADAG	**Mount Adagdak**	**3.26**	**88**		**Pn**	**07 45 01.0**	**+0.9**
GSCK	**Great Sitkin C**	**3.53**	**87**		**Pn**	**07 45 04.4**	**+0.7**
GSTD	**Great Sitkin T**	**3.54**	**87**		**Pn**	**07 45 04.6**	**+0.8**
GSTD					**Sn**	**07 45 47.1**	**+2.1**
GSTR	**Great Sitkin T**	**3.59**	**86**		**Pn**	**07 45 05.5**	**+1.0**
KOKL	**Mount Kliuchef**	**4.73**	**83**		**Pn**	**07 45 21.0**	**+1.1**
ATKA	**Atka Island**	**4.74**	**84**	P	**Pn**	**07 45 20.9**	**+1.1**
ATKA	**Atka Island**	**4.74**	**84**	Pn	**Pn**	**07 45 20.6**	**+0.8**
ATKA	**Atka Island**	**4.74**	**84**		**Sn**	**07 46 14.0**	**+0.4**
KOFP	**Korovin Flat P**	**4.80**	**84**		**Pn**	**07 45 22.4**	**+1.6**
CLES	**Cleveland East**	**7.37**	**79**	Pn	**Pn**	**07 45 57.5**	**+1.9**
CLCO	**Concord Point,**	**7.48**	**79**		**Pn**	**07 45 58.9**	**+2.0**
NIKH	**Nikolski High**	**8.01**	**78**		**Pn**	**07 46 05.1**	**+1.0**
OKWE	**Okmok W'ng Wal**	**8.41**	**74**		**Pn**	**07 46 10.5**	**+1.0**
SPIA	**Saint Paul Isl**	**8.51**	**48**		**Pn**	**07 46 13.7**	**+2.8**
MAPS	**Pakushin South**	**9.21**	**73**		**Pn**	**07 46 21.7**	**+1.3**
MSW	**Makushin Switc**	**9.31**	**72**		**Pn**	**07 46 23.3**	**+1.6**
MREP	**Makushin Rep't**	**9.32**	**73**		**Pn**	**07 46 23.7**	**+1.7**
UNV	**Unalaska Valle**	**9.47**	**73**	P	**Pn**	**07 46 25.1**	**+1.3**
UNV	**Unalaska Valle**	**9.47**	**73**		**Pn**	**07 46 24.8**	**+0.9**
LVA	**Lava Point**	**9.78**	**71**	Pn	**Pn**	**07 46 28.9**	**+0.9**
ZRO	**Akutan Zero**	**9.80**	**71**		**Pn**	**07 46 29.8**	**+1.4**
AKBBA	**Akutan Broad B**	**9.83**	**71**		**Pn**	**07 46 29.6**	**+0.8**
FALS	**False Pass**	**11.37**	**68**	P	**Pn**	**07 46 50.7**	**+1.2**
S12K	**Black Hills**	**12.26**	**65**	Pn	**Pn**	**07 47 02.5**	**+1.2**
M14K	**Bethel**	**14.04**	**44**		**Pn**	**07 47 26.0**	**+1.6**
L14K	**Kuka Creek**	**14.05**	**41**	Pn	**Pn**	**07 47 24.5**	**0.0**
N15K	**Kwethluk River**	**14.60**	**47**	Pn	**Pn**	**07 47 32.9**	**+1.4**
O16K	**Kokwok River B**	**15.32**	**51**	P	**P**	**07 47 42.1**	**-0.7**
O16K				IAmb	IAmb	07 47 48.2	
	comp=Z,8.7nm,0.9s						
M16K	**Timber Creek**	**15.47**	**45**		**P**	**07 47 43.9**	**-0.5**
M17K	**Holitna River**	**16.30**	**45**		**P**	**07 47 54.7**	**+1.1**
M17K				IAmb	IAmb	07 47 56.5	
	comp=Z,17nm,1.0s						
P18K	**Big Mountain,**	**16.66**	**53**		**P**	**07 47 58.4**	**+0.8**
P18K				IAmb	IAmb	07 48 02.7	
	comp=Z,15nm,0.8s						
N18K	**Kilae Creek**	**16.72**	**49**		**P**	**07 47 58.4**	**0.0**
N18K				IAmb	IAmb	07 48 05.2	
	comp=Z,11nm,0.8s						
SII	**Sitkinak Islan**	**16.74**	**63**	P	**Pn**	**07 47 56.4**	**-1.8**
O18K	**Koktuh Hills**	**16.79**	**52**		**P**	**07 47 59.6**	**+0.6**
L18K	**Granite Mounta**	**16.96**	**43**	P	**P**	**07 48 01.6**	**+0.6**
H17K	**Granite Mounta**	**17.19**	**33**	P	**Pn**	**07 48 04.6**	**+1.0**
OHAK	**Old Harbor**	**17.29**	**61**	P	**P**	**07 48 02.6**	**-1.9**
N19K	**Bonanza Creek**	**17.42**	**49**		**Pn**	**07 48 07.2**	**+0.7**
J18K	**Innoko River**	**17.53**	**39**		**Pn**	**07 48 08.8**	**+1.1**
P19K	**Oil Pt**	**17.71**	**53**	P	**Pn**	**07 48 10.6**	**+0.7**
KDAK	**Kodiak Island**	**17.72**	**59**	P	**P**	**07 48 07.7**	**-1.6**
	comp=Z,6.3nm,0.3s,baz=283,slow=5.6,SNR=29						
L19K	**White Mountain**	**17.73**	**44**	P	**Pn**	**07 48 10.8**	**+0.6**
L19K				IAmb	IAmb	07 48 14.2	
	comp=Z,14nm,1.2s						
RSO	**Redoubt South**	**18.14**	**51**	P	**Pn**	**07 48 16.1**	**+0.9**
G18K	**Tagagawik**	**18.20**	**31**	P	**Pn**	**07 48 15.6**	**-0.1**
K20K	**Telida**	**18.54**	**41**	P	**P**	**07 48 18.9**	**+0.7**
H19K	**Roundabout Mou**	**18.72**	**34**	P	**Pn**	**07 48 21.8**	**0.0**
H19K				IAmb	IAmb	07 48 28.3	
	comp=Z,8.9nm,1.1s						
G19K	**Purcell Mounta**	**18.86**	**32**	P	**Pn**	**07 48 23.4**	**-0.2**
J20K	**Nowinta River**	**18.87**	**39**	P	**Pn**	**07 48 23.2**	**-0.4**
F19K	**Shaleruckik Mo**	**19.07**	**30**	P	**P**	**07 48 24.5**	**+0.6**
F19K				IAmb	IAmb	07 48 43.2	
	comp=Z,8.9nm,1.0s						
SKT	**Skwentna**	**19.13**	**47**	P	**Pn**	**07 48 25.9**	**-0.8**
SUA	**Susitna One**	**19.34**	**49**	P	**P**	**07 48 27.6**	**+0.5**
SUA				IAmb	IAmb	07 48 33.1	
	comp=Z,12nm,0.9s						
O22K	**Cooper Landing**	**19.60**	**52**	P	**Pn**	**07 48 31.1**	**-1.1**
E19K	**Redstone River**	**19.64**	**29**	P	**P**	**07 48 31.5**	**+1.4**
IMAR	**Indian Mountai**	**19.90**	**35**	P	**P**	**07 48 33.8**	**+0.8**
H21K	**Melozitna Rive**	**20.08**	**36**	P	**P**	**07 48 35.7**	**+0.9**
H21K				IAmb	IAmb	07 48 40.5	
	comp=Z,5.4nm,0.8s						
D19K	**Kuna River**	**20.08**	**26**	P	**P**	**07 48 35.8**	**+0.9**
D19K				IAmb	IAmb	07 48 40.1	
	comp=Z,10nm,1.1s						
BPAW	**Bear Paw Mtn.**	**20.10**	**41**	P	**P**	**07 48 35.7**	**+0.6**
BPAW				IAmb	IAmb	07 48 40.2	
	comp=Z,9.4nm,1.0s						
PMR	**Palmer**	**20.13**	**49**	P	Pn	07 48 37.8	-0.4
G21K	**Allakaket**	**20.27**	**33**	P	**P**	**07 48 37.8**	**+0.9**
SML	**Sawmill**	**20.55**	**48**	P	**P**	**07 48 40.6**	**+0.6**
F21K	**Alatna River**	**20.66**	**32**	P	**P**	**07 48 42.1**	**+1.0**
SCM	**Sheep Creek Mo**	**21.02**	**49**	P	**P**	**07 48 44.3**	**-0.8**
NEA2	**Nenana**	**21.06**	**41**	P	**P**	**07 48 45.5**	**+0.1**
NEA2				IAmb	IAmb	07

comp=Z,6.4nm,0.8s
SONM Songino Array 44.66 294 P **P 07 52 12.9 +0.9**
comp=Z,0.7nm,0.6s,baz=46,slow=8.6,SNR=4.5
SONM ScP **ScP 07 57 34.7 +0.4**
comp=Z,0.9nm,0.9s,baz=85,slow=1.6,SNR=4.7
comp=Z,0.7nm,0.6s
NVAR Mina Array Bea 45.36 81 P **P 07 52 17.7 -0.1**
NVAR Mina Array Bea 45.36 81 P **P 07 52 17.8 0.0**
comp=Z,2.2nm,0.6s,baz=299,slow=7.3,SNR=24
NVAR ScP **ScP 07 57 35.8 -1.7**
comp=Z,0.2nm,0.5s,baz=220,slow=2.2,SNR=1.7
comp=Z,2.2nm,0.6s
HHC Hu-ho-hao-te 45.69 283 *e*P **P 07 52 17.8 -2.4**
HHC pP pP 07 52 49.3 +3.4
HHC pmax pmax
comp=Z,85nm,5.8s
HHC pmax pmax
comp=Z,13nm,0.6s
PDAR Pinedale Array 47.93 71 P **P 07 52 36.5 -1.2**
comp=Z,1.3nm,0.5s,baz=308,slow=3.3,SNR=22
comp=Z,1.3nm,0.5s
PFO Pinyon Flats O 49.63 85 LR LR 08 11 50.1
comp=Z,24nm,19.0s,baz=212,slow=34
ULM Lac du Bonnet 50.93 56 P **P 07 52 57.6 -2.5**
comp=Z,1.7nm,0.6s,baz=320,slow=7.1,SNR=4.5
comp=Z,1.7nm,0.6s
LZH Lanzhou 53.38 284 *e*P **P 07 53 20.8 +2.1**
LZH pP pP 07 53 41.8 -3.3
LZH pmax pmax
comp=Z,14nm,1.0s
ARCES ARCESS Array B 57.14 349 P **P 07 53 44.4 -0.6**
comp=Z,2.7nm,0.9s,baz=35,slow=8.4,SNR=7.1
comp=Z,2.7nm,0.9s
KURBB Kurchatov Arra 57.31 312 P **P 07 53 46.6 +0.2**
comp=Z,1.0nm,0.5s,baz=44,slow=6.9,SNR=6.6
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 58.15 306 P **P 07 53 52.1 -0.3**
comp=Z,0.3nm,0.4s,baz=42,slow=8.2,SNR=2.1
comp=Z,0.3nm,0.4s
BVAR Borovoye Array 59.17 318 P **P 07 53 59.8 +0.4**
comp=Z,2.5nm,0.3s,baz=52,slow=7.7,SNR=10
comp=Z,2.5nm,0.3s
TXAR Lajitas Array 60.43 79 P **P 07 54 07.8 -0.7**
comp=Z,1.4nm,0.7s,baz=298,slow=4.9,SNR=22
comp=Z,1.4nm,0.7s
PZH PanZhiHua 61.37 277 P **P 07 54 14.5 -0.3**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,120nm,4.7s
FINES FINESS Array B 64.74 346 P **P 07 54 35.6 -0.8**
comp=Z,0.7nm,0.7s,baz=28,slow=8.6,SNR=5.6
comp=Z,0.7nm,0.7s
AKTO Aktyubinsk 66.06 323 P **P 07 54 45.4 +0.3**
comp=Z,1.3nm,0.5s,baz=68,slow=11,SNR=4.2
comp=Z,1.3nm,0.5s
HFS Hagfors 67.53 352 P **P 07 54 53.6 -0.6**
comp=Z,0.4nm,0.5s,baz=67,slow=4.8,SNR=4.5
comp=Z,0.4nm,0.5s
AKASG Malin Array Be 74.35 340 P **P 07 55 34.9 -0.7**
comp=Z,0.9nm,0.4s,baz=20,slow=5.6,SNR=4.4
comp=Z,0.9nm,0.4s
WRA Warramunga Arr 81.17 221 P **P 07 56 13.8 +0.2**
comp=Z,0.3nm,0.5s,baz=33,slow=6.0,SNR=6.3
comp=Z,0.3nm,0.5s

DJA 27 07:57:43.9±0.7, 11°S±11°×117°E±°, h91km±44km, M3.9/8, mb3.9/3, MLv4.0/8, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.53**	**12**	P	Pn	07 58 22.6	-0.6
PLAI				S	Sn	07 58 53.1	-0.3
TWSI	**Taliwang, Sumb**	**2.59**	**352**	P	Pn	07 58 25.3	+1.3
TWSI				S	Sn	07 58 54.8	+0.1
BASI	**Baing, Sumba**	**3.46**	**72**	P	Pn	07 58 36.7	+1.1
SRBI	**Singaraja**	**3.79**	**328**	P	Pn	07 58 39.8	-0.3
JAGI	**Jajag, Banyuwa**	**4.16**	**313**	P	Pn	07 58 43.5	-1.6
ABJI	**Asem Bagus**	**4.59**	**319**	P	Pn	07 58 52.5	+1.5
EDFI	**Ende, Flores**	**5.07**	**60**	P	Pn	07 58 55.3	-2.4
	9.8nm,1.4s,0.1nm						
PWJI	**Pagerwojo**	**6.28**	**301**	P	Pn	07 59 13.7	-0.3
	28nm,1.8s						
BKSI	**Bulukumba**	**6.61**	**26**	P	Pn	07 59 19.5	+1.0

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*IDC **27** 08:07:39.5±1.2, 11°83S×117°33E, h0km, mb3.9/5, mbtmp3.9/8, ML4.0/3, MS3.3/5, Error ellipse: s-maj=45.1km s-min=19.4km az=63.0*
ISC 27 08:07:43.3±0.7, 11°79S±0°07×117°41E±0°10, h35km, n21, σ2s07/19, mb3.9/5, MS3.3/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.97**	**7**	P	**Pn**	**08 08 28.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**4.60**	**315**	P	**Pn**	**08 08 48.8**	**-1.7**
KAPI	**Kappang**	**7.12**	**19**	Pn	**Pn**	**08 09 27.3**	**+2.2**
	2.9nm,0.3s,baz=211,slow=6.8,SNR=11						
KAPI				Sn	**Sn**	**08 10 39.6**	**-5.2**
	12nm,0.3s,baz=90,slow=18,SNR=18						
KAPI				LR	LR	08 12 07.4	
	comp=Z,94nm,18.7s,baz=142,slow=37						
	16nm,0.4s						
UGM	**Wanagama**	**7.81**	**299**	P	**Pn**	**08 09 35.0**	**+0.5**
MBWA	**Marble Bar**	**9.58**	**167**	P	**Pn**	**08 09 56.9**	**-1.9**
PSA00	**Pilbara Seismi**	**10.00**	**167**	P	**Pn**	**08 10 03.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**10.12**	**129**	P	**Pn**	**08 10 05.0**	**-1.3**
MEEK	**Meekatharra**	**14.81**	**176**	P	**Pn**	**08 11 08.5**	**-1.9**
WRKA	**Warakurna**	**16.72**	**143**	P	**Pn**	**08 11 33.5**	**-1.6**
MORW	**Morawa**	**17.24**	**184**	P	**Pn**	**08 11 39.3**	**-2.1**
WRA	**Warramunga Arr**	**18.18**	**119**	P	**P**	**08 11 52.4**	**-0.8**
	0.6nm,0.3s,baz=290,slow=13,SNR=33						
WRA				S	Sn	08 15 00.2	-15
	1.0nm,0.5s,baz=290,slow=35,SNR=5.6						
	1.2nm,0.6s						
BLDU	**Ballidu**	**18.74**	**182**	P	**P**	**08 11 59.1**	**-0.2**
ASAR	**Alice Springs**	**19.63**	**129**	P	**Pn**	**08 12 11.1**	**+0.5**
	0.4nm,0.3s,baz=308,slow=12,SNR=32						
ASAR				S	S	08 15 38.5	-10
	1.9nm,0.6s,baz=305,slow=22,SNR=8.1						
	1.9nm,0.6s						
DAV	**Davao City (W)**	**20.42**	**24**	LR	LR	08 20 45.9	
	comp=Z,41nm,20.9s,baz=172,slow=38						
NWAO	**Narrogin (SRO)**	**21.04**	**180**	P	**P**	**08 12 25.7**	**+1.5**
	6.1nm,0.7s,baz=356,slow=14,SNR=1.4						
NWAO				S	S	08 16 01.8	-15
	7.2nm,0.5s,baz=104,slow=4.2,SNR=1.3						
NWAO				LR	LR	08 21 43.9	
	comp=Z,88nm,18.8s,baz=258,slow=40						
	6.1nm,0.7s						
STKA	**Stephens Creek**	**29.93**	**136**	P	**P**	**08 13 49.5**	**+1.3**
	1.0nm,0.6s,baz=332,slow=8.8,SNR=3.5						
	1.0nm,0.6s						
SONM	**Songino Array**	**60.16**	**351**	P	**P**	**08 17 50.4**	**+2.8**
	0.6nm,0.8s,baz=170,slow=8.8,SNR=2.3						
	0.6nm,0.8s						
KLR	**Kul'dur**	**62.06**	**11**	LR	LR	08 47 08.7	
	comp=Z,28nm,18.3s,baz=218,slow=38						
MKAR	**Makanchi Array**	**66.25**	**334**	P	**P**	**08 18 29.5**	**+1.6**
	0.4nm,0.3s,baz=152,slow=6.5,SNR=2.9						
	0.4nm,0.3s						
WSAR	**Wadi Sarin**	**67.22**	**301**	LR	LR	08 48 33.0	
	comp=Z,45nm,18.2s,baz=140,slow=36						
KURBB	**Kurchatov Arra**	**70.79**	**335**	P	**P**	**08 18 56.2**	**+0.2**
	0.3nm,0.3s,baz=149,slow=5.8,SNR=4.7						
	0.3nm,0.3s						

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*IDC **27** 08:12:27.4±1.3, 32°30N×76°37E, h0km, mb3.8/9, mbtmp3.8/12, ML3.5/3, Error ellipse: s-maj=27.8km s-min=23.7km az=54.0*
*NDI **27** 08:12:30.5±2.0, 32°38N×76°39E, h10km, ML3.6, MW3.7*
ISC 27 08:12:28.3±1.6, 32°39N±0°05×76°47E±0°06, h4km±11km, n18, σ2s22/24, mb3.8/9, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**0.20**	**225**	*e*Pg	**Pg**	**08 12 31.4**	**-0.9**
DHRM				*i* Sg	**Sg**	**08 12 33.2**	**-1.6**
DHRM				IAML		08 12 37.3	
	comp=E,11μm,0.6s						
DHRM				IAML		08 12 38.0	
	comp=N,9μm,0.6s						
THN	**Thein Dam**	**0.63**	**274**	*e*P	**Pg**	**08 12 39.8**	**-0.7**
THN				*e*S	**Sg**	**08 12 48.2**	**-0.5**
THN				IAML		08 12 51.5	
	comp=E,2μm,0.1s						
THN				IAML		08 13 09.0	
	comp=E,2μm,0.7s						
BHK	**Bhakra**	**0.97**	**182**	*e*P	**Pn**	**08 12 48.2**	**-0.6**
BHK				*i* x	x	08 12 49.3	
BHK				*e*S	**Sn**	**08 13 04.5**	**+1.4**
BHK				IAML		08 13 10.4	
	comp=E,515nm,0.1s						
BHK				IAML		08 13 20.8	
	comp=E,769nm,0.2s						
JMU	**Jammu**	**1.36**	**284**	*e*P	**Pg**	**08 12 57.6**	**+3.2**
JMU				*i* x	x	08 13 04.4	
JMU				*e*S	**Sn**	**08 13 15.4**	**+2.8**
SMLA	**Simla**	**1.39**	**154**	*e*P	**Pg**	**08 12 56.4**	**+1.3**
SMLA				*e*S	**Sn**	**08 13 16.3**	**+2.9**
SMLA				IAML		08 13 19.2	
	comp=E,4μm,0.2s						
SMLA				IAML		08 13 22.7	
	comp=E,2μm,0.6s						
DDI	**Dehra Dun**	**2.47**	**146**	*e*S	**Sn**	**08 13 41.9**	**+1.8**
DDI				IAML		08 13 49.2	
	comp=N,448nm,0.6s						
DDI				IAML		08 13 49.6	
	comp=E,513nm,0.6s						
AAK	**Ala-Archa**	**10.35**	**352**	Pn	**Pn**	**08 14 59.9**	**+2.3**
	comp=E,0.7nm,0.3s,baz=207,slow=4.5,SNR=1.7						
	comp=E,1.8nm,0.3s						
MKAR	**Makanchi Array**	**15.06**	**16**	Pn	**Pn**	**08 16 02.1**	**+0.2**
	comp=E,0.2nm,0.3s,baz=201,slow=13,SNR=9.4						
MKAR				Sn	**Sn**	**08 18 42.4**	**-6.8**
	comp=E,0.2nm,0.3s,baz=198,slow=23,SNR=3.6						
	comp=E,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**18.28**	**4**	P	**Pn**	**08 16 41.7**	**-1.1**
	baz=190,slow=11,SNR=9.7						
	comp=E,0.9nm,0.6s						
BVAR	**Borovoye Array**	**21.09**	**350**	P	**P**	**08 17 14.5**	**+1.0**
	comp=E,7.5nm,0.7s,baz=165,slow=12,SNR=20						
	comp=E,7.5nm,0.7s						
ZALV	**Zalesovo Beam**	**22.36**	**13**	P	**P**	**08 17 27.5**	**+0.3**
	comp=E,1.4nm,0.5s,baz=201,slow=11,SNR=5.6						
	comp=E,1.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**24.52**	**119**	P	**P**	**08 17 49.7**	**+0.6**
	comp=E,1.4nm,0.3s,baz=301,slow=8.7,SNR=6.8						
	comp=E,1.4nm,0.3s						
BRTR	**Keskin Array B**	**35.12**	**294**	P	**P**	**08 19 23.1**	**0.0**
	comp=E,0.7nm,0.7s,baz=100,slow=10,SNR=4.8						
	comp=E,0.7nm,0.7s						
FINES	**FINESS Array B**	**43.39**	**327**	P	**P**	**08 20 32.2**	**+0.6**
	comp=E,0.9nm,0.5s,baz=104,slow=8.0,SNR=5.3						
	comp=E,0.9nm,0.5s						
ARCES	**ARCESS Array B**	**46.65**	**338**	P	**P**	**08 20 58.5**	**+1.1**
	comp=E,1.2nm,0.7s,baz=123,slow=6.1,SNR=5.8						
	comp=E,1.2nm,0.7s						
NOA	**NORSAR Array B**	**50.35**	**325**	P	**P**	**08 21 25.7**	**-0.5**
	comp=E,0.5nm,0.7s,baz=101,slow=6.9,SNR=1.7						
	comp=E,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**70.31**	**273**	P	**P**	**08 23 41.4**	**-2.1**
	comp=E,0.6nm,0.6s,baz=59,slow=6.0,SNR=4.1						
	comp=E,0.6nm,0.6s						
ILAR	**Eielson Array**	**77.41**	**18**	P	**P**	**08 24 23.9**	**-0.4**
	comp=E,0.3nm,0.8s,baz=284,slow=3.6,SNR=5.0						
	comp=E,0.3nm,0.8s						

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*CATAC **27** 08:41:21.8±0.6, 13°24N×90°19W, h13km±3km, ML3.4*
*SNET **27** 08:41:22.9±0.8, 13°27N×90°19W, h26km±5km, ML3.4*
*GCG **27** 08:41:24.8±0.4, 13°43N×90°49W, h14km±7km, MD3.7*
ISC 27 08:41:20.4±1.8, 13°22N±0°07×90°28W±0°04, h16km±9km, n40, σ0s62/66, 3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.83**	**36**	⇓*e*P	**Pg**	**08 41 37.1**	**+0.3**
NUBE				*e*S	**Sb**	**08 41 48.1**	**+0.4**
NUBE	**Las Nubes**	**0.83**	**36**	*i* P	**Pg**	**08 41 37.0**	**+0.3**
NUBE				*i* S	**Sb**	**08 41 48.0**	**+0.3**
NUBE				IAML		08 41 50.2	
	comp=Z,1μm,1.0s						
CEVE	**Cerro Verde**	**0.88**	**47**	*e*P	**Pg**	**08 41 38.1**	**+0.5**
CEVE				IAML		08 41 51.6	
	comp=Z,2μm,0.2s						
CEVE	**Cerro Verde**	**0.88**	**47**	*i* P	**Pg**	**08 41 38.1**	**+0.5**
CEVE				*i* S	**Sb**	**08 41 49.4**	**+0.3**
CEVE				IAML		08 41 51.5	
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	**0.89**	**46**	*e*P	**Pg**	**08 41 38.2**	**+0.5**
SBLS				*e*S	**Sb**	**08 41 50.1**	**+0.7**
RTR	**El Retiro**	**0.91**	**43**	*e*P	**Pg**	**08 41 38.7**	**+0.5**
RTR				*e*S	**Sn**	**08 41 51.1**	**-0.7**
JAYA	**Jayaque - finc**	**0.92**	**62**	*e*P	**Pg**	**08 41 38.4**	**+0.1**
JAYA				IAML		08 41 51.8	
	comp=Z,2μm,0.2s						
JAYA	**Jayaque - finc**	**0.92**	**62**	*i* P	**Pg**	**08 41 38.2**	**-0.1**
JAYA				*i* S	**Sb**	**08 41 50.0**	**-0.1**
JAYA				IAML		08 41 51.6	
	comp=Z,5μm,1.0s						
SNJE	**San Jose**	**0.92**	**46**	*e*P	**Pg**	**08 41 38.6**	**+0.2**
SNJE				*e*S	**Sb**	**08 41 50.9**	**+0.7**
SLOZ	**Alcaldia de Sa**	**0.93**	**31**	⇓*e*P	**Pg**	**08 41 38.6**	**0.0**
LALI	**Alcalda de L**	**0.97**	**74**	*e*P	**Pb**	**08 41 38.6**	**-0.3**
LALI	**Alcalda de L**	**0.97**	**74**	*i* P	**Pb**	**08 41 38.7**	**-0.2**
LALI				*i* S	**Sb**	**08 41 50.9**	**-0.6**
LALI				IAML		08 41 51.1	
	comp=Z,460nm,1.0s						
CEDA	**San Andres**	**1.04**	**56**	*e*P	**Pb**	**08 41 40.0**	**-0.1**
CEDA				IAML		08 42 05.7	
	comp=Z,867nm,0.3s						
UNIC	**Universidad Ca**	**1.04**	**43**	*i* P	**Pb**	**08 41 40.2**	**+0.1**
UNIC				*i* S	**Sg**	**08 41 54.0**	**-0.2**
UNIC				IAML		08 41 54.3	
	comp=Z,500nm,1.0s						
PMON	**Piamonte**	**1.06**	**63**	*i* P	**Pb**	**08 41 40.6**	**+0.1**
PMON				*i* S	**Sg**	**08 41 54.5**	**-0.4**
PMON				IAML		08 42 00.5	
	comp=Z,2μm,1.0s						
SNET	**Serv Nac Est T**	**1.12**	**66**	*i* P	**Pb**	**08 41 41.6**	**+0.1**
SNET				*i* S	**Sg**	**08 41 56.0**	**-0.8**
SNET				IAML		08 42 01.5	
	comp=Z,1μm,1.0s						
UEES	**Universidad Ev**	**1.13**	**64**	*i* P	**Pb**	**08 41 41.8**	**+0.2**
UEES				*i* S	**Sg**	**08 41 56.4**	**-0.6**
UEES				IAML		08 42 03.1	
	comp=Z,780nm,1.0s						
PANCS	**Alcalda de**	**1.14**	**70**	*i* P	**Pb**	**08 41 41.6**	**-0.2**
PANCS				*i* S	**Sb**	**08 41 55.5**	**-1.0**
PANCS				IAML		08 41 56.3	
	comp=Z,2μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.16**	**58**	*i* P	**Pb**	**08 41 42.4**	**+0.3**
QUEZ				IAML		08 41 50.0	
	comp=Z,4μm,1.0s						
QUEZ				*i* S	**Sn**	**08 41 57.6**	**+0.1**
LOMA	**Loma Larga**	**1.16**	**69**	*e*P	**Pb**	**08 41 42.7**	**+0.5**
LOMA				IAML		08 42 03.3	
	comp=Z,682nm,0.2s						
LOMA	**Loma Larga**	**1.16**	**69**	*i* P	**Pb**	**08 41 42.7**	**+0.5**
LOMA				IAML		08 42 03.3	
	comp=Z,730nm,1.0s						
FUG	**Fuego 3**	**1.33**	**336**	*e*P	**Pn**	**08 41 44.6**	**0.0**
FUG				*e*S	**Sb**	**08 41 59.7**	**-2.5**
NBG	**Las Nubes**	**1.36**	**357**	*e*P	**Pn**	**08 41 46.3**	**+1.3**
COEG	**Centro de Oper**	**1.42**	**74**	*e*P	**Pn**	**08 41 45.9**	**+0.2**
COEG				IAML		08 42 06.8	
	comp=Z,355nm,0.3s						
COEG	**Centro de Oper**	**1.42**	**74**	*i* P	**Pn**	**08 41 45.8**	**+0.1**
COEG				*i* S	**Sb**	**08 42 03.6**	**-0.9**
COEG				IAML		08 42 07.0	
	comp=Z,340nm,1.0s						
MTO3	**Montecristo**	**1.47**	**37**	⇓*e*P	**Pn**	**08 41 46.8**	**+0.2**
MTO3	**Montecristo**	**1.47**	**37**	*i* P	**Pn**	**08 41 46.6**	**0.0**
MTO3				IAML		08 41 47.6	
	comp=Z,150nm,1.0s						
MTO3				*i* S	**Sn**	**08 42 05.0**	**-0.6**
TECO	**Alcaldia de Te**	**1.49**	**78**	*e*P	**Pn**	**08 41 46.8**	**+0.1**
TECO	**Alcaldia de Te**	**1.49**	**78**	*i* P	**Pn**	**08 41 46.7**	**+0.1**
TECO				*i* S	**Sn**	**08 42 05.3**	**-0.6**
TECO				IAML		08 42 10.6	
	comp=Z,310nm,1.0s						
UESV	**Universidad de**	**1.51**	**74**	*i* P	**Pn**	**08 41 47.7**	**+0.8**
UESV				*i* S	**Sn**	**08 42 06.1**	**-0.2**
UESV				IAML		08 42 09.9	
	comp=Z,310nm,1.0s						
LLGN	**La Laguna**	**1.60**	**54**	*i* P	**Pn**	**08 41 48.4**	**+0.2**
LLGN				*i* S	**Sb**	**08 42 10.1**	**+0.3**
LLGN				IAML		08 42 10.6	
	comp=Z,320nm,1.0s						
SULM	**Suchitepequez,**	**1.65**	**311**	*e*P	**Pn**	**08 41 50.2**	**+1.5**
PQSS	**Presa 15 de Se**	**1.72**	**76**	*e*P	**Pn**	**08 41 50.4**	**+0.6**
PQSS	**Presa 15 de Se**	**1.72**	**76**	*i* P	**Pn**	**08 41 50.3**	**+0.6**
PQSS				*i* S	**Sn**	**08 42 11.6**	**+0.1**
PQSS				IAML		08 42 12.4	
	comp=Z,160nm,1.0s						
COEB	**Comit de Eme**	**1.73**	**81**	*e*P	**Pn**	**08 41 50.0**	**+0.1**
COEB	**Comit de Eme**	**1.73**	**81**	*i* P	**Pn**	**08 41 49.9**	**0.0**
COEB				*i* S	**Sn**	**08 42 10.9**	**-0.9**
COEB				IAML		08 42 14.6	
	comp=Z,200nm,1.0s						
PACA	**Pacayal**	**1.92**	**82**	*i* P	**Pn**	**08 41 53.4**	**+0.7**
PACA				*i* S	**Sn**	**08 42 17.4**	**+0.8**
PACA				IAML		08 42 20.4	
	comp=Z,1μm,1.0s						
STG3	**Santiaguito 3,**	**1.94**	**320**	*e*P	**Pn**	**08 41 53.5**	**+0.6**
STG3				*e*S	**Sn**	**08 42 16.2**	**-0.9**
LCND	**La Caada**	**2.33**	**88**	*i* P	**Pn**	**08 41 58.2**	**0.0**
LCND				*i* S	**Sn**	**08 42 26.2**	**-0.3**
LCND				IAML		08 42 29.1	
	comp=Z,110nm,1.0s						
CNCH	**Conchagua**	**2.38**	**88**	*i* P	**Pn**	**08 41 59.3**	**+0.3**
CNCH				*i* S	**Sn**	**08 42 29.1**	**+1.1**
CNCH				IAML		08 42 32.1	
	comp=Z,370nm,1.0s						

IDC 27 08:45:13.2±3.4, 53°52N×87°83E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=32.4km s-min=17.8km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**285**	I	I	08 56 20.0	
	0.1nm,0.8s,baz=99,slow=319,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.84**	**285**	Pn	Pn	08 45 45.2	-0.8
	1.1nm,0.3s,baz=106,slow=13,SNR=12						
ZALV				Lg	Lg	08 46 11.2	
	3.2nm,0.3s,baz=103,slow=30,SNR=10						
KURBB	**Kurchatov Arra**	**6.43**	**247**	Pn	Pn	08 46 50.6	+1.6
	baz=65,slow=15,SNR=3.2						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**7.62**	**210**	Pn	Pn	08 47 06.3	+0.9
	0.1nm,0.3s,baz=28,slow=16,SNR=4.4						
MKAR				Lg	Lg	08 49 12.2	
	baz=30,slow=32						
	0.2nm,0.3s						

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*GII **27** 08:51:18.3±0.4, 32°874N±0°001×35°570E±0°001, h3km, Md3.7/12, Mws3.5/13, confirmed*
*JSO **27** 08:51:18, 32°88N×35°54E, h5km, ML3.7/32*
*NEIC **27** 08:51:19.0±1.1, 32°84N±0°03×35°5E±0°1, h10km±2km, mb_Lg2.9/6, Error ellipse: s-maj=14.7km s-min=3.6km az=78.0*
*ISK **27** 08:51:19.4, 32°86N×35°26E, h13km, ML3.6/20*
*GRAL **27** 08:51:19.8±0.2, 32°88N×35°52E, h0km±2km, MD3.6*
ISC 27 08:51:18.6±0.8, 32°88N±0°01×35°56E±0°02, h4km±4km, n111, σ0s97/126, 12C-4D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIR	**Sapir Facility**	**0.02**	**233**	P	**Pg**	**08 51 19.5**	**+0.2**
SPIR				S	**Sg**	**08 51 20.6**	**+0.7**
KNHM	**Kefar Nahum**	**0.02**	**67**	P	**Pg**	**08 51 19.2**	**-0.2**
KNHM				S	**Sg**	**08 51 19.9**	**-0.2**
HDNS	**Had-Ness**	**0.09**	**54**	P	**Pg**	**08 51 20.6**	**+0.1**
HDNS				S	**Sg**	**08 51 21.4**	**-0.3**
TVER	**Teveria**	**0.09**	**188**	P	**Pg**	**08 51 20.7**	**+0.2**
TVER				S	**Sg**	**08 51 22.9**	**+1.1**
RMOT	**Ramot**	**0.10**	**104**	P	**Pg**	**08 51 20.7**	**+0.1**
RMOT				S	**Sg**	**08 51 22.8**	**+0.9**
ZEFT	**Zefat**	**0.11**	**331**	P	**Pg**	**08 51 21.4**	**+0.6**
ZEFT				S	**Sg**	**08 51 23.7**	**+1.4**
MMB1	**Mount Meron ar**	**0.18**	**319**	P	**Pg**	**08 51 23.0**	**+0.8**
MMA0B	**Mount Meron ar**	**0.19**	**318**	⇑*i*P	**Pg**	**08 51 22.7**	**+0.4**
MMA0B	**Mount Meron ar**	**0.19**	**318**	S	**Sg**	**08 51 26.5**	**+1.7**
MMC1	**Mount Meron ar**	**0.20**	**321**	P	**Pg**	**08 51 23.2**	**+0.7**
SHMJ	**Saham**	**0.23**	**130**	P	**Pg**	**08 51 23.3**	**+0.3**
SHMJ				S	**Sg**	**08 51 28.9**	**+2.8**
KSHT	**Keshet**	**0.24**	**64**	S	**Sg**	**08 51 28.0**	**+1.5**
KSHT	**Keshet**	**0.24**	**64**	⇑*i*P	**Pg**	**08 51 23.4**	**+0.2**
BLGI	**Bet Lehem HaGe**	**0.34**	**245**	P	**Pg**	**08 51 25.6**	**+0.5**
BLGI	**Bet Lehem HaGe**	**0.34**	**245**	S	**Sb**	**08 51 31.9**	**-1.0**
BLGI	**Bet Lehem HaGe**	**0.34**	**245**	⇑*i*P	**Pg**	**08 51 25.6**	**+0.5**
GEM	**Giv'at Ha'Em**	**0.35**	**15**	P	**Pg**	**08 51 25.3**	**0.0**
GEM				S	**Sb**	**08 51 32.1**	**-1.0**
GEM	**Giv'at Ha'Em**	**0.35**	**15**	S	**Sg**	**08 51 31.4**	**+1.6**
GEM	**Giv'at Ha'Em**	**0.35**	**15**	⇑*i*P	**Pg**	**08 51 25.4**	**+0.1**
HNTI	**Hanita**	**0.38**	**303**	P	**Pg**	**08 51 26.6**	**+0.7**
HNTI	**Hanita**	**0.38**	**303**	S	**Sb**	**08 51 33.4**	**-0.8**
HNTI	**Hanita**	**0.38**	**303**	⇑*i*P	**Pg**	**08 51 26.4**	**+0.4**
NATI	**Neve Ativ**	**0.41**	**22**	P	**Pg**	**08 51 26.6**	**0.0**
NATI	**Neve Ativ**	**0.41**	**22**	S	**Sg**	**08 51 33.6**	**+1.6**
NATI	**Neve Ativ**	**0.41**	**22**	⇑*i*P	**Pg**	**08 51 26.5**	**0.0**
MMLI	**Mount Malkishu**	**0.45**	**194**	S	**Sb**	**08 51 34.8**	**-1.3**
MMLI	**Mount Malkishu**	**0.45**	**194**	⇑*i*P	**Pg**	**08 51 27.4**	**+0.1**
QRNJ	**Al-Qirein**	**0.54**	**178**	P	**Pg**	**08 51 29.4**	**+0.5**
OFRI	**`Ofer**	**0.54**	**242**	P	**Pg**	**08 51 29.8**	**+0.8**
OFRI	**`Ofer**	**0.54**	**242**	S	**Sb**	**08 51 38.2**	**-0.6**
OFRI	**`Ofer**	**0.54**	**242**	⇑*i*P	**Pg**	**08 51 29.3**	**+0.3**
HMDT	**Nahal Hemdat**	**0.62**	**182**	P	**Pg**	**08 51 30.7**	**+0.2**
HMDT	**Nahal Hemdat**	**0.62**	**182**	S	**Sb**	**08 51 40.6**	**-0.4**
HMDT	**Nahal Hemdat**	**0.62**	**182**	⇓*i*P	**Pg**	**08 51 30.5**	**0.0**
RCY	**Rachaya**	**0.66**	**21**	*e*P	**Pg**	**08 51 31.7**	**+0.4**
RCY				*e*S	**Sg**	**08 51 40.6**	**+0.7**
QRWL	**Qaraoun**	**0.68**	**9**	*e*P	**Pg**	**08 51 31.8**	**+0.2**
QRWL				*e*S	**Sg**	**08 51 40.9**	**+0.5**

AKKU	**Akkuyu-Mersin**	**3.67**	**334**	Pn	**Pn**	**08 52 16.1 +0.1**
IKL	**Isikli**	**3.69**	**336**	Pn	**Pn**	**08 52 16.6 +0.2**
SILI	**Silifke-Mersin**	**3.73**	**339**	Pn	**Pn**	**08 52 17.5 +0.6**
TEKE	**Tekeli-Mersin**	**3.83**	**329**	Pn	**Pn**	**08 52 18.2 -0.1**
KEBE	**Keben-Mersin**	**3.87**	**337**	Pn	**Pn**	**08 52 18.5 -0.4**
TEVE	**Tevekalti-Mers**	**3.96**	**334**	Pn	**Pn**	**08 52 20.1 0.0**
GAZI	**Gazipasa**	**4.29**	**322**	Pn	**Pn**	**08 52 24.4 -0.2**
GAZ	**Gaziantep**	**4.50**	**17**		**Pn**	**08 52 29.6 +2.0**
GAZ				IAmb_Lg		08 53 53.0
	comp=Z,30nm,0.7s					
KOZT	**Kozan**	**4.60**	**3**	Pn	**Pn**	**08 52 31.3 +2.4**
HDMB	**Hadim**	**4.79**	**329**	Pn	**Pn**	**08 52 32.2 +0.5**
CMRD	**Camardi-Nigde**	**4.80**	**355**	Pn	**Pn**	**08 52 33.0 +1.3**
YESY	**Yesilyurt**	**5.12**	**344**	Pn	**Pn**	**08 52 37.5 +1.5**
SEYD	**Seydisehir-KON**	**5.45**	**327**	Pn	**Pn**	**08 52 41.3 +0.7**
SARI	**SarD1z-Kayseri**	**5.56**	**7**	Pn	**Pn**	**08 52 45.3 +3.0**
AKAS	**Kas**	**5.94**	**306**	Pn	**Pn**	**08 52 46.1 -1.3**
BNN	**Bunyan**	**5.97**	**2**	Pn	**Pn**	**08 52 49.7 +1.9**
BNN				IAmb_Lg		08 54 33.9
	comp=Z,14nm,0.8s					
ELL	**Elmali**	**6.04**	**311**	Pn	**Pn**	**08 52 48.2 -0.5**
CHBY	**Cihanbeyli**	**6.09**	**340**	Pn	**Pn**	**08 52 51.3 +1.8**
CAME	**Cameli-Denizli**	**6.55**	**310**	Pn	**Pn**	**08 52 55.8 +0.1**
ARPR	**Arapgir-MALATY**	**6.60**	**19**	Pn	**Pn**	**08 52 55.6 -0.9**
ARPR				IAmb_Lg		08 55 06.3
	comp=Z,12nm,0.8s					
APMY	**Acipayam-Deniz**	**6.87**	**314**	Pn	**Pn**	**08 53 00.3 +0.2**
ARG	**Arkhangelos**	**6.98**	**301**	Pn	**Pn**	**08 53 01.5 0.0**
BRTR	**Keskin Array B**	**7.01**	**348**	Pn	**Pn**	**08 53 02.1 0.0**
BR131	**Keskin Array S**	**7.01**	**348**	Pn	**Pn**	**08 53 00.8 -1.2**
GURO	**Guroymak-BITLI**	**7.73**	**41**	IAmb_Lg		08 55 40.6
	comp=Z,12nm,1.1s					
BODT	**Bodrum**	**7.95**	**304**	Pn	**Pn**	**08 53 14.4 -0.5**
AYDB	**Zeytinkoy-Aydi**	**8.04**	**311**	Pn	**Pn**	**08 53 15.6 -0.7**
IDI	**Anoyia**	**9.17**	**288**	Pn	**Pn**	**08 53 30.9 -0.7**

SOF 27 08:54:19.5, 42°.05N±0°.02×24°.48E±0°.01, h0km±1km, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**0.22**	**64**	*i* P	Pg	08 54 24.1	+0.4
PGB	**Panagyurishte**	**0.52**	**334**	*i* P	Pg	08 54 29.5	+0.1
MMB	**Musomishta**	**0.74**	**228**	*i* P	Pg	08 54 34.4	+0.7
KDZ	**Kurdzhali**	**0.77**	**123**	*i* P	Pg	08 54 34.5	+0.3
KKB	**Krupnik**	**1.03**	**259**	*i* P	Pb	08 54 40.1	-0.1
VTS	**Vitosha**	**1.09**	**302**	*i* P	Pn	08 54 42.1	0.0
MPEP	**Malo Peshtene**	**1.42**	**337**	*i* P	Pn	08 54 46.5	0.0

IDC 27 09:00:41.3±3.0, 54°.07N×86°.43E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=23.7km s-min=14.8km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**263**	I	I	09 06 00.0	
	baz=83,slow=322,SNR=7.5						
ZALV	**Zalesovo Beam**	**0.96**	**263**	Pg	Pg	09 00 57.9	-1.7
	0.9nm,0.3s,baz=80,slow=16,SNR=6.4						
ZALV				Lg	Lg	09 01 13.9	
	1.3nm,0.3s,baz=83,slow=23,SNR=7.6						
KURBB	**Kurchatov Arra**	**5.94**	**238**	Pn	Pn	09 02 11.4	+0.9
	0.1nm,0.3s,baz=57,slow=15,SNR=4.2						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**7.75**	**202**	Pn	Pn	09 02 36.6	+1.3
	0.1nm,0.3s,baz=21,slow=12,SNR=3.1						
	0.2nm,0.2s						

IDC 27 09:08:37.4±6.2, 53°.71N×90°.79E, h0km, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=65.0km s-min=29.2km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.54**	**276**	I	I	09 30 30.0	
	0.2nm,1.0s,baz=94,slow=317,SNR=1.1						
ZALV	**Zalesovo Beam**	**3.54**	**276**	Pg	Pb	09 09 40.4	-0.6
	0.6nm,0.3s,baz=96,slow=15,SNR=3.8						
ZALV				Lg	Lg	09 10 30.8	
	1.6nm,0.3s,baz=91,slow=27,SNR=6.7						
KURBB	**Kurchatov Arra**	**8.14**	**253**	Pn	Pn	09 10 36.9	+0.1
	0.1nm,0.3s,baz=68,slow=15,SNR=2.9						
	1.0nm,0.2s						
MKAR	**Makanchi Array**	**8.80**	**222**	Pn	Pn	09 10 46.6	+0.7
	0.1nm,0.3s,baz=41,slow=13,SNR=2.6						
	0.2nm,0.4s						

CATAC 27 09:32:56.0±0.9, 14°.03N×92°.09W, h12km, ML3.2
GCG 27 09:33:01.4±0.4, 14°.36N×91°.89W, h54km±4km, MD3.6
ISC 27 09:32:58.0±3.3, 14°.08N±0°.10×91°.9W±0°.1, h14km±12km, n11, σ1°45/19, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.39**	**55**	*e*P	**Pn**	**09 33 11.2**	**+2.0**
SULM				*e*S	**Sn**	**09 33 18.4**	**+2.0**
STG3	**Santiaguito 3,**	**0.70**	**27**	*e*P	**Pb**	**09 33 13.1**	**+1.0**
STG3				*e*S	**Sn**	**09 33 22.5**	**-1.9**
SOKI	**Kika Raxquin**	**0.88**	**33**	*i* P	**Pb**	**09 33 15.3**	**+0.1**
SOKI				*i* S	**Sn**	**09 33 29.1**	**0.0**
SOKI				IAML		09 33 35.3	
	comp=Z,260nm,1.0s						
FUG	**Fuego 3**	**1.09**	**70**	*e*P	**Pn**	**09 33 20.1**	**+1.2**
FUG				*e*S	**Sg**	**09 33 31.5**	**-1.7**
HUEH	**Huehuetenango**	**1.29**	**17**	*i* P	**Pn**	**09 33 20.5**	**-1.3**
HUEH				IAML		09 33 24.4	
	comp=Z,390nm,1.0s						
HUEH				*i* S	**Sg**	**09 33 40.3**	**+0.6**
QUIS	**Sacapulas**	**1.43**	**33**	*i* P	**Pb**	**09 33 24.5**	**-0.1**
QUIS				IAML		09 33 27.3	
	comp=Z,300nm,1.0s						
NBG	**Las Nubes**	**1.58**	**71**	*e*P	**Pg**	**09 33 28.8**	**+0.4**
NUBE	**Las Nubes**	**2.06**	**95**	*i* P	**Pn**	**09 33 33.5**	**+1.2**
NUBE				*i* S	**Sb**	**09 34 00.7**	**-0.1**
NUBE				IAML		09 34 07.4	
	comp=Z,94nm,1.0s						
JAYA	**Jayaque - finc**	**2.41**	**100**	*i* P	**Pn**	**09 33 36.2**	**-1.0**
JAYA				*i* S	**Sb**	**09 34 09.1**	**-1.9**
JAYA				IAML		09 34 17.1	
	comp=Z,270nm,1.0s						
MTO3	**Montecristo**	**2.48**	**82**	*i* P	**Pn**	**09 33 39.4**	**+1.3**
MTO3				IAML		09 34 32.9	
	comp=Z,23nm,1.0s						
COEG	**Centro de Oper**	**2.96**	**98**	*i* P	**Pn**	**09 33 45.7**	**+1.0**
COEG				*i* S	**Sb**	**09 34 24.7**	**-2.1**
COEG				IAML		09 34 41.9	
	comp=Z,40nm,1.0s						

IDC 27 09:49:23.8±3.0, 53°.63N×87°.89E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=25.7km s-min=15.9km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**281**	I	I	10 01 25.0	
	0.1nm,1.4s,baz=96,slow=318,SNR=12						
ZALV	**Zalesovo Beam**	**1.85**	**281**	Pn	Pn	09 49 56.4	-0.3
	2.5nm,0.3s,baz=96,slow=15,SNR=22						
ZALV				Lg	Lg	09 50 21.1	
	3.9nm,0.3s,baz=100,slow=28,SNR=12						
KURBB	**Kurchatov Arra**	**6.50**	**246**	Pn	Pn	09 51 02.7	+2.1
	0.1nm,0.3s,baz=62,slow=15,SNR=2.2						
KURBB				Lg	Lg	09 52 51.0	
	0.1nm,0.3s,baz=65,slow=33,SNR=2.5						
	0.6nm,0.2s						
MKAR	**Makanchi Array**	**7.72**	**210**	Pn	Pn	09 51 18.1	+0.7
	0.1nm,0.3s,baz=28,slow=13,SNR=7.6						
MKAR				Sn	Sn	09 52 45.0	-0.6
	0.1nm,0.3s,baz=33,slow=19,SNR=3.9						
MKAR				Lg	Lg	09 53 27.4	
	baz=26,slow=30						
	0.2nm,0.2s						

MEX 27 09:51:18.0±0.6, 13°.94N×92°.33W, h10km, MD4.1
CATAC 27 09:51:23.2±0.7, 14°.15N×92°.00W, h21km±4km, ML3.5
GCG 27 09:51:24.5±0.3, 14°.25N×91°.93W, h62km±8km, MD3.7
ISC 27 09:51:19.1±1.6, 14°.10N±0°.08×92°.24W±0°.06, h20km±8km, n26, σ1°19/40, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.68**	**51**	*i* P	**Pn**	**09 51 33.9**	**+0.2**
RTAL				*i* S	**Sb**	**09 51 41.6**	**+0.2**
SULM	**Suchitepequez,**	**0.69**	**72**	*e*P	**Pn**	**09 51 35.4**	**+1.6**
THIG		**0.81**	**359**	*e*P	**Pb**	**09 51 33.9**	**-0.6**
THIG				*i* S	**Sb**	**09 51 46.4**	**+1.4**
STG3	**Santiaguito 3,**	**0.90**	**47**	*e*P	**Pn**	**09 51 37.0**	**+0.3**
STG3				*e*S	**Sb**	**09 51 48.8**	**+1.1**
CHUJ	**Union Juarez**	**1.00**	**8**	*e*P	**Pb**	**09 51 36.8**	**-1.1**
CHUJ				*i* S	**Sb**	**09 51 52.1**	**+1.3**
SOKI	**Kika Raxquin**	**1.09**	**48**	*i* P	**Pn**	**09 51 39.7**	**+0.1**
SOKI				*i* S	**Sb**	**09 51 52.3**	**-1.1**
SOKI				IAML		09 52 02.7	
	comp=Z,330nm,1.0s						
PAVE	**Pavencul**	**1.09**	**3**	*e*P	**Pn**	**09 51 38.1**	**-1.4**
PAVE				*i* S	**Sb**	**09 51 52.7**	**-0.8**
CHTG	**Tecpan**	**1.39**	**61**	*i* P	**Pb**	**09 51 44.9**	**+0.3**
CHTG				IAML		09 51 47.5	
	comp=Z,1μm,1.0s						
CHTG				*i* S	**Sn**	**09 51 59.3**	**-2.2**
FUG	**Fuego 3**	**1.40**	**75**	*e*P	**Pn**	**09 51 44.2**	**+0.5**
FUG				*e*S	**Sb**	**09 52 02.9**	**+0.6**
HUEH	**Huehuetenango**	**1.41**	**30**	*i* P	**Pb**	**09 51 45.3**	**+0.3**
PCG	**Pacaya**	**1.61**	**79**	*e*S	**Sn**	**09 52 05.3**	**-1.8**
QUIS	**Sacapulas**	**1.63**	**43**	*i* P	**Pb**	**09 51 48.6**	**0.0**
QUIS				IAML		09 52 04.2	
	comp=Z,380nm,1.0s						
QUIS				*i* S	**Sn**	**09 52 07.0**	**-0.3**
GUMI	**Mixco**	**1.67**	**71**	*i* P	**Pn**	**09 51 48.3**	**+0.9**
GUMI				IAML		09 52 18.7	
	comp=Z,1μm,1.0s						
PCIG		**1.86**	**330**	*e*P	Pn	09 51 47.2	-2.6
PCIG				*i* S	**Sn**	**09 52 11.2**	**-1.5**
NBG	**Las Nubes**	**1.90**	**75**	*e*P	**Pb**	**09 51 52.9**	**-0.5**
CCIG	**Comitan**	**2.18**	**3**	*e*P	**Pn**	**09 51 56.5**	**+2.1**
CCIG				*e*S	**Sn**	**09 52 22.9**	**+2.0**
CCIG	**Comitan**	**2.18**	**3**	*i* P	**Pb**	**09 51 56.9**	**-1.1**
CCIG				IAML		09 51 57.7	
	comp=Z,240nm,1.0s						
CCIG				*i* S	**Sb**	**09 52 24.1**	**-0.5**
NUBE	**Las Nubes**	**2.40**	**94**	*i* P	**Pn**	**09 51 57.9**	**+0.5**
NUBE				*i* S	**Sn**	**09 52 24.5**	**-1.8**
NUBE				IAML		09 52 31.9	
	comp=Z,200nm,1.0s						
JAYA	**Jayaque - finc**	**2.75**	**99**	*i* P	**Pn**	**09 52 02.1**	**-0.2**
JAYA				*i* S	**Sn**	**09 52 33.8**	**-1.2**
JAYA				IAML		09 52 39.0	
	comp=Z,570nm,1.0s						
TGIG		**2.80**	**343**	*e*P	Pn	09 52 01.9	-0.9
TGIG				*i* S	**Sn**	**09 52 36.8**	**+0.7**
MTO3	**Montecristo**	**2.81**	**83**	*i* P	**Pn**	**09 52 03.8**	**+0.6**
MTO3				*i* S	**Sn**	**09 52 35.9**	**-0.7**
MTO3				IAML		09 52 44.9	
	comp=Z,49nm,1.0s						
SCLA	**Alcaldia de Sa**	**3.44**	**96**	*i* P	**Pn**	**09 52 11.9**	**+0.3**
SCLA				IAML		09 53 13.3	
	comp=Z,26nm,1.0s						
UXUV	**UXUV**	**3.69**	**330**	*e*P	Pn	09 52 14.8	-0.2
UXUV				*i* S	**Sn**	**09 52 58.1**	**+0.2**
LCND	**La Caada**	**4.30**	**100**	*i* P	**Pn**	**09 52 25.1**	**+1.6**
LCND				IAML		09 53 37.9	
	comp=Z,40nm,1.0s						
CNCH	**Conchagua**	**4.36**	**100**	*i* P	**Pn**	**09 52 26.8**	**+2.4**
CNCH				IAML		09 53 36.5	
	comp=Z,96nm,1.0s						
TOIG	**Toxpalan**	**6.11**	**311**	*e*P	Pn	09 52 47.1	-1.3
TOIG				*e*S	**Sn**	**09 53 56.6**	**-1.1**

UPP 27 09:59:53.9±3.1, 64°.52N×30°.69E, h0km, ML1.7
HEL 27 09:59:54.3±0.2, 64°.75N×30°.65E, h0km, ML1.8, Explosion
IDC 27 09:59:57.0±2.7, 64°.76N×29°.86E, h0km, mbtmp2.4/2, ML1.7/2, Error ellipse: s-maj=48.9km s-min=9.8km az=100.0
KOLA 27 09:59:58.4, 64°.87N×31°.07E, h0km, ML1.9, Error ellipse: s-maj=22.0km s-min=17.1km az=160.0, Karelia
ISC 27 09:59:53.8±1.0, 64°.76N±0°.02×30°.77E±0°.05, h0km, n40, σ1°50/56, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.66**	**214**	PG	**Pg**	**10 00 05.6**	**-0.7**
RMF				MSG		10 00 13.8	
	comp=Z,12nm,0.2s						
RMF				SG	**Sg**	**10 00 13.9**	**-0.9**
KU6	**Riekki**	**1.32**	**344**	PG	**Pg**	**10 00 18.1**	**-0.9**
	baz=163						
KU6				MSG		10 00 34.2	
	comp=Z,7.0nm,0.2s						
KU6				SB	**Sg**	**10 00 35.7**	**-0.4**
MSF	**Maaselka**	**1.36**	**329**	PG	**Pg**	**10 00 18.7**	**-1.2**
	baz=146						
MSF				SG	**Sg**	**10 00 36.3**	**-1.1**
JOF	**Joensuu**	**1.87**	**172**	*e*P	**Pn**	**10 00 26.7**	**-0.3**
JOF	**Joensuu**	**1.87**	**172**	PB	**Pn**	**10 00 26.6**	**-0.4**
JOF				SG	**Sn**	**10 00 52.8**	**+1.6**
NIF	**Nilsia**	**1.90**	**225**	PG	**Pn**	**10 00 27.5**	**+0.2**
NIF				SN	**Sn**	**10 00 53.3**	**+1.4**
RANF	**Ranua**	**2.09**	**309**	PG	**Pn**	**10 00 30.9**	**+0.9**
	baz=127						
RANF				SG	**Sn**	**10 00 57.5**	**+0.9**
OUL	**Oulu**	**2.10**	**281**	PG	**Pn**	**10 00 31.0**	**+0.8**
	baz=100						
OUL				SG	**Sn**	**10 00 57.3**	**+0.4**
OBF4	**Vikkela, Lumij**	**2.43**	**274**	PB	**Pn**	**10 00 35.3**	**+0.7**
OBF4				MSG		10 01 04.5	
	comp=Z,7.0nm,0.2s						
OBF4				SG	**Sb**	**10 01 08.3**	**-0.4**
OUF	**Merijarvi**	**2.64**	**264**	PB	**Pn**	**10 00 38.1**	**+0.6**
OUF				MSG		10 01 10.5	
	comp=Z,5.5nm,0.2s						
OUF				SG	**Sb**	**10 01 13.2**	**-1.4**
RNF	**Rovaniemi**	**2.70**	**315**	PB	**Pn**	**10 00 40.1**	**+1.7**
RNF				SG	**Sb**	**10 01 15.8**	**-0.8**
OBF0	**Syolatti, Pyha**	**2.83**	**268**	PN	**Pn**	**10 00 40.9**	**+0.8**
OBF0				MSG		10 01 15.9	
	comp=Z,3.4nm,0.2s						
OBF0				SG	**Sb**	**10 01 19.4**	**-0.7**
SUF	**Sumiainen**	**2.90**	**227**	PB	**Pn**	**10 00 42.8**	**+1.6**
SUF				MSG		10 01 18.2	
	comp=Z,2.4nm,0.2s						
APA0	**Apatity Array**	**2.99**	**17**	P	**Pn**	**10 00 43.9**	**+1.4**
APA0				S	**Sn**	**10 01 18.6**	**-0.4**
TOF	**Tornio**	**3.00**	**299**	PG	**Pb**	**10 00 48.0**	**0.0**
	baz=115						
TOF				MSG		10 01 21.4	
	comp=Z,1.4nm,0.2s						
TOF				SG	**Sb**	**10 01 23.1**	**-2.0**
VRF	**Varrio**	**3.03**	**352**	PN	**Pn**	**10 00 44.3**	**+1.3**
VRF				MSG		10 01 23.7	
	comp=Z,1.9nm,0.2s						
VRF				SG	**Sb**	**10 01 27.0**	**+0.9**
SGF	**Sodankyl**	**3.20**	**329**	PG	**Pb**	**10 00 51.4**	**+0.1**
SGF				SG	**Sb**	**10 01 31.1**	**+0.3**
KALU	**Kalix**	**3.30**	**293**	P	**Pn**	**10 00 47.7**	**+1.1**
KALU				S	**Sn**	**10 01 27.8**	**+1.3**
KALU	**Kalix**	**3.30**	**293**	PG	**Pb**	**10 00 52.7**	**-0.4**
KEF	**Keuruu**	**3.71**	**228**	*e*P	**Pn**	**10 00 49.8**	**-2.5**
KEF	**Keuruu**	**3.71**	**228**	PN	**Pn**	**10 00 54.3**	**+2.0**
KEF				SG	**Sb**	**10 01 48.1**	**+2.4**
KLF	**Kolari**	**3.73**	**315**	PN	**Pn**	**10 00 53.9**	**+1.4**
RAJF	**Raja-Jooseppi**	**3.85**	**346**	PN	**Pn**	**10 00 54.7**	**+0.5**
SJUU	**Sjulsmark**	**3.94**	**285**	P	**Pn**	**10 00 55.3**	**-0.1**
FINES	**FINESS Array B**	**3.96**	**215**	Pn	**Pn**	**10 00 56.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=24,slow=15,SNR=1.3						
FINES				Lg	Lg	10 01 54.6	
	comp=Z,0.5nm,0.3s,baz=23,slow=29,SNR=8.0						
	comp=Z,0.6nm,0.8s						
VAF	**Ylistaro**	**3.97**	**248**	*e*P	**Pn**	**10 00 56.6**	**+0.7**
VAF	**Ylistaro**	**3.97**	**248**	PN	**Pn**	**10 00 56.9**	**+1.0**
ERTU	**Ertsjaerv**	**3.98**	**301**	P	**Pn**	**10 00 56.3**	**+0.4**
ERTU	**Ertsjaerv**	**3.98**	**301**	PG	**Pb**	**10 01 05.2**	**+0.5**
HARU	**Harads**	**4.32**	**293**	P	**Pn**	**10 01 02.6**	**+2.0**
ODEU	**Stanfors**	**4.35**	**270**	P	**Pn**	**10 00 60.0**	**-1.0**
UMAU	**Umeaa**	**4.48**	**263**	P	**Pn**	**10 01 01.7**	**-1.1**
UMAU	**Umeaa**	**4.48**	**263**	PN	**Pn**	**10 01 01.8**	**-1.0**
	baz=76						
HEF	**Hetta**	**4.63**	**325**	SG	**Sb**	**10 02 15.9**	**+4.0**
PRVG	**Vayda Guba**	**5.04**	**6**	S	**Sn**	**10 02 08.2**	**-0.9**
ARCES	**ARCESS Array B**	**5.21**	**339**	S	**Sn**	**10 02 13.2**	**-0.4**
ARCES	**ARCESS Array B**	**5.21**	**339**	Pn	**Pn**	**10 01 13.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=153,slow=12,SNR=10						
ARCES				Sn	**Sn**	**10 02 09.2**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=154,slow=23,SNR=1.5						
ARCES				Lg	Lg	10 02 32.2	
	comp=Z,0.2nm,0.3s,baz=152,slow=29,SNR=1.8						
	comp=Z,0.3nm,0.2s						
RAF	**Rauma**	**5.57**	**232**	*e*P	Pn	10 01 13.7	-4.0
I37NO	**I37NO**	**6.44**	**318**	I	I	10 36 30.0	
	baz=128,slow=314,SNR=2.0						
FAUS	**Fauske**	**6.82**	**300**	P	**Pn**	**10 01 39.4**	**+4.6**

NEIC 27 10:06:44.0±0.3, 36°.63N±0°.01×98°.505W±0°.009, h5km±1km, Error ellipse: s-maj=2.6km s-min=2.4km az=191.0
TUL 27 10:06:44.1±0.3, 36°.63N±0°.01×98°.51W±0°.01, h6km±4km, ML3.1, mb_Lg2.7/84(NEIC), ML2.9/26(NEIC), Error ellipse: s-maj=2.2km s-min=1.1km az=153.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.24**	**230**	Pg	Pg	10 06 49.3	+0.5
OK038				Sg	Sg	10 06 52.9	+0.9
OK032	**Salt Plains WL**	**0.30**	**55**	Pg	Pg	10 06 50.4	+0.4
OK032				Sg	Sg	10 06 54.6	+0.7
OK032				IAML		10 06 56.7	
	2μm,0.2s						
OK032				IAML		10 06 59.7	
	2μm,0.2s						
NOKA	**Waynoka**	**0.34**	**271**	Pg	Pg	10 06 51.1	+0.4
NOKA				Sg	Sg	10 06 55.9	+0.8
NOKA				IAML		10 06 58.9	
	comp=N,1μm,0.3s						
CROK	**Carrier**	**0.45**	**106**	Pg	Pg	10 06 52.9	+0.2
CROK				Sg	Sg	10 06 58.9	+0.4
CROK				IAML		10 07 06.8	
	comp=N,1μm,0.3s						
CROK				IAML		10 07 08.6	
	comp=E,1μm,0.3s						
U32A	**Winter Ranch,**	**0.47**	**237**	Pg	Pg	10 06 53.4	+0.3
U32A				IAML		10 07 03.0	
	comp=E,848nm,0.4s						
U32A				IAML		10 07 03.0	
	comp=N,986nm,0.4s						
KAN14	**Manchester OK**	**0.55**	**54**		Pg	10 06 54.8	+0.1
KAN14				IAML		10 07 06.8	
	comp=E,646nm,0.1s						
KAN14				IAML		10 07 09.5	
	comp=N,689nm,0.2s						
GC02	**Grant County #**	**0.57**	**67**	Pg	Pg	10 06 55.2	+0.2
KAN05	**Bluff City Nor**	**0.70**	**47**	Pg	Pg	10 06 57.7	+0.2
KAN17	**Caldwell West**	**0.73**	**55**		Pg	10 06 58.0	-0.1
KAN08	**Anthony NE Sta**	**0.74**	**36**		Pg	10 06 58.2	-0.1
KAN12	**Harper NE Stat**	**0.78**	**32**		Pg	10 06 59.1	0.0
KAN09	**Caldwell North**	**0.88**	**55**		Pg	10 07 00.8	-0.2
KAN13	**South Haven SW**	**0.91**	**65**		Pg	10 07 01.3	-0.3
ELIS	**Ellis County**	**0.92**	**232**	Pg	Pg	10 07 02.1	+0.3
CSTR	**Hydro, Custer**	**0.99**	**188**	Pg	Pg	10 07 03.1	-0.1
BLOK	**Blackwell**	**1.05**	**83**		Pg	10 07 03.8	-0.5
OK029	**Liberty Lake**	**1.20**	**134**		Pg	10 07 06.4	-0.7
OK029				IAML		10 07 26.9	
	comp=N,320nm,0.3s						
OK048	**Pawnee Station**	**1.28**	**99**		Pn	10 07 07.9	-0.6
ADOK	**Arcadia Dam**	**1.35**	**136**		Pn	10 07 08.9	-0.5
OK051	**E0350 and S346**	**1.36**	**95**		Pn	10 07 09.2	-0.4
OKCSW	**OKLAHOMA CITY**	**1.50**	**144**		Pn	10 07 11.3	-0.2
OK031	**S. Brethren Rd**	**1.51**	**116**		Pn	10 07 11.8	+0.1
OK052	**Battle Ridge R**	**1.52**	**114**		Pn	10 07 11.9	+0.1
QUOK	**Quay**	**1.53**	**107**		Pn	10 07 12.3	+0.4
T35A	**Sooner Cattle**	**1.63**	**79**		Pb	10 07 14.0	-0.6
FNO	**Franklin**	**1.64**	**146**		Pn	10 07 14.0	+0.5
R32A	**Long Quarter,**	**1.79**	**355**		Pb	10 07 17.0	-0.4
DEOK	**Depew**	**1.81**	**115**		Pn	10 07 16.3	+0.5
WMOK	**Wichita Mounta**	**1.90**	**187**	Pn	Pn	10 07 17.4	+0.4
SMWD	**Samnorwood**	**2.07**	**223**		Pb	10 07 21.0	-1.1
X34A	**Smith Ranch, M**	**2.10**	**164**		Pn	10 07 20.9	+1.1
X34A				IAmb_Lg		10 07 55.8	
	comp=Z,42nm,0.8s						
TUL3	**Leonard**	**2.31**	**107**		Pn	10 07 24.1	+1.4
TUL3				IAmb_Lg		10 07 57.5	
	comp=Z,38nm,0.9s						
CBKS	**Cedar Bluff**	**2.38**	**336**		Pb	10 07 25.8	-1.7
X37A	**Clayton**	**3.27**	**128**	IAmb_Lg		10 08 31.5	
	comp=Z,22nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.03**	**307**	IAmb_Lg		10 08 57.7	
	comp=Z,20nm,0.7s						
SN07	**Snyder 07**	**4.04**	**210**	IAmb_Lg		10 08 57.5	
	comp=Z,19nm,1.0s						
S39A	**Bolivar**	**4.28**	**74**	IAmb_Lg		10 08 59.2	
	comp=Z,19nm,0.8s						
TREL	**Terrell**	**4.38**	**152**	IAmb_Lg		10 09 09.0	
	comp=Z,12nm,0.8s						
Z38A	**Mt. Pleasant**	**4.44**	**138**	IAmb_Lg		10 09 12.5	
	comp=Z,13nm,0.8s						
MIAR	**Mount Ida**	**4.53**	**116**	IAmb_Lg		10 09 16.0	
	comp=Z,9.9nm,0.7s						
T25A	**Trinidad**	**4.75**	**278**	IAmb_Lg		10 09 20.2	
	comp=Z,14nm,0.8s						
BGNE	**Belgrade**	**4.78**	**3**	IAmb_Lg		10 09 25

JNG	**Nsakai**	**0.30**	**301**	*i* P	**Pn**	**10 19 41.0**	**+0.2**
JNG				S	**Sn**	**10 19 58.9**	**+0.2**
MJAR	**Matsushiro Arr**	**0.34**	**330**	P	**Pn**	**10 19 39.9**	**-0.9**
	28nm,0.3s,baz=318,slow=12,SNR=184						
MJAR				S	**Sn**	**10 19 58.6**	**-0.2**
	3.2nm,0.3s,baz=60,slow=6.6,SNR=5.3						
MAT	**Matsushiro**	**0.34**	**330**	*i* P	**Pn**	**10 19 40.8**	**0.0**
MAT				*e*S	**Sn**	**10 19 58.6**	**-0.2**
JRY	**Ryogami san**	**0.46**	**121**	*i* P	**Pn**	**10 19 41.6**	**+0.3**
JRY				S	**Sn**	**10 19 59.8**	**+0.4**
JYN	**Shimob**	**0.76**	**172**	S	**Sn**	**10 20 02.9**	**+0.6**
JAG	**Ashikaga**	**0.85**	**78**	*i* P	**Pn**	**10 19 43.3**	**0.0**
JAG				S	**Sn**	**10 20 02.5**	**-0.7**
JYTA	**Yamagatataniai**	**1.52**	**245**	*i* P	**Pn**	**10 19 49.4**	**+0.5**
JSD	**Sado**	**1.79**	**356**	P	**Pn**	**10 19 52.0**	**+0.4**
JSD				S	**Sn**	**10 20 18.4**	**+0.2**
JOTO	**OTAMA OYAMA**	**2.02**	**49**	*e*P	**Pn**	**10 19 54.8**	**+0.7**
JIE	**Ise**	**2.32**	**218**	*e*P	**Pn**	**10 19 57.9**	**+0.2**
MKAR	**Makanchi Array**	**42.50**	**302**	P	P	10 26 47.0	-8.7
	0.1nm,0.4s,baz=80,slow=8.9,SNR=1.6						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**56.02**	**185**	P	**P**	**10 28 37.8**	**-0.4**
	0.2nm,0.5s,baz=0.5,slow=7.6,SNR=6.1						
	0.2nm,0.5s						

*MOS **27** 10:25:53.4, 43°.81N×43°.56E, h25km, MPVA3.9*
*NORS **27** 10:25:53.2, 43°.84N×43°.56E, h20km, MPVA4.0*
ISC 27 10:25:53.7±0.9, 43°.81N±0°.02×43°.58E±0°.02, h19km±2km, n59, σ0°76/114, 10C-7D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTC	**Kuba-Taba**	**0.12**	**276**	*i* Pg	**Pg**	**10 25 58.0**	**+0.2**
KBTC				*e*Sg	**Sg**	**10 26 02.1**	**+1.5**
KBTC	**Kuba-Taba**	**0.12**	**276**	⇓*i*PG	**Pg**	**10 25 58.0**	**+0.2**
KBTC				*i* S	**Sg**	**10 26 00.8**	**+0.2**
NCK	**Nalchik**	**0.31**	**177**	*e*Pg	**Pg**	**10 26 00.2**	**-0.3**
NCK				*e*Sg	**Sb**	**10 26 05.9**	**+0.6**
NCK	**Nalchik**	**0.31**	**177**	⇑*i*PG	**Pg**	**10 26 00.2**	**-0.3**
NCK				*i* S	**Sb**	**10 26 05.8**	**+0.6**
PYA1	**Pyatigorsk**	**0.43**	**307**	*e*Pg	**Pg**	**10 26 02.2**	**-0.4**
PYA1				*e*Sg	**Sg**	**10 26 08.0**	**-0.6**
PYA1	**Pyatigorsk**	**0.43**	**307**	⇓*i*PG	**Pg**	**10 26 02.2**	**-0.4**
PYA1				*i* S	**Sg**	**10 26 08.4**	**-0.2**
KBZ	**Khabaz**	**0.50**	**261**	*e*Pg	**Pg**	**10 26 03.0**	**-0.7**
KBZ				*e*Sg	**Sb**	**10 26 10.7**	**+0.1**
KBZ	**Khabaz**	**0.50**	**261**	⇓*i*PG	**Pg**	**10 26 03.1**	**-0.7**
KBZ				*i* S	**Sb**	**10 26 11.0**	**+0.4**
PRTR	**Priterechnaya**	**0.52**	**96**	*i* Pg	**Pb**	**10 26 03.5**	**-0.6**
PRTR				*e*Sg	**Sg**	**10 26 12.0**	**+0.9**
PRTR	**Priterechnaya**	**0.52**	**96**	*e*PG	**Pb**	**10 26 03.5**	**-0.6**
PRTR				*e*S	**Sg**	**10 26 12.0**	**+0.9**
LSNR	**Lesken**	**0.56**	**161**	*e*Pg	**Pg**	**10 26 05.1**	**+0.2**
LSNR				*e*Sg	**Sg**	**10 26 13.7**	**+1.3**
LSNR	**Lesken**	**0.56**	**161**	*e*PG	**Pg**	**10 26 05.1**	**+0.2**
LSNR				*e*S	**Sg**	**10 26 13.7**	**+1.3**
BEYR	**Belyy Ugol+**	**0.58**	**291**	*e*Pg	**Pb**	**10 26 04.9**	**-0.3**
BEYR				*e*Sg	**Sb**	**10 26 13.2**	**+0.1**
BEYR	**Belyy Ugol+**	**0.58**	**291**	⇓*i*PG	**Pb**	**10 26 04.9**	**-0.3**
BEYR				*i* S	**Sb**	**10 26 13.3**	**+0.2**
KIV	**Kislovodsk**	**0.66**	**283**	*e*Pg	**Pb**	**10 26 06.1**	**-0.5**
KIV				*e*Sg	**Sb**	**10 26 15.5**	**+0.2**
KIV	**Kislovodsk**	**0.66**	**283**	⇓*i*PG	**Pb**	**10 26 06.2**	**-0.3**
KIV				*i* S	**Sg**	**10 26 15.7**	**+0.1**
SHA1	**Shidzhatmaz**	**0.67**	**265**	*i* Pg	**Pb**	**10 26 06.4**	**-0.4**
SHA1				*e*Sg	**Sg**	**10 26 16.2**	**+0.2**
SHA1	**Shidzhatmaz**	**0.67**	**265**	⇑*i*PG	**Pb**	**10 26 06.4**	**-0.4**
SHA1				*e*S	**Sg**	**10 26 16.2**	**+0.2**
KORR	**Kora**	**0.80**	**153**	*i* Pg	**Pb**	**10 26 08.9**	**-0.2**
KORR				*e*Sg	**Sg**	**10 26 21.0**	**+0.8**
KORR	**Kora**	**0.80**	**153**	*i* PG	**Pb**	**10 26 08.8**	**-0.2**
KORR				*e*S	**Sg**	**10 26 20.9**	**+0.8**
KORR				pmax	pmax		
	comp=Z,35nm,0.1s						
KORR				smax	smax		
	comp=E,104nm,0.3s						
ARNR	**Ardon**	**0.81**	**140**	*e*Pg	**Pb**	**10 26 09.3**	**+0.2**
ARNR				*e*Sg	**Sn**	**10 26 22.3**	**+0.8**
ARNR	**Ardon**	**0.81**	**140**	*e*PG	**Pb**	**10 26 09.3**	**+0.2**
ARNR				*e*S	**Sn**	**10 26 22.3**	**+0.8**
BTKR	**Batakoyurt**	**0.82**	**121**	*e*Pg	**Pg**	**10 26 09.9**	**+0.1**
BTKR				*e*Sg	**Sn**	**10 26 22.1**	**+0.2**
BTKR	**Batakoyurt**	**0.82**	**121**	*e*PG	**Pg**	**10 26 09.9**	**+0.1**
BTKR				*e*S	**Sn**	**10 26 22.1**	**+0.2**
TRKR	**Terskaya**	**0.84**	**95**	*i* Pg	**Pb**	**10 26 09.1**	**-0.5**
TRKR				*e*Sg	**Sg**	**10 26 21.5**	**+0.2**
TRKR	**Terskaya**	**0.84**	**95**	⇑*i*PG	**Pb**	**10 26 09.1**	**-0.5**
TRKR				*e*S	**Sg**	**10 26 21.5**	**+0.2**
DIGR	**Digorskoe uzhe**	**0.91**	**180**	*e*Pg	**Pb**	**10 26 10.1**	**-0.8**
DIGR				*e*Sg	**Sb**	**10 26 21.8**	**-0.7**
DIGR	**Digorskoe uzhe**	**0.91**	**180**	*e*PG	**Pb**	**10 26 10.1**	**-0.8**
DIGR				*e*S	**Sb**	**10 26 21.8**	**-0.7**
ALER	**Alexandrovskoy**	**1.07**	**334**	*e*Pg	**Pn**	**10 26 13.9**	**+0.2**
ALER				*e*Sg	**Sg**	**10 26 29.2**	**+0.7**
ALER	**Alexandrovskoy**	**1.07**	**334**	⇑*i*PG	**Pn**	**10 26 14.1**	**+0.5**
ALER				*i* S	**Sn**	**10 26 28.1**	**+0.1**
VLKR	**Vladikavkaz**	**1.10**	**133**	*e*Pg	**Pg**	**10 26 15.4**	**+0.3**
VLKR				*e*Sg	**Sg**	**10 26 30.4**	**+0.9**
VLKR	**Vladikavkaz**	**1.10**	**133**	*e*PG	**Pg**	**10 26 14.9**	**-0.2**
VLKR				*e*S	**Sg**	**10 26 30.5**	**+0.9**
LACR	**Lac**	**1.11**	**151**	*e*Pg	**Pn**	**10 26 13.5**	**-0.8**
LACR				*e*Sg	**Sb**	**10 26 28.6**	**+0.2**
LACR	**Lac**	**1.11**	**151**	*e*PG	**Pn**	**10 26 13.5**	**-0.8**
LACR				*e*S	**Sb**	**10 26 28.6**	**+0.2**
KMGR	**Komgaron**	**1.20**	**128**	*e*Pg	**Pn**	**10 26 15.6**	**+0.1**
KMGR				*e*Sg	**Sg**	**10 26 32.3**	**-0.3**
GOF	**Gofitskoye**	**1.31**	**343**	*e*Pg	**Pn**	**10 26 15.9**	**-1.0**
GOF				*e*Sg	**Sb**	**10 26 34.8**	**+0.8**
GOF	**Gofitskoye**	**1.31**	**343**	*ce*PG	**Pb**	**10 26 18.2**	**+0.6**
GOF				*e*S	**Sg**	**10 26 37.2**	**+1.1**
GUDG	**Gudauri**	**1.49**	**153**	*e*Pg	**Pn**	**10 26 18.9**	**-0.7**
GUDG				*e*Sg	**Sn**	**10 26 39.0**	**+0.3**
DOMR	**Dombai**	**1.51**	**251**	*e*Pg	**Pn**	**10 26 19.0**	**-0.7**
DOMR				*e*Sg	**Sn**	**10 26 39.5**	**+0.6**
DOMR	**Dombai**	**1.51**	**251**	⇓*e*PG	**Pn**	**10 26 19.1**	**-0.7**
ARXR	**Arkhyz**	**1.69**	**263**	*e*Pg	**Pb**	**10 26 24.4**	**+0.3**
ARXR				*e*Sg	**Sb**	**10 26 46.1**	**+1.1**
ARXR	**Arkhyz**	**1.69**	**263**	⇑*e*PN	**Pn**	**10 26 22.7**	**+0.5**
GRYR	**Gornoye**	**1.82**	**281**	*e*Pg	**Pb**	**10 26 25.9**	**-0.4**
GRYR				*e*Sg	**Sb**	**10 26 49.1**	**+0.4**
DVE	**Vedeno**	**2.04**	**114**	*e*Pg	**Pn**	**10 26 27.1**	**0.0**
DVE				*e*Sg	**Sn**	**10 26 53.2**	**+1.1**
BTLR	**Botlikh**	**2.25**	**120**	*e*Pn	**Pn**	**10 26 28.5**	**-1.3**
BTLR				*e*Sn	**Sb**	**10 26 59.8**	**-1.3**
RPOR	**Krasnaya Polya**	**2.40**	**269**	⇑*e*PN	**Pn**	**10 26 32.2**	**+0.3**
DBC	**Dubki**	**2.50**	**107**	*e*Pn	**Pn**	**10 26 31.8**	**-1.5**
DBC				*e*Sn	**Sn**	**10 27 03.3**	**+0.1**
DBC	**Dubki**	**2.50**	**107**	⇑*e*PN	**Pn**	**10 26 32.5**	**-0.8**
UNCR	**Uncukul**	**2.59**	**114**	*e*Pn	**Pn**	**10 26 37.1**	**+2.5**
UNCR				*e*Sn	**Sn**	**10 27 05.3**	**-0.3**
VSLR	**Vesyoloye**	**2.59**	**264**	⇑*e*PN	**Pn**	**10 26 34.9**	**+0.3**
XNZR	**Khunzakh**	**2.62**	**118**	*e*Pn	**Pn**	**10 26 34.5**	**-0.5**
XNZR				*e*Sn	**Sn**	**10 27 06.5**	**+0.2**
KRNR	**Karanay**	**2.62**	**111**	*e*Pn	**Pn**	**10 26 34.4**	**-0.7**
KRNR				*e*Sn	**Sn**	**10 27 02.5**	**+1.2**
BUJR	**Buynaksk**	**2.76**	**110**	*e*Pn	**Pn**	**10 26 36.4**	**-0.5**
BUJR				*e*Sn	**Sn**	**10 27 09.8**	**+0.2**
ARKR	**Arakani**	**2.77**	**114**	*e*Pn	**Pn**	**10 26 37.3**	**+0.2**
ARKR				*e*Sn	**Sn**	**10 27 11.6**	**+1.5**
GNI	**Garni**	**3.75**	**166**	*de*PN	**Pn**	**10 26 50.6**	**-0.1**
OBN	**Obninsk**	**12.19**	**341**	*e*P	**Pn**	**10 28 46.3**	**+0.2**
OBN				pmax	pmax		
	comp=Z,20nm,0.4s						
MNK	**Minsk**	**14.79**	**322**	*i* P	**Pn**	**10 29 21.5**	**-0.1**
	comp=E,6.0nm,0.7s						
MNK				*i* P	**Pn**	**10 29 21.5**	**-0.1**
	comp=N,15nm,0.8s						
MNK				*i* P	**Pn**	**10 29 21.5**	**-0.1**
	comp=Z,8.0nm,0.6s,baz=130						
MNK				*i* PP	**PnPn**	**10 29 29.5**	**0.0**
MNK				*i* S	**Sn**	**10 32 06.7**	**+1.8**
MNK				*i* SS	**S**	**10 32 20.5**	**-2.6**
MNK				*i* LQ	LQ	10 33 47.4	
MNK				*i* LR	LR	10 34 50.1	
MNK				*i* LRM	MLR	10 35 58.5	
	comp=Z,35nm,16.4s						
MNK				*i* LRM	MLR	10 36 02.8	
	comp=N,89nm,20.2s						
MNK				*i* LRM	MLR	10 36 07.0	
	comp=E,59nm,23.4s						
MNK	**Minsk**	**14.79**	**322**	*i* P	**Pn**	**10 29 21.5**	**-0.1**
MNK				*i* S	**Sn**	**10 32 06.6**	**+1.8**
MNK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MNK				pmax	pmax		
	comp=E,6.0nm,0.6s						
MNK				pmax	pmax		
	comp=N,15nm,0.9s						
MNK				MLR	MLR		
	comp=Z,35nm,16.0s						
MNK				MLR	MLR		
	comp=N,89nm,20.0s						
MNK				MLR	MLR		
	comp=E,59nm,23.0s						
BRVK	**Borovoye**	**19.89**	**53**	⇑*e*P	**P**	**10 30 22.3**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.7s						

*IDC **27** 10:26:42.1±2.9, 53°.54N×87°.92E, h0km, mbtmp3.4/2, ML3.0/2, Error ellipse: s-maj=27.2km s-min=16.9km az=56.0*
*NNC **27** 10:26:42.4±4.1, 53°.43N×87°.82E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=31.5km s-min=18.4km az=74.0, Suspected Mining explosion.*
ISC 27 10:26:43.8±3.6, 53°.6N±0°.1×87°.7E±0°.2, h0km, n8, σ1°03/10, 8C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**284**	I	I	10 38 40.0	
	0.1nm,1.0s,baz=98,slow=318,SNR=9.3						
ZAA0	**Zalesovo Array**	**1.76**	**284**	⇑Pn	**Pn**	**10 27 15.1**	**-0.3**
	0.5nm,0.4s						
ZAA0				⇓Sn	**Sg**	**10 27 41.2**	**+1.0**
	2.4nm,0.5s						
ZALV	**Zalesovo Beam**	**1.76**	**284**	Pn	**Pn**	**10 27 15.3**	**-0.2**
	2.8nm,0.3s,baz=98,slow=15,SNR=25						
ZALV				Lg	Lg	10 27 41.2	
	5.2nm,0.3s,baz=105,slow=26,SNR=17						
KURK	**Kurchatov**	**6.27**	**247**	⇑Pn	Pn	10 28 12.8	-4.6
	0.6nm,0.3s						
KURK				⇑Sn	**Sn**	**10 29 27.5**	**-2.2**
	0.8nm,0.3s						
KURK				⇑Lg	Lg	10 30 04.1	
	2.1nm,0.4s						
KURBB	**Kurchatov Arra**	**6.36**	**246**	Pn	**Pn**	**10 28 19.7**	**+1.0**
	0.2nm,0.3s,baz=65,slow=15,SNR=4.5						
KURBB				Lg	Lg	10 30 07.8	
	baz=62,slow=32						
	2.4nm,0.2s						
KURBB	**Kurchatov Arra**	**6.36**	**246**	⇑Pn	**Pn**	**10 28 19.4**	**+0.6**
	1.4nm,0.4s						
KURBB				⇑Sn	**Sn**	**10 29 31.8**	**-0.3**
	3.8nm,0.6s						
KURBB				⇓Lg	Lg	10 30 07.8	
	0.1nm,0.2s						
MK31	**Makanchi Array**	**7.60**	**209**	⇑Pn	**Pn**	**10 28 35.9**	**+0.2**
	0.1nm,0.3s,baz=32,slow=14,SNR=7.1						
MK31				⇑Sn	**Sn**	**10 30 02.2**	**-0.3**
	0.2nm,0.3s						
MK31				⇓Lg	Lg	10 30 44.3	
	1.5nm,0.7s,baz=41,slow=32,SNR=3.6						
MKAR	**Makanchi Array**	**7.60**	**209**	Pn	**Pn**	**10 28 35.8**	**+0.1**
	0.3nm,0.3s,baz=30,slow=13,SNR=8.4						
MKAR				Lg	Lg	10 30 44.2	
	0.1nm,0.3s,baz=32,slow=36,SNR=6.5						
	0.3nm,0.3s						

IDC 27 10:29:03.1±12.0, 29°.75S×111°.28W, h0km, mb3.6/1, mbtmp3.6/1, MS3.5/20, Error ellipse: s-maj=775.2km s-min=66.1km az=105.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**27.74**	**106**	T	T	11 05 15.0	
	baz=272,slow=73,SNR=110						
H03N3	**Juan Fernandez**	**27.75**	**106**	T	T	11 05 16.3	
	baz=272,slow=73,SNR=125						
H03N1	**Juan Fernandez**	**27.76**	**106**	T	T	11 05 16.0	
	baz=272,slow=73,SNR=137						
NNA	**Nana**	**36.52**	**68**	LR	LR	10 48 03.4	
	comp=Z,105nm,18.1s,baz=227,slow=31						
PPT	**Papeete**	**36.95**	**280**	LR	LR	10 46 55.5	
	comp=Z,22nm,20.1s,baz=132,slow=29						
ATAH	**Atahualpa**	**38.22**	**61**	LR	LR	10 48 39.8	
	comp=Z,104nm,19.4s,baz=216,slow=31						
LVC	**Limon Verde**	**38.52**	**90**	LR	LR	10 48 38.0	
	comp=Z,133nm,20.5s,baz=240,slow=30						
LPAZ	**La Paz**	**41.68**	**81**	LR	LR	10 51 04.7	
	comp=Z,42nm,19.6s,baz=224,slow=32						
RAR	**Rarotonga**	**44.33**	**269**	LR	LR	10 49 47.8	
	comp=Z,87nm,19.0s,baz=118,slow=28						
JTS	**Las Juntas de**	**47.20**	**37**	LR	LR	10 52 48.0	
	comp=Z,72nm,19.0s,baz=224,slow=30						
APG	**El Apazote**	**48.81**	**27**	LR	LR	10 53 34.8	
	comp=Z,6.6nm,20.9s,baz=248,slow=30						
CMIG	**Matias Romero**	**49.18**	**21**	LR	LR	10 52 33.4	
	comp=Z,26nm,21.5s,baz=173,slow=29						
ROSC	**El Rosal**	**49.38**	**52**	LR	LR	10 55 43.4	
	comp=Z,120nm,18.2s,baz=176,slow=32						
TEIG	**Tepich**	**54.41**	**27**	LR	LR	10 57 31.4	
	comp=Z,26nm,20.4s,baz=224,slow=31						
SDV	**Santo Domingo**	**54.81**	**52**	LR	LR	11 00 23.0	
	comp=Z,36nm,18.0s,baz=172,slow=34						
URZ	**Urewera**	**58.64**	**241**	LR	LR	10 57 23.8	
	comp=Z,114nm,19.5s,baz=206,slow=29						
PCRV	**Puerto La Cruz**	**59.93**	**56**	LR	LR	11 03 43.8	
	comp=Z,51nm,18.4s,slow=35						
VNDA	**Vanda**	**60.52**	**194**	LR	LR	10 57 58.9	
	comp=Z,48nm,18.0s,baz=230,slow=29						
SJG	**San Juan**	**64.47**	**48**	LR	LR	11 04 40.6	
	comp=Z,32nm,20.5s,baz=193,slow=33						
ANMO	**Albuquerque**	**64.51**	**4**	LR	LR	11 02 52.0	
	comp=Z,35nm,21.6s,baz=276,slow=32						
MDP	**Montagnes des**	**65.97**	**69**	LR	LR	11 04 58.3	
	comp=Z,110nm,19.2s,baz=264,slow=33						
NVAR	**Mina Array Bea**	**68.14**	**354**	P	P	10 40 05.2	+0.1
	0.4nm,0.7s,baz=186,slow=8.2,SNR=4.1						
	0.4nm,0.7s						
TKL	**Tuckaleechee C**	**70.02**	**24**	LR	LR	11 05 38.7	
	comp=Z,29nm,18.6s,baz=196,slow=31						
DZM	**Mont Dzumac**	**72.97**	**254**	LR	LR	11 04 21.9	
	comp=Z,72nm,20.1s,baz=37,slow=29						
SONM	**Songino Array**	**145.95**	**313**	PKPbc	PKPdf	10 48 43.4	-0.4
	1.3nm,0.7s,baz=95,slow=1.7,SNR=5.7						
CMAR	**Chiang Mai Arr**	**150.30**	**255**	PKPbc	PKPbc	10 48 56.6	-0.2
	0.6nm,0.4s,baz=62,slow=0.2,SNR=6.6						

*IDC **27** 10:39:46.6±3.7, 26°.07N×125°.03E, h213km±40km, mb3.3/7, mbtmp3.8/10, Error ellipse: s-maj=54.8km s-min=47.2km az=57.0*
*JMA **27** 10:39:47.9±0.3, 26°N±2°×12°5E±°, h179km, MV3.8/37, NW OFF MIYAKOJIMA ISLAND*
ISC 27 10:39:47.0±0.7, 26°.28N±0°.09×125°.07E±0°.06, h210km±9km, n47, σ1°54/71, mb3.5/7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.35**	**173**	P	**Pn**	**10 40 21.2**	**+0.8**
JIKM				S	**S**	**10 40 45.4**	**-0.7**
JIRB	**Irabujima**	**1.44**	**176**	*i* P	**Pn**	**10 40 21.6**	**+0.5**
JIRB				S	**S**	**10 40 45.9**	**-1.5**
JMJ	**Miyako jima 2**	**1.47**	**172**	P	**Pn**	**10 40 23.0**	**+1.7**
JOGS	**Gusukube**	**1.54**	**169**	*i* P	**Pn**	**10 40 23.2**	**+1.3**
JOGS				S	**S**	**10 40 48.7**	**-0.1**
JKE	**Kume jima 2**	**1.54**	**88**	*i* P	**Pn**	**10 40 22.7**	**+0.8**
JKE				S	**S**	**10 40 47.7**	**-1.0**
JMJ2	**Miyako jima3**	**1.54**	**171**	*i* P	**Pn**	**10 40 23.2**	**+1.2**
JMJ2				S	**S**	**10 40 48.6**	**-0.3**
JTJ	**Tarama**	**1.66**	**192**	*i* P	**Pn**	**10 40 23.4**	**+0.4**
JTJ				S	**S**	**10 40 49.0**	**-1.8**
JISG	**Ishigakijimahi**	**1.82**	**202**	*e*P	**Pn**	**10 40 24.5**	**+0.1**
JISG				S	**S**	**10 40 51.0**	**-2.3**
JAGN	**Aguni-jima**	**1.97**	**80**	P	**Pn**	**10 40 26.6**	**+0.7**
JAGN				S	**S**	**10 40 54.6**	**-1.2**
JIJ	**Ishigaki jima**	**2.08**	**204**	P	**Pn**	**10 40 26.6**	**-0.4**
JIJ				S	**S**	**10 40 54.9**	**-3.0**
JKRS	**Kuro-shima**	**2.25**	**206**	P	**Pn**	**10 40 28.6**	**-0.2**
JKRS				S	**S**	**10 40 58.3**	**-2.7**
IRIF	**Iriomote-Funau**	**2.28**	**212**	*i* P	**Pn**	**10 40 28.6**	**-0.6**
IRIF				S	**S**	**10 40 59.2**	**-2.4**
JJT3	**Tamagusuku3**	**2.44**	**92**	*e*P	**Pn**	**10 40 32.5**	**+1.7**
JJT3				S	**S**	**10 41 04.6**	**0.0**
HATJ	**Hateruma jima**	**2.49**	**208**	P	**Pn**	**10 40 31.2**	**-0.2**
HATJ				S	**S**	**10 41 02.7**	**-2.9**
YOJ	**Yonaguni jima**	**2.59**	**226**	P	**Pn**	**10 40 32.2**	**-0.3**
YOJ	**Yonaguni jima**	**2.59**	**226**	*e*P	**Pn**	**10 40 32.2**	**-0.3**
YOJ				*e*S	**S**	**10 41 07.2**	**-0.4**
JYNG	**Yonagunijimaku**	**2.65**	**227**	P	**Pn**	**10 40 32.8**	**-0.3**
JYNG				*e*S	**S**	**10 41 07.2**	**-1.5**
JNTH	**Nagotoyohara**	**2.66**	**84**	P	**Pn**	**10 40 34.3**	**+1.1**
JNTH				S	**S**	**10 41 07.0**	**-1.8**
JIH	**Iheya**	**2.70**	**73**	*e*P	**Pn**	**10 40 34.5**	**+0.8**
JIH				S	**S**	**10 41 07.7**	**-2.0**
JOW	**Kunigami**	**2.92**	**78**	P	**Pn**	**10 40 36.7**	**+0.5**
JOW	**Kunigami**	**2.92**	**78**	P	**Pn**	**10 40 36.9**	**+0.6**
	45nm,0.2s,baz=143,slow=26,SNR=241						
JOW				S	**S**	**10 41 12.2**	**-2.0**
	218nm,0.3s,baz=72,slow=27,SNR=35						
JOW	**Kunigami**	**2.92**	**78**	*i* P	**Pn**	**10 40 36.8**	**+0.6**
JOW				*e*S	**S**	**10 41 12.3**	**-2.0**
JYRO	**Yoronjima**	**3.11**	**75**	P	**Pn**	**10 40 38.8**	**+0.4**
JYRO				*e*S	**S**	**10 41 15.3**	**-2.9**
JOKE	**Okinoerabujima**	**3.31**	**70**	P	**Pn**	**10 40 40.8**	**0.0**
TATO	**Taipei**	**3.48**	**249**	P	**Pn**	**10 40 43.5**	**+0.6**
YHNB	**Yeheng**	**3.70**	**245**	P	**Pn**	**10 40 46.5**	**+0.9**
JTK	**Tokunoshima**	**3.77**	**66**	P	**Pn**	**10 40 46.0**	**-0.3**
JTK				*e*S	**S**	**10 41 29.6**	**-2.9**
NACB	**Ninganchiao**	**3.78**	**237**	P	**Pn**	**10 40 45.4**	**-1.1**
JAMN	**Amaminishikomi**	**4.14**	**61**	P	**Pn**	**10 40 50.1**	**-0.7**
YULB	**Yu-li**	**4.47**	**231**	P	**Pn**	**10 40 53.1**	**-1.9**
SSLB	**Suanglung**	**4.48**	**237**	P	**Pn**	**10 40 54.6**	**-0.6**
JAM	**Amami Oshima**	**4.56**	**61**	*e*P	**Pn**	**10 40 55.1**	**-0.9**
JAM				*e*S	**S**	**10 41 46.7**	**-3.4**
JTAJ	**Takarajima**	**4.65**	**51**	P	**Pn**	**10 40 57.4**	**+0.2**
JZK	**Kikaishima**	**4.81**	**64**	*e*S	**S**	**10 41 53.6**	**-2.2**
TWGBT	**Beinan**	**5.01**	**227**	P	**Pn**	**10 40 59.9**	**-1.9**
TPUB	**Ta-pu**	**5.01**	**235**	P	**Pn**	**10 41 00.9**	**-0.9**
JMZ	**Minamidaito 2**	**5.55**	**93**	*e*P	**Pn**	**10 41 09.7**	**+1.1**
JMZ				*e*S	**S**	**10 42 09.4**	**-3.6**
JKDJ	**Kitadaitoujima**	**5.61**	**92**	*e*P	**Pn**	**10 41 10.3**	**+1.0**
JKDJ				S	**S**	**10 42 11.2**	**-3.0**
JNU	**Nakatsue**	**8.49**	**35**	P	**Pn**	**10 41 48.3**	**+1.8**
	13nm,0.8s,baz=235,slow=6.5,SNR=10						
KSRS	**Korea Array**	**11.40**	**12**	P	**Pn**	**10 42 26.8**	**+2.9**
	1.0nm,0.6s,baz=185,slow=13,SNR=9.4						
MKAR	**Makanchi Array**	**39.41**	**313**	P	**P**	**10 46 56.6**	**+0.1**
	0.4nm,0.3s,baz=99,slow=10,SNR=10						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**40.52**	**324**	P	**P**	**10 47 05.3**	**-0.1**
	1.3nm,0.4s,baz=111,slow=8.3,SNR=4.5						
	1.3nm,0.4s						
KURBB	**Kurchatov Arra**	**42.88**	**317**	P	**P**	**10 47 24.8**	**+0.2**
	0.4nm,0.4s,baz=106,slow=8.7,SNR=5.8						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**71.42**	**330**	P	**P**	**10 50 44.4**	**+0.4**
	0.4nm,0.4s,baz=52,slow=6.8,SNR=7.7						
	0.4nm,0.4s						
AKASG	**Malin Array Be**	**73.64**	**319**	P	**P**	**10 50 57.4**	**0.0**
	0.5nm,0.4s,baz=60,slow=6.5,SNR=1.8						
	0.5nm,0.4s						
BRTR	**Keskin Array B**	**74.75**	**307**	P	**P**	**10 51 05.0**	**+0.7**
	0.6nm,0.6s,baz=98,slow=8.0,SNR=3.6						
	0.6nm,0.6s						
NOA	**NORSAR Array B**	**78.00**	**333**	P	**P**	**10 51 21.9**	**-0.1**
	0.4nm,0.7s,baz=54,slow=5.8,SNR=2.4						
	0.4nm,0.7s						

*NEIC **27** 10:43:06.3±0.3, 36°.84N±0°.01×97°.70W±0°.01, h2km±1km, Error ellipse: s-maj=1.7km s-min=1.3km az=174.0*
**TUL 27 10:43:06.6±0.4, 36°.848N±0°.009×97°.70W±0°.01, h7km±3km, ML3.3, mb_Lg2.8/108(NEIC),

LOOK	Love County	2.88 171	IAmb_Lg		10 44 41.4
	comp=Z,21nm,1.0s				
X37A	Clayton	2.94 139	IAmb_Lg		10 44 40.5
	comp=Z,41nm,0.7s				
Z35A	Perchaven, San	3.53 174	IAmb_Lg		10 45 02.1
	comp=Z,17nm,0.8s				
S39A	Bolivar	3.59 75	IAmb_Lg		10 45 03.0
	comp=Z,21nm,0.8s				
RTBA	Rita Blanca	4.08 266	IAmb_Lg		10 45 19.7
	comp=Z,15nm,0.8s				
DKNS	Dickens	4.13 221	IAmb_Lg		10 45 21.5
	comp=Z,25nm,0.9s				
FW07	Weatherford	4.14 181	IAmb_Lg		10 45 26.8
	comp=Z,14nm,0.9s				
P38A	Dawn	4.29 49	IAmb_Lg		10 45 29.9
	comp=Z,28nm,0.8s				
MGMO	Mountain Grove	4.36 84	IAmb_Lg		10 45 24.3
	comp=Z,22nm,0.8s				
KSCO	Kaye Shedlock'	4.46 300	IAmb_Lg		10 45 40.3
	comp=Z,24nm,0.9s				
R40A	Maddies Statio	4.55 70	IAmb_Lg		10 45 30.5
	comp=Z,22nm,0.8s				
X40A	Basin Creek Fa	4.61 119	IAmb_Lg		10 45 42.8
	comp=Z,16nm,0.9s				
SN05	Snyder 5	4.75 214	IAmb_Lg		10 45 42.3
	comp=Z,21nm,1.0s				
UALR	University of	4.82 114	IAmb_Lg		10 45 45.9
	comp=Z,19nm,0.8s				
POST	Post	4.90 221	IAmb_Lg		10 45 50.3
	comp=Z,13nm,0.8s				
MSTX	Muleshoe	5.04 237	IAmb_Lg		10 45 58.6
	comp=Z,11nm,0.7s				
P40A	Paris	5.19 57	IAmb_Lg		10 45 51.7
	comp=Z,22nm,0.7s				
L34A	Svendsen Farm,	5.21 11	IAmb_Lg		10 45 59.2
	comp=Z,29nm,0.7s				
CCM	Cathedral Cave	5.27 75	IAmb_Lg		10 45 53.0
	comp=Z,22nm,0.9s				
OGNE	Ogallala	5.31 322	IAmb_Lg		10 46 03.5
	comp=Z,24nm,0.7s				
T25A	Trinidad	5.38 275	IAmb_Lg		10 45 57.2
	comp=Z,14nm,0.7s				
CCAR	Cane Creek	5.65 119	IAmb_Lg		10 46 15.5
	comp=Z,21nm,0.8s				
NATX	Nacogdoches	5.66 153	IAmb_Lg		10 46 20.3
	comp=Z,21nm,0.8s				
SGCY	Sterling City	5.68 211	IAmb_Lg		10 46 18.4
	comp=Z,17nm,1.1s				
PBMO	Poplar Bluff	5.83 89	IAmb_Lg		10 46 22.4
	comp=Z,15nm,0.8s				
FVM	French Village	5.90 77	IAmb_Lg		10 46 11.8
	comp=Z,14nm,1.0s				
435B	Jarrell	6.05 179	IAmb_Lg		10 46 28.8
	comp=Z,20nm,0.9s				
SLM	Saint Louis	6.18 71	IAmb_Lg		10 46 21.0
	comp=Z,22nm,0.8s				
Q24A	Divide	6.26 292	IAmb_Lg		10 46 31.9
	comp=Z,12nm,0.9s				
CGM3	Cape Girardeau	6.44 84	IAmb_Lg		10 46 28.8
	comp=Z,19nm,0.8s				
OZNA	Ozona	6.56 207	IAmb_Lg		10 46 46.4
	comp=Z,8.1nm,0.8s				
JCT	Junction City	6.59 196	IAmb_Lg		10 46 43.9
	comp=Z,18nm,1.0s				
143A	Socs Landing,	6.62 127	IAmb_Lg		10 46 48.1
	comp=Z,18nm,0.7s				
S44A	Carbondale	6.78 80	IAmb_Lg		10 46 42.0
	comp=Z,20nm,0.8s				
ISCO	Idaho Springs	6.89 298	IAmb_Lg		10 46 48.6
	comp=Z,11nm,0.7s				
PECS	Pecos	7.48 225	IAmb_Lg		10 47 16.7
	comp=Z,11nm,1.0s				
PHWY	Pilot Hill	7.50 309	IAmb_Lg		10 47 18.8
	comp=Z,8.8nm,0.8s				
N23A	Red Feather La	7.60 305	IAmb_Lg		10 47 19.1
	comp=Z,14nm,0.9s				
SUSD	Miller	7.65 353	IAmb_Lg		10 47 20.7
	comp=Z,12nm,0.8s				
I37A	Lemond, Waseca	7.87 23	IAmb_Lg		10 47 27.0
	comp=Z,12nm,0.8s				
WVT	Waverly	7.98 92	IAmb_Lg		10 47 24.4
	comp=Z,6.3nm,0.7s				
ALPN	Alpine	8.14 219	IAmb_Lg		10 47 35.7
	comp=Z,14nm,1.3s				
RSSD	Black Hills	8.72 328	IAmb_Lg		10 48 01.3
	comp=Z,9.4nm,1.1s				
RWWY	Rawlins	8.82 306	IAmb_Lg		10 47 58.7
	comp=Z,8.2nm,0.9s				
I40A	Norwalk	8.87 35	IAmb_Lg		10 48 08.5
	comp=Z,9.6nm,0.7s				
K22A	Casper	8.93 313	IAmb_Lg		10 48 05.9
	comp=Z,14nm,1.2s				

*IDC **27** 11:18:04.8±8.1, 21°.88S×178°.14W, h380km±88km, mb2.8/5, mbtmp3.7/6, Error ellipse: s-maj=60.7km s-min=27.0km az=166.0*

ISC 27 11:18:04.0±1.0, **21°.8S**±0°.2×**178°.2W**±0°.2, **h373**km, **n8**, σ0°.71/9, **mb3.2**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	16.86	193	P	P	11 21 37.3	-0.2
	4.0nm,0.3s,baz=338,slow=7.4,SNR=9.2						
ASAR	Alice Springs	44.08	258	P	P	11 25 37.8	+0.7
	0.2nm,0.3s,baz=95,slow=8.9,SNR=8.4						
ASAR				PcP	PcP	11 27 14.9	+0.1
	0.2nm,0.6s,baz=106,slow=4.5,SNR=4.8						
	0.2nm,0.3s						
WRA	Warramunga Arr	44.28	263	P	P	11 25 38.3	-0.3
	0.2nm,0.6s,baz=96,slow=8.4,SNR=9.6						
	0.2nm,0.6s						
NVAR	Mina Array Bea	82.10	43	P	P	11 29 43.7	-0.4
	0.2nm,0.5s,baz=231,slow=5.7,SNR=3.0						
	0.2nm,0.5s						
ILAR	Eielson Array	89.65	13	P	P	11 30 19.8	-0.1
	0.4nm,0.9s,baz=221,slow=5.5,SNR=8.1						
	0.4nm,0.9s						
PDAR	Pinedale Array	90.03	43	P	P	11 30 23.7	+1.2
	0.3nm,0.6s,baz=183,slow=3.6,SNR=3.9						
	0.3nm,0.6s						
ARCES	ARCESS Array B	130.21	349	PKP	PKPdf	11 36 28.9	-0.7
	1.8nm,0.9s,baz=35,slow=3.3,SNR=1.7						
AKASG	Malin Array Be	144.10	330	PKP	PKPab	11 36 54.0	-0.4
	0.6nm,0.4s,baz=42,slow=3.9,SNR=5.9						

*NEIC **27** 11:21:08.9±0.3, 36°.85N±0°.01×97°.71W±0°.01, h8km±2km, Error ellipse: s-maj=1.7km s-min=1.1km az=209.0*

TUL 27 11:21:08.8±0.2, **36°.843N**±0°.009×**97°.70W**±0°.01, **h5**km±2km, **ML2.8**, **mb_Lg2.4**/35(NEIC), **ML2.7**/48(NEIC), **Error ellipse: s-maj=1.3km s-min=1.2km az=99.0**, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	Grant County #	0.13	274	Pg	Pg	11 21 12.0	+0.4
GC02				Sg	Sg	11 21 14.4	+1.1
KAN17	Caldwell West	0.21	344		Pg	11 21 13.5	+0.5
KAN17				IAML	Sg	11 21 16.8	+1.1
	comp=E,3μm,0.3s						
KAN17				Sg	Sg	11 21 16.8	+1.1
KAN13	South Haven SW	0.24	46		Pg	11 21 14.2	+0.6
KAN13				Sg	Sg	11 21 17.9	+1.1
KAN14	Manchester OK	0.24	298		Pg	11 21 14.0	+0.4
KAN14				Sg	Sg	11 21 17.3	+0.6
KAN14				IAML		11 21 17.6	
	comp=E,1μm,0.2s						
KAN14				IAML		11 21 17.6	
	comp=N,2μm,0.2s						
KAN09	Caldwell North	0.30	12		Pg	11 21 15.2	+0.5
KAN09				Sg	Sg	11 21 19.7	+1.1
KAN09				IAML		11 21 22.4	
	comp=N,2μm,0.2s						
KAN05	Bluff City Nor	0.30	332		Pg	11 21 15.2	+0.5
KAN05				IAML		11 21 20.9	
	comp=E,1μm,0.2s						
KAN05				IAML		11 21 21.5	
	comp=N,844nm,0.2s						
KAN01	Argonia South	0.31	351	Pg	Pg	11 21 15.4	+0.5
KAN01				IAML		11 21 20.0	
	comp=N,1μm,0.2s						
KAN01				IAML		11 21 20.1	
	comp=E,1μm,0.2s						
BLOK	Blackwell	0.39	102		Pg	11 21 16.8	+0.4
CROK	Carrier	0.41	215		Pg	11 21 17.1	+0.4
CROK				IAML		11 21 25.6	
	comp=N,836nm,0.3s						
OK032	Salt Plains WL	0.42	265		Pg	11 21 17.1	+0.2
KAN08	Anthony NE Sta	0.44	330	Pg	Pg	11 21 17.8	+0.4
KAN08				IAML		11 21 25.8	
	comp=E,404nm,0.3s						
KAN08				IAML		11 21 26.9	
	comp=N,441nm,0.1s						
KS21	Milan North St	0.44	3	IAML		11 21 29.2	
	comp=N,439nm,0.1s						
KS21	Milan North St	0.44	3	Pg	Pg	11 21 17.8	+0.4
OK048	Pawnee Station	0.74	125	Pg	Pg	11 21 23.1	+0.1
OK048				IAML		11 21 35.1	
	comp=N,270nm,0.4s						
OK051	E0350 and S346	0.77	116		Pg	11 21 23.6	+0.1
OK051				IAML		11 21 40.9	
	comp=N,334nm,0.2s						
OK038	West end E0370	0.92	247		Pg	11 21 26.2	-0.2
T35A	Sooner Cattle	0.95	85	Pg	Pg	11 21 27.0	0.0
T35A				IAML		11 21 45.7	
	comp=E,135nm,0.2s						
NOKA	Waynoka	1.01	259		Pg	11 21 28.0	-0.3
NOKA				IAML		11 21 47.5	
	comp=N,300nm,0.3s						
NOKA				IAML		11 21 47.5	
	comp=E,203nm,0.2s						
QUOK	Quay	1.04	130	Pg	Pg	11 21 28.6	-0.1
OK029	Liberty Lake	1.06	169	Pg	Pg	11 21 28.9	-0.2
OK029				IAML		11 21 47.7	
	comp=E,116nm,0.3s						
OK029				IAML		11 21 47.8	
	comp=E,132nm,0.3s						
OK052	Battle Ridge R	1.11	139	Pg	Pg	11 21 29.9	-0.2
OK031	S. Brethren Rd	1.12	142		Pg	11 21 30.1	-0.3
OK031				IAML		11 21 46.1	
	comp=E,256nm,0.2s						
OK031				IAML		11 21 46.2	
	comp=E,251nm,0.2s						
U32A	Winter Ranch,	1.15	247		Pg	11 21 30.3	-0.5
U32A				IAML		11 21 50.4	
	comp=E,99nm,0.1s						
U32A				IAML		11 21 51.1	
	comp=N,110nm,0.2s						
DEOK	Depew	1.39	136		Pn	11 21 34.6	-0.3
ELIS	Ellis County	1.59	241	Pg	Pb	11 21 38.3	-0.4
FNO	Franklin	1.60	171		Pn	11 21 38.2	+0.4
R32A	Long Quarter,	1.77	333		Pb	11 21 41.2	-0.6
TUL3	Leonard	1.79	121	IAmb_Lg		11 22 08.4	
	comp=Z,16nm,0.8s						
X37A	Clayton	2.94	139	IAmb_Lg		11 22 46.6	
	comp=Z,12nm,0.7s						
Z35A	Perchaven, San	3.52	174	IAmb_Lg		11 22 59.8	
	comp=Z,7.0nm,0.7s						
S39A	Bolivar	3.59	75	IAmb_Lg		11 23 07.0	
	comp=Z,8.2nm,0.9s						
AMTX	Amarillo	3.78	240	IAmb_Lg		11 23 09.7	
	comp=Z,10nm,0.7s						
DKNS	Dickens	4.13	221	IAmb_Lg		11 23 25.5	
	comp=Z,7.5nm,0.9s						
MGMO	Mountain Grove	4.35	84	IAmb_Lg		11 23 29.1	
	comp=Z,7.2nm,0.8s						
KSCO	Kaye Shedlock'	4.46	301	IAmb_Lg		11 23 37.6	
	comp=Z,8.9nm,0.8s						
WHAR	Wooly Hollow	4.64	108	IAmb_Lg		11 23 42.6	
	comp=Z,7.3nm,0.9s						
SN05	Snyder 5	4.75	214	IAmb_Lg		11 23 45.9	
	comp=Z,6.2nm,1.0s						
P40A	Paris	5.19	57	IAmb_Lg		11 23 53.7	
	comp=Z,6.3nm,0.8s						
CCM	Cathedral Cave	5.27	75	IAmb_Lg		11 24 00.6	
	comp=Z,5.5nm,0.8s						
OGNE	Ogallala	5.31	322	IAmb_Lg		11 24 12.6	
	comp=Z,6.2nm,0.8s						
T25A	Trinidad	5.38	275	IAmb_Lg		11 24 13.3	
	comp=Z,5.0nm,1.1s						
PBMO	Poplar Bluff	5.83	88	IAmb_Lg		11 24 15.0	
	comp=Z,5.8nm,0.8s						
Q24A	Divide	6.26	292	IAmb_Lg		11 24 45.3	
	comp=Z,4.2nm,0.8s						
JCT	Junction City	6.58	196	IAmb_Lg		11 24 40.9	
	comp=Z,6.0nm,1.1s						
PHWY	Pilot Hill	7.50	309	IAmb_Lg		11 25 07.8	
	comp=Z,3.2nm,0.8s						

*IDC **27** 11:31:16.5±0.8, 1°.29N×125°.81E, h0km, mb4.0/8, mbtmp4.0/8, MS3.3/3, Error ellipse: s-maj=80.2km s-min=15.3km az=70.0*
*DJA **27** 11:31:20.1±0.3, 2°N±4°×12°6E±°, h10km, M4.2/12, mb4.5/4, MLv4.1/12*
*NEIC **27** 11:31:24.1±2.3, 1°.48N±0°.09×126°.47E±0°.07, h52km±8km, mb4.4/22, Error ellipse: s-maj=13.2km s-min=9.2km az=207.0*

ISC 27 11:31:23.0±0.5, **1°.49N**±0°.07×**126°.50E**±0°.08, **h47**km, **n49**, σ1§28/51, **mb4.3**/19, **MS3.5**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.12	129		Pn	11 31 42.4	+0.1
TNTI	Ternate	1.12	129	P	Pn	11 31 41.3	-1.0
LBMI	Labuha	2.34	155	P	Pn	11 31 58.2	-0.7
KMSI	Cibinong	2.67	250	P	Pn	11 32 01.2	-2.4
GTOI	Gorontalo	3.59	256	P	Pn	11 32 18.3	+2.2
LUWI	Luwuk	4.49	236	Pn	Pn	11 32 31.4	+2.8
LUWI	Luwuk	4.49	236	P	Pn	11 32 27.9	-0.6
NLAI	Namlea	4.73	173	P	Pn	11 32 31.8	0.0
TOLI2	Tolitoli	5.73	266		Pn	11 32 44.3	-1.2
MYLDM	Lahad Datu	8.79	295		Pn	11 33 27.8	+0.4
KKM	Kota Kinabalu	11.21	294	Pn	Pn	11 34 00.9	+0.1
SBUM	Sibu	14.30	274	Pn	Pn	11 34 44.7	+1.8
MTN	Manton Dam	14.96	162	Pn	Pn	11 34 52.1	+0.6
KNRA	Kununurra	17.20	173	Pn	Pn	11 35 19.5	-0.5
FITZ	Fitzroy Crossi	19.48	182		P	11 35 45.8	-0.3
GUMO	Guam	21.80	56	P	P	11 36 11.9	+0.7
WB0	Warramunga Arr	22.50	160	P	P	11 36 17.8	-0.9
WB0				IAmb	IAmb	11 36 20.6	
	comp=Z,7.7nm,0.7s						
WRA	Warramunga Arr	22.64	161	P	P	11 36 19.9	-0.3
WRA	Warramunga Arr	22.64	161	P	P	11 36 19.6	-0.7
	comp=Z,7.6nm,0.7s,baz=339,slow=9.9,SNR=65						
WRA				PcP	PcP	11 40 12.0	+0.1
	comp=Z,0.3nm,0.5s,baz=320,slow=2.4,SNR=4.6						
WRA				S	S	11 40 25.9	+0.7
	comp=Z,1.1nm,1.0s,baz=344,slow=18,SNR=4.7						
	comp=Z,7.6nm,0.7s						
MBWA	Marble Bar	23.46	196	P	P	11 36 26.9	-1.5
MBWA				IAmb	IAmb	11 36 45.1	
	comp=Z,17nm,1.2s						
AS31	Alice Springs	26.02	164		P	11 36 52.0	+0.2
ASAR	Alice Springs	26.02	164	P	P	11 36 52.4	+0.6
ASAR	Alice Springs	26.02	164	P	P	11 36 52.6	+0.8
	comp=Z,1.6nm,0.4s,baz=348,slow=13,SNR=64						
ASAR				PcP	PcP	11 40 19.4	+0.2
	comp=Z,0.5nm,0.5s,baz=344,slow=2.5,SNR=6.6						
ASAR				S	S	11 41 19.3	-0.4
	comp=Z,0.4nm,0.8s,baz=349,slow=14,SNR=3.4						
	comp=Z,1.6nm,0.4s						
FORT	Forrest	32.12	177	P	P	11 37 45.7	-0.3
FORT				IAmb	IAmb	11 38 07.8	
	comp=Z,9.9nm,0.8s						
BBOO	Buckleboo	35.29	166	P	P	11 38 13.4	-0.1
KSRS	Korea Array	35.82	2	P	P	11 38 19.6	+1.7
	comp=Z,0.8nm,0.6s,baz=186,slow=10,SNR=6.3						
	comp=Z,0.8nm,0.6s						
STKA	Stephens Creek	36.14	158	P	P	11 38 21.3	+0.5
STKA	Stephens Creek	36.14	158	P	P	11 38 20.7	-0.1
	comp=Z,2.3nm,0.7s,baz=320,slow=7.1,SNR=5.4						
	comp=Z,2.3nm,0.7s						
MJAR	Matsushiro Arr	36.53	16	LR	LR	11 56 37.6	
	comp=Z,18nm,18.8s,baz=195,slow=41						
USA0B	Ussuriysk Arra	42.81	6	P	P	11 39 13.6	-2.6
USA0B				IAmb	IAmb	11 39 16.5	
	comp=Z,5.4nm,0.7s						
USRK	Ussuriysk Ar.	42.81	6	P	P	11 39 13.1	-3.1
SONM	Songino Array	49.34	342	P	P	11 40 07.8	0.0
	comp=Z,0.8nm,0.6s,baz=163,slow=8.4,SNR=3.1						
SONM				LR	LR	12 02 40.8	
	comp=Z,42nm,18.7s,baz=216,slow=38						
	comp=Z,0.8nm,0.6s						
MK31	Makanchi Array	59.27	326		P	11 41 18.1	-1.7
MK31				IAmb	IAmb	11 41 22.3	
	comp=Z,2.9nm,1.4s						
MKAR	Makanchi Array	59.27	326	P	P	11 41 18.3	-1.5
MKAR	Makanchi Array	59.27	326	P	P	11 41 18.6	-1.2
	comp=Z,0.8nm,0.5s,baz=117,slow=7.8,SNR=11						
	comp=Z,0.8nm,0.5s						
KURBB	Kurchatov Arra	63.50	328	P	P	11 41 46.9	-1.4
	comp=Z,2.1nm,0.8s,baz=125,slow=6.4,SNR=14						
	comp=Z,2.1nm,0.8s						
KURK	Kurchatov	63.50	328		P	11 41 46.9	-1.4
KURK				IAmb	IAmb	11 41 51.3	
	comp=Z,4.8nm,0.8s						
ABKAR	Akbulak array	73.74	321	P	P	11 42 52.9	+0.7
VNDA	Vanda	81.24	173	P	P	11 43 34.0	+0.4
VNDA				IAmb	IAmb	11 44 11.0	
	comp=Z,3.7nm,1.4s						
VNDA	Vanda	81.24	173	P	P	11 43 33.7	+0.2
	comp=Z,0.9nm,0.6s,baz=305,slow=1.8,SNR=6.3						
	comp=Z,0.9nm,0.6s						
J17K	VABM Dome	81.73	26	P	P	11 43 37.9	+1.6
BELG	Belogornoye	82.03	323	LR	LR	12 21 46.5	
	comp=Z,29nm,19.1s,baz=120,slow=37						
L18K	Granite Mounta	82.55	27	P	P	11 43 42.5	+1.8
L18K				IAmb	IAmb	11 43 60.0	
	comp=Z,5.9nm,1.3s						
J18K	Innoko River	82.78	26	P	P	11 43 42.7	+0.8
J18K				IAmb	IAmb	11 43 54.7	
	comp=Z,6.2nm,1.5s						
C19K	Lookout Ridge	82.91	20	P	P	11 43 44.1	+1.6
G19K	Purcell Mounta	83.16	23	P	P	11 43 45.4	+1.6
G19K				IAmb	IAmb	11 43 46.2	
	comp=Z,4.2nm,0.8s						
H19K	Roundabout Mou	83.30	24	P	P	11 43 46.0	+1.5
H19K				IAmb	IAmb	11 43 47.4	
	comp=Z,9.8nm,1.3s						
E19K	Redstone River	83.38	22	P	P	11 43 46.1	+1.2
E19K				IAmb	IAmb	11 43 50.8	
	comp=Z,4.3nm,0.8s						
IMAR	Indian Mountai	84.47	24	P	P	11 43 50.9	+0.4

*IDC **27** 11:42:19.0±6.4, 3°.79S×134°.36E, h0km, mb3.6/1, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=353.4km s-min=30.9km az=78.0*
*DJA **27** 11:42:23.5±1.1, 4°S±10°×13°4E±°, h25km±6km, M3.8/6, MLv3.8/6*

ISC 27 11:42:24.6±1.5, **3°.96S**±0°.10×**133°.9E**±0°.2, **h35**km, **n8**, σ1§29/8, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	0.37	322	P	Pn	11 42 32.4	-1.0
KMPI				S	Sn	11 42 39.8	+0.4
FAKI	Fak Fak	1.97	301	P	Pn	11 42 55.9	+0.4
BNDI	Bandanaira	4.05	262	P	Pn	11 43 23.4	-0.8
SWI	Sorong	4.07	319	P	Pn	11 43 23.6	-0.8
MMPI	Merauke	7.83	125	P	Pn	11 44 24.6	+8.6
WRA	Warramunga Arr	15.90	179	Pn	Pn	11 46 04.3	-1.5
	0.1nm,0.3s,baz=358,slow=13,SNR=6.5						
	0.5nm,0.8s						
ASAR	Alice Springs	19.60	180	P	P	11 46 51.8	+1.8
	0.3nm,0.3s,baz=6.1,slow=12,SNR=31						
	1.6nm,0.7s						
MKAR	Makanchi Array	67.94	324	P	P	11 53 20.5	+0.5
	0.4nm,0.6s,baz=114,slow=7.0,SNR=5.2						
	0.4nm,0.6s						

*KOLA **27** 11:48:22.1, 67°.64N×34°.20E, h0km, ML2.1, Error ellipse: s-maj=8.4km s-min=4.6km az=120.0, Murmansk region, Kirovsk district*
*HEL **27** 11:48:24.2±0.1, 67°.76N×33°.64E, h0km, ML1.9, Explosion*
*IDC **27** 11:48:27.6±2.7, 67°.61N×32°.95E, h0km, mbtmp2.6/2, ML1.8/2, Error ellipse: s-maj=31.3km s-min=10.9km az=75.0*

ISC 27 11:48:21.8±0.9, **67°.68N**±0°.03×**34°.08E**±0°.04, **h0**km, **n28**, σ1§21/44, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.28	246	P	Pg	11 48 27.3	+0.1
APA				S	Sg	11 48 31.3	+0.5
LVZ	Lovozero	0.31	45	P	Pg	11 48 27.1	-0.6
LVZ				S	Pb	11 48 31.4	+1.3
LVZ	Lovozero	0.31	45	PG	Pb	11 48 31.6	+1.3
APA0	Apatity Array	0.42	260	P	Pg	11 48 29.1	-0.8
APA0				S	Sg	11 48 35.3	0.0
VRF	Varrio	1.71	274	PN	Pn	11 48 52.6	-0.1
VRF				MSG		11 49 10.3	
	comp=Z,10nm,0.2s						
VRF				SN	Sn	11 49 15.6	+0.3
PRVG	Vayda Guba	2.19	342	P	Pb	11 49 02.2	+0.1
PRVG				S	Sb	11 49 29.6	-0.2
RAJF	Raja-Jooseppi	2.31	293	PG	Pn	11 49 02.1	+1.1
RAJF				SG	Sb	11 49 32.0	-1.2
KU6	Riekki	2.35	227	PN	Pn	11 49 01.9	+0.3
KU6				MSG		11 49 31.8	
	comp=Z,2.9nm,0.2s						
KU6				SG	Sb	11 49 34.3	-0.1
MSF	Maaselka	2.67	231	PN	Pn	11 49 06.7	+0.7
MSF				SG	Sb	11 49 43.7	-0.1
SGF	Sodankyl	2.91	269	PB	Pn	11 49 09.9	+0.7
VADS	Vadso	2.98	327	P	Pn	11 49 10.6	+0.2
VADS				S	Sn	11 49 46.1	-0.6
KEV	Kevo	3.31	312	PB	Pn	11 49 16.1	+1.3
KEV				SB	Sn	11 49 55.1	+0.3
KEV				MSG		11 49 56.4	
	comp=Z,4.1nm,0.2s						
RNF	Rovaniemi	3.33	255	PN	Pn	11 49 15.1	+0.1
RNF				SB	Sn	11 49 56.5	+1.3
RANF	Ranua	3.33	243	PN	Pn	11 49 16.1	+1.0
RANF				SG	Sb	11 50 03.2	+0.5
ARA0	ARCESS Array S	3.65	305	PN	Pn	11 49 19.6	+0.1
	baz=121						
ARA0				SN	Sn	11 50 01.5	-1.7
ARCES	ARCESS Array B	3.65	305	P	Pn	11 49 19.9	+0.4
ARCES				S	Sn	11 50 02.7	-0.5
ARCES	ARCESS Array B	3.65	305	Pn	Pn	11 49 19.7	+0.2
	comp=Z,0.1nm,0.3s,baz=121,slow=14,SNR=20						
ARCES				Pg	Pb	11 49 27.4	+0.3
	comp=Z,0.2nm,0.3s,baz=120,slow=16,SNR=9.3						
ARCES				Sn	Sn	11 50 01.5	-1.7
	comp=Z,0.3nm,0.3s,baz=126,slow=26,SNR=7.1						
ARCES				Lg	Lg	11 50 11.8	
	comp=Z,0.7nm,0.3s,baz=123,slow=30,SNR=4.8						
	comp=Z,0.4nm,0.2s						
RMF	Romuvaara	3.87	208	SN	Sn	11 50 08.0	-0.7
KLF	Kolari	3.92	268	PN	Pn	11 49 24.4	+1.2
	baz=81						
HEF	Hetta	3.98	285	PN	Pn	11 49 25.2	+1.2
TOF	Tornio	4.17	252	PN	Pn	11 49 26.7	+0.2
OUL	Oulu	4.20	235	PG	Pb	11 49 38.4	+2.0
	baz=47						
LANU	Lannavaara	4.58	280	PN	Pn	11 49 32.4	+0.1
OBF4	Vikkela, Lumij	4.63	236	PN	Pn	11 49 33.5	+0.6
ERTU	Ertsjaerv	4.78	262	PN	Pn	11 49 35.0	+0.1
I37NO	I37NO	5.88	291	I	I	12 23 20.0	
	baz=96,slow=318,SNR=3.4						
FINES	FINESS Array B	7.14	213	Pn	Pn	11 50 07.5	+0.1
	baz=20,slow=14,SNR=1.2						
FINES				Sn	Sn	11 51 23.6	-5.5
	comp=Z,0.1nm,0.3s

	baz=338						
CHKT	**Chengkung**	**1.32 273**	*e*S	**Sn**	**11 51 05.7**	**-1.7**	
	baz=274						
HGSD	**Ruisui**	**1.34 290**	*e*P	**Pb**	**11 50 51.1**	**-0.3**	
	baz=287						
HGSD			*e*S	**Sn**	**11 51 06.4**	**-1.4**	
	baz=287						
SHUL	**Shoufeng**	**1.35 303**	*i* P	**Pb**	**11 50 52.0**	**+0.3**	
	baz=301						
SHUL			*i* S	**Sn**	**11 51 07.9**	**-0.3**	
	baz=301						
HATJ	**Hateruma jima**	**1.37 42**	P	**Pb**	**11 50 52.1**	**+0.3**	
HATJ			S	**Sb**	**11 51 08.3**	**-0.6**	
EYUL	**Yuli**	**1.39 283**	*e*P	**Pb**	**11 50 52.7**	**+0.4**	
	baz=274						
FULB	**Fuli**	**1.39 277**	*e*S	**Sn**	**11 51 07.5**	**-1.7**	
	baz=273						
JYNG	**Yonaguni jima**	**1.41 5**	*e*P	**Pb**	**11 50 53.1**	**+0.6**	
TWF1	**Yuli**	**1.41 283**	P	**Pb**	**11 50 52.6**	**-0.1**	
	baz=274						
YOJ	**Yonaguni jima**	**1.42 8**	*e*P	**Pb**	**11 50 53.4**	**+0.6**	
	baz=10.0						
YOJ			*i* S	**Sb**	**11 51 10.9**	**+0.3**	
	baz=10.0						
YOJ	**Yonaguni jima**	**1.42 8**	*e*S	**Sb**	**11 51 10.7**	**+0.2**	
YULB	**Yu-li**	**1.42 284**	*e*P	**Pb**	**11 50 52.9**	**0.0**	
	baz=277						
ECS	**Chishang**	**1.45 272**	*i* S	**Sn**	**11 51 11.2**	**+0.5**	
	baz=275						
WARBT	**Fenglin Townsh**	**1.46 298**	*i* P	**Pb**	**11 50 53.0**	**-0.4**	
	baz=302						
EOS2	**EOS2**	**1.46 339**	*e*P	**Pb**	**11 50 54.1**	**+0.7**	
	baz=337						
EOS2			*e*S	**Sb**	**11 51 11.4**	**-0.1**	
	baz=337						
ESL	**Shilin**	**1.47 302**	*i* P	**Pn**	**11 50 53.0**	**+0.6**	
	baz=300						
EHD	**Haiduan**	**1.47 274**	*e*S	**Sn**	**11 51 10.7**	**-0.4**	
	baz=276						
ETM	**Tongmen**	**1.51 308**	*e*P	**Pn**	**11 50 53.5**	**+0.6**	
	baz=301						
TWD	**Chiawan**	**1.51 313**	*e*P	**Pn**	**11 50 53.6**	**+0.7**	
	baz=304						
LYUB	**Lan-yu**	**1.53 227**	*e*P	**Pb**	**11 50 54.3**	**-0.4**	
	baz=231						
IRIF	**Iriomote-Funau**	**1.54 33**	P	**Pb**	**11 50 54.8**	**-0.1**	
IRIF			S	**Sb**	**11 51 13.2**	**-0.8**	
LONT	**Longtian**	**1.54 265**	*e*P	**Pb**	**11 50 55.5**	**+0.6**	
	baz=262						
LONT			*e*S	**Sn**	**11 51 13.6**	**+0.7**	
	baz=262						
NACB	**Ninganchiao**	**1.57 316**	*e*P	**Pn**	**11 50 54.5**	**+0.7**	
	baz=308						
LXIB	**Xiulin Townshi**	**1.60 308**	*e*P	**Pb**	**11 50 55.2**	**-0.8**	
	baz=306						
TWGBT	**Beinan**	**1.60 262**	*e*P	**Pb**	**11 50 56.0**	**+0.2**	
	baz=258						
TWGBT			*e*S	**Sb**	**11 51 15.3**	**-0.3**	
	baz=258						
TWG	**Pinlang**	**1.61 262**	P	**Pb**	**11 50 56.1**	**+0.1**	
	baz=258						
TWG			*e*S	**Sn**	**11 51 15.2**	**+0.8**	
	baz=258						
JKRS	**Kuro-shima**	**1.62 43**	P	**Pb**	**11 50 56.0**	**-0.3**	
JKRS			S	**Sn**	**11 51 14.7**	**-0.2**	
ELDTW	**Lidau**	**1.65 275**	*e*P	**Pb**	**11 50 56.0**	**-0.7**	
	baz=272						
ETLH	**Xiulin Townshi**	**1.67 314**	*e*P	**Pb**	**11 50 56.3**	**-0.9**	
	baz=309						
ETLH			*e*S	**Sn**	**11 51 15.4**	**-0.8**	
	baz=309						
EWUT	**Wuta**	**1.68 326**	*e*P	**Pb**	**11 50 57.0**	**-0.2**	
	baz=326						
EWUT			*e*S	**Sn**	**11 51 16.5**	**+0.3**	
	baz=326						
VWDT	**VWDT**	**1.68 295**	*e*P	**Pb**	**11 50 57.0**	**-0.1**	
	baz=293						
VWDT			*e*S	**Sn**	**11 51 16.3**	**+0.2**	
	baz=293						
ENA	**Nanau**	**1.68 325**	*e*P	**Pb**	**11 50 57.1**	**-0.2**	
	baz=325						
OWD	**Renai**	**1.74 302**	*e*P	**Pb**	**11 50 57.7**	**-0.7**	
	baz=308						
OWD			*e*S	**Sn**	**11 51 17.4**	**-0.6**	
	baz=308						
TWC	**Suao**	**1.78 331**	*e*P	**Pb**	**11 50 58.8**	**-0.2**	
	baz=340						
WHF	**Hehuan Shan**	**1.78 308**	*e*P	**Pb**	**11 50 58.4**	**-0.8**	
	baz=307						
CHGB	**Renai**	**1.80 304**	*e*P	**Pb**	**11 50 58.7**	**-0.7**	
	baz=303						
CHGB			*e*S	**Sn**	**11 51 19.7**	**+0.1**	
	baz=303						
JIJ	**Ishigaki jima**	**1.80 43**	*e*P	**Pb**	**11 50 57.9**	**-1.4**	
JIJ			*e*S	**Sn**	**11 51 18.1**	**-1.1**	
WUSB	**Renai**	**1.81 302**	*e*P	**Pb**	**11 50 58.9**	**-0.6**	
	baz=307						
SSLB	**Suanglung**	**1.85 294**	*e*P	**Pb**	**11 50 59.9**	**-0.2**	
	baz=299						
FUSS	**Fushou**	**1.86 310**	*e*P	**Pb**	**11 50 59.5**	**-1.0**	
	baz=303						
STYH	**Taoyuan**	**1.87 274**	*e*P	**Pb**	**11 50 00.9**	**+0.5**	
	baz=271						
LATG	**Datong**	**1.89 322**	P	**Pb**	**11 50 59.8**	**-1.0**	
	baz=315						
LATG			*e*S	**Sn**	**11 51 21.4**	**-0.1**	
	baz=315						
NNSB	**Datong**	**1.89 317**	*e*P	**Pb**	**11 50 59.9**	**-1.0**	
	baz=308						
WHYT	**Xinyi Township**	**1.90 290**	*e*P	**Pb**	**11 51 01.0**	**0.0**	
	baz=285						
WHYT			*e*S	**Sn**	**11 51 22.6**	**+0.9**	
	baz=285						
NNS	**Nan Shan**	**1.91 317**	*e*P	**Pb**	**11 51 00.3**	**-0.9**	
	baz=308						
EAST	**Anshuo**	**1.92 250**	*e*P	**Pb**	**11 51 00.7**	**-0.6**	
	baz=254						
TDCB	**Techi**	**1.93 309**	*e*P	**Pb**	**11 51 00.6**	**-0.9**	
	baz=302						
NDT	**Datong Townshi**	**1.95 323**	*e*P	**Pb**	**11 51 00.8**	**-1.0**	
	baz=323						
ENTT	**Nioudou**	**1.95 325**	*e*P	**Pb**	**11 51 01.0**	**-0.8**	
	baz=325						
SLGT	**Liugui**	**1.98 269**	*e*P	**Pb**	**11 51 02.1**	**-0.3**	
	baz=268						
WCS	**Beigang Elemen**	**2.00 301**	*e*P	**Pb**	**11 51 02.2**	**-0.5**	
	baz=306						
TPUB	**Ta-pu**	**2.01 278**	*e*P	**Pb**	**11 51 03.1**	**+0.2**	
	baz=275						
WTP	**Ta-pu**	**2.02 276**	*e*P	**Pb**	**11 51 03.1**	**0.0**	
	baz=269						
FUSB	**Fushanzhiwuyua**	**2.03 327**	*e*P	**Pb**	**11 51 02.6**	**-0.7**	
	baz=328						
FUSB			*e*S	**Sn**	**11 51 25.6**	**+0.5**	
	baz=328						
MASBT	**Mashibuluo**	**2.04 258**	*e*P	**Pb**	**11 51 02.4**	**-1.0**	
	baz=250						
JISG	**Ishigakijimahi**	**2.07 42**	P	**Pn**	**11 51 01.7**	**+1.1**	
JISG			S	**Sn**	**11 51 24.9**	**-0.9**	
YHNB	**Yeheng**	**2.08 321**	*e*P	**Pb**	**11 51 02.6**	**-1.4**	
	baz=312						
YHNB			*e*S	**Sn**	**11 51 25.9**	**-0.2**	
	baz=312						
NSK	**Sanguang**	**2.09 321**	*e*P	**Pb**	**11 51 03.1**	**-1.2**	
	baz=312						
NSK			*e*S	**Sn**	**11 51 25.9**	**-0.6**	
	baz=312						
NWLT	**Wulai**	**2.09 326**	*e*P	**Pb**	**11 51 03.8**	**-0.5**	
	baz=326						
CHN1	**Nanshi**	**2.09 274**	*e*P	**Pb**	**11 51 04.6**	**+0.3**	
	baz=272						
TIPB	**Shuangxi**	**2.11 335**	*e*P	**Pb**	**11 51 03.4**	**-1.3**	
	baz=346						
NFF	**Wufeng Townshi**	**2.20 316**	*e*P	**Pb**	**11 51 05.4**	**-0.8**	
	baz=315						
SXI1	**Grass Mountain**	**2.21 338**	*e*P	**Pn**	**11 51 04.2**	**+1.6**	
	baz=349						
TWQ1	**Liyutan**	**2.26 305**	*e*P	**Pb**	**11 51 07.0**	**-0.2**	
	baz=304						
LIOB	**Emei**	**2.28 315**	*e*P	**Pb**	**11 51 07.0**	**-0.5**	
	baz=321						
JTJ	**Tarama**	**2.36 47**	P	**Pn**	**11 51 06.1**	**+1.5**	
JTJ			S	**Sn**	**11 51 32.9**	**-0.1**	
VWUC	**VWUC**	**3.62 303**	*e*P	**Pn**	**11 51 24.2**	**+2.3**	
	baz=301						
VWUC			*e*S	**Sn**	**11 52 03.6**	**-0.6**	
	baz=301						

*IDC **27** 12:18:27.9±12.0, 3°.54N×125°.83E, h109km±121km, mb3.5/5, mbtmp3.8/5, MS3.4/2, Error ellipse: s-maj=127.3km s-min=22.0km az=66.0*
*DJA **27** 12:18:34.3±1.3, 3°.N±10°.×12°.6E±°, h172km±15km, M4.3/8, mb4.7/2, mB4.9/2, MLv4.1/8, Mw(mB)4.2/2*
ISC 27 12:18:28.5±1.1, 3.7N±0°.1×126.2E±0°.2, h116km, n11, σ0°69/9, mb4.2/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.15**	**158**	P	Pn	12 19 22.8	+6.1
KMSI	**Cibinong**	**3.84**	**216**	P	**Pn**	**12 19 26.4**	**+0.5**
GTOI	**Gorontalo**	**4.43**	**226**	P	**Pn**	**12 19 32.8**	**-1.0**
LUWI	**Luwuk**	**5.85**	**216**	P	**Pn**	**12 19 53.9**	**+1.0**
	71nm,0.9s,1μm0.3nm						
WRA	**Warramunga Arr**	**24.84**	**162**	P	**P**	**12 23 39.9**	**-0.3**
	0.4nm,0.7s,baz=338,slow=10,SNR=7.5						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**28.24**	**165**	P	**P**	**12 24 10.2**	**-0.5**
	0.2nm,0.7s,baz=346,slow=7.0,SNR=4.5						
ASAR				PcP	**PcP**	**12 27 21.4**	**-0.2**
	0.2nm,0.4s,baz=344,slow=2.0,SNR=4.2						
	0.2nm,0.7s						
MJAR	**Matsushiro Arr**	**34.48**	**17**	LR	LR	12 41 53.6	
	comp=Z,18nm,18.2s,baz=192,slow=40						
MKAR	**Makanchi Array**	**57.27**	**325**	P	**P**	**12 28 03.9**	**-0.1**
	1.1nm,0.5s,baz=118,slow=7.6,SNR=11						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**61.47**	**328**	P	**P**	**12 28 33.0**	**+0.2**
	1.7nm,0.5s,baz=127,slow=6.3,SNR=2.3						
	1.7nm,0.5s						
RAO	**Raoul Island**	**62.75**	**126**	LR	LR	12 58 06.5	
	comp=Z,90nm,18.1s,baz=258,slow=38						
NRIK	**Noril'sk**	**70.31**	**346**	P	**P**	**12 29 29.4**	**+0.3**
	2.4nm,0.6s,baz=131,slow=11,SNR=4.3						
	2.4nm,0.6s						

*IDC **27** 12:26:31.1±1.7, 51°.74N×82°.12E, h0km, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=18.0km s-min=14.7km az=160.0*
*NNC **27** 12:26:33.6±4.7, 51°.60N×81°.99E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=49.4km s-min=19.0km az=11.0, Suspected Mining explosion.*
ISC 27 12:26:29.0±1.1, 52°.0N±0°.1×82°.0E±0°.1, h0km, n7, σ0°51/7, 2C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.48**	**241**	⇑Pg	**Pb**	**12 27 14.4**	**+0.1**
	2.5nm,0.9s						
KURK				⇑Lg	Lg	12 27 46.8	
	16nm,0.7s						
KURBB	**Kurchatov Arra**	**2.58**	**240**	Pg	**Pb**	**12 27 16.2**	**+0.2**
	0.1nm,0.3s,baz=66,slow=17,SNR=5.3						
KURBB				Lg	Lg	12 27 50.3	
	0.4nm,0.3s,baz=66,slow=32,SNR=14						
KURBB	**Kurchatov Arra**	**2.58**	**240**	⇓Pg	**Pg**	**12 27 17.9**	**-0.4**
	2.4nm,0.7s						
KURBB				⇓Lg	Lg	12 27 49.7	
	14nm,0.6s						
I46RU	**ZALESOVO INFRA**	**2.60**	**39**	I	I	12 43 35.0	
	0.1nm,1.4s,baz=216,slow=314,SNR=9.0						
ZALV	**Zalesovo Beam**	**2.60**	**39**	Pn	**Pb**	**12 27 16.1**	**-0.3**
	0.4nm,0.3s,baz=221,slow=15,SNR=7.4						
ZALV				Sn	**Sb**	**12 27 49.8**	**+0.8**
	0.3nm,0.3s,baz=216,slow=23,SNR=2.5						
	2.6nm,0.5s						
MK31	**Makanchi Array**	**5.18**	**178**	⇓Pn	**Pn**	**12 27 47.6**	**-0.2**
	1.7nm,0.5s,baz=9.1,slow=11,SNR=35						
MK31				⇓Lg	Lg	12 29 04.5	
	0.9nm,0.5s,baz=10,slow=31,SNR=3.1						
MKAR	**Makanchi Array**	**5.18**	**178**	Pn	**Pn**	**12 27 48.0**	**+0.2**
	0.6nm,0.3s,baz=4.0,slow=11,SNR=31						
MKAR				Lg	Lg	12 29 07.0	
	0.4nm,0.3s,baz=4.1,slow=26,SNR=7.4						
	1.5nm,0.4s						

IDC 27 12:46:13.7±6.9, 31°.20N×143°.49E, h0km, mb3.2/2, mbtmp3.3/3, ML2.6/1, Error ellipse: s-maj=245.5km s-min=37.3km az=69.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.91**	**322**	Pn	Pn	12 47 55.9	-0.4
	0.1nm,0.3s,baz=135,slow=13,SNR=2.6						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**51.60**	**191**	P	P	12 55 20.6	-1.3
	0.1nm,0.3s,baz=5.5,slow=7.6,SNR=9.1						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**55.32**	**191**	P	P	12 55 50.4	+1.1
	0.1nm,0.3s,baz=36,slow=8.8,SNR=6.1						
	0.1nm,0.3s						

*SOME **27** 12:51:33.6, 42°.28N×81°.20E, h0km*
*NNC **27** 12:51:35.2±1.3, 42°.32N×81°.23E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=8.8km s-min=6.8km az=157.0*
ISC 27 12:51:38.8±2.4, 42°.42N±0°.09×81°.01E±0°.07, h17km±11km, n42, σ1°87/66, 3C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.13**	**335**	*e*P	**Pb**	**12 51 59.1**	**-0.8**
	3.3nm,0.3s						
KTMS				*e*S	**Sn**	**12 52 17.7**	**+2.6**
	19nm,0.4s						
KTMS	**Ketmen**	**1.13**	**335**	P	**Pb**	**12 51 59.1**	**-0.8**
	3.3nm,0.3s						
KTMS				S	**Sn**	**12 52 17.7**	**+2.6**
	19nm,0.4s						
SHLS	**Shalkode**	**1.35**	**303**	*e*P	**Pn**	**12 51 59.8**	**-3.2**
	46nm,0.3s						
SHLS				*e*S	**Sn**	**12 52 18.9**	**-1.7**
	103nm,0.3s						
SHLS	**Shalkode**	**1.35**	**303**	P	**Pn**	**12 51 59.8**	**-3.2**
	46nm,0.3s						
SHLS				S	**Sn**	**12 52 18.9**	**-1.7**
	103nm,0.3s						
PDGK	**Podgornoye**	**1.44**	**310**	P	**Pb**	**12 52 05.2**	**+0.1**
	2.1nm,0.1s						
PDGK				S	**Sg**	**12 52 28.8**	**+3.6**
	25nm,0.3s						
UZB	**Uzynbulak**	**1.63**	**297**	*e*P	**Pg**	**12 52 09.0**	**-1.1**
	20nm,0.2s						
UZB				*e*S	**Sg**	**12 52 36.0**	**+4.6**
	48nm,0.2s						
UZB	**Uzynbulak**	**1.63**	**297**	Pg	**Pg**	**12 52 09.0**	**-1.1**
	20nm,0.2s						
UZB				Lg	Lg	12 52 35.9	
	48nm,0.2s						
KPKS	**Kokpek**	**2.00**	**302**	*e*P	**Pg**	**12 52 15.5**	**-1.6**
	19nm,0.2s						
KPKS				*e*S	**Sg**	**12 52 45.9**	**+2.8**
	359nm,0.4s						
KPKS	**Kokpek**	**2.00**	**302**	Pg	**Pg**	**12 52 15.5**	**-1.6**
	19nm,0.2s						
KPKS				Lg	Lg	12 52 45.9	
	359nm,0.4s						
SATY	**Saty**	**2.02**	**289**	*e*P	**Pg**	**12 52 16.3**	**-1.3**
	15nm,0.4s						
SATY				*e*S	**Sg**	**12 52 47.0**	**+3.2**
	134nm,0.2s						
SATY	**Saty**	**2.02**	**289**	Pg	**Pg**	**12 52 16.3**	**-1.3**
	15nm,0.4s						
SATY				Lg	Lg	12 52 47.0	
	134nm,0.2s						
ZHN	**Zhinishke**	**2.03**	**292**	*e*P	**Pg**	**12 52 16.2**	**-1.6**
	26nm,0.2s						
ZHN				*e*S	**Sg**	**12 52 47.3**	**+3.1**
	91nm,0.2s						
ZHN	**Zhinishke**	**2.03**	**292**	Pg	**Pg**	**12 52 16.2**	**-1.6**
	26nm,0.2s						
ZHN				Lg	Lg	12 52 47.3	
	91nm,0.2s						
DJR	**Jarkent**	**2.10**	**335**	*e*P	**Pb**	**12 52 16.3**	**-0.2**
	1.1nm,0.1s						
DJR				*e*S	**Sg**	**12 52 47.4**	**+0.9**
	84nm,0.4s						
DJR	**Jarkent**	**2.10**	**335**	Pg	**Pb**	**12 52 16.3**	**-0.2**
	1.1nm,0.1s						
DJR				Lg	Lg	12 52 47.4	
	84nm,0.4s						
KURS	**Kuram**	**2.34**	**298**	*e*P	**Pg**	**12 52 21.7**	**-1.9**
	6.2nm,0.3s						
KURS				*e*S	**Sg**	**12 52 56.3**	**+2.4**
	31nm,0.5s						
KURS	**Kuram**	**2.34**	**298**	Pg	**Pg**	**12 52 21.7**	**-1.9**
	6.2nm,0.3s						
KURS				Lg	Lg	12 52 56.3	
	31nm,0.5s						
KNOS	**Konyrlen**	**2.35**	**326**	Pg	**Pb**	**12 52 21.3**	**+0.6**
	1.0nm,0.5s						
KNOS				Lg	Lg	12 52 55.8	
	37nm,0.3s						
BLB	**Baldybastay**	**2.49**	**313**	Pg	**Pb**	**12 52 22.6**	**-0.5**
	15nm,0.1s						
BLB				Lg	Lg	12 52 59.5	
	81nm,0.3s						
ARXS	**Arharly**	**2.93**	**309**	*e*P	**Pb**	**12 52 31.3**	**+0.8**
	4.1nm,0.4s						
ARXS				*e*S	**Sg**	**12 53 12.8**	**-0.1**
	17nm,0.5s						
ARXS	**Arharly**	**2.93**	**309**	Pg	**Pb**	**12 52 31.3**	**+0.8**
	4.1nm,0.4s						
ARXS				Lg	Lg	12 53 12.8	
	17nm,0.5s						
KOTS	**Kotyrbulak**	**2.98**	**287**	*e*P	**Pb**	**12 52 31.5**	**+0.1**
	7.0nm,0.4s						
KOTS				*e*S	**Sg**	**12 53 13.3**	**-1.1**
	37nm,0.6s						
KOTS	**Kotyrbulak**	**2.98**	**287**	Pg	**Pb**	**12 52 31.5**	**+0.1**
	7.0nm,0.4s						
KOTS				Lg	Lg	12 53 13.3	
	37nm,0.6s						
MDOK	**Medeo**	**3.00**	**286**	*e*P	**Pb**	**12 52 32.7**	**+0.8**
	6.1nm,0.5s						
MDOK				*e*S	**Sg**	**12 53 15.6**	**+0.2**
	19nm,0.6s						
MDOK	**Medeo**	**3.00**	**286**	⇓Pg	**Pb**	**12 52 32.2**	**+0.3**
	4.3nm,0.5s						
MDOK				Pg	**Pb**	**12 52 32.7**	**+0.8**
	6.1nm,0.5s						
MDOK				Lg	Lg	12 53 15.3	
	12nm,0.7s						
MDOK				Lg	Lg	12 53 15.6	
	19nm,0.6s						
TNSS	**Tian-Shan**	**3.05**	**283**	*e*P	**Pb**	**12 52 33.8**	**+0.9**
	4.8nm,0.3s						
TNSS				*e*S	**Sg**	**12 53 17.4**	**+0.5**
	7.3nm,0.4s						
TNSS	**Tian-Shan**	**3.05**	**283**	Pg	**Pb**	**12 52 33.8**	**+0.9**
	4.8nm,0.3s						
TNSS				Lg	Lg	12 53 17.4	
	7.3nm,0.4s						
CHKK	**Chushkaly**	**3.27**	**297**	*e*P	**Pb**	**12 52 37.2**	**+0.8**
	2.4nm,0.3s						
CHKK				*e*S	**Sg**	**12 53 23.5**	**-0.3**
	18nm,0.5s						
CHKK	**Chushkaly**	**3.27**	**297**	Pg	**Pb**	**12 52 37.2**	**+0.8**
	2.4nm,0.3s						
CHKK				Lg	Lg	12 53 23.5	
	18nm,0.5s						
KTBS	**Karatobe**	**3.42**	**294**	*e*P	**Pb**	**12 52 40.4**	**+1.5**
	5.9nm,0.4s						
KTBS				*e*S	**Sg**	**12 53 28.5**	**-0.1**
	24nm,0.5s						
KTBS	**Karatobe**	**3.42**	**294**	Pg	**Pb**	**12 52 40.4**	**+1.5**
	5.9nm,0.4s						
KTBS				Lg	Lg	12 53 28.5	
	24nm,0.5s						
MTBS	**Maitube**	**3.44**	**283**	*e*P	**Pb**	**12 52 40.9**	**+1.6**
	3.8nm,0.2s						
MTBS				*e*S	**Sg**	**12 53 29.2**	**-0.1**
	12nm,0.2s						
MTBS	**Maitube**	**3.44**	**283**	Pg	**Pg**	**12 52 42.5**	**-2.2**
	3.1nm,0.2s						
MTBS				Lg	Lg	12 53 32.0	
	18nm,0.4s						
KST	**Kastek**	**3.77**	**281**	*e*P	**Pb**	**12 52 47.0**	**+2.2**
	4.8nm,0.6s						
KST				*e*S	**Sg**	**12 53 40.5**	**+0.8**
	19nm,0.7s						
KST	**Kastek**	**3.77**	**281**	Pg	**Pb**	**12 52 47.0**	**+2.2**
	4.8nm,0.6s						
KST				Lg	Lg	12 53 40.5	
	19nm,0.7s						
DGS	**Degeres**	**3.94**	**284**	*e*P	**Pb**	**12 52 48.7**	**+1.0**
	2.2nm,0.3s						
DGS				*e*S	**Sg**	**12 53 43.0**	**-2.2**
	12nm,0.8s						
DGS	**Degeres**	**3.94**	**284**	Pg	**Pb**	**12 52 48.7**	**+1.0**
	2.2nm,0.3s						
DGS				Lg	Lg	12 53 43.0	
	12nm,0.8s						
TKM2	**Tokmak 2**	**4.02**	**279**	⇓Pg	**Pg**	**12 52 55.5**	**-0.2**
	3.8nm,0.6s						
TKM2				⇓Lg	Lg	12 53 49.3	
	16nm,0.7s						
KRBS	**Karabastau**	**4.11**	**290**	*e*P	**Pb**	**12 52 52.4**	**+1.8**
	2.2nm,0.5s						
KRBS				*e*S	**Sg**	**12 53 49.1**	**-1.6**
	4.3nm,0.4s						
KRBS	**Karabastau**	**4.11**	**290**	Pg	**Pb**	**12 52 52.4**	**+1.8**
	2.2nm,0.5s						
KRBS				Lg	Lg	12 53 49.1	
	4.3nm,0.4s						
MAKZ	**Makanchi**	**4.44**	**9**	⇓Pn	**Pn**	**12 52 48.9**	**+3.6**
	0.6nm,0.3s						
MAKZ				⇑Sn	**Sn**	**12 53 37.5**	**+1.0**
	1.3nm,0.5s						
MAKZ				⇑Lg	Lg	12 53 55.2	
	6.2nm,0.8s						
MK31	**Makanchi Array**	**4.46**	**11**	Pn	**Pn**	**12 52 47.7**	**+2.1**
	0.3nm,0.3s,baz=194,slow=18,SNR=26						
MK31				⇓Pg	**Pg**	**12 52 59.9**	**-4.4**
	0.4nm,0.3s,baz=182,slow=15,SNR=4.9						
MK31				⇑Lg	Lg	12 53 56.8	
	4.5nm,0.5s,baz=192,slow=29,SNR=8.7						

IDC 27 12:53:53.1±3.8, 6°.15S×148°.83E, h0km, mb2.8/1, mbtmp3.1/2, ML3.5/1, Error ellipse: s-maj=131.4km s-min=47.6km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.66**	**224**	P	Pn	12 58 24.8	-0.3
	0.2nm,0.3s,baz=50,slow=11,SNR=14						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**22.57**	**218**	P	P	12 58 55.0	-0.3
	0.2nm,0.4s,baz=51,slow=8.8,SNR=9.1						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**146.89**	**285**	PKPbc	PKPdf	13 13 37.5	+0.7
	0.3nm,0.4s,baz=96,slow=1.2,SNR=6.9						

*IDC **27** 12:59:50.8±1.7, 0°.57S×122°.88E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=217.2km s-min=27.1km az=61.0*
*DJA **27** 12:59:52.2±0.4, 2°.S±3°.×12°.1E±°, h10km, M3.5/7, MLv3.5/7*
ISC 27 12:59:52.4±1.3, 1°.8S±0°.1×121°.2E±0°.1, h10km, n6, σ1°67/7, mb3.3/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.77**	**66**	P	**Pn**	**13 00 22.0**	**-1.0**
LUWI				S	**Sn**	**13 00 44.8**	**-0.8**
GTOI	**Gorontalo**	**3.02**	**38**	P	**Pn**	**13 00 41.1**	**+0.8**
BKSI	**Bulukumba**	**3.68**	**196**	P	**Pn**	**13 00 48.8**	**-0.6**
WRA	**Warramunga Arr**	**22.19**	**145**	P	**P**	**13 04 49.8**	**+0.7**
	0.6nm,0.9s,baz=326,slow=11,SNR=6.2						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**25.03**	**151**	P	**P**	**13 05 19.6**	**+2.7**
	0.4nm,0.6s,baz=335,slow=10,SNR=9.3			

ASAR Alice Springs 33.24 247 P P 13 08 09.8 0.0
0.5nm,0.5s,baz=71,slow=9.6,SNR=13
0.5nm,0.5s
PPT Papeete 41.86 102 LR LR 13 21 53.8
comp=Z,22nm,19.8s,baz=132,slow=29
ARCES ARCESS Array B 118.63 346 PKP PKPdf 13 20 19.8 -0.3
1.7nm,1.0s,baz=46,slow=3.5,SNR=3.6

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*GCG **27** 13:07:43.0±0.7, 14°.81N×92°.62W, h89km±59km, MD3.9*
*SNET **27** 13:07:47.7±1.3, 14°.52N×92°.26W, h75km±15km, ML3.4*
*CATAC **27** 13:07:48.8±0.8, 14°.40N×92°.30W, h37km±8km, ML3.9*
*MEX **27** 13:07:48.4±0.3, 14°.58N×92°.11W, h88km±3km, MD4.0*
*IDC **27** 13:07:51.2±2.1, 14°.78N×92°.14W, h82km±15km, mb3.3/2, mbtmp3.7/5, MS2.9/1, Error ellipse: s-maj=32.1km s-min=9.2km az=17.0*
ISC 27 13:07:48.6±0.9, 14°.53N±0°.05×92°.30W±0°.03, h72km±7km, n60, σ1§97/98, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.38**	**4**	*i* P	**Pn**	**13 08 00.5**	**-0.1**
THIG				*i* S	**Sn**	**13 08 10.1**	**+0.7**
RTAL	**Retalhuleu**	**0.58**	**90**	*e*P	**Pn**	**13 08 01.1**	**-1.3**
RTAL				*e*S	**Sn**	**13 08 11.1**	**-1.5**
RTAL	**Retalhuleu**	**0.58**	**90**	*e*P	**Pn**	**13 08 01.0**	**-1.3**
RTAL	**Retalhuleu**	**0.58**	**90**	*i* P	**Pn**	**13 08 01.1**	**-1.3**
RTAL				*i* S	**Sn**	**13 08 12.0**	**-0.6**
RTAL				IAML		13 08 14.3	
	comp=Z,2μm,1.0s						
CHUJ	**Union Juarez**	**0.59**	**18**	*i* P	**Pn**	**13 08 01.9**	**-1.0**
CHUJ				*i* S	**Sn**	**13 08 12.7**	**-0.6**
PAVE	**Pavencul**	**0.67**	**10**	*e*P	**Pn**	**13 08 02.9**	**-0.8**
PAVE				*i* S	**Sn**	**13 08 14.3**	**-0.4**
STG3	**Santiaguito 3,**	**0.72**	**75**	⇓*i*P	**Pn**	**13 08 03.7**	**-0.4**
SULM	**Suchitepequez,**	**0.74**	**107**	*e*P	**Pn**	**13 08 04.3**	**+0.2**
SOKI	**Kika Raxquin**	**0.91**	**71**	*i* P	**Pn**	**13 08 06.2**	**-0.3**
SOKI				*i* S	**Sn**	**13 08 20.5**	**+0.7**
SOKI				IAML		13 08 24.3	
	comp=Z,2μm,1.0s						
HUEH	**Huehuetenango**	**1.10**	**44**	*e*P	**Pn**	**13 08 08.6**	**0.0**
HUEH				*i* S	**Sn**	**13 08 24.7**	**+1.1**
HUEH	**Huehuetenango**	**1.10**	**44**	*i* P	**Pn**	**13 08 08.7**	**0.0**
HUEH				*i* S	**Sn**	**13 08 24.5**	**+0.9**
HUEH				IAML		13 08 33.6	
	comp=Z,4μm,1.0s						
QUIS	**Sacapulas**	**1.39**	**57**	*i* P	**Pn**	**13 08 12.4**	**+0.1**
QUIS				IAML		13 08 15.6	
	comp=Z,1μm,1.0s						
QUIS				*i* S	**Sn**	**13 08 31.1**	**+0.9**
FUG	**Fuego 3**	**1.41**	**93**	*e*P	**Pn**	**13 08 12.4**	**-0.2**
PCIG		**1.47**	**323**	*e*P	**Pn**	**13 08 13.7**	**+0.5**
PCIG				*e*S	**Sn**	**13 08 32.9**	**+1.0**
PCG	**Pacaya**	**1.64**	**94**	*e*P	**Pn**	**13 08 16.6**	**+0.9**
CCIG	**Comitan**	**1.75**	**5**	*e*P	**Pn**	**13 08 17.4**	**+0.2**
CCIG				*i* S	**Sn**	**13 08 39.1**	**+0.3**
CCIG	**Comitan**	**1.75**	**5**	*i* P	**Pn**	**13 08 18.9**	**+1.7**
CCIG				IAML		13 08 44.3	
	comp=Z,650nm,1.0s						
APG	**El Apazote**	**1.83**	**75**	P	**Pn**	**13 08 17.8**	**-0.5**
	comp=Z,4.0nm,0.4s,baz=197,slow=12,SNR=151						
APG				S	**Sn**	**13 08 39.5**	**-1.3**
	comp=Z,12nm,0.3s,baz=343,slow=11,SNR=15						
NBG	**Las Nubes**	**1.89**	**88**	*e*P	**Pn**	**13 08 21.3**	**+2.3**
CARR	**Arriaga**	**2.32**	**318**	*e*P	**Pn**	**13 08 26.6**	**+2.1**
CARR				*e*S	**Sn**	**13 08 54.8**	**+2.7**
TGIG		**2.38**	**341**	*e*P	**Pn**	**13 08 25.7**	**+0.3**
TGIG				*e*S	**Sn**	**13 08 52.1**	**-1.5**
NUBE	**Las Nubes**	**2.52**	**104**	*e*P	**Pn**	**13 08 26.6**	**-0.8**
NUBE				*e*S	**Sn**	**13 08 55.7**	**-1.5**
NUBE	**Las Nubes**	**2.52**	**104**	*i* P	**Pn**	**13 08 26.9**	**-0.5**
NUBE				*i* S	**Sn**	**13 08 56.2**	**-1.0**
NUBE				IAML		13 09 05.0	
	comp=Z,300nm,1.0s						
MRL	**Marmol**	**2.58**	**77**	*e*P	**Pn**	**13 08 27.7**	**-0.7**
CEVE	**Cerro Verde**	**2.68**	**105**	*e*P	**Pn**	**13 08 29.4**	**-0.3**
CEVE				*e*S	**Sn**	**13 09 02.2**	**+0.9**
CEVE				IAML		13 09 10.0	
	comp=Z,604nm,0.3s						
CEVE	**Cerro Verde**	**2.68**	**105**	*i* P	**Pn**	**13 08 30.1**	**+0.4**
CEVE				*i* S	**Sn**	**13 09 01.1**	**-0.2**
CEVE				IAML		13 09 09.9	
	comp=Z,600nm,1.0s						
MTO3	**Montecristo**	**2.84**	**92**	*e*P	**Pn**	**13 08 31.0**	**-1.0**
MTO3				IAML		13 09 11.0	
	comp=Z,11nm,0.5s						
JAYA	**Jayaque - finc**	**2.89**	**107**	*e*P	**Pn**	**13 08 32.1**	**-0.5**
JAYA				*e*S	**Sn**	**13 09 05.9**	**-0.5**
JAYA				IAML		13 09 13.2	
	comp=Z,377nm,0.3s						
JAYA	**Jayaque - finc**	**2.89**	**107**	*i* P	**Pn**	**13 08 32.0**	**-0.5**
JAYA				*i* S	**Sn**	**13 09 06.1**	**-0.3**
JAYA				IAML		13 09 13.1	
	comp=Z,930nm,1.0s						
PMON	**Piamonte**	**3.00**	**105**	*i* P	**Pn**	**13 08 36.6**	**+2.6**
NILT	**Santiago Nilte**	**3.02**	**312**	*e*P	**Pn**	**13 08 35.9**	**+1.8**
NILT				*e*S	**Sn**	**13 09 10.8**	**+1.7**
LFRS	**El Faro**	**3.26**	**106**	*e*P	**Pn**	**13 08 36.3**	**-1.2**
UXUV	**UXUV**	**3.30**	**328**	*e*P	**Pn**	**13 08 39.0**	**+1.1**
UXUV				*e*S	**Sn**	**13 09 15.9**	**0.0**
PETF	**Flores**	**3.33**	**44**	*e*P	**Pn**	**13 08 38.1**	**-0.3**
PETF				*e*S	**Sn**	**13 09 14.3**	**-2.5**
PETF	**Flores**	**3.33**	**44**	*e*P	**Pn**	**13 08 38.3**	**0.0**
PETF				*e*S	**Sn**	**13 09 15.9**	**-0.9**
PETF	**Flores**	**3.33**	**44**	*i* P	**Pn**	**13 08 38.6**	**+0.2**
COEG	**Centro de Oper**	**3.43**	**105**	*e*S	**Sn**	**13 09 19.6**	**+0.2**
CMIG	**Matias Romero**	**3.57**	**316**	P	**Pn**	**13 08 42.8**	**+1.3**
	comp=Z,15nm,0.3s,baz=136,slow=8.5,SNR=46						
CMIG				S	**Sn**	**13 09 24.3**	**+1.8**
	comp=Z,21nm,0.3s,baz=90,slow=23,SNR=6.4						
CMIG	**Matias Romero**	**3.57**	**316**	*e*P	**Pn**	**13 08 43.0**	**+1.5**
CMIG				*e*S	**Sn**	**13 09 23.2**	**+0.7**
HUIG	**Huatulco**	**3.88**	**289**	*e*P	**Pn**	**13 08 45.7**	**-0.1**
HUIG				*e*S	**Sn**	**13 09 25.0**	**-5.3**
CNCH	**Conchagua**	**4.51**	**105**	*i* P	Pn	13 09 00.9	+6.4
SCIG	**Sabancuy**	**4.54**	**13**	*e*P	**Pn**	**13 08 53.8**	**-1.1**
SCIG				*e*S	**Sn**	**13 09 42.9**	**-3.5**
NEUV	**Arroyo Zacate**	**4.63**	**314**	*e*P	**Pn**	**13 08 56.8**	**+0.8**
NEUV				*e*S	**Sn**	**13 09 46.8**	**-1.7**
PMUV	**Sontecomapan**	**4.83**	**326**	*e*P	**Pn**	**13 08 56.9**	**-2.0**
PMUV				*e*S	**Sn**	**13 09 46.1**	**-7.5**
PEIG	**Puerto Escondi**	**4.91**	**288**	*e*P	**Pn**	**13 09 00.2**	**+0.4**
PEIG				*e*S	**Sn**	**13 09 48.2**	**-7.1**
VHO	**Vista Hermosa**	**4.97**	**301**	*e*P	**Pn**	**13 09 00.8**	**-0.1**
VHO				*e*S	**Sn**	**13 09 56.3**	**-0.8**
YOIG	**Yosondua**	**5.56**	**295**	*e*P	**Pn**	**13 09 11.1**	**+2.1**
YOIG				*e*S	**Sn**	**13 10 10.7**	**-1.1**
TOIG	**Toxpalan**	**5.79**	**308**	*e*P	**Pn**	**13 09 14.4**	**+2.3**
TOIG				*e*S	**Sn**	**13 10 17.2**	**-0.1**
PNIG	**Pinotepa**	**5.92**	**289**	*e*P	**Pn**	**13 09 12.4**	**-1.4**
PNIG				*e*S	**Sn**	**13 10 15.8**	**-4.5**
TXIG	**Tlaxiaco**	**5.92**	**298**	*e*P	**Pn**	**13 09 16.6**	**+2.7**
TXIG				*e*S	**Sn**	**13 10 21.3**	**+0.7**
FTIG	**Fresnillo de T**	**6.54**	**302**	*e*P	**Pn**	**13 09 21.3**	**-1.0**
FTIG				*e*S	**Sn**	**13 10 32.9**	**-2.6**
TEIG	**Tepich**	**6.84**	**34**	P	**Pn**	**13 09 25.0**	**-1.3**
	comp=Z,21nm,0.3s,baz=2.1,slow=1.1,SNR=45						
TEIG				S	**Sn**	**13 10 38.4**	**-4.4**
	comp=Z,55nm,0.6s,baz=300,slow=22,SNR=11						
ACON	**Acoyapa**	**7.38**	**109**	*i* P	**Pn**	**13 09 36.1**	**+2.4**
CXUV	**Coxquihui**	**7.56**	**319**	*e*P	**Pn**	**13 09 35.9**	**-0.2**
CXUV				*e*S	**Sn**	**13 10 57.3**	**-3.0**
PPM	**Popocatepetl**	**7.56**	**308**	*e*P	**Pn**	**13 09 40.2**	**+3.6**
PPM				*e*S	**Sn**	**13 10 56.4**	**-4.6**
TXAR	**Lajitas Array**	**18.10**	**326**	P	**Pn**	**13 11 56.9**	**+1.7**
	comp=Z,0.9nm,1.1s,baz=149,slow=15,SNR=4.7						
NNA	**Nana**	**30.47**	**149**	LR	LR	13 24 39.1	
	comp=Z,21nm,18.1s,baz=242,slow=33						
NVAR	**Mina Array Bea**	**33.09**	**321**	P	**P**	**13 14 19.3**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=129,slow=9.2,SNR=6.1						
	comp=Z,0.7nm,0.8s						
ILAR	**Eielson Array**	**62.25**	**337**	P	**P**	**13 18 02.3**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=123,slow=5.5,SNR=6.6						
	comp=Z,0.6nm,0.9s						
SNAA	**Sanae**	**103.50**	**161**	⇑P	**Pdif**	**13 21 38.4**	**-2.4**
	comp=Z,4.2nm,0.2s						

TRN 27 13:10:20.4, 15°.42N×61°.15W, h153km, MD3.6, 1D, Near East of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGL	**Barre de l'ile**	**0.54**	**347**	*e*P	Pn	13 10 43.7	+1.4
SVN	**Savane Anatole**	**0.57**	**181**	*e*P	Pn	13 10 43.3	+0.8
SVN				*e*S	Sn	13 11 00.3	+0.9
BAMF	**Morne Balai**	**0.60**	**180**	*e*P	Pn	13 10 44.0	+1.2
PCM	**Pelee Case Pet**	**0.60**	**185**	*e*P	Pn	13 10 43.9	+1.2
PCM	**Pelee Case Pet**	**0.60**	**185**	*e*P	Pn	13 10 44.0	+1.3
CXM	**Morne La Croix**	**0.60**	**181**	*e*P	Pn	13 10 44.2	+1.3
GBMF	**Grand Be**	**0.62**	**181**	*e*P	Pn	13 10 44.2	+1.3
TDBA	**Terre de Bas,**	**0.63**	**313**	*e*P	Pn	13 10 44.3	+1.5
TBG	**Guadaloupe-3**	**0.64**	**312**	*e*P	Pn	13 10 44.4	+1.5
TBG				*e*S	Sn	13 11 01.5	+1.5
FDF	**Fort de France**	**0.68**	**180**	*e*P	Pn	13 10 44.1	+0.9
ILAM	**Ilet Lapin Mar**	**0.70**	**157**	*e*P	Pn	13 10 44.1	+0.8
ILAM				*e*S	Sn	13 11 00.9	+0.3
CBE	**Ff, Capester**	**0.78**	**326**	*e*P	Pn	13 10 45.1	+1.3
LPMF	**Morne Lapointe**	**0.86**	**168**	*e*P	Pn	13 10 44.8	+0.4
TRMF	**Trois Ilets**	**0.88**	**174**	*e*P	Pn	13 10 45.5	+0.9
MVM	**Montagne Vaucl**	**0.90**	**164**	*e*P	Pn	13 10 45.5	+0.8
BIM	**Bigot**	**0.90**	**175**	⇓*i*P	Pn	13 10 45.6	+0.9
BIM				*e*S	Sn	13 11 04.8	+1.5
MPOM	**Morne Pois Mar**	**1.01**	**164**	*e*P	Pn	13 10 46.3	+0.8
ABD	**La Joyeuse, An**	**1.10**	**343**	*e*P	Pn	13 10 47.6	+1.4
SLBI	**Saint Lucia, B**	**1.40**	**173**	*e*P	Pn	13 10 49.6	+0.4
SLBI				*e*S	Sn	13 11 11.2	0.0
MBFL	**Flemmings, Mon**	**1.67**	**323**	*e*P	Pn	13 10 52.5	+0.5
ANBD	**Bethesda, Anti**	**1.72**	**340**	*e*P	Pn	13 10 53.4	+0.9
ANBD				*e*S	Sn	13 11 17.1	-0.2
SVB	**Belmont**	**2.14**	**183**	*e*P	Pn	13 10 57.9	+0.5
SVB				*e*S	Sn	13 11 25.6	-0.3
SVT	**Saint Vincent**	**2.24**	**182**	*e*P	Pn	13 10 59.2	+0.7
SVT				*e*S	Sn	13 11 29.4	+1.5
BBGH	**Gun Hill**	**2.74**	**145**	*e*P	Pn	13 11 06.5	+1.8
BBGH				*e*S	Sn	13 11 39.7	+0.8
GCMP	**Grenada, Carri**	**2.93**	**185**	*e*P	Pn	13 11 07.6	+0.5
GCMP				*e*S	Sn	13 11 43.8	+0.7
GRGR	**Grenville**	**3.30**	**189**	*e*P	Pn	13 11 11.7	-0.1
GRFF	**Grenada Fort F**	**3.40**	**190**	*e*P	Pn	13 11 15.2	+2.2

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*IDC **27** 13:18:49.0±3.8, 47°.22N×146°.96E, h0km, mb3.4/3, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=94.9km s-min=34.7km az=152.0*
*SKHL **27** 13:19:02.6±0.5, 45°.20N×147°.90E, h153km±2km, mb4.1/2, msha4.9/2*
*JMA **27** 13:19:02.1±0.5, 45°N±3°×14°8E±°, h175km, MV3.4/17, NEAR ETOROFU ISLAND*
ISC 27 13:18:59.6±1.3, 45°.3N±0°.1×148°.2E±0°.1, h173km±9km, n18, σ1§76/25, mb3.0/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.25**	**258**	*e*P	**Pn**	**13 19 22.7**	**-0.1**
KUR				AMB	AMB	13 19 23.4	
	140nm,0.5s						
KUR				*i* S	**Sn**	**13 19 39.4**	**-1.1**
KUR				A	A	13 19 41.4	
	170nm,0.5s						
KUR				A	A	13 19 41.4	
	100nm,0.5s						
SHO	**Shikotan**	**1.72**	**215**	*e*P	**Pn**	**13 19 34.9**	**+1.6**
SHO				AMB	AMB	13 19 42.1	
	50nm,0.3s						
SHO				*e*S	**Sn**	**13 19 59.0**	**-0.2**
SHO				A	A	13 20 01.3	
	200nm,0.4s						
SHO				A	A	13 20 01.3	
	180nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.09**	**234**	*e*P	**Pn**	**13 19 37.1**	**-0.1**
YUK				AMB	AMB	13 19 42.6	
	50nm,0.6s						
YUK				*e*S	**Sn**	**13 20 04.6**	**-1.7**
YUK				A	A	13 20 09.4	
	160nm,0.5s						
YUK				A	A	13 20 09.4	
	220nm,0.5s						
NEM2	**Nemuro 2**	**2.61**	**224**	*e*P	**Pn**	**13 19 44.1**	**+0.8**
NEM2				*e*S	**Sn**	**13 20 16.9**	**-0.2**
NMR	**Nemuro--Hokkai**	**2.62**	**224**	*e*P	**Pn**	**13 19 44.1**	**+0.8**
NMR				*e*S	**Sn**	**13 20 16.1**	**-1.0**
JNK	**Nakash**	**3.02**	**237**	*e*P	**Pn**	**13 19 49.8**	**+1.6**
JKHN	**Kushirohamanak**	**3.11**	**226**	*e*P	**Pn**	**13 19 50.4**	**+1.2**
AKK	**Akkeshi**	**3.32**	**228**	*e*P	**Pn**	**13 19 53.1**	**+1.2**
AKK				*e*S	**Sn**	**13 20 31.5**	**-1.0**
JTKR	**Abashiri--Toko**	**3.34**	**248**	*e*P	**Pn**	**13 19 53.3**	**+1.2**
JTKR				*e*S	**Sn**	**13 20 34.1**	**+1.1**
JAK	**Akkeshi**	**3.41**	**229**	*e*P	**Pn**	**13 19 54.0**	**+1.0**
JAR	**Ashorobuto**	**3.76**	**240**	*e*P	**Pn**	**13 19 59.6**	**+2.2**
JCH	**Churui**	**4.40**	**234**	*e*P	**Pn**	**13 20 07.0**	**+1.4**
JCH				*e*S	**Sn**	**13 20 57.0**	**-0.2**
JNBK	**Urakawa-nobuka**	**4.96**	**235**	*e*P	**Pn**	**13 20 13.6**	**+0.7**
JOT	**Ohata**	**6.52**	**236**	*e*P	**Pn**	**13 20 32.5**	**-0.8**
JOT				*e*S	**Sn**	**13 21 41.1**	**-5.9**
KSRS	**Korea Array**	**17.09**	**250**	P	**Pn**	**13 22 49.6**	**+1.5**
	0.1nm,0.3s,baz=48,slow=12,SNR=5.6						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**39.80**	**37**	P	**P**	**13 26 14.9**	**-0.4**
	0.3nm,0.8s,baz=268,slow=8.0,SNR=2.9						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**44.56**	**297**	P	P	13 26 49.0	-5.0
	0.2nm,0.5s,baz=77,slow=6.5,SNR=3.5						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**63.85**	**333**	P	P	13 29 08.7	-4.3
	0.8nm,0.5s,baz=38,slow=9.2,SNR=8.5						
	0.8nm,0.5s						

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*TEH **27** 13:33:59.6, 34°.66N×46°.32E, h8km±31km, ML2.8*
*ISN **27** 13:34:00.0±1.3, 34°.66N×46°.26E, h18km±16km, ML3.0*
ISC 27 13:33:59.6±1.1, 34°.66N±0°.04×46°.31E±0°.04, h8km±10km, n12, σ0§44/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.07**	**58**	Pg	**Pg**	**13 34 01.9**	**+0.1**
IGHG	**Ghaleghazi**	**0.39**	**147**	Pg	**Pg**	**13 34 07.7**	**+0.3**
ILIN	**Lien**	**0.59**	**64**	Pg	**Pg**	**13 34 11.2**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.61**	**256**	Pg	**Pb**	**13 34 12.0**	**-0.6**
GLG1	**Gilan-e-Gharb**	**0.64**	**211**	Pg	**Pg**	**13 34 12.2**	**+0.3**
KCHF	**Cheshme Sefid,**	**0.71**	**122**	Pg	**Pg**	**13 34 12.9**	**-0.5**
ILBA	**Ilam Banvizeh**	**1.04**	**185**	Pg	**Pb**	**13 34 19.3**	**-0.5**
SNQR	**Sonqor, Kerman**	**1.10**	**79**	Pg	**Pb**	**13 34 20.7**	**-0.3**
IBZA	**Bozab**	**1.29**	**98**	Pg	**Pn**	**13 34 24.1**	**0.0**
IBDR	**Badra**	**1.58**	**192**	*e*Pg	**Pn**	**13 34 28.0**	**+0.2**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**13 34 50.0**	**-0.3**
IKFM	**Kafar-mosalman**	**1.71**	**131**	Pg	**Pb**	**13 34 31.8**	**+0.7**
IKRK	**Kirkuk**	**1.78**	**295**	*e*Pn	**Pn**	**13 34 31.0**	**+0.4**
IKRK				*e*Sn	**Sb**	**13 34 55.0**	**+0.2**
IKRK				AML	AML	13 35 00.7	
	comp=N,272nm,0.5s						
IKRK				AML	AML	13 35 04.6	
	comp=E,161nm,0.2s						

IDC 27 13:38:01.9±4.8, 20°.56S×176°.28W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=173.1km s-min=94.7km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.21**	**245**	P	P	13 45 31.4	-0.7
	1.1nm,0.4s,baz=90,slow=6.1,SNR=3.9						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**46.07**	**257**	P	P	13 46 28.1	+0.1
	1.3nm,0.9s,baz=93,slow=8.3,SNR=13						
ASAR				PcP	PcP	13 48 04.2	-0.4
	0.3nm,0.9s,baz=98,slow=3.4,SNR=5.4						
	1.3nm,0.9s						
WRA	**Warramunga Arr**	**46.19**	**262**	P	P	13 46 29.0	+0.1
	0.4nm,0.4s,baz=96,slow=8.2,SNR=15						
	0.4nm,0.4s						

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*IDC **27** 13:48:56.7±13.0, 36°.59N×71°.85E, h134km±126km, mb3.0/3, mbtmp3.7/6, ML3.7/3, Error ellipse: s-maj=79.6km s-min=32.7km az=15.0*
*NNC **27** 13:49:15.5±10.0, 37°.88N×72°.07E, h256km±135km, mb2.6, mpv3.9, Error ellipse: s-maj=115.1km s-min=59.7km az=2.0*
ISC 27 13:48:59.1±1.2, 36°.7N±0°.1×71°.8E±0°.1, h150km, n18, σ2§99/20, mb3.4/3, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.61**	**15**	P	**Pn**	**13 50 24.7**	**+3.8**
	SNR=286						
UCH	**Uchtor**	**5.90**	**20**	P	**Pn**	**13 50 28.6**	**+3.7**
	SNR=19						
EKS2	**Erkin-Say**	**6.14**	**14**	P	**Pn**	**13 50 31.3**	**+3.6**
	SNR=16						
AAK	**Ala-Archa**	**6.28**	**19**	P	**Pn**	**13 50 33.4**	**+3.8**
	SNR=8.9						
AAK	**Ala-Archa**	**6.28**	**19**	⇓P	**Pn**	**13 50 33.2**	**+3.6**
	12nm,0.5s						
AAK				⇑S	**Sn**	**13 51 38.5**	**-1.9**
	72nm,0.8s						
KK31	**Karatay Array**	**6.45**	**352**	⇑P	**Pn**	**13 50 35.3**	**+3.5**
	1.4nm,0.2s,baz=173,slow=13,SNR=27						
KK31				⇑S	**Sn**	**13 51 40.0**	**-4.2**
	10nm,0.3s,baz=168,slow=23,SNR=21						
ULHL	**Ulahol**	**6.52**	**31**	P	**Pn**	**13 50 36.1**	**+3.2**
	SNR=12						
CHMS	**Chumysh**	**6.68**	**19**	P	**Pn**	**13 50 38.4**	**+3.5**
	SNR=8.6						
TKM2	**Tokmak 2**	**6.86**	**24**	P	**Pn**	**13 50 40.7**	**+3.2**
	SNR=21						
TKM2	**Tokmak 2**	**6.86**	**24**	⇓P	**Pn**	**13 50 40.3**	**+2.8**
	17nm,0.5s						
TKM2				⇑S	Sn	13 51 44.0	-11
	6.1nm,0.6s						
MKAR	**Makanchi Array**	**12.76**	**35**	P	**Pn**	**13 51 55.0**	**-0.2**
	0.3nm,0.3s,baz=226,slow=13,SNR=15						
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**14.73**	**17**	P	**Pn**	**13 52 19.0**	**-1.0**
	0.2nm,0.3s,baz=204,slow=11,SNR=9.1						
	1.4nm,0.2s						
AB31	**Akbulak array**	**15.19**	**329**	⇑P	**P**	**13 52 27.9**	**+0.6**
	0.4nm,0.4s,baz=140,slow=11,SNR=10.0						
BVA0	**Borovoye Array**	**16.33**	**357**	⇓P	**Pn**	**13 52 38.0**	**-1.7**
	0.8nm,0.3s,baz=167,slow=7.0,SNR=10.0						
ZALV	**Zalesovo Beam**	**19.47**	**24**	P	**P**	**13 53 13.2**	**-0.9**
	2.0nm,0.3s,baz=222,slow=11,SNR=32						
	6.0nm,0.4s						
ESDC	**Sonseca Array**	**57.89**	**298**	P	**P**	**13 58 36.4**	**+1.0**
	0.3nm,0.6s,baz=47,slow=6.5,SNR=4.2						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**66.33**	**269**	P	**P**	**13 59 30.7**	**-1.2**
	0.3nm,0.6s,baz=34,slow=6.3,SNR=2.8						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**81.59**	**122**	P	**P**	**14 00 59.3**	**-1.1**
	0.1nm,0.7s,baz=327,slow=5.0,SNR=1.4						
	0.1nm,0.7s						

IDC 27 13:56:55.4±66.0, 19°.80S×178°.96W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=1206.0km s-min=168.3km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.29**	**243**	P	P	14 04 08.5	-0.8
	1.8nm,0.8s,baz=90,slow=9.1,SNR=3.4						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**43.81**	**256**	P	P	14 05 03.8	+0.4
	0.7nm,0.9s,baz=96,slow=8.6,SNR=6.8						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**43.81**	**262**	P	P	14 05 03.4	0.0
	0.3nm,0.8s,baz=95,slow=7.5,SNR=6.4						
	0.3nm,0.8s						

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*RSNC **27** 13:59:16.9±0.6, 1°S±8°×8°1W±1°1, h0km, M3.5, mb4.0, mB4.7, ML2.9, Mw(mB)3.9*
*IGQ **27** 13:59:18.3±0.2, 1°S±2°×8°0W±°, h3km, M4.0/32*
ISC 27 13:59:16.3±1.1, 1°.24S±0°.03×80°.49W±0°.03, h10km±9km, n76, σ1§20/83, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APO2	**Ecuador-Portov**	**0.18**	**11**	P	**Sg**	**13 59 25.7**	**+3.0**
PPLP	**Puerto Lpez**	**0.41**	**223**	P	**Pb**	**13 59 26.0**	**+0.2**
PPLP				S	**Sb**	**13 59 32.3**	**+0.2**
PPLP	**Puerto Lpez**	**0.41**	**223**	P	**Pb**	**13 59 25.1**	**-0.7**
PPLP	**Puerto Lpez**	**0.41**	**223**	P	**Pb**	**13 59 26.1**	**+0.3**
PPLP				S	**Sb**	**13 59 32.4**	**+0.2**
PECV	**Mancha de Ca P**	**0.64**	**44**	P	**Pb**	**13 59 29.4**	**-0.2**
AGUAY	**Guayaquil**	**0.97**	**146**	P	**Pg**	**13 59 34.3**	**-0.8**
JAMA	**Jama**	**1.01**	**16**	P	**Pn**	**13 59 36.9**	**+0.2**
AQUE	**Quevedo**	**1.02**	**79**	P	**Pn**	**13 59 37.1**	**+0.5**
AQUE				S	**Sn**	**13 59 51.8**	**+0.7**
SALI	**Salinas**	**1.06**	**208**	P	**Pg**	**13 59 35.7**	**-1.1**
SALI				S	**Sg**	**13 59 49.6**	**-1.1**
FLF1	**Flavio Alfaro-**	**1.09**	**36**

*IDC **27** 14:12:44.2±2.9, 22°.75N×11°.99W, h0km, mb3.9/4, mbtmp3.8/7, ML4.0/3, MS3.3/2, Error ellipse: s-maj=100.2km s-min=27.4km az=83.0*
ISC 27 14:12:44.7±2.2, 22.7N±0.2×12.1W±0.4, h10km, n11, σ0s65/9, mb3.9/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.16**	**124**	Pn	**Pn**	**14 16 32.1**	**0.0**
	0.4nm,0.3s,baz=315,slow=12,SNR=13						
	1.0nm,0.6s						
DBIC	**Dimbokro**	**17.37**	**155**	P	**Pn**	**14 16 46.8**	**-0.5**
	0.3nm,0.3s,baz=337,slow=11,SNR=2.6						
	2.6nm,0.8s						
ESDC	**Sonseca Array**	**18.30**	**20**	P	**Pn**	**14 16 58.2**	**-0.6**
	0.1nm,0.3s,baz=206,slow=11,SNR=2.5						
	0.2nm,0.4s						
I42PT	**GRACIOSA ISLAN**	**21.23**	**324**	I	I	16 19 25.0	
	baz=141,slow=324,SNR=3.7						
HFS	**Hagfors**	**41.58**	**19**	P	**P**	**14 20 31.9**	**-0.5**
	1.4nm,0.5s,baz=200,slow=7.9,SNR=12						
	1.4nm,0.5s						
FINES	**FINESS Array B**	**46.76**	**24**	P	**P**	**14 21 13.6**	**-0.3**
	0.9nm,0.5s,baz=224,slow=5.3,SNR=8.4						
FINES				LR	LR	14 43 58.5	
	comp=Z,30nm,18.4s,baz=314,slow=40						
	0.9nm,0.5s						
SCHQ	**Schefferville**	**51.61**	**323**	LR	LR	14 39 49.0	
	comp=Z,26nm,18.8s,baz=242,slow=32						
KURBB	**Kurchatov Arra**	**73.20**	**42**	P	**P**	**14 24 16.4**	**+0.7**
	0.5nm,0.4s,baz=283,slow=6.0,SNR=2.9						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**76.70**	**45**	P	**P**	**14 24 37.1**	**+1.0**
	0.4nm,0.5s,baz=286,slow=5.7,SNR=9.1						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**148.64**	**91**	PKPbc	**PKPbc**	**14 32 33.1**	**+0.3**
	0.4nm,0.7s,baz=291,slow=2.6,SNR=8.3						
ASAR	**Alice Springs**	**148.76**	**99**	PKPbc	**PKiKP**	**14 32 34.5**	**0.0**
	0.7nm,0.7s,baz=280,slow=2.0,SNR=7.8						

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*IDC **27** 14:25:19.9±3.0, 48°.70N×77°.32E, h0km, mbtmp2.9/2, ML2.2/2, Error ellipse: s-maj=34.0km s-min=10.7km az=74.0*
*NNC **27** 14:25:19.8±2.1, 48°.72N×77°.39E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=22.4km s-min=5.2km az=75.0, Suspected Mining explosion.*
ISC 27 14:25:18.1±4.0, 48.7N±0.1×77.1E±0.3, h0km, n8, σ1s50/11, 3C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.16**	**25**	Pg	**Pb**	**14 25 57.9**	**-0.1**
	0.7nm,0.3s,baz=200,slow=16,SNR=41						
KURBB				Lg	Lg	14 26 24.4	
	0.5nm,0.3s,baz=200,slow=27,SNR=13						
KURBB	**Kurchatov Arra**	**2.16**	**25**	⇓Pg	**Pb**	**14 25 57.3**	**-0.7**
	11nm,0.5s						
KURBB				⇑Lg	Lg	14 26 25.0	
	16nm,0.6s						
KURK	**Kurchatov**	**2.27**	**25**	⇓Pg	**Pb**	**14 25 58.9**	**-0.9**
	13nm,0.8s						
KURK				⇑Lg	Lg	14 26 27.2	
	17nm,0.8s						
MAKZ	**Makanchi**	**3.77**	**118**	⇓Pn	**Pn**	**14 26 17.0**	**-0.5**
	1.6nm,0.7s						
MAKZ				⇓Sn	**Sn**	**14 27 01.7**	**-0.9**
	2.7nm,0.7s						
MK31	**Makanchi Array**	**3.96**	**116**	⇑Pn	**Pn**	**14 26 19.7**	**-0.5**
	1.2nm,0.7s,baz=301,slow=12,SNR=14						
MK31				⇓Sn	**Sn**	**14 27 09.3**	**+1.9**
	4.3nm,0.7s,baz=317,slow=30,SNR=4.5						
MKAR	**Makanchi Array**	**3.96**	**116**	Pn	**Pn**	**14 26 20.2**	**0.0**
	0.2nm,0.3s,baz=302,slow=13,SNR=17						
MKAR				Sn	**Sn**	**14 27 08.7**	**+1.3**
	0.6nm,0.3s,baz=301,slow=22,SNR=12						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**7.15**	**40**	Pn	**Pn**	**14 27 06.2**	**+2.4**
	0.2nm,0.3s,baz=225,slow=14,SNR=2.3						
ZALV				Sn	**Sn**	**14 28 23.6**	**-2.1**
	0.2nm,0.3s,baz=226,slow=24,SNR=3.4						
	0.7nm,0.5s						
I31KZ	**AKTYUBINSK INF**	**12.52**	**285**	I	I	15 40 00.0	
	baz=92,slow=312,SNR=2.0						

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*LSZ **27** 14:47:52.8±0.3, 11°.90S×34°.44E, h10km, MD3.4*
*PRE **27** 14:48:12.1±0.5, 12°.88S×33°.48E, h10km, ML3.0*
ISC 27 14:48:21.5±2.1, 13.45S±0.08×33.3E±0.2, h10km, n5, σ0s80/9, Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMZ	**Kasama**	**3.85**	**328**	*i* S	**Pb**	**14 49 29.9**	**+0.2**
KRI	**Karoi**	**4.91**	**226**	*e*P	**Pn**	**14 49 34.5**	**-1.1**
KRI				*e*S	**Sn**	**14 50 33.8**	**+1.3**
MPHEP	**Siloam, Limpop**	**9.87**	**197**	*e*P	**Pn**	**14 50 43.0**	**-0.6**
MPHEP				*e*S	**Sn**	**14 52 34.7**	**+0.2**
MPHEP				IAML		14 53 53.1	
	comp=Z,6.1nm,0.7s						
MOPA	**Mopani**	**10.18**	**190**	*e*P	**Pn**	**14 50 48.0**	**+0.2**
MOPA				*e*S	**Sn**	**14 52 42.3**	**+0.3**
MOPA				IAML		14 54 22.0	
	comp=Z,6.5nm,0.5s						
CRAIL	**Swartwater, Li**	**10.47**	**207**	*e*P	**Pn**	**14 50 52.2**	**+0.3**
CRAIL				*e*S	**Sn**	**14 52 48.8**	**-0.7**

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*LDG **27** 15:17:56.9±0.5, 50°.35N×7°.31E, h10km, Ml3.1/18, Error ellipse: s-maj=7.2km s-min=3.8km az=49.0*
*BNS **27** 15:17:57.4±0.5, 50°.38N×7°.38E, h3km±11km, ML2.2*
*BUG **27** 15:17:57.2, 50°.38N×7°.34E, h4km±3km, MD2.9/6, ML3.0/6*
*PRU **27** 15:17:58.2, 50°.58N×7°.47E, h1km*
*STR **27** 15:18:00.8±0.9, 50°.N±6°×°±°, h5km, MLv2.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=31.6, preliminary*
BGR 27 15:17:57.0±0.2, 50.38N×7.40E, h10km, ML2.3/5, 5C-10D, Error ellipse: s-maj=3.3km s-min=3.3km az=110.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHT	**Ochtendung**	**0.05**	**214**	⇑Pg	Pg	15 17 59.4	+0.4
OCHT				*e*Sg	Sg	15 18 00.7	+0.3
BHE	**Schloss Buerre**	**0.14**	**260**	⇓Pg	Pg	15 18 00.6	+0.3
BHE				*e*Sg	Sg	15 18 02.5	0.0
	1μm,0.1s						
BHE	**Schloss Buerre**	**0.14**	**260**	*e*Pg	Sg	15 18 02.8	+0.3
BGG	**Burgeitz**	**0.18**	**193**	⇑*i*Pg	Pg	15 18 01.1	+0.3
LAGB	**Langenfeld Gru**	**0.19**	**265**	⇓Pg	Pg	15 18 01.3	+0.2
LAGB				Sg	Sg	15 18 05.9	+2.0
KOE	**Koeppel**	**0.22**	**77**	⇓*i*Pg	Pg	15 18 02.2	+0.6
KOE				*e*Sg	Sg	15 18 05.3	+0.6
	462nm,0.2s						
AHRW	**Bad Neuenahr-A**	**0.26**	**308**	⇓Pg	Pg	15 18 02.7	+0.3
AHRW				*e*Sg	Sg	15 18 06.3	+0.3
NAST	**IGS Nastaetten**	**0.35**	**122**	⇓*e*Pg	Pg	15 18 04.5	+0.5
TDN	**Todenfeld**	**0.35**	**304**	Pg	Pb	15 18 04.8	-0.6
FSH	**Hochheid**	**0.35**	**212**	⇑Pg	Pg	15 18 03.9	-0.2
FACH	**Fachingen**	**0.38**	**93**	⇓Pg	Pg	15 18 05.0	+0.4
FACH				Sg	Sb	15 18 11.9	+0.1
GWBD	**Espenschied/He**	**0.42**	**129**	⇓Pg	Pg	15 18 05.6	+0.3
GWBD				Sg	Sb	15 18 12.9	0.0
WBS	**Wahnbachtalspe**	**0.43**	**350**	⇓*e*Pg	Pg	15 18 06.0	+0.5
WBS				*e*Sg	Sg	15 18 11.4	+0.1
	280nm,0.3s						
BIW	**Bindweide**	**0.45**	**38**	⇑Pg	Pg	15 18 05.7	-0.2
HILG	**Hillesheim**	**0.47**	**260**	⇓*e*Pg	Pg	15 18 06.1	-0.1
ABH	**Alteburg**	**0.51**	**169**	Pg	Pg	15 18 07.2	+0.3
ABH				Sg	Sg	15 18 13.1	-0.5
ABH	**Alteburg**	**0.51**	**169**	Pg	Pg	15 18 07.2	+0.3
ABH				*e*Sg	Sg	15 18 13.1	-0.5
GWBC	**Aumenau**	**0.56**	**88**	Pg	Pg	15 18 08.3	+0.5
GWBO	**Ockenheim**	**0.58**	**139**	Pg	Pb	15 18 09.3	0.0
GWBO				Sg	Sb	15 18 18.7	+1.1
LOH	**Wallersheim-Lo**	**0.59**	**251**	Pg	Pg	15 18 08.2	-0.2
LOH				*e*Sg	Sg	15 18 16.4	+0.2
	111nm,0.2s						
BNS	**Bensberg**	**0.60**	**346**	⇓*e*Pg	Pg	15 18 09.2	+0.4
HOBG	**Hohbusch**	**0.61**	**356**	⇑*e*Pg	Pg	15 18 09.1	+0.3
OLFT	**Oleftalsperre**	**0.64**	**281**	*e*Pg	Pg	15 18 09.2	-0.1
OLFT				*e*Sg	Sg	15 18 17.9	+0.2
WBFO	**Grube Fortuna**	**0.68**	**73**	Pg	Pg	15 18 10.5	+0.3
WBFO				Sg	Sb	15 18 20.8	+0.3
TNS	**Taunus Mts**	**0.69**	**103**	Pg	Pg	15 18 10.5	+0.1
PLH	**Pulheim**	**0.73**	**330**	*e*Pg	Pb	15 18 11.5	-0.3
PLH				*e*Sg	Sg	15 18 20.6	0.0
GSH	**Grosshau**	**0.74**	**299**	Pg	Pg	15 18 11.5	+0.1
GSH				Sg	Sb	15 18 22.1	-0.2
BODE	**Bodenheim**	**0.74**	**129**	Pg	Pg	15 18 11.6	+0.3
KLL	**Kalltalsperre**	**0.74**	**292**	*e*Pg	Pg	15 18 11.0	-0.4
RIVT	**Riveris**	**0.79**	**212**	Pg	Pg	15 18 11.2	-1.0
DREG	**Dreilaegerbach**	**0.80**	**291**	*e*Pg	Pg	15 18 12.2	-0.2
IMS	**Imsbach**	**0.85**	**157**	Pg	Pb	15 18 13.7	-0.2
IMS				Sg	Sb	15 18 26.0	+0.7
ENTS	**Ennepetalsperr**	**0.86**	**0**	*e*Pg	Pg	15 18 13.6	-0.1
MEM	**Membach**	**0.92**	**285**	Pg	Pg	15 18 14.3	-0.4
WBB	**Darmstadt**	**0.97**	**123**	Pg	Pb	15 18 16.0	0.0
EBSD	**Ebsdorfer Grun**	**0.99**	**70**	Pg	Pb	15 18 16.3	0.0
HGN	**Heimansgroeve**	**1.01**	**293**	Pg	Pg	15 18 16.2	-0.3
HGN				Sg	Sb	15 18 29.9	-0.1
HES	**Velbert-Hesper**	**1.02**	**347**	Pg	Pg	15 18 16.5	-0.1
HES				*e*Sg	Sg	15 18 29.5	-0.3
	44nm,0.4s						
LAUG	**Laupendahl**	**1.02**	**344**	*e*Pg	Pg	15 18 16.5	-0.1
SORT	**Sorpetalsperre**	**1.04**	**20**	*e*Pg	Pg	15 18 16.7	-0.3
SORT				*e*Sg	Sg	15 18 30.4	-0.1
	28nm,0.2s						
KASTN	**Kahler Asten**	**1.05**	**38**	*e*Pg	Pg	15 18 16.4	-0.8
BKLB	**Ruhr-Universit**	**1.07**	**356**	Pg	Pg	15 18 17.3	-0.2
BUG	**Bochum--Univer**	**1.07**	**356**	*e*Pg	Pg	15 18 17.3	-0.3
BUG				Sg	Sb	15 18 31.6	0.0
BTEZ	**Ruhr-Universit**	**1.07**	**356**	Pg	Pg	15 18 17.6	-0.2
WLF	**Walferdange**	**1.07**	**229**	Sg	Sg	15 18 28.5	-3.1
WLF	**Walferdange**	**1.07**	**229**	Pg	Pg	15 18 16.1	-1.6
WLF	**Walferdange**	**1.07**	**229**	P*	Pg	15 18 15.9	-1.8
WLF				*e*Pg	Pb	15 18 16.8	-0.9
WLF				*e*Sg	Sg	15 18 31.6	0.0
BULI	**Ruhr-Universit**	**1.08**	**355**	Pg	Pg	15 18 17.6	-0.2
BULI				Sg	Sb	15 18 32.1	+0.1
KTD	**Kalmit**	**1.15**	**157**	Sg	Sb	15 18 33.9	-0.1
KTD	**Kalmit**	**1.15**	**157**	Pg	Pn	15 18 19.7	+0.5
WBA	**Furth**	**1.17**	**128**	Pg	Pb	15 18 18.5	-0.8
GWBF	**Romrod**	**1.19**	**72**	Pg	Pg	15 18 20.1	+0.3
WBG	**Bieber**	**1.27**	**99**	Pn	Pg	15 18 21.2	-0.1
BZER	**Hlnxe**	**1.29**	**345**	Pg	Pg	15 18 21.6	-0.2
BZER				Sg	Sg	15 18 39.5	+1.0
MILB	**Miltenberg**	**1.34**	**114**	*e*Pn	Pn	15 18 21.3	-0.4
MILB				*e*Pg	Pg	15 18 22.5	-0.2
LEMB	**Lembach**	**1.37**	**170**	Pg	Pn	15 18 22.3	+0.2
LEMB				Sg	Sb	15 18 39.6	-0.5
BAVN	**Auguste-Victor**	**1.37**	**353**	Pg	Pg	15 18 24.8	+1.4
BAVN				Sg	Sn	15 18 40.6	+0.2
RCHB	**Rochefort**	**1.41**	**262**	Pn	Pb	15 18 23.2	-0.2
VOEL	**Voellerdingen**	**1.42**	**187**	Pg	Pn	15 18 23.3	+0.3
FLIN	**Helmstadt-Barg**	**1.50**	**135**	Pn	Pg	15 18 25.5	-0.2
NEEW	**Neewiller pres**	**1.50**	**162**	Pg	Pg	15 18 25.7	0.0
NEEW				Sg	Sg	15 18 44.6	-0.5
CIEL	**Dossenheim-sur**	**1.55**	**181**	Pg	Pb	15 18 25.3	-0.4
GIVF	**Givet**	**1.68**	**262**	*e*Pg	Pn	15 18 27.2	+0.8
GIVF				*e*Sg	Sn	15 18 47.6	-0.4
	68nm,0.2s						
UBBA	**Unterbreizbach**	**1.72**	**74**	Sn	Sg	15 18 51.4	-0.8
HOHE	**HOHENGOEFT**	**1.72**	**178**	Pg	Pg	15 18 29.9	-0.1
HOHE				Sn	Sb	15 18 50.0	-0.4
BABA	**Baden-Baden-Ne**	**1.74**	**162**	Pg	Pg	15 18 31.6	+1.2
BABA	**Baden-Baden-Ne**	**1.74**	**162**	Pn	Pb	15 18 29.2	+0.2
BABA	**Baden-Baden-Ne**	**1.74**	**162**	Sn	Sb	15 18 51.2	+0.3
SIND	**Sindeldorf**	**1.76**	**125**	Pn	Pb	15 18 30.0	+0.6
HROE	**Hohe Rhon--Fla**	**1.77**	**84**	*e*Pg	Pg	15 18 30.6	-0.4
DOU	**Dourbes**	**1.82**	**262**	Pn	Pb	15 18 29.4	-1.0
DOU				Sn	Sb	15 18 54.1	+0.8
MANO	**Manonville**	**1.82**	**212**	Pg	Pb	15 18 30.9	+0.4
IBBE	**Ibbenbueren Ea**	**1.94**	**7**	Pn	Pg	15 18 33.5	-0.7
IBBN	**Ibbenburen**	**1.94**	**6**	Pn	Pg	15 18 34.1	-0.3
OPP	**Oppenau**	**1.95**	**164**	Pn	Pn	15 18 30.4	+0.2
WLS	**Welschbruch**	**1.97**	**181**	Pn	Pn	15 18 30.9	+0.4
WLS	**Welschbruch**	**1.97**	**181**	Pn	Pb	15 18 32.7	-0.2
CDF	**Champ du Feu**	**1.97**	**182**	*e*Pg	Pb	15 18 32.7	-0.3
CDF				*e*Sg	Sb	15 18 57.2	-0.4
	17nm,0.2s						
GTTG	**Gottingen**	**2.00**	**53**	*e*Pg	Pg	15 18 34.4	-0.9
BAIF	**Baives**	**2.08**	**262**	*e*Pg	Pn	15 18 33.3	+1.4
BAIF				*e*Sg	Sn	15 18 58.5	+0.7
	38nm,0.2s						
PAGF	**Fort de Pagny**	**2.13**	**212**	*e*Pg	Pb	15 18 34.9	-0.8
PAGF				*e*Sn	Sn	15 18 55.6	-3.5
PAGF				*e*Sg	Sb	15 19 02.6	+0.5
	16nm,0.2s						
BFO	**Black Forest**	**2.14**	**163**	*e*Pg	Pg	15 18 37.5	-0.5
ECH	**Echery**	**2.17**	**184**	Pn	Pn	15 18 33.8	+0.6
ECH	**Echery**	**2.17**	**184**	*e*Pg	Pb	15 18 36.9	+0.5
SAVF	**Savonnieres en**	**2.31**	**221**	*e*Pg	Pb	15 18 39.4	+0.7
SAVF				*e*Sg	Sb	15 19 08.1	+0.9
	18nm,0.2s						
MEZF	**Maizieres J'vi**	**2.42**	**220**	*e*Pg	Pb	15 18 39.5	-1.2
MEZF				*e*Sg	Sb	15 19 12.0	+1.4
	14nm,0.3s						
KIZ	**Kirchzarten**	**2.45**	**172**	Pn	Pn	15 18 38.6	+1.5
HAU	**Haudompre**	**2.47**	**197**	*e*Pg	Pb	15 18 41.3	-0.3
HAU				*e*Sn	Sn	15 19 04.3	-3.4
HAU				*e*Sg	Sb	15 19 13.6	+1.5
	23nm,0.3s						
CHRS	**Christianenhau**	**2.49**	**59**	*e*Pg	Pb	15 18 43.2	+1.4
HINF	**Hinteralfeld**	**2.59**	**188**	*e*Pg	Pb	15 18 43.9	+0.3
HINF				*e*Sg	Sb	15 19 16.4	+1.0
	12nm,0.2s						
SFTF	**Sexfontaines**	**2.67**	**216**	*e*Pg	Pb	15 18 44.2	-0.7
SFTF				*e*Sg	Sb	15 19 19.3	+1.6
	12nm,0.2s						
CLL	**Collm**	**3.67**	**73**	*e*Sg	Sg	15 19 54.0	-0.9
	comp=Z,9.0nm,0.6s						
HSKC	**Hora Svate Kat**	**3.86**	**84**	*e*SG	Sg	15 19 59.4	-1.5
	comp=Z,14nm,1.0s						
CABF	**La Chapelle**	**3.87**	**194**	*e*Pn	Pn	15 18 55.1	-1.6
CABF	**La Chapelle**	**3.87**	**194**	*e*Pg	Pb	15 19 07.3	+1.9
CABF				*e*Sn	Sn	15 19 37.3	-4.9
CABF				*e*Sg	Sg	15 19 57.3	-3.9
	comp=Z,3.8nm,0.3s						
LOR	**Lormes**	**3.89**	**218**	*e*Pn	Pn	15 18 54.3	-2.6
LOR	**Lormes**	**3.89**	**218**	*e*Pg	Pb	15 19 07.1	+1.3
LOR				*e*Sn	Sn	15 19 37.7	-5.0
LOR				*e*Sg	Sb	15 19 57.3	+4.4
	comp=Z,11nm,0.3s						
MOTA	**Moosalm**	**3.90**	**140**	*i* Pn	Pn	15 18 57.6	+0.5
	comp=Z,0.3nm,0.2s						
MOTA				*e*Sn	Sn	15 19 40.6	-2.4
	comp=Z,0.7nm,0.2s						
MOTA				*i* Sg	Sg	15 20 03.9	+1.7
	comp=Z,1.8nm,0.2s						
FETA	**Feichten**	**4.02**	**145**	*e*Pn	Pn	15 18 59.6	+0.8
	comp=Z,0.4nm,0.2s						
FETA				*i* Sn	Sn	15 19 45.8	-0.2
	comp=Z,0.3nm,0.2s						
FETA				*e*Sg	Sg	15 20 09.2	+3.2
	comp=Z,0.6nm,0.3s						
WATA	**Walderalm**	**4.11**	**136**	*i* Pn	Pn	15 19 00.8	+0.9
	comp=Z,1.8nm,0.3s						
WATA				*i* Sn	Sn	15 19 47.9	-0.3
	comp=Z,1.4nm,0.2s						
WTTA	**Wattenberg**	**4.19**	**136**	*i* Pn	Pn	15 19 03.0	+1.8
	comp=Z,0.4nm,0.1s						
KHC	**Kasperske Hory**	**4.20**	**105**	*e*PN	Pn	15 19 04.1	+3.0
KHC				*e*SN	Sn	15 19 51.8	+1.6
KHC				*e*SG	Sg	15 20 11.4	-0.3
	comp=Z,6.3nm,1.0s						
SSF	**Saint Saulge**	**4.20**	**219**	*e*Pn	Pn	15 18 57.2	-3.9
SSF	**Saint Saulge**	**4.20**	**219**	*e*Pg	Pb	15 19 12.4	+1.4
SSF				*e*Sn	Sn	15 19 44.8	-5.5
SSF				*e*Sg	Sg	15 20 07.1	-4.8
	comp=Z,5.2nm,0.3s						
SMF	**Signal de Mont**	**4.42**	**214**	*e*Pn	Pn	15 19 01.6	-2.6
SMF	**Signal de Mont**	**4.42**	**214**	*e*Pg	Pb	15 19 16.4	+1.6
SMF				*e*Sn	Sn	15 19 50.6	-5.1
SMF				*e*Sg	Sg	15 20 14.2	-4.7
	comp=Z,5.8nm,0.3s						
AVF	**Avril sur Loir**	**4.48**	**218**	*e*Pn	Pn	15 19 03.5	-1.5
AVF	**Avril sur Loir**	**4.48**	**218**	*e*Pg	Pb	15 19 17.2	+1.4
AVF				*e*Sn	Sn	15 19 51.5	-5.7
AVF				*e*Sg	Sb	15 20 15.1	+5.2
	comp=Z,1.4nm,0.2s						
LESA	**Schwarzleotal**	**4.57**	**128**	*i* Pn	Pn	15 19 07.4	+1.2
	comp=Z,0.6nm,0.1s						
LESA				*i* Sn	Sn	15 19 58.5	-0.9
	comp=Z,2.9nm,0.3s						
BGF	**Bois d'Agland**	**4.88**	**220**	*e*Sg	Sg	15 20 28.8	-4.7
	comp=Z,17nm,0.4s						
KBA	**Koelnbreinsper**	**5.14**	**128**	*i* Pn	Pn	15 19 16.1	+2.0
	comp=Z,1.2nm,0.2s						
KBA				*i* Sn	Sn	15 20 12.7	-0.8
	comp=Z,1.4nm,0.3s						
LDF	**La Druitiere**	**5.22**	**253**	*e*Sg	Sg	15 20 38.4	-6.0
	comp=Z,6.7nm,0.4s						
FLN	**La Foliniere**	**5.38**	**256**	*e*Sg	Sb	15 20 42.4	+6.9
	comp=Z,4.0nm,0.3s						

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*BNS **27** 15:17:59.7±0.7, 50°.38N×7°.39E, h3km±7km, ML2.4*
*STR **27** 15:18:02.9±1.8, 50°.N±10°×°±°, h5km, MLv2.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=13.5, preliminary*
BGR 27 15:17:59.1±0.2, 50.36N×7.40E, h10km, ML2.5/10, 1C-6D, Error ellipse: s-maj=2.2km s-min=2.2km az=117.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHT	**Ochtendung**	**0.04**	**230**	*e*Pg	Pg	15 18 01.2	+0.3
OCHT				Sg	Sg	15 18 02.9	+0.6
BHE	**Schloss Buerre**	**0.14**	**267**	Sg	Sg	15 18 04.7	+0.2
BGG	**Burgeitz**	**0.16**	**194**	⇑*i*Pg	Pg	15 18 03.3	+0.7
BGG				*e*Sg	Sg	15 18 06.2	+1.2
	2μm,0.1s						
KOE	**Koeppel**	**0.22**	**73**	⇓*i*Pg	Pg	15 18 04.4	+0.7
KOE				*e*Sg	Sg	15 18 07.4	+0.6
	969nm,0.3s						
AHRW	**Bad Neuenahr-A**	**0.27**	**311**	⇓Pg	Pg	15 18 04.9	+0.3
AHRW				*e*Sg	Sg	15 18 08.2	-0.2
NAST	**IGS Nastaetten**	**0.34**	**119**	⇓*e*Pg	Pb	15 18 06.8	-0.5
FSH	**Hochheid**	**0.34**	**213**	Pg	Pg	15 18 06.1	+0.3
BA10	**Klein Altendor**	**0.36**	**314**	*e*Pg	Pg	15 18 06.6	+0.3
TDN	**Todenfeld**	**0.36**	**307**	Pg	Pb	15 18 07.0	-0.6
FACH	**Fachingen**	**0.38**	**90**	⇓Pg	Pg	15 18 07.2	+0.6
GWBD	**Espenschied/He**	**0.41**	**127**	Pg	Pb	15 18 07.8	-0.6
WBS	**Wahnbachtalspe**	**0.45**	**351**	*e*Pg	Pg	15 18 07.7	-0.3
WBS				*e*Sg	Sg	15 18 13.5	-0.5
	491nm,0.3s						
BIW	**Bindweide**	**0.46**	**37**	Pg	Pg	15 18 08.0	-0.2
HILG	**Hillesheim**	**0.47**	**262**	⇓*e*Pg	Pg	15 18 08.3	+0.1
ABH	**Alteburg**	**0.49**	**169**	Pg	Pb	15 18 09.9	+0.1
ABH				Sg	Sg	15 18 15.7	+0.5
ABH	**Alteburg**	**0.49**	**169**	Pg	Pb	15 18 09.3	-0.6
LOH	**Wallersheim-Lo**	**0.58**	**252**	Pg	Pg	15 18 10.5	+0.1
LOH				*e*Sg	Sg	15 18 18.8	+0.8
BNS	**Bensberg**	**0.62**	**347**	*e*Pg	Pg	15 18 11.4	+0.2
HOBG	**Hohbusch**	**0.62**	**356**	*e*Pg	Pg	15 18 11.4	+0.1
OLFT	**Oleftalsperre**	**0.64**	**282**	*e*Pg	Pg	15 18 11.5	0.0
OLFT				*e*Sg	Sg	15 18 20.2	+0.3
TNS	**Taunus Mts**	**0.69**	**101**	Pg	Pg	15 18 12.7	+0.3
TNS				*e*Sg	Sg	15 18 21.5	+0.1
BODE	**Bodenheim**	**0.73**	**128**	*e*Pg	Pb	15 18 14.6	+0.6
BODE				*e*Sg	Sg	15 18 23.3	+0.5
PLH	**Pulheim**	**0.74**	**330**	*e*Sg	Sg	15 18 22.7	-0.4
GSH	**Grosshau**	**0.75**	**300**	*e*Pg	Pg	15 18 13.6	0.0
KLL	**Kalltalsperre**	**0.75**	**293**	*e*Pg	Pb	15 18 14.1	-0.2
RIVT	**Riveris**	**0.77**	**212**	*e*Pg	Pg	15 18 13.5	-0.5
RIVT				*e*Sg	Sg	15 18 24.1	0.0
DREG	**Dreilaegerbach**	**0.80**	**293**	*e*Pg	Pg	15 18 14.2	-0.4
IMS	**Imsbach**	**0.83**	**157**	Pg	Pb	15 18 15.9	+0.2
ENTS	**Ennepetalsperr**	**0.88**	**0**	*e*Pg	Pg	15 18 15.8	-0.3
MEM	**Membach**	**0.92**	**286**	Pg	Pg	15 18 16.5	-0.4
HES	**Velbert-Hesper**	**1.03**	**347**	*e*Pg	Pg	15 18 18.4	-0.6
HES				*e*Sg	Sg	15 18 31.7	-0.7
	107nm,0.3s						
LAUG	**Laupendahl**	**1.03**	**344**	*e*Pg	Pg	15 18 18.7	-0.2
SORT	**Sorpetalsperre**	**1.05**	**20**	*e*Pg	Pg	15 18 18.8	-0.6
SORT				*e*Sg	Sg	15 18 32.5	-0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**0.94**	**61**	P	**Pg**	**15 29 58.6**	**-0.6**
JMZ	**Minamidaito 2**	**0.94**	**61**	A	A	15 29 58.6	
	comp=E,8.0nm,5.0s,comp=N,10.0nm,2.7s						
JKDJ	**Kitadaitoujima**	**1.06**	**57**	P	**Pb**	**15 30 00.6**	**-1.4**
JKDJ				*e*S	**Sb**	**15 30 14.5**	**-1.6**
JKDJ	**Kitadaitoujima**	**1.06**	**57**	A	A	15 30 00.6	
	comp=E,6.0nm,2.9s,comp=N,6.0nm,5.0s						
JOW	**Kunigami**	**2.34**	**309**	Pn	Pn	15 30 20.4	+0.2
	comp=N,31nm,0.3s,baz=126,slow=17,SNR=116						
JOW				Sn	**Sn**	**15 30 47.8**	**-1.5**
	comp=N,34nm,0.3s,baz=270,slow=20,SNR=5.7						
	comp=N,64nm,0.3s						
JOW	**Kunigami**	**2.34**	**309**	P	Pn	15 30 20.4	+0.2
JYRO	**Yoronjima**	**2.35**	**315**	*i* P	Pn	15 30 20.7	+0.4
JYRO				*e*S	**Sn**	**15 30 47.5**	**-1.9**
JNTH	**Nagotoyohara**	**2.36**	**300**	*e*P	Pn	15 30 20.2	-0.2
JNTH				*e*S	**Sn**	**15 30 47.6**	**-2.1**
JJT3	**Tamagusuku3**	**2.41**	**289**	P	Pn	15 30 21.6	+0.5
JJT3				*e*S	**Sn**	**15 30 50.4**	**-0.5**
JOKE	**Okinoerabujima**	**2.53**	**322**	*i* P	Pn	15 30 23.6	+0.8
JOKE				*e*S	**Sn**	**15 30 53.8**	**-0.1**
JIH	**Iheya**	**2.68**	**309**	*e*P	Pn	15 30 25.2	+0.3
JIH				*e*S	**Sn**	**15 30 55.7**	**-2.0**
JTK	**Tokunoshima**	**2.70**	**333**	*i* P	Pn	15 30 26.0	+0.8
JTK				*e*S	**Sn**	**15 30 56.8**	**-1.4**
JZK	**Kikaishima**	**2.95**	**354**	*e*P	**Pn**	**15 30 30.2**	**+1.6**
JZK				*e*S	**Sn**	**15 31 06.0**	**+1.7**
JAGN	**Aguni-jima**	**3.02**	**294**	P	Pn	15 30 29.8	+0.3
JAGN				*e*S	**Sn**	**15 31 04.3**	**-1.6**
JAMN	**Amaminishikomi**	**3.04**	**341**	*i* P	Pn	15 30 30.5	+0.7
JAM	**Amami Oshima**	**3.10**	**348**	P	**Pn**	**15 30 31.4**	**+0.8**
JAM				*e*S	**Sn**	**15 31 06.9**	**-1.0**
JKE	**Kume jima 2**	**3.32**	**288**	*e*P	Pn	15 30 33.8	+0.2
JKE				*e*S	**Sn**	**15 31 10.5**	**-2.8**
JTAJ	**Takarajima**	**3.90**	**346**	P	**Pn**	**15 30 42.3**	**+0.7**
JTAJ				*e*S	**Sn**	**15 31 24.5**	**-3.2**
JNN	**Nakanoshima**	**4.47**	**355**	*e*P	**Pn**	**15 30 51.1**	**+1.6**
JOGS	**Gusukube**	**4.49**	**263**	*e*P	**Pn**	**15 30 49.9**	**+0.1**
JYAK	**Yakushimahirau**	**4.86**	**2**	*e*P	**Pn**	**15 30 55.3**	**+0.5**
JYAK				*e*S	**Sn**	**15 31 48.5**	**-2.8**
JMTN	**Minamitane**	**5.04**	**6**	*e*P	**Pn**	**15 30 57.8**	**+0.5**
JMTN				*e*S	**Sn**	**15 31 53.5**	**-2.4**
JTJ	**Tarama**	**5.14**	**263**	*e*P	**Pn**	**15 30 58.1**	**-0.6**
JTJ				*e*S	**Sn**	**15 31 54.8**	**-3.5**
JTN	**Tanegashima 3**	**5.30**	**6**	*e*P	**Pn**	**15 31 01.3**	**+0.4**
JTN				*e*S	**Sn**	**15 31 59.4**	**-3.0**
JISG	**Ishigakijimahi**	**5.50**	**263**	P	**Pn**	**15 31 03.1**	**-0.5**
JISG				*e*S	**Sn**	**15 32 02.0**	**-5.2**
JIJ	**Ishigaki jima**	**5.69**	**261**	*e*P	**Pn**	**15 31 05.7**	**-0.6**
JIJ				*e*S	**Sn**	**15 32 06.9**	**-5.1**
JSJ	**Shimokoshiki**	**6.31**	**355**	*e*P	**Pn**	**15 31 17.2**	**+2.4**
JTZ	**Takazaki**	**6.55**	**6**	*e*P	**Pn**	**15 31 19.2**	**+1.2**
JTZ				S	**Sn**	**15 32 29.6**	**-3.4**
JNU	**Nakatsue**	**7.75**	**4**	Pn	**Pn**	**15 31 35.6**	**+1.1**
	comp=N,1.2nm,0.3s,baz=224,slow=10,SNR=11						
JNU				Sn	**Sn**	**15 32 58.2**	**-4.3**
	comp=N,0.2nm,0.3s,baz=240,slow=16,SNR=1.5						
	comp=N,4.5nm,0.5s						
JCJ	**Chichijima**	**10.80**	**78**	LR	LR	15 36 09.5	
	comp=N,50nm,18.7s,baz=160,slow=36						
KSRS	**Korea Array**	**12.22**	**351**	Pn	**Pn**	**15 32 38.9**	**+3.1**
	comp=N,0.1nm,0.3s,baz=171,slow=14,SNR=16						
KSRS				LR	LR	15 37 41.2	
	comp=N,47nm,18.7s,baz=170,slow=39						
	comp=N,3.8nm,1.0s						
USRK	**Ussuriysk Ar.**	**18.84**	**4**	P	**Pn**	**15 34 05.1**	**+2.9**
	comp=N,0.1nm,0.3s,baz=194,slow=11,SNR=4.1						
	comp=N,2.1nm,0.8s						
SONM	**Songino Array**	**29.30**	**326**	LR	LR	15 49 05.0	
	comp=N,54nm,18.3s,baz=144,slow=40						
CMAR	**Chiang Mai Arr**	**29.86**	**263**	LR	LR	15 48 05.7	
	comp=N,30nm,19.6s,baz=190,slow=37						
WRA	**Warramunga Arr**	**45.21**	**175**	P	**P**	**15 37 60.0**	**+0.8**
	comp=N,0.7nm,0.9s,baz=354,slow=8.7,SNR=8.4						
	comp=N,0.7nm,0.9s						
KURBB	**Kurchatov Arra**	**46.77**	**317**	P	**P**	**15 38 13.6**	**+2.4**
	comp=N,0.6nm,0.9s,baz=98,slow=6.8,SNR=4.0						
	comp=N,0.6nm,0.9s						
ASAR	**Alice Springs**	**48.87**	**176**	P	P	15 38 29.2	+1.5
	comp=N,0.2nm,0.7s,baz=6.7,slow=15,SNR=4.3						
	comp=N,0.2nm,0.7s						
ARU	**Arti**	**59.23**	**322**	LR	LR	16 07 12.8	
	comp=N,48nm,18.4s,baz=147,slow=38						

*NEIC **27** 15:33:19.8±0.6, 9°.74N±0°.02×84°.14W±0°.02, h11km±5km, ML3.5/22, Error ellipse: s-maj=3.5km s-min=2.5km az=196.0*
*CATAC **27** 15:33:20.4±0.3, 9°.78N×84°.09W, h7km±2km, ML3.7*
*UCR **27** 15:33:20.3±0.8, 9°.79N×84°.10W, h12km, MW3.9, Fault plane solution: NP1:φ=233.31000°, δ73.73000°, λ-11.79000°.*

ISC 27 15:33:20.2±0.8, 9°.76N±0°.02×84°.12W±0°.02, h14km±4km, n79, σ0°47/104, 23C-12D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACOS	**Acosta**	**0.06**	**306**	⇑*e*P	**Pg**	**15 33 23.3**	**+0.2**
ACOS				*e*S	**Sg**	**15 33 25.4**	**+0.3**
ABE2	**San Pablo**	**0.08**	**133**	⇑*e*P	**Pg**	**15 33 23.4**	**0.0**
ABE2				*e*S	**Sg**	**15 33 25.7**	**+0.1**
LCR2	**La Lucha 2**	**0.11**	**100**	Pg	**Pg**	**15 33 23.4**	**-0.2**
LCR2				Sg	**Sg**	**15 33 25.6**	**-0.3**
LCR2				IAML		15 33 25.9	
	comp=N,14μm,0.3s						
LCR2	**La Lucha 2**	**0.11**	**100**	*i* P	**Pg**	**15 33 23.5**	**-0.2**
LCR2				*i* S	**Sg**	**15 33 25.8**	**-0.2**
LCR2				IAML		15 33 26.0	
	comp=Z,24μm,1.0s						
LCR2	**La Lucha 2**	**0.11**	**100**	⇑*e*P	**Pg**	**15 33 23.5**	**-0.1**
LCR2				*e*S	**Sg**	**15 33 25.7**	**-0.3**
RAZU	**San Marcos de**	**0.14**	**138**	⇑*e*P	**Pg**	**15 33 23.9**	**0.0**
RAZU				*e*S	**Sg**	**15 33 26.8**	**+0.3**
AMPA	**Desamparados**	**0.14**	**21**	⇓*e*P	**Pg**	**15 33 23.7**	**-0.3**
AMPA				*e*S	**Sg**	**15 33 26.2**	**-0.4**
LUJA	**Lujan**	**0.17**	**14**	⇓*e*P	**Pb**	**15 33 25.3**	**-0.1**
LUJA				*e*S	**Sb**	**15 33 28.2**	**-0.5**
CENT	**San Jose**	**0.17**	**12**	⇓*e*P	**Pb**	**15 33 25.3**	**-0.1**
MEXI	**Barrio Mexico**	**0.18**	**9**	*e*P	**Pg**	**15 33 24.5**	**-0.1**
SJS	**Escuela Geolog**	**0.19**	**19**	⇓*e*P	**Pg**	**15 33 24.6**	**-0.1**
SJS				*e*S	**Sg**	**15 33 27.7**	**0.0**
SJS3	**Mercedes San J**	**0.19**	**19**	⇓*e*P	**Pg**	**15 33 24.7**	**+0.1**
SJS3				*e*S	**Sg**	**15 33 28.0**	**+0.3**
TRIO	**Tres Rios**	**0.19**	**40**	⇓*e*P	**Pg**	**15 33 24.3**	**-0.4**
TRIO				*e*S	**Sg**	**15 33 27.4**	**-0.3**
TIBA	**Tibas**	**0.20**	**12**	⇓*e*P	**Pg**	**15 33 24.9**	**0.0**
TAGO	**Cartago**	**0.22**	**61**	⇑*e*P	**Pg**	**15 33 25.0**	**-0.1**
TAGO				*e*S	**Sg**	**15 33 28.6**	**+0.1**
DOMI	**Santo Domingo**	**0.22**	**6**	⇓*e*P	**Pg**	**15 33 25.3**	**0.0**
BELE	**Belen**	**0.23**	**341**	⇓*e*P	**Pg**	**15 33 25.2**	**-0.1**
CORON	**Coronado**	**0.24**	**28**	⇓*e*P	**Pg**	**15 33 25.7**	**+0.1**
HDC	**Heredia**	**0.24**	**0**	Pg	**Pg**	**15 33 25.1**	**-0.4**
HDC				Sg	**Sg**	**15 33 29.2**	**+0.1**
HDC				IAML		15 33 30.7	
	comp=N,5μm,0.7s						
HDC	**Heredia**	**0.24**	**0**	*i* P	**Pg**	**15 33 25.6**	**+0.1**
HDC				IAML		15 33 25.7	
	comp=Z,8μm,1.0s						
HDC				*i* S	**Sg**	**15 33 29.4**	**+0.3**
HDC	**Heredia**	**0.24**	**0**	*e*P	**Pg**	**15 33 25.4**	**-0.1**
HDC3	**Heredia 3**	**0.24**	**1**	*i* P	**Pg**	**15 33 25.6**	**+0.1**
HDC3				IAML		15 33 25.7	
	comp=Z,14μm,1.0s						
HDC3				*i* S	**Sg**	**15 33 29.7**	**+0.6**
REPA	**Paraso**	**0.25**	**75**	⇑*e*P	**Pb**	**15 33 26.5**	**-0.2**
LLNJ	**Naranjito**	**0.28**	**177**	⇓*e*P	**Pb**	**15 33 27.2**	**0.0**
CVIMO	**Finca Echandi**	**0.31**	**33**	⇓*e*P	**Pg**	**15 33 26.8**	**0.0**
TCS1	**Tacares**	**0.33**	**327**	*e*P	**Pg**	**15 33 27.4**	**+0.3**
PCAYA	**Pacayas**	**0.34**	**62**	*e*P	**Pg**	**15 33 27.2**	**-0.1**
VICA	**Volcano Irazu**	**0.35**	**50**	⇑*e*P	**Pg**	**15 33 27.3**	**-0.2**
RAFA	**San Farael, Vo**	**0.36**	**57**	*i* P	**Pg**	**15 33 27.6**	**-0.1**
RAFA				*i* S	**Sg**	**15 33 32.5**	**-0.2**
RAFA				IAML		15 33 33.1	
	comp=Z,110μm,1.0s						
RAFA	**San Farael, Vo**	**0.36**	**57**	⇑*e*P	**Pg**	**15 33 27.6**	**-0.1**
RAFA				*e*S	**Sg**	**15 33 32.6**	**-0.1**
TRB2	**Turrubares**	**0.36**	**295**	*e*P	**Pg**	**15 33 27.8**	**0.0**
VINA	**Juan Vinas**	**0.39**	**70**	⇑*e*P	**Pg**	**15 33 28.0**	**-0.1**
VTLA	**Turrialba Volc**	**0.41**	**54**	⇑*e*P	**Pg**	**15 33 28.5**	**-0.2**
CVTQ	**Turrialba Volc**	**0.42**	**55**	⇑*e*P	**Pg**	**15 33 28.7**	**-0.1**
VTR0	**Volcan Turrial**	**0.43**	**54**	⇑*e*P	**Pg**	**15 33 29.0**	**0.0**
CVTR	**Volcan Turrial**	**0.43**	**54**	⇑*e*P	**Pg**	**15 33 28.9**	**-0.1**
VTCV	**VTCV, Calle Va**	**0.44**	**60**	⇑*e*P	**Pg**	**15 33 29.0**	**-0.1**
VPS6	**Volcano Poas**	**0.44**	**345**	*e*P	**Pg**	**15 33 29.2**	**0.0**
TURIB	**Turrialba**	**0.45**	**71**	⇑*e*P	**Pg**	**15 33 28.8**	**-0.4**
VERB	**Verbena**	**0.45**	**66**	⇑*e*P	**Pg**	**15 33 29.2**	**-0.1**
RAMO	**San Ramon**	**0.47**	**313**	*e*P	**Pb**	**15 33 30.4**	**-0.1**
RVSTA	**Santa Teresita**	**0.51**	**65**	*e*P	**Pg**	**15 33 30.1**	**-0.2**
ARZA	**Esparza**	**0.59**	**293**	*e*P	**Pg**	**15 33 31.8**	**-0.1**
RVLA	**Villa Bonita**	**0.62**	**56**	*e*P	**Pg**	**15 33 32.3**	**-0.2**
LCOCO	**El Coco**	**0.64**	**60**	⇑*e*P	**Pg**	**15 33 32.5**	**-0.2**
IRES	**Siquirres**	**0.69**	**61**	*e*P	**Pg**	**15 33 33.5**	**-0.2**
CARI	**Cariari**	**0.71**	**32**	*e*P	**Pb**	**15 33 34.6**	**+0.2**
SOCE	**Pocosol**	**0.79**	**321**	Pg	**Pg**	**15 33 34.9**	**-0.8**
SOCE				Sg	**Sg**	**15 33 45.6**	**-0.5**
SOCE	**Pocosol**	**0.79**	**321**	*i* P	**Pg**	**15 33 35.5**	**-0.2**
SOCE				*i* S	**Sb**	**15 33 46.6**	**0.0**
SOCE				IAML		15 33 47.3	
	comp=Z,7μm,1.0s						
SOCE	**Pocosol**	**0.79**	**321**	⇑*e*P	**Pg**	**15 33 35.2**	**-0.5**
OCHAL	**Ojochal**	**0.81**	**145**	*i* P	**Pg**	**15 33 35.5**	**-0.4**
OCHAL				IAML		15 33 54.1	
	comp=Z,2μm,1.0s						
MTEVE	**Monteverde**	**0.90**	**308**	*e*P	**Pb**	**15 33 37.8**	**0.0**
VACR	**Volcan Arenal**	**0.90**	**322**	⇑*e*P	**Pg**	**15 33 37.0**	**-0.6**
ARE1	**Arenal 1**	**0.92**	**320**	⇑*e*P	**Pg**	**15 33 37.3**	**-0.7**
CEDE	**Laguna Cedeo**	**0.93**	**321**	*e*P	**Pg**	**15 33 37.7**	**-0.5**
JTS	**Las Juntas de**	**0.98**	**303**		**Pb**	**15 33 38.2**	**-0.9**
JTS				Sg	**Sg**	**15 33 50.9**	**-1.2**
JTS				IAML		15 33 52.1	
	comp=Z,2μm,0.3s						
JTS				IAML		15 33 53.5	
	comp=Z,2μm,0.2s						
JTS	**Las Juntas de**	**0.98**	**303**	⇑*e*P	**Pb**	**15 33 38.1**	**-0.9**
JUNT	**Juntas**	**0.98**	**302**	*e*P	**Pb**	**15 33 38.3**	**-0.8**
DRK0	**Durika**	**0.99**	**120**	*i* P	**Pb**	**15 33 38.6**	**-0.7**
DRK0				*i* S	**Sg**	**15 33 52.4**	**0.0**
DRK0				IAML		15 33 52.8	
	comp=Z,9μm,1.0s						
DRK0	**Durika**	**0.99**	**120**	*e*P	**Pb**	**15 33 37.9**	**-1.4**
COVE	**Coope Vega, Sa**	**0.99**	**344**	*i* P	**Pb**	**15 33 38.6**	**-0.7**
COVE				*i* S	**Sn**	**15 33 53.8**	**+0.1**
COVE				IAML		15 33 55.9	
	comp=Z,1μm,1.0s						
CNAS	**Canas**	**1.17**	**305**	*e*P	**Pg**	**15 33 42.8**	**-0.1**
BRIBI	**Bribri**	**1.25**	**96**	*e*P	**Pg**	**15 33 45.0**	**+0.6**
BAGA	**Bagaces**	**1.36**	**304**	*e*P	**Pn**	**15 33 44.9**	**-0.1**
CUI	**Cuipilapa**	**1.36**	**311**	*e*P	**Pn**	**15 33 44.9**	**-0.1**
INDI	**Punta indio, G**	**1.37**	**275**	*i* P	**Pn**	**15 33 44.9**	**-0.1**
INDI				IAML		15 33 46.3	
	comp=Z,340nm,1.0s						
INDI				*i* S	**Sg**	**15 34 05.6**	**+1.1**
COLC	**Colonia**	**1.40**	**310**	⇑*e*P	**Pn**	**15 33 45.5**	**0.0**
JUD3	**Juan Diaz 3**	**1.46**	**286**		**Pn**	**15 33 46.1**	**-0.2**
JUD3				IAML		15 34 07.8	
	comp=E,508nm,0.3s						
VRLE	**La Escondida,**	**1.60**	**310**	⇑*e*P	**Pn**	**15 33 48.5**	**+0.2**
ALIBA	**Liberia Airpor**	**1.63**	**301**	*e*P	**Pn**	**15 33 49.2**	**+0.5**
BRU2	**Volcan**	**1.70**	**124**		**Pn**	**15 33 50.2**	**+0.4**
BRU2	**Volcan**	**1.70**	**124**	*i* P	**Pn**	**15 33 50.6**	**+0.9**
BRU2				*i* S	**Sb**	**15 34 12.8**	**0.0**
BRU2				IAML		15 34 23.5	
	comp=Z,1μm,1.0s						
BRU2	**Volcan**	**1.70**	**124**	*e*P	**Pn**	**15 33 50.5**	**+0.7**
ESPN	**Las Esperanzas**	**2.43**	**356**	Pn	**Pn**	**15 33 59.3**	**-0.3**
ESPN				IAML		15 34 34.4	
	comp=N,213nm,1.1s						
ACON	**Acoyapa**	**2.43**	**335**	Pn	**Pn**	**15 33 59.6**	**0.0**
ACON				IAML		15 34 38.8	
	comp=N,144nm,1.0s						
ACON				IAML		15 34 40.2	
	comp=E,211nm,0.8s						
BOAB	**BOACO BROADBAN**	**3.08**	**330**	Pn	**Pn**	**15 34 08.4**	**-0.1**
BOAB				IAML		15 34 55.1	
	comp=N,205nm,0.2s						
BOAB	**BOACO BROADBAN**	**3.08**	**330**	*i* P	**Pn**	**15 34 09.2**	**+0.7**
BOAB				*i* S	**Sn**	**15 34 46.7**	**+1.6**
BOAB				IAML		15 34 53.2	
	comp=Z,190nm,1.0s						
MACN	**El Madrono**	**3.68**	**317**	*i* P	**Pn**	**15 34 18.7**	**+1.8**
MACN				IAML		15 34 19.6	
	comp=Z,54nm,1.0s						
BCIP	**Isla Barro Col**	**4.26**	**98**	Pn	**Pn**	**15 34 24.7**	**-0.2**
BCIP				IAML		15 35 50.5	
	comp=Z,33nm,1.7s						

OMAN 27 15:36:13.2±0.1, 24°.86N×49°.54E, h10km, mb3.9/5, ml3.9/5, Error ellipse: s-maj=1.2km s-min=1.1km az=319.0, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRA	**Abu-Samra**	**1.17**	**95**	P	Pb	15 36 35.4	-0.1
SMRA				S	Sn	15 36 55.2	+3.5
SAKB	**Bahrain**	**1.44**	**39**	P	Pn	15 36 37.6	-1.6
SAKB				S	Sn	15 36 57.8	-0.4
TRNA	**Turayna**	**1.52**	**94**	P	Pn	15 36 40.5	+0.1
	SNR=16						
SHMA	**Al-Shehemyia**	**1.63**	**52**	P	Pn	15 36 42.0	+0.1
	SNR=40						
SHMA				S	Sg	15 37 06.7	+1.1
SLWR	**Sila**	**2.11**	**111**	P	Pb	15 36 50.9	-0.6
GHWR	**Ruwais**	**3.17**	**106**	P	Pn	15 37 03.9	+0.8
GHWR				S	Sn	15 37 43.8	+2.9
MZWR	**Madinat Zayed**	**4.11**	**104**	P	Pn	15 37 16.6	+0.5
MZWR				S	Sn	15 38 06.2	+2.0
AJN	**Ajban**	**4.96**	**92**	P	Pn	15 37 27.2	-0.6
AJN				S	Sn	15 38 25.9	+0.7
ASUD	**Al Ashush, Dub**	**5.27**	**91**	P	Pn	15 37 31.8	-0.2
ASUD				S	Sn	15 38 33.3	+0.5
FAQ	**Al Faqa, Dubai**	**5.50**	**90**	P	Pn	15 37 35.3	+0.1
FAQ				S	Sn	15 38 40.4	+1.8
UMZA	**Um Al Zommool**	**5.57**	**111**	P	Pn	15 37 36.4	+0.2
UMZA				S	Sn	15 38 37.5	-2.8
ALNE	**Al Ain**	**5.72**	**97**	P	Pn	15 37 39.7	+1.5
ALNE				S	Sn	15 38 45.7	+1.8
ASHO	**Ashiyiah**	**5.93**	**90**	P	Pn	15 37 40.0	-1.1
	SNR=8.6						
ASHO				S	Sn	15 38 47.6	-1.6
HATD	**Hatta, Dubai**	**5.99**	**89**	P	Pn	15 37 40.6	-1.4
HATD				S	Sn	15 38 49.7	-0.9
MASF	**Masafi**	**6.02**	**84**	P	Pn	15 37 42.4	-0.1
MASF				S	Sn	15 38 50.3	-1.2
UOSS	**Minazif**	**6.05**	**88**	P	Pn	15 37 40.9	-1.9
ARQ	**Araqi**	**6.56**	**102**	P	Pn	15 37 50.0	+0.2
	SNR=10						
ARQ				S	Sn	15 39 03.1	-1.6
HOQ	**Hoqain**	**7.21**	**99**	P	Pn	15 37 59.1	+0.4
HOQ				S	Sn	15 39 18.2	-2.5
BSY	**Bisya**	**7.32**	**105**	P	Pn	15 38 00.7	+0.5
BSY				S	Sn	15 39 21.6	-1.9
SMDO	**Samad**	**7.99**	**101**	P	Pn	15 38 08.2	-1.3
SMDO				S	Sn	15 39 41.7	+1.8
RBK	**Rabkut**	**8.51**	**148**	P	Pn	15 38 15.2	-1.4
MHTO	**MHTO**	**8.67**	**115**	P	Pn	15 38 18.7	0.0

AUST 27 15:39:26.3±0.3, 30°.54S×117°.78E, h10km, mb3.8/2, Mjma4.2/9, ML2.9/7, MLv3.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLDU	**Ballidu**	**0.93**	**265**	P	Pg	15 39 44.2	-0.1
	0.7nm,SNR=10						
BLDU				S	Sg	15 39 56.3	0.0
KLBR	**Kellerberrin**	**1.05**	**181**	P	Pb	15 39 46.7	+0.1
	0.6nm,SNR=20						
KLBR				S	Sg	15 39 60.0	-0.2
MUN	**Mundaring**	**1.97**	**223**	P	Pn	15 40 00.5	+0.8
	0.2nm,SNR=1.7						
AUMAZ	**Mazenod Senior**	**2.09**	**225**	P	Pn	15 40 02.7	+1.2
MORW	**Morawa**	**2.11**	**314**	P	Pn	15 40 01.7	+0.1
	0.1nm,SNR=1.4						
MORW				S	Sn	15 40 28.2	+0.2
NWAO	**Narrogin (SRO)**	**2.43**	**191**	P	Pn	15 40 06.6	+0.6
NWAO				S	Sn	15 40 35.3	-0.5
AUHAR	**St Anne's Scho**	**3.01**	**212**	P	Pn	15 40 14.9	+0.8
KMBL	**Kambalda**	**3.62**	**104**	P	Pn	15 40 22.4	-0.1
	0.1nm,SNR=1.9						
MEEK	**Meekatharra**	**3.96**	**11**	P	Pn	15 40 28.6	+1.4
	0.2nm,SNR=1.6						
MEEK				S	Sn	15 41 13.9	+0.3
RKGY	**Rocky Gully**	**4.12**	**189**	P	Pn	15 40 29.2	0.0
	0.2nm,SNR=2.5						
FORT	**Forrest**	**8.86**	**94**	P	Pn	15 41 34.0	-0.4
	0.1nm,SNR=1.7						
WRKA	**Warakurna**	**10.80**	**62**	P	Pn	15 42 00.0	-1.1
	13nm,SNR=13						

*NNC **27** 16:03:25.0±0.2, 43°.30N×78°.71E, h0km, mb3.4, mpv3.6, Error ellipse: s-maj=3.3km s-min=1.4km az=176.0*
*KRNET **27** 16:03:25.4±0.1, 43°.28N×78°.86E, h30km, mb3.0*
*SOME **27** 16:03:25.8, 43°.32N×78°.70E, h15km*

ISC 27 16:03:25.8±0.7, 43°.31N±0°.02×78°.72E±0°.01, h10km, n70, σ1°.29/129, 33C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek**	**0.16**	**351**	*e*P	**Pg**	**16 03 29.8**	**+0.4**
	362nm,0.1s						
KPKS				*e*S	**Sg**	**16 03 33.0**	**+1.0**
	10μm,0.2s						
KPKS	**Kokpek**	**0.16**	**351**	P	**Pg**	**16 03 29.8**	**+0.4**
	361nm,0.1s						
KPKS				S	**Sg**	**16 03 33.0**	**+1.0**
	10μm,0.2s						
ZHN	**Zhinishke**	**0.25**	**237**	*e*P	**Pg**	**16 03 30.3**	**-0.7**
	636nm,0.2s						
ZHN				*e*S	**Sg**	**16 03 33.9**	**-0.5**
	19μm,0.2s						
ZHN	**Zhinishke**	**0.25**	**237**	P	**Pg**	**16 03 30.3**	**-0.7**
	636nm,0.2s						
ZHN				S	**Sg**	**16 03 33.9**	**-0.5**
	19μm,0.2s						
UZB	**Uzynbulak**	**0.27**	**126**	*e*P	**Pg**	**16 03 31.1**	**-0.3**
	134nm,0.1s						
UZB				*e*S	**Sg**	**16 03 35.0**	**-0.1**
	981nm,0.2s						
UZB	**Uzynbulak**	**0.27**	**126**	P	**Pg**	**16 03 31.1**	**-0.3**
	134nm,0.1s						
UZB				S	**Sg**	**16 03 35.0**	**-0.1**
	981nm,0.2s						
SATY	**Saty**	**0.34**	**223**	*e*P	**Pg**	**16 03 31.8**	**-0.8**
	486nm,0.1s						
SATY				*e*S	**Sg**	**16 03 36.1**	**-1.0**
	13μm,0.1s						
SATY	**Saty**	**0.34**	**223**	P	**Pg**	**16 03 31.8**	**-0.8**
	486nm,0.1s						
SATY				S	**Sg**	**16 03 36.1**	**-1.0**
	13μm,0.1s						
KURS	**Kuram**	**0.44**	**295**	*e*P	**Pg**	**16 03 33.9**	**-0.5**
	102nm,0.2s						
KURS				*e*S	**Sg**	**16 03 40.1**	**-0.1**
	188nm,0.4s						
KURS	**Kuram**	**0.44**	**295**	P	**Pg**	**16 03 33.9**	**-0.5**
	102nm,0.2s						
KURS				S	**Sg**	**16 03 40.1**	**-0.1**
	188nm,0.4s						
PDGK	**Podgornoye**	**0.56**	**87**	P	**Pg**	**16 03 36.0**	**-0.8**
	11nm,0.2s						
PDGK				S	**Sg**	**16 03 43.4**	**-0.8**
	206nm,0.2s						
PDGK	**Podgornoye**	**0.56**	**87**	⇑P	**Pg**	**16 03 35.7**	**-1.0**
	5.5nm,0.3s						
PDGK				⇑S	**Sg**	**16 03 44.3**	**+0.1**
	85nm,0.3s						
SHLS	**Shalkode**	**0.56**	**105**	*e*P	**Pn**	**16 03 41.7**	**+1.7**
	56nm,0.1s						
SHLS				*e*S	**Sn**	**16 03 53.2**	**+3.8**
	263nm,0.2s						
SHLS	**Shalkode**	**0.56**	**105**	P	**Pn**	**16 03 41.7**	**+1.7**
	56nm,0.1s						
SHLS				S	**Sn**	**16 03 53.2**	**+3.8**
	263nm,0.2s						
BLB	**Baldybastay**	**0.81**	**348**	P	**Pg**	**16 03 40.9**	**-0.5**
	976nm,0.1s						
BLB				S	**Sg**	**16 03 52.0**	**0.0**
	431nm,0.2s						
PRZ	**Przheval'sk**	**0.85**	**196**	⇑*e*P	**Pg**	**16 03 41.7**	**-0.6**
	baz=4.0						
PRZ				⇑*e*S	**Sg**	**16 03 53.3**	**-0.1**
	baz=4.0					

KDJ	**Kajisay**	**1.63 225**	⇓*i*P	**Pn**	**16 03 54.5**	**-0.3**
	baz=27					
KDJ			⇓*e*S	**Sn**	**16 04 15.8**	**-0.1**
	baz=27					
MTBS	**Maitube**	**1.68 265**	*e*P	**Pn**	**16 03 56.5**	**+1.2**
	23nm,0.1s					
MTBS			*e*S	**Sn**	**16 04 18.6**	**+1.5**
	194nm,0.2s					
MTBS	**Maitube**	**1.68 265**	P	**Pn**	**16 03 56.5**	**+1.2**
	23nm,0.1s					
MTBS			S	**Sn**	**16 04 18.6**	**+1.5**
	194nm,0.2s					
TARG	**Taragay, Kyrgy**	**1.71 204**	⇓*i*P	**Pn**	**16 03 55.8**	**-0.3**
	baz=7.0					
TARG			⇓*e*S	**Sn**	**16 04 18.1**	**-0.2**
	baz=7.0					
KST	**Kastek**	**2.03 264**	*e*P	**Pn**	**16 04 02.0**	**+1.7**
	14nm,0.4s					
KST			*e*S	**Sn**	**16 04 27.9**	**+2.2**
	47nm,0.3s					
KST	**Kastek**	**2.03 264**	Pg	**Pn**	**16 04 02.0**	**+1.7**
	14nm,0.4s					
KST			Lg	Lg	16 04 27.9	
	47nm,0.3s					
ULHL	**Ulahol**	**2.11 241**	⇓*e*P	**Pn**	**16 04 02.2**	**+0.9**
	baz=43					
ULHL			⇓*i*S	**Sn**	**16 04 29.0**	**+1.3**
	baz=43					
DGS	**Degeres**	**2.15 269**	*e*P	**Pn**	**16 04 03.8**	**+1.9**
	18nm,0.4s					
DGS			*e*S	**Sn**	**16 04 31.2**	**+2.5**
	152nm,0.4s					
DGS	**Degeres**	**2.15 269**	Pg	**Pn**	**16 04 03.8**	**+1.9**
	18nm,0.4s					
DGS			Lg	Lg	16 04 31.2	
	152nm,0.4s					
BOOM	**Boomskoye usch**	**2.20 249**	⇑*e*P	**Pn**	**16 04 03.3**	**+0.8**
	baz=51					
BOOM			⇑*e*S	**Sn**	**16 04 31.1**	**+1.2**
	baz=51					
KRBS	**Karabastau**	**2.25 281**	*e*P	**Pb**	**16 04 06.0**	**-0.6**
	12nm,0.4s					
KRBS			*e*S	**Sb**	**16 04 34.9**	**+0.4**
	54nm,0.3s					
KRBS	**Karabastau**	**2.25 281**	Pg	**Pb**	**16 04 06.0**	**-0.6**
	12nm,0.4s					
KRBS			Lg	Lg	16 04 34.9	
	54nm,0.3s					
TKM2	**Tokmak 2**	**2.32 262**	⇓Pn	**Pn**	**16 04 05.0**	**+0.8**
	4.6nm,0.4s					
TKM2			⇓Sn	**Sb**	**16 04 36.9**	**+0.3**
	33nm,0.4s					
TKM2	**Tokmak 2**	**2.32 262**	⇑*e*P	**Pn**	**16 04 05.2**	**+1.0**
	baz=63					
TKM2			⇑*e*S	**Sn**	**16 04 34.3**	**+1.4**
	baz=63					
NRN	**Naryn**	**2.75 228**	⇑*e*P	**Pn**	**16 04 11.1**	**+0.9**
	baz=30					
NRN			⇑*i*S	**Sn**	**16 04 44.4**	**+0.7**
	baz=30					
KBK	**Karagaybulak**	**2.84 258**	⇑*e*P	**Pn**	**16 04 12.4**	**+1.0**
	baz=59					
KBK			⇑*e*S	**Sn**	**16 04 46.7**	**+0.9**
	baz=59					
CHMS	**Chumysh**	**2.92 265**	⇑*e*P	**Pn**	**16 04 13.4**	**+1.1**
	baz=66					
CHMS			⇑*e*S	**Sn**	**16 04 48.5**	**+1.0**
	baz=66					
FRU1	**Bishkek**	**3.04 262**	⇑*e*P	**Pn**	**16 04 15.1**	**+1.1**
	baz=63					
FRU1			⇑*e*S	**Sn**	**16 04 51.5**	**+1.1**
	baz=63					
AAK	**Ala-Archa**	**3.17 259**	Pg	**Pb**	**16 04 22.3**	**-0.1**
	2.8nm,0.3s					
AAK			Lg	Lg	16 05 02.8	
	29nm,0.7s					
AAK	**Ala-Archa**	**3.17 259**	⇓*i*P	**Pn**	**16 04 16.9**	**+1.0**
	baz=60					
AAK			⇓*i*S	**Sn**	**16 04 54.7**	**+0.8**
	baz=60					
UCH	**Uchtor**	**3.28 252**	⇓*e*P	**Pn**	**16 04 18.6**	**+1.0**
	baz=53					
UCH			⇓*e*S	**Sn**	**16 04 57.4**	**+0.5**
	baz=53					
ARLS	**Aral**	**3.55 248**	⇑*i*P	**Pn**	**16 04 22.2**	**+1.1**
	baz=48					
ARLS			⇑*i*S	**Sn**	**16 05 03.7**	**+0.4**
	baz=48					
EKS2	**Erkin-Say**	**3.68 262**	⇑*e*P	**Pn**	**16 04 24.1**	**+1.2**
	baz=62					
EKS2			⇑*e*S	**Sn**	**16 05 06.8**	**+0.4**
	baz=62					
BTLS	**Baital**	**3.78 299**	*e*P	**Pb**	**16 04 33.7**	**+1.0**
	1.6nm,0.4s					
BTLS			*e*S	**Sb**	**16 05 22.2**	**+3.7**
	5.1nm,0.6s					
BTLS	**Baital**	**3.78 299**	Pg	**Pb**	**16 04 33.7**	**+1.0**
	1.6nm,0.4s					
BTLS			Lg	Lg	16 05 22.2	
	5.1nm,0.6s					
AML	**Almayashu**	**3.88 254**	⇓*e*P	**Pn**	**16 04 27.0**	**+1.1**
	baz=55					
AML			⇓*i*S	**Sn**	**16 05 12.1**	**+0.3**
	baz=55					
MRKS	**Merke**	**4.07 264**	*e*P	**Pb**	**16 04 39.2**	**+1.7**
	3.1nm,0.3s					
MRKS			*e*S	**Sb**	**16 05 31.8**	**+5.0**
	20nm,0.3s					
MRKS	**Merke**	**4.07 264**	Pg	**Pb**	**16 04 39.2**	**+1.7**
	3.1nm,0.3s					
MRKS			Lg	Lg	16 05 31.8	
	20nm,0.3s					
MAKZ	**Makanchi**	**4.19 32**	⇓Pn	**Pn**	**16 04 30.1**	**+0.3**
	0.4nm,0.4s					
MAKZ			⇑Lg	Lg	16 05 33.6	
	5.6nm,0.5s					
MK31	**Makanchi Array**	**4.31 35**	Pn	**Pn**	**16 04 32.3**	**+0.9**
	0.2nm,0.2s,baz=193,slow=4.6,SNR=69					
MK31			⇑Sn	**Sn**	**16 05 21.5**	**-0.2**
	1.1nm,0.4s,baz=215,slow=25,SNR=7.3					
MK31			⇓Lg	Lg	16 05 39.0	
	3.9nm,0.5s,baz=214,slow=29,SNR=8.1					
KK31	**Karatay Array**	**6.00 271**	⇓Pg	**Pg**	**16 05 17.1**	**-3.7**
	0.5nm,0.4s,baz=83,slow=16,SNR=6.0					
KK31			⇑Lg	Lg	16 06 33.0	
	2.5nm,0.4s,baz=80,slow=30,SNR=13					
KURBB	**Kurchatov Arra**	**7.32 359**	⇑Pg	Pg	16 05 40.2	-5.7
	1.6nm,0.8s					
KURBB			⇑Lg	Lg	16 07 15.5	
	15nm,0.7s					
KURK	**Kurchatov**	**7.41 360**	⇑Pg	Pg	16 05 42.0	-5.6
	1.8nm,0.9s					
KURK			⇑Lg	Lg	16 07 17.1	
	5.9nm,0.7s					

*IDC **27** 16:41:26.4±5.0, 27°.49N×139°.97E, h493km±51km, mb3.0/6, mbtmp3.9/8, Error ellipse: s-maj=68.0km s-min=14.3km az=76.0*

ISC 27 16:41:21.7±0.9, 27°.6N±0°.2×140°.5E±0°.2, h450km, n9, σ0°68/10, mb3.5/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.59**	**106**	P	**P**	**16 42 20.1**	**-0.1**
	100nm,0.9s,baz=275,slow=18,SNR=2.4						
JCJ				S	**S**	**16 43 07.2**	**-0.3**
	74nm,0.8s,baz=241,slow=16,SNR=1.7						
JOW	**Kunigami**	**10.88**	**269**	P	**P**	**16 43 48.3**	**-0.2**
	8.8nm,0.3s,baz=103,slow=13,SNR=13						
USRK	**Ussuriysk Ar.**	**17.96**	**340**	P	**P**	**16 45 05.2**	**+1.3**
	0.7nm,0.6s,baz=138,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**47.58**	**188**	P	**P**	**16 49 15.8**	**+0.4**
	0.3nm,0.4s,baz=0.9,slow=7.5,SNR=10						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**51.31**	**188**	P	**P**	**16 49 43.5**	**+0.5**
	0.4nm,1.1s,baz=354,slow=5.0,SNR=7.5						
	0.4nm,1.1s						
KURBB	**Kurchatov Arra**	**51.63**	**314**	P	**P**	**16 49 44.4**	**-0.7**
	0.6nm,0.3s,baz=93,slow=9.0,SNR=6.3						
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**56.68**	**317**	P	**P**	**16 50 20.7**	**-0.2**
	2.1nm,0.4s,baz=89,slow=7.7,SNR=15						
	2.1nm,0.4s						
FINES	**FINESS Array B**	**76.86**	**333**	P	**P**	**16 52 25.8**	**-0.1**
	0.7nm,0.5s,baz=73,slow=4.8,SNR=8.5						
	0.7nm,0.5s						
HFS	**Hagfors**	**82.40**	**336**	P	**P**	**16 52 54.7**	**-0.6**
	1.4nm,0.8s,baz=51,slow=5.5,SNR=2.4						
	1.4nm,0.8s						

*TAP **27** 16:52:28.5, 24°.10N×122°.37E, h38km, ML2.7, C*
*JMA **27** 16:52:28.2±0.1, 24°.0N±0°.8×122°.4E±0°.3, h38km±2km, MV2.1/15, TAIWAN REGION*

ISC 27 16:52:28.8±1.1, 24°.05N±0°.02×122°.39E±0°.02, h34km±2km, n120, σ1°.07/230, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.09**	**318**	*i*P	**Pb**	**16 52 34.5**	**+0.3**
	baz=275						
EOS4				*i*S	**Sb**	**16 52 39.1**	**+1.3**
	baz=275						
EOS3	**EOS3**	**0.24**	**345**	*i*P	**Pn**	**16 52 35.8**	**+0.4**
	baz=324						
EOS3				S	**Sb**	**16 52 41.4**	**+1.0**
	baz=324						
EOS2	**EOS2**	**0.39**	**339**	⇑*i*P	**Pb**	**16 52 37.7**	**0.0**
	baz=317						
EOS2				S	**Sn**	**16 52 44.8**	**+0.7**
	baz=317						
JYNG	**Yonaguni jima**	**0.65**	**52**	*i*P	**Pn**	**16 52 41.1**	**-0.4**
JYNG				S	**Sn**	**16 52 50.3**	**-0.3**
EAHA	**Aohua**	**0.65**	**295**	P	**Pn**	**16 52 41.4**	**-0.2**
	baz=298						
EAHA				S	**Sn**	**16 52 51.1**	**+0.3**
	baz=298						
EWUT	**Wuta**	**0.68**	**305**	P	**Pn**	**16 52 41.1**	**-0.9**
	baz=302						
EWUT				*i*S	**Sn**	**16 52 50.5**	**-0.9**
	baz=302						
ENA	**Nanau**	**0.70**	**303**	P	**Pn**	**16 52 41.6**	**-0.7**
	baz=306						
ENA				*i*S	**Sn**	**16 52 51.1**	**-0.8**
	baz=306						
YOJ	**Yonaguni jima**	**0.70**	**54**	P	**Pn**	**16 52 41.9**	**-0.4**
YOJ	**Yonaguni jima**	**0.70**	**54**	*i*P	**Pn**	**16 52 41.9**	**-0.4**
	baz=66						
YOJ				*i*S	**Sn**	**16 52 51.9**	**-0.1**
	baz=66						
YOJ	**Yonaguni jima**	**0.70**	**54**	P	**Pn**	**16 52 42.3**	**0.0**
YOJ				S	**Sn**	**16 52 51.9**	**-0.1**
ETL	**Fush Village**	**0.70**	**279**	P	**Pn**	**16 52 41.5**	**-0.9**
	baz=262						
ETL				S	**Sn**	**16 52 52.0**	**-0.2**
	baz=262						
ESAO	**Su ao**	**0.72**	**317**	P	**Pn**	**16 52 41.7**	**-0.9**
	baz=314						
ESAO				S	**Sn**	**16 52 51.2**	**-1.2**
	baz=314						
HWA	**Hwalien**	**0.72**	**264**	*i*P	**Pn**	**16 52 42.2**	**-0.4**
	baz=259						
HWA				*e*S	**Sn**	**16 52 52.9**	**+0.5**
	baz=259						
TWD	**Chiawan**	**0.72**	**272**	*i*P	**Pn**	**16 52 41.6**	**-1.0**
	baz=268						
TWD				*i*S	**Sn**	**16 52 51.4**	**-1.1**
	baz=268						
NACB	**Ninganchiao**	**0.73**	**280**	P	**Pn**	**16 52 41.8**	**-1.0**
NACB	**Ninganchiao**	**0.73**	**280**	*i*P	**Pn**	**16 52 41.9**	**-0.9**
	baz=264						
NACB				S	**Sn**	**16 52 52.0**	**-0.8**
	baz=264						
TWC	**Suao**	**0.74**	**319**	*i*P	**Pn**	**16 52 41.7**	**-1.2**
	baz=317						
TWC				*i*S	**Sn**	**16 52 50.7**	**-2.3**
	baz=317						
TEYL	**Yanliau Villag**	**0.74**	**256**	*e*P	**Pn**	**16 52 42.5**	**-0.4**
	baz=245						
TEYL				S	**Sn**	**16 52 52.5**	**-0.5**
	baz=245						
SHUL	**Shoufeng**	**0.80**	**251**	*e*P	**Pn**	**16 52 43.3**	**-0.4**
	baz=240						
SHUL				S	**Sn**	**16 52 53.9**	**-0.5**
	baz=240						
ETM	**Tongmen**	**0.82**	**264**	P	**Pn**	**16 52 43.1**	**-0.9**
	baz=260						
ETM				S	**Sn**	**16 52 53.9**	**-1.0**
	baz=260						
ETLH	**Xiulin Townshi**	**0.84**	**281**	*i*P	**Pn**	**16 52 43.6**	**-0.8**
	baz=277						
ETLH				*i*S	**Sn**	**16 52 54.7**	**-0.9**
	baz=277						
NDS	**Dongshan**	**0.84**	**314**	P	**Pn**	**16 52 44.1**	**-0.2**
	baz=310						
NDS				S	**Sn**	**16 52 54.8**	**-0.7**
	baz=310						
LXIB	**Xiulin Townshi**	**0.89**	**268**	P	**Pn**	**16 52 44.3**	**-0.8**
	baz=258						
LXIB				S	**Sn**	**16 52 56.0**	**-0.8**
	baz=258						
EGS		**0.89**	**332**	*i*P	**Pn**	**16 52 44.4**	**-0.5**
	baz=321						
EGS				S	**Sn**	**16 52 55.7**	**-1.0**
	baz=321						
ESL	**Shilin**	**0.90**	**255**	*i*P	**Pn**	**16 52 44.1**	**-1.0**
	baz=243						
ESL				S	**Sn**	**16 52 56.5**	**-0.4**
	baz=243						
LATG	**Datong**	**0.92**	**302**	*i*P	**Pn**	**16 52 44.9**	**-0.6**
	baz=298						
LATG				S	**Sn**	**16 52 57.5**	**-0.1**
	baz=298						
TWE	**Neicheng**	**0.93**	**316**	*i*P	**Pn**	**16 52 45.0**	**-0.5**
	baz=313						
TWE				*e*S	**Sn**	**16 52 57.2**	**-0.6**
	baz=313						
ENTT	**Nioudou**	**0.95**	**308**	*e*P	**Pn**	**16 52 45.6**	**-0.2**
	baz=295						
ENTT				*i*S	**Sn**	**16 52 57.9**	**-0.3**
	baz=295						
EGFH	**Guangfu**	**0.96**	**247**	*e*P	**Pn**	**16 52 45.4**	**-0.4**
	baz=244						
EGFH				*e*S	**Sn**	**16 52 57.9**	**-0.4**
	baz=244						
NDT	**Datong Townshi**	**0.97**	**305**	*i*P	**Pn**	**16 52 45.8**	**-0.2**
	baz=291						
NDT				S	**Sn**	**16 52 58.4**	**-0.2**
	baz=291						
WARBT	**Fenglin Townsh**	**0.97**	**250**	*i*P	**Pn**	**16 52 45.2**	**-0.9**
	baz=239						
WARBT				S	**Sn**	**16 52 57.8**	**-0.9**
	baz=239						
NNSB	**Datong**	**0.99**	**292**	*i*P	**Pn**	**16 52 46.0**	**-0.4**
	baz=289						
NNSB				*e*S	**Sn**	**16 52 58.6**	**-0.7**
	baz=289						
NNSH	**Datong**	**0.99**	**292**	*e*P	**Pn**	**16 52 46.4**	**0.0**
	baz=289						
NNSH				*e*S	**Sn**	**16 52 59.0**	**-0.3**
	baz=289						
NNS	**Nan Shan**	**1.00**	**293**	*i*P	**Pn**	**16 52 46.1**	**-0.5**
	baz=290						
NNS				S	**Sn**	**16 52 59.1**	**-0.5**
	baz=290						
FUSB	**Fushanzhiwuyua**	**1.01**	**314**	*e*P	**Pn**	**16 52 46.7**	**0.0**
	baz=311						
FUSB				*e*S	**Sn**	**16 52 60.0**	**+0.1**
	baz=311						
TWB1	**Santiao Chiao**	**1.02**	**339**	P	**Pn**	**16 52 45.6**	**-1.1**
	baz=351						
TWB1				*e*S	**Sn**	**16 52 59.4**	**-0.5**
	baz=351						
WHF	**Hehuan Shan**	**1.03**	**275**	*i*P	**Pn**	**16 52 46.5**	**-0.8**
	baz=261						
WHF				*e*S	**Sn**	**16 52 59.5**	**-1.2**
	baz=261						
HGSD	**Ruisui**	**1.04**	**238**	P	**Pn**	**16 52 46.4**	**-0.6**
	baz=235						
HGSD				*e*S	**Sn**	**16 52 59.7**	**-0.7**
	baz=235						
TIPB	**Shuangxi**	**1.05**	**331**	*e*P	**Pn**	**16 52 46.6**	**-0.6**
	baz=329						
TIPB				S	**Sn**	**16 52 59.5**	**-1.1**
	baz=329						
FUSS	**Fushou**	**1.06**	**281**	*i*P	**Pn**	**16 52 47.3**	**-0.2**
	baz=277						
FUSS				*e*S	**Sn**	**16 53 00.8**	**-0.5**
	baz=277						
NWLT	**Wulai**	**1.08**	**312**	*e*P	**Pn**	**16 52 47.7**	**+0.1**
	baz=309						
NWLT				*i*S	**Sn**	**16 53 01.2**	**-0.2**
	baz=309						
EHYH	**Wanrong**	**1.10**	**240**	*i*P	**Pn**	**16 52 47.9**	**0.0**
	baz=250						
EHYH				*i*S	**Sn**	**16 53 01.3**	**-0.6**
	baz=250						
CHGB	**Renai**	**1.11**	**271**	P	**Pn**	**16 52 47.9**	**-0.2**
	baz=258						
CHGB				S	**Sn**	**16 53 02.0**	**-0.4**
	baz=258						
YHNB	**Yeheng**	**1.11**	**304**	P	**Pn**	**16 52 47.9**	**-0.1**
YHNB	**Yeheng**	**1.11**	**304**	P	**Pn**	**16 52 47.9**	**-0.1**
	baz=289						
YHNB				S	**Sn**	**16 53 01.6**	**-0.5**
	baz=289						
OWD	**Renai**	**1.11**	**265**	P	**Pn**	**16 52 47.9**	**-0.3**
	baz=262						
OWD				S	**Sn**	**16 53 02.1**	**-0.2**
	baz=262						
EHY	**Hungye**	**1.12**	**241**	P	**Pn**	**16 52 47.5**	**-0.6**
	baz=250						
EHY				S	**Sn**	**16 53 01.6**	**-0.6**
	baz=250						
TWT	**Tachien**	**1.12**	**281**	*i*P	**Pn**	**16 52 48.9**	**+0.6**
	baz=266						
TWT				S	**Sn**	**16 53 02.9**	**+0.2**
	baz=266						
NSK	**Sanguang**	**1.12**	**304**	*i*P	**Pn**	**16 52 48.0**	**-0.3**
	baz=289						
NSK				*i*S	**Sn**	**16 53 01.6**	**-1.0**
	baz=289						
ECBN	**Changbin**	**1.13**	**230**	P	**Pn**	**16 52 48.4**	**+0.2**
	baz=228						
ECBN				*i*S	**Sn**	**16 53 01.5**	**-1.0**
	baz=228						
SXI1	**Grass Mountain**	**1.14**	**336**	*e*P	**Pn**	**16 52 47.2**	**-1.3**
	baz=334						
SXI1				*e*S	**Sn**	**16 53 03.0**	**+0.1**
	baz=334						
TDCB	**Techi**	**1.14**	**280**	P	**Pn**	**16 52 48.3**	**-0.2**
	baz=266						
TDCB				S	**Sn**	**16 53 02.5**	**-0.6**
	baz=266						
NWF	**Wu-fen Shan**	**1.15**	**332**	*e*P	**Pn**	**16 52 48.0**	**-0.6**
	baz=330						
NWF				*i*S	**Sn**	**16 53 03.0**	**-0.4**
	baz=330						
WUSB	**Renai**	**1.16**	**267**	P	**Pn**	**16 52 48.6**	**-0.2**
	baz=264						
WUSB				S	**Sn**	**16 53 03.2**	**-0.4**
	baz=264						
VWDT	**VWDT**	**1.18**	**256**	*i*P	**Pn**	**16 52 49.1**	**+0.2**
	baz=243						
VWDT				S	**Sn**	**16 53 03.4**	**-0.4**
	baz=243						
TWA	**Mucha**	**1.18**	**322**	P	**Pn**	**16 52 49.2**	**+0.3**
	baz=334						
TWA				S	**Sn**	**16 53 04.6**	**+0.8**
	baz=334						
YULB	**Yu-li**	**1.19**	**237**	P	**Pn**	**16 52 48.6**	**-0.6**
YULB	**Yu-li**	**1.19**	**237**	*i*P	**Pn**	**16 52 48.8**	**-0.4**
	baz=248						
YULB				S	**Sn**	**16 53 03.6**	**-0.6**
	baz=248						
NHDH	**Xindian Distri**	**1.20**	**319**	*e*P	**Pn**	**16 52 50.3**	**+1.1**
	baz=330						
NHDH				S	**Sn**	**16 53 04.8**	**+0.4**
	baz=330						
EYUL	**Yuli**	**1.20**	**235**	*i*P	**Pn**	**16 52 49.4**	**+0.1**
	baz=223						
EYUL				*e*S	**Sn**	**16 53 05.0**	**+0.6**
	baz=223						
TWF1	**Yuli**	**1.22**	**235**	*i*P	**Pn**	**16 52 49.2**	**-0.2**
	baz=224						
TWF1				*i*S	**Sn**	**16 53 04.7**	**-0.1**
	baz=224						
TATO	**Taipei**	**1.23**	**319**	P	**Pn**	**16 52 50.0**	**+0.3**
	baz=316						
TATO				S	**Sn**	**16 53 05.4**	**+0.3**
	baz=316						
CHKH	**Chenggong**	**1.25**	**227**	P	**Pn**	**16 52 49.5**	**-0.3**
	baz=216						
CHKH				*i*S	**Sn**	**16 53 03.8**	**-1.8**
	baz=216						
IRIF	**Iriomote-Funau**	**1.26**	**77**	P	**Pn**	**16 52 50.3**	**+0.3**
NFF	**Wufeng Townshi**	**1.29**	**297**	P	**Pn**	**16 52 51.4**	**+0.9**
	baz=294						
NFF				S	**Sn**	**16 53 06.5**	**-0.2**
	baz=294						
HATJ	**Hateruma jima**	**1.30**	**90**	P	**Pn**	**16 52 51.2**	**+0.6**
FULB	**Fuli**	**1.31**	**230**	*e*P	**Pn**	**16 52 50.7**	**-0.1**
	baz=218						
FULB				*i*S	**Sn**	**16 53 07.1**	**0.0**
	baz=218						
CHKT	**Chengkung**	**1.33**	**225**	*i*P	**Pn**	**16 52 50.3**	**-0.7**
	baz=215						
CHKT				*i*S	**Sn**	**16 53 05.6**	**-2.0**
	baz=215						
WHP	**Taichung City**	**1.33**	**280**	P	**Pn**	**16 52 52.7**	**+1.5**
	baz=268						
WHP				*e*S	**Sn**	**16 53 08.0**	**+0.2**
	baz=268						
SSLB	**Suanglung**	**1.34**	**259**	P	**Pn**	**16 52 51.2**	**+0.1**
SSLB	**Suanglung**	**1.34**	**259**	*i*P	**Pn**	**16 52 51.3**	**+0.2**
	baz=256						
SSLB				S	**Sn**	**16 53 07.8**	**+0.1**
	baz=256						
WCS	**Beigang Elemen**	**1.35**	**271**	P	**Pn**	**16 52 51.5**	**+0.3**
	baz=262						
WCS				*e*S	**Sn**	**16 53 08.7**	**+0.8**
	baz=262						
TWS1	**Kuangyinshan**	**1.37**	**320**	P	**Pn**	**16 52 51.7**	**+0.2**
	baz=332						
TWS1				*e*S	**Sn**	**16 53 09.1**	**+0.7**
	baz=332						
SMLT	**Sun Moon Lake**	**1.37**	**263**	*i*P	**Pn**	**16 52 51.9**	**+0.2**
	baz=253						
SMLT				*e*S	**Sn**	**16 53 09.9**	**+1.3**
	baz=253						
LIOB	**Emei**	**1.38**	**296**	*e*P	**Pn**	**16 52 52.9**	**+1.1**
	baz=293						
LIOB				S	**Sn**	**16 53 10.0**	**+1.1**
	baz=293						
NSTT	**Nanjuang**	**1.39**	**295**	*i*P	**Pn**	**16 52 52.9**	**+1.1**
	baz=292						
NSTT				*i*S	**Sn**	**16 53 09.7**	**+0.7**
	baz=292						
TYC	**Yuchr**	**1.41**	**264**	*i*P	**Pn**	**16 52 52.2**	**+0.2**
	baz=262						
TYC				*e*S	**Sn**	**16 53 09.4**	**0.0**
	baz=262						
EHD	**Haiduan**	**1.41**	**231**	*i*P	**Pn**	**16 52 51.9**	**-0.1**
	baz=242						
EHD				*e*S	**Sn**	**16 53 09.3**	**-0.2**
	baz=242						
ECS	**Chishang**	**1.43**	**229**	P	**Pn**	**16 52 52.9**	**+0.5**
	baz=218						
ECS				S	**Sn**	**16 53 11.2**	**+1.1**
	baz=218						
WHYT	**Xinyi Township**	**1.45**	**256**	P	**Pn**	**16 52 53.6**	**+0.9**
	baz=245						
WHYT				*e*S	**Sn**	**16 53 10.9**	**+0.4**
	baz=245						
EDH	**Donghe**	**1.46**	**223**	P	**Pn**	**16 52 52.1**	**-0.7**
	baz=215						
EDH				*i*S	**Sn**	**16 53 09.4**	**-1.4**
	baz=215						
JKRS	**Kuro-shima**	**1.50**	**83**	P	**Pn**	**16 52 54.0**	**+0.7**
TWQ1	**Liyutan**	**1.50**	**282**	*e*P	**Pn**	**16 52 55.1**	**+1.8**
	baz=279						
TWQ1				*i*S	**Sn**	**16 53 13.2**	**+1.4**
	baz=279						
ELDTW	**Lidau**	**1.52**	**236**	*i*P	**Pn**	**16 52 53.3**	**-0.4**
	baz=234						
ELDTW				S	**Sn**	**16 53 11.5**	**-0.9**
	baz=234						
NMLH	**Miaoli**	**1.53**	**289**	*e*P	**Pn**	**16 52 54.8**	**+1.0**
	baz=286						
NMLH				*e*S	**Sn**	**16 53 14.4**	**+1.8**
	baz=286						
WJS	**Zhushan**	**1.53**	**262**	P	**Pn**	**16 52 55.6**	**+1.8**
	baz=259						
WJS				*e*S	**Sb**	**16 53 15.8**	**0.0**
	baz=259						
WNT	**Mingjian**	**1.57**	**264**	*i*P	**Pn**	**16 52 55.5**	**+1.3**
	baz=261						
WNT				S	**Sb**	**16 53 15.8**	**-0.9**
	baz=261						
LDUT	**Ludao**	**1.61**	**212**	P	**Pn**	**16 52 54.1**	**-0.7**
	baz=211						
LDUT				*e*S	**Sn**	**16 53 12.5**	**-1.9**
	baz=211						

LONT Longtian 1.62 226 P **Pn 16 52 54.7 -0.3**
baz=236
LONT S **Sn 16 53 13.9 -0.9**
baz=236
JIJ Ishigaki jima 1.63 79 P **Pn 16 52 55.3 +0.1**
TWGBT Beinan 1.72 225 P **Pn 16 52 55.8 -0.6**
baz=234
TWGBT *e*S **Sn 16 53 15.5 -1.6**
baz=234
STYH Taoyuan 1.72 240 *e*P **Pn 16 52 57.2 +0.9**
baz=230
STYH *i* S **Sn 16 53 18.3 +1.2**
baz=230
WDLH Douliu 1.73 258 P **Pn 16 52 58.5 +2.0**
baz=256
WDLH *e*S **Sn 16 53 20.0 +2.6**
baz=256
WCKO Fanlu 1.74 250 *e*P **Pn 16 52 58.8 +2.1**
baz=240
WCKO *e*S **Sb 16 53 20.8 -1.0**
baz=240
TPUB Ta-pu 1.77 245 P **Pn 16 52 59.0 +1.8**
TPUB Ta-pu 1.77 245 *e*P **Pn 16 52 58.9 +1.8**
baz=244
TPUB *e*S **Sn 16 53 21.1 +2.5**
baz=244
WTP Ta-pu 1.81 244 *e*P **Pn 16 52 59.5 +1.8**
baz=242
WTP *i* S **Sn 16 53 22.1 +2.6**
baz=242
JISG Ishigakijimahi 1.83 73 P **Pn 16 52 58.0 0.0**
JISG *e*S **Sn 16 53 19.4 -0.6**
WRL Guolierlin Hig 1.84 266 *e*P **Pn 16 52 59.6 +1.5**
baz=275
WRL *e*S **Sn 16 53 22.5 +2.2**
baz=275
WTK Tuku 1.86 259 P **Pn 16 53 00.6 +2.3**
baz=257
WTK S **Sb 16 53 24.2 -1.0**
baz=257
TWK Hsinying 1.91 246 *i* P **Pn 16 53 00.5 +1.5**
baz=244
TWK *e*S **Sb 16 53 25.1 -1.4**
baz=244
CHN1 Nanshi 1.91 244 *e*P **Pn 16 53 01.1 +2.1**
baz=242
CHN1 *i* S **Sn 16 53 24.7 +2.8**
baz=242
SLGT Liugui 1.91 237 *e*P **Pn 16 53 01.5 +2.5**
baz=229
SLGT *i* S **Sn 16 53 24.5 +2.5**
baz=229
SGST Jiashian 1.92 240 *e*P **Pn 16 53 00.6 +1.5**
baz=239
SGST S **Sn 16 53 24.8 +2.7**
baz=239
SNST Tainan City 1.92 245 *i* P **Pn 16 53 00.4 +1.3**
baz=243
SNST S **Sn 16 53 24.8 +2.7**
baz=243
SSD Sandimen 2.07 231 *i* P **Pn 16 53 02.5 +1.4**
baz=226
SSD S **Sn 16 53 27.4 +1.6**
baz=226
TSMG Majia 2.09 230 P **Pn 16 53 03.1 +1.7**
baz=226
TSMG S **Sn 16 53 27.1 +0.9**
baz=226
SCST Cishan 2.09 237 P **Pn 16 53 04.1 +2.6**
baz=248
SCST S **Sb 16 53 31.5 -0.2**
baz=248
LAY Lan-yu 2.15 201 P **Pn 16 53 01.2 -1.1**
baz=208
LAY *e*S **Sn 16 53 26.6 -1.1**
baz=208
MASBT Mashibuluo 2.16 229 P **Pn 16 53 03.2 +0.9**
baz=225
MASBT S **Sn 16 53 28.3 +0.4**
baz=225
LYUB Lan-yu 2.17 200 *e*P **Pn 16 53 02.1 -0.5**
baz=207
LYUB *e*S **Sn 16 53 26.2 -2.1**
baz=207
EAST Anshuo 2.18 221 P **Pn 16 53 02.9 +0.2**
baz=220
EAST S **Sn 16 53 27.9 -0.8**
baz=220
JTJ Tarama 2.19 74 *e*P **Pn 16 53 03.4 +0.6**
JTJ *e*S **Sn 16 53 29.7 +0.9**
TSCK Chigu Township 2.29 247 P **Pn 16 53 06.0 +1.7**
baz=246
TSCK *e*S **Sn 16 53 33.6 +2.3**
baz=246
SCZT Fangliau 2.33 225 *e*P **Pn 16 53 06.4 +1.6**
baz=220
SCZT *e*S **Sn 16 53 33.3 +1.0**
baz=220
SLIU Shizi 2.34 219 *e*P **Pn 16 53 06.6 +1.7**
baz=219
SLIU *e*S **Sn 16 53 32.1 -0.4**
baz=219
PNG Penghu 2.64 260 P **Pn 16 53 09.4 +0.5**
baz=258
PNG *e*S **Sn 16 53 40.6 +0.8**
baz=258
VWUC VWUC 2.83 290 *e*P **Pn 16 53 11.0 -0.6**
baz=287
VWUC *e*S **Sn 16 53 42.4 -2.2**
baz=287
VCHM Qimei 2.84 253 P **Pn 16 53 12.2 +0.4**
baz=252
VCHM *e*S **Sn 16 53 46.2 +1.4**
baz=252
PTMZ Houxiangcun 3.13 289 *e*P **Pn 16 53 15.2 -0.5**
baz=286
PTMZ *e*S **Sn 16 53 49.6 -2.4**
baz=286

TRN 27 16:56:32.5, 16°.87N×61°.51W, h19km, MD3.6, North of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.31**	**306**	*e*P	Pn	16 56 41.5	-0.5
ANBD				*e*S	Sn	16 56 46.1	-1.8
MBFL	**Flemmings, Mon**	**0.69**	**260**	*e*P	Pn	16 56 48.3	+1.0
MBFL				*e*S	Sn	16 56 58.6	+1.2
TBG	**Guadaloupe-3**	**1.02**	**188**	*e*P	Pg	16 56 53.5	+1.2
TBG				*e*S	Sg	16 57 09.1	+3.4
SVN	**Savane Anatole**	**2.04**	**171**	*e*P	Pn	16 57 07.1	+1.2
BIM	**Bigot**	**2.37**	**170**	*e*P	Pn	16 57 12.4	+1.9
BIM				*e*S	Sn	16 57 40.7	+1.6

NAM 27 17:22:59.6±3.3, 19°.52S×14°.43E, h0km±874km, ML0.5, 5C-7D, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ST8N	**ST8**	**0.20**	**213**	*i* S	Sg	17 23 12.5	+6.5
ST3N	**ST3**	**0.23**	**164**	⇓*i*P	Pg	17 23 05.7	+1.7
ST3N				*i* S	Sg	17 23 06.9	0.0
ST3N				IAML		17 23 07.1	
	comp=Z,3.5nm,0.1s						
ST1N	**ST1**	**0.27**	**141**	⇓*i*P	Pg	17 23 05.6	+0.8
ST1N				*i* S	Sg	17 23 06.9	-1.5
ST1N				IAML		17 23 07.0	
	comp=Z,8.1nm,0.1s						
ST1N	**ST1**	**0.27**	**141**	⇑*i*P	Pg	17 23 05.6	+0.8
ST1N				*i* S	Sg	17 23 06.9	-1.5
ST1N				IAML		17 23 07.0	
	comp=Z,8.0nm,0.1s						
ST1N	**ST1**	**0.27**	**141**	⇓*i*P	Pg	17 23 05.6	+0.8
ST1N				*i* S	Sg	17 23 06.9	-1.5
ST1N				IAML		17 23 07.0	
	comp=Z,5.6nm,0.1s						
ST6N	**ST6**	**0.28**	**186**	*e*P	Pb	17 23 06.9	-0.7
ST6N				⇓*i*P	Pb	17 23 06.9	-0.7
ST6N				*i* S	Sg	17 23 09.2	+0.6
ST6N				IAML		17 23 09.2	
	comp=Z,1.8nm,0.1s						
ST6N	**ST6**	**0.28**	**186**	*e*P	Pb	17 23 06.9	-0.7
ST6N				IAML	S	17 23 09.2	+0.6
	comp=Z,1.7nm,0.1s						
ST6N				*i* S	S	17 23 09.2	+0.6

ST9N	**ST9**	**0.29**	**159**	⇓*i*P	Pg	17 23 04.7	-0.6
ST9N				IAML		17 23 05.7	
	comp=Z,195nm,0.1s						
ST9N	**ST9**	**0.29**	**159**	⇑*i*P	Pg	17 23 04.7	-0.6
ST9N				IAML		17 23 05.4	
	comp=Z,184nm,0.1s						
ST5N	**ST5**	**0.41**	**131**	*e*P	Pg	17 23 07.5	+0.1
ST5N				⇓*i*P	Pg	17 23 07.5	+0.1
ST5N				IAML		17 23 10.5	
	comp=Z,1.3nm,0.1s						
ST5N	**ST5**	**0.41**	**131**	*e*P	Pg	17 23 07.5	+0.1
ST5N	**ST5**	**0.41**	**131**	*e*P	Pg	17 23 07.5	+0.1
ST5N				*i* S	Sg	17 23 10.1	-2.6
ST2N	**ST2**	**0.43**	**159**	⇑*i*P	Pg	17 23 06.6	-1.3
ST2N				IAML		17 23 10.0	
	comp=Z,1.3nm,0.1s						
ST2N	**ST2**	**0.43**	**159**	⇑*i*P	Pg	17 23 06.6	-1.3
ST2N				*i* S	Sg	17 23 08.9	-4.7
ST2N				IAML		17 23 10.0	
	comp=Z,1.3nm,0.1s						
ST2N	**ST2**	**0.43**	**159**	⇑*i*P	Pg	17 23 06.4	-1.5
ST2N				*i* S	Sg	17 23 08.8	-4.7
ST2N				IAML		17 23 12.4	
	comp=Z,1.0nm,0.1s						
ST10N	**ST10**	**0.47**	**185**	⇓*i*P	Pg	17 23 08.8	+0.1
ST10N				*i* S	Sg	17 23 12.2	-2.7
ST10N				IAML		17 23 12.4	
	comp=Z,6.2nm,0.1s						
ST10N	**ST10**	**0.47**	**185**	*e*P	Pg	17 23 08.7	+0.1
ST10N				*i* S	Sg	17 23 12.2	-2.7
ST10N				IAML		17 23 12.4	
	comp=Z,6.4nm,0.1s						

IDC 27 17:23:10.6±4.4, 47°.70N×93°.74W, h0km, mbtmp2.5/1, ML0.8/1, Error ellipse: s-maj=53.4km s-min=28.0km az=62.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**2.92**	**332**	Pn	Pn	17 23 57.1	-1.1
	0.2nm,0.3s,baz=149,slow=15,SNR=3.8						
ULM				Sn	Sn	17 24 28.4	-5.5
	0.1nm,0.3s,baz=74,slow=19,SNR=1.1						
ULM				Lg	Lg	17 24 40.7	
	1.5nm,0.3s,baz=224,slow=21,SNR=5.0 2.3nm,0.7s						
I10CA	**LAC DU BONNET**	**2.92**	**330**	I	I	17 40 10.0	
	baz=148,slow=351,SNR=3.1						
I56US	**NEWPORT INFRASI**	**5.66**	**281**	I	I	18 52 00.0	
	baz=84,slow=310,SNR=4.1						

*ISK **27** 17:23:50.2, 40°.38N×37°.41E, h5km, ML2.7/15*
*AFAD **27** 17:23:50.6±0.0, 40°.38N×37°.33E, h7km±3km, ML2.6*
ISC 27 17:23:50.8±1.0, 40°.38N±0°.03×37°.39E±0°.02, h10km±7km, n29, σ0°.75/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSDY	**Resadiye-TOKAT**	**0.05**	**288**	Pg	**Pg**	**17 23 52.7**	**-0.2**
SVSK	**Karacayir**	**0.55**	**213**	Pg	**Pg**	**17 24 01.3**	**-0.2**
SVSK				Sg	**Sb**	**17 24 09.8**	**-0.7**
SCER	**sogukcermik**	**0.56**	**201**	P	**Pg**	**17 24 01.3**	**-0.3**
SCER				S	**Sg**	**17 24 09.3**	**+0.3**
CUZAR	**Zara_SIVAS**	**0.57**	**149**	P	**Pb**	**17 24 02.8**	**-0.1**
SUSE	**Susehri**	**0.65**	**105**	P	**Pg**	**17 24 03.6**	**+0.3**
TOKT	**Tokat**	**0.65**	**265**	Pg	**Pb**	**17 24 03.4**	**-0.8**
TOKT				Sg	**Sb**	**17 24 12.6**	**-0.7**
TOKA	**Tokat**	**0.70**	**265**	P	**Pg**	**17 24 03.0**	**-1.2**
TOKA				*i* AML	AML	17 24 17.0	
	comp=E,309nm,0.3s						
ORDU	**Ordu-Boztepe**	**0.70**	**30**	P	**Pb**	**17 24 05.0**	**-0.2**
ALUC	**Giresun/Alucra**	**1.06**	**92**	P	**Pg**	**17 24 10.1**	**-1.0**
ESPY	**Espiye-Giresun**	**1.15**	**62**	Pn	**Pg**	**17 24 12.1**	**-0.8**
CUAYA	**Sivas-Altinyay**	**1.22**	**204**	P	**Pn**	**17 24 14.6**	**+0.6**
CUAYA				S	**Sn**	**17 24 31.5**	**+0.9**
CUAYA				*i* AML	AML	17 24 33.0	
	comp=E,126nm,0.6s						
KIZO	**Buyukkizoglu-L**	**1.22**	**296**	Pn	**Pn**	**17 24 14.5**	**+0.5**
KVT	**Kavak**	**1.24**	**305**	Pn	**Pn**	**17 24 14.6**	**+0.4**
ILIC	**ilic-Erzincan**	**1.30**	**135**	Pn	**Pn**	**17 24 14.9**	**-0.2**
CUSAR	**Sarkisla-SIVAS**	**1.30**	**223**	P	**Pn**	**17 24 14.9**	**-0.3**
CUSAR				S	**Sn**	**17 24 32.9**	**+0.2**
CUSAR				*i* AML	AML	17 24 35.0	
	comp=E,145nm,0.3s						
CUSAR				*i* AML	AML	17 24 36.0	
	comp=N,114nm,0.5s						
YARM	**Yarimca-Ladik(**	**1.31**	**295**	Pn	**Pg**	**17 24 15.9**	**0.0**
KEMA	**Kemaliye**	**1.40**	**142**	P	**Pg**	**17 24 17.6**	**0.0**
KEMA				S	**Sg**	**17 24 37.0**	**+1.2**
KEMA				*i* AML	AML	17 24 39.0	
	comp=N,111nm,0.4s						
HACI	**Hacifakili, Ak**	**1.44**	**242**	P	**Pb**	**17 24 17.5**	**-0.3**
HACI				S	**Sg**	**17 24 37.8**	**+0.6**
HACI				*i* AML	AML	17 24 40.0	
	comp=N,70nm,0.4s						
HACI				*i* AML	AML	17 24 40.0	
	comp=E,115nm,0.5s						
KELT	**Kelkit**	**1.45**	**99**	P	**Pn**	**17 24 16.9**	**-0.3**
CKRK	**Yozgat, Cekere**	**1.48**	**259**	P	**Pg**	**17 24 18.9**	**-0.2**
CKRK				S	**Sg**	**17 24 38.8**	**+0.5**
ARPR	**Arapgir-MALATY**	**1.48**	**150**	Pn	**Pb**	**17 24 18.2**	**-0.3**
YOZ	**Yozgat**	**1.75**	**246**	Pn	**Pb**	**17 24 22.1**	**-1.0**
DARE	**Darende-Malaty**	**1.81**	**178**	Pn	**Pb**	**17 24 23.3**	**-0.8**
BNN	**Bunyan**	**1.94**	**218**	Pn	**Pb**	**17 24 24.9**	**-1.4**
DIKM	**Dikmen**	**2.05**	**309**	Pn	**Pn**	**17 24 26.2**	**+0.9**
SARI	**SarD1z-Kayseri**	**2.11**	**201**	Pn	**Pn**	**17 24 27.2**	**+0.9**
CORM	**Corum**	**2.12**	**265**	Pn	**Pn**	**17 24 27.6**	**+1.2**
KOZK	**Kozakli-Nevseh**	**2.27**	**240**	Pn	**Pn**	**17 24 29.7**	**+1.3**
SNOP	**Sinop**	**2.32**	**316**	Pn	**Pn**	**17 24 30.1**	**+1.1**

*IDC **27** 17:34:11.5±4.1, 17°.80N×105°.41W, h0km, mb3.2/3, mbtmp3.4/6, ML3.1/3, MS3.3/15, Error ellipse: s-maj=79.4km s-min=39.0km az=30.0*
*MEX **27** 17:34:13.9±0.5, 18°.13N×105°.23W, h4km±51km, MD4.2*
ISC 27 17:34:13.3±3.0, 18°.15N±0°.07×104°.99W±0°.08, h2km±17km, n29, σ1°.99/27, mb3.3/3, MS3.1/9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIHU	**Emiliano Zapat**	**1.13**	**12**	*e*P	**Pb**	**17 34 34.1**	**-1.5**
CIHU				*i* S	**Sg**	**17 34 49.5**	**-0.2**
CDAR	**Ciudad de Arme**	**1.22**	**50**	*e*P	**Pb**	**17 34 36.1**	**-0.9**
CDAR				*e*S	**Sn**	**17 34 54.0**	**-0.3**
CJM	**Chamela**	**1.34**	**358**	*e*P	**Pn**	**17 34 36.1**	**-2.9**
CJM				*e*S	**Sb**	**17 34 53.3**	**-3.5**
MMIG	**Aquila**	**1.57**	**85**	*e*P	**Pn**	**17 34 41.1**	**-1.1**
MMIG				*e*S	**Sn**	**17 35 01.4**	**-1.7**
COIG	**Colima**	**1.60**	**50**	*e*P	**Pn**	**17 34 42.1**	**-0.6**
COIG				*e*S	**Sb**	**17 35 04.8**	**+0.4**
CEGR	**Campo Tres**	**1.63**	**41**	*e*P	**Pn**	**17 34 42.6**	**-0.7**
CEGR				*e*S	**Sn**	**17 35 04.2**	**-0.8**
MNGA	**Volcan de Coli**	**1.84**	**45**	*e*P	**Pn**	**17 34 46.0**	**-0.1**
SOMAC	**Volcano de Col**	**1.88**	**43**	*e*P	**Pn**	**17 34 47.5**	**+0.7**
JUBC	**Volcan de Coli**	**1.91**	**45**	*e*P	**Pn**	**17 34 46.0**	**-1.1**
AHUG	**Ahuacatlan**	**2.92**	**9**	*e*P	**Pn**	**17 35 00.7**	**-0.2**
ANIG				*e*S	**Sn**	**17 35 37.6**	**+1.0**
ARIG	**Puente Sto Nin**	**4.42**	**88**	*e*P	**Pn**	**17 35 21.9**	**+0.6**
ARIG				*e*S	**Sn**	**17 36 12.1**	**-1.4**
DAIG	**Los Arroyos**	**5.22**	**102**	*e*P	**Pn**	**17 35 30.2**	**-2.1**
DAIG				*e*S	**Sn**	**17 36 30.4**	**-2.8**
H06E1	**SOCORRO T-PHAS**	**5.67**	**277**	T	T	17 41 13.1	
	SNR=83						
LPIG	**La Paz**	**7.72**	**321**	LR	LR	17 38 30.5	
	comp=Z,388nm,18.0s,baz=191,slow=33						
CMIG	**Matias Romero**	**9.70**	**95**	Pn	**Pn**	**17 36 37.8**	**+3.9**
	0.3nm,0.3s,baz=279,slow=14,SNR=3.9						
CMIG				LR	LR	17 40 13.5	
	comp=Z,229nm,21.6s,baz=26,slow=36 1.4nm,0.5s						
TXAR	**Lajitas Array**	**11.20**	**6**	Pn	**Pn**	**17 36 58.8**	**+4.2**
	baz=186,slow=14,SNR=9.8						
TXAR				LR	LR	17 41 48.2	
	comp=Z,78nm,21.1s,baz=188,slow=39 1.6nm,1.0s						
TEIG	**Tepich**	**15.92**	**80**	LR	LR	17 44 30.9	
	comp=Z,102nm,22.0s,baz=228,slow=38						
ANMO	**Albuquerque**	**16.78**	**356**	P	**P**	**17 38 13.4**	**+1.4**
	0.1nm,0.3s,baz=194,slow=8.3,SNR=4.2						
ANMO				LR	LR	17 44 43.2	
	comp=Z,136nm,19.9s,baz=276,slow=37 0.5nm,0.4s						

PFO	**Pinyon Flats O**	**18.51**	**328**	LR	LR	17 45 02.2	
	comp=Z,43nm,18.7s,baz=159,slow=35						
NVAR	**Mina Array Bea**	**23.31**	**333**	P	**P**	**17 39 23.0**	**+0.1**
	0.3nm,0.6s,baz=137,slow=8.4,SNR=2.7						
NVAR				LR	LR	17 47 49.9	
	comp=Z,41nm,20.0s,baz=147,slow=35 0.3nm,0.6s						
ELK	**Elko**	**24.18**	**341**	LR	LR	17 48 09.9	
	comp=Z,72nm,18.5s,baz=144,slow=34						
PDAR	**Pinedale Array**	**24.84**	**352**	P	**P**	**17 39 40.2**	**+2.8**
	0.3nm,0.4s,baz=150,slow=9.3,SNR=2.1						
PDAR				LR	LR	17 48 28.2	
	comp=Z,24nm,21.7s,baz=124,slow=34 0.3nm,0.4s						
YBH	**Yreka Blue Hor**	**27.96**	**331**	LR	LR	17 51 07.4	
	comp=Z,46nm,19.2s,baz=138,slow=36						
NEW	**Newport**	**31.62**	**344**	LR	LR	17 52 41.6	
	comp=Z,46nm,18.7s,baz=183,slow=35						
ULM	**Lac du Bonnet**	**32.84**	**11**	LR	LR	17 55 00.0	
	comp=Z,94nm,19.5s,baz=104,slow=38						
SJG	**San Juan**	**36.87**	**84**	LR	LR	17 57 19.8	
	comp=Z,25nm,19.4s,baz=126,slow=37						
DLBC	**Dease Lake**	**44.23**	**341**	LR	LR	18 00 44.1	
	comp=Z,85nm,18.5s,baz=284,slow=36						
YKA	**Yellowknife Ar**	**44.80**	**354**	LR	LR	18 02 21.0	
	comp=Z,25nm,20.2s,baz=88,slow=38						
ILAR	**Eielson Array**	**54.33**	**339**	P	**P**	**17 43 39.9**	**-1.1**
	0.4nm,0.8s,baz=144,slow=5.2,SNR=5.3 0.4nm,0.8s						

*NEIC **27** 17:50:45.5±1.1, 9°.70N±0°.03×84°.16W±0°.02, h12km±5km, mb4.0/1, Error ellipse: s-maj=5.0km s-min=2.4km az=201.0*
*CATAC **27** 17:50:46.6±0.2, 9°.81N×84°.06W, h9km±1km, ML4.5*
*UCR **27** 17:50:46.5±0.9, 9°.79N×84°.10W, h12km±1km, MW4.5, Fault plane solution: NP1:φ±237.33000°, δ84.92000°, λ-19.37000°.*
*UPA **27** 17:50:47.9±2.2, 9°.87N×84°.13W, h19km±11km, MD4.5, MW4.9*
ISC 27 17:50:46.3±0.7, 9°.79N±0°.02×84°.10W±0°.02, h14km±4km, n149, σ1°.00/188, 54C-28D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACOS	**Acosta**	**0.06**	**277**	⇑*e*P	**Pg**	**17 50 49.4**	**+0.3**
ACOS				*e*S	**Sg**	**17 50 51.6**	**+0.5**
ABE2	**San Pablo**	**0.09**	**151**	⇑*e*P	**Pg**	**17 50 49.6**	**0.0**
ABE2				*e*S	**Sg**	**17 50 51.9**	**+0.1**
LCR2	**La Lucha 2**	**0.10**	**116**		**Pg**	**17 50 49.7**	**+0.1**
LCR2				Sg	**Sg**	**17 50 51.9**	**0.0**
LCR2	**La Lucha 2**	**0.10**	**116**	⇑*i*P	**Pg**	**17 50 49.7**	**+0.1**
LCR2				*i* S	**Sg**	**17 50 52.0**	**0.0**
LCR2				IAML		17 50 52.3	
	comp=Z,140μm,1.0s						
LCR2	**La Lucha 2**	**0.10**	**116**	⇑*e*P	**Pg**	**17 50 49.7**	**+0.1**
LCR2				*e*S	**Sg**	**17 50 52.1**	**+0.1**
AMPA	**Desamparados**	**0.11**	**19**	⇓*e*P	**Pg**	**17 50 49.9**	**+0.2**
AMPA				*e*S	**Sg**	**17 50 52.4**	**+0.3**
LUJA	**Lujan**	**0.14**	**11**	⇓*e*P	**Pb**	**17 50 51.5**	**+0.6**
CENT	**San Jose**	**0.14**	**8**	⇓*e*P	**Pb**	**17 50 51.5**	**+0.6**
RAZU	**San Marcos de**	**0.15**	**149**	⇑*e*P	**Pg**	**17 50 50.1**	**0.0**
RAZU				*e*S	**Sg**	**17 50 53.0**	**+0.2**
MEXI	**Barrio Mexico**	**0.15**	**5**	⇓*e*P	**Pb**	**17 50 50.7**	**-0.4**
TRIO	**Tres Rios**	**0.16**	**42**	⇓*e*P	**Pg**	**17 50 50.5**	**+0.2**
SJS	**Escuela Geolog**	**0.16**	**17**	⇓*e*P	**Pb**	**17 50 50.8**	**-0.4**
SJS3	**Mercedes San J**	**0.16**	**17**	⇓*e*P	**Pb**	**17 50 50.9**	**-0.2**
SANTA	**Santa Ana**	**0.17**	**330**	⇓*e*P	**Pg**	**17 50 50.7**	**+0.3**
SANTA				*e*S	**Sg**	**17 50 53.7**	**+0.6**
TIBA	**Tibas**	**0.17**	**9**	⇓*e*P	**Pb**	**17 50 51.1**	**-0.3**
TAGO	**Cartago**	**0.19**	**66**	⇑*e*P	**Pg**	**17 50 51.2**	**+0.4**
DOMI	**Santo Domingo**	**0.19**	**3**	⇓*e*P	**Pb**	**17 50 51.5**	**-0.3**
BELE	**Belen**	**0.21**	**335**	⇓*e*P	**Pg**	**17 50 51.3**	**+0.4**
CORON	**Coronado**	**0.21**	**27**	⇓*e*P	**Pb**	**17 50 51.8**	**-0.2**
HDC	**Heredia**	**0.21**	**356**	Pg	**Pg**	**17 50 51.2**	**+0.1**
HDC					**Sb**	**17 50 55.2**	**-0.7**
HDC	**Heredia**	**0.21**	**356**	*i* P	**Pg**	**17 50 50.8**	**-0.3**
HDC				IAML		17 50 51.9	
	comp=Z,53μm,1.0s						
HDC				*i* S	**Sb**	**17 50 55.5**	**-0.4**
HDC	**Heredia**	**0.21**	**356**	*e*P	**Pg**	**17 50 51.5**	**+0.4**
HDC3	**Heredia 3**	**0.21**	**357**	*i* P	**Pb**	**17 50 51.8**	**-0.3**
HDC3				IAML		17 50 51.9	
	comp=Z,76μm,1.0s						
HDC3				*i* S	**Sg**	**17 50 54.8**	**+0.4**
REPA	**Paraso**	**0.23**	**80**	⇑*e*P	**Pb**	**17 50 52.7**	**+0.3**
CVIMO	**Finca Echandi**	**0.28**	**33**	⇓*e*P	**Pb**	**17 50 53.0**	**-0.3**
LLNJ	**Naranjito**	**0.31**	**180**	⇓*e*P	**Pg**	**17 50 53.4**	**+0.6**
PCAYA	**Pacayas**	**0.31**	**66**	⇑*e*P	**Pg**	**17 50 53.3**	**+0.5**
VICA	**Volcano Irazu**	**0.32**	**52**	⇓*e*P	**Pg**	**17 50 53.5**	**+0.4**
TCS1	**Tacares**	**0.32**	**322**	⇑*i*P	**Pb**	**17 50 53.5**	**-0.4**
TCS1	**Tacares**	**0.32**	**322**	⇑*e*P	**Pb**	**17 50 53.6**	**-0.3**
RAFA	**San Farael, Vo**	**0.33**	**59**	*i* P	**Pg**	**17 50 53.7**	**+0.5**
RAFA				*i* S	**Sb**	**17 50 58.8**	**-0.7**
RAFA				IAML		17 50 59.3	
	comp=Z,760μm,1.0s						
RAFA	**San Farael, Vo**	**0.33**	**59**	⇑*e*P	**Pg**	**17 50 53.7**	**+0.5**
SVQ2	**Quepos**	**0.36**	**190**	*e*P	**Pg**	**17 50 53.7**	**+0.2**
TRB2	**Turrubares**	**0.37**	**290**	⇑*e*P	**Pg**	**17 50 53.7**	**0.0**
VTLA	**Turrialba Volc**	**0.39**	**56**	⇑*e*P	**Pg**	**17 50 54.6**	**+0.5**
CVTQ	**Turrialba Volc**	**0.39**	**57**	⇑*e*P	**Pg**	**17 50 54.8**	**+0.5**
VTR0	**Volcan Turrial**	**0.41**	**56**	⇑*e*P	**Pb**	**17 50 55.2**	**-0.3**
CVTR	**Volcan Turrial**	**0.41**	**55**	⇑*e*P	**Pb**	**17 50 55.1**	**-0.4**
NARAN	**Naranjo de Ala**	**0.41**	**319**	*e*P	**Pb**	**17 50 55.1**	**-0.3**
VTCV	**VTCV, Calle Va**	**0.42**	**62**	⇑*e*P	**Pg**	**17 50 55.1**	**+0.5**
BUS1	**Rivas**	**0.42**	**124**	⇑*e*P	**Pg**	**17 50 54.5**	**-0.3**
VPS6	**Volcano Poas**	**0.42**	**342**	⇓*e*P	**Pb**	**17 50 56.3**	**+0.6**
TURIB	**Turrialba**	**0.42**	**74**	⇑*e*P	**Pg**	**17 50 54.9**	**+0.2**
VERB	**Verbena**	**0.43**	**69**	⇑*e*P	**Pg**	**17 50 55.4**	**+0.5**
RAMO	**San Ramon**	**0.47**	**309**	*e*P	**Pb**	**17 50 56.6**	**+0.1**
RVSTA	**Santa Teresita**	**0.48**	**67**	⇑*e*P	**Pg**	**17 50 56.3**	**+0.4**
BITO	**Garabito Jaco**	**0.54**	**252**	*e*P	**Pg**	**17 50 57.3**	**+0.4**
ARZA	**Esparza**	**0.59**	**290**	⇑*e*P	**Pg**	**17 50 57.8**	**-0.2**
RVLA	**Villa Bonita**	**0.60**	**58**	*e*P	**Pb**	**17 50 58.4**	**-0.1**
LCOCO	**El Coco**	**0.61**	**61**	⇑*e*P	**Pb**	**17 50 58.6**	**-0.1**
IRES	**Siquirres**	**0.66**	**62**	⇑*e*P	**Pb**	**17 50 59.7**	**0.0**
SARA	**Sarapiqu**	**0.67**	**7**	*e*P	**Pb**	**17 50 59.9**	**+0.2**
CARI	**Cariari**	**0.68**	**32**	⇓*e*P	**Pn**	**17 51 00.7**	**-0.7**
SOCE	**Pocosol**	**0.78**	**319**	Pg	**Pg**	**17 51 01.2**	**-0.3**
SOCE				Sg	**Sb**	**17 51 12.1**	**-0.2**
SOCE	**Pocosol**	**0.78**	**319**	⇑*i*P	**Pg**	**17 51 01.4**	**-0.1**
SOCE				*i* S	**Sb**	**17 51 12.6**	**+0.4**
SOCE				IAML		17 51 14.5	
	comp=Z,41μm,1.0s						
SOCE	**Pocosol**	**0.78**	**319**	⇑*e*P	**Pg**	**17 51 01.4**	**-0.1**
TAAN	**Batan**	**0.80**	**68**	⇑*e*P	**Pn**	**17 51 03.0**	**-0.1**
OCHAL	**Ojochal**	**0.82**	**147**	*i* P	**Pb**	**17 51 01.6**	**-0.7**
OCHAL				*i* S	**Sb**	**17 51 14.0**	**+0.7**
OCHAL				IAML		17 51 17.4	
	comp=Z,11μm,1.0s						
VACR	**Volcan Arenal**	**0.89**	**320**	⇑*e*P	**Pb**	**17 51 03.1**	**-0.4**
**MTEV

INDI	Punta indio, G	1.38	273⇑	*i* P	Pn	17 51 10.8	-0.4
INDI				*i* S	Sg	17 51 31.5	+0.6
INDI				IAML		17 51 35.5	
comp=Z,3μm,1.0s							
COLC	Colonia	1.39	309⇑	*e* P	Pn	17 51 11.6	+0.2
JUD3	Juan Diaz 3	1.47	285	Pn	Pn	17 51 11.8	-0.6
PTJ1	Puerto Jimnez	1.47	148⇓	*e* P	Pb	17 51 13.6	+0.1
GPS2	Hotel Rincn d	1.56	308⇑	*e* P	Pn	17 51 14.2	+0.5
DELF	Filadelfia	1.57	295	*e* P	Pb	17 51 14.7	-0.5
VRLE	La Escondida,	1.59	309⇑	*e* P	Pn	17 51 14.6	+0.4
VORI	VORI	1.60	310⇑	*e* P	Pn	17 51 15.0	+0.6
MLIR3	Monte Lirio, C	1.60	128	⇓ *i* P	Pb	17 51 15.6	-0.2
MLIR3				*i* S	Sg	17 51 38.4	+0.5
ALIBA	Liberia Airpor	1.63	299⇑	*e* P	Pn	17 51 15.3	+0.6
CNI2	El Empalme, Bo	1.65	103⇑	*e* P	Pn	17 51 14.8	0.0
CNI2				*i* S	Sb	17 51 36.6	-0.5
ELI1	Hacienda Flor	1.67	301⇑	*e* P	Pn	17 51 15.7	+0.6
BRU2	Volcan	1.71	125	Pn	Pn	17 51 16.1	+0.3
BRU2	Volcan	1.71	125	⇑ *i* P	Pn	17 51 16.3	+0.5
BRU2				*i* S	Sb	17 51 39.3	+0.3
BRU2	Volcan	1.71	125	⇑ *i* P	Pn	17 51 16.3	+0.5
BRU2				*i* S	Sb	17 51 38.9	-0.1
BRU2				IAML		17 51 49.8	
comp=Z,8μm,1.0s							
BRU2	Volcan	1.71	125⇑	*e* P	Pn	17 51 16.3	+0.5
CDITO	Canoas	1.71	135	*i* P	Pn	17 51 15.8	+0.1
CDITO				*i* S	Sb	17 51 39.4	+0.5
CDITO				IAML		17 51 59.5	
comp=Z,6μm,1.0s							
BCO2	Palmira	1.88	124	⇓ *i* P	Pn	17 51 19.2	+1.0
BCO2				*i* S	Sn	17 51 42.6	+0.7
LNBQ3	Los Naranjos,	1.91	121	⇓ *i* P	Pn	17 51 19.7	+1.0
LNBQ3				*i* S	Sn	17 51 43.8	+1.2
LCRUZ	La Cruz	1.98	311	*e* P	Pn	17 51 20.0	+0.5
PTPM	Petroterminale	1.98	142	⇓ *i* P	Pb	17 51 21.3	-0.9
PTPM				*i* S	Sg	17 51 49.9	-0.2
PSOM3	Paja de Sombre	2.07	122	⇓ *i* P	Pn	17 51 21.8	+1.1
PSOM3				*i* S	Sn	17 51 47.9	+1.6
CHGR2	Aguacate	2.11	113	⇓ *i* P	Pb	17 51 23.0	-1.3
CHGR2				*i* S	Sb	17 51 50.5	+0.1
DVD	David	2.11	129	*e* P	Pn	17 51 22.4	+1.1
DVD				*i* S	Sb	17 51 49.8	-0.6
LOCO3	Loma Colorada,	2.15	129	*e* P	Pn	17 51 23.3	+1.5
LOCO3				*i* S	Sn	17 51 49.5	+1.2
LOMA3	Las Lomas, Chi	2.16	128⇑	*e* P	Pb	17 51 24.1	-1.2
PEDE3	Pedregal, Chir	2.17	130	*e* P	Pb	17 51 25.1	-0.2
BLUN	Bluefields	2.23	8	*i* P	Pn	17 51 22.5	-0.3
BLUN				*i* S	Sn	17 51 50.3	+0.1
BLUN				IAML		17 51 58.0	
comp=Z,5μm,1.0s							
JAPN	Al SSO del Vol	2.32	318	*i* P	Pn	17 51 25.3	+1.2
JAPN				IAML		17 51 31.8	
comp=Z,2μm,1.0s							
ESPN	Las Esperanzas	2.40	355	Pn	Pn	17 51 25.4	+0.2
ACON	Acoyapa	2.41	334	Pn	Pn	17 51 25.6	+0.3
ACON	Acoyapa	2.41	334	*i* P	Pn	17 51 25.9	+0.5
ACON				IAML		17 52 04.4	
comp=Z,2μm,1.0s							
ACON	Acoyapa	2.41	334⇑	*e* P	Pn	17 51 25.6	+0.2
BOAB	BOACO BROADBAN	3.06	330	Pn	Pn	17 51 34.1	-0.2
BOAB	BOACO BROADBAN	3.06	330	⇑ *i* P	Pn	17 51 34.8	+0.5
BOAB				*i* S	Sn	17 52 12.1	+1.4
BOAB				IAML		17 52 19.4	
comp=Z,1μm,1.0s							
HUEN		3.25	321	*i* P	Pb	17 51 40.5	-3.3
SAPS	Ciudad Sandino	3.27	316	*i* P	Pn	17 51 39.8	+2.5
SAPS				IAML		17 51 40.2	
comp=Z,460nm,1.0s							
COPN	Copaltepe	3.41	314	*i* P	Pn	17 51 40.6	+1.5
COPN				IAML		17 51 41.6	
comp=Z,290nm,1.0s							
SFRA3	San Francisco,	3.45	116	*e* P	Pn	17 51 42.4	+2.7
GMAL	Guarumal, Vera	3.48	125	*e* P	Pn	17 51 41.3	+1.3
STIA3	Santiago, Vera	3.52	118	*e* P	Pn	17 51 40.6	0.0
CALO3	Calobre, Verag	3.53	114	*e* P	Pn	17 51 42.8	+2.0
CNGA	Al SSO del Vol	3.71	317	*i* P	Pn	17 51 43.9	+0.6
CNGA				IAML		17 51 46.2	
comp=Z,320nm,1.0s							
CNGN	Cerro Negro	3.71	317	Pn	Pn	17 51 45.0	+1.7
CNGN	Cerro Negro	3.71	317	*i* P	Pn	17 51 45.4	+2.1
CNGN				IAML		17 51 49.0	
comp=Z,220nm,1.0s							
TELN	Telica	3.88	316	*i* P	Pn	17 51 47.3	+1.7
TELN				IAML		17 53 57.6	
comp=Z,27nm,1.0s							
HERN	Volcan Telica	3.88	317	*i* P	Pn	17 51 47.7	+2.1
HERN				IAML		17 51 48.3	
comp=Z,190nm,1.0s							
LIMN	Finca el Limon	3.94	326	*i* P	Pn	17 51 47.4	+0.9
LIMN				IAML		17 52 51.0	
comp=Z,340nm,1.0s							
CACAO	El Cacao, Vera	4.02	127	*i* P	Pn	17 51 49.8	+2.3
PKGN	Cerro Pekin	4.02	316	*i* P	Pn	17 51 49.6	+2.1
PKGN				IAML		17 51 50.7	
comp=Z,520nm,1.0s							
CHIT3	Chitre	4.07	116	*e* P	Pn	17 51 50.2	+2.1
CRIN	San Cristobal	4.09	315	Pn	Pn	17 51 48.4	-0.2
CRIN	San Cristobal	4.09	315	*i* P	Pn	17 51 51.1	+2.5
CRIN				IAML		17 51 55.9	
comp=Z,470nm,1.0s							
BCIP	Isla Barro Col	4.25	98	Pn	Pn	17 51 51.1	+0.4
BCIP	Isla Barro Col	4.25	98	*i* P	Pn	17 51 51.2	+0.6
BCIP	Isla Barro Col	4.25	98	⇑ *i* P	Pn	17 51 51.1	+0.4
BCIP				IAML		17 51 51.6	
comp=Z,190nm,1.0s							
BCIP				*i* S	Sn	17 52 39.2	-1.0
BCIP	Isla Barro Col	4.25	98⇑	*e* P	Pn	17 51 50.9	+0.3
ZANG	Zanguenga, Cho	4.26	101⇓	*e* P	Pn	17 51 51.8	+1.0
AZU	Azuero	4.27	117	*i* P	Pn	17 51 53.4	+2.4
FRIJ	El Hiral	4.35	97⇓	*e* P	Pn	17 51 52.5	+0.4
FRIJ				*e* S	Sn	17 52 36.6	-6.0
SOMN	Somoto	4.37	326	*i* P	Pn	17 51 54.3	+1.8
SOMN				IAML		17 52 48.7	
comp=Z,160nm,1.0s							
ARRA3	Arraijan, Pana	4.46	100	*e* P	Pn	17 51 54.5	+0.9
UPA	Univ. de Panam	4.58	100	*e* P	Pn	17 51 56.0	+0.9
UPA				*e* S	Sn	17 52 47.6	-0.6
YUSH	Yuscaran	4.94	327	*i* P	Pn	17 52 01.3	+1.1
YUSH				*i* S	Sn	17 52 59.8	+2.6
CHPO	Chepo, Panama	4.96	97	*e* P	Pn	17 51 59.7	-0.6
TGUH	Tegucigalpa,Un	5.26	324	Pn	Pn	17 52 05.0	+0.4
TOTI	Torti	5.78	98	*e* P	Pn	17 52 13.5	+1.8
MTO3	Montecristo	6.89	312	Pn	Pn	17 52 28.8	+1.6
BAUV	El Baul	15.87	92	Pn	Pn	17 54 28.6	-0.9
BAUV				IAmb	IAmb	17 54 40.2	
comp=Z,9.2nm,0.8s							

*IDC **27** 17:56:04.3±3.8, 17°.86N×105°.28W, h0km, mb3.3/3, mbtmp3.5/8, ML3.4/5, MS3.2/10, Error ellipse: s-maj=77.7km s-min=29.4km az=32.0*
*MEX **27** 17:56:06.4±0.8, 18°.12N×105°.24W, h5km, MD4.3*
*NEIC **27** 17:56:08.9±2.9, 17°.99N±0°.10×105°.1W±0°.1, h31km±10km, mb4.0/99, Error ellipse: s-maj=22.0km s-min=7.8km az=52.0*

ISC 27 17:56:06.3±1.0, 18°.11N±0°.06×105°.09W±0°.07, h10km, n139, σ1§57/137, mb4.0/33, MS3.1/5, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIHU	Emiliano Zapat	1.20	16	*e* P	Pn	17 56 26.7	-2.5
CIHU				*e* S	Sb	17 56 42.2	-2.4
CDAR	Ciudad de Arme	1.31	51	*e* P	Pn	17 56 28.8	-2.0
CDAR				*e* S	Sn	17 56 46.5	-1.9
CJM	Chamela	1.38	2	*e* P	Pn	17 56 28.9	-2.8
CJM				*e* S	Sb	17 56 45.6	-4.4
MMIG	Aquila	1.67	84	*e* P	Pn	17 56 34.0	-1.6
MMIG				*e* S	Sn	17 56 53.2	-3.8
COIG	Colima	1.70	51	*e* P	Pn	17 56 34.6	-1.6
COIG				*e* S	Sn	17 56 57.3	-0.7
CEGR	Campo Tres	1.73	42	*e* P	Pn	17 56 35.3	-1.3
CEGR				*e* S	Sn	17 56 58.3	-0.5
COMA	Comala	1.74	46	*e* P	Pn	17 56 38.3	+1.6
COMA				*e* S	Sn	17 57 00.2	+1.2
MNGA	Volcan de Coli	1.94	46	*e* P	Pn	17 56 39.1	-0.5
SOMAC	Volcano de Col	1.97	44	*e* P	Pn	17 56 39.7	-0.5
JUBC	Volcan de Coli	2.00	46	*e* P	Pn	17 56 40.2	-0.3
ANIG	Ahuacatlan	2.98	10	*e* P	Pn	17 56 54.5	+0.8
ANIG				*e* S	Sn	17 57 29.4	-0.1
MOIG	Morelia	4.01	66		Pn	17 57 08.4	+0.4
ARIG	Puente Sto Nin	4.51	87	*e* P	Pn	17 57 15.6	+0.9
ARIG				*e* S	Sn	17 58 05.3	-2.0
CAIG	El Cayaco	4.72	102	*e* S	Sn	17 58 09.5	-2.9
JRQG	Juriquilla Cam	5.08	59	Pn	Pn	17 57 24.9	+2.1
ZAIG	Zacatecas	5.20	27	Pn	Pn	17 57 27.1	+2.6
ZAIG	Zacatecas	5.20	27	*e* P	Pn	17 57 29.4	+4.8
ZAIG				*e* S	Sn	17 58 28.5	+3.7
MEIG	Mezcala	5.21	91	*e* P	Pn	17 57 21.4	-2.9
MEIG				*e* S	Sn	17 58 24.2	-0.4
DAIG	Los Arroyos	5.30	101	*e* P	Pn	17 57 25.9	+0.3
DAIG				*e* S	Sn	17 58 26.7	-0.1
PLIG	Platanillo	5.32	86	*e* P	Pn	17 57 27.0	+1.1
PLIG				*e* S	Sn	17 58 28.2	+0.9
MAVM	Malinalco, Edo	5.37	80	*e*	Pn	17 57 11.2	-16
MAVM				*e*		17 58 21.0	
H06E1	SOCORRO T-PHAS	5.58	278	T	T	18 03 01.2	
SNR=145							
YAIG	Yautepec	5.76	82	*e* P	Pn	17 57 32.1	0.0
YAIG				*e* S	Sn	17 58 44.1	+5.8
TLIG	Tlapa	6.24	94	Pn	Pn	17 57 37.8	-0.8
LPIG	La Paz	7.70	322	LR	LR	18 00 22.6	
comp=Z,232nm,19.1s,baz=181,slow=33							
CMIG	Matias Romero	9.78	94	Pn	Pn	17 58 29.2	+2.1
0.4nm,0.3s,baz=277,slow=8.1,SNR=4.2							
CMIG				LR	LR	18 02 27.3	
comp=Z,164nm,19.3s,baz=290,slow=38							
2.4nm,0.6s							
TX31	Lajitas Ar. Si	11.25	6	Pn	Pn	17 58 48.8	+1.5
TXAR	Lajitas Array	11.25	6	Pn	Pn	17 58 49.0	+1.7
TXAR	Lajitas Array	11.25	6	Pn	Pn	17 58 51.4	+4.1
baz=187,slow=14,SNR=12							
1.8nm,0.8s							
MNHN	Monahans	13.34	9	Pn	Pn	17 59 19.9	+4.0
319A	Douglas	13.74	345		Pn	17 59 22.4	+1.0
SGCY	Sterling City	14.20	14		Pn	17 59 30.1	+2.4
BRDY	Brady	14.23	22	Pn	Pn	17 59 30.1	+2.1
APG	El Apazote	14.36	100	Pn	Pn	17 59 31.3	+1.3
0.1nm,0.3s,baz=307,slow=20,SNR=2.5							
APG				LR	LR	18 04 57.0	
comp=Z,5.9nm,18.6s,baz=250,slow=37							
0.3nm,0.4s							
TUC	Tucson	15.04	341	Pn	Pn	17 59 38.4	-0.7
TUC				IAmb	IAmb	17 59 39.8	
comp=Z,5.1nm,0.7s							
SN05	Snyder 5	15.18	14		Pn	17 59 41.0	+0.1
POST	Post	15.24	12	Pn	Pn	17 59 43.9	+2.2
ABTX	Abilene, Hawle	15.26	18	Pn	P	17 59 45.0	-1.9
ABTX				IAmb	IAmb	18 00 08.9	
comp=Z,6.6nm,0.7s							
SN07	Snyder 07	15.39	13		Pn	17 59 44.5	+0.8
SN07				IAmb	IAmb	18 00 02.3	
comp=Z,10nm,0.7s							
PLPT	Palo Pinto	15.86	21	Pn	Pn	17 59 50.4	+0.6
PLPT				IAmb	IAmb	18 00 06.3	
comp=Z,12nm,1.0s							
MSTX	Muleshoe	15.93	7		Pn	17 59 49.6	-1.1
MSTX				IAmb	IAmb	18 00 00.7	
comp=Z,15nm,1.2s							
DKNS	Dickens	15.93	13		Pn	17 59 51.7	+0.9
DKNS				IAmb	IAmb	18 00 04.4	
comp=Z,12nm,0.7s							
TEIG	Tepich	16.02	80	LR	LR	18 06 33.5	
comp=Z,83nm,19.8s,baz=77,slow=39							
237A	Washetta, Mont	16.17	29	Pn	Pn	17 59 53.4	-0.3
NATX	Nacogdoches	16.54	33	Pn	Pn	17 59 59.6	+1.2
113A	Mohawk Valley,	16.55	333		P	18 00 01.6	+0.4
ANMO	Albuquerque	16.81	356		Pn	18 00 02.2	+0.1
ANMO	Albuquerque	16.81	356	P	P	18 00 05.9	+1.7
comp=Z,0.1nm,0.3s,baz=249,slow=16,SNR=6.5							
ANMO				LR	LR	18 06 44.1	
comp=Z,147nm,19.0s,baz=266,slow=38							
comp=Z,1.8nm,0.8s							
X18A	Snowflake	16.92	346		P	18 00 05.1	-0.3
X18A				IAmb	IAmb	18 00 11.1	
comp=Z,6.0nm,0.4s							
AMTX	Amarillo	16.98	10	P	P	18 00 05.6	-0.4
AMTX				IAmb	IAmb	18 00 15.1	
comp=Z,8.6nm,0.9s							
X16A	Lo Mia Camp, P	17.20	342		P	18 00 07.6	-1.0
GLA	Glamis	17.26	331		P	18 00 07.5	-1.6
Y14A	Wickenburg	17.28	337		P	18 00 08.0	-1.3
W18A	Petrified Fore	17.44	347	P	P	18 00 10.5	-0.7
W18A				IAmb	IAmb	18 00 20.9	
comp=Z,13nm,1.2s							
SMWD	Samnorwood	17.47	13	P	Pn	18 00 09.6	-0.5
WMOK	Wichita Mounta	17.49	18		P	18 00 11.5	-0.1
RMX	La Rumorosa	17.50	328	P	P	18 00 12.0	+0.1
X34A	Smith Ranch, M	17.65	20		P	18 00 13.9	+0.5
WUAZ	Wupatki	18.21	343	P	P	18 00 21.5	+1.8
PFO	Pinyon Flats O	18.50	329	P	Pn	18 00 24.9	+1.9
comp=Z,0.2nm,0.3s,baz=150,slow=10,SNR=3.7							
PFO				LR	LR	18 06 30.3	
comp=Z,37nm,18.0s,baz=188,slow=34							
comp=Z,1.9nm,0.8s							
MVCO	Mesa Verde	19.26	352	P	Pn	18 00 33.5	+1.2
U15A	North Rim	19.32	342	P	Pn	18 00 33.8	+0.8
U15A				IAmb	IAmb	18 00 43.5	
comp=Z,11nm,1.5s							
V12A	Nelson	19.56	336	P	Pn	18 00 35.7	-0.1
V12A				IAmb	IAmb	18 00 41.6	
comp=Z,7.9nm,1.4s							
SDCO	Great Sand Dun	19.57	359	P	Pn	18 00 36.0	+0.1
SDCO				IAmb	IAmb	18 00 41.7	
comp=Z,12nm,1.5s							
S22A	4UR Ranch, Cre	19.62	356		P	18 00 35.6	+0.3
X40A	Basin Creek Fa	19.63	31	P	P	18 00 35.1	0.0
KAN14	Manchester OK	19.79	17	P	P	18 00 37.9	+1.0
KNB	Kanab	20.03	342	P	Pn	18 00 40.5	-0.8
GSC	Goldstone, Bar	20.04	331	P	Pn	18 00 40.7	-0.7
GSC				IAmb	IAmb	18 00 55.9	
comp=Z,6.9nm,1.2s							
LCMT	Little Creek M	20.15	341	P	Pn	18 00 42.5	-0.3
ACON	Acoyapa	20.17	105	P	P	18 00 39.7	-1.5
PV01	Paradox Valley	20.18	352	P	Pn	18 00 43.2	-0.1
PV01				IAmb	IAmb	18 00 50.2	
comp=Z,11nm,1.5s							
PV05	Paradox Valley	20.20	351	P	P	18 00 41.7	+0.2
PV05				IAmb	IAmb	18 00 50.5	
comp=Z,8.7nm,1.2s							
PKCU	Pink Cliffs	20.28	343	P	Pn	18 00 45.0	+0.6
HMU	Henry Mountain	20.36	347	P	P	18 00 43.4	0.0
HMU				IAmb	IAmb	18 01 01.1	
comp=Z,12nm,1.5s							
SHPR	Sheep Range	20.37	336	P	Pn	18 00 43.6	-1.7
PV23	Carpenter Ridg	20.55	351	P	P	18 00 46.1	+0.7
PV23				IAmb	IAmb	18 00 53.6	
comp=Z,9.0nm,0.8s							
GWY	Greenwater Val	20.71	333	P	Pn	18 00 48.7	-0.7
GWY				IAmb	IAmb	18 00 55.8	
comp=Z,6.7nm,1.2s							
MTPU	Mount Pierson	20.80	344	P	Pn	18 00 50.1	-0.5
MTPU				IAmb	IAmb	18 00 53.5	
comp=Z,5.5nm,1.2s							
FCAR	Ozark Folk Cen	21.10	30	P	P	18 00 53.7	+2.6
WCT	Wildcat Mounta	21.21	334	P	P	18 00 54.5	+2.2
WCT				IAmb	IAmb	18 00 59.6	
comp=Z,5.8nm,1.3s							
MSU	Marysvale	21.25	345	P	P	18 00 54.9	+2.0
MVU	Marysvale	21.25	344	P	P	18 00 55.1	+2.2
Q16A	Castle Valley	21.40	347	P	P	18 00 55.9	+1.4
Q16A				IAmb	IAmb	18 01 18.2	
comp=Z,7.5nm,1.0s							
GRAC	Grapevine Rang	21.70	333	P	P	18 00 56.6	-1.0
GRAC				IAmb	IAmb	18 01 18.8	
comp=Z,14nm,1.4s							
LCAR	Lake Charles	21.72	32	P	P	18 00 57.6	-0.2
PSUT	Pine Spring	21.74	341	P	P	18 00 58.4	+0.2
PSUT				IAmb	IAmb	18 01 18.7	
comp=Z,9.2nm,1.4s							
TMUT	Trail Mountain	21.77	347	P	P	18 00 58.6	0.0
TMUT				IAmb	IAmb	18 01 12.4	
comp=Z,12nm,1.3s							
P17A	Butcher Ranch,	21.84	348	P	P	18 00 59.4	+0.2
P18A	Preston Nutter	21.90	349	P	P	18 01 01.8	+1.8
GMN	Gold Mountain	21.91	333	P	P	18 01 02.0	+2.0
GMN				IAmb	IAmb	18 01 06.1	
comp=Z,5.1nm,1.2s							
LRAL	Lakeview Retre	22.02	44	P	P	18 01 02.7	+1.8
LRAL				IAmb	IAmb	18 01 06.6	
comp=Z,5.9nm,0.8s							
S39A	Bolivar	22.07	26		P	18 01 03.5	+2.1
S39A				IAmb	IAmb	18 01 08.5	
comp=Z,4.7nm,0.9s							
MGMO	Mountain Grove	22.07	28	P	P	18 01 03.5	+2.0
MGMO				IAmb	IAmb	18 01 11.6	
comp=Z,10nm,1.3s							
R11B	Troy Canyon, C	22.15	338	P	P	18 01 04.4	+1.8
R11B				IAmb	IAmb	18 01 08.5	
comp=Z,6.4nm,1.4s							
DSP	Deep Springs	22.27	332	P	P	18 01 03.2	-0.4
DSP				IAmb	IAmb	18 01 10.4	
comp=Z,7.5nm,1.5s							
MZP	Montezuma Peak	22.30	334	P	P	18 01 02.8	-1.4
SPR3	Spring Creek 3	22.31	341	P	P	18 01 03.2	-1.3
SPR3				IAmb	IAmb	18 01 07.8	
comp=Z,5.9nm,1.4s							
T42A	Van Buren	22.51	30		P	18 01 05.9	-0.3
T42A				IAmb	IAmb	18 01 20.1	
comp=Z,7.3nm,1.2s							
TPH	Tonopah	22.55	334	P	P	18 01 05.6	-1.2
NLU	North Lily Min	22.59	346	P	P	18 01 06.9	-0.3
PLAL	Pickwick Lake	22.61	39	P	P	18 01 07.0	-0.3
PLAL				IAmb	IAmb	18 01 22.2	
comp=Z,5.3nm,1.1s							
RDMU	Red Mountain	22.71	351	P	P	18 01 08.5	-0.1
RDMU				IAmb	IAmb	18 01 22.3	
comp=Z,4.5nm,0.9s							
BSUT	Blindstream Ca	22.88	349	P	P	18 01 10.5	0.0
X48A	Hartselle	22.89	41	P	P	18 01 09.5	-0.7
X48A				IAmb	IAmb	18 01 22.6	
comp=Z,10.0nm,1.1s							
Y49A	Blount Mountai	22.91	43	P	P	18 01 09.5	-1.0
Y49A				IAmb	IAmb	18 01 20.8	
comp=Z,9.0nm,1.2s							
OMMB	Old Mammoth Mi	22.94	331	P	P	18 01 09.0	-2.1
OMMB				IAmb	IAmb	18 01 34.3	
comp=Z,4.9nm,1.2s							
DUG	Dugway, Tooele	23.00	345	P	P	18 01 11.4	0.0
DUG				IAmb	IAmb	18 01 17.5	
comp=Z,6.6nm,1.4s							
R40A	Maddies Statio	23.01	27	P	P	18 01 11.2	-0.2
R40A				IAmb	IAmb	18 01 21.8	
comp=Z,5.5nm,1.1s							
NV11	Mina Array Sit	23.24	333	P	P	18 01 13.9	-0.1
LHV	Little Huntoon	23.24	332	P	P	18 01 13.3	-0.5
LHV				IAmb	IAmb	18 01 24.1	
comp=Z,6.1nm,1.4s							
CCM	Cathedral Cave	23.27	29	P	P	18 01 14.3	+0.2
CCM				IAmb	IAmb	18 01 22.1	
comp=Z,7.7nm,1.2s							
NVAR	Mina Array Bea	23.30	333	P	P	18 01 15.1	+0.4
NVAR	Mina Array Bea	23.30	333	P	P	18 01 16.3	+1.6
comp=Z,0.4nm,0.6s,baz=143,slow=6.8,SNR=1.6							
comp=Z,0.4nm,0.6s							
FVM	French Village	23.59	30	P	P	18 01 16.8	-0.5
FVM				IAmb	IAmb	18 01 44.6	
comp=Z,4.2nm,0.7s							
KVN	Kaiserville	23.74	334	P	P	18 01 18.1	-0.9
BGU	Big Grassy Mou	23.74	345	P	P	18 01 19.3	+0.4
BGU				IAmb	IAmb	18 01 28.8	
comp=Z,5.8nm,1.3s							
ELK	Elko	24.19	341	P	P	18 01 22.5	-0.8
ELK	Elko	24.19	341	LR	LR	18 09 40.9	
comp=Z,67nm,19.4s,baz=192,slow=34							
BMN	Battle Mountai	24.58	337	P	P	18 01 26.8	+0.1
BMN				IAmb	IAmb	18 01 30.2	
comp=Z,4.2nm,0.8s							
PDAR	Pinedale Array	24.87	352	P	P	18 01 28.8	-0.6
PDAR	Pinedale Array	24.87	352	P	P	18 01 30.3	+0.9
comp=Z,0.3nm,0.4s,baz=162,slow=9.5,SNR=1.7							
PDAR				LR	LR	18 10 58.3	
comp=Z,31nm,19.3s,baz=160,slow=36							
comp=Z,0.3nm,0.4s							
Q44A	Meyer Farm, Va	25.00	31	P	P	18 01 30.5	+0.2
N41A	Harden Midland	25.64	26	P	P	18 01 38.8	+2.7
REDW	Red Top Meadow	25.64	350	P	P	18 01 37.5	+1.1
SNOW	Snow King Moun	25.72	350	P	P	18 01 39.0	+1.8
TKL	Tuckaleechee C	25.73	43	P	P	18 01 38.1	+1.1
TPAW	Teton Pass	25.78	350	P	P	18 01 38.6	+0.9
TPAW				IAmb	IAmb	18 01 51.6	
comp=Z,7.2nm,1.1s							
LOHW	Long Hollow	25.85	351	P	P	18 01 39.6	+1.3
LOHW				IAmb	IAmb	18 01 48.2	
comp=Z,5.3nm,1.1s							
BG3	Lake Jocassee	25.90	45	P	P	18 01 39.7	+1.1
T50A	Nancy	25.92	39	P	P	18 01 37.0	-1.8
FXWY	Fox Creek	25.94	350	P	P	18 01 39.1	0.0
FXWY				IAmb	IAmb	18 01 52.6	
comp=Z,7.1nm,1.4s							
HATC	Hat Creek Radi	26.65	332	P	P	18 01 47.7	+2.3
WVOR	Wild Horse Val	26.85	337	P	P	18 01 47.5	+0.2
WVOR				IAmb	IAmb	18 02 04.8	
comp=Z,4.4nm,1.2s							
U54A	Nelsons Funny	27.51	44	P	P	18 01 51.8	-1.4
U54A				IAmb	IAmb	18 02 14.9	
comp=Z,5.4nm,0.9s							
ULM	Lac du Bonnet	32.90	11	LR	LR	18 16 52.4	
comp=Z,84nm,19.1s,baz=224,slow=38

comp=E,25nm,0.3s,comp=N,21nm,0.3s
JIM2 Oshima 3 1.10 249 *e*P **Pn 17 58 13.9 -1.1**
JIM2 S **Sn 17 58 27.2 -2.1**
JIM2 Oshima 3 1.10 249 A A 17 58 13.9
comp=E,16nm,0.3s,comp=N,21nm,0.3s
JYT Yasato 1.18 341 A A 17 58 15.9
comp=E,10.0nm,0.5s,comp=N,8.0nm,0.6s
JOD2 Odawara 2 1.31 277 ⇓P **Pn 17 58 16.9 -1.0**
JOD2 ⇓S **Sn 17 58 31.9 -2.5**
JOD2 Odawara 2 1.31 277 A A 17 58 16.9
comp=E,5.0nm,0.5s,comp=N,4.0nm,3.1s
JHTM Izuhatsuma 1.38 264 A A 17 58 18.2
comp=E,13nm,0.4s,comp=N,21nm,0.3s
JMYK Miyake Tsubota 1.41 222 P **Pn 17 58 19.0 -0.2**
JMKN Mikurajimanish 1.52 217 *e*P **Pn 17 58 20.6 -0.1**
JMKN *e*S **Sn 17 58 38.8 -0.5**
JIZS Izushimoda 1.53 255 ⇓P **Pn 17 58 19.9 -0.9**
JIZS ⇓*e*S **Sn 17 58 37.6 -2.1**
JFNN Fujinakano 1.63 273 ⇓P **Pn 17 58 21.6 -0.7**
JFNN ⇓*e*S **Sn 17 58 40.7 -1.5**
JAG Ashikaga 1.64 323⇓*e*P **Pn 17 58 22.1 -0.3**
JSG Sagara 2.09 259 P **Pn 17 58 29.1 +0.6**
JSG Sagara 2.09 259 **Pn 17 58 28.7 +0.2**
JSG Sn **Sn 17 58 53.6 +0.2**
JHJ2 Mitsune 2.12 200 P **Pn 17 58 29.5 +0.5**
JHJ2 Mitsune 2.12 200 Pn **Pn 17 58 28.9 0.0**
JHJ2 Sn **Sn 17 58 50.4 -3.8**
JHJ Hachijo jima 2 2.13 201 P **Pn 17 58 28.6 -0.4**
comp=N,566nm,0.3s,baz=330,slow=20,SNR=55
JHJ S **Sn 17 58 53.5 -0.7**
comp=N,754nm,0.3s,baz=244,slow=23,SNR=12
MJAR Matsushiro Arr 2.46 306 P **Pn 17 58 33.3 -0.2**
comp=N,34nm,0.3s,baz=130,slow=15,SNR=53
MJAR S **Sn 17 59 05.0 +2.7**
comp=N,59nm,0.3s,baz=104,slow=20,SNR=3.4
MJAR LR LR 17 59 51.9
comp=N,181nm,20.2s,baz=124,slow=47
MAJO Matsushiro 2.46 306 P **Pn 17 58 33.9 +0.4**
MAJO Matsushiro 2.46 306 **Pn 17 58 33.4 -0.1**
MJB9 Matsu-Tunnel 2.46 306 **Pn 17 58 34.5 +0.9**
JMM Marumori 2.74 2 P **Pn 17 58 37.7 +0.3**
JMM Marumori 2.74 2 **Pn 17 58 37.8 +0.3**
JMM Sn **Sn 17 59 08.1 -1.2**
JGF Kuroka 2.75 281 P **Pn 17 58 38.7 +1.1**
JGF Kuroka 2.75 281 Pn **Pn 17 58 38.5 +0.9**
INU Inuyama 3.00 275 P **Pn 17 58 41.5 +0.5**
INU Inuyama 3.00 275 **Pn 17 58 40.8 -0.2**
JSD Sado 3.50 327 Pn **Pn 17 58 48.4 +0.6**
JTM Tenmabayashi 5.67 3 P **Pn 17 59 17.9 +0.4**
JTM Tenmabayashi 5.67 3 Pn **Pn 17 59 17.5 0.0**
JMN Monobe 5.79 258 Pn **Pn 17 59 19.6 +0.5**
ERM Erimo 7.16 15 P **Pn 17 59 36.2 -1.6**
ERM Erimo 7.16 15 Pn **Pn 17 59 36.0 -1.9**
JEM Erimo 7.16 15 P **Pn 17 59 36.3 -1.5**
JCJ Chichijima 8.10 170 P **Pn 17 59 49.7 -1.2**
JCJ Chichijima 8.10 170 Pn **Pn 17 59 48.8 -2.0**
JCJ Chichijima 8.10 170 P Pn 17 59 44.5 -6.3
comp=N,85nm,0.3s,baz=299,slow=19,SNR=17
JCJ S Sn 18 01 08.6 -12
comp=N,44nm,0.3s,baz=290,slow=20,SNR=1.5
JNU Nakatsue 8.36 259 Pn **Pn 17 59 55.6 +1.1**
JNU Nakatsue 8.36 259 P **Pn 17 59 53.6 -0.9**
comp=N,2.7nm,0.6s,baz=108,slow=17,SNR=1.8
ASAJ Asahikawa 9.11 9 P **Pn 18 00 01.4 -3.1**
comp=N,5.2nm,0.3s,baz=206,slow=9.9,SNR=26
ASAJ S **Sn 18 01 38.6 -7.0**
comp=N,3.0nm,0.5s,baz=176,slow=32,SNR=1.8
JKA Kamikawa-asahi 9.11 9 Pn **Pn 18 00 01.8 -2.8**
KSRS Korea Array 10.55 286 P **Pn 18 00 26.4 +2.1**
comp=N,4.4nm,0.9s,baz=101,slow=13,SNR=24
KSRS LR LR 18 04 30.5
comp=N,39nm,21.2s,baz=90,slow=37
USRK Ussuriysk Ar. 11.27 326 P **Pn 18 00 35.4 +1.4**
comp=N,1.0nm,0.5s,baz=146,slow=13,SNR=3.1
YSS Yuzh-Sakhalins 11.93 7 Pn **Pn 18 00 39.2 -3.8**
KLR Kul'dur 15.56 338 P **Pn 18 01 32.7 +1.1**
comp=N,0.5nm,0.3s,baz=135,slow=8.6,SNR=2.2
YOJ Yonaguni jima 18.62 240 P **P 18 02 08.5 -0.4**
BJT Baijiatuau 20.01 291 P **Pn 18 02 25.1 -1.0**
BJT IAmb IAmb 18 02 36.0
comp=Z,5.6nm,0.6s
SSLB Suanglung 20.51 242 P **P 18 02 29.8 +0.2**
MA2 Magadan 25.35 12 P **P 18 03 16.2 -1.2**
MA2 IAmb IAmb 18 03 41.0
comp=Z,31nm,1.3s
MA2 Magadan 25.35 12 LR LR 18 14 53.6
comp=Z,23nm,19.2s,baz=149,slow=40
H11N2 WAKE ISLAND Hy 27.75 117 T T 18 32 56.6
baz=309,slow=75,SNR=128
H11N1 WAKE ISLAND Hy 27.76 117 T T 18 32 55.5
baz=309,slow=75,SNR=111
H11N3 WAKE ISLAND Hy 27.77 117 T T 18 32 56.6
baz=309,slow=75,SNR=109
H11S3 WAKE ISLAND Hy 28.39 119 T T 18 33 43.5
baz=312,slow=76,SNR=79
H11S1 WAKE ISLAND Hy 28.39 119 T T 18 33 43.7
baz=312,slow=76,SNR=114
H11S2 WAKE ISLAND Hy 28.41 119 T T 18 33 43.1
baz=312,slow=76,SNR=82
SONM Songino Array 28.41 307 P **P 18 03 45.0 -0.3**
comp=Z,1.1nm,0.5s,baz=100,slow=8.4,SNR=1.7
comp=Z,1.1nm,0.5s
PZH PanZhiHua 34.35 266 P **P 18 04 38.8 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.4s
FAKI Fak Fak 38.66 194 P **P 18 05 15.5 +1.3**
CMAR Chiang Mai Arr 40.46 257 P **P 18 05 27.9 -1.4**
comp=Z,0.4nm,0.4s,baz=38,slow=8.1,SNR=2.3
comp=Z,0.4nm,0.4s
ZAA0 Zalesovo Array 42.79 314 P **P 18 05 47.5 -0.4**
ZALV Zalesovo Beam 42.79 314 P **P 18 05 47.8 0.0**
comp=Z,1.1nm,0.5s,baz=101,slow=7.6,SNR=10
comp=Z,1.1nm,0.5s
MK31 Makanchi Array 44.65 304 P **P 18 06 03.4 +0.3**
MKAR Makanchi Array 44.65 304 P **P 18 06 03.5 +0.4**
MKAR Makanchi Array 44.65 304 P **P 18 06 03.6 +0.6**
comp=Z,1.4nm,0.5s,baz=85,slow=11,SNR=21
comp=Z,1.4nm,0.5s
MAKZ Makanchi 44.87 304 P **P 18 06 05.9 +1.1**
MAKZ IAmb IAmb 18 06 10.5
comp=Z,2.2nm,0.7s
G18K Tagagawik 46.60 30 P **P 18 06 20.3 +2.2**
G18K IAmb IAmb 18 06 29.3
comp=Z,5.5nm,1.4s
KURK Kurchatov 46.66 309 P **P 18 06 19.1 +0.4**
KURK IAmb IAmb 18 06 33.3
comp=Z,5.4nm,0.8s
KURBB Kurchatov Arra 46.73 309 P **P 18 06 19.3 0.0**
comp=Z,3.1nm,0.5s,baz=83,slow=7.9,SNR=22
comp=Z,3.1nm,0.5s
E19K Redstone River 47.44 28 P **P 18 06 24.8 +0.2**
E19K IAmb IAmb 18 06 29.2
comp=Z,12nm,1.5s
MTN Manton Dam 48.55 192 P **P 18 06 33.2 -0.5**
MTN IAmb IAmb 18 07 04.7
comp=Z,6.5nm,1.1s
RSO Redoubt South 48.78 37 P **P 18 06 33.4 -1.9**
COEN Coen 48.86 177 P **P 18 06 33.5 -2.6**
BVAR Borovoye Array 51.43 313 P **P 18 06 56.5 +1.3**
comp=Z,1.0nm,0.3s,baz=98,slow=7.7,SNR=8.6
comp=Z,1.0nm,0.3s
ILAR Eielson Array 51.43 32 P **P 18 06 57.5 +2.4**
comp=Z,0.8nm,0.8s,baz=275,slow=7.1,SNR=7.3
comp=Z,0.8nm,0.8s
KNRA Kununurra 51.77 195 P **P 18 06 57.9 -0.1**
BMAR Burnt Mountain 52.30 28 P **P 18 07 04.1 +2.6**
KKAR Karatay Array 53.58 301 P **P 18 07 13.9 +2.6**
I28M Miner Creek 54.31 30 P **P 18 07 19.6 +3.2**
I28M IAmb IAmb 18 07 20.2
comp=Z,2.0nm,1.1s
WB0 Warramunga Arr 54.91 187 P **P 18 07 20.7 -0.3**
WB0 IAmb IAmb 18 07 26.2
comp=Z,4.0nm,0.5s
WRA Warramunga Arr 55.09 187 P **P 18 07 22.1 -0.2**
WRA Warramunga Arr 55.09 187 P **P 18 07 22.2 -0.2**
comp=Z,2.6nm,0.6s,baz=0.9,slow=7.5,SNR=58
comp=Z,2.6nm,0.6s
I30M Mount Dempster 55.82 30 P **P 18 07 29.8 +2.5**
I30M IAmb IAmb 18 07 45.0
comp=Z,4.8nm,1.4s
G31M Satah River 56.35 28 P **P 18 07 32.9 +2.1**
G31M IAmb IAmb 18 07 56.2
comp=Z,8.8nm,1.4s

POHA Pohakuloa 57.76 87 P **P 18 07 40.6 -1.3**
ABKAR Abkulak array 58.73 311 P **P 18 07 47.5 -0.4**
ABKAR IAmb IAmb 18 08 04.9
comp=Z,1.9nm,0.9s
ABKAR Abkulak array 58.73 311 P **P 18 07 47.1 -0.8**
AS31 Alice Springs 58.81 187 P **P 18 07 47.5 -1.1**
AS31 IAmb IAmb 18 07 55.6
comp=Z,1.1nm,0.7s
ASAR Alice Springs 58.81 187 P **P 18 07 47.6 -1.1**
ASAR Alice Springs 58.81 187 P **P 18 07 48.9 +0.2**
comp=Z,0.8nm,0.7s,baz=354,slow=5.6,SNR=18
comp=Z,0.8nm,0.7s
MBWA Marble Bar 59.40 203 P **P 18 07 51.4 -1.3**
FORT Forrest 66.61 192 P **P 18 08 39.9 -0.5**
BBOO Buckleboo 67.71 184 P **P 18 08 47.9 +0.5**
FINES FINESS Array B 70.23 332 P **P 18 09 01.9 -0.8**
FINES FINESS Array B 70.23 332 P **P 18 09 04.1 +1.3**
comp=Z,0.8nm,0.6s,baz=60,slow=8.5,SNR=5.7
comp=Z,0.8nm,0.6s
AKASG Malin Array Be 75.44 322 P **P 18 09 35.9 +2.0**
comp=Z,0.4nm,0.3s,baz=50,slow=5.8,SNR=2.2
comp=Z,0.4nm,0.3s
HFS Hagfors 75.58 336 P **P 18 09 36.2 +1.7**
comp=Z,0.6nm,0.5s,baz=126,slow=7.5,SNR=6.5
comp=Z,0.6nm,0.5s
NOA NORSAR Array B 75.72 337 P **P 18 09 37.2 +2.0**
comp=Z,0.5nm,0.8s,baz=44,slow=5.5,SNR=1.9
comp=Z,0.5nm,0.8s
PDAR Pinedale Array 79.44 45 P **P 18 09 57.8 +1.2**
comp=Z,0.3nm,0.3s,baz=293,slow=4.8,SNR=1.9
comp=Z,0.3nm,0.3s
CLL Collm 82.45 330 *e*P **P 18 10 14.0 +1.8**
H03N2 Juan Fernandez 147.37 99 T T 21 02 20.5
baz=289,slow=76,SNR=6.8
H03N3 Juan Fernandez 147.38 99 T T 21 02 22.1
baz=289,slow=76,SNR=8.5
H03N1 Juan Fernandez 147.39 99 T T 21 02 20.6
baz=289,slow=76,SNR=7.5

AEIC ***27*** *18:23:08.0±3.5, 60°.41N±0°.06×177°.7W±0°.1, h22km±4km, Error ellipse: s-maj=9.4km s-min=7.6km az=130.0*
BJI ***27*** *18:23:09.2±0.0, 60°.19N×177°.78W, h6km, mb5.2/73, mB5.0/26, Ms4.9/50, Ms7 4.6/48*
IDC ***27*** *18:23:11.0±0.5, 60°.40N×177°.70W, h0km, mb4.5/31, mbtmp4.5/36, ML3.8/4, MS4.2/71, Error ellipse: s-maj=14.6km s-min=9.5km az=172.0*
MOS ***27*** *18:23:10.8±1.0, 60°.41N×177°.39W, h12km, mb5.0/62, MS4.4/14, Error ellipse: s-maj=8.5km s-min=4.9km az=102.8*
NEIC ***27*** *18:23:12.0±1.8, 60°.45N±0°.06×177°.5W±0°.1, h10km±1km, mb4.7/223, ML5.1(AEIC), Error ellipse: s-maj=10.6km s-min=8.8km az=129.0*
GCMT ***27*** *18:23:13.0±0.2, 60°.42N±0°.01×177°.37W±0°.02, h16km±1km, MW5.0/118, Moment Tensor Solution. s56,c72; s118,c195; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.74±.08; $M_{\theta\theta}$3.36±.09; $M_{\phi\phi}$-2.62±.08; $M_{r\theta}$-1.62±.27; $M_{\theta\phi}$-0.36±.07; $M_{\phi r}$-1.30±.26; Best double couple: $M_0$3.69200×10^16^ NP1:ϕ_s52.00000°, δ83.00000°, λ-144.00000°. NP2:ϕ_s317.00000°, δ54.00000°, λ-9.00000°. Principal axes: T 3.9240, Plg19.0000°, Azm179.0000°; N -0.4650, Plg53.0000°, Azm61.0000°; P -3.4600, Plg30.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***27*** *18:23:23.2, 61°.32N×174°.03W, h33km, mb4.8, Hypocentre not reviewed by the ISC*
ISC 27 18:23:12.5±0.5, 60°.36N±0°.04×177°.47W±0°.03, h14km±2km, h14km:pP-P, n883, σ1$30/773, mb4.8/209, MS4.4/106, 15C-37D, Bering Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	**Gambell**	**4.37**	**36**		**Sn**	**18 25 07.6**	**-1.4**
GAMB	**Gambell**	**4.37**	**36**		**Pn**	**18 24 16.3**	**-2.1**
GAMB	**Gambell**	**4.37**	**36**	P	**Pn**	**18 24 15.9**	**-2.5**
	baz=222						
GAMB				Sb	**Sb**	**18 25 24.3**	**+2.8**
	baz=222						
SPIA	**Saint Paul Isl**	**4.93**	**127**	P	**Pn**	**18 24 25.4**	**-0.8**
SPIA	**Saint Paul Isl**	**4.93**	**127**		**Pn**	**18 24 25.1**	**-1.1**
SPIA	**Saint Paul Isl**	**4.93**	**127**	P	**Pn**	**18 24 24.9**	**-1.2**
	baz=313,SNR=7.9						
M11K	**Mekoryuk**	**5.59**	**85**		**Pn**	**18 24 33.6**	**-1.6**
M11K					**Sn**	**18 25 39.1**	**-0.1**
M11K	**Mekoryuk**	**5.59**	**85**	P	**Pn**	**18 24 34.1**	**-1.1**
	baz=275						
P08K	**Saint George I**	**5.61**	**129**		**Pn**	**18 24 34.3**	**-1.2**
P08K					**Sn**	**18 25 41.5**	**+1.8**
P08K	**Saint George I**	**5.61**	**129**	P	**Pn**	**18 24 34.9**	**-0.5**
	baz=315						
K13K	**Kusilvak Mount**	**6.40**	**70**		**Pn**	**18 24 45.5**	**-0.9**
K13K	**Kusilvak Mount**	**6.40**	**70**	P	**Pn**	**18 24 45.4**	**-0.9**
	baz=262						
TNA	**Tin City**	**6.79**	**36**		**Pn**	**18 24 49.0**	**-2.6**
TNA					**Sn**	**18 26 05.7**	**-2.9**
TNA	**Tin City**	**6.79**	**36**	P	**Pn**	**18 24 49.5**	**-2.1**
	baz=225						
M13K	**Dall Lake**	**7.00**	**83**		**Pn**	**18 24 54.5**	**0.0**
M13K	**Dall Lake**	**7.00**	**83**	P	**Pn**	**18 24 54.4**	**0.0**
	baz=276						
ANM	**Nome**	**7.01**	**48**	Pn	**Pn**	**18 24 53.5**	**-1.2**
ANM	**Nome**	**7.01**	**48**	P	**Pn**	**18 24 53.2**	**-1.4**
	baz=239						
ANM	**Nome**	**7.01**	**48**	PN	**Pn**	**18 24 53.5**	**-1.2**
J14K	**Nanvaranak Lak**	**7.07**	**64**	Pn	**Pn**	**18 24 54.5**	**-1.0**
J14K	**Nanvaranak Lak**	**7.07**	**64**	P	**Pn**	**18 24 54.4**	**-1.0**
	baz=257						
F14K	**Arctic Creek**	**7.22**	**40**		**Pn**	**18 24 55.0**	**-2.4**
F14K	**Arctic Creek**	**7.22**	**40**	P	**Pn**	**18 24 55.7**	**-1.7**
	baz=231						
L14K	**Kuka Creek**	**7.29**	**76**		**Pn**	**18 24 57.7**	**-0.8**
L14K	**Kuka Creek**	**7.29**	**76**	P	**Pn**	**18 24 57.5**	**-1.0**
	baz=269,SNR=18						
M14K	**Bethel**	**7.66**	**80**	Pn	**Pn**	**18 25 02.7**	**-0.8**
M14K	**Bethel**	**7.66**	**80**	P	**Pn**	**18 25 02.4**	**-1.1**
	baz=274						
G15K	**Niukluk**	**7.72**	**47**	P	**Pn**	**18 25 03.6**	**-0.9**
	baz=240						
L15K	**Ungalak Mounta**	**7.88**	**73**	P	**Pn**	**18 25 05.7**	**-0.8**
	baz=268,SNR=10						
N14K	**Kuskokwak Cree**	**7.89**	**86**		**Pn**	**18 25 05.0**	**-1.8**
N14K	**Kuskokwak Cree**	**7.89**	**86**	P	**Pn**	**18 25 06.4**	**-0.3**
	baz=280						
K15K	**Wolf Creek Mou**	**7.91**	**69**	Pn	**Pn**	**18 25 06.2**	**-0.8**
K15K	**Wolf Creek Mou**	**7.91**	**69**	P	**Pn**	**18 25 06.1**	**-0.9**
	baz=264,SNR=20						
F15K	**North Star Dit**	**7.91**	**42**		**Pn**	**18 25 05.1**	**-1.9**
F15K	**North Star Dit**	**7.91**	**42**	P	**Pn**	**18 25 05.5**	**-1.5**
	baz=234						
H16K	**Elim**	**8.24**	**52**	P	**Pn**	**18 25 11.4**	**-0.1**
	baz=246,SNR=9.8						
O14K	**Tigyukauivet M**	**8.25**	**91**		**Pn**	**18 25 11.9**	**+0.3**
O14K	**Tigyukauivet M**	**8.25**	**91**	P	**Pn**	**18 25 11.5**	**-0.1**
	baz=285						
KOKL	**Mount Kliuchef**	**8.26**	**166**		**Pn**	**18 25 09.9**	**-2.0**
M15K	**Kasigluk River**	**8.29**	**80**	P	**Pn**	**18 25 12.2**	**+0.1**
	baz=276						
KOFP	**Korovin Flat P**	**8.32**	**166**		**Pn**	**18 25 11.1**	**-1.6**
GSTR	**Great Sitkin T**	**8.32**	**174**		**Pn**	**18 25 10.5**	**-2.2**
ATKA	**Atka Island**	**8.38**	**166**	P	**Pn**	**18 25 11.7**	**-1.7**
ATKA	**Atka Island**	**8.38**	**166**	Pn	**Pn**	**18 25 11.5**	**-1.9**
J16K	**Anvik River**	**8.50**	**63**	Pn	**Pn**	**18 25 14.8**	**-0.2**
J16K	**Anvik River**	**8.50**	**63**	P	**Pn**	**18 25 15.3**	**+0.3**
	baz=258						
ADK	**Adak**	**8.51**	**177**	P	Pn	18 25 11.3	-3.9
ADK	**Adak**	**8.51**	**177**		Pn	18 25 11.1	-4.1
ADK	**Adak**	**8.51**	**177**	PN	**Pn**	**18 25 16.9**	**+1.7**
KIWB	**Kanaga Island**	**8.53**	**179**	Pn	**Pn**	**18 25 12.4**	**-3.1**
G16K	**Koyuk River**	**8.54**	**47**		**Pn**	**18 25 14.2**	**-1.4**
G16K	**Koyuk River**	**8.54**	**47**	P	**Pn**	**18 25 14.9**	**-0.7**
	baz=242						
I17K	**Unalakleet**	**8.61**	**59**		**Pn**	**18 25 14.8**	**-1.7**
I17K	**Unalakleet**	**8.61**	**59**	P	**Pn**	**18 25 15.4**	**-1.1**
	baz=254						
OKCE	**Okmok Cone E**	**8.61**	**140**		**Pn**	**18 25 15.7**	**-0.9**
CLES	**Cleveland East**	**8.63**	**148**	Pn	**Pn**	**18 25 15.3**	**-1.5**
N15K	**Kwethluk River**	**8.64**	**84**		**Pn**	**18 25 16.8**	**-0.3**
N15K	**Kwethluk River**	**8.64**	**84**	P	**Pn**	**18 25 17.2**	**+0.1**
	baz=279						
MSW	**Makushin Switc**	**8.68**	**133**		**Pn**	**18 25 16.4**	**-1.2**

CLCO Concord Point, 8.71 147 **Pn 18 25 16.8 -1.2**
MAPS Pakushin South 8.71 134 **Pn 18 25 16.7 -1.3**
LVA Lava Point 8.77 130 Pn **Pn 18 25 18.1 -0.7**
NIKH Nikolski High 8.79 144 P **Pn 18 25 17.6 -1.5**
NIKH Nikolski High 8.79 144 **Pn 18 25 17.9 -1.1**
NIKH Nikolski High 8.79 144 P **Pn 18 25 19.1 0.0**
baz=330
L16K Owhat River 8.84 73 **Pn 18 25 19.1 -0.6**
L16K Owhat River 8.84 73 P **Pn 18 25 19.5 -0.2**
baz=270,SNR=25
UNV Unalaska Valle 8.84 133 P **Pn 18 25 20.7 +1.0**
baz=322
SHEM Shemya Is, Ala 8.95 215 Pn **Pn 18 25 20.7 -0.5**
6.4nm,0.3s,baz=67,slow=7.7,SNR=1.7
SHEM Sn Sn 18 26 53.5 -8.1
baz=274,slow=19
SHEM LR LR 18 27 40.1
comp=Z,235nm,21.7s,baz=17,slow=30
13nm,0.3s
O15K Ungalikthiuk R 8.98 90 P **Pn 18 25 21.9 +0.3**
baz=286
M16K Timber Creek 9.10 78 **Pn 18 25 22.8 -0.6**
M16K Timber Creek 9.10 78 P **Pn 18 25 23.8 +0.5**
baz=274
AMKA Amchitka 9.18 193 **Pn 18 25 24.6 +0.1**
J17K VABM Dome 9.20 63 Pn **Pn 18 25 24.0 -0.6**
J17K VABM Dome 9.20 63 P **Pn 18 25 24.7 +0.1**
baz=260,SNR=9.2
G17K Kiwalik Mounta 9.22 49 P **Pn 18 25 24.9 0.0**
baz=244
N16K Nishlik Lake 9.25 81 P **Pn 18 25 25.7 +0.3**
baz=278
H17K Granite Mounta 9.28 53 Pn **Pn 18 25 25.4 -0.3**
H17K Granite Mounta 9.28 53 P **Pn 18 25 25.2 -0.5**
baz=249,SNR=38
L17K Donlin 9.40 71 P **Pn 18 25 27.4 0.0**
baz=268,SNR=7.2
S12K Black Hills 9.40 113 Pn **Pn 18 25 27.1 -0.4**
S12K Black Hills 9.40 113 P **Pn 18 25 27.7 +0.2**
baz=306
K17K Iditarod 9.45 67 Pn **Pn 18 25 27.1 -0.9**
K17K Iditarod 9.45 67 P **Pn 18 25 28.5 +0.5**
baz=265
F17K Baldwin Pennin 9.47 43 **Pn 18 25 26.5 -1.8**
F17K Baldwin Pennin 9.47 43 P **Pn 18 25 27.4 -0.9**
baz=238
C16K Lisburne Hills 9.51 28 Pn **Pn 18 25 26.9 -1.9**
C16K Lisburne Hills 9.51 28 P **Pn 18 25 27.5 -1.3**
baz=220
PN7A Pavlof North-7 9.60 114 **Pn 18 25 29.2 -1.0**
E17K Hotham Inlet 9.65 39 P **Pn 18 25 30.1 -0.7**
baz=234
D17K Noatak River 9.67 34 P **Pn 18 25 30.3 -0.7**
baz=228
O16K Kokwok River B 9.74 86 **Pn 18 25 32.5 +0.5**
O16K Kokwok River B 9.74 86 P **Pn 18 25 32.3 +0.2**
baz=283
M17K Holitna River 9.82 75 Pn **Pn 18 25 33.1 0.0**
M17K Holitna River 9.82 75 P **Pn 18 25 33.3 +0.2**
baz=273
P16K Nushagak River 9.93 89 P **Pn 18 25 35.3 +0.6**
baz=286
H18K Honhosa River 9.97 53 Pn **Pn 18 25 34.5 -0.7**
H18K Honhosa River 9.97 53 P **Pn 18 25 35.0 -0.2**
baz=251,SNR=18
N17K Nushagak Hills 10.02 80 Pn **Pn 18 25 35.5 -0.4**
N17K Nushagak Hills 10.02 80 P **Pn 18 25 36.0 +0.1**
baz=278
F18K Selawik 10.10 44 P **Pn 18 25 37.0 +0.1**
baz=241
G18K Tagagawik 10.14 49 Pn **Pn 18 25 36.5 -1.0**
G18K Tagagawik 10.14 49 P **Pn 18 25 37.5 0.0**
baz=246
L18K Granite Mounta 10.16 70 Pn **Pn 18 25 36.2 -1.6**
L18K Granite Mounta 10.16 70 P **Pn 18 25 38.3 +0.5**
baz=269
C17K DeLong Mountai 10.19 31 P **Pn 18 25 37.6 -0.6**
baz=225,SNR=5.0
O17K Koliganek Bris 10.20 84 P **Pn 18 25 37.6 -0.7**
baz=282
E18K Tukpahlearik C 10.23 39 Pn Pn 18 25 33.5 -5.2
E18K Tukpahlearik C 10.23 39 P **Pn 18 25 37.7 -1.1**
baz=235
J18K Innoko River 10.25 63 **Pn 18 25 35.9 -3.2**
J18K Innoko River 10.25 63 P **Pn 18 25 39.0 -0.1**
baz=262,SNR=7.7
S14K Fog Glacier 10.26 106 P **Pn 18 25 39.5 +0.2**
baz=301
SDPT Sand Point 10.34 112 P **Pn 18 25 43.5 +3.2**
SDPT Sand Point 10.34 112 P **Pn 18 25 40.4 +0.1**
baz=306
BILL Bilibino 10.43 324 Pn Pn 18 25 34.1 -7.4
BILL Bilibino 10.43 324 *d* iPN **Pn 18 25 42.0 +0.6**
BILL pmax pmax
comp=Z,16nm,1.1s
GCSA Galena City Sc 10.45 56 P **Pn 18 25 41.2 -0.5**
baz=255
M18K Stony River 10.59 74 P **Pn 18 25 43.8 +0.2**
baz=274
N18K Kilae Creek 10.63 79 Pn **Pn 18 25 42.3 -2.0**
N18K Kilae Creek 10.63 79 P **Pn 18 25 44.5 +0.2**
baz=278
P17K Kvichak River 10.66 87 P **Pn 18 25 45.3 +0.7**
baz=286
SVW2 Sparrevohn 10.73 77 Pn **Pn 18 25 41.8 -3.8**
CHGN Chignik 10.80 104 **Pn 18 25 45.7 -0.8**
J19K Poorman 10.82 61 Pn **Pn 18 25 44.8 -2.0**
J19K Poorman 10.82 61 P **Pn 18 25 47.3 +0.6**
baz=261,SNR=6.5
G19K Purcell Mounta 10.82 49 **Pn 18 25 43.8 -3.0**
G19K Purcell Mounta 10.82 49 P **Pn 18 25 46.9 0.0**
baz=248
C18K Utukok River 10.84 33 Pn 18 25 41.8 -5.2
C18K Utukok River 10.84 33 P **Pn 18 25 46.5 -0.6**
baz=228,SNR=7.2
H19K Roundabout Mou 10.85 53 Pn **Pn 18 25 46.0 -1.2**
H19K Roundabout Mou 10.85 53 P **Pn 18 25 47.3 +0.1**
baz=252,SNR=13
F19K Shaleruckik Mo 10.87 45 **Pn 18 25 46.9 -0.5**
F19K Shaleruckik Mo 10.87 45 P **Pn 18 25 46.7 -0.8**
baz=243
L19K White Mountain 11.02 71 Pn **Pn 18 25 49.6 0.0**
L19K White Mountain 11.02 71 P **Pn 18 25 50.1 +0.5**
baz=271,SNR=11
CHNA Chernabura Isl 11.06 112 P **Pn 18 25 50.9 +0.8**
baz=307
CNBA Chernabura Isl 11.07 112 **Pn 18 25 50.0 -0.2**
O18K Koktuh Hills 11.11 83 Pn **Pn 18 25 51.1 +0.3**
O18K Koktuh Hills 11.11 83 P **Pn 18 25 51.4 +0.6**
baz=283
P18K Big Mountain, 11.21 85 **Pn 18 25 51.5 -0.7**
P18K Big Mountain, 11.21 85 P **Pn 18 25 52.6 +0.4**
baz=285
R17L Mt. Peulik Vol 11.21 95 P **Pn 18 25 52.1 -0.1**
baz=293
PLK4 Peulik 4 11.21 95 Pn **Pn 18 25 49.9 -2.4**
Q17K Contact Creek 11.22 91 P **Pn 18 25 52.2 -0.2**
baz=290
M19K Big River Lodg 11.25 72 **Pn 18 25 51.5 -1.2**
N19K Bonanza Creek 11.30 78 Pn **Pn 18 25 53.5 0.0**
N19K Bonanza Creek 11.30 78 P **Pn 18 25 53.8 +0.4**
baz=278
E19K Redstone River 11.35 43 **Pn 18 25 51.4 -2.7**
E19K Redstone River 11.35 43 P **Pn 18 25 54.1 +0.1**
baz=241,SNR=15
K20K Telida 11.42 65 **Pn 18 25 54.7 -0.4**
K20K Telida 11.42 65 P **Pn 18 25 55.2 +0.1**
baz=266,SNR=14
I20K Naaghedeneel 11.46 57 **Pn 18 25 54.4 -1.1**
I20K Naaghedeneel 11.46 57 P **Pn 18 25 56.0 +0.5**
baz=258
H20K Anotleneega Mo 11.46 54 P **Pn 18 25 55.6 -0.1**
baz=254,SNR=7.1
L20K Farewell, AK 11.47 69 P **Pn 18 25 56.4 +0.6**
baz=270,SNR=22
J20K Nowinta River 11.49 61 Pn **Pn 18 25 55.7 -0.2**
J20K Nowinta River 11.49 61 P **Pn 18 25 56.6 +0.6**
baz=262,SNR=20
ACHA Angle Creek He 11.51 91 **Pn 18 25 57.1 +0.7**
Q18K Katmai Hardscr 11.53 89 P **Pn 18 25 56.6 0.0**
baz=288,SNR=11
C19K Lookout Ridge 11.57 33 Pn **Pn 18 25 56.5 -0.7**
D19K Kuna River 11.62 37 Pn **Pn 18 25 57.9 +0.1**
D19K Kuna River 11.62 37 P **Pn 18 25 57.5 -0.3**
baz=235,SNR=10.0
F20K Avaraart Lake 11.69 46 Pn **Pn 18 25 57.4 -1.3**

F20K	Avaraart Lake	11.69	46	P		Pn	18 25 59.1 +0.5
	baz=246,SNR=7.7						
M20K	Styx River	11.84	72			Pn	18 25 60.0 -1.0
M20K	Styx River	11.84	72	P		Pn	18 26 01.3 +0.4
	baz=274						
IMAR	Indian Mountai	12.05	52			Pn	18 26 02.6 -1.1
E20K	Nigu River	12.09	40	P		Pn	18 26 04.5 +0.3
	baz=240,SNR=24						
ILSW	Iliamna Southw	12.10	81			Pn	18 26 05.2 +0.8
Q19K	Cape Douglas,	12.12	86	Pn		Pn	18 26 04.5 -0.2
P19K	Oil Pt	12.13	83	P		Pn	18 26 06.0 +1.2
	baz=284						
R18K	Karluk	12.19	93	P		Pn	18 26 06.0 +0.5
	baz=293						
D20K	Etivluk River	12.20	38	P		Pn	18 26 06.0 +0.3
	baz=237,SNR=9.6						
G21K	Allakaket	12.31	50			Pn	18 26 06.7 -0.5
G21K	Allakaket	12.31	50	P		Pn	18 26 07.7 +0.5
	baz=252,SNR=30						
CAST	Castle Rocks	12.32	65			Pn	18 26 07.5 +0.1
H21K	Melozitna Rive	12.34	54	Pn		Pn	18 26 07.2 -0.4
H21K	Melozitna Rive	12.34	54	P		Pn	18 26 08.0 +0.4
	baz=257,SNR=8.2						
N20K	Mount Spurr	12.35	75	P		Pn	18 26 07.1 -0.6
	baz=278						
CHIR	Chirikof Islan	12.39	102	Pn		Pn	18 26 09.4 +1.1
SPU	Mount Spurr	12.42	75			Pn	18 26 08.1 -0.7
F21K	Alatna River	12.56	47	P		Pn	18 26 11.7 +1.1
	baz=249,SNR=16						
SKT	Skwentna	12.59	71	P		Pn	18 26 12.2 +1.1
	baz=274,SNR=15						
SII	Sitkinak Islan	12.74	97	P		Pn	18 26 18.6 +5.4
SII	Sitkinak Islan	12.74	97	Pn		Pn	18 26 14.5 +1.4
B20K	Meade River	12.81	33	Pn		Pn	18 26 13.6 -0.3
B20K	Meade River	12.81	33	P		Pn	18 26 13.7 -0.3
	baz=232,SNR=13						
SYI	Shuyak Island	12.84	87			Pn	18 26 15.1 +0.7
BPAW	Bear Paw Mtn.	12.85	62			Pn	18 26 14.1 -0.5
BPAW	Bear Paw Mtn.	12.85	62	P		Pn	18 26 15.2 +0.5
	baz=266,SNR=10						
OHAK	Old Harbor	12.90	93	Pn		Pn	18 26 16.5 +1.3
OHAK	Old Harbor	12.90	93	P		Pn	18 26 16.3 +1.1
	baz=294						
E21K	Killik River	12.90	41	P		Pn	18 26 15.6 +0.3
	baz=243						
H22K	Ishtalitna Cre	12.97	54	P		Pn	18 26 16.7 +0.5
	baz=257,SNR=7.0						
C21K	Knifeblade Rid	13.00	38	P		Pn	18 26 16.1 -0.5
	baz=239,SNR=8.6						
SUA	Susitna One	13.02	74			Pn	18 26 16.4 -0.5
SUA	Susitna One	13.02	74	P		Pn	18 26 17.2 +0.3
	baz=277						
KDAK	Kodiak Island	13.03	90			Pn	18 26 18.1 +1.1
KDAK	Kodiak Island	13.03	90	P		Pn	18 26 17.8 +0.8
	baz=292						
KDAK	Kodiak Island	13.03	90	Pn		Pn	18 26 18.9 +2.0
	comp=Z,0.3nm,0.3s,baz=320,slow=10,SNR=6.3						
KDAK				LR		LR	18 31 36.6
	comp=Z,3µm,19.9s,baz=315,slow=38						
	comp=Z,12nm,0.9s						
KDAK	Kodiak Island	13.03	90⇑	*i*PN		Pn	18 26 19.0 +2.0
MLY	Manley	13.07	58	Pn		Pn	18 26 16.4 -1.2
MLY	Manley	13.07	58	P		Pn	18 26 17.6 +0.1
	baz=262						
F22K	John River	13.14	46	P		Pn	18 26 18.5 0.0
	baz=250,SNR=7.9						
B21K	Ikpikpuk River	13.30	36	Pn		Pn	18 26 20.3 -0.3
B21K	Ikpikpuk River	13.30	36	P		Pn	18 26 20.6 0.0
	baz=238						
BRSE	Bradley Lake S	13.34	81	P		Pn	18 26 21.8 +0.6
	baz=284						
D22K	Ayikyak River	13.52	41	P		Pn	18 26 24.1 +0.3
	baz=244,SNR=12						
RC01	Rabbit Creek A	13.55	75	P		Pn	18 26 25.9 +1.8
	baz=280						
I23K	Minto, Yukon-K	13.66	57	P		Pn	18 26 26.4 +0.8
	baz=263,SNR=7.5						
H23K	Yukon River	13.69	55	P		Pn	18 26 26.9 +0.9
	baz=260,SNR=13						
G23K	Bananza Creek	13.70	51			Pn	18 26 26.4 +0.3
G23K	Bananza Creek	13.70	51	P		Pn	18 26 26.6 +0.5
	baz=256,SNR=15						
NEA2	Nenana	13.73	60	P		Pn	18 26 26.9 +0.4
	baz=266						
MCK	McKinley	13.74	64	P		Pn	18 26 26.8 +0.1
	baz=269						
COLD	Coldfoot	13.77	49	P		Pn	18 26 27.8 +0.8
	baz=254,SNR=14						
RND	Reindeer	13.77	65	Pn		Pn	18 26 26.2 -1.0
RND	Reindeer	13.77	65	P		Pn	18 26 26.2 -1.0
WAT1	Susitna Watana	13.93	67	P		Pn	18 26 29.0 -0.2
	baz=273						
A22K	Sinclair Lake	14.01	31	P		Pn	18 26 28.9 -1.4
	baz=232						
B22K	Teshekpuk Lake	14.04	35	P		Pn	18 26 29.7 -0.9
	baz=237						
KNK	Knik Glacier	14.11	73			Pn	18 26 30.5 -1.3
KNK	Knik Glacier	14.11	73	P		Pn	18 26 33.1 +1.4
	baz=279						
SML	Sawmill	14.12	71	P		Pn	18 26 32.7 +0.8
	baz=277						
MDM	Murphy Dome	14.12	58			Pn	18 26 30.6 -1.3
E23K	Chandalar	14.24	46	P		Pn	18 26 34.7 +1.1
	baz=251,SNR=14						
PWL	Port Wells	14.26	75	P		Pn	18 26 34.9 +1.1
	baz=281						
COLA	College	14.27	59	*d iP*		Pn	18 26 35.8 +1.9
COLA				pmax		pmax	
	comp=Z,5.0nm,0.9s						
WAT6	Susitna Watana	14.31	68	P		Pn	18 26 35.7 +1.0
	baz=275						
H24K	Noodor Dome	14.37	55	P		Pn	18 26 35.7 +0.3
	baz=262						
DHY	Denali Highway	14.45	66	P		Pn	18 26 37.8 +1.3
	baz=273						
TOLK	Toolik Lake Re	14.46	43	Pn		Pn	18 26 35.5 -1.1
TOLK	Toolik Lake Re	14.46	43	P		Pn	18 26 36.8 +0.3
	baz=249,SNR=8.2						
POKR	Poker Plat Res	14.47	58	P		Pn	18 26 37.4 +0.7
	baz=265						
SEY	Seymchan	14.48	293	Pn		Pn	18 26 36.3 -0.5
	comp=Z,0.6nm,0.3s,baz=91,slow=12,SNR=35						
	comp=Z,31nm,0.9s						
SEY	Seymchan	14.48	293	*d iP*		Pn	18 26 37.4 +0.6
SEY				pmax		pmax	
	comp=Z,66nm,1.3s						
SCM	Sheep Creek Mo	14.59	71	P		Pn	18 26 38.6 +0.2
	baz=278						
C23K	Itkillik River	14.62	38	Pn		Pn	18 26 37.3 -1.3
C23K	Itkillik River	14.62	38	P		Pn	18 26 38.5 0.0
	baz=243,SNR=12						
HDA	Harding Lake	14.63	61	P		Pn	18 26 39.4 +0.5
	baz=268,SNR=12						
E24K	Your Creek	14.65	46	P		Pn	18 26 39.7 +0.6
	baz=253,SNR=19						
ILAR	Eielson Array	14.68	59			Pn	18 26 39.3 -0.1
ILAR	Eielson Array	14.68	59	Pn		Pn	18 26 37.5 -2.0
	comp=Z,0.1nm,0.3s,baz=275,slow=12,SNR=9.4						
ILAR				LR		LR	18 33 01.1
	comp=Z,568nm,21.1s,baz=258,slow=40						
	comp=Z,0.9nm,0.6s						
ILAR	Eielson Array	14.68	59	P		Pn	18 26 39.3 -0.1
G24K	Hadweenzic Riv	14.68	52	P		Pn	18 26 39.1 -0.4
	baz=259,SNR=15						
F24K	Squaw Lake	14.71	48	P		Pn	18 26 39.1 -0.9
	baz=256,SNR=12						
GLI	Glacier Island	14.86	75	P		Pn	18 26 43.3 +1.4
	baz=282						
D24K	Happy Valley	14.90	42	P		Pn	18 26 42.7 +0.2
	baz=248,SNR=5.8						
PET	Petropavlovsk	14.97	251	Pn		Pn	18 26 41.8 -1.6
PET	Petropavlovsk	14.97	251	*eP*		Pn	18 26 46.3 +2.9
PET				*eS*		Sn	18 29 31.1 +2.3
PET				pmax		pmax	
	comp=Z,251nm,0.8s						
PET				MLR		MLR	
	comp=Z,500nm,18.0s						
PET				MLR		MLR	
	comp=Z,500nm,15.0s						
M24K	Tolsona, Glenn	15.09	70	P		Pn	18 26 45.0 -0.1
	baz=278						
K24K	Donnelly Dome	15.14	63	P		Pn	18 26 45.0 -0.8
	baz=272						
FID	Port Fidalgo	15.18	75			Pn	18 26 44.1 -2.1
FID				IAmb		IAmb	18 26 57.6
	comp=Z,49nm,1.0s						
G25K	Bearman Lake	15.23	52	P		Pn	18 26 47.6 +0.8
	baz=260,SNR=9.1						
KLU	Klutina	15.30	72	IAmb		IAmb	18 27 12.0
	comp=Z,28nm,1.0s						
KLU	Klutina	15.30	72	P		Pn	18 26 47.0 -0.9
	baz=280,SNR=5.6						
PRP	Porcupine Dome	15.30	57	IAmb		IAmb	18 27 17.5
	comp=Z,45nm,1.0s						
PRP	Porcupine Dome	15.30	57	P		Pn	18 26 48.9 +1.0
	baz=266						
J25K	Salcha River,	15.32	60	P		Pn	18 26 48.3 +0.2
	baz=269,SNR=90						
PAX	Paxson	15.32	66	P		Pn	18 26 48.2 0.0
	baz=275						
HARP	HAARP	15.53	68	P		Pn	18 26 49.9 -0.9
	baz=277						
F25K	Christian Rive	15.57	49	P		Pn	18 26 51.7 +0.4
	baz=258,SNR=22						
D25K	Kavik River	15.78	42	IAmb		IAmb	18 27 06.6
	comp=Z,90nm,1.2s						
D25K	Kavik River	15.78	42	P		Pn	18 26 52.8 -1.3
	baz=251,SNR=17						
MA2	Magadan	15.84	281			Pn	18 26 52.7 -2.1
MA2				IAmb		IAmb	18 27 01.7
	comp=Z,56nm,1.0s						
MA2	Magadan	15.84	281	Pn		Pn	18 26 53.0 -1.8
	comp=Z,21nm,1.1s,baz=73,slow=16,SNR=5.3						
MA2				LR		LR	18 34 47.6
	comp=Z,345nm,18.1s,baz=78,slow=44						
MA2	Magadan	15.84	281⇓	*eP*		Pn	18 26 56.3 +1.5
N25K	Chitina, Valde	15.91	71	IAmb		IAmb	18 27 06.9
	comp=Z,45nm,0.9s						
N25K	Chitina, Valde	15.91	71	P		Pn	18 26 56.2 +0.4
	baz=280,SNR=9.8						
SCRK	Sand Creek	15.93	62	P		Pn	18 26 56.5 +0.4
	baz=273,SNR=21						
BMAR	Burnt Mountain	15.93	50	Pn		Pn	18 26 53.4 -2.7
BMRM	Bremner River	16.03	74	P		Pn	18 26 57.3 0.0
	baz=283,SNR=11						
J26L	Joseph Creek	16.10	61	Pn		Pn	18 26 56.3 -2.0
J26L	Joseph Creek	16.10	61	P		Pn	18 26 58.9 +0.7
	baz=271,SNR=26						
MENT	Mentasta	16.12	66	IAmb		IAmb	18 27 17.9
	comp=Z,54nm,1.1s						
RAGM	Ragged Mountai	16.13	76	IAmb		IAmb	18 27 36.0
	comp=Z,62nm,1.0s						
F26K	Sheenjek River	16.15	49	P		Pn	18 26 59.3 +0.5
	baz=260,SNR=11						
G26K	Porcupine Rive	16.16	52	P		Pn	18 27 00.0 +1.1
	baz=262,SNR=42						
I26K	Coal Creek Min	16.28	58	IAmb		IAmb	18 27 07.6
	comp=Z,78nm,1.1s						
I26K	Coal Creek Min	16.28	58	P		Pn	18 27 01.1 +0.6
	baz=269						
L26K	Log Cabin Wild	16.28	66			Pn	18 26 59.4 -1.1
L26K	Log Cabin Wild	16.28	66	P		P	18 27 02.0 -1.5
	baz=276						
GLB	Gilahina Butte	16.31	72	IAmb		IAmb	18 27 11.2
	comp=Z,56nm,1.0s						
HMT	Hamilton	16.34	76	IAmb		IAmb	18 27 30.7
	comp=Z,89nm,1.4s						
C26K	Camden Bay	16.46	41	P		Pn	18 27 02.2 -0.5
	baz=251,SNR=20						
M26K	Nabesna, AK	16.52	68	IAmb		IAmb	18 27 21.5
	comp=Z,50nm,1.1s						
M26K	Nabesna, AK	16.52	68	P		Pn	18 27 03.9 +0.3
	baz=279						
MCARA	McCarthy VSAT	16.69	71	IAmb		IAmb	18 27 29.8
	comp=Z,46nm,1.0s						
MCARA	McCarthy VSAT	16.69	71	P		Pn	18 27 06.2 +0.5
	baz=282,SNR=7.8						
C27K	Jago River	16.77	42	P		Pn	18 27 05.6 -1.0
	baz=254						
CRQM	Cirque	16.77	74			Pn	18 27 05.5 -1.4
CRQM				IAmb		IAmb	18 27 41.7
	comp=Z,92nm,1.0s						
CRQE	Cirque	16.80	74	P		Pn	18 27 06.7 -0.5
	baz=284,SNR=8.5						
TGL	Tana Glacier	16.92	74	IAmb		IAmb	18 27 36.4
	comp=Z,139nm,1.2s						
I27K	Kandik River	16.93	57	P		Pn	18 27 08.7 -0.1
	baz=269,SNR=28						
L27K	Beaver Creek,	16.97	65	P		Pn	18 27 08.9 -0.3
	baz=277,SNR=25						
G27K	Doyon Strip	16.98	53	P		P	18 27 10.2 -1.1
	baz=265,SNR=19						
BCAR	Beaver Creek A	16.99	65	Pn		Pn	18 27 08.5 -1.0
WAX	Waxell Ridge	16.99	75	Pn		Pn	18 27 08.6 -0.9
H27K	Steamboat Moun	16.99	55	P		Pn	18 27 10.0 +0.5
	baz=267,SNR=31						
M27K	Edge Creek, AK	17.05	68	P		P	18 27 11.3 -0.8
	baz=280,SNR=30						
EGAK	Eagle	17.13	59	P		Pn	18 27 10.7 -0.4
	baz=272						
E27K	Coleen River	17.18	48	Pn		Pn	18 27 09.9 -2.0
E27K	Coleen River	17.18	48	P		Pn	18 27 11.8 -0.1
	baz=261,SNR=13						
ISLE	Juniper Island	17.19	74	IAmb		IAmb	18 27 29.7
	comp=Z,140nm,1.4s						
GRNC	Granite Creek	17.44	73	IAmb		IAmb	18 27 32.7
	comp=Z,142nm,1.2s						
MESA	MESA	17.49	75	P		Pn	18 27 15.4 -0.5
	baz=286						
CTG	Chitna Glacier	17.58	72	P		Pn	18 27 16.7 -0.3
	baz=284,SNR=18						
D27M	Malcolm River	17.61	45	P		Pn	18 27 16.5 -0.7
	baz=258,SNR=8.8						
I28M	Miner Creek	17.63	57	P		Pn	18 27 17.5 0.0
	baz=271,SNR=8.3						
SKR	Severo-Kuril's	17.69	249	*eP*		Pn	18 27 16.9 -1.3
SKR				pmax		pmax	
	comp=Z,195nm,1.5s						
SKR				pmax		pmax	
	comp=Z,500nm,4.8s						
SKR				MLR		MLR	
	comp=Z,700nm,14.0s						
F28M	Old Crow	17.75	50	P		Pn	18 27 18.5 -0.4
	baz=264						
LOGN	Logan Glacier	17.77	73	IAmb		IAmb	18 27 40.1
	comp=Z,85nm,1.3s						
YUK3	Moose Creek	17.81	69	P		Pn	18 27 20.0 +0.1
	baz=282,SNR=16						
DAWY	Dawson	17.94	62	IAmb		IAmb	18 27 48.5
	comp=Z,44nm,1.0s						
DAWY	Dason	17.94	62	P		P	18 27 21.6 -0.3
	baz=276,SNR=9.3						
E28M	Babbage River	18.00	47	P		P	18 27 22.0 -0.5
	baz=262,SNR=10.0						
O28M	Mount Upton	18.17	72	P		Pn	18 27 23.9 -0.5
	baz=285,SNR=12						
YUK8	Steele Glacier	18.24	71	P		P	18 27 25.4 0.0
	baz=284,SNR=5.9						
H29M	Whitestone	18.27	55			Pn	18 27 22.0 -3.3
H29M	Whitestone	18.27	55	P		P	18 27 25.6 +0.2
	baz=270,SNR=14						
I29M	Ogilvie Camp,	18.32	57	P		P	18 27 25.6 -0.3
	baz=273						
PINM	Pinnacle	18.33	75	P		P	18 27 26.1 -0.1
	baz=287						
D28M	Stokes Point	18.41	45	P		P	18 27 26.7 -0.1
	baz=260						
G29M	Pine Creek	18.42	52	P		P	18 27 27.0 -0.1
	baz=268,SNR=18						
E29M	Blow River	18.57	48	P		P	18 27 27.5 -1.2
E29M	Blow River	18.57	48	P		Pn	18 27 29.2 +0.2
	baz=264,SNR=36						
M29M	Somme Creek	18.60	67	P		Pn	18 27 30.5 +1.1
	baz=281,SNR=16						
L29M	L29M	18.63	64	P		Pn	18 27 30.7 +1.0
	baz=280,SNR=14						
BCPM	Bancas Point	18.67	75	IAmb		IAmb	18 28 11.5
	comp=Z,67nm,0.9s						
YUK4	Talbot Arm	18.75	70	P		Pn	18 27 32.1 +0.7
	baz=284,SNR=9.8						
K29M	Barlow Dome	18.79	62			P	18 27 29.4 -1.9
K29M	Barlow Dome	18.79	62	P		Pn	18 27 32.0 +0.3
	baz=278,SNR=36						
PNL	Peninsula	18.87	75	P		Pn	18 27 32.9 +0.3
	baz=289						
EPYK	Eagle Plains	18.94	54	IAmb		IAmb	18 27 43.6
	comp=Z,43nm,1.0s						
EPYK	Eagle Plains	18.94	54	P		Pn	18 27 33.2 -0.3
	baz=271,SNR=14						
YUK6	Outpost Mounta	18.99	71	P		P	18 27 32.5 -1.1
	baz=286						
O29M	Mount Kennedy	19.07	73	IAmb		IAmb	18 27 43.5
	comp=Z,47nm,1.2s						
O29M	Mount Kennedy	19.07	73	P		P	18 27 34.3 -0.1
	baz=288,SNR=7.0						
G30M	tAoh Zraii Nji	19.13	52	IAmb		IAmb	18 27 43.5
	comp=Z,35nm,0.9s						
G30M	tAoh Zraii Nji	19.13	52	P		P	18 27 34.9 0.0
	baz=270						
I30M	Mount Dempster	19.13	58	P		P	18 27 32.4 -2.6
I30M	Mount Dempster	19.13	58	P		P	18 27 35.0 0.0
	baz=275,SNR=13						
J30M	Hart River	19.21	60	P		Pn	18 27 36.2 -0.7
	baz=277,SNR=11						
F30M	Barrier River	19.31	50	P		Pn	18 27 37.5 -0.4
	baz=268,SNR=24						
N30M	Aishikik Lake	19.45	69	P		P	18 27 38.9 +0.4
	baz=285,SNR=14						
P29M	Windy Craggy	19.68	75	IAmb		IAmb	18 27 49.5
	comp=Z,64nm,0.8s						
P29M	Windy Craggy	19.68	75	P		Pn	18 27 42.4 +0.1
	baz=290,SNR=31						
G31M	Satah River	19.90	52	IAmb		IAmb	18 27 52.3
	comp=Z,52nm,1.1s						
G31M	Satah River	19.90	52	P		P	18 27 42.9 -0.3
	baz=272,SNR=9.8						
N31M	Braeburn, Yuko	20.05	69	IAmb		IAmb	18 28 14.1
	comp=Z,52nm,1.1s						
N31M	Braeburn, Yuko	20.05	69	P		P	18 27 45.6 +0.7
	baz=286						
F31M	Tsiigehtchic	20.10	51			P	18 27 42.9 -2.4
F31M				IAmb		IAmb	18 28 11.7
	comp=Z,42nm,1.0s						
F31M	Tsiigehtchic	20.10	51	P		P	18 27 45.0 -0.3
	baz=271						
O30N	Mendenhall	20.11	71	IAmb		IAmb	18 28 04.2
	comp=Z,58nm,1.2s						
O30N	Mendenhall	20.11	71	P		P	18 27 46.1 +0.5
	baz=287,SNR=13						
INK	Inuvik	20.19	48			P	18 27 45.4 -0.9
INK	Inuvik	20.19	48	P		P	18 27 46.4 +0.1
	baz=269,SNR=26						
INK	Inuvik	20.19	48	P		Pn	18 27 47.0 -1.2
	comp=Z,14nm,0.7s,baz=344,slow=0.4,SNR=15						
INK				LR		LR	18 35 27.9
	comp=Z,479nm,19.8s,baz=312,slow=36						
	comp=Z,14nm,0.7s						
INK	Inuvik	20.19	48	P		P	18 27 45.4 -0.9
INK				pmax		pmax	
	comp=Z,82nm,1.0s						
PLBC	Pleasant Camp	20.40	74	P		P	18 27 49.3 +0.6
	baz=291,SNR=11						
M31M	Drury Creek, Y	20.50	66	IAmb		IAmb	18 27 57.5
	comp=Z,38nm,1.0s						
M31M	Drury Creek, Y	20.50	66	P		P	18 27 50.3 +0.4
	baz=284,SNR=42						
WHY	Whitehorse	20.71	71	P		P	18 27 52.1 0.0
	baz=288,SNR=16						
SKAG	Skagway	20.89	74	IAmb		IAmb	18 28 01.5
	comp=Z,31nm,0.9s						
S31K	Pelican	21.03	78	P		P	18 27 54.5 -1.0
S31K	Pelican	21.03	78	P		P	18 27 55.4 -0.1
	baz=294						
N32M	Quiet Lake	21.39	68	IAmb		IAmb	18 28 22.8
	comp=Z,34nm,0.9s						
P32M	Atlin	21.61	73	P		P	18 28 01.5 -0.3
	baz=291						
R32K	Eaglecrest	21.73	77	P		P	18 28 02.9 -0.2
	baz=294						
MMPY	Sheldon Lake,	21.81	64	IAmb		IAmb	18 28 31.3
	comp=Z,28nm,1.1s						
MMPY	Sheldon Lake,	21.81	64	P		P	18 28 04.4 +0.5
	baz=285,SNR=13						
P33M	Teslin, Yukon	21.82	71	P		P	18 28 04.4 +0.3
	baz=290,SNR=8.4						
SIT	Sitka	21.86	80	P		P	18 28 02.7 -1.7
SIT				IAmb		IAmb	18 28 33.9
	comp=Z,25nm,1.0s						
SIT	Sitka	21.86	80	P		P	18 28 02.7 -1.7
SIT				pmax		pmax	
	comp=Z,25nm,1.0s						
S32K	Killisnoo	22.04	79	P		P	18 28 07.5 +1.2
	baz=296						
Q32M	Nakina River	22.54	74	P		P	18 28 11.0 -1.0
	baz=293,SNR=10						
R33M	Jennings River	22.99	72	P		P	18 28 17.2 +0.6
	baz=293,SNR=11						
TIXI	Tiksi	23.60	320	P		P	18 28 21.5 -0.9
TIXI	Tiksi	23.60	320	P		P	18 28 21.5 -0.9
TIXI				pmax		pmax	
	comp=Z,63nm,1.2s						
NKL	Nikolayevsk	23.70	271	*eP*		P	18 28 24.5 +1.0
NKL				*eS*		S	18 32 40.8 +3.0
NKL				pmax		pmax	
	comp=E,123nm,1.2s						
NKL				pmax		pmax	
	comp=N,91nm,1.0s						
NKL				pmax		pmax	
	comp=Z,210nm,1.0s						
NKL				smax		smax	
	comp=E,121nm,5.1s						
NKL				smax		smax	
	comp=N,121nm,4.8s						
NKL				MLR		MLR	
	comp=E,5µm,19.0s						
NKL				MLR		MLR	
	comp=N,5µm,24.0s						
NKL				MLR		MLR	
	comp=Z,4µm,16.0s						
DLBC	Dease Lake	23.82	74	P		P	18 28 25.9 +1.1
DLBC				IAmb		IAmb	18 28 34.1
	comp=Z,23nm,1.1s						
DLBC	Dease Lake	23.82	74	P		P	18 28 25.2 +0.3
	baz=295						
DLBC	Dease Lake	23.82	74	LR		LR	18 38 28.7
	comp=Z,2µm,18.7s,baz=302,slow=38						
TYV	Tymovskoe	24.08	265	*eP*		P	18 28 28.8 +1.6
TYV				*eS*		S	18 32 49.7 +5.8
TYV				pmax		pmax	
	comp=Z,200nm,1.5s						
TYV				pmax		pmax	
	comp=Z,54nm,1.1s						
TYV				smax		smax	
	comp=N,200nm,6.1s						
TYV				smax		smax	
	comp=E,200nm,6.1s						
T35M	Bob Quinn	24.36	77	P		P	18 28 29.3 -0.5
	baz=298,SNR=6.7						
YAK	Yakutsk	24.94	297	P		P	18 28 34.2 -0.7
YAK	Yakutsk	24.94	297	LR		LR	18 39 30.1
	comp=E,1µm,18.9s,baz=72,slow=39						
YAK	Yakutsk	24.94	297	*d iP*		P	18 28 34.4 -0.5
YAK				*e**PP		sP	18 28 42.3 +1.6
YAK				*e*			18 32 04.4
YAK				*eS*		S	18 32 56.5 -1.0
YAK				*e*SSS		SSS	18 34 04.5
YAK				pmax		pmax	
	comp=Z,263nm,1.0s						
YAK				pmax		pmax	
	comp=N,42nm,1.0s						
YAK				pmax		pmax	
	comp=E,158nm,1.1s						
YAK				smax		smax	
	comp=E,256nm,3.0s						
YAK				smax		smax	
	comp=N,117nm,2.2s						
YAK				MLR		MLR	
	comp=Z,1µm,16.0s						
YAK				MLR		MLR	
	comp=E,755nm,14.0s						
KUR	Kuril'sk	25.46	249⇑	*eP*		P	18 28 41.8 +2.1
UGL	Uglegorsk	25.52	262	*eP*		P	18 28 42.2 +1.9
UGL				pmax		pmax	
	comp=Z,200nm,0.8s						
YSS	Yuzh-Sakhalins	26.64

comp=Z,320nm,15.0s
YUK Yuzh-Kuril'sk 27.30 250 *ce*P **P 18 28 58.7 +2.3**
BBB Bella Bella 27.98 85 LR LR 18 39 43.8
comp=Z,703nm,19.2s,baz=329,slow=35
ASAJ Asahikawa 28.78 254 LR LR 18 39 53.6
comp=Z,413nm,20.0s,baz=54,slow=35
YKA Yellowknife Ar 29.10 58 P **P 18 29 13.2 +0.9**
comp=Z,0.9nm,0.9s,baz=298,slow=8.3,SNR=2.6
comp=Z,0.9nm,0.9s
ZEA Zeya 29.98 282 *e*P **P 18 29 20.1 0.0**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,40nm,1.0s
ZEA MLR MLR
comp=E,300nm,9.0s
ZEA MLR MLR
comp=Z,400nm,10.0s
ERM Erimo 30.12 250⇓*e*P **P 18 29 23.4 +1.9**
ERM pmax pmax
comp=Z,6.0nm,0.8s
KLR Kul'dur 30.54 272 LR LR 18 44 13.8
comp=Z,264nm,18.9s,baz=40,slow=42
KLR Kul'dur 30.54 272 *de*P **P 18 29 25.3 +0.2**
KLR pmax pmax
comp=Z,34nm,1.0s
RES Resolute Bay 31.39 30 LR LR 18 44 18.4
comp=Z,152nm,18.8s,baz=278,slow=40
HEH HeiHe 32.02 277 *e*P **P 18 29 37.3 -0.9**
HEH sP **sP 18 29 46.0 +2.0**
HEH PcP **PcP 18 32 28.3 +0.8**
HEH pmax pmax
comp=Z,25nm,1.0s
HEH LR LR
comp=Z,370nm,19.6s
HEH LR LR
comp=Z,580nm,18.4s
HEH LR LR
comp=Z,640nm,17.3s
BOD Bodaibo 33.86 297 *e*P **P 18 29 53.3 -0.8**
BOD pmax pmax
comp=Z,92nm,0.9s
USA0B Ussuriysk Arra 33.89 265⇑*e*P **P 18 29 53.3 -1.3**
USRK Ussuriysk Ar. 33.89 265 P **P 18 29 52.8 -1.8**
USRK Ussuriysk Ar. 33.89 265 P **P 18 29 52.9 -1.7**
comp=Z,3.7nm,0.8s,baz=66,slow=8.2,SNR=7.0
USRK PcP **PcP 18 32 33.7 +0.9**
comp=Z,1.6nm,0.6s,baz=49,slow=6.5,SNR=5.1
USRK LR LR 18 44 27.9
comp=Z,218nm,18.4s,baz=52,slow=38
comp=Z,3.7nm,0.8s
B08A Colville Reser 34.76 83 P **P 18 30 02.0 -0.1**
MDJ Mudanjiang 34.78 267 P **P 18 30 01.0 -1.3**
MDJ PcP **PcP 18 32 33.3 -2.0**
MDJ S **S 18 35 29.8 -2.3**
MDJ pmax pmax
comp=Z,9.0nm,0.8s
MDJ LR LR
comp=Z,300nm,17.6s
MDJ LR LR
comp=Z,410nm,16.7s
MDJ LR LR
comp=Z,540nm,15.3s
MDJ Mudanjiang 34.78 267 IAmb IAmb 18 30 02.5
comp=Z,9.6nm,1.1s
LTY Liberty 34.85 86 P **P 18 30 03.8 +0.9**
LTY IAmb IAmb 18 30 10.7
comp=Z,15nm,1.3s
BNX BinXian 35.07 271⇓P **P 18 30 04.5 -0.2**
BNX pmax pmax
comp=Z,33nm,0.9s
MSHR Mys Shultsa 35.49 264⇑*e*P **P 18 30 09.4 +1.0**
MSHR pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 35.92 82 IAmb IAmb 18 30 19.4
comp=Z,8.9nm,0.8s
NEW Newport 35.92 82 LR LR 18 46 29.7
comp=Z,607nm,18.1s,baz=320,slow=39
DBO Dodson Butte 36.51 93 P **P 18 30 16.4 -0.9**
DBO IAmb IAmb 18 30 45.5
comp=Z,14nm,1.1s
MAJO Matsushiro 36.79 250 P **P 18 30 19.5 -0.1**
MAJO Matsushiro 36.79 250 P **P 18 30 19.5 -0.1**
MAJO pmax pmax
comp=Z,43nm,1.1s
MJAR Matsushiro Arr 36.79 250 P **P 18 30 19.5 -0.1**
comp=Z,13nm,0.9s,baz=16,slow=7.9,SNR=18
MJAR LR LR 18 45 36.5
comp=Z,177nm,19.9s,baz=44,slow=37
comp=Z,13nm,0.9s
PINE Pine Mountain 37.17 90 IAmb IAmb 18 30 31.3
comp=Z,26nm,1.2s
NRIK Noril'sk 37.25 324 P **P 18 30 22.6 -0.5**
NRIK IAmb IAmb 18 30 25.5
comp=Z,8.4nm,0.7s
NRIK Noril'sk 37.25 324 P **P 18 30 21.6 -1.6**
comp=Z,7.3nm,0.6s,baz=79,slow=8.4,SNR=12
NRIK LR LR 18 46 47.0
comp=Z,616nm,18.5s,baz=64,slow=38
comp=Z,7.3nm,0.6s
NRIK Noril'sk 37.25 324 *de*P **P 18 30 24.3 +1.1**
NRIK pmax pmax
comp=Z,32nm,2.3s
J05D Fort Rock, OR 37.39 91 IAmb IAmb 18 30 33.1
comp=Z,14nm,1.2s
CN2 Changchun 37.43 270 P **P 18 30 24.0 -0.9**
CN2 *e*S **S 18 36 10.3 -2.3**
CN2 pmax pmax
comp=Z,50nm,0.9s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,17.0s
CIT Chita 37.59 289 *e*P **P 18 30 23.5 -2.8**
CIT *e* 18 31 53.9
YBH Yreka Blue Hor 37.81 94 LR LR 18 44 07.4
comp=Z,187nm,21.1s,baz=318,slow=33
JGF Kuroka 37.96 250 IAmb IAmb 18 30 33.5
comp=Z,19nm,1.1s
MSO Missoula 38.47 81 P **P 18 30 34.9 +1.1**
baz=314
NEEM North Greenlan 38.54 16 *i* P **P 18 30 31.9 -2.4**
NEEM IAmb IAmb 18 30 43.5
comp=Z,40nm,0.7s
J08A Circle Bar Ran 38.71 89 P **P 18 30 35.7 -0.2**
FFC Flin Flon 38.83 64 P **P 18 30 36.2 -0.4**
FFC Flin Flon 38.83 64 P **P 18 30 36.2 -0.4**
FFC pmax pmax
comp=Z,13nm,1.4s
FCC Fort Churchill 39.61 54 IAmb IAmb 18 30 49.5
comp=Z,14nm,0.8s
HLID Hailey 40.57 85 P **P 18 30 51.2 -0.3**
baz=317
KBS Kingsbay 40.84 357 *i* P **P 18 30 56.5 +3.5**
PAHR Pah Rah Range 40.99 93 P **P 18 30 55.8 +0.9**
KSRS Korea Array 41.01 261 P **P 18 30 55.9 +1.0**
comp=Z,21nm,0.9s,baz=38,slow=8.2,SNR=102
KSRS PcP **PcP 18 32 55.3 +0.6**
comp=Z,1.9nm,0.8s,baz=45,slow=3.4,SNR=4.9
KSRS LR LR 18 46 59.1
comp=Z,150nm,22.0s,baz=45,slow=35
comp=Z,21nm,0.9s
KSAR Wonju Array Be 41.04 261 P **P 18 30 54.1 -1.0**
KSAR Wonju Array Be 41.04 261 P **P 18 30 54.1 -1.0**
UPNV Upernavik 41.29 23 *i* P P 18 30 49.3 -7.5
UPNV IAmb IAmb 18 30 58.2
comp=Z,103nm,1.4s
YHB Horse Butte 41.30 81 IAmb IAmb 18 31 01.6
comp=Z,9.1nm,0.8s
PNTR Pine Nut 41.36 94 P **P 18 30 57.0 -1.1**
PNTR IAmb IAmb 18 31 05.7
comp=Z,16nm,0.9s
IRK Irkutsk 41.71 295 *e*P **P 18 30 59.5 -1.0**
IRK pmax pmax
comp=Z,99nm,2.0s
WAKR Walker 41.89 94 P **P 18 31 02.1 -0.2**
XLT XiLinHaoTe 42.00 278 *e*P **P 18 31 03.5 +0.4**
XLT pmax pmax
comp=Z,35nm,1.3s
XLT pmax pmax
comp=Z,110nm,5.9s
XLT LR LR
comp=Z,360nm,18.0s
XLT LR LR
comp=Z,250nm,16.1s

H11N2 WAKE ISLAND Hy 42.09 202 T T 19 16 40.3
baz=4.2
H11N3 WAKE ISLAND Hy 42.10 202 T T 19 16 39.7
baz=4.2
H11N1 WAKE ISLAND Hy 42.11 202 T T 19 16 41.4
baz=4.2
TJN Taejon 42.14 261 P **P 18 31 04.4 +0.3**
TJN Taejon 42.14 261 P **P 18 31 04.4 +0.3**
TJN pmax pmax
comp=Z,142nm,1.1s
ELK Elko 42.26 89 LR LR 18 49 11.6
comp=Z,366nm,19.3s,baz=338,slow=37
LOHW Long Hollow 42.42 82 IAmb IAmb 18 31 14.5
comp=Z,14nm,0.8s
DAG Danmarks Havn 42.47 7 *i* P **P 18 31 08.3 +1.9**
DAG IAmb IAmb 18 31 15.7
comp=Z,14nm,0.8s
NVAR Mina Array Bea 42.51 94 P **P 18 31 07.7 +0.3**
NVAR Mina Array Bea 42.51 94 P **P 18 31 09.0 +1.6**
comp=Z,2.2nm,0.9s,baz=300,slow=8.2,SNR=9.0
NVAR LR LR 18 48 29.1
comp=Z,295nm,19.6s,baz=308,slow=36
comp=Z,2.2nm,0.9s
LHV Little Huntoon 42.55 94 P **P 18 31 07.7 +0.3**
HVU Hansel Valley 42.70 86 IAmb IAmb 18 31 16.7
comp=Z,12nm,1.1s
MDPB Devils Postpil 42.74 95 IAmb IAmb 18 31 17.4
comp=Z,12nm,1.0s
JNU Nakatsue 43.05 255 LR LR 18 48 21.9
comp=Z,142nm,19.4s,baz=48,slow=35
H11S1 WAKE ISLAND Hy 43.32 202 T T 19 18 14.3
baz=4.3
H11S3 WAKE ISLAND Hy 43.33 202 T T 19 18 15.4
baz=4.3
H11S2 WAKE ISLAND Hy 43.33 202 T T 19 18 14.3
baz=4.3
ZAK Zakamensk 43.45 294 *e*P **P 18 31 14.3 -0.5**
ZAK pmax pmax
comp=Z,22nm,1.1s
ULN Ulaanbaatar 43.49 289 P **P 18 31 14.8 -0.4**
ULN IAmb IAmb 18 31 17.3
comp=Z,16nm,0.9s
ULN Ulaanbaatar 43.49 289 P **P 18 31 14.8 -0.4**
ULN pmax pmax
comp=Z,16nm,0.9s
BW06 Boulder Array 43.56 82 P **P 18 31 16.1 +0.2**
baz=318
PDAR Pinedale Array 43.56 82 P **P 18 31 15.1 -0.8**
PDAR Pinedale Array 43.56 82 P **P 18 31 18.7 +2.8**
comp=Z,3.9nm,0.8s,baz=302,slow=3.3,SNR=14
PDAR LR LR 18 50 51.9
comp=Z,164nm,18.1s,baz=335,slow=38
comp=Z,3.9nm,0.8s
MOY Mondy 43.58 297 *e*P **P 18 31 16.7 +0.9**
MOY pmax pmax
comp=Z,70nm,1.9s
SONM Songino Array 43.82 289 P **P 18 31 16.5 -1.3**
SONM IAmb IAmb 18 31 19.8
comp=Z,14nm,1.2s
SONM Songino Array 43.82 289 P **P 18 31 18.1 +0.3**
comp=Z,12nm,1.0s,baz=51,slow=7.6,SNR=31
SONM PcP **PcP 18 33 04.8 +0.7**
comp=Z,4.1nm,0.6s,baz=61,slow=1.8,SNR=5.9
SONM LR LR 18 51 52.4
comp=Z,737nm,19.3s,baz=47,slow=39
comp=Z,12nm,1.0s
SONM Songino Array 43.82 289 P **P 18 31 16.5 -1.3**
SONM pmax pmax
comp=Z,14nm,1.2s
DUG Dugway, Tooele 43.88 87 P **P 18 31 17.9 -0.5**
DUG IAmb IAmb 18 31 25.8
comp=Z,11nm,1.1s
DUG Dugway, Tooele 43.88 87 P **P 18 31 18.2 -0.2**
baz=320
DUG Dugway, Tooele 43.88 87 P **P 18 31 17.9 -0.5**
DUG pmax pmax
comp=Z,11nm,1.2s
GMN Gold Mountain 43.91 94 P **P 18 31 18.8 0.0**
R11B Troy Canyon, C 43.92 91 P **P 18 31 18.2 -0.6**
baz=321
SPR3 Spring Creek 3 44.04 90 P **P 18 31 19.8 -0.1**
SPR3 IAmb IAmb 18 31 28.4
comp=Z,18nm,1.2s
CWC Cottonwood Cre 44.17 95 P **P 18 31 21.3 +0.5**
baz=322
SUMG Summit 44.41 16 P **P 18 31 22.3 -0.3**
SUMG IAmb IAmb 18 31 38.4
comp=Z,16nm,1.3s
SUMG Summit 44.41 16 P **P 18 31 22.3 -0.3**
SUMG pmax pmax
comp=Z,16nm,1.3s
SUMG Summit 44.41 16 *i* P **P 18 31 18.6 -4.0**
ULM Lac du Bonnet 44.61 65 P **P 18 31 23.7 -0.2**
ULM IAmb IAmb 18 31 30.4
comp=Z,12nm,0.8s
ULM Lac du Bonnet 44.61 65 P **P 18 31 24.2 +0.3**
comp=Z,3.6nm,0.7s,baz=313,slow=8.1,SNR=11
ULM LR LR 18 50 11.5
comp=Z,320nm,19.3s,baz=331,slow=36
comp=Z,3.6nm,0.7s
ULM Lac du Bonnet 44.61 65 P **P 18 31 23.7 -0.2**
ULM pmax pmax
comp=Z,12nm,0.8s
PSUT Pine Spring 44.64 90 P **P 18 31 24.2 -0.3**
PSUT IAmb IAmb 18 32 02.7
comp=Z,9.6nm,1.0s
BSUT Blindstream Ca 44.64 85 IAmb IAmb 18 31 32.4
comp=Z,18nm,0.9s
TPNV Topopah Spring 44.68 93 P **P 18 31 24.5 -0.4**
baz=322,SNR=6.3
DBG Daneborg 44.75 9 *i* P **P 18 31 23.8 -1.0**
DBG IAmb IAmb 18 31 33.9
comp=Z,20nm,0.7s
FURC Furnace Creek, 44.76 94 P **P 18 31 26.3 +1.1**
baz=322
MPMC Manual Prospec 44.77 95 P **P 18 31 26.0 +0.4**
baz=322,SNR=5.0
BJI Beijing 44.84 274 P **P 18 31 26.5 +0.6**
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJI LR LR
comp=Z,130nm,17.2s
BJI LR LR
comp=Z,170nm,20.0s
BJI LR LR
comp=Z,190nm,14.1s
BJT Baijiatuan 44.86 274 IAmb IAmb 18 31 26.9
comp=Z,1.1nm,0.8s
PRN Pahroc Range 44.92 92 IAmb IAmb 18 31 34.2
comp=Z,17nm,1.1s
GWY Greenwater Val 45.07 94 IAmb IAmb 18 31 35.4
comp=Z,12nm,0.8s
LRMC Laurel Mtn Rad 45.13 96 P **P 18 31 28.8 +0.3**
baz=323
FRB Frobisher Bay 45.13 36 LR LR 18 52 29.6
comp=Z,378nm,18.8s,baz=336,slow=39
K22A Casper 45.13 80 P **P 18 31 29.2 +0.8**
baz=319
TMUT Trail Mountain 45.37 87 IAmb IAmb 18 31 37.9
comp=Z,9.7nm,0.8s
Q16A Castle Valley 45.67 87 IAmb IAmb 18 31 40.5
comp=Z,14nm,1.1s
GSC Goldstone, Bar 45.70 95 IAmb IAmb 18 31 40.4
comp=Z,14nm,0.9s
GSC Goldstone, Bar 45.70 95 P **P 18 31 33.8 +0.8**
baz=323
MTPU Mount Pierson 45.85 89 P **P 18 31 35.4 +1.0**
AGMN Agassiz Nation 46.02 67 IAmb IAmb 18 31 41.7
comp=Z,12nm,0.9s
AGMN Agassiz Nation 46.02 67 P **P 18 31 35.0 -0.2**
baz=317
LCMT Little Creek M 46.12 90 IAmb IAmb 18 31 43.9
comp=Z,7.9nm,1.1s
O20A White River Ci 46.19 83 P **P 18 31 36.9 0.0**
baz=320
HEC Hector,Ludlow 46.31 95 P **P 18 31 38.1 +0.4**
baz=323
KNB Kanab 46.33 90 IAmb IAmb 18 31 45.6
comp=Z,7.9nm,0.9s
V12A Nelson 46.34 93 IAmb IAmb 18 31 45.7
comp=Z,8.8nm,1.0s
HHC Hu-ho-hao-te 46.50 279⇓P **P 18 31 40.0 +0.9**
HHC pP sP 18 31 45.0 -0.1
HHC sP pP 18 31 49.8 +6.4
HHC pmax pmax
comp=Z,41nm,1.0s
HHC pmax pmax

comp=Z,68nm,4.0s
HHC LR LR
comp=Z,350nm,16.1s
HHC LR LR
comp=Z,370nm,16.1s
HHC LR LR
comp=Z,420nm,15.5s
HMU Henry Mountain 46.65 87 P **P 18 31 41.2 +0.6**
GMRC Granite Mounta 46.68 94 P **P 18 31 40.4 -0.3**
baz=323,SNR=6.2
U15A North Rim 47.06 90 IAmb IAmb 18 31 51.2
comp=Z,11nm,1.0s
SFJD Kangerlussuaq 47.10 25 LR LR 18 54 17.0
comp=Z,114nm,18.8s,baz=334,slow=40
BELC Belle Mtn. Jos 47.14 95 P **P 18 31 43.3 -1.0**
baz=324
PFO Pinyon Flats O 47.23 96 P **P 18 31 43.6 -1.3**
baz=324
PFO Pinyon Flats O 47.23 96 LR LR 18 50 03.9
comp=Z,390nm,19.4s,baz=334,slow=34
PFO Pinyon Flats O 47.23 96⇑*e*P **P 18 31 43.8 -1.1**
PFO pmax pmax
comp=Z,3.0nm,0.9s
TPFO Pinon Flats 47.23 96 P **P 18 31 44.6 -0.4**
baz=324
W13A Hualapai Mount 47.31 92 IAmb IAmb 18 31 53.0
comp=Z,5.7nm,0.8s
TIA Tai'an 47.34 270 P **P 18 31 45.8 +0.2**
TIA pmax pmax
comp=Z,12nm,1.1s
TIA LR LR
comp=Z,480nm,18.6s
TIA LR LR
comp=Z,560nm,18.1s
TIA LR LR
comp=Z,540nm,17.6s
ICESG Greenland Ices 47.34 19 *i* P **P 18 31 42.7 -2.9**
ICESG IAmb IAmb 18 32 00.5
comp=Z,13nm,1.0s
IRM Iron Mountain 47.44 94 P **P 18 31 47.2 +0.7**
baz=324,SNR=19
SUSD Miller 47.44 72 P **P 18 31 46.0 -0.3**
baz=319
BTO Baotou 47.44 280 *e*P **P 18 31 46.0 -0.5**
BTO pP **pP 18 31 50.5 -0.3**
BTO sP **sP 18 31 53.0 +0.6**
BTO S **S 18 38 40.0 -0.3**
BTO SS **SS 18 41 58.5 -9.0**
BTO pmax pmax
comp=Z,42nm,1.0s
BTO pmax pmax
comp=Z,210nm,9.4s
BTO LR LR
comp=Z,1μm,18.2s
BTO LR LR
comp=Z,880nm,15.5s
BTO LR LR
comp=Z,620nm,18.5s
HNS HongShan 47.60 273⇓P **P 18 31 48.5 +0.9**
HNS S **S 18 38 36.8 -5.6**
HNS pmax pmax
comp=Z,43nm,1.2s
HNS LR LR
comp=Z,560nm,19.7s
HNS LR LR
comp=Z,400nm,18.8s
HNS LR LR
comp=Z,340nm,13.8s
BC3 Big Chuckawall 47.69 95 P **P 18 31 46.9 -1.6**
baz=324
PDMCI Parker Dam,Lak 47.82 93 P **P 18 31 50.1 +0.7**
baz=323
IKP In-Ko-Pah, Jac 48.17 96 P **P 18 31 52.4 +0.2**
baz=324
WUAZ Wupatki 48.23 90 P **P 18 31 53.1 +0.4**
baz=323,SNR=6.5
EYMN Ely 48.26 64 P **P 18 31 52.7 +0.1**
baz=319
MVCO Mesa Verde 48.33 86 P **P 18 31 52.0 -1.6**
MVCO IAmb IAmb 18 32 07.9
comp=Z,5.0nm,0.8s
DY2G Dye2 48.45 24 *i* P P 18 31 45.3 -8.8
ZAA0 Zalesovo Array 48.66 309 IAmb IAmb 18 31 58.4
comp=Z,9.1nm,0.8s
ZALV Zalesovo Beam 48.66 309 P **P 18 31 55.0 -0.6**
ZALV Zalesovo Beam 48.66 309 P **P 18 31 56.2 +0.6**
comp=Z,8.9nm,0.6s,baz=31,slow=7.1,SNR=40
ZALV PcP **PcP 18 33 20.4 -0.3**
comp=Z,2.4nm,0.7s,baz=31,slow=3.9,SNR=2.6
ZALV LR LR 18 54 14.0
comp=Z,621nm,18.0s,baz=36,slow=38
comp=Z,8.9nm,0.6s
JMIC Jan Mayen 48.71 5 LR LR 18 51 37.4
comp=Z,133nm,21.1s,baz=358,slow=35
X16A Lo Mia Camp, P 49.07 91 IAmb IAmb 18 32 08.4
comp=Z,6.5nm,0.9s
113A Mohawk Valley, 49.24 94 P **P 18 32 00.6 +0.3**
113A IAmb IAmb 18 32 07.5
comp=Z,7.6nm,0.9s
ARCES ARCESS Array B 49.36 350 P **P 18 32 00.7 -0.1**
comp=Z,2.6nm,0.7s,baz=27,slow=8.2,SNR=10
ARCES PcP **PcP 18 33 22.1 -0.9**
comp=Z,2.6nm,0.7s,baz=32,slow=5.3,SNR=2.1
ARCES LR LR 18 55 30.5
comp=Z,390nm,18.2s,baz=9.5,slow=39
comp=Z,2.6nm,0.7s
SDCO Great Sand Dun 49.39 83 P **P 18 32 01.3 -0.5**
baz=322
SOEG Soedalen 49.39 16 *i* P **P 18 32 04.5 +3.5**
NJ2 Nanjing 49.80 265 *e*P **P 18 32 03.5 -1.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
LVZ Lovozero 49.92 345⇑*e*P **P 18 32 04.9 -0.2**
LVZ pmax pmax
comp=Z,4.0nm,0.6s
APA Apatity 50.39 345⇓*i*P P 18 31 59.3 -9.3
APA *i* 18 33 26.4
APA pmax pmax
comp=Z,5.0nm,1.0s
APA MLR MLR
comp=Z,300nm,14.0s
T25A Trinidad 50.41 83 P **P 18 32 11.2 +1.8**
baz=322
ISOG Isortoq, Green 50.65 21 *i* P **P 18 32 08.1 -2.5**
ANGG Ammassalik, Gr 50.82 20 *i* P **P 18 32 10.4 -1.5**
ANGG IAmb IAmb 18 32 20.8
comp=Z,14nm,0.8s
LYN LuoYang 50.96 273⇓P **P 18 32 14.5 +1.1**
LYN pmax pmax
comp=Z,220nm,0.9s
LYN LR LR
comp=Z,550nm,18.9s
LYN LR LR
comp=Z,580nm,17.8s
LYN LR LR
comp=Z,430nm,16.8s
ANMO Albuquerque 51.13 86 P **P 18 32 14.7 -0.1**
baz=323
ANMO Albuquerque 51.13 86 LR LR 18 56 09.8
comp=Z,211nm,18.4s,baz=72,slow=39
ANMO Albuquerque 51.13 86⇑*e*P **P 18 32 14.4 -0.4**
ANMO pmax pmax
comp=Z,2.0nm,1.4s
IVI Ivigtut 52.64 28 *i* P **P 18 32 22.6 -2.9**
IVI IAmb IAmb 18 32 40.8
comp=Z,15nm,1.1s
JFWS Jewell Farm 52.67 67 P **P 18 32 25.5 -0.6**
baz=322
SCHQ Schefferville 52.67 43 P **P 18 32 26.4 +0.5**
comp=Z,9.7nm,0.8s,baz=350,slow=7.6,SNR=8.7
SCHQ LR LR 18 55 15.1
comp=Z,276nm,20.3s,baz=328,slow=36
comp=Z,9.7nm,0.8s
XAN Xi'an 53.13 275⇓P **P 18 32 29.3 -0.3**
XAN pmax pmax
comp=Z,46nm,1.1s
XAN pmax pmax
comp=Z,140nm,4.0s
XAN LR LR
comp=Z,810nm,18.0s
XAN LR LR
comp=Z,920nm,20.4s
XAN LR LR
comp=Z,540nm,19.2s
WHN Wuhan 53.26 268⇑P **P 18 32 31.3 +0.8**
WHN pmax pmax
comp=Z,68nm,0.9s

GTA	**Gaotai**	**53.31 287**	⇓P	**P**	**18 32 31.0 +0.1**
GTA			pP	sP	18 32 37.0 +0.1
GTA			pmax	pmax	
	comp=Z,27nm,1.0s				
GTA			LR	LR	
	comp=Z,370nm,19.9s				
GTA			LR	LR	
	comp=Z,410nm,13.9s				
GTA			LR	LR	
	comp=Z,530nm,15.5s				
AMTX	**Amarillo**	**53.54 82**	P	**P**	**18 32 33.0 +0.4**
	baz=323				
KURK	**Kurchatov**	**53.57 310**	P	**P**	**18 32 32.9 +0.4**
KURK	**Kurchatov**	**53.57 310**	P	**P**	**18 32 32.9 +0.4**
KURK			pmax	pmax	
	comp=Z,62nm,0.9s				
KURBB	**Kurchatov Arra**	**53.68 310**	P	**P**	**18 32 34.0 +0.7**
	comp=Z,37nm,0.9s,baz=43,slow=8.0,SNR=249				
KURBB			LR	LR	18 57 12.2
	comp=Z,891nm,18.6s,baz=161,slow=38				
	comp=Z,37nm,0.9s				
KURBB	**Kurchatov Arra**	**53.68 310**	P	**P**	**18 32 33.8 +0.5**
ZSN	**Zaisan**	**53.68 303**	⇓*i*P	**P**	**18 32 34.9 +1.4**
	baz=303				
ZSN	**Zaisan**	**53.68 303**	*d i*P	**P**	**18 32 34.8 +1.4**
BORG	**Borgarnes**	**53.92 12**	LR	LR	18 57 11.3
	comp=Z,176nm,19.0s,baz=342,slow=38				
LZH	**Lanzhou**	**53.99 281**	⇓P	**P**	**18 32 36.3 +0.3**
LZH			pP	sP	18 32 44.5 +2.5
LZH			pmax	pmax	
	comp=Z,82nm,1.2s				
LZH			pmax	pmax	
	comp=Z,220nm,4.5s				
LZH			LR	LR	
	comp=Z,440nm,20.6s				
LZH			LR	LR	
	comp=Z,680nm,21.3s				
LZH			LR	LR	
	comp=Z,420nm,19.6s				
GUMO	**Guam**	**54.18 227**	LR	LR	18 52 55.6
	comp=Z,51nm,20.4s,baz=28,slow=33				
MNTX	**Cornudas Mount**	**54.27 88**	P	**P**	**18 32 38.2 +0.3**
	baz=325,SNR=7.7				
SVE	**Sverdlovsk**	**54.52 325**	*e*P	**P**	**18 32 41.1 +1.8**
SVE			pmax	pmax	
	comp=Z,53nm,1.0s				
SVE			MLR	MLR	
	comp=Z,511nm,19.0s				
BVAR	**Borovoye Array**	**54.66 317**	P	**P**	**18 32 41.7 +1.2**
	comp=Z,34nm,0.7s,baz=39,slow=8.5,SNR=198				
BVAR			LR	LR	18 57 41.3
	comp=Z,498nm,19.9s,baz=36,slow=38				
	comp=Z,34nm,0.7s				
BRVK	**Borovoye**	**54.67 317**	P	**P**	**18 32 41.3 +0.8**
BRVK	**Borovoye**	**54.67 317**	P	**P**	**18 32 41.3 +0.8**
BRVK			pmax	pmax	
	comp=Z,39nm,1.0s				
DKNS	**Dickens**	**54.89 83**	P	**P**	**18 32 44.4 +2.0**
WMOK	**Wichita Mounta**	**55.08 80**	P	**P**	**18 32 45.6 +1.9**
WMOK			IAmb	IAmb	18 32 49.9
	comp=Z,7.0nm,0.9s				
WMOK	**Wichita Mounta**	**55.08 80**	P	**P**	**18 32 44.0 +0.3**
	baz=324,SNR=6.1				
WMOK	**Wichita Mounta**	**55.08 80**	P	**P**	**18 32 45.7 +1.9**
WMOK			pmax	pmax	
	comp=Z,7.0nm,0.9s				
VHRN	**Van Horn**	**55.20 88**	P	**P**	**18 32 46.1 +1.2**
VHRN			IAmb	IAmb	18 32 52.5
	comp=Z,7.0nm,1.2s				
MK31	**Makanchi Array**	**55.26 305**	IAmb	IAmb	18 32 47.1
	comp=Z,9.9nm,0.9s				
MK31	**Makanchi Array**	**55.26 305**	*d i*P	**P**	**18 32 45.1 +0.2**
MKAR	**Makanchi Array**	**55.26 305**	P	**P**	**18 32 44.4 -0.5**
MKAR	**Makanchi Array**	**55.26 305**	P	**P**	**18 32 45.2 +0.3**
	comp=Z,8.9nm,0.7s,baz=46,slow=7.0,SNR=110				
MKAR			LR	LR	18 56 29.7
	comp=Z,352nm,19.6s,baz=32,slow=36				
	comp=Z,8.9nm,0.7s				
WMQ	**Urumqi**	**55.36 299**	*e*P	**P**	**18 32 47.5 +1.8**
WMQ			pmax	pmax	
	comp=Z,61nm,0.9s				
WMQ			pmax	pmax	
	comp=Z,74nm,3.7s				
WMQ			LR	LR	
	comp=Z,410nm,17.3s				
WMQ			LR	LR	
	comp=Z,360nm,14.1s				
WMQ			LR	LR	
	comp=Z,320nm,20.5s				
MAKZ	**Makanchi**	**55.38 305**	P	**P**	**18 32 45.5 -0.3**
MAKZ			IAmb	IAmb	18 32 47.1
	comp=Z,10.0nm,0.7s				
MAKZ	**Makanchi**	**55.38 305**	P	**P**	**18 32 45.5 -0.3**
MAKZ			pmax	pmax	
	comp=Z,10.0nm,0.7s				
ARU	**Arti**	**55.44 326**	P	**P**	**18 32 46.1 +0.1**
ARU	**Arti**	**55.44 326**	LR	LR	19 00 13.5
	comp=Z,494nm,18.3s,baz=24,slow=40				
ARU	**Arti**	**55.44 326**	*d i*P	**P**	**18 32 46.8 +0.8**
ARU					18 33 46.1
ARU					18 34 49.7
ARU			S	**S**	**18 40 32.6 +2.7**
ARU			SS	**SS**	**18 44 20.6 +6.9**
ARU			pmax	pmax	
	comp=Z,23nm,1.1s				
ARU			MLR	MLR	
	comp=Z,462nm,18.0s				
ARU	**Arti**	**55.44 326**	P	**P**	**18 32 47.0 +1.0**
APMT	**Aspermont**	**55.56 82**	IAmb	IAmb	18 32 53.4
	comp=Z,9.6nm,0.9s				
SSLB	**Suanglung**	**55.61 257**	P	**P**	**18 32 47.6 -0.1**
SSLB			IAmb	IAmb	18 32 52.4
	comp=Z,10nm,0.9s				
U38A	**Gravette**	**55.85 75**	P	**P**	**18 32 49.9 +0.7**
U38A			IAmb	IAmb	18 32 55.9
	comp=Z,12nm,1.1s				
KIRV	**Kirov**	**55.86 332**	LR	LR	18 59 05.1
	comp=Z,744nm,20.5s,baz=28,slow=39				
KIRV	**Kirov**	**55.86 332**	⇑*e*P	**P**	**18 32 49.9 +1.0**
SADO	**Sadowa**	**56.10 58**	LR	LR	18 59 41.5
	comp=Z,262nm,18.6s,baz=328,slow=39				
HHAR	**Hobbs**	**56.19 75**	P	**P**	**18 32 51.7 0.0**
HHAR			IAmb	IAmb	18 32 58.2
	comp=Z,8.0nm,1.0s				
MGMO	**Mountain Grove**	**56.29 73**	IAmb	IAmb	18 32 57.8
	comp=Z,10.0nm,0.8s				
ABTX	**Abilene, Hawle**	**56.36 82**	P	**P**	**18 32 53.2 +0.2**
VALR	**Valaam**	**56.66 344**	⇑*e*P	**P**	**18 32 56.1 +1.5**
VALR			pmax	pmax	
	comp=Z,11nm,0.9s				
TX31	**Lajitas Ar. Si**	**57.05 88**	IAmb	IAmb	18 33 05.4
	comp=Z,8.4nm,0.9s				
TXAR	**Lajitas Array**	**57.05 88**	P	**P**	**18 32 58.0 0.0**
TXAR	**Lajitas Array**	**57.05 88**	P	**P**	**18 32 59.6 +1.6**
	comp=Z,1.9nm,0.8s,baz=321,slow=4.4,SNR=17				
	comp=Z,1.9nm,0.8s				
FINES	**FINESS Array B**	**57.18 347**	P	**P**	**18 32 57.4 -0.9**
FINES	**FINESS Array B**	**57.18 347**	P	**P**	**18 32 57.9 -0.4**
	comp=Z,4.1nm,0.6s,baz=26,slow=9.3,SNR=19				
FINES			LR	LR	19 00 55.5
	comp=Z,344nm,18.4s,baz=26,slow=40				
	comp=Z,4.1nm,0.6s				
FCAR	**Ozark Folk Cen**	**57.37 74**	IAmb	IAmb	18 33 05.3
	comp=Z,12nm,1.0s				
MIAR	**Mount Ida**	**57.76 76**	P	**P**	**18 33 03.1 +0.3**
MIAR			IAmb	IAmb	18 33 09.2
	comp=Z,12nm,1.2s				
MIAR	**Mount Ida**	**57.76 76**	P	**P**	**18 33 04.2 +1.3**
	baz=324				
MIAR	**Mount Ida**	**57.76 76**	P	**P**	**18 33 03.1 +0.3**
MIAR			pmax	pmax	
	comp=Z,13nm,1.2s				
OTUK	**Ortayu**	**57.95 312**	P	**P**	**18 33 04.3 +0.3**
JCT	**Junction City**	**58.02 84**	P	**P**	**18 33 05.5 +0.7**
	baz=325,SNR=5.5				
LPIG	**La Paz**	**58.09 97**	LR	LR	18 56 27.0
	comp=Z,74nm,18.4s,baz=323,slow=34				
GOMU	**GeErMu**	**58.25 288**	P	**P**	**18 33 06.5 -0.2**
GOMU			pP	pP	18 33 10.3 -0.7
GOMU			sP	sP	18 33 14.0 +1.3
GOMU			pmax	pmax	
	comp=Z,31nm,1.0s				
GOMU			LR	LR	
	comp=Z,1μm,16.7s				
GOMU			LR	LR	
	comp=Z,350nm,16.3s				
GOMU			LR	LR	
	comp=Z,1μm,16.2s				
WVNY	**West Valley, N**	**58.25 59**	P	**P**	**18 33 05.6 -0.6**
NC204	**NORSAR Array S**	**58.52 355**	IAmb	IAmb	18 33 10.1
	comp=Z,12nm,1.1s				
NC405	**NORSAR Array S**	**58.65 355**	IAmb	IAmb	18 33 10.3
	comp=Z,8.6nm,0.7s				
NB2	**NORSAR Subarra**	**58.74 355**	P	**P**	**18 33 09.6 +0.2**
	comp=Z,4.8nm,0.8s,baz=3.6,slow=6.9				
NOA	**NORSAR Array B**	**58.74 355**	P	**P**	**18 33 09.4 0.0**
	comp=Z,3.1nm,0.7s,baz=4.2,slow=6.8,SNR=15				
NOA			LR	LR	18 56 50.4
	comp=Z,184nm,21.9s,baz=0.0,slow=34				
	comp=Z,3.1nm,0.7s				
ARXS	**Arharly**	**59.18 306**	*e*P	**P**	**18 33 12.6 -0.1**
BATG	**Bathurst New B**	**59.21 48**	P	**P**	**18 33 12.8 +0.1**
WVT	**Waverly**	**59.21 70**	P	**P**	**18 33 11.3 -1.6**
	baz=325				
G62A	**West of Eustis**	**59.24 52**	P	**P**	**18 33 13.4 +0.4**
PDGK	**Podgornoye**	**59.24 304**	P	**P**	**18 33 12.8 -0.4**
SHLS	**Shalkode**	**59.39 304**	⇓*i*P	**P**	**18 33 14.6 +0.3**
	comp=Z,7.5nm,0.6s,baz=304				
SHLS	**Shalkode**	**59.39 304**	*d i*P	**P**	**18 33 14.5 +0.3**
SHLS			pmax	pmax	
	comp=Z,7.0nm,0.6s				
KPKS	**Kokpek**	**59.45 305**	⇓*i*P	**P**	**18 33 16.0 +1.3**
	comp=Z,11nm,0.8s,baz=305				
KPKS			*e*S	**S**	**18 41 25.7 +2.4**
	baz=305				
KPKS	**Kokpek**	**59.45 305**	*d i*P	**P**	**18 33 15.9 +1.3**
KPKS			*e*S	**S**	**18 41 25.6 +2.4**
KPKS			pmax	pmax	
	comp=Z,11nm,0.8s				
HFS	**Hagfors**	**59.52 354**	P	**P**	**18 33 14.4 -0.4**
	comp=Z,1.9nm,0.6s,baz=85,slow=3.1,SNR=11				
HFS			LR	LR	18 57 44.0
	comp=Z,262nm,21.9s,baz=8.0,slow=35				
	comp=Z,1.9nm,0.6s				
F64A	**Sherman**	**59.54 50**	P	**P**	**18 33 15.5 +0.5**
UZB	**Uzynbulak**	**59.58 304**	*e*P	**P**	**18 33 16.7 +1.1**
	comp=Z,5.8nm,0.9s,baz=304				
UZB	**Uzynbulak**	**59.58 304**	*e*P	**P**	**18 33 16.7 +1.1**
UZB			pmax	pmax	
	comp=Z,6.0nm,0.9s				
ZHN	**Zhinishke**	**59.80 305**	*e*P	**P**	**18 33 18.4 +1.3**
	baz=305				
ZHN	**Zhinishke**	**59.80 305**	*e*P	**P**	**18 33 18.3 +1.3**
SATY	**Saty**	**59.90 305**	*e*P	**P**	**18 33 18.9 +1.1**
	baz=305				
SATY	**Saty**	**59.90 305**	*e*P	**P**	**18 33 18.8 +1.1**
BTLS	**Baital**	**59.98 309**	⇓*i*P	**P**	**18 33 19.4 +1.2**
	comp=Z,7.1nm,0.7s,baz=309				
BTLS	**Baital**	**59.98 309**	*d i*P	**P**	**18 33 19.3 +1.2**
BTLS			pmax	pmax	
	comp=Z,7.0nm,0.7s				
VSU	**Vasula**	**60.01 346**	*de*P	**P**	**18 33 18.4 +0.4**
VSU			pmax	pmax	
	comp=Z,6.0nm,0.6s				
KONO	**Kongsberg**	**60.20 356**	⇑*e*P	**P**	**18 33 18.9 -0.4**
KONO			pmax	pmax	
	comp=Z,12nm,1.7s				
MDOK	**Medeo**	**60.37 306**	*e*P	**P**	**18 33 22.0 +0.9**
	baz=306				
MDOK	**Medeo**	**60.37 306**	P	**P**	**18 33 21.9 +0.9**
AAA	**Alma-Ata**	**60.38 306**	*e*P	**P**	**18 33 22.3 +1.2**
	baz=306				
AAA	**Alma-Ata**	**60.38 306**	*e*P	**P**	**18 33 22.2 +1.2**
GYA	**Guiyang**	**60.44 272**	⇓P	**P**	**18 33 22.0 +0.4**
GYA			S	**S**	**18 41 38.0 +1.7**
GYA			pmax	pmax	
	comp=Z,30nm,1.1s				
GYA			pmax	pmax	
	comp=Z,200nm,8.1s				
GYA			LR	LR	
	comp=Z,360nm,12.1s				
GYA			LR	LR	
	comp=Z,220nm,13.7s				
GYA			LR	LR	
	comp=Z,430nm,16.5s				
TNSS	**Tian-Shan**	**60.52 306**	*e*P	**P**	**18 33 23.0 +0.6**
	baz=306				
TNSS	**Tian-Shan**	**60.52 306**	*e*P	**P**	**18 33 22.9 +0.6**
AKTO	**Aktyubinsk**	**60.85 323**	LR	LR	19 03 28.3
	comp=Z,374nm,19.0s,baz=320,slow=40				
SGDS	**Sogindy**	**61.09 308**	*e*P	**P**	**18 33 27.1 +1.3**
	comp=Z,6.5nm,1.0s,baz=308				
SGDS	**Sogindy**	**61.09 308**	*e*P	**P**	**18 33 27.1 +1.3**
SGDS			pmax	pmax	
	comp=Z,6.0nm,1.0s				
TKM2	**Tokmak 2**	**61.15 307**	P	**P**	**18 33 28.5 +2.1**
	SNR=7.0				
TKM2	**Tokmak 2**	**61.15 307**	P	**P**	**18 33 26.9 +0.5**
USP	**Ospenovka**	**61.30 308**	P	**P**	**18 33 29.0 +1.8**
	SNR=13				
AB31	**Akbulak array**	**61.30 321**	*i* P	**P**	**18 33 27.8 +0.8**
ABKAR	**Akbulak array**	**61.30 321**	P	**P**	**18 33 27.6 +0.6**
ABKAR	**Akbulak array**	**61.30 321**	IAmb	IAmb	18 33 29.4
	comp=Z,24nm,0.9s				
CHMS	**Chumysh**	**61.42 307**	P	**P**	**18 33 29.9 +1.9**
	SNR=7.3				
TKL	**Tuckaleechee C**	**61.48 68**	LR	LR	19 01 28.1
	comp=Z,403nm,19.1s,baz=334,slow=37				
FRU1	**Bishkek**	**61.63 307**	P	**P**	**18 33 31.7 +2.2**
FRU1			pmax	pmax	
	comp=Z,29nm,1.2s				
KBK	**Karagaybulak**	**61.63 307**	P	**P**	**18 33 31.6 +2.0**
	SNR=7.7				
OBN	**Obninsk**	**61.73 339**	LR	LR	19 02 28.9
	comp=Z,419nm,21.5s,baz=9.5,slow=38				
OBN	**Obninsk**	**61.73 339**	⇓*e*P	**P**	**18 33 29.4 -0.4**
OBN			*e*		18 34 12.1
OBN			*e*		18 35 45.5
OBN			*e*PPP	PPP	18 37 12.6
OBN			pmax	pmax	
	comp=Z,6.0nm,0.6s				
OBN			MLR	MLR	
	comp=Z,414nm,19.0s				
AAK	**Ala-Archa**	**61.83 307**	P	**P**	**18 33 32.4 +1.5**
AAK	**Ala-Archa**	**61.83 307**	LR	LR	19 02 28.8
	comp=Z,730nm,18.3s,baz=26,slow=38				
AAK	**Ala-Archa**	**61.83 307**	P	**P**	**18 33 32.4 +1.5**
AAK			pmax	pmax	
	comp=Z,13nm,0.8s				
BELG	**Belogornoye**	**61.92 331**	LR	LR	19 02 38.6
	comp=Z,343nm,20.9s,baz=33,slow=38				
BELG	**Belogornoye**	**61.92 331**	*d i*P	**P**	**18 33 31.6 +0.5**
BELG			pmax	pmax	
	comp=Z,4.0nm,1.0s				
EKS2	**Erkin-Say**	**62.09 308**	P	**P**	**18 33 34.6 +1.9**
	SNR=16				
NRN	**Naryn**	**62.24 305**	P	**P**	**18 33 35.0 +1.1**
NRN	**Naryn**	**62.24 305**	P	**P**	**18 33 35.0 +1.1**
NRN			pmax	pmax	
	comp=Z,12nm,1.0s				
ARLS	**Aral**	**62.55 307**	P	**P**	**18 33 38.1 +2.3**
ARLS			pmax	pmax	
	comp=Z,21nm,1.1s				
AML	**Almayashu**	**62.57 308**	P	**P**	**18 33 38.4 +2.2**
	SNR=12				
PZH	**PanZhiHua**	**62.84 276**	P	**P**	**18 33 37.5 -0.3**
PZH			pmax	pmax	
	comp=Z,7.0nm,0.8s				
PZH			pmax	pmax	
	comp=Z,110nm,4.8s				
KK31	**Karatay Array**	**62.98 310**	IAmb	IAmb	18 33 40.3
	comp=Z,6.6nm,0.8s				
KK31	**Karatay Array**	**62.98 310**	*i* P	**P**	**18 33 39.7 +1.3**
KKAR	**Karatay Array**	**62.98 310**	P	**P**	**18 33 39.1 +0.7**
KKAR	**Karatay Array**	**62.98 310**	IAmb	IAmb	18 33 40.3
	comp=Z,6.5nm,0.8s				
KKAR	**Karatay Array**	**62.98 310**	P	**P**	**18 33 39.1 +0.7**
NACGM	**Naroch**	**63.47 345**	*e*P	P	18 33 36.2 -5.2
	comp=N,405nm,0.9s,baz=14				
KMI	**Kunming**	**63.49 275**	⇓P	**P**	**18 33 42.0 -0.3**
KMI			pmax	pmax	
	comp=N,14nm,0.9s				
LPSR	**Galich'ya Gora**	**63.66 336**	*e*P	**P**	**18 33 40.5 -2.2**
LPSR			pmax	pmax	
	comp=Z,10.0nm,0.6s				
MNK	**Minsk**	**63.71 344**	*i* P	**P**	**18 33 42.5 -0.5**
MNK			*i*		18 34 18.6
MNK			*i*		18 36 02.3
MNK			*i* PPP	PPP	18 37 31.6
MNK			*i* S	**S**	**18 42 17.2 +0.6**
MNK			*i*		18 43 35.9
MNK			*i* SS	**SS**	**18 46 25.9 +2.7**
MNK			pmax	pmax	
	comp=N,7.0nm,0.7s				
MNK			pmax	pmax	
	comp=E,5.0nm,0.8s				
MNK			pmax	pmax	
	comp=Z,11nm,0.8s				
MNK			MLR	MLR	
	comp=E,99nm,18.0s				
MNK			MLR	MLR	
	comp=N,248nm,18.0s				
MNK			MLR	MLR	
	comp=Z,216nm,18.0s				
KSH	**Kashi**	**63.87 304**	P	**P**	**18 33 49.3 +4.8**
KSH			pmax	pmax	
	comp=Z,22nm,1.1s				
KSH			LR	LR	
	comp=Z,690nm,19.9s				
KSH			LR	LR	
	comp=Z,1μm,18.9s				
KSH			LR	LR	
	comp=Z,800nm,17.9s				
IUG	**Iuzhnay**	**63.98 310**	*e*P	**P**	**18 33 46.5 +1.4**
	comp=Z,5.9nm,0.7s,baz=310				
IUG	**Iuzhnay**	**63.98 310**	*e*P	**P**	**18 33 46.5 +1.4**
IUG			pmax	pmax	
	comp=Z,6.0nm,0.7s				
CHM	**Chimkent**	**63.99 311**	*e*P	**P**	**18 33 46.5 +1.3**
	comp=Z,4.6nm,0.5s,baz=310				
CHM	**Chimkent**	**63.99 311**	*e*P	**P**	**18 33 46.4 +1.3**
CHM			pmax	pmax	
	comp=Z,5.0nm,0.5s				
OHH	**Osh**	**64.30 307**	P	**P**	**18 33 49.2 +1.9**
OHH			pmax	pmax	
	comp=Z,23nm,1.2s				
VRH	**Novokhopyorsk**	**64.40 334**	*e*P	**P**	**18 33 45.7 -1.9**
VRH			pmax	pmax	
	comp=Z,12nm,0.5s				
VORR	**Voronezh**	**64.49 336**	*e*P	**P**	**18 33 47.2 -1.0**
EKA	**Eskdalemuir Ar**	**64.56 4**	P	**P**	**18 33 48.6 0.0**
	comp=Z,2.5nm,0.7s,baz=0.9,slow=4.7,SNR=11				
	comp=Z,2.5nm,0.7s				
VSR	**Storozhevoye**	**64.93 336**	*e*P	**P**	**18 33 48.5 -2.5**
VSR			pmax	pmax	
	comp=Z,10.0nm,0.9s				
LSA	**Lhasa**	**65.33 287**	P	**P**	**18 33 56.3 +1.7**
LSA			pmax	pmax	
	comp=Z,46nm,1.0s				
BTK	**Batken**	**65.47 308**	P	**P**	**18 33 56.6 +1.7**
BTK			pmax	pmax	
	comp=Z,16nm,1.7s				
DRK	**Karamyk**	**65.58 307**	P	**P**	**18 33 57.4 +1.5**
SLVN	**Son La**	**66.09 271**	P	**P**	**18 33 59.5 +0.4**
GAR	**Garm**	**66.58 308**	P	**P**	**18 34 02.4 +0.3**
AK21	**Malin Array Si**	**67.17 342**	P	**P**	**18 34 05.0 -0.4**
AK22	**Malin Array Si**	**67.18 342**	P	**P**	**18 34 05.2 -0.3**
AK03	**Malin Array Si**	**67.19 342**	P	**P**	**18 34 05.3 -0.3**
AK04	**Malin Array Si**	**67.20 342**	P	**P**	**18 34 05.4 -0.3**
AK20	**Malin Array Si**	**67.20 342**	P	**P**	**18 34 05.4 -0.3**
AKASG	**Malin Array Be**	**67.21 342**	P	**P**	**18 34 04.6 -1.2**
	comp=Z,4.5nm,0.6s,baz=16,slow=5.9,SNR=10				
AKASG			LR	LR	19 06 53.8
	comp=Z,344nm,20.0s,baz=26,slow=39				
	comp=Z,4.5nm,0.6s				
AKBB	**Malin Array Si**	**67.21 342**	IAmb	IAmb	18 34 34.7
	comp=Z,9.3nm,1.0s				
AKBB	**Malin Array Si**	**67.21 342**	*d i*P	**P**	**18 34 05.3 -0.4**
AKBB	**Malin Array Si**	**67.21 342**	P	**P**	**18 34 05.5 -0.2**
AK18	**Malin Array Si**	**67.22 342**	P	**P**	**18 34 05.5 -0.3**
KIEV	**Kiev**	**67.22 342**	P	**P**	**18 34 04.7 -1.1**
KIEV			IAmb	IAmb	18 34 34.7
	comp=Z,7.7nm,0.9s				
KIEV	**Kiev**	**67.22 342**	P	**P**	**18 34 04.7 -1.1**
KIEV			pmax	pmax	
	comp=Z,8.0nm,1.0s				
KIEV	**Kiev**	**67.22 342**	P	**P**	**18 34 05.5 -0.3**
MI28	**Mi28,Pidlybu**	**67.22 343**	P	**P**	**18 34 05.8 0.0**
AK01	**Malin Array Si**	**67.22 342**	P	**P**	**18 34 05.3 -0.5**
AK19	**Malin Array Si**	**67.22 342**	P	**P**	**18 34 05.3 -0.5**
AK11	**Malin Array Si**	**67.24 342**	P	**P**	**18 34 05.4 -0.5**
AK02	**Malin Array Si**	**67.26 342**	P	**P**	**18 34 05.5 -0.5**
AK08	**Malin Array Si**	**67.27 342**	P	**P**	**18 34 05.8 -0.3**
AK12	**Malin Array Si**	**67.28 342**	P	**P**	**18 34 05.8 -0.4**
AK09	**Malin Array Si**	**67.29 342**	P	**P**	**18 34 05.8 -0.4**
AK05	**Malin Array Si**	**67.30 342**	P	**P**	**18 34 05.8 -0.5**
AK14	**Malin Array Si**	**67.30 342**	P	**P**	**18 34 05.8 -0.5**
AK10	**Malin Array Si**	**67.31 342**	P	**P**	**18 34 05.9 -0.4**
AK13	**Malin Array Si**	**67.33 342**	P	**P**	**18 34 06.0 -0.4**
MI30	**MI30,Zelenitsa**	**67.33 343**	P	**P**	**18 34 06.0 -0.5**
CHGR	**Chuyangaron**	**67.33 309**	P	**P**	**18 34 08.2 +1.4**
CHGR			pmax	pmax	
	comp=Z,55nm,0.8s				
AK07	**Malin Array Si**	**67.36 342**	P	**P**	**18 34 06.2 -0.5**
SIMJ	**Simiganj**	**67.38 309**	P	**P**	**18 34 06.9 -0.3**
LUBAR	**Lubar, Ukraine**	**68.19 343**	P	**P**	**18 34 11.5 -0.4**
CLL	**Collm**	**68.36 353**	*i* P	**P**	**18 34 13.3 +0.3**
CLL			*i* *PP	**pP**	**18 34 16.3 -1.1**
CLL			pmax	pmax	
	comp=Z,3.0nm,0.9s				
SHL	**Shillong**	**68.44 284**	P	**P**	**18 34 13.7 -0.4**
KSP	**Ksiaz**	**68.59 351**	*e*P	**P**	**18 34 15.1 +0.7**
KSP	**Ksiaz**	**68.59 351**	P	**P**	**18 34 15.0 +0.6**
BRG	**Berggiesshubel**	**68.74 352**	*i* P	**P**	**18 34 16.2 +0.9**
BRG			Amp		18 34 17.0
	comp=Z,3.7nm,0.8s				
BRG	**Berggiesshubel**	**68.74 352**	*i* P	**P**	**18 34 16.2 +0.9**
BRG			pmax	pmax	
	comp=Z,4.0nm,0.8s				
BRG			MLR	MLR	
	comp=N,142nm,24.6s				
BRG			MLR	MLR	
	comp=Z,257nm,23.6s				
BRG			MLR	MLR	
	comp=E,74nm,19.2s				
OSTC	**Ostas**	**68.89 351**	AMS	AMS	19 12 20.0
	comp=E,200nm,19.1s				
OJC	**Ojcow**	**68.89 348**	*e*P	**P**	**18 34 17.1 +0.8**
OJC	**Ojcow**	**68.89 348**	IAmb	IAmb	18 34 18.0
	comp=Z,8.1nm,0.8s				
OJC	**Ojcow**	**68.89 348**	P	**P**	**18 34 17.3 +1.0**
OJC			pmax	pmax	
	comp=Z,12nm,0.9s				
OJC	**Ojcow**	**68.89 348**	P	**P**	**18 34 17.1 +0.8**
UPC	**Upice**	**68.95 351**	AMS	AMS	19 12 10.0
	comp=Z,200nm,16.3s				
HSKC	**Hora Svate Kat**	**69.03 353**	AMS	AMS	19 09 00.0
	comp=Z,200nm,25.1s				
PVCC	**Panska Ves**	**69.04 352**	AMS	AMS	19 14 20.0
	comp=Z,200nm,17.3s				
RICC	**Richard**	**69.05 352**	*e*P	**P**	**18 34 18.6 +1.3**
DPC	**Dobruska-Polom**	**69.08 351**	AMS	AMS	19 13 30.0
	comp=Z,200nm,16.1s				
DPC	**Dobruska-Polom**	**69.08 351**	P	**P**	**18 34 18.3 +0.8**
MOX	**Moxa**	**69.11 354**	P	**P**	**18 34 18.6 +1.0**
MOX			pmax	pmax	
	comp=Z,6.0nm,1.2s				
KWP	**Kalwaria Pacla**	**69.15 346**	*e*P	**P**	**18 34 19.1 +1.2**
KWP	**Kalwaria Pacla**	**69.15 346**	P	**P**	**18 34 19.0 +1.1**
KRLC	**Kraliky**	**69.32 350**	*e*P	**P**	**18 34 19.9 +0.9**
KRLC			AMS	AMS	19 11 10.0
	comp=Z,200nm,15.5s				
OKC	**Ostrava-Krasne**	**69.43 349**	AMS	AMS	19 11 40.0
	comp=Z,200nm,16.3s				
SHIU	**Shidnytsya**	**69.47 346**	P	**P**	**18 34 21.2 +1.2**
MORS	**Morshin**	**69.50 345**	P	**P**	**18 34 20.5 +0.5**
PRA	**Prague**	**69.50 352**	AMS	AMS	19 09 00.0
	comp=Z,300nm,24.8s				
MORC	**Moravsky Berou**	**69.55 350**	IAmb	IAmb	18 34 21.7
	comp=Z,4.1nm,0.8s				
MORC	**Moravsky Berou**	**69.55 350**	*e*P	**P**	**18 34 21.1 +0.7**
PRU	**Pruhonice**	**69.58 352**	AMS	AMS	19 11 20.0
	comp=Z,200nm,17.4s				
NIE	**Niedzica**	**69.63 348**	*e*P	**P**	**18 34 20.8 -0.1**
NIE	**Niedzica**	**69.63 348**	P	**P**	**18 34 21.8 +0.8**
KMPD	**K-Podol'skiy**	**69.71 343**	P	**pP**	**18 34 21.0 -4.8**
KMPD			P	**P**	**18 34 20.8

LANS Liptovska Anna 69.98 348 *e*P **P 18 34 25.1 +2.0**
LANS pmax pmax
comp=Z,6.0nm,0.8s
LANS Liptovska Anna 69.98 348 *e*P **P 18 34 25.1 +2.0**
CRVS Cervenica-Dubn 70.01 347 *e*P **P 18 34 24.4 +1.1**
CRVS Cervenica-Dubn 70.01 347 *e*P **P 18 34 24.4 +1.1**
NIL Nilore 70.02 303 P **P 18 34 23.9 +0.3**
NIL Nilore 70.02 303 P **P 18 34 23.9 +0.3**
NIL pmax pmax
comp=Z,18nm,0.8s
GRF Grafenberg Arr 70.08 354 *e*P 18 34 25.3
comp=Z,6.8nm,1.0s,baz=3.9,slow=5.5
VRAC Vranov 70.09 350 *e*P **P 18 34 24.7 +0.9**
VRAC Vranov 70.09 350 LR LR 19 05 34.6
comp=Z,123nm,20.4s,baz=14,slow=36
KSV Kosov 70.14 344 P **P 18 34 22.8 -1.3**
ZVC Zvikov 70.15 352 *e*P **P 18 34 24.9 +0.8**
NSLU Nyzhne Selyshc 70.34 345 P **P 18 34 26.7 +1.4**
KRUC Moravsky 70.35 350 *e*P **P 18 34 26.2 +0.9**
JAVC Velka Javorina 70.44 349 *e*P **P 18 34 27.3 +1.3**
UBPT Khong Chiam 70.45 267 P **P 18 34 27.2 +0.9**
KHC Kasperske Hory 70.50 352 IAmb IAmb 18 34 28.5
comp=Z,5.2nm,0.7s
KHC Kasperske Hory 70.50 352 *e*P **P 18 34 27.4 +1.1**
KHC AMS AMS 19 08 20.0
comp=Z,200nm,21.8s
KHC Kasperske Hory 70.50 352 *d*iP **P 18 34 27.4 +1.1**
KHC pmax pmax
comp=Z,9.0nm,0.8s
KHC Kasperske Hory 70.50 352 P **P 18 34 27.4 +1.1**
MAK Makhachkala 70.66 327 *e*P **P 18 34 22.8 -4.5**
MAK *e* 18 37 03.6
MAK *e*SS **S 18 43 35.1 -5.5**
MAK *e*SS **SS 18 48 10.6 -0.6**
MAK MLR MLR
comp=Z,575nm,17.0s
CHTO Chiang Mai 70.68 274 P **P 18 34 27.4 -0.4**
CHTO IAmb IAmb 18 34 29.0
comp=Z,7.9nm,0.8s
CHTO Chiang Mai 70.68 274 P **P 18 34 27.4 -0.4**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
VYHS Vyhne 70.70 349 *e*P **P 18 34 28.5 +1.0**
VYHS pmax pmax
comp=Z,4.0nm,0.8s
VYHS Vyhne 70.70 349 *e*P **P 18 34 28.5 +1.0**
CKRC Cesky Krumlov 70.76 352 AMS AMS 19 15 00.0
comp=Z,200nm,20.5s
GEC2 GERESS Array S 70.77 352 IAmb IAmb 18 34 29.8
comp=Z,4.0nm,0.8s
GERES GERESS Array B 70.77 352 P **P 18 34 28.1 +0.1**
GERES GERESS Array B 70.77 352 P **P 18 34 27.5 -0.5**
comp=Z,1.9nm,0.7s,baz=5.2,slow=4.4,SNR=12
comp=Z,1.9nm,0.7s
GERES GERESS Array B 70.77 352 P **P 18 34 28.1 +0.1**
BUR08 Bucovina Ar. S 70.78 344 IAmb IAmb 18 35 03.0
comp=Z,5.3nm,0.9s
LABN Labinsk 70.80 332 *e*P **P 18 34 28.6 +0.4**
LABN pmax pmax
comp=Z,25nm,0.5s
LABN MLR MLR
comp=Z,335nm,21.0s
SMOL Smolenice 70.81 350 *e*P **P 18 34 28.4 +0.3**
SMOL pmax pmax
comp=Z,9.0nm,0.5s
BURAR Bucovina Array 70.81 344 P **P 18 34 27.6 -0.7**
BURAR IAmb IAmb 18 35 02.1
comp=Z,3.9nm,0.8s
KBL Kabul 70.96 307 P **P 18 34 28.4 -1.1**
KBL IAmb IAmb 18 34 30.1
comp=Z,7.9nm,0.8s
KBL Kabul 70.96 307 P **P 18 34 28.4 -1.1**
KBL pmax pmax
comp=Z,8.0nm,0.9s
MODS Modra-Piesok 70.96 350 *e*P **P 18 34 30.9 +1.8**
MODS pmax pmax
comp=Z,17nm,1.2s
MODS Modra-Piesok 70.96 350 *e*P **P 18 34 30.9 +1.8**
KIV Kislovodsk 70.98 330 *e*P **P 18 34 30.4 +1.0**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,145nm,17.0s
CM31 Chiang Mai Arr 70.99 274 IAmb IAmb 18 34 30.8
comp=Z,8.4nm,0.8s
CMAR Chiang Mai Arr 70.99 274 P **P 18 34 29.4 -0.2**
CMAR Chiang Mai Arr 70.99 274 P **P 18 34 29.9 +0.2**
comp=Z,6.8nm,0.7s,baz=22,slow=7.6,SNR=46
CMAR LR LR 19 08 18.1
comp=Z,139nm,18.0s,baz=55,slow=38
comp=Z,6.8nm,0.7s
KBZ Khabaz 71.14 330 P **P 18 34 31.2 +1.0**
comp=Z,3.9nm,0.9s,baz=178,slow=1.7,SNR=5.6
KBZ LR LR 19 07 53.0
comp=Z,186nm,21.8s,baz=14,slow=38
comp=Z,3.9nm,0.9s
KBZ Khabaz 71.14 330⇓ *e*P **P 18 34 31.5 +1.3**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
NCK Nalchik 71.19 330⇓ *e*P **P 18 34 31.0 +0.5**
NCK pmax pmax
comp=Z,9.0nm,1.1s
SHA1 Shidzhatmaz 71.19 330⇑ *i*P **P 18 34 32.3 +1.5**
ANN Anapa 71.39 335 *e*P **P 18 34 29.2 -2.4**
ANN *e*S **S 18 43 48.0 -0.9**
ANN pmax pmax
comp=Z,29nm,0.8s
ANN MLR MLR
comp=Z,152nm,12.0s
CONA Conrad Observa 71.52 351 *i*pP **P 18 34 33.8 +1.2**
comp=Z,6.5nm,0.8s
CMIG Matias Romero 71.65 88 LR LR 19 05 59.3
comp=Z,109nm,19.9s,baz=5.5,slow=36
RONA Rosalia, Austr 71.72 350 *i*pP **P 18 34 35.1 +1.4**
comp=Z,4.4nm,0.9s
MOA Molln 71.72 352 *i*pP **P 18 34 34.4 +0.7**
comp=Z,5.9nm,1.5s
HNR Honiara 71.85 203 LR LR 19 01 35.6
comp=Z,1µm,20.4s,baz=357,slow=32
BIOA Bad Ischl, Aus 71.93 352 *i*pP **P 18 34 35.8 +0.9**
comp=Z,4.1nm,0.7s
MPLH Magyarpolny 72.13 349 P **P 18 34 37.1 +1.0**
ARSA Arzberg 72.22 351 *i*pP **P 18 34 38.1 +1.4**
comp=Z,4.9nm,0.7s
TEIG Tepich 72.26 80 LR LR 19 09 56.3
comp=Z,178nm,19.8s,baz=266,slow=39
RETA Reutte 72.30 354 *e*pP **P 18 34 37.8 +0.6**
comp=Z,3.6nm,0.9s
WATA Walderalm 72.41 354 *i*pP **P 18 34 38.8 +0.9**
comp=Z,7.4nm,0.8s
MOTA Moosalm 72.42 354 *i*pP **P 18 34 38.9 +0.8**
comp=Z,6.2nm,1.1s
WTTA Wattenberg 72.48 354 *i*pP **P 18 34 39.6 +1.2**
comp=Z,9.6nm,0.8s
SQTA Sankt Quirin 72.54 354 *i*pP **P 18 34 40.0 +1.2**
comp=Z,6.5nm,1.0s
KBA Koelnbreinsper 72.56 352 *i*pP **P 18 34 40.4 +1.5**
comp=Z,6.7nm,0.7s
SWI Sorong 72.66 235 P **P 18 34 41.3 +1.7**
comp=Z,41nm,0.9s,comp=Z,765nm
FETA Feichten 72.77 354 *i*pP **P 18 34 41.3 +1.2**
comp=Z,5.9nm,0.9s
MLR Muntele Rosu 72.79 343 LR LR 19 11 01.3
comp=Z,264nm,18.2s,baz=24,slow=40
MLR Muntele Rosu 72.79 343 P **P 18 34 41.1 +0.9**
SOKA Soboth 72.83 351 *i*pP **P 18 34 41.2 +0.8**
comp=Z,2.8nm,0.8s
PERS Pernice 72.87 351 *i*P **P 18 34 41.5 +0.9**
ABTA Abfaltersbach 72.94 353 *i*pP **P 18 34 41.9 +0.9**
comp=Z,3.9nm,1.1s
VOIR 72.97 344 P **P 18 34 42.2 +1.0**
OBKA Obir 73.04 351 *i*pP **P 18 34 42.8 +1.1**
comp=Z,14nm,0.8s
DAVOX Davos/Dischmat 73.05 355 P **P 18 34 43.0 +1.2**
comp=Z,6.1nm,0.7s,baz=348,slow=6.0,SNR=13
DAVOX LR LR 19 05 29.9
comp=Z,114nm,21.9s,baz=76,slow=35
comp=Z,6.1nm,0.7s
DAVOX Davos/Dischmat 73.05 355 P **P 18 34 43.0 +1.2**
PRED Cave del Predi 73.17 352 IAmb IAmb 18 34 43.8
comp=Z,4.7nm,0.9s
ROBS Robic 73.38 352 *i*P **P 18 34 43.5 0.0**
GNI Garni 74.03 328 LR LR 19 12 48.8
comp=Z,293nm,19.2s,baz=48,slow=40
TAOE Nuku Hiva Isla 75.06 142 *e*LR LR 18 57 56.1
comp=Z,175nm,25.8s

NRCA Norcia 76.80 352 IAmb IAmb 18 35 05.7
comp=Z,10nm,1.0s
BR131 Keskin Array S 77.05 336 IAmb IAmb 18 35 07.1
comp=Z,12nm,1.2s
BR131 Keskin Array S 77.05 336 *c*iP **P 18 35 06.1 +1.1**
BRTR Keskin Array B 77.05 336 P **P 18 35 05.0 0.0**
BRTR Keskin Array B 77.05 336 P **P 18 35 05.2 +0.3**
comp=Z,3.4nm,0.9s,baz=29,slow=2.8,SNR=22
BRTR LR LR 19 14 40.4
comp=Z,155nm,19.4s,baz=24,slow=40
comp=Z,3.4nm,0.9s
SBUM Sibu 78.22 254 IAmb IAmb 18 35 14.0
comp=Z,5.3nm,1.0s
PVIS Viseu 78.92 8 *e*P **P 18 35 16.5 +1.3**
PCAS Casmilo, Conde 79.53 9 *e*P **P 18 35 19.3 +0.8**
PCBR Castelo Branco 79.81 8 *e*P **P 18 35 21.0 +1.0**
ESBB Sonseca Array 80.17 5 IAmb IAmb 18 35 33.8
comp=Z,5.5nm,0.8s
ESDC Sonseca Array 80.18 5 P **P 18 35 21.9 -0.2**
ESDC Sonseca Array 80.18 5 P **P 18 35 22.7 +0.6**
comp=Z,3.7nm,0.8s,baz=356,slow=5.8,SNR=27
ESDC LR LR 19 10 46.5
comp=Z,77nm,21.2s,baz=0.5,slow=36
comp=Z,3.7nm,0.8s
PPT Papeete 80.87 153 LR LR 19 05 08.8
comp=Z,70nm,20.7s,baz=333,slow=31
PPT2 Papeete2 80.89 153 *e*LR LR 19 00 44.9
comp=Z,142nm,23.2s
PPT2 *e*LR LR 19 00 46.7
comp=Z,148nm,23.8s
EVO Evora 81.08 8 *e*P **P 18 35 29.4 +2.5**
PNCL Nicolau / Gran 81.46 9 *e*P **P 18 35 29.9 +1.0**
PBAR Barrancos 81.50 8 *e*P **P 18 35 29.6 +0.5**
HYB Hyderabad 81.75 291 *e*P **P 18 35 31.1 +0.4**
VAE Valguarnera 82.02 350 LR LR 19 13 15.2
comp=Z,117nm,20.9s,baz=41,slow=37
PVAQ Vaqueiros 82.22 8 *e*P **P 18 35 34.3 +1.4**
JTS Las Juntas de 82.39 83 LR LR 19 15 28.8
comp=Z,56nm,19.9s,baz=324,slow=38
RAR Rarotonga 82.55 163 LR LR 19 03 57.6
comp=Z,182nm,21.5s,baz=316,slow=30
MMAI Mount Meron Ar 83.12 333 P **P 18 35 38.4 +0.7**
comp=Z,3.0nm,0.7s,baz=18,slow=11,SNR=5.7
MMAI LR LR 19 15 15.1
comp=Z,193nm,19.4s,baz=348,slow=38
comp=Z,3.0nm,0.7s
DZM Mont Dzumac 83.17 195 *e*LR LR 19 01 37.0
comp=Z,457nm,23.9s
DZM Mont Dzumac 83.17 195 LR LR 19 05 39.5
comp=Z,192nm,21.2s,baz=32,slow=31
MTN Manton Dam 83.64 230 P **P 18 35 40.9 +0.5**
UOSS Minazif 84.45 313 P **P 18 35 43.4 -1.3**
EIL Elat 86.43 332 LR LR 19 17 00.2
comp=Z,141nm,19.1s,baz=69,slow=37
TBI Tubuai 86.48 154 *e*LR LR 19 03 19.2
comp=Z,911nm,30.0s
WRAB Tennant Creek 88.98 225 P **P 18 36 06.6 +0.1**
WRAB IAmb IAmb 18 36 07.8
comp=Z,6.6nm,1.0s
WRAB Tennant Creek 88.98 225 P **P 18 36 06.6 +0.1**
WRAB pmax pmax
comp=Z,7.0nm,1.0s
WB2 Warramunga Arr 88.99 225 IAmb IAmb 18 36 07.8
comp=Z,6.7nm,1.0s
WRA Warramunga Arr 89.00 225 P **P 18 36 06.8 +0.2**
WRA Warramunga Arr 89.00 225 P **P 18 36 05.2 -1.4**
comp=Z,3.2nm,0.9s,baz=26,slow=5.3,SNR=20
comp=Z,3.2nm,0.9s
WRA Warramunga Arr 89.00 225 P **P 18 36 06.8 +0.2**
WRA pmax pmax
comp=Z,1.0nm,1.3s
PALK Pallekele 89.54 284⇑ *e*P **P 18 36 10.7 +1.2**
PALK pmax pmax
comp=Z,25nm,1.0s
SDV Santo Domingo 90.52 71 LR LR 19 21 11.9
comp=Z,159nm,18.4s,baz=318,slow=38
ROSC El Rosal 92.29 76 LR LR 19 21 48.0
comp=Z,130nm,19.1s,baz=80,slow=38
ASAR Alice Springs 92.58 224 P **P 18 36 22.9 -0.3**
comp=Z,1.4nm,0.8s,baz=24,slow=4.2,SNR=13
comp=Z,1.4nm,0.8s
STKA Stephens Creek 97.85 214 LR LR 19 21 56.6
comp=Z,65nm,18.9s,baz=27,slow=36
URZ Urewera 98.37 184 LR LR 19 15 36.0
comp=Z,48nm,19.6s,baz=40,slow=32
BOSA Boshof 144.73 324 PKP **PKPdf 18 42 48.2 -0.3**
comp=Z,3.1nm,0.9s,baz=42,slow=4.2,SNR=6.3
QSPA South Pole Qui 150.14 180 PKPbc **PKPbc 18 43 00.8 -0.4**
comp=Z,9.4nm,0.9s,baz=250,slow=3.7,SNR=5.1
MAW Mawson 153.60 229 PKPbc **PKPbc 18 43 09.2 +0.2**
comp=Z,1.9nm,0.7s,baz=18,slow=6.4,SNR=2.2
ELIB Princess Elisa 165.77 207 *d*PKP **PKPab 18 44 15.3 +0.5**

*NEIC **27** 18:48:03.0±1.4, 18°.8N±0°.1×146°.8E±0°.2, h43km±5km, mb4.4/36, Error ellipse: s-maj=28.3km s-min=12.8km az=107.0*
*IDC **27** 18:48:06.4±4.1, 18°.82N×146°.57E, h71km±32km, mb3.7/14, mbtmp4.0/16, ML3.4/2, Error ellipse: s-maj=54.4km s-min=14.0km az=85.0*
ISC 27 18:48:02.0±0.8, 18°.85N±0°.07×146°.8E±0°.2, h35km, n65, σ1§04/61, mb4.4/31, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.55**	**200**	Pn	**Pn**	**18 49 20.3**	**-1.9**
GUMO	**Guam**	**5.55**	**200**	P	**Pn**	**18 49 24.4**	**+2.3**
4.6nm,0.3s,baz=48,slow=14,SNR=1.7							
GUMO				S	**Sn**	**18 50 27.9**	**+3.2**
17nm,0.4s,baz=38,slow=19,SNR=1.6							
9.9nm,0.3s							
JSG	**Sagara**	**17.52**	**336**		**Pn**	**18 52 03.4**	**-0.1**
JGF	**Kuroka**	**18.66**	**335**	P	**P**	**18 52 17.7**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**18.85**	**88**	T	T	19 11 24.4	
baz=275,slow=75							
H11S1	**WAKE ISLAND Hy**	**18.86**	**88**	T	T	19 11 25.1	
baz=275,slow=75							
H11S2	**WAKE ISLAND Hy**	**18.87**	**88**	T	T	19 11 25.6	
baz=275,slow=75							
H11N1	**WAKE ISLAND Hy**	**18.99**	**84**	T	T	19 11 35.2	
baz=272							
H11N2	**WAKE ISLAND Hy**	**19.00**	**84**	T	T	19 11 39.3	
baz=272							
H11N3	**WAKE ISLAND Hy**	**19.01**	**84**	T	T	19 11 44.1	
baz=272							
MJAR	**Matsushiro Arr**	**19.17**	**339**	P	**P**	**18 52 22.9**	**+0.3**
baz=149,slow=10,SNR=2.7							
1.8nm,0.8s							
MAJO	**Matsushiro**	**19.18**	**339**	P	**P**	**18 52 24.3**	**+1.7**
JNU	**Nakatsue**	**20.13**	**318**	P	**P**	**18 52 33.8**	**+0.7**
8.8nm,1.1s,baz=122,slow=13,SNR=3.6							
8.8nm,1.1s							
KSRS	**Korea Array**	**24.82**	**322**	P	**P**	**18 53 20.6**	**-0.3**
1.6nm,0.7s,baz=148,slow=9.2,SNR=16							
1.6nm,0.7s							
USRK	**Ussuriysk Ar.**	**28.16**	**337**	P	**P**	**18 53 51.1**	**+0.1**
1.3nm,0.7s,baz=147,slow=39,SNR=2.9							
1.3nm,0.7s							
KLR	**Kul'dur**	**32.64**	**342**	P	**P**	**18 54 31.2**	**+0.7**
2.8nm,0.5s,baz=164,slow=7.9,SNR=14							
2.8nm,0.5s							
WB0	**Warramunga Arr**	**40.26**	**198**	P	**P**	**18 55 35.4**	**-0.4**
WRAB	**Tennant Creek**	**40.43**	**198**	P	**P**	**18 55 35.7**	**-1.5**
WRA	**Warramunga Arr**	**40.44**	**198**	P	**P**	**18 55 37.0**	**-0.3**
0.3nm,0.5s,baz=20,slow=8.6,SNR=2.6							
WRA				PcP	**PcP**	**18 57 40.0**	**+0.2**
0.2nm,0.8s,baz=21,slow=3.5,SNR=1.7							
0.3nm,0.5s							
FITZ	**Fitzroy Crossi**	**42.19**	**211**	P	**P**	**18 55 52.7**	**+1.0**
SONM	**Songino Array**	**43.68**	**321**	P	**P**	**18 56 03.7**	**+0.1**
0.5nm,0.4s,baz=143,slow=8.0,SNR=2.8							
0.5nm,0.4s							
ASAR	**Alice Springs**	**44.09**	**197**	P	**P**	**18 56 05.0**	**-2.1**
ASAR	**Alice Springs**	**44.09**	**197**	P	**P**	**18 56 06.5**	**-0.6**
0.2nm,0.5s,baz=19,slow=8.7,SNR=7.8							
0.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**45.23**	**278**	P	**P**	**18 56 13.9**	**-2.3**
0.3nm,0.4s,baz=77,slow=8.2,SNR=1.9							
0.3nm,0.4s							
BBOO	**Buckleboo**	**52.39**	**191**	P	**P**	**18 57 09.2**	**-1.6**
CHIR	**Chirikof Islan**	**56.52**	**35**	P	**P**	**18 57 41.8**	**+1.1**
J16K	**Anvik River**	**56.88**	**25**	P	**P**	**18 57 44.0**	**+1.0**
J16K				IAmb	IAmb	18 57 58.4	
comp=Z,6.5nm,1.1s							
N17K	**Nushagak Hills**	**57.26**	**29**	P	**P**	**18 57 45.5**	**-0.3**
N17K				IAmb	IAmb	18 57 51.3	
comp=Z,9.4nm,1.4s							

M17K Holitna River 57.46 28 P **P 18 57 47.4 +0.2**
K17K Iditarod 57.59 27 P **P 18 57 49.5 +1.3**
H17K Granite Mounta 57.88 24 P **P 18 57 51.3 +1.2**
H17K IAmb IAmb 18 58 19.2
comp=Z,5.0nm,1.2s
N18K Kilae Creek 57.91 29 P **P 18 57 50.6 +0.2**
ZAA0 Zalesovo Array 58.53 322 P **P 18 57 53.7 -1.1**
ZALV Zalesovo Beam 58.53 322 P **P 18 57 53.8 -1.1**
comp=Z,1.4nm,0.7s,baz=100,slow=8.6,SNR=6.1
comp=Z,1.4nm,0.7s
H18K Honhosa River 58.57 24 P **P 18 57 54.5 -0.4**
H18K IAmb IAmb 18 57 58.6
comp=Z,5.8nm,1.3s
G18K Tagagawik 58.77 23 P **P 18 57 56.2 -0.2**
G18K IAmb IAmb 18 58 21.5
comp=Z,3.3nm,1.3s
E18K Tukpahlearik C 58.78 21 P **P 18 57 57.1 +0.8**
MK31 Makanchi Array 59.10 314 P **P 18 57 59.3 +0.2**
MKAR Makanchi Array 59.10 314 P **P 18 57 59.0 0.0**
MKAR Makanchi Array 59.10 314 P **P 18 57 59.3 +0.2**
comp=Z,1.7nm,0.6s,baz=90,slow=8.2,SNR=21
comp=Z,1.7nm,0.6s
MAKZ Makanchi 59.32 314 P **P 18 58 00.8 +0.3**
MAKZ IAmb IAmb 18 58 01.9
comp=Z,3.0nm,0.6s
H19K Roundabout Mou 59.45 24 P **P 18 58 00.9 -0.1**
H19K IAmb IAmb 18 58 05.0
comp=Z,7.2nm,1.5s
K20K Telida 59.62 27 P **P 18 58 03.2 +0.9**
K20K IAmb IAmb 18 58 19.2
comp=Z,6.0nm,1.5s
C19K Lookout Ridge 59.91 20 P **P 18 58 05.6 +1.3**
C19K IAmb IAmb 18 58 40.2
comp=Z,9.1nm,1.4s
D19K Kuna River 60.11 20 P **P 18 58 05.9 +0.3**
D19K IAmb IAmb 18 58 38.4
comp=Z,3.9nm,1.1s
CAST Castle Rocks 60.49 27 P **P 18 58 08.6 +0.4**
CAST IAmb IAmb 18 58 28.7
comp=Z,3.0nm,1.2s
H21K Melozitna Rive 60.91 24 P **P 18 58 11.2 +0.1**
BPAW Bear Paw Mtn. 61.16 26 P **P 18 58 12.3 -0.4**
BPAW IAmb IAmb 18 58 13.8
comp=Z,1.7nm,0.7s
NRIK Noril'sk 61.82 340 P **P 18 58 18.8 +1.6**
comp=Z,2.5nm,0.5s,baz=90,slow=2.0,SNR=2.1
comp=Z,2.5nm,0.5s
KURBB Kurchatov Arra 61.90 318 P **P 18 58 18.0 0.0**
comp=Z,1.2nm,0.4s,baz=95,slow=7.9,SNR=15
comp=Z,1.2nm,0.4s
D22K Ayikyak River 62.08 21 P **P 18 58 19.8 +0.9**
H23K Yukon River 62.24 25 P **P 18 58 20.6 +0.5**
H24K Noodor Dome 62.91 25 P **P 18 58 25.1 +0.5**
H24K IAmb IAmb 18 59 02.0
comp=Z,3.1nm,1.4s
TOLK Toolik Lake Re 63.07 22 P **P 18 58 26.1 +0.6**
TOLK IAmb IAmb 18 58 27.8
comp=Z,5.1nm,1.4s
D25K Kavik River 64.37 21 P **P 18 58 34.4 +0.3**
D25K IAmb IAmb 18 58 38.9
comp=Z,4.2nm,1.4s
BMAR Burnt Mountain 64.56 23 P **P 18 58 36.3 +0.9**
BCAR Beaver Creek A 64.95 28 P **P 18 58 38.1 +0.1**
H29M Whitestone 66.80 25 P **P 18 58 50.2 +0.4**
H29M IAmb IAmb 18 59 11.1
comp=Z,3.3nm,1.1s
BVAR Borovoye Array 67.02 320 P **P 18 58 51.7 +0.2**
comp=Z,3.0nm,0.6s,baz=87,slow=7.4,SNR=20
comp=Z,3.0nm,0.6s
BRVK Borovoye 67.08 320 P **P 18 58 51.3 -0.5**
BRVK IAmb IAmb 18 58 54.7
comp=Z,1.9nm,0.8s
KK31 Karatay Array 67.47 310 P **P 18 58 55.6 +1.1**
KKAR Karatay Array 67.47 310 P **P 18 58 55.6 +1.1**
ABKAR Akbulak array 73.93 317 P **P 18 59 33.4 -0.3**
ABKAR IAmb IAmb 18 59 34.7
comp=Z,2.5nm,0.6s
ABKAR Akbulak array 73.93 317 P **P 18 59 33.5 -0.2**
FINES FINESS Array B 87.18 336 P **P 19 00 42.4 -1.9**
comp=Z,0.3nm,0.4s,baz=72,slow=6.2,SNR=6.7
comp=Z,0.3nm,0.4s

*JMA **27** 18:53:22.8±0.3, 28°.6N±0°.3×128°.6E±0°.9, h10km±3km, MV3.3/21, NEAR TOKARA ISLANDS*
*IDC **27** 18:53:27.1±5.1, 28°.47N×128°.43E, h32km±43km, mb3.5/8, mbtmp3.6/10, ML3.2/2, MS3.3/4, Error ellipse: s-maj=40.2km s-min=13.0km az=80.0*
ISC 27 18:53:23.7±0.7, 28°.52N±0°.04×128°.66E±0°.06, h10km, n31, σ1§03/31, mb3.6/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMN	**Amaminishikomi**	**0.53**	**122**	*i*P	**Pg**	**18 53 34.4**	**+0.3**
JTK	**Tokunoshima**	**0.78**	**161**	P	**Pg**	**18 53 38.8**	**0.0**
JTK				*e*S	**Sg**	**18 53 49.6**	**+0.6**
JTAJ	**Takarajima**	**0.79**	**37**	P	**Pg**	**18 53 37.8**	**-1.1**
JTAJ				*e*S	**Sg**	**18 53 48.2**	**-1.1**
JAM	**Amami Oshima**	**0.84**	**97**	P	**Pg**	**18 53 39.6**	**-0.4**
JAM				*e*S	**Sb**	**18 53 51.9**	**+0.1**
JOKE	**Okinoerabujima**	**1.16**	**184**	P	**Pb**	**18 53 45.4**	**-0.5**
JZK	**Kikaishima**	**1.18**	**100**	*e*P	**Pb**	**18 53 46.7**	**+0.5**
JYRO	**Yoronjima**	**1.50**	**187**	P	**Pn**	**18 53 50.3**	**-0.5**
JIH	**Iheya**	**1.60**	**203**	P	**Pn**	**18 53 51.9**	**-0.2**
JNN	**Nakanoshima**	**1.69**	**39**	*e*P	**Pn**	**18 53 51.9**	**-1.4**
JOW	**Kunigami**	**1.72**	**192**	Pn	**Pn**	**18 53 53.1**	**-0.6**
46nm,0.3s,baz=84,slow=18,SNR=78							
JOW				Sn	**Sn**	**18 54 14.6**	**-1.2**
14nm,0.3s,baz=325,slow=10,SNR=5.6							
JOW				LR	LR	18 54 27.1	
comp=Z,94nm,19.9s,baz=72,slow=37							
JOW	**Kunigami**	**1.72**	**192**	*e*P	**Pn**	**18 53 53.3**	**-0.4**
JNTH	**Nagotoyohara**	**2.08**	**196**	*e*P	**Pn**	**18 53 58.4**	**-0.3**
JAGN	**Aguni-jima**	**2.30**	**213**	*e*P	**Pn**	**18 54 01.7**	**0.0**
JKC	**Kuchinoerabu**	**2.35**	**34**	*e*P	**Pn**	**18 54 02.8**	**+0.4**
JYAK	**Yakushimahirau**	**2.35**	**43**	*e*P	**Pn**	**18 54 02.9**	**+0.5**
JJT3	**Tamagusuku3**	**2.50**	**198**	*e*P	**Pn**	**18 54 05.8**	**+1.4**
JMTN	**Minamitane**	**2.70**	**46**	*e*P	**Pn**	**18 54 07.7**	**+0.4**
JKE	**Kume jima 2**	**2.75**	**218**	*e*P	**Pn**	**18 54 08.4**	**+0.5**
JNU	**Nakatsue**	**4.96**	**22**	Pn	**Pn**	**18 54 42.2**	**+3.8**
1.3nm,0.3s,baz=193,slow=6.1,SNR=33							
JNU				LR	LR	18 56 44.2	
comp=Z,198nm,18.9s,baz=148,slow=39							
48nm,0.8s							
KSRS	**Korea Array**	**8.93**	**356**	Pn	**Pn**	**18 55 34.5**	**+1.8**
0.1nm,0.3s,baz=171,slow=15,SNR=2.1							
0.4nm,0.5s							
MJAR	**Matsushiro Arr**	**11.35**	**43**	LR	LR	19 01 03.0	
comp=Z,134nm,18.3s,baz=222,slow=40							
ASAJ	**Asahikawa**	**19.15**	**32**	LR	LR	19 04 41.9	
comp=Z,79nm,18.1s,baz=174,slow=35							
KLR	**Kul'dur**	**20.81**	**6**	P	**P**	**18 58 05.6**	**+0.4**
1.4nm,0.8s,baz=214,slow=6.0,SNR=6.1							
1.4nm,0.8s							
SONM	**Songino Array**	**25.88**	**324**	P	**P**	**18 58 55.7**	**-0.1**
1.3nm,1.0s,baz=141,slow=9.3,SNR=6.2							
1.3nm,1.0s							
KAPI	**Kappang**	**34.43**	**196**	LR	LR	19 13 58.5	
comp=Z,70nm,19.7s,baz=252,slow=36							
MKAR	**Makanchi Array**	**40.33**	**310**	P	**P**	**19 01 01.2**	**-0.2**
0.3nm,0.7s,baz=97,slow=11,SNR=2.2							
0.3nm,0.7s							
ZALV	**Zalesovo Beam**	**40.68**	**321**	P	**P**	**19 01 03.3**	**-0.8**
0.6nm,0.6s,baz=98,slow=10,SNR=2.5							
0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**43.49**	**315**	P	**P**	**19 01 27.1**	**0.0**
0.3nm,0.3s,baz=100,slow=8.4,SNR=4.8							
0.3nm,0.3s							
WRA	**Warramunga Arr**	**48.49**	**173**	P	**P**	**19 02 06.5**	**-0.4**
1.6nm,0.7s,baz=354,slow=8.2,SNR=23							
1.6nm,0.7s							
BVAR	**Borovoye Array**	**48.84**	**317**	P	P	19 02 07.3	-2.0
0.9nm,0.6s,baz=86,slow=9.3,SNR=6.0							
0.9nm,0.6s							
ASAR	**Alice Springs**	**52.13**	**174**	P	**P**	**19 02 34.6**	**+0.2**
0.4nm,0.5s,baz=2.5,slow=11,SNR=27							
0.4nm,0.5s							

*IDC **27** 18:53:38.4±0.9, 35°.78S×72°.77W, h0km, mb4.0/6, mbtmp4.0/8, ML4.1/2, MS3.1/2, Error ellipse: s-maj=45.2km s-min=20.2km az=79.0*
*GUC **27** 18:53:41.0±0.5, 35°.76S×73°.00W, h28km±3km, ML4.2*
*NEIC **27** 18:53:41.9±1.8, 35°.75S±0°.03×72°.89W±0°.08, h27km±5km,*

mb4.4/14, Mwr4.0/29, ML4.2(GUC), Error ellipse: s-maj=9.3km s-min=4.3km az=94.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.92; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-0.87; $M_{r\theta}$0.12; $M_{\theta r}$-0.16; $M_{\phi r}$-0.60; Fault plane solution: $M_0$1.10000×10^{15} NP1:ϕ_s178.83000°, δ61.88000°, λ79.11000°. NP2:ϕ_s21.03000°, δ30.00000°, λ109.46000°. Principal axes: T 1.1235, Plg71.0000°, Azm65.0000°; N -0.0552, Plg10.0000°, Azm184.0000°; P -1.0684, Plg16.0000°, Azm277.0000°;

*NEIC **27** 18:53:41.7, 35.°74S×72.°94W, h26km*

ISC 27 18:53:39.7±2.9, 35.°75S±0.°04×72.°92W±0.°06, h13km±19km, n96, σ0°96/95, mb4.2/13, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.09**	**48**		**Pb**	**18 54 00.7**	**+0.2**
GO05				Sn	**Sb**	**18 54 14.4**	**-0.3**
GO05	**Huala**	**1.09**	**48**	*eP*	**Pb**	**18 54 00.6**	**0.0**
GO05				*eS*	**Sn**	**18 54 15.4**	**-0.4**
GO05				IAML		18 54 17.9	
	comp=N,5μm,0.2s						
ML02	**Panimavida**	**1.23**	**91**		**Pb**	**18 54 03.0**	**+0.3**
ML02				Sn	**Sn**	**18 54 19.1**	**+0.2**
ML02	**Panimavida**	**1.23**	**91**	⇓*iP*	**Pb**	**18 54 03.0**	**+0.3**
ML02				*eS*	**Sn**	**18 54 19.1**	**+0.2**
ML02				IAML		18 54 24.4	
	comp=E,11μm,0.5s						
BO03	**Pichilemu**	**1.48**	**33**	⇑*iP*	**Pn**	**18 54 06.5**	**+0.5**
BO03				*eS*	**Sb**	**18 54 25.9**	**+0.2**
BO03				IAML		18 54 31.2	
	comp=E,3μm,0.3s						
BI02	**San Fabin de**	**1.62**	**125**		**Pn**	**18 54 08.2**	**+0.1**
BI02				Sn	**Sn**	**18 54 27.5**	**-1.3**
BO02	**Sierra Bellavi**	**2.00**	**62**		**Pn**	**18 54 14.1**	**+0.9**
BO02	**Sierra Bellavi**	**2.00**	**62**	*eP*	**Pn**	**18 54 14.4**	**+1.2**
BO02				*eS*	**Sb**	**18 54 40.1**	**-0.6**
BO02				IAML		18 54 45.4	
	comp=N,7μm,0.2s						
BO01	**Tunca**	**2.02**	**49**		**Pn**	**18 54 14.6**	**+1.0**
BO01	**Tunca**	**2.02**	**49**	*eP*	**Pn**	**18 54 14.8**	**+1.2**
BO01				*eS*	**Sb**	**18 54 40.9**	**-0.5**
BO01				IAML		18 54 49.9	
	comp=N,2μm,0.5s						
MT01	**Popeta**	**2.33**	**37**		**Pn**	**18 54 18.2**	**+0.5**
MT01	**Popeta**	**2.33**	**37**	*eP*	**Pn**	**18 54 18.7**	**+1.0**
MT01				IAML		18 55 01.7	
	comp=E,1μm,0.5s						
VA05	**Santo Domingo**	**2.35**	**28**		**Pn**	**18 54 18.5**	**+0.5**
VA05	**Santo Domingo**	**2.35**	**28**	*eP*	**Pn**	**18 54 18.9**	**+1.0**
VA05				IAML		18 54 57.7	
	comp=N,3μm,0.5s						
MT09	**Talagante**	**2.53**	**40**		**Pn**	**18 54 21.6**	**+0.9**
MT09	**Talagante**	**2.53**	**40**	*eP*	**Pn**	**18 54 22.0**	**+1.3**
BO04	**La Punta**	**2.59**	**48**		**Pn**	**18 54 22.2**	**+0.9**
BO04	**La Punta**	**2.59**	**48**	*eP*	**Pn**	**18 54 22.7**	**+1.4**
BO04				IAML		18 55 10.2	
	comp=E,1μm,0.6s						
MT12	**Pirque**	**2.80**	**45**	*eP*	**Pn**	**18 54 25.6**	**+1.4**
VA01	**Torpederas**	**2.91**	**22**		**Pn**	**18 54 26.3**	**+0.6**
MT15	**Las Vizcachas**	**2.92**	**44**	*eP*	**Pn**	**18 54 27.8**	**+1.8**
MT13	**San Alfonso**	**2.95**	**48**		**Pn**	**18 54 27.2**	**+0.8**
MT13	**San Alfonso**	**2.95**	**48**	*eP*	**Pn**	**18 54 28.0**	**+1.6**
MT13				IAML		18 55 14.8	
	comp=E,768nm,0.4s						
MT05	**Renca**	**2.96**	**38**		**Pn**	**18 54 28.0**	**+1.5**
MT03	**Universidad Ad**	**3.00**	**42**		**Pn**	**18 54 28.1**	**+1.0**
MT03	**Universidad Ad**	**3.00**	**42**	*eP*	**Pn**	**18 54 28.5**	**+1.5**
MT03				IAML		18 55 22.4	
	comp=N,1μm,0.4s						
MT16	**CCHEN**	**3.04**	**41**	Pn	**Pn**	**18 54 29.1**	**+1.4**
LC02	**Puerto Saavedr**	**3.06**	**187**		**Pn**	**18 54 29.9**	**+2.2**
VA06	**Catapilco**	**3.45**	**23**		**Pn**	**18 54 34.2**	**+1.0**
VA03	**San Esteban**	**3.56**	**34**		**Pn**	**18 54 35.8**	**+1.0**
LR03	**Panguipulli**	**3.91**	**173**		**Pn**	**18 54 39.8**	**+0.4**
GO06	**Curarrehue**	**4.00**	**164**		**Pn**	**18 54 42.0**	**+1.2**
LR04	**Corral**	**4.15**	**185**		**Pn**	**18 54 42.2**	**-0.5**
LR05	**Currie**	**4.54**	**171**		**Pn**	**18 54 47.6**	**-0.4**
CO02	**Combarbal**	**4.81**	**20**	Pn	**Pn**	**18 54 52.5**	**+0.6**
LL04	**Puerto Octay**	**5.17**	**176**		**Pn**	**18 54 58.2**	**+1.5**
CO06	**Fray Jorge**	**5.17**	**12**		**Pn**	**18 54 56.5**	**-0.3**
CO03	**El Pedregal**	**5.24**	**22**		**Pn**	**18 54 59.1**	**+1.3**
H03S1	**Juan Fernandez**	**5.28**	**289**	T	T	19 00 26.4	
	baz=112,slow=75						
H03S3	**Juan Fernandez**	**5.29**	**290**	T	T	19 00 27.2	
	baz=112,slow=75						
H03S2	**Juan Fernandez**	**5.29**	**289**	T	T	19 00 25.8	
	baz=112,slow=75						
VA04	**Juan Fernndez**	**5.30**	**292**	Pn	**Pn**	**18 54 59.7**	**+1.1**
PLCA	**Paso Flores**	**5.32**	**160**		**Pn**	**18 55 00.1**	**+1.3**
PLCA	**Paso Flores**	**5.32**	**160**	Pn	**Pn**	**18 54 59.7**	**+0.9**
	comp=N,1.5nm,0.3s,baz=331,slow=10,SNR=60						
PLCA				Lg	Lg	18 56 20.4	
	comp=N,4.7nm,0.3s,baz=77,slow=22,SNR=5.3						
PLCA				LR	LR	18 57 02.6	
	comp=N,146nm,18.3s,baz=215,slow=39 comp=N,4.1nm,0.4s						
LL03	**Petrohue**	**5.40**	**176**	Pn	**Pn**	**18 54 58.2**	**-1.7**
H03N1	**Juan Fernandez**	**5.45**	**293**	T	T	19 00 41.7	
	baz=111,slow=76						
H03N3	**Juan Fernandez**	**5.45**	**293**	T	T	19 00 40.6	
	baz=111,slow=76						
H03N2	**Juan Fernandez**	**5.46**	**293**	T	T	19 00 40.6	
	baz=111,slow=76						
ZON	**Zonda**	**5.48**	**41**		**Pn**	**18 55 01.5**	**+0.3**
LL05	**Los Muermos**	**5.67**	**184**	Pn	**Pn**	**18 55 02.6**	**-1.0**
GO04	**Tololo Observa**	**5.84**	**18**		**Pn**	**18 55 06.7**	**+0.5**
CO05	**La Serena**	**5.98**	**14**	Pn	**Pn**	**18 55 06.3**	**-1.7**
CO01	**Juntas del Tor**	**6.23**	**23**		**Pn**	**18 55 11.1**	**-0.5**
LL06	**Loncomilla**	**6.48**	**185**	Pn	**Pn**	**18 55 15.2**	**+0.4**
LL01	**San Ignacio de**	**6.63**	**177**	Pn	**Pn**	**18 55 15.7**	**-1.2**
LCO	**Las Campanas**	**6.97**	**16**		**Pn**	**18 55 20.8**	**-1.0**
AC05	**El Transito**	**7.25**	**19**		**Pn**	**18 55 25.7**	**+0.3**
GO07	**Milladeo Hill,**	**7.38**	**184**	Pn	**Pn**	**18 55 28.4**	**+1.3**
LL02	**Futaleuf**	**7.48**	**174**	Pn	**Pn**	**18 55 30.4**	**+1.9**
AC04	**Llanos de Chal**	**7.68**	**12**	Pn	**Pn**	**18 55 31.2**	**-0.1**
GO03	**Copiap**	**8.44**	**16**		**Pn**	**18 55 41.4**	**-0.5**
AC06	**Mina Casimiro**	**8.64**	**15**		**Pn**	**18 55 44.0**	**-0.5**
TRQA	**Tornquist**	**9.06**	**108**		**Pn**	**18 55 51.8**	**+1.5**
AC01	**Pan de Azucar**	**9.77**	**12**	Pn	**Pn**	**18 55 57.6**	**-2.4**
AY02	**Valle Explorad**	**10.73**	**181**	Pn	**Pn**	**18 56 11.9**	**-1.1**
PATCX	**Punta Patache**	**15.07**	**10**	Pn	**Pn**	**18 57 12.8**	**+0.4**
PATCX				IAmb	IAmb	18 57 37.4	
	comp=Z,21nm,1.0s						
PB11	**IPOC Station P**	**16.18**	**11**	Pn	**Pn**	**18 57 26.3**	**-0.7**
CPUP	**Villa Florida**	**16.31**	**59**	LR	LR	19 03 45.5	
	comp=Z,103nm,20.4s,baz=221,slow=37						
ITAB	**Concordia**	**19.63**	**70**	P	**P**	**18 58 08.1**	**+0.1**
ITAB				IAmb	IAmb	18 58 33.0	
	comp=Z,35nm,1.4s						
LPAZ	**La Paz**	**19.85**	**14**		**P**	**18 58 10.1**	**-0.9**
LPAZ	**La Paz**	**19.85**	**14**	P	**Pn**	**18 58 13.2**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=180,slow=7.4,SNR=15 comp=Z,3.8nm,0.7s						
AQDB	**Aquidauana**	**21.45**	**49**	P	**P**	**18 58 27.6**	**-0.1**
AQDB				IAmb	IAmb	18 58 40.9	
	comp=Z,24nm,1.0s						
TRCB	**Terra Rica**	**21.85**	**59**	P	**P**	**18 58 31.3**	**-0.8**
PTLB	**Pontes e Lacer**	**23.68**	**35**		**P**	**18 58 50.6**	**-0.5**
PTLB				IAmb	IAmb	18 58 52.3	
	comp=Z,5.9nm,0.9s						
VILB	**Vilhena**	**25.43**	**30**	P	**P**	**18 59 06.3**	**-1.0**
VILB				IAmb	IAmb	18 59 31.9	
	comp=Z,10nm,0.8s						
ETMB	**Extrema**	**26.52**	**15**	P	**P**	**18 59 16.6**	**-0.5**
ETMB				IAmb	IAmb	18 59 19.2	
	comp=Z,3.8nm,0.8s						
ORCD	**Orcadas**	**30.81**	**153**	P	**P**	**18 59 54.5**	**-0.4**
BAUV	**El Baul**	**44.69**	**7**	P	**P**	**19 01 52.5**	**+0.1**
BAUV				IAmb	IAmb	19 02 34.2	
	comp=Z,7.0nm,0.9s						
BELA	**Belgrano 2**	**45.30**	**169**	P	**P**	**19 01 57.3**	**+0.6**
VNA3	**Neumayer Olymp**	**48.03**	**157**	⇑P	**P**	**19 02 18.7**	**+0.6**
	comp=Z,3.0nm,0.6s						
VNA2	**Neumayer--Watz**	**48.70**	**157**	⇑P	**P**	**19 02 23.8**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=281,slow=8.7						
SNAA	**Sanae**	**50.25**	**157**	P	**P**	**19 02 35.1**	**-0.1**
SNAA				IAmb	IAmb	19 02 36.6	
	comp=Z,3.7nm,0.9s						
SNAA				PcP	**PcP**	**19 03 54.1**	**+0.1**
SNAA	**Sanae**	**50.25**	**157**	⇑P	**P**	**19 02 35.8**	**+0.6**
	comp=Z,72nm,0.8s						
SNAA	**Sanae**	**50.25**	**157**	P	**P**	**19 02 35.1**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=267,slow=5.3,SNR=12 comp=Z,2.7nm,0.8s						
TROLL	**Troll, Antarti**	**51.95**	**158**	⇑P	**P**	**19 02 48.7**	**+0.6**
	comp=Z,205nm,0.7s						
QSPA	**South Pole Qui**	**54.49**	**180**	P	**P**	**19 03 06.5**	**-0.4**
QSPA	**South Pole Qui**	**54.49**	**180**	P	**P**	**19 03 07.5**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=169,slow=1.6,SNR=6.8 comp=Z,1.9nm,0.8s						
TXAR	**Lajitas Array**	**70.91**	**332**	P	**P**	**19 04 58.3**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=154,slow=9.0,SNR=3.8 comp=Z,0.4nm,0.5s						
BOSA	**Boshof**	**79.90**	**118**	P	**P**	**19 05 48.3**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=225,slow=8.6,SNR=2.5 comp=Z,2.9nm,0.9s						
NVAR	**Mina Array Bea**	**84.91**	**326**	P	**P**	**19 06 14.9**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=148,slow=5.2,SNR=4.0 comp=Z,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**85.48**	**70**	P	**P**	**19 06 17.2**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=223,slow=5.0,SNR=5.4 comp=Z,0.8nm,0.7s						
H11N3	**WAKE ISLAND Hyl**	**25.46**	**270**	T	T	21 30 47.9	
	baz=122						
H11N1	**WAKE ISLAND Hyl**	**25.47**	**270**	T	T	21 30 43.8	
	baz=122						
H11N2	**WAKE ISLAND Hyl**	**25.48**	**270**	T	T	21 30 43.6	
	baz=122						
BVAR	**Borovoye Array**	**149.04**	**45**	PKPbc	**PKiKP**	**19 13 27.7**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=292,slow=3.9,SNR=5.1						
MKAR	**Makanchi Array**	**158.44**	**52**	PKPab	**PKPab**	**19 14 11.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=305,slow=5.1,SNR=4.4						

IDC 27 19:18:26.4±1.8, 31.°67N×95.°35E, h0km, mb3.3/3, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=79.8km s-min=27.5km az=67.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**18.20**	**24**	P	Pn	19 22 40.5	-0.1
	0.2nm,0.3s,baz=203,slow=11,SNR=1.7 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**22.68**	**331**	P	P	19 23 29.2	-0.1
	0.2nm,0.4s,baz=142,slow=10,SNR=3.4 0.2nm,0.4s						
WRA	**Warramunga Arr**	**63.49**	**139**	P	P	19 28 57.1	-1.4
	0.4nm,0.8s,baz=327,slow=7.8,SNR=2.8 0.4nm,0.8s						
ASAR	**Alice Springs**	**66.25**	**141**	P	P	19 29 17.4	+0.9
	0.3nm,0.5s,baz=326,slow=6.4,SNR=8.1 0.3nm,0.5s						

*SJA **27** 19:36:43.1±0.8, 31.°41S×71.°74W, h13km±3km, ML3.8, MW3.6*

*IDC **27** 19:36:47.5±1.1, 31.°53S×71.°33W, h44km±5km, mb3.7/2, mbtmp3.7/5, ML3.5/3, MS3.8/1, Error ellipse: s-maj=59.5km s-min=22.1km az=96.0*

*NEIC **27** 19:36:47.9±1.6, 31.°42S±0.°03×71.°57W±0.°07, h46km±10km, mb4.1/3, ML3.7(GUC), Error ellipse: s-maj=8.1km s-min=4.6km az=85.0*

*GUC **27** 19:36:47.4±0.8, 31.°43S×71.°45W, h51km±3km, ML3.7*

ISC 27 19:36:47.1±0.6, 31.°40S±0.°02×71.°60W±0.°04, h41km±5km, n100, σ8°10/124, mb4.0/6, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.55**	**70**		**Pn**	**19 36 58.2**	**-0.5**
CO02				Sn	**Sn**	**19 37 05.6**	**-1.3**
CO02	**Combarbal**	**0.55**	**70**	*eP*	**Pn**	**19 36 57.5**	**-1.1**
CO02				*eS*	**Sn**	**19 37 06.1**	**-0.7**
CO02				IAML		19 37 06.4	
	comp=Z,11μm,0.3s						
CO02	**Combarbal**	**0.55**	**70**	*eP*	**Pn**	**19 36 58.5**	**-0.2**
CO02				*i* S	**Sn**	**19 37 05.8**	**-1.1**
CO06	**Fray Jorge**	**0.72**	**358**		**Pn**	**19 37 02.3**	**+1.5**
CO06				Sn	**Sn**	**19 37 11.9**	**+1.1**
CO06	**Fray Jorge**	**0.72**	**358**	*eP*	**Pn**	**19 37 02.4**	**+1.5**
CO06				*i* S	**Sn**	**19 37 12.9**	**+2.1**
CO06				IAML		19 37 16.1	
	comp=N,3μm,0.3s						
CO03	**El Pedregal**	**0.96**	**55**		**Pn**	**19 37 04.0**	**-0.2**
CO03				Sn	**Sn**	**19 37 15.9**	**-0.8**
CO03	**El Pedregal**	**0.96**	**55**	*eP*	**Pn**	**19 37 04.0**	**-0.2**
CO03				*i* S	**Sn**	**19 37 15.8**	**-0.9**
CO03				IAML		19 37 16.9	
	comp=E,3μm,0.2s						
VA06	**Catapilco**	**1.19**	**168**	Pn	**Pn**	**19 37 07.2**	**-0.1**
VA06				Sn	**Sn**	**19 37 21.5**	**-0.7**
VA06	**Catapilco**	**1.19**	**168**	*eP*	**Pn**	**19 37 07.2**	**-0.1**
VA06				*i* S	**Sn**	**19 37 22.3**	**+0.1**
VA06				IAML		19 37 26.0	
	comp=E,2μm,0.5s						
GO04	**Tololo Observa**	**1.40**	**30**		**Pn**	**19 37 11.2**	**+0.7**
GO04				Sn	**Sn**	**19 37 28.7**	**+0.8**
GO04	**Tololo Observa**	**1.40**	**30**	*eP*	**Pn**	**19 37 10.8**	**+0.4**
GO04				*eS*	**Sn**	**19 37 30.5**	**+2.7**
GO04				IAML		19 37 33.5	
	comp=Z,3μm,0.7s						
GO04	**Tololo Observa**	**1.40**	**30**	*eP*	**Pn**	**19 37 11.3**	**+0.9**
GO04				*i* S	**Sn**	**19 37 28.8**	**+0.9**
CO05	**La Serena**	**1.51**	**12**		**Pn**	**19 37 13.0**	**+1.4**
CO05	**La Serena**	**1.51**	**12**	*eP*	**Pn**	**19 37 13.1**	**+1.4**
CO05				*i* S	**Sn**	**19 37 31.8**	**+1.8**
CO05				IAML		19 37 38.7	
	comp=E,1μm,0.3s						
VA01	**Torpederas**	**1.62**	**181**		**Pn**	**19 37 14.0**	**+0.7**
VA01	**Torpederas**	**1.62**	**181**	*eP*	**Pn**	**19 37 13.9**	**+0.7**
VA01				*eS*	**Sn**	**19 37 35.8**	**+2.9**
VA03	**San Esteban**	**1.63**	**147**		**Pn**	**19 37 13.2**	**-0.2**
VA03	**San Esteban**	**1.63**	**147**	*eP*	**Pn**	**19 37 13.4**	**0.0**
VA03				*eS*	**Sn**	**19 37 35.1**	**+1.9**
VA03				IAML		19 37 37.3	
	comp=Z,1μm,0.4s						
VA03	**San Esteban**	**1.63**	**147**	*eP*	**Pn**	**19 37 13.2**	**-0.2**
VA03				*i* S	**Sn**	**19 37 32.7**	**-0.5**
VA03				IAML		19 37 36.7	
	comp=N,2μm,0.3s						
PEL	**Peldehue**	**1.91**	**156**	*eP*	**Pn**	**19 37 17.4**	**+0.2**
PEL				*i* S	**Sn**	**19 37 40.4**	**+0.4**
PEL				IAML		19 37 42.6	
	comp=E,2μm,0.2s						
CO01	**Juntas del Tor**	**1.92**	**43**		**Pn**	**19 37 19.0**	**+1.5**
CO01	**Juntas del Tor**	**1.92**	**43**	*eP*	**Pn**	**19 37 19.1**	**+1.5**
CO01				*eS*	**Sn**	**19 37 36.8**	**-3.8**
CO01				IAML		19 37 42.4	
	comp=Z,434nm,0.3s						
CO01	**Juntas del Tor**	**1.92**	**43**	*eP*	**Pn**	**19 37 19.1**	**+1.5**
CO01				*i* S	**Sn**	**19 37 41.5**	**+0.9**
RTLS	**Leoncito**	**2.00**	**102**	*eP*	**Pn**	**19 37 20.5**	**+1.7**
RTLS				IAML		19 37 52.4	
	comp=Z,702nm,0.4s						
MT10	**Hacienda Santa**	**2.08**	**155**	*eP*	**Pn**	**19 37 19.8**	**+0.2**
MT10				*i* S	**Sn**	**19 37 44.4**	**+0.1**
MT10				IAML		19 37 55.2	
	comp=N,2μm,0.4s						
MT05	**Renca**	**2.12**	**160**		**Pn**	**19 37 21.9**	**+1.8**
MT05	**Renca**	**2.12**	**160**	*eP*	**Pn**	**19 37 20.8**	**+0.7**
MT05				*eS*	**Sn**	**19 37 49.2**	**+3.9**
MT05				IAML		19 37 55.6	
	comp=Z,499nm,0.2s						
AROD	**Rodeo**	**2.20**	**57**	*eP*	**Pn**	**19 37 24.3**	**+2.8**
AROD				*eS*	**Sn**	**19 37 52.7**	**+5.0**
MT16	**CCHEN**	**2.22**	**156**		**Pn**	**19 37 22.5**	**+1.0**
VA05	**Santo Domingo**	**2.25**	**180**		**Pn**	**19 37 22.3**	**+0.4**
MT03	**Universidad Ad**	**2.28**	**157**		**Pn**	**19 37 23.3**	**+0.9**
MT03	**Universidad Ad**	**2.28**	**157**	*eP*	**Pn**	**19 37 23.7**	**+1.3**
MT03				*eS*	**Sn**	**19 37 52.8**	**+3.4**
MT03				IAML		19 38 01.4	
	comp=Z,708nm,0.2s						
ACCO	**Cerro Coronel**	**2.32**	**70**	*eP*	**Pn**	**19 37 26.0**	**+2.8**
ACCO				*eS*	**Sn**	**19 37 58.8**	**+8.2**
MT09	**Talagante**	**2.43**	**168**		**Pn**	**19 37 25.3**	**+0.9**
MT09	**Talagante**	**2.43**	**168**	*eP*	**Pn**	**19 37 25.3**	**+0.9**
MT09				*i* S	**Sn**	**19 37 53.4**	**+0.4**
MT09				IAML		19 38 01.0	
	comp=N,912nm,0.1s						
MT01	**Popeta**	**2.48**	**173**	Pn	**Pn**	**19 37 25.6**	**+0.6**
MT01	**Popeta**	**2.48**	**173**	*eP*	**Pn**	**19 37 25.7**	**+0.6**
MT01				*eS*	**Sn**	**19 38 00.9**	**+6.9**
MT01				IAML		19 38 04.4	
	comp=Z,270nm,0.3s						
ZON	**Zonda**	**2.50**	**94**		**Pn**	**19 37 27.8**	**+2.4**
ZON	**Zonda**	**2.50**	**94**	*eP*	**Pn**	**19 37 27.9**	**+2.5**
ZON				*eS*	Sn	19 37 43.8	-11
ZON				IAML		19 37 46.2	
	comp=Z,335nm,0.4s						
LCO	**Las Campanas**	**2.50**	**18**		**Pn**	**19 37 27.2**	**+1.7**
LCO	**Las Campanas**	**2.50**	**18**	*eP*	**Pn**	**19 37 22.3**	**-3.3**
LCO				*eP*		19 37 27.1	
LCO				*eS*	**Sn**	**19 37 59.5**	**+4.5**
LCO				IAML		19 38 12.8	
	comp=Z,515nm,0.3s						
MT13	**San Alfonso**	**2.59**	**155**		**Pn**	**19 37 27.8**	**+1.2**
MT13	**San Alfonso**	**2.59**	**155**	*eP*	**Pn**	**19 37 28.1**	**+1.5**
MT13				*eS*	**Sn**	**19 38 02.3**	**+5.3**
MT13				IAML		19 38 12.8	
	comp=Z,261nm,0.5s						
ASAL	**Salagasta**	**2.63**	**118**	*eP*	**Pn**	**19 37 29.9**	**+2.7**
ASAL				*eS*	Sn	19 38 10.6	+13
ARCO	**CERRO ARCO**	**2.68**	**123**	*eP*	Pn	19 37 19.8	-8.2
BO04	**La Punta**	**2.72**	**162**		**Pn**	**19 37 29.1**	**+0.8**
AC05	**El Transito**	**2.80**	**25**		**Pn**	**19 37 31.4**	**+1.9**
BO01	**Tunca**	**3.02**	**172**		**Pn**	**19 37 32.9**	**+0.5**
BO01	**Tunca**	**3.02**	**172**	*eP*	**Pn**	**19 37 33.2**	**+0.8**
BO01				*eS*	**Sn**	**19 38 11.8**	**+4.5**
AC04	**Llanos de Chal**	**3.21**	**8**	Pn	**Pn**	**19 37 35.8**	**+0.7**
AC04	**Llanos de Chal**	**3.21**	**8**	*eP*	**Pn**	**19 37 36.0**	**+0.8**
AC04				*eS*	**Sn**	**19 38 16.8**	**+4.6**
AC04				IAML		19 38 27.2	
	comp=Z,167nm,0.5s						
BO02	**Sierra Bellavi**	**3.46**	**169**		**Pn**	**19 37 39.2**	**+0.7**
BO02	**Sierra Bellavi**	**3.46**	**169**	*eP*	**Pn**	**19 37 39.6**	**+1.1**
BO02				*eS*	**Sn**	**19 38 22.3**	**+4.1**
BO02				IAML		19 38 33.1	
	comp=Z,180nm,0.2s						
GO05	**Huala**	**3.61**	**184**		**Pn**	**19 37 40.3**	**-0.3**
GO05	**Huala**	**3.61**	**184**	*eP*	**Pn**	**19 37 40.6**	**0.0**
VCA	**Vinchina**	**3.96**	**49**	*eP*	Pn	19 37 50.1	+4.5
VCA				IAML		19 38 54.4	
	comp=Z,206nm,0.4s						
GO03	**Copiap**	**3.97**	**18**		**Pn**	**19 37 46.1**	**+0.4**
GO03	**Copiap**	**3.97**	**18**	*eP*	**Pn**	**19 37 47.5**	**+1.9**
GO03				*eS*	**Sn**	**19 38 36.3**	**+5.3**
GO03				IAML		19 38 57.6	
	comp=Z,130nm,0.4s						
AC06	**Mina Casimiro**	**4.17**	**15**	Pn	**Pn**	**19 37 49.0**	**+0.7**
ACHE	**Chepes**	**4.23**	**88**	*eP*	**Pn**	**19 37 49.9**	**+0.6**
ACHE				*eS*	**Sn**	**19 38 43.9**	**+6.4**
RFA	**San Rafael**	**4.27**	**143**	*eP*	**Pn**	**19 37 51.1**	**+1.4**
ML02	**Panimavida**	**4.36**	**178**	Pn	**Pn**	**19 37 52.2**	**+1.4**
ACLC	**CERRO LA CRUZ**	**4.47**	**65**	*eP*	**Pn**	**19 37 54.2**	**+1.7**
ACLC				*eS*	**Sn**	**19 38 44.7**	**+1.3**
ACLC				IAML		19 38 50.8	
	comp=Z,182nm,0.4s						
MRA	**San Martin**	**5.11**	**103**	*eP*	**Pn**	**19 38 02.1**	**+0.9**
BI02	**San Fabin de**	**5.26**	**177**		**Pn**	**19 38 03.8**	**+0.5**
AC01	**Pan de Azucar**	**5.30**	**10**		**Pn**	**19 38 03.2**	**-0.6**
H03N1	**Juan Fernandez**	**6.51**	**250**	T	T	19 44 59.1	
	baz=68,slow=72						
H03N3	**Juan Fernandez**	**6.52**	**250**	T	T	19 45 02.7	
	baz=68,slow=72						
H03N2	**Juan Fernandez**	**6.53**	**250**	T	T	19 45 06.7	
	baz=68,slow=72						
H03S3	**Juan Fernandez**	**6.62**	**247**	T	T	19 45 15.3	
	baz=81						
H03S1	**Juan Fernandez**	**6.63**	**246**	T	T	19 45 13.2	
	baz=81						
H03S2	**Juan Fernandez**	**6.64**	**247**	T	T	19 45 14.8	
	baz=81						
GO06	**Curarrehue**	**8.17**	**179**	Pn	**Pn**	**19 38 42.9**	**-0.3**
PLCA	**Paso Flores**	**9.35**	**175**	Pn	**Pn**	**19 38 58.1**	**-1.3**
PLCA	**Paso Flores**	**9.35**	**175**	P	**Pn**	**19 38 57.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=4.4,slow=13,SNR=2.1 comp=Z,0.5nm,0.5s						
TRQA	**Tornquist**	**10.33**	**133**	Pn	**Pn**	**19 39 13.0**	**+0.3**
TA01	**Diego Aracena**	**10.86**	**7**	Pn	**Pn**	**19 39 18.9**	**-1.2**
LPAZ	**La Paz**	**15.37**	**13**	P	**Pn**	**19 40 22.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=151,slow=19,SNR=2.2 comp=Z,0.8nm,0.5s						
SIV	**San Ignacio**	**18.09**	**34**	P	**P**	**19 40 54.2**	**-1.3**
	baz=184,slow=14,SNR=4.3 comp=Z,0.9nm,0.6s						
BELA	**Belgrano 2**	**49.37**	**170**	P	**P**	**19 45 32.4**	**+0.3**
BELA				IAmb	IAmb	19 45 34.1	
	comp=Z,2.3nm,1.1s						
VNA3	**Neumayer Olymp**

comp=N,2μm,0.5s
IZZE *i* AML AML 19 57 34.0
comp=E,1μm,0.3s
SABU Mula-Dalaman 0.42 28 P **Pg** **19 57 24.1 +0.1**
SABU S **Sg** **19 57 30.3 +0.8**
SABU *i* AML AML 19 57 35.0
comp=N,441nm,0.7s
SABU *i* AML AML 19 57 36.0
comp=E,360nm,0.7s
MRSB Marmaris-Mugla 0.50 302 Pg **Pb** **19 57 25.6 -1.5**
ARG Arkhangelos 0.54 244 Pg **Pg** **19 57 25.8 -0.4**
ARG Sg **Sb** **19 57 35.4 -0.3**
ARG Arkhangelos 0.54 244 P **Pb** **19 57 27.8 +0.1**
ARG S **Sb** **19 57 37.1 +1.4**
ARG Arkhangelos 0.54 244 P **Pg** **19 57 26.0 -0.3**
ARG S **Sg** **19 57 33.2 0.0**
CAME Cameli-Denizli 0.67 43 Pg **Pg** **19 57 28.2 -0.7**
CAME Sg **Sb** **19 57 38.7 -1.0**
AKAS Kas 0.74 107 Pg **Pg** **19 57 30.0 -0.1**
AKAS Kas 0.74 107 P **Pg** **19 57 29.4 -0.7**
KNIK Mula-Seydike 0.79 60 P **Pg** **19 57 30.8 -0.1**
KNIK S **Sg** **19 57 41.7 +0.5**
KNIK *i* AML AML 19 57 45.0
comp=N,274nm,0.6s
KNIK *i* AML AML 19 57 46.0
comp=E,195nm,0.4s
DNZT Denizli-Tavas- 0.86 16 P **Pn** **19 57 33.9 -0.6**
MULA Mugla, Merkez- 0.87 338 P **Pg** **19 57 31.8 -0.7**
MULA S **Sb** **19 57 44.5 -0.8**
MULA *i* AML AML 19 57 48.0
comp=E,169nm,0.5s
DAT Datca 0.97 287 Pg **Pg** **19 57 33.9 -0.5**
DAT Sg **Sn** **19 57 48.9 -1.2**
DAT Datca 0.97 287 P **Pb** **19 57 34.9 -0.1**
DAT Datca 0.97 287 P **Pb** **19 57 35.0 -0.1**
DAT S **Sn** **19 57 50.3 +0.2**
DEMR Demre-Antalya 0.97 102 Pg **Pg** **19 57 34.5 -0.1**
ELL Elmali 1.00 72 Pg **Pg** **19 57 34.0 -1.0**
TAVA DENIZLI_Tavas 1.02 8 P **Pg** **19 57 35.1 -0.4**
GOLH Golhisar 1.03 40 P **Pg** **19 57 35.3 -0.3**
GOLH S **Sb** **19 57 50.9 +0.9**
GOLH *i* AML AML 19 57 54.0
comp=E,150nm,0.4s
YAZI Mula-Datşa- 1.05 283 P **Pb** **19 57 36.1 -0.3**
APMY Acipayam-Deniz 1.12 24 Pn **Pg** **19 57 36.4 -0.9**
MLSB Milas 1.14 318 Pn **Pb** **19 57 37.5 -0.4**
DNIZ Denizli-Tavas- 1.20 12 P **Pn** **19 57 39.4 +0.2**
BDRM Kayabasi 1.20 301 P **Pb** **19 57 38.3 -0.6**
BODT Bodrum 1.29 299 Pn **Pn** **19 57 40.1 -0.3**
BODT Bodrum 1.29 299 P **Pn** **19 57 40.2 -0.2**
NISR Nisiros 1.30 278 P **Pb** **19 57 41.7 +1.1**
NISR S **Sn** **19 57 59.2 +1.1**
248nm,0.4s
NISR Nisiros 1.30 278 P **Pb** **19 57 40.1 -0.6**
AKUM Antalya-Kumluc 1.31 95 P **Pg** **19 57 41.4 +0.4**
YKAV Yalikavak-Bodr 1.34 300 Pn **Pg** **19 57 41.3 -0.3**
ESEN Aydn-Nazilli 1.38 347 P **Pg** **19 57 42.4 +0.2**
ESEN S **Sb** **19 57 58.7 -1.1**
ESEN *i* AML AML 19 58 04.0
comp=N,77nm,0.8s
INCE Denizli-Bozkur 1.43 28 P **Pg** **19 57 43.3 +0.1**
INCE S **Sn** **19 58 01.8 +0.3**
INCE *i* AML AML 19 58 06.0
comp=N,196nm,0.6s
NAZL Nazilli-Aydin 1.55 347 Pn **Pb** **19 57 44.3 -0.7**
KARP Karpathos 1.56 235 Pn **Pb** **19 57 44.8 -0.3**
KARP Karpathos 1.56 235 P **Pb** **19 57 44.7 -0.3**
KARP S **Sg** **19 58 06.3 +0.4**
KARP Karpathos 1.56 235 P **Pb** **19 57 44.4 -0.7**
ANTB Antalya 1.61 73 Pn **Pb** **19 57 45.6 -0.4**
AYDB Zeytinkoy-Aydi 1.64 336 Pn **Pb** **19 57 45.6 -0.9**
BRDR BURDUR-Merkez 1.64 40 P **Pg** **19 57 47.0 -0.2**
BRDR S **Sg** **19 58 09.6 +1.1**
BRDR *i* AML AML 19 58 19.0
comp=N,72nm,0.7s
KIRA zmir-Kiraz 1.76 352 P **Pb** **19 57 47.7 -0.9**
KIRA S **Sb** **19 58 10.7 -0.3**
KIRA *i* AML AML 19 58 18.0
comp=N,35nm,0.5s
BASM Basmaki-Afyon 1.81 35 Pn **Pn** **19 57 46.9 -0.7**
KULA Kula-Manisa 2.06 359 P **Pn** **19 57 51.7 +0.6**
KULA S **Sb** **19 58 18.3 -1.3**
ZKR Zakros 2.44 238 P **Pb** **19 57 58.1 -2.0**
ZKR Zakros 2.44 238 P **Pn** **19 57 56.9 +0.8**
SEYD Seydisehir-KON 2.67 68 Pn **Pn** **19 58 00.8 +1.4**
CHOS Chios island 2.87 313 P **Pn** **19 58 02.8 +0.6**
IDI Anoyia 3.33 251 P **Pn** **19 58 09.1 +0.7**
IDI S **Sn** **19 58 50.9 +2.6**
25nm,0.7s
IDI Anoyia 3.33 251 P **Pn** **19 58 09.2 +0.8**
PRK Paraskevi 3.40 326 P **Pn** **19 58 09.9 +0.5**
PRK S **Sn** **19 58 50.5 +0.5**
IMMV Iera Moni Meta 3.98 257 P **Pn** **19 58 17.6 +0.3**
SMTH Samothraki Isl 4.73 329 P **Pn** **19 58 28.4 +0.7**
BRTR Keskin Array B 5.07 48 Pn **Pn** **19 58 33.9 +1.4**
0.1nm,0.3s,baz=233,slow=15,SNR=5.9
BRTR Sn **Sn** **19 59 33.6 +2.3**
0.1nm,0.3s,baz=218,slow=26,SNR=1.7
0.8nm,0.5s
MMAI Mount Meron Ar 6.48 120 Pn **Pn** **19 58 49.7 -2.0**
0.7nm,0.3s,baz=296,slow=14,SNR=5.2
MMAI Sn **Sn** **20 00 01.8 -4.2**
0.6nm,0.3s,baz=299,slow=21,SNR=1.9
0.7nm,0.4s
FINES FINESS Array B 25.07 357 P **P** **20 02 40.4 -0.3**
1.2nm,0.8s,baz=161,slow=13,SNR=4.2
1.2nm,0.8s
MKAR Makanchi Array 40.64 58 P **P** **20 04 57.5 +1.0**
0.2nm,0.6s,baz=276,slow=7.8,SNR=2.5
0.2nm,0.6s

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*NEIC **27** 20:03:12.0±1.4, 11°.3S±0°.1×166°.6E±0°.1, h97km±11km, mb4.4/18, Error ellipse: s-maj=20.9km s-min=18.0km az=127.0*
*IDC **27** 20:03:18.1±6.7, 11°.57S×166°.34E, h146km±52km, mb3.6/6, mbtmp4.0/7, Error ellipse: s-maj=47.4km s-min=22.1km az=43.0*
ISC 27 20:03:18.2±0.9, 11°.62S±0°.10×166°.4E±0°.1, h150km, n30, σ1ˢ19/31, mb4.2/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	Koumac, New Ca	9.12	193	Pn	Pn	20 05 27.6	+1.0
DZM	Mont Dzumac	10.39	180	Pn	Pn	20 05 40.4	-3.2
DZM	Mont Dzumac	10.39	180	P	Pn	20 05 44.4	+0.8
DZM	15nm,1.2s,baz=114,slow=9.0,SNR=13 S				Sn	20 07 39.8	+1.1
	3.9nm,0.7s,baz=311,slow=19,SNR=1.7						
PINNC	Pines Island,	10.98	175	Pn	Pn	20 05 47.4	-3.7
EIDS	Eidsvold	19.95	225	P	Pn	20 07 40.4	-1.5
EIDS	IAmb			IAmb	IAmb	20 07 45.8	
	comp=Z,8.3nm,1.3s						
CTA	Charters Tower	21.14	244	P	P	20 07 51.0	-0.5
	comp=Z,0.2nm,0.6s,baz=65,slow=4.6,SNR=4.8						
CTAO	Charters Tower	21.14	244	P	P	20 07 51.1	-0.5
BKZ	Black Stump Fm	28.86	164	P	P	20 09 02.6	0.0
THZ	Tophouse	30.56	170	P	P	20 09 19.7	+2.0
MSWZ	Moikau Station	30.68	167	P	P	20 09 18.5	-0.2
WB0	Warramunga Arr	31.85	251	P	P	20 09 29.3	0.0
WB0	IAmb			IAmb	IAmb	20 09 29.9	
	comp=Z,4.1nm,0.7s						
WRAB	Tennant Creek	31.92	251	P	P	20 09 29.9	0.0
WRAB	IAmb			IAmb	IAmb	20 09 50.8	
	comp=Z,8.2nm,1.5s						
WRA	Warramunga Arr	31.93	251	P	P	20 09 29.8	-0.2
	comp=Z,1.6nm,0.6s,baz=84,slow=9.0,SNR=24						
	comp=Z,1.6nm,0.6s						
TOO	Toolangi	31.95	212	P	P	20 09 30.8	+0.9
TOO	IAmb			IAmb	IAmb	20 09 36.7	
	comp=Z,9.2nm,1.2s						
LBZ	Lake Benmore	32.81	175	P	P	20 09 37.5	+0.2
ASAR	Alice Springs	33.15	244	P	P	20 09 40.0	-0.6
	comp=Z,1.4nm,0.7s,baz=69,slow=9.6,SNR=21						
	comp=Z,1.4nm,0.7s						
BBOO	Buckleboo	34.94	228	P	P	20 09 56.5	+0.6
BBOO	IAmb			IAmb	IAmb	20 10 28.3	
	comp=Z,19nm,1.4s						
KNRA	Kununurra	36.80	259	P	P	20 10 11.9	0.0
KNRA	IAmb			IAmb	IAmb	20 10 36.1	
	comp=Z,6.5nm,1.1s						
XMAS	Kiritimati	38.38	72	P	P	20 10 25.9	+0.7
FITZ	Fitzroy Crossi	39.89	256	P	P	20 10 37.8	+0.1
PSA00	Pilbara Seismi	45.59	251	P	P	20 11 23.4	-0.3
PSA00	IAmb			IAmb	IAmb	20 11 25.4	
	comp=Z,14nm,1.2s						
MBWA	Marble Bar	45.66	252	P	P	20 11 24.0	-0.2
VNDA	Vanda	65.94	181	P	P	20 13 48.4	+0.7
VNDA	IAmb			IAmb	IAmb	20 14 04.9	
	comp=Z,4.0nm,1.5s						
VNDA	Vanda	65.94	181	P	P	20 13 48.3	+0.7
	comp=Z,0.3nm,0.5s,baz=343,slow=9.2,SNR=8.6						
	comp=Z,0.3nm,0.5s						
CASY	Casey	66.10	201	P	P	20 13 48.9	+0.1
CASY	IAmb			IAmb	IAmb	20 14 23.9	
	comp=Z,14nm,1.4s						
SBA	Scott Base	66.23	180	P	P	20 13 48.7	-0.8
CMAR	Chiang Mai Arr	72.96	293	P	P	20 14 32.1	+0.3
	comp=Z,0.8nm,0.7s,baz=130,slow=4.9,SNR=6.0						
	comp=Z,0.8nm,0.7s						
QSPA	South Pole Qui	78.39	180	P	P	20 15 02.9	+0.9
QSPA	South Pole Qui	78.39	180	P	P	20 15 03.0	+0.9
	comp=Z,0.5nm,0.4s,baz=29,slow=3.4,SNR=6.6						
	comp=Z,0.5nm,0.4s						
MKAR	Makanchi Array	94.40	317	P	P	20 16 20.3	-0.8
	comp=Z,0.7nm,0.5s,baz=88,slow=6.2,SNR=12						
	comp=Z,0.7nm,0.5s						

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*CATAC **27** 20:30:15.3±0.8, 13°.45N×90°.69W, h2km±4km, ML3.7*
*SNET **27** 20:30:18.1±1.1, 13°.45N×90°.59W, h17km±6km, ML3.4*
*GCG **27** 20:30:19.1±0.3, 13°.79N×90°.76W, h102km±9km, MD3.6*
ISC 27 20:30:13.9±1.7, 13°.47N±0°.06×90°.69W±0°.04, h2km±11km, n54, σ0ˢ72/82, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	0.98	352	*e*P	Pn	20 30 35.7	+0.8
FUG				*e*S	Sn	20 30 51.2	+1.7
NUBE	Las Nubes	0.99	64	*e*P	Pn	20 30 34.7	-0.2
NUBE				*e*S	Sb	20 30 46.6	-0.7
NUBE	Las Nubes	0.99	64	*i* P	Pn	20 30 34.7	-0.2
NUBE				IAML		20 30 49.3	
	comp=Z,800nm,1.0s						
SLOZ	Alcaldia de Sa	1.04	58	*e*P	Pn	20 30 35.9	+0.3
SLOZ				*e*S	Sn	20 30 50.0	-0.8
CEVE	Cerro Verde	1.10	71	*e*P	Pn	20 30 36.7	+0.2
CEVE				*e*S	Sn	20 30 51.7	-0.7
CEVE	Cerro Verde	1.10	71	*i* P	Pn	20 30 36.9	+0.3
CEVE				*i* S	Sn	20 30 52.3	-0.2
CEVE				IAML		20 30 53.2	
	comp=Z,2μm,1.0s						
RTR	El Retiro	1.10	67	*e*P	Pn	20 30 37.0	+0.4
RTR				*e*S	Sn	20 30 51.7	-0.8
SBLS	San Blas	1.10	70	*e*P	Pn	20 30 36.7	+0.1
SNJE	San Jose	1.13	69	*e*P	Pn	20 30 37.3	+0.3
GUMI	Mixco	1.16	4	*i* P	Pn	20 30 38.1	+0.8
GUMI				*i* S	Sn	20 30 53.5	-0.4
GUMI				IAML		20 30 55.7	
	comp=Z,4μm,1.0s						
NBG	Las Nubes	1.16	17	*e*P	Pn	20 30 39.6	+2.2
NBG				*e*S	Sn	20 30 55.7	+1.7
JAYA	Jayaque - finc	1.22	81	*e*P	Pn	20 30 38.4	+0.2
JAYA				*e*S	Sb	20 30 53.8	-0.4
JAYA				IAML		20 30 56.5	
	comp=Z,2μm,0.2s						
JAYA	Jayaque - finc	1.22	81	*i* P	Pn	20 30 38.4	+0.2
JAYA				IAML		20 30 56.2	
	comp=Z,4μm,1.0s						
UNIC	Universidad Ca	1.22	65	*i* P	Pn	20 30 38.5	+0.4
UNIC				*i* S	Sn	20 30 54.9	-0.4
UNIC				IAML		20 30 55.5	
	comp=Z,780nm,1.0s						
CHTG	Tecpan	1.31	348	*i* P	Pn	20 30 39.8	+0.2
CHTG				*i* S	Sn	20 30 57.2	-0.6
CHTG				IAML		20 31 11.2	
	comp=Z,2μm,1.0s						
LALI	Alcalda de L	1.34	89	*i* P	Pb	20 30 40.1	+0.4
LALI				*i* S	Sn	20 30 57.4	-0.5
LALI				IAML		20 31 20.5	
	comp=Z,170nm,1.0s						
PMON	Piamonte	1.36	80	*e*P	Pb	20 30 40.9	+0.7
PMON				*e*S	Sn	20 30 58.2	-0.6
PMON	Piamonte	1.36	80	*i* P	Pb	20 30 40.6	+0.4
PMON				*i* S	Sn	20 30 58.6	-0.2
PMON				IAML		20 31 02.4	
	comp=Z,2μm,1.0s						
ITCA	Escuela Especi	1.39	81	*i* S	Sn	20 30 59.0	-0.5
BOQS	Boqueron	1.40	79	*e*P	Pb	20 30 41.6	+0.7
BOQS				*e*S	Sn	20 30 59.6	-0.2
QUEZ	Alcaldia de Qu	1.43	75	*i* P	Pg	20 30 41.8	+0.5
QUEZ				*i* S	Sn	20 31 00.5	+0.2
QUEZ				IAML		20 31 05.2	
	comp=Z,4μm,1.0s						
RTAL	Retalhuleu	1.43	317	*i* P	Pn	20 30 40.6	-0.3
UEES	Universidad Ev	1.44	80	*i* P	Pg	20 30 41.9	+0.5
UEES				*i* S	Sn	20 31 00.3	-0.2
UEES				IAML		20 31 05.9	
	comp=Z,1μm,1.0s						
SNET	Serv Nac Est T	1.44	81	*i* S	Sn	20 31 00.1	-0.5
PANCS	Alcalda de	1.48	84	*i* P	Pg	20 30 42.5	+0.2
PANCS				*i* S	Sn	20 31 01.1	-0.5
PANCS				IAML		20 31 03.3	
	comp=Z,3μm,1.0s						
LOMA	Loma Larga	1.49	83	*e*P	Pb	20 30 42.4	0.0
LOMA	Loma Larga	1.49	83	*i* P	Pb	20 30 42.4	0.0
LOMA				*i* S	Sg	20 31 01.6	-0.2
LOMA				IAML		20 31 02.9	
	comp=Z,1μm,1.0s						
STG3	Santiaguito 3,	1.50	326	*e*P	Pg	20 30 43.0	+0.4
STG3				*e*S	Sn	20 31 01.4	-0.8
SOKI	Kika Raxquin	1.51	333	*i* P	Pg	20 30 42.9	0.0
SOKI				IAML		20 31 05.3	
	comp=Z,460nm,1.0s						
UDBS	Universidad Do	1.52	81	*i* P	Pg	20 30 43.2	+0.2
UDBS				*i* S	Sg	20 31 02.7	0.0
UDBS				IAML		20 31 09.1	
	comp=Z,910nm,1.0s						
MTO3	Montecristo	1.59	54	*e*P	Pg	20 30 44.1	-0.3
MTO3	Montecristo	1.59	54	*i* P	Pg	20 30 44.1	-0.3
MTO3				IAML		20 30 45.4	
	comp=Z,270nm,1.0s						
MTO3				*i* S	Sg	20 31 05.2	+0.2
LFRS	El Faro	1.59	84	*e*P	Pb	20 30 44.1	0.0
PAVA	Las Pavas	1.73	82	*e*P	Pb	20 30 46.4	0.0
PAVA				IAML		20 31 10.5	
	comp=Z,242nm,0.3s						
COEG	Centro de Oper	1.77	85	*e*P	Pb	20 30 46.7	-0.4
COEG				*e*S	Sn	20 31 08.7	-0.1
COEG	Centro de Oper	1.77	85	*i* P	Pb	20 30 46.9	-0.2
COEG				*i* S	Sb	20 31 09.2	-0.6
COEG				IAML		20 31 19.1	
	comp=Z,430nm,1.0s						
LLGN	La Laguna	1.83	68	*i* P	Pb	20 30 47.2	-1.0
LLGN				IAML		20 32 04.9	
	comp=Z,250nm,1.0s						
QUIS	Sacapulas	1.85	348	*i* P	Pg	20 30 48.8	-0.6
QUIS				*i* S	Sg	20 31 13.2	-0.2
QUIS				IAML		20 31 13.9	
	comp=Z,580nm,1.0s						
TECO	Alcaldia de Te	1.86	88	*i* P	Pn	20 30 47.4	+0.5
TECO				IAML		20 31 18.4	
	comp=Z,240nm,1.0s						
SCLA	Alcaldia de Sa	1.93	83	*i* P	Pb	20 30 50.1	+0.3
SCLA				*i* S	Sb	20 31 14.5	+0.2
SCLA				IAML		20 31 36.1	
	comp=Z,130nm,1.0s						
PQSS	Presa 15 de Se	2.08	86	*e*P	Pn	20 30 51.0	+1.1
PQSS	Presa 15 de Se	2.08	86	*i* P	Pn	20 30 50.8	+1.0
PQSS				IAML		20 31 21.8	
	comp=Z,110nm,1.0s						
COEB	Comit de Eme	2.10	89	*i* P	Pn	20 30 50.7	+0.4
COEB				IAML		20 31 25.9	
	comp=Z,170nm,1.0s						
TECA	Tecapa	2.13	89	*e*P	Pn	20 30 51.6	+0.9
PACA	Pacayal	2.31	90	*e*P	Pb	20 30 55.2	-1.1
PACA	Pacayal	2.31	90	*i* P	Pb	20 30 55.0	-1.3
PACA				IAML		20 31 39.9	
	comp=Z,1μm,1.0s						
RANC	El Ranchito	2.34	91	*e*P	Pn	20 30 55.0	+1.4
RANC	El Ranchito	2.34	91	*i* P	Pn	20 30 54.9	+1.4
RANC				*i* S	Sb	20 31 25.5	-0.8
RANC				IAML		20 31 30.8	
	comp=Z,140nm,1.0s						
LCND	La Caada	2.73	93	*i* P	Pn	20 31 00.5	+1.7
LCND				*i* S	Sn	20 31 33.8	+1.3
LCND				IAML		20 31 36.6	
	comp=Z,120nm,1.0s						
CNCH	Conchagua	2.79	94	*e*P	Pn	20 31 00.1	+0.4
CNCH	Conchagua	2.79	94	*i* P	Pn	20 31 00.6	+0.9
CNCH				IAML		20 31 40.0	
	comp=Z,300nm,1.0s						
PKGN	Cerro Pekin	3.71	102	*i* P	Pn	20 31 12.5	+0.3
PKGN				IAML		20 31 57.9	
	comp=Z,190nm,1.0s						
YUSH	Yuscaran	3.77	82	*i* P	Pn	20 31 13.8	+0.6
CNGN	Cerro Negro	4.01	103	*i* P	Pn	20 31 17.2	+0.7
CNGN				IAML		20 32 26.8	
	comp=Z,58nm,1.0s						

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*NEIC **27** 20:31:53.8±2.3, 8°.30S±0°.07×119°.69E±0°.01, h55km±13km, mb4.3/11, Error ellipse: s-maj=10.1km s-min=2.1km az=181.0*
*DJA **27** 20:31:54.4±0.3, 8°.S±3°×12°0E±°, h50km±38km, M4.3/17, mb4.5/2, MLv4.2/17*
*IDC **27** 20:31:58.0±4.6, 7°.92S×120°.42E, h78km±43km, mb3.6/3, mbtmp4.0/5, ML4.1/2, MS2.7/1, Error ellipse: s-maj=99.3km s-min=17.0km az=58.0*
ISC 27 20:31:53.6±0.9, 8°.28S±0°.05×119°.69E±0°.04, h54km±12km, n56, σ1ˢ39/64, mb4.4/6, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	1.96	254	P	Pn	20 32 25.9	+1.3
PLAI				S	Sn	20 32 48.8	+0.7
EDFI	Ende, Flores	2.04	103	P	Pn	20 32 26.6	+0.9
EDFI				S	Sn	20 32 51.8	+1.8
BASI	Baing, Sumba	2.12	156	P	Pn	20 32 27.1	+0.4
BSSI	Bau Bau, Buton	2.27	21	P	Pn	20 32 29.0	+0.3
MMRI	Maumere	2.55	98	P	Pn	20 32 33.7	+1.1
MMRI	Maumere	2.55	98		Pn	20 32 33.4	+0.8
MMRI				Sn	Sn	20 33 02.2	-0.3
MMRI	Maumere	2.55	98	P	Pn	20 32 33.5	+0.9
MMRI				S	Sn	20 33 03.5	+1.1
TWSI	Taliwang, Sumb	2.81	260	P	Pn	20 32 37.2	+1.1
TWSI				S	Sn	20 33 09.8	+1.0
BKSI	Bulukumba	2.97	8	P	Pn	20 32 39.3	+1.0
KAPI	Kappang	3.24	1	P	Pn	20 32 43.3	+1.2
KAPI	Kappang	3.24	1	P	Pn	20 32 42.9	+0.8
	21nm,0.3s,baz=174,slow=10.0,SNR=66						
KAPI				S	Sn	20 33 17.8	-1.7
	94nm,0.4s,baz=352,slow=21,SNR=12						
KAPI				LR	LR	20 34 03.3	
	comp=Z,130nm,19.7s,baz=143,slow=42						
	74nm,0.2s						
BBSI	Bau Bau	3.99	46	P	Pn	20 32 53.5	+1.2
BATI	Baumata	4.37	116	P	Pn	20 33 00.3	+2.7
SRBI	Singaraja	4.43	272	P	Pn	20 32 58.1	-0.3
SOEI	Soe	4.76	108	P	Pn	20 33 06.1	+3.1
SOEI	Soe	4.76	108		Pn	20 33 04.0	+1.0
SOEI	Soe	4.76	108	P	Pn	20 33 05.4	+2.4
ABJI	Asem Bagus	5.42	275	P	Pn	20 33 12.6	+0.7
	80nm,1.4s						
JAGI	Jajag, Banyuwa	5.48	268	P	Pn	20 33 13.6	+0.8
JAGI	Jajag, Banyuwa	5.48	268		Pn	20 33 12.5	-0.2
JAGI				Sn	Sn	20 34 14.2	-0.3
JAGI	Jajag, Banyuwa	5.48	268	P	Pn	20 33 12.6	-0.2
LUWI	Luwuk	7.82	23		Pn	20 33 41.6	-3.2
TOLI2	Tolitoli	9.39	7	Pn	Pn	20 34 06.8	+0.4
FITZ	Fitzroy Crossi	11.35	150	Pn	Pn	20 34 32.0	-1.1
SAUI	Saumlaki	11.50	89	Pn	Pn	20 34 34.7	-0.5
KNRA	Kununurra	11.53	130		Pn	20 34 34.1	-1.5
DRS	Darwin Rock St	11.78	111	P	Pn	20 34 40.4	+1.4
MTN	Manton Dam	12.13	113		Pn	20 34 42.2	-1.7
MBWA	Marble Bar	12.81	180	Pn	Pn	20 34 51.0	-2.0
PSA00	Pilbara Seismi	13.22	179		Pn	20 34 57.8	-0.9
KDU	Kakadu	13.31	110	P	Pn	20 35 01.5	+1.5
FAKI	Fak Fak	13.59	68	P	Pn	20 35 05.7	+2.0
FAKI	Fak Fak	13.59	68		Pn	20 35 03.6	-0.1
GIRL	Giralia	15.21	200	Pn	Pn	20 35 22.7	-2.5
WRA	Warramunga Arr	18.32	131	P	P	20 36 01.9	-1.7
	0.8nm,0.3s,baz=308,slow=10,SNR=49						
	1.3nm,0.3s						
WRAB	Tennant Creek	18.33	131	P	P	20 36 02.5	-1.2
WRAB	IAmb			IAmb	IAmb	20 36 12.4	
	comp=Z,12nm,1.4s						
WB2	Warramunga Arr	18.33	131	P	P	20 36 02.2	-1.5
WB2	IAmb			IAmb	IAmb	20 36 05.0	
	comp=Z,12nm,1.4s						
WR0	Warramunga Arr	18.48	130	P	P	20 36 04.4	-1.0
WR0	IAmb			IAmb	IAmb	20 36 13.6	
	comp=Z,4.6nm,0.5s						
WRKA	Warakurna	18.58	155	P	Pn	20 36 09.0	+1.8
AS31	Alice Springs	20.49	140	P	P	20 36 28.1	+0.9
ASAR	Alice Springs	20.49	140	P	P	20 36 28.3	+1.0
ASAR	Alice Springs	20.49	140	P	P	20 36 28.7	+1.4
	comp=Z,5.1nm,0.7s,baz=308,slow=9.1,SNR=95						
ASAR				S	S	20 40 11.6	-2.2
	comp=Z,0.9nm,0.8s,baz=317,slow=23,SNR=6.4						
	comp=Z,5.1nm,0.7s						
AS01	Alice Springs	20.52	140	P	P	20 36 29.5	+1.9
QIS	Mount Isa	22.80	125	P	P	20 36 52.6	+0.6
COEN	Coen	23.72	106	P	P	20 37 01.3	+0.3
COEN	Coen	23.72	106	P	P	20 37 01.0	0.0
COEN	IAmb			IAmb	IAmb	20 37 03.7	
	comp=Z,10nm,1.0s						
OOD	Oodnadatta	24.61	144	P	P	20 37 10.4	+1.4
MULG	Mulgathing	25.70	150	P	P	20 37 20.0	+1.1
BBOO	Buckleboo	28.74	150	P	P	20 37 47.1	+0.9
BBOO	Buckleboo	28.74	150	P	P	20 37 46.3	+0.1
BBOO	IAmb			IAmb	IAmb	20 38 27.4	
	comp=Z,24nm,1.5s						
QIZ	Qiongzhong	28.82	340	P	P	20 37 47.0	+0.1
QIZ	IAmb			IAmb	IAmb	20 37 47.9	
	comp=Z,31nm,1.4s						
STKA	Stephens Creek	31.09	142	P	P	20 38 07.3	+0.4
STKA	Stephens Creek	31.09	142	P	P	20 38 08.1	+1.2
	comp=Z,3.1nm,0.6s,baz=311,slow=9.2,SNR=11						
	comp=Z,3.1nm,0.6s						
ARMA	Armidale	37.10	131	P	P	20 38 58.2	-1.1
ARMA	IAmb			IAmb	IAmb	20 39 08.8	
	comp=Z,23nm,1.4s						
MQZ	McQueen's Vall	57.94	137	P	P	20 41 39.7	-0.9
MKAR	Makanchi Array	64.13	332	P	P	20 42 24.3	+1.9
	comp=Z,0.1nm,0.5s,baz=132,slow=6.4,SNR=1.9						
	comp=Z,0.1nm,0.5s						

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*ISK **27** 20:39:02.9, 38°.96N×43°.58E, h12km, ML2.5/10*
*TEH **27** 20:39:03.0, 38°.90N×43°.53E, h10km, ML1.8*
*AFAD **27** 20:39:04.2±0.0, 38°.94N×43°.53E, h12km±1km, ML2.6*
ISC 27 20:39:03.4±0.9, 38°.95N±0°.03×43°.53E±0°.03, h15km±6km, n23, σ0ˢ83/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.05	42	P	Pg	20 39 06.5	+0.1
VMUR				S	Sg

BLIS	**Bitlis-Merkez**	**1.23 245**	P	**Pn**	**20 39 24.9**	**-1.4**
GURO	**Guroymak-BITLI**	**1.23 252**	Pn	**Pg**	**20 39 26.8**	**-0.4**
VRTB	**Varto-Mus**	**1.63 278**	Pn	**Pb**	**20 39 32.8**	**-0.4**
IMRD	**Marand**	**1.72 97**	Pg	**Pg**	**20 39 36.3**	**-0.1**
ISHB	**Shabestar**	**1.77 112**	Pg	**Pb**	**20 39 36.0**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.85 331**	Pn	**Pn**	**20 39 35.3**	**+0.5**

*SNET **27** 20:41:59.6±2.1, 12°.44N×88°.34W, h34km, ML5.5*
*CATAC **27** 20:42:01.7±0.3, 12°.56N×88°.32W, h39km±9km, MB5.8, mb5.8, ML5.4*
*NEIC **27** 20:42:02.7±2.5, 12°.69N±0°.05×88°.20W±0°.05, h45km±2km, mb5.3/656, Mww5.3/41, Error ellipse: s-maj=9.2km s-min=5.3km az=48.0*
*IDC **27** 20:42:02.4±1.6, 12°.86N×87°.85W, h56km±14km, mb4.5/24, mbtmp4.7/27, MS4.5/61, Error ellipse: s-maj=16.6km s-min=9.0km az=53.0*
*GCMT **27** 20:42:02.8±0.1, 12°.47N±0°.01×88°.57W±0°.01, h45km, MW5.3/142, Moment Tensor Solution. s134,c240; s142,c240; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.18±.02; $M_{\theta\theta}$-1.05±.01; $M_{\phi\phi}$-0.12±.02; $M_{r\theta}$0.22±.02; $M_{\theta\phi}$0.70±.01; $M_{\phi r}$-0.22±.02; Best double couple: $M_0$1.34200×10^{17} NP1:ϕ_s123.00000°,δ52.00000°, λ96.00000°. NP2:ϕ_s293.00000°,δ39.00000°,λ82.00000°. Principal axes: T 1.2210, Plg82.0000°, Azm66.0000°; N 0.2440, Plg5.0000°, Azm299.0000°; P -1.4630, Plg6.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **27** 20:42:02.8, 12°.50N×88°.29W, h46km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.18; $M_{\theta\theta}$-1.10; $M_{\phi\phi}$-0.08; $M_{r\theta}$0.12; $M_{\theta\phi}$0.59; $M_{\phi r}$-0.24; Fault plane solution: $M_0$1.30000×10^{17} NP1: ϕ_s123.69000°,δ50.39000°,λ102.12000°. NP2: ϕ_s285.06000°,δ41.13000°,λ75.76000°. Principal axes: T 1.2205, Plg80.0000°, Azm89.0000°; N 0.1649, Plg9.0000°, Azm296.0000°; P -1.3854, Plg5.0000°, Azm205.0000°;*
*NEIC **27** 20:42:02.8, 12°.70N×88°.19W, h46km*
*RSNC **27** 20:42:03.3±1.6, 13°.N±9°.×8°.8W±1°.0, h51km±8km, M5.3, mb5.0, mB5.3, Mw(mB)4.8, MwMwp5.0, Mwp5.3*
*MOS **27** 20:42:04.8±1.2, 12°.75N×88°.01W, h87km, mb5.3/26, Error ellipse: s-maj=11.5km s-min=5.8km az=103.5*
*GCG **27** 20:42:34.1±0.7, 14°.63N×90°.04W, h43km±37km, MD4.8*
ISC 27 20:42:01.8±0.3, 12°.64N±0°.03×88°.27W±0°.02, h52km±2km, h53km:pP-P,n1334,σ1°.936/1167,mb5.3/346,MS4.7/86, 14C-37D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.59**	**20**	⇓*eP*			**Pn**	**20 42 14.8**	**+0.4**
INTP				*eS*			**Sn**	**20 42 24.5**	**+1.1**
LCND	**La Caada**	**0.76**	**29**	*eP*			**Pn**	**20 42 17.2**	**+0.7**
LCND				⇓*eP*				20 42 17.2	
LCND				*eS*			**Sn**	**20 42 28.7**	**+1.6**
LCND	**La Caada**	**0.76**	**29**	⇓*iP*			**Pn**	**20 42 17.2**	**+0.7**
LCND				IAML				20 42 18.0	
	comp=Z,83μm,1.0s								
LCND				*i* S			**Sn**	**20 42 29.5**	**+2.4**
CNCH	**Conchagua**	**0.76**	**33**	*eP*			**Pn**	**20 42 17.4**	**+0.7**
CNCH				*eS*			**Sn**	**20 42 30.0**	**+2.7**
CNCH	**Conchagua**	**0.76**	**33**	⇓*iP*			**Pn**	**20 42 17.3**	**+0.7**
CNCH				*i* S			**Sn**	**20 42 29.2**	**+1.9**
CNCH				IAML				20 42 40.0	
	comp=Z,150μm,1.0s								
VSM	**San Miguel**	**0.79**	**359**	*eP*			**Pn**	**20 42 17.8**	**+0.8**
RANC	**El Ranchito**	**0.79**	**358**	⇑*eP*			**Pn**	**20 42 17.8**	**+0.7**
RANC				*eS*			**Sn**	**20 42 29.5**	**+1.4**
RANC	**El Ranchito**	**0.79**	**358**	⇑*iP*			**Pn**	**20 42 17.7**	**+0.7**
RANC				*i* S			**Sn**	**20 42 30.0**	**+1.9**
RANC				IAML				20 42 30.8	
	comp=Z,91μm,1.0s								
BLLM	**Bellamira**	**0.80**	**2**	*eP*			**Pn**	**20 42 17.7**	**+0.6**
PACA	**Pacayal**	**0.83**	**356**	*eP*			**Pn**	**20 42 18.2**	**+0.7**
PACA				*eS*			**Sn**	**20 42 30.1**	**+1.2**
PACA	**Pacayal**	**0.83**	**356**	⇑*iP*			**Pn**	**20 42 18.2**	**+0.7**
PACA				*i* S			**Sn**	**20 42 30.8**	**+1.9**
PACA				IAML				20 42 31.2	
	comp=Z,480μm,1.0s								
CNRM	**Centro Naciona**	**0.84**	**6**	*eP*			**Pn**	**20 42 18.2**	**+0.7**
CNRM	**Centro Naciona**	**0.84**	**6**	⇓*iP*			**Pn**	**20 42 18.2**	**+0.7**
CNRM				*i* S			**Sn**	**20 42 31.3**	**+2.4**
CNRM				IAML				20 42 47.6	
	comp=Z,480μm,1.0s								
TECA	**Tecapa**	**0.88**	**345**	*eP*			**Pn**	**20 42 18.6**	**+0.3**
COEB	**Comit de Eme**	**0.89**	**343**	⇓*eP*			**Pn**	**20 42 18.5**	**+0.2**
COEB	**Comit de Eme**	**0.89**	**343**	⇓*iP*			**Pn**	**20 42 18.5**	**+0.2**
COEB				*i* S			**Sn**	**20 42 30.6**	**+0.2**
COEB				IAML				20 42 37.7	
	comp=Z,40μm,1.0s								
PQSS	**Presa 15 de Se**	**1.02**	**344**	*eP*			**Pn**	**20 42 20.5**	**+0.6**
PQSS				*eS*			**Sn**	**20 42 34.5**	**+1.2**
PQSS	**Presa 15 de Se**	**1.02**	**344**	⇑*iP*			**Pn**	**20 42 20.5**	**+0.6**
PQSS				*i* S			**Sn**	**20 42 35.0**	**+1.7**
PQSS				IAML				20 42 37.8	
	comp=Z,48μm,1.0s								
TECO	**Alcaldia de Te**	**1.03**	**331**	*eP*			**Pn**	**20 42 19.7**	**-0.3**
TECO	**Alcaldia de Te**	**1.03**	**331**	⇓*iP*			**Pn**	**20 42 19.7**	**-0.3**
TECO				IAML				20 42 38.3	
	comp=Z,26μm,1.0s								
UESV	**Universidad de**	**1.11**	**333**	*eP*			**Pn**	**20 42 21.3**	**+0.1**
UESV	**Universidad de**	**1.11**	**333**	*iP*			**Pn**	**20 42 21.3**	**+0.1**
UESV				*i* S			**Sn**	**20 42 36.2**	**+0.6**
UESV				IAML				20 42 44.1	
	comp=Z,56μm,1.0s								
SNVI	**San Vicente**	**1.12**	**330**	*eP*			**Pn**	**20 42 21.2**	**-0.1**
COEG	**Centro de Oper**	**1.15**	**328**	*eP*			**Pn**	**20 42 21.5**	**-0.1**
COEG	**Centro de Oper**	**1.15**	**328**	⇓*iP*			**Pn**	**20 42 21.6**	**-0.1**
COEG				*i* S			**Sn**	**20 42 36.9**	**+0.5**
COEG				IAML				20 42 39.6	
	comp=Z,38μm,1.0s								
SCLA	**Alcaldia de Sa**	**1.15**	**337**	⇓*eP*			**Pn**	**20 42 22.5**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.15**	**337**	⇓*iP*			**Pn**	**20 42 22.4**	**+0.7**
SCLA				*i* S			**Sn**	**20 42 37.9**	**+1.5**
CRIN	**San Cristobal**	**1.19**	**87**	Pn			**Pn**	**20 42 22.7**	**+0.5**
CRIN				Sn			**Sn**	**20 42 37.8**	**+0.5**
CRIN	**San Cristobal**	**1.19**	**87**	⇓*iP*			**Pn**	**20 42 23.0**	**+0.8**
CRIN				*i* S			**Sn**	**20 42 40.2**	**+2.8**
CRIN				IAML				20 42 49.0	
	comp=Z,180μm,1.0s								
LFRS	**El Faro**	**1.25**	**322**	⇑*eP*			**Pn**	**20 42 22.8**	**-0.3**
PAVA	**Las Pavas**	**1.25**	**329**	⇓*eP*			**Pn**	**20 42 23.5**	**+0.3**
PKGN	**Cerro Pekin**	**1.26**	**88**	⇓*iP*			**Pn**	**20 42 23.7**	**+0.6**
PKGN				*i* S			**Sn**	**20 42 41.0**	**+2.1**
PKGN				IAML				20 42 44.6	
	comp=Z,130μm,1.0s								
PANCS	**Alcalda de**	**1.32**	**317**	*eP*			**Pn**	**20 42 23.6**	**-0.4**
PANCS	**Alcalda de**	**1.32**	**317**	*iP*			**Pn**	**20 42 23.6**	**-0.4**
PANCS				IAML				20 42 42.9	
	comp=Z,69μm,1.0s								
LALI	**Alcalda de L**	**1.33**	**310**	*eP*			**Pn**	**20 42 23.2**	**-0.9**
LALI	**Alcalda de L**	**1.33**	**310**	*iP*			**Pn**	**20 42 23.7**	**-0.4**
LALI				IAML				20 42 41.3	
	comp=Z,12μm,1.0s								
LOMA	**Loma Larga**	**1.33**	**319**	*eP*			**Pn**	**20 42 24.1**	**-0.1**
LOMA				*eS*			**Sn**	**20 42 41.0**	**0.0**
LOMA	**Loma Larga**	**1.33**	**319**	⇓*iP*			**Pn**	**20 42 23.9**	**-0.4**
LOMA				*i* S			**Sn**	**20 42 41.4**	**+0.4**
LOMA				IAML				20 42 42.3	
	comp=Z,82μm,1.0s								
AEIL	**Aeropuerto Ilo**	**1.34**	**322**	*eP*			**Pn**	**20 42 24.4**	**+0.1**
UDBS	**Universidad Do**	**1.38**	**321**	*eP*			**Pn**	**20 42 24.9**	**+0.1**
UDBS	**Universidad Do**	**1.38**	**321**	*iP*			**Pn**	**20 42 24.7**	**-0.1**
UDBS				*i* S			**Sn**	**20 42 42.2**	**+0.2**
UDBS				IAML				20 42 48.7	
	comp=Z,71μm,1.0s								
LFU	**La Fuente**	**1.38**	**323**	*eP*			**Pn**	**20 42 25.0**	**+0.1**
QUEN	**Al S del Volca**	**1.38**	**92**	*iP*			**Pn**	**20 42 24.8**	**0.0**
QUEN				IAML				20 42 46.3	
	comp=Z,45μm,1.0s								
IGN	**Direccin Gen**	**1.39**	**321**	*eP*			**Pn**	**20 42 25.0**	**+0.1**
TELN	**Telica**	**1.40**	**91**	⇓*iP*			**Pn**	**20 42 24.9**	**-0.2**
TELN				*i* S			**Sn**	**20 42 44.8**	**+2.3**
TELN				IAML				20 42 49.7	
	comp=Z,4μm,1.0s								
HERN	**Volcan Telica**	**1.40**	**91**	⇓*iP*			**Pn**	**20 42 25.2**	**+0.1**
HERN				*i* S			**Sn**	**20 42 44.0**	**+1.5**
HERN				IAML				20 42 49.8	
	comp=Z,51μm,1.0s								
SNET	**Serv Nac Est T**	**1.41**	**318**				**Pn**	**20 42 24.5**	**-0.7**
SNET	**Serv Nac Est T**	**1.41**	**318**	*eP*			**Pn**	**20 42 24.9**	**-0.3**
SNET				*eS*			**Sn**	**20 42 42.1**	**-0.5**
SNET	**Serv Nac Est T**	**1.41**	**318**	⇓*iP*			**Pn**	**20 42 24.6**	**-0.6**
SNET				IAML				20 42 43.8	
	comp=Z,98μm,1.0s								
UESS	**Universidad de**	**1.41**	**320**	*eP*			**Pn**	**20 42 25.5**	**+0.3**
ITCA	**Escuela Especi**	**1.43**	**316**	*eP*			**Pn**	**20 42 25.3**	**-0.2**
ITCA	**Escuela Especi**	**1.43**	**316**	*iP*			**Pn**	**20 42 25.9**	**+0.4**
ITCA				IAML				20 42 53.3	
	comp=Z,110μm,1.0s								
UEES	**Universidad Ev**	**1.43**	**319**	*eP*			**Pn**	**20 42 25.7**	**+0.1**
UEES	**Universidad Ev**	**1.43**	**319**	⇓*iP*			**Pn**	**20 42 25.5**	**-0.1**
UEES				IAML				20 42 44.0	
	comp=Z,27μm,1.0s								
MAGS	**Ministerio de**	**1.44**	**316**	*eP*			**Pn**	**20 42 25.5**	**-0.1**
MAGS				*eS*			**Sn**	**20 42 43.4**	**-0.1**
PACN	**Al O del Volca**	**1.44**	**95**	⇓*iP*			**Pn**	**20 42 26.0**	**+0.4**
PACN				*i* S			**Sn**	**20 42 45.7**	**+2.2**
PACN				IAML				20 42 51.7	
	comp=Z,42μm,1.0s								
PIC2	**El Picacho**	**1.46**	**319**	*eP*			**Pn**	**20 42 26.3**	**+0.2**
BOQS	**Boqueron**	**1.47**	**318**	*eP*			**Pn**	**20 42 26.1**	**-0.1**
PMON	**Piamonte**	**1.48**	**316**	*eP*			**Pn**	**20 42 26.0**	**-0.2**
PMON				*eS*			**Sn**	**20 42 44.2**	**-0.3**
PMON	**Piamonte**	**1.48**	**316**	*iP*			**Pn**	**20 42 26.6**	**+0.4**
PMON				IAML				20 42 52.9	
	comp=Z,60μm,1.0s								
MARCA	**Marcala la Paz**	**1.53**	**8**	*i* S			**Sn**	**20 42 47.9**	**+2.2**
ILCN	**San Idelfonso**	**1.53**	**92**	*iP*			**Pn**	**20 42 27.1**	**+0.3**
ILCN				IAML				20 43 03.3	
	comp=Z,14μm,1.0s								
JAYA	**Jayaque - finc**	**1.53**	**311**	*eP*			**Pn**	**20 42 26.3**	**-0.8**
JAYA	**Jayaque - finc**	**1.53**	**311**	⇓*iP*			**Pn**	**20 42 26.2**	**-0.8**
JAYA				IAML				20 42 45.7	
	comp=Z,270μm,1.0s								
CNGN	**Cerro Negro**	**1.54**	**95**	Pn			**Pn**	**20 42 26.5**	**-0.4**
CNGN				Sn			**Sn**	**20 42 45.3**	**-0.5**
CNGN	**Cerro Negro**	**1.54**	**95**	⇓*iP*			**Pn**	**20 42 26.8**	**-0.1**
CNGN				*i* S			**Sn**	**20 42 46.9**	**+1.1**
CNGN				IAML				20 42 55.0	
	comp=Z,43μm,1.0s								
QUEZ	**Alcaldia de Qu**	**1.54**	**321**	*eP*			**Pn**	**20 42 27.3**	**+0.3**
QUEZ	**Alcaldia de Qu**	**1.54**	**321**	*iP*			**Pn**	**20 42 27.7**	**+0.7**
QUEZ				*i* S			**Sn**	**20 42 47.4**	**+1.5**
QUEZ				IAML				20 42 52.4	
	comp=Z,110μm,1.0s								
MACN	**El Madrono**	**1.56**	**96**	⇓*iP*			**Pn**	**20 42 27.3**	**0.0**
MACN				IAML				20 42 51.7	
	comp=Z,15μm,1.0s								
CEDA	**San Andres**	**1.60**	**317**	*eP*			**Pn**	**20 42 27.5**	**-0.2**
CEDA	**San Andres**	**1.60**	**317**	*iP*			**Pn**	**20 42 27.4**	**-0.4**
CEDA				*i* S			**Sn**	**20 42 47.3**	**0.0**
CEDA				IAML				20 42 57.8	
	comp=Z,110μm,1.0s								
LEVN	**Ruinas Leon Vi**	**1.63**	**98**	⇓*iP*			**Pn**	**20 42 27.8**	**-0.3**
LLGN	**La Laguna**	**1.65**	**336**	*eP*			**Pn**	**20 42 29.2**	**+0.6**
LLGN	**La Laguna**	**1.65**	**336**	*iP*			**Pn**	**20 42 29.1**	**+0.6**
LLGN				IAML				20 42 56.4	
	comp=Z,20μm,1.0s								
INTHN	**La Esperanza I**	**1.67**	**5**	⇓*iP*			**Pn**	**20 42 30.7**	**+1.7**
COPN	**Copaltepe**	**1.70**	**105**	⇓*iP*			**Pn**	**20 42 28.9**	**-0.2**
COPN				IAML				20 42 57.6	
	comp=Z,22μm,1.0s								
BC84	**Volcan Momotom**	**1.70**	**98**	*iP*			**Pn**	**20 42 29.2**	**+0.1**
BC84				*i* S			**Sn**	**20 42 51.0**	**+1.2**
BC84				IAML				20 42 53.8	
	comp=Z,22μm,1.0s								
BC86	**Nagarote**	**1.70**	**102**	*iP*			**Pn**	**20 42 29.2**	**+0.1**
BC86				*i* S			**Sn**	**20 42 51.2**	**+1.4**
BC86				IAML				20 42 58.0	
	comp=Z,47μm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.71**	**34**	Pn			**Pn**	**20 42 30.9**	**+1.5**
TGUH	**Tegucigalpa,Un**	**1.71**	**34**	IAML				20 43 34.7	
	comp=Z,41μm,1.0s								
MOM2	**El Cardon**	**1.75**	**96**	⇓*iP*			**Pn**	**20 42 30.1**	**+0.3**
MOM2				*i* S			**Sn**	**20 42 52.3**	**+1.4**
MOM2				IAML				20 43 11.8	
	comp=Z,18μm,1.0s								
CEVE	**Cerro Verde**	**1.77**	**312**	*eP*			**Pn**	**20 42 30.3**	**-0.1**
CEVE	**Cerro Verde**	**1.77**	**312**	⇓*iP*			**Pn**	**20 42 30.3**	**-0.1**
CEVE				*i* S			**Sn**	**20 42 51.7**	**-0.2**
CEVE				IAML				20 43 11.2	
	comp=Z,40μm,1.0s								
SBLS	**San Blas**	**1.78**	**312**	*eP*			**Pn**	**20 42 30.4**	**0.0**
SOMN	**Somoto**	**1.79**	**64**	*iP*			**Pn**	**20 42 33.2**	**+2.8**
SOMN				IAML				20 42 34.1	
	comp=Z,7μm,1.0s								
SNJE	**San Jose**	**1.79**	**313**	*eP*			**Pn**	**20 42 30.5**	**0.0**
UNIC	**Universidad Ca**	**1.83**	**317**	*iP*			**Pn**	**20 42 31.4**	**+0.5**
UNIC				*i* S			**Sn**	**20 42 53.5**	**+0.5**
UNIC				IAML				20 43 01.8	
	comp=Z,7μm,1.0s								
AMTN	**Mateare**	**1.83**	**102**	*iP*			**Pn**	**20 42 31.7**	**+0.8**
AMTN				*i* S			**Sn**	**20 42 54.3**	**+1.3**
AMTN				IAML				20 43 13.2	
	comp=Z,69μm,1.0s								
RTR	**El Retiro**	**1.84**	**313**	*eP*			**Pn**	**20 42 31.2**	**0.0**
BRAN	**Las Pilas**	**1.87**	**87**	*iP*			**Pn**	**20 42 32.4**	**+1.0**
BRAN				*i* S			**Sn**	**20 42 57.0**	**+3.1**
BRAN				IAML				20 42 58.1	
	comp=Z,15μm,1.0s								
SAPS	**Ciudad Sandino**	**1.88**	**104**	⇓*iP*			**Pn**	**20 42 31.4**	**-0.1**
SAPS				*i* S			**Sn**	**20 42 54.9**	**+0.8**
SAPS				IAML				20 43 01.5	
	comp=Z,44μm,1.0s								
APQ3	**Volcan Apoyequ**	**1.89**	**101**	⇓*iP*			**Pn**	**20 42 31.7**	**0.0**
APQ3				*i* S			**Sn**	**20 42 55.4**	**+1.1**
APQ3				IAML				20 43 03.0	
	comp=Z,30μm,1.0s								
LIMN	**Finca el Limon**	**1.90**	**77**	⇓*iP*			**Pn**	**20 42 32.6**	**+0.7**
LIMN				IAML				20 43 28.8	
	comp=Z,18μm,1.0s								
YUSH	**Yuscaran**	**1.90**	**46**	⇓*iP*			**Pn**	**20 42 33.6**	**+1.6**
APYN	**Apoyeque**	**1.91**	**102**	⇓*iP*			**Pn**	**20 42 32.4**	**+0.4**
APYN				IAML				20 43 03.6	
	comp=Z,920nm,1.0s								
BC87	**San Francisco**	**1.93**	**94**	*iP*			**Pn**	**20 42 32.6**	**+0.3**
BC87				*i* S			**Sn**	**20 42 57.1**	**+1.7**
BC87				IAML				20 43 09.3	
	comp=Z,21μm,1.0s								
NUBE	**Las Nubes**	**1.94**	**311**	*eP*			**Pn**	**20 42 32.4**	**-0.2**
NUBE				*eS*			**Sn**	**20 42 54.4**	**-1.4**
NUBE	**Las Nubes**	**1.94**	**311**	⇓*iP*			**Pn**	**20 42 32.3**	**-0.2**
NUBE				*i* S			**Sn**	**20 42 55.0**	**-0.8**
NUBE				IAML				20 42 56.3	
	comp=Z,80μm,1.0s								
APQ2	**Apoyeque**	**1.94**	**103**	⇓*iP*			**Pn**	**20 42 32.4**	**0.0**
APQ2				*i* S			**Sn**	**20 42 56.6**	**+0.9**
APQ2				IAML				20 43 05.5	
	comp=Z,32μm,1.0s								
ABCN	**Banco Central**	**1.98**	**105**	*iP*			**Pn**	**20 42 33.2**	**+0.3**
ABCN				IAML				20 42 59.1	
	comp=Z,57μm,1.0s								
RE6B4	**Centro civico**	**1.99**	**105**	*iP*			**Pn**	**20 42 33.6**	**+0.5**
RE6B4				IAML				20 43 06.9	
	comp=Z,30μm,1.0s								
ALLN	**Telcor Managua**	**2.00**	**104**	*iP*			**Pn**	**20 42 33.7**	**+0.4**
ALLN				IAML				20 43 06.9	
	comp=Z,32μm,1.0s								
RB28C	**Hialeah**	**2.01**	**105**	*iP*			**Pn**	**20 42 33.6**	**+0.3**
RB28C				IAML				20 43 10.6	
	comp=Z,24μm,1.0s								
TISN	**Laguna Tiscapa**	**2.01**	**104**	*iP*			**Pn**	**20 42 33.6**	**+0.2**
TISN				IAML				20 42 58.6	
	comp=Z,2μm,1.0s								
USIM	**UNAN**	**2.01**	**105**	*iP*			**Pn**	**20 42 33.6**	**+0.2**
USIM				*i* S			**Sn**	**20 42 58.2**	**+0.8**
USIM				IAML				20 43 10.5	
	comp=Z,42μm,1.0s								
UNAN	**Cigeo UNAN**	**2.02**	**105**	*iP*			**Pn**	**20 42 33.9**	**+0.4**
UNAN				IAML				20 43 02.9	
	comp=Z,200μm,1.0s								
ENAN	**Enatrel Managu**	**2.02**	**105**	*iP*			**Pn**	**20 42 34.1**	**+0.5**
ENAN				*i* S			**Sn**	**20 42 58.3**	**+0.6**
ENAN				IAML				20 43 06.0	
	comp=Z,58μm,1.0s								
MGA1	**Managua**	**2.03**	**104**	*iP*			**Pn**	**20 42 34.0**	**+0.4**
MGA1				IAML				20 42 59.6	
	comp=Z,24μm,1.0s								
R4DEC	**Barrio San Lui**	**2.03**	**104**	*iP*			**Pn**	**20 42 33.6**	**0.0**
R4DEC				*i* S			**Sn**	**20 42 58.5**	**+0.7**
R4DEC				IAML				20 42 59.6	
	comp=Z,21μm,1.0s								
R0529	**La Mascota**	**2.05**	**104**	*iP*			**Pn**	**20 42 34.1**	**+0.3**
R0529				IAML				20 43 00.3	
	comp=Z,22μm,1.0s								
MTO3	**Montecristo**	**2.05**	**329**				**Pn**	**20 42 34.9**	**+0.7**
MTO3	**Montecristo**	**2.05**	**329**	*iP*			**Pn**	**20 42 34.7**	**+0.6**
MTO3				*i* S			**Sn**	**20 42 59.8**	**+1.2**
MTO3				IAML				20 43 05.8	
	comp=Z,14μm,1.0s								
MAFN	**Magfor**	**2.05**	**105**	*iP*			**Pn**	**20 42 34.5**	**+0.6**
MAFN				IAML				20 43 08.5	
	comp=Z,38μm,1.0s								
WILN	**Americas 2**	**2.08**	**103**	*iP*			**Pn**	**20 42 34.6**	**+0.3**
WILN				*i* S			**Sn**	**20 43 00.7**	**+1.6**
WILN				IAML				20 43 07.5	
	comp=Z,21μm,1.0s								
AERN	**Aeropuerto Man**	**2.11**	**103**	*iP*			**Pn**	**20 42 35.3**	**+0.6**
AERN				*i* S			**Sn**	**20 43 01.0**	**+1.3**
AERN				IAML				20 43 08.6	
	comp=Z,38μm,1.0s								
RB213	**Mirador 2 Volc**	**2.15**	**107**	*iP*			**Pn**	**20 42 33.3**	**-2.0**
RB213				IAML				20 43 08.0	
	comp=Z,26μm,1.0s								
MASN	**Masaya**	**2.16**	**107**	*iP*			**Pn**	**20 42 35.9**	**+0.4**
MASN				IAML				20 43 04.3	
	comp=Z,5μm,1.0s								
SBEN	**San Benito**	**2.18**	**98**	*iP*			**Pn**	**20 42 35.6**	**-0.1**
SBEN				*i* S			**Sn**	**20 43 02.4**	**+0.9**
SBEN				IAML				20 43 21.1	
	comp=Z,27μm,1.0s								
NANN	**Nandasmo**	**2.21**	**108**	*iP*			**Pn**	**20 42 37.1**	**+1.0**
NANN				*i* S			**Sn**	**20 43 02.6**	**+0.4**
NANN				IAML				20 43 06.2	
	comp=Z,360μm,1.0s								
BOAB	**BOACO BROADBAN**	**2.54**	**94**	Pn			**Pn**	**20 42 40.2**	**-0.4**
BOAB	**BOACO BROADBAN**	**2.54**	**94**	*iP*			**Pn**	**20 42 40.7**	**0.0**
BOAB				*i* S			**Sn**	**20 43 12.3**	**+1.8**
BOAB				IAML				20 43 47.4	
	comp=Z,7μm,1.0s								
ARIN	**Rivas**	**2.65**	**116**	*iP*			**Pn**	**20 42 43.1**	**+1.0**
ARIN				IAML				20 43 42.1	
	comp=Z,7μm,1.0s								
JAPN	**Al SSO del Vol**	**2.76**	**113**	*iP*			**Pn**	**20 42 44.4**	**+0.8**
JAPN				IAML				20 43 27.8	
	comp=Z,7μm,1.0s								
MRL	**Marmol**	**2.79**	**331**	*eP*			**Pn**	**20 42 46.4**	**+2.1**
NBG	**Las Nubes**	**2.80**	**314**	*eP*			**Pn**	**20 42 46.5**	**+2.0**
PCG	**Pacaya**	**2.87**	**308**	*eP*			**Pn**	**20 42 47.2**	**+1.9**
PCG				*eS*			Sn	20 43 02.1	-17
FUG	**Fuego 3**	**3.08**	**306**	*eP*			**Pn**	**20 42 49.4**	**+1.1**
ACON	**Acoyapa**	**3.09**	**102**	Pn			**Pn**	**20 42 47.6**	**-0.6**
ACON	**Acoyapa**	**3.09**	**102**	*iP*			**Pn**	**20 42 48.2**	**0.0**
ACON				IAML				20 43 33.6	
	comp=Z,4μm,1.0s								
APG	**El Apazote**	**3.18**	**318**	P			**Pn**	**20 42 50.6**	**+1.1**
	comp=Z,9.9nm,0.5s,baz=122,slow=6.5,SNR=77								
APG				S			**Sn**	**20 43 31.1**	**+4.7**
	comp=Z,134nm,0.7s,baz=315,slow=16,SNR=6.8								
SULM	**Suchitepequez,**	**3.61**	**298**	*eP*			**Pn**	**20 42 58.5**	**+3.2**
SULM				*eS*			Sn	20 43 17.7	-19
JUD3	**Juan Diaz 3**	**3.63**	**132**				**Pn**	**20 42 56.5**	**+0.8**
STG3	**Santiaguito 3,**	**3.82**	**303**	*eP*			**Pn**	**20 42 59.4**	**+1.1**
STG3				*eS*			Sn	20 43 21.4	-21
RTAL	**Retalhuleu**	**3.83**	**300**	Pn			**Pn**	**20 43 00.0**	**+

SMRC Santa Marta, M 13.82 95 P **P 20 45 22.5 +0.5**
comp=Z,41nm,1.1s
CBOC Ciudad Bolivar 13.84 118 P **Pn 20 45 17.1 +1.6**
comp=Z,33nm,0.7s,comp=Z,597nm
PLMC San Jos del P 14.11 122 P **Pn 20 45 19.6 +0.5**
comp=Z,37nm,1.1s,comp=Z,2µm
ZARC Zaragoza, Cauc 14.15 110 P **Pn 20 45 22.3 +2.7**
comp=Z,26nm,0.7s,comp=Z,608nmcomp=Z,3µm
JRQG Juriquilla Cam 14.15 306 Pn 20 45 21.3 +1.5
GTBY Guantanamo Bay 14.55 58 Pn 20 45 25.5 +0.7
GUY2C Guyana, Caldas 14.71 119 P **Pn 20 45 29.3 +1.9**
comp=Z,98nm,0.8s,comp=Z,800nmcomp=Z,2µm
JAMC Jamundi, Valle 14.80 128 P **Pn 20 45 29.7 +1.3**
comp=Z,125nm,0.9s,comp=Z,1µmcomp=Z,2µm
061Z Ochoppi 14.87 27 Pn 20 45 28.6 -0.3
NMDO Nuevo Mundo 14.96 56 P **P 20 45 34.5 -0.2**
CRJC Cerrejon, Guaj 15.14 94 P **P 20 45 36.7 -0.1**
comp=Z,299nm,0.7s,comp=Z,3µm
OCAC Ocana 15.33 105 P **P 20 45 39.2 +0.2**
comp=Z,149nm,0.7s,comp=Z,2µm
ORTC Ortega, Tolima 15.52 123 P **P 20 45 39.6 -1.4**
comp=Z,136nm,1.1s,comp=Z,2µmcomp=Z,3µm
SPBC San Pablo de B 15.63 115 P **P 20 45 42.1 -0.2**
comp=Z,44nm,0.7s,comp=Z,817nm
OTAV Otavalo 15.70 141 *e*P **Pn 20 45 41.1 +0.9**
TULM Tulcn-Chalpat 15.76 138 P **P 20 45 44.4 +0.4**
ROSC El Rosal 15.80 118 P **P 20 45 43.9 -0.6**
comp=Z,53nm,0.9s,baz=55,slow=2.8,SNR=16
ROSC LR LR 20 52 20.6
comp=Z,1µm,19.7s,baz=326,slow=40
ROSC El Rosal 15.80 118 P **P 20 45 45.7 +1.2**
comp=Z,77nm,1.3s,comp=Z,1µm
IMBA Imbabura, San 15.83 140 P **P 20 45 45.4 +0.6**
IMBA IAmb IAmb 20 45 50.9
comp=Z,144nm,0.8s
PULU Pululahua 15.84 142 P **P 20 45 44.4 -0.5**
PULU IAmb IAmb 20 45 49.6
comp=Z,354nm,1.1s
PRAC Prado 15.93 123 P **P 20 45 44.1 -1.4**
comp=Z,40nm,0.7s,comp=Z,1µm
URIC Uribia, Colomb 15.94 92 P **P 20 45 45.7 +0.2**
comp=Z,118nm,1.3s,comp=Z,1µmcomp=Z,3µm
BETC Betania 16.09 127 P **P 20 45 51.8 +4.5**
060A Indiantown 16.13 26 P **Pn 20 45 46.2 +1.1**
PAMC Pamplona, Colo 16.20 107 P **P 20 45 48.8 -0.2**
comp=Z,47nm,1.0s,comp=Z,19µm
CHIC Chingaza 16.41 118 P **P 20 45 50.9 -0.4**
comp=Z,51nm,1.2s,comp=Z,942nm
SLOR San Lorenzo - 16.44 143 P **P 20 45 52.5 +0.8**
ANTS Antisana-Sarah 16.45 142 P **P 20 45 51.6 -0.3**
DWPF Disney Wildern 16.66 21 P **P 20 45 53.6 +0.1**
baz=204
VILC Villavicencio, 16.71 119 P **P 20 45 55.3 +1.0**
PIAT Ana Tenorio 16.80 143 P **P 20 46 00.1 +4.6**
comp=Z,9.1nm,1.1s,comp=Z,158nmcomp=Z,1µm
HBVL Hebbronville 17.36 327 P 20 46 02.7 +1.5
656A Willston 17.48 17 P **P 20 46 03.2 +0.7**
656A IAmb IAmb 20 46 10.9
comp=Z,366nm,1.0s
SDDR Presa de Saban 17.50 67 *i*P **P 20 46 07.7 +4.8**
SDV Santo Domingo 17.72 100 P **Pn 20 46 02.1 -3.0**
comp=Z,36nm,0.7s,baz=269,slow=4.2,SNR=16
SDV S **Sn 20 49 22.5 +0.5**
comp=Z,4.7nm,0.3s,baz=157,slow=23,SNR=0.9
SDV LR LR 20 54 55.0
comp=Z,974nm,18.3s,baz=283,slow=44
SDV Santo Domingo 17.72 100 P **P 20 46 06.1 +0.6**
comp=Z,103nm,0.8s,comp=Z,2µm
SDV Santo Domingo 17.72 100 *e*P **Pn 20 46 05.0 -0.2**
553A Crawfordville 17.82 11 P **P 20 46 07.2 +0.9**
553A IAmb IAmb 20 46 14.1
comp=Z,226nm,1.0s
PTGC Puerto Gaitan, 18.01 116 P **Pn 20 46 08.8 +0.2**
comp=Z,121nm,1.0s,comp=Z,1µm
451A Vernon 18.04 7 P **Pn 20 46 11.1 +2.3**
451A IAmb IAmb 20 46 15.8
comp=Z,155nm,0.9s
BRAL Brewton 18.48 3 P **Pn 20 46 15.1 +1.0**
baz=184
HKT Hockley 18.60 339 P **Pn 20 46 18.0 +2.4**
HKT pmax pmax
comp=Z,88nm,1.5s
346A Big Creek Wild 18.69 357 IAmb IAmb 20 46 22.3
comp=Z,208nm,1.3s
833A Chaparral WMA, 18.75 328 Pn 20 46 17.9 +0.5
833A IAmb IAmb 20 46 20.6
comp=Z,184nm,1.1s
833A Chaparral WMA, 18.75 328 P **Pn 20 46 18.3 +0.9**
baz=144,SNR=52
456A Hilliard 18.90 17 P **P 20 46 18.5 +0.3**
352A Blakely 19.00 9 IAmb IAmb 20 46 25.7
comp=Z,208nm,0.9s
TIGA Tifton 19.20 12 P **Pn 20 46 22.4 -0.4**
TIGA IAmb IAmb 20 46 28.6
comp=Z,229nm,1.0s
TIGA Tifton 19.20 12 P **Pn 20 46 24.4 +1.6**
baz=194
HNVL Huntsville, TX 19.22 341 P **Pn 20 46 23.4 +0.3**
VBMS Vicksburg 19.60 354 P **Pn 20 46 29.1 +1.6**
baz=173,SNR=9.0
HNDO Hondo 19.68 330 P **Pn 20 46 27.7 -0.8**
HNDO IAmb IAmb 20 46 40.8
comp=Z,105nm,0.8s
146A Union 19.92 358 IAmb IAmb 20 46 46.2
comp=Z,201nm,0.9s
NATX Nacogdoches 19.92 344 P **Pn 20 46 31.4 0.0**
baz=161
435B Jarrell 20.01 336 IAmb IAmb 20 46 45.7
comp=Z,129nm,1.1s
435B Jarrell 20.01 336 P Pn 20 46 31.6 -0.7
baz=152
BAUV El Baul 20.20 98 P **P 20 46 30.7 -1.8**
BAUV IAmb IAmb 20 46 39.4
comp=Z,106nm,0.6s
DRIO Del Rio 20.27 327 P **P 20 46 33.6 +0.5**
DRIO IAmb IAmb 20 46 39.7
comp=Z,116nm,0.9s
LRAL Lakeview Retre 20.34 3 P Pn 20 46 35.4 -0.8
LRAL IAmb IAmb 20 46 51.3
comp=Z,129nm,1.1s
LRAL Lakeview Retre 20.34 3 P Pn 20 46 36.5 +0.3
baz=183,SNR=23
Z47A Carrollton 20.47 0 IAmb IAmb 20 46 52.5
comp=Z,280nm,1.2s
237A Washetta, Mont 20.48 341 IAmb IAmb 20 46 51.8
comp=Z,192nm,1.1s
JCT Junction City 20.72 331 P **P 20 46 38.6 +0.6**
JCT IAmb IAmb 20 46 43.7
comp=Z,134nm,0.7s
JCT Junction City 20.72 331 P **P 20 46 38.9 +1.0**
baz=146,SNR=31
JCT Junction City 20.72 331 P **P 20 46 38.6 +0.6**
JCT pmax pmax
comp=Z,134nm,0.7s
BRDY Brady 21.03 334 P **P 20 46 42.3 +1.0**
BRDY IAmb IAmb 20 46 46.5
comp=Z,67nm,0.7s
WHTX Lake Whitney, 21.03 338 P **P 20 46 42.0 +0.7**
WHTX Lake Whitney, 21.03 338 P **P 20 46 42.5 +1.2**
baz=154,SNR=13
MLPR Magueyes Islan 21.14 73 P **P 20 46 42.5 0.0**
MLPR IAmb IAmb 20 47 01.1
comp=Z,269nm,1.7s
GOGA Godfrey 21.14 11 P **P 20 46 44.1 +1.7**
GOGA IAmb IAmb 20 47 00.2
comp=Z,172nm,0.8s
GOGA Godfrey 21.14 11 P **P 20 46 44.9 +2.5**
baz=193,SNR=55
GOGA Godfrey 21.14 11 P **P 20 46 44.1 +1.7**
GOGA pmax pmax
comp=Z,173nm,0.8s
Y49A Blount Mountai 21.19 4 IAmb IAmb 20 47 02.3
comp=Z,399nm,1.8s
Z38A Mt. Pleasant 21.43 344 IAmb IAmb 20 47 04.7
comp=Z,148nm,1.1s
Y52A Lilburn 21.47 10 P **P 20 46 47.9 +1.9**
AOPR Arecibo Observ 21.48 72 P **P 20 46 46.9 +0.6**
AOPR IAmb IAmb 20 47 03.9
comp=Z,136nm,1.3s
SAND Sanderson 21.50 325 P **P 20 46 47.6 +1.3**
UUPR Utuado, UPR, P 21.50 72 IAmb IAmb 20 46 50.5
comp=Z,73nm,0.8s
OBIP Obispado Ponce 21.56 73 P **P 20 46 47.7 +0.6**
CELP Cerrillos 21.59 73 P **P 20 46 47.7 +0.3**
NHSC New Hope 21.68 19 P **P 20 46 50.4 +2.3**
baz=202

X48A Hartselle 21.74 3 IAmb IAmb 20 47 05.8
comp=Z,102nm,1.1s
FW07 Weatherford 21.79 338 IAmb IAmb 20 46 54.0
comp=Z,84nm,0.8s
OXF Oxford 21.80 357 P **P 20 46 50.9 +1.4**
OXF IAmb IAmb 20 47 10.5
comp=Z,175nm,0.8s
OXF Oxford 21.80 357 P **P 20 46 50.7 +1.2**
baz=177,SNR=16
OXF Oxford 21.80 357 P **P 20 46 50.9 +1.4**
OXF pmax pmax
comp=Z,175nm,0.9s
TXAR Lajitas Array 21.93 322 P **P 20 46 53.0 +1.9**
TXAR Lajitas Array 21.93 322 P **P 20 46 52.6 +1.6**
comp=Z,62nm,0.8s,baz=139,slow=9.8,SNR=447
TXAR PcP **PcP 20 50 49.8 +1.2**
comp=Z,12nm,1.0s,baz=153,slow=3.0,SNR=7.7
TXAR ScP **ScP 20 54 23.1 +1.4**
comp=Z,1.0nm,0.9s,baz=154,slow=7.0,SNR=3.7
TXAR LR LR 20 57 16.7
comp=Z,282nm,21.3s,baz=125,slow=42
comp=Z,62nm,0.8s
TX31 Lajitas Ar. Si 21.93 322 P **P 20 46 53.1 +2.0**
TX31 IAmb IAmb 20 46 55.3
comp=Z,99nm,1.1s
FPAL Fort Paine 21.94 6 P **P 20 46 52.5 +1.5**
FPAL IAmb IAmb 20 47 08.8
comp=Z,263nm,1.5s
FW06 Azle 21.95 339 P **P 20 46 52.8 +1.6**
FW06 IAmb IAmb 20 46 56.4
comp=Z,83nm,0.8s
ATAH Atahualpa 21.96 153 P **P 20 46 52.4 +0.6**
comp=Z,19nm,0.8s,baz=341,slow=10,SNR=11
ATAH LR LR 20 54 27.2
comp=Z,2µm,21.4s,baz=338,slow=34
comp=Z,19nm,0.8s
SJG San Juan 22.00 73 P **P 20 46 51.6 -0.1**
SJG San Juan 22.00 73 P **P 20 46 47.9 -3.9**
comp=Z,12nm,0.4s,baz=277,slow=4.2,SNR=13
SJG S **S 20 50 48.3 -3.4**
comp=Z,12nm,0.2s,baz=324,slow=18,SNR=3.8
SJG LR LR 20 55 40.3
comp=Z,1µm,21.2s,baz=264,slow=38
comp=Z,12nm,0.4s
SJG San Juan 22.00 73 P **P 20 46 51.7 -0.1**
SJG pmax pmax
comp=Z,63nm,1.0s
IGPR InterUniversit 22.01 73 IAmb IAmb 20 47 13.0
comp=Z,252nm,1.9s
PLPT Palo Pinto 22.09 337 P **P 20 46 53.9 +1.2**
PLPT IAmb IAmb 20 46 56.5
comp=Z,118nm,0.9s
X40A Basin Creek Fa 22.14 350 P **P 20 46 54.0 +0.8**
X40A IAmb IAmb 20 47 11.8
comp=Z,111nm,1.3s
Z35A Perchaven, San 22.18 340 IAmb IAmb 20 46 57.6
comp=Z,135nm,0.8s
HODGE Hodges 22.18 13 P **P 20 46 55.4 +1.8**
FW03 Perrin-Whitt E 22.20 338 P **P 20 46 54.9 +1.0**
FW03 IAmb IAmb 20 46 57.7
comp=Z,71nm,0.9s
PLAL Pickwick Lake 22.25 0 P **P 20 46 54.2 -0.1**
HUMP Col San Antoni 22.28 73 P **P 20 46 55.1 +0.2**
MIAR Mount Ida 22.34 348 P **P 20 46 56.1 +0.8**
MIAR IAmb IAmb 20 47 14.4
comp=Z,134nm,0.9s
MIAR Mount Ida 22.34 348 P **P 20 46 56.9 +1.6**
baz=166,SNR=32
MIAR Mount Ida 22.34 348 P **P 20 46 56.1 +0.8**
MIAR pmax pmax
comp=Z,134nm,0.9s
UALR University of 22.35 351 P **P 20 46 56.7 +1.3**
UALR IAmb IAmb 20 47 00.4
comp=Z,96nm,0.8s
ABTX Abilene, Hawle 22.46 334 P **P 20 46 57.1 +0.4**
ABTX IAmb IAmb 20 47 00.5
comp=Z,120nm,0.9s
ABTX Abilene, Hawle 22.46 334 P **P 20 46 56.7 0.0**
baz=150,SNR=21
SGCY Sterling City 22.54 330 P **P 20 46 56.8 -0.7**
SGCY IAmb IAmb 20 47 01.1
comp=Z,132nm,0.8s
W52A Murphy 22.70 9 IAmb IAmb 20 47 24.7
comp=Z,159nm,1.2s
WHAR Wooly Hollow 22.84 351 P **P 20 47 01.8 +1.1**
WHAR IAmb IAmb 20 47 16.4
comp=Z,117nm,1.0s
MNHN Monahans 22.91 327 P **P 20 47 01.4 0.0**
CPCT Cooper Cave 22.96 8 IAmb IAmb 20 47 19.9
comp=Z,267nm,1.4s
SN05 Snyder 5 23.22 332 P **P 20 47 04.1 -0.4**
APMT Aspermont 23.27 334 P **P 20 47 04.8 -0.1**
APMT IAmb IAmb 20 47 21.9
comp=Z,118nm,0.9s
KMSC Kings Mountain 23.27 14 IAmb IAmb 20 47 21.4
comp=Z,166nm,0.9s
KMSC Kings Mountain 23.27 14 P **P 20 47 06.6 +1.7**
baz=197,SNR=35
TKL Tuckaleechee C 23.28 9 P **P 20 47 06.1 +1.1**
TKL Tuckaleechee C 23.28 9 LR LR 20 57 41.3
comp=Z,510nm,18.6s,baz=200,slow=41
TKL Tuckaleechee C 23.28 9 P **P 20 47 06.1 +1.1**
TKL pmax pmax
comp=Z,173nm,0.9s
GNAR Gosnell 23.28 356 P **P 20 47 05.0 0.0**
PCRV Puerto La Cruz 23.29 94 LR LR 20 59 27.5
comp=Z,907nm,18.1s,slow=46
SLBS Sierra La Lagu 23.31 301 P **P 20 47 07.7 +2.1**
WVT Waverly 23.39 1 P **P 20 47 05.8 -0.3**
WVT IAmb IAmb 20 47 31.9
comp=Z,128nm,1.6s
WVT Waverly 23.39 1 P **P 20 47 05.7 -0.3**
baz=181
WVT Waverly 23.39 1 P **P 20 47 05.8 -0.3**
WVT pmax pmax
comp=Z,128nm,1.6s
SN07 Snyder 07 23.41 332 IAmb IAmb 20 47 21.2
comp=Z,92nm,0.8s
FCAR Ozark Folk Cen 23.41 352 P **P 20 47 06.4 +0.1**
FCAR IAmb IAmb 20 47 29.9
comp=Z,126nm,1.0s
CLTN Cedars of Leba 23.42 4 IAmb IAmb 20 47 22.4
comp=Z,58nm,0.9s
V53A Saluda 23.45 11 IAmb IAmb 20 47 25.5
comp=Z,150nm,1.1s
LCAR Lake Charles 23.48 354 P **P 20 47 06.6 -0.2**
LCAR IAmb IAmb 20 47 23.8
comp=Z,117nm,1.3s
V52A Sevierville 23.48 10 IAmb IAmb 20 47 23.8
comp=Z,121nm,1.0s
PECS Pecos 23.54 325 IAmb IAmb 20 47 11.8
comp=Z,79nm,1.0s
W57A Gilead 23.64 17 P **P 20 47 09.5 +1.2**
W57A IAmb IAmb 20 47 24.2
comp=Z,132nm,0.9s
VHRN Van Horn 23.77 322 P **P 20 47 10.3 +0.5**
LPIG La Paz 23.79 302 LR LR 20 57 30.0
comp=Z,615nm,19.6s,baz=118,slow=39
U49A Red Boiling Sp 23.88 5 IAmb IAmb 20 47 28.5
comp=Z,104nm,0.9s
WMOK Wichita Mounta 23.98 338 P 20 47 11.9 +0.3
WMOK IAmb IAmb 20 47 13.5
comp=Z,76nm,1.0s
WMOK Wichita Mounta 23.98 338 P **P 20 47 12.2 +0.6**
baz=154,SNR=81
WMOK Wichita Mounta 23.98 338 P **P 20 47 11.9 +0.3**
WMOK pmax pmax
comp=Z,76nm,1.0s
FNO Franklin 23.99 341 IAmb IAmb 20 47 15.9
comp=Z,128nm,0.9s
PBMO Poplar Bluff 24.12 356 IAmb IAmb 20 47 28.3
comp=Z,107nm,0.9s
W59A Clinton 24.13 20 IAmb IAmb 20 47 28.9
comp=Z,122nm,1.1s
TUL3 Leonard 24.15 345 IAmb IAmb 20 47 46.2
comp=Z,129nm,1.1s
TUL3 Leonard 24.15 345 P **P 20 47 13.4 +0.4**
baz=162,SNR=7.1
TZTN Tazewell 24.18 9 P **P 20 47 14.3 +1.0**
baz=191,SNR=14
RLO Rose Lookout 24.20 347 IAmb IAmb 20 47 17.8
comp=Z,344nm,1.9s
DEOK Depew 24.27 344 P 20 47 14.0 -0.1
DEOK IAmb IAmb 20 47 42.9
comp=Z,106nm,1.2s
U38A Gravette 24.33 348 P **P 20 47 14.1 -0.7**

U38A IAmb IAmb 20 47 31.6
comp=Z,71nm,0.9s
U38A **PcP 20 50 51.6 -1.8**
CNNC Cliffs of the 24.38 21 P **P 20 47 16.1 +1.0**
baz=205
T42A Van Buren 24.42 355 IAmb IAmb 20 47 30.0
comp=Z,62nm,0.9s
OK031 S. Brethren Rd 24.47 343 IAmb IAmb 20 47 30.9
comp=Z,62nm,0.7s
V58A Windy Hill, Pi 24.49 18 P **P 20 47 16.8 +0.7**
OK052 Battle Ridge R 24.50 343 IAmb IAmb 20 47 33.6
comp=Z,95nm,0.8s
OK029 Liberty Lake 24.50 342 IAmb IAmb 20 47 19.6
comp=Z,91nm,0.9s
CGM3 Cape Girardeau 24.59 357 IAmb IAmb 20 47 38.7
comp=Z,56nm,1.0s
QUOK Quay 24.64 343 IAmb IAmb 20 47 35.0
comp=Z,121nm,1.0s
MNTX Cornudas Mount 24.66 323 P **P 20 47 18.0 +0.3**
baz=136,SNR=80
MGMO Mountain Grove 24.68 352 P **P 20 47 17.8 -0.1**
TBTG Tabatinga, AM 24.74 131 *e*P **P 20 47 19.8 +1.1**
SMRT St. Maarten 24.87 74 IAmb IAmb 20 47 34.1
comp=Z,83nm,0.8s
OK048 Pawnee Station 24.93 343 IAmb IAmb 20 47 24.5
comp=Z,107nm,0.9s
S44A Carbondale 24.97 358 IAmb IAmb 20 47 35.8
comp=Z,130nm,1.0s
MSTX Muleshoe 25.01 330 P **P 20 47 21.7 +0.6**
baz=145,SNR=90
USIN University of 25.23 1 P **P 20 47 22.5 -0.3**
USIN IAmb IAmb 20 47 37.5
comp=Z,93nm,0.7s
S51A Beattyville 25.25 9 IAmb IAmb 20 47 49.6
comp=Z,100nm,1.0s
AMTX Amarillo 25.27 333 P **P 20 47 24.3 +0.9**
baz=148
CROK Carrier 25.32 341 P 20 47 23.3 -0.5
CROK IAmb IAmb 20 47 46.8
comp=Z,58nm,0.9s
ELIS Ellis County 25.40 339 IAmb IAmb 20 47 28.7
comp=Z,124nm,1.1s
CCM Cathedral Cave 25.45 355 P **P 20 47 24.2 -0.7**
CCM IAmb IAmb 20 47 39.5
comp=Z,102nm,0.9s
CCM Cathedral Cave 25.45 355 P **P 20 47 24.7 -0.2**
baz=173
CCM Cathedral Cave 25.45 355 P **P 20 47 24.2 -0.7**
CCM pmax pmax
comp=Z,102nm,1.0s
BLA Blacksburg 25.46 15 P **P 20 47 25.7 +0.7**
BLA Blacksburg 25.46 15 P **P 20 47 26.1 +1.1**
baz=198,SNR=14
BLA Blacksburg 25.46 15 P **P 20 47 25.7 +0.7**
BLA pmax pmax
comp=Z,133nm,0.9s
CZSB Cruzeiro do Su 25.47 142 *e*P **P 20 47 28.0 +2.7**
U32A Winter Ranch, 25.54 340 IAmb IAmb 20 47 30.8
comp=Z,54nm,0.8s
OK038 West end E0370 25.54 340 IAmb IAmb 20 47 41.5
comp=Z,75nm,0.8s
WCI Wyandotte Cave 25.55 4 P **P 20 47 25.3 -0.4**
WCI IAmb IAmb 20 47 40.4
comp=Z,115nm,0.8s
WCI Wyandotte Cave 25.55 4 P **P 20 47 25.6 -0.1**
baz=184
WCI Wyandotte Cave 25.55 4 P **P 20 47 25.3 -0.4**
WCI pmax pmax
comp=Z,115nm,0.9s
KAN13 South Haven SW 25.64 343 IAmb IAmb 20 47 30.6
comp=Z,75nm,0.9s
OK032 Salt Plains WL 25.67 341 IAmb IAmb 20 47 30.6
comp=Z,70nm,0.8s
OK032 **PcP 20 50 55.8 -0.5**
KAN14 Manchester OK 25.73 342 IAmb IAmb 20 47 31.2
comp=Z,67nm,1.0s
KAN17 Caldwell West 25.75 342 IAmb IAmb 20 47 31.5
comp=Z,118nm,1.0s
R40A Maddies Statio 25.80 353 IAmb IAmb 20 47 42.6
comp=Z,56nm,0.8s
S54A Dingess, Beckl 25.82 13 P **P 20 47 28.3 +0.1**
S54A IAmb IAmb 20 47 48.7
comp=Z,103nm,0.8s
KAN01 Argonia South 25.85 342 IAmb IAmb 20 47 33.1
comp=Z,86nm,0.8s
KAN08 Anthony NE Sta 25.98 342 IAmb IAmb 20 47 34.4
comp=Z,76nm,0.8s
OLIL Olney 25.99 0 IAmb IAmb 20 47 44.5
comp=Z,87nm,0.8s
KAN12 Harper NE Stat 26.06 342 IAmb IAmb 20 47 35.1
comp=Z,105nm,0.8s
T59A Double "B" Far 26.07 20 P **P 20 47 30.3 -0.1**
Q44A Meyer Farm, Va 26.17 359 IAmb IAmb 20 47 45.9
comp=Z,118nm,0.8s
SSFO Shawnee State 26.34 9 IAmb IAmb 20 47 55.2
comp=Z,114nm,1.1s
S57A Dark Hollow, R 26.36 17 P **P 20 47 32.9 -0.3**
S57A IAmb IAmb 20 48 10.2
comp=Z,71nm,1.2s
BLO Bloomington 26.47 3 IAmb IAmb 20 47 48.5
comp=Z,58nm,1.0s
R55A Marlinton 26.55 14 IAmb IAmb 20 47 51.1
comp=Z,83nm,0.9s
121A Cookes Peak, D 26.69 321 IAmb IAmb 20 47 42.7
comp=Z,51nm,0.9s
121A Cookes Peak, D 26.69 321 P **P 20 47 38.3 +2.0**
baz=133,SNR=39
Q52A Bidwell 26.75 10 IAmb IAmb 20 47 52.2
comp=Z,105nm,1.0s
P48A Milroy 26.83 5 IAmb IAmb 20 47 51.5
comp=Z,63nm,0.9s
R58B Mineral 26.87 18 IAmb IAmb 20 47 53.8
comp=Z,75nm,1.0s
319A Douglas 26.88 317 P **P 20 47 39.1 +1.1**
P46A Rosedale 26.89 2 IAmb IAmb 20 48 18.7
comp=Z,66nm,1.1s
NNA Nana 26.96 155 LR LR 20 57 59.4
comp=Z,346nm,18.3s,baz=317,slow=36
P49A Miami Univ. Ec 26.97 6 IAmb IAmb 20 47 52.3
comp=Z,42nm,0.8s
P49A Miami Univ. Ec 26.97 6 P **P 20 47 38.0 -0.6**
baz=188
P40A Paris 26.99 354 IAmb IAmb 20 47 53.2
comp=Z,80nm,0.9s
RTBA Rita Blanca 27.04 334 IAmb IAmb 20 47 57.0
comp=Z,74nm,0.8s
Q54A Coxs Mills 27.05 13 IAmb IAmb 20 47 54.7
comp=Z,72nm,0.6s
P51A Williamsport 27.13 9 IAmb IAmb 20 47 55.0
comp=Z,53nm,0.8s
CBN Corbin Frederi 27.25 19 P **P 20 47 42.4 +1.3**
baz=204
Y22D IRIS PASSCAL I 27.27 325 IAmb IAmb 20 47 57.7
comp=Z,114nm,0.9s
Y22D IRIS PASSCAL I 27.27 325 P **P 20 47 43.5 +2.0**
baz=137
P38A Dawn 27.28 351 IAmb IAmb 20 47 55.9
comp=Z,115nm,1.1s
R32A Long Quarter, 27.31 342 P **P 20 47 41.5 -0.1**
R32A IAmb IAmb 20 48 06.6
comp=Z,51nm,1.1s
KSU1 Kansas State U 27.38 346 IAmb IAmb 20 47 57.8
comp=Z,56nm,0.8s
KSU1 Kansas State U 27.38 346 P **P 20 47 42.1 -0.1**
baz=162
P53A Whipple 27.43 12 IAmb IAmb 20 47 58.5
comp=Z,118nm,1.1s
P52A Corning 27.43 10 IAmb IAmb 20 47 57.9
comp=Z,72nm,0.9s
P52A Corning 27.43 10 P **P 20 47 43.0 +0.3**
baz=193,SNR=6.2
Q56A Snyder Ridge, 27.50 15 IAmb IAmb 20 48 02.0
comp=Z,89nm,0.8s
DUN6 Lazy B Ranch 27.52 319 IAmb IAmb 20 47 51.8
comp=Z,126nm,1.2s
O48B Farmland 27.65 5 P **P 20 47 43.8 -0.8**
baz=186
SFIN Lafayette 27.65 2 P **P 20 47 43.9 -0.7**
SFIN IAmb IAmb 20 48 27.0
comp=Z,75nm,1.1s
SFIN Lafayette 27.65 2 P **P 20 47 43.9 -0.7**
baz=182
ANMO Albuquerque 27.66 326 P **P 20 47 45.9 +0.8**
ANMO Albuquerque 27.66 326 P **P 20 47 46.6 +1.5**
baz=139
ANMO Albuquerque 27.66 326 LR LR 21 00 54.9
comp=Z,324nm,19.0s,baz=216,slow=41

ANMO	**Albuquerque**	**27.66**	**326**	P	**P**	**20 47 45.9 +0.8**
ANMO				pmax	pmax	
	comp=Z,65nm,1.8s					
O49A	**Covington**	**27.66**	**6**	IAmb	IAmb	20 47 59.2
	comp=Z,69nm,0.8s					
HDIL	**Hopedale**	**27.82**	**358**	IAmb	IAmb	20 48 00.6
	comp=Z,94nm,1.2s					
HDIL	**Hopedale**	**27.82**	**358**	P	**P**	**20 47 44.3 -1.9**
	baz=178					
ACSO	**Alum Creek Sta**	**27.88**	**9**	IAmb	IAmb	20 48 01.8
	comp=Z,101nm,0.8s					
ACSO	**Alum Creek Sta**	**27.88**	**9**	P	**P**	**20 47 46.9 +0.2**
	baz=191,SNR=9.6					
MCWV	**Mont Chateau**	**27.92**	**14**	IAmb	IAmb	20 48 02.8
	comp=Z,46nm,0.8s					
MCWV	**Mont Chateau**	**27.92**	**14**	P	**P**	**20 47 47.8 +0.7**
	baz=198,SNR=5.0					
O52A	**Adamsville**	**27.95**	**11**	IAmb	IAmb	20 48 02.6
	comp=Z,109nm,1.0s					
CBKS	**Cedar Bluff**	**27.99**	**341**	P	**P**	**20 47 48.2 +0.4**
	baz=156					
N41A	**Harden Midland**	**28.05**	**356**	IAmb	IAmb	20 48 02.2
	comp=Z,51nm,0.8s					
O53A	**New Philadelph**	**28.20**	**11**	IAmb	IAmb	20 48 04.9
	comp=Z,72nm,0.8s					
O53A	**New Philadelph**	**28.20**	**11**	P	**P**	**20 47 50.2 +0.7**
	baz=194,SNR=12					
N47A	**Urbana**	**28.22**	**4**	IAmb	IAmb	20 48 03.4
	comp=Z,38nm,0.8s					
O54A	**Avella**	**28.30**	**13**	P	**P**	**20 47 50.4 -0.1**
O54A				IAmb	IAmb	20 48 05.8
	comp=Z,60nm,0.8s					
T25A	**Trinidad**	**28.37**	**332**	IAmb	IAmb	20 47 54.4
	comp=Z,51nm,0.8s					
T25A	**Trinidad**	**28.37**	**332**	P	**P**	**20 47 53.2 +1.9**
	baz=145,SNR=43					
N49A	**Columbus Grove**	**28.40**	**7**	IAmb	IAmb	20 48 06.3
	comp=Z,81nm,0.9s					
TEFE	**Tefe**	**28.43**	**123**	*e*P	**P**	**20 47 50.8 -1.1**
TUC	**Tucson**	**28.46**	**317**	P	**P**	**20 47 53.5 +1.4**
	baz=128					
TUC	**Tucson**	**28.46**	**317**	P	**P**	**20 47 56.0 +3.9**
TUC				pmax	pmax	
	comp=Z,36nm,1.0s					
N51A	**Ashland**	**28.64**	**9**	IAmb	IAmb	20 48 08.3
	comp=Z,102nm,1.1s					
N53A	**Lisbon**	**28.81**	**12**	P	**P**	**20 47 54.9 -0.1**
N53A				IAmb	IAmb	20 48 11.7
	comp=Z,40nm,0.8s					
KSCO	**Kaye Shedlock'**	**29.19**	**337**	IAmb	IAmb	20 48 00.9
	comp=Z,72nm,0.8s					
KSCO	**Kaye Shedlock'**	**29.19**	**337**	P	**P**	**20 47 59.6 +1.0**
	baz=150,SNR=12					
MVL	**Millersville**	**29.21**	**19**	IAmb	IAmb	20 48 14.9
	comp=Z,90nm,1.2s					
L42A	**Oliver, Polo**	**29.28**	**358**	IAmb	IAmb	20 48 13.1
	comp=Z,43nm,0.8s					
BOAV	**Boa Vista**	**29.29**	**108**	P	**P**	**20 47 57.3 -2.2**
BOAV	**Boa Vista**	**29.29**	**108**	*e*P	**P**	**20 47 57.8 -1.7**
SSPA	**Standing Stone**	**29.34**	**16**	P	**P**	**20 47 59.8 +0.1**
SSPA				IAmb	IAmb	20 48 15.4
	comp=Z,37nm,0.8s					
SSPA	**Standing Stone**	**29.34**	**16**	P	**P**	**20 48 00.3 +0.6**
	baz=201					
SDCO	**Great Sand Dun**	**29.36**	**331**	P	**P**	**20 48 02.2 +1.9**
	baz=144,SNR=49					
L48A	**N Adams**	**29.39**	**6**	IAmb	IAmb	20 48 13.8
	comp=Z,37nm,0.8s					
L40A	**Anamosa**	**29.43**	**356**	IAmb	IAmb	20 48 16.1
	comp=Z,77nm,1.1s					
L44A	**Lake County Fo**	**29.43**	**1**	P	**P**	**20 48 00.3 -0.1**
	baz=181					
M53A	**WI Miller and**	**29.45**	**12**	P	**P**	**20 48 00.8 +0.2**
M53A				IAmb	IAmb	20 48 17.5
	comp=Z,59nm,0.8s					
M53A	**WI Miller and**	**29.45**	**12**	P	**P**	**20 48 00.9 +0.3**
	baz=195					
SCIA	**State Center**	**29.48**	**352**	P	**P**	**20 48 01.2 +0.3**
	baz=170					
214A	**Organ Pipe Nat**	**29.63**	**314**	P	**P**	**20 48 01.5 -0.9**
	baz=125					
W18A	**Petrified Fore**	**29.64**	**323**	P	**P**	**20 48 04.3 +1.7**
	baz=134					
AAM	**Ann Arbor**	**29.82**	**7**	IAmb	IAmb	20 48 18.5
	comp=Z,57nm,0.8s					
AAM	**Ann Arbor**	**29.82**	**7**	P	**P**	**20 48 04.1 +0.2**
	baz=189					
N58A	**Sunbury**	**29.87**	**18**	P	**P**	**20 48 04.5 +0.1**
N58A				IAmb	IAmb	20 48 20.2
	comp=Z,52nm,0.9s					
M55A	**Ridgway**	**29.90**	**14**	IAmb	IAmb	20 48 20.0
	comp=Z,39nm,0.8s					
BGNE	**Belgrade**	**29.94**	**345**	P	**P**	**20 48 05.3 +0.3**
	baz=160					
S22A	**4UR Ranch, Cre**	**30.00**	**330**	P	**P**	**20 48 07.0 +1.1**
S22A				IAmb	IAmb	20 48 09.7
	comp=Z,45nm,0.8s					
S22A				PcP	**PcP**	**20 51 09.1 +1.9**
S22A	**4UR Ranch, Cre**	**30.00**	**330**	P	**P**	**20 48 07.4 +1.4**
	baz=142					
L34A	**Svendsen Farm,**	**30.06**	**348**	IAmb	IAmb	20 48 38.2
	comp=Z,38nm,0.8s					
Q24A	**Divide**	**30.20**	**333**	P	**P**	**20 48 09.3 +1.6**
	baz=146					
M57A	**Sunshine Farm,**	**30.21**	**17**	IAmb	IAmb	20 48 23.2
	comp=Z,71nm,0.8s					
JFWS	**Jewell Farm**	**30.21**	**357**	P	**P**	**20 48 07.0 -0.4**
	baz=176					
ERPA	**Erie**	**30.24**	**12**	P	**P**	**20 48 08.0 +0.3**
	baz=196					
MVCO	**Mesa Verde**	**30.45**	**327**	P	**P**	**20 48 10.9 +1.1**
	baz=138,SNR=12					
J47A	**Sunmer**	**30.64**	**5**	IAmb	IAmb	20 48 24.6
	comp=Z,44nm,0.7s					
OGNE	**Ogallala**	**30.68**	**339**	IAmb	IAmb	20 48 14.2
	comp=Z,78nm,1.5s					
OGNE	**Ogallala**	**30.68**	**339**	P	**P**	**20 48 13.0 +1.3**
	baz=153					
113A	**Mohawk Valley,**	**30.76**	**315**	P	**P**	**20 48 13.3 +1.0**
113A				PcP	**PcP**	**20 51 10.3 +1.4**
ODNJ	**Ogdensburg**	**30.76**	**20**	IAmb	IAmb	20 48 27.5
	comp=Z,28nm,0.7s					
KSPA	**Keystone Colle**	**30.81**	**18**	IAmb	IAmb	20 48 29.4
	comp=Z,57nm,1.1s					
WVNY	**West Valley, N**	**30.82**	**14**	IAmb	IAmb	20 48 28.1
	comp=Z,62nm,0.8s					
L56A	**Greenwood**	**30.83**	**16**	IAmb	IAmb	20 48 29.9
	comp=Z,66nm,1.1s					
WUAZ	**Wupatki**	**30.89**	**321**	P	**P**	**20 48 15.3 +1.6**
	baz=132,SNR=14					
Y14A	**Wickenburg**	**30.93**	**317**	P	**P**	**20 48 14.7 +0.8**
Y14A				PcP	**PcP**	**20 51 10.3 +0.8**
PAL	**Palisades**	**30.93**	**21**	IAmb	IAmb	20 48 29.5
	comp=Z,57nm,0.8s					
PAL	**Palisades**	**30.93**	**21**	P	**P**	**20 48 14.5 +0.7**
	baz=208					
ISCO	**Idaho Springs**	**31.09**	**334**	P	**P**	**20 48 16.2 +0.7**
ISCO				IAmb	IAmb	20 48 19.5
	comp=Z,33nm,0.9s					
ISCO	**Idaho Springs**	**31.09**	**334**	P	**P**	**20 48 17.1 +1.6**
	baz=146,SNR=38					
ISCO	**Idaho Springs**	**31.09**	**334**	P	**P**	**20 48 16.2 +0.7**
ISCO				pmax	pmax	
	comp=Z,33nm,0.9s					
I42A	**Draeger Farm,**	**31.15**	**359**	P	**P**	**20 48 15.2 -0.4**
I42A				IAmb	IAmb	20 48 29.8
	comp=Z,62nm,0.8s					
BRIGG	**Briggsdale**	**31.21**	**336**	IAmb	IAmb	20 48 19.2
	comp=Z,65nm,0.7s					
ETMB	**Extrema**	**31.26**	**135**	P	**P**	**20 48 17.2 +0.3**
ETMB	**Extrema**	**31.26**	**135**	*e*P	**P**	**20 48 17.8 +0.9**
BINY	**Binghamton**	**31.33**	**18**	IAmb	IAmb	20 48 34.5
	comp=Z,74nm,1.0s					
BINY	**Binghamton**	**31.33**	**18**	P	**P**	**20 48 18.2 +0.9**
	baz=203,SNR=9.4					
MACA	**Manacapuru-AM**	**31.57**	**118**	*e*P	**P**	**20 48 19.6 -0.1**
L59A	**Walton**	**31.61**	**19**	IAmb	IAmb	20 48 36.5
	comp=Z,78nm,0.9s					
GLA	**Glamis**	**31.65**	**314**	IAmb	IAmb	20 48 36.3
	comp=Z,70nm,1.4s					
GLA	**Glamis**	**31.65**	**314**	P	**P**	**20 48 21.2 +0.9**
	baz=124					
K57A	**Scipio Center**	**31.67**	**17**	IAmb	IAmb	20 48 37.0
	comp=Z,80nm,1.1s					
ECSD	**EROS Data Cent**	**31.81**	**348**	P	**P**	**20 48 20.8 -0.7**
ECSD				IAmb	IAmb	20 48 36.3
	comp=Z,36nm,0.9s					
ECSD	**EROS Data Cent**	**31.81**	**348**	P	**P**	**20 48 21.0 -0.5**
	baz=164,SNR=13					
BLYC	**Blythe**	**31.84**	**316**	PcP	**PcP**	**20 51 13.5 +1.7**
ESJX	**Sierra Juarez**	**31.90**	**312**	P	**P**	**20 48 23.3 +0.8**
ESJX				IAmb	IAmb	20 48 38.8
	comp=Z,52nm,1.2s					
ESJX					**PcP**	**20 51 14.0 +1.7**
PDMCI	**Parker Dam,Lak**	**31.90**	**317**	P	**P**	**20 48 24.4 +2.0**
	baz=126,SNR=8.5					
N23A	**Red Feather La**	**32.14**	**334**	IAmb	IAmb	20 48 27.1
	comp=Z,27nm,0.8s					
N23A	**Red Feather La**	**32.14**	**334**	P	**P**	**20 48 26.2 +1.5**
	baz=146,SNR=26					
HMU	**Henry Mountain**	**32.20**	**325**	IAmb	IAmb	20 48 42.6
	comp=Z,30nm,1.0s					
YUH	**Yuha Desert**	**32.21**	**313**	P	**P**	**20 48 25.2 +0.1**
GLMI	**Grayling**	**32.23**	**5**	P	**P**	**20 48 24.2 -0.9**
	baz=186					
PHWY	**Pilot Hill**	**32.27**	**335**	IAmb	IAmb	20 48 28.4
	comp=Z,32nm,0.9s					
SWSC	**Sam W. Stewart**	**32.28**	**313**	P	**P**	**20 48 27.8 +2.0**
	baz=122					
IKP	**In-Ko-Pah, Jac**	**32.35**	**313**	P	**P**	**20 48 28.4 +2.0**
	baz=122					
BC3	**Big Chuckawall**	**32.42**	**315**	P	**P**	**20 48 29.1 +2.0**
	baz=124,SNR=13					
J57A	**Williamstown**	**32.44**	**17**	IAmb	IAmb	20 48 41.9
	comp=Z,49nm,0.9s					
IRM	**Iron Mountain**	**32.49**	**316**	P	**P**	**20 48 29.9 +2.3**
	baz=125,SNR=10					
NEE2	**Needles Airpor**	**32.49**	**317**	P	**P**	**20 48 29.3 +1.7**
	baz=126					
O20A	**White River Ci**	**32.55**	**331**	P	**P**	**20 48 30.2 +1.9**
	baz=142,SNR=84					
G40A	**Rib Lake**	**32.56**	**357**	P	**P**	**20 48 27.1 -0.9**
G40A				IAmb	IAmb	20 48 42.1
	comp=Z,53nm,0.9s					
CBX	**Cerro Bola**	**32.58**	**312**	P	**P**	**20 48 29.5 +1.1**
CBX				IAmb	IAmb	20 48 44.8
	comp=Z,44nm,0.9s					
CBX					**PcP**	**20 51 16.2 +2.1**
L61B	**Northampton**	**32.64**	**22**	IAmb	IAmb	20 48 43.7
	comp=Z,38nm,0.8s					
L61B	**Northampton**	**32.64**	**22**	P	**P**	**20 48 29.2 +0.4**
	baz=209,SNR=8.6					
MONP2	**Monument Peak**	**32.70**	**313**	P	**P**	**20 48 31.5 +1.9**
	baz=122					
SPMN	**Marine on St.**	**32.71**	**354**	P	**P**	**20 48 28.8 -0.5**
	baz=172,SNR=12					
PKCU	**Pink Cliffs**	**32.75**	**323**	IAmb	IAmb	20 48 52.3
	comp=Z,32nm,1.1s					
SAML	**Samuel**	**32.88**	**130**	P	**P**	**20 48 31.0 -0.1**
SAML	**Samuel**	**32.88**	**130**	P	**P**	**20 48 31.0 -0.1**
SAML				pmax	pmax	
	comp=Z,117nm,0.9s					
SAML	**Samuel**	**32.88**	**130**	*e*P	**P**	**20 48 31.0 -0.1**
SADO	**Sadowa**	**32.96**	**12**	IAmb	IAmb	20 48 45.6
	comp=Z,36nm,0.6s					
SADO	**Sadowa**	**32.96**	**12**	P	**P**	**20 48 30.9 -0.6**
	comp=Z,21nm,0.4s,baz=208,slow=10,SNR=14					
SADO				LR	LR	21 02 34.2
	comp=Z,620nm,19.4s,baz=191,slow=38					
	comp=Z,21nm,0.4s					
BELC	**Belle Mtn. Jos**	**32.99**	**315**	P	**P**	**20 48 34.1 +2.0**
	baz=123,SNR=9.8					
SUSD	**Miller**	**32.99**	**346**	P	**P**	**20 48 31.6 -0.3**
	baz=160					
F42A	**Maple Grove Fa**	**33.01**	**0**	IAmb	IAmb	20 48 34.2
	comp=Z,23nm,0.4s					
DELO	**Deloro Mine**	**33.05**	**14**	P	**P**	**20 48 31.9 -0.4**
TPFO	**Pinon Flats**	**33.10**	**314**	P	**P**	**20 48 35.2 +2.1**
	baz=122,SNR=5.7					
PFO	**Pinyon Flats O**	**33.10**	**314**	P	**P**	**20 48 33.9 +0.8**
PFO				PcP	**PcP**	**20 51 17.0 +1.5**
PFO	**Pinyon Flats O**	**33.10**	**314**	P	**P**	**20 48 35.0 +1.9**
	baz=122					
PFO	**Pinyon Flats O**	**33.10**	**314**	LR	LR	21 04 22.4
	comp=Z,732nm,19.0s,baz=141,slow=40					
PFO	**Pinyon Flats O**	**33.10**	**314**	P	**P**	**20 48 34.8 +1.7**
PFO	**Pinyon Flats O**	**33.10**	**314**	P	**P**	**20 48 35.1 +2.1**
PFO				pP	**pP**	**20 48 48.3 +1.8**
PFO				PcP	**PcP**	**20 51 17.4 +1.9**
HRV	**Adam Dziewonsk**	**33.11**	**23**	P	**P**	**20 48 33.6 +0.8**
	baz=211					
HRV	**Adam Dziewonsk**	**33.11**	**23**	P	**P**	**20 48 34.0 +1.2**
HRV				pP	**pP**	**20 48 47.4 +1.1**
ACCN	**Adirondack Com**	**33.13**	**20**	IAmb	IAmb	20 48 48.5
	comp=Z,68nm,1.5s					
P18A	**Preston Nutter**	**33.16**	**328**	IAmb	IAmb	20 48 50.5
	comp=Z,53nm,1.3s					
109C	**Camp Elliot, M**	**33.19**	**312**	P	**P**	**20 48 35.3 +1.7**
	baz=121					
GMRC	**Granite Mounta**	**33.20**	**316**	P	**P**	**20 48 35.7 +1.8**
	baz=125,SNR=18					
V12A	**Nelson**	**33.22**	**318**	PcP	**PcP**	**20 51 17.0 +1.2**
P17A	**Butcher Ranch,**	**33.30**	**327**	IAmb	IAmb	20 48 51.5
	comp=Z,29nm,1.0s					
SZCU	**Shurtz Canyon**	**33.30**	**323**		**PcP**	**20 51 17.2 +1.1**
RWWY	**Rawlins**	**33.33**	**334**	P	**P**	**20 48 36.4 +1.2**
COWI	**Conover**	**33.36**	**359**	IAmb	IAmb	20 48 48.6
	comp=Z,51nm,0.8s					
MVU	**Marysvale**	**33.42**	**325**	IAmb	IAmb	20 49 10.2
	comp=Z,76nm,1.3s					
CCUT	**Cedar City**	**33.44**	**322**	PcP	**PcP**	**20 51 18.3 +1.8**
NCB	**Newcomb**	**33.48**	**19**	IAmb	IAmb	20 48 51.4
	comp=Z,48nm,1.5s					
RDMU	**Red Mountain**	**33.53**	**330**	IAmb	IAmb	20 48 51.6
	comp=Z,64nm,1.6s					
RDMU					**PcP**	**20 51 17.8 +1.1**
MURC	**Murrieta**	**33.62**	**313**	P	**P**	**20 48 39.6 +2.1**
	baz=121					
HEC	**Hector,Ludlow**	**33.68**	**316**	P	**P**	**20 48 40.1 +2.0**
	baz=124,SNR=5.2					
TUQ	**Turquoise Moun**	**33.75**	**317**	P	**P**	**20 48 40.3 +1.6**
	baz=125,SNR=12					
BBRC	**Big Bear Solar**	**33.77**	**314**	P	**P**	**20 48 40.8 +1.7**
	baz=123					
K22A	**Casper**	**33.84**	**335**	IAmb	IAmb	20 48 41.8
	comp=Z,54nm,0.8s					
K22A	**Casper**	**33.84**	**335**	P	**P**	**20 48 40.8 +1.3**
	baz=147,SNR=29					
SHPR	**Sheep Range**	**33.89**	**319**		**PcP**	**20 51 20.1 +2.4**
LONY	**Lake Ozonia**	**33.96**	**18**	P	**P**	**20 48 40.3 0.0**
	baz=204,SNR=9.3					
E38A	**The Farm, Brul**	**33.97**	**356**	IAmb	IAmb	20 48 54.3
	comp=Z,61nm,1.0s					
BSUT	**Blindstream Ca**	**34.10**	**329**	IAmb	IAmb	20 48 46.3
	comp=Z,29nm,1.0s					
RRX	**Edison Barstow**	**34.16**	**315**	P	**P**	**20 48 44.4 +2.2**
	baz=123					
MPU	**Maple Canyon**	**34.17**	**327**	IAmb	IAmb	20 48 58.8
	comp=Z,20nm,0.8s					
RSSD	**Black Hills**	**34.17**	**340**	P	**P**	**20 48 43.0 +0.7**
RSSD				IAmb	IAmb	20 48 45.3
	comp=Z,21nm,0.9s					
RSSD	**Black Hills**	**34.17**	**340**	P	**P**	**20 48 43.6 +1.3**
	baz=152					
RSSD	**Black Hills**	**34.17**	**340**	P	**P**	**20 48 43.0 +0.7**
RSSD				pmax	pmax	
	comp=Z,21nm,0.9s					
RSSD	**Black Hills**	**34.17**	**340**	P	**P**	**20 48 43.9 +1.5**
RSSD				pP	**pP**	**20 48 57.1 +1.3**
RSSD				PcP	**PcP**	**20 51 18.8 +0.4**
SHOC	**Shoshone, Teco**	**34.25**	**317**	P	**P**	**20 48 44.0 +1.1**
	baz=125					
GSC	**Goldstone, Bar**	**34.27**	**316**	PcP	**PcP**	**20 51 19.8 +1.1**
GSC	**Goldstone, Bar**	**34.27**	**316**	P	**P**	**20 48 44.6 +1.4**
	baz=124					
BFSC	**Mount Baldy Ra**	**34.28**	**314**	P	**P**	**20 48 45.1 +1.7**
	baz=122					
SCI2	**San Clemente I**	**34.28**	**311**	P	**P**	**20 48 45.2 +2.0**
	baz=119					
CIS	**Catalina Islan**	**34.39**	**312**	P	**P**	**20 48 46.2 +2.0**
	baz=120					
FRNY	**Flat Rock**	**34.45**	**19**	IAmb	IAmb	20 48 59.7
	comp=Z,76nm,1.2s					
FMP	**Fort Macarthur**	**34.46**	**313**	P	**P**	**20 48 46.2 +1.5**
	baz=120					
LBNH	**Lisbon**	**34.47**	**21**	P	**P**	**20 48 44.8 +0.1**
LBNH				IAmb	IAmb	20 49 00.4
	comp=Z,50nm,1.2s					
LBNH	**Lisbon**	**34.47**	**21**	P	**P**	**20 48 45.5 +0.8**
	baz=209					
LBNH	**Lisbon**	**34.47**	**21**	P	**P**	**20 48 44.8 +0.1**
LBNH				pmax	pmax	
	comp=Z,50nm,1.3s					
GWY	**Greenwater Val**	**34.68**	**317**	PcP	**PcP**	**20 51 22.2 +2.2**
DECC	**Green Verdugo**	**34.77**	**313**	P	**P**	**20 48 48.3 +0.9**
	baz=121					
I63A	**Otisfield**	**34.80**	**23**	P	**P**	**20 48 47.7 +0.3**
TPNV	**Topopah Spring**	**34.85**	**319**	P	**P**	**20 48 50.3 +2.1**
	baz=127,SNR=19					
EDW2	**Edwards Air Fo**	**34.85**	**314**	P	**P**	**20 48 49.7 +1.5**
	baz=122,SNR=7.2					
TCUT	**Toone Canyon**	**34.86**	**329**	IAmb	IAmb	20 49 04.9
	comp=Z,37nm,0.7s					
DUG	**Dugway Tooele**	**34.93**	**326**	P	**P**	**20 48 50.5 +1.7**
	baz=135,SNR=14					
S11A	**Rachel**	**34.96**	**320**	IAmb	IAmb	20 48 56.4
	comp=Z,34nm,1.0s					
LRMC	**Laurel Mtn Rad**	**34.96**	**316**	P	**P**	**20 48 50.8 +1.6**
	baz=123,SNR=7.9					
LPAZ	**La Paz**	**34.96**	**145**	P	**P**	**20 48 50.6 +0.7**
LPAZ	**La Paz**	**34.96**	**145**	P	**P**	**20 48 51.0 +1.1**
	comp=Z,4.5nm,0.6s,baz=334,slow=8.7,SNR=15					
LPAZ				LR	LR	21 03 52.0
	comp=Z,676nm,20.1s,baz=303,slow=38					
	comp=Z,4.5nm,0.6s					
LPAZ	**La Paz**	**34.96**	**145**	P	**P**	**20 48 50.6 +0.7**
LPAZ				pmax	pmax	
	comp=Z,9.0nm,0.8s					
LPAZ	**La Paz**	**34.96**	**145**	P	**P**	**20 48 51.0 +1.1**
LPAZ				pP	**pP**	**20 49 03.7 +0.5**
LPAZ				PcP	**PcP**	**20 51 24.3 +2.7**
LPAZ	**La Paz**	**34.96**	**145**	*e*P	**P**	**20 48 50.9 +1.0**
FURC	**Furnace Creek,**	**34.97**	**318**	P	**P**	**20 48 51.0 +1.9**
	baz=125,SNR=9.8					
SNCC	**San Nicolas Is**	**35.13**	**311**	P	**P**	**20 48 52.4 +1.9**
	baz=118					
MPMC	**Manual Prospec**	**35.15**	**317**	P	**P**	**20 48 52.4 +1.6**
	baz=124,SNR=21					
OSI	**Osito Audit: C**	**35.23**	**314**	P	**P**	**20 48 53.3 +1.9**
	baz=121					
BW06	**Boulder Array**	**35.23**	**332**	P	**P**	**20 48 52.4 +0.8**
	baz=142,SNR=13					
PD31	**Pinedale Array**	**35.23**	**332**	IAmb	IAmb	20 48 55.3
	comp=Z,24nm,0.8s					
PDAR	**Pinedale Array**	**35.23**	**332**	P	**P**	**20 48 51.5 0.0**
PDAR				pP	**pP**	**20 49 05.3 +0.2**
PDAR				PcP	**PcP**	**20 51 21.4 -0.1**
PDAR	**Pinedale Array**	**35.23**	**332**	P	**P**	**20 48 52.1 +0.5**
	comp=Z,16nm,0.8s,baz=128,slow=9.3,SNR=127					
PDAR				PcP	**PcP**	**20 51 21.6 0.0**
	comp=Z,5.4nm,0.7s,baz=140,slow=4.7,SNR=5.9					
PDAR				LR	LR	21 07 40.4
	comp=Z,473nm,19.5s,baz=127,slow=44					
	comp=Z,16nm,0.8s					
R11B	**Troy Canyon, C**	**35.30**	**321**	P	**P**	**20 48 54.0 +1.9**
	baz=129,SNR=13					
EYMN	**Ely**	**35.30**	**356**	IAmb	IAmb	20 49 05.3
	comp=Z,53nm,1.3s					
EYMN	**Ely**	**35.30**	**356**	P	**P**	**20 48 50.5 -1.3**
	baz=174,SNR=13					
HWUT	**Hardware Ranch**	**35.30**	**329**	IAmb	IAmb	20 48 54.8
	comp=Z,39nm,0.8s					
E28A	**Huff**	**35.42**	**345**	IAmb	IAmb	20 49 08.8
	comp=Z,34nm,0.9s					
TRQ	**Mont Tremblant**	**35.43**	**16**	IAmb	IAmb	20 49 08.6
	comp=Z,36nm,1.1s					
SPUT	**South Promonto**	**35.53**	**328**	IAmb	IAmb	20 48 59.4
	comp=Z,27nm,0.9s					
BGU	**Big Grassy Mou**	**35.56**	**327**	P	**P**	**20 48 54.9 +0.5**
ARVC	**Arvin**	**35.57**	**314**	P	**P**	**20 48 56.1 +1.8**
	baz=121					
SCZ2	**Santa Cruz Isl**	**35.57**	**312**	P	**P**	**20 48 56.0 +1.7**
	baz=119					
WVL	**Waterville**	**35.58**	**23**	IAmb	IAmb	20 49 10.5
	comp=Z,62nm,1.3s					
GRAC	**Grapevine Rang**	**35.60**	**318**	P	**P**	**20 48 56.8 +2.2**
	baz=125					
ISA	**Isabella, Lake**	**35.60**	**315**		**PcP**	**20 51 25.2 +2.6**
ISA	**Isabella, Lake**	**35.60**	**315**	P	**P**	**20 48 56.4 +1.8**
	baz=122					
CWC	**Cottonwood Cre**	**35.76**	**317**	P	**P**	**20 48 57.9 +1.9**
	baz=124					
SBC	**Santa Barbara**	**35.85**	**313**	P	**P**	**20 48 57.4 +0.8**
	baz=120					
MDP	**Montagnes des**	**35.95**	**99**	LR	LR	21 05 19.4
	comp=Z,612nm,18.4s,baz=285,slow=39					
MZP	**Montezuma Peak**	**36.02**	**319**	P	**P**	**20 48 59.2 +0.8**
MZP					**PcP**	**20 51 25.3 +1.3**
AGMN	**Agassiz Nation**	**36.11**	**351**	P	**P**	**20 48 58.4 -0.3**
	baz=167,SNR=42					
VES	**Vestal, Richgr**	**36.12**	**315**	P	**P**	**20 49 01.1 +2.2**
	baz=122					
PKM	**Mcpherson Peak**	**36.14**	**313**	P	**P**	**20 49 00.9 +1.5**
	baz=120					
TPH	**Tonopah**	**36.14**	**320**	IAmb	IAmb	20 49 05.6
	comp=Z,34nm,0.9s					
TIN	**Tinemaha, Big**	**36.20**	**317**	P	**P**	**20 49 01.7 +1.9**
	baz=124					
PKME	**Peaks-Kenny Pk**	**36.31**	**23**	IAmb	IAmb	20 49 16.3
	comp=Z,68nm,1.1s					
PKME	**Peaks-Kenny Pk**	**36.31**	**23**	P	**P**	**20 49 01.2 +0.8**
	baz=212,SNR=8.2					
MDND	**Maddock**	**36.36**	**347**	P	**P**	**20 49 00.7 -0.2**
MDND	**Maddock**	**36.36**	**347**	P	**P**	**20 49 01.0 +0.1**
	baz=161,SNR=9.2					
ITTB	**Itaituba**	**36.47**	**116**	*e*P	**P**	**20 48 59.6 -2.6**
SMMC	**Simmler**	**36.48**	**314**	P	**P**	**20 49 04.1 +2.0**
	baz=120					
VLDQ	**Val d'Or**	**36.50**	**12**	IAmb	IAmb	20 49 16.6
	comp=Z,50nm,1.3s					
VOG	**Valley Oaks Go**	**36.58**	**316**	P	**P**	**20 49 04.0 +1.2**
	baz=122					
FXWY	**Fox Creek**	**36.59**	**332**	IAmb	IAmb	20 49 19.2
	comp=Z,28nm,0.9s					
ELK	**Elko**	**36.65**	**325**	P	**P**	**20 49 04.5 +0.8**
ELK				IAmb	IAmb	20 49 20.7
	comp=Z,52nm,1.8s					
ELK				PcP	**PcP**	**20 51 26.3 +0.5**
ELK	**Elko**	**36.65**	**325**	LR	LR	21 08 27.3
	comp=Z,533nm,18.1s,baz=139,slow=43					
ELK	**Elko**	**36.65**	**325**	P	**P**	**20 49 04.5 +0.8**
ELK						20 51 26.3
ELK				pmax	pmax	
	comp=Z,52nm,1.8s					
IMW

VILB	Vilhena	37.70 131	P	P	20 49 12.9	+0.3
VILB	Vilhena	37.70 131	eP	P	20 49 12.6	+0.1
PQI	Presque Isle	37.98 23	IAmb	IAmb	20 49 30.1	
	comp=Z,27nm,1.0s					
ULM	Lac du Bonnet	38.02 352	P	P	20 49 13.4	-1.4
	comp=Z,32nm,0.5s,baz=170,slow=9.1,SNR=65					
ULM			LR	LR	21 07 09.6	
	comp=Z,589nm,21.1s,baz=167,slow=40					
	comp=Z,32nm,0.5s					
DGMT	Dagmar	38.10 343	P	P	20 49 16.7	+1.1
	baz=154,SNR=21					
NPGB	Novo Progresso	38.10 119	eP	P	20 49 12.8	-3.3
HLID	Hailey	38.17 329	P	P	20 49 17.6	+1.1
	baz=136,SNR=25					
CMB	Columbia Colle	38.17 317	PcP	PcP	20 51 31.8	+1.5
BOZ	Bozeman (W)	38.38 333	IAmb	IAmb	20 49 20.8	
	comp=Z,49nm,0.8s					
BOZ	Bozeman (W)	38.38 333	P	P	20 49 19.7	+1.5
	baz=141,SNR=94					
PAHR	Pah Rah Range	38.47 320	P	P	20 49 20.2	+1.2
PAHR				PcP	20 51 32.8	+1.5
PB09	IPOC Station P	38.98 151	P	P	20 49 24.7	+1.2
PB09			IAmb	IAmb	20 49 26.4	
	comp=Z,34nm,0.9s					
AFDM	Forest Hills D	39.05 318		PcP	20 51 35.0	+2.0
SIV	San Ignacio	39.15 136	LR	LR	21 05 11.4	
	comp=Z,980nm,21.9s,baz=302,slow=36					
BATG	Bathurst New B	39.23 24	IAmb	IAmb	20 49 40.7	
	comp=Z,54nm,0.9s					
PDRB	Porto dos Gac	39.50 126	eP	P	20 49 26.7	-1.0
EGMT	Eagleton	39.57 337	P	P	20 49 29.3	+1.3
	baz=146,SNR=50					
CLDB	Colider	39.81 125	eP	P	20 49 29.8	-0.5
LVC	Limon Verde	39.84 151	P	P	20 49 31.6	+0.8
LVC	Limon Verde	39.84 151	LR	LR	21 05 36.8	
	comp=Z,585nm,21.0s,baz=306,slow=36					
LVC	Limon Verde	39.84 151	P	P	20 49 31.6	+0.8
LVC			pmax	pmax		
	comp=Z,21nm,1.0s					
LVC	Limon Verde	39.84 151	P	P	20 49 33.1	+2.3
LVC	Limon Verde	39.84 151	eP	P	20 49 33.2	+2.4
PTLB	Pontes e Lacer	40.12 133	P	P	20 49 32.9	+0.1
PTLB			IAmb	IAmb	20 49 34.0	
	comp=Z,162nm,2.0s					
PTLB	Pontes e Lacer	40.12 133	eP	P	20 49 32.8	0.0
BBSD	Serra de San D	40.31 137	eP	P	20 49 34.7	+0.3
MSO	Missoula	40.35 333	P	P	20 49 34.9	+0.4
MSO			IAmb	IAmb	20 49 36.5	
	comp=Z,67nm,1.0s					
MSO	Missoula	40.35 333	P	P	20 49 35.3	+0.8
	baz=139,SNR=48					
O02D	Mt. Diablo Mer	40.90 318	P	P	20 49 38.9	-0.2
YBH	Yreka Blue Hor	41.70 320	P	P	20 49 45.2	-0.4
YBH			PcP	PcP	20 51 41.5	-0.1
YBH	Yreka Blue Hor	41.70 320	LR	LR	21 08 44.7	
	comp=Z,1μm,21.6s,baz=142,slow=38					
PINE	Pine Mountain	41.85 324	P	P	20 49 46.1	-0.9
PINE				PcP	20 51 42.8	+0.6
NEW	Newport	42.87 332	P	P	20 49 55.1	+0.1
	baz=136,SNR=8.6					
SALV	Santo Antonio	42.92 130	eP	P	20 49 55.4	-0.4
C09A	Chrisman Ranch	43.08 330	P	P	20 49 56.5	-0.2
C09A				PcP	20 51 45.1	-0.8
HOOD	Mount Hood Mea	43.19 325	IAmb	IAmb	20 50 15.5	
	comp=Z,80nm,0.9s					
BUCK	Buck Mountain	43.27 323	IAmb	IAmb	20 51 08.7	
	comp=Z,99nm,1.7s					
FFC	Flin Flon	43.35 348	P	P	20 49 58.5	-0.3
FFC			IAmb	IAmb	20 50 13.6	
	comp=Z,131nm,1.6s					
FFC	Flin Flon	43.35 348	P	P	20 49 58.5	-0.3
FFC			pmax	pmax		
	comp=Z,131nm,1.6s					
FFC	Flin Flon	43.35 348	P	P	20 49 58.9	+0.2
FFC			pP	pP	20 50 11.9	-0.7
G03D	McMinnville, O	44.03 324	IAmb	IAmb	20 50 19.0	
	comp=Z,33nm,0.9s					
SNDB	Serra Nova Dou	44.09 122	eP	P	20 50 05.6	+0.4
RPN	Rapa Nui	44.51 207	LR	LR	21 03 56.2	
	comp=Z,1μm,20.4s,baz=18,slow=29					
LCO	Las Campanas	44.75 158	P	P	20 50 11.2	+0.6
LCO			IAmb	IAmb	20 50 13.2	
	comp=Z,54nm,1.6s					
LCO	Las Campanas	44.75 158	P	P	20 50 11.2	+0.6
LCO			pmax	pmax		
	comp=Z,54nm,1.6s					
LCO	Las Campanas	44.75 158	P	P	20 50 12.0	+1.4
LCO			sP	sP	20 50 31.1	+0.7
RADR	Rader Ridge	45.05 325	IAmb	IAmb	20 50 27.1	
	comp=Z,40nm,0.8s					
SCHQ	Schefferville	45.33 17	P	P	20 50 13.2	-1.3
SCHQ	Schefferville	45.33 17	P	P	20 50 13.3	-1.3
	comp=Z,56nm,0.9s,baz=217,slow=6.7,SNR=47					
SCHQ			LR	LR	21 10 21.5	
	comp=Z,1μm,19.8s,baz=214,slow=38					
	comp=Z,56nm,0.9s					
MURT	Porto Murtinho	45.47 138	eP	P	20 50 15.8	-0.2
RVDE	Rio Verde (Bra	45.48 133	eP	P	20 50 16.4	+0.1
SMTB	Santa Maria do	45.71 116	eP	P	20 50 15.9	-2.2
ARAG	Araguaiana, MT	45.76 127	eP	P	20 50 17.7	-0.8
B04A	Port Angeles	45.89 327	IAmb	IAmb	20 50 35.0	
	comp=Z,42nm,0.9s					
AQDB	Aquidauana	45.92 135	eP	P	20 50 19.7	0.0
CO06	Fray Jorge	45.94 160	P	P	20 50 20.9	+1.3
CO06			IAmb	IAmb	20 50 29.7	
	comp=Z,77nm,1.9s					
PGC	Sidney	46.23 328	IAmb	IAmb	20 50 35.9	
	comp=Z,28nm,0.9s					
CO02	Combarbal	46.64 160	P	P	20 50 25.7	+0.4
CO02			IAmb	IAmb	20 50 27.7	
	comp=Z,28nm,0.8s					
H03N2	Juan Fernandez	46.68 169	T	T	21 40 32.3	
	baz=347,slow=76,SNR=26					
H03N1	Juan Fernandez	46.68 169	T	T	21 40 33.4	
	baz=347,slow=76,SNR=30					
H03N3	Juan Fernandez	46.69 169	T	T	21 40 32.4	
	baz=347,slow=76,SNR=38					
PAPY	Pozo Azul	46.84 141	eP	P	20 50 27.8	+1.0
BDFB	Brasilia	48.74 124	P	P	20 50 40.5	-1.4
BDFB			IAmb	IAmb	20 50 42.5	
	comp=Z,21nm,0.7s					
BDFB	Brasilia	48.74 124	P	P	20 50 40.4	-1.4
	comp=Z,17nm,0.7s,baz=296,slow=8.3,SNR=17					
BDFB			LR	LR	21 11 38.8	
	comp=Z,645nm,20.9s,baz=319,slow=37					
	comp=Z,17nm,0.7s					
BDFB	Brasilia	48.74 124	P	P	20 50 40.5	-1.4
BDFB			pmax	pmax		
	comp=Z,21nm,0.7s					
MT09	Talagante	49.00 161	P	P	20 50 44.6	+1.0
CPUP	Villa Florida	49.05 142	P	P	20 50 43.3	-0.6
CPUP			IAmb	IAmb	20 50 44.3	
	comp=Z,24nm,1.0s					
CPUP	Villa Florida	49.05 142	P	P	20 50 43.0	-0.9
	comp=Z,15nm,0.9s,baz=338,slow=8.5,SNR=22					
CPUP			LR	LR	21 12 45.2	
	comp=Z,639nm,18.1s,baz=318,slow=38					
	comp=Z,15nm,0.9s					
CPUP	Villa Florida	49.05 142	P	P	20 50 43.3	-0.6
CPUP			pmax	pmax		
	comp=Z,24nm,1.0s					
CPUP	Villa Florida	49.05 142	P	P	20 50 43.1	-0.8
CPUP			pP	pP	20 50 56.1	-1.7
CPUP			sP	sP	20 51 01.9	-2.0
ITRB	Iturama	49.25 130	eP	P	20 50 45.3	-0.3
LMEL	Las Melosas	49.32 160	IAmb	IAmb	20 50 49.1	
	comp=Z,49nm,1.4s					
SDBA	SAO DESIDERIO	49.69 118	eP	P	20 50 47.5	-1.6
PCMB	Pacaembu	49.77 133	eP	P	20 50 49.0	-0.6
IPMB	Ipameri, GO	49.88 127	eP	P	20 50 49.0	-1.5
BBB	Bella Bella	50.75 329	LR	LR	21 15 27.3	
	comp=Z,585nm,21.1s,baz=152,slow=40					
LDASE	Londrina, Braz	51.02 134	eP	P	20 50 58.3	-0.7
BI02	San Fabin de	51.59 163	IAmb	IAmb	20 51 05.6	
	comp=Z,40nm,1.2s					
CRSM	Crissiumal (Br	51.89 141	eP	P	20 51 04.9	-0.4
ITQB	Itaqui	51.97 145	eP	P	20 51 06.5	+0.6
FRTB	Fartura	52.09 133	eP	P	20 51 06.6	-0.3
PSAL	Palomas, Salto	52.50 147	eP	P	20 51 10.6	+0.8
FRB	Frobisher Bay	52.89 11	P	P	20 51 10.6	-1.5
	comp=Z,25nm,0.5s,baz=216,slow=8.5,SNR=34					
FRB			LR	LR	21 14 25.9	
	comp=Z,1μm,21.1s,baz=206,slow=37					
	comp=Z,25nm,0.5s					
ITAB	Concordia	52.92 139	P	P	20 51 13.0	0.0
RUBB	Prince Rupert	53.05 331	IAmb	IAmb	20 52 27.3	
	comp=Z,68nm,1.6s					
YKA	Yellowknife Ar	53.22 345	P	P	20 51 13.9	-0.7
YKA			pP	pP	20 51 28.1	-0.8
YKA	Yellowknife Ar	53.22 345	P	P	20 51 14.3	-0.4
	comp=Z,36nm,0.9s,baz=141,slow=7.6,SNR=76					
YKA			PcP	PcP	20 52 21.2	-0.7
	comp=Z,4.6nm,0.8s,baz=129,slow=4.9,SNR=1.7					
YKA			LR	LR	21 18 34.2	
	comp=Z,310nm,18.2s,baz=144,slow=41					
	comp=Z,36nm,0.9s					
RODS	Rosario do Sul	53.29 144	eP	P	20 51 15.9	+0.3
ALGR	Alto Alegre (B	53.45 141	eP	P	20 51 16.8	-0.1
VAO	Valinhos	53.76 131	P	P	20 51 18.9	-0.4
VAO	Valinhos	53.76 131	eP	P	20 51 18.9	-0.4
TOAD	Toad River Com	53.76 337	P	P	20 51 18.4	-0.3
	baz=133					
SPB	Sao Paulo	53.77 132	P	P	20 51 18.6	-0.7
SPB	Sao Paulo	53.77 132	P	P	20 51 18.7	-0.6
SPB			pP	pP	20 51 31.6	-1.8
SPB	Sao Paulo	53.77 132	eP	P	20 51 18.9	-0.4
U35K	Hyder	53.87 332	P	P	20 51 20.2	+0.7
	baz=126					
TBOT	Tacuaremb	53.88 146	eP	P	20 51 20.6	+0.7
KOTAN	Kotaneelee Air	54.23 339	P	P	20 51 22.2	+0.1
	baz=135					
V35K	Ketchikan	54.27 331	P	P	20 51 23.2	+0.8
	baz=124					
PET01	Itanhaem-SP	54.31 133	eP	P	20 51 22.9	-0.3
CPSB	Cacapava Do Su	54.35 143	eP	P	20 51 23.5	+0.1
LIRD	Liard River Hi	54.47 337	P	P	20 51 23.9	0.0
	baz=133					
T35M	Bob Quinn	54.61 333	IAmb	IAmb	20 51 27.5	
	comp=Z,25nm,0.8s					
T35M	Bob Quinn	54.61 333	P	P	20 51 26.4	+1.4
	baz=127,SNR=11					
PARB	Paraibuna	54.95 130	eP	P	20 51 28.1	+0.2
CRAG	Craig	55.06 331	P	P	20 51 29.3	+1.1
	baz=123					
RCBR	Riachuelo	55.17 106	LR	LR	21 16 01.4	
	comp=Z,308nm,21.2s,baz=243,slow=37					
PLTB	Pedras Altas	55.25 144	P	P	20 51 29.9	0.0
PLTB	Pedras Altas	55.25 144	eP	P	20 51 30.3	+0.4
DLBC	Dease Lake	55.40 335	P	P	20 51 32.0	+1.3
	baz=128,SNR=74					
DLBC	Dease Lake	55.40 335	LR	LR	21 19 26.0	
	comp=Z,903nm,20.9s,baz=126,slow=40					
U33K	Whale Pass	55.41 331	IAmb	IAmb	20 52 08.8	
	comp=Z,48nm,1.3s					
U33K	Whale Pass	55.41 331	P	P	20 51 31.6	+0.9
	baz=123					
S34M	Telegraph Cree	55.55 334	IAmb	IAmb	20 51 33.9	
	comp=Z,22nm,0.8s					
S34M	Telegraph Cree	55.55 334	P	P	20 51 32.9	+1.3
	baz=126,SNR=7.9					
PLCA	Paso Flores	55.58 164	P	P	20 51 33.3	+1.1
PLCA			IAmb	IAmb	20 51 34.5	
	comp=Z,57nm,1.3s					
PLCA	Paso Flores	55.58 164	P	P	20 51 32.9	+0.7
	comp=Z,22nm,1.1s,baz=337,slow=8.9,SNR=26					
PLCA			LR	LR	21 11 31.1	
	comp=Z,436nm,18.1s,baz=8.0,slow=32					
	comp=Z,22nm,1.1s					
PLCA	Paso Flores	55.58 164	P	P	20 51 33.3	+1.1
PLCA			pmax	pmax		
	comp=Z,57nm,1.3s					
PLCA	Paso Flores	55.58 164	P	P	20 51 32.9	+0.7
PLCA			PcP	PcP	20 52 32.6	+1.2
PLCA	Paso Flores	55.58 164	eP	P	20 51 33.3	+1.1
T33K	Petersburg	55.72 332	P	P	20 51 34.1	+1.2
	baz=124					
TAOE	Nuku Hiva Isla	55.79 250	eP	P	20 51 38.7	+4.5
	comp=Z,113nm,27.9s					
TAOE			eS	S	20 59 17.7	-0.2
	comp=Z,441nm,25.6s					
TAOE			eSS	SS	21 03 08.3	+3.9
	comp=Z,258nm,27.1s					
TAOE			eLR	LR	21 07 54.4	
	comp=Z,1μm,24.2s					
SJMB	Sao Joao De Ma	55.89 123	eP	P	20 51 34.2	-0.5
WTLY	Watson Lake, Y	55.97 337	P	P	20 51 35.2	+0.6
	baz=130					
VAS01	Vassouras-RJ	55.99 128	eP	P	20 51 35.4	-0.1
NBAN	Anadia - AL	56.20 111	eP	P	20 51 35.0	-2.0
WRGLY	Wrigley	56.29 342	P	P	20 51 36.7	-0.1
	baz=137					
R33M	Jennings River	56.37 335	IAmb	IAmb	20 51 39.6	
	comp=Z,25nm,0.8s					
R33M	Jennings River	56.37 335	P	P	20 51 38.3	+0.6
	baz=127,SNR=29					
IVI	Ivigtut	56.51 22	*i* P	P	20 51 34.6	-3.9
IVI			IAmb	IAmb	20 51 51.7	
	comp=Z,21nm,0.8s					
IVI	Ivigtut	56.51 22	P	P	20 51 37.4	-1.1
IVI			pP	pP	20 51 51.2	-1.5
Q32M	Nakina River	56.65 334	P	P	20 51 41.0	+1.2
	baz=126,SNR=30					
TGTN	Hyland Airport	56.70 338	P	P	20 51 40.8	+1.0
	baz=131,SNR=12					
DUB01	Friburgo-RJ	56.71 127	eP	P	20 51 40.9	+0.3
S32K	Killisnoo	56.82 332	P	P	20 51 42.0	+1.3
	baz=122					
RIB01	Linhares ES	56.85 123	eP	P	20 51 41.7	+0.2
SIT	Sitka	56.95 331	P	P	20 51 42.3	+0.7
	baz=122					
R32K	Eaglecrest	57.23 333	P	P	20 51 44.3	+0.6
	baz=123					
NUUK	Nuuk	57.39 18	*i* P	P	20 51 43.9	-0.7
NUUK			IAmb	IAmb	20 51 59.4	
	comp=Z,83nm,1.0s					
NRS	Narsarsuaq	57.51 23	*i* P	P	20 51 33.8	-12
P33M	Teslin, Yukon	57.61 335	P	P	20 51 46.4	0.0
P33M			IAmb	IAmb	20 52 01.9	
	comp=Z,16nm,0.8s					
P33M	Teslin, Yukon	57.61 335	P	P	20 51 46.6	+0.2
	baz=126,SNR=15					
P32M	Atlin	57.62 335	IAmb	IAmb	20 51 48.0	
	comp=Z,17nm,0.9s					
P32M	Atlin	57.62 335	P	P	20 51 47.0	+0.6
	baz=124,SNR=11					
S31K	Pelican	57.84 332	IAmb	IAmb	20 51 49.9	
	comp=Z,22nm,0.9s					
S31K	Pelican	57.84 332	P	P	20 51 48.8	+0.9
	baz=121,SNR=7.0					
SKAG	Skagway	58.23 334	P	P	20 51 51.4	+0.7
	baz=123					
N32M	Quiet Lake	58.27 336	P	P	20 51 51.4	+0.5
	baz=126					
MMPY	Sheldon Lake,	58.48 338	P	P	20 51 53.0	+0.6
	baz=129,SNR=56					
PLBC	Pleasant Camp	58.68 334	P	P	20 51 54.6	+0.9
	baz=122,SNR=7.6					
WHY	Whitehorse	58.71 335	P	P	20 51 53.7	-0.4
	baz=124,SNR=11					
FARO	Faro, Yukon	59.01 337	P	P	20 51 56.0	-0.1
	baz=126,SNR=9.7					
O30N	Mendenhall	59.27 335	P	P	20 51 58.2	+0.4
	baz=123,SNR=29					
P30M	Million Dollar	59.28 334	P	P	20 51 58.8	+0.7
	baz=121					
P29M	Windy Craggy	59.37 333	P	P	20 51 59.1	+0.5
P29M	Windy Craggy	59.37 333	P	P	20 51 59.3	+0.7
	baz=120,SNR=24					
M31M	Drury Creek, Y	59.39 337	P	P	20 51 58.9	+0.2
	baz=125,SNR=13					
N31M	Braeburn, Yuko	59.53 336	IAmb	IAmb	20 52 14.2	
	comp=Z,31nm,0.8s					
N31M	Braeburn, Yuko	59.53 336	P	P	20 51 59.9	+0.2
	baz=123,SNR=24					
COYC	Coyhaique	59.76 167	P	P	20 52 02.9	+1.6
SFJD	Kangerlussuaq	59.76 16	LR	LR	21 17 08.0	
	comp=Z,453nm,21.8s,baz=215,slow=35					
SFJD	Kangerlussuaq	59.76 16	*i* P	P	20 52 05.1	+4.0
SFJD	Kangerlussuaq	59.76 16	P	P	20 52 00.5	-0.5
SFJD			pP	pP	20 52 14.1	-1.4
N30M	Aishikik Lake	60.05 335	IAmb	IAmb	20 52 04.9	
	comp=Z,24nm,0.9s					
N30M	Aishikik Lake	60.05 335	P	P	20 52 03.9	+0.7
	baz=122,SNR=25					
O29M	Mount Kennedy	60.07 334	IAmb	IAmb	20 52 05.0	
	comp=Z,18nm,1.0s					
O29M	Mount Kennedy	60.07 334	P	P	20 52 03.9	+0.3
	baz=120					
PNL	Peninsula	60.12 333	P	P	20 52 04.3	+0.5
	baz=119					
YUK6	Outpost Mounta	60.30 334	P	P	20 52 05.7	+0.5
	baz=120,SNR=9.2					
M30M	Minto, Yukon	60.53 337	IAmb	IAmb	20 52 20.9	
	comp=Z,59nm,1.6s					
M30M	Minto, Yukon	60.53 337	P	P	20 52 06.5	0.0
	baz=123					
YUK4	Talbot Arm	60.63 335	P	P	20 52 07.7	+0.4
	baz=120					
DY2G	Dye2	60.64 18	*i* P	P	20 52 05.1	-2.3
DY2G			IAmb	IAmb	20 52 20.6	
	comp=Z,39nm,1.0s					
PINM	Pinnacle	60.70 333	P	P	20 52 08.4	+0.6
	baz=118					
O28M	Mount Upton	61.00 334	P	P	20 52 10.5	+0.5
	baz=118,SNR=6.7					
C36M	Paulatuk	61.05 346	P	P	20 52 11.0	+1.2
	baz=139					
YUK8	Steele Glacier	61.06 334	P	P	20 52 10.7	+0.2
	baz=119,SNR=15					
M29M	Somme Creek	61.12 336	P	P	20 52 10.9	+0.3
	baz=121,SNR=69					
TABL	Table Mountain	61.26 333	IAmb	IAmb	20 52 13.4	
	comp=Z,31nm,0.9s					
L29M	L29M	61.33 337	P	P	20 52 11.1	-0.9
L29M	L29M	61.33 337	P	P	20 52 11.8	-0.1
	baz=122,SNR=28					
LOGN	Logan Glacier	61.38 334	IAmb	IAmb	20 52 27.5	
	comp=Z,27nm,1.0s					
J30M	Hart River	61.47 339	IAmb	IAmb	20 52 28.5	
	comp=Z,35nm,1.4s					
J30M	Hart River	61.47 339	P	P	20 52 12.9	0.0
	baz=124,SNR=10					
K29M	Barlow Dome	61.49 338	IAmb	IAmb	20 52 27.3	
	comp=Z,31nm,1.3s					
K29M	Barlow Dome	61.49 338	P	P	20 52 12.8	-0.4
	baz=123,SNR=17					
MESA	MESA	61.50 333	P	P	20 52 14.3	+1.1
	baz=116,SNR=5.9					
CTGM	Chitina Glacie	61.58 334	IAmb	IAmb	20 52 15.6	
	comp=Z,20nm,0.8s					
CTG	Chitna Glacier	61.59 334	P	P	20 52 14.3	+0.5
	baz=117,SNR=8.3					
YUK3	Moose Creek	61.59 335	P	P	20 52 14.2	+0.3
	baz=119,SNR=13					
I30M	Mount Dempster	61.85 339	P	P	20 52 14.9	-0.6
I30M			IAmb	IAmb	20 52 16.5	
	comp=Z,29nm,0.8s					
I30M	Mount Dempster	61.85 339	P	P	20 52 15.4	-0.1
	baz=124,SNR=37					
ISLE	Juniper Island	61.86 333	IAmb	IAmb	20 52 17.2	
	comp=Z,27nm,0.9s					
J29N	Klondike Camp	62.08 338	IAmb	IAmb	20 52 31.2	
	comp=Z,28nm,1.0s					
J29N	Klondike Camp	62.08 338	P	P	20 52 17.8	+0.8
	baz=122					
RES	Resolute Bay	62.15 358	LR	LR	21 20 53.1	
	comp=Z,317nm,21.9s,baz=188,slow=38					
G31M	Satah River	62.16 341	P	P	20 52 17.1	-0.2
	baz=127,SNR=37					
CRQE	Cirque	62.26 333	P	P	20 52 18.5	+0.2
	baz=116,SNR=9.3					
CRQM	Cirque	62.28 333	IAmb	IAmb	20 52 19.9	
	comp=Z,32nm,0.9s					
F31M	Tsiigehtchic	62.31 342	P	P	20 52 18.1	-0.3
	baz=128,SNR=5.2					
DAWY	Dawson	62.31 337	P	P	20 52 17.7	-0.9
	baz=121					
ISOG	Isortoq, Green	62.44 21	*i* P	P	20 52 17.1	-2.1
ISOG			IAmb	IAmb	20 52 32.7	
	comp=Z,104nm,1.4s					
M27K	Edge Creek, AK	62.46 335	P	P	20 52 19.4	-0.3
M27K			IAmb	IAmb	20 52 21.1	
	comp=Z,16nm,0.9s					
M27K	Edge Creek, AK	62.46 335	P	P	20 52 19.5	-0.2
	baz=118,SNR=15					
MCARA	McCarthy VSAT	62.50 334	P	P	20 52 20.5	+0.7
	baz=116,SNR=8.6					
I29M	Ogilvie Camp,	62.60 339	P	P	20 52 19.9	-0.5
	baz=122,SNR=11					
HMT	Hamilton	62.60 332	IAmb	IAmb	20 52 22.3	
	comp=Z,21nm,0.9s					
EPYK	Eagle Plains	62.62 340	P	P	20 52 20.6	0.0
	baz=125,SNR=13					
VRDI	Verde Repeater	62.62 333	IAmb	IAmb	20 52 22.3	
	comp=Z,15nm,0.8s					
BCAR	Beaver Creek A	62.75 336	P	P	20 52 21.3	-0.2
BCAR			pP	pP	20 52 35.5	-0.4
L27K	Beaver Creek,	62.77 336	IAmb	IAmb	20 52 22.8	
	comp=Z,31nm,0.9s					
L27K	Beaver Creek,	62.77 336	P	P	20 52 21.7	+0.1
	baz=118,SNR=42					
INK	Inuvik	62.79 343	P	P	20 52 21.1	-0.4
	baz=129,SNR=18					
INK	Inuvik	62.79 343	LR	LR	21 23 07.2	
	comp=Z,379nm,21.4s,baz=121,slow=39					
G30M	tAoh Zraii Nji	62.81 341	IAmb	IAmb	20 52 39.4	
	comp=Z,27nm,0.8s					
G30M	tAoh Zraii Nji	62.81 341	P	P	20 52 21.1	-0.7
	baz=125,SNR=5.7					
RAGM	Ragged Mountai	62.81 332	IAmb	IAmb	20 52 23.8	
	comp=Z,30nm,1.0s					
GLB	Gilahina Butte	62.87 334	IAmb	IAmb	20 52 23.9	
	comp=Z,26nm,0.9s					
M26K	Nabesna, AK	62.94 335	P	P	20 52 22.8	0.0
	baz=116					
ANGG	Ammassalik, Gr	62.95 21	*i* P	P	20 52 20.1	-2.5
ANGG			IAmb	IAmb	20 52 35.5	
	comp=Z,29nm,0.7s					
BMRM	Bremner River	63.02 333	P	P	20 52 23.7	+0.4
	baz=114,SNR=10					
F30M	Barrier River	63.04 342	P	P	20 52 23.5	+0.2
	baz=126,SNR=39					
H29M	Whitestone	63.09 340	IAmb	IAmb	20 52 24.7	
	comp=Z,28nm,0.8s					
H29M	Whitestone	63.09 340	P	P	20 52 23.7	+0.1
	baz=123,SNR=22					
Q23K	Middleton Isla	63.22 331	P	P	20 52 25.3	+0.8
	baz=112					
I28M	Miner Creek	63.23 338	P	P	20 52 24.1	-0.5
	baz=121,SNR=13					
N25K	Chitina, Valde	63.28 334	IAmb	IAmb	20 52 26.8	
	comp=Z,26nm,0.8s					
N25K	Chitina, Valde	63.28 334	P	P	20 52 25.9	+0.8
	baz=114,SNR=18					
A36M	Sachs Harbour	63.31 348	P	P	20 52 25.8	+0.9
	baz=139					
K27K	Chicken	63.32 337	P	P	20 52 25.2	0.0
K27K			IAmb	IAmb	20 52 39.9	
	comp=Z,19nm,0.8s					
K27K	Chicken	63.32 337	P	P	20 52 25.7	+0.5
	baz=118					
EGAK	Eagle	63.34 338	IAmb	IAmb	20 52 39.0	
	comp=Z,20nm,0.8s					
EGAK	Eagle	63.34 338	P	P	20 52 24.6	-0.6
	baz=119,SNR=13					
G29M	Pine Creek	63.35 340	P	P	20 52 25.6	+0.2
	baz=124,SNR=30					
EYAK	Cordova Ski Ar	63.37 332	P	P	20 52 26.2	+0.7
	baz=113,SNR=7.8					
L26K	Log Cabin Wild	63.37 335	P	P	20 52 25.8	+0.2
	baz=116					
KLU	Klutina	63.82 333	IAmb	IAmb	20 52 29.9	
	comp=Z,26nm,0.8s					
KLU	Klutina	63.82 333	P	P	20 52 28.9	+0.3
	baz=113,SNR=14					
HARP	HAARP	63.85 334	P	P	20 52 28.4	-0.3
	baz=114					
I27K	Kandik River	63.91 338	P	P	20 52 29.1	0.0
	baz=119,SNR=20					
P23K	Montague Islan	63.92 331	P	P	20 52 28.9	-0.3
	baz=111					

baz=120,SNR=76
PAX Paxson 64.22 335 P **P 20 52 30.9 -0.3**
baz=114,SNR=20
ICESG Greenland Ices 64.24 17 *i* P **P 20 52 29.4 -2.1**
ICESG IAmb IAmb 20 52 45.0
comp=Z,37nm,0.7s
I26K Coal Creek Min 64.33 338 IAmb IAmb 20 52 46.2
comp=Z,45nm,1.1s
I26K Coal Creek Min 64.33 338 P **P 20 52 31.7 -0.1**
baz=118
F28M Old Crow 64.34 341 P **P 20 52 32.0 +0.2**
baz=122,SNR=74
G27K Doyon Strip 64.52 339 P **P 20 52 32.7 -0.3**
baz=120,SNR=18
SCM Sheep Creek Mo 64.57 333 IAmb IAmb 20 52 34.4
comp=Z,21nm,0.8s
SCM Sheep Creek Mo 64.57 333 P **P 20 52 33.0 -0.4**
baz=112,SNR=7.3
PWL Port Wells 64.66 332 P **P 20 52 33.5 -0.5**
baz=110
K24K Donnelly Dome 64.69 336 P **P 20 52 34.1 -0.1**
baz=114,SNR=9.2
M23K Glacier View 64.73 333 P **P 20 52 34.4 -0.1**
baz=112,SNR=8.1
E28M Babbage River 64.77 342 P **P 20 52 34.3 -0.3**
baz=123,SNR=32
J25K Salcha River, 64.87 336 IAmb IAmb 20 52 50.0
comp=Z,24nm,0.8s
J25K Salcha River, 64.87 336 P **P 20 52 35.5 +0.1**
baz=115,SNR=38
KNK Knik Glacier 64.92 333 P **P 20 52 34.9 -0.8**
KNK IAmb IAmb 20 52 36.7
comp=Z,36nm,0.9s
KNK Knik Glacier 64.92 333 P **P 20 52 35.4 -0.3**
baz=111,SNR=7.2
D28M Stokes Point 64.92 342 P **P 20 52 36.0 +0.5**
baz=124
SEW Seward 64.92 331 P **P 20 52 35.2 -0.5**
baz=109
SML Sawmill 65.00 333 IAmb IAmb 20 52 37.1
comp=Z,36nm,1.1s
SML Sawmill 65.00 333 P **P 20 52 36.1 -0.2**
baz=111,SNR=10
WAT6 Susitna Watana 65.03 334 P **P 20 52 36.1 -0.5**
baz=112,SNR=22
DHY Denali Highway 65.06 334 P **P 20 52 36.1 -0.7**
baz=112
O22K Cooper Landing 65.18 331 P **P 20 52 36.9 -0.5**
baz=109
E27K Coleen River 65.20 341 P **P 20 52 37.6 +0.2**
baz=120,SNR=33
PMR Palmer 65.28 333 IAmb IAmb 20 52 52.9
comp=Z,18nm,0.7s
PMR Palmer 65.28 333 P **P 20 52 37.6 -0.4**
baz=110
PRP Porcupine Dome 65.32 337 IAmb IAmb 20 52 52.6
comp=Z,23nm,0.9s
PRP Porcupine Dome 65.32 337 P **P 20 52 38.2 -0.1**
baz=115,SNR=16
G26K Porcupine Rive 65.33 339 P **P 20 52 38.1 -0.1**
baz=118,SNR=17
RC01 Rabbit Creek A 65.38 332 P **P 20 52 38.6 -0.1**
baz=109,SNR=9.2
HDA Harding Lake 65.41 336 P **P 20 52 38.4 -0.4**
baz=113,SNR=26
BRSE Bradley Lake S 65.42 330 P **P 20 52 38.9 -0.1**
baz=108
WAT1 Susitna Watana 65.47 334 P **P 20 52 38.6 -0.7**
baz=111
BRLK Bradley Lake 65.50 330 P **P 20 52 39.0 -0.5**
BRLK IAmb IAmb 20 52 40.6
comp=Z,45nm,1.1s
ILAR Eielson Array 65.53 336 P **P 20 52 38.8 -0.8**
ILAR pP **pP 20 52 52.7 -1.4**
ILAR Eielson Array 65.53 336 P **P 20 52 39.0 -0.6**
comp=Z,21nm,1.0s,baz=111,slow=5.0,SNR=126
ILAR LR LR 21 28 09.6
comp=Z,352nm,18.1s,baz=100,slow=42
comp=Z,21nm,1.0s
ILAR Eielson Array 65.53 336 P **P 20 52 38.8 -0.8**
D27M Malcolm River 65.55 342 IAmb IAmb 20 52 54.5
comp=Z,48nm,1.0s
D27M Malcolm River 65.55 342 P **P 20 52 39.9 +0.2**
baz=121,SNR=30
H25L Birch Creek 65.75 338 P **P 20 52 41.4 +0.4**
baz=115
M22K Willow 65.78 333 P **P 20 52 41.0 -0.2**
baz=109
KDAK Kodiak Island 65.78 328 P **P 20 52 41.7 +0.4**
baz=105
KDAK Kodiak Island 65.78 328 LR LR 21 21 48.2
comp=Z,311nm,22.0s,baz=108,slow=36
KDAK Kodiak Island 65.78 328 P **P 20 52 41.7 +0.4**
KDAK pP **pP 20 52 55.1 -0.8**
F26K Sheenjek River 65.80 340 P **P 20 52 41.6 +0.3**
baz=118,SNR=36
BMAR Burnt Mountain 65.83 339 P **P 20 52 41.6 +0.1**
BMAR pP **pP 20 52 55.8 -0.3**
HOM Homer 65.84 330 P **P 20 52 40.8 -0.8**
baz=107
POKR Poker Plat Res 65.88 337 IAmb IAmb 20 52 55.9
comp=Z,22nm,0.8s
POKR Poker Plat Res 65.88 337 P **P 20 52 41.7 -0.2**
baz=113,SNR=8.9
WRH Wood River Hil 65.89 336 IAmb IAmb 20 52 55.4
comp=Z,18nm,0.8s
Q20K Shuyak Island 65.91 329 P **P 20 52 42.2 +0.1**
baz=106
CAPN Captain Cook N 65.94 331 P **P 20 52 42.5 +0.3**
baz=108
COLA College 65.95 336 P **P 20 52 41.7 -0.6**
baz=113
COLA College 65.95 336 P **P 20 52 41.7 -0.6**
COLA pP **pP 20 52 55.5 -1.3**
COLA PcP **PcP 20 53 12.0 -0.7**
MCK McKinley 65.96 335 P **P 20 52 42.2 -0.1**
baz=111,SNR=15
SUA Susitna One 65.97 332 IAmb IAmb 20 52 57.7
comp=Z,25nm,0.7s
SUA Susitna One 65.97 332 P **P 20 52 42.5 -0.1**
baz=108,SNR=8.4
OHAK Old Harbor 66.01 327 P **P 20 52 42.7 -0.1**
baz=104
CUT Chulitna 66.06 333 P **P 20 52 42.7 -0.3**
baz=109
G25K Bearman Lake 66.06 338 P **P 20 52 43.4 +0.5**
baz=115,SNR=23
MDM Murphy Dome 66.13 336 IAmb IAmb 20 52 58.1
comp=Z,21nm,1.1s
F25K Christian Rive 66.26 339 P **P 20 52 45.0 +0.7**
baz=116,SNR=37
NEA2 Nenana 66.33 336 IAmb IAmb 20 52 58.6
comp=Z,22nm,0.9s
NEA2 Nenana 66.33 336 P **P 20 52 44.0 -0.7**
baz=111,SNR=21
SII Sitkinak Islan 66.33 327 P **P 20 52 44.7 -0.2**
baz=103
H24K Noodor Dome 66.34 337 P **P 20 52 44.3 -0.5**
H24K IAmb IAmb 20 52 59.2
comp=Z,27nm,0.9s
H24K Noodor Dome 66.34 337 P **P 20 52 44.6 -0.2**
baz=113,SNR=25
SOEG Soedalen 66.37 20 *i* P P 20 52 34.2 -11
O20K Slope Mountain 66.43 330 P **P 20 52 45.4 -0.2**
baz=106
SKT Skwentna 66.49 333 P **P 20 52 45.5 -0.3**
baz=108,SNR=16
G24K Hadweenzic Riv 66.53 338 IAmb IAmb 20 53 00.9
comp=Z,54nm,1.1s
G24K Hadweenzic Riv 66.53 338 P **P 20 52 46.5 +0.5**
baz=114,SNR=20
N20K Mount Spurr 66.56 332 P **P 20 52 45.6 -0.8**
baz=107
C27K Jago River 66.58 342 P **P 20 52 46.6 +0.3**
baz=119,SNR=23
SUMG Summit 66.61 15 P **P 20 52 45.4 -1.4**
SUMG IAmb IAmb 20 53 19.5
comp=Z,34nm,1.0s
SUMG Summit 66.61 15 P **P 20 52 45.4 -1.4**
SUMG pmax pmax
comp=Z,34nm,1.0s
SUMG Summit 66.61 15 *i* P **P 20 52 45.0 -1.8**
SUMG IAmb IAmb 20 53 03.8
comp=Z,27nm,1.0s
P19K Oil Pt 66.61 330 P **P 20 52 46.4 -0.2**
baz=105
Q19K Cape Douglas, 66.62 329 IAmb IAmb 20 52 48.4
comp=Z,28nm,0.8s
Q19K Cape Douglas, 66.62 329 P **P 20 52 46.5 -0.3**
baz=105
I23K Minto, Yukon-K 66.65 336 P **P 20 52 46.8 +0.1**
baz=111,SNR=16
R18K Karluk 66.70 328 P **P 20 52 46.7 -0.5**
baz=104
KTH Kantishna Hill 66.73 334 IAmb IAmb 20 52 47.8
comp=Z,27nm,0.9s
BPAW Bear Paw Mtn. 66.94 335 P **P 20 52 48.2 -0.4**
BPAW IAmb IAmb 20 53 02.5
comp=Z,35nm,0.8s
BPAW Bear Paw Mtn. 66.94 335 P **P 20 52 48.1 -0.6**
baz=109,SNR=35
CHIR Chirikof Islan 66.95 326 P **P 20 52 48.4 -0.5**
baz=102
H23K Yukon River 66.97 337 IAmb IAmb 20 53 03.2
comp=Z,28nm,1.4s
H23K Yukon River 66.97 337 P **P 20 52 48.4 -0.4**
baz=112,SNR=8.3
F24K Squaw Lake 67.01 339 IAmb IAmb 20 53 06.1
comp=Z,19nm,0.9s
F24K Squaw Lake 67.01 339 P **P 20 52 49.6 +0.5**
baz=114,SNR=14
PPLA Purkeypile 67.06 333 P **P 20 52 48.9 -0.7**
baz=108
C26K Camden Bay 67.08 342 P **P 20 52 49.8 +0.4**
baz=118
MLY Manley 67.15 336 P **P 20 52 49.7 -0.3**
MLY IAmb IAmb 20 53 04.1
comp=Z,36nm,0.8s
MLY Manley 67.15 336 P **P 20 52 49.7 -0.3**
baz=110,SNR=33
CAST Castle Rocks 67.18 334 IAmb IAmb 20 53 03.6
comp=Z,66nm,1.6s
CAST Castle Rocks 67.18 334 P **P 20 52 49.1 -1.1**
baz=108
M20K Styx River 67.18 332 IAmb IAmb 20 53 05.0
comp=Z,19nm,0.7s
M20K Styx River 67.18 332 P **P 20 52 49.9 -0.5**
baz=106,SNR=12
Q18K Katmai Hardscr 67.24 329 P **P 20 52 50.5 -0.3**
baz=103,SNR=5.7
D25K Kavik River 67.27 341 P **P 20 52 51.0 +0.3**
baz=116,SNR=70
CHUM Lake Minchumin 67.42 334 P **P 20 52 50.7 -0.9**
baz=108
EUNU Eureka 67.44 0 P **P 20 52 51.1 -0.5**
E24K Your Creek 67.45 339 P **P 20 52 52.2 +0.4**
baz=113,SNR=7.3
G23K Bananza Creek 67.47 338 IAmb IAmb 20 53 06.8
comp=Z,28nm,0.9s
G23K Bananza Creek 67.47 338 P **P 20 52 52.4 +0.4**
baz=111,SNR=23
N19K Bonanza Creek 67.52 331 P **P 20 52 51.5 -1.0**
N19K IAmb IAmb 20 52 52.9
comp=Z,22nm,0.8s
N19K Bonanza Creek 67.52 331 P **P 20 52 51.9 -0.6**
baz=105,SNR=13
NEEM North Greenlan 67.53 8 *i* P **P 20 52 51.3 -1.2**
NEEM IAmb IAmb 20 53 06.8
comp=Z,42nm,0.8s
P18K Big Mountain, 67.53 329 P **P 20 52 51.8 -0.7**
baz=104
PPT2 Papeete2 67.56 245 *e*S **S 21 01 45.9 -0.9**
comp=Z,278nm,24.0s
PPT2 *e*SS **SS 21 06 13.4 +4.9**
comp=Z,256nm,30.0s
PPT2 *e*LR LR 21 13 15.6
comp=Z,1μm,26.8s
PPT2 *e*LR LR 21 13 21.7
comp=Z,1μm,24.2s
Q17K Contact Creek 67.61 328 P **P 20 52 52.7 -0.3**
baz=102,SNR=7.0
O18K Koktuh Hills 67.63 330 IAmb IAmb 20 52 53.9
comp=Z,24nm,0.8s
O18K Koktuh Hills 67.63 330 P **P 20 52 52.4 -0.7**
baz=104,SNR=12
L20K Farewell, AK 67.68 333 P **P 20 52 52.6 -0.8**
baz=106,SNR=25
H22K Ishtalitna Cre 67.70 337 P **P 20 52 52.6 -0.8**
baz=110,SNR=15
PLK4 Peulik 4 67.72 327 IAmb IAmb 20 52 54.8
comp=Z,48nm,1.1s
R17L Mt. Peulik Vol 67.72 327 P **P 20 52 53.7 0.0**
baz=102
COLD Coldfoot 67.73 338 P **P 20 52 54.5 +0.9**
baz=111,SNR=13
M19K Big River Lodg 67.76 332 P **P 20 52 53.4 -0.4**
baz=105
E23K Chandalar 67.83 339 P **P 20 52 54.7 +0.4**
baz=112,SNR=26
D24K Happy Valley 67.99 340 IAmb IAmb 20 53 10.4
comp=Z,42nm,1.1s
D24K Happy Valley 67.99 340 P **P 20 52 55.2 +0.1**
baz=114,SNR=6.5
K20K Telida 68.01 334 IAmb IAmb 20 53 09.1
comp=Z,72nm,1.6s
K20K Telida 68.01 334 P **P 20 52 54.9 -0.6**
baz=106
TOLK Toolik Lake Re 68.04 340 IAmb IAmb 20 53 10.1
comp=Z,24nm,0.9s
TOLK Toolik Lake Re 68.04 340 P **P 20 52 55.5 -0.1**
baz=112,SNR=11
L19K White Mountain 68.04 332 P **P 20 52 54.5 -1.1**
L19K White Mountain 68.04 332 P **P 20 52 54.8 -0.8**
baz=105,SNR=6.9
Q16K King Salmon 68.09 328 P **P 20 52 56.0 +0.1**
baz=102
P17K Kvichak River 68.09 329 P **P 20 52 55.6 -0.3**
baz=102
G22K Bettles 68.10 338 P **P 20 52 56.2 +0.4**
baz=110,SNR=13
N18K Kilae Creek 68.15 331 P **P 20 52 55.6 -0.8**
baz=103,SNR=6.3
H21K Melozitna Rive 68.18 336 P **P 20 52 55.4 -1.0**
baz=108,SNR=6.9
C24K Franklin Bluff 68.18 341 P **P 20 52 56.4 +0.1**
baz=114
J20K Nowinta River 68.28 335 IAmb IAmb 20 52 57.5
comp=Z,47nm,1.7s
J20K Nowinta River 68.28 335 P **P 20 52 56.1 -1.0**
baz=105,SNR=10
M18K Stony River 68.31 331 P **P 20 52 56.6 -0.7**
baz=104,SNR=11
D23K Nanushuk River 68.54 340 P **P 20 52 58.9 +0.3**
baz=112
O17K Koliganek Bris 68.54 330 P **P 20 52 58.7 -0.1**
baz=102
F22K John River 68.54 338 P **P 20 52 59.2 +0.5**
baz=110,SNR=23
CHGN Chignik 68.58 326 P **P 20 52 58.8 -0.2**
baz=99
I20K Naaghedeneel 68.59 335 P **P 20 52 58.5 -0.5**
baz=106,SNR=8.5
IMAR Indian Mountai 68.65 336 P **P 20 52 58.5 -0.9**
IMAR pP **pP 20 53 12.2 -1.8**
G21K Allakaket 68.72 337 IAmb IAmb 20 53 13.8
comp=Z,20nm,0.8s
G21K Allakaket 68.72 337 P **P 20 52 59.8 0.0**
baz=108,SNR=18
N17K Nushagak Hills 68.74 330 P **P 20 52 59.6 -0.5**
baz=102,SNR=6.4
C23K Itkillik River 68.84 341 P **P 20 53 00.8 +0.3**
baz=112,SNR=23
P16K Nushagak River 68.84 329 P **P 20 53 00.1 -0.5**
baz=101
J19K Poorman 68.85 334 IAmb IAmb 20 53 14.2
comp=Z,25nm,1.1s
J19K Poorman 68.85 334 P **P 20 52 59.6 -1.1**
baz=105,SNR=11
BORG Borgarnes 68.88 25 LR LR 21 24 28.1
comp=Z,161nm,18.1s,baz=253,slow=37
L18K Granite Mounta 68.89 332 P **P 20 53 00.0 -0.9**
baz=103
F21K Alatna River 68.93 338 P **P 20 53 01.7 +0.6**
baz=108,SNR=42
H20K Anotleneega Mo 68.95 336 P **P 20 53 00.4 -0.9**
baz=106,SNR=8.4
O16K Kokwok River B 69.00 329 P **P 20 53 01.0 -0.6**
baz=101
CHNA Chernabura Isl 69.01 324 P **P 20 53 01.6 -0.2**
baz=98
M17K Holitna River 69.05 331 P **P 20 53 01.1 -0.8**
M17K Holitna River 69.05 331 P **P 20 53 01.2 -0.8**
baz=102
D22K Ayikyak River 69.18 340 IAmb IAmb 20 53 17.6
comp=Z,25nm,1.0s
D22K Ayikyak River 69.18 340 P **P 20 53 02.7 +0.1**
baz=110,SNR=6.6
J18K Innoko River 69.19 333 P **P 20 53 01.8 -1.0**
baz=104,SNR=6.2
BBTS Babate 69.46 79 LR LR 21 19 19.9
comp=Z,165nm,20.4s,baz=153,slow=32
E21K Killik River 69.49 339 IAmb IAmb 20 53 19.0
comp=Z,27nm,1.1s
E21K Killik River 69.49 339 P **P 20 53 04.4 -0.2**
baz=108
N16K Nishlik Lake 69.50 330 P **P 20 53 04.2 -0.5**
baz=101
GCSA Galena City Sc 69.57 335 P **P 20 53 03.8 -1.2**
baz=104
SDPT Sand Point 69.59 325 P **P 20 53 04.7 -0.6**
baz=97
H19K Roundabout Mou 69.59 336 IAmb IAmb 20 53 19.3
comp=Z,38nm,1.1s
H19K Roundabout Mou 69.59 336 P **P 20 53 04.7 -0.4**
baz=105,SNR=15
L17K Donlin 69.60 332 P **P 20 53 04.5 -0.8**
baz=102
M16K Timber Creek 69.69 331 P **P 20 53 05.6 -0.4**
baz=101
F20K Avaraart Lake 69.71 337 IAmb IAmb 20 53 20.7
comp=Z,28nm,1.1s
F20K Avaraart Lake 69.71 337 P **P 20 53 06.0 +0.1**
baz=106,SNR=14
TBI Tubuai 69.72 239 *e*P **P 20 53 03.3 -3.4**
TBI *e*S **S 21 02 13.3 +1.3**
comp=Z,998nm,48.5s
TBI *e*LR LR 21 14 22.4
comp=Z,1μm,28.5s
TBI Tubuai 69.72 239 *e*LR LR 21 14 23.1
comp=Z,971nm,28.5s
TBI *e*LR LR 21 14 23.1
comp=Z,5μm,26.0s
K17K Iditarod 69.73 332 P **P 20 53 05.0 -1.0**
baz=102
O15K Ungalikthiuk R 69.80 329 P **P 20 53 05.8 -0.7**
baz=99
B22K Teshekpuk Lake 69.92 341 P **P 20 53 06.9 -0.2**
baz=109
C21K Knifeblade Rid 69.99 340 P **P 20 53 07.7 +0.1**
baz=108
G19K Purcell Mounta 70.00 336 P **P 20 53 07.1 -0.6**
G19K IAmb IAmb 20 53 22.1
comp=Z,25nm,1.1s
G19K Purcell Mounta 70.00 336 P **P 20 53 07.5 -0.2**
baz=104,SNR=15
L16K Owhat River 70.07 331 P **P 20 53 08.2 0.0**
baz=100,SNR=7.1
B21K Ikpikpuk River 70.08 340 IAmb IAmb 20 53 22.4
comp=Z,40nm,0.9s
B21K Ikpikpuk River 70.08 340 P **P 20 53 07.8 -0.2**
baz=108,SNR=6.3
N15K Kwethluk River 70.09 330 P **P 20 53 08.1 -0.3**
baz=99
J17K VABM Dome 70.21 333 P **P 20 53 08.7 -0.3**
baz=102
E20K Nigu River 70.22 338 P **P 20 53 09.4 +0.3**
baz=106,SNR=20
H18K Honhosa River 70.28 335 P **P 20 53 09.0 -0.5**
H18K IAmb IAmb 20 53 24.2
comp=Z,31nm,1.4s
H18K Honhosa River 70.28 335 P **P 20 53 09.6 +0.2**
baz=103,SNR=7.4
E19K Redstone River 70.39 338 P **P 20 53 09.5 -0.5**
baz=105,SNR=7.7
F19K Shaleruckik Mo 70.44 337 P **P 20 53 10.1 -0.2**
baz=104
M15K Kasigluk River 70.47 330 P **P 20 53 10.5 -0.2**
baz=99
D20K Etivluk River 70.50 339 P **P 20 53 10.8 +0.1**
baz=106,SNR=11
S12K Black Hills 70.53 325 P **P 20 53 10.8 -0.3**
baz=96
O14K Tigyukauivet M 70.54 329 P **P 20 53 10.3 -0.8**
baz=98
G18K Tagagawik 70.56 336 IAmb IAmb 20 53 25.9
comp=Z,37nm,1.2s
G18K Tagagawik 70.56 336 P **P 20 53 11.3 +0.2**
baz=103,SNR=15
A22K Sinclair Lake 70.62 341 P **P 20 53 11.0 -0.3**
baz=108
ALE Alert 70.68 3 P **P 20 53 10.0 -1.6**
ALE pP **pP 20 53 23.8 -2.5**
ALE PcP **sP 20 53 31.1 -1.1**
N14K Kuskokwak Cree 70.85 329 P **P 20 53 12.4 -0.5**
baz=98
J16K Anvik River 70.87 333 P **P 20 53 12.7 -0.3**
J16K IAmb IAmb 20 53 28.0
comp=Z,22nm,0.9s
J16K Anvik River 70.87 333 P **P 20 53 13.5 +0.5**
baz=100,SNR=9.5
H17K Granite Mounta 70.88 335 P **P 20 53 13.2 +0.2**
baz=101,SNR=6.7
D19K Kuna River 70.97 339 IAmb IAmb 20 53 28.2
comp=Z,57nm,1.4s
D19K Kuna River 70.97 339 P **P 20 53 13.4 -0.2**
baz=104
L15K Ungalak Mounta 71.01 331 P **P 20 53 13.9 +0.1**
baz=99
I17K Unalakleet 71.01 334 P **P 20 53 14.3 +0.5**
baz=100
B20K Meade River 71.03 340 P **P 20 53 13.9 0.0**
baz=106
M14K Bethel 71.10 330 IAmb IAmb 20 53 15.8
comp=Z,47nm,0.9s
M14K Bethel 71.10 330 P **P 20 53 14.7 +0.3**
baz=98
F18K Selawik 71.11 336 P **P 20 53 14.3 -0.1**
baz=102
K15K Wolf Creek Mou 71.12 332 IAmb IAmb 20 53 29.6
comp=Z,24nm,0.8s
K15K Wolf Creek Mou 71.12 332 P **P 20 53 14.9 +0.3**
baz=99,SNR=9.5
FALS False Pass 71.22 324 P **P 20 53 15.6 +0.3**
baz=95
G17K Kiwalik Mounta 71.29 335 P **P 20 53 15.9 +0.3**
baz=101,SNR=6.3
L14K Kuka Creek 71.53 331 P **P 20 53 16.9 -0.1**
baz=98
C19K Lookout Ridge 71.64 339 P **P 20 53 17.9 +0.2**
baz=103,SNR=5.7
E18K Tukpahlearik C 71.65 337 P **P 20 53 17.0 -0.6**
E18K Tukpahlearik C 71.65 337 P **P 20 53 17.0 -0.6**
baz=101
F17K Baldwin Pennin 71.71 336 P **P 20 53 17.9 -0.1**
baz=100
M13K Dall Lake 71.73 330 P **P 20 53 18.0 -0.3**
baz=97
H16K Elim 71.81 334 P **P 20 53 18.5 -0.2**
baz=99,SNR=6.0
G16K Koyuk River 71.97 335 P **P 20 53 19.6 0.0**
baz=99
E17K Hotham Inlet 72.05 337 P **P 20 53 19.8 -0.3**
baz=100
C18K Utukok River 72.11 338 IAmb IAmb 20 53 34.8
comp=Z,42nm,1.1s
C18K Utukok River 72.11 338 P **P 20 53 20.4 -0.1**
baz=101
J14K Nanvaranak Lak 72.12 332 P **P 20 53 20.8 +0.3**
J14K IAmb IAmb 20 53 22.4
comp=Z,25nm,0.9s
J14K Nanvaranak Lak 72.12 332 P **P 20 53 21.3 +0.8**
baz=97,SNR=9.7
A19K Wainwright 72.38 340 P **P 20 53 22.2 +0.2**
baz=102
B18K Kokolik River 72.46 339 P **P 20 53 23.4 +0.9**
baz=101
K13K Kusilvak Mount 72.53 331 P **P 20 53 23.1 0.0**
baz=96
G15K Niukluk 72.62 334 P **P 20 53 24.3 +0.8**
baz=97
RDOG Red Dog Mine 72.62 338 P **P 20 53 23.3 -0.2**
baz=99
D17K Noatak River 72.63 337 P **P 20 53 24.0 +0.5**
baz=99
C17K DeLong Mountai 72.79 338 P **P 20 53 24.3 -0.2**
baz=99
UNV Unalaska Valle 72.96 323 P **P 20 53 25.8 0.0**
baz=92
F15K North Star Dit 72.96 335 IAmb IAmb 20 53 40.7
comp=Z,45nm,1.1s
F15K North Star Dit 72.96 335 P **P 20 53 26.2 +0.6**
baz=97
ANM Nome 73.14 334 P **P 20 53 26.4 -0.2**
baz=96
M11K Mekoryuk 73.14 330 P **P 20 53 26.2 -0.5**

baz=94
DAG Danmarks Havn 73.15 13 *i* P **P 20 53 24.6 -1.9**
DAG IAmb IAmb 20 53 40.3
comp=Z,11nm,0.7s
C16K Lisburne Hills 73.56 338 P **P 20 53 29.1 +0.1**
baz=97
F14K Arctic Creek 73.63 335 P **P 20 53 30.3 +0.8**
baz=96
PCAS Casmilo, Conde 74.19 52 *e*P **P 20 53 31.7 -1.6**
PNCL Nicolau / Gran 74.29 54 *e*pP pP 20 53 53.3 +4.7
TNA Tin City 74.30 335 P **P 20 53 33.6 +0.3**
baz=94
PMTG Montargil 74.46 53 *e*pP pP 20 53 48.2 -1.5
MESJ Messejana 74.55 54 *e*P **P 20 53 34.8 -0.6**
MESJ IAmb IAmb 20 53 37.0
comp=Z,5.9nm,0.9s
MESJ Messejana 74.55 54 *e*P **P 20 53 34.8 -0.6**
PVIS Viseu 74.61 51 *e*P **P 20 53 33.2 -2.6**
JMIC Jan Mayen 74.80 20 LR LR 21 25 34.0
comp=Z,294nm,21.1s,baz=246,slow=35
MTE Manteigas 74.90 51 *e*LQ LQ 21 16 30.3
MTE *e*LR LR 21 16 55.1
comp=Z,459nm,22.0s
NOR Nord 74.91 8 *i* P **P 20 53 35.5 -1.1**
NOR IAmb IAmb 20 53 53.6
comp=Z,12nm,0.9s
PVAQ Vaqueiros 74.98 54 *e*LR LR 21 16 57.3
comp=Z,511nm,20.0s
PCBR Castelo Branco 74.99 52 *e*pP pP 20 53 49.7 -3.0
PMRV Marv??o 75.08 52 *e*pP pP 20 53 54.9 +1.6
PMRV Marv??o 75.08 52 *e*LR LR 21 16 27.4
comp=Z,283nm,22.0s
SPIA Saint Paul Isl 75.14 326 P **P 20 53 38.9 +0.5**
baz=90
PBAR Barrancos 75.45 54 *e*P **P 20 53 39.4 -1.2**
GAMB Gambell 75.86 333 P **P 20 53 42.8 +0.5**
baz=90
EKA Eskdalemuir Ar 76.94 36 P **P 20 53 45.9 -2.8**
comp=Z,1.2nm,0.6s,baz=268,slow=5.6,SNR=7.4
comp=Z,1.2nm,0.6s
ESDC Sonseca Array 77.70 52 P **P 20 53 50.5 -2.8**
comp=Z,0.9nm,0.6s,baz=282,slow=5.5,SNR=12
ESDC LR LR 21 22 17.4
comp=Z,357nm,21.6s,baz=268,slow=31
comp=Z,0.9nm,0.6s
RAR Rarotonga 77.84 245 LR LR 21 19 49.3
comp=Z,365nm,18.2s,baz=90,slow=29
MDT Midelt 77.99 59 LR LR 21 22 45.7
comp=Z,640nm,21.8s,baz=306,slow=32
PMSA Palmer Station 79.34 170 LR LR 21 23 08.1
comp=Z,415nm,19.3s,baz=326,slow=31
KBS Kingsbay 79.64 11 *i* P P 20 53 54.9 -8.3
SMAI San Martin Ant 81.98 172 P **P 20 54 16.6 +1.0**
DBIC Dimbokro 82.16 85 P **P 20 54 16.0 -1.8**
comp=Z,1.9nm,0.5s,baz=302,slow=3.0,SNR=3.5
DBIC LR LR 21 27 47.1
comp=Z,314nm,20.2s,baz=281,slow=34
comp=Z,1.9nm,0.5s
NB2 NORSAR Subarra 83.59 29 P **P 20 54 24.5 +0.1**
comp=Z,5.9nm,1.0s,baz=286,slow=5.1
NOA NORSAR Array B 83.59 29 P **P 20 54 22.2 -2.1**
comp=Z,3.3nm,0.8s,baz=286,slow=5.0,SNR=11
NOA LR LR 21 27 48.2
comp=Z,275nm,21.8s,baz=280,slow=33
comp=Z,3.3nm,0.8s
BILL Bilibino 84.06 339 P **P 20 54 25.4 -1.1**
BILL IAmb IAmb 20 54 41.1
comp=Z,37nm,1.0s
BILL Bilibino 84.06 339 *c i* P **P 20 54 25.8 -0.8**
BILL *i* *SP **sP 20 54 48.8 +1.4**
BILL *e* 20 57 40.6
BILL *e*PPP PPP 20 59 32.6
BILL pmax pmax
comp=Z,24nm,1.0s
BILL MLR MLR
comp=Z,272nm,22.0s
HFS Hagfors 85.01 29 P **P 20 54 29.2 -2.4**
comp=Z,2.8nm,0.8s,baz=270,slow=1.5,SNR=6.9
HFS LR LR 21 28 17.1
comp=Z,224nm,21.6s,baz=288,slow=33
comp=Z,2.8nm,0.8s
TUE Stuetta 86.11 43 P **P 20 54 35.9 -1.8**
ARCES ARCESS Array B 86.27 19 P **P 20 54 34.8 -2.8**
comp=Z,2.3nm,0.6s,baz=292,slow=4.6,SNR=10.0
ARCES LR LR 21 31 46.8
comp=Z,242nm,21.7s,baz=293,slow=35
comp=Z,2.3nm,0.6s
DAVA Damuels 86.27 42 *e*P **P 20 54 34.8 -3.5**
comp=Z,6.7nm,1.3s
DAVA *es*P **sP 20 54 56.8 -2.4**
comp=Z,9.9nm,1.1s
DAVOX Davos/Dischmat 86.39 43 LR LR 21 27 41.8
comp=Z,359nm,21.6s,baz=272,slow=32
RETA Reutte 86.80 42 *e*P **P 20 54 39.0 -1.8**
comp=Z,1.7nm,0.5s
MOTA Moosalm 87.06 42 *e*P **P 20 54 40.2 -1.9**
comp=Z,4.8nm,1.0s
TORD Torodi Ar. Bea 87.14 77 P **P 20 54 39.5 -3.5**
comp=Z,0.5nm,0.4s,baz=307,slow=4.0,SNR=12
TORD LR LR 21 30 15.3
comp=Z,395nm,20.9s,baz=308,slow=33
comp=Z,0.5nm,0.4s
SQTA Sankt Quirin 87.16 42 *e*P **P 20 54 39.5 -3.1**
comp=Z,9.2nm,1.7s
CLL Collm 87.16 38 *e*P **P 20 54 43.0 +0.7**
CLL *e* 21 05 04.0
CLL *e*S **S 21 05 20.0 +2.1**
WTTA Wattenberg 87.43 42 *e*P **P 20 54 40.4 -3.6**
comp=Z,1.3nm,0.5s
HSKC Hora Svate Kat 87.62 39 AMS AMS 21 33 30.0
comp=Z,300nm,22.4s
BRG Berggiesshubel 87.86 38 *e*P **P 20 54 44.5 -1.2**
BRG Amp 20 54 46.4
comp=Z,4.9nm,1.2s
BRG Berggiesshubel 87.86 38 S **S 21 05 31.0 +6.4**
BRG Berggiesshubel 87.86 38 *e*P **P 20 54 44.5 -1.2**
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG MLR MLR
comp=E,128nm,15.2s
BRG MLR MLR
comp=N,43nm,16.0s
BRG MLR MLR
comp=Z,281nm,19.0s
LESA Schwarzleotal 88.06 42 *e*P **P 20 54 43.5 -3.4**
comp=Z,2.2nm,1.0s
LESA *es*P **sP 20 55 05.3 -2.5**
comp=Z,5.2nm,1.3s
KHC Kasperske Hory 88.15 40 AMS AMS 21 31 20.0
comp=Z,600nm,19.5s
ABTA Abfaltersbach 88.15 43 *e*P **P 20 54 45.5 -1.8**
comp=Z,6.0nm,1.2s
ABTA *i* sP **sP 20 55 05.6 -2.6**
comp=Z,6.0nm,1.2s
GERES GERESS Array B 88.31 40 P **P 20 54 46.2 -1.8**
GERES GERESS Array B 88.31 40 P **P 20 54 45.5 -2.5**
comp=Z,0.2nm,0.3s,baz=303,slow=4.5,SNR=2.3
GERES LR LR 21 32 13.1
comp=Z,374nm,19.3s,baz=301,slow=34
comp=Z,0.2nm,0.3s
GERES GERESS Array B 88.31 40 P **P 20 54 46.2 -1.8**
PVCC Panska Ves 88.34 39 AMS AMS 21 34 00.0
comp=Z,200nm,17.7s
PRA Prague 88.40 39 AMS AMS 21 31 00.0
comp=Z,400nm,18.0s
ZVC Zvikov 88.44 40 AMS AMS 21 31 50.0
comp=Z,500nm,18.3s
PRU Pruhonice 88.49 39 AMS AMS 21 30 50.0
comp=Z,400nm,16.3s
KBA Koelnbreinsper 88.60 42 *e*P **P 20 54 46.9 -2.6**
comp=Z,3.8nm,1.3s
BIOA Bad Ischl, Aus 88.61 41 *e*P **P 20 54 47.7 -1.7**
comp=Z,1.2nm,0.6s
GOPC GO Pecny, Ondr 88.66 39 AMS AMS 21 30 40.0
comp=Z,500nm,21.3s
CKRC Cesky Krumlov 88.70 40 AMS AMS 21 31 30.0
comp=Z,400nm,18.6s
KEST Kesra 88.78 54 LR LR 21 29 07.1
comp=Z,146nm,21.3s,baz=276,slow=32
MOA Molln 88.97 41 *e*P **P 20 54 49.1 -1.9**
comp=Z,2.8nm,1.3s
UPC Upice 89.22 38 AMS AMS 21 34 40.0
comp=Z,300nm,22.6s
TREC Trest 89.29 39 AMS AMS 21 32 10.0
comp=Z,400nm,19.0s
OSTC Ostas 89.33 38 AMS AMS 21 34 40.0
comp=Z,300nm,18.0s

DPC Dobruska-Polom 89.46 38 AMS AMS 21 34 40.0
comp=Z,300nm,19.8s
OBKA Obir 89.56 42 *e*P **P 20 54 50.4 -3.5**
comp=Z,3.5nm,1.6s
OBKA *i* sP **sP 20 55 13.6 -1.3**
comp=Z,4.1nm,1.0s
SOKA Soboth 89.82 42 *e*P **P 20 54 53.0 -2.1**
comp=Z,2.0nm,1.2s
KRLC Kraliky 89.83 38 AMS AMS 21 32 00.0
comp=Z,300nm,19.1s
CONA Conrad Observa 89.96 41 *e*P **P 20 54 53.1 -2.7**
comp=Z,3.2nm,2.1s
CONA *es*P **sP 20 55 15.8 -0.9**
comp=Z,3.1nm,1.1s
ARSA Arzberg 89.96 41 *e*P **P 20 54 53.1 -2.6**
comp=Z,1.9nm,1.0s
ARSA *es*P **sP 20 55 15.1 -1.6**
comp=Z,1.0nm,0.5s
VRAC Vranov 89.97 39 LR LR 21 31 41.8
comp=Z,357nm,20.0s,baz=285,slow=33
FINES FINESS Array B 90.15 26 P **P 20 54 55.1 -1.1**
comp=Z,1.2nm,0.7s,baz=243,slow=2.1,SNR=5.2
FINES LR LR 21 33 28.3
comp=Z,160nm,20.5s,baz=288,slow=34
comp=Z,1.2nm,0.7s
RONA Rosalia, Austr 90.31 41 *e*P **P 20 54 56.3 -1.1**
comp=Z,3.1nm,1.3s
RONA *es*P **sP 20 55 16.0 -2.3**
comp=Z,4.4nm,1.3s
OKC Ostrava-Krasne 90.74 38 AMS AMS 21 32 40.0
comp=Z,300nm,19.3s
SEY Seymchan 91.47 336 *e*P **P 20 55 01.3 -1.0**
SEY pmax pmax
comp=Z,28nm,1.3s
VAE Valguarnera 92.22 51 LR LR 21 31 44.8
comp=Z,676nm,20.4s,baz=315,slow=32
MA2 Madan 93.93 334 LR LR 21 42 08.5
comp=Z,227nm,21.6s,baz=44,slow=38
AKASG Malin Array Be 96.82 35 LR LR 21 37 04.8
comp=Z,334nm,20.2s,baz=285,slow=34
MLR Muntele Rosu 97.30 40 LR LR 21 35 59.2
comp=Z,270nm,21.2s,baz=297,slow=33
NRIK Noril'sk 98.18 1 LR LR 21 42 36.5
comp=Z,348nm,21.2s,baz=351,slow=37
OBN Obninsk 98.19 28 LR LR 21 36 52.3
comp=Z,204nm,21.9s,baz=347,slow=34
OBN Obninsk 98.19 28 *e*P **P 20 55 32.3 -0.9**
OBN *e**SP **sP 20 55 58.4 +4.3**
OBN *e* 20 59 29.9
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,122nm,19.0s
VNA3 Neumayer Olymp 98.24 161 ⇑Pdiff Pdif 20 55 33.3 +0.2
comp=Z,7.6nm,0.8s
VNA1 Neumayer--Stat 98.54 161 ⇑Pdiff Pdif 20 55 34.7 +0.4
comp=Z,5.9nm,0.8s
VNA2 Neumayer--Watz 98.88 161 ⇑Pdiff Pdif 20 55 36.1 +0.2
comp=Z,3.4nm,0.6s,baz=269,slow=3.1
YAK Yakutsk 99.86 343 LR LR 21 45 15.7
comp=Z,265nm,21.9s,baz=20,slow=38
SNAA Sanae 100.46 161 ⇑Pdiff **Pdif 20 55 43.2 +0.2**
comp=Z,44nm,0.8s
SNAA Sanae 100.46 161 P **Pdif 20 55 43.5 +0.5**
comp=Z,2.3nm,0.9s,baz=292,slow=5.2,SNR=7.6
TROLL Troll, Antarti 102.17 161 ⇑Pdiff **Pdif 20 55 51.8 +1.1**
comp=Z,75nm,0.6s
BRTR Keskin Array B 105.04 43 PKKPbc PKKPbc 21 11 47.2 +0.4
comp=Z,0.7nm,0.8s,baz=138,slow=9.9,SNR=5.0
DZM Mont Dzumac 108.66 251 *e*P **Pdif 20 56 23.5 +2.9**
comp=Z,60nm,23.1s
DZM Mont Dzumac 108.66 251 *e*SS SS 21 16 05.7 -0.8
comp=Z,134nm,24.2s
DZM Mont Dzumac 108.66 251 *e*LR LR 21 32 22.6
comp=Z,373nm,22.4s
MAK Makhachkala 111.46 33 *e*P **Pdif 20 56 33.0 +0.5**
MAK *e* 21 00 30.0
MAK *e* 21 01 10.8
MAK *e*PPP PPP 21 03 29.1
MAK *e*PS **PS 21 10 45.8 +1.9**
MAK *e*SS SS 21 16 41.1 0.0
MAK pmax pmax
comp=Z,215nm,1.1s
BVAR Borovoye Array 112.08 14 PKiKP **PKiKP 21 00 30.6 -0.9**
comp=Z,0.2nm,0.3s,baz=103,slow=3.1,SNR=2.8
BVAR PKKPbc **PKKPbc 21 11 23.1 -1.8**
comp=Z,0.5nm,0.8s,baz=256,slow=1.2,SNR=4.4
ZALV Zalesovo Beam 113.42 4 PKiKP **PKiKP 21 00 33.3 -0.6**
comp=Z,1.6nm,0.5s,baz=294,slow=3.1,SNR=7.2
ZALV PKKPbc **PKKPbc 21 11 23.5 +3.1**
comp=Z,0.5nm,0.5s,baz=220,slow=3.8,SNR=4.9
KURK Kurchatov 115.88 9 **PKiKP 21 00 37.3 -1.5**
KURK Kurchatov 115.88 9 PKIKP **PKiKP 21 00 37.9 -0.8**
KURBB Kurchatov Arra 115.96 9 PKP **PKiKP 21 00 37.9 -1.0**
comp=Z,1.8nm,0.8s,baz=354,slow=2.0,SNR=18
KURBB PKKPbc **PKKPbc 21 11 09.9 -1.7**
comp=Z,1.0nm,0.9s,baz=173,slow=4.0,SNR=5.1
BOSA Boshof 116.49 116 PKP **PKiKP 21 00 40.8 +0.1**
comp=Z,3.4nm,0.8s,baz=258,slow=2.7,SNR=7.7
ULN Ulaanbaatar 118.24 348 PKPdf **PKPdf 21 00 43.1 -0.5**
ULN Ulaanbaatar 118.24 348 PKIKP **PKPdf 21 00 43.1 -0.5**
SONM Songino Array 118.40 349 PKPdf **PKPdf 21 00 43.4 -0.5**
SONM **pPKPdf 21 00 58.2 -1.4**
SONM Songino Array 118.40 349 PKP **PKPdf 21 00 43.4 -0.5**
comp=Z,4.7nm,0.8s,baz=332,slow=1.4,SNR=26
SONM PKKPbc **PKKPbc 21 11 01.3 -1.8**
comp=Z,1.1nm,0.7s,baz=197,slow=5.4,SNR=5.9
XLT XiLinHaoTe 119.51 340 *e*PKP **PKiKP 21 00 46.8 +0.6**
XLT LR LR
comp=Z,210nm,20.8s
XLT LR LR
comp=Z,200nm,24.0s
KSRS Korea Array 119.69 327 PKP **PKiKP 21 00 46.9 +0.3**
comp=Z,6.3nm,0.8s,baz=16,slow=1.0,SNR=41
KSAR Wonju Array Be 119.72 327 PKPdf **PKiKP 21 00 46.6 0.0**
KSAR **pPKPdf 21 01 01.4 -0.8**
KSAR Wonju Array Be 119.72 327 PKIKP **PKiKP 21 00 46.6 0.0**
MKAR Makanchi Array 120.24 7 PKPdf **PKPdf 21 00 46.0 -1.3**
MKAR Makanchi Array 120.24 7 PKP **PKPdf 21 00 45.7 -1.6**
comp=Z,1.0nm,0.4s,baz=311,slow=2.7,SNR=29
MKAR PKKPbc **PKKPbc 21 10 54.0 -2.2**
comp=Z,1.0nm,0.9s,baz=139,slow=5.8,SNR=4.7
MKAR Makanchi Array 120.24 7 PKIKP **PKPdf 21 00 46.0 -1.3**
MAW Mawson 121.89 167 PKP **PKPdf 21 00 49.7 0.0**
comp=Z,2.4nm,0.6s,baz=244,slow=3.4,SNR=5.3
BJI Beijing 122.88 338 PKP **PKiKP 21 00 53.5 +0.8**
BJI LR LR
comp=Z,87nm,24.4s
BJI LR LR
comp=Z,140nm,22.6s
BJI LR LR
comp=Z,250nm,24.1s
WMQ Urumqi 123.69 4 *e*PKP **PKiKP 21 00 56.3 +1.9**
WMQ LR LR
comp=Z,310nm,24.2s
WMQ LR LR
comp=Z,260nm,23.9s
WMQ LR LR
comp=Z,380nm,24.1s
HHC Hu-ho-hao-te 123.70 342 *e*PKP **PKiKP 21 00 56.0 +1.5**
HHC AMB AMB
comp=Z,81nm,7.8s
HHC LR LR
comp=Z,280nm,22.6s
HHC LR LR
comp=Z,430nm,21.4s
BTO Baotou 124.38 343 *e*PKP **PKiKP 21 00 56.8 +0.9**
BTO SS SS 21 19 26.5 -1.6
BTO AMB AMB
comp=Z,210nm,10.1s
BTO LR LR
comp=Z,570nm,24.9s
BTO LR LR
comp=Z,390nm,22.4s
BTO LR LR
comp=Z,870nm,24.1s
HNS HongShan 125.75 337 ⇑PKP **PKiKP 21 00 59.5 +1.0**
HNS PP **PP 21 02 57.0 +7.5**
HNS SS SS 21 19 54.0 +8.8
HNS LR LR
comp=Z,250nm,18.4s
HNS LR LR
comp=Z,290nm,19.6s
HNS LR LR
comp=Z,320nm,23.1s
KIBK Kibwezi 125.90 84 PKPdf **PKPdf 21 00 58.9 -0.3**
TOO Toolangi 126.19 233 PKIKP **PKiKP 21 00 59.4 0.0**

TOO Toolangi 126.19 233 PKIKP **PKiKP 21 00 59.4 0.0**
GTA Gaotai 127.68 352 PKP **PKiKP 21 01 02.5 0.0**
GTA PP **PP 21 03 05.5 +3.3**
GTA SKS **SKSac 21 08 03.5 -1.4**
GTA LR LR
comp=Z,130nm,23.1s
GTA LR LR
comp=Z,190nm,21.1s
GTA LR LR
comp=Z,250nm,21.5s
NJ2 Nanjing 128.53 330 *e*PKP **PKiKP 21 01 04.0 -0.2**
LYN LuoYang 129.10 338 ⇑PKP **PKiKP 21 01 06.0 +0.7**
LYN LR LR
comp=Z,470nm,21.3s
LYN LR LR
comp=Z,280nm,23.0s
LYN LR LR
comp=Z,480nm,22.0s
LZH Lanzhou 130.21 347 *e*PKP **PKiKP 21 01 08.8 +1.1**
LZH LR LR
comp=Z,490nm,22.0s
LZH LR LR
comp=Z,260nm,17.2s
LZH LR LR
comp=Z,590nm,20.3s
STKA Stephens Creek 130.51 239 PKP **PKiKP 21 01 07.9 -0.2**
comp=Z,7.9nm,1.0s,baz=84,slow=3.0,SNR=13
XAN Xi'an 130.78 341 PKP **PKiKP 21 01 09.8 +1.0**
XAN LR LR
comp=Z,410nm,22.7s
XAN LR LR
comp=Z,300nm,21.3s
XAN LR LR
comp=Z,730nm,22.8s
GOMU GeErMu 131.34 357 PKP **PKiKP 21 01 09.8 -0.5**
GOMU SS SS 21 20 54.3 -0.4
GOMU LR LR
comp=Z,500nm,17.9s
GOMU LR LR
comp=Z,330nm,17.4s
GOMU LR LR
comp=Z,700nm,17.4s
WHN Wuhan 131.87 334 PKP **PKiKP 21 01 10.8 -0.2**
SSLB Suanglung 133.88 322 **PKPdf 21 01 14.2 +0.2**
CD2 Chengdu 135.19 345 PKP **PKPdf 21 01 15.3 -1.0**
LSA Lhasa 137.91 1 PKP **PKPdf 21 01 22.8 +0.9**
WR0 Warramunga Arr 138.37 254 **PKPdf 21 01 22.7 +0.3**
GYA Guiyang 138.51 340 PKP **PKPdf 21 01 23.5 +0.8**
GYA pPKP pPKPdf 21 01 39.8 +1.4
GYA LR LR
comp=Z,400nm,22.4s
WRA Warramunga Arr 138.56 254 PKPpre 21 01 12.3
WRA PKPdf **PKPdf 21 01 19.5 -3.2**
WRA Warramunga Arr 138.56 254 PKHKP PKPpre 21 01 12.6
comp=Z,1.9nm,0.8s,baz=101,slow=2.6,SNR=12
WRA PKP **PKPdf 21 01 23.4 +0.7**
comp=Z,7.9nm,0.8s,baz=89,slow=2.4,SNR=27
WRA Warramunga Arr 138.56 254 PKHKP PKPpre 21 01 12.3
WRA 21 01 19.5
ASAR Alice Springs 138.60 249 PKPpre 21 01 11.8
ASAR PKPdf **PKPdf 21 01 21.0 -1.7**
ASAR Alice Springs 138.60 249 PKhKP PKPpre 21 01 13.2
comp=Z,1.9nm,0.8s,baz=110,slow=2.2,SNR=21
ASAR PKP **PKPdf 21 01 22.4 -0.3**
comp=Z,4.1nm,0.7s,baz=94,slow=2.1,SNR=13
ASAR Alice Springs 138.60 249 PKIKP **PKPdf 21 01 21.0 -1.7**
SWI Sorong 139.12 284 PKP **PKiKP 21 01 25.9 -0.2**
PZH PanZhiHua 139.90 346 PKP **PKPdf 21 01 25.5 +0.3**
KMI Kunming 140.96 344 ⇓PKP **PKiKP 21 01 28.8 -1.1**
KMI pPKP pPKPdf 21 01 42.8 -0.2
TNCH TengChong 141.98 350 *e*PKP **PKPdf 21 01 28.8 -0.2**
NLAI Namlea 143.80 282 PKP **PKPdf 21 01 31.8 -0.5**
SANI Sanana 144.49 284 PKP **PKPdf 21 01 32.8 -0.7**
RER Riviere de l'E 144.61 109 **PKPdf 21 01 33.2 -0.4**
KMSI Cibinong 145.42 290 PKP **PKiKP 21 01 38.6 -0.5**
GTOI Gorontalo 146.28 291 PKP **PKPab 21 01 39.3 +0.7**
FITZ Fitzroy Crossi 146.89 256 PKPdf **PKPdf 21 01 36.8 -0.6**
FITZ **PKPab 21 01 41.0 +0.2**
LUWI Luwuk 147.16 288 PKP **PKPdf 21 01 39.1 +1.1**
MRSI Marisa 147.32 291 PKP **PKPbc 21 01 41.2 +0.5**
HYB Hyderabad 147.42 24 *e*PKPdf **PKPdf 21 01 38.2 -0.2**
CHTO Chiang Mai 147.95 347 PKPdf **PKPdf 21 01 39.2 0.0**
CHTO Chiang Mai 147.95 347 PKIKP **PKPdf 21 01 39.2 0.0**
TOLI2 Tolitoli 148.10 293 **PKPdf 21 01 40.2 +0.6**
CMAR Chiang Mai Arr 148.29 347 PKPdf **PKPdf 21 01 40.0 +0.2**
CMAR **pPKPdf 21 01 55.2 -0.3**
CMAR Chiang Mai Arr 148.29 347 PKPbc **PKPdf 21 01 40.7 +0.9**
comp=Z,19nm,0.8s,baz=314,slow=2.2,SNR=69
BATI Baumata 148.62 271 PKP **PKPbc 21 01 44.9 +0.7**
BBSI Bau Bau 148.76 280 PKP **PKPbc 21 01 43.8 -0.7**
NWAO Narrogin (SRO) 149.16 225 PKPdf **PKPdf 21 01 40.6 -0.2**
NWAO **PKiKP 21 01 45.9 -0.3**
NWAO Narrogin (SRO) 149.16 225 PKHKP PKPpre 21 01 40.6
NWAO 21 01 45.9
KKM Kota Kinabalu 149.40 306 PKPdf **PKPdf 21 01 40.2 -1.7**
KKM **PKiKP 21 01 47.9 +0.5**
MMRI Maumere 149.77 275 PKP **PKPbc 21 01 45.4 -1.6**
EDFI Ende, Flores 150.32 274 PKP **PKPbc 21 01 46.7 -1.8**
BKSI Bulukumba 151.06 282 PKP **PKiKP 21 01 50.4 -0.3**
KAPI Kappang 151.32 283 **PKiKP 21 01 51.0 -0.2**
KAPI Kappang 151.32 283 PKIKP **PKiKP 21 01 51.0 -0.2**
PSA00 Pilbara Seismi 151.74 248 **PKPdf 21 01 44.5 -0.6**
PSA00 PKPbc **PKiKP 21 01 52.0 +0.1**
MBWA Marble Bar 151.94 249 PKPdf **PKPdf 21 01 43.8 -1.6**
MBWA **PKPbc 21 01 51.1 -0.8**
MBWA **pPKPdf 21 02 01.1 0.0**
SBUM Sibu 154.73 305 PKPdf **PKPdf 21 01 48.8 -0.9**
SBUM **PKPab 21 02 12.2 -1.1**
KULM Kulim 160.11 333 PKPdf **PKPdf 21 01 54.4 -2.0**
GSI Gunungsitoli 164.98 337 PKP **PKPdf 21 02 01.8 +0.6**
PDSI Padang 165.49 323 PKP **PKPdf 21 02 02.0 +0.3**

IDC 27 20:52:21.5±67.0, 14°.23S×164°.12E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=1128.0km s-min=115.1km az=63.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.07**	**226**	P	P	20 58 05.8	0.0
	0.9nm,0.3s,baz=60,slow=14,SNR=2.2						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**29.00**	**255**	P	P	20 58 23.2	0.0
	0.2nm,0.5s,baz=86,slow=9.1,SNR=2.0						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**30.02**	**247**	P	P	20 58 32.4	0.0
	0.5nm,0.5s,baz=73,slow=9.5,SNR=11						
	0.5nm,0.5s						

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*ISK **27** 20:56:11.7, 35°.78N×28°.20E, h8km, ML3.0/15*
*ATH **27** 20:56:11.5, 35°.75N×28°.31E, h7km±2km, ML2.7/4, Error ellipse: s-maj=4.2km s-min=1.2km az=303.0*
*AFAD **27** 20:56:12.3±0.0, 35°.85N×28°.14E, h4km±3km, ML2.8*
*THE **27** 20:56:12.1, 35°.86N×28°.39E, h0km±1km, ML2.6/1, Error ellipse: s-maj=8.0km s-min=1.0km az=82.0*
ISC 27 20:56:11.0±1.3, 35°.73N±0°.04×28°.13E±0°.03, h6km±10km, n40, o0°71/57, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.48**	**359**	Pg	**Pg**	**20 56 20.2**	**0.0**
ARG				Sg	**Sg**	**20 56 27.4**	**+0.9**
ARG	**Arkhangelos**	**0.48**	**359**	P	**Pg**	**20 56 20.4**	**+0.1**
ARG				S	**Sb**	**20 56 27.9**	**-1.3**
	1μm,0.7s						
ARG	**Arkhangelos**	**0.48**	**359**	P	**Pg**	**20 56 20.3**	**+0.1**
ARG				S	**Sg**	**20 56 27.6**	**+1.1**
ARG				AML	AML	20 56 27.7	
	comp=N,2193μm,0.6s						
ARG				AML	AML	20 56 27.9	
	comp=E,2411μm,0.7s						
KARP	**Karpathos**	**0.81**	**257**	Pg	**Pn**	**20 56 28.9**	**-0.1**
KARP	**Karpathos**	**0.81**	**257**	P	**Pn**	**20 56 29.6**	**+0.5**
KARP				S	**Sn**	**20 56 42.4**	**+1.0**
KARP				AML	AML	20 56 47.1	
	comp=N,968μm,0.4s						
KARP				AML	AML	20 56 54.4	
	comp=E,1134μm,0.6s						
MRSB	**Marmaris-Mugla**	**0.98**	**3**	Pg	**Pb**	**20 56 29.9**	**-0.5**
DAT	**Datca**	**1.09**	**336**	Pn	**Pn**	**20 56 32.7**	**-0.2**
DAT				Sn	**Sn**	**20 56 48.7**	**+0.3**
DAT	**Datca**	**1.09**	**336**	P	**Pn**	**20 56 33.1**	**+0.2**

DAT	**Datca**	**1.09**	**336**	P	**Pn**	**20 56 32.8**	**-0.2**
DAT				S	**Sn**	**20 56 48.5**	**+0.1**
YAZI	**Mula-Dat§a-**	**1.09**	**330**	P	**Pb**	**20 56 32.0**	**-0.3**
YAZI				S	**Sn**	**20 56 47.7**	**-0.6**
YAZI				*i* AML	AML	20 56 54.0	
	comp=E,311nm,0.5s						
IZZE	**Mula-Seydike**	**1.13**	**51**	P	**Pg**	**20 56 32.6**	**-0.1**
IZZE				S	**Sn**	**20 56 49.7**	**+0.5**
IZZE				*i* AML	AML	20 56 54.0	
	comp=E,254nm,0.4s						
FETY	**Fethiye**	**1.18**	**40**	Pn	**Pb**	**20 56 33.7**	**-0.2**
FETY				Sn	**Sb**	**20 56 49.3**	**-0.2**
FETY	**Fethiye**	**1.18**	**40**	P	**Pb**	**20 56 33.7**	**-0.2**
FETY				S	**Sb**	**20 56 49.7**	**+0.2**
NISR	**Nisiros**	**1.20**	**317**	P	**Pn**	**20 56 35.4**	**+1.2**
NISR	**Nisiros**	**1.20**	**317**	P	**Pn**	**20 56 35.2**	**+0.9**
NISR				S	**Sn**	**20 56 51.3**	**+0.5**
NISR				AML	AML	20 56 58.2	
	comp=N,694μm,0.6s						
NISR				AML	AML	20 57 03.9	
	comp=E,942μm,0.9s						
SABU	**Mula-Dalaman**	**1.28**	**32**	P	**Pg**	**20 56 33.7**	**-1.8**
SABU				S	**Sg**	**20 56 51.9**	**-0.2**
AKAS	**Kas**	**1.29**	**67**	Pn	**Pb**	**20 56 35.6**	**-0.2**
AKAS	**Kas**	**1.29**	**67**	P	**Pb**	**20 56 35.6**	**-0.2**
BDRM	**Kayabasi**	**1.44**	**338**	P	**Pb**	**20 56 37.9**	**-0.3**
BDRM				S	**Sb**	**20 56 56.1**	**-0.7**
BDRM				*i* AML	AML	20 57 01.0	
	comp=E,128nm,0.4s						
BODT	**Bodrum**	**1.48**	**334**	Pn	**Pg**	**20 56 39.1**	**-0.3**
BODT	**Bodrum**	**1.48**	**334**	P	**Pb**	**20 56 38.7**	**-0.3**
BODT				S	**Sg**	**20 56 59.2**	**+0.6**
CAME	**Cameli-Denizli**	**1.53**	**38**	Pn	**Pb**	**20 56 39.3**	**-0.6**
YKAV	**Yalikavak-Bodr**	**1.55**	**334**	Pn	**Pg**	**20 56 40.3**	**-0.4**
MLSB	**Milas**	**1.58**	**350**	Pn	**Pb**	**20 56 40.6**	**-0.1**
KNIK	**Mula-Seydike**	**1.61**	**46**	P	**Pn**	**20 56 40.4**	**+0.4**
ZKR	**Zakros**	**1.68**	**249**	P	**Pg**	**20 56 44.1**	**+0.9**
ZKR				AML	AML	20 57 19.1	
	comp=E,365μm,0.7s						
ZKR				AML	AML	20 57 19.4	
	comp=N,150μm,0.8s						
DNZT	**Denizli-Tavas-**	**1.70**	**25**	P	**Pg**	**20 56 43.0**	**-0.6**
DNZT				S	**Sb**	**20 57 04.3**	**-0.2**
ELL	**Elmali**	**1.76**	**54**	Pn	**Pn**	**20 56 42.1**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.84**	**20**	P	**Pn**	**20 56 43.5**	**+0.3**
DDIM	**Aydin, Didim**	**1.86**	**338**	P	**Pb**	**20 56 44.9**	**-0.5**
DDIM				S	**Sb**	**20 57 08.2**	**-0.8**
DDIM				*i* AML	AML	20 57 21.0	
	comp=N,138nm,1.1s						
GOLH	**Golhisar**	**1.89**	**37**	P	**Pb**	**20 56 45.2**	**-0.8**
APMY	**Acipayam-Deniz**	**1.97**	**28**	Pn	**Pn**	**20 56 45.5**	**+0.5**
ESEN	**Aydn-Nazilli**	**2.07**	**5**	P	**Pb**	**20 56 48.8**	**-0.1**
ESEN				S	**Sn**	**20 57 13.3**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**2.22**	**355**	Pn	**Pn**	**20 56 49.1**	**+0.7**
NAZL	**Nazilli-Aydin**	**2.23**	**3**	Pn	**Pn**	**20 56 49.6**	**+1.1**
IZMR	**zmir-demi**	**2.40**	**357**	P	**Pn**	**20 56 51.4**	**+0.5**
APE	**Apeiranthos**	**2.49**	**303**	P	**Pn**	**20 56 52.6**	**+0.6**
IDI	**Anoyia**	**2.68**	**261**	P	**Pb**	**20 56 58.2**	**-1.2**
IDI	**Anoyia**	**2.68**	**261**	P	**Pb**	**20 56 57.3**	**-2.1**
SEYD	**Seydisehir-KON**	**3.42**	**60**	Pn	**Pn**	**20 57 05.8**	**+0.9**

*AFAD **27** 21:02:06.9±0.0, 38°.81N×26°.38E, h7km±3km, ML2.6*
*ISK **27** 21:02:06.9, 38°.83N×26°.41E, h10km, ML2.5/18*
*THE **27** 21:02:08.1, 38°.83N×26°.37E, h5km±1km, ML2.3/2, Error ellipse: s-maj=2.0km s-min=0.9km az=265.0*
ISC 27 21:02:07.2±0.9, **38°.82N**±0°.02×**26°.39E**±0°.03, **h14**km±8km, **n42**, σ0§53/54, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.16**	**174**	P	**Pg**	**21 02 11.3**	**+0.2**
FOCM	**Foa**	**0.29**	**112**	Pg	**Pg**	**21 02 12.8**	**-0.4**
FOCM				Sg	**Sg**	**21 02 17.1**	**-0.2**
CAND	**Candarli**	**0.35**	**68**	Pg	**Pg**	**21 02 13.9**	**-0.4**
CAND				Sg	**Sg**	**21 02 19.8**	**+0.7**
PRK	**Paraskevi**	**0.43**	**348**	P	**Pb**	**21 02 16.1**	**-0.5**
PRK				S	**Sb**	**21 02 22.9**	**-0.1**
	795nm,0.3s						
IZMD	**zmir-Dikili-**	**0.45**	**69**	P	**Pg**	**21 02 16.0**	**-0.2**
IZMD				P	**Pb**	**21 02 16.3**	**-0.6**
DKL	**Dikili**	**0.47**	**58**	Pg	**Pg**	**21 02 16.4**	**-0.2**
DKL				Sg	**Sg**	**21 02 22.9**	**0.0**
URLA	**Izmir**	**0.49**	**161**	Pg	**Pg**	**21 02 16.8**	**-0.1**
URLA				Sg	**Sb**	**21 02 24.3**	**-0.3**
URLA	**Izmir**	**0.49**	**161**	P	**Pg**	**21 02 16.2**	**-0.7**
URLA				S	**Sg**	**21 02 23.6**	**+0.1**
URLA				*i* AML	AML	21 02 25.0	
	comp=E,483nm,0.4s						
CESE	**eme**	**0.50**	**188**	Pg	**Pg**	**21 02 17.1**	**+0.1**
CHOS	**Chios island**	**0.51**	**211**	P	**Pb**	**21 02 17.9**	**-0.1**
AYVA	**Ayvalik**	**0.54**	**26**	P	**Pg**	**21 02 17.6**	**-0.2**
ZEDA	**zmir-Bergama**	**0.55**	**75**	P	**Pg**	**21 02 18.3**	**+0.2**
SIGR	**SIGRI**	**0.57**	**313**	Pg	**Pb**	**21 02 19.1**	**+0.1**
SIGR	**SIGRI**	**0.57**	**313**	P	**Pb**	**21 02 19.0**	**+0.1**
SIGR				S	**Sb**	**21 02 26.9**	**0.0**
	302nm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**0.59**	**171**	P	**Pg**	**21 02 18.7**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.66**	**342**	Pg	**Pb**	**21 02 20.3**	**-0.2**
KOCA	**Canakkale, Ayv**	**0.71**	**344**	P	**Pb**	**21 02 21.0**	**-0.3**
KOCA				S	**Sb**	**21 02 30.9**	**0.0**
KOCA				*i* AML	AML	21 02 34.0	
	comp=E,606nm,0.4s						
GMLD	**Gumuldur**	**0.85**	**151**	Pg	**Pg**	**21 02 23.4**	**-0.3**
DGB	**zmir**	**0.86**	**153**	P	**Pg**	**21 02 22.9**	**-1.0**
DGB				S	**Sg**	**21 02 34.5**	**-0.7**
BUHA	**Balikesir, Bur**	**0.86**	**38**	P	**Pg**	**21 02 23.4**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**0.93**	**7**	P	**Pg**	**21 02 24.7**	**-0.4**
BAYC				S	**Sg**	**21 02 36.6**	**-0.6**
BAYC				*i* AML	AML	21 02 39.0	
	comp=E,200nm,0.5s						
EZNE	**Ezine-Canakkal**	**0.93**	**359**	Pg	**Pg**	**21 02 24.9**	**-0.3**
EZN	**Ezine**	**1.00**	**357**	Pg	**Pg**	**21 02 26.1**	**-0.5**
COMU	**Canakkale**	**1.28**	**3**	Pn	**Pb**	**21 02 31.2**	**+0.2**
YENI	**Yenice-Canakka**	**1.29**	**30**	Pn	**Pg**	**21 02 31.7**	**-0.4**
GCAM	**G?zelcaml?**	**1.30**	**149**	Pn	**Pn**	**21 02 31.5**	**+0.6**
GADA	**Gvkgeada**	**1.42**	**345**	Pn	**Pn**	**21 02 32.9**	**+0.4**
LIA	**Limnos Island**	**1.42**	**319**	P	**Pn**	**21 02 33.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**126**	Pn	**Pn**	**21 02 33.6**	**+0.2**
LPK	**Lapseki**	**1.57**	**10**	Pn	**Pn**	**21 02 35.6**	**+0.9**
GELI	**Tayfur-Gelibol**	**1.57**	**2**	Pn	**Pn**	**21 02 35.2**	**+0.5**
GONE	**Gonen-Balikesi**	**1.58**	**39**	Pn	**Pn**	**21 02 35.5**	**+0.7**
KRBG	**Karabiga-Canak**	**1.72**	**24**	Pn	**Pn**	**21 02 36.8**	**+0.2**
NAZL	**Nazilli-Aydin**	**1.72**	**119**	Pn	**Pn**	**21 02 37.4**	**+0.6**
SUSR	**Susurluk-Balik**	**1.74**	**49**	Pn	**Pn**	**21 02 37.6**	**+0.7**
SMTH	**Samothraki Isl**	**1.77**	**338**	P	**Pn**	**21 02 37.5**	**0.0**
SMTH				S	**Sb**	**21 03 01.9**	**+0.3**
KULA	**Kula-Manisa**	**1.80**	**99**	Pn	**Pn**	**21 02 38.6**	**+0.7**
APE	**Apeiranthos**	**1.88**	**201**	Pn	**Pn**	**21 02 38.5**	**-0.4**
EDC	**Edincik**	**1.90**	**36**	Pn	**Pn**	**21 02 39.5**	**+0.3**
BODT	**Bodrum**	**1.90**	**157**	Pn	**Pn**	**21 02 40.7**	**+1.5**
ENEZ	**Enez**	**1.92**	**355**	P	**Pn**	**21 02 40.7**	**+1.3**
SIMA	**Simav-Kutahya**	**2.04**	**82**	Pn	**Pn**	**21 02 42.2**	**+1.1**

*IDC **27** 21:02:56.1±1.1, 36°.75N×23°.39E, h0km, mb3.5/5, mbtmp3.5/6, ML1.1/1, Error ellipse: s-maj=27.6km s-min=13.4km az=47.0*
*THE **27** 21:02:57.6, 36°.57N×22°.94E, h6km±1km, ML2.9/5, Error ellipse: s-maj=1.4km s-min=0.6km az=247.0*
*ATH **27** 21:02:58.3, 36°.58N×23°.03E, h9km±1km, ML2.9/20, Error ellipse: s-maj=2.0km s-min=0.7km az=251.0*
ISC 27 21:02:57.9±0.9, **36°.59N**±0°.02×**23°.04E**±0°.03, **h11**km±6km, **n63**, σ1§05/82, **mb3.4**/5, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.15**	**327**	P	**Pg**	**21 03 01.4**	**0.0**
VLI				S	**Sg**	**21 03 03.9**	**+0.1**
ANKY	**Antikythira Is**	**0.75**	**164**	P	**Pg**	**21 03 12.7**	**+0.3**
ANKY				S	**Sg**	**21 03 22.4**	**+0.2**
	1μm,0.4s						
ANKY	**Antikythira Is**	**0.75**	**164**	P	**Pg**	**21 03 12.4**	**+0.1**
ANKY				S	**Sg**	**21 03 22.5**	**+0.3**
ANKY				AML	AML	21 03 24.6	
	comp=N,2974μm,0.4s						
ANKY				AML	AML	21 03 24.9	
	comp=E,2902μm,0.3s						
KRND	**KRANIDI**	**0.80**	**6**	P	**Pg**	**21 03 13.4**	**+0.1**
KRND				S	**Sn**	**21 03 25.7**	**-1.3**
	comp=E,945nm,0.2s						
KRND	**KRANIDI**	**0.80**	**6**	P	**Pg**	**21 03 13.2**	**-0.1**
KRND				S	**Sb**	**21 03 24.8**	**+0.2**
KRND				AML	AML	21 03 28.6	
	comp=N,2467μm,0.2s						
KRND				AML	AML	21 03 28.8	
	comp=E,1282μm,0.3s						
EPID	**Epidavros**	**1.02**	**3**	P	**Pb**	**21 03 17.7**	**0.0**
EPID				S	**Sn**	**21 03 32.5**	**-0.2**
	comp=E,670nm,0.3s						
EPID	**Epidavros**	**1.02**	**3**	P	**Pb**	**21 03 17.7**	**0.0**
EPID				S	**Sn**	**21 03 32.5**	**-0.2**
ITM	**Ithomi**	**1.07**	**304**	P	**Pb**	**21 03 15.7**	**-2.8**
ITM				S	**Sb**	**21 03 31.8**	**-0.7**
	comp=E,460nm,0.6s						
PYL	**PYLOS**	**1.09**	**287**	P	**Pb**	**21 03 15.7**	**-3.0**
PYL				S	**Sb**	**21 03 30.8**	**-2.2**
	comp=E,548nm,0.4s						
MHLO	**Agia Marina, M**	**1.10**	**84**	P	**Pn**	**21 03 19.3**	**+0.1**
MHLO	**Agia Marina, M**	**1.10**	**84**	P	**Pn**	**21 03 19.3**	**+0.1**
MHLO				AML	AML	21 03 45.0	
	comp=E,3535μm,0.4s						
MHLO				AML	AML	21 03 45.2	
	comp=N,2784μm,0.5s						
RODP	**Rodopos**	**1.18**	**150**	P	**Pn**	**21 03 20.1**	**-0.3**
RODP				S	**Sg**	**21 03 37.2**	**+1.3**
CHAN	**Chania**	**1.34**	**142**	P	**Pn**	**21 03 21.7**	**-0.8**
CHAN				S	**Sn**	**21 03 39.4**	**-1.0**
CHAN				AML	AML	21 03 47.0	
	comp=E,1411μm,0.5s						
CHAN				AML	AML	21 03 50.1	
	comp=N,996μm,0.3s						
IMMV	**Iera Moni Meta**	**1.36**	**146**	P	**Pn**	**21 03 22.5**	**-0.4**
IMMV	**Iera Moni Meta**	**1.36**	**146**	P	**Pn**	**21 03 22.4**	**-0.4**
IMMV				AML	AML	21 03 57.7	
	comp=N,912μm,0.6s						
IMMV				AML	AML	21 03 57.9	
	comp=E,1193μm,0.7s						
LOUT	**Loutraki**	**1.40**	**358**	P	**Pn**	**21 03 23.4**	**0.0**
LOUT	**Loutraki**	**1.40**	**358**	P	**Pb**	**21 03 23.7**	**-0.4**
VLY	**Voula,Athens**	**1.40**	**25**	P	**Pn**	**21 03 23.3**	**-0.1**
VLY				S	**Sg**	**21 03 43.8**	**+0.9**
VLY	**Voula,Athens**	**1.40**	**25**	P	**Pn**	**21 03 23.0**	**-0.4**
VLY				AML	AML	21 03 50.0	
	comp=E,688μm,0.4s						
VLY				AML	AML	21 03 53.1	
	comp=N,1076μm,0.9s						
KNDR	**Palaiochora Ch**	**1.45**	**159**	P	**Pb**	**21 03 24.3**	**-0.6**
KNDR				S	**Sn**	**21 03 41.8**	**-1.2**
KNDR				AML	AML	21 03 48.9	
	comp=E,1720μm,0.4s						
KNDR				AML	AML	21 03 54.2	
	comp=N,1266μm,0.9s						
GUR	**Goura**	**1.46**	**338**	P	**Pn**	**21 03 24.0**	**-0.3**
GUR				S	**Sb**	**21 03 43.8**	**+0.1**
GUR	**Goura**	**1.46**	**338**	P	**Pn**	**21 03 23.8**	**-0.4**
GUR				AML	AML	21 03 45.3	
	comp=N,1725μm,0.4s						
GUR				AML	AML	21 03 54.0	
	comp=E,1251μm,0.6s						
ATHU	**Athens Univers**	**1.50**	**23**	P	**Pn**	**21 03 24.3**	**-0.4**
ATHU				S	**Sg**	**21 03 46.2**	**+0.1**
ATHU	**Athens Univers**	**1.50**	**23**	P	**Pn**	**21 03 24.1**	**-0.6**
ATHU				AML	AML	21 03 49.9	
	comp=N,255μm,0.7s						
ATHU				AML	AML	21 03 50.5	
	comp=E,117μm,0.5s						
VILL	**Villia**	**1.59**	**8**	P	**Pn**	**21 03 25.9**	**-0.1**
VILL				S	**Sb**	**21 03 47.0**	**-0.4**
PTL	**Penteli**	**1.60**	**24**	P	**Pn**	**21 03 26.0**	**-0.2**
PTL				S	**Sb**	**21 03 47.7**	**0.0**
PTL	**Penteli**	**1.60**	**24**	P	**Pn**	**21 03 25.9**	**-0.2**
PTL				AML	AML	21 03 52.8	
	comp=E,544μm,0.6s						
PTL				AML	AML	21 03 54.8	
	comp=N,507μm,0.6s						
KLV	**Kalavryta, Ach**	**1.62**	**334**	P	**Pn**	**21 03 26.1**	**-0.3**
KLV				AML	AML	21 03 51.2	
	comp=N,495μm,0.7s						
KLV				AML	AML	21 03 59.8	
	comp=E,308μm,0.7s						
VIL2	**Platees**	**1.63**	**6**	P	**Pn**	**21 03 25.7**	**-0.9**
VIL2				AML	AML	21 03 55.1	
	comp=E,830μm,0.7s						
VIL2				AML	AML	21 03 56.7	
	comp=N,437μm,1.1s						
DION	**Dionisos Attik**	**1.65**	**25**	P	**Pb**	**21 03 27.7**	**-0.6**
DION				S	**Sb**	**21 03 49.0**	**-0.1**
DION	**Dionisos Attik**	**1.65**	**25**	P	**Pn**	**21 03 27.6**	**+0.7**
DION				AML	AML	21 03 55.5	
	comp=E,645μm,0.6s						
DION				AML	AML	21 04 00.8	
	comp=N,585μm,0.5s						
DRO	**Drossia**	**1.73**	**322**	P	**Pn**	**21 03 27.6**	**-0.3**
DRO	**Drossia**	**1.73**	**322**	P	**Pn**	**21 03 27.9**	**0.0**
DRO				AML	AML	21 04 01.6	
	comp=N,571μm,1.0s						
DRO				AML	AML	21 04 06.8	
	comp=E,988μm,0.6s						
ALIK	**Aliki, Aigiali**	**1.83**	**336**	P	**Pn**	**21 03 29.1**	**-0.1**
THR5	**Thira Island,**	**1.87**	**95**	P	**Pn**	**21 03 30.3**	**+0.5**
SNT5	**Nea Kammeni, S**	**1.91**	**95**	P	**Pn**	**21 03 30.9**	**+0.6**
THR3	**Thira Island,**	**1.91**	**95**	P	**Pn**	**21 03 31.4**	**+1.0**
THR6	**Thira Island,**	**1.91**	**96**	P	**Pn**	**21 03 31.3**	**+0.9**
THR6	**Thira Island,**	**1.91**	**96**	P	**Pn**	**21 03 30.6**	**+0.2**
RLS	**Riolos of Patr**	**1.93**	**320**	P	**Pb**	**21 03 31.9**	**-1.2**
KALE	**Kalithea**	**1.94**	**339**	P	**Pn**	**21 03 30.5**	**-0.3**
KALE	**Kalithea**	**1.94**	**339**	P	**Pn**	**21 03 31.2**	**+0.4**
KALE				AML	AML	21 04 01.9	
	comp=E,302μm,0.5s						
KALE				AML	AML	21 04 09.2	
	comp=N,458μm,0.6s						
IDI	**Anoyia**	**1.98**	**130**	P	**Pn**	**21 03 31.3**	**-0.2**
IDI	**Anoyia**	**1.98**	**130**	Pn	**Pn**	**21 03 29.8**	**-1.7**
	comp=N,1.1nm,0.3s,baz=259,slow=10.0,SNR=18						
IDI				Lg	Lg	21 03 56.4	
	comp=N,6.8nm,0.3s,baz=300,slow=20,SNR=7.8						
IDI	**Anoyia**	**1.98**	**130**	P	**Pn**	**21 03 31.4**	**-0.2**
IDI				AML	AML	21 04 06.8	
	comp=N,205μm,0.6s						
IDI				AML	AML	21 04 10.2	
	comp=E,242μm,0.5s						
EFP	**Efpalio**	**2.04**	**334**	P	**Pn**	**21 03 31.9**	**-0.4**
EFP	**Efpalio**	**2.04**	**334**	P	**Pn**	**21 03 32.7**	**+0.5**
EFP				AML	AML	21 04 08.9	
	comp=E,376μm,0.8s						
EFP				AML	AML	21 04 11.8	
	comp=N,293μm,0.8s						
APE	**Apeiranthos**	**2.05**	**76**	P	**Pn**	**21 03 32.6**	**+0.2**
ANX	**Ano Chora**	**2.19**	**336**	P	**Pn**	**21 03 34.1**	**-0.3**
ANX	**Ano Chora**	**2.19**	**336**	P	**Pn**	**21 03 34.2**	**-0.1**
ANX				AML	AML	21 04 09.5	
	comp=N,437μm,0.4s						
ANX				AML	AML	21 04 14.1	
	comp=E,411μm,0.6s						
AXAR	**Agios Charalam**	**2.19**	**352**	P	**Pn**	**21 03 34.4**	**+0.1**
KYMI	**Kymi, Euboea I**	**2.21**	**22**	P	**Pn**	**21 03 35.2**	**+0.7**
KYMI	**Kymi, Euboea I**	**2.21**	**22**	P	**Pn**	**21 03 33.9**	**-0.6**
KYMI				AML	AML	21 04 22.0	
	comp=N,167μm,0.8s						
KYMI				AML	AML	21 04 23.8	
	comp=E,178μm,0.7s						
AGG	**Agios Georgios**	**2.49**	**347**	P	**Pn**	**21 03 38.5**	**0.0**
AGG	**Agios Georgios**	**2.49**	**347**	P	**Pn**	**21 03 38.8**	**+0.3**
MAKR	**Makrakomi, Fth**	**2.52**	**344**	P	**Pn**	**21 03 39.3**	**+0.4**
MAKR	**Makrakomi, Fth**	**2.52**	**344**	P	**Pn**	**21 03 39.2**	**+0.2**
MAKR				AML	AML	21 04 25.3	
	comp=E,288μm,1.1s						
MAKR				AML	AML	21 04 26.5	
	comp=N,332μm,0.6s						
VAE	**Valguarnera**	**6.96**	**280**	Pn	**Pn**	**21 04 43.6**	**+3.8**
	comp=N,0.2nm,0.3s,baz=181,slow=19,SNR=1.7						
VAE				Sn	**Sn**	**21 06 01.9**	**+2.8**
	comp=N,1.3nm,0.3s,baz=130,slow=12,SNR=4.9						
	comp=N,2.8nm,0.7s						
ESDC	**Sonseca Array**	**21.44**	**286**	P	**P**	**21 07 48.6**	**+2.5**
	comp=N,0.5nm,0.7s,baz=79,slow=9.4,SNR=4.2						
	comp=N,0.5nm,0.7s						
HFS	**Hagfors**	**24.32**	**349**	P	**P**	**21 08 14.3**	**-1.0**
	comp=N,1.4nm,0.8s,baz=133,slow=17,SNR=2.3						
	comp=N,1.4nm,0.8s						
EKA	**Eskdalemuir Ar**	**25.88**	**325**	P	**P**	**21 08 29.2**	**-0.4**
	comp=N,2.4nm,0.8s,baz=129,slow=10,SNR=6.3						
	comp=N,2.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.19**	**225**	P	**P**	**21 09 11.0**	**+2.7**
	comp=N,0.3nm,0.7s,baz=50,slow=10,SNR=2.4						
	comp=N,0.3nm,0.7s						
MKAR	**Makanchi Array**	**44.44**	**57**	P	**P**	**21 11 06.2**	**-2.6**
	comp=N,0.3nm,0.5s,baz=265,slow=7.3,SNR=4.3						
	comp=N,0.3nm,0.5s						

*IDC **27** 21:27:01.2±1.5, 15°.93S×75°.16W, h0km, mb3.9/2, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=70.6km s-min=29.3km az=14.0*
ISC 27 21:27:01.6±1.5, **16°.2S**±0°.4×**75°.3W**±0°.1, **h10**km, **n9**, σ1§05/7, **Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.93**	**92**	Pn	**Pn**	**21 28 44.1**	**+0.3**
	0.8nm,0.3s,baz=307,slow=7.5,SNR=19						
LPAZ				Sn	**Sn**	**21 30 03.3**	**+0.3**
	baz=319,slow=19						
	6.2nm,0.7s						
H03N1	**Juan Fernandez**	**17.48**	**190**	T	T	21 49 33.3	
	baz=14,slow=74						
H03N2	**Juan Fernandez**	**17.49**	**190**	T	T	21 49 29.4	
	baz=14,slow=74						
H03N3	**Juan Fernandez**	**17.50**	**190**	T	T	21 49 28.6	
	baz=14,slow=74						
TXAR	**Lajitas Array**	**52.88**	**329**	P	**P**	**21 36 18.6**	**+0.7**
	0.2nm,0.7s,baz=161,slow=8.6,SNR=2.6						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**81.52**	**74**	P	**P**	**21 39 19.0**	**-1.0**
	2.8nm,0.5s,baz=255,slow=4.0,SNR=22						
	2.8nm,0.5s						
ASAR	**Alice Springs**	**131.16**	**217**	PKP	**PKiKP**	**21 46 16.0**	**+0.4**
	0.1nm,0.5s,baz=125,slow=2.1,SNR=1.7						
WRA	**Warramunga Arr**	**133.75**	**220**	PKP	**PKiKP**	**21 46 21.9**	**+0.9**
	0.3nm,0.7s,baz=155,slow=1.9,SNR=6.9						
SONM	**Songino Array**	**148.40**	**358**	PKPbc	**PKiKP**	**21 46 48.9**	**-1.3**
	0.4nm,0.5s,baz=341,slow=3.1,SNR=3.6						

*KRNET **27** 21:38:40.9±0.1, 42°.43N×79°.12E, h11km, mb2.2*
*NNC **27** 21:38:40.4±0.9, 42°.54N×79°.13E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=6.3km s-min=3.1km az=158.0*
*SOME **27** 21:38:40.6, 42°.53N×79°.07E, h5km*
ISC 27 21:38:40.1±1.3, **42°.51N**±0°.03×**79°.13E**±0°.03, **h3**km±11km, **n49**, σ1§01/90, **9C-14D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.54**	**267**	⇑*eP*	**Pg**	**21 38 51.4**	**+1.0**
	baz=78						
PRZ				⇑*eS*	**Sg**	**21 38 58.9**	**+1.5**
	baz=78						
UZB	**Uzynbulak**	**0.64**	**353**	*eP*	**Pg**	**21 38 52.3**	**0.0**
	12nm,0.2s						
UZB				*eS*	**Sg**	**21 39 00.9**	**+0.3**
	19nm,0.3s						
UZB	**Uzynbulak**	**0.64**	**353**	P	**Pg**	**21 38 52.3**	**0.0**
	12nm,0.2s						
UZB				S	**Sg**	**21 39 00.9**	**+0.3**
	19nm,0.3s						
SHLS	**Shalkode**	**0.69**	**21**	*eP*	**Pn**	**21 38 57.0**	**+0.1**
	11nm,0.2s						
SHLS				*eS*	**Sn**	**21 39 08.9**	**+0.7**
	26nm,0.3s						
SHLS	**Shalkode**	**0.69**	**21**	P	**Pn**	**21 38 57.0**	**+0.1**
	11nm,0.2s						
SHLS				S	**Sn**	**21 39 08.9**	**+0.7**
	26nm,0.3s						
SATY	**Saty**	**0.76**	**316**	*eP*	**Pb**	**21 38 55.6**	**-0.5**
	4.5nm,0.1s						
SATY				*eS*	**Sb**	**21 39 06.3**	**-0.6**
	30nm,0.1s						
SATY	**Saty**	**0.76**	**316**	P	**Pb**	**21 38 55.6**	**-0.5**
	4.5nm,0.1s						
SATY				S	**Sb**	**21 39 06.3**	**-0.6**
	30nm,0.1s						
ZHN	**Zhinishke**	**0.83**	**322**	*eP*	**Pg**	**21 38 55.7**	**-0.2**
	4.1nm,0.1s						
ZHN				*eS*	**Sg**	**21 39 06.7**	**0.0**
	32nm,0.2s						
ZHN	**Zhinishke**	**0.83**	**322**	P	**Pg**	**21 38 55.7**	**-0.2**
	4.1nm,0.1s						
ZHN				S	**Sg**	**21 39 06.7**	**0.0**
	32nm,0.2s						
PDGK	**Podgornoye**	**0.86**	**18**	P	**Pg**	**21 38 56.4**	**-0.1**
	2.4nm,0.2s						
PDGK				S	**Sg**	**21 39 07.9**	**+0.2**
	5.7nm,0.4s						
PDGK	**Podgornoye**	**0.86**	**18**	⇑P	**Pg**	**21 38 56.1**	**-0.4**
	2.1nm,0.4s						
PDGK				⇓S	**Sg**	**21 39 07.6**	**0.0**
	5.7nm,0.6s						
KPKS	**Kokpek**	**1.01**	**341**	*eP*	**Pg**	**21 38 58.9**	**-0.5**
	5.7nm,0.2s						
KPKS				*eS*	**Sg**	**21 39 12.1**	**-0.3**
	14nm,0.3s						
KPKS	**Kokpek**	**1.01**	**341**	P	**Pg**	**21 38 58.9**	**-0.5**
	5.7nm,0.2s						
KPKS				S	**Sg**	**21 39 12.1**	**-0.3**
	14nm,

CHKK	**Chushkaly**	**2.06**	**311**	*e*P		**Pb**	**21 39 18.1**	**0.0**
	1.8nm,0.2s							
CHKK				*e*S		**Sg**	**21 39 45.1**	**-1.1**
	28nm,0.2s							
CHKK	**Chushkaly**	**2.06**	**311**	Pg		**Pb**	**21 39 18.1**	**0.0**
	1.8nm,0.2s							
CHKK				Lg		Lg	21 39 45.1	
	28nm,0.2s							
MTBS	**Maitube**	**2.08**	**288**	*e*P		**Pb**	**21 39 19.0**	**+0.5**
	4.0nm,0.1s							
MTBS				*e*S		**Sg**	**21 39 46.5**	**-0.3**
	11nm,0.3s							
MTBS	**Maitube**	**2.08**	**288**	Pg		**Pb**	**21 39 19.0**	**+0.5**
	4.0nm,0.1s							
MTBS				Lg		Lg	21 39 46.5	
	11nm,0.3s							
KTBS	**Karatobe**	**2.15**	**305**	*e*P		**Pb**	**21 39 19.9**	**+0.2**
	4.6nm,0.3s							
KTBS				*e*S		**Sg**	**21 39 48.1**	**-1.2**
	15nm,0.3s							
KTBS	**Karatobe**	**2.15**	**305**	Pg		**Pb**	**21 39 19.9**	**+0.2**
	4.6nm,0.3s							
KTBS				Lg		Lg	21 39 48.1	
	15nm,0.3s							
BOOM	**Boomskoye usch**	**2.36**	**270**	⇑*i*P		**Pb**	**21 39 22.7**	**-0.6**
	baz=73							
BOOM				⇑*i*S		**Sb**	**21 39 53.3**	**+0.5**
	baz=73							
KST	**Kastek**	**2.39**	**284**	*e*P		**Pb**	**21 39 24.4**	**+0.6**
	2.5nm,0.3s							
KST				*e*S		**Sg**	**21 39 55.7**	**-1.0**
	8.9nm,0.6s							
KST	**Kastek**	**2.39**	**284**	Pg		**Pb**	**21 39 24.4**	**+0.6**
	2.5nm,0.3s							
KST				Lg		Lg	21 39 55.7	
	8.9nm,0.6s							
NRN	**Naryn**	**2.57**	**246**	⇓*e*P		**Pb**	**21 39 25.6**	**-1.4**
	baz=48							
NRN				⇓*i*S		**Sb**	**21 39 58.2**	**-0.9**
	baz=48							
DGS	**Degeres**	**2.57**	**288**	*e*P		**Pb**	**21 39 27.6**	**+0.6**
	5.7nm,0.4s							
DGS				*e*S		**Sg**	**21 40 01.7**	**-0.9**
	20nm,0.5s							
DGS	**Degeres**	**2.57**	**288**	Pg		**Pb**	**21 39 27.6**	**+0.6**
	5.7nm,0.4s							
DGS				Lg		Lg	21 40 01.7	
	20nm,0.5s							
TKM2	**Tokmak 2**	**2.63**	**280**	⇑Pg		**Pb**	**21 39 27.3**	**-0.7**
	0.9nm,0.3s							
TKM2				⇑Lg		Lg	21 40 03.3	
	7.3nm,0.5s							
TKM2	**Tokmak 2**	**2.63**	**280**	⇓*e*P		**Pb**	**21 39 26.8**	**-1.2**
	baz=82							
TKM2				⇓*i*S		**Sb**	**21 40 00.4**	**-0.4**
	baz=82							
KRBS	**Karabastau**	**2.79**	**296**	*e*P		**Pb**	**21 39 30.1**	**-0.5**
	2.2nm,0.3s							
KRBS				*e*S		**Sb**	**21 40 05.6**	**+0.3**
	8.7nm,0.3s							
KRBS	**Karabastau**	**2.79**	**296**	Pg		**Pb**	**21 39 30.1**	**-0.5**
	2.2nm,0.3s							
KRBS				Lg		Lg	21 40 05.6	
	8.7nm,0.3s							
KBK	**Karagaybulak**	**3.09**	**274**	⇓*i*P		**Pn**	**21 39 33.0**	**+3.1**
	baz=76							
KBK				⇓*e*S		**Sb**	**21 40 11.0**	**-2.9**
	baz=76							
CHMS	**Chumysh**	**3.26**	**280**	⇓Pg		**Pb**	**21 39 35.6**	**-2.9**
	0.3nm,0.3s							
CHMS				⇓Lg		Lg	21 40 21.2	
	1.2nm,0.5s							
AAK	**Ala-Archa**	**3.42**	**274**	Pg		**Pb**	**21 39 43.2**	**+1.7**
	0.6nm,0.3s							
AAK				Lg		Lg	21 40 25.6	
	2.4nm,0.5s							
MK31	**Makanchi Array**	**4.84**	**27**	Pn		**Pn**	**21 39 58.2**	**+4.4**
	baz=357,slow=28,SNR=3.1							
MK31				⇓Sn		**Sn**	**21 40 46.9**	**-3.4**
	0.1nm,0.5s							
MK31				⇓Lg		Lg	21 41 05.6	
	0.2nm,0.4s							

*MOS **27** 22:12:40.4, 42°.15N×46°.00E, h17km, MPVA3.7*
*DRS **27** 22:12:41.5, 42°.18N×46°.03E, h30km*
*AZER **27** 22:12:41.5, 41°.94N×45°.93E, h2km, ml2.3*
*NORS **27** 22:12:42.1, 42°.14N×45°.95E, h2km, MPVA3.6*

ISC 27 22:12:42.2±1.0, 42°.14N±0°.02×45°.94E±0°.02, h14km±8km, n73, σ1°10/132, 2C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.38**	**143**	PG	**Pg**	**22 12 48.9**	**-1.0**
BTLR	**Botlikh**	**0.56**	**22**	*e*Pg	**Pb**	**22 12 52.7**	**-1.2**
BTLR				*e*Sg	**Sb**	**22 12 55.4**	**-1.3**
BTLR	**Botlikh**	**0.56**	**22**	*e*PG	**Pb**	**22 12 52.8**	**-1.2**
BTLR				*e*S	**Sb**	**22 13 00.6**	**-1.3**
XNZR	**Khunzakh**	**0.70**	**55**	*i* Pg	**Pb**	**22 12 55.4**	**-0.9**
XNZR				*e*Sg	**Sb**	**22 13 04.8**	**-0.9**
HNZR	**Khunzah**	**0.71**	**54**	*e*PG	**Pb**	**22 12 55.4**	**-1.1**
HNZR				*e*S	**Sg**	**22 13 06.3**	**+0.7**
HNZR				pmax	pmax		
	comp=Z,44nm,0.3s						
HNZR				smax	smax		
	comp=E,50nm,0.5s						
ZKTA	**Zakatala**	**0.72**	**134**	P	**Pb**	**22 12 55.5**	**-1.1**
ZKTA				S	**Sb**	**22 13 05.0**	**-1.2**
SHTL	**Shatili**	**0.78**	**312**	PG	**Pb**	**22 12 55.3**	**-2.3**
GNBR	**Gunib**	**0.80**	**72**	*e*Pg	**Pb**	**22 12 57.1**	**-0.9**
GNBR				*e*Sg	**Sg**	**22 13 08.9**	**+0.5**
GNBR	**Gunib**	**0.80**	**72**	*e*PG	**Pb**	**22 12 57.1**	**-0.9**
GNBR				*e*S	**Sg**	**22 13 08.8**	**+0.5**
GNBR				pmax	pmax		
	comp=Z,108nm,0.4s						
GNBR				smax	smax		
	comp=N,152nm,0.2s						
DGRG	**David-gareji**	**0.81**	**212**	PG	**Pn**	**22 12 58.7**	**-0.6**
DVE	**Vedeno**	**0.83**	**10**	*e*Pg	**Pb**	**22 12 57.7**	**-0.7**
DVE				*e*Sg	**Sg**	**22 13 09.4**	**+0.2**
DVE	**Vedeno**	**0.83**	**10**	*e*PG	**Pb**	**22 12 57.7**	**-0.7**
DVE				*e*S	**Sg**	**22 13 09.3**	**+0.2**
DVE				pmax	pmax		
	comp=Z,27nm,0.2s						
DVE				smax	smax		
	comp=E,324nm,0.2s						
UNCR	**Uncukul**	**0.85**	**48**	*e*Pg	**Pb**	**22 12 57.9**	**-1.0**
UNCR				*e*Sg	**Sg**	**22 13 10.0**	**0.0**
UNCR	**Uncukul**	**0.85**	**48**	*e*PG	**Pb**	**22 12 58.1**	**-0.8**
UNCR				*e*S	**Sn**	**22 13 10.7**	**-1.5**
UNCR				pmax	pmax		
	comp=Z,34nm,0.3s						
UNCR				smax	smax		
	comp=E,116nm,0.3s						
KMKR	**Kumukh**	**0.86**	**90**	*i* Pg	**Pb**	**22 12 58.0**	**-1.1**
KMKR				*e*Sg	**Sb**	**22 13 09.6**	**-1.1**
KMKR	**Kumukh**	**0.86**	**90**	*e*PG	**Pb**	**22 12 57.9**	**-1.2**
KMKR				*e*S	**Sg**	**22 13 11.0**	**+0.6**
KMKR				pmax	pmax		
	comp=Z,76nm,0.1s						
KMKR				smax	smax		
	comp=E,401nm,0.2s						
ARKR	**Arakani**	**0.91**	**59**	*i* Pg	**Pb**	**22 12 59.0**	**-0.8**
ARKR				*e*Sg	**Sg**	**22 13 11.6**	**-0.2**
ARKR	**Arakani**	**0.91**	**59**	*e*PG	**Pb**	**22 12 59.0**	**-0.8**
ARKR				*e*S	**Sn**	**22 13 12.5**	**-1.1**
ARKR				pmax	pmax		
	comp=Z,42nm,0.4s						
ARKR				smax	smax		
	comp=N,80nm,0.6s						
KRNR	**Karanay**	**0.99**	**46**	*i* Pg	**Pb**	**22 13 00.4**	**-0.9**
KRNR				*e*Sg	**Sb**	**22 13 13.5**	**-0.8**
DLMR	**Dylym**	**1.06**	**29**	*e*Pg	**Pg**	**22 13 02.6**	**-0.1**
DLMR				*e*Sg	**Sg**	**22 13 16.8**	**+0.3**
DLMR	**Dylym**	**1.06**	**29**	*e*PG	**Pb**	**22 13 01.7**	**-0.7**
DLMR				*e*S	**Sg**	**22 13 17.6**	**+1.1**
DLMR				pmax	pmax		
	comp=Z,12nm,0.1s						
DLMR				smax	smax		
	comp=N,283nm,0.3s						
DBC	**Dubki**	**1.10**	**37**	*i* Pg	**Pb**	**22 13 02.6**	**-0.5**
DBC				*e*Sg	**Sg**	**22 13 18.1**	**+0.4**
DBC	**Dubki**	**1.10**	**37**	*e*PG	**Pb**	**22 13 02.6**	**-0.5**
DBC				*e*S	**Sg**	**22 13 18.9**	**+1.1**
DBC				pmax	pmax		
	comp=Z,14nm,0.6s						
DBC				smax	smax		
	comp=E,92nm,0.3s						
BUJR	**Buynaksk**	**1.10**	**51**	*i* Pg	**Pb**	**22 13 03.1**	**0.0**
BUJR				*e*Sg	**Sg**	**22 13 18.6**	**+0.7**
BUJR	**Buynaksk**	**1.10**	**51**	*e*PG	**Pb**	**22 13 02.8**	**-0.3**
BUJR				*e*S	**Sg**	**22 13 19.4**	**+1.5**
BUJR				pmax	pmax		
	comp=Z,81nm,0.3s						
BUJR				smax	smax		
	comp=E,132nm,0.4s						
GUDG	**Gudauri**	**1.13**	**287**	*e*Pg	**Pn**	**22 13 02.9**	**-0.9**
GUDG				*e*Sg	**Sn**	**22 13 18.5**	**-0.7**
QZX	**Qazax, Azerbai**	**1.16**	**202**	P	**Pn**	**22 13 03.6**	**-0.5**
QZX				S	**Sg**	**22 13 20.7**	**+0.9**
KMGR	**Komgaron**	**1.21**	**320**	*e*Pg	**Pg**	**22 13 05.6**	**+0.1**
KMGR				*e*Sg	**Sg**	**22 13 22.4**	**+1.1**
KMGR	**Komgaron**	**1.21**	**320**	*e*PG	**Pg**	**22 13 06.0**	**+0.5**
KMGR				*e*S	**Sg**	**22 13 23.2**	**+1.9**
URKR	**Urkarakh**	**1.26**	**88**	*e*Pg	**Pn**	**22 13 05.2**	**-0.4**
URKR				*e*Sg	**Sg**	**22 13 23.6**	**+0.6**
URKR	**Urkarakh**	**1.26**	**88**	*e*PG	**Pn**	**22 13 05.1**	**-0.4**
URKR				*e*S	**Sg**	**22 13 24.1**	**+1.1**
URKR				pmax	pmax		
	comp=Z,22nm,0.2s						
URKR				smax	smax		
	comp=N,35nm,0.2s						
SEKA	**Sheki**	**1.33**	**134**	P	**Pb**	**22 13 06.5**	**-0.5**
SEKA				S	**Sg**	**22 13 26.4**	**+1.4**
LACR	**Lac**	**1.39**	**300**	*e*Pg	**Pn**	**22 13 06.3**	**-1.0**
LACR				*e*Sg	**Sn**	**22 13 24.4**	**-1.2**
LACR	**Lac**	**1.39**	**300**	*e*PG	**Pn**	**22 13 06.3**	**-1.0**
GDB	**GEDABAY**	**1.43**	**186**	P	**Pn**	**22 13 07.5**	**-0.4**
GDB				S	**Sb**	**22 13 27.3**	**+0.5**
AKT	**Akhty**	**1.50**	**116**	*e*Pg	**Pn**	**22 13 08.7**	**0.0**
AKT				*e*Sg	**Sb**	**22 13 28.6**	**-0.2**
AKT	**Akhty**	**1.50**	**116**	*e*PG	**Pb**	**22 13 09.0**	**-0.8**
AKT				*e*S	**Sg**	**22 13 30.9**	**+0.5**
AKT				pmax	pmax		
	comp=Z,21nm,0.3s						
AKT				smax	smax		
	comp=E,41nm,0.3s						
TRLG	**Trialeti**	**1.50**	**247**	PG	**Pn**	**22 13 08.9**	**+0.1**
GANJ	**Ganja**	**1.52**	**169**	Pn	**Pn**	**22 13 09.2**	**+0.1**
GANJ				Sn	**Sg**	**22 13 30.4**	**-0.8**
ARNR	**Ardon**	**1.60**	**311**	*e*Pg	**Pb**	**22 13 11.1**	**-0.4**
ARNR				*e*Sg	**Sg**	**22 13 33.6**	**-0.1**
BTKR	**Batakoyurt**	**1.60**	**321**	*e*Pg	**Pg**	**22 13 12.6**	**-0.4**
BTKR				*e*Sg	**Sg**	**22 13 33.5**	**-0.4**
BTKR	**Batakoyurt**	**1.60**	**321**	*e*PN	**Pg**	**22 13 12.6**	**-0.4**
BTKR				*e*S	**Sg**	**22 13 35.6**	**+1.8**
BRNG	**Burnasheti**	**1.66**	**252**	PN	**Pb**	**22 13 11.8**	**-0.8**
KORR	**Kora**	**1.67**	**305**	*e*Pg	**Pb**	**22 13 12.1**	**-0.7**
KORR				*e*Sg	**Sg**	**22 13 36.8**	**+0.8**
KORR	**Kora**	**1.67**	**305**	*e*PN	**Pg**	**22 13 13.9**	**-0.4**
KORR				*e*S	**Sg**	**22 13 36.8**	**+0.8**
KSMR	**Kasumkent**	**1.72**	**108**	*e*Pg	**Pn**	**22 13 12.1**	**+0.3**
KSMR				*e*Sg	**Sb**	**22 13 35.4**	**+0.1**
KSMR	**Kasumkent**	**1.72**	**108**	*e*PN	**Pb**	**22 13 12.9**	**-0.8**
KSMR				*e*S	**Sg**	**22 13 38.4**	**+0.7**
KSMR				pmax	pmax		
	comp=Z,21nm,0.4s						
KSMR				smax	smax		
	comp=E,84nm,0.4s						
STDR	**Stavd-Durt**	**1.84**	**312**	*e*Pg	**Pg**	**22 13 16.6**	**-1.0**
STDR				*e*Sg	**Sb**	**22 13 40.0**	**+1.3**
QSAR	**Qusar**	**1.85**	**109**	Pn	**Pb**	**22 13 15.7**	**-0.1**
QSAR				Sn	**Sg**	**22 13 43.4**	**+1.7**
QBL	**Gabala**	**1.86**	**129**	Pn	**Pb**	**22 13 15.6**	**-0.4**
QBL				Sn	**Sg**	**22 13 42.9**	**+0.8**
XNQ	**Khinaliq**	**1.92**	**120**	Pn	**Pb**	**22 13 17.3**	**+0.3**
XNQ				Sn	**Sg**	**22 13 44.8**	**+0.9**
LSNR	**Lesken**	**1.93**	**307**	*e*Pg	**Pb**	**22 13 17.6**	**+0.5**
LSNR				*e*Sg	**Sb**	**22 13 42.2**	**+1.2**
AKH	**Akhalkalaki**	**1.97**	**249**	PN	**Pb**	**22 13 16.9**	**-1.0**
QUBA	**Quba, Azerbaij**	**2.07**	**112**	Pn	**Pb**	**22 13 19.6**	**+0.1**
QUBA				Sn	**Sg**	**22 13 49.1**	**+0.3**
IML	**Ismayilli**	**2.16**	**128**	Pn	**Pb**	**22 13 20.8**	**-0.3**
IML				Sn	**Sg**	**22 13 50.1**	**-1.5**
GNI	**Garni**	**2.19**	**205**	*e*Pn	**Pb**	**22 13 20.3**	**-1.3**
GNI				*e*Sn	**Sb**	**22 13 49.9**	**+1.2**
GNI	**Garni**	**2.19**	**205**	*d i* PN	**Pb**	**22 13 20.7**	**-0.9**
NCK	**Nalchik**	**2.19**	**309**	*e*Pg	**Pb**	**22 13 21.6**	**0.0**
NCK				*e*Sg	**Sb**	**22 13 50.4**	**+1.8**
NCK	**Nalchik**	**2.19**	**309**	⇑*e*PN	**Pb**	**22 13 21.2**	**-0.4**
TKB	**Tkibuli**	**2.19**	**276**	PN	**Pb**	**22 13 20.4**	**-1.3**
PQL	**Pirkuli**	**2.41**	**123**	Pn	**Pb**	**22 13 26.2**	**+0.7**
PQL				Sn	**Sb**	**22 13 55.8**	**+0.7**
SIZA	**Siyzn**	**2.46**	**115**	Pn	**Pb**	**22 13 25.7**	**-0.6**
SIZA				Sn	**Sg**	**22 13 58.9**	**-2.5**
ATGJ	**Altiaghaj**	**2.59**	**119**	Pn	**Pb**	**22 13 26.6**	**-1.9**
ATGJ				Sn	**Sb**	**22 14 02.0**	**+1.7**
KBZ	**Khabaz**	**2.74**	**306**	*e*Pn	**Pb**	**22 13 28.1**	**-2.9**
KBZ				*e*Sn	**Sn**	**22 13 59.6**	**+1.1**
PYA1	**Pyatigorsk**	**2.83**	**314**	*e*Pn	**Pn**	**22 13 27.6**	**+0.6**
PYA1				*e*Sn	**Sb**	**22 14 03.9**	**-3.1**
SHA1	**Shidzhatmaz**	**2.89**	**305**	*e*Pn	**Pn**	**22 13 29.1**	**+1.1**
SHA1				*e*Sn	**Sb**	**22 14 06.8**	**-2.1**
SHA1	**Shidzhatmaz**	**2.89**	**305**	⇓*e*PN	**Pb**	**22 13 30.8**	**-2.8**
BEYR	**Belyy Ugol+**	**2.95**	**310**	*e*Pn	**Pn**	**22 13 29.9**	**+1.2**
BEYR				*e*Sn	**Sn**	**22 14 05.2**	**+1.3**
KIV	**Kislovodsk**	**2.99**	**308**	*e*Pn	**Pn**	**22 13 28.9**	**-0.4**
KIV				*e*Sn	**Sn**	**22 14 05.5**	**+0.5**
KIV	**Kislovodsk**	**2.99**	**308**	*e*PN	**Pn**	**22 13 29.2**	**-0.1**
KIV				*i* S	**Sb**	**22 14 08.9**	**-2.9**
KIV				pmax	pmax		
	comp=Z,6.0nm,2.1s						
ARXR	**Arkhyz**	**3.71**	**294**	⇑*e*PN	**Pn**	**22 13 40.1**	**+0.9**
OBN	**Obninsk**	**14.36**	**338**	*e*P	**Pn**	**22 16 07.6**	**+2.7**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,25nm,15.0s						
BRVK	**Borovoye**	**19.62**	**48**	⇓*e*P	**Pn**	**22 17 11.1**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*IDC **27** 22:48:52.2±3.1, 21°.86N×143°.49E, h141km±26km, mb3.3/9, mbtmp3.8/10, Error ellipse: s-maj=27.0km s-min=19.0km az=81.0*

ISC 27 22:48:53.0±0.9, 21°.9N±0°.1×143°.5E±0°.2, h150km, n11, σ0°70/12, mb3.6/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.33**	**347**	P	**Pn**	**22 50 09.5**	**-1.2**
	39nm,0.5s,baz=262,slow=20,SNR=1.4						
JCJ				S	**Sn**	**22 51 11.7**	**+0.2**
	48nm,0.4s,baz=303,slow=23,SNR=1.9						
KSRS	**Korea Array**	**20.55**	**323**	P	**P**	**22 53 20.6**	**+1.0**
	0.9nm,0.6s,baz=151,slow=9.2,SNR=6.5						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**42.52**	**193**	P	**P**	**22 56 33.5**	**-0.2**
	0.3nm,0.6s,baz=14,slow=9.4,SNR=9.9						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**54.25**	**322**	P	**P**	**22 58 03.4**	**+0.2**
	0.4nm,0.4s,baz=117,slow=8.0,SNR=1.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**54.79**	**313**	P	**P**	**22 58 07.8**	**+0.6**
	0.3nm,0.4s,baz=91,slow=8.0,SNR=4.3						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**57.59**	**317**	P	**P**	**22 58 26.7**	**-0.3**
	1.1nm,0.2s,baz=94,slow=7.9,SNR=4.5						
	1.1nm,0.2s						
ILAR	**Eielson Array**	**61.75**	**27**	P	**P**	**22 58 55.5**	**+0.3**
	0.2nm,0.8s,baz=229,slow=6.9,SNR=2.4						
	0.2nm,0.8s						
BVAR	**Borovoye Array**	**62.72**	**319**	P	**P**	**22 59 01.9**	**0.0**
	1.0nm,0.3s,baz=92,slow=6.9,SNR=8.9						
	1.0nm,0.3s						
YKA	**Yellowknife Ar**	**76.16**	**28**	P	**P**	**23 00 24.2**	**0.0**
	0.7nm,0.6s,baz=315,slow=8.0,SNR=2.5						
	0.7nm,0.6s						
NVAR	**Mina Array Bea**	**82.81**	**52**	P	**P**	**23 01 01.7**	**+0.7**
	0.8nm,0.6s,baz=262,slow=4.5,SNR=4.6						
	0.8nm,0.6s						
PLCA	**Paso Flores**	**145.66**	**131**	PKPbc	**PKPab**	**23 08 13.9**	**-0.9**
	1.3nm,0.4s,baz=253,slow=3.4,SNR=11						

*IDC **27** 22:57:29.2±0.8, 56°.43S×25°.58W, h0km, mb4.3/6, mbtmp4.2/7, ML3.4/1, MS3.4/9, Error ellipse: s-maj=36.7km s-min=18.5km az=71.0*

*NEIC **27** 22:57:37.2±1.0, 56°.8S±0°.1×26°.6W±0°.3, h37km±11km, mb4.6/11, Error ellipse: s-maj=28.5km s-min=11.0km az=47.0*

ISC 27 22:57:34.4±0.8, 56°.5S±0°.1×25°.9W±0°.2, h33km, n35, σ0°90/25, mb4.4/9, MS3.4/8, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.44**	**286**	Pn	**Pn**	**22 59 05.2**	**-1.5**
VNA1	**Neumayer--Stat**	**16.08**	**159**	⇑P	**Pn**	**23 01 17.6**	**+0.1**
	comp=Z,0.7nm,0.2s						
VNA3	**Neumayer Olymp**	**16.30**	**161**	⇑P	**Pn**	**23 01 19.9**	**-0.5**
	comp=Z,0.9nm,0.2s						
VNA2	**Neumayer--Watz**	**16.47**	**158**	⇑P	**Pn**	**23 01 21.7**	**-0.9**
	comp=Z,0.7nm,0.2s,baz=334,slow=16						
SNAA	**Sanae**	**18.01**	**156**		**P**	**23 01 42.6**	**+0.6**
SNAA	**Sanae**	**18.01**	**156**	⇑P	**P**	**23 01 42.6**	**+0.6**
	comp=Z,8.0nm,0.2s						
SNAA	**Sanae**	**18.01**	**156**	P	**Pn**	**23 01 41.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=315,slow=17,SNR=4.4						
SNAA				LR	LR	23 07 30.7	
	comp=Z,76nm,19.6s,baz=76,slow=33						
	comp=Z,2.8nm,1.0s						
BELA	**Belgrano 2**	**21.65**	**185**	P	**P**	**23 02 20.4**	**-1.0**
BELA				IAmb	IAmb	23 02 24.0	
	comp=Z,10.0nm,0.6s						
TRQA	**Tornquist**	**30.17**	**292**	P	**P**	**23 03 41.1**	**-0.1**
PLTB	**Pedras Altas**	**31.36**	**310**	P	**P**	**23 03 52.9**	**+1.2**
QSPA	**South Pole Qui**	**33.71**	**180**	P	**P**	**23 04 12.3**	**0.0**
QSPA				IAmb	IAmb	23 04 13.4	
	comp=Z,7.6nm,0.8s						
QSPA	**South Pole Qui**	**33.71**	**180**	P	**P**	**23 04 12.4**	**+0.2**
	comp=Z,6.3nm,0.7s,baz=204,slow=3.6,SNR=39						
	comp=Z,6.3nm,0.7s						
ITQB	**Itaqui**	**34.46**	**308**	P	**P**	**23 04 21.1**	**+2.3**
CPUP	**Villa Florida**	**37.67**	**310**	P	**P**	**23 04 46.0**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=159,slow=6.3,SNR=6.7						
CPUP				LR	LR	23 24 01.4	
	comp=Z,28nm,18.1s,baz=172,slow=42						
	comp=Z,4.0nm,0.9s						
MAW	**Mawson**	**39.33**	**143**	LR	LR	23 17 42.2	
	comp=Z,49nm,21.6s,baz=312,slow=31						
SUR	**Sutherland**	**40.09**	**73**	LR	LR	23 18 24.1	
	comp=Z,86nm,18.2s,baz=199,slow=32						
BDFB	**Brasilia**	**44.15**	**329**	P	**P**	**23 05 39.4**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=117,slow=9.7,SNR=1.7						
	comp=Z,0.7nm,0.3s						
BOSA	**Boshof**	**45.40**	**74**	LR	LR	23 20 47.8	
	comp=Z,69nm,18.6s,baz=210,slow=31						
VNDA	**Vanda**	**46.12**	**182**	P	**P**	**23 05 55.3**	**+0.6**
VNDA				IAmb	IAmb	23 05 56.2	
	comp=Z,2.5nm,0.8s						
VNDA	**Vanda**	**46.12**	**182**	P	**P**	**23 05 55.5**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=185,slow=6.5,SNR=19						
	comp=Z,3.1nm,0.9s						
LVC	**Limon Verde**	**46.16**	**299**	P	**P**	**23 05 56.0**	**-0.1**
PTLB	**Pontes e Lacer**	**48.15**	**315**	P	**P**	**23 06 11.2**	**+0.1**
PTLB				IAmb	IAmb	23 06 12.9	
	comp=Z,5.1nm,0.9s						
LBTB	**Lobatse**	**48.47**	**72**	LR	LR	23 25 02.3	
	comp=Z,41nm,18.1s,baz=168,slow=34						
H10N1	**ASCENSION HYDR**	**49.39**	**15**	T	T	00 00 09.5	
	baz=187						
H10N3	**ASCENSION HYDR**	**49.39**	**15**	T	T	00 00 09.5	
	baz=187						
H10N2	**ASCENSION HYDR**	**49.41**	**15**	T	T	00 00 13.2	
	baz=187						
LPAZ	**La Paz**	**51.24**	**304**	P	**P**	**23 06 36.0**	**+0.6**
LPAZ				IAmb	IAmb	23 06 37.2	
	comp=Z,6.3nm,0.7s						
LPAZ	**La Paz**	**51.24**	**304**	P	**P**	**23 06 36.2**	**+0.7**
	comp=Z,6.0nm,0.5s,baz=135,slow=4.6,SNR=30						
	comp=Z,6.0nm,0.5s						
NNA	**Nana**	**59.11**	**298**	LR	LR	23 36 05.2	
	comp=Z,20nm,18.1s,baz=154,slow=39						
MDP	**Montagnes des**	**65.21**	**330**	LR	LR	23 34 26.2	
	comp=Z,24nm,21.0s,baz=147,slow=34						
OTAV	**Otavalo**	**70.52**	**303**	P	**P**	**23 08 47.7**	**+1.3**
OTAV				IAmb	IAmb	23 08 50.3	
	comp=Z,5.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**73.14**	**28**	P	**P**	**23 09 00.6**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=180,slow=4.5,SNR=7.8						
	comp=Z,1.4nm,0.8s						
SDV	**Santo Domingo**	**74.86**	**314**	LR	LR	23 44 52.8	
	comp=Z,35nm,18.5s,baz=264,slow=38						
SONM	**Songino Array**	**150.04**	**86**	PKPbc	**PKPbc**	**23 17 19.4**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=295,slow=1.4,SNR=6.2						
ILAR	**Eielson Array**	**150.97**	**311**	PKPbc	**PKPbc**	**23 17 22.4**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=141,slow=1.8,SNR=23						

*NOU **27** 23:17:54.5, 33°.72S×179°.91W, h328km, mb4.0/6, South of Kermadec Islands*
*WEL **27** 23:18:23.9±1.3, 35°S±6°×17°9E±1°3, h12km, M4.3/13, ML4.5/13, MLv4.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=78.4, confirmed*

ISC 27 23:18:20.1±3.7, 35°4S±0°2×178°7E±0°2, h230km±18km, n37, σ1°47/52, Off east coast of North Island

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

s-min=16.4km az=101.0
*NEIC **27** 23:21:47.9±0.8, 42°.47N±0°.07×142°.6E±0°.1, h109km±6km, mb4.1/4, Error ellipse: s-maj=12.6km s-min=7.9km az=122.0*
*JMA **27** 23:21:48.2±0.2, 42°.6N±0°.6×142°.8E±0°.8, h107km±1km, MV3.2/40, HIDAKA MOUNTAINS REGION*

ISC 27 23:21:47.7±0.7, 42°.47N±0°.04×142.72E±0°.03, h115km±5km, n62, σ1§28/86, mb4.0/16, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.19**	**172**	P	**Pn**	**23 22 03.7**	**+0.1**
JNBK				S	**Sn**	**23 22 15.7**	**+0.1**
JSHD	**Hidakashinhida**	**0.19**	**252**	P	**Pn**	**23 22 04.0**	**+0.4**
JSHD				S	**Sn**	**23 22 16.2**	**+0.6**
JBT2	**Biratori 2**	**0.40**	**320**	P	**Pn**	**23 22 03.6**	**-0.9**
JBT2				S	**Sn**	**23 22 15.3**	**-1.8**
JCH	**Churui**	**0.50**	**73**	P	**Pn**	**23 22 04.3**	**-0.7**
JCH				S	**Sn**	**23 22 16.1**	**-2.0**
ERM	**Erimo**	**0.56**	**144**		**Pn**	**23 22 05.6**	**+0.1**
ERM	**Erimo**	**0.56**	**144**	PN	**Pn**	**23 22 05.6**	**+0.1**
JEM	**Erimo**	**0.56**	**144**	*i* P	**Pn**	**23 22 05.7**	**+0.2**
JEM				S	**Sn**	**23 22 19.6**	**+0.8**
JIAM	**Iburiatsuma**	**0.61**	**285**	*i* P	**Pn**	**23 22 06.2**	**+0.5**
JIAM				S	**Sn**	**23 22 19.9**	**+0.6**
JFR	**Furan**	**0.70**	**353**	P	**Pn**	**23 22 05.6**	**-0.9**
JFR				S	**Sn**	**23 22 19.6**	**-1.1**
JOB	**Onbets**	**0.93**	**62**	*i* P	**Pn**	**23 22 08.4**	**-0.1**
JOB				S	**Sn**	**23 22 23.4**	**-0.9**
JEW	**Eniwo**	**1.00**	**292**	*i* P	**Pn**	**23 22 08.8**	**-0.4**
JEW				S	**Sn**	**23 22 24.7**	**-0.9**
JAB	**Ashibetsu**	**1.09**	**341**	P	**Pn**	**23 22 09.4**	**-0.8**
JAB				S	**Sn**	**23 22 26.4**	**-0.9**
JAR	**Ashorobuto**	**1.13**	**43**	*i* P	**Pn**	**23 22 09.9**	**-0.7**
JAR				S	**Sn**	**23 22 25.6**	**-2.4**
JNB	**Noboribetsu**	**1.24**	**270**	*i* P	**Pn**	**23 22 10.7**	**-1.1**
JNB				S	**Sn**	**23 22 27.9**	**-2.1**
JISS	**Ishikarishitsu**	**1.25**	**311**	P	**Pn**	**23 22 11.3**	**-0.6**
JISS				S	**Sn**	**23 22 29.0**	**-1.2**
JKK2	**Kamakawa 2**	**1.40**	**1**	P	**Pn**	**23 22 13.0**	**-0.7**
JKK2				S	**Sn**	**23 22 31.3**	**-2.1**
JHR	**Hokuryu**	**1.46**	**331**	P	**Pn**	**23 22 13.9**	**-0.5**
JHR				S	**Sn**	**23 22 33.5**	**-1.1**
JAK	**Akkeshi**	**1.55**	**70**	*i* P	**Pn**	**23 22 14.7**	**-0.7**
JAK				S	**Sn**	**23 22 34.5**	**-1.9**
JKA	**Kamikawa-asahi**	**1.65**	**357**		**Pn**	**23 22 15.9**	**-0.6**
JKA	**Kamikawa-asahi**	**1.65**	**357**	*e*P	**Pn**	**23 22 15.4**	**-1.1**
ASAJ	**Asahikawa**	**1.65**	**357**	P	**Pn**	**23 22 15.3**	**-1.2**
	18nm,0.3s,baz=220,slow=8.8,SNR=18						
ASAJ				S	**Sn**	**23 22 37.1**	**-1.4**
	34nm,0.6s,baz=75,slow=28,SNR=13						
JOT	**Ohata**	**1.65**	**229**	*i* P	**Pn**	**23 22 15.9**	**-0.6**
JOT				S	**Sn**	**23 22 36.7**	**-1.8**
AKK	**Akkeshi**	**1.66**	**70**	*e*P	**Pn**	**23 22 15.9**	**-0.7**
JTKR	**Abashiri--Toko**	**1.73**	**30**	*i* P	**Pn**	**23 22 17.1**	**-0.4**
JTKR				S	**Sn**	**23 22 39.1**	**-1.2**
JTM	**Tenmabayashi**	**2.09**	**217**		**Pn**	**23 22 21.5**	**-0.5**
JTM				Sn	**Sn**	**23 22 46.7**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.39**	**67**	*e*P	**Pn**	**23 22 24.5**	**-1.3**
NMR				*e*S	**Sn**	**23 22 51.5**	**-3.6**
NMR	**Nemuro--Hokkai**	**2.39**	**67**	*e*PN	**Pn**	**23 22 24.8**	**-1.0**
NMR				*e*S	**Sn**	**23 22 51.4**	**-3.6**
RUSJ	**Misakicho**	**2.47**	**48**	*e*PN	**Pn**	**23 22 26.8**	**0.0**
RUSJ				*e*S	**Sn**	**23 23 00.0**	**+3.2**
YUK	**Yuzh-Kuril'sk**	**2.78**	**55**	*e*P	**Pn**	**23 22 31.3**	**+0.4**
YUK				AMB	AMB	23 22 33.2	
	290nm,0.4s						
YUK				*e*S	**Sn**	**23 23 03.3**	**-0.8**
YUK				A	A	23 23 05.2	
	540nm,0.6s						
YUK				A	A	23 23 05.2	
	960nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.78**	**55**	*e*PN	**Pn**	**23 22 31.5**	**+0.6**
YUK				*e*S	**Sn**	**23 23 04.9**	**+0.8**
YUK				pmax	pmax		
	comp=Z,285nm,0.3s						
YUK				pmax	pmax		
	comp=N,162nm,0.2s						
YUK				pmax	pmax		
	comp=E,144nm,0.2s						
YUK				smax	smax		
	comp=E,689nm,0.5s						
YUK				smax	smax		
	comp=N,542nm,0.4s						
SHO	**Shikotan**	**3.32**	**64**	*e*P	**Pn**	**23 22 37.3**	**-0.7**
SHO				AMB	AMB	23 22 41.9	
	comp=N,50nm,0.2s						
SHO				*e*S	**Sn**	**23 23 14.4**	**-2.4**
SHO				A	A	23 23 15.1	
	comp=N,160nm,0.3s						
SHO				A	A	23 23 15.1	
	comp=N,250nm,0.3s						
SHO	**Shikotan**	**3.32**	**64**	*e*PN	**Pn**	**23 22 37.3**	**-0.7**
SHO				*e*S	**Sn**	**23 23 13.6**	**-3.2**
SHO				pmax	pmax		
	comp=N,45nm,0.2s						
SHO				pmax	pmax		
	comp=Z,46nm,0.2s						
SHO				pmax	pmax		
	comp=E,48nm,0.3s						
SHO				smax	smax		
	comp=N,163nm,0.3s						
SHO				smax	smax		
	comp=E,246nm,0.3s						
KUR	**Kuril'sk**	**4.64**	**52**	*i* P	**Pn**	**23 22 56.7**	**+1.1**
KUR				AMB	AMB	23 22 57.3	
	comp=E,40nm,0.5s						
KUR				*e*S	**Sn**	**23 23 47.9**	**-0.5**
KUR				A	A	23 23 53.7	
	comp=E,40nm,0.3s						
KUR				A	A	23 23 53.7	
	comp=E,50nm,0.3s						
KUR	**Kuril'sk**	**4.64**	**52**	⇑*i*PN	**Pn**	**23 22 57.1**	**+1.5**
KUR				*e*S	**Sn**	**23 23 51.3**	**+2.9**
KUR				pmax	pmax		
	comp=Z,43nm,0.5s						
KUR				smax	smax		
	comp=E,40nm,0.4s						
KUR				smax	smax		
	comp=N,27nm,0.3s						
JMM	**Marumori**	**4.83**	**198**	Pn	**Pn**	**23 22 57.7**	**-0.6**
JMM				Sn	**Sn**	**23 23 51.4**	**-1.7**
MJAR	**Matsushiro Arr**	**6.87**	**212**	P	**Pn**	**23 23 25.0**	**-0.8**
	comp=N,1.4nm,0.3s,baz=33,slow=11,SNR=6.4						
SONM	**Songino Array**	**26.00**	**294**	P	**P**	**23 27 09.2**	**-0.6**
	comp=N,0.6nm,0.7s,baz=101,slow=8.0,SNR=3.9						
	comp=N,0.6nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**30.50**	**131**	T	T	23 59 34.6	
	baz=326,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**30.52**	**131**	T	T	23 59 35.5	
	baz=326,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**30.52**	**131**	T	T	23 59 35.1	
	baz=326,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**31.38**	**132**	T	T	00 00 43.7	
	baz=328,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**31.38**	**132**	T	T	00 00 45.2	
	baz=328,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**31.40**	**132**	T	T	00 00 45.1	
	baz=328,slow=75,SNR=8.3						
ZAA0	**Zalesovo Array**	**39.19**	**308**	P	**P**	**23 29 03.7**	**-0.4**
ZAA0				IAmb	IAmb	23 29 05.1	
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**39.19**	**308**	P	**P**	**23 29 04.3**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=87,slow=7.6,SNR=12						
	comp=Z,2.3nm,0.6s						
MK31	**Makanchi Array**	**42.29**	**297**	P	**P**	**23 29 29.4**	**-0.4**
MK31	**Makanchi Array**	**42.29**	**297**	P	**P**	**23 29 29.4**	**-0.4**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**42.29**	**297**	P	**P**	**23 29 29.9**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=79,slow=10,SNR=9.0						
	comp=Z,1.2nm,0.7s						
KURK	**Kurchatov**	**43.55**	**304**	P	**P**	**23 29 39.9**	**+0.1**
KURK	**Kurchatov**	**43.55**	**304**	*e*P	**P**	**23 29 39.9**	**+0.1**
KURK	**Kurchatov**	**43.55**	**304**	P	**P**	**23 29 39.9**	**+0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURBB	**Kurchatov Arra**	**43.63**	**304**	P	**P**	**23 29 41.0**	**+0.7**
	comp=Z,2.2nm,0.4s,baz=75,slow=8.9,SNR=7.0						
	comp=Z,2.2nm,0.4s						
ILAR	**Eielson Array**	**44.42**	**35**	P	**P**	**23 29 48.8**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=266,slow=7.0,SNR=2.4						
	comp=Z,0.2nm,0.6s						
BVAR	**Borovoye Array**	**47.79**	**309**	P	**P**	**23 30 13.3**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=72,slow=9.4,SNR=7.2						
	comp=Z,1.5nm,0.4s						
ABKAR	**Akbulak array**	**55.30**	**308**	P	**P**	**23 31 09.8**	**+0.7**
ABKAR				IAmb	IAmb	23 31 10.5	
	comp=Z,1.6nm,0.6s						
ARCES	**ARCESS Array B**	**59.28**	**339**	P	**P**	**23 31 36.8**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=48,slow=8.6,SNR=1.1						
	comp=Z,1.1nm,0.9s						
WRA	**Warramunga Arr**	**62.58**	**189**	P	**P**	**23 31 59.1**	**-0.4**
	comp=Z,0.5nm,1.2s,baz=6.3,slow=7.3,SNR=1.7						
	comp=Z,0.5nm,1.2s						
FINES	**FINESS Array B**	**64.50**	**332**	P	**P**	**23 32 11.2**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=55,slow=7.4,SNR=24						
	comp=Z,1.6nm,0.5s						
HFS	**Hagfors**	**69.56**	**335**	P	**P**	**23 32 43.5**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=54,slow=7.5,SNR=15						
	comp=Z,1.4nm,0.5s						
NB2	**NORSAR Subarra**	**69.57**	**337**	P	**P**	**23 32 43.8**	**0.0**
	comp=Z,0.6nm,0.6s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**69.57**	**337**	P	**P**	**23 32 43.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=37,slow=6.2,SNR=5.6						
	comp=Z,0.5nm,0.5s						
BRTR	**Keskin Array B**	**76.01**	**311**	P	**P**	**23 33 23.8**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=52,slow=5.7,SNR=2.9						
	comp=Z,0.4nm,0.7s						

NAM 27 23:40:17.6±3.1, 19°.77S×14°.54E, h14km±11km, ML0.5, 7C-8D, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ST9N	**ST9**	**0.03**	**173**	⇑*i*P	Pg	23 40 20.3	0.0
ST9N				⇑*i*P		23 40 20.4	
ST9N				IAML		23 40 21.2	
	comp=N,511nm,0.1s						
ST9N				IAML		23 40 21.2	
	comp=Z,300nm,0.1s						
ST9N	**ST9**	**0.03**	**173**	⇓*i*P	Pg	23 40 20.4	0.0
ST9N				*i* S	Sg	23 40 20.9	-1.3
ST9N				IAML		23 40 21.2	
	comp=Z,315nm,0.1s						
ST3N	**ST3**	**0.05**	**305**	⇓*i*P	Pg	23 40 21.4	+0.9
ST3N				*i* S	Sg	23 40 22.7	+0.4
ST3N				IAML		23 40 22.9	
	comp=Z,6.7nm,0.1s						
ST3N	**ST3**	**0.05**	**305**	⇓*i*P	Pg	23 40 21.4	+0.9
ST3N				*i* S	Sg	23 40 22.8	+0.4
ST3N				IAML		23 40 22.9	
	comp=Z,6.7nm,0.1s						
ST1N	**ST1**	**0.07**	**64**	⇑*i*P	Pg	23 40 21.2	+0.5
ST1N				*i* S	Sg	23 40 22.5	-0.2
ST1N				IAML		23 40 22.5	
	comp=Z,24nm,0.1s						
ST1N	**ST1**	**0.07**	**64**	⇓*i*P	Pg	23 40 21.2	+0.6
ST1N				*i* S	Sg	23 40 22.5	-0.2
ST1N				IAML		23 40 22.6	
	comp=Z,25nm,0.1s						
ST6N	**ST6**	**0.14**	**257**	⇓*i*P	Pb	23 40 22.6	+0.6
ST6N				*i* S	Sb	23 40 24.9	-0.1
ST6N				IAML		23 40 25.1	
	comp=Z,8.4nm,0.0s						
ST6N	**ST6**	**0.14**	**257**	⇓*i*P	Pb	23 40 22.6	+0.6
ST6N				*i* S	Sb	23 40 24.9	-0.1
ST6N				IAML		23 40 25.1	
	comp=Z,8.3nm,0.0s						
ST2N	**ST2**	**0.17**	**162**	⇑*i*P	Pg	23 40 22.1	+0.3
ST2N				*i* S	Sg	23 40 24.2	-0.4
ST2N	**ST2**	**0.17**	**162**	*i* S	Sg	23 40 23.7	-0.9
ST5N	**ST5**	**0.20**	**96**	⇓*i*P	Pb	23 40 23.1	-0.1
ST5N				*i* S	Sg	23 40 25.7	+0.1
ST5N				IAML		23 40 25.7	
	comp=Z,3.7nm,0.1s						
ST8N	**ST8**	**0.23**	**291**	⇑*i*P	Pb	23 40 24.6	+1.1
ST8N				*i* S	Sb	23 40 27.4	-0.1
ST8N				IAML		23 40 35.2	
	comp=Z,0.6nm,0.1s						
ST8N	**ST8**	**0.23**	**291**	⇓*i*P	Pb	23 40 24.6	+1.1
ST8N				IAML		23 40 29.3	
	comp=Z,0.9nm,0.1s						
ST10N	**ST10**	**0.27**	**213**	⇑*i*P	Pb	23 40 24.4	+0.2
ST10N				*i* S	Sg	23 40 27.9	+0.5
ST10N				IAML		23 40 29.7	
	comp=Z,3.9nm,0.1s						
ST10N	**ST10**	**0.27**	**213**	⇑*i*P	Pb	23 40 24.4	+0.2
ST10N				*i* S	Sg	23 40 27.8	+0.5
ST10N				IAML		23 40 28.7	
	comp=Z,4.5nm,0.1s						

*IDC **28** 00:03:42.7±2.2, 12°.39N×87°.86W, h0km, mb3.8/4, mbtmp3.8/7, ML3.0/3, MS3.2/10, Error ellipse: s-maj=60.4km s-min=25.4km az=38.0*
*CATAC **28** 00:03:46.0±0.5, 12°.26N×88°.05W, h23km±4km, ML4.0*
*SNET **28** 00:03:47.6±1.1, 12°.38N×88°.14W, h19km±7km, ML3.7*
*NEIC **28** 00:03:48.7±1.2, 12°.36N±0°.08×87°.99W±0°.07, h35km±16km, mb4.2/23, Error ellipse: s-maj=12.9km s-min=7.6km az=211.0*

ISC 28 00:03:43.2±1.4, 12°.24N±0°.05×88°.10W±0°.03, h9km±9km, n103, σ1§12/134, mb4.2/14, MS3.2/7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.06**	**14**	*e*P	**Pn**	**00 04 04.7**	**+0.3**
CNCH				*e*P	**Pb**	**00 04 07.3**	**+3.5**
CNCH	**Conchagua**	**1.06**	**14**	*i* P	**Pn**	**00 04 04.7**	**+0.3**
CNCH				*i* S	**Sn**	**00 04 19.7**	**+0.3**
CNCH				IAML		00 04 23.5	
	comp=Z,7μm,1.0s						
LCND	**La Caada**	**1.08**	**11**	*e*P	**Pn**	**00 04 04.9**	**+0.3**
LCND				IAML		00 04 29.1	
	comp=Z,2μm,0.4s						
LCND	**La Caada**	**1.08**	**11**	*i* P	**Pn**	**00 04 05.1**	**+0.5**
LCND				*i* S	**Sn**	**00 04 19.8**	**+0.1**
LCND				IAML		00 04 25.0	
	comp=Z,2μm,1.0s						
CRIN	**San Cristobal**	**1.12**	**66**		**Pg**	**00 04 05.5**	**+0.7**
PKGN	**Cerro Pekin**	**1.17**	**69**	*i* P	**Pb**	**00 04 06.1**	**+0.4**
PKGN				*i* S	**Sn**	**00 04 22.1**	**+0.1**
PKGN				IAML		00 04 25.0	
	comp=Z,23μm,1.0s						
LCY	**Lacayo**	**1.19**	**351**	*e*P	**Pn**	**00 04 07.0**	**+0.8**
LCY				IAML		00 04 39.7	
	comp=Z,3μm,0.4s						
VSM	**San Miguel**	**1.19**	**352**	*e*P	**Pn**	**00 04 07.3**	**+1.0**
RANC	**El Ranchito**	**1.20**	**351**	*i* P	**Pn**	**00 04 07.3**	**+0.9**
RANC				*i* S	**Sn**	**00 04 23.0**	**+0.1**
RANC				IAML		00 04 28.2	
	comp=Z,2μm,1.0s						
BLLM	**Bellamira**	**1.20**	**353**	*e*P	**Pn**	**00 04 07.0**	**+0.7**
PACA	**Pacayal**	**1.24**	**350**	*e*P	**Pn**	**00 04 08.1**	**+1.2**
PACA	**Pacayal**	**1.24**	**350**	*i* P	**Pn**	**00 04 08.0**	**+1.1**
PACA				*i* S	**Sn**	**00 04 24.3**	**+0.4**
PACA				IAML		00 04 28.1	
	comp=Z,12μm,1.0s						
QUEN	**Al S del Volca**	**1.26**	**74**	*i* P	**Pn**	**00 04 06.1**	**-1.1**
QUEN				IAML		00 04 30.2	
	comp=Z,4μm,1.0s						
TELN	**Telica**	**1.29**	**74**	*i* P	**Pn**	**00 04 06.8**	**-0.7**
TELN				*i* S	**Sg**	**00 04 25.0**	**+0.3**
TELN				IAML		00 04 30.1	
	comp=Z,340nm,1.0s						
HERN	**Volcan Telica**	**1.29**	**73**	*i* P	**Pn**	**00 04 07.2**	**-0.3**
HERN				*i* S	**Sb**	**00 04 24.4**	**0.0**
HERN				IAML		00 04 29.7	
	comp=Z,3μm,1.0s						
TECA	**Tecapa**	**1.31**	**342**	*e*P	**Pg**	**00 04 08.7**	**+0.3**
COEB	**Comit de Eme**	**1.32**	**341**	*e*P	**Pg**	**00 04 08.9**	**+0.3**
COEB				IAML		00 04 36.6	
	comp=Z,944nm,0.5s						
COEB	**Comit de Eme**	**1.32**	**341**	*i* P	**Pg**	**00 04 08.9**	**+0.3**
COEB				*i* S	**Sn**	**00 04 27.2**	**+1.4**
COEB				IAML		00 04 30.3	
	comp=Z,920nm,1.0s						
CNGN	**Cerro Negro**	**1.39**	**79**	*i* P	**Pn**	**00 04 08.6**	**-0.3**
CNGN				*i* S	**Sb**	**00 04 26.3**	**-1.0**
CNGN				IAML		00 04 31.2	
	comp=Z,2μm,1.0s						
ILCN	**San Idelfonso**	**1.40**	**76**	*i* P	**Pn**	**00 04 07.5**	**-1.5**
ILCN				*i* S	**Sb**	**00 04 27.7**	**0.0**
ILCN				IAML		00 04 30.7	
	comp=Z,890nm,1.0s						
MACN	**El Madrono**	**1.41**	**81**	*i* P	**Pn**	**00 04 09.3**	**+0.2**
MACN				*i* S	**Sb**	**00 04 26.4**	**-1.4**
MACN				IAML		00 04 37.0	
	comp=Z,1μm,1.0s						
TECO	**Alcaldia de Te**	**1.45**	**333**	*e*P	**Pn**	**00 04 10.3**	**+0.6**
TECO	**Alcaldia de Te**	**1.45**	**333**	*i* P	**Pg**	**00 04 11.3**	**+0.2**
TECO				*i* S	**Sg**	**00 04 28.7**	**-1.3**
TECO				IAML		00 04 34.1	
	comp=Z,940nm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.45**	**84**	*i* S	**Sn**	**00 04 29.6**	**+0.7**
COPN	**Copaltepe**	**1.47**	**92**	*i* P	**Pn**	**00 04 09.9**	**-0.1**
COPN				IAML		00 04 33.4	
	comp=Z,3μm,1.0s						
CAHU	**Cacacuatique**	**1.52**	**356**	*e*P	**Pg**	**00 04 12.5**	**0.0**
CAHU				IAML		00 04 38.2	
	comp=Z,3μm,0.4s						
UESV	**Universidad de**	**1.54**	**334**	*i* P	**Pb**	**00 04 12.1**	**+0.1**
UESV				*i* S	**Sg**	**00 04 31.9**	**-1.0**
UESV				IAML		00 04 36.0	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**1.57**	**331**	*e*P	**Pg**	**00 04 13.8**	**+0.4**
COEG				IAML		00 04 35.0	
	comp=Z,862nm,0.5s						
COEG	**Centro de Oper**	**1.57**	**331**	*i* P	**Pg**	**00 04 13.2**	**-0.2**
COEG				*i* S	**Sg**	**00 04 32.7**	**-1.1**
COEG				IAML		00 04 34.2	
	comp=Z,830nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.58**	**337**	*e*P	**Pb**	**00 04 12.9**	**+0.3**
SCLA				*e*S	**Sg**	**00 04 32.4**	**-1.6**
SCLA				IAML		00 04 36.8	
	comp=Z,330nm,0.4s						
SCLA	**Alcaldia de Sa**	**1.58**	**337**	*i* S	**Sg**	**00 04 33.1**	**-0.9**
MOM2	**El Cardon**	**1.59**	**83**	*i* P	**Pn**	**00 04 11.6**	**+0.1**
MOM2				*i* S	**Sn**	**00 04 32.0**	**-0.2**
MOM2				IAML		00 04 41.9	
	comp=Z,2μm,1.0s						
AMTN	**Mateare**	**1.63**	**90**	*i* P	**Pn**	**00 04 11.8**	**-0.3**
AMTN				*i* S	**Sn**	**00 04 32.4**	**-0.8**
AMTN				IAML		00 05 04.6	
	comp=Z,8μm,1.0s						
SAPS	**Ciudad Sandino**	**1.65**	**92**	*i* P	**Pn**	**00 04 12.9**	**+0.4**
SAPS				*i* S	**Sn**	**00 04 33.2**	**-0.7**
SAPS				IAML		00 04 37.0	
	comp=Z,4μm,1.0s						
LFRS	**El Faro**	**1.67**	**326**	*e*P	**Pn**	**00 04 13.7**	**+0.9**
LFRS				IAML		00 04 37.5	
	comp=Z,1μm,0.5s						
APQ3	**Volcan Apoyequ**	**1.69**	**89**	*i* P	**Pn**	**00 04 13.6**	**+0.7**
APQ3				*i* S	**Sn**	**00 04 34.6**	**-0.1**
APQ3				IAML		00 04 46.7	
	comp=Z,2μm,1.0s						
APYN	**Apoyeque**	**1.71**	**90**	*i* P	**Pn**	**00 04 13.2**	**0.0**
APYN				IAML		00 04 42.4	
	comp=Z,67nm,1.0s						
APQ2	**Apoyeque**	**1.73**	**91**	*i* P	**Pn**	**00 04 14.2**	**+0.7**
APQ2				*i* S	**Sn**	**00 04 34.7**	**-1.1**
APQ2				IAML		00 04 38.3	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**1.75**	**323**	*i* P	**Pb**	**00 04 15.7**	**+0.1**
LOMA				*i* S	**Sg**	**00 04 38.0**	**-1.4**
LOMA				IAML		00 04 46.2	
	comp=Z,820nm,1.0s						
TISN	**Laguna Tiscapa**	**1.79**	**93**	*i* P	**Pn**	**00 04 14.9**	**+0.6**
TISN				IAML		00 04 44.9	
	comp=Z,180nm,1.0s						
UNAN	**Cigeo UNAN**	**1.79**	**94**	*i* P	**Pn**	**00 04 15.3**	**+1.0**
UNAN				*i* S	**Sn**	**00 04 36.7**	**-0.5**
SNET	**Serv Nac Est T**	**1.81**	**323**		**Sn**	**00 04 35.7**	**-2.3**
WILN	**Americas 2**	**1.87**	**92**	*i* P	**Pn**	**00 04 15.6**	**+0.2**
WILN				*i* S	**Sn**	**00 04 38.4**	**-0.7**
WILN				IAML		00 04 56.4	
	comp=Z,940nm,1.0s						
LIMN	**Finca el Limon**	**1.88**	**64**	*i* P	**Pn**	**00 04 15.7**	**+0.1**
LIMN				IAML		00 04 54.1	
	comp=Z,990nm,1.0s						
HUEN		**1.88**	**87**	*i* P	**Pn**	**00 04 16.4**	**+0.8**
HUEN				*i* S	**Sn**	**00 04 39.9**	**+0.4**
HUEN				IAML		00 04 42.3	
	comp=Z,2μm,1.0s						
PMON	**Piamonte**	**1.88**	**321**	*i* P	**Pb**	**00 04 17.7**	**-0.2**
PMON				*i* S	**Sb**	**00 04 41.3**	**-0.3**
PMON				IAML		00 04 57.4	
	comp=Z,930nm,1.0s						
MAS3	**Al N del Volca**	**1.89**	**96**	*i* P	**Pn**	**00 04 16.1**	**+0.3**
MAS3				*i* S	**Sn**	**00 04 39.5**	**-0.2**
MAS3				IAML		00 04 40.6	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	**1.93**	**317**	*e*P	**Pn**	**00 04 17.2**	**+0.8**
JAYA				*e*S	**Sn**	**00 04 41.2**	**+0.3**
JAYA	**Jayaque - finc**	**1.93**	**317**	*i* P	**Pn**	**00 04 17.1**	**+0.7**
JAYA				*i* S	**Sn**	**00 04 41.2**	**+0.3**
JAYA				IAML		00 04 48.3	
	comp=Z,1μm,1.0s						
NANN	**Nandasmo**	**1.95**	**99**	*i* P	**Pn**	**00 04 18.0**	**+1.4**
NANN				*i* S	**Sn**	**00 04 41.6**	**+0.3**
NANN				IAML		00 04 49.3	
	comp=Z,23μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.98**	**24**		**Pn**	**00 04 17.6**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.98**	**24**	*i* P	**Pb**	**00 04 18.3**	**-1.2**
TGUH				*i* S	**Sb**	**00 04 42.5**	**-1.8**
TGUH				IAML		00 04 50.8	
	comp=Z,1μm,1.0s						
CEVE	**Cerro Verde**	**2.17**	**317**	*i* P	**Pb**	**00 04 21.9**	**-1.0**
CEVE				*i* S	**Sn**	**00 04 47.2**	**+0.2**
CEVE				IAML		00 04 56.6	
	comp=Z,940nm,1.0s						
NUBE	**Las Nubes**	**2.33**	**315**	*e*P	**Pn**	**00 04 22.7**	**+0.8**
NUBE	**Las Nubes**	**2.33**	**315**	*i* P	**Pn**	**00 04 22.6**	**+0.7**
NUBE				*i* S	**Sn**	**00 04 50.9**	**+0.1**
NUBE				IAML		00 04 58.0	
	comp=Z,1μm,1.0s						
BOAB	**BOACO BROAD

comp=Z,97nm,20.0s,baz=329,slow=33
OZNA Ozona 22.15 329 P P 00 08 40.1 +0.5
OZNA IAmb IAmb 00 08 44.7
comp=Z,7.1nm,1.0s
TXAR Lajitas Array 22.34 322 P P 00 08 42.6 +1.0
TXAR Lajitas Array 22.34 322 P P 00 08 43.5 +1.8
comp=Z,3.7nm,0.7s,baz=136,slow=10,SNR=30
comp=Z,3.7nm,0.7s
TX31 Lajitas Ar. Si 22.34 322 P P 00 08 42.9 +1.2
TX31 IAmb IAmb 00 08 46.1
comp=Z,5.0nm,0.8s
MIAR Mount Ida 22.76 348 P P 00 08 46.2 +0.3
MIAR IAmb IAmb 00 08 50.6
comp=Z,5.7nm,0.7s
MNHN Monahans 23.33 327 P P 00 08 53.1 +1.1
MNHN IAmb IAmb 00 08 56.5
comp=Z,7.6nm,0.8s
TKL Tuckaleechee C 23.64 9 P P 00 08 55.4 +0.5
TKL IAmb IAmb 00 08 57.7
comp=Z,11nm,1.1s
POST Post 24.09 332 P P 00 09 00.6 +1.3
POST IAmb IAmb 00 09 04.2
comp=Z,6.6nm,0.7s
DKNS Dickens 24.33 333 P P 00 09 02.9 +1.3
DKNS IAmb IAmb 00 09 04.3
comp=Z,7.7nm,1.0s
WMOK Wichita Mounta 24.41 338 P P 00 09 03.5 +1.3
HHAR Hobbs 24.51 349 P P 00 09 04.2 +1.2
SMWD Samnorwood 25.29 336 P P 00 09 10.8 +0.6
SMWD IAmb IAmb 00 09 12.1
comp=Z,6.1nm,0.6s
MSTX Muleshoe 25.43 331 P P 00 09 12.3 +0.7
S39A Bolivar 25.77 350 P P 00 09 14.8 +0.4
S39A IAmb IAmb 00 09 16.9
comp=Z,4.5nm,0.9s
YUH Yuha Desert 32.60 313 P P 00 10 14.1 -1.2
YUH IAmb IAmb 00 10 14.3
comp=Z,7.4nm,1.4s
LPAZ La Paz 34.55 145 LR LR 00 24 12.7
comp=Z,34nm,21.8s,baz=13,slow=36
PDAR Pinedale Array 35.66 332 P P 00 10 42.3 +0.3
comp=Z,0.4nm,0.6s,baz=120,slow=8.8,SNR=4.3
PDAR LR LR 00 28 01.6
comp=Z,33nm,18.1s,baz=140,slow=41
comp=Z,0.4nm,0.6s
REDW Red Top Meadow 36.72 332 P P 00 10 51.3 +0.2
H17A Grant Village 37.40 333 P P 00 10 58.0 +1.2
ULM Lac du Bonnet 38.43 352 LR LR 00 29 46.9
comp=Z,37nm,18.5s,baz=311,slow=41
BOZ Bozeman (W) 38.81 333 P P 00 11 09.8 +1.2
LVC Limon Verde 39.41 151 LR LR 00 26 40.4
comp=Z,43nm,21.1s,baz=202,slow=35
LYMT Lyon Mountain 40.17 334 P P 00 11 20.1 +0.1
RPN Rapa Nui 44.23 208 LR LR 00 25 39.0
comp=Z,38nm,19.4s,baz=196,slow=30
SCHQ Schefferville 45.66 17 P P 00 12 03.2 -1.0
comp=Z,3.2nm,0.9s,baz=213,slow=18,SNR=2.9
comp=Z,3.2nm,0.9s
FRB Frobisher Bay 53.25 11 LR LR 00 36 18.8
comp=Z,35nm,18.3s,baz=226,slow=37
ILAR Eielson Array 65.96 336 P P 00 14 28.5 -1.1
comp=Z,1.1nm,1.2s,baz=132,slow=6.7,SNR=3.3
comp=Z,1.1nm,1.2s

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*IDC **28** 00:12:14.7±0.5,9.˙40S×112.˙92E,h0km,mb4.6/22,*
mbtmp4.6/23,ML3.6/1,MS4.0/7,Error ellipse:
s-maj=19.8km s-min=12.4km az=68.0
*BJI **28** 00:12:18.0±0.0,9.˙70S×112.˙80E,h45km,mb5.0/57,*
mB5.0/16,Ms4.4/15,Ms7 4.3/16
*MOS **28** 00:12:18.3±0.8,9.˙34S×112.˙95E,h39km,mb5.1/32,Error*
ellipse: s-maj=11.3km s-min=6.4km az=102.1
*DJA **28** 00:12:18.3±0.2,10.˙S±3.˙×11.˙3E±.˙,h10km,M4.8/21,*
mB5.1/6,mb4.9/21,MLv5.1/18,Mw(mB)4.4/6
*NEIC **28** 00:12:20.9±2.0,9.˙57S±0.˙07×112.˙85E±0.˙06,h50km±7km,*
mb4.9/58,Error ellipse: s-maj=11.1km s-min=8.6km
az=167.0

ISC 28 00:12:20.8±0.5,9.˙60S±0.˙05×112.˙92E±0.˙05,h50km±3km,
h51km:pP-P,n233,σ1$39/235,mb4.9/89,MS4.1/14,18C-6D,
South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.66**	**48**	P	**Pn**	**00 12 47.7**	**+0.2**
JAGI	**Jajag, Banyuwa**	**1.66**	**48**		**Pn**	**00 12 47.4**	**-0.1**
JAGI				Sn	**Sn**	**00 13 08.6**	**+0.9**
JAGI	**Jajag, Banyuwa**	**1.66**	**48**	P	**Pn**	**00 12 47.0**	**-0.5**
JAGI				S	**Sn**	**00 13 04.4**	**-3.3**
PWJI	**Pagerwojo**	**1.91**	**325**	P	**Pn**	**00 12 50.3**	**-0.7**
ABJI	**Asem Bagus**	**2.21**	**36**	P	**Pn**	**00 12 56.9**	**+1.8**
DNP	**Denpasar**	**2.44**	**68**	P	**Pn**	**00 12 59.6**	**+1.3**
GRJI	**Gresik**	**2.70**	**351**	P	**Pn**	**00 13 03.7**	**+1.9**
SRBI	**Singaraja**	**2.72**	**57**	P	**Pn**	**00 13 03.5**	**+1.4**
UGM	**Wanagama**	**2.90**	**305**	P	**Pn**	**00 13 04.8**	**+0.3**
UGM	**Wanagama**	**2.90**	**305**		**Pn**	**00 13 04.6**	**+0.1**
UGM	**Wanagama**	**2.90**	**305**	P	**Pn**	**00 13 04.6**	**+0.1**
YOGI	**Yogyakarta**	**3.14**	**304**	P	**Pn**	**00 13 08.5**	**+0.7**
SMRI	**Semarang**	**3.52**	**316**	P	**Pn**	**00 13 14.5**	**+1.4**
SMRI	**Semarang**	**3.52**	**316**		**Pn**	**00 13 13.8**	**+0.7**
SMRI	**Semarang**	**3.52**	**316**	P	**Pn**	**00 13 14.1**	**+1.0**
TWSI	**Taliwang, Sumb**	**4.01**	**78**	P	**Pn**	**00 13 22.1**	**+2.3**
KPJI	**Karang Pucung**	**4.54**	**299**	P	**Pn**	**00 13 27.5**	**+0.5**
CMJI	**Cimerak**	**4.77**	**292**	P	**Pn**	**00 13 28.9**	**-1.3**
PLAI	**Plampang**	**4.86**	**81**	P	**Pn**	**00 13 33.2**	**+1.8**
PLAI	**Plampang**	**4.86**	**81**	P	**Pn**	**00 13 34.5**	**+3.1**
BBJI	**Bungbulang**	**5.62**	**292**	P	**Pn**	**00 13 42.3**	**+0.3**
LEM	**Lembang**	**5.92**	**297**	P	**Pn**	**00 13 49.0**	**+2.8**
	114nm,0.9s,0.9nm						
CNJI	**Cibinong**	**6.16**	**291**	P	**Pn**	**00 13 49.8**	**+0.6**
	78nm,0.7s,1μm0.7nm						
SKJI	**Sukabumi**	**6.80**	**292**	P	**Pn**	**00 13 58.6**	**+0.5**
DBJI	**Dramaga**	**6.81**	**296**	P	**Pn**	**00 13 58.3**	**0.0**
	106nm,0.6s,1.0nm						
XMIS	**Christmas Isla**	**7.21**	**262**	P	**Pn**	**00 14 01.6**	**-2.1**
XMIS	**Christmas Isla**	**7.21**	**262**	Pn	**Pn**	**00 14 01.1**	**-2.6**
BASI	**Baing, Sumba**	**7.58**	**95**	P	**Pn**	**00 14 09.9**	**+1.2**
	116nm,0.7s						
KAPI	**Kappang**	**8.17**	**57**	P	**Pn**	**00 14 18.8**	**+2.0**
KAPI	**Kappang**	**8.17**	**57**	Pn	**Pn**	**00 14 18.2**	**+1.4**
KAPI	**Kappang**	**8.17**	**57**	Pn	**Pn**	**00 14 14.3**	**-2.5**
	0.7nm,0.3s,baz=72,slow=16,SNR=2.2						
KAPI				Sn	**Sn**	**00 15 45.9**	**-1.9**
	1.0nm,0.3s,baz=210,slow=18,SNR=1.1						
KAPI				LR	LR	00 17 48.0	
	comp=Z,709nm,21.2s,baz=238,slow=41						
	7.2nm,0.3s						
BSSI	**Bau Bau, Buton**	**8.25**	**66**	P	**Pn**	**00 14 19.2**	**+1.2**
	68nm,0.6s						
BKSI	**Bulukumba**	**8.31**	**60**	P	**Pn**	**00 14 19.8**	**+1.0**
	40nm,0.6s						
EDFI	**Ende, Flores**	**8.71**	**85**	P	**Pn**	**00 14 25.3**	**+1.0**
	37nm,1.0s,713nm						
MTKI	**Muara Teweh, K**	**8.82**	**13**	P	**Pn**	**00 14 26.5**	**+0.7**
	87nm,0.6s						
KASI	**Kota Agung**	**9.27**	**295**	P	**Pn**	**00 14 31.8**	**-0.2**
	59nm,0.6s						
LWLI	**Liwa**	**9.89**	**297**	P	**Pn**	**00 14 40.6**	**+0.1**
BBSI	**Bau Bau**	**10.40**	**68**	P	**Pn**	**00 14 49.6**	**+2.1**
	35nm,0.7s						
BATI	**Baumata**	**10.61**	**94**	P	**Pn**	**00 14 51.5**	**+1.2**
	34nm,0.5s						
SOEI	**Soe**	**11.19**	**92**	Pn	**Pn**	**00 14 59.2**	**+0.8**
SOEI	**Soe**	**11.19**	**92**	P	**Pn**	**00 15 00.6**	**+2.2**
	66nm,0.8s						
KSM	**Kuching**	**11.30**	**347**	Pn	**Pn**	**00 15 00.5**	**+0.8**
SBUM	**Sibu**	**11.99**	**357**		**Pn**	**00 15 09.8**	**+0.7**
TOLI2	**Tolitoli**	**13.21**	**37**		**Pn**	**00 15 27.6**	**+1.7**
MBWA	**Marble Bar**	**13.24**	**151**	P	**Pn**	**00 15 23.1**	**-3.0**
MBWA	**Marble Bar**	**13.24**	**151**	Pn	**Pn**	**00 15 22.6**	**-3.5**
PSA00	**Pilbara Seismi**	**13.64**	**152**	P	**Pn**	**00 15 29.5**	**-2.2**
PSA00	**Pilbara Seismi**	**13.64**	**152**	Pn	**Pn**	**00 15 28.0**	**-3.7**
PSA00	**Pilbara Seismi**	**13.64**	**152**	Pn	**Pn**	**00 15 29.8**	**-1.9**
GTOI	**Gorontalo**	**14.30**	**45**	P	**P**	**00 15 44.5**	**-1.9**
	31nm,1.3s						
FITZ	**Fitzroy Crossi**	**14.96**	**126**	Pn	**Pn**	**00 15 47.3**	**-1.9**
MYLDM	**Lahad Datu**	**15.70**	**21**		**P**	**00 16 00.8**	**-1.3**
KNRA	**Kununurra**	**16.60**	**113**	P	**Pn**	**00 16 11.2**	**+1.0**
TNTI	**Ternate**	**17.70**	**55**		**P**	**00 16 24.9**	**+0.8**
MTN	**Manton Dam**	**18.16**	**102**	P	**P**	**00 16 29.3**	**0.0**
MORW	**Morawa**	**19.59**	**172**	P	**P**	**00 16 45.8**	**+0.9**
FAKI	**Fak Fak**	**20.32**	**72**	P	**P**	**00 16 51.7**	**-1.3**
FAKI				IAmb	IAmb	00 16 56.8	
	comp=Z,51nm,0.9s						
WB0	**Warramunga Arr**	**23.08**	**118**	P	**P**	**00 17 22.6**	**+0.2**
WRA	**Warramunga Arr**	**23.10**	**119**	P	**P**	**00 17 23.8**	**+1.2**
WRA	**Warramunga Arr**	**23.10**	**119**	P	**P**	**00 17 22.9**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=290,slow=12,SNR=40						
WRA				LR	LR	00 26 41.8	
	comp=Z,322nm,21.6s,baz=276,slow=37						
	comp=Z,2.6nm,0.5s						
WRA	**Warramunga Arr**	**23.10**	**119**	*e*P	**P**	**00 17 24.0**	**+1.4**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRAB	**Tennant Creek**	**23.11**	**119⇑**	*e*P	**P**	**00 17 22.8**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NWAO	**Narrogin (SRO)**	**23.56**	**171**	LR	LR	00 27 57.4	
	comp=Z,652nm,19.5s,baz=249,slow=40						
AS31	**Alice Springs**	**24.45**	**127**	P	**P**	**00 17 36.1**	**+0.9**
ASAR	**Alice Springs**	**24.45**	**127**	P	**P**	**00 17 36.4**	**+1.2**
ASAR	**Alice Springs**	**24.45**	**127**	P	**P**	**00 17 36.5**	**+1.4**
	comp=Z,10nm,0.7s,baz=300,slow=8.4,SNR=83						
ASAR				LR	LR	00 27 05.3	
	comp=Z,233nm,21.0s,baz=304,slow=36						
	comp=Z,10nm,0.7s						
ASAR	**Alice Springs**	**24.45**	**127**	P	**P**	**00 17 36.4**	**+1.2**
FORT	**Forrest**	**25.36**	**148**	P	**P**	**00 17 44.2**	**+0.9**
FORT				IAmb	IAmb	00 17 48.5	
	comp=Z,33nm,0.8s						
COEN	**Coen**	**29.92**	**101**	P	**P**	**00 18 24.8**	**+0.5**
CM31	**Chiang Mai Arr**	**31.10**	**334**	P	**P**	**00 18 34.2**	**-0.4**
CM31				IAmb	IAmb	00 18 36.3	
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.10**	**334**	P	**P**	**00 18 33.3**	**-1.3**
CMAR	**Chiang Mai Arr**	**31.10**	**334**	P	**P**	**00 18 34.6**	**0.0**
	comp=Z,9.5nm,0.9s,baz=168,slow=8.3,SNR=43						
CMAR				LR	LR	00 32 40.6	
	comp=Z,310nm,18.7s,baz=175,slow=40						
	comp=Z,9.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.10**	**334**	*e*P	**P**	**00 18 35.1**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,11nm,0.9s						
CHTO	**Chiang Mai**	**31.41**	**334**	P	**P**	**00 18 37.1**	**-0.3**
CHTO	**Chiang Mai**	**31.41**	**334**	P	**P**	**00 18 37.1**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TPUB	**Ta-pu**	**33.56**	**13**	P	**P**	**00 18 55.8**	**-0.3**
TPUB				IAmb	IAmb	00 18 57.7	
	comp=Z,18nm,1.0s						
SSLB	**Suanglung**	**34.10**	**13**	P	**P**	**00 19 00.1**	**-0.8**
SSLB				IAmb	IAmb	00 19 03.4	
	comp=Z,9.2nm,0.8s						
STKA	**Stephens Creek**	**34.60**	**134**	P	**P**	**00 19 05.3**	**+0.1**
STKA	**Stephens Creek**	**34.60**	**134**	P	**P**	**00 19 07.1**	**+2.0**
	comp=Z,5.6nm,0.8s,baz=299,slow=8.1,SNR=13						
	comp=Z,5.6nm,0.8s						
STKA	**Stephens Creek**	**34.60**	**134⇑**	*e*P	**P**	**00 19 06.0**	**+0.9**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
YHNB	**Yeheng**	**35.05**	**13**	P	**P**	**00 19 07.9**	**-1.1**
YHNB				IAmb	IAmb	00 19 17.9	
	comp=Z,12nm,0.9s						
YOJ	**Yonaguni jima**	**35.26**	**16**	P	**P**	**00 19 09.2**	**-1.6**
YOJ				IAmb	IAmb	00 19 11.2	
	comp=Z,33nm,1.3s						
YOJ	**Yonaguni jima**	**35.26**	**16**	P	**P**	**00 19 09.2**	**-1.6**
YOJ				pmax	pmax		
	comp=Z,33nm,1.3s						
TNCH	**TengChong**	**37.17**	**338**	P	**P**	**00 19 26.5**	**-0.8**
TNCH				pmax	pmax		
	comp=Z,100nm,3.4s						
PZH	**PanZhiHua**	**37.49**	**343**	P	**P**	**00 19 32.5**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.6s						
KRVT	**Keravat (AS076**	**39.16**	**85**	LR	LR	00 37 38.4	
	comp=Z,2μm,20.2s,baz=103,slow=39						
H08S2	**Diego Garcia H**	**40.00**	**270**	T	T	01 02 32.0	
	baz=95,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**40.01**	**270**	T	T	01 02 54.9	
	baz=95,slow=75,SNR=11						
H08S1	**Diego Garcia H**	**40.02**	**270**	T	T	01 02 34.5	
	baz=95,slow=75,SNR=7.3						
SHL	**Shillong**	**40.51**	**330**	P	**P**	**00 19 53.9**	**-1.4**
SHL				IAmb	IAmb	00 19 55.5	
	comp=Z,30nm,0.9s						
SHL	**Shillong**	**40.51**	**330**	P	**P**	**00 19 53.9**	**-1.4**
SHL				pmax	pmax		
	comp=Z,30nm,0.9s						
NJ2	**Nanjing**	**41.80**	**8**	*e*P	**P**	**00 20 08.0**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
XAN	**Xi'an**	**43.56**	**355**	P	**P**	**00 20 19.3**	**-0.6**
XAN				pP	pP	00 20 29.8	-2.6
XAN				pmax	pmax		
	comp=Z,16nm,0.9s						
XAN				pmax	pmax		
	comp=Z,190nm,5.3s						
XAN				LR	LR		
	comp=Z,280nm,18.2s						
XAN				LR	LR		
	comp=Z,270nm,19.8s						
XAN				LR	LR		
	comp=Z,510nm,18.7s						
LYN	**LuoYang**	**43.91**	**359**	*e*P	**P**	**00 20 22.0**	**-0.6**
LYN				PP	**PP**	**00 22 02.0**	**-3.8**
LYN				pmax	pmax		
	comp=Z,22nm,0.5s						
LYN				pmax	pmax		
	comp=Z,190nm,5.3s						
TIA	**Tai'an**	**45.73**	**5**	P	**P**	**00 20 36.5**	**-0.7**
TIA				pmax	pmax		
	comp=Z,17nm,0.9s						
LZH	**Lanzhou**	**46.24**	**350**	*e*P	**P**	**00 20 41.5**	**+0.2**
LZH				sP	sP	00 21 01.0	+1.6
LZH				pmax	pmax		
	comp=Z,32nm,1.0s						
LZH				LR	LR		
	comp=Z,280nm,18.2s						
LZH				LR	LR		
	comp=Z,220nm,14.8s						
LZH				LR	LR		
	comp=Z,340nm,17.5s						
HNS	**HongShan**	**46.78**	**2**	⇑P	**P**	**00 20 44.5**	**-0.8**
HNS				S	**S**	**00 27 35.0**	**+3.1**
HNS				pmax	pmax		
	comp=Z,14nm,1.0s						
HNS				LR	LR		
	comp=Z,170nm,19.4s						
HNS				LR	LR		
	comp=Z,180nm,21.4s						
JMN	**Monobe**	**47.47**	**24**	P	**P**	**00 20 50.0**	**-0.9**
KSAR	**Wonju Array Be**	**48.85**	**16**	P	**P**	**00 21 01.3**	**0.0**
KSAR	**Wonju Array Be**	**48.85**	**16**	P	**P**	**00 21 01.3**	**0.0**
KSRS	**Korea Array**	**48.87**	**16**	P	**P**	**00 21 01.8**	**+0.3**
	comp=Z,6.1nm,1.1s,baz=196,slow=7.2,SNR=24						
	comp=Z,6.1nm,1.1s						
KS19	**Wonju Array Si**	**48.90**	**16**	P	**P**	**00 21 01.1**	**-0.7**
KS19				IAmb	IAmb	00 21 02.7	
	comp=Z,16nm,1.2s						
BJT	**Baijiatuau**	**49.45**	**3**	IAmb	IAmb	00 21 06.7	
	comp=Z,16nm,0.9s						
BJT	**Baijiatuau**	**49.45**	**3**	P	**P**	**00 21 05.5**	**-0.4**
BJT				pP	**pP**	**00 21 18.4**	**-0.2**
BJI	**Beijing**	**49.48**	**3**	P	**P**	**00 21 05.8**	**-0.3**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BTO	**Baotou**	**50.02**	**357⇑**	*i*P	**P**	**00 21 11.3**	**+0.9**
BTO				pP	**pP**	**00 21 23.8**	**+0.7**
BTO				sP	**sP**	**00 21 29.0**	**+0.4**
BTO				S	**S**	**00 28 21.5**	**+3.7**
BTO				sS	**sS**	**00 28 44.8**	**+5.5**
BTO				SS	**SS**	**00 31 51.5**	**-0.2**
BTO				pmax	pmax		
	comp=Z,110nm,0.9s						
BTO				pmax	pmax		
	comp=Z,280nm,6.9s						
BTO				LR	LR		
	comp=Z,310nm,23.1s						
BTO				LR	LR		
	comp=Z,380nm,15.6s						
BTO				LR	LR		
	comp=Z,420nm,15.9s						
INU	**Inuyama**	**50.17**	**26**	P	**P**	**00 21 09.9**	**-1.5**
INU	**Inuyama**	**50.17**	**26**	P	**P**	**00 21 10.0**	**-1.5**
HHC	**Hu-ho-hao-te**	**50.21**	**359**	*e*P	**P**	**00 21 11.5**	**-0.3**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,92nm,5.0s						
HHC				LR	LR		
	comp=Z,100nm,16.8s						
HHC				LR	LR		
	comp=Z,160nm,17.6s						
HHC				LR	LR		
	comp=Z,140nm,18.3s						
GTA	**Gaotai**	**50.25**	**347**	P	**P**	**00 21 12.5**	**+0.3**
GTA				pP	pP	00 21 24.8	-0.2
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GTA				LR	LR		
	comp=Z,110nm,15.9s						
GTA				LR	LR		
	comp=Z,210nm,19.5s						
GTA				LR	LR		
	comp=Z,190nm,13.5s						
JGF	**Kuroka**	**50.53**	**26**	P	**P**	**00 21 12.2**	**-2.0**
JGF				IAmb	IAmb	00 21 14.3	
	comp=Z,16nm,0.8s						
MAJO	**Matsushiro**	**51.69**	**26**	P	**P**	**00 21 21.5**	**-1.4**
MAJO				IAmb	IAmb	00 21 22.2	
	comp=Z,18nm,1.1s						
MAJO	**Matsushiro**	**51.69**	**26**	*ce*P	**P**	**00 21 20.9**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,14nm,1.1s						
MAJO	**Matsushiro**	**51.69**	**26**	P	**P**	**00 21 21.2**	**-1.8**
MJAR	**Matsushiro Arr**	**51.69**	**26**	P	**P**	**00 21 21.5**	**-1.5**
	comp=Z,17nm,0.9s,baz=198,slow=7.4,SNR=31						
	comp=Z,17nm,0.9s						
MJB9	**Matsu-Tunnel**	**51.70**	**26**	P	**P**	**00 21 22.8**	**-0.2**
MJB9				IAmb	IAmb	00 21 23.6	
	comp=Z,17nm,1.1s						
MJA0	**Matsu Arr-Jizo**	**51.71**	**26**	*e*P	**P**	**00 21 21.4**	**-1.7**
MJA0				pmax	pmax		
	comp=Z,18nm,0.9s						
DZM	**Mont Dzumac**	**52.73**	**110**	*e*LR	LR	00 36 48.7	
	comp=Z,246nm,23.3s						
XLT	**XiLinHaoTe**	**53.32**	**3**	*e*P	**P**	**00 21 35.0**	**+0.1**
XLT				pP	pP	00 21 47.8	+0.1
XLT				PP	**PP**	**00 23 38.5**	**+2.8**
XLT				pmax	pmax		
	comp=Z,23nm,0.9s						
XLT				pmax	pmax		
	comp=Z,55nm,4.1s						
CN2	**Changchun**	**54.35**	**11**	P	**P**	**00 21 41.8**	**-0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MSHR	**Mys Shultsa**	**54.54**	**16⇑**	*e*P	**P**	**00 21 42.9**	**-0.8**
MSHR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
VLA	**Vladivostok**	**55.24**	**17**	*e*P	**P**	**00 21 46.6**	**-2.2**
VLA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MDJ	**Mudanjiang**	**56.03**	**14**	P	**P**	**00 21 53.8**	**-0.6**
MDJ				pmax	pmax		
	comp=Z,15nm,1.2s						
USA0B	**Ussuriysk Arra**	**56.27**	**16**	P	**P**	**00 21 54.8**	**-1.3**
USA0B	**Ussuriysk Arra**	**56.27**	**16**	P	**P**	**00 21 54.8**	**-1.3**
USA0B				pmax	pmax		
	comp=Z,27nm,1.3s						
USRK	**Ussuriysk Ar.**	**56.27**	**16**	P	**P**	**00 21 55.4**	**-0.7**
USRK	**Ussuriysk Ar.**	**56.27**	**16**	P	**P**	**00 21 55.8**	**-0.3**
	comp=Z,13nm,0.9s,baz=207,slow=5.4,SNR=21						
	comp=Z,13nm,0.9s						
USRK	**Ussuriysk Ar.**	**56.27**	**16**	P	**P**	**00 21 55.4**	**-0.7**
JTM	**Tenmabayashi**	**56.47**	**25**	P	**P**	**00 21 57.2**	**-0.4**
BNX	**BinXian**	**56.60**	**12**	⇓P	**P**	**00 21 57.8**	**-0.7**
BNX				pmax	pmax		
	comp=Z,11nm,1.0s						
NIL	**Nilore**	**57.19**	**321**	P	**P**	**00 22 01.6**	**-1.3**
NIL	**Nilore**	**57.19**	**321**	P	**P**	**00 22 01.6**	**-1.3**
NIL				pmax	pmax		
	comp=Z,20nm,0.8s						
NIL	**Nilore**	**57.19**	**321**	P	**P**	**00 22 01.3**	**-1.6**
ULN	**Ulaanbaatar**	**57.44**	**355**	P	**P**	**00 22 03.9**	**-0.7**
ULN	**Ulaanbaatar**	**57.44**	**355**	*c i*P	**P**	**00 22 04.1**	**-0.5**
ULN				pmax	pmax		
	comp=Z,21nm,1.0s						
ULN	**Ulaanbaatar**	**57.44**	**355**	P	**P**	**00 22 04.2**	**-0.4**
ULN				pP	**pP**	**00 22 17.9**	**+0.3**
SONM	**Songino Array**	**57.47**	**355**	P	**P**	**00 22 04.1**	**-0.7**
SONM	**Songino Array**	**57.47**	**355**	P	**P**	**00 22 04.5**	**-0.2**
	comp=Z,14nm,0.8s,baz=172,slow=8.2,SNR=79						
	comp=Z,14nm,0.8s						
WMQ	**Urumqi**	**57.89**	**339**	*e*P	**P**	**00 22 07.0**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,22nm,1.1s						
ERM	**Erimo**	**58.37**	**26**	P	**P**	**00 22 10.7**	**-0.3**
ERM	**Erimo**	**58.37**	**26**	P	**P**	**00 22 10.7**	**-0.3**
ERM				pmax	pmax		
	comp=Z,24nm,1.1s						
ERM	**Erimo**	**58.37**	**26**	P	**P**	**00 22 11.1**	**+0.1**
ERM				pP	**pP**	**00 22 24.4**	**+0.5**
WUS	**Wushi**	**59.30**	**331**	P	**P**	**00 22 17.7**	**0.0**
KSH	**Kashi**	**59.69**	**327**	P	**P**	**00 22 19.0**	**-1.4**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZAK	**Zakamensk**	**60.32**	**353**	*e*P	**P**	**00 22 23.5**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
TARG	**Taragay, Kyrgy**	**60.39**	**330**	IAmb	IAmb	00 22 34.0	
	comp=Z,6.6nm,0.8s						
KBL	**Kabul**	**60.44**	**319**	P	**P**	**00 22 24.0**	**-1.7**
KBL				IAmb	IAmb	00 22 25.2	
	comp=Z,12nm,1.1s						
KBL	**Kabul**	**60.44**	**319**	P	**P**	**00 22 24.0**	**-1.7**
KBL				pmax	pmax		
	comp=Z,13nm,1.1s						
KLR	**Kul'dur**	**60.87**	**14**	*d i*P	**P**	**00 22 27.1**	**-1.0**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HEH	**HeiHe**	**60.93**	**11**	*e*P	**P**	**00 22 27.8**	**-0.6**
HEH				pP	**pP**	**00 22 39.5**	**-2.0**
HEH				pmax	pmax		
	comp=Z,18nm,1.2s						
NRN	**Naryn**	**61.07**	**329**	IAmb	IAmb	00 22 30.3	
	comp=Z,13nm,1.0s						
MOY	**Mondy**	**61.88**	**352**	*e*P	**P**	**00 22 35.0**	**0.0**
MOY				pmax	pmax		
	comp=Z,22nm,1.8s						
YSS	**Yuzh-Sakhalins**	**62.27**	**23⇓**	*e*P	**P**	**00 22 37.2**	**-0.3**
YSS				pmax	pmax		
	comp=Z,19nm,1.1s						
TKM2	**Tokmak 2**	**62.37**	**330**	P	**P**	**00 22 38.2**	**-0.4**
	SNR=15						
MK31	**Makanchi Array**	**62.44**	**337**	IAmb	IAmb	00 22 39.1	
	comp=Z,15nm,1.1s						
MK31	**Makanchi Array**	**62.44**	**337**	*c i*P	**P**	**00 22 37.7**	**-1.0**
MKAR	**Makanchi Array**	**62

ZEA pmax pmax
comp=Z,10.0nm,1.0s
UOSS Minazif 65.05 303 P **P** **00 22 55.8 -0.5**
KKAR Karatay Array 65.13 327 P **P** **00 22 55.1 -1.4**
KKAR Karatay Array 65.13 327 P **P** **00 22 55.4 -1.1**
KKAR Karatay Array 65.13 327 P **P** **00 22 55.1 -1.4**
MAW Mawson 66.69 199 P **P** **00 23 08.6 +2.4**
comp=Z,0.8nm,0.5s,baz=14,slow=8.3,SNR=2.2
comp=Z,0.8nm,0.5s
KURBB Kurchatov Arra 67.00 337 P **P** **00 23 07.7 -0.7**
comp=Z,5.7nm,0.8s,baz=149,slow=5.1,SNR=35
comp=Z,5.7nm,0.8s
KURK Kurchatov 67.04 337 P **P** **00 23 07.8 -0.8**
KURK IAmb IAmb 00 23 09.0
comp=Z,13nm,0.9s
KURK Kurchatov 67.04 337*c iP* **P** **00 23 07.1 -1.5**
KURK pmax pmax
comp=Z,13nm,1.0s
KURK Kurchatov 67.04 337 P **P** **00 23 07.9 -0.7**
KURK pP **pP** **00 23 21.4 -0.5**
BOD Bodaibo 67.19 1*eP* **P** **00 23 08.9 -0.4**
BOD pmax pmax
comp=Z,13nm,1.1s
ZAA0 Zalesovo Array 67.63 342 P **P** **00 23 10.8 -1.4**
ZAA0 IAmb IAmb 00 23 12.2
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 67.63 342 P **P** **00 23 11.2 -1.0**
comp=Z,7.6nm,0.5s,baz=145,slow=4.7,SNR=60
comp=Z,7.6nm,0.5s
BVAR Borovoye Array 72.12 335 P **P** **00 23 39.6 -0.2**
comp=Z,4.1nm,0.7s,baz=129,slow=7.5,SNR=17
BVAR LR LR 00 58 23.4
comp=Z,80nm,20.2s,baz=97,slow=38
comp=Z,4.1nm,0.7s
BRVK Borovoye 72.19 335⇑*eP* **P** **00 23 39.5 -0.8**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
VNDA Vanda 72.39 170 P **P** **00 23 43.7 +2.6**
comp=Z,0.6nm,0.8s,baz=333,slow=7.6,SNR=4.8
comp=Z,0.6nm,0.8s
YAK Yakutsk 72.60 8 P **P** **00 23 41.4 -1.1**
YAK Yakutsk 72.60 8*ceP* **P** **00 23 41.3 -1.1**
YAK pmax pmax
comp=Z,36nm,1.1s
ABKAR Abkulak array 74.69 327 P **P** **00 23 54.9 -0.2**
ABKAR Abkulak array 74.69 327 IAmb IAmb 00 23 56.0
comp=Z,38nm,0.9s
MA2 Magadan 75.30 19 P **P** **00 23 58.0 -0.4**
comp=Z,5.1nm,0.4s,baz=190,slow=15,SNR=4.6
comp=Z,5.1nm,0.4s
SEY Seymchan 78.41 17 P **P** **00 24 15.4 -0.3**
comp=Z,6.2nm,0.7s,baz=201,slow=1.6,SNR=12
comp=Z,6.2nm,0.7s
SEY Seymchan 78.41 17*ceP* **P** **00 24 15.7 -0.1**
SEY pmax pmax
comp=Z,14nm,1.0s
SVE Sverdlovsk 78.85 334*eP* **P** **00 24 18.7 +0.3**
SVE pmax pmax
comp=Z,41nm,1.0s
ARU Arti 79.54 333 P **P** **00 24 20.6 -1.6**
ARU IAmb IAmb 00 24 23.1
comp=Z,25nm,1.1s
ARU Arti 79.54 333*c iP* **P** **00 24 21.8 -0.3**
ARU 00 27 17.8
ARU S **S** **00 34 24.4 +4.6**
ARU SS **SS** **00 39 27.3 -1.6**
ARU pmax pmax
comp=Z,26nm,1.1s
QSPA South Pole Qui 80.40 180 P **P** **00 24 27.5 +0.6**
comp=Z,1.1nm,0.9s,baz=8.0,slow=3.5,SNR=2.1
comp=Z,1.1nm,0.9s
NRIK Noril'sk 80.71 351 P **P** **00 24 27.1 -1.1**
NRIK IAmb IAmb 00 24 29.0
comp=Z,14nm,1.1s
NRIK Noril'sk 80.71 351 P **P** **00 24 27.9 -0.3**
comp=Z,8.2nm,0.9s,baz=167,slow=3.1,SNR=7.9
comp=Z,8.2nm,0.9s
NRIK Noril'sk 80.71 351*c iP* **P** **00 24 27.4 -0.8**
NRIK pmax pmax
comp=Z,12nm,1.0s
GURO Guroymak-BITLI 81.35 311 P **P** **00 24 32.0 -0.4**
KBZ Khabaz 82.52 317 P **P** **00 24 38.5 +0.3**
comp=Z,4.0nm,0.9s,baz=181,slow=2.3,SNR=6.3
comp=Z,4.0nm,0.9s
KBZ Khabaz 82.52 317*deP* **P** **00 24 39.5 +1.3**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 82.74 317*eP* **P** **00 24 39.6 0.0**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,34nm,19.0s
BELG Belogornoye 83.01 326*c iP* **P** **00 24 40.3 -0.3**
BELG pmax pmax
comp=Z,4.0nm,1.0s
ARPR Arapgir-MALATY 84.26 311 **pwP** **00 25 04.5 -0.9**
ARPR IAmb IAmb 00 25 09.8
comp=Z,9.0nm,0.9s
KIRV Kirov 84.87 332*c iP* **P** **00 24 49.8 -0.1**
MMAI Mount Meron Ar 84.87 305 P **P** **00 24 52.6 +2.0**
comp=Z,3.4nm,0.8s,baz=91,slow=7.4,SNR=6.0
comp=Z,3.4nm,0.8s
VRH Novokhopyorsk 85.91 323*eP* **P** **00 24 55.3 0.0**
VRH pmax pmax
comp=Z,20nm,1.3s
SUR Sutherland 86.69 238 LR LR 00 58 09.6
comp=Z,108nm,20.2s,baz=110,slow=32
VORD Divnogorie 87.28 323*eP* **P** **00 24 59.6 -2.4**
VORD pmax pmax
comp=Z,6.0nm,0.6s
VSR Storozhevoye 87.43 323*eP* **P** **00 25 00.6 -2.1**
VSR pmax pmax
comp=Z,20nm,1.2s
VORR Voronezh 87.55 323*eP* **P** **00 25 02.7 -0.6**
VORR pmax pmax
comp=Z,32nm,0.4s
BR131 Keskin Array S 87.93 311 P **P** **00 25 05.2 -0.4**
BR131 Keskin Array S 87.93 311 P **P** **00 25 05.2 -0.4**
BR131 pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 87.93 311 P **P** **00 25 05.8 +0.2**
BRTR Keskin Array B 87.93 311 P **P** **00 25 06.2 +0.6**
comp=Z,3.4nm,0.9s,baz=125,slow=6.5,SNR=21
comp=Z,3.4nm,0.9s
BRTR Keskin Array B 87.93 311*eP* **P** **00 25 06.2 +0.6**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
LPSR Galich'ya Gora 88.01 324*eP* **P** **00 25 03.8 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
SNAA Sanae 88.77 197 P **P** **00 25 10.5 +1.6**
SNAA IAmb IAmb 00 27 06.2
comp=Z,5.3nm,0.9s
SNAA Sanae 88.77 197 ⇑P **P** **00 25 10.2 +1.4**
SNAA Sanae 88.77 197 P **P** **00 25 11.8 +2.9**
comp=Z,1.4nm,0.7s,baz=102,slow=5.2,SNR=11
comp=Z,1.4nm,0.7s
SNAA Sanae 88.77 197⇓*eP* **P** **00 25 08.8 -0.1**
SNAA pmax pmax
comp=Z,3.0nm,1.5s
MOS Moscow 89.71 327*eP* **P** **00 25 13.1 -0.3**
OBN Obninsk 90.10 326⇓*eP* **P** **00 25 13.5 -1.7**
OBN *e* 00 25 34.7
OBN *e* 00 28 48.1
OBN *e*S S 00 35 52.1 -13
OBN pmax pmax
comp=Z,8.0nm,1.2s
BELA Belgrano 2 90.80 187 pwP 00 25 35.0 -0.5
AKBB Malin Array Si 93.38 321⇑*eP* **P** **00 25 29.8 -0.7**
PPT2 Papeete2 94.20 109*e*LR LR 00 55 58.5
comp=Z,95nm,24.8s
TAOE Nuku Hiva Isla 104.99 102*e*LR LR 01 00 57.7
comp=Z,144nm,26.9s
NVAR Mina Array Bea 125.99 49 PKP **PKiKP** **00 31 20.0 +1.5**
comp=Z,0.2nm,0.4s,baz=309,slow=4.3,SNR=3.7
TXAR Lajitas Array 140.55 55 PKP **PKPdf** **00 31 45.0 -0.5**
comp=Z,0.2nm,0.5s,baz=318,slow=1.2,SNR=4.1

*SJA **28** 00:13:42.4±0.7,24°.03S×66°.85W,h224km±4km,ML3.7, MW3.5*
*NEIC **28** 00:13:43.9±2.2,24°.03S±0°.03×67°.3W±0°.3,h255km±26km, ML4.1(GUC),Error ellipse: s-maj=33.9km s-min=4.0km az=93.0*
*GUC **28** 00:13:44.7±0.7,24°.04S×66°.91W,h202km±10km,ML4.1*

ISC 28 00:13:41.4±1.9,**24°.05S**±0°.04×**66°.90W**±0°.05,
h231km±17km,**n42**,σ1§**41**/68,**6C**,**Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.44**	**118**	*eP*	**Pn**	**00 14 18.3**	**+0.6**
SLA				*eS*	**S**	**00 14 44.6**	**-1.3**
SLA	**San Lorenzo**	**1.44**	**118**	*eP*	**Pn**	**00 14 18.0**	**+0.4**
AZAP	**Zapla**	**1.69**	**96**	*eP*	**Pn**	**00 14 19.9**	**+0.1**
YJA	**Yavi**	**2.26**	**35**	*eP*	**Pn**	**00 14 26.4**	**+1.0**
YJA				*eS*	**S**	**00 14 58.9**	**-0.8**
YJA	**Yavi**	**2.26**	**35**	*eP*	**Pn**	**00 14 25.9**	**+0.5**
LVC	**Limon Verde**	**2.34**	**307**		**Pn**	**00 14 27.4**	**+1.3**
LVC	**Limon Verde**	**2.34**	**307**	*eP*	**Pn**	**00 14 27.4**	**+1.3**
LVC				*eS*	**S**	**00 15 00.8**	**-0.1**
LVC	**Limon Verde**	**2.34**	**307**⇑	*iP*	**Pn**	**00 14 27.3**	**+1.2**
LVC				*eS*	**S**	**00 14 59.3**	**-1.7**
LVC				IAML		00 15 01.8	
	475nm,0.3s						
PB15	**IPOC Station P**	**2.50**	**289**		**Pn**	**00 14 28.9**	**+1.3**
PB15	**IPOC Station P**	**2.50**	**289**	*eP*	**Pn**	**00 14 29.1**	**+1.5**
PB15				*eS*	**S**	**00 15 03.2**	**-0.5**
PB15	**IPOC Station P**	**2.50**	**289**⇑	*iP*	**Pn**	**00 14 29.1**	**+1.5**
PB15				*eS*	**S**	**00 15 02.4**	**-1.3**
ALOL	**LOMAS DE OLMED**	**2.68**	**86**	*eP*	**Pn**	**00 14 30.6**	**+1.3**
GO02	**Mina Guanaco**	**2.69**	**245**		**Pn**	**00 14 31.3**	**+1.6**
GO02	**Mina Guanaco**	**2.69**	**245**	*eP*	**Pn**	**00 14 31.3**	**+1.6**
GO02				*eS*	**S**	**00 15 07.3**	**-0.1**
GO02	**Mina Guanaco**	**2.69**	**245**⇑	*iP*	**Pn**	**00 14 31.2**	**+1.6**
GO02				*eS*	**S**	**00 15 07.0**	**-0.4**
GO02				IAML		00 15 07.5	
	comp=N,638nm,0.3s						
PB06	**IPOC Station P**	**2.79**	**298**		**Pn**	**00 14 32.1**	**+1.4**
PB06	**IPOC Station P**	**2.79**	**298**	*eP*	**Pn**	**00 14 32.1**	**+1.4**
PB06				*eS*	**S**	**00 15 08.5**	**-0.8**
PB06				IAML		00 15 10.4	
	comp=Z,186nm,0.1s						
PB06	**IPOC Station P**	**2.79**	**298**⇑	*iP*	**Pn**	**00 14 32.1**	**+1.4**
PB06				*eS*	**S**	**00 15 07.3**	**-1.9**
PB06				IAML		00 15 09.4	
	comp=N,465nm,0.1s						
PB09	**IPOC Station P**	**3.11**	**316**		**Pn**	**00 14 35.8**	**+1.6**
PB09	**IPOC Station P**	**3.11**	**316**	*eP*	**Pn**	**00 14 35.4**	**+1.2**
PB09				*eS*	**S**	**00 15 16.7**	**+1.0**
PB09				IAML		00 15 18.3	
	comp=Z,103nm,0.2s						
PB09	**IPOC Station P**	**3.11**	**316**⇑	*iP*	**Pn**	**00 14 36.1**	**+1.8**
PB09				*eS*	**S**	**00 15 14.6**	**-1.1**
PB14	**IPOC Station P**	**3.25**	**259**		**Pn**	**00 14 37.2**	**+1.3**
PB14	**IPOC Station P**	**3.25**	**259**	*eP*	**Pn**	**00 14 37.2**	**+1.3**
PB14				*eS*	**S**	**00 15 17.0**	**-1.6**
PB14				IAML		00 15 18.7	
	comp=Z,82nm,0.3s						
PB05	**IPOC Station P**	**3.26**	**291**		**Pn**	**00 14 36.1**	**+0.3**
PB05	**IPOC Station P**	**3.26**	**291**⇑	*iP*	**Pn**	**00 14 37.2**	**+1.3**
PB05				IAML		00 15 19.9	
	comp=N,118nm,0.1s						
PB04	**IPOC Station P**	**3.44**	**299**		**Pn**	**00 14 39.1**	**+1.1**
PB04	**IPOC Station P**	**3.44**	**299**	*eP*	**Pn**	**00 14 39.4**	**+1.4**
PB04				*eS*	**S**	**00 15 21.3**	**-1.2**
PB04				IAML		00 15 24.6	
	comp=Z,125nm,0.2s						
AC01	**Pan de Azucar**	**3.95**	**237**		**Pn**	**00 14 44.8**	**+1.0**
AC01					**S**	**00 15 30.9**	**-2.1**
AC01	**Pan de Azucar**	**3.95**	**237**	*eP*	**Pn**	**00 14 44.5**	**+0.7**
AC01				*eS*	**S**	**00 15 31.6**	**-1.4**
AC01				IAML		00 15 33.7	
	comp=Z,39nm,0.3s						
PATCX	**Punta Patache**	**4.40**	**316**		**S**	**00 15 41.0**	**-2.1**
AC06	**Mina Casimiro**	**4.54**	**223**		**Pn**	**00 14 51.7**	**+0.8**
AC06					**S**	**00 15 44.2**	**-1.7**
TA01	**Diego Aracena**	**4.61**	**318**	*eP*	**Pn**	**00 14 52.8**	**+0.9**
TA01				*eS*	**S**	**00 15 46.1**	**-1.5**
GO03	**Copiap**	**4.64**	**220**	Pn	**Pn**	**00 14 52.9**	**+0.7**
GO03					**S**	**00 15 47.2**	**-1.0**
GO03	**Copiap**	**4.64**	**220**	*eP*	**Pn**	**00 14 53.2**	**+1.0**
GO03				*eS*	**S**	**00 15 47.4**	**-0.8**
HMBC	**Humberstone**	**4.66**	**323**		**Pn**	**00 14 52.8**	**+0.1**
TA02	**Huaiquique**	**4.81**	**321**	Pn	**Pn**	**00 14 54.6**	**+0.3**
TA02					**S**	**00 15 49.4**	**-2.6**
GO01	**Chusmiza**	**4.85**	**334**	Pn	**Pn**	**00 14 57.4**	**+2.0**
GO01					**S**	**00 15 53.4**	**-0.3**
GO01	**Chusmiza**	**4.85**	**334**	*eP*	**Pn**	**00 14 57.2**	**+1.8**
GO01				*eS*	**S**	**00 15 53.5**	**-0.3**
PB11	**IPOC Station P**	**4.97**	**329**		**Pn**	**00 14 57.0**	**+0.4**
PB11					**S**	**00 15 53.1**	**-2.9**
PB11	**IPOC Station P**	**4.97**	**329**	*eS*	**S**	**00 15 53.8**	**-2.2**
PB11				IAML		00 15 56.8	
	comp=Z,58nm,0.2s						
ACLC	**CERRO LA CRUZ**	**5.36**	**180**	*eP*	**Pn**	**00 15 03.1**	**+1.8**
ACLC				*eS*	**S**	**00 16 06.1**	**+1.5**
AC05	**El Transito**	**5.65**	**212**	Pn	**Pn**	**00 15 06.2**	**+1.4**
AC05					**S**	**00 16 08.3**	**-2.8**

*IDC **28** 00:13:54.0±0.9,9°.36S×113°.00E,h0km,mb4.5/18, mbtmp4.5/18,Error ellipse: s-maj=32.1km s-min=16.8km az=56.0*
*DJA **28** 00:13:59.3±0.9,10°S±10°×11°3E±°,h10km,M4.8/13, MLv4.8/13*
*NEIC **28** 00:14:03.9±1.9,9°.1S±0°.1×112°.87E±0°.06,h57km±5km, mb4.8/53,Error ellipse: s-maj=15.0km s-min=8.4km az=180.0*

ISC 28 00:13:59.8±0.5,**9°.35S**±0°.09×**112°.81E**±0°.06,**h36**km,**n121**,
σ1§**42**/114,**mb4.7**/39,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.59**	**57**	Pn	**Pn**	**00 14 27.4**	**+1.9**
JAGI				Sn	**Sn**	**00 14 49.8**	**+5.0**
JAGI	**Jajag, Banyuwa**	**1.59**	**57**	P	**Pn**	**00 14 27.3**	**+1.9**
PWJI	**Pagerwojo**	**1.65**	**323**	P	Pn	00 14 30.3	+4.0
ABJI	**Asem Bagus**	**2.09**	**42**	P	**Pn**	**00 14 36.6**	**+4.3**
IGBI	**Denpasar**	**2.37**	**77**	P	**Pn**	**00 14 38.3**	**+2.2**
GRJI	**Gresik**	**2.44**	**352**	P	Pn	00 14 43.2	+6.0
UGM	**Wanagama**	**2.67**	**302**	Pn	Pn	00 14 44.9	+4.5
UGM	**Wanagama**	**2.67**	**302**	P	Pn	00 14 44.3	+3.9
SRBI	**Singaraja**	**2.69**	**62**	P	**Pn**	**00 14 43.8**	**+3.2**
YOGI	**Yogyakarta**	**2.92**	**301**	P	Pn	00 14 48.8	+5.1
SMRI	**Semarang**	**3.27**	**314**	Pn	Pn	00 14 53.0	+4.3
SMRI	**Semarang**	**3.27**	**314**	P	Pn	00 14 53.8	+5.2
BWJI	**Bawean**	**3.48**	**358**	P	Pn	00 14 56.9	+5.4
TWSI	**Taliwang, Sumb**	**4.07**	**82**	P	**Pn**	**00 15 01.1**	**+1.5**
KAPI	**Kappang**	**8.12**	**58**	Pn	**Pn**	**00 15 57.2**	**+1.9**
KAPI	**Kappang**	**8.12**	**58**	Sn	**Sn**	**00 17 25.2**	**-0.7**
	2.0nm,0.3s,baz=193,slow=21,SNR=0.9						
KASI	**Kota Agung**	**9.08**	**294**	P	**Pn**	**00 16 11.6**	**+3.2**
LWLI	**Liwa**	**9.69**	**296**	P	**Pn**	**00 16 20.0**	**+3.1**
BATI	**Baumata**	**10.73**	**95**	P	**Pn**	**00 16 30.0**	**-1.1**
SOEI	**Soe**	**11.31**	**93**	Pn	**Pn**	**00 16 40.8**	**+1.7**
SBUM	**Sibu**	**11.74**	**357**	Pn	Pn	00 16 50.3	+5.5
GTOI	**Gorontalo**	**14.20**	**46**	P	**P**	**00 17 22.9**	**-2.5**
KNRA	**Kununurra**	**16.79**	**114**	P	**P**	**00 17 56.6**	**+2.4**
MTN	**Manton Dam**	**18.31**	**103**	P	**P**	**00 18 12.8**	**+1.8**
FAKI	**Fak Fak**	**20.35**	**73**	P	**P**	**00 18 32.2**	**-1.1**
FAKI				IAmb	IAmb	00 18 50.9	
	comp=Z,36nm,1.0s						
WB0	**Warramunga Arr**	**23.29**	**119**	P	**P**	**00 19 06.2**	**+1.7**
WRA	**Warramunga Arr**	**23.31**	**119**	P	**P**	**00 19 06.3**	**+1.4**
WRA	**Warramunga Arr**	**23.31**	**119**	P	**P**	**00 19 02.7**	**-2.1**
	comp=Z,3.5nm,0.9s,baz=289,slow=11,SNR=2.0						
	comp=Z,3.5nm,0.9s						
WRAB	**Tennant Creek**	**23.32**	**119**	P	**P**	**00 19 07.7**	**+2.9**
WB2	**Warramunga Arr**	**23.32**	**119**	P	**P**	**00 19 08.0**	**+3.0**
WR0	**Warramunga Arr**	**23.49**	**119**	P	**P**	**00 19 10.2**	**+3.6**
AS31	**Alice Springs**	**24.68**	**128**	P	**P**	**00 19 16.2**	**-1.4**
ASAR	**Alice Springs**	**24.68**	**128**	P	**P**	**00 19 16.4**	**-1.3**
ASAR	**Alice Springs**	**24.68**	**128**	P	**P**	**00 19 16.1**	**-1.5**
	comp=Z,5.1nm,0.7s,baz=302,slow=9.5,SNR=4.2						
	comp=Z,5.1nm,0.7s						
PHRA	**Phrae**	**30.33**	**336**	P	**P**	**00 20 06.3**	**-1.9**
CM31	**Chiang Mai Arr**	**30.83**	**334**	P	**P**	**00 20 12.3**	**-0.4**
CM31				IAmb	IAmb	00 20 15.8	
	comp=Z,7.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.83**	**334**	P	**P**	**00 20 12.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.83**	**334**	P	**P**	**00 20 13.9**	**+1.3**
	comp=Z,6.2nm,0.8s,baz=169,slow=8.3,SNR=11						
	comp=Z,6.2nm,0.8s						
CHTO	**Chiang Mai**	**31.15**	**334**	P	**P**	**00 20 14.2**	**-1.2**
SLVN	**Son La**	**31.72**	**344**	P	**P**	**00 20 19.6**	**-0.9**
YULB	**Yu-li**	**33.58**	**14**	P	**P**	**00 20 34.9**	**-1.8**
YULB				IAmb	IAmb	00 20 40.3	
	comp=Z,8.1nm,1.1s						
NACB	**Ninganchiao**	**34.41**	**14**	P	**P**	**00 20 42.0**	**-1.8**
NACB				IAmb	IAmb	00 20 44.2	
	comp=Z,7.1nm,0.8s						
STKA	**Stephens Creek**	**34.85**	**134**	P	P	00 20 45.1	-2.5
	comp=Z,3.0nm,0.7s,baz=306,slow=11,SNR=1.8						
	comp=Z,3.0nm,0.7s						
SHL	**Shillong**	**40.24**	**330**	P	**P**	**00 21 33.7**	**+0.1**
LSA	**Lhasa**	**44.07**	**333**	P	**P**	**00 22 06.0**	**+0.9**
LSA				IAmb	IAmb	00 22 07.6	
	comp=Z,14nm,0.6s						
KSAR	**Wonju Array Be**	**48.64**	**16**	P	**P**	**00 22 39.6**	**-0.6**
KSRS	**Korea Array**	**48.66**	**16**	P	**P**	**00 22 40.7**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=193,slow=7.2,SNR=5.4						
	comp=Z,2.2nm,0.7s						
BJT	**Baijiatuau**	**49.22**	**3**	P	**P**	**00 22 43.7**	**-0.9**
BJT				IAmb	IAmb	00 22 46.7	
	comp=Z,8.0nm,1.0s						
BJT	**Baijiatuau**	**49.22**	**3**	P	**P**	**00 22 45.0**	**+0.4**
BJT				pP	**sP**	**00 23 00.3**	**+1.2**
INU	**Inuyama**	**50.00**	**26**	P	**P**	**00 22 49.6**	**-1.0**
JGF	**Kuroka**	**50.36**	**26**	P	**P**	**00 22 51.9**	**-1.5**
JGF				IAmb	IAmb	00 22 54.1	
	comp=Z,10nm,0.8s						
MAJO	**Matsushiro**	**51.52**	**26**	P	**P**	**00 23 00.3**	**-1.9**
MJAR	**Matsushiro Arr**	**51.52**	**26**	P	**P**	**00 23 00.2**	**-1.9**
	comp=Z,9.2nm,0.9s,baz=197,slow=7.6,SNR=9.2						
	comp=Z,9.2nm,0.9s						
USA0B	**Ussuriysk Arra**	**56.06**	**17**	P	**P**	**00 23 35.0**	**-0.1**
USA0B				IAmb	IAmb	00 23 36.1	
	comp=Z,12nm,1.0s						
USRK	**Ussuriysk Ar.**	**56.06**	**17**	P	**P**	**00 23 34.8**	**-0.4**
USRK	**Ussuriysk Ar.**	**56.06**	**17**	P	**P**	**00 23 34.5**	**-0.7**
	comp=Z,8.0nm,0.9s,baz=206,slow=5.1,SNR=6.5						
	comp=Z,8.0nm,0.9s						
NIL	**Nilore**	**56.93**	**321**		**P**	**00 23 40.6**	**-1.0**
NIL	**Nilore**	**56.93**	**321**	P	**P**	**00 23 40.8**	**-0.9**
ULN	**Ulaanbaatar**	**57.19**	**355**	P	**P**	**00 23 43.3**	**-0.1**
ULN				IAmb	IAmb	00 23 44.8	
	comp=Z,13nm,0.8s						
ULN	**Ulaanbaatar**	**57.19**	**355**	P	**P**	**00 23 44.0**	**+0.7**
SONM	**Songino Array**	**57.22**	**355**	P	**P**	**00 23 43.5**	**0.0**
SONM	**Songino Array**	**57.22**	**355**	P	**P**	**00 23 43.3**	**-0.2**
	comp=Z,10nm,0.7s,baz=175,slow=8.5,SNR=16						
	comp=Z,10nm,0.7s						
WUS	**Wushi**	**59.04**	**331**	P	**P**	**00 23 57.1**	**+0.6**
KLR	**Kul'dur**	**60.66**	**14**	P	**P**	**00 24 06.3**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=212,slow=8.0,SNR=3.0						
	comp=Z,0.6nm,0.3s						
NRN	**Naryn**	**60.81**	**329**	P	**P**	**00 24 08.4**	**-0.4**
BOOM	**Boomskoye usch**	**61.62**	**330**	P	**P**	**00 24 14.1**	**0.0**
BOOM				IAmb	IAmb	00 24 15.3	
	comp=Z,8.6nm,0.8s						
TKM2	**Tokmak 2**	**62.11**	**330**	P	**P**	**00 24 17.9**	**+0.5**
	SNR=8.3						
MK31	**Makanchi Array**	**62.17**	**337**	P	**P**	**00 24 17.3**	**-0.2**
MK31				IAmb	IAmb	00 24 18.5	
	comp=Z,7.3nm,0.7s						
MKAR	**Makanchi Array**	**62.17**	**337**	P	**P**	**00 24 17.6**	**+0.1**
MKAR	**Makanchi Array**	**62.17**	**337**	P	**P**	**00 24 17.8**	**+0.2**
	comp=Z,10nm,0.5s,baz=151,slow=7.6,SNR=24						
	comp=Z,10nm,0.5s						
GAR	**Garm**	**62.23**	**323**	P	**P**	**00 24 17.4**	**-0.8**
KBK	**Karagaybulak**	**62.24**	**329**	P	**P**	**00 24 19.2**	**+0.9**
	SNR=8.9						
MAKZ	**Makanchi**	**62.30**	**337**	P	**P**	**00 24 18.6**	**+0.2**
MAKZ				sP	sP	00 24 41.1	+8.2
AAK	**Ala-Archa**	**62.45**	**329**	P	**P**	**00 24 20.7**	**+1.0**
AML	**Almayashu**	**62.50**	**328**	P	**P**	**00 24 21.0**	**+0.7**
	SNR=18						
CHGR	**Chuyangaron**	**62.70**	**323**	P	**P**	**00 24 20.1**	**-1.2**
SIMJ	**Simiganj**	**62.79**	**322**	P	**P**	**00 24 20.6**	**-1.3**
SIMJ				IAmb	IAmb	00 24 22.5	
	comp=Z,12nm,1.1s						
SIMJ	**Simiganj**	**62.79**	**322**	P	**P**	**00 24 20.5**	**-1.5**
EKS2	**Erkin-Say**	**62.84**	**329**	P	**P**	**00 24 23.2**	**+1.0**
	SNR=12						
USP	**Ospenovka**	**62.91**	**329**	P	**P**	**00 24 22.9**	**+0.3**
	SNR=5.4						
RTZ	**Ruatahuna**	**64.08**	**128**	P	**P**	**00 24 32.7**	**+2.2**
UOSS	**Minazif**	**64.82**	**303**	P	**P**	**00 24 34.8**	**-0.7**
UOSS				IAmb	IAmb	00 24 41.7	
	comp=Z,6.7nm,0.8s						
UOSS	**Minazif**	**64.82**	**303**	P	**P**	**00 24 35.3**	**-0.2**
KK31	**Karatay Array**	**64.87**	**327**	P	**P**	**00 24 35.0**	**-0.4**
KK31				IAmb	IAmb	00 24 37.1	
	comp=Z,4.3nm,0.7s						
KKAR	**Karatay Array**	**64.87**	**327**	P	**P**	**00 24 35.0**	**-0.4**
KKAR				IAmb	IAmb	00 24 37.2	
	comp=Z,4.3nm,0.7s						
KURBB	**Kurchatov Arra**	**66.73**	**337**	P	**P**	**00 24 47.1**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=150,slow=6.2,SNR=12						
	comp=Z,4.2nm,0.7s						
KURK	**Kurchatov**	**66.77**	**337**		**P**	**00 24 47.4**	**-0.1**
KURK				IAmb	IAmb	00 24 48.4	
	comp=Z,8.7nm,0.8s						
KURK	**Kurchatov**	**66.77**	**337**	P	**P**	**00 24 47.5**	**+0.1**
KURK				PcP	**PcP**	**00 25 13.9**	**-2.3**
ZAA0	**Zalesovo Array**	**67.36**	**343**		**P**	**00 24 50.4**	**-0.8**
ZAA0				IAmb	IAmb	00 24 51.6	
	comp=Z,11nm,0.7s						
ZALV	**Zalesovo Beam**	**67.36**	**343**		**P**	**00 24 50.6**	**-0.5**
ZALV	**Zalesovo Beam**	**67.36**	**343**	P	**P**	**00 24 50.7**	**-0.4**
	comp=Z,14nm,0.7s,baz=149,slow=4.4,SNR=17						
	comp=Z,14nm,0.7s						
BVAR	**Borovoye Array**	**71.85**	**335**	P	**P**	**00 25 19.1**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=143,slow=7.7,SNR=7.6						
	comp=Z,2.8nm,0.6s						
BRVK	**Borovoye**	**71.92**	**335**	P	**P**	**00 25 18.8**	**-0.5**
BRVK				IAmb	IAmb	00 25 20.3	
	comp=Z,7.1nm,1.1s						
BRVK	**Borovoye**	**71.92**	**335**	P	**P**	**00 25 19.4**	**+0.1**
YAK	**Yakutsk**	**72.37**	**8**	P	**P**	**00 25 21.2**	**-0.5**
	comp=Z,15nm,0.4s,baz=181,slow=4.0,SNR=4.7						
	comp=Z,15nm,0.4s						
ABKAR	**Abkulak array**	**74.43**	**327**	P	**P**	**00 25 34.1**	**-0.1**
ABKAR	**Abkulak array**	**74.43**	**327**	P	**P**	**00 25 34.1**	**-0.1**
ABKAR				IAmb	IAmb	00 25 35.5	
	comp=Z,33nm,0.8s						
KMBO	**Kilima Mbogo**	**75.57**	**271**	P	**P**	**00 25 43.1**	**+1.2**
ARU	**Arti**	**79.27**	**333**	P	**P**	**00 26 01.1**	**-0.2**
ARU				IAmb	IAmb	00 26 03.0	
	comp=Z,12nm,1.0s						
NRIK	**No

s-min=16.2km az=56.0
*NEIC **28** 00:15:49.9±2.5, 9°.82S±0°.07×112°.88E±0°.06, h35km±2km, mb4.5/37, Error ellipse: s-maj=11.3km s-min=9.3km az=160.0*
*DJA **28** 00:15:52.8±0.9, 9°S±10°×11°3E±°, h10km, M4.7/12, MLv4.7/12*
ISC 28 00:15:50.0±0.4, 9.76S±0°.06×112°.87E±0°.06, h35km, n77, σ1§82/74, mb4.5/28, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.80**	**45**	Pn	**Pn**	**00 16 19.1**	**+0.6**
JAGI				Sn	**Sn**	00 16 40.9	+0.7
JAGI	**Jajag, Banyuwa**	**1.80**	**45**	P	**Pn**	**00 16 19.2**	**+0.6**
PWJI	**Pagerwojo**	**2.02**	**329**	P	**Pn**	**00 16 22.5**	**+0.9**
ABJI	**Asem Bagus**	**2.37**	**35**	P	**Pn**	**00 16 28.8**	**+2.4**
IGBI	**Denpasar**	**2.43**	**68**	P	**Pn**	**00 16 31.4**	**+4.1**
DNP	**Denpasar**	**2.55**	**65**	P	**Pn**	**00 16 33.4**	**+4.5**
SRBI	**Singaraja**	**2.85**	**54**	P	**Pn**	**00 16 35.4**	**+2.4**
GRJI	**Gresik**	**2.85**	**352**	P	**Pn**	**00 16 35.1**	**+2.0**
UGM	**Wanagama**	**2.96**	**308**	Pn	**Pn**	**00 16 35.7**	**+1.2**
UGM	**Wanagama**	**2.96**	**308**	P	**Pn**	**00 16 37.5**	**+3.0**
SMRI	**Semarang**	**3.61**	**318**	Pn	**Pn**	**00 16 43.6**	**+0.2**
TWSI	**Taliwang, Sumb**	**4.09**	**76**	P	**Pn**	**00 16 53.4**	**+3.3**
PLAI	**Plampang**	**4.93**	**80**	P	Pn	00 17 07.2	+5.5
XMIS	**Christmas Isla**	**7.14**	**264**	Pn	**Pn**	**00 17 32.3**	**+0.3**
KAPI	**Kappang**	**8.29**	**56**	Pn	**Pn**	**00 17 49.1**	**+1.3**
KAPI	**Kappang**	**8.29**	**56**	Pn	Pn	00 17 43.2	-4.7
	2.9nm,0.3s,baz=8.2,slow=23,SNR=1.8						
KAPI				Sn	**Sn**	**00 19 18.7**	**-1.7**
	2.1nm,0.3s,baz=149,slow=21,SNR=1.4						
	22nm,0.8s						
MMRI	**Maumere**	**9.32**	**84**	Pn	**Pn**	**00 18 00.2**	**-1.7**
GIRL	**Giralia**	**12.88**	**174**		**Pn**	**00 18 49.1**	**-1.5**
MBWA	**Marble Bar**	**13.12**	**151**	Pn	**Pn**	**00 18 51.2**	**-2.7**
PSA00	**Pilbara Seismi**	**13.53**	**151**	Pn	**Pn**	**00 18 58.4**	**-1.1**
MYLDM	**Lahad Datu**	**15.87**	**21**	Pn	**Pn**	**00 19 30.8**	**0.0**
MYLDM				IAmb	IAmb	00 19 38.7	
	comp=Z,49nm,1.5s						
MORW	**Morawa**	**19.44**	**172**	P	**P**	**00 20 10.2**	**-3.4**
WB0	**Warramunga Arr**	**23.04**	**118**	P	**P**	**00 20 50.5**	**-1.9**
WRA	**Warramunga Arr**	**23.06**	**118**	P	**P**	**00 20 52.6**	**0.0**
WRA	**Warramunga Arr**	**23.06**	**118**	P	**P**	**00 20 55.6**	**+3.0**
	comp=Z,2.2nm,0.6s,baz=291,slow=11,SNR=2.9						
	comp=Z,2.2nm,0.6s						
WRAB	**Tennant Creek**	**23.07**	**118**	P	**P**	**00 20 52.4**	**-0.3**
WB2	**Warramunga Arr**	**23.07**	**118**		**P**	**00 20 52.8**	**0.0**
WR0	**Warramunga Arr**	**23.24**	**118**	P	**P**	**00 20 51.2**	**-3.2**
AS31	**Alice Springs**	**24.39**	**127**	P	**P**	**00 21 04.7**	**-0.5**
ASAR	**Alice Springs**	**24.39**	**127**	P	**P**	**00 21 07.5**	**+2.2**
ASAR	**Alice Springs**	**24.39**	**127**	P	**P**	**00 21 08.3**	**+3.1**
	comp=Z,10nm,0.7s,baz=304,slow=9.1,SNR=10						
	comp=Z,10nm,0.7s						
FORT	**Forrest**	**25.25**	**148**	P	**P**	**00 21 15.7**	**+2.8**
FORT				IAmb	IAmb	00 21 23.2	
	comp=Z,23nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.23**	**334**	P	**P**	**00 22 05.6**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=168,slow=8.2,SNR=5.3						
	comp=Z,2.5nm,0.8s						
STKA	**Stephens Creek**	**34.52**	**134**	P	**P**	**00 22 36.3**	**+1.2**
STKA	**Stephens Creek**	**34.52**	**134**	P	**P**	**00 22 38.5**	**+3.3**
	comp=Z,5.7nm,0.7s,baz=302,slow=9.6,SNR=4.8						
	comp=Z,5.7nm,0.7s						
YOJ	**Yonaguni jima**	**35.42**	**16**		**P**	**00 22 44.2**	**+1.3**
YOJ				IAmb	IAmb	00 22 55.4	
	comp=Z,10nm,0.8s						
TATO	**Taipei**	**35.53**	**14**	P	**P**	**00 22 42.5**	**-1.3**
H08S2	**Diego Garcia H**	**39.95**	**270**	T	T	01 06 27.6	
	baz=95						
H08S3	**Diego Garcia H**	**39.96**	**270**	T	T	01 06 38.4	
	baz=95						
H08S1	**Diego Carcia H**	**39.97**	**270**	T	T	01 06 40.4	
	baz=95						
MNCI	**Minicoy**	**43.51**	**293**	P	**P**	**00 23 49.1**	**-1.4**
KSRS	**Korea Array**	**49.04**	**16**	P	**P**	**00 24 32.9**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=195,slow=6.3,SNR=2.4						
	comp=Z,1.0nm,0.5s						
JHJ2	**Mitsune**	**49.77**	**30**	P	**P**	**00 24 38.0**	**-1.2**
MJAR	**Matsushiro Arr**	**51.86**	**26**	P	**P**	**00 24 52.3**	**-2.7**
	comp=Z,2.1nm,0.4s,baz=205,slow=7.6,SNR=5.1						
	comp=Z,2.1nm,0.4s						
USRK	**Ussuriysk Ar.**	**56.44**	**16**	P	**P**	**00 25 30.1**	**+1.9**
USRK	**Ussuriysk Ar.**	**56.44**	**16**	P	**P**	**00 25 26.6**	**-1.6**
	comp=Z,2.0nm,0.6s,baz=220,slow=6.6,SNR=2.8						
	comp=Z,2.0nm,0.6s						
CASY	**Casey**	**56.46**	**181**	P	**P**	**00 25 30.8**	**+2.7**
CASY				IAmb	IAmb	00 25 32.0	
	comp=Z,2.7nm,0.8s						
NIL	**Nilore**	**57.28**	**321**	P	**P**	**00 25 33.1**	**-1.4**
NIL				IAmb	IAmb	00 25 33.5	
	comp=Z,6.6nm,0.7s						
ULN	**Ulaanbaatar**	**57.60**	**355**	P	**P**	**00 25 35.1**	**-1.5**
ULN				IAmb	IAmb	00 25 37.1	
	comp=Z,4.7nm,0.9s						
SONM	**Songino Array**	**57.63**	**355**	P	**P**	**00 25 36.2**	**-0.5**
SONM				IAmb	IAmb	00 25 36.9	
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**57.63**	**355**	P	**P**	**00 25 36.2**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=173,slow=8.3,SNR=5.5						
	comp=Z,3.5nm,0.8s						
MLZ	**Mavora Lakes**	**58.97**	**137**	P	**P**	**00 25 43.9**	**-2.3**
KLR	**Kul'dur**	**61.04**	**14**	P	**P**	**00 25 59.9**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=202,slow=5.4,SNR=2.3						
	comp=Z,1.1nm,0.5s						
NRN	**Naryn**	**61.19**	**329**	P	**P**	**00 26 00.9**	**-0.8**
NRN				IAmb	IAmb	00 26 01.6	
	comp=Z,3.0nm,0.6s						
GVZ	**Greta Valley S**	**61.68**	**134**	P	**P**	**00 26 04.5**	**-0.2**
BOOM	**Boomskoye usch**	**62.00**	**330**	P	**P**	**00 26 06.1**	**-0.8**
BOOM				IAmb	IAmb	00 26 19.8	
	comp=Z,2.8nm,0.9s						
MK31	**Makanchi Array**	**62.57**	**337**	P	**P**	**00 26 10.0**	**-0.5**
MK31				IAmb	IAmb	00 26 10.4	
	comp=Z,2.5nm,0.6s						
MKAR	**Makanchi Array**	**62.57**	**337**	P	**P**	**00 26 09.9**	**-0.5**
	comp=Z,3.8nm,0.5s,baz=151,slow=7.3,SNR=12						
	comp=Z,3.8nm,0.5s						
GAR	**Garm**	**62.60**	**324**	P	**P**	**00 26 10.0**	**-0.9**
GAR				IAmb	IAmb	00 26 11.8	
	comp=Z,4.5nm,0.7s						
MAKZ	**Makanchi**	**62.70**	**337**	P	**P**	**00 26 10.1**	**-1.3**
MAKZ				IAmb	IAmb	00 26 11.6	
	comp=Z,3.9nm,1.3s						
KKAR	**Karatay Array**	**65.24**	**327**	P	**P**	**00 26 27.5**	**-0.6**
KURBB	**Kurchatov Arra**	**67.13**	**337**	P	**P**	**00 26 39.4**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=149,slow=6.7,SNR=4.9						
	comp=Z,1.4nm,0.7s						
KURK	**Kurchatov**	**67.17**	**337**	P	**P**	**00 26 39.8**	**-0.5**
KURK				IAmb	IAmb	00 26 40.4	
	comp=Z,2.5nm,0.8s						
ZAA0	**Zalesovo Array**	**67.77**	**343**	P	**P**	**00 26 43.1**	**-0.8**
ZAA0				IAmb	IAmb	00 26 43.5	
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**67.77**	**343**	P	**P**	**00 26 42.9**	**-1.1**
	comp=Z,4.0nm,0.6s,baz=150,slow=4.5,SNR=8.3						
	comp=Z,4.0nm,0.6s						
BVAR	**Borovoye Array**	**72.25**	**335**	P	**P**	**00 27 10.5**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=140,slow=9.4,SNR=3.4						
	comp=Z,0.7nm,0.6s						
RAYN	**Ar Rayn**	**73.66**	**298**	P	**P**	**00 27 21.0**	**+0.4**
ABKAR	**Akbulak array**	**74.80**	**327**	P	**P**	**00 27 26.6**	**0.0**
ABKAR	**Akbulak array**	**74.80**	**327**	P	**P**	**00 27 26.9**	**+0.2**
ABKAR				IAmb	IAmb	00 27 27.4	
	comp=Z,11nm,0.7s						
ARU	**Arti**	**79.66**	**333**	P	**P**	**00 27 53.6**	**-0.2**
ARU				IAmb	IAmb	00 27 54.3	
	comp=Z,9.1nm,1.4s						
BR131	**Keskin Array S**	**88.00**	**311**	P	**P**	**00 28 37.3**	**+0.4**
BR131				IAmb	IAmb	00 28 54.0	
	comp=Z,3.2nm,0.9s						
BRTR	**Keskin Array B**	**88.00**	**311**	P	**P**	**00 28 36.8**	**-0.2**
BRTR	**Keskin Array B**	**88.00**	**311**	P	**P**	**00 28 37.6**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=142,slow=4.9,SNR=1.9						
	comp=Z,0.8nm,0.7s						
SNAA	**Sanae**	**88.60**	**197**	P	**P**	**00 28 42.5**	**+3.4**
	comp=Z,2.7nm,0.9s,baz=137,slow=3.5,SNR=6.3						
	comp=Z,2.7nm,0.9s						
PPTF	**Pamatai, Papee**	**94.20**	**109**	P	**P**	**00 29 04.4**	**-1.8**
S12K	**Black Hills**	**95.21**	**34**		**P**	**00 29 12.1**	**+2.3**
ITM	**Ithomi**	**96.56**	**306**	P	**P**	**00 29 18.6**	**+2.2**

IDC 28 00:18:40.7±2.7, 0°.20S×128°.25E, h0km, mb3.6/3, mbtmp3.7/3, Error ellipse: s-maj=217.4km s-min=28.5km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.51**	**163**	P	P	00 23 19.6	-1.1
	0.9nm,0.6s,baz=346,slow=13,SNR=7.3						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**23.96**	**167**	P	P	00 23 57.7	+0.7
	3.7nm,0.7s,baz=350,slow=10,SNR=12						
	3.7nm,0.7s						
MKAR	**Makanchi Array**	**61.63**	**326**	P	P	00 29 00.2	-0.1
	0.3nm,0.4s,baz=164,slow=7.7,SNR=3.1						
	0.3nm,0.4s						

*DJA **28** 00:39:13.0±1.3, 8°S±4°×11°9E±°, h19km±11km, M4.1/9, mb4.6/1, MLv3.9/9*
*IDC **28** 00:39:18.3±2.6, 7°.84S×120°.11E, h218km±21km, mb2.9/3, mbtmp3.3/5, Error ellipse: s-maj=71.2km s-min=11.9km az=53.0*
ISC 28 00:39:10.3±0.9, 8°.53S±0°.06×119°.19E±0°.04, h150km, n14, σ1§91/20, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.43**	**258**	P	**Pn**	**00 39 40.2**	**+1.1**
PLAI				S	**Sn**	**00 40 01.7**	**+0.6**
BASI	**Baing, Sumba**	**2.17**	**141**	P	**Pn**	**00 39 48.5**	**+1.1**
BASI				S	**Sn**	**00 40 16.9**	**+0.8**
TWSI	**Taliwang, Sumb**	**2.29**	**265**	P	**Pn**	**00 39 49.7**	**+0.9**
TWSI				S	**Sn**	**00 40 19.2**	**+0.7**
EDFI	**Ende, Flores**	**2.49**	**95**	P	**Pn**	**00 39 52.5**	**+1.2**
EDFI				S	**Sn**	**00 40 23.2**	**+0.2**
BSSI	**Bau Bau, Buton**	**2.70**	**29**	P	**Pn**	**00 39 54.0**	**+0.1**
MMRI	**Maumere**	**3.02**	**92**	P	**Pn**	**00 40 00.5**	**+2.6**
BKSI	**Bulukumba**	**3.32**	**16**	P	**Pn**	**00 40 03.7**	**+2.0**
KAPI	**Kappang**	**3.53**	**9**	P	**Pn**	**00 40 06.3**	**+1.8**
	4.5nm,0.5s,baz=55,slow=20,SNR=2.0						
KAPI				S	**Sn**	**00 40 45.7**	**-0.8**
	3.9nm,0.3s,baz=75,slow=20,SNR=1.7						
SRBI	**Singaraja**	**3.96**	**276**	P	**Pn**	**00 40 11.7**	**+1.7**
SOEI	**Soe**	**5.16**	**104**	P	**Pn**	**00 40 29.1**	**+3.1**
WRA	**Warramunga Arr**	**18.54**	**129**	P	**P**	**00 43 15.8**	**+0.2**
	0.3nm,0.6s,baz=303,slow=12,SNR=11						
WRA				S	**S**	**00 46 34.5**	**-4.9**
	1.5nm,0.7s,baz=307,slow=25,SNR=5.2						
ASAR	**Alice Springs**	**20.62**	**139**	P	Pn	00 43 41.5	-0.7
	0.5nm,0.6s,baz=310,slow=8.1,SNR=7.2						
ASAR				S	**S**	**00 47 18.6**	**-1.9**
	0.6nm,0.6s,baz=316,slow=18,SNR=5.9						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**64.12**	**333**	P	**P**	**00 49 28.2**	**-0.3**
	0.4nm,0.6s,baz=136,slow=8.3,SNR=4.7						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**68.67**	**339**	P	**P**	**00 49 55.9**	**-1.3**
	0.5nm,0.5s,baz=159,slow=4.3,SNR=2.0						
	0.5nm,0.5s						

*NDI **28** 00:49:15.5±2.4, 24°.91N×95°.29E, h155km±15km, ML4.1, MW4.0, mb4.0(NEIC)*
*NEIC **28** 00:49:16.4±2.2, 25°.0N±0°.1×95°.2E±0°.1, h143km±9km, mb4.0/4, Error ellipse: s-maj=20.4km s-min=11.6km az=50.0*
*IDC **28** 00:49:17.0±3.1, 24°.88N×95°.34E, h157km±30km, mb3.6/12, mbtmp4.0/13, Error ellipse: s-maj=37.1km s-min=11.0km az=61.0*
ISC 28 00:49:15.7±0.8, 24°.89N±0°.05×95°.19E±0°.06, h147km±7km, n32, σ1§47/43, mb3.9/14, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.13**	**267**	*e*Pg	**Pn**	**00 49 42.2**	**+0.8**
IMP				*i* Sg	**Sn**	**00 50 03.8**	**+2.8**
IMP				IAML		00 50 09.8	
	comp=E,559nm,0.4s						
MOKO	**MOKOCHONG**	**1.55**	**337**	*e*P	**Pn**	**00 49 46.6**	**+0.9**
MOKO				*e*S	**Sn**	**00 50 08.6**	**-0.2**
MOKO				IAML		00 50 09.5	
	comp=N,6μm,0.4s						
MOKO				IAML		00 50 09.6	
	comp=E,8μm,0.4s						
JORH	**JORHAT**	**2.03**	**336**	*e*P	**Pn**	**00 49 52.0**	**+1.0**
JORH				*e*S	**Sn**	**00 50 17.7**	**-0.4**
LKP	**Lekhapani**	**2.50**	**14**	*e*P	**Pn**	**00 49 57.1**	**+0.4**
LKP				*e*S	**Sn**	**00 50 25.8**	**-2.5**
LKP				IAML		00 50 28.4	
	comp=E,2μm,0.4s						
ZIRO	**ZIRO**	**2.89**	**336**	*e*P	**Pn**	**00 50 02.1**	**+0.4**
ZIRO				*e*S	**Sn**	**00 50 34.0**	**-3.2**
ZIRO				IAML		00 50 37.1	
	comp=E,8μm,0.6s						
ZIRO				IAML		00 50 37.1	
	comp=N,10μm,0.3s						
SHL	**Shillong**	**3.07**	**283**	Pn	**Pn**	**00 50 04.2**	**+0.3**
SHL				Sn	**Sn**	**00 50 39.4**	**-1.8**
SHL	**Shillong**	**3.07**	**283**	*e*P	**Pn**	**00 50 04.0**	**0.0**
SHL				*i* x	x	00 50 13.4	
SHL				*e*S	**Sn**	**00 50 40.5**	**-0.8**
SHL				IAML		00 50 42.0	
	comp=N,605nm,0.3s						
SHL				IAML		00 50 42.2	
	comp=E,539nm,0.1s						
SAIH	**SAIHA**	**3.13**	**221**	*e*P	**Pn**	**00 50 05.3**	**+0.6**
SAIH				*e*S	**Sn**	**00 50 41.9**	**-0.7**
SAIH				IAML		00 50 46.5	
	comp=N,327nm,0.3s						
SAIH				IAML		00 50 47.5	
	comp=E,927nm,0.8s						
GUWA	**GUWAHATI**	**3.41**	**293**	*e*P	**Pn**	**00 50 08.2**	**0.0**
GUWA				IAML		00 50 11.2	
	comp=N,92nm,0.2s						
GUWA				*e*S	**Sn**	**00 50 47.3**	**-1.6**
LSA	**Lhasa**	**5.99**	**324**		**Pn**	**00 50 43.4**	**+0.8**
GTK	**Tadong**	**6.39**	**294**	*e*P	**Pn**	**00 50 48.9**	**+1.2**
GTK				*e*S	**Sn**	**00 51 58.4**	**-1.4**
GTK				IAML		00 52 04.4	
	comp=N,139nm,0.2s						
CMAR	**Chiang Mai Arr**	**7.29**	**151**	P	**Pn**	**00 50 59.7**	**0.0**
	comp=N,4.4nm,0.8s,baz=328,slow=13,SNR=22						
PHRA	**Phrae**	**7.90**	**143**	Pn	**Pn**	**00 51 07.3**	**-0.5**
BOK	**Bokaro**	**8.55**	**265**	*e*P	**Pn**	**00 51 17.5**	**+1.0**
BOK				*e*S	**Sn**	**00 52 46.5**	**-5.1**
BOK				IAML		00 52 54.5	
	comp=E,44nm,0.5s						
BOK				IAML		00 52 54.8	
	comp=E,44nm,0.5s						
ENH	**Enshi**	**13.77**	**64**	Pn	**Pn**	**00 52 23.0**	**-1.8**
MK31	**Makanchi Array**	**24.16**	**338**	P	**P**	**00 54 19.2**	**+1.0**
MK31				IAmb	IAmb	00 54 21.0	
	comp=Z,4.1nm,0.8s						
MKAR	**Makanchi Array**	**24.16**	**338**	P	**P**	**00 54 18.9**	**+0.7**
MKAR	**Makanchi Array**	**24.16**	**338**	P	**P**	**00 54 20.1**	**+1.9**
	comp=Z,4.8nm,0.6s,baz=147,slow=9.9,SNR=49						
	comp=Z,4.8nm,0.6s						
MAKZ	**Makanchi**	**24.29**	**338**	P	**P**	**00 54 20.7**	**+1.4**
SONM	**Songino Array**	**24.56**	**18**	P	**P**	**00 54 21.7**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=214,slow=9.7,SNR=14						
	comp=Z,2.5nm,0.7s						
KURBB	**Kurchatov Arra**	**28.73**	**338**	P	**P**	**00 55 00.2**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=145,slow=9.3,SNR=11						
	comp=Z,1.4nm,0.6s						
KURK	**Kurchatov**	**28.78**	**338**	P	**P**	**00 55 00.2**	**+0.8**
KURK				IAmb	IAmb	00 55 01.5	
	comp=Z,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**30.04**	**348**	P	**P**	**00 55 11.7**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=170,slow=9.0,SNR=5.3						
	comp=Z,0.7nm,0.4s						
BVAR	**Borovoye Array**	**33.74**	**333**	P	**P**	**00 55 43.5**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=129,slow=12,SNR=5.9						
	comp=Z,0.7nm,0.5s						
ABKAR	**Akbulak array**	**36.66**	**321**	P	**P**	**00 56 09.0**	**+1.0**
FINES	**FINESS Array B**	**58.49**	**328**	P	**P**	**00 58 56.8**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=64,slow=7.9,SNR=4.1						
	comp=Z,1.3nm,0.9s						
WRA	**Warramunga Arr**	**58.62**	**136**	P	**P**	**00 58 57.1**	**-0.5**
	comp=Z,5.1nm,0.6s,baz=321,slow=7.5,SNR=105						
	comp=Z,5.1nm,0.6s						
ASAR	**Alice Springs**	**61.14**	**139**	P	**P**	**00 59 14.7**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=322,slow=6.9,SNR=34						
	comp=Z,3.4nm,0.7s						
HFS	**Hagfors**	**64.56**	**327**	P	**P**	**00 59 37.3**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=118,slow=8.3,SNR=4.3						
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**65.67**	**328**	P	**P**	**00 59 44.6**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=86,slow=6.3,SNR=2.1						
	comp=Z,0.5nm,0.8s						
STKA	**Stephens Creek**	**71.77**	**140**	P	**P**	**01 00 21.3**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=325,slow=12,SNR=2.9						
	comp=Z,0.8nm,0.5s						
TORD	**Torodi Ar. Bea**	**87.67**	**283**	P	**P**	**01 01 48.9**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=70,slow=5.3,SNR=4.1						
	comp=Z,0.7nm,0.8s						

*BJI **28** 00:50:01.6±0.0, 30°.69N×141°.78E, h6km, mb4.9/80, mB4.9/41, Ms4.6/81, Ms7 4.5/79*
*IDC **28** 00:50:02.8±0.5, 30°.58N×141°.83E, h0km, mb4.8/32, mbtmp4.7/40, ML3.8/7, MS4.3/56, Error ellipse: s-maj=15.4km s-min=12.5km az=60.0*
*MOS **28** 00:50:03.3±0.9, 30°.64N×141°.71E, h12km, mb5.3/87, MS4.5/15, Error ellipse: s-maj=7.9km s-min=3.8km az=116.6*
*JMA **28** 00:50:04.8±0.2, 30°.7N±0°.7×14°2E±°, h46km, MV4.7/58, MW5.0/58, NEAR TORISHIMA IS*
*NIED **28** 00:50:04.8, 30°.72N×142°.09E, h46km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.89; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-1.99; $M_{r\theta}$-0.33; $M_{\theta\phi}$0.35; $M_{\phi r}$4.01; Fault plane solution: $M_0$4.48000×10^{16} NP1: ϕ_s355.00000°, δ77.00000°, λ92.00000°. NP2: ϕ_s166.00000°, δ13.00000°, λ81.00000°.*
*NEIC **28** 00:50:07.2±1.1, 30°.65N±0°.06×141°.8E±0°.1, h22km±5km, mb4.9/289 Error ellipse: s-maj=13.0km s-min=7.8km az=74.0*
*GCMT **28** 00:50:07.2±0.3, 30°.52N±0°.02×141°.88E±0°.01, h21km, MW5.0/115, Moment Tensor Solution. s62, c83; s115, c176; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.47±.14; $M_{\theta\theta}$0.21±.09; $M_{\phi\phi}$-3.68±.10; $M_{r\theta}$0.24±.17; $M_{\theta\phi}$0.13±.06; $M_{\phi r}$1.44±.14; Best double couple: $M_0$3.86500×10^{16} NP1:ϕ_s3.00000°, δ56.00000°, λ95.00000°. NP2:ϕ_s173.00000°, δ34.00000°, λ82.00000°. Principal axes: T 3.7680, Plg78.0000°, Azm291.0000°; N 0.1930, Plg4.0000°, Azm180.0000°; P -3.9610, Plg11.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 00:50:06.0±0.5, 30°.67N±0°.03×141°.86E±0°.04, h19km±5km, h18km:pP-P, n1119, σ1§28/1138, mb5.0/297, MS4.5/97, 31C-28D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.53**	**315**	*e*P	**Pn**	**00 50 46.1**	**+0.1**
JHCJ	**Hachijojimakas**	**2.96**	**324**	*e*P	**Pn**	**00 50 51.6**	**-0.4**
JHCJ				*e*S	**Sn**	**00 51 26.4**	**-0.8**
JHJ2	**Mitsune**	**2.99**	**325**	Pn	**Pn**	**00 50 50.6**	**-1.7**
JHJ2	**Mitsune**	**2.99**	**325**	*e*P	**Pn**	**00 50 52.9**	**+0.5**
JHJ2				*e*S	**Sn**	**00 51 27.5**	**-0.1**
JHJ	**Hachijo jima 2**	**3.01**	**325**	Pn	**Pn**	**00 50 52.9**	**+0.2**
	77nm,0.3s,baz=247,slow=20,SNR=12						
JHJ				Sn	**Sn**	**00 51 26.1**	**-2.2**
	226nm,0.3s,baz=91,slow=19,SNR=7.5						
JHJ				LR	LR	00 51 57.0	
	comp=Z,3μm,20.0s,baz=97,slow=37						
	164nm,0.3s						
JCJ	**Chichijima**	**3.58**	**175**		**Pn**	**00 50 59.5**	**-1.0**
JCJ	**Chichijima**	**3.58**	**175**	Pn	Pn	00 50 55.1	-5.4
	14nm,0.3s,baz=286,slow=20,SNR=2.3						
JCJ				Sn	**Sn**	**00 51 35.8**	**-6.5**
	54nm,0.3s,baz=258,slow=22,SNR=6.1						
JMKN	**Mikurajimanish**	**3.74**	**330**	*e*P	**Pn**	**00 51 02.2**	**-0.5**
JMKN				*e*S	**Sn**	**00 51 45.2**	**-1.0**
JMYK	**Miyake Tsubota**	**3.90**	**331**	*e*P	**Pn**	**00 51 05.4**	**+0.4**
BSO1	**Boso 1**	**4.04**	**350**	*e*P	**Pn**	**00 51 06.1**	**-0.2**
BSO3	**Boso 3**	**4.27**	**345**	P	**Pn**	**00 51 09.9**	**+0.2**
BSO4	**Boso 4**	**4.49**	**344**	*e*P	**Pn**	**00 51 13.4**	**+0.4**
JOD2	**Odawara 2**	**5.13**	**334**	*e*P	**Pn**	**00 51 21.6**	**-0.3**
JOD2				*e*S	**Sn**	**00 52 19.6**	**-1.1**
TTO1	**TONANKAI O.B.S**	**5.21**	**306**	*e*P	**Pn**	**00 51 25.1**	**+2.5**
JHU	**Hanno**	**5.60**	**338**	*e*P	**Pn**	**00 51 29.0**	**+0.8**
JYT	**Yasato**	**5.71**	**346**	*e*P	**Pn**	**00 51 30.6**	**+0.8**
JIE	**Ise**	**5.71**	**312**	*e*P	**Pn**	**00 51 31.6**	**+1.7**
JNY	**Yasuok**	**5.75**	**325**	*e*P	**Pn**	**00 51 32.4**	**+2.0**
JRY	**Ryogami san**	**5.87**	**336**	*e*P	**Pn**	**00 51 32.8**	**+0.7**
JRY				*e*S	**Sn**	**00 52 39.0**	**+0.1**
JKN2	**Miekihoku**	**5.91**	**308**	*e*P	**Pn**	**00 51 34.7**	**+2.2**
JHO	**Hitachi**	**6.02**	**350**	P	**Pn**	**00 51 33.5**	**-0.5**
JHO				*e*S	**Sn**	**00 52 39.1**	**-3.3**
JAG	**Ashikaga**	**6.08**	**341**	*e*P	**Pn**	**00 51 34.8**	**0.0**
JAG				*e*S	**Sn**	**00 52 43.2

MDJ			pmax	pmax		
	comp=N,17nm,0.9s					
MDJ			pmax	pmax		
	comp=N,250nm,6.6s					
MDJ			LR	LR		
	comp=N,730nm,17.2s					
MDJ			LR	LR		
	comp=N,1μm,17.2s					
MDJ			LR	LR		
	comp=N,2μm,15.1s					
MDJ	**Mudanjiang**	**16.94 329**	Pn	**Pn**	**00 54 01.3**	**-0.6**
GUMO	**Guam**	**17.23 170**	P	**Pn**	**00 54 04.4**	**-1.3**
	comp=N,35nm,0.3s,baz=0.7,slow=7.0,SNR=1.8					
GUMO			LR	LR	00 59 07.7	
	comp=N,523nm,19.1s,baz=356,slow=32					
SSE	**Sheshan**	**17.75 277**	P	**Pn**	**00 54 08.8**	**-3.3**
SSE			S	**Sn**	**00 57 28.3**	**-1.1**
SSE			pmax	pmax		
	comp=N,8.0nm,0.7s					
SSE			pmax	pmax		
	comp=N,89nm,5.7s					
SSE			LR	LR		
	comp=N,270nm,15.2s					
SSE			LR	LR		
	comp=N,610nm,17.7s					
YOJ	**Yonaguni jima**	**17.81 254**	P	**P**	**00 54 14.3**	**+0.8**
YOJ	**Yonaguni jima**	**17.81 254**	P	**Pn**	**00 54 12.7**	**-0.2**
YOJ			IAmb	IAmb	00 54 16.6	
	comp=Z,111nm,1.2s					
YOJ	**Yonaguni jima**	**17.81 254**	P	**Pn**	**00 54 12.7**	**-0.2**
YOJ			pmax	pmax		
	comp=Z,111nm,1.2s					
SNY	**Shenyang**	**18.43 312**	⇓P	**Pn**	**00 54 20.5**	**+0.1**
SNY			S	**Sn**	**00 57 45.5**	**-0.3**
SNY			pmax	pmax		
	comp=Z,13nm,0.6s					
SNY			LR	LR		
	comp=Z,920nm,14.2s					
SNY			LR	LR		
	comp=Z,820nm,15.6s					
SNY			LR	LR		
	comp=Z,1μm,16.8s					
CN2	**Changchun**	**18.46 320**	P	**P**	**00 54 19.5**	**-1.0**
CN2			pmax	pmax		
	comp=Z,30nm,1.0s					
CN2			pmax	pmax		
	comp=Z,200nm,8.0s					
DL2	**Dalian**	**18.51 302**	P	**P**	**00 54 19.5**	**-1.6**
DL2			S	**Sn**	**00 57 46.3**	**-1.4**
DL2			pmax	pmax		
	comp=Z,35nm,1.0s					
DL2			pmax	pmax		
	comp=Z,370nm,4.7s					
DL2			LR	LR		
	comp=Z,1μm,18.0s					
DL2			LR	LR		
	comp=Z,2μm,16.9s					
DL2			LR	LR		
	comp=Z,2μm,15.7s					
BNX	**BinXian**	**18.80 327**	⇓P	**P**	**00 54 22.5**	**-1.8**
BNX			pmax	pmax		
	comp=Z,29nm,1.0s					
BNX			pmax	pmax		
	comp=Z,410nm,7.4s					
BNX			LR	LR		
	comp=Z,1μm,15.4s					
BNX			LR	LR		
	comp=Z,510nm,18.7s					
BNX			LR	LR		
	comp=Z,1μm,16.6s					
TATO	**Taipei**	**18.88 257**	P	**Pn**	**00 54 25.7**	**-0.2**
YHNB	**Yeheng**	**19.09 257**	P	**P**	**00 54 27.6**	**-0.1**
YHNB	**Yeheng**	**19.09 257**	P	**P**	**00 54 26.4**	**-1.4**
YHNB			IAmb	IAmb	00 54 28.9	
	comp=Z,96nm,1.1s					
NACB	**Ninganchiao**	**19.11 255**	P	**P**	**00 54 27.8**	**0.0**
NACB	**Ninganchiao**	**19.11 255**	P	**P**	**00 54 25.6**	**-2.1**
NACB			IAmb	IAmb	00 54 28.8	
	comp=Z,45nm,0.7s					
YULB	**Yu-li**	**19.68 253**	P	**P**	**00 54 33.7**	**-0.4**
YULB	**Yu-li**	**19.68 253**	P	**P**	**00 54 34.0**	**-0.1**
YULB			IAmb	IAmb	00 54 35.2	
	comp=Z,58nm,0.8s					
NJ2	**Nanjing**	**19.69 280**	*e*P	**P**	**00 54 34.5**	**+0.4**
NJ2			pmax	pmax		
	comp=Z,24nm,0.7s					
SSLB	**Suanglung**	**19.80 255**	P	**P**	**00 54 35.9**	**+0.5**
SSLB	**Suanglung**	**19.80 255**	P	**P**	**00 54 35.2**	**-0.2**
KLR	**Kul'dur**	**20.05 340**	P	**P**	**00 54 37.7**	**-0.3**
	comp=Z,4.8nm,0.5s,baz=147,slow=10,SNR=22					
KLR			LR	LR	01 02 51.6	
	comp=Z,787nm,18.1s,baz=154,slow=38					
	comp=Z,4.8nm,0.5s					
KLR	**Kul'dur**	**20.05 340**	*e*P	**P**	**00 54 35.9**	**-2.1**
KLR			pmax	pmax		
	comp=Z,31nm,1.4s					
TWGBT	**Beinan**	**20.12 252**	P	**P**	**00 54 39.3**	**+0.4**
TYV	**Tymovskoe**	**20.18 1**	*e*P	Pn	00 54 41.7	+0.5
TYV			*e*S	Sn	00 58 31.1	+3.4
TYV			pmax	pmax		
	comp=Z,24nm,0.8s					
TYV			pmax	pmax		
	comp=Z,200nm,3.4s					
TYV			smax	smax		
	comp=N,100nm,6.5s					
TYV			smax	smax		
	comp=E,300nm,6.5s					
TPUB	**Ta-pu**	**20.27 254**	P	**P**	**00 54 41.0**	**+0.4**
TPUB	**Ta-pu**	**20.27 254**	P	**P**	**00 54 40.1**	**-0.5**
TPUB			IAmb	IAmb	00 54 52.6	
	comp=Z,89nm,1.1s					
GRNR	**Gornyy**	**20.48 350**	⇑*i*P	Pn	00 54 43.9	-0.9
GRNR			pmax	pmax		
	comp=N,10.0nm,1.0s					
GRNR			pmax	pmax		
	comp=Z,20nm,1.2s					
GRNR			MLR	MLR		
	comp=N,360nm,17.0s					
GRNR			MLR	MLR		
	comp=E,420nm,17.0s					
GRNR			MLR	MLR		
	comp=Z,410nm,13.0s					
TIA	**Tai'an**	**21.34 292**	P	**P**	**00 54 51.3**	**-0.7**
TIA			S	**S**	**00 58 48.3**	**+0.1**
TIA			pmax	pmax		
	comp=Z,21nm,0.8s					
TIA			pmax	pmax		
	comp=Z,92nm,3.7s					
TIA			LR	LR		
	comp=Z,1μm,14.3s					
TIA			LR	LR		
	comp=Z,1μm,16.5s					
TIA			LR	LR		
	comp=Z,2μm,14.4s					
HEH	**HeiHe**	**22.36 335**	*e*P	**P**	**00 55 01.5**	**-1.3**
HEH			pP	**pP**	**00 55 05.3**	**-1.6**
HEH			S	**S**	**00 59 07.0**	**-0.6**
HEH			pmax	pmax		
	comp=Z,31nm,1.3s					
HEH			pmax	pmax		
	comp=Z,350nm,4.4s					
HEH			LR	LR		
	comp=Z,570nm,20.4s					
HEH			LR	LR		
	comp=Z,730nm,20.4s					
HEH			LR	LR		
	comp=Z,900nm,16.5s					
BJT	**Baijiatuau**	**22.87 301**	P	**P**	**00 55 06.7**	**-1.6**
BJT	**Baijiatuau**	**22.87 301**	P	**P**	**00 55 06.2**	**-2.1**
BJT			IAmb	IAmb	00 55 07.6	
	comp=Z,43nm,1.3s					
BJT	**Baijiatuau**	**22.87 301**	P	**P**	**00 55 06.2**	**-2.1**
BJT			pmax	pmax		
	comp=Z,43nm,1.3s					
BJI	**Beijing**	**22.87 301**	P	**P**	**00 55 06.0**	**-2.3**
BJI			S	**S**	**00 59 09.5**	**-7.5**
BJI			pmax	pmax		
	comp=Z,14nm,1.0s					
BJI			pmax	pmax		
	comp=Z,120nm,7.0s					
BJI			LR	LR		
	comp=Z,250nm,14.5s					
BJI			LR	LR		
	comp=Z,690nm,17.1s					
BJI			LR	LR		
	comp=Z,930nm,17.2s					
HNS	**HongShan**	**23.43 294**	⇓P	**P**	**00 55 11.0**	**-3.0**
HNS			pmax	pmax		
	comp=Z,19nm,0.9s					
HNS			LR	LR		
	comp=Z,700nm,17.5s					
HNS			LR	LR		
	comp=Z,2μm,17.3s					
HNS			LR	LR		
	comp=Z,2μm,16.7s					
WHN	**Wuhan**	**23.66 277**	P	**P**	**00 55 14.3**	**-2.0**
WHN			S	**S**	**00 59 26.5**	**-3.6**
WHN			LR	LR		
	comp=Z,2μm,15.8s					
WHN			LR	LR		
	comp=Z,5μm,18.4s					
WHN			LR	LR		
	comp=Z,5μm,16.2s					
XLT	**XiLinHaoTe**	**24.27 310**	*e*P	**P**	**00 55 21.3**	**-0.8**
XLT			pP	pP	00 55 26.0	-0.5
XLT			sP	sP	00 55 29.5	+1.8
XLT			PP	**PnPn**	**00 55 57.0**	**+4.9**
XLT			S	**S**	**00 59 32.5**	**-7.5**
XLT			sS	pS	00 59 41.5	-3.0
XLT			pmax	pmax		
	comp=Z,20nm,1.0s					
XLT			pmax	pmax		
	comp=Z,240nm,7.1s					
XLT			LR	LR		
	comp=Z,92nm,17.9s					
XLT			LR	LR		
	comp=Z,250nm,20.4s					
XLT			LR	LR		
	comp=Z,600nm,14.5s					
HIA	**Hailar**	**24.99 324**	P	**P**	**00 55 28.2**	**-0.2**
HIA	**Hailar**	**24.99 324**	P	**P**	**00 55 28.3**	**-0.2**
HIA			pmax	pmax		
	comp=Z,83nm,0.8s					
LYN	**LuoYang**	**25.02 287**	*e*P	**P**	**00 55 26.8**	**-2.0**
LYN			PP	**PnPn**	**00 56 06.8**	**+4.6**
LYN			S	**S**	**00 59 47.0**	**-4.9**
LYN			sS	pS	00 59 56.0	-0.9
LYN			SS	**SnSn**	**01 00 49.5**	**+8.5**
LYN			pmax	pmax		
	comp=Z,36nm,0.9s					
LYN			pmax	pmax		
	comp=Z,180nm,4.7s					
LYN			LR	LR		
	comp=Z,790nm,19.2s					
LYN			LR	LR		
	comp=Z,870nm,21.3s					
LYN			LR	LR		
	comp=Z,1μm,17.9s					
H11N2	**WAKE ISLAND Hy**	**25.08 110**	T	T	01 21 51.4	
	baz=305,slow=74,SNR=9.3					
H11N1	**WAKE ISLAND Hy**	**25.09 110**	T	T	01 21 40.3	
	baz=305,slow=74,SNR=9.8					
H11N3	**WAKE ISLAND Hy**	**25.10 110**	T	T	01 21 41.8	
	baz=305,slow=74,SNR=8.8					
TIY	**Taiyuan**	**25.26 294**	*e*P	**P**	**00 55 30.0**	**-1.1**
TIY			PP	**PnPn**	**00 56 10.3**	**+4.7**
TIY			pmax	pmax		
	comp=Z,56nm,0.9s					
TIY			pmax	pmax		
	comp=Z,160nm,7.5s					
TIY			LR	LR		
	comp=Z,480nm,13.7s					
TIY			LR	LR		
	comp=Z,1μm,17.4s					
TIY			LR	LR		
	comp=Z,1μm,18.2s					
CNSH	**ChangSha**	**25.29 272**	P	**P**	**00 55 30.3**	**-1.0**
CNSH			S	**S**	**00 59 54.0**	**-2.4**
CNSH			pmax	pmax		
	comp=Z,29nm,1.1s					
CNSH			LR	LR		
	comp=Z,490nm,15.6s					
CNSH			LR	LR		
	comp=Z,520nm,19.2s					
CNSH			LR	LR		
	comp=Z,580nm,18.2s					
ZEA	**Zeya**	**25.36 340**	*e*P	**P**	**00 55 32.0**	**+0.3**
ZEA			*e*S	**S**	**00 59 52.1**	**-4.9**
ZEA			pmax	pmax		
	comp=N,100nm,1.4s					
ZEA			pmax	pmax		
	comp=Z,200nm,1.3s					
ZEA			pmax	pmax		
	comp=N,80nm,1.0s					
ZEA			pmax	pmax		
	comp=E,20nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,120nm,1.1s					
ZEA			smax	smax		
	comp=N,200nm,14.6s					
ZEA			smax	smax		
	comp=E,200nm,12.1s					
ZEA			MLR	MLR		
	comp=E,200nm,11.0s					
ZEA			MLR	MLR		
	comp=N,100nm,17.0s					
ZEA			MLR	MLR		
	comp=Z,300nm,13.0s					
H11S3	**WAKE ISLAND Hy**	**25.56 113**	T	T	01 22 07.7	
	baz=304,slow=75,SNR=30					
H11S1	**WAKE ISLAND Hy**	**25.57 113**	T	T	01 22 09.5	
	baz=304,slow=75,SNR=35					
H11S2	**WAKE ISLAND Hy**	**25.58 113**	T	T	01 22 13.0	
	baz=304,slow=75,SNR=30					
HHC	**Hu-ho-hao-te**	**26.48 301**	*e*P	**P**	**00 55 41.0**	**-1.2**
HHC			S	**S**	**01 00 17.0**	**+1.7**
HHC			pmax	pmax		
	comp=Z,18nm,0.6s					
HHC			pmax	pmax		
	comp=Z,160nm,5.9s					
HHC			LR	LR		
	comp=Z,790nm,14.9s					
HHC			LR	LR		
	comp=Z,2μm,15.3s					
HHC			LR	LR		
	comp=Z,2μm,17.1s					
BTO	**Baotou**	**27.58 300**	⇓*i*P	**P**	**00 55 52.0**	**0.0**
BTO			pP	**pP**	**00 55 56.3**	**-0.1**
BTO			sP	**sP**	**00 55 58.8**	**+1.1**
BTO			PP	**PnPn**	**00 56 40.5**	**+3.2**
BTO			sS	**sS**	**01 00 38.8**	**+1.1**
BTO			SS	**SnSn**	**01 01 49.0**	**+5.3**
BTO			pmax	pmax		
	comp=Z,72nm,1.1s					
BTO			LR	LR		
	comp=Z,3μm,15.5s					
BTO			LR	LR		
	comp=Z,4μm,16.7s					
BTO			LR	LR		
	comp=Z,6μm,16.2s					
XAN	**Xi'an**	**27.96 286**	⇓P	**P**	**00 55 53.8**	**-1.6**
XAN			pP	pwP	00 56 04.0	-2.4
XAN			PP	**PnPn**	**00 56 43.5**	**+1.0**
XAN			S	**S**	**01 00 35.5**	**-3.1**
XAN			sS	pS	01 00 50.0	+5.9
XAN			pmax	pmax		
	comp=Z,65nm,1.1s					
XAN			pmax	pmax		
	comp=Z,190nm,5.5s					
XAN			LR	LR		
	comp=Z,660nm,13.9s					
XAN			LR	LR		
	comp=Z,900nm,14.6s					
XAN			LR	LR		
	comp=Z,960nm,15.5s					
DAV	**Davao City (W)**	**28.01 216**	LR	LR	01 09 05.7	
	comp=Z,343nm,18.0s,baz=23,slow=41					
MA2	**Magadan**	**29.52 9**	LR	LR	01 08 26.0	
	comp=Z,261nm,21.7s,baz=188,slow=37					
MA2	**Magadan**	**29.52 9**	*i*P	**P**	**00 56 10.2**	**+1.2**
MA2			pmax	pmax		
	comp=Z,23nm,1.2s					
CIT	**Chita**	**29.79 324**	*e*P	**P**	**00 56 09.7**	**-1.8**
CIT			*e*		00 56 14.8	
CIT			*e*		00 57 15.6	
GYA	**Guiyang**	**31.12 271**	P	**P**	**00 56 26.5**	**+2.9**
GYA			pmax	pmax		
	comp=Z,32nm,0.8s					
GYA			LR	LR		
	comp=Z,570nm,9.6s					
GYA			LR	LR		
	comp=Z,1μm,16.4s					
GYA			LR	LR		
	comp=Z,960nm,18.6s					
QIZ	**Qiongzhong**	**31.17 256**	P	**P**	**00 56 23.5**	**-0.5**
QIZ			S	**S**	**01 01 28.5**	**-0.6**
QIZ			pmax	pmax		
	comp=Z,140nm,7.6s					
QIZ			LR	LR		
	comp=Z,270nm,15.5s					
QIZ			LR	LR		
	comp=Z,380nm,17.4s					
QIZ			LR	LR		
	comp=Z,550nm,20.2s					
ULN	**Ulaanbaatar**	**31.61 313**	P	**P**	**00 56 28.4**	**+0.6**
ULN	**Ulaanbaatar**	**31.61 313**	P	**P**	**00 56 28.4**	**+0.6**
ULN			pmax	pmax		
	comp=Z,74nm,1.6s					
SONM	**Songino Array**	**32.02 312**	P	**P**	**00 56 31.1**	**-0.2**
SONM			IAmb	IAmb	00 56 36.1	
	comp=Z,13nm,0.9s					
SONM	**Songino Array**	**32.02 312**	P	**P**	**00 56 31.5**	**+0.3**
	comp=Z,13nm,0.8s,baz=121,slow=9.0,SNR=34					
SONM			PcP	**PcP**	**00 59 20.5**	**-0.3**
	comp=Z,1.6nm,1.0s,baz=132,slow=2.1,SNR=2.7					
SONM			LR	LR	01 10 05.3	
	comp=Z,700nm,18.8s,baz=112,slow=38					
	comp=Z,13nm,0.8s					
LZH	**Lanzhou**	**32.06 290**	*e*P	**P**	**00 56 30.5**	**-1.3**
LZH			sP	pwP	00 56 40.5	-2.3
LZH			S	**S**	**01 01 46.0**	**+2.9**
LZH			pmax	pmax		
	comp=Z,20nm,1.1s					
LZH			LR	LR		
	comp=Z,690nm,15.8s					
LZH			LR	LR		
	comp=Z,920nm,14.1s					
LZH			LR	LR		
	comp=Z,860nm,15.8s					
SHEM	**Shemya Is, Ala**	**32.21 37**	LR	LR	01 10 05.2	
	comp=Z,177nm,18.6s,baz=218,slow=37					
YAK	**Yakutsk**	**32.36 349**	*e*P	**P**	**00 56 33.4**	**-0.5**
YAK			*e**PP	**pP**	**00 56 38.8**	**+0.8**
YAK			*e*		00 57 40.8	
YAK			*e*		00 59 20.7	
YAK			*e*S	**S**	**01 01 44.8**	**-2.0**
YAK			*e*SS	**SnSn**	**01 03 46.2**	**+6.8**
YAK			pmax	pmax		
	comp=Z,74nm,1.4s					
YAK			pmax	pmax		
	comp=E,26nm,1.8s					
YAK			pmax	pmax		
	comp=N,33nm,1.3s					
YAK			pmax	pmax		
	comp=Z,9.0nm,0.6s					
YAK			pmax	pmax		
	comp=N,10.0nm,1.1s					
YAK			pmax	pmax		
	comp=E,6.0nm,0.8s					
YAK			smax	smax		
	comp=N,52nm,2.5s					
YAK			smax	smax		
	comp=E,57nm,3.3s					
YAK			MLR	MLR		
	comp=Z,329nm,15.0s					
YAK			MLR	MLR		
	comp=N,187nm,12.0s					
YAK			MLR	MLR		
	comp=E,182nm,16.0s					
CD2	**Chengdu**	**32.63 280**	P	**P**	**00 56 35.5**	**-1.2**
CD2			pmax	pmax		
	comp=E,20nm,0.4s					
CD2			LR	LR		
	comp=E,650nm,13.7s					
CD2			LR	LR		
	comp=E,960nm,16.6s					
CD2			LR	LR		
	comp=E,820nm,17.2s					
SEY	**Seymchan**	**32.98 9**	*i* P	**P**	**00 56 40.5**	**+1.2**
SEY			pmax	pmax		
	comp=Z,11nm,1.0s					
ZAK	**Zakamensk**	**34.80 316**	*e*P	**P**	**00 56 55.5**	**0.0**
ZAK			pmax	pmax		
	comp=Z,17nm,1.3s					
IRK	**Irkutsk**	**34.90 319**	*e*P	**P**	**00 56 55.7**	**-0.5**
IRK			pmax	pmax		
	comp=Z,73nm,2.5s					
GTA	**Gaotai**	**35.25 296**	P	**P**	**00 56 58.0**	**-1.5**
GTA			pP	pP	00 57 03.3	-0.7
GTA			pmax	pmax		
	comp=Z,15nm,1.1s					
GTA			LR	LR		
	comp=Z,580nm,16.3s					
GTA			LR	LR		
	comp=Z,1μm,17.5s					
GTA			LR	LR		
	comp=Z,1μm,17.9s					
PZH	**PanZhiHua**	**35.34 273**	P	**P**	**00 57 04.0**	**+3.6**
PZH			S	**S**	**01 02 32.0**	**-2.0**
PZH			pmax	pmax		
	comp=Z,20nm,1.1s					
PZH			pmax	pmax		
	comp=Z,130nm,7.6s					
PZH			LR	LR		
	comp=Z,350nm,17.7s					
PZH			LR	LR		
	comp=Z,360nm,18.2s					
PZH			LR	LR		
	comp=Z,380nm,20.4s					
TOLI2	**Tolitoli**	**35.55 218**	P	**P**	**00 57 01.3**	**-0.9**
MOY	**Mondy**	**36.59 317**	*e*P	**P**	**00 57 11.1**	**+0.3**
MOY			pmax	pmax		
	comp=Z,27nm,2.2s					
UBPT	**Khong Chiam**	**36.65 254**	P	**P**	**00 57 10.4**	**-1.2**
GOMU	**GeErMu**	**39.34 291**	P	**P**	**00 57 33.8**	**-0.8**
GOMU			pP	pP	00 57 37.3	-1.7
GOMU			sP	pwP	00 57 44.3	-1.2
GOMU			pmax	pmax		
	comp=Z,95nm,1.1s					
GOMU			LR	LR		
	comp=Z,610nm,14.1s					
GOMU			LR	LR		
	comp=Z,830nm,15.3s					
GOMU			LR	LR		
	comp=Z,1μm,14.7s					
PHRA	**Phrae**	**39.54 262**	P	**P**	**00 57 34.8**	**-1.1**
BILL	**Bilibino**	**40.05 14**	*i* P	**P**	**00 57 39.1**	**-0.5**
BILL			pmax	pmax		
	comp=Z,13nm,1.0s					
BILL			MLR	MLR		
	comp=Z,250nm,16.0s					
CHTO	**Chiang Mai**	**40.50 263**	P	**P**	**00 57 42.4**	**-1.6**
CHTO			IAmb	IAmb	00 57 52.0	
	comp=Z,40nm,1.9s					
CHTO	**Chiang Mai**	**40.50 263**	P	**P**	**00 57 42.4**	**-1.6**
CHTO			pmax	pmax		
	comp=Z,40nm,1.9s					
NAYO	**Nakonayok**	**40.59 256**	P	**P**	**00 57 43.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**40.65 263**	P	**P**	**00 57 43.3**	**-1.9**
	comp=Z,2.6nm,0.8s,baz=63,slow=6.0,SNR=9.8					
CMAR			PcP	**PcP**	**00 59 48.3**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=310,slow=0.3,SNR=8.2					
CMAR			LR	LR	01 15 03.2	
	comp=Z,585nm,20.1s,baz=60,slow=37					
	comp=Z,2.6nm,0.8s					
CMAR	**Chiang Mai Arr**	**40.65 263**	*e*P	**P**	**00 57 44.5**	**-0.7**
CMAR			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KAPI	**Kappang**	**41.31 215**	LR	LR	01 15 01.1	
	comp=Z,171nm,20.0s,baz=24,slow=36					
NIKH	**Nikolski High**	**41.91 43**	P	**P**	**00 57 56.1**	**+1.0**
	baz=258					
SPIA	**Saint Paul Isl**	**42.24 37**	P	**P**	**00 57 59.3**	**+1.6**
	baz=252					
P08K	**Saint George I**	**42.43 38**	P	**P**	**00 58 00.6**	**+1.4**
	baz=253					
UNV	**Unalaska Valle**	**43.47 42**	P	**P**	**00 58 08.9**	**+1.2**
	baz=259					
HNR	**Honiara**	**43.49 154**	LR	LR	01 13 55.7	
	comp=Z,5μm,21.0s,baz=336,slow=33					
EDFI	**Ende, Flores**	**43.72 210**	P	**P**	**00 58 09.0**	**-1.2**
	comp=Z,25nm,1.1s					
KDU	**Kakadu**	**44.05 193**	P	**P**	**00 58 09.6**	**-3.1**
GAMB	**Gambell**	**44.06 28**	P	**P**	**00 58 13.8**	**+1.4**
	baz=244					
WMQ	**Urumqi**	**44.33 303**	*e*P	**P**	**00 58 16.0**	**+1.1**
WMQ			pmax	pmax		
	comp=Z,22nm,1.3s					

WMQ LR LR
comp=Z,450nm,22.7s
WMQ LR LR
comp=Z,440nm,17.1s
WMQ LR LR
comp=Z,280nm,23.9s
COEN Coen 44.39 178 P P 00 58 16.2 +0.7
COEN IAmb IAmb 00 58 27.4
comp=Z,24nm,0.9s
COEN Coen 44.39 178 P P 00 58 16.0 +0.5
comp=Z,31nm,1.1s,SNR=7.1
MTN Manton Dam 44.48 195 P P 00 58 15.5 -0.7
MTN IAmb IAmb 00 58 28.0
comp=Z,24nm,0.8s
MTN Manton Dam 44.48 195 P P 00 58 14.9 -1.2
comp=Z,32nm,1.0s,SNR=6.6
M11K Mekoryuk 45.22 33 P P 00 58 23.0 +1.4
baz=253
FALS False Pass 45.42 42 P P 00 58 24.6 +1.2
baz=261
ZSN Zaisan 46.26 308 *eP* **P 00 58 29.7 -0.4**
ZSN Zaisan 46.26 308 *eP* **P 00 58 29.7 -0.4**
ZSN pmax pmax
comp=Z,9.0nm,1.1s
TNA Tin City 46.29 26 P P 00 58 31.4 +1.3
baz=246
S12K Black Hills 46.32 41 P P 00 58 31.7 +1.3
baz=261
K13K Kusilvak Mount 46.39 32 P P 00 58 31.8 +0.9
K13K IAmb IAmb 00 58 36.9
comp=Z,17nm,1.2s
K13K Kusilvak Mount 46.39 32 P P 00 58 31.9 +1.1
baz=253
M13K Dall Lake 46.59 34 P P 00 58 33.5 +1.1
baz=256
ZAA0 Zalesovo Array 46.65 317 P P 00 58 33.4 +0.4
ZALV Zalesovo Beam 46.65 317 P P 00 58 32.4 -0.6
comp=Z,2.9nm,0.4s,baz=95,slow=8.9,SNR=16
ZALV PcP **PcP 01 00 06.6 0.0**
comp=Z,7.3nm,0.9s,baz=92,slow=4.5,SNR=6.3
ZALV LR LR 01 18 52.9
comp=Z,662nm,18.4s,baz=92,slow=37
comp=Z,2.9nm,0.4s
ZALV Zalesovo Beam 46.65 317 *eP* **P 00 58 32.8 -0.2**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
F14K Arctic Creek 46.87 27 P P 00 58 36.0 +1.4
baz=248
ANM Nome 46.92 28 P P 00 58 36.4 +1.4
baz=250
J14K Nanvaranak Lak 47.12 31 P P 00 58 37.8 +1.3
baz=253
L14K Kuka Creek 47.14 33 P P 00 58 38.2 +1.5
baz=256
SDPT Sand Point 47.16 41 P P 00 58 38.5 +1.5
baz=263
N14K Kuskokwak Cree 47.29 35 P P 00 58 39.6 +1.7
baz=258
M14K Bethel 47.34 34 P P 00 58 38.1 -0.1
M14K IAmb IAmb 00 58 42.0
comp=Z,22nm,1.1s
M14K Bethel 47.34 34 P P 00 58 39.9 +1.7
baz=257
O14K Tigyukauivet M 47.36 36 P P 00 58 39.8 +1.3
baz=259
G15K Niukluk 47.61 28 P P 00 58 41.9 +1.6
baz=251
F15K North Star Dit 47.61 27 P P 00 58 41.0 +0.7
F15K IAmb IAmb 00 58 43.3
comp=Z,11nm,0.9s
F15K North Star Dit 47.61 27 P P 00 58 41.9 +1.6
baz=250
CHNA Chernabura Isl 47.62 42 P P 00 58 41.7 +1.2
baz=264
KNRA Kununurra 47.77 197 P P 00 58 42.2 +0.1
KNRA IAmb IAmb 00 58 43.3
comp=Z,12nm,1.0s
L15K Ungalak Mounta 47.78 33 P P 00 58 43.1 +1.4
baz=256
S14K Fog Glacier 47.80 40 P P 00 58 43.0 +0.9
baz=263
K15K Wolf Creek Mou 47.90 32 P P 00 58 44.0 +1.3
baz=256
M15K Kasigluk River 47.94 34 P P 00 58 44.1 +1.2
baz=258
MK31 Makanchi Array 48.04 307 P P 00 58 43.9 -0.1
MK31 IAmb IAmb 00 58 44.8
comp=Z,15nm,0.9s
MK31 Makanchi Array 48.04 307 P P 00 58 43.9 -0.1
MK31 pmax pmax
comp=Z,15nm,1.0s
MKAR Makanchi Array 48.04 307 P P 00 58 42.9 -1.1
MKAR Makanchi Array 48.04 307 P P 00 58 43.9 -0.1
comp=Z,7.1nm,0.4s,baz=88,slow=8.7,SNR=82
MKAR LR LR 01 19 53.1
comp=Z,425nm,18.9s,baz=98,slow=37
comp=Z,7.1nm,0.4s
O15K Ungalikthiuk R 48.07 36 P P 00 58 45.3 +1.3
baz=260
N15K Kwethluk River 48.12 35 P P 00 58 45.8 +1.4
baz=259
H16K Elim 48.23 29 P P 00 58 46.2 +1.0
baz=253
MAKZ Makanchi 48.25 307 P P 00 58 44.8 -0.8
MAKZ Makanchi 48.25 307 P P 00 58 44.8 -0.8
MAKZ pmax pmax
comp=Z,37nm,1.3s
C16K Lisburne Hills 48.31 23 P P 00 58 46.7 +1.0
baz=247
G16K Koyuk River 48.41 28 P P 00 58 47.7 +1.2
baz=252
CHGN Chignik 48.43 40 P P 00 58 47.9 +1.1
baz=264
J16K Anvik River 48.56 31 P P 00 58 48.3 +0.6
baz=256
I17K Unalakleet 48.67 30 P P 00 58 49.5 +0.9
baz=255
L16K Owhat River 48.72 33 P P 00 58 50.2 +1.2
baz=258
N16K Nishlik Lake 48.82 34 P P 00 58 51.1 +1.2
baz=260,SNR=8.4
M16K Timber Creek 48.83 34 P P 00 58 51.1 +1.3
baz=260
D17K Noatak River 48.89 25 P P 00 58 51.6 +1.5
baz=250,SNR=6.6
P16K Nushagak River 48.99 36 P P 00 58 52.3 +1.3
baz=262
O16K Kokwok River B 49.02 36 P P 00 58 51.9 +0.7
baz=262
RDOG Red Dog Mine 49.08 24 P P 00 58 53.2 +1.5
baz=250
G17K Kiwalik Mounta 49.12 28 P P 00 58 53.5 +1.5
baz=254,SNR=5.6
C17K DeLong Mountai 49.13 24 P P 00 58 53.7 +1.6
baz=249
E17K Hotham Inlet 49.14 26 P P 00 58 53.5 +1.4
baz=252
F17K Baldwin Pennin 49.16 26 P P 00 58 53.2 +0.9
F17K IAmb IAmb 00 58 54.9
comp=Z,10nm,0.8s
F17K Baldwin Pennin 49.16 26 P P 00 58 53.6 +1.4
baz=253,SNR=5.5
NRIK Noril'sk 49.23 338 P P 00 58 53.3 +0.5
comp=Z,31nm,1.1s,baz=125,slow=7.7,SNR=18
comp=Z,31nm,1.1s
NRIK Noril'sk 49.23 338 *eP* **P 00 58 52.7 -0.1**
NRIK pmax pmax
comp=Z,34nm,1.1s
J17K VABM Dome 49.26 31 P P 00 58 53.7 +0.6
J17K IAmb IAmb 00 58 56.5
comp=Z,20nm,0.9s
J17K VABM Dome 49.26 31 P P 00 58 54.6 +1.5
baz=257,SNR=11
H17K Granite Mounta 49.27 29 P P 00 58 53.7 +0.6
H17K Granite Mounta 49.27 29 P P 00 58 54.4 +1.2
baz=255
L17K Donlin 49.35 32 P P 00 58 55.1 +1.3
baz=259
K17K Iditarod 49.46 32 P P 00 58 55.9 +1.3
baz=259,SNR=9.5
O17K Koliganek Bris 49.54 36 P P 00 58 57.1 +1.8
baz=262
N17K Nushagak Hills 49.60 35 P P 00 58 57.5 +1.7
N17K IAmb IAmb 00 59 16.1
comp=Z,10nm,0.9s
N17K Nushagak Hills 49.60 35 P P 00 58 56.9 +1.1
baz=262

M17K Holitna River 49.62 33 P P 00 58 57.8 +2.0
M17K IAmb IAmb 00 58 59.3
comp=Z,19nm,0.8s
M17K Holitna River 49.62 33 P P 00 58 57.2 +1.4
baz=261,SNR=6.5
R17L Mt. Peulik Vol 49.68 38 P P 00 58 58.0 +1.6
baz=265
E18K Tukpahlearik C 49.70 25 P P 00 58 57.7 +1.3
E18K IAmb IAmb 00 59 27.9
comp=Z,17nm,1.5s
E18K Tukpahlearik C 49.70 25 P P 00 58 58.1 +1.7
baz=252
P17K Kvichak River 49.80 36 P P 00 58 58.5 +1.3
baz=263
F18K Selawik 49.82 26 P P 00 58 58.7 +1.5
baz=254
C18K Utukok River 49.88 24 P P 00 58 59.1 +1.2
baz=251
B18K Kokolik River 49.91 23 P P 00 58 59.4 +1.5
baz=250
CHIR Chirikof Islan 49.95 41 P P 00 58 59.3 +0.8
baz=267
H18K Honhosa River 49.96 28 P P 00 58 59.0 +0.6
H18K IAmb IAmb 00 59 00.7
comp=Z,10nm,0.9s
H18K Honhosa River 49.96 28 P P 00 58 59.2 +0.7
baz=257,SNR=7.4
Q17K Contact Creek 49.99 38 P P 00 58 58.5 -0.4
baz=265
G18K Tagagawik 50.02 27 P P 00 58 59.5 +0.6
G18K IAmb IAmb 00 59 01.2
comp=Z,11nm,0.9s
G18K Tagagawik 50.02 27 P P 00 58 59.5 +0.6
baz=256,SNR=11
L18K Granite Mounta 50.11 32 P P 00 59 00.6 +1.1
L18K IAmb IAmb 00 59 05.8
comp=Z,19nm,1.3s
L18K Granite Mounta 50.11 32 P P 00 59 00.4 +0.8
baz=261
N18K Kilae Creek 50.26 35 P P 00 59 01.6 +0.8
baz=263
J18K Innoko River 50.31 31 P P 00 59 01.8 +0.7
baz=260
KURK Kurchatov 50.32 312 P P 00 59 00.7 -0.7
KURK Kurchatov 50.32 312 *i* **P P 00 59 00.8 -0.6**
KURK pmax pmax
comp=Z,53nm,1.0s
KURBB Kurchatov Arra 50.38 312 P P 00 59 01.3 -0.5
comp=Z,24nm,0.9s,baz=89,slow=7.5,SNR=110
KURBB LR LR 01 21 14.9
comp=Z,807nm,18.1s,baz=176,slow=37
comp=Z,24nm,0.9s
M18K Stony River 50.40 33 P P 00 59 02.4 +0.6
baz=262
P18K Big Mountain, 50.44 36 P P 00 59 02.7 +0.5
baz=264
A19K Wainwright 50.45 22 P P 00 59 03.2 +1.3
baz=250
Q18K Katmai Hardscr 50.48 37 P P 00 59 03.2 +0.5
baz=265
GCSA Galena City Sc 50.49 29 P P 00 59 03.2 +0.8
baz=258
O18K Koktuh Hills 50.50 36 P P 00 59 03.6 +1.0
O18K Koktuh Hills 50.50 36 P P 00 59 02.9 +0.3
baz=264
C19K Lookout Ridge 50.57 23 P P 00 59 04.5 +1.4
C19K Lookout Ridge 50.57 23 P P 00 59 03.6 +0.5
baz=252
F19K Shaleruckik Mo 50.60 26 P P 00 59 03.3 +0.1
F19K Shaleruckik Mo 50.60 26 P P 00 59 03.8 +0.6
baz=256
CTAO Charters Tower 50.65 175 P P 00 59 04.5 +0.5
CTAO IAmb IAmb 00 59 19.4
comp=Z,15nm,0.9s
CTAO Charters Tower 50.65 175 P P 00 59 04.6 +0.5
CTAO pmax pmax
comp=Z,15nm,1.0s
UZB Uzynbulak 50.67 303 *eP* **P 00 59 03.5 -0.9**
baz=303
UZB Uzynbulak 50.67 303 *eP* **P 00 59 03.4 -0.9**
R18K Karluk 50.70 39 P P 00 59 04.3 +0.2
baz=266
G19K Purcell Mounta 50.70 27 P P 00 59 04.9 +0.9
G19K Purcell Mounta 50.70 27 P P 00 59 04.1 0.0
baz=257
SII Sitkinak Islan 50.79 40 P P 00 59 03.4 -1.4
baz=268
H19K Roundabout Mou 50.83 28 P P 00 59 05.8 +0.9
baz=258,SNR=8.6
WRAB Tennant Creek 50.83 189 *i* **P P 00 59 04.9 -0.6**
WRAB pmax pmax
comp=Z,24nm,0.9s
WRA Warramunga Arr 50.84 189 P P 00 59 04.6 -1.0
comp=Z,23nm,0.8s,baz=7.6,slow=7.8,SNR=109
WRA LR LR 01 18 43.1
comp=Z,156nm,21.1s,baz=5.5,slow=34
comp=Z,23nm,0.8s
KPKS Kokpek 50.87 303 *eP* **P 00 59 05.0 -0.8**
baz=303
KPKS Kokpek 50.87 303 *eP* **P 00 59 05.0 -0.8**
J19K Poorman 50.88 30 P P 00 59 05.7 +0.2
J19K Poorman 50.88 30 P P 00 59 06.0 +0.6
baz=260,SNR=11
D19K Kuna River 50.91 24 P P 00 59 05.6 0.0
baz=254
FITZ Fitzroy Crossi 50.94 200 P P 00 59 05.7 -0.5
FITZ Fitzroy Crossi 50.94 200 P P 00 59 05.5 -0.8
FITZ Fitzroy Crossi 50.94 200 P P 00 59 05.8 -0.5
comp=Z,271nm,1.4s,SNR=2.2
L19K White Mountain 50.95 33 P P 00 59 07.1 +1.1
baz=262
E19K Redstone River 50.96 26 P P 00 59 07.6 +1.7
E19K IAmb IAmb 00 59 08.8
comp=Z,14nm,0.9s
E19K Redstone River 50.96 26 P P 00 59 06.8 +0.9
baz=256,SNR=14
N19K Bonanza Creek 50.96 34 P P 00 59 07.0 +0.9
baz=264
QIS Mount Isa 50.98 183 P P 00 59 06.1 -0.5
comp=Z,25nm,1.2s,SNR=6.7
GSI Gunungsitoli 51.09 244 P P 00 59 07.3 -0.3
SATY Saty 51.13 303 *eP* **P 00 59 06.8 -1.0**
baz=303
SATY Saty 51.13 303 *eP* **P 00 59 06.7 -1.0**
M19K Big River Lodg 51.13 33 P P 00 59 08.2 +0.9
M19K Big River Lodg 51.13 33 P P 00 59 08.4 +1.1
baz=263
Q19K Cape Douglas, 51.21 37 P P 00 59 08.5 +0.5
baz=266
OHAK Old Harbor 51.31 39 P P 00 59 08.9 +0.2
baz=268
F20K Avaraart Lake 51.43 26 P P 00 59 09.8 +0.4
F20K Avaraart Lake 51.43 26 P P 00 59 10.2 +0.8
baz=258,SNR=7.3
L20K Farewell, AK 51.44 32 P P 00 59 10.7 +1.1
baz=263
H20K Anotleneega Mo 51.46 28 P P 00 59 10.9 +1.1
baz=260,SNR=10
K20K Telida 51.47 31 P P 00 59 10.8 +1.0
baz=262,SNR=18
P19K Oil Pt 51.48 36 P P 00 59 11.0 +1.0
baz=266
D20K Etivluk River 51.50 24 P P 00 59 11.1 +1.1
baz=256,SNR=7.1
I20K Naaghedeneel 51.51 29 P P 00 59 11.8 +1.7
baz=261
E20K Nigu River 51.54 25 P P 00 59 11.0 +0.7
baz=256,SNR=5.9
J20K Nowinta River 51.55 30 P P 00 59 12.0 +1.6
J20K IAmb IAmb 00 59 13.6
comp=Z,14nm,0.9s
J20K Nowinta River 51.55 30 P P 00 59 11.5 +1.0
baz=262,SNR=13
B20K Meade River 51.66 23 P P 00 59 12.5 +1.4
baz=254
KDAK Kodiak Island 51.71 38 P P 00 59 12.5 +0.8
baz=268
KDAK Kodiak Island 51.71 38 LR LR 01 19 59.6
comp=Z,313nm,21.1s,baz=268,slow=35
M20K Styx River 51.72 33 P P 00 59 12.4 +0.6
baz=264
TARG Taragay, Kyrgy 51.77 301 P P 00 59 11.9 -1.1
TARG IAmb IAmb 00 59 14.9
comp=Z,23nm,1.1s
TARG Taragay, Kyrgy 51.77 301 P P 00 59 11.9 -1.1
TARG pmax pmax
comp=Z,23nm,1.1s

O20K Slope Mountain 51.81 35 P P 00 59 12.9 +0.4
baz=266
Q20K Shuyak Island 51.85 37 P P 00 59 12.2 -0.5
baz=268
IMAR Indian Mountai 52.01 28 P P 00 59 14.8 +1.0
CHKK Chushkaly 52.04 304 *eP* **P 00 59 13.8 -0.7**
baz=304
CHKK Chushkaly 52.04 304 *eP* **P 00 59 13.7 -0.7**
MDOK Medeo 52.10 303 *eP* **P 00 59 14.3 -0.8**
baz=303
MDOK Medeo 52.10 303 *eP* **P 00 59 14.2 -0.8**
N20K Mount Spurr 52.10 34 P P 00 59 14.6 -0.1
baz=266
AAA Alma-Ata 52.19 303 *eP* **P 00 59 15.0 -0.6**
comp=Z,7.4nm,0.5s,baz=303
AAA Alma-Ata 52.19 303 *eP* **P 00 59 15.0 -0.6**
AAA pmax pmax
comp=Z,7.0nm,0.5s
TNSS Tian-Shan 52.19 303 *eP* **P 00 59 15.1 -1.0**
baz=303
TNSS Tian-Shan 52.19 303 *eP* **P 00 59 15.0 -1.0**
G21K Allakaket 52.20 27 P P 00 59 16.9 +1.7
G21K Allakaket 52.20 27 P P 00 59 15.5 +0.3
baz=260,SNR=6.1
A21K Barrow 52.20 21 P P 00 59 15.8 +0.7
baz=254
C21K Knifeblade Rid 52.25 24 P P 00 59 15.8 +0.2
baz=257
PPLA Purkeypile 52.26 32 P P 00 59 16.7 +0.8
baz=264
HOM Homer 52.28 36 P P 00 59 16.1 +0.2
baz=267
CHUM Lake Minchumin 52.31 31 P P 00 59 15.7 -0.3
baz=263
F21K Alatna River 52.33 26 P P 00 59 17.1 +0.9
F21K Alatna River 52.33 26 P P 00 59 15.9 -0.3
baz=260
H21K Melozitna Rive 52.34 28 P P 00 59 17.7 +1.4
H21K Melozitna Rive 52.34 28 P P 00 59 17.1 +0.8
baz=262,SNR=17
E21K Killik River 52.38 25 P P 00 59 17.4 +0.8
E21K IAmb IAmb 00 59 19.1
comp=Z,13nm,0.9s
E21K Killik River 52.38 25 P P 00 59 17.3 +0.7
baz=258
B21K Ikpikpuk River 52.41 23 P P 00 59 17.7 +1.0
baz=257
SKT Skwentna 52.48 33 P P 00 59 18.1 +0.6
baz=266,SNR=6.3
BRSE Bradley Lake S 52.74 36 P P 00 59 20.2 +0.8
baz=268
SUA Susitna One 52.82 34 P P 00 59 20.0 0.0
baz=267
F22K John River 52.87 26 P P 00 59 21.3 +1.1
baz=261
KTH Kantishna Hill 52.90 31 P P 00 59 22.3 +1.8
BPAW Bear Paw Mtn. 52.92 30 P P 00 59 21.5 +0.9
BPAW Bear Paw Mtn. 52.92 30 P P 00 59 21.6 +0.9
baz=264,SNR=6.1
D22K Ayikyak River 52.93 24 P P 00 59 21.4 +0.8
D22K IAmb IAmb 00 59 23.2
comp=Z,12nm,0.9s
D22K Ayikyak River 52.93 24 P P 00 59 22.2 +1.6
baz=259
H22K Ishtalitna Cre 52.96 28 P P 00 59 22.4 +1.5
baz=263,SNR=9.1
B22K Teshekpuk Lake 52.97 23 P P 00 59 21.8 +1.0
baz=258
BOOM Boomskoye usch 53.01 302 P P 00 59 21.6 -0.2
BOOM IAmb IAmb 00 59 23.6
comp=Z,8.4nm,0.7s
BOOM Boomskoye usch 53.01 302 P P 00 59 21.6 -0.2
BOOM pmax pmax
comp=Z,8.0nm,0.7s
G22K Bettles 53.04 27 P P 00 59 21.8 +0.4
baz=262
CUT Chulitna 53.10 33 P P 00 59 22.9 +0.9
baz=266
MLY Manley 53.12 29 P P 00 59 23.0 +0.9
MLY Manley 53.12 29 P P 00 59 22.8 +0.7
baz=264,SNR=17
TKM2 Tokmak 2 53.19 303 P P 00 59 23.8 +0.6
SNR=12
RC01 Rabbit Creek A 53.29 34 P P 00 59 23.3 -0.1
baz=268
SEW Seward 53.40 36 P P 00 59 24.7 +0.6
baz=269
KSH Kashi 53.56 299 P P 00 59 29.0 +3.2
KSH pmax pmax
comp=Z,38nm,0.9s
KSH LR LR
comp=Z,370nm,14.4s
KSH LR LR
comp=Z,380nm,14.1s
KSH LR LR
comp=Z,550nm,16.8s
COLD Coldfoot 53.59 27 P P 00 59 26.5 +1.0
baz=263
G23K Bananza Creek 53.60 27 P P 00 59 26.5 +0.9
baz=264,SNR=12
PMR Palmer 53.60 34 P P 00 59 26.3 +0.7
baz=268
D23K Nanushuk River 53.66 24 P P 00 59 27.1 +1.1
baz=261,SNR=10
H23K Yukon River 53.70 28 P P 00 59 26.7 +0.4
baz=265,SNR=8.2
KBK Karagaybulak 53.70 303 P P 00 59 27.4 +0.4
SNR=8.1
I23K Minto, Yukon-K 53.71 29 P P 00 59 27.6 +1.2
I23K IAmb IAmb 00 59 31.4
comp=Z,15nm,1.2s
I23K Minto, Yukon-K 53.71 29 P P 00 59 27.0 +0.6
baz=265,SNR=12
SGDS Sogindy 53.79 304 *eP* **P 00 59 26.8 -0.7**
baz=304
SGDS Sogindy 53.79 304 *eP* **P 00 59 26.7 -0.7**
NEA2 Nenana 53.79 30 P P 00 59 27.6 +0.6
baz=266,SNR=24
MCK McKinley 53.79 31 P P 00 59 28.4 +1.3
baz=267
C23K Itkillik River 53.82 23 P P 00 59 27.9 +0.7
C23K IAmb IAmb 00 59 30.4
comp=Z,23nm,1.1s
C23K Itkillik River 53.82 23 P P 00 59 28.2 +1.1
baz=261,SNR=8.4
USP Ospenovka 53.92 303 P P 00 59 28.4 +0.1
SNR=8.1
E23K Chandalar 53.92 26 P P 00 59 29.2 +1.2
baz=263,SNR=8.3
KNK Knik Glacier 53.92 34 P P 00 59 29.2 +1.2
baz=269
WAT1 Susitna Watana 53.92 32 P P 00 59 29.1 +1.1
baz=268
BTLS Baital 53.94 306 *eP* **P 00 59 28.0 -0.4**
comp=Z,8.8nm,0.8s,baz=306
BTLS Baital 53.94 306 *eP* **P 00 59 27.9 -0.4**
BTLS pmax pmax
comp=Z,9.0nm,0.8s
PWL Port Wells 53.97 35 P P 00 59 29.3 +0.9
baz=269
SML Sawmill 53.99 33 P P 00 59 29.0 +0.4
SML IAmb IAmb 00 59 31.0
comp=Z,17nm,0.8s
SML Sawmill 53.99 33 P P 00 59 28.9 +0.4
baz=269,SNR=9.0
TOLK Toolik Lake Re 54.01 25 P P 00 59 29.7 +1.1
TOLK IAmb IAmb 00 59 32.0
comp=Z,9.8nm,0.9s
TOLK Toolik Lake Re 54.01 25 P P 00 59 29.6 +1.1
baz=262,SNR=9.2
AAK Ala-Archa 54.04 303 P P 00 59 29.4 0.0
AAK Ala-Archa 54.04 303 LR LR 01 23 23.8
comp=Z,394nm,19.8s,baz=80,slow=37
AAK Ala-Archa 54.04 303 *i* **P P 00 59 29.3 0.0**
AAK pmax pmax
comp=Z,7.0nm,1.0s
MDM Murphy Dome 54.18 30 P P 00 59 31.0 +1.2
MDM IAmb IAmb 00 59 35.3
comp=Z,17nm,1.0s
WRH Wood River Hil 54.21 30 P P 00 59 31.3 +1.3
M23K Glacier View 54.28 33 P P 00 59 31.5 +0.9
baz=269
WAT6 Susitna Watana 54.29 32 P P 00 59 31.2 +0.3
baz=269,SNR=14
COLA College 54.33 30 P P 00 59 32.4 +1.5
baz=267
CCB Clear Creek Bu 54.34 30 P P 00 59 31.6 +0.6

E24K	Your Creek	54.34	26	P	P	00 59 32.6	+1.6
E24K				IAmb	IAmb	00 59 36.5	
comp=Z,14nm,1.4s							
E24K	Your Creek	54.34	26	P	P	00 59 32.6	+1.6
baz=264							
D24K	Happy Valley	54.34	24	P	P	00 59 32.0	+1.1
D24K				IAmb	IAmb	00 59 33.5	
comp=Z,17nm,0.8s							
D24K	Happy Valley	54.34	24	P	P	00 59 32.1	+1.1
baz=263,SNR=8.3							
H24K	Noodor Dome	54.38	28	P	P	00 59 32.8	+1.5
H24K				IAmb	IAmb	00 59 36.7	
comp=Z,15nm,1.2s							
H24K	Noodor Dome	54.38	28	P	P	00 59 32.3	+1.0
baz=266,SNR=12							
P23K	Montague Islan	54.43	36	P	P	00 59 32.5	+0.8
baz=271							
C24K	Franklin Bluff	54.46	24	P	P	00 59 33.0	+1.2
baz=263							
DHY	Denali Highway	54.47	32	P	P	00 59 32.8	+0.7
DHY				IAmb	IAmb	00 59 59.2	
comp=Z,28nm,2.0s							
DHY	Denali Highway	54.47	32	P	P	00 59 31.4	-0.7
baz=269							
SCM	Sheep Creek Mo	54.47	33	P	P	00 59 32.4	+0.4
SCM	Sheep Creek Mo	54.47	33	P	P	00 59 32.9	+0.8
baz=270,SNR=8.7							
SCM	Sheep Creek Mo	54.47	33	P	P	00 59 32.4	+0.4
SCM				pmax	pmax		
comp=Z,26nm,0.9s							
F24K	Squaw Lake	54.51	26	P	P	00 59 33.6	+1.4
F24K	Squaw Lake	54.51	26	P	P	00 59 32.0	-0.2
baz=265,SNR=5.3							
POKR	Poker Plat Res	54.52	29	P	P	00 59 33.1	+0.7
POKR				IAmb	IAmb	00 59 35.7	
comp=Z,10.0nm,0.8s							
POKR	Poker Plat Res	54.52	29	P	P	00 59 32.7	+0.4
baz=267,SNR=5.3							
EKS2	Erkin-Say	54.55	303	P	P	00 59 33.3	+0.2
SNR=5.3							
AS31	Alice Springs	54.56	189	P	P	00 59 31.9	-1.2
ASAR	Alice Springs	54.57	189	P	P	00 59 32.4	-0.7
ASAR	Alice Springs	54.57	189	P	P	00 59 31.6	-1.5
comp=Z,13nm,1.0s,baz=5.7,slow=5.1,SNR=42							
ASAR				LR	LR	01 22 05.1	
comp=Z,173nm,20.9s,baz=340,slow=35							
comp=Z,13nm,1.0s							
ASAR	Alice Springs	54.57	189	P	P	00 59 32.4	-0.7
ASPA	Alice Springs	54.57	189	P	P	00 59 32.3	-0.8
comp=Z,3.3nm,0.8s,SNR=4.8							
GLI	Glacier Island	54.58	35	P	P	00 59 32.2	-0.5
baz=270							
G24K	Hadweenzic Riv	54.61	27	P	P	00 59 34.6	+1.7
G24K				IAmb	IAmb	01 00 04.0	
comp=Z,11nm,1.1s							
G24K	Hadweenzic Riv	54.61	27	P	P	00 59 34.0	+1.1
baz=266							
HDA	Harding Lake	54.70	30	P	P	00 59 33.8	+0.2
HDA				IAmb	IAmb	00 59 34.6	
comp=Z,7.5nm,0.8s							
HDA	Harding Lake	54.70	30	P	P	00 59 34.2	+0.6
baz=268,SNR=7.1							
AML	Almayashu	54.72	302	P	P	00 59 35.2	+0.6
SNR=26							
IL31		54.74	30	P	P	00 59 33.7	-0.2
IL31				IAmb	IAmb	00 59 36.0	
comp=Z,16nm,1.2s							
ILAR	Eielson Array	54.74	30	P	P	00 59 33.8	-0.1
comp=Z,6.7nm,0.9s,baz=264,slow=6.1,SNR=32							
comp=Z,6.7nm,0.9s							
Q23K	Middleton Isla	54.98	36	P	P	00 59 36.3	+0.7
baz=272							
M24K	Tolsona, Glenn	55.01	33	P	P	00 59 36.5	+0.5
baz=270							
KLU	Klutina	55.14	34	P	P	00 59 37.9	+0.9
KLU				IAmb	IAmb	00 59 59.0	
comp=Z,24nm,1.4s							
KLU	Klutina	55.14	34	P	P	00 59 37.2	+0.3
baz=271							
G25K	Bearman Lake	55.16	27	P	P	00 59 37.3	+0.5
baz=267							
K24K	Donnelly Dome	55.20	31	P	P	00 59 37.5	+0.3
baz=270							
D25K	Kavik River	55.23	24	P	P	00 59 38.5	+1.1
D25K	Kavik River	55.23	24	P	P	00 59 38.2	+0.8
baz=265,SNR=11							
EYAK	Cordova Ski Ar	55.24	35	P	P	00 59 38.2	+0.6
baz=272							
H25L	Birch Creek	55.24	28	P	P	00 59 38.4	+0.9
baz=268							
BVAR	Borovoye Array	55.25	316	P	P	00 59 38.0	+0.2
comp=Z,9.6nm,0.8s,baz=90,slow=8.9,SNR=26							
BVAR				LR	LR	01 24 11.6	
comp=Z,592nm,18.5s,baz=83,slow=37							
comp=Z,9.6nm,0.8s							
BVAR	Borovoye Array	55.25	316	P	P	00 59 38.0	+0.2
BRVK	Borovoye	55.31	316	*i* P	P	00 59 37.9	-0.3
BRVK				pmax	pmax		
comp=Z,17nm,1.1s							
PAX	Paxson	55.33	32	P	P	00 59 39.1	+0.8
baz=270,SNR=6.5							
PRP	Porcupine Dome	55.34	29	P	P	00 59 39.1	+0.7
PRP	Porcupine Dome	55.34	29	P	P	00 59 38.8	+0.5
baz=268							
F25K	Christian Rive	55.38	26	P	P	00 59 39.3	+0.8
baz=267,SNR=14							
J25K	Salcha River,	55.39	30	P	P	00 59 38.9	+0.3
J25K	Salcha River,	55.39	30	P	P	00 59 39.0	+0.3
baz=269							
HARP	HAARP	55.48	33	P	P	00 59 39.6	+0.3
baz=271							
N25K	Chitina, Valde	55.77	34	P	P	00 59 41.1	-0.4
baz=272							
BMAR	Burnt Mountain	55.78	27	P	P	00 59 43.2	+1.8
BMRM	Bremner River	55.79	34	P	P	00 59 41.8	+0.2
baz=272							
C26K	Camden Bay	55.79	24	P	P	00 59 41.8	+0.5
baz=266							
KAIM	Kayak Island	55.93	36	P	P	00 59 42.8	+0.3
baz=273							
F26K	Sheenjek River	55.95	26	P	P	00 59 43.3	+0.7
baz=268,SNR=9.1							
SCRK	Sand Creek	55.99	31	P	P	00 59 43.5	+0.4
SCRK				IAmb	IAmb	00 59 48.0	
comp=Z,14nm,1.2s							
SCRK	Sand Creek	55.99	31	P	P	00 59 43.7	+0.7
baz=271,SNR=15							
PSAC1	Pilbara Seismi	56.06	205	P	P	00 59 43.3	-0.6
comp=Z,44nm,0.9s,SNR=3.7							
G26K	Porcupine Rive	56.08	27	P	P	00 59 43.9	+0.4
baz=269,SNR=5.2							
PSA00	Pilbara Seismi	56.09	205	P	P	00 59 43.6	-0.4
PSA00	Pilbara Seismi	56.09	205	P	P	00 59 43.0	-1.1
PSA00	Pilbara Seismi	56.09	205	P	P	00 59 43.3	-0.7
comp=Z,30nm,1.1s,SNR=2.3							
J26L	Joseph Creek	56.17	30	P	P	00 59 44.1	-0.2
J26L	Joseph Creek	56.17	30	P	P	00 59 45.0	+0.8
baz=271,SNR=11							
C27K	Jago River	56.19	24	P	P	00 59 45.1	+0.8
baz=267,SNR=12							
L26K	Log Cabin Wild	56.30	32	P	P	00 59 45.9	+0.8
baz=272,SNR=6.0							
I26K	Coal Creek Min	56.33	29	P	P	00 59 45.8	+0.5
baz=271							
EIDS	Eidsvold	56.42	170	P	P	00 59 46.8	+0.4
comp=Z,11nm,1.1s,SNR=2.3							
BGLC	Bering Glacier	56.49	35	P	P	00 59 48.3	+1.8
baz=274							
M26K	Nabesna, AK	56.49	33	P	P	00 59 46.0	-0.5
baz=273							
CRQM	Cirque	56.52	35	P	P	00 59 47.7	+0.7
CRQM				IAmb	IAmb	01 00 07.2	
comp=Z,16nm,1.0s							
MCARA	McCarthy VSAT	56.53	34	P	P	00 59 48.1	+1.3
MCARA				IAmb	IAmb	01 00 18.5	
comp=Z,16nm,0.9s							
MCARA	McCarthy VSAT	56.53	34	P	P	00 59 47.1	+0.2
baz=274							
CRQE	Cirque	56.54	35	P	P	00 59 47.0	0.0
baz=274							
DRK	Karamyk	56.71	300	P	P	00 59 48.6	-0.2
DRK	Karamyk	56.71	300	P	P	00 59 48.6	-0.2
DRK				pmax	pmax		
comp=Z,60nm,1.4s							
KK31	Karatay Array	56.81	304	P	P	00 59 48.6	-0.5
KK31	Karatay Array	56.81	304	P	P	00 59 48.6	-0.5
KK31				pmax	pmax		
comp=Z,87nm,1.7s							
KKAR	Karatay Array	56.81	304	P	P	00 59 48.9	-0.2
KKAR	Karatay Array	56.81	304	P	P	00 59 49.2	+0.1
KKAR	Karatay Array	56.81	304	P	P	00 59 48.9	-0.2
KKAR				pmax	pmax		
comp=Z,87nm,1.7s							
K27K	Chicken	56.83	31	P	P	00 59 49.8	+0.9
K27K				IAmb	IAmb	00 59 54.6	
comp=Z,11nm,1.0s							
K27K	Chicken	56.83	31	P	P	00 59 49.0	+0.1
baz=273,SNR=15							
WRKA	Warakurna	56.90	195	P	P	00 59 49.0	-0.8
WRKA	Warakurna	56.90	195	P	P	00 59 48.8	-1.0
comp=Z,16nm,1.9s,SNR=2.3							
G27K	Doyon Strip	56.92	27	P	P	00 59 50.9	+1.4
G27K	Doyon Strip	56.92	27	P	P	00 59 49.9	+0.3
baz=271							
E27K	Coleen River	56.92	26	P	P	00 59 50.9	+1.4
E27K	Coleen River	56.92	26	P	P	00 59 50.0	+0.5
baz=270,SNR=9.4							
I27K	Kandik River	56.97	29	P	P	00 59 50.4	+0.5
baz=272							
QLP	Quilpie	56.98	177	P	P	00 59 49.9	-0.4
comp=Z,52nm,1.0s,SNR=6.5							
H27K	Steamboat Moun	56.98	28	P	P	00 59 50.1	+0.1
baz=272,SNR=18							
L27K	Beaver Creek,	56.99	32	P	P	00 59 50.8	+0.7
L27K				IAmb	IAmb	00 59 53.5	
comp=Z,14nm,1.0s							
L27K	Beaver Creek,	56.99	32	P	P	00 59 50.5	+0.4
baz=274,SNR=19							
BCAR	Beaver Creek A	57.01	32	P	P	00 59 51.2	+1.0
M27K	Edge Creek, AK	57.01	33	P	P	00 59 51.2	+0.8
M27K				IAmb	IAmb	01 00 08.9	
comp=Z,9.8nm,1.0s							
M27K	Edge Creek, AK	57.01	33	P	P	00 59 50.7	+0.3
baz=274,SNR=7.5							
MESA	MESA	57.15	35	P	P	00 59 52.7	+1.3
MESA	MESA	57.15	35	P	P	00 59 51.8	+0.4
baz=275							
D27M	Malcolm River	57.15	24	P	P	00 59 52.4	+1.2
D27M				IAmb	IAmb	00 59 54.4	
comp=Z,9.5nm,0.9s							
D27M	Malcolm River	57.15	24	P	P	00 59 52.4	+1.2
baz=270,SNR=7.4							
EGAK	Eagle	57.19	30	P	P	00 59 51.8	+0.3
EGAK	Eagle	57.19	30	P	P	00 59 51.7	+0.3
baz=273							
IUG	Iuzhnay	57.37	303	*e*P	P	00 59 52.6	-0.7
comp=Z,9.8nm,0.7s,baz=303							
IUG	Iuzhnay	57.37	303	*e*P	P	00 59 52.5	-0.7
IUG				pmax	pmax		
comp=Z,10.0nm,0.7s							
CTG	Chitna Glacier	57.38	34	P	P	00 59 53.4	+0.4
baz=275							
DZM	Mont Dzumac	57.51	153	P	P	00 59 55.4	+1.2
DZM	Mont Dzumac	57.51	153	*e*P	P	00 59 55.4	+1.2
comp=Z,107nm,1.4s							
DZM	Mont Dzumac	57.51	153	*e*LR	LR	01 16 35.7	
comp=Z,234nm,20.6s							
DZM	Mont Dzumac	57.51	153	LR	LR	01 24 11.9	
comp=Z,239nm,19.6s,baz=48,slow=36							
F28M	Old Crow	57.59	26	P	P	00 59 55.6	+1.4
F28M				IAmb	IAmb	01 00 26.0	
comp=Z,12nm,1.1s							
F28M	Old Crow	57.59	26	P	P	00 59 55.2	+0.9
baz=272,SNR=7.8							
CHM	Chimkent	57.64	303	*e*P	P	00 59 54.5	-0.6
comp=Z,6.3nm,0.7s,baz=303							
CHM	Chimkent	57.64	303	*e*P	P	00 59 54.4	-0.6
CHM				pmax	pmax		
comp=Z,6.0nm,0.7s							
I28M	Miner Creek	57.67	29	P	P	00 59 56.1	+1.2
I28M				IAmb	IAmb	00 59 59.9	
comp=Z,12nm,1.1s							
I28M	Miner Creek	57.67	29	P	P	00 59 56.1	+1.2
baz=274,SNR=13							
E28M	Babbage River	57.68	25	P	P	00 59 54.6	-0.3
E28M				IAmb	IAmb	00 59 58.3	
comp=Z,15nm,0.9s							
E28M	Babbage River	57.68	25	P	P	00 59 55.8	+1.0
baz=272,SNR=14							
YUK3	Moose Creek	57.73	33	P	P	00 59 56.7	+1.2
baz=276							
GAR	Garm	57.95	299	P	P	00 59 57.1	-0.3
O28M	Mount Upton	57.96	34	P	P	00 59 58.0	+0.7
baz=276							
PINM	Pinnacle	58.00	35	P	P	00 59 57.6	+0.3
baz=277							
DAWY	Dawson	58.01	31	P	P	00 59 57.6	+0.4
baz=275							
YUK8	Steele Glacier	58.11	34	P	P	00 59 58.0	-0.2
baz=276							
H29M	Whitestone	58.26	28	P	P	01 00 00.3	+1.4
H29M				IAmb	IAmb	01 00 29.9	
comp=Z,13nm,1.2s							
H29M	Whitestone	58.26	28	P	P	00 59 58.7	-0.2
baz=274							
E29M	Blow River	58.29	25	P	P	01 00 00.8	+1.7
E29M				IAmb	IAmb	01 00 02.4	
comp=Z,11nm,0.9s							
E29M	Blow River	58.29	25	P	P	00 59 59.8	+0.6
baz=274,SNR=12							
G29M	Pine Creek	58.35	27	P	P	01 00 00.7	+1.1
G29M	Pine Creek	58.35	27	P	P	01 00 00.1	+0.6
baz=274,SNR=18							
I29M	Ogilvie Camp,	58.36	29	P	P	01 00 00.6	+1.0
I29M				IAmb	IAmb	01 00 02.0	
comp=Z,9.0nm,0.9s							
I29M	Ogilvie Camp,	58.36	29	P	P	01 00 00.7	+1.1
baz=275,SNR=8.6							
J29N	Klondike Camp	58.48	30	P	P	01 00 01.6	+1.0
baz=276							
PNL	Peninsula	58.48	36	P	P	01 00 01.1	+0.5
baz=278							
M29M	Somme Creek	58.59	32	P	P	01 00 02.7	+1.3
M29M				IAmb	IAmb	01 00 04.8	
comp=Z,16nm,0.8s							
M29M	Somme Creek	58.59	32	P	P	01 00 02.2	+0.8
baz=277,SNR=26							
YUK4	Talbot Arm	58.64	34	P	P	01 00 02.3	+0.4
baz=277							
L29M	L29M	58.66	32	P	P	01 00 03.8	+1.9
L29M	L29M	58.66	32	P	P	01 00 03.7	+1.9
baz=277,SNR=40							
O29M	Mount Kennedy	58.81	35	P	P	01 00 02.9	-0.1
baz=278							
YUK6	Outpost Mounta	58.83	34	P	P	01 00 03.0	-0.2
baz=278							
K29M	Barlow Dome	58.85	31	P	P	01 00 04.8	+1.5
K29M				IAmb	IAmb	01 00 06.0	
comp=Z,11nm,0.9s							
K29M	Barlow Dome	58.85	31	P	P	01 00 03.3	+0.1
baz=277,SNR=16							
CHGR	Chuyangaron	58.91	299	P	P	01 00 03.9	-0.1
CHGR	Chuyangaron	58.91	299	P	P	01 00 03.9	-0.1
EPYK	Eagle Plains	58.91	28	P	P	01 00 04.5	+0.9
EPYK	Eagle Plains	58.91	28	P	P	01 00 03.9	+0.4
baz=276,SNR=15							
SIMJ	Simiganj	59.02	299	P	P	01 00 04.7	-0.2
G30M	tAoh Zraii Nji	59.05	27	P	P	01 00 05.0	+0.5
G30M	tAoh Zraii Nji	59.05	27	P	P	01 00 04.8	+0.4
baz=276,SNR=12							
F30M	Barrier River	59.15	26	P	P	01 00 05.5	+0.4
baz=276,SNR=9.6							
I30M	Mount Dempster	59.18	29	P	P	01 00 06.6	+1.1
I30M				IAmb	IAmb	01 00 11.3	
comp=Z,10nm,1.1s							
I30M	Mount Dempster	59.18	29	P	P	01 00 05.3	-0.2
baz=277,SNR=9.9							
J30M	Hart River	59.28	30	P	P	01 00 06.0	-0.2
baz=277,SNR=6.1							
P29M	Windy Craggy	59.32	36	P	P	01 00 07.3	+0.8
baz=279							
M30M	Minto, Yukon	59.34	32	P	P	01 00 07.8	+1.2
M30M				IAmb	IAmb	01 00 09.8	
comp=Z,7.9nm,0.9s							
M30M	Minto, Yukon	59.34	32	P	P	01 00 06.7	+0.2
baz=278							
N30M	Aishikik Lake	59.36	33	P	P	01 00 06.7	0.0
baz=278							
P30M	Million Dollar	59.63	35	P	P	01 00 08.1	-0.5
baz=279							
G31M	Satah River	59.82	27	P	P	01 00 10.3	+0.6
G31M				IAmb	IAmb	01 00 14.2	
comp=Z,13nm,1.1s							
G31M	Satah River	59.82	27	P	P	01 00 10.0	+0.3
baz=278,SNR=5.4							
INK	Inuvik	59.91	25	P	P	01 00 11.1	+0.7
INK	Inuvik	59.91	25	P	P	01 00 11.0	+0.7
baz=278,SNR=6.1							
INK	Inuvik	59.91	25	P	P	01 00 11.1	+0.7
INK				pmax	pmax		
comp=Z,7.0nm,1.0s							
F31M	Tsiigehtchic	59.95	26	P	P	01 00 11.0	+0.5
baz=278							
O30N	Mendenhall	59.95	34	P	P	01 00 11.9	+1.2
baz=280							
N31M	Braeburn, Yuko	59.98	33	P	P	01 00 12.6	+1.7
baz=280							
PLBC	Pleasant Camp	60.04	36	P	P	01 00 12.8	+1.4
baz=280							
SVE	Sverdlovsk	60.24	321	*de*P	P	01 00 13.3	+0.5
SVE				pmax	pmax		
comp=Z,53nm,1.1s							
SVE				MLR	MLR		
comp=Z,375nm,20.0s							
S31K	Pelican	60.39	37	P	P	01 00 14.3	+0.6
baz=281							
M31M	Drury Creek, Y	60.51	32	P	P	01 00 15.3	+0.8
M31M				IAmb	IAmb	01 01 01.1	
comp=Z,8.2nm,1.0s							
M31M	Drury Creek, Y	60.51	32	P	P	01 00 15.2	+0.7
baz=280							
WHY	Whitehorse	60.55	34	P	P	01 00 16.1	+1.1
WHY				IAmb	IAmb	01 00 39.5	
comp=Z,16nm,1.5s							
WHY	Whitehorse	60.55	34	P	P	01 00 15.6	+0.6
baz=281							
LCRK	Leigh Creek	60.88	184	P	P	01 00 17.6	+0.3
FARO	Faro, Yukon	60.98	32	P	P	01 00 18.9	+1.2
baz=281							
MULG	Mulgathing	61.07	188	P	P	01 00 17.9	-0.7
P32M	Atlin	61.34	35	P	P	01 00 21.6	+1.3
baz=282							
S32K	Killisnoo	61.36	38	P	P	01 00 20.7	+0.4
baz=283							
ARU	Arti	61.45	321	P	P	01 00 21.1	+0.1
ARU	Arti	61.45	321	LR	LR	01 29 41.0	
comp=Z,352nm,18.1s,baz=78,slow=39							
ARU	Arti	61.45	321	*i* P	P	01 00 20.8	-0.2
ARU				pmax	pmax		
comp=Z,48nm,1.0s							
ARU	Arti	61.45	321	P	P	01 00 20.1	-0.9
comp=Z,57nm,1.4s,comp=Z,539nm							
PALK	Pallekele	61.56	261	LR	LR	01 27 32.6	
comp=Z,167nm,19.9s,baz=179,slow=37							
P33M	Teslin, Yukon	61.65	34	P	P	01 00 22.6	+0.2
baz=283							
MMPY	Sheldon Lake,	61.85	32	P	P	01 00 23.8	+0.1
baz=283							
CMSA	Cobar Meteorol	61.98	176	P	P	01 00 25.1	+0.4
comp=Z,14nm,1.1s,SNR=2.5							
Q32M	Nakina River	62.21	36	P	P	01 00 25.7	-0.6
baz=284							
STKA	Stephens Creek	62.21	180	LR	LR	01 27 51.7	
comp=Z,190nm,20.0s,baz=6.7,slow=36							
ABKAR	Akbulak array	62.43	313	P	P	01 00 27.2	-0.5
ABKAR	Akbulak array	62.43	313	P	P	01 00 27.3	-0.4
FORT	Forrest	62.51	193	P	P	01 00 27.5	-0.8
FORT	Forrest	62.51	193	P	P	01 00 26.8	-1.5
FORT	Forrest	62.51	193	P	P	01 00 27.1	-1.2
comp=Z,45nm,0.8s,SNR=2.7							
CRAG	Craig	62.62	40	P	P	01 00 29.0	+0.2
baz=285							
R33M	Jennings River	62.75	35	P	P	01 00 30.2	+0.3
baz=285							
S34M	Telegraph Cree	63.05	37	P	P	01 00 33.2	+1.5
baz=285							
C36M	Paulatuk	63.07	23	P	P	01 00 32.5	+0.9
baz=286							
AKTO	Aktyubinsk	63.30	315	LR	LR	01 29 09.5	
comp=Z,434nm,18.7s,baz=99,slow=37							
BBOO	Buckleboo	63.38	185	P	P	01 00 33.6	-0.5
comp=Z,21nm,1.1s,SNR=2.3							
DLBC	Dease Lake	63.47	36	P	P	01 00 35.3	+0.7
baz=286							
DLBC	Dease Lake	63.47	36	LR	LR	01 29 12.9	
comp=Z,84nm,18.9s,baz=284,slow=37							
TGTN	Hyland Airport	63.48	32	P	P	01 00 35.5	+0.9
baz=286							
V35K	Ketchikan	63.49	40	P	P	01 00 35.6	+1.0
baz=286							
WTLY	Watson Lake, Y	63.62	34	P	P	01 00 36.8	+1.3
baz=286							
T35M	Bob Quinn	63.76	38	P	P	01 00 36.9	+0.4
baz=286							
HTT	Hallett	63.82	183	P	P	01 00 37.0	0.0
comp=Z,14nm,1.0s,SNR=2.2							
WRGLY	Wrigley	65.12	30	P	P	01 00 45.5	+0.4
baz=289							
HRA	Herat	65.56	297	P	P	01 00 48.9	+0.1
KIRV	Kirov	65.59	325	LR	LR	01 31 46.3	
comp=Z,336nm,18.5s,baz=69,slow=38							
KIRV	Kirov	65.59	325	*i* P	P	01 00 48.4	+0.1
TOAD	Toad River Com	65.74	35	P	P	01 00 50.6	+1.2
baz=289							
KOTAN	Kotaneelee Air	65.88	33	P	P	01 00 50.4	+0.3
baz=290							
CAN	Canberra	65.99	174	P	P	01 00 51.8	+0.7
CAN				IAmb	IAmb	01 01 05.2	
comp=Z,15nm,1.1s							
CAN	Canberra	65.99	174	P	P	01 00 51.8	+0.7
CAN				pmax	pmax		
comp=Z,15nm,1.1s							
BBB	Bella Bella	66.44	42	LR	LR	01 34 02.3	
comp=Z,33nm,18.0s,baz=302,slow=40							
KBS	Kingsbay	66.97	351	*i* P	P	01 00 56.1	-0.7
NOR	Nord	67.41	357	*i* P	P	01 00 57.5	-2.1
NOR				IAmb	IAmb	01 01 03.1	
comp=Z,21nm,1.3s							
LVZ	Lovozero	68.07	337	*i* P	P	01 01 04.1	+0.1
LVZ				pmax	pmax		
comp=Z,16nm,1.1s							
ADZR	Andozero	68.53	333	*e*P	P	01 01 06.6	-0.3
ADZR				pmax	pmax		
comp=Z,47nm,1.2s							
APA	Apatity	68.65	337	⇓*i*P	P	01 01 06.4	-1.2
APA				pmax	pmax		
comp=Z,2.0nm,0.8s							
APA				MLR	MLR		
comp=Z,300nm,16.0s							
BELG	Belogornoye	68.77	319	P	P	01 01 08.7	+0.2
comp=Z,32nm,0.7s,baz=59,slow=0.9,SNR=18							
BELG				LR	LR	01 32 58.2	
comp=Z,400nm,18.2s,baz=67,slow=37							
comp=Z,32nm,0.7s							
BELG	Belogornoye	68.77	319	*i* P	P	01 01 08.3	-0.2
BELG				pmax	pmax		
comp=Z,8.0nm,1.0s							
YKA	Yellowknife Ar	69.15	29	P	P	01 01 11.1	+0.3
comp=Z,3.9nm,1.0s,baz=294,slow=6.7,SNR=6.3							
comp=Z,3.9nm,1.0s							
YKA	Yellowknife Ar	69.15	29	*e*P	P	01 01 14.4	+3.6
YKA				pmax	pmax		
comp=Z,3.0nm,1.0s							
ARCES	ARCESS Array B	70.08	340	P	P	01 01 17.0	+0.6
ARCES	ARCESS Array B	70.08	340	P	P	01 01 17.1	+0.6
comp=Z,14nm,0.8s,baz=57,slow=8.8,SNR=24							
ARCES				LR	LR	01 36 42.0	
comp=Z,212nm,19.4s,baz=66,slow=40							
comp=Z,14nm,0.8s							
ARCES	ARCESS Array B	70.08	340	P	P	01 01 17.0	+0.6
ARCES				pmax	pmax		
comp=Z,19nm,1.0s							

MOS pmax pmax
comp=Z,50nm,1.3s
MOS pmax pmax
comp=Z,100nm,1.4s
MOS MLR MLR
comp=Z,400nm,16.0s
MOS MLR MLR
comp=N,200nm,17.0s
MOS MLR MLR
comp=E,400nm,17.0s
MAK Makhachkala 72.74 310 *e*P P 01 01 27.3 -5.6
MAK *e*PPP PPP 01 05 54.0
MAK *e*S **S 01 10 50.4 -7.1**
MAK pmax pmax
comp=Z,285nm,1.4s
VALR Valaam 72.77 332 *i* P **P 01 01 33.5 +0.8**
VALR pmax pmax
comp=Z,41nm,1.0s
LTY Liberty 72.82 45 P **P 01 01 34.1 +0.7**
LTY IAmb IAmb 01 01 39.1
comp=Z,19nm,1.7s
K02D Willamette Mer 72.94 50 P **P 01 01 34.9 +0.6**
K02D IAmb IAmb 01 01 38.1
comp=Z,18nm,1.1s
H04A Detroit Lake 73.02 48 P **P 01 01 34.8 +0.1**
H04A IAmb IAmb 01 01 37.3
comp=Z,11nm,0.8s
B08A Colville Reser 73.13 44 P **P 01 01 35.9 +0.7**
I04A Tendick Farm, 73.28 49 P **P 01 01 37.0 +0.8**
I04A IAmb IAmb 01 01 59.8
comp=Z,25nm,1.4s
MXC Moxie City 73.36 45 P **P 01 01 37.3 +0.7**
MXC IAmb IAmb 01 01 39.5
comp=Z,9.0nm,0.9s
OBN Obninsk 73.44 325 P **P 01 01 37.0 +0.1**
comp=Z,14nm,0.7s,baz=41,slow=9.3,SNR=12
OBN LR LR 01 36 10.5
comp=Z,364nm,19.5s,baz=6.0,slow=38
comp=Z,14nm,0.7s
OBN Obninsk 73.44 325 ⇑*i*P **P 01 01 36.9 +0.1**
OBN *e* 01 04 20.3
OBN *e*S **SKiKP 01 11 11.6 +5.0**
OBN pmax pmax
comp=Z,45nm,1.3s
OBN MLR MLR
comp=Z,384nm,15.0s
OBN Obninsk 73.44 325 P **P 01 01 37.0 +0.1**
comp=Z,30nm,1.1s,comp=Z,449nm
LPSR Galich'ya Gora 73.46 322 *e*P **P 01 01 36.1 -0.9**
LPSR pmax pmax
comp=Z,30nm,1.2s
G06A Carlson Farm, 73.76 47 P **P 01 01 39.9 +0.9**
VORR Voronezh 73.76 321 *e*P **P 01 01 39.0 +0.2**
VORR pmax pmax
comp=Z,31nm,0.4s
SHME Shamm 73.76 291 *i* P **P 01 01 39.6 +0.4**
SNR=5.2
PUL Pulkovo 73.87 331 *i* P **P 01 01 40.2 +0.9**
PUL pmax pmax
comp=Z,30nm,0.9s
MDH Madha 73.97 290 P **P 01 01 39.9 -0.7**
D08A Wollman Farm, 73.98 45 P **P 01 01 41.6 +1.4**
VSR Storozhevoye 74.00 320 *e*P **P 01 01 39.2 -1.0**
VSR pmax pmax
comp=Z,30nm,1.2s
YBH Yreka Blue Hor 74.00 51 P **P 01 01 41.8 +1.3**
YBH IAmb IAmb 01 01 55.3
comp=Z,31nm,1.9s
YBH Yreka Blue Hor 74.00 51 LR LR 01 28 04.5
comp=Z,188nm,21.8s,baz=305,slow=31
YBH Yreka Blue Hor 74.00 51 P **P 01 01 41.8 +1.3**
YBH pmax pmax
comp=Z,31nm,1.9s
C09A Chrisman Ranch 74.02 44 P **P 01 01 41.4 +1.0**
VORD Divnogorie 74.06 320 *e*P **P 01 01 39.7 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.7s
MSFE Esma-Masafi 74.06 290 P **P 01 01 41.8 +0.7**
UOSS Minazif 74.21 290 P **P 01 01 42.1 +0.2**
UOSS IAmb IAmb 01 01 43.2
comp=Z,26nm,1.2s
UOSS Minazif 74.21 290 *i* P **P 01 01 42.1 +0.2**
SNR=5.9
PINE Pine Mountain 74.22 48 P **P 01 01 43.2 +1.3**
PINE IAmb IAmb 01 01 45.2
comp=Z,19nm,1.1s
KULLO Kullorsuaq 74.26 5 *i* P **P 01 01 40.6 -0.7**
KULLO IAmb IAmb 01 01 42.6
comp=Z,27nm,1.0s
SOHO SOHO 74.30 289 *i* P **P 01 01 42.5 0.0**
SNR=17
HATD Hatta, Dubai 74.32 290 *i* P **P 01 01 42.6 +0.1**
SNR=11
ASHO Ashiyiah 74.44 290 *i* P **P 01 01 43.2 -0.1**
SNR=9.0
NEW Newport 74.48 43 P **P 01 01 43.9 +0.8**
NEW IAmb IAmb 01 01 46.2
comp=Z,10nm,0.9s
NEW Newport 74.48 43 P **P 01 01 43.5 +0.4**
baz=299,SNR=9.1
NEW Newport 74.48 43 P **P 01 01 43.9 +0.8**
NEW pmax pmax
comp=Z,10.0nm,1.0s
DBG Daneborg 74.61 355 *i* P **P 01 01 40.9 -2.5**
DBG IAmb IAmb 01 01 44.2
comp=Z,18nm,1.2s
FIA1 FINESS Array S 74.62 333 P **P 01 01 43.9 +0.2**
FINES FINESS Array B 74.63 333 P **P 01 01 43.6 0.0**
FINES FINESS Array B 74.63 333 P **P 01 01 43.8 +0.1**
comp=Z,12nm,0.7s,baz=54,slow=6.2,SNR=53
FINES LR LR 01 37 08.3
comp=Z,186nm,18.1s,baz=43,slow=38
comp=Z,12nm,0.7s
FINES FINESS Array B 74.63 333 *e*P **P 01 01 44.1 +0.5**
FINES pmax pmax
comp=Z,12nm,0.7s
NAZ Nazwa, Dubai 74.63 290 P **P 01 01 44.7 +0.3**
KEF Keuruu 74.65 334 *e*P **P 01 01 43.8 0.0**
GOF Gofitskoye 74.66 313 *ce*P **P 01 01 44.3 +0.1**
E09A Wood Farm, Sta 74.70 45 P **P 01 01 45.3 +0.9**
G08A Pilot Rock 74.78 46 P **P 01 01 46.0 +1.0**
FAQ Al Faqa, Dubai 74.79 290 *i* P **P 01 01 45.3 0.0**
SNR=7.7
VAF Ylistaro 74.91 336 *e*P **P 01 01 45.8 +0.6**
ASUD Al Ashush, Dub 75.06 290 P **P 01 01 47.3 +0.5**
KBZ Khabaz 75.38 312 P **P 01 01 49.0 +0.6**
comp=Z,16nm,0.8s,baz=83,slow=2.8,SNR=38
KBZ LR LR 01 35 55.3
comp=Z,182nm,20.3s,baz=80,slow=36
comp=Z,16nm,0.8s
KBZ Khabaz 75.38 312 *e*P **P 01 01 48.9 +0.6**
KBZ pmax pmax
comp=Z,18nm,0.9s
KVAR Kislovodsk Arr 75.40 313 P **P 01 01 50.5 +1.8**
comp=Z,6.2nm,1.0s,baz=112,slow=19,SNR=5.0
comp=Z,6.2nm,1.0s
KIV Kislovodsk 75.41 313 P **P 01 01 48.5 -0.2**
KIV Kislovodsk 75.41 313 *i* P **P 01 01 49.4 +0.8**
SNR=9.7
KIV Kislovodsk 75.41 313 ⇑P **P 01 01 49.3 +0.6**
KIV Kislovodsk 75.41 313 *e*P **P 01 01 49.0 +0.3**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,202nm,18.0s
KIV Kislovodsk 75.41 313 P **P 01 01 49.2 +0.6**
comp=Z,22nm,1.0s,comp=Z,281nm
F10A Beach Ranch, E 75.52 45 P **P 01 01 50.0 +0.7**
ORV Oroville 75.82 52 P **P 01 01 51.5 +0.5**
ORV Oroville 75.82 52 P **P 01 01 51.5 +0.5**
ORV pmax pmax
comp=Z,6.0nm,1.0s
ARBE Arbavere 75.87 332 *e*P **P 01 01 51.7 +0.9**
GNI Garni 75.87 308 LR LR 01 37 28.5
comp=Z,139nm,21.1s,baz=70,slow=38
GNI Garni 75.87 308 *i* P **P 01 01 51.9 +0.5**
GNI pmax pmax
comp=Z,23nm,1.2s
GNI Garni 75.87 308 P **P 01 01 51.9 +0.5**
comp=Z,26nm,1.4s
ERBR Yeremizino-Bor 75.93 315 *e*P **P 01 01 52.5 +1.0**
ERBR pmax pmax
comp=Z,23nm,0.5s
ERBR MLR MLR
comp=Z,368nm,16.0s
J08A Circle Bar Ran 76.01 48 P **P 01 01 52.8 +0.7**
J08A IAmb IAmb 01 01 57.2
comp=Z,10nm,1.0s
BMO Blue Mountains 76.02 46 P **P 01 01 52.6 +0.4**
BMO IAmb IAmb 01 01 57.8
comp=Z,36nm,1.9s
BMO Blue Mountains 76.02 46 P **P 01 01 52.6 +0.4**
BMO pmax pmax
comp=Z,36nm,2.0s
MEF Metsahovi 76.03 333 *e*P **P 01 01 51.5 -0.2**
URZ Urewera 76.06 152 LR LR 01 32 09.3
comp=Z,99nm,21.7s,baz=30,slow=33
VSU Vasula 76.14 331 *i* P **P 01 01 52.6 +0.2**
VSU pmax pmax
comp=Z,46nm,1.1s
RAR Rarotonga 76.17 125 LR LR 01 30 42.6
comp=Z,124nm,19.0s,baz=302,slow=32
LABN Labinsk 76.31 314 *e*P **P 01 01 54.9 +1.2**
LABN pmax pmax
comp=Z,20nm,1.0s
LABN MLR MLR
comp=E,418nm,15.0s
LABN MLR MLR
comp=Z,435nm,18.0s
LABN MLR MLR
comp=N,264nm,12.0s
RAF Rauma 76.53 334 *e*P **P 01 01 54.7 +0.2**
SUMG Summit 77.03 0 P **P 01 01 58.6 +0.9**
SUMG Summit 77.03 0 P **P 01 01 58.6 +0.9**
SUMG pmax pmax
comp=Z,23nm,1.0s
SUMG Summit 77.03 0 *i* P **P 01 01 58.3 +0.6**
SUMG IAmb IAmb 01 02 00.1
comp=Z,22nm,1.0s
MSO Missoula 77.06 43 P **P 01 01 58.5 +0.5**
MSO Missoula 77.06 43 P **P 01 01 57.8 -0.2**
baz=301,SNR=5.6
PAHR Pah Rah Range 77.18 51 P **P 01 01 59.6 +0.7**
MTSE Matsula 77.19 332 *e*P **P 01 01 59.2 +0.9**
MZR Muzera 77.31 289 *i* P **P 01 01 59.5 -0.2**
SNR=5.5
CMB Columbia Colle 77.31 53 P **P 01 02 00.2 +0.7**
CMB Columbia Colle 77.31 53 P **P 01 02 00.2 +0.7**
CMB pmax pmax
comp=Z,7.0nm,0.9s
VSLR Vesyoloye 77.33 313 *i* P **P 01 01 59.9 +0.5**
VSLR pmax pmax
comp=Z,38nm,0.9s
SOC Sochi 77.47 313 *e*P **P 01 01 59.8 -0.4**
SOC *e* 01 04 51.8
SOC *e*PPP PPP 01 06 40.3
SOC *e*S **S 01 11 52.0 +1.9**
SOC *e*SS **SS 01 16 49.5 +1.2**
SOC pmax pmax
comp=Z,15nm,0.7s
SOC MLR MLR
comp=Z,271nm,15.0s
OVMT Ovando 77.49 43 P **P 01 02 01.0 +0.5**
BPMT Black Pine Rid 77.56 43 P **P 01 02 01.2 +0.2**
YERR Yerington 77.63 52 P **P 01 02 00.2 -1.3**
YERR IAmb IAmb 01 03 06.0
comp=Z,16nm,1.0s
MFID Camas Ranch 77.66 47 P **P 01 02 02.2 +0.8**
MFID IAmb IAmb 01 02 06.5
comp=Z,11nm,1.1s
AAL Aland 77.74 334 *e*P **P 01 02 01.3 -0.1**
LYMT Lyon Mountain 77.95 42 P **P 01 02 03.7 +0.5**
MNK Minsk 77.99 327 *i* P **P 01 02 03.3 +0.5**
comp=E,5.0nm,0.9s
MNK *i* P **P 01 02 03.3 +0.5**
comp=N,9.0nm,0.9s
MNK *i* P **P 01 02 03.3 +0.5**
comp=Z,19nm,0.8s,baz=54
MNK *i* PcP **PcP 01 02 12.8 +0.2**
MNK *i* PP **PP 01 04 59.2 +0.8**
MNK *i* PPP PPP 01 06 47.0
MNK *i* S **S 01 11 55.3 0.0**
MNK *i* SS **SS 01 16 46.4 -9.2**
MNK *i* LQ LQ 01 30 35.4
MNK *i* LR LR 01 36 13.8
MNK *i* LRM MLR 01 39 15.8
comp=E,103nm,18.1s
MNK *i* LRM MLR 01 39 28.2
comp=Z,285nm,16.8s
MNK *i* LRM MLR 01 40 07.4
comp=N,125nm,16.7s
MNK Minsk 77.99 327 *i* P **P 01 02 03.3 +0.5**
MNK *i* 01 02 12.7
MNK *i* 01 04 59.2
MNK *i* PPP PPP 01 06 47.0
MNK *i* S **S 01 11 55.3 0.0**
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=Z,19nm,0.9s
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK MLR MLR
comp=E,103nm,18.0s
MNK MLR MLR
comp=Z,285nm,17.0s
MNK MLR MLR
comp=N,125nm,17.0s
ANN Anapa 78.25 315 *e*P P 01 02 12.2 +7.7
ANN pmax pmax
comp=Z,43nm,1.3s
ANN MLR MLR
comp=Z,247nm,15.0s
BMN Battle Mountai 78.27 50 P **P 01 02 06.1 +1.1**
BMN Battle Mountai 78.27 50 P **P 01 02 06.1 +1.1**
BMN pmax pmax
comp=Z,5.0nm,1.0s
RYN Ryan 78.30 52 P **P 01 02 05.8 +0.7**
KVN Kaiserville 78.37 52 P **P 01 02 06.4 +0.8**
KVN Kaiserville 78.37 52 P **P 01 02 06.4 +0.8**
KVN pmax pmax
comp=Z,7.0nm,0.9s
SCO Scoresbysund 78.46 355 *i* P **P 01 02 04.4 -0.8**
SCO IAmb IAmb 01 02 19.9
comp=Z,17nm,1.0s
HLID Hailey 78.47 46 P **P 01 02 07.2 +1.2**
HLID Hailey 78.47 46 P **P 01 02 06.9 +0.9**
baz=302,SNR=7.5
GURO Guroymak-BITLI 78.48 308 P **P 01 02 06.9 +0.8**
GURO IAmb IAmb 01 02 08.1
comp=Z,15nm,1.0s
LHV Little Huntoon 78.50 52 P **P 01 02 07.3 +1.3**
LHV IAmb IAmb 01 02 13.1
comp=Z,12nm,1.1s
NVAR Mina Array Bea 78.55 52 P **P 01 02 06.9 +0.3**
NVAR Mina Array Bea 78.55 52 P **P 01 02 07.8 +1.2**
comp=Z,4.9nm,0.7s,baz=293,slow=5.6,SNR=27
NVAR LR LR 01 33 39.0
comp=Z,163nm,18.8s,baz=288,slow=33
comp=Z,4.9nm,0.7s
NV11 Mina Array Sit 78.64 52 P **P 01 02 07.7 +0.7**
NV11 IAmb IAmb 01 02 28.0
comp=Z,17nm,1.6s
EGMT Eagleton 78.83 40 P **P 01 02 08.8 +1.0**
EGMT IAmb IAmb 01 02 12.4
comp=Z,13nm,1.1s
EGMT Eagleton 78.83 40 P **P 01 02 07.7 0.0**
baz=304
UPP Uppsala 78.84 335 *e*P **P 01 02 07.3 -0.1**
BOZ Bozeman (W) 79.07 43 P **P 01 02 10.2 +0.9**
BOZ Bozeman (W) 79.07 43 P **P 01 02 09.8 +0.5**
baz=303
BOZ Bozeman (W) 79.07 43 P **P 01 02 10.2 +0.9**
BOZ pmax pmax
comp=Z,6.0nm,1.0s
PABE Paberze 79.15 329 P **P 01 02 09.4 +0.1**
PABE Paberze 79.15 329 *e*P **P 01 02 09.2 0.0**
PKM Mcpherson Peak 79.25 56 P **P 01 02 10.6 +0.1**
baz=300
VES Vestal, Richgr 79.30 55 P **P 01 02 11.6 +1.1**
baz=300
DSP Deep Springs 79.31 53 P **P 01 02 11.8 +1.3**
ELK Elko 79.41 49 P **P 01 02 12.5 +1.2**
ELK Elko 79.41 49 P **P 01 02 12.5 +1.2**
ELK pmax pmax
comp=Z,5.0nm,1.0s
TPH Tonopah 79.46 52 P **P 01 02 12.2 +0.6**
TPH Tonopah 79.46 52 P **P 01 02 12.2 +0.6**
TPH pmax pmax
comp=Z,64nm,1.6s
MZP Montezuma Peak 79.54 52 P **P 01 02 12.5 +0.4**
SBC Santa Barbara 79.55 56 P **P 01 02 11.8 0.0**
baz=300
AK03 Malin Array Si 79.56 323 P **P 01 02 11.1 -0.5**
AKASG Malin Array Be 79.58 323 P **P 01 02 11.5 -0.2**
comp=Z,2.6nm,0.4s,baz=51,slow=4.9,SNR=4.9
AKASG LR LR 01 39 53.4
comp=Z,491nm,19.6s,baz=49,slow=38
comp=Z,2.6nm,0.4s
AKASG Malin Array Be 79.58 323 *e*P **P 01 02 09.1 -2.6**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 79.58 323 P **P 01 02 11.1 -0.6**
AKBB IAmb IAmb 01 02 34.1
comp=Z,11nm,0.8s
AKBB Malin Array Si 79.58 323 *i* P **P 01 02 11.3 -0.4**
AKBB pmax pmax
comp=Z,12nm,0.9s
AKBB Malin Array Si 79.58 323 P **P 01 02 11.1 -0.6**
AK01 Malin Array Si 79.59 323 P **P 01 02 11.4 -0.3**
KIEV Kiev 79.59 323 P **P 01 02 11.1 -0.6**
KIEV IAmb IAmb 01 02 34.1
comp=Z,9.7nm,0.8s
KIEV Kiev 79.59 323 *i* P **P 01 02 11.4 -0.4**
SNR=6.7
KIEV Kiev 79.59 323 ⇑P **P 01 02 11.3 -0.4**
KIEV Kiev 79.59 323 P **P 01 02 11.1 -0.6**
KIEV pmax pmax
comp=Z,10.0nm,0.8s
KIEV Kiev 79.59 323 P **P 01 02 10.5 -1.2**
comp=Z,69nm,1.4s,comp=Z,1μm
AK04 Malin Array Si 79.59 323 P **P 01 02 11.5 -0.3**
AK09 Malin Array Si 79.60 323 P **P 01 02 11.1 -0.7**
AK08 Malin Array Si 79.60 323 P **P 01 02 11.4 -0.4**
AK02 Malin Array Si 79.61 323 P **P 01 02 11.0 -0.9**
AK11 Malin Array Si 79.62 323 P **P 01 02 11.3 -0.6**
AK22 Malin Array Si 79.62 323 P **P 01 02 11.2 -0.7**
AK05 Malin Array Si 79.64 323 P **P 01 02 11.3 -0.7**
AK18 Malin Array Si 79.65 323 P **P 01 02 11.7 -0.4**
CWC Cottonwood Cre 79.70 54 P **P 01 02 12.9 +0.1**
baz=301
YHL Hebgen Lake 79.74 44 P **P 01 02 14.3 +1.1**
GMN Gold Mountain 79.83 53 P **P 01 02 14.3 +0.7**
ARVC Arvin 79.83 55 P **P 01 02 14.5 +1.1**
baz=300
NC405 NORSAR Array S 79.98 338 P **P 01 02 13.8 +0.1**
YHH Holmes Hill 79.98 44 P **P 01 02 15.8 +1.4**
NC303 NORSAR Array S 80.00 338 P **P 01 02 13.4 -0.4**
NC303 IAmb IAmb 01 02 15.2
comp=Z,16nm,1.1s
HFS Hagfors 80.04 336 P **P 01 02 13.6 -0.4**
comp=Z,9.2nm,0.9s,baz=60,slow=5.8,SNR=16
HFS LR LR 01 40 13.0
comp=Z,184nm,18.9s,baz=40,slow=38
comp=Z,9.2nm,0.9s
MI30 MI30,Zelenitsa 80.08 324 P **P 01 02 12.5 -1.9**
VIKU Vikbolandet 80.12 334 *e*P **P 01 02 14.9 +0.4**
SIM Simferopol' 80.16 317 *e*P **P 01 02 15.3 +0.3**
SIM pmax pmax
comp=Z,12nm,0.8s
NB201 NORSAR Array S 80.16 338 P **P 01 02 14.2 -0.5**
NB201 IAmb IAmb 01 02 16.0
comp=Z,18nm,1.0s
NC204 NORSAR Array S 80.16 338 P **P 01 02 14.8 0.0**
NB2 NORSAR Subarra 80.19 338 P **P 01 02 14.7 -0.2**
comp=Z,23nm,1.1s,baz=42,slow=5.3
NB2 NORSAR Subarra 80.19 338 P **P 01 02 14.7 -0.2**
baz=42,slow=5.3
NOA NORSAR Array B 80.19 338 P **P 01 02 14.8 -0.1**
comp=Z,8.6nm,0.9s,baz=41,slow=5.3,SNR=33
NOA LR LR 01 41 00.1
comp=Z,242nm,20.1s,baz=40,slow=38
comp=Z,8.6nm,0.9s
MI28 Mi28,Pidlybu 80.23 324 P **P 01 02 14.2 -1.0**
YPP Pitchstone Pla 80.29 44 P **P 01 02 16.6 +0.5**
MPMC Manual Prospec 80.30 54 P **P 01 02 16.7 +0.5**
baz=301
NBO00 NORSAR Array S 80.34 338 P **P 01 02 15.6 -0.1**
NBO00 IAmb IAmb 01 02 16.4
comp=Z,12nm,1.0s
H17A Grant Village 80.36 44 P **P 01 02 18.0 +1.6**
H17A IAmb IAmb 01 02 21.1
comp=Z,18nm,1.0s
H17A Grant Village 80.36 44 P **P 01 02 17.5 +1.1**
baz=304
IMW Indian Meadow 80.41 44 P **P 01 02 17.7 +1.0**
YMP Mirror Lake Pl 80.42 43 P **P 01 02 18.5 +1.8**
YMP IAmb IAmb 01 02 44.9
comp=Z,22nm,1.4s
R11B Troy Canyon, C 80.42 51 P **P 01 02 17.4 +0.6**
R11B Troy Canyon, C 80.42 51 P **P 01 02 15.9 -0.8**
baz=302,SNR=14
HVU Hansel Valley 80.43 47 P **P 01 02 17.9 +1.1**
HVU IAmb IAmb 01 02 22.0
comp=Z,12nm,1.0s
HVU Hansel Valley 80.43 47 P **P 01 02 17.9 +1.1**
HVU pmax pmax
comp=Z,12nm,1.0s
NAO01 NORSAR Array S 80.45 338 P **P 01 02 16.1 -0.2**
NAO01 IAmb IAmb 01 02 17.3
comp=Z,12nm,0.9s
FLWY Flagg Ranch 80.46 44 P **P 01 02 18.5 +1.6**
FLWY IAmb IAmb 01 02 44.2
comp=Z,17nm,1.1s
SUW Suwalki 80.46 328 *e*P **P 01 02 16.5 +0.1**
SUW Suwalki 80.46 328 P **P 01 02 16.4 +0.1**
SUW Suwalki 80.46 328 *e*P **P 01 02 16.5 +0.1**
SUW Suwalki 80.46 328 P **P 01 02 16.4 +0.1**
SUW pmax pmax
comp=Z,91nm,1.1s
FXWY Fox Creek 80.50 45 P **P 01 02 17.8 +0.6**
FXWY IAmb IAmb 01 02 39.4
comp=Z,13nm,1.2s
WCT Wildcat Mounta 80.52 53 P **P 01 02 17.7 +0.5**
WCT IAmb IAmb 01 02 38.6
comp=Z,21nm,2.0s
ICESG Greenland Ices 80.53 1 *i* P **P 01 02 17.1 +0.2**
ICESG IAmb IAmb 01 02 19.0
comp=Z,22nm,0.9s
FURC Furnace Creek, 80.53 53 P **P 01 02 17.1 0.0**
baz=301
EDW2 Edwards Air Fo 80.55 55 P **P 01 02 17.2 -0.1**
baz=301
TPAW Teton Pass 80.63 45 P **P 01 02 19.4 +1.5**
TPAW IAmb IAmb 01 02 20.7
comp=Z,8.8nm,0.8s
ARPR Arapgir-MALATY 80.68 310 P **P 01 02 17.9 -0.2**
TPNV Topopah Spring 80.70 53 P **P 01 02 18.3 0.0**
baz=302,SNR=18
RLMT Red Lodge 80.72 43 P **P 01 02 19.4 +1.1**
RLMT Red Lodge 80.72 43 P **P 01 02 19.4 +1.1**
baz=304
BGU Big Grassy Mou 80.73 48 P **P 01 02 19.1 +0.7**
REDW Red Top Meadow 80.76 45 P **P 01 02 19.4 +0.9**
LOHW Long Hollow 80.77 45 P **P 01 02 19.1 +0.5**
LUBAR Lubar, Ukraine 80.80 323 P **P 01 02 17.8 -0.5**
GWY Greenwater Val 80.81 53 P **P 01 02 19.6 +0.8**
RNPP9 Sopachiv 80.82 325 P **P 01 02 18.1 -0.3**
RNPP8 Varash 80.89 325 P **P 01 02 18.3 -0.4**
SPUT South Promonto 80.89 47 P **P 01 02 20.0 +0.8**
RNPP5 Staryi Chortor 80.94 325 P **P 01 02 18.3 -0.7**
BFSC Mount Baldy Ra 81.12 56 P **P 01 02 21.4 +0.9**
baz=301
GSC Goldstone, Bar 81.17 54 P **P 01 02 21.4 +0.7**
GSC Goldstone, Bar 81.17 54 P **P 01 02 21.0 +0.3**
baz=301
GSC Goldstone, Bar 81.17 54 P **P 01 02 21.4 +0.7**
GSC pmax pmax
comp=Z,6.0nm,1.1s
DUG Dugway, Tooele 81.27 48 P **P 01 02 22.0 +0.8**
DUG IAmb IAmb 01 02 26.7
comp=Z,21nm,1.4s
DUG Dugway, Tooele 81.27 48 P **P 01 02 21.4 +0.2**
baz=303,SNR=12
DUG Dugway, Tooele 81.27 48 P **P 01 02 22.0 +0.8**
DUG pmax pmax
comp=Z,21nm,1.5s
PRN Pahroc Range 81.28 52 P **P 01 02 22.1 +0.8**
HWUT Hardware Ranch 81.29 47 P **P 01 02 22.4 +1.1**
HWUT IAmb IAmb 01 02 24.4
comp=Z,13nm,0.9s
SOEG Soedalen 81.30 357 *i* P **P 01 02 20.6 +0.1**
SOEG IAmb IAmb 01 02 26.8
comp=Z,66nm,1.8s
PSUT Pine Spring 81.48 50 P **P 01 02 23.4 +1.0**
PPT Papeete 81.48 116 LR LR 01 33 06.2

comp=Z,112nm,18.8s,baz=342,slow=32
PPT2 Papeete2 81.50 116 eLR LR 01 27 45.9
comp=Z,202nm,24.2s
PPT2 eLR LR 01 27 48.9
comp=Z,156nm,23.5s
LAO LASA Array 81.56 40 P **P 01 02 21.4 -1.1**
baz=306
SORM Soroca 81.56 322 ⇓P **P 01 02 22.5 +0.1**
SORM Soroca 81.56 322 ⇓P **P 01 02 22.5 +0.1**
SORM Soroca 81.56 322 P **P 01 02 21.2 -1.2**
comp=Z,6.9nm,0.9s
DGMT Dagmar 81.59 38 P **P 01 02 22.3 -0.4**
baz=307
TCUT Toone Canyon 81.66 47 P **P 01 02 24.5 +1.1**
TCUT IAmb IAmb 01 02 45.0
comp=Z,16nm,1.1s
CTU Camp Tracy 81.67 47 P **P 01 02 23.6 +0.2**
CTU IAmb IAmb 01 02 27.1
comp=Z,11nm,1.0s
SHPR Sheep Range 81.68 53 P **P 01 02 24.0 +0.5**
TUQ Turquoise Moun 81.71 54 P **P 01 02 24.0 +0.4**
baz=302,SNR=5.4
HEC Hector,Ludlow 81.75 54 P **P 01 02 24.6 +0.8**
baz=302
MURC Murrieta 81.78 56 P **P 01 02 24.5 +0.6**
baz=301
NLU North Lily Min 81.87 48 P **P 01 02 24.5 0.0**
BW06 Boulder Array 81.88 45 P **P 01 02 22.1 -2.4**
baz=305
PD31 Pinedale Array 81.88 45 P **P 01 02 24.7 +0.2**
PDAR Pinedale Array 81.88 45 P **P 01 02 25.2 +0.7**
PDAR Pinedale Array 81.88 45 P **P 01 02 25.4 +0.9**
comp=Z,3.2nm,0.8s,baz=298,slow=3.2,SNR=28
comp=Z,3.2nm,0.8s
JLU Jordanelle 81.91 47 P **P 01 02 25.6 +0.8**
JLU IAmb IAmb 01 02 27.6
comp=Z,11nm,1.0s
MPU Maple Canyon 82.12 48 P **P 01 02 26.8 +1.0**
SFJD Kangerlussuaq 82.17 5 LR LR 01 41 29.5
comp=Z,32nm,20.8s,baz=336,slow=38
SFJD Kangerlussuaq 82.17 5 *i* P **P 01 02 25.0 -0.2**
SFJD IAmb IAmb 01 02 26.8
comp=Z,32nm,1.1s
GMRC Granite Mounta 82.24 54 P **P 01 02 27.8 +1.4**
baz=302,SNR=5.4
PFO Pinyon Flats O 82.29 56 P **P 01 02 24.5 -2.2**
baz=302
PFO Pinyon Flats O 82.29 56 LR LR 01 38 54.9
comp=Z,216nm,18.2s,baz=246,slow=36
TPFO Pinon Flats 82.30 56 P **P 01 02 24.9 -1.8**
baz=302
KMPD K-Podol'skiy 82.30 323 P **P 01 02 25.3 -1.0**
V12A Nelson 82.30 53 P **P 01 02 27.5 +0.8**
CCUT Cedar City 82.33 51 P **P 01 02 27.7 +0.7**
CCUT IAmb IAmb 01 02 36.4
comp=Z,18nm,1.8s
BSUT Blindstream Ca 82.39 47 P **P 01 02 28.6 +1.2**
BELC Belle Mtn. Jos 82.42 55 P **P 01 02 25.9 -1.5**
baz=302
BNN Bunyan 82.44 311 P **P 01 02 27.6 +0.3**
GAZ Gaziantep 82.45 309 P **P 01 02 27.1 -0.3**
MSU Marysvale 82.59 50 P **P 01 02 29.3 +1.0**
MSU Marysvale 82.59 50 P **P 01 02 29.3 +1.0**
DEL Delary 82.65 334 *e*P **P 01 02 27.7 -0.2**
MONP2 Monument Peak 82.70 56 P **P 01 02 26.6 -2.3**
baz=302
LVV L'vov 82.75 325 *e*P **P 01 02 28.7 +0.1**
LVV MLR MLR
comp=N,300nm,17.0s
LVV MLR MLR
comp=E,400nm,17.0s
LVV MLR MLR
comp=Z,400nm,17.0s
TMUT Trail Mountain 82.79 48 P **P 01 02 30.0 +0.6**
MTPU Mount Pierson 82.85 50 P **P 01 02 31.0 +1.2**
IRM Iron Mountain 82.93 55 P **P 01 02 29.0 -1.0**
baz=302
DY2G Dye2 82.96 3 *i* P **P 01 02 29.7 +0.1**
DY2G IAmb IAmb 01 02 37.8
comp=Z,80nm,1.9s
NEE2 Needles Airpor 82.97 54 P **P 01 02 28.4 -1.7**
baz=303
BEL Belsk 82.98 328 *e*P **P 01 02 29.9 +0.2**
BC3 Big Chuckawall 82.98 55 P **P 01 02 31.6 +1.3**
baz=302,SNR=5.4
KNB Kanab 82.99 51 P **P 01 02 30.9 +0.6**
KNB IAmb IAmb 01 02 40.7
comp=Z,16nm,1.2s
KNB Kanab 82.99 51 P **P 01 02 30.9 +0.6**
KNB pmax pmax
comp=Z,17nm,1.2s
P17A Butcher Ranch, 82.99 48 P **P 01 02 31.3 +1.0**
P17A IAmb IAmb 01 02 35.3
comp=Z,14nm,1.0s
Q16A Castle Valley 83.03 49 P **P 01 02 31.8 +1.3**
Q16A IAmb IAmb 01 02 36.4
comp=Z,20nm,1.4s
IKP In-Ko-Pah, Jac 83.05 56 P **P 01 02 30.4 -0.2**
baz=302
RDMU Red Mountain 83.12 47 P **P 01 02 32.0 +1.0**
KSV Kosov 83.18 323 P **P 01 02 30.8 -0.1**
YUH Yuha Desert 83.18 56 P **P 01 02 32.1 +0.9**
STNU Starunia 83.22 324 P **P 01 02 30.2 -0.9**
P18A Preston Nutter 83.22 48 P **P 01 02 32.0 +0.3**
P18A IAmb IAmb 01 02 36.0
comp=Z,9.7nm,0.9s
MORS Morshin 83.26 324 P **P 01 02 31.3 +0.1**
SRU San Rafael Swe 83.34 48 P **P 01 02 32.5 +0.5**
SRU IAmb IAmb 01 02 47.6
comp=Z,8.3nm,0.9s
SRU San Rafael Swe 83.34 48 P **P 01 02 32.6 +0.5**
SRU pmax pmax
comp=Z,8.0nm,0.9s
BR131 Keskin Array S 83.38 312 P **P 01 02 32.1 -0.1**
BR131 Keskin Array S 83.38 312 P **P 01 02 32.1 -0.1**
BR131 pmax pmax
comp=Z,23nm,1.0s
BRTR Keskin Array B 83.38 312 P **P 01 02 32.3 +0.1**
BRTR Keskin Array B 83.38 312 P **P 01 02 32.5 +0.3**
comp=Z,16nm,0.9s,baz=107,slow=3.4,SNR=74
BRTR LR LR 01 43 50.7
comp=Z,128nm,18.6s,baz=69,slow=39
comp=Z,16nm,0.9s
BR106 Keskin Array S 83.38 312 P **P 01 02 32.2 -0.1**
comp=Z,18nm,1.1s,comp=Z,139nm
BR105 Keskin Array S 83.39 312 P **P 01 02 32.5 +0.2**
comp=Z,21nm,1.0s,comp=Z,167nm
RAYN Ar Rayn 83.46 293 P **P 01 02 32.7 -0.1**
RAYN Ar Rayn 83.46 293 *i* P **P 01 02 33.4 +0.6**
SNR=94
RAYN Ar Rayn 83.46 293 P **P 01 02 32.7 -0.1**
RAYN pmax pmax
comp=Z,62nm,0.8s
CFR Carcaliu 83.47 319 ⇓P **P 01 02 32.6 +0.2**
CFR Carcaliu 83.47 319 ⇓P **P 01 02 32.6 +0.2**
TESR Tescani 83.47 321 ⇑P **P 01 02 32.3 -0.2**
TPGR Topolog 83.51 319 ⇑P **P 01 02 32.9 +0.3**
KWP Kalwaria Pacla 83.53 325 *e*P **P 01 02 33.2 +0.6**
KWP Kalwaria Pacla 83.53 325 P **P 01 02 32.7 +0.1**
KWP Kalwaria Pacla 83.53 325 P **P 01 02 32.7 +0.1**
KWP pmax pmax
comp=Z,43nm,1.1s
KWP Kalwaria Pacla 83.53 325 P **P 01 02 32.5 -0.1**
comp=Z,37nm,1.0s
BUR08 Bucovina Ar. S 83.54 323 P **P 01 02 32.4 -0.4**
BUR08 IAmb IAmb 01 02 34.3
comp=Z,7.7nm,0.9s
BURAR Bucovina Array 83.55 323 P **P 01 02 32.5 -0.4**
BURAR IAmb IAmb 01 02 34.6
comp=Z,8.4nm,0.8s
BURAR Bucovina Array 83.55 323 ⇑P **P 01 02 33.0 +0.1**
BURAR Bucovina Array 83.55 323 ⇑P **P 01 02 33.0 +0.1**
PDMCI Parker Dam,Lak 83.56 54 P **P 01 02 33.3 +0.2**
baz=303
GKP Gorka Klasztor 83.58 330 *e*P **P 01 02 32.6 -0.2**
GLA Glamis 83.75 55 P **P 01 02 35.5 +1.3**
baz=303
K22A Casper 83.77 44 P **P 01 02 34.2 -0.1**
K22A IAmb IAmb 01 02 40.4
comp=Z,10nm,1.2s
K22A Casper 83.77 44 P **P 01 02 35.7 +1.5**
baz=306
ANTO Ankara 83.83 313 ⇓P **P 01 02 31.8 -2.6**
ANTO Ankara 83.83 313 ⇓P **P 01 02 31.8 -2.6**
ANTO Ankara 83.83 313 P **P 01 02 33.5 -1.0**
comp=Z,11nm,1.1s,comp=Z,148nm
RAKU Rahkiv 83.83 323 P **P 01 02 34.2 0.0**
VRI Vrincioaia 83.83 320 ⇑P **P 01 02 35.2 +0.9**
VRI Vrincioaia 83.83 320 ⇑P **P 01 02 35.2 +0.9**
HMU Henry Mountain 83.85 49 P **P 01 02 35.8 +0.9**
PLOR Plostina 83.88 321 ⇑P **P 01 02 35.1 +0.5**
PLOR Plostina 83.88 321 ⇑P **P 01 02 35.1 +0.5**
PLOR3 Plostina Array 83.88 321 P **P 01 02 34.6 0.0**
comp=Z,7.1nm,1.0s
HARR Harsova 83.89 319 ⇑P **P 01 02 34.4 -0.1**
HARR Harsova 83.89 319 ⇑P **P 01 02 34.4 -0.1**
TLBR Topalu 83.91 319 ⇑P **P 01 02 35.0 +0.4**
RWWY Rawlins 83.93 45 P **P 01 02 35.3 +0.1**
RWWY IAmb IAmb 01 02 37.6
comp=Z,10.0nm,0.9s
TURR Turia 84.10 321 ⇓P **P 01 02 36.9 +1.2**
COVR Voineasa-Covas 84.13 321 ⇑P **P 01 02 36.4 +0.6**
KOLS Kolonicke sedl 84.20 325 *e*P **P 01 02 36.4 +0.3**
KOLS pmax pmax
comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 84.20 325 *e*P **P 01 02 36.4 +0.3**
O20A White River Ci 84.20 46 P **P 01 02 36.5 0.0**
O20A White River Ci 84.20 46 P **P 01 02 37.9 +1.4**
baz=306
BOSR Bodos 84.28 321 ⇓P **P 01 02 37.2 +0.6**
TAOE Nuku Hiva Isla 84.29 104 eLR LR 01 29 02.2
comp=Z,201nm,24.2s
ICOR Ion Corvin 84.31 319 ⇓P **P 01 02 37.8 +1.1**
RSSD Black Hills 84.33 41 P **P 01 02 37.4 +0.2**
baz=308
ARCR ARCALIA 84.34 322 ⇓P **P 01 02 37.6 +0.8**
MDND Maddock 84.38 36 P **P 01 02 37.9 +0.9**
baz=311
BMR Baia Mare 84.40 323 ⇑P **P 01 02 38.3 +1.2**
BMR Baia Mare 84.40 323 ⇑P **P 01 02 38.3 +1.2**
MDUB Mudurnu 84.47 314 P **P 01 02 37.0 -0.8**
MLR Muntele Rosu 84.49 321 P **P 01 02 37.0 -0.8**
MLR IAmb IAmb 01 03 28.8
comp=Z,20nm,1.5s
MLR Muntele Rosu 84.49 321 P **P 01 02 37.9 +0.1**
comp=Z,1.1nm,0.4s,baz=60,slow=6.6
MLR LR LR 01 43 16.2
comp=Z,388nm,18.3s,baz=56,slow=38
comp=Z,1.1nm,0.4s
MLR Muntele Rosu 84.49 321 ⇓P **P 01 02 37.4 -0.4**
MLR Muntele Rosu 84.49 321 P **P 01 02 37.0 -0.8**
MLR pmax pmax
comp=Z,21nm,1.5s
MLR Muntele Rosu 84.49 321 P **P 01 02 37.4 -0.4**
comp=Z,4.9nm,1.4s
DOPR Dopca 84.50 321 ⇑P **P 01 02 38.6 +0.9**
OJC Ojcow 84.53 327 *e*P **P 01 02 37.3 -0.4**
OJC Ojcow 84.53 327 P **P 01 02 37.4 -0.4**
OJC IAmb IAmb 01 02 39.2
comp=Z,12nm,1.0s
OJC Ojcow 84.53 327 P **P 01 02 37.4 -0.4**
OJC pmax pmax
comp=Z,13nm,1.0s
OJC Ojcow 84.53 327 P **P 01 02 35.9 -1.9**
comp=Z,15nm,1.1s,comp=Z,286nm
Y14A Wickenburg 84.55 54 P **P 01 02 38.6 +0.4**
Y14A IAmb IAmb 01 02 41.2
comp=Z,7.1nm,1.1s
ULM Lac du Bonnet 84.61 33 P **P 01 02 38.2 +0.1**
comp=Z,2.2nm,0.8s,baz=308,slow=9.8,SNR=3.0
comp=Z,2.2nm,0.8s
ULM Lac du Bonnet 84.61 33 *e*P **P 01 02 38.4 +0.3**
ULM pmax pmax
comp=Z,2.0nm,0.6s
CRVS Cervenica-Dubn 84.62 325 *e*P **P 01 02 38.8 +0.6**
CRVS pmax pmax
comp=Z,21nm,1.5s
CRVS Cervenica-Dubn 84.62 325 *e*P **P 01 02 38.8 +0.6**
113A Mohawk Valley, 84.65 55 P **P 01 02 39.4 +0.8**
WUAZ Wupatki 84.79 52 P **P 01 02 40.1 +0.6**
WUAZ IAmb IAmb 01 02 42.8
comp=Z,15nm,1.1s
WUAZ Wupatki 84.79 52 P **P 01 02 38.0 -1.6**
baz=304
NIE Niedzica 84.84 326 *e*P **P 01 02 38.0 -1.4**
NIE Niedzica 84.84 326 P **P 01 02 39.0 -0.4**
comp=Z,3.4nm,1.1s
NUUK Nuuk 84.86 6 *i* P **P 01 02 40.2 +1.1**
NUUK IAmb IAmb 01 02 41.0
comp=Z,28nm,1.0s
TBI Tubuai 84.96 121 eLR LR 01 29 24.7
comp=Z,688nm,23.2s
VOIR 85.02 321 ⇑P **P 01 02 39.3 -1.1**
VOIR 85.02 321 ⇑P **P 01 02 39.3 -1.1**
N23A Red Feather La 85.17 45 P **P 01 02 41.8 +0.3**
N23A Red Feather La 85.17 45 P **P 01 02 39.7 -1.7**
baz=307
ARR Arges 85.29 321 ⇓P **P 01 02 41.5 -0.2**
X16A Lo Mia Camp, P 85.36 53 P **P 01 02 42.7 +0.2**
DRGR 85.38 323 ⇓P **P 01 02 42.2 0.0**
DRGR 85.38 323 ⇓P **P 01 02 42.2 0.0**
LANS Liptovska Anna 85.42 326 *e*P **P 01 02 44.1 +1.8**
LANS pmax pmax
comp=Z,3.0nm,0.9s
LANS Liptovska Anna 85.42 326 *e*P **P 01 02 44.1 +1.8**
SMCO Snowmass 85.55 47 P **P 01 02 43.9 +0.3**
SMCO IAmb IAmb 01 02 58.0
comp=Z,17nm,1.2s
OKC Ostrava-Krasne 85.57 327 AMS AMS 01 43 00.0
comp=Z,200nm,23.4s
RUE Ruedersdorf 85.61 331 *e*P **P 01 02 43.7 +0.7**
KSP Ksiaz 85.71 329 *e*P **P 01 02 43.8 +0.1**
KSP Ksiaz 85.71 329 P **P 01 02 42.7 -0.9**
comp=Z,14nm,1.1s
MVCO Mesa Verde 85.73 49 P **P 01 02 44.4 +0.1**
MVCO IAmb IAmb 01 02 47.9
comp=Z,16nm,1.6s
MVCO Mesa Verde 85.73 49 P **P 01 02 43.1 -1.2**
baz=306
214A Organ Pipe Nat 85.77 55 P **P 01 02 44.9 +0.5**
baz=304
MORC Moravsky Berou 85.89 328 *e*P **P 01 02 44.5 -0.1**
OSTC Ostas 85.95 329 AMS AMS 01 45 30.0
comp=Z,300nm,15.3s
AGMN Agassiz Nation 85.95 34 P **P 01 02 44.6 -0.2**
AGMN IAmb IAmb 01 02 49.2
comp=Z,9.2nm,1.4s
AGMN Agassiz Nation 85.95 34 P **P 01 02 45.3 +0.5**
baz=313
MMAI Mount Meron Ar 85.97 306 P **P 01 02 45.8 +0.4**
comp=Z,12nm,0.9s,baz=51,slow=5.1,SNR=10
MMAI LR LR 01 45 50.6
comp=Z,163nm,18.7s,baz=9.5,slow=39
comp=Z,12nm,0.9s
CHVC Chvalec 86.00 329 *e*P **P 01 02 45.1 0.0**
ISCO Idaho Springs 86.02 46 P **P 01 02 45.7 -0.1**
ISCO IAmb IAmb 01 03 58.1
comp=Z,5.7nm,0.8s
ISCO Idaho Springs 86.02 46 P **P 01 02 46.7 +0.9**
baz=307
ISCO Idaho Springs 86.02 46 P **P 01 02 45.7 -0.1**
ISCO pmax pmax
comp=Z,6.0nm,0.8s
KRLC Kraliky 86.03 328 *e*P **P 01 02 45.5 +0.2**
DPC Dobruska-Polom 86.05 328 *e*P **P 01 02 45.9 +0.5**
DPC AMS AMS 01 44 50.0
comp=Z,300nm,16.4s
DPC Dobruska-Polom 86.05 328 P **P 01 02 45.1 -0.3**
comp=Z,8.4nm,1.1s
MAUC Maruska 86.05 327 *e*P **P 01 02 45.7 +0.3**
UPC Upice 86.07 329 AMS AMS 01 45 30.0
comp=Z,400nm,18.0s
W18A Petrified Fore 86.12 51 P **P 01 02 44.2 -2.0**
ELND Elena 86.14 319 ⇓P **P 01 02 45.8 -0.2**
VYHS Vyhne 86.18 326 *e*P **P 01 02 46.2 +0.2**
VYHS pmax pmax
comp=Z,9.0nm,1.1s
VYHS Vyhne 86.18 326 *e*P **P 01 02 46.2 +0.2**
SURR Surduc 86.37 322 ⇑P **P 01 02 46.5 -0.5**
JAVC Velka Javorina 86.48 327 *e*P **P 01 02 48.1 +0.6**
S22A 4UR Ranch, Cre 86.49 48 P **P 01 02 48.9 +0.8**
S22A IAmb IAmb 01 02 53.2
comp=Z,7.5nm,1.2s
S22A 4UR Ranch, Cre 86.49 48 P **P 01 02 47.9 -0.3**
baz=307
VRAC Vranov 86.66 328 *e*P **P 01 02 48.2 -0.2**
VRAC Vranov 86.66 328 P **P 01 02 48.5 +0.1**
comp=Z,5.1nm,0.9s,baz=60,slow=7.8,SNR=6.0
VRAC LR LR 01 44 29.9
comp=Z,224nm,20.0s,baz=42,slow=38
comp=Z,5.1nm,0.9s
VRAC Vranov 86.66 328 ⇑P **P 01 02 49.0 +0.6**
VRAC Vranov 86.66 328 ⇑P **P 01 02 49.0 +0.6**
PVCC Panska Ves 86.70 329 AMS AMS 01 50 40.0
comp=Z,200nm,13.3s
BRG Berggiesshubel 86.72 330 *e*P P 01 02 54.3 +5.7
BRG Amp 01 03 02.3
comp=Z,3.1nm,0.9s
BRG Berggiesshubel 86.72 330 *e*P P 01 02 54.2 +5.6
BRG pmax pmax
comp=Z,3.0nm,1.0s
HERR Herculane 86.80 322 ⇓P **P 01 02 48.6 -0.5**
CLL Collm 86.80 331 P **P 01 02 49.3 +0.3**
CLL IAmb IAmb 01 03 21.8
comp=Z,11nm,1.2s
CLL Collm 86.80 331 *i* P **P 01 02 48.9 -0.1**
comp=Z,34nm,2.0s
CLL *e*S **S 01 13 26.0 +0.3**
CLL AMS AMS 01 43 00.0
comp=N,200nm,18.8s
CLL AMS AMS 01 43 00.0
comp=E,200nm,20.1s
CLL Collm 86.80 331 *i* P **P 01 02 48.9 -0.1**
CLL *e*S **S 01 13 26.0 +0.3**
CLL pmax pmax
comp=Z,34nm,2.0s
CLL Collm 86.80 331 P **P 01 02 48.5 -0.5**
comp=Z,6.2nm,1.8s
GHAJ Ghor Haditha 86.81 305 P **P 01 02 49.2 -0.2**
Q24A Divide 86.82 46 P **P 01 02 49.8 +0.1**
baz=308
SMOL Smolenice 86.83 327 *e*P **P 01 02 50.4 +1.2**
SMOL pmax pmax
comp=Z,11nm,1.5s
KRUC Moravsky 86.93 328 *e*P **P 01 02 49.5 -0.2**
TUC Tucson 87.00 54 P **P 01 02 50.9 +0.4**
baz=305
MODS Modra-Piesok 87.00 327 *e*P **P 01 02 50.6 +0.5**
MODS pmax pmax
comp=Z,21nm,1.3s
MODS Modra-Piesok 87.00 327 *e*P **P 01 02 50.6 +0.5**
PRA Prague 87.09 329 AMS AMS 01 46 20.0
comp=Z,200nm,16.0s
PRU Pruhonice 87.10 329 AMS AMS 01 46 20.0
comp=Z,300nm,21.1s
HSKC Hora Svate Kat 87.13 330 AMS AMS 01 49 50.0
comp=Z,300nm,16.5s
TREC Trest 87.18 328 AMS AMS 01 44 20.0
comp=Z,300nm,20.4s
MDVR Moldovita 87.24 322 ⇑P **P 01 02 47.0 -4.3**
SDCO Great Sand Dun 87.33 47 P **P 01 02 52.2 0.0**
SDCO Great Sand Dun 87.33 47 P **P 01 02 50.1 -2.2**
baz=307
F33A 5 Mile Ranch, 87.41 36 P **P 01 02 52.5 +0.4**
OGNE Ogallala 87.47 43 P **P 01 02 52.5 0.0**
baz=309
ZVC Zvikov 87.66 329 AMS AMS 01 46 40.0
comp=Z,400nm,16.0s
MORH Mrgy, Hungar 87.85 324 ⇑P **P 01 02 53.1 -1.0**
MORH Mrgy, Hungar 87.85 324 P **P 01 02 52.3 -1.8**
comp=Z,3.3nm,1.1s
RONA Rosalia, Austr 87.95 327 *i* P **P 01 02 54.7 +0.1**
comp=Z,2.9nm,1.0s
FRGS Fruska Gora 87.98 323 ⇓P **P 01 02 54.7 -0.1**
FRGS Fruska Gora 87.98 323 P **P 01 02 54.0 -0.8**
comp=Z,11nm,1.1s
CONA Conrad Observa 87.99 327 *i* PcP **P 01 02 55.2 +0.2**
comp=Z,1.8nm,0.6s
CONA *i* PP **PP 01 06 22.0 +1.4**
comp=Z,5.8nm,1.4s
CKRC Cesky Krumlov 88.06 328 AMS AMS 01 45 00.0
comp=Z,300nm,14.8s
KHC Kasperske Hory 88.16 329 *e*P **P 01 02 55.7 +0.1**
KHC *e*S **S 01 13 35.6 -3.3**
KHC AMS AMS 01 46 50.0
comp=Z,400nm,15.4s
EIL Elat 88.17 304 LR LR 01 48 04.8
comp=Z,80nm,19.2s,baz=69,slow=40
EYMN Ely 88.28 33 P **P 01 02 56.3 +0.1**
EYMN IAmb IAmb 01 02 58.1
comp=Z,12nm,1.1s
EYMN Ely 88.28 33 P **P 01 02 54.7 -1.5**
baz=316
GERES GERESS Array B 88.31 329 P **P 01 02 56.0 -0.4**
comp=Z,0.3nm,0.5s,baz=7.8,slow=7.9,SNR=3.9
comp=Z,0.3nm,0.5s
GERES GERESS Array B 88.31 329 *e*P **P 01 02 57.7 +1.3**
T25A Trinidad 88.39 47 P **P 01 02 57.8 +0.6**
baz=308
ANMO Albuquerque 88.40 50 P **P 01 02 57.9 +0.6**
baz=307
ANMO Albuquerque 88.40 50 LR LR 01 39 35.4
comp=Z,213nm,18.5s,baz=48,slow=34
ANMO Albuquerque 88.40 50 *i* P **P 01 02 57.5 +0.2**
ANMO pmax pmax
comp=Z,2.0nm,1.2s
ECSD EROS Data Cent 88.68 38 P **P 01 02 58.7 +0.5**
ECSD IAmb IAmb 01 03 00.6
comp=Z,8.3nm,1.1s
ECSD EROS Data Cent 88.68 38 P **P 01 02 57.4 -0.7**
baz=313
MOA Molln 88.79 328 *i* P **P 01 02 58.5 -0.1**
comp=Z,1.9nm,0.8s
MOA *i* PP **PP 01 06 24.1 -2.9**
comp=Z,8.7nm,1.4s
121A Cookes Peak, D 88.94 52 P **P 01 03 01.2 +1.4**
baz=306
BIOA Bad Ischl, Aus 89.19 328 *e*P **P 01 03 00.4 -0.1**
comp=Z,3.2nm,0.9s
E38A The Farm, Brul 89.22 34 P **P 01 02 59.9 -0.7**
EKA Eskdalemuir Ar 89.24 341 P **P 01 03 01.1 +0.5**
comp=Z,4.0nm,1.0s,baz=45,slow=7.1,SNR=4.2
comp=Z,4.0nm,1.0s
PERS Pernice 89.27 326 *i* P **P 01 03 00.3 -0.6**
SOKA Soboth 89.28 327 *i* P **P 01 03 00.6 -0.4**
comp=Z,5.8nm,1.0s,SNR=6.1
SOKA *i* PP **PP 01 06 29.4 -1.6**
comp=Z,5.2nm,1.3s
OBKA Obir 89.63 327 *e*P **P 01 03 02.1 -0.6**
comp=Z,2.2nm,0.8s
OBKA *i* PP **PP 01 06 34.6 +0.8**
comp=Z,8.4nm,1.4s
KBA Koelnbreinsper 89.78 328 *i* P **P 01 03 02.8 -0.7**
comp=Z,2.7nm,0.9s
KBA *i* PP **PP 01 06 35.5 +0.5**
comp=Z,8.4nm,1.5s
LESA Schwarzleotal 89.83 328 *i* P **P 01 03 03.2 -0.4**
comp=Z,3.4nm,0.7s
LESA *i* PP **PP 01 06 36.0 +0.8**
comp=Z,8.1nm,1.1s
MYKA Terra Mystica 89.97 327 *i* P **P 01 03 03.2 -1.0**
comp=Z,3.2nm,0.7s
PRED Cave del Predi 90.14 327 P **P 01 03 03.9 -1.2**
I37A Lemond, Waseca 90.16 36 P **P 01 03 06.0 +0.9**
CEY Cerknica 90.25 326 *i* P **P 01 03 04.5 -1.0**
WATA Walderalm 90.39 329 *e*PP **PP 01 06 41.8 +2.0**
comp=Z,6.6nm,1.2s
ABTA Abfaltersbach 90.41 328 *i* P **P 01 03 04.9 -1.4**
comp=Z,5.4nm,0.9s
WTTA Wattenberg 90.42 329 *i* P **P 01 03 04.4 -2.1**
comp=Z,4.1nm,1.5s
WTTA *e*PP **PP 01 06 39.7 -0.3**
comp=Z,14nm,1.4s
MOTA Moosalm 90.59 329 *i* P **P 01 03 06.5 -0.8**
comp=Z,2.6nm,0.8s
RETA Reutte 90.64 329 *e*P **P 01 03 07.0 -0.3**
comp=Z,4.9nm,1.0s
SQTA Sankt Quirin 90.64 329 *i* P **P 01 03 06.7 -0.7**
comp=Z,2.2nm,1.0s
SQTA *i* PP **PP 01 06 42.4 +0.7**
comp=Z,8.3nm,1.1s
STAL STALIGIAL 90.68 327 P **P 01 03 06.0 -1.5**
STAL IAmb IAmb 01 03 06.8
comp=Z,6.5nm,0.9s
G40A Rib Lake 90.84 34 P **P 01 03 08.2 -0.1**
G40A IAmb IAmb 01 03 09.8
comp=Z,13nm,1.2s
FETA Feichten 91.00 329 *i* P **P 01 03 08.7 -0.5**
comp=Z,2.6nm,0.8s
FETA *e*PP **PP 01 06 44.5 -0.2**
comp=Z,6.7nm,1.3s
MNTX Cornudas Mount 91.07 52 P **P 01 03 11.5 +2.0**
baz=308
DAVA Damuels 91.17 330 *e*P **P 01 03 08.2 -1.7**
comp=Z,6.1nm,0.8s,SNR=4.6
DAVA *e*PP **PP 01 06 43.5 -2.5**
comp=Z,3.0nm,0.9s

MSTX	Muleshoe	91.40	49	P		P	01 03 10.4	-0.9
	baz=309								
FUORN	Ofenpass-Fuorn	91.52	329	P		P	01 03 10.8	-0.8
FUORN				IAmb		IAmb	01 03 12.6		
	comp=Z,7.5nm,0.9s								
AMTX	Amarillo	91.53	47	P		P	01 03 11.5	-0.3
AMTX	Amarillo	91.53	47	P		P	01 03 15.1	+3.3
	baz=310								
DAVOX	Davos/Dischmat	91.56	329	P		P	01 03 11.9	+0.1
	comp=Z,3.6nm,0.8s,baz=7.1,slow=8.1,SNR=6.3								
DAVOX				LR		LR	01 46 50.6		
	comp=Z,92nm,19.6s,baz=60,slow=37								
	comp=Z,3.6nm,0.8s								
KSU1	Kansas State U	91.82	42	P		P	01 03 12.9	0.0
KSU1	Kansas State U	91.82	42	P		P	01 03 14.8	+1.9
	baz=313								
VHRN	Van Horn	91.89	52	P		P	01 03 14.0	+0.5
VHRN				IAmb		IAmb	01 03 28.7		
	comp=Z,10nm,1.4s								
LPIG	La Paz	92.00	61	LR		LR	01 39 45.3		
	comp=Z,187nm,19.1s,baz=232,slow=32								
TUE	Stuetta	92.03	329	P		P	01 03 12.9	-1.1
TUE				IAmb		IAmb	01 03 28.6		
	comp=Z,10nm,1.2s								
TUE	Stuetta	92.03	329	P		P	01 03 14.0	0.0
	comp=Z,32nm,1.0s								
SMWD	Samnorwood	92.29	46	P		P	01 03 15.0	-0.2
JFWS	Jewell Farm	92.54	35	P		P	01 03 17.6	+1.5
	baz=317								
L40A	Anamosa	92.67	37	P		P	01 03 17.1	+0.3
DKNS	Dickens	92.78	48	P		P	01 03 18.1	+0.6
FDMO	Fiordimonte	92.89	325	P		P	01 03 17.3	-0.5
MNHN	Monahans	93.05	51	P		P	01 03 19.2	+0.4
MNHN				IAmb		IAmb	01 03 24.3		
	comp=Z,9.5nm,1.5s								
ALPN	Alpine	93.06	52	P		P	01 03 19.1	+0.2
ALPN				IAmb		IAmb	01 03 24.4		
	comp=Z,13nm,1.5s								
WMOK	Wichita Mounta	93.44	46	P		P	01 03 21.0	+0.5
WMOK				IAmb		IAmb	01 03 25.5		
	comp=Z,7.8nm,1.2s								
WMOK	Wichita Mounta	93.44	46	P		P	01 03 20.8	+0.3
	baz=311								
WMOK	Wichita Mounta	93.44	46	P		P	01 03 21.0	+0.5
WMOK				pmax		pmax			
	comp=Z,8.0nm,1.3s								
APMT	Aspermont	93.52	48	P		P	01 03 20.9	+0.1
APMT				IAmb		IAmb	01 03 22.6		
	comp=Z,7.9nm,0.9s								
TX31	Lajitas Ar. Si	93.68	53	P		P	01 03 21.9	+0.1
TXAR	Lajitas Array	93.68	53	P		P	01 03 22.9	+1.1
TXAR	Lajitas Array	93.68	53	P		P	01 03 23.5	+1.7
	comp=Z,9.7nm,0.9s,baz=290,slow=2.7,SNR=64								
	comp=Z,9.7nm,0.9s								
SGCY	Sterling City	93.77	49	P		P	01 03 22.5	+0.4
P40A	Paris	94.06	39	P		P	01 03 23.1	-0.1
P40A				IAmb		IAmb	01 03 27.5		
	comp=Z,9.2nm,1.1s								
ABTX	Abilene, Hawle	94.28	48	P		P	01 03 24.4	0.0
ABTX	Abilene, Hawle	94.28	48	P		P	01 03 25.1	+0.7
	baz=311								
SAND	Sanderson	94.35	51	P		P	01 03 25.8	+1.0
SAND				IAmb		IAmb	01 03 30.1		
	comp=Z,11nm,1.4s								
OZNA	Ozona	94.40	50	P		P	01 03 25.2	+0.1
OZNA				IAmb		IAmb	01 03 29.2		
	comp=Z,4.7nm,1.1s								
S39A	Bolivar	94.66	41	P		P	01 03 25.8	-0.2
S39A				IAmb		IAmb	01 03 27.1		
	comp=Z,4.6nm,0.9s								
R40A	Maddies Statio	94.82	40	P		P	01 03 26.7	0.0
R40A				IAmb		IAmb	01 03 28.2		
	comp=Z,6.4nm,0.9s								
CEL	Celeste	94.89	320	P		P	01 03 26.2	-0.9
U38A	Gravette	94.92	42	P		P	01 03 27.4	+0.1
U38A				IAmb		IAmb	01 03 28.4		
	comp=Z,5.0nm,1.0s								
PLPT	Palo Pinto	95.00	47	P		P	01 03 28.7	+1.0
CCM	Cathedral Cave	95.55	39	P		P	01 03 31.5	+1.4
	baz=316								
WHTX	Lake Whitney,	96.08	47	P		P	01 03 33.7	+1.1
	baz=312								
FURI	Furi	96.67	284	LR		LR	01 50 22.5		
	comp=Z,64nm,18.2s,baz=38,slow=37								
MIAR	Mount Ida	96.72	43	P		P	01 03 36.0	+0.6
	baz=315								
QSPA	South Pole Qui	120.43	180	PKP		PKPdf	01 08 54.3	-1.0
	comp=Z,3.4nm,1.0s,baz=332,slow=1.3,SNR=5.5								
TORD	Torodi Ar. Bea	121.99	313	PKP		PKPdf	01 08 59.2	-0.7
	comp=Z,2.7nm,1.0s,baz=61,slow=2.6,SNR=12								
ELIB	Princess Elisa	127.63	200	*d*PKPdf		PKiKP	01 09 09.8	+0.1
TROLL	Troll, Antarti	133.28	196	⇑PKPdf		PKPdf	01 09 17.2	-2.7
	comp=Z,218nm,0.7s								
SNAA	Sanae	134.75	195	⇑PKPdf		PKPdf	01 09 16.9	-5.6
	comp=Z,55nm,0.6s								
VNA2	Neumayer--Watz	136.29	194	⇓PKKPdf		PKKPdf	01 19 07.9	+2.0
	comp=Z,0.9nm,0.6s,baz=281,slow=8.2								
VNA2	Neumayer--Watz	136.29	194	⇑PKPdf		PKPdf	01 09 26.0	+0.6
	comp=Z,2.9nm,0.7s,baz=132,slow=1.1								
VNA3	Neumayer Olymp	136.50	193	⇓PKKPdf		PKKPdf	01 19 03.2	-2.3
	comp=Z,1.2nm,0.6s								
VNA3	Neumayer Olymp	136.50	193	⇑PKPdf		PKPdf	01 09 26.1	+0.3
	comp=Z,3.3nm,0.8s								
VNA1	Neumayer--Stat	136.69	194	⇓PKPdf		PKPdf	01 09 26.7	+0.7
	comp=Z,2.2nm,0.7s								
LPAZ	La Paz	149.11	69	PKPbc		PKPdf	01 09 52.2	+1.9
	comp=Z,11nm,0.9s,baz=338,slow=3.5,SNR=30								
PLCA	Paso Flores	151.97	120	PKPbc		PKPbc	01 09 60.0	+0.1
	comp=Z,4.2nm,1.1s,baz=238,slow=5.5,SNR=4.6								
PLCA	Paso Flores	151.97	120	PKIKP		PKPbc	01 10 00.0	+0.1

NAM 28 01:03:11.4±4.3, 19°.73S×14°.46E, h23km±21km, ML0.1, 11C-9D, Namibia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ST3N	ST3	0.04	105	⇑*i*P		01 03 17.3	+1.8
ST3N				*i* S		01 03 18.6	+0.2
ST3N				IAML		01 03 18.8	
	comp=Z,2.1nm,0.0s						
ST3N	ST3	0.04	105	⇓*i*P		01 03 17.3	+1.8
ST3N				*i* S		01 03 18.6	+0.2
ST3N				IAML		01 03 18.8	
	comp=Z,2.1nm,0.0s						
ST3N	ST3	0.04	105	⇑*i*P		01 03 17.3	+1.8
ST3N				⇑*i*P		01 03 17.3	
ST3N				IAML		01 03 18.7	
	comp=N,5.2nm,0.0s						
ST3N				IAML		01 03 18.8	
	comp=Z,2.1nm,0.0s						
ST6N	ST6	0.09	221	⇑*i*P		01 03 18.6	+2.7
ST6N				*i* S		01 03 20.8	+1.9
ST6N				IAML		01 03 21.2	
	comp=Z,2.4nm,0.1s						
ST6N	ST6	0.09	221	⇑*i*P		01 03 18.6	+2.7
ST6N				*i* S		01 03 20.9	+2.0
ST6N				IAML		01 03 21.2	
	comp=Z,2.4nm,0.1s						
ST6N	ST6	0.09	221	⇑*i*P		01 03 18.6	+2.7
ST6N				*i* S		01 03 20.9	+2.1
ST6N				IAML		01 03 21.2	
	comp=Z,2.4nm,0.1s						
ST9N	ST9	0.10	130	⇑*i*P		01 03 16.3	+0.4
ST9N				*i* S		01 03 17.0	-2.0
ST9N				IAML		01 03 17.5	
	comp=Z,24nm,0.1s						
ST9N	ST9	0.10	130	⇑*i*P		01 03 16.3	+0.4
ST9N				⇑*i*P		01 03 16.4	-1.5
ST9N				IAML		01 03 17.8	
	comp=N,41nm,0.0s						
ST9N				IAML		01 03 17.9	
	comp=Z,23nm,0.0s						
ST1N	ST1	0.14	92	⇓*i*P		01 03 17.1	+0.8
ST1N				*i* S		01 03 18.2	-1.4
ST1N				IAML		01 03 18.3	
	comp=Z,5.8nm,0.1s						
ST1N	ST1	0.14	92	⇓*i*P		01 03 17.1	+0.8
ST1N				*i* S		01 03 18.3	-1.3
ST1N				IAML		01 03 18.3	
	comp=Z,6.0nm,0.1s						
ST1N	ST1	0.14	92	⇓*i*P		01 03 17.1	+0.8
ST1N				*i* S		01 03 18.2	-1.4
ST1N				IAML		01 03 18.3	
	comp=Z,5.8nm,0.0s						
ST8N	ST8	0.14	287	⇑*i*P		Pn	01 03 20.6 +2.3
ST8N				*i* S		Sb	01 03 24.4 +4.8
ST8N				IAML			01 03 25.2
	comp=Z,0.3nm,0.1s						
ST2N	ST2	0.23	147	⇓*i*P		Pb	01 03 18.1 +0.7
ST2N				*i* S		Sb	01 03 20.3 -1.1
ST2N				IAML			01 03 20.7
	comp=Z,2.9nm,0.1s						
ST2N	ST2	0.23	147	⇓*i*P		Pb	01 03 18.4 +1.0
ST2N				*i* S		Sb	01 03 20.3 -1.1
ST2N				IAML			01 03 20.7
	comp=Z,2.9nm,0.1s						
ST2N	ST2	0.23	147	⇓*i*P		Pb	01 03 18.1 +0.7
ST2N				*i* S		Sb	01 03 20.3 -1.1
ST2N				IAML			01 03 20.7
	comp=Z,2.8nm,0.0s						
ST10N	ST10	0.27	195	⇓*i*P		Pn	01 03 20.4 +0.2
ST10N				IAML			01 03 20.9
	comp=Z,0.8nm,0.1s						
ST10N				*i* S		Sn	01 03 24.0 -1.6
ST10N	ST10	0.27	195	⇑*i*P		Pn	01 03 20.4 +0.3
ST10N				*i* S		Sn	01 03 24.1 -1.6
ST10N				IAML			01 03 27.3
	comp=Z,1.2nm,0.1s						
ST5N	ST5	0.28	102	⇓*i*P		Pb	01 03 19.0 +0.8
ST5N				*i* S		Sb	01 03 21.9 -0.8
ST5N				IAML			01 03 22.1
	comp=Z,1.2nm,0.1s						
ST4N	ST4	0.51	108	*i* P		Pn	01 03 23.0 -0.4
ST4N				*i* S		Sb	01 03 27.8 -1.0
ST4N				IAML			01 03 29.0
	comp=Z,0.3nm,0.1s						

DJA 28 01:04:52.2±0.3, 2°S±3°×12°3E±°, h10km, M4.1/11, mb4.3/3, MLv4.0/11, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	Luwuk	0.72	315	P		Pg	01 05 05.6 -0.6
GTOI	Gorontalo	2.20	353	P		Pn	01 05 29.9 +1.1
KMSI	Cibinong	2.23	18	P		Pn	01 05 28.6 -0.7
SANI	Sanana	2.75	100	P		Pn	01 05 37.3 +0.9
BBSI	Bau Bau	3.96	190	P		Pn	01 05 52.5 -0.6
BKSI	Bulukumba	4.89	220	P		Pn	01 06 05.8 0.0
BSSI	Bau Bau, Buton	5.34	211	P		Pn	01 06 12.3 +0.3
	57nm,0.6s						
EDFI	Ende, Flores	7.32	192	P		Pn	01 06 39.2 -0.1

*SJA **28** 01:10:13.9±0.7, 31°.33S×68°.81W, h108km±2km, ML3.7, MW3.7*
*NEIC **28** 01:10:13.9±2.3, 31°.33S±0°.06×68°.84W±0°.08, h115km±2km, mb4.3/5, Error ellipse: s-maj=10.9km s-min=6.9km az=50.0*

ISC 28 01:10:13.0±0.7, 31°33S±0°03×68°78W±0°04, h119km±5km, n73, σ1°47/94, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	Zonda	0.23	158	Pn		Pn	01 10 30.3 +0.6
ZON				Sn		Sn	01 10 42.1 -0.3
ZON	Zonda	0.23	158	*e*P		Pn	01 10 29.3 -0.4
ZON				*e*S		Sn	01 10 41.9 -0.5
ZON				IAML			01 10 43.3
	comp=Z,2μm,0.6s						
SJA	San Juan	0.27	137	*e*P		Pn	01 10 30.9 +1.0
SJA				*e*S		Sn	01 10 43.8 +1.2
SJA				IAML			01 10 44.7
	comp=Z,2μm,0.3s						
DOCA	Reserva Natura	0.46	325	*e*P		Pn	01 10 31.2 +0.1
DOCA				*e*S		Sn	01 10 44.5 -0.2
DOCA				IAML			01 10 48.0
	comp=Z,3μm,0.7s						
RTLS	Leoncito	0.65	223	*e*P		Pn	01 10 32.9 +0.6
RTLS				*e*S		Sn	01 10 46.5 -0.2
RTLS				IAML			01 10 47.4
	comp=Z,3μm,0.3s						
ACCO	Cerro Coronel	0.78	342	*e*P		Pn	01 10 34.0 +0.7
ACDV	Cuesta del Vie	1.19	346	*e*P		Pn	01 10 38.1 +0.9
ACDV				*e*S		Sn	01 10 56.2 +0.8
ACDV				IAML			01 10 57.4
	comp=Z,471nm,0.2s						
ASAL	Salagasta	1.26	182	*e*P		Pn	01 10 39.2 +1.4
ASAL				*e*S		Sn	01 10 58.6 +2.0
AROD	Rodeo	1.30	333	*e*P		Pn	01 10 39.5 +1.0
AROD				*e*S		Sn	01 10 58.2 +0.4
AVFE	Valle Fertil	1.32	60	*e*P		Pn	01 10 39.9 +1.5
AVFE				IAML			01 10 59.5
	comp=Z,966nm,0.6s						
ARCO	CERRO ARCO	1.52	185	*e*P		Pn	01 10 42.4 +1.6
ARCO				*e*S		Sn	01 10 58.0 -3.8
ARCO				IAML			01 11 05.6
	comp=Z,433nm,0.3s						
CO03	El Pedregal	1.71	286			Pn	01 10 43.6 +0.6
CO03				Sn		Sn	01 11 05.7 0.0
CO03	El Pedregal	1.71	286	*e*P		Pn	01 10 43.8 +0.8
CO03				*e*S		Sn	01 11 06.5 +0.7
CO03				IAML			01 11 09.7
	comp=Z,913nm,0.3s						
AAGR	Agrelo	1.75	181	*e*P		Pn	01 10 45.1 +1.6
AAGR				*e*S		Sn	01 11 07.4 +0.7
CO01	Juntas del Tor	1.76	320			Pn	01 10 45.4 +1.6
CO01	Juntas del Tor	1.76	320	*e*P		Pn	01 10 45.4 +1.6
CO01				*e*S		Sn	01 11 08.6 +1.5
CO01				IAML			01 11 10.4
	comp=Z,265nm,0.2s						
ACHE	Chepes	1.82	85	*e*P		Pn	01 10 46.2 +1.9
CO02	Combarbal	1.91	273			Pn	01 10 45.8 +0.4
CO02	Combarbal	1.91	273	*e*P		Pn	01 10 45.7 +0.4
CO02				*e*S		Sn	01 11 10.9 +0.9
CO02				IAML			01 11 11.8
	comp=Z,1μm,0.2s						
VA03	San Esteban	2.08	226			Pn	01 10 48.4 +0.9
VA03	San Esteban	2.08	226	*e*P		Pn	01 10 48.6 +1.1
VA03				*e*S		Sn	01 11 16.2 +2.3
VA03				IAML			01 11 18.2
	comp=Z,381nm,0.2s						
GO04	Tololo Observa	2.08	303			Pn	01 10 47.8 +0.1
GO04	Tololo Observa	2.08	303	*e*P		Pn	01 10 51.9 +4.2
AVIZ	Vizcacheras	2.15	174	*e*P		Pn	01 10 45.2 -3.2
PEL	Peldehue	2.43	221	*e*P		Pn	01 10 52.6 +0.7
PEL				*e*S		Sn	01 11 22.3 +0.6
ACLC	CERRO LA CRUZ	2.47	40	*e*P		Pn	01 10 54.0 +1.4
ACLC				*e*S		Sn	01 11 24.8 +1.9
ACLC				IAML			01 11 26.0
	comp=Z,199nm,0.5s						
VA06	Catapilco	2.47	239	Pn		Pn	01 10 51.6 -0.8
ROC1	El Roble	2.51	228	*e*S		Sn	01 11 23.9 0.0
CO06	Fray Jorge	2.54	284	Pn		Pn	01 10 51.9 -1.3
CO05	La Serena	2.54	303			Pn	01 10 52.8 -0.6
MT16	CCHEN	2.56	215			Pn	01 10 54.5 +0.9
MT03	Universidad Ad	2.61	214			Pn	01 10 55.3 +1.0
MT03	Universidad Ad	2.61	214	*e*P		Pn	01 10 55.7 +1.4
MT03				*e*S		Sn	01 11 28.3 +2.3
MT03				IAML			01 11 30.3
	comp=Z,218nm,0.6s						
VCA	Vinchina	2.63	11	*e*P		Pn	01 10 56.4 +1.7
VCA				*e*S		Sn	01 11 28.7 +2.1
VCA				IAML			01 11 31.9
	comp=Z,432nm,0.2s						
MT05	Renca	2.64	218	Pn		Pn	01 10 56.5 +1.8
MT05	Renca	2.64	218	*e*P		Pn	01 10 57.1 +2.5
MT05				*e*S		Sn	01 11 29.1 +2.4
MT05				IAML			01 11 30.3
	comp=Z,379nm,0.2s						
MT13	San Alfonso	2.73	207			Pn	01 10 57.7 +1.9
MT13	San Alfonso	2.73	207	*e*P		Pn	01 10 57.5 +1.7
LMEL	Las Melosas	2.79	205			Pn	01 10 58.3 +1.7
LMEL	Las Melosas	2.79	205	*e*P		Pn	01 10 58.4 +1.8
AC05	El Transito	2.80	332			Pn	01 10 58.5 +1.6
AC05	El Transito	2.80	332	*e*P		Pn	01 10 53.2 -3.6
AC05				*e*S		Sn	01 11 31.3 +0.8
AC05				IAML			01 11 34.9
	comp=Z,156nm,0.2s						
MRA	San Martin	2.82	113	*e*S		Sn	01 11 21.8 -9.2
MRA				IAML			01 11 32.8
	comp=Z,102nm,0.3s						
LCO	Las Campanas	2.85	324	Pn		Pn	01 10 57.9 +0.3
LCO	Las Campanas	2.85	324	*e*P		Pn	01 10 57.8 +0.3
LCO				*e*S		Sn	01 11 31.1 -0.6
LCO				IAML			01 11 33.1
	comp=Z,642nm,0.2s						
VA01	Torpederas	2.96	234			Pn	01 10 57.4 -1.3
BO04	La Punta	3.07	210			Pn	01 11 01.3 +1.1
MT09	Talagante	3.07	217	Pn		Pn	01 10 60.0 -0.4
MT01	Popeta	3.28	219			Pn	01 11 02.0 -0.9
VA05	Santo Domingo	3.34	225			Pn	01 11 03.0 -0.6
BO01	Tunca	3.62	212	Pn		Pn	01 11 06.9 -0.6
AC04	Llanos de Chal	3.70	327	Pn		Pn	01 11 08.2 -0.3
BO02	Sierra Bellavi	3.84	205			Pn	01 11 10.6 +0.1
GO03	Copiap	3.93	341	Pn		Pn	01 11 12.2 +0.4
AC06	Mina Casimiro	4.19	340	Pn		Pn	01 11 16.8 +1.7
GO05	Huala	4.52	215	Pn		Pn	01 11 18.2 -1.3
AC01	Pan de Azucar	5.40	342	Pn		Pn	01 11 31.3 -0.1
BI02	San Fabin de	5.71	201	Pn		Pn	01 11 34.8 -0.8
PB14	IPOC Station P	6.83	347	Pn		Pn	01 11 50.5 -0.5
GO06	Curarrehue	8.53	194	Pn		Pn	01 12 12.5 -1.1
PB05	IPOC Station P	8.54	351	Pn		Pn	01 12 14.2 +0.3
LVC	Limon Verde	8.68	359	Pn		Pn	01 12 14.8 -1.3
TRQA	Tornquist	8.74	142	Pn		Pn	01 12 16.9 +0.5
PLCA	Paso Flores	9.49	188	Pn		Pn	01 12 24.8 -1.9
LL04	Puerto Octay	10.00	196	Pn		Pn	01 12 29.8 -3.6
ITQB	Itaqui	10.62	84	Pn		Pn	01 12 41.0 -0.8
CPUP	Villa Florida	11.20	66	Pn		Pn	01 12 48.4 -1.3
PLTB	Pedras Altas	12.95	96	Pn		Pn	01 13 11.5 -1.2
ITAB	Concordia	15.09	79	Pn		P	01 13 41.8 -0.5
ITAB				IAmb		IAmb	01 13 58.8
	comp=Z,33nm,1.5s						
SNAA	Sanae	53.05	159	P		P	01 19 19.0 +1.6
SNAA				IAmb		IAmb	01 19 41.0
	comp=Z,4.7nm,1.5s						
QSPA	South Pole Qui	58.90	180	P		P	01 20 00.8 +1.5
QSPA				IAmb		IAmb	01 20 02.4
	comp=Z,2.7nm,0.9s						
BOSA	Boshof	78.84	117	P		P	01 22 03.2 -0.1
TORD	Torodi Ar. Bea	80.70	68	P		P	01 22 14.1 +0.9

IDC 28 01:15:14.6±6.4, 12°03N×91°20E, h0km, mb3.9/5, mbtmp3.9/5, MS3.7/2, Error ellipse: s-maj=329.1km s-min=21.2km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	35.46	349	P		P	01 22 13.6 +0.9
	0.4nm,0.6s,baz=150,slow=6.7,SNR=4.3						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	39.86	347	P		P	01 22 49.9 0.0
	2.0nm,0.2s,baz=154,slow=8.8,SNR=4.1						
	2.0nm,0.2s						
ZALV	Zalesovo Beam	42.12	354	P		P	01 23 07.0 -1.4
	0.6nm,0.6s,baz=167,slow=6.8,SNR=3.5						
	0.6nm,0.6s						
USRK	Ussuriysk Ar.	47.42	40	LR		LR	01 46 25.2
	comp=Z,54nm,19.1s,baz=235,slow=39						
WRA	Warramunga Arr	53.03	126	P		P	01 24 33.1 -0.7
	0.8nm,0.7s,baz=304,slow=8.5,SNR=12						
	0.8nm,0.7s						
ASAR	Alice Springs	54.79	130	P		P	01 24 47.2 +0.6
	0.5nm,0.4s,baz=304,slow=6.5,SNR=11						
	0.5nm,0.4s						
LBTB	Lobatse	73.76	239	LR		LR	01 56 31.7
	comp=Z,80nm,20.4s,baz=56,slow=34						

*IDC **28** 01:17:19.3±1.3, 33°.88N×37°.80W, h0km, mb3.7/16, mbtmp3.7/16, MS3.8/17, Error ellipse: s-maj=40.5km s-min=18.6km az=2.0*
*NEIC **28** 01:17:20.9±1.6, 33°.8N±0°.2×37°.93W±0°.09, h10km±1km, mb4.3/8, Error ellipse: s-maj=27.8km s-min=11.0km az=163.0*

ISC 28 01:17:20.5±0.8, 33°8N±0°2×37°87W±0°09, h10km, n54, σ0°85/36, mb4.0/28, MS3.8/17, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMOZ	Porto Moniz, M	17.31	87	Pn		Pn	01 21 21.1 -1.2
MACI	Morro de la Ar	19.11	101	P		P	01 21 43.3 -0.5
DRLN	Deer Lake	21.23	323	P		P	01 22 05.7 -0.8
BBTS	Babate	27.13	129	LR		LR	01 31 03.0
	comp=Z,103nm,18.7s,baz=170,slow=30						
ESDC	Sonseca Array	27.69	68	P		P	01 23 08.3 -0.5
	0.2nm,0.5s,baz=267,slow=8.5,SNR=2.1						
	0.2nm,0.5s						
MDT	Midelt	27.75	83	LR		LR	01 31 55.1
	comp=Z,84nm,19.2s,baz=323,slow=32						
SCHQ	Schefferville	29.18	325	LR		LR	01 34 08.0
	comp=Z,138nm,20.1s,baz=74,slow=35						
EKA	Eskdalemuir Ar	32.27	38	P		P	01 23 49.3 +0.2
	2.2nm,0.9s,baz=254,slow=10,SNR=3.6						
	2.2nm,0.9s						
SADO	Sadowa	33.45	302	LR		LR	01 35 22.8
	comp=Z,81nm,21.8s,baz=300,slow=32						
BAUV	El Baul	37.18	235	P		P	01 24 30.9 -1.0
BAUV				IAmb		IAmb	01 24 35.3
	comp=Z,12nm,0.9s						
TKL	Tuckaleechee C	37.52	286	LR		LR	01 37 38.3
	comp=Z,102nm,19.7s,baz=360,slow=32						
FETA	Feichten	38.68	55	*e*P		P	01 24 45.7 +1.2
	comp=Z,3.7nm,1.3s						
MOTA	Moosalm	38.95	55	*e*P		P	01 24 47.5 +0.7
	comp=Z,6.2nm,1.7s						
SQTA	Sankt Quirin	39.02	55	*e*P		P	01 24 48.2 +0.9
	comp=Z,4.3nm,1.0s						
WATA	Walderalm	39.27	55	*e*P		P	01 24 50.3 +0.9
	comp=Z,6.1nm,1.1s						
WTTA	Wattenberg	39.31	55	*e*P		P	01 24 50.1 +0.3
	comp=Z,3.3nm,0.8s						
TAM	Tamanrasset	39.49	95	P		P	01 24 53.3 +1.7
ABTA	Abfaltersbach	39.90	56	*e*P		P	01 24 54.9 +0.3
	comp=Z,3.4nm,1.0s						
KBA	Koelnbreinsper	40.47	55	*e*P		P	01 25 00.5 +1.0
	comp=Z,2.7nm,1.0s						
GERES	GERESS Array B	40.75	52	P		P	01 25 00.5 -1.1
	comp=Z,0.4nm,0.6s,baz=275,slow=4.8,SNR=4.3						
	comp=Z,0.4nm,0.6s						
DBIC	Dimbokro	40.75	124	LR		LR	01 40 04.1
	comp=Z,87nm,19.0s,baz=328,slow=34						
MOA	Molln	41.10	54	*i* P	

DLBC Dease Lake 62.98 324 LR LR 01 54 41.2
comp=Z,117nm,19.5s,baz=98,slow=36
NVAR Mina Array Bea 63.17 300 P **P 01 27 49.0 -0.1**
comp=Z,0.5nm,0.7s,baz=79,slow=7.7,SNR=3.6
NVAR LR LR 01 54 51.5
comp=Z,71nm,21.1s,baz=56,slow=36
comp=Z,0.5nm,0.7s
PFO Pinyon Flats O 63.74 294 LR LR 01 55 03.0
comp=Z,90nm,18.2s,baz=325,slow=36
BBB Bella Bella 64.27 317 LR LR 01 54 21.3
comp=Z,81nm,19.9s,baz=34,slow=35
ILAR Eielson Array 67.42 334 P **P 01 28 15.4 -0.4**
comp=Z,0.6nm,0.9s,baz=52,slow=4.9,SNR=3.3
ILAR LR LR 01 55 41.3
comp=Z,37nm,21.4s,baz=68,slow=34
comp=Z,0.6nm,0.9s
ABKAR Akbulak array 69.87 44 P **P 01 28 31.7 +0.3**
BVAR Borovoye Array 73.52 37 P **P 01 28 52.1 -1.3**
comp=Z,1.3nm,0.8s,baz=286,slow=6.0,SNR=7.0
comp=Z,1.3nm,0.8s
KDAK Kodiak Island 73.68 330 LR LR 02 01 52.0
comp=Z,104nm,18.1s,baz=73,slow=36
KURBB Kurchatov Arra 78.99 36 P **P 01 29 23.2 -1.2**
comp=Z,2.0nm,0.9s,baz=313,slow=5.6,SNR=19
comp=Z,2.0nm,0.9s
ZALV Zalesovo Beam 79.59 30 P **P 01 29 28.2 +0.6**
comp=Z,0.6nm,0.7s,baz=284,slow=7.3,SNR=2.0
comp=Z,0.6nm,0.7s
MK31 Makanchi Array 83.41 37 P **P 01 29 48.5 +0.5**
MK31 IAmb IAmb 01 29 58.0
comp=Z,0.9nm,0.8s
MKAR Makanchi Array 83.41 37 P **P 01 29 47.0 -1.1**
MKAR Makanchi Array 83.41 37 P **P 01 29 48.5 +0.4**
comp=Z,1.0nm,0.9s,baz=330,slow=4.6,SNR=5.3
comp=Z,1.0nm,0.9s

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*TEH **28** 01:17:36.4, 38.°42N×44.°95E, h8km±257km, ML2.5*
*AZER **28** 01:17:38.9, 38.°62N×45.°12E, h2km, ml2.2*
ISC 28 01:17:37.4±1.7, 38.°50N±0.°06×45.°06E±0.°07, h2km±12km, n17, σ0.°81/27, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.49**	**116**	Pg	**Pg**	**01 17 47.0**	**+0.3**
IMRD	**Marand**	**0.55**	**67**	Pg	**Pb**	**01 17 49.8**	**0.0**
IMRD				Sg	**Sb**	**01 17 59.3**	**+1.1**
NAX	**Nakhchivan**	**0.76**	**27**	P	**Pb**	**01 17 53.8**	**+0.5**
NAX				S	**Sn**	**01 18 06.0**	**-1.2**
ORD	**Ordubad**	**0.85**	**59**	P	**Pb**	**01 17 55.5**	**+0.6**
ORD				S	**Sn**	**01 18 08.5**	**-1.0**
ITBZ	**Tabriz**	**0.89**	**107**	Pg	**Pg**	**01 17 54.5**	**0.0**
MAKU	**Maku**	**0.90**	**341**	Pg	**Pg**	**01 17 54.9**	**+0.2**
SBZ	**Shahbuz**	**0.98**	**23**	P	**Pn**	**01 17 57.6**	**-0.6**
SBZ				S	**Sn**	**01 18 12.2**	**-0.5**
IAZR	**Azarshahr**	**1.09**	**138**	Pg	**Pg**	**01 17 58.1**	**-0.2**
HYR	**Heyderabad**	**1.23**	**352**	P	**Pn**	**01 18 01.2**	**-0.5**
HYR				S	**Sn**	**01 18 21.2**	**+2.3**
IHRS	**Heris**	**1.57**	**96**	Pg	**Pb**	**01 18 07.5**	**+0.2**
ISRB	**Sarab**	**2.16**	**107**	Pn	**Pb**	**01 18 17.5**	**+0.2**
GRMI	**Germi**	**2.24**	**81**	Pn	**Pb**	**01 18 19.4**	**+0.7**
GDB	**GEDABAY**	**2.28**	**13**	P	**Pb**	**01 18 19.4**	**0.0**
GDB				S	**Sg**	**01 18 51.3**	**+0.6**
GANJ	**Ganja**	**2.36**	**24**	P	**Pb**	**01 18 21.4**	**+0.8**
GANJ				S	**Sg**	**01 18 52.4**	**-0.7**
YRD	**Yardimli**	**2.52**	**80**	P	**Pb**	**01 18 24.6**	**+1.0**
YRD				S	**Sg**	**01 18 57.9**	**-0.5**
QZX	**Qazax, Azerbai**	**2.57**	**5**	P	**Pb**	**01 18 23.7**	**-0.5**
QZX				S	**Sg**	**01 18 58.9**	**-1.0**
LRK	**Lerik**	**2.57**	**86**	P	**Pb**	**01 18 24.6**	**+0.2**
LRK				S	**Sg**	**01 19 00.2**	**+0.1**

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*IDC **28** 01:21:55.6±2.5, 9.°86S×112.°38E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=120.3km s-min=22.1km az=49.0*
*DJA **28** 01:22:03.1±0.8, 9.°S±9.°×11.°3E±.°, h10km, M3.8/11, mb3.6/1, MLv3.9/11*
ISC 28 01:22:03.1±1.3, 9.°6S±0.°2×112.°78E±0.°07, h35km, n13, σ1.°73/13, mb3.7/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.74**	**51**	P	**Pn**	**01 22 31.0**	**+0.2**
PWJI	**Pagerwojo**	**1.81**	**328**	P	**Pn**	**01 22 33.2**	**+1.4**
ABJI	**Asem Bagus**	**2.27**	**39**	P	**Pn**	**01 22 40.0**	**+1.9**
IGBI	**Denpasar**	**2.45**	**72**	P	**Pn**	**01 22 43.0**	**+2.4**
UGM	**Wanagama**	**2.77**	**306**	P	**Pn**	**01 22 47.2**	**+2.2**
SRBI	**Singaraja**	**2.82**	**59**	P	**Pn**	**01 22 46.8**	**+1.1**
TWSI	**Taliwang, Sumb**	**4.13**	**79**	P	**Pn**	**01 23 05.1**	**+1.4**
PLAI	**Plampang**	**4.99**	**82**	P	**Pn**	**01 23 17.8**	**+2.3**
WRA	**Warramunga Arr**	**23.23**	**119**	P	**P**	**01 27 06.5**	**-0.9**
	0.3nm,0.8s,baz=291,slow=11,SNR=5.5						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**24.57**	**127**	P	**P**	**01 27 19.1**	**-0.9**
	1.0nm,0.7s,baz=305,slow=9.0,SNR=14						
	1.0nm,0.7s						
SONM	**Songino Array**	**57.43**	**355**	P	**P**	**01 31 48.2**	**-0.2**
	0.5nm,0.7s,baz=185,slow=9.2,SNR=2.4						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**62.36**	**337**	P	**P**	**01 32 21.4**	**-0.7**
	0.3nm,0.5s,baz=154,slow=7.8,SNR=5.3						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**67.56**	**343**	P	**P**	**01 32 53.9**	**-1.9**
	0.9nm,0.6s,baz=139,slow=2.9,SNR=3.8						
	0.9nm,0.6s						

IDC 28 01:29:52.1±1.8, 6.°73S×128.°35E, h0km, mb3.5/2, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=139.3km s-min=29.8km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.36**	**157**	Pn	Pn	01 33 16.3	-0.6
	0.2nm,0.3s,baz=335,slow=13,SNR=14						
WRA				Sn	Sn	01 35 41.7	-15
	0.1nm,0.3s,baz=329,slow=24,SNR=2.1						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.67**	**163**	P	Pn	01 34 00.1	+0.3
	0.1nm,0.3s,baz=346,slow=10,SNR=7.9						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**67.11**	**328**	P	P	01 40 46.8	-0.8
	0.1nm,0.4s,baz=125,slow=9.6,SNR=2.3						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**71.43**	**329**	P	P	01 41 14.9	+0.7
	0.5nm,0.6s,baz=125,slow=7.0,SNR=5.9						
	0.5nm,0.6s						

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*CRAAG **28** 01:30:36.3, 36.°66N×3.°76E, Ml2.5, Algerie 05km SW Timezrit*
*MDD **28** 01:30:39.1±1.3, 36.°71N×3.°79E, h5km±17km, Mb3.7/5, M_mb3.0/5, Error ellipse: s-maj=22.9km s-min=5.9km az=129.0*
ISC 28 01:30:37.9±1.0, 36.°69N±0.°06×3.°77E±0.°04, h16km, n13, σ1.°01/16, 5C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKED	**El Kharrouba**	**0.29**	**262**	P	**Pg**	**01 30 43.2**	**-0.9**
ATKJ	**Tikjda**	**0.38**	**131**	P	**Pg**	**01 30 44.9**	**-0.8**
ABA	**Alger-Bouzarea**	**0.60**	**281**	P	**Pg**	**01 30 49.3**	**-0.4**
AKET	**Djebel Ketaf**	**0.65**	**172**	P	**Pg**	**01 30 50.5**	**-0.2**
ADOR	**Douera**	**0.69**	**268**	P	**Pg**	**01 30 51.1**	**-0.3**
CTCHA	**Tamokra**	**0.76**	**110**	P	**Pg**	**01 30 52.5**	**-0.2**
ACHR	**Chrea**	**0.76**	**250**	P	**Pg**	**01 30 52.2**	**-0.7**
EMHD	**Djebel Mahouad**	**0.82**	**234**	P	**Pb**	**01 30 53.6**	**-0.3**
EIBI	**Ibiza**	**3.02**	**321**	P	**Pn**	**01 31 25.6**	**+0.6**
EIBI				⇑*i*Vmb_V		01 31 27.6	
	102nm,SNR=0.6						
EIBI				S	**Sn**	**01 31 59.9**	**-1.0**
ETOS	**Mallorca**	**3.16**	**347**	P	**Pn**	**01 31 27.6**	**+0.6**
ETOS				⇑*i*Vmb_V		01 31 28.4	
	120nm,SNR=1.3						
ETOS				S	**Sn**	**01 32 02.7**	**-1.7**
EVIV	**Cofrentes, Val**	**4.64**	**305**	P	**Pn**	**01 31 48.6**	**+1.2**
EVIV				⇑*i*Vmb_V		01 31 49.4	
	86nm,SNR=1.0						
EVIV				S	**Sn**	**01 32 41.7**	**+0.8**
ECHE	**Chera**	**4.72**	**309**	P	**Pn**	**01 31 50.1**	**+1.5**
ECHE				⇑*i*Vmb_V		01 31 51.5	
	69nm,SNR=0.6						
EJON	**La Jonquera**	**5.79**	**354**	P	**Pn**	**01 32 04.5**	**+1.3**
EJON				⇑*i*Vmb_V		01 32 06.8	
	127nm,SNR=1.2						

NAM 28 01:39:50.9±0.3, 19.°82S×14.°56E, h1km±1km, ML0.3, 7C-4D, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ST9N	**ST9**	**0.02**	**311**	⇓*i*P	Pg	01 39 51.5	+0.1
ST9N				*i* S	Sg	01 39 52.0	+0.1
ST9N				IAML		01 39 52.2	
	comp=Z,58nm,0.0s						
ST9N	**ST9**	**0.02**	**311**	⇓*i*P	Pg	01 39 51.5	+0.1
ST9N				*i* S	Sg	01 39 51.9	+0.1
ST9N				IAML		01 39 52.2	
	comp=Z,59nm,0.0s						
ST1N	**ST1**	**0.09**	**31**	⇑*i*P	Pg	01 39 52.8	+0.1
ST1N				*i* S	Sg	01 39 54.0	+0.2
ST1N				IAML		01 39 54.3	
	comp=Z,2.9nm,0.0s						
ST1N	**ST1**	**0.09**	**31**	⇓*i*P	Pg	01 39 52.8	+0.1
ST1N				*i* S	Sg	01 39 54.0	+0.2
ST1N				IAML		01 39 54.3	
	comp=Z,2.9nm,0.0s						
ST3N	**ST3**	**0.10**	**320**	⇑*i*P	Pg	01 39 52.8	0.0
ST3N				*i* S	Sg	01 39 54.1	+0.1
ST3N				IAML		01 39 54.2	
	comp=Z,1.2nm,0.1s						
ST3N	**ST3**	**0.10**	**320**	⇓*i*P	Pg	01 39 52.8	0.0
ST3N				*i* S	Sg	01 39 54.1	+0.1
ST3N				IAML		01 39 54.2	
	comp=Z,1.2nm,0.1s						
ST2N	**ST2**	**0.12**	**164**	⇑*i*P	Pg	01 39 53.2	0.0
ST2N				*i* S	Sg	01 39 54.9	+0.1
ST2N				IAML		01 39 55.5	
	comp=Z,1.6nm,0.1s						
ST2N	**ST2**	**0.12**	**164**	⇑*i*P	Pg	01 39 53.2	0.0
ST2N				*i* S	Sg	01 39 54.9	+0.1
ST2N				IAML		01 39 55.5	
	comp=Z,1.7nm,0.0s						
ST6N	**ST6**	**0.16**	**275**	⇑*i*P	Pg	01 39 53.9	0.0
ST6N				*i* S	Sg	01 39 56.2	+0.2
ST6N				IAML		01 39 56.2	
	comp=Z,2.4nm,0.0s						
ST6N	**ST6**	**0.16**	**275**	⇑*i*P	Pg	01 39 53.9	0.0
ST6N				IAML	S	01 39 56.2	+0.2
	comp=Z,2.4nm,0.0s						
ST6N				*i* S	S	01 39 56.2	+0.2
ST10N	**ST10**	**0.24**	**222**	*i* P	Pg	01 39 50.3	-5.4
ST10N				*i* S	Sg	01 39 59.1	+0.2
ST10N				IAML		01 39 59.1	
	comp=Z,1.0nm,0.1s						
ST10N	**ST10**	**0.24**	**222**	⇑*i*P	Pg	01 39 55.5	-0.1
ST10N				IAML		01 39 59.1	
	comp=Z,1.0nm,0.1s						
ST10N				*i* S	Sg	01 39 59.2	+0.3
ST4N	**ST4**	**0.39**	**101**	*i* S	Sg	01 40 02.8	-0.8

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*IDC **28** 01:40:08.8±1.3, 55.°80N×149.°71W, h0km, mb3.5/7, mbtmp3.7/12, ML3.6/5, MS3.1/4, Error ellipse: s-maj=31.1km s-min=17.2km az=32.0*
*NEIC **28** 01:40:08.8±1.2, 55.°86N±0.°06×149.°7W±0.°1, h7km±5km, mb3.9/5, ML3.8/58, ML3.7(AEIC), Error ellipse: s-maj=10.1km s-min=7.4km az=149.0*
*AEIC **28** 01:40:14.6±1.3, 55.°94N±0.°08×149.°64W±0.°10, h10km±5km, Error ellipse: s-maj=11.3km s-min=7.8km az=166.0*
ISC 28 01:40:09.3±4.2, 55.°93N±0.°07×149.°75W±0.°05, h7km±28km, n296, σ0.°94/300, mb3.6/8, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.35**	**305**	P	**Pn**	**01 40 48.4**	**+0.2**
OHAK	**Old Harbor**	**2.35**	**305**	Pn	**Pn**	**01 40 48.2**	**0.0**
OHAK					**Sn**	**01 41 15.2**	**-2.0**
OHAK	**Old Harbor**	**2.35**	**305**	P	**Pn**	**01 40 48.4**	**+0.2**
	baz=121						
OHAK				S	**Sn**	**01 41 15.8**	**-1.4**
	baz=121						
KDAK	**Kodiak Island**	**2.42**	**321**	Pn	**Pn**	**01 40 49.8**	**+0.5**
KDAK					**Sn**	**01 41 17.9**	**-1.3**
KDAK	**Kodiak Island**	**2.42**	**321**	S	**Sn**	**01 41 17.7**	**-1.4**
	baz=138						
KDAK	**Kodiak Island**	**2.42**	**321**	Pn	**Pn**	**01 40 49.7**	**+0.5**
	12nm,0.3s,baz=129,slow=4.9,SNR=480						
KDAK					**Sn**	**01 41 17.5**	**-1.6**
	16nm,0.3s,baz=42,slow=22,SNR=17						
KDAK				LR	LR	01 42 03.1	
	comp=Z,375nm,18.0s,baz=173,slow=45						
	37nm,0.3s						
SII	**Sitkinak Islan**	**2.56**	**286**	P	**Pn**	**01 40 51.0**	**-0.1**
SII	**Sitkinak Islan**	**2.56**	**286**	Pn	**Pn**	**01 40 51.4**	**+0.4**
SII				Sn	**Sn**	**01 41 21.8**	**-0.6**
SII				IAML		01 41 22.1	
	comp=E,446nm,0.7s						
SII				IAML		01 41 26.4	
	comp=N,320nm,0.7s						
SII	**Sitkinak Islan**	**2.56**	**286**	P	**Pn**	**01 40 51.5**	**+0.4**
	baz=102						
SII				S	**Sn**	**01 41 21.7**	**-0.6**
	baz=102						
Q20K	**Shuyak Island**	**3.05**	**333**	P	**Pn**	**01 40 58.2**	**+0.4**
	baz=150						
Q20K				S	**Sn**	**01 41 32.8**	**-1.7**
	baz=150						
SYI	**Shuyak Island**	**3.05**	**333**	Pn	**Pn**	**01 40 58.4**	**+0.6**
SYI					**Sn**	**01 41 33.2**	**-1.2**
R18K	**Karluk**	**3.07**	**304**		**Pn**	**01 40 59.0**	**+1.0**
R18K					**Sn**	**01 41 33.8**	**-1.1**
R18K				IAML		01 41 35.7	
	comp=N,353nm,0.5s						
R18K				IAML		01 41 38.2	
	comp=E,323nm,0.5s						
R18K	**Karluk**	**3.07**	**304**	P	**Pn**	**01 40 59.2**	**+1.1**
	baz=120						
R18K				S	**Sn**	**01 41 34.0**	**-0.9**
	baz=120						
CHIR	**Chirikof Islan**	**3.31**	**271**	Pn	**Pn**	**01 41 01.6**	**+0.2**
CHIR					**Sn**	**01 41 37.8**	**-3.2**
CHIR				IAML		01 41 39.9	
	comp=N,168nm,0.5s						
CHIR				IAML		01 41 43.0	
	comp=E,154nm,0.4s						
CHIR	**Chirikof Islan**	**3.31**	**271**	P	**Pn**	**01 41 01.7**	**+0.2**
	baz=86						
KAHG	**Katmai Hook Gl**	**3.66**	**317**		**Pn**	**01 41 08.3**	**+1.9**
Q19K	**Cape Douglas,**	**3.67**	**327**		**Pn**	**01 41 07.5**	**+1.1**
Q19K	**Cape Douglas,**	**3.67**	**327**	P	**Pn**	**01 41 07.8**	**+1.4**
	baz=142						
Q19K				S	**Sn**	**01 41 47.4**	**-2.5**
	baz=142						
CNPM	**China Poot**	**3.69**	**348**	Pn	**Pn**	**01 41 06.7**	**0.0**
CNPM				IAML		01 41 52.1	
	comp=N,113nm,0.5s						
CNPM				IAML		01 41 52.7	
	comp=E,120nm,0.6s						
KCE	**Katmai Mt Cerb**	**3.77**	**310**		**Pn**	**01 41 06.2**	**-1.6**
ACHA	**Angle Creek He**	**3.81**	**309**		**Pn**	**01 41 09.8**	**+1.5**
BRSE	**Bradley Lake S**	**3.86**	**353**		**Pn**	**01 41 08.5**	**-0.5**
BRSE	**Bradley Lake S**	**3.86**	**353**	P	**Pn**	**01 41 08.5**	**-0.5**
	baz=170						
BRLK	**Bradley Lake**	**3.89**	**351**		**Pn**	**01 41 09.6**	**+0.1**
BRLK				IAML		01 41 56.5	
	comp=E,99nm,0.9s						
Q18K	**Katmai Hardscr**	**3.95**	**316**	P	**Pn**	**01 41 11.8**	**+1.6**
	baz=131						
Q23K	**Middleton Isla**	**3.96**	**26**	Pn	**Pn**	**01 41 09.5**	**-0.8**
Q23K	**Middleton Isla**	**3.96**	**26**	P	**Pn**	**01 41 09.3**	**-0.9**
	baz=208						
MID	**Middleton Isla**	**3.96**	**26**	P	**Pn**	**01 41 09.0**	**-1.3**
MID	**Middleton Isla**	**3.96**	**26**	Pn	**Pn**	**01 41 09.4**	**-0.9**
MID				IAML		01 41 53.0	
	comp=N,95nm,1.0s						
MID				IAML		01 42 02.1	
	comp=E,93nm,1.0s						
AU22	**Augustine Moun**	**3.96**	**332**		**Pn**	**01 41 11.8**	**+1.5**
PLK3	**Peulik 3**	**3.99**	**299**		**Pn**	**01 41 12.4**	**+1.6**
PLK4	**Peulik 4**	**4.02**	**298**		**Pn**	**01 41 12.8**	**+1.5**
PLK4				IAML		01 42 00.2	
	comp=E,141nm,0.6s						
PLK4				IAML		01 42 03.2	
	comp=N,128nm,0.5s						
R17L	**Mt. Peulik Vol**	**4.02**	**298**	P	**Pn**	**01 41 12.6**	**+1.5**
	baz=112						
PLK2	**Peulik 2**	**4.05**	**300**		**Pn**	**01 41 13.5**	**+1.8**
Q17K	**Contact Creek**	**4.08**	**307**	P	**Pn**	**01 41 13.6**	**+1.4**
	baz=122						
P19K	**Oil Pt**	**4.17**	**335**	Pn	**Pn**	**01 41 14.1**	**+0.8**
P19K	**Oil Pt**	**4.17**	**335**	P	**Pn**	**01 41 14.2**	**+0.8**
	baz=151						
SEW	**Seward**	**4.19**	**2**	Pn	**Pn**	**01 41 12.7**	**-0.8**
SEW	**Seward**	**4.19**	**2**	P	**Pn**	**01 41 12.5**	**-1.0**
	baz=181						
PLK1	**Peulik 1**	**4.21**	**299**		**Pn**	**01 41 15.5**	**+1.8**
P23K	**Montague Islan**	**4.27**	**16**	P	**Pn**	**01 41 13.9**	**-0.6**
	baz=197						
O20K	**Slope Mountain**	**4.43**	**341**		**Pn**	**01 41 17.0**	**+0.1**
O20K	**Slope Mountain**	**4.43**	**341**	P	**Pn**	**01 41 17.2**	**+0.3**
	baz=158						
ILSW	**Iliamna Southw**	**4.45**	**337**	Pn	**Pn**	**01 41 17.4**	**+0.2**
ILSW				IAML		01 42 17.1	
	comp=E,69nm,0.6s						
P18K	**Big Mountain,**	**4.55**	**322**		**Pn**	**01 41 19.2**	**+0.6**
P18K	**Big Mountain,**	**4.55**	**322**	P	**Pn**	**01 41 19.1**	**+0.6**
	baz=137						
O22K	**Cooper Landing**	**4.56**	**0**	Pn	**Pn**	**01 41 17.8**	**-0.9**
SLKM	**Skilak Lake**	**4.60**	**357**		**Pn**	**01 41 18.4**	**-0.8**
HIN	**Hinchinbrook I**	**4.80**	**20**		**Pn**	**01 41 21.5**	**-0.4**
HIN				IAML		01 42 15.0	
	comp=N,112nm,0.5s						
RSO	**Redoubt South**	**4.81**	**342**		**Pn**	**01 41 23.1**	**+0.8**
RDT	**Redoubt**	**4.86**	**344**		**Pn**	**01 41 22.1**	**-0.8**
CHGN	**Chignik**	**4.87**	**278**	Pn	**Pn**	**01 41 23.9**	**+1.2**
CHGN				IAML		01 42 58.1	
	comp=N,70nm,0.1s						
CHGN				IAML		01 44 02.1	
	comp=E,90nm,0.1s						
P17K	**Kvichak River**	**4.87**	**315**		**Pn**	**01 41 24.3**	**+1.5**
P17K	**Kvichak River**	**4.87**	**315**	P	**Pn**	**01 41 24.3**	**+1.5**
	baz=129						
O18K	**Koktuh Hills**	**4.89**	**326**	Pn	**Pn**	**01 41 23.8**	**+0.5**
O18K				IAML		01 42 21.8	
	comp=N,88nm,0.8s						
O18K				IAML		01 42 33.9	
	comp=E,63nm,0.8s						
O18K	**Koktuh Hills**	**4.89**	**326**	P	**Pn**	**01 41 24.3**	**+1.0**
	baz=140						
CAPN	**Captain Cook N**	**4.91**	**352**	Pn	**Pn**	**01 41 23.5**	**+0.1**
KAIM	**Kayak Island**	**4.91**	**33**	Pn	**Pn**	**01 41 23.2**	**-0.2**
KAIM				IAML		01 42 17.2	
	comp=N,101nm,1.0s						
KAIM	**Kayak Island**	**4.91**	**33**	P	**Pn**	**01 41 23.0**	**-0.4**
	baz=217						
PWL	**Port Wells**	**5.00**	**8**	Pn	**Pn**	**01 41 24.1**	**-0.5**
PWL				IAML		01 42 24.6	
	comp=E,68nm,0.5s						
PWL				IAML		01 42 25.7	
	comp=N,86nm,0.7s						
PWL	**Port Wells**	**5.00**	**8**	P	**Pn**	**01 41 24.1**	**-0.5**
	baz=188						
EYAK	**Cordova Ski Ar**	**5.09**	**23**	P	**Pn**	**01 41 25.5**	**-0.4**
EYAK	**Cordova Ski Ar**	**5.09**	**23**	Pn	**Pn**	**01 41 25.4**	**-0.5**
EYAK	**Cordova Ski Ar**	**5.09**	**23**	P	**Pn**	**01 41 25.5**	**-0.4**
	baz=205						
FID	**Port Fidalgo**	**5.13**	**18**		**Pn**	**01 41 25.7**	**-0.8**
FID				IAML		01 42 20.6	
	comp=E,92nm,0.6s						
FID				IAML		01 42 22.3	
	comp=N,58nm,0.4s						
GLI	**Glacier Island**	**5.16**	**15**		**Pn**	**01 41 26.6**	**-0.2**
GLI				IAML		01 42 25.0	
	comp=N,46nm,0.6s						
GLI				IAML		01 42 30.4	
	comp=E,58nm,0.6s						
GLI	**Glacier Island**	**5.16**	**15**	P	**Pn**	**01 41 26.3**	**-0.5**
	baz=196						
RC01	**Rabbit Creek A**	**5.17**	**0**	Pn	**Pn**	**01 41 26.8**	**-0.3**
RC01				IAML		01 42 25.1	
	comp=E,59nm,0.6s						
RC01				IAML		01 42 29.1	
	comp=N,51nm,0.5s						
RC01	**Rabbit Creek A**	**5.17**	**0**	P	**Pn**	**01 41 26.6**	**-0.5**
	baz=179						
RAGM	**Ragged Mountai**	**5.21**	**29**		**Pn**	**01 41 27.4**	**-0.2**
SUCK	**Suckling Hills**	**5.23**	**35**		**Pn**	**01 41 27.7**	**-0.1**
SUCK				IAML		01 42 24.8	
	comp=N,65nm,1.0s						
SUCK				IAML		01 42 26.5	
	comp=E,63nm,1.2s						
HMT	**Hamilton**	**5.29**	**31**		**Pn**	**01 41 28.5**	**-0.1**
SPU	**Mount Spurr**	**5.40**	**348**	Pn	**Pn**	**01 41 30.8**	**+0.5**
P16K	**Nushagak River**	**5.42**	**308**		**Pn**	**01 41 31.9**	**+1.5**
P16K	**Nushagak River**	**5.42**	**308**	P	**Pn**	**01 41 32.0**	**+1.6**
	baz=121						
BGLC	**Bering Glacier**	**5.43**	**37**		**Pn**	**01 41 30.6**	**+0.1**
BGLC	**Bering Glacier**	**5.43**	**37**	P	**Pn**	**01 41 30.6**	**+0.1**
	baz=221						
N19K	**Bonanza Creek**	**5.49**	**335**		**Pn**	**01 41 31.2**	**-0.3**
N19K	**Bonanza Creek**	**5.49**	**335**	P	**Pn**	**01 41 31.3**	**-0.3**
	baz=150						
O17K	**Koliganek Bris**	**5.50**	**318**		**Pn**	**01 41 32.5**	**+1.0**
O17K	**Koliganek Bris**	**5.50**	**318**	P	**Pn**	**01 41 32.5**	**+1.0**
	baz=131						
GRIN	**Grindle Hills**	**5.54**	**35**		**Pn**	**01 41 31.9**	**-0.1**
KNK	**Knik Glacier**	**5.54**	**6**	Pn	**Pn**	**01 41 32.5**	**+0.5**
SUA	**Susitna One**	**5.58**	**355**		**Pn**	**01 41 31.7**	**-0.9**
SUA	**Susitna One**	**5.58**	**355**	P	**Pn**	**01 41 32.0**	**-0.6**
	baz=173						
DIV	**Divide**	**5.62**	**20**	Pn	**Pn**	**01 41 32.6**	**-0.5**
SNH	**Sunshine Point**	**5.62**	**38**		**Pn**	**01 41 32.8**	**-0.5**
CYK	**Cape Yakataga**	**5.68**	**40**		**Pn**	**01 41 33.5**	**-0.4**
PMR	**Palmer**	**5.69**	**3**	Pn	**Pn**	**01 41 34.3**	**+0.3**
PMR	**Palmer**	**5.69**	**3**	P	**Pn**	**01 41 34.0**	**-0.1**
	baz=183						
STLK	**Strandline Lak**	**5.69**	**350**		**Pn**	**01 41 34.2**	**0.0**
CHNA	**Chernabura Isl**	**5.72**	**263**	P	**Pn**	**01 41 34.8**	**+0.3**
	baz=75						
CNBA	**Chernabura Isl**	**5.72**	**263**		**Pn**	**01 41 34.6**	**+0.1**
BMRM	**Bremner River**	**5.73**	**26**	Pn	**Pn**	**01 41 34.4**	**-0.2**
BMRM	**Bremner River**	**5.73**	**26**	P	**Pn**	**01 41 34.5**	**-0.2**
	baz=210						
N18K	**Kilae Creek**	**5.76**	**328**		**Pn**	**01 41 35.5**	**+0.5**
N18K	**Kilae Creek**	**5.76**	**328**	P	**Pn**	**01 41 35.6**	**+0.5**
	baz=143						
O16K	**Kokwok River B**	**5.78**	**313**		**Pn**	**01 41 36.7**	**+1.3**
O16K	**Kokwok River B**	**5.78**	**

	baz=215							
PTPK	Patty Peak	6.50	33			Pn	01 41 45.4	-0.1
PCA	Pinnacle	6.55	46	Pn		Pn	01 41 46.0	+0.1
PINM	Pinnacle	6.55	46	P		Pn	01 41 45.7	-0.3
	baz=234							
N16K	Nishlik Lake	6.59	317			Pn	01 41 47.6	+1.1
N16K	Nishlik Lake	6.59	317	P		Pn	01 41 47.6	+1.1
	baz=129							
WASW	Wrangell South	6.67	23			Pn	01 41 48.1	+0.3
PNL	Peninsula	6.68	52	P		Pn	01 41 46.7	-1.0
PNL	Peninsula	6.68	52			Pn	01 41 47.2	-0.5
PNL	Peninsula	6.68	52	P		Pn	01 41 47.5	-0.2
	baz=240							
WACK	Wrangell Chich	6.69	23			Pn	01 41 47.9	-0.1
CTG	Chitna Glacier	6.70	38	P		Pn	01 41 47.7	-0.4
	baz=224							
CTGM	Chitina Glacie	6.71	38			Pn	01 41 47.9	-0.3
LOGN	Logan Glacier	6.72	40			Pn	01 41 47.7	-0.7
BCPM	Bancas Point	6.72	49			Pn	01 41 48.3	0.0
WAT6	Susitna Watana	6.75	8	P		Pn	01 41 49.0	+0.2
	baz=189							
M17K	Holitna River	6.79	327			Pn	01 41 50.0	+0.7
M17K	Holitna River	6.79	327	P		Pn	01 41 50.0	+0.7
	baz=140							
L19K	White Mountain	6.80	339			Pn	01 41 48.6	-0.8
L19K	White Mountain	6.80	339	P		Pn	01 41 48.7	-0.6
	baz=154							
PS1A	Pavlof South-1	6.80	271			Pn	01 41 50.2	+0.8
PVV	Pavlof Volcano	6.84	270			Pn	01 41 50.5	+0.7
PS4A	Pavlof South-4	6.88	270			Pn	01 41 51.3	+0.8
HARP	HAARP	6.90	18			Pn	01 41 51.5	+0.7
HARP	HAARP	6.90	18	P		Pn	01 41 51.5	+0.7
	baz=201							
HAG	Hague Volcano	6.91	270			Pn	01 41 51.9	+0.9
N15K	Kwethluk River	6.94	312			Pn	01 41 52.6	+1.3
N15K	Kwethluk River	6.94	312	P		Pn	01 41 53.4	+2.1
	baz=123							
WAT7	Susitna Watana	6.94	3			Pn	01 41 51.8	+0.4
S12K	Black Hills	6.94	273			Pn	01 41 51.7	+0.4
S12K	Black Hills	6.94	273	P		Pn	01 41 52.0	+0.7
	baz=83							
O28M	Mount Upton	6.99	42			Pn	01 41 52.0	-0.1
O28M	Mount Upton	6.99	42	P		Pn	01 41 52.2	+0.1
	baz=230							
M16K	Timber Creek	7.02	320			Pn	01 41 53.0	+0.6
M16K	Timber Creek	7.02	320	P		Pn	01 41 53.3	+0.9
	baz=132							
O14K	Tigyukauivet M	7.03	303			Pn	01 41 53.8	+1.3
L18K	Granite Mounta	7.25	333			Pn	01 41 55.0	-0.5
L18K	Granite Mounta	7.25	333	P		Pn	01 41 55.2	-0.3
	baz=147							
M26K	Nabesna, AK	7.36	25			Pn	01 41 56.8	-0.3
O29M	Mount Kennedy	7.36	49			Pn	01 41 57.5	+0.3
O29M	Mount Kennedy	7.36	49	P		Pn	01 41 57.2	+0.1
	baz=238							
PAX	Paxson	7.39	15			Pn	01 41 57.2	-0.3
PAX	Paxson	7.39	15	P		Pn	01 41 57.8	+0.3
	baz=198							
P29M	Windy Craggy	7.41	55			Pn	01 41 57.3	-0.5
P29M	Windy Craggy	7.41	55	P		Pn	01 41 57.3	-0.5
	baz=245							
M15K	Kasigluk River	7.48	314			Pn	01 42 00.1	+1.4
M15K	Kasigluk River	7.48	314	P		Pn	01 42 00.1	+1.4
	baz=125							
N14K	Kuskokwak Cree	7.51	307			Pn	01 42 00.7	+1.7
N14K	Kuskokwak Cree	7.51	307	P		Pn	01 42 00.7	+1.7
	baz=117							
M27K	Edge Creek, AK	7.61	29			Pn	01 42 00.8	+0.2
M27K	Edge Creek, AK	7.61	29	P		Pn	01 42 00.7	+0.2
	baz=215							
S31K	Pelican	7.67	69			Pn	01 41 58.4	-2.8
L16K	Owhat River	7.68	323			Pn	01 42 02.3	+0.8
L16K	Owhat River	7.68	323	P		Pn	01 42 02.2	+0.8
	baz=134							
K20K	Telida	7.76	345			Pn	01 42 03.2	+0.6
YUK6	Outpost Mounta	7.80	45	P		Pn	01 42 03.9	+0.6
	baz=234							
YUK4	Talbot Arm	7.93	42	P		Pn	01 42 06.9	+1.9
	baz=231							
P30M	Million Dollar	7.98	53			Pn	01 42 05.4	-0.1
P30M	Million Dollar	7.98	53	P		Pn	01 42 05.6	0.0
	baz=243							
PLBC	Pleasant Camp	7.99	58	P		Pn	01 42 05.5	-0.1
	baz=249							
M14K	Bethel	8.03	312			Pn	01 42 07.3	+1.1
ISLZ	Isanotski Laza	8.06	267			Pn	01 42 07.4	+0.8
SIT	Sitka	8.06	76	P		Pn	01 42 03.5	-3.2
SIT	Sitka	8.06	76	Pn		Pn	01 42 03.4	-3.2
CHUM	Lake Minchumin	8.08	352			Pn	01 42 06.8	-0.1
CHUM	Lake Minchumin	8.08	352	P		Pn	01 42 06.8	-0.1
	baz=169							
K17K	Iditarod	8.08	331			Pn	01 42 06.7	-0.2
K17K	Iditarod	8.08	331	P		Pn	01 42 07.0	+0.1
	baz=143							
SSLN	Shishaldin Nor	8.20	268			Pn	01 42 09.5	+0.9
L27K	Beaver Creek,	8.20	26			Pn	01 42 08.6	0.0
BCAR	Beaver Creek A	8.22	26			Pn	01 42 08.7	-0.1
BPAW	Bear Paw Mtn.	8.22	356			Pn	01 42 07.8	-1.1
BPAW	Bear Paw Mtn.	8.22	356	P		Pn	01 42 08.2	-0.7
	baz=175							
SSLS	Shishaldin Sou	8.22	267			Pn	01 42 09.6	+0.7
J18K	Innoko River	8.33	338			Pn	01 42 11.0	+0.6
L15K	Ungalak Mounta	8.38	318	P		Pn	01 42 12.5	+1.5
	baz=128							
S32K	Killisnoo	8.49	73	Pn		Pn	01 42 10.2	-2.3
BESE	Bessie Mountai	8.50	66			Pn	01 42 11.6	-1.1
J20K	Nowinta River	8.56	347			Pn	01 42 14.2	+0.8
SCRK	Sand Creek	8.57	17			Pn	01 42 14.4	+0.7
SCRK	Sand Creek	8.57	17	P		Pn	01 42 14.3	+0.7
	baz=202							
N30M	Aishikik Lake	8.60	45			Pn	01 42 14.2	0.0
N30M	Aishikik Lake	8.60	45	P		Pn	01 42 14.1	-0.1
	baz=235							
J19K	Poorman	8.61	342	Pn		Pn	01 42 12.7	-1.4
WRH	Wood River Hil	8.61	5	Pn		Pn	01 42 14.4	+0.3
HDA	Harding Lake	8.62	8			Pn	01 42 14.9	+0.7
L14K	Kuka Creek	8.65	314			Pn	01 42 16.7	+2.2
L14K	Kuka Creek	8.65	314	P		Pn	01 42 16.8	+2.2
	baz=123							
O30N	Mendenhall	8.66	50			Pn	01 42 14.8	0.0
JIS	Juneau Island	8.69	68	Pn		Pn	01 42 14.1	-1.1
NEA2	Nenana	8.70	2			Pn	01 42 15.4	0.0
NEA2	Nenana	8.70	2	P		Pn	01 42 15.2	-0.2
	baz=182							
M29M	Somme Creek	8.72	37			Pn	01 42 16.3	+0.5
M29M	Somme Creek	8.72	37	P		Pn	01 42 16.1	+0.3
	baz=226							
K15K	Wolf Creek Mou	8.79	321			Pn	01 42 16.9	+0.3
K15K	Wolf Creek Mou	8.79	321	P		Pn	01 42 18.3	+1.7
	baz=131							
J17K	VABM Dome	8.84	332	Pn		Pn	01 42 17.4	+0.1
K27K	Chicken	8.98	22	P		Pn	01 42 19.9	+0.7
	baz=208							
ILAR	Eielson Array	8.98	8	Pn		Pn	01 42 20.2	+1.0
	comp=E,0.6nm,0.3s,baz=189,slow=14,SNR=21							
ILAR				Sn	Sn		01 43 51.3	-9.2
	comp=E,0.3nm,0.3s,baz=201,slow=17,SNR=1.4							
ILAR				LR	LR		01 45 55.1	
	comp=E,69nm,20.3s,baz=256,slow=38							
	comp=E,1.6nm,0.4s							
MDM	Murphy Dome	9.09	4			Pn	01 42 20.8	0.0
J26L	Joseph Creek	9.13	17			Pn	01 42 21.0	-0.3
J26L	Joseph Creek	9.13	17	P		Pn	01 42 21.0	-0.3
	baz=202							
WHY	Whitehorse	9.14	53			Pn	01 42 21.4	-0.1
WHY	Whitehorse	9.14	53	P		Pn	01 42 21.5	-0.1
	baz=245							
MLY	Manley	9.14	357			Pn	01 42 21.5	0.0
N31M	Braeburn, Yuko	9.15	47			Pn	01 42 21.8	+0.3
J16K	Anvik River	9.19	328	Pn		Pn	01 42 22.4	+0.4
J16K	Anvik River	9.19	328	P		Pn	01 42 22.4	+0.4
	baz=138							
I23K	Minto, Yukon-K	9.25	1			Pn	01 42 23.4	+0.5
POKR	Poker Plat Res	9.29	6	Pn		Pn	01 42 24.2	+0.8
L29M	L29M	9.30	35			Pn	01 42 24.2	+0.6
P32M	Atlin	9.32	60	Pn		Pn	01 42 23.3	-0.6
DAWY	Dawson	9.65	28			Pn	01 42 29.0	+0.5
K13K	Kusilvak Mount	9.76	314			Pn	01 42 31.6	+1.7
EGAK	Eagle	9.83	22			Pn	01 42 31.0	+0.1
PRP	Porcupine Dome	9.84	10			Pn	01 42 31.3	+0.3
H21K	Melozitna Rive	9.87	353			Pn	01 42 31.0	-0.5
Q32M	Nakina River	9.89	65	Pn		Pn	01 42 30.6	-1.3
H23K	Yukon River	9.93	0	Pn		Pn	01 42 33.1	+0.8
P33M	Teslin, Yukon	9.93	57			Pn	01 42 31.9	-0.4
H24K	Noodor Dome	9.98	4			Pn	01 42 33.6	+0.7
K29M	Barlow Dome	10.02	33			Pn	01 42 34.0	+0.4
H18K	Honhosa River	10.17	339	Pn		Pn	01 42 36.4	+0.9
IMAR	Indian Mountai	10.27	351	Pn		Pn	01 42 37.0	+0.1
H17K	Granite Mounta	10.32	335	Pn		Pn	01 42 37.8	+0.3
R33M	Jennings River	10.63	63	Pn		Pn	01 42 41.1	-0.8
I28M	Miner Creek	10.67	23			Pn	01 42 44.2	+1.7
G21K	Allakaket	10.77	352			Pn	01 42 44.7	+0.9
G23K	Bananza Creek	10.82	359			Pn	01 42 45.0	+0.6
G24K	Hadweenzic Riv	10.86	5			Pn	01 42 46.5	+1.5
J30M	Hart River	10.91	32			Pn	01 42 46.3	+0.6
DLBC	Dease Lake	10.99	69	Pn		Pn	01 42 46.8	+0.1
DLBC	Dease Lake	10.99	69	Pn		Pn	01 42 46.7	-0.1
	comp=E,0.4nm,0.3s,baz=265,slow=6.7,SNR=4.3							
	comp=E,1.1nm,0.4s							
I30M	Mount Dempster	11.38	30	Pn		Pn	01 42 51.1	-1.0
F21K	Alatna River	11.47	353	Pn		Pn	01 42 53.8	+0.5
F20K	Avaraart Lake	11.51	348	Pn		Pn	01 42 53.9	+0.1
MMPY	Sheldon Lake,	11.56	47	Pn		Pn	01 42 55.1	+0.6
INK	Inuvik	14.48	25			Pn	01 43 33.6	-0.6
INK	Inuvik	14.48	25	Pn		Pn	01 43 35.2	+1.0
	comp=E,0.2nm,0.3s,baz=265,slow=30,SNR=5.6							
	comp=E,5.9nm,1.0s							
ATKA	Atka Island	14.80	266	Pn		Pn	01 43 36.2	-2.5
ADK	Adak	16.33	267	P		Pn	01 43 58.3	-0.5
ADK	Adak	16.33	267	Pn		Pn	01 43 58.1	-0.7
ADK				IAmb	IAmb		01 44 05.0	
	comp=Z,17nm,1.0s							
AMKA	Amchitka	18.81	269	P		P	01 44 28.4	-0.7
YKA	Yellowknife Ar	18.95	55	P		Pn	01 44 31.2	0.0
	comp=Z,0.1nm,0.3s,baz=268,slow=11,SNR=4.4							
	comp=Z,1.2nm,0.8s							
B08A	Colville Reser	20.02	99	P		P	01 44 40.9	-1.5
C09A	Chrisman Ranch	20.92	100	P		P	01 44 50.7	-1.5
C09A				IAmb	IAmb		01 44 53.9	
	comp=Z,4.1nm,0.9s							
NEW	Newport	21.30	97	P		P	01 44 57.6	+1.3
	comp=Z,1.7nm,0.8s,baz=314,slow=10,SNR=3.2							
	comp=Z,1.7nm,0.8s							
HUMO	Hull Mountain	21.81	116	P		P	01 45 00.3	-1.4
HUMO				IAmb	IAmb		01 45 04.5	
	comp=Z,3.8nm,1.1s							
YBH	Yreka Blue Hor	22.58	118	LR	LR		01 51 34.7	
	comp=Z,115nm,19.5s,baz=354,slow=30							
LYMT	Lyon Mountain	24.73	95	P		P	01 45 30.6	-0.7
NVAR	Mina Array Bea	27.28	117	P		P	01 45 54.3	-0.1
	comp=Z,0.5nm,0.5s,baz=316,slow=9.0,SNR=4.6							
	comp=Z,0.5nm,0.5s							
TXAR	Lajitas Array	41.95	110	P		P	01 48 01.4	+0.8
	comp=Z,0.4nm,0.8s,baz=328,slow=5.9,SNR=4.0							
	comp=Z,0.4nm,0.8s							
H11N2	WAKE ISLAND Hy	48.48	240	T		T	02 41 51.5	
	baz=29,slow=76,SNR=10.0							
H11N3	WAKE ISLAND Hy	48.48	240	T		T	02 41 47.1	
	baz=29,slow=76,SNR=9.9							
H11N1	WAKE ISLAND Hy	48.50	240	T		T	02 42 01.7	
	baz=29,slow=76,SNR=6.7							
H11S1	WAKE ISLAND Hy	49.62	239	T		T	02 43 12.3	
	baz=28,slow=76,SNR=8.0							
H11S2	WAKE ISLAND Hy	49.63	239	T		T	02 43 24.6	
	baz=28,slow=76,SNR=5.8							
H11S3	WAKE ISLAND Hy	49.64	239	T		T	02 43 19.4	
	baz=28,slow=76,SNR=16							
SONM	Songino Array	58.67	310	P		P	01 50 09.0	+2.0
	comp=Z,0.6nm,0.6s,baz=49,slow=4.5,SNR=4.5							
	comp=Z,0.6nm,0.6s							
NOA	NORSAR Array B	62.41	10	LR	LR		02 18 28.9	
	comp=Z,8.0nm,19.8s,baz=320,slow=37							
BVAR	Borovoye Array	66.49	335	P		P	01 51 00.5	+1.4
	comp=Z,0.8nm,0.6s,baz=226,slow=36,SNR=3.9							
	comp=Z,0.8nm,0.6s							
KURBB	Kurchatov Arra	66.51	329	P		P	01 51 00.5	+1.3
	comp=Z,0.3nm,0.8s,baz=30,slow=6.5,SNR=2.8							
	comp=Z,0.3nm,0.8s							
MKAR	Makanchi Array	68.73	324	P		P	01 51 13.7	+0.4
MKAR	Makanchi Array	68.73	324	P		P	01 51 13.0	-0.3
	comp=Z,0.2nm,0.5s,baz=36,slow=8.6,SNR=2.9							
	comp=Z,0.2nm,0.5s							
ABKAR	Akbulak array	72.29	340	P		P	01 51 35.1	+0.2
ABKAR	Akbulak array	72.29	340	P		P	01 51 35.0	0.0

TEH ***28*** *01:53:48.2, 34.°63N×46.°25E, h8km±35km, ML2.9*
ISN ***28*** *01:53:49.2±0.4, 34.°63N×46.°28E, h24km±2km, ML3.2*

ISC 28 01:53:48.6±1.3, 34.°64N±0.°04×46.°25E±0.°04, h9km±12km, n13, σ0°52/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.13	62	Pg	Pg	01 53 51.9	+0.2
IGHG	Ghaleghazi	0.41	139	Pg	Pg	01 53 56.6	0.0
KGS1	Ghasr-e-Shirin	0.56	257	Pg	Pg	01 53 59.4	0.0
GLG1	Gilan-e-Gharb	0.59	208	Pg	Pg	01 53 59.8	-0.3
ILIN	Lien	0.65	64	Pg	Pg	01 54 00.8	-0.5
KCHF	Cheshme Sefid,	0.75	119	Pg	Pg	01 54 02.3	-0.7
ILBA	Ilam Banvizeh	1.01	182	Pg	Pb	01 54 07.6	-0.7
SNQR	Sonqor, Kerman	1.16	79	Pg	Pg	01 54 10.6	-0.2
IBZA	Bozab	1.34	97	Pg	Pg	01 54 14.0	-0.4
IBDR	Badra	1.55	190	*e*Pg	Pb	01 54 17.0	-0.4
IBDR				*e*Sg	Sb	01 54 37.0	-0.1
IBDR				AML	AML	01 54 43.1	
	comp=E,891nm,0.5s						
IBDR				AML	AML	01 54 49.7	
	comp=N,188nm,0.5s						
IKFM	Kafar-mosalman	1.73	129	Pg	Pb	01 54 20.7	+0.2
IKRK	Kirkuk	1.74	296	*e*Pn	Pb	01 54 20.0	-0.7
IKRK				*e*Sn	Sb	01 54 43.0	+0.3
RAFI	Al-Rafai	2.91	182	*e*Pn	Pn	01 54 36.0	+1.0
RAFI				*e*Sn	Sn	01 55 10.0	-0.1

DNK ***28*** *01:55:25.1±2.1, 51.°67N×16.°15E, h0km±71km, ML2.8*
VIE ***28*** *01:55:26.3±0.8, 51.°40N×16.°25E, h0km, mb2.2/2, ml2.5/3, Error ellipse: s-maj=8.1km s-min=4.6km az=69.0, Suspected Mining induced.*
PRU ***28*** *01:55:27.2, 51.°43N×16.°10E, h0km*

ISC 28 01:55:23.5±0.8, 51.°58N±0.°03×16.°12E±0.°03, h0km, n36, σ1°47/64, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.75	171	*e*Pg	Pg	01 55 38.0	+0.2
KSP				*e*Sg	Sg	01 55 47.1	-0.4
CHVC	Chvalec	1.00	182	*e*PG	Pg	01 55 43.0	+0.5
CHVC				*e*SG	Sg	01 55 54.2	-1.2
OSTC	Ostas	1.03	177	*e*PG	Pg	01 55 43.6	+0.4
OSTC				*e*SG	Sg	01 55 56.0	-0.5
	comp=Z,31nm,0.4s						
UPC	Upice	1.08	184	*e*PG	Pg	01 55 44.4	+0.3
UPC				*e*SG	Sg	01 55 57.2	-0.9
	comp=Z,38nm,0.4s						
DPC	Dobruska-Polom	1.24	174	*e*PG	Pg	01 55 46.9	-0.3
DPC				*e*SG	Sg	01 56 02.0	-1.3
	comp=Z,17nm,0.3s						
PVCC	Panska Ves	1.44	223	*e*PG	Pg	01 55 51.4	+0.4
PVCC				*e*SG	Sg	01 56 09.7	+0.1
	comp=Z,48nm,0.2s						
BRG	Berggiesshubel	1.54	243	Pg	Pb	01 55 53.2	+0.3
BRG				Sg	Sn	01 56 13.3	+0.4
BRG				Amp		01 56 14.5	
	comp=Z,20nm,0.4s						
KRLC	Kraliky	1.57	164	*e*PG	Pn	01 55 52.4	-0.2
KRLC				*e*SG	Sn	01 56 12.6	-1.0
	comp=Z,9.0nm,0.2s						
PRA	Prague	1.85	216	*e*PN	Pn	01 55 56.4	-0.1
PRU	Pruhonice	1.88	213	*e*PG	Pb	01 55 58.8	+0.1
PRU				*e*SG	Sb	01 56 23.0	+0.2
	comp=Z,13nm,0.5s						
HSKC	Hora Svate Kat	1.96	241	*e*SG	Sb	01 56 25.1	+0.2
	comp=Z,14nm,0.3s						
CLL	Collm	1.97	263	*e*Pn	Pn	01 55 59.0	+0.9
CLL				*e*Pg	Pb	01 56 01.0	+0.8
CLL				*i* x	x	01 56 05.4	
CLL				*e*Sg	Sg	01 56 27.0	+0.3
	comp=Z,13nm,0.9s						
MORC	Moravsky Berou	2.02	153	*e*PN	Pn	01 55 58.6	-0.3
MORC				*e*SG	Sb	01 56 26.0	-0.8
OKC	Ostrava-Krasne	2.17	143	*e*SG	Sb	01 56 31.1	0.0
	comp=Z,14nm,0.4s						
VRAC	Vranov	2.30	172	*e*PN	Pn	01 56 03.0	+0.4
VRAC				*e*SG	Sb	01 56 33.7	-1.0
TREC	Trest	2.33	190	*e*SG	Sb	01 56 36.2	+0.7
ZVC	Zvikov	2.47	211	*e*SG	Sg	01 56 42.4	-0.5
KRUC	Moravsky	2.53	176	*e*SG	Sb	01 56 42.8	+1.4
OJC	Ojcow	2.70	119	*e*Pg	Pg	01 56 16.6	+1.4
OJC				*e*Sg	Sg	01 56 50.6	+0.5
KHC	Kasperske Hory	2.94	215	*e*PN	Pn	01 56 11.9	+0.4
KHC				*e*PG	Pb	01 56 17.3	+0.5
KHC				*e*SN	Sn	01 56 46.1	-1.5
KHC				*e*SG	Sb	01 56 55.3	+2.0
	comp=Z,6.9nm,0.4s						
CKRC	Cesky Krumlov	3.00	203	*e*PN	Pn	01 56 12.8	+0.5
CKRC				*e*PG	Pb	01 56 19.1	+1.3
CKRC				*e*SG	Sb	01 56 57.2	+2.3
	comp=Z,6.2nm,0.4s						
LANS	Liptovska Anna	3.24	137	*e*PG	Pg	01 56 29.0	+3.4
LANS				*e*SG	Sg	01 57 05.4	-2.2
MODS	Modra-Piesok	3.30	166	*e*SG	Sg	01 57 09.1	-0.3
NIE	Niedzica	3.44	127	*e*Pg	Pg	01 56 30.4	+1.0
NIE				*e*Sg	Sg	01 57 15.3	+1.4
VYHS	Vyhne	3.55	149	*e*SG	Sg	01 57 15.2	-2.4
BSD	Bornholm Skovb	3.61	349	*i* P	Pn	01 56 21.4	+0.8
BSD				*e*S	Sn	01 57 01.2	-2.7
BSD				IAML		01 57 07.2	
	comp=Z,13nm,1.0s						
CONA	Conrad Observa	3.66	183	*i* Pn	Pn	01 56 21.7	+0.3
	comp=Z,0.2nm,0.1s						
CONA				*e*Sg	Sg	01 57 18.2	-2.8
	comp=Z,3.2nm,0.3s						
RONA	Rosalia, Austr	3.89	178	*i* Sg	Sg	01 57 25.3	-3.0
	comp=Z,1.5nm,0.3s						
MOA	Molln	3.92	199	*i* Pn	Pn	01 56 25.6	+0.6
	comp=Z,0.2nm,0.1s						
MOA				*e*Sg	Sg	01 57 28.5	-1.0
	comp=Z,1.8nm,0.3s						
LUNU	Lund	4.36	340	*i* P	Pn	01 56 31.3	+0.5
LUNU				*i* S	Sn	01 57 21.1	-1.3
BLEU	Blekinge	4.74	358	*i* P	Pn	01 56 37.9	+1.9
BLEU				*i* S	Sn	01 57 29.6	-2.0
BJUU	Bjuv	4.86	339	*i* P	Pn	01 56 38.7	+1.0
BJUU				*i* S	Sn	01 57 32.0	-2.6
DEL	Delary	5.07	346	*i* P	Pn	01 56 41.1	+0.4
DEL				*i* S	Sn	01 57 37.1	-2.8
FABU	Falkenberg	5.78	341	*i* S	Sn	01 57 54.7	-2.7
ONAU	Onsala	6.32	339	*i* S	Sn	01 58 06.6	-4.0
BORU	Boraas	6.37	344	*i* S	Sn	01 58 10.2	-1.6

NAM 28 02:02:48.8±0.3, 19.°82S×14.°58E, h5km±1km, ML0.5, 7C-2D, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ST9N	ST9	0.04	301	⇑*i* P	Pg	02 02 50.2	+0.2
ST9N				*i* S	Sg	02 02 51.1	+0.1
ST9N				IAML		02 02 51.6	
	comp=Z,27nm,0.1s						
ST9N	ST9	0.04	301	⇓*i* P	Pg	02 02 50.1	+0.1
ST9N				*i* S	Sg	02 02 51.0	+0.1
ST9N				IAML		02 02 51.4	
	comp=Z,20nm,0.1s						
ST1N	ST1	0.09	22	⇑*i* P	Pg	02 02 50.8	0.0
ST1N				*i* S	Sg	02 02 52.1	0.0
ST1N				IAML		02 02 52.3	
	comp=Z,1.0nm,0.1s						
ST1N	ST1	0.09	22	⇑*i* P	Pg	02 02 50.8	0.0
ST1N				*i* S	Sg	02 02 52.2	+0.1
ST1N				IAML		02 02 52.2	
	comp=Z,1.4nm,0.0s						
ST3N	ST3	0.11	315	⇑*i* P	Pg	02 02 51.3	+0.2
ST3N				*i* S	Sg	02 02 52.8	+0.1
ST3N				IAML		02 02 52.9	
	comp=Z,0.6nm,0.1s						
ST3N	ST3	0.11	315	*i* P	Pg	02 02 51.2	+0.1
ST3N				*i* S	Sg	02 02 52.7	0.0
ST3N				IAML		02 02 52.9	
	comp=Z,0.7nm,0.0s						
ST2N	ST2	0.11	171	⇑*i* P	Pg	02 02 51.2	+0.1
ST2N				*i* S	Sg	02 02 53.3	+0.5
ST2N				IAML		02 02 53.3	
	comp=Z,1.3nm,0.1s						
ST2N	ST2	0.11	171	⇑*i* P	Pg	02 02 51.3	+0.1
ST2N				*i* S	Sg	02 02 52.8	0.0
ST2N				IAML		02 02 53.2	
	comp=Z,3.5nm,0.0s						
ST6N	ST6	0.17	276	*i* P	Pg	02 02 52.3	+0.1
ST6N				*i* S	Sg	02 02 54.6	+0.1
ST6N				IAML		02 02 55.0	
	comp=Z,0.7nm,0.1s						
ST6N	ST6	0.17	276	⇓*i* P	Pg	02 02 52.2	0.0
ST6N				*i* S	Sg	02 02 54.7	+0.2
ST6N				IAML		02 02 55.9	
	comp=Z,0.7nm,0.0s						
ST5N	ST5	0.17	81	*i* P	Pg	02 02 52.1	-0.1
ST5N				*i* S	Sg	02 02 54.5	0.

comp=Z,50nm,18.1s,baz=155,slow=40
MJAR Matsushiro Arr 16.60 40 Pn **P 02 11 43.9 +0.5**
0.1nm,0.3s,baz=231,slow=11,SNR=1.9
1.0nm,0.3s
GUMO Guam 21.45 116 LR LR 02 22 06.6
comp=Z,12nm,18.3s,baz=254,slow=40
SONM Songino Array 27.82 332 LR LR 02 26 11.8
comp=Z,53nm,19.6s,baz=120,slow=40
H11N1 WAKE ISLAND Hy 38.87 88 T T 02 56 31.1
baz=284
H11N2 WAKE ISLAND Hy 38.87 88 T T 02 56 31.6
baz=284
H11N3 WAKE ISLAND Hy 38.89 88 T T 02 56 32.7
baz=284
H11S3 WAKE ISLAND Hy 39.00 90 T T 02 56 40.4
baz=288
H11S1 WAKE ISLAND Hy 39.01 90 T T 02 56 41.1
baz=288
H11S2 WAKE ISLAND Hy 39.02 90 T T 02 56 49.6
baz=288
MK31 Makanchi Array 40.82 314 **P 02 15 28.7 -0.7**
MKAR Makanchi Array 40.82 314 P **P 02 15 28.6 -0.8**
MKAR Makanchi Array 40.82 314 P **P 02 15 29.4 0.0**
1.4nm,0.4s,baz=101,slow=10,SNR=32
1.4nm,0.4s
ZALV Zalesovo Beam 42.17 325 P **P 02 15 39.5 -0.8**
1.0nm,0.4s,baz=105,slow=11,SNR=4.1
1.0nm,0.4s
KURBB Kurchatov Arra 44.40 319 P **P 02 15 57.5 -0.8**
0.6nm,0.6s,baz=108,slow=9.0,SNR=6.7
0.6nm,0.6s
WRA Warramunga Arr 44.86 168 P **P 02 16 02.1 -0.2**
0.5nm,0.5s,baz=349,slow=8.8,SNR=6.1
0.5nm,0.5s
AAK Ala-Archa 45.34 307 LR LR 02 38 37.6
comp=Z,42nm,19.4s,baz=178,slow=41
BVAR Borovoye Array 49.91 320 P **P 02 16 41.4 +0.1**
0.6nm,0.4s,baz=106,slow=11,SNR=3.2
0.6nm,0.4s
ABKAR Abkulak array 55.96 314 P **P 02 17 26.4 +0.4**
ABKAR IAmb IAmb 02 17 27.3
comp=Z,3.1nm,0.7s
ABKAR Abkulak array 55.96 314 P **P 02 17 25.9 -0.1**
H19K Roundabout Mou 63.37 27 P **P 02 18 18.0 +1.3**
H19K IAmb IAmb 02 18 20.6
comp=Z,2.2nm,0.8s
IMAR Indian Mountai 64.48 27 P **P 02 18 24.9 +0.9**
G21K Allakaket 64.55 26 P **P 02 18 26.0 +1.5**
G21K IAmb IAmb 02 18 37.6
comp=Z,3.7nm,1.1s
D22K Ayikyak River 64.77 23 P **P 02 18 27.0 +1.1**
D22K IAmb IAmb 02 18 39.0
comp=Z,3.7nm,0.8s
F24K Squaw Lake 66.67 25 P **P 02 18 39.5 +1.3**
F24K IAmb IAmb 02 18 51.9
comp=Z,3.3nm,0.8s
ILAR Eielson Array 67.46 28 P **P 02 18 44.5 +1.3**
comp=Z,0.1nm,0.5s,baz=249,slow=4.5,SNR=4.6
comp=Z,0.1nm,0.5s
BMAR Burnt Mountain 67.94 25 P **P 02 18 47.6 +1.3**
ARCES ARCESS Array B 70.79 338 P **P 02 19 03.5 -0.3**
comp=Z,1.2nm,0.9s,baz=57,slow=6.6,SNR=1.5
comp=Z,1.2nm,0.9s
ARPR Arapgir-MALATY 72.76 306 P **P 02 19 13.6 -2.8**
FINES FINESS Array B 73.17 330 P **P 02 19 18.4 +0.2**
comp=Z,1.3nm,0.5s,baz=60,slow=5.0,SNR=13
comp=Z,1.3nm,0.5s
BRTR Keskin Array B 76.01 307 P **P 02 19 36.0 +0.8**
comp=Z,0.2nm,0.4s,baz=101,slow=2.9,SNR=2.7
comp=Z,0.2nm,0.4s
HFS Hagfors 79.22 332 P **P 02 19 52.0 -0.6**
comp=Z,3.2nm,1.1s,baz=92,slow=7.2,SNR=5.7
comp=Z,3.2nm,1.1s
NB2 NORSAR Subarra 79.80 333 P **P 02 19 55.7 -0.1**
comp=Z,1.4nm,1.0s,baz=55,slow=6.2
NOA NORSAR Array B 79.80 333 P **P 02 19 54.8 -1.0**
comp=Z,0.8nm,0.8s,baz=55,slow=5.7,SNR=4.5
comp=Z,0.8nm,0.8s
FRB Frobisher Bay 91.61 6 LR LR 03 06 06.6
comp=Z,73nm,19.3s,baz=198,slow=38

*MEX **28** 02:17:14.7±0.3, 31°.20N×114°.36W, h4km±3km, MD3.7*
*ECX **28** 02:17:14.4±0.3, 31°.23N×114°.36W, h10km±4km, MD2.9, ML3.1*
ISC 28 02:17:13.4±1.2, 31°.24N±0°.06×114°.36W±0°.03, h23km±17km, n14, σ0§52/24, 9C-8D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.47**	**244**	*eP*	**Pb**	**02 17 23.0**	**0.0**
SFX				*eS*	**Sb**	**02 17 29.6**	**0.0**
SFX	**San Felipe**	**0.47**	**244**	⇓*iP*	**Pb**	**02 17 23.0**	**0.0**
SFX				*eS*	**Sb**	**02 17 29.3**	**-0.3**
SFX				IAML		02 17 32.0	
	comp=E,801nm,0.6s						
SFX				IAML		02 17 32.0	
	comp=N,425nm,0.3s						
SFX				⇓*e*		02 17 32.0	
PPXB	**Puerto Peasco**	**0.63**	**81**	⇑*iP*	**Pb**	**02 17 25.5**	**-0.2**
PPXB				*eS*	**Sb**	**02 17 34.1**	**0.0**
PPXB				⇓*e*		02 17 35.8	
PPXB				*e*		02 17 36.2	
ECBX	**El Chinero**	**0.64**	**291**	⇓*iP*	**Pb**	**02 17 25.6**	**-0.3**
ECBX				*eS*	**Sb**	**02 17 34.6**	**+0.2**
ECBX				⇑*e*		02 17 34.9	
ECBX				IAML		02 17 34.9	
	comp=N,688nm,0.2s						
ECBX				IAML		02 17 35.6	
	comp=E,1μm,0.5s						
PIX	**Pinacate**	**0.83**	**67**	⇑*eP*	**Pb**	**02 17 28.9**	**-0.3**
PIX				*eS*	**Sb**	**02 17 40.2**	**+0.2**
PIX				*e*		02 17 50.0	
SPIG	**San Pedro Mart**	**0.97**	**259**	*eP*	**Pb**	**02 17 31.3**	**-0.4**
SPIG				*eS*	**Sb**	**02 17 44.2**	**-0.1**
SPIG	**San Pedro Mart**	**0.97**	**259**	⇓*iP*	**Pb**	**02 17 31.4**	**-0.4**
SPIG				*eS*	**Sb**	**02 17 44.7**	**+0.4**
SPIG				IAML		02 17 46.0	
	comp=N,382nm,0.4s						
SPIG				⇓*e*		02 17 46.0	
SPIG				⇑*e*		02 17 47.4	
SPIG				IAML		02 17 47.4	
	comp=E,220nm,0.5s						
RHX	**Rio Hardy**	**1.19**	**319**	⇑*eP*	**Pb**	**02 17 35.1**	**-0.2**
VTX	**Valle De La Tr**	**1.23**	**277**	*eP*	**Pb**	**02 17 35.7**	**-0.4**
VTX				*eS*	**Sb**	**02 17 52.5**	**+1.0**
VTX				IAML		02 17 53.5	
	comp=N,188nm,0.6s						
VTX				⇑*e*		02 17 53.5	
VTX				⇑*e*		02 17 53.8	
VTX				IAML		02 17 53.8	
	comp=E,209nm,0.3s						
ALAMX	**Rancho Alamar**	**1.38**	**304**	⇑*eP*	**Pb**	**02 17 38.5**	**-0.1**
SQX	**San Quintin**	**1.46**	**243**	⇓*iP*	**Pb**	**02 17 39.0**	**-0.9**
SQX				*eS*	**Sb**	**02 17 59.1**	**+1.0**
SQX				⇑*e*		02 18 01.2	
SQX				IAML		02 18 01.2	
	comp=N,346nm,0.4s						
SQX				⇓*e*		02 18 01.7	
SQX				IAML		02 18 01.7	
	comp=E,397nm,0.3s						
LAPR	**La Primavera**	**1.90**	**112**	*eP*	Pb	02 17 52.9	+5.5
CBX	**Cerro Bola**	**2.24**	**299**	*eP*	**Pn**	**02 17 49.7**	**+0.5**
CBX				*eS*	**Sb**	**02 18 19.7**	**-0.8**
TJIG	**Tijuana**	**2.30**	**302**	*eP*	**Pn**	**02 17 50.5**	**+0.5**
TJIG				*eS*	**Sn**	**02 18 17.0**	**-0.6**

*IDC **28** 02:19:16.8±2.2, 30°.31N×113°.57W, h0km, mb3.5/1, mbtmp3.3/7, ML2.9/6, MS3.2/9, Error ellipse: s-maj=32.9km s-min=14.2km az=30.0*
*PAS **28** 02:19:24.6±3.5, 31°.23N±0°.08×114°.17W±0°.04, h6km±1km, Error ellipse: s-maj=13.0km s-min=5.6km az=180.0*
*MEX **28** 02:19:25.1±0.6, 31°.32N×114°.25W, h10km, MD4.5*
*NEIC **28** 02:19:27.1±2.1, 31°.18N±0°.07×114°.34W±0°.05, h10km±1km, mb4.3/16, ML4.1/55(PAS), Error ellipse: s-maj=11.2km s-min=6.4km az=347.0*
*ECX **28** 02:19:27.7±0.3, 31°.23N×114°.36W, h5km±3km, ML4.1*
ISC 28 02:19:27.3±1.0, 31°.16N±0°.04×114°.37W±0°.02, h19km±4km, n94, σ1§28/94, mb4.2/4, MS3.1/5, 4C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.43**	**254**		**Pb**	**02 19 36.1**	**-0.3**
SFX					**Sb**	**02 19 42.5**	**0.0**
SFX	**San Felipe**	**0.43**	**254**	*eP*	**Pg**	**02 19 35.5**	**-0.7**
SFX				*eS*	**Sb**	**02 19 42.8**	**+0.4**
SFX	**San Felipe**	**0.43**	**254**	*eP*	**Pb**	**02 19 36.0**	**-0.3**
SFX				*eS*	**Sb**	**02 19 42.4**	**0.0**
SFX				IAML		02 19 45.1	
	comp=E,7μm,0.1s						
SFX				⇑*e*		02 19 45.1	
PPXB	**Puerto Peasco**	**0.65**	**74**	*eP*	**Pb**	**02 19 39.0**	**-0.9**
PPXB				*eS*	**Sb**	**02 19 47.4**	**-1.2**
ECBX	**El Chinero**	**0.67**	**298**	*eP*	**Pb**	**02 19 38.9**	**-1.3**
ECBX				*eS*	**Sb**	**02 19 47.8**	**-1.3**
ECBX				IAML		02 19 48.4	
	comp=N,5μm,0.2s						
ECBX				IAML		02 19 48.6	
	comp=E,6μm,0.2s						
ECBX				⇑*e*		02 19 48.6	
PIX	**Pinacate**	**0.87**	**62**	Pg	**Pb**	**02 19 42.9**	**-0.9**
PIX					**Pg**	**02 19 44.5**	**+0.2**
PIX	**Pinacate**	**0.87**	**62**	*eP*	**Pb**	**02 19 42.6**	**-1.2**
PIX				*eS*	**Sb**	**02 19 53.8**	**-1.3**
SPIG	**San Pedro Mart**	**0.95**	**264**	*eP*	**Pb**	**02 19 43.1**	**-2.2**
SPIG				*eS*	**Sb**	**02 19 56.5**	**-1.1**
SPIG	**San Pedro Mart**	**0.95**	**264**	*eP*	**Pb**	**02 19 44.9**	**-0.5**
SPIG				*eS*	**Sg**	**02 19 57.5**	**-1.0**
SPIG				⇑*e*		02 19 59.3	
SPIG				IAML		02 19 59.3	
	comp=N,3μm,0.6s						
VTX	**Valle De La Tr**	**1.24**	**281**		**Pn**	**02 19 48.9**	**-0.7**
SLGB	**San Luis Gonza**	**1.32**	**181**	*eP*	**Pb**	**02 19 51.7**	**+0.3**
SQX	**San Quintin**	**1.42**	**246**	*eP*	**Pb**	**02 19 52.7**	**-0.4**
SQX				*eS*	**Sg**	**02 20 12.3**	**-1.0**
SQX				IAML		02 20 14.5	
	comp=N,7μm,0.5s						
SQX				⇑*e*		02 20 15.0	
SQX				IAML		02 20 15.0	
	comp=E,3μm,0.4s						
MBIG	**Mexicali**	**1.44**	**331**	*eP*	Pn	02 19 45.0	-7.3
MBIG				*eP*	**Pb**	**02 19 49.9**	**-3.5**
MBIG				*eS*	Sn	02 19 57.2	-13
CPBX	**Cerro Prieto**	**1.49**	**328**		**Pb**	**02 19 55.1**	**+0.8**
214A	**Organ Pipe Nat**	**1.55**	**59**	Pn	**Pb**	**02 19 55.3**	**0.0**
214A	**Organ Pipe Nat**	**1.55**	**59**	*eP*	Pn	02 19 47.7	-6.1
ESJX	**Sierra Juarez**	**1.59**	**302**		**Sb**	**02 20 17.0**	**+1.0**
113A	**Mohawk Valley,**	**1.69**	**17**	Pn	**Pb**	**02 19 58.4**	**+0.7**
LAPR	**La Primavera**	**1.88**	**110**	*eP*	**Pn**	**02 19 58.3**	**0.0**
SGL	**Mount Signal**	**1.89**	**323**		**Pn**	**02 19 58.3**	**-0.1**
GLA	**Glamis**	**1.93**	**348**	Pn	**Pb**	**02 20 00.8**	**-1.1**
YUH	**Yuha Desert**	**1.99**	**319**	Pn	**Pn**	**02 20 00.8**	**+0.9**
CCX	**Cicese**	**2.09**	**290**		**Pn**	**02 20 02.6**	**+1.4**
CBX	**Cerro Bola**	**2.27**	**301**		**Pn**	**02 20 05.4**	**+1.5**
CBX	**Cerro Bola**	**2.27**	**301**	*eP*	**Pn**	**02 20 03.6**	**-0.3**
BAHB	**Baha de los**	**2.31**	**162**	*eP*	Pn	02 19 59.2	-5.0
TJIG	**Tijuana**	**2.34**	**304**	*eP*	**Pn**	**02 20 01.9**	**-2.9**
TKX	**Tecate**	**2.37**	**307**		**Pn**	**02 20 05.8**	**+0.6**
TJX	**Tijuana**	**2.66**	**301**		**Pn**	**02 20 09.6**	**+0.5**
109C	**Camp Elliot, M**	**2.90**	**307**	Pn	**Pn**	**02 20 11.6**	**-0.8**
PFO	**Pinyon Flats O**	**3.02**	**325**	Pn	**Pn**	**02 20 16.5**	**+2.3**
	comp=E,1.6nm,0.3s,baz=106,slow=12,SNR=4.6						
PFO				Sn	**Sg**	**02 21 06.7**	**+2.2**
	comp=E,6.1nm,0.3s,baz=153,slow=7.4,SNR=5.6						
TUC	**Tucson**	**3.26**	**68**	*eP*	**Pn**	**02 20 16.1**	**-1.3**
X16A	**Lo Mia Camp, P**	**4.08**	**36**	Pn	**Pn**	**02 20 28.4**	**-0.4**
NZIG	**Nacozari, Sono**	**4.21**	**99**	*eP*	**Pn**	**02 20 26.6**	**-4.0**
NZIG				*eP*	Pb	02 20 30.7	-10
PASC	**Pasadena Art C**	**4.41**	**314**		**Pn**	**02 20 35.2**	**+2.1**
V12A	**Nelson**	**4.58**	**355**	Pn	**Pn**	**02 20 35.0**	**-0.6**
GSC	**Goldstone, Bar**	**4.61**	**334**		**Pn**	**02 20 34.1**	**-1.9**
X18A	**Snowflake**	**5.01**	**47**		**Pn**	**02 20 41.6**	**0.0**
WUAZ	**Wupatki**	**5.02**	**29**	Pn	**Pn**	**02 20 41.2**	**-0.4**
U15A	**North Rim**	**5.54**	**18**	Pn	**Pn**	**02 20 47.6**	**-1.2**
W18A	**Petrified Fore**	**5.54**	**43**	Pn	**Pn**	**02 20 48.2**	**-0.6**
CGIG		**5.55**	**97**	*eP*	**Pn**	**02 20 49.2**	**+0.2**
121A	**Cookes Peak, D**	**5.76**	**75**	Pn	**Pn**	**02 20 52.1**	**+0.1**
121A	**Cookes Peak, D**	**5.76**	**75**	*eP*	**Pn**	**02 20 54.6**	**+2.6**
LCMT	**Little Creek M**	**5.92**	**9**		**Pn**	**02 20 52.7**	**-1.2**
CCUT	**Cedar City**	**6.43**	**7**		**Pn**	**02 20 59.6**	**-1.6**
SZCU	**Shurtz Canyon**	**6.51**	**9**		**Pn**	**02 20 59.6**	**-2.6**
S11A	**Rachel**	**6.57**	**350**		**Pn**	**02 21 01.8**	**-1.2**
GMN	**Gold Mountain**	**6.58**	**339**		**Pn**	**02 21 04.0**	**+0.8**
CSIG	**Choix**	**6.79**	**128**	*eP*	**Pn**	**02 21 06.4**	**+0.5**
DSP	**Deep Springs**	**6.88**	**335**		**Pn**	**02 21 06.7**	**-0.3**
MTPU	**Mount Pierson**	**7.10**	**14**		**Pn**	**02 21 09.8**	**-0.7**
R11B	**Troy Canyon, C**	**7.25**	**352**		**Pn**	**02 21 13.1**	**+0.9**
PSUT	**Pine Spring**	**7.37**	**3**	Pn	**Pn**	**02 21 12.7**	**-1.3**
MSU	**Marysvale**	**7.56**	**13**	Pn	**Pn**	**02 21 17.5**	**+0.9**
TCRU	**Three Creeks R**	**7.60**	**11**	Pn	**Pn**	**02 21 17.4**	**+0.2**
ANMO	**Albuquerque**	**7.64**	**58**	Pn	Pn	02 21 09.0	-8.7
	comp=E,0.1nm,0.3s,baz=73,slow=24,SNR=1.2						
ANMO				Lg	Lg	02 23 18.8	
	comp=E,0.1nm,0.3s,baz=143,slow=7.2,SNR=4.5						
ANMO				LR	LR	02 24 23.1	
	comp=E,326nm,18.7s,baz=332,slow=40						
	comp=E,0.3nm,0.3s						
MNTX	**Cornudas Mount**	**7.70**	**84**	*eP*	**Pn**	**02 21 21.1**	**+2.8**
MVCO	**Mesa Verde**	**7.75**	**37**	Pn	**Pn**	**02 21 19.4**	**+0.1**
SPR3	**Spring Creek 3**	**7.83**	**0**	Pn	**Pn**	**02 21 19.9**	**-0.5**
LHV	**Little Huntoon**	**7.86**	**335**	Pn	**Pn**	**02 21 21.7**	**+1.3**
Q12A	**Willow Creek R**	**7.88**	**357**	Pn	**Pn**	**02 21 21.1**	**+0.2**
NVAR	**Mina Array Bea**	**7.95**	**337**	Pn	Pn	02 21 28.2	+6.3
	comp=E,0.1nm,0.3s,baz=156,slow=13,SNR=4.1						
NVAR				LR	LR	02 24 16.3	
	comp=E,80nm,19.6s,baz=83,slow=34						
	comp=E,0.5nm,0.6s						
Q16A	**Castle Valley**	**8.17**	**18**	Pn	**Pn**	**02 21 25.5**	**+0.5**
P17A	**Butcher Ranch,**	**8.81**	**19**		**Pn**	**02 21 33.5**	**-0.2**
TXAR	**Lajitas Array**	**9.43**	**98**	Pn	Pn	02 21 23.8	-18
	baz=271,slow=13,SNR=1.5						
TXAR				Lg	Lg	02 23 49.6	
	comp=E,0.1nm,0.3s,baz=273,slow=17,SNR=3.8						
	comp=E,0.3nm,0.6s						
ELK	**Elko**	**9.60**	**356**	Pn	Pn	02 21 52.3	+7.7
	comp=E,0.1nm,0.3s,baz=189,slow=13,SNR=1.9						
ELK				Lg	Lg	02 24 43.7	
	comp=E,0.1nm,0.3s,baz=178,slow=7.8,SNR=1.4						
	comp=E,0.6nm,0.5s						
REDW	**Red Top Meadow**	**12.50**	**12**		**Pn**	**02 22 25.0**	**+0.7**
YBH	**Yreka Blue Hor**	**12.50**	**330**	Pn	**P**	**02 22 33.6**	**-2.3**
	baz=177,slow=15,SNR=3.4						
YBH				LR	LR	02 26 52.7	
	comp=E,117nm,20.9s,baz=166,slow=34						
	comp=E,2.8nm,1.1s						
TPAW	**Teton Pass**	**12.61**	**11**		**Pn**	**02 22 26.6**	**+0.9**
WHTX	**Lake Whitney,**	**14.44**	**82**	Pn	**Pn**	**02 22 51.2**	**+0.6**
OK048	**Pawnee Station**	**15.40**	**65**		**Pn**	**02 23 03.9**	**+0.4**
OK052	**Battle Ridge R**	**15.41**	**67**		**Pn**	**02 23 05.4**	**+1.8**
MSO	**Missoula**	**15.66**	**1**		**P**	**02 23 10.0**	**-0.9**
LYMT	**Lyon Mountain**	**15.87**	**5**		**Pn**	**02 23 11.2**	**+1.4**
HKT	**Hockley**	**16.01**	**90**	Pn	**P**	**02 23 13.2**	**-1.5**
TUL3	**Leonard**	**16.19**	**68**	Pn	**Pn**	**02 23 15.0**	**+1.3**
TUL3				IAmb	IAmb	02 23 31.2	
	comp=Z,28nm,1.5s						
LAO	**LASA Array**	**16.74**	**20**	Pn	**Pn**	**02 23 21.4**	**+0.8**
LAO				IAmb	IAmb	02 23 41.8	
	comp=Z,23nm,1.4s						
NEW	**Newport**	**17.22**	**354**	P	**P**	**02 23 29.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=176,slow=12,SNR=2.9						
NEW				LR	LR	02 29 43.8	
	comp=Z,53nm,18.8s,baz=206,slow=35						
	comp=Z,1.7nm,0.8s						
HHAR	**Hobbs**	**17.74**	**68**		**P**	**02 23 33.7**	**-0.2**
ECSD	**EROS Data Cent**	**18.83**	**43**		**Pn**	**02 23 47.1**	**+0.7**
DGMT	**Dagmar**	**18.95**	**21**	P	**Pn**	**02 23 47.6**	**-0.2**
DGMT				IAmb	IAmb	02 23 53.0	
	comp=Z,34nm,1.5s						
I37A	**Lemond, Waseca**	**20.92**	**46**	P	**P**	**02 24 09.5**	**+0.9**
I37A				IAmb	IAmb	02 24 19.7	
	comp=Z,13nm,1.0s						
SPMN	**Marine on St.**	**21.92**	**44**	P	**P**	**02 24 19.5**	**+0.2**
SPMN				IAmb	IAmb	02 24 35.7	
	comp=Z,14nm,1.4s						
AGMN	**Agassiz Nation**	**22.17**	**34**	P	**P**	**02 24 22.5**	**+0.5**
AGMN				IAmb	IAmb	02 24 31.4	
	comp=Z,15nm,1.5s						
CMIG	**Matias Romero**	**22.58**	**124**	LR	LR	02 33 55.4	
	comp=Z,168nm,18.3s,baz=302,slow=41						
WVT	**Waverly**	**22.61**	**70**	P	**P**	**02 24 26.7**	**-0.1**
WVT				IAmb	IAmb	02 24 45.1	
	comp=Z,20nm,1.4s						
BBB	**Bella Bella**	**23.31**	**338**	LR	LR	02 34 54.8	
	comp=Z,72nm,21.3s,baz=178,slow=38						
TKL	**Tuckaleechee C**	**25.87**	**72**	LR	LR	02 35 34.7	
	comp=Z,101nm,18.9s,baz=314,slow=38						
APG	**El Apazote**	**27.14**	**121**	LR	LR	02 35 26.7	
	comp=Z,14nm,19.1s,baz=224,slow=37						
SADO	**Sadowa**	**30.66**	**54**	LR	LR	02 37 02.2	
	comp=Z,46nm,20.7s,baz=232,slow=35						
ILAR	**Eielson Array**	**39.20**	**339**	P	**P**	**02 26 55.0**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=142,slow=7.9,SNR=6.0						
	comp=Z,0.5nm,0.7s						
CELP	**Cerrillos**	**45.03**	**95**	P	**P**	**02 27 41.2**	**-0.7**
VILB	**Vilhena**	**68.00**	**122**	P	**P**	**02 30 26.5**	**+1.1**

*SJA **28** 02:23:18.3±0.6, 24°.22S×67°.24W, h186km±6km, ML3.6, MW3.4*
*NEIC **28** 02:23:19.4±2.2, 24°.21S±0°.03×67°.5W±0°.2, h203km±14km, mb4.1/7, ML3.8(GUC), Error ellipse: s-maj=23.5km s-min=3.8km az=96.0*
*IDC **28** 02:23:20.5±2.5, 24°.01S×67°.17W, h175km±24km, mb3.5/1, mbtmp3.8/5, Error ellipse: s-maj=38.3km s-min=26.8km az=159.0*
*GUC **28** 02:23:20.1±0.7, 24°.20S×67°.28W, h171km±10km, ML4.0*
ISC 28 02:23:18.0±0.8, 24°.22S±0°.04×67°.30W±0°.04, h188km±8km, n63, σ1§15/85, mb3.8/3, 6C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.71**	**107**	*eP*	**Pn**	**02 23 53.4**	**+0.6**
SLA	**San Lorenzo**	**1.71**	**107**	⇓*iP*	**Pn**	**02 23 53.3**	**+0.4**
AZAP	**Zapla**	**2.04**	**90**	*eP*	**Pn**	**02 23 56.4**	**+0.1**
LVC	**Limon Verde**	**2.18**	**317**	*eP*	**Pn**	**02 23 59.0**	**+0.9**
LVC				*eS*	**Sn**	**02 24 26.1**	**-3.0**
LVC	**Limon Verde**	**2.18**	**317**	P	**Pn**	**02 23 59.3**	**+1.2**
	9.1nm,0.3s,baz=135,slow=6.3,SNR=41						
LVC				S	**Sn**	**02 24 28.7**	**-0.4**
	35nm,0.2s,baz=1.2,slow=20,SNR=9.9						
LVC	**Limon Verde**	**2.18**	**317**	*eP*	**Pn**	**02 23 59.1**	**+1.0**
LVC				*i* S	**Sn**	**02 24 28.2**	**-0.9**
LVC				IAML		02 24 32.5	
	345nm,0.5s						
FSA	**Cafayete**	**2.23**	**148**	*eP*	**Pn**	**02 23 59.2**	**+0.9**
PB15	**IPOC Station P**	**2.23**	**296**		**Pn**	**02 23 59.2**	**+0.8**
PB15				Sn	**Sn**	**02 24 29.0**	**-0.8**
PB15	**IPOC Station P**	**2.23**	**296**	*eP*	**Pn**	**02 23 59.8**	**+1.3**
PB15				*eS*	**Sn**	**02 24 30.2**	**+0.4**
PB15	**IPOC Station P**	**2.23**	**296**	⇑*iP*	**Pn**	**02 23 59.8**	**+1.3**
PB15				*eS*	**Sn**	**02 24 29.2**	**-0.6**
GO02	**Mina Guanaco**	**2.29**	**245**		**Pn**	**02 24 00.5**	**+1.3**
GO02				Sn	**Sn**	**02 24 31.5**	**+0.5**
GO02	**Mina Guanaco**	**2.29**	**245**	*eP*	**Pn**	**02 24 00.4**	**+1.3**
GO02				*eS*	**Sn**	**02 24 31.9**	**+0.9**
GO02	**Mina Guanaco**	**2.29**	**245**	⇑*iP*	**Pn**	**02 24 00.3**	**+1.3**
GO02				*eS*	**Sn**	**02 24 31.6**	**+0.5**
GO02				IAML		02 24 33.5	
	comp=E,857nm,0.1s						
PB06	**IPOC Station P**	**2.58**	**305**		**Pn**	**02 24 03.4**	**+1.1**
PB06				Sn	**Sn**	**02 24 35.2**	**-1.5**
PB06	**IPOC Station P**	**2.58**	**305**	*eP*	**Pn**	**02 24 03.4**	**+1.1**
PB06				*eS*	**Sn**	**02 24 36.1**	**-0.6**
PB06				IAML		02 24 37.7	
	comp=Z,211nm,0.2s						
PB06	**IPOC Station P**	**2.58**	**305**	⇑*iP*	**Pn**	**02 24 03.4**	**+1.1**
PB06				*i* S	**Sn**	**02 24 35.9**	**-0.8**
PB06				IAML		02 24 37.7	
	comp=N,523nm,0.1s						
YJA	**Yavi**	**2.62**	**39**	*eP*	**Pn**	**02 24 04.0**	**+1.0**
YJA				*eS*	**Sn**	**02 24 37.4**	**-0.6**
YJA	**Yavi**	**2.62**	**39**	*eP*	**Pn**	**02 24 03.4**	**+0.4**
PB14	**IPOC Station P**	**2.86**	**261**		**Pn**	**02 24 06.5**	**+0.8**
PB14	**IPOC Station P**	**2.86**	**261**	*eP*	**Pn**	**02 24 06.8**	**+1.1**
PB14				*eS*	**Sn**	**02 24 42.2**	**-0.7**
PB14				IAML		02 24 45.9	
	comp=Z,138nm,0.2s						
PB05	**IPOC Station P**	**2.99**	**297**		**Pn**	**02 24 08.0**	**+0.9**
PB05	**IPOC Station P**	**2.99**	**297**	⇑*iP*	**Pn**	**02 24 08.1**	**+0.9**
PB05				IAML		02 24 45.0	
	comp=N,150nm,0.3s						
PB09	**IPOC Station P**	**3.01**	**323**	Pn	**Pn**	**02 24 09.2**	**+1.9**
PB09	**IPOC Station P**	**3.01**	**323**	*eP*	**Pn**	**02 24 08.7**	**+1.3**
PB09				*eS*	**Sn**	**02 24 46.0**	**+0.2**
PB09				IAML		02 24 46.1	
	comp=Z,51nm,0.5s						
PB09	**IPOC Station P**	**3.01**	**323**	⇑*iP*	**Pn**	**02 24 09.1**	**+1.7**
ALOL	**LOMAS DE OLMED**	**3.06**	**83**	*eP*	**Pn**	**02 24 08.2**	**+0.3**
PB04	**IPOC Station P**	**3.23**	**305**	Pn	**Pn**	**02 24 11.3**	**+1.3**
PB04	**IPOC Station P**	**3.23**	**305**	*eP*	**Pn**	**02 24 11.3**	**+1.3**
PB04				*eS*	**Sn**	**02 24 49.4**	**-1.1**
PB04				IAML		02 24 50.1	
	comp=Z,219nm,0.2s						
PB04	**IPOC Station P**	**3.23**	**305**	⇑*iP*	**Pn**	**02 24 11.3**	**+1.3**
PB04				IAML		02 24 50.6	
	comp=N,409nm,0.2s						
AC01	**Pan de Azucar**	**3.55**	**237**		**Pn**	**02 24 14.3**	**+0.5**
AC01	**Pan de Azucar**	**3.55**	**237**	*eP*	**Pn**	**02 24 14.1**	**+0.3**
AC01				*eS*	**Sn**	**02 24 57.2**	**-0.2**
AC01				IAML		02 24 58.2	
	comp=Z,40nm,0.1s						
AC06	**Mina Casimiro**	**4.16**	**221**		**Pn**	**02 24 21.7**	**+0.2**
GO03	**Copiap**	**4.27**	**218**	Pn	**Pn**	**02 24 23.2**	**+0.3**
GO03	**Copiap**	**4.27**	**218**	*eP*	**Pn**	**02 24 23.1**	**+0.3**
GO03				*eS*	**Sn**	**

σ1§03/24, **mb3.9/4, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YATNC	**Mamie plateau,**	**13.94**	**272**	P	**Pn**	**02 32 49.6**	**+1.7**
DZM	**Mont Dzumac**	**14.35**	**272**	P	**Pn**	**02 32 54.1**	**+1.3**
URZ	**Urewera**	**15.55**	**194**	P	**P**	**02 33 05.0**	**+0.1**
URZ	**Urewera**	**15.55**	**194**	P	**P**	**02 33 04.9**	**+0.1**
	13nm,0.5s,baz=20,slow=5.2,SNR=23						
URZ				S	**S**	**02 35 52.0**	**-1.4**
	11nm,0.5s,baz=140,slow=23,SNR=17						
HIZ	**Hauiti**	**16.40**	**200**	P	**Pn**	**02 33 17.3**	**+0.7**
BKZ	**Black Stump Fm**	**16.56**	**195**	P	**P**	**02 33 16.0**	**0.0**
QRZ	**Quartz Range**	**19.26**	**202**	P	**P**	**02 33 45.7**	**+0.8**
QRZ	**Quartz Range**	**19.26**	**202**	P	**P**	**02 33 45.9**	**+1.0**
NNZ	**Nelson**	**19.33**	**200**	P	**P**	**02 33 44.6**	**-1.0**
TUWZ	**Tuamarina**	**19.35**	**198**	P	**P**	**02 33 47.0**	**+1.1**
THZ	**Tophouse**	**19.97**	**200**	P	**P**	**02 33 52.9**	**+0.4**
DSZ	**Denniston Nort**	**20.32**	**202**	P	**P**	**02 33 57.1**	**+1.0**
KHZ	**Kahutara**	**20.38**	**198**	P	**P**	**02 33 56.4**	**-0.2**
KHZ	**Kahutara**	**20.38**	**198**	P	**P**	**02 33 56.4**	**-0.2**
GVZ	**Greta Valley S**	**21.03**	**198**	P	**P**	**02 34 02.3**	**-0.6**
LTZ	**Lake Taylor**	**21.09**	**200**	P	**P**	**02 34 03.1**	**-0.5**
INZ	**Inchbonnie**	**21.32**	**202**	P	**P**	**02 34 05.3**	**-0.3**
MQZ	**McQueen's Vall**	**21.82**	**198**	P	**P**	**02 34 10.1**	**-0.1**
JCZ	**Jackson Bay**	**23.45**	**204**	P	**P**	**02 34 24.9**	**-0.1**
STKA	**Stephens Creek**	**36.62**	**247**	P	**P**	**02 36 20.0**	**-0.4**
	2.6nm,0.6s,baz=102,slow=8.6,SNR=6.4						
	2.6nm,0.6s						
ASAR	**Alice Springs**	**43.90**	**259**	P	**P**	**02 37 18.2**	**-1.6**
	4.0nm,0.8s,baz=95,slow=6.6,SNR=40						
	4.0nm,0.8s						
WRA	**Warramunga Arr**	**44.23**	**265**	P	**P**	**02 37 20.1**	**-2.4**
	1.8nm,0.5s,baz=96,slow=8.2,SNR=153						
	1.8nm,0.5s						
QSPA	**South Pole Qui**	**66.86**	**180**	P	**P**	**02 40 03.0**	**+1.1**
	2.3nm,0.7s,baz=55,slow=1.4,SNR=12						
	2.3nm,0.7s						

IDC ***28*** *02:33:45.6±0.8, 30.°84N×113.°87W, h0km, mb4.1/18, mbtmp4.0/24, ML3.2/6, MS3.9/52, Error ellipse: s-maj=17.4km s-min=10.1km az=45.0*

PAS ***28*** *02:33:48.3±2.2, 31.°38N±0.°06×114.°40W±0.°02, h6km±1km, Error ellipse: s-maj=9.7km s-min=3.1km az=179.0*

MEX ***28*** *02:33:49.4±0.7, 30.°98N×114.°31W, h8km±4km, MD4.6*

NEIC ***28*** *02:33:49.5±2.2, 31.°40N±0.°06×114.°39W±0.°05, h10km±1km, mb4.6/51, Mwr4.5/62, Mww4.8/32, ML4.3/140(PAS), Error ellipse: s-maj=9.6km s-min=7.0km az=191.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=6.21; Mθθ=0.39; Mφφ=5.82; Mrθ=-1.71; Mθφ=2.03; Mφr=2.89; Fault plane solution: M0=7.19000×10^15 NP1: φs=192.28000°, δ=31.63000°, λ=-100.25000°. NP2: φs=24.27000°, δ=58.93000°, λ=-83.74000°. Principal axes: T 7.3009, Plg=14.0000°, Azm=110.0000°; N -0.2215, Plg=5.0000°, Azm=201.0000°; P -7.0794, Plg=75.0000°, Azm=312.0000°;*

GCMT ***28*** *02:33:49.0±0.4, 31.°25N±0.°05×114.°36W±0.°03, h12km, MW=4.7/68, Moment Tensor Solution. s4,c4; s68,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.09±.06; Mθθ=0.07±.06; Mφφ=1.16±.04; Mrθ=0.17±.35; Mθφ=0.41±.04; Mφr=0.30±.20; Best double couple: M=1.24200×10^16 NP1: φs=3.00000°, δ=52.00000°, λ=-108.00000°. NP2: φs=211.00000°, δ=41.00000°, λ=-68.00000°. Principal axes: T 1.3080, Plg=6.0000°, Azm=106.0000°; N -0.1310, Plg=14.0000°, Azm=15.0000°; P -1.1760, Plg=75.0000°, Azm=217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ECX ***28*** *02:33:49.0±0.4, 31.°25N×114.°36W, h14km±4km, ML4.4*

NEIC ***28*** *02:33:52.7, 31.°47N×114.°20W, h12km*

NEIC ***28*** *02:33:52.5, 31.°46N×114.°20W, h10km*

NEIC ***28*** *02:33:52.7, 31.°37N×114.°55W, h12km, Moment Tensor Solution. Duration: 1§0 Moment tensor: Scale 10^16Nm; Mrr=0.85; Mθθ=0.04; Mφφ=0.89; Mrθ=0.50; Mθφ=0.32; Mφr=1.42; Fault plane solution: M0=1.77000×10^16 NP1: φs=199.09000°, δ=74.35000°, λ=-88.73000°. NP2: φs=14.40000°, δ=15.70000°, λ=-94.52000°. Principal axes: T 1.8351, Plg=29.0000°, Azm=288.0000°; N -0.1390, Plg=1.0000°, Azm=19.0000°; P -1.6961, Plg=61.0000°, Azm=111.0000°;*

ISC 28 02:33:48.1±1.1, 31.°29N±0.°03×114.°33W±0.°02, h3km±7km, n581, σ1§62/541, mb4.5/40, MS4.0/52, 5C-10D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.51**	**241**	Pg	**Pg**	**02 33 57.8**	**-0.2**
SFX	**San Felipe**	**0.51**	**241**	*e*P	**Pg**	**02 33 58.4**	**+0.5**
SFX				*e*S	**Sg**	**02 34 04.9**	**+0.3**
SFX	**San Felipe**	**0.51**	**241**	*e*P	**Pg**	**02 33 57.6**	**-0.3**
SFX				*e*S	**Sg**	**02 34 04.7**	**+0.1**
SFX				⇓*e*		02 34 11.4	
SFX				IAML		02 34 11.4	
	comp=E,17μm,0.7s						
SFX				*e*		02 34 11.7	
SFX				IAML		02 34 11.7	
	comp=N,14μm,1.3s						
PPXB	**Puerto Pesaco**	**0.60**	**85**	⇑*e*P	**Pg**	**02 34 00.0**	**+0.4**
PPXB				*e*S	**Sb**	**02 34 08.7**	**-1.4**
ECBX	**El Chinero**	**0.65**	**287**	*e*P	**Pg**	**02 34 00.1**	**-0.5**
ECBX				*e*S	**Sg**	**02 34 08.9**	**0.0**
ECBX				IAML		02 34 11.1	
	comp=E,24μm,0.5s						
ECBX				⇓*e*		02 34 11.1	
ECBX				IAML		02 34 17.9	
	comp=N,10μm,0.9s						
PIX	**Pinacate**	**0.79**	**70**		**Pg**	**02 34 03.5**	**+0.3**
PIX	**Pinacate**	**0.79**	**70**	⇑*i*P	**Pg**	**02 34 03.6**	**+0.3**
PIX				*e*S	**Sb**	**02 34 14.9**	**-0.7**
SPIG	**San Pedro Mart**	**1.00**	**256**	*e*P	**Pg**	**02 34 05.9**	**-1.5**
SPIG				*e*S	**Sg**	**02 34 19.4**	**-1.1**
SPIG	**San Pedro Mart**	**1.00**	**256**	⇓*e*P	**Pg**	**02 34 06.0**	**-1.4**
SPIG				*e*S	**Sg**	**02 34 19.5**	**-1.0**
SPIG				⇓*e*		02 34 23.1	
SPIG				IAML		02 34 23.1	
	comp=E,5μm,0.7s						
SPIG				IAML		02 34 26.3	
	comp=N,7μm,1.4s						
SPIG				⇑*e*		02 34 26.3	
RITX	**Riito Sonora**	**1.03**	**329**	⇑*e*P	**Pg**	**02 34 07.7**	**-0.2**
GUVIX	**Guadalupe Vict**	**1.20**	**328**		**Pg**	**02 34 09.3**	**-1.8**
VTX	**Valle De La Tr**	**1.25**	**275**		**Pg**	**02 34 09.9**	**-2.2**
VTX					**Sg**	**02 34 28.3**	**-0.1**
VTX	**Valle De La Tr**	**1.25**	**275**	⇓*e*P	**Pg**	**02 34 10.1**	**-2.0**
VTX				*e*S	**Sg**	**02 34 26.9**	**-1.4**
VTX				⇑*e*		02 34 34.4	
VTX				IAML		02 34 34.4	
	comp=N,5μm,1.1s						
MBIG	**Mexicali**	**1.34**	**327**	*e*P	**Pn**	**02 34 12.8**	**-1.0**
MBIG				*e*P	**Pb**	**02 34 15.6**	**+1.7**
CPBX	**Cerro Prieto**	**1.40**	**324**	Pn	**Pn**	**02 34 13.1**	**-1.5**
SLGB	**San Luis Gonza**	**1.45**	**183**	⇓*e*	Pg	02 34 42.8	+27
SLGB				IAML		02 34 42.8	
	comp=N,4μm,1.2s						
214A	**Organ Pipe Nat**	**1.46**	**62**	Pn	**Pn**	**02 34 14.0**	**-1.4**
214A	**Organ Pipe Nat**	**1.46**	**62**	P	**Pn**	**02 34 13.3**	**-2.0**
	baz=248,SNR=127						
214A	**Organ Pipe Nat**	**1.46**	**62**	*e*P	**Pn**	**02 34 13.5**	**-1.9**
214A				*e*S	**Sg**	**02 34 34.5**	**-0.5**
SQX	**San Quintin**	**1.51**	**242**	⇓*e*P	**Pn**	**02 34 13.7**	**-2.3**
SQX				*e*S	**Sn**	**02 34 33.8**	**-2.4**
SQX				⇓*e*		02 34 36.8	
SQX				IAML		02 34 36.8	
	comp=E,9μm,0.3s						
SQX				⇓*e*		02 34 41.6	
SQX				IAML		02 34 41.6	
	comp=N,9μm,0.6s						
113A	**Mohawk Valley,**	**1.55**	**18**		**Pn**	**02 34 14.8**	**-1.8**
EMSC	**East Mesa**	**1.55**	**339**		**Pn**	**02 34 15.3**	**-1.4**
ESJX	**Sierra Juarez**	**1.56**	**298**		**Pn**	**02 34 14.4**	**-2.5**
UABX	**UABC, Campus M**	**1.64**	**325**	Pn	**Pn**	**02 34 16.4**	**-1.5**
RUN	**Ruthven**	**1.77**	**342**		**Pn**	**02 34 16.1**	**-3.5**
SGL	**Mount Signal**	**1.80**	**319**		**Pn**	**02 34 17.1**	**-3.1**
GLA	**Glamis**	**1.81**	**347**		**Pn**	**02 34 18.4**	**-1.9**
GLA	**Glamis**	**1.81**	**347**	P	**Pn**	**02 34 18.4**	**-1.9**
	baz=167,SNR=14						
LAPR	**La Primavera**	**1.90**	**114**	*e*P	**Pn**	**02 34 17.2**	**-4.2**
YUH	**Yuha Desert**	**1.92**	**315**	Pn	**Pn**	**02 34 19.7**	**-2.0**
RMX	**La Rumorosa**	**1.98**	**312**		**Pn**	**02 34 19.6**	**-3.2**
IKP	**In-Ko-Pah, Jac**	**2.03**	**312**		**Pn**	**02 34 20.7**	**-2.7**
IKP	**In-Ko-Pah, Jac**	**2.03**	**312**	P	**Pn**	**02 34 21.4**	**-2.0**
	baz=130,SNR=19						
SWSC	**Sam W. Stewart**	**2.07**	**323**	P	**Pn**	**02 34 21.2**	**-2.7**
	baz=142,SNR=26						
CCX	**Cicese**	**2.08**	**287**		**Pn**	**02 34 21.8**	**-2.1**
CBX	**Cerro Bola**	**2.24**	**298**	Pn	**Pn**	**02 34 24.0**	**-2.2**
CBX	**Cerro Bola**	**2.24**	**298**	*e*P	**Pn**	**02 34 22.8**	**-3.4**
TJIG	**Tijuana**	**2.30**	**300**	*e*P	**Pn**	**02 34 25.3**	**-1.7**
TJIG				*e*S	**Sb**	**02 34 59.8**	**+0.7**
TKX	**Tecate**	**2.32**	**304**		**Pn**	**02 34 26.1**	**-1.2**
MONP2	**Monument Peak**	**2.39**	**313**	P	**Pn**	**02 34 26.3**	**-2.2**
	baz=130,SNR=16						
BAHB	**Baha de los**	**2.43**	**164**	*e*P	Pn	02 34 23.0	-5.7
BLYC	**Blythe**	**2.46**	**356**	Pn	**Pn**	**02 34 27.6**	**-1.6**
BC3	**Big Chuckawall**	**2.54**	**338**	P	**Pn**	**02 34 28.4**	**-2.1**
	baz=158,SNR=14						
TJX	**Tijuana**	**2.62**	**298**		**Pn**	**02 34 29.5**	**-1.9**
109C	**Camp Elliot, M**	**2.85**	**305**	Pn	**Pn**	**02 34 32.4**	**-2.1**
109C	**Camp Elliot, M**	**2.85**	**305**	P	**Pn**	**02 34 33.3**	**-1.2**
	baz=122,SNR=21						
Y14A	**Wickenburg**	**2.87**	**23**	Pn	**Pn**	**02 34 33.8**	**-1.1**
TPFO	**Pinon Flats**	**2.93**	**323**	P	**Pn**	**02 34 32.8**	**-2.9**
	baz=141,SNR=10						
PFO	**Pinyon Flats O**	**2.94**	**323**	Pn	**Pn**	**02 34 33.4**	**-2.5**
PFO	**Pinyon Flats O**	**2.94**	**323**	P	**Pn**	**02 34 32.8**	**-3.0**
	baz=141,SNR=12						
PFO	**Pinyon Flats O**	**2.94**	**323**	Pn	**Pn**	**02 34 35.1**	**-0.8**
	comp=N,0.4nm,0.3s,baz=143,slow=13,SNR=3.7						
PFO				Sn	**Sg**	**02 35 21.8**	**-0.7**
	comp=N,15nm,0.3s,baz=126,slow=7.5,SNR=5.0						
IRM	**Iron Mountain**	**2.94**	**347**	P	**Pn**	**02 34 33.8**	**-2.1**
	baz=167,SNR=12						
PDMCI	**Parker Dam,Lak**	**3.01**	**3**	P	**Pn**	**02 34 33.3**	**-3.4**
	baz=184,SNR=13						
BELC	**Belle Mtn. Jos**	**3.05**	**333**	P	**Pn**	**02 34 35.3**	**-2.1**
	baz=152,SNR=8.7						
TUC	**Tucson**	**3.19**	**70**	P	**Pn**	**02 34 35.7**	**-3.5**
	baz=254						
TUC	**Tucson**	**3.19**	**70**	*e*P	Pn	02 34 32.5	-6.8
MURC	**Murrieta**	**3.35**	**314**	P	**Pn**	**02 34 39.4**	**-2.0**
	baz=132,SNR=7.3						
NEE2	**Needles Airpor**	**3.48**	**356**	P	**Pn**	**02 34 41.4**	**-1.8**
	baz=177						
ELS	**Elsinore Mount**	**3.52**	**313**		**Pn**	**02 34 41.8**	**-2.0**
GMRC	**Granite Mounta**	**3.66**	**343**	P	**Pn**	**02 34 44.2**	**-1.7**
	baz=162						
BBRC	**Big Bear Solar**	**3.68**	**324**	P	**Pn**	**02 34 45.4**	**-0.8**
	baz=143						
W13A	**Hualapai Mount**	**3.82**	**5**		**Pn**	**02 34 47.8**	**-0.3**
HEC	**Hector,Ludlow**	**3.91**	**335**	P	**Pn**	**02 34 46.8**	**-2.5**
	baz=154						
X16A	**Lo Mia Camp, P**	**3.96**	**37**		**Pn**	**02 34 50.3**	**+0.4**
SCI2	**San Clemente I**	**3.96**	**296**	P	**Pn**	**02 34 49.8**	**0.0**
	baz=113						
CIS	**Catalina Islan**	**4.05**	**302**	P	**Pn**	**02 34 51.2**	**+0.1**
	baz=119						
BFSC	**Mount Baldy Ra**	**4.07**	**317**	P	**Pn**	**02 34 49.4**	**-2.0**
	baz=135,SNR=9.4						
FMP	**Fort Macarthur**	**4.13**	**307**	P	**Pn**	**02 34 52.1**	**-0.1**
	baz=124						
NZIG	**Nacozari, Sono**	**4.21**	**101**	*e*P	**Pn**	**02 34 48.7**	**-4.7**
NZIG				*e*P	**Pn**	**02 34 51.4**	**-1.9**
NZIG				*e*S	**Sn**	**02 35 41.5**	**-1.6**
RRX	**Edison Barstow**	**4.22**	**329**	P	**Pn**	**02 34 51.4**	**-2.0**
	baz=147						
319A	**Douglas**	**4.32**	**88**		**Pn**	**02 34 54.8**	**0.0**
TUQ	**Turquoise Moun**	**4.35**	**343**	P	**Pn**	**02 34 53.9**	**-1.3**
	baz=162						
V12A	**Nelson**	**4.45**	**355**		**Pn**	**02 34 56.1**	**-0.6**
DECC	**Green Verdugo**	**4.49**	**312**	P	**Pn**	**02 34 57.7**	**+0.7**
	baz=130						
GSC	**Goldstone, Bar**	**4.51**	**333**	Pn	**Pn**	**02 34 55.4**	**-2.1**
GSC	**Goldstone, Bar**	**4.51**	**333**	P	**Pn**	**02 34 56.8**	**-0.7**
	baz=152						
GUYB	**Guaymas**	**4.52**	**137**	*e*P	**Pn**	**02 34 56.2**	**-1.3**
DUN6	**Lazy B Ranch**	**4.63**	**73**		**Pn**	**02 34 59.2**	**+0.1**
EDW2	**Edwards Air Fo**	**4.72**	**320**	P	**Pn**	**02 35 00.7**	**+0.3**
	baz=138						
SNCC	**San Nicolas Is**	**4.82**	**295**	P	**Pn**	**02 35 05.9**	**+4.4**
	baz=112						
SHOC	**Shoshone, Teco**	**4.88**	**341**	P	**Pn**	**02 35 04.6**	**+2.1**
	baz=160						
WUAZ	**Wupatki**	**4.89**	**30**	Pn	**Pn**	**02 35 02.1**	**-0.6**
WUAZ	**Wupatki**	**4.89**	**30**	P	**Pn**	**02 35 03.3**	**+0.6**
	baz=212,SNR=21						
X18A	**Snowflake**	**4.90**	**48**		**Pn**	**02 35 02.4**	**-0.5**
WTNK	**Soaring Height**	**4.92**	**354**	Pn	**Pn**	**02 35 01.1**	**-2.0**
OSI	**Osito Audit: C**	**4.97**	**313**	P	**Pn**	**02 35 06.4**	**+2.8**
	baz=130						
LRMC	**Laurel Mtn Rad**	**5.04**	**327**	P	**Pn**	**02 35 06.8**	**+2.1**
	baz=145						
SCZ2	**Santa Cruz Isl**	**5.23**	**302**	P	**Pn**	**02 35 07.9**	**+0.7**
	baz=119						
ARVC	**Arvin**	**5.38**	**317**	P	**Pn**	**02 35 09.8**	**+0.5**
	baz=134						
U15A	**North Rim**	**5.40**	**18**		**Pn**	**02 35 09.4**	**-0.4**
W18A	**Petrified Fore**	**5.42**	**44**		**Pn**	**02 35 11.0**	**+0.9**
W18A	**Petrified Fore**	**5.42**	**44**	P	**Pn**	**02 35 08.2**	**-1.9**
	baz=228						
MPMC	**Manual Prospec**	**5.44**	**332**	P	**Pn**	**02 35 12.6**	**+2.3**
	baz=150						
SBC	**Santa Barbara**	**5.51**	**306**	P	**Pn**	**02 35 11.3**	**+0.1**
	baz=123						
CGIG		**5.54**	**98**	*e*P	Pn	02 35 03.8	-7.9
ISA	**Isabella, Lake**	**5.57**	**323**	P	**Pn**	**02 35 13.2**	**+1.2**
	baz=140						
FURC	**Furnace Creek,**	**5.58**	**338**	P	**Pn**	**02 35 13.5**	**+1.5**
	baz=157						
BCW	**Bitter Crk WRg**	**5.61**	**312**		**Pn**	**02 35 11.5**	**-1.1**
121A	**Cookes Peak, D**	**5.70**	**76**	Pn	**Pn**	**02 35 13.4**	**-0.5**
121A	**Cookes Peak, D**	**5.70**	**76**	P	**Pn**	**02 35 14.1**	**+0.2**
	baz=260,SNR=12						
121A	**Cookes Peak, D**	**5.70**	**76**	*e*P	**Pn**	**02 35 13.1**	**-0.8**
121A				*e*S	**Sn**	**02 36 16.1**	**-3.9**
LCMT	**Little Creek M**	**5.78**	**9**		**Pn**	**02 35 15.0**	**0.0**
PKM	**Mcpherson Peak**	**5.84**	**309**	P	**Pn**	**02 35 17.7**	**+1.9**
	baz=126						
KNB	**Kanab**	**5.85**	**12**	Pn	**Pn**	**02 35 16.6**	**+0.7**
TPNV	**Topopah Spring**	**5.87**	**345**	P	**Pn**	**02 35 17.9**	**+1.7**
	baz=164,SNR=5.4						
CWC	**Cottonwood Cre**	**6.01**	**330**	P	**Pn**	**02 35 17.9**	**-0.3**
	baz=148						
VES	**Vestal, Richgr**	**6.03**	**320**	P	**Pn**	**02 35 19.3**	**+1.1**
	baz=137						
PRN	**Pahroc Range**	**6.13**	**355**	Pn	**Pn**	**02 35 19.7**	**-0.1**
GRAC	**Grapevine Rang**	**6.23**	**337**	P	**Pn**	**02 35 19.4**	**-1.5**
	baz=155						
CCUT	**Cedar City**	**6.30**	**7**	Pn	**Pn**	**02 35 21.6**	**-0.6**
PKCU	**Pink Cliffs**	**6.36**	**15**		**Pn**	**02 35 23.5**	**+0.4**
SZCU	**Shurtz Canyon**	**6.38**	**9**		**Pn**	**02 35 23.1**	**-0.1**
VOG	**Valley Oaks Go**	**6.55**	**321**	P	**Pn**	**02 35 22.8**	**-2.5**
	baz=138						
SBM	**South Baldy**	**6.60**	**64**	Pn	**Pn**	**02 35 25.9**	**-0.5**
TIN	**Tinemaha, Big**	**6.60**	**332**	P	**Pn**	**02 35 22.7**	**-3.5**
	baz=150						
EPT	**El Paso**	**6.70**	**84**	Pn	**Pn**	**02 35 27.8**	**+0.3**
Y22D	**IRIS PASSCAL I**	**6.83**	**64**	P	**Pn**	**02 35 25.4**	**-4.1**
	baz=249						
CSIG	**Choix**	**6.85**	**129**	*e*P	Pn	02 35 23.3	-6.2
CSIG				*e*S	**Sn**	**02 36 43.6**	**-4.4**
CRNM	**Carthage**	**6.94**	**65**	Pn	**Pn**	**02 35 30.4**	**-0.4**
BNM	**Barren Site**	**7.09**	**64**	Pn	**Pn**	**02 35 32.7**	**-0.3**
R11B	**Troy Canyon, C**	**7.12**	**352**	P	**Pn**	**02 35 32.0**	**-1.4**
	baz=172						
MLAC	**Mammoth, Mammo**	**7.34**	**331**	P	**Pn**	**02 35 36.2**	**-0.3**
	baz=148						
ANMO	**Albuquerque**	**7.54**	**59**		**Pn**	**02 35 38.1**	**-1.1**
ANMO	**Albuquerque**	**7.54**	**59**	P	**Pn**	**02 35 35.4**	**-3.8**
	baz=244						
ANMO	**Albuquerque**	**7.54**	**59**	Pn	**Pn**	**02 35 36.0**	**-3.2**
	comp=N,0.1nm,0.3s,baz=216,slow=8.7,SNR=1.6						
ANMO				Lg	Lg	02 37 40.7	
	comp=N,0.2nm,0.3s,baz=261,slow=16,SNR=3.3						
MVCO	**Mesa Verde**	**7.63**	**38**		**Pn**	**02 35 41.2**	**+0.8**
MVCO	**Mesa Verde**	**7.63**	**38**	P	**Pn**	**02 35 41.4**	**+1.0**
	baz=222,SNR=19						
MNTX	**Cornudas Mount**	**7.65**	**85**	P	**Pn**	**02 35 41.1**	**+0.6**
	baz=270,SNR=7.7						
MNTX	**Cornudas Mount**	**7.65**	**85**	*e*P	**Pn**	**02 35 39.0**	**-1.5**
SPR3	**Spring Creek 3**	**7.69**	**360**	Pn	**Pn**	**02 35 40.2**	**-1.2**
NVAR	**Mina Array Bea**	**7.84**	**336**	Pn	Pn	02 35 51.3	+8.0
	comp=N,0.1nm,0.3s,baz=166,slow=12,SNR=12						
	comp=N,2.7nm,1.0s						
VHRN	**Van Horn**	**8.03**	**91**	Pn	**Pn**	**02 35 47.1**	**+1.2**
Q16A	**Castle Valley**	**8.04**	**18**		**Pn**	**02 35 46.4**	**+0.4**
TMUT	**Trail Mountain**	**8.39**	**17**		**Pn**	**02 35 50.4**	**-0.5**
SRU	**San Rafael Swe**	**8.40**	**21**		**Pn**	**02 35 50.5**	**-0.5**
SLBS	**Sierra La Lagu**	**8.51**	**152**		**Pn**	**02 35 55.1**	**+2.7**
SLBS	**Sierra La Lagu**	**8.51**	**152**	*e*P	Pn	02 35 44.8	-7.7
HPIG		**8.73**	**118**	*e*P	**Pn**	**02 35 58.9**	**+3.4**
S22A	**4UR Ranch, Cre**	**8.93**	**42**	P	**Pn**	**02 35 57.3**	**-1.1**
	baz=227						
DUG	**Dugway, Tooele**	**8.97**	**7**	P	**Pn**	**02 35 58.8**	**+0.1**
	baz=189						
TXAR	**Lajitas Array**	**9.42**	**99**	Pn	Pn	02 35 57.2	-7.7
	comp=N,0.4nm,0.3s,baz=2.0,slow=15,SNR=39						
TXAR				Lg	Lg	02 38 35.2	
	comp=N,0.1nm,0.3s,baz=272,slow=30,SNR=1.9						
ELK	**Elko**	**9.47**	**356**	Pn	Pn	02 36 10.8	+5.1
	comp=N,0.1nm,0.3s,baz=182,slow=17,SNR=1.7						
ELK				Lg	Lg	02 39 00.1	
	comp=N,0.1nm,0.3s,baz=52,slow=23,SNR=1.0						
	comp=N,0.2nm,0.3s						
SDCO	**Great Sand Dun**	**9.72**	**46**	Pn	**Pn**	**02 36 11.0**	**+1.8**
SDCO	**Great Sand Dun**	**9.72**	**46**	P	**Pn**	**02 36 07.5**	**-1.6**
	baz=232						
SMCO	**Snowmass**	**9.90**	**35**	Pn	**Pn**	**02 36 12.2**	**+0.4**
ODSA	**Odessa**	**10.07**	**82**	Pn	**Pn**	**02 36 15.8**	**+2.0**
T25A	**Trinidad**	**10.07**	**52**	P	**Pn**	**02 36 12.0**	**-1.9**
	baz=238						
MSTX	**Muleshoe**	**10.11**	**72**	Pn	**Pn**	**02 36 13.9**	**-0.3**
MSTX	**Muleshoe**	**10.11**	**72**	P	**Pn**	**02 36 11.5**	**-2.8**
	baz=258						
O20A	**White River Ci**	**10.12**	**28**	Pn	**Pn**	**02 36 15.9**	**+1.4**
O20A	**White River Ci**	**10.12**	**28**	P	**Pn**	**02 36 15.3**	**+0.8**
	baz=212						
Q24A	**Divide**	**10.72**	**42**	P	**Pn**	**02 36 22.9**	**-0.1**
	baz=228						
ISCO	**Idaho Springs**	**11.06**	**37**	P	**Pn**	**02 36 28.7**	**+1.2**
	baz=223						
AMTX	**Amarillo**	**11.20**	**68**	P	**Pn**	**02 36 28.8**	**-0.4**
	baz=256						
N23A	**Red Feather La**	**11.74**	**33**	P	**Pn**	**02 36 37.8**	**+1.0**
	baz=218						
AHID	**Auburn Hatcher**	**11.74**	**12**	Pn	**Pn**	**02 36 34.7**	**-2.0**
BW06	**Boulder Array**	**12.07**	**17**	P	**Pn**	**02 36 41.1**	**-0.2**
	baz=200						
PDAR	**Pinedale Array**	**12.07**	**17**	Pn	**Pn**	**02 36 41.0**	**-0.3**
PDAR	**Pinedale Array**	**12.07**	**17**	Pn	Pn	02 36 46.1	+4.8
	comp=N,0.1nm,0.3s,baz=197,slow=9.0,SNR=3.7						
PDAR				Lg	Lg	02 40 14.6	
	comp=N,0.1nm,0.3s,baz=131,slow=32,SNR=1.6						
	comp=N,0.3nm,0.5s						
HLID	**Hailey**	**12.25**	**360**	Pn	**Pn**	**02 36 42.2**	**-1.5**
HLID	**Hailey**	**12.25**	**360**	P	**Pn**	**02 36 43.8**	**+0.1**
	baz=180						
KSCO	**Kaye Shedlock'**	**12.28**	**48**	P	**Pn**	**02 36 42.6**	**-1.5**
	baz=235						
YBH	**Yreka Blue Hor**	**12.41**	**329**	Pn	Pn	02 36 52.1	+6.4
	baz=153,slow=12,SNR=5.9						
YBH				LR	LR	02 41 26.3	
	comp=N,428nm,21.5s,baz=152,slow=36						
	comp=N,3.7nm,1.1s						
TPAW	**Teton Pass**	**12.47**	**11**	Pn	**Pn**	**02 36 44.4**	**-2.4**
JCT	**Junction City**	**12.51**	**90**	Pn	**Pn**	**02 36 49.4**	**+2.3**
JCT	**Junction City**	**12.51**	**90**	P	**Pn**	**02 36 47.3**	**+0.2**
	baz=278						
ABTX	**Abilene, Hawle**	**12.54**	**80**	P	**Pn**	**02 36 48.0**	**+0.4**
	baz=268						
K22A	**Casper**	**12.94**	**27**	Pn	**Pn**	**02 36 52.6**	**-0.5**
K22A	**Casper**	**12.94**	**27**	P	**Pn**	**02 36 52.5**	**-0.5**
	baz=212						
YPP	**Pitchstone Pla**	**13.26**	**11**	Pn	**Pn**	**02 36 57.3**	**-0.2**
833A	**Chaparral WMA,**	**13.30**	**99**	Pn	**Pn**	**02 36 59.1**	**+1.2**
833A	**Chaparral WMA,**	**13.30**	**99**	P	**Pn**	**02 36 58.8**	**+0.9**
	baz=287						
ZAIG	**Zacatecas**	**13.48**	**126**	Pn	**Pn**	**02 37 02.4**	**+1.8**
WMOK	**Wich

comp=Z,22nm,1.3s
SPMN Marine on St. 21.80 44 P P 02 38 41.2 -0.1
baz=238
AGMN Agassiz Nation 22.04 34 P P 02 38 43.5 -0.4
AGMN IAmb IAmb 02 38 59.1
comp=Z,30nm,1.4s
AGMN Agassiz Nation 22.04 34 P P 02 38 43.8 0.0
baz=226
HDIL Hopedale 22.22 58 P P 02 38 43.9 -1.9
baz=254
JFWS Jewell Farm 22.36 52 P P 02 38 45.0 -2.3
baz=247
WVT Waverly 22.54 70 P P 02 38 49.6 +0.3
WVT IAmb IAmb 02 39 11.0
comp=Z,20nm,1.1s
WVT Waverly 22.54 70 P P 02 38 48.2 -1.0
baz=266
CMIG Matias Romero 22.63 124 P P 02 38 42.5 -7.8
comp=Z,2.0nm,0.8s,baz=282,slow=16,SNR=1.9
CMIG LR LR 02 48 07.5
comp=Z,772nm,19.3s,baz=293,slow=39
comp=Z,2.0nm,0.8s
LRAL Lakeview Retre 23.18 78 P P 02 38 57.2 +1.1
baz=273
BBB Bella Bella 23.20 338 LR LR 02 48 05.2
comp=Z,325nm,20.8s,baz=162,slow=36
BRAL Brewton 23.31 83 P P 02 38 55.9 -1.4
baz=278
ULM Lac du Bonnet 23.43 31 P P 02 38 58.1 -0.2
comp=Z,2.8nm,0.9s,baz=214,slow=14,SNR=2.0
ULM LR LR 02 48 17.1
comp=Z,135nm,18.9s,baz=224,slow=37
comp=Z,2.8nm,0.9s
L44A Lake County Fo 23.71 55 P P 02 39 02.0 +0.8
baz=252
SFIN Lafayette 23.79 60 P P 02 39 02.8 +0.8
baz=256
WCI Wyandotte Cave 23.99 66 P P 02 39 04.1 +0.1
baz=262
EYMN Ely 24.07 40 P P 02 39 03.5 -1.2
baz=235
FPAL Fort Paine 24.29 75 P P 02 39 06.8 0.0
FPAL IAmb IAmb 02 39 25.5
comp=Z,19nm,1.4s
FFC Flin Flon 25.03 17 P P 02 39 12.3 -1.0
CCIG Comitan 25.14 121 P P 02 39 15.6 +0.8
CCIG IAmb IAmb 02 39 21.6
comp=Z,17nm,1.4s
O48B Farmland 25.21 61 P P 02 39 16.6 +1.5
baz=259
P49A Miami Univ. Ec 25.41 63 P P 02 39 18.2 +1.3
baz=261
TKL Tuckaleechee C 25.80 72 P P 02 39 17.9 -2.6
comp=Z,1.1nm,0.6s,baz=270,slow=6.1,SNR=1.5
TKL LR LR 02 50 06.0
comp=Z,544nm,19.1s,baz=264,slow=38
comp=Z,1.1nm,0.6s
TEIG Tepich 25.86 109 LR LR 02 52 05.1
comp=Z,206nm,18.6s,baz=330,slow=43
TZTN Tazewell 26.01 70 P P 02 39 23.1 +0.7
baz=268
GOGA Godfrey 26.11 77 P P 02 39 25.9 +2.6
baz=274
TIGA Tifton 26.21 82 P P 02 39 26.3 +2.1
baz=278
PETF Flores 26.44 117 P P 02 39 27.7 +1.4
PETF IAmb IAmb 02 39 48.9
comp=Z,7.2nm,0.8s
AAM Ann Arbor 26.77 57 P P 02 39 29.8 +0.6
baz=256
ACSO Alum Creek Sta 26.85 62 P P 02 39 30.1 +0.2
baz=261
GLMI Grayling 26.85 51 P P 02 39 29.9 0.0
baz=250
V35K Ketchikan 26.97 338 P P 02 39 32.5 +1.7
baz=146
APG El Apazote 27.19 121 LR LR 02 49 48.9
comp=Z,51nm,20.9s,baz=332,slow=36
P52A Corning 27.40 63 P P 02 39 35.9 +1.0
baz=263
KMSC Kings Mountain 27.80 73 P P 02 39 39.4 +0.9
baz=272
U33K Whale Pass 28.11 337 P P 02 39 41.6 +0.7
baz=144
O53A New Philadelph 28.19 62 P P 02 39 42.5 +0.6
baz=262
BLA Blacksburg 28.54 69 P P 02 39 45.4 +0.2
baz=268
M53A Wl Miller and 28.77 60 P P 02 39 48.7 +1.6
baz=260
NHSC New Hope 28.88 77 P P 02 39 46.7 -1.5
baz=276
S34M Telegraph Cree 29.02 341 P P 02 39 51.4 +2.3
baz=149
MCWV Mont Chateau 29.16 64 P P 02 39 51.7 +1.1
baz=264
DLBC Dease Lake 29.19 343 P P 02 39 52.3 +1.6
baz=152
SIT Sitka 29.60 337 P P 02 39 56.1 +1.9
baz=142
S32K Killisnoo 29.68 338 P P 02 39 58.7 +3.8
baz=143
TGUH Tegucigalpa,Un 30.16 119 P P 02 40 01.0 +1.2
Q32M Nakina River 30.23 342 P P 02 40 02.5 +2.5
baz=148
R33M Jennings River 30.26 343 P P 02 40 01.5 +1.2
baz=151
R32K Eaglecrest 30.31 339 P P 02 40 02.4 +1.8
baz=144
SADO Sadowa 30.56 54 LR LR 02 51 25.5
comp=Z,200nm,19.1s,baz=244,slow=35
SSPA Standing Stone 30.75 62 P P 02 40 06.6 +2.0
baz=264
P32M Atlin 31.16 341 P P 02 40 08.6 +0.5
baz=147
P33M Teslin, Yukon 31.44 342 P P 02 40 11.6 +1.0
baz=149
PLBC Pleasant Camp 31.83 339 P P 02 40 16.2 +2.3
baz=142
N32M Quiet Lake 32.32 343 P P 02 40 16.2 -2.0
baz=149
BINY Binghamton 32.35 59 P P 02 40 19.2 +0.5
baz=263
WHY Whitehorse 32.38 341 P P 02 40 17.2 -1.7
baz=146
P29M Windy Craggy 32.40 338 P P 02 40 16.3 -2.7
baz=141
WRGLY Wrigley 32.48 352 P P 02 40 16.7 -2.9
baz=165
P30M Million Dollar 32.54 339 P P 02 40 17.1 -3.2
baz=142
O30N Mendenhall 32.81 340 P P 02 40 18.9 -3.6
baz=144
PNL Peninsula 32.98 337 P P 02 40 22.1 -1.9
baz=138
MMPY Sheldon Lake, 33.19 346 P P 02 40 25.8 -0.1
baz=153,SNR=6.4
N31M Braeburn, Yuko 33.31 341 P P 02 40 27.3 +0.4
baz=145
FARO Faro, Yukon 33.31 344 P P 02 40 26.1 -0.8
baz=150
M31M Drury Creek, Y 33.54 343 P P 02 40 30.5 +1.5
baz=148
PINM Pinnacle 33.59 337 P P 02 40 27.4 -2.0
baz=138
YUK6 Outpost Mounta 33.62 339 P P 02 40 28.1 -1.8
baz=141
N30M Aishikik Lake 33.65 340 P P 02 40 28.7 -1.2
baz=143
LONY Lake Ozonia 33.71 55 P P 02 40 28.3 -2.3
baz=261
PAL Palisades 33.79 62 P P 02 40 27.4 -3.9
baz=267
MESA MESA 34.23 336 P P 02 40 32.2 -3.0
baz=135
JTS Las Juntas de 34.32 121 LR LR 02 55 00.1
comp=Z,318nm,21.0s,baz=308,slow=38
YUK8 Steele Glacier 34.32 338 P P 02 40 34.5 -1.5
baz=139
M30M Minto, Yukon 34.48 342 P P 02 40 39.1 +2.1
baz=145
CTG Chitna Glacier 34.59 337 P P 02 40 38.1 -0.1
baz=137
M29M Somme Creek 34.83 341 P P 02 40 42.4 +2.2
baz=142
YUK3 Moose Creek 34.91 339 P P 02 40 42.7 +1.7
baz=139
KAIM Kayak Island 34.96 334 P P 02 40 40.1 -1.1
baz=132
CRQE Cirque 35.04 336 P P 02 40 44.1 +2.1
baz=134
L29M L29M 35.27 341 P P 02 40 44.2 +0.3
baz=143
Q23K Middleton Isla 35.39 332 P P 02 40 46.4 +1.5
baz=128
MCARA McCarthy VSAT 35.46 337 P P 02 40 46.4 +0.9
baz=135
LBNH Lisbon 35.54 56 P P 02 40 48.2 +1.8
baz=264
K29M Barlow Dome 35.70 343 P P 02 40 47.1 -0.6
baz=145
BMRM Bremner River 35.73 335 P P 02 40 48.3 +0.4
baz=132
M27K Edge Creek, AK 35.79 338 P P 02 40 48.5 0.0
M27K IAmb IAmb 02 40 52.4
comp=Z,11nm,1.5s
M27K Edge Creek, AK 35.79 338 P P 02 40 47.6 -1.0
baz=137
EYAK Cordova Ski Ar 35.87 334 P P 02 40 48.7 -0.3
baz=130
J30M Hart River 36.02 344 P P 02 40 47.8 -2.7
baz=147
N25K Chitina, Valde 36.16 336 P P 02 40 50.3 -1.3
baz=133
M26K Nabesna, AK 36.18 338 P P 02 40 52.5 +0.8
baz=136
BCAR Beaver Creek A 36.29 339 P P 02 40 53.1 +0.4
L27K Beaver Creek, 36.30 339 P P 02 40 52.7 -0.1
baz=138
DAWY Dawson 36.38 342 P P 02 40 52.4 -1.0
DAWY IAmb IAmb 02 40 57.5
comp=Z,14nm,1.4s
DAWY Dawson 36.38 342 P P 02 40 51.2 -2.1
baz=142,SNR=6.0
KLU Klutina 36.56 335 P P 02 40 53.7 -1.3
baz=131
I30M Mount Dempster 36.58 345 P P 02 40 53.7 -1.5
baz=147
GLI Glacier Island 36.59 334 P P 02 40 54.1 -1.2
baz=129
L26K Log Cabin Wild 36.74 338 P P 02 40 56.5 0.0
baz=136
HARP HAARP 36.90 337 P P 02 40 58.2 +0.4
baz=133
M24K Tolsona, Glenn 37.05 336 P P 02 40 57.1 -2.1
baz=132
SEW Seward 37.06 331 P P 02 41 02.9 +3.8
baz=125
PWL Port Wells 37.06 333 P P 02 41 00.4 +1.2
baz=127
K27K Chicken 37.10 340 P P 02 41 02.8 +3.3
baz=139
I29M Ogilvie Camp, 37.15 344 P P 02 41 00.3 +0.4
I29M IAmb IAmb 02 41 03.3
comp=Z,8.8nm,1.1s
I29M Ogilvie Camp, 37.15 344 P P 02 41 02.5 +2.6
baz=145,SNR=7.9
KDAK Kodiak Island 37.20 327 P P 02 40 59.3 -1.1
baz=119
KDAK Kodiak Island 37.20 327 LR LR 02 54 08.3
comp=Z,184nm,20.4s,baz=124,slow=32
OHAK Old Harbor 37.27 326 P P 02 41 01.9 +0.9
baz=117
SCM Sheep Creek Mo 37.29 335 P P 02 41 01.3 +0.1
baz=130
BRSE Bradley Lake S 37.39 330 P P 02 41 02.1 0.0
baz=123
PAX Paxson 37.40 337 P P 02 41 02.0 -0.1
baz=133
EGAK Eagle 37.41 341 P P 02 41 00.0 -2.1
baz=141,SNR=6.1
SII Sitkinak Islan 37.42 324 P P 02 41 04.0 +1.7
baz=116
KNK Knik Glacier 37.45 334 P P 02 41 02.5 0.0
KNK Knik Glacier 37.45 334 P P 02 41 04.0 +1.5
baz=128
Q20K Shuyak Island 37.52 328 P P 02 41 00.4 -2.7
baz=120
G31M Satah River 37.61 347 P P 02 41 00.8 -2.9
baz=152
I28M Miner Creek 37.62 343 P P 02 41 04.5 +0.5
I28M Miner Creek 37.62 343 P P 02 41 01.3 -2.7
baz=143
EPYK Eagle Plains 37.63 345 P P 02 41 05.7 +1.8
baz=148
SCRK Sand Creek 37.63 339 P P 02 41 04.7 +0.6
SCRK IAmb IAmb 02 41 08.2
comp=Z,13nm,1.4s
SCRK Sand Creek 37.63 339 P P 02 41 04.0 -0.2
baz=136,SNR=6.8
SML Sawmill 37.64 334 P P 02 41 02.9 -1.3
baz=128
PMR Palmer 37.81 334 P P 02 41 06.5 +1.0
PMR IAmb IAmb 02 41 15.6
comp=Z,25nm,1.3s
PMR Palmer 37.81 334 P P 02 41 08.3 +2.8
baz=127,SNR=7.8
CHIR Chirikof Islan 37.85 323 P P 02 41 06.4 +0.5
baz=113
H29M Whitestone 37.87 344 P P 02 41 06.3 +0.3
baz=145
J26L Joseph Creek 37.89 340 P P 02 41 07.7 +1.4
baz=137
WAT6 Susitna Watana 37.92 335 P P 02 41 06.8 +0.2
baz=130,SNR=7.1
R18K Karluk 37.99 326 P P 02 41 10.2 +3.1
baz=116
G30M tAoh Zraii Nji 38.04 346 P P 02 41 07.7 +0.2
baz=149
K24K Donnelly Dome 38.07 338 P P 02 41 07.0 -0.7
baz=134
DHY Denali Highway 38.11 336 P P 02 41 11.5 +3.3
baz=131
CAPN Captain Cook N 38.13 332 P P 02 41 10.6 +2.4
baz=124
I27K Kandik River 38.18 342 P P 02 41 10.0 +1.4
baz=141
M22K Willow 38.29 333 P P 02 41 13.3 +3.8
baz=126
SUA Susitna One 38.36 333 P P 02 41 12.7 +2.4
baz=125
WAT1 Susitna Watana 38.36 335 P P 02 41 12.9 +2.6
baz=129
G29M Pine Creek 38.37 345 P P 02 41 12.7 +2.5
baz=146
I26K Coal Creek Min 38.37 341 P P 02 41 11.7 +1.5
baz=138
O20K Slope Mountain 38.37 330 P P 02 41 10.8 +0.4
baz=121
P19K Oil Pt 38.42 329 P P 02 41 12.4 +1.6
baz=120
F30M Barrier River 38.50 347 P P 02 41 10.7 -0.6
baz=150
C36M Paulatuk 38.51 354 P P 02 41 13.2 +1.9
baz=167
J25K Salcha River, 38.51 339 P P 02 41 15.0 +3.5
baz=135,SNR=5.2
H27K Steamboat Moun 38.64 343 P P 02 41 14.4 +1.9
baz=141
INK Inuvik 38.71 349 P P 02 41 16.1 +3.2
baz=153
INK Inuvik 38.71 349 LR LR 02 58 33.1
comp=Z,338nm,19.6s,baz=138,slow=38
SPU Mount Spurr 38.73 332 P P 02 41 13.0 -0.3
SPU IAmb IAmb 02 41 17.1
comp=Z,13nm,1.1s
CUT Chulitna 38.73 334 P P 02 41 17.0 +3.7
baz=127
N20K Mount Spurr 38.80 332 P P 02 41 16.4 +2.4
baz=123
HDA Harding Lake 38.86 338 P P 02 41 16.7 +2.4
baz=133
R17L Mt. Peulik Vol 38.95 325 P P 02 41 17.6 +2.4
baz=114
SKT Skwentna 38.96 333 P P 02 41 16.5 +1.2
baz=125
Q17K Contact Creek 38.99 326 P P 02 41 17.2 +1.6
baz=116
MCK McKinley 39.07 336 P P 02 41 16.5 +0.3
baz=130
IL31 39.09 339 P P 02 41 16.5 +0.3
IL31 IAmb IAmb 02 41 20.0
comp=Z,12nm,1.4s
ILAR Eielson Array 39.09 339 P P 02 41 15.5 -0.8
ILAR Eielson Array 39.09 339 P P 02 41 18.9 +2.6
comp=Z,1.8nm,0.9s,baz=150,slow=6.6,SNR=21
comp=Z,1.8nm,0.9s
G27K Doyon Strip 39.13 343 P P 02 41 16.4 -0.2
baz=142
P18K Big Mountain, 39.19 328 P P 02 41 17.2 0.0
baz=118
PRP Porcupine Dome 39.20 340 P P 02 41 17.5 +0.1
baz=136
F28M Old Crow 39.35 345 P P 02 41 16.2 -2.2
baz=144
O18K Koktuh Hills 39.39 329 P P 02 41 20.6 +1.7
baz=118
CHGN Chignik 39.48 322 P P 02 41 23.3 +3.7
baz=110
POKR Poker Plat Res 39.50 339 P P 02 41 19.7 +0.1
baz=133
M20K Styx River 39.54 332 P P 02 41 20.4 +0.3
baz=123
N19K Bonanza Creek 39.54 330 P P 02 41 22.2 +2.0
baz=120
E29M Blow River 39.58 347 P P 02 41 21.9 +1.6
baz=148
CHNA Chernabura Isl 39.63 320 P P 02 41 23.0 +2.1
baz=108
P17K Kvichak River 39.65 327 P P 02 41 21.5 +0.5
baz=116
NEA2 Nenana 39.67 337 P P 02 41 19.8 -1.3
baz=130
G26K Porcupine Rive 39.77 342 P P 02 41 23.0 +1.1
baz=139,SNR=12
H25L Birch Creek 39.82 341 P P 02 41 24.4 +2.0
baz=136
BPAW Bear Paw Mtn. 40.01 336 P P 02 41 22.9 -1.1
BPAW IAmb IAmb 02 41 27.3
comp=Z,20nm,1.3s
BPAW Bear Paw Mtn. 40.01 336 P P 02 41 21.9 -2.1
baz=127,SNR=13
M19K Big River Lodg 40.06 332 P P 02 41 23.9 -0.5
baz=121
N18K Kilae Creek 40.08 330 P P 02 41 23.4 -1.2
baz=118
E28M Babbage River 40.10 346 P P 02 41 22.8 -1.8
baz=146,SNR=6.0
H24K Noodor Dome 40.12 339 P P 02 41 23.1 -1.8
baz=133,SNR=5.1
I23K Minto, Yukon-K 40.13 338 P P 02 41 24.0 -0.9
baz=130
L20K Farewell, AK 40.16 333 P P 02 41 23.9 -1.3
baz=122,SNR=9.2
E27K Coleen River 40.20 345 P P 02 41 26.7 +1.1
baz=143
O17K Koliganek Bris 40.20 328 P P 02 41 24.0 -1.6
baz=116
G25K Bearman Lake 40.26 341 P P 02 41 25.4 -0.5
baz=136
SDPT Sand Point 40.27 320 P P 02 41 25.1 -1.1
baz=107
L19K White Mountain 40.39 332 P P 02 41 27.1 -0.1
baz=121,SNR=6.6
F26K Sheenjek River 40.43 343 P P 02 41 25.6 -1.8
baz=139,SNR=11
M18K Stony River 40.44 331 P P 02 41 27.5 0.0
baz=119
MLY Manley 40.50 337 P P 02 41 30.1 +2.1
baz=129,SNR=6.6
D28M Stokes Point 40.54 347 P P 02 41 29.8 +1.6
baz=147
N17K Nushagak Hills 40.58 329 P P 02 41 30.0 +1.3
baz=116
O16K Kokwok River B 40.59 327 P P 02 41 27.2 -1.6
baz=114
G24K Hadweenzic Riv 40.60 340 P P 02 41 30.8 +2.0
baz=134
H23K Yukon River 40.63 339 P P 02 41 31.0 +2.0
baz=131
K20K Telida 40.71 334 P P 02 41 31.3 +1.6
baz=123,SNR=13
F25K Christian Rive 40.74 342 P P 02 41 30.2 +0.2
baz=137,SNR=11
SCHQ Schefferville 40.87 41 LR LR 02 58 18.8
comp=Z,121nm,18.9s,baz=240,slow=36
D27M Malcolm River 40.92 346 P P 02 41 33.9 +2.4
baz=144
M17K Holitna River 41.08 330 P P 02 41 33.2 +0.4
baz=117,SNR=5.4
L18K Granite Mounta 41.15 331 P P 02 41 31.7 -1.7
baz=119,SNR=10
J20K Nowinta River 41.19 335 P P 02 41 30.7 -2.9
baz=124,SNR=8.4
O15K Ungalikthiuk R 41.23 326 P P 02 41 31.3 -2.8
baz=112
H22K Ishtalitna Cre 41.25 338 P P 02 41 32.8 -1.4
baz=129,SNR=9.6
N16K Nishlik Lake 41.26 328 P P 02 41 34.3 0.0
baz=115
F24K Squaw Lake 41.29 341 P P 02 41 33.1 -1.4
baz=134
G23K Bananza Creek 41.35 339 P P 02 41 35.2 +0.2
baz=131
H21K Melozitna Rive 41.57 337 P P 02 41 36.7 -0.1
baz=127,SNR=11
M16K Timber Creek 41.58 329 P P 02 41 36.3 -0.7
baz=115
J19K Poorman 41.63 334 P P 02 41 36.0 -1.3
baz=122,SNR=13
I20K Naaghedeneel 41.65 335 P P 02 41 37.4 -0.1
baz=124
N15K Kwethluk River 41.74 327 P P 02 41 38.2 0.0
baz=113
COLD Coldfoot 41.75 340 P P 02 41 41.2 +3.0
baz=131
J18K Innoko River 41.78 333 P P 02 41 38.0 -0.5
baz=120,SNR=18
L17K Donlin 41.78 331 P P 02 41 40.5 +1.9
baz=117,SNR=5.5
C27K Jago River 41.81 345 P P 02 41 37.3 -1.4
baz=141,SNR=6.3
E24K Your Creek 41.84 342 P P 02 41 40.0 +1.0
baz=134
G22K Bettles 41.94 339 P P 02 41 40.1 +0.3
baz=129
O14K Tigyukauivet M 41.95 326 P P 02 41 38.8 -1.2
baz=111
K17K Iditarod 42.05 331 P P 02 41 39.5 -1.3
baz=118,SNR=5.8
IMAR Indian Mountai 42.08 337 P P 02 41 40.7 -0.3
L16K Owhat River 42.10 330 P P 02 41 41.1 0.0
baz=115
E23K Chandalar 42.14 341 P P 02 41 41.6 +0.1
baz=133,SNR=8.0
H20K Anotleneega Mo 42.18 336 P P 02 41 40.5 -1.4
baz=124,SNR=13
D25K Kavik River 42.20 344 P P 02 41 42.5 +0.5
baz=138
M15K Kasigluk River 42.22 328 P P 02 41 45.4 +3.3
baz=113
C26K Camden Bay 42.31 345 P P 02 41 44.1 +1.3
baz=140
G21K Allakaket 42.32 338 P P 02 41 44.3 +1.4
baz=127
N14K Kuskokwak Cree 42.39 327 P P 02 41 43.7 +0.2
baz=111
GCSA Galena City Sc 42.49 335 P P 02 41 45.4 +1.1
baz=121
F22K John River 42.52 340 P P 02 41 46.2 +1.7
baz=129
TOLK Toolik Lake Re 42.52 342 P P 02 41 44.9 +0.3
baz=133
J17K VABM Dome 42.68 332 P P 02 41 47.7 +1.8
baz=117
D24K Happy Valley 42.68 343 P P 02 41 46.0 +0.2
baz=134
F21K Alatna River 42.74 339 P P 02 41 45.3 -1.0
baz=127
H19K Roundabout Mou 42.75 336 P P 02 41 47.8 +1.4
baz=122
M14K Bethel 42.82 328 P P 02 41 48.1 +1.1
baz=112
L15K Ungalak Mounta 42.96 329 P P 02 41 46.9 -1.3
baz=113
D23K Nanushuk River 43.04 342 P P 02 41 46.5 -2.3
baz=132
K15K Wolf Creek Mou 43.22 330 P P 02 41 50.7 +0.5
baz=114
H18K Honhosa River 43.24 335 P P 02 41 50.8 +0.4
baz=120
J16K Anvik River 43.24 332 P P 02 41 49.1 -1.3
baz=116
G19K Purcell Mounta 43.30 336 P P 02 41 53.2 +2.4

baz=122
UNV Unalaska Valle 43.33 317 P P 02 41 50.6 -0.7
baz=100
M13K Dall Lake 43.34 327 P P 02 41 51.2 0.0
baz=110
F20K Avaraart Lake 43.34 338 P P 02 41 50.6 -0.5
baz=124
L14K Kuka Creek 43.36 328 P P 02 41 51.0 -0.4
baz=111
D22K Ayikyak River 43.53 341 P P 02 41 56.0 +3.3
baz=130
I17K Unalakleet 43.54 332 P P 02 41 53.1 +0.3
baz=116
C23K Itkillik River 43.61 343 P P 02 41 54.4 +1.1
baz=133
E21K Killik River 43.63 340 P P 02 41 53.7 +0.2
baz=128
H17K Granite Mounta 43.72 334 P P 02 41 56.1 +1.8
baz=118,SNR=5.1
G18K Tagagawik 43.72 335 P P 02 41 55.3 +1.0
baz=120
F19K Shaleruckik Mo 43.90 337 P P 02 41 55.5 -0.1
baz=122,SNR=7.9
E19K Redstone River 44.06 338 P P 02 41 59.0 +2.0
baz=123,SNR=6.4
E20K Nigu River 44.18 339 P P 02 41 59.7 +1.6
baz=125
G17K Kiwalik Mounta 44.26 334 P P 02 41 58.4 -0.2
baz=118,SNR=8.6
J14K Nanvaranak Lak 44.26 330 P P 02 42 00.1 +1.5
baz=112
C21K Knifeblade Rid 44.30 341 P P 02 41 59.9 +1.0
baz=127
F18K Selawik 44.42 336 P P 02 42 01.2 +1.4
baz=120
K13K Kusilvak Mount 44.45 329 P P 02 42 01.3 +1.1
baz=110
H16K Elim 44.48 333 P P 02 42 01.4 +1.1
baz=115
D20K Etivluk River 44.57 340 P P 02 42 00.4 -0.7
baz=125
B22K Teshekpuk Lake 44.67 342 P P 02 42 02.9 +1.1
baz=130
G16K Koyuk River 44.84 334 P P 02 42 02.7 -0.5
baz=116
D19K Kuna River 44.91 339 P P 02 42 04.3 +0.5
baz=123
F17K Baldwin Pennin 44.91 335 P P 02 42 04.0 +0.3
baz=118
E18K Tukpahlearik C 45.15 337 P P 02 42 06.6 +0.9
baz=119
G15K Niukluk 45.33 333 P P 02 42 05.7 -1.4
baz=113
E17K Hotham Inlet 45.41 336 P P 02 42 09.9 +2.1
baz=118
P08K Saint George I 45.52 320 P P 02 42 09.1 +0.4
baz=100
C19K Lookout Ridge 45.69 339 P P 02 42 11.7 +1.7
baz=122
ROSC El Rosal 45.83 117 LR LR 03 02 57.9
comp=Z,147nm,21.1s,baz=321,slow=39
F15K North Star Dit 45.84 334 P P 02 42 12.9 +1.7
baz=113
OTAV Otavalo 45.91 125 P P 02 42 14.2 +1.3
C18K Utukok River 45.95 338 P P 02 42 14.3 +2.2
baz=120
SPIA Saint Paul Isl 46.00 321 P P 02 42 15.0 +2.5
baz=100
PULU Pululahua 46.03 126 P P 02 42 15.2 +1.5
A21K Barrow 46.11 342 P P 02 42 14.5 +1.3
baz=127
D17K Noatak River 46.12 337 P P 02 42 14.5 +1.1
baz=117
RDOG Red Dog Mine 46.23 337 P P 02 42 15.1 +0.9
baz=117
SDV Santo Domingo 46.29 109 LR LR 03 04 55.5
comp=Z,161nm,19.0s,baz=281,slow=41
F14K Arctic Creek 46.40 333 P P 02 42 16.9 +1.4
baz=111
B18K Kokolik River 46.50 339 P P 02 42 16.4 +0.1
baz=120
C17K DeLong Mountai 46.51 337 P P 02 42 18.9 +2.5
baz=117
ANTS Antisana-Sarah 46.63 126 P P 02 42 18.4 -0.3
ANTS IAmb IAmb 02 42 24.3
comp=Z,6.6nm,0.9s
TAOE Nuku Hiva Isla 46.96 216 *e*LR LR 02 55 37.5
comp=Z,173nm,38.1s
C16K Lisburne Hills 47.14 337 P P 02 42 24.8 +3.5
baz=115
GAMB Gambell 48.08 330 P P 02 42 30.7 +2.0
baz=104
BAUV El Baul 48.37 107 P P 02 42 31.7 +0.2
SFJD Kangerlussuaq 51.37 27 LR LR 03 07 24.3
comp=Z,120nm,18.3s,baz=238,slow=39
ATAH Atahualpa 51.38 132 LR LR 03 02 04.0
comp=Z,103nm,19.9s,baz=334,slow=33
SHEM Shemya Is, Ala 54.91 315 LR LR 03 01 49.1
comp=Z,47nm,21.0s,baz=74,slow=30
TBTG Tabatinga, AM 55.08 122 P P 02 43 20.5 -1.2
CZSB Cruzeiro do Su 55.59 127 P P 02 43 25.2 -0.2
NNA Nana 56.08 134 LR LR 03 06 00.3
comp=Z,70nm,18.8s,baz=320,slow=35
BOAV Boa Vista 58.23 108 P P 02 43 41.5 -2.6
BOAV IAmb IAmb 02 43 46.8
comp=Z,6.4nm,1.2s
PPT Papeete 59.21 220 LR LR 03 05 01.3
comp=Z,66nm,18.5s,baz=130,slow=32
PPT2 Papeete2 59.23 220 *e*LR LR 03 01 12.8
comp=Z,107nm,26.8s
PPT2 *e*LR LR 03 01 23.3
comp=Z,75nm,22.0s
MACA Manacapuru-AM 61.42 114 P P 02 44 05.5 -0.6
ETMB Extrema 61.59 123 P P 02 44 05.5 -1.7
SAML Samuel 63.21 120 P P 02 44 17.4 -0.6
SAML IAmb IAmb 02 44 18.9
comp=Z,8.0nm,1.5s
MDP Montagnes des 63.25 101 LR LR 03 16 06.3
comp=Z,55nm,18.3s,baz=302,slow=40
LPAZ La Paz 64.85 130 P P 02 44 23.2 -6.2
comp=Z,0.4nm,0.5s,baz=346,slow=4.2,SNR=2.5
LPAZ LR LR 03 11 17.2
comp=Z,91nm,20.6s,baz=325,slow=35
comp=Z,0.4nm,0.5s
JMIC Jan Mayen 65.69 20 LR LR 03 16 31.1
comp=Z,45nm,20.1s,baz=245,slow=39
MA2 Magadan 65.95 326 LR LR 03 12 43.3
comp=Z,76nm,19.0s,baz=84,slow=35
VILB Vilhena 68.04 122 P P 02 44 49.0 -0.3
TIXI Tiksi 68.42 342 LR LR 03 18 17.4
comp=Z,95nm,18.6s,baz=38,slow=39
YAK Yakutsk 73.81 334 LR LR 03 17 49.2
comp=Z,76nm,20.2s,baz=51,slow=36
ARCES ARCESS Array B 75.31 14 P P 02 45 30.9 -1.3
comp=Z,2.9nm,1.0s,baz=321,slow=7.0,SNR=2.9
ARCES LR LR 03 22 07.1
comp=Z,117nm,18.4s,baz=314,slow=38
comp=Z,2.9nm,1.0s
ZON Zonda 76.00 141 P P 02 45 37.2 +0.4
ZON IAmb IAmb 02 45 39.9
comp=Z,6.9nm,0.9s
ASAJ Asahikawa 77.35 314 LR LR 03 21 33.7
comp=Z,26nm,18.1s,baz=124,slow=37
NOA NORSAR Array B 77.92 24 P P 02 45 46.1 -1.1
comp=Z,2.7nm,1.2s,baz=313,slow=5.9,SNR=4.2
comp=Z,2.7nm,1.2s
NRIK Noril'sk 78.39 352 P P 02 45 48.9 -0.8
NRIK IAmb IAmb 02 45 51.4
comp=Z,6.5nm,0.9s
NRIK Noril'sk 78.39 352 P P 02 45 50.6 +0.9
comp=Z,3.8nm,0.8s,baz=351,slow=3.3,SNR=4.8
comp=Z,3.8nm,0.8s
BDFB Brasilia 78.88 116 LR LR 03 23 41.1
comp=Z,53nm,18.2s,baz=137,slow=38
CPUP Villa Florida 79.02 130 P P 02 45 48.5 -5.2
comp=Z,0.4nm,0.3s,baz=313,slow=6.9,SNR=1.3
CPUP LR LR 03 21 27.4
comp=Z,93nm,18.9s,baz=281,slow=36
comp=Z,0.4nm,0.3s
HFS Hagfors 79.43 24 P P 02 45 53.8 -1.6
comp=Z,2.1nm,0.9s,baz=339,slow=7.7,SNR=3.1
HFS LR LR 03 21 49.9
comp=Z,54nm,19.2s,baz=318,slow=36
comp=Z,2.1nm,0.9s
KLR Kul'dur 80.64 323 LR LR 03 20 41.1
comp=Z,39nm,20.0s,baz=76,slow=35
FINES FINESS Array B 82.17 18 P P 02 46 09.3 -0.8
FINES FINESS Array B 82.17 18 P P 02 46 09.7 -0.4
comp=Z,3.6nm,0.9s,baz=353,slow=4.8,SNR=3.8
comp=Z,3.6nm,0.9s
HEH HeiHe 82.18 325 *e*P **P 02 46 11.0 +0.6**
PLCA Paso Flores 82.31 148 LR LR 03 14 44.3
comp=Z,133nm,21.0s,baz=291,slow=30
USA0B Ussuriysk Arra 83.59 318 P **P 02 46 17.6 -0.3**
USRK Ussuriysk Ar. 83.59 318 P **P 02 46 17.9 +0.1**
USRK Ussuriysk Ar. 83.59 318 P **P 02 46 18.4 +0.6**
comp=Z,7.9nm,1.1s,baz=66,slow=4.8,SNR=12
comp=Z,7.9nm,1.1s
MJAR Matsushiro Arr 84.29 309 P **P 02 46 21.3 -0.3**
comp=Z,1.3nm,0.3s,baz=35,slow=4.2,SNR=7.0
MJAR LR LR 03 17 08.2
comp=Z,77nm,19.4s,baz=67,slow=31
comp=Z,1.3nm,0.3s
ESDC Sonseca Array 84.34 47 P **P 02 46 21.4 -0.4**
ESDC Sonseca Array 84.34 47 P **P 02 46 20.4 -1.4**
comp=Z,2.1nm,1.1s,baz=316,slow=3.6,SNR=9.0
ESDC LR LR 03 22 44.1
comp=Z,102nm,19.8s,baz=296,slow=35
comp=Z,2.1nm,1.1s
HIA Hailar 86.48 328 P **P 02 46 30.9 -1.4**
JCJ Chichijima 86.78 300 LR LR 03 24 10.3
comp=Z,54nm,18.9s,baz=200,slow=35
DAVOX Davos/Dischmat 87.44 35 LR LR 03 26 45.2
comp=Z,79nm,18.8s,baz=268,slow=36
FUORN Ofenpass-Fuorn 87.74 35 P **P 02 46 38.5 -0.3**
FUORN IAmb IAmb 02 46 44.3
comp=Z,3.0nm,0.9s
MDT Midelt 87.97 52 LR LR 03 26 42.8
comp=Z,96nm,18.1s,baz=318,slow=36
BBTS Babate 88.99 74 LR LR 03 24 10.1
comp=Z,73nm,18.1s,baz=148,slow=34
KIRV Kirov 89.44 8 LR LR 03 31 12.0
comp=Z,46nm,18.1s,baz=5.9,slow=38
KSRS Korea Array 90.25 315 P **P 02 46 51.1 +0.7**
comp=Z,0.3nm,0.3s,baz=32,slow=6.4,SNR=4.1
KSRS LR LR 03 22 08.1
comp=Z,35nm,21.6s,baz=55,slow=32
comp=Z,0.3nm,0.3s
HNR Honiara 91.21 260 LR LR 03 19 54.1
comp=Z,2μm,21.3s,baz=64,slow=30
GUMO Guam 92.03 287 LR LR 03 19 45.3
comp=Z,118nm,21.4s,baz=89,slow=30
XLT XiLinHaoTe 92.14 326 *e*P **P 02 46 58.5 -0.7**
XLT sP sP 02 47 05.8 +5.3
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT pmax pmax
comp=Z,100nm,4.1s
AKASG Malin Array Be 92.24 22 P **P 02 46 59.8 +0.5**
comp=Z,0.2nm,0.3s,baz=308,slow=3.4,SNR=4.2
comp=Z,0.2nm,0.3s
ARU Arti 92.42 4 LR LR 03 33 25.2
comp=Z,43nm,18.4s,baz=16,slow=39
SONM Songino Array 93.17 334 P **P 02 47 05.0 +1.0**
comp=Z,0.9nm,1.0s,baz=29,slow=3.4,SNR=6.3
SONM LR LR 03 31 23.4
comp=Z,74nm,18.2s,baz=62,slow=37
comp=Z,0.9nm,1.0s
ZALV Zalesovo Beam 93.51 349 P **P 02 47 04.5 -0.7**
ZALV Zalesovo Beam 93.51 349 P **P 02 47 05.8 +0.6**
comp=Z,0.5nm,0.5s,baz=29,slow=3.3,SNR=5.3
ZALV LR LR 03 35 33.1
comp=Z,28nm,18.1s,baz=56,slow=39
comp=Z,0.5nm,0.5s
URZ Urewera 94.15 227 LR LR 03 22 38.4
comp=Z,62nm,19.1s,baz=33,slow=31
USHA Ushuaia 94.40 155 LR LR 03 19 58.3
comp=Z,1μm,20.2s,baz=12,slow=30
KEST Kesra 94.92 43 LR LR 03 29 15.6
comp=Z,62nm,19.3s,baz=282,slow=35
MLR Muntele Rosu 95.50 27 LR LR 03 30 47.4
comp=Z,41nm,20.6s,baz=342,slow=36
BVAR Borovoye Array 95.94 357 LR LR 03 35 00.1
comp=Z,39nm,20.2s,baz=33,slow=38
VAE Valguarnera 96.49 39 LR LR 03 31 47.5
comp=Z,53nm,19.0s,baz=46,slow=36
HHC Hu-ho-hao-te 96.62 327 *e*P **P 02 47 20.0 +0.2**
HHC pmax pmax
comp=Z,73nm,6.1s
HHC pmax pmax
comp=Z,23nm,0.6s
JOW Kunigami 96.89 307 LR LR 03 32 40.1
comp=Z,39nm,18.1s,baz=314,slow=36
AKTO Aktyubinsk 98.36 5 LR LR 03 37 01.0
comp=Z,61nm,20.2s,baz=222,slow=38
NJ2 Nanjing 99.37 316 *e*P **Pdif 02 47 34.5 +2.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ELIB Princess Elisa 133.50 163 *d*PKP **PKiKP 02 53 10.3 +3.9**

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*IDC **28** 02:38:38.7±2.3,30°.84N×114°.53W,h0km,mb3.9/3,*
mbtmp3.7/9,ML3.2/5,Error ellipse: s-maj=42.7km
s-min=13.7km az=27.0
*MEX **28** 02:38:39.7±0.5,30°.97N×114°.17W,h10km,MD4.2*
*NEIC **28** 02:38:40.4±2.4,31°.18N±0°.09×114°.39W±0°.04,h6km±5km,*
mb4.3/13,Error ellipse: s-maj=13.5km s-min=5.2km
az=181.0
*ECX **28** 02:38:41.8±0.4,31°.25N×114°.36W,h11km±4km,ML4.0*
ISC 28 02:38:40.1±1.2,31°.17N±0°.04×114°.38W±0°.02,h3km±9km,
n67,σ1°§12/78,mb4.2/8,3C-6D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.43**	**252**		**Pg**	**02 38 48.8**	**+0.5**
SFX				Sg	**Sg**	**02 38 53.4**	**-0.5**
SFX	**San Felipe**	**0.43**	**252**	*e*P	**Pb**	**02 38 50.0**	**-0.2**
SFX	**San Felipe**	**0.43**	**252**	*e*P	**Pb**	**02 38 50.3**	**+0.1**
SFX				*e*S	**Sb**	**02 38 56.7**	**-0.4**
SFX				IAML		02 38 57.2	
comp=N,5μm,0.7s							
SFX				⇓*e*		02 38 57.2	
SFX				IAML		02 39 03.2	
comp=E,6μm,0.6s							
SFX				⇑*e*		02 39 03.2	
ECBX	**El Chinero**	**0.65**	**298**	*e*P	**Pg**	**02 38 53.1**	**+0.5**
ECBX				*e*S	**Sg**	**02 39 01.5**	**+0.4**
ECBX				⇓*e*		02 39 03.3	
ECBX				IAML		02 39 03.3	
comp=E,12μm,0.6s							
ECBX				*e*		02 39 08.7	
ECBX				IAML		02 39 08.7	
comp=N,5μm,0.3s							
PPXB	**Puerto Pesaco**	**0.66**	**75**	⇑*e*P	**Pg**	**02 38 53.0**	**+0.2**
PPXB				*e*S	**Sg**	**02 39 01.4**	**+0.1**
PPXB				IAML		02 39 02.4	
comp=E,3μm,0.6s							
PPXB				⇓*e*		02 39 02.4	
PIX	**Pinacate**	**0.88**	**63**		**Pg**	**02 38 56.5**	**-0.3**
PIX				Sg	**Sg**	**02 39 08.5**	**+0.2**
PIX	**Pinacate**	**0.88**	**63**	*e*P	**Pg**	**02 38 56.5**	**-0.3**
PIX				*e*S	**Sg**	**02 39 07.6**	**-0.6**
SPIG	**San Pedro Mart**	**0.94**	**263**	*e*P	**Pg**	**02 38 58.5**	**+0.3**
SPIG				*e*S	**Sb**	**02 39 12.0**	**-0.3**
SPIG	**San Pedro Mart**	**0.94**	**263**	⇓*e*P	**Pg**	**02 38 58.9**	**+0.7**
SPIG				*e*S	**Sb**	**02 39 11.9**	**-0.4**
SPIG				*e*		02 39 13.3	
SPIG				IAML		02 39 13.3	
comp=N,3μm,0.4s							
SPIG				IAML		02 39 14.9	
comp=E,2μm,0.7s							
SPIG				⇑*e*		02 39 14.9	
VTX	**Valle De La Tr**	**1.22**	**281**	Pn	**Pn**	**02 39 02.5**	**-1.6**
VTX					**Sb**	**02 39 20.0**	**-0.1**
SLGB	**San Luis Gonza**	**1.34**	**181**	*e*P	**Pg**	**02 39 06.2**	**+0.5**
SQX	**San Quintin**	**1.42**	**246**	⇓*e*P	**Pn**	**02 39 06.5**	**-0.3**
SQX				*e*S	**Sg**	**02 39 26.4**	**+0.7**
SQX				IAML		02 39 27.7	
comp=N,3μm,0.4s							
SQX				*e*		02 39 27.7	
SQX				IAML		02 39 28.6	
comp=E,4μm,0.3s							
SQX				⇓*e*		02 39 28.6	
CPBX	**Cerro Prieto**	**1.47**	**328**	Pn	**Pg**	**02 39 08.4**	**0.0**
214A	**Organ Pipe Nat**	**1.55**	**59**	Pn	**Pn**	**02 39 06.4**	**-2.2**
ESJX	**Sierra Juarez**	**1.58**	**302**	Pn	**Pn**	**02 39 07.1**	**-2.0**
SV2X	**San Vicente**	**1.60**	**277**	*e*P	**Pn**	**02 39 08.5**	**-0.7**
SV2X				*e*S	**Sb**	**02 39 30.6**	**-0.4**
113A	**Mohawk Valley,**	**1.68**	**18**	Pn	**Pn**	**02 39 07.8**	**-2.4**
GLA	**Glamis**	**1.91**	**349**	Pn	**Pn**	**02 39 11.0**	**-2.6**
YUH	**Yuha Desert**	**1.97**	**319**	Pn	**Pn**	**02 39 11.6**	**-2.8**
RMX	**La Rumorosa**	**2.03**	**315**		**Pn**	**02 39 12.6**	**-2.7**
CCX	**Cicese**	**2.07**	**290**	Pn	**Pn**	**02 39 14.7**	**-1.1**
CBX	**Cerro Bola**	**2.26**	**301**	Pn	**Pn**	**02 39 17.4**	**-1.0**
TJIG	**Tijuana**	**2.33**	**303**	*e*P	**Pn**	**02 39 18.1**	**-1.1**
TJIG				*e*S	**Sb**	**02 39 50.7**	**-1.1**
TKX	**Tecate**	**2.35**	**307**	Pn	**Pn**	**02 39 17.9**	**-1.8**
BLYC	**Blythe**	**2.58**	**357**	Pn	**Pn**	**02 39 22.8**	**+0.1**
109C	**Camp Elliot, M**	**2.88**	**307**	Pn	**Pn**	**02 39 26.1**	**-0.8**
Y14A	**Wickenburg**	**2.99**	**22**	Pn	**Pn**	**02 39 27.8**	**-0.6**
PFO	**Pinyon Flats O**	**3.00**	**325**	Pn	**Pn**	**02 39 28.4**	**-0.3**
PFO	**Pinyon Flats O**	**3.00**	**325**	Pn	**Pn**	**02 39 28.1**	**-0.5**
comp=E,0.5nm,0.3s,baz=33,slow=7.1,SNR=1.1							
PFO				Sn	**Sb**	**02 40 12.3**	**+0.9**
comp=E,5.4nm,0.3s,baz=138,slow=8.7,SNR=7.1							
comp=E,51nm,1.3s							
TUC	**Tucson**	**3.27**	**69**		**Pn**	**02 39 31.1**	**-1.1**
ELS	**Elsinore Mount**	**3.57**	**315**	Pn	**Pn**	**02 39 34.9**	**-1.5**
W13A	**Hualapai Mount**	**3.94**	**6**	Pn	**Pn**	**02 39 42.0**	**+0.4**
X16A	**Lo Mia Camp, P**	**4.07**	**37**	Pn	**Pn**	**02 39 42.6**	**-0.8**
319A	**Douglas**	**4.37**	**86**	Pn	**Pn**	**02 39 45.9**	**-1.5**
DUN6	**Lazy B Ranch**	**4.71**	**72**	Pn	**Pn**	**02 39 51.3**	**-0.8**
WUAZ	**Wupatki**	**5.01**	**29**	Pn	**Pn**	**02 39 56.5**	**+0.2**
SHPR	**Sheep Range**	**5.36**	**353**	Pn	**Pn**	**02 40 01.0**	**-0.1**
W18A	**Petrified Fore**	**5.54**	**43**	Pn	**Pn**	**02 40 03.8**	**+0.2**
BCW	**Bitter Crk WRg**	**5.66**	**313**	Pn	**Pn**	**02 40 04.8**	**-0.3**
121A	**Cookes Peak, D**	**5.77**	**75**	Pn	**Pn**	**02 40 05.9**	**-0.9**
LCMT	**Little Creek M**	**5.90**	**9**	Pn	**Pn**	**02 40 08.7**	**+0.2**
PKCU	**Pink Cliffs**	**6.49**	**15**	Pn	**Pn**	**02 40 16.9**	**+0.1**
ANMO	**Albuquerque**	**7.64**	**58**	Pn	**Pn**	**02 40 33.8**	**+1.4**
comp=E,0.1nm,0.3s,baz=101,slow=16,SNR=1.6							
ANMO				Lg	Lg	02 42 50.0	
comp=E,0.1nm,0.3s,baz=94,slow=16,SNR=2.6							
comp=E,3.1nm,1.0s							
MVCO	**Mesa Verde**	**7.75**	**37**	Pn	**Pn**	**02 40 34.2**	**+0.3**
NVAR	**Mina Array Bea**	**7.93**	**337**	Pn	Pn	02 40 41.2	+4.8
comp=E,2.4nm,1.1s,baz=155,slow=13,SNR=1.7							
P18A	**Preston Nutter**	**9.09**	**21**	Pn	**Pn**	**02 40 54.1**	**+1.7**
ALPN	**Alpine**	**9.27**	**92**	Pn	**Pn**	**02 40 55.0**	**+0.2**
TXAR	**Lajitas Array**	**9.44**	**98**	Pn	**Pn**	**02 40 58.3**	**+1.2**
comp=E,0.1nm,0.3s,baz=274,slow=14,SNR=0.7							
TXAR				Lg	Lg	02 43 41.6	
comp=E,0.1nm,0.3s,baz=285,slow=21,SNR=1.8							
comp=E,0.8nm,0.6s							
YBH	**Yreka Blue Hor**	**12.48**	**330**	Pn	Pn	02 41 43.7	+5.0
comp=E,0.1nm,0.3s,baz=138,slow=6.8,SNR=3.6							
comp=E,1.2nm,0.9s							
NEW	**Newport**	**17.20**	**354**	P	**P**	**02 42 44.1**	**+1.2**
comp=E,0.1nm,0.3s,baz=182,slow=13,SNR=3.9							
comp=E,2.4nm,0.9s							
ECSD	**EROS Data Cent**	**18.82**	**43**		**Pn**	**02 43 01.1**	**-0.2**
MDND	**Maddock**	**20.12**	**30**	P	**P**	**02 43 13.3**	**-1.7**
MDND				IAmb	IAmb	02 43 29.4	
comp=Z,25nm,1.3s							
I37A	**Lemond, Waseca**	**20.92**	**46**	P	**P**	**02 43 22.9**	**-0.9**
I37A				IAmb	IAmb	02 43 31.8	
comp=Z,18nm,1.1s							
SPMN	**Marine on St.**	**21.92**	**44**	P	**P**	**02 43 34.8**	**+0.4**
SPMN				IAmb	IAmb	02 43 44.3	
comp=Z,9.6nm,1.1s							
AGMN	**Agassiz Nation**	**22.16**	**34**	P	**P**	**02 43 34.2**	**-2.8**
AGMN				IAmb	IAmb	02 43 52.5	
comp=Z,11nm,1.1s							
JFWS	**Jewell Farm**	**22.46**	**52**	P	**P**	**02 43 40.3**	**0.0**
E38A	**The Farm, Brul**	**23.40**	**42**	P	**P**	**02 43 50.8**	**+0.8**
ILAR	**Eielson Array**	**39.18**	**339**	P	**P**	**02 46 11.4**	**+2.5**
comp=Z,1.0nm,0.8s,baz=150,slow=7.4,SNR=14							
comp=Z,1.0nm,0.8s							
BMAR	**Burnt Mountain**	**40.44**	**343**	P	**P**	**02 46 18.3**	**-1.1**
L19K	**White Mountain**	**40.47**	**332**	P	**P**	**02 46 19.1**	**-0.6**
K20K	**Telida**	**40.79**	**334**	P	**P**	**02 46 22.3**	**0.0**
K20K				IAmb	IAmb	02 46 25.5	
comp=Z,5.4nm,0.9s							
M17K	**Holitna River**	**41.16**	**330**	P	**P**	**02 46 26.2**	**+0.8**
L18K	**Granite Mounta**	**41.23**	**331**	P	**P**	**02 46 26.3**	**+0.3**
J19K	**Poorman**	**41.72**	**334**	P	**P**	**02 46 31.0**	**+1.1**
J19K				IAmb	IAmb	02 46 33.0	
comp=Z,7.3nm,1.1s							
J18K	**Innoko River**	**41.86**	**333**	P	**P**	**02 46 31.4**	**+0.3**
J18K				IAmb	IAmb	02 46 34.1	
comp=Z,6.5nm,1.1s							
NOA	**NORSAR Array B**	**78.05**	**24**	P	**P**	**02 50 39.9**	**+0.1**
comp=Z,0.7nm,0.9s,baz=318,slow=6.0,SNR=3.4							
comp=Z,0.7nm,0.9s							
FINES	**FINESS Array B**	**82.29**	**18**	P	**P**	**02 51 03.7**	**+1.0**
comp=Z,2.6nm,1.0s,baz=342,slow=4.2,SNR=4.5							
comp=Z,2.6nm,1.0s							

IDC 28 02:39:10.5±6.9,3°.82S×142°.39E,h0km,mb3.5/2,
mbtmp3.7/3,ML3.9/1,Error ellipse: s-maj=249.7km
s-min=31.2km az=93.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.85**	**205**	P	P	02 43 21.0	-0.3
0.4nm,0.3s,baz=26,slow=12,SNR=30							
2.5nm,1.0s							
ASAR	**Alice Springs**	**21.37**	**202**	P	P	02 43 59.5	-0.3
0.6nm,0.5s,baz=31,slow=8.8,SNR=11							
0.6nm,0.5s							
MKAR	**Makanchi Array**	**72.92**	**321**	P	P	02 50 41.9	+0.1
0.4nm,0.4s,baz=99,slow=8.6,SNR=7.1							
0.4nm,0.4s							

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*SOME **28** 02:52:25.6,49°.13N×86°.12E,h0km*
*NNC **28** 02:52:26.2±1.7,49°.22N×86°.51E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=13.3km s-min=6.9km az=83.0
*ASRS **28** 02:52:27.2±0.7,49°N±3°×8°7E±°,h8km,MLh3.2/11,Error*
ellipse: s-maj=6.6km s-min=5.1km az=24.8,confirmed
ISC 28 02:52:25.5±1.4,49°21N±0°.04×86°70E±0°.04,h3km±12km,
n17,σ1°§65/36,8C-8D,Kazakhstan-Xinjiang border
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	**Jazzator, Alta**	**0.68**	**44**	⇓Pg	**Pg**	**02 52 37.3**	**-1.3**
DGZ				Sg	**Sg**	**02 52 47.2**	**-0.2**
AKAR	**Aktash**	**1.26**	**28**	Pg	**Pn**	**02 52 48.5**	**-1.6**
AKAR				Sg	**Sb**	**02 53 06.4**	**-0.1**
CUR	**Chagan-Uzun**	**1.39**	**50**	⇓Pg	**Pn**	**02 52 50.4**	**-1.6**
CUR				Sg	**Sn**	**02 53 09.6**	**-1.3**
ULGR	**Ulagan, Altay**	**1.63**	**29**	Pg	**Pg**	**02 52 57.1**	**+0.3**
ULGR				Sg	**Sg**	**02 53 22.1**	**+4.3**
ELDR	**Elanda**	**2.04**	**349**	Pg	**Pb**	**02 53 02.8**	**-0.4**
ELDR				Sg	**Sg**	**02 53 31.6**	**+0.4**
ZSN	**Zaisan**	**2.15**	**215**	*e*P	**Pn**	**02 53 01.3**	**-1.0**
39nm,0.2s							
ZSN				*e*S	**Sn**	**02 53 27.7**	**-1.7**
92nm,0.2s							
ARTR	**Artybash**	**2.61**	**8**	Pg	**Pb**	**02 53 14.0**	**+1.0**
ARTR				Sg	**Sg**	**02 53 49.1**	**-0.3**
YALR	**Yailyu, Altay**	**2.62**	**12**	Pg	**Pb**	**02 53 13.4**	**+0.2**
YALR				Sg	**Sg**	**02 53 48.6**	**-1.1**
TEL	**Teeli**	**2.89**	**50**	Pn	**Pn**	**02 53 12.8**	**+0.3**
TEL				Pg	**Pb**	**02 53 17.6**	**-0.1**
TEL				Sg	**Sb**	**02 53 56.3**	**+2.9**
TASR	**Tashtagol**	**3.63**	**11**	Pn	**Pn**	**02 53 24.7**	**+2.1**
TASR				Pg	**Pb**	**02 53 31.7**	**+1.5**
TASR				Sg	**Sg**	**02 54 19.7**	**-2.3**
MK31	**Makanchi Array**	**3.83**	**232**	⇑Pn	**Pn**	**02 53 25.0**	**-0.3**
2.7nm,0.3s,baz=59,slow=14,SNR=50							
MK31				⇑Pg	**Pb**	**02 53 34.5**	**+0.8**
1.4nm,0.2s,baz=61,slow=15,SNR=7.0							
MK31				⇑Sn	**Sn**	**02 54 10.6**	**-0.2**
3.6nm,0.3s,baz=79,slow=76,SNR=4.5							
MK31				⇓Lg	Lg	02 54 23.4	
4.8nm,0.3s,baz=52,slow=32,SNR=4.2							
MAKZ	**Makanchi**	**3.98**	**235**	⇑Pn	**Pn**	**02 53 27.2**	**-0.3**
1.3nm,0.3s							
MAKZ				⇓Pg	**Pb**	**02 53 39.1**	**+2.8**
3.1nm,0.3s							
MAKZ				⇑Sn	**Sn**	**02 54 14.5**	**-0.2**
3.8nm,0.5s							
MAKZ				⇓Lg	Lg	02 54 28.8	
7.3nm,0.4s							
ELT	**Eltsovka**	**4.06**	**356**	Pn	**Pn**	**02 53 30.6**	**+2.1**
ELT				Sg	**Sg**	**02 54 34.6**	**-1.4**
VEH	**Verkhnyaya Baz**	**4.64**	**28**	Pg	**Pb**	**02 53 49.3**	**+1.8**
VEH				Sg	**Sg**	**02 54 51.1**	**-3.4**
KURK	**Kurchatov**	**5.43**	**289**	⇓Pn	**Pn**	**02 53 46.1**	**-1.2**
0.5nm,0.3s							
KURK				⇑Sn	**Sn**	**02 54 49.1**	**-1.1**
3.1nm,0.4s							
KURK				⇓Lg	Lg	02 55 16.3	
18nm,0.8s							
KURBB	**Kurchatov Arra**	**5.46**	**288**	⇑Pn	**Pn**	**02 53 46.6**	**-1.2**

	1.4nm,0.3s					
KURBB			⇓Sn	Sn	02 54 50.8	-0.3
	11nm,0.6s					
KURBB			⇑Lg	Lg	02 55 17.2	
	37nm,0.6s					
KPKS	**Kokpek**	**7.99 227**	*e*P	Pb	02 54 49.5	+4.9
	1.6nm,0.2s					
KPKS			*e*S	Sg	02 56 32.7	-9.2
	4.8nm,0.3s					

*ISK **28** 03:00:58.7,37.°51N×38.°47E,h15km,ML3.6/12*
*AFAD **28** 03:00:58.1±0.0,37.°60N×38.°48E,h7km±2km,MW3.5*
ISC 28 03:00:58.4±0.9,**37.°55N**±0.°02×**38.°49E**±0.°02,**h14**km±7km,
n49,σ1°**47**/62,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.17**	**243**	P	**Pg**	**03 01 02.5**	**0.0**
ATAB				S	**Sg**	**03 01 05.7**	**+0.3**
ATAB				*i* AML	AML	03 01 06.0	
	comp=N,1μm,0.3s						
HANM	**anlurfa/Hi**	**0.31**	**84**	P	**Pg**	**03 01 04.6**	**-0.3**
HANM				S	**Sg**	**03 01 09.0**	**-0.3**
HANM				*i* AML	AML	03 01 11.0	
	comp=N,4μm,0.4s						
AZEY	**Adyaman-Merk**	**0.32**	**324**	P	**Pg**	**03 01 04.1**	**-1.0**
NARI	**Adyaman-Kaht**	**0.40**	**33**	P	**Pg**	**03 01 05.4**	**-1.0**
SANL	**SANLIURFA_Merk**	**0.55**	**133**	P	**Pb**	**03 01 09.9**	**+0.1**
SANL				S	**Sg**	**03 01 17.0**	**+0.5**
SANL				*i* AML	AML	03 01 25.0	
	comp=N,3μm,0.6s						
SURC	**SANLIURFA_SURC**	**0.68**	**172**	P	**Pb**	**03 01 12.5**	**+0.6**
AKCA	**Adyaman/G¶l**	**0.68**	**291**	P	**Pg**	**03 01 11.2**	**-0.5**
AKCA				S	**Sg**	**03 01 20.2**	**-0.5**
AKCA				*i* AML	AML	03 01 25.0	
	comp=N,2μm,0.4s						
AKCA				*i* AML	AML	03 01 27.0	
	comp=E,1μm,0.5s						
GZT	**Gaziantep**	**0.76**	**256**	P	**Pb**	**03 01 13.4**	**-0.1**
GZT				S	**Sb**	**03 01 24.3**	**+0.6**
GZT				*i* AML	AML	03 01 27.0	
	comp=N,2μm,0.4s						
MAYA	**Malatya/Merkez**	**0.78**	**356**	P	**Pg**	**03 01 12.1**	**-1.4**
NZIP	**Nizip/Gaziante**	**0.82**	**232**	P	**Pb**	**03 01 15.3**	**+0.8**
NZIP				S	**Sg**	**03 01 25.3**	**+0.1**
NZIP				*i* AML	AML	03 01 32.0	
	comp=E,1μm,0.3s						
AKCD	**Akcadag**	**0.87**	**329**	P	**Pg**	**03 01 14.1**	**-1.2**
ELZG	**Elazig**	**1.02**	**22**	P	**Pg**	**03 01 16.9**	**-1.3**
ELZG				S	**Sg**	**03 01 30.0**	**-1.6**
ELZG				*i* AML	AML	03 01 36.0	
	comp=N,2μm,0.8s						
GAZ	**Gaziantep**	**1.08**	**250**	Pg	**Pn**	**03 01 19.8**	**+0.6**
KAHM	**Kahramanmaras,**	**1.19**	**269**	P	**Pg**	**03 01 21.1**	**-0.3**
KAHM				S	**Sb**	**03 01 35.6**	**-0.5**
KAHM				*i* AML	AML	03 01 42.0	
	comp=N,566nm,0.4s						
KMRS	**Kahramanmaras**	**1.26**	**268**	Pn	**Pn**	**03 01 21.7**	**+0.1**
KMRS				Sn	**Sg**	**03 01 39.1**	**-0.1**
HCB	**Kahramanmara**	**1.27**	**261**	P	**Pn**	**03 01 21.9**	**+0.2**
HCB				S	**Sb**	**03 01 37.9**	**-0.5**
HCB				*i* AML	AML	03 01 41.0	
	comp=N,474nm,0.5s						
KHMR	**Kahramanmara**	**1.27**	**261**	P	**Pn**	**03 01 21.9**	**+0.1**
DARE	**Darende-Malaty**	**1.29**	**322**	Pn	**Pg**	**03 01 22.9**	**-0.4**
DARE				Sn	**Sg**	**03 01 40.9**	**+0.8**
DYBB	**Diyarbakir**	**1.37**	**72**	Pn	**Pn**	**03 01 23.7**	**+0.6**
DYBB				Sn	**Sg**	**03 01 42.9**	**+0.4**
KUZU	**Kuzuini**	**1.37**	**236**	P	**Pg**	**03 01 25.8**	**+1.1**
KUZU				S	**Sg**	**03 01 42.1**	**-0.5**
PTK	**Pertek**	**1.52**	**28**	Pn	**Pb**	**03 01 26.6**	**+0.2**
ARPR	**Arapgir-MALATY**	**1.55**	**356**	Pn	**Pb**	**03 01 27.2**	**+0.3**
MAZI	**Mazidag**	**1.56**	**93**	Pn	**Pn**	**03 01 26.9**	**+1.1**
SARI	**SarD1z-Kayseri**	**1.85**	**298**	Pn	**Pb**	**03 01 31.5**	**-0.5**
ILIC	**ilic-Erzincan**	**1.90**	**2**	Pn	**Pb**	**03 01 32.1**	**-0.8**
KOZT	**Kozan**	**2.12**	**269**	Pn	**Pn**	**03 01 34.3**	**+1.0**
KOZT				Sn	**Sn**	**03 02 00.3**	**+0.9**
TAHT	**Tahtakopru-Hat**	**2.19**	**238**	Pn	**Pn**	**03 01 35.4**	**+1.2**
BNN	**Bunyan**	**2.46**	**303**	Pn	**Pn**	**03 01 39.5**	**+1.4**
SVSK	**Karacayir**	**2.64**	**334**	Pn	**Pn**	**03 01 42.2**	**+1.8**
CMRD	**Camardi-Nigde**	**2.78**	**273**	Pn	**Pn**	**03 01 43.9**	**+1.4**
RSDY	**Resadiye-TOKAT**	**2.98**	**343**	Pn	**Pn**	**03 01 47.2**	**+1.9**
TOKT	**Tokat**	**3.15**	**332**	Pn	**Pn**	**03 01 49.4**	**+1.8**
YESY	**Yesilyurt**	**3.77**	**275**	Pn	**Pn**	**03 01 58.2**	**+2.0**
NATI	**Neve Ativ**	**4.83**	**209**	P	**Pg**	**03 02 27.1**	**-3.8**
GEM	**Giv'at Ha'Em**	**4.91**	**209**	P	**Pb**	**03 02 25.0**	**+1.0**
GEM				S	**Sg**	**03 03 30.6**	**-5.2**
MMA0	**Mount Meron ar**	**5.18**	**210**	P	**Pb**	**03 02 30.3**	**+1.6**
HNTI	**Hanita**	**5.21**	**212**	P	**Pb**	**03 02 28.0**	**-1.3**
SHMJ	**Saham**	**5.30**	**206**	P	**Pb**	**03 02 33.5**	**+2.7**
ASF	**Jabal al Asfar**	**5.52**	**194**	P	**Pb**	**03 02 39.0**	**+4.4**
QRNJ	**Al-Qirein**	**5.73**	**206**	P	**Pb**	**03 02 39.6**	**+1.6**
HMDT	**Nahal Hemdat**	**5.82**	**206**	P	**Pb**	**03 02 40.9**	**+1.3**
SLTI	**Sal'it**	**6.01**	**209**	P	**Pb**	**03 02 42.6**	**-0.2**
DSI	**Dead Sea**	**6.49**	**204**	P	**Pb**	**03 02 50.2**	**-0.9**
SWQJ	**Swaqa**	**6.60**	**198**	P	**Pb**	**03 02 51.5**	**-1.5**
GHAJ	**Ghor Haditha**	**6.68**	**202**	P	**Pb**	**03 02 54.7**	**+0.4**
AMAZ	**Amatzia**	**6.69**	**207**	P	**Pb**	**03 02 53.2**	**-1.2**
YTIR	**Yattir**	**6.77**	**205**	P	**Pb**	**03 02 54.2**	**-1.6**
KARJ	**KARJ**	**6.83**	**201**	P	Pn	03 02 43.7	+5.6
HRFI	**Mount Harif**	**8.02**	**202**	P	Pb	03 03 12.0	-5.2

*SJA **28** 03:13:17.3±0.7,24.°00S×66.°82W,h222km±8km,ML3.5,*
MW3.5
*GUC **28** 03:13:19.6±0.7,23.°96S×66.°87W,h203km±9km,ML3.9*
ISC 28 03:13:16.5±2.2,**23.°93S**±0.°05×**66.°78W**±0.°05,
h222km±18km,**n27**,σ1°**60**/38,**4C-1D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.41**	**124**	*e*P	**Pn**	**03 13 53.1**	**+1.4**
SLA	**San Lorenzo**	**1.41**	**124**	⇓*i*P	**Pn**	**03 13 53.1**	**+1.4**
AZAP	**Zapla**	**1.59**	**101**	*e*P	**Pn**	**03 13 54.4**	**+1.1**
AF01	**San Pedro de A**	**1.61**	**307**	*e*P	**Pn**	**03 13 55.0**	**+1.5**
YJA	**Yavi**	**2.10**	**34**	*e*P	**Pn**	**03 14 00.6**	**+2.3**
YJA				*e*S	**S**	**03 14 26.2**	**-4.4**
YJA	**Yavi**	**2.10**	**34**	*e*P	**Pn**	**03 14 00.0**	**+1.8**
FSA	**Cafayete**	**2.29**	**162**	*e*P	**Pn**	**03 14 00.9**	**+1.1**
FSA				*e*S	**S**	**03 14 32.6**	**-1.0**
LVC	**Limon Verde**	**2.36**	**304**	*e*P	**Pn**	**03 14 02.3**	**+1.6**
LVC	**Limon Verde**	**2.36**	**304**	⇑*i*P	**Pn**	**03 14 02.1**	**+1.3**
LVC				*e*S	**S**	**03 14 33.7**	**-1.4**
LVC				IAML		03 14 36.4	
	comp=Z,211nm,0.2s						
PB15	**IPOC Station P**	**2.57**	**286**	*e*P	**Pn**	**03 14 04.2**	**+1.4**
PB15				*e*S	**S**	**03 14 38.3**	**-0.5**
PB15	**IPOC Station P**	**2.57**	**286**	⇑*i*P	**Pn**	**03 14 04.3**	**+1.4**
PB15				*e*S	**S**	**03 14 37.8**	**-1.1**
GO02	**Mina Guanaco**	**2.84**	**244**	*e*P	**Pn**	**03 14 07.1**	**+1.3**
GO02				*e*S	**S**	**03 14 44.1**	**-0.1**
GO02	**Mina Guanaco**	**2.84**	**244**	⇑*i*P	**Pn**	**03 14 07.1**	**+1.3**
GO02				*e*S	**S**	**03 14 43.5**	**-0.7**
GO02				IAML		03 14 44.3	
	comp=N,292nm,0.2s						
PB06	**IPOC Station P**	**2.84**	**295**	*e*P	**Pn**	**03 14 07.2**	**+1.4**
PB06				IAML		03 14 47.0	
	comp=Z,94nm,0.1s						
PB06	**IPOC Station P**	**2.84**	**295**	⇑*i*P	**Pn**	**03 14 07.2**	**+1.4**
PB06				*e*S	**S**	**03 14 42.5**	**-1.6**
PB06				IAML		03 14 46.4	
	comp=E,230nm,0.3s						
PB09	**IPOC Station P**	**3.11**	**313**	*e*P	**Pn**	**03 14 10.0**	**+1.2**
PB09				IAML		03 14 57.9	
	comp=Z,34nm,0.7s						
PB09	**IPOC Station P**	**3.11**	**313**	*e*P	**Pn**	**03 14 10.9**	**+2.1**
PB05	**IPOC Station P**	**3.32**	**288**	*e*P	**Pn**	**03 14 12.3**	**+1.1**
PB14	**IPOC Station P**	**3.38**	**257**	*e*P	**Pn**	**03 14 13.0**	**+1.1**
PB14				*e*S	**S**	**03 14 53.8**	**-1.5**
PB14				IAML		03 14 55.9	
	comp=Z,71nm,0.1s						
PB14	**IPOC Station P**	**3.38**	**257**	*e*P	**Pn**	**03 14 13.1**	**+1.1**
PB04	**IPOC Station P**	**3.48**	**297**	*e*P	**Pn**	**03 14 14.1**	**+0.9**
PB04				*e*S	**S**	**03 14 57.1**	**-0.3**
PB04				IAML		03 15 01.1	
	comp=Z,116nm,0.4s						
PB04	**IPOC Station P**	**3.48**	**297**	*e*P	**Pn**	**03 14 14.5**	**+1.4**
AC01	**Pan de Azucar**	**4.11**	**237**	*e*P	**Pn**	**03 14 20.8**	**+0.4**
AC01				*e*S	**S**	**03 15 07.9**	**-2.7**
AC01				IAML		03 15 09.0	
	comp=Z,35nm,0.7s						

TA01	**Diego Aracena**	**4.60**	**316**	*e*P	**Pn**	**03 14 27.1**	**+0.6**
TA01				IAML		03 15 29.4	
	comp=Z,16nm,0.4s						
HMBC	**Humberstone**	**4.64**	**321**	*e*P	**Pn**	**03 14 27.1**	**-0.1**
GO01	**Chusmiza**	**4.80**	**332**	*e*P	**Pn**	**03 14 31.6**	**+2.1**
PB11	**IPOC Station P**	**4.94**	**327**	*e*P	**Pn**	**03 14 31.4**	**+0.5**
PB11				IAML		03 15 30.9	
	comp=Z,41nm,0.1s						

*ECX **28** 03:24:13.0±0.4,31.°22N×114.°36W,h3km±3km,ML2.9*
*MEX **28** 03:24:15.7±1.7,31.°52N×114.°61W,h3km±31km,MD3.8*
ISC 28 03:24:12.2±1.1,**31.°32N**±0.°06×**114.°41W**±0.°03,**h6**km±12km,
n12,σ0°**61**/24,**3C-4D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.47**	**233**	*e*P	**Pg**	**03 24 21.6**	**+0.4**
SFX				*i* S	**Sg**	**03 24 27.9**	**+0.5**
SFX	**San Felipe**	**0.47**	**233**	*e*P	**Pg**	**03 24 21.4**	**+0.2**
SFX				*e*S	**Sg**	**03 24 27.8**	**+0.4**
ECBX	**El Chinero**	**0.57**	**286**	⇓*e*P	**Pb**	**03 24 24.5**	**0.0**
ECBX				*e*S	**Sb**	**03 24 33.1**	**+0.3**
ECBX				⇓*e*		03 24 34.4	
ECBX				IAML		03 24 34.4	
	comp=E,623nm,0.3s						
PPXB	**Puerto Peasco**	**0.67**	**88**	⇑*e*P	**Pg**	**03 24 24.4**	**-0.6**
PPXB				*e*S	**Sg**	**03 24 33.2**	**-0.5**
PIX	**Pinacate**	**0.85**	**73**	*e*P	**Pg**	**03 24 27.9**	**-0.6**
PIX				*e*S	**Sg**	**03 24 39.5**	**-0.1**
SPIG	**San Pedro Mart**	**0.94**	**253**	*e*P	**Pg**	**03 24 30.1**	**-0.2**
SPIG				*e*S	**Sb**	**03 24 43.6**	**-0.4**
SPIG	**San Pedro Mart**	**0.94**	**253**	⇓*e*P	**Pg**	**03 24 30.1**	**-0.2**
SPIG				*e*S	**Sb**	**03 24 43.5**	**-0.4**
RHX	**Rio Hardy**	**1.10**	**318**	*e*P	**Pn**	**03 24 34.2**	**+0.1**
RHX				*e*S	**Sn**	**03 24 50.7**	**+1.1**
VTX	**Valle De La Tr**	**1.18**	**274**	*e*P	**Pg**	**03 24 34.2**	**-0.5**
VTX				*e*S	**Sn**	**03 24 51.3**	**-0.2**
SQX	**San Quintin**	**1.46**	**240**	⇑*e*P	**Pn**	**03 24 37.9**	**-1.2**
SQX				*e*S	**Sg**	**03 24 58.4**	**-0.7**
SQX				⇑*e*		03 25 00.0	
SQX				IAML		03 25 00.0	
	comp=E,256nm,0.4s						
SQX				⇓*e*		03 25 00.6	
SQX				IAML		03 25 00.6	
	comp=N,195nm,0.4s						
LAPR	**La Primavera**	**1.98**	**114**	*e*P	**Pg**	**03 24 51.0**	**+1.0**
LAPR				*e*S	**Sg**	**03 25 16.2**	**+0.5**
TJIG	**Tijuana**	**2.22**	**301**	*e*P	**Pb**	**03 24 53.6**	**+0.8**
TJIG				*e*S	**Sn**	**03 25 17.4**	**+0.1**

*AZER **28** 03:25:19.2,41.°74N×47.°60E,h15km,ml2.7*
*MOS **28** 03:25:20.0±1.0,41.°77N×47.°73E,h13km,mb3.6/1,Error*
ellipse: s-maj=11.5km s-min=5.8km az=112.9
*DRS **28** 03:25:20.1,41.°75N×47.°58E,h15km*
ISC 28 03:25:20.4±0.9,**41.°75N**±0.°01×**47.°58E**±0.°02,**h12**km±7km,
n56,σ1°**19**/100,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKT	**Akhty**	**0.29**	**158**	*e*Pg	**Pg**	**03 25 25.9**	**-0.5**
	120nm,1.0s						
AKT				*e*Sg	**Sg**	**03 25 30.2**	**-0.3**
	280nm,2.1s						
AKT	**Akhty**	**0.29**	**158**	*e*PG	**Pg**	**03 25 25.9**	**-0.5**
AKT				*e*S	**Sg**	**03 25 30.4**	**-0.1**
AKT				pmax	pmax		
	comp=Z,983nm,0.1s						
AKT				smax	smax		
	comp=E,2μm,0.3s						
URKR	**Urkarakh**	**0.41**	**5**	*e*Pg	**Pg**	**03 25 28.3**	**-0.4**
	comp=E,400nm,0.6s						
URKR				*e*Sg	**Sg**	**03 25 34.8**	**+0.5**
	comp=E,280nm,0.5s						
URKR	**Urkarakh**	**0.41**	**5**	*e*PG	**Pg**	**03 25 28.2**	**-0.4**
URKR				*e*S	**Sb**	**03 25 35.0**	**-1.0**
URKR				pmax	pmax		
	comp=Z,582nm,0.4s						
URKR				smax	smax		
	comp=E,522nm,0.2s						
KSMR	**Kasumkent**	**0.43**	**110**	*e*Pg	**Pb**	**03 25 29.0**	**-1.0**
	comp=E,240nm,0.3s						
KSMR				*e*Sg	**Sb**	**03 25 35.5**	**-1.1**
	comp=E,320nm,9.1s						
KSMR	**Kasumkent**	**0.43**	**110**	*e*PG	**Pb**	**03 25 29.0**	**-1.0**
KSMR				*e*S	**Sb**	**03 25 35.4**	**-1.1**
KSMR				pmax	pmax		
	comp=Z,335nm,0.2s						
KSMR				smax	smax		
	comp=E,9μm,0.3s						
KSMR				smax	smax		
	comp=N,7μm,0.4s						
KSMR				smax	smax		
	comp=E,7μm,0.5s						
KMKR	**Kumukh**	**0.52**	**316**	*e*Pg	**Pg**	**03 25 31.0**	**+0.2**
	comp=E,120nm,0.3s						
KMKR				*e*Sg	**Sb**	**03 25 38.5**	**-0.7**
	comp=E,480nm,2.5s						
KMKR	**Kumukh**	**0.52**	**316**	*e*PG	**Pg**	**03 25 30.9**	**+0.2**
KMKR				*e*S	**Sb**	**03 25 38.8**	**-0.4**
KMKR				pmax	pmax		
	comp=Z,292nm,0.1s						
KMKR				smax	smax		
	comp=N,2μm,0.2s						
QSAR	**Qusar**	**0.56**	**115**	P	**Pb**	**03 25 31.5**	**-0.7**
QSAR				S	**Sb**	**03 25 39.8**	**-0.3**
SEKA	**Sheki**	**0.62**	**208**	P	**Pb**	**03 25 32.8**	**-0.3**
SEKA				S	**Sb**	**03 25 41.8**	**+0.1**
DRN	**Derbent**	**0.62**	**63**	*e*Pg	**Pb**	**03 25 32.8**	**-0.3**
	comp=N,160nm,0.1s						
DRN				*e*Sg	**Sb**	**03 25 42.0**	**+0.1**
	comp=N,280nm,1.2s						
DRN	**Derbent**	**0.62**	**63**	*e*PG	**Pb**	**03 25 32.8**	**-0.3**
DRN				*e*S	**Sb**	**03 25 41.9**	**+0.1**
DRN				pmax	pmax		
	comp=Z,146nm,0.2s						
DRN				smax	smax		
	comp=E,1μm,0.3s						
DRN				smax	smax		
	comp=N,1μm,0.2s						
DRN				smax	smax		
	comp=E,1μm,0.3s						
XNQ	**Khinaliq**	**0.71**	**144**	P	**Pb**	**03 25 34.5**	**-0.4**
XNQ				S	**Sb**	**03 25 43.8**	**-0.9**
ZKTA	**Zakatala**	**0.73**	**261**	P	**Pb**	**03 25 34.5**	**-0.5**
ZKTA				S	**Sb**	**03 25 44.5**	**-0.5**
GNBR	**Gunib**	**0.79**	**324**	*e*Pg	**Pb**	**03 25 35.7**	**-0.3**
	comp=E,100nm,0.1s						
GNBR				*e*Sg	**Sb**	**03 25 47.0**	**+0.4**
	comp=E,250nm,0.6s						
GNBR	**Gunib**	**0.79**	**324**	*e*PG	**Pb**	**03 25 35.7**	**-0.3**
GNBR				*e*S	**Sb**	**03 25 47.3**	**+0.7**
GNBR				pmax	pmax		
	comp=Z,67nm,0.1s						
GNBR				smax	smax		
	comp=E,336nm,0.5s						
QUBA	**Quba, Azerbaij**	**0.79**	**120**	P	**Pn**	**03 25 35.9**	**-1.5**
QUBA				S	**Sn**	**03 25 46.9**	**-2.2**
QBL	**Gabala**	**0.83**	**167**	P	**Pb**	**03 25 36.3**	**-0.4**
QBL				S	**Sn**	**03 25 48.0**	**-2.1**
ARKR	**Arakani**	**0.96**	**333**	*e*Pg	**Pg**	**03 25 38.7**	**-0.1**
	comp=E,400nm,0.1s						
ARKR				*e*Sg	**Sn**	**03 25 52.5**	**-0.7**
	comp=E,280nm,0.2s						
ARKR	**Arakani**	**0.96**	**333**	*e*PG	**Pg**	**03 25 38.7**	**-0.1**
ARKR				*e*S	**Sn**	**03 25 52.8**	**-0.4**
ARKR				pmax	pmax		
	comp=Z,67nm,0.4s						
ARKR				smax	smax		
	comp=N,220nm,1.0s						
XNZR	**Khunzakh**	**1.02**	**321**	*e*Pg	**Pn**	**03 25 41.1**	**+0.4**
	comp=N,240nm,0.0s						
XNZR				*e*Sg	**Sn**	**03 25 55.9**	**+0.8**
	comp=N,400nm,0.1s						
HNZR	**Khunzah**	**1.03**	**322**	*e*PG	**Pn**	**03 25 41.0**	**+0.2**
HNZR				*e*S	**Sn**	**03 25 56.1**	**+0.8**
HNZR				pmax	pmax		
	comp=Z,22nm,0.2s						
HNZR				smax	smax		
	comp=E,113nm,0.5s						
IML	**Ismayilli**	**1.06**	**155**	P	**Pg**	**03 25 41.0**	**+0.3**
IML				S	**Sn**	**03 25 56.4**	**+0.6**
UNCR	**Uncukul**	**1.12**	**329**	*e*Pg	**Pg**	**03 25 42.0**	**-0.1**
	comp=E,520nm,0.0s						
UNCR				*e*Sg	**Sn**	**03 25 58.0**	**+0.6**
	comp=E,360nm,0.1s						
UNCR	**Uncukul**	**1.12**	**329**	*e*PG	**Pg**	**03 25 41.9**	**-0.1**
UNCR				*e*S	**Sn**	**03 25 58.2**	**+0.8**
UNCR				pmax	pmax		
	comp=Z,38nm,0.5s						
UNCR				smax	smax		
	comp=N,194nm,0.9s						
BUJR	**Buynaksk**	**1.13**	**342**	*e*Pg	**Pg**	**03 25 41.9**	**-0.2**
	comp=N,400nm,0.1s						
BUJR				*e*Sg	**Sg**	**03 25 57.3**	**+0.5**
	comp=N,400nm,0.3s						
BUJR	**Buynaksk**	**1.13**	**342**	PG	**Pg**	**03 25 41.9**	**-0.2**
BUJR				*e*S	**Sg**	**03 25 57.6**	**+0.8**
BUJR				pmax	pmax		
	comp=Z,82nm,0.4s						
BUJR				smax	smax		
	comp=N,247nm,0.5s						
SIZA	**Siyzn**	**1.20**	**124**	P	**Pg**	**03 25 44.1**	**+0.7**
SIZA				S	**Sg**	**03 26 02.3**	**+3.3**
MAK	**Makhachkala**	**1.21**	**357**	*e*PG	**Pn**	**03 25 42.6**	**-0.5**
MAK				*e*		03 25 59.8	
MAK				pmax	pmax		
	comp=Z,106nm,0.3s						
MAK				smax	smax		
	comp=E,247nm,0.3s						
MAK				smax	smax		
	comp=E,205nm,0.5s						
PQL	**Pirkuli**	**1.23**	**141**	P	**Pg**	**03 25 44.1**	**+0.1**
PQL				S	**Sg**	**03 26 01.2**	**+1.3**
ATGJ	**Altiaghaj**	**1.35**	**131**	P	**Pg**	**03 25 46.4**	**0.0**
ATGJ				S	**Sg**	**03 26 06.1**	**+2.1**
BTLR	**Botlikh**	**1.36**	**312**	*e*Pg	**Pg**	**03 25 46.0**	**-0.5**
	comp=E,400nm,0.0s						
BTLR				*e*Sg	**Sg**	**03 26 05.0**	**+0.8**
	comp=E,600nm,0.1s						
BTLR	**Botlikh**	**1.36**	**312**	PG	**Pg**	**03 25 46.0**	**-0.5**
BTLR				*e*S	**Sg**	**03 26 05.2**	**+1.0**
BTLR				pmax	pmax		
	comp=Z,20nm,0.4s						
BTLR				smax	smax		
	comp=N,50nm,0.6s						
DBC	**Dubki**	**1.38**	**336**	*e*Pg	**Pb**	**03 25 46.4**	**+0.1**
	comp=N,250nm,0.0s						
DBC				*e*Sg	**Sg**	**03 26 05.6**	**+0.6**
	comp=N,350nm,0.1s						
DBC	**Dubki**	**1.38**	**336**	*e*PG	**Pb**	**03 25 46.3**	**+0.1**
DBC				*e*S	**Sg**	**03 26 05.9**	**+0.9**
DBC				pmax	pmax		
	comp=Z,30nm,0.3s						
DBC				smax	smax		
	comp=E,125nm,0.3s						
GANJ	**Ganja**	**1.46**	**221**	Pn	**Pg**	**03 25 47.5**	**-0.9**
GANJ				Sn	**Sg**	**03 26 07.8**	**+0.5**
ZRD	**Zardab**	**1.47**	**177**	Pn	**Pg**	**03 25 48.1**	**-0.5**
ZRD				Sn	**Sg**	**03 26 10.8**	**+3.0**
DLMR	**Dylym**	**1.49**	**332**	*e*Pg	**Pb**	**03 25 48.2**	**+0.2**
	comp=E,80nm,0.0s						
DLMR				*e*Sg	**Sg**	**03 26 09.1**	**+0.6**
	comp=E,320nm,0.5s						
DLMR	**Dylym**	**1.49**	**332**	PG	**Pb**	**03 25 48.2**	**+0.2**
DLMR				*e*S	**Sg**	**03 26 09.4**	**+0.9**
DLMR				pmax	pmax		
	comp=Z,8.0nm,0.1s						
DLMR				smax	smax		
	comp=E,402nm,0.4s						
BRDA	**Brd**	**1.52**	**192**	S	**Sg**	**03 26 14.2**	**+5.0**
AGDM	**Agdam**	**1.68**	**193**	Pn	**Pg**	**03 25 51.6**	**-1.1**
AGDM				Sn	**Sg**	**03 26 17.5**	**+3.0**
DGRG	**David-gareji**	**1.69**	**260**	PN	**Pg**	**03 25 53.0**	**+0.3**
GDB	**GEDABAY**	**1.72**	**234**	Pn	**Pb**	**03 25 51.6**	**-0.4**
GDB				Sn	**Sg**	**03 26 14.9**	**-0.9**
QZX	**Qazax, Azerbai**	**1.80**	**248**	Pn	**Pb**	**03 25 53.2**	**-0.1**
QZX				Sn	**Sg**	**03 26 18.2**	**-0.1**
SHTL	**Shatili**	**2.02**	**297**	PN	**Pb**	**03 25 57.1**	**0.0**
TRLG	**Trialeti**	**2.62**	**266**	PN	**Pb**	**03 26 05.9**	**-1.4**
YRD	**Yardimli**	**2.88**	**170**	Pn	**Pn**	**03 26 08.2**	**+2.0**
YRD				Sn	**Sb**	**03 26 45.1**	**-1.8**
LRK	**Lerik**	**3.16**	**169**	Pn	**Pn**	**03 26 12.1**	**+2.0**
LRK				Sn	**Sb**	**03 26 53.0**	**-2.1**
NCK	**Nalchik**	**3.42**	**302**	*i* PN	**Pn**	**03 26 13.8**	**+0.3**
NCK				*i* S	**Sn**	**03 26 55.0**	**+1.0**
KIV	**Kislovodsk**	**4.22**	**303**	*e*PN	**Pn**	**03 26 20.5**	**-4.1**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SOC	**Sochi**	**6.08**	**290**	*e*P	**Pn**	**03 26 48.7**	**-1.3**
SOC				*e*		03 27 59.2	
SOC				MLR	MLR		
	comp=Z,24nm,16.0s						
BELG	**Belogornoye**	**10.65**	**0**	*i* P	**Pn**	**03 27 51.9**	**-0.6**
BELG				pmax	pmax		
	comp=Z,1.0nm,1.0s						
OBN	**Obninsk**	**15.21**	**335**	*e*P	**Pn**	**03 28 55.5**	**+0.7**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARU	**Arti**	**16.32**	**22**	*i* P	**Pn**	**03 29 09.4**	**+0.2**
ARU				pmax	pmax		
	comp=Z,7.0nm,2.0s						
BRVK	**Borovoye**	**18.99**	**46**	*i* P	**Pn**	**03 29 41.8**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
VSU	**Vasula**	**21.26**	**329**	*i* P	**P**	**03 30 07.7**	**+1.5**

*JMA **28** 04:09:26.1±0.1,24.°N±1.°×122.°4E±0.°4,h58km±2km,*
MV2.5/13,NW OFF ISHIGAKIJIMA IS
*TAP **28** 04:09:26.4,24.°24N×122.°37E,h64km,ML2.8,C*
ISC 28 04:09:26.4±1.2,**24.°25N**±0.°03×**

ETLH	**Xiulin Townshi**	**0.86 267**	P	**Pn**	**04 09 42.3**	**-0.4**
	baz=268					
ETLH			*e*S	**Sn**	**04 09 54.4**	**-0.4**
	baz=268					
LATG	**Datong**	**0.86 289**	P	**Pn**	**04 09 42.7**	**-0.1**
	baz=291					
LATG			S	**Sn**	**04 09 54.6**	**-0.4**
	baz=291					
ENTT	**Nioudou**	**0.87 297**	P	**Pn**	**04 09 43.0**	**+0.2**
	baz=292					
ETM	**Tongmen**	**0.89 252**	*i* P	**Pn**	**04 09 42.6**	**-0.5**
	baz=251					
ETM			S	**Sn**	**04 09 54.6**	**-0.9**
	baz=251					
NDT	**Datong Townshi**	**0.90 293**	P	**Pn**	**04 09 43.4**	**+0.2**
	baz=290					
NDT			S	**Sn**	**04 09 55.4**	**-0.2**
	baz=290					
TIPB	**Shuangxi**	**0.90 323**	P	**Pn**	**04 09 42.6**	**-0.6**
	baz=333					
TIPB			S	**Sn**	**04 09 54.5**	**-1.2**
	baz=333					
SHUL	**Shoufeng**	**0.91 240**	*e*P	**Pn**	**04 09 43.2**	**-0.1**
	baz=235					
SHUL			*e*S	**Sn**	**04 09 55.9**	**0.0**
	baz=235					
FUSB	**Fushanzhiwuyua**	**0.91 304**	P	**Pn**	**04 09 43.7**	**+0.2**
	baz=315					
FUSB			S	**Sn**	**04 09 56.2**	**+0.1**
	baz=315					
LXIB	**Xiulin Townshi**	**0.94 256**	P	**Pn**	**04 09 43.4**	**-0.5**
	baz=256					
LXIB			*e*S	**Sn**	**04 09 56.0**	**-1.0**
	baz=256					
NNS	**Nan Shan**	**0.97 281**	P	**Pn**	**04 09 43.9**	**-0.4**
	baz=283					
NNS			S	**Sn**	**04 09 56.4**	**-1.1**
	baz=283					
SXI1	**Grass Mountain**	**0.97 330**	*e*P	**Pn**	**04 09 43.6**	**-0.6**
	baz=332					
SXI1			*e*S	**Sn**	**04 09 56.0**	**-1.5**
	baz=332					
NWLT	**Wulai**	**0.98 302**	P	**Pn**	**04 09 44.6**	**+0.3**
	baz=311					
NWLT			S	**Sn**	**04 09 57.8**	**+0.1**
	baz=311					
ESL	**Shilin**	**1.00 244**	*e*P	**Pn**	**04 09 43.8**	**-0.7**
	baz=251					
ESL			*e*S	**Sn**	**04 09 56.4**	**-1.6**
	baz=251					
YHNB	**Yeheng**	**1.04 294**	P	**Pn**	**04 09 45.0**	**0.0**
	baz=289					
YHNB			S	**Sn**	**04 09 58.7**	**-0.2**
	baz=289					
NSK	**Sanguang**	**1.05 294**	P	**Pn**	**04 09 45.3**	**0.0**
	baz=288					
NSK			S	**Sn**	**04 09 59.0**	**-0.3**
	baz=288					
WHF	**Hehuan Shan**	**1.06 265**	*e*P	**Pn**	**04 09 45.4**	**-0.3**
	baz=256					
WHF			*e*S	**Sn**	**04 09 59.3**	**-0.6**
	baz=256					
FUSS	**Fushou**	**1.07 270**	P	**Pn**	**04 09 46.0**	**+0.3**
	baz=271					
FUSS			S	**Sn**	**04 10 00.1**	**+0.2**
	baz=271					
EGFH	**Guangfu**	**1.07 238**	*e*S	**Sn**	**04 09 59.2**	**-0.4**
	baz=232					
WARBT	**Fenglin Townsh**	**1.08 241**	P	**Pn**	**04 09 45.2**	**-0.4**
	baz=249					
WARBT			*e*S	**Sn**	**04 09 59.0**	**-0.9**
	baz=249					
TWT	**Tachien**	**1.13 270**	P	**Pn**	**04 09 47.3**	**+0.9**
	baz=266					
TDCB	**Techi**	**1.15 270**	P	**Pn**	**04 09 47.1**	**+0.5**
	baz=271					
TDCB			S	**Sn**	**04 10 01.6**	**-0.1**
	baz=271					
CHGB	**Renai**	**1.15 261**	P	**Pn**	**04 09 46.7**	**0.0**
	baz=253					
CHGB			*e*S	**Sn**	**04 10 00.7**	**-1.1**
	baz=253					
OWD	**Renai**	**1.17 256**	P	**Pn**	**04 09 46.8**	**-0.1**
	baz=256					
OWD			*e*S	**Sn**	**04 10 01.8**	**-0.4**
	baz=256					
HGSD	**Ruisui**	**1.18 231**	P	**Pn**	**04 09 46.5**	**-0.3**
	baz=225					
HGSD			*e*S	**Sn**	**04 10 02.1**	**-0.1**
	baz=225					
IRIF	**Iriomote-Funau**	**1.20 86**	P	**Pn**	**04 09 46.9**	**-0.2**
IRIF			*e*S	**Sn**	**04 10 02.4**	**-0.2**
WUSB	**Renai**	**1.22 258**	P	**Pn**	**04 09 47.5**	**0.0**
	baz=253					
WUSB			*e*S	**Sn**	**04 10 03.3**	**+0.1**
	baz=253					
NFF	**Wufeng Townshi**	**1.25 288**	P	**Pn**	**04 09 48.4**	**+0.6**
	baz=289					
NFF			*e*S	**Sn**	**04 10 03.4**	**-0.4**
	baz=289					
EHY	**Hungye**	**1.25 234**	*e*P	**Pn**	**04 09 47.3**	**-0.5**
	baz=232					
EHY			*e*S	**Sn**	**04 10 02.5**	**-1.2**
	baz=232					
VWDT	**VWDT**	**1.27 247**	*e*P	**Pn**	**04 09 48.3**	**+0.3**
	baz=247					
VWDT			*e*S	**Sn**	**04 10 03.8**	**-0.4**
	baz=247					
HATJ	**Hateruma jima**	**1.28 98**	*e*P	**Pn**	**04 09 48.9**	**+0.7**
HATJ			*e*S	**Sn**	**04 10 05.3**	**+0.8**
ECBN	**Changbin**	**1.28 224**	*e*S	**Sn**	**04 10 03.8**	**-0.8**
	baz=215					
YULB	**Yu-li**	**1.33 230**	*e*P	**Pn**	**04 09 48.5**	**-0.5**
	baz=239					
YULB			*e*S	**Sn**	**04 10 04.5**	**-1.3**
	baz=239					
LIOB	**Emei**	**1.34 287**	*e*P	**Pn**	**04 09 49.5**	**+0.5**
	baz=289					
WHP	**Taichung City**	**1.34 271**	*e*P	**Pn**	**04 09 50.2**	**+1.1**
	baz=272					
WHP			*e*S	**Sn**	**04 10 07.0**	**+0.8**
	baz=272					
NSTT	**Nanjuang**	**1.35 287**	*e*P	**Pn**	**04 09 49.6**	**+0.6**
	baz=288					
EYUL	**Yuli**	**1.35 228**	*e*S	**Sn**	**04 10 06.5**	**+0.4**
	baz=238					
TWF1	**Yuli**	**1.36 229**	*e*P	**Pn**	**04 09 48.4**	**-0.9**
	baz=239					
TWF1			*e*S	**Sn**	**04 10 05.3**	**-1.1**
	baz=239					
WCS	**Beigang Elemen**	**1.39 262**	P	**Pn**	**04 09 50.3**	**+0.7**
	baz=259					
CHKH	**Chenggong**	**1.41 222**	*e*P	**Pn**	**04 09 47.7**	**-2.2**
	baz=214					
CHKH			*e*S	**Sn**	**04 10 05.5**	**-2.1**
	baz=214					
SSLB	**Suanglung**	**1.42 251**	*e*P	**Pn**	**04 09 50.0**	**0.0**
	baz=257					
SSLB			*e*S	**Sn**	**04 10 07.6**	**-0.2**
	baz=257					
SMLT	**Sun Moon Lake**	**1.44 256**	*e*P	**Pn**	**04 09 50.6**	**+0.2**
	baz=250					
SMLT			*e*S	**Sn**	**04 10 09.3**	**+0.9**
	baz=250					
JKRS	**Kuro-shima**	**1.45 90**	P	**Pn**	**04 09 51.0**	**+0.5**
JKRS			S	**Sn**	**04 10 09.4**	**+0.8**
TYC	**Yuchr**	**1.47 257**	*e*P	**Pn**	**04 09 51.3**	**+0.7**
	baz=250					
FULB	**Fuli**	**1.47 225**	*e*S	**Sn**	**04 10 08.2**	**-0.9**
	baz=216					
CHKT	**Chengkung**	**1.50 220**	*e*P	**Pn**	**04 09 50.1**	**-1.0**
	baz=213					
CHKT			*e*S	**Sn**	**04 10 07.2**	**-2.4**
	baz=213					
WHYT	**Xinyi Township**	**1.53 249**	*e*P	**Pn**	**04 09 52.3**	**+0.7**
	baz=245					
WHYT			*e*S	**Sn**	**04 10 11.7**	**+1.0**
	baz=245					
YUS	**Yu-Shan**	**1.54 241**	P	**Pn**	**04 09 52.3**	**+0.2**
	baz=232					
YUS			S	**Sn**	**04 10 11.1**	**-0.3**
	baz=232					
JIJ	**Ishigaki jima**	**1.58 86**	P	**Pn**	**04 09 52.0**	**-0.1**
JIJ			*e*S	**Sn**	**04 10 10.5**	**-1.1**
WJS	**Zhushan**	**1.60 255**	*e*P	**Pn**	**04 09 54.2**	**+1.8**
	baz=252					
WJS			*e*S	**Sn**	**04 10 15.0**	**+2.8**
	baz=252					
WNT	**Mingjian**	**1.63 257**	*e*P	**Pn**	**04 09 54.4**	**+1.6**
	baz=257					
WNT			*e*S	**Sn**	**04 10 15.2**	**+2.4**
	baz=257					
EDH	**Donghe**	**1.63 219**	P	**Pn**	**04 09 52.0**	**-0.8**
	baz=212					
EDH			*e*S	**Sn**	**04 10 11.2**	**-1.7**
	baz=212					
ELDTW	**Lidau**	**1.66 231**	*e*P	**Pn**	**04 09 52.8**	**-0.6**
	baz=223					
ELDTW			*e*S	**Sn**	**04 10 12.6**	**-1.2**
	baz=223					
CHN5	**Tsauling**	**1.72 248**	*e*P	**Pn**	**04 09 55.5**	**+1.4**
	baz=240					
CHN5			*e*S	**Sn**	**04 10 16.8**	**+1.6**
	baz=240					
JISG	**Ishigakijimahi**	**1.76 79**	P	**Pn**	**04 09 54.3**	**-0.2**
JISG			*e*S	**Sn**	**04 10 15.3**	**-0.7**
WDLH	**Douliu**	**1.81 252**	*e*P	**Pn**	**04 09 56.8**	**+1.6**
	baz=252					
STYH	**Taoyuan**	**1.85 235**	*e*P	**Pn**	**04 09 56.7**	**+0.9**
	baz=228					
STYH			*e*S	**Sn**	**04 10 18.6**	**+0.5**
	baz=228					
STYT	**Tauyuan**	**1.87 235**	*e*S	**Sn**	**04 10 19.9**	**+1.1**
	baz=227					
WTP	**Ta-pu**	**1.93 239**	*e*S	**Sn**	**04 10 22.4**	**+2.2**
	baz=238					
CHN1	**Nanshi**	**2.03 239**	*e*P	**Pn**	**04 10 00.6**	**+2.3**
	baz=238					
CHN1			*e*S	**Sn**	**04 10 25.2**	**+2.5**
	baz=238					
JTJ	**Tarama**	**2.12 79**	*e*P	**Pn**	**04 09 59.9**	**+0.4**
JTJ			*e*S	**Sn**	**04 10 24.9**	**+0.2**
VWUC	**VWUC**	**2.80 286**	*e*P	**Pn**	**04 10 07.8**	**-1.0**
	baz=288					

*ISN **28** 04:10:49.8±1.3, 34°.62N×46°.24E, h21km±9km, ML3.0*
*TEH **28** 04:10:49.4, 34°.61N×46°.25E, h10km±20km, ML2.7*
ISC 28 04:10:49.6±1.3, 34°.62N±0°.04×46°.24E±0°.05, h9km±12km, n11, σ0°52/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**57**	Pg	**Pg**	**04 10 53.1**	**+0.2**
IGHG	**Ghaleghazi**	**0.40**	**137**	Pg	**Pg**	**04 10 57.4**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.58**	**209**	Pg	**Pg**	**04 11 00.8**	**0.0**
ILIN	**Lien**	**0.66**	**63**	Pg	**Pg**	**04 11 02.4**	**-0.1**
KCHF	**Cheshme Sefid,**	**0.74**	**117**	Pg	**Pg**	**04 11 03.8**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.99**	**182**	Pg	**Pb**	**04 11 08.4**	**-0.6**
SNQR	**Sonqor, Kerman**	**1.17**	**78**	Pg	**Pg**	**04 11 12.2**	**+0.2**
IBZA	**Bozab**	**1.34**	**96**	Pg	**Pb**	**04 11 14.6**	**-0.5**
IBDR	**Badra**	**1.53**	**190**	*e*Pg	**Pb**	**04 11 18.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**04 11 37.0**	**-0.6**
IKRK	**Kirkuk**	**1.74**	**297**	*e*Pn	**Pn**	**04 11 20.0**	**-0.1**
IKRK				*e*Sn	**Sb**	**04 11 44.0**	**+0.2**
IKRK				AML	AML	04 11 53.9	
	comp=E,196nm,0.4s						
IKRK				AML	AML	04 11 54.4	
	comp=N,224nm,0.5s						
RAFI	**Al-Rafai**	**2.89**	**182**	*e*Pn	**Pn**	**04 11 37.0**	**+1.1**
RAFI				*e*Sn	**Sn**	**04 12 11.0**	**+0.2**

*ECX **28** 04:12:19.8±0.6, 31°.28N×114°.36W, h16km±4km, ML3.9*
*MEX **28** 04:12:20.6±1.2, 30°.69N×114°.35W, h8km±181km, MD4.2*
ISC 28 04:12:17.5±2.2, 31°.28N±0°.05×114°.33W±0°.03, h12km±18km, n20, σ0°68/28, 1C-6D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.51**	**242**	*e*P	**Pb**	**04 12 28.5**	**+0.1**
SFX				*i* S	**Sb**	**04 12 35.2**	**-0.5**
SFX	**San Felipe**	**0.51**	**242⇓**	*e*P	**Pb**	**04 12 28.6**	**+0.2**
SFX				*e*S	**Sb**	**04 12 35.3**	**-0.5**
PPXB	**Puerto Peasco**	**0.60**	**85**	*e*P	**Pn**	**04 12 31.1**	**-0.6**
PPXB				*e*S	**Sn**	**04 12 40.1**	**-1.3**
ECBX	**El Chinero**	**0.65**	**287⇓**	*e*P	**Pb**	**04 12 31.1**	**+0.3**
ECBX				*e*S	**Sb**	**04 12 39.8**	**0.0**
ECBX				IAML		04 12 42.0	
	comp=E,4μm,0.6s						
ECBX			⇓	*e*		04 12 42.0	
PIX	**Pinacate**	**0.79**	**69**	*e*P	**Pn**	**04 12 34.3**	**-0.2**
PIX				*e*S	**Sn**	**04 12 45.2**	**-1.0**
SPIG	**San Pedro Mart**	**1.00**	**257**	*e*P	**Pb**	**04 12 36.9**	**-0.1**
SPIG				*e*S	**Sn**	**04 12 51.4**	**-0.6**
SPIG	**San Pedro Mart**	**1.00**	**257⇓**	*e*P	**Pb**	**04 12 36.9**	**-0.1**
SPIG				*e*S	**Sb**	**04 12 51.1**	**+0.7**
SPIG			⇑	*e*		04 12 52.4	
SPIG				IAML		04 12 52.4	
	comp=N,1μm,0.5s						
RHX	**Rio Hardy**	**1.18**	**316**	*e*P	**Pb**	**04 12 39.1**	**-0.7**
MBIG	**Mexicali**	**1.35**	**327**	*e*P	Pg	04 12 49.0	+5.6
MBIG				*e*S	Sg	04 13 12.0	+11
214A	**Organ Pipe Nat**	**1.46**	**62**	*e*P	**Pb**	**04 12 44.1**	**-0.4**
SQX	**San Quintin**	**1.51**	**243**	*e*P	**Pb**	**04 12 44.7**	**-0.6**
SQX				*e*S	**Sb**	**04 13 04.8**	**+0.4**
SQX				IAML		04 13 07.7	
	comp=N,3μm,0.4s						
SQX			⇓	*e*		04 13 07.7	
SQX			⇓	*e*		04 13 08.4	
SQX				IAML		04 13 08.4	
	comp=E,3μm,0.3s						
SV2X	**San Vicente**	**1.64**	**273**	*e*P	**Pn**	**04 12 46.4**	**+0.3**
SV2X				*e*S	**Sb**	**04 13 08.4**	**+0.2**
LAPR	**La Primavera**	**1.89**	**114**	*e*	**Pn**	**04 12 50.2**	**+0.6**
LAPR				*e*		04 13 26.4	
CBX	**Cerro Bola**	**2.24**	**298**	*e*P	**Pn**	**04 12 55.0**	**+0.4**
CBX				*e*S	**Sn**	**04 13 22.0**	**-0.3**
TJIG	**Tijuana**	**2.31**	**301**	*e*P	**Pn**	**04 12 56.0**	**+0.6**
TJIG				*e*S	**Sg**	**04 13 31.0**	**-0.6**
BAHB	**Baha de los**	**2.42**	**164**	*e*	Pg	04 13 05.0	+1.1
BAHB				*e*		04 13 47.8	
TUC	**Tucson**	**3.19**	**70**	*e*P	**Pb**	**04 13 14.2**	**+0.1**
TUC				*e*S	**Sb**	**04 13 54.7**	**+1.9**
NZIG	**Nacozari, Sono**	**4.20**	**101**	*e*	Pg	04 13 43.8	+5.8
NZIG				*e*		04 14 24.2	
GUYB	**Guaymas**	**4.52**	**137**	*e*	Pg	04 13 47.0	+3.0
GUYB				*e*		04 14 50.2	
CGIG		**5.54**	**98**	*e*	**Pn**	**04 13 40.4**	**+0.5**
CGIG				*e*		04 15 01.2	

*NOU **28** 04:29:48.3, 17°.98S×168°.27E, h28km, MLv4.1/11, Vanuatu Islands*
*NEIC **28** 04:29:51.8±1.1, 18°.27S±0°.08×168°.04E±0°.10, h10km±2km, ML3.3/10, Error ellipse: s-maj=19.7km s-min=6.7km az=312.0*
ISC 28 04:29:49.0±1.3, 18°.04S±0°.08×168°.2E±0°.1, h32km, n13, σ1°19/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.32**	**356**	P	**Pb**	**04 29 56.1**	**-0.8**
RTV	**Rentapao**	**0.32**	**39**	P	**Pb**	**04 29 57.0**	**+0.1**
LIFNC	**LIFOU**	**2.87**	**198**	P	**Pn**	**04 30 32.0**	**-0.5**
LIFNC	**LIFOU**	**2.87**	**198**	Pn	**Pn**	**04 30 32.0**	**-0.5**
LIFNC				Sn	**Sn**	**04 31 04.2**	**-1.8**
LIFNC				IAML		04 31 05.0	
	comp=E,184nm,0.2s						
LIFNC				IAML		04 31 06.3	
	comp=N,97nm,0.2s						
MARNC	**Mare, Loyalty**	**3.42**	**183**	P	**Pn**	**04 30 40.2**	**0.0**
YATNC	**Mamie plateau,**	**4.18**	**197**	P	**Pn**	**04 30 51.3**	**+0.6**
DZM	**Mont Dzumac**	**4.34**	**202**	P	**Pn**	**04 30 54.7**	**+1.8**
DZM	**Mont Dzumac**	**4.34**	**202**	Pn	**Pn**	**04 30 54.3**	**+1.5**
DZM				Sn	**Sn**	**04 31 42.2**	**-0.2**
DZM				IAML		04 31 45.7	
	comp=E,41nm,0.3s						
DZM				IAML		04 31 46.1	
	comp=N,46nm,0.5s						
KOUNC	**Koumac, New Ca**	**4.47**	**235**	P	**Pn**	**04 30 55.6**	**+1.1**
KOUNC	**Koumac, New Ca**	**4.47**	**235**		**Pn**	**04 30 55.4**	**+0.8**
KOUNC				Sn	**Sn**	**04 31 44.9**	**-0.5**
KOUNC				IAML		04 31 49.1	
	comp=N,21nm,1.1s						
KOUNC				IAML		04 31 50.2	
	comp=E,31nm,0.6s						
ONTNC	**Ouen Toro**	**4.55**	**201**	P	**Pn**	**04 30 57.0**	**+1.3**
ONTNC	**Ouen Toro**	**4.55**	**201**	Pn	**Pn**	**04 30 57.2**	**+1.5**
PINNC	**Pines Island,**	**4.60**	**189**	Pn	**Pn**	**04 30 57.9**	**+1.5**

*TIR **28** 04:31:30.4, 41°.46N×19°.63E, h19km, Md2.5, Ml1.8*
ISC 28 04:31:31.1±1.2, 41°.49N±0°.04×19°.60E±0°.05, h11km±10km, n11, σ0°68/19, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.25**	**125**	P	**Pg**	**04 31 35.7**	**-0.5**
	baz=121						
TIR				S	**Sg**	**04 31 39.6**	**0.0**
	baz=121						
TIR				AMP			
	comp=E,1.4nm,0.2s,baz=121						
PUK	**Puka**	**0.60**	**22**	P	**Pg**	**04 31 42.8**	**0.0**
	baz=18						
PUK				S	**Sb**	**04 31 52.9**	**+0.7**
	baz=18						
PUK				AMP			
	comp=E,0.2nm,0.4s,baz=18						
BCI	**Bajram Curri**	**0.95**	**22**	P	**Pb**	**04 31 48.7**	**-0.9**
	baz=19						
BCI				S	**Sg**	**04 32 03.2**	**+1.5**
	baz=19						
BCI				AMP			
	comp=E,0.1nm,0.3s,baz=19						
FNA	**Florina**	**1.52**	**117**	P	**Pn**	**04 31 58.4**	**+0.1**
	baz=116						
FNA				S	**Sb**	**04 32 19.2**	**+0.6**
	baz=116						
FNA				AMP			
	comp=N,0.0nm,0.5s,baz=116						
DBRK	**Dubrovnik**	**1.60**	**318**	*e*Pn	**Pb**	**04 32 00.9**	**+0.2**
DBRK				Sn	**Sb**	**04 32 21.1**	**+0.2**
SCTE	**Santa Cesarea**	**1.65**	**212**	P	**Pn**	**04 32 01.0**	**+0.9**
	baz=214						
STON	**Ston**	**1.97**	**315**	*e*Pn	**Pb**	**04 32 06.9**	**-0.2**
STON				Sn	**Sn**	**04 32 28.9**	**-0.3**
MAKA	**Makarska**	**2.62**	**314**	*e*Pn	**Pn**	**04 32 13.1**	**-0.3**
MAKA				Sn	**Sn**	**04 32 44.5**	**-0.8**
RICI	**Ricice**	**2.71**	**319**	*e*Pn	**Pn**	**04 32 14.7**	**0.0**
RICI				Sn	**Sn**	**04 32 47.5**	**+0.1**
KIJV	**Kijevo**	**3.44**	**318**	*e*Pn	**Pn**	**04 32 24.9**	**+0.2**
MORI	**Morici**	**3.72**	**311**	*e*Pn	**Pn**	**04 32 27.6**	**-1.0**

*IDC **28** 05:16:29.8±0.7, 6°.06N×125°.99E, h149km±8km, mb3.5/6, mbtmp3.9/6, Error ellipse: s-maj=58.0km s-min=15.0km az=73.0*
*NEIC **28** 05:16:30.1±1.9, 6°.17N±0°.10×125°.96E±0°.09, h142km±8km, mb4.1/22, Error ellipse: s-maj=16.6km s-min=10.2km az=220.0*
ISC 28 05:16:28.6±0.7, 5°.96N±0°.07×126°.1E±0°.1, h127km, n36, σ1°12/37, mb4.1/18, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.21**	**336**	Pn	**Pn**	**05 16 54.0**	**+0.6**
DAV	**Davao City (W)**	**1.21**	**336**	P	**Pn**	**05 16 54.8**	**+1.4**
	252nm,0.3s,baz=210,slow=8.1,SNR=8.9						
DAV				S	**Sn**	**05 17 14.9**	**+2.8**
	632nm,0.3s,baz=258,slow=20,SNR=11						
TOLI2	**Tolitoli**	**7.15**	**228**		**Pn**	**05 18 10.9**	**+0.2**
LUWI	**Luwuk**	**7.70**	**206**	Pn	Pn	05 18 26.0	+7.9
KNRA	**Kununurra**	**21.66**	**173**	P	**P**	**05 21 10.5**	**+1.3**
KNRA				IAmb	IAmb	05 21 11.7	
	comp=Z,8.7nm,0.6s						
WRAB	**Tennant Creek**	**26.98**	**163**	P	**P**	**05 21 58.3**	**-0.4**
WRAB				IAmb	IAmb	05 22 36.3	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**26.99**	**163**	P	**P**	**05 21 57.8**	**-0.9**
WRA	**Warramunga Arr**	**26.99**	**163**	P	**P**	**05 21 58.2**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=341,slow=9.6,SNR=21						
	comp=Z,0.7nm,0.4s						
AS31	**Alice Springs**	**30.42**	**166**	P	**P**	**05 22 29.1**	**-0.1**
ASAR	**Alice Springs**	**30.42**	**166**	P	**P**	**05 22 29.7**	**+0.6**
ASAR	**Alice Springs**	**30.42**	**166**	P	**P**	**05 22 29.4**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=342,slow=7.0,SNR=37						
ASAR				PcP	**PcP**	**05 25 24.9**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=355,slow=2.1,SNR=3.0						
	comp=Z,3.3nm,0.6s						
STKA	**Stephens Creek**	**40.43**	**159**	P	**P**	**05 23 54.9**	**+0.3**
STKA	**Stephens Creek**	**40.43**	**159**	P	**P**	**05 23 55.2**	**+0.7**
	comp=Z,3.7nm,0.6s,baz=346,slow=9.4,SNR=7.2						
	comp=Z,3.7nm,0.6s						
ARMA	**Armidale**	**43.68**	**147**	P	**P**	**05 24 21.8**	**+0.7**
ARMA				IAmb	IAmb	05 24 40.7	
	comp=Z,6.9nm,1.4s						
DZM	**Mont Dzumac**	**48.36**	**126**	P	**P**	**05 24 58.0**	**+0.1**
MKAR	**Makanchi Array**	**55.37**	**325**	P	**P**	**05 25 47.1**	**-2.4**
MKAR	**Makanchi Array**	**55.37**	**325**	P	**P**	**05 25 46.9**	**-2.6**
	comp=Z,0.2nm,0.5s,baz=135,slow=8.6,SNR=3.3						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**59.53**	**327**	P	**P**	**05 26 17.0**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=124,slow=6.3,SNR=2.2						
	comp=Z,0.2nm,0.5s						
KHZ	**Kahutara**	**64.61**	**143**	P	**P**	**05 26 52.9**	**+0.4**
D19K	**Kuna River**	**79.29**	**21**	P	**P**	**05 28 19.3**	**-0.4**
D19K				IAmb	IAmb	05 28 22.5	
	comp=Z,7.6nm,1.2s						
H19K	**Roundabout Mou**	**79.42**	**24**	P	**P**	**05 28 20.0**	**-0.4**
H19K				IAmb	IAmb	05 28 21.3	
	comp=Z,3.4nm,0.9s						
J20K	**Nowinta River**	**80.21**	**26**	P	**P**	**05 28 23.9**	**-0.9**
J20K				IAmb	IAmb	05 29 06.9	
	comp=Z,5.3nm,1.5s						
H21K	**Melozitna Rive**	**80.94**	**25**	P	**P**	**05 28 28.3**	**-0.3**
MLY	**Manley**	**81.75**	**25**	P	**P**	**05 28 32.6**	**-0.3**
MLY				IAmb	IAmb	05 28 33.8	
	comp=Z,1.9nm,0.8s						
H23K	**Yukon River**	**82.29**	**24**	P	**P**	**05 28 35.7**	**0.0**
H23K				IAmb	IAmb	05 28 40.5	
	comp=Z,3.7nm,1.4s						
RND	**Reindeer**	**82.50**	**27**	P	**P**	**05 28 35.8**	**-1.1**
RND				IAmb	IAmb	05 28 47.5	
	comp=Z,3.6nm,1.2s						
PWL	**Port Wells**	**82.68**	**29**	P	**P**	**05 28 36.5**	**-1.3**
H24K	**Noodor Dome**	**82.98**	**24**	P	**P**	**05 28 39.5**	**+0.2**
H24K				IAmb	IAmb	05 29 20.1	
	comp=Z,4.0nm,1.4s						
GLI	**Glacier Island**	**83.29**	**29**	P	**P**	**05 28 40.2**	**-0.8**
GLI				IAmb	IAmb	05 28 43.4	
	comp=Z,4.2nm,0.8s						
ILAR	**Eielson Array**	**83.38**	**26**	P	**P**	**05 28 39.4**	**-2.0**
	comp=Z,0.7nm,0.8s,baz=260,slow=4.6,SNR=9.7						
	comp=Z,0.7nm,0.8s						
HIN	**Hinchinbrook I**	**83.58**	**30**	P	**P**	**05 28 41.3**	**-1.2**
FID	**Port Fidalgo**	**83.59**	**30**	P	**P**	**05 28 41.6**	**-0.9**
BMAR	**Burnt Mountain**	**84.29**	**23**	P	**P**	**05 28 45.7**	**-0.3**
J26L	**Joseph Creek**	**84.82**	**26**	P	**P**	**05 28 47.7**	**-1.1**
BCAR	**Beaver Creek A**	**85.70**	**27**	P	**P**	**05 28 52.5**	**-0.6**
I28M	**Miner Creek**	**86.28**	**25**	P	**P**	**05 28 56.1**	**0.0**
I28M				IAmb	IAmb	05 28 57.5	
	comp=Z,2.2nm,0.8s						

IDC 28 05:16:38.1±4.6, 18°.85N×145°.03E, h182km±46km, mb3.1/4, mbtmp3.7/5, Error ellipse: s-maj=70.2km s-min=32.3km az=113.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.24**	**182**	P	Pn	05 17 55.2	0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.50**	**14**	⇓*iP*	**Pb**	**05 20 07.3**	**+0.5**
PARAL				AML	AML	05 20 15.2	
	0.9nm,0.6s						
PARAL				S	**Sn**	**05 20 15.4**	**-0.5**
PARAL				AML	AML	05 20 25.5	
	0.5nm,0.7s						
PAR1C	**Paralimni Civi**	**0.52**	**8**	S	**Sn**	**05 20 16.2**	**-0.3**
MVOU	**Mavrovouni**	**0.55**	**337**	P	**Pb**	**05 20 07.4**	**-0.3**
MVOU				S	**Sb**	**05 20 14.5**	**-0.6**
MVOU				AML	AML	05 20 17.2	
	0.4nm,0.2s						
MVOU				AML	AML	05 20 17.4	
	0.5nm,0.2s						
ASGA	**Asgata**	**0.60**	**297**	P	**Pb**	**05 20 08.3**	**-0.1**
ASGA				S	**Sb**	**05 20 16.4**	**-0.1**
ASGA				AML	AML	05 20 19.0	
	0.5nm,0.2s						
ASGA				AML	AML	05 20 19.0	
	0.4nm,0.2s						
AKIN	**Akıncılar- Kıb**	**0.61**	**325**	Pg	**Pb**	**05 20 08.7**	**0.0**
CSS	**Mathiatis**	**0.64**	**314**	Pg	**Pb**	**05 20 09.6**	**+0.3**
CSS				Sg	**Sb**	**05 20 14.9**	**-3.0**
CSS	**Mathiatis**	**0.64**	**314**	P	**Pb**	**05 20 08.7**	**-0.6**
CSS	**Mathiatis**	**0.64**	**314**	P	**Pb**	**05 20 09.3**	**0.0**
CSS				S	**Sb**	**05 20 17.9**	**0.0**
CSS				AML	AML	05 20 19.1	
	0.5nm,0.5s						
CSS				AML	AML	05 20 19.1	
	0.4nm,0.3s						
ATHAL	**Athalassa**	**0.75**	**327**	P	**Pn**	**05 20 11.8**	**+0.3**
ATHAL				S	**Sn**	**05 20 22.0**	**-0.1**
ATHAL				AML	AML	05 20 28.2	
	0.7nm,0.8s						
ATHAL				AML	AML	05 20 28.4	
	1.0nm,0.6s						
TROD	**Troodos**	**0.95**	**298**	⇑*eP*	**Pb**	**05 20 14.6**	**+0.1**
TROD				S	**Sn**	**05 20 27.6**	**+0.3**
TROD				AML	AML	05 20 31.1	
	0.5nm,0.7s						
TROD				AML	AML	05 20 31.6	
	0.2nm,0.5s						
LEF	**Lefka**	**1.02**	**307**	Pg	**Pb**	**05 20 15.7**	**+0.1**
EREN	**Erenkoy**	**1.04**	**13**	Pg	**Pn**	**05 20 15.6**	**0.0**
AKDN	**Akdeniz- Kıbrı**	**1.09**	**316**	Pg	**Pn**	**05 20 16.0**	**-0.2**
NATA	**Nata**	**1.12**	**284**	P	**Pb**	**05 20 18.2**	**+0.9**
NATA				S	**Sb**	**05 20 32.8**	**+1.3**
NATA				AML	AML	05 20 37.6	
	1.4nm,0.6s						
NATA				AML	AML	05 20 38.1	
	0.9nm,0.5s						
AKMS	**Akamas**	**1.38**	**292**	P	**Pb**	**05 20 21.6**	**0.0**
AKMS				S	**Sb**	**05 20 40.4**	**+1.6**
AKMS				AML	AML	05 20 42.6	
	0.3nm,0.1s						
AKMS				AML	AML	05 20 47.5	
	0.2nm,0.5s						
AKK1	**Akkuyu-Mersin**	**1.65**	**350**	Pg	**Pn**	**05 20 24.3**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.67**	**351**	Pn	**Pn**	**05 20 24.7**	**+0.5**
YORU	**Yoruktepe-Mers**	**1.69**	**347**	Pn	**Pn**	**05 20 25.2**	**+0.7**
KARG	**Kargicak-Mersi**	**1.69**	**355**	Pn	**Pn**	**05 20 25.6**	**+1.0**
IKL	**Isikli**	**1.73**	**355**	Pn	**Pn**	**05 20 25.8**	**+0.7**
TEKE	**Tekeli-Mersin**	**1.75**	**339**	Pn	**Pn**	**05 20 25.8**	**+0.5**
HNTI	**Hanita**	**1.78**	**143**	S	**Sn**	**05 20 46.8**	**-0.8**
HNTI	**Hanita**	**1.78**	**143**	P	**Pn**	**05 20 26.0**	**+0.2**
KEBE	**Keben-Mersin**	**1.94**	**356**	Pn	**Pn**	**05 20 29.3**	**+1.3**
MMA0B	**Mount Meron ar**	**1.95**	**139**	P	**Pn**	**05 20 28.6**	**+0.4**
MMA0B	**Mount Meron ar**	**1.95**	**139**	S	**Sn**	**05 20 51.2**	**-0.8**
TEVE	**Tevekalti-Mers**	**1.95**	**349**	Pn	**Pn**	**05 20 29.4**	**+1.2**
GEM	**Giv'at Ha'Em**	**1.96**	**131**	S	**Sn**	**05 20 51.9**	**-0.2**
GEM	**Giv'at Ha'Em**	**1.96**	**131**	P	**Pn**	**05 20 28.6**	**+0.4**
KIZK	**Mersin**	**1.98**		Pn	**Pn**	**05 20 29.9**	**+1.5**
NATI	**Neve Ativ**	**1.98**	**129**	S	**Sn**	**05 20 51.7**	**-0.6**
NATI	**Neve Ativ**	**1.98**	**129**	P	**Pn**	**05 20 29.2**	**+0.8**
BLGI	**Bet Lehem HaGe**	**2.08**	**148**	P	**Pn**	**05 20 30.1**	**+0.2**
BLGI	**Bet Lehem HaGe**	**2.08**	**148**	S	**Sn**	**05 20 53.2**	**-1.7**
OFRI	**`Ofer**	**2.10**	**154**	S	**Sn**	**05 20 54.0**	**-1.4**
OFRI	**`Ofer**	**2.10**	**154**	P	**Pn**	**05 20 30.4**	**+0.3**
GAZI	**Gazipasa**	**2.15**	**324**	Pn	**Pn**	**05 20 32.0**	**+1.2**
GAZI				Sn	**Sn**	**05 20 53.2**	**-3.4**
KSHT	**Keshet**	**2.21**	**133**	S	**Sn**	**05 20 58.3**	**0.0**
KSHT	**Keshet**	**2.21**	**133**	P	**Pn**	**05 20 32.7**	**+1.0**
MMLI	**Mount Malkishu**	**2.43**	**148**	S	**Sn**	**05 21 03.2**	**-0.5**
MMLI	**Mount Malkishu**	**2.43**	**148**	P	**Pn**	**05 20 35.6**	**+0.8**
SLTI	**Sal'it**	**2.46**	**157**	S	**Sn**	**05 21 03.2**	**-1.1**
SLTI	**Sal'it**	**2.46**	**157**	P	**Pn**	**05 20 35.2**	**+0.1**
HDMB	**Hadim**	**2.70**	**335**	Pn	**Pn**	**05 20 40.0**	**+1.4**
DSI	**Dead Sea**	**3.19**	**156**	P	**Pn**	**05 20 45.9**	**+0.8**
DSI	**Dead Sea**	**3.19**	**156**	S	**Sn**	**05 21 21.8**	**-0.5**
YTIR	**Yattir**	**3.31**	**161**	S	**Sn**	**05 21 24.4**	**-0.9**
YTIR	**Yattir**	**3.31**	**161**	P	**Pn**	**05 20 47.1**	**+0.3**
KZIT	**Kziot**	**3.62**	**173**	P	**Pn**	**05 20 52.0**	**+0.9**
KZIT	**Kziot**	**3.62**	**173**	S	**Sn**	**05 21 31.4**	**-1.6**
PRNI	**Paran**	**4.25**	**167**	P	**Pn**	**05 21 01.2**	**+1.4**
PRNI	**Paran**	**4.25**	**167**	S	**Sn**	**05 21 48.0**	**-0.6**
HRFI	**Mount Harif**	**4.57**	**167**	S	**Sn**	**05 21 55.3**	**-1.1**
HRFI	**Mount Harif**	**4.57**	**167**	P	**Pn**	**05 21 04.8**	**+0.7**
MBRI	**Mt Berech**	**4.78**	**169**	P	**Pn**	**05 21 07.7**	**+0.6**
MBRI	**Mt Berech**	**4.78**	**169**	S	**Sn**	**05 22 01.5**	**-0.3**
EIL	**Elat**	**4.91**	**169**	P	**Pn**	**05 21 09.1**	**+0.3**
EIL	**Elat**	**4.91**	**169**	S	**Sn**	**05 22 04.3**	**-0.6**

*IDC **28** 05:27:16.2±6.7,6°.08S×130°.51E,h90km±68km,mb3.7/8, mbtmp4.1/10,ML4.2/2,Error ellipse: s-maj=47.2km s-min=31.1km az=71.0*
*DJA **28** 05:27:19.2±0.4,6°.5S×3°×13°.0E±°,h131km±15km,M4.6/11, mb4.6/7,mB5.1/3,MLv4.6/11,Mw(mB)4.4/3*
*NEIC **28** 05:27:20.0±2.8,6°.15S±0°.08×130°.4E±0°.1,h128km±10km, mb4.4/9,Error ellipse: s-maj=19.7km s-min=11.2km az=94.0.*
ISC 28 05:27:18.7±0.6,**6°.19S**±0°.05×**130°.43E**±0°.07,**h124**km,**n49,** σ1**973**/53,**mb3.9**/11,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.74**	**343**	P	**Pn**	**05 27 50.1**	**+0.9**
BNDI	**Bandanaira**	**1.74**	**343**	P	**Pn**	**05 27 48.5**	**-0.7**
SAUI	**Saumlaki**	**1.98**	**154**	P	**Pn**	**05 27 55.4**	**+3.3**
SAUI	**Saumlaki**	**1.98**	**154**		**Pn**	**05 27 54.4**	**+2.3**
SAUI	**Saumlaki**	**1.98**	**154**	P	**Pn**	**05 27 55.2**	**+3.1**
SAUI				S	**Sn**	**05 28 20.1**	**+2.4**
FAKI	**Fak Fak**	**3.72**	**29**	P	**Pn**	**05 28 14.7**	**0.0**
FAKI	**Fak Fak**	**3.72**	**29**		**Pn**	**05 28 14.9**	**+0.1**
FAKI	**Fak Fak**	**3.72**	**29**	P	**Pn**	**05 28 14.9**	**+0.1**
FAKI				S	**Sn**	**05 28 56.7**	**-1.4**
KMPI	**Kaimana, Papua**	**4.12**	**53**	P	**Pn**	**05 28 21.3**	**+1.3**
KMPI				S	**Sn**	**05 29 07.4**	**-0.1**
SWI	**Sorong**	**5.36**	**9**	P	**Pn**	**05 28 36.8**	**+0.2**
SANI	**Sanana**	**6.04**	**313**	P	**Pn**	**05 28 47.1**	**+1.2**
SANI	**Sanana**	**6.04**	**313**	P	**Pn**	**05 28 46.8**	**+0.9**
	21nm,0.9s,0.1nm						
DRS	**Darwin Rock St**	**6.22**	**176**	P	**Pn**	**05 28 49.1**	**+0.9**
MTN	**Manton Dam**	**6.65**	**174**	P	**Pn**	**05 28 54.5**	**+0.5**
MTN	**Manton Dam**	**6.65**	**174**		**Pn**	**05 28 54.6**	**+0.7**
KDU	**Kakadu**	**6.76**	**163**	P	**Pn**	**05 28 55.7**	**+0.2**
SOEI	**Soe**	**7.05**	**239**	P	**Pn**	**05 29 00.4**	**+0.8**
SOEI	**Soe**	**7.05**	**239**		**Pn**	**05 28 59.4**	**-0.2**
SOEI	**Soe**	**7.05**	**239**	P	**Pn**	**05 28 59.7**	**+0.1**
	131nm,0.9s,2μm0.5nm						
BATI	**Baumata**	**7.79**	**239**	P	**Pn**	**05 29 09.5**	**0.0**
EDFI	**Ende, Flores**	**9.03**	**253**	P	**Pn**	**05 29 27.3**	**+1.1**
KNRA	**Kununurra**	**9.57**	**190**		**Pn**	**05 29 32.0**	**-1.3**
WB0	**Warramunga Arr**	**14.03**	**164**		**Pn**	**05 30 31.8**	**-0.5**
WRA	**Warramunga Arr**	**14.19**	**165**	Pn	**Pn**	**05 30 33.6**	**-0.6**
WRA	**Warramunga Arr**	**14.19**	**165**	P	**Pn**	**05 30 32.3**	**-1.9**
	1.3nm,0.3s,baz=340,slow=14,SNR=39						
WRA				S	Sn	05 33 00.4	-11
	8.9nm,0.4s,baz=334,slow=23,SNR=13						
	2.0nm,0.4s						
AS31	**Alice Springs**	**17.69**	**169**	P	**Pn**	**05 31 18.5**	**+1.0**
ASAR	**Alice Springs**	**17.69**	**169**	P	**Pn**	**05 31 18.7**	**+1.2**
ASAR	**Alice Springs**	**17.69**	**169**	P	**Pn**	**05 31 19.2**	**+1.7**
	0.8nm,0.3s,baz=350,slow=9.1,SNR=47						
ASAR				S	**S**	**05 34 25.5**	**-8.7**
	1.7nm,0.5s,baz=352,slow=26,SNR=6.1						
	1.8nm,0.5s						
MBWA	**Marble Bar**	**18.13**	**214**	P	**P**	**05 31 21.4**	**0.0**
MBWA				IAmb	IAmb	05 31 38.9	
	comp=Z,22nm,1.4s						
PSA00	**Pilbara Seismi**	**18.40**	**213**	P	**P**	**05 31 24.2**	**-0.2**
PSA00				IAmb	IAmb	05 31 26.1	
	comp=Z,12nm,0.6s						
CMAR	**Chiang Mai Arr**	**39.55**	**309**	P	**P**	**05 34 38.3**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=136,slow=7.2,SNR=4.8						
	comp=Z,0.8nm,0.4s						
MJAR	**Matsushiro Arr**	**43.13**	**9**	P	**P**	**05 35 06.7**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=178,slow=8.4,SNR=4.2						
	comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**57.82**	**341**	P	**P**	**05 36 58.7**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=186,slow=5.6,SNR=3.7						
	comp=Z,0.6nm,0.4s						
MK31	**Makanchi Array**	**67.79**	**326**	P	**P**	**05 38 04.3**	**+1.0**
MKAR	**Makanchi Array**	**67.79**	**326**	P	**P**	**05 38 03.5**	**+0.2**
MKAR	**Makanchi Array**	**67.79**	**326**	P	**P**	**05 38 04.5**	**+1.2**
	comp=Z,3.0nm,0.5s,baz=125,slow=7.7,SNR=39						
	comp=Z,3.0nm,0.5s						
MAKZ	**Makanchi**	**67.97**	**326**	P	**P**	**05 38 05.2**	**+0.8**
MAKZ				IAmb	IAmb	05 38 06.2	
	comp=Z,2.7nm,0.6s						
ZALV	**Zalesovo Beam**	**71.05**	**333**	P	**P**	**05 38 23.4**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=120,slow=6.0,SNR=5.6						
	comp=Z,1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**72.05**	**328**	P	**P**	**05 38 30.2**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=125,slow=5.4,SNR=12						
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**77.61**	**328**	P	**P**	**05 39 01.9**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=112,slow=7.2,SNR=5.4						
	comp=Z,0.7nm,0.4s						
ABKAR	**Akbulak array**	**82.14**	**321**	P	**P**	**05 39 25.2**	**-0.5**
C19K	**Lookout Ridge**	**88.73**	**20**	P	**P**	**05 39 59.1**	**+1.1**
C19K				IAmb	IAmb	05 40 05.5	
	comp=Z,7.1nm,1.4s						
D19K	**Kuna River**	**89.03**	**20**	P	**P**	**05 40 00.2**	**+0.9**
IMAR	**Indian Mountai**	**89.89**	**23**	P	**P**	**05 40 04.1**	**+0.7**
G23K	**Bananza Creek**	**91.52**	**23**	P	**P**	**05 40 11.8**	**+0.7**
G23K				IAmb	IAmb	05 40 28.4	
	comp=Z,3.5nm,1.4s						
ILAR	**Eielson Array**	**92.44**	**25**	P	**P**	**05 40 15.4**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=267,slow=4.5,SNR=2.8						
	comp=Z,0.3nm,0.7s						
BMAR	**Burnt Mountain**	**93.75**	**23**	P	**P**	**05 40 22.8**	**+1.5**
BELA	**Belgrano 2**	**95.64**	**183**	P	**P**	**05 40 27.2**	**-2.6**
TORD	**Torodi Ar. Bea**	**129.07**	**282**	PKP	**PKiKP**	**05 46 14.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=94,slow=2.5,SNR=2.1						

IDC 28 05:43:13.1±4.0,**6°.37S**×**148°.84E**,**h0**km,**mb3.5**/1, **mbtmp3.6**/2,**ML3.7**/1,**Error ellipse: s-maj=123.9km s-min=50.8km az=113.0**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.50**	**225**	P	P	05 47 42.3	+0.2
	0.2nm,0.3s,baz=51,slow=11,SNR=23						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**22.40**	**218**	P	P	05 48 13.6	+0.1
	1.3nm,0.7s,baz=52,slow=9.5,SNR=17						
	1.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**146.95**	**284**	PKPbc	PKPdf	06 02 57.8	+0.9
	0.1nm,0.3s,baz=74,slow=2.1,SNR=1.0						

*IDC **28** 05:57:29.9±1.7,41°.19N×141°.21E,h102km±14km, mb3.3/12,mbtmp3.7/16,MS2.6/1,Error ellipse: s-maj=17.6km s-min=13.1km az=126.0*
*NIED **28** 05:57:29.7,41°.26N×141°.28E,h94km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}4.97; $M_{\theta\theta}$-4.52; $M_{\phi\phi}$-0.45; $M_{r\theta}$0.30; $M_{\theta\phi}$-0.66; $M_{\phi r}$-0.96; Fault plane solution: $M_0$4.89000×10¹⁴ NP1:ϕ_s91.00000°, δ47.00000°,λ104.00000°. NP2:ϕ_s251.00000°,δ45.00000°, λ75.00000°.*
*JMA **28** 05:57:29.7±0.1,41°.3N±0°.3×141°.3E±0°.6,h94km,MD3.6/39, MV3.5/39,SHIMOKITA PENINSULA REG*
JMA Felt I J1 at SHIMOKITA PENINSULA REG .
ISC 28 05:57:29.4±0.7,**41°.24N**±0°.03×**141°.23E**±0°.05,**h96**km±5km, **n47**, σ0**°.88**/54,**mb3.6**/12,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.09**	**70**	*i P*	**Pn**	**05 57 43.0**	**+0.2**
JAHD				S	**Sn**	**05 57 53.1**	**+0.4**
JOT	**Ohata**	**0.20**	**317**	*i P*	**Pn**	**05 57 43.2**	**+0.2**
JOT				S	**Sn**	**05 57 53.7**	**+0.5**
JARK	**Aomorirokkasho**	**0.25**	**156**	*i P*	**Pn**	**05 57 43.4**	**+0.2**
JARK				S	**Sn**	**05 57 54.1**	**+0.6**
JARK	**Aomorirokkasho**	**0.25**	**156**	A	A	05 57 43.4	
	comp=E,11nm,0.4s,comp=N,9.0nm,0.2s						
JTM	**Tenmabayashi**	**0.47**	**195**	*i P*	**Pn**	**05 57 45.1**	**+0.6**
JTM				S	**Sn**	**05 57 56.5**	**+0.8**
JSI2	**Shiura 2**	**0.64**	**254**	A	A	05 57 46.6	
	comp=E,3.0nm,0.7s,comp=N,6.0nm,0.8s						
JKB	**Kayabe**	**0.67**	**347**	*i P*	**Pn**	**05 57 46.4**	**+0.4**
JKB				*eS*	**Sn**	**05 57 58.6**	**+0.1**
JSR	**Shiriuchi**	**0.68**	**296**	*i P*	**Pn**	**05 57 46.6**	**+0.4**
JSR				S	**Sn**	**05 57 58.6**	**-0.1**
JHHS	**Hirosakihyakuz**	**0.88**	**229**	A	A	05 57 49.0	
	comp=E,10.0nm,0.8s,comp=N,8.0nm,0.7s						
JANG	**Nango**	**0.89**	**166**	*i P*	**Pn**	**05 57 48.7**	**+0.4**
JANG				S	**Sn**	**05 58 02.3**	**-0.2**
JOMM	**Oshimamatsumae**	**0.96**	**288**	*i P*	**Pn**	**05 57 49.5**	**+0.5**
JOMM				S	**Sn**	**05 58 03.7**	**-0.2**
JYM2	**Yakumo 2**	**1.09**	**324**	*i P*	**Pn**	**05 57 51.2**	**+0.7**
JYM2				*eS*	**Sn**	**05 58 07.0**	**+0.6**
JIW	**Iwasaki**	**1.13**	**236**	*i P*	**Pn**	**05 57 51.9**	**+0.9**
JIW				S	**Sn**	**05 58 08.6**	**+1.4**
JAH	**Hinai**	**1.14**	**204**	*i P*	**Pn**	**05 57 52.4**	**+1.3**
JAH				S	**Sn**	**05 58 09.4**	**+2.0**
JNB	**Noboribetsu**	**1.24**	**353**	*i P*	**Pn**	**05 57 52.5**	**+0.3**
JNB				S	**Sn**	**05 58 09.5**	**+0.1**
JIAM	**Iburiatsuma**	**1.48**	**20**	*i P*	**Pn**	**05 57 56.1**	**+1.0**
JIAM				S	**Sn**	**05 58 15.9**	**+1.3**
JNBK	**Urakawa-nobuka**	**1.54**	**47**	P	**Pn**	**05 57 56.1**	**+0.2**
JHST	**Hiyamasetana**	**1.56**	**320**	P	**Pn**	**05 57 56.7**	**+0.6**
JOSM	**Okushiri--Mats**	**1.56**	**303**	P	**Pn**	**05 57 56.2**	**0.0**
JOSM				S	**Sn**	**05 58 16.6**	**+0.1**
JEW	**Eniwo**	**1.61**	**6**	*i P*	**Pn**	**05 57 57.5**	**+0.8**
JEW				S	**Sn**	**05 58 18.2**	**+0.7**
JOM	**Ohasama**	**1.76**	**178**	*i P*	**Pn**	**05 57 59.8**	**+1.1**
ASAJ	**Asahikawa**	**3.05**	**19**	P	**Pn**	**05 58 15.8**	**+0.2**
	comp=N,11nm,0.3s,baz=211,slow=11,SNR=17						
ASAJ				S	**Sn**	**05 58 53.7**	**+2.4**
	comp=N,15nm,0.4s,baz=252,slow=20,SNR=4.0						
MJAR	**Matsushiro Arr**	**5.25**	**208**	P	**Pn**	**05 58 45.2**	**-0.2**
	comp=N,1.9nm,0.3s,baz=324,slow=16,SNR=2.5						
USRK	**Ussuriysk Ar.**	**7.42**	**297**	P	**Pn**	**05 59 17.0**	**+2.1**
	comp=N,2.6nm,0.5s,baz=102,slow=14,SNR=8.5						
KLR	**Kul'dur**	**10.41**	**323**	P	**Pn**	**05 59 57.2**	**+1.7**
	comp=N,0.8nm,0.3s,baz=136,slow=16,SNR=6.4						
KLR				LR	LR	06 03 36.5	
	comp=N,28nm,18.6s,baz=266,slow=35						
H11N2	**WAKE ISLAND Hy 30.60**	**127**		T	T	06 35 25.3	
	baz=321,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy 30.61**	**127**		T	T	06 35 26.1	
	baz=321,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy 30.62**	**127**		T	T	06 35 26.7	
	baz=321,slow=75,SNR=9.5						
H11S1	**WAKE ISLAND Hy 31.43**	**129**		T	T	06 36 52.2	
	baz=323,slow=76,SNR=9.8						
H11S3	**WAKE ISLAND Hy 31.43**	**129**		T	T	06 37 15.8	
	baz=323,slow=76,SNR=5.7						
H11S2	**WAKE ISLAND Hy 31.44**	**129**		T	T	06 37 07.6	
	baz=323,slow=76,SNR=7.4						
ZALV	**Zalesovo Beam**	**39.08**	**309**	P	**P**	**06 04 46.5**	**-0.3**
	comp=N,0.9nm,0.6s,baz=96,slow=9.1,SNR=3.8						
ZALV				PcP	**PcP**	**06 06 54.4**	**-0.3**
	comp=N,0.7nm,0.4s,baz=100,slow=4.8,SNR=2.7						
	comp=N,0.9nm,0.6s						
MKAR	**Makanchi Array**	**41.89**	**298**	P	**P**	**06 05 10.0**	**-0.1**
	comp=N,0.7nm,0.7s,baz=85,slow=10.0,SNR=6.3						
	comp=N,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**43.40**	**305**	P	**P**	**06 05 22.1**	**-0.1**
	comp=N,0.6nm,0.3s,baz=80,slow=9.2,SNR=7.6						
	comp=N,0.6nm,0.3s						
ILAR	**Eielson Array**	**46.07**	**34**	P	**P**	**06 05 43.6**	**+0.4**
	comp=N,1.0nm,0.6s,baz=268,slow=6.1,SNR=23						
ILAR				PcP	**PcP**	**06 07 16.6**	**-1.3**
	comp=N,0.2nm,0.7s,baz=279,slow=3.6,SNR=2.6						
	comp=N,1.0nm,0.6s						
BVAR	**Borovoye Array**	**47.71**	**310**	P	**P**	**06 05 56.0**	**-0.2**
	comp=N,0.3nm,0.3s,baz=82,slow=9.6,SNR=3.0						
	comp=N,0.3nm,0.3s						
WRA	**Warramunga Arr**	**61.20**	**187**	P	**P**	**06 07 33.0**	**-1.0**
	comp=N,0.4nm,0.6s,baz=4.6,slow=7.0,SNR=8.3						
WRA				pP	**pP**	**06 07 56.5**	**-1.4**
	comp=N,0.2nm,0.4s,baz=3.2,slow=7.3,SNR=2.5						
	comp=N,0.4nm,0.6s						
ASAR	**Alice Springs**	**64.93**	**187**	P	**P**	**06 07 58.5**	**-0.3**
	comp=N,0.2nm,0.5s,baz=14,slow=6.4,SNR=1.9						
	comp=N,0.2nm,0.5s						
FINES	**FINESS Array B**	**65.05**	**331**	P	**P**	**06 07 58.5**	**-0.5**
	comp=N,1.7nm,1.0s,baz=48,slow=7.8,SNR=4.0						
	comp=N,1.7nm,1.0s						
NOA	**NORSAR Array B**	**70.27**	**337**	P	**P**	**06 08 30.8**	**-1.1**
	comp=N,0.5nm,0.7s,baz=41,slow=6.1,SNR=3.3						
	comp=N,0.5nm,0.7s						
NVAR	**Mina Array Bea**	**72.61**	**54**	P	**P**	**06 08 47.5**	**+0.8**
	comp=N,0.5nm,0.6s,baz=307,slow=7.5,SNR=5.3						
	comp=N,0.5nm,0.6s						
PDAR	**Pinedale Array**	**74.84**	**46**	P	**P**	**06 09 00.1**	**+0.4**
	comp=N,0.4nm,0.6s,baz=282,slow=4.0,SNR=6.1						
	comp=N,0.4nm,0.6s						
TXAR	**Lajitas Array**	**87.67**	**52**	P	**P**	**06 10 07.8**	**+0.3**
	comp=N,0.1nm,0.5s,baz=284,slow=3.2,SNR=3.6						
	comp=N,0.1nm,0.5s						
SNAA	**Sanae**	**144.70**	**199**	PKP	**PKPab**	**06 16 52.4**	**-0.3**
	comp=N,0.9nm,0.5s,baz=189,slow=4.8,SNR=6.9						
H03N2	**Juan Fernandez**	**147.36**	**89**	T	T	09 02 01.5	
	baz=300						
H03N3	**Juan Fernandez**	**147.38**	**89**	T	T	09 02 05.3	
	baz=300						
H03N1	**Juan Fernandez**	**147.38**	**89**	T	T	09 02 03.5	
	baz=300						

IDC 28 06:10:13.8±1.5,**61°.21N**×**27°.83W**,**h0**km,**mb3.5**/3, **mbtmp3.5**/3,**MS3.1**/8,**Error ellipse: s-maj=48.3km s-min=35.4km az=22.0**,**Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**11.48**	**310**	LR	LR	06 16 48.9	
	comp=Z,82nm,18.9s,baz=118,slow=34						
NOA	**NORSAR Array B**	**18.67**	**73**	LR	LR	06 21 16.6	
	comp=Z,26nm,18.0s,baz=295,slow=36						
HFS	**Hagfors**	**20.13**	**75**	LR	LR	06 20 58.3	
	comp=Z,28nm,20.3s,baz=8.0,slow=32						
VRAC	**Vranov**	**27.39**	**95**	LR	LR	06 27 42.4	
	comp=Z,20nm,19.5s,baz=308,slow=38						
TKL	**Tuckaleechee C**	**43.23**	**260**	LR	LR	06 33 44.7	
	comp=Z,25nm,18.9s,baz=308,slow=33						
PDAR	**Pinedale Array**	**49.96**	**288**	P	P	06 19 09.3	-0.1
	0.4nm,0.7s,baz=47,slow=6.5,SNR=4.3						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**52.55**	**143**	P	P	06 19 28.6	-0.1
	0.8nm,0.9s,baz=354,slow=7.9,SNR=4.4						
	0.8nm,0.9s						
ELK	**Elko**	**54.16**	**291**	LR	LR	06 41 37.6	
	comp=Z,35nm,19.3s,baz=353,slow=35						
ANMO	**Albuquerque**	**54.73**	**279**	LR	LR	06 42 42.3	
	comp=Z,35nm,18.5s,baz=258,slow=36						
MKAR	**Makanchi Array**	**58.58**	**49**	P	P	06 20 11.8	0.0
	0.4nm,0.7s,baz=338,slow=7.2,SNR=5.1						
	0.4nm,0.7s						
LPIG	**La Paz**	**65.59**	**276**	LR	LR	06 49 38.2	
	comp=Z,33nm,18.4s,baz=186,slow=36						

*ECX **28** 06:11:31.0±0.5,30°.87N×114°.35W,h2km±4km,ML3.2*
*MEX **28** 06:11:35.7±0.4,30°.91N×114°.37W,h7km±2km,MD3.9*
ISC 28 06:11:34.4±1.1,**30°.94N**±0°.05×**114°.37W**±0°.03, **h10**km±10km,**n13**, σ3**°.15**/20,**1C-6D**,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.42**	**284**	*eP*	**Pg**	**06 11 43.5**	**+0.8**
SFX				*i S*

KKO	Keanakako`i	0.01 138			Pg	06 27 39.1	-2.9
RIM	Rim	0.01 218			Pg	06 27 38.7	-3.2
BYL	Byron's Ledge	0.01 39		Pg	Pg	06 27 39.1	-2.9
OBL	Observatory Le	0.02 319			Pg	06 27 39.2	-2.8
HATHI	Halema'uma'u T	0.02 20			Pg	06 27 39.3	-2.7
UWB	Uwekahuna B	0.03 340			Pg	06 27 39.4	-2.7
SBLHI	Steaming Bluff	0.03 3			Pg	06 27 39.5	-2.5
SDHHI	Sand Hill	0.03 244			Pg	06 27 39.0	-3.0
UWE	Uwekahuna	0.03 311			Pg	06 27 39.3	-2.7
WRMHI	West Rim	0.03 280			Pg	06 27 39.0	-3.0
PUH	Pauahi	0.06 118			Pg	06 27 40.3	-1.9
PUH				IAML		06 27 41.5	
	comp=E,12μm,0.7s						
PUH				IAML		06 27 41.6	
	comp=N,7μm,0.5s						
RSD	Rainshed	0.06 352		Pg	Pg	06 27 40.2	-2.2
RSD				IAML		06 27 41.4	
	comp=E,3μm,0.6s						
RSD				IAML		06 27 41.6	
	comp=N,5μm,0.5s						
KNHH	Kane Nui o Ham	0.10 103			Pg	06 27 41.2	-1.5
HLP	Hilina Pali	0.11 199			Pg	06 27 41.1	-1.7
HLP				IAML		06 27 43.4	
	comp=E,9μm,0.8s						
HLP				IAML		06 27 43.5	
	comp=N,10μm,0.8s						
STCH	Steam Cracks	0.14 97			Pg	06 27 41.6	-1.6
STCH				IAML		06 27 45.8	
	comp=E,7μm,1.0s						
MLH	Mauna Loa	0.14 310			Pg	06 27 41.7	-1.7
MLH				IAML		06 27 45.6	
	comp=N,6μm,0.6s						
MLH				IAML		06 27 45.7	
	comp=E,4μm,0.7s						
NPOC	North of Pu'u	0.15 93			Pg	06 27 42.3	-1.2
JCUZ	Jacuzzi	0.16 96			Pg	06 27 42.4	-1.2
HTC	Hot Caves	0.20 217			Pg	06 27 43.0	-1.3
JOKA	Jonika Flow	0.25 83			Pg	06 27 43.8	-1.4
JOKA				IAML		06 27 49.2	
	comp=N,4μm,0.8s						
JOKA				IAML		06 27 50.8	
	comp=E,2μm,0.8s						
HMH	Humu'ula Sheep	0.28 315			Pg	06 27 45.2	-0.7
HMH				IAML		06 27 53.2	
	comp=E,3μm,1.1s						
HMH				IAML		06 27 53.7	
	comp=N,3μm,0.9s						
MLOA	Mauna Loa Obse	0.32 295		Pg	Pg	06 27 45.7	-0.9
MLOA				IAML		06 27 54.5	
	comp=N,3μm,1.0s						
MLOA				IAML		06 27 54.6	
	comp=E,2μm,1.0s						
MWH	Moku'aweowe	0.32 285			Pg	06 27 45.7	-1.0
KHU	Kahuku	0.36 245		Pg	Pg	06 27 45.9	-1.4
KHU				IAML		06 27 55.6	
	comp=E,2μm,0.7s						
KHU				IAML		06 27 56.0	
	comp=N,2μm,1.1s						
ALEP	Alea Permanent	0.38 292			Pg	06 27 46.5	-1.2
ALEP					Sg	06 27 52.4	-0.4
POHA	Pohakuloa	0.43 325		Pg	Pg	06 27 47.6	-1.0
HUH	Hualalai	0.60 298			Pg	06 27 50.8	-1.0
I59US	HAWAII INFRASO	0.62 288		Pg	Pg	06 27 51.4	-0.7
	baz=116,slow=59						
HPAH	Hawaii Prepara	0.74 327			Sg	06 28 02.4	-1.8
HPAH	Hawaii Prepara	0.74 327		Pg	Pg	06 27 52.3	-2.1
MHA	Mahukona	0.98 323			Sn	06 28 15.6	+1.7
H11N3	WAKE ISLAND Hy	35.59 277		T	T	07 12 44.4	
	baz=82,slow=74						
H11N2	WAKE ISLAND Hy	35.60 277		T	T	07 12 44.1	
	baz=82,slow=74						
H11N1	WAKE ISLAND Hy	35.61 277		T	T	07 12 45.9	
	baz=82						
PDAR	Pinedale Array	44.87 48		P	P	06 35 55.9	+1.0
	comp=N,0.1nm,0.3s,baz=252,slow=7.4,SNR=2.3						
	comp=N,0.1nm,0.3s						
ILAR	Eielson Array	45.69 5		P	P	06 36 01.0	+0.1
	comp=N,0.3nm,0.8s,baz=184,slow=6.4,SNR=4.4						
	comp=N,0.3nm,0.8s						
TXAR	Lajitas Array	47.71 68		P	P	06 36 18.8	+1.5
	comp=N,0.9nm,0.8s,baz=252,slow=8.5,SNR=15						
	comp=N,0.9nm,0.8s						
H03N2	Juan Fernandez	89.69 126		T	T	08 20 32.2	
	baz=299						
H03N3	Juan Fernandez	89.71 126		T	T	08 20 35.2	
	baz=299						
H03N1	Juan Fernandez	89.71 126		T	T	08 20 34.0	
	baz=299						

IDC 28 06:28:08.2±2.1, 28°.58S×62°.49E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=94.3km s-min=39.6km az=21.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	19.47	203	T	T	06 52 51.1	
	baz=30,slow=74,SNR=17						
H04N1	CROZET ISLANDS	19.47	203	T	T	06 52 52.1	
	baz=30,slow=74,SNR=17						
H04N3	CROZET ISLANDS	19.49	203	T	T	06 52 51.9	
	baz=30,slow=74,SNR=18						
WRA	Warramunga Arr	65.22	100	P	P	06 38 51.9	0.0
	0.5nm,1.0s,baz=247,slow=5.6,SNR=4.5						
	0.5nm,1.0s						
TORD	Torodi Ar. Bea	71.91	297	P	P	06 39 33.7	0.0
	0.5nm,0.8s,baz=114,slow=7.1,SNR=2.7						
	0.5nm,0.8s						
MKAR	Makanchi Array	77.13	14	P	P	06 40 03.4	+0.1
	0.3nm,0.7s,baz=181,slow=5.8,SNR=2.7						
	0.3nm,0.7s						

*KRNET **28** 06:31:13.2±0.1, 40°.26N×74°.60E, h13km, mb3.0*
*SOME **28** 06:31:14.1, 40°.38N×74°.52E, h0km*
*NNC **28** 06:31:15.2±1.1, 40°.33N×74°.57E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=7.7km s-min=5.5km az=171.0*

ISC 28 06:31:11.7±1.4, 40°.26N±0°.05×74°.59E±0°.02, h16km±12km, n53, σ1§25/85, 26C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.87	254	⇓iP		06 31 29.9	+0.4
	baz=54						
SFK				⇓iS		06 31 42.2	+0.2
	baz=54						
OHH	Osh	1.41	281	⇑iP		06 31 39.7	+0.9
	baz=81						
OHH				⇑iS		06 31 59.2	+2.1
	baz=81						
NRN	Naryn	1.58	42	⇑iP		06 31 42.4	+0.2
	baz=41						
NRN				⇑iS		06 32 03.8	+1.0
	baz=41						
ARLS	Aral	1.61	353	⇑iP		06 31 43.4	+0.7
	baz=53						
ARLS				⇑iS		06 32 05.2	+1.6
	baz=53						
ARSB	Arslanbob	1.62	311	⇑eP		06 31 43.4	+0.6
	baz=11						
ARSB				⇑eS		06 32 06.2	+2.3
	baz=11						
AML	Almayashu	1.99	340	P		06 31 50.8	+0.9
	SNR=18						
AML	Almayashu	1.99	340	⇑iP		06 31 50.4	+0.5
	baz=40						
AML				⇑iS		06 32 17.2	+1.5
	baz=40						
ULHL	Ulahol	2.34	32	P		06 31 57.5	+1.0
	SNR=16						
ULHL	Ulahol	2.34	32	⇓iP		06 31 54.8	+1.2
	baz=31						
ULHL				⇓iS		06 32 25.3	-1.6
	baz=31						
AAK	Ala-Archa	2.37	358	P		06 31 58.8	+1.6
	SNR=12						
AAK	Ala-Archa	2.37	358	Pg		06 31 57.6	+0.4
	18nm,0.6s						
AAK				Lg		06 32 30.1	
	22nm,0.5s						
AAK	Ala-Archa	2.37	358	⇑iP		06 31 55.3	+1.2
	baz=58						
AAK				⇑iS		06 32 25.9	-2.1
	baz=58						
KBK	Karagaybulak	2.41	6	P		06 31 58.1	+0.3
	SNR=8.6						
KBK	Karagaybulak	2.41	6	⇓eP		06 31 56.0	+1.3
	baz=6.0						
KBK				⇓iS		06 32 26.9	-2.2
	baz=6.0						
BOOM	Boomskoye usch	2.44	24	⇑iP		06 31 56.4	+1.0
	baz=24						
BOOM				⇑iS		06 32 27.7	+2.4
	baz=24						
EKS2	Erkin-Say	2.47	346	⇓iP		06 31 56.6	+0.8
	baz=46						
EKS2				⇓iS		06 32 28.4	-2.8
	baz=46						
ARK	Arkit	2.51	308	⇓iP		06 31 57.2	+0.7
	baz=9.0						
ARK				⇓iS		06 32 29.3	-3.1
	baz=9.0						
MRKS	Merke	2.68	338	eP		06 32 01.9	-1.2
	14nm,0.5s						
MRKS				eS		06 32 36.5	-1.4
	14nm,0.4s						
MRKS	Merke	2.68	338	Pg		06 32 01.9	-1.2
	14nm,0.5s						
MRKS				Lg		06 32 36.5	
	14nm,0.4s						
KDJ	Kajisay	2.70	45	⇑iP		06 32 00.0	+0.3
	baz=46						
KDJ				⇑iS		06 32 34.1	+1.4
	baz=46						
MNAS	Manas	2.72	325	⇓eP		06 32 00.2	+0.1
	baz=25						
MNAS				⇓eS		06 32 34.7	+1.4
	baz=25						
CHMS	Chumysh	2.74	2	⇓Pg		06 32 04.1	-0.1
	7.1nm,0.5s						
CHMS				⇓Lg		06 32 40.8	
	17nm,0.6s						
CHMS	Chumysh	2.74	2	⇑iP		06 32 00.4	+0.2
	baz=2.0						
CHMS				⇑iS		06 32 34.8	+1.2
	baz=2.0						
TKM2	Tokmak 2	2.76	15	P		06 32 05.3	+0.7
	SNR=30						
TKM2	Tokmak 2	2.76	15	⇑Pg		06 32 03.2	-1.4
	9.6nm,0.3s						
TKM2				⇑Lg		06 32 41.2	
	22nm,0.6s						
TARG	Taragay, Kyrgy	2.84	58	⇑eP		06 32 02.0	-0.2
	baz=58						
TARG				⇑iS		06 32 37.2	+0.3
	baz=58						
TRKS	Terek-Say	2.91	297	⇑iP		06 32 02.1	-1.1
	baz=96						
TRKS				⇑iS		06 32 37.8	-0.8
	baz=96						
KST	Kastek	2.96	20	eP		06 32 08.8	+0.3
	8.2nm,0.3s						
KST				eS		06 32 48.2	+1.4
	91nm,1.0s						
KST	Kastek	2.96	20	Pg		06 32 08.8	+0.3
	8.2nm,0.3s						
KST				Lg		06 32 48.3	
	91nm,1.0s						
USP	Ospenovka	3.00	359	P		06 32 09.6	+0.4
	SNR=8.6						
DGS	Degeres	3.10	16	eP		06 32 11.3	+0.2
	28nm,0.7s						
DGS				eS		06 32 52.9	+1.5
	60nm,0.7s						
DGS	Degeres	3.10	16	Pg		06 32 11.4	+0.2
	28nm,0.7s						
DGS				Lg		06 32 52.9	
	60nm,0.7s						
MTBS	Maitube	3.18	25	eP		06 32 12.7	+0.1
	8.5nm,0.8s						
MTBS				eS		06 32 54.6	+0.9
	38nm,0.6s						
MTBS	Maitube	3.18	25	Pg		06 32 12.7	+0.1
	8.5nm,0.8s						
MTBS				Lg		06 32 54.6	
	38nm,0.6s						
TNSS	Tian-Shan	3.29	32	eP		06 32 14.9	+0.3
	5.5nm,0.7s						
TNSS				eS		06 32 58.3	+1.0
	9.0nm,0.6s						
TNSS	Tian-Shan	3.29	32	Pg		06 32 14.9	+0.3
	5.5nm,0.7s						
TNSS				Lg		06 32 58.3	
	9.0nm,0.6s						
MDOK	Medeo	3.43	32	eP		06 32 17.0	-0.4
	7.4nm,0.7s						
MDOK				eS		06 33 01.9	0.0
	23nm,0.9s						
MDOK	Medeo	3.43	32	⇑Pg		06 32 16.9	-0.5
	6.2nm,0.6s						
MDOK				Pg		06 32 17.0	-0.4
	7.4nm,0.7s						
MDOK				⇓Lg		06 33 01.0	
	20nm,0.7s						
MDOK				Lg		06 33 01.9	
	23nm,0.9s						
KOTS	Kotyrbulak	3.52	32	eP		06 32 19.4	+0.3
	12nm,0.6s						
KOTS				eS		06 33 06.4	+1.7
	52nm,0.8s						
KOTS	Kotyrbulak	3.52	32	Pg		06 32 19.4	+0.3
	12nm,0.6s						
KOTS				Lg		06 33 06.4	
	52nm,0.8s						
KRBS	Karabastau	3.52	13	eP		06 32 17.8	-1.4
	14nm,0.7s						
KRBS				eS		06 33 03.5	-1.4
	12nm,0.5s						
KRBS	Karabastau	3.52	13	Pg		06 32 17.8	-1.4
	14nm,0.7s						
KRBS				Lg		06 33 03.5	
	12nm,0.5s						
KTBS	Karatobe	3.78	24	eP		06 32 23.3	-0.8
	6.5nm,0.6s						
KTBS				eS		06 33 12.8	-0.3
	22nm,0.6s						
KTBS	Karatobe	3.78	24	Pg		06 32 23.3	-0.8
	6.5nm,0.6s						
KTBS				Lg		06 33 12.8	
	22nm,0.6s						
IUG	Iuzhnay	3.92	300	eP		06 32 26.0	-0.8
	16nm,0.3s						
IUG				eS		06 33 17.8	+0.2
	33nm,0.5s						
CHKK	Chushkaly	4.01	26	eP		06 32 27.6	-0.8
	3.3nm,0.4s						
CHKK				eS		06 33 20.3	0.0
	9.5nm,0.3s						
CHKK	Chushkaly	4.01	26	Pg		06 32 27.6	-0.8
	3.3nm,0.4s						
CHKK				Lg		06 33 20.3	
	9.5nm,0.3s						
KK31	Karatay Array	4.17	314	⇓Pg		06 32 30.7	-0.8
	0.7nm,0.4s,baz=128,slow=16,SNR=7.6						
KK31				⇑Lg		06 33 24.8	
	6.5nm,0.7s,baz=130,slow=28,SNR=8.8						
KURS	Kuram	4.18	38	eP		06 32 30.4	-1.4
	2.9nm,0.3s						
KURS				eS		06 33 25.3	-0.8
	5.7nm,0.7s						
KURS	Kuram	4.18	38	Pg		06 32 30.4	-1.4
	2.9nm,0.3s						
KURS				Lg		06 33 25.3	
	5.7nm,0.7s						
BTLS	Baital	4.79	355	eP		06 32 40.8	-2.6
	0.7nm,0.1s						
BTLS				eS		06 33 42.9	-2.6
	4.0nm,0.6s						
KTMS	Ketmen	5.35	52	eP		06 32 52.4	-1.6
	0.3nm,0.1s						
KTMS				eS		06 34 02.5	-0.8
	1.9nm,0.1s						
KTMS	Ketmen	5.35	52	Pg		06 32 51.7	-2.4
	0.6nm,0.6s						
KTMS				Lg		06 34 01.4	
	1.8nm,0.9s						

*IDC **28** 06:39:37.1±1.1, 2°.43S×139°.02E, h0km, mb3.8/9, mbtmp3.8/10, ML3.9/1, Error ellipse: s-maj=62.4km s-min=19.7km az=83.0*

ISC 28 06:39:42.8±1.0, 2°.63S±0°.09×138°.5E±0°.4, h35km, n10, σ2§10/12, mb3.7/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.69	193	P	P	06 43 47.7	+0.5
	0.5nm,0.3s,baz=8.7,slow=12,SNR=26						
WRA				S	Sn	06 46 58.0	-4.8
	1.2nm,0.7s,baz=11,slow=24,SNR=4.0						
	1.3nm,0.6s						
ASAR	Alice Springs	21.39	192	P	P	06 44 29.8	+2.2
	1.8nm,0.6s,baz=16,slow=10,SNR=16						
ASAR				S	S	06 48 24.6	+1.3
	0.4nm,0.7s,baz=6.8,slow=25,SNR=2.7						
	1.8nm,0.6s						
SONM	Songino Array	57.57	335	P	P	06 49 28.7	-0.5
	0.3nm,0.6s,baz=141,slow=7.4,SNR=1.5						
	0.3nm,0.6s						
MKAR	Makanchi Array	69.61	322	P	P	06 50 49.6	+1.0
	0.7nm,0.6s,baz=111,slow=8.1,SNR=11						
	0.7nm,0.6s						
ZALV	Zalesovo Beam	71.78	330	P	P	06 51 01.5	-0.1
	0.4nm,0.2s,baz=104,slow=6.1,SNR=1.5						
	0.4nm,0.2s						
KURBB	Kurchatov Arra	73.56	325	P	P	06 51 12.7	+0.5
	0.2nm,0.3s,baz=114,slow=5.3,SNR=1.4						
	0.2nm,0.3s						
VNDA	Vanda	75.88	175	P	P	06 51 26.8	+1.6
	0.4nm,0.8s,baz=338,slow=8.5,SNR=1.9						
	0.4nm,0.8s						
BVAR	Borovoye Array	79.14	325	P	P	06 51 44.4	+0.5
	1.1nm,0.5s,baz=98,slow=6.6,SNR=5.9						
	1.1nm,0.5s						
ILAR	Eielson Array	85.83	24	P	P	06 52 16.1	-2.4
	0.4nm,0.8s,baz=261,slow=3.6,SNR=4.5						
	0.4nm,0.8s						
QSPA	South Pole Qui	87.32	180	P	P	06 52 26.5	+0.5
	1.1nm,0.9s,baz=280,slow=3.9,SNR=3.1						
	1.1nm,0.9s						

*IDC **28** 06:43:46.4±1.0, 22°.84S×69°.74E, h0km, mb3.9/9, mbtmp3.9/9, MS3.6/10, Error ellipse: s-maj=35.7km s-min=23.9km az=50.0*

ISC 28 06:43:48.0±1.0, 22°.9S±0°.2×69°.8E±0°.2, h10km, n26, σ1§18/9, mb4.0/9, MS3.6/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	15.37	10	T	T	07 03 05.3	
	baz=192,slow=76,SNR=604						
H08S2	Diego Garcia H	15.37	10	T	T	07 03 09.0	
	baz=192,slow=76,SNR=556						
H08S3	Diego Garcia H	15.39	10	T	T	07 03 10.2	
	baz=192,slow=76,SNR=492						
H04N2	CROZET ISLANDS	27.42	208	T	T	07 18 04.2	
	baz=37,slow=75,SNR=1344						
H04N1	CROZET ISLANDS	27.43	208	T	T	07 18 03.7	
	baz=37,slow=75,SNR=906						
H04N3	CROZET ISLANDS	27.44	208	T	T	07 18 03.8	
	baz=37,slow=75,SNR=1282						
LBTB	Lobatse	40.30	258	LR	LR	07 05 22.0	
	comp=Z,71nm,18.9s,baz=126,slow=32						
BOSA	Boshof	40.33	252	LR	LR	07 04 40.5	
	comp=Z,77nm,21.8s,baz=80,slow=31						
H01W2	Cape Leeuwin H	40.34	117	T	T	07 34 51.3	
	baz=275,slow=75,SNR=15						
H01W3	Cape Leeuwin H	40.34	117	T	T	07 34 44.0	
	baz=275,slow=75,SNR=13						
H01W1	Cape Leeuwin H	40.36	117	T	T	07 34 44.3	
	baz=275,slow=75,SNR=19						
FURI	Furi	43.87	313	LR	LR	07 08 10.4	
	comp=Z,82nm,18.8s,baz=194,slow=33						
SUR	Sutherland	44.08	247	LR	LR	07 07 46.8	
	comp=Z,46nm,18.7s,baz=104,slow=33						
TSUM	Tsumeb	48.65	264	LR	LR	07 10 44.0	
	comp=Z,87nm,18.3s,baz=144,slow=33						
ASAR	Alice Springs	58.44	105	P	P	06 53 45.5	+1.0
	1.1nm,0.8s,baz=256,slow=6.8,SNR=7.6						
	1.1nm,0.8s						
WRA	Warramunga Arr	59.75	100	P	P	06 53 54.2	+0.7
	1.8nm,0.8s,baz=258,slow=7.0,SNR=11						
WRA				LR	LR	07 15 24.2	
	comp=Z,204nm,19.9s,baz=224,slow=32						
	1.8nm,0.8s						
QSPA	South Pole Qui	67.24	180	P	P	06 54 41.2	-1.2
	1.4nm,0.9s,baz=292,slow=5.4,SNR=3.1						
	1.4nm,0.9s						
MKAR	Makanchi Array	70.27	9	P	P	06 55 00.0	-1.2
	0.9nm,0.8s,baz=182,slow=4.2,SNR=9.0						
	0.9nm,0.8s						
CTA	Charters Tower	70.44	104	LR	LR	07 22 30.7	
	comp=Z,6.4nm,20.7s,baz=272,slow=33						
BRTR	Keskin Array B	70.84	331	P	P	06 55 04.1	-1.0
	0.5nm,0.7s,baz=158,slow=5.9,SNR=2.6						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	73.59	6	P	P	06 55 21.6	+0.5
	0.3nm,0.2s,baz=188,slow=6.4,SNR=1.9						
	0.3nm,0.2s						
TORD	Torodi Ar. Bea	75.64	291	P	P	06 55 35.5	+1.7
	0.6nm,0.8s,baz=106,slow=5.8,SNR=3.6						
TORD				LR	LR	07 26 11.8	
	comp=Z,29nm,20.8s,baz=134,slow=34						
	0.6nm,0.8s						
ZALV	Zalesovo Beam	77.61	9	P	P	06 55 44.1	+0.1
	0.6nm,0.4s,baz=209,slow=6.3,SNR=1.9						
	0.6nm,0.4s						
SONM	Songino Array	77.70	24	P	P	06 55 44.6	-0.3
	0.4nm,0.4s,baz=219,slow=3.7,SNR=1.6						
	0.4nm,0.4s						
DBIC	Dimbokro	78.57	282	LR	LR	07 27 36.9	
	comp=Z,49nm,20.7s,baz=134,slow=34						
ESDC	Sonseca Array	92.67	312	LR	LR	07 40 56.5	
	comp=Z,18nm,18.0s,baz=124,slow=37						

IDC 28 06:53:16.6±12.0, 23°.01S×69°.52E, h0km, mb3.6/5, mbtmp3.6/5, MS3.7/2, Error ellipse: s-maj=413.1km s-min=34.3km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	15.54	11	T	T	07 12 34.3	
	baz=192,slow=76,SNR=220						
H08S2	Diego Garcia H	15.54	11	T	T	07 12 34.6	
	baz=192,slow=76,SNR=217						
H08S3	Diego Garcia H	15.56	11	T	T	07 12 35.8	
	baz=192,slow=76,SNR=276						
H04N2	CROZET ISLANDS	27.20	208	T	T	07 27 38.2	
	baz=37,slow=75,SNR=137						
H04N1	CROZET ISLANDS	27.20	208	T	T	07 27 38.9	
	baz=37,slow=75,SNR=92						
H04N3	CROZET ISLANDS	27.22	208	T	T	07 27 35.3	
	baz=37,slow=75,SNR=111						
LBTB	Lobatse	40.04	258	LR	LR	07 13 43.8	
	comp=Z,55nm,19.7s,baz=139,slow=31						
H01W2	Cape Leeuwin H	40.50	117	T	T	07 44 25.5	
	baz=274						
H01W3	Cape Leeuwin H	40.50	117	T	T	07 44 23.9	
	baz=274						
H01W1	Cape Leeuwin H	40.51	117	T	T	07 44 22.0	
	baz=274						
ASAR	Alice Springs	58.65	104	P	P	07 03 15.9	-0.3
	0.5nm,0.9s,baz=262,slow=6.5,SNR=3.4						
	0.5nm,0.9s						
WRA	Warramunga Arr	59.96	100	P	P	07 03 25.6	+0.3
	0.8nm,0.7s,baz=253,slow=7.2,SNR=6.2						
	0.8nm,0.7s						
MKAR	Makanchi Array	70.43	9	P	P	07 04 32.3	-0.3
	0.4nm,0.7s,baz=176,slow=4.3,SNR=3.7						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	73.74	6	P	P	07 04 53.0	+0.8
	0.2nm,0.4s,baz=191,slow=7.0,SNR=5.4						
	0.2nm,0.4s						
PMG	Port Moresby	75.07	94	LR	LR	07 38 08.4	
	comp=Z,98nm,19.1s,baz=191,slow=36						
SONM	Songino Array	77.91	24	P	P	07 05 15.5	-0.9
	0.3nm,0.4s,baz=204,slow=6.4,SNR=1.8						
	0.3nm,0.4s						

*IDC **28** 06:58:50.8±0.7, 3°.36S×151°.02E, h0km, mb4.1/18, mbtmp4.1/18, MS3.7/42, Error ellipse: s-maj=28.7km s-min=15.5km az=97.0*
*BJI **28** 06:58:52.7±0.0, 3°.19S×150°.70E, h6km, mb4.8/25, mB4.9/8, Ms4.5/1, Ms7 4.3/2*
*NEIC **28** 06:58:52.5±2.1, 3°.24S±0°.08×151°.11E±0°.07, h10km±1km, mb4.7/28, Error ellipse: s-maj=15.5km s-min=8.9km az=211.0*

GCMT ***28*** *06:58:57.5±0.3, 3°.30S±0°.01×150°.75E±0°.02, h22km±1km, MW4.9/91, Moment Tensor Solution. s15,c18; s91,c126; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.35±.16; Mθθ 1.00±.11; Mφφ=0.64±.11; Mrθ 0.09±.20; Mrφ 2.50±.09; Mθφ 0.28±.16; Best double couple: M=2.64700×10 16 NP1:φs 189.00000°, δ90.00000°, λ-174.00000°. NP2: φs 99.00000°, δ84.00000°, λ0.00000°. Principal axes: T 2.8260, Plg4.0000°, Azm324.0000°; N -0.3580, Plg84.0000°, Azm192.0000°; P -2.4690, Plg5.0000°, Azm54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***28*** *06:59:07.8±0.6, 4°.5S±5°.5×15°.0E±°, h43km±6km, M5.0/18, mB5.9/4, mb4.7/18, Mw(mB)5.5/4*

ISC 28 06:58:52.8±0.4, 3°.28S±0°.06×151°.10E±0°.06, h10km, n112, σ1§81/75, mb4.5/41, MS3.8/41, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res ISC
RABL	**Rabaul**	**1.39**	**130**	Pn		**Pn**		**06 59 18.0**	**-0.3**
MANU	**Manus Island**	**3.93**	**288**			**Pn**		**06 59 51.8**	**-1.4**
PMG	**Port Moresby**	**7.24**	**213**	Pn		**Pn**		**07 00 39.8**	**+1.1**
PMG	**Port Moresby**	**7.24**	**213**	Pn		**Pn**		**07 00 40.1**	**+1.4**
	3.5nm,0.3s,baz=37,slow=5.4,SNR=36								
PMG				LR		LR		07 03 30.7	
	comp=Z,706nm,19.9s,baz=48,slow=39								
JAY	**Jayapura**	**10.41**	**274**	P		**Pn**		**07 01 26.4**	**+4.1**
HNR	**Honiara**	**10.70**	**125**	Pn		**Pn**		**07 01 25.9**	**-0.4**
HNR	**Honiara**	**10.70**	**125**	LR		LR		07 05 47.9	
	comp=Z,13μm,18.1s,baz=305,slow=39								
GENI	**Genyem**	**10.94**	**273**	P		**Pn**		**07 01 33.7**	**+4.2**
	28nm,0.6s,2μm								
COEN	**Coen**	**13.18**	**216**	Pn		**Pn**		**07 02 00.6**	**+0.4**
CTA	**Charters Tower**	**17.36**	**195**	P		**P**		**07 02 56.4**	**-0.3**
	0.3nm,1.0s,baz=23,slow=9.6,SNR=4.3								
CTA				LR		LR		07 08 36.6	
	comp=Z,17nm,20.6s,baz=5.5,slow=34								
CTAO	**Charters Tower**	**17.36**	**195**	P		**Pn**		**07 02 55.9**	**+0.5**
GUMO	**Guam**	**17.86**	**340**	LR		LR		07 08 41.7	
	comp=Z,138nm,18.4s,baz=148,slow=33								
BNDI	**Bandanaira**	**21.18**	**266**	P		**P**		**07 03 41.9**	**+3.3**
KOUNC	**Koumac, New Ca**	**21.44**	**144**	P		**P**		**07 03 41.0**	**-0.4**
KOUNC				IAmb		IAmb		07 04 01.9	
	comp=Z,19nm,1.0s								
MTN	**Manton Dam**	**21.91**	**243**	P		**P**		**07 03 43.5**	**-3.0**
MTN				IAmb		IAmb		07 03 49.8	
	comp=Z,28nm,0.8s								
EIDS	**Eidsvold**	**21.96**	**180**	P		**P**		**07 03 46.1**	**-0.8**
EIDS				IAmb		IAmb		07 03 58.1	
	comp=Z,22nm,1.1s								
WB0	**Warramunga Arr**	**23.12**	**224**	P		**P**		**07 03 56.2**	**-3.0**
WB0				IAmb		IAmb		07 04 03.4	
	comp=Z,34nm,1.1s								
WRA	**Warramunga Arr**	**23.28**	**223**	P		**P**		**07 03 57.7**	**-3.1**
WRA	**Warramunga Arr**	**23.28**	**223**	P		**P**		**07 03 57.5**	**-3.3**
	comp=Z,10nm,0.9s,baz=49,slow=9.9,SNR=54								
	comp=Z,10nm,0.9s								
DZM	**Mont Dzumac**	**23.89**	**143**	P		**P**		**07 04 07.7**	**+0.7**
DZM				IAmb		IAmb		07 04 21.6	
	comp=Z,22nm,0.8s								
DZM	**Mont Dzumac**	**23.89**	**143**	*e*P		**P**		**07 04 09.1**	**+2.2**
	comp=Z,67nm,1.1s								
DZM				*e*S		**S**		**07 08 27.4**	**+4.0**
	comp=Z,122nm,25.1s								
DZM				*e*LR		LR		07 10 11.9	
	comp=Z,958nm,23.2s								
DZM	**Mont Dzumac**	**23.89**	**143**	LR		LR		07 12 12.6	
	comp=Z,549nm,21.9s,baz=326,slow=34								
SANI	**Sanana**	**25.11**	**272**	P		**P**		**07 04 21.6**	**+3.5**
	comp=Z,38nm,0.9s								
KNRA	**Kununurra**	**25.20**	**239**	P		**P**		**07 04 15.8**	**-3.1**
AS31	**Alice Springs**	**26.21**	**218**	P		**P**		**07 04 26.5**	**-1.5**
ASAR	**Alice Springs**	**26.21**	**218**	P		**P**		**07 04 26.8**	**-1.3**
ASAR	**Alice Springs**	**26.21**	**218**	P		**P**		**07 04 26.1**	**-2.0**
	comp=Z,4.7nm,0.7s,baz=51,slow=8.6,SNR=40								
	comp=Z,4.7nm,0.7s								
SOEI	**Soe**	**27.41**	**255**	P		**P**		**07 04 43.7**	**+4.7**
	comp=Z,43nm,1.1s								
DAV	**Davao City (W)**	**27.47**	**292**	LR		LR		07 16 11.2	
	comp=Z,92nm,18.0s,baz=188,slow=38								
GTOI	**Gorontalo**	**28.34**	**277**	P		P		07 04 53.8	+6.5
	comp=Z,8.8nm,0.7s								
FITZ	**Fitzroy Crossi**	**28.96**	**238**	P		**P**		**07 04 50.0**	**-2.7**
EDFI	**Ende, Flores**	**29.74**	**258**	P		P		07 05 05.0	+5.3
	comp=Z,18nm,1.1s								
STKA	**Stephens Creek**	**29.82**	**196**	P		**P**		**07 04 58.9**	**-1.2**
	comp=Z,1.6nm,0.4s,baz=34,slow=13,SNR=3.7								
	comp=Z,1.6nm,0.4s								
BASI	**Baing, Sumba**	**31.06**	**256**	P		**P**		**07 05 15.4**	**+4.0**
KAPI	**Kappang**	**31.31**	**266**	LR		LR		07 18 39.1	
	comp=Z,190nm,19.1s,baz=93,slow=38								
MPSI	**Mapaga**	**31.39**	**276**	P		P		07 05 19.6	+5.3
	comp=Z,8.7nm,1.7s								
JCJ	**Chichijima**	**31.40**	**345**	LR		LR		07 16 17.8	
	comp=Z,98nm,21.0s,baz=156,slow=33								
PSA00	**Pilbara Seismi**	**35.39**	**236**	P		**P**		**07 05 46.4**	**-2.6**
PSA00				IAmb		IAmb		07 05 55.3	
	comp=Z,24nm,1.4s								
JOW	**Kunigami**	**37.18**	**325**	LR		LR		07 18 16.6	
	comp=Z,179nm,21.6s,baz=212,slow=31								
SBUM	**Sibu**	**39.28**	**278**	P		**P**		**07 06 20.6**	**-1.6**
YULB	**Yu-li**	**39.33**	**314**	P		**P**		**07 06 20.8**	**-1.6**
YULB				IAmb		IAmb		07 06 22.9	
	comp=Z,8.6nm,0.8s								
YHNB	**Yeheng**	**40.08**	**316**	P		**P**		**07 06 27.2**	**-1.6**
YHNB				IAmb		IAmb		07 06 35.4	
	comp=Z,17nm,1.0s								
JNU	**Nakatsue**	**40.95**	**334**	LR		LR		07 19 47.5	
	comp=Z,66nm,20.2s,baz=168,slow=31								
MJAR	**Matsushiro Arr**	**41.40**	**344**	P		**P**		**07 06 39.2**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=155,slow=12,SNR=1.9								
MJAR				LR		LR		07 21 44.6	
	comp=Z,100nm,18.6s,baz=159,slow=33								
	comp=Z,1.4nm,0.5s								
URZ	**Urewera**	**42.15**	**149**	LR		LR		07 22 38.7	
	comp=Z,134nm,18.6s,baz=30,slow=34								
TCW	**Tory Channel**	**43.13**	**154**	P		**P**		**07 06 52.2**	**-1.2**
NWAO	**Narrogin (SRO)**	**43.28**	**223**	LR		LR		07 25 53.4	
	comp=Z,212nm,20.1s,baz=146,slow=38								
KSRS	**Korea Array**	**45.90**	**334**	P		**P**		**07 07 15.8**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=156,slow=8.5,SNR=2.7								
KSRS				LR		LR		07 23 05.1	
	comp=Z,65nm,22.0s,baz=160,slow=32								
	comp=Z,1.2nm,0.9s								
QIZ	**Qiongzhong**	**46.24**	**300**	P		**P**		**07 07 17.5**	**-1.2**
QIZ				LR		LR			
	comp=Z,180nm,9.8s								
QIZ				LR		LR			
	comp=Z,130nm,14.2s								
QIZ				LR		LR			
	comp=Z,210nm,13.5s								
NJ2	**Nanjing**	**46.61**	**321**	*e*P		**P**		**07 07 22.0**	**+0.7**
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
USRK	**Ussuriysk Ar.**	**50.28**	**342**	P		**P**		**07 07 48.7**	**-0.7**
USRK	**Ussuriysk Ar.**	**50.28**	**342**	P		**P**		**07 07 49.3**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=142,slow=7.2,SNR=3.1								
USRK				LR		LR		07 27 42.0	
	comp=Z,37nm,20.8s,baz=164,slow=34								
	comp=Z,2.3nm,0.8s								
RAR	**Rarotonga**	**50.95**	**115**	LR		LR		07 27 02.9	
	comp=Z,48nm,18.7s,baz=297,slow=33								
MDJ	**Mudanjiang**	**51.42**	**340**	P		P		07 08 04.0	+6.0
MDJ				pmax		pmax			
	comp=Z,13nm,0.7s								
KLR	**Kul'dur**	**54.93**	**345**	LR		LR		07 28 38.7	
	comp=Z,75nm,22.0s,baz=132,slow=32								
CMAR	**Chiang Mai Arr**	**55.70**	**295**			**P**		**07 08 29.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**55.70**	**295**	P		**P**		**07 08 30.4**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=112,slow=5.4,SNR=14								
CMAR				LR		LR		07 30 11.4	
	comp=Z,35nm,21.4s,baz=120,slow=34								
	comp=Z,2.8nm,0.6s								
PZH	**PanZhiHua**	**56.12**	**305**	P		**P**		**07 08 34.5**	**+1.6**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,100nm,4.7s								
HHC	**Hu-ho-hao-te**	**56.83**	**325**	*e*P		**P**		**07 08 40.0**	**+2.2**
HHC				pmax		pmax			
	comp=Z,15nm,0.6s								
HHC				pmax		pmax			
	comp=Z,100nm,5.4s								
HEH	**HeiHe**	**57.09**	**342**	*e*P		**P**		**07 08 39.0**	**-0.2**
HEH				pmax		pmax			
	comp=Z,5.0nm,0.7s								
SHEM	**Shemya Is, Ala**	**59.08**	**16**	LR		LR		07 29 00.5	
	comp=Z,42nm,20.0s,baz=6.5,slow=31								
PPT	**Papeete**	**59.80**	**108**	LR		LR		07 31 17.4	
	comp=Z,30nm,18.2s,baz=304,slow=32								
PPT2	**Papeete2**	**59.81**	**108**	*e*LR		LR		07 26 45.6	
	comp=Z,81nm,28.8s								
PPT2				*e*LR		LR		07 27 01.0	
	comp=Z,74nm,25.0s								
TBI	**Tubuai**	**60.73**	**115**	*e*LR		LR		07 27 19.6	
	comp=Z,790nm,26.8s								
TBI				*e*LR		LR		07 27 22.9	
	comp=Z,912nm,32.2s								
MA2	**Magadan**	**62.67**	**360**	LR		LR		07 33 06.1	
	comp=Z,46nm,21.9s,baz=170,slow=33								
ULN	**Ulaanbaatar**	**63.82**	**329**	P		**P**		**07 09 23.7**	**-1.8**
ULN				IAmb		IAmb		07 09 56.2	
	comp=Z,2.5nm,0.7s								
SONM	**Songino Array**	**64.15**	**328**	P		**P**		**07 09 26.9**	**-0.7**
SONM				IAmb		IAmb		07 09 36.8	
	comp=Z,2.3nm,0.8s								
SONM	**Songino Array**	**64.15**	**328**	P		**P**		**07 09 28.0**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=149,slow=7.8,SNR=2.6								
SONM				LR		LR		07 35 40.5	
	comp=Z,97nm,21.4s,baz=114,slow=34								
	comp=Z,0.8nm,0.7s								
YAK	**Yakutsk**	**67.17**	**349**	LR		LR		07 36 47.8	
	comp=Z,51nm,21.9s,baz=162,slow=34								
PALK	**Pallekele**	**71.03**	**279**	LR		LR		07 41 18.1	
	comp=Z,64nm,21.6s,baz=248,slow=36								
WMQ	**Urumqi**	**73.48**	**318**	*e*P		**P**		**07 10 25.8**	**0.0**
WMQ				sP		sP		07 10 32.3	+2.7
WMQ				pmax		pmax			
	comp=Z,27nm,0.7s								
PLK4	**Peulik 4**	**73.82**	**26**	P		**P**		**07 10 27.2**	**-0.3**
VNDA	**Vanda**	**74.40**	**178**	P		**P**		**07 10 30.4**	**-0.1**
VNDA	**Vanda**	**74.40**	**178**	P		**P**		**07 10 30.1**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=327,slow=6.5,SNR=9.5								
	comp=Z,1.2nm,0.7s								
OHAK	**Old Harbor**	**74.99**	**28**	P		**P**		**07 10 32.4**	**-1.7**
OHAK				IAmb		IAmb		07 10 37.8	
	comp=Z,19nm,1.4s								
L18K	**Granite Mounta**	**76.33**	**22**	P		**P**		**07 10 41.0**	**-0.7**
L18K				IAmb		IAmb		07 10 57.5	
	comp=Z,13nm,1.4s								
L19K	**White Mountain**	**77.01**	**23**	P		**P**		**07 10 45.1**	**-0.6**
L19K				IAmb		IAmb		07 10 56.4	
	comp=Z,5.6nm,0.9s								
CNPM	**China Poot**	**77.10**	**26**	P		**P**		**07 10 47.3**	**+1.1**
C16K	**Lisburne Hills**	**77.49**	**15**	P		**P**		**07 10 48.1**	**-0.1**
MKAR	**Makanchi Array**	**78.08**	**319**	LR		LR		07 43 53.2	
	comp=Z,63nm,20.9s,baz=116,slow=35								
ZALV	**Zalesovo Beam**	**78.96**	**327**	P		**P**		**07 10 56.0**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=123,slow=5.5,SNR=4.3								
ZALV				LR		LR		07 45 02.0	
	comp=Z,57nm,21.1s,baz=104,slow=35								
	comp=Z,0.5nm,0.3s								
CCB	**Clear Creek Bu**	**81.00**	**22**			**P**		**07 11 07.1**	**-0.4**
ILAR	**Eielson Array**	**81.41**	**23**	P		**P**		**07 11 10.2**	**+0.6**
ILAR	**Eielson Array**	**81.41**	**23**	P		**P**		**07 11 08.3**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=254,slow=5.1,SNR=10.0								
ILAR				LR		LR		07 43 00.6	
	comp=Z,31nm,21.5s,baz=238,slow=32								
	comp=Z,0.8nm,0.9s								
KURBB	**Kurchatov Arra**	**81.57**	**322**	P		**P**		**07 11 10.5**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=103,slow=4.9,SNR=1.8								
	comp=Z,0.4nm,0.3s								
J25K	**Salcha River,**	**81.92**	**23**	P		**P**		**07 11 12.9**	**+0.5**
AAK	**Ala-Archa**	**82.40**	**314**	LR		LR		07 50 24.8	
	comp=Z,62nm,18.0s,baz=127,slow=38								
M27K	**Edge Creek, AK**	**82.44**	**26**	P		**P**		**07 11 15.2**	**-0.2**
M27K				IAmb		IAmb		07 11 26.3	
	comp=Z,6.2nm,0.7s								
M29M	**Somme Creek**	**83.97**	**26**	P		**P**		**07 11 24.4**	**+1.2**
KKAR	**Karatay Array**	**85.36**	**314**	P		**P**		**07 11 30.2**	**-0.3**
MAW	**Mawson**	**86.31**	**203**	P		**P**		**07 11 34.8**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=9.5,slow=12,SNR=1.9								
	comp=Z,1.0nm,0.8s								
QSPA	**South Pole Qui**	**86.67**	**180**	P		**P**		**07 11 36.5**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=304,slow=7.3,SNR=2.5								
	comp=Z,1.0nm,0.9s								
BBB	**Bella Bella**	**86.93**	**37**	LR		LR		07 43 01.9	
	comp=Z,87nm,20.1s,baz=270,slow=30								
DLBC	**Dease Lake**	**86.96**	**31**	LR		LR		07 45 32.7	
	comp=Z,39nm,20.4s,baz=274,slow=32								
BVAR	**Borovoye Array**	**87.02**	**323**	P		**P**		**07 11 37.2**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=93,slow=5.9,SNR=6.7								
BVAR				LR		LR		07 52 12.9	
	comp=Z,30nm,18.8s,baz=85,slow=37								
	comp=Z,1.9nm,0.7s								
INK	**Inuvik**	**87.65**	**21**	LR		LR		07 46 11.9	
	comp=Z,25nm,21.3s,baz=258,slow=32								
YBH	**Yreka Blue Hor**	**89.31**	**48**	LR		LR		07 43 44.4	
	comp=Z,83nm,21.9s,baz=288,slow=30								
NVAR	**Mina Array Bea**	**92.48**	**52**	P		**P**		**07 12 05.5**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=262,slow=5.3,SNR=2.7								
	comp=Z,0.3nm,0.7s								
NEW	**Newport**	**93.61**	**42**	LR		LR		07 49 53.2	
	comp=Z,48nm,18.9s,baz=278,slow=33								
PFO	**Pinyon Flats O**	**93.83**	**57**	LR		LR		07 45 44.2	
	comp=Z,68nm,20.7s,baz=267,slow=30								
ARU	**Arti**	**94.12**	**326**	LR		LR		07 55 02.5	
	comp=Z,88nm,20.1s,baz=99,slow=36								
AKTO	**Aktyubinsk**	**94.48**	**320**	LR		LR		07 54 24.5	
	comp=Z,56nm,20.6s,baz=280,slow=35								
YKA	**Yellowknife Ar**	**94.88**	**28**	P		**P**		**07 12 16.1**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=274,slow=5.0,SNR=2.1								
YKA				LR		LR		07 51 53.7	
	comp=Z,32nm,19.1s,baz=308,slow=34								
	comp=Z,0.3nm,0.8s								
ELK	**Elko**	**94.90**	**50**	LR		LR		07 50 32.7	
	comp=Z,47nm,18.9s,baz=271,slow=33								
RPN	**Rapa Nui**	**97.01**	**118**	LR		LR		07 49 53.7	
	comp=Z,23nm,18.0s,baz=250,slow=32								
KIRV	**Kirov**	**98.88**	**329**	LR		LR		07 56 56.0	
	comp=Z,33nm,21.8s,baz=81,slow=35								
PDAR	**Pinedale Array**	**99.08**	**47**	P		**Pdif**		**07 12 34.9**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=222,slow=3.5,SNR=2.5								
PDAR				LR		LR		07 49 40.5	
	comp=Z,51nm,21.4s,baz=280,slow=31								
	comp=Z,0.2nm,0.4s								
LPIG	**La Paz**	**99.17**	**66**	LR		LR		07 48 47.9	
	comp=Z,107nm,21.5s,baz=236,slow=30								
RES	**Resolute Bay**	**99.36**	**14**	LR		LR		07 57 59.7	
	comp=Z,20nm,18.6s,baz=7.5,slow=36								
CLL	**Collm**	**120.71**	**331**	*e*PKPdf		**PKiKP**		**07 17 46.0**	**+0.8**
GERES	**GERESS Array B**	**121.88**	**328**	PKP		**PKPdf**		**07 17 46.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=17,slow=4.1,SNR=1.5								
TORD	**Torodi Ar. Bea**	**148.21**	**290**	PKPbc		**PKPbc**		**07 18 39.4**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=66,slow=4.0,SNR=6.5								

IDC ***28*** *07:09:32.2±0.9, 22°.37S×170°.47E, h0km, mb4.0/10, mbtmp4.0/11, MLJ3.9/1, Error ellipse: s-maj=27.3km s-min=23.2km az=158.0*

NOU ***28*** *07:09:36.3, 22°.21S×170°.21E, h0km, MLv4.2/12, Southeast of Loyalty Islands*

ISC 28 07:09:37.6±0.8, 22°.37S±0°.10×170°.37E±0°.09, h33km, n28, σ0§77/29, mb4.0/13, 4D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res ISC
MARNC	**Mare, Loyalty**	**2.34**	**292**	P		**Pn**		**07 10 12.8**	**-1.0**
PINNC	**Pines Island,**	**2.71**	**264**	P		**Pn**		**07 10 19.3**	**+0.5**
YATNC	**Mamie plateau,**	**3.23**	**275**	P		**Pn**		**07 10 25.2**	**-0.9**
LIFNC	**LIFOU**	**3.31**	**298**	P		**Pn**		**07 10 26.7**	**-0.4**
ONTNC	**Ouen Toro**	**3.62**	**270**	P		**Pn**		**07 10 32.1**	**+0.7**
DZM	**Mont Dzumac**	**3.65**	**274**	P		**Pn**		**07 10 32.2**	**+0.4**
DZM	**Mont Dzumac**	**3.65**	**274**	Pn		**Pn**		**07 10 31.8**	**0.0**
	8.5nm,0.3s,baz=117,slow=9.5,SNR=745								
DZM				Sn		**Sn**		**07 11 13.3**	**-0.5**
	16nm,0.3s,baz=130,slow=22,SNR=14								
	29nm,0.2s								
RTV	**Rentapao**	**4.91**	**338**	P		**Pn**		**07 10 49.9**	**+0.9**
DVP	**Devils Point**	**5.05**	**336**	P		**Pn**		**07 10 51.0**	**-0.1**
KOUNC	**Koumac, New Ca**	**5.95**	**287**	P		**Pn**		**07 11 04.1**	**+0.8**
CTA	**Charters Tower**	**22.59**	**271**	P		**P**		**07 14 36.0**	**+0.6**
	0.1nm,0.6s,baz=75,slow=9.3,SNR=4.3								
STKA	**Stephens Creek**	**27.23**	**243**	P		**P**		**07 15 19.5**	**+0.8**
	1.0nm,0.4s,baz=155,slow=14,SNR=3.1								
	1.0nm,0.4s								
ASAR	**Alice Springs**	**33.53**	**261**	P		**P**		**07 16 14.8**	**+0.3**
	0.6nm,0.6s,baz=79,slow=9.7,SNR=9.5								
	0.6nm,0.6s								
WRA	**Warramunga Arr**	**33.64**	**267**	P		**P**		**07 16 14.9**	**-0.5**
	0.5nm,0.5s,baz=98,slow=8.4,SNR=9.9								
	0.5nm,0.5s								
MJAR	**Matsushiro Arr**	**66.00**	**332**	P		**P**		**07 20 19.5**	**-1.3**
	2.1nm,0.7s,baz=161,slow=6.1,SNR=4.6								
	2.1nm,0.7s								
QSPA	**South Pole Qui**	**67.70**	**180**	P		**P**		**07 20 30.0**	**-1.5**
	0.7nm,0.8s,baz=295,slow=5.2,SNR=2.3								
	0.7nm,0.8s								
KSRS	**Korea Array**	**71.67**	**326**	P		**P**		**07 20 55.7**	**-0.4**
	1.2nm,0.8s,baz=132,slow=5.6,SNR=5.0								
	1.2nm,0.8s								
CMAR	**Chiang Mai Arr**	**80.75**	**294**	P		**P**		**07 21 49.8**	**+1.6**
	0.7nm,0.3s,baz=131,slow=3.7,SNR=1.5								
	0.7nm,0.3s								
TROLL	**Troll, Antarti**	**85.50**	**184**	⇓P		**P**		**07 22 12.6**	**+0.6**
	comp=Z,111nm,0.8s								
SNAA	**Sanae**	**86.09**	**182**	⇓P		**P**		**07 22 15.3**	**+0.4**
	comp=Z,18nm,0.6s								
SNAA	**Sanae**	**86.09**	**182**	P		**P**		**07 22 14.9**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=186,slow=14,SNR=6.0								
	comp=Z,1.2nm,0.8s								
VNA3	**Neumayer Olymp**	**86.64**	**180**	⇓P		**P**		**07 22 17.8**	**+0.4**
	comp=Z,3.1nm,0.8s								
VNA2	**Neumayer--Watz**	**86.95**	**181**	⇓P		**P**		**07 22 18.4**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=188,slow=3.8								
NVAR	**Mina Array Bea**	**90.09**	**48**	P		**P**		**07 22 35.1**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=250,slow=10,SNR=2.2								
	comp=Z,0.3nm,0.8s								
SONM	**Songino Array**	**90.34**	**323**	P		**P**		**07 22 35.0**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=147,slow=4.9,SNR=4.9								
	comp=Z,0.5nm,0.5s								
ARCES	**ARCESS Array B**	**128.35**	**345**	PKP		**PKPdf**		**07 28 39.1**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=97,slow=3.9,SNR=3.8								
EKA	**Eskdalemuir Ar**	**146.73**	**353**	PKPbc		**PKPbc**		**07 29 15.5**	**-0.2**
	comp=Z,2.8nm,0.5s,baz=2.9,slow=2.9,SNR=14								
GERES	**GERESS Array B**	**147.73**	**331**	PKPbc		**PKPbc**		**07 29 19.4**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=90,slow=3.1,SNR=4.5								

SOME ***28*** *07:10:42.4, 39°.58N×76°.00E, h0km*

NNC ***28*** *07:10:44.5±3.4, 39°.63N×75°.77E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=25.5km s-min=21.9km az=106.0*

KRNET ***28*** *07:10:54.6±0.1, 39°.94N×76°.03E, mb2.6*

ISC 28 07:10:53.6±1.9, 39°.97N±0°.07×75°.99E±0°.05, h13km±14km, n25, σ1§42/41, 12C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res ISC
NRN	**Naryn**	**1.46**	**0**	⇑*i*P		**Pg**		**07 11 22.4**	**+0.6**
	baz=58								
NRN				⇑*i*S		**Sg**		**07 11 43.4**	**+2.5**
	baz=58								
SFK	**Sufi-Kurgan**	**1.91**	**272**	⇓*e*P		**Pg**		**07 11 30.8**	**+0.6**
	baz=73								
SFK				⇓*e*S		**Sg**		**07 11 57.3**	**+2.3**
	baz=73								
TARG	**Taragay, Kyrgy**	**2.24**	**38**	⇑*i*P		**Pg**		**07 11 35.3**	**-1.2**
	baz=36								
TARG				⇑*i*S		**Sg**		**07 12 04.7**	**-0.9**
	baz=36								
ARLS	**Aral**	**2.27**	**327**	⇑*e*P		**Pg**		**07 11 36.3**	**-0.9**
	baz=27								
ARLS				⇑*e*S		**Sg**		**07 12 06.4**	**-0.3**
	baz=27								
ULHL	**Ulahol**	**2.28**	**5**	⇓*i*P		**Pg**		**07 11 36.1**	**-1.3**
	baz=4.0								
ULHL				⇓*i*S		**Sg**		**07 12 06.4**	**-0.7**
	baz=4.0								
KDJ	**Kajisay**	**2.34**	**22**	⇑*e*P		**Pg**		**07 11 36.7**	**-1.8**
	baz=22								
KDJ				⇑*i*S		**Sg**		**07 12 07.6**	**-1.3**
	baz=22								
BOOM	**Boomskoye usch**	**2.52**	**359**	⇓*i*P		**Pb**		**07 11 39.6**	**+0.8**
	baz=59								
BOOM				⇓*i*S		**Sb**		**07 12 12.0**	**+2.2**
	baz=59								
AML	**Almayashu**	**2.77**	**322**	*i* P		**Pb**		**07 11 42.9**	**-0.3**
	baz=22								
AML				*i* S		**Sb**		**07 12 18.5**	**+1.3**
	baz=22	

0.5nm,0.9s,baz=92,slow=9.7,SNR=2.5
0.5nm,0.9s
KURBB Kurchatov Arra 64.87 321 P **P 07 22 04.1 -0.4**
0.6nm,0.5s,baz=106,slow=6.5,SNR=5.3
0.6nm,0.5s
BVAR Borovoye Array 70.26 322 P **P 07 22 38.6 0.0**
1.3nm,0.5s,baz=93,slow=7.4,SNR=4.8
1.3nm,0.5s
ILAR Eielson Array 71.29 25 P **P 07 22 44.5 -0.2**
0.6nm,0.5s,baz=248,slow=5.9,SNR=23
0.6nm,0.5s
YKA Yellowknife Ar 85.61 27 P **P 07 24 04.0 +0.3**
0.3nm,0.6s,baz=302,slow=5.1,SNR=2.8
0.3nm,0.6s
ARCES ARCESS Array B 88.38 342 P **P 07 24 17.2 +0.1**
0.7nm,0.5s,baz=69,slow=6.8,SNR=7.1
0.7nm,0.5s
NVAR Mina Array Bea 89.80 51 P **P 07 24 25.5 +0.9**
0.2nm,0.5s,baz=282,slow=4.5,SNR=1.3
0.2nm,0.5s
FINES FINESS Array B 92.13 335 P **P 07 24 33.4 -1.2**
1.9nm,0.8s,baz=54,slow=9.7,SNR=4.3
1.9nm,0.8s

IDC 28 07:30:11.9±7.2, 17°.74S×175°.84W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=286.6km s-min=116.9km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.07**	**259**	P	P	07 38 45.2	-0.7
	0.2nm,0.5s,baz=96,slow=7.7,SNR=4.8						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**47.20**	**254**	P	P	07 38 47.0	+0.2
	0.9nm,0.4s,baz=88,slow=8.2,SNR=23						
	0.9nm,0.4s						
AKASG	**Malin Array Be**	**141.51**	**334**	PKP	PKPdf	07 49 44.6	-0.3
	2.0nm,0.6s,baz=27,slow=0.2,SNR=9.1						

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*SKHL **28** 07:54:03.3±0.7, 44°.60N×150°.90E, h39km±8km, mb4.1/2*
*IDC **28** 07:54:03.8±2.4, 44°.83N×147°.13E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=93.6km s-min=27.4km az=73.0*
ISC 28 07:54:04.3±1.6, 44°.8N±0°.1×150°.8E±0°.1, h35km, n16, σ1§25/11, mb3.5/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.09**	**283**	*e*P	**Pn**	**07 54 37.7**	**+0.9**
KUR				AMB	AMB	07 54 39.1	
	40nm,0.3s						
KUR				*i* S	**Sn**	**07 55 02.8**	**+1.2**
KUR				A	A	07 55 06.0	
	210nm,0.3s						
KUR				A	A	07 55 06.0	
	80nm,0.3s						
SHO	**Shikotan**	**2.96**	**253**	*e*P	**Pn**	**07 54 48.7**	**0.0**
SHO				AMB	AMB	07 54 54.2	
	20nm,0.4s						
SHO				*i* S	**Sn**	**07 55 21.3**	**-1.6**
SHO				A	A	07 55 26.4	
	30nm,0.3s						
SHO				A	A	07 55 26.4	
	40nm,0.3s						
NMR	**Nemuro--Hokkai**	**3.88**	**250**	*e*P	**Pn**	**07 55 01.9**	**+0.5**
NMR				*e*S	**Sn**	**07 55 45.5**	**-0.3**
AKK	**Akkeshi**	**4.62**	**250**	*e*P	**Pn**	**07 55 12.1**	**+0.6**
AKK				*e*S	**Sn**	**07 56 03.4**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**28.36**	**147**	T	T	08 30 49.9	
	baz=336,slow=75,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**28.38**	**147**	T	T	08 30 50.5	
	baz=336,slow=75,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**28.38**	**147**	T	T	08 30 47.4	
	baz=336,slow=75,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**29.40**	**148**	T	T	08 32 00.9	
	baz=336,slow=75,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**29.41**	**148**	T	T	08 32 04.7	
	baz=336,slow=75,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**29.42**	**148**	T	T	08 32 02.7	
	baz=336,slow=75,SNR=7.5						
ZALV	**Zalesovo Beam**	**42.44**	**307**	P	P	08 01 44.5	-11
	0.6nm,0.4s,baz=79,slow=7.5,SNR=1.8						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**46.39**	**298**	P	P	08 02 12.3	-15
	0.4nm,0.7s,baz=54,slow=7.3,SNR=4.6						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**65.10**	**334**	P	**P**	**08 04 38.9**	**-1.9**
	1.5nm,0.7s,baz=32,slow=8.2,SNR=4.0						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**66.13**	**197**	P	**P**	**08 04 48.6**	**+0.6**
	0.2nm,0.9s,baz=11,slow=8.4,SNR=0.8						
	0.2nm,0.9s						
ASAR	**Alice Springs**	**69.84**	**196**	P	**P**	**08 05 12.9**	**+1.6**
	0.3nm,0.9s,baz=23,slow=5.0,SNR=1.6						
	0.3nm,0.9s						
AKASG	**Malin Array Be**	**72.24**	**325**	P	P	08 05 19.3	-6.2
	0.2nm,0.4s,baz=40,slow=6.2,SNR=1.3						
	0.2nm,0.4s						

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*NEIC **28** 07:57:11.3±1.6, 36°.757N±0°.009×121°.42W±0°.01, h10km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=181.0*
*NEIC **28** 07:57:11.6, 36°.78N×121°.42W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.29; $M_{\theta\theta}$-1.66; $M_{\phi\phi}$1.37; $M_{r\theta}$0.29; $M_{\theta\phi}$-0.24; $M_{\phi r}$-0.09; Fault plane solution: $M_0$1.58000×10^{14} NP1:ϕ_s220.30000°, δ80.30000°, λ-1.59000°. NP2:ϕ_s310.57000°, δ88.44000°, λ-170.30000°. Principal axes: T 1.3951, Plg6.0000°, Azm85.0000°; N 0.3225, Plg80.0000°, Azm320.0000°; P -1.7176, Plg8.0000°, Azm176.0000°;*
*NEIC **28** 07:57:11.6, 36°.78N×121°.42W, h11km*
NCEDC 28 07:57:11.6±1.8, 36°.775N±0°.009×121°.42W±0°.01, h11km±3km, Mwr3.4/2, ML3.1/64(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=110.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.03**	**246**	Pg	Pg	07 57 13.3	-0.3
BSLM	**Silva Ranch**	**0.05**	**89**		Pg	07 57 14.0	+0.3
FRP	**Fremont Peak**	**0.06**	**250**		Pg	07 57 13.7	-0.2
HSFM	**Saint Francis**	**0.08**	**299**		Pg	07 57 14.3	+0.3
HJGM	**San Juan Grade**	**0.13**	**280**		Pg	07 57 14.7	0.0
BSRM	**Salinas Radio**	**0.14**	**217**		Pg	07 57 14.6	-0.2
BJOM	**Mount Johnson**	**0.17**	**150**		Pg	07 57 15.5	+0.2
BJOM					Sg	07 57 18.4	+0.6
SCZ	**Santa Cruz**	**0.18**	**176**		Pg	07 57 15.2	-0.2
ANZ	**Anzar Road**	**0.18**	**308**		Pg	07 57 15.6	+0.2
HTUM	**Tustin Road**	**0.19**	**286**		Pg	07 57 15.7	+0.1
HFEM	**San Felipe**	**0.21**	**3**		Pg	07 57 16.5	+0.5
BJCM	**Johnson Can.**	**0.23**	**175**		Pg	07 57 16.1	-0.2
HERM	**Elkhorn Road**	**0.24**	**276**		Pg	07 57 16.8	+0.3
HCBM	**Chamberlain**	**0.25**	**309**		Pg	07 57 16.9	+0.2
PACP	**Pacheco Peak**	**0.26**	**24**		Pg	07 57 17.3	+0.5
PACP					Sb	07 57 21.9	-0.9
HCAM	**Canada Road**	**0.26**	**348**		Pg	07 57 17.2	+0.4
HCOM	**Corn Cob Canyo**	**0.26**	**296**		Pg	07 57 17.2	+0.3
BPCNC	**Pine Canyon**	**0.26**	**220**		Pg	07 57 17.1	+0.2
HLPM	**Lions Peak**	**0.32**	**327**		Pg	07 57 18.1	+0.2
HLPM					Sb	07 57 23.6	-0.8
GHS	**Gilroy Hot Spr**	**0.32**	**356**		Pg	07 57 18.5	+0.4
BAVM	**Antelope Valle**	**0.34**	**112**		Pg	07 57 18.6	+0.3
SLD	**San Luis Dam**	**0.34**	**28**		Pg	07 57 17.1	-1.3
BBGB	**Big Mountain B**	**0.36**	**123**		Pg	07 57 19.3	+0.5
JELB	**Ellicott, Sant**	**0.36**	**295**		Pg	07 57 19.0	+0.2
JELB					Sb	07 57 25.0	-0.7
BSGM	**Shirttail Gulc**	**0.38**	**160**		Pg	07 57 18.8	-0.4
BSMM	**Soledad Missio**	**0.39**	**181**		Pg	07 57 19.4	+0.1
HAST	**Hastings Reser**	**0.40**	**196**		Pg	07 57 19.4	-0.1
CADM	**Anderson Res.**	**0.42**	**337**		Pg	07 57 20.1	+0.2
HMOM	**Monterey**	**0.44**	**247**		Pg	07 57 20.2	0.0
BPRM	**Ponciano Ridge**	**0.45**	**215**		Pg	07 57 20.2	-0.1
JLAB	**Laurel Hill**	**0.46**	**326**		Pg	07 57 20.8	+0.2
JLAB					Sb	07 57 28.3	-0.2
LRV	**Little Rabbit**	**0.47**	**137**		Pg	07 57 21.1	+0.3
SCKWR	**San Luis Creek**	**0.49**	**34**		Pb	07 57 22.1	-0.2
CCOB	**Coe Ranch Numb**	**0.53**	**337**		Pb	07 57 22.6	-0.2
C072	**Blauer Lane Sa**	**0.58**	**332**		Pb	07 57 23.4	-0.3
ARN	**Arnold Ranch**	**0.58**	**351**		Pg	07 57 23.2	+0.3
C054	**Valleyhaven Wa**	**0.59**	**327**		Pg	07 57 23.4	+0.3
MHC	**Mount Hamilton**	**0.59**	**342**		Pg	07 57 23.5	+0.3
JJOM	**Saint Joseph's**	**0.62**	**314**		Pg	07 57 23.3	-0.4
SCCB	**Santa Clara Co**	**0.62**	**325**		Pg	07 57 24.0	+0.3
CMMM	**Mount Mocho**	**0.68**	**355**		Pg	07 57 25.1	+0.3
C046	**N 16th Street**	**0.69**	**327**		Pg	07 57 23.9	-1.0
PCCM	**Crazy Canyon**	**0.71**	**163**		Pg	07 57 25.3	-0.1
C016	**Longford Drive**	**0.72**	**330**		Pb	07 57 26.4	+0.3
CMLM	**Mount Lewis**	**0.73**	**345**		Pb	07 57 26.0	-0.3
MTOS	**Mt Oso, Westle**	**0.73**	**6**		Pb	07 57 26.2	-0.1
CALM	**Calaveras Res.**	**0.74**	**336**		Pb	07 57 26.3	-0.3
PMPB	**Monarch Peak**	**0.75**	**138**		Pg	07 57 25.7	-0.3
HULI	**Fort Hunter Li**	**0.77**	**169**		Pg	07 57 26.1	-0.3
JSJM	**St Joseph**	**0.78**	**316**		Pg	07 57 26.7	+0.1
JBMM	**Black Mountain**	**0.80**	**313**		Pg	07 57 26.3	-0.8
JFP	**Foothills Park**	**0.85**	**314**		Pg	07 57 27.3	-0.7
JPSM		**0.86**	**300**		Pg	07 57 27.2	-0.9
PJUM	**Juniper Ridge**	**0.86**	**129**		Pg	07 57 28.1	-0.1
PSAM	**San Ardo**	**0.86**	**150**		Pg	07 57 27.7	-0.4
CSTL	**Corral Hollow**	**0.86**	**356**		Pb	07 57 28.7	+0.1
PPTM	**Peach Tree Val**	**0.87**	**140**		Pg	07 57 27.9	-0.4
JSFB	**Stanford Teles**	**0.87**	**316**		Pg	07 57 27.8	-0.7
WENL	**Wente Vineyard**	**0.89**	**342**		Pg	07 57 28.5	-0.2
JRSC	**Jasper Ridge**	**0.91**	**314**		Pg	07 57 27.9	-1.2
CVLM	**Vallecito**	**0.91**	**339**		Pg	07 57 29.0	-0.2
CSAM	**Sandia**	**0.93**	**346**		Pb	07 57 29.6	-0.1
BGH	**Bear Gulch**	**0.93**	**308**		Pg	07 57 28.7	-0.8
CNIC	**Niles Canyon**	**0.94**	**332**		Pg	07 57 29.0	-0.7
CBZL	**Buffer Zone**	**0.95**	**345**		Pb	07 57 30.2	+0.2
PDRM	**Domengine Ranc**	**0.95**	**117**		Pb	07 57 30.2	+0.1
PSMM	**Smith Mountain**	**0.97**	**136**		Pg	07 57 30.0	-0.2
PHSB	**Hesperia Broad**	**0.99**	**163**		Pg	07 57 30.2	-0.5
MYLM	**Yosemite Lake**	**1.00**	**52**		Pg	07 57 30.1	-0.8
PHPM	**Hope Ranch**	**1.03**	**140**		Pg	07 57 30.6	-0.7
PWMM	**Westland Maint**	**1.03**	**109**		Pb	07 57 31.5	+0.1
JCHM	**Cahill Ridge**	**1.07**	**314**		Pb	07 57 30.6	-1.5
PANM	**San Antonio Re**	**1.07**	**157**		Pb	07 57 31.2	-1.0
CMOB	**Morgan Territo**	**1.08**	**344**		Pn	07 57 33.7	+1.0
JCPM	**Coyote Point**	**1.09**	**319**		Pb	07 57 30.6	-1.8
PKD	**Bear Valley Ra**	**1.09**	**139**		Pb	07 57 31.5	-1.0
CLCB	**Lake Chabot**	**1.09**	**332**		Pb	07 57 31.6	-0.9
CSLM	**San Leandro Hi**	**1.10**	**330**		Pb	07 57 30.9	-1.8
PVCM	**Vineyard Canyo**	**1.11**	**140**		Pb	07 57 32.0	-0.9
PPO	**Portuguese Can**	**1.11**	**144**		Pb	07 57 32.1	-0.8
PSTM	**Stockdale Moun**	**1.12**	**139**		Pb	07 57 31.9	-1.0
BGC	**Bolinger Road**	**1.16**	**334**		Pb	07 57 32.4	-1.3
CMCM	**Mills College**	**1.17**	**329**		Pb	07 57 32.0	-1.9
JMGM	**Milagra Ridge**	**1.21**	**316**		Pn	07 57 32.3	-2.1
PWKM	**Work Ranch**	**1.21**	**142**		Pn	07 57 33.4	-1.0
PHFM	**Heflinger Ranc**	**1.21**	**137**		Pn	07 57 33.5	-1.0
CTM	**Castle Mountai**	**1.21**	**134**		Pn	07 57 34.4	-0.2
RAMR	**Ramage Ranch**	**1.22**	**159**		Pn	07 57 33.3	-1.3
PHAM	**Harlan Ranch**	**1.25**	**138**		Pn	07 57 34.1	-0.9
GHC	**Gold Hill**	**1.27**	**137**		Pn	07 57 34.3	-1.1
BKS	**Berkeley--Byer**	**1.28**	**330**		Pn	07 57 33.5	-1.9
CVPM	**Vollmer Peak**	**1.28**	**330**		Pn	07 57 35.1	-0.4
VAK	**Adit at Lawren**	**1.28**	**329**		Pn	07 57 33.3	-2.2
BRK	**Berkeley--Havi**	**1.29**	**329**		Pn	07 57 33.3	-2.2
PKLM	**Kerr Lake**	**1.32**	**139**		Pn	07 57 35.1	-0.9
TCAS	**Cass Winery, P**	**1.35**	**149**		Pn	07 57 35.4	-1.1
TCHL	**Shandon**	**1.36**	**143**		Pn	07 57 35.9	-0.6
CPIM	**Pinole Ridge**	**1.37**	**333**		Pn	07 57 35.4	-1.3
PMRM	**Maxey Ranch**	**1.37**	**136**		Pn	07 57 36.0	-0.8
CPMM	**Point Molate**	**1.41**	**326**		Pn	07 57 35.4	-1.9
TRAM	**Private Proper**	**1.44**	**139**		Pn	07 57 36.7	-0.9
PTAM	**Tassajara Cree**	**1.49**	**157**		Pn	07 57 37.3	-1.2
CMB	**Columbia Colle**	**1.50**	**33**		Pn	07 57 37.5	-1.0
TSCN	**Private Proper**	**1.50**	**145**		Pn	07 57 37.6	-0.9
LSDC	**Los Osos Digit**	**1.55**	**162**		Pn	07 57 38.4	-0.7
PBPM	**Bitterwater Pu**	**1.61**	**137**		Pn	07 57 39.4	-0.7
SNT	**Sears Point**	**1.63**	**330**		Pn	07 57 38.6	-1.7
NOLM	**Olema**	**1.67**	**319**		Pn	07 57 38.9	-1.9
CVS	**Carmenet Viney**	**1.77**	**332**		Pn	07 57 40.3	-1.9
NAPC	**Atlas Peak**	**1.79**	**338**		Pn	07 57 41.4	-1.1
MCCM	**Marconi Confer**	**1.80**	**320**		Pn	07 57 40.6	-1.9
MCCM				IAML		07 58 16.7	
	comp=N,229nm,0.9s						
MCCM				IAML		07 58 23.3	
	comp=E,244nm,0.8s						
MDPB	**Devils Postpil**	**2.05**	**65**		Pn	07 57 46.6	+0.3
MRDM	**Red Cones**	**2.06**	**66**		Pn	07 57 46.8	+0.5
OMMB	**Old Mammoth Mi**	**2.10**	**66**		Pn	07 57 47.5	+0.4
OMMB				IAML		07 58 17.2	
	comp=E,107nm,0.7s						
OMMB				IAML		07 58 17.6	
	comp=N,128nm,0.7s						
MDCM	**Deadman Creek**	**2.11**	**63**		Pn	07 57 47.8	+0.7
MDYM	**Dry Creek**	**2.11**	**65**		Pn	07 57 48.1	+1.0
MMLB	**Mammoth Lakes**	**2.14**	**65**		Pn	07 57 48.7	+1.2
MLCM	**Laurel Creek C**	**2.17**	**67**		Pn	07 57 48.9	+1.0
NMTM	**Middletown**	**2.19**	**338**		Pn	07 57 46.6	-1.3
MCSM	**Casa Diablo Ho**	**2.19**	**66**		Pn	07 57 49.5	+1.3
MCBM	**Casa Benchmark**	**2.19**	**66**		Pn	07 57 49.5	+1.2
AFDM	**Forest Hills D**	**2.20**	**9**	Pn	Pn	07 57 47.4	-0.7
AFDM				IAML		07 58 29.3	
	comp=E,85nm,0.7s						
GDXM	**Geysers**	**2.30**	**332**	Pn	Pn	07 57 47.3	-2.3
GSGM	**Seigler Mounta**	**2.33**	**334**		Pn	07 57 48.5	-1.3
WAKR	**Walker**	**2.33**	**42**		Pn	07 57 51.0	+0.8
WAKR				IAML		07 58 31.6	
	comp=E,145nm,0.7s						
WAKR				IAML		07 58 35.4	
	comp=N,81nm,0.8s						
FIGC	**Figueroa Mtn.**	**2.35**	**150**		Pn	07 57 49.6	-0.7
MTUM	**Tungsten Hills**	**2.35**	**75**		Pn	07 57 51.8	+1.4
BHPR	**Bishop**	**2.40**	**77**		Pn	07 57 52.5	+1.4
EMB	**Emerald Bay**	**2.43**	**25**		Pn	07 57 51.5	0.0
BCW	**Bitter Crk WRg**	**2.45**	**138**		Pn	07 57 51.3	-0.3
BCW				IAML		07 58 45.9	
	comp=N,122nm,0.8s						
NJQ	**Nojoqui County**	**2.45**	**155**		Pn	07 57 50.9	-0.7
BENR	**Benton**	**2.46**	**67**		Pn	07 57 53.7	+1.8
SUTB	**Sutter Butte**	**2.47**	**353**		Pn	07 57 50.4	-1.3
MRCM	**Red Rock Canyo**	**2.49**	**68**		Pn	07 57 54.2	+1.9
WASM	**Alta Sierra Ca**	**2.53**	**113**		Pn	07 57 53.1	+0.3
HOPS	**Hopland Field**	**2.57**	**330**	Pn	Pn	07 57 51.4	-1.8
HOPS				IAML		07 58 54.3	
	comp=N,74nm,1.9s						
HOPS				IAML		07 58 56.1	
	comp=E,72nm,1.7s						
ISA	**Isabella, Lake**	**2.63**	**114**		Pn	07 57 53.5	-0.5
ISA				IAML		07 58 29.0	
	comp=N,48nm,0.9s						
PNTR	**Pine Nut**	**2.72**	**31**		Pn	07 57 56.2	+0.7
MPK	**Martis Peak**	**2.75**	**23**		Pn	07 57 57.6	+1.7
YERR	**Yerington**	**2.80**	**37**		Pn	07 57 57.0	+0.4
YERR				IAML		07 58 55.5	
	comp=N,84nm,0.7s						
DSP	**Deep Springs**	**2.82**	**77**		Pn	07 57 57.5	+0.9
DSP				IAML		07 58 49.8	
	comp=N,50nm,1.2s						
DSP				IAML		07 58 53.5	
	comp=E,45nm,1.1s						
RYN	**Ryan**	**2.95**	**50**		Pn	07 57 58.5	-0.1
RYN				IAML		07 58 48.1	
	comp=N,50nm,0.8s						
RYN				IAML		07 58 54.7	
	comp=E,58nm,0.8s						
CCAC	**Calif City Air**	**3.20**	**119**		Pn	07 58 02.8	+0.9
CCAC				IAML		07 59 01.5	
	comp=E,58nm,1.2s						
CCAC				IAML		07 59 13.4	
	comp=N,62nm,1.1s						
PAHR	**Pah Rah Range**	**3.34**	**28**		Pn	07 58 03.7	-0.1
PAHR				IAML		07 58 59.8	
	comp=N,32nm,1.4s						
PAHR				IAML		07 59 08.9	
	comp=E,27nm,1.0s						
KVN	**Kaiserville**	**3.47**	**48**		Pn	07 58 06.2	+0.4
KVN				IAML		07 59 04.7	
	comp=N,27nm,0.8s						
KVN				IAML		07 59 11.3	
	comp=E,25nm,1.0s						
LRDM	**Redding Peak**	**3.68**	**359**		Pn	07 58 09.5	+0.9
WCT	**Wildcat Mounta**	**3.85**	**88**	Pn	Pn	07 58 12.3	+1.5
WCT				IAML		07 59 20.4	
	comp=E,19nm,0.7s						
GWY	**Greenwater Val**	**3.87**	**97**		Pn	07 58 10.2	-1.0
GWY				IAML		07 59 34.1	
	comp=N,20nm,1.4s						
GSC	**Goldstone, Bar**	**4.01**	**110**		Pn	07 58 12.4	-0.8
GSC				IAML		07 59 24.7	
	comp=N,15nm,1.1s						
GSC				IAML		07 59 34.9	
	comp=E,20nm,0.8s						
TPNV	**Topopah Spring**	**4.15**	**86**	Pn	Pn	07 58 15.4	+0.4
TPNV				IAML		07 59 36.6	
	comp=E,22nm,1.4s						
TPNV				IAML		07 59 44.5	
	comp=E,23nm,1.5s						
SHPR	**Sheep Range**	**5.04**	**91**	Pn	Pn	07 58 27.4	+0.2
KRMB	**Red Mountain**	**5.12**	**339**	Pn	Pn	07 58 28.4	0.0
KRMB				IAML		07 59 14.2	
	comp=N,13nm,2.7s						
KRMB				IAML		07 59 55.0	
	comp=E,15nm,2.8s						
PFO	**Pinyon Flats O**	**5.14**	**126**	Pn	Pn	07 58 27.4	-1.3
KSXB	**Camp Six Broad**	**5.40**	**340**	Pn	Pn	07 58 32.5	+0.3
L02F	**Cave Junction**	**5.59**	**343**	Pn	Pn	07 58 36.8	+2.1
CBX	**Cerro Bola**	**5.93**	**137**	Pn	Pn	07 58 38.7	-0.8
K02D	**Willamette Mer**	**6.16**	**344**	Pn	Pn	07 58 44.6	+2.0
J05D	**Fort Rock, OR**	**6.50**	**1**	Pn	Pn	07 58 47.4	0.0
ESJX	**Sierra Juarez**	**6.56**	**135**	Pn	Pn	07 58 47.5	-0.7
J01E	**Myrtle Point**	**6.66**	**344**	Pn	Pn	07 58 51.5	+2.1
VTX	**Valle De La Tr**	**7.12**	**137**	Pn	Pn	07 58 55.8	+0.1

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*IDC **28** 08:00:31.2±1.0, 17°.78S×178°.33W, h552km±10km, mb4.1/20, mbtmp5.0/22, Error ellipse: s-maj=9.7km s-min=9.2km az=5.0*
*NOU **28** 08:00:32.8, 17°.80S×178°.34W, h567km, mb5.0/101, Fiji Islands Region*
*NEIC **28** 08:00:32.2±2.3, 17°.86S±0°.10×178°.35W±0°.10, h561km±8km, mb4.7/107, Error ellipse: s-maj=15.2km s-min=12.4km az=145.0*
*BGR **28** 08:00:38.7, 16°.02S×178°.61W, h571km, Hypocentre not reviewed by the ISC*
ISC 28 08:00:32.6±0.4, 17°.83S±0°.05×178°.30W±0°.04, h575km±4km, h574km:pP-P, n700, σ1§15/737, mb4.9/134, 20C-40D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.48**	**271**	P	**P**	**08 01 54.0**	**+1.3**
MSVF	**Nonsavu**	**3.48**	**271**	P	**P**	**08 01 53.8**	**+1.1**
FUTU	**Fugatoga**	**3.51**	**3**	P	**P**	**08 01 53.7**	**+0.8**
AFI	**Afiamalu**	**7.39**	**59**		**P**	**08 02 22.8**	**-2.5**
NIUE	**Niue**	**8.05**	**100**	P	**P**	**08 02 30.9**	**-0.6**
NIUE	**Niue**	**8.05**	**100**	P	**P**	**08 02 31.4**	**-0.1**
	330nm,0.9s,SNR=2.0						
FUNA	**Funafuti**	**9.56**	**345**	P	**P**	**08 02 46.2**	**-0.4**
RAO	**Raoul Island**	**11.38**	**178**	P	**P**	**08 03 02.2**	**-2.5**
	204nm,0.3s,baz=345,slow=20,SNR=5.8						
RAO				S	**S**	**08 05 10.4**	**+0.6**
	62nm,0.3s,baz=81,slow=20,SNR=1.2						
DVP	**Devils Point**	**12.87**	**268**	P	**P**	**08 03 20.2**	**0.0**
MARNC	**Mare, Loyalty**	**13.38**	**252**	P	**P**	**08 03 23.8**	**-1.6**
LIFNC	**LIFOU**	**13.96**	**256**	P	**P**	**08 03 29.3**	**-2.0**
LIFNC	**LIFOU**	**13.96**	**256**		**P**	**08 03 29.0**	**-2.3**
PINNC	**Pines Island,**	**14.20**	**248**	P	**P**	**08 03 32.8**	**-0.8**
PINNC	**Pines Island,**	**14.20**	**248**	P	**P**	**08 03 32.0**	**-1.6**
DZM	**Mont Dzumac**	**14.95**	**251**	P	**P**	**08 03 40.2**	**-0.9**
DZM	**Mont Dzumac**	**14.95**	**251**	*e*P	**P**	**08 03 39.0**	**-2.1**
	79nm,1.1s						
DZM				*e*S	**S**	**08 06 11.3**	**-4.4**
	621nm,24.7s						
DZM	**Mont Dzumac**	**14.95**	**251**	P	**P**	**08 03 39.9**	**-1.3**
	20nm,0.5s,baz=166,slow=20,SNR=46						
DZM				S	**S**	**08 06 13.8**	**-1.9**
	4.9nm,0.9s,baz=126,slow=23,SNR=1.1						
ONTNC	**Ouen Toro**	**15.00**	**250**	P	**P**	**08 03 41.2**	**-0.3**
ONTNC	**Ouen Toro**	**15.00**	**250**	P	**P**	**08 03 41.3**	**-0.2**
KOUNC	**Koumac, New Ca**	**16.67**	**258**	P	**P**	**08 03 58.2**	**+0.9**
KOUNC	**Koumac, New Ca**	**16.67**	**258**		**P**	**08 03 59.4**	**+2.1**
RAR	**Rarotonga**	**17.79**	**104**	P	**P**	**08 04 08.3**	**+0.9**
RAR	**Rarotonga**	**17.79**	**104**	P	**P**	**08 04 08.4**	**+1.0**
RAR	**Rarotonga**	**17.79**	**104**	P	**P**	**08 04 07.2**	**-0.2**
	64nm,0.8s,baz=249,slow=6.8,SNR=13						
KUZ	**Kuaotunu**	**19.57**	**194**	P	**P**	**08 04 25.6**	**+2.2**
KUZ	**Kuaotunu**	**19.57**	**194**	P	**P**	**08 04 25.0**	**+1.6**
MBAZ	**Motutapu North**	**19.80**	**196**	P	**P**	**08 04 27.3**	**+1.9**
MXZ	**Matakaoa Point**	**19.88**	**188**	P	**P**	**08 04 25.2**	**-1.1**
MXZ	**Matakaoa Point**	**19.88**	**188**	P	**P**	**08 04 24.4**	**-1.9**
ETAZ	**East Tamaki Re**	**19.96**	**196**	P	**P**	**08 04 28.8**	**+1.8**
WTAZ	**Waiatarua**	**20.04**	**197**	P	**P**	**08 04 29.6**	**+1.9**
MKAZ	**Moumakai**	**20.05**	**195**	P	**P**	**08 04 29.3**	**+1.5**
AWAZ	**Awhitu Peninsu**	**20.14**	**197**	P	**P**	**08 04 30.3**	**+1.7**
HAZ	**Te Kaha**	**20.15**	**189**	P	**P**

ARMA Armidale 30.07 240 P P 08 05 57.3 +0.9
ARMA Armidale 30.07 240 P P 08 05 57.3 +0.9
ARMA IAmb IAmb 08 05 58.3
comp=Z,31nm,0.7s
ARMA Armidale 30.07 240 P P 08 05 57.2 +0.9
comp=Z,44nm,0.8s,SNR=6.9
AUPHS Peel High Scho 30.88 239 P P 08 06 04.4 +1.1
WOLH Wollongong Har 32.06 233 P P 08 06 14.0 +0.8
AUUHS Ulladulla High 32.74 232 P P 08 06 19.6 +0.6
AULRC Lightning Ridg 32.86 243 P P 08 06 20.5 +0.4
AUDCS Dubbo College 33.06 238 P P 08 06 23.5 +1.8
CNB Canberra Magne 33.55 232 P P 08 06 27.0 +1.1
CNB Canberra Magne 33.55 232 P P 08 06 27.1 +1.1
comp=Z,121nm,0.9s,SNR=20
CTA Charters Tower 33.56 260 P P 08 06 25.7 -0.4
comp=Z,1.3nm,0.7s,baz=94,slow=9.6,SNR=37
CTA PcP PcP 08 08 50.1 +0.5
comp=Z,0.3nm,0.6s,baz=103,slow=4.6,SNR=3.4
CTA ScP ScP 08 11 42.5 +2.3
comp=Z,0.6nm,1.1s,baz=50,slow=4.7,SNR=4.7
CTAO Charters Tower 33.56 260 P P 08 06 26.2 +0.1
CTAO Charters Tower 33.56 260 P P 08 06 25.6 -0.5
CTAO IAmb IAmb 08 06 27.1
comp=Z,20nm,0.8s
CAN Canberra 33.83 233 P P 08 06 29.0 +0.8
CAN Canberra 33.83 233 P P 08 06 28.6 +0.4
CAN IAmb IAmb 08 06 30.0
comp=Z,31nm,0.7s
CAN Canberra 33.83 233 P P 08 06 29.0 +0.8
comp=Z,49nm,0.8s,SNR=8.1
YNG Young 33.92 235 P P 08 06 29.8 +0.9
YNG Young 33.92 235 P P 08 06 30.3 +1.4
comp=Z,78nm,1.1s,SNR=4.0
PMG Port Moresby 34.55 279 P P 08 06 35.7 +1.3
PMG Port Moresby 34.55 279 P P 08 06 35.5 +1.1
PMG Port Moresby 34.55 279 P P 08 06 34.3 0.0
comp=Z,97nm,0.8s,baz=78,slow=7.0,SNR=21
comp=Z,97nm,0.8s
CMSA Cobar Meteorol 35.28 240 P P 08 06 40.9 +0.7
CMSA Cobar Meteorol 35.28 240 P P 08 06 41.0 +0.8
comp=Z,29nm,SNR=29
MTSU Mount Surprise 35.52 264 P P 08 06 42.4 0.0
QLP Quilpie 35.66 249 P P 08 06 43.7 +0.2
QLP Quilpie 35.66 249 P P 08 06 43.6 +0.2
comp=Z,137nm,0.8s,SNR=20
GLAD Gladstone 36.98 224 P P 08 06 54.9 +0.8
COEN Coen 37.20 270 P P 08 06 57.1 +0.8
COEN Coen 37.20 270 P P 08 06 57.0 +0.6
COEN Coen 37.20 270 P P 08 06 56.9 +0.6
comp=Z,58nm,0.9s,SNR=10
TOO Toolangi 37.30 231 P P 08 06 57.8 +1.0
TOO Toolangi 37.30 231 P P 08 06 57.2 +0.4
TOO Toolangi 37.30 231 P P 08 06 57.5 +0.6
comp=Z,90nm,1.2s,SNR=14
AULHS Lilydale High 37.63 224 P P 08 07 00.2 +0.8
CORO Coronation Par 37.77 224 P P 08 07 02.1 +1.6
TAOE Nuku Hiva Isla 38.12 82 P P 08 07 04.4 +0.6
TAU Tasmania Unive 38.37 222 P P 08 07 05.8 +0.5
TAU IAmb IAmb 08 07 06.4
comp=Z,18nm,0.8s
GEXS Deakin Univers 38.41 230 P P 08 07 07.1 +1.3
BRAT Ballarat 38.45 232 P P 08 07 07.3 +1.2
STKA Stephens Creek 38.76 241 P P 08 07 09.5 +0.8
STKA Stephens Creek 38.76 241 P P 08 07 09.6 +0.8
STKA IAmb IAmb 08 07 10.7
comp=Z,16nm,1.1s
STKA Stephens Creek 38.76 241 P P 08 07 09.5 +0.8
comp=Z,19nm,1.4s,SNR=15
STKA Stephens Creek 38.76 241 P P 08 07 09.8 +1.1
comp=Z,40nm,0.5s,baz=92,slow=10,SNR=91
STKA PcP PcP 08 09 06.0 +0.7
comp=Z,3.8nm,0.7s,baz=17,slow=6.9,SNR=2.4
STKA ScP ScP 08 12 02.0 +2.6
comp=Z,3.9nm,1.1s,baz=105,slow=3.9,SNR=2.9
comp=Z,40nm,0.5s
INKA Innaminka 38.87 248 P P 08 07 11.0 +1.4
WAKE Wake Island 39.73 337 P P 08 07 16.4 -0.2
QIS Mount Isa 39.77 259 P P 08 07 16.9 -0.1
QIS Mount Isa 39.77 259 P P 08 07 16.3 -0.7
comp=Z,10.0nm,0.8s,SNR=2.6
ARPS Mount Arapiles 39.78 234 P P 08 07 17.5 +0.7
ARPS Mount Arapiles 39.78 234 P P 08 07 16.7 -0.1
comp=Z,47nm,0.8s,SNR=9.7
HTT Hallett 41.27 239 P P 08 07 29.6 +0.8
HTT Hallett 41.27 239 P P 08 07 29.3 +0.5
comp=Z,80nm,0.7s,SNR=7.5
LCRK Leigh Creek 41.38 244 P P 08 07 30.2 +0.6
TABU Tabubil 41.47 283 P P 08 07 32.6 +2.0
WHYH Whyalla 42.31 240 P P 08 07 37.7 +0.8
JAY Jayapura 42.98 286 P P 08 07 41.9 -0.6
comp=Z,88nm,0.8s,comp=Z,736nm
OOD Oodnadatta 43.34 248 P P 08 07 45.9 +0.9
GENI Genyem 43.44 286 P P 08 07 47.8 +1.8
GENI Genyem 43.44 286 P P 08 07 46.0 0.0
comp=Z,131nm,1.0s
BBOO Buckleboo 43.53 241 P P 08 07 46.9 +0.5
BBOO Buckleboo 43.53 241 P P 08 07 46.4 -0.1
BBOO Buckleboo 43.53 241 P P 08 07 46.5 +0.1
comp=Z,106nm,0.9s,SNR=8.8
WR0 Warramunga Arr 44.55 259 P P 08 07 53.4 -1.1
WR0 IAmb IAmb 08 07 55.1
comp=Z,44nm,1.4s
WRAB Tennant Creek 44.74 259 P P 08 07 55.4 -0.5
WRAB IAmb IAmb 08 07 56.3
comp=Z,30nm,0.6s
WRA Warramunga Arr 44.74 259 P P 08 07 55.0 -1.0
WRA Warramunga Arr 44.74 259 P P 08 07 55.4 -0.6
comp=Z,32nm,0.7s,baz=94,slow=7.2,SNR=505
WRA PcP PcP 08 09 26.1 +0.3
comp=Z,8.1nm,0.7s,baz=90,slow=3.3,SNR=7.9
WRA ScP ScP 08 12 25.5 +1.8
comp=Z,1.8nm,1.0s,baz=88,slow=4.3,SNR=5.3
WRA S S 08 13 48.8 -3.2
comp=Z,1.9nm,0.8s,baz=97,slow=12,SNR=7.4
comp=Z,32nm,0.7s
AS01 Alice Springs 44.87 254 P P 08 07 57.2 +0.3
AS31 Alice Springs 44.91 254 P P 08 07 56.8 -0.4
ASAR Alice Springs 44.91 254 P P 08 07 57.0 -0.3
ASAR Alice Springs 44.91 254 P P 08 07 57.5 +0.2
comp=Z,200nm,0.7s,baz=88,slow=8.4,SNR=2324
ASAR PcP PcP 08 09 26.6 +0.3
comp=Z,11nm,0.5s,baz=100,slow=4.0,SNR=8.5
ASAR ScP ScP 08 12 27.0 +2.6
comp=Z,1.1nm,0.6s,baz=99,slow=4.1,SNR=3.9
ASAR S S 08 13 52.0 -2.2
comp=Z,4.7nm,0.9s,baz=87,slow=16,SNR=18
ASPA Alice Springs 44.91 254 P P 08 07 57.4 +0.1
comp=Z,82nm,0.7s,SNR=115
MULG Mulgathing 44.94 245 P P 08 07 57.4 +0.1
KDU Kakadu 47.66 269 P P 08 08 17.8 -0.3
KDU Kakadu 47.66 269 P P 08 08 17.7 -0.3
comp=Z,88nm,0.6s,SNR=17
GUMO Guam 47.91 308 P P 08 08 18.7 -1.1
GUMO Guam 47.91 308 P P 08 08 18.1 -1.7
GUMO Guam 47.91 308 P P 08 08 18.0 -1.8
comp=Z,113nm,0.6s,baz=157,slow=11,SNR=12
comp=Z,113nm,0.6s
MTN Manton Dam 48.90 268 P P 08 08 26.6 -0.7
MTN Manton Dam 48.90 268 P P 08 08 26.6 -0.7
MTN Manton Dam 48.90 268 P P 08 08 26.8 -0.5
comp=Z,74nm,0.9s,SNR=16
KMPI Kaimana, Papua 49.04 281 P P 08 08 27.5 -0.8
DRS Darwin Rock St 49.21 269 P P 08 08 29.2 -0.4
WRKA Warakurna 49.96 252 P P 08 08 35.0 0.0
WRKA Warakurna 49.96 252 P P 08 08 35.3 +0.3
comp=Z,162nm,0.8s,SNR=14
FORT Forrest 50.13 245 P P 08 08 35.6 -0.5
FORT Forrest 50.13 245 P P 08 08 35.4 -0.7
FORT Forrest 50.13 245 P P 08 08 35.8 -0.3
comp=Z,144nm,0.6s,SNR=6.8
KNRA Kununurra 50.60 264 P P 08 08 39.3 -0.3
KNRA IAmb IAmb 08 08 40.4
comp=Z,54nm,0.7s
KNRA Kununurra 50.60 264 P P 08 08 39.5 -0.2
comp=Z,76nm,0.9s,SNR=11
FAKI Fak Fak 50.66 281 P P 08 08 39.2 -1.0
comp=Z,40nm,1.1s
SWI Sorong 52.32 283 P P 08 08 52.4 +0.3
NLAI Namlea 55.38 279 P P 08 09 13.0 -0.7
comp=Z,65nm,0.6s
KMBL Kambalda 55.44 244 P P 08 09 13.4 -0.4
KMBL Kambalda 55.44 244 P P 08 09 12.8 -1.0
comp=Z,5.1nm,SNR=5.1
SOEI Soe 56.17 270 P P 08 09 19.8 +0.5
SOEI Soe 56.17 270 P P 08 09 20.2 +0.9
SOEI Soe 56.17 270 P P 08 09 20.8 +1.5
TNTI Ternate 56.54 283 P P 08 09 22.2 +0.5
TNTI Ternate 56.54 283 P P 08 09 21.2 -0.5
comp=Z,89nm,0.9s
BATI Baumata 56.63 269 P P 08 09 21.8 -0.5
comp=Z,68nm,0.7s
SANI Sanana 56.83 279 P P 08 09 23.7 0.0
SANI Sanana 56.83 279 P P 08 09 23.0 -0.7
comp=Z,83nm,0.8s
PSA00 Pilbara Seismi 58.03 255 P P 08 09 31.6 -0.1
PSA00 Pilbara Seismi 58.03 255 P P 08 09 31.1 -0.6
PSA00 IAmb IAmb 08 09 32.3
comp=Z,55nm,0.7s
PSA00 Pilbara Seismi 58.03 255 P P 08 09 30.1 -1.6
PSA00 IAmb IAmb 08 09 32.4
comp=Z,21nm,0.9s
PSA00 Pilbara Seismi 58.03 255 P P 08 09 31.5 -0.1
comp=Z,85nm,0.8s,SNR=5.5
PSAC1 Pilbara Seismi 58.06 255 P P 08 09 31.7 -0.3
comp=Z,77nm,0.7s,SNR=5.2
MBWA Marble Bar 58.19 256 P P 08 09 32.6 -0.2
MBWA Marble Bar 58.19 256 P P 08 09 32.0 -0.8
MBWA IAmb IAmb 08 09 33.4
comp=Z,32nm,0.7s
MBWA Marble Bar 58.19 256 P P 08 09 32.6 -0.2
comp=Z,59nm,0.7s,SNR=6.1
MMRI Maumere 58.40 271 P P 08 09 34.0 -0.3
comp=Z,85nm,0.7s,comp=Z,10μm
MEEK Meekatharra 58.55 249 P P 08 09 34.9 -0.3
MEEK Meekatharra 58.55 249 P P 08 09 34.8 -0.5
comp=Z,45nm,0.9s,SNR=2.1
EDFI Ende, Flores 58.89 270 P P 08 09 37.1 -0.6
comp=Z,61nm,0.8s
KLBR Kellerberrin 58.95 243 P P 08 09 37.5 -0.3
KLBR Kellerberrin 58.95 243 P P 08 09 37.4 -0.3
comp=Z,225nm,0.7s,SNR=15
BLDU Ballidu 59.91 245 P P 08 09 43.7 -0.5
comp=Z,28nm,0.2s,SNR=1.3
MUN Mundaring 60.25 243 P P 08 09 46.7 +0.3
comp=Z,42nm,0.7s,SNR=1.9
SBA Scott Base 60.50 184 P P 08 09 49.5 +2.3
VNDA Vanda 60.53 185 P P 08 09 48.9 +1.4
VNDA Vanda 60.53 185 P P 08 09 48.8 +1.4
comp=Z,4.2nm,0.8s,baz=359,slow=7.9,SNR=40
comp=Z,4.2nm,0.8s
GTOI Gorontalo 60.55 281 P P 08 09 49.8 +1.2
comp=Z,26nm,0.8s
MORW Morawa 60.60 246 P P 08 09 48.6 -0.2
MORW Morawa 60.60 246 P P 08 09 48.5 -0.2
MORW IAmb IAmb 08 09 49.0
comp=Z,18nm,0.7s
MORW Morawa 60.60 246 P P 08 09 48.3 -0.5
comp=Z,28nm,0.6s,SNR=1.6
BSSI Bau Bau, Buton 60.75 273 P P 08 09 49.8 -0.2
comp=Z,50nm,0.8s
BKSI Bulukumba 61.34 274 P P 08 09 53.4 -0.4
comp=Z,21nm,0.6s
BNSI Bone 61.63 275 P P 08 09 56.2 +0.5
comp=Z,58nm,1.0s
KAPI Kappang 61.79 274 P P 08 09 56.9 +0.1
KAPI IAmb IAmb 08 09 57.7
comp=Z,17nm,0.9s
PLAI Plampang 62.59 269 P P 08 10 01.8 -0.1
PLAI Plampang 62.59 269 P P 08 10 01.4 -0.5
comp=Z,98nm,0.6s
MPSI Mapaga 63.36 280 P P 08 10 06.7 -0.1
comp=Z,66nm,0.8s,comp=Z,1μm
TWSI Taliwang, Sumb 63.47 269 P P 08 10 07.2 -0.4
comp=Z,131nm,0.8s
JAGI Jajag, Banyuwa 66.14 268 P P 08 10 23.0 -1.4
MJAR Matsushiro Arr 67.90 323 P P 08 10 34.5 -0.1
comp=Z,22nm,0.8s,baz=156,slow=5.8,SNR=37
comp=Z,22nm,0.8s
MAJO Matsushiro 67.91 323 P P 08 10 34.8 +0.1
MAJO Matsushiro 67.91 323 P P 08 10 34.8 +0.1
MAJO IAmb IAmb 08 10 35.6
comp=Z,42nm,1.1s
PWJI Pagerwojo 68.50 268 P P 08 10 37.9 -0.9
comp=Z,57nm,0.6s
JMN Monobe 68.60 318 P P 08 10 40.1 +1.1
JMN Monobe 68.60 318 P P 08 10 39.9 +0.9
JMN IAmb IAmb 08 10 41.1
comp=Z,53nm,1.1s
KKM Kota Kinabalu 68.82 284 P P 08 10 41.4 +0.6
KKM Kota Kinabalu 68.82 284 P P 08 10 40.6 -0.2
KKM IAmb IAmb 08 10 42.1
comp=Z,31nm,0.9s
UGM Wanagama 69.75 268 P P 08 10 46.0 -0.2
UGM Wanagama 69.75 268 P P 08 10 46.1 -0.2
SZP Santa 69.75 297 P P 08 10 47.0 +0.9
SMRI Semarang 70.07 269 P P 08 10 48.4 +0.2
comp=Z,102nm,0.7s
YOJ Yonaguni jima 70.98 305 P P 08 10 53.7 +0.4
YOJ Yonaguni jima 70.98 305 P P 08 10 53.3 0.0
STKI Sintang 71.22 276 P P 08 10 56.1 +1.2
comp=Z,83nm,0.8s
JKA Kamikawa-asahi 71.25 331 P P 08 10 55.6 +1.2
JKA IAmb IAmb 08 10 56.6
comp=Z,22nm,0.7s
TWGBT Beinan 71.71 302 P P 08 10 56.8 -0.7
YULB Yu-li 71.81 303 P P 08 10 57.8 -0.4
NACB Ninganchiao 71.96 304 P P 08 11 00.0 +1.0
QSPA South Pole Qui 72.22 180 P P 08 11 00.8 +0.8
QSPA IAmb IAmb 08 11 02.1
comp=Z,22nm,0.8s
QSPA South Pole Qui 72.22 180 P P 08 11 01.0 +1.1
comp=Z,18nm,0.8s,baz=15,slow=0.7,SNR=65
QSPA S S 08 19 38.8 +1.8
comp=Z,0.2nm,0.3s,baz=82,slow=13,SNR=1.7
comp=Z,18nm,0.8s
SSLB Suanglung 72.28 303 P P 08 11 00.2 -0.7
TPUB Ta-pu 72.30 302 P P 08 11 00.4 -0.6
TPUB Ta-pu 72.30 302 P P 08 11 00.0 -1.0
YHNB Yeheng 72.38 304 P P 08 11 02.1 +0.6
BBJI Bungbulang 72.61 268 P P 08 11 02.9 -0.2
KSM Kuching 72.77 277 P P 08 11 05.1 +1.2
LEM Lembang 72.82 268 P P 08 11 05.0 +0.6
comp=Z,146nm,0.8s
YSS Yuzh-Sakhalins 73.39 333 P P 08 11 07.4 +0.7
SKJI Sukabumi 73.78 268 P P 08 11 09.2 -0.5
KSRS Korea Array 74.71 318 P P 08 11 15.6 +1.3
comp=Z,6.1nm,0.7s,baz=130,slow=6.4,SNR=30
comp=Z,6.1nm,0.7s
QZH Quanzhou 74.72 303 P P 08 11 15.5 +0.8
QZH pmax pmax
comp=Z,42nm,0.7s
KASI Kota Agung 76.16 269 P P 08 11 22.2 -0.8
PKM Mcpherson Peak 76.35 46 P P 08 11 24.5 +0.8
baz=237
USA0B Ussuriysk Arra 76.61 326 P P 08 11 26.2 +1.5
USA0B IAmb IAmb 08 11 28.0
comp=Z,14nm,1.2s
USRK Ussuriysk Ar. 76.61 326 P P 08 11 25.7 +1.1
USRK Ussuriysk Ar. 76.61 326 P P 08 11 25.6 +1.0
comp=Z,5.8nm,0.6s,baz=192,slow=3.7,SNR=13
comp=Z,5.8nm,0.6s
SII Sitkinak Islan 76.83 13 P P 08 11 25.4 -0.2
baz=204
ARVC Arvin 77.16 46 P P 08 11 27.4 -0.5
baz=237
109C Camp Elliot, M 77.19 49 P P 08 11 28.4 +0.2
baz=239
R17L Mt. Peulik Vol 77.36 12 P P 08 11 28.8 +0.3
baz=201
VES Vestal, Richgr 77.37 46 P P 08 11 29.3 +0.2
baz=237,SNR=5.9
MURC Murrieta 77.50 48 P P 08 11 30.0 +0.2
baz=239
BFSC Mount Baldy Ra 77.50 48 P P 08 11 30.4 +0.4
baz=238
EDW2 Edwards Air Fo 77.60 47 P P 08 11 31.6 +1.2
baz=238,SNR=5.9
OHAK Old Harbor 77.63 14 P P 08 11 30.5 +0.6
baz=204
MONP2 Monument Peak 77.69 49 P P 08 11 32.3 +1.2
baz=239
ISA Isabella, Lake 77.69 46 P P 08 11 31.4 +0.6
baz=237,SNR=7.4
R18K Karluk 77.69 13 P P 08 11 30.6 +0.3
baz=203
RMX La Rumorosa 77.79 50 P P 08 11 33.1 +1.5
RMX IAmb IAmb 08 11 34.1
comp=Z,10nm,0.8s
IKP In-Ko-Pah, Jac 77.79 50 P P 08 11 30.8 -0.7
baz=239
NJ2 Nanjing 77.97 309 *e*P P 08 11 33.5 +1.2
NJ2 pmax pmax
comp=Z,23nm,0.9s
PFO Pinyon Flats O 78.03 49 P P 08 11 33.9 +1.1
baz=239
TPFO Pinon Flats 78.03 49 P P 08 11 33.4 +0.6
baz=239
Q17K Contact Creek 78.05 12 P P 08 11 31.8 -0.5
baz=202
LRMC Laurel Mtn Rad 78.14 47 P P 08 11 34.6 +1.2
baz=238
SWSC Sam W. Stewart 78.17 50 P P 08 11 34.2 +0.9
baz=240
MDJ Mudanjiang 78.18 325 P P 08 11 34.2 +1.0
MDJ Mudanjiang 78.18 325 P P 08 11 34.8 +1.6
MDJ pmax pmax
comp=Z,50nm,0.9s
MDJ pmax pmax
comp=Z,280nm,5.3s
MDJ Mudanjiang 78.18 325 P P 08 11 34.5 +1.3
MDJ IAmb IAmb 08 11 35.6
comp=Z,34nm,0.8s
O15K Ungalikthiuk R 78.21 10 P P 08 11 35.9 +2.9
baz=198
KDAK Kodiak Island 78.30 14 P P 08 11 34.9 +1.4
baz=205
MDPB Devils Postpil 78.35 44 P P 08 11 35.6 +1.0
CWC Cottonwood Cre 78.38 46 P P 08 11 35.3 +0.7
baz=238
OMMB Old Mammoth Mi 78.39 44 P P 08 11 35.7 +0.8
MLAC Mammoth, Mammo 78.51 44 P P 08 11 36.3 +0.9
baz=237
BELC Belle Mtn. Jos 78.56 49 P P 08 11 36.0 +0.3
baz=239,SNR=7.3
MPMC Manual Prospec 78.58 46 P P 08 11 36.7 +0.9
baz=238,SNR=6.3
Q18K Katmai Hardscr 78.58 12 P P 08 11 35.4 +0.2
baz=203
N14K Kuskokwak Cree 78.65 8 P P 08 11 35.9 +0.6
baz=196
MPK Martis Peak 78.65 42 P P 08 11 37.7 +1.5
MPK IAmb IAmb 08 11 38.9
comp=Z,8.7nm,0.6s
GSC Goldstone, Bar 78.65 47 P P 08 11 36.1 0.0
baz=238
HEC Hector,Ludlow 78.74 48 P P 08 11 37.7 +1.1
baz=239
BC3 Big Chuckawall 78.77 49 P P 08 11 37.7 +0.9
baz=240
P17K Kvichak River 78.81 11 P P 08 11 35.5 -0.7
baz=201
PNTR Pine Nut 78.81 43 P P 08 11 38.3 +1.3
PNTR IAmb IAmb 08 11 39.3
comp=Z,12nm,0.8s
O16K Kokwok River B 78.89 10 P P 08 11 35.9 -0.7
baz=200
M13K Dall Lake 78.90 7 P P 08 11 40.1 +3.5
baz=194
DSP Deep Springs 78.95 45 P P 08 11 38.9 +1.5
Q20K Shuyak Island 79.09 13 P P 08 11 37.5 -0.2
baz=205
N15K Kwethluk River 79.11 9 P P 08 11 39.0 +1.2
baz=198
Q19K Cape Douglas, 79.12 13 P P 08 11 40.9 +3.1
baz=204
GRAC Grapevine Rang 79.16 45 P P 08 11 39.9 +1.3
baz=238
GMRC Granite Mounta 79.19 48 P P 08 11 39.8 +0.8
baz=239
FURC Furnace Creek, 79.22 46 P P 08 11 39.2 +0.3
baz=238,SNR=6.2
P18K Big Mountain, 79.22 12 P P 08 11 37.6 -0.8
baz=202
O17K Koliganek Bris 79.23 11 P P 08 11 38.7 +0.3
baz=200
IRM Iron Mountain 79.25 49 P P 08 11 39.7 +0.6
baz=240
NVAR Mina Array Bea 79.30 44 P P 08 11 40.8 +1.2
comp=Z,4.5nm,0.8s,baz=224,slow=7.9,SNR=38
comp=Z,4.5nm,0.8s
PAHR Pah Rah Range 79.30 42 P P 08 11 40.6 +1.2
SHOC Shoshone, Teco 79.33 47 P P 08 11 40.2 +0.7
baz=239
TUQ Turquoise Moun 79.34 47 P P 08 11 40.3 +0.5
baz=239
NV11 Mina Array Sit 79.40 44 P P 08 11 41.0 +1.0
M14K Bethel 79.41 8 P P 08 11 38.6 -0.7
baz=196
M15K Kasigluk River 79.53 9 P P 08 11 39.8 -0.1
baz=197
N16K Nishlik Lake 79.61 10 P P 08 11 40.6 +0.1
baz=199
O18K Koktuh Hills 79.66 12 P P 08 11 40.2 -0.5
baz=202
KVN Kaiserville 79.77 43 P P 08 11 42.9 +0.9
L14K Kuka Creek 79.89 8 P P 08 11 42.0 +0.2
baz=195
TPNV Topopah Spring 79.89 46 P P 08 11 43.1 +0.4
baz=239,SNR=5.7
CN2 Changchun 80.02 322 ⇓P P 08 11 43.8 +0.9
CN2 *ep*P pwP 08 13 44.0 -3.2
CN2 *e*S S 08 21 04.8 +4.4
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
PDMCI Parker Dam,Lak 80.04 49 P P 08 11 42.7 -0.5
baz=240
BNX BinXian 80.09 325 ⇓P P 08 11 43.5 +0.3
BNX pmax pmax
comp=Z,45nm,0.8s
M16K Timber Creek 80.10 9 P P 08 11 43.2 +0.3
baz=199,SNR=6.7
O19K Port Alsworth 80.14 12 P P 08 11 42.5 -0.6
baz=203
N18K Kilae Creek 80.30 11 P P 08 11 43.9 -0.1
baz=202
L15K Ungalak Mounta 80.36 8 P P 08 11 44.0 -0.3
baz=196
BRSE Bradley Lake S 80.49 14 P P 08 11 44.7 -0.3
baz=207
WHN Wuhan 80.64 306 P P 08 11 48.0 +1.6
PINE Pine Mountain 80.67 38 P P 08 11 47.9 +1.3
L16K Owhat River 80.68 9 P P 08 11 46.0 +0.1
baz=198
N19K Bonanza Creek 80.68 12 P P 08 11 46.2 +0.1
baz=203
M17K Holitna River 80.71 10 P P 08 11 47.0 +1.0
M17K IAmb IAmb 08 11 48.4
comp=Z,23nm,0.9s
M17K Holitna River 80.71 10 P P 08 11 46.9 +0.8
baz=200,SNR=7.6
K15K Wolf Creek Mou 80.95 8 P P 08 11 48.6 +1.3
K15K IAmb IAmb 08 11 49.5
comp=Z,33nm,1.0s
K15K Wolf Creek Mou 80.95 8 P P 08 11 48.3 +0.9
baz=196,SNR=11
M18K Stony River 81.07 11 P P 08 11 49.2 +1.3
baz=202
R11B Troy Canyon, C 81.07 45 P P 08 11 49.3 +0.6
R11B Troy Canyon, C 81.07 45 P P 08 11 48.6 -0.2
baz=239,SNR=5.6
L17K Donlin 81.26 9 P P 08 11 49.8 +0.9
baz=199,SNR=8.5
TIA Tai'an 81.27 312 P P 08 11 50.5 +0.9
TIA pmax pmax
comp=Z,11nm,0.7s
O22K Cooper Landing 81.38 14 P P 08 11 51.7 +2.2
baz=207
TUC Tucson 81.57 52 P P 08 11 52.8 +1.5
TUC IAmb IAmb 08 11 54.5
comp=Z,9.1nm,0.9s
TUC Tucson 81.57 52 P P 08 11 53.0 +1.7
baz=243
L18K Granite Mounta 81.60 10 P P 08 11 51.5 +0.8
L18K IAmb IAmb 08 11 52.6
comp=Z,18nm,1.2s
L18K Granite Mounta 81.60 10 P P 08 11 50.6 0.0
baz=201,SNR=7.8
M19K Big River Lodg 81.71 11 P P 08 11 51.0 -0.3
baz=203
K17K Iditarod 81.81 9 P P 08 11 52.5 +0.7
K17K Iditarod 81.81 9 P P 08 11 51.1 -0.6
baz=199
L19K White Mountain 81.88 11 P P 08 11 52.2 0.0
baz=202
UBPT Khong Chiam 82.00 289 P P 08 11 54.6 +0.9
LCMT Little Creek M 82.00 47 P P 08 11 54.9 +1.4

J16K	Anvik River	82.03	8	P	P	08 11 53.0	+0.2
	baz=197,SNR=7.5						
SUA	Susitna One	82.03	13	P	P	08 11 52.8	-0.2
	baz=206						
PWL	Port Wells	82.04	14	P	P	08 11 52.6	-0.3
	baz=209						
X16A	Lo Mia Camp, P	82.06	50	P	P	08 11 55.7	+1.8
X16A				IAmb	IAmb	08 11 56.7	
	comp=Z,8.5nm,0.9s						
CCUT	Cedar City	82.18	47	P	P	08 11 55.3	+0.7
KAIM	Kayak Island	82.22	16	P	P	08 11 54.3	+0.5
	baz=212						
SPR3	Spring Creek 3	82.24	45	P	P	08 11 55.5	+0.7
KNB	Kanab	82.30	47	P	P	08 11 56.3	+1.2
PSUT	Pine Spring	82.33	46	P	P	08 11 56.0	+0.8
L20K	Farewell, AK	82.33	11	P	P	08 11 54.9	+0.5
	baz=203,SNR=5.8						
SKT	Skwentna	82.33	12	P	P	08 11 53.6	-0.8
	baz=206						
J17K	VABM Dome	82.34	9	P	P	08 11 53.9	-0.5
	baz=198,SNR=5.9						
GLI	Glacier Island	82.35	15	P	P	08 11 54.4	-0.1
GLI				IAmb	IAmb	08 11 55.0	
	comp=Z,15nm,0.8s						
GLI	Glacier Island	82.35	15	P	P	08 11 53.4	-1.1
	baz=210						
U15A	North Rim	82.39	48	P	P	08 11 57.1	+1.5
U15A				IAmb	IAmb	08 11 58.4	
	comp=Z,13nm,0.8s						
M22K	Willow	82.43	13	P	P	08 11 54.7	-0.1
	baz=207						
KNK	Knik Glacier	82.50	14	P	P	08 11 55.8	+0.6
	baz=209						
PMR	Palmer	82.50	14	P	P	08 11 54.9	-0.3
	baz=208						
WUAZ	Wupatki	82.62	49	P	P	08 11 57.1	+0.5
	baz=242						
G08A	Pilot Rock	82.69	38	P	P	08 11 57.6	+0.9
J18K	Innoko River	82.77	10	P	P	08 11 56.9	+0.3
J18K				IAmb	IAmb	08 11 57.9	
	comp=Z,14nm,0.8s						
J18K	Innoko River	82.77	10	P	P	08 11 56.1	-0.4
	baz=201,SNR=15						
PKCU	Pink Cliffs	82.86	47	P	P	08 12 00.2	+2.1
PKCU				IAmb	IAmb	08 12 01.4	
	comp=Z,10nm,1.0s						
HEH	HeiHe	82.90	328	eP	P	08 11 57.8	+0.3
HEH				pmax	pmax		
	comp=Z,12nm,1.0s						
CUT	Chulitna	82.98	13	P	P	08 11 56.9	-0.7
	baz=207						
M23K	Glacier View	83.00	14	P	P	08 11 57.7	0.0
	baz=209						
BMRM	Bremner River	83.05	16	P	P	08 11 57.8	-0.3
	baz=212						
K20K	Telida	83.11	11	P	P	08 11 57.9	-0.3
	baz=203						
MESA	MESA	83.11	17	P	P	08 11 57.4	-1.2
	baz=215						
SCM	Sheep Creek Mo	83.13	14	P	P	08 11 58.4	-0.1
SCM				IAmb	IAmb	08 11 59.3	
	comp=Z,16nm,0.8s						
SCM	Sheep Creek Mo	83.13	14	P	P	08 11 57.9	-0.6
	baz=210,SNR=8.7						
H16K	Elim	83.13	7	P	P	08 11 58.7	+0.5
	baz=195						
S31K	Pelican	83.14	21	P	P	08 11 58.8	+0.4
	baz=220						
KLU	Klutina	83.17	15	P	P	08 11 58.5	-0.2
	baz=211						
MTPU	Mount Pierson	83.24	47	P	P	08 12 01.0	+1.0
CRQE	Cirque	83.27	17	P	P	08 11 59.2	-0.1
	baz=214						
G15K	Niukluk	83.28	6	P	P	08 11 58.9	-0.1
	baz=194						
J19K	Poorman	83.44	10	P	P	08 11 59.9	+0.1
	baz=202						
PNL	Peninsula	83.45	19	P	P	08 12 00.3	+0.2
	baz=217						
TNA	Tin City	83.51	4	P	P	08 12 00.0	-0.1
	baz=190						
HNS	HongShan	83.54	312	⇓P	P	08 12 02.3	+1.3
HNS				pmax	pmax		
	comp=Z,17nm,1.3s						
F14K	Arctic Creek	83.55	5	P	P	08 12 00.6	+0.2
	baz=192						
N25K	Chitina, Valde	83.60	15	P	P	08 12 00.7	-0.1
N25K				IAmb	IAmb	08 12 01.9	
	comp=Z,10nm,0.8s						
N25K	Chitina, Valde	83.60	15	P	P	08 12 00.4	-0.4
	baz=212,SNR=8.7						
W18A	Petrified Fore	83.62	50	P	P	08 12 00.1	-1.6
	baz=243						
M24K	Tolsona, Glenn	83.64	15	P	P	08 12 01.1	+0.1
	baz=211						
GLB	Gilahina Butte	83.66	16	P	P	08 12 00.9	-0.2
GLB				IAmb	IAmb	08 12 01.6	
	comp=Z,6.9nm,0.7s						
WAT6	Susitna Watana	83.69	14	P	P	08 12 00.5	-0.8
	baz=209,SNR=8.7						
H17K	Granite Mounta	83.70	8	P	P	08 12 01.4	+0.3
	baz=198						
WAT1	Susitna Watana	83.72	13	P	P	08 12 01.0	-0.4
	baz=208						
BJT	Baijiatuau	83.79	315	P	P	08 12 03.5	+1.3
BJI	Beijing	83.80	315	P	P	08 12 03.3	+1.1
BJI				PcP	PcP	08 12 08.8	+4.0
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MCARA	McCarthy VSAT	83.82	16	P	P	08 12 01.5	-0.3
	baz=214						
G16K	Koyuk River	83.85	7	P	P	08 12 01.7	-0.1
	baz=195						
J20K	Nowinta River	83.85	10	P	P	08 12 01.6	-0.4
J20K				IAmb	IAmb	08 12 03.1	
	comp=Z,8.9nm,0.8s						
J20K	Nowinta River	83.85	10	P	P	08 12 01.5	-0.4
	baz=203,SNR=9.0						
DUG	Dugway, Tooele	83.85	45	P	P	08 12 03.0	+0.3
	baz=241						
LYN	LuoYang	83.86	309	P	P	08 12 03.5	+0.9
LYN				pmax	pmax		
	comp=Z,71nm,0.8s						
LYN				pmax	pmax		
	comp=Z,220nm,6.4s						
CTG	Chitna Glacier	83.94	17	P	P	08 12 02.5	0.0
	baz=215						
P29M	Windy Craggy	83.94	19	P	P	08 12 02.9	+0.4
	baz=218						
121A	Cookes Peak, D	83.94	53	P	P	08 12 03.6	+0.3
	baz=244						
MAW	Mawson	83.97	200	P	P	08 12 03.3	+0.8
	comp=Z,9.8nm,0.7s,baz=138,slow=4.8,SNR=28						
	comp=Z,9.8nm,0.7s						
O28M	Mount Upton	84.11	18	P	P	08 12 03.5	-0.1
	baz=216						
H18K	Honhosa River	84.11	8	P	P	08 12 03.0	-0.2
	baz=199						
HARP	HAARP	84.14	15	P	P	08 12 03.5	+0.2
	baz=212						
G17K	Kiwalik Mounta	84.15	7	P	P	08 12 02.7	-0.6
	baz=197						
RND	Reindeer	84.17	13	P	P	08 12 03.7	+0.1
RND				IAmb	IAmb	08 12 04.4	
	comp=Z,17nm,0.8s						
DHY	Denali Highway	84.20	14	P	P	08 12 03.3	-0.6
	baz=210						
O29M	Mount Kennedy	84.21	19	P	P	08 12 03.8	-0.2
	baz=218						
PLBC	Pleasant Camp	84.25	20	P	P	08 12 03.8	-0.1
	baz=220						
ENH	Enshi	84.31	304	P	P	08 12 06.5	+1.5
BPAW	Bear Paw Mtn.	84.36	12	P	P	08 12 04.2	-0.3
	baz=206						
I20K	Naaghedeneel	84.37	10	P	P	08 12 04.3	0.0
	baz=203						
MCK	McKinley	84.44	13	P	P	08 12 03.7	-1.2
	baz=208,SNR=6.8						
HLID	Hailey	84.50	41	P	P	08 12 05.1	-0.8
	baz=239,SNR=6.3						
PAX	Paxson	84.55	14	P	P	08 12 04.6	-0.8
	baz=211						
P30M	Million Dollar	84.57	19	P	P	08 12 05.2	-0.4
	baz=219						
SKAG	Skagway	84.59	20	P	P	08 12 04.8	-0.8
	baz=221						
YUK8	Steele Glacier	84.64	18	P	P	08 12 04.5	-1.7
	baz=217						
M26K	Nabesna, AK	84.68	16	P	P	08 12 05.7	-0.4
	baz=214,SNR=10						
H19K	Roundabout Mou	84.74	9	P	P	08 12 05.6	-0.6
	baz=201						
G18K	Tagagawik	84.78	8	P	P	08 12 05.0	-1.5
	baz=199						
YUK3	Moose Creek	84.84	17	P	P	08 12 05.3	-1.7
	baz=216,SNR=9.9						
S34M	Telegraph Cree	84.93	23	P	P	08 12 05.5	-1.8
	baz=224						
M27K	Edge Creek, AK	84.94	16	P	P	08 12 08.0	+0.5
M27K				IAmb	IAmb	08 12 09.1	
	comp=Z,11nm,1.1s						
M27K	Edge Creek, AK	84.94	16	P	P	08 12 06.0	-1.4
	baz=215,SNR=10						
H20K	Anotleneega Mo	84.95	10	P	P	08 12 06.6	-0.7
	baz=202						
F17K	Baldwin Pennin	84.99	7	P	P	08 12 06.8	-0.6
	baz=196						
NONG	Nongkai	85.06	291	P	P	08 12 10.1	+1.3
GYA	Guiyang	85.08	300	P	P	08 12 10.3	+1.3
GYA				pP	pP	08 14 14.3	+1.8
GYA				S	S	08 21 52.3	+0.7
GYA				pmax	pmax		
	comp=Z,23nm,0.8s						
GYA				pmax	pmax		
	comp=Z,160nm,9.5s						
L26K	Log Cabin Wild	85.11	15	P	P	08 12 07.4	-0.7
	baz=213						
SRIT	Nakonsritamara	85.16	281	P	P	08 12 11.7	+2.3
NEA2	Nenana	85.18	12	P	P	08 12 07.8	-0.6
	baz=208						
K24K	Donnelly Dome	85.19	14	P	P	08 12 07.6	-0.9
	baz=211						
G19K	Purcell Mounta	85.23	8	P	P	08 12 08.4	-0.2
G19K	Purcell Mounta	85.23	8	P	P	08 12 07.6	-1.0
	baz=200						
P32M	Atlin	85.23	21	P	P	08 12 07.6	-1.2
	baz=222						
MLY	Manley	85.25	11	P	P	08 12 07.9	-0.8
	baz=206,SNR=5.3						
WRH	Wood River Hil	85.27	13	P	P	08 12 08.3	-0.5
WRH				IAmb	IAmb	08 12 10.0	
	comp=Z,11nm,1.0s						
Q32M	Nakina River	85.27	22	P	P	08 12 08.3	-0.9
	baz=223						
F18K	Selawik	85.33	7	P	P	08 12 08.4	-0.6
	baz=198						
O30N	Mendenhall	85.35	19	P	P	08 12 09.0	-0.4
	baz=220						
NEW	Newport	85.39	36	P	P	08 12 09.4	-0.5
	baz=237						
BSUT	Blindstream Ca	85.39	45	P	P	08 12 11.2	+0.8
H21K	Melozitna Rive	85.44	10	P	P	08 12 09.7	+0.1
H21K	Melozitna Rive	85.44	10	P	P	08 12 08.8	-0.8
	baz=204						
MNTX	Cornudas Mount	85.45	55	P	P	08 12 09.3	-1.2
	baz=246						
MVCO	Mesa Verde	85.45	49	P	P	08 12 09.2	-1.4
	baz=244						
HDA	Harding Lake	85.46	13	P	P	08 12 09.5	-0.2
	baz=210,SNR=5.8						
L27K	Beaver Creek,	85.53	16	P	P	08 12 09.9	-0.3
	baz=215						
E17K	Hotham Inlet	85.54	6	P	P	08 12 09.3	-0.8
	baz=196						
N30M	Aishikik Lake	85.57	19	P	P	08 12 09.6	-0.8
	baz=219						
IMAR	Indian Mountai	85.59	10	P	P	08 12 10.0	-0.3
I23K	Minto, Yukon-K	85.61	12	P	P	08 12 08.9	-1.5
	baz=208						
WHY	Whitehorse	85.65	20	P	P	08 12 10.2	-0.7
	baz=221						
COLA	College	85.67	13	P	P	08 12 09.9	-0.8
COLA	College	85.67	13	P	P	08 12 10.1	-0.6
	baz=209						
DLBC	Dease Lake	85.72	23	P	P	08 12 10.5	-0.7
	baz=226						
XLT	XiLinHaoTe	85.76	319	⇓iP	P	08 12 12.3	+0.6
XLT				pmax	pmax		
	comp=Z,21nm,1.1s						
SCRK	Sand Creek	85.76	14	P	P	08 12 11.5	+0.2
SCRK	Sand Creek	85.76	14	P	P	08 12 10.8	-0.5
	baz=213						
F19K	Shaleruckik Mo	85.79	8	P	P	08 12 11.3	+0.1
	baz=200						
ILAR	Eielson Array	85.79	13	P	P	08 12 10.5	-0.8
	comp=Z,2.0nm,0.5s,baz=222,slow=5.2,SNR=47						
	comp=Z,2.0nm,0.5s						
TX31	Lajitas Ar. Si	85.87	58	P	P	08 12 14.2	+1.6
TX31				IAmb	IAmb	08 12 15.9	
	comp=Z,11nm,0.9s						
TXAR	Lajitas Array	85.87	58	P	P	08 12 14.0	+1.4
TXAR	Lajitas Array	85.87	58	P	P	08 12 14.8	+2.1
	comp=Z,7.8nm,0.8s,baz=218,slow=6.0,SNR=109						
	comp=Z,7.8nm,0.8s						
H22K	Ishtalitna Cre	85.91	11	P	P	08 12 10.5	-1.3
	baz=206						
M29M	Somme Creek	85.94	17	P	P	08 12 11.4	-0.8
	baz=218,SNR=5.0						
ANMO	Albuquerque	85.97	51	P	P	08 12 11.8	-1.3
	baz=245						
POKR	Poker Plat Res	85.97	13	P	P	08 12 11.1	-1.1
	baz=209						
J25K	Salcha River,	85.98	14	P	P	08 12 12.3	0.0
J25K				IAmb	IAmb	08 12 12.9	
	comp=Z,13nm,1.4s						
J25K	Salcha River,	85.98	14	P	P	08 12 11.0	-1.3
	baz=211,SNR=8.4						
N31M	Braeburn, Yuko	85.99	19	P	P	08 12 11.6	-0.7
	baz=220						
P33M	Teslin, Yukon	86.00	21	P	P	08 12 11.0	-1.5
	baz=223						
E18K	Tukpahlearik C	86.00	7	P	P	08 12 11.0	-1.3
	baz=197						
D17K	Noatak River	86.01	6	P	P	08 12 11.0	-1.2
	baz=195						
R33M	Jennings River	86.05	22	P	P	08 12 11.9	-0.9
	baz=225						
G21K	Allakaket	86.12	10	P	P	08 12 12.1	-0.7
	baz=204,SNR=6.8						
H23K	Yukon River	86.18	11	P	P	08 12 13.1	-0.1
	baz=207						
K27K	Chicken	86.27	15	P	P	08 12 12.8	-0.7
	baz=214						
F20K	Avaraart Lake	86.27	9	P	P	08 12 12.6	-0.9
	baz=202						
XAN	Xi'an	86.29	307	⇓P	P	08 12 15.8	+1.3
XAN				pmax	pmax		
	comp=Z,67nm,0.9s						
XAN				pmax	pmax		
	comp=Z,250nm,8.1s						
J26L	Joseph Creek	86.30	14	P	P	08 12 14.4	+0.5
J26L				IAmb	IAmb	08 12 14.9	
	comp=Z,4.6nm,0.8s						
J26L	Joseph Creek	86.30	14	P	P	08 12 12.9	-1.0
	baz=213,SNR=9.2						
RDOG	Red Dog Mine	86.38	6	P	P	08 12 13.3	-0.7
	baz=195						
E19K	Redstone River	86.45	8	P	P	08 12 13.4	-0.9
	baz=200,SNR=6.3						
H24K	Noodor Dome	86.52	12	P	P	08 12 14.2	-0.6
	baz=209						
M30M	Minto, Yukon	86.53	18	P	P	08 12 14.4	-0.5
	baz=219,SNR=9.1						
L29M	L29M	86.56	17	P	P	08 12 14.5	-0.6
	baz=218,SNR=5.7						
TPAW	Teton Pass	86.66	42	P	P	08 12 16.3	0.0
PRP	Porcupine Dome	86.72	13	P	P	08 12 15.1	-0.7
	baz=211						
C17K	DeLong Mountai	86.76	6	P	P	08 12 14.3	-1.5
	baz=194						
F21K	Alatna River	86.77	9	P	P	08 12 15.7	-0.2
	baz=204						
G22K	Bettles	86.82	10	P	P	08 12 17.2	+1.1
	baz=206						
S22A	4UR Ranch, Cre	86.88	49	P	P	08 12 16.4	-1.1
	baz=245						
G23K	Bananza Creek	86.89	11	P	P	08 12 16.0	-0.5
	baz=207						
O20A	White River Ci	86.92	46	P	P	08 12 16.4	-1.1
	baz=244						
LOHW	Long Hollow	86.94	42	P	P	08 12 17.9	+0.4
M31M	Drury Creek, Y	86.97	19	P	P	08 12 16.6	-0.4
	baz=221						
DAWY	Dawson	86.98	16	P	P	08 12 16.7	-0.3
	baz=217,SNR=5.3						
I26K	Coal Creek Min	87.08	14	P	P	08 12 16.5	-0.9
	baz=213						
EGAK	Eagle	87.11	15	P	P	08 12 17.1	-0.4
	baz=215,SNR=5.2						
BW06	Boulder Array	87.22	43	P	P	08 12 18.2	-0.7
	baz=243						
PD31	Pinedale Array	87.22	43	P	P	08 12 19.4	+0.5
PDAR	Pinedale Array	87.22	43	P	P	08 12 19.8	+0.9
	comp=Z,1.8nm,0.6s,baz=218,slow=3.7,SNR=26						
	comp=Z,1.8nm,0.6s						
F22K	John River	87.24	10	P	P	08 12 17.6	-0.5
	baz=205						
BOZ	Bozeman (W)	87.24	40	P	P	08 12 17.7	-1.1
	baz=241						
HHC	Hu-ho-hao-te	87.29	314	eP	P	08 12 20.8	+1.7
HHC				pmax	pmax		
	comp=Z,92nm,5.4s						
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
H25L	Birch Creek	87.31	13	P	P	08 12 18.0	-0.4
	baz=211						
K29M	Barlow Dome	87.31	17	P	P	08 12 18.9	+0.2
K29M				IAmb	IAmb	08 12 20.3	
	comp=Z,8.9nm,1.5s						
K29M	Barlow Dome	87.31	17	P	P	08 12 17.8	-0.8
	baz=218,SNR=5.5						
FARO	Faro, Yukon	87.31	19	P	P	08 12 18.8	+0.2
	baz=222						
COLD	Coldfoot	87.32	11	P	P	08 12 18.1	-0.3
	baz=207,SNR=8.9						
D19K	Kuna River	87.32	7	P	P	08 12 18.8	+0.3
	baz=199						
H17A	Grant Village	87.33	42	P	P	08 12 18.2	-1.2
	baz=242						
E20K	Nigu River	87.34	8	P	P	08 12 18.0	-0.6
	baz=201,SNR=12						
WTLY	Watson Lake, Y	87.34	22	P	P	08 12 18.7	-0.1
	baz=226						
G24K	Hadweenzic Riv	87.35	12	P	P	08 12 17.6	-1.0
	baz=209						
I27K	Kandik River	87.68	14	P	P	08 12 20.1	-0.1
	baz=215						
D20K	Etivluk River	87.71	8	P	P	08 12 19.4	-0.9
	baz=201						
C19K	Lookout Ridge	87.73	7	P	P	08 12 20.7	+0.3
	baz=198						
E21K	Killik River	87.82	9	P	P	08 12 19.6	-1.3
	baz=203						
SDCO	Great Sand Dun	87.84	49	P	P	08 12 20.0	-1.9
	baz=246						
TOAD	Toad River Com	87.85	25	P	P	08 12 20.9	-0.3
	baz=230						
KMI	Kunming	87.89	297	⇑P	P	08 12 22.8	+0.4
KMI				pmax	pmax		
	comp=Z,12nm,1.0s						
I28M	Miner Creek	87.96	15	P	P	08 12 20.4	-1.2
	baz=216						
F24K	Squaw Lake	87.99	11	P	P	08 12 20.2	-1.4
	baz=209,SNR=5.2						
E23K	Chandalar	88.16	10	P	P	08 12 21.4	-1.1
	baz=207,SNR=5.9						
J30M	Hart River	88.21	17	P	P	08 12 22.0	-0.9
	baz=220						
H27K	Steamboat Moun	88.22	14	P	P	08 12 22.2	-0.6
	baz=215						
I29M	Ogilvie Camp,	88.30	16	P	P	08 12 22.8	-0.3
	baz=218						
G26K	Porcupine Rive	88.32	13	P	P	08 12 22.6	-0.5
	baz=213,SNR=13						
MSTX	Muleshoe	88.36	54	P	P	08 12 22.7	-1.6
	baz=247						
C21K	Knifeblade Rid	88.37	8	P	P	08 12 22.5	-0.8
	baz=202						
E24K	Your Creek	88.38	11	P	P	08 12 22.4	-1.1
	baz=208						
T25A	Trinidad	88.38	50	P	P	08 12 23.6	-0.8
	baz=246						
D22K	Ayikyak River	88.41	9	P	P	08 12 23.7	+0.1
D22K				IAmb	IAmb	08 12 24.9	
	comp=Z,7.4nm,0.8s						
D22K	Ayikyak River	88.41	9	P	P	08 12 23.1	-0.5
	baz=204,SNR=5.5						
F25K	Christian Rive	88.49	12	P	P	08 12 23.5	-0.4
	baz=211						
RLMT	Red Lodge	88.49	41	P	P	08 12 23.6	-1.1
	baz=243						
TGTN	Hyland Airport	88.50	22	P	P	08 12 23.9	-0.2
	baz=227						
BMAR	Burnt Mountain	88.56	12	P	P	08 12 24.6	+0.3
G27K	Doyon Strip	88.67	14	P	P	08 12 24.4	-0.4
	baz=215						
TOLK	Toolik Lake Re	88.69	10	P	P	08 12 24.6	-0.3
	baz=207						
I30M	Mount Dempster	88.70	16	P	P	08 12 24.6	-0.5
	baz=220,SNR=5.8						
D23K	Nanushuk River	88.80	10	P	P	08 12 25.2	-0.1
	baz=206						
N23A	Red Feather La	88.83	46	P	P	08 12 25.4	-1.1
	baz=245						
B20K	Meade River	88.86	7	P	P	08 12 25.7	+0.1
	baz=200						
F26K	Sheenjek River	88.88	12	P	P	08 12 25.8	+0.1
	baz=212						
CMAR	Chiang Mai Arr	88.95	290	P	P	08 12 28.6	+1.5
	comp=Z,9.3nm,0.8s,baz=116,slow=2.7,SNR=40						
	comp=Z,9.3nm,0.8s						
H29M	Whitestone	88.97	15	P	P	08 12 26.0	-0.2
	baz=218,SNR=6.3						
CHTO	Chiang Mai	89.07	290	P	P	08 12 28.9	+1.2
CHTO				IAmb	IAmb	08 12 29.9	
	comp=Z,14nm,0.8s						
K22A	Casper	89.18	44	P	P	08 12 26.9	-1.1
	baz=245						
PZH	PanZhiHua	89.21	298	P	P	08 12 29.3	+0.9
PZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,5.2s						
ELIB	Princess Elisa	89.25	187	dP	P	08 12 28.1	+0.3
	comp=Z,20nm,0.7s						
D24K	Happy Valley	89.27	10	P	P	08 12 27.5	0.0
	baz=208						
JCT	Junction City	89.41	58	P	P	08 12 28.1	-1.0
	baz=249						
EPYK	Eagle Plains	89.50	16	P	P	08 12 27.9	-0.8
	baz=219						
EGMT	Eagleton	89.52	39	P	P	08 12 27.9	-1.4
	baz=242						
AMTX	Amarillo	89.55	53	P	P	08 12 28.0	-1.7
	baz=248						
C23K	Itkillik River	89.60	9	P	P	08 12 28.6	-0.3
	baz=206						
G29M	Pine Creek	89.60	15	P	P	08 12 28.5	-0.6
	baz=218						
B22K	Teshekpuk Lake	89.65	8	P	P	08 12 29.7	+0.5
	baz=204						
F28M	Old Crow	89.73	14	P	P	08 12 29.8	+0.1
	baz=216						
E27K	Coleen River	89.82	13	P	P	08 12 30.6	+0.4
	baz=215						
D25K	Kavik River	89.85	11	P	P	08 12 29.4	-0.8
	baz=210						
A22K	Sinclair Lake	90.06	7	P	P	08 12 30.9	-0.2
	baz=202						
G30M	tAoh Zraii Nji	90.10	15	P	P	08 12 31.8	+0.3
	baz=220,SNR=7.6						
ABTX	Abilene, Hawle	90.30	56	P	P	08 12 32.0	-1.2
	baz=249						
TROLL	Troll, Antarti	90.39	180	⇑P	P	08 12 32.9	-0.1
	comp=Z,389nm,0.5s						
TROLL				⇑pP	pP	08 14 45.4	+7.6
	comp=Z,131nm,0.8s						
G31M	Satah River	90.56	16	P	P	08 12 32.5	-0.9
	baz=222,SNR=6.6						
C27K	Jago River	90.60	11	P	P	08 12 32.8	-0.8
	baz=213						
E28M	Babbage River	90.61	13	P	P	08 12 32.9	-0.8
	baz=217						
SNAA	Sanae	90.67	179	P	P	08 12 33.9	-0.4
SNAA				IAmb	IAmb	08 12 35.2	
	comp=Z,11nm,1.3s						
SNAA	Sanae	90.67	179	⇑P	P	08 12 33.6	-0.7
	comp=Z,79nm,0.5s						
SNAA				⇑pP	pP	08 14 43.3	+4.4
	comp=Z,12nm,0.5s						
SNAA				⇑SKSac	SKSac	08 22 10.5	-0.4
	comp=Z,15nm,0.7s						

SNAA	**Sanae**	**90.67 179**	P	**P**	**08 12 34.2**	**0.0**
	comp=Z,3.5nm,0.6s,baz=206,slow=7.4,SNR=47					
SNAA			S	**SKSac**	**08 22 11.0**	**+0.1**
	comp=Z,1.4nm,1.1s,baz=180,slow=20,SNR=6.2					
	comp=Z,3.5nm,0.6s					
E29M	**Blow River**	**90.80 14**	P	**P**	**08 12 34.8**	**+0.2**
	baz=218					
VNA3	**Neumayer Olymp**	**90.81 176**	⇑P	**P**	**08 12 35.1**	**+0.3**
	comp=Z,17nm,0.6s					
VNA3			⇑pP	**pP**	**08 14 43.2**	**+3.8**
	comp=Z,2.7nm,0.7s					
VNA3			⇑SKSac	**SKSac**	**08 22 11.1**	**-0.5**
	comp=Z,1.5nm,1.0s					
D27M	**Malcolm River**	**90.82 12**	P	**P**	**08 12 34.8**	**0.0**
	baz=215					
LZH	**Lanzhou**	**90.92 308**	*e*P	**P**	**08 12 37.8**	**+1.7**
LZH			SKS	S	08 22 30.8	-14
LZH	**Lanzhou**	**90.92 308**	S	**S**	**08 22 40.0**	**-5.0**
LZH			pmax	pmax		
	comp=Z,22nm,1.1s					
F31M	**Tsiigehtchic**	**91.08 16**	P	**P**	**08 12 35.0**	**-0.8**
	baz=222					
LAO	**LASA Array**	**91.09 41**	P	**P**	**08 12 36.4**	**-0.1**
	baz=245					
VNA2	**Neumayer--Watz**	**91.25 177**	⇑P	**P**	**08 12 37.3**	**+0.5**
	comp=Z,12nm,0.6s,baz=188,slow=4.9					
VNA2			⇑pP	**pP**	**08 14 43.9**	**+2.2**
	comp=Z,1.2nm,0.7s,baz=192,slow=2.1					
VNA2			⇑SKSac	**SKSac**	**08 22 13.2**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=106,slow=10					
PLCA	**Paso Flores**	**91.31 134**	P	**P**	**08 12 38.8**	**+0.9**
	comp=Z,2.3nm,1.0s,baz=219,slow=5.5,SNR=3.5					
	comp=Z,2.3nm,1.0s					
RSSD	**Black Hills**	**91.44 44**	P	**P**	**08 12 38.0**	**-0.4**
	baz=246					
VNA1	**Neumayer--Stat**	**91.48 177**	⇑P	**P**	**08 12 38.6**	**+0.8**
	comp=Z,10.0nm,0.8s					
WMOK	**Wichita Mounta**	**91.72 54**	P	**P**	**08 12 39.1**	**-0.5**
	baz=250					
INK	**Inuvik**	**91.78 15**	P	**P**	**08 12 38.9**	**-0.2**
	baz=222					
SONM	**Songino Array**	**93.56 319**	P	**P**	**08 12 47.7**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=135,slow=5.2,SNR=10					
	comp=Z,1.6nm,0.7s					
YKA	**Yellowknife Ar**	**94.22 25**	P	**P**	**08 12 50.5**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=251,slow=4.4,SNR=4.2					
	comp=Z,0.7nm,0.9s					
ZALV	**Zalesovo Beam**	**108.23 322**	PKiKP	**PKiKP**	**08 17 54.6**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=44,slow=2.6,SNR=5.5					
MKAR	**Makanchi Array**	**109.15 314**	Pdiff	**Pdif**	**08 13 59.7**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=100,slow=4.3,SNR=2.4					
MKAR			PKiKP	**PKiKP**	**08 17 57.1**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=82,slow=1.0,SNR=18					
KURBB	**Kurchatov Arra**	**111.89 318**	PKiKP	**PKiKP**	**08 18 01.9**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=96,slow=2.0,SNR=22					
KURBB			PP	**PP**	**08 18 50.7**	**-6.8**
	comp=Z,0.9nm,0.9s,baz=88,slow=7.8,SNR=4.3					
BVAR	**Borovoye Array**	**116.85 321**	PKP	**PKPdf**	**08 18 11.6**	**-0.6**
	comp=Z,4.9nm,0.6s,baz=90,slow=1.5,SNR=22					
ARCES	**ARCESS Array B**	**126.25 350**	PKP	**PKPdf**	**08 18 29.5**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=17,slow=1.3,SNR=11					
BOSA	**Boshof**	**128.51 207**	PKP	**PKPdf**	**08 18 35.6**	**0.0**
	comp=Z,2.0nm,0.8s,baz=90,slow=4.2,SNR=4.1					
FINES	**FINESS Array B**	**133.14 344**	PKP	**PKPdf**	**08 18 42.0**	**-1.1**
	comp=Z,3.6nm,0.9s,baz=85,slow=4.2,SNR=9.5					
FINES			SKPbc	**SKPab**	**08 21 19.9**	**-0.6**
	comp=Z,3.5nm,0.9s,baz=52,slow=2.3,SNR=9.4					
NB2	**NORSAR Subarra**	**136.31 353**	PKP	**PKPdf**	**08 18 42.6**	**-6.5**
	comp=Z,0.7nm,0.6s,baz=17,slow=2.6					
NB2			SKPa		08 21 29.8	
	comp=Z,0.7nm,0.8s,baz=14,slow=3.1					
NOA	**NORSAR Array B**	**136.31 353**	PKhKP	PKPpre	08 18 37.6	
	comp=Z,0.3nm,0.5s,baz=7.2,slow=3.5,SNR=1.4					
NOA			PKP	**PKiKP**	**08 18 50.2**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=14,slow=4.1,SNR=6.0					
NOA			SKPbc	**SKPbc**	**08 21 29.9**	**+2.0**
	comp=Z,1.5nm,0.9s,baz=15,slow=4.5,SNR=4.5					
KBZ	**Khabaz**	**136.82 316**	PKP	**PKPdf**	**08 18 50.8**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=31,slow=14,SNR=2.4					
HFS	**Hagfors**	**136.87 351**	PKhKP	PKPpre	08 18 39.3	
	comp=Z,1.1nm,0.5s,baz=49,slow=4.5,SNR=8.5					
HFS			PKP	**PKPdf**	**08 18 50.5**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=90,slow=1.5,SNR=4.4					
AKASG	**Malin Array Be**	**140.54 332**	PKhKP	PKPpre	08 18 50.1	
	comp=Z,1.2nm,0.4s,baz=45,slow=4.2,SNR=5.6					
AKASG			PKP	**PKiKP**	**08 18 59.3**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=51,slow=2.7,SNR=4.8					
AKASG			SKPbc	**SKPbc**	**08 21 41.5**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=37,slow=1.6,SNR=5.2					
EKA	**Eskdalemuir Ar**	**142.38 5**	PKhKP	PKPpre	08 18 54.4	
	comp=Z,3.1nm,1.0s,baz=78,slow=27,SNR=3.8					
SORM	**Soroca**	**142.77 330**	⇑P	**PKPdf**	**08 18 58.4**	**-2.7**
DIKM	**Dikmen**	**142.78 317**	⇓P	**PKPdf**	**08 18 59.9**	**-1.4**
BEL	**Belsk**	**142.86 340**	*e*PKP	**PKPdf**	**08 18 59.7**	**-1.4**
BSEG	**Bad Segeberg**	**143.35 351**	*e*PKPbc		08 19 00.8	
	baz=17,slow=3.0					
BZK	**Bozkurt**	**143.44 318**	⇓P	**PKPdf**	**08 19 02.0**	**-0.4**
KWP	**Kalwaria Pacla**	**144.04 337**	*e*PKP	**PKPdf**	**08 19 03.3**	**0.0**
RUE	**Ruedersdorf**	**144.14 347**	*e*PKPbc		08 19 03.4	
	baz=17,slow=3.0					
TLCR		**144.56 326**	⇑P	**PKPab**	**08 19 05.3**	**+0.2**
OJC	**Ojcow**	**144.57 340**	*e*PKP	**PKPab**	**08 19 04.8**	**-0.3**
BURAR	**Bucovina Array**	**144.59 332**	⇓P	**PKPab**	**08 19 06.5**	**+1.1**
TESR	**Tescani**	**144.74 330**	⇑P	**PKPdf**	**08 19 04.6**	**0.0**
FLTG	**Flechtingen**	**144.76 350**	*e*PKPbc		08 19 05.1	
	baz=17,slow=3.0					
KOLS	**Kolonicke sedl**	**144.77 336**	*e*PKP	**PKPab**	**08 19 06.0**	**+0.1**
NRDL	**Niedersach Rie**	**144.78 351**	*e*PKPbc		08 19 05.2	
	baz=17,slow=3.0					
BRTR	**Keskin Array B**	**144.80 315**	PKP	PKPbc	08 19 05.8	+0.2
	comp=Z,19nm,0.8s,baz=134,slow=3.6,SNR=86					
NEGRR	**Negrea**	**144.81 327**	⇓P	**PKPab**	**08 19 06.1**	**0.0**
TPGR	**Topolog**	**144.99 326**	⇓P	**PKPab**	**08 19 06.8**	**0.0**
KSP	**Ksiaz**	**145.06 344**	*e*PKP	**PKPab**	**08 19 06.7**	**-0.2**
NIE	**Niedzica**	**145.09 339**	*e*PKP	**PKPab**	**08 19 06.9**	**-0.2**
CRVS	**Cervenica-Dubn**	**145.10 337**	*e*PKP	**PKPab**	**08 19 07.0**	**-0.2**
VRI	**Vrincioaia**	**145.16 329**	⇓P	**PKPbc**	**08 19 06.5**	**+0.2**
PLOR	**Plostina**	**145.21 329**	⇑P	**PKPbc**	**08 19 06.4**	**-0.2**
IBBN	**Ibbenburen**	**145.27 353**	*e*PKPbc		08 19 06.9	
	baz=17,slow=3.0					
ANTO	**Ankara**	**145.29 316**	⇓P	**PKPab**	**08 19 07.5**	**-0.8**
OSTC	**Ostas**	**145.34 344**	*e*PKP	**PKPbc**	**08 19 07.2**	**+0.5**
CHVC	**Chvalec**	**145.36 344**	*e*PKP	**PKPab**	**08 19 07.5**	**-0.6**
HARR	**Harsova**	**145.36 326**	⇓P	**PKPab**	**08 19 07.4**	**-0.9**
ARCR	**ARCALIA**	**145.38 332**	⇓P	**PKPab**	**08 19 07.7**	**-0.5**
CLZ	**Clausthal**	**145.38 351**	*e*PKPbc		08 19 06.9	
	baz=17,slow=3.0					
TURR	**Turia**	**145.38 330**	⇓P	**PKPab**	**08 19 08.0**	**-0.4**
CLL	**Collm**	**145.41 347**	⇓*i*PKPbc	**PKPbc**	**08 19 07.2**	**+0.4**
	comp=Z,38nm,0.9s					
CLL			*ep*PKiKP	**pPKiKP**	**08 21 22.0**	**-0.7**
CLL	**Collm**	**145.41 347**	*e*PKPbc		08 19 07.0	
	baz=17,slow=3.0					
OKC	**Ostrava-Krasne**	**145.43 341**	*e*PKP	**PKPab**	**08 19 07.6**	**-0.8**
COVR	**Voineasa-Covas**	**145.44 329**	⇓P	**PKPbc**	**08 19 06.9**	**-0.2**
UPC	**Upice**	**145.44 344**	*e*PKP	**PKPab**	**08 19 07.9**	**-0.5**
DPC	**Dobruska-Polom**	**145.50 343**	*e*PKP	**PKPab**	**08 19 08.2**	**-0.5**
LANS	**Liptovska Anna**	**145.60 339**	*e*PKP	**PKPab**	**08 19 09.2**	**+0.1**
BRG	**Berggiesshubel**	**145.61 346**	*e*PKP	**PKPbc**	**08 19 07.9**	**+0.5**
BRG			Amp		08 19 09.1	
	comp=Z,15nm,0.8s					
BRG	**Berggiesshubel**	**145.61 346**	*e*PKPbc		08 19 08.0	
	baz=17,slow=3.0					
KRLC	**Kraliky**	**145.62 343**	*e*PKP	**PKPbc**	**08 19 07.9**	**+0.3**
MORC	**Moravsky Berou**	**145.67 342**	*e*PKP	**PKPbc**	**08 19 08.0**	**+0.3**
GTTG	**Gottingen**	**145.72 351**	*e*PKPbc		08 19 07.8	
	baz=17,slow=3.0					
NEUB	**Neuenburg**	**145.74 349**	*e*PKPbc		08 19 07.8	
	baz=17,slow=3.0					
PVCC	**Panska Ves**	**145.79 345**	*e*PKP	**PKPab**	**08 19 08.7**	**-1.1**
KECS	**Kecovo**	**145.81 338**	*e*PKP	**PKiKP**	**08 19 11.7**	**+1.0**
MLR	**Muntele Rosu**	**145.82 329**	⇓P	**PKPbc**	**08 19 08.7**	**+0.3**
HSKC	**Hora Svate Kat**	**145.98 347**	*e*PKP	**PKPbc**	**08 19 08.9**	**+0.4**
CJR	**Cluj-Napoca**	**145.99 333**	⇓P	**PKPbc**	**08 19 09.5**	**+0.8**
BUG	**Bochum--Univer**	**146.17 354**	*e*PKPbc		08 19 09.7	
	baz=17,slow=3.0					
MMAI	**Mount Meron Ar**	**146.18 303**	PKPbc	**PKPbc**	**08 19 10.4**	**+0.7**
	comp=Z,8.3nm,0.6s,baz=76,slow=5.6,SNR=6.1					
MARR	**Marisel-Cluj**	**146.23 333**	⇓P	**PKPbc**	**08 19 10.2**	**+0.7**
KASTN	**Kahler Asten**	**146.28 352**	*e*PKPbc		08 19 09.8	
	baz=17,slow=3.0					
VOIR		**146.29 330**	⇓P	**PKPbc**	**08 19 10.1**	**+0.5**
PRU	**Pruhonice**	**146.29 345**	*e*PKP	**PKPbc**	**08 19 10.1**	**+0.7**
GOPC	**GO Pecny, Ondr**	**146.30 345**	*e*PKP	**PKPbc**	**08 19 10.0**	**+0.6**
DRGR		**146.31 334**	⇓P	**PKPbc**	**08 19 10.1**	**+0.5**
MOX	**Moxa**	**146.31 349**	*e*PKPbc		08 19 09.5	
	baz=17,slow=3.0					
TANN	**Tannenbergstha**	**146.37 348**	*e*PKPbc		08 19 09.7	
	baz=17,slow=3.0					
VRAC	**Vranov**	**146.37 342**	*e*PKP	**PKPbc**	**08 19 10.4**	**+0.8**
VRAC	**Vranov**	**146.37 342**	⇓P	**PKPbc**	**08 19 10.4**	**+0.8**
VYHS	**Vyhne**	**146.38 339**	*e*PKP	**PKPbc**	**08 19 10.6**	**+0.9**
VYHS			*e*		08 19 13.3	
UBBA	**Unterbreizbach**	**146.43 350**	*e*PKPbc		08 19 09.9	
	baz=17,slow=3.0					
JAVC	**Velka Javorina**	**146.44 341**	*e*PKP	**PKiKP**	**08 19 11.3**	**-0.8**
PSZ	**Piszkesteto**	**146.50 338**	⇑P	**PKPdf**	**08 19 07.3**	**-0.3**
ARR	**Arges**	**146.54 330**	⇑P	**PKPbc**	**08 19 08.9**	**-1.4**
KRUC	**Moravsky**	**146.64 342**	*e*PKP	**PKPbc**	**08 19 10.7**	**+0.3**
MANZ	**Manzenberg**	**146.84 348**	*e*PKPbc		08 19 11.2	
	baz=17,slow=3.0					
MODS	**Modra-Piesok**	**146.99 341**	*e*PKP	**PKiKP**	**08 19 12.6**	**-0.6**
MODS			*e*		08 19 16.9	
ROTZ	**Rotzenmuhle**	**147.03 347**	*e*PKPbc		08 19 11.8	
	baz=17,slow=3.0					
MEM	**Membach**	**147.12 355**	*d*PKiKP	**PKPbc**	**08 19 12.2**	**+0.6**
BTNL	**Ternell**	**147.13 355**	*d*PKiKP	**PKPbc**	**08 19 11.8**	**+0.2**
SIRR	**Siria**	**147.17 334**	⇓P	**PKPbc**	**08 19 12.0**	**+0.1**
BSTI	**Sart Tilman**	**147.18 355**	*d*PKiKP	**PKPbc**	**08 19 12.5**	**+0.8**
TNS	**Taunus Mts**	**147.23 352**	*e*PKPbc		08 19 12.4	
	baz=17,slow=3.0					
GRF	**Grafenberg Arr**	**147.30 349**	*e*PKPbc		08 19 12.5	
	baz=17,slow=3.0					
KHC	**Kasperske Hory**	**147.32 345**	*e*PKP	**PKPbc**	**08 19 12.8**	**+0.6**
BCLA	**Clavier**	**147.36 356**	*d*PKiKP	**PKiKP**	**08 19 13.2**	**-0.6**
BCLA			*d*PKP	**PKPab**	**08 19 15.0**	**-1.0**
BHOU	**Houvegnez**	**147.37 355**	*d*PKiKP	**PKiKP**	**08 19 13.3**	**-0.6**
GZR	**Gura Zlata**	**147.38 332**	⇓P	**PKPbc**	**08 19 12.4**	**-0.1**
SURR	**Surduc**	**147.38 333**	⇓P	**PKPbc**	**08 19 12.7**	**+0.3**
BGES	**Gesves**	**147.41 356**	*d*PKP	**PKPbc**	**08 19 12.7**	**+0.3**
CKRC	**Cesky Krumlov**	**147.43 344**	*e*PKP	**PKPbc**	**08 19 13.2**	**+0.7**
WET	**Wettzell**	**147.48 346**	*e*PKPbc		08 19 13.0	
	baz=17,slow=3.0					
BMRD	**Maredsous**	**147.51 356**	*d*PKiKP	**PKPbc**	**08 19 12.7**	**+0.1**
GERES	**GERESS Array B**	**147.56 345**	PKPbc	**PKPbc**	**08 19 13.4**	**+0.5**
	comp=Z,6.2nm,0.5s,baz=26,slow=3.4,SNR=33					
GEC2	**GERESS Array S**	**147.56 345**	*e*PKPbc		08 19 13.5	
	baz=17,slow=3.0					
RCHB	**Rochefort**	**147.63 356**	*d*PKiKP	**PKPbc**	**08 19 13.4**	**+0.6**
DOU	**Dourbes**	**147.73 357**	*d*PKiKP	**PKPbc**	**08 19 13.8**	**+0.6**
DOU			*d*PKP	**PKPab**	**08 19 16.4**	**-1.1**
CONA	**Conrad Observa**	**147.82 342**	*i* PKP	**PKiKP**	**08 19 14.4**	**-0.6**
	comp=Z,12nm,0.7s,SNR=11					
RONA	**Rosalia, Austr**	**147.89 341**	*i* PKP	**PKiKP**	**08 19 14.5**	**-0.6**
	comp=Z,13nm,0.6s,SNR=9.0					
WLF	**Walferdange**	**148.04 355**	*d*PKiKP	**PKiKP**	**08 19 15.1**	**-0.1**
WLF	**Walferdange**	**148.04 355**	*e*PKPbc		08 19 15.3	
	baz=17,slow=3.0					
MDVR	**Moldovita**	**148.32 332**	⇓P	**PKPbc**	**08 19 15.2**	**+0.3**
MOA	**Molln**	**148.34 344**	*i* PKP	**PKPbc**	**08 19 15.1**	**+0.2**
	comp=Z,6.0nm,0.8s,SNR=5.9					
ARSA	**Arzberg**	**148.53 342**	*i* PKP	**PKPbc**	**08 19 15.3**	**0.0**
	comp=Z,10.0nm,1.5s					
STU	**Stuttgart**	**148.54 350**	*e*PKPbc		08 19 15.8	
	baz=17,slow=3.0					
BIOA	**Bad Ischl, Aus**	**148.65 344**	*i* PKP	**PKPbc**	**08 19 15.7**	**+0.1**
	comp=Z,3.5nm,0.5s					
FUR	**Furstenfeldbru**	**148.75 348**	*e*PKPbc		08 19 16.6	
	baz=17,slow=3.0					
RJOB	**Jochberg**	**148.81 345**	*e*PKPbc		08 19 16.9	
	baz=17,slow=3.0					
BFO	**Black Forest**	**149.10 351**	*e*PKPbc		08 19 17.5	
	baz=17,slow=3.0					
LESA	**Schwarzleotal**	**149.13 345**	*i* PKP	**PKPbc**	**08 19 17.1**	**+0.3**
	comp=Z,6.4nm,0.5s					
SOKA	**Soboth**	**149.19 342**	*i* PKP	**PKPbc**	**08 19 16.8**	**-0.2**
	comp=Z,12nm,1.1s,SNR=9.3					
PERS	**Pernice**	**149.20 342**	*i* PKPdf	**PKPdf**	**08 19 11.8**	**-0.3**
PERS			*i* PKPbc	**PKPbc**	**08 19 16.8**	**-0.2**
KBA	**Koelnbreinsper**	**149.29 344**	*i* PKP	**PKPbc**	**08 19 17.0**	**-0.4**
	comp=Z,9.4nm,0.5s,SNR=7.4					
UBR	**Ueberruh**	**149.44 349**	*e*PKPbc		08 19 18.4	
	baz=17,slow=3.0					
WATA	**Walderatm**	**149.47 347**	*i* PKP	**PKPbc**	**08 19 17.8**	**+0.1**
	comp=Z,7.8nm,0.5s,SNR=6.0					
OBKA	**Obir**	**149.49 342**	*i* PKP	**PKPbc**	**08 19 17.4**	**-0.3**
	comp=Z,5.4nm,0.9s					
RETA	**Reutte**	**149.50 348**	*i* PKP	**PKPbc**	**08 19 17.9**	**+0.2**
	comp=Z,4.4nm,0.5s,SNR=5.5					
WTTA	**Wattenberg**	**149.53 347**	*i* PKP	**PKPbc**	**08 19 18.1**	**+0.2**
	comp=Z,24nm,0.6s,SNR=10.0					
MOTA	**Moosalm**	**149.56 347**	*i* PKP	**PKPbc**	**08 19 17.9**	**-0.1**
	comp=Z,14nm,0.9s					
MYKA	**Terra Mystica**	**149.63 344**	*i* PKP	**PKPbc**	**08 19 17.5**	**-0.5**
	comp=Z,9.9nm,0.6s,SNR=7.5					
SQTA	**Sankt Quirin**	**149.66 347**	*i* PKP	**PKPbc**	**08 19 18.3**	**+0.2**
	comp=Z,14nm,0.6s,SNR=5.9					
ABTA	**Abfaltersbach**	**149.81 345**	*i* PKP	**PKPbc**	**08 19 18.1**	**-0.3**
	comp=Z,19nm,0.6s,SNR=8.2					
DAVA	**Damuels**	**149.86 349**	*i* PKP	**PKiKP**	**08 19 19.1**	**-0.2**
	comp=Z,22nm,1.0s,SNR=6.6					
LJU	**Ljubljana**	**149.91 342**	*i* PKPbc	**PKPbc**	**08 19 18.9**	**+0.2**
LJU			*i* PKPab	**PKPab**	**08 19 26.4**	**-0.4**
FETA	**Feichten**	**149.95 348**	*i* PKP	**PKiKP**	**08 19 19.3**	**-0.2**
	comp=Z,15nm,1.0s,SNR=6.0					
BOJS	**Bojanci**	**150.18 341**	*i* PKPbc	**PKiKP**	**08 19 19.9**	**0.0**
APE	**Apeiranthos**	**151.59 317**	⇑P	**PKPbc**	**08 19 21.4**	**-1.4**
ESDC	**Sonseca Array**	**157.68 12**	PKPab	**PKPab**	**08 19 59.1**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=344,slow=4.5,SNR=6.2					
KEST	**Kesra**	**160.92 341**	PKPab	**PKPab**	**08 20 14.1**	**-0.3**
	comp=Z,3.0nm,0.5s,baz=103,slow=3.4,SNR=4.3					
TORD	**Torodi Ar. Bea**	**175.35 180**	PKP	**PKPdf**	**08 19 37.1**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=230,slow=0.8,SNR=9.1					
TORD			PKPab	**PKPab**	**08 21 17.4**	**-1.1**

IDC 28 08:01:53.8±6.8, 5°81S×145°88E, h124km±74km, mb3.1/3, mbtmp3.5/5, Error ellipse: s-maj=65.8km s-min=34.0km az=138.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.79**	**160**	P	Pn	08 02 50.6	**0.0**
	18nm,0.3s,baz=329,slow=9.4,SNR=13						
PMG				S	Sn	08 03 35.3	+0.6
	38nm,0.3s,baz=138,slow=23,SNR=27						
WRA	**Warramunga Arr**	**17.98**	**218**	P	P	08 05 54.0	-0.8
	0.7nm,0.8s,baz=40,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**21.17**	**212**	P	P	08 06 29.7	+0.4
	0.6nm,0.8s,baz=44,slow=8.0,SNR=3.1						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**76.64**	**321**	P	P	08 13 31.3	+0.3
	0.2nm,0.6s,baz=123,slow=7.1,SNR=2.2						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**85.75**	**23**	P	P	08 14 18.4	-0.2
	0.8nm,0.8s,baz=236,slow=5.4,SNR=5.1						
	0.8nm,0.8s						

NNC 28 08:42:25.9±0.7, 50°84N×73°59E, h0km, mb3.6, mpv3.3, 8C-3D, Error ellipse: s-maj=7.8km s-min=6.0km az=34.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.73**	**198**	⇑Pg	Pb	08 43 15.6	**0.0**
	6.6nm,0.7s						
OTUK				⇓Lg	Lg	08 43 52.1	
	54nm,0.9s						
BVA0	**Borovoye Array**	**2.95**	**319**	⇓Pg	Pb	08 43 19.4	0.0
	9.4nm,1.3s,baz=127,slow=23,SNR=10.0						
BVA0				Lg	Lg	08 43 58.9	
	28nm,0.8s,baz=100,slow=33,SNR=18						
BRVK	**Borovoye**	**3.02**	**319**	⇑Pg	Pb	08 43 21.0	+0.5
	6.7nm,0.9s						
BRVK				⇑Lg	Lg	08 44 00.5	
	62nm,0.8s						
KURBB	**Kurchatov Arra**	**3.15**	**92**	⇑Pn	Pn	08 43 17.7	+0.9
	18nm,0.7s						
KURBB				⇓Lg	Lg	08 44 03.4	
	100nm,0.7s						
KURK	**Kurchatov**	**3.20**	**90**	⇑Pn	Pn	08 43 18.2	+0.8
	12nm,0.8s						
KURK				⇑Lg	Lg	08 44 04.8	
	63nm,0.8s						
MAKZ	**Makanchi**	**6.85**	**123**	⇑Lg	Lg	08 46 02.0	
	20nm,0.8s						
MK31	**Makanchi Array**	**7.03**	**122**	Lg	Lg	08 46 06.5	
	17nm,0.8s,baz=312,slow=27,SNR=13						
KK31	**Karatay Array**	**8.02**	**196**	⇑Lg	Lg	08 46 39.1	
	7.4nm,0.8s,baz=10.0,slow=29,SNR=4.5						

IDC ***28*** *08:56:29.5±3.0, 36°40N×71°12E, h226km±27km, mb3.5/18, mbtmp4.1/24, Error ellipse: s-maj=18.1km s-min=12.6km az=3.0*
MOS ***28*** *08:56:31.3±0.8, 36°69N×71°09E, h244km, mb4.1/9, Error ellipse: s-maj=10.2km s-min=4.9km az=83.0*
NEIC ***28*** *08:56:32.3±1.2, 36°70N±0°08×71°09E±0°08, h239km±5km, mb4.2/21, Error ellipse: s-maj=11.1km s-min=9.3km az=158.0*
NNC ***28*** *08:56:35.3±5.8, 37°14N×71°45E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=45.1km s-min=42.5km az=152.0*
ISC 28 08:56:32.3±0.4, 36°67N±0°05×71°16E±0°05, h250km, n136, σ1§61/151, mb4.1/36, 10C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMJ	**Simiganj**	**2.62**	**320**	Pn	**Pn**	**08 57 18.9**	**-2.0**
KBL	**Kabul**	**2.73**	**220**	Pn	**Pn**	**08 57 20.8**	**-1.4**
KBL	**Kabul**	**2.73**	**220**	PN	**Pn**	**08 57 20.8**	**-1.4**
DRK	**Karamyk**	**2.85**	**10**		**Pn**	**08 57 22.8**	**-0.7**
DRK	**Karamyk**	**2.85**	**10**	PN	**Pn**	**08 57 22.8**	**-0.7**
BTK	**Batken**	**3.40**	**356**	Pn	**Pn**	**08 57 29.3**	**+0.1**
BTK	**Batken**	**3.40**	**356**	PN	**Pn**	**08 57 29.3**	**+0.1**
NIL	**Nilore**	**3.46**	**150**	Pn	**Pn**	**08 57 30.2**	**+0.2**
NIL	**Nilore**	**3.46**	**150**	PN	**Pn**	**08 57 30.3**	**+0.2**
KSH	**Kashi**	**4.75**	**52**	Pn	**Pn**	**08 57 40.8**	**-4.3**
KSH				Sn	S	08 58 32.0	-11
KSH				smax	smax		
	comp=N,450nm,0.8s						
KSH				smax	smax		
	comp=E,380nm,0.6s						
ARSB	**Arslanbob**	**4.86**	**16**	Pn	**Pn**	**08 57 45.5**	**-1.0**
ARSB	**Arslanbob**	**4.86**	**16**	PN	**Pn**	**08 57 45.5**	**-1.0**
JMU	**Jammu**	**5.00**	**141**	*e*P	**Pn**	**08 57 48.5**	**+0.4**
JMU				*e*S	**S**	**08 58 45.7**	**-2.9**
JMU				IAML		08 58 47.4	
	comp=E,186nm,0.4s						
JMU				IAML		08 58 47.5	
	comp=E,318nm,0.4s						
IUG	**Iuzhnay**	**5.54**	**351**	*e*PN	**Pn**	**08 57 54.3**	**-0.5**
IUG				pmax	pmax		
	comp=Z,20nm,0.2s						
THN	**Thein Dam**	**5.66**	**137**	*e*P	**Pn**	**08 57 57.3**	**+1.1**
THN				*e*S	**S**	**08 59 02.0**	**-1.2**
THN				IAML		08 59 03.5	
	comp=Z,170nm,0.4s						
THN				IAML		08 59 03.5	
	comp=E,276nm,0.2s						
AML	**Almayashu**	**5.80**	**19**	P	**Pn**	**08 57 58.0**	**-0.2**
	SNR=87						
NRN	**Naryn**	**6.07**	**37**	Pn	**Pn**	**08 58 00.4**	**-1.2**
NRN	**Naryn**	**6.07**	**37**	PN	**Pn**	**08 58 00.4**	**-1.2**
DHRM	**DHARAMSHALA**	**6.12**	**135**	*e*P	**Pn**	**08 58 03.1**	**+0.9**
DHRM				*e*S	**S**	**08 59 12.3**	**-1.8**
DHRM				IAML		08 59 13.6	
	comp=E,885nm,0.6s						
DHRM				IAML		08 59

ZALV pmax pmax
comp=Z,3.0nm,0.5s
SHL Shillong 20.87 116 P **P 09 00 57.0 +1.2**
SHL Shillong 20.87 116 P **P 09 00 57.0 +1.2**
SHL pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 21.52 341 P **P 09 01 01.8 +0.2**
ARU IAmb IAmb 09 01 04.9
comp=Z,7.4nm,0.8s
ARU Arti 21.52 341 P **P 09 01 02.8 +1.3**
comp=Z,4.2nm,0.4s,baz=145,slow=6.4,SNR=8.5
comp=Z,4.2nm,0.4s
ARU Arti 21.52 341 *ce*P **P 09 01 02.1 +0.6**
ARU pmax pmax
comp=Z,11nm,2.5s
KBZ Khabaz 22.64 297 P **P 09 01 13.6 +1.6**
comp=Z,1.5nm,0.7s,baz=146,slow=7.7,SNR=4.2
comp=Z,1.5nm,0.7s
KBZ Khabaz 22.64 297 *i* P **P 09 01 12.8 +0.9**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KIV Kislovodsk 22.82 297 *e*P **P 09 01 14.5 +0.7**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIRV Kirov 26.15 334 *ce*P **P 09 01 44.3 +0.9**
SONM Songino Array 28.14 56 P **P 09 02 03.6 +2.1**
comp=Z,0.9nm,0.7s,baz=248,slow=7.8,SNR=6.0
comp=Z,0.9nm,0.7s
SONM Songino Array 28.14 56 *e*P **P 09 02 04.4 +2.9**
SONM pmax pmax
comp=Z,1.0nm,0.7s
ULN Ulaanbaatar 28.58 56 *i* P **P 09 02 06.9 +1.5**
ULN pmax pmax
comp=Z,3.0nm,1.6s
BRTR Keskin Array B 29.50 288 P **P 09 02 14.7 +1.1**
comp=Z,1.0nm,0.7s,baz=104,slow=8.8,SNR=4.8
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 29.50 288 *e*P **P 09 02 15.7 +2.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 29.89 319↑ *e*P **P 09 02 17.3 +0.7**
OBN pmax pmax
comp=Z,14nm,0.5s
AKASG Malin Array Be 32.94 309 P **P 09 02 43.4 +0.1**
comp=Z,0.2nm,0.3s,baz=105,slow=9.9,SNR=2.9
comp=Z,0.2nm,0.3s
NRIK Noril'sk 33.94 10 P **P 09 02 53.7 +2.0**
comp=Z,2.2nm,0.5s,baz=166,slow=4.2,SNR=2.2
comp=Z,2.2nm,0.5s
NRIK Noril'sk 33.94 10 *i* P **P 09 02 53.3 +1.6**
NRIK pmax pmax
comp=Z,4.0nm,1.0s
VALR Valaam 35.26 327 *i* P **P 09 03 04.4 +1.4**
VALR pmax pmax
comp=Z,20nm,0.9s
LVZ Lovozero 37.35 338 P **P 09 03 20.9 +0.3**
LVZ Lovozero 37.35 338 P **P 09 03 20.9 +0.3**
LVZ pmax pmax
comp=Z,13nm,1.3s
FIA1 FINESS Array S 37.41 326 P **P 09 03 21.6 +0.5**
FINES FINESS Array B 37.42 326 P **P 09 03 22.1 +0.9**
FINES FINESS Array B 37.42 326 P **P 09 03 22.3 +1.1**
comp=Z,3.8nm,0.4s,baz=118,slow=9.7,SNR=48
comp=Z,3.8nm,0.4s
VADS Vadso 40.20 339 *e*P **P 09 03 45.7 +1.5**
VADS IAmb IAmb 09 03 50.1
comp=Z,28nm,1.2s
KEV Kevo 40.69 338 P **P 09 03 49.1 +1.0**
KEV IAmb IAmb 09 04 25.9
comp=Z,12nm,1.3s
KEV Kevo 40.69 338 P **P 09 03 49.1 +1.0**
KEV pmax pmax
comp=Z,12nm,1.3s
ARCES ARCESS Array B 41.04 337 P **P 09 03 51.6 +0.6**
ARCES IAmb IAmb 09 04 32.3
comp=Z,13nm,1.5s
ARCES ARCESS Array B 41.04 337 P **P 09 03 52.4 +1.4**
comp=Z,4.0nm,0.5s,baz=114,slow=8.6,SNR=37
comp=Z,4.0nm,0.5s
KTK1 Kautokeino 41.52 336 *e*P **P 09 03 56.0 +1.1**
KTK1 IAmb IAmb 09 03 56.4
comp=Z,7.3nm,0.5s
HAMF Hammerfest 42.12 339 *e*P **P 09 04 01.4 +1.7**
HAMF IAmb IAmb 09 04 01.7
comp=Z,11nm,0.5s
HFS Hagfors 43.01 322 P **P 09 04 07.9 +0.9**
comp=Z,5.5nm,0.6s,baz=104,slow=11,SNR=27
comp=Z,5.5nm,0.6s
TRO Tromso 43.17 336 *e*P **P 09 04 09.3 +1.3**
FAUS Fauske 43.71 332 *e*P **P 09 04 13.4 +0.9**
MOR8 Moi Rana 43.73 331 *e*P **P 09 04 13.1 +0.4**
MOR8 IAmb IAmb 09 04 13.5
comp=Z,10nm,0.7s
STEI Steigen 43.88 333 *e*P **P 09 04 14.8 +1.1**
STEI IAmb IAmb 09 04 15.4
comp=Z,3.1nm,0.7s
NC405 NORSAR Array S 44.09 323 P **P 09 04 15.6 +0.1**
NC405 IAmb IAmb 09 04 37.2
comp=Z,9.5nm,1.2s
NC602 NORSAR Array S 44.14 323 *e*P **P 09 04 16.5 +0.6**
NC602 IAmb IAmb 09 04 19.0
comp=Z,12nm,1.4s
NB2 NORSAR Subarra 44.32 323 P **P 09 04 17.7 +0.3**
comp=Z,2.2nm,0.6s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.32 323 P **P 09 04 17.7 +0.3**
baz=96,slow=7.9
NOA NORSAR Array B 44.32 323 P **P 09 04 17.9 +0.4**
comp=Z,2.9nm,0.7s,baz=96,slow=7.7,SNR=18
comp=Z,2.9nm,0.7s
KONS Konsvik 44.33 331 *e*P **P 09 04 18.4 +1.1**
LOF Lofoten 44.55 333 *e*P **P 09 04 20.1 +1.0**
KONO Kongsberg 45.04 321 *e*P **P 09 04 23.8 +0.8**
ESDC Sonseca Array 57.49 298 P **P 09 05 56.1 +0.5**
comp=Z,0.7nm,0.7s,baz=53,slow=7.1,SNR=6.1
comp=Z,0.7nm,0.7s
BILL Bilibino 58.40 26 *i* P **P 09 06 03.6 +2.3**
BILL pmax pmax
comp=Z,5.0nm,1.5s
TOA0 Torodi Ar. Sit 65.85 269 P **P 09 06 50.4 -1.1**
TOA0 IAmb IAmb 09 06 51.1
comp=Z,5.2nm,0.8s
TORD Torodi Ar. Bea 65.85 269 P **P 09 06 50.2 -1.2**
TORD IAmb IAmb 09 06 51.1
comp=Z,3.3nm,0.8s
TORD Torodi Ar. Bea 65.85 269 P **P 09 06 50.3 -1.2**
comp=Z,3.4nm,0.6s,baz=57,slow=6.9,SNR=44
comp=Z,3.4nm,0.6s
C19K Lookout Ridge 68.13 17 P **P 09 07 07.1 +2.0**
D19K Kuna River 68.95 17 P **P 09 07 11.3 +1.3**
D19K IAmb IAmb 09 07 40.4
comp=Z,6.7nm,1.4s
E18K Tukpahlearik C 69.13 19 P **P 09 07 12.3 +1.2**
F17K Baldwin Pennin 69.68 20 P **P 09 07 16.2 +1.8**
F17K IAmb IAmb 09 07 55.3
comp=Z,6.4nm,1.1s
E19K Redstone River 69.96 18 P **P 09 07 17.2 +1.0**
E19K IAmb IAmb 09 07 50.6
comp=Z,7.4nm,1.5s
G19K Purcell Mounta 71.01 19 P **P 09 07 23.6 +1.0**
E24K Your Creek 71.43 15 P **P 09 07 26.6 +1.5**
IMAR Indian Mountai 71.98 18 P **P 09 07 29.2 +0.9**
E28M Babbage River 72.58 11 P **P 09 07 33.1 +1.3**
ILAR Eielson Array 74.58 16 P **P 09 07 44.4 +0.8**
comp=Z,0.4nm,0.8s,baz=311,slow=5.7,SNR=6.2
comp=Z,0.4nm,0.8s
DBIC Dimbokro 74.83 267 P **P 09 07 44.7 -1.0**
comp=Z,2.2nm,0.6s,baz=357,slow=2.5,SNR=3.6
comp=Z,2.2nm,0.6s
BOSA Boshof 77.95 220 P **P 09 08 00.6 -2.4**
comp=Z,2.0nm,1.0s,baz=77,slow=12,SNR=1.9
comp=Z,2.0nm,1.0s
YKA Yellowknife Ar 81.07 3 P **P 09 08 20.3 +1.1**
comp=Z,0.6nm,0.5s,baz=353,slow=6.1,SNR=17
comp=Z,0.6nm,0.5s
WRA Warramunga Arr 81.97 122 P **P 09 08 23.8 -0.8**
comp=Z,0.4nm,0.8s,baz=325,slow=5.1,SNR=6.8
comp=Z,0.4nm,0.8s
WRA Warramunga Arr 81.97 122 *e*P **P 09 08 25.1 +0.6**
ASAR Alice Springs 84.25 125 P **P 09 08 36.1 0.0**
comp=Z,0.6nm,0.8s,baz=310,slow=5.3,SNR=5.8
comp=Z,0.6nm,0.8s
SNAA Sanae 119.60 200 *c i* PKIKP **PKPdf 09 14 50.3 -0.9**
SNAA pmax pmax
comp=Z,9.0nm,1.7s
PLCA Paso Flores 150.00 250 PKPbc **PKPbc 09 15 52.5 -0.5**
comp=Z,1.6nm,0.9s,baz=175,slow=10,SNR=3.0

IDC 28 09:25:12.4±4.0, 3°.04S×145°.76E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=132.5km s-min=34.2km az=98.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.16**	**213**	P	P	09 29 49.0	+0.4
	0.2nm,0.6s,baz=34,slow=11,SNR=6.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**23.50**	**208**	P	P	09 30 23.9	-0.3
	0.5nm,1.1s,baz=41,slow=7.8,SNR=5.5						
	0.5nm,1.1s						
ZALV	**Zalesovo Beam**	**75.86**	**328**	P	P	09 37 00.6	0.0
	0.5nm,0.4s,baz=107,slow=4.8,SNR=1.7						
	0.5nm,0.4s						

*IDC **28** 09:28:14.2±0.4, 29°.97S×177°.45W, h0km, mb4.9/17, mbtmp4.9/18, ML4.0/1, MS5.2/51, Error ellipse: s-maj=12.8km s-min=10.7km az=64.0*
*NEIC **28** 09:28:17.6±1.6, 30°.06S±0°.06×177°.5W±0°.1, h19km±1km, mb5.6/247, Ms_20 5.4/933, Mwb5.5/78, Mww5.7/42, Error ellipse: s-maj=16.1km s-min=10.2km az=71.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.32; $M_{\theta\theta}$0.10; $M_{\phi\phi}$-1.42; $M_{r\theta}$0.49; $M_{\theta\phi}$-1.13; $M_{\phi r}$1.33; Fault plane solution: $M_0$2.27000×10^{17} NP1: ϕ_s220.47000°, δ25.92000°, λ108.15000°. NP2: ϕ_s20.45000°, δ65.46000°, λ81.39000°. Principal axes: T 1.8603, Plg68.0000°, Azm274.0000°; N 0.6753, Plg8.0000°, Azm24.0000°; P -2.5356, Plg20.0000°, Azm117.0000°;*
*NEIC **28** 09:28:17.4, 30°.06S×177°.45W, h18km*
*NEIC **28** 09:28:18.9, 30°.00S×176°.97W, h36km, Moment Tensor Solution. Duration: 3s3 Moment tensor: Scale 10^{17}Nm; M_{rr}3.67; $M_{\theta\theta}$-0.53; $M_{\phi\phi}$-3.15; $M_{r\theta}$0.22; $M_{\theta\phi}$-0.87; $M_{\phi r}$1.87; Fault plane solution: $M_0$4.01000×10^{17} NP1: ϕ_s12.31000°, δ58.99000°, λ85.69000°. NP2: ϕ_s200.62000°, δ31.28000°, λ97.12000°. Principal axes: T 4.1507, Plg76.0000°, Azm270.0000°; N -0.2862, Plg4.0000°, Azm15.0000°; P -3.8644, Plg14.0000°, Azm105.0000°;*
*MOS **28** 09:28:18.6±0.9, 30°.05S×177°.64W, h33km, mb5.6/34, MS5.4/12 Error ellipse: s-maj=10.4km s-min=8.1km az=116.4*
*BJI **28** 09:28:18.3±0.0, 29°.66S×177°.01W, h39km, mb5.2/41, mB5.8/47, Ms5.4/60, Ms7 5.2/58*
*NEIC **28** 09:28:18.9, 30°.00S×177°.43W, h36km*
*IPGP **28** 09:28:20.0, 29°.98S×177°.44W, h30km, Mw5.7, Fault plane solution: NP1: ϕ_s2.00000°, δ62.00000°, λ79.00000°. NP2: ϕ_s204.00000°, δ30.00000°, λ109.00000°.*
*NOU **28** 09:28:21.7, 30°.29S×177°.08W, h66km, ML5.5/108, Kermadec Islands, New Zealand*
*GCMT **28** 09:28:22.4±0.1, 30°.03S±0°.01×177°.26W±0°.01, h32km, MW5.7/152, Moment Tensor Solution. s144,c290; s152,c298; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}3.33±.04; $M_{\theta\theta}$-0.07±.03; $M_{\phi\phi}$-3.26±.03; $M_{r\theta}$0.53±.05; $M_{\theta\phi}$-1.01±.02; $M_{\phi r}$2.72±.05; Best double couple: $M_0$4.41900×10^{17} NP1: ϕ_s13.00000°, δ64.00000°, λ87.00000°. NP2: ϕ_s200.00000°, δ26.00000°, λ96.00000°. Principal axes: T 4.3140, Plg70.0000°, Azm276.0000°; N 0.2100, Plg3.0000°, Azm14.0000°; P -4.5250, Plg19.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 09:28:18.5±0.5, 30°.17S±0°.03×177°.42W±0°.04, h30km±2km, h30km:pP-P, n1550, σ1°86/1072, mb5.6/194, MS5.4/529, 39C-20D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.01**	**334**	P	**Pn**	**09 28 34.6**	**-2.0**
GLKZ				S	**Sn**	**09 28 46.2**	**-3.6**
RAO	**Raoul Island**	**1.02**	**334**	P	Pb	09 28 43.0	+5.4
RAO	**Raoul Island**	**1.02**	**334**	Pn	**Pn**	**09 28 34.6**	**-2.1**
	5μm,0.3s,baz=104,slow=6.3,SNR=331						
RAO				Sn	**Sn**	**09 28 47.3**	**-2.7**
	21μm,0.3s,baz=65,slow=21,SNR=15						
RIZ	**Raoul Island**	**1.03**	**334**	P	**Pn**	**09 28 34.9**	**-2.0**
RIZ				S	**Sn**	**09 28 46.9**	**-3.4**
MXZ	**Matakaoa Point**	**8.18**	**205**	P	**Pn**	**09 30 11.8**	**-3.4**
WMGZ	**Waiomatatini S**	**8.37**	**203**	P	**Pn**	**09 30 14.5**	**-3.3**
WMGZ				S	**Sn**	**09 31 47.4**	**-3.9**
PKGZ	**Pakihiroa**	**8.53**	**205**	P	**Pn**	**09 30 16.5**	**-3.5**
PKGZ				S	**Sn**	**09 31 52.0**	**-3.3**
HAZ	**Te Kaha**	**8.55**	**207**	P	**Pn**	**09 30 18.8**	**-1.3**
HAZ				S	**Sn**	**09 31 57.2**	**+1.6**
PUZ	**Puketiti**	**8.65**	**203**	P	**Pn**	**09 30 17.8**	**-3.9**
PUZ				S	**Sn**	**09 31 53.7**	**-4.5**
KUZ	**Kuaotunu**	**8.71**	**219**	P	**Pn**	**09 30 25.9**	**+3.5**
RUGZ	**Raukumara Rang**	**8.77**	**206**	P	**Pn**	**09 30 20.8**	**-2.5**
RUGZ				S	**Sn**	**09 31 59.5**	**-1.7**
TWGZ	**Tauwhareparae**	**8.85**	**204**	P	**Pn**	**09 30 20.9**	**-3.4**
TWGZ				S	**Sn**	**09 32 02.3**	**-0.6**
WCZ	**Waipu Caves**	**8.99**	**228**	P	Pn	09 30 35.2	+8.9
CNGZ	**Carnagh Statio**	**9.04**	**202**	P	**Pn**	**09 30 24.0**	**-2.9**
CNGZ				S	**Sn**	**09 32 04.6**	**-3.1**
WIAZ	**Waiheke Island**	**9.07**	**221**	P	**Pn**	**09 30 28.4**	**+1.1**
OUZ	**Omahuta**	**9.09**	**234**	P	Pn	09 30 34.2	+6.6
OUZ	**Omahuta**	**9.09**	**234**	P	Pn	09 30 34.2	+6.6
TKGZ	**Te Karaka**	**9.13**	**204**	P	**Pn**	**09 30 24.2**	**-3.9**
TKGZ				S	**Sn**	**09 32 06.1**	**-3.6**
MWZ	**Matawai**	**9.15**	**206**	P	**Pn**	**09 30 25.3**	**-3.2**
MWZ				S	**Sn**	**09 32 08.6**	**-1.8**
MBAZ	**Motutapu North**	**9.19**	**222**	P	**Pn**	**09 30 33.0**	**+4.0**
URZ	**Urewera**	**9.25**	**208**	P	**Pn**	**09 30 32.6**	**+2.8**
URZ	**Urewera**	**9.25**	**208**	Pn	**Pn**	**09 30 26.0**	**-3.8**
	1.9nm,0.3s,baz=346,slow=4.6,SNR=15						
URZ				Sn	**Sn**	**09 32 11.6**	**-1.2**
	16nm,0.3s,baz=5.8,slow=22,SNR=10.0						
URZ	**Urewera**	**9.25**	**208**	P	**Pn**	**09 30 26.8**	**-2.9**
URZ				S	**Sn**	**09 32 10.8**	**-2.0**
MKAZ	**Moumakai**	**9.27**	**220**	P	**Pn**	**09 30 32.8**	**+2.7**
RAGZ	**Rawiri**	**9.33**	**206**	P	**Pn**	**09 30 30.4**	**-0.7**
RAGZ				S	**Sn**	**09 32 12.2**	**-2.8**
RIGZ	**Rimuhau**	**9.39**	**204**	P	**Pn**	**09 30 29.8**	**-2.0**
RIGZ				S	**Sn**	**09 32 14.5**	**-1.9**
KARZ	**Kaharoa**	**9.43**	**212**	P	**Pn**	**09 30 33.2**	**+1.0**
PRGZ	**Paritu Road**	**9.55**	**203**	P	Pn	09 30 29.5	-4.4
PRGZ				S	**Sn**	**09 32 16.3**	**-3.8**
RRRZ	**Republican Roa**	**9.57**	**210**	P	**Pn**	**09 30 34.5**	**+0.4**
RRRZ				S	**Sn**	**09 32 19.4**	**-1.2**
MUGZ	**Murupara**	**9.57**	**209**	P	Pn	09 30 28.3	-5.9
MUGZ				S	**Sn**	**09 32 19.8**	**-1.0**
RTZ	**Ruatahuna**	**9.61**	**207**	P	**Pn**	**09 30 33.0**	**-1.8**
RTZ				S	**Sn**	**09 32 16.6**	**-5.1**
SNGZ	**Shannon Statio**	**9.61**	**205**	P	**Pn**	**09 30 31.2**	**-3.6**
SNGZ				S	**Sn**	**09 32 19.6**	**-2.2**
MHGZ	**Mahia Peninsul**	**9.75**	**202**	P	**Pn**	**09 30 33.4**	**-3.2**
MHGZ				S	**Sn**	**09 32 20.2**	**-4.9**
ALRZ	**Allen Road**	**9.83**	**210**	P	**Pn**	**09 30 38.2**	**+0.5**
RAHZ	**Arahi**	**9.83**	**206**	P	**Pn**	**09 30 36.3**	**-1.4**
RAHZ				S	**Sn**	**09 32 24.3**	**-2.7**
MTHZ	**Maungataniwha**	**9.87**	**207**	P	**Pn**	**09 30 36.3**	**-2.0**
WHHZ	**Waihua**	**9.91**	**205**	P	**Pn**	**09 30 38.3**	**-0.5**
WHHZ				S	**Sn**	**09 32 26.8**	**-2.3**
NMHZ	**Naumai**	**10.09**	**207**	P	**Pn**	**09 30 38.8**	**-2.6**
ARHZ	**Aropaoanui**	**10.16**	**205**	P	**Pn**	**09 30 39.9**	**-2.4**
BKZ	**Black Stump Fm**	**10.27**	**208**	P	**Pn**	**09 30 41.4**	**-2.4**
MCHZ	**McNeill Hill**	**10.43**	**206**	P	**Pn**	**09 30 42.8**	**-3.2**
HIZ	**Hauiti**	**10.48**	**215**	P	**Pn**	**09 30 51.0**	**+4.3**
TMVZ	**Te Maari**	**10.56**	**211**	P	**Pn**	**09 30 49.6**	**+1.7**
ETVZ	**East Tongariro**	**10.58**	**210**	P	**Pn**	**09 30 50.8**	**+2.7**
KAHZ	**Kahuranaki**	**10.68**	**204**	P	**Pn**	**09 30 45.0**	**-4.4**
KRHZ	**Kereru**	**10.73**	**207**	P	**Pn**	**09 30 47.4**	**-2.7**
FWVZ	**Far West T-bar**	**10.74**	**211**	P	**Pn**	**09 30 52.1**	**+1.6**
MOVZ	**Moawhango**	**10.78**	**210**	P	**Pn**	**09 30 50.1**	**-0.8**
PKVZ	**Pokaka**	**10.86**	**211**	P	**Pn**	**09 30 56.5**	**+4.6**
PXZ	**Pawanui**	**10.89**	**204**	P	**Pn**	**09 30 48.8**	**-3.4**
VRZ	**Vera Road**	**11.01**	**214**	P	Pn	09 30 59.5	+5.7
WPHZ	**Waipukurau**	**11.07**	**205**	P	**Pn**	**09 30 51.9**	**-2.9**
PRHZ	**Porangahau**	**11.18**	**204**	P	Pn	09 30 51.7	-4.5
TSZ	**Takapari Road**	**11.25**	**207**	P	**Pn**	**09 30 56.4**	**-0.8**
PRWZ	**Pori Road**	**11.67**	**206**	P	**Pn**	**09 31 03.2**	**+0.2**
BFZ	**Birch Farm**	**11.68**	**204**	P	**Pn**	**09 30 59.3**	**-3.8**
MRZ	**Mangatainoka R**	**11.92**	**207**	P	**Pn**	**09 31 05.6**	**-0.7**
OGWZ	**Otaki Gorge**	**12.21**	**208**	P	**Pn**	**09 31 07.3**	**-3.0**
CAW	**Cannon Point**	**12.50**	**207**	P	**Pn**	**09 31 11.0**	**-3.3**
MSWZ	**Moikau Station**	**12.69**	**206**	P	**Pn**	**09 31 13.4**	**-3.5**
DUWZ	**D'Urville Isla**	**12.73**	**211**	P	**Pn**	**09 31 15.9**	**-1.5**
NFK	**Norfolk Island**	**12.79**	**271**	P	**P**	**09 31 26.3**	**-2.7**
NFK	**Norfolk Island**	**12.79**	**271**	P	P	09 31 24.2	-4.8
	669nm,1.9s,SNR=5.8						
BHW	**Baring Head**	**12.83**	**207**	P	**Pn**	**09 31 17.6**	**-1.1**
MSVF	**Nonsavu**	**13.06**	**341**	P	**Pn**	**09 31 25.8**	**+3.7**
MSVF	**Nonsavu**	**13.06**	**341**	Pn	**Pn**	**09 31 18.3**	**-3.7**
MSVF	**Nonsavu**	**13.06**	**341**	*i* P	**Pn**	**09 31 20.7**	**-1.4**
TUWZ	**Tuamarina**	**13.23**	**210**	P	**Pn**	**09 31 23.4**	**-0.8**
NNZ	**Nelson**	**13.31**	**212**	P	**Pn**	**09 31 23.9**	**-1.4**
QRZ	**Quartz Range**	**13.41**	**215**	P	**Pn**	**09 31 28.3**	**+1.7**
QRZ	**Quartz Range**	**13.41**	**215**	P	**Pn**	**09 31 29.0**	**+2.4**
BSWZ	**Blackbirch Sta**	**13.49**	**209**	Pn	**Pn**	**09 31 27.6**	**-0.2**
BSWZ	**Blackbirch Sta**	**13.49**	**209**	P	**P**	**09 31 33.0**	**-3.7**
CTZ	**Chatham Island**	**13.55**	**178**	P	**Pn**	**09 31 27.0**	**-1.6**
KHZ	**Kahutara**	**14.22**	**208**	P	**Pn**	**09 31 38.3**	**+0.6**
DSZ	**Denniston Nort**	**14.46**	**214**	P	**Pn**	**09 31 41.8**	**+0.8**
LTZ	**Lake Taylor**	**15.05**	**210**	P	**Pn**	**09 31 46.1**	**-2.9**
AMCZ	**Amberley**	**15.21**	**209**	P	**Pn**	**09 31 48.6**	**-2.5**
INZ	**Inchbonnie**	**15.38**	**212**	P	**Pn**	**09 31 53.3**	**-0.1**
PINNC	**Pines Island,**	**15.51**	**295**	P	**P**	**09 32 00.6**	**+1.5**
AKCZ	**Akaroa Harbour**	**15.69**	**207**	P	**Pn**	**09 31 54.8**	**-2.5**
MARNC	**Mare, Loyalty**	**15.69**	**300**	P	**P**	**09 32 04.0**	**+2.8**
WVZ	**Waitaha Valley**	**15.98**	**213**	P	**Pn**	**09 32 01.9**	**+0.9**
WACZ	**Wakanui South**	**16.18**	**209**	P	**Pn**	**09 32 00.7**	**-2.8**
YATNC	**Mamie plateau,**	**16.23**	**296**	P	**P**	**09 32 10.7**	**+3.4**
RPZ	**Rata Peaks**	**16.34**	**211**	P	**P**	**09 32 07.2**	**-1.1**
RPZ	**Rata Peaks**	**16.34**	**211**	Pn	**Pn**	**09 32 04.0**	**-1.6**
RPZ	**Rata Peaks**	**16.34**	**211**	Pn	**Pn**	**09 32 03.2**	**-2.4**
	8.4nm,0.3s,baz=28,slow=1.4,SNR=21						
RPZ				Sn	Sn	09 34 51.1	-15
	1.5nm,0.3s,baz=332,slow=21,SNR=1.8						
RPZ	**Rata Peaks**	**16.34**	**211**	P	**Pn**	**09 32 03.7**	**-1.9**
ONTNC	**Ouen Toro**	**16.45**	**295**	P	**P**	**09 32 12.3**	**+2.7**
ONTNC	**Ouen Toro**	**16.45**	**295**		**Pn**	**09 32 05.3**	**-1.8**
DZM	**Mont Dzumac**	**16.58**	**295**	P	**P**	**09 32 14.3**	**+3.1**
DZM	**Mont Dzumac**	**16.58**	**295**	*e*Pn	**P**	**09 32 12.1**	**+0.9**
	584nm,1.4s						
DZM				*e*LR	LR	09 35 56.4	
	31μm,24.2s						
DZM	**Mont Dzumac**	**16.58**	**295**	Pn	**P**	**09 32 12.6**	**+1.4**
	1.8nm,0.3s,baz=93,slow=12,SNR=22						
DZM				LR	LR	09 37 29.7	
	comp=Z,21μm,18.2s,baz=134,slow=34						
LIFNC	**LIFOU**	**16.70**	**301**	P	**P**	**09 32 15.8**	**+3.4**
AFI	**Afiamalu**	**17.00**	**19**	Pn	**Pn**	**09 32 09.3**	**-4.9**
AFI	**Afiamalu**	**17.00**	**19**	P	**Pn**	**09 32 09.3**	**-4.9**
AFI				pmax	pmax		
	comp=Z,72nm,0.9s						
ODZ	**Otahua Downs**	**17.57**	**209**	P	**Pn**	**09 32 21.4**	**+0.3**
RTV	**Rentapao**	**17.85**	**310**	P	**P**	**09 32 28.4**	**+3.3**
DVP	**Devils Point**	**18.05**	**310**	P	**P**	**09 32 28.1**	**+0.7**
RAR	**Rarotonga**	**18.21**	**65**	P	**Pn**	**09 32 27.4**	**-1.7**
RAR	**Rarotonga**	**18.21**	**65**	P	**Pn**	**09 32 27.0**	**-2.1**
RAR	**Rarotonga**	**18.21**	**65**	P	**Pn**	**09 32 26.7**	**-2.4**
	comp=Z,4.6nm,0.3s,baz=214,slow=4.5,SNR=9.8						
RAR				S	Sn	09 35 31.7	-20
	comp=Z,83nm,0.9s,baz=67,slow=18,SNR=4.3						
RAR				LR	LR	09 37 44.3	
	comp=Z,8μm,19.9s,baz=253,slow=31						
	comp=Z,83nm,0.9s						
RAR	**Rarotonga**	**18.21**	**65**	P	**Pn**	**09 32 27.0**	**-2.1**
RAR				pmax	pmax		
	comp=Z,256nm,1.1s						
KOUNC	**Koumac, New Ca**	**19.09**	**296**	P	**Pn**	**09 32 41.7**	**+2.0**
KOUNC	**Koumac, New Ca**	**19.09**	**296**	P	**P**	**09 32 37.3**	**-1.5**
GC1S	**Gold Coast 1 S**	**25.44**	**267**	P	**P**	**09 33 47.4**	**+3.7**
TBI	**Tubuai**	**25.83**	**81**	*e*P	**P**	**09 33 50.6**	**+3.3**
	comp=Z,2μm,26.8s						
TBI	**Tubuai**	**25.83**	**81**	*e*P	**P**	**09 33 52.5**	**+5.2**
	comp=Z,475nm,1.4s						
TBI				*e*S	**S**	**09 38 09.9**	**-5.1**
	comp=Z,2μm,23.5s						
TBI				*e*S	S	09 38 11.5	-3.5
	comp=Z,16μm,29.0s						
TBI				*e*LQ	LQ	09 38 58.0	
	comp=Z,29μm,24.5s						
TBI				*e*LR	LR	09 40 14.6	
	comp=Z,18μm,26.2s						
TBI				*e*LR	LR	09 40 16.5	
	comp=Z,17μm,23.8s						
TBI				*e*LR	LR	09 40 17.6	
	comp=Z,81μm,27.0s						
AUWSH	**Wavell State H**	**26.01**	**269**	P	**P**	**09 33 51.2**	**+2.3**
NTLH	**Newcastle Hard**	**26.41**	**256**	P	**P**	**09 33 57.0**	**+4.5**
ARMA	**Armidale**	**26.69**	**262**	P	**P**	**09 33 58.5**	**+3.3**
ARMA	**Armidale**	**26.69**	**262**	P	**P**	**09 33 54.3**	**-0.9**
ARMA	**Armidale**	**26.69**	**262**	P	**P**	**09 33 58.0**	**+2.8**
	comp=Z,76nm,1.0s,SNR=12						
RIV	**Riverview**	**26.84**	**254**	P	**P**	**09 34 00.4**	**+4.0**
RIV	**Riverview**	**26.84**	**254**	P	**P**	**09 33 55.8**	**-0.5**
WOLH	**Wollongong Har**	**27.08**	**253**	P	**P**	**09 34 01.4**	**+3.0**
SYDH	**Sydney Hard Ro**	**27.19**	**254**	P	**P**	**09 34 02.5**	**+3.0**
AUPHS	**Peel High Scho**	**27.24**	**260**	P	**P**	**09 34 02.8**	**+2.8**
AUUHS	**Ulladulla High**	**27.42**	**251**	P	**P**	**09 34 05.1**	**+3.6**
EIDS	**Eidsvold**	**28.23**	**272**	P	**P**	**09 34 10.4**	**+1.5**
EIDS	**Eidsvold**	**28.23**	**272**	P	**P**	**09 34 08.6**	**-0.3**
EIDS				IAmb	IAmb	09 34 25.1	
	comp=Z,111nm,1.4s						
EIDS	**Eidsvold**	**28.23**	**272**	P	**P**	**09 34 10.5**	**+1.7**
	comp=Z,52nm,1.2s,SNR=11						
PAE	**Paea**	**28.25**	**70**	*e*P	**P**	**09 34 10.2**	**+1.2**
	comp=Z,38nm,1.2s						
PAE				*e*S	**S**	**09 38 49.8**	**-3.4**
	comp=Z,188nm,22.0s						
PAE				*e*LR	LR	09 41 10.0	
	comp=Z,2μm,23.6s						
PPT2	**Papeete2**	**28.29**	**70**	*e*P	**P**	**09 34 08.5**	**-1.0**
	comp=Z,548nm,24.0s						
PPT2	**Papeete2**	**28.29**	**70**	*e*P	**P**	**09 34 10.2**	**+0.7**
	comp=Z,97nm,1.3s						
PPT2				*e*S	**S**	**09 38 55.3**	**+1.3**
	comp=Z,2μm,25.5s						
PPT2				*e*LQ	LQ	09 39 58.3	
	comp=Z,

comp=Z,79nm,0.9s
TOO Toolangi 31.52 246 P **P 09 34 40.0 +2.1**
comp=Z,102nm,1.1s,SNR=16
TOO Toolangi 31.52 246 P **P 09 34 38.4 +0.5**
TOO pmax pmax
comp=Z,79nm,1.0s
CMSA Cobar Meteorol 31.61 258 P **P 09 34 40.1 +1.4**
CMSA Cobar Meteorol 31.61 258 P **P 09 34 40.8 +2.1**
comp=Z,56nm,1.2s,SNR=11
MLBS Spotswood, Mel 32.00 246 P **P 09 34 44.9 +2.8**
GEXS Deakin Univers 32.49 245 P **P 09 34 49.5 +3.1**
TARA Tarawa 32.68 342 IAMs_20 IAMs_20 09 46 41.8
comp=Z,8μm,19.0s
BRAT Ballarat 32.76 247 P **P 09 34 51.3 +2.6**
AUAYR Ayr State High 33.49 280 P **P 09 34 57.0 +1.7**
QLP Quilpie 33.83 266 P **P 09 34 59.8 +1.6**
TV1H Townsville Har 34.15 280 P **P 09 35 02.5 +1.5**
CTA Charters Tower 34.26 278 P **P 09 35 02.6 +0.5**
comp=Z,3.3nm,0.5s,baz=102,slow=10,SNR=56
CTA LR LR 09 47 49.1
comp=Z,872nm,18.3s,baz=126,slow=34
comp=Z,3.3nm,0.5s
CTAO Charters Tower 34.26 278 P **P 09 35 03.3 +1.2**
CTAO Charters Tower 34.26 278 P **P 09 35 03.0 +1.0**
CTAO IAmb IAmb 09 35 20.1
comp=Z,98nm,0.9s
CTAO Charters Tower 34.26 278 P **P 09 35 03.0 +1.0**
CTAO pmax pmax
comp=Z,98nm,0.9s
CTAO MLR MLR
comp=Z,12μm,19.0s
ARPS Mount Arapiles 34.42 248 P **P 09 35 05.9 +2.6**
STKA Stephens Creek 35.02 257 P **P 09 35 10.7 +2.2**
STKA Stephens Creek 35.02 257 P **P 09 35 08.9 +0.4**
STKA Stephens Creek 35.02 257 P **P 09 35 10.0 +1.5**
comp=Z,16nm,0.4s,baz=101,slow=11,SNR=59
STKA LR LR 09 48 35.1
comp=Z,9μm,18.2s,baz=93,slow=35
comp=Z,16nm,0.4s
STKA Stephens Creek 35.02 257 P **P 09 35 08.9 +0.4**
STKA pmax pmax
comp=Z,14nm,1.1s
INKA Innaminka 36.54 263 P **P 09 35 23.4 +1.8**
MTSU Mount Surprise 36.75 280 P **P 09 35 24.4 +0.9**
HTT Hallett 37.05 253 P **P 09 35 27.8 +1.9**
LCRK Leigh Creek 38.12 258 P **P 09 35 35.9 +1.0**
WHYH Whyalla 38.22 254 P **P 09 35 37.9 +2.2**
PMG Port Moresby 38.97 295 P **P 09 35 42.9 +0.7**
PMG Port Moresby 38.97 295 P **P 09 35 41.3 -0.9**
PMG Port Moresby 38.97 295 IAMs_20 IAMs_20 09 48 50.4
comp=Z,5μm,20.0s
PMG Port Moresby 38.97 295 LR LR 09 49 01.9
comp=Z,5μm,21.1s,baz=135,slow=32
PMG Port Moresby 38.97 295 P **P 09 35 41.3 -0.9**
PMG pmax pmax
comp=Z,29nm,1.0s
BBOO Buckleboo 39.52 254 P **P 09 35 46.8 +0.2**
BBOO Buckleboo 39.52 254 P **P 09 35 45.6 -1.0**
COEN Coen 39.70 285 P **P 09 35 49.5 +1.2**
COEN Coen 39.70 285 P **P 09 35 48.6 +0.3**
COEN IAMs_20 IAMs_20 09 49 57.3
comp=Z,8μm,20.0s
QIS Mount Isa 39.80 274 P **P 09 35 49.7 +0.6**
TAOE Nuku Hiva Isla 40.75 66 *eP* **P 09 35 54.6 -2.5**
comp=Z,279nm,28.0s
TAOE *e*S **S 09 42 07.3 +1.2**
comp=Z,2μm,24.9s
TAOE *e*LQ LQ 09 45 14.8
comp=Z,3μm,24.4s
TAOE *e*LR LR 09 46 58.8
comp=Z,10μm,26.2s
OOD Oodnadatta 40.87 261 P **P 09 35 59.4 +1.5**
MULG Mulgathing 41.67 257 P **P 09 36 05.6 +1.2**
MANU Manus Island 43.55 303 P **P 09 36 18.8 -1.1**
MANU IAmb IAmb 09 36 35.4
comp=Z,122nm,1.6s
AS01 Alice Springs 43.59 266 P **P 09 36 21.2 +1.1**
AS31 Alice Springs 43.63 266 P **P 09 36 19.8 -0.6**
ASAR Alice Springs 43.63 266 P **P 09 36 19.6 -0.8**
comp=Z,18nm,0.6s,baz=105,slow=7.2,SNR=82
ASAR PcP **PcP 09 38 08.8 +1.2**
comp=Z,4.9nm,0.7s,baz=119,slow=5.8,SNR=1.6
ASAR S **S 09 42 51.4 +3.1**
comp=Z,0.5nm,0.8s,baz=108,slow=18,SNR=2.0
ASAR LR LR 09 54 16.5
comp=Z,14μm,18.2s,baz=113,slow=36
comp=Z,18nm,0.6s
WR0 Warramunga Arr 44.41 272 P **P 09 36 26.6 -0.2**
WR0 IAmb IAmb 09 36 43.4
comp=Z,71nm,0.8s
WB2 Warramunga Arr 44.59 272 P **P 09 36 27.9 -0.2**
WB2 IAmb IAmb 09 36 43.9
comp=Z,100nm,0.9s
WRAB Tennant Creek 44.59 272 P **P 09 36 27.7 -0.5**
WRAB IAmb IAmb 09 36 43.9
comp=Z,114nm,1.1s
WRAB Tennant Creek 44.59 272 *i* P **P 09 36 27.9 -0.3**
WRAB pmax pmax
comp=Z,62nm,1.0s
WRA Warramunga Arr 44.59 272 P **P 09 36 27.6 -0.6**
WRA Warramunga Arr 44.59 272 P **P 09 36 27.2 -1.0**
comp=Z,40nm,0.4s,baz=110,slow=8.0,SNR=287
WRA S **S 09 43 05.1 +2.7**
comp=Z,3.7nm,1.1s,baz=110,slow=12,SNR=3.3
WRA LR LR 09 54 06.8
comp=Z,5μm,18.2s,baz=104,slow=35
comp=Z,40nm,0.4s
WB0 Warramunga Arr 44.62 272 P **P 09 36 27.8 -0.6**
WB0 IAmb IAmb 09 36 44.1
comp=Z,118nm,1.1s
FORT Forrest 46.59 255 P **P 09 36 44.1 +0.2**
FORT Forrest 46.59 255 P **P 09 36 44.4 +0.5**
FORT IAmb IAmb 09 36 49.0
comp=Z,54nm,0.7s
JOHN Johnston Islan 47.25 10 P **P 09 36 47.8 -1.1**
WRKA Warakurna 48.01 262 P **P 09 36 54.7 -0.3**
SBA Scott Base 48.30 184 P **P 09 36 57.6 +1.2**
SBA IAmb IAmb 09 37 03.8
comp=Z,93nm,1.2s
SBA Scott Base 48.30 184 P **P 09 36 57.7 +1.2**
SBA pmax pmax
comp=Z,93nm,1.3s
VNDA Vanda 48.37 186 P **P 09 36 58.6 +1.6**
VNDA Vanda 48.37 186 P **P 09 36 59.9 +2.9**
comp=Z,5.0nm,0.6s,baz=12,slow=6.9,SNR=51
VNDA LR LR 09 52 40.6
comp=Z,468nm,21.7s,baz=34,slow=30
comp=Z,5.0nm,0.6s
VNDA Vanda 48.37 186 P **P 09 36 58.6 +1.6**
VNDA pmax pmax
comp=Z,28nm,1.2s
GENI Genyem 48.61 296 P **P 09 36 59.0 -0.7**
comp=Z,64nm,1.3s
KDU Kakadu 49.38 279 P **P 09 37 04.9 -0.7**
MTN Manton Dam 50.45 278 P **P 09 37 13.1 -0.6**
MTN Manton Dam 50.45 278 P **P 09 37 12.5 -1.2**
DRS Darwin Rock St 50.84 279 P **P 09 37 16.6 -0.1**
KNRA Kununurra 51.19 274 P **P 09 37 18.7 -0.6**
FITZ Fitzroy Crossi 52.87 269 P **P 09 37 31.6 -0.2**
FITZ Fitzroy Crossi 52.87 269 P **P 09 37 30.9 -0.8**
KIP Kipapa 54.59 22 P **P 09 37 45.9 +1.8**
FAKI Fak Fak 54.74 290 **P 09 37 43.4 -2.1**
FAKI IAmb IAmb 09 37 44.7
comp=Z,49nm,1.1s
KLBR Kellerberrin 54.90 251 P **P 09 37 45.5 -1.0**
NWAO Narrogin (SRO) 54.95 249 P **P 09 37 46.8 0.0**
NWAO IAmb IAmb 09 37 48.6
comp=Z,127nm,1.8s
NWAO Narrogin (SRO) 54.95 249 LR LR 09 59 55.4
comp=Z,4μm,20.0s,baz=78,slow=35
NWAO Narrogin (SRO) 54.95 249 P **P 09 37 46.8 0.0**
NWAO pmax pmax
comp=Z,127nm,1.8s
CASY Casey 55.58 208 P **P 09 37 51.6 +0.8**
CASY IAmb IAmb 09 37 53.8
comp=Z,88nm,0.9s
MEEK Meekatharra 55.73 257 P **P 09 37 51.8 -0.8**
PSA00 Pilbara Seismi 56.49 263 P **P 09 37 57.3 -0.8**
GUMO Guam 56.68 315 IAMs_20 IAMs_20 09 57 45.0
comp=Z,3μm,20.0s
GUMO Guam 56.68 315 LR LR 09 59 18.3
comp=Z,2μm,20.3s,baz=132,slow=33
SWI Sorong 56.73 291 P **P 09 37 58.9 -0.9**
comp=Z,133nm,1.0s,comp=Z,2μm
MBWA Marble Bar 56.75 263 P **P 09 37 59.1 -0.8**
MBWA Marble Bar 56.75 263 P **P 09 37 59.2 -0.8**
MORW Morawa 57.08 253 P **P 09 38 01.3 -0.8**
SOEI Soe 57.83 278 P **P 09 38 08.2 +0.5**
SOEI Soe 57.83 278 P **P 09 38 08.0 +0.3**
comp=Z,79nm,1.5s,comp=Z,2μm
MIDW Midway 58.06 0 IAMs_20 IAMs_20 10 01 15.3
comp=Z,3μm,20.0s
NLAI Namlea 58.80 286 P **P 09 38 14.4 0.0**
comp=Z,47nm,0.9s
RPN Rapa Nui 59.01 105 LR LR 09 57 06.2
comp=Z,2μm,21.8s,baz=252,slow=29
QSPA South Pole Qui 59.94 180 P **P 09 38 23.2 +1.6**
QSPA South Pole Qui 59.94 180 IAMs_20 IAMs_20 10 02 38.4
comp=Z,3μm,19.0s
QSPA South Pole Qui 59.94 180 P **P 09 38 24.2 +2.6**
comp=Z,60nm,1.0s,baz=36,slow=3.2,SNR=71
QSPA S **S 09 46 38.6 +7.0**
comp=Z,1.9nm,1.1s,baz=4.1,slow=14,SNR=1.5
QSPA LR LR 10 02 48.8
comp=Z,3μm,18.5s,baz=41,slow=34
QSPA PKPPKP **P'P'df 10 07 49.5 -3.9**
comp=Z,1.9nm,1.0s,baz=320,slow=2.3,SNR=3.6
comp=Z,60nm,1.0s
MMRI Maumere 60.12 278 P **P 09 38 21.0 -2.4**
MMRI Maumere 60.12 278 P **P 09 38 21.4 -2.0**
MMRI IAMs_20 IAMs_20 10 05 58.6
comp=Z,3μm,18.0s
SANI Sanana 60.38 286 P **P 09 38 23.9 -1.3**
SANI Sanana 60.38 286 P **P 09 38 23.6 -1.6**
comp=Z,54nm,0.9s,comp=Z,1μm
EDFI Ende, Flores 60.53 277 P **P 09 38 25.8 -0.6**
comp=Z,32nm,1.1s,comp=Z,761nm
TNTI Ternate 60.84 290 P **P 09 38 26.9 -1.5**
BKSI Bulukumba 63.59 280 P **P 09 38 45.1 -1.7**
comp=Z,44nm,0.9s,comp=Z,878nm
LUWI Luwuk 63.62 285 P **P 09 38 47.0 0.0**
LUWI Luwuk 63.62 285 P **P 09 38 45.9 -1.0**
LUWI Luwuk 63.62 285 P **P 09 38 46.3 -0.7**
comp=Z,122nm,1.1s,comp=Z,2μm
PLAI Plampang 63.86 275 P **P 09 38 48.8 +0.2**
PLAI Plampang 63.86 275 P **P 09 38 48.1 -0.5**
comp=Z,100nm,0.8s
KAPI Kappang 64.07 280 LR LR 10 05 30.2
comp=Z,1μm,20.9s,baz=136,slow=35
KAPI Kappang 64.07 280 *i* P **P 09 38 50.7 +0.7**
KAPI pmax pmax
comp=Z,15nm,1.3s
BNSI Bone 64.08 281 P **P 09 38 49.4 -0.6**
comp=Z,43nm,1.3s
DAV Davao City (W) 65.99 294 LR LR 10 06 42.8
comp=Z,529nm,21.7s,baz=136,slow=35
JCJ Chichijima 68.82 322 LR LR 10 03 23.2
comp=Z,1μm,21.7s,baz=144,slow=31
SMAI San Martin Ant 69.45 158 P **P 09 39 25.0 +1.6**
SMAI IAmb IAmb 09 39 43.4
comp=Z,62nm,1.3s
BELA Belgrano 2 69.94 172 P **P 09 39 25.6 -0.7**
BELA IAmb IAmb 09 39 37.5
comp=Z,46nm,1.3s
MYLDM Lahad Datu 70.61 288 P **P 09 39 28.8 -2.6**
MYLDM IAmb IAmb 09 40 14.0
comp=Z,51nm,1.2s
PMSA Palmer Station 72.26 156 LR LR 10 04 07.4
comp=Z,1μm,19.6s,baz=245,slow=30
MAW Mawson 72.69 200 P **P 09 39 44.5 +1.4**
comp=Z,37nm,0.9s,baz=130,slow=7.7,SNR=50
MAW LR LR 10 10 58.0
comp=Z,2μm,19.8s,baz=119,slow=35
comp=Z,37nm,0.9s
KKM Kota Kinabalu 72.97 288 P **P 09 39 45.0 -0.7**
KKM Kota Kinabalu 72.97 288 P **P 09 39 44.5 -1.2**
STKI Sintang 73.75 280 P **P 09 39 49.6 -0.6**
comp=Z,83nm,0.8s
SBUM Sibu 74.37 282 P **P 09 39 52.7 -1.1**
SKJI Sukabumi 74.45 271 P **P 09 39 55.7 +1.4**
JHJ Hachijo jima 2 74.86 324 LR LR 10 05 08.0
comp=Z,824nm,20.9s,baz=82,slow=30
KSM Kuching 75.48 280 P **P 09 40 00.1 -0.1**
KSM Kuching 75.48 280 P **P 09 39 59.1 -1.1**
KSM IAmb IAmb 09 40 14.6
comp=Z,69nm,1.4s
USHA Ushuaia 75.82 146 LR LR 10 04 46.8
comp=Z,2μm,20.8s,baz=227,slow=29
JOW Kunigami 76.89 312 LR LR 10 08 57.6
comp=Z,1μm,22.0s,baz=134,slow=32
ELIB Princess Elisa 77.13 187 *dP* **P 09 40 10.5 +1.7**
comp=Z,24nm,1.2s
PMBI Palembang 78.00 274 IAMs_20 IAMs_20 10 15 06.7
comp=Z,3μm,20.0s
INU Inuyama 78.02 323 P **P 09 40 14.3 +0.3**
INU Inuyama 78.02 323 P **P 09 40 14.5 +0.4**
INU IAmb IAmb 09 40 33.9
comp=Z,71nm,1.3s
JGF Kuroka 78.04 324 P **P 09 40 14.6 +0.4**
JGF Kuroka 78.04 324 P **P 09 40 13.9 -0.3**
JGF IAmb IAmb 09 40 18.8
comp=Z,156nm,1.9s
TROLL Troll, Antarti 78.10 180 ⇑P **P 09 40 16.0 +1.8**
comp=Z,1μm,1.1s
TROLL ⇑S **S 09 50 07.3 +1.2**
comp=Z,0.0nm,0.1s
MJAR Matsushiro Ar 78.35 325 P **P 09 40 14.3 -1.5**
comp=Z,11nm,0.9s,baz=160,slow=5.4,SNR=14
MJAR LR LR 10 09 36.8
comp=Z,876nm,21.6s,baz=143,slow=32
comp=Z,11nm,0.9s
MAJO Matsushiro 78.35 325 P **P 09 40 15.4 -0.4**
MAJO Matsushiro 78.35 325 P **P 09 40 15.5 -0.4**
MAJO IAmb IAmb 09 40 38.7
comp=Z,54nm,1.1s
MAJO Matsushiro 78.35 325 P **P 09 40 15.5 -0.4**
MAJO pmax pmax
comp=Z,54nm,1.1s
SNAA Sanae 78.36 178 P **P 09 40 16.7 +1.1**
SNAA IAMs_20 IAMs_20 10 13 33.3
comp=Z,2μm,19.0s
SNAA Sanae 78.36 178 ⇑P **P 09 40 16.9 +1.3**
comp=Z,120nm,0.6s
SNAA ⇓S **S 09 50 10.2 +1.4**
comp=Z,28nm,1.2s
SNAA Sanae 78.36 178 P **P 09 40 16.4 +0.8**
comp=Z,7.7nm,0.8s,baz=225,slow=8.8,SNR=34
SNAA LR LR 10 13 25.1
comp=Z,1μm,18.9s,baz=204,slow=34
comp=Z,7.7nm,0.8s
SNAA Sanae 78.36 178 P **P 09 40 16.7 +1.1**
SNAA pmax pmax
comp=Z,36nm,1.1s
VNA3 Neumayer Olymp 78.49 176 ⇑P **P 09 40 17.4 +1.1**
comp=Z,14nm,0.8s
VNA3 ⇓SKSac **SKSac 09 50 23.0 -5.7**
comp=Z,0.0nm,0.2s
COYC Coyhaique 78.75 136 P **P 09 40 19.3 +1.2**
COYC IAmb IAmb 09 40 36.1
comp=Z,132nm,1.6s
YOJ Yonaguni jima 78.83 307 P **P 09 40 18.0 -0.7**
YOJ Yonaguni jima 78.83 307 P **P 09 40 17.6 -1.1**
YOJ IAmb IAmb 09 40 34.0
comp=Z,116nm,1.8s
YOJ Yonaguni jima 78.83 307 P **P 09 40 17.6 -1.1**
YOJ pmax pmax
comp=Z,116nm,1.8s
VNA2 Neumayer–Watz 78.94 177 ⇑P **P 09 40 20.2 +1.5**
comp=Z,12nm,0.7s,baz=184,slow=4.4
VNA2 ⇓SKSac **SKSac 09 50 31.0 -0.8**
comp=Z,0.2nm,0.4s,baz=7.8,slow=5.0
NVL N'lazarevskaya 79.13 183 *eP* **P 09 40 17.5 -2.2**
NVL *e*S **S 09 50 17.1 +0.3**
NVL pmax pmax
comp=Z,50nm,1.1s
NVL MLR MLR
comp=Z,858nm,17.0s
VNA1 Neumayer–Stat 79.16 176 ⇑P **P 09 40 21.5 +1.6**
comp=Z,17nm,0.8s
JNU Nakatsue 79.73 318 P **P 09 40 24.0 +0.5**
JNU Nakatsue 79.73 318 P **P 09 40 22.6 -0.9**
JNU Nakatsue 79.73 318 LR LR 10 11 20.5
comp=Z,787nm,20.8s,baz=110,slow=32
TPUB Ta-pu 79.77 304 P **P 09 40 22.8 -1.1**
SSLB Suanglung 79.84 305 P **P 09 40 23.5 -0.8**
SSLB Suanglung 79.84 305 P **P 09 40 22.5 -1.8**
LL02 Futaleuf 80.15 134 IAmb IAmb 09 40 46.5
comp=Z,173nm,1.9s
H03S2 Juan Fernandez 80.17 123 T T 11 09 49.4
baz=239,slow=74,SNR=34
H03S1 Juan Fernandez 80.18 123 T T 11 09 49.9
baz=239,slow=74,SNR=27
H03S3 Juan Fernandez 80.18 123 T T 11 09 50.8
baz=239,slow=74,SNR=30
COCO West Island 80.35 262 P **P 09 40 28.1 +0.8**
H03N3 Juan Fernandez 80.36 123 T T 11 10 03.5
baz=241,slow=73,SNR=23
H03N2 Juan Fernandez 80.36 123 T T 11 10 07.3
baz=241,slow=73,SNR=15
H03N1 Juan Fernandez 80.37 123 T T 11 10 01.9
baz=241,slow=73,SNR=36
JTM Tenmabayashi 80.39 329 IAMs_20 IAMs_20 10 15 41.6
comp=Z,2μm,20.0s
ERM Erimo 80.50 331 IAMs_20 IAMs_20 10 09 53.4
comp=Z,3μm,20.0s
AMKA Amchitka 81.25 358 P **P 09 40 31.0 -0.1**
KIWB Kanaga Island 81.67 0 P **P 09 40 33.5 +0.1**
ADK Adak 81.71 0 P **P 09 40 34.5 +1.0**
ADK Adak 81.71 0 P **P 09 40 33.5 0.0**
ADK Adak 81.71 0 P **P 09 40 33.5 0.0**
ADK pmax pmax
comp=Z,221nm,1.7s
ATKA Atka Island 82.07 2 P **P 09 40 35.2 -0.2**
ATKA Atka Island 82.07 2 P **P 09 40 35.2 -0.2**
ATKA IAmb IAmb 09 40 52.0
comp=Z,97nm,1.0s
QZH Quanzhou 82.24 305 ⇑*i*P **P 09 40 36.5 -0.5**
QZH sP **pwP 09 40 50.5 -0.4**
QZH S **S 09 50 46.3 -4.3**
QZH pmax pmax
comp=Z,640nm,10.6s
QZH LR LR
comp=Z,600nm,17.2s
QZH LR LR
comp=Z,500nm,17.9s
QZH LR LR
comp=Z,690nm,17.2s
PLCA Paso Flores 82.29 133 P **P 09 40 38.3 +0.9**
PLCA IAmb IAmb 09 40 58.2
comp=Z,107nm,1.7s
PLCA Paso Flores 82.29 133 P **P 09 40 39.0 +1.6**
comp=Z,7.2nm,1.0s,baz=237,slow=6.9,SNR=9.7
PLCA LR LR 10 08 35.9
comp=Z,2μm,21.7s,baz=248,slow=29
comp=Z,7.2nm,1.0s
PLCA Paso Flores 82.29 133 P **P 09 40 38.3 +0.9**
PLCA pmax pmax
comp=Z,107nm,1.7s
GO06 Curarrehue 82.32 131 P **P 09 40 37.2 -0.4**
GO06 IAmb IAmb 09 40 57.5
comp=Z,55nm,1.4s
JKA Kamikawa-asahi 82.47 332 P **P 09 40 39.0 +1.2**
ASAJ Asahikawa 82.48 332 LR LR 10 13 04.1
comp=Z,3μm,20.7s,baz=164,slow=33
ASAJ Asahikawa 82.48 332 P **P 09 40 39.0 +1.2**
ASAJ pmax pmax
comp=Z,181nm,1.7s
DLV T Lat 82.57 288 P **P 09 40 41.2 +2.0**
SHEM Shemya Is, Ala 82.88 355 LR LR 10 12 15.5
comp=Z,2μm,20.9s,baz=154,slow=32
CLES Cleveland East 82.91 5 IAMs_20 IAMs_20 10 12 00.2
comp=Z,2μm,20.0s
NIKH Nikolski High 83.13 5 P **P 09 40 41.3 +0.4**
baz=188
SNCC San Nicolas Is 83.52 46 IAMs_20 IAMs_20 10 12 57.8
comp=Z,2μm,19.0s
SNCC San Nicolas Is 83.52 46 P **P 09 40 44.8 +1.3**
baz=228
SCI2 San Clemente I 83.95 46 P **P 09 40 47.2 +1.5**
baz=228
SCZ2 Santa Cruz Isl 83.96 45 P **P 09 40 46.9 +1.2**
baz=227
LPIG La Paz 83.99 58 LR LR 10 13 29.3
comp=Z,3μm,18.1s,baz=222,slow=32
BI02 San Fabin de 84.05 129 P **P 09 40 47.5 +1.0**
BI02 IAmb IAmb 09 41 06.0
comp=Z,67nm,1.5s
TJN Taejon 84.07 318 P **P 09 40 47.4 +1.2**
TJN Taejon 84.07 318 P **P 09 40 45.8 -0.4**
TJN Taejon 84.07 318 *ceP* **P 09 40 45.8 -0.4**
UNV Unalaska Valle 84.20 6 P **P 09 40 47.9 +1.5**
baz=190
SBC Santa Barbara 84.21 45 P **P 09 40 48.3 +1.3**
baz=227
CIS Catalina Islan 84.31 46 P **P 09 40 48.0 +0.4**
baz=228
SSE Sheshan 84.34 311 P **P 09 40 47.8 +0.1**
SSE SS SS 09 56 45.5 +2.9
SSE pmax pmax
comp=Z,14nm,0.7s
SSE pmax pmax
comp=Z,190nm,5.8s
SSE LR LR
comp=Z,230nm,22.2s
PKM Mcpherson Peak 84.45 44 P **P 09 40 49.4 +1.0**
baz=227
KSRS Korea Array 84.50 319 P **P 09 40 48.5 +0.2**
comp=Z,4.7nm,1.0s,baz=143,slow=5.8,SNR=13
KSRS LR LR 10 15 52.0
comp=Z,415nm,19.5s,baz=140,slow=34
comp=Z,4.7nm,1.0s
KSAR Wonju Array Be 84.52 319 P **P 09 40 48.5 0.0**
KSAR Wonju Array Be 84.52 319 P **P 09 40 48.5 0.0**
SRIG Santa Rosalia 84.54 54 IAMs_20 IAMs_20 10 15 04.3
comp=Z,2μm,18.0s
TJX Tijuana 84.59 48 IAMs_20 IAMs_20 10 20 24.0
comp=Z,1μm,18.0s
FMP Fort Macarthur 84.60 46 P **P 09 40 50.4 +1.4**
baz=228
SMMC Simmler 84.63 44 P **P 09 40 50.8 +1.6**
baz=227
VTX Valle De La Tr 84.68 49 IAMs_20 IAMs_20 10 13 57.8
comp=Z,1μm,18.0s
CBX Cerro Bola 84.71 48 IAMs_20 IAMs_20 10 24 39.3
comp=Z,2μm,20.0s
BCW Bitter Crk WRg 84.73 44 IAMs_20 IAMs_20 10 14 49.6
comp=Z,2μm,18.0s
YSS Yuzh-Sakhalins 84.77 334 P **P 09 40 51.1 +1.6**
YSS Yuzh-Sakhalins 84.77 334 P **P 09 40 50.2 +0.8**
YSS Yuzh-Sakhalins 84.77 334 IAMs_20 IAMs_20 10 14 17.0
comp=Z,2μm,20.0s
YSS Yuzh-Sakhalins 84.77 334 *αi*P **P 09 40 50.2 +0.8**
YSS *e*S **SKSac 09 51 13.7 +2.5**
YSS pmax pmax
comp=Z,80nm,0.8s
YSS pmax pmax
comp=Z,400nm,6.9s
109C Camp Elliot, M 84.80 47 IAMs_20 IAMs_20 10 16 53.7
comp=Z,1μm,18.0s
109C Camp Elliot, M 84.80 47 P **P 09 40 51.8 +1.8**
baz=229
TKX Tecate 84.91 48 P **P 09 40 51.2 +0.5**
DECC Green Verdugo 84.93 46 P **P 09 40 52.2 +1.5**
baz=228
OSI Osito Audit: C 84.93 45 P **P 09 40 52.4 +1.7**
baz=228
PASC Pasadena Art C 84.97 46 IAMs_20 IAMs_20 10 14 28.0
comp=Z,2μm,19.0s
ESJX Sierra Juarez 84.97 49 IAMs_20 IAMs_20 10 14 24.3
comp=Z,1μm,18.0s
SFX San Felipe 85.07 50 IAMs_20 IAMs_20 10 14 17.1
comp=Z,1μm,19.0s
ARVC Arvin 85.21 45 P **P 09 40 53.5 +1.4**
baz=228
MURC Murrieta 85.21 47 P **P 09 40 53.6 +1.4**
baz=229,SNR=6.5
MONP2 Monument Peak 85.24 48 P **P 09 40 54.6 +2.1**
baz=229,SNR=8.0
RMX La Rumorosa 85.27 48 IAMs_20 IAMs_20 10 14 42.3
comp=Z,2μm,18.0s
IKP In-Ko-Pah, Jac 85.28 48 P **P 09 40 54.9 +2.4**
baz=230
BFSC Mount Baldy Ra 85.34 46 P **P 09 40 54.0 +1.1**
baz=229,SNR=6.4
QIZ Qiongzhong 85.36 295 P **P 09 40 54.5 +1.4**
QIZ PP **PP 09 44 10.5 -1.1**
QIZ S **S 09 51 24.3 +2.1**
QIZ SS **SS 09 56 59.0 +1.1**
QIZ pmax pmax
comp=Z,14nm,1.0s
QIZ pmax pmax
comp=Z,510nm,11.8s
QIZ LR LR
comp=Z,470nm,19.3s
QIZ LR LR
comp=Z,250nm,18.1s
QIZ LR LR
comp=Z,450nm,23.6s

YUH	Yuha Desert	85.40	48	IAmb	IAmb	09 41 10.3	
	comp=Z,101nm,1.7s						
YUH				IAms_20	IAms_20	10 14 45.7	
	comp=Z,2μm,18.0s						
PET	Petropavlovsk	85.44	346	IAms_20	IAms_20	10 13 51.2	
	comp=Z,1μm,20.0s						
PET	Petropavlovsk	85.44	346	*ce*P	P	09 40 52.0	-0.6
PET				pmax	pmax		
	comp=Z,42nm,2.5s						
VES	Vestal, Richgr	85.53	44	P	P	09 40 54.8	+1.2
	baz=228,SNR=10.0						
FALS	False Pass	85.54	8	P	P	09 40 54.8	+1.7
	baz=192						
EDW2	Edwards Air Fo	85.56	45	P	P	09 40 55.2	+1.3
	baz=228,SNR=8.8						
MT01	Popeta	85.60	127	IAms_20	IAms_20	10 10 06.3	
	comp=Z,2μm,20.0s						
SWSC	Sam W. Stewart	85.67	48	P	P	09 40 56.3	+1.9
	baz=230						
VOG	Valley Oaks Go	85.68	43	P	P	09 40 55.8	+1.5
	baz=227						
PFO	Pinyon Flats O	85.68	47	P	P	09 40 53.8	-0.8
PFO				IAmb	IAmb	09 41 11.8	
	comp=Z,114nm,1.8s						
PFO	Pinyon Flats O	85.68	47	IAms_20	IAms_20	10 15 04.1	
	comp=Z,1μm,18.0s						
PFO	Pinyon Flats O	85.68	47	P	P	09 40 56.6	+2.0
	baz=229,SNR=8.7						
PFO	Pinyon Flats O	85.68	47	LR	LR	10 14 22.4	
	comp=Z,1μm,18.0s,baz=244,slow=32						
PFO	Pinyon Flats O	85.68	47	P	P	09 40 53.8	-0.8
PFO				pmax	pmax		
	comp=Z,114nm,1.8s						
TPFO	Pinon Flats	85.68	47	P	P	09 40 56.5	+1.9
	baz=229,SNR=8.1						
KULM	Kulim	85.69	279	IAms_20	IAms_20	10 20 25.3	
	comp=Z,2μm,21.0s						
CCAC	Calif City Air	85.72	45	P	P	09 40 53.8	-0.9
CCAC				IAmb	IAmb	09 41 07.0	
	comp=Z,87nm,1.6s						
CCAC				IAms_20	IAms_20	10 15 47.9	
	comp=Z,2μm,18.0s						
GUVIX	Guadalupe Vict	85.73	49	IAms_20	IAms_20	10 14 56.4	
	comp=Z,1μm,19.0s						
ISA	Isabella, Lake	85.78	44	P	P	09 40 56.1	+1.1
ISA				IAms_20	IAms_20	10 15 59.5	
	comp=Z,2μm,19.0s						
ISA	Isabella, Lake	85.78	44	P	P	09 40 56.9	+1.9
	baz=228,SNR=15						
ISA	Isabella, Lake	85.78	44	P	P	09 40 56.1	+1.1
ISA				pmax	pmax		
	comp=Z,106nm,1.6s						
BBRC	Big Bear Solar	85.81	46	P	P	09 40 56.9	+1.5
	baz=229						
MT09	Talagante	85.83	127	P	P	09 40 55.3	-0.3
MT09				IAmb	IAmb	09 41 23.9	
	comp=Z,63nm,1.2s						
KMPM	Mount Pierce	85.86	38	P	P	09 40 56.9	+1.6
KMPM				IAms_20	IAms_20	10 21 51.0	
	comp=Z,2μm,18.0s						
RPSI	Rantau Prapat	85.86	276	P	P	09 40 54.9	-0.9
RPSI				IAmb	IAmb	09 41 31.0	
	comp=Z,53nm,1.4s						
PSI	Prapat	85.92	276	P	P	09 40 54.9	-1.3
PSI				pmax	pmax		
	comp=Z,53nm,1.4s						
KMRM	Mail Ridge	85.94	38	P	P	09 40 55.7	+0.1
KMRM				IAms_20	IAms_20	10 16 29.8	
	comp=Z,2μm,18.0s						
CNBA	Chernabura Isl	86.03	10	IAms_20	IAms_20	10 14 13.2	
	comp=Z,2μm,20.0s						
CHNA	Chernabura Isl	86.04	10	P	P	09 40 56.9	+1.4
	baz=195						
LRMC	Laurel Mtn Rad	86.14	45	P	P	09 40 58.5	+1.7
	baz=228						
RRX	Edison Barstow	86.17	46	P	P	09 40 58.4	+1.6
	baz=229						
JCC	Jacoby Creek,	86.20	38	IAms_20	IAms_20	10 15 16.8	
	comp=Z,1μm,18.0s						
BELC	Belle Mtn. Jos	86.23	47	P	P	09 40 59.4	+2.1
	baz=230,SNR=17						
CMB	Columbia Colle	86.26	42	IAmb	IAmb	09 41 14.9	
	comp=Z,29nm,1.1s						
CMB				IAms_20	IAms_20	10 16 21.8	
	comp=Z,2μm,18.0s						
MT03	Universidad Ad	86.31	127	IAms_20	IAms_20	10 09 27.3	
	comp=Z,2μm,22.0s						
GSI	Gunungsitoli	86.33	274	P	P	09 41 01.4	+3.3
GSI	Gunungsitoli	86.33	274	P	P	09 40 58.7	+0.6
BC3	Big Chuckawall	86.35	48	P	P	09 40 59.9	+2.0
	baz=230,SNR=12						
GLA	Glamis	86.37	48	IAms_20	IAms_20	10 15 26.3	
	comp=Z,1μm,18.0s						
GLA	Glamis	86.37	48	P	P	09 41 00.4	+2.5
	baz=230						
KHMM	Horse Mountain	86.39	38	IAmb	IAmb	09 41 21.8	
	comp=Z,57nm,1.2s						
KHMM				IAms_20	IAms_20	10 22 09.1	
	comp=Z,2μm,18.0s						
SDPT	Sand Point	86.41	10	P	P	09 40 58.6	+1.2
	baz=195						
KRPM	Rodgers	86.44	37	IAms_20	IAms_20	10 23 24.4	
	comp=Z,1μm,19.0s						
MSHR	Mys Shultsa	86.47	325	*ce*P	P	09 40 58.5	+0.5
MSHR				pmax	pmax		
	comp=Z,30nm,1.3s						
NJ2	Nanjing	86.48	310	⇓P	P	09 40 59.5	+1.1
NJ2				pP	pwP	09 41 13.0	+0.8
NJ2				pmax	pmax		
	comp=Z,22nm,1.6s						
VLA	Vladivostok	86.50	325	*i*P	P	09 40 58.7	+0.5
VLA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
S12K	Black Hills	86.54	9	P	P	09 40 58.9	+0.8
	baz=193						
CWC	Cottonwood Cre	86.54	44	P	P	09 41 00.0	+1.2
	baz=228						
AFDM	Forest Hills D	86.55	41	IAmb	IAmb	09 41 21.7	
	comp=Z,44nm,1.2s						
HEC	Hector,Ludlow	86.55	46	P	P	09 41 00.7	+1.9
	baz=229,SNR=14						
GSC	Goldstone, Bar	86.57	46	IAmb	IAmb	09 41 30.5	
	comp=Z,48nm,1.2s						
GSC				IAms_20	IAms_20	10 15 19.3	
	comp=Z,2μm,18.0s						
GSC	Goldstone, Bar	86.57	46	P	P	09 41 00.8	+1.9
	baz=229,SNR=15						
MPMC	Manual Prospec	86.64	45	P	P	09 41 01.4	+2.1
	baz=229,SNR=13						
ORV	Oroville	86.67	40	IAmb	IAmb	09 41 22.2	
	comp=Z,86nm,1.7s						
ORV				IAms_20	IAms_20	10 15 16.7	
	comp=Z,2μm,19.0s						
P08K	Saint George I	86.69	4	P	P	09 41 00.4	+1.6
	baz=187						
MDPB	Devils Postpil	86.74	43	IAmb	IAmb	09 41 20.5	
	comp=Z,44nm,1.3s						
KRMB	Red Mountain	86.77	37	IAmb	IAmb	09 41 21.6	
	comp=Z,52nm,1.2s						
KRMB				IAms_20	IAms_20	10 15 34.9	
	comp=Z,1μm,19.0s						
OMMB	Old Mammoth Mi	86.78	43	IAmb	IAmb	09 41 22.5	
	comp=Z,94nm,1.9s						
UBPT	Khong Chiam	86.83	290	P	P	09 41 00.0	-0.4
TIN	Tinemaha, Big	86.86	43	P	P	09 41 02.1	+1.9
	baz=228						
IRM	Iron Mountain	86.87	47	P	P	09 41 02.7	+2.4
	baz=230,SNR=18						
113A	Mohawk Valley,	86.88	49	IAms_20	IAms_20	10 15 32.9	
	comp=Z,2μm,18.0s						
MLAC	Mammoth, Mammo	86.88	43	P	P	09 41 02.6	+2.1
	baz=228						
GMRC	Granite Mounta	86.94	47	P	P	09 41 02.9	+2.1
	baz=230,SNR=10.0						
KSXB	Camp Six Broad	87.00	37	IAmb	IAmb	09 41 23.9	
	comp=Z,44nm,1.1s						
KSXB				IAms_20	IAms_20	10 15 42.1	
	comp=Z,1μm,19.0s						
214A	Organ Pipe Nat	87.00	50	IAms_20	IAms_20	10 14 59.2	
	comp=Z,2μm,19.0s						
214A	Organ Pipe Nat	87.00	50	P	P	09 41 03.2	+2.2
	baz=232						
KBO	Bosley Butte	87.09	37	IAms_20	IAms_20	10 15 53.5	
	comp=Z,2μm,19.0s						
WAKR	Walker	87.12	42	IAms_20	IAms_20	10 15 11.7	
	comp=Z,2μm,19.0s						
PAYG	Puerto Ayora	87.18	89	IAms_20	IAms_20	10 10 25.7	
	comp=Z,2μm,22.0s						
TUQ	Turquoise Moun	87.20	46	P	P	09 41 04.1	+2.1
	baz=230						
SPIA	Saint Paul Isl	87.22	4	P	P	09 41 02.5	+1.1
	baz=186						
DSP	Deep Springs	87.22	43	IAmb	IAmb	09 41 23.5	
	comp=Z,54nm,1.5s						
DSP				IAms_20	IAms_20	10 17 13.4	
	comp=Z,1μm,18.0s						
GWY	Greenwater Val	87.23	45	IAmb	IAmb	09 41 22.8	
	comp=Z,44nm,1.2s						
GWY				IAms_20	IAms_20	10 23 41.7	
	comp=Z,1μm,18.0s						
CO02	Combarbal	87.24	125	IAmb	IAmb	09 41 25.5	
	comp=Z,33nm,0.9s						
CO02				IAms_20	IAms_20	10 10 46.9	
	comp=Z,2μm,18.0s						
USRK	Ussuriysk Ar.	87.25	326	P	P	09 41 01.4	-0.5
USRK	Ussuriysk Ar.	87.25	326	P	P	09 41 01.9	+0.1
	comp=Z,16nm,1.1s,baz=128,slow=3.5,SNR=29						
USRK				LR	LR	10 15 03.7	
	comp=Z,1μm,21.4s,baz=139,slow=32						
	comp=Z,16nm,1.1s						
USA0B	Ussuriysk Arra	87.25	326	P	P	09 41 01.7	-0.1
USA0B	Ussuriysk Arra	87.25	326	P	P	09 41 01.7	-0.1
USA0B				pmax	pmax		
	comp=Z,104nm,1.6s						
SHOC	Shoshone, Teco	87.28	45	P	P	09 41 04.1	+1.9
	baz=229,SNR=10						
FURC	Furnace Creek,	87.29	45	P	P	09 41 03.7	+1.5
	baz=229,SNR=10						
MPK	Martis Peak	87.32	41	IAmb	IAmb	09 41 32.8	
	comp=Z,68nm,1.2s						
GRAC	Grapevine Rang	87.34	44	IAms_20	IAms_20	10 15 40.5	
	comp=Z,2μm,19.0s						
GRAC	Grapevine Rang	87.34	44	P	P	09 41 04.0	+1.5
	baz=229,SNR=12						
L02F	Cave Junction	87.37	37	IAmb	IAmb	09 41 23.7	
	comp=Z,86nm,1.6s						
L02F				IAms_20	IAms_20	10 16 02.8	
	comp=Z,2μm,19.0s						
S14K	Fog Glacier	87.45	10	P	P	09 41 04.2	+1.6
	baz=195						
YBH	Yreka Blue Hor	87.54	38	P	P	09 41 02.7	-0.7
YBH	Yreka Blue Hor	87.54	38	LR	LR	10 12 44.1	
	comp=Z,813nm,21.5s,baz=229,slow=30						
YBH	Yreka Blue Hor	87.54	38	P	P	09 41 02.7	-0.7
YBH				pmax	pmax		
	comp=Z,21nm,1.1s						
YBH				MLR	MLR		
	comp=Z,1μm,18.0s						
YERR	Yerington	87.56	42	IAmb	IAmb	09 41 26.8	
	comp=Z,84nm,1.6s						
YERR				IAms_20	IAms_20	10 15 07.3	
	comp=Z,2μm,19.0s						
NEE2	Needles Airpor	87.59	47	P	P	09 41 05.9	+2.1
	baz=230						
GMN	Gold Mountain	87.60	44	IAmb	IAmb	09 41 27.3	
	comp=Z,33nm,1.2s						
PDMCI	Parker Dam,Lak	87.60	48	P	P	09 41 05.8	+2.0
	baz=231						
CHGN	Chignik	87.64	10	IAms_20	IAms_20	10 15 33.5	
	comp=Z,1μm,22.0s						
CHGN	Chignik	87.64	10	P	P	09 41 04.0	+0.6
	baz=196						
WCT	Wildcat Mounta	87.65	45	IAmb	IAmb	09 41 21.4	
	comp=Z,102nm,2.0s						
WCT				IAms_20	IAms_20	10 13 18.9	
	comp=Z,1μm,21.0s						
CHIR	Chirikof Islan	87.66	12	P	P	09 41 04.3	+0.8
	baz=199						
K02D	Willamette Mer	87.73	37	IAmb	IAmb	09 41 25.3	
	comp=Z,106nm,1.9s						
K02D				IAms_20	IAms_20	10 16 40.4	
	comp=Z,2μm,19.0s						
NVAR	Mina Array Bea	87.73	42	P	P	09 41 05.3	+0.7
NVAR	Mina Array Bea	87.73	42	P	P	09 41 06.0	+1.3
	comp=Z,12nm,0.9s,baz=221,slow=7.7,SNR=66						
NVAR				PKKPbc	PKKPbc	09 59 01.5	+8.5
	comp=Z,0.3nm,0.7s,baz=83,slow=3.1,SNR=3.6						
NVAR				LR	LR	10 17 08.1	
	comp=Z,2μm,18.0s,baz=234,slow=34						
	comp=Z,12nm,0.9s						
RYN	Ryan	87.74	42	IAmb	IAmb	09 41 27.8	
	comp=Z,76nm,1.5s						
RYN				IAms_20	IAms_20	10 17 30.0	
	comp=Z,2μm,19.0s						
NV11	Mina Array Sit	87.82	42	IAmb	IAmb	09 41 28.2	
	comp=Z,45nm,1.3s						
J01E	Myrtle Point	87.93	36	IAms_20	IAms_20	10 16 47.5	
	comp=Z,1μm,19.0s						
PAHR	Pah Rah Range	87.97	41	IAmb	IAmb	09 41 26.0	
	comp=Z,46nm,1.3s						
TPNV	Topopah Spring	87.98	45	P	P	09 41 07.7	+2.0
	baz=229,SNR=17						
TYV	Tymovskoe	88.05	336	*e*P	P	09 41 06.6	+1.1
TYV				*e*S	S	09 51 48.8	+1.9
TYV				pmax	pmax		
	comp=Z,20nm,1.2s						
TYV				pmax	pmax		
	comp=Z,400nm,3.7s						
TYV				smax	smax		
	comp=N,500nm,7.6s						
TYV				smax	smax		
	comp=E,300nm,7.6s						
V12A	Nelson	88.06	46	IAmb	IAmb	09 41 37.1	
	comp=Z,72nm,1.7s						
V12A				IAms_20	IAms_20	10 15 30.8	
	comp=Z,2μm,19.0s						
L04D	Klamath Falls	88.10	38	IAmb	IAmb	09 41 36.9	
	comp=Z,66nm,1.4s						
L04D				IAms_20	IAms_20	10 24 29.6	
	comp=Z,1μm,18.0s						
Y14A	Wickenburg	88.11	49	IAmb	IAmb	09 41 27.3	
	comp=Z,76nm,1.5s						
Y14A				IAms_20	IAms_20	10 16 28.3	
	comp=Z,2μm,18.0s						
SRIT	Nakonsritamara	88.26	281	IAms_20	IAms_20	10 22 04.3	
	comp=Z,2μm,22.0s						
KVN	Kaiserville	88.26	42	IAmb	IAmb	09 41 30.1	
	comp=Z,31nm,1.2s						
KVN				IAms_20	IAms_20	10 18 05.9	
	comp=Z,2μm,18.0s						
W13A	Hualapai Mount	88.27	47	IAmb	IAmb	09 41 33.3	
	comp=Z,34nm,1.3s						
SHPR	Sheep Range	88.36	46	IAmb	IAmb	09 41 26.2	
	comp=Z,34nm,1.5s						
MOIG	Morelia	88.46	66	IAms_20	IAms_20	10 17 14.9	
	comp=Z,2μm,18.0s						
TUC	Tucson	88.58	51	P	P	09 41 11.0	+2.4
TUC	Tucson	88.58	51	P	P	09 41 11.1	+2.4
	baz=233						
TUC	Tucson	88.58	51	P	P	09 41 11.0	+2.4
TUC				pmax	pmax		
	comp=Z,154nm,1.8s						
WHN	Wuhan	88.62	307	P	P	09 41 09.8	+1.1
WHN				pP	pwP	09 41 24.3	+1.8
WHN				SKS	SKSac	09 51 35.5	-0.3
WHN				S	S	09 51 50.3	-2.9
WHN				LR	LR		
	comp=Z,2μm,19.6s						
WHN				LR	LR		
	comp=Z,1μm,14.1s						
WHN				LR	LR		
	comp=Z,3μm,22.3s						
SII	Sitkinak Islan	88.62	13	IAms_20	IAms_20	10 16 19.5	
	comp=Z,2μm,20.0s						
SII	Sitkinak Islan	88.62	13	P	P	09 41 08.7	+0.6
	baz=200						
Q09A	Carvers	88.66	43	IAms_20	IAms_20	10 17 43.4	
	comp=Z,2μm,18.0s						
MDJ	Mudanjiang	88.73	325	P	P	09 41 10.2	+1.3
MDJ	Mudanjiang	88.73	325	P	P	09 41 09.0	+0.1
MDJ				pmax	pmax		
	comp=Z,23nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,760nm,9.6s						
MDJ				LR	LR		
	comp=Z,790nm,21.3s						
MDJ				LR	LR		
	comp=Z,960nm,23.4s						
MDJ				LR	LR		
	comp=Z,2μm,22.0s						
MDJ	Mudanjiang	88.73	325	P	P	09 41 08.9	0.0
MDJ				IAms_20	IAms_20	10 15 41.3	
	comp=Z,2μm,22.0s						
S11A	Rachel	88.74	44	P	P	09 41 08.7	-0.6
R16K	Pilot Point	88.99	11	P	P	09 41 11.0	+1.3
	baz=197						
319A	Douglas	89.04	53	IAms_20	IAms_20	10 17 41.4	
	comp=Z,1μm,18.0s						
ZAIG	Zacatecas	89.06	63	IAms_20	IAms_20	10 15 46.7	
	comp=Z,1μm,18.0s						
DL2	Dalian	89.13	317	P	P	09 41 10.8	-0.1
DL2				S	S	09 51 55.0	-2.6
DL2				pmax	pmax		
	comp=Z,39nm,1.1s						
DL2				pmax	pmax		
	comp=Z,550nm,6.5s						
DL2				LR	LR		
	comp=Z,330nm,23.1s						
DL2				LR	LR		
	comp=Z,920nm,23.7s						
DL2				LR	LR		
	comp=Z,1μm,25.1s						
I04A	Tendick Farm,	89.16	36	IAmb	IAmb	09 41 33.9	
	comp=Z,82nm,1.6s						
I04A				IAms_20	IAms_20	10 17 55.1	
	comp=Z,1μm,18.0s						
R17L	Mt. Peulik Vol	89.25	11	P	P	09 41 12.1	+1.1
	baz=198						
PLK4	Peulik 4	89.25	11	IAmb	IAmb	09 41 28.3	
	comp=Z,45nm,1.1s						
PLK4				IAms_20	IAms_20	10 16 54.4	
	comp=Z,2μm,20.0s						
COR	Corvallis	89.26	35	IAms_20	IAms_20	10 15 19.8	
	comp=Z,2μm,20.0s						
R11B	Troy Canyon, C	89.29	44	IAms_20	IAms_20	10 18 41.2	
	comp=Z,2μm,18.0s						
R11B	Troy Canyon, C	89.29	44	P	P	09 41 13.0	+1.1
	baz=230						
J05D	Fort Rock, OR	89.41	37	IAmb	IAmb	09 41 33.1	
	comp=Z,70nm,1.6s						
J05D				IAms_20	IAms_20	10 17 22.9	
	comp=Z,1μm,19.0s						
OHAK	Old Harbor	89.41	13	IAms_20	IAms_20	10 16 43.5	
	comp=Z,2μm,20.0s						
OHAK	Old Harbor	89.41	13	P	P	09 41 12.4	+0.7
	baz=201						
X16A	Lo Mia Camp, P	89.42	49	IAmb	IAmb	09 41 31.5	
	comp=Z,29nm,1.1s						
X16A				IAms_20	IAms_20	10 17 10.2	
	comp=Z,1μm,18.0s						
TLIG	Tlapa	89.44	69	IAms_20	IAms_20	10 11 00.4	
	comp=Z,2μm,22.0s						
H04D	Lebanon	89.50	36	IAms_20	IAms_20	10 15 19.2	
	comp=Z,2μm,20.0s						
R18K	Karluk	89.52	12	P	P	09 41 12.1	-0.1
	baz=200						
BMN	Battle Mountai	89.69	41	IAmb	IAmb	09 41 36.8	
	comp=Z,66nm,1.4s						
G03D	McMinnville, O	89.73	35	IAms_20	IAms_20	10 15 53.1	
	comp=Z,1μm,19.0s						
NAYO	Nakonayok	89.74	287	P	P	09 41 15.2	+0.9
LCMT	Little Creek M	89.87	46	IAms_20	IAms_20	10 16 27.9	
	comp=Z,1μm,19.0s						
UNM	Universidad Na	89.88	68	IAms_20	IAms_20	10 11 39.8	
	comp=Z,2μm,22.0s						
H04A	Detroit Lake	89.90	36	IAmb	IAmb	09 41 34.6	
	comp=Z,53nm,1.2s						
H04A				IAms_20	IAms_20	10 18 28.6	
	comp=Z,1μm,19.0s						
Q17K	Contact Creek	89.93	11	P	P	09 41 13.8	-0.5
	baz=199						
KDAK	Kodiak Island	90.07	13	P	P	09 41 15.6	+0.8
KDAK				IAmb	IAmb	09 41 43.3	
	comp=Z,101nm,1.9s						
KDAK	Kodiak Island	90.07	13	IAms_20	IAms_20	10 16 43.0	
	comp=Z,2μm,20.0s						
KDAK	Kodiak Island	90.07	13	P	P	09 41 15.7	+0.8
	baz=201						
KDAK	Kodiak Island	90.07	13	P	P	09 41 15.6	+0.8
KDAK				pmax	pmax		
	comp=Z,101nm,1.9s						
O14K	Tigyukauivet M	90.10	8	P	P	09 41 15.8	+1.0
	baz=194						
CCUT	Cedar City	90.14	46	IAmb	IAmb	09 41 37.4	
	comp=Z,60nm,1.5s						
CCUT				IAms_20	IAms_20	10 18 08.8	
	comp=Z,1μm,18.0s						
WUAZ	Wupatki	90.14	48	IAmb	IAmb	09 41 37.8	
	comp=Z,64nm,1.2s						
WUAZ				IAms_20	IAms_20	10 17 44.0	
	comp=Z,1μm,18.0s						
WUAZ	Wupatki	90.14	48	P	P	09 41 18.1	+2.2
	baz=232						
KNB	Kanab	90.14	46	IAmb	IAmb	09 41 34.6	
	comp=Z,65nm,1.3s						
KNB				IAms_20	IAms_20	10 16 35.9	
	comp=Z,1μm,19.0s						
NONG	Nongkai	90.18	291	P	P	09 41 17.0	+0.7
Q12A	Willow Creek R	90.18	44	IAmb	IAmb	09 41 37.5	
	comp=Z,63nm,1.4s						
Q12A				IAms_20	IAms_20	10 19 28.9	
	comp=Z,2μm,18.0s						
TIA	Tai'an	90.19	313	P	P	09 41 16.3	+0.4
TIA				pmax	pmax		
	comp=Z,13nm,1.0s						
TIA				pmax	pmax		
	comp=Z,520nm,10.0s						
TIA				LR	LR		
	comp=Z,590nm,23.1s						
TIA				LR	LR		
	comp=Z,800nm,22.0s						
TIA				LR	LR		
	comp=Z,2μm,20.7s						
Q16K	King Salmon	90.20	11	P	P	09 41 16.2	+0.8
	baz=198						
O15K	Ungalikthiuk R	90.21	9	P	P	09 41 15.4	0.0
	baz=195						
WVOR	Wild Horse Val	90.22	39	IAmb	IAmb	09 41 39.4	
	comp=Z,58nm,1.4s						
CN2	Changchun	90.27	323	⇑P	P	09 41 15.5	-0.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,300nm,4.0s						
GRNR	Gornyy	90.31	333	⇑*i*P	P	09 41 17.2	+1.0
GRNR				pmax	pmax		
	comp=Z,20nm,1.1s						
P16K	Nushagak River	90.33	10	P	P	09 41 16.7	+0.7
	baz=197						
SZCU	Shurtz Canyon	90.33	46	IAmb	IAmb	09 41 38.1	
	comp=Z,55nm,1.4s						
SZCU				IAms_20	IAms_20	10 23 41.0	
	comp=Z,2μm,19.0s						
AC01	Pan de Azucar	90.34	121	IAms_20	IAms_20	10 11 44.1	
	comp=Z,2μm,22.0s						
Q18K	Katmai Hardscr	90.44	11	P	P	09 41 17.0	+0.3
	baz=199						
PSUT	Pine Spring	90.45	45	IAms_20	IAms_20	10 17 30.1	
	comp=Z,2μm,19.0s						
SPR3	Spring Creek 3	90.46	44	IAmb	IAmb	09 41 40.5	
	comp=Z,34nm,1.4s						
X18A	Snowflake	90.47	50	IAmb	IAmb	09 41 36.3	
	comp=Z,60nm,1.5s						
X18A				IAms_20	IAms_20	10 17 25.0	
	comp=Z,1μm,19.0s						
HOOD	Mount Hood Mea	90.61	36	IAmb	IAmb	09 41 47.6	
	comp=Z,75nm,1.4s						
HOOD				IAms_20	IAms_20	10 16 14.6	
	comp=Z,2μm,20.0s						
BNX	BinXian	90.61	325	⇑P	P	09 41 17.0	-0.7
BNX				pP	pwP	09 41 30.5	-1.0
BNX				SKS	SKSac	09 51 41.5	-5.3
BNX				S	S	09 52 11.0	-0.1
BNX				sS	sS	09 52 28.0	+2.8
BNX				pmax	pmax		
	comp=Z,21nm,1.2s						
BNX				pmax	pmax		
	comp=Z,380nm,10.5s						
BNX				LR	LR		
	comp=Z,280nm,16.9s						
BNX				LR	LR		
	comp=Z,800nm,22.1s						
BNX				LR	LR		
	comp=Z,1μm,21.4s						
M11K	Mekoryuk	90.70	6	P	P	09 41 19.2	+1.6
	baz=190						
N14K	Kuskokwak Cree	90.70	8	P	P	09 41 18.7	+1.1
	baz=194						
PKCU	Pink Cliffs	90.72	46	IAmb	IAmb	09 41 40.6	
	comp=Z,63nm,1.3s						
PKCU			

	baz=198							
G05A	**Wamic**	**90.73**	**36**	IAMs_20	IAMs_20	10 16 28.6		
	comp=Z,1μm,20.0s							
121A	**Cookes Peak, D**	**90.75**	**52**	IAMs_20	IAMs_20	10 18 55.6		
	comp=Z,2μm,18.0s							
121A	**Cookes Peak, D**	**90.75**	**52**	P	**P**	**09 41 20.7**	**+1.9**	
	baz=234							
WISH	**Wishkah**	**90.84**	**33**	IAMs_20	IAMs_20	10 17 28.5		
	comp=Z,1μm,20.0s							
O16K	**Kokwok River B**	**90.85**	**10**	IAMs_20	IAMs_20	10 17 46.5		
	comp=Z,1μm,20.0s							
O16K	**Kokwok River B**	**90.85**	**10**	P	**P**	**09 41 18.4**	**0.0**	
	baz=197							
I07A	**Izee**	**90.87**	**38**	IAmb	IAmb	09 41 42.4		
	comp=Z,78nm,1.5s							
I07A				IAMs_20	IAMs_20	10 26 03.5		
	comp=Z,1μm,18.0s							
Q20K	**Shuyak Island**	**90.88**	**13**	P	**P**	**09 41 19.6**	**+1.0**	
	baz=202							
SYI	**Shuyak Island**	**90.88**	**13**	IAMs_20	IAMs_20	10 22 47.3		
	comp=Z,1μm,19.0s							
J08A	**Circle Bar Ran**	**90.93**	**39**	P	**P**	**09 41 20.4**	**+1.0**	
J08A				IAmb	IAmb	09 41 42.5		
	comp=Z,48nm,1.3s							
Q19K	**Cape Douglas,**	**90.95**	**12**	P	**P**	**09 41 18.9**	**0.0**	
	baz=200							
W18A	**Petrified Fore**	**90.96**	**49**	IAMs_20	IAMs_20	10 17 51.0		
	comp=Z,1μm,18.0s							
W18A	**Petrified Fore**	**90.96**	**49**	P	**P**	**09 41 21.6**	**+1.8**	
	baz=233							
M13K	**Dall Lake**	**90.99**	**7**	P	**P**	**09 41 19.8**	**+0.7**	
	baz=192							
NLWA	**Neilton Lookou**	**90.99**	**33**	IAmb	IAmb	09 41 38.9		
	comp=Z,28nm,1.1s							
NLWA				IAMs_20	IAMs_20	10 26 16.5		
	comp=Z,1μm,18.0s							
KLR	**Kul'dur**	**91.10**	**329**	LR	LR	10 20 45.7		
	comp=Z,1μm,19.1s,baz=138,slow=35							
KLR	**Kul'dur**	**91.10**	**329**	*e*P	**P**	**09 41 19.8**	**0.0**	
KLR				pmax	pmax			
	comp=Z,14nm,1.1s							
P18K	**Big Mountain,**	**91.11**	**11**	IAMs_20	IAMs_20	10 17 42.3		
	comp=Z,1μm,19.0s							
P18K	**Big Mountain,**	**91.11**	**11**	P	**P**	**09 41 19.6**	**0.0**	
	baz=199							
N15K	**Kwethluk River**	**91.14**	**9**	IAMs_20	IAMs_20	10 17 34.8		
	comp=Z,2μm,21.0s							
N15K	**Kwethluk River**	**91.14**	**9**	P	**P**	**09 41 20.0**	**+0.2**	
	baz=195							
MTPU	**Mount Pierson**	**91.17**	**46**	IAMs_20	IAMs_20	10 17 31.2		
	comp=Z,2μm,19.0s							
O17K	**Koliganek Bris**	**91.17**	**10**	P	**P**	**09 41 19.7**	**-0.2**	
	baz=198							
EPT	**El Paso**	**91.19**	**54**	IAMs_20	IAMs_20	10 19 11.5		
	comp=Z,1μm,18.0s							
TCRU	**Three Creeks R**	**91.36**	**45**	IAmb	IAmb	09 41 43.0		
	comp=Z,25nm,1.2s							
TCRU				IAMs_20	IAMs_20	10 22 50.2		
	comp=Z,1μm,18.0s							
M14K	**Bethel**	**91.48**	**8**	P	**P**	**09 41 22.6**	**+1.4**	
	baz=193							
LON	**Longmire**	**91.53**	**35**	IAmb	IAmb	09 41 58.7		
	comp=Z,51nm,1.6s							
O18K	**Koktuh Hills**	**91.55**	**11**	IAmb	IAmb	09 41 38.4		
	comp=Z,41nm,1.2s							
O18K	**Koktuh Hills**	**91.55**	**11**	P	**P**	**09 41 21.2**	**-0.5**	
	baz=199							
M15K	**Kasigluk River**	**91.57**	**8**	P	**P**	**09 41 22.4**	**+0.7**	
	baz=194							
N16K	**Nishlik Lake**	**91.61**	**9**	P	**P**	**09 41 22.8**	**+0.9**	
	baz=196							
GNW	**Green Mountain**	**91.61**	**34**	IAmb	IAmb	09 41 42.4		
	comp=Z,42nm,1.4s							
B04A	**Port Angeles**	**91.64**	**33**	IAMs_20	IAMs_20	10 20 08.6		
	comp=Z,2μm,21.0s							
P19K	**Oil Pt**	**91.70**	**12**	IAMs_20	IAMs_20	10 18 21.0		
	comp=Z,2μm,20.0s							
P19K	**Oil Pt**	**91.70**	**12**	P	**P**	**09 41 23.5**	**+1.0**	
	baz=201							
VHRN	**Van Horn**	**91.70**	**55**	IAmb	IAmb	09 41 39.4		
	comp=Z,31nm,1.6s							
TX31	**Lajitas Ar. Si**	**91.84**	**57**	IAmb	IAmb	09 41 54.2		
	comp=Z,54nm,1.6s							
TXAR	**Lajitas Array**	**91.84**	**57**	P	**P**	**09 41 24.2**	**+0.2**	
TXAR	**Lajitas Array**	**91.84**	**57**	P	**P**	**09 41 24.7**	**+0.8**	
	comp=Z,1.6nm,1.0s,baz=205,slow=1.9,SNR=11							
TXAR				PKKPbc	**PKKPbc**	**09 58 49.8**	**+7.8**	
	comp=Z,0.2nm,0.7s,baz=49,slow=1.7,SNR=3.8							
TXAR				LR	LR	10 18 16.3		
	comp=Z,939nm,18.2s,baz=232,slow=33							
	comp=Z,1.6nm,1.0s							
GYA	**Guiyang**	**91.88**	**300**	P	P	09 41 30.8	+6.6	
GYA				pmax	pmax			
	comp=Z,21nm,0.8s							
GYA				LR	LR			
	comp=N,430nm,25.1s							
GYA				LR	LR			
	comp=E,690nm,18.4s							
GYA				LR	LR			
	comp=Z,1μm,16.6s							
N17K	**Nushagak Hills**	**91.88**	**10**	IAMs_20	IAMs_20	10 18 17.7		
	comp=Z,1μm,20.0s							
N17K	**Nushagak Hills**	**91.88**	**10**	P	**P**	**09 41 23.6**	**+0.4**	
	baz=198							
F07A	**Phinny Hill Vi**	**91.89**	**36**	IAmb	IAmb	09 41 46.8		
	comp=Z,65nm,1.6s							
F07A				IAMs_20	IAMs_20	10 26 37.3		
	comp=Z,1μm,18.0s							
ENH	**Enshi**	**91.89**	**304**	P	**P**	**09 41 24.6**	**+0.6**	
CLRS	**Cowichan Lake**	**91.90**	**32**	IAMs_20	IAMs_20	10 17 59.3		
	comp=Z,1μm,19.0s							
MNTX	**Cornudas Mount**	**91.94**	**54**	P	**P**	**09 41 25.2**	**+1.0**	
	baz=236							
CNPM	**China Poot**	**91.96**	**13**	IAMs_20	IAMs_20	10 18 02.8		
	comp=Z,2μm,20.0s							
L14K	**Kuka Creek**	**91.97**	**7**	P	**P**	**09 41 23.8**	**+0.3**	
	baz=193							
HOM	**Homer**	**92.00**	**13**	IAMs_20	IAMs_20	10 18 16.9		
	comp=Z,2μm,20.0s							
HOM	**Homer**	**92.00**	**13**	P	**P**	**09 41 24.0**	**+0.2**	
	baz=202							
HMU	**Henry Mountain**	**92.01**	**47**	IAmb	IAmb	09 41 47.8		
	comp=Z,52nm,1.6s							
O19K	**Port Alsworth**	**92.02**	**11**	IAMs_20	IAMs_20	10 18 31.5		
	comp=Z,1μm,20.0s							
O19K	**Port Alsworth**	**92.02**	**11**	P	**P**	**09 41 23.8**	**0.0**	
	baz=200							
ILSW	**Iliamna Southw**	**92.03**	**12**	IAmb	IAmb	09 41 40.5		
	comp=Z,37nm,1.2s							
M16K	**Timber Creek**	**92.11**	**9**	IAMs_20	IAMs_20	10 18 15.6		
	comp=Z,1μm,20.0s							
M16K	**Timber Creek**	**92.11**	**9**	P	**P**	**09 41 25.3**	**+1.1**	
	baz=196							
DUG	**Dugway, Tooele**	**92.12**	**44**	IAMs_20	IAMs_20	10 19 02.2		
	comp=Z,2μm,19.0s							
DUG	**Dugway, Tooele**	**92.12**	**44**	P	**P**	**09 41 26.4**	**+1.4**	
	baz=232							
MXC	**Moxie City**	**92.17**	**35**	IAMs_20	IAMs_20	10 17 22.6		
	comp=Z,2μm,20.0s							
CMIG	**Matias Romero**	**92.20**	**72**	LR	LR	10 12 44.8		
	comp=Z,622nm,22.0s,baz=247,slow=29							
O20K	**Slope Mountain**	**92.22**	**12**	P	**P**	**09 41 25.6**	**+0.8**	
	baz=201							
CBB	**Campbell River**	**92.22**	**31**	IAMs_20	IAMs_20	10 18 36.8		
	comp=Z,1μm,19.0s							
N18K	**Kilae Creek**	**92.23**	**10**	P	**P**	**09 41 25.0**	**+0.2**	
	baz=199							
Y22D	**IRIS PASSCAL I**	**92.23**	**52**	IAMs_20	IAMs_20	10 18 15.7		
	comp=Z,2μm,19.0s							
Y22D	**IRIS PASSCAL I**	**92.23**	**52**	P	**P**	**09 41 27.9**	**+2.2**	
	baz=235							
BRLK	**Bradley Lake**	**92.25**	**13**	IAMs_20	IAMs_20	10 18 01.0		
	comp=Z,2μm,20.0s							
LYN	**LuoYang**	**92.25**	**309**	P	**P**	**09 41 29.8**	**+4.3**	
LYN				sS	sS	09 52 44.0	+3.5	
LYN				pmax	pmax			
	comp=Z,28nm,0.8s							
LYN				pmax	pmax			
	comp=Z,600nm,7.1s							
LYN				LR	LR			
	comp=Z,780nm,18.9s							
LYN				LR	LR			
	comp=Z,810nm,20.6s							
LYN				LR	LR			
	comp=Z,2μm,21.3s							
BRSE	**Bradley Lake S**	**92.26**	**13**	P	**P**	**09 41 25.8**	**+0.8**	
	baz=203							
Q16A	**Castle Valley**	**92.33**	**46**	IAMs_20	IAMs_20	10 18 01.0		
	comp=Z,1μm,19.0s							
K13K	**Kusilvak Mount**	**92.36**	**6**	P	**P**	**09 41 26.5**	**+1.1**	
	baz=191							
E07A	**Sunnyside**	**92.37**	**36**	IAMs_20	IAMs_20	10 17 29.2		
	comp=Z,2μm,20.0s							
NLU	**North Lily Min**	**92.42**	**44**	IAmb	IAmb	09 41 57.2		
	comp=Z,31nm,1.7s							
MFID	**Camas Ranch**	**92.42**	**40**	IAmb	IAmb	09 41 49.3		
	comp=Z,30nm,1.1s							
MFID				IAMs_20	IAMs_20	10 19 09.8		
	comp=Z,1μm,19.0s							
HAWA	**Hanford**	**92.42**	**36**	IAMs_20	IAMs_20	10 17 22.5		
	comp=Z,2μm,20.0s							
L15K	**Ungalak Mounta**	**92.43**	**8**	P	**P**	**09 41 25.9**	**+0.3**	
	baz=194							
ALPN	**Alpine**	**92.44**	**56**	IAmb	IAmb	09 41 43.3		
	comp=Z,27nm,1.2s							
LTY	**Liberty**	**92.45**	**35**	IAmb	IAmb	09 41 49.4		
	comp=Z,69nm,1.7s							
LTY				IAMs_20	IAMs_20	10 13 45.0		
	comp=Z,1μm,22.0s							
HNS	**HongShan**	**92.45**	**312**	⇑P	**P**	**09 41 26.8**	**+0.4**	
HNS				SKS	**SKSac**	**09 51 56.8**	**-0.8**	
HNS				S	**S**	**09 52 22.0**	**-6.1**	
HNS				pmax	pmax			
	comp=Z,10.0nm,1.2s							
HNS				LR	LR			
	comp=Z,740nm,24.1s							
HNS				LR	LR			
	comp=Z,710nm,24.5s							
HNS				LR	LR			
	comp=Z,1μm,24.1s							
TMUT	**Trail Mountain**	**92.54**	**45**	IAmb	IAmb	09 41 57.2		
	comp=Z,42nm,1.4s							
TMUT				IAMs_20	IAMs_20	10 18 29.5		
	comp=Z,1μm,19.0s							
BMO	**Blue Mountains**	**92.55**	**38**	IAmb	IAmb	09 41 49.8		
	comp=Z,79nm,1.9s							
BMO				IAMs_20	IAMs_20	10 19 47.2		
	comp=Z,1μm,19.0s							
N19K	**Bonanza Creek**	**92.58**	**11**	IAMs_20	IAMs_20	10 24 26.1		
	comp=Z,1μm,20.0s							
N19K	**Bonanza Creek**	**92.58**	**11**	P	**P**	**09 41 26.4**	**-0.1**	
	baz=200							
BBB	**Bella Bella**	**92.66**	**28**	IAMs_20	IAMs_20	10 18 43.2		
	comp=Z,1μm,19.0s							
BBB	**Bella Bella**	**92.66**	**28**	LR	LR	10 19 39.5		
	comp=Z,1μm,18.1s,baz=236,slow=33							
M17K	**Holitna River**	**92.68**	**9**	IAMs_20	IAMs_20	10 18 32.8		
	comp=Z,2μm,21.0s							
M17K	**Holitna River**	**92.68**	**9**	P	**P**	**09 41 28.0**	**+1.1**	
	baz=197							
L16K	**Owhat River**	**92.71**	**8**	P	**P**	**09 41 27.8**	**+0.9**	
	baz=196							
MPU	**Maple Canyon**	**92.72**	**45**	IAmb	IAmb	09 41 58.4		
	comp=Z,36nm,1.7s							
MPU				IAMs_20	IAMs_20	10 20 33.2		
	comp=Z,2μm,18.0s							
PB04	**IPOC Station P**	**92.81**	**118**	IAMs_20	IAMs_20	10 14 43.4		
	comp=Z,1μm,21.0s							
SEW	**Seward**	**92.85**	**14**	P	**P**	**09 41 27.8**	**+0.2**	
	baz=204							
SRU	**San Rafael Swe**	**92.85**	**46**	IAmb	IAmb	09 41 48.8		
	comp=Z,56nm,1.6s							
SRU				IAMs_20	IAMs_20	10 18 16.8		
	comp=Z,1μm,19.0s							
Q23K	**Middleton Isla**	**92.91**	**15**	P	**P**	**09 41 29.6**	**+1.7**	
	baz=207							
P17A	**Butcher Ranch,**	**92.94**	**45**	IAmb	IAmb	09 41 50.3		
	comp=Z,42nm,1.5s							
P17A				IAMs_20	IAMs_20	10 18 41.1		
	comp=Z,1μm,19.0s							
NNA	**Nana**	**93.00**	**106**	LR	LR	10 13 36.5		
	comp=Z,798nm,20.8s,baz=242,slow=29							
MVCO	**Mesa Verde**	**93.01**	**48**	IAMs_20	IAMs_20	10 19 26.0		
	comp=Z,2μm,18.0s							
MVCO	**Mesa Verde**	**93.01**	**48**	P	**P**	**09 41 29.8**	**+0.5**	
	baz=234							
M18K	**Stony River**	**93.01**	**10**	P	**P**	**09 41 29.2**	**+0.9**	
	baz=199							
SPUT	**South Promonto**	**93.03**	**43**	IAmb	IAmb	09 41 52.4		
	comp=Z,36nm,1.2s							
K15K	**Wolf Creek Mou**	**93.03**	**7**	IAmb	IAmb	09 41 46.2		
	comp=Z,20nm,1.1s							
K15K	**Wolf Creek Mou**	**93.03**	**7**	P	**P**	**09 41 28.9**	**+0.4**	
	baz=194							
ANMO	**Albuquerque**	**93.04**	**51**	P	**P**	**09 41 29.4**	**-0.1**	
ANMO				IAmb	IAmb	09 41 46.4		
	comp=Z,46nm,1.6s							
ANMO	**Albuquerque**	**93.04**	**51**	IAMs_20	IAMs_20	10 18 54.3		
	comp=Z,2μm,19.0s							
ANMO	**Albuquerque**	**93.04**	**51**	P	**P**	**09 41 30.6**	**+1.1**	
	baz=235							
ANMO	**Albuquerque**	**93.04**	**51**	LR	LR	10 18 28.7		
	comp=Z,1μm,18.1s,baz=248,slow=32							
ANMO	**Albuquerque**	**93.04**	**51**	P	**P**	**09 41 29.4**	**-0.1**	
ANMO				pmax	pmax			
	comp=Z,46nm,1.7s							
CTU	**Camp Tracy**	**93.06**	**44**	IAMs_20	IAMs_20	10 19 50.2		
	comp=Z,2μm,19.0s							
CAPN	**Captain Cook N**	**93.13**	**13**	IAMs_20	IAMs_20	10 19 15.6		
	comp=Z,2μm,20.0s							
HVU	**Hansel Valley**	**93.13**	**43**	IAmb	IAmb	09 41 52.8		
	comp=Z,37nm,1.2s							
HVU				IAMs_20	IAMs_20	10 20 53.7		
	comp=Z,2μm,18.0s							
O22K	**Cooper Landing**	**93.14**	**13**	IAMs_20	IAMs_20	10 18 37.0		
	comp=Z,1μm,21.0s							
O22K	**Cooper Landing**	**93.14**	**13**	P	**P**	**09 41 29.4**	**+0.4**	
	baz=204							
P23K	**Montague Islan**	**93.18**	**15**	P	**P**	**09 41 29.2**	**0.0**	
	baz=206							
D08A	**Wollman Farm,**	**93.18**	**36**	IAMs_20	IAMs_20	10 17 54.6		
	comp=Z,1μm,20.0s							
JLU	**Jordanelle**	**93.19**	**44**	IAmb	IAmb	09 41 52.2		
	comp=Z,44nm,1.8s							
JLU				IAMs_20	IAMs_20	10 19 19.5		
	comp=Z,2μm,19.0s							
MA2	**Magadan**	**93.21**	**344**	IAMs_20	IAMs_20	10 20 08.8		
	comp=Z,1μm,21.0s							
MA2	**Magadan**	**93.21**	**344**	LR	LR	10 20 48.5		
	comp=Z,1μm,19.3s,baz=164,slow=34							
MA2	**Magadan**	**93.21**	**344**	*e*P	**P**	**09 41 29.3**	**0.0**	
MA2				pmax	pmax			
	comp=Z,16nm,1.1s							
J14K	**Nanvaranak Lak**	**93.27**	**6**	P	**P**	**09 41 30.2**	**+0.7**	
	baz=192							
L17K	**Donlin**	**93.27**	**9**	P	**P**	**09 41 30.6**	**+1.1**	
	baz=196							
HLID	**Hailey**	**93.31**	**40**	IAMs_20	IAMs_20	10 19 00.2		
	comp=Z,1μm,19.0s							
HLID	**Hailey**	**93.31**	**40**	P	**P**	**09 41 31.6**	**+1.2**	
	baz=231							
CRAG	**Craig**	**93.33**	**23**	P	**P**	**09 41 30.9**	**+1.0**	
	baz=217							
N20K	**Mount Spurr**	**93.33**	**12**	P	**P**	**09 41 29.8**	**-0.1**	
	baz=202							
F10A	**Beach Ranch, E**	**93.33**	**37**	IAmb	IAmb	09 41 49.2		
	comp=Z,22nm,0.9s							
F10A				IAMs_20	IAMs_20	10 20 23.7		
	comp=Z,1μm,19.0s							
P18A	**Preston Nutter**	**93.34**	**45**	IAMs_20	IAMs_20	10 18 43.5		
	comp=Z,1μm,18.0s							
SPU	**Mount Spurr**	**93.34**	**12**	IAMs_20	IAMs_20	10 19 23.4		
	comp=Z,1μm,21.0s							
BSUT	**Blindstream Ca**	**93.57**	**45**	IAmb	IAmb	09 41 52.5		
	comp=Z,40nm,1.5s							
L18K	**Granite Mounta**	**93.57**	**10**	IAMs_20	IAMs_20	10 19 11.4		
	comp=Z,1μm,20.0s							
L18K	**Granite Mounta**	**93.57**	**10**	P	**P**	**09 41 31.2**	**+0.2**	
	baz=198							
LVC	**Limon Verde**	**93.60**	**119**	IAMs_20	IAMs_20	10 13 40.3		
	comp=Z,1μm,22.0s							
LVC	**Limon Verde**	**93.60**	**119**	LR	LR	10 14 03.6		
	comp=Z,1μm,21.7s,baz=276,slow=29							
M19K	**Big River Lodg**	**93.62**	**11**	P	**P**	**09 41 32.3**	**+1.0**	
	baz=200							
RC01	**Rabbit Creek A**	**93.69**	**13**	P	**P**	**09 41 32.1**	**+0.6**	
	baz=204							
HWUT	**Hardware Ranch**	**93.73**	**43**	IAmb	IAmb	09 42 02.5		
	comp=Z,36nm,1.6s							
GAMB	**Gambell**	**93.74**	**3**	P	**P**	**09 41 31.9**	**+0.3**	
	baz=185							
HIN	**Hinchinbrook I**	**93.74**	**15**	IAMs_20	IAMs_20	10 17 53.9		
	comp=Z,1μm,19.0s							
V35K	**Ketchikan**	**93.75**	**24**	P	**P**	**09 41 33.7**	**+1.8**	
	baz=218							
PWL	**Port Wells**	**93.77**	**14**	IAMs_20	IAMs_20	10 18 51.6		
	comp=Z,1μm,20.0s							
PWL	**Port Wells**	**93.77**	**14**	P	**P**	**09 41 32.7**	**+0.8**	
	baz=205							
HEH	**HeiHe**	**93.78**	**328**	*e*P	**P**	**09 41 31.5**	**-0.7**	
HEH				sP	**pwP**	**09 41 45.8**	**-0.2**	
HEH				SKS	**SKSac**	**09 52 04.8**	**+0.5**	
HEH				pmax	pmax			
	comp=Z,11nm,1.3s							
HEH				pmax	pmax			
	comp=Z,430nm,11.3s							
HEH				LR	LR			
	comp=Z,860nm,20.4s							
HEH				LR	LR			
	comp=Z,170nm,21.8s							
HEH				LR	LR			
	comp=Z,1μm,20.6s							
KAIM	**Kayak Island**	**93.80**	**16**	IAMs_20	IAMs_20	10 18 21.6		
	comp=Z,2μm,19.0s							
KAIM	**Kayak Island**	**93.80**	**16**	P	**P**	**09 41 33.5**	**+1.4**	
	baz=208							
CMAR	**Chiang Mai Arr**	**93.81**	**289**	P	**P**	**09 41 32.8**	**-0.3**	
CMAR	**Chiang Mai Arr**	**93.81**	**289**	P	**P**	**09 41 33.6**	**+0.5**	
	comp=Z,2.5nm,1.0s,baz=137,slow=3.9,SNR=6.8							
CMAR				PP	**PP**	**09 45 20.3**	**+1.2**	
	comp=Z,0.8nm,0.3s,baz=123,slow=6.6,SNR=4.2							
CMAR				LR	LR	10 26 26.2		
	comp=Z,362nm,19.2s,baz=135,slow=37							
	comp=Z,2.5nm,1.0s							
M20K	**Styx River**	**93.81**	**11**	IAMs_20	IAMs_20	10 19 07.7		
	comp=Z,1μm,20.0s							
M20K	**Styx River**	**93.81**	**11**	P	**P**	**09 41 32.5**	**+0.3**	
	baz=201							
L19K	**White Mountain**	**93.81**	**10**	IAmb	IAmb	09 41 59.5		
	comp=Z,22nm,1.3s							
L19K	**White Mountain**	**93.81**	**10**	P	**P**	**09 41 32.3**	**+0.1**	
	baz=200							
K17K	**Iditarod**	**93.83**	**9**	IAMs_20	IAMs_20	10 18 49.1		
	comp=Z,1μm,20.0s							
K17K	**Iditarod**	**93.83**	**9**	P	**P**	**09 41 31.9**	**-0.2**	
	baz=196							
SUA	**Susitna One**	**93.85**	**12**	IAMs_20	IAMs_20	10 19 28.7		
	comp=Z,2μm,20.0s							
SUA	**Susitna One**	**93.85**	**12**	P	**P**	**09 41 32.2**	**-0.2**	
	baz=203							
U33K	**Whale Pass**	**93.85**	**23**	P	**P**	**09 41 33.1**	**+0.7**	
	baz=217							
SIT	**Sitka**	**93.89**	**22**	P	**P**	**09 41 33.4**	**+1.0**	
	baz=216							
C09A	**Chrisman Ranch**	**94.01**	**35**	IAMs_20	IAMs_20	10 18 19.4		
	comp=Z,2μm,20.0s							
EYAK	**Cordova Ski Ar**	**94.05**	**15**	P	**P**	**09 41 34.0**	**+0.8**	
	baz=207							
GLI	**Glacier Island**	**94.05**	**14**	IAMs_20	IAMs_20	10 19 18.0		
	comp=Z,1μm,20.0s							
GLI	**Glacier Island**	**94.05**	**14**	P	**P**	**09 41 33.5**	**+0.4**	
	baz=206							
FID	**Port Fidalgo**	**94.06**	**15**	IAMs_20	IAMs_20	10 18 35.2		
	comp=Z,1μm,20.0s							
SUCK	**Suckling Hills**	**94.08**	**16**	IAMs_20	IAMs_20	10 18 18.0		
	comp=Z,2μm,20.0s							
J16K	**Anvik River**	**94.10**	**8**	P	**P**	**09 41 31.6**	**-1.8**	
	baz=195							
TIY	**Taiyuan**	**94.10**	**312**	*e*P	**P**	**09 41 35.5**	**+1.4**	
TIY				pmax	pmax			
	comp=Z,300nm,5.2s							
RAGM	**Ragged Mountai**	**94.15**	**16**	IAMs_20	IAMs_20	10 19 03.7		
	comp=Z,2μm,20.0s							
KMI	**Kunming**	**94.17**	**297**	⇑P	**P**	**09 41 35.5**	**+0.6**	
KMI				PP	**PP**	**09 45 20.0**	**-2.1**	
KMI				SKS	**SKSac**	**09 52 07.5**	**-0.7**	
KMI				pmax	pmax			
	comp=Z,300nm,8.8s							
KMI				LR	LR			
	comp=Z,670nm,22.8s							
KMI				LR	LR			
	comp=Z,360nm,22.8s							
KMI				LR	LR			
	comp=Z,770nm,21.6s							
SKT	**Skwentna**	**94.18**	**12**	IAMs_20	IAMs_20	10 19 50.5		
	comp=Z,2μm,20.0s							
SKT	**Skwentna**	**94.18**	**12**	P	**P**	**09 41 33.7**	**-0.1**	
	baz=202							
ATAH	**Atahualpa**	**94.19**	**101**	LR	LR	10 14 17.8		
	comp=Z,835nm,20.7s,baz=245,slow=29							
HMT	**Hamilton**	**94.20**	**16**	IAMs_20	IAMs_20	10 18 44.1		
	comp=Z,2μm,20.0s							
M22K	**Willow**	**94.23**	**13**	IAMs_20	IAMs_20	10 19 29.8		
	comp=Z,2μm,21.0s							
M22K	**Willow**	**94.23**	**13**	P	**P**	**09 41 34.4**	**+0.4**	
	baz=204							
KNK	**Knik Glacier**	**94.25**	**14**	IAMs_20	IAMs_20	10 18 48.3		
	comp=Z,1μm,21.0s							
KNK	**Knik Glacier**	**94.25**	**14**	P	**P**	**09 41 34.4**	**+0.3**	
	baz=205							
L20K	**Farewell, AK**	**94.25**	**11**	P	**P**	**09 41 35.1**	**+1.0**	
	baz=200							
PMR	**Palmer**	**94.28**	**13**	P	**P**	**09 41 34.3**	**+0.1**	
PMR	**Palmer**	**94.28**	**13**	IAmb	IAmb	09 42 03.2		
	comp=Z,40nm,1.8s							
PMR	**Palmer**	**94.28**	**13**	P	**P**	**09 41 34.6**	**+0.4**	
	baz=204							
S31K	**Pelican**	**94.34**	**21**	P	**P**	**09 41 35.7**	**+1.2**	
	baz=215							
XAN	**Xi'an**	**94.38**	**307**	P	**P**	**09 41 33.5**	**-2.0**	
XAN				PP	**PP**	**09 45 21.8**	**-1.6**	
XAN				SKS	**SKSac**	**09 52 04.8**	**-3.7**	
XAN				S	**S**	**09 52 39.8**	**-5.6**	
XAN				sS	sS	09 53 01.0	+1.5	
XAN				pmax	pmax			
	comp=Z,10.0nm,1.4s							
XAN				pmax	pmax			
	comp=Z,480nm,10.8s							
XAN				LR	LR			
	comp=Z,610nm,19.2s							
XAN				LR	LR			
	comp=Z,970nm,18.5s							
XAN				LR	LR			

comp=Z,72nm,21.3s,baz=231,slow=29
CRQM Cirque 94.84 16 IAMs_20 IAMs_20 10 18 44.2
comp=Z,2µm,20.0s
CRQE Cirque 94.84 16 P **P** **09 41 37.4 +0.4**
baz=209
KLU Klutina 94.85 15 IAMs_20 IAMs_20 10 19 12.3
comp=Z,1µm,20.0s
KLU Klutina 94.85 15 P **P** **09 41 37.2 +0.2**
baz=207
PNL Peninsula 94.86 18 P **P** **09 41 37.0 0.0**
baz=212
SCM Sheep Creek Mo 94.86 14 P **P** **09 41 36.8 -0.2**
baz=206
AP01 Chacalluta 94.86 114 IAMs_20 IAMs_20 10 14 17.9
comp=Z,2µm,21.0s
O20A White River Ci 94.88 46 P **P** **09 41 38.8 +1.0**
baz=234
ANM Nome 94.89 5 IAMs_20 IAMs_20 10 19 42.2
comp=Z,1µm,20.0s
ANM Nome 94.89 5 P **P** **09 41 37.6 +0.6**
baz=190
NEW Newport 94.89 36 IAMs_20 IAMs_20 10 28 53.9
comp=Z,2µm,18.0s
NEW Newport 94.89 36 P **P** **09 41 36.9 -0.5**
baz=229
NEW Newport 94.89 36 LR LR 10 19 45.0
comp=Z,1µm,18.9s,baz=228,slow=33
ISLE Juniper Island 94.90 17 IAMs_20 IAMs_20 10 18 55.6
comp=Z,2µm,21.0s
TGL Tana Glacier 94.91 16 IAMs_20 IAMs_20 10 18 24.9
comp=Z,2µm,20.0s
PINM Pinnacle 94.99 18 P **P** **09 41 38.3 +0.6**
baz=212
MSTX Muleshoe 95.02 54 P **P** **09 41 38.1 -0.4**
baz=237
BCPM Bancas Point 95.03 18 IAMs_20 IAMs_20 10 21 00.3
comp=Z,1µm,20.0s
K20K Telida 95.05 10 P **P** **09 41 38.3 +0.6**
baz=200
TABL Table Mountain 95.06 17 IAMs_20 IAMs_20 10 19 00.9
comp=Z,2µm,20.0s
R32K Eaglecrest 95.13 21 P **P** **09 41 38.9 +0.7**
baz=216
GRNC Granite Creek 95.15 17 IAMs_20 IAMs_20 10 19 03.9
comp=Z,1µm,20.0s
VRDI Verde Repeater 95.17 16 IAMs_20 IAMs_20 10 19 14.9
comp=Z,1µm,20.0s
SNET Serv Nac Est T 95.22 77 IAMs_20 IAMs_20 10 13 28.0
comp=Z,2µm,22.0s
TPAW Teton Pass 95.24 42 IAMs_20 IAMs_20 10 20 22.4
comp=Z,2µm,19.0s
H16K Elim 95.24 7 P **P** **09 41 38.5 0.0**
baz=193
N25K Chitina, Valde 95.24 15 P **P** **09 41 38.7 0.0**
baz=208
SDCO Great Sand Dun 95.26 49 IAMs_20 IAMs_20 10 20 39.9
comp=Z,979nm,18.0s
SDCO Great Sand Dun 95.26 49 P **P** **09 41 39.8 +0.1**
baz=236
JCT Junction City 95.28 58 P **P** **09 41 38.8 -0.9**
baz=238
FXWY Fox Creek 95.28 42 IAMs_20 IAMs_20 10 20 24.7
comp=Z,2µm,18.0s
P29M Windy Craggy 95.28 19 IAMs_20 IAMs_20 10 19 39.0
comp=Z,1µm,21.0s
P29M Windy Craggy 95.28 19 P **P** **09 41 40.7 +1.7**
baz=214
SNOW Snow King Moun 95.34 42 IAmb IAmb 09 42 02.5
comp=Z,20nm,1.0s
SNOW IAMs_20 IAMs_20 10 20 17.1
comp=Z,2µm,19.0s
M24K Tolsona, Glenn 95.34 14 P **P** **09 41 40.9 +1.8**
baz=207
MCARA McCarthy VSAT 95.41 16 IAMs_20 IAMs_20 10 19 33.2
comp=Z,1µm,20.0s
MCARA McCarthy VSAT 95.41 16 P **P** **09 41 40.4 +0.9**
baz=209
J19K Poorman 95.42 9 IAMs_20 IAMs_20 10 20 28.1
comp=Z,1µm,20.0s
J19K Poorman 95.42 9 P **P** **09 41 40.0 +0.6**
baz=199
LOGN Logan Glacier 95.42 17 IAMs_20 IAMs_20 10 19 22.0
comp=Z,1µm,20.0s
G15K Niukluk 95.43 6 P **P** **09 41 39.4 0.0**
baz=192
DLMT Dillon 95.45 40 IAmb IAmb 09 42 11.5
comp=Z,26nm,1.2s
DLMT IAMs_20 IAMs_20 10 21 08.8
comp=Z,1µm,19.0s
WAT6 Susitna Watana 95.45 13 P **P** **09 41 40.1 +0.3**
baz=206
MTO3 Montecristo 95.46 77 IAMs_20 IAMs_20 10 13 57.4
comp=Z,1µm,22.0s
CTG Chitna Glacier 95.46 17 P **P** **09 41 40.4 +0.5**
baz=211
CTGM Chitina Glacie 95.46 17 IAMs_20 IAMs_20 10 19 13.5
comp=Z,1µm,20.0s
IMW Indian Meadow 95.49 42 IAmb IAmb 09 42 03.7
comp=Z,22nm,1.2s
IMW IAMs_20 IAMs_20 10 20 32.0
comp=Z,2µm,19.0s
LOHW Long Hollow 95.51 42 IAmb IAmb 09 42 03.7
comp=Z,23nm,1.4s
LOHW IAMs_20 IAMs_20 10 22 38.8
comp=Z,2µm,19.0s
WAT1 Susitna Watana 95.52 13 P **P** **09 41 41.7 +1.8**
baz=205
T35M Bob Quinn 95.52 24 P **P** **09 41 41.1 +1.0**
baz=220
PLBC Pleasant Camp 95.53 20 P **P** **09 41 39.8 -0.2**
baz=215
O28M Mount Upton 95.58 17 P **P** **09 41 41.2 +0.6**
baz=212
O29M Mount Kennedy 95.61 18 IAMs_20 IAMs_20 10 21 07.7
comp=Z,1µm,20.0s
O29M Mount Kennedy 95.61 18 P **P** **09 41 41.5 +1.0**
baz=213
BW06 Boulder Array 95.62 43 P **P** **09 41 41.1 -0.1**
baz=234
PD31 Pinedale Array 95.62 43 P **P** **09 41 41.2 0.0**
PDAR Pinedale Array 95.62 43 P **P** **09 41 41.1 0.0**
comp=Z,1.4nm,0.9s,baz=211,slow=2.8,SNR=9.4
PDAR PKKPbc **PKKPbc** **09 58 32.4 -0.4**
comp=Z,0.7nm,0.8s,baz=69,slow=4.9,SNR=5.3
PDAR LR LR 10 21 08.7
comp=Z,1µm,18.1s,baz=225,slow=33
comp=Z,1.4nm,0.9s
MSO Missoula 95.63 38 P **P** **09 41 40.4 -0.5**
baz=231
T25A Trinidad 95.65 50 P **P** **09 41 39.8 -1.6**
baz=236
PZH PanZhiHua 95.65 297 P **P** **09 41 44.0 +2.5**
PZH SKS **SKSac** **09 52 15.8 0.0**
PZH S **S** **09 52 55.0 -2.0**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,330nm,6.4s
PZH LR LR
comp=Z,570nm,21.1s
PZH LR LR
comp=Z,490nm,23.5s
PZH LR LR
comp=Z,950nm,23.8s
TNA Tin City 95.71 4 P **P** **09 41 41.3 +0.6**
baz=188
F14K Arctic Creek 95.72 5 P **P** **09 41 40.3 -0.5**
baz=190
FLWY Flagg Ranch 95.74 42 IAmb IAmb 09 42 05.0
comp=Z,36nm,1.1s
H17K Granite Mounta 95.78 7 P **P** **09 41 40.3 -0.7**
baz=195
J20K Nowinta River 95.81 10 IAMs_20 IAMs_20 10 20 30.4
comp=Z,1µm,20.0s
J20K Nowinta River 95.81 10 P **P** **09 41 41.3 +0.1**
baz=200
HARP HAARP 95.82 14 P **P** **09 41 41.1 -0.2**
baz=208
SKAG Skagway 95.84 20 P **P** **09 41 42.5 +1.1**
baz=216
YHB Horse Butte 95.86 41 IAMs_20 IAMs_20 10 20 21.9
comp=Z,2µm,19.0s
SEY Seymchan 95.87 347 LR LR 10 22 21.5
comp=Z,1µm,19.6s,baz=152,slow=34
SEY Seymchan 95.87 347 *e*P **P** **09 41 40.5 -1.0**
SEY pmax pmax
comp=Z,14nm,1.0s
P30M Million Dollar 95.91 19 P **P** **09 41 42.8 +1.0**
baz=214
735A Kenedy 95.92 60 IAMs_20 IAMs_20 10 21 59.2
comp=Z,2µm,18.0s
YHL Hebgen Lake 95.93 41 IAmb IAmb 09 42 12.6
comp=Z,50nm,1.5s
YHL IAMs_20 IAMs_20 10 20 56.6
comp=Z,2µm,19.0s
S34M Telegraph Cree 95.94 23 IAMs_20 IAMs_20 10 19 36.5
comp=Z,1µm,20.0s
S34M Telegraph Cree 95.94 23 P **P** **09 41 42.7 +0.9**
baz=219
YMR Madison River 95.94 41 IAMs_20 IAMs_20 10 20 55.0
comp=Z,1µm,19.0s
GCSA Galena City Sc 95.96 9 P **P** **09 41 41.8 0.0**
baz=198
DHY Denali Highway 95.97 13 IAMs_20 IAMs_20 10 24 34.8
comp=Z,1µm,19.0s
DHY Denali Highway 95.97 13 P **P** **09 41 41.4 -0.8**
baz=206
G16K Koyuk River 95.97 6 IAMs_20 IAMs_20 10 21 51.7
comp=Z,1µm,21.0s
G16K Koyuk River 95.97 6 P **P** **09 41 42.2 +0.4**
baz=193
PB18 Visviri 95.98 114 IAMs_20 IAMs_20 10 15 07.4
comp=Z,2µm,21.0s
RND Reindeer 95.99 12 IAMs_20 IAMs_20 10 20 55.2
comp=Z,2µm,21.0s
H17A Grant Village 96.00 42 P **P** **09 41 42.5 -0.3**
baz=233
F15K North Star Dit 96.08 5 P **P** **09 41 42.7 +0.4**
baz=191
YNM Yellowstone No 96.12 41 IAMs_20 IAMs_20 10 20 53.9
comp=Z,1µm,19.0s
BOZ Bozeman (W) 96.13 40 IAmb IAmb 09 42 03.8
comp=Z,44nm,1.6s
BOZ IAMs_20 IAMs_20 10 21 19.9
comp=Z,992nm,19.0s
BOZ Bozeman (W) 96.13 40 P **P** **09 41 43.1 -0.2**
baz=233
YUK8 Steele Glacier 96.13 17 P **P** **09 41 43.0 -0.1**
baz=212
YNR Norris Junctio 96.13 41 IAMs_20 IAMs_20 10 20 44.1
comp=Z,1µm,19.0s
H18K Honhosa River 96.17 8 IAMs_20 IAMs_20 10 20 32.9
comp=Z,1µm,20.0s
H18K Honhosa River 96.17 8 P **P** **09 41 43.6 +0.8**
baz=197
Q24A Divide 96.17 48 IAMs_20 IAMs_20 10 21 40.9
comp=Z,2µm,18.0s
Q24A Divide 96.17 48 P **P** **09 41 44.2 +0.3**
baz=236
YUK6 Outpost Mounta 96.21 18 P **P** **09 41 44.0 +0.6**
baz=213
BPAW Bear Paw Mtn. 96.24 11 IAMs_20 IAMs_20 10 20 45.9
comp=Z,1µm,20.0s
BPAW Bear Paw Mtn. 96.24 11 P **P** **09 41 43.0 -0.2**
baz=203
G17K Kiwalik Mounta 96.25 7 P **P** **09 41 43.9 +0.8**
baz=195
PAX Paxson 96.27 14 P **P** **09 41 43.1 -0.3**
baz=208
MCK McKinley 96.27 12 P **P** **09 41 43.8 +0.5**
baz=205
AMTX Amarillo 96.28 53 IAMs_20 IAMs_20 10 25 05.0
comp=Z,1µm,18.0s
AMTX Amarillo 96.28 53 P **P** **09 41 44.4 +0.2**
baz=238
ZEA Zeya 96.30 331 *e*P **P** **09 41 43.4 -0.2**
ZEA *e* 09 54 33.7
ZEA pmax pmax
comp=N,100nm,7.5s
ZEA pmax pmax
comp=E,100nm,8.5s
ZEA pmax pmax
comp=Z,200nm,7.4s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
M26K Nabesna, AK 96.31 15 P **P** **09 41 44.4 +0.8**
baz=210
I20K Naaghedeneel 96.34 10 IAMs_20 IAMs_20 10 21 06.5
comp=Z,1µm,20.0s
I20K Naaghedeneel 96.34 10 P **P** **09 41 43.7 +0.2**
baz=200
ISCO Idaho Springs 96.34 47 IAmb IAmb 09 42 51.3
comp=Z,15nm,0.8s
ISCO IAMs_20 IAMs_20 10 21 49.3
comp=Z,949nm,18.0s
ISCO Idaho Springs 96.34 47 P **P** **09 41 45.2 +0.5**
baz=236
YUK3 Moose Creek 96.37 17 P **P** **09 41 44.0 0.0**
baz=212
Q32M Nakina River 96.39 22 P **P** **09 41 44.8 +0.6**
baz=218
CD2 Chengdu 96.40 302 P **P** **09 41 45.3 +0.6**
CD2 sP pwP 09 42 00.5 +1.9
CD2 PP **PP** **09 45 35.8 -3.3**
CD2 SKS **SKSac** **09 52 18.0 -1.4**
CD2 pmax pmax
comp=Z,230nm,5.0s
CD2 LR LR
comp=Z,620nm,17.8s
CD2 LR LR
comp=Z,580nm,14.9s
RWWY Rawlins 96.41 45 IAMs_20 IAMs_20 10 18 46.9
comp=Z,1µm,20.0s
P32M Atlin 96.44 21 P **P** **09 41 44.8 +0.6**
baz=217
HHC Hu-ho-hao-te 96.44 314 *e*P **P** **09 41 48.0 +3.2**
HHC pP pwP 09 41 59.3 +0.6
HHC sP sP 09 42 02.5 +6.4
HHC SKS **SKSac** **09 52 19.8 +0.5**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.3s
HHC LR LR
comp=Z,330nm,20.6s
HHC LR LR
comp=Z,550nm,20.6s
HHC LR LR
comp=Z,1µm,22.2s
YUK4 Talbot Arm 96.47 18 P **P** **09 41 45.8 +1.3**
baz=213
ABTX Abilene, Hawle 96.52 56 P **P** **09 41 45.0 -0.2**
baz=238
M27K Edge Creek, AK 96.53 16 IAMs_20 IAMs_20 10 20 10.8
comp=Z,1µm,20.0s
M27K Edge Creek, AK 96.53 16 P **P** **09 41 45.0 +0.3**
baz=210
O30N Mendenhall 96.69 19 IAMs_20 IAMs_20 10 20 11.2
comp=Z,1µm,20.0s
O30N Mendenhall 96.69 19 P **P** **09 41 47.0 +1.7**
baz=215
DLBC Dease Lake 96.72 23 IAMs_20 IAMs_20 10 20 12.1
comp=Z,1µm,20.0s
DLBC Dease Lake 96.72 23 P **P** **09 41 47.1 +1.6**
baz=220
DLBC Dease Lake 96.72 23 LR LR 10 20 12.5
comp=Z,818nm,20.1s,baz=238,slow=32
N23A Red Feather La 96.75 46 P **P** **09 41 47.6 +1.2**
baz=236
H19K Roundabout Mou 96.77 9 IAMs_20 IAMs_20 10 21 32.7
comp=Z,1µm,20.0s
H19K Roundabout Mou 96.77 9 P **P** **09 41 46.0 +0.6**
baz=198
L26K Log Cabin Wild 96.77 15 IAMs_20 IAMs_20 10 20 44.2
comp=Z,1µm,21.0s
L26K Log Cabin Wild 96.77 15 P **P** **09 41 46.1 +0.4**
baz=209
CNGN Cerro Negro 96.78 80 IAMs_20 IAMs_20 10 14 48.7
comp=Z,1µm,21.0s
HIA Hailar 96.83 324 IAMs_20 IAMs_20 10 20 35.9
comp=Z,1µm,21.0s
G18K Tagagawik 96.85 8 P **P** **09 41 46.8 +0.9**
baz=196
H20K Anotleneega Mo 96.94 9 P **P** **09 41 46.4 +0.1**
baz=200
K24K Donnelly Dome 96.94 14 P **P** **09 41 46.8 +0.4**
baz=207
WHY Whitehorse 96.95 20 P **P** **09 41 46.8 +0.3**
baz=216
N30M Aishikik Lake 96.98 18 P **P** **09 41 46.8 +0.1**
baz=214
NEA2 Nenana 97.03 12 P **P** **09 41 46.3 -0.4**
baz=204
TGUH Tegucigalpa,Un 97.05 78 IAMs_20 IAMs_20 10 14 59.8
comp=Z,2µm,22.0s
435B Jarrell 97.07 59 P **P** **09 41 46.6 -1.1**
baz=239
WRH Wood River Hil 97.10 12 IAMs_20 IAMs_20 10 21 19.6
comp=Z,1µm,20.0s
F17K Baldwin Pennin 97.10 6 IAMs_20 IAMs_20 10 22 56.6
comp=Z,1µm,19.0s
F17K Baldwin Pennin 97.10 6 P Pdif 09 41 47.7 +0.7
baz=194
MLY Manley 97.14 11 IAMs_20 IAMs_20 10 27 40.8
comp=Z,1µm,19.0s
MLY Manley 97.14 11 P **P** **09 41 47.1 -0.2**
baz=203
R33M Jennings River 97.15 22 P Pdif 09 41 48.4 +0.8
baz=219
L27K Beaver Creek, 97.15 15 IAMs_20 IAMs_20 10 25 49.2
comp=Z,1µm,19.0s
L27K Beaver Creek, 97.15 15 P Pdif 09 41 48.4 +1.0
baz=211
RLMT Red Lodge 97.18 41 IAMs_20 IAMs_20 10 23 24.9
comp=Z,2µm,19.0s
RLMT Red Lodge 97.18 41 P Pdif 09 41 48.5 +0.2
baz=234
JTS Las Juntas de 97.20 82 IAMs_20 IAMs_20 10 15 41.0
comp=Z,1µm,20.0s
P33M Teslin, Yukon 97.20 21 P Pdif 09 41 48.2 +0.4
baz=218
HDA Harding Lake 97.26 13 P **P** **09 41 47.8 0.0**
baz=206
G19K Purcell Mounta 97.27 8 P **P** **09 41 47.6 -0.1**
baz=198
CCB Clear Creek Bu 97.31 12 IAMs_20 IAMs_20 10 21 27.2
comp=Z,1µm,20.0s
N31M Braeburn, Yuko 97.37 19 IAMs_20 IAMs_20 10 21 55.0
comp=Z,1µm,20.0s
N31M Braeburn, Yuko 97.37 19 P Pdif 09 41 49.6 +1.1
baz=216
K22A Casper 97.38 45 IAmb IAmb 09 42 09.0
comp=Z,19nm,1.3s
K22A IAMs_20 IAMs_20 10 19 27.5
comp=Z,2µm,20.0s
K22A Casper 97.38 45 P Pdif 09 41 49.6 +0.4
baz=236
H21K Melozitna Rive 97.40 10 P **P** **09 41 48.4 0.0**
baz=201
F18K Selawik 97.42 7 P Pdif 09 41 49.1 +0.7
baz=196
TNCH TengChong 97.42 295 P Pdif 09 41 49.8 0.0
TNCH PP **PP** **09 45 47.0 -0.3**
TNCH SKS **SKSac** **09 52 27.8 +2.6**
TNCH S S 09 53 03.5 -8.9
TNCH sS sS 09 53 29.8 +3.3
TNCH pmax pmax
comp=Z,160nm,3.2s
TNCH LR LR
comp=Z,220nm,14.3s
TNCH LR LR
comp=Z,300nm,17.6s
TNCH LR LR
comp=Z,540nm,21.4s
M29M Somme Creek 97.44 17 IAMs_20 IAMs_20 10 22 03.0
comp=Z,1µm,20.0s
M29M Somme Creek 97.44 17 P **P** **09 41 48.8 +0.1**
baz=213
SCRK Sand Creek 97.47 14 IAMs_20 IAMs_20 10 20 26.5
comp=Z,1µm,21.0s
SCRK Sand Creek 97.47 14 P Pdif 09 41 48.9 0.0
baz=209
I23K Minto, Yukon-K 97.49 12 P Pdif 09 41 49.0 +0.2
baz=204
COLA College 97.51 12 IAMs_20 IAMs_20 10 22 04.4
comp=Z,2µm,20.0s
COLA College 97.51 12 P Pdif 09 41 49.1 +0.2
baz=206
COLA College 97.51 12 *i* P Pdif 09 41 49.6 +0.7
COLA pmax pmax
comp=Z,7.0nm,1.0s
ILAR Eielson Array 97.59 13 P **P** **09 41 48.5 -0.8**
ILAR Eielson Array 97.59 13 P **P** **09 41 48.8 -0.5**
comp=Z,1.0nm,0.9s,baz=225,slow=5.7,SNR=9.5
ILAR PKKP **PKKPdf** **09 58 32.1 +1.3**
comp=Z,0.2nm,0.5s,baz=40,slow=2.7,SNR=6.8
ILAR LR LR 10 18 53.1
comp=Z,426nm,21.7s,baz=188,slow=31
comp=Z,1.0nm,0.9s
E17K Hotham Inlet 97.67 6 P Pdif 09 41 50.7 +1.1
baz=194
J25K Salcha River, 97.75 13 IAMs_20 IAMs_20 10 27 29.9
comp=Z,1µm,19.0s
J25K Salcha River, 97.75 13 P Pdif 09 41 50.4 +0.3
baz=208
LPAZ La Paz 97.77 114 LR LR 10 17 08.7
comp=Z,594nm,21.3s,baz=222,slow=30
WHTX Lake Whitney, 97.78 58 P **P** **09 41 50.0 -0.9**
baz=239
HDC Heredia 97.78 83 IAMs_20 IAMs_20 10 15 24.5
comp=Z,1µm,22.0s
POKR Poker Plat Res 97.80 12 IAMs_20 IAMs_20 10 22 02.3
comp=Z,2µm,21.0s
POKR Poker Plat Res 97.80 12 P Pdif 09 41 50.4 +0.2
baz=206
H22K Ishtalitna Cre 97.84 10 P Pdif 09 41 51.0 +0.6
baz=203
KSCO Kaye Shedlock' 97.84 49 P Pdif 09 41 52.1 +0.8
baz=238
F19K Shaleruckik Mo 97.85 8 P Pdif 09 41 51.1 +0.7
baz=197
N32M Quiet Lake 97.87 20 P Pdif 09 41 51.8 +1.1
baz=218
OTAV Otavalo 97.87 94 IAMs_20 IAMs_20 10 15 05.4
comp=Z,1µm,22.0s
K27K Chicken 97.93 15 P Pdif 09 41 52.1 +1.3
baz=210
HKT Hockley 97.95 60 IAMs_20 IAMs_20 10 24 49.3
comp=Z,1µm,18.0s
M30M Minto, Yukon 97.99 18 IAMs_20 IAMs_20 10 20 34.4
comp=Z,1µm,20.0s
M30M Minto, Yukon 97.99 18 P Pdif 09 41 51.7 +0.5
baz=215
J26L Joseph Creek 98.02 14 IAMs_20 IAMs_20 10 20 43.1
comp=Z,1µm,21.0s
J26L Joseph Creek 98.02 14 P Pdif 09 41 52.0 +0.7
baz=209
H23K Yukon River 98.08 11 IAMs_20 IAMs_20 10 27 50.4
comp=Z,2µm,19.0s
H23K Yukon River 98.08 11 P Pdif 09 41 52.3 +0.8
baz=204
L29M L29M 98.08 17 IAMs_20 IAMs_20 10 23 47.9
comp=Z,2µm,19.0s
L29M L29M 98.08 17 P Pdif 09 41 52.5 +0.9
baz=214
G21K Allakaket 98.10 9 P Pdif 09 41 52.2 +0.6
baz=201
E18K Tukpahlearik C 98.12 6 P Pdif 09 41 52.5 +0.9
baz=195
D17K Noatak River 98.17 5 P Pdif 09 41 52.0 +0.3
baz=192
WMOK Wichita Mounta 98.23 55 IAMs_20 IAMs_20 10 24 55.9
comp=Z,1µm,18.0s
WMOK Wichita Mounta 98.23 55 P **P** **09 41 52.2 -0.7**
baz=239
F20K Avaraart Lake 98.31 8 IAMs_20 IAMs_20 10 22 21.4
comp=Z,1µm,20.0s
F20K Avaraart Lake 98.31 8 P Pdif 09 41 52.6 +0.3
baz=199
M31M Drury Creek, Y 98.33 19 IAMs_20 IAMs_20 10 22 35.6
comp=Z,1µm,20.0s
M31M Drury Creek, Y 98.33 19 P Pdif 09 41 53.2 +0.5
baz=217
H24K Noodor Dome 98.38 12 P **P** **09 41 52.1 -0.7**
baz=206
WTLY Watson Lake, Y 98.41 22 P **P** **09 41 52.9 -0.2**
baz=221
E19K Redstone River 98.51 8 P Pdif 09 41 53.3 0.0
baz=198
PRP Porcupine Dome 98.52 13 P Pdif 09 41 53.8 +0.2
baz=208
RDOG Red Dog Mine 98.53 5 IAMs_20 IAMs_20 10 24 09.2
comp=Z,1000nm,20.0s
RDOG Red Dog Mine 98.53 5 P Pdif 09 41 53.8 +0.4
baz=193
C16K Lisburne Hills 98.56 5 IAMs_20 IAMs_20 10 20 54.1
comp=Z,1µm,21.0s
C16K Lisburne Hills 98.56 5 P Pdif 09 41 54.0 +0.5
baz=191
BRLDA Berland Lookou 98.58 31 IAmb IAmb 09 42 22.3
comp=Z,20nm,1.4s
BRLDA IAMs_20 IAMs_20 10 23 34.9
comp=Z,1µm,19.0s
DAWY Dawson 98.58 16 IAMs_20 IAMs_20 10 26 22.9

	comp=Z,1μm,19.0s						
DAWY	Dawson	98.58	16	P	Pdif	09 41 54.1	+0.3
	baz=213						
EGMT	Eagleton	98.61	39	P	Pdif	09 41 54.8	+0.5
	baz=234						
BILL	Bilibino	98.67	354	IAms_20	IAms_20	10 24 57.2	
	comp=Z,1μm,20.0s						
BILL	Bilibino	98.67	354	*i* P	P	09 41 51.3	-2.7
BILL				*i*		09 42 08.4	
BILL				*i*		09 46 00.3	
BILL				*i* SS	SS	10 00 17.4	+10
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,2μm,19.0s						
ESPN	Las Esperanzas	98.68	81	IAms_20	IAms_20	10 16 22.2	
	comp=Z,1μm,21.0s						
F21K	Alatna River	98.77	9	IAms_20	IAms_20	10 24 37.7	
	comp=Z,1μm,20.0s						
F21K	Alatna River	98.77	9	P	Pdif	09 41 54.9	+0.4
	baz=201						
G22K	Bettles	98.77	10	P	Pdif	09 41 55.8	+1.3
	baz=202						
EGAK	Eagle	98.78	15	IAms_20	IAms_20	10 27 11.2	
	comp=Z,1μm,19.0s						
EGAK	Eagle	98.78	15	P	Pdif	09 41 56.3	+1.7
	baz=211						
LIRD	Liard River Hi	98.80	24	P	Pdif	09 41 56.1	+1.3
	baz=223						
G23K	Bananza Creek	98.81	11	P	Pdif	09 41 56.0	+1.2
	baz=204						
I26K	Coal Creek Min	98.81	14	IAms_20	IAms_20	10 22 10.4	
	comp=Z,1μm,20.0s						
I26K	Coal Creek Min	98.81	14	P	Pdif	09 41 55.3	+0.6
	baz=210						
K29M	Barlow Dome	98.85	17	IAms_20	IAms_20	10 21 12.1	
	comp=Z,1μm,20.0s						
K29M	Barlow Dome	98.85	17	P	Pdif	09 41 55.7	+0.6
	baz=214						
U32A	Winter Ranch,	98.92	53	IAms_20	IAms_20	10 24 48.9	
	comp=Z,1μm,18.0s						
LZH	Lanzhou	98.99	306	P	Pdif	09 41 56.5	0.0
LZH				SKS	SKSac	09 52 34.8	+2.1
LZH				pmax	pmax		
	comp=Z,220nm,4.9s						
LZH				LR	LR		
	comp=Z,470nm,18.2s						
LZH				LR	LR		
	comp=Z,700nm,17.5s						
LZH				LR	LR		
	comp=Z,940nm,18.9s						
H25L	Birch Creek	99.14	12	P	Pdif	09 41 56.3	+0.2
	baz=207						
OK038	West end E0370	99.15	53	IAms_20	IAms_20	10 23 58.0	
	comp=Z,1μm,20.0s						
J29N	Klondike Camp	99.19	16	IAms_20	IAms_20	10 25 39.0	
	comp=Z,1μm,19.0s						
J29N	Klondike Camp	99.19	16	P	Pdif	09 41 58.1	+1.6
	baz=214						
TEIG	Tepich	99.19	72	LR	LR	10 18 26.2	
	comp=Z,458nm,21.6s,baz=230,slow=30						
F22K	John River	99.22	10	P	Pdif	09 41 58.2	+1.7
	baz=202						
G24K	Hadweenzic Riv	99.23	12	P	Pdif	09 41 57.8	+1.2
	baz=206						
C18K	Utukok River	99.26	6	IAms_20	IAms_20	10 31 48.5	
	comp=Z,1μm,20.0s						
COLD	Coldfoot	99.26	10	P	Pdif	09 41 57.3	+0.6
	baz=204						
OGNE	Ogallala	99.26	48	IAms_20	IAms_20	10 23 58.5	
	comp=Z,2μm,18.0s						
OGNE	Ogallala	99.26	48	P	Pdif	09 41 57.5	0.0
	baz=238						
I27K	Kandik River	99.39	14	P	Pdif	09 41 57.7	+0.3
	baz=211						
E20K	Nigu River	99.40	8	P	Pdif	09 41 57.5	+0.1
	baz=199						
D19K	Kuna River	99.41	7	IAms_20	IAms_20	10 28 49.9	
	comp=Z,986nm,20.0s						
D19K	Kuna River	99.41	7	P	Pdif	09 41 58.0	+0.6
	baz=197						
G25K	Bearman Lake	99.53	12	P	Pdif	09 41 58.5	+0.6
	baz=207						
I28M	Miner Creek	99.63	15	IAms_20	IAms_20	10 27 10.6	
	comp=Z,1μm,19.0s						
I28M	Miner Creek	99.63	15	P	Pdif	09 42 00.0	+1.5
	baz=212						
TGTN	Hyland Airport	99.64	22	P	Pdif	09 42 00.5	+1.9
	baz=222						
CBKS	Cedar Bluff	99.66	51	IAms_20	IAms_20	10 23 13.4	
	comp=Z,2μm,19.0s						
CBKS	Cedar Bluff	99.66	51	P	Pdif	09 42 00.6	+1.3
	baz=239						
OK032	Salt Plains WL	99.68	53	IAms_20	IAms_20	10 24 32.1	
	comp=Z,1μm,18.0s						
OK029	Liberty Lake	99.70	54	IAms_20	IAms_20	10 24 39.8	
	comp=Z,1μm,20.0s						
RSSD	Black Hills	99.70	44		Pdif	09 42 00.2	+0.7
RSSD				IAmb	IAmb	09 42 20.1	
	comp=Z,31nm,1.5s						
RSSD	Black Hills	99.70	44	P	Pdif	09 42 00.8	+1.3
	baz=237						
RSSD	Black Hills	99.70	44	P	Pdif	09 42 00.2	+0.7
RSSD				pmax	pmax		
	comp=Z,31nm,1.5s						
NATX	Nacogdoches	99.72	59	P	Pdif	09 42 01.2	+1.6
	baz=241						
CPUP	Villa Florida	99.73	128	LR	LR	10 18 44.4	
	comp=Z,1μm,21.7s,baz=250,slow=30						
J30M	Hart River	99.75	17	IAms_20	IAms_20	10 22 01.9	
	comp=Z,2μm,20.0s						
J30M	Hart River	99.75	17	P	Pdif	09 41 59.7	+0.6
	baz=215						
D20K	Etivluk River	99.79	8	P	Pdif	09 42 00.3	+1.2
	baz=198						
LAO	LASA Array	99.82	41	IAms_20	IAms_20	10 23 00.7	
	comp=Z,1μm,20.0s						
LAO	LASA Array	99.82	41	P	Pdif	09 42 00.8	+1.1
	baz=236						
C19K	Lookout Ridge	99.85	6	IAms_20	IAms_20	10 26 30.2	
	comp=Z,1μm,20.0s						
C19K	Lookout Ridge	99.85	6	P	Pdif	09 42 00.3	+1.0
	baz=196						
E21K	Killik River	99.85	9	IAms_20	IAms_20	10 23 30.3	
	comp=Z,1μm,20.0s						
E21K	Killik River	99.85	9	P	Pdif	09 42 00.3	+1.0
	baz=200						
E22K	Anaktuvuk Pass	99.86	9	IAms_20	IAms_20	10 22 49.5	
	comp=Z,1μm,21.0s						
E22K	Anaktuvuk Pass	99.86	9	P	Pdif	09 42 00.4	+1.0
	baz=202						
F24K	Squaw Lake	99.90	11	P	Pdif	09 42 02.0	+2.5
	baz=206						
I29M	Ogilvie Camp,	99.92	16	IAms_20	IAms_20	10 22 29.5	
	comp=Z,1μm,21.0s						
H27K	Steamboat Moun	99.95	14	P	Pdif	09 41 59.5	-0.4
	baz=211						
KOTAN	Kotaneelee Air	100.04	24	P	Pdif	09 41 57.0	-3.3
	baz=225						
E23K	Chandalar	100.11	10	P	Pdif	09 42 02.3	+1.7
	baz=204						
G26K	Porcupine Rive	100.12	13	P	Pdif	09 42 02.3	+1.9
	baz=209						
R32A	Long Quarter,	100.15	51	IAms_20	IAms_20	10 24 37.5	
	comp=Z,1μm,19.0s						
OK031	S. Brethren Rd	100.21	54	IAms_20	IAms_20	10 24 55.4	
	comp=Z,1μm,18.0s						
OK052	Battle Ridge R	100.26	54	IAms_20	IAms_20	10 24 56.6	
	comp=Z,1μm,18.0s						
I30M	Mount Dempster	100.27	16	IAms_20	IAms_20	10 26 31.6	
	comp=Z,1μm,19.0s						
I30M	Mount Dempster	100.27	16	P	Pdif	09 42 03.7	+2.3
	baz=215						
E24K	Your Creek	100.30	11	IAms_20	IAms_20	10 29 05.3	
	comp=Z,2μm,19.0s						
E24K	Your Creek	100.30	11	P	Pdif	09 42 00.3	-1.1
	baz=205						
441A	DeRidder	100.34	61	IAms_20	IAms_20	10 28 04.3	
	comp=Z,1μm,18.0s						
F25K	Christian Rive	100.35	12	P	Pdif	09 42 01.9	+0.3
	baz=208						
OK048	Pawnee Station	100.37	54	IAms_20	IAms_20	10 25 15.4	
	comp=Z,1μm,19.0s						
C21K	Knifeblade Rid	100.42	8	P	Pdif	09 42 03.0	+1.1
	baz=200						
G27K	Doyon Strip	100.42	14	IAms_20	IAms_20	10 23 02.6	
	comp=Z,1μm,20.0s						
G27K	Doyon Strip	100.42	14	P	Pdif	09 42 05.1	+3.2
	baz=211						
D22K	Ayikyak River	100.43	9	IAms_20	IAms_20	10 23 19.6	
	comp=Z,1μm,20.0s						
D22K	Ayikyak River	100.43	9	P	Pdif	09 42 05.1	+3.2
	baz=202						
OK051	E0350 and S346	100.49	54	IAms_20	IAms_20	10 27 59.6	
	comp=Z,1μm,19.0s						
H29M	Whitestone	100.63	15	IAms_20	IAms_20	10 27 58.0	
	comp=Z,1μm,19.0s						
H29M	Whitestone	100.63	15	P	Pdif	09 42 04.6	+1.8
	baz=214						
TOLK	Toolik Lake Re	100.65	10	IAms_20	IAms_20	10 26 29.4	
	comp=Z,1μm,19.0s						
TOLK	Toolik Lake Re	100.65	10	P	Pdif	09 42 04.7	+1.8
	baz=204						
F26K	Sheenjek River	100.71	12	P	Pdif	09 42 05.6	+2.5
	baz=209						
B21K	Ikpikpuk River	100.88	8	IAms_20	IAms_20	10 23 57.5	
	comp=Z,2μm,20.0s						
TUL3	Leonard	100.93	55	IAms_20	IAms_20	10 26 23.4	
	comp=Z,2μm,18.0s						
B20K	Meade River	100.96	7	IAms_20	IAms_20	10 29 34.6	
	comp=Z,1μm,19.0s						
D24K	Happy Valley	101.23	10	IAms_20	IAms_20	10 26 09.8	
	comp=Z,1μm,20.0s						
YAK	Yakutsk	101.23	337	IAms_20	IAms_20	10 20 40.2	
	comp=Z,1μm,22.0s						
YAK	Yakutsk	101.23	337	*i* P	Pdif	09 42 04.4	-1.1
YAK				pmax	pmax		
	comp=Z,13nm,0.6s						
G29M	Pine Creek	101.28	15	IAms_20	IAms_20	10 28 20.3	
	comp=Z,930nm,19.0s						
F28M	Old Crow	101.48	14	IAms_20	IAms_20	10 24 05.4	
	comp=Z,1μm,20.0s						
F28M	Old Crow	101.48	14	P	Pdif	09 42 10.4	+3.9
	baz=213						
C23K	Itkillik River	101.60	9	IAms_20	IAms_20	10 24 18.5	
	comp=Z,2μm,20.0s						
C23K	Itkillik River	101.60	9	P	Pdif	09 42 09.6	+2.6
	baz=204						
E27K	Coleen River	101.62	13	P	Pdif	09 42 11.1	+3.9
	baz=211						
K30B	Basset	101.70	47	IAms_20	IAms_20	10 24 53.1	
	comp=Z,1μm,18.0s						
B22K	Teshekpuk Lake	101.70	8	IAms_20	IAms_20	10 24 23.2	
	comp=Z,1μm,20.0s						
B22K	Teshekpuk Lake	101.70	8	P	Pdif	09 42 10.7	+3.3
	baz=201						
G30M	tAoh Zraii Nji	101.75	15	P	Pdif	09 42 09.5	+1.7
	baz=216						
MIAR	Mount Ida	101.86	57	IAms_20	IAms_20	10 25 00.4	
	comp=Z,1μm,19.0s						
DGMT	Dagmar	101.94	41	IAms_20	IAms_20	10 24 37.7	
	comp=Z,1μm,20.0s						
G31M	Sarah River	102.15	16	IAms_20	IAms_20	10 23 27.4	
	comp=Z,1μm,20.0s						
U38A	Gravette	102.18	55	IAms_20	IAms_20	10 27 12.6	
	comp=Z,2μm,18.0s						
F30M	Barrier River	102.36	15	P	Pdif	09 42 12.2	+1.8
	baz=216						
X40A	Basin Creek Fa	102.38	57	IAms_20	IAms_20	10 25 12.0	
	comp=Z,1μm,18.0s						
E28M	Babbage River	102.38	13	IAms_20	IAms_20	10 25 02.3	
	comp=Z,1μm,20.0s						
HHAR	Hobbs	102.42	55	IAms_20	IAms_20	10 27 02.0	
	comp=Z,1μm,18.0s						
C27K	Jago River	102.48	11	P	Pdif	09 42 13.5	+2.5
	baz=210						
E29M	Blow River	102.54	14	IAms_20	IAms_20	10 24 38.4	
	comp=Z,1μm,21.0s						
E29M	Blow River	102.54	14	P	Pdif	09 42 14.4	+3.2
	baz=214						
143A	Socs Landing,	102.60	60	IAms_20	IAms_20	10 25 33.1	
	comp=Z,1μm,19.0s						
D27M	Malcolm River	102.65	13	P	Pdif	09 42 14.2	+2.4
	baz=212						
F31M	Tsiigehtchic	102.69	16	IAms_20	IAms_20	10 23 53.6	
	comp=Z,938nm,20.0s						
F31M	Tsiigehtchic	102.69	16	P	Pdif	09 42 12.3	+0.4
	baz=218						
SHL	Shillong	102.96	292	IAms_20	IAms_20	10 33 59.4	
	comp=Z,1μm,21.0s						
E28A	Huff	102.99	44	IAms_20	IAms_20	10 27 46.9	
	comp=Z,1μm,18.0s						
VBMS	Vicksburg	103.04	60	IAms_20	IAms_20	10 25 52.8	
	comp=Z,880nm,19.0s						
N35A	Tabor	103.41	51	IAms_20	IAms_20	10 25 47.7	
	comp=Z,1μm,18.0s						
INK	Inuvik	103.43	15	IAms_20	IAms_20	10 28 51.1	
	comp=Z,1μm,19.0s						
INK	Inuvik	103.43	15	P	Pdif	09 42 16.9	+1.8
	baz=218						
S39A	Bolivar	103.52	54	IAms_20	IAms_20	10 26 46.9	
	comp=Z,2μm,18.0s						
ECSD	EROS Data Cent	104.13	48	IAms_20	IAms_20	10 26 08.4	
	comp=Z,1μm,18.0s						
ECSD	EROS Data Cent	104.13	48	P	Pdif	09 42 20.8	+1.9
	baz=242						
P38A	Dawn	104.27	52	IAms_20	IAms_20	10 27 33.5	
	comp=Z,879nm,18.0s						
MDND	Maddock	104.27	43	IAms_20	IAms_20	10 28 17.6	
	comp=Z,1μm,19.0s						
HBAR	Harrisburg	104.45	57	IAms_20	IAms_20	10 27 02.9	
	comp=Z,1μm,19.0s						
R40A	Maddies Statio	104.53	54	IAms_20	IAms_20	10 25 49.8	
	comp=Z,1μm,19.0s						
SOR	Soroa	104.72	72	IAms_20	IAms_20	10 29 32.4	
	comp=Z,980nm,19.0s						
N38A	Joes South For	105.00	51	IAms_20	IAms_20	10 28 32.8	
	comp=Z,1μm,18.0s						
YKA	Yellowknife Ar	105.02	25	PP	PP	09 46 43.1	-0.5
	comp=Z,0.6nm,0.9s,baz=239,slow=7.2,SNR=3.7						
CCM	Cathedral Cave	105.15	55	IAms_20	IAms_20	10 27 47.1	
	comp=Z,1μm,18.0s						
F33A	5 Mile Ranch,	105.32	46	IAms_20	IAms_20	10 28 37.6	
	comp=Z,1μm,19.0s						
Z47A	Carrollton	105.32	60	IAms_20	IAms_20	10 27 42.4	
	comp=Z,1μm,18.0s						
SCIA	State Center	105.51	50	IAms_20	IAms_20	10 26 19.3	
	comp=Z,1μm,19.0s						
HALT	Halls	105.57	57	IAms_20	IAms_20	10 27 46.5	
	comp=Z,1μm,19.0s						
SAML	Samuel	105.89	110	IAms_20	IAms_20	10 24 28.2	
	comp=Z,1μm,21.0s						
CBCY	The Bluff, Cay	106.06	76	IAms_20	IAms_20	10 29 03.3	
	comp=Z,1μm,18.0s						
LRAL	Lakeview Retre	106.06	61	IAms_20	IAms_20	10 28 18.9	
	comp=Z,1μm,19.0s						
SLM	Saint Louis	106.12	55	IAms_20	IAms_20	10 28 17.7	
	comp=Z,905nm,18.0s						
CAMR	Camarioca	106.19	73	IAms_20	IAms_20	10 26 06.5	
	comp=Z,765nm,18.0s						
FFC	Flin Flon	106.32	36	IAms_20	IAms_20	10 26 11.3	
	comp=Z,1μm,20.0s						
C36M	Paulatuk	106.51	17	IAms_20	IAms_20	10 27 00.7	
	comp=Z,1μm,20.0s						
N41A	Harden Midland	106.58	52	IAms_20	IAms_20	10 25 29.9	
	comp=Z,942nm,20.0s						
WVT	Waverly	106.77	58	IAms_20	IAms_20	10 30 36.4	
	comp=Z,847nm,18.0s						
L40A	Anamosa	106.92	51	IAms_20	IAms_20	10 28 32.6	
	comp=Z,1μm,18.0s						
P43A	Skaggs, Pawnee	107.05	54	IAms_20	IAms_20	10 27 35.4	
	comp=Z,1μm,18.0s						
Q44A	Meyer Farm, Va	107.09	55	IAms_20	IAms_20	10 29 06.6	
	comp=Z,1μm,18.0s						
SPMN	Marine on St.	107.24	47	IAms_20	IAms_20	10 30 36.7	
	comp=Z,1μm,18.0s						
MTDJ	Mount Denham	107.26	79	IAms_20	IAms_20	10 20 52.4	
	comp=Z,2μm,22.0s						
JFWS	Jewell Farm	107.93	50	IAms_20	IAms_20	10 32 28.4	
	comp=Z,1μm,18.0s						
L42A	Oliver, Polo	107.94	52	IAms_20	IAms_20	10 28 55.8	
	comp=Z,1μm,18.0s						
A36M	Sachs Harbour	108.06	15	IAms_20	IAms_20	10 30 46.6	
	comp=Z,880nm,20.0s						
I40A	Norwalk	108.09	49	IAms_20	IAms_20	10 28 29.5	
	comp=Z,1μm,19.0s						
SPB	Sao Paulo	108.15	132	IAms_20	IAms_20	10 23 58.4	
	comp=Z,1μm,21.0s						
TIXI	Tiksi	108.18	344	IAms_20	IAms_20	10 33 10.4	
	comp=Z,1μm,19.0s						
U49A	Red Boiling Sp	108.43	58	IAms_20	IAms_20	10 30 14.5	
	comp=Z,1μm,18.0s						
Y52A	Lilburn	108.63	61	IAms_20	IAms_20	10 29 40.2	
	comp=Z,913nm,19.0s						
P46A	Rosedale	108.67	55	IAms_20	IAms_20	10 29 05.3	
	comp=Z,1μm,18.0s						
060A	Indiantown	108.72	69	IAms_20	IAms_20	10 30 46.3	
	comp=Z,773nm,18.0s						
SDV	Santo Domingo	108.89	91	IAms_20	IAms_20	10 23 24.4	
	comp=Z,1μm,22.0s						
GOGA	Godfrey	108.90	62	P	PKiKP	09 46 47.2	+2.2
	baz=246						
G40A	Rib Lake	108.93	48	IAms_20	IAms_20	10 31 24.5	
	comp=Z,959nm,19.0s						
SFIN	Lafayette	109.05	54	IAms_20	IAms_20	10 31 34.4	
	comp=Z,1μm,18.0s						
HQIL	Hanson Quary C	109.09	52	IAms_20	IAms_20	10 28 49.4	
	comp=Z,812nm,18.0s						
K43A	Burlington	109.13	51	IAms_20	IAms_20	10 28 41.2	
	comp=Z,1μm,19.0s						
EYMN	Ely	109.20	45	IAms_20	IAms_20	10 29 04.3	
	comp=Z,1μm,18.0s						
L44A	Lake County Fo	109.21	52	IAms_20	IAms_20	10 29 16.3	
	comp=Z,1μm,18.0s						
I42A	Draeger Farm,	109.22	50	IAms_20	IAms_20	10 28 35.3	
	comp=Z,1μm,20.0s						
T50A	Nancy	109.33	58	IAms_20	IAms_20	10 31 50.2	
	comp=Z,938nm,21.0s						
BG3	Lake Jocassee	109.94	61	IAms_20	IAms_20	10 30 01.8	
	comp=Z,1μm,18.0s						
COWI	Conover	109.94	48	IAms_20	IAms_20	10 28 00.3	
	comp=Z,904nm,19.0s						
TZTN	Tazewell	110.09	59	P	PKiKP	09 46 42.3	-4.9
	baz=247						
H43A	Windswept, Lux	110.20	50	IAms_20	IAms_20	10 31 00.3	
	comp=Z,1μm,18.0s						
N47A	Urbana	110.23	54	IAms_20	IAms_20	10 32 02.6	
	comp=Z,1μm,18.0s						
L46A	Eue Claire	110.25	53	IAms_20	IAms_20	10 25 46.9	
	comp=Z,899nm,21.0s						
P49A	Miami Univ. Ec	110.40	56	P	PKiKP	09 46 42.2	-5.5
	baz=247						
NMDO	Nuevo Mundo	110.44	78	IAms_20	IAms_20	10 25 31.7	
	comp=Z,642nm,19.0s						
S51A	Beattyville	110.48	58	IAms_20	IAms_20	10 30 54.8	
	comp=Z,1μm,18.0s						
JSC	Jenkinsville	110.93	62	IAms_20	IAms_20	10 31 08.1	
	comp=Z,808nm,19.0s						
I45A	Fountain	111.06	51	IAms_20	IAms_20	10 29 31.1	
	comp=Z,1μm,19.0s						
KMSC	Kings Mountain	111.21	61	IAms_20	IAms_20	10 30 52.3	
	comp=Z,1μm,19.0s						
N49A	Columbus Grove	111.31	54	IAms_20	IAms_20	10 31 29.1	
	comp=Z,829nm,18.0s						
Y57A	Sumter	111.50	62	IAms_20	IAms_20	10 31 30.1	
	comp=Z,879nm,18.0s						
L48A	N Adams	111.51	53	IAms_20	IAms_20	10 30 13.4	
	comp=Z,1μm,19.0s						
BIRD	Birdtown, Kers	111.68	62	IAms_20	IAms_20	10 33 18.9	
	comp=Z,840nm,18.0s						
J47A	Sumner	111.72	52	IAms_20	IAms_20	10 30 07.7	
	comp=Z,1μm,19.0s						
FCC	Fort Churchill	111.99	34	IAms_20	IAms_20	10 26 36.9	
	comp=Z,945nm,22.0s						
Y58A	Scranton	112.01	63	IAms_20	IAms_20	10 31 57.8	
	comp=Z,905nm,18.0s						
AAM	Ann Arbor	112.18	53	IAms_20	IAms_20	10 30 53.0	
	comp=Z,1μm,19.0s						
S54A	Dingess, Beckl	112.22	58	IAms_20	IAms_20	10 33 47.8	
	comp=Z,1μm,18.0s						
W57A	Gilead	112.23	61	IAms_20	IAms_20	10 32 02.4	
	comp=Z,942nm,18.0s						
M50A	Fremont	112.28	54	IAms_20	IAms_20	10 30 52.9	
	comp=Z,823nm,20.0s						
GLMI	Grayling	112.42	50	IAms_20	IAms_20	10 32 54.2	
	comp=Z,890nm,18.0s						
X58A	Rowland	112.51	62	IAms_20	IAms_20	10 34 04.8	
	comp=Z,853nm,18.0s						
K50A	Casco	113.06	53	IAms_20	IAms_20	10 32 57.3	
	comp=Z,967nm,18.0s						
Y60A	Bolivia	113.17	63	IAms_20	IAms_20	10 33 01.4	
	comp=Z,793nm,18.0s						
I49A	Point Hope	113.32	52	IAms_20	IAms_20	10 33 36.1	
	comp=Z,1μm,18.0s						
W59A	Clinton	113.42	62	IAms_20	IAms_20	10 33 34.8	
	comp=Z,875nm,18.0s						
WMQ	Urumqi	113.48	308	*e*PKP	PKiKP	09 46 54.0	+0.5
CNNC	Cliffs of the	113.86	62	IAms_20	IAms_20	10 34 06.7	
	comp=Z,915nm,18.0s						
PCDR	Punta Cana, DR	115.20	82	IAms_20	IAms_20	10 25 24.1	
	comp=Z,1μm,22.0s						
J54A	Appleton	115.98	53	IAms_20	IAms_20	10 33 33.8	
	comp=Z,876nm,19.0s						
ZSN	Zaisan	116.50	311	*e*PKP	PKPdf	09 46 58.8	-0.4
	baz=311						
ZSN				*e*PP	PP	09 48 05.6	-1.1
	baz=311						
ZSN	Zaisan	116.50	311	*e*PKIKP	PKPdf	09 46 58.7	-0.4
ZSN				*e*		09 48 05.6	
DELO	Deloro Mine	117.06	52	IAms_20	IAms_20	10 33 08.0	
	comp=Z,1μm,19.0s						
WUPA	West Chester U	117.13	58	IAms_20	IAms_20	10 34 24.7	
	comp=Z,877nm,19.0s						
J56A	Wolcott	117.22	54	IAms_20	IAms_20	10 36 50.7	
	comp=Z,1μm,18.0s						
PECO	Prince Edward	117.32	53	IAms_20	IAms_20	10 38 09.1	
	comp=Z,1μm,18.0s						
P61A	Hammonton	117.65	58	IAms_20	IAms_20	10 37 20.5	
	comp=Z,676nm,18.0s						
BOSA	Boshof	117.66	202	PKP	PKiKP	09 47 02.7	+0.4
	comp=Z,2.6nm,0.8s,baz=165,slow=2.9,SNR=3.8						
MK31	Makanchi Array	118.02	310	PKPdf	PKPdf	09 47 01.3	-0.7
MK31	Makanchi Array	118.02	310	*c i* PKIKP	PKPdf	09 47 01.6	-0.5
MKAR	Makanchi Array	118.02	310	PKPdf	PKPdf	09 47 01.0	-1.1
MKAR	Makanchi Array	118.02	310	PKP	PKPdf	09 47 01.4	-0.7
	comp=Z,1.5nm,0.6s,baz=98,slow=1.7,SNR=16						
MKAR				PKKPbc	PKKPab	09 57 23.6	+0.3
	comp=Z,0.3nm,0.6s,baz=256,slow=5.5,SNR=3.5						
GRGR	Grenville	118.20	92	IAms_20	IAms_20	10 28 05.0	
	comp=Z,1μm,22.0s						
ZALV	Zalesovo Beam	118.20	318	PKPdf	PKPdf	09 47 00.6	-1.5
ZALV	Zalesovo Beam	118.20	318	PKP	PKPdf	09 47 00.8	-1.3
	comp=Z,0.8nm,0.6s,baz=168,slow=2.8,SNR=5.3						
MAKZ	Makanchi	118.23	310		PKPdf	09 47 01.4	-1.1
MAKZ				IAms_20	IAms_20	10 33 39.3	
	comp=Z,998nm,21.0s						
MAKZ	Makanchi	118.23	310	PKIKP	PKPdf	09 47 01.4	-1.1
WBO	Williamsburg	118.79	52	IAms_20	IAms_20	10 34 08.0	
	comp=Z,1μm,20.0s	

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KSH                                  LR      LR
        comp=Z,510nm,21.0s
KSH                                  LR      LR
        comp=Z,440nm,18.5s
MDOK Medeo          120.70 305 ePKP      PKPdf   09 47 07.2 -0.3
        baz=305
MDOK                             ePP      PP      09 48 35.1 -1.0
        baz=305
MDOK Medeo          120.70 305 ePKIKP    PKPdf   09 47 07.2 -0.3
MDOK                             e                09 48 35.1
AAA  Alma-Ata       120.81 305 ePKP      PKiKP   09 47 07.7  0.0
        baz=305
AAA  Alma-Ata       120.81 305 ePKIKP    PKiKP   09 47 07.7  0.0
NIL  Nilore         121.00 293 IAMs_20   IAMs_20 10 45 38.1
        comp=Z,911nm,19.0s
NRN  Naryn          121.03 303 IAMs_20   IAMs_20 10 47 57.9
        comp=Z,766nm,19.0s
KURK Kurchatov      121.26 314 PKPdf     PKPdf   09 47 07.1 -1.0
KURK Kurchatov      121.26 314 IAMs_20   IAMs_20 10 36 30.0
        comp=Z,759nm,21.0s
KURK Kurchatov      121.26 314c iPKIKP   PKPdf   09 47 07.5 -0.6
KURK                             pmax     pmax
        comp=Z,13nm,1.3s
KURBB Kurchatov Arra 121.30 314  PKP      PKPdf   09 47 07.3 -0.8
        comp=Z,4.0nm,0.2s,baz=107,slow=2.1,SNR=13
BOOM Boomskoye usch 121.33 304   PKIKP    PKiKP   09 47 09.2 +0.3
G62A West of Eustis 122.11  53   IAMs_20  IAMs_20 10 39 00.9
        comp=Z,743nm,18.0s
ARLS Aral           122.36 303   PKIKP    PKiKP   09 47 10.9  0.0
AAK  Ala-Archa      122.41 304   PKPdf    PKPdf   09 47 10.8  0.0
AAK  Ala-Archa      122.41 304c iPKIKP    PKiKP   09 47 11.0  0.0
AAK                              pmax     pmax
        comp=Z,11nm,1.3s
SGDS Sogindy        122.49 305 ePKP      PKPdf   09 47 10.6 -0.3
        baz=305
SGDS Sogindy        122.49 305 ePKIKP    PKPdf   09 47 10.5 -0.3
LMQ  La Malbaie     122.70  50   IAMs_20  IAMs_20 10 35 47.2
        comp=Z,910nm,20.0s
PKME Peaks-Kenny Pk 122.98  53   IAMs_20  IAMs_20 10 33 16.8
        comp=Z,733nm,21.0s
E62A Clayton Lake   123.07  52   IAMs_20  IAMs_20 10 37 07.2
        comp=Z,1µm,21.0s
F63A Nahmakanta, Br 123.19  53   IAMs_20  IAMs_20 10 40 25.4
        comp=Z,854nm,18.0s
BTLS Baital         123.22 307 ePKP      PKPdf   09 47 11.9 -0.3
        baz=307
BTLS                             ePP      PP      09 48 51.1 -1.9
        baz=307
BTLS Baital         123.22 307 ePKIKP    PKPdf   09 47 11.8 -0.3
BTLS                             e                09 48 51.9
TULEG Thule         123.43  15   IAMs_20  IAMs_20 10 39 52.6
        comp=Z,1µm,19.0s
D62A Allapoint, All 123.47  51   IAMs_20  IAMs_20 10 37 01.7
        comp=Z,1µm,19.0s
F64A Sherman        123.74  53   IAMs_20  IAMs_20 10 40 50.9
        comp=Z,934nm,18.0s
ARK  Arkit          124.06 302   PKIKP    PKiKP   09 47 14.5 +0.3
PQI  Presque Isle   124.10  52   IAMs_20  IAMs_20 10 36 17.4
        comp=Z,1µm,20.0s
KBL  Kabul          124.60 293   PKPdf    PKiKP   09 47 15.6 -0.1
KBL  Kabul          124.60 293   PKIKP    PKiKP   09 47 15.6 -0.1
GGN  Saint George   124.65  54   IAMs_20  IAMs_20 10 39 22.3
        comp=Z,1µm,18.0s
KK31 Karatay Array  125.37 304   PKPdf    PKPdf   09 47 16.1 -0.2
KK31 Karatay Array  125.37 304   PKIKP    PKPdf   09 47 16.1 -0.2
KKAR Karatay Array  125.37 304   PKPdf    PKPdf   09 47 15.9 -0.4
KKAR Karatay Array  125.37 304   PKIKP    PKPdf   09 47 15.9 -0.4
IUG  Iuzhnay        125.55 302 ePKP      PKPdf   09 47 16.5 -0.3
        baz=302
IUG                              ePP      PP      09 49 08.3 -0.5
        baz=302
IUG  Iuzhnay        125.55 302 ePKIKP    PKPdf   09 47 16.4 -0.3
IUG                              e                09 49 08.2
SIMJ Simiganj       125.61 298   PKPdf    PKPdf   09 47 16.6 -0.5
SIMJ                             IAMs_20  IAMs_20 10 43 30.2
        comp=Z,720nm,21.0s
SCHQ Schefferville  125.73  42   PKP      PKPdf   09 47 16.0 -0.6
        comp=Z,8.0nm,1.0s,baz=349,slow=3.9,SNR=5.8
CHM  Chimkent       125.89 303 ePKP      PKPdf   09 47 16.8 -0.5
        baz=303
CHM  Chimkent       125.89 303 ePKIKP    PKPdf   09 47 16.8 -0.5
LMN  Caledonia Moun 126.18  53   PKPdf    PKPdf   09 47 17.9 +0.2
BVAR Borovoye Array 126.60 316   PKP      PKPdf   09 47 18.2 -0.1
        comp=Z,4.9nm,0.6s,baz=98,slow=3.0,SNR=27
BRVK Borovoye       126.66 316   PKPdf    PKPdf   09 47 17.9 -0.4
BRVK Borovoye       126.66 316c iPKIKP    PKPdf   09 47 18.3 -0.1
BRVK                             pmax     pmax
        comp=Z,15nm,1.3s
LSZ  Lusaka         128.52 212   IAMs_20  IAMs_20 10 45 20.1
        comp=Z,993nm,18.0s
SFJD Kangerlussuaq  131.58  25   IAMs_20  IAMs_20 10 37 12.9
        comp=Z,1µm,22.0s
SUMG Summit         132.35  16   PKPdf    PKiKP   09 47 31.0 +0.7
SUMG                             IAMs_20  IAMs_20 10 40 05.3
        comp=Z,963nm,22.0s
SUMG Summit         132.35  16   PKIKP    PKiKP   09 47 31.0 +0.7
UOSS Minazif        132.53 277   PKPdf    PKPdf   09 47 30.7 +0.2
ABKAR Akbulak array 133.15 311   PKPdf    PKPdf   09 47 30.1 -0.7
KIBK Kibwezi        133.19 233   IAMs_20  IAMs_20 10 42 46.8
        comp=Z,913nm,20.0s
ARU  Arti           133.24 321               PKiKP   09 47 31.8 -0.2
ARU  Arti           133.24 321 i PKIKP       PKPdf   09 47 30.3 -0.5
ARU                              MLR      MLR
        comp=Z,1µm,21.0s
ARU  Arti           133.24 321   PKP      PKPdf   09 47 30.9 +0.1
KMBO Kilima Mbogo   134.61 233   IAMs_20  IAMs_20 10 38 37.8
        comp=Z,801nm,20.0s
KMBO Kilima Mbogo   134.61 233 eP        PKPdf   09 47 35.6 +0.6
IVI  Ivigtut        134.65  32   IAMs_20  IAMs_20 10 49 25.8
        comp=Z,1µm,19.0s
NRS  Narsarsuaq     135.92  31   IAMs_20  IAMs_20 10 49 22.1
        comp=Z,910nm,19.0s
ANGG Ammassalik, Gr 136.84  23   IAMs_20  IAMs_20 10 45 37.7
        comp=Z,776nm,20.0s
SCO  Scoresbysund   137.37  12   IAMs_20  IAMs_20 10 45 13.8
        comp=Z,693nm,20.0s
KIRV Kirov          137.42 326 i PKIKP    PKPdf   09 47 38.2 -0.3
H10S3 ASCENSION HYDR 137.71 154  T        T       12 22 48.0
        baz=16,slow=74,SNR=78
H10S2 ASCENSION HYDR 137.71 154  T        T       12 22 45.7
        baz=204,slow=74,SNR=73
LVZ  Lovozero       137.78 343   IAMs_20  IAMs_20 10 45 42.9
        comp=Z,775nm,22.0s
KEV  Kevo           138.01 348   IAMs_20  IAMs_20 10 45 39.6
        comp=Z,866nm,21.0s
ATD  Arta Tunnel    138.33 252   IAMs_20  IAMs_20 10 41 32.1
        comp=Z,1µm,22.0s
APA  Apatity        138.35 343 ||iPKIKP      PKiKP   09 47 44.5 +2.5
APA                              i                09 50 29.2
APA                              pmax     pmax
        comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 138.48 348  PKPdf    PKiKP   09 47 42.0 -0.3
ARCES ARCESS Array B 138.48 348  PKhKP    PKPpre  09 47 32.1
        comp=Z,1.0nm,0.5s,baz=64,slow=2.8,SNR=8.0
ARCES                            PKP      PKPdf   09 47 39.3 -0.9
        comp=Z,3.0nm,0.7s,baz=46,slow=2.6,SNR=7.2
ARCES ARCESS Array B 138.48 348  PKIKP    PKiKP   09 47 42.0 -0.3
H10N3 ASCENSION HYDR 138.79 154  T        T       12 23 59.2
        baz=203,slow=75,SNR=68
H10N1 ASCENSION HYDR 138.80 154  T        T       12 24 01.4
        baz=203,slow=75,SNR=110
H10N2 ASCENSION HYDR 138.81 154  T        T       12 24 00.9
        baz=203,slow=75,SNR=65
LODK Lodwar         139.15 236   IAMs_20  IAMs_20 10 43 03.3
        comp=Z,639nm,21.0s
LODK Lodwar         139.15 236 eP        PKPdf   09 47 29.7 -13
MBAR Mbarara        139.31 226 eP        PKPdf   09 47 34.8 -8.8
KTK1 Kautokeino     139.33 349 ePKPdf    PKPdf   09 47 41.3 -0.4
TRO  Tromso         139.41 351 ePKPdf    PKPdf   09 47 40.6 -1.2
BELG Belogornoye    140.37 317 i PKIKP   PKPdf   09 47 43.4 -0.7
BELG                             pmax     pmax
        comp=Z,6.0nm,0.9s
RAYN Ar Rayn        141.31 271               PKPdf   09 47 45.6 -1.2
RAYN Ar Rayn        141.31 271   PKIKP    PKPdf   09 47 45.6 -1.2
LOF  Lofoten        141.46 353 ePKPdf    PKPdf   09 47 44.2 -1.4
STEI Steigen        141.47 352 ePKPdf    PKPdf   09 47 44.7 -0.9
FAUS Fauske         141.99 352 ePKPdf    PKPdf   09 47 43.4 -3.1
MAK  Makhachkala    142.16 302 ePKIKP    PKPdf   09 47 47.9 +0.3
MAK                              e                09 50 53.2
MAK                              e                09 54 55.1
MAK                              eSSS     SSS     10 14 42.3
MOR8 Moi Rana       143.25 352 ePKPdf    PKPdf   09 47 48.6 -0.2
STOK Stokkvaagen    143.26 353 ePKPdf    PKPdf   09 47 49.0 +0.2
VALR Valaam         143.67 337 i PKIKP   PKPbc   09 47 46.8 -0.4
VRH  Novokhopyorsk  144.22 317 ePKIKP    PKPbc   09 47 49.0 -0.2
VRH                              pmax     pmax
        comp=Z,30nm,0.3s
GNI  Garni          144.41 298   PKPdf    PKPdf   09 47 51.5 -0.4
GNI  Garni          144.41 298   IAMs_20  IAMs_20 10 56 53.8
        comp=Z,542nm,20.0s
GNI  Garni          144.41 298   PKIKP    PKPdf   09 47 51.5 -0.4
GNI  Garni          144.41 298   PKP      PKPdf   09 47 51.3 -0.6
MOS  Moscow         144.43 326 i PKIKP    PKPab   09 47 48.5 -1.0
MOS                              e                09 48 03.4
MOS                              pmax     pmax
        comp=Z,52nm,1.1s
MOS                              MLR      MLR
        comp=Z,800nm,22.0s
NCK  Nalchik        144.94 304 i PKIKP    PKPbc   09 47 52.0 +0.2
PUL  Pulkovo        145.00 336c i PKIKP   PKPab   09 47 51.2 -0.2
PUL                              pmax     pmax
        comp=Z,313nm,1.3s
GOF  Gofitskoye     145.06 307cePKHKP    PKPpre  09 47 39.2
FINES FINESS Array B 145.10 340  PKP      PKPbc   09 47 51.0 -0.7
        comp=Z,54nm,0.6s,baz=54,slow=3.7,SNR=218
NSS  Namsos         145.12 353 ePKPbc    PKPbc   09 47 51.0 -0.7
LPSR Galich'ya Gora 145.26 321 ePKP2     PKPbc   09 47 50.1 -2.4
LPSR                             pmax     pmax
        comp=Z,60nm,1.0s
OBN  Obninsk        145.27 326               PKPbc   09 47 52.2 -0.2
OBN                              IAMs_20  IAMs_20 10 59 27.5
        comp=Z,635nm,20.0s
OBN  Obninsk        145.27 326   PKPbc    PKPbc   09 47 51.5 -1.0
        comp=Z,55nm,0.6s,baz=38,slow=4.3,SNR=5.1
OBN  Obninsk        145.27 326c i PKP2    PKPbc   09 47 51.6 -0.8
OBN                              pmax     pmax
        comp=Z,145nm,1.3s
OBN  Obninsk        145.27 326   PKP      PKPbc   09 47 51.8 -0.6
KBZ  Khabaz         145.40 304   PKPbc    PKPbc   09 47 52.3 -0.9
        comp=Z,15nm,0.9s,baz=121,slow=1.8,SNR=19
KBZ  Khabaz         145.40 304c iPKIKP    PKPab   09 47 53.4  0.0
VORR Voronezh       145.50 319 ePKIKP    PKPdf   09 47 52.6 -0.6
VORR                             pmax     pmax
        comp=Z,81nm,0.4s
KIV  Kislovodsk     145.52 305               PKPab   09 47 54.0  0.0
KIV                              IAMs_20  IAMs_20 10 58 40.9
        comp=Z,697nm,20.0s
KIV  Kislovodsk     145.52 305 i PKIKP   PKPdf   09 47 53.5 -0.1
KIV                              pmax     pmax
        comp=Z,43nm,1.1s
SHA1 Shidzhatmaz    145.57 304c iPKIKP    PKPdf   09 47 53.8 -0.1
VSR  Storozhevoye   145.71 318 ePKHKP    PKPpre  09 47 50.8
VSR                              pmax     pmax
        comp=Z,50nm,0.6s
VORD Divnogorie     145.73 318 ePKIKP    PKPdf   09 47 52.1 -1.5
VORD                             pmax     pmax
        comp=Z,60nm,1.0s
TBLU Trondheim      146.54 354 ePKPdf    PKPdf   09 47 55.1 +0.5
ERBR Yeremizino-Bor 146.68 308 ePKP2     PKPbc   09 47 57.4 +0.3
ERBR                             pmax     pmax
        comp=Z,177nm,0.9s
ERBR                             MLR      MLR
        comp=Z,857nm,20.0s
LABN Labinsk        146.76 306 ePKP2     PKPab   09 47 58.6  0.0
LABN                             pmax     pmax
        comp=Z,36nm,0.4s
LABN                             MLR      MLR
        comp=Z,705nm,20.0s
VSU  Vasula         147.22 337 i PKIKP    PKPdf   09 47 56.6 +0.7
MOL  Molde          147.44 356 ePKPdf    PKPdf   09 47 56.6 +0.5
VSLR Vesyoloye      147.50 305 i PKIKP    PKPdf   09 47 57.1 +0.2
SOC  Sochi          147.70 305 ePKIKP    PKPdf   09 47 57.0 -0.2
SOC                              e                09 51 28.3
SOC                              ePPP     PPP     09 54 44.3
SOC                              eSS      SS      10 10 24.3 -5.6
SOC                              pmax     pmax
        comp=Z,20nm,0.7s
DOMB Dombas         147.84 354 ePKPdf    PKPbc   09 47 58.6 -1.2
FOO  Floro          148.53 358 ePKPbc    PKPbc   09 48 00.5 -1.0
NB2  NORSAR Subarra 148.60 352   PKP      PKPbc   09 48 01.3 -0.6
        comp=Z,541nm,3.3s,baz=11,slow=2.9
NB2  NORSAR Subarra 148.60 352   PKPab    PKPbc   09 48 01.3 -0.6
        baz=11,slow=2.9
NOA  NORSAR Array B 148.60 352   PKPbc    PKPbc   09 48 00.6 -1.2
        comp=Z,16nm,0.9s,baz=15,slow=4.3,SNR=46
NC602 NORSAR Array S 148.86 351  ePKPbc    PKPbc   09 48 02.1 -0.3
HYA  Hoyanger       148.91 357 ePKPbc    PKPbc   09 48 03.1 +0.5
ANN  Anapa          149.00 308 ePKIKP    PKPbc   09 48 01.9 -1.4
ANN                              pmax     pmax
        comp=Z,107nm,1.1s
ANN                              MLR      MLR
        comp=E,1µm,20.0s
ANN                              MLR      MLR
        comp=N,705nm,20.0s
ANN                              MLR      MLR
        comp=Z,597nm,19.0s
SUE  Sulen          149.08 358 ePKPbc    PKPbc   09 48 03.3 +0.3
HFS  Hagfors        149.12 349   PKPbc    PKPbc   09 48 02.4 -0.8
        comp=Z,18nm,0.8s,baz=0.0,slow=0.3,SNR=36
ARPR Arapgir-MALATY 149.43 297   IAMs_20  IAMs_20 11 02 12.6
        comp=Z,583nm,19.0s
ASK  Askoy          149.64 357 ePKPbc    PKPbc   09 48 04.3  0.0
MNK  Minsk          149.64 330 i PKP2    PKPbc   09 48 04.8 +0.2
MNK                              i                09 51 36.4
MNK                              i PPP    PPP     09 54 57.3
MNK                              i        SS      09 55 04.0
MNK                              i SS     SS      10 10 49.6 -0.5
MNK                              pmax     pmax
        comp=N,21nm,0.9s
MNK                              pmax     pmax
        comp=E,8.0nm,0.9s
MNK                              pmax     pmax
        comp=Z,57nm,1.0s
MNK                              MLR      MLR
        comp=N,667nm,19.0s
MNK                              MLR      MLR
        comp=Z,891nm,20.0s
MNK                              MLR      MLR
        comp=E,242nm,20.0s
BER  Bergen         149.73 357 ePKPbc    PKPbc   09 48 05.0 +0.3
OSL  Oslo           149.73 352 ePKPbc    PKPbc   09 48 04.8 +0.1
ODD1 Odda           150.14 356 ePKPbc    PKPbc   09 48 05.9 +0.2
KONO Kongsberg      150.15 353           PKPbc   09 48 06.0 +0.3
KONO Kongsberg      150.15 353           IAMs_20 IAMs_20 10 58 44.1
        comp=Z,739nm,21.0s
KONO Kongsberg      150.15 353 ePKPbc    PKPbc   09 48 05.8 +0.2
KONO Kongsberg      150.15 353c i PKHKP  PKPpre  09 48 02.5
KONO                             pmax     pmax
        comp=Z,46nm,1.3s
PABE Paberze        150.46 335   IAMs_20  IAMs_20 10 55 52.7
        comp=Z,902nm,21.0s
BLS5 Blasjo         150.63 356 ePKPbc    PKiKP   09 48 07.4 -0.2
ASF  Jabal al Asfar 150.65 283   PKPbc    PKiKP   09 48 08.8 +0.2
        comp=Z,44nm,1.0s,baz=23,slow=0.0,SNR=22
KMY  Karmoy         150.91 357 ePKPbc    PKiKP   09 48 07.9 -0.1
SIM  Simferopol'    151.19 310cePKIKP    PKiKP   09 48 09.1 -0.1
SIM                              e                09 48 24.5
SIM                              e                09 51 42.0
AKASG Malin Array Be 151.42 323          PKPbc   09 48 08.5 -0.4
AKASG Malin Array Be 151.42 323  PKPbc    PKPbc   09 48 08.3 -0.7
        comp=Z,9.4nm,0.6s,baz=45,slow=2.3,SNR=38
AKASG Malin Array Be 151.42 323  PKIKP    PKPbc   09 48 08.5 -0.4
KIEV Kiev           151.44 323               PKPbc   09 48 08.6 -0.4
KIEV Kiev           151.44 323   IAMs_20  IAMs_20 10 57 09.5
        comp=Z,944nm,21.0s
KIEV Kiev           151.44 323   PKIKP    PKPbc   09 48 08.6 -0.4
KIEV Kiev           151.44 323   PKP      PKPdf   09 48 03.7 +0.8
SNART Snartemo      151.66 355 ePKPbc    PKPbc   09 48 09.5 +0.3
SNART Snartemo      151.66 355 i P       PKPbc   09 48 07.0 -2.2
SUW  Suwalki        151.90 334 ePKP      PKPdf   09 48 01.9 -1.5
SUW                              ePP      PP      09 51 46.3 -4.4
SUW                              eL       L       10 49 17.7
        comp=Z,1µm,27.0s
SUW  Suwalki        151.90 334   IAMs_20  IAMs_20 11 03 18.7
        comp=Z,786nm,20.0s
MMAI Mount Meron Ar 151.96 284   PKPbc    PKiKP   09 48 11.6 +0.4
        comp=Z,28nm,0.5s,baz=83,slow=7.1,SNR=52
EIL  Elat           151.99 277   PKP      PKPdf   09 48 06.7 +2.2
        comp=Z,21nm,1.0s,baz=340,slow=2.3,SNR=4.5
EIL                              PKPbc    PKPbc   09 48 10.9 -0.1
        comp=Z,30nm,0.8s,baz=73,slow=2.8,SNR=19
DEL  Delary         152.54 346 i P       PKPbc   09 48 08.0 -3.3
BRTR Keskin Array B 152.93 299   PKPdf    PKPdf   09 48 04.2 -1.5
BRTR Keskin Array B 152.93 299   PKPbc    PKPbc   09 48 12.5 -0.5
        comp=Z,13nm,0.9s,baz=138,slow=2.6,SNR=35
BRTR Keskin Array B 152.93 299   PKIKP    PKPdf   09 48 04.2 -1.5
BR105 Keskin Array S 152.95 299  PKP      PKPdf   09 48 05.6 -0.1
MUD  Monsted U'grnd 153.32 352 i P       PKPbc   09 48 11.0 -2.0
LUNU Lund           153.41 346 i P       PKiKP   09 48 16.0 +2.7
ANTO Ankara         153.54 300   PKPdf    PKPdf   09 48 06.1 -0.4
ANTO                                      pPKPdf  09 48 14.8 -0.3
ANTO Ankara         153.54 300   IAMs_20  IAMs_20 10 57 13.2
        comp=Z,611nm,21.0s
ANTO Ankara         153.54 300   PKIKP    PKPdf   09 48 06.1 -0.4
ANTO                             PKP      pPKPdf  09 48 14.8 -0.3
BSD  Bornholm Skovb 153.56 344 i P       PKPbc   09 48 12.0 -1.6
RGN  Rugen          154.44 345   IAMs_20  IAMs_20 10 57 01.1
        comp=Z,837nm,22.0s
BEL  Belsk          154.50 333 ePKP      PKPab   09 48 29.7 -0.5
BEL                              ePP      PP      09 51 58.7 -6.7
BEL                              eL       L       10 49 10.6
        comp=Z,1µm,28.8s
EKA  Eskdalemuir Ar 154.52   8   PKPbc    PKPbc   09 48 15.3 -0.4
        comp=Z,0.3nm,0.4s,baz=351,slow=2.3,SNR=2.1
EKA                              PKPab    PKPab   09 48 29.5 -0.7
        comp=Z,6.2nm,0.8s,baz=327,slow=2.7,SNR=9.2
ESK  Eskdalemuir    154.53   8   IAMs_20  IAMs_20 10 57 31.2
        comp=Z,764nm,19.0s
GKP  Gorka Klasztor 154.56 339 ePKP      PKPab   09 48 30.3 -0.1
LVV  L'vov          154.57 327 i PKP2    PKPab   09 48 29.8 -0.8
KWP  Kalwaria Pacla 155.32 328 ePKP      PKPab   09 48 33.5 -0.4
KWP                              eL       L       10 53 02.5
        comp=Z,1µm,25.2s
KWP  Kalwaria Pacla 155.32 328   IAMs_20  IAMs_20 10 57 17.1
        comp=Z,845nm,20.0s
BUR08 Bucovina Ar. S 155.37 321  PKPdf    PKPdf   09 48 09.1 +0.3
BUR08                                     sPKPdf  09 48 19.5 -0.9
BUR08                            PKPab    PKPab   09 48 34.1 -0.2
BURAR Bucovina Array 155.37 321  PKPdf    PKPdf   09 48 09.6 +0.8
BURAR                                     sPKPdf  09 48 19.4 -1.0
DBIC Dimbokro       155.59 162   PKPbc    PKPdf   09 48 19.6 +10
        comp=Z,8.3nm,1.0s,baz=125,slow=2.4,SNR=3.8
DBIC                             PKPab    PKPab   09 48 37.5 +1.7
        comp=Z,4.8nm,0.6s,baz=166,slow=6.0,SNR=4.9
BSEG Bad Segeberg   155.60 349 ePKPab              09 48 35.0
        baz=17,slow=4.3
KOLS Kolonicke sedl 156.01 327 ePKP2     PKPab   09 48 36.9 +0.1
KOLS Kolonicke sedl 156.01 327 ePKP      PKPab   09 48 36.9 +0.1
OJC  Ojcow          156.16 332 ePKP      PKPdf   09 48 09.3 -0.3
OJC                              ePP      PP      09 52 17.2 +2.6
OJC                              eL       L       10 50 41.8
        comp=Z,946nm,28.9s
OJC  Ojcow          156.16 332   PKPdf    PKPdf   09 48 09.6  0.0
OJC                              PKPab    PKPab   09 48 37.0 -0.4
OJC  Ojcow          156.16 332   PKIKP    PKPdf   09 48 09.6  0.0
OJC                              PKP      PKPab   09 48 37.0 -0.4
MLR  Muntele Rosu   156.16 316   PKP      PKPdf   09 48 11.9 +2.0
        comp=Z,0.9nm,0.3s,baz=50,slow=3.9,SNR=3.6
PRD  Provadia       156.34 310 ||iP          PKPdf   09 48 10.7 +0.6
CRVS Cervenica-Dubn 156.41 328 ePKP2     PKPab   09 48 39.0 +0.5
CRVS Cervenica-Dubn 156.41 328 ePKP      PKPab   09 48 39.0 +0.5
NIE  Niedzica       156.56 330 ePKP      PKPdf   09 48 11.1 +0.9
NIE                              ePP      PP      09 52 21.1 +4.1
NIE                              eL       L       10 51 56.2
        comp=Z,520nm,26.7s
KSP  Ksiaz          156.94 337 ePKP      PKPdf   09 47 59.3 -11
KSP                              ePP      PP      09 52 14.8 -4.0
KSP                              eL       L       10 51 37.7
        comp=Z,544nm,23.1s
FLTG Flechtingen    156.96 346 ePKPab            09 48 40.6
        baz=17,slow=4.3
NRDL Niedersach Rie 157.02 348 ePKPab            09 48 40.9
        baz=17,slow=4.3
OKC  Ostrava-Krasne 157.11 333 ePKPDF    PKPdf   09 48 03.4 -7.5
OKC                              AMS      AMS     10 54 40.0
        comp=Z,800nm,22.7s
JMB  Yambol         157.21 309 ||iP          PKPdf   09 48 09.9 -1.3
OSTC Ostas          157.22 337 ePKPDF    PKPdf   09 48 08.1 -2.9
OSTC                             ePKPAB   PKPab   09 48 43.1 +1.2
OSTC                             AMS      AMS     11 00 00.0
        comp=Z,900nm,19.5s
SZH  Strazhitsa     157.24 311 ||iP          PKPdf   09 48 10.7 -0.6
CHVC Chvalec        157.24 337 ePKPDF    PKPdf   09 48 00.3 -11
CHVC                             ePKPAB   PKPab   09 48 42.5 +0.4
UPC  Upice          157.32 337 ePKPDF    PKPdf   09 48 09.7 -1.4
UPC                              AMS      AMS     11 00 00.0
        comp=Z,1µm,21.6s
DPC  Dobruska-Polom 157.35 337 ePKPDF    PKPdf   09 48 08.1 -3.1
DPC                              ePKPAB   PKPab   09 48 42.9 +0.3
DPC                              AMS      AMS     10 59 30.0
        comp=Z,1µm,19.6s
MORC Moravsky Berou 157.39 334 ePKP      PKPab   09 48 41.3 -1.5
KRLC Kraliky        157.43 336 ePKPDF    PKPdf   09 48 09.7 -1.6
KRLC                             ePKPAB   PKPab   09 48 42.8 -0.1
KRLC                             AMS      AMS     11 04 00.0
        comp=Z,600nm,19.2s
CLL  Collm          157.50 343   IAMs_20  IAMs_20 11 03 36.3
        comp=Z,626nm,20.0s
CLL  Collm          157.50 343||ePKIKP    PKPdf   09 48 14.0 +2.7
CLL                              pmax     pmax
        comp=Z,31nm,1.0s
CLL                              MLR      MLR
        comp=Z,600nm,22.0s
CLL  Collm          157.50 343 ePKPab            09 48 42.9
        baz=17,slow=4.3
IBBN Ibbenburen     157.56 352 ePKPab            09 48 43.1
        baz=17,slow=4.3
CLZ  Clausthal      157.60 347 ePKPab            09 48 43.1
        baz=17,slow=4.3
MAUC Maruska        157.62 333 ePKPDF    PKPdf   09 48 08.1 -3.5
BRG  Berggiesshubel 157.64 341   P        PKPab   09 48 30.6 -13
BRG                              Amp              09 48 31.6
        comp=Z,5.1nm,1.1s
BRG                              PKPab    pPKPab  09 48 44.0 -8.1
BRG                              Amp              09 48 45.8
        comp=Z,21nm,0.9s
BRG  Berggiesshubel 157.64 341   Amp              09 49 02.1
        comp=Z,24nm,1.1s
BRG  Berggiesshubel 157.64 341   PP       PP      09 52 22.0 -0.6
BRG  Berggiesshubel 157.64 341 ePKIKP    PKPdf   09 48 11.8 +0.3
BRG                                               09 48 22.6
BRG                              pmax     pmax
        comp=Z,3.0nm,1.0s
BRG  Berggiesshubel 157.64 341||ePKPf             09 48 11.8
BRG  Berggiesshubel 157.64 341   Amp              09 48 14.7
        comp=Z,2.7nm,1.0s
BRG  Berggiesshubel 157.64 341   P        PKPab   09 49 00.2 +16
BRG  Berggiesshubel 157.64 341 ePKPab            09 48 43.5
        baz=17,slow=4.3
PVCC Panska Ves     157.77 339 ePKPAB    PKPab   09 48 45.1 +0.8
PVCC                             AMS      AMS     10 56 20.0
        comp=Z,900nm,23.0s
PSZ  Piszkesteto    157.85 328   PKPab    PKPab   09 48 45.0 +0.2
PSZ  Piszkesteto    157.85 328   PKP2     PKPab   09 48 45.1 +0.2
VYHS Vyhne          157.88 330 ePKP2     PKPab   09 48 44.9  0.0
VYHS Vyhne          157.88 330 ePKP      PKPab   09 48 44.9  0.0
NEUB Neuenburg      157.90 345 ePKPab            09 48 44.1
        baz=17,slow=4.3
GTTG Gottingen      157.96 348 ePKPab            09 48 44.8
        baz=17,slow=4.3
HSKC Hora Svate Kat 158.03 341 ePKPDF    PKPdf   09 48 12.8 +0.8
HSKC                             AMS      AMS     11 07 30.0
        comp=Z,900nm,19.0s
JAVC Velka Javorina 158.08 333 ePKP      PKPab   09 48 46.0 +0.2
VRAC Vranov         158.13 335 e         PKPab   09 49 00.9 +15
VRAC Vranov         158.13 335   PKPab    PKPab   09 48 45.4 -0.5
        comp=Z,14nm,1.0s,baz=48,slow=4.4,SNR=9.6
VRAC Vranov         158.13 335 ePKP      PKPab   09 48 45.4 -0.5
PRA  Prague         158.21 339 ePKPDF    PKPdf   09 48 09.7 -2.5
PRA                              AMS      AMS     11 08 00.0
        comp=Z,900nm,19.5s
GOPC GO Pecny, Ondr 158.24 338 ePKPDF    PKPdf   09 48 12.8 +0.5
GOPC                             ePKPAB   PKPab   09 48 46.6 +0.2
GOPC                             ex       x       09 52 18.9
GOPC                             AMS      AMS     11 04 50.0
        comp=Z,1µm,18.1s
PRU  Pruhonice      158.25 339 ePKPDF    PKPdf   09 48 09.7 -2.6
PRU                              ePKPAB   PKPab   09 48 46.9 +0.5
PRU                              ex       x       09 52 17.7
PRU                              AMS      AMS     10 58 50.0
        comp=Z,1µm,23.9s
KRUC Moravsky       158.41 335 e         PKPab   09 49 01.5 +14
KRUC Moravsky       158.41 335 ePKP      PKPab   09 48 46.3 -0.8
MOX  Moxa           158.46 344 ePKPab            09 48 46.9
        baz=17,slow=4.3
MOX                              eL               11 03 07.4
        comp=Z,778nm,22.0s
TANN Tannenbergstha 158.46 343 ePKPab            09 48 47.3
        baz=17,slow=4.3
BUG  Bochum-Univer  158.47 352 ePKPab            09 48 46.9
        baz=17,slow=4.3
TREC Trest          158.54 336 ePKPDF    PKPdf   09 48 08.1 -4.6
KASTN Kahler Asten  158.55 350 ePKPab            09 48 46.7
```

baz=17,slow=4.3
MPEP Malo Peshtene 158.62 314⇑ *i*P **PKPdf 09 48 12.9 0.0**
MODS Modra-Piesok 158.63 332 *e*PKP2 **PKPab 09 48 48.8 +0.7**
MODS Modra-Piesok 158.63 332 *e*PKP **PKPab 09 48 48.8 +0.7**
VALD Valchedram 158.63 315 *e*P **PKPdf 09 48 14.0 +1.1**
UBBA Unterbreizbach 158.64 347 *e*PKPab 09 48 47.3
baz=17,slow=4.3
RZN Rozhen 158.76 309⇑ *i*P **PKPdf 09 48 11.8 -1.6**
ZVC Zvikov 158.84 339 *e*PKPDF **PKPdf 09 48 11.2 -1.8**
ZVC AMS AMS 11 00 10.0
comp=Z,1μm,20.6s
MANZ Manzenberg 158.95 343 *e*PKPab 09 48 49.2
baz=17,slow=4.3
ROTZ Rotzenmuhle 159.12 342 *e*PKPab 09 48 49.9
baz=17,slow=4.3
KHC Kasperske Hory 159.30 339 PKPdf **PKPdf 09 48 12.9 -0.7**
KHC PKPab **PKPab 09 48 51.1 +0.1**
KHC Kasperske Hory 159.30 339 *e*PKPDF **PKPdf 09 48 11.2 -2.4**
KHC *e*PKPAB **PKPab 09 48 51.3 +0.3**
KHC *ex* x 09 52 24.1
KHC AMS AMS 11 00 30.0
comp=Z,1μm,21.2s
KHC Kasperske Hory 159.30 339 PKIKP **PKPdf 09 48 12.9 -0.7**
KHC 09 48 51.2
VTS Vitosha 159.31 313⇑ *i*P **PKPdf 09 48 12.9 -1.1**
CKRC Cesky Krumlov 159.34 338 *e*PKPDF **PKPdf 09 48 06.6 -7.0**
CKRC *e*PKPAB **PKPab 09 48 50.5 -0.7**
CKRC *ex* x 09 52 24.8
CKRC AMS AMS 11 02 10.0
comp=Z,800nm,20.0s
AHRW Bad Neuenahr-A 159.38 352 *e*PKPab 09 48 50.9
baz=17,slow=4.3
BTNL Ternell 159.44 354 *d*PKP **PKPab 09 48 50.8 -0.7**
GRA1 Grafenberg Arr 159.44 344 IAMs_20 IAMs_20 11 10 37.3
comp=Z,874nm,20.0s
GRF Grafenberg Arr 159.44 344 *e*PKPab 09 48 51.1
baz=17,slow=4.3
GRF *e*L 11 00 07.2
comp=Z,753nm,21.9s
GRFO Grafenberg 159.44 344 PKPab 09 48 52.2 +0.7
GRFO Grafenberg 159.44 344 PKP2 **PKPab 09 48 52.2 +0.7**
MMB Musomishta 159.49 309⇑ *i*P **PKPdf 09 48 11.8 -2.3**
BSTI Sart Tilman 159.49 355 *d*PKPdf **PKPdf 09 48 12.7 -1.0**
TNS Taunus Mts 159.49 349 *e*PKPab 09 48 51.3
baz=17,slow=4.3
WET Wettzell 159.50 340 *e*PKPab 09 48 52.1
baz=17,slow=4.3
GEC2 GERESS Array S 159.52 339 *e*PKPab 09 48 51.8
baz=17,slow=4.3
GERES GERESS Array B 159.52 339 PKPdf **PKPdf 09 48 14.0 +0.1**
GERES **PKPab 09 48 51.8 -0.2**
GERES GERESS Array B 159.52 339 PKPab **PKPab 09 48 51.6 -0.4**
comp=Z,5.5nm,1.0s,baz=108,slow=3.2,SNR=14
GERES GERESS Array B 159.52 339 PKIKP **PKPdf 09 48 14.0 +0.1**
GERES PKP **PKPab 09 48 51.8 -0.2**
CONA Conrad Observa 159.54 334 *i* PKP **PKPab 09 48 52.2 0.0**
comp=Z,16nm,1.2s,SNR=5.6
RONA Rosalia, Austr 159.56 333 *i* PKP **PKPab 09 48 52.1 -0.1**
comp=Z,22nm,1.1s,SNR=6.7
BCLA Clavier 159.67 355 *d*PKPdf **PKPdf 09 48 13.4 -0.5**
BCLA *d*PKP **PKPab 09 48 51.9 -0.6**
BCLA *dp*PKP **sPKPab 09 49 03.0 -1.0**
BHOU Houvegnez 159.68 354 *d*PKP **PKPab 09 48 52.2 -0.4**
BGES Gesves 159.72 355 *d*PKPdf **PKPdf 09 48 13.9 -0.1**
BGES *d*PKP **PKPab 09 48 51.5 -1.2**
KKB Krupnik 159.76 311⇑ *i*P **PKPdf 09 48 12.2 -2.1**
BMRD Maredsous 159.83 356 *d*PKP **PKPab 09 48 53.0 -0.1**
SANT Santorini 159.92 294 IAMs_20 IAMs_20 11 06 31.8
comp=Z,712nm,21.0s
RCHB Rochefort 159.94 355 *d*PKP **PKPab 09 48 53.1 -0.5**
DOU Dourbes 160.04 356 *d*PKP **PKPab 09 48 54.6 +0.6**
MOA Molln 160.19 336 *i* PKP **PKPab 09 48 54.9 0.0**
comp=Z,16nm,1.1s,SNR=6.3
ARSA Arzberg 160.23 333 *i* PKP **PKPab 09 48 54.5 -0.6**
comp=Z,3.8nm,0.8s
WLF Walferdange 160.35 353 *d*PKP **PKPab 09 48 55.7 +0.2**
BIOA Bad Ischl, Aus 160.54 337 *i* PKP **PKPab 09 48 56.1 -0.4**
comp=Z,37nm,1.3s,SNR=10
KOGS Kog 160.58 331 *e*PKPdf **PKPdf 09 48 14.1 -1.0**
STU Stuttgart 160.75 347 *e*PKPab 09 48 56.7
baz=17,slow=4.3
RJOB Jochberg 160.78 339 *e*PKPab 09 48 58.0
baz=17,slow=4.3
FUR Furstenfeldbru 160.84 342 *e*PKPab 09 48 57.6
baz=17,slow=4.3
SOKA Soboth 160.89 333 *i* PKP **PKPab 09 48 57.3 -0.8**
comp=Z,21nm,1.3s,SNR=7.8
LESA Schwarzleotal 161.09 338 *i* PKP **PKPab 09 48 58.8 -0.1**
comp=Z,44nm,1.3s
KBA Koelnbreinsper 161.18 337 *i* PKP **PKPab 09 48 58.6 -0.9**
comp=Z,7.0nm,0.6s
OBKA Obir 161.22 334 *e*PKP **PKPab 09 48 58.3 -1.2**
comp=Z,6.2nm,0.9s
BFO Black Forest 161.34 348 PKPab **PKPab 09 48 59.5 -0.4**
BFO Black Forest 161.34 348 PKP2 **PKPab 09 48 59.5 -0.4**
BFO Black Forest 161.34 348 *e*PKPab 09 48 59.5
baz=17,slow=4.3
MYKA Terra Mystica 161.46 335 *i* PKP **PKPab 09 48 59.3 -1.2**
comp=Z,9.5nm,0.8s
WATA Walderalm 161.51 340 *i* PKP **PKPab 09 49 00.6 -0.2**
comp=Z,41nm,1.2s,SNR=10
WTTA Wattenberg 161.56 340 *i* PKP **PKPab 09 49 01.1 0.0**
comp=Z,46nm,1.4s,SNR=7.2
RETA Reutte 161.59 342 *i* PKP **PKPab 09 49 01.0 -0.1**
comp=Z,32nm,1.1s,SNR=8.3
LJU Ljubljana 161.61 333 *e*PP PP 09 52 43.1 -1.2
LJU Ljubljana 161.61 333 *e*PKPdf **PKPdf 09 48 15.2 -1.0**
LJU Ljubljana 161.61 333 *i* PKPab **PKPab 09 49 00.0 -1.1**
MOTA Moosalm 161.63 341 *i* PKP **PKPab 09 49 01.0 -0.3**
comp=Z,43nm,1.2s
SQTA Sankt Quirin 161.72 341 *i* PKP **PKPab 09 49 01.6 -0.1**
comp=Z,35nm,1.1s,SNR=10
ABTA Abfaltersbach 161.74 338 *i* PKP **PKPab 09 49 00.5 -1.2**
comp=Z,18nm,0.8s,SNR=8.0
BOJS Bojanci 161.75 330 *e*PKPab **PKPab 09 49 01.1 -0.7**
BOJS Bojanci 161.75 330 *e*PKPdf **PKPdf 09 48 15.6 -0.7**
DAVA Damuels 162.00 344 *i* PKP **PKPab 09 49 02.6 -0.4**
comp=Z,17nm,0.9s
FETA Feichten 162.03 342 *i* PKP **PKPab 09 49 03.0 -0.1**
comp=Z,18nm,1.2s
DAVOX Davos/Dischmat 162.48 343 PKPab **PKPab 09 49 05.0 -0.1**
comp=Z,18nm,0.8s,baz=90,slow=1.0,SNR=16
PMOZ Porto Moniz, M 162.92 76 *e*PKPdf **PKPdf 09 48 21.6 +3.5**
PMOZ Porto Moniz, M 162.92 76 *e*PP PP 09 53 01.6 +8.7
PMOZ Porto Moniz, M 162.92 76 *e*LR LR 10 44 32.1
comp=Z,635nm,20.0s
TORD Torodi Ar. Bea 163.03 177 PKP **PKPdf 09 48 18.4 -0.1**
comp=Z,4.7nm,1.1s,baz=4.3,slow=2.8,SNR=12
TORD PKPab **PKPab 09 49 10.1 +2.1**
comp=Z,3.2nm,0.5s,baz=159,slow=3.0,SNR=14
PMAR Madeira 163.17 76 *e*PKPdf **PKPdf 09 48 22.5 +4.1**
PMAR Madeira 163.17 76 *e*PP **PP 09 53 01.5 +7.2**
PMPST Porto Santo, M 163.63 75 *e*PKPdf **PKPdf 09 48 19.9 +1.3**
PMPST Porto Santo, M 163.63 75 *e*PP **PP 09 53 03.7 +7.2**
PCAB Cabril 165.65 34 *e*PKPdf **PKPdf 09 48 21.1 +1.0**
POLO Lamas de Olo 166.02 34 *e*PKPdf **PKPdf 09 48 23.3 +2.8**
PBRG Braganca 166.17 30 *e*PKPdf **PKPdf 09 48 26.5 +5.9**
PBRG Braganca 166.17 30 *e*PP **PP 09 53 14.4 +6.0**
PVIS Viseu 166.46 36 *e*PKPdf **PKPdf 09 48 22.9 +2.0**
PVIS Viseu 166.46 36 *e*PP **PP 09 53 13.4 +3.2**
COI Coimbra 166.56 39 *e*PKPdf **PKPdf 09 48 22.3 +1.5**
COI Coimbra 166.56 39 *e*PP **PP 09 53 17.9 +7.3**
PCAS Casmilo, Conde 166.62 40 *e*PKPdf **PKPdf 09 48 18.3 -2.6**
PCAS Casmilo, Conde 166.62 40 *e*PP **PP 09 53 14.8 +3.8**
PSBE So Bento 166.81 42 *e*PKPdf **PKPdf 09 48 25.6 +4.5**
PSBE So Bento 166.81 42 *e*PP **PP 09 53 17.8 +5.7**
MTE Manteigas 166.88 36 *e*PKPdf **PKPdf 09 48 24.8 +3.6**
MTE Manteigas 166.88 36 *e*PP **PP 09 53 14.2 +1.9**
MTE Manteigas 166.88 36 *e*SS SS 10 14 05.4 +11
MTE Manteigas 166.88 36 *e*LR LR 10 49 57.3
comp=Z,729nm,22.0s
PMTG Montargil 167.44 42 *e*PKPdf **PKPdf 09 48 25.1 +3.6**
PMTG Montargil 167.44 42 *e*PP **PP 09 53 21.7 +6.4**
PMRV Marv??o 167.66 39 *e*PKPdf **PKPdf 09 48 25.2 +3.5**
PMRV Marv??o 167.66 39 *e*PP **PP 09 53 20.8 +4.4**
PMRV Marv??o 167.66 39 *e*SS SS 10 14 10.9 +8.9
PMRV Marv??o 167.66 39 *e*LR LR 10 50 59.5
comp=Z,1μm,18.0s
PNCL Nicolau / Gran 167.87 46 *e*PKPdf **PKPdf 09 48 26.6 +4.7**
PNCL Nicolau / Gran 167.87 46 *e*PP PP 09 53 25.4 +7.8
EVO Evora 167.92 44 *e*PKPdf **PKPdf 09 48 22.9 +1.0**
EVO Evora 167.92 44 *e*PP **PP 09 53 25.1 +7.3**
PESTR Estremoz 167.94 41 *e*PKPdf **PKPdf 09 48 24.8 +2.9**
PESTR Estremoz 167.94 41 *e*PP PP 09 53 26.6 +8.7

PTEO Sao Teotonio 168.07 49 *e*PKPdf **PKPdf 09 48 21.9 -0.1**
MESJ Messejana 168.22 47 *e*PKPdf **PKPdf 09 48 25.1 +3.0**
MESJ Messejana 168.22 47 *e*PP **PP 09 53 22.6 +3.1**
MESJ Messejana 168.22 47 *e*PKPdf **PKPdf 09 48 21.9 -0.3**
MESJ *e*PP **PP 09 53 19.3 -0.2**
MESJ IAMs_20 IAMs_20 11 00 42.0
comp=Z,971nm,22.5s
MESJ Messejana 168.22 47 *e*PKIKP **PKPdf 09 48 21.9 -0.3**
MESJ *e* 09 53 19.3
PFVI Vila Bisbo 168.24 51 *e*PKPdf **PKPdf 09 48 28.3 +6.1**
PFVI Vila Bisbo 168.24 51 *e*PP **PP 09 53 24.0 +4.3**
MORF Marmelete 168.26 50 *e*PKPdf **PKPdf 09 48 24.9 +2.7**
MORF Marmelete 168.26 50 *e*PP **PP 09 53 23.5 +3.7**
MORF Marmelete 168.26 50 *e*PKPdf **PKPdf 09 48 21.9 -0.4**
MORF *e*PP **PP 09 53 19.5 -0.3**
MORF IAMs_20 IAMs_20 11 06 45.5
comp=Z,1μm,14.0s
MORF Marmelete 168.26 50 *e*PKIKP **PKPdf 09 48 21.9 -0.4**
MORF *e* 09 53 19.5
PCVE Castro Verde 168.46 47 *e*PKPdf **PKPdf 09 48 27.3 +5.0**
PCVE Castro Verde 168.46 47 *e*PP **PP 09 53 24.8 +4.1**
PBAR Barrancos 168.73 42 *e*PKPdf **PKPdf 09 48 25.2 +2.7**
PBAR Barrancos 168.73 42 *e*PP **PP 09 53 27.2 +5.3**
PBDV Barranco-do-Ve 168.76 48 *e*PKPdf **PKPdf 09 48 27.2 +4.6**
PBDV Barranco-do-Ve 168.76 48 *e*PP **PP 09 53 26.9 +4.6**
PVAQ Vaqueiros 168.81 47 *e*PKPdf **PKPdf 09 48 26.0 +3.5**
PVAQ Vaqueiros 168.81 47 *e*PP **PP 09 53 27.7 +5.3**
PVAQ Vaqueiros 168.81 47 *e*SS SS 10 14 31.2 +17
PVAQ Vaqueiros 168.81 47 *e*LR LR 10 49 39.3
comp=Z,759nm,18.0s
PAB San Pablo 169.06 29 PKIKP **PKPdf 09 48 24.2 +1.4**
ESDC Sonseca Array 169.11 28 PKP **PKPdf 09 48 22.9 +0.1**
comp=Z,4.2nm,1.2s,baz=342,slow=3.6,SNR=14
ESDC PKPab **PKPab 09 49 32.8 -1.6**
comp=Z,3.6nm,1.0s,baz=319,slow=3.7,SNR=6.9
KEST Kesra 172.06 316 PKP **PKPdf 09 48 22.7 -1.8**
comp=Z,3.9nm,1.1s,baz=297,slow=2.3,SNR=2.9
TAM Tamanrasset 172.19 200 PKIKP **PKPdf 09 48 26.3 +1.3**
MDT Midelt 173.32 65 PKP **PKPdf 09 48 25.4 +0.3**
comp=Z,2.0nm,0.5s,baz=19,slow=3.8,SNR=5.6

*HEL **28** 09:30:21.9±0.2, 68°.10N×32°.94E, h0km, ML1.6, Suspected explosion*
*IDC **28** 09:30:22.6±4.8, 68°.23N×33°.12E, h0km, mbtmp3.1/3, ML1.7/2, Error ellipse: s-maj=61.3km s-min=17.4km az=69.0*
*KOLA **28** 09:30:22.3, 68°.11N×33°.01E, h0km, ML1.9, Error ellipse: s-maj=2.6km s-min=1.7km az=90.0, Olenegorsk City, Mines*

ISC 28 09:30:21.1±0.8, 68°.11N±0°.03×32°.96E±0°.03, h0km, n31, σ1§04/44, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.51**	**178**	P	**Pg**	**09 30 30.6**	**-0.2**
APA0				S	**Sg**	**09 30 37.6**	**+0.3**
APA	**Apatity**	**0.57**	**162**	P	**Pg**	**09 30 32.0**	**+0.1**
APA				S	**Sg**	**09 30 39.5**	**+0.1**
LVZ	**Lovozero**	**0.67**	**108**	P	**Pg**	**09 30 34.2**	**+0.3**
LVZ				S	**Sg**	**09 30 42.4**	**-0.3**
LVZ	**Lovozero**	**0.67**	**108**	PB	**Pb**	**09 30 35.2**	**-0.5**
LVZ				SG	**Sg**	**09 30 42.6**	**-0.1**
VRF	**Varrio**	**1.32**	**255**	PG	**Pg**	**09 30 45.8**	**-0.5**
VRF				MSG		09 31 01.3	
VRF	comp=Z,6.4nm,0.2s			SN	**Sn**	**09 31 05.4**	**+0.5**
TERR	**Teriberka**	**1.35**	**35**	P	**Pg**	**09 30 46.2**	**-0.6**
TERR				S	**Sg**	**09 31 03.6**	**-0.7**
PRVG	**Vayda Guba**	**1.67**	**351**	S	**Sg**	**09 31 14.8**	**+0.3**
RAJF	**Raja-Jooseppi**	**1.77**	**284**	PN	**Pn**	**09 30 53.3**	**+0.5**
RAJF				SN	**Sn**	**09 31 16.0**	**0.0**
VADS	**Vadso**	**2.39**	**329**	P	**Pn**	**09 31 02.3**	**+0.8**
VADS				S	**Sn**	**09 31 31.5**	**+0.1**
KU6	**Riekki**	**2.42**	**211**	PG	**Pb**	**09 31 04.4**	**-0.9**
KU6				MSG		09 31 32.9	
	comp=Z,0.7nm,0.2s						
SGF	**Sodankyl**	**2.54**	**258**	PN	**Pn**	**09 31 03.6**	**+0.2**
SGF				SB	**Sn**	**09 31 37.4**	**+2.5**
MSF	**Maaselka**	**2.69**	**217**	PB	**Pb**	**09 31 08.5**	**-1.6**
KEV	**Kevo**	**2.71**	**310**	PB	**Pn**	**09 31 06.9**	**+1.2**
KEV				MSG		09 31 42.0	
	comp=Z,4.1nm,0.2s						
KEV				SG	**Sb**	**09 31 43.8**	**-0.3**
ARA0	**ARCESS Array S**	**3.06**	**301**	PN	**Pn**	**09 31 11.3**	**+0.7**
ARA0				SB	**Sn**	**09 31 49.2**	**+1.4**
ARCES	**ARCESS Array B**	**3.06**	**301**	S	**Sn**	**09 31 48.2**	**+0.4**
ARCES	**ARCESS Array B**	**3.06**	**301**	Pn	**Pn**	**09 31 11.6**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=117,slow=14,SNR=7.6						
ARCES				Sn	**Sn**	**09 31 48.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=122,slow=18,SNR=2.0						
ARCES				Lg	Lg	09 31 54.7	
	comp=Z,0.2nm,0.3s,baz=116,slow=24,SNR=7.2						
	comp=Z,0.8nm,0.6s						
RNF	**Rovaniemi**	**3.08**	**244**	PN	**Pn**	**09 31 11.7**	**+0.8**
RNF				SB	**Sn**	**09 31 50.0**	**+1.7**
RANF	**Ranua**	**3.20**	**232**	PN	**Pn**	**09 31 13.1**	**+0.5**
HEF	**Hetta**	**3.47**	**279**	SN	**Sn**	**09 31 58.3**	**+0.2**
KLF	**Kolari**	**3.54**	**260**	PN	**Pn**	**09 31 17.8**	**+0.5**
KTK1	**Kautokeino**	**3.68**	**289**	SG	**Sb**	**09 32 14.1**	**+2.1**
TOF	**Tornio**	**3.94**	**243**	PN	**Pn**	**09 31 22.9**	**+0.2**
RMF	**Romuvaara**	**4.10**	**199**	PN	**Pn**	**09 31 25.0**	**+0.1**
	baz=15						
LANU	**Lannavaara**	**4.11**	**274**	PN	**Pn**	**09 31 25.5**	**+0.4**
OUL	**Oulu**	**4.14**	**226**	PN	**Pn**	**09 31 26.5**	**+1.0**
ERTU	**Ertsjaerv**	**4.45**	**254**	PN	**Pn**	**09 31 29.8**	**+0.1**
ERTU				SN	**Sn**	**09 32 21.8**	**-0.3**
OBF4	**Vikkela, Lumij**	**4.57**	**227**	PN	**Pn**	**09 31 31.5**	**+0.2**
I37NO	**I37NO**	**5.34**	**287**	I	I	10 03 05.0	
	baz=94,slow=316,SNR=13						
FAUS	**Fauske**	**6.75**	**272**	S	**Sn**	**09 33 14.7**	**-3.9**
FINES	**FINESS Array B**	**7.31**	**207**	Pn	**Pn**	**09 32 09.7**	**+0.8**
	baz=30,slow=12,SNR=2.2						
	comp=Z,1.7nm,0.9s						
HFS	**Hagfors**	**11.55**	**236**	Pn	**Pn**	**09 33 06.0**	**-1.0**
	comp=Z,1.9nm,1.0s,baz=41,slow=12,SNR=2.0						

PRU 28 09:30:46.2, 51°.56N×16°.00E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**0.97**	**178**	*e*SG	Sg	09 31 17.6	+0.2
UPC	**Upice**	**1.05**	**180**	*e*PG	Pg	09 31 06.0	-0.4
UPC				*e*SG	Sg	09 31 19.6	-0.4
	comp=Z,6.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.23**	**170**	*e*SG	Sg	09 31 24.9	-0.7
	comp=Z,3.2nm,0.3s						
BRG	**Berggiesshubel**	**1.47**	**243**	Pg	Pn	09 31 13.7	-0.2
BRG				Sg	Sn	09 31 33.6	-0.1
BRG				Amp		09 31 34.2	
	comp=Z,3.0nm,0.3s						
KRLC	**Kraliky**	**1.57**	**161**	*e*SG	Sn	09 31 35.7	-0.6
	comp=Z,2.7nm,0.5s						
HSKC	**Hora Svate Kat**	**1.88**	**241**	*e*SG	Sb	09 31 45.7	+0.3
MORC	**Moravsky Berou**	**2.04**	**151**	*e*PN	Pn	09 31 20.4	-1.4
MORC				*e*SG	Sn	09 31 48.0	+0.1

*IDC **28** 09:33:07.6±3.2, 4°.20S×103°.85E, h198km±27km, mb3.8/16, mbtmp4.3/16, Error ellipse: s-maj=26.9km s-min=10.5km az=59.0*
*DJA **28** 09:33:07.0±0.2, 4°.5±3°.1×10°.4E±°, h208km±3km, M4.8/31, mb4.6/31, mB5.3/9, MLv5.0/22, Mw(mB)4.8/9, MwMwp5.1/2, Mwp5.3/2*
*NEIC **28** 09:33:07.3±1.2, 4°.6S±0°.1×103°.8E±0°.1, h215km±8km, mb4.4/20, Error ellipse: s-maj=20.5km s-min=11.6km az=53.0*

ISC 28 09:33:06.6±0.4, 4°.46S±0°.06×103°.89E±0°.06, h200km, n102, σ1§52/115, mb4.3/29, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.58**	**163**	P	**Pn**	**09 33 36.1**	**+1.9**
LWLI				S	**Sn**	**09 33 57.6**	**+1.9**
MNAI	**Manna**	**0.94**	**276**	P	**Pn**	**09 33 39.0**	**+3.0**
MNAI	**Manna**	**0.94**	**276**	Pn	**Pn**	**09 33 38.6**	**+2.5**
MNAI				Sn	**Sn**	**09 34 00.9**	**+2.2**
MNAI	**Manna**	**0.94**	**276**	P	**Pn**	**09 33 38.5**	**+2.5**
MNAI				S	**Sn**	**09 34 00.6**	**+1.9**
KASI	**Kota Agung**	**1.22**	**150**	P	**Pn**	**09 33 39.9**	**+1.9**
BLSI	**Bandar Lampung**	**1.62**	**124**	P	**Pn**	**09 33 43.0**	**+1.5**

SBJI	**Serang**	**2.77**	**127**	P	**Pn**	**09 33 54.9**	**+1.3**
DBJI	**Dramaga**	**3.52**	**126**	P	**Pn**	**09 34 04.4**	**+1.8**
SKJI	**Sukabumi**	**3.66**	**134**	P	**Pn**	**09 34 05.0**	**+0.7**
PPSI	**Pulau Pagai**	**4.23**	**293**	P	**Pn**	**09 34 13.1**	**+1.8**
CNJI	**Cibinong**	**4.29**	**131**	P	**Pn**	**09 34 11.7**	**-0.3**
LEM	**Lembang**	**4.39**	**123**	P	**Pn**	**09 34 15.7**	**+2.2**
BBJI	**Bungbulang**	**4.78**	**129**	P	**Pn**	**09 34 19.0**	**+0.6**
JCJI	**Jatiwangi**	**4.80**	**115**	P	**Pn**	**09 34 21.4**	**+2.9**
PDSI	**Padang**	**4.92**	**316**	P	**Pn**	**09 34 19.9**	**-0.2**
BKNI	**Bangkinang**	**5.54**	**329**	Pn	**Pn**	**09 34 28.3**	**+0.2**
CMJI	**Cimerak**	**5.61**	**126**	P	**Pn**	**09 34 28.7**	**-0.1**
	223nm,0.5s,6μm0.9nm						
SISI	**Saibi**	**5.72**	**303**	P	**Pn**	**09 34 30.8**	**+0.5**
KPJI	**Karang Pucung**	**5.77**	**120**	P	**Pn**	**09 34 32.7**	**+1.8**
	240nm,0.6s,0.9nm						
XMIS	**Christmas Isla**	**6.23**	**164**		**Pn**	**09 34 36.0**	**-0.9**
XMIS				Sn	**Sn**	**09 35 43.9**	**-4.6**
SMRI	**Semarang**	**7.00**	**112**	P	**Pn**	**09 34 49.8**	**+2.8**
SMRI	**Semarang**	**7.00**	**112**	Pn	**Pn**	**09 34 49.8**	**+2.8**
SMRI	**Semarang**	**7.00**	**112**	P	**Pn**	**09 34 49.4**	**+2.4**
PBSI	**Pulau Batu**	**7.11**	**308**	P	**Pn**	**09 34 48.1**	**-0.3**
	273nm,1.3s,1.0nm						
YOGI	**Yogyakarta**	**7.18**	**118**	P	**Pn**	**09 34 49.8**	**+0.5**
	185nm,0.9s,0.7nm						
UGM	**Wanagama**	**7.43**	**118**		**Pn**	**09 34 53.4**	**+0.8**
UGM	**Wanagama**	**7.43**	**118**	P	**Pn**	**09 34 53.0**	**+0.4**
	142nm,0.8s,0.9nm						
GSI	**Gunungsitoli**	**8.52**	**312**	P	**Pn**	**09 35 05.8**	**-1.0**
GSI	**Gunungsitoli**	**8.52**	**312**	Pn	**Pn**	**09 35 05.7**	**-1.0**
GSI	**Gunungsitoli**	**8.52**	**312**	P	**Pn**	**09 35 05.7**	**-1.0**
PWJI	**Pagerwojo**	**8.62**	**115**	P	**Pn**	**09 35 08.8**	**+0.7**
	93nm,0.7s						
RPSI	**Rantau Prapat**	**8.67**	**325**		**Pn**	**09 35 07.9**	**-0.8**
KCSI	**Kotacane, Aceh**	**10.01**	**322**	P	**Pn**	**09 35 24.6**	**-1.6**
	40nm,1.2s,3μm						
SNSI	**Sinabang, Aceh**	**10.19**	**312**	P	**Pn**	**09 35 27.9**	**-0.5**
	134nm,0.8s						
KULM	**Kulim**	**10.21**	**341**	Pn	**Pn**	**09 35 28.7**	**0.0**
SBUM	**Sibu**	**10.79**	**51**	Pn	**Pn**	**09 35 37.1**	**+0.9**
ABJI	**Asem Bagus**	**10.80**	**108**	P	**Pn**	**09 35 38.4**	**+2.1**
JAGI	**Jajag, Banyuwa**	**10.94**	**112**	P	**Pn**	**09 35 38.2**	**+0.1**
JAGI	**Jajag, Banyuwa**	**10.94**	**112**	Pn	**Pn**	**09 35 37.7**	**-0.5**
JAGI	**Jajag, Banyuwa**	**10.94**	**112**	P	**Pn**	**09 35 37.2**	**-0.9**
	157nm,0.7s						
MLSI	**Meulaboh, Aceh**	**11.45**	**319**	P	**Pn**	**09 35 42.8**	**-1.8**
	58nm,0.6s						
SRBI	**Singaraja**	**11.81**	**108**	P	**Pn**	**09 35 49.4**	**+0.2**
	106nm,0.7s						
TWSI	**Taliwang, Sumb**	**13.58**	**109**	P	**Pn**	**09 36 11.4**	**-0.1**
PLAI	**Plampang**	**14.45**	**108**	P	**Pn**	**09 36 23.2**	**+0.9**
	56nm,0.9s						
KKM	**Kota Kinabalu**	**16.13**	**50**	P	**P**	**09 36 42.8**	**+0.5**
KKM	**Kota Kinabalu**	**16.13**	**50**		**P**	**09 36 42.2**	**-0.1**
KKM				IAmb	IAmb	09 36 52.7	
	comp=Z,13nm,0.9s						
BKSI	**Bulukumba**	**16.19**	**94**	P	**P**	**09 36 43.7**	**+0.9**
	comp=Z,22nm,0.8s						
MYLDM	**Lahad Datu**	**17.45**	**57**		**P**	**09 36 57.2**	**+0.6**
EDFI	**Ende, Flores**	**18.18**	**104**	P	**P**	**09 37 06.0**	**+1.3**
UBPT	**Khong Chiam**	**19.68**	**5**	P	**P**	**09 37 20.5**	**-0.2**
SOEI	**Soe**	**20.88**	**106**	P	**P**	**09 37 35.3**	**+1.5**
	comp=Z,17nm,0.8s,comp=Z,2μm						
SANI	**Sanana**	**22.19**	**85**	P	**P**	**09 37 46.3**	**-0.5**
	comp=Z,23nm,1.2s,comp=Z,1μm						
CMAR	**Chiang Mai Arr**	**23.29**	**348**	P	**P**	**09 37 56.0**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=179,slow=8.1,SNR=9.1						
	comp=Z,0.9nm,0.4s						
TPUB	**Ta-pu**	**32.06**	**30**	P	**P**	**09 39 14.3**	**-0.6**
TPUB				IAmb	IAmb	09 39 16.7	
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**33.40**	**120**	P	**P**	**09 39 27.7**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=304,slow=8.7,SNR=2.5						
WRA				PcP	**PcP**	**09 42 04.8**	**+1.3**
	comp=Z,1.5nm,0.4s,baz=306,slow=2.1,SNR=9.1						
WRA				S	**S**	**09 44 29.2**	**-3.8**
	comp=Z,0.7nm,0.9s,baz=294,slow=14,SNR=1.5						
	comp=Z,1.6nm,0.6s						
ASAR	**Alice Springs**	**34.67**	**126**	P	**P**	**09 39 39.6**	**+2.1**
	comp=Z,1.6nm,0.3s,baz=300,slow=7.7,SNR=10						
ASAR				PcP	**PcP**	**09 42 09.2**	**+2.1**
	comp=Z,2.2nm,0.5s,baz=307,slow=2.1,SNR=9.1						
ASAR				S	**S**	**09 44 49.7**	**-2.8**
	comp=Z,2.2nm,0.6s,baz=298,slow=15,SNR=15						
ASAR				ScP	**ScP**	**09 45 34.1**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=297,slow=3.3,SNR=9.1						
	comp=Z,1.6nm,0.3s						
XAN	**Xi'an**	**38.59**	**7**	P	**P**	**09 40 09.3**	**-1.1**
XAN				pmax	pmax		
	comp=Z,22nm,0.7s						
XAN				pmax	pmax		
	comp=Z,470nm,10.7s						
LYN	**LuoYang**	**39.63**	**11**	*e*P	**P**	**09 40 19.5**	**+0.5**
LYN				pmax	pmax		
	comp=Z,32nm,0.8s						
LYN				pmax	pmax		
	comp=Z,83nm,4.2s						
GUMO	**Guam**	**44.45**	**66**	P	**P**	**09 40 54.4**	**-3.9**
STKA	**Stephens Creek**	**44.62**	**132**	P	**P**	**09 40 56.7**	**-2.7**
STKA	**Stephens Creek**	**44.62**	**132**	P	**P**	**09 41 02.3**	**+2.9**
	comp=Z,3.2nm,0.7s,baz=307,slow=8.7,SNR=6.2						
STKA				PcP	**PcP**	**09 42 40.9**	**+2.2**
	comp=Z,1.6nm,0.6s,baz=18,slow=6.4,SNR=1.5						
STKA				S	**S**	**09 47 19.8**	**-0.6**
	comp=Z,1.7nm,0.

BRVK	**Borovoye**	**63.92 338**	P	**P**	**09 43 17.4**	**-0.8**
BRVK			IAmb	IAmb	09 43 18.0	
	comp=Z,3.2nm,0.7s					
ABKAR	**Akbulak array**	**65.67 330**	P	**P**	**09 43 28.8**	**-0.8**
MA2	**Magadan**	**73.72 23**	P	**P**	**09 44 19.2**	**+0.8**
NRIK	**Noril'sk**	**74.49 354**	PP	**PP**	**09 47 10.4**	**-1.7**
	comp=Z,2.0nm,0.3s,baz=138,slow=4.8,SNR=4.2					
BRTR	**Keskin Array B**	**77.84 312**	P	**P**	**09 44 42.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=134,slow=6.2,SNR=6.0					
	comp=Z,1.0nm,0.6s					
VNDA	**Vanda**	**79.02 169**	P	**P**	**09 44 51.5**	**+3.6**
	comp=Z,0.7nm,0.9s,baz=322,slow=4.7,SNR=1.9					
	comp=Z,0.7nm,0.9s					
AKASG	**Malin Array Be**	**83.80 322**	P	**P**	**09 45 13.1**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=80,slow=6.7,SNR=4.1					
	comp=Z,0.6nm,0.5s					
FINES	**FINESS Array B**	**88.09 332**	P	**P**	**09 45 34.2**	**0.0**
	comp=Z,0.6nm,0.4s,baz=92,slow=4.6,SNR=11					
	comp=Z,0.6nm,0.4s					
HFS	**Hagfors**	**93.93 330**	P	**P**	**09 46 01.8**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=87,slow=4.9,SNR=1.6					
	comp=Z,0.9nm,0.7s					
KEST	**Kesra**	**96.27 305**	PP	**PP**	**09 50 06.2**	**-2.7**
	comp=Z,13nm,1.1s,baz=304,slow=5.5,SNR=5.1					
NVAR	**Mina Array Bea**	**126.90 43**	PKP	**PKPdf**	**09 51 51.8**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=283,slow=2.4,SNR=6.4					
PDAR	**Pinedale Array**	**131.67 33**	PKP	**PKPdf**	**09 51 57.1**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=114,slow=1.1,SNR=6.6					
PLCA	**Paso Flores**	**134.74 186**	SKPbc	**SKPab**	**09 55 16.2**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=247,slow=4.1,SNR=5.5					
TXAR	**Lajitas Array**	**144.04 43**	PKP	PKPbc	09 52 18.4	+0.7
	comp=Z,1.1nm,0.6s,baz=225,slow=1.7,SNR=14					
TXAR			SKPbc	**SKPbc**	**09 55 39.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=229,slow=0.6,SNR=4.6					
CPUP	**Villa Florida**	**144.40 210**	PKP	**PKPdf**	**09 52 21.2**	**+1.4**
	comp=Z,2.5nm,0.8s,baz=160,slow=3.0,SNR=5.1					
BDFB	**Brasilia**	**145.76 234**	PKPbc	**PKPab**	**09 52 25.5**	**+1.5**
	comp=Z,2.1nm,0.3s,baz=117,slow=4.7,SNR=3.9					

ROM 28 09:47:16.6±0.0, 43°.427N±0°.003×12°.620E±0°.003, h11km, ML0.9/14, Error ellipse: s-maj=0.3km s-min=0.1km az=331.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.07**	**210**	P	Pg	09 47 19.4	+0.4
ATFO				S	Sg	09 47 21.3	+0.6
ATFO				AML	AML		
	comp=N,224μm,1.5s						
ATFO				AML	AML		
	comp=E,349μm,0.9s						
ATFO				AML	AML		
	comp=N,224μm,0.5s						
ATFO				AML	AML		
	comp=E,349μm,1.1s						
FRON	**Frontone**	**0.12**	**40**	P	Pg	09 47 20.0	+0.4
FRON				S	Sg	09 47 22.5	+0.8
FRON				AML	AML		
	comp=E,51μm,1.4s						
FRON				AML	AML		
	comp=N,123μm,0.5s						
FRON				AML	AML		
	comp=E,51μm,0.6s						
SSFR	**Montelago di S**	**0.12**	**86**	P	Pg	09 47 20.0	+0.4
SSFR				S	Sg	09 47 22.3	+0.6
SSFR				AML	AML		
	comp=N,555μm,0.8s						
SSFR				AML	AML		
	comp=E,509μm,0.3s						
SSFR				AML	AML		
	comp=E,362μm,0.2s						
SSFR				AML	AML		
	comp=N,371μm,0.2s						
PIEI	**Pieia**	**0.12**	**330**	P	Pg	09 47 20.1	+0.4
PIEI				S	Sg	09 47 22.7	+0.8
PIEI				AML	AML		
	comp=E,73μm,0.1s						
PIEI				AML	AML		
	comp=N,53μm,0.2s						
ATPI	**Pietralunga -**	**0.16**	**278**	P	Pg	09 47 20.8	+0.6
ATPI				S	Sg	09 47 23.9	+1.1
ATPI				AML	AML		
	comp=E,67μm,0.5s						
ATPI				AML	AML		
	comp=N,54μm,0.5s						
ATVO	**AVT- Monte Val**	**0.16**	**254**	P	Pg	09 47 20.6	+0.4
ATVO				S	Sg	09 47 23.6	+0.9
ATVO				AML	AML		
	comp=E,38μm,0.9s						
ATVO				AML	AML		
	comp=N,35μm,0.3s						
FOSV	**Fossato di Vic**	**0.17**	**142**	P	Pg	09 47 20.7	+0.4
MURB	**Monte Urbino**	**0.18**	**203**	P	Pg	09 47 21.1	+0.6
MURB				AML	AML		
	comp=N,122μm,0.2s						
MURB				AML	AML		
	comp=E,166μm,0.3s						
MURB				AML	AML		
	comp=N,122μm,1.8s						
MPAG	**Monte Paganucc**	**0.23**	**27**	P	Pg	09 47 21.6	+0.3
ATCC	**AVT- Casa Cast**	**0.24**	**177**	P	Pg	09 47 22.1	+0.5
ARVD	**Arcevia**	**0.24**	**73**	P	Pb	09 47 22.4	-0.6
ARVD				S	Sg	09 47 26.4	+1.3
ARVD				AML	AML		
	comp=N,25μm,0.5s						
ARVD				AML	AML		
	comp=E,24μm,1.2s						
ARVD				AML	AML		
	comp=E,24μm,0.8s						

NEIC 28 09:51:44.3±1.0, 19°.413N±0°.006×155°.24W±0°.01, h5km±1km, ML3.1/42, Error ellipse: s-maj=2.7km s-min=2.2km az=185.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.02**	**268**		Pg	09 51 44.0	-1.5
HATHI	**Halema'uma'u T**	**0.02**	**295**		Pg	09 51 44.2	-1.3
PUH	**Pauahi**	**0.04**	**152**		Pg	09 51 45.6	0.0
PUH				IAML		09 51 47.5	
	comp=E,25μm,0.7s						
PUH				IAML		09 51 47.5	
	comp=N,17μm,0.6s						
UWE	**Uwekahuna**	**0.05**	**279**		Pg	09 51 44.8	-1.0
RSD	**Rainshed**	**0.06**	**323**		Pg	09 51 45.3	-0.7
RSD				IAML		09 51 47.8	
	comp=E,27μm,0.7s						
KNHH	**Kane Nui o Ham**	**0.07**	**117**		Pg	09 51 46.2	+0.1
STCH	**Steam Cracks**	**0.11**	**104**		Pg	09 51 46.7	+0.1
HLP	**Hilina Pali**	**0.13**	**210**		Pg	09 51 47.0	0.0
HLP				IAML		09 51 51.1	
	comp=N,11μm,0.7s						
HLP				IAML		09 51 51.4	
	comp=E,5μm,0.5s						
MLH	**Mauna Loa**	**0.16**	**300**		Pg	09 51 47.7	0.0
MLH				IAML		09 51 53.4	
	comp=N,9μm,0.4s						
MLH				IAML		09 51 53.4	
	comp=E,7μm,1.0s						
JOKA	**Jonika Flow**	**0.22**	**85**		Pg	09 51 48.9	+0.2
HMH	**Humu'ula Sheep**	**0.30**	**309**		Pg	09 51 50.6	+0.4
MLOA	**Mauna Loa Obse**	**0.34**	**291**	Pg	Pg	09 51 51.4	+0.3
MLOA				IAML		09 52 02.1	
	comp=E,2μm,0.8s						
MLOA				IAML		09 52 03.0	
	comp=N,2μm,0.8s						
MWH	**Moku'aweowe**	**0.35**	**282**		Pb	09 51 52.5	-0.8
MWH				IAML		09 52 01.7	
	comp=N,3μm,1.0s						
KHU	**Kahuku**	**0.39**	**245**	Pg	Pg	09 51 52.2	+0.2
HPO	**Honuapo**	**0.44**	**223**	Pg	Pg	09 51 52.8	0.0
POHA	**Pohakuloa**	**0.44**	**321**	Pg	Pg	09 51 53.0	+0.1
POHA				IAML		09 52 07.7	
	comp=N,2μm,0.8s						
POHA				IAML		09 52 08.2	
	comp=N,2μm,1.2s						
HUH	**Hualalai**	**0.62**	**296**		Pg	09 51 56.9	+0.5
HPAH	**Hawaii Prepara**	**0.75**	**325**		Pg	09 51 57.5	-1.2

*NEIC **28** 09:51:57.4±0.9, 19°.420N±0°.009×155°.285W±0°.007, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.3km az=186.0*

HVO 28 09:51:57.5±0.7, 19°.423N±0°.008×155°.282W±0°.008, h1km±4km, ML3.5/19, ML3.4/26(NEIC), Error ellipse: s-maj=1.2km s-min=1.0km az=212.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**197**		Pg	09 51 57.8	0.0
UWB	**Uwekahuna B**	**0.01**	**64**		Pg	09 51 57.9	0.0
UWE	**Uwekahuna**	**0.01**	**261**		Pg	09 51 58.0	+0.1
SBLHI	**Steaming Bluff**	**0.01**	**72**		Pg	09 51 58.1	+0.2
HATHI	**Halema'uma'u T**	**0.02**	**89**		Pg	09 51 57.8	-0.2
WRMHI	**West Rim**	**0.02**	**226**		Pg	09 51 59.0	+0.9
BYL	**Byron's Ledge**	**0.02**	**117**		Pg	09 51 57.9	-0.2
RIM	**Rim**	**0.03**	**164**		Pg	09 51 58.4	+0.3
KKO	**Keanakako'i**	**0.03**	**148**		Pg	09 51 58.9	+0.8
SDHHI	**Sand Hill**	**0.04**	**198**		Pg	09 51 59.0	+0.8
RSD	**Rainshed**	**0.04**	**6**		Pg	09 51 58.1	-0.3
PUH	**Pauahi**	**0.08**	**128**		Pg	09 51 59.4	+0.3
PUH				IAML		09 51 59.6	
	comp=N,27μm,1.3s						
PUH				IAML		09 52 01.3	
	comp=E,29μm,0.7s						
KNHH	**Kane Nui o Ham**	**0.12**	**112**	Pg	Pg	09 52 00.0	+0.3
MLH	**Mauna Loa**	**0.12**	**306**		Pg	09 52 00.5	+0.6
MLH				IAML		09 52 03.0	
	comp=N,17μm,0.9s						
MLH				IAML		09 52 04.0	
	comp=E,14μm,0.3s						
STCH	**Steam Cracks**	**0.15**	**104**	Pg	Pg	09 52 00.6	+0.1
STCH				IAML		09 52 05.2	
	comp=N,8μm,0.8s						
STCH				IAML		09 52 05.6	
	comp=E,16μm,0.9s						
HTC	**Hot Caves**	**0.21**	**211**		Pg	09 52 02.1	+0.5
HMH	**Humu'ula Sheep**	**0.26**	**313**	Pg	Pg	09 52 03.0	+0.5
HMH				IAML		09 52 08.2	
	comp=E,6μm,0.8s						
HMH				IAML		09 52 10.2	
	comp=N,5μm,0.7s						
JOKA	**Jonika Flow**	**0.26**	**88**	Pg	Pg	09 52 02.5	0.0
JOKA				IAML		09 52 09.4	
	comp=E,5μm,1.2s						
MLOA	**Mauna Loa Obse**	**0.30**	**292**		Pg	09 52 03.5	+0.2
MLOA				IAML		09 52 09.6	
	comp=N,7μm,1.2s						
MLOA				IAML		09 52 10.5	
	comp=E,4μm,1.2s						
MWH	**Moku'aweowe**	**0.30**	**282**		Pg	09 52 03.3	0.0
PAH	**Pahoa**	**0.32**	**77**	Pg	Pg	09 52 03.5	-0.2
KHU	**Kahuku**	**0.36**	**241**		Pg	09 52 04.5	0.0
ALEP	**Alea Permanent**	**0.36**	**289**		Pg	09 52 04.8	+0.3
POHA	**Pohakuloa**	**0.41**	**325**		Pg	09 52 05.2	-0.2
POHA	**Pohakuloa**	**0.41**	**325**	IAML		09 52 12.6	
	comp=E,8μm,0.9s						
POHA				IAML		09 52 12.7	
	comp=E,6μm,0.8s						
HPO	**Honuapo**	**0.42**	**218**		Pg	09 52 06.0	+0.4
HUH	**Hualalai**	**0.58**	**297**		Pg	09 52 08.9	+0.2

IDC 28 09:58:13.2±2.6, 19°.81S×178°.19E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=281.6km s-min=33.1km az=162.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.15**	**262**	P	P	10 05 59.5	-0.1
	0.1nm,0.4s,baz=98,slow=7.5,SNR=4.5						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**41.19**	**256**	P	P	10 05 59.7	-0.2
	0.2nm,0.3s,baz=88,slow=8.3,SNR=8.8						
	0.2nm,0.3s						
TXAR	**Lajitas Array**	**89.73**	**59**	P	P	10 11 13.8	0.0
	0.4nm,0.8s,baz=245,slow=5.9,SNR=6.8						
	0.4nm,0.8s						

HEL 28 11:05:39.3±0.2, 65°.74N×24°.69E, h0km, ML0.9, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.38**	**337**	PG	Pg	11 05 44.6	-1.9
KALU	**Kalix**	**0.56**	**283**	PG	Pg	11 05 49.7	-0.3
KALU				SG	Sg	11 05 56.6	-0.7
OUL	**Oulu**	**0.83**	**142**	PB	Pg	11 05 54.2	-0.9
	baz=324						
RANF	**Ranua**	**0.91**	**71**	PG	Pg	11 05 56.0	-0.7
RANF				SB	Sg	11 06 08.9	+0.5
OBF4	**Vikkela, Lumij**	**0.94**	**169**	PB	Pb	11 05 58.4	-0.1
	baz=353						
OBF4				MSG		11 06 08.3	
	comp=Z,0.7nm,0.2s						
RNF	**Rovaniemi**	**1.03**	**31**	PG	Pg	11 05 58.0	-1.0
RNF				SN	Sn	11 06 15.3	-0.8
OBF0	**Syolatti, Pyha**	**1.26**	**189**	PN	Pb	11 06 03.8	-0.1
OBF0				MSG		11 06 17.4	
	comp=Z,0.6nm,0.2s						
ERTU	**Ertsjaerv**	**1.31**	**310**	PG	Pg	11 06 02.2	-2.1
ERTU				SB	Sg	11 06 20.6	-0.6
OUF	**Merijarvi**	**1.38**	**179**	PN	Pn	11 06 05.7	0.0
	baz=356						
OUF				MSG		11 06 20.8	
	comp=Z,0.7nm,0.2s						
KLF	**Kolari**	**1.53**	**349**	PG	Pn	11 06 07.6	-0.2
KLF				MSG		11 06 25.2	
	comp=Z,0.7nm,0.2s						
KLF				SN	Sb	11 06 28.5	0.0
VRF	**Varrio**	**2.81**	**42**	SB	Sn	11 07 02.2	+2.2
LVZ	**Lovozero**	**4.50**	**57**	SB	Sb	11 07 52.6	-1.1

*KOLA **28** 11:06:03.3, 67°.56N×30°.58E, h0km, ML1.9, Error ellipse: s-maj=4.8km s-min=2.7km az=30.0, Kovdor City, Mines*

HEL 28 11:06:01.1±0.3, 67°.57N×30°.49E, h0km, ML1.5, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**0.38**	**298**	PG	Pg	11 06 06.3	-2.1
VRF				SG	Sg	11 06 12.9	-0.4
APA0	**Apatity Array**	**0.96**	**87**	P	Pg	11 06 18.8	-0.6
APA0				S	Sg	11 06 31.8	0.0
APA	**Apatity**	**1.12**	**89**	S	Sb	11 06 38.1	-0.2
RAJF	**Raja-Jooseppi**	**1.23**	**319**	PG	Pg	11 06 23.3	-1.2
RAJF				SG	Sg	11 06 38.6	-1.7
SGF	**Sodankyl**	**1.53**	**267**	PG	Pn	11 06 28.5	-1.2
SGF				SG	Sg	11 06 48.7	-1.5
KU6	**Riekki**	**1.57**	**189**	PG	Pn	11 06 29.5	-0.7
KU6				MSG		11 06 48.3	
	comp=Z,2.6nm,0.2s						
KU6				SG	Sn	11 06 49.1	-2.1
LVZ	**Lovozero**	**1.62**	**76**	S	Sn	11 06 52.1	-0.4
LVZ	**Lovozero**	**1.62**	**76**	SN	Sn	11 06 52.1	-0.3
MSF	**Maaselka**	**1.76**	**200**	PG	Pn	11 06 32.8	-0.1
	baz=21						
MSF				SG	Sn	11 06 56.0	+0.1
RNF	**Rovaniemi**	**2.00**	**243**	PG	Pb	11 06 37.4	-0.9
RNF				SG	Sb	11 07 03.2	-0.6
RANF	**Ranua**	**2.14**	**225**	PG	Pn	11 06 39.3	+1.2
	baz=42						
RANF				SG	Sn	11 07 06.4	+1.1
KEV	**Kevo**	**2.54**	**331**	PB	Pn	11 06 44.3	+0.9
KEV				MSG		11 07 16.0	
	comp=Z,1.8nm,0.2s						
KEV				SB	Sn	11 07 16.7	+1.7
KLF	**Kolari**	**2.54**	**265**	MSG		11 07 16.2	
	comp=Z,2.4nm,0.2s						
KLF				SG	Sb	11 07 18.5	-0.9
VADS	**Vadso**	**2.59**	**351**	S	Sn	11 07 17.6	+1.2
ARA0	**ARCESS Array S**	**2.69**	**319**	PN	Pn	11 06 46.0	+0.4
	baz=132						
ARA0				SG	Sb	11 07 22.3	-1.3
ARCES	**ARCESS Array B**	**2.69**	**319**	S	Sb	11 07 21.6	-2.0
HEF	**Hetta**	**2.71**	**291**	MSG		11 07 20.9	
	comp=Z,1.9nm,0.2s						
HEF				SB	Sb	11 07 22.5	-1.5
TOF	**Tornio**	**2.86**	**241**	MSG		11 07 25.3	
	comp=Z,0.9nm,0.2s						
TOF				SG	Sb	11 07 28.0	-0.5
LANU	**Lannavaara**	**3.26**	**282**	PN	Pn	11 06 54.2	+0.8
KALU	**Kalix**	**3.31**	**242**	SG	Sb	11 07 42.1	+0.6
RMF	**Romuvaara**	**3.38**	**184**	SN	Sn	11 06 54.9	-41
RMF				MSG		11 06 58.9	
	comp=Z,0.6nm,0.2s						
RMF	**Romuvaara**	**3.38**	**184**	PN	Pn	11 06 54.9	-0.1
ERTU	**Ertsjaerv**	**3.41**	**256**	PN	Pn	11 06 56.3	+0.9
ERTU				SB	Sn	11 07 38.7	+2.2
TRO	**Tromso**	**4.71**	**301**	SG	Sb	11 08 24.5	+2.8
FAUS	**Fauske**	**5.85**	**275**	S	Sn	11 08 35.2	-1.2

*IDC **28** 11:17:13.1±1.2, 29°.99S×177°.61W, h0km, mb3.7/5, mbtmp3.7/6, ML3.1/1, Error ellipse: s-maj=30.7km s-min=15.6km az=78.0*

ISC 28 11:17:18.4±1.1, 30°.06S±0°.07×177°.8W±0°.2, h35km, n18, σ1°.11/14, mb3.9/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.82**	**350**	Pn	**Pn**	**11 17 32.1**	**-1.3**
	553nm,0.3s,baz=40,slow=18,SNR=56						
RAO				Sn	**Sn**	**11 17 44.2**	**-0.1**
	1μm,0.3s,baz=200,slow=21,SNR=14						
URZ	**Urewera**	**9.22**	**206**	Pn	**Pn**	**11 19 27.8**	**-1.1**
	0.2nm,0.3s,baz=59,slow=22,SNR=1.1						
URZ				Sn	**Sn**	**11 21 09.5**	**-1.8**
	1.1nm,0.3s,baz=82,slow=24,SNR=8.8						
	8.7nm,1.0s						
CTA	**Charters Tower**	**33.96**	**279**	P	**P**	**11 23 59.6**	**+0.9**
	0.1nm,0.3s,baz=98,slow=10,SNR=5.6						
	0.1nm,0.3s						
STKA	**Stephens Creek**	**34.77**	**256**	P	**P**	**11 24 06.0**	**+0.4**
	1.8nm,0.8s,baz=74,slow=14,SNR=3.2						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**43.34**	**266**	P	**P**	**11 25 18.5**	**+1.1**
	0.4nm,0.5s,baz=104,slow=7.4,SNR=25						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.30**	**272**	P	**P**	**11 25 25.9**	**+0.7**
	1.4nm,0.4s,baz=110,slow=8.0,SNR=46						
	1.4nm,0.4s						
QSPA	**South Pole Qui**	**60.05**	**180**	P	**P**	**11 27 22.7**	**+1.1**
	0.8nm,0.9s,baz=302,slow=18,SNR=2.2						
	0.8nm,0.9s						
H03S2	**Juan Fernandez**	**80.47**	**123**	T	T	12 58 55.3	
	baz=244						
H03S1	**Juan Fernandez**	**80.48**	**124**	T	T	12 58 56.0	
	baz=244						
H03S3	**Juan Fernandez**	**80.49**	**123**	T	T	12 58 45.6	
	baz=244						
H10N3	**ASCENSION HYDR**	**139.02**	**154**	T	T	14 12 25.2	
	baz=203						
H10N1	**ASCENSION HYDR**	**139.03**	**154**	T	T	14 13 24.7	
	baz=203						
H10N2	**ASCENSION HYDR**	**139.04**	**154**	T	T	14 12 52.9	
	baz=203						
FINES	**FINESS Array B**	**144.90**	**340**	PKP	**PKPab**	**11 36 49.2**	**-1.0**
	2.0nm,0.6s,baz=55,slow=4.4,SNR=19						
HFS	**Hagfors**	**148.95**	**349**	PKPbc	**PKPbc**	**11 37 00.7**	**-1.2**
	1.6nm,0.8s,baz=46,slow=6.2,SNR=1.8						
MMAI	**Mount Meron Ar**	**151.65**	**285**	PKPbc	**PKPbc**	**11 37 09.5**	**+0.1**
	1.5nm,0.5s,baz=84,slow=7.4,SNR=2.8						
DBIC	**Dimbokro**	**155.79**	**163**	PKPab	**PKPab**	**11 37 36.4**	**+0.6**
	6.2nm,1.1s,baz=225,slow=5.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**163.16**	**178**	PKPab	**PKPab**	**11 38 08.7**	**+1.0**
	0.3nm,0.9s,baz=165,slow=4.4,SNR=2.2						

*IDC **28** 11:45:11.2±0.8, 26°.42N×128°.77E, h0km, mb3.8/14, mbtmp3.8/16, ML3.4/2, MS3.5/3, Error ellipse: s-maj=22.6km s-min=12.6km az=56.0*

*NEIC **28** 11:45:12.5±2.0, 26°.29N±0°.07×128°.94E±0°.07, h10km±1km, mb4.4/24, Error ellipse: s-maj=13.1km s-min=7.9km az=214.0*

*JMA **28** 11:45:13.4±0.3, 26°.4N±0°.8×12°.9E±°, h34km±4km, MD3.8/21, MV3.7/21, NEAR OKINAWAJIMA ISLAND*

*NIED **28** 11:45:13.4, 26°.37N×129°.01E, h34km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.45; $M_{\theta\theta}$-0.81; $M_{\phi\phi}$-0.64; $M_{r\theta}$0.41; $M_{\theta\phi}$-1.16; $M_{\phi r}$0.40; Fault plane solution: $M_0$1.76000×10^{15} NP1:ϕ_s47.00000°, δ54.00000°, λ89.00000°. NP2:ϕ_s228.00000°, δ36.00000°, λ91.00000°.*

ISC 28 11:45:11.8±1.9, 26°.37N±0°.04×128°.99E±0°.04, h9km±12km, n85, σ1°.37/91, mb4.3/25, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.79**	**306**		**Pb**	**11 45 28.4**	**+0.7**
JOW	**Kunigami**	**0.79**	**306**	Pn	**Pb**	**11 45 27.4**	**-0.3**
	336nm,0.3s,baz=123,slow=18,SNR=2024						
JOW				Sn	**Sg**	**11 45 37.0**	**-0.2**
	868nm,0.3s,baz=123,slow=20,SNR=23						
JOW	**Kunigami**	**0.79**	**306**	*i* P	**Pb**	**11 45 28.4**	**+0.7**
JOW	**Kunigami**	**0.79**	**306**	A	A	11 45 28.4	
	comp=E,8.0nm,0.7s,comp=N,5.0nm,1.2s						
JYRO	**Yoronjima**	**0.81**	**324**	*i* P	**Pb**	**11 45 28.7**	**+0.6**
JYRO				S	**Sb**	**11 45 39.5**	**+0.4**
JNTH	**Nagotoyohara**	**0.88**	**280**	*i* P	**Pb**	**11 45 29.6**	**+0.4**
JOKE	**Okinoerabujima**	**1.06**	**340**	*i* P	**Pb**	**11 45 32.7**	**+0.4**
JJT3	**Tamagusuku3**	**1.10**	**259**	P	**Pn**	**11 45 33.6**	**+0.2**
JJT3				S	**Sn**	**11 45 48.3**	**-0.5**
JIH	**Iheya**	**1.13**	**306**	*i* P	**Pn**	**11 45 33.7**	**-0.1**
JIH	**Iheya**	**1.13**	**306**	A	A	11 45 33.7	
	comp=E,4.0nm,2.0s,comp=N,4.0nm,3.4s						
JTK	**Tokunoshima**	**1.41**	**359**	P	**Pn**	**11 45 37.4**	**-0.3**
JTK				*e*S	**Sn**	**11 45 54.2**	**-2.3**
JTK	**Tokunoshima**	**1.41**	**359**	A	A	11 45 37.4	
	comp=E,2.0nm,1.8s,comp=N,2.0nm,4.4s						
JAGN	**Aguni-jima**	**1.58**	**278**	*i* P	**Pn**	**11 45 40.5**	**+0.5**
JAGN				*e*S	**Sn**	**11 45 59.4**	**-1.1**
JAGN	**Aguni-jima**	**1.58**	**278**	A	A	11 45 40.5	
	comp=E,5.0nm,1.6s,comp=N,5.0nm,2.5s						
JAMN	**Amaminishikomi**	**1.88**	**5**	P	**Pn**	**11 45 44.1**	**0.0**
JKE	**Kume jima 2**	**1.97**	**269**	P	**Pn**	**11 45 45.1**	**-0.3**
JKE				*e*S	**Sn**	**11 46 09.1**	**-1.3**
JMZ	**Minamidaito 2**	**2.08**	**105**	Pn	**Pn**	**11 45 47.2**	**+0.3**
JMZ	**Minamidaito 2**	**2.08**	**105**	*i* P	**Pn**	**11 45 47.0**	**0.0**
JMZ				S	**Sn**	**11 46 10.5**	**-2.6**
JAM	**Amami Oshima**	**2.11**	**15**	P	**Pn**	**11 45 47.2**	**-0.1**
JAM				*e*S	**Sn**	**11 46 12.0**	**-1.7**
JKDJ	**Kitadaitoujima**	**2.12**	**101**	*i* P	**Pn**	**11 45 47.7**	**+0.2**
JKDJ				*e*S	**Sn**	**11 46 12.9**	**-1.0**
JZK	**Kikaishima**	**2.13**	**24**	S	**Sn**	**11 46 14.1**	**-0.1**
JTAJ	**Takarajima**	**2.78**	**4**	P	**Pn**	**11 45 57.0**	**+0.4**
JTAJ				S	**Sn**	**11 46 28.4**	**-1.9**
JMJ	**Miyako jima 2**	**3.67**	**246**	P	**Pn**	**11 46 09.2**	**+0.4**
JYAK	**Yakushimahirau**	**4.08**	**19**	S	**Sn**	**11 46 59.8**	**-2.6**
YOJ	**Yonaguni jima**	**5.73**	**252**	P	**Pn**	**11 46 35.8**	**-1.2**
YOJ	**Yonaguni jima**	**5.73**	**252**		**Pn**	**11 46 34.8**	**-2.2**
TATO	**Taipei**	**6.91**	**260**	P	**Pn**	**11 46 55.2**	**+2.0**
JNU	**Nakatsue**	**6.93**	**13**	**P

MKAR S **S** **11 59 21.4 -0.2**
comp=Z,1.0nm,0.7s,baz=94,slow=19,SNR=7.6
comp=Z,0.2nm,0.3s
ZALV Zalesovo Beam 42.55 322 P **P** **11 53 06.2 -1.5**
ZALV Zalesovo Beam 42.55 322 P **P** **11 53 06.1 -1.6**
comp=Z,1.5nm,0.5s,baz=102,slow=9.1,SNR=5.7
comp=Z,1.5nm,0.5s
KURBB Kurchatov Arra 45.22 316 P **P** **11 53 28.3 -1.0**
comp=Z,0.5nm,0.4s,baz=105,slow=9.2,SNR=6.3
comp=Z,0.5nm,0.4s
WB0 Warramunga Arr 46.16 173 P **P** **11 53 38.0 +1.0**
WB0 IAmb IAmb 11 53 55.1
comp=Z,6.4nm,1.4s
WRA Warramunga Arr 46.33 173 P **P** **11 53 38.9 +0.6**
WRA Warramunga Arr 46.33 173 P **P** **11 53 39.0 +0.7**
comp=Z,0.9nm,0.5s,baz=354,slow=8.4,SNR=18
comp=Z,0.9nm,0.5s
WB2 Warramunga Arr 46.33 173 P **P** **11 53 39.1 +0.8**
WB2 IAmb IAmb 11 53 53.4
comp=Z,3.0nm,0.8s
WR0 Warramunga Arr 46.37 173 P **P** **11 53 39.8 +1.3**
WR0 IAmb IAmb 11 53 60.0
comp=Z,7.6nm,1.4s
ASAR Alice Springs 49.97 174 P **P** **11 54 07.7 +1.3**
comp=Z,0.4nm,0.5s,baz=359,slow=8.5,SNR=11
comp=Z,0.4nm,0.5s
BVAR Borovoye Array 50.62 318 P **P** **11 54 10.9 -0.1**
comp=Z,0.4nm,0.3s,baz=91,slow=10,SNR=4.3
BVAR LR LR 12 17 13.2
comp=Z,54nm,18.3s,baz=39,slow=38
comp=Z,0.4nm,0.3s
ABKAR Akbulak array 57.05 313 P **P** **11 54 58.5 +0.3**
J17K VABM Dome 58.69 30 P **P** **11 55 11.2 +1.7**
G18K Tagagawik 59.04 27 P **P** **11 55 13.1 +1.3**
G18K IAmb IAmb 11 55 23.2
comp=Z,5.7nm,1.5s
E19K Redstone River 59.72 25 P **P** **11 55 18.0 +1.5**
E19K IAmb IAmb 11 55 38.2
comp=Z,2.9nm,0.9s
J19K Poorman 60.25 29 P **P** **11 55 21.1 +0.8**
J19K IAmb IAmb 11 55 25.0
comp=Z,3.8nm,1.2s
J20K Nowinta River 60.90 29 P **P** **11 55 25.9 +1.3**
K20K Telida 60.94 30 P **P** **11 55 25.8 +0.8**
K20K IAmb IAmb 11 55 36.6
comp=Z,4.2nm,1.1s
E21K Killik River 61.00 24 P **P** **11 55 25.7 +0.4**
IMAR Indian Mountai 61.05 27 P **P** **11 55 27.2 +1.5**
E22K Anaktuvuk Pass 61.80 25 P **P** **11 55 32.4 +1.6**
KDAK Kodiak Island 62.01 36 P **P** **11 55 30.7 -1.5**
F24K Squaw Lake 63.32 25 P **P** **11 55 41.9 +1.0**
MDM Murphy Dome 63.41 28 P **P** **11 55 42.7 +1.2**
MDM IAmb IAmb 11 56 02.6
comp=Z,2.0nm,0.7s
ILAR Eielson Array 63.99 28 P **P** **11 55 46.3 +0.9**
comp=Z,0.3nm,0.7s,baz=267,slow=7.9,SNR=4.5
comp=Z,0.3nm,0.7s
SCRK Sand Creek 65.36 29 P **P** **11 55 54.4 0.0**
SCRK IAmb IAmb 11 56 09.5
comp=Z,2.6nm,1.2s
I28M Miner Creek 66.78 27 P **P** **11 56 04.6 +1.1**
I28M IAmb IAmb 11 56 45.4
comp=Z,2.6nm,1.2s
L29M L29M 68.11 29 P **P** **11 56 12.4 +0.5**
L29M IAmb IAmb 11 56 33.8
comp=Z,4.6nm,1.4s
I30M Mount Dempster 68.28 27 P **P** **11 56 14.1 +1.1**
KBZ Khabaz 69.59 309 P **P** **11 56 22.2 +0.8**
comp=Z,1.4nm,0.7s,baz=34,slow=3.6,SNR=3.7
comp=Z,1.4nm,0.7s
FARO Faro, Yukon 70.47 30 P **P** **11 56 28.1 +1.6**
FINES FINESS Array B 73.08 331 P **P** **11 56 42.1 0.0**
comp=Z,1.3nm,0.5s,baz=77,slow=8.4,SNR=10.0
comp=Z,1.3nm,0.5s
AKASG Malin Array Be 75.87 320 LR LR 12 32 56.7
comp=Z,46nm,20.0s,baz=50,slow=38
BRTR Keskin Array B 77.48 308 P **P** **11 57 07.8 -0.4**
BRTR Keskin Array B 77.48 308 P **P** **11 57 07.4 -0.7**
comp=Z,1.5nm,0.8s,baz=92,slow=5.7,SNR=8.2
comp=Z,1.5nm,0.8s
NOA NORSAR Array B 79.49 334 P **P** **11 57 17.9 -0.7**
comp=Z,0.8nm,0.7s,baz=51,slow=5.5,SNR=2.7
comp=Z,0.8nm,0.7s
NC204 NORSAR Array S 79.52 334 P **P** **11 57 18.7 -0.2**
CLL Collm 84.42 325 *i* P **P** **11 57 45.9 +1.2**

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*ISN **28** 12:02:07.0±0.6, 34.°67N×46.°37E, h19km±4km, ML3.2*
*TEH **28** 12:02:07.4, 34.°62N×46.°30E, h8km±35km, ML2.9*
ISC 28 12:02:07.3±1.2, 34.°65N±0.°04×46.°31E±0.°04, h8km±10km, n14, σ0.°64/17, Western Iran

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.08**	**52**	Pg	**Pg**	**12 02 09.9**	**+0.3**
IGHG	**Ghaleghazi**	**0.38**	**146**	Pg	**Pg**	**12 02 15.2**	**+0.3**
ILIN	**Lien**	**0.60**	**63**	Pg	**Pb**	**12 02 19.2**	**-1.0**
KGS1	**Ghasr-e-Shirin**	**0.61**	**257**	Pg	**Pg**	**12 02 18.9**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.63**	**212**	Pg	**Pg**	**12 02 19.2**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.71**	**122**	Pg	**Pg**	**12 02 20.5**	**-0.5**
ILBA	**Ilam Banvizeh**	**1.03**	**185**	Pg	**Pb**	**12 02 26.7**	**-0.6**
SNQR	**Sonqor, Kerman**	**1.10**	**79**	Pg	**Pn**	**12 02 29.3**	**0.0**
IBZA	**Bozab**	**1.29**	**98**	Pg	**Pg**	**12 02 32.4**	**+0.3**
IBDR	**Badra**	**1.57**	**192**	*e*Pg	**Pb**	**12 02 36.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**12 02 56.5**	**0.0**
IBDR				AML	AML	12 03 09.6	
	comp=E,214nm,0.6s						
IBDR				AML	AML	12 03 17.0	
	comp=N,155nm,0.4s						
IKFM	**Kafar-mosalman**	**1.70**	**131**	Pg	**Pg**	**12 02 39.3**	**-0.5**
IKRK	**Kirkuk**	**1.78**	**295**	*e*Pn	**Pb**	**12 02 39.0**	**-1.2**
IKRK				Sn	**Sb**	**12 03 03.0**	**+0.3**
IKRK				AML	AML	12 03 09.5	
	comp=N,628nm,0.3s						
IKRK				AML	AML	12 03 11.2	
	comp=E,608nm,0.5s						
MAHB	**Mahabad**	**2.17**	**347**	Pn	**Pb**	**12 02 47.0**	**+0.1**
RAFI	**Al-Rafai**	**2.92**	**183**	*e*Pn	**Pn**	**12 02 55.0**	**+1.0**
RAFI				Sn	**Sn**	**12 03 30.0**	**+0.7**

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*IDC **28** 12:06:23.1±1.4, 6.°23N×126.°87E, h205km±11km, mb3.4/13, mbtmp3.9/13, Error ellipse: s-maj=36.8km s-min=13.7km az=71.0*
*DJA **28** 12:06:24.7±1.1, 6.°N±9.°×12.°7E±.°, h216km±12km, M4.2/11, mB5.4/1, mb4.0/11, MLv4.2/10, Mw(mB)4.8/1*
ISC 28 12:06:22.0±0.7, 6.°18N±0.°09×126.°9E±0.°1, h200km, n23, σ1.°08/24, mb3.7/13, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.62**	**303**	P	**Pn**	**12 06 55.7**	**-1.0**
	132nm,0.4s,baz=117,slow=6.5,SNR=1.5						
DAV				S	**Sn**	**12 07 24.7**	**+0.9**
	159nm,0.4s,baz=75,slow=17,SNR=1.7						
TNTI	**Ternate**	**5.38**	**175**	P	**Pn**	**12 07 41.8**	**+0.4**
	33nm,0.7s,0.1nm						
KMSI	**Cibinong**	**6.30**	**208**	P	**Pn**	**12 07 52.3**	**-0.8**
GTOI	**Gorontalo**	**6.76**	**216**	P	**Pn**	**12 07 59.2**	**+0.1**
	12nm,0.7s,0.0nm						
SWI	**Sorong**	**8.22**	**148**	P	**Pn**	**12 08 17.1**	**-1.0**
	17nm,1.3s,0.1nm						
SANI	**Sanana**	**8.22**	**187**	P	**Pn**	**12 08 16.2**	**-2.0**
	25nm,0.7s,0.1nm						
LUWI	**Luwuk**	**8.29**	**210**	P	**Pn**	**12 08 18.7**	**-0.3**
	40nm,1.1s,4μm						
MPSI	**Mapaga**	**9.11**	**231**	P	**Pn**	**12 08 30.6**	**+0.9**
NLAI	**Namlea**	**9.35**	**179**	P	**Pn**	**12 08 33.2**	**+0.3**
	19nm,1.1s						
WRA	**Warramunga Arr**	**26.96**	**164**	P	**P**	**12 11 47.7**	**+2.5**
	0.1nm,0.3s,baz=341,slow=12,SNR=6.2						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**30.43**	**167**	P	**P**	**12 12 16.9**	**+1.0**
	0.1nm,0.4s,baz=341,slow=7.2,SNR=4.8						
	0.1nm,0.4s						
KSRS	**Korea Array**	**31.15**	**2**	P	**P**	**12 12 22.6**	**+0.7**
	0.9nm,0.5s,baz=182,slow=10,SNR=6.2						
	0.9nm,0.5s						
USRK	**Ussuriysk Ar.**	**38.13**	**6**	P	**P**	**12 13 22.2**	**+0.5**
	1.2nm,0.6s,baz=191,slow=5.9,SNR=2.7						
	1.2nm,0.6s						
SONM	**Songino Array**	**45.07**	**340**	P	**P**	**12 14 19.0**	**+0.8**
	0.3nm,0.3s,baz=168,slow=7.4,SNR=2.1						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**55.69**	**324**	P	**P**	**12 15 38.1**	**+0.5**
	1.9nm,0.5s,baz=117,slow=7.7,SNR=32						
	1.9nm,0.5s						
ZALV	**Zalesovo Beam**	**58.52**	**332**	P	**P**	**12 15 56.6**	**-0.6**
	0.9nm,0.4s,baz=99,slow=9.2,SNR=3.8						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**59.81**	**327**	P	**P**	**12 16 06.5**	**+0.4**
	2.6nm,0.6s,baz=124,slow=6.5,SNR=20						
	2.6nm,0.6s						
BVAR	**Borovoye Array**	**65.40**	**326**	P	**P**	**12 16 43.6**	**+0.5**
	1.8nm,0.5s,baz=125,slow=7.2,SNR=11						
	1.8nm,0.5s						
ILAR	**Eielson Array**	**82.82**	**26**	P	**P**	**12 18 23.0**	**-0.6**
	0.2nm,0.6s,baz=243,slow=6.0,SNR=3.0						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**88.24**	**340**	P	**P**	**12 18 49.0**	**-1.2**
	2.7nm,1.0s,baz=72,slow=6.0,SNR=2.1						
	2.7nm,1.0s						
FINES	**FINESS Array B**	**89.79**	**332**	P	**P**	**12 18 57.2**	**-0.3**
	1.9nm,0.9s,baz=23,slow=4.5,SNR=3.6						
	1.9nm,0.9s						
AKASG	**Malin Array Be**	**90.14**	**321**	P	**P**	**12 18 58.5**	**-1.0**
	0.2nm,0.3s,baz=64,slow=2.2,SNR=6.7						
	0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**122.33**	**290**	PKP	**PKPdf**	**12 24 52.5**	**-1.7**
	0.1nm,0.4s,baz=349,slow=0.7,SNR=1.9						

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*IDC **28** 12:22:23.6±1.1, 54.°97N×160.°22W, h0km, mb3.8/17, mbtmp3.7/21, ML3.4/4, Error ellipse: s-maj=26.5km s-min=14.3km az=166.0*
*NEIC **28** 12:22:27.2±2.0, 54.°66N±0.°05×159.°69W±0.°07, h23km±9km, mb3.9/10, ML3.7/28, ML3.6(AEIC), Error ellipse: s-maj=7.9km s-min=4.9km az=205.0*
*AEIC **28** 12:22:28.6±2.1, 54.°74N±0.°04×159.°82W±0.°06, h8km±5km, Error ellipse: s-maj=5.9km s-min=5.1km az=203.0*
ISC 28 12:22:27.1±0.8, 54.°75N±0.°06×159.°65W±0.°04, h32km±5km, n209, σ1.°92/206, mb3.9/17, South of Alaska

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.08**	**24**		**Pb**	**12 22 32.3**	**-0.3**
CNBA				IAML		12 22 36.9	
	comp=N,7μm,0.7s						
CNBA				Sg	**Sb**	**12 22 37.0**	**+0.5**
CNBA				IAML		12 22 37.5	
	comp=E,9μm,0.5s						
CHNA	**Chernabura Isl**	**0.09**	**21**	P	**Pb**	**12 22 32.3**	**-0.3**
	baz=234						
CHNA				S	**Sb**	**12 22 36.6**	**+0.1**
	baz=234						
SDPT	**Sand Point**	**0.77**	**322**		**Pn**	**12 22 41.6**	**-0.1**
SDPT					**Sb**	**12 22 52.6**	**+0.4**
SDPT	**Sand Point**	**0.77**	**322**	IAML		12 22 53.0	
	comp=N,3μm,0.6s						
SDPT				IAML		12 22 53.4	
	comp=E,3μm,0.6s						
SDPT	**Sand Point**	**0.77**	**322**	P	**Pn**	**12 22 41.6**	**-0.1**
	baz=148						
SDPT				S	**Sb**	**12 22 52.7**	**+0.4**
	baz=148						
PS1A	**Pavlof South-1**	**1.38**	**300**		**Pn**	**12 22 50.7**	**+0.6**
PS1A					**Sn**	**12 23 09.0**	**+1.8**
PVV	**Pavlof Volcano**	**1.39**	**298**		**Pn**	**12 22 50.5**	**+0.4**
PVV					**Sn**	**12 23 08.3**	**+1.0**
PS4A	**Pavlof South-4**	**1.41**	**296**		**Pn**	**12 22 50.8**	**+0.4**
PS4A					**Sb**	**12 23 09.9**	**-0.4**
HAG	**Hague Volcano**	**1.42**	**295**		**Pn**	**12 22 51.3**	**+0.7**
PN7A	**Pavlof North-7**	**1.52**	**298**		**Pn**	**12 22 53.1**	**+1.1**
S14K	**Fog Glacier**	**1.54**	**2**	P	**Pb**	**12 22 55.0**	**-0.1**
	baz=186						
VNFG	**Fog Glacier, M**	**1.54**	**2**		**Pb**	**12 22 55.0**	**-0.1**
S12K	**Black Hills**	**1.68**	**306**		**Pn**	**12 22 55.7**	**+1.5**
S12K	**Black Hills**	**1.68**	**306**	P	**Pn**	**12 22 55.7**	**+1.5**
	baz=126						
CHGN	**Chignik**	**1.71**	**24**		**Pb**	**12 22 56.6**	**-1.2**
CHGN				IAML		12 23 27.0	
	comp=N,593nm,0.8s						
CHGN	**Chignik**	**1.71**	**24**	P	**Pb**	**12 22 57.1**	**-0.7**
	baz=208						
FALS	**False Pass**	**2.19**	**274**	P	**Pn**	**12 23 02.3**	**+1.2**
FALS	**False Pass**	**2.19**	**274**		**Pn**	**12 23 01.7**	**+0.5**
FALS					**Sn**	**12 23 29.7**	**+2.7**
FALS	**False Pass**	**2.19**	**274**	P	**Pn**	**12 23 01.7**	**+0.5**
	baz=92						
FALS				S	**Sn**	**12 23 29.7**	**+2.7**
	baz=92						
ISLZ	**Isanotski Laza**	**2.36**	**271**		**Pn**	**12 23 03.9**	**+0.4**
ISNN	**Isanotski Nort**	**2.39**	**274**		**Pn**	**12 23 05.3**	**+1.2**
SSLN	**Shishaldin Nor**	**2.52**	**273**		**Pn**	**12 23 07.3**	**+1.5**
SSLS	**Shishaldin Sou**	**2.52**	**271**		**Pn**	**12 23 07.2**	**+1.4**
CHIR	**Chirikof Islan**	**2.54**	**63**		**Pn**	**12 23 06.9**	**+0.8**
CHIR				IAML		12 23 53.5	
	comp=E,223nm,1.0s						
CHIR				IAML		12 23 55.2	
	comp=N,265nm,1.3s						
WESE	**West Dahl East**	**2.89**	**267**		**Pn**	**12 23 11.9**	**+1.0**
WEBT	**Westdahl Beart**	**2.97**	**269**		**Pn**	**12 23 12.8**	**+0.9**
R17L	**Mt. Peulik Vol**	**3.43**	**31**	P	**Pn**	**12 23 21.2**	**+2.9**
	baz=215						
PLK4	**Peulik 4**	**3.43**	**31**		**Pn**	**12 23 21.2**	**+2.9**
PLK4	**Peulik 4**	**3.43**	**31**	IAML		12 24 10.4	
	comp=N,214nm,0.9s						
PLK1	**Peulik 1**	**3.50**	**28**		**Pn**	**12 23 21.8**	**+2.6**
SII	**Sitkinak Islan**	**3.59**	**57**	P	**Pn**	**12 23 24.3**	**+3.8**
SII	**Sitkinak Islan**	**3.59**	**57**		**Pn**	**12 23 22.7**	**+2.3**
SII				IAML		12 24 43.2	
	comp=N,185nm,1.1s						
ZRO	**Akutan Zero**	**3.76**	**263**		**Pn**	**12 23 23.7**	**+0.9**
Q17K	**Contact Creek**	**4.10**	**29**	P	**Pn**	**12 23 29.7**	**+2.3**
	baz=213						
CNTC	**Contact Creek**	**4.10**	**29**		**Pn**	**12 23 29.8**	**+2.2**
UNV	**Unalaska Valle**	**4.12**	**260**	P	**Pn**	**12 23 27.7**	**0.0**
UNV	**Unalaska Valle**	**4.12**	**260**		**Pn**	**12 23 27.6**	**-0.1**
UNV	**Unalaska Valle**	**4.12**	**260**	P	**Pn**	**12 23 27.6**	**-0.1**
	baz=74						
ANCK	**Angle Creek**	**4.16**	**32**		**Pn**	**12 23 30.7**	**+2.4**
ACHA	**Angle Creek He**	**4.22**	**33**		**Pn**	**12 23 31.6**	**+2.5**
MSW	**Makushin Switc**	**4.26**	**262**		**Pn**	**12 23 29.6**	**0.0**
MREP	**Makushin Rep't**	**4.26**	**260**		**Pn**	**12 23 30.1**	**+0.3**
OHAK	**Old Harbor**	**4.35**	**53**	P	**Pn**	**12 23 31.8**	**+1.0**
OHAK	**Old Harbor**	**4.35**	**53**	Pn	**Pn**	**12 23 32.3**	**+1.5**
OHAK				IAML		12 24 55.4	
	comp=N,42nm,1.0s						
O15K	**Ungalikthiuk R**	**4.44**	**359**		**Pn**	**12 23 34.6**	**+2.4**
O15K	**Ungalikthiuk R**	**4.44**	**359**	P	**Pn**	**12 23 34.6**	**+2.4**
	baz=180						
O14K	**Tigyukauivet M**	**4.61**	**350**		**Pn**	**12 23 36.3**	**+1.9**
O14K				IAML		12 25 09.6	
	comp=N,64nm,1.0s						
O14K				IAML		12 25 11.7	
	comp=E,57nm,1.0s						
O14K	**Tigyukauivet M**	**4.61**	**350**	P	**Pn**	**12 23 36.6**	**+2.2**
	baz=170						
KAHC	**Katmai Hardscr**	**4.67**	**31**		**Pn**	**12 23 37.7**	**+2.3**
Q18K	**Katmai Hardscr**	**4.67**	**31**	P	**Pn**	**12 23 37.7**	**+2.3**
	baz=216						
P17K	**Kvichak River**	**4.79**	**20**		**Pn**	**12 23 39.5**	**+2.6**
P17K	**Kvichak River**	**4.79**	**20**	P	**Pn**	**12 23 39.5**	**+2.6**
	baz=204						
O16K	**Kokwok River B**	**4.94**	**9**		**Pn**	**12 23 40.5**	**+1.6**
KDAK	**Kodiak Island**	**4.98**	**49**		**Pn**	**12 23 40.1**	**+0.7**
KDAK				IAML		12 25 06.7	
	comp=E,37nm,0.7s						
KDAK				IAML		12 25 09.2	
	comp=E,45nm,0.8s						
KDAK	**Kodiak Island**	**4.98**	**49**	Pn	**Pn**	**12 23 40.2**	**+0.7**
	comp=E,0.9nm,0.3s,baz=241,slow=7.7,SNR=16						
KDAK				Sn	**Sn**	**12 24 36.1**	**+0.3**
	comp=E,0.8nm,0.3s,baz=270,slow=20,SNR=1.4						
KDAK				Lg	Lg	12 25 02.9	
	comp=E,1.1nm,0.3s,baz=180,slow=20,SNR=3.1						
KDAK				LR	LR	12 25 59.1	
	comp=E,196nm,18.5s,baz=240,slow=42						
	comp=E,2.8nm,0.3s						
OKTU	**Okmok Mt. Tuli**	**5.13**	**258**		**Pn**	**12 23 42.1**	**+0.4**
O17K	**Koliganek Bris**	**5.23**	**14**		**Pn**	**12 23 45.1**	**+2.2**
O17K	**Koliganek Bris**	**5.23**	**14**	P	**Pn**	**12 23 45.1**	**+2.2**
	baz=197						
P18K	**Big Mountain,**	**5.25**	**26**	Pn	**Pn**	**12 23 47.6**	**+4.5**
N14K	**Kuskokwak Cree**	**5.31**	**349**		**Pn**	**12 23 45.7**	**+1.7**
N14K	**Kuskokwak Cree**	**5.31**	**349**	P	**Pn**	**12 23 45.7**	**+1.7**
	baz=168						
Q19K	**Cape Douglas,**	**5.33**	**36**		**Pn**	**12 23 47.0**	**+2.6**
N15K	**Kwethluk River**	**5.44**	**358**		**Pn**	**12 23 48.5**	**+2.6**
N15K	**Kwethluk River**	**5.44**	**358**	P	**Pn**	**12 23 48.2**	**+2.3**
	baz=178						
SYI	**Shuyak Island**	**5.57**	**43**		Pn	12 23 53.4	+5.9
O18K	**Koktuh Hills**	**5.66**	**23**		**Pn**	**12 23 52.0**	**+3.2**
NIKH	**Nikolski High**	**5.73**	**256**	P	**Pn**	**12 23 50.5**	**+0.7**
N16K	**Nishlik Lake**	**5.76**	**4**		**Pn**	**12 23 52.8**	**+2.5**
N16K	**Nishlik Lake**	**5.76**	**4**	P	**Pn**	**12 23 52.8**	**+2.5**
	baz=186						
N17K	**Nushagak Hills**	**5.95**	**12**		**Pn**	**12 23 55.9**	**+3.1**
N17K	**Nushagak Hills**	**5.95**	**12**	P	**Pn**	**12 23 56.1**	**+3.3**
	baz=195						
M15K	**Kasigluk River**	**5.99**	**355**		**Pn**	**12 23 55.5**	**+2.1**
M15K	**Kasigluk River**	**5.99**	**355**	P	**Pn**	**12 23 55.5**	**+2.1**
	baz=175						
M13K	**Dall Lake**	**6.02**	**342**	Pn	**Pn**	**12 23 56.5**	**+2.7**
M13K	**Dall Lake**	**6.02**	**342**	P	**Pn**	**12 23 56.0**	**+2.2**
	baz=160						
M14K	**Bethel**	**6.15**	**349**	Pn	**Pn**	**12 23 57.2**	**+1.7**
M14K	**Bethel**	**6.15**	**349**	P	**Pn**	**12 23 57.1**	**+1.7**
	baz=168						
N18K	**Kilae Creek**	**6.28**	**17**		**Pn**	**12 24 00.5**	**+3.1**
N18K	**Kilae Creek**	**6.28**	**17**	P	**Pn**	**12 24 00.5**	**+3.1**
	baz=201						
M16K	**Timber Creek**	**6.31**	**3**	Pn	**Pn**	**12 24 00.6**	**+2.8**
M16K	**Timber Creek**	**6.31**	**3**	P	**Pn**	**12 24 00.5**	**+2.8**
	baz=184						
SPIA	**Saint Paul Isl**	**6.43**	**297**	P	**Pn**	**12 24 00.9**	**+1.5**
CNPM	**China Poot**	**6.62**	**40**	Pn	**Pn**	**12 24 05.2**	**+3.1**
N19K	**Bonanza Creek**	**6.68**	**22**	Pn	**Pn**	**12 24 06.8**	**+3.8**
N19K	**Bonanza Creek**	**6.68**	**22**	P	**Pn**	**12 24 05.3**	**+2.4**
	baz=207						
M17K	**Holitna River**	**6.78**	**9**	Pn	**Pn**	**12 24 06.4**	**+2.2**
M17K	**Holitna River**	**6.78**	**9**	P	**Pn**	**12 24 06.2**	**+2.0**
	baz=192						
L14K	**Kuka Creek**	**6.81**	**348**		**Pn**	**12 24 06.1**	**+1.5**
L14K	**Kuka Creek**	**6.81**	**348**	P	**Pn**	**12 24 06.1**	**+1.5**
	baz=166						
RSO	**Redoubt South**	**6.82**	**30**		**Pn**	**12 24 09.0**	**+4.0**
L16K	**Owhat River**	**6.99**	**1**		**Pn**	**12 24 08.8**	**+1.8**
L16K	**Owhat River**	**6.99**	**1**	P	**Pn**	**12 24 08.8**	**+1.8**
	baz=182						
L15K	**Ungalak Mounta**	**7.02**	**353**		**Pn**	**12 24 08.6**	**+1.1**
L15K	**Ungalak Mounta**	**7.02**	**353**	P	**Pn**	**12 24 08.6**	**+1.1**
	baz=172						
M18K	**Stony River**	**7.06**	**15**		**Pn**	**12 24 10.7**	**+2.6**
M18K	**Stony River**	**7.06**	**15**	P	**Pn**	**12 24 10.7**	**+2.6**
	baz=199						
L17K	**Donlin**	**7.45**	**5**		**Pn**	**12 24 15.0**	**+1.7**
L17K	**Donlin**	**7.45**	**5**	P	**Pn**	**12 24 15.0**	**+1.7**
	baz=187						
K15K	**Wolf Creek Mou**	**7.63**	**353**	Pn	**Pn**	**12 24 18.5**	**+2.6**
L18K	**Granite Mounta**	**7.65**	**10**		**Pn**	**12 24 18.1**	**+1.9**
L18K	**Granite Mounta**	**7.65**	**10**	P	**Pn**	**12 24 18.9**	**+2.8**
	baz=194						
K13K	**Kusilvak Mount**	**7.67**	**342**		**Pn**	**12 24 18.2**	**+1.8**
K13K	**Kusilvak Mount**	**7.67**	**342**	P	**Pn**	**12 24 18.2**	**+1.8**
	baz=158						
M19K	**Big River Lodg**	**7.69**	**19**		**Pn**	**12 24 19.4**	**+2.6**
L19K	**White Mountain**	**7.87**	**17**		**Pn**	**12 24 22.3**	**+3.2**
L19K	**White Mountain**	**7.87**	**17**	P	**Pn**	**12 24 22.3**	**+3.2**
	baz=201						
M20K	**Styx River**	**7.93**	**23**		**Pn**	**12 24 23.3**	**+3.2**
M20K	**Styx River**	**7.93**	**23**	P	**Pn**	**12 24 23.3**	**+3.2**
	baz=209						
K17K	**Iditarod**	**8.03**	**4**		**Pn**	**12 24 23.3**	**+2.0**
K17K	**Iditarod**	**8.03**	**4**	P	**Pn**	**12 24 23.6**	**+2.3**
	baz=186						
SUA	**Susitna One**	**8.21**	**31**	Pn	**Pn**	**12 24 24.3**	**+0.3**
SUA	**Susitna One**	**8.21**	**31**	P	**Pn**	**12 24 26.6**	**+2.6**
	baz=219						
J14K	**Nanvaranak Lak**	**8.28**	**347**	Pn	**Pn**	**12 24 26.1**	**+1.4**
J14K	**Nanvaranak Lak**	**8.28**	**347**	P	**Pn**	**12 24 26.5**	**+1.7**
	baz=165						
SKT	**Skwentna**	**8.41**	**27**		**Pn**	**12 24 30.7**	**+4.1**
J16K	**Anvik River**	**8.58**	**357**		**Pn**	**12 24 31.0**	**+2.1**
J16K	**Anvik River**	**8.58**	**357**	P	**Pn**	**12 24 31.0**	**+2.1**
	baz=177						
PWL	**Port Wells**	**8.60**	**40**	Pn	**Pn**	**12 24 30.3**	**+1.1**
PWL	**Port Wells**	**8.60**	**40**	P	**Pn**	**12 24 30.6**	**+1.5**
	baz=230						
J17K	**VABM Dome**	**8.68**	**2**		**Pn**	**12 24 31.8**	**+1.5**
J17K	**VABM Dome**	**8.68**	**2**	P	**Pn**	**12 24 31.6**	**+1.3**
	baz=183						
PMR	**Palmer**	**8.82**	**35**	Pn	**Pn**	**12 24 33.8**	**+1.6**
J18K	**Innoko River**	**8.88**	**9**		**Pn**	**12 24 35.4**	**+2.5**
J18K	**Innoko River**	**8.88**	**9**	P	**Pn**	**12 24 35.4**	**+2.5**
	baz=192						
ATKA	**Atka Island**	**9.04**	**260**	P	**Pn**	**12 24 35.5**	**+0.3**
ATKA	**Atka Island**	**9.04**	**260**		**Pn**	**12 24 35.5**	**+0.3**
HIN	**Hinchinbrook I**	**9.04**	**46**	Pn	**Pn**	**12 24 36.4**	**+1.1**
K20K	**Telida**	**9.10**	**16**		**Pn**	**12 24 38.5**	**+2.5**
I17K	**Unalakleet**	**9.19**	**357**	Pn	**Pn**	**12 24 38.0**	**+0.8**
FID	**Port Fidalgo**	**9.25**	**44**		**Pn**	**12 24 37.9**	**-0.2**
J19K	**Poorman**	**9.50**	**11**		**Pn**	**12 24 43.4**	**+1.9**
J19K	**Poorman**	**9.50**	**11**	P	**Pn**	**12 24 43.7**	**+2.2**
	baz=195						
KAIM	**Kayak Island**	**9.72**	**52**	Pn	**Pn**	**12 24 46.2**	**+1.7**
KAIM	**Kayak Island**	**9.72**	**52**	P	**Pn**	**12 24 46.3**	**+1.7**
	baz=245						
RAGM	**Ragged Mountai**	**9.82**	**49**	Pn	**Pn**	**12 24 46.3**	**+0.4**
J20K	**Nowinta River**	**9.86**	**14**		**Pn**	**12 24 50.9**	**+4.5**
GSMY	**Great Sitkin M**	**10.17**	**261**		**Pn**	**12

INK	**Inuvik**	**18.21 32**	P	**P**	**12 26 36.3**	**-0.7**
INK	**Inuvik**	**18.21 32**	P	**P**	**12 26 35.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=212,slow=11,SNR=7.7 comp=Z,2.2nm,0.6s					
YKA	**Yellowknife Ar**	**24.24 53**	P	**P**	**12 27 42.4**	**+1.8**
	comp=Z,0.4nm,0.8s,baz=284,slow=11,SNR=3.8 comp=Z,0.4nm,0.8s					
NVAR	**Mina Array Bea**	**32.20 103**	P	P	12 28 58.4	+6.2
	comp=Z,0.1nm,0.4s,baz=329,slow=9.7,SNR=2.6 comp=Z,0.1nm,0.4s					
H11N2	**WAKE ISLAND Hy**	**43.19 229**	T	T	13 16 17.8	
	baz=28,slow=76,SNR=39					
H11N3	**WAKE ISLAND Hy**	**43.19 229**	T	T	13 16 16.7	
	baz=28,slow=76,SNR=30					
H11N1	**WAKE ISLAND Hy**	**43.21 229**	T	T	13 16 20.3	
	baz=28,slow=76,SNR=10					
H11S1	**WAKE ISLAND Hy**	**44.35 229**	T	T	13 17 44.9	
	baz=27,slow=76,SNR=8.3					
H11S2	**WAKE ISLAND Hy**	**44.37 229**	T	T	13 17 49.7	
	baz=27,slow=76,SNR=6.9					
H11S3	**WAKE ISLAND Hy**	**44.37 229**	T	T	13 17 57.0	
	baz=27,slow=76,SNR=6.0					
MJAR	**Matsushiro Arr**	**45.48 273**	P	**P**	**12 30 41.4**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=12,slow=6.2,SNR=2.4 comp=Z,0.9nm,0.6s					
NRIK	**Noril'sk**	**47.00 333**	P	**P**	**12 30 53.0**	**-1.5**
	comp=Z,2.3nm,0.5s,baz=184,slow=4.2,SNR=2.5 comp=Z,2.3nm,0.5s					
TXAR	**Lajitas Array**	**47.13 99**	P	**P**	**12 30 59.2**	**+3.0**
	comp=Z,0.2nm,0.7s,baz=306,slow=4.5,SNR=3.5 comp=Z,0.2nm,0.7s					
KSRS	**Korea Array**	**50.75 282**	P	**P**	**12 31 21.4**	**-2.3**
	comp=Z,1.3nm,0.8s,baz=42,slow=5.6,SNR=5.4 comp=Z,1.3nm,0.8s					
SONM	**Songino Array**	**54.89 305**	P	**P**	**12 31 53.0**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=54,slow=7.4,SNR=5.2 comp=Z,1.0nm,0.7s					
ARCES	**ARCESS Array B**	**55.97 358**	P	**P**	**12 32 01.6**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=0.0,slow=8.5,SNR=4.2 comp=Z,0.7nm,0.6s					
FINES	**FINESS Array B**	**64.07 357**	P	**P**	**12 32 56.7**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=2.9,slow=5.6,SNR=3.9 comp=Z,1.6nm,0.8s					
KURBB	**Kurchatov Arra**	**64.32 323**	P	**P**	**12 32 58.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=33,slow=6.0,SNR=4.2 comp=Z,0.4nm,0.3s					
NB2	**NORSAR Subarra**	**64.33 5**	P	**P**	**12 32 59.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=355,slow=6.9					
NOA	**NORSAR Array B**	**64.33 5**	P	**P**	**12 32 59.0**	**0.0**
	comp=Z,0.5nm,0.6s,baz=343,slow=6.9,SNR=3.9 comp=Z,0.5nm,0.6s					
BVAR	**Borovoye Array**	**64.89 329**	P	**P**	**12 33 01.7**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=47,slow=8.7,SNR=4.4 comp=Z,0.7nm,0.6s					
HFS	**Hagfors**	**65.35 4**	P	**P**	**12 33 05.7**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=35,slow=6.2,SNR=7.7 comp=Z,1.2nm,0.5s					
MKAR	**Makanchi Array**	**66.13 318**	P	**P**	**12 33 09.8**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=61,slow=3.5,SNR=4.5 comp=Z,0.3nm,0.5s					
EKA	**Eskdalemuir Ar**	**68.60 14**	P	**P**	**12 33 27.2**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=353,slow=5.2,SNR=1.4 comp=Z,1.4nm,0.7s					
AKASG	**Malin Array Be**	**74.66 354**	P	**P**	**12 34 02.9**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=10,slow=5.8,SNR=3.4 comp=Z,0.9nm,0.4s					
ESDC	**Sonseca Array**	**83.67 19**	P	**P**	**12 34 53.5**	**+1.2**
	comp=Z,1.4nm,1.0s,baz=344,slow=4.9,SNR=7.4 comp=Z,1.4nm,1.0s					
H03N2	**Juan Fernandez**	**111.63 117**	T	T	14 42 13.9	
	baz=318					
H03N1	**Juan Fernandez**	**111.64 117**	T	T	14 42 07.5	
	baz=318					
H03N3	**Juan Fernandez**	**111.65 117**	T	T	14 42 20.3	
	baz=318					

*IDC **28** 12:23:15.6±0.4,6˚.66S×155˚.11E,h0km,mb4.5/21, mbtmp4.4/23,ML3.6/2,MS3.7/10,Error ellipse: s-maj=19.5km s-min=13.2km az=93.0*
*BJI **28** 12:23:20.0±0.0,6˚.89S×154˚.91E,h29km,mb4.8/35, mB5.0/7,Ms5.0/3,Ms7 4.5/3*
*NEIC **28** 12:23:22.4±1.3,6˚.71S±0˚.09×155˚.12E±0˚.08,h35km±2km, mb4.8/78,Error ellipse: s-maj=16.0km s-min=11.9km az=214.0*
*DJA **28** 12:23:28.9±0.7,7˚S±5˚×15˚5E±˚,h73km±8km,M4.7/12, mB4.7/2,mb4.7/12,MLv4.8/2,Mw(mB)4.0/2*

ISC 28 12:23:20.5±0.4,6.75S±0.05×155.25E±0.06,h29km±2km, h29km:pP-P,n478,σ1§01/470,mb4.8/71,MS3.9/7,2D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.99**	**309**		**Pn**	**12 24 23.6**	**+3.8**
HNR	**Honiara**	**5.36**	**120**	P	**Pb**	**12 24 51.4**	**-2.1**
HNR	**Honiara**	**5.36**	**120**		Pb	12 24 47.5	-6.0
HNR	**Honiara**	**5.36**	**120**	LR	LR	12 26 52.4	
	comp=Z,23μm,18.6s,baz=280,slow=39						
KAVG	**Kavieng**	**6.06**	**313**	P	Pb	12 24 58.2	-7.3
PMG	**Port Moresby**	**8.43**	**251**	P	**Pn**	**12 25 22.4**	**+1.5**
PMG	**Port Moresby**	**8.43**	**251**	P	**Pn**	**12 25 22.9**	**+2.0**
PMG	**Port Moresby**	**8.43**	**251**		**Pn**	**12 25 21.9**	**+1.0**
PMG	**Port Moresby**	**8.43**	**251**	LR	LR	12 28 25.3	
	comp=Z,635nm,21.3s,baz=53,slow=37						
COEN	**Coen**	**13.86**	**238**	P	**Pn**	**12 26 37.2**	**+2.0**
COEN	**Coen**	**13.86**	**238**	Pn	**Pn**	**12 26 34.8**	**-0.4**
TABU	**Tabubil**	**14.03**	**275**	P	**P**	**12 26 42.0**	**-3.1**
TV1H	**Townsville Har**	**14.91**	**213**	P	**Pn**	**12 26 49.9**	**+0.5**
MTSU	**Mount Surprise**	**15.54**	**222**	P	**Pn**	**12 26 59.5**	**+1.7**
CTA	**Charters Tower**	**15.87**	**213**	P	**Pn**	**12 27 03.2**	**+1.1**
CTA	**Charters Tower**	**15.87**	**213**	Pn	**Pn**	**12 27 02.8**	**+0.7**
	0.1nm,0.3s,baz=30,slow=14,SNR=22						
CTA				LR	LR	12 32 30.4	
	comp=Z,34nm,19.5s,baz=31,slow=35 2.5nm,1.0s						
CTAO	**Charters Tower**	**15.87**	**213**	P	**Pn**	**12 27 03.2**	**+1.1**
CTAO	**Charters Tower**	**15.87**	**213**	Pn	**Pn**	**12 27 03.2**	**+1.1**
RK1H	**Rockhampton Ha**	**17.16**	**195**	P	**P**	**12 27 21.4**	**+1.7**
DZM	**Mont Dzumac**	**18.67**	**146**	P	**Pn**	**12 27 39.4**	**+2.3**
DZM	**Mont Dzumac**	**18.67**	**146**	P	**Pn**	**12 27 39.0**	**+1.9**
	0.8nm,0.3s,baz=316,slow=12,SNR=11						
DZM				LR	LR	12 33 59.6	
	comp=Z,246nm,19.2s,baz=310,slow=34 8.3nm,0.7s						
EIDS	**Eidsvold**	**18.94**	**192**	P	**Pn**	**12 27 43.0**	**+2.9**
EIDS	**Eidsvold**	**18.94**	**192**	P	**Pn**	**12 27 40.4**	**+0.3**
GUMO	**Guam**	**22.69**	**333**	LR	LR	12 36 40.9	
	comp=Z,53nm,20.6s,baz=156,slow=36						
FAKI	**Fak Fak**	**23.23**	**278**	P	**P**	**12 28 22.9**	**-2.8**
FAKI				IAmb	IAmb	12 28 50.1	
	comp=Z,22nm,0.8s						
ARMA	**Armidale**	**23.79**	**188**	P	**P**	**12 28 31.7**	**+0.8**
WR0	**Warramunga Arr**	**24.01**	**235**	P	**P**	**12 28 32.8**	**-0.3**
WB0	**Warramunga Arr**	**24.03**	**235**	P	**P**	**12 28 32.5**	**-0.8**
WRAB	**Tennant Creek**	**24.15**	**235**	P	**P**	**12 28 33.7**	**-0.7**
WB2	**Warramunga Arr**	**24.15**	**235**	P	**P**	**12 28 33.6**	**-0.8**
WB2				IAmb	IAmb	12 28 36.8	
	comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**24.16**	**235**	P	**P**	**12 28 32.8**	**-1.7**
WRA	**Warramunga Arr**	**24.16**	**235**	P	**P**	**12 28 32.9**	**-1.7**
	comp=Z,10nm,0.6s,baz=57,slow=9.7,SNR=44						
WRA				PcP	**PcP**	**12 32 15.3**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=59,slow=2.4,SNR=12 comp=Z,10nm,0.6s						
MTN	**Manton Dam**	**24.51**	**254**	P	**P**	**12 28 35.8**	**-1.9**
MTN				IAmb	IAmb	12 28 49.4	
	comp=Z,27nm,1.1s						
SWI	**Sorong**	**24.63**	**283**	P	**P**	**12 28 38.8**	**0.0**
	comp=Z,46nm,0.9s,comp=Z,1μm						
MSVF	**Nonsavu**	**24.78**	**118**	P	**P**	**12 28 42.2**	**+2.1**
MSVF				IAmb	IAmb	12 28 43.6	
	comp=Z,28nm,0.9s						
AS31	**Alice Springs**	**26.52**	**228**	P	**P**	**12 28 54.7**	**-1.2**
ASAR	**Alice Springs**	**26.52**	**228**	P	**P**	**12 28 54.9**	**-1.0**
ASAR	**Alice Springs**	**26.52**	**228**	P	**P**	**12 28 55.1**	**-0.8**
	comp=Z,3.0nm,0.5s,baz=60,slow=9.1,SNR=81						
ASAR				PcP	**PcP**	**12 32 20.4**	**0.0**
	comp=Z,2.1nm,0.8s,baz=53,slow=3.3,SNR=7.1						
ASAR				ScP	**ScP**	**12 35 58.9**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=62,slow=4.1,SNR=4.1 comp=Z,3.0nm,0.5s						
KNRA	**Kununurra**	**27.43**	**249**	P	**P**	**12 29 06.5**	**+2.5**
H11S3	**WAKE ISLAND Hy**	**27.51 24**	T	T	12 57 23.0		
	baz=204,slow=75,SNR=77						
H11S2	**WAKE ISLAND Hy**	**27.51 24**	T	T	12 57 11.2		
	baz=204,slow=75,SNR=97						
H11S1	**WAKE ISLAND Hy**	**27.52 24**	T	T	12 57 12.3		
	baz=204,slow=75,SNR=72						
STKA	**Stephens Creek**	**28.06**	**205**	P	**P**	**12 29 11.8**	**+2.2**
STKA	**Stephens Creek**	**28.06**	**205**	P	**P**	**12 29 10.0**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=34,slow=14,SNR=6.6						
STKA				LR	LR	12 40 25.1	
	comp=Z,324nm,18.8s,baz=33,slow=37 comp=Z,2.5nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**28.69 23**	T	T	12 58 56.1		
	baz=204,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.70 23**	T	T	12 58 41.6		
	baz=204,slow=76,SNR=19						
H11N2	**WAKE ISLAND Hy**	**28.71 23**	T	T	12 59 03.4		
	baz=204,slow=76,SNR=6.1						
FITZ	**Fitzroy Crossi**	**30.98**	**246**	P	**P**	**12 29 35.4**	**-0.2**
DAV	**Davao City (W)**	**32.63**	**294**	LR	LR	12 43 49.6	
	comp=Z,83nm,18.1s,baz=119,slow=38						
BSSI	**Bau Bau, Buton**	**34.54**	**269**	P	**P**	**12 30 06.6**	**-0.3**
FORT	**Forrest**	**34.94**	**223**	P	**P**	**12 30 07.4**	**-2.7**
KAPI	**Kappang**	**35.35**	**271**	LR	LR	12 45 30.8	
	comp=Z,98nm,19.6s,baz=120,slow=38						
RPZ	**Rata Peaks**	**39.34**	**162**	LR	LR	12 46 26.9	
	comp=Z,245nm,18.5s,baz=298,slow=35						
KKM	**Kota Kinabalu**	**40.98**	**287**	P	**P**	**12 31 00.3**	**-1.0**
KKM				IAmb	IAmb	12 31 01.9	
	comp=Z,16nm,1.0s						
NWAO	**Narrogin (SRO)**	**43.84**	**228**	LR	LR	12 50 45.7	
	comp=Z,230nm,18.2s,baz=204,slow=38						
MJAR	**Matsushiro Arr**	**45.94**	**341**	P	**P**	**12 31 39.2**	**-1.7**
	comp=Z,1.9nm,0.8s,baz=156,slow=7.0,SNR=1.6 comp=Z,1.9nm,0.8s						
KSRS	**Korea Array**	**50.84**	**332**	P	**P**	**12 32 17.6**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=142,slow=8.0,SNR=10 comp=Z,1.7nm,0.8s						
NJ2	**Nanjing**	**51.89**	**320**	*e*P	**P**	**12 32 28.5**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**54.89**	**340**	P	**P**	**12 32 48.8**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=184,slow=4.3,SNR=4.3 comp=Z,1.2nm,0.6s						
GYA	**Guiyang**	**57.51**	**307**	P	**P**	**12 33 08.5**	**+0.8**
GYA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
XAN	**Xi'an**	**59.71**	**316**	P	P	12 33 30.8	+8.0
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
KMI	**Kunming**	**60.09**	**304**	⇓P	**P**	**12 33 27.0**	**+1.2**
KMI				pP	pP	12 33 35.0	+0.3
KMI				pmax	pmax		
	comp=Z,19nm,1.0s						
DRV	**Dumont d'Urvil**	**60.74**	**187**	P	**P**	**12 33 29.0**	**-0.1**
DRV				pP	**pP**	**12 33 37.8**	**+0.1**
DRV				sP	**sP**	**12 33 41.0**	**+0.2**
CM31	**Chiang Mai Arr**	**60.91**	**295**	P	**P**	**12 33 31.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**60.91**	**295**	P	**P**	**12 33 31.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**60.91**	**295**	P	**P**	**12 33 31.5**	**+0.3**
	comp=Z,20nm,0.8s,baz=120,slow=5.1,SNR=124 comp=Z,20nm,0.8s						
CHTO	**Chiang Mai**	**61.02**	**296**	P	**P**	**12 33 31.7**	**-0.3**
PZH	**PanZhiHua**	**61.48**	**305**	P	**P**	**12 33 37.3**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
XLT	**XiLinHaoTe**	**61.58**	**329**	*e*P	P	12 33 43.3	+7.9
XLT				pP	sP	12 33 54.5	+6.7
XLT				PcP	**PcP**	**12 34 22.0**	**+5.1**
XLT				pmax	pmax		
	comp=Z,12nm,0.9s						
XLT				AMB	AMB		
	comp=Z,78nm,7.6s						
HHC	**Hu-ho-hao-te**	**62.05**	**324**	*e*P	P	12 33 32.5	-6.1
HHC				pmax	pmax		
	comp=Z,130nm,5.6s						
HHC				pmax	pmax		
	comp=Z,15nm,0.5s						
ADK	**Adak**	**63.16 19**	P	**P**	**12 33 46.4**	**+0.8**
ADK	**Adak**	**63.16 19**	P	**P**	**12 33 46.9**	**+1.3**
ADK				pP	**pP**	**12 33 55.4**	**+0.8**
LZH	**Lanzhou**	**64.32**	**315**	*e*P	**P**	**12 33 57.0**	**+3.1**
LZH				pP	pP	12 34 04.0	+1.1
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
MA2	**Magadan**	**66.21**	**358**	P	**P**	**12 34 05.6**	**+0.2**
MA2				pP	**pP**	**12 34 14.2**	**-0.2**
NIKH	**Nikolski High**	**66.82 23**	P	**P**	**12 34 08.8**	**-0.6**
	baz=219						
CASY	**Casey**	**66.90**	**198**	P	**P**	**12 34 09.3**	**-0.5**
CASY				pP	**pP**	**12 34 18.0**	**-0.3**
CASY				sP	**sP**	**12 34 21.7**	**-0.4**
GTA	**Gaotai**	**68.74**	**317**	P	**P**	**12 34 22.5**	**+0.5**
GTA				pP	pP	12 34 31.0	-0.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ULN	**Ulaanbaatar**	**68.94**	**327**	P	**P**	**12 34 22.4**	**-0.8**
ULN	**Ulaanbaatar**	**68.94**	**327**	P	**P**	**12 34 23.5**	**+0.4**
SONM	**Songino Array**	**69.27**	**327**	P	**P**	**12 34 24.6**	**-0.6**
SONM	**Songino Array**	**69.27**	**327**	P	**P**	**12 34 24.5**	**-0.6**
	comp=Z,3.8nm,0.9s,baz=132,slow=5.4,SNR=16 comp=Z,3.8nm,0.9s						
SHL	**Shillong**	**69.39**	**300**	P	**P**	**12 34 25.8**	**-0.6**
P08K	**Saint George I**	**69.42 20**	P	**P**	**12 34 25.4**	**-0.2**
	baz=218						
CCD	**Concordia, Ant**	**70.68**	**188**	P	**P**	**12 34 34.0**	**+0.3**
CCD				pP	**pP**	**12 34 41.9**	**-0.4**
VNDA	**Vanda**	**70.81**	**178**	P	**P**	**12 34 34.2**	**+0.3**
VNDA	**Vanda**	**70.81**	**178**	P	**P**	**12 34 34.5**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=328,slow=6.0,SNR=18 comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**70.81**	**178**	P	**P**	**12 34 34.3**	**+0.3**
VNDA				pP	**pP**	**12 34 42.7**	**-0.2**
VNDA				sP	**sP**	**12 34 46.9**	**+0.4**
SBA	**Scott Base**	**71.32**	**177**	P	**P**	**12 34 38.1**	**+1.1**
SBA				IAmb	IAmb	12 34 47.0	
	comp=Z,18nm,1.9s						
SBA	**Scott Base**	**71.32**	**177**	P	**P**	**12 34 38.7**	**+1.7**
SBA				pP	**pP**	**12 34 47.0**	**+1.1**
S12K	**Black Hills**	**71.52 24**	P	**P**	**12 34 39.0**	**+0.5**
	baz=225						
SDPT	**Sand Point**	**71.92 25**	P	**P**	**12 34 41.4**	**+0.5**
	baz=227						
O14K	**Tigyukauivet M**	**74.33 22**	P	**P**	**12 34 55.8**	**+0.7**
	baz=225						
M13K	**Dall Lake**	**74.44 20**	P	**P**	**12 34 55.0**	**-0.7**
	baz=223						
N14K	**Kuskokwak Cree**	**74.66 21**	P	**P**	**12 34 57.0**	**0.0**
	baz=225						
BILL	**Bilibino**	**75.02 4**	P	**P**	**12 34 59.4**	**+0.5**
BILL				IAmb	IAmb	12 35 00.6	
	comp=Z,18nm,1.1s						
K13K	**Kusilvak Mount**	**75.14 18**	P	**P**	**12 34 59.1**	**-0.7**
	baz=222						
R17L	**Mt. Peulik Vol**	**75.15 25**	P	**P**	**12 35 00.3**	**+0.4**
	baz=230						
M14K	**Bethel**	**75.16 20**	P	**P**	**12 35 00.7**	**+0.9**
M14K				IAmb	IAmb	12 35 02.0	
	comp=Z,15nm,0.9s						
M14K	**Bethel**	**75.16 20**	P	**P**	**12 35 00.3**	**+0.5**
	baz=224						
L14K	**Kuka Creek**	**75.34 20**	P	**P**	**12 35 02.2**	**+1.3**
L14K				IAmb	IAmb	12 35 03.1	
	comp=Z,13nm,1.0s						
L14K	**Kuka Creek**	**75.34 20**	P	**P**	**12 35 00.9**	**0.0**
	baz=224						
N15K	**Kwethluk River**	**75.40 21**	P	**P**	**12 35 01.7**	**+0.4**
	baz=226						
M15K	**Kasigluk River**	**75.56 21**	P	**P**	**12 35 02.6**	**+0.4**
	baz=226						
Q17K	**Contact Creek**	**75.75 24**	P	**P**	**12 35 03.9**	**+0.5**
	baz=231						
O16K	**Kokwok River B**	**75.75 22**	P	**P**	**12 35 03.5**	**+0.2**
	baz=228						
R18K	**Karluk**	**75.91 25**	P	**P**	**12 35 04.4**	**+0.2**
	baz=232						
ACHA	**Angle Creek He**	**75.94 24**	P	**P**	**12 35 04.2**	**-0.4**
ACHA				IAmb	IAmb	12 35 15.6	
	comp=Z,8.1nm,0.8s						
L15K	**Ungalak Mounta**	**75.98 20**	P	**P**	**12 35 04.9**	**+0.3**
	baz=225						
N16K	**Nishlik Lake**	**76.09 22**	P	**P**	**12 35 05.2**	**-0.1**
	baz=228						
J14K	**Nanvaranak Lak**	**76.09 18**	P	**P**	**12 35 06.4**	**+1.3**
J14K				IAmb	IAmb	12 35 07.8	
	comp=Z,14nm,1.0s						
J14K	**Nanvaranak Lak**	**76.09 18**	P	**P**	**12 35 05.8**	**+0.7**
	baz=222						
P17K	**Kvichak River**	**76.12 23**	P	**P**	**12 35 05.0**	**-0.4**
	baz=230						
OHAK	**Old Harbor**	**76.20 26**	P	**P**	**12 35 05.7**	**-0.2**
	baz=233						
O17K	**Koliganek Bris**	**76.25 23**	P	**P**	**12 35 05.9**	**-0.2**
	baz=229						
Q18K	**Katmai Hardscr**	**76.35 24**	P	**P**	**12 35 06.6**	**-0.3**
	baz=231						
M16K	**Timber Creek**	**76.40 21**	P	**P**	**12 35 08.4**	**+1.4**
M16K				IAmb	IAmb	12 35 09.3	
	comp=Z,12nm,0.8s						
M16K	**Timber Creek**	**76.40 21**	P	**P**	**12 35 07.6**	**+0.6**
	baz=227						
K15K	**Wolf Creek Mou**	**76.41 19**	P	**P**	**12 35 07.0**	**0.0**
	baz=224						
L16K	**Owhat River**	**76.69 20**	P	**P**	**12 35 09.1**	**+0.5**
	baz=227						
N17K	**Nushagak Hills**	**76.71 22**	P	**P**	**12 35 09.6**	**+0.8**
	baz=229						
P18K	**Big Mountain,**	**76.73 24**	P	**P**	**12 35 08.5**	**-0.4**
	baz=231						
KDAK	**Kodiak Island**	**76.84 26**	P	**P**	**12 35 10.1**	**+0.6**
KDAK	**Kodiak Island**	**76.84 26**	P	**P**	**12 35 09.9**	**+0.4**
	baz=234						
ANM	**Nome**	**76.93 16**	P	**P**	**12 35 09.9**	**0.0**
	baz=220						
TNA	**Tin City**	**77.02 15**	P	**P**	**12 35 11.3**	**+0.9**
	baz=218						
O18K	**Koktuh Hills**	**77.03 23**	P	**P**	**12 35 11.4**	**+0.8**
	baz=231						
Q19K	**Cape Douglas,**	**77.08 24**	P	**P**	**12 35 11.2**	**+0.3**
	baz=233						
M17K	**Holitna River**	**77.20 21**	P	**P**	**12 35 12.7**	**+1.2**
	baz=229						
N18K	**Kilae Creek**	**77.30 22**	P	**P**	**12 35 13.0**	**+1.0**
N18K				IAmb	IAmb	12 35 23.2	
	comp=Z,11nm,0.8s						
N18K	**Kilae Creek**	**77.30 22**	P	**P**	**12 35 12.4**	**+0.3**
	baz=230						
F14K	**Arctic Creek**	**77.37 15**	P	**P**	**12 35 13.0**	**+0.6**
	baz=219						
L17K	**Donlin**	**77.39 20**	P	**P**	**12 35 13.5**	**+1.0**
	baz=228						
Q20K	**Shuyak Island**	**77.41 25**	P	**P**	**12 35 13.4**	**+0.7**
	baz=234						
J16K	**Anvik River**	**77.41 19**	P	**P**	**12 35 14.2**	**+1.6**
	baz=225						
G15K	**Niukluk**	**77.63 16**	P	**P**	**12 35 14.8**	**+1.0**
	baz=222						
P19K	**Oil Pt**	**77.69 24**	P	**P**	**12 35 15.2**	**+0.8**
	baz=233						
K17K	**Iditarod**	**77.78 20**	P	**P**	**12 35 16.5**	**+1.8**
	baz=228						
I17K	**Unalakleet**	**77.81 18**	P	**P**	**12 35 16.2**	**+1.3**
	baz=225						
M18K	**Stony River**	**77.84 22**	P	**P**	**12 35 16.4**	**+1.3**
	baz=230						
N19K	**Bonanza Creek**	**77.91 23**	P	**P**	**12 35 17.1**	**+1.5**
	baz=231						
J17K	**VABM Dome**	**77.99 19**	P	**P**	**12 35 17.5**	**+1.7**
J17K				IAmb	IAmb	12 35 27.1	
	comp=Z,11nm,0.8s						
J17K	**VABM Dome**	**77.99 19**	P	**P**	**12 35 17.6**	**+1.8**
	baz=227,SNR=6.1						
F15K	**North Star Dit**	**78.00 16**	P	**P**	**12 35 16.9**	**+1.1**
	baz=221						
O20K	**Slope Mountain**	**78.19 24**	P	**P**	**12 35 18.3**	**+1.2**
	baz=233						
HOM	**Homer**	**78.34 24**	P	**P**	**12 35 19.0**	**+1.1**
	baz=234						
G16K	**Koyuk River**	**78.40 17**	P	**P**	**12 35 19.3**	**+1.2**
G16K				IAmb	IAmb	12 35 20.4	
	comp=Z,12nm,1.1s						
G16K	**Koyuk River**	**78.40 17**	P	**P**	**12 35 19.0**	**+1.0**
	baz=223						
CNPM	**China Poot**	**78.43 25**	P	**P**	**12 35 19.4**	**+0.9**
M19K	**Big River Lodg**	**78.63 22**	P	**P**	**12 35 20.9**	**+1.4**
M19K				IAmb	IAmb	12 35 22.6	
	comp=Z,11nm,0.8s						
M19K	**Big River Lodg**	**78.63 22**	P	**P**	**12 35 21.1**	**+1.6**
	baz=231						
L19K	**White Mountain**	**78.64 21**	P	**P**	**12 35 20.7**	**+1.1**
L19K				IAmb	IAmb	12 35 21.8	
	comp=Z,15nm,0.8s						
L19K	**White Mountain**	**78.64 21**	P	**P**	**12 35 21.0**	**+1.5**
	baz=231,SNR=12						
BRSE	**Bradley Lake S**	**78.76 25**	P	**P**	**12 35 21.5**	**+1.2**
	baz=235						
H17K	**Granite Mounta**	**78.80 18**	P	**P**	**12 35 21.7**	**+1.4**
H17K				IAmb	IAmb	12 35 22.4	
	comp=Z,16nm,1.5s						
H17K	**Granite Mounta**	**78.80 18**	P	**P**	**12 35 20.7**	**+0.4**
	baz=226,SNR=6.7						
J18K	**Innoko River**	**78.82 20**	P	**P**	**12 35 21.7**	**+1.2**
J18K				IAmb	IAmb	12 35 22.3	
	comp=Z,6.6nm,0.8s						
J18K	**Innoko River**	**78.82 20**	P	**P**	**12 35 21.8**	**+1.2**
	baz=229,SNR=6.7						
G17K	**Kiwalik Mounta**	**78.97 17**	P	**P**	**12 35 22.8**	**+1.5**
	baz=225						
M20K	**Styx River**	**79.09 22**	P	**P**	**12 35 23.3**	**+1.2**
	baz=233						
L20K	**Farewell, AK**	**79.18 22**	P	**P**	**12 35 23.6**	**+1.1**
	baz=232						
H18K	**Honhosa River**	**79.42 18**	P	**P**	**12 35 24.5**	**+0.8**
	baz=227						
F17K	**Baldwin Pennin**	**79.48 16**	P	**P**	**12 35 25.1**	**+1.2**
	baz=224						
SEW	**Seward**	**79.50 25**	P	**P**	**12 35 25.2**	**+1.0**
	baz=236						
J19K	**Poorman**	**79.53 20**	P	**P**	**12 35 25.6**	**+1.3**
	baz=230

baz=230,SNR=5.0
F19K Shaleruckik Mo 80.75 17 P P 12 35 31.3 +0.5
F19K Shaleruckik Mo 80.75 17 P P 12 35 31.6 +0.8
baz=228
SML Sawmill 80.90 24 P P 12 35 32.9 +1.1
SML Sawmill 80.90 24 P P 12 35 32.2 +0.3
baz=237,SNR=12
GLI Glacier Island 80.91 25 P P 12 35 32.7 +0.9
GLI Glacier Island 80.91 25 P P 12 35 32.8 +0.9
baz=238,SNR=5.3
C18K Utukok River 81.09 15 P P 12 35 32.9 +0.2
baz=224
M23K Glacier View 81.14 24 P P 12 35 33.9 +0.9
baz=238
BPAW Bear Paw Mtn. 81.20 21 P P 12 35 33.3 -0.1
baz=234
EYAK Cordova Ski Ar 81.30 25 P P 12 35 34.8 +0.9
baz=240
SCM Sheep Creek Mo 81.32 24 P P 12 35 34.6 +0.6
baz=238
E19K Redstone River 81.32 17 P P 12 35 34.6 +0.7
E19K IAmb IAmb 12 35 44.8
comp=Z,11nm,0.9s
E19K Redstone River 81.32 17 P P 12 35 34.1 +0.2
baz=228
WAT1 Susitna Watana 81.38 23 P P 12 35 34.7 +0.4
baz=237
IMAR Indian Mountai 81.42 19 P P 12 35 35.0 +0.6
F20K Avaraart Lake 81.49 17 P P 12 35 35.6 +0.8
F20K Avaraart Lake 81.49 17 P P 12 35 35.6 +0.8
baz=229,SNR=7.1
H21K Melozitna Rive 81.52 19 P P 12 35 35.4 +0.4
baz=232
WAT6 Susitna Watana 81.56 23 P P 12 35 35.1 -0.3
baz=238,SNR=6.5
RND Reindeer 81.59 22 P P 12 35 35.4 -0.1
RND IAmb IAmb 12 35 36.2
comp=Z,11nm,0.8s
KLU Klutina 81.71 25 P P 12 35 36.9 +0.8
baz=239,SNR=8.3
MCK McKinley 81.74 22 P P 12 35 36.0 -0.2
baz=236,SNR=12
D19K Kuna River 81.78 16 P P 12 35 36.6 +0.3
baz=227
C19K Lookout Ridge 81.83 15 P P 12 35 36.6 0.0
baz=226
G21K Allakaket 81.83 18 P P 12 35 36.4 -0.2
baz=232
MLY Manley 81.84 20 P P 12 35 37.2 +0.5
baz=234,SNR=7.5
M24K Tolsona, Glenn 81.93 24 P P 12 35 38.5 +1.2
M24K Tolsona, Glenn 81.93 24 P P 12 35 37.4 +0.2
baz=239,SNR=8.1
DHY Denali Highway 81.97 23 P P 12 35 37.8 +0.2
DHY IAmb IAmb 12 35 54.8
comp=Z,8.6nm,0.9s
DHY Denali Highway 81.97 23 P P 12 35 38.0 +0.5
baz=238,SNR=7.4
BMRM Bremner River 82.00 25 P P 12 35 38.2 +0.5
baz=240
H22K Ishtalitna Cre 82.13 19 P P 12 35 38.1 -0.1
baz=234
E20K Nigu River 82.15 16 P P 12 35 38.7 +0.4
baz=229
NEA2 Nenana 82.17 21 P P 12 35 38.1 -0.4
baz=236,SNR=10
F21K Alatna River 82.28 18 P P 12 35 39.1 +0.1
baz=232
N25K Chitina, Valde 82.32 25 P P 12 35 40.5 +1.1
N25K IAmb IAmb 12 35 50.1
comp=Z,7.4nm,0.8s
N25K Chitina, Valde 82.32 25 P P 12 35 39.6 +0.2
baz=240,SNR=6.8
D20K Etivluk River 82.34 16 P P 12 35 39.9 +0.7
baz=228
I23K Minto, Yukon-K 82.38 21 P P 12 35 39.4 -0.1
baz=236
HARP HAARP 82.49 24 P P 12 35 40.7 +0.6
baz=240
CRQE Cirque 82.54 26 P P 12 35 41.7 +1.1
baz=242,SNR=6.1
VRDI Verde Repeater 82.61 25 P P 12 35 41.1 0.0
VRDI IAmb IAmb 12 35 51.4
comp=Z,11nm,0.9s
PAX Paxson 82.65 23 P P 12 35 42.1 +1.0
baz=240
G22K Bettles 82.71 19 P P 12 35 41.6 +0.4
baz=233
H23K Yukon River 82.71 20 P P 12 35 42.3 +1.1
baz=235,SNR=5.4
COLA College 82.76 21 P P 12 35 41.7 +0.2
baz=237
MESA MESA 82.78 27 P P 12 35 42.1 +0.2
baz=243,SNR=5.2
HDA Harding Lake 82.84 22 P P 12 35 41.5 -0.4
baz=238
MCARA McCarthy VSAT 82.87 25 P P 12 35 42.6 +0.4
baz=242
E21K Killik River 82.90 17 P P 12 35 43.1 +0.8
E21K IAmb IAmb 12 35 44.1
comp=Z,18nm,1.4s
E21K Killik River 82.90 17 P P 12 35 43.0 +0.8
baz=231
K24K Donnelly Dome 82.96 23 P P 12 35 42.9 +0.3
baz=239
POKR Poker Plat Res 83.05 21 P P 12 35 44.1 +1.1
baz=238
IL31 83.06 21 P P 12 35 42.5 -0.5
IL31 IAmb IAmb 12 35 43.3
comp=Z,5.2nm,0.8s
ILAR Eielson Array 83.06 21 P P 12 35 41.9 -1.1
ILAR Eielson Array 83.06 21 P P 12 35 42.2 -0.8
comp=Z,3.8nm,0.8s,baz=252,slow=5.4,SNR=13
comp=Z,3.8nm,0.8s
G23K Bananza Creek 83.06 19 P P 12 35 42.7 -0.3
baz=235,SNR=6.2
GRNC Granite Creek 83.11 26 P P 12 35 44.1 +0.4
GRNC IAmb IAmb 12 35 45.5
comp=Z,8.7nm,0.8s
C21K Knifeblade Rid 83.13 16 P P 12 35 43.7 +0.4
baz=230
QSPA South Pole Qui 83.22 180 P P 12 35 44.3 +0.2
QSPA South Pole Qui 83.22 180 P P 12 35 43.8 -0.3
comp=Z,12nm,0.7s,baz=330,slow=0.6,SNR=63
comp=Z,12nm,0.7s
TABL Table Mountain 83.25 27 P P 12 35 45.2 +0.7
H24K Noodor Dome 83.28 20 P P 12 35 44.4 +0.2
baz=237
COLD Coldfoot 83.30 19 P P 12 35 45.2 +1.0
baz=235
E22K Anaktuvuk Pass 83.34 18 P P 12 35 44.9 +0.4
E22K Anaktuvuk Pass 83.34 18 P P 12 35 44.6 +0.1
baz=233
M26K Nabesna, AK 83.36 24 P P 12 35 45.5 +0.7
baz=242
MK31 Makanchi Array 83.39 319 P P 12 35 44.6 -0.6
MKAR Makanchi Array 83.39 319 P P 12 35 44.4 -0.8
MKAR Makanchi Array 83.39 319 P P 12 35 43.8 -1.4
comp=Z,3.5nm,0.9s,baz=105,slow=5.1,SNR=22
comp=Z,3.5nm,0.9s
CTG Chitna Glacier 83.40 26 P P 12 35 45.2 +0.1
baz=244,SNR=10
B21K Ikpikpuk River 83.48 16 P P 12 35 45.7 +0.7
baz=230
L26K Log Cabin Wild 83.52 24 P P 12 35 45.5 0.0
baz=242
J25K Salcha River, 83.53 22 P P 12 35 45.3 -0.3
baz=239,SNR=15
D22K Ayikyak River 83.55 17 P P 12 35 46.1 +0.6
baz=232,SNR=5.7
MAKZ Makanchi 83.60 319 P P 12 35 45.1 -1.2
MAKZ IAmb IAmb 12 35 46.8
comp=Z,6.3nm,1.0s
PNL Peninsula 83.71 28 P P 12 35 47.5 +1.0
baz=245
SCRK Sand Creek 83.73 23 P P 12 35 46.7 0.0
baz=241,SNR=6.6
M27K Edge Creek, AK 83.81 25 P P 12 35 47.8 +0.7
baz=243
O28M Mount Upton 83.82 26 P P 12 35 47.9 +0.5
baz=244,SNR=14
G24K Hadweenzic Riv 83.89 20 P P 12 35 48.1 +0.8
baz=237
E23K Chandalar 83.97 18 P P 12 35 48.5 +0.7
baz=235,SNR=6.6
ZALV Zalesovo Beam 84.12 326 P P 12 35 46.5 -2.2
comp=Z,1.2nm,0.7s,baz=116,slow=6.8,SNR=7.0
comp=Z,1.2nm,0.7s
YUK3 Moose Creek 84.14 26 P P 12 35 49.4 +0.5
baz=244,SNR=12
L27K Beaver Creek, 84.15 24 P P 12 35 49.8 +1.0
L27K IAmb IAmb 12 35 51.0
comp=Z,6.7nm,0.9s
L27K Beaver Creek, 84.15 24 P P 12 35 49.6 +0.8
baz=243,SNR=7.4
J26L Joseph Creek 84.15 22 P P 12 35 49.2 +0.5
J26L IAmb IAmb 12 35 51.6
comp=Z,4.4nm,0.7s
J26L Joseph Creek 84.15 22 P P 12 35 50.5 +1.8
baz=241,SNR=7.0
BCAR Beaver Creek A 84.17 24 P P 12 35 50.1 +1.2
D23K Nanushuk River 84.17 17 P P 12 35 49.3 +0.6
baz=234
F24K Squaw Lake 84.20 19 P P 12 35 49.7 +0.7
baz=237,SNR=8.2
YUK8 Steele Glacier 84.23 26 P P 12 35 50.1 +0.6
baz=245,SNR=10
B22K Toshekpuk Lake 84.25 15 P P 12 35 50.4 +1.4
baz=231
TOLK Toolik Lake Re 84.31 18 P P 12 35 50.2 +0.7
TOLK IAmb IAmb 12 35 51.2
comp=Z,5.5nm,0.7s
TOLK Toolik Lake Re 84.31 18 P P 12 35 49.7 +0.3
baz=235,SNR=5.3
E24K Your Creek 84.32 18 P P 12 35 49.9 +0.4
baz=236
O29M Mount Kennedy 84.35 27 P P 12 35 51.2 +1.3
baz=246
P29M Windy Craggy 84.46 28 P P 12 35 51.2 +0.8
baz=247
K27K Chicken 84.50 23 P P 12 35 51.4 +1.0
baz=242
S31K Pelican 84.55 30 P P 12 35 52.1 +1.4
baz=248
SIT Sitka 84.67 31 P P 12 35 52.4 +1.0
baz=249
I26K Coal Creek Min 84.69 22 P P 12 35 51.5 +0.1
baz=241
YUK6 Outpost Mounta 84.71 27 P P 12 35 52.6 +0.8
baz=246,SNR=5.3
C23K Itkillik River 84.71 16 P P 12 35 51.9 +0.6
baz=234
MAW Mawson 84.72 203 P P 12 35 50.7 -0.8
comp=Z,4.5nm,0.7s,baz=86,slow=6.8,SNR=11
comp=Z,4.5nm,0.7s
YUK4 Talbot Arm 84.75 26 P P 12 35 53.0 +1.0
baz=246,SNR=8.1
D24K Happy Valley 84.83 17 P P 12 35 53.1 +1.1
baz=236
F25K Christian Rive 84.97 19 P P 12 35 53.3 +0.4
baz=239,SNR=5.0
P30M Million Dollar 85.02 28 P P 12 35 53.9 +0.7
baz=248
PLBC Pleasant Camp 85.04 28 P P 12 35 53.8 +0.6
baz=248
C24K Franklin Bluff 85.19 17 P P 12 35 54.6 +0.8
baz=236
EGAK Eagle 85.20 23 P P 12 35 55.0 +1.1
EGAK IAmb IAmb 12 35 55.9
comp=Z,9.9nm,0.8s
EGAK Eagle 85.20 23 P P 12 35 54.3 +0.4
baz=243,SNR=12
BMAR Burnt Mountain 85.24 20 P P 12 35 55.2 +1.0
G26K Porcupine Rive 85.27 20 P P 12 35 55.0 +0.8
baz=241,SNR=18
M29M Somme Creek 85.28 25 P P 12 35 55.4 +0.9
baz=246,SNR=7.6
CRAG Craig 85.28 33 P P 12 35 55.3 +0.8
baz=251
I27K Kandik River 85.40 22 P P 12 35 56.5 +1.5
baz=243,SNR=8.5
N30M Aishikik Lake 85.48 26 P P 12 35 56.2 +0.7
N30M IAmb IAmb 12 35 57.7
comp=Z,16nm,1.6s
N30M Aishikik Lake 85.48 26 P P 12 35 56.4 +0.9
baz=247
F26K Sheenjek River 85.52 19 P P 12 35 57.0 +1.4
baz=240,SNR=6.0
SKAG Skagway 85.53 29 P P 12 35 56.5 +0.8
baz=249
DAWY Dawson 85.57 24 P P 12 35 57.0 +1.1
baz=245
D25K Kavik River 85.65 18 P P 12 35 56.9 +0.7
baz=238
O30N Mendenhall 85.66 27 P P 12 35 56.4 0.0
baz=248,SNR=5.9
L29M L29M 85.69 25 P P 12 35 56.5 0.0
baz=246,SNR=7.6
H27K Steamboat Moun 85.72 21 P P 12 35 57.0 +0.4
baz=243,SNR=9.4
G27K Doyon Strip 85.94 21 P P 12 35 58.7 +1.0
baz=243,SNR=6.7
I28M Miner Creek 85.96 22 P P 12 35 58.5 +0.7
I28M IAmb IAmb 12 36 00.6
comp=Z,4.9nm,0.7s
I28M Miner Creek 85.96 22 P P 12 35 57.9 +0.1
baz=244,SNR=7.4
M30M Minto, Yukon 86.04 25 P P 12 35 59.3 +1.1
baz=247,SNR=5.9
KSH Kashi 86.05 310 P P 12 36 01.0 +2.1
KSH pP pP 12 36 09.5 +1.3
KSH pmax pmax
comp=Z,4.0nm,0.7s
N31M Braeburn, Yuko 86.07 27 P P 12 35 59.0 +0.6
baz=248,SNR=8.6
WHY Whitehorse 86.18 28 P P 12 35 59.7 +0.7
WHY IAmb IAmb 12 36 01.1
comp=Z,5.6nm,1.1s
WHY Whitehorse 86.18 28 P P 12 35 59.5 +0.5
baz=249
J29N Klondike Camp 86.20 23 P P 12 36 00.5 +1.5
baz=246
K29M Barlow Dome 86.23 24 P P 12 35 59.9 +0.6
baz=247,SNR=20
P32M Atlin 86.35 29 P P 12 36 01.1 +1.3
baz=250
C26K Camden Bay 86.40 17 P P 12 36 00.7 +0.9
baz=240
I29M Ogilvie Camp, 86.54 23 P P 12 36 01.6 +1.0
baz=246,SNR=5.7
E27K Colleen River 86.60 20 P P 12 36 01.8 +0.9
baz=243,SNR=15
C27K Jago River 86.62 18 P P 12 36 02.2 +1.4
baz=241,SNR=9.2
KURBB Kurchatov Arra 86.83 322 P P 12 35 59.9 -2.4
comp=Z,0.4nm,0.2s,baz=76,slow=6.0,SNR=1.6
comp=Z,0.4nm,0.2s
Q32M Nakina River 86.85 30 P P 12 36 03.5 +1.1
baz=252
H29M Whitestone 86.87 22 P P 12 36 03.0 +0.8
baz=246
F28M Old Crow 86.93 20 P P 12 36 03.8 +1.3
baz=244,SNR=7.1
M31M Drury Creek, Y 86.94 26 P P 12 36 02.2 -0.4
M31M IAmb IAmb 12 36 04.3
comp=Z,5.5nm,0.8s
M31M Drury Creek, Y 86.94 26 P P 12 36 03.7 +1.1
baz=250,SNR=7.4
P33M Teslin, Yukon 86.98 28 P P 12 36 03.7 +0.7
baz=251
J30M Hart River 87.00 24 P P 12 36 04.3 +1.2
J30M Hart River 87.00 24 P P 12 36 04.2 +1.2
baz=248,SNR=31
S34M Telegraph Cree 87.09 31 P P 12 36 04.7 +1.3
baz=253
N32M Quiet Lake 87.17 27 P P 12 36 04.5 +0.7
baz=251
I30M Mount Dempster 87.23 23 P P 12 36 05.3 +1.2
baz=248,SNR=24
T35M Bob Quinn 87.27 32 P P 12 36 05.2 +0.9
baz=254
G29M Pine Creek 87.28 21 P P 12 36 05.3 +1.1
baz=246,SNR=13
D27M Malcolm River 87.29 19 P P 12 36 05.3 +1.1
baz=243,SNR=17
FARO Faro, Yukon 87.41 26 P P 12 36 05.9 +1.0
baz=250,SNR=9.8
E28M Babbage River 87.47 19 P P 12 36 05.6 +0.5
baz=245,SNR=9.6
EPYK Eagle Plains 87.54 22 P P 12 36 06.6 +1.1
baz=247,SNR=20
R33M Jennings River 87.62 29 P P 12 36 06.7 +0.6
baz=253
DLBC Dease Lake 87.80 31 P P 12 36 07.7 +0.8
DLBC IAmb IAmb 12 36 18.1
comp=Z,5.8nm,0.9s
DLBC Dease Lake 87.80 31 P P 12 36 08.2 +1.3
baz=254
DLBC Dease Lake 87.80 31 P P 12 36 06.3 -0.7
comp=Z,2.7nm,0.9s,baz=272,slow=6.4,SNR=5.7
comp=Z,2.7nm,0.9s
E29M Blow River 87.93 20 P P 12 36 07.7 +0.5
baz=246
G30M tAoh Zraii Nji 87.96 21 P P 12 36 07.7 +0.2
baz=248,SNR=6.0
F30M Barrier River 88.36 21 P P 12 36 09.6 +0.4
baz=248,SNR=8.9
G31M Satah River 88.65 22 P P 12 36 11.5 +0.9
baz=250,SNR=12
F31M Tsiigehtchic 89.03 21 P P 12 36 12.7 +0.3
baz=250
INK Inuvik 89.40 21 P P 12 36 14.2 +0.1
INK IAmb IAmb 12 36 15.5
comp=Z,9.2nm,1.2s
INK Inuvik 89.40 21 P P 12 36 14.5 +0.4
baz=250
INK Inuvik 89.40 21 P P 12 36 13.6 -0.6
comp=Z,4.2nm,0.9s,baz=300,slow=3.9,SNR=7.7
comp=Z,4.2nm,0.9s
PKM Mcpherson Peak 89.68 55 P P 12 36 15.6 -0.9
baz=262
TOAD Toad River Com 90.33 31 P P 12 36 19.9 +1.1
baz=258
CIS Catalina Islan 90.62 57 P P 12 36 21.3 +0.6
baz=262
EDW2 Edwards Air Fo 91.16 55 P P 12 36 23.5 +0.3
baz=263
CWC Cottonwood Cre 91.29 54 P P 12 36 24.5 +0.5
baz=263
BFSC Mount Baldy Ra 91.36 56 P P 12 36 25.0 +0.8
baz=263
NVAR Mina Array Bea 91.37 52 P P 12 36 25.2 +0.8
comp=Z,3.6nm,0.9s,baz=254,slow=6.4,SNR=16
comp=Z,3.6nm,0.9s
LRMC Laurel Mtn Rad 91.49 55 P P 12 36 25.3 +0.4
baz=263
109C Camp Elliot, M 91.65 57 P P 12 36 26.4 +1.0
baz=263
MURC Murrieta 91.66 57 P P 12 36 26.3 +0.8
baz=263
MPMC Manual Prospec 91.72 54 P P 12 36 26.3 +0.4
baz=263
GRAC Grapevine Rang 91.93 53 P P 12 36 27.2 +0.5
baz=263
GSC Goldstone, Bar 92.18 55 P P 12 36 28.8 +0.9
baz=263
MONP2 Monument Peak 92.22 57 P P 12 36 29.5 +1.1
baz=264
BVAR Borovoye Array 92.26 323 P P 12 36 25.0 -2.8
comp=Z,0.6nm,0.6s,baz=93,slow=8.9,SNR=4.1
comp=Z,0.6nm,0.6s
FURC Furnace Creek, 92.27 54 P P 12 36 29.5 +1.3
baz=263
PFO Pinyon Flats O 92.27 57 P P 12 36 29.5 +1.0
baz=264
TPFO Pinon Flats 92.27 57 P P 12 36 28.9 +0.4
baz=264
HEC Hector Ludlow 92.51 55 P P 12 36 29.8 +0.3
baz=264
BELC Belle Mtn. Jos 92.70 56 P P 12 36 31.2 +0.7
baz=264
TPNV Topopah Spring 92.81 53 P P 12 36 31.8 +0.9
baz=264
GMRC Granite Mounta 93.06 56 P P 12 36 32.1 0.0
baz=264
BC3 Big Chuckawall 93.11 57 P P 12 36 33.1 +0.8
baz=264
A36M Sachs Harbour 93.14 18 P P 12 36 32.2 +0.8
baz=258
NEW Newport 93.41 42 P P 12 36 34.1 +0.9
baz=264
IRM Iron Mountain 93.42 56 P P 12 36 33.9 +0.2
baz=264
R11B Troy Canyon, C 93.48 52 P P 12 36 34.0 0.0
baz=264
NEE2 Needles Airpor 93.91 56 P P 12 36 36.3 +0.4
baz=265
HLID Hailey 94.84 47 P P 12 36 40.6 +0.4
baz=265
214A Organ Pipe Nat 95.17 59 P P 12 36 42.0 +0.3
baz=265
MSO Missoula 95.42 44 P P 12 36 42.9 +0.3
baz=266
ELIB Princess Elisa 95.50 193 dP P 12 36 41.9 -0.7
comp=Z,1.5nm,0.8s
DUG Dugway, Tooele 95.78 50 P P 12 36 44.2 -0.3
baz=266
YKA Yellowknife Ar 96.00 28 P P 12 36 44.8 0.0
comp=Z,4.9nm,0.9s,baz=268,slow=4.5,SNR=21
comp=Z,4.9nm,0.9s
WUAZ Wupatki 96.62 55 P P 12 36 47.4 -1.0
baz=267
LPIG La Paz 96.76 67 LR LR 13 14 03.5
comp=Z,104nm,19.2s,baz=228,slow=32
TUC Tucson 96.91 58 P P 12 36 48.6 -1.1
baz=266
BOZ Bozeman (W) 96.96 45 P P 12 36 48.8 -0.9
baz=268
BW06 Boulder Array 98.35 48 P Pdif 12 36 56.2 0.0
baz=269
PDAR Pinedale Array 98.35 48 P P 12 36 55.7 -0.5
comp=Z,0.9nm,0.8s,baz=241,slow=3.1,SNR=7.1
comp=Z,0.9nm,0.8s
RLMT Red Lodge 98.61 45 P Pdif 12 36 57.3 0.0
baz=269
MVCO Mesa Verde 99.01 53 P Pdif 12 36 58.7 -0.6
baz=268
O20A White River Ci 99.28 51 P Pdif 12 36 59.4 -0.9
baz=269
121A Cookes Peak, D 99.45 58 P Pdif 12 37 00.2 -1.1
baz=268
S22A 4UR Ranch, Cre 100.35 53 P Pdif 12 37 03.8 -1.4
baz=270
SNAA Sanae 100.41 187 P Pdif 12 37 04.1 -0.5
comp=Z,0.7nm,1.0s,baz=192,slow=9.3,SNR=2.1
K22A Casper 100.58 48 P Pdif 12 37 04.6 -1.4
baz=271
LAO LASA Array 100.72 44 P Pdif 12 37 05.9 -0.5
baz=272
N23A Red Feather La 101.04 50 P Pdif 12 37 07.2 -1.0
baz=271
ISCO Idaho Springs 101.30 51 P Pdif 12 37 09.9 +0.4
baz=271
SDCO Great Sand Dun 101.40 53 P Pdif 12 37 09.0 -1.0
baz=270
MNTX Cornudas Mount 101.47 59 P Pdif 12 37 09.6 -0.5
baz=269
Q24A Divide 101.67 52 P Pdif 12 37 10.7 -0.5
baz=271
DGMT Dagmar 102.02 42 P Pdif 12 37 11.9 -0.2
baz=274
T25A Trinidad 102.28 54 P Pdif 12 37 13.1 -0.6
baz=271
RSSD Black Hills 102.36 46 P Pdif 12 37 13.0 -0.9
baz=273
KSCO Kaye Shedlock' 103.63 52 P Pdif 12 37 18.4 -1.3
baz=272
MSTX Muleshoe 103.67 57 P Pdif 12 37 18.4 -1.5
baz=271
OGNE Ogallala 104.00 50 P Pdif 12 37 19.9 -1.2
baz=273
AMTX Amarillo 104.54 56 P Pdif 12 37 21.8 -1.9
baz=272
MDND Maddock 105.14 42 P PKiKP 12 41 39.6 -0.7
baz=277
CBKS Cedar Bluff 105.89 52 P PKiKP 12 41 41.2 -0.9
baz=274
JCT Junction City 106.27 60 P PKiKP 12 41 41.9 -1.1
baz=272
ABTX Abilene, Hawle 106.33 58 P PKiKP 12 41 41.8 -1.3
baz=272
833A Chaparral WMA, 106.68 63 P PKiKP 12 41 42.5 -1.2
baz=271
WMOK Wichita Mounta 106.93 56 P PKiKP 12 41 43.1 -1.0
baz=274
AGMN Agassiz Nation 107.56 42 P PKiKP 12 41 43.8 -1.0
baz=280
ECSD EROS Data Cent 107.73 46 P PKiKP 12 41 44.7 -0.6
baz=278
435B Jarrell 108.16 60 P PKiKP 12 41 44.7 -1.8
baz=273
WHTX Lake Whitney, 108.21 59 P PKiKP 12 41 45.4 -1.1
baz=274
KSU1 Kansas State U 108.30 51 P PKiKP 12 41 44.9 -1.6
baz=276

TUL3	**Leonard** baz=276	109.28	54	P	PKiKP	12 41 47.1	-1.3
EYMN	**Ely** baz=283	110.49	41	P	PKiKP	12 41 49.1	-1.3
JFWS	**Jewell Farm** baz=282	112.45	46	P	PKiKP	12 41 52.6	-1.6
CCM	**Cathedral Cave** baz=280	112.61	52	P	PKiKP	12 41 53.6	-1.0
HDIL	**Hopedale** baz=282	113.63	49	P	PKiKP	12 41 55.8	-0.7
VBMS	**Vicksburg** baz=278	114.05	58	P	PKPdf	12 41 56.7	-0.8
OXF	**Oxford** baz=279	114.64	55	P	PKPdf	12 41 58.5	-0.1
SFIN	**Lafayette** baz=284	115.31	48	P	PKiKP	12 41 59.5	-0.2
WCI	**Wyandotte Cave** baz=283	116.40	51	P	PKPdf	12 42 01.4	-0.5
O48B	**Farmland** baz=285	116.78	48	P	PKPdf	12 42 01.7	-0.9
LRAL	**Lakeview Retre** baz=280	116.86	56	P	PKPdf	12 42 02.8	-0.1
P49A	**Miami Univ. Ec** baz=285	117.29	49	P	PKPdf	12 42 02.7	-0.9
ACSO	**Alum Creek Sta** baz=286	118.39	48	P	PKPdf	12 42 05.4	-0.3
BRTR	**Keskin Array B** comp=Z,0.2nm,0.4s,baz=150,slow=6.1,SNR=2.7	118.41	312	PKP	PKPdf	12 42 03.7	-2.2
TZTN	**Tazewell** baz=284	118.92	52	P	PKPdf	12 42 05.8	-1.0
P52A	**Corning** baz=287	119.18	48	P	PKPdf	12 42 06.1	-1.2
NOA	**NORSAR Array B** comp=Z,0.3nm,0.8s,baz=43,slow=2.1,SNR=1.9	119.56	341	PKP	PKiKP	12 42 07.7	+0.3
O53A	**New Philadelph** baz=288	119.68	47	P	PKPdf	12 42 06.7	-1.4
GOGA	**Godfrey** baz=282	119.69	55	P	PKPdf	12 42 07.2	-1.2
M53A	**WI Miller and** baz=289	119.69	46	P	PKPdf	12 42 07.4	-0.8
ERPA	**Erie** baz=290	119.96	45	P	PKPdf	12 42 07.4	-1.2
KMSC	**Kings Mountain** baz=285	121.01	53	P	PKPdf	12 42 10.2	-0.7
BLA	**Blacksburg** baz=287	121.16	50	P	PKPdf	12 42 10.5	-0.7
SSPA	**Standing Stone** baz=291	121.95	46	P	PKPdf	12 42 12.0	-0.5
NHSC	**New Hope** baz=284	122.45	55	P	PKPdf	12 42 12.9	-0.7
DWPF	**Disney Wildern** baz=281	122.45	61	P	PKPdf	12 42 13.4	-0.5
LONY	**Lake Ozonia** baz=296	122.63	40	P	PKPdf	12 42 13.4	-0.3
BINY	**Binghamton** baz=293	122.70	44	P	PKPdf	12 42 13.7	-0.2
CBN	**Corbin Frederi** baz=290	123.16	48	P	PKPdf	12 42 14.0	-0.9
LBNH	**Lisbon** baz=298	124.50	40	P	PKPdf	12 42 16.7	-0.6
PAL	**Palisades** baz=294	124.60	44	P	PKPdf	12 42 17.0	-0.6
L61B	**Northampton** baz=296	124.82	42	P	PKPdf	12 42 17.5	-0.5
HRV	**Adam Dziewonsk** baz=297	125.54	41	P	PKPdf	12 42 18.8	-0.5
PKME	**Peaks-Kenny Pk** baz=301	125.63	38	P	PKiKP	12 42 19.6	-0.2
CLL	**Collm**	125.72	332	*i* pPKPdf	pPKPdf	12 42 27.9	-1.1
CLL	**Collm**	125.72	332	*e*PKPdf	PKPdf	12 42 19.0	-0.4
GERES	**GERESS Array B** comp=Z,0.5nm,0.6s,baz=101,slow=2.7,SNR=3.9	126.98	329	PKP	PKPdf	12 42 20.6	-1.5
LPAZ	**La Paz** comp=Z,0.8nm,0.6s,baz=281,slow=5.2,SNR=3.6	131.35	119	PKP	PKPdf	12 42 31.8	-0.1
CPUP	**Villa Florida** comp=Z,3.0nm,0.8s,baz=286,slow=1.4,SNR=7.0	134.39	137	PKP	PKPdf	12 42 37.0	+0.4
BDFB	**Brasilia** comp=Z,17nm,0.8s,baz=212,slow=4.2,SNR=19	147.97	134	PKPbc	PKPbc	12 43 04.4	+0.1
MDP	**Montagnes des** comp=Z,7.6nm,0.9s,baz=236,slow=3.7,SNR=5.8	152.21	92	PKPbc	PKPbc	12 43 14.2	-0.4
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.7s,baz=31,slow=3.7,SNR=4.4	153.21	286	PKP	PKPdf	12 43 07.0	-2.3
TORD	comp=Z,4.5nm,0.7s,baz=42,slow=3.1,SNR=25			PKPbc	PKPbc	12 43 15.8	-1.0
TORD	comp=Z,9.6nm,0.7s,baz=34,slow=3.2,SNR=25			PKPab	pPKPbc	12 43 24.7	-1.6

*JMA **28** 12:30:40.7±0.3, 45°.4N±1°.0×14°.5E±°, h2km, MV2.7/16, SOUTHERN SEA OF OKHOTSK*
*SKHL **28** 12:30:42.3±0.0, 45°.50N×145°.30E, h31km±3km, mb4.3/2*
ISC 28 12:30:42.2±2.2, 45°.5N±0°.1×145°.28E±0°.07, h35km, n8, σ0=56/12, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	1.50	164	*e*P	Pn	12 31 06.2	-0.3
YUK	90nm,0.4s			AMB	AMB	12 31 08.8	
YUK				*e*S	Sn	12 31 24.1	-0.6
YUK	150nm,0.4s			A	A	12 31 28.3	
YUK	110nm,0.4s			A	A	12 31 28.3	
JRA	**Rausu**	1.54	184	*e*P	Pn	12 31 07.3	+0.3
JTKR	**Abashiri--Toko**	1.79	214	P	Pn	12 31 10.5	0.0
JTKR				*e*S	Sn	12 31 32.1	+0.1
KUR	**Kuril'sk**	1.84	96	*e*P	Pn	12 31 11.8	+0.6
KUR				*i* S	Sn	12 31 32.2	-1.1
KUR	70nm,0.2s			A	A	12 31 34.2	
KUR	80nm,0.2s			A	A	12 31 34.2	
SHO	**Shikotan**	1.95	145	*e*P	Pn	12 31 13.2	+0.5
SHO	120nm,0.3s			AMB	AMB	12 31 14.1	
SHO				*e*S	Sn	12 31 35.8	-0.1
SHO	500nm,0.5s			A	A	12 31 39.2	
SHO	600nm,0.5s			A	A	12 31 39.2	
JMP	**Maruseppu**	2.00	224	P	Pn	12 31 13.5	0.0
NMR	**Nemuro--Hokkai**	2.12	171	*e*P	Pn	12 31 15.6	+0.5
AKK	**Akkeshi**	2.47	187	*e*P	Pn	12 31 20.5	+0.6

*IDC **28** 12:33:47.7±0.8, 5°.60S×153°.26E, h0km, mb3.8/14, mbtmp3.9/15, ML2.3/1, Error ellipse: s-maj=27.0km s-min=19.4km az=108.0*
ISC 28 12:33:52.9±0.7, 5°.6S±0°.1×153°.3E±0°.1, h35km, n16, σ0=38/18, mb3.8/13, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 3.4nm,0.3s,baz=56,slow=8.1,SNR=7.5	7.12	238	Pn	Pn	12 35 34.5	-0.2
PMG	1.7nm,0.3s,baz=182,slow=22,SNR=5.9			Sn	Sn	12 36 54.9	+0.5
DZM	**Mont Dzumac** 4.1nm,0.7s,baz=314,slow=16,SNR=1.8	20.75	143	P	P	12 38 31.2	+0.3
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=52,slow=10,SNR=5.9	23.26	231	P	P	12 38 57.0	-0.6
WRA	0.5nm,0.8s,baz=54,slow=2.5,SNR=2.7			PcP	PcP	12 42 44.8	+0.1
ASAR	**Alice Springs** 0.4nm,0.6s,baz=57,slow=10,SNR=3.0	25.87	224	P	P	12 39 21.6	0.0
MJAR	**Matsushiro Arr** 1.9nm,1.1s,baz=169,slow=13,SNR=4.0	44.24	343	P	P	12 41 58.4	-0.6
CMAR	**Chiang Mai Arr** 0.3nm,0.4s,baz=118,slow=9.4,SNR=1.2	58.63	295	P	P	12 43 47.2	+0.1
SONM	**Songino Array** 0.6nm,0.5s,baz=150,slow=6.0,SNR=2.2	67.25	328	P	P	12 44 44.0	0.0
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=121,slow=4.5,SNR=3.9	81.23	319	P	P	12 46 06.2	+0.7
ZALV	**Zalesovo Beam** 0.8nm,0.6s,baz=101,slow=7.7,SNR=5.9	82.07	326	P	P	12 46 10.1	+0.4
ILAR	**Eielson Array** 0.6nm,0.8s,baz=252,slow=4.8,SNR=4.2	82.74	22	P	P	12 46 13.1	+0.2
QSPA	**South Pole Qui** 1.1nm,0.7s,baz=352,slow=0.6,SNR=3.5	84.35	180	P	P	12 46 21.0	-0.5
KURBB	**Kurchatov Arra** 0.3nm,0.2s,baz=126,slow=1.6,SNR=2.2	84.71	322	P	P	12 46 23.6	+0.2
NRIK	**Noril'sk** 2.2nm,0.5s,baz=89,slow=5.0,SNR=2.3	86.87	341	P	P	12 46 33.7	+0.1
BVAR	**Borovoye Array** 0.8nm,0.5s,baz=104,slow=6.3,SNR=4.8	90.16	323	P	P	12 46 49.4	-0.2
NVAR	**Mina Array Bea** 0.2nm,0.7s,baz=222,slow=3.6,SNR=1.8	92.23	52	P	P	12 46 59.8	0.0
TORD	**Torodi Ar. Bea** 1.8nm,0.7s,baz=66,slow=4.3,SNR=13	150.98	287	PKPbc	PKPbc	12 53 43.4	+0.2

*NEIC **28** 12:37:25.4, 19°.40N×155°.27W, h12km*
*NEIC **28** 12:37:25.4, 19°.40N×155°.27W, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17^Nm; Mrr=1.08; Mθθ0.42; Mφφ0.67; Mrθ-0.06; Mrφ0.49; Mθφ0.11; Fault plane solution: M0 1.07000×10^17^ NP1: φs=211.95000°, δ46.64000°, λ-98.10000°. NP2: φs=43.66000°, δ43.96000°, λ-81.51000°. Principal axes: T 1.0457, Plg1.0000°, Azm308.0000°; N 0.0521, Plg6.0000°, Azm218.0000°; P -1.0978, Plg84.0000°, Azm51.0000°;*
*HVO **28** 12:37:25.4±2.0, 19°.40N±0°.01×155°.27W±0°.01, h0km±4km, ML4.0/46, mb4.7/14(NEIC), ML3.5/38(NEIC), Mww5.3/25(NEIC) Error ellipse: s-maj=2.0km s-min=1.2km az=149.0*
*NEIC **28** 12:37:26.8±2.0, 19°.37N±0°.01×155°.28W±0°.01, h1km±4km, Error ellipse: s-maj=2.1km s-min=1.1km az=152.0*
*BJI **28** 12:37:27.0±0.0, 19°.40N×155°.30W, h10km, mb4.7/14, mB5.6/20, Ms5.1/25, Ms7 4.9/26*
*IDC **28** 12:37:28.3±2.1, 19°.60N×155°.31W, h0km, mb3.7/9, mbtmp3.7/9, MS4.3/52, Error ellipse: s-maj=65.2km s-min=14.3km az=169.0*
*GCMT **28** 12:37:35.4±0.1, 19°.37N±0°.01×155°.15W±0°.01, h12km, MW5.3/154, Moment Tensor Solution. s93, c141; s154, c277; Duration: 1s0 Moment tensor: Scale 10^17^ Nm; Mrr-1.02±.01; Mθθ0.56±.01; Mφφ0.45±.01; Mrθ0.22±.03; Mrφ0.35±.01; Mθφ-0.10±.03; Best double couple: M0 0.96600×10^17^ NP1: φs=240.00000°, δ49.00000°, λ-76.00000°. NP2: φs=39.00000°, δ43.00000°, λ-105.00000°. Principal axes: T 0.8650, Plg3.0000°, Azm320.0000°; N 0.1970, Plg10.0000°, Azm51.0000°; P -1.0660, Plg79.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 12:37:26.8±0.8, 19°.38N±0°.03×155°.28W±0°.02, h3km±4km, n523, σ1=19/14/482, mb4.6/25, MS4.5/65, 1C, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	0.01	21		Pg	12 37 26.4	-1.3
SDHHI	**Sand Hill**	0.02	297		Pg	12 37 27.1	-0.6
KKO	**Keanakako`i**	0.02	39		Pg	12 37 26.4	-1.3
WRMHI	**West Rim**	0.03	321		Pg	12 37 27.5	-0.4
BYL	**Byron's Ledge**	0.04	32	Pg	Pg	12 37 26.1	-1.8
OBL	**Observatory Le**	0.04	353		Pg	12 37 27.4	-0.5
UWE	**Uwekahuna**	0.04	341	Pg	Pg	12 37 27.1	-0.9
UWB	**Uwekahuna B**	0.04	2		Pg	12 37 27.8	-0.2
HATHI	**Halema'uma'u T**	0.04	23	Pg	Pg	12 37 26.8	-1.2
SBLHI	**Steaming Bluff**	0.05	14		Pg	12 37 27.8	-0.3
PUH	**Pauahi**	0.06	98	Pg	Pg	12 37 27.0	-1.2
PUH	comp=N,8μm,0.5s			IAML		12 37 28.4	
RSD	**Rainshed**	0.08	1	Pg	Pg	12 37 27.8	-0.8
HLP	**Hilina Pali** comp=E,9μm,1.1s	0.09	197	IAML		12 37 28.8	
HLP				Pg	Pg	12 37 29.0	+0.3
HLP	comp=N,15μm,1.5s			IAML		12 37 30.8	
KNHH	**Kane Nui o Ham**	0.10	92	Pg	Pg	12 37 28.4	-0.6
STCH	**Steam Cracks**	0.15	89	Pg	Pg	12 37 29.3	-0.5
STCH	comp=E,16μm,1.1s			IAML		12 37 31.8	
STCH	comp=N,8μm,0.9s			IAML		12 37 31.9	
MLH	**Mauna Loa**	0.15	318	Pg	Pg	12 37 30.2	+0.3
MLH	comp=N,3μm,0.5s			IAML		12 37 32.2	
MLH	comp=E,5μm,0.7s			IAML		12 37 32.2	
NPOC	**North of Pu'u**	0.16	86		Pg	12 37 30.6	+0.5
JCUZ	**Jacuzzi**	0.17	89		Pg	12 37 29.6	-0.5
JCUZ					Sg	12 37 33.2	+0.8
JOKA	**Jonika Flow**	0.26	79	Pg	Pg	12 37 32.4	+0.4
JOKA	comp=E,8μm,1.7s			IAML		12 37 36.8	
JOKA	comp=N,14μm,1.4s			IAML		12 37 38.6	
HMH	**Humu'ula Sheep**	0.29	319	Pg	Pg	12 37 33.0	+0.4
HMH	comp=N,20μm,1.5s			IAML		12 37 39.2	
HMH	comp=E,20μm,1.7s			IAML		12 37 39.2	
MWH	**Moku'aweowe**	0.32	289	Pg	Pg	12 37 33.2	+0.1
MLOA	**Mauna Loa Obse**	0.32	299	Pg	Pg	12 37 32.6	-0.5
MLOA	comp=E,19μm,1.2s			IAML		12 37 42.1	
MLOA	comp=N,23μm,1.4s			IAML		12 37 42.2	
MLOA	**Mauna Loa Obse**	0.32	299		Sg	12 37 39.1	+1.7
PAH	**Pahoa**	0.33	70	Pg	Pg	12 37 32.2	-1.1
KHU	**Kahuku**	0.34	247	Pg	Pg	12 37 33.2	-0.4
KHU	comp=E,10μm,1.7s			IAML		12 37 42.2	
KHU	comp=N,13μm,0.5s			IAML		12 37 44.5	
ALEP	**Alea Permanent**	0.38	295		Sg	12 37 39.9	+0.6
PHO	**Puu Honuaula**	0.38	75		Sb	12 37 41.2	-1.3
HPO	**Honuapo**	0.39	222	Pg	Pg	12 37 32.9	-1.5
HPO	**Honuapo**	0.39	222		Sb	12 37 42.4	-0.4
POHA	**Pohakuloa**	0.44	327	Pg	Pg	12 37 35.7	+0.3
HUH	**Hualalai**	0.60	300	Pg	Pg	12 37 38.0	-0.5
HUH	**Hualalai**	0.60	300		Sg	12 37 44.7	-1.7
I59US	**HAWAII INFRASO** baz=115,slow=42	0.62	290	Pg	Pg	12 37 38.0	-0.7
I59US	comp=N,0.1nm,0.9s,baz=106,slow=317,SNR=24			I	I	12 40 50.0	
TAOE	**Nuku Hiva Isla** comp=N,149nm,25.1s	31.77	151	*e*PKP2	P	12 43 55.6	+2.9
TAOE	comp=N,154nm,26.9s			*e*S	S	12 49 04.0	+0.4
TAOE	comp=N,840nm,37.6s			*e*LQ	LQ	12 50 52.4	
TAOE	comp=N,4μm,24.6s			*e*LR	LR	12 52 10.1	
SNCC	**San Nicolas Is** baz=256	34.72	59	P	P	12 44 17.2	-1.0
SCZ2	**Santa Cruz Isl** baz=254	34.82	58	P	P	12 44 18.1	-1.0
SBC	**Santa Barbara** baz=254	34.88	57	P	P	12 44 19.3	-0.2
SMMC	**Simmler** baz=252	34.91	56	P	P	12 44 18.9	-1.0
PKM	**Mcpherson Peak** baz=253	34.92	56	P	P	12 44 18.9	-1.3
NIKH	**Nikolski High** baz=157	35.15	346	P	P	12 44 21.0	-0.6
SCI2	**San Clemente I** baz=257	35.45	60	P	P	12 44 23.4	-1.1
UNV	**Unalaska Valle** baz=162	35.47	349	P	P	12 44 23.8	-0.6
YBH	**Yreka Blue Hor** comp=N,440nm,21.5s,baz=264,slow=29	35.49	44	LR	LR	12 54 45.9	
CHNA	**Chernabura Isl** baz=173	35.54	356	P	P	12 44 24.8	-0.1
H11N3	**WAKE ISLAND Hy** baz=84,slow=73,SNR=50	35.59	277	T	T	13 21 35.0	
H11N2	**WAKE ISLAND Hy** baz=84,slow=73,SNR=35	35.60	277	T	T	13 21 35.9	
H11N1	**WAKE ISLAND Hy** baz=84,slow=73,SNR=29	35.60	277	T	T	13 21 36.5	
CIS	**Catalina Islan** baz=256	35.65	59	P	P	12 44 24.3	-1.9
VOG	**Valley Oaks Go** baz=252	35.70	54	P	P	12 44 25.5	-1.0
OSI	**Osito Audit: C** baz=254	35.71	57	P	P	12 44 24.8	-2.0
ARVC	**Arvin** baz=254	35.77	56	P	P	12 44 24.9	-2.3
VES	**Vestal, Richgr** baz=252	35.78	55	P	P	12 44 25.8	-1.4
FMP	**Fort Macarthur** baz=256	35.83	59	P	P	12 44 26.6	-1.1
H11S2	**WAKE ISLAND Hy** baz=83,slow=74,SNR=16	35.92	275	T	T	13 21 60.0	
H11S1	**WAKE ISLAND Hy** baz=83,slow=74,SNR=14	35.92	275	T	T	13 21 57.4	
DECC	**Green Verdugo** baz=255	35.93	58	P	P	12 44 26.7	-2.0
H11S3	**WAKE ISLAND Hy** baz=83,slow=74,SNR=13	35.94	275	T	T	13 21 58.6	
FALS	**False Pass** baz=167	35.95	352	P	P	12 44 27.1	-1.3
SDPT	**Sand Point** baz=172	36.12	355	P	P	12 44 27.8	-2.1
ISA	**Isabella, Lake** baz=253	36.20	56	P	P	12 44 28.6	-2.4
EDW2	**Edwards Air Fo** baz=255	36.36	57	P	P	12 44 30.4	-2.0
CHIR	**Chirikof Islan** baz=179	36.38	360	P	P	12 44 30.8	-1.3
BFSC	**Mount Baldy Ra** baz=256	36.47	58	P	P	12 44 32.3	-1.1
MLAC	**Mammoth, Mammo** baz=250	36.53	52	P	P	12 44 32.3	-1.7
109C	**Camp Elliot, M** baz=258	36.61	61	P	P	12 44 32.1	-2.4
S12K	**Black Hills** baz=169	36.62	354	P	P	12 44 33.7	-0.5
MURC	**Murrieta** baz=257	36.69	59	P	P	12 44 33.4	-1.8
CWC	**Cottonwood Cre** baz=253	36.73	55	P	P	12 44 34.3	-1.4
LRMC	**Laurel Mtn Rad** baz=254	36.77	56	P	P	12 44 34.7	-1.3
TIN	**Tinemaha, Big** baz=252	36.80	54	P	P	12 44 36.2	+0.1
CHGN	**Chignik** baz=175	36.94	357	P	P	12 44 38.0	+1.1
S14K	**Fog Glacier** baz=173	36.98	356	P	P	12 44 38.8	+1.4
BBRC	**Big Bear Solar** baz=256	37.06	59	P	P	12 44 38.8	+0.2
MPMC	**Manual Prospec** baz=254	37.08	55	P	P	12 44 38.6	-0.1
SII	**Sitkinak Islan** baz=182	37.13	1	P	P	12 44 39.4	+0.8
PPT	**Papeete** comp=N,1μm,20.7s,baz=328,slow=30	37.15	171	LR	LR	12 56 12.7	
RRX	**Edison Barstow** baz=256	37.15	58	P	P	12 44 39.1	+0.1
PPT2	**Papeete2** comp=N,96nm,27.8s	37.17	171	*e*PKP2	P	12 44 41.0	+1.7
PPT2				*e*S	S	12 50 27.7	+1.0
PPT2	comp=N,426nm,24.8s			*e*LQ	LQ	12 52 55.5	
PPT2	comp=N,569nm,22.0s			*e*LR	LR	12 54 36.3	
PPT2	comp=N,3μm,27.0s			*e*LR	LR	12 54 36.7	
MONP2	**Monument Peak** comp=N,4μm,25.5s baz=258	37.17	61	P	P	12 44 38.9	-0.6
NVAR	**Mina Array Bea** comp=N,0.3nm,0.7s,baz=222,slow=9.4,SNR=2.4	37.20	51	P	P	12 44 39.0	-0.7
NVAR	comp=N,288nm,20.5s,baz=240,slow=30 comp=N,0.3nm,0.7s			LR	LR	12 55 55.1	
PFO	**Pinyon Flats O** baz=258	37.29	60	P	P	12 44 39.9	-0.5
PFO	**Pinyon Flats O** comp=N,105nm,21.5s,baz=266,slow=31	37.29	60	LR	LR	12 56 49.5	
TPFO	**Pinon Flats** baz=258	37.30	60	P	P	12 44 39.5	-0.9
IKP	**In-Ko-Pah, Jac** baz=259	37.39	61	P	P	12 44 39.9	-1.3
GSC	**Goldstone, Bar** baz=255	37.41	57	P	P	12 44 40.1	-1.2
GRAC	**Grapevine Rang** baz=252	37.44	54	P	P	12 44 40.0	-1.5
HEC	**Hector,Ludlow** baz=256	37.67	58	P	P	12 44 43.0	-0.5
FURC	**Furnace Creek,** baz=254	37.68	55	P	P	12 44 42.6	-0.9
SWSC	**Sam W. Stewart** baz=259	37.70	61	P	P	12 44 43.7	+0.1
BELC	**Belle Mtn. Jos** baz=257	37.75	59	P	P	12 44 44.2	-0.1
OHAK	**Old Harbor** baz=183	37.81	2	P	P	12 44 45.0	+0.7
SHOC	**Shoshone, Teco** baz=255	37.98	56	P	P	12 44 45.5	-0.6
BC3	**Big Chuckawall** baz=258	38.12	60	P	P	12 44 46.8	-0.6
R18K	**Karluk** baz=181	38.13	1	P	P	12 44 48.1	+1.1
TUQ	**Turquoise Moun** baz=256	38.14	57	P	P	12 44 47.0	-0.5
GMRC	**Granite Mounta** baz=257	38.20	58	P	P	12 44 47.3	-0.8
R17L	**Mt. Peulik Vol** baz=178	38.20	359	P	P	12 44 48.6	+1.0
TPNV	**Topopah Spring** baz=254	38.29	55	P	P	12 44 48.5	-0.3
KDAK	**Kodiak Island** baz=184	38.40	2	P	P	12 44 50.3	+1.1
KDAK	**Kodiak Island** comp=N,1μm,21.4s,baz=209,slow=31	38.40	2	LR	LR	12 56 56.2	
IRM	**Iron Mountain** baz=258	38.48	59	P	P	12 44 49.1	-1.2
GLA	**Glamis** baz=260	38.52	61	P	P	12 44 49.8	-0.9
Q17K	**Contact Creek** baz=179	38.83	359	P	P	12 44 54.7	+1.7
BBB	**Bella Bella** comp=N,289nm,20.7s,baz=230,slow=30	39.01	27	LR	LR	12 57 02.7	
NEE2	**Needles Airpor** baz=258	39.03	58	P	P	12 44 54.7	-0.2
R11B	**Troy Canyon, C** baz=252	39.20	53	P	P	12 44 55.7	-0.7
Q18K	**Katmai Hardscr** baz=180	39.22	0	P	P	12 44 57.0	+0.8
Q20K	**Shuyak Island** baz=184	39.23	2	P	P	12 44 57.4	+1.2
Q16K	**King Salmon** baz=178	39.26	359	P	P	12 44 58.1	+1.8
PDMCI	**Parker Dam,Lak** baz=258	39.32	59	P	P	12 44 57.1	-0.2
Q19K	**Cape Douglas,** baz=182	39.51	1	P	P	12 44 59.3	+0.7
P16K	**Nushagak River** baz=176	39.65	358	P	P	12 45 00.6	+1.0
CRAG	**Craig** baz=214	39.73	20	P	P	12 45 01.2	+0.8
P17K	**Kvichak River** baz=178	39.77	359	P	P	12 45 00.9	+0.2
O15K	**Ungalikthiuk R** baz=173	39.88	356	P	P	12 45 01.0	-0.6
P18K	**Big Mountain,** baz=180	39.96	0	P	P	12 45 02.9	+0.6
214A	**Organ Pipe Nat** baz=262	40.03	63	P	P	12 45 02.6	-0.8
O14K	**Tigyukauivet M** baz=171	40.06	355	P	P	12 45 03.8	+0.8
V35K	**Ketchikan** baz=216	40.11	21	P	P	12 45 04.8	+1.3
O16K	**Kokwok River B** baz=176	40.22	358	P	P	12 45 05.4	+1.0
ELK	**Elko** comp=N,330nm,21.3s,baz=116,slow=30	40.22	49	LR	LR	12 57 23.7	
P19K	**Oil Pt** baz=183	40.25	2	P	P	12 45 05.6	+0.9
U33K	**Whale Pass** baz=213	40.27	19	P	P	12 45 04.9	0.0
HOM	**Homer** baz=185	40.31	3	P	P	12 45 05.4	+0.2
O17K	**Koliganek Bris** baz=177	40.37	359	P	P	12 45 05.8	+0.2
O18K	**Koktuh Hills** baz=180	40.42	0	P	P	12 45 06.3	+0.2
SIT	**Sitka** baz=210	40.44	17	P	P	12 45 06.7	+0.5
BRSE	**Bradley Lake S**	40.44	4	P	P	12 45 07.2	+0.9

	baz=187						
Q23K	Middleton Isla	40.52	7	P	P	12 45 07.4	+0.6
	baz=193						
O20K	Slope Mountain	40.70	2	P	P	12 45 08.9	+0.5
	baz=184						
N14K	Kuskokwak Cree	40.76	355	P	P	12 45 09.4	+0.6
	baz=171						
N15K	Kwethluk River	40.89	356	P	P	12 45 10.8	+0.9
	baz=173						
SEW	Seward	40.89	4	P	P	12 45 10.9	+1.0
	baz=188						
SHEM	Shemya Is, Ala	40.89	332	LR	LR	12 58 42.5	
	comp=N,1μm,21.7s,baz=158,slow=31						
T33K	Petersburg	40.91	19	P	P	12 45 10.9	+0.8
	baz=213						
P23K	Montague Islan	40.96	6	P	P	12 45 11.6	+1.1
	baz=191						
S31K	Pelican	40.99	15	P	P	12 45 11.3	+0.5
	baz=208						
S32K	Killisnoo	41.00	17	P	P	12 45 11.8	+0.9
	baz=210						
U35K	Hyder	41.12	21	P	P	12 45 11.9	0.0
	baz=218						
N16K	Nishlik Lake	41.12	357	P	P	12 45 12.8	+0.9
	baz=175						
N17K	Nushagak Hills	41.12	359	P	P	12 45 14.5	+2.6
	baz=177						
N18K	Kilae Creek	41.26	360	P	P	12 45 14.4	+1.4
	baz=179						
N19K	Bonanza Creek	41.39	1	P	P	12 45 14.8	+0.6
N19K				IAmb	IAmb	12 45 25.1	
	comp=Z,19nm,1.1s						
N19K	Bonanza Creek	41.39	1	P	P	12 45 14.6	+0.4
	baz=181						
CAPN	Captain Cook N	41.45	3	P	P	12 45 15.9	+1.4
	baz=186						
M15K	Kasigluk River	41.45	356	P	P	12 45 14.5	0.0
	baz=172						
R31K	City Hall, Gus	41.52	15	P	P	12 45 16.4	+1.3
	baz=208						
BGLC	Bering Glacier	41.59	9	P	P	12 45 17.1	+1.4
	baz=197						
M14K	Bethel	41.60	355	P	P	12 45 16.7	+1.0
	baz=170						
M16K	Timber Creek	41.68	357	P	P	12 45 17.9	+1.5
	baz=175						
EYAK	Cordova Ski Ar	41.68	7	P	P	12 45 17.1	+0.7
	baz=194						
MTPU	Mount Pierson	41.69	54	P	P	12 45 13.1	-4.3
M11K	Mekoryuk	41.69	352	P	P	12 45 17.5	+1.0
	baz=164						
R32K	Eaglecrest	41.71	16	P	P	12 45 17.1	+0.4
	baz=210						
PWL	Port Wells	41.73	5	P	P	12 45 17.1	+0.3
	baz=190						
TUC	Tucson	41.78	63	P	P	12 45 17.4	-0.5
	baz=263						
WUAZ	Wupatki	41.78	58	P	P	12 45 17.6	-0.3
	baz=259						
HLID	Hailey	41.80	46	P	P	12 45 18.2	+0.3
	baz=248						
DUG	Dugway, Tooele	41.80	51	P	P	12 45 17.2	-0.7
	baz=253						
N20K	Mount Spurr	41.83	2	P	P	12 45 19.1	+1.3
	baz=184						
PNL	Peninsula	41.84	12	P	P	12 45 17.8	0.0
	baz=203						
RC01	Rabbit Creek A	41.85	4	P	P	12 45 17.0	-0.8
	baz=188						
MESA	MESA	41.85	10	P	P	12 45 18.5	+0.4
	baz=199						
GLI	Glacier Island	41.86	6	P	P	12 45 17.6	-0.3
	baz=192						
T35M	Bob Quinn	41.90	20	P	P	12 45 18.8	+0.5
	baz=217						
LPIG	La Paz	41.90	75	LR	LR	12 57 49.6	
	comp=Z,452nm,21.5s,baz=261,slow=29						
M17K	Holitna River	42.00	358	P	P	12 45 19.2	+0.1
	baz=177						
M18K	Stony River	42.07	360	P	P	12 45 20.2	+0.6
	baz=179						
P29M	Windy Craggy	42.14	13	P	P	12 45 20.3	0.0
	baz=205						
NEW	Newport	42.15	38	P	P	12 45 21.2	+0.7
	baz=240						
SUA	Susitna One	42.16	3	P	P	12 45 21.3	+0.8
	baz=186						
CRQE	Cirque	42.22	9	P	P	12 45 21.6	+0.5
	baz=197						
BMRM	Bremner River	42.23	8	P	P	12 45 21.8	+0.8
	baz=195						
L14K	Kuka Creek	42.24	355	P	P	12 45 21.9	+0.9
	baz=170						
KNK	Knik Glacier	42.26	5	P	P	12 45 22.5	+1.2
	baz=190						
PLBC	Pleasant Camp	42.29	14	P	P	12 45 23.0	+1.6
	baz=207						
S34M	Telegraph Cree	42.37	19	P	P	12 45 23.7	+1.5
	baz=215						
L16K	Owhat River	42.39	357	P	P	12 45 22.2	0.0
	baz=174						
PMR	Palmer	42.39	4	P	P	12 45 22.5	+0.3
	baz=189						
L15K	Ungalak Mounta	42.48	356	P	P	12 45 23.3	+0.3
	baz=171						
M22K	Willow	42.48	4	P	P	12 45 24.4	+1.4
	baz=187						
M19K	Big River Lodg	42.49	1	P	P	12 45 22.9	-0.1
	baz=181						
M20K	Styx River	42.49	2	P	P	12 45 23.5	+0.4
	baz=183						
SKAG	Skagway	42.54	15	P	P	12 45 24.8	+1.3
	baz=208						
KLU	Klutina	42.58	7	P	P	12 45 24.7	+0.8
	baz=193						
O29M	Mount Kennedy	42.58	12	P	P	12 45 24.6	+0.6
	baz=204						
SKT	Skwentna	42.64	3	P	P	12 45 24.9	+0.7
	baz=185						
SML	Sawmill	42.66	5	P	P	12 45 24.2	-0.4
	baz=190						
CTG	Chitna Glacier	42.70	10	P	P	12 45 25.6	+0.7
	baz=200						
M23K	Glacier View	42.70	5	P	P	12 45 25.2	+0.5
	baz=190						
O28M	Mount Upton	42.71	11	P	P	12 45 24.9	-0.3
	baz=201						
P30M	Million Dollar	42.76	13	P	P	12 45 24.9	-0.4
	baz=206						
L19K	White Mountain	42.76	0	P	P	12 45 24.2	-1.1
	baz=181						
L17K	Donlin	42.77	358	P	P	12 45 24.0	-1.2
	baz=176						
L18K	Granite Mounta	42.81	359	P	P	12 45 26.3	+0.7
	baz=178						
MCARA	McCarthy VSAT	42.84	9	P	P	12 45 25.6	-0.3
	baz=197						
N25K	Chitina, Valde	42.84	7	P	P	12 45 26.8	+0.7
	baz=195						
TBI	Tubuai	42.85	172	*e*P	P	12 45 22.9	-3.4
	comp=Z,565nm,25.8s						
TBI				*e*S	S	12 51 52.3	+0.8
	comp=Z,2μm,26.0s						
TBI				*e*LQ	LQ	12 55 25.5	
	comp=Z,3μm,26.0s						
TBI				*e*LR	LR	12 57 12.0	
	comp=Z,14μm,28.5s						
TBI				*e*LR	LR	12 57 16.2	
	comp=Z,3μm,27.5s						
Q32M	Nakina River	42.91	17	P	P	12 45 26.7	-0.1
	baz=213						
K13K	Kusilvak Mount	43.01	354	P	P	12 45 26.6	-0.7
	baz=167						
W18A	Petrified Fore	43.04	59	P	P	12 45 28.7	+0.6
	baz=261						
P32M	Attlin	43.06	16	P	P	12 45 28.1	+0.4
	baz=210						
L20K	Farewell, AK	43.07	1	P	P	12 45 27.5	-0.3
	baz=182						
K15K	Wolf Creek Mou	43.09	356	P	P	12 45 27.7	-0.3
	baz=171						
CUT	Chulitna	43.12	3	P	P	12 45 29.5	+1.3
	baz=187						
DLBC	Dease Lake	43.14	19	P	P	12 45 28.8	+0.3
	baz=216						
DLBC	Dease Lake	43.14	19	LR	LR	12 59 27.8	
	comp=Z,499nm,19.9s,baz=228,slow=31						
M24K	Tolsona, Glenn	43.16	6	P	P	12 45 28.6	0.0
	baz=193						
YUK6	Outpost Mounta	43.21	12	P	P	12 45 29.0	-0.2
	baz=204						
YUK8	Steele Glacier	43.27	11	P	P	12 45 30.2	+0.5
	baz=202						
K17K	Iditarod	43.35	358	P	P	12 45 30.5	+0.6
	baz=176						
MSO	Missoula	43.41	41	P	P	12 45 31.1	+0.3
	baz=245						
WAT6	Susitna Watana	43.48	5	P	P	12 45 31.6	+0.3
	baz=190						
YUK4	Talbot Arm	43.53	12	P	P	12 45 33.1	+1.4
	baz=203						
O30N	Mendenhall	43.53	14	P	P	12 45 32.5	+0.9
	baz=207						
HARP	HAARP	43.55	7	P	P	12 45 32.5	+0.8
	baz=194						
YUK3	Moose Creek	43.61	10	P	P	12 45 32.7	+0.3
	baz=200						
R33M	Jennings River	43.65	18	P	P	12 45 33.0	+0.4
	baz=214						
WAT1	Susitna Watana	43.66	4	P	P	12 45 32.8	+0.2
	baz=189						
J14K	Nanvaranak Lak	43.71	354	P	P	12 45 34.1	+1.3
	baz=169						
WHY	Whitehorse	43.71	14	P	P	12 45 33.7	+0.6
	baz=208						
M26K	Nabesna, AK	43.82	8	P	P	12 45 35.9	+2.1
	baz=197						
P33M	Teslin, Yukon	43.83	16	P	P	12 45 35.0	+1.0
	baz=211						
M27K	Edge Creek, AK	43.94	9	P	P	12 45 34.6	-0.3
	baz=198						
N30M	Aishikik Lake	43.94	12	P	P	12 45 35.2	+0.3
	baz=205						
K20K	Telida	43.95	1	P	P	12 45 34.3	-0.5
	baz=182						
DHY	Denali Highway	43.99	5	P	P	12 45 35.5	+0.1
	baz=191						
J16K	Anvik River	44.02	357	P	P	12 45 36.2	+0.9
	baz=173						
J17K	VABM Dome	44.06	358	P	P	12 45 36.5	+0.9
	baz=175						
J18K	Innoko River	44.06	359	P	P	12 45 35.6	-0.1
	baz=178						
PAX	Paxson	44.07	6	P	P	12 45 36.7	+0.7
	baz=193,SNR=11						
N31M	Braeburn, Yuko	44.24	13	P	P	12 45 37.9	+0.7
	baz=207						
121A	Cookes Peak, D	44.33	63	P	P	12 45 39.7	+1.1
	baz=265						
L26K	Log Cabin Wild	44.37	8	P	P	12 45 39.1	+0.8
	baz=196						
MVCO	Mesa Verde	44.38	56	P	P	12 45 38.6	-0.4
	baz=260						
BOZ	Bozeman (W)	44.40	44	P	P	12 45 39.4	+0.5
	baz=249						
MCK	McKinley	44.53	4	P	P	12 45 39.6	+0.1
	baz=188						
N32M	Quiet Lake	44.57	15	P	P	12 45 39.8	-0.1
	baz=210						
M29M	Somme Creek	44.58	11	P	P	12 45 39.1	-0.9
	baz=203						
J19K	Poorman	44.58	360	P	P	12 45 39.6	-0.3
	baz=180						
L27K	Beaver Creek,	44.61	9	P	P	12 45 42.0	+1.8
L27K	Beaver Creek,	44.61	9	P	P	12 45 40.0	-0.2
	baz=198						
BCAR	Beaver Creek A	44.62	9	P	P	12 45 41.9	+1.6
I17K	Unalakleet	44.62	357	P	P	12 45 39.1	-1.1
	baz=173						
H17A	Grant Village	44.68	46	P	P	12 45 39.0	-2.3
	baz=251						
J20K	Nowinta River	44.77	1	P	P	12 45 40.1	-1.3
	baz=182						
BPAW	Bear Paw Mtn.	44.78	3	P	P	12 45 41.5	0.0
	baz=186						
K24K	Donnelly Dome	44.86	6	P	P	12 45 43.0	+0.9
	baz=193						
WTLY	Watson Lake, Y	44.87	18	P	P	12 45 43.0	+0.7
	baz=217						
BW06	Boulder Array	44.88	48	P	P	12 45 42.4	-0.6
	baz=253						
PDAR	Pinedale Array	44.88	48	P	P	12 45 43.9	+1.0
	comp=Z,0.8nm,1.0s,baz=235,slow=4.9,SNR=5.8						
	comp=Z,0.8nm,1.0s						
M30M	Minto, Yukon	45.01	12	P	P	12 45 43.7	+0.3
	baz=205						
TOAD	Toad River Com	45.04	22	P	P	12 45 42.9	-0.8
	baz=222						
O20A	White River Ci	45.17	52	P	P	12 45 44.3	-0.9
	baz=257						
LIRD	Liard River Hi	45.17	21	P	P	12 45 45.4	+0.7
	baz=220						
M31M	Drury Creek, Y	45.18	14	P	P	12 45 44.1	-0.6
	baz=208						
Y22D	IRIS PASSCAL I	45.20	61	P	P	12 45 44.7	-0.8
	baz=264						
SCRK	Sand Creek	45.22	7	P	P	12 45 45.2	+0.1
	baz=195						
L29M	L29M	45.25	11	P	P	12 45 44.9	-0.5
	baz=203						
HDA	Harding Lake	45.35	5	P	P	12 45 46.5	+0.5
	baz=191						
GCSA	Galena City Sc	45.35	359	P	P	12 45 46.4	+0.5
	baz=178						
NEA2	Nenana	45.37	4	P	P	12 45 46.5	+0.3
	baz=188,SNR=6.4						
I20K	Naaghedeneel	45.39	0	P	P	12 45 46.9	+0.7
	baz=181						
FARO	Faro, Yukon	45.44	14	P	P	12 45 48.0	+1.2
	baz=210						
H16K	Elim	45.47	356	P	P	12 45 47.0	+0.1
	baz=171						
K27K	Chicken	45.50	8	P	P	12 45 47.7	+0.5
	baz=198						
H17K	Granite Mounta	45.63	357	P	P	12 45 48.7	+0.5
	baz=174						
ANM	Nome	45.66	354	P	P	12 45 48.9	+0.5
	baz=167						
ANMO	Albuquerque	45.68	60	P	P	12 45 48.1	-1.1
	baz=263						
ANMO	Albuquerque	45.68	60	LR	LR	13 00 16.3	
	comp=Z,233nm,21.9s,baz=50,slow=30						
J25K	Salcha River,	45.69	6	P	P	12 45 50.0	+1.3
J25K				IAmb	IAmb	12 45 58.4	
	comp=Z,10.0nm,1.1s						
J25K	Salcha River,	45.69	6	P	P	12 45 48.7	-0.1
	baz=193,SNR=8.0						
IL31		45.71	5	P	P	12 45 49.5	+0.7
IL31				IAmb	IAmb	12 45 58.0	
	comp=Z,6.6nm,1.1s						
ILAR	Eielson Array	45.71	5	P	P	12 45 50.5	+1.7
ILAR	Eielson Array	45.71	5	P	P	12 45 48.9	+0.1
	comp=Z,1.2nm,0.8s,baz=198,slow=6.8,SNR=12						
ILAR				LR	LR	13 01 52.1	
	comp=Z,495nm,19.7s,baz=192,slow=32						
	comp=Z,1.2nm,0.8s						
MLY	Manley	45.72	3	P	P	12 45 50.5	+1.5
MLY				IAmb	IAmb	12 45 57.7	
	comp=Z,8.6nm,1.1s						
MLY	Manley	45.72	3	P	P	12 45 48.4	-0.6
	baz=186						
COLA	College	45.73	4	P	P	12 45 51.2	+2.2
COLA	College	45.73	4	P	P	12 45 48.3	-0.7
	baz=190						
GAMB	Gambell	45.75	350	P	P	12 45 48.4	-0.7
	baz=158						
J26L	Joseph Creek	45.77	7	P	P	12 45 51.6	+2.2
J26L				IAmb	IAmb	12 45 59.5	
	comp=Z,8.7nm,1.1s						
J26L	Joseph Creek	45.77	7	P	P	12 45 48.6	-0.9
	baz=196						
S22A	4UR Ranch, Cre	45.78	56	P	P	12 45 48.2	-2.0
	baz=260						
H18K	Honhosa River	45.79	358	P	P	12 45 48.7	-0.7
	baz=176						
MDM	Murphy Dome	45.79	4	P	P	12 45 49.8	+0.3
RLMT	Red Lodge	45.80	45	P	P	12 45 49.2	-0.9
	baz=251						
I23K	Minto, Yukon-K	45.91	3	P	P	12 45 51.9	+1.6
I23K	Minto, Yukon-K	45.91	3	P	P	12 45 50.1	-0.3
	baz=188						
DAWY	Dawson	45.93	10	P	P	12 45 52.7	+2.0
DAWY				IAmb	IAmb	12 46 00.7	
	comp=Z,8.9nm,1.2s						
DAWY	Dawson	45.93	10	P	P	12 45 50.4	-0.3
	baz=201						
G15K	Niukluk	45.96	355	P	P	12 45 50.9	+0.1
	baz=168						
POKR	Poker Plat Res	46.01	5	P	P	12 45 50.4	-0.8
	baz=190						
K29M	Barlow Dome	46.04	11	P	P	12 45 49.9	-1.7
	baz=204						
H20K	Anotleneega Mo	46.09	0	P	P	12 45 51.8	0.0
	baz=180						
H19K	Roundabout Mou	46.13	359	P	P	12 45 51.6	-0.5
	baz=178						
TGTN	Hyland Airport	46.16	18	P	P	12 45 52.0	-0.5
	baz=216						
G16K	Koyuk River	46.23	356	P	P	12 45 53.4	+0.5
	baz=171						
G17K	Kiwalik Mounta	46.23	357	P	P	12 45 53.0	+0.1
	baz=173						
H21K	Melozitna Rive	46.28	1	P	P	12 45 52.2	-1.2
	baz=183						
MNTX	Cornudas Mount	46.30	64	P	P	12 45 53.1	-1.0
	baz=267						
EGAK	Eagle	46.34	8	P	P	12 45 53.8	0.0
	baz=198						
KOTAN	Kotaneelee Air	46.40	21	P	P	12 45 54.2	-0.2
	baz=222						
J29N	Klondike Camp	46.48	10	P	P	12 45 56.2	+1.2
	baz=202						
EGMT	Eagleton	46.49	41	P	P	12 45 55.0	-0.3
	baz=248						
G18K	Tagagawik	46.54	358	P	P	12 45 56.3	+0.9
	baz=176						
H22K	Ishtalitna Cre	46.56	2	P	P	12 45 55.6	0.0
	baz=185						
PRP	Porcupine Dome	46.56	6	P	P	12 45 55.9	+0.2
	baz=193						
H23K	Yukon River	46.57	3	P	P	12 45 56.0	+0.4
	baz=187						
I26K	Coal Creek Min	46.60	7	P	P	12 45 56.8	+1.0
	baz=196,SNR=11						
F14K	Arctic Creek	46.65	354	P	P	12 45 56.6	+0.4
	baz=166						
H24K	Noodor Dome	46.69	4	P	P	12 45 57.5	+0.9
	baz=190						
F15K	North Star Dit	46.71	355	P	P	12 45 57.3	+0.6
	baz=168						
G19K	Purcell Mounta	46.75	359	P	P	12 45 57.8	+0.8
	baz=178						
SDCO	Great Sand Dun	46.82	56	P	P	12 45 58.2	-0.1
	baz=261						
TNA	Tin City	46.91	353	P	P	12 45 59.2	+1.0
	baz=164						
J30M	Hart River	46.92	11	P	P	12 46 00.1	+1.5
	baz=205						
K22A	Casper	47.01	49	P	P	12 46 00.2	+0.6
	baz=256						
N23A	Red Feather La	47.04	52	P	P	12 46 00.2	+0.2
	baz=258						
I27K	Kandik River	47.07	8	P	P	12 46 00.1	+0.5
	baz=198						
ISCO	Idaho Springs	47.07	53	P	P	12 45 59.9	-0.5
	baz=259						
G21K	Allakaket	47.13	1	P	P	12 46 00.7	+0.8
	baz=182						
I28M	Miner Creek	47.15	9	P	P	12 46 01.3	+1.0
	baz=200						
F17K	Baldwin Pennin	47.20	357	P	P	12 46 00.9	+0.5
	baz=172						
H25L	Birch Creek	47.27	5	P	P	12 46 01.5	+0.4
	baz=192,SNR=8.0						
Q24A	Divide	47.28	55	P	P	12 46 01.5	-0.5
	baz=260						
F18K	Selawik	47.28	358	P	P	12 46 01.2	+0.1
	baz=174						
I29M	Ogilvie Camp,	47.31	10	P	P	12 46 01.4	-0.1
	baz=202						
G23K	Bananza Creek	47.43	3	P	P	12 46 02.8	+0.4
	baz=187						
F19K	Shaleruckik Mo	47.46	359	P	P	12 46 03.4	+0.9
	baz=177						
I30M	Mount Dempster	47.50	11	P	P	12 46 04.2	+1.2
I30M	Mount Dempster	47.50	11	P	P	12 46 02.9	-0.2
	baz=204,SNR=6.0						
G24K	Hadweenzic Riv	47.57	4	P	P	12 46 03.4	0.0
	baz=190						
G22K	Bettles	47.58	2	P	P	12 46 03.7	+0.2
	baz=185						
T25A	Trinidad	47.59	57	P	P	12 46 03.6	-0.8
	baz=263						
F20K	Avaraart Lake	47.65	360	P	P	12 46 03.3	-0.7
	baz=179						
H27K	Steamboat Moun	47.68	7	P	P	12 46 04.6	+0.3
	baz=198,SNR=13						
TXAR	Lajitas Array	47.73	68	P	P	12 46 07.0	+1.7
	comp=Z,2.1nm,0.8s,baz=256,slow=8.4,SNR=22						
TXAR				LR	LR	13 02 07.0	
	comp=Z,93nm,21.6s,baz=242,slow=31						
	comp=Z,2.1nm,0.8s						
G25K	Bearman Lake	47.74	5	P	P	12 46 03.9	-0.7
	baz=192						
F21K	Alatna River	47.84	1	P	P	12 46 05.5	0.0
	baz=182						
E17K	Hotham Inlet	47.87	357	P	P	12 46 06.1	+0.4
	baz=172,SNR=7.6						
COLD	Coldfoot	47.94	3	P	P	12 46 05.1	-1.2
	baz=186						
E19K	Redstone River	48.08	359	P	P	12 46 07.3	0.0
	baz=178						
H29M	Whitestone	48.10	9	P	P	12 46 07.1	-0.4
	baz=202						
G26K	Porcupine Rive	48.12	6	P	P	12 46 08.6	+1.0
	baz=195,SNR=9.4						
E18K	Tukpahlearik C	48.14	357	P	P	12 46 08.0	+0.2
	baz=173						
F22K	John River	48.15	2	P	P	12 46 08.1	+0.2
	baz=184,SNR=6.3						
G27K	Doyon Strip	48.22	7	P	P	12 46 07.8	-0.6
	baz=197						
LAO	LASA Array	48.31	44	P	P	12 46 08.6	-1.0
	baz=253						
F24K	Squaw Lake	48.35	4	P	P	12 46 09.1	-0.4
	baz=189						
EPYK	Eagle Plains	48.50	10	P	P	12 46 10.5	-0.1
	baz=204						
D17K	Noatak River	48.56	356	P	P	12 46 11.4	+0.4
	baz=170,SNR=5.9						
F25K	Christian Rive	48.59	5	P	P	12 46 12.5	+1.2
	baz=192						
MSTX	Muleshoe	48.62	61	P	P	12 46 11.5	-0.8
	baz=266						
E22K	Anaktuvuk Pass	48.79	2	P	P	12 46 13.6	+0.8
	baz=184						
E23K	Chandalar	48.79	3	P	P	12 46 12.3	-0.7
	baz=187						
G29M	Pine Creek	48.80	9	P	P	12 46 11.7	-1.2
	baz=202,SNR=7.1						
F26K	Sheenjek River	48.81	6	P	P	12 46 13.8	+0.8
	baz=194						
E20K	Nigu River	48.87	360	P	P	12 46 12.8	-0.7
	baz=179						
E24K	Your Creek	48.87	3	P	P	12 46 14.4	+0.9
	baz=188						
RDOG	Red Dog Mine	48.90	356	P	P	12 46 15.3	+1.7
	baz=170						
WRGLY	Wrigley	48.90	18	P	P	12 46 15.2	+1.5
	baz=221						
E21K	Killik River	49.05	1	P	P	12 46 15.3	+0.4
	baz=182						
RSSD	Black Hills	49.12	48	P	P	12 46 15.4	-0.6
	baz=257						
D19K	Kuna River	49.13	359	P	P	12 46 15.9	+0.4
	baz=176						
G30M	tAoh Zraii Nji	49.14	10	P	P	12 46 15.5	-0.1
	baz=204						
F28M	Old Crow	49.21	8	P	P	12 46 16.3	+0.3
	baz=199						
KSCO	Kaye Shedlock'	49.23	55	P	P	12 46 15.6	-1.3
	baz=262						
C16K	Lisburne Hills	49.29	355	P	P	12 46 16.6	0.0
	baz=167						
D20K	Etivluk River	49.33	359	P	P	12 46 17.1	+0.1
	baz=178						
C17K	DeLong Mountai	49.33	356	P	P	12 46 17.3	+0.3
	baz=170						
TOLK	Toolik Lake Re	49.38	3	P	P	12 46 16.9	-0.5
	baz=187						
C18K	Utukok River	49.39	357	P	P	12 46 16.8	-0.7
	baz=173						
G31M	Satah River	49.41	11	P	P	12 46 17.2	-0.4
	baz=206						

D22K Ayikyak River 49.51 1 P **P 12 46 18.8 +0.4**
baz=183
E27K Coleen River 49.55 7 P **P 12 46 18.0 -0.7**
baz=197
AMTX Amarillo 49.58 60 P **P 12 46 18.2 -1.3**
baz=266
D23K Nanushuk River 49.66 2 P **P 12 46 19.0 -0.4**
baz=186
C21K Knifeblade Rid 49.77 0 P **P 12 46 19.9 -0.4**
baz=181
C19K Lookout Ridge 49.79 358 P **P 12 46 20.8 +0.4**
baz=175
F30M Barrier River 49.79 10 P **P 12 46 19.4 -1.0**
baz=204
D24K Happy Valley 49.92 3 P **P 12 46 21.4 0.0**
baz=188
OGNE Ogallala 49.96 52 P **P 12 46 21.0 -1.4**
baz=261
F31M Tsiigehtchic 49.97 11 P **P 12 46 23.0 +1.2**
baz=207
B18K Kokolik River 50.14 357 P **P 12 46 24.0 +1.0**
baz=172
DGMT Dagmar 50.14 42 P **P 12 46 24.0 +0.5**
baz=253
E28M Babbage River 50.19 7 P **P 12 46 24.4 +0.9**
baz=200
E29M Blow River 50.20 8 P **P 12 46 24.7 +1.2**
baz=202
D25K Kavik River 50.23 4 P **P 12 46 25.0 +1.2**
baz=191
B21K Ikpikpuk River 50.23 0 P **P 12 46 25.0 +1.3**
baz=181
C24K Franklin Bluff 50.49 3 P **P 12 46 27.0 +1.3**
baz=188
C23K Itkillik River 50.53 2 P **P 12 46 27.3 +1.3**
baz=186
D27M Malcolm River 50.63 7 P **P 12 46 28.0 +1.1**
baz=198
B20K Meade River 50.63 359 P **P 12 46 28.1 +1.3**
baz=178
C27K Jago River 50.74 5 P **P 12 46 28.8 +1.2**
baz=194
INK Inuvik 50.78 10 P **P 12 46 30.2 +2.2**
baz=207,SNR=6.6
INK Inuvik 50.78 10 LR LR 13 06 04.0
comp=Z,544nm,18.8s,baz=203,slow=34
C26K Camden Bay 50.92 5 P **P 12 46 30.6 +1.7**
baz=193
A19K Wainwright 50.94 357 P **P 12 46 29.9 +0.9**
baz=173
B22K Teshekpuk Lake 50.97 1 P **P 12 46 29.7 +0.4**
baz=182
D28M Stokes Point 50.97 7 P **P 12 46 30.4 +1.1**
baz=200
JCT Junction City 51.07 66 P **P 12 46 30.5 -0.3**
baz=271
ABTX Abilene, Hawle 51.20 63 P **P 12 46 32.5 +0.8**
baz=270
YKA Yellowknife Ar 51.35 23 P **P 12 46 33.1 +0.9**
comp=Z,0.7nm,0.9s,baz=232,slow=7.0,SNR=3.4
YKA LR LR 13 05 18.2
comp=Z,223nm,20.5s,baz=220,slow=33
comp=Z,0.7nm,0.9s
CBKS Cedar Bluff 51.45 55 P **P 12 46 33.7 +0.1**
baz=264
833A Chaparral WMA, 51.50 69 P **P 12 46 35.8 +1.8**
baz=273
A22K Sinclair Lake 51.62 0 P **P 12 46 35.7 +1.5**
baz=180
WMOK Wichita Mounta 51.96 61 P **P 12 46 38.4 +1.0**
baz=268
SUSD Miller 52.76 48 P **P 12 46 43.7 +0.5**
baz=261
BGNE Belgrade 52.93 52 P **P 12 46 44.4 -0.1**
baz=264
MDND Maddock 52.96 44 P **P 12 46 44.2 -0.4**
baz=258
435B Jarrell 52.97 66 P **P 12 46 45.0 +0.1**
baz=272
WHTX Lake Whitney, 53.05 64 P **P 12 46 46.1 +0.6**
baz=271
C36M Paulatuk 53.50 13 P **P 12 46 48.5 +0.5**
baz=218
KSU1 Kansas State U 53.90 55 P **P 12 46 52.3 +0.7**
baz=266
ECSD EROS Data Cent 54.33 50 P **P 12 46 54.0 -0.7**
ECSD IAmb IAmb 12 47 18.9
comp=Z,9.1nm,1.5s
ECSD EROS Data Cent 54.33 50 P **P 12 46 54.7 0.0**
baz=263
TUL3 Leonard 54.43 59 P **P 12 46 55.8 +0.2**
baz=269
A36M Sachs Harbour 55.40 11 P **P 12 47 03.7 +1.8**
baz=215
NATX Nacogdoches 55.44 64 P **P 12 47 03.5 +0.6**
baz=273
AGMN Agassiz Nation 55.51 44 P **P 12 47 03.3 +0.2**
baz=260
DZM Mont Dzumac 55.66 224 *e*P **P 12 47 04.2 -0.4**
DZM *e*S **S 12 54 49.3 -2.4**
comp=Z,158nm,22.7s
DZM *e*SS **SS 12 58 36.2 -1.1**
comp=Z,267nm,24.9s
DZM *e*LR LR 13 03 16.0
comp=Z,215nm,24.4s
DZM Mont Dzumac 55.66 224 LR LR 13 05 06.7
comp=Z,474nm,26.0s
comp=Z,161nm,21.9s,baz=70,slow=30
ULM Lac du Bonnet 55.85 42 P **P 12 47 05.1 -0.4**
comp=Z,1.4nm,0.8s,baz=245,slow=11,SNR=3.1
ULM LR LR 13 07 16.3
comp=Z,121nm,20.2s,baz=271,slow=32
comp=Z,1.4nm,0.8s
SEY Seymchan 56.14 334 LR LR 13 06 31.3
comp=Z,594nm,21.8s,baz=148,slow=31
MIAR Mount Ida 56.25 61 P **P 12 47 07.8 -0.9**
baz=271
SCIA State Center 56.66 52 P **P 12 47 11.3 -0.2**
baz=267
SPMN Marine on St. 57.20 48 P **P 12 47 15.3 +0.1**
baz=265
GUMO Guam 57.45 274 LR LR 13 06 43.0
comp=Z,368nm,22.0s,baz=68,slow=31
JCJ Chichijima 57.48 290 LR LR 13 07 07.0
comp=Z,259nm,20.5s,baz=91,slow=31
CCM Cathedral Cave 58.08 57 P **P 12 47 21.8 +0.2**
baz=270
EYMN Ely 58.36 45 P **P 12 47 23.9 +0.5**
baz=264
JFWS Jewell Farm 58.90 51 P **P 12 47 27.4 +0.2**
baz=268
VBMS Vicksburg 58.92 64 P **P 12 47 27.4 -0.1**
baz=274
JHJ Hachijo jima 2 59.00 298 LR LR 13 09 35.8
comp=Z,382nm,19.9s,baz=91,slow=33
G40A Rib Lake 59.04 48 P **P 12 47 28.5 +0.4**
G40A IAmb IAmb 12 47 35.3
comp=Z,9.8nm,1.1s
HDIL Hopedale 59.58 54 P **P 12 47 32.3 +0.4**
baz=270
OXF Oxford 59.69 61 P **P 12 47 33.3 +0.5**
baz=274
MJAR Matsushiro Arr 60.09 302 LR LR 13 09 08.6
comp=Z,301nm,21.6s,baz=75,slow=32
L44A Lake County Fo 60.61 52 P **P 12 47 39.8 +0.8**
baz=270
WVT Waverly 60.87 59 P **P 12 47 41.4 +0.5**
baz=274
SFIN Lafayette 61.26 54 P **P 12 47 43.6 +0.2**
baz=272
APG El Apazote 61.77 83 LR LR 13 09 06.4
comp=Z,24nm,20.0s,baz=269,slow=31
LRAL Lakeview Retre 61.81 62 P **P 12 47 47.5 +0.3**
baz=276
BRAL Brewton 61.96 64 P **P 12 47 48.6 +0.3**
baz=277
WCI Wyandotte Cave 61.97 56 P **P 12 47 48.2 -0.1**
baz=273
TEIG Tepich 62.63 77 LR LR 13 11 24.8
comp=Z,135nm,20.4s,baz=224,slow=32
O48B Farmland 62.74 54 P **P 12 47 53.8 +0.3**
baz=273
GLMI Grayling 62.98 49 P **P 12 47 55.6 +0.6**
baz=271
P49A Miami Univ. Ec 63.12 55 P **P 12 47 54.6 -1.4**
baz=274
PMG Port Moresby 63.51 249 LR LR 13 15 35.2
comp=Z,179nm,18.1s,baz=52,slow=36

RES Resolute Bay 63.77 15 LR LR 13 11 45.0
comp=Z,474nm,21.6s,baz=252,slow=32
AAM Ann Arbor 63.77 52 P **P 12 47 60.0 -0.2**
baz=273
TZTN Tazewell 64.28 58 P **P 12 48 03.1 -0.6**
baz=276
ACSO Alum Creek Sta 64.41 54 P **P 12 48 03.9 -0.6**
baz=274
USRK Ussuriysk Ar. 64.48 310 LR LR 13 11 23.5
comp=Z,610nm,20.6s,baz=96,slow=32
KLR Kul'dur 64.51 316 LR LR 13 11 46.1
comp=Z,438nm,20.5s,baz=121,slow=32
GOGA Godfrey 64.71 62 P **P 12 48 05.6 -0.9**
baz=277
TIGA Tifton 64.87 64 P **P 12 48 07.1 -0.5**
baz=278
P52A Corning 65.11 55 P **P 12 48 08.9 -0.1**
baz=275
O53A New Philadelph 65.75 54 P **P 12 48 12.0 -1.2**
baz=275
M53A WI Miller and 66.05 52 P **P 12 48 13.7 -1.4**
baz=275
KMSC Kings Mountain 66.23 59 P **P 12 48 15.9 -0.5**
baz=278
JNU Nakatsue 66.43 298 LR LR 13 17 21.8
comp=Z,362nm,18.0s,baz=84,slow=36
ERPA Erie 66.50 52 P **P 12 48 16.6 -1.4**
baz=275
BLA Blacksburg 66.70 57 P **P 12 48 17.5 -1.9**
baz=277
MCWV Mont Chateau 66.86 54 P **P 12 48 18.9 -1.4**
baz=276
DWPF Disney Wildern 67.25 67 P **P 12 48 22.3 -0.7**
baz=281
NHSC New Hope 67.48 61 P **P 12 48 23.8 -0.5**
baz=279
SSPA Standing Stone 68.23 53 P **P 12 48 27.7 -1.2**
baz=277
CBN Corbin Frederi 68.96 56 P **P 12 48 34.2 +0.6**
baz=279
CNNC Cliffs of the 69.01 59 P **P 12 48 33.2 -0.7**
baz=279
BINY Binghamton 69.45 51 P **P 12 48 36.6 +0.1**
baz=278
JOW Kunigami 69.77 292 LR LR 13 12 45.2
comp=Z,189nm,21.9s,baz=110,slow=30
RPZ Rata Peaks 69.97 205 LR LR 13 14 11.0
comp=Z,257nm,21.8s,baz=46,slow=31
LONY Lake Ozonia 70.13 49 P **P 12 48 39.5 -1.2**
baz=278
PAL Palisades 71.17 52 P **P 12 48 45.8 -1.2**
baz=280
FRB Frobisher Bay 71.37 28 LR LR 13 15 58.6
comp=Z,125nm,21.8s,baz=284,slow=32
L61B Northampton 71.83 51 P **P 12 48 49.8 -1.2**
baz=280
LBNH Lisbon 72.07 49 P **P 12 48 51.4 -1.0**
baz=280
HRV Adam Dziewonsk 72.64 50 P **P 12 48 54.0 -1.8**
baz=281
DL2 Dalian 72.85 306 P P 12 49 02.8 +5.6
DL2 S **SKiKP 12 58 37.5 +5.6**
DL2 pmax pmax
comp=Z,8.0nm,0.8s
DL2 pmax pmax
comp=Z,680nm,6.7s
DL2 LR LR
comp=N,230nm,13.3s
DL2 LR LR
comp=E,550nm,14.4s
DL2 LR LR
comp=Z,670nm,25.0s
M65A Busby, Falmout 73.48 51 P **P 12 49 00.4 -0.5**
baz=281
PKME Peaks-Kenny Pk 73.73 47 P **P 12 49 02.4 +0.1**
baz=281
XLT XiLinHaoTe 75.87 312 *e*P **P 12 49 16.5 +1.7**
XLT pP sP 12 49 21.5 +4.7
XLT sP PcP 12 49 23.5 -3.9
XLT PcP pP 12 49 27.8 +12
XLT pmax pmax
comp=Z,6.0nm,0.7s
XLT pmax pmax
comp=Z,390nm,7.2s
NJ2 Nanjing 76.58 299 *e*P **P 12 49 17.3 -1.7**
NJ2 pmax pmax
comp=Z,12nm,0.6s
TIA Tai'an 76.94 304 P **P 12 49 24.0 +3.1**
TIA pmax pmax
comp=Z,4.0nm,1.0s
TIA pmax pmax
comp=Z,500nm,7.9s
TIA LR LR
comp=Z,250nm,10.4s
TIA LR LR
comp=Z,320nm,17.3s
TIA LR LR
comp=Z,660nm,17.4s
DAV Davao City (W) 77.48 273 LR LR 13 17 46.0
comp=Z,235nm,21.2s,baz=66,slow=31
SFJD Kangerlussuaq 77.91 23 LR LR 13 19 46.6
comp=Z,333nm,21.7s,baz=299,slow=33
HNS HongShan 78.50 306 ⇑P **P 12 49 32.0 +2.4**
HNS PP **PP 12 52 32.8 +6.0**
HNS pmax pmax
comp=Z,520nm,10.1s
HNS LR LR
comp=Z,360nm,22.8s
HNS LR LR
comp=Z,540nm,22.7s
QZH Quanzhou 78.68 293 P **P 12 49 29.8 -1.0**
QZH *e*S **S 12 59 28.8 -0.4**
QZH pmax pmax
comp=Z,380nm,9.0s
QZH LR LR
comp=Z,320nm,23.4s
QZH LR LR
comp=Z,330nm,17.5s
QZH LR LR
comp=Z,430nm,22.2s
STKA Stephens Creek 79.07 231 LR LR 13 22 51.3
comp=Z,132nm,18.1s,baz=36,slow=34
WRA Warramunga Arr 79.26 244 LR LR 13 19 21.8
comp=Z,377nm,20.9s,baz=30,slow=32
HHC Hu-ho-hao-te 79.89 310 *e*P **P 12 49 36.0 -1.3**
HHC PP **PP 12 52 39.0 +0.5**
HHC S **S 12 59 36.0 -5.8**
HHC sS sS 12 59 48.0 +3.8
HHC SS **SS 13 04 48.3 -2.3**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,320nm,6.3s
HHC LR LR
comp=Z,170nm,18.5s
HHC LR LR
comp=Z,480nm,19.4s
HHC LR LR
comp=Z,610nm,20.6s
ROSC El Rosal 79.89 88 LR LR 13 16 50.8
comp=Z,196nm,20.5s,baz=278,slow=30
ATAH Atahualpa 80.10 101 LR LR 13 18 41.7
comp=Z,316nm,18.6s,baz=296,slow=31
ASAR Alice Springs 81.21 241 LR LR 13 19 59.7
comp=Z,234nm,20.9s,baz=54,slow=31
SONM Songjino Array 81.28 318 P **P 12 49 47.2 +2.6**
comp=Z,0.3nm,0.4s,baz=98,slow=2.9,SNR=4.4
SONM LR LR 13 23 43.5
comp=Z,485nm,20.8s,baz=58,slow=34
comp=Z,0.3nm,0.4s
SDV Santo Domingo 82.09 83 LR LR 13 19 28.9
comp=Z,135nm,21.8s,baz=263,slow=31
NNA Nana 83.28 105 LR LR 13 17 52.1
comp=Z,357nm,21.4s,baz=288,slow=29
XAN Xi'an 84.00 304 P P 12 50 04.3 +5.3
XAN Xi'an 84.00 304 S S 13 00 35.0 +11
XAN pmax pmax
comp=Z,450nm,7.2s
XAN LR LR
comp=N,350nm,19.8s
XAN LR LR
comp=E,500nm,19.8s
XAN LR LR
comp=Z,830nm,21.5s
KAPI Kappang 86.91 264 LR LR 13 25 20.3
comp=Z,115nm,19.4s,baz=82,slow=33
JMIC Jan Mayen 86.97 10 LR LR 13 25 55.2

comp=Z,143nm,21.5s,baz=349,slow=34
LZH Lanzhou 87.18 307 P **P 12 50 17.3 +2.3**
LZH pmax pmax
comp=Z,500nm,8.3s
LZH LR LR
comp=Z,300nm,17.5s
LZH LR LR
comp=Z,460nm,17.9s
LZH LR LR
comp=Z,620nm,22.0s
PCRV Puerto La Cruz 87.28 80 LR LR 13 26 17.1
comp=Z,108nm,19.3s,slow=34
QIZ Qiongzhong 88.22 289 P **P 12 50 17.0 -3.0**
QIZ PP **PP 12 53 47.5 +0.5**
QIZ S **S 13 01 03.3 -2.6**
QIZ SS **SS 13 06 54.8 +0.2**
QIZ pmax pmax
comp=Z,360nm,9.3s
QIZ LR LR
comp=Z,240nm,20.2s
QIZ LR LR
comp=Z,210nm,16.8s
QIZ LR LR
comp=Z,240nm,16.8s
GYA Guiyang 88.42 297 P **P 12 50 19.0 -2.0**
GYA PP **PP 12 53 50.8 +2.3**
GYA S **S 13 01 06.0 -1.9**
GYA pmax pmax
comp=Z,4.0nm,0.5s
GYA LR LR
comp=Z,490nm,19.8s
GYA LR LR
comp=Z,380nm,27.2s
GYA LR LR
comp=Z,560nm,27.2s
GTA Gaotai 88.83 312 P P 12 50 27.8 +5.1
GTA pmax pmax
comp=Z,4.0nm,2.5s
GTA pmax pmax
comp=Z,300nm,6.0s
GTA LR LR
comp=Z,280nm,20.7s
GTA LR LR
comp=Z,330nm,21.9s
GTA LR LR
comp=Z,540nm,21.5s
BORG Borgarnes 89.03 18 LR LR 13 26 57.2
comp=Z,108nm,21.8s,baz=326,slow=33
H03N2 Juan Fernandez 89.69 126 T T 14 29 35.8
baz=298,slow=76,SNR=7.6
H03N3 Juan Fernandez 89.70 126 T T 14 29 36.2
baz=298,slow=76,SNR=6.9
H03N1 Juan Fernandez 89.71 126 T T 14 29 36.5
baz=298,slow=76,SNR=10.0
ZALV Zalesovo Beam 90.69 329 P **P 12 50 32.8 +1.8**
comp=Z,0.3nm,0.5s,baz=52,slow=7.5,SNR=2.3
comp=Z,0.3nm,0.5s
ARCES ARCESS Array B 91.33 360 LR LR 13 32 31.7
comp=Z,144nm,18.6s,baz=6.5,slow=36
PZH PanZhiHua 92.50 299 P **P 12 50 38.3 -1.7**
PZH S **S 13 01 42.0 -3.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,200nm,7.7s
PZH LR LR
comp=Z,190nm,18.0s
PZH LR LR
comp=Z,240nm,19.6s
PZH LR LR
comp=Z,350nm,19.7s
LPAZ La Paz 92.69 106 LR LR 13 24 45.4
comp=Z,162nm,20.1s,baz=288,slow=31
WMQ Urumqi 94.75 320 *e*P **P 12 50 49.3 -0.7**
WMQ LR LR
comp=Z,470nm,12.3s
WMQ LR LR
comp=Z,240nm,13.1s
WMQ LR LR
comp=Z,380nm,24.7s
MKAR Makanchi Array 96.21 324 P **P 12 50 58.1 +1.6**
comp=Z,0.2nm,0.8s,baz=55,slow=6.0,SNR=2.4
MKAR LR LR 13 31 38.5
comp=Z,387nm,21.7s,baz=58,slow=34
comp=Z,0.2nm,0.8s
CMAR Chiang Mai Arr 98.04 293 LR LR 13 34 41.1
comp=Z,166nm,19.3s,baz=55,slow=35
NWAO Narrogin (SRO) 98.26 238 LR LR 13 35 43.3
comp=Z,100nm,18.6s,baz=278,slow=36
NOA NORSAR Array B 99.12 7 LR LR 13 33 08.2
comp=Z,119nm,21.1s,baz=330,slow=34
KIRV Kirov 99.68 347 LR LR 13 38 52.9
comp=Z,347nm,19.8s,baz=26,slow=37
TORD Torodi Ar. Bea 140.51 37 PKP **PKiKP 12 57 02.1 +1.0**
comp=Z,1.0nm,0.9s,baz=3.0,slow=3.3,SNR=4.3

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*IDC **28** 12:42:19.5±0.9, 18°.44N×47°.66W, h0km, mb3.8/10, mbtmp3.9/11, ML4.4/1, MS4.0/4, Error ellipse: s-maj=26.1km s-min=21.2km az=180.0*

ISC 28 12:42:20.9±0.7, 18°.4N±0°.1×47°.7W±0°.1, h10km, n19, σ0±50/13, mb3.8/10, MS4.0/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar**	**13.24**	**255**	T	T	12 59 01.5	
SNR=10.0							
MDP	**Montagnes des**	**14.09**	**201**	Pn	**Pn**	**12 45 40.5**	**-0.3**
1.6nm,0.3s,baz=1.7,slow=15,SNR=18							
MDP				Sn	Sn	12 48 02.8	-15
0.4nm,0.3s,baz=9.6,slow=6.8,SNR=1.1							
MDP				LR	LR	12 50 27.4	
comp=Z,15nm,19.5s,baz=68,slow=34							
5.5nm,0.5s							
LPAZ	**La Paz**	**39.93**	**212**	P	**P**	**12 49 56.5**	**+0.2**
1.0nm,0.6s,baz=94,slow=7.8,SNR=2.4							
1.0nm,0.6s							
H10N3	**ASCENSION HYDR**	**41.85**	**126**	T	T	13 34 49.9	
baz=309,slow=75,SNR=29							
H10N2	**ASCENSION HYDR**	**41.85**	**126**	T	T	13 34 50.1	
baz=309,slow=75,SNR=31							
H10N1	**ASCENSION HYDR**	**41.87**	**126**	T	T	13 34 51.4	
baz=309,slow=75,SNR=50							
DBIC	**Dimbokro**	**43.27**	**100**	P	**P**	**12 50 23.3**	**+0.2**
4.4nm,0.8s,baz=252,slow=11,SNR=3.1							
4.4nm,0.8s							
CPUP	**Villa Florida**	**45.45**	**192**	LR	LR	13 10 17.8	
comp=Z,34nm,19.0s,baz=70,slow=37							
TORD	**Torodi Ar. Bea**	**47.67**	**89**	P	**P**	**12 50 57.5**	**-0.5**
1.5nm,1.1s,baz=298,slow=8.1,SNR=4.5							
1.5nm,1.1s							
TXAR	**Lajitas Array**	**51.94**	**293**	P	**P**	**12 51 30.8**	**+0.4**
0.4nm,0.7s,baz=108,slow=7.9,SNR=6.0							
TXAR				PcP	**PcP**	**12 52 43.6**	**+0.6**
0.6nm,0.9s,baz=119,slow=4.9,SNR=3.6							
0.4nm,0.7s							
PDAR	**Pinedale Array**	**57.20**	**309**	P	**P**	**12 52 08.4**	**-0.2**
0.4nm,0.6s,baz=110,slow=8.7,SNR=5.8							
PDAR				LR	LR	13 15 06.0	
comp=Z,53nm,20.2s,baz=261,slow=34							
0.4nm,0.6s							
NB2	**NORSAR Subarra**	**59.13**	**29**	P	**P**	**12 52 22.3**	**+0.7**
comp=Z,0.4nm,0.7s,baz=268,slow=6.5							
NOA	**NORSAR Array B**	**59.13**	**29**	P	**P**	**12 52 21.8**	**+0.2**
comp=Z,1.1nm,0.9s,baz=267,slow=6.3,SNR=3.8							
comp=Z,1.1nm,0.9s							
HFS	**Hagfors**	**60.03**	**30**	P	**P**	**12 52 27.9**	**+0.2**
comp=Z,2.1nm,0.7s,baz=243,slow=13,SNR=3.5							
comp=Z,2.1nm,0.7s							
YKA	**Yellowknife Ar**	**63.21**	**331**	P	**P**	**12 52 48.2**	**-1.0**
comp=Z,0.4nm,0.7s,baz=99,slow=7.6,SNR=3.1							
comp=Z,0.4nm,0.7s							
BRTR	**Keskin Array B**	**71.91**	**53**	P	**P**	**12 53 44.8**	**0.0**
comp=Z,0.2nm,0.3s,baz=336,slow=3.2,SNR=2.4							
comp=Z,0.2nm,0.3s							
ILAR	**Eielson Array**	**77.39**	**334**	P	**P**	**12 54 15.9**	**+0.1**
comp=Z,1.2nm,0.9s,baz=74,slow=5.0,SNR=13							
comp=Z,1.2nm,0.9s							
PMSA	**Palmer Station**	**83.87**	**187**	LR	LR	13 33 54.0	
comp=Z,168nm,18.1s,baz=259,slow=37							
AAK	**Ala-Archa**	**99.27**	**39**	LR	LR	13 38 27.8	
comp=Z,382nm,21.1s,baz=68,slow=34							

IDC 28 13:17:06.0±3.6, 28°.31N×86°.24E, h0km, mb3.4/3, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=120.2km

s-min=31.0km az=78.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.71**	**352**	P	P	13 21 25.7	-0.3
	0.1nm,0.3s,baz=164,slow=11,SNR=2.8 0.3nm,0.5s						
SONM	**Songino Array**	**25.00**	**33**	P	P	13 22 31.8	+0.2
	0.4nm,0.5s,baz=222,slow=7.8,SNR=2.4 0.4nm,0.5s						
WRA	**Warramunga Arr**	**66.79**	**130**	P	P	13 27 59.8	+0.2
	0.2nm,0.5s,baz=323,slow=6.5,SNR=5.7 0.2nm,0.5s						
ASAR	**Alice Springs**	**69.14**	**134**	P	P	13 28 14.1	-0.3
	0.4nm,0.9s,baz=316,slow=7.8,SNR=2.3 0.4nm,0.9s						

*NNC **28** 13:18:08.3±2.2, 49°.72N×73°.81E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=28.5km s-min=14.4km az=119.0, Suspected Mining explosion.*

*IDC **28** 13:18:11.4±2.0, 49°.70N×73°.91E, h0km, mbtmp2.4/4, ML2.0/4, Error ellipse: s-maj=29.2km s-min=11.9km az=33.0*

ISC 28 13:18:09.1±1.1, 49°.61N±0°.07×73°.92E±0°.06, h0km, n9, σ1§79/10, 5C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**1.72**	**218**	⇑P	**Pn**	**13 18 40.2**	**-0.1**
OTUK	1.4nm,0.5s			⇓S	**Sg**	**13 19 03.9**	**-0.4**
	3.6nm,0.7s						
KURBB	**Kurchatov Arra**	**3.14**	**69**	Pn	**Pn**	**13 19 01.8**	**+2.1**
	0.1nm,0.3s,baz=255,slow=14,SNR=1.3						
KURBB				Lg	Lg	13 19 50.6	
	0.2nm,0.3s,baz=258,slow=28,SNR=8.2 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**3.14**	**69**	⇑Pg	**Pb**	**13 19 03.2**	**-2.5**
	0.6nm,0.3s						
KURBB				⇑Lg	Lg	13 19 51.7	
	7.2nm,0.7s						
BVA0	**Borovoye Array**	**4.07**	**328**	⇑Pg	**Pb**	**13 19 20.4**	**-1.2**
	1.2nm,0.8s,baz=151,slow=16						
BVA0				⇓Lg	Lg	13 20 13.1	
	1.0nm,0.5s,baz=154,slow=26						
BVAR	**Borovoye Array**	**4.07**	**328**	Pn	**Pn**	**13 19 12.5**	**0.0**
	baz=142,slow=15,SNR=2.3						
BVAR				Sn	**Sn**	**13 20 02.0**	**+1.1**
	0.1nm,0.3s,baz=130,slow=28,SNR=2.6 0.2nm,0.4s						
BRVK	**Borovoye**	**4.14**	**328**	⇑Pg	**Pb**	**13 19 22.8**	**+0.1**
	2.2nm,1.2s						
BRVK				⇓Lg	Lg	13 20 13.4	
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**6.27**	**114**	Pn	**Pn**	**13 19 45.8**	**+3.0**
	0.1nm,0.3s,baz=282,slow=14,SNR=2.3						
MKAR				Lg	Lg	13 21 29.9	
	0.1nm,0.3s,baz=304,slow=31,SNR=3.0 0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**8.03**	**53**	Pn	**Pn**	**13 20 06.9**	**0.0**
	0.2nm,0.3s,baz=243,slow=15,SNR=1.9 0.3nm,0.2s						
I31KZ	**AKTYUBINSK INF**	**10.26**	**281**	I	I	14 18 00.0	
	baz=90,slow=312,SNR=1.0						

*IDC **28** 13:47:26.5±1.0, 30°.02S×177°.50W, h0km, mb4.1/5, mbtmp4.0/6, ML3.2/1, MS3.5/1, Error ellipse: s-maj=30.2km s-min=17.0km az=79.0*

ISC 28 13:47:32.0±0.8, 30°.08S±0°.07×177°.7W±0°.2, h35km, n29, σ1§05/24, mb4.1/7, 4C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.85**	**347**	Pn	**Pn**	**13 47 47.0**	**-0.6**
	938nm,0.3s,baz=118,slow=15,SNR=110						
RAO				Sn	**Sn**	**13 47 58.1**	**-0.7**
	2μm,0.3s,baz=108,slow=20,SNR=12						
RAO				LR	LR	13 48 02.2	
	comp=Z,243nm,19.1s,baz=63,slow=42						
URZ	**Urewera**	**9.22**	**206**	Pn	**Pn**	**13 49 40.8**	**-1.7**
	0.2nm,0.3s,baz=85,slow=20,SNR=1.9						
URZ				Sn	**Sn**	**13 51 23.9**	**-1.0**
	1.6nm,0.3s,baz=323,slow=20,SNR=7.0 6.1nm,0.9s						
DZM	**Mont Dzumac**	**16.32**	**296**	LR	LR	13 55 58.0	
	comp=Z,157nm,19.4s,baz=231,slow=31						
STKA	**Stephens Creek**	**34.81**	**256**	P	**P**	**13 54 21.2**	**+1.6**
	1.6nm,0.5s,baz=99,slow=12,SNR=5.7 1.6nm,0.5s						
ASAR	**Alice Springs**	**43.39**	**266**	P	**P**	**13 55 31.7**	**+0.2**
	0.7nm,0.5s,baz=101,slow=8.2,SNR=11						
ASAR				PcP	**PcP**	**13 57 20.3**	**+0.7**
	0.3nm,0.5s,baz=119,slow=3.8,SNR=2.1 0.7nm,0.5s						
WRA	**Warramunga Arr**	**44.35**	**272**	P	**P**	**13 55 40.0**	**+0.9**
	2.4nm,0.3s,baz=111,slow=8.1,SNR=99						
WRA				PcP	**PP**	**13 57 22.6**	**-0.4**
	0.4nm,0.9s,baz=124,slow=3.6,SNR=1.7 2.4nm,0.3s						
QSPA	**South Pole Qui**	**60.02**	**180**	P	**P**	**13 57 36.9**	**+1.8**
	1.1nm,0.8s,baz=337,slow=1.0,SNR=3.8 1.1nm,0.8s						
MJAR	**Matsushiro Arr**	**78.14**	**325**	P	**P**	**13 59 28.0**	**+0.5**
	0.6nm,0.5s,baz=144,slow=7.1,SNR=1.1 0.6nm,0.5s						
TROLL	**Troll, Antarti**	**78.19**	**180**	⇑P	**P**	**13 59 29.4**	**+1.9**
	comp=Z,42nm,0.7s						
SNAA	**Sanae**	**78.46**	**178**	⇑P	**P**	**13 59 28.0**	**-1.0**
	comp=Z,22nm,1.1s						
VNA3	**Neumayer Olymp**	**78.60**	**176**	⇑P	**P**	**13 59 28.8**	**-0.9**
	comp=Z,1.4nm,0.8s						
VNA2	**Neumayer--Watz**	**79.04**	**177**	⇑P	**P**	**13 59 31.6**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=223,slow=3.6						
H03S2	**Juan Fernandez**	**80.42**	**123**	T	T	15 29 08.8	
	baz=239,slow=74,SNR=5.5						
H03S1	**Juan Fernandez**	**80.43**	**123**	T	T	15 29 10.4	
	baz=239,slow=74,SNR=6.2						
H03S3	**Juan Fernandez**	**80.43**	**123**	T	T	15 29 09.3	
	baz=239,slow=74,SNR=4.3						
KURBB	**Kurchatov Arra**	**121.06**	**314**	PKP	**PKPdf**	**14 06 19.1**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=158,slow=1.0,SNR=2.2						
BVAR	**Borovoye Array**	**126.37**	**316**	PKP	**PKPdf**	**14 06 29.5**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=114,slow=3.6,SNR=2.1						
H10S3	**ASCENSION HYDR**	**137.90**	**155**	T	T	16 42 21.9	
	baz=18						
H10S2	**ASCENSION HYDR**	**137.90**	**155**	T	T	16 42 21.7	
	baz=202						
H10N3	**ASCENSION HYDR**	**138.98**	**154**	T	T	16 43 37.0	
	baz=203						
H10N1	**ASCENSION HYDR**	**138.98**	**154**	T	T	16 43 30.2	
	baz=203						
H10N2	**ASCENSION HYDR**	**139.00**	**154**	T	T	16 43 30.3	
	baz=203						
FINES	**FINESS Array B**	**144.94**	**340**	PKP	**PKPab**	**14 07 03.8**	**-0.2**
	comp=Z,3.2nm,0.4s,baz=51,slow=4.1,SNR=50						
NB2	**NORSAR Subarra**	**148.48**	**352**	PKP	**PKPbc**	**14 07 14.1**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=5.9,slow=4.0						
NOA	**NORSAR Array B**	**148.48**	**352**	PKPbc	**PKPbc**	**14 07 13.7**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=15,slow=4.4,SNR=4.7						
HFS	**Hagfors**	**148.99**	**349**	PKPbc	**PKPbc**	**14 07 14.7**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=66,slow=5.0,SNR=5.1						
AKASG	**Malin Array Be**	**151.21**	**323**	PKPbc	**PKPbc**	**14 07 21.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=54,slow=3.1,SNR=4.1						
MMAI	**Mount Meron Ar**	**151.71**	**285**	PKPbc	**PKiKP**	**14 07 24.4**	**+0.9**
	comp=Z,4.0nm,0.5s,baz=83,slow=6.8,SNR=5.9						
BRTR	**Keskin Array B**	**152.68**	**299**	PKPbc	**PKPbc**	**14 07 25.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=160,slow=2.2,SNR=2.2						

*IDC **28** 14:02:60.0±0.7, 31°.65S×177°.15W, h0km, mb4.1/6, mbtmp4.1/7, ML3.9/1, MS3.3/3, Error ellipse: s-maj=30.2km s-min=19.3km az=78.0*

*NEIC **28** 14:03:01.4±3.0, 31°.94S±0°.08×177°.2W±0°.2, h10km±2km, mb4.3/9, Error ellipse: s-maj=26.5km s-min=13.1km az=100.0*

ISC 28 14:03:04.9±0.6, 31°.84S±0°.05×177°.3W±0°.1, h35km, h36km:pP-P, n74, σ1§80/93, mb4.3/14, 9C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.63**	**347**	P	Pn	14 03 42.0	-2.9
GLKZ				S	**Sn**	**14 04 10.6**	**-5.0**
RAO	**Raoul Island**	**2.64**	**347**	Pn	**Pn**	**14 03 44.8**	**-0.2**
RAO	**Raoul Island**	**2.64**	**347**	Pn	Pn	14 03 40.5	-4.5
	27nm,0.3s,baz=131,slow=20,SNR=2.2						
RAO				Sn	**Sn**	**14 04 12.7**	**-3.1**
	191nm,0.3s,baz=108,slow=20,SNR=8.3 282nm,0.6s						
RIZ	**Raoul Island**	**2.65**	**347**	P	**Pn**	**14 03 42.8**	**-2.4**
RIZ				S	**Sn**	**14 04 12.5**	**-3.5**
MXZ	**Matakaoa Point**	**6.78**	**211**	Pn	**Pn**	**14 04 39.8**	**-2.1**
MXZ	**Matakaoa Point**	**6.78**	**211**	P	**Pn**	**14 04 38.9**	**-3.0**
MXZ				S	**Sn**	**14 05 58.6**	**+0.7**
WMGZ	**Waiomatatini S**	**6.95**	**210**	P	**Pn**	**14 04 42.6**	**-1.6**
WMGZ				S	**Sn**	**14 06 01.2**	**-0.8**
PKGZ	**Pakihiroa**	**7.16**	**211**	P	**Pn**	**14 04 46.0**	**-1.2**
PKGZ				S	**Sn**	**14 06 07.3**	**+0.1**
HAZ	**Te Kaha**	**7.18**	**213**	P	**Pn**	**14 04 46.7**	**-0.7**
HAZ				S	**Sn**	**14 06 10.1**	**+2.4**
PUZ	**Puketiti**	**7.23**	**209**	P	**Pn**	**14 04 45.6**	**-2.6**
PUZ				S	**Sn**	**14 06 09.0**	**0.0**
RUGZ	**Raukumara Rang**	**7.40**	**213**	P	**Pn**	**14 04 49.7**	**-0.9**
RUGZ				S	**Sn**	**14 06 14.2**	**+0.9**
TWGZ	**Tauwhareparae**	**7.44**	**210**	S	**Sn**	**14 06 13.9**	**-0.2**
KUZ	**Kuaotunu**	**7.60**	**228**	P	**Pn**	**14 04 54.6**	**+1.4**
CNGZ	**Carnagh Statio**	**7.60**	**208**	P	**Pn**	**14 04 51.1**	**-2.1**
CNGZ				S	**Sn**	**14 06 18.3**	**+0.1**
TKGZ	**Te Karaka**	**7.71**	**210**	P	**Pn**	**14 04 53.2**	**-1.5**
TKGZ				S	**Sn**	**14 06 19.3**	**-1.5**
MWZ	**Matawai**	**7.77**	**212**	P	**Pn**	**14 04 53.9**	**-1.6**
MWZ				S	**Sn**	**14 06 22.7**	**+0.4**
OPRZ	**Ohinepanea**	**7.86**	**219**	P	**Pn**	**14 04 56.3**	**-0.5**
URZ	**Urewera**	**7.90**	**214**	Pn	**Pn**	**14 04 55.6**	**-1.7**
	2.7nm,0.3s,baz=25,slow=2.8,SNR=15						
URZ				Sn	**Sn**	**14 06 24.7**	**-0.7**
	18nm,0.3s,baz=3.3,slow=22,SNR=20						
URZ	**Urewera**	**7.90**	**214**	P	**Pn**	**14 04 55.6**	**-1.7**
URZ				S	**Sn**	**14 06 25.4**	**0.0**
RAGZ	**Rawiri**	**7.95**	**212**	S	**Sn**	**14 06 27.7**	**+0.9**
RIGZ	**Rimuhau**	**7.97**	**209**	S	**Sn**	**14 06 26.0**	**-1.3**
WCZ	**Waipu Caves**	**8.10**	**237**	P	Pn	14 05 05.3	+5.4
PRGZ	**Paritu Road**	**8.11**	**208**	P	**Pn**	**14 04 57.8**	**-2.4**
PRGZ				S	**Sn**	**14 06 27.1**	**-3.5**
MKAZ	**Moumakai**	**8.18**	**228**	P	Pn	14 05 05.1	+4.0
SNGZ	**Shannon Statio**	**8.22**	**211**	P	**Pn**	**14 04 59.5**	**-2.2**
SNGZ				S	**Sn**	**14 06 32.5**	**-0.8**
MUGZ	**Murupara**	**8.24**	**215**	P	**Pn**	**14 05 01.3**	**-0.6**
MUGZ				S	**Sn**	**14 06 31.7**	**-2.1**
KNZ	**Kokohu**	**8.28**	**209**	P	**Pn**	**14 04 58.9**	**-3.6**
KNZ				S	**Sn**	**14 06 33.3**	**-1.4**
MHGZ	**Mahia Peninsul**	**8.30**	**207**	S	**Sn**	**14 06 33.3**	**-1.9**
TOZ	**Tahuroa Road**	**8.37**	**223**	Pn	**Pn**	**14 05 00.8**	**-2.9**
ARHZ	**Aropaoanui**	**8.77**	**211**	P	**Pn**	**14 05 05.2**	**-4.0**
ARHZ				S	**Sn**	**14 06 45.7**	**-1.0**
BKZ	**Black Stump Fm**	**8.91**	**213**	Pn	**Pn**	**14 05 08.8**	**-2.4**
BKZ	**Black Stump Fm**	**8.91**	**213**	P	**Pn**	**14 05 09.8**	**-1.5**
BKZ				S	**Sn**	**14 06 47.6**	**-2.8**
KAHZ	**Kahuranaki**	**9.26**	**209**	P	**Pn**	**14 05 11.9**	**-4.1**
KAHZ				S	**Sn**	**14 06 57.3**	**-1.7**
HIZ	**Hauiti**	**9.28**	**222**	P	Pn	14 05 23.6	+7.5
KHZ	**Kahutara**	**12.86**	**212**	Pn	**Pn**	**14 06 02.1**	**-3.0**
OXZ	**Oxford**	**14.26**	**213**	Pn	**Pn**	**14 06 20.0**	**-4.3**
RPZ	**Rata Peaks**	**15.02**	**215**	Pn	**Pn**	**14 06 32.1**	**-2.4**
RPZ	**Rata Peaks**	**15.02**	**215**	Pn	**Pn**	**14 06 32.7**	**-1.8**
	2.8nm,0.3s,baz=358,slow=1.0,SNR=12						
RPZ				Sn	Sn	14 09 07.8	-12
	1.1nm,0.3s,baz=344,slow=23,SNR=2.0						
RPZ				LR	LR	14 12 42.3	
	comp=Z,116nm,21.2s,baz=138,slow=38						
DZM	**Mont Dzumac**	**17.47**	**300**	P	**P**	**14 07 08.5**	**+1.6**
	2.7nm,0.6s,baz=150,slow=20,SNR=1.4						
DZM				LR	LR	14 11 52.3	
	comp=Z,82nm,19.1s,baz=280,slow=30						
RAR	**Rarotonga**	**18.86**	**60**	LR	LR	14 14 28.1	
	comp=Z,92nm,18.3s,baz=288,slow=37						
KOUNC	**Koumac, New Ca**	**19.99**	**300**	P	**P**	**14 07 34.5**	**+0.1**
CTAO	**Charters Tower**	**34.68**	**281**	P	**P**	**14 09 52.9**	**+1.5**
CTAO				IAmb	IAmb	14 10 09.3	
	comp=Z,5.3nm,1.1s						
BBOO	**Buckleboo**	**39.22**	**256**	P	**P**	**14 10 29.8**	**-0.1**
ASAR	**Alice Springs**	**43.69**	**268**	P	**P**	**14 11 07.7**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=113,slow=7.2,SNR=10						
ASAR				PcP	**PcP**	**14 12 54.6**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=112,slow=4.1,SNR=2.3 comp=Z,1.5nm,0.8s						
WR0	**Warramunga Arr**	**44.63**	**273**	P	**P**	**14 11 15.0**	**+0.8**
WR0				IAmb	IAmb	14 11 36.5	
	comp=Z,2.9nm,0.7s						
WB2	**Warramunga Arr**	**44.80**	**273**	P	**P**	**14 11 16.5**	**+0.9**
WB2				IAmb	IAmb	14 11 26.8	
	comp=Z,3.5nm,1.1s						
WRA	**Warramunga Arr**	**44.81**	**273**	P	**P**	**14 11 17.1**	**+1.5**
WRA	**Warramunga Arr**	**44.81**	**273**	P	**P**	**14 11 16.6**	**+1.0**
	comp=Z,2.7nm,1.0s,baz=112,slow=7.9,SNR=24 comp=Z,2.7nm,1.0s						
WB0	**Warramunga Arr**	**44.84**	**273**	P	**P**	**14 11 17.1**	**+1.2**
WB0				IAmb	IAmb	14 11 17.4	
	comp=Z,4.3nm,1.0s						
SBA	**Scott Base**	**46.66**	**185**	P	**P**	**14 11 28.6**	**-0.9**
CASY	**Casey**	**54.18**	**208**	P	**P**	**14 12 25.9**	**-0.5**
CASY				IAmb	IAmb	14 12 39.2	
	comp=Z,4.7nm,1.1s						
QSPA	**South Pole Qui**	**58.28**	**180**	P	**P**	**14 12 57.8**	**+1.9**
QSPA	**South Pole Qui**	**58.28**	**180**	P	**P**	**14 12 58.0**	**+2.1**
	comp=Z,4.5nm,0.8s,baz=79,slow=1.3,SNR=20 comp=Z,4.5nm,0.8s						
TROLL	**Troll, Antarti**	**76.44**	**180**	⇑P	**P**	**14 14 51.7**	**+1.0**
TROLL				⇑PcP	**pwP**	**14 15 10.7**	**+0.6**
	comp=Z,106nm,0.7s						
SNAA	**Sanae**	**76.71**	**178**	⇑P	**P**	**14 14 51.3**	**-0.7**
	comp=Z,54nm,0.7s						
SNAA	**Sanae**	**76.71**	**178**	⇑P	**P**	**14 14 51.3**	**-0.7**
	comp=Z,34nm,0.8s						
SNAA				⇑PcP	**pwP**	**14 15 11.5**	**0.0**
	comp=Z,11nm,0.5s						
SNAA	**Sanae**	**76.71**	**178**	P	**P**	**14 14 52.9**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=174,slow=6.6,SNR=5.9 comp=Z,1.7nm,0.9s						
VNA3	**Neumayer Olymp**	**76.83**	**176**	⇑P	**P**	**14 14 53.3**	**+0.5**
	comp=Z,2.8nm,0.8s						
VNA3				⇑PcP	**pwP**	**14 15 13.9**	**+1.7**
	comp=Z,2.7nm,0.8s						
VNA2	**Neumayer--Watz**	**77.28**	**177**	⇑P	**P**	**14 14 55.7**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=179,slow=5.4						
VNA2				⇑PcP	**pwP**	**14 15 16.4**	**+1.8**
	comp=Z,2.4nm,0.7s,baz=194,slow=5.0						
VNA1	**Neumayer--Stat**	**77.50**	**176**	⇑P	**P**	**14 14 57.0**	**+0.6**
	comp=Z,4.2nm,1.0s						
H03S2	**Juan Fernandez**	**79.14**	**123**	T	T	15 41 45.0	
	baz=238						
H03S1	**Juan Fernandez**	**79.15**	**123**	T	T	15 41 41.7	
	baz=238						
H03S3	**Juan Fernandez**	**79.16**	**123**	T	T	15 41 40.6	
	baz=238						
KSRS	**Korea Array**	**85.85**	**319**	P	**P**	**14 15 41.1**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=138,slow=6.1,SNR=5.8 comp=Z,0.9nm,0.8s						
NVAR	**Mina Array Bea**	**88.86**	**42**	P	**P**	**14 15 56.0**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=220,slow=10,SNR=4.4 comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**119.18**	**309**	PKP	**PKPdf**	**14 21 50.0**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=149,slow=0.8,SNR=2.8						
KURBB	**Kurchatov Arra**	**122.54**	**313**	PKP	**PKPdf**	**14 21 55.4**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=97,slow=2.1,SNR=6.6						
BVAR	**Borovoye Array**	**127.88**	**315**	PKP	**PKPdf**	**14 22 07.4**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=74,slow=5.1,SNR=4.4						
KBZ	**Khabaz**	**146.43**	**302**	PKPbc	**PKPdf**	**14 22 40.4**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=45,slow=4.3,SNR=1.7						
FINES	**FINESS Array B**	**146.74**	**340**	PKPbc	**PKPdf**	**14 22 42.3**	**+1.7**
	comp=Z,2.8nm,0.7s,baz=52,slow=3.0,SNR=11						
NB2	**NORSAR Subarra**	**150.26**	**352**	PKP	**PKPbc**	**14 22 51.9**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.26**	**352**	PKPbc	**PKPbc**	**14 22 51.5**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=14,slow=4.1,SNR=6.4						
HFS	**Hagfors**	**150.77**	**349**	PKPbc	**PKPbc**	**14 22 52.7**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=64,slow=6.6,SNR=3.7						
HFS				PKPab	**sPKPdf**	**14 23 00.2**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=100,slow=8.3,SNR=5.2						
AKASG	**Malin Array Be**	**152.82**	**322**	PKPbc	**PKPbc**	**14 22 58.0**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=48,slow=1.4,SNR=1.5						
AKASG				PKPab	**PKPab**	**14 23 09.5**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=46,slow=2.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**161.38**	**177**	PKPab	**PKPab**	**14 23 46.7**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=132,slow=2.3,SNR=4.4						

*IDC **28** 14:13:12.6±3.0, 29°.50S×177°.25W, h60km±16km, mb3.2/2, mbtmp3.7/3, Error ellipse: s-maj=44.0km s-min=34.0km az=95.0*

ISC 28 14:13:06.8±1.7, 29°.3S±0°.2×176°.8W±0°.1, h31km, n6, σ0§93/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.00**	**275**	P	**Pb**	**14 13 26.6**	**+1.0**
	478nm,0.2s,baz=101,slow=19,SNR=16						
RAO				S	**Sb**	**14 13 37.8**	**-0.6**
	672nm,0.2s,baz=108,slow=20,SNR=5.3						
URZ	**Urewera**	**10.24**	**208**	P	**Pn**	**14 15 31.8**	**+0.1**
	11nm,1.0s,baz=48,slow=15,SNR=2.2						
URZ				Sn	Sn	14 17 04.0	-21
	4.4nm,0.7s,baz=220,slow=17,SNR=1.3						
ASAR	**Alice Springs**	**44.24**	**265**	P	**P**	**14 21 12.7**	**-0.9**
	0.3nm,0.8s,baz=102,slow=8.6,SNR=1.8 0.3nm,0.8s						
WRA	**Warramunga Arr**	**45.13**	**270**	P	**P**	**14 21 19.8**	**-0.9**
	0.4nm,0.3s,baz=111,slow=7.6,SNR=7.7 0.4nm,0.3s						
FINES	**FINESS Array B**	**144.50**	**341**	PKP	**PKiKP**	**14 32 43.0**	**0.0**
	1.7nm,0.8s,baz=56,slow=2.5,SNR=7.0						
BRTR	**Keskin Array B**	**153.00**	**301**	PKPbc	**PKiKP**	**14 33 02.1**	**+0.6**
	0.5nm,0.8s,baz=85,slow=3.3,SNR=1.4						

*JMA **28** 14:20:59.0±0.2, 35°.2N±0°.6×14°.1E±°, h57km±1km, MV3.4/34, KUJUKURI COAST BOSO PEN*

JMA Felt I J1 at KUJUKURI COAST BOSO PEN .

*IDC **28** 14:21:00.3±2.1, 35°.06N×140°.53E, h58km±18km, mb3.4/12, mbtmp3.7/16, ML2.8/3, Error ellipse: s-maj=24.7km s-min=7.9km az=76.0*

ISC 28 14:20:59.3±0.8, 35°.13N±0°.04×140°.61E±0°.05, h55km±6km, n46, σ1§92/48, mb3.7/12, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.24**	**275**	⇓iP	**Pn**	**14 21 08.0**	**-0.4**
KTR				⇓S	**Sn**	**14 21 14.5**	**-0.5**
BSO4	**Boso 4**	**0.26**	**238**	⇓iP	**Pn**	**14 21 08.8**	**+0.4**
BSO3	**Boso 3**	**0.33**	**194**	*i P*	**Pn**	**14 21 09.6**	**+0.7**
JKUC	**kamogawauchiur**	**0.34**	**276**	⇓iP	**Pn**	**14 21 08.7**	**-0.5**
JKUC				⇓S	**Sn**	**14 21 15.5**	**-0.8**
JCN	**Nagara**	**0.44**	**311**	⇓P	**Pn**	**14 21 09.8**	**-0.4**
JCN				⇓*e*S	**Sn**	**14 21 18.1**	**0.0**
JSMT	**Sammumatsuo**	**0.53**	**346**	*i P*	**Pn**	**14 21 10.6**	**-0.6**
JSMT				S	**Sn**	**14 21 19.4**	**-0.4**
BSO1	**Boso 1**	**0.56**	**147**	P	**Pn**	**14 21 12.1**	**+1.1**
JIM2	**Oshima 3**	**1.05**	**247**	P	**Pn**	**14 21 16.7**	**-1.1**
JIM2				*e*S	**Sn**	**14 21 29.9**	**-1.7**
JOD2	**Odawara 2**	**1.25**	**277**	⇓P	**Pn**	**14 21 19.4**	**-1.1**
JOD2				⇓*e*S	**Sn**	**14 21 34.0**	**-2.3**
JMYK	**Miyake Tsubota**	**1.38**	**220**	*e*P	**Pn**	**14 21 22.6**	**+0.4**
JMYK				*e*S	**Sn**	**14 21 39.6**	**+0.3**
JIZS	**Izushimoda**	**1.48**	**254**	P	**Pn**	**14 21 22.8**	**-0.7**
JIZS				*e*S	**Sn**	**14 21 40.1**	**-1.7**
JHJ2	**Mitsune**	**2.11**	**198**	P	**Pn**	**14 21 33.0**	**+0.8**
JHJ	**Hachijo jima 2**	**2.12**	**199**	P	**Pn**	**14 21 32.9**	**+0.7**
	389nm,0.3s,baz=329,slow=16,SNR=25						
JHJ				S	**Sn**	**14 21 56.8**	**-0.6**
	282nm,0.4s,baz=60,slow=23,SNR=6.9						
MJAR	**Matsushiro Arr**	**2.41**	**307**	P	**Pn**	**14 21 35.6**	**-0.6**
	2.6nm,0.3s,baz=154,slow=12,SNR=101						
MJAR				S	**Sn**	**14 22 05.6**	**+1.1**
	21nm,0.3s,baz=132,slow=25,SNR=2.8 14nm,0.3s						
JGF	**Kuroka**	**2.70**	**281**	P	**Pn**	**14 21 41.1**	**+0.9**
JMM	**Marumori**	**2.74**	**3**	P	**Pn**	**14 21 40.1**	**-0.6**
INU	**Inuyama**	**2.95**	**275**	P	**Pn**	**14 21 43.7**	**+0.1**
JTM	**Tenmabayashi**	**5.66**	**4**	P	**Pn**	**14 22 20.1**	**-0.7**
JMN	**Monobe**	**5.73**	**258**	P	**Pn**	**14 22 19.5**	**-2.3**
ERM	**Erimo**	**7.16**	**15**	P	**Pn**	**14 22 40.9**	**-0.4**
JCJ	**Chichijima**	**8.12**	**170**	P	**Pn**	**14 22 53.7**	**-0.8**
JCJ	**Chichijima**	**8.12**	**170**	P	Pn	14 22 49.0	-5.5
	44nm,0.3s,baz=298,slow=17,SNR=11						
JCJ				S	**Sn**	**14 24 16.8**	**-8.1**
	28nm,0.4s,baz=56,slow=24,SNR=1.5						
ASAJ	**Asahikawa**	**9.11**	**9**	P	**Pn**	**14 23 05.2**	**-2.8**
	1.5nm,0.3s,baz=262,slow=11,SNR=15						
ASAJ				S	**Sn**	**14 24 42.5**	**-6.5**
	2

P19K	Oil Pt	0.26	359	P		Pn	14 22 39.9 -0.1
	baz=182						
Q19K	Cape Douglas,	0.51	205			Sn	14 22 52.8 -0.1
Q19K	Cape Douglas,	0.51	205			Pn	14 22 41.1 -0.4
Q19K	Cape Douglas,	0.51	205	IAML			14 22 53.7
	comp=N,5µm,0.9s						
Q19K				IAML			14 22 54.6
	comp=E,5µm,0.9s						
Q19K	Cape Douglas,	0.51	205	P		Pn	14 22 41.1 -0.4
	baz=24						
Q19K				S		Sn	14 22 52.8 -0.1
	baz=24						
ILSW	Iliamna Southw	0.59	4			Pn	14 22 41.9 -0.3
ILSW	Iliamna Southw	0.59	4	IAML			14 22 54.1
	comp=N,2µm,0.4s						
ILSW				IAML			14 22 54.6
	comp=E,2µm,0.5s						
IVE	Iliamna Volcan	0.64	10			Pn	14 22 42.1 -0.4
O20K	Slope Mountain	0.76	24			Sn	14 22 57.1 +0.4
O20K	Slope Mountain	0.76	24	P		Pn	14 22 43.6 0.0
	baz=205						
O20K				S		Sn	14 22 57.1 +0.4
	baz=205						
HOM	Homer	0.85	71			Pn	14 22 44.8 +0.4
HOM	Homer	0.85	71	P		Pn	14 22 44.9 +0.4
	baz=252						
Q20K	Shuyak Island	0.90	151	P		Pn	14 22 44.8 -0.2
	baz=330						
SYI	Shuyak Island	0.90	151			Pn	14 22 44.8 -0.2
SYI				IAML			14 22 59.6
	comp=E,4µm,0.6s						
SYI				IAML			14 22 59.7
	comp=N,4µm,0.6s						
CNPM	China Poot	1.02	82			Pn	14 22 46.5 +0.1
CNPM				IAML			14 23 04.9
	comp=E,2µm,0.6s						
CNPM				IAML			14 23 05.0
	comp=N,1µm,0.3s						
P18K	Big Mountain,	1.02	271			Sn	14 23 00.2 -1.5
P18K	Big Mountain,	1.02	271			Pn	14 22 45.5 -0.9
P18K	Big Mountain,	1.02	271	IAML			14 23 00.5
	comp=N,502nm,0.9s						
P18K				IAML			14 23 01.0
	comp=E,386nm,0.7s						
P18K	Big Mountain,	1.02	271	P		Pn	14 22 45.5 -0.9
	baz=90						
P18K				S		Sn	14 23 00.2 -1.5
	baz=90						
RDSO	Redoubt South	1.09	13			Sn	14 23 03.2 -0.1
RSO	Redoubt South	1.10	12	Pn		Pn	14 22 47.5 0.0
O18K	Koktuh Hills	1.11	296			Pn	14 22 46.5 -0.8
O18K				IAML			14 23 02.8
	comp=E,539nm,0.9s						
O18K				IAML			14 23 03.0
	comp=N,897nm,0.7s						
O18K	Koktuh Hills	1.11	296	P		Pn	14 22 46.8 -0.5
	baz=115						
KAHG	Katmai Hook Gl	1.13	218			Sn	14 23 03.5 -0.5
Q18K	Katmai Hardscr	1.19	232	P		Pn	14 22 47.8 -0.6
	baz=50						
DFR	Drift River	1.23	12			Pn	14 22 48.9 0.0
DFR						Sn	14 23 06.0 0.0
BRLK	Bradley Lake	1.25	72			Pn	14 22 48.7 -0.3
BRLK				IAML			14 23 08.7
	comp=E,2µm,0.2s						
BRSE	Bradley Lake S	1.31	73			Sn	14 23 07.7 0.0
BRSE	Bradley Lake S	1.31	73	P		Pn	14 22 49.5 -0.3
	baz=255						
BRSE				S		Sn	14 23 07.7 0.0
	baz=255						
KABU	Katmai Buttres	1.55	224			Pn	14 22 52.6 -0.2
N19K	Bonanza Creek	1.56	337			Pn	14 22 52.9 0.0
N19K				IAML			14 23 13.5
	comp=N,450nm,0.6s						
N19K				IAML			14 23 13.6
	comp=E,2µm,0.7s						
N19K	Bonanza Creek	1.56	337	P		Pn	14 22 52.8 0.0
	baz=156						
ACHA	Angle Creek He	1.61	224			Pn	14 22 53.2 -0.3
ACHA						Sn	14 23 13.2 -1.1
KDAK	Kodiak Island	1.65	168			Pn	14 22 53.2 -0.7
KDAK				IAML			14 23 15.4
	comp=E,1µm,0.4s						
KDAK				IAML			14 23 19.2
	comp=E,717nm,0.6s						
KDAK	Kodiak Island	1.65	168	P		Pn	14 22 53.2 -0.7
	comp=E,280nm,0.3s,baz=60,slow=5.9,SNR=2952						
KDAK				S		Sn	14 23 13.1 -1.8
	comp=E,386nm,0.3s,baz=248,slow=19,SNR=23						
P17K	Kvichak River	1.66	265			Pn	14 22 53.6 -0.4
P17K	Kvichak River	1.66	265	P		Pn	14 22 53.8 -0.2
	baz=82						
ANCK	Angle Creek	1.68	226			Pn	14 22 54.1 -0.3
ANCK						Sn	14 23 14.9 -1.0
CAPN	Captain Cook N	1.73	36			Pn	14 22 56.6 +1.8
CAPN	Captain Cook N	1.73	36	P		Pn	14 22 56.7 +1.8
	baz=218						
CNTC	Contact Creek	1.79	232			Pn	14 22 55.3 -0.4
Q17K	Contact Creek	1.79	232	P		Pn	14 22 55.3 -0.4
	baz=50						
N18K	Kilae Creek	1.86	315			Pn	14 22 56.2 -0.4
N18K				IAML			14 23 19.8
	comp=E,286nm,1.1s						
N18K	Kilae Creek	1.86	315			Sn	14 23 17.4 -2.5
N18K	Kilae Creek	1.86	315	P		Pn	14 22 56.2 -0.4
	baz=134						
N18K				S		Sn	14 23 17.6 -2.3
	baz=134						
SLKM	Skilak Lake	1.88	52			Pn	14 22 56.9 0.0
N20K	Mount Spurr	1.88	15	P		Pn	14 22 57.1 +0.1
	baz=196						
SPU	Mount Spurr	1.89	18			Sn	14 23 21.5 +0.9
SPU	Mount Spurr	1.89	18	IAML			14 23 24.3
	comp=N,153nm,0.3s						
SPU				IAML			14 23 28.0
	comp=E,163nm,0.2s						
SPWE	Spurr West	1.92	10			Pn	14 22 58.0 +0.5
R18K	Karluk	1.94	200			Pn	14 22 56.6 -1.0
R18K						Sn	14 23 20.1 -1.5
R18K	Karluk	1.94	200	IAML			14 23 22.9
	comp=E,695nm,0.2s						
R18K				IAML			14 23 23.6
	comp=N,835nm,0.5s						
R18K	Karluk	1.94	200	P		Pn	14 22 56.9 -0.7
	baz=19						
R18K				S		Sn	14 23 20.1 -1.5
	baz=19						
CRP	Crater Peak	1.96	15			Pn	14 22 58.4 +0.4
O17K	Koliganek Bris	2.00	283	P		Pn	14 22 58.0 -0.5
	baz=100						
SEW	Seward	2.04	68	P		Pn	14 22 58.6 -0.3
	baz=251						
O22K	Cooper Landing	2.07	57			Sn	14 23 24.5 -0.3
O22K	Cooper Landing	2.07	57			Pn	14 22 59.6 +0.3
O22K	Cooper Landing	2.07	57	P		Pn	14 22 59.5 +0.2
	baz=240						
O22K				S		Sn	14 23 24.5 -0.3
	baz=240						
SVW2	Sparrevohn	2.08	327	P		Pn	14 22 59.0 -0.4
SVW2	Sparrevohn	2.08	327			Pn	14 22 59.0 -0.4
SVW2				IAML			14 23 24.8
	comp=E,215nm,1.0s						
OHAK	Old Harbor	2.18	181	P		Pn	14 22 59.4 -1.3
OHAK	Old Harbor	2.18	181	Pn		Pn	14 22 59.2 -1.5
OHAK				IAML			14 23 26.4
	comp=N,293nm,0.2s						
OHAK				IAML			14 23 26.9
	comp=E,237nm,0.3s						
OHAK	Old Harbor	2.18	181	P		Pn	14 22 59.4 -1.3
	baz=0.5						
N17K	Nushagak Hills	2.29	301	Pn		Pn	14 23 01.7 -0.6
N17K	Nushagak Hills	2.29	301	P		Pn	14 23 01.7 -0.6
	baz=119						
PLK2	Peulik 2	2.30	226			Pn	14 23 02.4 0.0
FIS	Fire Island	2.31	39			Pn	14 23 03.7 +1.3
FIS				IAML			14 23 38.8
	comp=E,777nm,0.8s						
FIS				IAML			14 23 41.0
	comp=N,859nm,0.5s						
PLK3	Peulik 3	2.34	224			Sn	14 23 31.3 +0.3
PLK1	Peulik 1	2.38	229			Pn	14 23 03.4 0.0
PLK4	Peulik 4	2.41	224			Pn	14 23 03.9 0.0
PLK4				IAML			14 23 34.8
	comp=E,266nm,1.1s						
PLK4				IAML			14 23 38.5
	comp=N,272nm,1.1s						
R17L	Mt. Peulik Vol	2.41	224	P		Pn	14 23 04.0 +0.1
	baz=42						
SUA	Susitna One	2.42	30			Pn	14 23 04.2 +0.2
SUA				IAML			14 23 35.8
	comp=E,837nm,0.6s						
SUA				IAML			14 23 37.5
	comp=N,488nm,0.5s						
SUA	Susitna One	2.42	30	P		Pn	14 23 04.2 +0.2
	baz=212						
RC01	Rabbit Creek A	2.44	44			Pn	14 23 04.2 +0.1
RC01				IAML			14 23 34.7
	comp=N,881nm,0.5s						
RC01	Rabbit Creek A	2.44	44	P		Pn	14 23 04.2 +0.1
	baz=227						
M18K	Stony River	2.47	330	P		Pn	14 23 04.3 -0.2
	baz=148						
P16K	Nushagak River	2.48	264	P		Pn	14 23 04.6 0.0
	baz=80						
O16K	Kokwok River B	2.49	277	Pn		Pn	14 23 04.6 -0.2
O16K	Kokwok River B	2.49	277	P		Pn	14 23 04.5 -0.2
	baz=93						
M20K	Styx River	2.50	1			Pn	14 23 05.5 +0.5
M20K	Styx River	2.50	1	P		Pn	14 23 05.5 +0.5
	baz=181						
M19K	Big River Lodg	2.58	348			Pn	14 23 06.0 -0.1
M19K	Big River Lodg	2.58	348	P		Pn	14 23 06.0 -0.1
	baz=167						
SKT	Skwentna	2.73	17			Pn	14 23 08.0 0.0
SKT				IAML			14 23 49.2
	comp=E,157nm,0.3s						
SKT				IAML			14 23 49.5
	comp=N,197nm,0.3s						
SKT	Skwentna	2.73	17	P		Pn	14 23 08.0 0.0
	baz=199						
M22K	Willow	2.82	32			Pn	14 23 09.7 +0.5
M22K	Willow	2.82	32	P		Pn	14 23 09.9 +0.7
	baz=214						
PWL	Port Wells	2.86	57	Pn		Pn	14 23 09.4 -0.3
PWL	Port Wells	2.86	57	P		Pn	14 23 09.2 -0.5
	baz=241						
SII	Sitkinak Islan	2.89	191	P		Pn	14 23 08.7 -1.4
SII	Sitkinak Islan	2.89	191	Pn		Pn	14 23 08.8 -1.4
SII				IAML			14 23 44.5
	comp=E,371nm,0.3s						
SII				IAML			14 23 45.0
	comp=N,225nm,0.6s						
SII	Sitkinak Islan	2.89	191	P		Pn	14 23 08.8 -1.4
	baz=9.5						
M17K	Holitna River	2.90	316			Pn	14 23 10.2 -0.1
M17K				IAML			14 23 45.0
	comp=N,225nm,0.8s						
M17K				IAML			14 24 00.4
	comp=E,188nm,0.6s						
M17K	Holitna River	2.90	316	P		Pn	14 23 10.2 -0.1
	baz=133						
L19K	White Mountain	2.91	345			Pn	14 23 10.3 -0.2
L19K				IAML			14 23 45.3
	comp=E,91nm,0.9s						
L19K				IAML			14 23 46.1
	comp=N,112nm,0.9s						
L19K	White Mountain	2.91	345	P		Pn	14 23 10.3 -0.2
	baz=164						
N16K	Nishlik Lake	2.99	294	P		Pn	14 23 11.6 0.0
	baz=109						
PMR	Palmer	3.00	41	P		Pn	14 23 11.1 -0.5
PMR	Palmer	3.00	41			Pn	14 23 10.9 -0.6
PMR				IAML			14 23 46.2
	comp=E,308nm,0.3s						
PMR				IAML			14 23 46.8
	comp=N,414nm,0.4s						
PMR	Palmer	3.00	41			Sn	14 23 44.7 -1.9
PMR	Palmer	3.00	41	P		Pn	14 23 11.0 -0.5
	baz=224						
PMR				S		Sn	14 23 44.7 -1.9
	baz=224						
P23K	Montague Islan	3.01	76	P		Pn	14 23 11.8 0.0
	baz=261						
L20K	Farewell, AK	3.11	354	P		Pn	14 23 13.4 +0.2
	baz=174						
KNK	Knik Glacier	3.12	47			Pn	14 23 12.6 -0.6
KNK	Knik Glacier	3.12	47	P		Pn	14 23 12.6 -0.6
	baz=231						
GHO	Glory Hole Cre	3.19	40			Pn	14 23 14.0 -0.3
GHO				IAML			14 23 53.6
	comp=N,459nm,0.5s						
M16K	Timber Creek	3.30	302	P		Pn	14 23 15.6 0.0
	baz=118						
L18K	Granite Mounta	3.31	331			Pn	14 23 15.3 -0.4
L18K				IAML			14 24 09.1
	comp=N,104nm,0.9s						
L18K	Granite Mounta	3.31	331	P		Pn	14 23 15.3 -0.4
	baz=148						
CUT	Chulitna	3.35	24			Pn	14 23 16.4 +0.1
CUT	Chulitna	3.35	24	IAML			14 23 57.0
	comp=N,379nm,0.3s						
CUT				IAML			14 23 59.3
	comp=E,321nm,0.3s						
CUT	Chulitna	3.35	24	P		Pn	14 23 16.7 +0.4
	baz=207						
O15K	Ungalikthiuk R	3.39	269	P		Pn	14 23 17.2 +0.3
	baz=84						
GLI	Glacier Island	3.41	61	Pn		Pn	14 23 15.6 -1.5
GLI	Glacier Island	3.41	61	P		Pn	14 23 15.5 -1.6
	baz=247						
SML	Sawmill	3.42	43	IAML			14 23 56.6
	comp=E,215nm,0.3s						
SML				IAML			14 24 02.6
	comp=N,274nm,0.6s						
SML	Sawmill	3.42	43	P		Pn	14 23 16.7 -0.6
	baz=227						
Q23K	Middleton Isla	3.52	86			Pn	14 23 18.1 -0.4
Q23K				IAML			14 23 59.5
	comp=N,252nm,0.5s						
Q23K				IAML			14 24 01.6
	comp=E,192nm,0.4s						
Q23K	Middleton Isla	3.52	86	P		Pn	14 23 18.1 -0.4
	baz=272						
MID	Middleton Isla	3.52	86	P		Pn	14 23 18.2 -0.4
MID	Middleton Isla	3.52	86			Pn	14 23 18.1 -0.5
MID				IAML			14 23 59.5
	comp=N,249nm,0.5s						
MID				IAML			14 24 01.6
	comp=E,200nm,0.4s						
HIN	Hinchinbrook I	3.54	71	IAML			14 24 00.2
	comp=E,326nm,0.4s						
N15K	Kwethluk River	3.56	286	Pn		Pn	14 23 19.8 +0.7
N15K				IAML			14 24 29.4
	comp=N,67nm,1.0s						
N15K				IAML			14 24 32.8
	comp=E,60nm,0.8s						
N15K	Kwethluk River	3.56	286	P		Pn	14 23 19.8 +0.7
	baz=100						
M23K	Glacier View	3.63	46	P		Pn	14 23 19.7 -0.4
	baz=231						
L17K	Donlin	3.71	320			Pn	14 23 20.9 -0.2
L17K	Donlin	3.71	320	P		Pn	14 23 20.9 -0.2
	baz=136						
SCM	Sheep Creek Mo	3.80	47	P		Pn	14 23 21.9 -0.5
	baz=232						
CHIR	Chirikof Islan	3.81	201	Pn		Pn	14 23 20.7 -1.7
CHIR				IAML			14 24 03.5
	comp=N,84nm,0.5s						
CHIR				IAML			14 24 03.8
	comp=E,109nm,0.6s						
CHIR	Chirikof Islan	3.81	201	P		Pn	14 23 20.8 -1.7
	baz=19						
L16K	Owhat River	3.86	310	P		Pn	14 23 22.9 -0.3
	baz=125						
EYAK	Cordova Ski Ar	3.93	70	P		Pn	14 23 24.1 -0.1
EYAK	Cordova Ski Ar	3.93	70	P		Pn	14 23 23.7 -0.4
	baz=256						
M15K	Kasigluk River	3.96	292	P		Pn	14 23 24.5 -0.1
	baz=106						
K20K	Telida	4.00	355	P		Pn	14 23 25.0 -0.1
	baz=174						
WAT7	Susitna Watana	4.05	30			Pn	14 23 25.7 -0.2
CAST	Castle Rocks	4.08	7			Pn	14 23 26.4 +0.3
DIV	Divide	4.10	62			Pn	14 23 26.1 -0.5
O14K	Tigyukauivet M	4.12	272	Pn		Pn	14 23 27.1 +0.4
O14K				IAML			14 24 51.1
	comp=N,37nm,0.8s						
O14K	Tigyukauivet M	4.12	272	P		Pn	14 23 26.7 0.0
	baz=85						
WAT1	Susitna Watana	4.13	31	P		Pn	14 23 26.6 -0.3
	baz=215						
K17K	Iditarod	4.15	326	Pn		Pn	14 23 27.0 -0.1
K17K				IAML			14 24 42.5
	comp=E,79nm,1.0s						
K17K				IAML			14 24 43.1
	comp=N,74nm,1.0s						
K17K	Iditarod	4.15	326	P		Pn	14 23 27.0 -0.1
	baz=142						
WAT6	Susitna Watana	4.17	38	P		Pn	14 23 27.0 -0.5
	baz=222						
KLU	Klutina	4.19	57	P		Pn	14 23 27.1 -0.6
	baz=243						
N14K	Kuskokwak Cree	4.32	281			Pn	14 23 30.1 +0.7
M24K	Tolsona, Glenn	4.40	49			Pn	14 23 30.4 -0.2
M24K	Tolsona, Glenn	4.40	49	P		Pn	14 23 30.6 0.0
	baz=235						
J18K	Innoko River	4.42	339	P		Pn	14 23 30.4 -0.3
	baz=156						
RAGM	Ragged Mountai	4.42	73			Pn	14 23 29.7 -1.2
GOAT	Goat Mountain	4.43	71			Pn	14 23 30.0 -1.0
KAIM	Kayak Island	4.50	79			Pn	14 23 32.2 +0.3
KAIM				IAML			14 24 28.3
	comp=E,158nm,0.4s						
KAIM	Kayak Island	4.50	79	P		Pn	14 23 32.2 +0.3
	baz=267						
RND	Reindeer	4.54	26	IAML			14 24 25.0
	comp=N,93nm,0.6s						
RND				IAML			14 24 27.6
	comp=E,67nm,0.4s						
M14K	Bethel	4.58	291	P		Pn	14 23 33.4 +0.5
	baz=104						
BMRM	Bremner River	4.59	66			Pn	14 23 32.1 -1.0
BMRM	Bremner River	4.59	66	P		Pn	14 23 32.7 -0.4
	baz=254						
DHY	Denali Highway	4.65	35			Pn	14 23 33.4 -0.6
DHY	Denali Highway	4.65	35	P		Pn	14 23 33.6 -0.5
	baz=220						
L15K	Ungalak Mounta	4.68	303	P		Pn	14 23 34.4 +0.1
	baz=116						
NICHA	Nichawak Mount	4.75	76			Pn	14 23 35.1 -0.2
J19K	Poorman	4.76	347	P		Pn	14 23 34.7 -0.6
	baz=165						
N25K	Chitina, Valde	4.81	59	IAML			14 24 31.2
	comp=E,106nm,0.4s						
N25K				IAML			14 24 32.3
	comp=N,104nm,0.4s						
N25K	Chitina, Valde	4.81	59	P		Pn	14 23 35.8 -0.4
	baz=246						
MCK	McKinley	4.81	23	P		Pn	14 23 36.3 +0.2
	baz=207						
J20K	Nowinta River	4.82	355	P		Pn	14 23 35.9 -0.3
	baz=175						
SUCK	Suckling Hills	4.83	78			Pn	14 23 36.4 +0.1
SUCK	Suckling Hills	4.83	78	IAML			14 24 36.0
	comp=N,93nm,0.4s						
SUCK				IAML			14 24 45.3
	comp=E,75nm,0.5s						
BPAW	Bear Paw Mtn.	4.84	12			Pn	14 23 35.6 -0.9
BPAW	Bear Paw Mtn.	4.84	12	IAML			14 24 32.0
	comp=N,20nm,0.8s						
BPAW				IAML			14 24 35.4
	comp=E,28nm,0.3s						
BPAW	Bear Paw Mtn.	4.84	12	P		Pn	14 23 35.8 -0.7
	baz=194						
J17K	VABM Dome	4.90	328	IAML			14 25 05.1
	comp=N,32nm,0.9s						
J17K				IAML			14 25 08.5
	comp=E,25nm,0.8s						
J17K	VABM Dome	4.90	328	P		Pn	14 23 36.9 -0.4
	baz=143						
HARP	HAARP	4.96	49			Pn	14 23 38.2 +0.1
HARP	HAARP	4.96	49	P		Pn	14 23 38.2 +0.1
	baz=236						
K15K	Wolf Creek Mou	5.00	309	P		Pn	14 23 39.0 +0.4
	baz=122						
BGLC	Bering Glacier	5.08	77			Pn	14 23 40.2 +0.6
BGLC	Bering Glacier	5.08	77	P		Pn	14 23 40.2 +0.6
	baz=266						
L14K	Kuka Creek	5.08	297	IAML			14 25 07.0
	comp=N,24nm,1.2s						
L14K				IAML			14 25 27.1
	comp=E,18nm,1.1s						
L14K	Kuka Creek	5.08	297	P		Pn	14 23 40.1 +0.4
	baz=109						
WACK	Wrangell Chich	5.09	55			Pn	14 23 39.7 -0.3
GLB	Gilahina Butte	5.10	62			Pn	14 23 39.6 -0.5
GLB				IAML			14 24 36.0
	comp=N,104nm,0.5s						
GLB				IAML			14 24 36.0
	comp=E,116nm,0.5s						
BWN	Browne	5.12	19	IAML			14 25 21.0
	comp=E,75nm,1.0s						
BWN				IAML			14 25 25.0
	comp=N,60nm,1.0s						
WASW	Wrangell South	5.13	56			Pn	14 23 40.5 -0.1
KHIT	Khitrov Hills	5.13	74			Pn	14 23 39.8 -0.7
PAX	Paxson	5.19	43			Pn	14 23 41.1 -0.2
PAX	Paxson	5.19	43	P		Pn	14 23 41.2 -0.1
	baz=230						
VRDI	Verde Repeater	5.20	65			Pn	14 23 41.3 -0.2
VRDI				IAML			14 24 40.0
	comp=N,107nm,0.4s						
VRDI				IAML			14 24 42.0
	comp=E,52nm,0.5s						
M13K	Dall Lake	5.20	286			Pn	14 23 42.2 +1.0
M13K	Dall Lake	5.20	286	IAML			14 25 51.9
	comp=E,17nm,1.2s						
CRQM	Cirque	5.23	71	Pn		Pn	14 23 41.8 -0.2
CRQE	Cirque	5.26	71	P		Pn	14 23 41.8 -0.4
	baz=259						
J16K	Anvik River	5.28	321			Pn	14 23 42.4 +0.1
J16K	Anvik River	5.28	321	P		Pn	14 23 42.5 +0.1
	baz=135						
SNH	Sunshine Point	5.31	77	Pn		Pn	14 23 43.4 +0.5
MCARA	McCarthy VSAT	5.44	64			Pn	14 23 44.7 +0.1
MCARA	McCarthy VSAT	5.44	64	P		Pn	14 23 44.7 +0.1
	baz=253						
I20K	Naaghedeneel	5.46	354			Pn	14 23 45.2 +0.5
I20K	Naaghedeneel	5.46	354	P		Pn	14 23 45.3 +0.6
	baz=173						
NEA2	Nenana	5.57	19	Pn		Pn	14 23 45.6 -0.7
NEA2	Nenana	5.57	19	P		Pn	14 23 45.7 -0.7
	baz=202						
ISLE	Juniper Island	5.60	73	Pn		Pn	14 23 46.7 -0.2
KIAG	Kiagna River	5.64	70			Pn	14 23 47.1 -0.4
K24K	Donnelly Dome	5.67	36			Pn	14 23 48.6 +0.8
I17K	Unalakleet	5.74	325	Pn		Pn	14 23 49.0 +0.3
CNBA	Chernabura Isl	5.75	220	Pn		Pn	14 23 46.9 -1.8
MESA	MESA	5.75	77	Pn		Pn	14 23 49.2 +0.2
MESA	MESA	5.75	77	P		Pn	14 23 49.1 +0.2
	baz=267						
MLY	Manley	5.78	11	P		Pn	14 23 49.1 -0.1
	baz=193						
HDA	Harding Lake	5.84	28			Pn	14 23 49.5 -0.5
HDA	Harding Lake	5.84	28	P		Pn	14 23 49.5 -0.5
	baz=213						
GRNC	Granite Creek	5.90	72			Pn	14 23 51.0 0.0
L26K	Log Cabin Wild	6.00	48	Pn		Pn	14 23 53.4 +1.1
J14K	Nanvaranak Lak	6.04	308	Pn		Pn	14 23 53.0 +0.4
COLA	College	6.05	22	Pn		Pn	14 23 52.2 -0.6
I23K	Minto, Yukon-K	6.05	16	Pn		Pn	14 23 52.3 -0.6
I23K	Minto, Yukon-K	6.05	16	P		Pn	14 23 52.4 -0.5
	baz=199						
RKAV	Rock Avalanche	6.06	76			Pn	14 23 53.5 +0.4
CTG	Chitna Glacier	6.14	70	P		Pn	14 23 54.0 -0.2
	baz=260						
CTGM	Chitina Glacie	6.14	70	Pn		Pn	14 23 54.9 +0.7
IL31		6.16	26	Pn		Pn	14 23 53.1 -1.3
ILAR	Eielson Array	6.16	26	Pn		Pn	14 23 53.2 -1.2
ILAR	Eielson Array	6.16	26	P		Pn	14 23 53.5 -0.9
	comp=E,12nm,0.3s,baz=216,slow=14,SNR=169						
ILAR				S		Sn	14 24 59.6 -3.8
	comp=E,11nm,0.5s,baz=201,slow=20,SNR=12						
K13K	Kusilvak Mount	6.17	299	Pn		Pn	14 23 54.9 +0.5
TABL	Table Mountain	6.17	75			Pn	14 23 54.7 0.0
H20K	Anotleneega Mo	6.17	354	P		Pn	14 23 54.3 -0.2
	baz=172						
H18K	Honhosa River	6.26	340			Pn	14 23 55.2 -0.4
H18K	Honhosa River	6.26	340	P		Pn	14 23 55.2 -0.4
	baz=155						
LOGN	Logan Glacier	6.28	72

POKR	Poker Plat Res	6.35	23	P	Pn	14 23 56.7 -0.2
	baz=208					
SCRK	Sand Creek	6.36	40		Pn	14 23 56.0 -1.2
SCRK	Sand Creek	6.36	40	P	Pn	14 23 56.2 -1.0
	baz=228					
H17K	Granite Mounta	6.38	334	P	Pn	14 23 57.0 -0.3
	baz=148					
J25K	Saicha River,	6.41	32	P	Pn	14 23 57.0 -0.8
	baz=219					
YUK2	White River	6.55	63		Pn	14 23 59.9 0.0
H22K	Ishtalitna Cre	6.58	7		Pn	14 23 59.9 -0.2
H22K	Ishtalitna Cre	6.58	7	P	Pn	14 24 00.4 +0.3
	baz=188					
IMAR	Indian Mountai	6.62	358	Pn	Pn	14 23 59.8 -0.8
BCAR	Beaver Creek A	6.64	51	Pn	Pn	14 24 01.6 +0.7
H23K	Yukon River	6.68	13	Pn	Pn	14 24 00.9 -0.5
H23K	Yukon River	6.68	13	P	Pn	14 24 00.9 -0.5
	baz=196					
J26L	Joseph Creek	6.85	38	P	Pn	14 24 02.8 -1.1
	baz=226					
BCPM	Bancas Point	6.91	79	Pn	Pn	14 24 04.5 -0.1
YKU2	Yakutat	6.91	83	Pn	Pn	14 24 04.8 +0.2
H24K	Noodor Dome	6.92	19	P	Pn	14 24 03.8 -1.0
	baz=203					
G18K	Tagagawik	6.99	341	P	Pn	14 24 05.2 -0.3
	baz=157					
PNL	Peninsula	7.04	82	P	Pn	14 24 05.8 -0.6
PNL	Peninsula	7.04	82	P	Pn	14 24 06.0 -0.4
	baz=274					
K27K	Chicken	7.04	44	Pn	Pn	14 24 06.3 -0.1
PRP	Porcupine Dome	7.10	27		Pn	14 24 06.7 -0.6
PRP	Porcupine Dome	7.10	27	P	Pn	14 24 06.9 -0.4
	baz=214					
G16K	Koyuk River	7.36	329	Pn	Pn	14 24 11.5 +0.9
O29M	Mount Kennedy	7.44	77	Pn	Pn	14 24 12.0 +0.1
O29M	Mount Kennedy	7.44	77	P	Pn	14 24 10.8 -1.0
	baz=269					
G23K	Bananza Creek	7.49	10	P	Pn	14 24 11.8 -0.6
	baz=193					
I26K	Coal Creek Min	7.55	34	Pn	Pn	14 24 12.2 -1.1
H25L	Birch Creek	7.68	23		Pn	14 24 14.4 -0.6
H25L	Birch Creek	7.68	23	P	Pn	14 24 14.6 -0.4
	baz=210					
G24K	Hadweenzic Riv	7.78	17		Pn	14 24 15.5 -0.9
G24K	Hadweenzic Riv	7.78	17	P	Pn	14 24 15.5 -0.9
	baz=202					
F18K	Selawik	7.80	341		Pn	14 24 16.2 -0.4
F18K	Selawik	7.80	341	P	Pn	14 24 16.2 -0.4
	baz=155					
EGAK	Eagle	7.82	41	Pn	Pn	14 24 15.9 -1.0
EGAK	Eagle	7.82	41	P	Pn	14 24 16.1 -0.8
	baz=232					
P29M	Windy Craggy	7.88	82	Pn	Pn	14 24 17.6 -0.2
DAWY	Dawson	8.06	49	Pn	Pn	14 24 20.6 +0.3
G25K	Bearman Lake	8.07	21	P	Pn	14 24 19.2 -1.1
	baz=207					
I27K	Kandik River	8.22	36		Pn	14 24 21.6 -0.7
I27K	Kandik River	8.22	36	P	Pn	14 24 21.8 -0.5
	baz=226					
N30M	Aishikik Lake	8.25	69	Pn	Pn	14 24 22.0 -0.8
N30M	Aishikik Lake	8.25	69	P	Pn	14 24 22.5 -0.3
	baz=262					
E19K	Redstone River	8.29	349	Pn	Pn	14 24 24.7 +1.4
F24K	Squaw Lake	8.50	14		Pn	14 24 25.4 -0.8
F24K	Squaw Lake	8.50	14	P	Pn	14 24 25.6 -0.6
	baz=199					
M30M	Minto, Yukon	8.60	61	Pn	Pn	14 24 27.6 0.0
I28M	Miner Creek	8.64	40		Pn	14 24 27.8 -0.3
I28M	Miner Creek	8.64	40	P	Pn	14 24 27.8 -0.3
	baz=232					
O30N	Mendenhall	8.68	73	Pn	Pn	14 24 27.2 -1.4
H27K	Steamboat Moun	8.69	33	P	Pn	14 24 27.8 -1.0
	baz=223					
G26K	Porcupine Rive	8.69	25		Pn	14 24 27.0 -1.7
G26K	Porcupine Rive	8.69	25	P	Pn	14 24 27.3 -1.4
	baz=214					
E18K	Tukpahlearik C	8.70	341	Pn	Pn	14 24 29.4 +0.5
F25K	Christian Rive	8.89	19	P	Pn	14 24 30.1 -1.5
	baz=206					
BMAR	Burnt Mountain	8.94	22	Pn	Pn	14 24 30.5 -1.7
E24K	Your Creek	8.96	11		Pn	14 24 31.8 -0.7
E24K	Your Creek	8.96	11	P	Pn	14 24 31.8 -0.7
	baz=196					
S31K	Pelican	8.97	92	Pn	Pn	14 24 31.4 -1.1
S31K	Pelican	8.97	92	P	Pn	14 24 31.5 -1.0
	baz=286					
G27K	Doyon Strip	9.09	30	Pn	Pn	14 24 32.6 -1.5
G27K	Doyon Strip	9.09	30	P	Pn	14 24 32.8 -1.3
	baz=220					
SKAG	Skagway	9.12	82	P	Pn	14 24 34.0 -0.6
I29M	Ogilvie Camp,	9.14	43	Pn	Pn	14 24 33.1 -1.8
UNV	Unalaska Valle	9.18	239	P	Pn	14 24 34.4 -1.1
F26K	Sheenjek River	9.25	22		Pn	14 24 35.0 -1.4
F26K	Sheenjek River	9.25	22	P	Pn	14 24 35.0 -1.4
	baz=210					
SIT	Sitka	9.73	96	Pn	Pn	14 24 41.1 -1.7
JIS	Juneau Island	9.83	88	Pn	Pn	14 24 45.8 +1.5
S32K	Killisnoo	9.96	93	Pn	Pn	14 24 45.9 -0.2
N32M	Quiet Lake	10.15	71	Pn	Pn	14 24 48.8 +0.1
F28M	Old Crow	10.15	30	Pn	Pn	14 24 47.4 -1.3
E27K	Coleen River	10.19	25	Pn	Pn	14 24 47.7 -1.5
P33M	Teslin, Yukon	10.31	77	Pn	Pn	14 24 50.5 -0.4
C16K	Lisburne Hills	10.37	334	Pn	Pn	14 24 53.1 +1.6
D25K	Kavik River	10.39	14	Pn	Pn	14 24 50.5 -1.4
C23K	Itkillik River	10.55	5	Pn	Pn	14 24 54.1 +0.2
Q32M	Nakina River	10.76	83	Pn	Pn	14 24 57.4 +0.3
G30M	tAoh Zraii Nji	10.77	38	Pn	Pn	14 24 56.6 -0.5
D27M	Malcolm River	11.20	23	Pn	Pn	14 25 01.7 -1.1
U33K	Whale Pass	11.22	98	Pn	Pn	14 25 01.7 -1.4
R33M	Jennings River	11.34	80	Pn	Pn	14 25 04.3 -0.6
G31M	Satah River	11.37	40	Pn	Pn	14 25 04.9 -0.2
CRAG	Craig	11.51	101	Pn	Pn	14 25 05.0 -2.0
F31M	Tsiigehtchic	11.83	39	Pn	Pn	14 25 10.7 -0.6
DLBC	Dease Lake	12.01	85	Pn	Pn	14 25 14.7 +0.9
DLBC	Dease Lake	12.01	85	P	Pn	14 25 15.2 +1.4
	comp=E,4.1nm,0.3s,baz=310,slow=6.8,SNR=30					
DLBC				S	Sn	14 27 24.9 -0.9
	comp=E,1.0nm,0.4s,baz=344,slow=19,SNR=1.6					
V35K	Ketchikan	12.34	100	Pn	Pn	14 25 17.9 -0.2
INK	Inuvik	12.40	36	P	Pn	14 25 18.8 0.0
	comp=E,1.4nm,0.3s,baz=229,slow=19,SNR=3.7					
INK				S	Sn	14 27 31.2 -3.6
	comp=E,1.4nm,0.4s,baz=227,slow=20,SNR=2.0					
DIB	Dawson Inlet,	13.05	109	Pn	Pn	14 25 27.8 +0.3
ATKA	Atka Island	13.77	248	Pn	Pn	14 25 38.2 +1.2
ADK	Adak	15.17	251	Pn	Pn	14 25 55.2 +0.3
ADK				IAmb	IAmb	14 26 10.4
	comp=Z,12nm,1.0s					
BBB	Bella Bella	15.79	106	P	P	14 26 05.1 +0.5
	comp=Z,10nm,1.0s,baz=318,slow=11,SNR=6.2					
BBB				S	Sn	14 28 55.9 -1.0
	comp=Z,3.9nm,0.8s,baz=336,slow=18,SNR=1.4					
C36M	Paulatuk	15.88	39	Pn	Pn	14 26 02.1 -1.6
C36M				IAmb	IAmb	14 26 06.6
	comp=Z,13nm,1.0s					
A36M	Sachs Harbour	16.84	30	Pn	Pn	14 26 14.9 -0.6
A36M				IAmb	IAmb	14 26 22.7
	comp=Z,16nm,0.8s					
YKA	Yellowknife Ar	18.82	64	P	P	14 26 36.3 -1.5
YKA	Yellowknife Ar	18.82	64	P	P	14 26 38.6 +0.7
	comp=Z,0.7nm,0.6s,baz=278,slow=9.9,SNR=11					
SHEM	Shemya Is, Ala	19.27	264	P	P	14 26 42.2 -0.7
	comp=Z,41nm,0.9s,baz=86,slow=15,SNR=1.7					
SHEM				S	S	14 30 15.3 -0.4
	comp=Z,45nm,0.8s,baz=48,slow=21,SNR=2.3					
NVAR	Mina Array Bea	30.53	118	P	P	14 28 31.9 +1.4
	comp=Z,0.2nm,0.4s,baz=311,slow=10.0,SNR=3.3					
	comp=Z,0.2nm,0.4s					
PDAR	Pinedale Array	31.37	102	P	P	14 28 39.4 +1.6
	comp=Z,0.5nm,0.9s,baz=314,slow=7.4,SNR=2.1					
	comp=Z,0.5nm,0.9s					
TXAR	Lajitas Array	44.88	110	P	P	14 30 32.7 +1.7
	comp=Z,0.4nm,0.7s,baz=323,slow=3.5,SNR=5.9					
	comp=Z,0.4nm,0.7s					
ARCES	ARCESS Array B	51.37	1	P	P	14 31 20.5 +0.3
	comp=Z,0.5nm,0.6s,baz=340,slow=10,SNR=1.2					
	comp=Z,0.5nm,0.6s					
KSRS	Korea Array	53.20	283	P	P	14 31 34.0 -0.2
	comp=Z,0.5nm,0.5s,baz=40,slow=6.2,SNR=4.1					
	comp=Z,0.5nm,0.5s					
SONM	Songino Array	55.05	306	P	P	14 31 47.5 -0.3
	comp=Z,0.7nm,0.6s,baz=35,slow=5.8,SNR=2.8					
	comp=Z,0.7nm,0.6s					
BVAR	Borovoye Array	62.55	332	P	P	14 32 41.3 +2.0
	comp=Z,0.2nm,0.5s,baz=354,slow=8.0,SNR=1.6					
	comp=Z,0.2nm,0.5s					

*IDC **28** 14:34:57.9±2.2,4.28S×152.20E,h0km,mb3.6/7, mbtmp3.6/7,MS3.1/2,Error ellipse: s-maj=82.7km s-min=24.3km az=113.0*

ISC 28 14:35:15.9±2.0,4.5S±0.3×152.1E±0.5,h153km,n10, σ1°12/8,mb3.5/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	16.48	200	LR	LR	14 44 22.5	
	comp=Z,12nm,18.8s,baz=257,slow=34						
WRA	Warramunga Arr	23.11	227	P	P	14 40 07.2	-1.3
	1.5nm,0.7s,baz=49,slow=9.9,SNR=25						
	1.5nm,0.7s						
ASAR	Alice Springs	25.88	221	P	P	14 40 35.0	+1.2
	1.1nm,0.7s,baz=52,slow=8.1,SNR=17						
	1.1nm,0.7s						
SONM	Songino Array	65.72	328	P	P	14 45 44.4	+0.1
	0.3nm,0.7s,baz=140,slow=4.9,SNR=1.9						
	0.3nm,0.7s						
MKAR	Makanchi Array	79.66	319	P	P	14 47 05.7	-0.8
	0.1nm,0.5s,baz=101,slow=5.4,SNR=1.6						
	0.1nm,0.5s						
ZALV	Zalesovo Beam	80.53	326	P	P	14 47 11.2	+0.2
	0.3nm,0.3s,baz=75,slow=7.9,SNR=1.1						
	0.3nm,0.3s						
ILAR	Eielson Array	82.17	22	P	P	14 47 19.1	-0.3
	0.4nm,0.8s,baz=264,slow=3.6,SNR=2.6						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	83.15	322	P	P	14 47 26.2	+1.5
	0.2nm,0.3s,baz=106,slow=4.8,SNR=1.4						
	0.2nm,0.3s						
PFO	Pinyon Flats O	93.68	57	LR	LR	15 23 47.9	
	comp=Z,36nm,19.2s,baz=266,slow=31						
TORD	Torodi Ar. Bea	149.55	288	PKPbc	PKiKP	14 54 49.1	-0.2
	0.2nm,0.4s,baz=78,slow=4.6,SNR=2.6						

*NEIC **28** 14:35:50.2±1.2,4.54S±0.08×152.8E±0.1,h87km±5km, mb4.4/22,Error ellipse: s-maj=18.9km s-min=11.5km az=88.0*

*IDC **28** 14:35:53.4±2.3,4.56S×152.69E,h117km±18km,mb3.7/13, mbtmp4.2/14,MS4.2/1,Error ellipse: s-maj=26.0km s-min=10.6km az=115.0*

ISC 28 14:35:51.4±0.8,4.48S±0.09×152.7E±0.1,h100km,n45, σ0°72/48,mb4.2/25,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	0.59	299	Pn	Pn	14 36 07.0	-0.8
PMG	Port Moresby	7.35	228	P	Pn	14 37 37.2	+1.1
	32nm,0.4s,baz=58,slow=12,SNR=22						
PMG				S	Sn	14 38 58.6	+0.6
	68nm,0.6s,baz=141,slow=20,SNR=12						
HNR	Honiara	8.73	125	LR	LR	14 40 41.3	
	comp=Z,1μm,18.9s,baz=287,slow=33						
COEN	Coen	13.29	224		Pn	14 38 56.6	+0.4
MTN	Manton Dam	22.85	247	P	P	14 40 46.7	+0.3
MTN				IAmb	IAmb	14 40 47.7	
	comp=Z,7.9nm,0.7s						
WB0	Warramunga Arr	23.42	228	P	P	14 40 52.7	+0.8
WR0	Warramunga Arr	23.43	227	P	P	14 40 51.9	0.0
WR0				IAmb	IAmb	14 41 23.6	
	comp=Z,13nm,1.2s						
WRAB	Tennant Creek	23.55	228	P	P	14 40 53.2	+0.2
WRAB				IAmb	IAmb	14 40 56.8	
	comp=Z,9.2nm,0.8s						
WB2	Warramunga Arr	23.56	228	P	P	14 40 53.4	+0.3
WB2				IAmb	IAmb	14 40 56.3	
	comp=Z,7.4nm,0.6s						
WRA	Warramunga Arr	23.57	228	P	P	14 40 52.6	-0.6
WRA	Warramunga Arr	23.57	228	P	P	14 40 53.2	+0.1
	comp=Z,6.1nm,0.6s,baz=51,slow=10,SNR=46						
WRA				PcP	PcP	14 44 36.6	+0.8
	comp=Z,0.7nm,0.8s,baz=51,slow=2.1,SNR=3.6						
WRA				S	S	14 44 58.1	-1.9
	comp=Z,1.7nm,0.9s,baz=46,slow=16,SNR=7.7						
	comp=Z,6.1nm,0.6s						
KNRA	Kununurra	26.01	243	P	P	14 41 16.1	+0.8
KNRA				IAmb	IAmb	14 41 19.5	
	comp=Z,7.6nm,0.7s						
ASAR	Alice Springs	26.31	222	P	P	14 41 17.6	-0.3
	comp=Z,0.5nm,0.5s,baz=50,slow=8.3,SNR=7.7						
ASAR				S	S	14 45 43.1	-0.5
	comp=Z,0.1nm,0.3s,baz=35,slow=20,SNR=5.1						
	comp=Z,0.5nm,0.5s						
FITZ	Fitzroy Crossi	29.71	241	P	P	14 41 47.2	-1.1
MBWA	Marble Bar	36.03	240	P	P	14 42 42.0	-1.3
MBWA				IAmb	IAmb	14 42 43.5	
	comp=Z,11nm,1.1s						
YOJ	Yonaguni jima	40.75	316	P	P	14 43 22.9	+0.1
YOJ				IAmb	IAmb	14 43 25.1	
	comp=Z,9.0nm,0.8s						
JNU	Nakatsue	42.72	333	P	P	14 43 38.5	-0.3
KSRS	Korea Array	47.66	333	P	P	14 44 18.3	+0.6
	comp=Z,2.3nm,0.7s,baz=150,slow=7.9,SNR=14						
	comp=Z,2.3nm,0.7s						
JKA	Kamikawa-asahi	49.21	350	P	P	14 44 30.1	+0.6
USA0B	Ussuriysk Arra	51.90	341	P	P	14 44 50.5	+0.7
USA0B				IAmb	IAmb	14 44 51.1	
	comp=Z,2.8nm,0.7s						
USRK	Ussuriysk Ar.	51.90	341	P	P	14 44 50.5	+0.7
	comp=Z,2.4nm,0.7s,baz=161,slow=8.7,SNR=6.2						
	comp=Z,2.4nm,0.7s						
KULM	Kulim	52.86	280	P	P	14 44 56.5	-0.9
CMAR	Chiang Mai Arr	57.63	295	P	P	14 45 32.6	+1.0
CMAR	Chiang Mai Arr	57.63	295	P	P	14 45 33.2	+1.6
	comp=Z,3.7nm,0.8s,baz=116,slow=5.4,SNR=19						
	comp=Z,3.7nm,0.8s						
SONM	Songino Array	65.99	328	P	P	14 46 26.9	-0.4
SONM	Songino Array	65.99	328	P	P	14 46 28.7	+1.4
	comp=Z,1.1nm,0.6s,baz=140,slow=5.2,SNR=7.6						
	comp=Z,1.1nm,0.6s						
VNDA	Vanda	73.16	178	P	P	14 47 10.7	0.0
	comp=Z,0.3nm,0.6s,baz=233,slow=2.8,SNR=2.2						
	comp=Z,0.3nm,0.6s						
CNPM	China Poot	77.48	26	P	P	14 47 35.5	-0.2
F19K	Shaleruckik Mo	79.36	18	P	P	14 47 45.8	-0.1
F19K				IAmb	IAmb	14 47 50.8	
	comp=Z,7.2nm,1.5s						
E19K	Redstone River	79.92	17	P	P	14 47 50.0	+1.1
E19K				IAmb	IAmb	14 47 51.1	
	comp=Z,9.1nm,1.4s						
MKAR	Makanchi Array	80.00	319	P	P	14 47 50.1	+0.2
MKAR	Makanchi Array	80.00	319	P	P	14 47 50.3	+0.4
	comp=Z,2.9nm,0.9s,baz=98,slow=6.9,SNR=13						
	comp=Z,2.9nm,0.9s						
F20K	Avaraart Lake	80.12	18	P	P	14 47 50.5	+0.5
IMAR	Indian Mountai	80.12	20	P	P	14 47 50.1	0.0
MAKZ	Makanchi	80.21	319	P	P	14 47 51.0	0.0
MAKZ				IAmb	IAmb	14 47 52.5	
	comp=Z,3.9nm,0.8s						
ZALV	Zalesovo Beam	80.82	326	P	P	14 47 53.7	-0.4
	comp=Z,1.1nm,0.7s,baz=134,slow=4.3,SNR=5.2						
	comp=Z,1.1nm,0.7s						
ILAR	Eielson Array	81.91	22	P	P	14 47 58.6	-1.0
	comp=Z,0.3nm,0.6s,baz=234,slow=5.1,SNR=4.9						
	comp=Z,0.3nm,0.6s						
KURBB	Kurchatov Arra	83.47	322	P	P	14 48 08.0	0.0
	comp=Z,1.0nm,0.7s,baz=99,slow=4.0,SNR=6.4						
	comp=Z,1.0nm,0.7s						
QSPA	South Pole Qui	85.48	180	P	P	14 48 17.7	-0.3
QSPA	South Pole Qui	85.48	180	P	P	14 48 17.9	-0.1
	comp=Z,1.1nm,0.6s,baz=332,slow=3.6,SNR=3.0						
	comp=Z,1.1nm,0.6s						
D27M	Malcolm River	85.98	19	P	P	14 48 20.4	+0.1
D27M				IAmb	IAmb	14 48 21.8	
	comp=Z,2.1nm,0.8s						
BVAR	Borovoye Array	88.91	323	P	P	14 48 34.1	-0.5
	comp=Z,5.9nm,0.7s,baz=101,slow=6.0,SNR=35						
	comp=Z,5.9nm,0.7s						
GERES	GERESS Array B	123.72	329	PKP	PKiKP	14 54 38.4	+0.4
	comp=Z,0.4nm,0.5s,baz=116,slow=4.5,SNR=2.2						
EKA	Eskdalemuir Ar	125.69	343	PKP	PKiKP	14 54 41.4	-0.1
	comp=Z,1.1nm,0.6s,baz=28,slow=3.0,SNR=1.7						
TORD	Torodi Ar. Bea	150.09	289	PKPbc	PKPbc	14 55 31.1	-0.5
	comp=Z,2.6nm,0.6s,baz=65,slow=3.6,SNR=13						

*NEIC **28** 15:25:34.5±0.2,36.42N±0.01×96.92W±0.02,h5km±4km, Error ellipse: s-maj=2.7km s-min=1.4km az=57.0*

TUL 28 15:25:34.6±0.4,36.42N±0.01×96.91W±0.01,h6km±5km, ML2.6,mb_Lg2.5/50(NEIC),ML2.7/46(NEIC),Error ellipse: s-maj=2.3km s-min=0.5km az=223.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK048	Pawnee Station	0.03	262	Pg	Pg	15 25 35.8	0.0
OK048				IAML		15 25 36.8	
	7μm,0.5s						
OK051	E0350 and S346	0.10	36	Pg	Pg	15 25 37.3	+0.4
QUOK	Quay	0.30	146	Pg	Pg	15 25 40.9	+0.5
QUOK				IAML	Sg	15 25 45.1	+0.8
	comp=N,1μm,0.3s						
QUOK				Sg	Sg	15 25 45.1	+0.8
BLOK	Blackwell	0.42	325	Pg	Pg	15 25 43.0	+0.2
BLOK				Sg	Sg	15 25 48.9	+0.7
OK052	Battle Ridge R	0.43	168	Pg	Pg	15 25 43.3	+0.3
OK052				IAML		15 25 50.9	
	comp=N,518nm,0.2s						
OK052				IAML		15 25 51.2	
	comp=N,839nm,0.4s						
OK031	S. Brethren Rd	0.47	173	Pg	Pg	15 25 44.0	+0.3
OK031				IAML		15 25 50.6	
	comp=N,623nm,0.2s						
DEOK	Depew	0.67	150	Pg	Pg	15 25 47.6	+0.2
DEOK				IAML		15 25 58.4	
	comp=E,394nm,0.3s						
DEOK				IAML		15 25 60.0	
	comp=N,343nm,0.5s						
OK029	Liberty Lake	0.76	215	Pg	Pg	15 25 49.2	0.0
CROK	Carrier	0.87	276		Pg	15 25 51.0	-0.2
CROK				IAML		15 26 10.7	
	comp=N,229nm,0.3s						
CROK				IAML		15 26 14.6	
	comp=E,226nm,0.3s						
GC02	Grant County #	0.88	300	Pg	Pg	15 25 51.2	-0.2
KAN09	Caldwell North	0.91	322		Pg	15 25 52.1	0.0
KAN17	Caldwell West	0.93	313		Pg	15 25 52.2	-0.2
KAN01	Argonia South	1.00	317		Pg	15 25 53.5	-0.3
KAN01				IAML		15 26 08.9	
	comp=E,218nm,0.3s						
KAN01				IAML		15 26 09.3	
	comp=N,263nm,0.2s						
KAN14	Manchester OK	1.00	303		Pg	15 25 53.5	-0.3
KAN14				IAML		15 26 12.8	
	comp=N,252nm,0.1s						
KAN14				IAML		15 26 13.9	
	comp=E,169nm,0.1s						
TUL3	Leonard	1.04	119		Pg	15 25 54.2	-0.3
OK032	Salt Plains WL	1.11	291		Pg	15 25 55.3	-0.6
FNO	Franklin	1.23	199	Pg	Pg	15 25 56.9	-1.2
FNO				IAML		15 26 18.4	
	comp=N,103nm,0.2s						
FNO				IAML		15 26 18.8	
	comp=E,125nm,0.3s						
RLO	Rose Lookout	1.55	99		Pn	15 26 02.9	+0.2
NOKA	Waynoka	1.64	278		Pn	15 26 04.5	+0.5
U32A	Winter Ranch,	1.69	269		Pn	15 26 05.2	+0.5
X34A	Smith Ranch, M	1.96	203	Pn	Pb	15 26 09.8	-1.0
U38A	Gravette	2.04	89	Pn	Pb	15 26 11.3	-0.8
ELIS	Ellis County	2.06	261	Pn	Pb	15 26 11.8	-0.6
X37A	Clayton	2.22	145		Pb	15 26 13.7	-1.4
WMOK	Wichita Mounta	2.27	223		Pn	15 26 13.5	+0.9
HHAR	Hobbs	2.40	92		Pn	15 26 15.9	+1.4
KSU1	Kansas State U	2.69	5	IAmb_Lg		15 27 02.3	
	comp=Z,11nm,0.9s						
S39A	Bolivar	3.14	65	IAmb_Lg		15 27 17.5	
	comp=Z,12nm,0.7s						
MIAR	Mount Ida	3.30	124	IAmb_Lg		15 27 24.8	
	comp=Z,7.9nm,0.8s						
WHAR	Wooly Hollow	3.92	105	IAmb_Lg		15 27 43.1	
	comp=Z,8.9nm,0.7s						
WLAR	White Oak Lake	4.14	130	IAmb_Lg		15 27 52.9	
	comp=Z,7.9nm,0.7s						
R40A	Maddies Statio	4.14	62	IAmb_Lg		15 27 45.2	
	comp=Z,13nm,0.8s						
AMTX	Amarillo	4.17	250	IAmb_Lg		15 27 53.3	
	comp=Z,14nm,0.8s						
DKNS	Dickens	4.29	231	IAmb_Lg		15 27 59.8	
	comp=Z,6.8nm,0.8s						
SN07	Snyder 07	4.66	226	IAmb_Lg		15 28 06.4	
	comp=Z,5.6nm,0.8s						
T42A	Van Buren	4.71	81	IAmb_Lg		15 28 02.9	
	comp=Z,11nm,1.0s						
SN05	Snyder 5	4.82	224	IAmb_Lg		15 28 08.0	
	comp=Z,6.7nm,0.7s						
P40A	Paris	4.94	50	IAmb_Lg		15 28 08.2	
	comp=Z,12nm,0.7s						
KSCO	Kaye Shedlock'	5.22	301	IAmb_Lg		15 28 23.1	
	comp=Z,5.3nm,0.8s						
PBMO	Poplar Bluff	5.23	84	IAmb_Lg		15 28 21.4	
	comp=Z,12nm,0.7s						
N38A	Joes South For	5.23	32	IAmb_Lg		15 28 34.0	
	comp=Z,7.2nm,0.7s						
MSTX	Muleshoe	5.38	245	IAmb_Lg		15 28 35.5	
	comp=Z,4.7nm,0.7s						
FVM	French Village	5.41	71	IAmb_Lg		15 28 31.2	
	comp=Z,7.1nm,0.9s						
SGCY	Sterling City	5.69	219	IAmb_Lg		15 28 45.4	
	comp=Z,6.7nm,1.0s						
CGM3	Cape Girardeau	5.88	79	IAmb_Lg		15 28 44.5	
	comp=Z,7.3nm,0.9s						
OGNE	Ogallala	6.04	320	IAmb_Lg		15 28 49.1	
	comp=Z,9.1nm,0.9s						
T25A	Trinidad	6.06	279	IAmb_Lg		15 28 52.0	
	comp=Z,4.7nm,0.8s						
Q24A	Divide	7.01	294	IAmb_Lg		15 29 25.7	
	comp=Z,4.0nm,0.9s						
L40A	Anamosa	7.16	36	IAmb_Lg		15 29 21.5	
	comp=Z,7.4nm,0.9s						
OLIL	Olney	7.37	69	IAmb_Lg		15 29 49.4	
	comp=Z,7.8nm,0.9s						
PHWY	Pilot Hill	8.26	309	IA

TWSI Taliwang, Sumb 11.44 263 P **Pn 15 29 29.2 +1.1**
25nm,1.1s
TABU Tabubil 12.97 81 P **Pn 15 29 49.1 +1.0**
WB0 Warramunga Arr 13.52 155 Pn **Pn 15 29 51.3 -3.8**
WRAB Tennant Creek 13.65 155 **Pn 15 29 53.2 -3.5**
WRA Warramunga Arr 13.65 155 Pn **Pn 15 29 52.0 -4.7**
WRA Warramunga Arr 13.65 155 P **Pn 15 29 53.4 -3.3**
13nm,0.6s,baz=340,slow=13,SNR=188
WRA S Sn 15 32 11.2 -17
113nm,0.9s,baz=324,slow=24,SNR=11
WB2 Warramunga Arr 13.66 155 Pn **Pn 15 29 52.7 -4.1**
WR0 Warramunga Arr 13.75 155 **Pn 15 29 53.9 -4.1**
COEN Coen 15.90 115 P **Pn 15 30 24.8 +0.1**
COEN Coen 15.90 115 **Pn 15 30 23.5 -1.2**
MBWA Marble Bar 15.94 211 Pn **Pn 15 30 23.8 -1.4**
MBWA IAmb IAmb 15 30 28.7
comp=Z,42nm,1.4s
MYLDM Lahad Datu 15.99 322 **P 15 30 30.0 +3.6**
MYLDM IAmb IAmb 15 31 02.0
comp=Z,25nm,0.9s
PSA00 Pilbara Seismi 16.23 210 P **Pn 15 30 28.0 -0.7**
PSA00 Pilbara Seismi 16.23 210 P **Pn 15 30 28.3 -0.4**
PSA00 IAmb IAmb 15 30 43.4
comp=Z,32nm,0.7s
PWJI Pagerwojo 16.42 267 P **Pn 15 30 30.6 -0.5**
AS31 Alice Springs 16.93 162 P **P 15 30 35.9 -0.8**
AS31 IAmb IAmb 15 30 40.5
comp=Z,25nm,0.7s
ASAR Alice Springs 16.93 162 **P 15 30 34.8 -1.9**
ASAR Alice Springs 16.93 162 P **P 15 30 35.3 -1.4**
comp=Z,63nm,0.7s,baz=343,slow=11,SNR=226
ASAR S S 15 33 27.8 -18
comp=Z,5.6nm,0.6s,baz=317,slow=18,SNR=3.3
QIS Mount Isa 16.93 141 P **P 15 30 36.5 -0.3**
AS01 Alice Springs 16.94 162 P **P 15 30 36.8 0.0**
WRKA Warakurna 17.44 180 P **P 15 30 42.6 +0.3**
KKM Kota Kinabalu 18.11 318 P **Pn 15 30 51.6 +0.1**
KKM Kota Kinabalu 18.11 318 P **Pn 15 30 51.8 +0.3**
KKM IAmb IAmb 15 30 53.2
comp=Z,31nm,1.1s
MTSU Mount Surprise 18.79 126 P **Pn 15 30 58.4 -0.9**
SBUM Sibu 18.90 301 P **Pn 15 31 00.5 -0.1**
SBUM IAmb IAmb 15 31 02.4
comp=Z,46nm,1.3s
KSM Kuching 20.10 296 P Pn 15 31 13.1 -1.6
KSM IAmb IAmb 15 31 18.6
comp=Z,30nm,0.7s
GIRL Giralia 20.29 221 P Pn 15 31 15.5 -1.3
BBJI Bungbulang 20.54 269 P **P 15 31 17.3 +1.2**
MEEK Meekatharra 21.17 205 P **P 15 31 22.8 +0.2**
OOD Oodnadatta 21.34 162 P **P 15 31 25.4 +1.0**
CTA Charters Tower 21.38 128 P **P 15 31 24.1 -0.8**
comp=Z,0.6nm,0.7s,baz=295,slow=13,SNR=16
CTA S **S 15 35 13.7 +0.4**
comp=Z,0.2nm,0.8s,baz=293,slow=21,SNR=1.8
CTAO Charters Tower 21.38 128 P **P 15 31 26.2 +1.3**
FORT Forrest 23.16 181 P **P 15 31 43.1 +0.8**
FORT Forrest 23.16 181 P **P 15 31 43.3 +1.0**
MULG Mulgathing 23.28 167 P **P 15 31 44.3 +0.9**
INKA Innaminka 23.30 151 P **P 15 31 45.0 +1.4**
QLP Quilpie 24.24 143 P **P 15 31 53.4 +1.2**
MORW Morawa 24.39 207 P **P 15 31 55.5 +1.9**
MORW Morawa 24.39 207 P **P 15 31 55.4 +1.9**
KMBL Kambalda 24.50 193 P **P 15 31 55.5 +1.0**
LCRK Leigh Creek 24.62 159 P **P 15 31 56.7 +1.1**
BLDU Ballidu 25.45 204 P **P 15 32 05.7 +2.5**
KLBR Kellerberrin 25.93 201 P **P 15 32 08.6 +1.1**
BBOO Buckleboo 26.18 165 P **P 15 32 10.4 +0.8**
BBOO Buckleboo 26.18 165 P **P 15 32 10.3 +0.7**
RK1H Rockhampton Ha 26.47 129 P **P 15 32 13.5 +1.1**
MUN Mundaring 26.86 203 P **P 15 32 16.8 +1.0**
STKA Stephens Creek 27.21 155 P **P 15 32 20.1 +1.2**
STKA Stephens Creek 27.21 155 P **P 15 32 19.3 +0.4**
STKA Stephens Creek 27.21 155 P **P 15 32 19.3 +0.4**
comp=Z,9.3nm,0.6s,baz=327,slow=11,SNR=31
STKA LR LR 15 42 39.5
comp=Z,86nm,21.0s,baz=227,slow=35
comp=Z,9.3nm,0.6s
NWAO Narrogin (SRO) 27.33 201 P **P 15 32 20.0 +0.1**
HTT Hallett 27.59 161 P **P 15 32 22.8 +0.5**
CMSA Cobar Meteorol 28.87 148 P **P 15 32 35.1 +1.5**
KULM Kulim 30.43 294 P **P 15 32 48.0 +0.3**
KULM IAmb IAmb 15 32 49.3
comp=Z,19nm,1.3s
YULB Yu-li 31.47 347 P **P 15 32 56.1 -0.6**
YULB Yu-li 31.47 347 P **P 15 32 53.4 -3.3**
TPUB Ta-pu 31.54 346 P **P 15 32 54.4 -2.8**
ARPS Mount Arapiles 31.61 159 P **P 15 32 59.9 +2.1**
SSLB Suanglung 31.93 347 P **P 15 32 58.3 -2.4**
SSLB IAmb IAmb 15 33 03.2
comp=Z,8.2nm,0.7s
YOJ Yonaguni jima 32.20 351 P **P 15 33 02.5 -0.5**
YOJ Yonaguni jima 32.20 351 P **P 15 33 02.4 -0.5**
YHNB Yeheng 32.70 348 P **P 15 33 06.5 -0.9**
YHNB Yeheng 32.70 348 P **P 15 33 05.9 -1.5**
YHNB IAmb IAmb 15 33 07.8
comp=Z,14nm,0.7s
CAN Canberra 33.54 149 P **P 15 33 14.9 +0.2**
CAN Canberra 33.54 149 P **P 15 33 16.6 +1.9**
CAN IAmb IAmb 15 33 50.2
comp=Z,23nm,1.4s
TOO Toolangi 33.73 155 P **P 15 33 16.4 +0.2**
TOO Toolangi 33.73 155 P **P 15 33 18.7 +2.5**
TOO IAmb IAmb 15 33 19.7
comp=Z,24nm,1.4s
JCJ Chichijima 36.91 21 P **P 15 33 44.3 +0.8**
JCJ Chichijima 36.91 21 P **P 15 33 41.2 -2.2**
CMAR Chiang Mai Arr 38.84 312 P **P 15 33 60.0 +0.2**
comp=Z,2.8nm,0.7s,baz=139,slow=6.6,SNR=16
CMAR PcP **PcP 15 36 08.8 +0.8**
comp=Z,0.8nm,0.5s,baz=191,slow=2.3,SNR=5.5
comp=Z,2.8nm,0.7s
GYA Guiyang 39.79 329 P **P 15 34 08.3 +0.6**
GYA pmax pmax
comp=Z,8.0nm,0.9s
WHN Wuhan 40.15 341 ||P **P 15 34 11.8 +1.4**
WHN pmax pmax
comp=Z,100nm,1.0s
NJ2 Nanjing 40.37 347 *e*P **P 15 34 12.8 +0.6**
NJ2 pmax pmax
comp=Z,19nm,0.5s
PZH PanZhiHua 42.55 324 P **P 15 34 33.0 +2.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.1s
KSAR Wonju Array Be 44.71 359 P **P 15 34 48.3 +1.1**
KSRS Korea Array 44.72 360 P **P 15 34 47.3 0.0**
comp=Z,3.1nm,0.5s,baz=179,slow=9.4,SNR=32
KSRS PcP **PcP 15 36 27.2 +0.2**
comp=Z,1.0nm,0.9s,baz=210,slow=3.8,SNR=3.8
comp=Z,3.1nm,0.5s
KS19 Wonju Array Si 44.77 359 P **P 15 34 47.9 +0.2**
KS19 IAmb IAmb 15 35 12.0
comp=Z,16nm,1.3s
MAJO Matsushiro 44.78 11 P **P 15 34 46.4 -1.4**
MAJO IAmb IAmb 15 34 48.4
comp=Z,10nm,0.8s
MJAR Matsushiro Arr 44.78 11 P **P 15 34 46.2 -1.5**
comp=Z,3.8nm,0.7s,baz=188,slow=9.3,SNR=14
comp=Z,3.8nm,0.7s
MJB9 Matsu-Tunnel 44.78 11 P **P 15 34 47.9 +0.1**
MJB9 IAmb IAmb 15 34 49.8
comp=Z,10nm,0.8s
XAN Xi'an 45.24 337 P **P 15 34 50.8 -0.7**
XAN pmax pmax
comp=Z,24nm,0.7s
JMM Marumori 46.60 14 P **P 15 35 02.6 +0.6**
LZH Lanzhou 49.11 334 *e*P **P 15 35 22.5 +0.9**
LZH pmax pmax
comp=Z,19nm,1.6s
JTM Tenmabayashi 49.45 13 P **P 15 35 24.6 +0.7**
JTM Tenmabayashi 49.45 13 P **P 15 35 24.1 +0.2**
HHC Hu-ho-hao-te 50.54 344 *e*P **P 15 35 34.0 +1.8**
HHC pmax pmax
comp=Z,46nm,4.6s
HHC pmax pmax
comp=Z,16nm,0.5s
ERM Erimo 51.10 14 P **P 15 35 36.6 +0.4**
ERM IAmb IAmb 15 36 14.8
comp=Z,30nm,1.4s
USRK Ussuriysk Ar. 51.56 3 P **P 15 35 38.1 -1.6**
comp=Z,1.7nm,0.6s,baz=199,slow=5.6,SNR=3.5
comp=Z,1.7nm,0.6s

MDJ Mudanjiang 51.89 1 P **P 15 35 42.5 +0.4**
MDJ pmax pmax
comp=Z,4.0nm,0.9s
JKA Kamikawa-asahi 52.97 13 P **P 15 35 49.5 -0.5**
GTA Gaotai 53.65 333 P **P 15 35 55.5 +0.2**
GTA pP PcP 15 37 00.0 +0.3
GTA pmax pmax
comp=Z,9.0nm,0.8s
HEH HeiHe 57.52 359 *e*P **P 15 36 22.5 0.0**
HEH pmax pmax
comp=Z,6.0nm,0.7s
HEH pmax pmax
comp=Z,170nm,4.8s
ULN Ulaanbaatar 58.26 343 P **P 15 36 28.9 +1.0**
ULN IAmb IAmb 15 36 29.8
comp=Z,8.3nm,1.2s
SONM Songino Array 58.42 343 P **P 15 36 30.3 +1.2**
SONM Songino Array 58.42 343 P **P 15 36 29.5 +0.4**
comp=Z,3.0nm,0.8s,baz=179,slow=6.1,SNR=17
comp=Z,3.0nm,0.8s
WMQ Urumqi 62.94 328 *e*P **P 15 37 01.0 +1.3**
WMQ pmax pmax
comp=Z,15nm,0.7s
NIL Nilore 66.33 312 P **P 15 37 20.9 -0.9**
KSH Kashi 67.30 318 P **P 15 37 28.8 +0.8**
KSH pmax pmax
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 67.77 328 P **P 15 37 30.8 +0.2**
MK31 IAmb IAmb 15 37 31.8
comp=Z,12nm,1.4s
MKAR Makanchi Array 67.77 328 P **P 15 37 30.7 +0.1**
comp=Z,5.3nm,0.4s,baz=120,slow=8.1,SNR=97
comp=Z,5.3nm,0.4s
MAKZ Makanchi 67.94 328 P **P 15 37 31.8 +0.1**
MAKZ IAmb IAmb 15 37 32.7
comp=Z,11nm,1.3s
BOOM Boomskoye usch 68.91 321 P **P 15 37 37.5 -0.5**
YAK Yakutsk 69.33 1 P **P 15 37 39.2 -0.7**
ARSB Arslanbob 70.19 319 P **P 15 37 46.4 +0.5**
ZAA0 Zalesovo Array 71.33 335 P **P 15 37 51.7 -0.5**
ZAA0 IAmb IAmb 15 37 52.4
comp=Z,9.8nm,0.8s
ZALV Zalesovo Beam 71.33 335 P **P 15 37 50.5 -1.8**
ZALV Zalesovo Beam 71.33 335 P **P 15 37 51.5 -0.8**
comp=Z,9.9nm,0.5s,baz=142,slow=5.1,SNR=43
comp=Z,9.9nm,0.5s
KURBB Kurchatov Arra 72.10 329 P **P 15 37 57.0 +0.1**
comp=Z,14nm,0.6s,baz=129,slow=5.2,SNR=186
comp=Z,14nm,0.6s
KURK Kurchatov 72.11 329 P **P 15 37 56.9 -0.1**
KURK IAmb IAmb 15 37 58.0
comp=Z,18nm,0.8s
VNDA Vanda 72.15 173 P **P 15 37 57.5 +0.7**
comp=Z,0.5nm,0.5s,baz=308,slow=9.3,SNR=3.6
comp=Z,0.5nm,0.5s
KK31 Karatay Array 72.66 319 P **P 15 37 59.8 -0.6**
KKAR Karatay Array 72.66 319 P **P 15 38 00.8 +0.4**
KKAR Karatay Array 72.66 319 P **P 15 38 00.1 -0.3**
KKAR IAmb IAmb 15 38 02.1
comp=Z,2.7nm,0.7s
UOSS Minazif 77.21 298 P **P 15 38 26.8 -0.2**
BVAR Borovoye Array 77.63 328 P **P 15 38 28.6 -0.1**
comp=Z,6.0nm,0.5s,baz=123,slow=9.8,SNR=46
comp=Z,6.0nm,0.5s
BRVK Borovoye 77.70 328 P **P 15 38 28.9 -0.1**
BRVK IAmb IAmb 15 38 29.9
comp=Z,13nm,1.1s
TIXI Tiksi 78.99 0 P **P 15 38 34.7 -1.0**
TIXI IAmb IAmb 15 38 37.1
comp=Z,11nm,0.8s
NRIK Noril'sk 81.66 346 IAmb IAmb 15 38 51.6
comp=Z,7.0nm,0.6s
NRIK Noril'sk 81.66 346 P **P 15 38 49.7 -0.3**
comp=Z,4.6nm,0.4s,baz=104,slow=7.3,SNR=8.9
comp=Z,4.6nm,0.4s
ABKAR Akbulak array 81.90 322 P **P 15 38 51.0 -0.8**
ABKAR Akbulak array 81.90 322 IAmb IAmb 15 38 53.9
comp=Z,3.6nm,0.7s
QSPA South Pole Qui 82.48 180 P **P 15 38 55.5 +0.8**
comp=Z,0.7nm,0.5s,baz=318,slow=0.7,SNR=7.6
comp=Z,0.7nm,0.5s
ARU Arti 85.28 328 P **P 15 39 08.5 -0.2**
ARU IAmb IAmb 15 39 09.2
comp=Z,8.5nm,0.7s
E19K Redstone River 90.97 22 IAmb IAmb 15 39 36.2
comp=Z,3.2nm,0.8s
SML Sawmill 93.40 28 IAmb IAmb 15 39 47.1
comp=Z,5.6nm,0.8s
RND Reindeer 93.43 27 P **P 15 39 46.0 -1.2**
ILAR Eielson Array 94.49 25 P **P 15 39 51.1 -0.8**
comp=Z,0.3nm,0.6s,baz=261,slow=5.2,SNR=5.8
comp=Z,0.3nm,0.6s
K27K Chicken 96.49 26 IAmb IAmb 15 40 03.1
comp=Z,4.3nm,1.3s
ARCES ARCESS Array B 101.48 340 P **Pdif 15 40 22.1 -1.2**
comp=Z,0.4nm,0.5s,baz=54,slow=4.6,SNR=3.8
PDAR Pinedale Array 118.39 45 PKP **PKiKP 15 45 19.6 +0.2**
comp=Z,0.6nm,0.7s,baz=240,slow=1.8,SNR=5.2
TXAR Lajitas Array 126.58 59 PKP **PKiKP 15 45 35.7 -0.1**
comp=Z,0.2nm,0.6s,baz=259,slow=2.4,SNR=3.3
TORD Torodi Ar. Bea 127.31 281 PKP **PKPdf 15 45 37.0 +0.1**
comp=Z,1.1nm,0.7s,baz=75,slow=3.8,SNR=6.7
CPUP Villa Florida 145.92 171 PKPbc **PKPbc 15 46 11.4 -0.3**
comp=Z,0.7nm,0.4s,baz=88,slow=3.8,SNR=3.1
LPAZ La Paz 151.27 145 PKPbc **PKPbc 15 46 26.5 -0.1**
comp=Z,1.6nm,0.4s,baz=9.3,slow=3.6,SNR=5.7

*IDC **28** 15:28:46.7±1.0, 8°.69S×158°.02E, h0km, mb4.1/10, mbtmp4.1/10, MS3.7/4, Error ellipse: s-maj=36.7km s-min=27.5km az=92.0*

ISC 28 15:28:52.2±0.9, 8°.7S±0°.2×158°.0E±0°.2, h35km, n15, σ1§16/11, mb4.0/10, MS3.6/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.07**	**110**	LR	LR	15 30 00.1	
	comp=Z,4μm,19.1s,baz=10.0,slow=36						
STKA	**Stephens Creek**	**27.63**	**211**	P	**P**	**15 34 37.7**	**+1.1**
	9.3nm,0.7s,baz=26,slow=16,SNR=3.2						
	9.3nm,0.7s						
KAPI	**Kappang**	**38.12**	**273**	LR	LR	15 53 09.4	
	comp=Z,65nm,18.2s,baz=296,slow=38						
KSRS	**Korea Array**	**53.85**	**330**	P	**P**	**15 38 11.8**	**0.0**
	0.4nm,0.6s,baz=120,slow=7.1,SNR=3.0						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**64.18**	**295**	P	**P**	**15 39 24.2**	**+0.3**
	1.1nm,0.8s,baz=114,slow=6.6,SNR=5.6						
	1.1nm,0.8s						
SONM	**Songino Array**	**72.38**	**326**	P	**P**	**15 40 16.0**	**+1.1**
	1.3nm,0.9s,baz=118,slow=8.3,SNR=3.9						
	1.3nm,0.9s						
QSPA	**South Pole Qui**	**81.28**	**180**	P	**P**	**15 41 03.8**	**-1.0**
	0.9nm,0.7s,baz=58,slow=5.1,SNR=2.4						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**83.90**	**21**	P	**P**	**15 41 17.2**	**-0.9**
	0.8nm,0.6s,baz=258,slow=5.3,SNR=13						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**86.64**	**318**	P	**P**	**15 41 32.2**	**-0.1**
	0.6nm,0.6s,baz=97,slow=5.1,SNR=3.4						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**87.25**	**326**	P	**P**	**15 41 33.8**	**-1.2**
	0.7nm,0.4s,baz=97,slow=4.1,SNR=3.0						
	0.7nm,0.4s						
DLBC	**Dease Lake**	**88.12**	**30**	LR	LR	16 17 33.5	
	comp=Z,41nm,18.4s,baz=298,slow=33						
NVAR	**Mina Array Bea**	**90.47**	**51**	P	**P**	**15 41 52.5**	**+1.6**
	1.0nm,0.7s,baz=247,slow=6.7,SNR=7.0						
	1.0nm,0.7s						
PFO	**Pinyon Flats O**	**91.09**	**56**	LR	LR	16 14 42.6	
	comp=Z,26nm,21.7s,baz=252,slow=30						
BVAR	**Borovoye Array**	**95.44**	**323**	P	**P**	**15 42 11.7**	**-1.5**
	0.6nm,0.7s,baz=67,slow=7.0,SNR=3.0						
	0.6nm,0.7s						
BDFB	**Brasilia**	**144.67**	**133**	PKP	**PKPab**	**15 48 24.9**	**-0.2**
	7.2nm,0.8s,baz=220,slow=2.0,SNR=12						

IDC 28 16:40:52.3±1.9, 6°.71S×142°.88E, h0km, mb3.6/1, mbtmp3.6/4, ML3.6/2, MS4.0/2, Error ellipse: s-maj=38.7km s-min=27.7km az=101.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.01**	**123**	Pn	Pn	16 42 08.1	-0.7
	5.2nm,0.4s,baz=348,slow=3.7,SNR=6.6						
PMG				Sn	Sn	16 43 03.9	-3.6
	1.1nm,0.3s,baz=87,slow=23,SNR=2.7						
CTA	**Charters Tower**	**13.69**	**166**	Lg	Lg	16 48 07.2	
	baz=226,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**15.55**	**211**	Pn	Pn	16 44 32.2	-0.9
	0.3nm,0.3s,baz=30,slow=13,SNR=17						
WRA				Sn	Sn	16 47 18.4	-7.8
	baz=34,slow=23,SNR=1.6						
WRA				Lg	Lg	16 49 03.2	
	baz=34,slow=28,SNR=2.5						
	0.8nm,0.5s						
HNR	**Honiara**	**17.11**	**100**	LR	LR	16 51 54.9	
	comp=Z,1μm,19.0s,baz=215,slow=39						
ASAR	**Alice Springs**	**18.94**	**206**	P	Pn	16 45 16.5	+0.9
	0.2nm,0.3s,baz=34,slow=11,SNR=32						
ASAR				S	Sn	16 48 40.2	-8.1
	0.1nm,0.6s,baz=16,slow=26,SNR=1.1						
ASAR				Lg	Lg	16 50 53.6	
	baz=20,slow=29,SNR=4.4						
ASAR				LR	LR	16 52 58.9	
	comp=Z,171nm,20.6s,baz=236,slow=38						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**75.48**	**322**	P	P	16 52 38.4	-0.1
	0.5nm,0.8s,baz=121,slow=6.9,SNR=3.8						
	0.5nm,0.8s						

*MOS **28** 17:07:21.2±0.9, 7°.10S×122°.67E, h570km, mb5.6/60, Error ellipse: s-maj=8.2km s-min=4.4km az=117.0*
*BJI **28** 17:07:22.0±0.0, 7°.26S×123°.09E, h610km, mb5.7/96, mB5.8/63*
*DJA **28** 17:07:22.8±0.1, 7°.5±1°×12°.3E±°, h577km±1km, M5.7/102, mB6.2/90, mb6.0/102, MLv6.5/25, Mw(mB)5.8/90, MwMwp5.4/37, Mwp5.6/37*
*NEIC **28** 17:07:23.7, 7°.13S×122°.73E, h584km*
*NEIC **28** 17:07:23.3, 7°.15S×122°.74E, h590km*
*IDC **28** 17:07:23.8±0.3, 7°.14S×122°.71E, h582km±3km, mb4.9/24, mbtmp5.8/28, Error ellipse: s-maj=10.4km s-min=5.5km az=69.0*
*NEIC **28** 17:07:23.4±2.7, 7°.10S±0°.07×122°.73E±0°.07, h578km±2km, mb5.6/273, Mwb6.0/48, Mww6.0/63, Error ellipse: s-maj=10.6km s-min=9.4km az=61.0, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=1.07; Mθθ1.28; Mφφ=0.21; Mrθ0.26; Mθφ=0.10; Mφr0.19; Fault plane solution: M0 1.24000×1018 NP1:φs=106.63000°, δ40.41000°, λ=70.56000°. NP2:φs=261.76000°, δ52.31000°, λ=105.82000°. Principal axes: T 1.3139, Plg6.0000°, Azm3.0000°; N -0.1705, Plg12.0000°, Azm272.0000°; P -1.1434, Plg76.0000°, Azm118.0000°;*
*NEIC **28** 17:07:23.3, 7°.25S×122°.84E, h590km, Moment Tensor Solution. Duration: 5±2 Moment tensor: Scale 1018Nm; Mrr=1.15; Mθθ1.37; Mφφ=0.21; Mrθ0.46; Mθφ0.05; Mφr0.07; Fault plane solution: M0 1.34000×1018 NP1: φs=265.03000°, δ55.13000°, λ=93.74000°. NP2:φs=91.54000°, δ35.04000°, λ=84.66000°. Principal axes: T 1.4516, Plg10.0000°, Azm358.0000°; N -0.2138, Plg3.0000°, Azm267.0000°; P -1.2379, Plg79.0000°, Azm160.0000°;*
*GCMT **28** 17:07:24.4±0.1, 7°.12S±0°.01×122°.55E±0°.01, h584km, MW6.0/160, Moment Tensor Solution. s160,c364; s126,c150; Duration: 2±5 Moment tensor: Scale 1018 Nm; Mrr=1.17±.01; Mθθ1.42±.01; Mφφ=0.25±.01; Mrθ0.41±.01; Mθφ0.08±.01; Mφr0.04±.01; Best double couple: M0 1.36200×1018 NP1:φs=266.00000°, δ54.00000°, λ=92.00000°. NP2:φs=89.00000°, δ36.00000°, λ=88.00000°. Principal axes: T 1.4890, Plg9.0000°, Azm357.0000°; N -0.2570, Plg1.0000°, Azm267.0000°; P -1.2350, Plg81.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

ISC 28 17:07:23.6±0.2, 7°.16S±0°.02×122°.72E±0°.03, h589km±1km, h591km:pP-P, n1639, σ1§53/2115, mb5.6/270, 90C-48D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.54**	**198**	P	**P**	**17 08 33.8**	**-1.4**
MMRI	**Maumere**	**1.54**	**198**	P	**P**	**17 08 33.2**	**-2.0**
MMRI				S	**S**	**17 09 28.8**	**-4.7**
MMRI	**Maumere**	**1.54**	**198**	P	**P**	**17 08 33.4**	**-1.8**
MMRI				S	**S**	**17 09 29.5**	**-4.0**
BBSI	**Bau Bau**	**1.67**	**355**	P	**P**	**17 08 36.5**	**+0.8**
EDFI	**Ende, Flores**	**1.88**	**213**	P	**P**	**17 08 34.3**	**-2.3**
BSSI	**Bau Bau, Buton**	**2.44**	**294**	P	**P**	**17 08 38.4**	**-0.5**
BSSI				S	**S**	**17 09 38.8**	**-1.3**
SOEI	**Soe**	**3.00**	**149**	P	**P**	**17 08 41.3**	**-0.7**
SOEI	**Soe**	**3.00**	**149**	P	**P**	**17 08 40.9**	**-1.1**
SOEI				S	**S**	**17 09 43.2**	**-2.6**
SOEI	**Soe**	**3.00**	**149**	S	**S**	**17 09 37.3**	**-8.5**
SOEI				P	P	17 08 35.3	-6.7
SOEI	**Soe**	**3.00**	**149**	P	**P**	**17 08 40.9**	**-1.1**
SOEI				S	**S**	**17 09 42.8**	**-3.0**
BKSI	**Bulukumba**	**3.16**	**305**	P	**P**	**17 08 42.4**	**-0.4**
BKSI				S	**S**	**17 09 45.8**	**-1.5**
BATI	**Baumata**	**3.17**	**163**	P	**P**	**17 08 42.4**	**-0.5**
BATI				S	**S**	**17 09 44.6**	**-2.9**
KAPI	**Kappang**	**3.64**	**306**	P	**P**	**17 08 46.0**	**+0.1**
KAPI	**Kappang**	**3.64**	**306**	P	**P**	**17 08 46.0**	**+0.1**
KAPI				S	**S**	**17 09 52.7**	**-0.1**
KAPI	**Kappang**	**3.64**	**306**	P	**P**	**17 08 46.2**	**+0.4**
	6μm,0.5s,baz=130,slow=4.4,SNR=1447						
KAPI				S	**S**	**17 09 52.5**	**-0.3**
	776nm,0.6s,baz=39,slow=23,SNR=0.7						
KAPI	**Kappang**	**3.64**	**306**	P	**P**	**17 08 46.2**	**+0.4**
KAPI				S	**S**	**17 09 53.1**	**+0.3**
BASI	**Baing, Sumba**	**3.71**	**215**	P	**P**	**17 08 44.9**	**-1.3**
BASI				S	**S**	**17 09 49.1**	**-4.5**
BNSI	**Bone**	**3.78**	**316**	P	**P**	**17 08 46.3**	**-0.5**
TTSI	**Tana Toraja**	**5.01**	**325**	P	**P**	**17 08 55.6**	**-0.3**
TTSI				S	**S**	**17 10 11.0**	**-0.2**
PLAI	**Plampang**	**5.17**	**251**	P	**P**	**17 08 55.3**	**-1.9**
PLAI	**Plampang**	**5.17**	**251**	P	**P**	**17 08 54.9**	**-2.3**
PLAI				S	**S**	**17 10 06.9**	**-6.7**
NLAI	**Namlea**	**5.85**	**48**	P	**P**	**17 09 02.9**	**0.0**
NLAI				S	**S**	**17 10 22.2**	**-1.8**
TWSI	**Taliwang, Sumb**	**5.99**	**254**	P	**P**	**17 09 02.1**	**-2.0**
	7μm,0.8s,86μm17μm43nm						
TWSI				S	**S**	**17 10 19.4**	**-6.9**
	7μm,0.8s,86μm17μm43nm						
SANI	**Sanana**	**6.03**	**33**	P	**P**	**17 09 04.7**	**+0.2**
SANI	**Sanana**	**6.03**	**33**	S	**S**	**17 10 26.1**	**-0.8**
SANI				P	**P**	**17 09 04.0**	**-0.5**
SANI	**Sanana**	**6.03**	**33**	P	**P**	**17 09 04.3**	**-0.2**
	5μm,0.8s,62μm18μm27nm						
LUWI	**Luwuk**	**6.08**	**0**	P	**P**	**17 09 05.3**	**+0.4**
LUWI	**Luwuk**	**6.08**	**0**	P	**P**	**17 09 05.1**	**+0.2**
LUWI				S	**S**	**17 10 28.2**	**+0.5**
LUWI	**Luwuk**	**6.08**	**0**	S	**S**	**17 10 24.8**	**-2.9**
LUWI				P	**P**	**17 09 01.0**	**-3.9**
LUWI	**Luwuk**	**6.08**	**0**	P	**P**	**17 09 05.3**	**+0.4**
	10μm,0.9s,39μm42nm						
SRBI	**Singaraja**	**7.50**	**262**	P	**P**	**17 09 16.4**	**-1.4**
	5μm,1.3s,56μm12μm14nm						
DNP	**Denpasar**	**7.59**	**258**	P	**P**	**17 09 16.8**	**-1.9**
	4μm,0.6s,70μm						
BNDI	**Bandanaira**	**7.61**	**70**	P	**P**	**17 09 19.3**	**+0.4**
BNDI	**Bandanaira**	**7.61**	**70**	P	**P**	**17 09 18.6**	**-0.3**
GTOI	**Gorontalo**	**7.75**	**2**	P	**P**	**17 09 20.6**	**+0.4**
	4μm,0.8s,42μm16μm13nm						
KMSI	**Cibinong**	**7.79**	**9**	P	**P**	**17 09 21.0**	**+0.5**
MPSI	**Mapaga**	**7.96**	**339**	P	**P**	**17 09 21.4**	**-0.8**
	7μm,0.9s,76μm32μm						
LBMI	**Labuha**	**8.04**	**37**	P	**P**	**17 09 22.9**	**-0.1**
	6μm,0.7s						
BKB	**Balikpapan**	**8.25**	**315**	P	**P**	**17 09 27.7**	**+2.7**
BKB	**Balikpapan**	**8.25**	**315**	P	**P**	**17 09 27.4**	**+2.4**
BKB				S	**S**	**17 11 08.9**	**+4.4**
BKB	**Balikpapan**	**8.25**	**315**	P	**P**	**17 09 27.5**	**+2.5**
	7μm,1.0s,62μm20μm						
ABJI	**Asem Bagus**	**8.44**	**265**	P	**P**	**17 09 25.7**	**-1.1**
	2μm,1.7s,29μm12μm						
TOLI2	**Tolitoli**	**8.44**	**347**	P	**P**	**17 09 26.6**	**-0.3**
TOLI2	**Tolitoli**	**8.44**	**347**	P	**P**	**17 09 25.9**	**-0.9**
TOLI2				S	**S**	**17 11 04.8**	**-3.0**
SAUI	**Saumlaki**	**8.54**	**96**	P	**P**	**17 09 27.0**	**-0.8**
SAUI	**Saumlaki**	**8.54**	**96**	P	**P**	**17 09 26.1**	**-1.7**
SAUI	**Saumlaki**	**8.54**	**96**	P	**P**	**17 09 26.7**	**-1.1**
JAGI	**Jajag, Banyuwa**	**8.59**	**261**	P	**P**	**17 09 25.4**	**-2.9**
JAGI	**Jajag, Banyuwa**	**8.59**	**261**	P	**P**	**17 09 25.3**	**-2.9**

JAGI	Jajag, Banyuwa	8.59 261	P	P	17 09 25.4	-2.9
	2μm,1.1s,29μm					
TNTI	Ternate	9.14 31	P	P	17 09 32.7	-1.0
TNTI	Ternate	9.14 31	P	P	17 09 32.2	-1.4
TNTI	Ternate	9.14 31	P	P	17 09 32.3	-1.4
	1μm,0.7s,27μm14μm					
DRS	Darwin Rock St	9.61 124	P	P	17 09 38.1	-0.2
MTKI	Muara Teweh, K	9.95 308	P	P	17 09 41.6	-0.1
	4μm,1.2s,42μm12μm					
MTN	Manton Dam	10.02 125	P	P	17 09 42.0	-0.4
MTN	Manton Dam	10.02 125	P	P	17 09 41.6	-0.8
MTN	Manton Dam	10.02 125	P	P	17 09 41.0	-1.4
	7μm,SNR=3.8					
BWJI	Bawean	10.08 277	P	P	17 09 42.0	-1.0
	2μm,1.5s,35μm8μm					
GRJI	Gresik	10.17 271	P	P	17 09 42.0	-1.9
	3μm,1.0s,24μm					
KNRA	Kununurra	10.33 146	P	P	17 09 44.8	-0.7
KNRA	Kununurra	10.33 146	P	P	17 09 43.7	-1.7
	11μm,0.9s					
FAKI	Fak Fak	10.38 67	P	P	17 09 45.7	-0.3
FAKI	Fak Fak	10.38 67	P	P	17 09 44.7	-1.4
FAKI	Fak Fak	10.38 67	P	P	17 09 44.9	-1.1
	4μm,1.2s,36μm					
SWI	Sorong	10.56 54	P	P	17 09 47.2	-0.6
	5μm,1.1s,45μm9μm					
PWJI	Pagerwojo	10.86 265	P	P	17 09 46.9	-3.9
	618nm,0.7s					
KDU	Kakadu	11.06 121	P	P	17 09 52.3	-0.5
KDU	Kakadu	11.06 121	P	P	17 09 51.6	-1.2
	921nm,0.8s,SNR=158					
FITZ	Fitzroy Crossi	11.24 166	P	P	17 09 53.6	-1.0
FITZ	Fitzroy Crossi	11.24 166	P	P	17 09 53.6	-1.0
KMPI	Kaimana, Papua	11.47 73	P	P	17 09 56.5	-0.5
UGM	Wanagama	12.12 266	P	P	17 10 01.9	-1.7
UGM	Wanagama	12.12 266	P	P	17 10 01.1	-2.4
UGM	Wanagama	12.12 266	P	P	17 10 01.2	-2.4
	2μm,1.3s,18μm					
SMRI	Semarang	12.19 270	P	P	17 10 02.5	-1.8
SMRI	Semarang	12.19 270	P	P	17 10 01.6	-2.7
SMRI	Semarang	12.19 270	P	P	17 10 02.2	-2.1
	710nm,0.9s					
YOGI	Yogyakarta	12.34 266	P	P	17 10 03.8	-2.0
	1μm,0.8s,13μm					
MYLDM	Lahad Datu	12.96 341	P	P	17 10 11.9	-0.2
STKI	Sintang	13.31 302	P	P	17 10 15.9	+0.1
	2μm,1.1s,21μm7μm					
CMJI	Cimerak	14.17 267	P	P	17 10 20.2	-4.1
	2μm,0.8s,23μm					
SBUM	Sibu	14.18 312	P	P	17 10 23.9	-0.5
MBWA	Marble Bar	14.21 191	P	P	17 10 23.3	-1.4
MBWA	Marble Bar	14.21 191	P	P	17 10 23.2	-1.4
MBWA			S	S	17 12 52.2	-0.8
JCJI	Jatiwangi	14.37 272	P	P	17 10 24.1	-2.1
	2μm,1.1s,18μm					
DAV	Davao City (W)	14.42 11	P	P	17 10 25.1	-1.7
DAV	Davao City (W)	14.42 11	P	P	17 10 26.4	-0.3
	970nm,0.6s,baz=108,slow=1.6,SNR=51					
DAV	Davao City (W)	14.42 11	P	P	17 10 24.6	-2.1
DAV			P	P	17 10 24.6	-2.1
DAV			S	S	17 12 56.0	-0.6
DAV			S	S	17 12 56.0	-0.6
PSAD1	Pilbara Seismi	14.48 191	P	P	17 10 25.0	-2.3
	5μm,0.9s,SNR=381					
PSAC1	Pilbara Seismi	14.56 191	P	P	17 10 26.2	-1.8
	4μm,1.0s,SNR=387					
PSAB2	Pilbara Seismi	14.58 191	P	P	17 10 27.0	-1.1
	5μm,0.7s,SNR=393					
PSAC2	Pilbara Seismi	14.58 190	P	P	17 10 25.9	-2.3
	6μm,0.6s,SNR=455					
PSA00	Pilbara Seismi	14.60 191	P	P	17 10 27.1	-1.2
PSA00	Pilbara Seismi	14.60 191	P	P	17 10 27.0	-1.2
PSA00	Pilbara Seismi	14.60 191	P	P	17 10 26.8	-1.5
PSA00			S	S	17 12 58.5	-0.9
KKM	Kota Kinabalu	14.63 334	P	P	17 10 28.3	-0.6
KKM	Kota Kinabalu	14.63 334	P	P	17 10 27.4	-1.5
BBJI	Bungbulang	14.95 268	P	P	17 10 28.9	-2.9
LEM	Lembang	15.00 270	P	P	17 10 30.6	-1.7
	4μm,0.9s,31μm					
LEM	Lembang	15.00 270	P	P	17 10 30.6	-1.7
KSM	Kuching	15.06 304	P	P	17 10 32.6	-0.2
KSM	Kuching	15.06 304	P	P	17 10 32.5	-0.3
CNJI	Cibinong	15.47 268	P	P	17 10 33.7	-2.9
	4μm,1.0s,39μm					
DBJI	Dramaga	15.87 271	P	P	17 10 38.6	-1.7
	1μm,0.6s,17μm					
TNG	Tangerang	16.00 273	P	P	17 10 40.9	-0.6
	2μm,0.9s,17μm					
TNG			P	P	17 10 40.5	-1.0
	3μm,0.9s,26μm18μm					
SKJI	Sukabumi	16.04 270	P	P	17 10 39.2	-2.7
SBJI	Serang	16.51 273	P	P	17 10 44.7	-1.5
	2μm,1.1s,16μm					
WRA	Warramunga Arr	16.98 140	P	P	17 10 50.1	-0.3
WRA	Warramunga Arr	16.98 140	P	P	17 10 50.3	-0.1
	1μm,0.8s,baz=314,slow=10,SNR=834					
WRA			S	S	17 13 36.5	-2.3
	126nm,1.0s,baz=318,slow=16,SNR=8.3					
WRAB	Tennant Creek	16.98 140	P	P	17 10 49.8	-0.7
WRAB	Tennant Creek	16.98 140	P	P	17 10 49.8	-0.7
WB2	Warramunga Arr	16.99 140	P	P	17 10 50.6	+0.1
WB2	Warramunga Arr	16.99 140	P	P	17 10 49.7	-0.8
WR0	Warramunga Arr	17.13 139	P	P	17 10 51.9	+0.2
XMI	Christmas Isla	17.14 258	P	P	17 10 51.5	-0.5
XMIS	Christmas Isla	17.19 258	P	P	17 10 51.7	-0.7
XMIS	Christmas Isla	17.19 258	P	P	17 10 51.5	-0.9
PPBI	Pangkal Pinang	17.25 286	P	P	17 10 53.9	+0.9
	1μm,0.9s,14μm4μm					
GIRL	Giralia	17.43 207	P	P	17 10 54.8	+0.3
BLSI	Bandar Lampung	17.46 275	P	P	17 10 53.1	-1.8
	782nm,1.2s					
MMPI	Merauke	17.55 95	P	P	17 10 56.4	+0.8
	2μm,0.6s,24μm7μm					
GENI	Genyem	17.96 76	P	P	17 10 59.7	+0.3
GENI	Genyem	17.96 76	P	P	17 10 59.3	-0.1
	595nm,1.1s,7μm					
KASI	Kota Agung	18.19 274	P	P	17 10 59.1	-2.4
	964nm,1.1s,8μm					
PMBI	Palembang	18.36 282	P	P	17 11 04.7	+1.6
PMBI	Palembang	18.36 282	P	P	17 11 03.8	+0.7
PMBI	Palembang	18.36 282	P	P	17 11 04.6	+1.5
TABU	Tabubil	18.49 85	P	P	17 11 04.0	-0.3
JAY	Jayapura	18.50 76	P	P	17 11 03.5	-0.9
WRKA	Warakurna	18.56 164	P	P	17 11 04.6	-0.2
WRKA	Warakurna	18.56 164	P	P	17 11 04.1	-0.7
	2μm,0.8s,SNR=173					
LWLI	Liwa	18.68 275	P	P	17 11 03.8	-2.3
	969nm,0.9s,16μm					
ASPA	Alice Springs	19.61 148	P	P	17 11 13.9	-0.5
	162nm,0.7s,SNR=227					
AS31	Alice Springs	19.61 148	P	P	17 11 14.5	+0.1
ASAR	Alice Springs	19.61 148	P	P	17 11 14.4	+0.1
ASAR	Alice Springs	19.61 148	P	P	17 11 14.6	+0.2
	248nm,0.7s,baz=322,slow=8.1,SNR=855					
ASAR			S	S	17 14 20.0	-1.2
	38nm,0.6s,baz=307,slow=48,SNR=1.6					
ASAR			ScP	ScP	17 17 47.0	+0.4
	12nm,0.4s,baz=335,slow=2.6,SNR=4.3					
AS01	Alice Springs	19.64 148	P	P	17 11 14.6	0.0
MEEK	Meekatharra	19.76 191	P	P	17 11 14.8	-0.9
MEEK	Meekatharra	19.76 191	P	P	17 11 14.8	-0.9
	2μm,0.8s,SNR=82					
TPRI	Tanjung Pinang	19.85 293	P	P	17 11 17.6	+1.0
	632nm,1.2s					
MNAI	Manna	19.86 277	P	P	17 11 16.9	+0.2
MNAI	Manna	19.86 277	P	P	17 11 14.5	-2.2
MNAI	Manna	19.86 277	P	P	17 11 14.6	-2.1
	1μm,0.8s					
BTDF	Bukit Timah Da	20.71 293	P	P	17 11 25.2	+0.8
QIS	Mount Isa	21.09 131	P	P	17 11 27.6	-0.1
QIS	Mount Isa	21.09 131	P	P	17 11 27.7	-0.1
	121nm,0.8s,SNR=26					
COEN	Coen	21.20 110	P	P	17 11 28.3	-0.4
COEN	Coen	21.20 110	P	P	17 11 28.4	-0.4
MORW	Morawa	22.69 195	P	P	17 11 41.2	-0.6
MORW	Morawa	22.69 195	P	P	17 11 41.2	-0.6
MORW	Morawa	22.69 195	P	P	17 11 40.1	-1.7
	524nm,1.0s,SNR=36					
BKNI	Bangkinang	22.87 288	P	P	17 11 44.3	+0.6
BKNI	Bangkinang	22.87 288	P	P	17 11 43.4	-0.3
BKNI	Bangkinang	22.87 288	P	P	17 11 39.1	-4.6
BKNI	Bangkinang	22.87 288	P	P	17 11 43.7	0.0
	2μm,0.8s,15μm					
PPSI	Pulau Pagai	23.04 280	P	P	17 11 44.0	-1.1
	622nm,1.2s					
PDSI	Padang	23.05 285	P	P	17 11 42.9	-2.3
DLV	T Lat	23.68 323	P	P	17 11 51.1	+0.1
DLV	T Lat	23.68 323	P	P	17 11 50.9	-0.1
MTSU	Mount Surprise	23.70 119	P	P	17 11 51.3	+0.4
OOD	Oodnadatta	23.92 151	P	P	17 11 52.7	-0.1
BLDU	Ballidu	24.01 193	P	P	17 11 52.7	-0.8
BLDU	Ballidu	24.01 193	P	P	17 11 53.4	-0.1
	551nm,1.0s,SNR=32					
FORT	Forrest	24.02 169	P	P	17 11 53.3	-0.4
FORT	Forrest	24.02 169	P	P	17 11 53.3	-0.4
FORT	Forrest	24.02 169	P	P	17 11 53.9	+0.3
	1μm,0.9s,SNR=34					
KMBL	Kambalda	24.10 182	P	P	17 11 53.5	-0.8
SISI	Saibi	24.26 283	P	P	17 11 53.7	-2.3
	239nm,1.0s					
PMG	Port Moresby	24.28 97	P	P	17 11 56.8	+0.6
PMG	Port Moresby	24.28 97	P	P	17 11 56.6	+0.5
	133nm,0.6s,baz=327,slow=5.6,SNR=119					
	133nm,0.6s					
SZP	Santa	24.65 355	P	P	17 11 59.4	+0.1
KLBR	Kellerberrin	24.75 190	P	P	17 11 59.3	-0.7
MANU	Manus Island	25.08 79	P	P	17 12 03.6	+0.4
KULM	Kulim	25.26 299	P	P	17 12 03.5	-1.3
MULG	Mulgathing	25.35 157	P	P	17 12 05.3	0.0
PBSI	Pulau Batu	25.38 285	P	P	17 12 04.6	-1.2
	717nm,0.9s					
MUN	Mundaring	25.43 193	P	P	17 12 05.9	-0.1
NWAO	Narrogin (SRO)	26.14 191	P	P	17 12 11.6	-0.7
NWAO	Narrogin (SRO)	26.14 191	P	P	17 12 12.0	-0.3
	127nm,0.5s,baz=20,slow=7.5,SNR=210					
NWAO			S	S	17 16 02.1	-1.5
	92nm,0.8s,baz=302,slow=16,SNR=1.8					
	127nm,0.5s					
NWAO	Narrogin (SRO)	26.14 191	S	S	17 16 02.7	-0.9
CTA	Charters Tower	26.18 122	P	P	17 12 13.9	+1.0
CTA	Charters Tower	26.18 122	P	P	17 12 13.4	+0.6
	3.0nm,0.6s,baz=304,slow=9.8,SNR=125					
CTA			S	S	17 16 06.6	+2.0
	1.8nm,0.8s,baz=247,slow=22,SNR=0.9					
CTAO	Charters Tower	26.18 122	P	P	17 12 13.2	+0.3
CTAO	Charters Tower	26.18 122	P	P	17 12 13.2	+0.3
TV1H	Townsville Har	26.30 120	P	P	17 12 14.9	+1.1
GSI	Gunungsitoli	26.46 288	P	P	17 12 14.6	-0.8
GSI	Gunungsitoli	26.46 288	P	P	17 12 14.6	-0.8
GSI	Gunungsitoli	26.46 288	P	P	17 12 14.1	-1.3
	1μm,0.7s,8μm					
AUHAR	St Anne's Scho	26.57 193	P	P	17 12 16.6	+0.6
INKA	Innaminka	26.66 142	P	P	17 12 17.7	+0.8
AUAYR	Ayr State High	26.96 120	P	P	17 12 20.5	+0.9
KCSI	Kotacane, Aceh	27.07 292	P	P	17 12 19.7	-1.0
	500nm,0.7s,5μm					
LCRK	Leigh Creek	27.35 150	P	P	17 12 23.2	+0.3
RKGY	Rocky Gully	27.83 190	P	P	17 12 28.2	+1.2
RKGY	Rocky Gully	27.83 190	P	P	17 12 28.0	+1.0
SRIT	Nakonsritamara	27.86 304	P	P	17 12 28.4	+0.9
SRIT	Nakonsritamara	27.86 304	P	P	17 12 28.1	+0.5
SNSI	Sinabang, Aceh	28.00 289	P	P	17 12 29.1	+0.3
AUALB	St Joseph's Co	28.06 188	P	P	17 12 30.1	+1.1
UBPT	Khong Chiam	28.10 323	P	P	17 12 29.8	+0.3
UBPT	Khong Chiam	28.10 323	P	P	17 12 29.9	+0.3
QLP	Quilpie	28.14 136	P	P	17 12 30.7	+0.8
SURA	Surathani	28.15 305	P	P	17 12 31.1	+1.0
KAVG	Kavieng	28.34 82	P	P	17 12 32.8	+1.0
BBOO	Buckleboo	28.37 156	P	P	17 12 31.6	-0.2
BBOO	Buckleboo	28.37 156	P	P	17 12 31.8	0.0
LHMI	Lhok Sumawe	28.51 295	P	P	17 12 33.4	+0.1
LHMI	Lhok Sumawe	28.51 295	P	P	17 12 32.7	-0.6
LHMI	Lhok Sumawe	28.51 295	P	P	17 12 33.2	-0.1
	1μm,0.8s,10μm					
MLSI	Meulaboh, Aceh	28.61 293	P	P	17 12 33.0	-1.1
	1μm,0.6s,11μm					
H01W3	Cape Leeuwin H	28.70 195	P	P	17 12 36.0	+1.7
	baz=22,slow=7.0,SNR=26					
H01W1	Cape Leeuwin H	28.71 195	P	P	17 12 36.1	+1.7
	baz=22,slow=7.0,SNR=13					
H01W2	Cape Leeuwin H	28.72 195	P	P	17 12 36.1	+1.7
	baz=22,slow=7.0,SNR=12					
QIZ	Qiongzhong	28.95 334	P	P	17 12 37.5	+0.5
QIZ			S	S	17 16 46.0	-1.6
QIZ			pmax	pmax		
	comp=Z,630nm,1.1s					
QIZ			pmax	pmax		
	comp=Z,2μm,3.6s					
WHYH	Whyalla	29.20 154	P	P	17 12 39.3	+0.4
RABL	Rabaul	29.44 86	P	P	17 12 41.5	+0.1
RABL			IAmb	IAmb	17 12 43.8	
	comp=Z,120nm,0.5s					
TWGBT	Beinan	29.84 357	P	P	17 12 43.0	-1.5
TWG	Pinlang	29.84 357	P	P	17 12 42.7	-1.8
NAYO	Nakonayok	30.10 315	P	P	17 12 47.4	+0.5
GUMO	Guam	30.14 47	P	P	17 12 44.1	-3.2
GUMO	Guam	30.14 47	P	P	17 12 44.6	-2.6
	comp=Z,695nm,1.0s,baz=180,slow=1.1,SNR=47					
GUMO			S	S	17 17 03.5	-2.5
	comp=Z,34nm,0.8s,baz=22,slow=23,SNR=1.6					
GUMO	Guam	30.14 47	P	P	17 12 44.1	-3.2
GUMO			pmax	pmax		
	comp=Z,817nm,1.1s					
GUMO	Guam	30.14 47	P	P	17 12 44.9	-2.4
GUMO			sP	sP	17 15 26.4	-2.8
HTT	Hallett	30.14 152	P	P	17 12 47.8	+0.7
STKA	Stephens Creek	30.24 147	P	P	17 12 48.7	+0.7
STKA	Stephens Creek	30.24 147	P	P	17 12 48.3	+0.4
STKA	Stephens Creek	30.24 147	P	P	17 12 48.6	+0.7
	comp=Z,160nm,0.4s,baz=313,slow=6.9,SNR=607					
STKA			S	S	17 17 06.6	-0.6
	comp=Z,72nm,0.7s,baz=144,slow=16,SNR=3.5					
	comp=Z,160nm,0.4s					
STKA	Stephens Creek	30.24 147	P	P	17 12 48.3	+0.4
STKA			pmax	pmax		
	comp=Z,74nm,0.9s					
TPUB	Ta-pu	30.34 356	P	P	17 12 48.5	-0.4
TPUB	Ta-pu	30.34 356	P	P	17 12 48.0	-0.9
YULB	Yu-li	30.40 357	P	P	17 12 47.4	-1.9
YULB	Yu-li	30.40 357	P	P	17 12 47.1	-2.2
HKPS	Hong Kong Po S	30.44 344	P	P	17 12 50.2	+0.5
HKPS	Hong Kong Po S	30.44 344	P	P	17 12 49.8	+0.1
SSLB	Suanglung	30.81 357	P	P	17 12 51.6	-1.3
SSLB	Suanglung	30.81 357	P	P	17 12 51.2	-1.7
SSLB			IAmb	IAmb	17 13 01.9	
	comp=Z,212nm,0.9s					
NACB	Ninganchiao	31.16 358	P	P	17 12 54.3	-1.5
NACB	Ninganchiao	31.16 358	P	P	17 12 53.6	-2.3
RK1H	Rockhampton Ha	31.18 124	P	P	17 12 56.0	0.0
YOJ	Yonaguni jima	31.43 1	P	P	17 12 57.9	-0.2
YOJ	Yonaguni jima	31.43 1	P	P	17 12 57.3	-0.8
YOJ	Yonaguni jima	31.43 1	P	P	17 12 57.3	-0.8
YOJ			pmax	pmax		
	comp=Z,1μm,1.2s					
YHNB	Yeheng	31.66 358	P	P	17 12 58.9	-1.3
YHNB	Yeheng	31.66 358	P	P	17 12 58.4	-1.8
SRDT	SRDT	31.70 312	P	P	17 13 01.9	+1.3
KNMB	Chin-men Tao	31.71 352	P	P	17 12 59.7	-0.8
JMJ	Miyako jima 2	31.88 4	P	P	17 13 02.9	+1.0
GD1S	Gladstone Soft	31.93 124	P	P	17 13 03.0	+0.6
TATO	Taipei	31.96 358	P	P	17 13 00.9	-1.7
TATO	Taipei	31.96 358	P	P	17 13 00.3	-2.3
TATO	Taipei	31.96 358	P	P	17 13 00.8	-1.7
TATO			ScP	ScP	17 18 23.7	+0.9
QZH	Quanzhou	32.16 353	⇑iP	P	17 13 04.0	-0.3
QZH			S	S	17 17 33.8	-2.8
QZH			pmax	pmax		
	comp=Z,330nm,1.7s					
QZH			pmax	pmax		
	comp=Z,2μm,5.2s					
CMSA	Cobar Meteorol	32.38 142	P	P	17 13 06.9	+0.8
AULRC	Lightning Ridg	32.50 136	P	P	17 13 08.0	+0.9
EIDS	Eidsvold	32.57 127	P	P	17 13 08.2	+0.4
EIDS	Eidsvold	32.57 127	P	P	17 13 07.7	-0.1
PHRA	Phrae	33.80 319	P	P	17 13 18.9	+0.6
JMZ	Minamidaito 2	33.81 14	P	P	17 13 19.0	+0.9
JMZ	Minamidaito 2	33.81 14	P	P	17 13 18.5	+0.4
SLVN	Son La	33.81 327	P	P	17 13 18.4	+0.1
JOW	Kunigami	34.22 9	P	P	17 13 22.3	+0.7
JOW	Kunigami	34.22 9	P	P	17 13 21.7	+0.1
JOW				pP	17 14 58.0	-0.2
ARPS	Mount Arapiles	34.24 152	P	P	17 13 22.5	+0.8
CM31	Chiang Mai Arr	34.62 318	P	P	17 13 25.1	+0.1
CM31			IAmb	IAmb	17 13 26.8	
	comp=Z,146nm,0.8s					
CMAR	Chiang Mai Arr	34.62 318	P	P	17 13 25.9	+0.8
CMAR			pP	pP	17 15 00.1	-1.8
CMAR	Chiang Mai Arr	34.62 318	P	P	17 13 26.3	+1.2
	comp=Z,102nm,0.8s,baz=146,slow=6.8,SNR=602					
CMAR			PcP	PcP	17 15 44.5	+2.2
	comp=Z,46nm,0.8s,baz=178,slow=2.8,SNR=12					
CMAR			S	S	17 18 14.3	+0.4
	comp=Z,4.9nm,1.1s,baz=136,slow=14,SNR=1.7					
CMAR			ScP	ScP	17 18 35.0	+2.7
	comp=Z,32nm,0.8s,baz=167,slow=3.0,SNR=11					
	comp=Z,102nm,0.8s					
AUDCS	Dubbo College	34.70 139	P	P	17 13 26.6	+1.1
CHTO	Chiang Mai	34.87 318	P	P	17 13 27.3	+0.2
CHTO	Chiang Mai	34.87 318	P	P	17 13 27.3	+0.2
CHTO			pmax	pmax		
	comp=Z,566nm,1.5s					
AUWSH	Wavell State H	35.09 129	P	P	17 13 29.7	+0.8
AUMAG	Moama Anglican	35.16 148	P	P	17 13 30.8	+1.5
PBA	Port Blair	35.20 302	P	P	17 13 29.0	-0.9
PBA			IAmb	IAmb	17 13 39.6	
	comp=Z,248nm,1.3s					
AUPHS	Peel High Scho	35.51 136	P	P	17 13 34.4	+2.1
ARMA	Armidale	35.63 134	P	P	17 13 35.9	+2.4
ARMA	Armidale	35.63 134	P	P	17 13 34.5	+1.0
ARMA			IAmb	IAmb	17 15 15.7	
	comp=Z,163nm,1.1s					
GC1S	Gold Coast 1 S	35.83 129	P	P	17 13 36.7	+1.8
BRAT	Ballarat	35.87 151	P	P	17 13 36.8	+1.7
YNG	Young	35.92 142	P	P	17 13 37.1	+1.4
CNSH	ChangSha	36.38 345	P	P	17 13 40.5	+1.0
CNSH			S	S	17 18 42.5	+2.5
CNSH			pmax	pmax		
	comp=Z,220nm,1.2s					
GEXS	Deakin Univers	36.55 151	P	P	17 13 43.0	+2.3
MLBS	Spotswood, Mel	36.56 150	P	P	17 13 42.9	+2.1
TOO	Toolangi	36.66 149	P	P	17 13 43.2	+1.5
TOO	Toolangi	36.66 149	P	P	17 13 42.7	+1.0
TOO	Toolangi	36.66 149	P	P	17 13 42.7	+1.0
TOO			pmax	pmax		
	comp=Z,540nm,1.0s					
GYA	Guiyang	36.87 336	⇑P	P	17 13 44.0	+0.3
GYA			pP	pP	17 15 24.0	+1.0
GYA			PP	PP	17 15 29.3	+0.2
GYA			PcP	PcP	17 15 51.5	+2.4
GYA			S	S	17 18 46.3	-1.2
GYA			sS	sS	17 21 49.5	+1.4
GYA			pmax	pmax		
	comp=Z,500nm,1.1s					
GYA			pmax	pmax		
	comp=Z,2μm,7.9s					
HNR	Honiara	36.89 96	P	P	17 13 43.4	-0.5
HNR				pP	17 15 23.9	+2.3
HNR	Honiara	36.89 96	P	P	17 13 43.4	-0.5
HNR			*PP	pP	17 15 23.9	+2.3
HNR			pmax	pmax		
	comp=Z,355nm,0.7s					
HNR	Honiara	36.89 96	P	P	17 13 43.6	-0.3
CAN	Canberra	36.98 143	P	P	17 13 46.0	+1.6
CAN	Canberra	36.98 143	P	P	17 13 45.1	+0.8
CAN			pP	pP	17 15 25.2	+1.9
CAN			IAmb	IAmb	17 15 29.8	
	comp=Z,158nm,0.9s					
CAN	Canberra	36.98 143	P	P	17 13 45.1	+0.8
CAN			*PP	pP	17 15 25.2	+1.9
CAN			pmax	pmax		
	comp=Z,158nm,0.9s					
CAN	Canberra	36.98 143	P	P	17 13 45.7	+1.3
CAN			pP	pP	17 15 25.4	+2.1
CAN			ScP	ScP	17 18 42.2	+1.3
SYDH	Sydney Hard Ro	37.04 139	P	P	17 13 46.8	+2.0
NTLH	Newcastle Hard	37.14 138	P	P	17 13 48.2	+2.6
CNB	Canberra Magne	37.19 143	P	P	17 13 47.3	+1.2
RIV	Riverview	37.35 139	P	P	17 13 47.9	+0.6
KMI	Kunming	37.52 329	⇑P	P	17 13 51.0	+1.9
KMI			pP	PP	17 15 32.8	-2.4
KMI			sS	sS	17 22 01.5	+3.0
KMI			pmax	pmax		
	comp=Z,340nm,1.2s					
KMI			pmax	pmax		
	comp=Z,2μm,3.5s					
WOLH	Wollongong Har	37.53 140	P	P	17 13 51.1	+2.3
AUUHS	Ulladulla High	37.90 142	P	P	17 13 53.5	+1.8
SSE	Sheshan	38.07 358	P	P	17 13 53.5	+0.4
SSE			S	S	17 19 05.3	+0.6
SSE			pmax	pmax		
	comp=Z,190nm,0.8s					
SSE			pmax	pmax		
	comp=Z,1μm,3.7s					
MILA	Mila	38.27 145	P	P	17 13 55.8	+1.0
WHN	Wuhan	38.34 348	⇑P	P	17 13 56.5	+1.2
WHN			pP	pP	17 15 37.8	+2.3
WHN			PP	PP	17 15 43.5	+0.9
WHN			sP	sP	17 16 46.5	+3.7
WHN			S	S	17 19 07.8	-0.9
WHN			SS	SS	17 22 29.0	-1.3
WHN			pmax	pmax		
	comp=Z,2μm,1.3s					
CBIJ	Chichi jima	38.92 28	P	P	17 13 59.2	-0.9
JCJ	Chichijima	38.92 28	P	P	17 14 00.5	+0.4
JCJ	Chichijima	38.92 28	P	P	17 13 58.9	-1.3
JCJ				pP	17 15 43.9	+3.4
NJ2	Nanjing	39.16 355	⇑iP	P	17 14 02.0	0.0
NJ2			PcP	PcP	17 15 57.0	+0.9
NJ2			S	S	17 19 21.0	+0.2
NJ2			pmax	pmax		
	comp=Z,350nm,1.2s					
NJ2			pmax	pmax		
	comp=Z,2μm,3.6s					
PZH	PanZhiHua	39.17 329	P	P	17 14 03.0	+0.7
PZH			pP	pP	17 15 45.5	+2.6
PZH			PP	PP	17 15 51.0	+0.4
PZH			S	S	17 19 20.0	-1.3
PZH			sS	sS	17 22 28.3	+4.4
PZH			SS	SS	17 22 36.0	-8.1
PZH			pmax	pmax		
	comp=Z,180nm,1.1s					
PZH			pmax	pmax		
	comp=Z,1μm,5.0s					
ENH	Enshi	39.33 342	P	P	17 14 03.5	+0.1
ENH			pP	pP	17 15 45.2	+1.2
ENH			PcP	PcP	17 15 57.7	+0.9
ENH			ScP	ScP	17 18 51.6	+1.6
TNCH	TengChong	39.74 324	⇑iP	P	17 14 07.8	+0.9
TNCH			PP	PP	17 15 55.8	-0.1
TNCH			PcP	PcP	17 16 00.5	+2.1
TNCH			S	S	17 19 28.8	-0.9

JMN	Monobe	42.02	14	P	P	17 14 25.6	+1.0
JMN	Monobe	42.02	14	P	P	17 14 25.7	+1.1
KOUNC	Koumac, New Ca	42.35	113	P	P	17 14 29.0	+1.5
LYN	LuoYang	42.60	347	⇑P	P	17 14 28.8	-0.3
LYN				PcP	PcP	17 16 10.0	+2.5
LYN				PP	PP	17 16 25.0	+3.3
LYN				S	S	17 20 07.0	-3.3
LYN				sS	ScS	17 23 23.0	-1.4
LYN				pmax	pmax		
	comp=Z,510nm,1.1s						
XAN	Xi'an	43.01	343	⇑P	P	17 14 31.8	-0.6
XAN				PcP	PcP	17 16 10.8	+1.8
XAN				pP	pP	17 16 17.5	+1.2
XAN				sP	sP	17 17 20.0	-1.7
XAN				S	S	17 20 12.5	-3.7
XAN				ScS	ScS	17 23 27.5	+0.4
XAN				pmax	pmax		
	comp=Z,790nm,0.7s						
XAN				pmax	pmax		
	comp=Z,3μm,4.0s						
JHS	Saijyo	43.06	13	P	P	17 14 34.1	+1.3
JAD	Aida	43.24	14	P	P	17 14 35.0	+0.9
TIA	Tai'an	43.46	353	P	P	17 14 34.8	-1.0
TIA				PcP	PcP	17 16 12.3	+1.9
TIA				ScP	ScP	17 18 59.0	-7.4
TIA				S	S	17 20 17.8	-4.6
TIA				pmax	pmax		
	comp=Z,110nm,1.2s						
TIA				pmax	pmax		
	comp=Z,2μm,3.7s						
TJN	Taejon	43.52	5	P	P	17 14 37.5	+1.3
TJN	Taejon	43.52	5	P	P	17 14 36.2	0.0
TJN					PcP	17 16 10.4	-0.2
TJN	Taejon	43.52	5	P	P	17 14 36.3	0.0
TJN						17 16 10.4	
JWT	Wachi	43.88	15	P	P	17 14 40.4	+1.4
SHL	Shillong	44.24	318	P	P	17 14 41.7	-0.5
SHL				PcP	PcP	17 16 14.3	+0.6
SHL				IAmb	IAmb	17 16 15.5	
	comp=Z,212nm,1.1s						
SHL				pP	pP	17 16 29.9	+3.2
SHL	Shillong	44.24	318	*eP*	P	17 14 41.7	-0.5
SHL				*i* x	x	17 16 13.0	
SHL	Shillong	44.24	318	P	P	17 14 42.0	-0.2
	SNR=19						
SHL	Shillong	44.24	318	P	P	17 14 41.7	-0.5
PALK	Pallekele	44.29	288	P	P	17 14 42.2	-0.4
PALK				IAmb	IAmb	17 14 43.8	
	comp=Z,236nm,0.8s						
PALK				PcP	PcP	17 16 15.3	+1.4
PALK				pP	pP	17 16 28.7	+1.9
PALK	Pallekele	44.29	288	P	P	17 14 43.1	+0.4
PALK	Pallekele	44.29	288	P	P	17 14 42.2	-0.4
PALK						17 16 15.3	
PALK				*PP	pP	17 16 28.7	+1.9
PALK				pmax	pmax		
	comp=Z,236nm,0.9s						
PALK	Pallekele	44.29	288	P	P	17 14 42.2	-0.4
PALK				PcP	PcP	17 16 15.6	+1.7
PALK				pP	pP	17 16 26.4	-0.4
INU	Inuyama	44.38	17	P	P	17 14 43.9	+1.1
INU	Inuyama	44.38	17	P	P	17 14 43.2	+0.4
INU				PcP	PcP	17 16 14.9	+1.3
INU				pP	pP	17 16 27.2	+0.1
INU				ScP	ScP	17 19 11.1	+1.0
INCN	Inchon	44.56	4	P	P	17 14 43.9	-0.3
INCN	Inchon	44.56	4	P	P	17 14 44.3	+0.1
INCN				S	S	17 20 37.4	-0.5
INCN	Inchon	44.56	4	P	P	17 14 43.9	-0.3
INCN				pmax	pmax		
	comp=Z,77nm,0.8s						
KSAR	Wonju Array Be	44.63	6	P	P	17 14 45.1	+0.4
KSAR				PcP	PcP	17 16 16.1	+1.7
KSAR	Wonju Array Be	44.63	6	P	P	17 14 45.1	+0.4
DZM	Mont Dzumac	44.65	114	P	P	17 14 46.7	+1.4
DZM	Mont Dzumac	44.65	114	IAmb	IAmb	17 14 48.8	
	comp=Z,198nm,1.2s						
DZM	Mont Dzumac	44.65	114	*eP*	P	17 14 45.2	-0.1
	comp=Z,443nm,1.7s						
DZM				*e*pP	PP	17 16 58.8	+18
	comp=Z,241nm,1.1s						
DZM				*e*S	S	17 20 34.1	-5.8
	comp=Z,962nm,33.5s						
DZM				*e*SS	SS	17 24 17.7	+4.9
	comp=Z,2μm,27.1s						
DZM				*e*LR	LR	17 28 01.5	
	comp=Z,865nm,25.6s						
DZM	Mont Dzumac	44.65	114	P	P	17 14 46.5	+1.2
KSRS	Korea Array	44.65	6	P	P	17 14 45.5	+0.6
	comp=Z,99nm,0.9s,baz=184,slow=8.5,SNR=178						
KSRS				PcP	PcP	17 16 16.2	+1.7
	comp=Z,19nm,0.8s,baz=180,slow=3.0,SNR=7.9						
KSRS				ScP	ScP	17 19 13.4	+2.2
	comp=Z,31nm,0.9s,baz=187,slow=4.0,SNR=13						
	comp=Z,99nm,0.9s						
KS19	Wonju Array Si	44.69	6	IAmb	IAmb	17 14 47.3	
	comp=Z,260nm,1.3s						
ONTNC	Ouen Toro	44.71	114	P	P	17 14 47.0	+1.4
ONTNC	Ouen Toro	44.71	114	P	P	17 14 46.3	+0.6
ONTNC					PcP	17 16 15.3	+0.2
JGF	Kuroka	44.71	17	P	P	17 14 47.2	+1.8
JGF	Kuroka	44.71	17	IAmb	IAmb	17 14 48.5	
	comp=Z,215nm,0.8s						
JGF	Kuroka	44.71	17	P	P	17 14 46.9	+1.4
MALK	Mahakanadarawa	44.80	289	P	P	17 14 43.2	-3.3
JOD2	Odawara 2	44.93	19	P	P	17 14 46.9	-0.2
HNS	HongShan	44.95	351	⇑P	P	17 14 47.5	+0.3
HNS				pP	pP	17 16 35.3	+3.4
HNS				PP	PP	17 16 45.0	+2.0
HNS				sP	sP	17 17 39.0	+1.7
HNS				S	S	17 20 39.3	-4.1
HNS				pmax	pmax		
	comp=Z,380nm,1.3s						
YATNC	Mamie plateau,	45.05	114	P	P	17 14 49.7	+1.4
LIFNC	LIFOU	45.11	112	P	P	17 14 50.1	+1.4
JGN	Niukaw	45.28	17	P	P	17 14 50.4	+0.5
DVP	Devils Point	45.51	108	P	P	17 14 53.8	+2.0
JRY	Ryogami san	45.56	18	P	P	17 14 51.9	0.0
TIY	Taiyuan	45.66	349	*eP*	P	17 14 52.5	-0.2
TIY				pP	pP	17 16 39.5	+1.6
TIY				S	S	17 20 50.5	-3.0
TIY				pmax	pmax		
	comp=Z,64nm,0.6s						
TIY				pmax	pmax		
	comp=Z,1μm,3.5s						
PINNC	Pines Island,	45.67	115	P	P	17 14 55.2	+2.2
PINNC	Pines Island,	45.67	115	P	P	17 14 54.1	+1.1
PINNC				IAmb	IAmb	17 14 56.8	
	comp=Z,161nm,0.7s						
PINNC					PcP	17 16 15.1	-3.4
PINNC					pP	17 16 36.5	-1.2
RTV	Rentapao	45.74	108	P	P	17 14 56.2	+2.6
MJAR	Matsushiro Arr	45.84	17	P	P	17 14 54.2	+0.2
	comp=Z,180nm,0.7s,baz=282,slow=29,SNR=445						
MJAR				PcP	PcP	17 16 19.6	+0.8
	comp=Z,42nm,1.0s,baz=186,slow=3.6,SNR=6.0						
MJAR				ScP	ScP	17 19 17.2	+0.9
	comp=Z,30nm,0.8s,baz=174,slow=4.9,SNR=7.9						
MJAR				S	S	17 20 55.0	-0.8
	comp=Z,4.2nm,0.9s,baz=192,slow=11,SNR=2.3						
	comp=Z,180nm,0.7s						
MAJO	Matsushiro	45.84	17	P	P	17 14 53.5	-0.5
MAJO				IAmb	IAmb	17 14 55.8	
	comp=Z,276nm,0.9s						
MAJO	Matsushiro	45.84	17	P	P	17 14 53.5	-0.5
MAJO				pmax	pmax		
	comp=Z,276nm,0.9s						
MAJO	Matsushiro	45.84	17	P	P	17 14 54.1	+0.1
MAJO				PcP	PcP	17 16 19.7	+0.9
MAJO				pP	pP	17 16 36.3	-2.7
MAJO				ScP	ScP	17 19 17.4	+1.2
MAT	Matsushiro	45.84	17	P	P	17 14 54.1	+0.1
DL2	Dalian	45.84	359	P	P	17 14 53.3	-0.6
DL2				PcP	PcP	17 16 20.0	+1.3
DL2				pP	pP	17 16 44.3	+5.3
DL2				S	S	17 20 52.5	-3.2
DL2				ScS	ScS	17 23 46.0	+0.9
DL2				pmax	pmax		
	comp=Z,300nm,1.3s						
DL2				pmax	pmax		
	comp=Z,2μm,6.5s						
MARNC	Mare, Loyalty	45.97	113	P	P	17 14 57.1	+1.9
VIS	Vishakhapatnam	46.09	303	*eP*	P	17 14 56.9	+0.7
JYT	Yasato	46.17	20	P	P	17 14 56.5	0.0
LZH	Lanzhou	46.53	339	⇑P	P	17 15 01.0	+1.6
LZH				PcP	PcP	17 16 22.3	+0.8
LZH				pP	pP	17 16 47.3	+1.7
LZH				sP	sP	17 17 54.8	+4.3
LZH				S	S	17 21 04.5	-1.3
LZH				pmax	pmax		
	comp=Z,550nm,1.1s						
LZH				pmax	pmax		
	comp=Z,3μm,4.0s						
MDRS	Chennai	46.73	295	*eP*	P	17 15 02.0	+0.9
MDRS				*i* x	x	17 16 49.0	
JSD	Sado	47.24	17	P	P	17 15 05.6	+1.1
JSD	Sado	47.24	17	P	P	17 15 05.1	+0.7
BOK	Bokaro	47.33	312	*eP*	P	17 15 06.1	+0.7
BOK				*i* x	x	17 16 24.6	
BJT	Baijiatuau	47.33	353	P	P	17 15 05.2	+0.1
BJT				PcP	PcP	17 16 25.7	+1.6
BJT	Baijiatuau	47.33	353	P	P	17 15 05.0	-0.1
BJT				PcP	PcP	17 16 25.9	+1.9
BJT				pP	pP	17 16 53.0	+1.8
BJT				ScP	ScP	17 19 24.8	+2.4
BJI	Beijing	47.35	353	P	P	17 15 04.8	-0.4
BJI				PcP	PcP	17 16 25.8	+1.7
BJI				pP	pP	17 16 57.5	+6.2
BJI				PP	PP	17 17 07.0	+2.4
BJI				ScS	ScS	17 23 55.3	+0.2
BJI				sS	sS	17 24 32.5	+5.2
BJI				pmax	pmax		
	comp=Z,140nm,0.7s						
BJI				pmax	pmax		
	comp=Z,740nm,3.9s						
LSA	Lhasa	47.58	322	P	P	17 15 10.0	+2.2
LSA				pmax	pmax		
	comp=Z,260nm,0.6s						
LSA	Lhasa	47.58	322	IAmb	IAmb	17 15 09.9	
	comp=Z,185nm,0.7s						
LSA	Lhasa	47.58	322	P	P	17 15 08.9	+1.2
LSA	Lhasa	47.58	322	P	P	17 15 09.0	+1.2
LSA				P	P	17 15 09.0	+1.2
LSA	Lhasa	47.58	322	P	P	17 15 09.2	+1.4
LSA				ScP	ScP	17 19 26.7	+2.3
JMM	Marumori	47.86	19	P	P	17 15 10.7	+1.6
JMM	Marumori	47.86	19	P	P	17 15 10.3	+1.2
SALM	Salem	48.07	293	*eP*	P	17 15 11.9	+0.8
SALM				IAmb	IAmb	17 15 13.1	
	comp=Z,186nm,0.7s						
JYA	Atsumi	48.18	18	P	P	17 15 13.3	+1.8
TRD	Trivandrum	48.20	288	*eP*	P	17 15 12.5	+0.4
TRD				*i* x	x	17 16 54.8	
SNY	Shenyang	48.76	1	⇑P	P	17 15 15.5	-0.1
SNY				pP	pP	17 17 04.0	+1.2
SNY				sP	sP	17 18 09.5	+2.3
SNY				ScP	ScP	17 19 28.8	+0.3
SNY				ScS	ScS	17 24 04.3	-0.3
SNY				pmax	pmax		
	comp=Z,200nm,0.8s						
HHC	Hu-ho-hao-te	48.86	349	*eP*	P	17 15 17.0	+0.4
HHC				pP	pP	17 17 05.5	+1.4
HHC				PP	PP	17 17 20.8	+2.4
HHC				sP	sP	17 18 09.0	+0.2
HHC				S	S	17 21 35.0	-2.5
HHC				ScS	ScS	17 24 06.0	+0.3
HHC				sS	sS	17 24 54.0	+4.2
HHC				pmax	pmax		
	comp=Z,130nm,1.4s						
HHC				pmax	pmax		
	comp=Z,1μm,7.4s						
BTO	Baotou	48.95	347	*eP*	P	17 15 18.5	+1.2
BTO				pP	pP	17 17 08.8	+4.0
BTO				PP	PP	17 17 23.0	+3.8
BTO				sP	sP	17 18 13.5	+3.7
BTO				S	S	17 21 38.5	-0.2
BTO				sS	sS	17 24 53.0	+2.0
BTO				SS	SS	17 25 24.3	+3.9
BTO				pmax	pmax		
	comp=Z,270nm,1.3s						
BTO				pmax	pmax		
	comp=Z,3μm,8.4s						
BLSP	Bilaspur	49.28	307	*eP*	P	17 15 19.5	-0.5
BLSP				IAmb	IAmb	17 15 20.8	
	comp=Z,77nm,0.8s						
JOM	Ohasama	49.48	19	P	P	17 15 22.2	+1.2
DGAR	Diego Garcia	49.84	266	P	P	17 15 25.2	+1.0
DGAR	Diego Garcia	49.84	266	P	P	17 15 25.9	+1.7
DGAR	Diego Garcia	49.84	266	P	P	17 15 25.2	+1.0
DGAR	Diego Garcia	49.84	266	P	P	17 15 25.7	+1.5
HYB	Hyderabad	50.01	300	*eP*	P	17 15 25.0	-0.3
HYB				IVmB_BB		17 15 25.4	
	comp=Z,2μm,0.8s						
HYB				*e*PcP	PcP	17 16 34.5	0.0
HYB				*e*pP	pP	17 17 13.0	+0.1
HYB				*e*		17 17 22.4	
HYB				*e*sP	sP	17 18 13.4	-3.9
HYB				*e*S	S	17 21 49.6	-4.1
HYB				*e*ScS	ScS	17 24 13.4	-0.9
HYB				*e*sS	sS	17 25 09.6	+2.6
HYB				*e*SS	SS	17 25 38.3	+0.7
MSHR	Mys Shultsa	50.09	8	*c*eP	P	17 15 25.9	+0.4
MSHR				pmax	pmax		
	comp=Z,351nm,1.3s						
KAAM	Kaadhehdhoo	50.18	277	PcP	PcP	17 16 36.5	+1.3
KAAM	Kaadhehdhoo	50.18	277	P	P	17 15 28.4	+1.7
H11S3	WAKE ISLAND Hy	50.30	59	P	P	17 15 29.5	+2.3
	baz=77,slow=72,SNR=2.6						
H11S2	WAKE ISLAND Hy	50.31	59	P	P	17 15 29.6	+2.3
	baz=77,slow=72,SNR=4.2						
H11S1	WAKE ISLAND Hy	50.32	59	P	P	17 15 28.5	+1.2
	baz=77,slow=72,SNR=4.5						
GOMU	GeErMu	50.47	331	P	P	17 15 30.0	+1.2
GOMU				PcP	PcP	17 16 35.0	-1.2
GOMU				pmax	pmax		
	comp=Z,100nm,1.5s						
JTM	Tenmabayashi	50.61	18	P	P	17 15 30.9	+1.7
JTM	Tenmabayashi	50.61	18	IAmb	IAmb	17 15 32.5	
	comp=Z,340nm,1.1s						
JTM	Tenmabayashi	50.61	18	P	P	17 15 30.2	+0.9
WAKE	Wake Island	50.63	58	P	P	17 15 29.9	+0.1
WAKE				IAmb	IAmb	17 15 32.3	
	comp=Z,481nm,1.6s						
WAKE	Wake Island	50.63	58	P	P	17 15 30.8	+1.1
WAKE				pP	pwP	17 17 20.1	-0.4
VLA	Vladivostok	50.73	9	*i* P	P	17 15 30.9	+0.8
VLA				pmax	pmax		
	comp=Z,260nm,1.0s						
CN2	Changchun	50.78	3	⇑P	P	17 15 30.0	-0.4
CN2				*e*S	S	17 22 07.3	+4.2
CN2				pmax	pmax		
	comp=Z,30nm,0.7s						
CN2				pmax	pmax		
	comp=Z,500nm,6.0s						
TARA	Tarawa	50.80	82	P	P	17 15 31.0	-0.1
AIS	Amsterdam Isla	50.95	226	P	P	17 15 34.0	+2.1
GTA	Gaotai	50.96	337	⇑P	P	17 15 33.0	+1.0
GTA				PcP	PcP	17 16 40.0	+2.3
GTA				sP	sP	17 18 27.0	+1.9
GTA				S	S	17 22 05.3	-0.7
GTA				ScS	ScS	17 24 21.0	+0.6
GTA				pmax	pmax		
	comp=Z,140nm,1.8s						
GTA				pmax	pmax		
	comp=Z,1μm,8.4s						
H11N1	WAKE ISLAND Hy	51.02	58	P	P	17 15 33.8	+1.4
	baz=249,slow=8.6,SNR=11						
H11N2	WAKE ISLAND Hy	51.03	58	P	P	17 15 33.9	+1.5
	baz=249,slow=8.6,SNR=9.8						
H11N3	WAKE ISLAND Hy	51.04	58	P	P	17 15 33.9	+1.4
	baz=249,slow=8.6,SNR=12						
JOT	Ohata	51.15	18	P	P	17 15 34.0	+0.9
XLT	XiLinHaoTe	51.17	354	⇑*i*P	P	17 15 33.0	-0.4
XLT				PcP	PcP	17 16 38.0	-0.3
XLT				pP	pP	17 17 27.0	+5.0
XLT				PP	PP	17 17 41.3	+2.4
XLT				sP	sP	17 18 26.8	+1.0
XLT				ScP	ScP	17 19 35.3	-3.7
XLT				S	S	17 22 03.8	-4.8
XLT				ScS	ScS	17 24 20.8	-0.7
XLT				sS	sS	17 25 23.8	+0.7
XLT				pmax	pmax		
	comp=Z,250nm,0.7s						
XLT				pmax	pmax		
	comp=Z,810nm,7.9s						
NGP	Nagpur	51.28	304	*eP*	P	17 15 33.9	-0.5
HMDM	Hanimaadhoo	51.32	285	P	P	17 15 36.7	+1.8
USA0B	Ussuriysk Arra	51.80	8	IAmb	IAmb	17 15 40.2	
	comp=Z,246nm,0.8s						
USA0B	Ussuriysk Arra	51.80	8	*c i*P	P	17 15 37.8	0.0
USRK	Ussuriysk Ar.	51.80	8	P	P	17 15 37.5	-0.3
USRK				PcP	PcP	17 16 42.0	+1.5
USRK					pP	17 17 28.2	+2.3
USRK	Ussuriysk Ar.	51.80	8	P	P	17 15 38.0	+0.2
	comp=Z,202nm,0.6s,baz=199,slow=6.8,SNR=734						
USRK				pP	pP	17 17 27.6	+1.7
	comp=Z,4.7nm,0.6s,baz=101,slow=36,SNR=2.0						
USRK				ScP	ScP	17 19 43.5	+2.0
	comp=Z,26nm,0.7s,baz=229,slow=4.4,SNR=6.3						
USRK				S	S	17 22 12.1	-4.7
	comp=Z,6.9nm,0.9s,baz=198,slow=9.1,SNR=3.3						
	comp=Z,202nm,0.6s						
MDJ	Mudanjiang	51.91	6	P	P	17 15 39.0	+0.5
MDJ				pP	pP	17 17 26.8	-0.4
MDJ				S	S	17 22 19.0	+0.8
MDJ				SS	SS	17 26 03.0	-3.7
MDJ				pmax	pmax		
	comp=Z,260nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,2μm,3.5s						
MDJ	Mudanjiang	51.91	6	P	P	17 15 39.4	+0.9
MDJ				pP	pP	17 17 28.6	+1.4
MDJ				ScP	ScP	17 19 43.6	+1.6
JSH	Shimam	52.02	16	P	P	17 15 40.6	+1.2
ERM	Erimo	52.38	19	P	P	17 15 43.0	+1.0
ERM	Erimo	52.38	19	P	P	17 15 41.9	-0.1
ERM	Erimo	52.38	19	P	P	17 15 41.9	-0.1
ERM				pmax	pmax		
	comp=Z,79nm,0.9s						
ERM	Erimo	52.38	19	P	P	17 15 42.7	+0.7
ERM				PcP	PcP	17 16 45.8	+2.9
ERM				pP	pwP	17 17 33.5	-3.1
JEM	Erimo	52.38	19	P	P	17 15 43.0	+1.0
JEM	Erimo	52.38	19	P	P	17 15 43.0	+1.0
JEW	Eniwo	52.60	17	P	P	17 15 44.9	+1.4
AKL	Akola	52.75	303	*eP*	P	17 15 44.9	-0.2
BNX	BinXian	52.83	4	⇑P	P	17 15 45.0	-0.1
BNX				pP	pwP	17 17 39.0	+1.2
BNX				sP	sP	17 18 37.0	-0.4
BNX				S	S	17 22 25.0	-5.3
BNX				ScS	ScS	17 24 30.3	-2.6
BNX				pmax	pmax		
	comp=Z,130nm,1.3s						
BNX				pmax	pmax		
	comp=Z,960nm,7.7s						
GOA	Goa	53.41	295	*eP*	P	17 15 50.6	+0.8
GOA				*i* x	x	17 22 37.7	
TEY	Ternei	53.44	12	⇑*e*P	P	17 15 48.8	-0.6
TEY				*e*		17 17 39.2	
TEY				*e*		17 22 32.2	
TEY				pmax	pmax		
	comp=N,40nm,0.4s						
TEY				pmax	pmax		
	comp=E,10.0nm,0.4s						
TEY				pmax	pmax		
	comp=Z,70nm,0.5s						
TEY				pmax	pmax		
	comp=N,100nm,2.7s						
TEY				pmax	pmax		
	comp=Z,400nm,1.7s						
BHPL	Bhopal	53.60	306	*eP*	P	17 15 50.5	-0.5
BHPL				*i* x	x	17 17 41.0	
BHPL				*ex*	x	17 22 35.9	
JHNI	Jhansi	53.82	309	*eP*	P	17 15 51.4	-1.1
JHNI				IAmb	IAmb	17 15 52.6	
	comp=Z,208nm,0.7s						
DCZ	Deep Cove	54.08	143	P	P	17 15 55.2	+1.2
ASAJ	Asahikawa	54.11	18	P	P	17 15 55.2	+1.1
JMP	Maruseppu	54.24	18	P	P	17 15 56.2	+1.1
JCZ	Jackson Bay	54.40	140	P	P	17 15 58.2	+1.8
MLZ	Mavora Lakes	54.62	142	P	P	17 15 59.0	+1.1
MLZ					pP	17 17 48.0	-0.9
LGTI	Lohaghat	54.70	314	*eP*	P	17 15 58.9	+0.3
LGTI				IAmb	IAmb	17 15 60.0	
	comp=Z,98nm,0.5s						
WHZ	Wether Hill Ro	54.78	143	P	P	17 15 59.4	+0.5
WHZ					pP	17 17 50.2	+0.1
PTH	Pithoragarh	54.78	314	*eP*	P	17 15 59.0	-0.4
MSVF	Nonsavu	54.87	107	P	P	17 16 01.6	+1.5
MSVF	Nonsavu	54.87	107	P	P	17 15 59.9	-0.2
MSVF	Nonsavu	54.87	107	P	P	17 15 59.9	-0.2
MSVF				pmax	pmax		
	comp=Z,103nm,0.8s						
MSVF	Nonsavu	54.87	107	P	P	17 16 01.6	+1.5
MSVF				pP	pP	17 17 54.6	+3.1
JWK2	Keihoku	55.00	16	P	P	17 16 01.5	+1.2
MCQ	Macquarie Isla	55.43	155	P	P	17 16 04.2	+1.0
MCQ	Macquarie Isla	55.43	155	IAmb	IAmb	17 16 06.8	
	comp=Z,214nm,1.0s						
MCQ				pP		17 17 55.0	+0.2
LBZ	Lake Benmore	55.44	140	P	P	17 16 03.8	+0.3
LBZ					pP	17 17 55.0	0.0
QRZ	Quartz Range	55.49	135	IAmb	IAmb	17 16 08.4	
	comp=Z,369nm,1.2s						
RPZ	Rata Peaks	55.69	139	P	P	17 16 06.2	+0.9
RPZ	Rata Peaks	55.69	139	P	P	17 16 05.4	+0.1
RPZ				IAmb	IAmb	17 16 08.6	
	comp=Z,706nm,1.4s						
RPZ					pP	17 17 57.6	+0.7
TKNZ	Takaka Hill	55.87	135	P	P	17 16 07.1	+0.6
ODZ	Otahua Downs	56.03	141	P	P	17 16 08.7	+1.1
ODZ	Otahua Downs	56.03	141		pP	17 18 02.0	+2.6
THZ	Tophouse	56.12	136	P	P	17 16 08.6	+0.3
THZ					pP	17 17 57.9	-2.3
OXZ	Oxford	56.17	138		pP	17 17 58.0	-2.5
HIA	Hailar	56.25	358	IAmb	IAmb	17 16 11.3	
	comp=Z,399nm,1.6s						
HIA	Hailar	56.25	358	P	P	17 16 09.6	+0.7
HIA				pP	pwP	17 18 02.4	-1.2
BISR	Bishrakh	56.27	311	*eP*	P	17 16 09.0	-0.5
SONA	Sohna	56.37	311	*eP*	P	17 16 09.1	-1.1
SONA				*i* x	x	17 16 57.6	
SONA				*ex*	x	17 18 02.6	
KUZ	Kuaotunu	56.40	130	P	P	17 16 12.9	+2.7
NDI	New Delhi	56.50	311	*eP*	P	17 16 09.4	-1.7
NDI				IAmb	IAmb	17 16 11.0	
	comp=Z,174nm,0.6s						
ULN	Ulaanbaatar	56.51	347	P	P	17 16 10.8	-0.1
ULN	Ulaanbaatar	56.51	347	P	P	17 16 11.5	+0.5
ULN				S	S	17 23 18.4	-0.1
ULN	Ulaanbaatar	56.51	347	P	P	17 16 10.8	-0.1
ULN				pmax	pmax		
	comp=Z,107nm,1.0s						
ULN	Ulaanbaatar	56.51	347	P	P	17 16 11.3	+0.4
ULN				pP	pP	17 18 04.9	+1.5
ULN				ScP	ScP	17 20 04.1	+1.7
NPLP	NPLP New Delhi	56.51	311	*eP*	P	17 16 09.9	-1.3
NPLP				IAmb	IAmb	17 16 10.9	
	comp=Z,148nm,0.5s						
SONM	Songino Array	56.62	347	P	P	17 16 11.4	-0.3
SONM				IAmb	IAmb	17 16 13.9	
	comp=Z,472nm,1.6s						
SONM				pP	pP	17 18 06.1	+1.8
SONM	Songino Array	56.62	347	P	P	17 16 12.2	+0.5
	comp=Z,81nm,0.6s,baz=166,slow=7.7,SNR=394						
SONM				pP	pP	17 18 04.4	+0.1
	comp=Z,16nm,1.0s,baz=167,slow=7.7,SNR=2.6						
SONM				ScP	ScP	17 20 04.4	+1.5
	comp=Z,14nm,0.8s,baz=165,slow=5.3,SNR=4.5		

comp=Z,700nm,3.2s
YSS pmax pmax
comp=N,300nm,3.0s
YSS pmax pmax
comp=E,300nm,4.2s
YSS pmax pmax
comp=Z,150nm,1.0s
YSS smax smax
comp=N,2µm,6.5s
YSS smax smax
comp=E,1µm,7.4s
YSS Yuzh-Sakhalins 56.74 16 P **P 17 16 13.2 +0.9**
YSS pP **pP 17 18 04.8 +1.5**
KUDL Kundal 56.77 310 *e*P **P 17 16 11.7 -1.2**
KUDL *i* x x 17 17 00.2
KUDL *e*x x 17 23 11.1
DDI Dehra Dun 56.77 313 *e*P **P 17 16 11.1 -1.8**
KHZ Kahutara 56.81 137 P **P 17 16 14.0 +1.1**
KHZ Kahutara 56.81 137 P **P 17 16 12.5 -0.4**
KHZ **pP 17 18 04.9 -0.2**
KUR Kuril'sk 56.83 21 *d i*P **P 17 16 15.7 +2.8**
KUR *e*S **S 17 23 23.8 +1.5**
PKVZ Pokaka 56.94 133 P **P 17 16 15.7 +1.7**
COVZ Chateau Observ 57.05 132 P **P 17 16 16.4 +1.6**
FWVZ Far West T-bar 57.08 133 P **P 17 16 16.8 +1.7**
NNVZ North Ngauruho 57.08 132 P **P 17 16 16.9 +1.8**
NGZ Ngauruhoe 57.09 132 P **P 17 16 17.4 +2.3**
MAVZ Matarangi 57.09 133 P **P 17 16 16.7 +1.4**
TRVZ Turoa 57.09 133 P **P 17 16 16.6 +1.3**
WHVZ Whangaehu Hut 57.11 133 P **P 17 16 16.5 +1.1**
SNVZ South Ngauruho 57.12 132 P **P 17 16 16.9 +1.5**
WNVZ Wahianoa 57.13 133 P **P 17 16 17.0 +1.6**
ETVZ East Tongariro 57.15 132 P **P 17 16 17.5 +2.0**
SNZO South Karori 57.19 135 P **P 17 16 15.2 -0.3**
SNZO IAmb IAmb 17 16 17.9
comp=Z,684nm,1.9s
SNZO **pP 17 18 08.1 +0.2**
SNZO South Karori 57.19 135 P **P 17 16 15.7 +0.1**
SNZO pP **pP 17 18 09.1 +1.2**
MOVZ Moawhango 57.27 133 P **P 17 16 17.2 +1.0**
KLP Kalpa 57.30 315 *e*P **P 17 16 17.5 +0.7**
KLP *i* x x 17 18 12.4
KLP *e*x x 17 23 24.9
HEH HeiHe 57.32 4 *e*P **P 17 16 16.5 +0.3**
HEH PcP **PcP 17 17 02.5 +0.6**
HEH pP **pwP 17 18 11.5 -1.1**
HEH S **S 17 23 27.5 -0.9**
HEH ScS **ScS 17 25 03.0 -2.4**
HEH pmax pmax
comp=Z,450nm,1.1s
BHW Baring Head 57.34 135 pP 17 18 09.2 +0.2
AJM Ajmer 57.36 308 *e*P **P 17 16 16.2 -0.8**
RRRZ Republican Roa 57.49 131 P **P 17 16 19.7 +2.0**
HNLY HANLEY 57.51 316 *e*P **P 17 16 19.1 +0.5**
MRZ Mangatainoka R 57.58 134 pwP 17 18 11.1 +0.3
MRZ Mangatainoka R 57.58 134 P **P 17 16 18.1 -0.1**
MSWZ Moikau Station 57.61 135 P **P 17 16 18.3 -0.2**
TSZ Takapari Road 57.65 133 P **P 17 16 19.3 +0.6**
PLWZ Palliser 57.67 135 P **P 17 16 19.1 +0.2**
PAWZ Paruwai Farm 57.72 135 P **P 17 16 19.6 +0.4**
BKZ Black Stump Fm 57.74 132 P **P 17 16 20.4 +1.0**
BKZ Black Stump Fm 57.74 132 IAmb IAmb 17 16 21.9
comp=Z,531nm,1.6s
BKZ pwP 17 18 15.6 +1.6
BKZ Black Stump Fm 57.74 132 P **P 17 16 19.7 +0.3**
SMLA Simla 57.85 314 *e*P **P 17 16 19.8 -0.3**
SMLA *i* x x 17 17 05.9
SMLA *e*x x 17 23 24.7
DVHZ Dannevirke 57.87 133 P **P 17 16 20.3 0.0**
URZ Urewera 57.91 131 P **P 17 16 20.8 +0.3**
RTZ Ruatahuna 57.92 131 IAmb IAmb 17 16 23.6
comp=Z,239nm,1.0s
BFZ Birch Farm 58.06 134 P **P 17 16 21.6 +0.1**
BFZ IAmb IAmb 17 16 23.7
comp=Z,545nm,1.8s
UGL Uglegorsk 58.51 15 *e*P **P 17 16 25.9 +1.7**
UGL *e* 17 18 16.0
UGL *e*S **S 17 23 41.9 -1.5**
UGL pmax pmax
comp=Z,1µm,2.1s
UGL pmax pmax
comp=Z,200nm,1.6s
UGL smax smax
comp=Z,2µm,6.4s
UGL smax smax
comp=E,5µm,5.9s
UGL smax smax
comp=N,3µm,8.2s
BHK Bhakra 58.54 314 *e*P **P 17 16 25.4 +0.5**
MXZ Matakaoa Point 58.61 130 P **P 17 16 26.4 +1.2**
MXZ Matakaoa Point 58.61 130 IAmb IAmb 17 16 27.9
comp=Z,240nm,0.7s
GRNR Gornyy 58.90 10⇓ *i*P **P 17 16 28.5 +1.7**
GRNR *e*S **S 17 23 51.9 +3.5**
GRNR pmax pmax
comp=N,70nm,1.0s
GRNR pmax pmax
comp=Z,190nm,1.0s
GRNR smax smax
comp=N,10.0nm,1.0s
GRNR MLR MLR
comp=N,270nm,15.0s
GRNR MLR MLR
comp=Z,340nm,17.0s
DHRM DHARAMSHALA 59.08 314 *e*P **P 17 16 28.6 -0.1**
DHRM *i* x x 17 18 25.4
DHRM *e*x x 17 18 48.9
CIT Chita 59.47 353 *e*P **P 17 16 31.8 +1.1**
CIT *e* 17 17 10.9
CIT *e* 17 18 19.1
CIT *e* 17 18 48.0
CIT *e* 17 19 21.3
CIT *e* 17 20 30.0
CIT *e*S **S 17 23 53.9 -1.7**
CIT *e* 17 25 22.3
CIT pmax pmax
comp=Z,323nm,1.9s
THN Thein Dam 59.59 314 *e*P **P 17 16 31.4 -0.4**
CASY Casey 59.63 186 P **P 17 16 31.1 -0.4**
CASY PcP **PcP 17 17 11.3 +0.3**
CASY Casey 59.63 186 P **P 17 16 31.4 0.0**
CASY pP **pP 17 18 26.1 +1.0**
CASY sP **sP 17 19 27.5 -0.2**
ZAK Zakamensk 59.74 346 *e*P **P 17 16 32.6 0.0**
ZAK *e* 17 17 10.5
ZAK *e* 17 18 27.2
ZAK pmax pmax
comp=Z,77nm,1.3s
WMQ Urumqi 59.82 331 ⇑P **P 17 16 34.3 +1.1**
WMQ PcP **PcP 17 17 13.8 +1.6**
WMQ S **S 17 24 00.0 -0.3**
WMQ ScS **ScS 17 25 24.0 -0.6**
WMQ pmax pmax
comp=Z,92nm,0.9s
WMQ pmax pmax
comp=Z,500nm,3.7s
TYV Tymovskoe 60.30 14 *e*P **P 17 16 38.3 +2.2**
TYV *e*S **S 17 24 08.8 +2.9**
TYV pmax pmax
comp=Z,53nm,1.6s
TYV pmax pmax
comp=Z,400nm,3.9s
JMU Jammu 60.33 314 *e*P **P 17 16 37.7 +1.1**
JMU IAmb IAmb 17 16 39.0
comp=Z,273nm,0.6s
JMU *e*x x 17 17 16.4
JMU *i* pP **pP 17 18 35.3 +4.0**
DRV Dumont d'Urvil 60.59 172 P **P 17 16 37.7 0.0**
DRV pP **pP 17 18 32.4 +0.4**
ZEA Zeya 60.79 3 *e*P **P 17 16 40.8 +1.6**
ZEA *e**PP **pwP 17 18 37.5 +0.8**
ZEA *e*S **S 17 24 11.7 0.0**
ZEA pmax pmax
comp=E,300nm,1.3s
ZEA pmax pmax
comp=N,100nm,1.6s
ZEA pmax pmax
comp=Z,500nm,1.2s
ZEA pmax pmax
comp=N,140nm,0.8s
ZEA pmax pmax
comp=Z,280nm,0.7s
ZEA smax smax
comp=E,500nm,3.3s
ZEA smax smax
comp=N,2µm,10.7s
IRK Irkutsk 61.24 347 *e*P **P 17 16 42.6 +0.3**
IRK *e*S **S 17 24 17.5 +0.1**
IRK pmax pmax
comp=Z,248nm,2.2s
MOY Mondy 61.49 345 *e*P **P 17 16 45.1 +1.0**
MOY pmax pmax
comp=Z,199nm,2.7s
NIL Nilore 61.99 314 P **P 17 16 46.9 -0.7**
NIL Nilore 61.99 314 P **P 17 16 48.0 +0.5**
NIL Nilore 61.99 314 P **P 17 16 46.9 -0.7**
NIL pmax pmax
comp=Z,137nm,0.8s
NIL Nilore 61.99 314 P **P 17 16 47.4 -0.2**
NIL pP **pP 17 18 44.3 +1.2**
KSH Kashi 63.42 321 P **P 17 16 57.8 +1.0**
KSH PcP **PcP 17 17 27.5 +0.3**
KSH pP pP 17 18 54.5 +1.5
KSH S **S 17 24 45.0 +0.2**
KSH ScS **ScS 17 25 53.3 +0.9**
KSH pmax pmax
comp=Z,130nm,0.7s
SHLS Shalkode 63.61 326 *e*P P 17 17 03.7 +5.8
SHLS pmax pmax
comp=Z,29nm,0.5s
ZSN Zaisan 63.84 332 *e*P **P 17 16 59.5 +0.3**
baz=332
ZSN *e*PcP **PcP 17 17 28.9 +0.3**
baz=332
ZSN *e*S **S 17 24 49.9 +0.6**
baz=332
ZSN Zaisan 63.84 332 *e*P **P 17 16 59.4 +0.3**
ZSN *e* 17 17 28.8
ZSN *e*S **S 17 24 49.9 +0.6**
UZB Uzynbulak 63.85 326 *e*P **P 17 16 59.7 +0.2**
baz=326
UZB *e*PcP **PcP 17 17 29.3 +0.4**
baz=326
UZB *e*S **S 17 24 50.3 +0.4**
baz=326
UZB Uzynbulak 63.85 326 *e*P **P 17 16 59.6 +0.2**
UZB *e* 17 17 29.3
UZB *e*S **S 17 24 50.3 +0.4**
SATY Saty 64.14 325 *e*P **P 17 17 01.4 +0.1**
baz=325
SATY *e*S **S 17 24 54.2 +0.9**
baz=325
SATY Saty 64.14 325 *e*P **P 17 17 01.4 +0.1**
SATY *e*S **S 17 24 54.2 +0.9**
KPKS Kokpek 64.25 326 *e*P **P 17 17 02.1 +0.1**
baz=326
KPKS *e*PcP **PcP 17 17 30.8 +0.3**
baz=326
KPKS *e*S **S 17 24 55.2 +0.7**
baz=326
KPKS Kokpek 64.25 326 *e*P **P 17 17 02.0 +0.1**
KPKS *e* 17 17 30.8
KPKS *e*S **S 17 24 55.2 +0.7**
AFI Afiamalu 64.59 102 P **P 17 17 04.3 -0.3**
AFI Afiamalu 64.59 102 P **P 17 17 04.3 -0.3**
AFI pmax pmax
comp=Z,85nm,0.8s
MK31 Makanchi Array 64.60 330 *ce*P **P 17 17 04.4 +0.5**
MKAR Makanchi Array 64.60 330 P **P 17 17 03.5 -0.4**
MKAR Makanchi Array 64.60 330 P **P 17 17 04.7 +0.8**
comp=Z,96nm,0.6s,baz=134,slow=7.4,SNR=1040
MKAR pP **pP 17 19 00.1 -0.5**
comp=Z,23nm,0.9s,baz=137,slow=7.8,SNR=2.6
MKAR S **S 17 24 59.0 +0.6**
comp=Z,6.5nm,0.7s,baz=137,slow=17,SNR=9.0
MKAR PKPPKP **P'P'df 17 45 38.5 -3.2**
comp=Z,1.2nm,1.0s,baz=318,slow=1.6,SNR=3.6
comp=Z,96nm,0.6s
MAKZ Makanchi 64.76 330 P **P 17 17 04.7 -0.3**
MAKZ Makanchi 64.76 330 P **P 17 17 04.7 -0.3**
MAKZ pmax pmax
comp=Z,36nm,0.6s
MAKZ Makanchi 64.76 330 P **P 17 17 05.3 +0.3**
MAKZ pP **pP 17 19 02.5 +0.9**
TNSS Tian-Shan 64.96 325 *e*P **P 17 17 06.4 -0.4**
baz=325
TNSS Tian-Shan 64.96 325 *e*P **P 17 17 06.3 -0.4**
MDOK Medeo 64.98 325 *e*P **P 17 17 06.9 +0.3**
baz=325
MDOK *e*S **S 17 25 04.5 +1.0**
baz=325
MDOK Medeo 64.98 325 *e*P **P 17 17 06.8 +0.3**
MDOK *e*S **S 17 25 04.4 +1.0**
AAA Alma-Ata 65.08 325 *e*P **P 17 17 07.5 +0.4**
baz=325
AAA Alma-Ata 65.08 325 *e*P **P 17 17 07.5 +0.4**
BOD Bodaibo 65.14 355 *e*P **P 17 17 07.8 +0.7**
BOD pmax pmax
comp=Z,189nm,1.5s
ARXS Arharly 65.20 326 *e*P **P 17 17 08.2 +0.3**
CHKK Chushkaly 65.44 325 *e*P **P 17 17 09.4 +0.1**
baz=325
CHKK Chushkaly 65.44 325 *e*P **P 17 17 09.4 +0.1**
KBL Kabul 65.46 313 P **P 17 17 09.3 -0.6**
KBL IAmb IAmb 17 17 11.4
comp=Z,135nm,0.8s
KBL Kabul 65.46 313 P **P 17 17 09.5 -0.4**
KBL S **S 17 25 07.4 -2.2**
KBL Kabul 65.46 313 P **P 17 17 09.3 -0.6**
KBL pmax pmax
comp=Z,135nm,0.8s
TKM2 Tokmak 2 65.67 324 P **P 17 17 11.7 +0.7**
SNR=10
KBK Karagaybulak 65.90 323 P **P 17 17 13.4 +1.0**
SNR=21
UCH Uchtor 65.90 323 P **P 17 17 14.0 +1.2**
SNR=19
RER Riviere de l'E 66.00 250 pP 17 19 10.9 +0.1
RER Riviere de l'E 66.00 250 P **P 17 17 14.7 +1.4**
SNR=8.3
RER Riviere de l'E 66.00 250 P **P 17 17 14.8 +1.4**
RER PcP **PcP 17 17 40.4 +2.1**
RER pP **pP 17 19 09.7 -1.1**
RER sP **sP 17 20 11.6 -0.9**
AAK Ala-Archa 66.16 323 P **P 17 17 15.1 +1.1**
SNR=53
AAK Ala-Archa 66.16 323 P **P 17 17 14.1 +0.2**
AAK PcP **PcP 17 17 40.6 +2.1**
AAK **pP 17 19 14.1 +2.5**
AAK Ala-Archa 66.16 323 *i* P **P 17 17 14.5 +0.6**
SNR=57
AAK Ala-Archa 66.16 323 P **P 17 17 15.3 +1.3**
AAK Ala-Archa 66.16 323 *ce*P **P 17 17 14.5 +0.6**
AAK pmax pmax
comp=Z,105nm,0.8s
AAK Ala-Archa 66.16 323 P **P 17 17 15.0 +1.1**
AAK PcP **PcP 17 17 40.4 +1.8**
AAK pP **pP 17 19 13.0 +1.4**
CHMS Chumysh 66.22 323 P **P 17 17 14.8 +0.7**
SNR=25
AML Almayashu 66.34 322 P **P 17 17 16.7 +1.3**
SNR=129
USP Ospenovka 66.52 324 P **P 17 17 16.2 +0.2**
SNR=77
SGDS Sogindy 66.56 324 *e*P **P 17 17 16.6 +0.2**
baz=324
SGDS Sogindy 66.56 324 *e*P **P 17 17 16.5 +0.2**
EKS2 Erkin-Say 66.60 323 P **P 17 17 17.9 +1.3**
SNR=5.8
MSEY Mahe Island 66.88 268 P **P 17 17 18.7 -0.2**
MSEY IAmb IAmb 17 17 21.2
comp=Z,299nm,1.2s
MSEY Mahe Island 66.88 268 *i* P **P 17 17 19.8 +1.0**
SNR=8.2
MSEY Mahe Island 66.88 268 P **P 17 17 20.2 +1.3**
MSEY Mahe Island 66.88 268 P **P 17 17 18.7 -0.2**
MSEY pmax pmax
comp=Z,299nm,1.2s
PET Petropavlovsk 67.25 23 P **P 17 17 19.8 -0.4**
PET **pP 17 19 13.5 -3.5**
PET Petropavlovsk 67.25 23 *ce*P **P 17 17 21.5 +1.3**
PET pmax pmax
comp=Z,145nm,1.7s
PET Petropavlovsk 67.25 23 P **P 17 17 21.0 +0.8**
PET pP **pP 17 19 16.8 -0.1**
SIMJ Simiganj 67.50 317 P **P 17 17 22.0 -0.3**
SIMJ PcP **PcP 17 17 45.5 +1.2**
SIMJ IAmb IAmb 17 19 34.8
comp=Z,194nm,1.2s
SIMJ Simiganj 67.50 317 P **P 17 17 21.9 -0.4**
SIMJ PcP **PcP 17 17 45.0 +0.8**
SIMJ pP **pP 17 19 20.2 -0.4**
MIDW Midway 67.61 56 P **P 17 17 22.4 -0.5**
MIDW IAmb IAmb 17 17 25.6
comp=Z,385nm,1.5s
BTLS Baital 67.84 325 *e*P **P 17 17 23.9 -0.1**
baz=325
BTLS Baital 67.84 325 *e*P **P 17 17 23.8 -0.1**
CCD Concordia, Ant 67.90 180 P **P 17 17 25.4 +1.1**
CCD pP **pP 17 19 25.3 +2.5**
CCD sP **sP 17 20 28.9 +4.6**
NGCH Negor - Chabah 68.01 301 P **P 17 17 27.3 +1.9**
NGCH S **S 17 25 39.3 +0.1**
SEM Semipalatinsk 68.09 332 *e*P **P 17 17 25.3 -0.4**
baz=332
SEM Semipalatinsk 68.09 332 *e*P **P 17 17 25.2 -0.4**
JLN Jalan Bani Buh 68.48 297 P **P 17 17 29.3 +0.9**
SNR=7.9
JLN S **S 17 25 45.3 +0.5**
IUG Iuzhnay 68.62 321 *e*P **P 17 17 29.0 +0.1**
comp=Z,99nm,1.0s,baz=321
IUG *e*S **S 17 25 46.5 +0.5**
baz=321
IUG Iuzhnay 68.62 321 *e*P **P 17 17 29.0 +0.1**
IUG *e*S **S 17 25 46.5 +0.5**
IUG pmax pmax
comp=Z,99nm,1.0s
ZALV Zalesovo Beam 68.72 337 P **P 17 17 28.0 -1.0**
ZALV Zalesovo Beam 68.72 337 P **P 17 17 28.7 -0.4**
comp=Z,51nm,0.6s,baz=137,slow=5.0,SNR=277
ZALV pP **pP 17 19 28.2 -0.1**
comp=Z,37nm,0.8s,baz=136,slow=3.9,SNR=4.9
ZALV S **S 17 25 42.5 -3.8**
comp=Z,38nm,0.8s,baz=127,slow=9.5,SNR=16
ZALV PKPPKP **P'P'df 17 45 31.2 -3.2**
comp=Z,3.0nm,1.0s,baz=300,slow=6.0,SNR=7.2
comp=Z,51nm,0.6s
KKAR Karatay Array 68.84 322 P **P 17 17 29.1 -1.0**
KKAR pP **pP 17 19 30.3 +1.5**
KKAR Karatay Array 68.84 322 P **P 17 17 29.1 -1.0**
KKAR *PP **pP 17 19 30.3 +1.5**
CHM Chimkent 68.98 321 *e*P **P 17 17 31.0 0.0**
baz=321
CHM Chimkent 68.98 321 *e*P **P 17 17 30.9 0.0**
WBK Wadi Bani Khal 69.01 297 P **P 17 17 32.8 +1.3**
SNR=9.5
WBK S **S 17 25 52.4 +1.5**
KURBB Kurchatov Arra 69.04 332 P **P 17 17 31.4 +0.4**
comp=Z,23nm,0.5s,baz=144,slow=5.5,SNR=298
KURBB pP **pP 17 19 30.3 +0.4**
comp=Z,15nm,0.8s,baz=136,slow=6.7,SNR=3.5
KURBB S **S 17 25 47.8 -2.3**
comp=Z,5.0nm,0.9s,baz=138,slow=14,SNR=8.6
KURBB PKPPKP **P'P'df 17 45 30.4 -3.8**
comp=Z,3.9nm,1.1s,baz=294,slow=3.2,SNR=4.3
comp=Z,23nm,0.5s
KURK Kurchatov 69.06 332 P **P 17 17 30.7 -0.5**
KURK Kurchatov 69.06 332 P **P 17 17 32.0 +0.9**
KURK S **S 17 25 48.8 -1.5**
KURK Kurchatov 69.06 332 *ce*P **P 17 17 31.2 0.0**
KURK pmax pmax
comp=Z,105nm,1.7s
KURK Kurchatov 69.06 332 P **P 17 17 31.4 +0.2**
KURK pP **pP 17 19 28.4 -1.6**
YAK Yakutsk 69.19 4 P **P 17 17 32.2 +0.5**
YAK Yakutsk 69.19 4 *e*P **P 17 17 32.3 +0.5**
YAK *e* 17 17 51.9
YAK *e**PP **pP 17 19 29.2 -1.6**
YAK *e* 17 20 12.6
YAK *e*S **S 17 25 50.9 -0.5**
YAK *e* 17 26 31.9
YAK pmax pmax
comp=Z,255nm,0.9s
YAK pmax pmax
comp=E,14nm,0.9s
YAK pmax pmax
comp=Z,187nm,2.1s
YAK pmax pmax
comp=E,54nm,1.9s
YAK pmax pmax
comp=N,156nm,2.0s
YAK smax smax
comp=E,798nm,1.9s
YAK smax smax
comp=N,3µm,3.3s
YAK Yakutsk 69.19 4 P **P 17 17 32.2 +0.5**
YAK PcP **PcP 17 17 51.1 +0.5**
YAK pP **pP 17 19 32.2 +1.4**
MHTO MHTO 69.43 295 P **P 17 17 34.8 +0.7**
SNR=15
DQM DQM 69.52 294 P **P 17 17 35.6 +1.0**
SNR=10
JMDO Jabal Madar 69.70 297 P **P 17 17 36.7 +1.0**
SNR=12
JMDO S **S 17 25 59.6 +0.8**
SMDO Samad 69.95 298 P **P 17 17 38.3 +1.0**
SNR=11
SMDO S **S 17 26 02.9 +1.0**
BIDO Bidbid 70.02 298 P **P 17 17 38.9 +1.3**
SNR=26
BIDO S **S 17 26 03.7 +1.3**
MA2 Magadan 70.17 15 P **P 17 17 38.3 +0.7**
MA2 IAmb IAmb 17 17 40.6
comp=Z,124nm,0.8s
MA2 Magadan 70.17 15 *ce*P **P 17 17 39.3 +1.7**
MA2 pmax pmax
comp=Z,196nm,1.3s
MA2 Magadan 70.17 15 P **P 17 17 39.0 +1.4**
MA2 PcP **PcP 17 17 55.3 +0.4**
MA2 pP **pwP 17 19 39.2 -2.6**
BSY Bisya 70.61 297 P **P 17 17 42.0 +0.9**
SNR=13
BSY S **S 17 26 08.9 -0.2**
HOQ Hoqain 70.76 298 P **P 17 17 43.0 +1.1**
SNR=23
HOQ S **S 17 26 09.3 -1.4**
SHAO Shalim 70.77 292 *i* P **P 17 17 42.8 +0.7**
SNR=16
SHAO Shalim 70.77 292 P **P 17 17 43.3 +1.3**
SNR=5.8
SHAO S **S 17 26 10.8 -0.3**
JASK Jask - Hormozg 70.97 300 P **P 17 17 45.3 +2.2**
DMTO DMTO 71.32 291 P **P 17 17 46.3 +1.1**
DMTO S **S 17 26 15.7 -1.4**
ARQ Araqi 71.38 297 P **P 17 17 46.5 +1.0**
SNR=15
ARQ S **S 17 26 16.5 -1.3**
SOHO SOHO 71.60 298 *i* P **P 17 17 46.6 -0.1**
SNR=40
SOHO SOHO 71.60 298 P **P 17 17 47.8 +1.0**
SOHO S **S 17 26 19.5 -0.6**
CRZF Crozet Islands 71.67 224 P **P 17 17 48.0 +1.3**
SBV Sambava 71.69 258 P **P 17 17 48.5 +1.0**
SNR=6.0
RBK Rabkut 71.95 291 P **P 17 17 49.9 +0.9**
SNR=13
UOSS Minazif 72.12 299 P **P 17 17 49.6 -0.2**
UOSS Minazif 72.12 299 *i* P **P 17 17 49.4 -0.4**
SNR=29
UOSS Minazif 72.12 299 P **P 17 17 50.3 +0.5**
UOSS S **S 17 26 25.2 -0.8**
MDH Madha 72.14 299 *i* P **P 17 17 49.0 -0.9**
SNR=6.1
MDH Madha 72.14 299 P **P 17 17 49.8 -0.1**
SNR=5.8
MDH S **SKiKP 17 26 22.6 -1.3**
HATD Hatta, Dubai 72.15 299 *i* P **P 17 17 50.0 0.0**
SNR=21
HATD Hatta, Dubai 72.15 299 P **P 17 17 51.0 +1.1**
SNR=30
HATD S **S 17 26 26.6 +0.3**
ASHO Ashiyiah 72.17 299 *i* P **P 17 17 49.8 -0.3**
SNR=34
ASHO Ashiyiah 72.17 299 P **P 17 17 51.2 +1.0**
SNR=28
ASHO S **S 17 26 25.9 -0.7**
MAW Mawson 72.22 200 P **P 17 17 50.5 +1.1**
comp=Z,144nm,1.0s,baz=63,slow=7.3,SNR=114
MAW pP **pP 17 19 50.2 +0.4**
comp=Z,18nm,0.7s,baz=39,slow=4.6,SNR=3.7
MAW PKPPKP **P'P'df 17 45 25.0 -4.1**
comp=Z,9.2nm,1.1s,baz=238,slow=3.8,SNR=7.8
comp=Z,144nm,1.0s

ALNE Al Ain 72.26 298 *i* P **P 17 17 50.4 -0.2**
SNR=12
ALNE Al Ain 72.26 298 P **P 17 17 51.5 +0.9**
SNR=25
ALNE S **S 17 26 29.0 +1.5**
MSFE Esma-Masafi 72.28 299 *i* P **P 17 17 50.8 +0.1**
SNR=34
MASF Masafi 72.28 299 P **P 17 17 52.3 +1.5**
SNR=22
MASF S **S 17 26 27.4 -0.4**
DOK Doka 72.29 292 P **P 17 17 51.5 +0.6**
SNR=11
DOK S **SKiKP 17 26 24.9 +0.5**
WHFO Wadi Hawf 72.45 291 P **P 17 17 52.5 +0.6**
SNR=13
WHFO S **SKiKP 17 26 26.3 +1.6**
SHME Shamm 72.50 300 *i* P **P 17 17 53.1 +1.1**
SNR=45
SHME Shamm 72.50 300 P **P 17 17 53.2 +1.3**
SNR=23
FAQ Al Faqa, Dubai 72.59 299 *i* P **P 17 17 52.1 -0.4**
SNR=18
FAQ Al Faqa, Dubai 72.59 299 P **P 17 17 53.6 +1.1**
SNR=34
FAQ S **S 17 26 30.1 -1.1**
NAZ Nazwa, Dubai 72.60 299 *i* P **P 17 17 52.4 -0.1**
SNR=11
NAZ Nazwa, Dubai 72.60 299 P **P 17 17 53.5 +0.9**
SNR=27
NAZ S **S 17 26 31.9 +0.6**
UMQ Umm Al-Quwin 72.76 299 *i* P **P 17 17 54.6 +1.2**
SNR=8.8
UMQ Umm Al-Quwin 72.76 299 P **P 17 17 55.1 +1.7**
SNR=11
ABTO Aybut 72.76 291 P **P 17 17 54.7 +1.1**
SNR=14
ABTO S **S 17 26 30.7 -2.7**
ASUD Al Ashush, Dub 72.79 298 *i* P **P 17 17 54.0 +0.4**
SNR=17
ASUD Al Ashush, Dub 72.79 298 P **P 17 17 55.1 +1.5**
SNR=24
ASUD S **S 17 26 33.0 -0.4**
AJN Ajban 73.07 298 *i* P **P 17 17 55.0 -0.2**
SNR=13
AJN Ajban 73.07 298 P **P 17 17 55.9 +0.7**
SNR=14
AJN S **S 17 26 34.5 -1.9**
VNDA Vanda 73.25 172 P **P 17 17 55.5 +0.3**
comp=Z,40nm,0.7s,baz=317,slow=6.3,SNR=415
VNDA pP **pP 17 19 56.0 -0.2**
comp=Z,9.0nm,0.6s,baz=330,slow=7.2,SNR=2.3
VNDA PKPPKP **P'P'df 17 45 23.1 -3.9**
comp=Z,2.3nm,1.1s,baz=160,slow=4.1,SNR=4.1
comp=Z,40nm,0.7s
SEY Seymchan 73.48 14*ce*P **P 17 17 57.9 +1.2**
SEY pmax pmax
comp=Z,202nm,1.3s
MZWR Madinat Zayed 73.83 297 P **P 17 18 00.1 +0.6**
MZR Muzera 73.98 296 *i* P **P 17 18 00.6 +0.2**
SNR=67
MZR Muzera 73.98 296 P **P 17 18 01.8 +1.4**
SNR=32
ABPO Ambohimpanom 74.02 252 P **P 17 18 00.3 -0.7**
ABPO Ambohimpanom 74.02 252 P **P 17 18 00.3 -0.7**
ABPO pmax pmax
comp=Z,533nm,1.7s
FOMA Nahampoana Res 74.11 246 IAmb IAmb 17 18 03.6
comp=Z,257nm,1.1s
FOMA Nahampoana Res 74.11 246 P **P 17 18 02.9 +1.7**
SNR=8.7
SBA Scott Base 74.21 171 P **P 17 18 01.2 +0.6**
SBA Scott Base 74.21 171 P **P 17 18 01.2 +0.6**
SBA pmax pmax
comp=Z,108nm,1.0s
VOI Vohitsoka 74.34 249 P **P 17 18 03.7 +1.1**
SNR=26
BRVK Borovoye 74.55 330 P **P 17 18 03.2 +0.3**
BRVK Borovoye 74.55 330 P **P 17 18 03.2 +0.3**
BRVK pmax pmax
comp=Z,106nm,1.2s
GHWR Ruwais 74.77 297 P **P 17 18 04.9 +0.1**
JRN Qarnain Island 75.05 298 P **P 17 18 07.0 +0.7**
SNR=12
TRNA Turayna 76.43 297 P **P 17 18 15.1 +1.2**
SNR=12
SMRA Abu-Samra 76.77 297 P **P 17 18 17.0 +1.2**
SNR=25
SHMA Al-Shehemyia 76.93 299 P **P 17 18 17.8 +1.2**
SNR=11
SAKB Bahrain 77.33 299 P **P 17 18 20.0 +1.1**
ADK Adak 78.18 33 P **P 17 18 22.5 -0.3**
ADK IAmb IAmb 17 18 25.4
comp=Z,413nm,1.6s
ADK **pP 17 20 25.3 +0.7**
ADK Adak 78.18 33 P **P 17 18 22.5 -0.3**
ADK *PP **pP 17 20 25.3 +0.7**
ADK pmax pmax
comp=Z,413nm,1.7s
ABKAR Akbulak array 78.24 323 P **P 17 18 22.8 -0.4**
ABKAR Akbulak array 78.24 323 IAmb IAmb 17 18 24.8
comp=Z,104nm,1.2s
TIXI Tiksi 78.75 2 P **P 17 18 25.1 -0.3**
TIXI Tiksi 78.75 2*ce*P **P 17 18 24.8 -0.7**
TIXI pmax pmax
comp=Z,79nm,1.0s
ATKA Atka Island 79.69 34 P **P 17 18 31.9 +1.1**
ATKA Atka Island 79.69 34 IAmb IAmb 17 18 32.7
comp=Z,196nm,0.9s
NRIK Noril'sk 80.09 348 P **P 17 18 33.4 +0.8**
comp=Z,16nm,0.6s,baz=140,slow=6.5,SNR=26
NRIK pP **pP 17 20 36.2 -0.4**
comp=Z,20nm,0.9s,baz=158,slow=7.0,SNR=4.7
NRIK S **S 17 27 49.2 +0.2**
comp=Z,40nm,1.0s,baz=351,slow=20,SNR=60
comp=Z,16nm,0.6s
NRIK Noril'sk 80.09 348*ce*P **P 17 18 33.3 +0.8**
NRIK pmax pmax
comp=Z,107nm,1.6s
KBD Kabd 80.55 301 P **P 17 18 37.0 +1.2**
BILL Bilibino 81.04 15 P **P 17 18 37.7 +0.3**
BILL Bilibino 81.04 15*de*P **P 17 18 37.6 +0.1**
BILL pmax pmax
comp=Z,18nm,1.1s
RAYN Ar Rayn 81.24 295 P **P 17 18 39.8 +0.2**
RAYN Ar Rayn 81.24 295 *i* P **P 17 18 40.2 +0.6**
SNR=348
RAYN Ar Rayn 81.24 295 P **P 17 18 41.1 +1.6**
RAYN S **S 17 28 01.2 -1.4**
RAYN Ar Rayn 81.24 295 P **P 17 18 39.8 +0.2**
RAYN pmax pmax
comp=Z,602nm,1.0s
SVE Sverdlovsk 81.26 331*ce*P **P 17 18 39.0 +0.2**
SVE *e*S **S 17 27 58.0 -3.3**
SVE pmax pmax
comp=Z,299nm,1.3s
ATD Arta Tunnel 81.58 283 IAmb IAmb 17 18 45.3
comp=Z,354nm,1.2s
ATD Arta Tunnel 81.58 283 *i* P **P 17 18 43.5 +2.0**
ATD *e*S **S 17 28 11.7 +5.3**
LKRN Lenkeran, Azer 82.09 311 P **P 17 18 44.1 +0.6**
ARU Arti 82.11 330 P **P 17 18 43.2 0.0**
ARU IAmb IAmb 17 18 46.1
comp=Z,157nm,1.1s
ARU Arti 82.11 330*d i*P **P 17 18 43.6 +0.4**
ARU *PP **pP 17 20 46.1 -1.8**
ARU 17 21 59.8
ARU PPP PPP 17 23 54.7
ARU S **SKSac 17 28 08.6 +0.9**
ARU pmax pmax
comp=Z,175nm,1.2s
ARU Arti 82.11 330 P **P 17 18 43.7 +0.5**
QSPA South Pole Qui 82.82 180 P **P 17 18 46.4 -0.4**
QSPA IAmb IAmb 17 18 48.9
comp=Z,240nm,1.2s
QSPA South Pole Qui 82.82 180 P **P 17 18 46.9 +0.1**
comp=Z,91nm,1.0s,baz=170,slow=0.4,SNR=275
QSPA pP **pP 17 20 52.3 +1.3**
comp=Z,45nm,0.9s,baz=33,slow=0.8,SNR=3.8
QSPA PKKPbc **PKKPbc 17 37 05.2 -4.1**
comp=Z,10.0nm,1.1s,baz=193,slow=1.7,SNR=11
comp=Z,91nm,1.0s
NIKH Nikolski High 82.99 35 P **P 17 18 48.6 +0.9**
NIKH Nikolski High 82.99 35 P **P 17 18 47.8 +0.2**
baz=248,SNR=12
NIKH S **S 17 28 19.9 +1.3**
baz=248

SPIA Saint Paul Isl 83.85 30 P **P 17 18 52.6 +0.8**
baz=247
MNGR Mingechevir, A 83.89 312 P **P 17 18 53.1 +0.7**
SEKA Sheki 83.92 313 P **P 17 18 52.9 +0.2**
P08K Saint George I 83.98 31 P **P 17 18 52.9 +0.4**
baz=247
MAK Makhachkala 84.16 314 *e*P **P 17 18 49.9 -3.8**
MAK *e**PP **pP 17 20 57.5 -1.5**
MAK *e* 17 22 18.3
MAK *e*PPP PPP 17 24 15.3
MAK *e* 17 28 15.4
MAK *e*SS SS 17 34 14.8 -3.0
MAK *e*SSS SSS 17 37 48.9
MAK pmax pmax
comp=Z,566nm,1.5s
GANJ Ganja 84.42 312 P **P 17 18 55.6 +0.5**
KIBK Kibwezi 84.43 268 IAmb IAmb 17 18 58.5
comp=Z,298nm,1.2s
KIBK Kibwezi 84.43 268 P **P 17 18 54.5 -1.4**
KIBK Kibwezi 84.43 268 P **P 17 18 57.3 +1.5**
SNR=66
UNV Unalaska Valle 84.61 34 P **P 17 18 56.6 +1.0**
UNV Unalaska Valle 84.61 34 P **P 17 18 55.9 +0.3**
baz=250
UNV S **S 17 28 34.1 -0.3**
baz=250
NAX Nakhchivan 84.68 310 P **P 17 18 56.9 +0.4**
TBI Tubuai 85.21 113 *e*P **P 17 18 59.2 -0.1**
comp=Z,1μm,30.2s
TBI *ep*P **pP 17 21 00.8 -4.1**
comp=Z,623nm,25.2s
TBI *e*S **S 17 28 42.4 +1.0**
comp=Z,2μm,27.8s
TBI *es*S **sS 17 32 20.8 -3.3**
comp=Z,3μm,34.5s
KMBO Kilima Mbogo 85.37 269 P **P 17 19 01.0 +0.5**
KMBO Kilima Mbogo 85.37 269 P **P 17 19 01.5 +1.0**
KMBO Kilima Mbogo 85.37 269 P **P 17 19 01.8 +1.3**
KMBO Kilima Mbogo 85.37 269 P **P 17 19 01.0 +0.5**
KMBO pmax pmax
comp=Z,254nm,1.1s
GNI Garni 85.48 311 P **P 17 19 00.5 +0.1**
GNI IAmb IAmb 17 19 03.2
comp=Z,252nm,1.6s
GNI Garni 85.48 311 P **P 17 19 01.4 +1.0**
GNI Garni 85.48 311 P **P 17 19 01.4 +1.0**
GNI Garni 85.48 311 P **P 17 19 00.5 +0.1**
GNI pmax pmax
comp=Z,252nm,1.6s
PAE Paea 85.68 107 *e*LR LR 17 47 18.9
comp=Z,276nm,29.9s
PPT2 Papeete2 85.69 107 *e*P **P 17 18 57.5 -4.3**
comp=Z,335nm,25.5s
PPT2 *ep*P **pP 17 21 00.0 -6.6**
comp=Z,226nm,26.0s
PPT2 *e*S **S 17 28 44.4 -2.0**
comp=Z,607nm,27.0s
PPT2 *es*S **sS 17 32 29.7 +0.2**
comp=Z,286nm,25.5s
PPT2 Papeete2 85.69 107 *e*LQ LQ 17 43 25.9
comp=Z,3μm,38.8s
GAMB Gambell 85.91 24 P **P 17 19 02.5 +0.9**
baz=245
GAMB S **S 17 28 47.1 +0.8**
baz=245
TVO Taravao 85.98 107 *e*LR LR 17 47 25.9
comp=Z,822nm,29.0s
ELIB Princess Elisa 86.14 198 *d*P **P 17 19 03.7 +0.8**
comp=Z,250nm,1.0s
ELIB *dp*P **pP 17 21 07.7 -0.8**
ELIB *ds*P **sP 17 22 05.0 -2.4**
ELIB *d*SKS **SKSac 17 28 31.6 -1.4**
ELIB *d*S **S 17 28 49.1 +0.3**
ELIB *d*SP **SP 17 29 52.6 +0.5**
BELG Belogornoye 86.64 324*d i*P **P 17 19 04.2 -1.1**
BELG pmax pmax
comp=Z,33nm,1.0s
FALS False Pass 86.65 34 P **P 17 19 05.7 +0.4**
baz=253
M11K Mekoryuk 87.00 28 P **P 17 19 08.0 +1.2**
baz=250
M11K S **S 17 28 59.0 +2.3**
baz=250
NCK Nalchik 87.06 314*d i*P **P 17 19 08.2 +0.6**
NCK pmax pmax
comp=Z,103nm,1.1s
GURO Guroymak-BITLI 87.19 309 P **P 17 19 09.5 +1.0**
GURO IAmb IAmb 17 19 11.3
comp=Z,211nm,1.1s
KIRV Kirov 87.49 330*ce*P **P 17 19 08.7 -0.4**
PMOR Pomariorio Ree 87.58 105 *e*P **P 17 19 11.8 +1.2**
comp=Z,340nm,1.4s
PMOR Pomariorio Ree 87.58 105 *e*LR LR 17 48 07.5
comp=Z,3μm,28.4s
KBZ Khabaz 87.60 314 P **P 17 19 11.0 +0.9**
comp=Z,38nm,0.9s,baz=93,slow=3.2,SNR=66
KBZ pP **pP 17 21 16.9 +0.3**
comp=Z,13nm,0.9s,baz=124,slow=2.3,SNR=3.3
comp=Z,38nm,0.9s
KBZ Khabaz 87.60 314*de*P **P 17 19 09.7 -0.4**
KBZ pmax pmax
comp=Z,77nm,1.0s
S12K Black Hills 87.64 33 P **P 17 19 10.5 +0.5**
baz=254
SHA1 Shidzhatmaz 87.78 314*de*P **P 17 19 10.8 -0.4**
GOF Gofitskoye 87.78 316*ce*P **P 17 19 11.7 +0.8**
KIV Kislovodsk 87.80 315 P **P 17 19 11.4 +0.2**
KIV Kislovodsk 87.80 315 *i* P **P 17 19 11.6 +0.5**
SNR=14
KIV Kislovodsk 87.80 315 P **P 17 19 11.0 -0.2**
KIV Kislovodsk 87.80 315 ⇑P **P 17 19 12.1 +1.0**
KIV Kislovodsk 87.80 315 *e*P **P 17 19 10.8 -0.3**
KIV *e**PP **pP 17 21 16.2 -1.6**
KIV *e* 17 28 43.1
KIV *e*SS SS 17 35 10.9 +0.3
KIV pmax pmax
comp=Z,42nm,1.1s
KIV MLR MLR
comp=Z,195nm,20.0s
KIV Kislovodsk 87.80 315 P **P 17 19 11.6 +0.5**
LODK Lodwar 87.81 274 IAmb IAmb 17 19 14.7
comp=Z,173nm,1.3s
LODK Lodwar 87.81 274 P **P 17 19 13.1 +1.2**
SNR=77
LODK Lodwar 87.81 274 *i* P **P 17 19 12.8 +1.0**
LODK *e*S **SKSac 17 28 49.2 +4.1**
VAH Vaihoa 87.81 105 *e*P **P 17 19 13.9 +2.2**
comp=Z,367nm,1.5s
VAH Vaihoa 87.81 105 *e*LR LR 17 48 13.5
comp=Z,3μm,25.4s
BCA Borcka 88.06 312 ⇓P **P 17 19 13.2 +0.9**
TNA Tin City 88.11 23 P **P 17 19 12.6 +0.7**
baz=248
TNA S **S 17 29 10.1 +3.3**
baz=248
K13K Kusilvak Mount 88.22 27 IAmb IAmb 17 19 15.1
comp=Z,79nm,1.2s
K13K Kusilvak Mount 88.22 27 P **P 17 19 13.7 +1.2**
baz=251,SNR=12
K13K S **S 17 29 06.0 -2.0**
baz=251
M13K Dall Lake 88.35 28 IAmb IAmb 17 19 15.9
comp=Z,210nm,1.6s
M13K Dall Lake 88.35 28 P **P 17 19 14.4 +1.3**
baz=252,SNR=5.9
M13K S **S 17 29 09.0 -0.1**
baz=252
SDPT Sand Point 88.41 34 P **P 17 19 13.8 +0.3**
baz=255
SDPT S **S 17 29 09.3 -0.7**
baz=255
F14K Arctic Creek 88.70 23 P **P 17 19 15.4 +0.7**
baz=250
F14K S **S 17 29 11.8 -0.5**
baz=250
ANM Nome 88.77 24 P **P 17 19 15.8 +0.7**
baz=251
ANM S **S 17 29 13.7 +0.8**
baz=251
CHNA Chernabura Isl 88.77 34 P **P 17 19 15.2 0.0**
baz=256
L14K Kuka Creek 88.93 28 P **P 17 19 16.3 +0.5**
L14K **pP 17 21 20.5 -2.1**
L14K IAmb IAmb 17 21 24.1
comp=Z,89nm,1.4s
L14K Kuka Creek 88.93 28 P **P 17 19 16.5 +0.7**
baz=253,SNR=7.2
L14K S **S 17 29 14.2 -0.3**
baz=253
J14K Nanvaranak Lak 88.96 26 P **P 17 19 16.5 +0.6**
baz=252,SNR=7.4
J14K S **S 17 29 14.3 -0.3**
baz=252
N14K Kuskokwak Cree 89.00 29 P **P 17 19 16.9 +0.7**
baz=254
N14K S **S 17 29 14.2 -0.9**
baz=254
O14K Tigyukauivet M 89.03 30 P **P 17 19 16.9 +0.6**
baz=254
O14K S **S 17 29 13.0 -2.4**
baz=254
M14K Bethel 89.10 28 IAmb IAmb 17 19 18.9
comp=Z,108nm,1.1s
M14K Bethel 89.10 28 P **P 17 19 17.7 +1.1**
baz=254,SNR=13
M14K S **S 17 29 15.2 -0.8**
baz=254
S14K Fog Glacier 89.15 33 P **P 17 19 17.6 +0.5**
baz=256
LABN Labinsk 89.32 315 *e*P **P 17 19 19.4 +1.3**
LABN *e**PP **pP 17 21 25.5 +0.3**
LABN *e* 17 28 53.7
LABN *e* 17 29 10.8
LABN pmax pmax
comp=Z,123nm,1.2s
F15K North Star Dit 89.44 23 IAmb IAmb 17 19 20.4
comp=Z,96nm,1.6s
F15K North Star Dit 89.44 23 P **P 17 19 19.1 +0.9**
baz=251
F15K S **S 17 29 18.2 -0.8**
baz=251
G15K Niukluk 89.45 24 P **P 17 19 18.5 +0.3**
baz=252
G15K S **S 17 29 16.6 -2.5**
baz=252
L15K Ungalak Mounta 89.58 28 P **P 17 19 19.4 +0.5**
baz=254,SNR=8.2
L15K S **S 17 29 19.1 -1.3**
baz=254
ERBR Yeremizino-Bor 89.68 316 *e*P **P 17 19 19.8 +0.1**
ERBR *e**PP **pP 17 21 25.3 -1.5**
ERBR *e* 17 28 54.1
ERBR *e* 17 29 17.0
ERBR pmax pmax
comp=Z,120nm,1.5s
M15K Kasigluk River 89.69 29 P **P 17 19 19.6 +0.2**
baz=255,SNR=9.7
M15K S **S 17 29 20.1 -1.3**
baz=255
O15K Ungalikthiuk R 89.72 30 P **P 17 19 20.5 +0.9**
baz=256,SNR=5.8
O15K S **S 17 29 20.8 -1.0**
baz=256
K15K Wolf Creek Mou 89.73 27 P **P 17 19 19.1 -0.4**
K15K **pP 17 21 26.5 0.0**
K15K Wolf Creek Mou 89.73 27 P **P 17 19 20.4 +0.8**
baz=254
K15K S **S 17 29 21.7 0.0**
baz=254
N15K Kwethluk River 89.84 29 P **P 17 19 20.5 +0.4**
N15K IAmb IAmb 17 19 22.4
comp=Z,99nm,1.2s
N15K **pP 17 21 25.4 -1.9**
N15K Kwethluk River 89.84 29 P **P 17 19 20.7 +0.6**
baz=255,SNR=12
N15K S **S 17 29 21.3 -1.5**
baz=255
SOC Sochi 89.84 314*d i*P **P 17 19 19.0 -1.5**
SOC *e**PP **pP 17 21 25.7 -2.0**
SOC *e*PPP PPP 17 25 05.2
SOC *e*S **SKSac 17 28 54.1 -1.3**
SOC pmax pmax
comp=Z,24nm,1.0s
VRH Novokhopyorsk 89.92 322 *e*P **P 17 19 18.8 -1.8**
VRH *e**PP **pP 17 21 26.2 -1.5**
VRH *e*S **SKSac 17 28 54.8 -0.7**
VRH pmax pmax
comp=Z,75nm,0.6s
VRH smax smax
comp=N,294nm,1.7s
C16K Lisburne Hills 90.02 21 IAmb IAmb 17 19 22.9
comp=Z,73nm,1.2s
C16K Lisburne Hills 90.02 21 P **P 17 19 21.6 +0.8**
baz=251,SNR=6.8
C16K S **S 17 29 24.1 +0.1**
baz=251
NVL N'lazarevskaya 90.03 198 ⇓*i*P P 17 19 16.0 -4.8
NVL *e**PP pP 17 21 24.4 -3.2
NVL *e*SS SS 17 35 40.3 0.0
NVL pmax pmax
comp=Z,149nm,1.1s
H16K Elim 90.08 25 P **P 17 19 21.6 +0.5**
baz=253
G16K Koyuk River 90.25 24 IAmb IAmb 17 19 23.9
comp=Z,56nm,0.9s
G16K Koyuk River 90.25 24 P **P 17 19 22.6 +0.7**
baz=253,SNR=25
G16K S **S 17 29 24.9 -1.3**
baz=253
J16K Anvik River 90.41 26 P **P 17 19 23.1 +0.5**
J16K IAmb IAmb 17 19 25.0
comp=Z,65nm,1.3s
J16K Anvik River 90.41 26 P **P 17 19 23.4 +0.8**
baz=255,SNR=10
J16K S **S 17 29 26.9 -0.8**
baz=255
L16K Owhat River 90.52 28 IAmb IAmb 17 19 25.1
comp=Z,91nm,1.4s
L16K Owhat River 90.52 28 P **P 17 19 23.8 +0.7**
baz=256,SNR=13
L16K S **S 17 29 26.3 -2.4**
baz=256
I17K Unalakleet 90.52 25 P **P 17 19 24.0 +0.9**
baz=255
I17K S **S 17 29 27.6 -1.1**
baz=255
N16K Nishlik Lake 90.55 29 P **P 17 19 24.2 +0.8**
baz=256,SNR=16
N16K S **S 17 29 27.9 -1.3**
baz=256
M16K Timber Creek 90.59 28 IAmb IAmb 17 19 25.7
comp=Z,56nm,1.1s
M16K Timber Creek 90.59 28 P **P 17 19 24.1 +0.6**
baz=256,SNR=11
M16K S **S 17 29 28.6 -0.9**
baz=256
P16K Nushagak River 90.61 31 P **P 17 19 24.4 +0.8**
baz=257
P16K S **S 17 29 29.1 -0.5**
baz=257
D17K Noatak River 90.65 22 P **P 17 19 24.8 +1.1**
baz=253,SNR=38
D17K S **S 17 29 29.1 -0.6**
baz=253
O16K Kokwok River B 90.68 30 P **P 17 19 23.6 -0.4**
O16K IAmb IAmb 17 21 32.1
comp=Z,192nm,1.9s
O16K Kokwok River B 90.68 30 P **P 17 19 24.8 +0.8**
baz=257,SNR=5.1
O16K S **S 17 29 29.4 -0.8**
baz=257
GAZ Gaziantep 90.71 307 IAmb IAmb 17 19 26.8
comp=Z,106nm,1.1s
RDOG Red Dog Mine 90.82 21 IAmb IAmb 17 19 26.7
comp=Z,50nm,1.1s
RDOG Red Dog Mine 90.82 21 P **P 17 19 25.2 +0.8**
baz=253,SNR=5.3
C17K DeLong Mountai 90.84 21 P **P 17 19 25.9 +1.3**
baz=253,SNR=12
E17K Hotham Inlet 90.93 22 P **P 17 19 26.2 +1.2**
baz=254,SNR=26
G17K Kiwalik Mounta 90.96 24 P **P 17 19 26.2 +1.0**
baz=255,SNR=39
F17K Baldwin Pennin 90.98 23 IAmb IAmb 17 19 27.4
comp=Z,71nm,1.4s
F17K Baldwin Pennin 90.98 23 P **P 17 19 26.2 +1.0**
baz=254,SNR=8.1
F17K S **S 17 29 31.1 -1.5**
baz=254
J17K VABM Dome 91.10 26 IAmb IAmb 17 19 28.1
comp=Z,60nm,1.3s
J17K VABM Dome 91.10 26 P **P 17 19 26.7 +0.9**
baz=256,SNR=11

J17K S **S** **17 29 33.3 -0.6**
baz=256
H17K Granite Mounta 91.12 25 P **P** **17 19 26.4 +0.5**
H17K IAmb IAmb 17 19 28.2
comp=Z,74nm,1.1s
H17K Granite Mounta 91.12 25 P **P** **17 19 26.9 +0.9**
baz=256,SNR=28
H17K S **S** **17 29 32.1 -1.9**
baz=256
R17L Mt. Peulik Vol 91.15 32 P **P** **17 19 26.3 0.0**
baz=258
L17K Donlin 91.16 27 P **P** **17 19 26.8 +0.6**
baz=257,SNR=12
L17K S **S** **17 29 34.0 -0.4**
baz=257
CHIR Chirikof Islan 91.20 34 P **P** **17 19 27.3 +0.8**
baz=259
CHIR S **S** **17 29 32.9 -2.1**
baz=259
O17K Koliganek Bris 91.22 30 P **P** **17 19 27.3 +0.8**
baz=258,SNR=6.7
O17K S **S** **17 29 33.8 -1.2**
baz=258
K17K Iditarod 91.29 27 IAmb IAmb 17 19 29.0
comp=Z,68nm,1.1s
K17K Iditarod 91.29 27 P **P** **17 19 27.7 +0.9**
baz=257,SNR=22
K17K S **S** **17 29 35.0 -0.5**
baz=257
BALJ Balqa 91.29 302 P **P** **17 19 27.2 -0.3**
BALJ IAmb IAmb 17 19 29.7
comp=Z,95nm,1.1s
N17K Nushagak Hills 91.33 29 IAmb IAmb 17 19 29.5
comp=Z,75nm,1.6s
N17K Nushagak Hills 91.33 29 P **P** **17 19 28.0 +1.0**
baz=258,SNR=6.4
N17K S **S** **17 29 34.7 -1.2**
baz=258
M17K Holitna River 91.39 28 IAmb IAmb 17 19 29.8
comp=Z,53nm,1.1s
M17K Holitna River 91.39 28 P **P** **17 19 28.1 +0.8**
baz=258,SNR=11
M17K S **S** **17 29 35.9 -0.6**
baz=258
P17K Kvichak River 91.42 31 P **P** **17 19 27.2 -0.1**
baz=258
E18K Tukpahlearik C 91.48 22 P **P** **17 19 27.2 -0.3**
E18K IAmb IAmb 17 19 29.9
comp=Z,69nm,1.1s
E18K Tukpahlearik C 91.48 22 P **P** **17 19 28.3 +0.8**
baz=255,SNR=34
E18K S **S** **17 29 33.4 -3.7**
baz=255
VSR Storozhevoye 91.50 321 *e*P **P** **17 19 25.0 -3.0**
VSR *e**PP **pP** **17 21 33.2 -2.0**
VSR pmax pmax
comp=Z,50nm,0.9s
Q17K Contact Creek 91.52 32 P **P** **17 19 27.4 -0.7**
baz=259,SNR=5.5
VORR Voronezh 91.55 322 *e*P **P** **17 19 27.8 -0.4**
VORR *e**PP **pP** **17 21 34.6 -0.8**
VORR *e*S **SKSac** **17 29 05.0 +0.4**
VORR pmax pmax
comp=Z,162nm,1.4s
VORR smax smax
comp=N,300nm,1.0s
B18K Kokolik River 91.58 20 P **P** **17 19 28.9 +0.9**
baz=254,SNR=5.8
C18K Utukok River 91.59 21 P **P** **17 19 28.7 +0.5**
baz=254
MMAI Mount Meron Ar 91.61 303 P **P** **17 19 30.6 +1.6**
comp=N,56nm,1.1s,baz=104,slow=6.4,SNR=27
MMAI pP **pP** **17 21 37.6 +1.0**
comp=N,12nm,0.9s,baz=107,slow=5.3,SNR=1.9
comp=N,56nm,1.1s
F18K Selawik 91.64 23 P **P** **17 19 28.9 +0.7**
baz=256,SNR=11
ANN Anapa 91.66 315 *e*P **P** **17 19 28.2 -0.6**
ANN *e**PP **pP** **17 21 34.9 -1.2**
ANN *e* 17 29 04.7
ANN *e* 17 29 33.1
ANN pmax pmax
comp=Z,74nm,0.9s
H18K Honhosa River 91.81 25 P **P** **17 19 29.5 +0.4**
baz=257,SNR=15
H18K S **S** **17 29 39.4 -0.7**
baz=257
G18K Tagagawik 91.86 24 P **P** **17 19 29.9 +0.5**
baz=257,SNR=25
LPSR Galich'ya Gora 91.87 323 *e*P **P** **17 19 27.3 -2.3**
LPSR *e**PP **pP** **17 21 37.1 +0.2**
LPSR pmax pmax
comp=Z,70nm,1.0s
MBAR Mbarara 91.89 269 P **P** **17 19 30.1 -0.8**
MBAR Mbarara 91.89 269 P **P** **17 19 31.6 +0.7**
MBAR Mbarara 91.89 269 *i* P **P** **17 19 31.0 +0.2**
MBAR *i* S **SKSac** **17 29 10.2 +1.7**
MBAR Mbarara 91.89 269 P **P** **17 19 30.1 -0.8**
MBAR pmax pmax
comp=Z,150nm,1.1s
L18K Granite Mounta 91.91 28 IAmb IAmb 17 19 31.8
comp=Z,50nm,1.1s
L18K pP 17 21 36.2 -0.7
L18K Granite Mounta 91.91 28 P **P** **17 19 30.3 +0.6**
baz=258,SNR=24
L18K S **S** **17 29 39.8 -1.1**
baz=258
N18K Kilae Creek 91.98 29 IAmb IAmb 17 19 32.3
comp=Z,72nm,1.6s
N18K Kilae Creek 91.98 29 P **P** **17 19 30.8 +0.8**
baz=259,SNR=9.1
N18K S **S** **17 29 39.9 -1.9**
baz=259
Q18K Katmai Hardscr 92.05 31 P **P** **17 19 29.8 -0.7**
baz=260
Q18K S **S** **17 29 39.8 -2.8**
baz=260
A19K Wainwright 92.05 19 P **P** **17 19 31.9 +1.8**
baz=255
P18K Big Mountain, 92.07 30 P **P** **17 19 30.1 -0.4**
baz=260
SII Sitkinak Islan 92.12 33 P **P** **17 19 32.4 +1.7**
SII Sitkinak Islan 92.12 33 P **P** **17 19 31.5 +0.7**
baz=260
TROLL Troll, Antarti 92.14 196 ⇑P **P** **17 19 31.5 +0.7**
comp=Z,3μm,1.0s
TROLL ⇑pP **pP** **17 21 38.3 +0.7**
comp=Z,872nm,0.7s
TROLL ⇑SKSac **SKSac** **17 29 06.7 -1.0**
comp=Z,10μm,3.0s
TROLL ⇑PKKPbc **PKKPdf** **17 36 42.7 +0.9**
comp=Z,144nm,1.1s
R18K Karluk 92.15 32 P **P** **17 19 30.9 +0.1**
baz=260
R18K S **S** **17 29 40.9 -2.3**
baz=260
J18K Innoko River 92.15 26 P **P** **17 19 30.1 -0.7**
J18K Innoko River 92.15 26 P **P** **17 19 31.2 +0.5**
baz=258,SNR=23
O18K Koktuh Hills 92.17 30 P **P** **17 19 30.8 -0.1**
baz=260
M18K Stony River 92.17 28 P **P** **17 19 31.4 +0.6**
baz=259,SNR=20
M18K S **S** **17 29 42.6 -0.6**
baz=259
C19K Lookout Ridge 92.27 21 IAmb IAmb 17 19 34.0
comp=Z,113nm,1.2s
C19K Lookout Ridge 92.27 21 P **P** **17 19 31.9 +0.7**
baz=256,SNR=18
GCSA Galena City Sc 92.34 25 P **P** **17 19 31.9 +0.4**
baz=258,SNR=11
GCSA S **S** **17 29 43.4 -1.1**
baz=258
F19K Shaleruckik Mo 92.42 23 IAmb IAmb 17 19 33.5
comp=Z,56nm,1.4s
F19K Shaleruckik Mo 92.42 23 P **P** **17 19 31.9 0.0**
baz=258
F19K S **S** **17 29 44.1 -1.1**
baz=258
G19K Purcell Mounta 92.54 24 IAmb IAmb 17 19 34.6
comp=Z,86nm,1.0s
G19K Purcell Mounta 92.54 24 P **P** **17 19 32.9 +0.4**
baz=258,SNR=68
D19K Kuna River 92.65 21 IAmb IAmb 17 19 35.0
comp=Z,77nm,1.1s
D19K Kuna River 92.65 21 P **P** **17 19 33.6 +0.6**
baz=257
D19K S **S** **17 29 45.5 -1.8**
baz=257
H19K Roundabout Mou 92.67 24 P **P** **17 19 33.1 +0.1**
H19K IAmb IAmb 17 19 35.3
comp=Z,74nm,0.9s
H19K Roundabout Mou 92.67 24 P **P** **17 19 34.1 +1.1**
baz=259,SNR=70
H19K S **S** **17 29 46.9 -0.6**
baz=259
N19K Bonanza Creek 92.69 29 IAmb IAmb 17 19 35.3
comp=Z,69nm,1.1s
N19K Bonanza Creek 92.69 29 P **P** **17 19 34.1 +0.7**
baz=260,SNR=18
N19K S **S** **17 29 47.6 -0.5**
baz=260
OHAK Old Harbor 92.72 33 P **P** **17 19 34.4 +1.0**
OHAK Old Harbor 92.72 33 P **P** **17 19 33.6 +0.2**
baz=261
J19K Poorman 92.73 26 IAmb IAmb 17 19 35.5
comp=Z,65nm,1.4s
J19K Poorman 92.73 26 P **P** **17 19 33.9 +0.6**
baz=259,SNR=19
L19K White Mountain 92.75 28 P **P** **17 19 33.5 0.0**
L19K IAmb IAmb 17 19 35.6
comp=Z,63nm,1.2s
L19K White Mountain 92.75 28 P **P** **17 19 34.0 +0.5**
baz=260,SNR=26
E19K Redstone River 92.76 22 IAmb IAmb 17 19 35.6
comp=Z,88nm,1.0s
E19K Redstone River 92.76 22 S **S** **17 29 46.0 -2.2**
baz=258
Q19K Cape Douglas, 92.80 31 P **P** **17 19 33.0 -0.8**
baz=261
M19K Big River Lodg 92.92 28 IAmb IAmb 17 19 36.6
comp=Z,56nm,1.3s
M19K Big River Lodg 92.92 28 P **P** **17 19 35.0 +0.7**
baz=260,SNR=13
MOS Moscow 93.10 326 *e*P **P** **17 19 33.3 -1.9**
MOS *e**PP **pP** **17 21 40.0 -2.7**
MOS *e* 17 23 26.8
MOS *e* 17 29 10.5
MOS *e*S **S** **17 29 45.4 -6.2**
MOS *e* 17 31 11.9
MOS pmax pmax
comp=Z,159nm,1.3s
MOS pmax pmax
comp=Z,300nm,1.8s
MOS smax smax
comp=N,2μm,4.0s
MOS smax smax
comp=E,1μm,4.0s
BOSA Boshof 93.12 241 P **P** **17 19 36.6 +0.4**
comp=E,62nm,0.9s,baz=104,slow=4.5,SNR=79
BOSA pP **pP** **17 21 43.4 -0.7**
comp=E,8.9nm,0.6s,baz=99,slow=3.7,SNR=5.7
BOSA PKKPbc **PKKPbc** **17 36 42.5 +0.3**
comp=E,2.1nm,0.8s,baz=333,slow=6.9,SNR=3.7
comp=E,62nm,0.9s
P19K Oil Pt 93.12 30 P **P** **17 19 34.3 -0.9**
baz=261
P19K S **S** **17 29 49.2 -2.5**
baz=261
KDAK Kodiak Island 93.18 32 P **P** **17 19 36.4 +0.9**
baz=262
KDAK S **S** **17 29 51.7 -0.4**
baz=262
D20K Etivluk River 93.24 21 P **P** **17 19 36.3 +0.7**
baz=259,SNR=22
D20K S **S** **17 29 49.4 -2.9**
baz=259
L20K Farewell, AK 93.25 28 P **P** **17 19 36.6 +0.8**
baz=261,SNR=24
F20K Avaraart Lake 93.25 23 P **P** **17 19 35.2 -0.4**
F20K IAmb IAmb 17 19 38.0
comp=Z,79nm,1.3s
F20K Avaraart Lake 93.25 23 P **P** **17 19 36.6 +0.9**
baz=259,SNR=46
K20K Telida 93.30 27 IAmb IAmb 17 19 38.2
comp=Z,77nm,1.4s
K20K Telida 93.30 27 P **P** **17 19 36.8 +0.8**
baz=261,SNR=22
E20K Nigu River 93.30 22 P **P** **17 19 37.1 +1.1**
baz=259,SNR=49
B20K Meade River 93.31 20 P **P** **17 19 37.0 +1.2**
baz=258,SNR=5.4
H20K Anotleneega Mo 93.31 24 P **P** **17 19 36.8 +0.8**
baz=260,SNR=18
I20K Naaghedeneel 93.36 25 IAmb IAmb 17 19 38.4
comp=Z,71nm,1.2s
I20K Naaghedeneel 93.36 25 P **P** **17 19 37.0 +0.9**
baz=260,SNR=11
Q20K Shuyak Island 93.39 31 P **P** **17 19 35.7 -0.8**
baz=262
Q20K S **S** **17 29 52.4 -1.6**
baz=262
J20K Nowinta River 93.40 26 IAmb IAmb 17 19 38.6
comp=Z,89nm,1.4s
J20K Nowinta River 93.40 26 P **P** **17 19 37.2 +0.8**
baz=261,SNR=30
LBTB Lobatse 93.42 244 P **P** **17 19 37.0 -0.5**
LBTB Lobatse 93.42 244 P **P** **17 19 37.0 -0.5**
LBTB pmax pmax
comp=Z,95nm,1.1s
O20K Slope Mountain 93.48 30 P **P** **17 19 35.5 -1.5**
baz=262
O20K S **S** **17 29 53.1 -1.8**
baz=262
M20K Styx River 93.50 28 IAmb IAmb 17 19 39.0
comp=Z,61nm,1.2s
M20K Styx River 93.50 28 P **P** **17 19 37.6 +0.6**
baz=262,SNR=17
M20K S **S** **17 29 54.2 -0.9**
baz=262
CSS Mathiatis 93.55 305 IAmb IAmb 17 19 39.5
comp=Z,60nm,1.1s
CSS Mathiatis 93.55 305 P **P** **17 19 37.9 +0.1**
OBN Obninsk 93.62 325 P **P** **17 19 36.6 -0.9**
OBN Obninsk 93.62 325 ⇑P **P** **17 19 37.9 +0.4**
OBN Obninsk 93.62 325 *de*P **P** **17 19 36.7 -0.9**
OBN *i* *PP **pP** **17 21 45.7 +0.7**
OBN *e* 17 23 32.8
OBN *i* S **SKSac** **17 29 17.3 +1.6**
OBN pmax pmax
comp=Z,141nm,1.1s
OBN Obninsk 93.62 325 P **P** **17 19 37.9 +0.4**
SNAA Sanae 93.73 195 ⇑P **P** **17 19 38.4 +0.5**
SNAA comp=Z,1μm,0.7s ⇑pP **pP** **17 21 41.5 -3.6**
comp=Z,184nm,0.7s
SNAA ⇓SKSac **SKSac** **17 29 15.1 -1.0**
comp=Z,40nm,0.9s
SNAA ⇑PKKPdf **PKKPdf** **17 36 37.7 -1.2**
comp=Z,79nm,0.7s
SNAA Sanae 93.73 195 P **P** **17 19 38.7 +0.8**
comp=Z,34nm,0.5s,baz=198,slow=4.7,SNR=156
SNAA pP **pP** **17 21 44.7 -0.3**
comp=Z,14nm,0.8s,baz=163,slow=8.1,SNR=6.6
SNAA PKKPbc **PKKPdf** **17 36 38.7 -0.2**
comp=Z,3.0nm,0.7s,baz=228,slow=4.1,SNR=17
comp=Z,34nm,0.5s
SNAA Sanae 93.73 195 *de*P **P** **17 19 38.6 +0.7**
SNAA pmax pmax
comp=Z,47nm,1.0s
BR131 Keskin Array S 93.82 309 IAmb IAmb 17 19 39.8
comp=Z,45nm,1.2s
BR131 Keskin Array S 93.82 309 *d* iP **P** **17 19 37.5 -1.5**
BRTR Keskin Array B 93.82 309 P **P** **17 19 37.5 -1.6**
BRTR pP **pP** **17 21 45.7 -1.0**
BRTR Keskin Array B 93.82 309 P **P** **17 19 39.0 -0.1**
comp=Z,13nm,1.0s,baz=121,slow=4.8,SNR=68
BRTR pP **pP** **17 21 46.0 -0.7**
comp=Z,6.1nm,1.1s,baz=131,slow=3.8,SNR=3.4
comp=Z,13nm,1.0s
BRTR Keskin Array B 93.82 309 P **P** **17 19 39.0 -0.1**
BRTR *PP **pP** **17 21 46.0 -0.7**
N20K Mount Spurr 93.84 29 P **P** **17 19 38.0 -0.6**
baz=262,SNR=5.0
IMAR Indian Mountai 93.85 24 P **P** **17 19 37.4 -1.1**
IMAR pP **pP** **17 21 44.7 -1.1**
HOM Homer 93.92 30 S **S** **17 29 56.3 -2.2**
baz=263
ADZR Andozero 93.93 334 *e*P **P** **17 19 37.2 -1.6**
ADZR pmax pmax
comp=Z,40nm,1.1s
C21K Knifeblade Rid 93.97 21 P **P** **17 19 39.9 +1.0**
baz=260,SNR=9.0
C21K S **S** **17 29 58.9 +0.2**
baz=260
SIM Simferopol' 94.02 315 *e*P **P** **17 19 39.7 +0.1**
SIM *e* 17 29 19.0
SIM *e*S **S** **17 29 54.0 -6.0**
SIM pmax pmax
comp=Z,51nm,1.1s
G21K Allakaket 94.03 24 IAmb IAmb 17 19 41.4
comp=Z,51nm,1.2s
G21K Allakaket 94.03 24 P **P** **17 19 39.9 +0.7**
baz=261,SNR=41
B21K Ikpikpuk River 94.11 20 P **P** **17 19 39.5 0.0**
B21K IAmb IAmb 17 19 41.8
comp=Z,72nm,1.2s
B21K Ikpikpuk River 94.11 20 P **P** **17 19 40.7 +1.3**
baz=261,SNR=13
B21K S **S** **17 29 56.2 -3.5**
baz=261
CNPM China Poot 94.11 31 IAmb IAmb 17 21 47.1
comp=Z,98nm,1.4s
F21K Alatna River 94.14 23 P **P** **17 19 40.3 +0.5**
baz=262,SNR=9.9
F21K S **S** **17 29 57.4 -2.9**
baz=262
E21K Killik River 94.15 22 P **P** **17 19 40.0 +0.3**
E21K IAmb IAmb 17 19 41.9
comp=Z,52nm,1.1s
E21K Killik River 94.15 22 P **P** **17 19 40.6 +0.8**
baz=261,SNR=24
E21K S **S** **17 29 56.4 -3.8**
baz=261
CHUM Lake Minchumin 94.16 26 P **P** **17 19 40.1 +0.3**
baz=262
BELA Belgrano 2 94.16 185 P **P** **17 19 39.4 -0.3**
H21K Melozitna River 94.19 24 IAmb IAmb 17 19 42.1
comp=Z,47nm,1.4s
H21K Melozitna Rive 94.19 24 P **P** **17 19 40.7 +0.7**
baz=262,SNR=28
CAST Castle Rocks 94.20 27 P **P** **17 19 39.7 -0.4**
baz=262
CAST S **S** **17 29 57.9 -2.9**
baz=262
A22K Sinclair Lake 94.21 19 P **P** **17 19 40.9 +1.0**
baz=260
SKT Skwentna 94.27 28 IAmb IAmb 17 19 40.7
comp=Z,36nm,1.1s
SKT Skwentna 94.27 28 P **P** **17 19 39.5 -0.9**
baz=263,SNR=17
CAPN Captain Cook N 94.30 29 P **P** **17 19 41.6 +1.1**
baz=263
BRLK Bradley Lake 94.31 30 IAmb IAmb 17 21 47.8
comp=Z,54nm,1.1s
BRSE Bradley Lake S 94.38 30 P **P** **17 19 40.5 -0.5**
baz=263
BRSE S **S** **17 29 58.7 -3.8**
baz=263
ANTO Ankara 94.48 309 P **P** **17 19 41.1 -0.9**
ANTO S **SKSac** **17 29 22.2 +1.0**
SUA Susitna One 94.58 29 P **P** **17 19 41.2 -0.7**
SUA IAmb IAmb 17 19 42.7
comp=Z,48nm,1.0s
SUA Susitna One 94.58 29 P **P** **17 19 41.2 -0.7**
baz=264,SNR=20
SUA S **S** **17 30 02.2 -2.2**
baz=264
B22K Teshekpuk Lake 94.62 20 P **P** **17 19 42.6 +0.8**
baz=262,SNR=6.4
B22K S **S** **17 30 03.1 -1.1**
baz=262
D22K Ayikyak River 94.68 21 IAmb IAmb 17 19 44.7
comp=Z,35nm,1.1s
D22K Ayikyak River 94.68 21 P **P** **17 19 43.1 +0.9**
baz=262,SNR=12
D22K S **S** **17 30 01.4 -3.4**
baz=262
F22K John River 94.68 23 P **P** **17 19 43.5 +1.3**
baz=263,SNR=38
F22K S **S** **17 30 03.0 -1.9**
baz=263
KTH Kantishna Hill 94.73 27 IAmb IAmb 17 19 43.6
comp=Z,49nm,1.2s
BPAW Bear Paw Mtn. 94.76 26 P **P** **17 19 42.5 -0.1**
baz=264,SNR=19
H22K Ishtalitna Cre 94.80 24 P **P** **17 19 43.6 +0.8**
baz=263,SNR=21
G22K Bettles 94.87 23 P **P** **17 19 43.7 +0.7**
baz=263
CUT Chulitna 94.90 28 IAmb IAmb 17 19 44.0
comp=Z,66nm,1.2s
CUT Chulitna 94.90 28 P **P** **17 19 43.0 -0.2**
baz=264
M22K Willow 94.90 28 P **P** **17 19 42.7 -0.5**
M22K Willow 94.90 28 P **P** **17 19 43.8 +0.5**
baz=264,SNR=6.5
O22K Cooper Landing 94.97 30 IAmb IAmb 17 22 03.6
comp=Z,67nm,1.1s
O22K Cooper Landing 94.97 30 P **P** **17 19 43.6 +0.1**
baz=264
O22K S **S** **17 30 05.6 -1.9**
baz=264
MLY Manley 94.97 25 P **P** **17 19 42.9 -0.7**
MLY IAmb IAmb 17 19 45.3
comp=Z,47nm,1.2s
MLY Manley 94.97 25 P **P** **17 19 43.9 +0.3**
baz=264,SNR=41
RC01 Rabbit Creek A 95.02 29 P **P** **17 19 43.4 -0.5**
baz=264,SNR=5.3
SEW Seward 95.07 30 P **P** **17 19 44.0 0.0**
baz=264
SEW S **S** **17 30 07.3 -1.0**
baz=264
VNA2 Neumayer--Watz 95.35 195 ⇑P **P** **17 19 45.5 +0.3**
comp=Z,30nm,0.7s,baz=143,slow=3.5
VNA2 ⇑pP **pP** **17 21 53.8 +1.4**
comp=Z,5.3nm,0.6s,baz=131,slow=5.1
VNA2 ⇑SKSac **SKSac** **17 29 23.0 -1.5**
comp=Z,1.0nm,0.6s,baz=160,slow=4.0
VNA2 ⇑PKKPdf **PKKPdf** **17 36 31.1 -4.8**
comp=Z,2.4nm,0.6s,baz=11,slow=31
PMR Palmer 95.36 29 P **P** **17 19 45.5 +0.2**
PMR Palmer 95.36 29 IAmb IAmb 17 19 46.3
comp=Z,51nm,1.4s
PMR Palmer 95.36 29 P **P** **17 19 44.8 -0.5**
baz=265,SNR=6.2
PMR S **S** **17 30 07.6 -3.1**
baz=265
D23K Nanushuk River 95.41 21 P **P** **17 19 46.5 +1.1**
baz=264,SNR=31
COLD Coldfoot 95.41 23 P **P** **17 19 46.6 +1.2**
baz=264,SNR=17
COLD S **S** **17 30 09.3 -1.8**
baz=264
G23K Bananza Creek 95.43 24 IAmb IAmb 17 19 48.2
comp=Z,66nm,1.1s
G23K Bananza Creek 95.43 24 P **P** **17 19 46.8 +1.1**
baz=265,SNR=75
G23K S **S** **17 30 11.4 0.0**
baz=265
GHO Glory Hole Cre 95.47 29 P **P** **17 19 45.7 -0.3**
C23K Itkillik River 95.52 20 P **P** **17 19 47.2 +1.3**
baz=264,SNR=24
H23K Yukon River 95.55 24 IAmb IAmb 17 19 48.4
comp=Z,48nm,1.2s
H23K Yukon River 95.55 24 P **P** **17 19 46.9 +0.8**
baz=265,SNR=31
I23K Minto, Yukon-K 95.56 25 P **P** **17 19 46.0 -0.2**
I23K Minto, Yukon-K 95.56 25 P **P** **17 19 47.2 +1.0**
baz=265,SNR=69
I23K S **S** **17 30 12.3 -0.1**
baz=265
MCK McKinley 95.63 27 P **P** **17 19 46.0 -0.5**
baz=265,SNR=12
NEA2 Nenana 95.64 26 P **P** **17 19 46.0 -0.6**
baz=265
KNK Knik Glacier 95.67 29 P **P** **17 19 46.3 -0.5**
KNK IAmb IAmb 17 21 54.6
comp=Z,71nm,1.1s
KNK Knik Glacier 95.67 29 P **P** **17 19 47.0 +0.3**
baz=266,SNR=11
PWL Port Wells 95.68 29 P **P** **17 19 46.6 -0.3**
baz=266,SNR=5.8
VNA3 Neumayer Olymp 95.70 194 ⇑P **P** **17 19 46.9 +0.1**
comp=Z,23nm,0.7s
VNA3 ⇑pP **pP** **17 21 55.1 +1.0**
comp=Z,14nm,1.0s
VNA3 ⇑SKSac **SKSac** **17 29 24.6 -1.7**
comp=Z,0.2nm,0.3s
VNA3 ⇑PKKPdf **PKKPdf** **17 36 31.2 -4.1**
comp=Z,2.3nm,0.9s

E23K	**Chandalar**	**95.71**	**22**	P	**P**	**17 19 48.0**	**+1.1**
	baz=265,SNR=68						
E23K				S	**S**	**17 30 12.1**	**-1.7**
	baz=265						
WAT1	**Susitna Watana**	**95.73**	**27**	P	**P**	**17 19 46.6**	**-0.4**
	baz=266						
VNA1	**Neumayer--Stat**	**95.75**	**195**	⇑P	**P**	**17 19 47.3**	**+0.4**
	comp=Z,27nm,0.8s						
VNA1				⇑pP	**pP**	**17 21 55.3**	**+1.1**
	comp=Z,19nm,0.8s						
VNA1				⇑PKKPdf	**PKKPdf**	**17 36 31.2**	**-4.0**
	comp=Z,7.8nm,1.1s						
SML	**Sawmill**	**95.76**	**29**	IAmb	IAmb	17 19 48.5	
	comp=Z,46nm,1.0s						
SML	**Sawmill**	**95.76**	**29**	P	**P**	**17 19 47.6**	**+0.4**
	baz=266,SNR=13						
SML				S	**S**	**17 30 13.0**	**-1.4**
	baz=266						
TOLK	**Toolik Lake Re**	**95.78**	**22**	IAmb	IAmb	17 19 49.5	
	comp=Z,53nm,1.2s						
TOLK	**Toolik Lake Re**	**95.78**	**22**	P	**P**	**17 19 48.6**	**+1.4**
	baz=265,SNR=23						
TOLK				S	**S**	**17 30 14.4**	**+0.1**
	baz=265						
LVZ	**Lovozero**	**95.85**	**338**	P	**P**	**17 19 46.1**	**-1.4**
LVZ				IAmb	IAmb	17 19 48.2	
	comp=Z,31nm,1.1s						
LVZ	**Lovozero**	**95.85**	**338**	*ce*P	**P**	**17 19 47.0**	**-0.5**
LVZ				pmax	pmax		
	comp=Z,51nm,2.5s						
LVZ	**Lovozero**	**95.85**	**338**	P	**P**	**17 19 47.4**	**-0.1**
TAOE	**Nuku Hiva Isla**	**95.90**	**100**	*e*P	**P**	**17 19 46.9**	**-2.1**
	comp=Z,116nm,26.8s						
TAOE				*e*pP	pP	17 21 42.9	-13
	comp=Z,114nm,25.2s						
TAOE				*e*S	**S**	**17 30 15.7**	**-1.9**
	comp=Z,367nm,27.3s						
TAOE	**Nuku Hiva Isla**	**95.90**	**100**	*e*LR	LR	17 51 53.2	
	comp=Z,265nm,25.2s						
M23K	**Glacier View**	**96.04**	**29**	P	**P**	**17 19 48.3**	**-0.1**
	baz=266,SNR=7.7						
WRH	**Wood River Hil**	**96.06**	**26**	IAmb	IAmb	17 19 49.3	
	comp=Z,68nm,1.1s						
P23K	**Montague Islan**	**96.08**	**30**	P	**P**	**17 19 48.7**	**+0.1**
	baz=266						
P23K				S	**S**	**17 30 17.6**	**+0.6**
	baz=266						
D24K	**Happy Valley**	**96.09**	**21**	P	**P**	**17 19 49.5**	**+1.0**
	baz=266,SNR=15						
WAT6	**Susitna Watana**	**96.09**	**28**	P	**P**	**17 19 48.5**	**-0.3**
	baz=266,SNR=27						
E24K	**Your Creek**	**96.14**	**22**	IAmb	IAmb	17 19 51.1	
	comp=Z,53nm,1.6s						
E24K	**Your Creek**	**96.14**	**22**	P	**P**	**17 19 49.2**	**+0.4**
	baz=266,SNR=14						
SUR	**Sutherland**	**96.16**	**236**	P	**P**	**17 19 50.8**	**+0.8**
SUR	**Sutherland**	**96.16**	**236**	P	**P**	**17 19 51.7**	**+1.8**
C24K	**Franklin Bluff**	**96.17**	**21**	P	**P**	**17 19 49.9**	**+1.1**
	baz=266,SNR=9.7						
COLA	**College**	**96.18**	**25**	P	**P**	**17 19 50.0**	**+1.0**
	baz=266						
CCB	**Clear Creek Bu**	**96.19**	**26**	IAmb	IAmb	17 19 49.6	
	comp=Z,48nm,1.0s						
H24K	**Noodor Dome**	**96.23**	**24**	P	**P**	**17 19 49.7**	**+0.4**
H24K				IAmb	IAmb	17 19 51.6	
	comp=Z,67nm,1.2s						
H24K	**Noodor Dome**	**96.23**	**24**	P	**P**	**17 19 50.1**	**+0.9**
	baz=266,SNR=45						
SCM	**Sheep Creek Mo**	**96.23**	**29**	IAmb	IAmb	17 21 57.3	
	comp=Z,67nm,1.3s						
SCM	**Sheep Creek Mo**	**96.23**	**29**	P	**P**	**17 19 49.5**	**+0.1**
	baz=267,SNR=11						
SCM				S	**S**	**17 30 13.5**	**-5.0**
	baz=267						
DHY	**Denali Highway**	**96.28**	**27**	IAmb	IAmb	17 19 51.2	
	comp=Z,46nm,1.2s						
DHY	**Denali Highway**	**96.28**	**27**	P	**P**	**17 19 49.8**	**+0.1**
	baz=267,SNR=18						
GLI	**Glacier Island**	**96.29**	**29**	P	**P**	**17 19 49.6**	**+0.1**
	baz=267						
GLI				S	**S**	**17 30 15.3**	**-3.5**
	baz=267						
APA	**Apatity**	**96.30**	**337**	⇓*i*P	**P**	**17 19 47.5**	**-1.9**
APA				*i* *PP	pP	17 21 50.0	-7.9
APA				*i*		17 23 53.5	
APA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
F24K	**Squaw Lake**	**96.33**	**23**	P	**P**	**17 19 50.1**	**+0.5**
F24K				IAmb	IAmb	17 19 52.3	
	comp=Z,38nm,1.1s						
F24K	**Squaw Lake**	**96.33**	**23**	P	**P**	**17 19 50.9**	**+1.3**
	baz=267,SNR=32						
POKR	**Poker Plat Res**	**96.38**	**25**	P	**P**	**17 19 49.4**	**-0.5**
	baz=267						
POKR				S	**S**	**17 30 17.0**	**-2.4**
	baz=267						
G24K	**Hadweenzic Riv**	**96.44**	**24**	IAmb	IAmb	17 19 52.6	
	comp=Z,79nm,1.4s						
G24K	**Hadweenzic Riv**	**96.44**	**24**	P	**P**	**17 19 50.6**	**+0.5**
	baz=267,SNR=28						
G24K				S	**S**	**17 30 19.9**	**0.0**
	baz=267						
HDA	**Harding Lake**	**96.55**	**26**	P	**P**	**17 19 49.4**	**-1.2**
HDA				IAmb	IAmb	17 19 51.0	
	comp=Z,34nm,1.0s						
HDA	**Harding Lake**	**96.55**	**26**	P	**P**	**17 19 49.9**	**-0.8**
	baz=267,SNR=26						
HIN	**Hinchinbrook I**	**96.55**	**30**	IAmb	IAmb	17 21 58.7	
	comp=Z,63nm,1.2s						
Q23K	**Middleton Isla**	**96.58**	**31**	P	**P**	**17 19 50.7**	**-0.1**
	baz=267						
IL31		**96.59**	**26**	IAmb	IAmb	17 19 51.0	
	comp=Z,38nm,1.4s						
ILAR	**Eielson Array**	**96.59**	**26**	P	**P**	**17 19 49.4**	**-1.4**
ILAR					**pP**	**17 21 55.5**	**-3.1**
ILAR	**Eielson Array**	**96.59**	**26**	P	**P**	**17 19 49.6**	**-1.2**
	comp=Z,9.0nm,0.9s,baz=263,slow=4.0,SNR=60						
ILAR				pP	**pP**	**17 21 57.0**	**-1.6**
	comp=Z,4.5nm,0.9s,baz=252,slow=4.3,SNR=4.4						
ILAR				PKKPbc	**PKKPbc**	**17 36 32.4**	**-1.9**
	comp=Z,4.6nm,0.9s,baz=79,slow=1.9,SNR=19						
	comp=Z,9.0nm,0.9s						
M24K	**Tolsona, Glenn**	**96.79**	**28**	P	**P**	**17 19 52.6**	**+0.7**
	baz=268,SNR=11						
M24K				S	**S**	**17 30 22.1**	**-1.0**
	baz=268						
KLU	**Klutina**	**96.89**	**29**	P	**P**	**17 19 52.6**	**+0.3**
	baz=268						
KLU				S	**S**	**17 30 22.1**	**-1.8**
	baz=268						
EYAK	**Cordova Ski Ar**	**96.93**	**30**	P	**P**	**17 19 52.8**	**+0.5**
	baz=268						
D25K	**Kavik River**	**96.97**	**21**	IAmb	IAmb	17 19 54.6	
	comp=Z,69nm,1.7s						
D25K	**Kavik River**	**96.97**	**21**	P	**P**	**17 19 53.3**	**+0.9**
	baz=268,SNR=15						
D25K				S	**S**	**17 30 25.1**	**+0.8**
	baz=268						
G25K	**Bearman Lake**	**96.99**	**24**	P	**P**	**17 19 54.1**	**+1.6**
	baz=268,SNR=14						
G25K				S	**S**	**17 30 25.8**	**+1.4**
	baz=268						
K24K	**Donnelly Dome**	**97.03**	**27**	P	**P**	**17 19 53.3**	**+0.4**
	baz=268,SNR=12						
H25L	**Birch Creek**	**97.09**	**24**	P	**P**	**17 19 54.2**	**+1.2**
	baz=268,SNR=9.7						
PAX	**Paxson**	**97.15**	**27**	P	**P**	**17 19 53.8**	**+0.3**
	baz=268,SNR=33						
PRP	**Porcupine Dome**	**97.19**	**25**	P	**P**	**17 19 54.1**	**+0.5**
	baz=269						
F25K	**Christian Rive**	**97.19**	**23**	P	**P**	**17 19 54.6**	**+1.1**
	baz=269,SNR=15						
J25K	**Salcha River,**	**97.24**	**26**	P	Pdif	17 19 52.8	-1.0
J25K				IAmb	IAmb	17 19 54.6	
	comp=Z,69nm,1.8s						
J25K				pP		17 21 57.7	-3.9
J25K	**Salcha River,**	**97.24**	**26**	P	Pdif	17 19 53.3	-0.5
	baz=269,SNR=18						
HARP	**HAARP**	**97.28**	**28**	P	Pdif	17 19 53.9	-0.1
	baz=268						
RAGM	**Ragged Mountai**	**97.46**	**30**	IAmb	IAmb	17 22 03.4	
	comp=Z,68nm,1.4s						
C26K	**Camden Bay**	**97.49**	**20**	P	**P**	**17 19 55.8**	**+1.1**
	baz=270						
BMRM	**Bremner River**	**97.51**	**29**	P	**P**	**17 19 55.2**	**+0.1**
	baz=269						
N25K	**Chitina, Valde**	**97.52**	**29**	IAmb	IAmb	17 22 12.7	
	comp=Z,30nm,1.1s						
N25K	**Chitina, Valde**	**97.52**	**29**	P	Pdif	17 19 55.1	0.0
	baz=269,SNR=10.0						
KAIM	**Kayak Island**	**97.58**	**30**	P	**P**	**17 19 55.7**	**+0.4**
	baz=269						
BMAR	**Burnt Mountain**	**97.60**	**23**		**P**	**17 19 55.8**	**+0.5**
AKASG	**Malin Array Be**	**97.70**	**320**		Pdif	17 19 56.0	0.0
AKASG				IAmb	IAmb	17 19 57.0	
	comp=Z,46nm,1.4s						
AKASG	**Malin Array Be**	**97.70**	**320**	P	Pdif	17 19 55.8	-0.3
	comp=Z,21nm,1.0s,baz=80,slow=4.4,SNR=39						
AKASG				pP	pP	17 22 02.7	-1.2
	comp=Z,6.6nm,0.8s,baz=81,slow=4.5,SNR=4.3						
	comp=Z,21nm,1.0s						
AKASG	**Malin Array Be**	**97.70**	**320**	P	**P**	**17 19 56.1**	**0.0**
AKASG				pmax	pmax		
	comp=Z,46nm,1.4s						
AKBB	**Malin Array Si**	**97.70**	**320**	*ce*P	Pdif	17 19 54.8	-1.3
AKBB				pmax	pmax		
	comp=Z,46nm,1.2s						
KIEV	**Kiev**	**97.71**	**320**	P	Pdif	17 19 54.8	-1.3
JURR	**Jurilovca**	**97.72**	**314**	⇑P	Pdif	17 19 55.8	-0.4
F26K	**Sheenjek River**	**97.77**	**23**	P	**P**	**17 19 57.2**	**+1.2**
	baz=270,SNR=18						
VADS	**Vadso**	**97.83**	**340**	*e*pP	**pP**	**17 22 01.0**	**-3.8**
VADS				*e*SKSac	**SKSac**	**17 29 37.7**	**+0.8**
SCRK	**Sand Creek**	**97.83**	**26**		Pdif	17 19 56.4	-0.1
SCRK				IAmb	IAmb	17 19 58.3	
	comp=Z,32nm,1.3s						
SCRK				pP		17 22 00.9	-3.5
SCRK	**Sand Creek**	**97.83**	**26**	P	**P**	**17 19 56.5**	**0.0**
	baz=270,SNR=18						
KIS	**Kishinev**	**97.84**	**316**	*e*P	Pdif	17 19 55.5	-1.3
	comp=Z,30nm,0.9s						
KIS				*e*pP	pP	17 22 00.0	-4.7
KIS				*e*SKS	**SKSac**	**17 29 37.0**	**-1.0**
KIS				*e*SKKS	**SKKSac**	**17 30 04.0**	**-5.9**
KIS				*e*S	**ScS**	**17 30 27.0**	**-5.4**
KIS	**Kishinev**	**97.84**	**316**	*e*P	Pdif	17 19 55.5	-1.3
KIS				*e**PP	pP	17 22 00.0	-4.7
KIS				*i*		17 29 37.0	
KIS				*e*S	**ScS**	**17 30 27.0**	**-5.4**
KIS				pmax	pmax		
	comp=Z,30nm,0.9s						
MILM	**Milestii Mici**	**97.85**	**316**	⇓*e*P	Pdif	17 19 55.0	-1.8
	comp=Z,80nm,1.3s						
MILM				*e*pP	pP	17 22 06.0	+1.3
MILM	**Milestii Mici**	**97.85**	**316**	*e*PP	PKiKP	17 24 18.0	-8.6
MILM				*i* SKS	**SKSac**	**17 29 38.0**	**0.0**
MILM				*e*SKKS	**SKKSac**	**17 30 05.0**	**-4.8**
MILM				*e*S	**ScS**	**17 30 27.0**	**-5.4**
MILM	**Milestii Mici**	**97.85**	**316**	*e*PS	PS	17 33 28.0	+9.3
MILM				*e*sS	sS	17 34 25.0	+1.6
MILM	**Milestii Mici**	**97.85**	**316**	⇑P	Pdif	17 19 56.4	-0.4
MILM	**Milestii Mici**	**97.85**	**316**	*de*P	Pdif	17 19 55.0	-1.8
MILM				*i*		17 29 38.0	
MILM				*e*S	**ScS**	**17 30 27.0**	**-5.4**
MILM				pmax	pmax		
	comp=Z,80nm,1.3s						
TSMN	**Mangalia Port-**	**97.88**	**313**	⇓P	**P**	**17 19 59.1**	**+2.0**
C27K	**Jago River**	**97.91**	**21**	P	**P**	**17 19 57.9**	**+1.3**
	baz=271,SNR=27						
G26K	**Porcupine Rive**	**97.91**	**23**	P	**P**	**17 19 58.0**	**+1.3**
	baz=270,SNR=24						
J26L	**Joseph Creek**	**98.02**	**26**	P	**P**	**17 19 57.8**	**+0.5**
	baz=270,SNR=32						
TPGR	**Topolog**	**98.05**	**314**	⇑P	Pdif	17 19 57.7	0.0
L26K	**Log Cabin Wild**	**98.12**	**27**	P	Pdif	17 19 57.6	-0.1
	baz=270,SNR=5.2						
BGLC	**Bering Glacier**	**98.15**	**30**	P	**P**	**17 19 58.2**	**+0.4**
	baz=270						
I26K	**Coal Creek Min**	**98.18**	**25**	P	**P**	**17 19 58.0**	**+0.1**
	baz=271						
SORM	**Soroca**	**98.20**	**318**	⇑P	Pdif	17 19 57.4	-1.0
SORM	**Soroca**	**98.20**	**318**	⇑P	Pdif	17 19 57.4	-0.9
LEOM	**Leova**	**98.22**	**316**	⇑P	P	17 20 11.0	+13
CRQM	**Cirque**	**98.22**	**30**		Pdif	17 19 58.4	0.0
CRQM					pP	17 22 02.7	-3.6
CRQM				IAmb	IAmb	17 22 15.2	
	comp=Z,47nm,1.2s						
CRQE	**Cirque**	**98.25**	**30**	P	**P**	**17 19 58.8**	**+0.3**
	baz=270						
CFR	**Carcaliu**	**98.26**	**315**	⇑P	Pdif	17 19 58.6	0.0
CFR	**Carcaliu**	**98.26**	**315**	⇑P	Pdif	17 19 58.6	0.0
MCARA	**McCarthy VSAT**	**98.28**	**29**	P	**P**	**17 19 58.9**	**+0.4**
	baz=270						
M26K	**Nabesna, AK**	**98.28**	**28**	P	**P**	**17 19 59.2**	**+0.7**
	baz=270,SNR=8.5						
VLDR	**Vladesti**	**98.32**	**315**	⇑P	Pdif	17 19 58.7	-0.2
HARR	**Harsova**	**98.39**	**314**	⇑P	Pdif	17 19 58.7	-0.5
HARR	**Harsova**	**98.39**	**314**	⇑P	Pdif	17 19 58.7	-0.5
IZVR	**Izvoarele**	**98.53**	**315**	⇑P	P	17 20 09.0	+9.1
MNK	**Minsk**	**98.59**	**324**	*i* P	**P**	**17 20 00.2**	**+0.2**
MNK				*i* *PP	**pP**	**17 22 08.0**	**+0.1**
MNK				*i* *SP	**sP**	**17 23 00.6**	**-5.6**
MNK				*i*		17 24 11.1	
MNK				*i* S	**SKSac**	**17 29 41.8**	**+0.5**
MNK				pmax	pmax		
	comp=E,8.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,39nm,0.9s						
MNK				pmax	pmax		
	comp=N,7.0nm,0.8s						
KARP	**Karpathos**	**98.63**	**305**	P	**P**	**17 20 00.9**	**+0.2**
K27K	**Chicken**	**98.67**	**26**	P	**P**	**17 20 01.4**	**+1.2**
	baz=272						
E27K	**Coleen River**	**98.72**	**22**		**P**	**17 20 01.0**	**+0.7**
E27K				IAmb	IAmb	17 20 02.7	
	comp=Z,30nm,1.1s						
E27K					**pP**	**17 22 04.0**	**-4.2**
E27K	**Coleen River**	**98.72**	**22**	P	**P**	**17 20 01.4**	**+1.1**
	baz=273,SNR=14						
HOPEN	**Hopen**	**98.72**	**346**	*e*Pdif	**P**	**17 20 01.6**	**+1.5**
HOPEN				*e*pP	**pP**	**17 22 06.7**	**-2.1**
HOPEN				*e*PP	**PP**	**17 24 11.8**	**+0.7**
HOPEN				*e*SKSac	**SKSac**	**17 29 42.6**	**+1.5**
HOPEN				*e*SP	**SP**	**17 32 09.8**	**+0.5**
HOPEN				*e*SS	**SS**	**17 37 43.9**	**+1.5**
G27K	**Doyon Strip**	**98.75**	**24**	P	**P**	**17 20 01.9**	**+1.3**
	baz=272,SNR=26						
M27K	**Edge Creek, AK**	**98.81**	**28**	P	**P**	**17 20 01.8**	**+0.8**
	baz=271,SNR=6.4						
L27K	**Beaver Creek,**	**98.81**	**27**	P	**P**	**17 20 02.0**	**+1.1**
	baz=272,SNR=18						
MESA	**MESA**	**98.82**	**30**	P	**P**	**17 20 01.9**	**+0.7**
	baz=271						
I27K	**Kandik River**	**98.82**	**25**	P	**P**	**17 20 02.2**	**+1.3**
	baz=272,SNR=41						
BCAR	**Beaver Creek A**	**98.83**	**27**		**P**	**17 20 00.9**	**0.0**
H27K	**Steamboat Moun**	**98.83**	**24**	P	**P**	**17 20 02.2**	**+1.3**
	baz=272,SNR=30						
D27M	**Malcolm River**	**98.89**	**21**	P	**P**	**17 20 02.6**	**+1.4**
	baz=273,SNR=6.9						
EGAK	**Eagle**	**99.04**	**26**	P	**Pdif**	**17 20 02.3**	**+0.6**
	baz=272						
CTG	**Chitna Glacier**	**99.10**	**29**	P	**Pdif**	**17 20 03.1**	**+0.9**
	baz=272,SNR=5.4						
ARCES	**ARCESS Array B**	**99.19**	**339**		**Pdif**	**17 20 02.0**	**-0.3**
ARCES				IAmb	IAmb	17 20 03.3	
	comp=Z,40nm,1.2s						
ARCES	**ARCESS Array B**	**99.19**	**339**	P	**Pdif**	**17 20 02.3**	**0.0**
	comp=Z,15nm,1.0s,baz=76,slow=5.1,SNR=26						
ARCES				pP	**pP**	**17 22 09.8**	**-1.3**
	comp=Z,2.9nm,0.9s,baz=35,slow=4.4,SNR=3.6						
ARCES				PP	**PP**	**17 24 16.2**	**+1.5**
	comp=Z,1.9nm,0.8s,baz=76,slow=10,SNR=3.8						
ARCES				PKiKP	**PKiKP**	**17 24 28.4**	**0.0**
	comp=Z,1.2nm,0.5s,baz=119,slow=1.5,SNR=10.0						
ARCES				PKKPbc	**PKKPbc**	**17 36 24.2**	**-3.1**
	comp=Z,1.1nm,0.4s,baz=250,slow=2.5,SNR=18						
	comp=Z,15nm,1.0s						
ARCES	**ARCESS Array B**	**99.19**	**339**	P	**Pdif**	**17 20 02.0**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,40nm,1.2s						
VSU	**Vasula**	**99.19**	**328**	*ce*P	**Pdif**	**17 20 02.2**	**-0.3**
VSU				pmax	pmax		
	comp=Z,36nm,1.1s						
VRI	**Vrincioaia**	**99.26**	**315**	⇓P	**Pdif**	**17 20 03.1**	**-0.1**
VRI	**Vrincioaia**	**99.26**	**315**	⇓P	**Pdif**	**17 20 03.1**	**-0.1**
BISRR	**Bisoca**	**99.27**	**315**	⇓P	**Pdif**	**17 20 03.9**	**+0.7**
PLOR	**Plostina**	**99.32**	**315**	⇑P	**Pdif**	**17 20 03.3**	**-0.2**
PLOR	**Plostina**	**99.32**	**315**	⇑P	**Pdif**	**17 20 03.3**	**-0.2**
TESR	**Tescani**	**99.33**	**316**	⇑P	**Pdif**	**17 20 03.6**	**+0.2**
F28M	**Old Crow**	**99.40**	**23**	P	**Pdif**	**17 20 04.3**	**+1.0**
	baz=274,SNR=8.3						
FINES	**FINESS Array B**	**99.42**	**331**	P	**Pdif**	**17 20 02.7**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=73,slow=6.4,SNR=9.0						
FINES				pP	**pP**	**17 22 10.3**	**-1.8**
	comp=Z,3.9nm,0.8s,baz=101,slow=10,SNR=3.8						
FINES				PP	**PP**	**17 24 18.2**	**+1.6**
	comp=Z,8.7nm,1.2s,baz=73,slow=6.6,SNR=3.3						
FINES				PKiKP	**PKiKP**	**17 24 29.4**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=119,slow=3.0,SNR=11						
FINES				PKKPbc	**PKKPbc**	**17 36 23.5**	**-2.9**
	comp=Z,2.4nm,0.9s,baz=264,slow=5.0,SNR=8.1						
	comp=Z,2.3nm,0.7s						
E28M	**Babbage River**	**99.45**	**22**	IAmb	IAmb	17 20 06.0	
	comp=Z,50nm,1.5s						
E28M	**Babbage River**	**99.45**	**22**	P	**Pdif**	**17 20 04.6**	**+1.1**
	baz=275,SNR=10						
YUK3	**Moose Creek**	**99.49**	**29**	P	**Pdif**	**17 20 04.7**	**+0.7**
	baz=273,SNR=5.6						
ONER	**Baraj Valea Uz**	**99.50**	**316**	⇑P	**Pdif**	**17 20 05.1**	**+0.9**
I28M	**Miner Creek**	**99.53**	**25**		**Pdif**	**17 20 04.0**	**0.0**
I28M				IAmb	IAmb	17 20 06.5	
	comp=Z,28nm,0.8s						
I28M					**pP**	**17 22 06.1**	**-6.2**
I28M	**Miner Creek**	**99.53**	**25**	P	**Pdif**	**17 20 05.1**	**+1.1**
	baz=274,SNR=37						
NEHR	**Nehoiu**	**99.56**	**315**	⇑P	**Pdif**	**17 20 04.6**	**+0.1**
PRAR	**RASCA**	**99.62**	**317**	⇓P	**Pdif**	**17 19 50.4**	**-14**
COVR	**Voineasa-Covas**	**99.63**	**315**	⇑P	**Pdif**	**17 20 04.5**	**-0.4**
O28M	**Mount Upton**	**99.67**	**30**	P	**Pdif**	**17 20 05.6**	**+0.6**
	baz=273,SNR=7.4						
D28M	**Stokes Point**	**99.68**	**21**	P	**Pdif**	**17 20 04.7**	**+0.3**
	baz=275						
HAMF	**Hammerfest**	**99.71**	**340**	*e*Pdif	**Pdif**	**17 20 04.6**	**0.0**
HAMF				*e*pP	**pP**	**17 22 11.4**	**-1.9**
HAMF				*e*PP	**PP**	**17 24 21.1**	**+2.5**
HAMF				*e*SS	SS	17 38 02.0	+5.8
MLR	**Muntele Rosu**	**99.81**	**315**	⇑P	**Pdif**	**17 20 05.4**	**-0.4**
MLR	**Muntele Rosu**	**99.81**	**315**	⇑P	**Pdif**	**17 20 05.4**	**-0.4**
ELND	**Elena**	**99.84**	**312**	⇓P	**Pdif**	**17 20 05.7**	**-0.1**
DAWY	**Dawson**	**99.85**	**26**	P	**Pdif**	**17 20 06.0**	**+0.6**
	baz=274						
YUK8	**Steele Glacier**	**99.85**	**29**	P	**Pdif**	**17 20 06.5**	**+0.7**
	baz=273						
OZUR		**99.92**	**315**	⇓P	**Pdif**	**17 20 03.8**	**-2.3**
KTK1	**Kautokeino**	**100.04**	**339**	*e*Pdif	**Pdif**	**17 20 05.3**	**-0.7**
KTK1				*e*pP	**pPdif**	**17 22 13.0**	**-1.8**
KTK1				*e*PP	**PP**	**17 24 24.7**	**+3.6**
E29M	**Blow River**	**100.07**	**22**	P	**Pdif**	**17 20 06.7**	**+0.4**
	baz=276						
H29M	**Whitestone**	**100.11**	**24**	P	**Pdif**	**17 20 07.4**	**+0.9**
	baz=275,SNR=9.1						
PNL	**Peninsula**	**100.12**	**31**	P	**Pdif**	**17 20 07.6**	**+1.0**
	baz=273						
G29M	**Pine Creek**	**100.18**	**23**	P	**Pdif**	**17 20 07.4**	**+0.6**
	baz=276,SNR=27						
DOPR	**Dopca**	**100.20**	**315**	⇑P	**Pdif**	**17 20 07.7**	**+0.3**
I29M	**Ogilvie Camp,**	**100.21**	**25**	P	**Pdif**	**17 20 07.6**	**+0.7**
	baz=275,SNR=18						
BURAR	**Bucovina Array**	**100.30**	**317**		**Pdif**	**17 20 07.7**	**-0.1**
BURAR					**pPdif**	**17 22 11.4**	**-4.4**
BURAR	**Bucovina Array**	**100.30**	**317**	⇑P	**Pdif**	**17 20 08.8**	**+1.0**
BURAR	**Bucovina Array**	**100.30**	**317**	⇑P	**Pdif**	**17 20 08.8**	**+1.0**
J29N	**Klondike Camp**	**100.33**	**26**	P	**Pdif**	**17 20 09.0**	**+1.4**
	baz=275						
YUK4	**Talbot Arm**	**100.39**	**29**	P	**Pdif**	**17 20 08.7**	**+0.7**
	baz=274						
M29M	**Somme Creek**	**100.39**	**28**	P	**Pdif**	**17 20 08.8**	**+0.8**
	baz=274,SNR=10						
VOIR		**100.44**	**315**	⇓P	**Pdif**	**17 20 09.7**	**+1.2**
VOIR		**100.44**	**315**	⇓P	**Pdif**	**17 20 09.7**	**+1.2**
L29M	**L29M**	**100.49**	**27**	P	**Pdif**	**17 20 08.4**	**+0.1**
	baz=275,SNR=22						
O29M	**Mount Kennedy**	**100.49**	**30**	P	**Pdif**	**17 20 08.9**	**+0.4**
	baz=274						
STFAR	**Stefanesti-Arg**	**100.51**	**314**	⇓P	**Pdif**	**17 20 09.6**	**+0.8**
BJO1	**Bjornoya**	**100.52**	**345**	*e*pP	pP	17 22 14.3	-2.6
BJO1				*e*PP	**PP**	**17 24 25.4**	**+0.9**
BJO1				*e*SKSac	**SKSac**	**17 29 49.0**	**-0.9**
YUK6	**Outpost Mounta**	**100.55**	**29**	P	**Pdif**	**17 20 09.1**	**+0.3**
	baz=274						
K29M	**Barlow Dome**	**100.69**	**26**	P	**Pdif**	**17 20 10.0**	**+0.7**
	baz=276,SNR=19						
EPYK	**Eagle Plains**	**100.75**	**24**	P	**Pdif**	**17 20 10.3**	**+0.9**
	baz=277,SNR=11						
G30M	**tAoh Zrali Nji**	**100.88**	**23**	P	**Pdif**	**17 20 10.4**	**+0.5**
	baz=277,SNR=8.8						
F30M	**Barrier River**	**100.96**	**22**	P	**Pdif**	**17 20 10.6**	**+0.4**
	baz=278,SNR=5.4						
P29M	**Windy Craggy**	**100.97**	**31**	P	**Pdif**	**17 20 11.6**	**+1.1**
	baz=275						
I30M	**Mount Dempster**	**101.03**	**25**	P	**Pdif**	**17 20 11.2**	**+0.5**
	baz=277,SNR=7.7						
LVV	**L'vov**	**101.04**	**319**	*e*P	**Pdif**	**17 20 11.1**	**+0.2**
LVV				*e*		17 24 26.3	
LVV				*e*S	**Sdif**	**17 30 56.4**	**-2.6**
LVV				*e*PS	PS	17 33 25.9	-25
LVV				pmax	pmax		
	comp=Z,60nm,1.7s	

BEL eSKSac **SKSac** 17 30 04.0 +1.8
BEL eSKKSac **SKKSac** 17 30 43.7 -2.5
P32M Atlin 103.00 30 P **Pdif** 17 20 20.0 +0.5
baz=278
N32M Quiet Lake 103.08 29 P **Pdif** 17 20 20.3 +0.4
baz=279
STEI Steigen 103.14 338 ePdif **Pdif** 17 20 19.1 -0.8
STEI IVmB_BB 17 20 19.7
comp=Z,311nm,1.0s
FAUS Fauske 103.25 338 ePdif **Pdif** 17 20 19.9 -0.5
FAUS IVmB_BB 17 20 20.6
comp=Z,234nm,1.9s
FAUS ePP **PP** 17 24 41.9 -2.8
FAUS eSKSac **SKSac** 17 30 03.5 +0.6
P33M Teslin, Yukon 103.36 30 P **Pdif** 17 20 21.6 +0.5
baz=279
NIE Niedzica 103.48 319 ePdif **Pdif** 17 20 20.7 -1.2
NIE ePP **PKiKP** 17 24 38.5 +1.8
NIE eSKSac **SKSac** 17 30 07.2 +2.3
NIE Niedzica 103.48 319 P **Pdif** 17 20 23.1 +1.2
A36M Sachs Harbour 103.50 17 P **Pdif** 17 20 22.0 +0.6
baz=289
MMPY Sheldon Lake, 103.67 27 P **Pdif** 17 20 23.5 +1.1
baz=281
LOF Lofoten 103.70 339 ePdif **Pdif** 17 20 22.3 0.0
LOF IVmBBB 17 20 23.6
comp=Z,127nm,1.7s
LOF ePP **PP** 17 24 46.1 -1.9
LOF eSKSac **SKSac** 17 30 07.2 +2.2
LOF eSP **SP** 17 33 00.1 -1.7
OJC Ojcow 103.74 320 ePdif **Pdif** 17 20 22.6 -0.4
OJC eSKSac **SKSac** 17 30 06.4 +0.5
OJC eSKKSac **SKKSac** 17 30 49.5 -2.3
OJC eSP **SP** 17 32 59.0 -4.1
T33K Petersburg 103.79 33 P **Pdif** 17 20 23.7 +0.7
baz=278
U33K Whale Pass 103.80 34 P **Pdif** 17 20 23.9 +0.9
baz=278
Q32M Nakina River 103.83 31 P **Pdif** 17 20 24.2 +0.8
baz=279
MOR8 Moi Rana 103.86 337 ePdif **Pdif** 17 20 21.5 -1.7
MOR8 IVmB_BB 17 20 22.0
comp=Z,110nm,1.6s
MOR8 ePP **PP** 17 24 47.9 -1.4
MOR8 eSKSac **SKSac** 17 30 05.2 -0.6
MOR8 eSS **SS** 17 38 51.2 -1.7
CRAG Craig 103.88 35 P **Pdif** 17 20 24.3 +0.9
baz=278
LANS Liptovska Anna 104.05 319 eP **Pdif** 17 20 26.8 +2.4
LANS Liptovska Anna 104.05 319 ePDIFF **Pdif** 17 20 26.8 +2.4
LANS e 17 24 40.5
STOK Stokkvaagen 104.38 337 ePP **PP** 17 24 52.2 -0.7
STOK eSKSac **SKSac** 17 30 07.9 -0.1
R33M Jennings River 104.42 30 P **Pdif** 17 20 26.3 +0.3
baz=280
VYHS Vyhne 104.53 318 eP **Pdif** 17 20 27.0 +0.5
C36M Paulatuk 104.74 20 P **Pdif** 17 20 27.0 0.0
baz=289
V35K Ketchikan 104.76 35 P **Pdif** 17 20 27.0 -0.3
baz=279
MORH Mrgy, Hungar 104.87 316 ||P **Pdif** 17 20 27.4 -0.6
DLBC Dease Lake 105.08 31 P **PKiKP** 17 24 40.2 +0.7
baz=281
DLBC Dease Lake 105.08 31 PKKPbc PKKPbc 17 36 10.6 +0.5
comp=Z,5.7nm,1.0s,baz=66,slow=1.0,SNR=8.9
MAUC Maruska 105.09 319 ePKP **PKiKP** 17 24 41.7 +1.9
MAUC eSKS **SKSac** 17 30 11.5 -0.6
MORC Moravsky Berou 105.23 320 ePDIFF **Pdif** 17 20 30.5 +0.8
MORC e 17 24 41.1
MORC eSKS **SKSac** 17 30 14.9 +2.2
T35M Bob Quinn 105.23 33 P **PKiKP** 17 24 40.0 +0.3
baz=280
TGTN Hyland Airport 105.28 28 P **PKiKP** 17 24 40.3 +0.6
baz=284
WTLY Watson Lake, Y 105.35 30 P **PKiKP** 17 24 40.2 +0.3
baz=283
U35K Hyder 105.55 34 P **PKiKP** 17 24 40.4 +0.1
baz=280
HFS Hagfors 105.61 331 Pdiff **Pdif** 17 20 30.6 -0.5
comp=Z,3.7nm,0.8s,baz=126,slow=4.6,SNR=5.4
HFS PKiKP **PKiKP** 17 24 40.8 +0.5
comp=Z,3.1nm,0.7s,baz=72,slow=2.6,SNR=7.0
HFS PKKPbc **PKKPbc** 17 36 04.9 -3.5
comp=Z,0.5nm,0.3s,baz=185,slow=4.2,SNR=8.0
KRLC Kraliky 105.68 320 eSKS **SKSac** 17 30 14.4 -0.3
KSP Ksiaz 105.88 321 ePdif **Pdif** 17 20 32.5 0.0
KSP eSKSac **SKSac** 17 30 16.9 +1.4
KSP eSP **SP** 17 33 22.5 -2.5
VRAC Vranov 105.90 319 ePDIFF **Pdif** 17 20 32.8 +0.2
VRAC eSKS **SKSac** 17 30 17.7 +2.1
DPC Dobruska-Polom 105.94 320 ePKP **PKiKP** 17 24 43.1 +1.8
DPC eSKS **SKSac** 17 30 14.8 -1.0
OSTC Ostas 105.97 320 ePKP **PKiKP** 17 24 43.0 +1.7
OSTC eSKS SKSac 17 30 03.8 -12
KRUC Moravsky 106.06 319 ePDIFF **Pdif** 17 20 33.8 +0.5
KRUC e 17 24 42.0
KRUC eSKS **SKSac** 17 30 18.3 +2.0
UPC Upice 106.11 320 eSKS **SKSac** 17 30 16.5 0.0
RONA Rosalia, Austr 106.31 318 i PKiKP **PKiKP** 17 24 42.9 +0.9
comp=Z,9.1nm,0.9s
RONA i PKKP **PKKPbc** 17 36 05.5 -0.5
comp=Z,3.3nm,1.0s
TBLU Trondheim 106.38 334 eSKSac **SKSac** 17 30 14.8 -2.3
NC602 NORSAR Array S 106.50 331 ePdif **Pdif** 17 20 35.3 +0.4
NC602 ePP **PP** 17 25 10.3 +1.8
NC602 eSKSac **SKSac** 17 30 14.8 -2.9
NC602 eSP **SP** 17 33 27.1 -3.5
NC602 eSS **SS** 17 39 29.7 +1.2
CONA Conrad Observa 106.57 318 i PKiKP **PKiKP** 17 24 43.4 +0.8
comp=Z,9.9nm,1.5s
CONA ePKKP **PKKPbc** 17 36 03.5 -1.8
comp=Z,4.4nm,0.7s
NB2 NORSAR Subarra 106.57 332 P **Pdif** 17 20 34.5 -0.8
comp=Z,12nm,1.4s,baz=73,slow=4.4
NB2 NORSAR Subarra 106.57 332 P pPdif 17 22 46.0 +2.0
comp=Z,4.4nm,1.1s,baz=75,slow=4.4
NB2 NORSAR Subarra 106.57 332 PKPdf **PKiKP** 17 24 42.0 -0.1
comp=Z,1.9nm,0.7s,baz=68,slow=1.9
NB2 NORSAR Subarra 106.57 332 P **Pdif** 17 20 34.5 -0.8
baz=73,slow=4.4
NB2 NORSAR Subarra 106.57 332 P pPdif 17 22 46.0 +2.0
baz=75,slow=4.4
NOA NORSAR Array B 106.57 332 Pdiff **Pdif** 17 20 34.5 -0.8
comp=Z,1.1nm,0.7s,baz=72,slow=4.5,SNR=4.8
NOA PKiKP **PKiKP** 17 24 42.6 +0.5
comp=Z,2.5nm,0.7s,baz=262,slow=3.3,SNR=6.4
NOA PP **PP** 17 25 12.5 +3.4
comp=Z,2.2nm,0.9s,baz=65,slow=6.9,SNR=3.4
LIRD Liard River Hi 106.84 30 P **PKiKP** 17 24 43.2 +0.6
baz=285
ARSA Arzberg 106.89 317 i PKiKP **PKiKP** 17 24 43.9 +0.8
comp=Z,7.5nm,0.8s
ARSA ePKKP **PKKPbc** 17 36 03.6 -0.6
comp=Z,2.4nm,0.7s
WRGLY Wrigley 106.97 26 P **PKiKP** 17 24 43.5 +0.8
baz=286
GCIS Gornji Cirnik 107.00 316 ePKiKP **PKiKP** 17 24 45.0 +1.6
GCIS eSKSac **SKSac** 17 30 22.2 +1.6
GCIS i Sdiff SKKSac 17 31 48.4 +34
PRU Pruhonice 107.12 320 ePP **PP** 17 25 17.7 +4.3
PRU eSKS **SKSac** 17 30 18.0 -2.8
PRU ex x 17 33 31.2
PRU AMS AMS 18 16 20.0
comp=Z,400nm,20.6s
CRES Cresnjev 107.12 316 i Pdiff **Pdif** 17 20 37.9 -0.3
CRES i SKSac **SKSac** 17 30 22.4 +1.4
CRES eSKKSac **SKKSac** 17 31 13.2 -2.5
SOKA Soboth 107.30 317 i PKiKP **PKiKP** 17 24 45.0 +1.0
comp=Z,20nm,1.1s,SNR=8.6
SOKA i PKKP **PKKPdf** 17 36 11.8 -2.7
comp=Z,4.3nm,1.4s
BRG Berggiesshubel 107.35 321 PKP **PKiKP** 17 24 44.9 +1.1
BRG Amp 17 24 47.5
comp=Z,6.5nm,0.9s
BRG Berggiesshubel 107.35 321 SP SP 17 33 41.0 +1.4
TOAD Toad River Com 107.42 30 P **PKiKP** 17 24 44.2 +0.4
baz=285
ZVC Zvikov 107.44 320 ePKP **PKiKP** 17 24 44.9 +0.8
ZVC eSKS **SKSac** 17 30 22.7 +0.5
CKRC Cesky Krumlov 107.46 319 ePKP **PKiKP** 17 24 45.3 +1.1
CKRC eSKS **SKSac** 17 30 20.6 -1.8
KOTAN Kotaneelee Air 107.64 29 P **PKiKP** 17 24 44.6 +0.5
baz=287
MOA Molln 107.64 318 i PKiKP **PKiKP** 17 24 45.1 +0.6
comp=Z,5.9nm,1.2s
MOA i PKKP **PKKPbc** 17 36 01.5 -0.4
comp=Z,5.0nm,1.1s
MOA i PKKP **PKKPab** 17 36 18.6 +1.4
comp=Z,10nm,1.2s
OBKA Obir 107.66 316 i PKiKP **PKiKP** 17 24 45.6 +0.9
comp=Z,11nm,1.3s
OBKA i PKKP **PKKPbc** 17 36 01.0 -0.9
comp=Z,2.0nm,0.7s
LJU Ljubljana 107.74 316 i Pdiff **Pdif** 17 20 41.0 +0.2
LJU i PKiKP **PKiKP** 17 24 46.1 +1.4
LJU eSKSac **SKSac** 17 30 25.0 +1.3
LJU i SKKSac **SKKSac** 17 31 17.9 -2.0
LJU i 17 31 24.9
LJU eSdiff SKSdf 17 31 53.4 +52
CLL Collm 107.85 322 eP **Pdif** 17 20 42.0 +0.8
CLL e 17 30 20.0
GERES GERESS Array B 107.85 319 Pdiff **Pdif** 17 20 41.0 -0.4
comp=Z,0.3nm,0.4s,baz=5.7,slow=2.7,SNR=4.6
GERES PKiKP **PKiKP** 17 24 45.9 +0.9
comp=Z,4.6nm,0.9s,baz=45,slow=0.2,SNR=11
GERES PKKPbc **PKKPbc** 17 36 00.8 -0.5
comp=Z,0.2nm,0.3s,baz=243,slow=5.8,SNR=3.9
KHC Kasperske Hory 107.88 319 ePKP **PKiKP** 17 24 46.3 +1.3
KHC eSKS **SKSac** 17 30 23.3 -0.9
KHC eSP **SP** 17 33 43.0 -1.9
BIOA Bad Ischl, Aus 108.09 318 i PKiKP **PKiKP** 17 24 45.8 +0.4
comp=Z,10nm,1.2s
BIOA i PKKP **PKKPbc** 17 35 59.2 -1.3
comp=Z,2.7nm,0.5s
BIOA i PKKP **PKKPab** 17 36 16.9 +1.7
comp=Z,11nm,1.5s
MYKA Terra Mystica 108.25 317 i PKiKP **PKiKP** 17 24 46.1 +0.3
comp=Z,3.7nm,0.9s
MYKA ePKKP **PKKPbc** 17 35 59.5 -0.4
comp=Z,5.8nm,0.8s
LESA Schwarzleotal 108.77 318 i PKiKP **PKiKP** 17 24 47.2 +0.5
comp=Z,8.6nm,0.9s
LESA ePKKP **PKKPbc** 17 35 58.2 -0.2
comp=Z,3.6nm,0.9s
HYA Hoyanger 108.86 333 ePP **PP** 17 25 23.2 -2.1
HYA eSKSac **SKSac** 17 30 30.8 +3.2
HYA eSP **SP** 17 33 50.8 -2.1
ABTA Abfaltersbach 109.00 317 i PKiKP **PKiKP** 17 24 47.7 +0.5
comp=Z,22nm,1.0s,SNR=9.3
ABTA eSKS **SKSac** 17 30 29.5 +0.4
comp=Z,9.3nm,1.3s
ABTA i PKKP **PKKPbc** 17 35 56.0 -1.7
comp=Z,15nm,1.7s
ODD1 Odda 109.08 331 ePP **PP** 17 25 27.2 +0.2
ODD1 eSKPdf **SKiKP** 17 27 28.7 +1.7
ODD1 eSP SP 17 33 53.3 -1.9
FOO Floro 109.22 333 ePP **PP** 17 25 26.0 -1.8
FOO eSKSac **SKSac** 17 30 31.6 +2.5
FOO eSP **SP** 17 33 54.6 -1.7
JMI Jan Mayen 109.44 345 ePP **PP** 17 25 28.9 -0.3
JMI eSKPdf **SKiKP** 17 27 31.2 +3.9
JMI eSKSac **SKSac** 17 30 30.6 +0.9
JMI eSP **SP** 17 33 55.1 -2.8
WTTA Wattenberg 109.50 318 i PKiKP **PKiKP** 17 24 49.3 +1.1
comp=Z,55nm,1.0s,SNR=14
WTTA i SKS **SKSac** 17 30 31.0 -0.4
comp=Z,14nm,1.0s
BER Bergen 109.52 332 ePP **PP** 17 25 29.6 -0.5
BER eSKPdf **SKiKP** 17 27 30.3 +2.6
BER eSKSac **SKSac** 17 30 32.2 +1.8
BER eSP SP 17 33 57.1 -2.0
WATA Walderalm 109.53 318 i PKiKP **PKiKP** 17 24 49.1 +0.8
comp=Z,41nm,1.2s,SNR=7.7
WATA eSKS **SKSac** 17 30 31.6 +0.2
comp=Z,26nm,1.7s
WATA ePKKP **PKKPbc** 17 35 56.0 -0.1
comp=Z,4.1nm,0.8s
SQTA Sankt Quirin 109.79 318 i PKiKP **PKiKP** 17 24 49.7 +0.9
comp=Z,34nm,1.2s,SNR=8.4
SQTA eSKS **SKSac** 17 30 33.1 +0.6
comp=Z,14nm,1.1s
SQTA ePKKP **PKKPbc** 17 35 55.3 0.0
comp=Z,6.4nm,0.7s
SQTA i PKKP **PKKPdf** 17 36 09.4 -0.5
comp=Z,24nm,1.7s
MOTA Moosalm 109.84 318 i PKiKP **PKiKP** 17 24 49.6 +0.8
comp=Z,37nm,1.3s
MOTA i SKS **SKSac** 17 30 33.4 +0.7
comp=Z,14nm,1.6s
MOTA ePKKP **PKKPbc** 17 35 53.9 -1.3
comp=Z,3.5nm,0.9s
KMY Karmoy 109.98 331 ePP **PP** 17 25 34.8 +1.4
KMY eSKPdf **SKiKP** 17 27 31.8 +3.1
KMY eSKSac **SKSac** 17 30 33.1 +0.8
RETA Reutte 110.04 318 i PKiKP **PKiKP** 17 24 49.9 +0.8
comp=Z,5.6nm,0.8s
RETA i SKS **SKSac** 17 30 34.3 +0.9
comp=Z,14nm,1.7s
RETA i PKKP **PKKPbc** 17 35 53.6 -0.8
comp=Z,7.0nm,1.7s
RETA ePKKP **PKKPdf** 17 36 08.0 -1.4
comp=Z,12nm,1.6s
FETA Feichten 110.15 317 i PKiKP **PKiKP** 17 24 50.6 +1.1
comp=Z,20nm,1.0s,SNR=7.3
FETA eSKS **SKSac** 17 30 34.6 +0.5
comp=Z,9.8nm,1.0s
FETA i PKKP **PKKPbc** 17 35 54.3 +0.2
comp=Z,8.0nm,1.6s
FETA ePKKP **PKKPdf** 17 36 08.1 -1.2
comp=Z,9.5nm,1.3s
DAVA Damuels 110.67 318 i PKiKP **PKiKP** 17 24 51.5 +1.1
comp=Z,57nm,1.3s,SNR=11
DAVA eSKS **SKSac** 17 30 35.4 -0.7
comp=Z,7.2nm,1.1s
DAVA ePKKP **PKKPdf** 17 36 07.1 -1.3
comp=Z,14nm,1.3s
YKA Yellowknife Ar 111.00 25 PKiKP **PKiKP** 17 24 50.7 +0.4
comp=Z,9.1nm,0.7s,baz=304,slow=1.9,SNR=30
YKA SKP 17 27 29.8
comp=Z,1.0nm,0.5s,baz=218,slow=10,SNR=8.1
YKA PKKPbc **PKKPbc** 17 35 49.0 -2.6
comp=Z,2.2nm,0.8s,baz=113,slow=2.3,SNR=8.0
BTNL Ternell 112.24 322 dPKiKP **PKiKP** 17 24 54.0 +0.9
MEM Membach 112.31 322 dPKiKP **PKiKP** 17 24 53.5 +0.3
BHOU Houvegnez 112.39 322 dPKiKP **PKiKP** 17 24 54.9 +1.5
WLF Walferdange 112.49 321 dPKiKP **PKiKP** 17 24 54.9 +1.3
BCLA Clavier 112.80 322 dPKiKP **PKiKP** 17 24 55.0 +0.9
RCHB Rochefort 112.92 322 dPKiKP **PKiKP** 17 24 56.0 +1.7
BGES Gesves 112.94 322 dPKiKP **PKiKP** 17 24 54.9 +0.4
YBH Yreka Blue Hor 113.01 48 PKKPbc PKKPbc 17 35 42.9 -1.7
comp=Z,2.2nm,1.0s,baz=93,slow=4.0,SNR=3.8
KEST Kesra 113.10 306 PKiKP **PKiKP** 17 24 56.9 +1.5
comp=Z,11nm,0.8s,baz=279,slow=1.6,SNR=13
DOU Dourbes 113.33 322 dPKiKP **PKiKP** 17 24 56.6 +1.4
AFDM Forest Hills D 114.86 50 **PKiKP** 17 24 59.3 +0.7
SSF Saint Saulge 114.93 319 ePKIKP **PKiKP** 17 24 59.1 +0.7
SSF pmax pmax
comp=Z,53nm,0.9s
NEW Newport 115.16 40 P **PKiKP** 17 24 59.2 +0.3
baz=289
NEW Newport 115.16 40 PKKPbc PKKPbc 17 35 37.4 -0.2
comp=Z,0.8nm,0.4s,baz=283,slow=2.7,SNR=2.1
EKA Eskdalemuir Ar 115.72 329 PKP **PKiKP** 17 25 00.4 +0.8
comp=Z,6.3nm,0.6s,baz=355,slow=1.8,SNR=16
WVOR Wild Horse Val 115.81 46 **PKiKP** 17 25 00.8 +0.4
WVOR Wild Horse Val 115.81 46 PKIKP **PKiKP** 17 25 00.8 +0.4
SMMC Simmler 116.31 54 P **PKiKP** 17 25 01.5 0.0
baz=280
CAF Calviac 116.52 317 ePKIKP **PKiKP** 17 25 02.7 +1.1
CAF pmax pmax
comp=Z,48nm,1.0s
PKM Mcpherson Peak 116.53 55 P **PKPdf** 17 25 01.7 -0.4
baz=280,SNR=8.4
VOG Valley Oaks Go 116.61 53 P **PKiKP** 17 25 02.5 +0.6
baz=281
SBC Santa Barbara 116.69 55 P **PKPdf** 17 25 01.6 -0.6
baz=280
MLAC Mammoth, Mammo 116.78 51 P **PKPdf** 17 25 02.1 -0.5
baz=282
SCZ2 Santa Cruz Isl 116.83 56 P **PKiKP** 17 25 02.5 0.0
baz=280
VES Vestal, Richgr 116.94 53 P **PKiKP** 17 25 02.9 +0.3
baz=281
NVAR Mina Array Bea 117.01 50 **PKPdf** 17 25 02.9 0.0
NVAR PP 17 26 14.2 -9.2
NVAR Mina Array Bea 117.01 50 PKP **PKiKP** 17 25 04.7 +1.7
comp=Z,17nm,1.0s,baz=260,slow=2.1,SNR=40
NVAR PP **PP** 17 26 23.7 +0.3
comp=Z,4.1nm,0.9s,baz=282,slow=6.7,SNR=5.1
NVAR pPKP **pPKPdf** 17 27 19.4 +1.0
comp=Z,2.4nm,0.8s,baz=260,slow=5.1,SNR=2.7
NVAR PKKPbc **PKKPbc** 17 35 31.7 +0.6
comp=Z,7.9nm,0.8s,baz=138,slow=4.0,SNR=13
SNCC San Nicolas Is 117.05 56 P **PKPdf** 17 25 02.8 -0.1
baz=280
ARVC Arvin 117.28 54 P **PKiKP** 17 25 03.6 +0.3
baz=281
TIN Tinemaha, Big 117.37 52 P **PKiKP** 17 25 03.9 +0.3
baz=282
LFF La Frestale 117.42 317 ePKIKP **PKPdf** 17 25 00.8 -2.4
LFF pmax pmax
comp=Z,51nm,0.9s
ISA Isabella, Lake 117.46 54 P **PKiKP** 17 25 03.9 +0.2
baz=282,SNR=9.0
OSI Osito Audit: C 117.47 55 P **PKiKP** 17 25 03.8 +0.1
baz=281
CWC Cottonwood Cre 117.62 53 P **PKPdf** 17 25 04.1 0.0
baz=282
MSO Missoula 117.67 40 **PKPdf** 17 25 03.2 -0.6
MSO Missoula 117.67 40 P **PKiKP** 17 25 04.5 +0.7
baz=291
DECC Green Verdugo 117.85 55 P **PKiKP** 17 25 05.3 +0.9
baz=281
SCI2 San Clemente I 117.91 57 P **PKiKP** 17 25 04.7 +0.1
baz=280
CIS Catalina Islan 117.94 56 P **PKiKP** 17 25 05.4 +0.7
baz=280
EDW2 Edwards Air Fo 118.00 54 P **PKiKP** 17 25 06.1 +1.3
baz=282,SNR=31
GRAC Grapevine Rang 118.06 52 P **PKiKP** 17 25 06.0 +1.1
baz=283,SNR=9.0
LRMC Laurel Mtn Rad 118.13 54 P **PKiKP** 17 25 07.1 +2.0
baz=282,SNR=22
MPMC Manual Prospec 118.17 53 P **PKiKP** 17 25 07.2 +1.9
baz=282,SNR=40
BFSC Mount Baldy Ra 118.40 55 P **PKiKP** 17 25 07.3 +1.7
baz=281,SNR=7.2
HLID Hailey 118.45 44 P **PKiKP** 17 25 07.3 +1.7
baz=289
FURC Furnace Creek, 118.57 52 P **PKiKP** 17 25 07.0 +1.3
baz=283,SNR=12
ELK Elko 118.72 47 PKKPbc PKKPbc 17 35 25.5 +0.2
comp=Z,4.9nm,0.9s,baz=89,slow=5.2,SNR=12
RRX Edison Barstow 118.81 54 P **PKiKP** 17 25 08.3 +2.0
baz=282
GSC Goldstone, Bar 118.87 54 P **PKiKP** 17 25 07.8 +1.3
baz=282,SNR=28
MURC Murrieta 118.90 56 P **PKiKP** 17 25 07.5 +0.9
baz=281,SNR=6.4
TPNV Topopah Spring 118.94 52 P **PKiKP** 17 25 07.8 +1.0
baz=284,SNR=20
BBRC Big Bear Solar 119.00 55 P **PKiKP** 17 25 08.1 +1.1
baz=282
R11B Troy Canyon, C 119.10 50 P **PKiKP** 17 25 08.6 +1.6
baz=285,SNR=53
109C Camp Elliot, M 119.11 56 P **PKiKP** 17 25 08.2 +1.3
baz=281
SHOC Shoshone, Teco 119.16 53 P **PKiKP** 17 25 08.4 +1.4
baz=283
HEC Hector,Ludlow 119.35 54 P **PKiKP** 17 25 09.5 +2.0
baz=282,SNR=16
PFO Pinyon Flats O 119.50 55 **PKiKP** 17 25 08.4 +0.6
PFO Pinyon Flats O 119.50 55 P **PKiKP** 17 25 09.7 +1.8
baz=282,SNR=24
PFO Pinyon Flats O 119.50 55 PKIKP **PKiKP** 17 25 08.4 +0.6
TPFO Pinon Flats 119.51 55 P **PKiKP** 17 25 09.6 +1.8
baz=282,SNR=24
TUQ Turquoise Moun 119.54 53 P **PKiKP** 17 25 09.7 +1.8
baz=283
BOZ Bozeman (W) 119.62 41 P **PKiKP** 17 25 08.6 +0.8
baz=292
MONP2 Monument Peak 119.68 56 P **PKiKP** 17 25 09.8 +1.5
baz=281,SNR=14
BELC Belle Mtn. Jos 119.80 55 P **PKiKP** 17 25 10.4 +2.0
baz=282,SNR=32
EGMT Eagleton 119.83 38 P **PKiKP** 17 25 08.7 +0.7
baz=295
GMRC Granite Mounta 119.90 54 P **PKiKP** 17 25 10.5 +1.9
baz=283,SNR=39
IKP In-Ko-Pah, Jac 119.98 56 P **PKiKP** 17 25 10.7 +1.9
baz=282,SNR=15
SFJD Kangerlussuaq 120.08 357 **PKiKP** 17 25 07.8 0.0
SFJD Kangerlussuaq 120.08 357 PKIKP **PKiKP** 17 25 07.8 0.0
SWSC Sam W. Stewart 120.18 56 P **PKiKP** 17 25 10.8 +1.8
baz=282,SNR=11
ECHE Chera 120.26 312 PKP **PKiKP** 17 25 10.4 +1.4
BC3 Big Chuckawall 120.31 55 P **PKiKP** 17 25 11.1 +1.6
baz=282,SNR=22
IRM Iron Mountain 120.45 55 P **PKiKP** 17 25 11.1 +1.5
baz=283,SNR=22
DUG Dugway, Tooele 120.65 47 P **PKiKP** 17 25 11.4 +1.5
baz=288
FFC Flin Flon 120.66 28 **PKPdf** 17 25 08.8 -0.3
FFC Flin Flon 120.66 28 PKIKP **PKPdf** 17 25 08.9 -0.3
NEE2 Needles Airpor 120.74 54 P **PKiKP** 17 25 11.6 +1.6
baz=284
CART Cartagena 120.85 310 PKP **PKiKP** 17 25 11.0 +0.8
GLA Glamis 120.96 56 P **PKiKP** 17 25 12.3 +1.7
baz=282,SNR=6.6
EMUR La Murta 120.97 310 PKP **PKiKP** 17 25 11.3 +0.8
ETOB Tobarra 120.97 311 PKP **PKiKP** 17 25 12.1 +1.6
PDMCI Parker Dam,Lak 121.23 54 P **PKiKP** 17 25 12.6 +1.5
baz=284,SNR=6.4
RLMT Red Lodge 121.34 41 **PKiKP** 17 25 11.8 +0.6
RLMT Red Lodge 121.34 41 P **PKiKP** 17 25 12.7 +1.5
baz=294
TLOR Lorca, Murcia 121.36 310 PKP **PKiKP** 17 25 11.6 +0.4
TORD Torodi Ar. Bea 121.75 281 **PKPdf** 17 25 11.6 -0.8
TORD Torodi Ar. Bea 121.75 281 PKP **PKPdf** 17 25 12.2 -0.2
comp=Z,86nm,1.0s,baz=76,slow=4.0,SNR=190
TORD pPKP **pPKPdf** 17 27 28.4 +0.5
comp=Z,5.2nm,0.7s,baz=66,slow=4.2,SNR=2.7
TORD PKKPbc **PKKPbc** 17 35 14.0 +0.7
comp=Z,2.9nm,1.1s,baz=299,slow=4.5,SNR=5.5
ENIJ Nijar 121.95 309 PKP **PKiKP** 17 25 13.0 +0.5
BW06 Boulder Array 122.06 43 P **PKiKP** 17 25 13.0 +0.2
baz=292
PDAR Pinedale Array 122.06 43 **PKPdf** 17 25 11.8 -0.8
PDAR Pinedale Array 122.06 43 PKP **PKiKP** 17 25 13.3 +0.5
comp=Z,10nm,0.8s,baz=225,slow=1.5,SNR=63
PDAR pPKP **pPKPdf** 17 27 28.5 +0.7
comp=Z,5.1nm,1.0s,baz=236,slow=1.6,SNR=2.9
PDAR PKKPbc **PKKPbc** 17 35 12.8 -0.4
comp=Z,12nm,0.8s,baz=104,slow=3.1,SNR=26
ESDC Sonseca Array 122.43 313 **PKiKP** 17 25 13.9 +0.6
ESDC Sonseca Array 122.43 313 PKP **PKiKP** 17 25 14.2 +0.8
comp=Z,31nm,1.0s,baz=29,slow=2.5,SNR=100
ESDC PP **PP** 17 26 56.7 -2.8
comp=Z,3.6nm,0.9s,baz=66,slow=6.1,SNR=5.9
EBER Berja 122.49 309 PKP **PKiKP** 17 25 14.8 +1.0
LAO LASA Array 122.58 38 P **PKiKP** 17 25 14.8 +1.3
baz=297
PAB San Pablo 122.75 313 **PKiKP** 17 25 14.1 +0.1
PAB San Pablo 122.75 313 PKIKP **PKiKP** 17 25 14.1 +0.1
EQTA Presa de Quent 122.82 310 PKP **PKiKP** 17 25 14.4 +0.2
214A Organ Pipe Nat 122.86 57 P **PKiKP** 17 25 15.5 +1.1
baz=283,SNR=12
EALB Alboran 122.88 308 PKP **PKiKP** 17 25 15.1 +0.9
DGMT Dagmar 122.92 35 P **PKiKP** 17 25 14.8 +0.8
baz=300
EMLI Melilla 122.99 308 PKP **PKiKP** 17 25 15.9 +1.4
ELGU Los Guajares, 123.07 310 PKP **PKiKP** 17 25 15.6 +0.9
WUAZ Wupatki 123.11 52 P **PKiKP** 17 25 16.0 +1.1
baz=286
EGOR Sierra Gorda, 123.36 310 PKP **PKPdf** 17 25 15.2 +0.1
EADA Adamuz 123.38 311 PKP **PKiKP** 17 25 16.4 +1.2
ECAL Calabor 123.57 316 PKP **PKiKP** 17 25 16.9 +1.3
PBRG Braganca 123.62 316 ePKPdf **PKiKP** 17 25 16.4 +0.8
EMAL Malaga-Limoner 123.71 310 PKP **PKiKP** 17 25 16.2 +0.4
O20A White River Ci 123.96 46 **PKiKP** 17 25 16.8 +0.2
O20A White River Ci 123.96 46 P **PKiKP** 17 25 17.7 +1.1
baz=292,SNR=68
ECAB El Cabril 124.03 311 PKP **PKiKP** 17 25 18.0 +1.4
EMIJ Mijas 124.04 310 PKP **PKiKP** 17 25 16.4 -0.1
K22A Casper 124.16 42 P **PKiKP** 17 25 17.0 +0.1
baz=295,SNR=10
LIJA Lijar 124.41 310 PKP **PKiKP** 17 25 18.1 +0.7
TUC Tucson 124.44 56 **PKiKP** 17 25 17.6 0.0
TUC Tucson 124.44 56 P **PKiKP** 17 25 18.1 +0.5
baz=285
TUC Tucson 124.44 56 PKIKP **PKiKP** 17 25 17.6 0.0
PVRL Vila Real 124.51 316 ePKPdf **PKiKP** 17 25 18.6 +1.2
W18A Petrified Fore 124.51 52 P **PKiKP** 17 25 19.1 +1.4
baz=287,SNR=21
POLO Lamas de Olo 124.52 316 ePKPdf **PKiKP** 17 25 18.1 +0.6
PCAB Cabril 124.54 316 ePKPdf **PKiKP** 17 25 18.7 +1.3

CEU Ceuta 124.70 309 PKP PKiKP 17 25 18.4 +0.5
ECEU Ceuta 124.71 309 PKP PKiKP 17 25 18.7 +0.8
MTE Manteigas 124.73 315 ePKPdf PKiKP 17 25 19.1 +1.2
ESPR Espera 124.76 310 PKP PKiKP 17 25 18.9 +0.9
MVCO Mesa Verde 124.80 49 P PKiKP 17 25 19.7 +1.3
baz=290
PVIS Viseu 124.85 315 ePKPdf PKiKP 17 25 19.5 +1.4
PCBR Castelo Branco 124.90 314 ePKPdf PKiKP 17 25 19.1 +1.0
EBAD Badajoz 124.97 313 PKP PKiKP 17 25 19.6 +1.3
PMRV Marv??o 124.99 314 ePKPdf PKiKP 17 25 19.2 +0.8
EMIN Mina Concepcio 125.07 312 PKP PKiKP 17 25 20.2 +1.6
RSSD Black Hills 125.14 40 PKPdf 17 25 18.5 +0.1
RSSD Black Hills 125.14 40 P PKiKP 17 25 18.9 +0.1
baz=298
RSSD Black Hills 125.14 40 PKIKP PKPdf 17 25 18.5 +0.1
PBAR Barrancos 125.20 312 ePKPdf PKiKP 17 25 19.9 +1.1
PBAR Barrancos 125.20 312 PKP PKiKP 17 25 20.4 +1.6
IFR Ifrane 125.22 306 PKP PKiKP 17 25 21.1 +1.9
N23A Red Feather La 125.28 44 P PKiKP 17 25 19.1 -0.1
baz=294
PESTR Estremoz 125.35 313 ePKPdf PKiKP 17 25 19.9 +0.8
PESTR Estremoz 125.35 313 PKP PKiKP 17 25 20.5 +1.4
COI Coimbra 125.42 315 ePKPdf PKiKP 17 25 21.1 +1.9
PCAS Casmilo, Conde 125.54 315 ePKPdf PKiKP 17 25 20.4 +1.0
PMTG Montargil 125.73 314 ePKPdf PKiKP 17 25 20.2 +0.4
EGRO El Granado 125.75 312 PKP PKiKP 17 25 21.5 +1.6
EVO Evora 125.78 313 ePKPdf PKiKP 17 25 21.2 +1.2
EVO Evora 125.78 313 PKP PKiKP 17 25 21.4 +1.5
MDND Maddock 125.85 34 P PKiKP 17 25 20.2 +0.3
baz=305,SNR=13
PBEJ Beja 125.86 312 ePKPdf PKiKP 17 25 21.2 +1.1
S22A 4UR Ranch, Cre 125.86 48 P PKiKP 17 25 21.6 +1.0
baz=291,SNR=75
ISCO Idaho Springs 125.95 45 P PKiKP 17 25 21.4 +0.7
baz=294
PSBE So Bento 125.96 314 ePKPdf PKiKP 17 25 21.9 +1.6
PVAQ Vaqueiros 125.98 312 ePKPdf PKiKP 17 25 21.4 +1.0
PVAQ Vaqueiros 125.98 312 PKP PKiKP 17 25 22.1 +1.8
PCVE Castro Verde 126.13 312 ePKPdf PKiKP 17 25 21.8 +1.1
PCVE Castro Verde 126.13 312 PKP PKiKP 17 25 22.3 +1.6
MESJ Messejana 126.19 312 ePKPdf PKiKP 17 25 22.4 +1.6
MESJ Messejana 126.19 312 ePKPdf PKiKP 17 25 21.5 +0.7
PBDV Barranco-do-Ve 126.19 311 ePKPdf PKiKP 17 25 22.4 +1.5
PBDV Barranco-do-Ve 126.19 311 PKP PKiKP 17 25 22.9 +2.0
PNCL Nicolau / Gran 126.31 313 ePKPdf PKiKP 17 25 21.8 +0.8
PNCL Nicolau / Gran 126.31 313 PKP PKiKP 17 25 22.9 +1.8
ULM Lac du Bonnet 126.36 30 PKPdf 17 25 19.6 -0.6
ULM Lac du Bonnet 126.36 30 PKP PKiKP 17 25 20.8 0.0
comp=Z,36nm,0.8s,baz=319,slow=3.2,SNR=41
PMAFR Mafra 126.53 314 PKP PKiKP 17 25 22.8 +1.4
Q24A Divide 126.62 46 P PKiKP 17 25 22.6 +0.5
baz=294,SNR=5.4
PTEO Sao Teotonio 126.67 312 ePKPdf PKiKP 17 25 22.4 +0.7
MORF Marmelete 126.71 312 ePKPdf PKiKP 17 25 22.3 +0.4
MORF Marmelete 126.71 312 ePKPdf PKiKP 17 25 22.4 +0.5
121A Cookes Peak, D 126.82 55 P PKiKP 17 25 23.4 +1.0
baz=287,SNR=24
SDCO Great Sand Dun 126.84 48 P PKiKP 17 25 23.2 +0.7
baz=292
PFVI Vila Bisbo 126.90 312 ePKPdf PKiKP 17 25 23.0 +0.8
PFVI Vila Bisbo 126.90 312 PKP PKiKP 17 25 23.8 +1.6
Y22D IRIS PASSCAL I 127.04 52 P PKiKP 17 25 23.9 +1.1
baz=289
AVE Averroes 127.11 307 PKP PKiKP 17 25 24.1 +1.3
ANMO Albuquerque 127.12 51 P PKiKP 17 25 24.1 +1.1
baz=290
AGMN Agassiz Nation 127.60 32 P PKPdf 17 25 22.3 -0.3
baz=309
TIO Tiouine 127.68 304 PKP PKiKP 17 25 25.6 +1.5
KIC Kosan Boka 127.84 272 ePKP1 PKPdf 17 25 23.8 -0.3
comp=Z,163nm,1.1s
KIC Kosan Boka 127.84 272⇑ ePKP1 17 27 51.7
comp=Z,42nm,0.6s
T25A Trinidad 127.87 48 P PKiKP 17 25 24.8 +0.3
baz=293,SNR=34
OGNE Ogallala 127.92 43 P PKPdf 17 25 23.4 -0.2
baz=298
DBIC Dimbokro 127.98 273 PKPdf 17 25 24.1 -0.3
DBIC Dimbokro 127.98 273 PKP PKiKP 17 25 24.8 -0.2
comp=Z,28nm,0.5s,baz=81,slow=1.8,SNR=28
DBIC SKPbc SKPbc 17 27 50.4
comp=Z,24nm,0.7s,baz=86,slow=4.0,SNR=17
SUSD Miller 128.12 37 P PKPdf 17 25 23.8 0.0
baz=303
LIC Lamto 128.12 272 ePKP1 PKPdf 17 25 24.5 -0.1
comp=Z,227nm,1.1s
LIC Lamto 128.12 272⇑ ePKP1 17 27 51.1
comp=Z,22nm,0.5s
TIC Toumodi 128.14 273 ePKP1 PKPdf 17 25 24.5 -0.2
comp=Z,184nm,1.2s
TIC Toumodi 128.14 273⇑ ePKP1 17 27 52.2
comp=Z,44nm,0.6s
KSCO Kaye Shedlock' 128.38 45 P PKiKP 17 25 25.4 +0.1
baz=296,SNR=6.0
MNTX Cornudas Mount 129.02 55 P PKiKP 17 25 26.3 -0.3
baz=288
ECSD EROS Data Cent 129.91 37 PKPre 17 25 13.0
ECSD PKPdf PKiKP 17 25 28.0 -0.1
ECSD EROS Data Cent 129.91 37 P PKPdf 17 25 27.2 -0.1
baz=305
EYMN Ely 130.04 30 P PKPdf 17 25 27.1 -0.2
baz=313
BGNE Belgrade 130.24 40 P PKPdf 17 25 27.7 -0.3
baz=302,SNR=8.8
MSTX Muleshoe 130.31 51 P PKPdf 17 25 28.7 +0.3
baz=292
CBKS Cedar Bluff 130.48 44 P PKPdf 17 25 28.9 +0.4
baz=298
AMTX Amarillo 130.79 49 P PKPdf 17 25 29.6 +0.4
baz=294
PLCA Paso Flores 130.80 167 PKhKP PKPpre 17 25 16.2
comp=Z,1.5nm,0.9s,baz=219,slow=23,SNR=2.0
PLCA PKP PKiKP 17 25 30.4 +0.2
comp=Z,14nm,0.7s,baz=239,slow=1.4,SNR=31
PLCA pPKP pPKPdf 17 27 45.9 +0.5
comp=Z,2.1nm,0.9s,baz=158,slow=6.0,SNR=2.2
PLCA SKPbc SKPab 17 28 00.1 +0.3
comp=Z,16nm,0.7s,baz=205,slow=4.3,SNR=19
ALPN Alpine 130.85 56 PKPpre 17 25 17.8
ALPN PKPdf 17 25 30.0 +0.4
TXAR Lajitas Array 131.15 57 PKPpre 17 25 16.8
TXAR PKPdf PKiKP 17 25 31.4 +0.3
TXAR Lajitas Array 131.15 57 PKhKP PKPpre 17 25 15.9
comp=Z,1.5nm,0.9s,baz=222,slow=0.9,SNR=9.9
TXAR PKP sPdif 17 25 31.8 -0.1
comp=Z,7.3nm,0.9s,baz=288,slow=1.2,SNR=26
TXAR SKPbc SKPab 17 28 02.3 +0.6
comp=Z,6.3nm,0.6s,baz=235,slow=3.0,SNR=18
SPMN Marine on St. 131.17 33 P PKPdf 17 25 29.9 +0.4
baz=310
SMWD Samnorwood 131.78 49 PKPpre 17 25 20.5
SMWD PKPdf 17 25 31.6 +0.5
SCHQ Schefferville 131.85 7 PKhKP PKPpre 17 25 15.1
comp=Z,2.2nm,0.6s,baz=29,slow=2.2,SNR=4.7
SCHQ PKP PKiKP 17 25 31.9 +0.2
comp=Z,20nm,0.5s,baz=350,slow=1.4,SNR=45
SCHQ SKPbc SKPab 17 28 03.8 +0.1
comp=Z,56nm,0.7s,baz=7.5,slow=5.1,SNR=26
KSU1 Kansas State U 132.45 42 P PKPdf 17 25 32.5 +0.3
baz=302
OK032 Salt Plains WL 132.50 45 PKPpre 17 25 21.1
OK032 PKPdf 17 25 32.9 +0.5
KAN13 South Haven SW 132.91 45 PKPpre 17 25 23.0
KAN13 PKPdf PKPdf 17 25 33.6 +0.5
SCIA State Center 133.01 37 P PKPdf 17 25 33.2 +0.1
baz=307
WMOK Wichita Mounta 133.02 48 P PKPdf 17 25 33.7 +0.3
baz=296
ABTX Abilene, Hawle 133.25 51 P PKiKP 17 25 34.6 -0.6
baz=294,SNR=6.6
JCT Junction City 133.93 54 P PKPdf 17 25 35.7 +0.5
baz=292
JFWS Jewell Farm 134.07 34 P PKPdf 17 25 34.9 -0.2
baz=311
BRDY Brady 134.27 53 PKPpre 17 25 22.9
BRDY PKPdf PKPdf 17 25 36.3 +0.5
TUL3 Leonard 134.64 45 P PKPdf 17 25 36.4 +0.1
baz=300
PMAR Madeira 134.74 310 ePKPdf PKiKP 17 25 41.1 +2.7
TRQA Tornquist 134.81 175 PKPpre PKPpre 17 25 23.4
TRQA PKPdf 17 25 35.5 -1.2
TRQA Tornquist 134.81 175 PKIKP PKPdf 17 25 35.5 -1.2
PMOZ Porto Moniz, M 134.92 310 ePKPdf PKiKP 17 25 40.9 +2.2
PMOZ Porto Moniz, M 134.92 310 PKP PKiKP 17 25 39.5 +0.8
833A Chaparral WMA, 135.02 57 P PKPdf 17 25 37.9 +0.6
baz=290
WHTX Lake Whitney, 135.19 51 P PKPdf 17 25 37.8 +0.3
baz=295,SNR=7.5
GLMI Grayling 135.58 28 P PKPdf 17 25 38.4 +0.6
baz=320
435B Jarrell 135.59 53 P PKPdf 17 25 38.9 +0.6
baz=294
R40A Maddies Statio 135.73 40 PKPpre 17 25 24.5
R40A PKPdf PKPdf 17 25 38.3 0.0
L44A Lake County Fo 135.85 33 P PKPdf 17 25 38.4 0.0
baz=314
HDIL Hopedale 136.16 36 P PKPdf 17 25 39.1 +0.1
baz=311
CCM Cathedral Cave 136.53 40 PKPpre 17 25 27.4
CCM PKPdf PKPdf 17 25 39.9 +0.1
CCM Cathedral Cave 136.53 40 P PKPdf 17 25 39.8 0.0
baz=306
CCM Cathedral Cave 136.53 40 PKIKP PKPdf 17 25 39.9 +0.1
MIAR Mount Ida 136.89 46 P PKPdf 17 25 40.9 +0.4
baz=301
Q44A Meyer Farm, Va 137.38 37 PKPpre 17 25 29.4
Q44A PKPdf PKPdf 17 25 40.9 -0.5
NATX Nacogdoches 137.44 50 P PKPdf 17 25 42.3 +0.6
baz=297
SFIN Lafayette 137.53 34 P PKPdf 17 25 41.8 +0.3
baz=313
WLAR White Oak Lake 137.66 46 PKPpre 17 25 30.7
WLAR PKPdf PKPdf 17 25 42.2 +0.2
AAM Ann Arbor 137.95 29 P PKPdf 17 25 42.2 0.0
baz=319
SADO Sadowa 137.98 23 PKhKP PKPpre 17 25 34.8
comp=Z,8.5nm,0.6s,baz=302,slow=3.1,SNR=4.6
SADO PKP PKPdf 17 25 43.2 +1.0
comp=Z,21nm,0.8s,baz=324,slow=3.8,SNR=6.2
SADO SKPbc SKPbc 17 28 22.2 +0.7
comp=Z,18nm,0.6s,baz=343,slow=4.8,SNR=12
S44A Carbondale 138.00 39 PKPpre 17 25 31.6
S44A PKPdf PKPdf 17 25 43.4 +0.5
Q48B Farmland 138.67 33 PKPpre 17 25 32.9
Q48B PKPdf PKPdf 17 25 44.0 +0.4
Q48B Farmland 138.67 33 P PKPdf 17 25 43.9 +0.2
baz=316
BATG Bathurst New B 139.33 9 PKPpre 17 25 35.7
BATG PKPdf PKPdf 17 25 45.6 +1.0
P49A Miami Univ. Ec 139.43 33 P PKPdf 17 25 45.4 +0.4
baz=315
WCI Wyandotte Cave 139.44 36 PKPpre 17 25 36.1
WCI Wyandotte Cave 139.44 36 P PKPdf 17 25 45.1 0.0
baz=312
WCI Wyandotte Cave 139.44 36 PKHKP PKPpre 17 25 36.1
LONY Lake Ozonia 139.75 19 P PKPdf 17 25 45.3 -0.2
baz=333
OXF Oxford 139.80 43 P PKPdf 17 25 46.1 +0.3
baz=305
ERPA Erie 139.80 26 P PKPdf 17 25 45.7 +0.1
baz=324
ACSO Alum Creek Sta 139.83 31 P PKPdf 17 25 45.9 +0.2
baz=318
WVT Waverly 139.86 40 PKPpre 17 25 38.0
WVT Waverly 139.86 40 P PKPdf 17 25 46.0 +0.1
baz=309
WVT Waverly 139.86 40 PKHKP PKPpre 17 25 38.0
M53A WI Miller and 140.03 28 P PKPdf 17 25 45.9 -0.1
baz=322
F64A Sherman 140.27 12 PKPpre 17 25 39.4
VBMS Vicksburg 140.28 47 P PKPdf 17 25 47.0 +0.3
baz=302
O52A Adamsville 140.50 30 PKPpre 17 25 40.4
O52A PKPdf PKPdf 17 25 47.1 +0.2
PKME Peaks-Kenny Pk 140.63 13 P PKPdf 17 25 47.0 0.0
baz=341
O53A New Philadelph 140.70 29 P PKPdf 17 25 47.5 +0.1
baz=321
P52A Corning 140.71 31 PKPpre 17 25 40.5
P52A Corning 140.71 31 P PKPdf 17 25 47.6 +0.3
baz=319
M55A Ridgway 140.86 26 PKPpre 17 25 41.2
M55A PKPdf PKiKP 17 25 49.7 -0.7
LBNH Lisbon 140.91 17 P PKPdf 17 25 47.9 +0.3
baz=337
PLTB Pedras Altas 141.14 185 eP PKPpre 17 25 44.2
P53A Whipple 141.20 30 PKPpre 17 25 42.5
BINY Binghamton 141.37 22 P PKPdf 17 25 48.8 +0.3
baz=329
Z47A Carrollton 141.46 44 PKPpre 17 25 44.7
LCO Las Campanas 141.78 161 PKPpre 17 25 45.2
LCO Las Campanas 141.78 161 PKHKP PKPpre 17 25 45.2
SSPA Standing Stone 141.92 26 PKPpre 17 25 45.7
LRAL Lakeview Retre 142.29 43 PKPpre 17 25 47.0
CPSB Cacapava Do Su 142.47 185 eP PKPdf 17 25 49.0 -1.8
HRV Adam Dziewonsk 142.60 17 PKPpre 17 25 47.6
HRV Adam Dziewonsk 142.60 17 PKHKP PKPpre 17 25 47.6
TKL Tuckaleechee C 142.66 37 PKP PKPdf 17 25 49.0 -2.0
comp=Z,37nm,0.3s,baz=164,slow=2.3,SNR=121
TKL SKPbc SKiKP 17 28 34.7 -0.5
comp=Z,17nm,0.6s,baz=309,slow=3.0,SNR=5.5
TKL Tuckaleechee C 142.66 37 PKIKP PKPdf 17 25 49.0 -2.0
W52A Murphy 142.95 38 PKPpre 17 25 48.3
PAL Palisades 143.18 21 P PKPbc 17 25 50.3 +0.3
baz=332,SNR=42
V53A Saluda 143.22 36 PKPab 17 25 49.1 -1.1
BRAL Brewton 143.33 45 P PKPdf 17 25 52.0 -0.2
baz=305
ITQB Itaqui 143.38 181 PKPab 17 25 50.6 -0.1
250A Grady 143.41 44 PKPab 17 25 51.0 +0.1
BLA Blacksburg 143.42 32 P PKPab 17 25 50.9 0.0
baz=319
M65A Busby, Falmout 143.74 17 P PKPdf 17 25 52.3 -0.3
baz=337
ALGR Alto Alegre (B 144.02 186 eP PKPab 17 25 53.4 +0.1
CBN Corbin Frederi 144.14 28 P PKPab 17 25 53.5 +0.1
baz=324
T57A Hurt 144.18 31 PKPbc 17 25 52.8 -0.5
GOGA Godfrey 144.36 39 P PKPab 17 25 54.6 +0.2
baz=311
KMSC Kings Mountain 144.44 35 P PKPbc 17 25 54.4 +0.2
baz=316
BIRD Birdtown, Kers 145.30 35 PKPdf 17 25 56.0 +0.5
TIGA Tifton 145.54 42 P PKPbc 17 25 57.9 +0.4
baz=309
PB14 IPOC Station P 145.91 158 PKPbc 17 25 59.5 +0.3
SACV Santiago Islan 146.09 286 PKPbc 17 25 59.2 -0.3
CNNC Cliffs of the 146.24 31 P PKPbc 17 25 59.1 -0.2
baz=321
NHSC New Hope 146.57 36 P PKPbc 17 26 00.8 +0.5
baz=316
CPUP Villa Florida 146.71 180 PKPbc PKPbc 17 26 01.4 +0.5
comp=Z,152nm,1.0s,baz=220,slow=1.6,SNR=52
CPUP pPKP pPKPab 17 28 13.6 -0.3
comp=Z,37nm,1.0s,baz=204,slow=2.5,SNR=6.0
TEIG Tepich 147.28 63 PKPdf 17 25 58.8 -0.5
TEIG PKPbc PKPbc 17 26 03.4 +0.8
LVC Limon Verde 148.30 159 PKPdf 17 25 59.9 -1.4
LVC PKPbc PKiKP 17 26 06.3 -0.4
LVC Limon Verde 148.30 159 PKPbc PKPbc 17 26 03.6 -1.9
comp=Z,58nm,0.9s,baz=264,slow=2.9,SNR=22
LVC pPKP pPKPdf 17 28 16.7 -0.4
comp=Z,32nm,0.8s,baz=273,slow=3.0,SNR=2.0
LVC Limon Verde 148.30 159 PKIKP PKPdf 17 25 59.9 -1.4
DWPF Disney Wildern 149.07 45 PKPdf 17 26 01.4 -0.5
DWPF PKPbc PKPbc 17 26 06.7 -0.1
DWPF Disney Wildern 149.07 45 P PKPbc 17 26 07.3 +0.4
baz=308
BOAB BOACO BROADBAN 149.55 77 PKP PKPdf 17 26 07.7 +1.7
NNA Nana 152.79 134 PKP PKPdf 17 26 09.0 +1.1
comp=Z,21nm,0.9s,baz=332,slow=3.5,SNR=4.6
NNA PKPbc PKiKP 17 26 17.0 +1.2
comp=Z,157nm,1.3s,baz=262,slow=6.1,SNR=9.5
LPAZ La Paz 154.35 155 PKP PKPdf 17 26 12.2 +1.3
comp=Z,23nm,1.2s,baz=42,slow=0.9,SNR=51
LPAZ PKPbc PKPbc 17 26 20.9 +1.2
comp=Z,6.3nm,0.5s,baz=331,slow=3.4,SNR=16
LPAZ PKPab PKPab 17 26 38.1 +1.3
comp=Z,28nm,0.8s,baz=117,slow=2.7,SNR=5.0
ATAH Atahualpa 154.60 124 PKP PKPdf 17 26 12.1 +1.1
comp=Z,53nm,1.2s,baz=232,slow=1.2,SNR=31
ATAH PKPbc PKPbc 17 26 22.9 +2.9
comp=Z,12nm,0.7s,baz=309,slow=3.8,SNR=7.9
ATAH PKPab PKPab 17 26 40.0 +2.2
comp=Z,12nm,0.9s,baz=225,slow=5.6,SNR=5.3
ATAH pPKP pPKPdf 17 28 27.1 -0.1
comp=Z,8.2nm,1.0s,baz=138,slow=3.0,SNR=2.5
BDFB Brasilia 155.56 202 PKP PKPdf 17 26 13.4 +1.5
comp=Z,17nm,1.0s,baz=48,slow=2.0,SNR=19
BDFB PKPab PKPab 17 26 42.4 +1.1
comp=Z,49nm,1.1s,baz=156,slow=3.0,SNR=14
SIV San Ignacio 156.69 171 PKP PKPdf 17 26 14.7 +1.5
comp=Z,14nm,1.0s,baz=205,slow=2.1,SNR=40
SIV PKPab PKPab 17 26 47.4 +1.3
comp=Z,42nm,0.9s,baz=186,slow=4.0,SNR=25
SIV SKP 17 28 49.3
comp=Z,12nm,0.9s,baz=203,slow=2.4,SNR=4.8
PTLB Pontes e Lacer 157.46 175 eP PKPdf 17 26 14.8 +0.7
CZSB Cruzeiro do Su 158.66 134 eP PKPdf 17 26 16.7 +1.0
ETMB Extrema 160.93 152 PKPdf 17 26 17.6 -0.6
ETMB PKPab 17 27 03.9 -0.7
ETMB Extrema 160.93 152 eP PKPdf 17 26 18.5 +0.4
ROSC El Rosal 162.90 97 PKP PKPdf 17 26 21.8 +1.2
comp=Z,35nm,0.9s,baz=97,slow=2.2,SNR=29
ROSC PKPab PKPab 17 27 16.3 +2.1
comp=Z,12nm,0.4s,baz=116,slow=8.2,SNR=4.1
SAML Samuel 162.95 160 PKPdf 17 26 19.8 -0.3
SAML PKPab 17 27 11.6 -1.8
SAML Samuel 162.95 160 PKIKP PKPdf 17 26 19.8 -0.3
SAML 17 27 11.6
SDV Santo Domingo 166.66 82 PKPdf 17 26 21.9 -1.6
SDV PKPab PKPab 17 27 31.5 +1.0
BAUV El Baul 169.20 80 PKPdf 17 26 23.5 -1.5
BAUV PKPab PKPab 17 27 41.2 -0.3

*NEIC **28** 17:28:04.1±1.7,31°.41S±0°.07×178°.2W±0°.2,h10km±1km, mb4.7/19, Error ellipse: s-maj=23.8km s-min=12.1km az=83.0*
*IDC **28** 17:28:08.2±2.2,31°.27S×178°.12W,h46km±19km,mb3.9/5, mbtmp4.2/7,ML4.3/2,MS5.0/2, Error ellipse: s-maj=26.4km s-min=15.4km az=107.0*
*NOU **28** 17:29:00.8,34°.91S×178°.77E,h113km,mb4.3/7, South of Kermadec Islands*

ISC 28 17:28:07.8±0.6,31°.36S±0°.06×178°.1W±0°.1,h50km,n69, σ1°80/47,mb4.7/16,8C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.11	5		Sn	17 29 02.5	-3.3
RAO	Raoul Island	2.11	5	Pn	Pn	17 28 40.1	-0.6
RAO	Raoul Island	2.11	5	P	Pn	17 28 39.6	-1.1
	155nm,0.3s,baz=39,slow=16,SNR=17						
RAO				S	Sn	17 29 04.2	-1.6
	1μm,0.3s,baz=268,slow=23,SNR=7.0						
	357nm,0.2s						
MXZ	Matakaoa Point	6.85	204	P	Pn	17 29 42.5	-3.1
MXZ	Matakaoa Point	6.85	204	Pn	Pn	17 29 38.8	-6.8
URZ	Urewera	7.91	208	P	Pn	17 29 54.8	-5.4
URZ	Urewera	7.91	208	P	Pn	17 29 54.0	-6.2
	3.5nm,0.3s,baz=358,slow=5.3,SNR=18						
URZ				S	Sn	17 31 21.5	-6.8
	17nm,0.3s,baz=262,slow=20,SNR=7.5						
OUZ	Omahuta	7.92	239	P	Pn	17 30 03.6	+3.3
TOZ	Tahuroa Road	8.24	218	Pn	Pn	17 29 55.9	-8.8
RTZ	Ruatahuna	8.27	208	Pn	Pn	17 29 59.0	-6.2
BKZ	Black Stump Fm	8.94	208	P	Pn	17 30 09.1	-5.2
MRZ	Mangatainoka R	10.58	207	Pn	Pn	17 30 28.4	-8.3
KHZ	Kahutara	12.88	209	P	Pn	17 31 00.7	-7.4
LTZ	Lake Taylor	13.72	211		Pn	17 31 09.4	-10
RPZ	Rata Peaks	15.00	212	P	Pn	17 31 37.3	+0.7
	0.9nm,0.3s,baz=32,slow=17,SNR=2.2						
RPZ				S	Sn	17 34 01.4	-20
	2.0nm,0.3s,baz=187,slow=23,SNR=1.2						
	13nm,0.9s						
ODZ	Otahua Downs	16.23	210	P	Pn	17 31 46.6	-5.8
JCZ	Jackson Bay	16.35	215	P	Pn	17 31 47.5	-6.4
CTAO	Charters Tower	33.85	281	P	P	17 34 46.2	+0.5
CTAO				IAmb	IAmb	17 34 49.0	
	comp=Z,11nm,0.7s						
STKA	Stephens Creek	34.16	258	P	P	17 34 49.7	+1.5
STKA	Stephens Creek	34.16	258	P	P	17 34 49.8	+1.5
	comp=Z,2.6nm,0.4s,baz=105,slow=13,SNR=14						
	comp=Z,2.6nm,0.4s						
BBOO	Buckleboo	38.61	255	P	P	17 35 26.1	-0.1
KRVT	Keravat (AS076	38.87	308	LR	LR	17 46 35.1	
	comp=Z,8μm,21.8s,baz=103,slow=28						
COEN	Coen	39.44	287	P	P	17 35 34.4	+1.1
AS31	Alice Springs	42.95	268	P	P	17 36 02.7	+0.5
AS31				IAmb	IAmb	17 36 03.3	
	comp=Z,4.7nm,0.5s						
ASAR	Alice Springs	42.95	268	P	P	17 36 02.1	0.0
ASAR	Alice Springs	42.95	268	P	P	17 36 02.5	+0.3
	comp=Z,9.2nm,0.5s,baz=108,slow=7.4,SNR=368						
	comp=Z,9.2nm,0.5s						
WR0	Warramunga Arr	43.85	273	P	P	17 36 10.1	+0.8
WR0				IAmb	IAmb	17 36 10.7	
	comp=Z,12nm,0.7s						
WB2	Warramunga Arr	44.02	273	P	P	17 36 11.4	+0.7
WRAB	Tennant Creek	44.02	273	P	P	17 36 11.4	+0.7
WRA	Warramunga Arr	44.03	273	P	P	17 36 10.6	-0.2
WRA	Warramunga Arr	44.03	273	P	P	17 36 11.3	+0.5
	comp=Z,12nm,0.3s,baz=111,slow=8.0,SNR=233						
WB0	Warramunga Arr	44.05	273	P	P	17 36 11.7	+0.7
VNDA	Vanda	47.13	186	P	P	17 36 35.4	+0.9
VNDA	Vanda	47.13	186	P	P	17 36 36.1	+1.7
	comp=Z,0.3nm,0.5s,baz=357,slow=7.5,SNR=1.4						
	comp=Z,0.3nm,0.5s						
MTN	Manton Dam	50.03	280	P	P	17 36 56.1	-1.5
MTN				IAmb	IAmb	17 36 59.7	
	comp=Z,8.4nm,0.9s						
KNRA	Kununurra	50.67	275	P	P	17 37 01.7	-0.8
KNRA				IAmb	IAmb	17 37 04.1	
	comp=Z,13nm,1.1s						
FITZ	Fitzroy Crossi	52.25	271	P	P	17 37 13.6	-0.6
CASY	Casey	54.24	208	P	P	17 37 27.5	-0.7
CASY				IAmb	IAmb	17 37 28.2	
	comp=Z,7.2nm,1.0s						
QSPA	South Pole Qui	58.75	180	P	P	17 38 02.1	+1.7
QSPA	South Pole Qui	58.75	180	P	P	17 38 02.1	+1.7
	comp=Z,1.1nm,0.5s,baz=156,slow=0.1,SNR=9.8						
	comp=Z,1.1nm,0.5s						
BELA	Belgrano 2	68.85	172	P	P	17 39 07.0	+0.5
BELA				IAmb	IAmb	17 39 29.9	
	comp=Z,2.8nm,1.0s						
TROLL	Troll, Antarti	76.91	180	⇑P	P	17 40 01.0	+6.5
	comp=Z,106nm,0.4s						
SNAA	Sanae	77.20	178	P	P	17 39 56.4	+0.4
SNAA				IAmb	IAmb	17 40 08.1	
	comp=Z,4.5nm,1.1s						
SNAA	Sanae	77.20	178	⇑P	P	17 40 02.6	+6.6
	comp=Z,62nm,0.8s						
SNAA	Sanae	77.20	178	P	P	17 39 56.8	+0.8
	comp=Z,0.7nm,0.7s,baz=219,slow=3.8,SNR=1.3						
	comp=Z,0.7nm,0.7s						
VNA3	Neumayer Olymp	77.35	176	⇑P	P	17 40 04.1	+7.2
	comp=Z,8.7nm,0.7s						
VNA3	Neumayer Olymp	77.35	176	⇑P	P	17 39 57.2	+0.4
	comp=Z,4.4nm,0.8s						
VNA2	Neumayer--Watz	77.79	177	⇑P	P	17 40 06.0	+6.8
	comp=Z,6.1nm,0.6s,baz=184,slow=5.3						
VNA2	Neumayer--Watz	77.79	177	⇑P	P	17 39 59.8	+0.6
	comp=Z,4.1nm,0.8s,baz=176,slow=6.2						
VNA1	Neumayer--Stat	78.02	177	⇑P	P	17 40 07.5	+7.0
	comp=Z,5.9nm,0.7s						
VNA1	Neumayer--Stat	78.02	177	⇑P	P	17 40 01.0	+0.5
	comp=Z,3.8nm,0.9s						
H03S2	Juan Fernandez	80.03	123	T	T	19 09 00.5	
	baz=237,slow=74,SNR=58						
H03S1	Juan Fernandez	80.04	123	T	T	19 09 01.6	
	baz=237,slow=74,SNR=48						
H03S3	Juan Fernandez	80.05	123	T	T	19 09 01.2	
	baz=237,slow=74,SNR=52						
H03N3	Juan Fernandez	80.23	123	T	T	19 09 09.3	
	baz=241,slow=72,SNR=35						
H03N2	Juan Fernandez	80.23	123	T	T	19 09 08.0	
	baz=241,slow=72,SNR=33						
H03N1	Juan Fernandez	80.24	123	T	T	19 09 14.8	
	baz=241,slow=72,SNR=70						
LPIG	La Paz	85.14	58	LR	LR	18 10 19.1	
	comp=Z,261nm,21.9s,baz=266,slow=30						
MKAR	Makanchi Array	118.30	310	PKP	PKPdf	17 46 49.1	-0.2
	comp=Z,0.6nm,0.8s,baz=90,slow=1.4,SNR=4.5						
KURBB	Kurchatov Arra	121.67	313	PKP	PKPdf	17 46 55.5	-0.1
	comp=Z,0.6nm,0.4s,baz=102,slow=2.1,SNR=6.7						
BVAR	Borovoye Array	127.01	315	PKP	PKPdf	17 47 05.9	+0.2
	comp=Z,1.0nm,0.4s,baz=125,slow=1.7,SNR=8.5						
ARCES	ARCESS Array B	139.50	347	PKhKP	PKPpre	17 47 22.4	
	comp=Z,0.4nm,0.5s,baz=44,slow=11,SNR=4.4						
FINES	FINESS Array B	146.01	339	PKPbc	PKPdf	17 47 41.6	+1.2
	comp=Z,5.7nm,0.7s,baz=50,slow=2.8,SNR=29						
NB2	NORSAR Subarra	149.68	351	PKP	PKPbc	17 47 51.9	+0.6
	comp=Z,2.0nm,0.7s,baz=14,slow=4.1						
NOA	NORSAR Array B	149.68	351	PKPbc	PKPbc	17 47 52.1	+0.8
	comp=Z,1.6nm,0.8s,baz=16,slow=4.2,SNR=4.4						

HFS Hagfors 150.16 348 PKPbc **PKPbc 17 47 52.8 +0.4**
comp=Z,2.6nm,0.7s,baz=151,slow=3.3,SNR=9.3
MMAI Mount Meron Ar 151.64 282 PKPbc **PKiKP 17 47 58.3 +1.0**
comp=Z,1.2nm,0.4s,baz=64,slow=7.9,SNR=7.0
AKASG Malin Array Be 151.99 322 PKPbc **PKPbc 17 47 56.4 -0.6**
comp=Z,0.6nm,0.4s,baz=59,slow=2.1,SNR=2.6
BRTR Keskin Array B 152.94 297 PKPbc **PKPbc 17 47 59.6 0.0**
comp=Z,0.6nm,0.5s,baz=131,slow=4.4,SNR=4.7

*IDC **28** 17:36:39.3±0.7, 16°.03N×92°.89W, h165km±6km, mb3.6/5, mbtmp4.0/8, MS4.3/3, Error ellipse: s-maj=18.6km s-min=6.6km az=27.0*
*MEX **28** 17:36:41.7±0.7, 16°.01N×92°.97W, h175km±5km, MD4.5*
*NEIC **28** 17:36:41.3±1.3, 16°.12N±0°.06×92°.84W±0°.08, h163km±7km, mb4.3/75, Error ellipse: s-maj=13.4km s-min=4.1km az=53.0*
ISC 28 17:36:40.0±0.7, 15°.97N±0°.04×92°.95W±0°.04, h172km±6km, n151, σ1°88/193, mb4.3/25, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.37**	**225**	*eP*	**Pn**	**17 37 04.0**	**+0.7**
PCIG				*eS*	**Sn**	**17 37 21.7**	**+0.6**
TGBT	**Tuxtla Gutierr**	**0.81**	**350**	*i P*	**Pn**	**17 37 06.5**	**+1.1**
TGBT				*eS*	**Sn**	**17 37 24.6**	**-0.6**
TGIG		**0.82**	**348**	*i P*	**Pn**	**17 37 06.3**	**+0.7**
TGIG				*eS*	**Sn**	**17 37 24.5**	**-1.0**
CCIG	**Comitan**	**0.84**	**68**		**Pn**	**17 37 07.0**	**+1.2**
CCIG	**Comitan**	**0.84**	**68**	*i P*	**Pn**	**17 37 07.0**	**+1.2**
CCIG				*eS*	**Sn**	**17 37 26.6**	**+0.9**
CARR	**Arriaga**	**0.97**	**287**	*i P*	**Pn**	**17 37 07.5**	**+1.0**
CARR				*eS*	**Sn**	**17 37 27.9**	**+0.9**
PAVE	**Pavencul**	**1.07**	**136**	*eP*	**Pn**	**17 37 08.7**	**+1.1**
PAVE				*eS*	**Sn**	**17 37 29.6**	**+0.6**
CHUJ	**Union Juarez**	**1.19**	**137**	*eP*	**Pn**	**17 37 09.4**	**+0.7**
CHUJ				*eS*	**Sn**	**17 37 31.2**	**+0.5**
THIG		**1.25**	**148**	*eP*	**Pn**	**17 37 08.7**	**-0.2**
HUEH	**Huehuetenango**	**1.54**	**115**		**Pn**	**17 37 12.4**	**+0.6**
NILT	**Santiago Nilte**	**1.71**	**290**	*i P*	**Pn**	**17 37 13.6**	**+0.3**
NILT				*eS*	**Sn**	**17 37 38.2**	**-0.9**
UXUV	**UXUV**	**1.77**	**319**	*eP*	**Pn**	**17 37 14.5**	**+0.6**
UXUV				*eS*	**Sn**	**17 37 38.1**	**-2.2**
RTAL	**Retalhuleu**	**1.88**	**140**		**Pn**	**17 37 14.7**	**-0.5**
VHSA	**Villahermosa**	**2.00**	**0**	*i P*	**Pn**	**17 37 16.2**	**-0.2**
VHSA				*i S*	**Sn**	**17 37 45.6**	**+0.8**
CMIG	**Matias Romero**	**2.17**	**301**	P	**Pn**	**17 37 18.8**	**+0.5**
	141nm,0.3s,baz=141,slow=8.0,SNR=842						
CMIG				S	**Sn**	**17 37 46.7**	**-1.3**
	642nm,0.3s,baz=342,slow=21,SNR=11						
CMIG	**Matias Romero**	**2.17**	**301**	*eP*	**Pn**	**17 37 18.8**	**+0.5**
CMIG				*eS*	**Sn**	**17 37 46.8**	**-1.3**
TUIG	**Tuzandepetl**	**2.49**	**326**	*i P*	**Pn**	**17 37 22.9**	**+0.8**
TUIG				*eS*	**Sn**	**17 37 52.2**	**-2.6**
APG	**El Apazote**	**2.58**	**112**	P	**Pn**	**17 37 23.6**	**+0.3**
	3.9nm,0.6s,baz=313,slow=11,SNR=48						
APG				S	**Sn**	**17 37 55.6**	**-1.4**
	37nm,0.8s,baz=13,slow=19,SNR=30						
HUIG	**Huatulco**	**3.05**	**267**	*i P*	**Pn**	**17 37 28.2**	**-0.6**
HUIG				*eS*	**Sn**	**17 38 03.4**	**-3.5**
PETF	**Flores**	**3.10**	**72**		**Pn**	**17 37 28.1**	**-1.4**
NEUV	**Arroyo Zacate**	**3.24**	**303**	*eP*	**Pn**	**17 37 31.2**	**0.0**
NEUV				*eS*	**Sn**	**17 38 08.1**	**-2.9**
PMUV	**Sontecomapan**	**3.30**	**321**	*eP*	**Pn**	**17 37 31.2**	**-0.8**
PMUV				*eS*	**Sn**	**17 38 08.7**	**-3.9**
PANG	**Puerto Angel**	**3.41**	**265**	*i P*	**Pn**	**17 37 32.8**	**-0.5**
PANG				*i S*	**Sn**	**17 38 10.4**	**-4.4**
SCIG	**Sabancuy**	**3.42**	**29**	*eP*	**Pn**	**17 37 32.3**	**-1.1**
SCIG				*eS*	**Sn**	**17 38 16.6**	**+1.4**
OXBJ	**Oaxaca**	**3.78**	**287**	*i P*	**Pn**	**17 37 40.8**	**+2.6**
OXBJ				*eS*	**Sn**	**17 38 22.0**	**-1.7**
VHO	**Vista Hermosa**	**3.79**	**287**	*i P*	**Pn**	**17 37 40.2**	**+1.8**
VHO				*eS*	**Sn**	**17 38 22.8**	**-1.2**
MTO3	**Montecristo**	**3.80**	**114**		**Pn**	**17 37 39.0**	**+0.5**
PEIG	**Puerto Escondi**	**4.04**	**271**	*eP*	**Pn**	**17 37 41.2**	**-0.2**
PEIG				*eS*	**Sn**	**17 38 25.4**	**-3.9**
TOIG	**Toxpalan**	**4.47**	**299**	*eP*	**Pn**	**17 37 46.8**	**-0.2**
YOIG	**Yosondua**	**4.50**	**282**	*eP*	**Pn**	**17 37 48.2**	**+0.6**
YOIG				*eP*	**Pn**	**17 37 48.2**	**+0.6**
YOIG				*eS*	**Sn**	**17 38 38.7**	**-1.7**
YOIG				*eS*	**Sn**	**17 38 38.7**	**-1.7**
TXIG	**Tlaxiaco**	**4.80**	**286**	*eP*	**Pn**	**17 37 52.9**	**+1.5**
TXIG				*eS*	**Sn**	**17 38 43.9**	**-3.3**
TPIG	**Tehuac#an**	**4.87**	**301**	*eP*	**Pn**	**17 37 53.9**	**+1.6**
TPIG				*eS*	**Sn**	**17 38 42.5**	**-6.4**
OZST	**Orizaba**	**4.89**	**307**	*i P*	**Pn**	**17 37 53.4**	**+0.9**
OZST				*i S*	**Sn**	**17 38 45.6**	**-3.7**
LVIG	**Laguna Verde**	**4.99**	**319**	*eP*	**Pn**	**17 37 54.5**	**+0.9**
LVIG				*eS*	**Sn**	**17 38 46.9**	**-4.4**
JAUV	**Jalcomulco**	**4.99**	**313**	*eP*	**Pn**	**17 37 53.1**	**-0.6**
JAUV				*eS*	**Sn**	**17 38 46.5**	**-5.0**
PNIG	**Pinotepa**	**5.00**	**276**	*eP*	**Pn**	**17 37 54.5**	**+0.7**
PNIG				*eS*	**Sn**	**17 38 45.6**	**-5.9**
HLIG	**Huajuapan de L**	**5.00**	**292**	*eP*	**Pn**	**17 37 55.9**	**+1.9**
FTIG	**Fresnillo de T**	**5.33**	**292**	*eP*	**Pn**	**17 38 00.2**	**+2.1**
FTIG				*eS*	**Sn**	**17 38 56.6**	**-2.8**
TLIG	**Tlapa**	**5.61**	**287**		**Pn**	**17 38 04.1**	**+2.2**
TLIG	**Tlapa**	**5.61**	**287**	*eP*	**Pn**	**17 38 03.9**	**+1.9**
TLIG				*eS*	**Sn**	**17 39 02.0**	**-4.2**
CRIG	**Cruz Grande**	**5.99**	**278**	*eP*	**Pn**	**17 38 07.5**	**+0.8**
TEIG	**Tepich**	**6.13**	**46**		**Pn**	**17 38 07.5**	**-1.2**
TEIG	**Tepich**	**6.13**	**46**	P	**Pn**	**17 38 07.8**	**-0.8**
	35nm,0.3s,baz=218,slow=17,SNR=67						
TEIG				S	**Sn**	**17 39 14.8**	**-3.6**
	21nm,0.4s,baz=344,slow=20,SNR=6.5						
PPM	**Popocatepetl**	**6.23**	**300**	*eP*	**Pn**	**17 38 13.8**	**+3.3**
YAIG	**Yautepec**	**6.51**	**297**	*eP*	**Pn**	**17 38 16.5**	**+2.7**
YAIG				*eS*	**Sn**	**17 39 25.6**	**-2.0**
DAIG	**Los Arroyos**	**6.52**	**280**	*i P*	**Pn**	**17 38 15.2**	**+1.5**
DAIG				*eS*	**Sn**	**17 39 23.9**	**-3.6**
MEIG	**Mezcala**	**6.68**	**288**	*i P*	**Pn**	**17 38 18.5**	**+2.6**
MEIG				*eS*	**Sn**	**17 39 28.6**	**-2.8**
PLIG	**Platanillo**	**6.71**	**292**	*eP*	**Pn**	**17 38 19.2**	**+2.8**
PLIG				*eS*	**Sn**	**17 39 28.6**	**-3.7**
TLVM	**San Miguel Top**	**6.74**	**299**	*eP*	**Pn**	**17 38 17.8**	**+0.8**
VRVM	**Mexico City**	**6.80**	**301**	*eP*	**Pn**	**17 38 21.1**	**+3.3**
AOVM	**Tlapan**	**6.91**	**299**	*i P*	**Pn**	**17 38 22.2**	**+2.9**
AOVM				*eS*	**Sn**	**17 39 39.1**	**+1.7**
MAVM	**Malinalco, Edo**	**6.92**	**296**	*i P*	Pn	17 38 07.9	-11
CAIG	**El Cayaco**	**7.10**	**280**	*eP*	**Pn**	**17 38 22.8**	**+1.4**
CAIG				*eS*	**Sn**	**17 39 37.1**	**-4.4**
TOVM	**TOLUCA**	**7.21**	**298**	*eP*	**Pn**	**17 38 26.8**	**+3.5**
DEIG	**Demacu**	**7.21**	**308**	*eP*	**Pn**	**17 38 24.9**	**+1.7**
ARIG	**Puente Sto Nin**	**7.44**	**289**	*i P*	**Pn**	**17 38 29.1**	**+3.2**
ARIG				*eS*	**Sn**	**17 39 48.8**	**-0.7**
CTUV	**Llano Grande**	**7.50**	**318**	*eP*	**Pn**	**17 38 28.5**	**+1.9**
ZIIG	**Zihuatanejo**	**8.32**	**282**	*eP*	**Pn**	**17 38 39.9**	**+2.4**
ZIIG				*eS*	**Sn**	**17 40 08.7**	**-1.8**
GTIG	**Gomez Farias**	**9.18**	**321**	*eP*	**Pn**	**17 38 50.2**	**+1.4**
GTIG				*eS*	**Sn**	**17 40 27.4**	**-3.7**
MMIG	**Aquila**	**10.21**	**285**	*eP*	**Pn**	**17 39 05.8**	**+3.4**
LCR2	**La Lucha 2**	**10.69**	**124**		**Pn**	**17 39 09.8**	**+0.9**
JUBC	**Volcan de Coli**	**10.72**	**291**	*eP*	**Pn**	**17 39 10.7**	**+1.3**
COIG	**Colima**	**10.73**	**289**	*eP*	**Pn**	**17 39 12.2**	**+2.8**
COIG				*eS*	**S**	**17 41 11.2**	**+1.8**
COIG				*eS*	**Sn**	**17 41 12.7**	**+4.1**
MNGA	**Volcan de Coli**	**10.75**	**290**	*eP*	**Pn**	**17 39 12.1**	**+2.3**
MNGA				*eS*	**Sn**	**17 41 08.4**	**-0.8**
CEGR	**Campo Tres**	**10.94**	**290**	*eP*	**Pn**	**17 39 14.8**	**+2.7**
CEGR				*eS*	**Sn**	**17 41 13.6**	**-0.1**
CDAR	**Ciudad de Arme**	**10.96**	**287**	*eP*	**Pn**	**17 39 14.3**	**+2.0**
CDAR				*eS*	**Sn**	**17 41 11.3**	**-2.6**
SOR	**Soroa**	**11.57**	**53**	Pn	**Pn**	**17 39 18.7**	**-1.4**
833A	**Chaparral WMA,**	**13.66**	**335**	P	P	17 39 55.2	+5.4
HNDO	**Hondo**	**14.70**	**338**	P	**P**	**17 40 02.5**	**+1.1**
HNVL	**Huntsville, TX**	**14.90**	**352**	P	**P**	**17 40 04.4**	**+0.8**
CHIV	**Chivirico**	**16.22**	**73**		**P**	**17 40 18.1**	**-0.2**
CHIV				IAmb	IAmb	17 40 19.4	
	comp=Z,19nm,0.8s						
TXAR	**Lajitas Array**	**16.56**	**325**	P	**P**	**17 40 22.4**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=134,slow=10,SNR=2.9						
GTBY	**Guantanamo Bay**	**17.42**	**74**	P	**P**	**17 40 31.9**	**+0.5**
PLPT	**Palo Pinto**	**17.46**	**345**	P	**P**	**17 40 32.4**	**+0.6**
PLPT				IAmb	IAmb	17 40 35.1	
	comp=Z,5.8nm,0.6s						
SGCY	**Sterling City**	**17.53**	**336**	P	**P**	**17 40 32.7**	**+0.1**
SGCY				IAmb	IAmb	17 40 35.6	
	comp=Z,9.8nm,0.5s						
152A	**Waverly Hall**	**18.22**	**23**	P	**P**	**17 40 40.1**	**0.0**
152A				IAmb	IAmb	17 40 45.0	
	comp=Z,15nm,1.1s						
SN05	**Snyder 5**	**18.30**	**338**	P	**P**	**17 40 41.8**	**+0.8**
SN05				IAmb	IAmb	17 40 43.7	
	comp=Z,8.6nm,0.5s						
APMT	**Aspermont**	**18.46**	**341**	P	**P**	**17 40 43.9**	**+1.2**
SN07	**Snyder 07**	**18.50**	**339**	P	**P**	**17 40 44.1**	**+0.9**
MIAR	**Mount Ida**	**18.50**	**358**	P	**P**	**17 40 43.9**	**+0.7**
MIAR				IAmb	IAmb	17 40 45.6	
	comp=Z,7.1nm,0.7s						
X37A	**Clayton**	**18.67**	**354**	P	**P**	**17 40 45.6**	**+0.7**
X37A				IAmb	IAmb	17 40 53.2	
	comp=Z,7.6nm,0.6s						
POST	**Post**	**18.70**	**337**	P	**P**	**17 40 45.8**	**+0.4**
POST				IAmb	IAmb	17 40 48.0	
	comp=Z,12nm,0.9s						
UALR	**University of**	**18.73**	**2**	P	**P**	**17 40 46.7**	**+1.0**
X34A	**Smith Ranch, M**	**19.06**	**348**	P	**P**	**17 40 51.4**	**+2.2**
X34A				IAmb	IAmb	17 40 56.4	
	comp=Z,11nm,0.5s						
GOGA	**Godfrey**	**19.36**	**25**	P	**P**	**17 40 53.6**	**+1.2**
GOGA				IAmb	IAmb	17 40 57.6	
	comp=Z,10nm,0.8s						
WMOK	**Wichita Mounta**	**19.41**	**345**		**P**	**17 40 53.9**	**+0.9**
Y52A	**Lilburn**	**19.53**	**23**	P	**P**	**17 40 55.2**	**+0.8**
Y52A				IAmb	IAmb	17 41 00.1	
	comp=Z,8.3nm,0.7s						
FPAL	**Fort Paine**	**19.63**	**18**	P	**P**	**17 40 52.8**	**-2.5**
FPAL				IAmb	IAmb	17 41 35.6	
	comp=Z,19nm,1.5s						
SMWD	**Samnorwood**	**20.14**	**342**	P	**P**	**17 41 01.6**	**+0.7**
RLO	**Rose Lookout**	**20.20**	**355**	P	**P**	**17 41 01.8**	**+0.4**
RLO				IAmb	IAmb	17 41 04.5	
	comp=Z,9.2nm,0.7s						
OK031	**S. Brethren Rd**	**20.20**	**351**		**P**	**17 41 01.8**	**+0.3**
OK031				IAmb	IAmb	17 41 04.4	
	comp=Z,9.7nm,0.6s						
OK052	**Battle Ridge R**	**20.23**	**351**		**P**	**17 41 01.4**	**-0.4**
HHAR	**Hobbs**	**20.25**	**358**	P	**P**	**17 41 02.2**	**+0.3**
HHAR				IAmb	IAmb	17 41 04.8	
	comp=Z,7.1nm,0.5s						
QUOK	**Quay**	**20.39**	**351**	P	**P**	**17 41 03.4**	**-0.2**
AMTX	**Amarillo**	**20.40**	**339**	P	**P**	**17 41 04.2**	**+0.5**
AMTX				IAmb	IAmb	17 41 07.6	
	comp=Z,8.8nm,0.6s						
U38A	**Gravette**	**20.43**	**357**	P	**P**	**17 41 03.5**	**-0.3**
U38A				IAmb	IAmb	17 41 06.6	
	comp=Z,9.5nm,0.7s						
OK048	**Pawnee Station**	**20.67**	**351**		**P**	**17 41 06.2**	**-0.3**
OK051	**E0350 and S346**	**20.74**	**351**		**P**	**17 41 07.0**	**-0.2**
T42A	**Van Buren**	**21.04**	**4**	P	**P**	**17 41 09.3**	**-1.0**
BLOK	**Blackwell**	**21.05**	**350**		**P**	**17 41 11.5**	**+1.0**
MGMO	**Mountain Grove**	**21.11**	**2**	P	**P**	**17 41 11.4**	**+0.3**
OK032	**Salt Plains WL**	**21.27**	**348**		**P**	**17 41 13.7**	**+0.8**
KAN13	**South Haven SW**	**21.34**	**350**		**P**	**17 41 14.6**	**+1.0**
KAN13				IAmb	IAmb	17 41 15.7	
	comp=Z,24nm,1.3s						
U49A	**Red Boiling Sp**	**21.43**	**16**	P	**P**	**17 41 13.5**	**-1.0**
KAN01	**Argonia South**	**21.52**	**349**	P	**P**	**17 41 15.9**	**+0.3**
KAN08	**Anthony NE Sta**	**21.63**	**349**	P	**P**	**17 41 17.1**	**+0.4**
S39A	**Bolivar**	**21.64**	**359**	P	**P**	**17 41 16.3**	**-0.4**
S39A				IAmb	IAmb	17 41 17.5	
	comp=Z,12nm,0.7s						
RTBA	**Rita Blanca**	**22.17**	**339**	P	**P**	**17 41 23.1**	**+0.9**
R40A	**Maddies Statio**	**22.24**	**1**	P	**P**	**17 41 22.2**	**-0.5**
KSU1	**Kansas State U**	**23.27**	**353**	P	**P**	**17 41 32.3**	**+0.2**
KSU1				IAmb	IAmb	17 41 33.7	
	comp=Z,19nm,1.2s						
T25A	**Trinidad**	**23.41**	**336**	P	**P**	**17 41 36.5**	**+2.8**
T25A				IAmb	IAmb	17 41 38.2	
	comp=Z,6.5nm,0.8s						
T25A	**Trinidad**	**23.41**	**336**	P	**P**	**17 41 36.5**	**+1.6**
P40A	**Paris**	**23.48**	**2**	P	**P**	**17 41 33.3**	**-0.8**
P40A				IAmb	IAmb	17 41 34.2	
	comp=Z,7.6nm,0.8s						
P38A	**Dawn**	**23.57**	**359**	P	**P**	**17 41 34.3**	**-0.6**
N38A	**Joes South For**	**24.73**	**359**	P	**P**	**17 41 45.0**	**-0.5**
L40A	**Anamosa**	**26.04**	**3**	P	**P**	**17 41 55.8**	**-1.5**
L40A				IAmb	IAmb	17 42 17.9	
	comp=Z,8.7nm,1.0s						
ECSD	**EROS Data Cent**	**27.85**	**354**	P	**P**	**17 42 13.0**	**-0.4**
REDW	**Red Top Meadow**	**31.28**	**334**	P	**P**	**17 42 44.4**	**+0.5**
ULM	**Lac du Bonnet**	**34.27**	**357**	P	**P**	**17 43 07.8**	**-1.7**
	comp=Z,1.6nm,0.5s,baz=178,slow=11,SNR=4.8						
	comp=Z,1.6nm,0.5s						
SIV	**San Ignacio**	**44.70**	**134**	LR	LR	18 03 58.7	
	comp=Z,360nm,18.5s,baz=84,slow=37						
YKA	**Yellowknife Ar**	**48.91**	**347**	P	**P**	**17 45 08.1**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=139,slow=8.4,SNR=5.3						
	comp=Z,0.9nm,0.5s						
BDFB	**Brasilia**	**54.35**	**123**	P	**P**	**17 45 48.0**	**-1.4**
	comp=Z,2.2nm,0.4s,baz=297,slow=7.2,SNR=3.7						
	comp=Z,2.2nm,0.4s						
CPUP	**Villa Florida**	**54.47**	**140**	P	**P**	**17 45 49.4**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=326,slow=9.7,SNR=3.6						
	comp=Z,1.8nm,0.8s						
F28M	**Old Crow**	**59.72**	**341**	P	**P**	**17 46 27.4**	**+1.1**
F28M				IAmb	IAmb	17 47 08.5	
	comp=Z,4.3nm,1.2s						
J25K	**Salcha River,**	**60.03**	**337**	P	**P**	**17 46 29.8**	**+1.4**
J25K				IAmb	IAmb	17 46 30.8	
	comp=Z,5.3nm,1.5s						
ILAR	**Eielson Array**	**60.68**	**337**	P	**P**	**17 46 33.8**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=126,slow=5.8,SNR=8.1						
	comp=Z,0.7nm,0.6s						
RND	**Reindeer**	**60.87**	**335**	P	**P**	**17 46 35.8**	**+1.6**
RND				IAmb	IAmb	17 46 36.8	
	comp=Z,3.4nm,0.7s						
D27M	**Malcolm River**	**61.00**	**342**	P	**P**	**17 46 35.6**	**+0.7**
D27M				IAmb	IAmb	17 46 58.6	
	comp=Z,6.2nm,1.4s						
BMAR	**Burnt Mountain**	**61.14**	**340**	P	**P**	**17 46 37.2**	**+1.4**
MDM	**Murphy Dome**	**61.27**	**336**	P	**P**	**17 46 37.4**	**+0.6**
MDM				IAmb	IAmb	17 46 52.9	
	comp=Z,4.9nm,1.4s						
H24K	**Noodor Dome**	**61.53**	**337**	P	**P**	**17 46 40.0**	**+1.4**
G24K	**Hadweenzic Riv**	**61.78**	**338**	P	**P**	**17 46 41.4**	**+1.3**
I23K	**Minto, Yukon-K**	**61.79**	**336**	P	**P**	**17 46 41.7**	**+1.5**
I23K				IAmb	IAmb	17 46 42.5	
	comp=Z,2.7nm,0.8s						
MLY	**Manley**	**62.28**	**336**	P	**P**	**17 46 44.6**	**+1.1**
N19K	**Bonanza Creek**	**62.42**	**331**	P	**P**	**17 46 45.9**	**+1.3**
D25K	**Kavik River**	**62.66**	**341**	P	**P**	**17 46 47.4**	**+1.3**
D25K				IAmb	IAmb	17 46 49.0	
	comp=Z,5.1nm,1.2s						
G23K	**Bananza Creek**	**62.69**	**338**	P	**P**	**17 46 47.4**	**+1.2**
E24K	**Your Creek**	**62.75**	**340**	P	**P**	**17 46 48.1**	**+1.5**
E24K				IAmb	IAmb	17 47 05.5	
	comp=Z,6.0nm,1.5s						
K20K	**Telida**	**63.03**	**334**	P	**P**	**17 46 49.2**	**+0.7**
H21K	**Melozitna Rive**	**63.32**	**336**	P	**P**	**17 46 50.9**	**+0.6**
H21K				IAmb	IAmb	17 47 23.1	
	comp=Z,4.4nm,1.5s						
G21K	**Allakaket**	**63.90**	**337**	P	**P**	**17 46 55.9**	**+1.8**
G21K				IAmb	IAmb	17 46 56.2	
	comp=Z,2.9nm,0.9s						
F21K	**Alatna River**	**64.14**	**338**	P	**P**	**17 46 57.1**	**+1.3**
F21K				IAmb	IAmb	17 46 58.6	
	comp=Z,3.0nm,0.7s						
C23K	**Itkillik River**	**64.22**	**341**	P	**P**	**17 46 57.4**	**+1.3**
E21K	**Killik River**	**64.77**	**339**	P	**P**	**17 47 00.7**	**+0.9**
E21K				IAmb	IAmb	17 47 32.7	
	comp=Z,7.9nm,1.4s						
F20K	**Avaraart Lake**	**64.91**	**337**	P	**P**	**17 47 02.2**	**+1.6**
G19K	**Purcell Mounta**	**65.14**	**336**	P	**P**	**17 47 03.5**	**+1.4**
G19K				IAmb	IAmb	17 47 35.1	
	comp=Z,7.0nm,1.5s						
F19K	**Shaleruckik Mo**	**65.61**	**337**	P	**P**	**17 47 06.3**	**+1.2**
D19K	**Kuna River**	**66.23**	**339**	P	**P**	**17 47 09.7**	**+0.6**
D19K				IAmb	IAmb	17 47 39.2	
	comp=Z,8.3nm,1.4s						
BORG	**Borgarnes**	**67.84**	**26**	LR	LR	18 17 06.0	
	comp=Z,329nm,21.1s,baz=24,slow=36						
DBIC	**Dimbokro**	**86.36**	**84**	LR	LR	18 22 04.2	
	comp=Z,119nm,21.2s,baz=52,slow=32						
CMAR	**Chiang Mai Arr**	**143.84**	**341**	PKP	PKPab	17 55 54.2	+1.2
	comp=Z,0.2nm,0.3s,baz=350,slow=4.6,SNR=1.9						

*BJI **28** 17:38:44.3±0.0, 6°.50S×131°.39E, h85km, mb4.7/36, mB5.0/6, Ms4.7/2*
*DJA **28** 17:38:46.1±0.2, 6°S±2°×13°1E±°, h86km±5km, M5.0/30, mB5.4/18, mb5.0/30, MLv5.6/13, Mw(mB)4.9/18*
*NEIC **28** 17:38:47.1±2.1, 6°.22S±0°.05×131°.35E±0°.08, h83km±6km, mb4.9/55, Error ellipse: s-maj=11.2km s-min=6.8km az=90.0*
*IDC **28** 17:38:49.4±3.4, 6°.25S×131°.45E, h101km±32km, mb4.3/11, mbtmp4.7/13, Error ellipse: s-maj=27.1km s-min=12.2km az=63.0*
ISC 28 17:38:47.6±0.3, 6°.29S±0°.03×131°.35E±0°.04, h100km, n217, σ2°.02/224, mb4.8/47, 3D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.68**	**182**	P	**Pn**	**17 39 14.6**	**-1.5**
SAUI	**Saumlaki**	**1.68**	**182**		**Pn**	**17 39 15.0**	**-1.1**
SAUI				Sn	**Sn**	**17 39 36.3**	**-1.4**
SAUI	**Saumlaki**	**1.68**	**182**	P	**Pn**	**17 39 15.2**	**-0.9**
SAUI				S	**Sn**	**17 39 34.4**	**-3.3**
BNDI	**Bandanaira**	**2.27**	**321**	P	**Pn**	**17 39 23.5**	**-0.3**
BNDI	**Bandanaira**	**2.27**	**321**	P	**Pn**	**17 39 23.4**	**-0.3**
BNDI				S	**Sn**	**17 39 50.1**	**-1.3**
FAKI	**Fak Fak**	**3.47**	**15**	P	**Pn**	**17 39 37.7**	**-2.0**
FAKI	**Fak Fak**	**3.47**	**15**		**Pn**	**17 39 37.3**	**-2.4**
FAKI				Sn	**Sn**	**17 40 15.8**	**-4.1**
FAKI	**Fak Fak**	**3.47**	**15**	P	**Pn**	**17 39 37.6**	**-2.1**
FAKI				S	**Sn**	**17 40 15.5**	**-4.4**
KMPI	**Kaimana, Papua**	**3.51**	**42**	P	**Pn**	**17 39 38.5**	**-1.7**
KMPI				S	**Sn**	**17 40 15.9**	**-5.1**
NLAI	**Namlea**	**5.21**	**305**	P	**Pn**	**17 40 03.9**	**+0.7**
	335nm,0.6s,5μm1.6nm						
SWI	**Sorong**	**5.40**	**359**	P	**Pn**	**17 40 02.8**	**-2.9**
DRS	**Darwin Rock St**	**6.11**	**184**	P	**Pn**	**17 40 13.6**	**-1.9**
KDU	**Kakadu**	**6.45**	**170**	P	**Pn**	**17 40 17.4**	**-2.6**
KDU	**Kakadu**	**6.45**	**170**	P	**Pn**	**17 40 17.1**	**-2.9**
	355nm,0.2s,SNR=72						
MTN	**Manton Dam**	**6.51**	**182**	P	**Pn**	**17 40 19.1**	**-1.8**
MTN	**Manton Dam**	**6.51**	**182**		**Pn**	**17 40 18.2**	**-2.7**
MTN				Sn	**Sn**	**17 41 28.1**	**-5.7**
MTN	**Manton Dam**	**6.51**	**182**	P	**Pn**	**17 40 18.5**	**-2.3**
	1μm,0.3s,SNR=185						
SANI	**Sanana**	**6.81**	**308**	P	**Pn**	**17 40 25.5**	**+0.6**
SANI	**Sanana**	**6.81**	**308**	P	**Pn**	**17 40 24.7**	**-0.2**
	178nm,0.9s,2μm0.6nm						
SOEI	**Soe**	**7.81**	**243**	P	**Pn**	**17 40 38.1**	**-0.5**
SOEI	**Soe**	**7.81**	**243**		**Pn**	**17 40 37.4**	**-1.3**
SOEI				Sn	**Sn**	**17 42 01.0**	**-4.5**
SOEI	**Soe**	**7.81**	**243**	P	**Pn**	**17 40 37.7**	**-0.9**
	218nm,0.7s,3μm2.8nm						
TNTI	**Ternate**	**8.07**	**330**	P	**Pn**	**17 40 41.7**	**-0.3**
TNTI	**Ternate**	**8.07**	**330**		**Pn**	**17 40 39.6**	**-2.4**
TNTI				Sn	**Sn**	**17 42 04.0**	**-7.6**
TNTI	**Ternate**	**8.07**	**330**	P	**Pn**	**17 40 41.5**	**-0.5**
BATI	**Baumata**	**8.54**	**242**	P	**Pn**	**17 40 47.2**	**-1.3**
	168nm,0.7s,3μm						
BBSI	**Bau Bau**	**8.77**	**275**	P	**Pn**	**17 40 54.6**	**+3.0**
	345nm,0.9s,4μm						
MMPI	**Merauke**	**9.22**	**104**	P	**Pn**	**17 40 55.4**	**-2.3**
MMRI	**Maumere**	**9.33**	**255**	P	**Pn**	**17 41 00.9**	**+1.7**
MMRI	**Maumere**	**9.33**	**255**		**Pn**	**17 40 57.0**	**-2.2**
MMRI	**Maumere**	**9.33**	**255**	P	**Pn**	**17 41 00.0**	**+0.8**
	59nm,0.7s,2μm						
GENI	**Genyem**	**9.53**	**68**	P	**Pn**	**17 41 00.7**	**-1.3**
	98nm,0.7s		

28nm,0.6s,SNR=1.4
BBOO Buckleboo 26.75 171 P **P 17 44 18.5 +0.6**
BBOO Buckleboo 26.75 171 P **P 17 44 18.4 +0.6**
BBOO IAmb IAmb 17 45 02.0
comp=Z,28nm,0.8s
MORW Morawa 26.88 211 P **P 17 44 20.9 +1.8**
MORW Morawa 26.88 211 P **P 17 44 20.1 +1.0**
STKA Stephens Creek 27.20 161 P **P 17 44 22.8 +0.8**
STKA Stephens Creek 27.20 161 P **P 17 44 22.2 +0.3**
STKA Stephens Creek 27.20 161 P **P 17 44 22.2 +0.3**
comp=Z,3.9nm,1.0s,SNR=2.0
STKA Stephens Creek 27.20 161 P **P 17 44 22.9 +1.0**
comp=Z,8.3nm,0.4s,baz=336,slow=8.5,SNR=38
comp=Z,8.3nm,0.4s
BLDU Ballidu 27.83 208 P **P 17 44 29.0 +1.4**
HTT Hallett 27.90 166 P **P 17 44 29.2 +0.9**
KLBR Kellerberrin 28.20 205 P **P 17 44 31.9 +1.0**
KLBR Kellerberrin 28.20 205 P **P 17 44 31.7 +0.8**
comp=Z,44nm,0.8s,SNR=2.8
CMSA Cobar Meteorol 28.48 154 P **P 17 44 34.6 +1.2**
CMSA Cobar Meteorol 28.48 154 P **P 17 44 34.4 +1.0**
comp=Z,20nm,1.2s,SNR=3.8
NWAO Narrogin (SRO) 29.58 205 **P 17 44 44.1 +1.1**
NWAO IAmb IAmb 17 45 42.8
comp=Z,19nm,0.7s
ARMA Armidale 30.65 144 P **P 17 44 53.5 +0.8**
ARMA IAmb IAmb 17 45 46.2
comp=Z,39nm,1.8s
ARPS Mount Arapiles 31.81 164 P **P 17 45 04.5 +1.7**
KULM Kulim 32.73 290 P **P 17 45 09.6 -1.5**
KULM IAmb IAmb 17 46 08.5
comp=Z,63nm,1.7s
CAN Canberra 33.14 153 P **P 17 45 16.6 +2.1**
CAN Canberra 33.14 153 P **P 17 45 15.7 +1.2**
CAN IAmb IAmb 17 45 17.6
comp=Z,17nm,0.9s
CAN Canberra 33.14 153 P **P 17 45 16.5 +2.0**
CAN sP **sP 17 45 43.9 -4.8**
CNB Canberra Magne 33.30 153 P **P 17 45 18.4 +2.5**
UBPT Khong Chiam 33.42 310 P **P 17 45 17.7 +0.7**
UBPT IAmb IAmb 17 45 18.8
comp=Z,14nm,0.8s
TOO Toolangi 33.69 160 P **P 17 45 21.8 +2.6**
TOO Toolangi 33.69 160 P **P 17 45 21.5 +2.3**
TOO IAmb IAmb 17 45 22.8
comp=Z,22nm,0.9s
GEXS Deakin Univers 33.87 162 P **P 17 45 23.8 +3.2**
GSI Gunungsitoli 34.55 281 P **P 17 45 25.4 -1.5**
NOUC Port Laguerre 37.22 119 P **P 17 45 51.5 +1.9**
DZM Mont Dzumac 37.33 118 P **P 17 45 50.6 0.0**
DZM IAmb IAmb 17 46 34.3
comp=Z,27nm,1.4s
MOO Moorlands 38.64 161 P **P 17 46 04.0 +2.8**
TAU Tasmania Unive 39.10 161 P **P 17 46 07.5 +2.4**
TAU Tasmania Unive 39.10 161 P **P 17 46 06.3 +1.2**
PHRA Phrae 39.35 309 P **P 17 46 08.9 +1.4**
NJ2 Nanjing 39.95 343 *eP* **P 17 46 14.5 +2.3**
NJ2 pmax pmax
comp=Z,19nm,0.5s
CM31 Chiang Mai Arr 40.33 308 P **P 17 46 13.7 -1.9**
CMAR Chiang Mai Arr 40.33 308 P **P 17 46 13.8 -1.8**
CMAR Chiang Mai Arr 40.33 308 P **P 17 46 17.1 +1.5**
comp=Z,3.8nm,0.8s,baz=139,slow=7.4,SNR=22
comp=Z,3.8nm,0.8s
GYA Guiyang 40.41 325 P **P 17 46 17.5 +1.2**
GYA pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 40.53 309 P **P 17 46 15.8 -1.4**
CHTO IAmb IAmb 17 46 19.4
comp=Z,12nm,0.9s
ENH Enshi 41.97 331 P **P 17 46 29.5 +0.6**
ENH pP **pP 17 46 49.0 -0.9**
ENH sP **pwP 17 46 58.6 -0.9**
MJAR Matsushiro Arr 43.09 8 P **P 17 46 39.1 +1.3**
comp=Z,3.1nm,1.0s,baz=182,slow=8.2,SNR=3.0
comp=Z,3.1nm,1.0s
MAJO Matsushiro 43.09 8 P **P 17 46 37.5 -0.3**
MAJO IAmb IAmb 17 46 49.8
comp=Z,15nm,0.8s
MJB9 Matsu-Tunnel 43.10 8 P **P 17 46 36.8 -1.1**
MJB9 IAmb IAmb 17 46 50.8
comp=Z,14nm,0.9s
PZH PanZhiHua 43.44 320 P **P 17 46 43.8 +2.9**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,4.7s
KSRS Korea Array 43.64 356 P **P 17 46 43.4 +1.2**
comp=Z,0.3nm,0.3s,baz=180,slow=9.8,SNR=1.8
SHL Shillong 49.73 311 P **P 17 47 29.4 -0.8**
SHL IAmb IAmb 17 47 31.5
comp=Z,12nm,0.8s
USRK Ussuriysk Ar. 50.26 1 P **P 17 47 35.3 +1.6**
comp=Z,1.3nm,0.6s,baz=204,slow=8.6,SNR=2.9
comp=Z,1.3nm,0.6s
HHC Hu-ho-hao-te 50.31 341 *eP* **P 17 47 35.5 +1.3**
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,230nm,5.7s
MLZ Mavora Lakes 50.31 147 P **P 17 47 35.2 +1.1**
WHZ Wether Hill Ro 50.56 147 P **P 17 47 37.3 +1.3**
LBZ Lake Benmore 50.87 145 P **P 17 47 40.3 +2.0**
THZ Tophouse 51.04 140 P **P 17 47 41.2 +1.5**
TUWZ Tuamarina 51.53 139 P **P 17 47 44.8 +1.5**
KHZ Kahutara 51.79 141 P **P 17 47 46.5 +1.4**
BHW Baring Head 52.12 139 P **P 17 47 47.9 +0.2**
BKZ Black Stump Fm 52.15 136 P **P 17 47 49.4 +1.4**
YSS Yuzh-Sakhalins 53.97 10 P **P 17 48 01.4 +0.3**
YSS IAmb IAmb 17 48 30.6
comp=Z,33nm,1.8s
GTA Gaotai 54.02 330 P **P 17 48 03.5 +1.7**
GTA pP pwP 17 48 30.3 -3.0
GTA sP sP 17 48 39.8 +5.8
GTA pmax pmax
comp=Z,5.0nm,1.2s
DRV Dumont d'Urvil 60.57 176 P **P 17 48 49.1 +1.9**
CASY Casey 61.61 189 P **P 17 48 56.1 +1.9**
CASY IAmb IAmb 17 50 47.1
comp=Z,10nm,1.3s
CASY Casey 61.61 189 P **P 17 48 56.0 +1.9**
CASY pP **pP 17 49 16.4 -1.9**
WMQ Urumqi 63.55 326 *eP* **P 17 49 10.5 +2.9**
WMQ pmax pmax
comp=Z,23nm,0.7s
NIL Nilore 67.78 310 P **P 17 49 36.4 +1.3**
TARG Taragay, Kyrgy 68.29 320 P **P 17 49 41.1 +2.6**
MK31 Makanchi Array 68.38 326 P **P 17 49 40.1 +1.6**
MK31 IAmb IAmb 17 49 41.4
comp=Z,14nm,0.9s
MKAR Makanchi Array 68.38 326 P **P 17 49 40.3 +1.8**
MKAR Makanchi Array 68.38 326 P **P 17 49 40.6 +2.2**
comp=Z,14nm,0.4s,baz=116,slow=7.7,SNR=274
comp=Z,14nm,0.4s
KSH Kashi 68.41 317 P **P 17 49 42.0 +3.0**
KSH pmax pmax
comp=Z,10.0nm,0.7s
MAKZ Makanchi 68.56 326 P **P 17 49 41.0 +1.4**
MAKZ Makanchi 68.56 326 P **P 17 49 41.6 +2.0**
MAKZ pP **pP 17 50 02.1 -0.4**
MAKZ sP **pwP 17 50 11.2 -0.8**
CCD Concordia, Ant 68.91 182 P **P 17 49 44.4 +2.6**
CCD pP **PcP 17 50 04.8 -0.7**
CCD sP **sP 17 50 15.1 -1.3**
NRN Naryn 69.32 319 P **P 17 49 46.6 +1.8**
BOOM Boomskoye usch 69.87 320 P **P 17 49 49.8 +1.8**
BOOM IAmb IAmb 17 49 51.3
comp=Z,19nm,1.2s
AMKA Amchitka 70.59 30 P P 17 49 46.8 -5.1
AAK Ala-Archa 70.88 319 P **P 17 49 54.9 +0.8**
AAK IAmb IAmb 17 49 58.2
comp=Z,15nm,1.2s
AAK Ala-Archa 70.88 319 P **P 17 49 56.6 +2.5**
comp=Z,2.8nm,0.3s,baz=156,slow=3.1,SNR=5.1
comp=Z,2.8nm,0.3s
AAK Ala-Archa 70.88 319 P **P 17 49 57.0 +2.9**
ARSB Arslanbob 71.27 317 P **P 17 49 58.2 +1.7**
KBL Kabul 71.34 310 P **P 17 49 58.1 +0.9**
KBL IAmb IAmb 17 49 59.7
comp=Z,23nm,1.2s
ZAA0 Zalesovo Array 71.55 333 P **P 17 49 58.8 +1.1**
ZAA0 IAmb IAmb 17 49 59.6
comp=Z,9.1nm,0.8s
ZALV Zalesovo Beam 71.55 333 P **P 17 49 58.3 +0.6**
ZALV Zalesovo Beam 71.55 333 P **P 17 49 58.7 +1.0**
comp=Z,8.3nm,0.6s,baz=125,slow=5.6,SNR=28
comp=Z,8.3nm,0.6s
BTK Batken 72.21 315 P **P 17 50 03.3 +1.2**
BTK IAmb IAmb 17 50 05.9
comp=Z,10nm,0.9s
KURBB Kurchatov Arra 72.62 328 P **P 17 50 06.0 +1.8**
comp=Z,12nm,0.5s,baz=126,slow=5.1,SNR=90
comp=Z,12nm,0.5s
KURK Kurchatov 72.62 328 P **P 17 50 05.2 +1.0**
KURK IAmb IAmb 17 50 06.8
comp=Z,13nm,0.9s
SIMJ Simiganj 72.93 313 P **P 17 50 07.7 +1.2**
SIMJ IAmb IAmb 17 50 09.5
comp=Z,15nm,0.8s
VNDA Vanda 72.99 173 P **P 17 50 07.6 +1.8**
VNDA Vanda 72.99 173 P **P 17 50 07.9 +2.0**
comp=Z,1.1nm,0.8s,baz=327,slow=6.2,SNR=8.2
comp=Z,1.1nm,0.8s
KK31 Karatay Array 73.70 318 P **P 17 50 11.9 +1.2**
KKAR Karatay Array 73.70 318 P **P 17 50 12.2 +1.5**
KKAR Karatay Array 73.70 318 P **P 17 50 11.7 +1.0**
KKAR IAmb IAmb 17 50 13.5
comp=Z,6.2nm,0.8s
BVAR Borovoye Array 78.19 327 P **P 17 50 37.6 +1.6**
comp=Z,9.6nm,0.7s,baz=127,slow=9.4,SNR=51
comp=Z,9.6nm,0.7s
BRVK Borovoye 78.26 327 P **P 17 50 37.6 +1.2**
BRVK IAmb IAmb 17 50 38.9
comp=Z,9.9nm,0.8s
UOSS Minazif 79.30 297 P **P 17 50 43.4 +0.7**
NRIK Noril'sk 81.21 346 P **P 17 50 52.9 +1.0**
VOI Vohitsoka 82.65 249 P **P 17 51 00.7 0.0**
ABKAR Akbulak array 82.80 321 P **P 17 51 00.4 -0.3**
ABKAR Akbulak array 82.80 321 P **P 17 51 00.3 -0.3**
ABKAR IAmb IAmb 17 51 02.9
comp=Z,5.5nm,1.0s
QSPA South Pole Qui 83.68 180 P **P 17 51 05.7 +0.6**
QSPA IAmb IAmb 17 51 07.7
comp=Z,7.3nm,0.8s
QSPA South Pole Qui 83.68 180 P **P 17 51 06.8 +1.8**
comp=Z,5.5nm,0.7s,baz=313,slow=1.5,SNR=34
comp=Z,5.5nm,0.7s
CHGN Chignik 84.44 32 P **P 17 51 09.2 +0.4**
ARU Arti 85.82 328 P **P 17 51 16.6 +0.8**
ELIB Princess Elisa 89.56 197 *d*P **P 17 51 36.5 +2.8**
TABL Table Mountain 94.20 30 P **P 17 51 56.2 +0.9**
TABL IAmb IAmb 17 52 33.8
comp=Z,6.0nm,0.7s
TROLL Troll, Antarti 95.17 194 ⇓P **P 17 52 01.9 +2.3**
comp=Z,24nm,0.6s
SNAA Sanae 96.66 193 ⇓P **P 17 52 08.0 +1.7**
comp=Z,24nm,1.0s
TORD Torodi Ar. Bea 129.98 282 PKP **PKiKP 17 57 48.7 +1.2**
comp=Z,0.2nm,0.4s,baz=85,slow=4.3,SNR=2.5
CPUP Villa Florida 146.50 166 PKPbc **PKPab 17 58 19.6 +0.5**
comp=Z,0.9nm,0.4s,baz=192,slow=7.3,SNR=3.5

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*IDC **28** 17:47:21.0±1.2, 44°.85N×102°.02E, h0km, mb3.6/5, mbtmp3.7/7, ML3.6/2, Error ellipse: s-maj=21.5km s-min=19.2km az=167.0*

ISC 28 17:47:23.1±0.8, 44°.88N±0°.07×102°.0E±0°.1, h10km, n10, σ2§10/11, mb3.7/4, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**4.27**	**45**	P	Pn	**Pn**	**17 48 27.8**	**-0.4**
	8.5nm,0.3s,baz=228,slow=15,SNR=50							
SONM				Pg		**Pb**	**17 48 39.4**	**+1.1**
	24nm,0.3s,baz=230,slow=17,SNR=34							
SONM				Lg		Lg	17 49 34.0	
	49nm,0.3s,baz=221,slow=31,SNR=18							
	13nm,0.3s							
GTA	**Gaotai**	**5.69**	**197**	Pn		**Pn**	**17 48 48.0**	**+0.3**
GTA				Pg		**Pb**	**17 49 06.3**	**+3.8**
GTA				Sg		**Sg**	**17 50 22.3**	**-3.3**
GTA				smax		smax		
	comp=N,83nm,0.7s							
GTA				smax		smax		
	comp=E,80nm,0.9s							
GTA				LR		LR		
	comp=N,270nm,5.6s							
GTA				LR		LR		
	comp=E,400nm,6.4s							
GTA				LR		LR		
	comp=Z,53nm,6.0s							
MKAR	**Makanchi Array**	**13.84**	**285**	Lg		Lg	17 54 40.6	
	comp=Z,0.1nm,0.3s,baz=91,slow=35,SNR=2.7							
ZALV	**Zalesovo Beam**	**14.35**	**315**	Lg		Lg	17 54 49.9	
	comp=Z,0.1nm,0.3s,baz=122,slow=24,SNR=6.2							
KURBB	**Kurchatov Arra**	**16.73**	**298**	Pn		**Pn**	**17 51 16.9**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=102,slow=13,SNR=7.0							
KURBB				Lg		Lg	17 56 10.6	
	baz=100,slow=31,SNR=7.1							
	comp=Z,4.0nm,0.8s							
KSRS	**Korea Array**	**20.85**	**102**	P		**P**	**17 52 03.0**	**-1.9**
	comp=Z,1.6nm,1.0s,baz=287,slow=9.3,SNR=3.6							
	comp=Z,1.6nm,1.0s							
BVAR	**Borovoye Array**	**22.13**	**303**	P		**P**	**17 52 17.7**	**-0.9**
	comp=Z,3.7nm,0.6s,baz=99,slow=10,SNR=7.2							
	comp=Z,3.7nm,0.6s							
ILAR	**Eielson Array**	**58.31**	**28**	P		**P**	**17 57 17.7**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=297,slow=5.0,SNR=5.5							
	comp=Z,0.4nm,0.6s							
WRA	**Warramunga Arr**	**70.95**	**148**	P		**P**	**17 58 41.1**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=347,slow=7.3,SNR=1.8							
	comp=Z,0.5nm,0.9s							
ASAR	**Alice Springs**	**74.19**	**150**	P		**P**	**17 58 58.1**	**-1.8**
	comp=Z,0.4nm,0.9s,baz=340,slow=5.2,SNR=1.5							
	comp=Z,0.4nm,0.9s							

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*SJA **28** 17:47:22.4±0.6, 19°.93S×69°.18W, h104km±3km, ML3.7, MW3.9*

*GUC **28** 17:47:24.0±0.6, 19°.94S×69°.12W, h97km±2km, ML3.5*

ISC 28 17:47:24.9±1.6, 19°.93S±0°.04×69°.23W±0°.08, h93km±9km, n23, σ1§15/38, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.26**	**8**	*e*P		**Pn**	**17 47 38.5**	**-0.5**
GO01				*e*S		**Sn**	**17 47 50.4**	**+0.9**
GO01				IAML			17 47 51.4	
	comp=Z,4μm,0.5s							
GO01	**Chusmiza**	**0.26**	**8**	*e*P		**Pn**	**17 47 38.5**	**-0.5**
GO01				*i* S		**Sn**	**17 47 50.0**	**+0.4**
PB11	**IPOC Station P**	**0.43**	**293**	*e*P		**Pn**	**17 47 39.1**	**-0.5**
PB11				*e*S		**Sn**	**17 47 51.9**	**+1.4**
PB11				IAML			17 47 55.0	
	comp=Z,1μm,0.4s							
PB11	**IPOC Station P**	**0.43**	**293**	⇓*i*P		**Pn**	**17 47 39.2**	**-0.4**
PB11				*i* S		**Sn**	**17 47 51.3**	**+0.8**
PB11				IAML			17 47 51.9	
	comp=N,3μm,0.5s							
PX03	**IPOC Station P**	**0.60**	**218**	⇑*i*P		**Pn**	**17 47 39.5**	**-1.4**
PX03				*i* S		**Sn**	**17 47 52.8**	**+0.1**
PX03				IAML			17 47 53.8	
	comp=N,3μm,0.2s							
TA02	**Huaiquique**	**0.91**	**248**	*e*P		**Pn**	**17 47 43.2**	**-0.5**
TA02				IAML			17 48 00.7	
	comp=Z,1μm,0.1s							
TA02	**Huaiquique**	**0.91**	**248**	*e*P		**Pn**	**17 47 43.5**	**-0.2**
TA02				*i* S		**Sn**	**17 47 59.0**	**+1.1**
TA02				IAML			17 48 02.1	
	comp=N,1μm,0.2s							
TA01	**Diego Aracena**	**1.09**	**235**	*e*P		**Pn**	**17 47 45.2**	**-0.6**
TA01				*e*S		**Sn**	**17 48 02.4**	**+0.9**
TA01	**Diego Aracena**	**1.09**	**235**	⇓*i*P		**Pn**	**17 47 45.1**	**-0.6**
TA01				*i* S		**Sn**	**17 48 01.8**	**+0.3**
TA01				IAML			17 48 02.8	
	comp=E,2μm,0.4s							
PB01	**IPOC Station P**	**1.13**	**192**	*e*P		**Pn**	**17 47 45.5**	**-0.8**
PB01				*e*S		**Sn**	**17 48 03.0**	**+0.5**
PB01				IAML			17 48 05.0	
	comp=Z,1μm,0.2s							
PB01	**IPOC Station P**	**1.13**	**192**	⇓*i*P		**Pn**	**17 47 45.6**	**-0.8**
PB01				*i* S		**Sn**	**17 48 02.3**	**-0.3**
PB01				IAML			17 48 04.0	
	comp=N,3μm,0.3s							
PX02	**IPOC Station P**	**1.33**	**316**	*e*P		**Pn**	**17 47 47.3**	**-1.4**
PX02				*i* S		**Sn**	**17 48 06.2**	**-0.5**
PX02				IAML			17 48 10.0	
	comp=N,555nm,0.4s							
PB09	**IPOC Station P**	**1.86**	**180**	*e*P		Pn	17 47 39.2	-16
PB09				*e*S		**Sn**	**17 48 20.0**	**+1.3**
PB09				IAML			17 48 23.4	
	comp=Z,494nm,0.7s							
AP01	**Chacalluta**	**1.87**	**326**	*e*P		**Pn**	**17 47 54.9**	**-0.6**
AP01				*e*S		**Sn**	**17 48 20.6**	**+1.8**
AP01				IAML			17 48 34.2	
	comp=Z,342nm,0.2s							
AP01	**Chacalluta**	**1.87**	**326**	*e*P		**Pn**	**17 47 55.2**	**-0.3**
PB04	**IPOC Station P**	**2.54**	**200**	*e*P		**Pn**	**17 48 04.0**	**-0.5**
PB04				*e*S		**Sn**	**17 48 33.8**	**-1.0**
PB04				IAML			17 48 48.5	
	comp=Z,344nm,0.2s							
PB04	**IPOC Station P**	**2.54**	**200**	*e*P		**Pn**	**17 48 03.7**	**-0.8**
PB06	**IPOC Station P**	**2.78**	**186**	*e*P		**Pn**	**17 48 06.9**	**-0.7**
PB06				*e*S		**Sn**	**17 48 44.2**	**+3.7**
PB06				IAML			17 48 46.4	
	comp=Z,293nm,0.2s							
PB06	**IPOC Station P**	**2.78**	**186**	*e*P		**Pn**	**17 48 06.7**	**-1.0**
PB05	**IPOC Station P**	**3.04**	**197**	*e*P		**Pn**	**17 48 10.1**	**-1.1**
PB05				*e*S		**Sn**	**17 48 49.0**	**+2.2**
PB05				IAML			17 48 54.2	
	comp=Z,137nm,0.7s							
PB05	**IPOC Station P**	**3.04**	**197**	*e*P		**Pn**	**17 48 10.1**	**-1.1**
PB15	**IPOC Station P**	**3.27**	**184**	*e*P		**Pn**	**17 48 13.7**	**-0.6**
PB15				*e*S		Sn	17 49 02.6	+10
GO02	**Mina Guanaco**	**5.22**	**184**	*e*P		**Pn**	**17 48 39.6**	**-1.2**
GO02				*e*S		Sn	17 49 47.5	+7.7
GO02				IAML			17 50 12.3	
	comp=Z,82nm,0.5s							

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*IDC **28** 17:56:22.2±1.3, 4°.63N×124°.16E, h0km, mb4.0/4, mbtmp4.1/5, ML4.4/1, Error ellipse: s-maj=55.8km s-min=21.8km az=76.0*

*DJA **28** 17:56:26.7±2.7, 4°N±26°×12°6E±°, h361km±19km, M4.0/8, mb3.9/3, mB4.7/2, MLv4.0/8, Mw(mB)4.0/2*

*NEIC **28** 17:56:32.0±1.9, 4°.90N±0°.07×125°.17E±0°.09, h74km±9km, mb4.1/21, Error ellipse: s-maj=13.4km s-min=9.5km az=87.0*

ISC 28 17:56:32.6±0.6, 4°.93N±0°.04×125°.09E±0°.07, h100km, n40, σ1§92/42, mb4.1/10, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.18**	**13**	Pn		**Pn**	**17 57 06.6**	**-0.9**
DAV	**Davao City (W)**	**2.18**	**13**	Pn		**Pn**	**17 57 07.4**	**-0.1**
	53nm,0.3s,baz=59,slow=15,SNR=2.3							
DAV				Sn		**Sn**	**17 57 28.2**	**-5.9**
	60nm,0.3s,baz=100,slow=23,SNR=7.2							
	132nm,0.4s							
KMSI	**Cibinong**	**4.47**	**194**	P		**Pn**	**17 57 35.6**	**-2.6**
KMSI				S		**Sn**	**17 58 28.0**	**-1.1**
TNTI	**Ternate**	**4.72**	**151**	Pn		**Pn**	**17 57 39.5**	**-2.0**
TNTI	**Ternate**	**4.72**	**151**	P		Pn	17 57 35.2	-6.3
GTOI	**Gorontalo**	**4.75**	**206**	P		**Pn**	**17 57 40.3**	**-1.7**
GTOI				S		**Sn**	**17 58 33.1**	**-2.8**
TOLI2	**Tolitoli**	**5.74**	**229**			**Pn**	**17 57 53.8**	**-1.7**
TOLI2				Sn		**Sn**	**17 58 54.7**	**-5.3**
LUWI	**Luwuk**	**6.37**	**201**	Pn		**Pn**	**17 58 04.6**	**+0.6**
LUWI	**Luwuk**	**6.37**	**201**	P		Pn	17 57 56.2	-7.8
	68nm,0.5s,1μm							
MYLDM	**Lahad Datu**	**6.57**	**272**	Pn		**Pn**	**17 58 07.1**	**+0.4**
MYLDM				Sn		**Sn**	**17 59 20.4**	**+0.1**
MPSI	**Mapaga**	**6.91**	**229**	P		**Pn**	**17 58 08.4**	**-3.0**
	3.6nm,0.7s,0.1nm							
KKM	**Kota Kinabalu**	**8.91**	**278**	Pn		**Pn**	**17 58 38.9**	**+0.3**
FAKI	**Fak Fak**	**10.58**	**137**	Pn		**Pn**	**17 58 57.8**	**-3.5**
MTN	**Manton Dam**	**18.65**	**161**	P		**P**	**18 00 41.3**	**-1.5**
KNRA	**Kununurra**	**20.80**	**170**	P		**P**	**18 01 05.3**	**-0.7**
KNRA				IAmb		IAmb	18 01 17.1	
	comp=Z,14nm,1.4s							
FITZ	**Fitzroy Crossi**	**22.89**	**179**	P		**P**	**18 01 29.4**	**+1.4**
COEN	**Coen**	**25.97**	**137**	P		**P**	**18 01 54.7**	**-1.4**
COEN				IAmb		IAmb	18 02 25.8	
	comp=Z,6.1nm,1.1s							
WB0	**Warramunga Arr**	**26.20**	**160**	P		**P**	**18 01 58.7**	**+0.6**
WB0				IAmb		IAmb	18 02 01.4	
	comp=Z,6.7nm,0.9s							
WRAB	**Tennant Creek**	**26.34**	**160**	P		**P**	**18 01 59.4**	**+0.1**
WRA	**Warramunga Arr**	**26.34**	**160**	P		**P**	**18 02 00.1**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=330,slow=11,SNR=38							
	comp=Z,2.3nm,0.8s							
WB2	**Warramunga Arr**	**26.34**	**160**	P		**P**	**18 02 00.1**	**+0.7**
WB2				IAmb		IAmb	18 02 05.2	
	comp=Z,4.5nm,0.9s							
WR0	**Warramunga Arr**	**26.42**	**160**	P		**P**	**18 02 00.3**	**+0.2**
AS31	**Alice Springs**	**29.70**	**164**	P		**P**	**18 02 29.7**	**+0.4**
ASAR	**Alice Springs**	**29.70**	**164**	P		**P**	**18 02 30.1**	**+0.7**
ASAR	**Alice Springs**	**29.70**	**164**	P		**P**	**18 02 30.6**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=343,slow=7.5,SNR=32							
	comp=Z,0.9nm,0.5s							
JMN	**Monobe**	**29.79**	**15**	P		P	18 02 35.8	+5.7
CTAO	**Charters Tower**	**32.42**	**141**	P		**P**	**18 02 53.9**	**+0.6**
CTAO				IAmb		IAmb	18 02 55.2	
	comp=Z,5.9nm,1.2s							
BBOO	**Buckleboo**	**38.95**	**165**	P		**P**	**18 03 49.9**	**+0.9**
STKA	**Stephens Creek**	**39.84**	**158**	P		**P**	**18 03 57.9**	**+1.5**
STKA				IAmb		IAmb	18 04 31.4	
	comp=Z,3.9nm,1.5s							
STKA	**Stephens Creek**	**39.84**	**158**	P		**P**	**18 03 58.2**	**+1.9**
	comp=Z,3.4nm,0.6s,baz=0.8,slow=9.6,SNR=7.5							
	comp=Z,3.4nm,0.6s							
CAN	**Canberra**	**45.92**	**153**	P		**P**	**18 04 47.6**	**+2.1**
MKAR	**Makanchi Array**	**55.64**	**326**	P		**P**	**18 05 58.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=125,slow=7.0,SNR=5.6							
	comp=Z,0.5nm,0.6s							
LBZ	**Lake Benmore**	**63.59**	**145**	P		**P**	**18 06 54.0**	**+1.1**
THZ	**Tophouse**	**63.65**	**142**	P		**P**	**18 06 53.7**	**+0.3**
CMWZ	**Cape Campbell**	**64.45**	**141**	P		**P**	**18 06 59.0**	**+0.4**
BKZ	**Black Stump Fm**	**64.56**	**138**	P		**P**	**18 07 00.5**	**+1.1**
CASY	**Casey**	**71.82**	**186**	P		**P**	**18 07 46.8**	**+2.7**
D19K	**Kuna River**	**80.60**	**21**	P		**P**	**18 08 33.4**	**-0.5**
D19K				IAmb		IAmb	18 08 36.4	
	comp=Z,5.6nm,1.3s							
E19K	**Redstone River**	**80.74**	**22**	P		**P**	**18 08 34.1**	**-0.5**
E19K				IAmb		IAmb	18 08 54.4	
	comp=Z,3.6nm,1.2s							
H19K	**Roundabout Mou**	**80.75**	**24**	P		**P**	**18 08 34.5**	**-0.1**

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*IDC **28** 18:00:25.2±1.2, 37°.47N×143°.86E, h0km, mb3.7/9, mbtmp3.8/13, ML3.7/4, MS3.4/2, Error ellipse: s-maj=25.8km s-min=22.6km az=129.0*

*NIED **28** 18:00:29.0, 37°.45N×143°.74E, h64km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-8.35; $M_{\theta\theta}$1.12; $M_{\phi\phi}$7.23; $M_{r\theta}$-0.59; $M_{\theta\phi}$2.04; $M_{r\phi}$0.29; Fault plane solution: $M_0$8.12000×10^{14} NP1: ϕ_s193.00000°, δ46.00000°, λ-96.00000°. NP2: ϕ_s21.00000°, δ45.00000°, λ-84.00000°.*

*JMA **28** 18:00:29.0±0.3, 37°.5N±0°.9×14°4E±°, h64km, MV4.1/26, FAR E OFF FUKUSHIMA PREF*

ISC 28 18:00:30.3±0.9, 37°.43N±0°.05×143°.71E±0°.08, h35km, n29, σ1§65/37, mb3.8/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.98**	**297**	P		**Pn**	**18 01 01.2**	**-0.1**
JIKH				*e*S		**Sn**	**18 01 25.2**	**+0.2**
JIO	**Ouri**	**2.13**	**299**	P		**Pn**	**18 01 03.3**	**0.0**
JIO				S		**Sn**	**18 01 29.0**	**+0.4**
JKMT	**Kesennumamotoy**	**2.24**	**309**	P		**Pn**	**18 01 04.5**	**-0.4**
JKMT				S		**Sn**	**18 01 30.8**	**-0.5**
JMST	**Minamisoumatoc**	**2.26**	**278**	*e*P		**Pn**	**18 01 05.0**	**-0.2**
JMST				S		**Sn**	**18 01 32.4**	**+0.5**
JMK	**Ichinoseki**	**2.48**	**308**	P		**Pn**	**18 01 08.0**	**-0.2**
JMK				S		**Sn**	**18 01 37.1**	**-0.2**
JOTO	**OTAMA OYAMA**	**2.69**	**274**	P		**Pn**	**18 01 12.0**	**+0.9**
JOTO				S		**Sn**	**18 01 44.9**	**+2.4**
JOM	**Ohasama**	**2.79**	**318**	P		**Pn**	**18 01 12.3**	**-0.1**
JOM				S		**Sn**	**18 01 44.6**	**-0.2**
JYK

comp=Z,167nm,19.8s,baz=84,slow=42
3.6nm,0.3s
JHJ Hachijo jima 2 5.37 218 Pn **Pn 18 01 46.7 -1.2**
3.7nm,0.3s,baz=53,slow=15,SNR=1.2
JHJ Sn **Sn 18 02 42.8 -5.7**
14nm,0.3s,baz=78,slow=19,SNR=1.5
138nm,0.8s
ASAJ Asahikawa 6.73 353 Pn **Pn 18 02 05.0 -1.6**
5.3nm,0.3s,baz=198,slow=9.6,SNR=72
ASAJ Sn **Sn 18 03 16.4 -5.6**
1.0nm,0.3s,baz=60,slow=33,SNR=5.6
15nm,0.3s
USRK Ussuriysk Ar. 11.16 311 Pn **Pn 18 03 05.6 -1.7**
0.3nm,0.3s,baz=122,slow=12,SNR=4.3
1.2nm,0.7s
H11N2 WAKE ISLAND Hy 26.82 125 T T 18 33 55.7
baz=318
H11N1 WAKE ISLAND Hy 26.83 125 T T 18 33 50.0
baz=318
H11N3 WAKE ISLAND Hy 26.84 125 T T 18 33 52.5
baz=318
SONM Songino Array 29.10 303 P **P 18 06 28.4 +0.8**
0.4nm,0.7s,baz=100,slow=9.5,SNR=3.0
0.4nm,0.7s
ZALV Zalesovo Beam 43.01 312 P **P 18 08 25.9 -0.1**
0.7nm,0.5s,baz=90,slow=10,SNR=2.7
0.7nm,0.5s
MKAR Makanchi Array 45.46 302 P **P 18 08 46.8 +1.0**
0.4nm,0.7s,baz=98,slow=6.4,SNR=2.9
0.4nm,0.7s
KURBB Kurchatov Arra 47.20 308 P **P 18 09 00.4 +1.0**
0.7nm,0.4s,baz=83,slow=8.1,SNR=6.8
0.7nm,0.4s
ILAR Eielson Array 48.17 33 P **P 18 09 06.2 -0.6**
1.2nm,0.7s,baz=267,slow=6.7,SNR=17
1.2nm,0.7s
BVAR Borovoye Array 51.66 312 P **P 18 09 33.2 -0.2**
0.7nm,0.6s,baz=62,slow=7.2,SNR=3.4
0.7nm,0.6s
WRA Warramunga Arr 57.74 190 P **P 18 10 18.6 +0.8**
1.8nm,0.6s,baz=11,slow=7.6,SNR=2.5
1.8nm,0.6s
HFS Hagfors 74.47 337 P **P 18 12 05.5 +0.8**
0.5nm,0.4s,baz=31,slow=6.1,SNR=5.6
0.5nm,0.4s
EIL Elat 85.69 304 LR LR 18 55 28.4
comp=Z,48nm,18.1s,baz=249,slow=38
TXAR Lajitas Array 88.42 54 P **P 18 13 18.5 -0.6**
0.2nm,0.8s,baz=309,slow=5.7,SNR=2.9
0.2nm,0.8s

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*IDC **28** 18:00:50.6±0.7, 33°.54N×47°.64E, h0km, mb4.0/20, mbtmp4.0/26, ML3.6/6, Error ellipse: s-maj=16.5km s-min=12.3km az=165.0*
*TEH **28** 18:00:51.8, 33°.65N×47°.68E, h9km, ML4.1*
*NAO **28** 18:00:51.2, 32°.95N×47°.33E, h33km, mb3.9*
*NEIC **28** 18:00:51.5±2.6, 33°.43N±0°.07×47°.66E±0°.09, h10km±1km, mb4.2/37, Error ellipse: s-maj=14.5km s-min=9.3km az=48.0*
*ISN **28** 18:00:52.8±2.3, 33°.68N×47°.64E, h27km±17km, ML4.0*
*OMAN **28** 18:00:58.5±0.1, 33°.22N×48°.08E, h10km, mb3.8/21, ms3.1/2, Error ellipse: s-maj=1.5km s-min=1.4km az=300.0*

ISC 28 18:00:52.2±0.4, 33°.53N±0°.03×47°.72E±0°.03, h14km, n182, σ1§79/196, **mb4.2/41, 3D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KCHF	**Cheshme Sefid,**	**0.93**	**323**	Pg	**Pg**	**18 01 07.7**	**-2.5**
IBZA	**Bozab**	**0.94**	**7**	Pg	**Pg**	**18 01 07.9**	**-2.5**
HSAM	**Samen**	**1.00**	**47**	Pg	**Pb**	**18 01 09.5**	**-1.9**
HSAM				Sg	**Sb**	**18 01 24.3**	**-0.2**
ILBA	**Ilam Banvizeh**	**1.27**	**275**	Pg	**Pn**	**18 01 15.1**	**-0.4**
SNQR	**Sonqor, Kerman**	**1.32**	**357**	Pg	**Pn**	**18 01 15.2**	**-1.4**
ILIN	**Lien**	**1.52**	**336**	Pg	**Pn**	**18 01 18.0**	**-1.2**
IBDR	**Badra**	**1.56**	**255**	*e*Pg	**Pn**	**18 01 19.0**	**-0.5**
	baz=68						
IBDR				*e*Sg	**Sg**	**18 01 42.0**	**-0.4**
IBDR				AML	AML	18 01 47.8	
	comp=E,3μm,1.0s						
IBDR				AML	AML	18 01 57.9	
	comp=N,2μm,0.6s						
IDHR	**Dehrash**	**1.61**	**317**	Pg	**Pb**	**18 01 21.0**	**-0.7**
GLG1	**Gilan-e-Gharb**	**1.62**	**291**	Pg	**Pb**	**18 01 21.2**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**2.02**	**299**	Pn	**Pn**	**18 01 27.1**	**+1.2**
RAFI	**Al-Rafai**	**2.26**	**217**	*e*Pn	**Pb**	**18 01 31.0**	**-1.7**
RAFI				*e*Sn	**Sb**	**18 02 00.0**	**-0.5**
AHWZ	**Ahwaz**	**2.33**	**160**	Pn	**Pb**	**18 01 33.9**	**0.0**
IPIR	**Pirpir**	**2.79**	**107**	Pn	**Pb**	**18 01 40.1**	**-1.9**
JHBN	**Jahan bin**	**2.79**	**117**	Pn	**Pb**	**18 01 40.2**	**-1.9**
ZNGN	**Zangian**	**2.99**	**117**	Pn	**Pn**	**18 01 42.0**	**+2.6**
QAMS	**Qamsar**	**3.07**	**85**	Pn	**Pn**	**18 01 43.7**	**+3.2**
IKLH	**Kolahrood**	**3.23**	**93**	Pn	**Pb**	**18 01 46.4**	**-3.1**
JIR1	**Jirandeh**	**3.60**	**28**	Pn	**Pn**	**18 01 50.1**	**+2.4**
IVRN	**Varamin**	**3.62**	**65**	Pn	**Pn**	**18 01 50.2**	**+2.3**
MAHB	**Mahabad**	**3.62**	**333**	Pn	**Pn**	**18 01 49.2**	**+1.1**
KRSH	**Karshahi**	**3.70**	**82**	Pn	**Pn**	**18 01 52.1**	**+3.0**
IGAR	**Gharneh**	**3.80**	**106**	Pn	**Pn**	**18 01 53.9**	**+3.3**
ISFB	**Sefidab**	**3.84**	**76**	Pn	**Pn**	**18 01 53.3**	**+2.4**
IZEF	**Zefreh**	**3.91**	**98**	Pn	**Pn**	**18 01 55.4**	**+3.3**
LHJ2	**Lahijan - Gila**	**4.10**	**27**	Pn	**Pn**	**18 01 56.3**	**+1.9**
IDMV	**Damavand**	**4.10**	**59**	Pn	**Pn**	**18 01 56.5**	**+1.8**
KLNJ	**Kolanjah**	**4.13**	**126**	Pn	**Pn**	**18 01 58.0**	**+2.8**
ISRB	**Sarab**	**4.28**	**359**	Pn	**Pn**	**18 01 59.5**	**+2.4**
IRAM	**Ramesheh**	**4.29**	**112**	Pn	**Pn**	**18 02 00.5**	**+3.2**
KBD	**Kabd**	**4.34**	**180**	P	**Pn**	**18 02 01.1**	**+3.3**
KBD				S	**Sn**	**18 02 51.0**	**+2.8**
IAZR	**Azarshahr**	**4.37**	**342**	Pn	**Pn**	**18 02 00.0**	**+1.6**
IFIR	**Firoozkooh**	**4.65**	**62**	Pn	**Pn**	**18 02 04.6**	**+2.3**
IPRN	**Peran**	**4.66**	**53**	Pn	**Pn**	**18 02 04.3**	**+2.1**
ILAS	**Lasjerd**	**4.70**	**65**	Pn	**Pn**	**18 02 05.1**	**+2.2**
GAS1	**Astara - Iran**	**4.93**	**10**	Pn	**Pn**	**18 02 07.5**	**+1.7**
ANAR	**Anarak**	**5.04**	**92**	Pn	**Pn**	**18 02 11.0**	**+3.6**
ISHB	**Shabestar**	**5.04**	**341**	Pn	**Pn**	**18 02 09.1**	**+1.5**
DSBU	**Dashti - Bushe**	**5.98**	**149**	Pn	**Pn**	**18 02 24.3**	**+3.9**
IMEH	**Mehriz**	**6.20**	**108**	Pn	**Pn**	**18 02 27.2**	**+3.6**
GURO	**Guroymak-BITLI**	**6.80**	**319**	Pn	**Pn**	**18 02 31.2**	**-0.6**
IBAF	**Bafgh**	**6.90**	**104**	Pn	**Pn**	**18 02 36.5**	**+3.5**
GNI	**Garni**	**7.02**	**341**	Pn	**Pn**	**18 02 34.6**	**-0.1**
	comp=N,0.8nm,0.3s,baz=46,slow=21,SNR=1.7						
TPRV	**Parvadeh(Tabas**	**7.52**	**91**	Pn	**Pn**	**18 02 44.6**	**+3.1**
SAKB	**Bahrain**	**7.92**	**161**	P	**Pn**	**18 02 49.4**	**+2.6**
SAKB				S	**Sn**	**18 04 18.3**	**+2.1**
SHMA	**Al-Shehemyia**	**8.15**	**159**	P	**Pn**	**18 02 52.2**	**+2.1**
SHMA				S	**Sn**	**18 04 23.6**	**+1.6**
SMRA	**Abu-Samra**	**9.17**	**162**	P	**Pn**	**18 03 05.7**	**+1.7**
SMRA				S	**Sn**	**18 04 44.4**	**-2.5**
ASF	**Jabal al Asfar**	**9.21**	**264**	Pn	**Pn**	**18 03 02.8**	**-1.8**
	comp=N,0.2nm,0.3s,baz=144,slow=0.4,SNR=6.3						
	comp=N,2.5nm,0.3s						
TRNA	**Turayna**	**9.28**	**160**	P	**Pn**	**18 03 07.0**	**+1.4**
	SNR=28						
TRNA				S	**Sn**	**18 04 48.7**	**-1.1**
GAZ	**Gaziantep**	**9.32**	**296**	Pn	**Pn**	**18 03 05.8**	**-0.4**
ARPR	**Arapgir-MALATY**	**9.39**	**309**	Pn	**Pn**	**18 03 08.2**	**+1.1**
SLWR	**Sila**	**10.05**	**159**	P	**Pn**	**18 03 17.8**	**+1.7**
SLWR				S	**Sn**	**18 05 04.9**	**-3.8**
RAYN	**Ar Rayn**	**10.16**	**192**	Pn	**Pn**	**18 03 16.5**	**-1.3**
RAYN	**Ar Rayn**	**10.16**	**192**	Pn	**Pn**	**18 03 17.3**	**-0.4**
RAYN	**Ar Rayn**	**10.16**	**192**	P	**Pn**	**18 03 17.3**	**-0.4**
BALJ	**Balqa**	**10.27**	**265**	Pn	**Pn**	**18 03 16.8**	**-2.3**
MMAI	**Mount Meron Ar**	**10.33**	**271**	Pn	**Pn**	**18 03 19.0**	**-1.0**
	comp=N,0.4nm,0.3s,baz=94,slow=15,SNR=1.8						
MMAI				Lg	Lg	18 06 11.2	
	comp=N,0.3nm,0.3s,baz=78,slow=22,SNR=2.8						
	comp=N,0.3nm,0.2s						
SHME	**Shamm**	**10.44**	**133**	Pn	**Pn**	**18 03 21.4**	**-0.1**
SHME	**Shamm**	**10.44**	**133**	P	**Pn**	**18 03 23.7**	**+2.2**
GHWR	**Ruwais**	**10.55**	**153**	P	**Pn**	**18 03 25.0**	**+2.1**
MASF	**Masafi**	**10.96**	**136**	P	**Pn**	**18 03 30.2**	**+1.6**
MASF				S	**Sn**	**18 05 27.7**	**-3.4**
AJN	**Ajban**	**10.96**	**143**	P	**Pn**	**18 03 31.0**	**+2.3**
MSFE	**Esma-Masafi**	**10.97**	**136**	Pn	**Pn**	**18 03 29.5**	**+0.8**
ASUD	**Al Ashush, Dub**	**11.09**	**141**	Pn	**Pn**	**18 03 32.0**	**+1.7**
ASUD	**Al Ashush, Dub**	**11.09**	**141**	P	**Pn**	**18 03 32.1**	**+1.7**
	SNR=17						
MDH	**Madha**	**11.10**	**135**	Pn	**Pn**	**18 03 31.4**	**+0.9**
MDH	**Madha**	**11.10**	**135**	P	**Pn**	**18 03 31.5**	**+1.1**
MDH				P	**Pn**	**18 03 31.5**	**+1.1**
FAQ	**Al Faqa, Dubai**	**11.13**	**140**	S	**Sn**	**18 05 33.6**	**-1.6**
PRNI	**Paran**	**11.26**	**257**	P	**Pn**	**18 03 33.6**	**+0.9**
PRNI	**Paran**	**11.26**	**257**	S		18 03 42.0	
UOSS	**Minazif**	**11.31**	**137**	Pn	**Pn**	**18 03 33.0**	**-0.4**
UOSS					**Sn**	**18 05 34.3**	**-5.4**
UOSS	**Minazif**	**11.31**	**137**	Pn	**Pn**	**18 03 34.3**	**+0.9**
UOSS				Sn	**Sn**	**18 05 34.3**	**-5.4**
UOSS	**Minazif**	**11.31**	**137**	P	**Pn**	**18 03 34.8**	**+1.4**
UOSS				P	**Pn**	**18 03 34.8**	**+1.4**
UOSS				S	**Sn**	**18 05 36.4**	**-3.3**
UOSS				S	**Sn**	**18 05 36.4**	**-3.3**
HRFI	**Mount Harif**	**11.34**	**256**	P	**Pn**	**18 03 30.6**	**-3.2**
HRFI	**Mount Harif**	**11.34**	**256**	S		18 03 36.6	
HATD	**Hatta, Dubai**	**11.36**	**138**	Pn	**Pn**	**18 03 34.9**	**+0.8**
HATD	**Hatta, Dubai**	**11.36**	**138**	P	**Pn**	**18 03 35.3**	**+1.1**
HATD				S	**Sn**	**18 05 38.0**	**-2.9**
ASHO	**Ashiyiah**	**11.43**	**138**	Pn	**Pn**	**18 03 34.9**	**-0.2**
ASHO	**Ashiyiah**	**11.43**	**138**	P	**Pn**	**18 03 36.3**	**+1.2**
ASHO				S	**Sn**	**18 05 40.3**	**-2.4**
MBRI	**Mt Berech**	**11.53**	**255**	P	**Pn**	**18 03 36.1**	**-0.4**
MBRI	**Mt Berech**	**11.53**	**255**	S		18 03 44.5	
EIL	**Elat**	**11.55**	**254**	Pn	**Pn**	**18 03 36.4**	**-0.3**
	comp=N,2.3nm,0.3s,baz=100,slow=4.3,SNR=20						
	comp=N,6.1nm,0.4s						
EIL	**Elat**	**11.55**	**254**	P	**Pn**	**18 03 36.5**	**-0.1**
EIL	**Elat**	**11.55**	**254**	S		18 03 45.1	
MZR	**Muzera**	**11.65**	**153**	Pn	**Pn**	**18 03 38.6**	**+0.6**
MZR	**Muzera**	**11.65**	**153**	P	**Pn**	**18 03 38.9**	**+0.8**
	SNR=22						
MZR				S	**Sn**	**18 05 44.6**	**-3.4**
JASK	**Jask - Hormozg**	**11.66**	**128**	P	**Pn**	**18 03 39.3**	**+1.1**
ALNE	**Al Ain**	**11.77**	**141**	Pn	**Pn**	**18 03 40.3**	**+0.6**
ALNE	**Al Ain**	**11.77**	**141**	P	**Pn**	**18 03 40.8**	**+1.1**
	SNR=9.2						
SOHO	**SOHO**	**12.13**	**138**	Pn	**Pn**	**18 03 44.0**	**-0.6**
SOHO	**SOHO**	**12.13**	**138**	P	**Pn**	**18 03 44.9**	**+0.3**
ARQ	**Araqi**	**12.77**	**140**	P	**Pn**	**18 03 53.4**	**+0.1**
BRTR	**Keskin Array B**	**12.88**	**303**	Pn	**Pn**	**18 03 52.7**	**-2.3**
	comp=N,0.1nm,0.3s,baz=48,slow=40,SNR=1.9						
BSY	**Bisya**	**13.61**	**140**	P	**Pn**	**18 04 06.4**	**+1.6**
SMDO	**Samad**	**13.83**	**136**	P	**Pn**	**18 04 07.1**	**-0.9**
WSAR	**Wadi Sarin**	**14.04**	**134**	Pn	**Pn**	**18 04 09.8**	**-0.8**
	comp=N,0.7nm,0.3s,baz=273,slow=9.3,SNR=11						
	comp=N,2.9nm,0.4s						
JMDO	**Jabal Madar**	**14.40**	**138**	P	**Pn**	**18 04 14.5**	**-1.2**
MHTO	**MHTO**	**15.45**	**141**	P	**Pn**	**18 04 27.9**	**-1.9**
DOK	**Doka**	**15.92**	**157**	P	**Pn**	**18 04 33.2**	**-2.7**
WHFO	**Wadi Hawf**	**16.47**	**159**	P	**Pn**	**18 04 40.7**	**-2.2**
ABTO	**Aybut**	**16.87**	**161**	P	**Pn**	**18 04 46.2**	**-1.9**
RBK	**Rabkut**	**16.99**	**158**	P	**Pn**	**18 04 48.6**	**-1.0**
KBL	**Kabul**	**17.70**	**81**	P	**Pn**	**18 04 57.9**	**-0.6**
SIMJ	**Simiganj**	**17.93**	**67**	P	**P**	**18 05 02.2**	**+0.4**
ABKAR	**Abkulak array**	**18.15**	**26**		**Pn**	**18 05 03.8**	**+0.2**
ABKAR	**Abkulak array**	**18.15**	**26**	P	**Pn**	**18 05 03.2**	**-0.4**
ABKAR				IAmb	IAmb	18 05 09.2	
	comp=Z,4.4nm,0.8s						
AKTO	**Aktyubinsk**	**18.51**	**21**	P	**P**	**18 05 07.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=208,slow=10.0,SNR=14						
	comp=Z,4.0nm,0.7s						
ALN	**Alexandroupoli**	**18.74**	**299**	P	**P**	**18 05 09.8**	**-0.7**
IDI	**Anoyia**	**18.92**	**282**	P	**Pn**	**18 05 13.0**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=216,slow=16,SNR=9.3						
	comp=Z,6.1nm,0.5s						
RDO	**Rodhopi**	**19.18**	**300**	P	**P**	**18 05 14.9**	**-0.3**
KK31	**Karatay Array**	**20.22**	**55**		**P**	**18 05 27.4**	**+0.7**
KK31				IAmb	IAmb	18 05 34.4	
	comp=Z,12nm,1.3s						
KKAR	**Karatay Array**	**20.22**	**55**		**P**	**18 05 27.1**	**+0.4**
KKAR	**Karatay Array**	**20.22**	**55**	P	**P**	**18 05 27.7**	**+1.0**
KKAR				IAmb	IAmb	18 05 34.4	
	comp=Z,11nm,1.3s						
MLR	**Muntele Rosu**	**20.54**	**312**		**P**	**18 05 27.6**	**-2.7**
MLR	**Muntele Rosu**	**20.54**	**312**	P	**P**	**18 05 31.0**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=125,slow=7.7,SNR=2.2						
	comp=Z,0.8nm,0.4s						
AGG	**Agios Georgios**	**21.16**	**292**	P	**P**	**18 05 35.1**	**-1.9**
NIL	**Nilore**	**21.25**	**83**	P	**P**	**18 05 39.0**	**+1.0**
ITM	**Ithomi**	**21.33**	**287**	P	**P**	**18 05 36.5**	**-2.2**
ARSB	**Arslanbob**	**21.46**	**61**	P	**P**	**18 05 41.7**	**+1.4**
AKASG	**Malin Array Be**	**21.87**	**327**	P	**P**	**18 05 42.7**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=138,slow=11,SNR=4.9						
	comp=Z,0.6nm,0.3s						
AKBB	**Malin Array Si**	**21.87**	**327**	P	**P**	**18 05 43.8**	**-0.6**
AKBB				IAmb	IAmb	18 06 01.6	
	comp=Z,3.6nm,0.7s						
KIEV	**Kiev**	**21.87**	**327**	P	**P**	**18 05 43.8**	**-0.6**
BURAR	**Bucovina Array**	**22.03**	**316**	P	**P**	**18 05 45.2**	**-1.0**
BURAR				IAmb	IAmb	18 05 54.3	
	comp=Z,5.2nm,0.6s						
BUR08	**Bucovina Ar. S**	**22.06**	**316**	P	**P**	**18 05 44.9**	**-1.7**
FNA	**Florina**	**22.16**	**297**	P	**P**	**18 05 45.7**	**-2.0**
KSH	**Kashi**	**23.42**	**67**	P	**P**	**18 06 03.0**	**+2.1**
KSH				pP	sP	18 06 07.0	-0.4
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PUK	**Puka**	**23.50**	**299**	P	**P**	**18 06 00.8**	**-0.9**
PUK				IAmb	IAmb	18 06 08.0	
	comp=Z,5.9nm,1.0s						
NRN	**Naryn**	**23.71**	**62**	P	**P**	**18 06 03.8**	**-0.2**
NRN				IAmb	IAmb	18 06 09.4	
	comp=Z,3.4nm,0.8s						
BOOM	**Boomskoye usch**	**23.88**	**60**	P	**P**	**18 06 06.7**	**+1.3**
BOOM				IAmb	IAmb	18 06 41.5	
	comp=Z,12nm,1.2s						
ARU	**Arti**	**24.09**	**15**	P	**P**	**18 06 08.6**	**+1.6**
ARU				IAmb	IAmb	18 06 19.9	
	comp=Z,3.1nm,0.8s						
KOLS	**Kolonicke sedl**	**24.40**	**317**	*e*P	**P**	**18 06 13.9**	**+3.9**
BRVK	**Borovoye**	**25.32**	**33**	P	**P**	**18 06 19.2**	**+1.0**
BRVK				IAmb	IAmb	18 06 24.2	
	comp=Z,11nm,1.1s						
BVAR	**Borovoye Array**	**25.34**	**33**	P	**P**	**18 06 19.7**	**+1.2**
	comp=Z,9.6nm,0.8s,baz=226,slow=8.0,SNR=28						
	comp=Z,9.6nm,0.8s						
TIP	**Timpagrande**	**25.49**	**292**	P	**P**	**18 06 19.1**	**-1.0**
TIP				IAmb	IAmb	18 06 42.4	
	comp=Z,6.1nm,0.9s						
VYHS	**Vyhne**	**26.23**	**313**	*e*P	P	18 06 34.0	+7.4
KURBB	**Kurchatov Arra**	**28.26**	**44**	P	**P**	**18 06 46.6**	**+1.9**
	comp=Z,2.6nm,0.6s,baz=248,slow=9.1,SNR=5.8						
	comp=Z,2.6nm,0.6s						
NRCA	**Norcia**	**28.58**	**299**	P	**P**	**18 06 46.5**	**-1.3**
NRCA				IAmb	IAmb	18 07 03.3	
	comp=Z,4.6nm,0.8s						
CESX	**Cesi**	**28.94**	**299**	P	**P**	**18 06 50.2**	**-0.8**
CESX				IAmb	IAmb	18 06 58.9	
	comp=Z,3.4nm,0.6s						
MK31	**Makanchi Array**	**29.30**	**53**	P	**P**	**18 06 54.8**	**+0.7**
MKAR	**Makanchi Array**	**29.30**	**53**	P	**P**	**18 06 55.5**	**+1.4**
MKAR	**Makanchi Array**	**29.30**	**53**	P	**P**	**18 06 55.7**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=243,slow=11,SNR=7.1						
	comp=Z,0.7nm,0.7s						
GERES	**GERESS Array B**	**29.53**	**311**	P	**P**	**18 06 54.8**	**-1.3**
GERES	**GERESS Array B**	**29.53**	**311**	P	**P**	**18 06 55.1**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=76,slow=8.2,SNR=2.5						
	comp=Z,0.3nm,0.6s						
WTTA	**Wattenberg**	**30.42**	**308**	*i* P	**P**	**18 07 04.3**	**+0.1**
	comp=Z,0.9nm,0.3s						
WATA	**Walderalm**	**30.48**	**308**	*i* P	**P**	**18 07 04.6**	**-0.1**
	comp=Z,1.5nm,0.4s						
SQTA	**Sankt Quirin**	**30.69**	**307**	*i* P	**P**	**18 07 06.1**	**-0.4**
	comp=Z,2.4nm,0.5s						
MOTA	**Moosalm**	**30.79**	**308**	*i* P	**P**	**18 07 06.8**	**-0.7**
	comp=Z,1.1nm,0.3s						
FETA	**Feichten**	**30.97**	**307**	*i* P	**P**	**18 07 08.9**	**-0.2**
	comp=Z,1.6nm,0.5s						
FINES	**FINESS Array B**	**31.21**	**340**	P	**P**	**18 07 11.2**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=155,slow=9.5,SNR=8.1						
	comp=Z,1.5nm,0.7s						
DAVA	**Damuels**	**31.59**	**307**	*i* P	**P**	**18 07 13.6**	**-0.9**
	comp=Z,4.1nm,0.5s						
ZAA0	**Zalesovo Array**	**33.14**	**41**	P	**P**	**18 07 28.3**	**+0.5**
ZAA0				IAmb	IAmb	18 07 33.4	
	comp=Z,3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**33.14**	**41**	P	**P**	**18 07 28.6**	**+0.8**
ZALV	**Zalesovo Beam**	**33.14**	**41**	P	**P**	**18 07 28.7**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=246,slow=10,SNR=12						
ZALV				PcP	**PcP**	**18 10 12.0**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=222,slow=2.7,SNR=3.6						
	comp=Z,3.2nm,0.6s						
SENIN	**Lac Senin/Sane**	**33.17**	**305**	P	**P**	**18 07 27.5**	**-1.0**
BNI	**Bardonecchia**	**33.45**	**302**	P	**P**	**18 07 29.7**	**-1.1**
HFS	**Hagfors**	**34.67**	**330**	P	**P**	**18 07 40.7**	**-0.2**
	comp=Z,2.9nm,0.4s,baz=120,slow=8.9,SNR=28						
	comp=Z,2.9nm,0.4s						
NC405	**NORSAR Array S**	**36.02**	**331**	P	**P**	**18 07 51.5**	**-1.2**
NB201	**NORSAR Array S**	**36.16**	**331**	P	**P**	**18 07 53.1**	**-0.8**
NB2	**NORSAR Subarra**	**36.19**	**331**	P	**P**	**18 07 53.2**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=124,slow=8.6						
NOA	**NORSAR Array B**	**36.19**	**331**	P	**P**	**18 07 53.7**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=125,slow=8.6,SNR=7.1						
	comp=Z,0.8nm,0.6s						
NC303	**NORSAR Array S**	**36.23**	**331**	P	**P**	**18 07 53.7**	**-0.7**
CEST	**Esterri de Car**	**37.29**	**298**	P	**P**	**18 08 02.2**	**-1.7**
ARCES	**ARCESS Array B**	**38.12**	**348**	P	**P**	**18 08 11.0**	**+0.6**
	comp=Z,1.3nm,1.0s,baz=153,slow=11,SNR=5.5						
	comp=Z,1.3nm,1.0s						
SHL	**Shillong**	**38.99**	**90**	P	**P**	**18 08 19.6**	**+1.2**
EKA	**Eskdalemuir Ar**	**41.20**	**318**	P	**P**	**18 08 36.6**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=106,slow=8.3,SNR=8.6						
	comp=Z,1.9nm,0.6s						
ESDC	**Sonseca Array**	**41.47**	**294**	P	**P**	**18 08 39.9**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=74,slow=8.4,SNR=10						
	comp=Z,0.6nm,0.6s						
GTA	**Gaotai**	**41.82**	**66**	P	**P**	**18 08 45.8**	**+4.2**
GTA				pP	sP	18 08 50.5	+2.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TOA0	**Torodi Ar. Sit**	**46.43**	**255**	P	**P**	**18 09 18.0**	**-0.7**
TOA0				IAmb	IAmb	18 09 20.5	
	comp=Z,4.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**46.43**	**255**	P	**P**	**18 09 18.0**	**-0.7**
TORD				IAmb	IAmb	18 09 19.7	
	comp=Z,4.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**46.43**	**255**	P	**P**	**18 09 18.8**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=65,slow=9.1,SNR=25						
	comp=Z,3.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**47.96**	**95**	P	**P**	**18 09 31.4**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=292,slow=7.0,SNR=2.3						
	comp=Z,0.7nm,0.5s						
DBIC	**Dimbokro**	**55.42**	**253**	P	**P**	**18 10 26.2**	**-0.2**
DBIC				IAmb	IAmb	18 10 30.1	
	comp=Z,6.5nm,1.0s						
DBIC	**Dimbokro**	**55.42**	**253**	P	**P**	**18 10 26.0**	**-0.4**
	comp=Z,2.7nm,0.5s,baz=55,slow=11,SNR=4.7						
	comp=Z,2.7nm,0.5s						
KIC	**Kosan Boka**	**55.51**	**253**	*e*P	**P**	**18 10 27.1**	**0.0**
	comp=Z,15nm,0.7s						
TIC	**Toumodi**	**55.56**	**253**	*e*P	**P**	**18 10 27.5**	**0.0**
	comp=Z,6.6nm,0.8s						
LIC	**Lamto**	**55.82**	**253**	*e*P	**P**	**18 10 29.5**	**+0.2**
	comp=Z,28nm,0.7s						
NRS	**Narsarsuaq**	**62.70**	**327**	P	**P**	**18 11 17.7**	**+1.6**
KSRS	**Korea Array**	**63.51**	**61**	P	**P**	**18 11 22.1**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=284,slow=6.6,SNR=10.0						
	comp=Z,1.4nm,0.5s						
BOSA	**Boshof**	**65.38**	**202**	P	**P**	**18 11 34.1**	**-0.1**
BOSA	**Boshof**	**65.38**	**202**	P	**P**	**18 11 34.5**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=355,slow=5.7,SNR=8.2						
	comp=Z,3.1nm,0.8s						
ILAR	**Eielson Array**	**81.35**	**6**	P	**P**	**18 13 08.0**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=347,slow=4.4,SNR=5.1						
	comp=Z,0.4nm,0.8s						
WRA	**Warramunga Arr**	**98.05**	**108**	P	Pdif	18 14 31.0	+2.4
	comp=Z,0.3nm,0.7s,baz=316,slow=4.7,SNR=2.1						
	comp=Z,0.3nm,0.7s						
PLCA	**Paso Flores**	**131.15**	**243**	PKP	**PKiKP**	**18 20 04.5**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=108,slow=4.4,SNR=3.0						

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*DJA **28** 18:03:31.3±0.7, 6°S±6°×15°1E±°, h10km, M4.9/12, mB4.9/3, mb4.8/12, MLv5.0/1, Mw(mB)4.2/3*
*BJI **28** 18:03:36.3±0.0, 6°.22S×151°.09E, h55km, mb4.5/25, mB4.9/7, Ms4.4/1, Ms7 4.3/1*
*IDC **28** 18:03:36.5±

comp=Z,21nm,0.7s,baz=53,slow=9.4,SNR=229
ASAR PcP **PcP** **18 12 30.3 +0.6**
comp=Z,0.5nm,0.8s,baz=73,slow=3.1,SNR=1.9
ASAR S **S** **18 13 10.2 +7.1**
comp=Z,1.3nm,0.9s,baz=40,slow=18,SNR=5.2
ASAR LR LR 18 18 24.1
comp=Z,294nm,18.8s,baz=36,slow=37
comp=Z,21nm,0.7s
NLAI Namlea 24.13 276 P **P** **18 08 47.6 -1.9**
comp=Z,7.9nm,0.6s
ARMA Armidale 24.14 179 P **P** **18 08 49.7 +0.3**
SOEI Soe 26.85 261 P **P** **18 09 13.9 -0.3**
SOEI Soe 26.85 261 P **P** **18 09 12.3 -1.9**
comp=Z,22nm,0.8s
STKA Stephens Creek 27.10 198 P **P** **18 09 16.4 +0.3**
STKA Stephens Creek 27.10 198 P **P** **18 09 16.8 +0.7**
comp=Z,1.2nm,0.3s,baz=1.6,slow=7.7,SNR=1.8
comp=Z,1.2nm,0.3s
BATI Baumata 27.48 260 P **P** **18 09 18.6 -1.3**
comp=Z,22nm,0.6s
FITZ Fitzroy Crossi 27.56 242 P **P** **18 09 19.9 -0.6**
MMRI Maumere 28.76 263 P **P** **18 09 29.0 -2.3**
TOLI2 Tolitoli 31.16 282 P **P** **18 09 52.8 +0.3**
KAPI Kappang 31.26 270 P **P** **18 09 52.1 -1.2**
KAPI Kappang 31.26 270 P **P** **18 09 52.0 -1.3**
comp=Z,5.0nm,0.6s,baz=96,slow=9.2,SNR=2.3
comp=Z,5.0nm,0.6s
TOO Toolangi 31.69 189 P **P** **18 09 56.6 -0.3**
TOO IAmb IAmb 18 10 25.0
comp=Z,27nm,1.5s
FORT Forrest 32.70 219 P **P** **18 10 05.4 -0.3**
FORT IAmb IAmb 18 10 24.4
comp=Z,26nm,0.8s
MBWA Marble Bar 33.87 241 P **P** **18 10 14.9 -1.2**
JCJ Chichijima 34.18 346 P **P** **18 10 16.0 -2.7**
JAGI Jajag, Banyuwa 36.75 264 P **P** **18 10 39.0 -2.0**
JOW Kunigami 39.58 327 P **P** **18 11 05.0 +0.4**
JOW IAmb IAmb 18 12 06.9
comp=Z,28nm,1.1s
JOW Kunigami 39.58 327 P **P** **18 11 05.5 +0.9**
comp=Z,12nm,0.6s,baz=157,slow=13,SNR=2.1
comp=Z,12nm,0.6s
MORW Morawa 40.21 231 P **P** **18 11 10.3 +0.4**
MORW IAmb IAmb 18 11 47.4
comp=Z,26nm,1.4s
UGM Wanagama 40.34 265 P **P** **18 11 12.2 +1.0**
TCW Tory Channel 40.55 153 P **P** **18 11 12.7 +0.1**
MRZ Mangatainoka R 40.73 151 P **P** **18 11 12.9 -1.1**
MRZ IAmb IAmb 18 12 35.7
comp=Z,53nm,1.4s
YOJ Yonaguni jima 40.96 319 P **P** **18 11 15.7 -0.3**
YOJ IAmb IAmb 18 11 18.1
comp=Z,57nm,1.4s
MSWZ Moikau Station 41.16 152 P **P** **18 11 17.9 +0.3**
PLWZ Palliser 41.28 152 P **P** **18 11 18.1 -0.5**
RPZ Rata Peaks 41.30 158 P **P** **18 11 17.1 -1.5**
YULB Yu-li 41.38 316 P **P** **18 11 19.1 -0.4**
GVZ Greta Valley S 41.45 156 P **P** **18 11 20.5 +0.6**
NACB Ninganchiao 41.70 317 P **P** **18 11 22.5 +0.3**
NACB IAmb IAmb 18 11 23.1
comp=Z,38nm,1.7s
SSLB Suanglung 41.88 316 P **P** **18 11 23.9 +0.2**
YHNB Yeheng 42.18 318 P **P** **18 11 26.0 -0.2**
YHNB IAmb IAmb 18 11 29.9
comp=Z,26nm,1.1s
JNU Nakatsue 43.55 335 P **P** **18 11 37.6 +0.5**
JNU Nakatsue 43.55 335 P **P** **18 11 37.5 +0.4**
comp=Z,6.4nm,0.5s,baz=136,slow=5.9,SNR=11
comp=Z,6.4nm,0.5s
MJAR Matsushiro Arr 44.17 345 LR LR 18 29 00.4
comp=Z,118nm,19.8s,baz=160,slow=34
MAJO Matsushiro 44.17 345 P **P** **18 11 41.3 -0.7**
MAJO IAmb IAmb 18 13 03.5
comp=Z,54nm,1.7s
MJB9 Matsu-Tunnel 44.18 345 P **P** **18 11 41.8 -0.2**
MJB9 IAmb IAmb 18 13 04.5
comp=Z,54nm,1.7s
KSRS Korea Array 48.50 335 P **P** **18 12 17.0 +1.1**
comp=Z,1.2nm,0.8s,baz=154,slow=8.7,SNR=5.6
KSRS PcP **PcP** **18 13 41.8 +0.3**
comp=Z,0.7nm,0.6s,baz=158,slow=3.1,SNR=4.1
comp=Z,1.2nm,0.8s
NJ2 Nanjing 48.89 323 *e*P **P** **18 12 21.5 +2.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
JKA Kamikawa-asahi 50.63 352 P **P** **18 12 30.8 -1.3**
JKA IAmb IAmb 18 13 01.3
comp=Z,31nm,1.8s
KULM Kulim 51.67 282 P **P** **18 12 38.9 -1.5**
USRK Ussuriysk Ar. 53.02 343 P **P** **18 12 50.5 +0.6**
comp=Z,1.1nm,0.6s,baz=159,slow=6.8,SNR=4.4
comp=Z,1.1nm,0.6s
GYA Guiyang 53.93 309 P **P** **18 12 54.0 -3.1**
GYA pmax pmax
comp=Z,6.0nm,1.7s
BNX BinXian 55.85 340 ⇑P **P** **18 13 10.0 -0.4**
BNX pmax pmax
comp=Z,7.0nm,1.3s
XAN Xi'an 56.49 318 P **P** **18 13 11.3 -4.0**
XAN pmax pmax
comp=Z,11nm,0.8s
KLR Kul'dur 57.70 345 P **P** **18 13 22.6 -0.9**
comp=Z,1.1nm,0.5s,baz=179,slow=2.2,SNR=4.5
comp=Z,1.1nm,0.5s
PZH PanZhiHua 57.82 307 P **P** **18 13 27.8 +2.8**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.5s
HLK Haleakala 58.17 61 P **P** **18 13 26.3 -1.3**
HHC Hu-ho-hao-te 59.21 326 *e*P **P** **18 13 36.5 +2.2**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,76nm,4.7s
DRV Dumont d'Urvil 60.89 185 P **P** **18 13 45.6 +0.4**
DRV pP **pP** **18 13 58.4 +2.1**
LZH Lanzhou 61.07 317 *e*P **P** **18 13 48.3 +1.0**
LZH pmax pmax
comp=Z,13nm,1.0s
ADK Adak 64.03 22 P **P** **18 14 06.2 -0.2**
GTA Gaotai 65.55 318 *e*P **P** **18 14 17.0 +0.2**
GTA pmax pmax
comp=Z,3.0nm,1.1s
CASY Casey 66.24 197 P **P** **18 14 20.2 -0.4**
CASY IAmb IAmb 18 15 26.4
comp=Z,6.6nm,0.7s
CASY Casey 66.24 197 P **P** **18 14 20.2 -0.4**
SONM Songino Array 66.61 329 P **P** **18 14 22.4 -1.1**
SONM Songino Array 66.61 329 P **P** **18 14 23.0 -0.4**
comp=Z,0.6nm,0.3s,baz=145,slow=3.6,SNR=10
comp=Z,0.6nm,0.3s
NIKH Nikolski High 67.93 25 P **P** **18 14 32.7 +1.2**
baz=224
UNV Unalaska Valle 69.54 25 P **P** **18 14 43.8 +2.3**
baz=226
P08K Saint George I 70.33 22 P **P** **18 14 47.8 +1.5**
baz=222
SPIA Saint Paul Isl 70.50 21 P **P** **18 14 48.6 +1.2**
baz=221
CCD Concordia, Ant 70.71 187 P **P** **18 14 49.7 +0.9**
CCD pP **pP** **18 15 02.4 +2.4**
VNDA Vanda 71.54 178 P **P** **18 14 53.6 +0.2**
VNDA Vanda 71.54 178 P **P** **18 14 54.1 +0.7**
comp=Z,1.1nm,0.6s,baz=333,slow=6.7,SNR=17
comp=Z,1.1nm,0.6s
VNDA Vanda 71.54 178 P **P** **18 14 54.1 +0.7**
VNDA pP **sP** **18 15 07.4 -1.6**
VNDA sP **PcP** **18 15 14.0 +1.4**
S12K Black Hills 72.70 26 P **P** **18 15 01.6 +1.0**
baz=229
SDPT Sand Point 73.16 26 P **P** **18 15 04.3 +1.0**
baz=231
CHNA Chernabura Isl 73.24 27 P **P** **18 15 04.8 +1.0**
baz=232
S14K Fog Glacier 74.16 26 P **P** **18 15 10.5 +1.3**
baz=232
M11K Mekoryuk 74.30 20 P **P** **18 15 11.3 +1.5**
baz=224
CHGN Chignik 74.67 26 P **P** **18 15 12.8 +0.7**
baz=233
GAMB Gambell 75.14 16 P **P** **18 15 16.1 +1.4**
baz=218
M13K Dall Lake 75.33 21 P **P** **18 15 16.7 +0.8**
baz=227
O14K Tigyukauivet M 75.34 23 P **P** **18 15 15.3 -0.7**
O14K Tigyukauivet M 75.34 23 P **P** **18 15 17.4 +1.5**
baz=229
N14K Kuskokwak Cree 75.62 22 P **P** **18 15 18.5 +1.0**
baz=229
CHIR Chirikof Islan 75.65 28 P **P** **18 15 17.9 +0.1**
CHIR Chirikof Islan 75.65 28 P **P** **18 15 19.3 +1.5**
baz=235
O15K Ungalikthiuk R 75.86 24 P **P** **18 15 20.5 +1.5**
baz=231
K13K Kusilvak Mount 75.93 20 P **P** **18 15 18.9 -0.4**
K13K IAmb IAmb 18 16 44.6
comp=Z,42nm,1.9s
K13K Kusilvak Mount 75.93 20 P **P** **18 15 20.5 +1.3**
baz=226
M14K Bethel 76.07 22 P **P** **18 15 19.9 -0.1**
M14K IAmb IAmb 18 15 22.5
comp=Z,16nm,0.8s
M14K Bethel 76.07 22 P **P** **18 15 21.2 +1.2**
baz=228
L14K Kuka Creek 76.20 21 P **P** **18 15 20.8 0.0**
L14K IAmb IAmb 18 15 23.7
comp=Z,18nm,0.8s
L14K Kuka Creek 76.20 21 P **P** **18 15 21.9 +1.1**
baz=228
R17L Mt. Peulik Vol 76.37 26 P **P** **18 15 23.3 +1.4**
baz=234
N15K Kwethluk River 76.39 23 P **P** **18 15 22.1 +0.2**
N15K IAmb IAmb 18 17 26.6
comp=Z,27nm,1.4s
N15K Kwethluk River 76.39 23 P **P** **18 15 23.6 +1.6**
baz=230
M15K Kasigluk River 76.50 22 P **P** **18 15 23.9 +1.3**
baz=230
P16K Nushagak River 76.51 24 P **P** **18 15 23.8 +1.2**
baz=232
SII Sitkinak Islan 76.73 28 P **P** **18 15 24.4 +0.4**
baz=236
O16K Kokwok River B 76.82 24 P **P** **18 15 25.4 +1.1**
baz=232
L15K Ungalak Mounta 76.86 21 P **P** **18 15 25.5 +1.0**
baz=229
J14K Nanvaranak Lak 76.86 20 P **P** **18 15 25.5 +1.0**
baz=226
Q17K Contact Creek 76.94 26 P **P** **18 15 26.1 +0.8**
baz=234
N16K Nishlik Lake 77.09 23 P **P** **18 15 26.9 +1.0**
baz=231
R18K Karluk 77.17 27 P **P** **18 15 27.6 +1.2**
baz=236
K15K Wolf Creek Mou 77.25 21 P **P** **18 15 27.0 +0.3**
K15K Wolf Creek Mou 77.25 21 P **P** **18 15 28.6 +1.8**
baz=228,SNR=6.6
P17K Kvichak River 77.25 25 P **P** **18 15 27.5 +0.7**
baz=234
O17K Koliganek Bris 77.33 24 P **P** **18 15 28.7 +1.5**
baz=233
M16K Timber Creek 77.36 22 P **P** **18 15 28.1 +0.7**
M16K IAmb IAmb 18 15 30.0
comp=Z,13nm,0.7s
M16K Timber Creek 77.36 22 P **P** **18 15 28.5 +1.0**
baz=231
OHAK Old Harbor 77.51 27 P **P** **18 15 28.7 +0.5**
baz=237
Q18K Katmai Hardscr 77.54 26 P **P** **18 15 29.4 +0.8**
baz=235
TNA Tin City 77.55 16 P **P** **18 15 29.5 +1.2**
baz=222
ANM Nome 77.56 18 P **P** **18 15 29.7 +1.3**
baz=224
L16K Owhat River 77.61 22 IAmb IAmb 18 15 31.3
comp=Z,13nm,1.0s
L16K Owhat River 77.61 22 P **P** **18 15 29.7 +1.0**
baz=230
N17K Nushagak Hills 77.75 23 P **P** **18 15 31.2 +1.7**
baz=233
P18K Big Mountain, 77.87 25 P **P** **18 15 30.6 +0.3**
baz=235
F14K Arctic Creek 77.94 17 P **P** **18 15 31.9 +1.4**
baz=223
KDAK Kodiak Island 78.13 27 P **P** **18 15 31.9 +0.1**
KDAK Kodiak Island 78.13 27 P **P** **18 15 33.0 +1.3**
baz=238
O18K Koktuh Hills 78.15 25 P **P** **18 15 32.4 +0.6**
baz=235
M17K Holitna River 78.18 23 P **P** **18 15 32.6 +0.7**
baz=232
J16K Anvik River 78.22 20 P **P** **18 15 33.0 +0.9**
baz=229
G15K Niukluk 78.27 18 P **P** **18 15 34.3 +1.9**
baz=226
Q19K Cape Douglas, 78.28 26 P **P** **18 15 33.4 +0.8**
baz=236,SNR=5.4
L17K Donlin 78.31 22 P **P** **18 15 33.7 +1.0**
baz=232
N18K Kilae Creek 78.35 24 P **P** **18 15 34.5 +1.5**
baz=234
I17K Unalakleet 78.59 20 P **P** **18 15 35.6 +1.5**
baz=229
F15K North Star Dit 78.59 17 P **P** **18 15 35.6 +1.5**
baz=225
Q20K Shuyak Island 78.66 26 P **P** **18 15 35.8 +1.1**
baz=238
K17K Iditarod 78.67 21 P **P** **18 15 36.1 +1.5**
baz=232
J17K VABM Dome 78.82 21 P **P** **18 15 35.8 +0.3**
J17K VABM Dome 78.82 21 P **P** **18 15 36.4 +0.9**
baz=231
M18K Stony River 78.85 23 P **P** **18 15 36.5 +0.9**
baz=234
P19K Oil Pt 78.86 25 P **P** **18 15 35.9 +0.1**
P19K Oil Pt 78.86 25 P **P** **18 15 36.4 +0.6**
baz=237,SNR=5.5
L18K Granite Mounta 78.96 22 P **P** **18 15 36.4 +0.2**
L18K IAmb IAmb 18 15 38.9
comp=Z,11nm,1.1s
L18K Granite Mounta 78.96 22 P **P** **18 15 37.1 +0.9**
baz=233
N19K Bonanza Creek 78.99 24 P **P** **18 15 36.9 +0.4**
baz=235
G16K Koyuk River 79.06 18 P **P** **18 15 38.3 +1.6**
baz=227
O20K Slope Mountain 79.35 25 P **P** **18 15 39.5 +1.0**
baz=237
H17K Granite Mounta 79.53 19 P **P** **18 15 39.9 +0.6**
H17K Granite Mounta 79.53 19 P **P** **18 15 41.1 +1.8**
baz=230
HOM Homer 79.55 26 P **P** **18 15 40.9 +1.5**
baz=238
L19K White Mountain 79.63 23 P **P** **18 15 40.5 +0.6**
L19K IAmb IAmb 18 15 42.7
comp=Z,8.8nm,0.6s
L19K White Mountain 79.63 23 P **P** **18 15 41.4 +1.5**
baz=235
M19K Big River Lodg 79.65 23 P **P** **18 15 41.5 +1.5**
baz=235
CNPM China Poot 79.65 26 P **P** **18 15 39.8 -0.3**
G17K Kiwalik Mounta 79.67 18 P **P** **18 15 41.6 +1.6**
baz=229
J18K Innoko River 79.70 21 P **P** **18 15 41.6 +1.3**
baz=233
BRSE Bradley Lake S 79.98 26 P **P** **18 15 43.2 +1.4**
baz=239
F17K Baldwin Pennin 80.11 18 P **P** **18 15 42.5 +0.2**
baz=228
N20K Mount Spurr 80.13 24 P **P** **18 15 42.3 -0.4**
baz=237
M20K Styx River 80.13 23 P **P** **18 15 44.0 +1.3**
baz=236
L20K Farewell, AK 80.17 23 P **P** **18 15 43.5 +0.7**
baz=236
H18K Honhosa River 80.18 19 P **P** **18 15 43.5 +0.7**
baz=231
C16K Lisburne Hills 80.24 15 P **P** **18 15 44.2 +1.1**
baz=224
MK31 Makanchi Array 80.27 319 P **P** **18 15 42.2 -1.5**
MKAR Makanchi Array 80.27 319 P **P** **18 15 42.1 -1.6**
MKAR Makanchi Array 80.27 319 P **P** **18 15 43.4 -0.3**
comp=Z,0.7nm,0.5s,baz=110,slow=5.3,SNR=12
comp=Z,0.7nm,0.5s
E17K Hotham Inlet 80.37 17 P **P** **18 15 44.4 +0.6**
baz=228
J19K Poorman 80.41 21 P **P** **18 15 45.0 +1.0**
baz=234
GCSA Galena City Sc 80.42 20 P **P** **18 15 45.7 +1.6**
baz=232
D17K Noatak River 80.44 16 P **P** **18 15 45.5 +1.4**
baz=226
G18K Tagagawik 80.55 19 P **P** **18 15 45.5 +0.3**
G18K Tagagawik 80.55 19 P **P** **18 15 45.7 +0.9**
baz=231
K20K Telida 80.60 22 IAmb IAmb 18 15 47.4
comp=Z,20nm,1.5s
K20K Telida 80.60 22 P **P** **18 15 45.7 +0.6**
baz=235
F18K Selawik 80.69 18 P **P** **18 15 45.8 +0.3**
baz=230
SEW Seward 80.72 26 P **P** **18 15 46.2 +0.4**
baz=240
SKT Skwentna 80.82 24 P **P** **18 15 47.0 +0.6**
baz=238
SUA Susitna One 80.87 24 P **P** **18 15 46.4 -0.3**
SUA IAmb IAmb 18 17 15.2
comp=Z,25nm,1.7s
SUA Susitna One 80.87 24 P **P** **18 15 47.3 +0.6**
baz=239
E18K Tukpahlearik C 80.95 17 P **P** **18 15 48.0 +1.2**
baz=229
C17K DeLong Mountai 80.95 16 P **P** **18 15 47.6 +0.7**
baz=226
H19K Roundabout Mou 81.04 20 IAmb IAmb 18 15 50.1
comp=Z,13nm,1.2s
H19K Roundabout Mou 81.04 20 P **P** **18 15 48.6 +1.2**
baz=233,SNR=6.4
J20K Nowinta River 81.04 21 IAmb IAmb 18 15 50.3
comp=Z,25nm,1.5s
J20K Nowinta River 81.04 21 P **P** **18 15 48.0 +0.6**
baz=235
PPLA Purkeypile 81.06 23 P **P** **18 15 48.4 +0.7**
baz=237
RC01 Rabbit Creek A 81.10 25 P **P** **18 15 48.8 +1.1**
baz=240
G19K Purcell Mounta 81.21 19 IAmb IAmb 18 15 50.3
comp=Z,14nm,1.4s
G19K Purcell Mounta 81.21 19 P **P** **18 15 49.5 +1.3**
baz=232,SNR=7.0
I20K Naaghedeneel 81.28 21 IAmb IAmb 18 15 52.2
comp=Z,21nm,1.3s
I20K Naaghedeneel 81.28 21 P **P** **18 15 49.2 +0.5**
baz=235
ZALV Zalesovo Beam 81.37 327 P **P** **18 15 48.0 -1.4**
comp=Z,0.9nm,0.4s,baz=107,slow=5.1,SNR=5.7
comp=Z,0.9nm,0.4s
CAST Castle Rocks 81.38 22 IAmb IAmb 18 15 50.8
comp=Z,19nm,1.4s
CAST Castle Rocks 81.38 22 P **P** **18 15 49.5 +0.2**
baz=237
F19K Shaleruckik Mo 81.42 18 P **P** **18 15 49.7 +0.3**
baz=231
CHUM Lake Minchumin 81.55 22 P **P** **18 15 50.8 +0.7**
baz=237
H20K Anotleneega Mo 81.55 20 P **P** **18 15 51.0 +0.9**
baz=234,SNR=5.5
PWL Port Wells 81.58 26 P **P** **18 15 50.7 +0.3**
PWL Port Wells 81.58 26 P **P** **18 15 51.1 +0.8**
baz=241
PMR Palmer 81.60 25 P **P** **18 15 51.1 +0.6**
baz=240
C18K Utukok River 81.60 16 P **P** **18 15 51.0 +0.6**
baz=228
KNK Knik Glacier 81.79 25 P **P** **18 15 52.6 +1.1**
baz=241
E19K Redstone River 81.97 18 P **P** **18 15 52.6 +0.3**
E19K IAmb IAmb 18 15 54.2
comp=Z,12nm,1.1s
E19K Redstone River 81.97 18 P **P** **18 15 53.1 +0.8**
baz=232,SNR=10
SML Sawmill 82.04 25 P **P** **18 15 52.8 -0.1**
SML IAmb IAmb 18 15 54.8
comp=Z,23nm,1.1s
SML Sawmill 82.04 25 P **P** **18 15 53.6 +0.8**
baz=241,SNR=6.7
GLI Glacier Island 82.12 26 P **P** **18 15 53.6 +0.4**
baz=242
BPAW Bear Paw Mtn. 82.16 22 IAmb IAmb 18 15 54.7
comp=Z,14nm,1.5s
BPAW Bear Paw Mtn. 82.16 22 P **P** **18 15 53.3 -0.1**
baz=238,SNR=6.0
F20K Avaraart Lake 82.19 18 P **P** **18 15 54.4 +1.0**
baz=233,SNR=5.3
IMAR Indian Mountai 82.21 20 P **P** **18 15 53.2 -0.4**
M23K Glacier View 82.28 25 P **P** **18 15 54.4 +0.3**
baz=241
C19K Lookout Ridge 82.34 16 P **P** **18 15 54.3 0.0**
baz=229
H21K Melozitna Rive 82.35 20 P **P** **18 15 54.8 +0.4**
baz=236
D19K Kuna River 82.36 17 P **P** **18 15 55.2 +0.8**
baz=231
WAT1 Susitna Watana 82.45 24 P **P** **18 15 55.0 +0.1**
baz=241
SCM Sheep Creek Mo 82.47 25 P **P** **18 15 55.6 +0.5**
baz=242
EYAK Cordova Ski Ar 82.56 26 P **P** **18 15 56.3 +0.9**
baz=243
KSH Kashi 82.57 311 P **P** **18 15 57.8 +1.6**
KSH sP sP 18 16 17.5 +3.6
KSH pmax pmax
comp=Z,4.0nm,0.5s
G21K Allakaket 82.60 19 IAmb IAmb 18 16 09.1
comp=Z,4.8nm,0.5s
G21K Allakaket 82.60 19 P **P** **18 15 55.9 +0.3**
baz=236
RND Reindeer 82.62 23 IAmb IAmb 18 15 57.0
comp=Z,16nm,1.1s
WAT6 Susitna Watana 82.66 24 P **P** **18 15 56.3 +0.2**
baz=241,SNR=8.4
MLY Manley 82.74 21 IAmb IAmb 18 15 57.8
comp=Z,10nm,0.5s
MLY Manley 82.74 21 P **P** **18 15 56.8 +0.4**
baz=238,SNR=20
MCK McKinley 82.75 23 P **P** **18 15 56.4 0.0**
baz=240,SNR=7.1
E20K Nigu River 82.78 17 P **P** **18 15 56.6 +0.1**
baz=233
KAIM Kayak Island 82.88 27 P **P** **18 15 57.8 +0.6**
baz=245
KLU Klutina 82.91 26 IAmb IAmb 18 15 59.8
comp=Z,13nm,1.0s
KLU Klutina 82.91 26 P **P** **18 15 58.4 +1.0**
baz=243,SNR=7.5
D20K Etivluk River 82.93 17 P **P** **18 15 58.3 +1.0**
baz=232
H22K Ishtalitna Cre 82.97 20 P **P** **18 15 58.5 +1.0**
baz=238
F21K Alatna River 83.01 19 P **P** **18 15 57.8 +0.1**
F21K Alatna River 83.01 19 P **P** **18 15 58.8 +1.1**
baz=236
DHY Denali Highway 83.04 24 P **P** **18 15 59.0 +0.9**
baz=242,SNR=6.3
M24K Tolsona, Glenn 83.08 25 IAmb IAmb 18 16 00.8
comp=Z,23nm,1.1s
M24K Tolsona, Glenn 83.08 25 P **P** **18 15 59.0 +0.8**
baz=243
NEA2 Nenana 83.13 22 IAmb IAmb 18 15 58.9
comp=Z,16nm,1.3s
NEA2 Nenana 83.13 22 P **P** **18 15 58.2 -0.2**
baz=240
BMRM Bremner River 83.25 26 P **P** **18 15 59.4 +0.3**
baz=244
I23K Minto, Yukon-K 83.30 22 P **P** **18 15 59.5 +0.3**
baz=240,SNR=7.6
WRH Wood River Hil 83.44 22 P **P** **18 15 59.1 -0.9**
WRH IAmb IAmb 18 16 00.9
comp=Z,14nm,1.2s
BGLC Bering Glacier 83.48 27 P **P** **18 16 01.2 +1.0**
baz=246
G22K Bettles 83.48 20 P **P** **18 16 01.5 +1.4**
baz=237
N25K Chitina, Valde 83.53 26 P **P** **18 16 01.7 +1.1**
baz=244
E21K Killik River 83.55 18 P **P** **18 16 01.8 +1.3**
baz=235
B20K Meade River 83.58 16 P **P** **18 16 01.4 +0.9**
baz=232
H23K Yukon River 83.58 21 IAmb IAmb 18 16 03.1
comp=Z,14nm,1.4s
H23K Yukon River 83.58 21 P **P** **18 16 01.4 +0.7**
baz=239,SNR=5.5
F22K John River 83.58 19 P **P** **18 16 01.8 +1.1**
baz=237,SNR=6.5
CCB Clear Creek Bu 83.63 22 IAmb IAmb 18 16 01.7
comp=Z,15nm,1.4s
HARP HAARP 83.64 25 P **P** **18 16 02.0 +0.9**
baz=244
MAW Mawson 83.69 203 P **P** **18 16 01.5 +0.3**
comp=Z,1.6nm,0.5s,baz=96,slow=12,SNR=4.2

comp=Z,1.6nm,0.5s
COLA College 83.72 22 P P 18 16 02.3 +0.9
baz=241
C21K Knifeblade Rid 83.73 17 P P 18 16 02.5 +1.1
baz=234
PAX Paxson 83.76 24 P P 18 16 02.9 +1.1
baz=243
GLB Gilahina Butte 83.80 26 IAmb IAmb 18 16 04.2
comp=Z,19nm,1.4s
CRQM Cirque 83.81 27 IAmb IAmb 18 16 04.5
comp=Z,9.0nm,1.0s
QSPA South Pole Qui 83.81 180 P P 18 16 01.6 -0.5
QSPA South Pole Qui 83.81 180 P P 18 16 02.1 +0.1
comp=Z,3.8nm,0.7s,baz=305,slow=0.6,SNR=43
comp=Z,3.8nm,0.7s
KURK Kurchatov 83.82 322 P P 18 16 00.9 -1.3
CRQE Cirque 83.83 27 P P 18 16 02.7 +0.5
baz=246
HDA Harding Lake 83.84 23 P P 18 16 02.6 +0.6
baz=242
KURBB Kurchatov Arra 83.85 322 P P 18 16 01.2 -1.1
comp=Z,1.6nm,0.8s,baz=115,slow=4.3,SNR=12
comp=Z,1.6nm,0.8s
VRDI Verde Repeater 83.86 26 IAmb IAmb 18 16 04.6
comp=Z,27nm,1.8s
G23K Bananza Creek 83.87 20 P P 18 16 02.4 +0.2
baz=239,SNR=11
POKR Poker Plat Res 84.00 22 P P 18 16 03.6 +0.8
baz=241
K24K Donnelly Dome 84.02 23 P P 18 16 03.2 +0.2
baz=243
IL31 84.04 22 IAmb IAmb 18 16 03.1
comp=Z,14nm,1.4s
ILAR Eielson Array 84.04 22 P P 18 16 01.6 -1.4
ILAR Eielson Array 84.04 22 P P 18 16 01.9 -1.1
comp=Z,2.6nm,0.5s,baz=253,slow=0.5,SNR=36
comp=Z,2.6nm,0.5s
B21K Ikpikpuk River 84.05 17 P P 18 16 03.3 +0.3
baz=234
COLD Coldfoot 84.08 20 P P 18 16 03.5 +0.3
baz=239,SNR=6.1
MESA MESA 84.11 28 P P 18 16 04.3 +0.5
baz=247
MCARA McCarthy VSAT 84.12 26 P P 18 16 04.0 +0.4
baz=246
H24K Noodor Dome 84.18 21 P P 18 16 04.3 +0.5
baz=241,SNR=5.6
D22K Ayikyak River 84.19 18 P P 18 16 04.4 +0.6
baz=236
J25K Salcha River, 84.54 23 IAmb IAmb 18 16 06.7
comp=Z,24nm,1.4s
J25K Salcha River, 84.54 23 P P 18 16 05.7 0.0
baz=243,SNR=16
M26K Nabesna, AK 84.55 25 P P 18 16 06.1 +0.4
baz=246
L26K Log Cabin Wild 84.66 25 P P 18 16 07.3 +1.0
baz=245
CTG Chitna Glacier 84.70 27 P P 18 16 07.3 +0.7
baz=247
CTGM Chitina Glacie 84.70 27 IAmb IAmb 18 16 09.1
comp=Z,11nm,1.1s
E23K Chandalar 84.70 19 P P 18 16 06.9 +0.5
baz=239,SNR=7.9
G24K Hadweenzic Riv 84.74 21 IAmb IAmb 18 16 08.9
comp=Z,8.9nm,1.1s
G24K Hadweenzic Riv 84.74 21 P P 18 16 07.2 +0.7
baz=241,SNR=9.0
SCRK Sand Creek 84.81 24 P P 18 16 06.6 -0.5
SCRK Sand Creek 84.81 24 P P 18 16 06.8 -0.3
baz=245,SNR=7.4
D23K Nanushuk River 84.84 18 P P 18 16 06.6 -0.4
baz=238
F24K Squaw Lake 85.00 20 IAmb IAmb 18 16 10.7
comp=Z,10nm,1.1s
F24K Squaw Lake 85.00 20 P P 18 16 08.9 +1.0
baz=241,SNR=10
M27K Edge Creek, AK 85.01 26 IAmb IAmb 18 16 10.9
comp=Z,20nm,1.1s
M27K Edge Creek, AK 85.01 26 P P 18 16 08.3 +0.1
baz=247
TOLK Toolik Lake Re 85.02 18 IAmb IAmb 18 16 10.2
comp=Z,8.9nm,1.1s
TOLK Toolik Lake Re 85.02 18 P P 18 16 09.0 +1.0
baz=239
E24K Your Creek 85.08 19 P P 18 16 08.9 +0.6
baz=240
PNL Peninsula 85.11 28 P P 18 16 08.8 +0.2
baz=249
H25L Birch Creek 85.13 21 P P 18 16 09.3 +0.8
baz=243
O28M Mount Upton 85.15 27 P P 18 16 09.4 +0.4
baz=248
J26L Joseph Creek 85.20 23 P P 18 16 09.6 +0.6
baz=245
ARSB Arslanbob 85.21 312 P P 18 16 08.1 -1.5
G25K Bearman Lake 85.26 21 P P 18 16 09.9 +0.8
baz=242
L27K Beaver Creek, 85.31 25 IAmb IAmb 18 16 12.2
comp=Z,15nm,1.6s
L27K Beaver Creek, 85.31 25 P P 18 16 10.3 +0.8
baz=247,SNR=7.5
BCAR Beaver Creek A 85.33 25 P P 18 16 09.0 -0.7
C23K Itkillik River 85.33 17 IAmb IAmb 18 16 11.5
comp=Z,11nm,1.0s
C23K Itkillik River 85.33 17 P P 18 16 11.1 +1.7
baz=238
YUK3 Moose Creek 85.40 26 P P 18 16 10.8 +0.6
baz=248
D24K Happy Valley 85.51 18 P P 18 16 11.2 +0.8
baz=240
YUK8 Steele Glacier 85.53 27 P P 18 16 11.9 +0.9
baz=249
K27K Chicken 85.59 24 IAmb IAmb 18 16 14.1
comp=Z,23nm,1.6s
K27K Chicken 85.59 24 P P 18 16 12.2 +1.4
baz=246
I26K Coal Creek Min 85.69 23 IAmb IAmb 18 16 13.2
comp=Z,9.8nm,1.6s
I26K Coal Creek Min 85.69 23 P P 18 16 12.0 +0.7
baz=245
O29M Mount Kennedy 85.72 28 P P 18 16 12.0 +0.3
baz=250
F25K Christian Rive 85.80 20 P P 18 16 12.6 +0.7
baz=243
C24K Franklin Bluff 85.84 18 P P 18 16 13.6 +1.6
baz=240
P29M Windy Craggy 85.89 29 P P 18 16 13.8 +1.3
baz=250
YUK6 Outpost Mounta 86.04 27 P P 18 16 14.4 +0.9
baz=250
YUK4 Talbot Arm 86.05 27 P P 18 16 15.0 +1.5
baz=250,SNR=5.5
BMAR Burnt Mountain 86.09 20 P P 18 16 13.2 -0.1
S31K Pelican 86.10 31 P P 18 16 14.3 +0.9
baz=252
G26K Porcupine Rive 86.16 21 P P 18 16 14.9 +1.3
baz=245,SNR=14
EGAK Eagle 86.25 23 IAmb IAmb 18 16 16.5
comp=Z,11nm,1.1s
EGAK Eagle 86.25 23 P P 18 16 14.9 +0.8
baz=247
SIT Sitka 86.29 32 P P 18 16 15.5 +1.1
baz=253
F26K Sheenjek River 86.36 20 P P 18 16 15.2 +0.6
baz=244,SNR=7.5
D25K Kavik River 86.36 18 IAmb IAmb 18 16 16.7
comp=Z,12nm,1.4s
D25K Kavik River 86.36 18 P P 18 16 15.3 +0.7
baz=242,SNR=7.1
I27K Kandik River 86.40 23 P P 18 16 15.4 +0.5
baz=247,SNR=12
P30M Million Dollar 86.42 28 P P 18 16 15.5 +0.3
baz=251
PLBC Pleasant Camp 86.50 29 P P 18 16 16.4 +1.0
baz=252
M29M Somme Creek 86.52 26 IAmb IAmb 18 16 18.4
comp=Z,5.8nm,0.8s
M29M Somme Creek 86.52 26 P P 18 16 16.6 +1.0
baz=250,SNR=12
H27K Steamboat Moun 86.68 22 P P 18 16 17.4 +1.1
baz=247,SNR=14
DAWY Dawson 86.70 24 P P 18 16 16.4 0.0
DAWY Dawson 86.70 24 P P 18 16 16.9 +0.5
baz=249
N30M Aishikik Lake 86.80 27 IAmb IAmb 18 16 19.9
comp=Z,8.3nm,1.2s
N30M Aishikik Lake 86.80 27 P P 18 16 17.7 +0.8
baz=251
S32K Killisnoo 86.80 31 P P 18 16 17.3 +0.4
baz=253
G27K Doyon Strip 86.87 21 IAmb IAmb 18 16 19.2
comp=Z,10nm,1.4s
G27K Doyon Strip 86.87 21 P P 18 16 18.1 +1.0
baz=247,SNR=8.6
L29M L29M 86.89 25 P P 18 16 18.4 +1.1
baz=250,SNR=18
I28M Miner Creek 86.99 23 P P 18 16 17.4 -0.4
I28M Miner Creek 86.99 23 P P 18 16 18.5 +0.7
baz=248,SNR=9.2
SKAG Skagway 87.00 29 IAmb IAmb 18 16 20.9
comp=Z,12nm,1.2s
SKAG Skagway 87.00 29 P P 18 16 18.9 +1.1
baz=253
O30N Mendenhall 87.04 28 P P 18 16 19.2 +1.1
baz=252,SNR=9.9
C26K Camden Bay 87.09 18 P P 18 16 19.4 +1.4
baz=243
U33K Whale Pass 87.20 33 P P 18 16 20.3 +1.5
baz=255
M30M Minto, Yukon 87.29 26 IAmb IAmb 18 16 22.1
comp=Z,16nm,1.4s
M30M Minto, Yukon 87.29 26 P P 18 16 20.1 +0.8
baz=251
J29N Klondike Camp 87.32 24 P P 18 16 20.8 +1.4
baz=250
C27K Jago River 87.34 19 P P 18 16 20.7 +1.4
baz=244
KKAR Karatay Array 87.36 314 P P 18 16 18.4 -1.7
KKAR Karatay Array 87.36 314 IAmb IAmb 18 16 19.9
comp=Z,2.1nm,0.8s
K29M Barlow Dome 87.40 25 P P 18 16 20.6 +0.8
baz=250,SNR=19
N31M Braeburn, Yuko 87.40 27 P P 18 16 21.0 +1.1
baz=252,SNR=9.2
E27K Coleen River 87.44 20 IAmb IAmb 18 16 22.8
comp=Z,7.8nm,0.8s
E27K Coleen River 87.44 20 P P 18 16 20.2 +0.3
baz=247,SNR=9.7
WHY Whitehorse 87.57 28 P P 18 16 20.9 +0.2
WHY IAmb IAmb 18 16 22.9
comp=Z,6.1nm,0.8s
WHY Whitehorse 87.57 28 P P 18 16 21.7 +0.9
baz=253,SNR=6.7
I29M Ogilvie Camp, 87.59 23 IAmb IAmb 18 16 22.8
comp=Z,13nm,1.2s
I29M Ogilvie Camp, 87.59 23 P P 18 16 21.9 +1.2
baz=250,SNR=9.6
F28M Old Crow 87.82 21 IAmb IAmb 18 16 24.3
comp=Z,13nm,1.5s
F28M Old Crow 87.82 21 P P 18 16 22.0 +0.3
baz=248
V35K Ketchikan 87.83 34 P P 18 16 22.4 +0.5
baz=256
P32M Atlin 87.83 29 IAmb IAmb 18 16 24.1
comp=Z,12nm,1.3s
P32M Atlin 87.83 29 P P 18 16 22.8 +0.8
baz=254
H29M Whitestone 87.87 22 P P 18 16 22.8 +0.8
baz=250
D27M Malcolm River 88.06 19 IAmb IAmb 18 16 25.0
comp=Z,6.6nm,0.9s
D27M Malcolm River 88.06 19 P P 18 16 23.3 +0.5
baz=247
J30M Hart River 88.13 24 IAmb IAmb 18 16 25.6
comp=Z,7.3nm,0.7s
J30M Hart River 88.13 24 P P 18 16 24.0 +0.6
baz=252,SNR=13
G29M Pine Creek 88.24 22 P P 18 16 24.0 +0.3
G29M Pine Creek 88.24 22 P P 18 16 24.4 +0.7
baz=250
M31M Drury Creek, Y 88.25 27 P P 18 16 24.3 +0.4
baz=253,SNR=6.4
E28M Babbage River 88.30 20 P P 18 16 25.1 +1.2
baz=248
I30M Mount Dempster 88.31 24 IAmb IAmb 18 16 25.8
comp=Z,4.3nm,0.8s
I30M Mount Dempster 88.31 24 P P 18 16 24.5 +0.3
baz=252,SNR=6.4
Q32M Nakina River 88.38 30 P P 18 16 25.2 +0.5
baz=255
P33M Teslin, Yukon 88.43 29 IAmb IAmb 18 16 27.3
comp=Z,9.2nm,1.4s
P33M Teslin, Yukon 88.43 29 P P 18 16 25.1 +0.3
baz=255
EPYK Eagle Plains 88.55 23 P P 18 16 26.2 +1.1
baz=251,SNR=6.9
N32M Quiet Lake 88.55 28 P P 18 16 25.4 0.0
N32M Quiet Lake 88.55 28 P P 18 16 26.2 +0.8
baz=255
FARO Faro, Yukon 88.72 27 P P 18 16 26.6 +0.5
baz=254,SNR=5.8
G30M tAoh Zrail Nji 88.93 22 P P 18 16 28.1 +1.1
baz=252
T35M Bob Quinn 88.95 32 P P 18 16 27.7 +0.4
baz=257
R33M Jennings River 89.14 30 P P 18 16 28.6 +0.4
baz=256,SNR=6.6
F30M Barrier River 89.29 22 P P 18 16 29.4 +0.8
baz=252
BVAR Borovoye Array 89.34 323 P P 18 16 27.4 -1.8
comp=Z,1.0nm,0.7s,baz=104,slow=6.3,SNR=6.4
comp=Z,1.0nm,0.7s
DLBC Dease Lake 89.39 31 P P 18 16 30.5 +1.1
baz=257,SNR=5.9
G31M Satah River 89.65 22 P P 18 16 30.7 +0.5
G31M Satah River 89.65 22 P P 18 16 31.3 +1.1
baz=253
MMPY Sheldon Lake, 89.76 27 P P 18 16 32.1 +1.1
baz=256
F31M Tsiigehtchic 89.99 22 P P 18 16 31.7 -0.1
baz=254
INK Inuvik 90.31 21 P P 18 16 34.2 +0.9
baz=254
TGTN Hyland Airport 90.90 28 P P 18 16 36.8 +0.5
baz=259
HUMO Hull Mountain 91.12 47 IAmb IAmb 18 16 40.3
comp=Z,12nm,1.4s
LIRD Liard River Hi 91.58 31 P P 18 16 40.3 +0.8
baz=261
TOAD Toad River Com 91.93 31 P P 18 16 41.4 +0.3
baz=261
J05D Fort Rock, OR 92.45 47 P P 18 16 44.3 +0.2
J05D IAmb IAmb 18 16 46.5
comp=Z,9.2nm,1.1s
SCZ2 Santa Cruz Isl 92.76 56 P P 18 16 44.4 -1.2
baz=264
SNCC San Nicolas Is 92.78 57 P P 18 16 44.6 -1.0
baz=264
I07A Izee 93.78 46 IAmb IAmb 18 16 52.3
comp=Z,6.4nm,1.2s
ISA Isabella, Lake 93.86 55 P P 18 16 51.4 +0.8
baz=265
C36M Paulatuk 93.88 21 P P 18 16 50.7 +0.9
baz=263
EDW2 Edwards Air Fo 94.19 56 P P 18 16 52.0 -0.2
baz=265
NVAR Mina Array Bea 94.22 52 P P 18 16 52.9 +0.5
NVAR Mina Array Bea 94.22 52 P P 18 16 54.0 +1.6
comp=Z,1.2nm,0.8s,baz=259,slow=5.7,SNR=8.2
comp=Z,1.2nm,0.8s
CWC Cottonwood Cre 94.24 54 P P 18 16 53.5 +1.0
baz=266
DSP Deep Springs 94.40 53 P P 18 16 53.0 +0.1
DSP IAmb IAmb 18 16 55.9
comp=Z,8.6nm,1.3s
BFSC Mount Baldy Ra 94.42 56 P P 18 16 54.3 +1.0
baz=266
LRMC Laurel Mtn Rad 94.49 55 P P 18 16 53.7 +0.1
baz=266
MPMC Manual Prospec 94.69 54 P P 18 16 54.7 +0.1
baz=266
GRAC Grapevine Rang 94.86 53 P P 18 16 54.7 -0.5
baz=266
MZP Montezuma Peak 94.89 53 IAmb IAmb 18 16 57.8
comp=Z,6.6nm,1.4s
ELIB Princess Elisa 95.09 194 *d*P P 18 16 55.6 0.0
comp=Z,1.9nm,0.6s
GSC Goldstone, Bar 95.19 55 P P 18 16 57.2 +0.5
baz=266
MONP2 Monument Peak 95.35 58 P P 18 16 57.6 -0.1
baz=266
PFO Pinyon Flats O 95.36 57 P P 18 16 57.3 -0.3
baz=266
PFO Pinyon Flats O 95.36 57 LR LR 18 52 41.7
comp=Z,58nm,20.9s,baz=105,slow=31
TPFO Pinon Flats 95.37 57 P P 18 16 57.6 -0.1
baz=266
BMO Blue Mountains 95.40 46 P P 18 16 56.8 -0.7
IKP In-Ko-Pah, Jac 95.60 58 P P 18 16 58.4 -0.3
baz=266
NEW Newport 95.71 42 P P 18 16 59.0 +0.3
baz=267
NEW Newport 95.71 42 LR LR 18 56 16.8
comp=Z,94nm,18.5s,baz=114,slow=33
TPNV Topopah Spring 95.75 54 P P 18 16 59.2 -0.2
baz=267
BELC Belle Mtn. Jos 95.77 57 P P 18 16 59.3 -0.2
baz=266
YKA Yellowknife Ar 97.39 28 P Pdif 18 17 07.0 +0.9
comp=Z,0.8nm,0.5s,baz=270,slow=4.2,SNR=5.1
comp=Z,0.8nm,0.5s
SNAA Sanae 100.46 188 P Pdif 18 17 19.5 -0.2
comp=Z,0.3nm,0.7s,baz=27,slow=4.5,SNR=1.3
PDAR Pinedale Array 100.98 48 P Pdif 18 17 23.4 +0.5
comp=Z,0.4nm,0.7s,baz=222,slow=2.0,SNR=4.1
ABTX Abilene, Hawle 109.47 58 P PKiKP 18 22 03.2 -0.6
baz=275
AGMN Agassiz Nation 109.80 41 P PKiKP 18 22 03.4 -0.4
baz=283
833A Chaparral WMA, 110.03 62 P PKiKP 18 22 04.2 -0.6
baz=274
ECSD EROS Data Cent 110.26 46 P PKiKP 18 22 04.4 -0.5
baz=281
WHTX Lake Whitney, 111.38 58 P PKiKP 18 22 07.0 -0.3
baz=276
EYMN Ely 112.72 40 P PKiKP 18 22 09.3 -0.1
baz=287
HFS Hagfors 117.31 338 PKP PKPdf 18 22 17.9 0.0
comp=Z,1.9nm,0.9s,baz=14,slow=3.1,SNR=5.3
NB2 NORSAR Subarra 117.61 339 PKPdf PKPdf 18 22 17.2 -1.3
comp=Z,6.6nm,1.7s,baz=44,slow=1.9
NOA NORSAR Array B 117.61 339 PKP PKPdf 18 22 18.5 +0.1
comp=Z,1.3nm,0.7s,baz=46,slow=1.8,SNR=5.2
TZTN Tazewell 121.74 51 P PKPdf 18 22 27.0 -0.1
baz=288
M53A WI Miller and 122.17 44 P PKPdf 18 22 27.6 -0.2
baz=293
O53A New Philadelph 122.24 46 P PKPdf 18 22 27.8 -0.1
baz=292
ERPA Erie 122.38 43 P PKPdf 18 22 27.5 -0.6
baz=294
GOGA Godfrey 122.69 54 P PKPdf 18 22 28.0 -1.0
baz=286
TIGA Tifton 123.10 56 P PKPdf 18 22 29.6 -0.2
baz=284
MCWV Mont Chateau 123.43 46 P PKPdf 18 22 29.5 -0.7
baz=292
RONA Rosalia, Austr 123.52 325 *i* PKiKP PKPdf 18 22 30.7 +0.4
comp=Z,4.8nm,1.5s
KMSC Kings Mountain 123.88 52 P PKPdf 18 22 31.1 -0.2
baz=288
BLA Blacksburg 123.90 49 P PKPdf 18 22 30.5 -0.8
baz=290
GERES GERESS Array B 124.32 327 PKP PKiKP 18 22 32.5 +0.4
comp=Z,0.5nm,0.5s,baz=95,slow=4.4,SNR=5.9
SSPA Standing Stone 124.42 44 P PKPdf 18 22 31.1 -1.1
baz=294
LONY Lake Ozonia 124.78 38 P PKPdf 18 22 31.8 -0.9
baz=300
SOKA Soboth 124.80 324 *i* PKP PKPdf 18 22 31.8 -0.9
comp=Z,2.8nm,1.3s
BIOA Bad Ischl, Aus 125.02 326 *i* PKiKP PKPdf 18 22 33.0 -0.1
comp=Z,3.3nm,1.0s
OBKA Obir 125.17 325 *i* PKiKP PKPdf 18 22 33.4 -0.1
comp=Z,3.8nm,1.0s
KBA Koelnbreinsper 125.53 326 *i* PKiKP PKPdf 18 22 34.0 -0.3
comp=Z,4.9nm,1.0s
LESA Schwarzleotal 125.71 326 *e*PKiKP PKPdf 18 22 34.5 +0.1
comp=Z,4.8nm,1.3s
ABTA Abfaltersbach 126.19 326 *i* PKiKP PKPdf 18 22 35.4 -0.1
comp=Z,5.0nm,1.3s
WATA Walderalm 126.36 327 *i* PKiKP PKPdf 18 22 35.8 0.0
comp=Z,11nm,1.7s
WTTA Wattenberg 126.37 327 *i* PKiKP PKPdf 18 22 36.4 +0.5
comp=Z,6.0nm,1.1s
LBNH Lisbon 126.60 38 P PKPdf 18 22 35.6 -0.6
baz=302
MOTA Moosalm 126.61 327 *i* PKiKP PKPdf 18 22 36.7 +0.3
comp=Z,8.7nm,1.3s
SQTA Sankt Quirin 126.63 327 *i* PKiKP PKPdf 18 22 36.9 +0.6
comp=Z,5.2nm,1.2s
RETA Reutte 126.71 327 *i* PKiKP PKPdf 18 22 36.5 +0.1
comp=Z,1.0nm,0.6s
EKA Eskdalemuir Ar 126.83 342 PKP PKiKP 18 22 36.9 +0.2
comp=Z,1.5nm,0.4s,baz=18,slow=2.8,SNR=12
FETA Feichten 127.01 327 *i* PKiKP PKPdf 18 22 37.5 +0.4
comp=Z,6.9nm,1.2s
L61B Northampton 127.06 40 P PKPdf 18 22 36.2 -1.0
baz=300
DAVA Damuels 127.31 328 *i* PKiKP PKPdf 18 22 37.8 +0.2
comp=Z,7.3nm,1.0s
PKME Peaks-Kenny Pk 127.59 35 P PKPdf 18 22 37.1 -0.9
baz=306
HRV Adam Dziewonsk 127.74 39 P PKPdf 18 22 37.3 -1.1
baz=302
TORD Torodi Ar. Bea 149.11 285 PKPbc PKPbc 18 23 21.2 -0.8
comp=Z,6.6nm,0.5s,baz=67,slow=3.7,SNR=82
BDFB Brasilia 151.21 139 PKPbc PKPbc 18 23 27.5 +0.3
comp=Z,6.8nm,0.5s,baz=217,slow=1.5,SNR=13
BDFB PKPab PKPab 18 23 35.8 +0.8
comp=Z,3.4nm,0.5s,baz=97,slow=5.1,SNR=5.0
DBIC Dimbokro 156.14 273 PKPab PKPab 18 23 56.0 0.0
comp=Z,2.3nm,0.4s,baz=212,slow=14,SNR=3.3

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*IDC **28** 18:15:14.5±0.4, 6°.05S×151°.13E, h0km, mb4.6/24, mbtmp4.6/25, ML2.3/2, MS3.9/17, Error ellipse: s-maj=17.6km s-min=10.2km az=97.0*
*BJI **28** 18:15:18.3±0.0, 6°.22S×151°.42E, h57km, mb4.7/53, mB5.0/16, Ms4.4/4, Ms7 4.3/4*
*MOS **28** 18:15:18.3±1.1, 6°.01S×151°.04E, h34km, mb4.9/20, Error ellipse: s-maj=10.6km s-min=6.9km az=90.9*
*NEIC **28** 18:15:21.8±1.8, 6°.19S±0°.06×151°.08E±0°.07, h51km±5km, mb5.1/210, Error ellipse: s-maj=10.6km s-min=7.9km az=123.0*
*DJA **28** 18:15:24.4±1.4, 6°S±6°×15°1E±°, h57km±11km, M5.0/10, mB4.9/2, mb4.7/10, MLv5.2/1, Mw(mB)4.2/2*
ISC 28 18:15:21.0±0.2, 6°.15S±0°.04×151°.09E±0°.05, h43km, n687, σ1§07/624, **mb5.0**/159, **MS3.8**/16, **8C-5D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I40PG	**Keravat**	**2.06**	**27**	Pn	**Pn**	**18 15 53.4**	**+0.2**
	baz=237,slow=367						
I40PG				I	I	18 28 40.0	
	baz=226,slow=315,SNR=1.1						
RABL	**Rabaul**	**2.23**	**29**		**Pn**	**18 15 55.4**	**0.0**
RABL				Sn	**Sn**	**18 16 24.0**	**+2.3**
KAVG	**Kavieng**	**3.56**	**356**	P	**Pn**	**18 16 17.8**	**+4.0**
PMG	**Port Moresby**	**5.06**	**230**	Pn	**Pn**	**18 16 34.4**	**0.0**
PMG				Sn	**Sn**	**18 17 29.6**	**-2.0**
PMG	**Port Moresby**	**5.06**	**230**	Pn	**Pn**	**18 16 35.0**	**+0.7**
	16nm,0.3s,baz=40,slow=10,SNR=58						
PMG				Sn	**Sn**	**18 17 31.7**	**+0.1**
	22nm,0.3s,baz=298,slow=13,SNR=3.5						
	241nm,0.9s						
MANU	**Manus Island**	**5.52**	**318**		**Pn**	**18 16 45.2**	**+4.5**
HNR	**Honiara**	**9.36**	**111**		**Pn**	**18 17 33.2**	**-0.3**
HNR	**Honiara**	**9.36**	**111**	LR	LR	18 21 07.3	
	comp=Z,3μm,18.6s,baz=228,slow=38						
HNR	**Honiara**	**9.36**	**111**	P	**Pn**	**18 17 33.2**	**-0.3**
JAY	**Jayapura**	**10.96**	**289**	P	**Pn**	**18 17 56.2**	**+0.8**
COEN	**Coen**	**10.99**	**225**	P	**Pn**	**18 17 55.4**	**-0.3**
COEN	**Coen**	**10.99**	**225**	Pn	**Pn**	**18 17 54.1**	**-1.6**
COEN	**Coen**	**10.99**	**225**	P	**Pn**	**18 17 54.1**	**-1.6**
	23nm,0.8s,SNR=5.7						
MTSU	**Mount Surprise**	**13.62**	**208**	P	**Pn**	**18 18 32.1**	**+0.4**
CTA	**Charters Tower**	**14.63**	**198**	Pn	**Pn**	**18 18 46.1**	**+0.8**
	baz=43,slow=17,SNR=2.7						
CTA				LR	LR	18 24 25.0	
	comp=Z,34nm,18.2s,baz=28,slow=37						
CTAO	**Charters Tower**	**14.63**	**198**	P	**Pn**	**18 18 47.8**	**+2.5**
CTAO	**Charters Tower**	**14.63**	**198**	P	**Pn**	**18 18 47.8**	**+2.5**
KMPI	**Kaimana, Papua**	**17.49**	**277**	P	**P**	**18 19 23.9**	**+1.2**
QIS	**Mount Isa**	**18.14**	**217**	P	**P**	**18 19 28.7**	**-1.1**
	33nm,0.8s,SNR=11						
FAKI	**Fak Fak**	**19.05**	**279**	P	**Pn**	**18 19 42.5**	**+1.6**
	43nm,1.6s						
EIDS	**Eidsvold**	**19.11**	**180**	P	**P**	**18 19 39.4**	**-0.9**
EIDS	**Eidsvold**	**19.11**	**180**	P	**P**	**18 19 40.5**	**+0.2**
	18nm,1.1s,SNR=5.6						

KDU Kakadu 19.47 249 P **P** **18 19 43.9 -0.5**
KDU Kakadu 19.47 249 P **P** **18 19 43.8 -0.5**
165nm,1.0s,SNR=28
SAUI Saumlaki 19.72 264 **P** **18 19 44.9 -2.2**
SWI Sorong 20.47 284 P **P** **18 19 56.6 +1.3**
24nm,0.9s,864nm
GUMO Guam 20.56 343 P **P** **18 19 54.8 -1.5**
GUMO Guam 20.56 343 P **P** **18 19 54.2 -2.0**
112nm,0.9s,baz=194,slow=8.2,SNR=6.9
GUMO LR LR 18 28 28.3
comp=Z,160nm,18.5s,baz=158,slow=39
112nm,0.9s
GUMO Guam 20.56 343 P **P** **18 19 54.8 -1.5**
GUMO pmax pmax
comp=Z,422nm,1.4s
MTN Manton Dam 20.76 250 P **P** **18 19 58.0 -0.4**
MTN IAmb IAmb 18 20 06.5
comp=Z,50nm,0.7s
DRS Darwin Rock St 20.87 251 P **P** **18 20 00.2 +0.6**
WB0 Warramunga Arr 21.13 229 P **P** **18 20 01.8 -0.6**
WR0 Warramunga Arr 21.14 228 P **P** **18 20 02.0 -0.5**
WRAB Tennant Creek 21.26 228 P **P** **18 20 03.3 -0.5**
WRAB Tennant Creek 21.26 228 P **P** **18 20 03.3 -0.5**
WRAB pmax pmax
comp=Z,36nm,0.7s
WB2 Warramunga Arr 21.27 228 P **P** **18 20 03.4 -0.5**
WB2 IAmb IAmb 18 20 08.3
comp=Z,43nm,0.8s
WRA Warramunga Arr 21.28 228 P **P** **18 20 01.6 -2.4**
WRA Warramunga Arr 21.28 228 P **P** **18 20 03.6 -0.3**
comp=Z,33nm,0.7s,baz=52,slow=11,SNR=64
WRA S **S** **18 23 55.3 -3.0**
comp=Z,14nm,1.3s,baz=54,slow=19,SNR=12
WRA PcP **PcP** **18 24 08.0 +0.3**
comp=Z,1.6nm,0.5s,baz=43,slow=1.8,SNR=6.5
WRA ScP **ScP** **18 27 46.1 +4.7**
comp=Z,2.0nm,0.8s,baz=48,slow=2.9,SNR=6.9
WRA LR LR 18 28 24.1
comp=Z,322nm,20.6s,baz=65,slow=37
comp=Z,33nm,0.7s
QLP Quilpie 21.34 197 P **P** **18 20 05.8 +1.3**
comp=Z,64nm,0.9s,SNR=7.1
DZM Mont Dzumac 21.70 138 P **P** **18 20 08.8 +0.3**
DZM Mont Dzumac 21.70 138 P **P** **18 20 08.0 -0.5**
DZM Mont Dzumac 21.70 138 P **P** **18 20 08.6 0.0**
comp=Z,20nm,1.0s,baz=298,slow=8.0,SNR=17
DZM LR LR 18 27 30.4
comp=Z,544nm,19.0s,baz=322,slow=34
comp=Z,20nm,1.0s
ONTNC Ouen Toro 21.87 139 P **P** **18 20 09.6 -0.7**
KNRA Kununurra 23.85 245 P **P** **18 20 29.8 -0.7**
KNRA IAmb IAmb 18 20 33.9
comp=Z,44nm,0.8s
KNRA Kununurra 23.85 245 P **P** **18 20 29.3 -1.2**
comp=Z,70nm,0.8s,SNR=10
AS01 Alice Springs 23.98 222 P **P** **18 20 32.9 +1.2**
AS31 Alice Springs 24.01 222 P **P** **18 20 31.5 -0.5**
ASAR Alice Springs 24.01 222 P **P** **18 20 31.1 -1.0**
ASAR S **S** **18 24 52.0 +5.7**
ASAR Alice Springs 24.01 222 P **P** **18 20 31.9 0.0**
comp=Z,13nm,0.5s,baz=56,slow=9.8,SNR=90
ASAR S **S** **18 24 53.0 +6.6**
comp=Z,4.9nm,1.0s,baz=37,slow=19,SNR=7.8
ASAR ScP **ScP** **18 27 53.6 +5.1**
comp=Z,4.0nm,1.1s,baz=54,slow=3.4,SNR=7.4
ASAR LR LR 18 30 08.0
comp=Z,249nm,20.4s,baz=24,slow=37
comp=Z,13nm,0.5s
ASAR Alice Springs 24.01 222 P **P** **18 20 32.0 0.0**
ASPA Alice Springs 24.01 222 P **P** **18 20 32.6 +0.5**
comp=Z,10nm,0.5s,SNR=14
CMSA Cobar Meteorol 25.75 191 P **P** **18 20 48.2 +0.5**
OOD Oodnadatta 26.02 212 P **P** **18 20 51.2 +1.0**
SOEI Soe 26.80 261 P **P** **18 21 00.0 +2.5**
SOEI Soe 26.80 261 P **P** **18 20 57.0 -0.5**
SOEI IAmb IAmb 18 21 16.0
comp=Z,52nm,0.8s
LCRK Leigh Creek 27.03 205 P **P** **18 21 00.2 +1.0**
STKA Stephens Creek 27.09 198 P **P** **18 21 00.0 +0.2**
STKA Stephens Creek 27.09 198 P **P** **18 21 04.3 +4.5**
comp=Z,5.1nm,0.9s,SNR=2.9
STKA Stephens Creek 27.09 198 P **P** **18 21 01.1 +1.3**
comp=Z,6.0nm,0.8s,baz=357,slow=12,SNR=8.5
STKA LR LR 18 31 03.7
comp=Z,257nm,20.1s,baz=8.7,slow=35
comp=Z,6.0nm,0.8s
STKA Stephens Creek 27.09 198 P **P** **18 21 00.0 +0.2**
STKA pmax pmax
comp=Z,3.0nm,0.9s
FITZ Fitzroy Crossi 27.52 242 P **P** **18 21 03.3 -0.5**
MMRI Maumere 28.71 263 P **P** **18 21 12.9 -1.6**
MMRI IAmb IAmb 18 21 36.7
comp=Z,59nm,0.9s
WRKA Warakurna 28.79 227 P **P** **18 21 15.0 -0.2**
WRKA Warakurna 28.79 227 P **P** **18 21 14.6 -0.5**
comp=Z,28nm,1.4s,SNR=2.3
FORT Forrest 32.67 219 P **P** **18 21 49.3 0.0**
FORT IAmb IAmb 18 21 57.7
comp=Z,62nm,1.2s
MBWA Marble Bar 33.82 241 P **P** **18 21 59.2 -0.3**
MBWA IAmb IAmb 18 22 21.8
comp=Z,18nm,1.1s
MBWA Marble Bar 33.82 241 P **P** **18 21 59.0 -0.4**
PSA00 Pilbara Seismi 33.88 240 P **P** **18 21 59.5 -0.4**
PSA00 IAmb IAmb 18 22 43.7
comp=Z,20nm,1.2s
JCJ Chichijima 34.16 346 LR LR 18 36 11.6
comp=Z,67nm,18.4s,baz=184,slow=37
JAGI Jajag, Banyuwa 36.70 264 P **P** **18 22 23.7 -0.6**
TAU Tasmania Unive 36.76 185 P **P** **18 22 25.1 +0.8**
TAU Tasmania Unive 36.76 185 P **P** **18 22 25.1 +0.8**
TAU pmax pmax
comp=Z,140nm,1.9s
MEEK Meekatharra 37.03 233 P **P** **18 22 26.3 -0.6**
comp=Z,29nm,1.3s,SNR=1.6
JOW Kunigami 39.54 327 P **P** **18 22 48.5 +0.5**
JOW IAmb IAmb 18 22 50.0
comp=Z,54nm,1.1s
JOW Kunigami 39.54 327 P **P** **18 22 48.7 +0.7**
comp=Z,28nm,0.8s,baz=156,slow=13,SNR=3.9
comp=Z,28nm,0.8s
URZ Urewera 39.73 147 LR LR 18 39 18.1
comp=Z,126nm,18.1s,baz=26,slow=36
TCW Tory Channel 40.58 153 P **P** **18 22 56.2 -0.3**
YOJ Yonaguni jima 40.92 319 P **P** **18 22 59.3 -0.1**
YOJ IAmb IAmb 18 23 01.0
comp=Z,44nm,0.7s
YOJ Yonaguni jima 40.92 319 P **P** **18 22 59.3 -0.1**
YOJ pmax pmax
comp=Z,44nm,0.7s
BFZ Birch Farm 41.10 151 P **P** **18 23 01.7 +1.0**
BFZ IAmb IAmb 18 23 50.6
comp=Z,85nm,1.3s
YULB Yu-li 41.34 316 P **P** **18 23 02.6 -0.3**
GVZ Greta Valley S 41.47 156 P **P** **18 23 04.7 +0.9**
NACB Ninganchiao 41.66 317 P **P** **18 23 05.4 -0.1**
SSLB Suanglung 41.84 316 P **P** **18 23 07.1 +0.1**
YHNB Yeheng 42.14 318 P **P** **18 23 09.8 +0.2**
YHNB IAmb IAmb 18 23 11.1
comp=Z,26nm,0.9s
JMN Monobe 42.88 339 P **P** **18 23 14.9 -0.5**
JMN IAmb IAmb 18 23 44.2
comp=Z,56nm,1.3s
JNU Nakatsue 43.52 335 P **P** **18 23 18.4 -2.2**
JNU IAmb IAmb 18 23 22.1
comp=Z,43nm,1.0s
JNU Nakatsue 43.52 335 P **P** **18 23 20.4 -0.1**
comp=Z,23nm,0.8s,baz=206,slow=1.0,SNR=13
comp=Z,23nm,0.8s
MJAR Matsushiro Arr 44.15 345 P **P** **18 23 24.9 -0.7**
comp=Z,1.8nm,0.8s,baz=174,slow=2.4,SNR=3.0
comp=Z,1.8nm,0.8s
KSRS Korea Array 48.47 335 P **P** **18 24 00.2 +0.8**
comp=Z,1.3nm,0.6s,baz=154,slow=8.9,SNR=9.4
KSRS PcP **PcP** **18 25 25.9 +0.8**
comp=Z,1.6nm,0.6s,baz=146,slow=3.2,SNR=7.5
comp=Z,1.3nm,0.6s
NJ2 Nanjing 48.85 323 *e*P **P** **18 24 04.5 +2.0**
NJ2 pmax pmax
comp=Z,14nm,0.5s
ASAJ Asahikawa 50.62 352 P **P** **18 24 14.4 -1.3**
comp=Z,3.1nm,0.6s,baz=216,slow=12,SNR=9.7
ASAJ LR LR 18 47 43.9
comp=Z,52nm,18.0s,baz=158,slow=39
comp=Z,3.1nm,0.6s
ASAJ Asahikawa 50.62 352 P **P** **18 24 13.7 -2.0**
ASAJ pmax pmax
comp=Z,7.0nm,0.9s
JKA Kamikawa-asahi 50.62 352 P **P** **18 24 13.7 -2.0**
DL2 Dalian 52.49 331 P **P** **18 24 30.0 +0.2**
DL2 pmax pmax
comp=Z,22nm,0.9s
USRK Ussuriysk Ar. 53.00 343 P **P** **18 24 32.1 -1.3**
comp=Z,2.1nm,0.6s,baz=180,slow=7.7,SNR=8.4
comp=Z,2.1nm,0.6s
YSS Yuzh-Sakhalins 53.39 353 *i* P **P** **18 24 34.6 -1.6**
YSS pmax pmax
comp=Z,4.0nm,0.8s
COCO West Island 53.82 259 P P 18 24 34.2 -5.8
GYA Guiyang 53.88 309 P **P** **18 24 40.0 -0.4**
GYA pmax pmax
comp=Z,5.0nm,0.6s
MDJ Mudanjiang 54.11 341 P **P** **18 24 41.8 +0.2**
MDJ pmax pmax
comp=Z,4.0nm,0.8s
LYN LuoYang 54.47 321 *e*P **P** **18 24 43.8 -0.6**
LYN pmax pmax
comp=Z,14nm,0.9s
LYN pmax pmax
comp=Z,120nm,6.2s
BNX BinXian 55.83 340 ⇓P **P** **18 24 53.0 -1.0**
BNX pmax pmax
comp=Z,8.0nm,1.2s
XAN Xi'an 56.45 318 P **P** **18 24 58.3 -0.4**
XAN pmax pmax
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 56.93 297 P **P** **18 25 01.7 -0.7**
comp=Z,0.9nm,0.6s,baz=102,slow=5.3,SNR=5.6
comp=Z,0.9nm,0.6s
KLR Kul'dur 57.68 345 LR LR 18 49 15.6
comp=Z,63nm,18.1s,baz=184,slow=35
KLR Kul'dur 57.68 345 *ce*P **P** **18 25 06.2 -0.8**
KLR pmax pmax
comp=Z,4.0nm,1.1s
PZH PanZhiHua 57.77 307 P **P** **18 25 10.5 +2.2**
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,4.3s
POHA Pohakuloa 58.48 62 P **P** **18 25 16.6 +3.1**
HHC Hu-ho-hao-te 59.17 326 *e*P **P** **18 25 20.3 +2.5**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,30nm,4.1s
PET Petropavlovsk 59.30 5 *i* P **P** **18 25 17.8 -0.4**
PET pmax pmax
comp=Z,8.0nm,1.1s
HEH HeiHe 59.81 343 *e*P **P** **18 25 20.3 -1.5**
HEH pmax pmax
comp=Z,6.0nm,0.6s
HEH pmax pmax
comp=Z,100nm,5.1s
DRV Dumont d'Urvil 60.90 185 P **P** **18 25 29.1 +0.1**
DRV pP **sP** **18 25 43.7 -1.1**
LZH Lanzhou 61.03 317 *e*P **P** **18 25 31.3 +0.6**
LZH sP sP 18 25 50.5 +2.7
LZH pmax pmax
comp=Z,20nm,1.0s
ADK Adak 64.04 22 P **P** **18 25 49.3 -0.9**
GTA Gaotai 65.51 318 P **P** **18 26 00.3 +0.1**
GTA pmax pmax
comp=Z,6.0nm,0.9s
MA2 Magadan 65.52 360 P **P** **18 26 00.0 +0.3**
MA2 pP **pP** **18 26 14.3 +2.0**
CASY Casey 66.23 197 P **P** **18 26 03.8 -0.4**
CASY pP **pP** **18 26 17.5 +2.0**
ULN Ulaanbaatar 66.26 329 P **P** **18 26 04.0 -0.9**
ULN Ulaanbaatar 66.26 329 P **P** **18 26 04.0 -0.9**
ULN pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 66.26 329 P **P** **18 26 04.7 -0.2**
SONM Songino Array 66.57 329 P **P** **18 26 05.6 -1.3**
SONM Songino Array 66.57 329 P **P** **18 26 06.7 -0.2**
comp=Z,2.5nm,0.6s,baz=147,slow=6.0,SNR=16
comp=Z,2.5nm,0.6s
SONM Songino Array 66.57 329 P **P** **18 26 05.6 -1.3**
SONM pmax pmax
comp=Z,10.0nm,1.4s
NIKH Nikolski High 67.95 25 P **P** **18 26 15.7 +0.4**
baz=224
SEY Seymchan 68.90 1 *ce*P **P** **18 26 19.7 -1.3**
SEY pmax pmax
comp=Z,11nm,1.7s
UNV Unalaska Valle 69.56 25 P **P** **18 26 25.9 +0.6**
baz=226
ZAK Zakamensk 69.77 330 *e*P **P** **18 26 25.7 -1.2**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
YAK Yakutsk 69.97 349 LR LR 18 54 53.8
comp=Z,42nm,21.9s,baz=114,slow=34
YAK Yakutsk 69.97 349 *i* P **P** **18 26 27.4 -0.2**
YAK pmax pmax
comp=Z,11nm,0.5s
P08K Saint George I 70.34 22 P **P** **18 26 31.3 +1.3**
baz=222
SPIA Saint Paul Isl 70.52 21 P **P** **18 26 31.8 +0.7**
baz=221
CCD Concordia, Ant 70.71 187 P **P** **18 26 32.8 +0.3**
CCD pP **pP** **18 26 46.9 +2.9**
VNDA Vanda 71.55 178 P **P** **18 26 36.8 -0.4**
VNDA Vanda 71.55 178 P **P** **18 26 37.5 +0.4**
comp=Z,2.1nm,0.7s,baz=325,slow=6.6,SNR=23
comp=Z,2.1nm,0.7s
VNDA Vanda 71.55 178 P **P** **18 26 36.8 -0.4**
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 71.55 178 P **P** **18 26 37.7 +0.5**
VNDA pP **sP** **18 26 52.9 +0.4**
MOY Mondy 71.70 330 *e*P **P** **18 26 38.3 -0.3**
S12K Black Hills 72.71 26 P **P** **18 26 45.2 +0.7**
baz=229
SDPT Sand Point 73.18 27 P **P** **18 26 47.8 +0.6**
baz=231
CHNA Chernabura Isl 73.25 27 P **P** **18 26 48.4 +0.8**
baz=232
S14K Fog Glacier 74.17 26 P **P** **18 26 53.7 +0.7**
baz=232
M11K Mekoryuk 74.31 20 P **P** **18 26 54.4 +0.8**
baz=224
CHGN Chignik 74.68 26 P **P** **18 26 56.8 +0.9**
baz=233
BILL Bilibino 74.79 6 *i* P **P** **18 26 55.8 -0.5**
BILL *i* 18 27 05.4
BILL pmax pmax
comp=Z,9.0nm,1.3s
GAMB Gambell 75.14 16 P **P** **18 26 59.3 +1.0**
baz=218
M13K Dall Lake 75.34 21 P **P** **18 27 00.7 +1.1**
baz=227
O14K Tigyukauivet M 75.36 23 P **P** **18 27 00.4 +0.7**
baz=229
WMQ Urumqi 75.59 318 *e*P **P** **18 27 02.5 +1.0**
WMQ pmax pmax
comp=Z,9.0nm,0.9s
N14K Kuskokwak Cree 75.64 22 P **P** **18 27 02.1 +0.8**
baz=229
CHIR Chirikof Islan 75.67 28 P **P** **18 27 02.3 +0.6**
baz=235
O15K Ungalikthiuk R 75.88 24 P **P** **18 27 03.2 +0.5**
baz=231
K13K Kusilvak Mount 75.94 20 P **P** **18 27 03.7 +0.7**
baz=226
M14K Bethel 76.08 22 P **P** **18 27 03.9 +0.1**
M14K IAmb IAmb 18 27 06.0
comp=Z,28nm,0.7s
M14K Bethel 76.08 22 P **P** **18 27 04.4 +0.6**
baz=228
L14K Kuka Creek 76.21 21 P **P** **18 27 04.3 -0.2**
L14K Kuka Creek 76.21 21 P **P** **18 27 05.2 +0.6**
baz=228
R17L Mt. Peulik Vol 76.38 26 P **P** **18 27 06.0 +0.4**
baz=234
PLK4 Peulik 4 76.38 26 P **P** **18 27 04.6 -1.2**
PLK4 IAmb IAmb 18 27 07.2
comp=Z,34nm,0.8s
N15K Kwethluk River 76.40 23 P **P** **18 27 05.0 -0.7**
N15K IAmb IAmb 18 27 07.9
comp=Z,20nm,0.9s
N15K Kwethluk River 76.40 23 P **P** **18 27 06.8 +1.0**
baz=230
M15K Kasigluk River 76.52 22 P **P** **18 27 07.3 +0.9**
baz=230
SII Sitkinak Islan 76.75 28 P **P** **18 27 08.2 +0.4**
baz=236
O16K Kokwok River B 76.83 24 P **P** **18 27 08.8 +0.7**
baz=232
L15K Ungalak Mounta 76.87 21 P **P** **18 27 08.8 +0.5**
baz=229
J14K Nanvaranak Lak 76.88 20 P **P** **18 27 07.8 -0.4**
J14K IAmb IAmb 18 27 11.5
comp=Z,13nm,0.9s
J14K Nanvaranak Lak 76.88 20 P **P** **18 27 09.1 +0.8**
baz=227
Q17K Contact Creek 76.96 26 P **P** **18 27 09.6 +0.6**
baz=235,SNR=5.5
N16K Nishlik Lake 77.11 23 P **P** **18 27 10.6 +0.9**
baz=232
ACHA Angle Creek He 77.17 26 IAmb IAmb 18 27 11.3
comp=Z,16nm,0.6s
R18K Karluk 77.19 27 P **P** **18 27 11.0 +0.9**
baz=236
K15K Wolf Creek Mou 77.26 21 P **P** **18 27 10.6 +0.1**
K15K Wolf Creek Mou 77.26 21 P **P** **18 27 11.2 +0.7**
baz=229
P17K Kvichak River 77.27 25 P **P** **18 27 11.3 +0.7**
baz=234
O17K Koliganek Bris 77.34 24 P **P** **18 27 11.5 +0.5**
baz=233
M16K Timber Creek 77.38 22 P **P** **18 27 11.1 -0.1**
M16K IAmb IAmb 18 27 13.5
comp=Z,27nm,0.8s
M16K Timber Creek 77.38 22 P **P** **18 27 11.8 +0.7**
baz=231,SNR=8.5
OHAK Old Harbor 77.53 27 P **P** **18 27 12.6 +0.5**
baz=237
Q18K Katmai Hardscr 77.56 26 P **P** **18 27 12.9 +0.5**
baz=235,SNR=5.8
TNA Tin City 77.56 16 P **P** **18 27 13.0 +0.9**
baz=222
ANM Nome 77.57 18 P **P** **18 27 13.2 +1.0**
baz=224
L16K Owhat River 77.62 22 IAmb IAmb 18 27 14.4
comp=Z,13nm,0.6s
L16K Owhat River 77.62 22 P **P** **18 27 13.5 +1.0**
baz=231,SNR=5.8
N17K Nushagak Hills 77.76 23 P **P** **18 27 13.8 +0.4**
N17K Nushagak Hills 77.76 23 P **P** **18 27 13.9 +0.6**
baz=233
F14K Arctic Creek 77.95 17 P **P** **18 27 15.6 +1.4**
baz=224
KDAK Kodiak Island 78.15 27 P **P** **18 27 16.6 +1.1**
baz=238
KDAK Kodiak Island 78.15 27 LR LR 18 59 44.1
comp=Z,38nm,18.1s,baz=163,slow=34
O18K Koktuh Hills 78.16 25 P **P** **18 27 16.6 +1.0**
baz=235
M17K Holitna River 78.19 23 IAmb IAmb 18 27 18.4
comp=Z,15nm,0.9s
M17K Holitna River 78.19 23 P **P** **18 27 16.8 +1.1**
baz=233
J16K Anvik River 78.23 20 IAmb IAmb 18 27 18.5
comp=Z,20nm,1.4s
J16K Anvik River 78.23 20 P **P** **18 27 17.1 +1.2**
baz=229
G15K Niukluk 78.28 18 P **P** **18 27 16.9 +0.8**
baz=226
Q19K Cape Douglas, 78.30 26 P **P** **18 27 15.9 -0.5**
Q19K Cape Douglas, 78.30 26 P **P** **18 27 16.7 +0.3**
baz=236,SNR=8.8
L17K Donlin 78.32 22 P **P** **18 27 17.3 +0.8**
baz=232
N18K Kilae Creek 78.36 24 P **P** **18 27 17.6 +0.9**
baz=234
H16K Elim 78.59 19 P **P** **18 27 18.8 +1.0**
baz=228
I17K Unalakleet 78.60 20 P **P** **18 27 19.1 +1.3**
baz=229
F15K North Star Dit 78.60 17 P **P** **18 27 18.9 +1.0**
baz=225
Q20K Shuyak Island 78.67 26 P **P** **18 27 19.4 +1.0**
baz=238
K17K Iditarod 78.68 21 IAmb IAmb 18 27 21.4
comp=Z,22nm,1.1s
K17K Iditarod 78.68 21 P **P** **18 27 19.4 +1.0**
baz=232,SNR=5.9
J17K VABM Dome 78.83 21 P **P** **18 27 19.6 +0.4**
J17K VABM Dome 78.83 21 P **P** **18 27 19.9 +0.7**
baz=231,SNR=6.1
M18K Stony River 78.87 23 P **P** **18 27 20.5 +1.1**
baz=234
P19K Oil Pt 78.88 25 P **P** **18 27 20.3 +0.7**
baz=237
L18K Granite Mounta 78.97 22 IAmb IAmb 18 27 22.4
comp=Z,18nm,1.1s
L18K Granite Mounta 78.97 22 P **P** **18 27 20.8 +0.8**
baz=233,SNR=8.1
N19K Bonanza Creek 79.01 24 IAmb IAmb 18 27 21.9
comp=Z,10nm,0.6s
N19K Bonanza Creek 79.01 24 P **P** **18 27 21.1 +0.8**
baz=235
TIXI Tiksi 79.01 353 *i* P **P** **18 27 20.6 +0.6**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
G16K Koyuk River 79.07 18 IAmb IAmb 18 27 22.5
comp=Z,21nm,1.4s
G16K Koyuk River 79.07 18 P **P** **18 27 21.5 +1.1**
baz=227
ILSW Iliamna Southw 79.10 25 IAmb IAmb 18 27 22.1
comp=Z,10nm,0.7s
O20K Slope Mountain 79.37 25 P **P** **18 27 22.6 +0.3**
baz=237
H17K Granite Mounta 79.54 19 P **P** **18 27 22.7 -0.3**
H17K IAmb IAmb 18 27 25.2
comp=Z,25nm,1.6s
H17K Granite Mounta 79.54 19 P **P** **18 27 23.8 +0.7**
baz=230
HOM Homer 79.56 26 P **P** **18 27 23.7 +0.5**
baz=238
L19K White Mountain 79.64 23 IAmb IAmb 18 27 25.8
comp=Z,19nm,0.9s
L19K White Mountain 79.64 23 P **P** **18 27 24.3 +0.6**
baz=235
M19K Big River Lodg 79.66 23 P **P** **18 27 24.5 +0.7**
baz=235
CNPM China Poot 79.67 26 P **P** **18 27 23.8 -0.1**
G17K Kiwalik Mounta 79.67 18 P **P** **18 27 24.4 +0.6**
baz=229
J18K Innoko River 79.71 21 IAmb IAmb 18 27 26.2
comp=Z,36nm,1.8s
J18K Innoko River 79.71 21 P **P** **18 27 24.9 +0.9**
baz=233
BRLK Bradley Lake 79.94 26 IAmb IAmb 18 27 26.9
comp=Z,18nm,0.6s
BRSE Bradley Lake S 80.00 26 P **P** **18 27 26.4 +0.7**
baz=239
F17K Baldwin Pennin 80.12 18 P **P** **18 27 26.7 +0.7**
baz=228
M20K Styx River 80.15 23 P **P** **18 27 26.8 +0.3**
baz=236
H18K Honhosa River 80.19 19 P **P** **18 27 27.3 +0.7**
baz=231
L20K Farewell, AK 80.19 23 P **P** **18 27 27.3 +0.7**
baz=236,SNR=7.6
MK31 Makanchi Array 80.23 319 P **P** **18 27 25.8 -1.4**
MK31 Makanchi Array 80.23 319 P **P** **18 27 25.8 -1.4**
MK31 pmax pmax
comp=Z,4.0nm,1.0s
MKAR Makanchi Array 80.23 319 P **P** **18 27 26.3 -0.9**
comp=Z,3.2nm,0.8s,baz=115,slow=5.5,SNR=26
comp=Z,3.2nm,0.8s
C16K Lisburne Hills 80.25 15 P **P** **18 27 27.7 +1.0**
baz=224
E17K Hotham Inlet 80.38 17 P **P** **18 27 27.4 -0.1**
baz=228,SNR=6.3
J19K Poorman 80.42 21 IAmb IAmb 18 27 31.2
comp=Z,25nm,1.7s
J19K Poorman 80.42 21 P **P** **18 27 28.2 +0.4**
baz=234,SNR=5.8
MAKZ Makanchi 80.44 319 P **P** **18 27 26.9 -1.4**
MAKZ Makanchi 80.44 319 P **P** **18 27 26.9 -1.4**
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
D17K Noatak River 80.44 16 P **P** **18 27 28.3 +0.5**
baz=226
G18K Tagagawik 80.56 19 P **P** **18 27 28.4 -0.1**
baz=231,SNR=9.3
K20K Telida 80.61 22 P **P** **18 27 28.1 -0.8**
K20K IAmb IAmb 18 27 30.9
comp=Z,12nm,0.8s

K20K	Telida baz=236	80.61	22	P	P	18 27 29.3 +0.4
F18K	Selawik baz=230	80.70	18	P	P	18 27 29.5 +0.3
RDOG	Red Dog Mine baz=226	80.74	16	P	P	18 27 29.8 +0.3
SEW	Seward baz=240,SNR=5.3	80.74	26	P	P	18 27 30.0 +0.4
SKT	Skwentna baz=238	80.84	24	P	P	18 27 29.6 -0.5
SUA	Susitna One baz=239	80.88	24	P	P	18 27 29.9 -0.7
C17K	DeLong Mountai baz=226	80.96	16	P	P	18 27 30.4 -0.2
E18K	Tukpahlearik C	80.96	17	P	P	18 27 30.1 -0.5
E18K	Tukpahlearik C baz=229	80.96	17	P	P	18 27 30.3 -0.3
H19K	Roundabout Mou baz=233,SNR=12	81.05	20	P	P	18 27 31.4 +0.2
J20K	Nowinta River comp=Z,37nm,1.5s	81.05	21	IAmb	IAmb	18 27 34.0
J20K	Nowinta River baz=235,SNR=12	81.05	21	P	P	18 27 31.7 +0.5
PPLA	Purkeypile baz=237	81.07	23	P	P	18 27 31.7 +0.2
RC01	Rabbit Creek A baz=240	81.11	25	P	P	18 27 31.7 +0.2
G19K	Purcell Mounta comp=Z,18nm,1.3s	81.22	19	IAmb	IAmb	18 27 33.9
G19K	Purcell Mounta baz=232,SNR=9.5	81.22	19	P	P	18 27 32.3 +0.2
M22K	Willow baz=239	81.29	24	P	P	18 27 32.3 -0.1
I20K	Naaghedeneel comp=Z,23nm,1.1s	81.29	21	IAmb	IAmb	18 27 35.2
I20K	Naaghedeneel baz=235	81.29	21	P	P	18 27 31.5 -0.9
ZALV	Zalesovo Beam	81.33	327	P	P	18 27 30.3 -2.6
ZALV	Zalesovo Beam comp=Z,2.7nm,0.6s,baz=110,slow=5.0,SNR=12 comp=Z,2.7nm,0.6s	81.33	327	P	P	18 27 31.1 -1.7
CAST	Castle Rocks comp=Z,16nm,1.0s	81.39	22	IAmb	IAmb	18 27 33.8
CAST	Castle Rocks baz=237	81.39	22	P	P	18 27 32.0 -1.1
F19K	Shaleruckik Mo baz=232,SNR=8.2	81.43	18	P	P	18 27 32.9 -0.2
H20K	Anotleneega Mo baz=234,SNR=6.1	81.56	20	P	P	18 27 33.7 -0.2
CHUM	Lake Minchumin baz=237	81.56	22	P	P	18 27 33.8 -0.1
CUT	Chulitna baz=239	81.56	24	P	P	18 27 33.7 -0.2
P23K	Montague Islan baz=242	81.59	27	P	P	18 27 33.7 -0.4
PWL	Port Wells baz=241,SNR=7.0	81.59	26	P	P	18 27 33.4 -0.8
C18K	Utukok River baz=228	81.61	16	P	P	18 27 33.9 -0.2
PMR	Palmer baz=240	81.62	25	P	P	18 27 33.9 -0.3
GHO	Glory Hole Cre comp=Z,12nm,0.5s	81.79	25	IAmb	IAmb	18 30 38.5
KNK	Knik Glacier	81.81	25	P	P	18 27 34.6 -0.7
KNK	 comp=Z,37nm,1.6s			IAmb	IAmb	18 30 29.4
KNK	Knik Glacier baz=241	81.81	25	P	P	18 27 35.0 -0.3
E19K	Redstone River comp=Z,18nm,1.2s	81.98	18	IAmb	IAmb	18 27 37.3
E19K	Redstone River baz=232,SNR=20	81.98	18	P	P	18 27 36.0 -0.1
SML	Sawmill	82.05	25	P	P	18 27 35.9 -0.7
SML	 comp=Z,25nm,0.7s			IAmb	IAmb	18 27 37.8
SML	Sawmill baz=241,SNR=14	82.05	25	P	P	18 27 35.8 -0.7
SML	Sawmill	82.05	25	P	P	18 27 35.9 -0.7
SML	 comp=Z,25nm,0.7s			pmax	pmax	
GLI	Glacier Island comp=Z,17nm,0.8s	82.14	26	IAmb	IAmb	18 27 38.1
GLI	Glacier Island baz=242	82.14	26	P	P	18 27 36.4 -0.6
BPAW	Bear Paw Mtn. baz=238,SNR=7.0	82.17	22	P	P	18 27 36.1 -1.0
F20K	Avaraart Lake comp=Z,26nm,1.6s	82.20	18	IAmb	IAmb	18 27 39.8
F20K	Avaraart Lake baz=233,SNR=11	82.20	18	P	P	18 27 36.4 -0.8
IMAR	Indian Mountai	82.22	20	P	P	18 27 36.2 -1.2
M23K	Glacier View baz=242	82.30	25	P	P	18 27 37.3 -0.6
FID	Port Fidalgo comp=Z,26nm,1.1s	82.34	26	IAmb	IAmb	18 27 39.2
C19K	Lookout Ridge baz=230	82.35	16	P	P	18 27 37.6 -0.4
H21K	Melozitna Rive baz=236,SNR=5.9	82.36	20	P	P	18 27 37.4 -0.7
D19K	Kuna River comp=Z,21nm,1.5s	82.37	17	IAmb	IAmb	18 27 39.0
D19K	Kuna River baz=231	82.37	17	P	P	18 27 37.3 -0.9
WAT1	Susitna Watana baz=241	82.47	24	P	P	18 27 38.0 -0.8
SCM	Sheep Creek Mo	82.48	25	P	P	18 27 38.5 -0.4
SCM	 comp=Z,20nm,1.0s			IAmb	IAmb	18 27 40.9
SCM	Sheep Creek Mo baz=242,SNR=5.7	82.48	25	P	P	18 27 38.3 -0.6
SCM	Sheep Creek Mo	82.48	25	P	P	18 27 38.5 -0.4
SCM	 comp=Z,20nm,1.0s			pmax	pmax	
KSH	Kashi	82.52	311	P	P	18 27 40.8 +1.1
KSH	 comp=Z,4.0nm,0.9s			pmax	pmax	
EYAK	Cordova Ski Ar baz=243	82.57	26	P	P	18 27 38.5 -0.7
G21K	Allakaket baz=236,SNR=6.3	82.61	19	P	P	18 27 38.9 -0.5
RND	Reindeer comp=Z,18nm,0.8s	82.63	23	IAmb	IAmb	18 27 40.0
WAT6	Susitna Watana baz=241,SNR=10.0	82.67	24	P	P	18 27 38.9 -1.0
MLY	Manley	82.75	21	P	P	18 27 39.3 -0.9
MLY	 comp=Z,16nm,0.6s			IAmb	IAmb	18 27 41.3
MLY	Manley baz=238,SNR=37	82.75	21	P	P	18 27 39.7 -0.5
MCK	McKinley baz=240,SNR=13	82.76	23	P	P	18 27 39.4 -0.8
E20K	Nigu River baz=233,SNR=10	82.79	17	P	P	18 27 40.4 +0.1
KAIM	Kayak Island baz=245	82.90	27	P	P	18 27 40.6 -0.4
KLU	Klutina comp=Z,27nm,1.0s	82.92	26	IAmb	IAmb	18 27 43.4
KLU	Klutina baz=243,SNR=15	82.92	26	P	P	18 27 41.1 0.0
D20K	Etivluk River baz=232	82.94	17	P	P	18 27 40.9 -0.2
H22K	Ishtalitna Cre baz=238,SNR=11	82.98	20	P	P	18 27 41.5 +0.1
F21K	Alatna River baz=236,SNR=8.7	83.02	19	P	P	18 27 41.2 -0.3
DHY	Denali Highway	83.06	24	P	P	18 27 41.1 -0.8
DHY	 comp=Z,12nm,0.9s			IAmb	IAmb	18 27 43.1
DHY	Denali Highway baz=242,SNR=11	83.06	24	P	P	18 27 40.8 -1.1
M24K	Tolsona, Glenn comp=Z,24nm,0.6s	83.09	25	IAmb	IAmb	18 27 43.9
M24K	Tolsona, Glenn baz=243,SNR=6.8	83.09	25	P	P	18 27 41.5 -0.5
NEA2	Nenana comp=Z,12nm,0.7s	83.14	22	IAmb	IAmb	18 27 42.5
NEA2	Nenana baz=240,SNR=13	83.14	22	P	P	18 27 41.1 -1.1
HMT	Hamilton comp=Z,18nm,0.8s	83.14	27	IAmb	IAmb	18 27 43.9
BMRM	Bremner River baz=244	83.26	26	P	P	18 27 42.5 -0.4
I23K	Minto, Yukon-K baz=240,SNR=14	83.31	22	P	P	18 27 42.5 -0.5
NIL	Nilore	83.33	305	P	P	18 27 42.1 -1.8
NIL	 comp=Z,12nm,0.7s			IAmb	IAmb	18 27 43.6
NIL	Nilore	83.33	305	P	P	18 27 42.1 -1.8
NIL	 comp=Z,12nm,0.7s			pmax	pmax	
WRH	Wood River Hil	83.45	22	P	P	18 27 42.2 -1.5
WRH	 comp=Z,23nm,1.2s			IAmb	IAmb	18 27 44.6
G22K	Bettles baz=238	83.50	20	P	P	18 27 43.6 -0.3
N25K	Chitina, Valde comp=Z,10nm,0.8s	83.54	26	IAmb	IAmb	18 29 22.4
N25K	Chitina, Valde baz=244	83.54	26	P	P	18 27 43.8 -0.6
E21K	Killik River comp=Z,16nm,1.1s	83.56	18	IAmb	IAmb	18 27 46.5
E21K	Killik River baz=235,SNR=12	83.56	18	P	P	18 27 43.6 -0.7
B20K	Meade River baz=232	83.59	16	P	P	18 27 44.1 -0.2
H23K	Yukon River	83.59	21	P	P	18 27 43.6 -0.8
H23K	Yukon River baz=239,SNR=14	83.59	21	P	P	18 27 44.5 0.0
F22K	John River baz=237,SNR=11	83.59	19	P	P	18 27 44.0 -0.4
CCB	Clear Creek Bu comp=Z,30nm,1.4s	83.64	22	IAmb	IAmb	18 27 45.5
HARP	HAARP baz=244	83.65	25	P	P	18 27 43.8 -1.1
MAW	Mawson	83.67	203	P	P	18 27 44.5 -0.4
MAW	 comp=Z,1.9nm,0.5s,baz=86,slow=7.9,SNR=4.4 comp=Z,64nm,18.4s,baz=114,slow=35 comp=Z,1.9nm,0.5s			LR	LR	19 04 33.1
COLA	College	83.73	22	P	P	18 27 43.8 -1.4
COLA	College	83.73	22	P	P	18 27 43.8 -1.4
C21K	Knifeblade Rid baz=234	83.74	17	P	P	18 27 44.3 -0.8
PAX	Paxson baz=243,SNR=6.2	83.78	24	P	P	18 27 45.2 -0.4
KURK	Kurchatov	83.79	322	P	P	18 27 44.3 -1.4
KURK	Kurchatov	83.79	322	P	P	18 27 44.6 -1.1
KURBB	Kurchatov Arra comp=Z,4.3nm,0.9s,baz=112,slow=4.1,SNR=37 comp=Z,4.3nm,0.9s	83.81	322	P	P	18 27 44.6 -1.2
GLB	Gilahina Butte comp=Z,12nm,0.7s	83.81	26	IAmb	IAmb	18 29 25.8
QSPA	South Pole Qui	83.82	180	P	P	18 27 45.2 -0.6
QSPA	South Pole Qui comp=Z,6.6nm,0.7s,baz=326,slow=1.2,SNR=57 comp=Z,6.6nm,0.7s	83.82	180	P	P	18 27 45.7 -0.1
CRQM	Cirque	83.83	27	P	P	18 27 45.8 -0.2
CRQE	Cirque baz=246,SNR=6.0	83.84	27	P	P	18 27 45.5 -0.5
HDA	Harding Lake comp=Z,20nm,1.5s	83.86	23	IAmb	IAmb	18 27 46.8
HDA	Harding Lake baz=242,SNR=7.8	83.86	23	P	P	18 27 45.6 -0.2
VRDI	Verde Repeater comp=Z,18nm,0.6s	83.88	26	IAmb	IAmb	18 29 05.8
G23K	Bananza Creek baz=239,SNR=14	83.88	20	P	P	18 27 45.7 -0.2
POKR	Poker Plat Res baz=241	84.01	22	P	P	18 27 45.8 -0.8
K24K	Donnelly Dome baz=243	84.03	23	P	P	18 27 46.4 -0.4
IL31	 comp=Z,28nm,1.4s	84.05	22	IAmb	IAmb	18 27 47.2
ILAR	Eielson Array	84.05	22	P	P	18 27 44.5 -2.3
ILAR	Eielson Array comp=Z,7.7nm,0.8s,baz=254,slow=5.1,SNR=57 comp=Z,7.7nm,0.8s	84.05	22	P	P	18 27 44.9 -1.9
B21K	Ikpikpuk River baz=234	84.06	17	P	P	18 27 46.8 +0.1
COLD	Coldfoot baz=239,SNR=9.2	84.09	20	P	P	18 27 47.1 +0.2
MESA	MESA baz=247	84.13	28	P	P	18 27 47.4 -0.2
MCARA	McCarthy VSAT baz=246	84.13	26	P	P	18 27 47.4 +0.1
H24K	Noodor Dome baz=241,SNR=7.8	84.19	21	P	P	18 27 47.6 0.0
D22K	Ayikyak River comp=Z,12nm,0.8s	84.20	18	IAmb	IAmb	18 27 49.6
D22K	Ayikyak River baz=236,SNR=7.8	84.20	18	P	P	18 27 47.4 -0.1
AAK	Ala-Archa	84.36	314	*ce*P	P	18 27 48.0 -1.1
AAK	 comp=Z,4.0nm,0.6s			pmax	pmax	
J25K	Salcha River, comp=Z,17nm,0.9s	84.56	23	IAmb	IAmb	18 27 50.3
J25K	Salcha River, baz=243,SNR=28	84.56	23	P	P	18 27 48.6 -0.9
M26K	Nabesna, AK	84.56	25	P	P	18 27 49.6 0.0
M26K	 comp=Z,8.8nm,0.8s			IAmb	IAmb	18 29 35.6
M26K	Nabesna, AK baz=246	84.56	25	P	P	18 27 49.3 -0.2
L26K	Log Cabin Wild comp=Z,11nm,0.6s	84.68	25	IAmb	IAmb	18 27 51.5
L26K	Log Cabin Wild baz=245,SNR=10	84.68	25	P	P	18 27 49.9 -0.2
E23K	Chandalar baz=239,SNR=15	84.71	19	P	P	18 27 50.6 +0.4
CTG	Chitna Glacier baz=247,SNR=8.2	84.72	27	P	P	18 27 50.6 +0.2
G24K	Hadweenzic Riv	84.75	21	P	P	18 27 49.1 -1.3
G24K	 comp=Z,15nm,1.1s			IAmb	IAmb	18 27 52.0
G24K	Hadweenzic Riv baz=241,SNR=15	84.75	21	P	P	18 27 50.1 -0.3
SCRK	Sand Creek baz=245,SNR=11	84.82	24	P	P	18 27 50.6 -0.3
D23K	Nanushuk River baz=238	84.85	18	P	P	18 27 51.0 +0.3
F24K	Squaw Lake comp=Z,19nm,1.1s	85.01	20	IAmb	IAmb	18 27 53.7
F24K	Squaw Lake baz=241,SNR=17	85.01	20	P	P	18 27 51.1 -0.5
M27K	Edge Creek, AK	85.02	26	P	P	18 27 50.9 -1.0
M27K	 comp=Z,21nm,0.8s			IAmb	IAmb	18 27 53.9
M27K	Edge Creek, AK baz=247,SNR=26	85.02	26	P	P	18 27 51.4 -0.5
TOLK	Toolik Lake Re comp=Z,8.7nm,0.9s	85.03	18	IAmb	IAmb	18 27 53.4
TOLK	Toolik Lake Re baz=239,SNR=8.9	85.03	18	P	P	18 27 51.9 +0.2
E24K	Your Creek baz=240,SNR=7.4	85.09	19	P	P	18 27 51.9 -0.2
H25L	Birch Creek baz=243	85.14	21	P	P	18 27 52.3 0.0
O28M	Mount Upton baz=248,SNR=9.7	85.16	27	P	P	18 27 52.7 -0.2
J26L	Joseph Creek	85.21	23	P	P	18 27 51.7 -1.0
J26L	 comp=Z,31nm,1.9s			IAmb	IAmb	18 27 54.8
J26L	Joseph Creek baz=245,SNR=9.4	85.21	23	P	P	18 27 52.8 0.0
G25K	Bearman Lake baz=243,SNR=11	85.27	21	P	P	18 27 53.2 +0.4
L27K	Beaver Creek, baz=247,SNR=12	85.32	25	P	P	18 27 52.7 -0.6
C23K	Itkillik River comp=Z,33nm,1.4s	85.34	17	IAmb	IAmb	18 27 55.6
C23K	Itkillik River baz=238	85.34	17	P	P	18 27 53.2 0.0
BCAR	Beaver Creek A	85.34	25	P	P	18 27 51.8 -1.6
YUK3	Moose Creek baz=248,SNR=15	85.42	26	P	P	18 27 53.9 -0.1
D24K	Happy Valley comp=Z,9.3nm,0.8s	85.52	18	IAmb	IAmb	18 27 56.1
D24K	Happy Valley baz=240	85.52	18	P	P	18 27 54.3 +0.2
YUK8	Steele Glacier baz=249,SNR=10	85.55	27	P	P	18 27 54.6 -0.2
K27K	Chicken comp=Z,14nm,1.1s	85.61	24	IAmb	IAmb	18 27 57.7
K27K	Chicken baz=246	85.61	24	P	P	18 27 54.1 -0.6
I26K	Coal Creek Min baz=245	85.71	23	P	P	18 27 55.0 -0.1
F25K	Christian Rive baz=243,SNR=6.8	85.81	20	P	P	18 27 55.6 -0.1
C24K	Franklin Bluff baz=240	85.85	18	P	P	18 27 56.5 +0.8
YUK4	Talbot Arm baz=250,SNR=9.0	86.07	27	P	P	18 27 58.1 +0.9
BMAR	Burnt Mountain	86.10	20	P	P	18 27 57.1 0.0
S31K	Pelican	86.12	31	P	P	18 27 56.6 -0.6
S31K	Pelican baz=252,SNR=5.5	86.12	31	P	P	18 27 58.1 +0.8
G26K	Porcupine Rive baz=245,SNR=33	86.17	21	P	P	18 27 58.0 +0.6
EGAK	Eagle comp=Z,30nm,1.2s	86.27	23	IAmb	IAmb	18 28 00.2
EGAK	Eagle baz=247	86.27	23	P	P	18 27 58.5 +0.6
SIT	Sitka baz=253	86.31	32	P	P	18 27 58.7 +0.5
F26K	Sheenjek River baz=244,SNR=10	86.37	20	P	P	18 27 58.9 +0.5
D25K	Kavik River comp=Z,19nm,1.2s	86.37	18	IAmb	IAmb	18 27 59.7
D25K	Kavik River baz=242,SNR=13	86.37	18	P	P	18 27 58.3 -0.1
I27K	Kandik River baz=247,SNR=23	86.42	23	P	P	18 27 58.9 +0.2
M29M	Somme Creek	86.53	26	P	P	18 27 58.0 -1.4
M29M	Somme Creek baz=250,SNR=21	86.53	26	P	P	18 27 59.8 +0.4
NRIK	Noril'sk comp=Z,3.5nm,0.7s,baz=122,slow=4.4,SNR=3.9 comp=Z,3.5nm,0.7s	86.69	341	P	P	18 27 58.9 -1.0
NRIK	Noril'sk	86.69	341	*i* P	P	18 27 59.5 -0.4
NRIK	 comp=Z,3.0nm,0.9s			pmax	pmax	
H27K	Steamboat Moun baz=247,SNR=31	86.70	22	P	P	18 28 00.5 +0.4
DAWY	Dawson comp=Z,11nm,0.8s	86.71	24	IAmb	IAmb	18 28 02.1
DAWY	Dawson baz=249	86.71	24	P	P	18 28 00.6 +0.4
N30M	Aishikik Lake baz=251,SNR=9.4	86.81	27	P	P	18 28 02.0 +1.2
S32K	Killisnoo baz=254	86.82	31	P	P	18 28 01.2 +0.5
G27K	Doyon Strip	86.88	21	P	P	18 27 59.8 -1.1
G27K	 comp=Z,20nm,1.4s			IAmb	IAmb	18 28 03.0
G27K	Doyon Strip baz=247,SNR=15	86.88	21	P	P	18 28 01.2 +0.3
L29M	L29M baz=250,SNR=32	86.91	25	P	P	18 28 01.8 +0.7
I28M	Miner Creek comp=Z,8.1nm,0.7s	87.00	23	IAmb	IAmb	18 28 03.1
I28M	Miner Creek baz=248,SNR=13	87.00	23	P	P	18 28 01.9 +0.3
CRAG	Craig baz=255	87.05	34	P	P	18 28 02.6 +0.8
O30N	Mendenhall	87.06	28	P	P	18 28 01.7 -0.2
O30N	Mendenhall baz=252,SNR=79	87.06	28	P	P	18 28 02.6 +0.7
R32K	Eaglecrest baz=254	87.08	31	P	P	18 28 02.8 +0.8
C26K	Camden Bay baz=244	87.10	18	P	P	18 28 03.0 +1.1
U33K	Whale Pass baz=255	87.22	33	P	P	18 28 03.5 +0.9
M30M	Minto, Yukon baz=251,SNR=24	87.31	26	P	P	18 28 03.5 +0.5
KKAR	Karatay Array	87.32	314	P	P	18 28 01.9 -1.6
KKAR	Karatay Array comp=Z,5.9nm,0.8s	87.32	314	IAmb	IAmb	18 28 03.5
KKAR	Karatay Array	87.32	314	P	P	18 28 01.9 -1.6
J29N	Klondike Camp baz=250	87.33	24	P	P	18 28 03.7 +0.5
C27K	Jago River baz=245,SNR=15	87.35	19	P	P	18 28 03.5 +0.4
K29M	Barlow Dome baz=251,SNR=44	87.41	25	P	P	18 28 04.2 +0.6
N31M	Braeburn, Yuko baz=252,SNR=19	87.42	27	P	P	18 28 04.2 +0.6
E27K	Coleen River baz=247,SNR=16	87.45	20	P	P	18 28 04.1 +0.5
WHY	Whitehorse	87.59	28	P	P	18 28 04.4 -0.2
WHY	Whitehorse baz=253,SNR=10	87.59	28	P	P	18 28 04.8 +0.2
I29M	Ogilvie Camp, baz=250,SNR=6.0	87.61	23	P	P	18 28 04.8 +0.3
F28M	Old Crow comp=Z,11nm,1.0s	87.83	21	IAmb	IAmb	18 28 07.2
F28M	Old Crow baz=248,SNR=12	87.83	21	P	P	18 28 06.0 +0.5
P32M	Atlin baz=254,SNR=8.0	87.85	29	P	P	18 28 06.2 +0.5
V35K	Ketchikan baz=256	87.85	34	P	P	18 28 06.7 +1.0
H29M	Whitestone comp=Z,18nm,1.4s	87.88	22	IAmb	IAmb	18 31 24.5
H29M	Whitestone baz=250	87.88	22	P	P	18 28 06.5 +0.8
D27M	Malcolm River	88.08	19	P	P	18 28 06.7 +0.1
D27M	 comp=Z,9.2nm,0.7s			IAmb	IAmb	18 28 08.6
D27M	Malcolm River baz=247,SNR=10	88.08	19	P	P	18 28 07.4 +0.7
J30M	Hart River baz=252,SNR=25	88.14	24	P	P	18 28 08.0 +0.9
G29M	Pine Creek baz=250,SNR=5.9	88.25	22	P	P	18 28 07.9 +0.4
M31M	Drury Creek, Y baz=254,SNR=13	88.26	27	P	P	18 28 08.7 +1.0
E28M	Babbage River	88.31	20	P	P	18 28 07.8 +0.1
E28M	 comp=Z,6.8nm,0.8s			IAmb	IAmb	18 28 10.3
E28M	Babbage River baz=249	88.31	20	P	P	18 28 08.4 +0.7
I30M	Mount Dempster comp=Z,8.1nm,0.8s	88.33	24	IAmb	IAmb	18 28 09.4
I30M	Mount Dempster baz=252,SNR=14	88.33	24	P	P	18 28 08.1 +0.1
Q32M	Nakina River baz=255	88.40	30	P	P	18 28 09.2 +0.6
P33M	Teslin, Yukon	88.45	29	P	P	18 28 08.5 -0.1
P33M	Teslin, Yukon baz=255,SNR=6.9	88.45	29	P	P	18 28 09.5 +0.9
EPYK	Eagle Plains baz=251,SNR=13	88.56	23	P	P	18 28 09.3 +0.3
N32M	Quiet Lake baz=255	88.57	28	P	P	18 28 09.3 +0.1
S34M	Telegraph Cree baz=256	88.72	31	P	P	18 28 11.0 +1.1
FARO	Faro, Yukon baz=254,SNR=13	88.74	27	P	P	18 28 10.9 +1.0
E29M	Blow River baz=250	88.80	21	P	P	18 28 10.6 +0.6
G30M	tAoh Zraii Nji comp=Z,13nm,1.3s	88.94	22	IAmb	IAmb	18 28 12.5
G30M	tAoh Zraii Nji baz=252	88.94	22	P	P	18 28 11.2 +0.5
T35M	Bob Quinn	88.97	32	P	P	18 28 11.1 0.0
T35M	 comp=Z,15nm,1.0s			IAmb	IAmb	18 28 13.4
T35M	Bob Quinn baz=257,SNR=6.7	88.97	32	P	P	18 28 11.5 +0.5
R33M	Jennings River baz=256,SNR=9.6	89.16	30	P	P	18 28 12.6 +0.5
BBB	Bella Bella comp=Z,55nm,19.5s,baz=170,slow=32	89.20	37	LR	LR	19 03 31.9
BVAR	Borovoye Array comp=Z,2.2nm,0.7s,baz=102,slow=5.7,SNR=18 comp=Z,2.2nm,0.7s	89.30	323	P	P	18 28 10.6 -2.1
F30M	Barrier River baz=252,SNR=6.7	89.30	22	P	P	18 28 12.5 +0.2
BRVK	Borovoye	89.37	323	*ce*P	P	18 28 11.8 -1.2
BRVK	 comp=Z,7.0nm,2.8s			pmax	pmax	
DLBC	Dease Lake baz=257,SNR=7.3	89.41	31	P	P	18 28 13.5 +0.3
DLBC	Dease Lake comp=Z,134nm,20.5s,baz=180,slow=31	89.41	31	LR	LR	19 01 47.6
G31M	Satah River	89.66	22	P	P	18 28 13.3 -0.7
G31M	Satah River baz=254,SNR=11	89.66	22	P	P	18 28 13.9 -0.1
MMPY	Sheldon Lake, baz=256,SNR=9.2	89.78	27	P	P	18 28 15.2 +0.4
F31M	Tsiigehtchic comp=Z,7.6nm,0.8s	90.00	22	IAmb	IAmb	18 28 16.4
F31M	Tsiigehtchic baz=254	90.00	22	P	P	18 28 16.1 +0.5
INK	Inuvik	90.32	21	P	P	18 28 15.9 -1.1
INK	 comp=Z,20nm,1.4s			IAmb	IAmb	18 28 17.8
INK	Inuvik baz=254	90.32	21	P	P	18 28 17.4 +0.4
INK	Inuvik	90.32	21	P	P	18 28 15.9 -1.1
INK	 comp=Z,20nm,1.4s			pmax	pmax	

WTLY	Watson Lake, Y	90.38	30	P	P	18 28 18.3	+0.6
	baz=258						
CBB	Campbell River	90.53	40	IAmb	IAmb	18 28 21.6	
	comp=Z,12nm,0.8s						
TGTN	Hyland Airport	90.92	28	P	P	18 28 20.6	+0.5
	baz=259						
HUMO	Hull Mountain	91.15	47	P	P	18 28 21.4	-0.2
HUMO				IAmb	IAmb	18 28 24.0	
	comp=Z,23nm,1.6s						
YBH	Yreka Blue Hor	91.22	48	P	P	18 28 21.6	-0.4
YBH				IAmb	IAmb	18 28 25.1	
	comp=Z,20nm,1.6s						
YBH	Yreka Blue Hor	91.22	48	LR	LR	19 02 23.3	
	comp=Z,97nm,21.4s,baz=295,slow=31						
YBH	Yreka Blue Hor	91.22	48	P	P	18 28 21.6	-0.4
YBH				pmax	pmax		
	comp=Z,20nm,1.6s						
LIRD	Liard River Hi	91.60	31	P	P	18 28 24.0	+0.8
	baz=261						
TOAD	Toad River Com	91.95	31	P	P	18 28 25.2	+0.3
	baz=261						
KOTAN	Kotaneelee Air	92.73	30	P	P	18 28 28.1	-0.3
	baz=262						
PINE	Pine Mountain	92.75	46	IAmb	IAmb	18 28 31.4	
	comp=Z,9.0nm,1.1s						
SCZ2	Santa Cruz Isl	92.80	56	P	P	18 28 28.4	-1.0
	baz=264						
SNCC	San Nicolas Is	92.82	57	P	P	18 28 28.8	-0.7
	baz=264						
SCI2	San Clemente I	93.61	57	P	P	18 28 32.2	-1.0
	baz=265						
I07A	Izee	93.81	46	IAmb	IAmb	18 28 35.9	
	comp=Z,6.6nm,1.1s						
A36M	Sachs Harbour	93.85	18	P	P	18 28 33.5	+0.2
	baz=262						
C36M	Paulatuk	93.89	21	P	P	18 28 34.3	+0.7
	baz=263						
ISA	Isabella, Lake	93.90	55	P	P	18 28 34.0	-0.5
	baz=265						
LHV	Little Huntoon	94.09	52	IAmb	IAmb	18 28 37.2	
	comp=Z,5.6nm,0.9s						
EDW2	Edwards Air Fo	94.23	56	P	P	18 28 35.5	-0.5
	baz=265						
NVAR	Mina Array Bea	94.26	52	P	P	18 28 35.9	-0.4
NVAR	Mina Array Bea	94.26	52	P	P	18 28 37.6	+1.3
	comp=Z,1.6nm,0.6s,baz=257,slow=6.2,SNR=13						
	comp=Z,1.6nm,0.6s						
B08A	Colville Reser	94.27	42	IAmb	IAmb	18 31 25.5	
	comp=Z,9.1nm,0.8s						
CWC	Cottonwood Cre	94.28	54	P	P	18 28 37.2	+0.8
	baz=266						
WVOR	Wild Horse Val	94.31	48	IAmb	IAmb	18 28 38.4	
	comp=Z,14nm,1.6s						
NV11	Mina Array Sit	94.37	52	IAmb	IAmb	18 28 38.8	
	comp=Z,14nm,1.4s						
DSP	Deep Springs	94.44	53	P	P	18 28 37.1	+0.2
DSP				IAmb	IAmb	18 28 39.4	
	comp=Z,15nm,1.6s						
BFSC	Mount Baldy Ra	94.45	56	P	P	18 28 37.7	+0.6
	baz=266						
KVN	Kaiserville	94.46	51	IAmb	IAmb	18 28 39.3	
	comp=Z,11nm,1.5s						
J08A	Circle Bar Ran	94.50	47	P	P	18 28 37.4	+0.3
J08A				IAmb	IAmb	18 28 39.9	
	comp=Z,5.9nm,1.1s						
LRMC	Laurel Mtn Rad	94.53	55	P	P	18 28 38.5	+1.0
	baz=266						
MPMC	Manual Prospec	94.73	54	P	P	18 28 39.5	+1.0
	baz=266						
MURC	Murrieta	94.79	57	P	P	18 28 39.1	+0.5
	baz=266						
109C	Camp Elliot, M	94.82	58	P	P	18 28 39.0	+0.3
	baz=266						
MZP	Montezuma Peak	94.93	53	IAmb	IAmb	18 28 41.5	
	comp=Z,10nm,1.5s						
E09A	Wood Farm, Sta	94.95	44	IAmb	IAmb	18 31 37.2	
	comp=Z,7.5nm,0.9s						
ELIB	Princess Elisa	95.08	194	*d*P	P	18 28 39.0	-0.3
	comp=Z,2.6nm,1.0s						
GSC	Goldstone, Bar	95.23	55	P	P	18 28 41.1	+0.4
	baz=266						
FURC	Furnace Creek,	95.26	54	P	P	18 28 41.2	+0.6
	baz=266						
ABKAR	Akbulak array	95.36	319	IAmb	IAmb	18 31 08.3	
	comp=Z,9.5nm,1.9s						
MONP2	Monument Peak	95.39	58	P	P	18 28 41.8	+0.2
	baz=266						
PFO	Pinyon Flats O	95.41	57	P	P	18 28 41.8	+0.2
	baz=266						
TPFO	Pinon Flats	95.41	57	P	P	18 28 41.6	+0.1
	baz=266						
WCT	Wildcat Mounta	95.47	54	P	P	18 28 41.3	-0.4
IKP	In-Ko-Pah, Jac	95.64	58	P	P	18 28 42.9	+0.4
	baz=266						
NEW	Newport	95.74	42	P	P	18 28 43.0	+0.4
	baz=267						
TPNV	Topopah Spring	95.78	54	P	P	18 28 43.2	0.0
	baz=267						
BELC	Belle Mtn. Jos	95.81	57	P	P	18 28 42.7	-0.7
	baz=266						
SWSC	Sam W. Stewart	95.92	58	P	P	18 28 43.7	0.0
	baz=266						
GMRC	Granite Mounta	96.14	56	P	P	18 28 44.4	-0.4
	baz=267						
R11B	Troy Canyon, C	96.38	52	P	P	18 28 44.9	-1.0
	baz=267						
MFID	Camas Ranch	96.43	47	P	P	18 28 44.8	-1.2
ARU	Arti	96.48	326	LR	LR	19 11 39.1	
	comp=Z,100nm,21.5s,baz=85,slow=35						
ARU	Arti	96.48	326	*i* P	P	18 28 43.0	-2.7
ARU				pmax	pmax		
	comp=Z,6.0nm,1.9s						
IRM	Iron Mountain	96.53	56	P	P	18 28 45.7	-0.8
	baz=267						
YKA	Yellowknife Ar	97.41	28	P	P	18 28 50.0	+0.2
	comp=Z,1.9nm,0.6s,baz=270,slow=4.7,SNR=11						
	comp=Z,1.9nm,0.6s						
HLID	Hailey	97.46	47	P	P	18 28 50.1	-0.6
	baz=269						
MSO	Missoula	97.85	44	P	P	18 28 51.8	-0.5
	baz=269						
214A	Organ Pipe Nat	98.39	59	P	P	18 28 53.9	-1.0
	baz=268						
DUG	Dugway, Tooele	98.59	50	P	P	18 28 54.6	-1.2
	baz=269						
TROLL	Troll, Antarti	99.35	189	⇑Pdiff	Pdif	18 28 57.2	-1.3
	comp=Z,64nm,0.5s						
BOZ	Bozeman (W)	99.46	45	P	Pdif	18 28 58.7	-0.9
	baz=271						
WUAZ	Wupatki	99.67	55	P	Pdif	18 28 59.5	-1.3
	baz=269						
TUC	Tucson	100.12	58	P	Pdif	18 29 01.3	-1.4
	baz=269						
SNAA	Sanae	100.46	188	⇑Pdiff	Pdif	18 29 02.6	-0.8
	comp=Z,12nm,0.8s						
EGMT	Eagleton	100.67	42	P	Pdif	18 29 03.9	-0.9
	baz=273						
W18A	Petrified Fore	101.01	56	P	Pdif	18 29 05.4	-1.4
	baz=270						
BW06	Boulder Array	101.02	48	P	Pdif	18 29 06.2	-0.4
	baz=272						
RLMT	Red Lodge	101.14	45	P	Pdif	18 29 06.0	-1.2
	baz=272						
MVCO	Mesa Verde	101.98	53	P	Pdif	18 29 10.4	-0.7
	baz=271						
O20A	White River Ci	102.09	50	P	Pdif	18 29 10.9	-0.6
	baz=272						
121A	Cookes Peak, D	102.66	58	P	Pdif	18 29 13.4	-0.8
	baz=271						
LAO	LASA Array	103.16	44	P	Pdif	18 29 15.2	-0.7
	baz=275						
N23A	Red Feather La	103.81	50	P	Pdif	18 29 18.1	-1.1
	baz=274						
RSSD	Black Hills	104.94	46	P	Pdif	18 29 23.5	-0.6
	baz=276						
OGNE	Ogallala	106.75	49	P	PKiKP	18 33 41.1	-1.1
	baz=276						
MDND	Maddock	107.47	42	P	PKiKP	18 33 42.8	-0.4
	baz=280						
AMTX	Amarillo	107.63	55	P	PKiKP	18 33 43.1	-0.9
	baz=275						
ABTX	Abilene, Hawle	109.52	58	P	PKiKP	18 33 47.3	-0.2
	baz=275						
JCT	Junction City	109.56	60	P	PKiKP	18 33 47.0	-0.7
	baz=274						
AGMN	Agassiz Nation	109.83	41	P	PKiKP	18 33 47.4	-0.3
	baz=284						
WMOK	Wichita Mounta	110.01	55	P	PKiKP	18 33 47.9	-0.6
	baz=276						
833A	Chaparral WMA,	110.07	62	P	PKiKP	18 33 47.8	-0.8
	baz=274						
ECSD	EROS Data Cent	110.29	46	P	PKiKP	18 33 48.1	-0.6
	baz=281						
KSU1	Kansas State U	111.13	51	P	PKiKP	18 33 50.2	-0.1
	baz=280						
WHTX	Lake Whitney,	111.42	58	P	PKiKP	18 33 49.9	-1.2
	baz=276						
435B	Jarrell	111.44	59	P	PKiKP	18 33 50.3	-0.9
	baz=276						
TUL3	Leonard	112.28	54	P	PKiKP	18 33 52.0	-0.6
	baz=279						
EYMN	Ely	112.75	40	P	PKiKP	18 33 52.5	-0.7
	baz=287						
NATX	Nacogdoches	113.81	58	P	PKiKP	18 33 54.8	-0.9
	baz=278						
MIAR	Mount Ida	114.29	55	P	PKPdf	18 33 55.3	-1.2
	baz=280						
BRTR	Keskin Array B	114.91	311	PKiKP	PKiKP	18 33 56.6	-1.2
	comp=Z,0.8nm,0.9s,baz=328,slow=4.4,SNR=3.5						
BRTR	Keskin Array B	114.91	311	*e*PKIKP	PKiKP	18 33 57.5	-0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
HFS	Hagfors	117.29	338	PKP	PKPdf	18 34 00.7	-0.8
	comp=Z,2.1nm,0.8s,baz=85,slow=1.6,SNR=5.3						
BOSA	Boshof	117.45	233	PKP	PKPdf	18 34 02.9	-0.1
	comp=Z,0.7nm,0.6s,baz=221,slow=3.5,SNR=3.5						
NB2	NORSAR Subarra	117.58	339	PKPdf	PKPdf	18 34 01.0	-1.1
	comp=Z,1.1nm,0.8s,baz=44,slow=1.9						
NOA	NORSAR Array B	117.58	339	PKP	PKPdf	18 34 01.7	-0.4
	comp=Z,2.2nm,0.7s,baz=47,slow=1.8,SNR=12						
OXF	Oxford	117.67	54	P	PKPdf	18 34 02.3	-0.7
	baz=282						
WVT	Waverly	118.56	52	P	PKPdf	18 34 03.7	-0.9
	baz=284						
MLR	Muntele Rosu	118.57	319		PKPdf	18 34 03.4	-1.2
MLR	Muntele Rosu	118.57	319	PKIKP	PKPdf	18 34 03.4	-1.2
WCI	Wyandotte Cave	119.19	49	P	PKPdf	18 34 05.2	-0.6
	baz=286						
KOLS	Kolonicke sedl	119.41	324	*e*PKIKP	PKPdf	18 34 06.6	+0.7
KOLS	Kolonicke sedl	119.41	324	*e*PKP	PKPdf	18 34 06.6	+0.7
O48B	Farmland	119.43	47	P	PKPdf	18 34 05.4	-0.9
	baz=288						
PLCA	Paso Flores	119.70	144	PKP	PKPdf	18 34 06.5	-0.4
	comp=Z,0.6nm,0.6s,baz=278,slow=2.3,SNR=4.5						
AAM	Ann Arbor	119.81	44	P	PKPdf	18 34 06.1	-0.8
	baz=291						
LRAL	Lakeview Retre	119.96	55	P	PKPdf	18 34 06.5	-1.0
	baz=283						
P49A	Miami Univ. Ec	119.98	48	P	PKPdf	18 34 06.5	-0.8
	baz=288						
ACSO	Alum Creek Sta	121.01	46	P	PKPdf	18 34 08.5	-0.8
	baz=290						
VYHS	Vyhne	121.61	325	*e*PKIKP	PKPdf	18 34 09.4	-0.8
VYHS	Vyhne	121.61	325	*e*PKP	PKPdf	18 34 09.4	-0.8
MORC	Moravsky Berou	121.68	326	*e*PKP	PKPdf	18 34 10.9	+0.6
TZTN	Tazewell	121.77	51	P	PKPdf	18 34 10.5	-0.4
	baz=288						
P52A	Corning	121.83	47	P	PKPdf	18 34 10.1	-0.8
	baz=290						
M53A	WI Miller and	122.20	44	P	PKPdf	18 34 10.7	-0.9
	baz=293						
O53A	New Philadelph	122.27	46	P	PKPdf	18 34 10.8	-0.9
	baz=292						
ERPA	Erie	122.41	43	P	PKPdf	18 34 10.5	-1.4
	baz=294						
VRAC	Vranov	122.45	326	*e*PKP	PKPdf	18 34 11.1	-0.7
MODS	Modra-Piesok	122.57	325	*e*PKIKP	PKPdf	18 34 13.0	+0.9
MODS	Modra-Piesok	122.57	325	*e*PKP	PKPdf	18 34 13.0	+0.9
KRUC	Moravsky	122.69	326	*e*PKP	PKPdf	18 34 11.7	-0.5
SCHQ	Schefferville	122.73	25	PKP	PKPdf	18 34 11.2	-1.0
	comp=Z,2.0nm,0.5s,baz=51,slow=1.5,SNR=5.3						
GOGA	Godfrey	122.73	54	P	PKPdf	18 34 11.7	-1.1
	baz=286						
BRG	Berggiesshubel	122.97	329	*i* PKP	PKPdf	18 34 13.0	+0.3
BRG				Amp		18 34 14.4	
	comp=Z,5.1nm,0.8s						
BRG	Berggiesshubel	122.97	329	*i* PKIKP	PKPdf	18 34 13.0	+0.3
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TIGA	Tifton	123.14	56	P	PKPdf	18 34 12.8	-0.8
	baz=284						
PRU	Pruhonice	123.18	328	*e*PKPDF	PKPdf	18 34 13.9	+0.8
CLL	Collm	123.18	330	*i* PKPdf	PKPdf	18 34 13.2	+0.1
	comp=Z,6.0nm,0.8s						
CLL				*e*PP	PP	18 35 56.0	+3.1
CLL				*e*PPP	PPP	18 38 27.0	
CLL	Collm	123.18	330	*i* PKIKP	PKPdf	18 34 10.4	-2.7
MCWV	Mont Chateau	123.47	46	P	PKPdf	18 34 13.1	-0.9
	baz=292						
FNA	Florina	123.48	316		PKPdf	18 34 12.3	-1.8
FNA	Florina	123.48	316	PKIKP	PKPdf	18 34 12.3	-1.8
RONA	Rosalia, Austr	123.48	325	*i* PKIKP	PKPdf	18 34 13.4	-0.4
	comp=Z,3.4nm,1.0s						
CONA	Conrad Observa	123.61	325	*i* PKiKP	PKPdf	18 34 13.6	-0.6
	comp=Z,1.9nm,0.7s						
KMSC	Kings Mountain	123.92	52	P	PKPdf	18 34 14.2	-0.8
	baz=288						
BLA	Blacksburg	123.93	49	P	PKPdf	18 34 14.1	-1.0
	baz=290						
CKRC	Cesky Krumlov	123.97	327	*e*PKPDF	PKPdf	18 34 14.9	+0.2
ARSA	Arzberg	124.17	325	*e*PKP	PKPdf	18 34 14.4	-0.7
	comp=Z,3.4nm,1.2s						
KHC	Kasperske Hory	124.19	328	*e*PKPDF	PKPdf	18 34 15.2	0.0
KHC	Kasperske Hory	124.19	328	*c* PKIKP	PKPdf	18 34 12.1	-3.1
KHC				pmax	pmax		
	comp=Z,14nm,1.0s						
GERES	GERESS Array B	124.28	327		PKPdf	18 34 14.0	-1.5
GERES	GERESS Array B	124.28	327	PKP	PKPdf	18 34 14.7	-0.7
	comp=Z,1.5nm,0.7s,baz=10,slow=1.5,SNR=9.8						
SSPA	Standing Stone	124.46	44		PKPdf	18 34 14.8	-1.1
SSPA	Standing Stone	124.46	44	P	PKPdf	18 34 14.9	-1.1
	baz=295						
SOKA	Soboth	124.76	324	*i* PKiKP	PKPdf	18 34 15.8	-0.6
	comp=Z,5.9nm,1.1s						
LONY	Lake Ozonia	124.80	38	P	PKPdf	18 34 15.9	-0.5
	baz=300						
BIOA	Bad Ischl, Aus	124.98	326	*i* PKiKP	PKPdf	18 34 16.2	-0.5
	comp=Z,1.7nm,0.5s						
BINY	Binghamton	125.06	42	P	PKPdf	18 34 16.3	-0.7
	baz=297						
KBA	Koelnbreinsper	125.50	326	*i* PKP	PKPdf	18 34 16.5	-1.5
	comp=Z,6.4nm,1.4s						
LESA	Schwarzleotal	125.67	326	*i* PKP	PKPdf	18 34 16.8	-1.3
	comp=Z,4.4nm,0.7s						
ABTA	Abfaltersbach	126.16	326	*i* PKP	PKPdf	18 34 18.2	-0.9
	comp=Z,6.4nm,1.2s						
WATA	Walderalm	126.33	327	*i* PKiKP	PKPdf	18 34 18.9	-0.6
	comp=Z,14nm,1.6s						
WTTA	Wattenberg	126.34	327	*i* PKiKP	PKPdf	18 34 19.0	-0.6
	comp=Z,13nm,1.0s						
MOTA	Moosalm	126.58	327	*i* PKP	PKPdf	18 34 18.9	-1.0
	comp=Z,9.8nm,1.0s						
SQTA	Sankt Quirin	126.60	327	*i* PKiKP	PKPdf	18 34 19.8	-0.2
	comp=Z,9.5nm,1.1s						
LBNH	Lisbon	126.63	38	P	PKPdf	18 34 19.8	-0.1
	baz=302						
RETA	Reutte	126.67	327	*i* PKP	PKPdf	18 34 18.7	-1.3
	comp=Z,5.3nm,1.6s						
EKA	Eskdalemuir Ar	126.80	342	PKP	PKPdf	18 34 20.0	+0.1
	comp=Z,3.9nm,0.6s,baz=21,slow=3.3,SNR=12						
ESK	Eskdalemuir	126.83	342	*c* PKIKP	PKPdf	18 34 18.4	-1.6
FETA	Feichten	126.98	327	*i* PKiKP	PKPdf	18 34 20.1	-0.7
	comp=Z,12nm,1.1s						
MEM	Membach	126.98	333	*d*PKP	PKPdf	18 34 19.4	-1.0
PAL	Palisades	127.00	42	P	PKPdf	18 34 20.8	+0.1
	baz=298						
L61B	Northampton	127.09	40	P	PKPdf	18 34 20.5	-0.3
	baz=300						
DAVA	Damuels	127.27	328	*i* PKiKP	PKPdf	18 34 20.9	-0.4
	comp=Z,9.0nm,1.2s						
FUORN	Ofenpass-Fuorn	127.47	327		PKPdf	18 34 19.9	-1.9
WLF	Walferdange	127.57	332	*d*PKiKP	PKPdf	18 34 22.6	+1.1
PKME	Peaks-Kenny Pk	127.61	35	P	PKPdf	18 34 21.2	-0.6
	baz=306						
BMRD	Maredsous	127.75	333	*d*PKP	PKPdf	18 34 22.3	+0.4
HRV	Adam Dziewonsk	127.77	39	P	PKPdf	18 34 21.9	-0.3
	baz=302						
AC06	Mina Casimiro	127.90	132		PKPpre	18 34 09.2	
AC06				PKPdf	PKPdf	18 34 19.9	-3.0
INTR	Introdacqua	127.92	320		PKPdf	18 34 21.0	-1.5
TUE	Stuetta	128.06	327		PKPdf	18 34 21.8	-1.1
AC01	Pan de Azucar	128.37	130		PKPpre	18 34 06.9	
KEST	Kesra	134.20	315	PKP	PKPdf	18 34 35.3	+0.6
	comp=Z,3.1nm,0.6s,baz=349,slow=5.9,SNR=3.9						
LPAZ	La Paz	135.25	120	PKP	PKPdf	18 34 38.4	+0.5
	comp=Z,0.7nm,0.4s,baz=236,slow=4.6,SNR=2.2						
CPUP	Villa Florida	137.55	141	PKP	PKPdf	18 34 42.8	+1.7
	comp=Z,0.9nm,0.6s,baz=40,slow=9.3,SNR=3.8						
ESDC	Sonseca Array	139.77	330		PKPdf	18 34 44.3	-0.5
ESDC	Sonseca Array	139.77	330	PKP	PKPdf	18 34 45.5	+0.7
	comp=Z,0.8nm,1.1s,baz=38,slow=2.1,SNR=4.0						
POLO	Lamas de Olo	140.19	335	*e*PKPdf	PKPdf	18 34 43.5	-2.1
PVIS	Viseu	140.78	334	*e*PKPdf	PKPdf	18 34 47.1	+0.5
PCBR	Castelo Branco	141.31	333	*e*PKPdf	PKPdf	18 34 48.0	+0.5
PMTG	Montargil	142.27	333	*e*PKPdf	PKPdf	18 34 46.5	-2.8
PBAR	Barrancos	142.44	331	*e*PKPdf	PKPdf	18 34 48.9	-0.7
EVO	Evora	142.62	333	*e*PKPdf	PKPdf	18 34 47.5	-2.4
LIS	Lisbon	142.97	334	*e*PKPdf	PKPdf	18 34 50.7	+0.2
PTEO	Sao Teotonio	143.74	332	*e*PKPdf	PKPbc	18 34 51.1	+1.6
BOAV	Boa Vista	148.27	95		PKPbc	18 35 03.5	-0.1
TOA0	Torodi Ar. Sit	149.06	285		PKPbc	18 35 04.7	-0.9
TORD	Torodi Ar. Bea	149.06	285		PKPbc	18 35 04.4	-1.2
TORD	Torodi Ar. Bea	149.06	285	PKPbc	PKPbc	18 35 05.1	-0.5
	comp=Z,19nm,0.6s,baz=71,slow=5.2,SNR=115						
PMPST	Porto Santo, M	150.76	338	*e*PKPbc	PKPbc	18 35 10.3	+1.0
PMPS	Porto Santo	150.78	338	*e*PKPbc	PKPab	18 35 25.8	+9.5
BDFB	Brasilia	151.25	139	PKPbc	PKPbc	18 35 10.9	-0.1
	comp=Z,12nm,0.6s,baz=256,slow=1.7,SNR=24						
PMAR	Madeira	151.30	339	*e*PKPbc	PKPbc	18 35 11.9	+1.1
PMOZ	Porto Moniz, M	151.31	339	*e*PKPbc	PKiKP	18 35 11.9	+0.7
DBIC	Dimbokro	156.09	273	PKPab	PKPab	18 35 39.2	-0.3
	comp=Z,5.7nm,0.7s,baz=93,slow=4.4,SNR=6.6						

*NNC **28** 18:16:31.4±2.4, 45°.36N×84°.86E, h0km, mb3.7, mpv3.3,*
Error ellipse: s-maj=17.5km s-min=10.1km az=109.0
*SOME **28** 18:16:31.0, 45°.45N×84°.80E, h10km*
ISC 28 18:16:33.2±1.9, 45°.49N±0°.06×84°.62E±0°.09, h10km, n15,
σ2s43/20, 6C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ZSN	Zaisan	1.97	5	*e*P	Pg	18 17 08.7	-2.1
	23nm,0.2s						
ZSN				*e*S	Sg	18 17 36.3	-0.1
	44nm,0.6s						
ZSN	Zaisan	1.97	5	Pg	Pg	18 17 08.7	-2.1
	23nm,0.2s						
ZSN				Lg	Lg	18 17 36.3	
	44nm,0.6s						
MK31	Makanchi Array	2.08	310	⇓Pn	Pb	18 17 11.3	+0.3
	3.6nm,0.3s,baz=124,slow=17,SNR=304						
MK31				⇑Sn	Sg	18 17 40.4	+0.4
	26nm,0.3s,baz=127,slow=27,SNR=38						
MAKZ	Makanchi	2.26	307	⇑Pn	Pb	18 17 14.6	+0.5
	2.0nm,0.2s						
MAKZ				⇑Sn	Sg	18 17 46.3	+0.5
	19nm,0.5s						
DJR	Jarkent	3.62	253	*e*P	Pg	18 17 40.0	-2.6
	1.4nm,0.1s						
DJR				*e*S	Sg	18 18 29.4	-0.1
	5.0nm,0.4s						
DJR	Jarkent	3.62	253	Pg	Pg	18 17 40.4	-2.1
	1.8nm,0.3s						
DJR				Lg	Lg	18 18 30.2	
	6.6nm,0.6s						
KNOS	Konyrlen	4.03	256	Pg	Pg	18 17 47.5	-2.8
	1.2nm,0.6s						
KNOS				Lg	Lg	18 18 42.9	
	9.6nm,0.7s						
PDGK	Podgornoye	4.26	241	Pg	Pb	18 17 49.8	+1.6
	0.7nm,0.3s						
PDGK				Lg	Lg	18 18 46.8	
	6.5nm,0.6s						
BLB	Baldybastay	4.59	255	Pg	Pb	18 17 57.1	+3.3
	9.7nm,0.5s						
BLB				Lg	Lg	18 18 59.4	
	23nm,0.6s						
KPKS	Kokpek	4.71	247	*e*P	Pb	18 17 58.6	+2.8
	2.5nm,0.2s						
KPKS				*e*S	Sg	18 19 01.3	-2.9
	17nm,0.5s						
KPKS	Kokpek	4.71	247	Pg	Pb	18 17 58.1	+2.3
	2.3nm,0.3s						
KPKS				Lg	Lg	18 19 00.9	
	17nm,0.5s						
ARXS	Arharly	5.00	258	*e*P	Pb	18 18 04.4	+3.7
	2.6nm,0.3s						
ARXS				*e*S	Sg	18 19 11.6	-1.9
	9.9nm,0.7s						
ARXS	Arharly	5.00	258	Pg	Pb	18 18 04.4	+3.7
	2.6nm,0.3s						
ARXS				Lg	Lg	18 19 11.6	
	9.9nm,0.7s						
KURBB	Kurchatov Arra	6.56	324	⇑Lg	Lg	18 20 03.1	
	22nm,0.7s						
KURK	Kurchatov	6.59	325	⇑Sn	Sn	18 19 27.5	+2.3
	1.2nm,0.7s						
KURK				⇑Lg	Lg	18 20 03.2	
	5.8nm,0.6s						

*IDC **28** 18:22:22.6±1.2, 25°.60N×141°.22E, h161km±14km, mb3.4/4,*
mbtmp3.8/7, MS3.9/2, Error ellipse: s-maj=28.0km
s-min=17.0km az=87.0
*JMA **28** 18:22:26.8±0.2, 25°.6N±0°.6×141°.1E±°, h124km, MD4.3/15,*
MV4.6/15, IOTO ISLANDS REGION
*NEIC **28** 18:22:26.7±1.1, 25°.7N±0°.2×141°.1E±0°.2, h167km±16km,*
mb4.2/5, Error ellipse: s-maj=33.7km s-min=12.0km
az=127.0
ISC 28 18:22:24.0±0.9, 25°.5N±0°.1×141°.1E±0°.1, h160km, n29,
σ1s92/29, mb3.7/4, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	1.45	41	P	Pn	18 22 55.8	+2.0
JHH2				S	Sn	18 23 17.9	+1.1
JHH2	Haha-jima-NKT2	1.45	41	A	A	18 22 55.8	
	comp=E,11nm,0.4s,comp=N,8.0nm,0.5s						

PLCA Paso Flores 149.67 128 PKPbc **PKPdf 18 41 54.0 +3.9**
comp=Z,0.8nm,0.7s,baz=270,slow=1.0,SNR=1.4
LPAZ La Paz 151.24 77 PKPbc **PKPbc 18 41 59.3 -0.7**
comp=Z,0.9nm,0.4s,baz=281,slow=0.8,SNR=3.8

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*AEIC **28** 18:27:30.3±1.5,59.°30N±0.°02×138.°76W±0.°06, h6km±6km, ML2.7, ML2.9/93(NEIC), Error ellipse: s-maj=4.5km s-min=2.7km az=94.0*
*ANF **28** 18:27:31.0±0.2,59.°36N×138.°73W, h5km, Error ellipse: s-maj=2.4km s-min=1.3km az=18.0*
*PGC **28** 18:27:30.4±0.2,59.°25N×138.°81W, h1km, ML2.4, ML2.9/25, 38km east of Yakutat, Ak Southeastern Alaska*
*NEIC **28** 18:27:31.2±1.6,59.°32N±0.°04×138.°72W±0.°02, h7km±8km, Error ellipse: s-maj=5.3km s-min=1.6km az=187.0*
ISC 28 18:27:30.0±1.1,59.°31N±0.°02×138.°75W±0.°02,h2km±10km, n161,σ0.98/205,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNL	**Peninsula**	**0.49**	**318**	P	**Pg**	**18 27 40.1**	**+0.7**
	baz=138,SNR=175						
PNL				S	**Sg**	**18 27 46.4**	**+0.6**
	baz=138						
PNL	**Peninsula**	**0.49**	**318**	P	**Pg**	**18 27 40.1**	**+0.7**
PNL				S	**Sg**	**18 27 46.9**	**+1.1**
YKU2	**Yakutat**	**0.51**	**294**	Pg	**Pb**	**18 27 41.6**	**-0.1**
YKU2				Sg	**Sb**	**18 27 50.1**	**+0.5**
P29M	**Windy Craggy**	**0.61**	**57**		**Pg**	**18 27 42.4**	**+0.7**
P29M				Sg	**Sg**	**18 27 50.7**	**+1.1**
P29M				IAML		18 27 51.7	
	comp=E,730nm,0.5s						
P29M	**Windy Craggy**	**0.61**	**57**	P	**Pg**	**18 27 42.5**	**+0.7**
	baz=238,SNR=180						
P29M				S	**Sg**	**18 27 51.0**	**+1.4**
	baz=238						
P29M	**Windy Craggy**	**0.61**	**57**	P	**Pg**	**18 27 42.5**	**+0.7**
P29M				S	**Sg**	**18 27 50.6**	**+1.0**
BCPM	**Bancas Point**	**0.79**	**326**		**Pg**	**18 27 44.7**	**-0.4**
BCPM				Sg	**Sg**	**18 27 56.4**	**+1.0**
BCPM				IAML		18 28 01.0	
	comp=N,535nm,0.3s						
O29M	**Mount Kennedy**	**1.00**	**5**		**Pg**	**18 27 48.9**	**-0.3**
O29M				IAML		18 28 05.8	
	comp=E,279nm,0.3s						
O29M	**Mount Kennedy**	**1.00**	**5**	P	**Pg**	**18 27 49.0**	**-0.3**
	baz=185,SNR=40						
O29M				S	**Sg**	**18 28 02.2**	**0.0**
	baz=185						
O29M	**Mount Kennedy**	**1.00**	**5**	P	**Pg**	**18 27 49.0**	**-0.3**
P30M	**Million Dollar**	**1.22**	**47**	P	**Pg**	**18 27 53.4**	**0.0**
	baz=229						
P30M				S	**Sb**	**18 28 10.0**	**-0.1**
	baz=229						
P30M	**Million Dollar**	**1.22**	**47**	P	**Pg**	**18 27 53.4**	**0.0**
P30M				S	**Sb**	**18 28 10.2**	**+0.1**
PLBC	**Pleasant Camp**	**1.23**	**82**	S	**Sg**	**18 28 09.4**	**-0.1**
	baz=264						
PLBC	**Pleasant Camp**	**1.23**	**82**	P	**Pg**	**18 27 52.8**	**-0.7**
PLBC				S	**Sg**	**18 28 08.9**	**-0.5**
YUK7	**Dusty Glacier**	**1.27**	**14**	P	**Pg**	**18 27 53.8**	**-0.5**
SAMH	**Samovar Hills**	**1.32**	**310**	P	**Pn**	**18 27 54.2**	**-1.4**
O28M	**Mount Upton**	**1.64**	**334**	P	**Pn**	**18 27 59.7**	**-0.4**
	baz=154,SNR=71						
O28M				S	**Sn**	**18 28 21.1**	**-0.8**
	baz=154						
O28M	**Mount Upton**	**1.64**	**334**	Pn	**Pn**	**18 27 59.1**	**-1.0**
O28M				Sg	**Sn**	**18 28 20.8**	**-1.1**
RKAV	**Rock Avalanche**	**1.65**	**308**	Pn	**Pn**	**18 28 00.1**	**0.0**
YUK6	**Outpost Mounta**	**1.65**	**7**	P	**Pn**	**18 28 00.2**	**0.0**
	baz=187,SNR=18						
YUK6				S	**Sn**	**18 28 22.0**	**-0.2**
	baz=187						
YUK6	**Outpost Mounta**	**1.65**	**7**	Pn	**Pn**	**18 28 00.4**	**+0.2**
TABL	**Table Mountain**	**1.66**	**314**	Pn	**Pn**	**18 27 59.3**	**-1.0**
TABL				IAML		18 28 26.9	
	comp=E,92nm,0.5s						
TABL	**Table Mountain**	**1.66**	**314**	Pn	**Pn**	**18 27 59.0**	**-1.3**
SKAG	**Skagway**	**1.76**	**84**		**Pb**	**18 28 02.2**	**-0.7**
SKAG				Sn	**Sb**	**18 28 24.8**	**-0.6**
SKAG	**Skagway**	**1.76**	**84**	P	**Pn**	**18 28 02.0**	**+0.6**
	baz=266,SNR=53						
SKAG				S	**Sb**	**18 28 25.3**	**-0.1**
	baz=266						
R31K	**City Hall, Gus**	**1.80**	**119**	S	**Sb**	**18 28 27.0**	**+0.3**
	baz=301						
MESA	**MESA**	**1.84**	**300**		**Pn**	**18 28 02.3**	**-0.5**
MESA				Sn	**Sb**	**18 28 27.1**	**-1.0**
MESA				IAML		18 28 34.6	
	comp=E,140nm,0.4s						
MESA	**MESA**	**1.84**	**300**	P	**Pn**	**18 28 02.5**	**-0.3**
	baz=117,SNR=5.7						
MESA				S	**Sb**	**18 28 27.2**	**-0.8**
	baz=117						
MESA	**MESA**	**1.84**	**300**	Pn	**Pn**	**18 28 02.3**	**-0.5**
YUK5	**Granite Creek**	**1.88**	**13**	Pn	**Pb**	**18 28 04.5**	**-0.7**
S31K	**Pelican**	**1.89**	**135**	Pn	**Pn**	**18 28 03.5**	**+0.3**
S31K				Sn	**Sb**	**18 28 28.0**	**-1.1**
S31K				IAML		18 28 32.0	
	comp=N,146nm,0.8s						
S31K				IAML		18 28 32.4	
	comp=E,93nm,0.7s						
S31K	**Pelican**	**1.89**	**135**	P	**Pn**	**18 28 03.6**	**+0.4**
	baz=317						
S31K				S	**Sb**	**18 28 28.6**	**-0.5**
	baz=317						
S31K	**Pelican**	**1.89**	**135**	Pn	**Pn**	**18 28 03.2**	**0.0**
LOGN	**Logan Glacier**	**1.90**	**324**	Pn	**Pn**	**18 28 03.0**	**-0.5**
LOGN				Sn	**Sn**	**18 28 28.3**	**+0.3**
LOGN				IAML		18 28 31.0	
	comp=E,93nm,1.0s						
LOGN				IAML		18 28 35.1	
	comp=N,106nm,0.8s						
LOGN	**Logan Glacier**	**1.90**	**324**	Pn	**Pn**	**18 28 03.0**	**-0.5**
LOGN				Sg	**Sn**	**18 28 28.4**	**+0.3**
O30N	**Mendenhall**	**1.98**	**41**	Pn	**Pn**	**18 28 05.7**	**+1.1**
O30N				Sn	**Sn**	**18 28 30.8**	**+0.7**
O30N				IAML		18 28 35.2	
	comp=E,128nm,0.5s						
O30N				IAML		18 28 38.5	
	comp=N,77nm,0.7s						
O30N	**Mendenhall**	**1.98**	**41**	P	**Pn**	**18 28 04.9**	**+0.3**
	baz=223						
O30N				S	**Sb**	**18 28 31.0**	**-1.0**
	baz=223						
O30N	**Mendenhall**	**1.98**	**41**	Pn	**Pn**	**18 28 05.5**	**+0.9**
O30N				Sg	**Sb**	**18 28 31.0**	**-1.0**
YUK4	**Talbot Arm**	**2.05**	**1**	Pb	**Pg**	**18 28 09.1**	**-0.1**
	baz=183						
YUK4	**Talbot Arm**	**2.05**	**1**	Pn	**Pb**	**18 28 08.0**	**0.0**
YUK8	**Steele Glacier**	**2.05**	**346**	P	**Pn**	**18 28 05.6**	**-0.1**
	baz=166,SNR=22						
YUK8				Sb	**Sb**	**18 28 34.1**	**+0.1**
	baz=166						
YUK8	**Steele Glacier**	**2.05**	**346**	Pn	**Pn**	**18 28 06.2**	**+0.5**
YUK8				Sg	**Sb**	**18 28 33.7**	**-0.3**
GRNC	**Granite Creek**	**2.08**	**315**		**Pn**	**18 28 05.6**	**-0.5**
GRNC				IAML		18 28 42.4	
	comp=N,79nm,0.7s						
GRNC	**Granite Creek**	**2.08**	**315**	Pn	**Pn**	**18 28 05.2**	**-0.9**
CTGM	**Chitina Glacie**	**2.11**	**323**		**Pn**	**18 28 06.5**	**+0.1**
CTGM				IAML		18 28 36.6	
	comp=N,100nm,0.4s						
CTGM				IAML		18 28 39.0	
	comp=E,88nm,0.9s						
CTGM	**Chitina Glacie**	**2.11**	**323**	Pn	**Pn**	**18 28 06.4**	**0.0**
CTGM				Sg	**Sn**	**18 28 33.3**	**+0.1**
CTG	**Chitna Glacier**	**2.11**	**323**	P	**Pn**	**18 28 06.6**	**+0.2**
	baz=141,SNR=30						
CTG				S	**Sn**	**18 28 33.2**	**-0.1**
	baz=141						
BESE	**Bessie Mountai**	**2.15**	**108**	Pn	**Pn**	**18 28 06.8**	**-0.1**
BESE				Sg	**Sb**	**18 28 36.3**	**-0.4**
ISLE	**Juniper Island**	**2.23**	**307**		**Pn**	**18 28 08.0**	**0.0**
ISLE				IAML		18 28 43.9	
	comp=E,53nm,0.4s						
ISLE				IAML		18 28 46.0	
	comp=N,56nm,0.8s						
SNH	**Sunshine Point**	**2.25**	**295**		**Pn**	**18 28 08.2**	**0.0**
SNH				IAML		18 28 52.2	
	comp=N,54nm,1.0s						
N30M	**Aishikik Lake**	**2.31**	**20**	Pn	**Pn**	**18 28 10.3**	**+1.2**
N30M				IAML		18 28 45.7	
	comp=E,64nm,0.7s						
N30M				IAML		18 28 46.7	
	comp=N,73nm,0.4s						
N30M	**Aishikik Lake**	**2.31**	**20**	Pb	**Pb**	**18 28 12.5**	**0.0**
	baz=202,SNR=79						
N30M	**Aishikik Lake**	**2.31**	**20**	Pn	**Pn**	**18 28 10.5**	**+1.3**
WAX	**Waxell Ridge**	**2.37**	**301**		**Pn**	**18 28 10.5**	**+0.6**
WAX				IAML		18 28 51.8	
	comp=E,66nm,0.5s						
WHY	**Whitehorse**	**2.37**	**53**	Pn	**Pn**	**18 28 11.0**	**+1.0**
WHY				IAML		18 28 46.8	
	comp=N,74nm,0.9s						
WHY				IAML		18 28 49.5	
	comp=E,59nm,0.5s						
WHY	**Whitehorse**	**2.37**	**53**	P	**Pn**	**18 28 10.7**	**+0.7**
	baz=237						
WHY	**Whitehorse**	**2.37**	**53**	Pn	**Pn**	**18 28 11.1**	**+1.0**
KIAG	**Kiagna River**	**2.43**	**313**	Pn	**Pn**	**18 28 10.2**	**-0.6**
R32K	**Eaglecrest**	**2.43**	**113**	Pn	**Pn**	**18 28 10.9**	**+0.1**
R32K				IAML		18 28 47.6	
	comp=N,58nm,0.3s						
R32K	**Eaglecrest**	**2.43**	**113**	P	**Pn**	**18 28 11.8**	**+1.0**
	baz=297,SNR=9.6						
R32K	**Eaglecrest**	**2.43**	**113**	Pn	**Pn**	**18 28 11.7**	**+1.0**
R32K				Sg	**Sb**	**18 28 45.1**	**+0.2**
JIS	**Juneau Island**	**2.50**	**113**	Pn	**Pn**	**18 28 10.9**	**-0.6**
BALM	**Baldy**	**2.50**	**316**	Pn	**Pn**	**18 28 11.5**	**-0.3**
P32M	**Atlin**	**2.59**	**82**	Pn	**Pn**	**18 28 13.1**	**+0.2**
P32M				IAML		18 28 53.0	
	comp=N,54nm,0.5s						
P32M	**Atlin**	**2.59**	**82**	P	**Pn**	**18 28 12.9**	**0.0**
	baz=266						
P32M				S	**Sn**	**18 28 45.5**	**+0.6**
	baz=266						
P32M	**Atlin**	**2.59**	**82**	Pn	**Pn**	**18 28 12.9**	**0.0**
YUK3	**Moose Creek**	**2.62**	**342**	P	**Pn**	**18 28 13.6**	**+0.1**
	baz=161,SNR=25						
YUK3	**Moose Creek**	**2.62**	**342**	Pn	**Pn**	**18 28 13.6**	**+0.1**
CRQE	**Cirque**	**2.62**	**305**	P	**Pn**	**18 28 14.0**	**+0.6**
	baz=122						
N31M	**Braeburn, Yuko**	**2.64**	**33**	Pn	**Pn**	**18 28 12.5**	**-1.1**
N31M	**Braeburn, Yuko**	**2.64**	**33**	Pb	**Pb**	**18 28 17.7**	**-0.3**
	baz=215,SNR=8.5						
N31M	**Braeburn, Yuko**	**2.64**	**33**	Pg	**Pb**	**18 28 18.9**	**+0.9**
CRQM	**Cirque**	**2.64**	**305**		**Pn**	**18 28 14.2**	**+0.4**
CRQM				IAML		18 28 55.5	
	comp=N,42nm,0.5s						
CRQM				IAML		18 29 07.3	
	comp=E,43nm,0.7s						
PTPK	**Patty Peak**	**2.64**	**317**	Pn	**Pn**	**18 28 13.9**	**+0.1**
PTPK				Sg	**Sb**	**18 28 49.7**	**-1.5**
SUCK	**Suckling Hills**	**2.66**	**289**	Pn	**Pn**	**18 28 15.3**	**+1.4**
YUK2	**White River**	**2.69**	**338**	Pn	**Pn**	**18 28 14.7**	**+0.2**
S32K	**Killisnoo**	**2.87**	**128**		**Pn**	**18 28 18.0**	**+1.3**
S32K	**Killisnoo**	**2.87**	**128**	P	**Pn**	**18 28 18.3**	**+1.7**
	baz=312						
S32K	**Killisnoo**	**2.87**	**128**	Pn	**Pn**	**18 28 17.3**	**+0.7**
SIT	**Sitka**	**2.90**	**140**		**Pn**	**18 28 18.0**	**+0.9**
SIT	**Sitka**	**2.90**	**140**	Pb	**Pb**	**18 28 23.1**	**+0.8**
	baz=322						
SIT				Sb	**Sg**	**18 29 01.2**	**-1.8**
	baz=322						
KAIM	**Kayak Island**	**2.95**	**285**	Pn	**Pn**	**18 28 18.1**	**+0.3**
KAIM	**Kayak Island**	**2.95**	**285**	Pg	**Pg**	**18 28 27.1**	**+0.7**
	baz=100						
KAIM				Sb	**Sg**	**18 29 02.5**	**-2.1**
	baz=100						
HMT	**Hamilton**	**2.97**	**293**		**Pn**	**18 28 20.7**	**+2.5**
MCARA	**McCarthy VSAT**	**2.98**	**316**		**Pn**	**18 28 17.2**	**-1.0**
MCARA	**McCarthy VSAT**	**2.98**	**316**	P	**Pn**	**18 28 19.0**	**+0.8**
	baz=133						
MCARA				Sb	**Sb**	**18 29 01.8**	**+1.4**
	baz=133						
VRDI	**Verde Repeater**	**3.03**	**311**		**Pn**	**18 28 19.1**	**-0.1**
P33M	**Teslin, Yukon**	**3.13**	**71**	Pn	**Pn**	**18 28 20.2**	**-0.3**
P33M				IAML		18 29 12.0	
	comp=E,23nm,0.7s						
P33M				IAML		18 29 12.1	
	comp=N,32nm,0.6s						
P33M	**Teslin, Yukon**	**3.13**	**71**	P	**Pn**	**18 28 20.5**	**0.0**
	baz=256,SNR=45						
P33M				S	**Sn**	**18 28 58.7**	**+0.2**
	baz=256						
P33M	**Teslin, Yukon**	**3.13**	**71**	Pn	**Pn**	**18 28 20.2**	**-0.3**
M29M	**Somme Creek**	**3.15**	**2**	Pn	**Pn**	**18 28 21.9**	**+1.2**
M29M				IAML		18 29 11.7	
	comp=E,26nm,0.5s						
M29M	**Somme Creek**	**3.15**	**2**	P	**Pn**	**18 28 21.5**	**+0.8**
	baz=183,SNR=5.6						
M29M	**Somme Creek**	**3.15**	**2**	Pn	**Pn**	**18 28 21.9**	**+1.2**
RAGM	**Ragged Mountai**	**3.18**	**292**		**Pn**	**18 28 22.1**	**+1.1**
GLB	**Gilahina Butte**	**3.30**	**313**	Pn	**Pn**	**18 28 24.1**	**+1.3**
Q32M	**Nakina River**	**3.36**	**93**	Pn	**Pn**	**18 28 23.3**	**-0.3**
Q32M				IAML		18 29 21.4	
	comp=N,20nm,1.1s						
Q32M				IAML		18 29 21.5	
	comp=E,30nm,1.2s						
Q32M	**Nakina River**	**3.36**	**93**	P	**Pn**	**18 28 23.9**	**+0.2**
	baz=279,SNR=16						
Q32M				Sb	**Sg**	**18 29 15.4**	**-2.4**
	baz=279						
Q32M	**Nakina River**	**3.36**	**93**	Pn	**Pn**	**18 28 22.2**	**-1.4**
BMRM	**Bremner River**	**3.37**	**302**	Pn	**Pn**	**18 28 24.4**	**+0.8**
BMRM	**Bremner River**	**3.37**	**302**	P	**Pn**	**18 28 24.2**	**+0.5**
	baz=117						
BMRM				Sb	**Sb**	**18 29 14.6**	**+2.7**
	baz=117						
N32M	**Quiet Lake**	**3.38**	**54**	Pn	**Pn**	**18 28 22.7**	**-1.1**
N32M	**Quiet Lake**	**3.38**	**54**	Sb	**Sb**	**18 29 13.9**	**+1.8**
	baz=239						
N32M	**Quiet Lake**	**3.38**	**54**	Sg	**Sg**	**18 29 16.1**	**-2.4**
M30M	**Minto, Yukon**	**3.42**	**15**	Pn	**Pn**	**18 28 25.9**	**+1.6**
M30M				IAML		18 29 23.4	
	comp=E,22nm,0.8s						
M30M	**Minto, Yukon**	**3.42**	**15**	P	**Pn**	**18 28 25.0**	**+0.7**
	baz=197,SNR=39						
M30M	**Minto, Yukon**	**3.42**	**15**	Pn	**Pn**	**18 28 25.2**	**+0.9**
M30M				Pg	**Pb**	**18 28 32.9**	**+1.6**
M27K	**Edge Creek, AK**	**3.42**	**335**	Pn	**Pn**	**18 28 25.1**	**+0.6**
M27K				IAML		18 29 29.1	
	comp=N,17nm,1.3s						
M27K	**Edge Creek, AK**	**3.42**	**335**	Sb	**Sb**	**18 29 15.5**	**+2.0**
	baz=152						
M27K	**Edge Creek, AK**	**3.42**	**335**	Pn	**Pb**	**18 28 28.4**	**-3.0**
M31M	**Drury Creek, Y**	**3.61**	**34**	Pn	**Pn**	**18 28 27.5**	**+0.6**
M31M				IAML		18 29 32.4	
	comp=N,24nm,0.7s						
M31M	**Drury Creek, Y**	**3.61**	**34**	Pb	**Pb**	**18 28 34.5**	**0.0**
	baz=218						
M31M				S	**Sn**	**18 29 10.4**	**+0.4**
	baz=218						
N25K	**Chitina, Valde**	**3.70**	**311**	Pn	**Pn**	**18 28 30.1**	**+1.8**
N25K	**Chitina, Valde**	**3.70**	**311**	S	**Sn**	**18 29 11.7**	**-0.8**
	baz=126						
M26K	**Nabesna, AK**	**3.73**	**328**	Pn	**Pn**	**18 28 29.0**	**+0.3**
M26K	**Nabesna, AK**	**3.73**	**328**	S	**Sn**	**18 29 13.2**	**0.0**
	baz=144						
L29M	**L29M**	**3.83**	**4**	Pn	**Pn**	**18 28 30.6**	**+0.7**
L29M				IAML		18 29 37.2	
	comp=N,24nm,0.6s						
L29M	**L29M**	**3.83**	**4**	P	**Pn**	**18 28 30.7**	**+0.7**
	baz=185,SNR=11						
L29M	**L29M**	**3.83**	**4**	Pn	**Pn**	**18 28 31.1**	**+1.1**
DIV	**Divide**	**3.95**	**301**	Pn	**Pn**	**18 28 31.8**	**+0.1**
FARO	**Faro, Yukon**	**3.95**	**40**	Pn	**Pn**	**18 28 30.8**	**-0.8**
R33M	**Jennings River**	**3.99**	**85**	Pn	**Pn**	**18 28 32.1**	**-0.1**
R33M				IAML		18 29 38.6	
	comp=E,14nm,0.8s						
R33M	**Jennings River**	**3.99**	**85**	P	**Pn**	**18 28 32.3**	**+0.1**
	baz=272,SNR=18						
R33M				S	**Sn**	**18 29 19.4**	**-0.1**
	baz=272						
R33M	**Jennings River**	**3.99**	**85**	Pn	**Pn**	**18 28 32.1**	**-0.1**
BCAR	**Beaver Creek A**	**4.05**	**340**	Pn	**Pn**	**18 28 34.5**	**+1.5**
L27K	**Beaver Creek,**	**4.05**	**340**	Pn	**Pn**	**18 28 33.9**	**+0.9**
HIN	**Hinchinbrook I**	**4.06**	**289**	Pn	**Pn**	**18 28 34.0**	**+0.9**
FID	**Port Fidalgo**	**4.14**	**294**	Pn	**Pn**	**18 28 35.4**	**+1.2**
FID				IAML		18 29 53.1	
	comp=E,11nm,1.3s						
KLU	**Klutina**	**4.18**	**305**	Pn	**Pn**	**18 28 34.8**	**0.0**
KLU	**Klutina**	**4.18**	**305**	Sb	**Sb**	**18 29 35.1**	**0.0**
	baz=119						
GLI	**Glacier Island**	**4.47**	**294**	Pn	**Pn**	**18 28 39.0**	**+0.3**
GLI				IAML		18 29 56.7	
	comp=N,11nm,1.3s						
GLI				IAML		18 30 50.9	
	comp=E,11nm,1.0s						
K29M	**Barlow Dome**	**4.59**	**7**	Pn	**Pn**	**18 28 42.1**	**+1.7**
K29M				IAML		18 30 05.9	
	comp=E,9.3nm,0.9s						
K29M	**Barlow Dome**	**4.59**	**7**	P	**Pn**	**18 28 41.6**	**+1.1**
	baz=188						
K29M	**Barlow Dome**	**4.59**	**7**	Pn	**Pn**	**18 28 41.6**	**+1.1**
M24K	**Tolsona, Glenn**	**4.60**	**311**	Pn	**Pn**	**18 28 40.8**	**+0.2**
M24K				IAML		18 30 07.8	
	comp=N,11nm,1.4s						
M24K				IAML		18 30 10.9	
	comp=E,9.1nm,0.9s						
DLBC	**Dease Lake**	**4.61**	**97**	Pn	**Pn**	**18 28 40.9**	**+0.1**
DLBC				IAML		18 29 54.9	
	comp=N,12nm,0.6s						
DLBC				IAML		18 30 06.2	
	comp=E,8.7nm,0.7s						
DLBC	**Dease Lake**	**4.61**	**97**	P	**Pn**	**18 28 41.0**	**+0.3**
	baz=284,SNR=8.7						
DLBC	**Dease Lake**	**4.61**	**97**	Pn	**Pn**	**18 28 40.8**	**+0.1**
DLBC				Pg	**Pb**	**18 28 53.4**	**+1.8**
PAX	**Paxson**	**4.91**	**321**	Pn	**Pn**	**18 28 44.9**	**+0.1**
SCM	**Sheep Creek Mo**	**4.93**	**305**	Pn	**Pn**	**18 28 46.1**	**+1.0**
SCM				IAML		18 30 05.5	
	comp=N,6.8nm,0.8s						
SCM				IAML		18 30 15.6	
	comp=E,7.9nm,1.4s						
MMPY	**Sheldon Lake,**	**4.93**	**44**	Pn	**Pn**	**18 28 45.9**	**+0.8**
MMPY	**Sheldon Lake,**	**4.93**	**44**	P	**Pn**	**18 28 46.5**	**+1.4**
	baz=231,SNR=19						
MMPY	**Sheldon Lake,**	**4.93**	**44**	Pn	**Pn**	**18 28 46.8**	**+1.7**
MMPY				Sg	**Sg**	**18 30 04.0**	**-4.3**
K27K	**Chicken**	**5.00**	**343**	Pn	**Pn**	**18 28 46.7**	**+0.8**
PWL	**Port Wells**	**5.05**	**292**	Pn	**Pn**	**18 28 46.0**	**-0.7**
T35M	**Bob Quinn**	**5.07**	**114**	Pn	**Pn**	**18 28 47.0**	**0.0**
KNK	**Knik Glacier**	**5.26**	**298**	Pn	**Pn**	**18 28 50.5**	**+0.9**
SML	**Sawmill**	**5.35**	**302**	Pn	**Pn**	**18 28 50.1**	**-0.8**
SML				IAML		18 30 48.6	
	comp=N,7.0nm,1.2s						
SML				IAML		18 31 33.3	
	comp=E,8.0nm,1.2s						
J30M	**Hart River**	**5.41**	**11**	Pn	**Pn**	**18 28 51.0**	**-0.8**
SEW	**Seward**	**5.48**	**283**	Pn	**Pn**	**18 28 53.0**	**+0.5**
GHO	**Glory Hole Cre**	**5.60**	**301**	Pn	**Pn**	**18 28 53.1**	**-1.1**
EGAK	**Eagle**	**5.61**	**349**	Pn	**Pn**	**18 28 53.1**	**-1.2**
J26L	**Joseph Creek**	**5.69**	**338**	Pn	**Pn**	**18 28 54.3**	**-1.2**
RC01	**Rabbit Creek A**	**5.76**	**293**	Pn	**Pn**	**18 28 55.9**	**-0.6**
I30M	**Mount Dempster**	**6.04**	**10**	Pn	**Pn**	**18 29 00.8**	**+0.5**
I30M	**Mount Dempster**	**6.04**	**10**	Pn	**Pn**	**18 29 02.4**	**+2.0**
I29M	**Ogilvie Camp,**	**6.08**	**2**	Pn	**Pn**	**18 29 01.4**	**+0.6**
I28M	**Miner Creek**	**6.19**	**355**	Pn	**Pn**	**18 29 04.3**	**+1.9**
SUA	**Susitna One**	**6.33**	**295**	Pn	**Pn**	**18 29 05.0**	**+0.7**
I26K	**Coal Creek Min**	**6.36**	**343**	Pn	**Pn**	**18 29 05.9**	**+1.2**
RND	**Reindeer**	**6.36**	**315**	Pn	**Pn**	**18 29 06.3**	**+1.6**
SKT	**Skwentna**	**6.83**	**299**	Pn	**Pn**	**18 29 11.9**	**+0.7**

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*IDC **28** 18:50:00.8±1.1,30.°39S×178.°82W, h152km±12km, mb3.5/4, mbtmp4.0/5, Error ellipse: s-maj=26.5km s-min=20.5km az=126.0*
ISC 28 18:49:59.8±0.9,30.°6S±0.°1×178.°7W±0.°2,h150km,n10, σ2.05/12,mb3.9/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.50**	**29**	P	**Pn**	**18 50 27.9**	**-1.5**
	145nm,0.3s,baz=67,slow=12,SNR=5.1						
RAO				S	**Sn**	**18 50 51.6**	**-0.4**
	337nm,0.4s,baz=83,slow=21,SNR=4.1						
URZ	**Urewera**	**8.39**	**203**	P	**Pn**	**18 51 59.5**	**+1.2**
	5.4nm,0.7s,baz=39,slow=20,SNR=1.7						
URZ				S	**Sn**	**18 53 26.9**	**-4.7**
	2.6nm,0.3s,baz=291,slow=12,SNR=8.5						
STKA	**Stephens Creek**	**33.81**	**257**	P	**P**	**18 56 28.1**	**+0.4**
	2.4nm,0.9s,baz=122,slow=13,SNR=2.9						
	2.4nm,0.9s						
ASAR	**Alice Springs**	**42.46**	**267**	P	**P**	**18 57 40.5**	**+0.4**
	0.6nm,0.5s,baz=104,slow=7.2,SNR=10						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**43.46**	**273**	P	**P**	**18 57 48.8**	**+0.6**
	1.0nm,0.2s,baz=111,slow=8.1,SNR=51						
	1.0nm,0.2s						
QSPA	**South Pole Qui**	**59.53**	**180**	P	**P**	**18 59 50.1**	**+3.0**
	1.7nm,1.0s,baz=82,slow=14,SNR=7.0						
	1.7nm,1.0s						
FINES	**FINESS Array B**	**145.09**	**339**	PKP	**PKPbc**	**19 09 17.5**	**-0.8**
	2.4nm,0.8s,baz=14,slow=1.7,SNR=7.1						
NB2	**NORSAR Subarra**	**148.82**	**351**	PKP	**PKPbc**	**19 09 28.0**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.82**	**351**	PKPbc	**PKPbc**	**19 09 28.4**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=16,slow=4.3,SNR=4.0						
HFS	**Hagfors**	**149.29**	**348**	PKPbc	**PKPbc**	**19 09 29.4**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=51,slow=2.8,SNR=5.8						

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*IDC **28** 19:15:00.7±0.7,13.°11N×143.°64E, h210km±8km, mb3.5/14, mbtmp4.0/14, Error ellipse: s-maj=21.4km s-min=11.3km az=89.0*
ISC 28 19:14:59.9±0.6,13.°1N±0.°1×143.°5E±0.°1,h200km,n17, σ0.78/19,mb3.6/14,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.42**	**69**	P	**Pn**	**19 15 33.7**	**

ellipse: s-maj=31.6km s-min=0.8km az=0.0
ISC 28 19:24:21.1±0.7,35°.77N±0°.03×26°.02E±0°.03,h82km±7km, n84,σ1%17/117,mb3.6/7,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.67**	**166**	Pg	**Pn**	**19 24 38.0**	**+1.4**
ZKR				Sg	**Sn**	**19 24 50.1**	**+1.9**
ZKR	**Zakros**	**0.67**	**166**	P	**Pn**	**19 24 38.1**	**+1.4**
ZKR				S	**Sn**	**19 24 48.7**	**+0.5**
	1μm,0.2s						
ZKR	**Zakros**	**0.67**	**166**	P	**Pn**	**19 24 37.9**	**+1.2**
ZKR				S	**Sn**	**19 24 49.0**	**+0.8**
ZKR				AML	AML	19 24 51.2	
	comp=E,2802μm,0.2s						
ZKR				AML	AML	19 24 51.6	
	comp=N,1181μm,0.2s						
SANT	**Santorini**	**0.76**	**323**	Pg	**Pn**	**19 24 38.9**	**+1.3**
SANT	**Santorini**	**0.76**	**323**	P	**Pn**	**19 24 38.9**	**+1.3**
SANT				S	**Sn**	**19 24 49.8**	**0.0**
SANT	**Santorini**	**0.76**	**323**	P	**Pn**	**19 24 38.8**	**+1.2**
SANT				S	**Sn**	**19 24 49.0**	**-0.8**
SANT				AML	AML	19 24 50.9	
	comp=E,4253μm,0.2s						
SANT				AML	AML	19 24 51.6	
	comp=N,2381μm,0.3s						
THR8	**Santorini-Mono**	**0.77**	**325**	P	**Pn**	**19 24 37.9**	**+0.2**
THR8	**Santorini-Mono**	**0.77**	**325**	P	**Pn**	**19 24 37.8**	**+0.1**
THR6	**Thira Island,**	**0.78**	**319**	P	**Pn**	**19 24 38.2**	**+0.5**
THR6				S	**Sn**	**19 24 50.9**	**+0.8**
THR6	**Thira Island,**	**0.78**	**319**	P	**Pn**	**19 24 38.0**	**+0.3**
THR9	**Santorini-Faro**	**0.80**	**318**	P	**Pn**	**19 24 38.2**	**+0.2**
THR9	**Santorini-Faro**	**0.80**	**318**	P	**Pn**	**19 24 38.1**	**+0.1**
SNT1	**Gialos, Santor**	**0.81**	**323**	P	**Pn**	**19 24 38.3**	**+0.2**
SNT1				S	**Sn**	**19 24 50.7**	**+0.1**
SNT1	**Gialos, Santor**	**0.81**	**323**	P	**Pn**	**19 24 38.2**	**+0.1**
SNT5	**Nea Kammeni, S**	**0.81**	**321**	P	**Pn**	**19 24 38.3**	**+0.1**
THR3	**Thira Island,**	**0.81**	**322**	P	**Pn**	**19 24 38.5**	**+0.4**
THR3				S	**Sn**	**19 24 50.9**	**+0.1**
THR3	**Thira Island,**	**0.81**	**322**	P	**Pn**	**19 24 38.4**	**+0.2**
THR2	**Thira island,**	**0.83**	**325**	P	**Pn**	**19 24 38.4**	**+0.1**
THR5	**Thira Island,**	**0.85**	**320**	P	**Pn**	**19 24 38.9**	**+0.3**
THR5	**Thira Island,**	**0.85**	**320**	P	**Pn**	**19 24 38.8**	**+0.3**
CMBO	**Columbo, Santo**	**0.86**	**325**	P	**Pn**	**19 24 39.0**	**+0.3**
CMBO				S	**Sn**	**19 24 51.7**	**0.0**
CMBO	**Columbo, Santo**	**0.86**	**325**	P	**Pn**	**19 24 39.0**	**+0.3**
SAP3	**Santorini-Thir**	**0.86**	**321**	P	**Pn**	**19 24 39.0**	**+0.3**
SAP3	**Santorini-Thir**	**0.86**	**321**	P	**Pn**	**19 24 38.9**	**+0.3**
KSTL	**Kastelli Herak**	**0.91**	**239**	P	**Pn**	**19 24 38.6**	**-0.6**
KSTL				S	**Sn**	**19 24 51.7**	**-0.9**
KSTL	**Kastelli Herak**	**0.91**	**239**	P	**Pn**	**19 24 38.8**	**-0.4**
KSTL				S	**Sn**	**19 24 50.1**	**-2.5**
KSTL				AML	AML	19 24 52.7	
	comp=E,1757μm,0.3s						
KSTL				AML	AML	19 24 56.2	
	comp=N,1862μm,0.5s						
KARP	**Karpathos**	**0.95**	**103**	Pg	**Pn**	**19 24 40.7**	**+1.0**
KARP	**Karpathos**	**0.95**	**103**	P	**Pn**	**19 24 40.8**	**+1.0**
KARP				S	**Sn**	**19 24 54.6**	**+0.9**
	comp=N,2μm,0.1s						
KARP	**Karpathos**	**0.95**	**103**	P	**Pn**	**19 24 40.7**	**+1.0**
KARP				S	**Sn**	**19 24 54.0**	**+0.3**
KARP				AML	AML	19 24 55.1	
	comp=E,3185μm,0.1s						
KARP				AML	AML	19 24 55.6	
	comp=N,3422μm,0.2s						
IDI	**Anoyia**	**1.04**	**243**	Pg	**Pn**	**19 24 41.2**	**+0.4**
IDI	**Anoyia**	**1.04**	**243**	P	**Pn**	**19 24 41.3**	**+0.4**
IDI				S	**Sn**	**19 24 56.7**	**+1.1**
	comp=N,458nm,0.1s						
IDI	**Anoyia**	**1.04**	**243**	P	**Pn**	**19 24 41.2**	**+0.4**
	comp=N,64nm,0.3s,baz=24,slow=12,SNR=311						
IDI				S	**Sn**	**19 24 55.0**	**-0.6**
	comp=N,114nm,0.3s,baz=342,slow=20,SNR=12						
IDI	**Anoyia**	**1.04**	**243**	P	**Pn**	**19 24 41.2**	**+0.4**
IDI				S	**Sn**	**19 24 54.9**	**-0.6**
IDI				AML	AML	19 24 56.1	
	comp=E,1257μm,0.2s						
IDI				AML	AML	19 24 56.9	
	comp=N,1082μm,0.1s						
NISR	**Nisiros**	**1.23**	**46**	P	**Pn**	**19 24 43.6**	**+0.6**
NISR	**Nisiros**	**1.23**	**46**	P	**Pn**	**19 24 43.7**	**+0.6**
TMBK	**Timbaki Herakl**	**1.24**	**236**	P	**Pn**	**19 24 44.6**	**+1.4**
PRNS	**Prines Rethymn**	**1.30**	**252**	P	**Pn**	**19 24 46.0**	**+2.0**
PRNS				S	**Sn**	**19 25 03.9**	**+2.7**
APE	**Apeiranthos**	**1.36**	**343**	Pn	**Pn**	**19 24 44.4**	**-0.3**
APE	**Apeiranthos**	**1.36**	**343**	P	**Pn**	**19 24 44.9**	**+0.2**
APE	**Apeiranthos**	**1.36**	**343**	P	**Pn**	**19 24 44.7**	**0.0**
APE				S	**Sn**	**19 25 02.3**	**-0.2**
APE				AML	AML	19 25 03.0	
	comp=N,436μm,0.5s						
APE				AML	AML	19 25 03.3	
	comp=E,391μm,0.4s						
YAZI	**Mula-Datşa-**	**1.47**	**51**	P	**Pn**	**19 24 46.8**	**+0.6**
YAZI				S	**Sn**	**19 25 05.7**	**+0.7**
YAZI				*i* AML	AML	19 25 06.0	
	comp=E,47nm,0.5s						
YAZI				*i* AML	AML	19 25 07.0	
	comp=E,43nm,0.4s						
DAT	**Datca**	**1.58**	**52**	Pn	**Pn**	**19 24 48.2**	**+0.6**
DAT				Sn	**Sn**	**19 25 08.2**	**+0.5**
DAT	**Datca**	**1.58**	**52**	P	**Pn**	**19 24 48.3**	**+0.6**
MHLO	**Agia Marina, M**	**1.60**	**306**	P	**Pn**	**19 24 48.9**	**+1.1**
CHAN	**Chania**	**1.63**	**262**	P	**Pn**	**19 24 48.8**	**+0.6**
CHAN				S	**Sn**	**19 25 07.8**	**-0.9**
CHAN				AML	AML	19 25 09.2	
	comp=N,748μm,0.3s						
CHAN				AML	AML	19 25 10.9	
	comp=E,915μm,0.4s						
BODT	**Bodrum**	**1.66**	**38**	Pn	**Pn**	**19 24 49.0**	**+0.4**
BODT	**Bodrum**	**1.66**	**38**	P	**Pn**	**19 24 49.0**	**+0.4**
IMMV	**Iera Moni Meta**	**1.69**	**260**	Pn	**Pn**	**19 24 50.1**	**+1.1**
IMMV	**Iera Moni Meta**	**1.69**	**260**	P	**Pn**	**19 24 49.5**	**+0.5**
IMMV				S	**Sn**	**19 25 09.5**	**-0.7**
IMMV				AML	AML	19 25 16.6	
	comp=N,712μm,0.3s						
IMMV				AML	AML	19 25 18.8	
	comp=E,702μm,0.5s						
BDRM	**Kayabasi**	**1.73**	**41**	P	**Pn**	**19 24 50.3**	**+0.8**
BDRM				S	**Sn**	**19 25 11.3**	**+0.3**
BDRM				*i* AML	AML	19 25 12.0	
	comp=E,122nm,0.6s						
ARG	**Arkhangelos**	**1.76**	**75**	Pn	**Pn**	**19 24 50.9**	**+1.0**
ARG	**Arkhangelos**	**1.76**	**75**	P	**Pn**	**19 24 51.0**	**+1.0**
ARG				S	**Sn**	**19 25 12.1**	**+0.3**
	comp=E,362nm,0.2s						
ARG	**Arkhangelos**	**1.76**	**75**	P	**Pn**	**19 24 50.9**	**+1.0**
GVD	**Gavdhos**	**1.83**	**240**	Pn	**Pn**	**19 24 52.3**	**+1.4**
GVD	**Gavdhos**	**1.83**	**240**	P	**Pn**	**19 24 51.8**	**+0.9**
GVD				S	**Sn**	**19 25 14.6**	**+1.1**
RODP	**Rodopos**	**1.86**	**264**	Pn	**Pn**	**19 24 52.9**	**+1.7**
KNDR	**Palaiochora Ch**	**1.98**	**255**	Pn	**Pn**	**19 24 55.5**	**+2.7**
TURN	**Turunc**	**2.06**	**60**	Pn	**Pn**	**19 24 54.8**	**+1.0**
TURN	**Turunc**	**2.06**	**60**	P	**Pn**	**19 24 54.9**	**+1.1**
TURN				S	**Sn**	**19 25 18.8**	**+0.1**
TURN				*i* AML	AML	19 25 19.0	
	comp=E,98nm,0.3s						
TURN				*i* AML	AML	19 25 20.0	
	comp=E,95nm,0.3s						
MLSB	**Milas**	**2.08**	**42**	Pn	**Pn**	**19 24 55.3**	**+1.2**
ANKY	**Antikythira Is**	**2.21**	**273**	P	**Pn**	**19 24 57.2**	**+1.3**
ANKY				S	**Sn**	**19 25 23.9**	**+1.4**
MULA	**Mugla, Merkez-**	**2.37**	**51**	P	**Pn**	**19 25 00.2**	**+2.1**
MULA				S	**Sn**	**19 25 27.6**	**+1.2**
MULA				*i* AML	AML	19 25 28.0	
	comp=E,45nm,0.6s						
MULA				*i* AML	AML	19 25 29.0	
	comp=E,26nm,0.5s						
SABU	**Mula-Dalaman**	**2.60**	**65**	P	**Pn**	**19 25 03.0**	**+1.8**
SABU				S	**Sn**	**19 25 32.0**	**+0.1**
SABU				*i* AML	AML	19 25 33.0	
	comp=E,50nm,0.3s						
SABU				*i* AML	AML	19 25 34.0	
	comp=E,54nm,0.9s						
URLA	**Izmir**	**2.63**	**10**	Pn	**Pn**	**19 25 01.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**2.64**	**34**	Pn	**Pn**	**19 25 02.9**	**+1.1**
IZZE	**Mula-Seydike**	**2.68**	**75**	P	**Pn**	**19 25 02.5**	**+0.3**
IZZE				S	**Sn**	**19 25 31.5**	**-2.2**
IZZE				*i* AML	AML	19 25 35.0	
	comp=E,140nm,0.3s						
IZZE				*i* AML	AML	19 25 35.0	
	comp=E,132nm,0.2s						
ESEN	**Aydn-Nazilli**	**2.75**	**42**	P	**Pn**	**19 25 04.7**	**+1.5**
ESEN				S	**Sn**	**19 25 38.3**	**+2.8**
ESEN				*i* AML	AML	19 25 39.0	
	comp=E,15nm,0.6s						
ESEN				*i* AML	AML	19 25 40.0	
	comp=E,7.1nm,0.3s						
KRND	**KRANIDI**	**2.82**	**306**	P	**Pn**	**19 25 05.0**	**+1.0**
DNZT	**Denizli-Tavas-**	**2.85**	**57**	P	**Pn**	**19 25 06.1**	**+1.6**
DNZT				S	**Sn**	**19 25 38.2**	**+0.3**
DNZT				*i* AML	AML	19 25 39.0	
	comp=E,30nm,0.6s						
DNZT				*i* AML	AML	19 25 39.0	
	comp=E,21nm,0.5s						
TAVA	**DENIZLI_Tavas**	**2.88**	**53**	P	**Pn**	**19 25 06.8**	**+1.8**
TAVA				S	**Sn**	**19 25 39.7**	**+1.1**
TAVA				*i* AML	AML	19 25 42.0	
	comp=E,18nm,0.5s						
TAVA				*i* AML	AML	19 25 44.0	
	comp=E,16nm,0.5s						
ITM	**Ithomi**	**3.59**	**294**	Pn	**Pn**	**19 25 15.4**	**+0.9**
BRTR	**Keskin Array B**	**7.21**	**55**	P	**Pn**	**19 26 04.9**	**+1.0**
	comp=E,0.4nm,0.6s,baz=228,slow=15,SNR=3.4						
MMAI	**Mount Meron Ar**	**8.22**	**107**	P	Pn	19 26 13.7	-4.1
	comp=E,1.0nm,0.5s,baz=297,slow=14,SNR=2.1						
MMAI				S	**Sn**	**19 27 44.2**	**-4.9**
	comp=E,0.5nm,0.3s,baz=276,slow=27,SNR=1.9						
VAE	**Valguarnera**	**9.49**	**284**	P	**Pn**	**19 26 35.1**	**+0.1**
	comp=E,5.4nm,0.5s,baz=239,slow=18,SNR=2.4						
EIL	**Elat**	**9.67**	**126**	P	**Pn**	**19 26 34.4**	**-3.0**
	comp=E,2.1nm,0.8s,baz=308,slow=2.3,SNR=6.7						
EIL				S	Sn	19 28 14.8	-10
	comp=E,2.6nm,0.3s,baz=356,slow=3.5,SNR=8.7						
AKASG	**Malin Array Be**	**15.10**	**8**	P	**Pn**	**19 27 51.4**	**+1.6**
	comp=E,0.4nm,0.3s,baz=203,slow=11,SNR=4.7						
KBZ	**Khabaz**	**15.20**	**53**	P	**Pn**	**19 27 51.2**	**+0.1**
	comp=E,2.0nm,0.7s,baz=230,slow=5.1,SNR=4.1						
EKA	**Eskdalemuir Ar**	**27.96**	**324**	P	**P**	**19 30 04.9**	**+1.3**
	comp=E,0.2nm,0.3s,baz=118,slow=9.9,SNR=1.4						
	comp=E,0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**31.42**	**230**	P	**P**	**19 30 34.2**	**-0.5**
	comp=E,0.4nm,0.3s,baz=35,slow=9.3,SNR=11						
	comp=E,0.4nm,0.3s						
BVAR	**Borovoye Array**	**35.42**	**47**	P	**P**	**19 31 09.0**	**-0.1**
	comp=E,0.2nm,0.3s,baz=266,slow=8.1,SNR=2.5						
	comp=E,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**40.19**	**52**	P	**P**	**19 31 48.6**	**-0.7**
	comp=E,0.8nm,0.4s,baz=273,slow=8.3,SNR=18						
	comp=E,0.8nm,0.4s						
MKAR	**Makanchi Array**	**42.85**	**57**	P	**P**	**19 32 10.7**	**-0.4**
	comp=E,0.5nm,0.3s,baz=266,slow=8.7,SNR=19						
	comp=E,0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**44.08**	**47**	P	**P**	**19 32 19.3**	**-1.4**
	comp=E,0.4nm,0.4s,baz=275,slow=6.8,SNR=2.4						
	comp=E,0.4nm,0.4s						
PDAR	**Pinedale Array**	**91.95**	**329**	P	**P**	**19 37 19.2**	**-1.7**
	comp=E,0.2nm,0.3s,baz=0.0,slow=1.8,SNR=3.3						
	comp=E,0.2nm,0.3s						

*SOME **28** 19:35:13.0,41°.87N×79°.45E,h15km*
*KRNET **28** 19:35:13.3±0.1,41°.82N×79°.40E,h16km,mb2.7*
*NNC **28** 19:35:14.2±1.2,41°.93N×79°.47E,h0km,mb3.6,mpv3.5,*
Error ellipse: s-maj=8.3km s-min=4.6km az=146.0
ISC 28 19:35:11.0±1.9,41°.75N±0°.06×79°.51E±0°.05,h3km±11km, n47,σ1%03/79,16C-5D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.11**	**312**	⇑*iP*	**Pn**	**19 35 32.7**	**-0.9**
	baz=13						
PRZ				⇑*iS*	**Sg**	**19 35 46.9**	**+0.3**
	baz=13						
TARG	**Taragay, Kyrgy**	**1.28**	**270**	⇑*iP*	**Pb**	**19 35 36.3**	**+0.3**
	baz=66						
TARG				⇑*iS*	**Sb**	**19 35 53.0**	**0.0**
	baz=66						
SHLS	**Shalkode**	**1.41**	**358**	*eP*	**Pg**	**19 35 38.2**	**+0.3**
	21nm,0.2s						
SHLS				*eS*	**Sg**	**19 35 56.4**	**+0.2**
	90nm,0.3s						
SHLS	**Shalkode**	**1.41**	**358**	P	**Pg**	**19 35 38.2**	**+0.3**
	21nm,0.2s						
SHLS				S	**Sg**	**19 35 56.4**	**+0.2**
	90nm,0.3s						
UZB	**Uzynbulak**	**1.44**	**346**	*eP*	**Pb**	**19 35 37.8**	**-0.8**
	13nm,0.2s						
UZB				*eS*	**Sn**	**19 35 55.4**	**-2.4**
	20nm,0.2s						
UZB	**Uzynbulak**	**1.44**	**346**	P	**Pb**	**19 35 37.8**	**-0.8**
	13nm,0.2s						
UZB				S	**Sn**	**19 35 55.4**	**-2.4**
	20nm,0.2s						
SATY	**Saty**	**1.54**	**328**	*eP*	**Pb**	**19 35 39.8**	**-0.6**
	9.7nm,0.3s						
SATY				*eS*	**Sn**	**19 35 58.9**	**-1.4**
	111nm,0.2s						
SATY	**Saty**	**1.54**	**328**	P	**Pb**	**19 35 39.8**	**-0.6**
	9.7nm,0.3s						
SATY				S	**Sn**	**19 35 58.9**	**-1.4**
	111nm,0.2s						
PDGK	**Podgornoye**	**1.58**	**359**	P	**Pb**	**19 35 40.0**	**-0.9**
	5.6nm,0.2s						
PDGK				S	**Sn**	**19 35 59.2**	**-1.9**
	38nm,0.1s						
PDGK	**Podgornoye**	**1.58**	**359**	⇓P	**Pb**	**19 35 40.0**	**-0.9**
	5.5nm,0.3s						
PDGK				⇑S	**Sn**	**19 35 59.2**	**-1.9**
	56nm,0.5s						
KDJ	**Kajisay**	**1.78**	**283**	⇑*iP*	**Pg**	**19 35 44.8**	**-0.3**
	baz=81						
KDJ				⇑*iS*	**Sb**	**19 36 07.5**	**+0.2**
	baz=81						
KPKS	**Kokpek**	**1.82**	**341**	*eP*	**Pb**	**19 35 44.7**	**-0.4**
	52nm,0.2s						
KPKS				*eS*	**Sn**	**19 36 07.5**	**+0.4**
	115nm,0.3s						
KPKS	**Kokpek**	**1.82**	**341**	P	**Pb**	**19 35 44.7**	**-0.4**
	52nm,0.2s						
KPKS				S	**Sn**	**19 36 07.4**	**+0.4**
	115nm,0.3s						
KURS	**Kuram**	**2.00**	**331**	*eP*	**Pb**	**19 35 48.1**	**+0.1**
	23nm,0.2s						
KURS				*eS*	**Sb**	**19 36 13.1**	**-0.3**
	17nm,0.2s						
TNSS	**Tian-Shan**	**2.30**	**305**	*eP*	**Pb**	**19 35 53.5**	**+0.2**
	11nm,0.3s						
TNSS				*eS*	**Sb**	**19 36 22.6**	**+0.4**
	26nm,0.4s						
TNSS	**Tian-Shan**	**2.30**	**305**	Pg	**Pb**	**19 35 53.5**	**+0.2**
	11nm,0.3s						
TNSS				Lg	Lg	19 36 22.6	
	26nm,0.4s						
MDOK	**Medeo**	**2.31**	**309**	*eP*	**Pb**	**19 35 53.5**	**+0.2**
	17nm,0.2s						
MDOK				*eS*	**Sb**	**19 36 22.4**	**+0.1**
	58nm,0.7s						
MDOK	**Medeo**	**2.31**	**309**	Pn	**Pb**	**19 35 53.2**	**-0.1**
	12nm,0.5s						
MDOK				Pg	**Pb**	**19 35 53.5**	**+0.2**
	17nm,0.2s						
MDOK				Lg	Lg	19 36 22.4	
	58nm,0.7s						
MDOK				⇑Sn	**Sb**	**19 36 23.0**	**+0.6**
	16nm,0.4s						
KOTS	**Kotyrbulak**	**2.31**	**311**	*eP*	**Pb**	**19 35 53.8**	**+0.3**
	17nm,0.4s						
KOTS				*eS*	**Sb**	**19 36 23.0**	**+0.4**
	43nm,0.4s						
KOTS	**Kotyrbulak**	**2.31**	**311**	Pg	**Pb**	**19 35 53.8**	**+0.3**
	17nm,0.4s						
KOTS				Lg	Lg	19 36 23.0	
	43nm,0.4s						
AAA	**Alma-Ata**	**2.41**	**308**	*eP*	**Pg**	**19 35 56.4**	**-0.8**
	33nm,0.2s						
AAA				*eS*	**Sb**	**19 36 27.6**	**+2.3**
	116nm,0.4s						
AAA	**Alma-Ata**	**2.41**	**308**	Pg	**Pg**	**19 35 56.4**	**-0.8**
	33nm,0.2s						
AAA				Lg	Lg	19 36 27.6	
	116nm,0.4s						
BLB	**Baldybastay**	**2.47**	**342**	Pg	**Pb**	**19 35 55.3**	**-0.8**
	67nm,0.3s						
BLB				Lg	Lg	19 36 25.5	
	73nm,0.3s						
ULHL	**Ulahol**	**2.49**	**283**	⇑*iP*	**Pb**	**19 35 56.0**	**-0.5**
	baz=81						
ULHL				⇑*iS*	**Sb**	**19 36 27.1**	**-0.5**
	baz=81						
DJR	**Jarkent**	**2.59**	**4**	*eP*	**Pb**	**19 35 58.1**	**0.0**
	2.8nm,0.3s						
DJR				*eS*	**Sb**	**19 36 30.3**	**-0.1**
	48nm,0.5s						
DJR	**Jarkent**	**2.59**	**4**	Pg	**Pb**	**19 35 58.1**	**0.0**
	2.8nm,0.3s						
DJR				Lg	Lg	19 36 30.3	
	48nm,0.5s						
KNOS	**Konyrlen**	**2.62**	**355**	Pg	**Pb**	**19 35 57.7**	**-1.0**
KNOS				Lg	Lg	19 36 30.1	
NRN	**Naryn**	**2.65**	**264**	⇑*iP*	**Pb**	**19 35 58.8**	**-0.6**
	baz=62						
NRN				⇑*iS*	**Sb**	**19 36 32.1**	**-0.4**
	baz=62						
MTBS	**Maitube**	**2.67**	**302**	*eP*	**Pb**	**19 36 00.0**	**+0.6**
	8.1nm,0.1s						
MTBS				*eS*	**Sb**	**19 36 33.7**	**+1.0**
	39nm,0.3s						
MTBS	**Maitube**	**2.67**	**302**	Pg	**Pb**	**19 36 00.0**	**+0.6**
	8.1nm,0.1s						
MTBS				Lg	Lg	19 36 33.7	
	39nm,0.3s						
ARXS	**Arharly**	**2.76**	**334**	*eP*	**Pb**	**19 36 00.7**	**-0.3**
	9.2nm,0.2s						
ARXS				*eS*	**Sb**	**19 36 35.2**	**+0.1**
	24nm,0.4s						
ARXS	**Arharly**	**2.76**	**334**	Pg	**Pb**	**19 36 00.7**	**-0.3**
	9.2nm,0.2s						
ARXS				Lg	Lg	19 36 35.2	
	24nm,0.4s						
BOOM	**Boomskoye usch**	**2.76**	**287**	⇓*iP*	**Pb**	**19 35 59.5**	**-1.6**
	baz=86						
BOOM				⇓*iS*	**Sb**	**19 36 33.4**	**-2.0**
	baz=86						
CHKK	**Chushkaly**	**2.81**	**319**	*eP*	**Pb**	**19 36 01.9**	**+0.1**
	20nm,0.3s						
CHKK				*eS*	**Sb**	**19 36 37.0**	**+0.4**
	56nm,0.3s						
CHKK	**Chushkaly**	**2.81**	**319**	Pg	**Pb**	**19 36 01.9**	**+0.1**
	20nm,0.3s						
CHKK				Lg	Lg	19 36 37.0	
	56nm,0.3s						
KTBS	**Karatobe**	**2.86**	**314**	*eP*	**Pb**	**19 36 03.5**	**+0.7**
	6.9nm,0.6s						
KTBS				*eS*	**Sb**	**19 36 39.4**	**+1.2**
	72nm,0.5s						
KTBS	**Karatobe**	**2.86**	**314**	Pg	**Pb**	**19 36 03.5**	**+0.7**
	6.9nm,0.6s						
KTBS				Lg	Lg	19 36 39.4	
	72nm,0.5s						
KST	**Kastek**	**2.93**	**297**	*eP*	**Pb**	**19 36 04.8**	**+0.8**
	3.3nm,0.3s						
KST				*eS*	**Sb**	**19 36 41.7**	**+1.5**
	33nm,0.7s						
KST	**Kastek**	**2.93**	**297**	Pg	**Pb**	**19 36 04.8**	**+0.8**
	3.3nm,0.3s						
KST				Lg	Lg	19 36 41.7	
	33nm,0.7s						
TKM2	**Tokmak 2**	**3.13**	**293**	⇑Pg	**Pb**	**19 36 07.0**	**-0.4**
	2.1nm,0.4s						
TKM2				⇑Lg	Lg	19 36 49.3	
	12nm,0.4s						
TKM2	**Tokmak 2**	**3.13**	**293**	⇑*eP*	**Pb**	**19 36 04.7**	**-2.7**
	baz=93						
TKM2				⇑*iS*	**Sn**	**19 36 42.4**	**+2.9**
	baz=93						
DGS	**Degeres**	**3.14**	**300**	*eP*	**Pb**	**19 36 07.5**	**-0.1**
	2.6nm,0.5s						
DGS				*eS*	**Sb**	**19 36 46.5**	**+0.1**
	25nm,0.5s						
DGS	**Degeres**	**3.14**	**300**	Pg	**Pb**	**19 36 07.5**	**-0.1**
	2.6nm,0.5s						
DGS				Lg	Lg	19 36 46.5	
	25nm,0.5s						
KRBS	**Karabastau**	**3.43**	**306**	*eP*	**Pb**	**19 36 13.2**	**+0.7**
	3.1nm,0.3s						
KRBS				*eS*	**Sb**	**19 36 56.4**	**+1.7**
	11nm,0.3s						
KRBS	**Karabastau**	**3.43**	**306**	Pg	**Pb**	**19 36 13.1**	**+0.7**
	3.1nm,0.3s						
KRBS				Lg	Lg	19 36 56.4	
	11nm,0.3s						
MK31	**Makanchi Array**	**5.42**	**21**	Pn	**Pn**	**19 36 35.0**	**+2.2**
	0.2nm,0.4s,baz=202,slow=12,SNR=7.9						
MK31				Sn	**Sn**	**19 37 36.9**	**+1.1**
	0.7nm,0.5s,baz=206,slow=21,SNR=6.0						
MK31				⇓Lg	Lg	19 38 00.4	
	1.4nm,0.7s						
KK31	**Karatay Array**	**6.80**	**284**	⇓Lg	Lg	19 38 49.0	
	2.3nm,1.0s,baz=95,slow=27,SNR=3.7						

*TEH **28** 20:04:15.7,34°.66N×46°.23E,h8km±39km,ML2.7*
*ISN **28** 20:04:17.8±1.2,34°.61N×46°.25E,h36km±24km,ML2.7*
ISC 28 20:04:15.3±1.2,34°.73N±0°.04×46°.23E±0°.03,h10km±11km, n14,σ0%83/16,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.13**	**104**	Pg	**Pg**	**20 04 18.8**	**+0.3**
IGHG	**Ghaleghazi**	**0.49**	**145**	Pg	**Pg**	**20 04 24.4**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.57**	**247**	Pg	**Pg**	**20 04 26.8**	**+0.3**
ILIN	**Lien**	**0.63**	**73**	Pg	**Pb**	**20 04 28.3**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.67**	**203**	Pg	**Pg**	**20 04 27.4**	**-0.9**
KCHF	**Cheshme Sefid,**	**0.81**	**124**	Pg	**Pg**	**20 04 30.8**	**-0.2**
ILBA	**Ilam Banvizeh**	**1.11**	**181**	Pg	**Pb**	**20 04 35.4**	**-1.1**
SNQR	**Sonqor, Kerman**	**1.16**	**83**	Pg	**Pn**	**20 04 38.8**	**+1.0**
IBZA	**Bozab**	**1.37**	**101**	Pg	**Pg**	**20 04 41.3**	**-0.3**
IBDR	**Badra**	**1.64**	**189**	*e*Pg	**Pn**	**20 04 45.0**	**+0.9**
	baz=10.0						
IBDR				*e*Sg	**Sn**	**20 05 06.0**	**+0.7**
IBDR				AML	AML	20 05 13.1	
	comp=N,44nm,0.4s						
IKRK	**Kirkuk**	**1.69**	**294**	*e*Pn	**Pg**	**20

```
H08S2 Diego Garcia H   28.68 258  T    T    21 13 39.0
      baz=82,slow=75,SNR=34
H08S3 Diego Garcia H   28.68 258  T    T    21 13 39.5
      baz=82,slow=75,SNR=82
H08S1 Diego Garcia H   28.70 258  T    T    21 13 44.6
      baz=82,slow=75,SNR=102
NWAO Narrogin (SRO)    34.21 155  P    P    20 45 11.9 +0.3
H01W3 Cape Leeuwin H   34.78 161  T    T    21 21 51.4
      baz=336
H01W2 Cape Leeuwin H   34.79 161  T    T    21 21 51.8
      baz=336
H01W1 Cape Leeuwin H   34.80 161  T    T    21 21 55.0
      baz=336
WB0   Warramunga Arr   37.18 120  P    P    20 45 35.9 -1.4
WB0                            IAmb IAmb   20 45 48.4
      comp=Z,6.0nm,1.3s
WRA   Warramunga Arr   37.20 121  P    P    20 45 36.3 -1.1
WRA   Warramunga Arr   37.20 121  P    P    20 45 35.9 -1.6
      comp=Z,1.3nm,0.5s,baz=300,slow=9.1,SNR=21
WRA                            PcP  PcP    20 47 56.4  0.0
      comp=Z,0.3nm,0.6s,baz=312,slow=2.1,SNR=2.4
      comp=Z,1.3nm,0.5s
AS31  Alice Springs    38.48 126  P    P    20 45 47.1 -1.1
ASAR  Alice Springs    38.48 126  P    P    20 45 47.2 -1.0
ASAR  Alice Springs    38.48 126  P    P    20 45 47.7 -0.5
      comp=Z,3.5nm,0.7s,baz=302,slow=8.0,SNR=62
ASAR                           PcP  PcP    20 48 00.6 +0.3
      comp=Z,0.6nm,0.6s,baz=306,slow=2.4,SNR=6.0
ASAR                           S    S      20 51 37.7 -1.9
      comp=Z,0.5nm,0.9s,baz=297,slow=14,SNR=4.4
      comp=Z,3.5nm,0.7s
NIL   Nilore           44.13 326  P    P    20 46 34.2 -0.1
STKA  Stephens Creek   48.41 132  P    P    20 47 07.6 -0.4
STKA  Stephens Creek   48.41 132  P    P    20 47 08.2 +0.1
      comp=Z,2.0nm,0.6s,baz=298,slow=8.4,SNR=4.8
      comp=Z,2.0nm,0.6s
BOOM  Boomskoye usch   49.86 336  P    P    20 47 19.5 +0.5
BOOM                           IAmb IAmb   20 47 46.8
      comp=Z,9.6nm,1.4s
SONM  Songino Array    50.11   5  P    P    20 47 21.1 +0.3
SONM  Songino Array    50.11   5  P    P    20 47 20.2 -0.5
      comp=Z,1.5nm,0.8s,baz=186,slow=8.9,SNR=15
SONM                           PcP  PcP    20 48 39.8 +0.2
      comp=Z,0.3nm,0.6s,baz=114,slow=3.6,SNR=1.8
      comp=Z,1.5nm,0.8s
SIMJ  Simiganj         50.13 328  P    P    20 47 21.9 +0.7
SIMJ                           IAmb IAmb   20 47 22.4
      comp=Z,4.8nm,1.2s
ARSB  Arslanbob        50.19 333  P    P    20 47 22.4 +0.9
BTK   Batken           50.24 330  P    P    20 47 22.2 +0.3
BTK                            IAmb IAmb   20 47 42.5
      comp=Z,7.6nm,1.4s
MK31  Makanchi Array   51.47 344  P    P    20 47 30.8 -0.1
MK31                           IAmb IAmb   20 47 31.9
      comp=Z,4.0nm,0.7s
MKAR  Makanchi Array   51.47 344  P    P    20 47 31.0 +0.1
MKAR  Makanchi Array   51.47 344  P    P    20 47 31.1 +0.2
      comp=Z,5.5nm,0.6s,baz=148,slow=8.0,SNR=58
      comp=Z,5.5nm,0.6s
KKAR  Karatay Array    52.72 332  P    P    20 47 41.4 +1.1
KURBB Kurchatov Arra   56.00 343  P    P    20 48 03.9  0.0
      comp=Z,2.5nm,0.9s,baz=158,slow=7.3,SNR=16
      comp=Z,2.5nm,0.9s
KURK  Kurchatov        56.05 343  P    P    20 48 04.1 -0.2
KURK                           IAmb IAmb   20 48 05.3
      comp=Z,4.9nm,0.8s
ZAA0  Zalesovo Array   57.55 349  P    P    20 48 14.0 -0.8
ZALV  Zalesovo Beam    57.55 349  P    P    20 48 14.5 -0.3
ZALV  Zalesovo Beam    57.55 349  P    P    20 48 14.7 -0.1
      comp=Z,7.4nm,0.8s,baz=160,slow=7.1,SNR=35
      comp=Z,7.4nm,0.8s
BVAR  Borovoye Array   60.67 339  P    P    20 48 36.1 -0.4
      comp=Z,1.0nm,0.6s,baz=139,slow=6.5,SNR=4.6
      comp=Z,1.0nm,0.6s
H04N2 CROZET ISLANDS   61.07 217  T    T    21 54 05.9
      baz=59,slow=75,SNR=47
H04N1 CROZET ISLANDS   61.08 217  T    T    21 54 10.5
      baz=59,slow=75,SNR=53
H04N3 CROZET ISLANDS   61.09 217  T    T    21 54 00.3
      baz=59,slow=75,SNR=47
H04S1 CROZET ISLANDS   61.35 216  T    T    21 54 15.5
      baz=57,slow=76,SNR=39
H04S3 CROZET ISLANDS   61.37 216  T    T    21 54 12.3
      baz=57,slow=76,SNR=63
H04S2 CROZET ISLANDS   61.37 216  T    T    21 54 13.6
      baz=57,slow=76,SNR=37
ABKAR Akbulak array    62.22 331  P    P    20 48 46.8 -0.2
ABKAR Akbulak array    62.22 331  P    P    20 48 46.8 -0.2
ABKAR                          IAmb IAmb   20 48 47.6
      comp=Z,3.5nm,0.8s
KBZ   Khabaz           69.00 319  P    P    20 49 31.7 +0.9
      comp=Z,1.6nm,0.6s,baz=110,slow=2.1,SNR=2.7
      comp=Z,1.6nm,0.6s
BRTR  Keskin Array B   74.06 312  P    P    20 50 01.2 -0.3
      comp=Z,0.6nm,0.7s,baz=111,slow=6.1,SNR=5.2
      comp=Z,0.6nm,0.7s
VNDA  Vanda            81.78 169  P    P    20 50 44.3 +0.8
      comp=Z,0.2nm,0.7s,baz=324,slow=8.2,SNR=1.0
      comp=Z,0.2nm,0.7s
FINES FINESS Array B   84.68 332  P    P    20 50 59.6 +1.0
      comp=Z,2.4nm,1.0s,baz=108,slow=4.5,SNR=3.4
      comp=Z,2.4nm,1.0s
ARCES ARCESS Array B   86.96 340  P    P    20 51 09.6 -0.2
ARCES ARCESS Array B   86.96 340  P    P    20 51 10.1 +0.2
      comp=Z,1.3nm,0.9s,baz=103,slow=5.4,SNR=4.4
      comp=Z,1.3nm,0.9s
TXAR  Lajitas Array    144.41  38 PKP  PKPdf  20 58 01.1 -0.8
      comp=Z,1.9nm,0.7s,baz=299,slow=1.0,SNR=30
CPUP  Villa Florida    144.59 215 PKP  PKPdf  20 58 02.1  0.0
      comp=Z,1.9nm,0.7s,baz=59,slow=5.9,SNR=3.1
```

*IDC **28** 20:46:22.9±1.4, 13°.71N×88°.43W, h153km±14km, mb3.6/8, mbtmp4.0/11, Error ellipse: s-maj=30.2km s-min=13.1km az=58.0*

*NEIC **28** 20:46:22.6±1.6, 13°.44N±0°.08×88°.66W±0°.06, h149km±7km, mb4.2/34, Error ellipse: s-maj=13.3km s-min=6.6km az=213.0*

*SNET **28** 20:46:22.0±0.7, 13°.47N×88°.62W, h147km±3km, ML3.8*

*CATAC **28** 20:46:23.0±0.4, 13°.38N×88°.67W, h132km±4km, ML3.7*

ISC 28 20:46:22.2±0.6, 13°.51N±0°.05×88°.65W±0°.03, h148km±4km, n163, σ0.86/211, mb4.1/24, 15C-5D, El Salvador

```
Code  Station Name     Δ°   AZ°  Phase ID      Time      Res
                                Op    ISC     h m s     ISC
COEB  Comit de Eme     0.12  96  eP    Pn    20 46 42.4 +0.1
COEB                             IAML        20 46 43.2
      comp=Z,3μm,0.5s
COEB  Comit de Eme     0.12  96  i P   Pn    20 46 42.2 -0.1
COEB                             IAML        20 46 42.8
      comp=Z,3μm,1.0s
COEB                             i S   Sn    20 46 55.5 -2.0
COEB  Comit de Eme     0.12  96  ⇑i P   Pn    20 46 42.1 -0.2
COEB                             IAML        20 46 42.8
      comp=Z,3μm,1.0s
TECO  Alcaldia de Te   0.13 282  i P   Pn    20 46 42.1 -0.1
TECO                             IAML        20 46 42.4
      comp=Z,8μm,1.0s
TECO                             i S   Sn    20 46 55.8 -1.6
TECO  Alcaldia de Te   0.13 282  ⇑i P   Pn    20 46 41.9 -0.3
TECO                             IAML        20 46 42.4
      comp=Z,8μm,1.0s
PQSS  Presa 15 de Se   0.14  37  i P   Pn    20 46 42.2  0.0
PQSS  Presa 15 de Se   0.14  37  i P   Pn    20 46 42.0 -0.1
PQSS                             IAML        20 46 42.4
      comp=Z,7μm,1.0s
PQSS  Presa 15 de Se   0.14  37  ⇓i P   Pn    20 46 42.1 -0.1
PQSS                             IAML        20 46 42.4
      comp=Z,7μm,1.0s
TECA  Tecapa           0.14  96  eP    Pn    20 46 42.5 +0.1
UESV  Universidad de   0.18 313  ⇑i P   Pn    20 46 42.2 -0.1
UESV                             IAML        20 46 42.9
      comp=Z,2μm,1.0s
SCLA  Alcaldia de Sa   0.21 338  i P   Pn    20 46 42.7 +0.4
SCLA                             eS    Sn    20 46 58.8 +1.0
SCLA  Alcaldia de Sa   0.21 338  i P   Pn    20 46 42.8 +0.4
SCLA                             IAML        20 46 43.0
      comp=Z,4μm,1.0s
SCLA                             i S   Sn    20 46 58.5 +0.7
SCLA  Alcaldia de Sa   0.21 338  ⇑i P   Pn    20 46 42.6 +0.2
SCLA                             IAML        20 46 43.0
      comp=Z,4μm,1.0s
SNVI  San Vicente      0.21 299  eP    Pn    20 46 43.0 +0.5
COEG  Centro de Oper   0.25 296  i P   Pn    20 46 42.4 -0.2
COEG  Centro de Oper   0.25 296  ⇑i P   Pn    20 46 42.3 -0.2
COEG                             IAML        20 46 43.9
      comp=Z,2μm,1.0s
PACA  Pacayal          0.32  97  i P   Pn    20 46 43.1 +0.3
PACA                             IAML        20 46 47.7
      comp=Z,10μm,1.0s
PACA  Pacayal          0.32  97  ⇑i P   Pn    20 46 42.7 -0.1
PACA                             IAML        20 46 47.7
      comp=Z,10μm,1.0s
LCY   Lacayo           0.35 104  eP    Pn    20 46 43.0 +0.1
RANC  El Ranchito      0.36 102  i P   Pn    20 46 42.9  0.0
RANC                             IAML        20 46 43.6
      comp=Z,2μm,1.0s
RANC  El Ranchito      0.36 102  ⇓i P   Pn    20 46 42.8 -0.1
RANC                             IAML        20 46 43.6
      comp=Z,2μm,1.0s
BLLM  Bellamira        0.41  99  eP    Pn    20 46 42.9 -0.1
LFRS  El Faro          0.42 286  ⇓i P   Pn    20 46 43.1  0.0
CNRM  Centro Naciona   0.47  94  i P   Pn    20 46 43.1 -0.1
CNRM                             IAML        20 46 43.4
      comp=Z,10μm,1.0s
CNRM                             i S   Sn    20 46 58.8 -0.3
CNRM  Centro Naciona   0.47  94  i P   Pn    20 46 43.0 -0.1
CNRM                             IAML        20 46 43.4
      comp=Z,10μm,1.0s
CAHU  Cacacuatique     0.50  59  eP    Pn    20 46 43.7 +0.1
LFU   La Fuente        0.51 298  i P   Pn    20 46 43.7 +0.2
LOMA  Loma Larga       0.53 285  i P   Pn    20 46 43.8 +0.1
LOMA  Loma Larga       0.53 285  ⇑i P   Pn    20 46 43.7 +0.1
LOMA                             IAML        20 46 44.0
      comp=Z,14μm,1.0s
PANCS Alcalda de       0.53 281  ⇑i P   Pn    20 46 43.3 -0.3
PANCS                            IAML        20 46 43.8
      comp=Z,28μm,1.0s
UDBS  Universidad Do   0.53 293  i P   Pn    20 46 43.7 +0.1
UDBS                             IAML        20 46 44.2
      comp=Z,5μm,1.0s
SNET  Serv Nac Est T   0.59 287  Pn    Pn    20 46 43.8 -0.2
SNET                             Sn    Sn    20 47 02.2 +1.6
SNET  Serv Nac Est T   0.59 287  i P   Pn    20 46 44.4 +0.5
SNET                             eS    Sn    20 47 01.4 +0.8
SNET  Serv Nac Est T   0.59 287  i P   Pn    20 46 43.6 -0.4
SNET                             IAML        20 46 44.5
      comp=Z,7μm,1.0s
SNET                             i S   Sn    20 46 58.7 -1.8
SNET  Serv Nac Est T   0.59 287  i P   Pn    20 46 44.3 +0.3
SNET                             IAML        20 46 44.5
      comp=Z,7μm,1.0s
SNET                             i S   Sn    20 47 01.3 +0.8
UEES  Universidad Ev   0.61 290  eP    Pn    20 46 44.1 +0.1
UEES  Universidad Ev   0.61 290  i P   Pn    20 46 44.1 +0.1
UEES                             IAML        20 46 44.8
      comp=Z,2μm,1.0s
UEES  Universidad Ev   0.61 290  i P   Pn    20 46 44.0 -0.1
UEES                             IAML        20 46 44.8
      comp=Z,2μm,1.0s
ITCA  Escuela Especi   0.63 285  i P   Pn    20 46 44.2  0.0
ITCA                             IAML        20 46 44.7
      comp=Z,6μm,1.0s
BOQS  Boqueron         0.65 290  eP    Pn    20 46 44.6 +0.1
LALI  Alcalda de L     0.66 268  eP    Pn    20 46 44.0 -0.2
LALI                             eS    Sn    20 47 01.3 +0.4
LALI  Alcalda de L     0.66 268  i P   Pn    20 46 43.9 -0.3
LALI                             IAML        20 46 44.7
      comp=Z,1μm,1.0s
LALI                             i S   Sn    20 47 01.2 +0.3
LALI  Alcalda de L     0.66 268  ⇑i P   Pn    20 46 44.0 -0.2
LALI                             IAML        20 46 44.7
      comp=Z,1μm,1.0s
LALI                             i S   Sn    20 47 01.2 +0.3
PMON  Piamonte         0.68 287  i P   Pn    20 46 44.4 -0.1
PMON                             IAML        20 46 51.8
      comp=Z,2μm,1.0s
PMON  Piamonte         0.68 287  i P   Pn    20 46 44.3 -0.2
PMON                             IAML        20 46 51.8
      comp=Z,2μm,1.0s
QUEZ  Alcaldia de Qu   0.69 298  i P   Pn    20 46 44.7 +0.2
QUEZ                             IAML        20 46 45.0
      comp=Z,11μm,1.0s
LLGN  La Laguna        0.71 336  i P   Pn    20 46 45.0 +0.3
LLGN                             IAML        20 46 45.4
      comp=Z,2μm,1.0s
LLGN                             i S   Sn    20 47 02.2 +0.2
LCND  La Caada         0.76 105  eP    Pn    20 46 44.9 -0.1
LCND                             eS    Sn    20 47 02.2 -0.1
LCND                             IAML        20 47 04.6
      comp=Z,651nm,0.6s
LCND  La Caada         0.76 105  i P   Pn    20 46 44.7 -0.3
LCND                             IAML        20 46 45.2
      comp=Z,1μm,1.0s
LCND                             i S   Sn    20 47 02.4 +0.1
LCND  La Caada         0.76 105  ⇑i P   Pn    20 46 44.9 -0.1
LCND                             IAML        20 46 45.2
      comp=Z,1μm,1.0s
CEDA  San Andres       0.78 292  eP    Pn    20 46 45.0 -0.1
CEDA  San Andres       0.78 292  i P   Pn    20 46 45.0 -0.1
CEDA                             i S   Sn    20 47 03.0 +0.4
CEDA                             IAML        20 47 17.8
      comp=Z,2μm,1.0s
CEDA  San Andres       0.78 292  i P   Pn    20 46 44.9 -0.2
CEDA                             IAML        20 47 17.8
      comp=Z,2μm,1.0s
JAYA  Jayaque - finc   0.79 281  eP    Pn    20 46 45.4  0.0
JAYA                             eS    Sn    20 47 03.0  0.0
JAYA                             IAML        20 47 06.0
      comp=Z,1μm,0.2s
JAYA  Jayaque - finc   0.79 281  i P   Pn    20 46 45.3  0.0
JAYA                             IAML        20 46 45.7
      comp=Z,10μm,1.0s
JAYA                             i S   Sn    20 47 02.8 -0.2
JAYA  Jayaque - finc   0.79 281  ⇑i P   Pn    20 46 45.2 -0.2
JAYA                             IAML        20 46 45.7
      comp=Z,10μm,1.0s
JAYA                             i S   Sn    20 47 02.9  0.0
CNCH  Conchagua        0.83 106  i P   Pn    20 46 45.4 -0.2
CNCH                             eS    Sn    20 47 03.0 -0.3
CNCH  Conchagua        0.83 106  i P   Pn    20 46 45.0 -0.6
CNCH                             i S   Sn    20 47 03.7 +0.4
CNCH                             IAML        20 47 06.1
      comp=Z,2μm,1.0s
CNCH  Conchagua        0.83 106  ⇑i P   Pn    20 46 45.3 -0.3
CNCH                             i S   Sn    20 47 03.4 +0.1
CNCH                             IAML        20 47 06.1
      comp=Z,2μm,1.0s
MARCA Marcala la Paz   0.88  43  i P   Pn    20 46 46.4 +0.4
MARCA                            i S   Sn    20 47 04.7 +0.6
INTHN La Esperanza I   0.96  33  i P   Pn    20 46 47.1 +0.3
INTHN                            i S   Sn    20 47 05.7 +0.2
INTHN La Esperanza I   0.96  33  ⇓i P   Pn    20 46 47.2 +0.4
UNIC  Universidad Ca   0.99 298  i P   Pn    20 46 46.7 -0.1
UNIC                             IAML        20 46 47.1
      comp=Z,1μm,1.0s
UNIC                             i S   Sn    20 47 05.2 -0.4
UNIC  Universidad Ca   0.99 298  i P   Pn    20 46 46.8 -0.1
UNIC                             IAML        20 46 47.1
      comp=Z,1μm,1.0s
CEVE  Cerro Verde      1.00 289  eP    Pn    20 46 47.2 +0.1
CEVE                             eS    Sn    20 47 08.3 +2.2
CEVE  Cerro Verde      1.00 289  i P   Pn    20 46 47.4 +0.3
CEVE                             IAML        20 47 16.3
      comp=Z,1μm,1.0s
CEVE  Cerro Verde      1.00 289  i P   Pn    20 46 47.1  0.0
CEVE                             IAML        20 47 16.3
      comp=Z,1μm,1.0s
SBLS  San Blas         1.00 289  i P   Pn    20 46 47.4 +0.3
RTR   El Retiro        1.04 292  eP    Pn    20 46 47.9 +0.5
MTO3  Montecristo      1.12 322          Pn    20 46 48.6 +0.5
MTO3                             Sn    Sn    20 47 08.1 +0.2
MTO3  Montecristo      1.12 322  ⇑i P   Pn    20 46 48.6 +0.5
MTO3                             IAML        20 46 49.1
      comp=Z,820nm,1.0s
MTO3                             i S   Sn    20 47 08.2 +0.2
NUBE  Las Nubes        1.17 290  ⇑i P   Pn    20 46 48.7 +0.2
NUBE  Las Nubes        1.17 290  i P   Pn    20 46 48.7 +0.2
NUBE                             i S   Sn    20 47 06.7 -1.8
NUBE                             IAML        20 47 17.7
      comp=Z,740nm,1.0s
NUBE  Las Nubes        1.17 290  ⇑i P   Pn    20 46 48.6 +0.1
NUBE                             i S   Sn    20 47 07.4 -1.1
NUBE                             IAML        20 47 17.7
      comp=Z,740nm,1.0s
SLOZ  Alcaldia de Sa   1.22 295  i P   Pn    20 46 49.3 +0.5
TGUH  Tegucigalpa,Un   1.44  68  Pn    Pn    20 46 51.4 +0.2
TGUH                             Sn    Sn    20 47 13.5 +0.2
TGUH  Tegucigalpa,Un   1.44  68  i P   Pn    20 46 51.4 +0.2
TGUH                             IAML        20 46 51.8
      comp=Z,2μm,1.0s
TGUH                             i S   Sn    20 47 13.6 +0.3
CRIN  San Cristobal    1.75 117          Pn    20 46 53.9 -0.6
CRIN                             Sn    Sn    20 47 19.5 +0.3
YUSH  Yuscaran         1.81  76  ⇓i P   Pn    20 46 55.2 +0.1
PKGN  Cerro Pekin      1.83 117  i P   Pn    20 46 55.3  0.0
PKGN                             i S   Sn    20 47 21.4 +0.8
PKGN                             IAML        20 47 29.9
      comp=Z,5μm,1.0s
HERN  Volcan Telica    1.98 117  i S   Sn    20 47 24.9 +1.0
TELN  Telica           1.99 117  i S   Sn    20 47 24.6 +0.6
PACN  Al O del Volca   2.07 119  i P   Pn    20 46 58.9 +0.9
PACN                             IAML        20 47 27.2
      comp=Z,2μm,1.0s
ROCN  Rota Cerro Neg   2.10 118  i S   Sn    20 47 24.9 -1.4
ILCN  San Idelfonso    2.11 116  i P   Pn    20 47 01.3 +2.7
ILCN                             i S   Sn    20 47 27.7 +1.2
ILCN                             IAML        20 47 31.7
      comp=Z,270nm,1.0s
CNGN  Cerro Negro      2.15 118          Pn    20 46 58.5 -0.5
CNGN  Cerro Negro      2.15 118  i S   Sn    20 47 28.1 +0.7
MACN  El Madrono       2.19 118  i P   Pn    20 47 01.5 +2.0
MACN                             i S   Sn    20 47 28.5 +0.4
MACN                             IAML        20 47 36.6
      comp=Z,680nm,1.0s
LIMN  Finca el Limon   2.27 101  i P   Pn    20 47 00.5  0.0
LIMN                             IAML        20 47 01.0
      comp=Z,900nm,1.0s
APG   El Apazote       2.30 310  P    Pn    20 47 02.4 +1.3
      comp=Z,5.4nm,0.5s,baz=131,slow=9.1,SNR=58
APG                              S    Sn    20 47 31.6 +0.6
      comp=Z,6.3nm,0.7s,baz=340,slow=20,SNR=11
MOM2  El Cardon        2.36 117  i P   Pn    20 47 02.6 +1.0
MOM2                             i S   Sn    20 47 34.0 +2.1
MOM2                             IAML        20 47 37.5
      comp=Z,550nm,1.0s
COPN  Copaltepe        2.40 123  i P   Pn    20 47 03.1 +1.0
COPN                             IAML        20 47 33.6
      comp=Z,730nm,1.0s
APQ3  Volcan Apoyequ   2.54 119  i P   Pn    20 47 05.6 +1.9
APQ3                             i S   Sn    20 47 35.6 -0.2
APQ3                             IAML        20 47 40.5
      comp=Z,970nm,1.0s
SAPS  Ciudad Sandino   2.56 121  i P   Pn    20 47 05.3 +1.3
SAPS                             i S   Sn    20 47 35.4 -0.8
SAPS                             IAML        20 47 43.4
      comp=Z,2μm,1.0s
APQ2  Apoyeque         2.61 120  i S   Sn    20 47 36.7 -0.7
USIM  UNAN             2.70 121  i S   Sn    20 47 39.6 +0.3
MGA1  Managua          2.70 120  i P   Pn    20 47 06.4 +0.6
MGA1                             i S   Sn    20 47 39.2 -0.2
MGA1                             IAML        20 48 37.9
      comp=Z,6μm,1.0s
R4DEC Barrio San Lui   2.70 120  i P   Pn    20 47 07.5 +1.7
R4DEC                            i S   Sn    20 47 39.0 -0.4
R4DEC                            IAML        20 47 42.4
      comp=Z,830nm,1.0s
UNAN  Cigeo UNAN       2.70 121  i P   Pn    20 47 07.4 +1.6
UNAN                             i S   Sn    20 47 38.7 -0.7
UNAN                             IAML        20 47 43.4
      comp=Z,3μm,1.0s
ENAN  Enatrel Managu   2.71 121  i S   Sn    20 47 40.0 +0.4
WILN  Americas 2       2.75 119  i S   Sn    20 47 40.6 +0.2
AERN  Aeropuerto Man   2.77 119  i S   Sn    20 47 41.2 +0.2
NANN  Nandasmo         2.92 122  i P   Pn    20 47 10.5 +2.0
NANN                             i S   Sn    20 47 44.3  0.0
NANN                             IAML        20 47 47.3
      comp=Z,9μm,1.0s
BOAB  BOACO BROADBAN   3.09 110  Pn    Pn    20 47 10.6 -0.1
BOAB  BOACO BROADBAN   3.09 110  i P   Pn    20 47 10.2 -0.5
BOAB                             i S   Sn    20 47 48.5 +0.3
BOAB                             IAML        20 47 52.0
      comp=Z,85nm,1.0s
RTAL  Retalhuleu       3.12 289  Pn    Pn    20 47 11.1  0.0
RTAL  Retalhuleu       3.12 289  i S   Sn    20 47 49.0 +0.1
PETF  Flores           3.58 341  Pn    Pn    20 47 18.3 +1.3
ACON  Acoyapa          3.72 114          Pn    20 47 19.1 +0.3
ACON  Acoyapa          3.72 114  i P   Pn    20 47 18.7 -0.1
ACON                             IAML        20 47 20.1
      comp=Z,91nm,1.0s
ACON                             i S   Sn    20 48 02.3 -0.4
CCIG  Comitan          4.36 310  Pn    Pn    20 47 27.5 +0.3
ESPN  Las Esperanzas   4.44 107          Pn    20 47 26.5 -1.7
JTS   Las Juntas de    4.83 131          Pn    20 47 33.8 +0.4
JTS   Las Juntas de    4.83 131  P    Pn    20 47 34.4 +1.0
      comp=Z,60nm,0.3s,baz=306,slow=15,SNR=38
JTS                              S    Sn    20 48 27.2 -1.7
      comp=Z,28nm,0.3s,baz=278,slow=22,SNR=13
SOCE  Pocosol          5.02 128  Pn    Pn    20 47 35.6 -0.4
LCR2  La Lucha 2       5.89 129  Pn    Pn    20 47 48.4 +0.7
TEIG  Tepich           6.69   3  P    Pn    20 47 56.6 -1.4
      comp=Z,3.7nm,0.6s,baz=171,slow=13,SNR=2.1
CMIG  Matias Romero    6.99 301  P    Pn    20 48 03.1 +1.0
      comp=Z,2.3nm,0.3s,baz=120,slow=8.0,SNR=11
CMIG                             S    Sn    20 49 15.3 -5.2
      comp=Z,6.6nm,0.4s,baz=274,slow=23,SNR=12
553A  Crawfordville   17.05  13  P    Pn    20 50 13.8 +2.1
SDDR  Presa de Saban  17.53  70  P    Pn    20 50 18.4 +0.8
SDDR                             IAmb IAmb  20 50 25.5
      comp=Z,16nm,1.1s
352A  Blakely         18.21  10  P    Pn    20 50 25.8 +0.3
TIGA  Tifton          18.44  14  P    Pn    20 50 28.2  0.0
LRAL  Lakeview Retre  19.50   4  P    P     20 50 38.6 +0.8
GOGA  Godfrey         20.37  13  P    P     20 50 48.3 +1.1
GOGA                             IAmb IAmb  20 50 50.8
      comp=Z,6.0nm,0.7s
OXF   Oxford          20.92 358  P    P     20 50 53.9 +0.8
TXAR  Lajitas Array   21.02 321  P    P     20 50 55.5 +1.2
TXAR  Lajitas Array   21.02 321  P    P     20 50 55.7 +1.4
      comp=Z,4.2nm,0.7s,baz=138,slow=10,SNR=59
      comp=Z,4.2nm,0.7s
TX31  Lajitas Ar. Si  21.02 321  P    P     20 50 55.4 +1.1
MIAR  Mount Ida       21.41 349  P    P     20 50 59.0 +0.6
HODGE Hodges          21.43  15  P    P     20 50 59.7 +1.2
HODGE                            IAmb IAmb  20 51 01.1
      comp=Z,7.6nm,0.8s
X37A  Clayton         21.85 345  P    P     20 51 04.0 +1.1
MNHN  Monahans        21.98 326  P    P     20 51 04.6 +0.1
MNHN                             IAmb IAmb  20 51 06.4
      comp=Z,12nm,1.2s
TKL   Tuckaleechee C  22.49  10  P    P     20 51 09.3  0.0
TKL                              IAmb IAmb  20 51 10.9
      comp=Z,5.9nm,0.7s
FCAR  Ozark Folk Cen  22.50 353  P    P     20 51 09.6 +0.2
FCAR                             IAmb IAmb  20 51 10.9
      comp=Z,10.0nm,0.7s
LCAR  Lake Charles    22.58 355  P    P     20 51 09.7 -0.4
WMOK  Wichita Mounta  23.04 338  P    P     20 51 14.6 +0.2
WMOK                             IAmb IAmb  20 51 16.2
      comp=Z,9.4nm,1.4s
HHAR  Hobbs           23.17 349  P    P     20 51 16.5 +0.9
HHAR                             IAmb IAmb  20 51 17.7
      comp=Z,4.7nm,0.7s
TZTN  Tazewell        23.39  10  P    P     20 51 17.7 +0.1
TZTN                             IAmb IAmb  20 51 20.2
      comp=Z,7.6nm,0.9s
U38A  Gravette        23.41 348  P    P     20 51 19.1 +1.3
U38A                             IAmb IAmb  20 51 20.2
      comp=Z,4.7nm,0.8s
T47A  Sharon Grove    23.42   3  P    P     20 51 17.7 -0.2
T42A  Van Buren       23.52 355  P    P     20 51 18.9  0.0
MSTX  Muleshoe        24.07 330  P    P     20 51 23.8 -0.2
MSTX                             IAmb IAmb  20 51 25.7
      comp=Z,6.3nm,0.8s
S39A  Bolivar         24.44 351  P    P     20 51 27.2 +0.1
CCM   Cathedral Cave  24.55 355  P    P     20 51 27.9 -0.3
CCM                              IAmb IAmb  20 51 29.4
      comp=Z,8.5nm,1.0s
SSPA  Standing Stone  28.62  17  P    P     20 52 04.4 -0.2
SSPA                             IAmb IAmb  20 52 21.6
      comp=Z,4.1nm,1.0s
S22A  4UR Ranch, Cre  29.07 329  P    P     20 52 09.3 +0.4
S22A                             IAmb IAmb  20 52 11.6
      comp=Z,2.9nm,0.8s
ETMB  Extrema         32.14 135  P    P     20 52 34.9 -0.9
SAML  Samuel          33.72 130  P    P     20 52 47.6 -2.0
PDAR  Pinedale Array  34.29 332  P    P     20 52 55.2 +0.7
      comp=Z,0.5nm,0.5s,baz=126,slow=9.3,SNR=5.2
      comp=Z,0.5nm,0.5s
AGMN  Agassiz Nation  35.20 352  P    P     20 53 01.2 -0.7
AGMN                             IAmb IAmb  20 53 02.0
      comp=Z,8.5nm,1.1s
LOHW  Long Hollow     35.43 332  P    P     20 53 04.8 +0.5
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LOHW IAmb IAmb 20 53 06.6
comp=Z,3.5nm,0.7s
TPAW Teton Pass 35.50 332 P **P** **20 53 05.3 +0.4**
TPAW IAmb IAmb 20 53 07.6
comp=Z,4.1nm,0.8s
ULM Lac du Bonnet 37.11 352 P **P** **20 53 16.8 -1.4**
comp=Z,4.5nm,0.5s,baz=162,slow=10.0,SNR=12
comp=Z,4.5nm,0.5s
BOZ Bozeman (W) 37.44 333 P **P** **20 53 21.8 +0.6**
DLMT Dillon 37.69 332 P **P** **20 53 24.2 +0.9**
DLMT IAmb IAmb 20 53 25.6
comp=Z,4.5nm,0.8s
LYMT Lyon Mountain 38.80 334 P **P** **20 53 33.1 +0.4**
SIV San Ignacio 40.03 136 P **P** **20 53 42.3 -0.7**
comp=Z,0.6nm,0.4s,baz=318,slow=8.2,SNR=3.9
comp=Z,0.6nm,0.4s
SCHQ Schefferville 44.62 18 P **P** **20 54 18.2 -1.4**
comp=Z,1.8nm,0.5s,baz=229,slow=4.7,SNR=5.7
comp=Z,1.8nm,0.5s
YKA Yellowknife Ar 52.29 345 P **P** **20 55 16.9 -1.2**
comp=Z,1.4nm,0.6s,baz=135,slow=8.5,SNR=12
comp=Z,1.4nm,0.6s
PLCA Paso Flores 56.52 164 P **P** **20 55 50.9 +1.9**
comp=Z,1.9nm,0.9s,baz=324,slow=19,SNR=3.7
comp=Z,1.9nm,0.9s
ILAR Eielson Array 64.58 336 P **P** **20 56 42.5 -0.8**
comp=Z,0.6nm,0.6s,baz=166,slow=4.7,SNR=16
comp=Z,0.6nm,0.6s
WRA Warramunga Arr 138.43 255 PKhKP PKPpre 21 05 22.0
comp=Z,0.2nm,0.4s,baz=92,slow=3.2,SNR=5.4
WRA PKP **PKPdf** **21 05 31.5 +0.6**
comp=Z,2.3nm,0.6s,baz=88,slow=2.1,SNR=39
ASAR Alice Springs 138.56 250 PKhKP PKPpre 21 05 22.6
comp=Z,0.2nm,0.5s,baz=92,slow=3.4,SNR=4.6
ASAR PKP **PKPdf** **21 05 31.8 +0.6**
comp=Z,1.0nm,0.6s,baz=91,slow=1.9,SNR=15

IDC 28 20:46:58.8±3.5, 14°.66S×173°.52W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=100.8km s-min=43.1km az=126.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.91**	**256**	P	P	20 55 55.6	+1.0
	0.2nm,0.3s,baz=96,slow=7.7,SNR=11						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**50.24**	**251**	P	P	20 55 56.2	-0.9
	0.7nm,0.6s,baz=89,slow=7.9,SNR=13						
	0.7nm,0.6s						
MJAR	**Matsushiro Arr**	**68.31**	**320**	P	P	20 58 01.3	-0.6
	1.4nm,0.6s,baz=166,slow=9.2,SNR=10						
	1.4nm,0.6s						
FINES	**FINESS Array B**	**131.20**	**348**	P	PKPdf	21 06 12.3	-0.1
FINES	**FINESS Array B**	**131.20**	**348**	PKP	PKPdf	21 06 12.6	+0.1
	1.2nm,0.7s,baz=29,slow=3.1,SNR=7.3						

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*TEH **28** 20:50:52.9, 34°.64N×46°.22E, h5km, ML2.7*
*ISN **28** 20:50:54.8±1.2, 34°.61N×46°.25E, h36km±24km, ML2.9*
ISC 28 20:50:53.2±1.4, 34°.69N±0°.05×46°.16E±0°.04, h1km±15km, n12, σ0s71/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.18**	**88**	Pg	**Pg**	20 50 56.4	**-0.3**
IGHG	**Ghaleghazi**	**0.49**	**137**	Pg	**Pg**	20 51 02.0	**-0.6**
GLG1	**Gilan-e-Gharb**	**0.61**	**200**	Pg	**Pg**	20 51 05.1	**+0.2**
ILIN	**Lien**	**0.69**	**71**	Pg	**Pg**	20 51 06.2	**-0.3**
KCHF	**Cheshme Sefid,**	**0.83**	**120**	Pg	**Pg**	20 51 08.3	**-0.8**
ILBA	**Ilam Banvizeh**	**1.07**	**178**	Pg	**Pg**	20 51 13.8	**+0.2**
SNQR	**Sonqor, Kerman**	**1.22**	**82**	Pg	**Pn**	20 51 17.9	**+0.3**
IBZA	**Bozab**	**1.42**	**99**	Pg	**Pb**	20 51 21.2	**+0.6**
IBDR	**Badra**	**1.59**	**187**	*e*Pg	**Pn**	20 51 22.0	**-0.4**
	baz=10.0						
IBDR				*e*Sg	**Sn**	**20 51 43.0**	**-0.6**
IKRK	**Kirkuk**	**1.66**	**296**	*e*Pn	**Pb**	**20 51 24.0**	**-0.5**
IKRK				*e*Sn	**Sg**	**20 51 47.0**	**+0.6**
IKRK				AML	AML	20 51 58.4	
	comp=N,190nm,0.3s						
IKRK				AML	AML	20 52 01.8	
	comp=E,128nm,0.3s						
IKFM	**Kafar-mosalman**	**1.82**	**129**	Pg	**Pn**	**20 51 27.0**	**+1.4**
HSAM	**Samen**	**2.07**	**103**	Pn	**Pb**	**20 51 31.3**	**-0.5**

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*IDC **28** 20:53:04.3±1.0, 23°.87S×66°.64W, h198km±12km, mb3.6/3, mbtmp4.1/9, Error ellipse: s-maj=17.2km s-min=13.1km az=136.0*
*SJA **28** 20:53:04.0±0.7, 23°.98S×66°.80W, h214km±9km, ML4.3, MW3.9*
*NEIC **28** 20:53:04.8±2.1, 24°.04S±0°.07×66°.84W±0°.09, h204km±10km, mb4.3/13, ML4.2(GUC), Error ellipse: s-maj=12.2km s-min=10.3km az=92.0*
*GUC **28** 20:53:04.6±0.8, 24°.01S×66°.82W, h219km±8km, ML4.4*
*VAO **28** 20:53:05.6±0.4, 24°.06S×66°.85W, h214km±9km, mb3.9*
ISC 28 20:53:04.5±0.6, 23°.96S±0°.04×66°.78W±0°.05, h208km±6km, n108, σ1s27/128, mb3.7/3, 1C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.39**	**123**	*e*P	**Pn**	**20 53 39.1**	**+1.0**
SLA				*e*S	**S**	**20 54 00.1**	**-3.9**
SLA	**San Lorenzo**	**1.39**	**123**	*e*P	**Pn**	20 53 39.0	+1.0
AZAP	**Zapla**	**1.58**	**100**	*e*P	**Pn**	20 53 40.3	+0.4
AF01	**San Pedro de A**	**1.63**	**308**		**Pn**	20 53 41.4	+0.9
AF01				Sn	**S**	20 54 08.6	+0.6
AF01	**San Pedro de A**	**1.63**	**308**	*e*P	**Pn**	20 53 41.3	+0.9
AF01				*e*S	**S**	20 54 09.1	+1.1
YJA	**Yavi**	**2.12**	**33**	*e*P	**Pn**	20 53 46.7	+1.3
YJA	**Yavi**	**2.12**	**33**	||*i*P	**Pn**	20 53 46.4	+1.0
FSA	**Cafayete**	**2.26**	**161**	*e*P	**Pn**	20 53 47.1	+0.6
FSA				*e*S	**S**	20 54 18.0	-0.9
LVC	**Limon Verde**	**2.38**	**304**		**Pn**	20 53 48.6	+0.7
LVC				Sn	**S**	20 54 21.3	0.0
LVC	**Limon Verde**	**2.38**	**304**	P	**Pn**	20 53 48.5	+0.7
	90nm,0.3s,baz=129,slow=5.6,SNR=519						
LVC				S	**S**	20 54 21.7	+0.4
	203nm,0.5s,baz=72,slow=20,SNR=27						
LVC	**Limon Verde**	**2.38**	**304**	*e*P	**Pn**	20 53 48.7	+0.7
LVC				*e*S	**S**	20 54 21.8	+0.4
LVC				IAML		20 54 23.2	
	854nm,0.4s						
LVC	**Limon Verde**	**2.38**	**304**	*e*P	**Pn**	20 53 48.9	+0.9
ALOL	**LOMAS DE OLMED**	**2.56**	**87**	*e*P	**Pn**	20 53 50.6	+1.0
PB15	**IPOC Station P**	**2.58**	**286**		**Pn**	20 53 50.5	+0.4
PB15	**IPOC Station P**	**2.58**	**286**	*e*P	**Pn**	20 53 50.8	+0.8
PB15				*e*S	**S**	20 54 25.1	+0.1
PB15				IAML		20 54 26.3	
	comp=Z,2μm,0.4s						
PB15	**IPOC Station P**	**2.58**	**286**	||*i*P	**Pn**	20 53 50.8	+0.8
GO02	**Mina Guanaco**	**2.83**	**244**		**Pn**	20 53 52.8	0.0
GO02	**Mina Guanaco**	**2.83**	**244**	*e*P	**Pn**	20 53 53.4	+0.5
GO02				*e*S	**S**	20 54 30.0	-0.1
PB06	**IPOC Station P**	**2.86**	**295**		**Pn**	20 53 53.4	+0.3
PB06	**IPOC Station P**	**2.86**	**295**	*e*P	**Pn**	20 53 53.7	+0.6
PB06				*e*S	**S**	20 54 29.9	-0.6
PB06				IAML		20 54 31.8	
	comp=Z,482nm,0.2s						
PB06	**IPOC Station P**	**2.86**	**295**	*e*P	**Pn**	20 53 53.8	+0.6
PB06				IAML		20 54 30.8	
	comp=N,972nm,0.4s						
PB09	**IPOC Station P**	**3.13**	**313**		**Pn**	20 53 57.1	+0.7
PB09	**IPOC Station P**	**3.13**	**313**	*e*P	**Pn**	20 53 56.7	+0.4
PB09				*e*S	**S**	20 54 37.1	+0.7
PB09				IAML		20 54 39.2	
	comp=Z,243nm,0.5s						
PB09	**IPOC Station P**	**3.13**	**313**	*e*P	**Pn**	20 53 57.5	+1.2
PB09				IAML		20 54 41.9	
	comp=E,251nm,0.3s						
PB05	**IPOC Station P**	**3.33**	**289**		**Pn**	20 53 58.4	-0.2
PB05	**IPOC Station P**	**3.33**	**289**	*e*P	**Pn**	20 53 58.8	+0.2
PB05				*e*S	**S**	20 54 39.3	-1.2
PB05				IAML		20 54 42.0	
	comp=Z,213nm,0.4s						
PB05	**IPOC Station P**	**3.33**	**289**	*e*P	**Pn**	20 53 58.8	+0.2
PB14	**IPOC Station P**	**3.38**	**258**		**Pn**	20 53 58.9	-0.4
PB14	**IPOC Station P**	**3.38**	**258**	*e*P	**Pn**	20 53 59.2	0.0
PB14				*e*S	**S**	20 54 40.3	-1.3
PB14				IAML		20 54 41.8	
	comp=Z,315nm,0.4s						
PB04	**IPOC Station P**	**3.50**	**297**		**Pn**	20 54 00.5	-0.2
PB04	**IPOC Station P**	**3.50**	**297**	*e*P	**Pn**	20 54 01.1	+0.4
PB04				*e*S	**S**	20 54 42.9	-1.3
PB04				IAML		20 54 46.4	
	comp=Z,432nm,0.4s						
PB01	**IPOC Station P**	**3.84**	**319**		**Pn**	**20 54 04.6**	**-0.1**
PB01	**IPOC Station P**	**3.84**	**319**	*e*P	**Pn**	**20 54 04.8**	**+0.1**
PB01				*e*S	**S**	**20 54 50.4**	**-1.1**
PB01				IAML		20 54 54.4	
	comp=Z,213nm,0.4s						
AC01	**Pan de Azucar**	**4.09**	**237**		**Pn**	**20 54 06.6**	**-1.1**
TA01	**Diego Aracena**	**4.62**	**316**		**Pn**	**20 54 14.0**	**-0.4**
HMBC	**Humberstone**	**4.67**	**321**		**Pn**	**20 54 13.7**	**-1.4**
HMBC	**Humberstone**	**4.67**	**321**	*e*P	**Pn**	**20 54 13.9**	**-1.2**
HMBC				*e*S	**S**	**20 55 07.9**	**-2.3**
HMBC				IAML		20 55 09.9	
	comp=Z,370nm,0.4s						
AC06	**Mina Casimiro**	**4.67**	**223**		**Pn**	**20 54 13.7**	**-1.3**
GO03	**Copiap**	**4.77**	**220**	Pn	**Pn**	**20 54 15.1**	**-1.1**
TA02	**Huaiquique**	**4.81**	**319**		**Pn**	**20 54 16.4**	**-0.3**
GO01	**Chusmiza**	**4.83**	**332**		**Pn**	**20 54 17.1**	**-0.3**
VCA	**Vinchina**	**4.92**	**195**	*e*P	**Pn**	**20 54 19.9**	**+1.6**
VCA				*e*S	**S**	**20 55 16.4**	**+0.2**
PB11	**IPOC Station P**	**4.96**	**327**	Pn	**Pn**	**20 54 17.8**	**-1.0**
PB11	**IPOC Station P**	**4.96**	**327**	*e*P	**Pn**	**20 54 17.4**	**-1.5**
PB11				*e*S	**S**	**20 55 14.5**	**-2.6**
PB11				IAML		20 55 19.2	
	comp=Z,146nm,0.2s						
AC04	**Llanos de Chal**	**5.72**	**222**	Pn	**Pn**	**20 54 24.5**	**-3.8**
AC05	**El Transito**	**5.78**	**212**	Pn	**Pn**	**20 54 27.7**	**-1.4**
LCO	**Las Campanas**	**6.13**	**214**	Pn	**Pn**	**20 54 31.9**	**-2.0**
CO01	**Juntas del Tor**	**6.68**	**206**	Pn	**Pn**	**20 54 40.5**	**-0.3**
LPAZ	**La Paz**	**7.74**	**350**	Pn	**Pn**	**20 54 55.0**	**-0.1**
LPAZ	**La Paz**	**7.74**	**350**	P	**Pn**	**20 54 54.7**	**-0.3**
	comp=Z,3.5nm,0.4s,baz=135,slow=3.3,SNR=30						
LPAZ				S	**S**	**20 56 21.9**	**-1.1**
	comp=Z,3.5nm,0.5s,baz=257,slow=18,SNR=5.3						
LPAZ	**La Paz**	**7.74**	**350**	*e*P	**Pn**	**20 54 55.5**	**+0.5**
ZON	**Zonda**	**7.74**	**192**	Pn	**Pn**	**20 54 52.8**	**-1.6**
CO02	**Combarbal**	**8.13**	**207**	Pn	**Pn**	**20 54 57.6**	**-1.9**
BBSD	**Serra de San D**	**8.88**	**42**	*e*P	**Pn**	**20 55 12.4**	**+3.2**
CPUP	**Villa Florida**	**8.88**	**107**	Pn	**Pn**	**20 55 07.0**	**-2.2**
CPUP	**Villa Florida**	**8.88**	**107**	P	**Pn**	**20 55 07.3**	**-1.8**
	comp=Z,7.3nm,0.7s,baz=290,slow=11,SNR=15						
VA03	**San Esteban**	**9.38**	**200**	Pn	**Pn**	**20 55 15.8**	**+0.2**
SIV	**San Ignacio**	**9.57**	**35**	P	**Pn**	**20 55 15.7**	**-2.5**
	comp=Z,1.9nm,0.3s,baz=213,slow=9.4,SNR=13						
SIV				S	**S**	**20 57 02.4**	**-3.3**
	comp=Z,1.2nm,0.8s,baz=282,slow=10,SNR=1.7						
MT08	**Bocatoma Ro**	**9.87**	**196**	Pn	**Pn**	**20 55 21.8**	**-0.3**
MT09	**Talagante**	**10.45**	**200**	Pn	**Pn**	**20 55 28.9**	**-0.6**
PSAL	**Palomas, Salto**	**10.79**	**133**	*e*P	**Pn**	**20 55 33.2**	**-0.5**
AQDB	**Aquidauana**	**10.83**	**73**	*e*P	**Pn**	**20 55 37.4**	**+3.0**
BO01	**Tunca**	**11.05**	**199**	Pn	**Pn**	**20 55 35.9**	**-1.1**
PTLB	**Pontes e Lacer**	**11.11**	**42**	Pn	**Pn**	**20 55 41.0**	**+3.0**
BO02	**Sierra Bellavi**	**11.34**	**197**	Pn	**Pn**	**20 55 41.2**	**+0.4**
GO05	**Huala**	**11.88**	**201**	P	**P**	**20 55 49.7**	**-2.6**
TRCB	**Terra Rica**	**13.04**	**88**	Pn	**Pn**	**20 56 03.3**	**+1.0**
BI02	**San Fabin de**	**13.24**	**196**		**P**	**20 56 06.1**	**-1.3**
CPSB	**Cacapava Do Su**	**13.49**	**121**	*e*P	**P**	**20 56 10.0**	**-0.2**
ITAB	**Concordia**	**13.61**	**107**	Pn	**Pn**	**20 56 09.9**	**+0.5**
PLTB	**Pedras Altas**	**14.00**	**127**		**Pn**	**20 56 14.4**	**+0.3**
LDASE	**Londrina, Braz**	**14.36**	**91**	*e*P	**P**	**20 56 20.7**	**+0.8**
PCMB	**Pacaembu**	**14.50**	**84**	*e*P	**P**	**20 56 22.2**	**+0.7**
TRQA	**Tornquist**	**14.63**	**165**	Pn	**Pn**	**20 56 19.5**	**-2.4**
CNLB	**Canela**	**15.20**	**114**	*e*P	**Pn**	**20 56 28.8**	**-0.1**
PDRB	**Porto dos Gac**	**15.56**	**40**	*e*P	**Pn**	**20 56 36.3**	**+3.0**
FRTB	**Fartura**	**15.79**	**91**	*e*P	**P**	**20 56 36.1**	**+0.4**
ITRB	**Iturama**	**15.82**	**78**	*e*P	**Pn**	**20 56 37.9**	**+1.5**
GO06	**Curarrehue**	**16.07**	**193**	P	**P**	**20 56 37.7**	**-1.1**
GO06				IAmb	IAmb	20 56 42.0	
	comp=Z,10.0nm,0.9s						
ARAG	**Araguaiana, MT**	**16.29**	**62**	*e*P	**Pn**	**20 56 43.0**	**+1.0**
PLCA	**Paso Flores**	**17.02**	**190**	P	**P**	**20 56 48.9**	**-0.2**
PLCA				IAmb	IAmb	20 57 13.2	
	comp=Z,9.2nm,1.2s						
PLCA	**Paso Flores**	**17.02**	**190**	P	**Pn**	**20 56 49.9**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=17,slow=11,SNR=5.6						
PLCA	**Paso Flores**	**17.02**	**190**	*e*P	**Pn**	**20 56 50.1**	**-0.5**
LL04	**Puerto Octay**	**17.55**	**194**	P	**P**	**20 56 54.3**	**-0.5**
LL04				IAmb	IAmb	20 56 57.7	
	comp=Z,5.9nm,0.7s						
PET01	**Itanhaem-SP**	**17.81**	**95**	*e*P	**P**	**20 56 58.7**	**+0.9**
VAO	**Valinhos**	**18.20**	**91**	P	**P**	**20 57 01.7**	**-0.4**
VAO				IAmb	IAmb	20 57 02.6	
	comp=Z,17nm,1.0s						
VAO	**Valinhos**	**18.20**	**91**	*e*P	**P**	**20 57 02.0**	**-0.1**
LL05	**Los Muermos**	**18.27**	**196**	P	**P**	**20 57 02.8**	**+0.2**
IPMB	**Ipameri, GO**	**18.32**	**75**	*e*P	**P**	**20 57 04.0**	**+0.5**
LL01	**San Ignacio de**	**18.95**	**193**	P	**P**	**20 57 10.2**	**+0.2**
LL01				IAmb	IAmb	20 57 14.9	
	comp=Z,13nm,0.9s						
LL06	**Loncomilla**	**19.07**	**196**	P	**P**	**20 57 10.7**	**-0.6**
BDFB	**Brasilia**	**19.48**	**68**	P	**P**	**20 57 16.2**	**+0.1**
BDFB				IAmb	IAmb	20 57 17.5	
	comp=Z,6.9nm,0.9s						
BDFB	**Brasilia**	**19.48**	**68**	P	**P**	**20 57 15.9**	**-0.2**
	comp=Z,4.8nm,0.5s,baz=252,slow=12,SNR=9.9						
LL02	**Futaleuf**	**19.63**	**191**	P	**P**	**20 57 18.3**	**+1.0**
SNAA	**Sanae**	**59.32**	**161**	P	**P**	**21 02 45.2**	**+1.0**
SNAA	**Sanae**	**59.32**	**161**	P	**P**	**21 02 44.6**	**+0.4**
	comp=Z,13μm,0.1s						
SNAA	**Sanae**	**59.32**	**161**	P	**P**	**21 02 45.4**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=262,slow=5.7,SNR=7.9						
	comp=Z,1.0nm,0.6s						
TROLL	**Troll, Antarti**	**61.03**	**161**	P	**P**	**21 02 57.3**	**+1.4**
	comp=Z,121nm,0.7s						
QSPA	**South Pole Qui**	**66.24**	**180**	P	**P**	**21 03 31.7**	**+1.7**
QSPA				IAmb	IAmb	21 03 32.7	
	comp=Z,4.5nm,0.7s						
QSPA	**South Pole Qui**	**66.24**	**180**	P	**P**	**21 03 31.9**	**+1.8**
	comp=Z,3.8nm,0.5s,baz=221,slow=4.0,SNR=62						
	comp=Z,3.8nm,0.5s						
TOA0	**Torodi Ar. Sit**	**76.36**	**69**	P	**P**	**21 04 30.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.36**	**69**	P	**P**	**21 04 30.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**76.36**	**69**	P	**P**	**21 04 30.9**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=248,slow=3.6,SNR=13						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**128.57**	**204**	PKP	**PKiKP**	**21 11 48.4**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=157,slow=1.7,SNR=12						
WRA	**Warramunga Arr**	**131.75**	**207**	PKP	**PKiKP**	**21 11 54.6**	**0.0**
	comp=Z,0.4nm,0.3s,baz=159,slow=1.8,SNR=22						
KURBB	**Kurchatov Arra**	**142.23**	**36**	PKP	**PKPdf**	**21 12 11.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=270,slow=1.1,SNR=1.0						
ZALV	**Zalesovo Beam**	**143.26**	**28**	PKP	**PKPdf**	**21 12 12.2**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=321,slow=1.3,SNR=4.4						
MKAR	**Makanchi Array**	**146.37**	**40**	PKPbc	**PKPbc**	**21 12 20.7**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=306,slow=2.7,SNR=11						

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*NEIC **28** 20:53:55.9±2.1, 18°.9N±0°.1×145°.6E±0°.2, h226km±11km, mb4.1/14, Error ellipse: s-maj=24.4km s-min=16.1km az=110.0*
*IDC **28** 20:53:59.6±21.0, 18°.97N×145°.46E, h264km±220km, mb3.0/8, mbtmp3.6/8, Error ellipse: s-maj=40.3km s-min=24.9km az=72.0*
ISC 28 20:53:54.5±0.8, 18°.91N±0°.10×145°.5E±0°.2, h214km, n27, σ0s87/27, mb3.8/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.33**	**187**	Pn	**Pn**	**20 55 12.9**	**-0.5**
JOW	**Kunigami**	**17.71**	**300**	P	**Pn**	**20 57 48.5**	**0.0**
JOW				IAmb	IAmb	20 57 51.1	
	comp=Z,22nm,0.6s						
JTM	**Tenmabayashi**	**22.13**	**351**	P	**P**	**20 58 32.8**	**+0.2**
SSLB	**Suanglung**	**23.36**	**286**	P	**P**	**20 58 44.4**	**+0.3**
SSLB				IAmb	IAmb	20 58 47.6	
	comp=Z,4.5nm,0.8s						
WB0	**Warramunga Arr**	**39.96**	**196**	P	**P**	**21 01 08.4**	**+0.1**
WRA	**Warramunga Arr**	**40.14**	**196**	P	**P**	**21 01 11.2**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=16,slow=8.0,SNR=1.8						
	comp=Z,0.2nm,0.5s						
SONM	**Songino Array**	**42.86**	**321**	P	**P**	**21 01 31.4**	**-0.4**
SONM	**Songino Array**	**42.86**	**321**	P	**P**	**21 01 31.9**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=102,slow=3.4,SNR=4.5						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**43.81**	**195**	P	**P**	**21 01 39.5**	**0.0**
	comp=Z,0.3nm,0.8s,baz=111,slow=6.0,SNR=2.3						
	comp=Z,0.3nm,0.8s						
YAK	**Yakutsk**	**44.48**	**349**	P	**P**	**21 01 43.9**	**-0.3**
YAK				IAmb	IAmb	21 01 45.2	
	comp=Z,9.2nm,0.6s						
ZALV	**Zalesovo Beam**	**57.73**	**322**	P	**P**	**21 03 20.7**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=103,slow=6.5,SNR=2.6						
	comp=Z,0.7nm,0.7s						
SII	**Sitkinak Islan**	**58.14**	**34**	P	**P**	**21 03 26.8**	**+1.1**
MKAR	**Makanchi Array**	**58.18**	**314**	P	**P**	**21 03 26.9**	**+0.8**
MKAR	**Makanchi Array**	**58.18**	**314**	P	**P**	**21 03 26.1**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=97,slow=8.3,SNR=4.9						
	comp=Z,0.5nm,0.6s						
MAKZ	**Makanchi**	**58.40**	**314**	P	**P**	**21 03 28.0**	**+0.4**
MAKZ				IAmb	IAmb	21 03 40.8	
	comp=Z,2.1nm,1.1s						
KURBB	**Kurchatov Arra**	**61.04**	**318**	P	**P**	**21 03 44.7**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=96,slow=7.8,SNR=8.6						
	comp=Z,0.4nm,0.4s						
BOOM	**Boomskoye usch**	**62.53**	**309**	P	**P**	**21 03 56.4**	**+0.5**
BOOM				IAmb	IAmb	21 04 05.2	
	comp=Z,7.0nm,1.5s						
I23K	**Minto, Yukon-K**	**62.60**	**26**	P	**P**	**21 03 55.9**	**+0.3**
I23K				IAmb	IAmb	21 04 09.5	
	comp=Z,4.1nm,1.3s						
WRH	**Wood River Hil**	**62.96**	**26**	P	**P**	**21 03 58.3**	**+0.2**
WRH				IAmb	IAmb	21 03 59.7	
	comp=Z,5.6nm,1.5s						
ILAR	**Eielson Array**	**63.53**	**26**	P	**P**	**21 04 01.6**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=257,slow=5.2,SNR=5.0						
	comp=Z,0.3nm,0.4s						
D25K	**Kavik River**	**64.75**	**21**	P	**P**	**21 04 11.1**	**+1.4**
D25K				IAmb	IAmb	21 04 12.8	
	comp=Z,3.2nm,1.2s						
BMAR	**Burnt Mountain**	**64.99**	**24**	P	**P**	**21 04 13.1**	**+1.8**
BVAR	**Borovoye Array**	**66.19**	**320**	P	**P**	**21 04 19.3**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=88,slow=6.7,SNR=7.0						
	comp=Z,1.8nm,0.5s						
KKAR	**Karatay Array**	**66.49**	**310**	P	**P**	**21 04 21.7**	**+0.4**
R32K	**Eaglecrest**	**68.86**	**34**	P	**P**	**21 04 34.3**	**-1.4**
ABKAR	**Akbulak array**	**73.06**	**317**	P	**P**	**21 05 00.7**	**-0.5**
ABKAR	**Akbulak array**	**73.06**	**317**	P	**P**	**21 05 00.6**	**-0.5**
ABKAR				IAmb	IAmb	21 05 02.1	
	comp=Z,0.9nm,0.7s						

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*DJA **28** 21:46:52.4±1.0, 10°.5±6°.×11°.3E±°, h19km±11km, M4.4/13, mb4.2/2, MLv4.5/13*
*IDC **28** 21:46:53.1±0.9, 9°.37S×113°.07E, h50km±7km, mb3.9/16, mbtmp4.1/17, MS3.6/10, Error ellipse: s-maj=18.4km s-min=11.3km az=55.0*
*NEIC **28** 21:46:53.4±1.1, 9°.45S±0°.09×112°.93E±0°.06, h52km±8km, mb4.4/29, Error ellipse: s-maj=12.5km s-min=9.0km az=175.0*
ISC 28 21:46:52.8±0.7, 9°.55S±0°.06×112°.88E±0°.04, h51km±6km, n93, σ1s61/97, mb4.3/28, MS3.6/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.66**	**50**	P	**Pn**	**21 47 20.9**	**+1.4**
JAGI	**Jajag, Banyuwa**	**1.66**	**50**	Pn	**Pn**	**21 47 18.5**	**-1.0**
JAGI				Sn	**Sn**	**21 47 35.6**	**-4.0**
JAGI	**Jajag, Banyuwa**	**1.66**	**50**	P	**Pn**	**21 47 18.8**	**-0.7**
JAGI				S	**Sn**	**21 47 41.4**	**+1.8**
PWJI	**Pagerwojo**	**1.85**	**325**	P	**Pn**	**21 47 22.1**	**-0.1**
PWJI				S	**Sn**	**21 47 44.2**	**-0.2**
ABJI	**Asem Bagus**	**2.20**	**38**	P	**Pn**	**21 47 29.4**	**+2.5**
ABJI				S	**Sn**	**21 47 57.3**	**+4.3**
DNP	**Denpasar**	**2.46**	**70**	P	**Pn**	**21 47 35.0**	**+4.5**
DNP				S	**Sn**	**21 48 02.3**	**+2.9**
GRJI	**Gresik**	**2.65**	**351**	P	**Pn**	**21 47 35.6**	**+2.5**
GRJI				S	**Sn**	**21 48 08.6**	**+4.6**
SRBI	**Singaraja**	**2.73**	**58**	P	**Pn**	**21 47 35.2**	**+1.0**
SRBI				S	**Sn**	**21 48 08.9**	**+2.9**
UGM	**Wanagama**	**2.84**	**305**	P	**Pn**	**21 47 37.0**	**+1.3**
UGM	**Wanagama**	**2.84**	**305**	Pn	**Pn**	**21 47 36.3**	**+0.6**
UGM	**Wanagama**	**2.84**	**305**	P	**Pn**	**21 47 36.6**	**+0.9**
SMRI	**Semarang**	**3.46**	**316**	P	**Pn**	**21 47 46.8**	**+2.5**
SMRI	**Semarang**	**3.46**	**316**		**Pn**	**21 47 43.9**	**-0.3**
SMRI	**Semarang**	**3.46**	**316**	P	**Pn**	**21 47 46.0**	**+1.7**
TWSI	**Taliwang, Sumb**	**4.04**	**79**	P	**Pn**	**21 47 52.8**	**+0.7**
CMJI	**Cimerak**	**4.72**	**292**	P	**Pn**	**21 48 02.2**	**+0.8**
**

HHC pmax pmax
comp=Z,12nm,0.5s
MJAR Matsushiro Arr 51.67 26 P **P 21 55 52.1 -2.5**
comp=Z,3.7nm,0.8s,baz=192,slow=7.0,SNR=6.4
MJAR pP **pP 21 56 05.2 -2.4**
comp=Z,3.4nm,0.9s,baz=194,slow=7.1,SNR=3.9
comp=Z,3.7nm,0.8s
USRK Ussuriysk Ar. 56.24 16 P **P 21 56 26.9 -0.9**
comp=Z,2.6nm,0.8s,baz=225,slow=2.4,SNR=4.4
comp=Z,2.6nm,0.8s
NIL Nilore 57.13 321 P **P 21 56 32.4 -2.0**
ULN Ulaanbaatar 57.40 355 P **P 21 56 35.0 -1.2**
ULN IAmb IAmb 21 56 37.0
comp=Z,3.7nm,0.8s
SONM Songino Array 57.42 355 P **P 21 56 35.4 -0.9**
SONM IAmb IAmb 21 56 37.3
comp=Z,3.3nm,0.8s
SONM Songino Array 57.42 355 P **P 21 56 36.2 -0.1**
comp=Z,2.9nm,0.7s,baz=178,slow=7.9,SNR=18
SONM pP **pP 21 56 49.7 0.0**
comp=Z,1.0nm,0.6s,baz=171,slow=8.3,SNR=3.9
SONM LR LR 22 23 13.7
comp=Z,75nm,19.0s,baz=196,slow=38
comp=Z,2.9nm,0.7s
ERM Erimo 58.35 26 P **P 21 56 42.2 -0.5**
KSH Kashi 59.63 327 P **P 21 56 51.0 -0.8**
KSH pmax pmax
comp=Z,2.0nm,0.7s
ASAJ Asahikawa 59.83 24 LR LR 22 24 10.4
comp=Z,30nm,20.6s,baz=186,slow=38
KLR Kul'dur 60.84 14 P **P 21 56 58.9 -0.9**
comp=Z,0.4nm,0.4s,baz=276,slow=11,SNR=2.2
comp=Z,0.4nm,0.4s
HEH HeiHe 60.89 11 *e*P **P 21 56 58.8 -1.3**
HEH pmax pmax
comp=Z,3.0nm,1.1s
MKAR Makanchi Array 62.38 337 P **P 21 57 09.3 -0.9**
MKAR Makanchi Array 62.38 337 P **P 21 57 09.7 -0.5**
comp=Z,3.1nm,0.5s,baz=149,slow=7.4,SNR=49
MKAR LR LR 22 29 49.6
comp=Z,35nm,18.1s,baz=128,slow=41
comp=Z,3.1nm,0.5s
MAKZ Makanchi 62.52 337 P **P 21 57 10.8 -0.3**
URZ Urewera 63.95 128 LR LR 22 26 38.9
comp=Z,101nm,18.2s,baz=28,slow=37
KK31 Karatay Array 65.07 327 P **P 21 57 27.2 -0.8**
KK31 IAmb IAmb 21 57 37.0
comp=Z,2.5nm,1.1s
KKAR Karatay Array 65.07 327 P **P 21 57 27.3 -0.8**
KURBB Kurchatov Arra 66.94 337 P **P 21 57 39.8 -0.1**
comp=Z,0.9nm,0.5s,baz=150,slow=5.8,SNR=9.3
comp=Z,0.9nm,0.5s
KURK Kurchatov 66.98 337 P **P 21 57 39.7 -0.4**
ZAA0 Zalesovo Array 67.57 342 P **P 21 57 43.1 -0.6**
ZAA0 IAmb IAmb 21 57 44.3
comp=Z,2.8nm,0.7s
ZALV Zalesovo Beam 67.57 342 P **P 21 57 42.7 -1.0**
ZALV Zalesovo Beam 67.57 342 P **P 21 57 43.0 -0.7**
comp=Z,2.7nm,0.6s,baz=150,slow=4.0,SNR=12
comp=Z,2.7nm,0.6s
BVAR Borovoye Array 72.06 335 P **P 21 58 11.3 -0.1**
comp=Z,0.8nm,0.6s,baz=141,slow=7.3,SNR=6.0
comp=Z,0.8nm,0.6s
VNDA Vanda 72.44 170 P **P 21 58 14.5 +1.2**
VNDA Vanda 72.44 170 P **P 21 58 14.3 +1.0**
comp=Z,0.7nm,0.9s,baz=325,slow=8.0,SNR=5.1
comp=Z,0.7nm,0.9s
ABKAR Abkulak array 74.64 327 P **P 21 58 26.9 +0.3**
ABKAR Abkulak array 74.64 327 P **P 21 58 26.7 +0.1**
ABKAR IAmb IAmb 21 58 27.7
comp=Z,8.9nm,0.7s
SEY Seymchan 78.37 17 P **P 21 58 46.6 -0.9**
comp=Z,0.7nm,0.3s,baz=301,slow=2.3,SNR=2.4
comp=Z,0.7nm,0.3s
ARU Arti 79.48 333 P **P 21 58 53.3 -0.4**
ARU IAmb IAmb 21 58 56.2
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 87.87 311 P **P 21 59 37.9 +0.6**
comp=Z,0.6nm,0.7s,baz=133,slow=5.2,SNR=4.5
comp=Z,0.6nm,0.7s
SNAA Sanae 88.80 197 **P 21 59 42.9 +2.0**
SNAA IAmb IAmb 22 00 01.2
comp=Z,3.4nm,1.0s
SNAA Sanae 88.80 197 P **P 21 59 42.8 +1.8**
comp=Z,0.9nm,0.7s,baz=140,slow=8.2,SNR=4.2
SNAA pP **pwP 21 59 57.5 -0.4**
comp=Z,1.4nm,0.7s,baz=151,slow=1.7,SNR=5.2
comp=Z,0.9nm,0.7s

*MOS **28** 21:49:53.8±0.8, 41°.88N×142°.47E, h83km, mb4.1/5, Error ellipse: s-maj=9.8km s-min=8.5km az=92.5*
*NIED **28** 21:49:54.2, 41°.93N×142°.34E, h70km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}5.54; $M_{\theta\theta}$-1.34; $M_{\phi\phi}$-4.20; $M_{r\theta}$2.85; $M_{\theta\phi}$-1.50; $M_{r\phi}$4.98; Fault plane solution: $M_0$7.74000×10¹⁴ NP1:φ=28.00000°, δ69.00000°, λ93.00000°. NP2:φ=200.00000°, δ21.00000°, λ83.00000°.*
*JMA **28** 21:49:54.2±0.2, 41°.9N±0°.9×142°.3E±0°.9, h70km±2km, MV3.5/40, S OFF URAKAWA*
JMA Felt I J1 at S OFF URAKAWA .
*NEIC **28** 21:49:55.1±0.8, 41°.88N±0°.07×142°.42E±0°.10, h71km±8km, mb4.2/14, Error ellipse: s-maj=13.0km s-min=6.2km az=132.0*
*IDC **28** 21:49:56.5±2.5, 42°.05N×142°.37E, h81km±17km, mb3.6/14, mbtmp3.9/18, MS3.1/4, Error ellipse: s-maj=23.0km s-min=14.9km az=144.0*

ISC 28 21:49:55.1±0.7,**41°.92N**±0°.03×**142°.35E**±0°.03,**h69**km±6km, **n84**,σ1°**06**/107,**mb4.1**/24,**10D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.47**	**40**	*i* P	**Pn**	**21 50 06.1**	**-1.3**
JNBK				S	**Sn**	**21 50 15.3**	**-1.2**
JSHD	**Hidakashinhida**	**0.49**	**10**	*i* P	**Pn**	**21 50 06.9**	**-0.8**
JSHD				S	**Sn**	**21 50 16.6**	**-0.4**
ERM	**Erimo**	**0.61**	**81**		**Pn**	**21 50 08.6**	**-0.3**
ERM				Sn	**Sn**	**21 50 18.2**	**-0.8**
ERM	**Erimo**	**0.61**	**81**	P	**Pn**	**21 50 08.6**	**-0.3**
ERM						21 50 18.2	
JEM	**Erimo**	**0.61**	**81**	*i* P	**Pn**	**21 50 08.6**	**-0.3**
JEM				*e*S	**Sn**	**21 50 19.1**	**0.0**
JIAM	**Iburiatsuma**	**0.77**	**336**	⇓*i* P	**Pn**	**21 50 10.6**	**-0.1**
JIAM				⇓S	**Sn**	**21 50 22.7**	**+0.5**
JBT2	**Biratori 2**	**0.85**	**1**	⇓*i* P	**Pn**	**21 50 10.7**	**-1.0**
JBT2				⇓S	**Sn**	**21 50 23.4**	**-0.6**
JKB	**Kayabe**	**0.98**	**268**	⇓*i* P	**Pn**	**21 50 12.3**	**-1.0**
JKB				⇓*e*S	**Sn**	**21 50 25.7**	**-1.1**
JCH	**Churui**	**1.02**	**47**	P	**Pn**	**21 50 13.4**	**-0.3**
JCH				S	**Sn**	**21 50 28.4**	**+0.7**
JNB	**Noboribetsu**	**1.12**	**300**	⇓*i* P	**Pn**	**21 50 13.5**	**-1.5**
JNB				⇓S	**Sn**	**21 50 27.9**	**-1.9**
JOT	**Ohata**	**1.12**	**241**	*i* P	**Pn**	**21 50 14.4**	**-0.6**
JOT				S	**Sn**	**21 50 28.9**	**-0.9**
JEW	**Eniwo**	**1.13**	**324**	*i* P	**Pn**	**21 50 14.6**	**-0.6**
JEW				S	**Sn**	**21 50 29.7**	**-0.5**
JFR	**Furan**	**1.25**	**8**	*i* P	**Pn**	**21 50 15.8**	**-0.9**
JFR				*e*S	**Sn**	**21 50 32.5**	**-0.5**
JOB	**Onbets**	**1.47**	**48**	P	**Pn**	**21 50 20.3**	**+0.7**
JOB				*e*S	**Sn**	**21 50 40.3**	**+2.2**
JYM2	**Yakumo 2**	**1.49**	**278**	*i* P	**Pn**	**21 50 19.0**	**-0.8**
JTM	**Tenmabayashi**	**1.49**	**221**		**Pn**	**21 50 19.8**	**-0.1**
JTM				Sn	**Sn**	**21 50 37.7**	**-0.9**
JISS	**Ishikarishitsu**	**1.52**	**333**	⇓*i* P	**Pn**	**21 50 19.6**	**-0.6**
JISS				⇓S	**Sn**	**21 50 38.3**	**-0.8**
JANG	**Nango**	**1.67**	**202**	P	**Pn**	**21 50 22.8**	**+0.4**
JANG				*e*S	**Sn**	**21 50 43.2**	**+0.3**
JAR	**Ashorobuto**	**1.73**	**37**	P	**Pn**	**21 50 22.8**	**-0.3**
JAR				*e*S	**Sn**	**21 50 44.0**	**-0.2**
JOMM	**Oshimamatsumae**	**1.80**	**258**	P	**Pn**	**21 50 23.5**	**-0.5**
JHR	**Hokuryu**	**1.88**	**346**	P	**Pn**	**21 50 25.2**	**+0.2**
JHR				*e*S	**Sn**	**21 50 48.7**	**+1.0**
ASAJ	**Asahikawa**	**2.20**	**5**	P	**Pn**	**21 50 28.8**	**-0.6**
ASAJ				S	**Sn**	**21 50 55.0**	**-0.6**
JKA	**Kamikawa-asahi**	**2.20**	**5**		**Pn**	**21 50 29.5**	**+0.1**
NMR	**Nemuro--Hokkai**	**2.88**	**59**	*e*P	**Pn**	**21 50 37.2**	**-1.4**
NMR				*e*S	**Sn**	**21 51 08.9**	**-3.2**
RUSJ	**Misakicho**	**3.04**	**43**	*e*P	**Pn**	**21 50 42.2**	**+1.4**
RUSJ				*e*S	**Sn**	**21 51 18.5**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**3.33**	**50**	*e*P	**Pn**	**21 50 45.1**	**+0.4**
YUK				*e*S	**Sn**	**21 51 21.7**	**-1.4**
YUK				pmax	pmax		
	comp=E,222nm,0.3s						
YUK				pmax	pmax		
	comp=Z,176nm,0.3s						
YUK				smax	smax		
	comp=N,104nm,0.4s						
YUK				smax	smax		
	comp=E,468nm,0.6s						
SHO	**Shikotan**	**3.82**	**58**	*e*P	**Pn**	**21 50 50.5**	**-1.0**
SHO				*e*S	**Sn**	**21 51 31.4**	**-3.7**
SHO				pmax	pmax		
	comp=E,11nm,0.2s						
SHO				pmax	pmax		
	comp=Z,39nm,0.2s						
SHO				smax	smax		
	comp=N,197nm,0.5s						
SHO				smax	smax		
	comp=E,143nm,0.5s						
JMM	**Marumori**	**4.23**	**197**	Pn	**Pn**	**21 50 56.9**	**-0.1**
YSS	**Yuzh-Sakhalins**	**5.04**	**3**	Pn	**Pn**	**21 51 08.9**	**+0.9**
YSS	**Yuzh-Sakhalins**	**5.04**	**3**	*e*P	**Pn**	**21 51 10.4**	**+2.4**
YSS				*e*S	**Sn**	**21 52 07.7**	**+2.8**
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				smax	smax		
	comp=N,30nm,0.8s						
KUR	**Kuril'sk**	**5.20**	**49**	*e*P	**Pn**	**21 51 10.8**	**+0.6**
INU	**Inuyama**	**7.78**	**214**	Pn	**Pn**	**21 51 47.3**	**+1.8**
USA0B	**Ussuriysk Arra**	**7.92**	**290**	Pn	**Pn**	**21 51 48.4**	**+0.9**
USA0B	**Ussuriysk Arra**	**7.92**	**290**	P	**Pn**	**21 51 48.4**	**+0.9**
USRK	**Ussuriysk Ar.**	**7.92**	**290**		**Pn**	**21 51 48.4**	**+1.0**
USRK	**Ussuriysk Ar.**	**7.92**	**290**	P	**Pn**	**21 51 49.3**	**+1.9**
	comp=N,5.4nm,0.8s,baz=95,slow=16,SNR=10						
USRK				LR	LR	21 54 46.0	
	comp=N,53nm,21.9s,baz=154,slow=37						
KLR	**Kul'dur**	**10.41**	**318**	P	**Pn**	**21 52 23.0**	**+1.5**
	comp=N,3.4nm,0.8s,baz=120,slow=15,SNR=13						
KLR				LR	LR	21 56 26.5	
	comp=N,67nm,18.1s,baz=176,slow=38						
KLR	**Kul'dur**	**10.41**	**318**	*e*P	**Pn**	**21 52 22.7**	**+1.2**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSRS	**Korea Array**	**11.97**	**253**	P	**Pn**	**21 52 46.3**	**+3.5**
	comp=Z,1.6nm,0.8s,baz=59,slow=13,SNR=5.3						
SONM	**Songino Array**	**25.99**	**295**	P	**P**	**21 55 21.3**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=74,slow=9.2,SNR=7.3						
	comp=Z,1.0nm,0.6s						
DAV	**Davao City (W)**	**37.76**	**208**	LR	LR	22 14 28.5	
	comp=Z,43nm,18.8s,baz=243,slow=39						
ZALV	**Zalesovo Beam**	**39.31**	**308**	P	**P**	**21 57 16.5**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=90,slow=8.5,SNR=9.2						
	comp=Z,2.4nm,0.7s						
G18K	**Tagagawik**	**40.11**	**33**	P	**P**	**21 57 23.2**	**-0.4**
G18K				IAmb	IAmb	21 57 34.4	
	comp=Z,4.8nm,1.5s						
H19K	**Roundabout Mou**	**40.98**	**34**	P	**P**	**21 57 30.5**	**-0.3**
H19K				IAmb	IAmb	21 57 35.0	
	comp=Z,4.8nm,1.4s						
IMAR	**Indian Mountai**	**42.12**	**33**	P	**P**	**21 57 39.7**	**-0.4**
MK31	**Makanchi Array**	**42.31**	**298**	P	**P**	**21 57 42.0**	**+0.1**
MK31				IAmb	IAmb	21 57 42.5	
	comp=Z,2.2nm,0.8s						
MK31	**Makanchi Array**	**42.31**	**298**	P	**P**	**21 57 42.0**	**+0.1**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**42.31**	**298**	P	**P**	**21 57 41.6**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=82,slow=9.5,SNR=6.9						
	comp=Z,1.7nm,0.7s						
MKAR	**Makanchi Array**	**42.31**	**298**	P	**P**	**21 57 41.7**	**-0.2**
MAKZ	**Makanchi**	**42.51**	**298**	P	**P**	**21 57 43.4**	**-0.1**
MAKZ				IAmb	IAmb	21 57 44.2	
	comp=Z,2.7nm,0.8s						
MAKZ	**Makanchi**	**42.51**	**298**	P	**P**	**21 57 43.4**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**43.63**	**304**	P	**P**	**21 57 52.8**	**+0.3**
KURK				IAmb	IAmb	21 57 55.3	
	comp=Z,3.3nm,0.8s						
KURK	**Kurchatov**	**43.63**	**304**	P	**P**	**21 57 52.8**	**+0.3**
KURBB	**Kurchatov Arra**	**43.71**	**304**	P	**P**	**21 57 52.8**	**-0.4**
	comp=Z,3.0nm,0.6s,baz=78,slow=8.8,SNR=18						
	comp=Z,3.0nm,0.6s						
ILAR	**Eielson Array**	**45.02**	**35**	P	**P**	**21 58 03.1**	**-0.3**
	comp=Z,0.9nm,1.0s,baz=272,slow=6.3,SNR=8.1						
	comp=Z,0.9nm,1.0s						
SCRK	**Sand Creek**	**46.37**	**36**	P	**P**	**21 58 13.9**	**-0.3**
SCRK				IAmb	IAmb	21 58 16.9	
	comp=Z,5.4nm,1.5s						
BVAR	**Borovoye Array**	**47.93**	**309**	P	**P**	**21 58 26.1**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=74,slow=8.8,SNR=15						
	comp=Z,1.4nm,0.4s						
BRVK	**Borovoye**	**47.98**	**309**	P	**P**	**21 58 26.3**	**-0.4**
BRVK				IAmb	IAmb	21 58 27.5	
	comp=Z,1.8nm,0.9s						
BRVK	**Borovoye**	**47.98**	**309**	P	**P**	**21 58 26.3**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BOOM	**Boomskoye usch**	**48.02**	**294**	P	**P**	**21 58 27.4**	**0.0**
BOOM	**Boomskoye usch**	**48.02**	**294**	P	**P**	**21 58 27.4**	**0.0**
BOOM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
I30M	**Mount Dempster**	**49.35**	**33**	P	**P**	**21 58 37.2**	**0.0**
I30M				IAmb	IAmb	21 58 39.2	
	comp=Z,2.3nm,0.8s						
KK31	**Karatay Array**	**51.42**	**297**	P	**P**	**21 58 52.5**	**-0.5**
KK31	**Karatay Array**	**51.42**	**297**	P	**P**	**21 58 52.5**	**-0.5**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**51.42**	**297**	P	**P**	**21 58 52.4**	**-0.6**
KKAR	**Karatay Array**	**51.42**	**297**	P	**P**	**21 58 52.4**	**-0.6**
ABKAR	**Abkulak array**	**55.42**	**308**	P	**P**	**21 59 22.4**	**+0.1**
ABKAR	**Abkulak array**	**55.42**	**308**	P	**P**	**21 59 22.2**	**0.0**
ABKAR				IAmb	IAmb	21 59 23.2	
	comp=Z,6.9nm,1.4s						
WRA	**Warramunga Arr**	**62.00**	**189**	P	**P**	**22 00 06.8**	**-1.3**
WRA	**Warramunga Arr**	**62.00**	**189**	P	**P**	**22 00 07.9**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=6.2,slow=6.9,SNR=1.9						
	comp=Z,0.4nm,0.8s						
WRA	**Warramunga Arr**	**62.00**	**189**	P	**P**	**22 00 06.8**	**-1.3**
FINES	**FINESS Array B**	**64.85**	**332**	P	**P**	**22 00 25.5**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=60,slow=7.0,SNR=27						
FINES				LR	LR	22 30 05.1	
	comp=Z,28nm,18.7s,baz=48,slow=37						
	comp=Z,2.1nm,0.5s						
HFS	**Hagfors**	**69.94**	**335**	P	**P**	**22 00 57.8**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=28,slow=6.7,SNR=11						
	comp=Z,1.3nm,0.5s						
NB2	**NORSAR Subarra**	**69.97**	**337**	P	**P**	**22 00 58.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**69.97**	**337**	P	**P**	**22 00 58.1**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=37,slow=5.9,SNR=3.5						
	comp=Z,0.5nm,0.6s						
AKASG	**Malin Array Be**	**70.89**	**322**	P	**P**	**22 01 04.0**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=46,slow=5.9,SNR=2.0						
	comp=Z,1.4nm,0.6s						
PDAR	**Pinedale Array**	**73.76**	**47**	P	**P**	**22 01 21.7**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=270,slow=2.7,SNR=4.9						
	comp=Z,0.5nm,0.7s						
BUR08	**Bucovina Ar. S**	**74.92**	**321**	P	**P**	**22 01 28.2**	**-0.4**
BURAR	**Bucovina Array**	**74.94**	**321**	P	**P**	**22 01 28.4**	**-0.2**
BRTR	**Keskin Array B**	**76.17**	**311**	P	**P**	**22 01 35.9**	**0.0**
BRTR	**Keskin Array B**	**76.17**	**311**	P	**P**	**22 01 35.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=62,slow=5.1,SNR=3.1						
	comp=Z,0.4nm,0.7s						
BRTR	**Keskin Array B**	**76.17**	**311**	P	**P**	**22 01 35.9**	**0.0**
TXAR	**Lajitas Array**	**86.58**	**53**	P	**P**	**22 02 32.0**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=293,slow=4.7,SNR=2.9						
	comp=Z,0.2nm,0.6s						
TXAR	**Lajitas Array**	**86.58**	**53**	P	**P**	**22 02 32.0**	**+0.9**

*AUST **28** 21:56:00.6±0.2, 31°.24S×138°.60E, h10km, mb3.8/2, Mjma4.1/12, ML2.9/10, MLv3.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NOU **28** 21:56:00.7, 31°.27S×138°.60E, h0km, MLv3.4/8, South Australia*
*IDC **28** 21:56:03.3±3.1, 30°.32S×139°.48E, h0km, mbtmp2.9/3, ML2.9/3, Error ellipse: s-maj=118.0km s-min=16.3km az=48.0*

ISC 28 21:55:59.1±0.8,**31°.23S**±0°.04×**138°.65E**±0°.04,**h10**km,**n22**, σ2°**55**/35,**South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**0.86**	**334**	P	**Pb**	**21 56 17.7**	**+1.5**
LCRK	**Leigh Creek**	**0.86**	**334**	P	**Pb**	**21 56 17.6**	**+1.5**
	0.3nm,SNR=4.3						
LCRK				S	**Sb**	**21 56 29.2**	**+1.4**
NAPP	**Napperby**	**1.99**	**192**	P	**Pn**	**21 56 34.9**	**+2.0**
	0.1nm,SNR=6.8						
NAPP				S	**Sb**	**21 57 00.2**	**-0.2**
WHYH	**Whyalla**	**2.02**	**207**	P	**Pn**	**21 56 35.2**	**+2.1**
HTT	**Hallett**	**2.21**	**174**	P	**Pn**	**21 56 38.0**	**+2.2**
HTT	**Hallett**	**2.21**	**174**	P	**Pn**	**21 56 38.2**	**+2.3**
	0.1nm,SNR=1.9						
HTT				S	**Sn**	**21 57 03.9**	**+0.7**
STKA	**Stephens Creek**	**2.60**	**105**	P	**Pn**	**21 56 44.2**	**+3.0**
STKA	**Stephens Creek**	**2.60**	**105**	P	**Pn**	**21 56 43.2**	**+2.1**
	SNR=2.3						
STKA	**Stephens Creek**	**2.60**	**105**	Pn	**Pn**	**21 56 43.2**	**+2.1**
	2.8nm,0.3s,baz=305,slow=13,SNR=11						
STKA				Sn	**Sn**	**21 57 12.2**	**-0.6**
	3.6nm,0.3s,baz=309,slow=14,SNR=4.8						
STKA				Lg	Lg	21 57 19.7	
	8.8nm,0.3s,baz=342,slow=19,SNR=9.1						
	1.9nm,0.3s						
BBOO	**Buckleboo**	**2.71**	**234**	P	**Pn**	**21 56 44.8**	**+2.1**
BBOO	**Buckleboo**	**2.71**	**234**	P	**Pn**	**21 56 44.7**	**+2.0**
	0.2nm,SNR=1.9						
BBOO				S	**Sn**	**21 57 16.9**	**+1.4**
SDAN	**Sedan**	**3.32**	**170**	P	**Pn**	**21 56 53.0**	**+2.0**
	SNR=1.3						
SDAN				S	**Sn**	**21 57 32.0**	**+1.4**
INKA	**Innaminka**	**3.93**	**28**	P	**Pn**	**21 57 02.9**	**+3.5**
	0.1nm,SNR=2.0						
INKA				S	**Sn**	**21 57 48.0**	**+2.4**
MULG	**Mulgathing**	**4.06**	**282**	P	**Pn**	**21 57 02.8**	**+1.5**
MULG	**Mulgathing**	**4.06**	**282**	P	**Pn**	**21 57 02.8**	**+1.5**
	0.1nm,SNR=1.4						
MULG				S	**Sn**	**21 57 49.6**	**+0.7**
OOD	**Oodnadatta**	**4.29**	**322**	P	**Pn**	**21 57 07.5**	**+3.1**
OOD	**Oodnadatta**	**4.29**	**322**	P	**Pn**	**21 57 06.9**	**+2.5**
	0.1nm,SNR=2.5						
OOD				S	**Sn**	**21 57 54.6**	**+0.1**
CMSA	**Cobar Meteorol**	**6.03**	**95**	P	**Pn**	**21 57 31.4**	**+3.0**
CMSA	**Cobar Meteorol**	**6.03**	**95**	P	**Pn**	**21 57 29.9**	**+1.5**
	0.1nm,SNR=2.1						
CMSA				S	**Sn**	**21 58 35.2**	**-2.3**
ARPS	**Mount Arapiles**	**6.13**	**155**	P	**Pn**	**21 57 30.6**	**+1.0**
	0.1nm,SNR=2.1						
ARPS				S	**Sn**	**21 58 36.1**	**-3.7**
ASAR	**Alice Springs**	**8.63**	**330**	Pn	**Pn**	**21 58 03.9**	**-0.3**
	0.1nm,0.3s,baz=150,slow=12,SNR=1.2						
ASAR				Sn	**Sn**	**21 59 36.8**	**-4.8**
	0.2nm,0.3s,baz=154,slow=22,SNR=8.2						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**11.89**	**340**	Pn	**Pn**	**21 58 48.0**	**-0.8**
	0.1nm,0.3s,baz=153,slow=12,SNR=6.1						
WRA				Sn	**Sn**	**22 00 54.2**	**-7.4**
	0.1nm,0.3s,baz=154,slow=17,SNR=1.9						
	0.5nm,0.5s						

*GII **28** 22:05:52.6±0.4, 36°.64N×27°.35E, h5km, Mws3.4, confirmed*
*IDC **28** 22:05:55.7±1.3, 36°.94N×27°.38E, h0km, mb3.4/4, mbtmp3.4/6, ML3.4/2, MS2.7/2, Error ellipse: s-maj=41.7km s-min=19.7km az=159.0*
*AFAD **28** 22:05:56.9±0.0, 36°.94N×27°.33E, h9km±1km, ML3.0*
*ISK **28** 22:05:57.0, 36°.97N×27°.38E, h4km, ML3.2/26*
*THE **28** 22:05:57.6, 36°.98N×27°.45E, h1km±1km, ML2.9/4, Error ellipse: s-maj=1.3km s-min=0.6km az=53.0*
*ATH **28** 22:05:57.6, 36°.96N×27°.36E, h12km±3km, ML3.0/4, Error ellipse: s-maj=4.2km s-min=1.2km az=229.0*

ISC 28 22:05:56.3±0.8,**36°.93N**±0°.02×**27°.38E**±0°.02,**h15**km±5km, **n112**,σ2°**08**/141,**mb3.5**/4,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.14**	**338**	Pg	**Pg**	**22 06 00.2**	**0.0**
BODT				Sg	**Sg**	**22 06 02.0**	**-0.8**
BODT	**Bodrum**	**0.14**	**338**	P	**Pg**	**22 06 00.3**	**0.0**
BODT				S	**Sg**	**22 06 02.8**	**0.0**
BDRM	**Kayabasi**	**0.14**	**21**	P	**Pg**	**22 06 00.5**	**+0.2**
BDRM				S	**Sg**	**22 06 02.8**	**0.0**
BDRM				*i* AML	AML	22 06 03.0	
	comp=E,1μm,0.3s						
YKAV	**Yalikavak-Bodr**	**0.21**	**338**	Pg	**Pg**	**22 06 01.0**	**-0.2**
YKAV				Sg	**Sg**	**22 06 04.4**	**0.0**
YAZI	**Mula-Dat§a-**	**0.26**	**166**	P	**Pb**	**22 06 03.0**	**+0.4**
YAZI				S	**Sb**	**22 06 07.5**	**+0.6**
YAZI				*i* AML	AML	22 06 08.0	
	comp=N,2μm,0.4s						
YAZI				*i* AML	AML	22 06 08.0	
	comp=E,2μm,0.5s						
DAT	**Datca**	**0.26**	**141**	Pg	**Pb**	**22 06 03.1**	**+0.4**
DAT				Sg	**Sb**	**22 06 07.8**	**+0.8**
DAT	**Datca**	**0.26**	**141**	P	**Pb**	**22 06 03.1**	**+0.4**
DAT				S	**Sb**	**22 06 07.8**	**+0.8**
DAT				*i* AML	AML	22 06 09.0	
	comp=N,4μm,0.3s						
DAT				*i* AML	AML	22 06 10.0	
	comp=E,4μm,0.4s						
DAT	**Datca**	**0.26**	**141**	P	**Pb**	**22 06 03.2**	**+0.5**
DAT				S	**Sb**	**22 06 07.8**	**+0.8**
NISR	**Nisiros**	**0.38**	**212**	P	**Pn**	**22 06 07.0**	**-0.2**
NISR				S	**Sn**	**22 06 13.5**	**-0.7**
	2μm,0.2s						
NISR	**Nisiros**	**0.38**	**212**	P	**Pb**	**22 06 04.9**	**+0.2**
NISR				S	**Sb**	**22 06 11.6**	**+1.3**
NISR				AML	AML	22 06 15.9	
	comp=E,7174μm,0.3s						
NISR				AML	AML	22 06 19.1	
	comp=N,3700μm,0.5s						
MLSB	**Milas**	**0.48**	**41**	Pg	**Pb**	**22 06 06.3**	**-0.3**
MLSB				Sg	**Sb**	**22 06 13.5**	**0.0**
DDIM	**Aydin, Didim**	**0.54**	**348**	P	**Pg**	**22 06 07.2**	**+0.2**
DDIM				S	**Sb**	**22 06 16.2**	**+1.2**
DDIM				*i* AML	AML	22 06 21.0	
	comp=N,2μm,0.5s						
DDIM				*i* AML	AML	22 06 22.0	
	comp=N,1μm,0.4s						
MRSB	**Marmaris-Mugla**	**0.69**	**108**	Pg	**Pn**	**22 06 11.0**	**-0.6**
MRSB	

NAZL	**Nazilli-Aydin**	**1.26**	**35**	Pn	**Pg**	**22 06 20.9**	**+0.2**
SABU	**Mula-Dalaman**	**1.28**	**94**	P	**Pg**	**22 06 22.2**	**+1.2**
SABU				S	**Sg**	**22 06 39.9**	**+2.2**
SABU				*i* AML	AML	22 06 46.0	
	comp=N,396nm,0.6s						
SABU				*i* AML	AML	22 06 47.0	
	comp=N,213nm,0.5s						
IZMR	**zmir-demi**	**1.29**	**21**	P	**Pg**	**22 06 20.9**	**-0.3**
IZMR				S	**Sg**	**22 06 39.3**	**+1.3**
IZMR				*i* AML	AML	22 06 44.0	
	comp=N,422nm,0.5s						
IZMR				*i* AML	AML	22 06 45.0	
	comp=N,669nm,0.6s						
TAVA	**DENIZLI_Tavas**	**1.34**	**66**	P	**Pg**	**22 06 22.7**	**+0.5**
TAVA				S	**Sg**	**22 06 41.5**	**+2.0**
TAVA				*i* AML	AML	22 06 46.0	
	comp=N,160nm,0.5s						
TAVA				*i* AML	AML	22 06 49.0	
	comp=N,152nm,0.6s						
DNZT	**Denizli-Tavas-**	**1.36**	**75**	P	**Pg**	**22 06 23.2**	**+0.6**
DNZT				S	**Sg**	**22 06 43.8**	**+3.4**
DNZT				*i* AML	AML	22 06 47.0	
	comp=N,174nm,0.7s						
DNZT				*i* AML	AML	22 06 50.0	
	comp=N,70nm,0.4s						
KARP	**Karpathos**	**1.39**	**187**	Pn	**Pb**	**22 06 22.1**	**0.0**
KARP	**Karpathos**	**1.39**	**187**	P	**Pg**	**22 06 23.0**	**-0.1**
KARP				S	**Sg**	**22 06 43.5**	**+2.3**
	comp=N,540nm,0.5s						
KARP	**Karpathos**	**1.39**	**187**	P	**Pb**	**22 06 22.1**	**0.0**
KARP				AML	AML	22 06 46.1	
	comp=N,1103μm,0.5s						
KARP				AML	AML	22 06 46.3	
	comp=E,1044μm,0.5s						
FETY	**Fethiye**	**1.40**	**102**	Pn	**Pg**	**22 06 24.2**	**+0.9**
APE	**Apeiranthos**	**1.48**	**276**	Pn	**Pb**	**22 06 24.3**	**+0.6**
APE	**Apeiranthos**	**1.48**	**276**	P	**Pb**	**22 06 24.2**	**+0.6**
APE				S	**Sg**	**22 06 46.3**	**+2.0**
	comp=E,235nm,0.5s						
APE	**Apeiranthos**	**1.48**	**276**	P	**Pn**	**22 06 22.9**	**+0.4**
APE				AML	AML	22 06 48.5	
	comp=E,447μm,0.5s						
APE				AML	AML	22 06 48.8	
	comp=N,534μm,0.5s						
APE	**Apeiranthos**	**1.48**	**276**	P	**Pn**	**22 06 21.0**	**-1.5**
APE				S	**Sn**	**22 06 40.2**	**-1.4**
KIRA	**zmir-Kiraz**	**1.50**	**32**	P	**Pb**	**22 06 24.0**	**0.0**
KIRA				S	**Sg**	**22 06 43.8**	**-1.1**
KIRA				*i* AML	AML	22 06 49.0	
	comp=N,192nm,0.7s						
KIRA				*i* AML	AML	22 06 52.0	
	comp=N,296nm,0.5s						
CAME	**Cameli-Denizli**	**1.54**	**89**	Pn	**Pg**	**22 06 26.1**	**+0.1**
URLA	**Izmir**	**1.56**	**337**	Pn	**Pg**	**22 06 25.8**	**-0.5**
THR8	**Santorini-Mono**	**1.61**	**252**	P	**Pg**	**22 06 27.8**	**+0.5**
APMY	**Acipayam-Deniz**	**1.63**	**70**	Pn	**Pb**	**22 06 26.7**	**+0.6**
THR2	**Thira Island,**	**1.63**	**253**	P	**Pg**	**22 06 27.6**	**-0.1**
SANT	**Santorini**	**1.64**	**251**	Pn	**Pg**	**22 06 27.7**	**-0.2**
SNT1	**Gialos, Santor**	**1.65**	**252**	P	**Pg**	**22 06 27.8**	**-0.2**
THR3	**Thira Island,**	**1.67**	**252**	P	**Pg**	**22 06 28.2**	**-0.3**
THR6	**Thira Island,**	**1.69**	**251**	P	**Pg**	**22 06 28.4**	**-0.5**
THR5	**Thira Island,**	**1.71**	**253**	P	**Pg**	**22 06 28.7**	**-0.5**
THR9	**Santorini-Faro**	**1.72**	**251**	P	**Pb**	**22 06 28.5**	**+0.8**
THR9	**Santorini-Faro**	**1.72**	**251**	P	**Pn**	**22 06 26.9**	**+1.2**
CHOS	**Chios island**	**1.79**	**325**	P	**Pn**	**22 06 27.6**	**+0.8**
CHOS				S	**Sb**	**22 06 52.7**	**+1.4**
CHOS	**Chios island**	**1.79**	**325**	P	**Pn**	**22 06 27.7**	**+0.8**
GOMA	**Golmarmara-Man**	**1.83**	**13**	Pn	**Pb**	**22 06 29.7**	**+0.3**
FOCM	**Foa**	**1.85**	**344**	Pn	**Pb**	**22 06 30.0**	**+0.1**
KULA	**Kula-Manisa**	**1.88**	**32**	Pn	**Pb**	**22 06 29.5**	**-0.9**
KULA	**Kula-Manisa**	**1.88**	**32**	P	**Pn**	**22 06 29.1**	**+1.1**
AKAS	**Kas**	**1.92**	**111**	Pn	**Pb**	**22 06 31.9**	**+0.7**
AKS	**Akhisar**	**1.98**	**10**	Pn	**Pb**	**22 06 31.7**	**-0.3**
ELL	**Elmali**	**2.04**	**94**	Pn	**Pb**	**22 06 33.3**	**+0.2**
ZKR	**Zakros**	**2.04**	**208**	Pn	**Pb**	**22 06 33.8**	**+0.7**
ZKR	**Zakros**	**2.04**	**208**	P	**Pb**	**22 06 32.4**	**-0.7**
DKL	**Dikili**	**2.17**	**350**	Pn	**Pb**	**22 06 34.4**	**-0.9**
PRK	**Paraskevi**	**2.47**	**340**	P	**Pn**	**22 06 37.1**	**+1.1**
PRK	**Paraskevi**	**2.47**	**340**	P	**Pn**	**22 06 37.0**	**+0.9**
SIGR	**SIGRI**	**2.58**	**333**	P	**Pn**	**22 06 38.5**	**+1.0**
SIGR				S	**Sb**	**22 07 11.8**	**-1.9**
	comp=N,78nm,0.9s						
SIGR	**SIGRI**	**2.58**	**333**	P	**Pn**	**22 06 38.4**	**+0.9**
IDI	**Anoyia**	**2.60**	**232**	P	**Pn**	**22 06 39.9**	**+2.1**
IDI	**Anoyia**	**2.60**	**232**	P	**Pn**	**22 06 38.8**	**+0.9**
DION	**Dionisos Attik**	**2.97**	**294**	P	**Pn**	**22 06 45.7**	**+2.8**
VLY	**Voula,Athens**	**3.00**	**289**	P	**Pn**	**22 06 45.1**	**+1.8**
LIA	**Limnos Island**	**3.43**	**330**	P	**Pn**	**22 06 50.7**	**+1.5**
LIA	**Limnos Island**	**3.43**	**330**	P	**Pn**	**22 06 50.5**	**+1.4**
SMTH	**Samothraki Isl**	**3.82**	**338**	P	**Pn**	**22 06 55.8**	**+1.2**
SMTH	**Samothraki Isl**	**3.82**	**338**	P	**Pn**	**22 06 55.4**	**+0.8**
ALN	**Alexandroupoli**	**4.10**	**346**	P	**Pn**	**22 06 59.6**	**+1.2**
KLV	**Kalavryta, Ach**	**4.30**	**287**	P	**Pn**	**22 07 03.7**	**+2.4**
RDO	**Rodhopi**	**4.45**	**342**	P	**Pn**	**22 07 05.0**	**+1.8**
CSS	**Mathiatis**	**5.21**	**110**	P	**Pn**	**22 07 09.9**	**-3.8**
CSS	**Mathiatis**	**5.21**	**110**	S	**Sn**	**22 08 10.9**	**-2.7**
BRTR	**Keskin Array B**	**5.66**	**59**	Pn	**Pn**	**22 07 22.7**	**+2.7**
	comp=N,0.4nm,0.3s,baz=240,slow=16,SNR=16						
BRTR				Sn	**Sn**	**22 08 26.5**	**+1.7**
	baz=267,slow=18						
	comp=N,0.9nm,0.3s						
HNTI	**Hanita**	**7.46**	**119**	S	**Sn**	**22 09 04.7**	**-4.2**
HNTI	**Hanita**	**7.46**	**119**	P	**Pn**	**22 07 40.9**	**-3.7**
MMA0B	**Mount Meron ar**	**7.66**	**118**	P	**Pn**	**22 07 44.2**	**-3.2**
MMA0B	**Mount Meron ar**	**7.66**	**118**	S	**Sn**	**22 09 10.2**	**-3.7**
MMAI	**Mount Meron Ar**	**7.66**	**118**	Pn	**Pn**	**22 07 48.7**	**+1.3**
	comp=N,1.9nm,0.3s,baz=301,slow=11,SNR=14						
MMAI				Sn	**Sn**	**22 09 12.2**	**-1.7**
	comp=N,3.6nm,0.3s,baz=290,slow=23,SNR=8.7						
	comp=N,1.3nm,0.4s						
GEM	**Giv'at Ha'Em**	**7.74**	**116**	S	**Sn**	**22 09 12.2**	**-3.6**
GEM	**Giv'at Ha'Em**	**7.74**	**116**	P	**Pn**	**22 07 45.0**	**-3.4**
NATI	**Neve Ativ**	**7.77**	**116**	S	**Sn**	**22 09 12.2**	**-4.2**
NATI	**Neve Ativ**	**7.77**	**116**	P	**Pn**	**22 07 46.1**	**-2.7**
HMDT	**Nahal Hemdat**	**8.18**	**122**	S	**Sn**	**22 09 21.8**	**-4.7**
HMDT	**Nahal Hemdat**	**8.18**	**122**	P	**Pn**	**22 07 50.8**	**-3.7**
KZIT	**Kziot**	**8.37**	**134**	S	**Sn**	**22 09 25.9**	**-5.5**
KZIT	**Kziot**	**8.37**	**134**	P	Pn	22 07 52.3	-4.8
YTIR	**Yattir**	**8.48**	**129**	P	Pn	22 07 54.0	-4.7
YTIR	**Yattir**	**8.48**	**129**	S	**Sn**	**22 09 29.3**	**-4.9**
DSI	**Dead Sea**	**8.51**	**127**	P	**Pn**	**22 07 55.5**	**-3.5**
DSI	**Dead Sea**	**8.51**	**127**	S	**Sn**	**22 09 29.3**	**-5.4**
MLR	**Muntele Rosu**	**8.62**	**353**	LR	LR	22 12 17.8	
	comp=N,43nm,19.4s,baz=152,slow=44						
PRNI	**Paran**	**9.13**	**134**	S	**Sn**	**22 09 44.7**	**-5.5**
PRNI	**Paran**	**9.13**	**134**	P	**Pn**	**22 08 03.1**	**-4.4**
HRFI	**Mount Harif**	**9.39**	**135**	S	**Sn**	**22 09 50.8**	**-5.6**
HRFI	**Mount Harif**	**9.39**	**135**	P	Pn	22 08 06.4	-4.6
MBRI	**Mt Berech**	**9.50**	**136**	P	**Pn**	**22 08 08.5**	**-4.2**
MBRI	**Mt Berech**	**9.50**	**136**	S	**Sn**	**22 09 53.7**	**-5.6**
EIL	**Elat**	**9.62**	**137**	S	**Sn**	**22 09 56.0**	**-6.0**
EIL	**Elat**	**9.62**	**137**	P	**Pn**	**22 08 09.8**	**-4.4**
VRAC	**Vranov**	**14.64**	**331**	LR	LR	22 15 18.7	
	comp=N,26nm,18.2s,baz=71,slow=38						
ESDC	**Sonseca Array**	**24.68**	**286**	P	**P**	**22 11 18.3**	**+1.6**
	comp=N,0.4nm,0.8s,baz=86,slow=10,SNR=4.1						
	comp=N,0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**33.00**	**231**	P	**P**	**22 12 32.3**	**+1.4**
	comp=N,0.3nm,0.5s,baz=40,slow=9.5,SNR=2.8						
	comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**41.31**	**58**	P	**P**	**22 13 43.5**	**+2.3**
	comp=N,0.4nm,0.5s,baz=282,slow=6.8,SNR=7.9						
	comp=N,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**42.48**	**48**	P	**P**	**22 13 52.1**	**+1.5**
	comp=N,0.4nm,0.4s,baz=258,slow=7.0,SNR=2.4						
	comp=N,0.4nm,0.4s						

IDC 28 22:27:23.2±3.7, 6°.47S×154°.08E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=130.1km s-min=37.5km az=116.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.39**	**233**	P	P	22 32 33.6	-0.2
	1.4nm,1.0s,baz=57,slow=9.8,SNR=6.6						
	1.4nm,1.0s						
ASAR	**Alice Springs**	**25.86**	**226**	P	P	22 32 56.8	0.0
	0.3nm,0.6s,baz=56,slow=9.2,SNR=5.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**82.41**	**319**	P	P	22 39 48.2	+0.8
	0.2nm,0.5s,baz=105,slow=6.1,SNR=4.5						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**152.01**	**286**	PKPbc	PKPbc	22 47 20.6	-0.9
	0.2nm,0.4s,baz=94,slow=3.6,SNR=4.4						

PRU 28 22:38:25.1, 50°.29N×19°.01E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**1.08**	**242**	*e*PG	Pg	22 38 45.0	-0.7
MORC				*e*SG	Sg	22 38 59.7	0.0
LANS	**Liptovska Anna**	**1.18**	**165**	*e*PG	Pg	22 38 45.7	-2.0
LANS				*e*SG	Sg	22 39 00.8	-2.1
LANS				*e*LG	Lg	22 39 04.2	
MAUC	**Maruska**	**1.20**	**220**	*e*PG	Pg	22 38 46.7	-1.4
MAUC				*e*SG	Sg	22 39 03.1	-0.5
KRLC	**Kraliky**	**1.45**	**262**	*e*PG	Pn	22 38 50.4	-2.2
KRLC				*e*SG	Sg	22 39 10.5	-1.1
DPC	**Dobruska-Polom**	**1.72**	**273**	*e*PG	Pn	22 38 56.3	-0.1
DPC				*e*SG	Sg	22 39 20.2	-0.2
VYHS	**Vyhne**	**1.80**	**184**	*e*PN	Pn	22 38 55.5	-1.9
VYHS				*e*SN	Sn	22 39 19.2	-1.8

*CATAC **28** 22:44:08.6±0.7, 13°.26N×90°.34W, h16km±5km, ML3.5*
*SNET **28** 22:44:11.4±0.8, 13°.72N×90°.07W, h92km±3km, ML3.2*

ISC 28 22:44:12.0±1.5, 13°.6N±0°.1×90°.18W±0°.06, h81km±10km, n44, σ1.26/73, 3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.49**	**53**	⇓*e*P	**Pn**	**22 44 25.5**	**-0.5**
NUBE				*e*S	**Sn**	**22 44 36.4**	**+0.1**
NUBE				IAML		22 44 42.8	
	comp=Z,255nm,0.4s						
NUBE	**Las Nubes**	**0.49**	**53**	*i* P	**Pn**	**22 44 25.6**	**-0.4**
NUBE				*i* S	**Sn**	**22 44 36.7**	**+0.4**
NUBE				IAML		22 44 41.9	
	comp=Z,610nm,1.0s						
SLOZ	**Alcaldia de Sa**	**0.57**	**43**	⇓*e*P	**Pn**	**22 44 26.0**	**-0.5**
SLOZ				*e*S	**Sn**	**22 44 36.8**	**-0.5**
CEVE	**Cerro Verde**	**0.59**	**68**	*e*P	**Pn**	**22 44 26.3**	**-0.6**
CEVE				*e*S	**Sn**	**22 44 38.8**	**+0.8**
CEVE				IAML		22 44 42.5	
	comp=Z,1μm,0.3s						
CEVE	**Cerro Verde**	**0.59**	**68**	*i* P	**Pn**	**22 44 26.3**	**-0.6**
CEVE				*i* S	**Sn**	**22 44 39.0**	**+1.1**
CEVE				IAML		22 44 46.0	
	comp=Z,1μm,1.0s						
SBLS	**San Blas**	**0.59**	**67**	*e*P	**Pn**	**22 44 26.5**	**-0.5**
RTR	**El Retiro**	**0.60**	**61**	*e*P	**Pn**	**22 44 26.7**	**-0.3**
SNJE	**San Jose**	**0.62**	**65**	*e*P	**Pn**	**22 44 26.4**	**-0.8**
JAYA	**Jayaque - finc**	**0.71**	**86**	*e*P	**Pn**	**22 44 27.4**	**-0.6**
JAYA				*e*S	**Sn**	**22 44 39.5**	**-0.5**
JAYA				IAML		22 44 42.0	
	comp=Z,4μm,0.2s						
JAYA	**Jayaque - finc**	**0.71**	**86**	*i* P	**Pn**	**22 44 27.5**	**-0.6**
JAYA				*i* S	**Sn**	**22 44 40.0**	**0.0**
JAYA				IAML		22 44 41.9	
	comp=Z,9μm,1.0s						
CEDA	**San Andres**	**0.79**	**75**	*e*P	**Pn**	**22 44 27.7**	**-1.1**
CEDA	**San Andres**	**0.79**	**75**	*i* P	**Pn**	**22 44 28.0**	**-0.8**
CEDA				*i* S	**Sn**	**22 44 42.7**	**+1.5**
CEDA				IAML		22 44 45.3	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**0.85**	**98**	*e*P	**Pn**	**22 44 28.9**	**-0.4**
LALI				*e*S	**Sn**	**22 44 42.0**	**-0.2**
LALI				IAML		22 44 46.5	
	comp=Z,212nm,0.3s						
LALI	**Alcalda de L**	**0.85**	**98**	*i* P	**Pn**	**22 44 28.9**	**-0.4**
LALI				IAML		22 44 29.6	
	comp=Z,520nm,1.0s						
LALI				*i* S	**Sn**	**22 44 42.9**	**+0.7**
PMON	**Piamonte**	**0.85**	**83**	*i* P	**Pn**	**22 44 28.8**	**-0.7**
PMON				*i* S	**Sn**	**22 44 44.1**	**+1.6**
PMON				IAML		22 44 46.5	
	comp=Z,1μm,1.0s						
ITCA	**Escuela Especi**	**0.88**	**85**	*i* P	**Pn**	**22 44 29.5**	**-0.4**
ITCA				*i* S	**Sn**	**22 44 44.6**	**+1.4**
ITCA				IAML		22 44 45.6	
	comp=Z,3μm,1.0s						
BOQS	**Boqueron**	**0.89**	**82**	*e*P	**Pn**	**22 44 29.9**	**-0.1**
BOQS				*e*S	**Sn**	**22 44 44.4**	**+1.0**
UEES	**Universidad Ev**	**0.92**	**83**	*i* P	**Pn**	**22 44 30.5**	**+0.2**
UEES				*i* S	**Sn**	**22 44 45.9**	**+1.9**
UEES				IAML		22 44 50.1	
	comp=Z,660nm,1.0s						
LOMA	**Loma Larga**	**0.98**	**88**	*e*P	**Pn**	**22 44 30.1**	**-0.9**
LOMA	**Loma Larga**	**0.98**	**88**	*i* P	**Pn**	**22 44 30.5**	**-0.6**
LOMA				*i* S	**Sn**	**22 44 45.8**	**+0.5**
LOMA				IAML		22 44 48.6	
	comp=Z,1μm,1.0s						
LFU	**La Fuente**	**1.05**	**82**	*e*P	**Pn**	**22 44 31.1**	**-0.7**
LFRS	**El Faro**	**1.09**	**89**	*e*P	**Pn**	**22 44 31.5**	**-0.8**
LFRS				IAML		22 44 52.6	
	comp=Z,340nm,0.4s						
MTO3	**Montecristo**	**1.12**	**45**	⇓*e*P	**Pn**	**22 44 31.8**	**-1.1**
MTO3				IAML		22 44 48.6	
	comp=Z,65nm,0.5s						
COEG	**Centro de Oper**	**1.27**	**89**	*e*P	**Pn**	**22 44 33.7**	**-0.7**
COEG				IAML		22 44 35.5	
	comp=Z,406nm,0.4s						
COEG				*e*S	**Sn**	**22 44 50.8**	**-0.6**
COEG	**Centro de Oper**	**1.27**	**89**	*i* P	**Pn**	**22 44 33.8**	**-0.7**
COEG				IAML		22 44 34.1	
	comp=Z,370nm,1.0s						
COEG				*i* S	**Sn**	**22 44 52.5**	**+1.1**
UESV	**Universidad de**	**1.36**	**89**	*i* P	**Pn**	**22 44 35.0**	**-0.6**
UESV				*i* S	**Sn**	**22 44 56.6**	**+3.3**
UESV				IAML		22 44 58.8	
	comp=Z,210nm,1.0s						
TECO	**Alcaldia de Te**	**1.36**	**93**	*e*P	**Pn**	**22 44 34.6**	**-1.1**
TECO				*e*S	**Sn**	**22 44 52.3**	**-1.2**
TECO	**Alcaldia de Te**	**1.36**	**93**	*i* P	**Pn**	**22 44 34.6**	**-1.1**
TECO				IAML		22 44 35.1	
	comp=Z,280nm,1.0s						
TECO				*i* S	**Sn**	**22 44 52.9**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.42**	**86**	*e*P	**Pn**	**22 44 35.3**	**-1.1**
SCLA	**Alcaldia de Sa**	**1.42**	**86**	*i* P	**Pn**	**22 44 35.4**	**-1.0**
SCLA				IAML		22 44 35.8	
	comp=Z,130nm,1.0s						
SCLA				*i* S	**Sn**	**22 44 58.5**	**+3.8**
PQSS	**Presa 15 de Se**	**1.58**	**89**	*e*P	**Pn**	**22 44 37.3**	**-1.1**
COEB	**Comit de Eme**	**1.61**	**94**	*e*P	**Pn**	**22 44 37.8**	**-1.1**
COEB				*e*S	**Sn**	**22 44 58.1**	**-1.2**
COEB	**Comit de Eme**	**1.61**	**94**	*i* P	**Pn**	**22 44 38.1**	**-0.8**
COEB				IAML		22 44 38.3	
	comp=Z,350nm,1.0s						
COEB				*i* S	**Sn**	**22 45 00.4**	**+1.1**
TECA	**Tecapa**	**1.64**	**94**	*e*P	**Pn**	**22 44 38.2**	**-1.2**
RTAL	**Retalhuleu**	**1.73**	**302**	*i* P	**Pn**	**22 44 40.0**	**-0.4**
RTAL				*i* S	**Sn**	**22 45 03.0**	**+1.1**
PACA	**Pacayal**	**1.81**	**94**	*e*P	**Pn**	**22 44 41.0**	**-0.6**
PACA				*e*S	**Sn**	**22 45 03.4**	**-0.7**
PACA				IAML		22 45 12.6	
	comp=Z,1μm,0.2s						
PACA	**Pacayal**	**1.81**	**94**	*i* P	**Pn**	**22 44 42.2**	**+0.6**
PACA				*i* S	**Sn**	**22 45 07.1**	**+3.0**
PACA				IAML		22 45 12.6	
	comp=Z,1μm,1.0s						
RANC	**El Ranchito**	**1.85**	**95**	*i* S	**Sn**	**22 45 07.8**	**+2.8**
LCND	**La Caada**	**2.25**	**97**	*e*P	**Pn**	**22 44 46.3**	**-1.0**
LCND				*e*S	**Sn**	**22 45 13.2**	**-1.1**
LCND				IAML		22 45 20.0	
	comp=Z,139nm,0.3s						
CNCH	**Conchagua**	**2.31**	**98**	*e*P	**Pn**	**22 44 47.0**	**-1.2**
TGUH	**Tegucigalpa,Un**	**2.86**	**81**	*i* P	**Pn**	**22 44 54.6**	**-1.1**
TGUH				IAML		22 44 54.7	
	comp=Z,73nm,1.0s						
YUSH	**Yuscaran**	**3.26**	**84**	*i* P	**Pn**	**22 44 59.6**	**-1.5**
CNGN	**Cerro Negro**	**3.57**	**108**	*i* P	**Pn**	**22 45 04.3**	**-0.9**
CNGN				*i* S	**Sn**	**22 45 47.6**	**+1.3**
CNGN				IAML		22 45 50.6	
	comp=Z,120nm,1.0s						
BOAB	**BOACO BROADBAN**	**3.55**	**104**	*i* P	**Pn**	**22 45 16.6**	**-1.9**
BOAB				*i* S	**Sn**	**22 46 13.5**	**+3.4**
BOAB				IAML		22 47 26.6	
	comp=Z,21nm,1.0s						

*IDC **28** 22:47:35.0±0.3, 8°.15S×116°.45E, h0km, mb5.7/33, mbtmp5.7/34, ML5.5/1, MS6.2/61, Error ellipse: s-maj=12.9km s-min=8.9km az=68.0*
*BJI **28** 22:47:36.7±0.0, 8°.30S×116°.55E, h10km, mb5.9/90, mB6.7/81, Ms6.7/98, Ms7 6.6/94*
*NEIC **28** 22:47:37.8, 8°.61S×116°.61E, h12km, Moment Tensor Solution. Duration: 8s7 Moment tensor: Scale 10^18^Nm; Mrr4.43; Mθθ-4.78; Mφφ0.35; Mrθ-3.19; Mθφ0.01; Mφr0.59; Fault plane solution: M0 5.63000×10^18^ NP1: φs276.33000°, δ62.67000°, λ96.14000°. NP2: φs83.15000°, δ27.96000°, λ78.31000°. Principal axes: T 5.4858, Plg72.0000°, Azm200.0000°; N 0.2955, Plg5.0000°, Azm94.0000°; P -5.7813, Plg17.0000°, Azm2.0000°;*
*IPGP **28** 22:47:37.0, 8°.33S×116°.49E, h14km, Mw6.5, Fault plane solution: NP1: φs263.00000°, δ67.00000°, λ84.00000°. NP2: φs97.00000°, δ24.00000°, λ103.00000°.*
*NEIC **28** 22:47:37.5, 8°.27S×116°.49E, h6km*
*NEIC **28** 22:47:37.8, 8°.41S×116°.51E, h12km*
*MOS **28** 22:47:38.7±1.2, 8°.20S×116°.40E, h33km, mb6.2/82, MS6.3/74, Error ellipse: s-maj=6.6km s-min=4.0km az=114.7*
*NEIC **28** 22:47:38.7±2.3, 8°.24S±0°.05×116°.51E±0°.03, h14km±1km, mb6.3/219, Ms_20 6.4/807, Mwb6.5/63, Mww6.4/33, Error ellipse: s-maj=10.1km s-min=3.8km az=155.0, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr3.06; Mθθ-2.46; Mφφ-0.60; Mrθ-6.69; Mθφ-0.81; Mφr-0.79; Fault plane solution: M0 7.35000×10^18^ NP1: φs261.94000°, δ78.52000°, λ94.19000°. NP2: φs61.72000°, δ12.21000°, λ70.20000°. Principal axes: T 7.5432, Plg56.0000°, Azm177.0000°; N -0.4136, Plg4.0000°, Azm81.0000°; P -7.1296, Plg33.0000°, Azm348.0000°;*
*DJA **28** 22:47:38.4±0.1, 8°.5±1°×11°.7E±°, h13km±1km, M6.5/134, mb6.2/134, mB6.7/130, MLv6.8/27, Mw6.4/142, Mw(mB)6.6/130, MwMwp6.3/121, Mwp6.3/121*
*GCMT **28** 22:47:40.7±0.0, 8°.31S×116°.51E, h14km, MW6.5/170, Moment Tensor Solution. s169,c421; s170,c771; Duration: 4s2 Moment tensor: Scale 10^18^Nm; Mrr3.91±.02; Mθθ-4.28±.02; Mφφ0.36±.01; Mrθ-4.64±.07; Mθφ-0.28±.01; Mφr-0.56±.04; Best double couple: M0 6.22000×10^18^ NP1: φs264.00000°, δ69.00000°, λ88.00000°. NP2: φs90.00000°, δ21.00000°, λ96.00000°. Principal axes: T 6.0320, Plg66.0000°, Azm170.0000°; N 0.3720, Plg2.0000°, Azm265.0000°; P -6.4090, Plg24.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 28 22:47:39.2±0.3, 8°.34S±0°.02×116°.46E±0°.02, h26km±1km, h26km: pP-P, n2414, σ2s15/2525, mb6.1/256, MS6.4/557, 140C-102D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.58**	**134**	P	**Pb**	**22 47 49.7**	**-1.0**
TWSI				S	**Sb**	**22 47 57.1**	**-1.4**
SRBI	**Singaraja**	**1.26**	**281**	P	**Pb**	**22 48 02.0**	**-0.3**
SRBI				S	**Sb**	**22 48 17.9**	**-0.2**
DNP	**Denpasar**	**1.28**	**255**	P	**Pb**	**22 48 03.0**	**+0.4**
PLAI	**Plampang**	**1.39**	**111**	P	**Pn**	**22 48 02.6**	**-0.3**
PLAI	**Plampang**	**1.39**	**111**	P	**Pn**	**22 48 03.3**	**+0.4**
PLAI				S	**Sb**	**22 48 22.1**	**+0.3**
ABJI	**Asem Bagus**	**2.27**	**284**	P	**Pn**	**22 48 16.7**	**+1.7**
JAGI	**Jajag, Banyuwa**	**2.29**	**267**	P	**Pn**	**22 48 16.5**	**+1.2**
JAGI	**Jajag, Banyuwa**	**2.29**	**267**		**Pn**	**22 48 16.3**	**+1.0**
JAGI				Sn	**Sn**	**22 48 44.5**	**+1.8**
JAGI	**Jajag, Banyuwa**	**2.29**	**267**	⇑P	**Pn**	**22 48 16.6**	**+1.3**
JAGI	**Jajag, Banyuwa**	**2.29**	**267**	P	**Pn**	**22 48 16.5**	**+1.2**
GRJI	**Gresik**	**4.19**	**289**	P	**Pn**	**22 48 42.9**	**+1.4**
BASI	**Baing, Sumba**	**4.47**	**115**	P	**Pn**	**22 48 46.8**	**+1.5**
BWJI	**Bawean**	**4.51**	**303**	P	**Pn**	**22 48 47.9**	**+2.0**
BSSI	**Bau Bau, Buton**	**4.55**	**62**	P	**Pn**	**22 48 46.0**	**-0.5**
PWJI	**Pagerwojo**	**4.62**	**274**	P	**Pn**	**22 48 49.1**	**+1.7**
KAPI	**Kappang**	**4.65**	**45**	P	**Pn**	**22 48 48.2**	**+0.5**
KAPI	**Kappang**	**4.65**	**45**	Pn	**Pn**	**22 48 47.0**	**-0.8**
KAPI				Sn	**Sn**	**22 49 38.0**	**-2.9**
KAPI	**Kappang**	**4.65**	**45**	⇓P	**Pn**	**22 48 46.9**	**-0.8**
KAPI	**Kappang**	**4.65**	**45**	Pn	**Pn**	**22 48 45.9**	**-1.8**
	238nm,0.3s,baz=189,slow=4.5,SNR=171						
KAPI				Sn	**Sn**	**22 49 39.8**	**-1.1**
	1μm,0.3s,baz=200,slow=18,SNR=18						
KAPI				Lg	Lg	22 49 58.9	
	907nm,0.3s,baz=218,slow=23,SNR=5.4						
	556nm

NLAI	Namlea	11.73	65	P	Pn	22 50 28.7 +3.7
	433nm,1.6s,80µm					
PPBI	Pangkal Pinang	11.97	300	P	Pn	22 50 30.1 +1.8
	2µm,1.5s,38µm120µm					
KASI	Kota Agung	12.20	282	P	Pn	22 50 33.2 +1.8
	1µm,1.1s,30µm99µm					
LWLI	Liwa	12.75	284	P	Pn	22 50 41.4 +2.3
	1µm,1.3s,37µm102µm					
PMBI	Palembang	12.81	294	P	Pn	22 50 44.6 +4.8
PMBI	Palembang	12.81	294	Pn	Pn	22 50 42.5 +2.7
PMBI	Palembang	12.81	294	P	Pn	22 50 43.1 +3.3
	1µm,0.8s,30µm109µm					
MBWA	Marble Bar	13.13	166	P	Pn	22 50 42.2 -1.8
MBWA	Marble Bar	13.13	166	Pn	Pn	22 50 42.3 -1.8
MBWA	Marble Bar	13.13	166	P	Pn	22 50 42.1 -2.0
	906nm,0.7s,SNR=68					
MBWA	Marble Bar	13.13	166	⇑P	Pn	22 50 41.6 -2.5
MBWA	Marble Bar	13.13	166	P	Pn	22 50 42.3 -1.8
MBWA				P	Pn	22 50 42.3 -1.8
FITZ	Fitzroy Crossi	13.18	138	P	Pn	22 50 43.9 -1.0
FITZ	Fitzroy Crossi	13.18	138		Pn	22 50 43.4 -1.4
FITZ	Fitzroy Crossi	13.18	138	P	Pn	22 50 43.8 -1.0
	11µm,1.2s,SNR=94					
LBMI	Labuha	13.40	56	P	Pn	22 50 48.8 +1.0
	1µm,1.9s,22µm47µm					
PSAD1	Pilbara Seismi	13.44	166	P	Pn	22 50 46.3 -2.0
	802nm,0.8s,SNR=62					
PSAC1	Pilbara Seismi	13.51	167	P	Pn	22 50 47.7 -1.6
	968nm,0.9s,SNR=75					
PSAB2	Pilbara Seismi	13.54	166	P	Pn	22 50 47.3 -2.5
	890nm,0.9s,SNR=72					
PSAA2	Pilbara Seismi	13.55	166	P	Pn	22 50 47.1 -2.7
	881nm,0.9s,SNR=66					
PSA00	Pilbara Seismi	13.56	166	P	Pn	22 50 49.0 -0.9
PSA00	Pilbara Seismi	13.56	166	Pn	Pn	22 50 48.0 -1.9
PSA00	Pilbara Seismi	13.56	166		Pn	22 50 48.5 -1.5
PSA00	Pilbara Seismi	13.56	166	P	Pn	22 50 47.9 -2.0
	947nm,0.9s,SNR=69					
PSAA1	Pilbara Seismi	13.56	166	P	Pn	22 50 47.9 -2.0
	244µm,SNR=12					
PSAC2	Pilbara Seismi	13.56	166	P	Pn	22 50 48.4 -1.6
	828nm,0.9s,SNR=73					
PSAA3	Pilbara Seismi	13.56	166	P	Pn	22 50 48.2 -1.8
	225µm,SNR=16					
PSAB3	Pilbara Seismi	13.58	166	P	Pn	22 50 48.4 -1.8
	879nm,1.0s,SNR=66					
MYLDM	Lahad Datu	13.58	9		Pn	22 50 52.6 +2.3
MYLDM	Lahad Datu	13.58	9	⇓P	Pn	22 50 53.2 +2.9
PSAD3	Pilbara Seismi	13.61	167	P	Pn	22 50 48.4 -2.2
	1µm,0.9s,SNR=93					
PSAD2	Pilbara Seismi	13.63	166	P	Pn	22 50 48.2 -2.7
	723nm,0.8s,SNR=33					
BNDI	Bandanaira	13.88	75	P	Pn	22 50 54.9 +0.5
BNDI	Bandanaira	13.88	75	⇑P	Pn	22 50 56.5 +2.1
BNDI	Bandanaira	13.88	75	P	Pn	22 50 55.9 +1.5
MNAI	Manna	13.99	286	P	Pn	22 50 57.6 +1.7
MNAI	Manna	13.99	286	Pn	Pn	22 50 56.6 +0.7
MNAI	Manna	13.99	286	⇑P	Pn	22 50 57.7 +1.7
MNAI	Manna	13.99	286	P	Pn	22 50 57.0 +1.1
	2µm,0.8s,101µm					
KNRA	Kununurra	14.06	122	Pn	Pn	22 50 54.9 -2.0
KNRA	Kununurra	14.06	122	P	Pn	22 50 55.7 -1.2
	881nm,1.2s,SNR=117					
TNTI	Ternate	14.14	51	P	Pn	22 50 59.1 +1.1
TNTI	Ternate	14.14	51		Pn	22 50 58.1 0.0
TNTI	Ternate	14.14	51	⇓P	Pn	22 50 57.9 -0.1
TNTI	Ternate	14.14	51	P	Pn	22 50 57.7 -0.3
	699nm,2.2s,19µm54µm					
KKM	Kota Kinabalu	14.29	359	P	Pn	22 51 01.7 +1.6
KKM	Kota Kinabalu	14.29	359		Pn	22 51 01.3 +1.3
KKM	Kota Kinabalu	14.29	359	⇓P	Pn	22 51 01.4 +1.3
GIRL	Giralia	14.38	188		Pn	22 51 00.4 -0.8
SAUI	Saumlaki	14.69	90	P	Pn	22 51 04.1 -1.4
SAUI	Saumlaki	14.69	90	Pn	Pn	22 51 03.1 -2.4
SAUI	Saumlaki	14.69	90	⇑P	Pn	22 51 01.8 -3.7
SAUI	Saumlaki	14.69	90	P	Pn	22 51 02.3 -3.2
	3µm,0.9s,29µm78µm					
DRS	Darwin Rock St	14.77	107	P	Pn	22 51 04.8 -1.7
TPRI	Tanjung Pinang	15.04	307	P	Pn	22 51 11.9 +1.8
	1µm,2.2s,37µm94µm					
MTN	Manton Dam	15.10	108	P	Pn	22 51 08.3 -2.6
MTN	Manton Dam	15.10	108		Pn	22 51 07.2 -3.6
MTN	Manton Dam	15.10	108	P	Pn	22 51 07.3 -3.6
BTDF	Bukit Timah Da	15.90	307	P	Pn	22 51 23.0 +1.6
KDU	Kakadu	16.32	107	P	Pn	22 51 23.5 -3.3
KDU	Kakadu	16.32	107	P	Pn	22 51 23.3 -3.5
KDU	Kakadu	16.32	107	⇑P	Pn	22 51 22.9 -3.9
SWI	Sorong	16.51	64	P	Pn	22 51 29.8 +0.7
	2µm,1.2s,39µm77µm					
FAKI	Fak Fak	16.60	72	P	Pn	22 51 29.9 -0.5
FAKI	Fak Fak	16.60	72	Pn	Pn	22 51 28.7 -1.7
FAKI	Fak Fak	16.60	72	⇑P	Pn	22 51 29.4 -0.9
FAKI	Fak Fak	16.60	72	P	Pn	22 51 29.2 -1.2
	1µm,0.8s,34µm68µm					
PPSI	Pulau Pagai	17.28	288	P	P	22 51 40.1 0.0
	2µm,1.8s,34µm53µm					
PDSI	Padang	17.56	294	P	P	22 51 44.1 +0.8
	646nm,1.3s,33µm86µm					
BKNI	Bangkinang	17.61	299	P	P	22 51 47.0 +3.2
BKNI	Bangkinang	17.61	299	P	P	22 51 45.5 +1.7
BKNI	Bangkinang	17.61	299	S	S	22 55 11.2 +5.4
BKNI				P	P	22 51 48.1 +4.2
BKNI	Bangkinang	17.61	299	⇓P	P	22 51 46.5 +2.7
BKNI	Bangkinang	17.61	299	P	P	22 51 46.0 +2.2
	2µm,1.3s,146µm					
KMPI	Kaimana, Papua	17.76	76	P	Pn	22 51 42.3 -2.5
	2µm,0.9s,43µm61µm					
DAV	Davao City (W)	17.80	31	P	P	22 51 49.3 +3.4
DAV	Davao City (W)	17.80	31		P	22 51 47.5 +1.6
DAV				IAmb	IAmb	22 51 51.1
	comp=Z,6µm,1.6s					
DAV	Davao City (W)	17.80	31	⇓P	P	22 51 48.2 +2.2
DAV	Davao City (W)	17.80	31	P	Pn	22 51 44.9 -0.4
	comp=Z,597nm,1.0s,baz=180,slow=1.4,SNR=81					
DAV				S	Sn	22 54 59.2 -3.9
	comp=Z,98nm,0.4s,baz=257,slow=18,SNR=1.0					
DAV				LR	LR	23 00 03.9
	comp=Z,186µm,18.0s,baz=207,slow=42					
DAV	Davao City (W)	17.80	31	P	P	22 51 48.1 +2.2
DAV				P	P	22 51 48.1 +2.2
DAV				S	Sn	22 55 05.0 +1.8
DAV				S	Sn	22 55 05.0 +1.8
MEEK	Meekatharra	18.31	174	P	P	22 51 51.5 0.0
MEEK	Meekatharra	18.31	174	P	P	22 51 51.0 -0.5
	comp=Z,2µm,0.8s,SNR=115					
SISI	Saibi	18.65	291	P	Pn	22 51 56.1 +0.4
	comp=Z,1µm,1.4s,comp=Z,27µm					
COCO	West Island	19.68	257	P	P	22 52 06.3 -0.3
COCO				IAmb	IAmb	22 52 18.0
	comp=Z,2µm,1.5s					
COCO	West Island	19.68	257	P	Pn	22 52 08.5 +0.4
COCO	West Island	19.68	257	P	P	22 52 06.3 -0.3
COCO				pmax	pmax	
	comp=Z,2µm,1.5s					
PBSI	Pulau Batu	19.90	294	P	Pn	22 52 10.9 +0.2
	comp=Z,2µm,1.5s,comp=Z,33µmcomp=Z,56µm					
WRKA	Warakurna	20.08	147	P	Pn	22 52 12.2 -0.6
WRKA	Warakurna	20.08	147	P	Pn	22 52 12.6 -0.2
	comp=Z,2µm,1.3s,SNR=224					
WRKA	Warakurna	20.08	147	⇑P	Pn	22 52 12.6 -0.2
MORW	Morawa	20.62	181	P	Pn	22 52 18.5 -0.6
MORW	Morawa	20.62	181	P	P	22 52 17.7 +1.0
MORW				IAmb	IAmb	22 52 23.6
	comp=Z,1µm,1.0s					
MORW	Morawa	20.62	181	P	P	22 52 18.0 +1.2
	comp=Z,2µm,1.1s,SNR=102					
MORW	Morawa	20.62	181	⇑P	Pn	22 52 18.4 -0.6
WB0	Warramunga Arr	20.75	125	P	P	22 52 18.0 -0.2
WB0				IAmb	IAmb	22 52 20.1
	comp=Z,2µm,1.2s					
KULM	Kulim	20.78	310	P	P	22 52 19.8 +1.2
KULM				IAmb	IAmb	22 52 29.9
	comp=Z,2µm,1.6s					
KULM	Kulim	20.78	310	⇑P	Pn	22 52 20.9 -0.2
WRA	Warramunga Arr	20.80	126	P	P	22 52 18.7 0.0
WRA	Warramunga Arr	20.80	126	P	P	22 52 18.8 0.0
	comp=Z,2µm,1.1s,baz=299,slow=12,SNR=836					
WRA				S	S	22 56 08.3 -1.4
	comp=Z,28nm,0.7s,baz=233,slow=24,SNR=5.5					
WRA				PcP	PcP	22 56 26.2 -1.2
	comp=Z,69nm,0.8s,baz=269,slow=2.8,SNR=1.9					
WRA				LR	LR	23 01 26.0
	comp=Z,40µm,20.5s,baz=300,slow=40					
WRA	Warramunga Arr	20.80	126	P	P	22 52 18.7 0.0
WRA				pmax	pmax	
	comp=Z,315nm,1.2s					
WRAB	Tennant Creek	20.80	126	*c iP*	P	22 52 19.0 +0.3
WRAB				pmax	pmax	
	comp=Z,2µm,1.1s					
WRAB				MLR	MLR	
	comp=Z,110µm,14.0s					
WB2	Warramunga Arr	20.81	126	P	P	22 52 19.1 +0.3
GSI	Gunungsitoli	21.12	296	P	P	22 52 23.2 +1.0
GSI	Gunungsitoli	21.12	296	P	P	22 52 21.5 -0.7
GSI				IAmb	IAmb	22 52 40.5
	comp=Z,822nm,0.9s					
GSI	Gunungsitoli	21.12	296	⇑P	P	22 52 22.6 +0.4
GSI	Gunungsitoli	21.12	296	P	P	22 52 23.3 +1.0
	comp=Z,1µm,0.9s,comp=Z,18µmcomp=Z,54µm					
DLV	T Lat	21.65	338	P	P	22 52 30.8 +2.7
DLV	T Lat	21.65	338	P	P	22 52 29.5 +1.4
DLV				IAmb	IAmb	22 52 44.5
	comp=Z,3µm,1.9s					
DLV	T Lat	21.65	338	⇓P	P	22 52 30.7 +2.6
KCSI	Kotacane, Aceh	22.05	302	P	P	22 52 33.5 +1.3
	comp=Z,1µm,1.2s,comp=Z,19µmcomp=Z,63µm					
BLDU	Ballidu	22.16	179	P	P	22 52 34.5 +1.2
BLDU	Ballidu	22.16	179	P	P	22 52 34.3 +1.0
	comp=Z,248µm,SNR=42					
ASPA	Alice Springs	22.61	134	P	P	22 52 37.4 -0.8
	comp=Z,2µm,SNR=41					
AS31	Alice Springs	22.62	134	P	P	22 52 38.2 0.0
ASAR	Alice Springs	22.62	134	P	P	22 52 38.1 -0.1
ASAR	Alice Springs	22.62	134	P	P	22 52 38.8 +0.5
	comp=Z,1µm,1.0s,baz=311,slow=8.6,SNR=657					
ASAR				PcP	PcP	22 56 29.7 -1.2
	comp=Z,74nm,1.0s,baz=32,slow=1.5,SNR=5.1					
ASAR				S	Sn	22 56 52.3 -6.8
	comp=Z,59nm,0.9s,baz=307,slow=22,SNR=2.3					
ASAR				ScP	ScP	23 00 08.4 +1.3
	comp=Z,12nm,0.9s,baz=308,slow=2.2,SNR=1.4					
ASAR				LR	LR	23 02 38.3
	comp=Z,57µm,18.1s,baz=308,slow=40					
	comp=Z,1µm,1.0s					
AS01	Alice Springs	22.65	134	P	P	22 52 39.3 +0.7
SNSI	Sinabang, Aceh	22.74	297	P	P	22 52 40.7 +1.1
	comp=Z,3µm,1.4s,comp=Z,33µmcomp=Z,63µm					
KLBR	Kellerberrin	23.17	177	P	P	22 52 45.4 +1.6
KLBR	Kellerberrin	23.17	177	P	P	22 52 44.7 +0.9
	comp=Z,1µm,0.8s,SNR=82					
KMBL	Kambalda	23.46	168	P	P	22 52 47.3 +0.5
KMBL	Kambalda	23.46	168	P	P	22 52 46.7 0.0
	comp=Z,162µm,SNR=37					
MTKN	Mount Kenneth	23.49	181	P	P	22 52 50.4 +3.5
MTKN	Mount Kenneth	23.49	181	P	P	22 52 45.9 -1.0
	comp=Z,670nm,0.7s,SNR=4.9					
MUN	Mundaring	23.52	181	P	P	22 52 48.6 +1.3
MUN	Mundaring	23.52	181	P	P	22 52 47.6 +0.3
	comp=Z,592nm,1.6s,SNR=38					
MLSI	Meulaboh, Aceh	23.60	301	P	P	22 52 48.1 -0.1
	comp=Z,855nm,0.7s					
MMPI	Merauke	23.67	92	P	P	22 52 47.1 -1.8
	comp=Z,1µm,0.8s,comp=Z,31µmcomp=Z,43µm					
LHMI	Lhok Sumawe	23.67	304	P	P	22 52 50.8 +1.9
LHMI	Lhok Sumawe	23.67	304	P	P	22 52 50.2 +1.3
LHMI	Lhok Sumawe	23.67	304	⇑P	P	22 52 50.4 +1.5
LHMI	Lhok Sumawe	23.67	304	P	P	22 52 50.0 +1.1
	comp=Z,3µm,1.2s,comp=Z,106µm					
SRIT	Nakonsritamara	23.77	315	P	P	22 52 52.7 +2.8
SRIT	Nakonsritamara	23.77	315	P	P	22 52 50.9 +1.1
SRIT				IAmb	IAmb	22 52 58.7
	comp=Z,2µm,1.3s					
SURA	Surathani	24.16	316	P	P	22 52 56.7 +3.3
GENI	Genyem	24.27	78	P	P	22 52 53.8 -0.8
GENI	Genyem	24.27	78	⇑P	P	22 52 52.2 -2.3
GENI	Genyem	24.27	78	P	P	22 52 52.8 -1.8
	comp=Z,747nm,1.1s,comp=Z,30µmcomp=Z,54µm					
NWAO	Narrogin (SRO)	24.48	178	P	P	22 52 57.5 +1.3
NWAO	Narrogin (SRO)	24.48	178	P	P	22 52 57.6 +1.3
NWAO	Narrogin (SRO)	24.48	178	P	P	22 52 56.1 -0.1
NWAO				IAmb	IAmb	22 53 29.0
	comp=Z,512nm,0.8s					
NWAO	Narrogin (SRO)	24.48	178	P	P	22 52 56.8 +0.6
	comp=Z,2µm,1.5s,SNR=22					
NWAO	Narrogin (SRO)	24.48	178	P	P	22 52 57.0 +0.7
	comp=Z,297nm,0.9s,baz=352,slow=8.4,SNR=58					
NWAO				S	S	22 57 25.1 +10
	comp=Z,148nm,0.7s,baz=79,slow=20,SNR=2.0					
NWAO				LR	LR	23 02 20.7
	comp=Z,82µm,21.1s,baz=346,slow=36					
	comp=Z,297nm,0.9s					
NWAO	Narrogin (SRO)	24.48	178	P	P	22 52 57.3 +1.0
NWAO				P	P	22 52 57.3 +1.0
NWAO				P	P	22 52 57.3 +1.0
NWAO				S	S	22 57 27.2 +12
NWAO				S	S	22 57 27.2 +12
NWAO				S	S	22 57 27.2 +12
NWAO	Narrogin (SRO)	24.48	178	P	P	22 52 56.1 -0.1
NWAO				pmax	pmax	
	comp=Z,512nm,0.9s					
NWAO				MLR	MLR	
	comp=Z,83µm,20.0s					
AUHAR	St Anne's Scho	24.64	181	P	P	22 53 00.0 +2.3
	comp=Z,1µm,1.2s					
TABU	Tabubil	24.77	85	P	P	22 52 57.8 -1.4
JAY	Jayapura	24.81	78	P	P	22 52 56.7 -2.8
FORT	Forrest	24.82	156	P	P	22 53 00.5 +1.1
FORT	Forrest	24.82	156	P	P	22 52 59.7 +0.3
FORT	Forrest	24.82	156	P	P	22 52 59.2 -0.1
	comp=Z,1µm,0.9s,SNR=58					
FORT	Forrest	24.82	156	⇑P	P	22 53 00.1 +0.7
QIS	Mount Isa	25.45	121	P	P	22 53 05.9 +0.7
QIS	Mount Isa	25.45	121	P	P	22 53 05.5 +0.3
	comp=Z,1µm,1.2s,SNR=352					
UBPT	Khong Chiam	25.87	335	P	P	22 53 11.3 +2.3
UBPT	Khong Chiam	25.87	335	P	P	22 53 10.5 +1.5
UBPT				IAmb	IAmb	22 53 41.0
	comp=Z,733nm,1.4s					
UBPT	Khong Chiam	25.87	335	⇑P	P	22 53 11.3 +2.3
SZP	Santa	26.03	9	P	P	22 53 13.1 +2.7
SZP	Santa	26.03	9	⇓P	P	22 53 10.0 -0.4
RKGY	Rocky Gully	26.15	179	P	P	22 53 13.0 +1.6
RKGY	Rocky Gully	26.15	179	P	P	22 53 12.6 +1.2
	comp=Z,690nm,0.9s,SNR=15					
H01W3	Cape Leeuwin H	26.50	184	P	P	22 53 17.6 +3.3
	baz=7.6,slow=10,SNR=18					
H01W1	Cape Leeuwin H	26.51	184	P	P	22 53 17.8 +3.4
	baz=7.6,slow=10,SNR=23					
H01W2	Cape Leeuwin H	26.52	184	P	P	22 53 17.8 +3.4
	baz=7.6,slow=10,SNR=26					
OOD	Oodnadatta	26.54	139	P	P	22 53 15.8 +0.8
AUALB	St Joseph's Co	26.57	177	P	P	22 53 17.6 +2.5
COEN	Coen	26.79	104	P	P	22 53 17.0 -0.4
COEN	Coen	26.79	104	P	P	22 53 17.5 +0.2
COEN				IAmb	IAmb	22 53 19.3
	comp=Z,1µm,1.1s					
COEN	Coen	26.79	104	P	P	22 53 17.3 -0.1
	comp=Z,43µm,SNR=15					
COEN	Coen	26.79	104	⇑P	P	22 53 17.7 +0.3
NAYO	Nakonayok	27.06	326	P	P	22 53 23.9 +4.2
MULG	Mulgathing	27.35	145	P	P	22 53 23.1 +0.8
QIZ	Qiongzhong	27.97	347	P	P	22 53 32.1 +4.3
QIZ	Qiongzhong	27.97	347	P	P	22 53 29.5 +1.7
QIZ				S	S	22 58 16.0 +5.5
QIZ				pmax	pmax	
	comp=Z,200nm,1.2s					
QIZ				pmax	pmax	
	comp=Z,18µm,11.4s					
QIZ				LR	LR	
	comp=Z,92µm,14.3s					
QIZ				LR	LR	
	comp=Z,61µm,12.6s					
QIZ				LR	LR	
	comp=Z,124µm,15.1s					
QIZ	Qiongzhong	27.97	347	P	P	22 53 28.7 +0.9
QIZ				IAmb	IAmb	22 53 50.3
	comp=Z,371nm,1.2s					
SRDT	SRDT	28.36	323	P	P	22 53 35.1 +3.7
MTSU	Mount Surprise	28.77	113	P	P	22 53 36.7 +1.6
LCRK	Leigh Creek	29.96	140	P	P	22 53 46.6 +1.1
INKA	Innaminka	29.98	133	P	P	22 53 47.6 +1.9
PMG	Port Moresby	30.34	94	P	P	22 53 49.8 +0.7
PMG	Port Moresby	30.34	94	P	P	22 53 49.6 +0.5
PMG	Port Moresby	30.34	94	P	P	22 53 47.1 -2.0
PMG	Port Moresby	30.34	94	⇑P	P	22 53 47.8 -1.3
PMG	Port Moresby	30.34	94	P	P	22 53 47.8 -1.3
	comp=Z,32nm,0.8s,baz=301,slow=8.4,SNR=14					
PMG				LR	LR	23 09 43.6
	comp=Z,82µm,18.8s,baz=278,slow=44					
	comp=Z,32nm,0.8s					
PMG	Port Moresby	30.34	94	P	P	22 53 47.1 -2.0
PMG				pmax	pmax	
	comp=Z,211nm,1.1s					
PMG				MLR	MLR	
	comp=Z,48µm,19.0s					
BBOO	Buckleboo	30.37	146	P	P	22 53 49.8 +0.7
BBOO	Buckleboo	30.37	146	P	P	22 53 49.5 +0.4
BBOO				IAmb	IAmb	22 53 51.3
	comp=Z,497nm,1.1s					
BBOO				IAMs_20	IAMs_20	23 05 59.5
	comp=Z,90µm,21.0s					
MCO	Taipa Grande	30.41	355	P	P	22 53 52.0 +2.5
HKPS	Hong Kong Po S	30.51	356	P	P	22 53 53.2 +2.8
HKPS	Hong Kong Po S	30.51	356	P	P	22 53 50.7 +0.3
HKC	Hong Kong Obse	30.53	356	⇑P	P	22 53 52.0 +1.4
PBA	Port Blair	30.84	310	P	P	22 53 53.5 +0.1
PBA				IAmb	IAmb	22 54 41.3
	comp=Z,522nm,1.3s					
PBA	Port Blair	30.84	310	*e*P	P	22 53 52.7 -0.7
PBA				IAMs_20	IAMs_20	23 08 24.6
	comp=Z,276µm,15.9s					
CTA	Charters Tower	31.09	115	P	P	22 53 56.8 +1.2
CTA	Charters Tower	31.09	115	P	P	22 53 56.5 +0.8
	comp=Z,21nm,1.1s,baz=288,slow=9.4,SNR=135					
CTA				PcP	PcP	22 56 52.2 +1.2
	comp=Z,2.8nm,0.7s,baz=326,slow=9.4,SNR=3.1					
CTA				LR	LR	23 08 46.2
	comp=Z,11µm,18.5s,baz=290,slow=41					
	comp=Z,21nm,1.1s					
CTAO	Charters Tower	31.09	115	P	P	22 53 56.9 +1.2
CTAO	Charters Tower	31.09	115	P	P	22 53 55.8 +0.2
CTAO				IAmb	IAmb	22 54 02.3
	comp=Z,491nm,1.1s					
CTAO	Charters Tower	31.09	115	⇑P	P	22 53 56.8 +1.2
CTAO	Charters Tower	31.09	115	P	P	22 53 55.8 +0.2
CTAO				pmax	pmax	
	comp=Z,491nm,1.2s					
CTAO				MLR	MLR	
	comp=Z,141µm,18.0s					
PHRA	Phrae	31.11	329	P	P	22 53 57.9 +2.2
TWGBT	Beinan	31.29	8	P	P	22 54 00.1 +2.8
TWG	Pinlang	31.30	8	P	P	22 53 57.9 +0.6
TV1H	Townsville Har	31.34	113	P	P	22 53 59.0 +1.2
MANU	Manus Island	31.39	80	P	P	22 53 56.9 -1.4
WHYH	Whyalla	31.39	144	P	P	22 53 59.1 +1.0
TPUB	Ta-pu	31.71	7	P	P	22 54 03.6 +2.6
TPUB	Ta-pu	31.71	7	P	P	22 54 00.8 -0.2
TPUB				IAmb	IAmb	22 54 22.8
	comp=Z,406nm,1.4s					
PTPS	Port Pirie	31.73	144	P	P	22 54 03.1 +2.0
CM31	Chiang Mai Arr	31.75	327	P	P	22 54 03.4 +2.0
CMAR	Chiang Mai Arr	31.75	327	P	P	22 54 03.7 +2.3
CMAR	Chiang Mai Arr	31.75	327	P	P	22 54 02.8 +1.5
	comp=Z,373nm,1.2s,baz=154,slow=6.6,SNR=126					
CMAR				ScP	ScP	23 00 34.5 +0.1
	comp=Z,16nm,1.0s,baz=174,slow=3.2,SNR=6.6					
CMAR				PKiKP	PKiKP	23 04 21.7 -0.1
	comp=Z,1.7nm,0.8s,baz=269,slow=0.8,SNR=4.0					
CMAR				LR	LR	23 07 59.6
	comp=Z,99µm,20.0s,baz=145,slow=39					
CMAR				P3KPbc		23 25 38.6
	comp=Z,6.9nm,0.9s,baz=318,slow=6.3,SNR=27					
CMAR	Chiang Mai Arr	31.75	327	P	P	22 54 03.7 +2.3
YULB	Yu-li	31.89	8	P	P	22 54 04.6 +2.0
YULB	Yu-li	31.89	8	P	P	22 54 03.7 +1.1
SLVN	Son La	31.96	337	P	P	22 54 04.9 +1.6
SLVN				IAmb	IAmb	22 54 13.9
	comp=Z,489nm,1.6s					
AUAYR	Ayr State High	31.98	114	P	P	22 54 04.8 +1.3
QLP	Quilpie	31.99	128	P	P	22 54 04.4 +1.0
QLP	Quilpie	31.99	128	⇑P	P	22 54 04.0 +0.6
CHTO	Chiang Mai	32.04	327	P	P	22 54 05.8 +1.9
CHTO				IAmb	IAmb	22 54 13.1
	comp=Z,794nm,1.6s					
CHTO	Chiang Mai	32.04	327	P	P	22 54 05.9 +1.9
CHTO				pmax	pmax	
	comp=Z,793nm,1.7s					
CHTO				MLR	MLR	
	comp=Z,130µm,18.0s					
SSLB	Suanglung	32.23	8	P	P	22 54 07.8 +2.2
SSLB	Suanglung	32.23	8	P	P	22 54 05.3 -0.3
SSLB				IAmb	IAmb	22 54 26.8
	comp=Z,325nm,1.3s					
HTT	Hallett	32.46	143	P	P	22 54 08.4 +0.8
HTT	Hallett	32.46	143	⇑P	P	22 54 08.6 +0.9
NACB	Ninganchiao	32.70	9	P	P	22 54 12.1 +2.5
STKA	Stephens Creek	33.08	139	P	P	22 54 14.4 +1.4
STKA	Stephens Creek	33.08	139	P	P	22 54 13.4 +0.4
STKA	Stephens Creek	33.08	139	P	P	22 54 13.8 +0.8
	comp=Z,205nm,0.7s,baz=309,slow=9.5,SNR=119					
STKA				PcP	PcP	22 56 53.4 -2.7
	comp=Z,215nm,1.1s,baz=310,slow=9.9,SNR=3.3					
STKA				LR	LR	23 09 33.1
	comp=Z,48µm,18.4s,baz=307,slow=40					
	comp=Z,205nm,0.7s					
STKA	Stephens Creek	33.08	139	P	P	22 54 13.4 +0.4
STKA				pmax	pmax	
	comp=Z,78nm,1.1s					
QZH	Quanzhou	33.15	4	⇓*iP*	P	22 54 13.8 +0.3
QZH				PP	PP	22 55 27.8 -1.0
QZH				S	S	22 59 31.3 -0.2
QZH				pmax	pmax	
	comp=Z,56nm,1.9s					
QZH				pmax	pmax	
	comp=Z,11µm,10.7s					
QZ

KMI				LR	LR		
	comp=Z,80μm,15.9s						
RK1H	**Rockhampton Ha**	**35.87**	**119**	P	**P**	**22 54 38.0**	**+0.8**
GYA	**Guiyang**	**35.87**	**345**	⇓P	**P**	**22 54 39.3**	**+2.0**
GYA				PP	**PP**	**22 56 01.5**	**+2.3**
GYA				S	**S**	**23 00 19.3**	**+5.4**
GYA				pmax	pmax		
	comp=Z,230nm,1.6s						
GYA				pmax	pmax		
	comp=Z,19μm,9.8s						
GYA				LR	LR		
	comp=Z,61μm,16.8s						
GYA				LR	LR		
	comp=Z,64μm,17.8s						
GYA				LR	LR		
	comp=Z,95μm,17.2s						
AULRC	**Lightning Ridg**	**36.26**	**130**	P	**P**	**22 54 41.7**	**+1.2**
CNSH	**ChangSha**	**36.47**	**355**	P	**P**	**22 54 44.0**	**+1.8**
CNSH				PP	**PP**	**22 56 11.5**	**+6.0**
CNSH				S	**S**	**23 00 28.5**	**+5.9**
CNSH				pmax	pmax		
	comp=Z,110nm,1.5s						
CNSH				LR	LR		
	comp=Z,42μm,19.6s						
CNSH				LR	LR		
	comp=Z,18μm,23.5s						
CNSH				LR	LR		
	comp=Z,57μm,21.0s						
ARPS	**Mount Arapiles**	**36.51**	**145**	P	**P**	**22 54 44.3**	**+1.8**
GD1S	**Gladstone Soft**	**36.60**	**119**	P	**P**	**22 54 44.9**	**+1.4**
JOW	**Kunigami**	**36.79**	**18**	P	**P**	**22 54 48.1**	**+3.1**
JOW	**Kunigami**	**36.79**	**18**	P	**P**	**22 54 44.7**	**-0.3**
JOW	**Kunigami**	**36.79**	**18**	⇓P	**P**	**22 54 45.8**	**+0.8**
JMZ	**Minamidaito 2**	**36.87**	**23**	P	**P**	**22 54 48.3**	**+2.7**
JMZ	**Minamidaito 2**	**36.87**	**23**	P	**P**	**22 54 46.5**	**+0.9**
EIDS	**Eidsvold**	**37.05**	**121**	P	**P**	**22 54 48.2**	**+0.9**
EIDS	**Eidsvold**	**37.05**	**121**	P	**P**	**22 54 47.5**	**+0.2**
EIDS				IAMs_20	IAMs_20	23 11 53.6	
	comp=Z,67μm,18.0s						
EIDS	**Eidsvold**	**37.05**	**121**	⇑P	**P**	**22 54 48.4**	**+1.1**
PZH	**PanZhiHua**	**37.47**	**338**	P	**P**	**22 54 53.5**	**+2.6**
PZH				sP	**sP**	**22 54 59.5**	**-2.1**
PZH				S	**S**	**23 00 41.3**	**+3.1**
PZH				sS	**sS**	**23 00 48.0**	**-2.8**
PZH				SS	**SnSn**	**23 03 17.3**	**+0.4**
PZH				pmax	pmax		
	comp=Z,310nm,1.6s						
PZH				pmax	pmax		
	comp=Z,16μm,8.7s						
PZH				LR	LR		
	comp=Z,46μm,16.1s						
PZH				LR	LR		
	comp=Z,66μm,16.5s						
PZH				LR	LR		
	comp=Z,53μm,16.3s						
TNCH	**TengChong**	**37.49**	**333**	⇓*i*P	**P**	**22 54 54.0**	**+2.8**
TNCH				pP	pP	22 54 57.3	-1.6
TNCH				sP	sP	22 54 59.0	-3.0
TNCH				PP	**PP**	**22 56 23.8**	**+6.7**
TNCH				S	**S**	**23 00 38.8**	**0.0**
TNCH				sS	sS	23 00 49.0	-2.3
TNCH				pmax	pmax		
	comp=Z,230nm,1.4s						
TNCH				pmax	pmax		
	comp=Z,16μm,5.8s						
TNCH				LR	LR		
	comp=Z,64μm,14.6s						
TNCH				LR	LR		
	comp=Z,48μm,12.5s						
TNCH				LR	LR		
	comp=Z,123μm,15.7s						
AUMAG	**Moama Anglican**	**37.79**	**141**	P	**P**	**22 54 54.8**	**+1.4**
AUDCS	**Dubbo College**	**38.15**	**133**	P	**P**	**22 54 57.6**	**+1.1**
BRAT	**Ballarat**	**38.26**	**144**	P	**P**	**22 54 58.9**	**+1.6**
SAIH	**SAIHA**	**38.31**	**324**	*ex*	**P**	**22 54 59.8**	**+1.8**
SAIH				IAMs_20	IAMs_20	23 11 43.3	
	comp=Z,67μm,24.9s						
HALK	**Hakmana**	**38.45**	**291**	⇑P	**P**	**22 54 59.4**	**+0.1**
WHN	**Wuhan**	**38.71**	**357**	⇓P	**P**	**22 55 03.0**	**+1.9**
WHN				sP	**sP**	**22 55 11.8**	**-0.1**
WHN				PP	**PP**	**22 56 36.0**	**+5.8**
WHN				S	**S**	**23 01 00.3**	**+3.6**
WHN				pmax	pmax		
	comp=Z,1μm,1.4s						
WHN				pmax	pmax		
	comp=Z,31μm,6.1s						
WHN				LR	LR		
	comp=Z,264μm,16.3s						
WHN				LR	LR		
	comp=Z,118μm,16.6s						
WHN				LR	LR		
	comp=Z,346μm,17.1s						
PALK	**Pallekele**	**38.87**	**293**	P	**P**	**22 55 02.7**	**-0.1**
PALK	**Pallekele**	**38.87**	**293**	IAMs_20	IAMs_20	23 12 25.8	
	comp=Z,68μm,19.0s						
PALK	**Pallekele**	**38.87**	**293**	⇑P	**P**	**22 55 02.9**	**0.0**
PALK	**Pallekele**	**38.87**	**293**	LR	LR	23 12 36.6	
	comp=Z,63μm,18.7s,baz=220,slow=39						
PALK	**Pallekele**	**38.87**	**293**	P	**P**	**22 55 02.7**	**-0.1**
PALK				P	**P**	**22 55 02.7**	**-0.1**
PALK				S	**S**	**23 00 56.9**	**-2.9**
PALK				S	**S**	**23 00 56.9**	**-2.9**
PALK	**Pallekele**	**38.87**	**293**	P	**P**	**22 55 02.7**	**-0.1**
PALK				pmax	pmax		
	comp=Z,268nm,1.1s						
PALK				MLR	MLR		
	comp=Z,68μm,19.0s						
GEXS	**Deakin Univers**	**38.90**	**144**	P	**P**	**22 55 05.9**	**+3.2**
ENH	**Enshi**	**38.97**	**350**	P	**P**	**22 55 03.9**	**+0.6**
ENH				IAMs_20	IAMs_20	23 10 15.2	
	comp=Z,52μm,21.0s						
MLBS	**Spotswood, Mel**	**39.01**	**143**	P	**P**	**22 55 05.2**	**+1.6**
YNG	**Young**	**39.10**	**136**	P	**P**	**22 55 06.1**	**+1.6**
TOO	**Toolangi**	**39.20**	**142**	P	**P**	**22 55 07.8**	**+2.5**
TOO	**Toolangi**	**39.20**	**142**	P	**P**	**22 55 06.5**	**+1.2**
TOO				IAmb	IAmb	22 55 09.3	
	comp=Z,522nm,1.1s						
TOO	**Toolangi**	**39.20**	**142**	⇑P	**P**	**22 55 07.8**	**+2.5**
TOO	**Toolangi**	**39.20**	**142**	P	**P**	**22 55 06.5**	**+1.2**
TOO				pmax	pmax		
	comp=Z,522nm,1.1s						
TOO				MLR	MLR		
	comp=Z,103μm,19.0s						
AUPHS	**Peel High Scho**	**39.27**	**130**	P	**P**	**22 55 07.9**	**+2.0**
AUWSH	**Wavell State H**	**39.42**	**123**	P	**P**	**22 55 09.4**	**+2.1**
MALK	**Mahakanadarawa**	**39.46**	**294**	P	**P**	**22 55 10.0**	**+2.3**
MALK	**Mahakanadarawa**	**39.46**	**294**	⇑P	**P**	**22 55 07.7**	**-0.1**
SSE	**Sheshan**	**39.47**	**6**	P	**P**	**22 55 08.8**	**+1.3**
SSE				PP	**PP**	**22 56 39.8**	**+1.4**
SSE				S	**S**	**23 01 12.3**	**+4.2**
SSE				pmax	pmax		
	comp=Z,5μm,10.7s						
ARMA	**Armidale**	**39.52**	**129**	P	**P**	**22 55 10.8**	**+2.6**
ARMA	**Armidale**	**39.52**	**129**	P	**P**	**22 55 09.2**	**+1.0**
ARMA				IAmb	IAmb	22 55 12.7	
	comp=Z,603nm,1.4s						
ARMA				IAMs_20	IAMs_20	23 14 38.3	
	comp=Z,64μm,19.0s						
ARMA	**Armidale**	**39.52**	**129**	⇑P	**P**	**22 55 10.8**	**+2.6**
IMP	**Imphal**	**39.61**	**327**	*eP*	**P**	**22 55 07.3**	**-1.6**
IMP				IAMs_20	IAMs_20	23 11 55.7	
	comp=Z,65μm,33.9s						
CAN	**Canberra**	**40.08**	**137**	P	**P**	**22 55 14.1**	**+1.4**
CAN	**Canberra**	**40.08**	**137**	P	**P**	**22 55 13.4**	**+0.7**
CAN				IAMs_20	IAMs_20	23 12 25.2	
	comp=Z,45μm,18.0s						
CAN	**Canberra**	**40.08**	**137**	P	**P**	**22 55 13.4**	**+0.7**
CAN				pmax	pmax		
	comp=Z,260nm,1.0s						
CAN				MLR	MLR		
	comp=Z,45μm,18.0s						
GC1S	**Gold Coast 1 S**	**40.10**	**124**	P	**P**	**22 55 15.4**	**+2.6**
NJ2	**Nanjing**	**40.23**	**3**	⇓*i*P	**P**	**22 55 15.8**	**+2.0**
NJ2				S	**S**	**23 01 25.8**	**+6.4**
NJ2				pmax	pmax		
	comp=Z,230nm,1.5s						
NJ2				pmax	pmax		
	comp=Z,2μm,3.5s						
NJ2				LR	LR		
	comp=Z,43μm,15.6s						
NJ2				LR	LR		
	comp=Z,23μm,19.9s						
NJ2				LR	LR		
	comp=Z,46μm,19.9s						
CNB	**Canberra Magne**	**40.33**	**137**	P	**P**	**22 55 16.0**	**+1.3**
AGT	**Agartala**	**40.40**	**323**	*eP*	**P**	**22 55 14.4**	**-0.9**
SYDH	**Sydney Hard Ro**	**40.46**	**134**	P	**P**	**22 55 18.1**	**+2.3**
AUSSC	**Sale College,**	**40.50**	**142**	P	**P**	**22 55 17.8**	**+1.8**
LKP	**Lekhapani**	**40.70**	**331**	*eP*	**P**	**22 55 16.5**	**-1.3**
LKP				IAmb	IAmb	22 55 23.7	
	comp=Z,807nm,0.9s						
NTLH	**Newcastle Hard**	**40.73**	**132**	P	**P**	**22 55 20.9**	**+2.9**
RIV	**Riverview**	**40.79**	**134**	P	**P**	**22 55 20.1**	**+1.6**
RIV	**Riverview**	**40.79**	**134**	⇑P	**P**	**22 55 21.1**	**+2.7**
CD2	**Chengdu**	**40.88**	**343**	P	**P**	**22 55 20.8**	**+1.5**
CD2				sP	pP	22 55 25.0	-2.0
CD2				PP	**PP**	**22 56 53.5**	**-0.4**
CD2				S	**S**	**23 01 34.0**	**+4.6**
CD2				pmax	pmax		
	comp=Z,1μm,0.8s						
CD2				pmax	pmax		
	comp=Z,16μm,5.9s						
CD2				LR	LR		
	comp=Z,66μm,15.3s						
CD2				LR	LR		
	comp=Z,93μm,16.8s						
CD2				LR	LR		
	comp=Z,87μm,15.3s						
WOLH	**Wollongong Har**	**40.88**	**134**	P	**P**	**22 55 21.8**	**+2.5**
AUUHS	**Ulladulla High**	**41.11**	**136**	P	**P**	**22 55 22.9**	**+1.8**
MILA	**Mila**	**41.18**	**139**	P	**P**	**22 55 24.2**	**+2.5**
MILA	**Mila**	**41.18**	**139**	⇑P	**P**	**22 55 23.7**	**+2.0**
SHL	**Shillong**	**41.33**	**325**	P	**P**	**22 55 24.4**	**+1.2**
SHL	**Shillong**	**41.33**	**325**	*eP*	**P**	**22 55 22.4**	**-0.8**
SHL				IAmb	IAmb	22 55 28.4	
	comp=Z,429nm,1.1s						
SHL	**Shillong**	**41.33**	**325**	P	**P**	**22 55 24.2**	**+1.0**
	SNR=194						
SHL	**Shillong**	**41.33**	**325**	P	**P**	**22 55 24.4**	**+1.2**
SHL				pmax	pmax		
	comp=Z,1μm,1.1s						
SHL				MLR	MLR		
	comp=Z,82μm,20.0s						
BWNR	**Bhubaneshwar**	**41.46**	**314**	*eP*	**P**	**22 55 23.2**	**-0.9**
BWNR				IAMs_20	IAMs_20	23 13 30.0	
	comp=Z,58μm,20.3s						
VIS	**Vishakhapatnam**	**41.73**	**308**	*eP*	**P**	**22 55 25.4**	**-1.0**
VIS				IAMs_20	IAMs_20	23 14 42.1	
	comp=Z,66μm,18.3s						
MDRS	**Chennai**	**41.79**	**300**	*eP*	**P**	**22 55 25.7**	**-1.2**
JSU	**Suzuyama**	**41.82**	**18**	P	**P**	**22 55 29.2**	**+2.3**
ZIRO	**ZIRO**	**41.84**	**329**	*eP*	**P**	**22 55 25.5**	**-1.9**
ZIRO				IAMs_20	IAMs_20	23 13 55.6	
	comp=Z,60μm,20.4s						
GUWA	**GUWAHATI**	**41.92**	**326**	*eP*	**P**	**22 55 27.2**	**-0.6**
GUWA				IAmb	IAmb	22 55 33.9	
	comp=Z,555nm,1.4s						
GUWA				*ex*	P	22 55 33.9	+6.1
GUWA				IAMs_20	IAMs_20	23 10 57.5	
	comp=Z,21μm,21.5s						
AULHS	**Lilydale High**	**42.62**	**145**	P	**P**	**22 55 36.2**	**+2.8**
CORO	**Coronation Par**	**42.72**	**146**	P	**P**	**22 55 37.4**	**+3.3**
XAN	**Xi'an**	**42.75**	**351**	⇓P	**P**	**22 55 35.0**	**+0.5**
XAN				pP	pP	22 55 40.0	-2.3
XAN				PP	**PP**	**22 57 20.3**	**+6.2**
XAN				S	**S**	**23 02 00.0**	**+3.1**
XAN				sS	sS	23 02 09.3	-0.2
XAN				SS	**SS**	**23 05 07.5**	**-0.9**
XAN				pmax	pmax		
	comp=Z,410nm,1.4s						
XAN				pmax	pmax		
	comp=Z,26μm,7.7s						
XAN				LR	LR		
	comp=Z,167μm,14.9s						
XAN				LR	LR		
	comp=Z,34μm,14.6s						
XAN				LR	LR		
	comp=Z,251μm,16.0s						
TRD	**Trivandrum**	**42.77**	**292**	*eP*	**P**	**22 55 33.5**	**-1.4**
TRD				IAmb	IAmb	22 55 40.0	
	comp=Z,487nm,1.8s						
TRD				IAMs_20	IAMs_20	23 14 53.3	
	comp=Z,51μm,18.5s						
LYN	**LuoYang**	**42.82**	**355**	⇓P	**P**	**22 55 36.0**	**+1.0**
LYN				PP	**PP**	**22 57 13.5**	**-1.3**
LYN				PcP	**PcP**	**22 57 32.8**	**+6.8**
LYN				S	**S**	**23 01 58.0**	**+0.2**
LYN				pmax	pmax		
	comp=Z,320nm,2.0s						
LYN				pmax	pmax		
	comp=Z,25μm,6.5s						
LYN				LR	LR		
	comp=Z,105μm,15.8s						
LYN				LR	LR		
	comp=Z,40μm,14.1s						
LYN				LR	LR		
	comp=Z,112μm,15.8s						
GLAD	**Gladstone**	**42.90**	**144**	P	**P**	**22 55 38.3**	**+2.7**
TAWA	**Tawang**	**42.93**	**327**	IAMs_20	IAMs_20	23 14 38.0	
	comp=Z,21μm,24.9s						
HNR	**Honiara**	**42.96**	**95**	P	**P**	**22 55 36.0**	**-0.5**
HNR	**Honiara**	**42.96**	**95**	P	**P**	**22 55 35.7**	**-0.8**
HNR	**Honiara**	**42.96**	**95**	⇑P	**P**	**22 55 36.0**	**-0.5**
HNR	**Honiara**	**42.96**	**95**	LR	LR	23 15 34.8	
	comp=Z,343μm,19.8s,baz=262,slow=39						
HNR	**Honiara**	**42.96**	**95**	P	**P**	**22 55 35.7**	**-0.8**
HNR				pmax	pmax		
	comp=Z,2μm,1.1s						
CBIJ	**Chichi jima**	**43.16**	**34**	P	**P**	**22 55 39.0**	**+1.1**
JCJ	**Chichijima**	**43.16**	**34**	P	**P**	**22 55 38.5**	**+0.6**
JCJ	**Chichijima**	**43.16**	**34**	P	**P**	**22 55 37.6**	**-0.2**
JCJ				IAmb	IAmb	22 56 11.4	
	comp=Z,870nm,0.9s						
JCJ	**Chichijima**	**43.16**	**34**	⇓P	**P**	**22 55 38.0**	**+0.1**
JCJ	**Chichijima**	**43.16**	**34**	LR	LR	23 12 05.3	
	comp=Z,12μm,20.2s,baz=216,slow=34						
MOO	**Moorlands**	**43.41**	**147**	P	**P**	**22 55 42.4**	**+2.7**
JNU	**Nakatsue**	**43.45**	**18**	P	**P**	**22 55 42.8**	**+2.6**
JNU	**Nakatsue**	**43.45**	**18**	P	**P**	**22 55 40.0**	**-0.2**
JNU				IAmb	IAmb	22 55 56.1	
	comp=Z,585nm,1.6s						
JNU	**Nakatsue**	**43.45**	**18**	⇓P	**P**	**22 55 40.5**	**+0.3**
JNU	**Nakatsue**	**43.45**	**18**	LR	LR	23 16 52.2	
	comp=Z,20μm,19.3s,baz=190,slow=41						
SHBG	**Sahibganj**	**43.57**	**321**	*eP*	**P**	**22 55 40.5**	**-0.8**
DGAR	**Diego Garcia**	**43.59**	**268**	P	**P**	**22 55 42.5**	**+0.9**
DGAR				IAmb	IAmb	22 55 51.5	
	comp=Z,1μm,1.4s						
DGAR	**Diego Garcia**	**43.59**	**268**	P	**P**	**22 55 42.5**	**+0.9**
DGAR				pmax	pmax		
	comp=Z,1μm,1.4s						
DGAR				MLR	MLR		
	comp=Z,29μm,20.0s						
BOK	**Bokaro**	**43.73**	**318**	*eP*	**P**	**22 55 42.0**	**-0.6**
BOK				IAmb	IAmb	22 55 52.3	
	comp=Z,136nm,1.3s						
BOK				*i* x	x	22 57 34.7	
BOK				IAMs_20	IAMs_20	23 16 19.2	
	comp=Z,72μm,19.5s						
TAU	**Tasmania Unive**	**43.79**	**147**	P	**P**	**22 55 44.5**	**+1.7**
TAU	**Tasmania Unive**	**43.79**	**147**	P	**P**	**22 55 43.4**	**+0.6**
TAU	**Tasmania Unive**	**43.79**	**147**	IAMs_20	IAMs_20	23 14 48.8	
	comp=Z,63μm,20.0s						
TAU	**Tasmania Unive**	**43.79**	**147**	⇑P	**P**	**22 55 44.9**	**+2.1**
TAU	**Tasmania Unive**	**43.79**	**147**	P	**P**	**22 55 43.4**	**+0.6**
TAU				pmax	pmax		
	comp=Z,221nm,1.2s						
TAU				MLR	MLR		
	comp=Z,62μm,20.0s						
AUTAR	**Taroona High S**	**43.84**	**147**	P	**P**	**22 55 45.8**	**+2.7**
JHSG	**JHARSUGUGA**	**43.85**	**314**	*eP*	**P**	**22 55 41.4**	**-2.2**
KAAM	**Kaadhehdhoo**	**44.20**	**279**	P	**P**	**22 55 47.1**	**+0.6**
KAAM	**Kaadhehdhoo**	**44.20**	**279**	⇑P	**P**	**22 55 47.5**	**+1.0**
KAAM	**Kaadhehdhoo**	**44.20**	**279**	P	**P**	**22 55 47.2**	**+0.7**
TIA	**Tai'an**	**44.32**	**1**	P	**P**	**22 55 47.5**	**+0.4**
TIA				S	**S**	**23 02 27.5**	**+7.8**
TIA				ScS	**ScS**	**23 05 47.8**	**+3.9**
TIA				pmax	pmax		
	comp=Z,55nm,1.1s						
TIA				pmax	pmax		
	comp=Z,18μm,7.4s						
TIA				LR	LR		
	comp=Z,57μm,16.2s						
TIA				LR	LR		
	comp=Z,30μm,14.7s						
TIA				LR	LR		
	comp=Z,73μm,15.7s						
LSA	**Lhasa**	**44.98**	**328**	P	**P**	**22 55 55.0**	**+1.9**
LSA				pmax	pmax		
	comp=Z,340nm,1.2s						
LSA				pmax	pmax		
	comp=Z,10μm,9.0s						
LSA				LR	LR		
	comp=Z,28μm,19.4s						
LSA				LR	LR		
	comp=Z,22μm,20.1s						
LSA				LR	LR		
	comp=Z,35μm,22.3s						
LSA	**Lhasa**	**44.98**	**328**	P	**P**	**22 55 53.7**	**+0.7**
LSA				IAMs_20	IAMs_20	23 16 24.5	
	comp=Z,37μm,21.0s						
LSA	**Lhasa**	**44.98**	**328**	P	**P**	**22 55 52.7**	**-0.4**
LSA	**Lhasa**	**44.98**	**328**	P	**P**	**22 55 54.6**	**+1.6**
LSA				P	**P**	**22 55 54.6**	**+1.6**
LSA				P	**P**	**22 55 54.6**	**+1.6**
LSA	**Lhasa**	**44.98**	**328**	P	**P**	**22 55 53.7**	**+0.7**
LSA				pmax	pmax		
	comp=Z,1μm,1.4s						
LSA				MLR	MLR		
	comp=Z,37μm,21.0s						
JMN	**Monobe**	**44.99**	**21**	P	**P**	**22 55 54.9**	**+2.4**
JMN	**Monobe**	**44.99**	**21**	P	**P**	**22 55 52.9**	**+0.4**
JMN				IAmb	IAmb	22 56 03.6	
	comp=Z,509nm,1.1s						
JMN	**Monobe**	**44.99**	**21**	⇓P	**P**	**22 55 54.0**	**+1.4**
BLSP	**Bilaspur**	**45.27**	**313**	*eP*	**P**	**22 55 54.0**	**-1.0**
HYB	**Hyderabad**	**45.37**	**304**	*eP*	**P**	**22 55 55.3**	**-0.5**
HYB				*ep*P	**pP**	**22 56 00.6**	**-3.3**
HYB				IVmBB		22 56 03.6	
	comp=Z,3μm,4.5s						
HYB				*e*PcP	**PcP**	**22 57 35.5**	**+0.5**
HYB				*e*S	**S**	**23 02 32.8**	**-2.7**
HYB				*e*ScS	**ScS**	**23 05 48.8**	**-2.6**
HYB				IVMs_BB	IVMs_BB	23 16 46.5	
	comp=Z,18μm,18.7s						
HNS	**HongShan**	**45.53**	**358**	⇓P	**P**	**22 55 57.5**	**+0.9**
HNS				PP	**PP**	**22 57 44.5**	**+0.9**
HNS				S	**S**	**23 02 45.3**	**+8.2**
HNS				pmax	pmax		
	comp=Z,190nm,1.5s						
HNS				pmax	pmax		
	comp=Z,17μm,9.2s						
HNS				LR	LR		
	comp=Z,81μm,15.7s						
HNS				LR	LR		
	comp=Z,84μm,15.9s						
TJN	**Taejon**	**45.64**	**12**	P	**P**	**22 56 01.3**	**+3.7**
TJN	**Taejon**	**45.64**	**12**	P	**P**	**22 55 58.1**	**+0.5**
TJN				IAMs_20	IAMs_20	23 14 54.6	
	comp=Z,66μm,22.0s						
TJN	**Taejon**	**45.64**	**12**	P	**P**	**22 55 58.1**	**+0.5**
TJN				pmax	pmax		
	comp=Z,2μm,1.9s						
TJN				MLR	MLR		
	comp=Z,66μm,22.0s						
LZH	**Lanzhou**	**45.76**	**346**	⇓P	**P**	**22 56 01.0**	**+2.3**
LZH				pP	pP	22 56 05.8	-0.7
LZH				PP	**PP**	**22 57 47.0**	**+0.7**
LZH				S	**S**	**23 02 37.5**	**-3.4**
LZH				pmax	pmax		
	comp=Z,560nm,1.5s						
LZH				pmax	pmax		
	comp=Z,22μm,9.0s						
LZH				LR	LR		
	comp=Z,76μm,17.5s						
LZH				LR	LR		
	comp=Z,62μm,16.5s						
LZH				LR	LR		
	comp=Z,72μm,16.8s						
LHI	**Lord Howe Isla**	**45.81**	**126**	P	**P**	**22 55 59.3**	**+0.2**
LHI				IAmb	IAmb	22 56 02.8	
	comp=Z,568nm,1.3s						
JHS	**Saijyo**	**45.89**	**19**	P	**P**	**22 56 01.7**	**+2.1**
TIY	**Taiyuan**	**45.97**	**356**	*eP*	**P**	**22 56 01.3**	**+1.1**
TIY				S	**S**	**23 02 44.8**	**+1.2**
TIY				pmax	pmax		
	comp=Z,100nm,1.2s						
TIY				pmax	pmax		
	comp=Z,14μm,8.7s						
TIY				LR	LR		
	comp=Z,22μm,22.7s						
TIY				LR	LR		
	comp=Z,21μm,19.2s						
EVN	**Everest**	**46.08**	**323**	⇑P	**P**	**22 56 02.8**	**+0.8**
JAD	**Aida**	**46.19**	**20**	P	**P**	**22 56 03.3**	**+1.4**
MNCI	**Minicoy**	**46.29**	**290**	P	**P**	**22 56 02.9**	**-0.2**
MNCI				IAMs_20	IAMs_20	23 16 45.5	
	comp=Z,31μm,18.0s						
INCN	**Inchon**	**46.57**	**11**	P	**P**	**22 56 05.6**	**+0.7**
INCN	**Inchon**	**46.57**	**11**	P	**P**	**22 56 05.4**	**+0.5**
INCN				S	**S**	**23 02 51.4**	**-0.7**
INCN	**Inchon**	**46.57**	**11**	P	**P**	**22 56 05.6**	**+0.7**
INCN				pmax	pmax		
	comp=Z,154nm,1.5s						
INCN				MLR	MLR		
	comp=Z,18μm,20.0s						
VAR	**Varanasi**	**46.67**	**317**	*eP*	**P**	**22 56 04.7**	**-1.2**
KSAR	**Wonju Array Be**	**46.78**	**12**	P	**P**	**22 56 07.3**	**+0.8**
KSAR	**Wonju Array Be**	**46.78**	**12**	P	**P**	**22 56 07.3**	**+0.8**
KSRS	**Korea Array**	**46.80**	**13**	P	**P**	**22 56 07.0**	**+0.3**
	comp=Z,72nm,1.0s,baz=192,slow=7.6,SNR=61						
KSRS				ScP	**ScP**	**23 01 33.2**	**+1.5**
	comp=Z,2.1nm,1.0s,baz=186,slow=2.4,SNR=2.5						
KSRS				LR	LR	23 19 51.1	
	comp=Z,14μm,18.4s,baz=200,slow=42						
KSRS				PKKPab		23 21 31.6	
	comp=Z,2.4nm,0.6s,baz=193,slow=11,SNR=7.3						
KSRS				PKPPKP	**P'P'df**	**23 27 25.5**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=12,slow=6.4,SNR=4.1						
JHJ	**Hachijo jima 2**	**46.82**	**27**	LR	LR	23 14 18.7	
	comp=Z,20μm,21.2s,baz=226,slow=34						
KS19	**Wonju Array Si**	**46.83**	**12**	P	**P**	**22 56 06.9**	**0.0**
KS19				IAmb	IAmb	22 56 20.3	
	comp=Z,557nm,1.6s						
JWT	**Wachi**	**46.93**	**21**	P	**P**	**22 56 09.3**	**+1.6**
HJU	**Haeju**	**46.95**	**10**	P	**P**	**22 56 08.8**	**+1.1**
HJU				S	**S**	**23 02 56.3**	**-1.2**
HJU				AmB			
	comp=Z,6μm,3.0s						
HJU				AMS	AMS		
	comp=Z,28μm,25.6s						
NGP	**Nagpur**	**47.00**	**309**	*eP*	**P**	**22 56 07.3**	**-1.2**
NGP				*i* x	x	22 58 03.8	
DL2	**Dalian**	**47.25**	**5**	P	**P**	**22 56 10.5**	**+0.4**
DL2				S	**S**	**23 03 02.3**	**+0.6**
DL2				SS	**SS**	**23 06 27.8**	**-1.8**
DL2				pmax	pmax		
	comp=Z,400nm,1.3s						
DL2				pmax	pmax		
	comp=Z,18μm,6.6s						
DL2				LR	LR		
	comp=Z,33μm,15.2s						
DL2				LR	LR		
	comp=Z,30μm,16.0s						
DL2				LR	LR		
	comp=Z,44μm,16.2s						
VLK	**Valmikinagar**	**47.47**	**319**	*eP*	**P**	**22 56 13.2**	**+1.2**
VLK				*i* x	x	22 58 13.2	
ALBI	**Allahabad**	**47.50**	**316**	*eP*	**P**	**22 56 11.5**	**-0.9**
ALBI				*i* x	x	22 58 08.0	
INU	**Inuyama**	**47.59**	**23**	P	**P**	**22 56 14.3**	**+1.4**
INU	**Inuyama**	**47.59**	**23**	P	**P**	**22 56 13.2**	**+0.3**
INU				IAmb	IAmb	22 56 33.8	
	comp=Z,182nm,1.0s						
INU	**Inuyama**	**47.59**	**23**	⇓P	**P**	**22 56 14.3**	**+1.4**
KOUNC	**Koumac, New Ca**	**47.71**	**110**	P	**P**	**22 56 15.8**	**

BJT				pmax	pmax		
	comp=Z,728nm,1.5s						
BJI	**Beijing**	**48.13**	**360**	P	**P**	**22 56 17.5**	**+0.5**
BJI				PP	**PP**	**22 58 13.0**	**+3.5**
BJI				S	**S**	**23 03 13.5**	**-0.8**
BJI				pmax	pmax		
	comp=Z,160nm,1.3s						
BJI				pmax	pmax		
	comp=Z,8μm,7.0s						
BJI				LR	LR		
	comp=Z,24μm,21.4s						
BJI				LR	LR		
	comp=Z,10μm,17.0s						
BJI				LR	LR		
	comp=Z,34μm,21.8s						
AKL	**Akola**	**48.33**	**307**	*e*x	**P**	**22 56 15.4**	**-3.5**
AKL				*i* x	x	22 58 15.2	
JOD2	**Odawara 2**	**48.34**	**25**	P	**P**	**22 56 19.9**	**+1.1**
GOA	**Goa**	**48.42**	**299**	*e*P	**P**	**22 56 19.5**	**-0.1**
GOA				IAmb	IAmb	22 56 25.8	
	comp=Z,76nm,0.8s						
GOA				*i* x	x	22 58 18.3	
JGN	**Niukaw**	**48.47**	**23**	P	**P**	**22 56 20.5**	**+0.7**
GOMU	**GeErMu**	**48.76**	**337**	P	**P**	**22 56 24.3**	**+2.0**
GOMU				pP	sP	22 56 35.3	+1.5
GOMU				PP	**PP**	**22 58 18.0**	**+2.2**
GOMU				pmax	pmax		
	comp=Z,180nm,1.2s						
GOMU				LR	LR		
	comp=Z,54μm,16.1s						
GOMU				LR	LR		
	comp=Z,54μm,15.9s						
GOMU				LR	LR		
	comp=Z,110μm,16.8s						
SUJ	**Sinuiju**	**48.77**	**8**	P	**P**	**22 56 21.8**	**-0.1**
SUJ				S	**S**	**23 03 21.8**	**-1.4**
SUJ				AmB			
	comp=Z,10μm,4.4s						
SUJ				AMS	AMS		
	comp=Z,13μm,18.7s						
JRY	**Ryogami san**	**48.92**	**24**	P	**P**	**22 56 23.9**	**+0.8**
BTO	**Baotou**	**49.06**	**354**	⇓*i*P	**P**	**22 56 26.5**	**+2.2**
BTO				pP	**pP**	**22 56 31.5**	**-0.6**
BTO				sP	**sP**	**22 56 33.5**	**-2.3**
BTO				PP	**PP**	**22 58 21.0**	**+2.8**
BTO				S	**S**	**23 03 30.8**	**+3.2**
BTO				sS	**sS**	**23 03 39.8**	**-0.6**
BTO				pmax	pmax		
	comp=Z,330nm,1.3s						
BTO				pmax	pmax		
	comp=Z,39μm,9.8s						
BTO				LR	LR		
	comp=Z,159μm,16.3s						
BTO				LR	LR		
	comp=Z,77μm,16.1s						
BTO				LR	LR		
	comp=Z,169μm,16.7s						
MAJO	**Matsushiro**	**49.10**	**23**	P	**P**	**22 56 24.9**	**+0.3**
MAJO	**Matsushiro**	**49.10**	**23**	P	**P**	**22 56 24.5**	**0.0**
MAJO				IAmb	IAmb	22 56 36.9	
	comp=Z,580nm,1.2s						
MAJO	**Matsushiro**	**49.10**	**23**	⇑P	**P**	**22 56 24.8**	**+0.3**
MAJO	**Matsushiro**	**49.10**	**23**	*i* P	**P**	**22 56 25.2**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,897nm,3.2s						
MAJO				MLR	MLR		
	comp=Z,23μm,23.0s						
MAT	**Matsushiro**	**49.10**	**23**	P	**P**	**22 56 24.8**	**+0.3**
MJAR	**Matsushiro Arr**	**49.10**	**23**	P	**P**	**22 56 24.4**	**-0.2**
	comp=Z,54nm,0.8s,baz=195,slow=7.3,SNR=78						
MJAR				LR	LR	23 16 59.7	
	comp=Z,18μm,21.3s,baz=209,slow=36						
MJAR				PKP2ab		23 28 18.9	
	comp=Z,6.4nm,1.0s,baz=18,slow=3.4,SNR=6.9						
	comp=Z,54nm,0.8s						
MJB9	**Matsu-Tunnel**	**49.10**	**23**	P	**P**	**22 56 25.1**	**+0.6**
MJB9				IAmb	IAmb	22 56 37.9	
	comp=Z,565nm,1.2s						
BRCI	**Bahraich**	**49.13**	**318**	*i* x	PP	22 58 27.9	+9.0
HHC	**Hu-ho-hao-te**	**49.15**	**355**	*e*P	**P**	**22 56 26.3**	**+1.3**
HHC				pP	pP	22 56 30.0	-2.8
HHC				PP	**PP**	**22 58 20.5**	**+1.5**
HHC				S	**S**	**23 03 31.3**	**+2.4**
HHC				SS	**SS**	**23 07 00.8**	**+0.2**
HHC				pmax	pmax		
	comp=Z,77nm,1.5s						
HHC				pmax	pmax		
	comp=Z,14μm,8.9s						
HHC				LR	LR		
	comp=Z,36μm,15.3s						
HHC				LR	LR		
	comp=Z,24μm,16.8s						
HHC				LR	LR		
	comp=Z,35μm,14.5s						
BHPL	**Bhopal**	**49.42**	**310**	*e*P	**P**	**22 56 25.2**	**-2.1**
BHPL				IAmb	IAmb	22 56 27.0	
	comp=Z,41nm,1.0s						
BHPL				*i* x	x	22 58 26.4	
POO	**Poona**	**49.80**	**303**	*e*P	**P**	**22 56 28.9**	**-1.4**
POO				IAMs_20	IAMs_20	23 16 11.8	
	comp=Z,48μm,22.9s						
DZM	**Mont Dzumac**	**49.91**	**112**	P	**P**	**22 56 32.5**	**+1.4**
DZM	**Mont Dzumac**	**49.91**	**112**	P	**P**	**22 56 32.2**	**+1.1**
DZM				IAmb	IAmb	22 56 38.6	
	comp=Z,537nm,1.1s						
DZM				IAMs_20	IAMs_20	23 20 54.8	
	comp=Z,42μm,19.0s						
DZM	**Mont Dzumac**	**49.91**	**112**	⇑P	**P**	**22 56 32.9**	**+1.8**
DZM	**Mont Dzumac**	**49.91**	**112**	*e*P	**P**	**22 56 30.8**	**-0.3**
	comp=Z,1μm,1.4s						
DZM	**Mont Dzumac**	**49.91**	**112**	*e*PP	**PP**	**22 58 24.3**	**-1.8**
	comp=Z,6μm,23.6s						
DZM				*e*S	**S**	**23 03 39.9**	**-0.3**
	comp=Z,19μm,32.0s						
DZM				*e*SS	**SS**	**23 07 16.7**	**+3.5**
	comp=Z,20μm,25.3s						
DZM				*e*LQ	LQ	23 08 37.2	
	comp=Z,37μm,24.9s						
DZM				*e*LR	LR	23 10 41.3	
	comp=Z,60μm,24.4s						
DZM	**Mont Dzumac**	**49.91**	**112**	LR	LR	23 19 46.4	
	comp=Z,31μm,18.5s,baz=286,slow=39						
JHNI	**Jhansi**	**49.91**	**313**	*e*P	**P**	**22 56 28.6**	**-2.3**
ONTNC	**Ouen Toro**	**49.95**	**112**	P	**P**	**22 56 32.9**	**+1.7**
ONTNC	**Ouen Toro**	**49.95**	**112**	P	**P**	**22 56 32.4**	**+1.1**
ONTNC	**Ouen Toro**	**49.95**	**112**	⇑P	**P**	**22 56 33.0**	**+1.7**
GTA	**Gaotai**	**49.95**	**343**	P	**P**	**22 56 33.5**	**+2.3**
GTA				pP	pP	22 56 39.3	+0.3
GTA				S	**S**	**23 03 43.8**	**+3.5**
GTA				sS	sS	23 03 50.5	-2.5
GTA				pmax	pmax		
	comp=Z,190nm,1.4s						
GTA				pmax	pmax		
	comp=Z,15μm,8.0s						
GTA				LR	LR		
	comp=Z,46μm,20.7s						
GTA				LR	LR		
	comp=Z,58μm,16.7s						
GTA				LR	LR		
	comp=Z,50μm,21.9s						
YATNC	**Mamie plateau,**	**50.31**	**112**	P	**P**	**22 56 36.1**	**+2.0**
SNY	**Shenyang**	**50.35**	**7**	⇓P	**P**	**22 56 34.0**	**+0.1**
SNY				PP	**PP**	**22 58 26.8**	**-2.9**
SNY				S	**S**	**23 03 42.3**	**-3.0**
SNY				pmax	pmax		
	comp=Z,120nm,1.0s						
SNY				LR	LR		
	comp=Z,25μm,18.2s						
SNY				LR	LR		
	comp=Z,14μm,16.6s						
SNY				LR	LR		
	comp=Z,34μm,17.8s						
FRKB	**FARRUKHABAD**	**50.38**	**316**	*e*P	**P**	**22 56 31.4**	**-3.0**
JSD	**Sado**	**50.42**	**22**	P	**P**	**22 56 35.6**	**+1.0**
JSD	**Sado**	**50.42**	**22**	P	**P**	**22 56 34.9**	**+0.4**
JSD	**Sado**	**50.42**	**22**	P	**P**	**22 56 35.5**	**+1.0**
LIFNC	**LIFOU**	**50.48**	**110**	P	**P**	**22 56 37.2**	**+1.8**
LIFNC	**LIFOU**	**50.48**	**110**	P	**P**	**22 56 35.9**	**+0.6**
LIFNC				IAMs_20	IAMs_20	23 17 49.1	
	comp=Z,47μm,22.0s						
PINNC	**Pines Island,**	**50.90**	**112**	P	**P**	**22 56 40.1**	**+1.6**
PINNC	**Pines Island,**	**50.90**	**112**	P	**P**	**22 56 39.8**	**+1.3**
PINNC				IAmb	IAmb	22 56 59.9	
	comp=Z,734nm,1.3s						
DVP	**Devils Point**	**51.11**	**106**	P	**P**	**22 56 42.3**	**+2.2**
LGTI	**Lohaghat**	**51.25**	**319**	*e*P	**P**	**22 56 39.2**	**-1.7**
JMM	**Marumori**	**51.28**	**25**	P	**P**	**22 56 42.2**	**+1.2**
JMM	**Marumori**	**51.28**	**25**	P	**P**	**22 56 42.0**	**+1.1**
JMM	**Marumori**	**51.28**	**25**	⇑P	**P**	**22 56 42.1**	**+1.2**
JMM	**Marumori**	**51.28**	**25**	P	**P**	**22 56 42.4**	**+1.4**
MARNC	**Mare, Loyalty**	**51.30**	**111**	P	**P**	**22 56 43.1**	**+1.6**
MARNC	**Mare, Loyalty**	**51.30**	**111**	⇑P	**P**	**22 56 43.7**	**+2.2**
PTH	**Pithoragarh**	**51.34**	**319**	*e*P	**P**	**22 56 40.5**	**-1.3**
PTH				*i* x	x	22 58 46.6	
RTV	**Rentapao**	**51.34**	**106**	P	**P**	**22 56 43.5**	**+1.6**
JYA	**Atsumi**	**51.47**	**23**	P	**P**	**22 56 44.0**	**+1.6**
XLT	**XiLinHaoTe**	**51.99**	**360**	⇓*i*P	**P**	**22 56 46.8**	**+0.5**
XLT				sP	pP	22 56 53.8	-0.4
XLT				PP	**PP**	**22 58 51.5**	**+6.8**
XLT				S	**S**	**23 04 08.0**	**-0.2**
XLT				SS	**SS**	**23 07 45.8**	**0.0**
XLT				pmax	pmax		
	comp=Z,310nm,1.6s						
XLT				pmax	pmax		
	comp=Z,17μm,7.1s						
XLT				LR	LR		
	comp=Z,31μm,17.9s						
XLT				LR	LR		
	comp=Z,76μm,16.2s						
MSHR	**Mys Shultsa**	**52.42**	**14**	*ce*P	**P**	**22 56 50.1**	**+0.7**
MSHR				pmax	pmax		
	comp=Z,172nm,1.3s						
MSHR				MLR	MLR		
	comp=Z,8μm,19.0s						
NFK	**Norfolk Island**	**52.47**	**120**	P	**P**	**22 56 53.3**	**+3.2**
CN2	**Changchun**	**52.53**	**8**	*e*P	**P**	**22 56 50.3**	**+0.1**
CN2				*es*P	pP	22 56 57.0	-1.1
CN2				*e*S	**S**	**23 04 16.0**	**+0.6**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,4μm,6.0s						
CN2				LR	LR		
	comp=Z,24μm,18.0s						
CN2				LR	LR		
	comp=Z,23μm,18.0s						
CN2				LR	LR		
	comp=Z,28μm,18.0s						
ROCAM	**Rodrigues Isla**	**52.55**	**252**	P	**P**	**22 56 51.7**	**+0.9**
SONA	**Sohna**	**52.63**	**315**	*e*P	**P**	**22 56 48.5**	**-2.7**
JMIU	**JAMIA UNIVERSI**	**52.68**	**316**	*e*P	**P**	**22 56 49.4**	**-2.2**
NDI	**New Delhi**	**52.80**	**316**	*e*P	**P**	**22 56 49.9**	**-2.6**
JOM	**Ohasama**	**52.85**	**24**	P	**P**	**22 56 53.6**	**+1.0**
KUDL	**Kundal**	**52.98**	**315**	*e*P	**P**	**22 56 51.6**	**-2.2**
VLA	**Vladivostok**	**53.10**	**14**	*i* P	**P**	**22 56 55.4**	**+0.9**
VLA				pmax	pmax		
	comp=Z,142nm,1.1s						
GNR	**GANAUR**	**53.22**	**316**	*e*P	**P**	**22 56 53.6**	**-2.0**
DDI	**Dehra Dun**	**53.26**	**318**	*e*P	**P**	**22 56 54.6**	**-1.4**
AJM	**Ajmer**	**53.34**	**312**	*e*P	**P**	**22 56 53.8**	**-2.8**
JTM	**Tenmabayashi**	**53.89**	**23**	P	**P**	**22 57 01.3**	**+1.0**
JTM	**Tenmabayashi**	**53.89**	**23**	P	**P**	**22 57 01.1**	**+0.9**
JTM	**Tenmabayashi**	**53.89**	**23**	⇑P	**P**	**22 57 01.2**	**+1.0**
JTM	**Tenmabayashi**	**53.89**	**23**	P	**P**	**22 57 01.5**	**+1.2**
MDJ	**Mudanjiang**	**54.03**	**12**	P	**P**	**22 57 02.5**	**+1.3**
MDJ				pP	pP	22 57 05.0	-4.2
MDJ				PcP	**PcP**	**22 58 05.8**	**-0.3**
MDJ				S	**S**	**23 04 39.0**	**+3.3**
MDJ				pmax	pmax		
	comp=Z,220nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,18μm,8.3s						
MDJ				LR	LR		
	comp=Z,27μm,22.0s						
MDJ				LR	LR		
	comp=Z,10μm,20.6s						
MDJ				LR	LR		
	comp=Z,35μm,23.4s						
MDJ	**Mudanjiang**	**54.03**	**12**	P	**P**	**22 57 01.7**	**+0.5**
MDJ				IAmb	IAmb	22 57 14.4	
	comp=Z,503nm,1.1s						
MDJ				IAMs_20	IAMs_20	23 23 28.5	
	comp=Z,28μm,20.0s						
USA0B	**Ussuriysk Arra**	**54.15**	**14**	P	**P**	**22 57 02.9**	**+0.8**
USA0B				IAmb	IAmb	22 57 15.5	
	comp=Z,587nm,1.3s						
USA0B	**Ussuriysk Arra**	**54.15**	**14**	P	**P**	**22 57 02.9**	**+0.8**
USA0B				pmax	pmax		
	comp=Z,587nm,1.3s						
USRK	**Ussuriysk Ar.**	**54.15**	**14**	P	**P**	**22 57 02.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**54.15**	**14**	P	**P**	**22 57 02.1**	**0.0**
	comp=Z,165nm,0.9s,baz=195,slow=6.0,SNR=168						
USRK				LR	LR	23 22 34.1	
	comp=Z,13μm,20.2s,baz=204,slow=39						
	comp=Z,165nm,0.9s						
USRK	**Ussuriysk Ar.**	**54.15**	**14**	P	**P**	**22 57 02.7**	**+0.6**
HNLY	**HANLEY**	**54.28**	**321**	*e*P	**P**	**22 57 03.8**	**-0.2**
JOT	**Ohata**	**54.39**	**23**	P	**P**	**22 57 05.4**	**+1.4**
BNX	**BinXian**	**54.72**	**9**	⇑P	**P**	**22 57 06.8**	**+0.6**
BNX				pP	**pP**	**22 57 10.3**	**-3.9**
BNX				S	**S**	**23 04 45.3**	**+0.3**
BNX				pmax	pmax		
	comp=Z,63nm,1.3s						
BNX				pmax	pmax		
	comp=Z,15μm,9.5s						
BNX				LR	LR		
	comp=Z,15μm,19.0s						
BNX				LR	LR		
	comp=Z,18μm,16.3s						
BNX				LR	LR		
	comp=Z,18μm,15.1s						
BHK	**Bhakra**	**55.04**	**318**	*e*P	**P**	**22 57 07.3**	**-1.7**
JSH	**Shimam**	**55.12**	**21**	P	**P**	**22 57 11.0**	**+1.9**
DHRM	**DHARAMSHALA**	**55.65**	**319**	*e*P	**P**	**22 57 12.0**	**-1.5**
DHRM				IAmb	IAmb	22 57 20.1	
	comp=Z,166nm,0.8s						
ERM	**Erimo**	**55.76**	**24**	P	**P**	**22 57 15.5**	**+1.7**
ERM	**Erimo**	**55.76**	**24**	P	**P**	**22 57 14.2**	**+0.4**
ERM	**Erimo**	**55.76**	**24**	IAMs_20	IAMs_20	23 18 51.3	
	comp=Z,31μm,22.0s						
ERM	**Erimo**	**55.76**	**24**	P	**P**	**22 57 14.2**	**+0.4**
ERM				pmax	pmax		
	comp=Z,908nm,1.6s						
ERM				MLR	MLR		
	comp=Z,31μm,22.0s						
JEM	**Erimo**	**55.76**	**24**	IAMs_20	IAMs_20	23 21 57.8	
	comp=Z,26μm,22.0s						
JEM	**Erimo**	**55.76**	**24**	P	**P**	**22 57 14.9**	**+1.1**
JEW	**Eniwo**	**55.80**	**22**	P	**P**	**22 57 15.6**	**+1.5**
TEY	**Ternei**	**56.14**	**17**	⇓*e*P	**P**	**22 57 17.5**	**+1.0**
TEY				pmax	pmax		
	comp=Z,100nm,1.4s						
TEY				pmax	pmax		
	comp=E,10.0nm,1.6s						
TEY				pmax	pmax		
	comp=N,40nm,1.4s						
TEY				pmax	pmax		
	comp=Z,1μm,8.7s						
TEY				pmax	pmax		
	comp=E,300nm,5.3s						
TEY				pmax	pmax		
	comp=N,500nm,8.7s						
THN	**Thein Dam**	**56.14**	**318**	*e*P	**P**	**22 57 15.1**	**-1.6**
PAF	**Port-aux-Franc**	**56.19**	**215**	P	**P**	**22 57 17.8**	**+1.0**
PAF				IAmb	IAmb	22 57 21.0	
	comp=Z,560nm,1.2s						
PAF	**Port-aux-Franc**	**56.19**	**215**	P	**P**	**22 57 17.8**	**+1.0**
PAF				pmax	pmax		
	comp=Z,560nm,1.2s						
PAF				MLR	MLR		
	comp=Z,22μm,20.0s						
WAKE	**Wake Island**	**56.56**	**60**	P	**P**	**22 57 20.2**	**+0.3**
WAKE	**Wake Island**	**56.56**	**60**	P	**P**	**22 57 19.1**	**-0.8**
WAKE				IAmb	IAmb	22 57 52.1	
	comp=Z,431nm,1.5s						
ULN	**Ulaanbaatar**	**56.58**	**352**	P	**P**	**22 57 20.7**	**+0.9**
ULN				IAmb	IAmb	22 57 30.8	
	comp=Z,193nm,1.0s						
ULN	**Ulaanbaatar**	**56.58**	**352**	IAMs_20	IAMs_20	23 26 14.1	
	comp=Z,43μm,20.0s						
ULN	**Ulaanbaatar**	**56.58**	**352**	⇑P	**P**	**22 57 20.8**	**+1.1**
ULN	**Ulaanbaatar**	**56.58**	**352**	P	**P**	**22 57 20.6**	**+0.9**
ULN				P	**P**	**22 57 20.6**	**+0.9**
ULN				P	**P**	**22 57 20.6**	**+0.9**
ULN				S	**S**	**23 05 08.5**	**-1.6**
ULN				S	**S**	**23 05 08.5**	**-1.6**
ULN				S	**S**	**23 05 08.5**	**-1.6**
ULN	**Ulaanbaatar**	**56.58**	**352**	P	**P**	**22 57 20.7**	**+0.9**
ULN				pmax	pmax		
	comp=Z,193nm,1.0s						
ULN				MLR	MLR		
	comp=Z,43μm,20.0s						
SONM	**Songino Array**	**56.63**	**352**	P	**P**	**22 57 21.3**	**+1.2**
SONM				IAmb	IAmb	22 57 31.1	
	comp=Z,253nm,0.9s						
SONM	**Songino Array**	**56.63**	**352**	P	**P**	**22 57 20.3**	**+0.2**
	comp=Z,186nm,1.1s,baz=171,slow=7.4,SNR=312						
SONM				LR	LR	23 23 28.9	
	comp=Z,37μm,20.0s,baz=184,slow=38						
SONM				PKPPKP		23 27 14.4	
	comp=Z,8.3nm,1.1s,baz=275,slow=2.0,SNR=7.4						
	comp=Z,186nm,1.1s						
SONM	**Songino Array**	**56.63**	**352**	P	**P**	**22 57 21.3**	**+1.2**
SONM				pmax	pmax		
	comp=Z,253nm,0.9s						
JMU	**Jammu**	**56.86**	**318**	*e*P	**P**	**22 57 21.2**	**-0.6**
PYZ	**Puysegur Point**	**57.07**	**140**	P	**P**	**22 57 23.1**	**-0.1**
DCZ	**Deep Cove**	**57.08**	**140**	P	**P**	**22 57 24.1**	**+0.9**
TARA	**Tarawa**	**57.10**	**83**	P	**P**	**22 57 24.5**	**+0.6**
TARA	**Tarawa**	**57.10**	**83**	P	**P**	**22 57 23.7**	**-0.3**
TARA				IAmb	IAmb	22 57 25.6	
	comp=Z,777nm,1.6s						
TARA	**Tarawa**	**57.10**	**83**	IAMs_20	IAMs_20	23 24 48.8	
	comp=Z,22μm,19.0s						
MCQ	**Macquarie Isla**	**57.14**	**152**	P	**P**	**22 57 26.1**	**+2.6**
MCQ	**Macquarie Isla**	**57.14**	**152**	P	**P**	**22 57 25.1**	**+1.7**
MCQ				IAMs_20	IAMs_20	23 23 04.7	
	comp=Z,23μm,18.0s						
MCQ	**Macquarie Isla**	**57.14**	**152**	⇑P	**P**	**22 57 26.2**	**+2.8**
MCQ	**Macquarie Isla**	**57.14**	**152**	P	**P**	**22 57 25.2**	**+1.7**
MCQ				pmax	pmax		
	comp=Z,1μm,1.1s						
MCQ				MLR	MLR		
	comp=Z,23μm,18.0s						
ASAJ	**Asahikawa**	**57.32**	**22**	LR	LR	23 21 55.9	
	comp=Z,18μm,21.4s,baz=194,slow=36						
ASAJ	**Asahikawa**	**57.32**	**22**	P	**P**	**22 57 25.1**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,425nm,1.1s						
ASAJ				MLR	MLR		
	comp=Z,19μm,21.0s						
ASAJ	**Asahikawa**	**57.32**	**22**	P	**P**	**22 57 26.2**	**+1.3**
JKA	**Kamikawa-asahi**	**57.32**	**22**	P	**P**	**22 57 25.1**	**+0.2**
JKA				IAmb	IAmb	22 57 42.5	
	comp=Z,425nm,1.1s						
HIA	**Hailar**	**57.43**	**3**	P	**P**	**22 57 25.9**	**+0.3**
HIA	**Hailar**	**57.43**	**3**	IAMs_20	IAMs_20	23 22 37.5	
	comp=Z,25μm,20.0s						
HIA	**Hailar**	**57.43**	**3**	P	**P**	**22 57 25.9**	**+0.3**
HIA				pmax	pmax		
	comp=Z,121nm,1.0s						
HIA				MLR	MLR		
	comp=Z,25μm,20.0s						
JMP	**Maruseppu**	**57.52**	**23**	P	**P**	**22 57 27.6**	**+1.3**
JCZ	**Jackson Bay**	**57.60**	**137**	P	**P**	**22 57 29.1**	**+2.0**
MLZ	**Mavora Lakes**	**57.66**	**139**	P	**P**	**22 57 28.3**	**+0.9**
MLZ				IAmb	IAmb	22 57 30.7	
	comp=Z,522nm,1.1s						
WHZ	**Wether Hill Ro**	**57.76**	**140**	P	**P**	**22 57 29.0**	**+1.0**
WHZ				IAmb	IAmb	22 57 31.3	
	comp=Z,558nm,1.2s						
CASY	**Casey**	**58.00**	**183**	P	**P**	**22 57 30.2**	**+0.9**
CASY				IAmb	IAmb	22 57 32.0	
	comp=Z,300nm,0.9s						
CASY				PcP	**PcP**	**22 58 23.4**	**+2.2**
CASY	**Casey**	**58.00**	**183**	IAMs_20	IAMs_20	23 22 09.8	
	comp=Z,25μm,19.0s						
CASY	**Casey**	**58.00**	**183**	⇑P	**P**	**22 57 30.4**	**+1.0**
WMQ	**Urumqi**	**58.10**	**336**	⇑P	**P**	**22 57 31.5**	**+1.0**
WMQ				S	**S**	**23 05 32.8**	**+2.7**
WMQ				pmax	pmax		
	comp=Z,180nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,8μm,5.1s						
WMQ				LR	LR		
	comp=Z,25μm,21.5s						
WMQ				LR	LR		
	comp=Z,28μm,24.0s						
WMQ				LR	LR		
	comp=Z,46μm,24.2s						
JWK2	**Keihoku**	**58.10**	**21**	P	**P**	**22 57 32.1**	**+1.8**
OUZ	**Omahuta**	**58.51**	**126**	⇑P	**P**	**22 57 36.1**	**+2.7**
NIL	**Nilore**	**58.52**	**318**	P	**P**	**22 57 31.3**	**-2.3**
NIL	**Nilore**	**58.52**	**318**	P	**P**	**22 57 31.6**	**-2.0**
NIL				P	**P**	**22 57 31.6**	**-2.0**
NIL	**Nilore**	**58.52**	**318**	P	**P**	**22 57 31.3**	**-2.3**
NIL				pmax	pmax		
	comp=Z,142nm,1.1s						
NIL				MLR	MLR		
	comp=Z,57μm,18.0s						
YUK	**Yuzh-Kuril'sk**	**58.53**	**25***c*	*i*P	**P**	**22 57 33.9**	**+0.5**
YUK				*e*		22 58 25.0	
YUK				*i* PPP	PPP	23 01 02.8	
YUK				*i* S	**S**	**23 05 35.2**	**-0.3**
YUK				*e*		23 07 23.7	
YUK				*e*SS	**SS**	**23 09 24.7**	**-4.0**
YUK				pmax	pmax		
	comp=Z,2μm,2.6s						
YUK				pmax	pmax		
	comp=Z,1μm,1.1s						
YUK				pmax	pmax		
	comp=E,390nm,1.3s						
YUK				pmax	pmax		
	comp=N,435nm,1.1s						
LBZ	**Lake Benmore**	**58.65**	**137**	P	**P**	**22 57 34.6**	**+0.3**
SYZ	**Scrubby Hill**	**58.77**	**140**	P	**P**	**22 57 36.7**	**+1.6**
KLR	**Kul'dur**	**58.87**	**12**	LR	LR	23 26 40.2	
	comp=N,15μm,18.2s,baz=210,slow=40						
KLR	**Kul'dur**	**58.87**	**12***ce*P		**P**	**22 57 36.1**	**+0.4**
KLR				pmax	pmax		
	comp=Z,164nm,1.7s						
KLR				MLR	MLR		
	comp=Z,10μm,16.0s						
INZ	**Inchbonnie**	**58.95**	**135**	P	**P**	**22 57 37.1**	**+0.7**
RPZ	**Rata Peaks**	**59.01**	**136**	P	**P**	**22 57 37.5**	**+0.7**
RPZ				IAMs_20	IAMs_20	23 24 50.1	
	comp=Z,40μm,20.0s						
RPZ	**Rata Peaks**	**59.01**	**136**	LR	LR	23 24 51.6	
	comp=Z,34μm,19.5s,baz=286,slow=38						
HEH	**HeiHe**	**59.12**	**8**	*e*P	**P**	**22 57 38.5**	**+1.1**
HEH				pP	**pP**	**22 57 43.5**	**-1.9**
HEH				S	**S**	**23 05 45.8**	**+2.8**
HEH				SS	**SS**	**23 09 42.3**	**+4.6**
HEH				pmax	pmax		
	comp=Z,450nm,1.2s						
HEH				pmax	pmax		
	comp=Z,19μm,5.5s						
HEH				LR	LR		
	comp=Z,21μm,17.4s						
HEH				LR	LR		
	comp=Z,30μm,17.1s						
HEH				LR	LR		
	comp=Z,39μm,17.9s						
QRZ	**Quartz Range**	**59.14**	**133**	P	**P**	**22 57 38.6**	**+0.9**
ODZ	**Otahua Downs**	**59.19**	**138**	⇑P	**P**	**22 57 39.2**	**+1.2**
OXZ	**Oxford**	**59.55**	**136**	P	**P**	**22 57 40.7**	**+0.1**
OXZ				IAmb	IAmb	22 57 45.2	
	comp=Z,331nm,1.0s						
ZAK	**Zakamensk**	**59.59**	**350**	*e*P	**P**	**22 57 40.8**	**0.0**
ZAK				pmax	pmax		
	comp=Z,178nm,1.5s						
RER	**Riviere de l'E**	**59.77**	**250**	P	**P**	**22 57 44.5**	**+1.9**
RER	**Riviere de l'E**	**59.77**	**250**	⇑P	**P**	**22 57 45.0**	**+2.5**
RER	**Riviere de l'E**	**59.77**	**250**	P	**P**	**22 57 45.7**	**+3.1**
	SNR=12						
YSS	**Yuzh-

comp=E,12μm,13.0s
NNZ Nelson 59.86 133 P **P** **22 57 43.3 +0.6**
NNZ IAmb IAmb 22 57 45.4
comp=Z,448nm,1.3s
HIZ Hauiti 60.25 130 P **P** **22 57 47.1 +1.6**
KHZ Kahutara 60.32 134 ⇑P **P** **22 57 46.0 +0.1**
KUR Kuril'sk 60.34 25*c i*P **P** **22 57 47.4 +1.6**
KUR *e* 22 58 32.7
KUR *e* 23 00 00.4
KUR PPP PPP 23 01 23.7
KUR *i* S **S** **23 06 00.9 +2.1**
KUR *e*SS **SS** **23 09 58.2 +1.2**
KUR pmax pmax
comp=Z,15μm,6.9s
KUR pmax pmax
comp=E,8μm,7.2s
KUR pmax pmax
comp=Z,1μm,1.8s
KUR MLR MLR
comp=Z,11μm,18.0s
KUR MLR MLR
comp=E,8μm,15.0s
KUR MLR MLR
comp=N,5μm,16.0s
MSVF Nonsavu 60.51 106 P **P** **22 57 49.5 +1.8**
MSVF Nonsavu 60.51 106 P **P** **22 57 48.8 +1.1**
MSVF Nonsavu 60.51 106*c i*P **P** **22 57 48.6 +0.9**
MSVF pmax pmax
comp=Z,436nm,1.2s
MSVF MLR MLR
comp=Z,29μm,18.0s
KUZ Kuaotunu 60.52 128 P **P** **22 57 49.5 +2.1**
TOZ Tahuroa Road 60.57 129 P **P** **22 57 48.8 +1.1**
KSH Kashi 60.60 325 P **P** **22 57 47.0 -1.0**
KSH PP **PP** **23 00 05.8 +4.0**
KSH pmax pmax
comp=Z,34nm,1.4s
KSH pmax pmax
comp=Z,8μm,10.3s
KSH LR LR
comp=Z,38μm,22.3s
KSH LR LR
comp=Z,35μm,21.3s
KSH LR LR
comp=Z,58μm,21.0s
MSEY Mahe Island 60.65 269 P **P** **22 57 49.5 +0.8**
MSEY IAmb IAmb 22 58 03.2
comp=Z,216nm,1.4s
MSEY Mahe Island 60.65 269 P **P** **22 57 49.3 +0.6**
MSEY P **P** **22 57 49.3 +0.6**
MSEY P **P** **22 57 49.3 +0.6**
MSEY S **S** **23 06 01.0 -3.1**
MSEY S **S** **23 06 01.0 -3.1**
MSEY S **S** **23 06 01.0 -3.1**
MSEY Mahe Island 60.65 269 P **P** **22 57 49.5 +0.8**
SNZO South Karori 60.85 133 P **P** **22 57 50.1 +0.6**
SNZO South Karori 60.85 133 P **P** **22 57 50.0 +0.5**
BHW Baring Head 61.00 133 IAMs_20 IAMs_20 23 25 31.8
comp=Z,36μm,19.0s
TARG Taragay, Kyrgy 61.13 328 P **P** **22 57 51.6 -0.2**
TARG IAmb IAmb 22 58 29.7
comp=Z,225nm,1.1s
TARG Taragay, Kyrgy 61.13 328 P **P** **22 57 51.6 -0.2**
TARG pmax pmax
comp=Z,225nm,1.1s
TARG MLR MLR
comp=Z,37μm,19.0s
MOY Mondy 61.23 349 *e*P **P** **22 57 52.8 +0.8**
MOY pmax pmax
comp=Z,816nm,2.0s
IRK Irkutsk 61.24 351 ⇓*i*P **P** **22 57 53.0 +1.1**
IRK *e* 22 58 33.9
IRK *e* 23 06 16.8
IRK pmax pmax
comp=Z,733nm,1.5s
MSWZ Moikau Station 61.27 133 P **P** **22 57 52.9 +0.5**
SHLS Shalkode 61.31 330 *e*P **P** **22 57 50.2 -2.5**
comp=Z,94nm,1.0s,baz=330
SHLS *e*S **S** **23 06 09.8 -1.8**
baz=330
SHLS Shalkode 61.31 330 *e*P **P** **22 57 50.2 -2.5**
SHLS *e*S **S** **23 06 09.8 -1.8**
SHLS pmax pmax
comp=Z,94nm,1.0s
PRZ Przheval'sk 61.35 329 P **P** **22 57 53.7 +0.6**
PRZ IAMs_20 IAMs_20 23 27 59.7
comp=Z,32μm,19.0s
PRZ Przheval'sk 61.35 329 P **P** **22 57 53.7 +0.6**
PRZ pmax pmax
comp=Z,870nm,1.9s
PRZ MLR MLR
comp=Z,32μm,19.0s
GRNR Gornyy 61.36 14⇑*i*P **P** **22 57 54.2 +1.5**
GRNR *e*S **S** **23 06 20.4 +8.7**
GRNR pmax pmax
comp=E,10.0nm,1.0s
GRNR pmax pmax
comp=N,40nm,1.1s
GRNR pmax pmax
comp=Z,90nm,1.0s
GRNR smax smax
comp=E,5.0nm,1.0s
GRNR MLR MLR
comp=E,6μm,15.0s
GRNR MLR MLR
comp=N,8μm,16.0s
GRNR MLR MLR
comp=Z,10μm,17.0s
UGL Uglegorsk 61.43 19⇑*i*P **P** **22 57 54.8 +1.6**
UGL *e*S **S** **23 06 13.3 +0.7**
UGL pmax pmax
comp=Z,600nm,1.3s
UGL pmax pmax
comp=Z,18μm,6.9s
UGL smax smax
comp=E,37μm,12.0s
UGL smax smax
comp=N,20μm,8.0s
UZB Uzynbulak 61.52 330 *e*P **P** **22 57 52.8 -1.3**
comp=N,87nm,1.2s,baz=330
UZB *e*S **S** **23 06 14.8 +0.5**
baz=330
UZB Uzynbulak 61.52 330 *e*P **P** **22 57 52.8 -1.3**
UZB *e*S **S** **23 06 14.8 +0.5**
UZB pmax pmax
comp=Z,87nm,1.2s
BKZ Black Stump Fm 61.65 130 P **P** **22 57 56.5 +1.4**
BKZ Black Stump Fm 61.65 130 P **P** **22 57 55.6 +0.5**
SATY Saty 61.77 329 *e*P **P** **22 57 54.5 -1.3**
comp=Z,76nm,1.0s,baz=329
SATY *e*S **S** **23 06 17.9 +0.4**
baz=329
SATY Saty 61.77 329 *e*P **P** **22 57 54.4 -1.3**
SATY *e*S **S** **23 06 17.8 +0.4**
SATY pmax pmax
comp=Z,76nm,1.0s
BFZ Birch Farm 61.82 132 P **P** **22 57 57.5 +1.4**
BFZ Birch Farm 61.82 132 P **P** **22 57 56.6 +0.5**
KBL Kabul 61.87 316 P **P** **22 57 54.6 -2.2**
KBL Kabul 61.87 316 P **P** **22 57 55.3 -1.5**
SNR=23
KBL P **P** **22 57 55.3 -1.5**
SNR=23
KBL P **P** **22 57 55.3 -1.5**
SNR=23
KBL S **S** **23 06 19.3 +0.1**
KBL S **S** **23 06 19.3 +0.1**
KBL S **S** **23 06 19.3 +0.1**
KBL Kabul 61.87 316 P **P** **22 57 54.6 -2.2**
KBL pmax pmax
comp=Z,91nm,1.0s
NRN Naryn 61.89 326 P **P** **22 57 55.9 -1.0**
NRN Naryn 61.89 326 P **P** **22 57 55.9 -1.0**
RTZ Ruatahuna 61.90 129 P **P** **22 57 57.1 +0.3**
KPKS Kokpek 61.92 330 *e*P **P** **22 57 55.6 -1.1**
comp=Z,111nm,1.2s,baz=330
KPKS *e*S **S** **23 06 19.9 +0.5**
baz=330
KPKS Kokpek 61.92 330 *e*P **P** **22 57 55.6 -1.1**
KPKS *e*S **S** **23 06 19.8 +0.5**
KPKS pmax pmax
comp=Z,111nm,1.2s
URZ Urewera 61.92 129 P **P** **22 57 57.3 +0.5**
comp=Z,95nm,0.8s,baz=73,slow=2.1,SNR=20
URZ LR LR 23 26 52.7
comp=Z,54μm,18.2s,baz=18,slow=38
comp=Z,95nm,0.8s
FUNA Funafuti 61.99 95 P **P** **22 57 59.3 +1.6**
FUNA Funafuti 61.99 95 P **P** **22 57 58.2 +0.5**
FUNA Funafuti 61.99 95 ⇑P **P** **22 57 58.4 +0.7**
ZSN Zaisan 62.21 336 *e*P **P** **22 57 57.7 -0.8**
comp=Z,134nm,1.1s,baz=336
ZSN *e*S **S** **23 06 24.4 +1.7**
baz=336
ZSN Zaisan 62.21 336 *e*P **P** **22 57 57.7 -0.8**
ZSN *e*S **S** **23 06 24.3 +1.7**
ZSN pmax pmax
comp=Z,134nm,1.1s
TNSS Tian-Shan 62.50 328 *e*P **P** **22 57 59.7 -1.4**
baz=328
TNSS Tian-Shan 62.50 328 *e*P **P** **22 57 59.6 -1.4**
ZEA Zeya 62.51 7 *e*P **P** **22 58 01.5 +1.1**
ZEA *e*S **S** **23 06 28.1 +2.0**
ZEA pmax pmax
comp=N,130nm,1.1s
ZEA pmax pmax
comp=E,50nm,1.1s
ZEA pmax pmax
comp=Z,360nm,1.2s
ZEA pmax pmax
comp=N,4μm,4.4s
ZEA pmax pmax
comp=Z,7μm,6.8s
ZEA pmax pmax
comp=E,540nm,3.6s
ZEA smax smax
comp=E,6μm,12.4s
ZEA smax smax
comp=N,12μm,14.0s
ZEA MLR MLR
comp=N,17μm,17.0s
ZEA MLR MLR
comp=E,9μm,17.0s
ZEA MLR MLR
comp=Z,18μm,17.0s
MDOK Medeo 62.53 328 *e*P **P** **22 57 59.7 -1.3**
baz=328
MDOK *e*S **S** **23 06 27.9 +0.6**
baz=328
MDOK LR LR 23 27 34.3
comp=Z,14μm,16.8s,baz=328
MDOK Medeo 62.53 328 *e*P **P** **22 57 59.6 -1.3**
MDOK *e*S **S** **23 06 27.8 +0.6**
MDOK MLR MLR
comp=Z,14μm,17.0s
AAA Alma-Ata 62.64 328 *e*P **P** **22 58 00.6 -1.0**
comp=Z,151nm,1.1s,baz=328
AAA LR LR 23 27 41.7
comp=Z,25μm,18.0s,baz=328
AAA Alma-Ata 62.64 328 *e*P **P** **22 58 00.5 -1.0**
AAA pmax pmax
comp=Z,151nm,1.1s
AAA MLR MLR
comp=Z,25μm,18.0s
BOOM Boomskoye usch 62.65 327 P **P** **22 58 01.2 -0.6**
BOOM IAmb IAmb 22 58 25.0
comp=Z,573nm,1.7s
BOOM Boomskoye usch 62.65 327 P **P** **22 58 01.2 -0.6**
BOOM pmax pmax
comp=Z,573nm,1.7s
MXZ Matakaoa Point 62.71 128 P **P** **22 58 04.0 +1.9**
MXZ Matakaoa Point 62.71 128 P **P** **22 58 02.5 +0.3**
MK31 Makanchi Array 62.75 334 P **P** **22 58 01.9 -0.3**
MK31 IAmb IAmb 22 58 09.1
comp=Z,217nm,1.1s
MK31 Makanchi Array 62.75 334*ce*P **P** **22 58 01.9 -0.3**
MKAR Makanchi Array 62.75 334 P **P** **22 58 01.8 -0.4**
comp=Z,62nm,0.9s,baz=138,slow=7.4,SNR=127
MKAR PKPPKP **P'P'df** **23 27 05.4 +2.6**
comp=Z,4.7nm,1.0s,baz=126,slow=1.6,SNR=4.5
MKAR LR LR 23 28 26.6
comp=Z,25μm,19.0s,baz=154,slow=39
comp=Z,62nm,0.9s
ARXS Arharly 62.89 330 *e*P **P** **22 58 02.8 -0.4**
MAKZ Makanchi 62.90 334 P **P** **22 58 02.6 -0.5**
MAKZ IAmb IAmb 22 58 10.6
comp=Z,280nm,1.4s
MAKZ IAMs_20 IAMs_20 23 28 20.0
comp=Z,27μm,19.0s
MAKZ Makanchi 62.90 334 ⇑P **P** **22 58 02.7 -0.4**
MAKZ Makanchi 62.90 334 P **P** **22 58 02.6 -0.5**
MAKZ pmax pmax
comp=Z,280nm,1.4s
MAKZ MLR MLR
comp=Z,27μm,19.0s
CHKK Chushkaly 63.05 329 *e*P **P** **22 58 03.2 -1.0**
baz=329
CHKK Chushkaly 63.05 329 *e*P **P** **22 58 03.2 -1.0**
TKM2 Tokmak 2 63.13 327 P **P** **22 58 04.6 -0.4**
SNR=48
TYV Tymovskoe 63.18 18 *e*P **P** **22 58 07.0 +2.2**
TYV *e*S **S** **23 06 38.3 +3.7**
TYV pmax pmax
comp=Z,139nm,1.6s
TYV pmax pmax
comp=Z,6μm,5.0s
UCH Uchtor 63.24 326 P **P** **22 58 06.0 -0.1**
SNR=8.2
KBK Karagaybulak 63.30 327 P **P** **22 58 06.2 +0.1**
SNR=27
NGCH Negor - Chabah 63.38 304 P **P** **22 58 07.6 +0.9**
NGCH S **S** **23 06 32.3 -5.8**
AAK Ala-Archa 63.53 327 P **P** **22 58 07.8 +0.1**
SNR=14
AAK Ala-Archa 63.53 327 P **P** **22 58 07.4 -0.2**
AAK IAmb IAmb 22 58 31.3
comp=Z,396nm,1.4s
AAK Ala-Archa 63.53 327 IAMs_20 IAMs_20 23 29 58.2
comp=Z,34μm,20.0s
AAK Ala-Archa 63.53 327 *i* P **P** **22 58 07.5 -0.2**
SNR=28
AAK Ala-Archa 63.53 327 LR LR 23 27 48.5
comp=Z,38μm,21.9s,baz=140,slow=38
AAK Ala-Archa 63.53 327 P **P** **22 58 07.4 -0.2**
AAK P **P** **22 58 07.4 -0.2**
AAK P **P** **22 58 07.4 -0.2**
AAK S **S** **23 06 34.1 -5.6**
AAK S **S** **23 06 34.1 -5.6**
AAK S **S** **23 06 34.1 -5.6**
AAK Ala-Archa 63.53 327 P **P** **22 58 07.4 -0.2**
AAK pmax pmax
comp=Z,396nm,1.5s
AAK MLR MLR
comp=Z,34μm,20.0s
FRU1 Bishkek 63.57 327 P **P** **22 58 07.5 -0.3**
FRU1 IAmb IAmb 22 58 31.4
comp=Z,283nm,1.4s
FRU1 Bishkek 63.57 327 P **P** **22 58 07.5 -0.3**
FRU1 pmax pmax
comp=Z,283nm,1.4s
FRU1 MLR MLR
comp=Z,35μm,18.0s
JLN Jalan Bani Buh 63.58 300 P **P** **22 58 06.6 -1.5**
SNR=5.5
JLN P **P** **22 58 06.6 -1.5**
SNR=5.5
JLN P **P** **22 58 06.6 -1.5**
SNR=5.5
JLN S **S** **23 06 36.7 -4.0**
JLN S **S** **23 06 36.7 -4.0**
JLN S **S** **23 06 36.7 -4.0**
AML Almayashu 63.63 326 P **P** **22 58 08.3 -0.3**
SNR=36
CHMS Chumysh 63.64 327 P **P** **22 58 07.6 -0.5**
SNR=7.7
EKS2 Erkin-Say 63.94 326 P **P** **22 58 10.4 +0.1**
SNR=49
USP Ospenovka 63.95 327 P **P** **22 58 09.7 -0.5**
SNR=33
BTK Batken 63.98 322 P **P** **22 58 09.8 -0.7**
BTK Batken 63.98 322 P **P** **22 58 09.8 -0.7**
BTK pmax pmax
comp=Z,718nm,1.8s
SGDS Sogindy 64.01 327 *e*P **P** **22 58 09.7 -0.9**
comp=Z,65nm,1.3s,baz=327
SGDS Sogindy 64.01 327 *e*P **P** **22 58 09.7 -0.9**
SGDS pmax pmax
comp=Z,65nm,1.3s
WBK Wadi Bani Khal 64.13 300 P **P** **22 58 10.0 -1.8**
SNR=6.5
WBK P **P** **22 58 10.0 -1.8**
SNR=6.5
WBK P **P** **22 58 10.0 -1.8**
SNR=6.5
WBK S **S** **23 06 41.5 -6.0**
WBK S **S** **23 06 41.5 -6.0**
WBK S **S** **23 06 41.5 -6.0**
FUTU Fugatoga 64.25 102 P **P** **22 58 15.1 +2.4**
SIMJ Simiganj 64.26 320 P **P** **22 58 10.2 -2.2**
SIMJ IAmb IAmb 22 58 35.3
comp=Z,211nm,1.2s
SIMJ IAMs_20 IAMs_20 23 29 59.9
comp=Z,29μm,21.0s
MHTO MHTO 64.41 298 P **P** **22 58 12.0 -1.5**
SNR=8.3
MHTO P **P** **22 58 12.0 -1.5**
SNR=8.3
MHTO P **P** **22 58 12.0 -1.5**
SNR=8.3
MHTO S **S** **23 06 47.6 -3.4**
MHTO S **S** **23 06 47.6 -3.4**
MHTO S **S** **23 06 47.6 -3.4**
DQM DQM 64.42 297 P **P** **22 58 12.8 -0.8**
DQM P **P** **22 58 12.8 -0.8**
DQM P **P** **22 58 12.8 -0.8**
DQM S **S** **23 06 48.9 -2.2**
DQM S **S** **23 06 48.9 -2.2**
DQM S **S** **23 06 48.9 -2.2**
NKL Nikolayevsk 64.62 16 *e*P **P** **22 58 12.7 -1.6**
NKL *e*S **S** **23 06 51.5 -0.9**
NKL pmax pmax
comp=N,633nm,1.5s
NKL pmax pmax
comp=E,309nm,1.5s
NKL pmax pmax
comp=Z,1μm,1.5s
NKL smax smax
comp=E,2μm,6.4s
NKL smax smax
comp=N,9μm,6.3s
NKL MLR MLR
comp=N,22μm,16.0s
NKL MLR MLR
comp=E,36μm,16.0s
NKL MLR MLR
comp=Z,37μm,16.0s
WSAR Wadi Sarin 64.65 301 LR LR 23 26 32.8
comp=Z,29μm,20.6s,baz=138,slow=36
RAO Raoul Island 64.72 118 LR LR 23 27 42.7
comp=Z,38μm,18.1s,baz=273,slow=37
JMDO Jabal Madar 64.78 299 P **P** **22 58 14.7 -1.4**
JMDO P **P** **22 58 14.7 -1.4**
JMDO P **P** **22 58 14.7 -1.4**
JMDO S **S** **23 06 51.9 -3.7**
JMDO S **S** **23 06 51.9 -3.7**
JMDO S **S** **23 06 51.9 -3.7**
SMDO Samad 65.08 300 P **P** **22 58 17.3 -0.8**
SNR=12
SMDO P **P** **22 58 17.3 -0.8**
SNR=12
SMDO P **P** **22 58 17.3 -0.8**
SNR=12
SMDO S **S** **23 06 55.7 -3.8**
SMDO S **S** **23 06 55.7 -3.8**
SMDO S **S** **23 06 55.7 -3.8**
BIDO Bidbid 65.19 301 P **P** **22 58 17.7 -0.9**
SNR=34
BIDO P **P** **22 58 17.7 -0.9**
SNR=34
BIDO P **P** **22 58 17.7 -0.9**
SNR=34
BIDO S **S** **23 06 54.6 -6.0**
BIDO S **S** **23 06 54.6 -6.0**
BIDO S **S** **23 06 54.6 -6.0**
BTLS Baital 65.39 328 *e*P **P** **22 58 18.6 -1.0**
baz=328
BTLS *i* S **S** **23 07 03.4 +1.1**
baz=328
BTLS Baital 65.39 328 *e*P **P** **22 58 18.5 -1.0**
BTLS *i* S **S** **23 07 03.4 +1.1**
SHAO Shalim 65.51 294 P **P** **22 58 20.8 0.0**
SHAO P **P** **22 58 20.8 0.0**
BSY Bisya 65.70 299 P **P** **22 58 20.1 -1.9**
SNR=11
BSY P **P** **22 58 20.1 -1.9**
SNR=11
BSY S **S** **23 07 02.8 -4.1**
BSY S **S** **23 07 02.8 -4.1**
IUG Iuzhnay 65.74 324 *e*P **P** **22 58 21.0 -1.0**
comp=Z,111nm,0.8s,baz=324
IUG Iuzhnay 65.74 324 *e*P **P** **22 58 20.9 -1.0**
IUG pmax pmax
comp=Z,111nm,0.8s
HOQ Hoqain 65.91 300 P **P** **22 58 22.3 -1.0**
SNR=14
HOQ P **P** **22 58 22.3 -1.0**
SNR=14
HOQ P **P** **22 58 22.3 -1.0**
SNR=14
HOQ S **S** **23 07 05.3 -4.0**
HOQ S **S** **23 07 05.3 -4.0**
HOQ S **S** **23 07 05.3 -4.0**
BOD Bodaibo 65.96 359 *e*P **P** **22 58 23.5 +0.6**
BOD pmax pmax
comp=Z,2μm,1.7s
DMTO DMTO 66.03 294 P **P** **22 58 24.0 -0.1**
DMTO P **P** **22 58 24.0 -0.1**
DMTO P **P** **22 58 24.0 -0.1**
DMTO S **S** **23 07 07.3 -3.7**
DMTO S **S** **23 07 07.3 -3.7**
DMTO S **S** **23 07 07.3 -3.7**
KK31 Karatay Array 66.06 325 P **P** **22 58 22.7 -1.2**
KK31 Karatay Array 66.06 325 P **P** **22 58 22.7 -1.2**
KK31 pmax pmax
comp=Z,82nm,1.2s
KKAR Karatay Array 66.06 325 P **P** **22 58 22.4 -1.5**
KKAR Karatay Array 66.06 325 P **P** **22 58 22.4 -1.5**
JASK Jask - Hormozg 66.29 303 P **P** **22 58 25.8 +0.1**
SNR=9.2
JASK S **S** **23 07 10.9 -3.1**
SEM Semipalatinsk 66.41 336 *e*P **P** **22 58 25.1 -1.1**
comp=Z,120nm,1.2s,baz=336
SEM LR LR 23 30 06.2
comp=Z,15μm,18.4s,baz=336
SEM Semipalatinsk 66.41 336 *e*P **P** **22 58 25.1 -1.1**
SEM pmax pmax
comp=Z,120nm,1.2s
SEM MLR MLR
comp=Z,15μm,18.0s
ARQ Araqi 66.49 300 P **P** **22 58 25.7 -1.3**
ARQ P **P** **22 58 25.7 -1.3**
ARQ P **P** **22 58 25.7 -1.3**
ARQ S **S** **23 07 11.5 -5.0**
ARQ S **S** **23 07 11.5 -5.0**
ARQ S **S** **23 07 11.5 -5.0**
H04N2 CROZET ISLANDS 66.55 223 P P 22 58 36.0 +9.3
SNR=6.1
H04N2 T T 00 10 36.0
baz=78,slow=74
H04N1 CROZET ISLANDS 66.56 223 P **P** **22 58 28.7 +1.8**
SNR=1.1
H04N1 T T 00 10 32.6
baz=78
H04N3 CROZET ISLANDS 66.56 223 P P 22 58 33.2 +6.4
SNR=3.7
H04N3 T T 00 10 39.6
baz=78,slow=74
CRZF Crozet Islands 66.57 223 P **P** **22 58 28.3 +1.2**
CRZF IAmb IAmb 22 58 30.4
comp=Z,318nm,1.0s
HRA Herat 66.58 313 P **P** **22 58 25.1 -2.6**
H04S1 CROZET ISLANDS 66.63 222 P **P** **22 58 26.5 -0.8**
baz=151,slow=75,SNR=6.4
RBK Rabkut 66.64 293 P **P** **22 58 27.6 -0.6**
SNR=5.1
RBK P **P** **22 58 27.6 -0.6**
SNR=5.1
RBK P **P** **22 58 27.6 -0.6**
SNR=5.1
RBK S **S** **23 07 14.9 -3.6**
RBK S **S** **23 07 14.9 -3.6**
RBK S **S** **23 07 14.9 -3.6**
H04S2 CROZET ISLANDS 66.64 222 P **P** **22 58 25.9 -1.4**
baz=151,slow=75,SNR=6.9
H04S3 CROZET ISLANDS 66.64 222 P **P** **22 58 28.1 +0.7**
baz=151,slow=75,SNR=7.2

SOHO	**SOHO**	**66.77 301**	*i* P	**P**	**22 58 26.5**	**-2.3**
	SNR=11					
SOHO	**SOHO**	**66.77 301**	P	**P**	**22 58 27.5**	**-1.3**
SOHO			P	**P**	**22 58 27.5**	**-1.3**
SOHO			P	**P**	**22 58 27.5**	**-1.3**
SOHO			S	**S**	**23 07 16.3**	**-3.5**
SOHO			S	**S**	**23 07 16.3**	**-3.5**
SOHO			S	**S**	**23 07 16.3**	**-3.5**
DOK	**Doka**	**67.04 294**	P	**P**	**22 58 29.5**	**-1.2**
DOK			P	**P**	**22 58 29.5**	**-1.2**
DOK			S	**S**	**23 07 18.0**	**-5.3**
DOK			S	**S**	**23 07 18.0**	**-5.3**
WHFO	**Wadi Hawf**	**67.16 293**	P	**P**	**22 58 29.8**	**-1.7**
WHFO			P	**P**	**22 58 29.8**	**-1.7**
WHFO			S	**S**	**23 07 19.3**	**-5.4**
WHFO			S	**S**	**23 07 19.3**	**-5.4**
KURBB	**Kurchatov Arra**	**67.29 335**	P	**P**	**22 58 31.0**	**-0.5**
	comp=Z,73nm,1.0s,baz=146,slow=5.9,SNR=103					
KURBB			PcP	**PcP**	**22 58 58.9**	**-0.3**
	comp=Z,29nm,0.8s,baz=147,slow=5.7,SNR=5.0					
KURBB			PP	**PP**	**23 01 04.5**	**+4.3**
	comp=Z,16nm,1.1s,baz=134,slow=10,SNR=4.1					
KURBB			PKP2bc		23 26 56.5	
	comp=Z,12nm,1.1s,baz=307,slow=3.3,SNR=7.5					
KURBB			LR	LR	23 30 34.4	
	comp=Z,40μm,21.7s,baz=138,slow=38					
	comp=Z,73nm,1.0s					
KURK	**Kurchatov**	**67.32 335**	P	**P**	**22 58 31.1**	**-0.6**
KURK			IAmb	IAmb	22 58 54.5	
	comp=Z,284nm,1.2s					
KURK	**Kurchatov**	**67.32 335**	P	**P**	**22 58 31.4**	**-0.3**
KURK			P	**P**	**22 58 31.4**	**-0.3**
KURK			P	**P**	**22 58 31.4**	**-0.3**
KURK	**Kurchatov**	**67.32 335**	*ce*P	**P**	**22 58 31.3**	**-0.4**
KURK			pmax	pmax		
	comp=Z,159nm,1.7s					
KURK			MLR	MLR		
	comp=Z,45μm,22.0s					
UOSS	**Minazif**	**67.34 301**	P	**P**	**22 58 30.1**	**-2.4**
UOSS			IAmb	IAmb	22 58 57.4	
	comp=Z,248nm,1.6s					
UOSS	**Minazif**	**67.34 301**	*i* P	**P**	**22 58 29.6**	**-2.9**
	SNR=13					
UOSS	**Minazif**	**67.34 301**	P	**P**	**22 58 30.4**	**-2.0**
UOSS			S	**S**	**23 07 21.2**	**-5.5**
HATD	**Hatta, Dubai**	**67.36 301**	*i* P	**P**	**22 58 29.5**	**-3.1**
	SNR=13					
HATD	**Hatta, Dubai**	**67.36 301**	P	**P**	**22 58 30.9**	**-1.7**
	SNR=20					
HATD			P	**P**	**22 58 30.9**	**-1.7**
	SNR=20					
HATD			P	**P**	**22 58 30.9**	**-1.7**
	SNR=20					
HATD			S	**S**	**23 07 20.8**	**-6.2**
HATD			S	**S**	**23 07 20.8**	**-6.2**
HATD			S	**S**	**23 07 20.8**	**-6.2**
ASHO	**Ashiyiah**	**67.37 301**	*i* P	**P**	**22 58 30.8**	**-1.8**
	SNR=21					
ASHO	**Ashiyiah**	**67.37 301**	P	**P**	**22 58 31.6**	**-1.1**
	SNR=25					
ASHO			P	**P**	**22 58 31.6**	**-1.1**
	SNR=25					
ASHO			P	**P**	**22 58 31.6**	**-1.1**
	SNR=25					
ASHO			S	**S**	**23 07 21.4**	**-5.8**
ASHO			S	**S**	**23 07 21.4**	**-5.8**
ASHO			S	**S**	**23 07 21.4**	**-5.8**
MDH	**Madha**	**67.39 302**	P	**P**	**22 58 30.3**	**-2.4**
MDH			P	**P**	**22 58 30.3**	**-2.4**
MDH			S	**S**	**23 07 21.0**	**-6.3**
MDH			S	**S**	**23 07 21.0**	**-6.3**
ALNE	**Al Ain**	**67.41 300**	*i* P	**P**	**22 58 31.1**	**-1.8**
	SNR=18					
ALNE	**Al Ain**	**67.41 300**	P	**P**	**22 58 31.9**	**-1.0**
	SNR=22					
ALNE			P	**P**	**22 58 31.9**	**-1.0**
	SNR=22					
ALNE			P	**P**	**22 58 31.9**	**-1.0**
	SNR=22					
ALNE			S	**S**	**23 07 22.1**	**-5.4**
ALNE			S	**S**	**23 07 22.1**	**-5.4**
ALNE			S	**S**	**23 07 22.1**	**-5.4**
ABTO	**Aybut**	**67.42 293**	P	**P**	**22 58 32.1**	**-1.0**
	SNR=5.3					
ABTO			P	**P**	**22 58 32.1**	**-1.0**
	SNR=5.3					
ABTO			S	**S**	**23 07 22.7**	**-5.3**
ABTO			S	**S**	**23 07 22.7**	**-5.3**
MSFE	**Esma-Masafi**	**67.53 302**	*i* P	**P**	**22 58 31.5**	**-2.2**
	SNR=9.8					
MASF	**Masafi**	**67.53 302**	P	**P**	**22 58 31.8**	**-1.9**
	SNR=9.8					
MASF			P	**P**	**22 58 31.8**	**-1.9**
	SNR=9.8					
MASF			P	**P**	**22 58 31.8**	**-1.9**
	SNR=9.8					
MASF			S	**S**	**23 07 26.0**	**-3.1**
MASF			S	**S**	**23 07 26.0**	**-3.1**
MASF			S	**S**	**23 07 26.0**	**-3.1**
ZAA0	**Zalesovo Array**	**67.56 340**	P	**P**	**22 58 32.0**	**-1.1**
ZALV	**Zalesovo Beam**	**67.56 340**	P	**P**	**22 58 32.3**	**-0.9**
	comp=Z,49nm,0.6s,baz=143,slow=4.6,SNR=99					
ZALV			PKP2bc		23 26 55.3	
	comp=Z,9.6nm,0.9s,baz=333,slow=2.0,SNR=16					
ZALV			LR	LR	23 31 35.2	
	comp=Z,17μm,19.5s,baz=162,slow=39					
	comp=Z,49nm,0.6s					
CTZ	**Chatham Island**	**67.64 134**	P	**P**	**22 58 36.6**	**+2.6**
ABPO	**Ambohimpanom**	**67.75 253**	P	**P**	**22 58 36.1**	**+0.7**
ABPO			IAmb	IAmb	22 58 38.5	
	comp=Z,138nm,1.1s					
ABPO	**Ambohimpanom**	**67.75 253**	P	**P**	**22 58 36.1**	**+0.7**
ABPO			pmax	pmax		
	comp=Z,138nm,1.1s					
FAQ	**Al Faqa, Dubai**	**67.79 301**	*i* P	**P**	**22 58 33.9**	**-1.3**
	SNR=14					
FAQ	**Al Faqa, Dubai**	**67.79 301**	P	**P**	**22 58 33.9**	**-1.3**
	SNR=24					
FAQ			P	**P**	**22 58 33.9**	**-1.3**
	SNR=24					
FAQ			P	**P**	**22 58 33.9**	**-1.3**
	SNR=24					
FAQ			S	**S**	**23 07 25.5**	**-6.5**
FAQ			S	**S**	**23 07 25.5**	**-6.5**
FAQ			S	**S**	**23 07 25.5**	**-6.5**
SHME	**Shamm**	**67.80 302**	*i* P	**P**	**22 58 34.3**	**-1.0**
	SNR=15					
SHME	**Shamm**	**67.80 302**	P	**P**	**22 58 33.7**	**-1.6**
	SNR=14					
SHME			P	**P**	**22 58 33.7**	**-1.6**
	SNR=14					
SHME			P	**P**	**22 58 33.7**	**-1.6**
	SNR=14					
SHME			S	**S**	**23 07 27.7**	**-4.4**
SHME			S	**S**	**23 07 27.7**	**-4.4**
SHME			S	**S**	**23 07 27.7**	**-4.4**
NAZ	**Nazwa, Dubai**	**67.81 301**	*i* P	**P**	**22 58 33.3**	**-2.1**
	SNR=16					
NAZ	**Nazwa, Dubai**	**67.81 301**	P	**P**	**22 58 34.0**	**-1.4**
	SNR=15					
NAZ			P	**P**	**22 58 34.0**	**-1.4**
	SNR=15					
NAZ			P	**P**	**22 58 34.0**	**-1.4**
	SNR=15					
NAZ			S	**S**	**23 07 24.7**	**-7.7**
NAZ			S	**S**	**23 07 24.7**	**-7.7**
NAZ			S	**S**	**23 07 24.7**	**-7.7**
FOMA	**Nahampoana Res**	**67.96 246**	P	**P**	**22 58 37.5**	**+1.1**
ASUD	**Al Ashush, Dub**	**67.97 301**	*i* P	**P**	**22 58 34.8**	**-1.6**
	SNR=18					
ASUD	**Al Ashush, Dub**	**67.97 301**	P	**P**	**22 58 35.3**	**-1.1**
	SNR=15					
ASUD			P	**P**	**22 58 35.3**	**-1.1**
	SNR=15					
ASUD			S	**S**	**23 07 29.8**	**-4.4**
ASUD			S	**S**	**23 07 29.8**	**-4.4**
UMQ	**Umm Al-Quwin**	**68.01 302**	*i* P	**P**	**22 58 35.2**	**-1.4**
	SNR=6.1					
UMQ	**Umm Al-Quwin**	**68.01 302**	P	**P**	**22 58 36.4**	**-0.2**
	SNR=9.9					
UMQ			P	**P**	**22 58 36.4**	**-0.2**
	SNR=9.9					
UMQ			S	**S**	**23 07 31.6**	**-3.0**
UMQ			S	**S**	**23 07 31.6**	**-3.0**
SKR	**Severo-Kuril's**	**68.07 26**	*e*P	**P**	**22 58 35.2**	**-1.2**
SKR			*e*		22 58 55.9	
SKR			*e*PPP	PPP	23 01 12.3	
SKR			*e*S	**S**	**23 07 36.3**	**+2.0**
SKR			*e*SS	SKiKP	23 08 18.2	-12
SKR			pmax	pmax		
	comp=Z,7μm,7.2s					
SKR			pmax	pmax		
	comp=Z,343nm,2.7s					
SKR			MLR	MLR		
	comp=Z,4μm,23.0s					
VOI	**Vohitsoka**	**68.11 250**	P	**P**	**22 58 38.5**	**+0.9**
VOI			IAmb	IAmb	22 58 40.8	
	comp=Z,215nm,1.1s					
AJN	**Ajban**	**68.24 301**	*i* P	**P**	**22 58 35.7**	**-2.3**
	SNR=11					
AJN	**Ajban**	**68.24 301**	P	**P**	**22 58 36.0**	**-2.1**
	SNR=5.8					
AJN			P	**P**	**22 58 36.0**	**-2.1**
	SNR=5.8					
AJN			S	**S**	**23 07 31.4**	**-6.0**
AJN			S	**S**	**23 07 31.4**	**-6.0**
MZWR	**Madinat Zayed**	**68.91 299**	P	**P**	**22 58 40.6**	**-1.6**
MZWR			P	**P**	**22 58 40.6**	**-1.6**
MZWR			P	**P**	**22 58 40.6**	**-1.6**
MZWR			S	**S**	**23 07 40.8**	**-4.6**
MZWR			S	**S**	**23 07 40.8**	**-4.6**
MZWR			S	**S**	**23 07 40.8**	**-4.6**
MZR	**Muzera**	**69.01 298**	*i* P	**P**	**22 58 40.4**	**-2.6**
	SNR=22					
MZR	**Muzera**	**69.01 298**	P	**P**	**22 58 41.7**	**-1.3**
	SNR=15					
MZR			P	**P**	**22 58 41.7**	**-1.3**
	SNR=15					
MZR			S	**S**	**23 07 40.9**	**-5.8**
MZR			S	**S**	**23 07 40.9**	**-5.8**
MAW	**Mawson**	**69.01 199**	P	**P**	**22 58 44.1**	**+2.0**
	comp=Z,398nm,1.0s,baz=58,slow=7.0,SNR=327					
MAW			LR	LR	23 22 43.2	
	comp=Z,15μm,21.3s,baz=56,slow=30					
MAW			PKPPKP	**P'P'df**	**23 26 50.2**	**-5.3**
	comp=Z,4.5nm,1.0s,baz=211,slow=4.7,SNR=6.7					
	comp=Z,398nm,1.0s					
GHWR	**Ruwais**	**69.85 299**	P	**P**	**22 58 46.9**	**-1.1**
GHWR			P	**P**	**22 58 46.9**	**-1.1**
GHWR			P	**P**	**22 58 46.9**	**-1.1**
GHWR			S	**S**	**23 07 50.7**	**-5.7**
GHWR			S	**S**	**23 07 50.7**	**-5.7**
GHWR			S	**S**	**23 07 50.7**	**-5.7**
JRN	**Qarnain Island**	**70.19 300**	P	**P**	**22 58 48.6**	**-1.6**
JRN			P	**P**	**22 58 48.6**	**-1.6**
JRN			S	**S**	**23 07 56.0**	**-4.5**
JRN			S	**S**	**23 07 56.0**	**-4.5**
AFI	**Afiamalu**	**70.42 102**	P	**P**	**22 58 53.0**	**+1.1**
AFI			IAmb	IAmb	22 58 55.0	
	comp=Z,536nm,1.4s					
AFI	**Afiamalu**	**70.42 102**	P	**P**	**22 58 53.0**	**+1.1**
AFI			pmax	pmax		
	comp=Z,536nm,1.4s					
AFI			MLR	MLR		
	comp=Z,8μm,21.0s					
PET	**Petropavlovsk**	**70.85 25**	P	**P**	**22 58 54.2**	**+0.6**
PET	**Petropavlovsk**	**70.85 25**	P	**P**	**22 58 53.8**	**+0.3**
PET			IAmb	IAmb	22 59 14.9	
	comp=Z,464nm,1.6s					
PET	**Petropavlovsk**	**70.85 25**	*c i*P	**P**	**22 58 54.2**	**+0.6**
PET			*e*		22 59 11.1	
PET			*e*		23 01 35.1	
PET			*e*S	**S**	**23 08 08.9**	**+1.9**
PET			*e*PS	**PnS**	**23 08 49.9**	**+13**
PET			*e*SS	**SS**	**23 12 32.6**	**-7.5**
PET			pmax	pmax		
	comp=Z,82nm,1.4s					
PET			pmax	pmax		
	comp=Z,4μm,10.4s					
PET			pmax	pmax		
	comp=Z,8μm,11.4s					
PET			smax	smax		
	comp=E,26μm,12.8s					
PET			smax	smax		
	comp=E,27μm,12.3s					
SLWR	**Sila**	**70.91 299**	P	**P**	**22 58 53.2**	**-1.3**
SLWR			P	**P**	**22 58 53.2**	**-1.3**
SLWR			S	**S**	**23 08 02.9**	**-5.9**
SLWR			S	**S**	**23 08 02.9**	**-5.9**
YAK	**Yakutsk**	**70.91 7**	P	**P**	**22 58 53.7**	**0.0**
YAK			IAmb	IAmb	22 59 16.0	
	comp=Z,299nm,0.8s					
YAK	**Yakutsk**	**70.91 7**	IAMs_20	IAMs_20	23 34 59.9	
	comp=Z,19μm,18.0s					
YAK	**Yakutsk**	**70.91 7**	LR	LR	23 34 33.5	
	comp=Z,9μm,18.0s,baz=202,slow=40					
YAK	**Yakutsk**	**70.91 7**	*c i*P	**P**	**22 58 53.5**	**-0.2**
YAK			*e**PP	**pP**	**22 59 01.0**	**-1.3**
YAK			*e*		22 59 12.9	
YAK			*e*		23 01 32.5	
YAK			*e*S	**S**	**23 08 04.5**	**-2.9**
YAK			*e**SS	**SKiKP**	**23 08 27.4**	**-7.0**
YAK			*e*		23 08 55.0	
YAK			*e*SS	**SS**	**23 12 41.6**	**+0.9**
YAK			pmax	pmax		
	comp=Z,177nm,1.3s					
YAK			pmax	pmax		
	comp=N,92nm,1.3s					
YAK			pmax	pmax		
	comp=E,23nm,1.3s					
YAK			pmax	pmax		
	comp=Z,3μm,5.3s					
YAK			pmax	pmax		
	comp=N,1μm,3.8s					
YAK			pmax	pmax		
	comp=E,181nm,2.2s					
YAK			smax	smax		
	comp=E,13μm,10.9s					
YAK			smax	smax		
	comp=N,20μm,10.8s					
TRNA	**Turayna**	**71.53 299**	P	**P**	**22 58 56.8**	**-1.5**
	SNR=9.9					
TRNA			S	**S**	**23 08 09.2**	**-6.8**
SMRA	**Abu-Samra**	**71.87 299**	P	**P**	**22 58 58.6**	**-1.7**
	SNR=16					
NIUE	**Niue**	**71.89 107**	P	**P**	**22 59 03.1**	**+2.5**
NIUE	**Niue**	**71.89 107**	P	**P**	**22 59 01.2**	**+0.5**
SHMA	**Al-Shehemyia**	**72.10 301**	P	**P**	**22 58 59.5**	**-2.2**
	SNR=5.1					
SHMA			S	**S**	**23 08 15.8**	**-6.8**
SAKB	**Bahrain**	**72.51 300**	P	**P**	**22 59 01.6**	**-2.6**
SAKB			S	**S**	**23 08 19.7**	**-7.5**
BVAR	**Borovoye Array**	**72.55 333**	P	**P**	**22 59 03.0**	**-0.8**
	comp=N,62nm,1.0s,baz=141,slow=7.6,SNR=166					
BVAR			PKPPKP		23 26 42.4	
	comp=N,5.2nm,1.1s,baz=304,slow=1.1,SNR=6.6					
BVAR			LR	LR	23 35 23.4	
	comp=N,36μm,18.7s,baz=139,slow=40					
	comp=N,62nm,1.0s					
BRVK	**Borovoye**	**72.62 333**	P	**P**	**22 59 03.2**	**-1.0**
BRVK			IAmb	IAmb	22 59 25.1	
	comp=Z,230nm,1.4s					
BRVK	**Borovoye**	**72.62 333**	P	**P**	**22 59 02.9**	**-1.4**
BRVK			P	**P**	**22 59 02.9**	**-1.4**
BRVK			S	**S**	**23 08 25.2**	**-2.3**
BRVK			S	**S**	**23 08 25.2**	**-2.3**
BRVK	**Borovoye**	**72.62 333**	*ce*P	**P**	**22 59 03.5**	**-0.8**
BRVK			pmax	pmax		
	comp=Z,100nm,1.3s					
BRVK			MLR	MLR		
	comp=Z,15μm,16.0s					
MA2	**Magadan**	**73.02 17**	P	**P**	**22 59 07.7**	**+1.2**
MA2	**Magadan**	**73.02 17**	P	**P**	**22 59 06.9**	**+0.4**
MA2			IAmb	IAmb	22 59 22.9	
	comp=Z,582nm,1.4s					
MA2			IAMs_20	IAMs_20	23 34 20.0	
	comp=Z,16μm,20.0s					
MA2	**Magadan**	**73.02 17**	LR	LR	23 34 58.6	
	comp=Z,8μm,19.3s,baz=220,slow=39					
MA2	**Magadan**	**73.02 17**	*ce*P	**P**	**22 59 07.0**	**+0.5**
MA2			pmax	pmax		
	comp=Z,403nm,2.5s					
VNDA	**Vanda**	**73.03 171**	P	**P**	**22 59 08.0**	**+1.6**
VNDA			IAmb	IAmb	22 59 10.0	
	comp=Z,410nm,1.1s					
VNDA	**Vanda**	**73.03 171**	P	**P**	**22 59 07.8**	**+1.4**
	comp=Z,251nm,1.1s,baz=315,slow=5.9,SNR=487					
VNDA			LR	LR	23 29 20.1	
	comp=Z,25μm,20.0s,baz=334,slow=34					
	comp=Z,251nm,1.1s					
VNDA	**Vanda**	**73.03 171**	P	**P**	**22 59 08.0**	**+1.6**
VNDA			pmax	pmax		
	comp=Z,410nm,1.2s					
MIDW	**Midway**	**73.44 57**	P	**P**	**22 59 10.0**	**+0.4**
MIDW	**Midway**	**73.44 57**	P	**P**	**22 59 09.2**	**-0.4**
MIDW			IAmb	IAmb	22 59 11.3	
	comp=Z,178nm,1.1s					
SBA	**Scott Base**	**74.06 170**	P	**P**	**22 59 14.6**	**+2.2**
SBA			IAmb	IAmb	22 59 27.0	
	comp=Z,203nm,0.9s					
SBA	**Scott Base**	**74.06 170**	IAMs_20	IAMs_20	23 29 29.8	
	comp=Z,22μm,20.0s					
SBA	**Scott Base**	**74.06 170**	P	**P**	**22 59 14.6**	**+2.2**
SBA			pmax	pmax		
	comp=Z,203nm,1.0s					
SBA			MLR	MLR		
	comp=Z,22μm,20.0s					
ABKAR	**Akbulak array**	**75.59 326**	P	**P**	**22 59 20.4**	**-1.3**
ABKAR	**Akbulak array**	**75.59 326**	P	**P**	**22 59 20.3**	**-1.4**
ATD	**Arta Tunnel**	**75.82 284**	LR	LR	23 28 26.5	
	comp=Z,297nm,21.9s,baz=88,slow=32					
KBD	**Kabd**	**75.91 303**	P	**P**	**22 59 23.0**	**-1.0**
KBD			S	**S**	**23 08 58.6**	**-6.7**
RAYN	**Ar Rayn**	**76.16 297**	P	**P**	**22 59 23.8**	**-1.8**
RAYN	**Ar Rayn**	**76.16 297**	IAMs_20	IAMs_20	23 34 38.5	
	comp=Z,28μm,21.0s					
RAYN	**Ar Rayn**	**76.16 297**	*i* P	**P**	**22 59 23.3**	**-2.3**
	SNR=32					
RAYN	**Ar Rayn**	**76.16 297**	P	**P**	**22 59 23.8**	**-1.8**
RAYN			S	**S**	**23 09 02.5**	**-6.0**
RAYN	**Ar Rayn**	**76.16 297**	P	**P**	**22 59 23.8**	**-1.8**
RAYN			pmax	pmax		
	comp=Z,94nm,1.1s					
RAYN			MLR	MLR		
	comp=Z,28μm,21.0s					
SEY	**Seymchan**	**76.20 16**	LR	LR	23 35 21.2	
	comp=Z,5μm,19.3s,baz=227,slow=38					
SEY	**Seymchan**	**76.20 16**	*ce*P	**P**	**22 59 25.1**	**+0.2**
SEY			pmax	pmax		
	comp=Z,209nm,1.3s					
SEY			MLR	MLR		
	comp=Z,5μm,14.0s					
AKTO	**Aktyubinsk**	**77.27 326**	P	**P**	**22 59 29.6**	**-1.6**
	comp=Z,38nm,0.9s,baz=121,slow=4.4,SNR=98					
AKTO			LR	LR	23 37 12.8	
	comp=Z,29μm,20.6s,baz=144,slow=39					
	comp=Z,38nm,0.9s					
JOHN	**Johnston Islan**	**77.29 71**	P	**P**	**22 59 31.7**	**-0.3**
JOHN			IAmb	IAmb	22 59 53.3	
	comp=Z,390nm,1.2s					
SHEM	**Shemya Is, Ala**	**78.01 32**	LR	LR	23 31 33.0	
	comp=Z,5μm,21.2s,baz=231,slow=34					
KIBK	**Kibwezi**	**78.20 269**	P	**P**	**22 59 37.3**	**-0.1**
KIBK			IAMs_20	IAMs_20	23 29 51.8	
	comp=Z,15μm,20.0s					
KIBK	**Kibwezi**	**78.20 269**	P	**P**	**22 59 38.0**	**+0.7**
KIBK	**Kibwezi**	**78.20 269**	P	**P**	**22 59 38.0**	**+0.7**
	SNR=23					
LKRN	**Lenkeran, Azer**	**78.21 312**	P	**P**	**22 59 38.0**	**+1.3**
KMBO	**Kilima Mbogo**	**79.16 270**	P	**P**	**22 59 43.1**	**+0.3**
KMBO	**Kilima Mbogo**	**79.16 270**	IAMs_20	IAMs_20	23 30 37.0	
	comp=Z,14μm,20.0s					
KMBO	**Kilima Mbogo**	**79.16 270**	*i* P	**P**	**22 59 41.1**	**-1.7**
	SNR=53					
KMBO	**Kilima Mbogo**	**79.16 270**	P	**P**	**22 59 43.6**	**+0.8**
KMBO			P	**P**	**22 59 43.6**	**+0.8**
KMBO			S	**S**	**23 09 42.0**	**+0.3**
KMBO			S	**S**	**23 09 42.0**	**+0.3**
KMBO	**Kilima Mbogo**	**79.16 270**	*i* P	**P**	**22 59 43.6**	**+0.8**
KMBO			*i* S	**S**	**23 09 41.5**	**-0.2**
KMBO	**Kilima Mbogo**	**79.16 270**	P	**P**	**22 59 43.1**	**+0.3**
KMBO			pmax	pmax		
	comp=Z,101nm,1.2s					
KMBO			MLR	MLR		
	comp=Z,14μm,20.0s					
SVE	**Sverdlovsk**	**79.33 332**	*d i*P	**P**	**22 59 41.4**	**-1.0**
SVE			*e*		23 02 41.6	
SVE			*e*		23 04 38.8	
SVE			*e*S	**S**	**23 09 37.6**	**-3.6**
SVE			*e*SS	**SS**	**23 14 48.8**	**+0.1**
SVE			pmax	pmax		
	comp=Z,277nm,1.8s					
FURI	**Furi**	**79.35 281**	P	**P**	**22 59 45.7**	**+1.8**
FURI			IAmb	IAmb	22 59 53.4	
	comp=Z,698nm,1.4s					
FURI	**Furi**	**79.35 281**	LR	LR	23 33 49.2	
	comp=Z,13μm,19.0s,baz=97,slow=35					
FURI	**Furi**	**79.35 281**	*i* P	**P**	**22 59 46.8**	**+2.9**
FURI			*e*S	**S**	**23 09 44.1**	**+0.3**
FURI			AMP		23 36 07.8	
	comp=Z,27μm,18.9s					
DODT	**Dodoma, Tanzan**	**79.97 265**	*i* P	P	22 59 42.1	-5.0
NRIK	**Noril'sk**	**80.05 350**	P	**P**	**22 59 45.4**	**-0.8**
NRIK			IAmb	IAmb	23 00 02.8	
	comp=Z,419nm,1.6s					
NRIK	**Noril'sk**	**80.05 350**	P	**P**	**22 59 45.8**	**-0.3**
	comp=Z,28nm,1.1s,baz=166,slow=5.6,SNR=28					
NRIK			LR	LR	23 39 52.1	
	comp=Z,26μm,18.3s,baz=162,slow=39					
	comp=Z,28nm,1.1s					
NRIK	**Noril'sk**	**80.05 350**	*ce*P	**P**	**22 59 45.2**	**-0.9**
NRIK			pmax	pmax		
	comp=Z,411nm,2.1s					
NRIK			MLR	MLR		
	comp=Z,18μm,16.0s					
ARU	**Arti**	**80.08 331**	P	**P**	**22 59 44.5**	**-2.0**
ARU			IAmb	IAmb	23 00 03.2	
	comp=Z,315nm,1.6s					
ARU	**Arti**	**80.08 331**	P	**P**	**22 59 45.1**	**-1.4**
	comp=Z,10nm,0.8s,baz=99,slow=3.2,SNR=47					
ARU			LR	LR	23 39 16.8	
	comp=Z,28μm,20.7s,baz=122,slow=39					
	comp=Z,10nm,0.8s					
ARU	**Arti**	**80.08 331**	*c i*P	**P**	**22 59 44.9**	**-1.6**
ARU					23 02 41.6	
ARU			S	**S**	**23 09 51.8**	**+2.6**
ARU			SS	**SS**	**23 14 59.8**	**-0.2**
ARU			pmax	pmax		
	comp=Z,76nm,1.3s					
ARU			pmax	pmax		
	comp=Z,3μm,8.3s					
ARU			smax	smax		
	comp=N,2μm,12.6s					
ARU			MLR	MLR		
	comp=Z,27μm,20.0s					
MNGR	**Mingechevir, A**	**80.15 314**	P	**P**	**22 59 48.5**	**+1.2**
SEKA	**Sheki**	**80.22 314**	P	**P**	**22 59 48.6**	**+0.8**
TIXI	**Tiksi**	**80.24 4**	P	**P**	**22 59 45.3**	**-1.8**
TIXI			IAmb	IAmb	23 00 01.9	
	comp=Z,367nm,1.4s					
TIXI	**Tiksi**	**80.24 4**	LR	LR	23 39 24.7	
	comp=Z,23μm,19.8s,baz=221,slow=39					
TIXI	**Tiksi**	**80.24 4**	*ce*P	**P**	**22 59 45.7**	**-1.4**
TIXI			pmax	pmax		
	comp=Z,119nm,1.3s					
TIXI			MLR	MLR		
	comp=Z,27μm,19.0s					
MAK	**Makhachkala**	**80.62 316**	*e*P	P	22 59 44.0	-5.7
MAK			*e*		23 02 54.3	
MAK			*e*PPP	PPP	23 04 42.6	
MAK			*e*S	**S**	**23 09 47.5**	**-7.9**
MAK			*e*SS	**SS**	**23 15 04.9**	**-3.8**
MAK			pmax	pmax		
	comp=Z,198nm,1.2s					
MAK			pmax	pmax		
	comp=Z,4μm,4.7s					
MAK			smax	smax		
	comp=N,3μm,7.8s					
MAK			smax	smax		
	comp=E,8μm,7.8s					
MAK			MLR	MLR		
	comp=N,16μm,18.0s					
GANJ	**Ganja**	**80.66 314**	P	**P**	**22 59 51.2**	**+1.1**
NAX	**Nakhchivan**	**80.78 312**	P	**P**	**22 59 51.9**	**+1.1**
RAR	**Rarotonga**	**81.25 110**	P	**P**	**22 59 55.2**	**+1.6**
RAR	**Rarotonga**	**81.25 110**	P	**P**	**22 59 52.9**	**-0.7**
RAR			IAmb	IAmb	22 59 56.7	
	comp=Z,261nm,1.4s					
RAR	**Rarotonga**	**81.25 110**	LR	LR	23 33 46.3	
	comp=Z,5μm,21.8s,baz=262,slow=34					
RAR	**Rarotonga**	**81.25 110**	P	**P**	**22 59 52.9**	**-0.7**
RAR			pmax	pmax		
	comp=Z,261nm,1.4s					
RAR			MLR	MLR		
	comp=Z,10μm,22.0s					

POGA Pongola 81.59 244 P **P 22 59 56.3 +1.0**
POGA IAmb IAmb 23 00 11.6
comp=Z,280nm,1.0s
GNI Garni 81.64 313 P **P 22 59 54.8 -0.7**
GNI Garni 81.64 313 IAMs_20 IAMs_20 23 41 17.4
comp=Z,18µm,20.0s
GNI Garni 81.64 313 P **P 22 59 54.9 -0.5**
GNI Garni 81.64 313 LR LR 23 40 59.6
comp=Z,19µm,20.2s,baz=102,slow=39
GNI Garni 81.64 313 P **P 22 59 54.3 -1.1**
GNI P **P 22 59 54.3 -1.1**
GNI Garni 81.64 313 P **P 22 59 54.8 -0.7**
GNI pmax pmax
comp=Z,62nm,0.9s
GNI MLR MLR
comp=Z,18µm,20.0s
QSPA South Pole Qui 81.65 180 P **P 22 59 56.4 +1.4**
QSPA South Pole Qui 81.65 180 P **P 22 59 54.7 -0.3**
comp=Z,539nm,1.0s,baz=320,slow=2.1,SNR=376
QSPA PKKPbc **PKKPbc 23 18 27.0 -3.5**
comp=Z,2.6nm,0.8s,baz=188,slow=2.0,SNR=6.0
QSPA PKPPKP **P'P'df 23 26 29.0 -4.3**
comp=Z,4.0nm,1.0s,baz=154,slow=1.1,SNR=6.1
QSPA LR LR 23 32 31.4
comp=Z,34µm,21.9s,baz=338,slow=33
comp=Z,539nm,1.0s
LODK Lodwar 81.70 275 P **P 22 59 56.4 +0.1**
LODK Lodwar 81.70 275 P **P 22 59 56.1 -0.1**
SNR=52
LODK Lodwar 81.70 275 *i* P **P 22 59 57.1 +0.8**
PDHT Panda Hill 82.08 262 *i* P P 22 59 52.8 -5.5
GEVA Gevas 82.33 310 P **P 22 59 58.5 -0.7**
KIWB Kanaga Island 82.37 35 P **P 22 59 58.1 -0.7**
TRLG Trialeti 82.53 314 P **P 23 00 00.0 -0.1**
ADK Adak 82.64 35 P **P 22 59 59.1 -1.1**
ADK Adak 82.64 35 P **P 22 59 58.0 -2.2**
ADK IAmb IAmb 23 00 36.4
comp=Z,493nm,1.9s
ADK Adak 82.64 35 IAMs_20 IAMs_20 23 31 34.0
comp=Z,17µm,22.0s
ADK Adak 82.64 35 P **P 22 59 58.0 -2.2**
ADK pmax pmax
comp=Z,493nm,2.0s
ADK MLR MLR
comp=Z,17µm,22.0s
KARS Kars 83.00 313 P **P 23 00 01.9 -0.6**
KARS Kars 83.00 313 P **P 23 00 01.9 -0.6**
KARS pmax pmax
comp=Z,665nm,1.3s
GSTR Great Sitkin T 83.08 35 P **P 23 00 03.1 +0.5**
ELIB Princess Elisa 83.10 198 *d*P **P 23 00 04.9 +2.4**
comp=Z,325nm,1.1s
GURO Guroymak-BITLI 83.17 310 P **P 23 00 02.8 -0.7**
GURO IAMs_20 IAMs_20 23 43 36.1
comp=Z,13µm,21.0s
NCK Nalchik 83.49 316*c i*P **P 23 00 04.1 -0.8**
NCK pmax pmax
comp=Z,22nm,1.5s
BILL Bilibino 83.88 17 P **P 23 00 05.2 -1.1**
BILL IAmb IAmb 23 00 20.4
comp=Z,261nm,1.9s
BILL Bilibino 83.88 17*c i*P **P 23 00 05.3 -0.9**
BILL *i* 23 00 13.9
BILL *i* S **SKSac 23 10 19.6 -7.6**
BILL pmax pmax
comp=Z,24nm,1.3s
BELG Belogornoye 83.97 325 P **P 23 00 05.8 -1.1**
comp=Z,82nm,1.1s,baz=132,slow=1.1,SNR=31
BELG LR LR 23 42 06.2
comp=Z,18µm,21.7s,baz=108,slow=39
comp=Z,82nm,1.1s
BELG Belogornoye 83.97 325*c i*P **P 23 00 05.4 -1.6**
BELG pmax pmax
comp=Z,16nm,1.1s
KBZ Khabaz 84.05 316 P **P 23 00 07.1 -0.5**
comp=Z,16nm,1.1s,baz=85,slow=3.0,SNR=28
KBZ PKKPbc **PKKPbc 23 18 24.1 +0.3**
comp=Z,9.7nm,1.0s,baz=219,slow=0.9,SNR=10
KBZ PKPPKP 23 26 30.1
comp=Z,3.8nm,0.9s,baz=180,slow=3.6,SNR=5.5
comp=Z,16nm,1.1s
KBZ Khabaz 84.05 316*ce*P **P 23 00 06.6 -1.0**
KBZ pmax pmax
comp=Z,96nm,2.0s
ATKA Atka Island 84.19 35 P **P 23 00 08.2 +0.1**
ATKA Atka Island 84.19 35 P **P 23 00 06.8 -1.3**
ATKA IAmb IAmb 23 00 13.4
comp=Z,300nm,1.5s
SHA1 Shidzhatmaz 84.21 316*ce*P **P 23 00 06.6 -2.2**
KIV Kislovodsk 84.26 316 P **P 23 00 07.4 -1.4**
KIV Kislovodsk 84.26 316 *i* P **P 23 00 07.5 -1.4**
SNR=9.3
KIV Kislovodsk 84.26 316 P **P 23 00 07.5 -1.4**
KIV P **P 23 00 07.5 -1.4**
KIV S **SKSac 23 10 30.0 -0.9**
KIV S **SKSac 23 10 30.0 -0.9**
KIV Kislovodsk 84.26 316 *e*P **P 23 00 07.8 -1.1**
KIV *e* 23 03 22.3
KIV *e* 23 10 30.2
KIV *e*SSS SSS 23 19 32.8
KIV pmax pmax
comp=Z,24nm,1.0s
BATM Batumi 84.28 313 P **P 23 00 08.8 -0.1**
GOF Gofitskoye 84.34 317*c i*P **P 23 00 08.5 -0.6**
GOF *e*S **SKSac 23 10 30.2 -1.0**
MATP Matopo 85.24 250 LR LR 23 35 32.8
comp=Z,3µm,19.4s,baz=95,slow=34
KIRV Kirov 85.44 331 P **P 23 00 12.6 -1.7**
comp=Z,23nm,1.0s,baz=118,slow=5.2,SNR=34
KIRV LR LR 23 44 14.9
comp=Z,32µm,19.8s,baz=125,slow=40
comp=Z,23nm,1.0s
GRHM Grahamstown, E 85.56 237 P **P 23 00 16.4 +0.7**
ASF Jabal al Asfar 85.66 303 LR LR 23 44 35.1
comp=Z,16µm,18.0s,baz=336,slow=40
MBAR Mbarara 85.68 270 P **P 23 00 17.0 +0.2**
MBAR IAmb IAmb 23 00 34.6
comp=Z,535nm,1.8s
MBAR Mbarara 85.68 270 LR LR 23 36 16.2
comp=Z,11µm,18.4s,baz=82,slow=34
MBAR Mbarara 85.68 270 P **P 23 00 17.3 +0.5**
MBAR P **P 23 00 17.3 +0.5**
MBAR S **SKSac 23 10 41.5 0.0**
MBAR S **SKSac 23 10 41.5 0.0**
MBAR Mbarara 85.68 270 *i* P **P 23 00 17.2 +0.5**
MBAR *i* S **S 23 10 49.7 +1.3**
MBAR Mbarara 85.68 270*ce*P **P 23 00 17.4 +0.6**
MBAR pmax pmax
comp=Z,383nm,2.5s
MBAR MLR MLR
comp=Z,14µm,19.0s
LABN Labinsk 85.81 316 *e*P **P 23 00 15.8 -0.7**
LABN *e* 23 10 37.6
LABN *e* 23 10 47.6
LABN pmax pmax
comp=N,63nm,1.4s
LABN pmax pmax
comp=Z,226nm,1.9s
LABN pmax pmax
comp=E,22nm,1.1s
ARPR Arapgir-MALATY 86.10 310 P **P 23 00 17.9 -0.4**
ARPR IAmb IAmb 23 00 25.4
comp=Z,631nm,1.8s
ARPR IAMs_20 IAMs_20 23 43 15.7
comp=Z,16µm,22.0s
LSZ Lusaka 86.19 255 P **P 23 00 19.6 +0.4**
LSZ IAmb IAmb 23 00 37.2
comp=Z,380nm,1.4s
LSZ IAMs_20 IAMs_20 23 33 47.5
comp=Z,19µm,21.0s
LSZ Lusaka 86.19 255 P **P 23 00 19.6 +0.4**
LSZ pmax pmax
comp=Z,381nm,1.4s
LSZ MLR MLR
comp=Z,19µm,21.0s
SOC Sochi 86.22 315 *e*P **P 23 00 15.2 -3.3**
SOC *e* 23 03 39.8
SOC *e*S **SKSac 23 10 40.5 -2.7**
SOC *e*SS **SS 23 16 28.8 -2.8**
SOC *e*SSS SSS 23 20 02.1
SOC pmax pmax
comp=Z,28nm,0.7s
BROLN Tlhalogang 86.24 249 *i* P **P 23 00 20.2 +0.9**
BROLN Tlhalogang 86.24 249 *i* P **P 23 00 20.3 +0.9**
BROLN IAML 23 01 04.9
comp=N,7.7nm,0.8s
ERBR Yeremizino-Bor 86.26 317 *e*P **P 23 00 17.7 -1.0**
ERBR *e* 23 03 43.1
ERBR *e* 23 10 40.9
ERBR *e* 23 10 50.7
ERBR pmax pmax
comp=E,13nm,0.8s
ERBR pmax pmax
comp=Z,238nm,1.6s
ERBR pmax pmax
comp=N,51nm,1.1s
SOE Somerset East 86.31 238 P **P 23 00 20.5 +1.1**
SOE IAmb IAmb 23 00 23.2
comp=Z,330nm,1.2s
XMAS Kiritimati 86.43 87 P **P 23 00 23.3 +3.1**
XMAS Kiritimati 86.43 87 P **P 23 00 20.7 +0.5**
XMAS Kiritimati 86.43 87 IAMs_20 IAMs_20 23 40 07.3
comp=Z,11µm,20.0s
GAZ Gaziantep 86.52 308 P **P 23 00 19.7 -0.5**
GAZ IAmb IAmb 23 00 26.9
comp=Z,417nm,1.8s
GHAJ Ghor Haditha 86.58 302 P **P 23 00 20.5 -0.1**
GHAJ IAmb IAmb 23 00 28.6
comp=Z,143nm,1.1s
BALJ Balqa 86.68 303 P **P 23 00 21.6 +0.5**
BALJ IAmb IAmb 23 00 39.5
comp=Z,174nm,1.3s
EIL Elat 86.78 300 LR LR 23 42 02.2
comp=Z,29µm,18.7s,baz=98,slow=38
NVL N'lazarevskaya 86.95 199 *e*P **P 23 00 18.7 -2.9**
NVL *e*S **SKSac 23 10 47.0 +0.2**
NVL pmax pmax
comp=Z,319nm,1.1s
VRH Novokhopyorsk 87.03 323 *e*P **P 23 00 19.5 -2.8**
VRH *e* 23 03 49.0
VRH *e*S **SKSac 23 10 39.5 -8.3**
VRH pmax pmax
comp=Z,140nm,1.2s
VRH smax smax
comp=E,11µm,15.3s
VRH MLR MLR
comp=Z,14µm,19.0s
MMAI Mount Meron Ar 87.07 304 P **P 23 00 23.4 +0.4**
comp=Z,16nm,0.9s,baz=85,slow=4.4,SNR=18
MMAI PKKPbc **PKKPbc 23 18 16.7 +0.4**
comp=Z,8.6nm,1.0s,baz=280,slow=7.5,SNR=4.5
MMAI LR LR 23 44 24.5
comp=Z,20µm,18.6s,baz=50,slow=39
comp=Z,16nm,0.9s
BOSA Boshof 87.11 242 P **P 23 00 23.7 +0.2**
BOSA IAmb IAmb 23 00 26.3
comp=Z,307nm,1.1s
BOSA Boshof 87.11 242 P **P 23 00 23.7 +0.2**
comp=Z,228nm,1.1s,baz=99,slow=4.2,SNR=139
BOSA LR LR 23 35 29.9
comp=Z,12µm,19.1s,baz=102,slow=33
comp=Z,228nm,1.1s
LBTB Lobatse 87.30 245 P **P 23 00 25.0 +0.5**
LBTB IAmb IAmb 23 00 27.3
comp=Z,236nm,1.1s
LBTB Lobatse 87.30 245 LR LR 23 34 48.1
comp=Z,7µm,20.3s,baz=102,slow=32
LBTB Lobatse 87.30 245 P **P 23 00 25.0 +0.5**
LBTB pmax pmax
comp=Z,236nm,1.1s
SOOWA Sowa 87.34 250 *i* P **P 23 00 26.1 +1.4**
SOOWA Sowa 87.34 250 *i* P **P 23 00 26.2 +1.4**
SOOWA IAML 23 00 45.0
comp=N,33nm,0.9s
NIKH Nikolski High 87.52 36 P **P 23 00 24.5 -0.1**
NIKH IAmb IAmb 23 01 16.1
comp=Z,248nm,1.5s
NIKH Nikolski High 87.52 36 P **P 23 00 23.0 -1.6**
baz=253
TOKA Tokat 87.78 311 P **P 23 00 26.1 -0.2**
TOKA IAmb IAmb 23 00 31.9
comp=Z,99nm,1.1s
BNN Bunyan 87.94 310 P **P 23 00 26.4 -0.8**
SPIA Saint Paul Isl 88.05 31 P **P 23 00 26.7 -0.3**
baz=252
ANN Anapa 88.11 316 *e*P **P 23 00 26.0 -1.7**
ANN *e* 23 03 57.6
ANN *e* 23 10 49.1
ANN *e* 23 11 06.1
ANN pmax pmax
comp=Z,120nm,1.4s
ANN pmax pmax
comp=N,44nm,1.6s
P08K Saint George I 88.23 32 P **P 23 00 27.8 -0.1**
baz=252
VORD Divnogorie 88.43 322 *e*P **P 23 00 27.4 -1.6**
VORD *e* 23 03 52.9
VORD pmax pmax
comp=Z,80nm,1.0s
VSR Storozhevoye 88.57 322 *e*P **P 23 00 27.8 -1.9**
VSR *e* 23 03 53.8
VSR *e*S **SKSac 23 10 47.1 -10**
VSR pmax pmax
comp=Z,110nm,1.2s
VSR smax smax
comp=E,6µm,10.6s
VORR Voronezh 88.67 323 *e*P **P 23 00 28.4 -1.7**
VORR *e*S **SKSac 23 10 56.3 -1.4**
VORR pmax pmax
comp=Z,125nm,1.2s
VORR smax smax
comp=N,78nm,0.4s
SKOMA Sekoma 88.87 246 *i* P **P 23 00 33.8 +1.8**
SKOMA Sekoma 88.87 246 *i* P **P 23 00 33.5 +1.6**
SKOMA IAML 23 00 58.5
comp=E,8.8nm,0.8s
HON Honolulu 88.87 68 P **P 23 00 32.4 +0.6**
HON Honolulu 88.87 68 P **P 23 00 32.4 +0.6**
HON pmax pmax
comp=Z,592nm,1.3s
HON MLR MLR
comp=Z,8µm,19.0s
KIP Kipapa 88.88 68*ce*P **P 23 00 33.6 +1.8**
KIP pmax pmax
comp=Z,95nm,2.5s
PHDHD Phuduhudu 88.95 250 *i* P **P 23 00 33.7 +1.4**
PHDHD Phuduhudu 88.95 250 *i* P **P 23 00 33.8 +1.4**
PHDHD IAML 23 01 05.6
comp=E,42nm,0.7s
DIKM Dikmen 88.97 312 ⇑P **P 23 00 35.0 +3.2**
LPSR Galich'ya Gora 89.08 323 *e*P **P 23 00 29.3 -2.7**
LPSR *e* 23 03 57.6
LPSR *e*S **SKSac 23 10 53.8 -6.3**
LPSR pmax pmax
comp=Z,70nm,1.2s
LPSR smax smax
comp=E,9µm,12.8s
UNV Unalaska Valle 89.11 35 P **P 23 00 31.2 -0.9**
baz=255
CSS Mathiatis 89.14 305 P **P 23 00 32.2 -0.6**
CSS IAMs_20 IAMs_20 23 43 47.5
comp=Z,19µm,21.0s
TROLL Troll, Antarti 89.30 197 ⇑P **P 23 00 35.6 +2.6**
comp=Z,9µm,0.8s
TROLL ⇓SKSac **SKSac 23 11 01.9 +0.6**
comp=Z,63nm,0.5s
GAMB Gambell 89.54 25 P **P 23 00 34.4 +0.5**
baz=250
BR131 Keskin Array S 89.79 310 P **P 23 00 34.4 -1.5**
BR131 Keskin Array S 89.79 310 P **P 23 00 34.4 -1.5**
BR131 pmax pmax
comp=Z,49nm,1.2s
BRTR Keskin Array B 89.79 310 P **P 23 00 34.1 -1.8**
BRTR Keskin Array B 89.79 310 P **P 23 00 34.3 -1.6**
comp=Z,10nm,1.0s,baz=130,slow=5.0,SNR=54
BRTR PKKPbc **PKKPbc 23 18 09.9 0.0**
comp=Z,4.4nm,1.1s,baz=228,slow=1.5,SNR=9.3
BRTR PKPPKP 23 26 15.5
comp=Z,0.1nm,0.4s,baz=225,slow=1.8,SNR=2.5
BRTR LR LR 23 45 54.2
comp=Z,11µm,19.5s,baz=110,slow=39
comp=Z,10nm,1.0s
SUR Sutherland 90.32 237 P **P 23 00 39.6 +0.9**
SUR IAmb IAmb 23 00 42.5
comp=Z,171nm,1.2s
SUR Sutherland 90.32 237 P **P 23 00 40.8 +2.1**
SUR P **P 23 00 40.8 +2.1**
SIM Simferopol' 90.45 315 *e*P **P 23 00 37.3 -1.4**
SIM *e*S **SKSac 23 11 08.0 -0.5**
SIM *e*PS PS 23 12 38.0 -4.3
SIM pmax pmax
comp=Z,57nm,1.0s
TBI Tubuai 90.45 114 *e*P **P 23 00 37.5 -1.7**
comp=Z,8µm,29.8s
TBI Tubuai 90.45 114 *e*P **P 23 00 37.7 -1.5**
comp=Z,2µm,25.0s
TBI Tubuai 90.45 114 *e*PP **PP 23 04 17.1 +3.3**
comp=Z,5µm,27.8s
TBI *e*S **S 23 11 32.6 -0.5**
comp=Z,26µm,26.2s
TBI *e*S **ScS 23 11 33.9 -2.9**
comp=Z,6µm,24.0s
TBI *e*SS **SS 23 17 33.1 -0.8**
comp=Z,6µm,28.8s
TBI *e*SS SS 23 17 35.3 +1.4
comp=Z,34µm,35.0s
TBI *e*LQ LQ 23 25 44.4
comp=Z,123µm,36.2s
TBI *e*LR LR 23 29 31.9
comp=Z,69µm,24.2s
TBI *e*LR LR 23 29 33.1
comp=Z,17µm,24.2s
TBI *e*LR LR 23 29 36.0
comp=Z,17µm,22.1s
ANTO Ankara 90.46 310 P **P 23 00 38.0 -0.9**
ANTO Ankara 90.46 310 IAMs_20 IAMs_20 23 46 05.0
comp=Z,13µm,21.0s
ANTO Ankara 90.46 310 P **P 23 00 37.0 -1.9**
ANTO P **P 23 00 37.0 -1.9**
ANTO S **SKSac 23 11 05.0 -4.0**
ANTO S **SKSac 23 11 05.0 -4.0**
ANTO Ankara 90.46 310 P **P 23 00 38.0 -0.9**
ANTO pmax pmax
comp=Z,37nm,1.1s
ANTO MLR MLR
comp=Z,14µm,21.0s
MOS Moscow 90.60 326 *e*P **P 23 00 35.5 -3.6**
MOS *e* 23 04 09.3
MOS *e* 23 11 01.4
MOS *e*S **S 23 11 27.4 -5.6**
MOS *e*PS PS 23 12 39.0 -4.5
MOS pmax pmax
comp=Z,109nm,1.8s
HUH Hualalai 90.62 70 P **P 23 00 39.8 -0.6**
HUH IAMs_20 IAMs_20 23 44 10.7
comp=Z,12µm,18.0s
HPAH Hawaii Prepara 90.80 70 IAMs_20 IAMs_20 23 36 55.4
comp=Z,12µm,22.0s
POHA Pohakuloa 90.92 70 P **P 23 00 43.8 +2.1**
POHA Pohakuloa 90.92 70 IAMs_20 IAMs_20 23 44 09.4
comp=Z,13µm,20.0s
HMH Humu'ula Sheep 90.94 70 IAMs_20 IAMs_20 23 44 19.1
comp=Z,11µm,19.0s
SNAA Sanae 90.95 196 P **P 23 00 42.2 +1.6**
SNAA Sanae 90.95 196 ⇑P **P 23 00 42.9 +2.3**
comp=Z,6µm,0.9s
SNAA ⇓SKSac **SKSac 23 11 09.8 -0.9**
comp=Z,40nm,1.1s
SNAA Sanae 90.95 196 P **P 23 00 42.1 +1.6**
comp=Z,366nm,1.0s,baz=131,slow=3.6,SNR=469
SNAA LR LR 23 35 40.0
comp=Z,26µm,21.7s,baz=104,slow=32
comp=Z,366nm,1.0s
SNAA Sanae 90.95 196*ce*P **P 23 00 42.4 +1.8**
SNAA pmax pmax
comp=Z,432nm,1.1s
SNAA MLR MLR
comp=Z,16µm,18.0s
M11K Mekoryuk 90.99 29 P **P 23 00 41.3 +0.6**
baz=255
OBN Obninsk 91.04 326 P **P 23 00 39.9 -1.2**
comp=Z,21nm,0.5s,baz=28,slow=5.4,SNR=9.5
OBN LR LR 23 48 44.1
comp=Z,20µm,18.5s,baz=98,slow=40
comp=Z,21nm,0.5s
OBN Obninsk 91.04 326 ⇑P **P 23 00 40.3 -0.8**
OBN Obninsk 91.04 326*c i*P **P 23 00 39.5 -1.6**
OBN *e* 23 04 16.5
OBN *i* S **SKSac 23 11 11.5 +0.2**
OBN *e*PS PS 23 12 48.6 +0.2
OBN *e*SS **SS 23 17 47.2 +6.1**
OBN pmax pmax
comp=Z,103nm,1.4s
HLP Hilina Pali 91.06 71 IAMs_20 IAMs_20 23 43 11.2
comp=Z,11µm,19.0s
FALS False Pass 91.11 35 P **P 23 00 42.1 +0.7**
baz=257
PUH Pauahi 91.16 71 IAMs_20 IAMs_20 23 43 14.8
comp=Z,10µm,19.0s
STCH Steam Cracks 91.24 71 IAMs_20 IAMs_20 23 43 07.1
comp=Z,11µm,20.0s
PAE Paea 91.24 108 *e*PKIKP **P 23 00 44.6 +1.7**
comp=Z,96nm,1.3s
PAE Paea 91.24 108 *e*PP PP 23 04 11.1 -9.2
comp=Z,236nm,23.8s
PAE *e*S **S 23 11 36.9 -3.6**
comp=Z,883nm,22.6s
PAE Paea 91.24 108 *e*LR LR 23 29 48.6
comp=Z,3µm,23.9s
PPT2 Papeete2 91.26 108 *e*PKIKP P 23 00 37.1 -6.0
comp=Z,2µm,25.5s
PPT2 Papeete2 91.26 108 *e*P **P 23 00 44.6 +1.5**
comp=Z,253nm,1.3s
PPT2 Papeete2 91.26 108 *e*PP **PP 23 04 19.4 -1.1**
comp=Z,2µm,27.0s
PPT2 *e*S **S 23 11 38.5 -2.3**
comp=Z,2µm,23.9s
PPT2 *e*S **ScS 23 11 41.4 -2.4**
comp=Z,4µm,23.8s
PPT2 *e*SS **SS 23 17 49.6 +3.6**
comp=Z,5µm,28.5s
PPT2 *e*LQ LQ 23 25 58.9
comp=Z,42µm,36.8s
PPT2 *e*LR LR 23 29 52.3
comp=Z,4µm,23.7s
PPT2 *e*LR LR 23 29 52.9
comp=Z,11µm,25.8s
PPT2 *e*LR LR 23 29 56.9
comp=Z,14µm,24.2s
PPT Papeete 91.26 108 P **P 23 00 43.0 -0.1**
comp=Z,114nm,1.1s,baz=332,slow=2.5,SNR=9.8
PPT LR LR 23 38 45.8
comp=Z,4µm,21.4s,baz=254,slow=34
comp=Z,114nm,1.1s
PPT Papeete 91.26 108 P **P 23 00 43.0 -0.1**
PPTF Pamatai, Papee 91.27 108 P **P 23 00 46.2 +3.0**
JOKA Jonika Flow 91.36 71 IAMs_20 IAMs_20 23 43 20.3
comp=Z,10µm,19.0s
TVO Taravao 91.53 108 *e*P **P 23 00 47.4 +3.0**
comp=Z,0.9nm,1.2s
TNA Tin City 91.65 24 P **P 23 00 43.7 0.0**
baz=254
MDUB Mudurnu 91.77 310 P **P 23 00 43.7 -1.3**
MDUB IAmb IAmb 23 01 44.9
comp=Z,124nm,1.1s
S12K Black Hills 92.05 34 P **P 23 00 43.9 -1.9**
baz=258
K13K Kusilvak Mount 92.10 28 P **P 23 00 45.7 -0.2**
K13K IAmb IAmb 23 01 13.3
comp=Z,156nm,1.7s
K13K Kusilvak Mount 92.10 28 P **P 23 00 45.8 -0.2**
baz=256
ELL Elmali 92.18 307 P **P 23 00 45.9 -1.2**
ELL IAmb IAmb 23 04 06.3
comp=Z,264nm,1.5s
ELL Elmali 92.18 307 P **P 23 00 45.9 -1.2**
ELL pmax pmax
comp=Z,264nm,1.5s
QNGWA Qangwa 92.18 250 *i* P **P 23 00 48.8 +1.3**
QNGWA Qangwa 92.18 250 *i* P **P 23 00 48.9 +1.4**
QNGWA IAML 23 01 41.4
comp=E,2.8nm,0.4s
F14K Arctic Creek 92.26 24 P **P 23 00 47.0 +0.4**
baz=255
ADZR Andozero 92.27 334 *e*P **P 23 00 43.0 -3.6**
ADZR *e* 23 04 22.1
ADZR pmax pmax
comp=Z,37nm,1.4s
M13K Dall Lake 92.37 29 P **P 23 00 47.2 +0.1**
baz=257
BELA Belgrano 2 92.42 186 P **P 23 00 48.3 +1.0**
ANM Nome 92.42 25 P **P 23 00 46.0 -1.4**
ANM IAmb IAmb 23 00 53.0
comp=Z,135nm,2.0s
ANM Nome 92.42 25 P **P 23 00 47.7 +0.3**
baz=256
ANM Nome 92.42 25 P **P 23 00 46.0 -1.4**

ANM				pmax	pmax			
	comp=Z,135nm,2.0s							
VNA2	**Neumayer--Watz**	**92.59**	**196**	⇑P	**P**	**23 00 50.7**	**+2.5**	
	comp=Z,204nm,0.9s,baz=115,slow=3.5							
VNA2				⇑SKSac	**SKSac**	**23 11 18.6**	**-1.2**	
	comp=Z,0.2nm,0.2s,baz=226,slow=27							
J14K	**Nanvaranak Lak**	**92.79**	**27**	P	**P**	**23 00 48.9**	**-0.1**	
	baz=257							
SDPT	**Sand Point**	**92.87**	**35**	P	**P**	**23 00 48.1**	**-1.4**	
	baz=260							
L14K	**Kuka Creek**	**92.89**	**28**	P	**P**	**23 00 49.6**	**+0.1**	
	baz=258							
VNA1	**Neumayer--Stat**	**92.98**	**196**	⇑P	**P**	**23 00 52.4**	**+2.5**	
	comp=Z,235nm,1.0s							
F15K	**North Star Dit**	**93.00**	**24**	P	**P**	**23 00 50.1**	**+0.1**	
	baz=256,SNR=16							
VNA3	**Neumayer Olymp**	**93.00**	**195**	⇑P	**P**	**23 00 52.2**	**+2.1**	
	comp=Z,151nm,0.9s							
VNA3				⇓SKSac	**SKSac**	**23 11 20.2**	**-2.0**	
	comp=Z,0.0nm,0.1s							
G15K	**Niukluk**	**93.08**	**25**	P	**P**	**23 00 49.4**	**-1.0**	
	baz=257							
N14K	**Kuskokwak Cree**	**93.09**	**30**	P	**P**	**23 00 50.9**	**+0.5**	
	baz=259							
M14K	**Bethel**	**93.11**	**29**	P	**P**	**23 00 49.7**	**-0.9**	
	baz=259							
O14K	**Tigyukauivet M**	**93.17**	**31**	P	**P**	**23 00 50.4**	**-0.4**	
	baz=259							
PMOR	**Pomariorio Ree**	**93.27**	**106**	*e*P	**P**	**23 00 51.8**	**-0.5**	
	comp=Z,310nm,1.3s							
PMOR	**Pomariorio Ree**	**93.27**	**106**	*e*S	**S**	**23 12 00.5**	**+1.8**	
	comp=Z,5µm,22.9s							
PMOR	**Pomariorio Ree**	**93.27**	**106**	*e*LR	LR	23 30 45.7		
	comp=Z,10µm,22.8s							
CHNA	**Chernabura Isl**	**93.28**	**35**	P	**P**	**23 00 51.1**	**-0.4**	
	baz=260							
C16K	**Lisburne Hills**	**93.34**	**21**	P	**P**	**23 00 51.3**	**-0.2**	
	baz=256,SNR=11							
VAH	**Vaihoa**	**93.48**	**106**	*e*P	**P**	**23 00 55.3**	**+2.0**	
	comp=Z,348nm,1.4s							
VAH	**Vaihoa**	**93.48**	**106**	*e*S	**S**	**23 11 59.9**	**-0.7**	
	comp=Z,6µm,23.1s							
VAH	**Vaihoa**	**93.48**	**106**	*e*LR	LR	23 30 54.3		
	comp=Z,12µm,23.6s							
L15K	**Ungalak Mounta**	**93.52**	**28**	P	**P**	**23 00 52.2**	**-0.2**	
	baz=259							
S14K	**Fog Glacier**	**93.54**	**34**	P	**P**	**23 00 51.7**	**-1.2**	
	baz=260							
K15K	**Wolf Creek Mou**	**93.62**	**28**	P	**P**	**23 00 52.9**	**0.0**	
	baz=259							
PURM	**Purcari**	**93.64**	**316**	⇓P	P	23 00 47.0	-6.4	
M15K	**Kasigluk River**	**93.72**	**29**	P	**P**	**23 00 52.5**	**-0.9**	
	baz=260							
H16K	**Elim**	**93.76**	**25**	P	**P**	**23 00 52.9**	**-0.6**	
	baz=259							
G16K	**Koyuk River**	**93.86**	**24**	P	**P**	**23 00 54.0**	**+0.1**	
	baz=258,SNR=17							
O15K	**Ungalikthiuk R**	**93.88**	**31**	P	**P**	**23 00 53.4**	**-0.8**	
	baz=260							
N15K	**Kwethluk River**	**93.92**	**30**	P	**P**	**23 00 52.3**	**-2.1**	
	baz=260							
D17K	**Noatak River**	**94.05**	**22**	P	**P**	**23 00 55.4**	**+0.7**	
	baz=258,SNR=63							
JURR	**Jurilovca**	**94.09**	**314**	⇓P	**P**	**23 00 54.3**	**-1.2**	
JURR	**Jurilovca**	**94.09**	**314**	⇓P	**PKKPbc**	**23 17 59.1**	**+0.3**	
CHGN	**Chignik**	**94.17**	**34**	P	**P**	**23 00 54.3**	**-1.2**	
	baz=261							
C17K	**DeLong Mountai**	**94.17**	**21**	P	**P**	**23 00 55.0**	**-0.4**	
	baz=258,SNR=10							
RDOG	**Red Dog Mine**	**94.18**	**22**	P	**P**	**23 00 55.5**	**0.0**	
RDOG	**Red Dog Mine**	**94.18**	**22**	P	**P**	**23 00 55.1**	**-0.4**	
	baz=258							
KARP	**Karpathos**	**94.22**	**305**	IAMs_20	IAMs_20	23 52 05.9		
	comp=Z,13µm,19.0s							
J16K	**Anvik River**	**94.22**	**27**	P	**P**	**23 00 55.9**	**+0.2**	
	baz=260,SNR=18							
I17K	**Unalakleet**	**94.28**	**26**	P	**P**	**23 00 55.9**	**0.0**	
	baz=260,SNR=14							
E17K	**Hotham Inlet**	**94.40**	**23**	P	**P**	**23 00 56.7**	**+0.3**	
	baz=259,SNR=13							
MILM	**Milestii Mici**	**94.42**	**317**	⇑*e*P	**P**	**23 00 54.0**	**-2.9**	
	comp=Z,1µm,8.8s							
MILM	**Milestii Mici**	**94.42**	**317**	*e*PP	**PP**	**23 04 41.0**	**-3.6**	
MILM				*e*SKS	**SKSac**	**23 11 23.0**	**-7.5**	
MILM				*e*S	**S**	**23 12 01.0**	**-6.5**	
MILM				*e*L	L	23 37 21.0		
MILM				LQM		23 44 24.0		
	comp=Z,9µm,23.0s							
MILM				LRM	MLR	23 51 56.0		
	comp=Z,10µm,17.5s							
MILM	**Milestii Mici**	**94.42**	**317**	⇑P	**P**	**23 00 59.5**	**+2.6**	
MILM	**Milestii Mici**	**94.42**	**317**	⇓P	**PKKPbc**	**23 17 56.7**	**-1.4**	
MILM	**Milestii Mici**	**94.42**	**317**	*c*e*P	**P**	**23 00 54.0**	**-2.9**	
MILM				*e*		23 04 41.0		
MILM				*e*		23 11 23.0		
MILM				*e*S	**S**	**23 12 01.0**	**-6.5**	
MILM				pmax	pmax			
	comp=Z,1µm,8.8s							
KIS	**Kishinev**	**94.43**	**317**	*e*P	**P**	**23 00 54.0**	**-3.0**	
	comp=Z,290nm,7.7s							
KIS	**Kishinev**	**94.43**	**317**	*e*PP	**PP**	**23 04 42.0**	**-2.7**	
KIS				*e*SKS	**SKSac**	**23 11 27.0**	**-3.6**	
KIS				*e*S	**S**	**23 12 04.0**	**-3.6**	
KIS	**Kishinev**	**94.43**	**317**	*i* PS	PS	23 13 29.0	+2.7	
KIS				*e*L	L	23 42 04.0		
KIS				LQM		23 44 20.0		
	comp=Z,3µm,23.0s							
KIS				LRM	MLR	23 51 53.0		
	comp=Z,1µm,17.0s							
KIS	**Kishinev**	**94.43**	**317**	*e*P	**P**	**23 00 54.0**	**-3.0**	
KIS				*e*		23 04 42.0		
KIS				*e*		23 11 27.0		
KIS				*e*S	**S**	**23 12 04.0**	**-3.6**	
KIS				*i* PS	PS	23 13 29.0	+2.7	
KIS				pmax	pmax			
	comp=Z,300nm,7.7s							
TPGR	**Topolog**	**94.43**	**315**	⇓P	**P**	**23 00 55.3**	**-1.8**	
L16K	**Owhat River**	**94.47**	**28**	P	**P**	**23 00 56.1**	**-0.7**	
	baz=261,SNR=5.3							
PSN	**Preselentsi**	**94.48**	**313**	P	**P**	**23 00 55.0**	**-2.3**	
F17K	**Baldwin Pennin**	**94.51**	**24**	P	**P**	**23 00 56.3**	**-0.6**	
	baz=260							
G17K	**Kiwalik Mounta**	**94.58**	**25**	P	**P**	**23 00 57.5**	**+0.2**	
	baz=260,SNR=23							
LVZ	**Lovozero**	**94.59**	**338**	*i* P	**P**	**23 00 53.5**	**-3.8**	
LVZ				pmax	pmax			
	comp=Z,69nm,2.8s							
M16K	**Timber Creek**	**94.61**	**29**	P	**P**	**23 00 55.8**	**-1.7**	
	baz=261							
N16K	**Nishlik Lake**	**94.62**	**30**	P	**P**	**23 00 56.8**	**-0.8**	
	baz=261,SNR=5.9							
AKASG	**Malin Array Be**	**94.64**	**320**	P	**P**	**23 00 55.4**	**-2.4**	
AKASG	**Malin Array Be**	**94.64**	**320**	P	**P**	**23 00 55.3**	**-2.5**	
	comp=Z,3.6nm,0.7s,baz=83,slow=4.4,SNR=12							
AKASG				PP	**PP**	**23 04 42.6**	**-3.5**	
	comp=Z,2.3nm,0.7s,baz=85,slow=7.1,SNR=4.1							
AKASG				PKKPbc	**PKKPdf**	**23 17 56.5**	**-1.0**	
	comp=Z,0.6nm,0.4s,baz=274,slow=3.8,SNR=6.5							
AKASG				LR	LR	23 49 33.5		
	comp=Z,10µm,21.6s,baz=82,slow=39							
	comp=Z,3.6nm,0.7s							
AKASG	**Malin Array Be**	**94.64**	**320**	P	**P**	**23 00 55.4**	**-2.4**	
AKASG				pmax	pmax			
	comp=Z,46nm,1.6s							
AKBB	**Malin Array Si**	**94.64**	**320**	P	**P**	**23 00 55.6**	**-2.3**	
AKBB	**Malin Array Si**	**94.64**	**320**	P	**P**	**23 00 55.6**	**-2.3**	
AKBB				pmax	pmax			
	comp=Z,15nm,0.8s							
KIEV	**Kiev**	**94.65**	**320**	P	**P**	**23 00 55.3**	**-2.6**	
KIEV	**Kiev**	**94.65**	**320**	IAMs_20	IAMs_20	23 49 32.5		
	comp=Z,12µm,20.0s							
KIEV	**Kiev**	**94.65**	**320**	*i* P	**P**	**23 00 55.6**	**-2.3**	
	SNR=8.3							
KIEV	**Kiev**	**94.65**	**320**	⇓P	**P**	**23 00 54.8**	**-3.1**	
KIEV	**Kiev**	**94.65**	**320**	⇓P	**PKKPbc**	**23 17 56.2**	**-1.4**	
KIEV	**Kiev**	**94.65**	**320**	P	**P**	**23 00 55.3**	**-2.6**	
KIEV				pmax	pmax			
	comp=Z,14nm,0.8s							
KIEV				MLR	MLR			
	comp=Z,12µm,20.0s							
TLBR	**Topalu**	**94.65**	**314**	⇑P	**P**	**23 00 57.2**	**-0.9**	
TLBR	**Topalu**	**94.65**	**314**	⇓P	**PKKPbc**	**23 17 56.9**	**-0.5**	
CFR	**Carcaliu**	**94.67**	**315**	⇑P	**P**	**23 00 56.6**	**-1.5**	
CFR	**Carcaliu**	**94.67**	**315**	⇑P	**PKKPbc**	**23 17 56.8**	**-0.6**	
CFR	**Carcaliu**	**94.67**	**315**	⇑P	**P**	**23 00 56.6**	**-1.5**	
HARR	**Harsova**	**94.75**	**314**	⇓P	**P**	**23 00 57.2**	**-1.3**	
HARR	**Harsova**	**94.75**	**314**	⇓P	**PKKPbc**	**23 17 56.7**	**-0.5**	
ICOR	**Ion Corvin**	**94.78**	**314**	⇓P	**P**	**23 00 57.5**	**-1.1**	
VLDR	**Vladesti**	**94.79**	**315**	⇑P	**P**	**23 00 58.0**	**-0.6**	
VLDR	**Vladesti**	**94.79**	**315**	⇑P	**PKKPbc**	**23 17 56.3**	**-0.8**	
H17K	**Granite Mounta**	**94.79**	**25**	P	**P**	**23 00 57.9**	**-0.4**	
H17K				IAmb	IAmb	23 01 26.3		
	comp=Z,102nm,1.1s							
H17K	**Granite Mounta**	**94.79**	**25**	P	**P**	**23 00 58.5**	**+0.2**	
	baz=261,SNR=31							
P16K	**Nushagak River**	**94.80**	**31**	P	**P**	**23 00 57.4**	**-1.0**	
	baz=262							
O16K	**Kokwok River B**	**94.82**	**31**	P	**P**	**23 00 58.2**	**-0.3**	
	baz=262							
SCTR	**Scanteiesti**	**94.83**	**315**	⇑P	**P**	**23 01 00.4**	**+1.5**	
SCTR	**Scanteiesti**	**94.83**	**315**	⇓P	**PKKPbc**	**23 18 02.9**	**+5.9**	
B18K	**Kokolik River**	**94.84**	**21**	P	**P**	**23 00 58.9**	**+0.6**	
	baz=259							
SORM	**Soroca**	**94.88**	**318**	⇑P	**P**	**23 00 56.3**	**-2.7**	
SORM	**Soroca**	**94.88**	**318**	⇑P	**PKKPbc**	**23 17 50.2**	**-6.7**	
SORM	**Soroca**	**94.88**	**318**	⇑P	**P**	**23 00 56.3**	**-2.7**	
J17K	**VABM Dome**	**94.91**	**27**	P	**P**	**23 00 59.0**	**+0.1**	
	baz=261,SNR=9.1							
C18K	**Utukok River**	**94.92**	**21**	P	**P**	**23 00 59.1**	**+0.2**	
	baz=260							
E18K	**Tukpahlearik C**	**94.93**	**23**	P	**P**	**23 00 59.1**	**+0.3**	
	baz=260,SNR=24							
PRD	**Provadia**	**94.94**	**313**	P	**P**	**23 00 57.0**	**-2.4**	
VARL	**Varlezi**	**94.96**	**316**	⇑P	**P**	**23 00 58.2**	**-1.2**	
APA	**Apatity**	**95.00**	**338**	⇓*i*P	P	23 01 05.9	+6.8	
APA				*i*		23 04 48.0		
APA				*i* PPP	PPP	23 06 53.0		
APA				*i*		23 11 25.0		
APA				*i* SS	SS	23 18 49.0	+12	
APA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
L17K	**Donlin**	**95.08**	**28**	P	**P**	**23 00 58.5**	**-1.2**	
	baz=262							
VALR	**Valaam**	**95.13**	**331**	*i* P	**P**	**23 00 58.8**	**-1.0**	
VALR				pmax	pmax			
	comp=Z,46nm,1.3s							
VALR				MLR	MLR			
	comp=Z,5µm,15.0s							
JOF	**Joensuu**	**95.15**	**333**	*e*P	**P**	**23 00 58.0**	**-1.9**	
F18K	**Selawik**	**95.16**	**24**	P	**P**	**23 00 59.8**	**-0.1**	
	baz=261,SNR=12							
K17K	**Iditarod**	**95.16**	**27**	P	**P**	**23 00 60.0**	**0.0**	
	baz=262,SNR=9.9							
A19K	**Wainwright**	**95.24**	**20**	P	**P**	**23 01 01.2**	**+1.0**	
	baz=260							
GHRR		**95.28**	**316**	⇑P	**P**	**23 01 04.4**	**+3.5**	
O17K	**Koliganek Bris**	**95.35**	**30**	P	**P**	**23 00 59.9**	**-1.0**	
	baz=263							
PETR	**Petresti**	**95.36**	**315**	⇑P	PKKPbc	23 18 05.5	+10	
M17K	**Holitna River**	**95.39**	**29**	P	**P**	**23 01 00.7**	**-0.3**	
	baz=263							
N17K	**Nushagak Hills**	**95.40**	**30**	P	**P**	**23 01 00.8**	**-0.4**	
	baz=263							
PGOR	**Pogoanele**	**95.45**	**314**	⇓P	**P**	**23 01 04.9**	**+3.2**	
G18K	**Tagagawik**	**95.46**	**24**	P	**P**	**23 01 00.5**	**-0.9**	
G18K	**Tagagawik**	**95.46**	**24**	P	**P**	**23 01 00.8**	**-0.5**	
	baz=262,SNR=15							
R17L	**Mt. Peulik Vol**	**95.47**	**33**	P	**P**	**23 00 59.7**	**-1.8**	
	baz=263							
H18K	**Honhosa River**	**95.48**	**25**	P	**P**	**23 01 01.1**	**-0.3**	
	baz=262,SNR=20							
C19K	**Lookout Ridge**	**95.57**	**21**	IAMs_20	IAMs_20	23 48 52.0		
	comp=Z,10µm,21.0s							
C19K	**Lookout Ridge**	**95.57**	**21**	P	**P**	**23 01 02.7**	**+0.9**	
	baz=261,SNR=11							
TSUM	**Tsumeb**	**95.58**	**250**	P	**P**	**23 01 03.1**	**0.0**	
TSUM	**Tsumeb**	**95.58**	**250**	IAMs_20	IAMs_20	23 47 56.2		
	comp=Z,9µm,19.0s							
TSUM	**Tsumeb**	**95.58**	**250**	LR	LR	23 42 44.9		
	comp=Z,6µm,18.3s,baz=94,slow=35							
P17K	**Kvichak River**	**95.61**	**31**	P	**P**	**23 01 01.1**	**-1.0**	
	baz=263							
CHIR	**Chirikof Islan**	**95.66**	**35**	P	**P**	**23 01 01.9**	**-0.5**	
	baz=264							
SANT	**Santorini**	**95.68**	**306**	⇓P	**PKKPbc**	**23 17 56.4**	**+2.0**	
VRI	**Vrincioaia**	**95.73**	**315**	⇑P	**P**	**23 01 02.6**	**-0.4**	
VRI	**Vrincioaia**	**95.73**	**315**	⇑P	**PKKPbc**	**23 17 51.9**	**-2.8**	
VRI	**Vrincioaia**	**95.73**	**315**	⇑P	**P**	**23 01 02.6**	**-0.4**	
PLOR	**Plostina**	**95.78**	**315**	⇑P	**P**	**23 01 07.6**	**+4.3**	
PLOR	**Plostina**	**95.78**	**315**	⇑P	**P**	**23 01 07.6**	**+4.3**	
Q17K	**Contact Creek**	**95.79**	**32**	P	**P**	**23 01 01.2**	**-1.9**	
	baz=264							
L18K	**Granite Mounta**	**95.84**	**28**	P	**P**	**23 01 02.8**	**-0.3**	
	baz=263,SNR=9.5							
TESR	**Tescani**	**95.85**	**316**	⇑P	**P**	**23 01 01.9**	**-1.6**	
TESR	**Tescani**	**95.85**	**316**	⇓P	**PKKPbc**	**23 17 54.1**	**-0.2**	
MNK	**Minsk**	**95.89**	**324**	*i* P	**P**	**23 01 02.1**	**-1.4**	
	comp=E,4.0nm,0.8s							
MNK				*i* P	**P**	**23 01 02.1**	**-1.4**	
	comp=N,3.0nm,0.8s							
MNK				*i* P	**P**	**23 01 02.1**	**-1.4**	
	comp=Z,10.0nm,0.9s,baz=96							
MNK				*i* PP	**PP**	**23 04 54.2**	**-1.6**	
MNK				*i* PPP	PPP	23 06 49.9		
MNK				*i* SKS		23 11 19.7		
MNK				*i* S	**SKSac**	**23 11 38.2**	**+0.1**	
MNK				*i* SKKS	**SKKSac**	**23 12 08.4**	**+6.0**	
MNK				*i* PS	PS	23 13 38.9	-3.2	
MNK				*i* SS	SS	23 18 18.0	-33	
MNK				*i* SSS	SSS	23 22 34.4		
MNK				*i* LQ	LQ	23 40 11.9		
MNK				*i* LR	LR	23 44 11.0		
MNK				*i* LRM	MLR	23 45 57.5		
	comp=N,12µm,17.8s							
MNK				*i* LRM	MLR	23 49 43.5		
	comp=Z,15µm,17.6s							
MNK				*i* LRM	MLR	23 49 48.7		
	comp=E,6µm,18.1s							
MNK	**Minsk**	**95.89**	**324**	*d* *i*P	**P**	**23 01 02.0**	**-1.4**	
F19K	**Shaleruckik Mo**	**95.94**	**23**	P	**P**	**23 01 03.0**	**-0.4**	
	baz=263							
J18K	**Innoko River**	**95.97**	**27**	P	**P**	**23 01 03.4**	**-0.3**	
	baz=263,SNR=13							
NEHR	**Nehoiu**	**95.99**	**315**	⇑P	P	23 00 58.1	-6.1	
SZH	**Strazhitsa**	**96.00**	**313**	P	**P**	**23 01 02.0**	**-2.3**	
D19K	**Kuna River**	**96.02**	**22**	P	**P**	**23 01 04.0**	**+0.2**	
	baz=263,SNR=21							
IDI	**Anoyia**	**96.03**	**305**	LR	LR	23 48 45.4		
	comp=E,5µm,21.8s,baz=84,slow=38							
ELND	**Elena**	**96.04**	**312**	⇓P	**P**	**23 01 02.7**	**-1.8**	
ELND	**Elena**	**96.04**	**312**	⇓P	**PKKPbc**	**23 17 53.0**	**-0.6**	
GCSA	**Galena City Sc**	**96.05**	**26**	P	**P**	**23 01 03.9**	**0.0**	
	baz=263,SNR=8.2							
N18K	**Kilae Creek**	**96.05**	**30**	P	**P**	**23 01 03.9**	**-0.2**	
	baz=264							
COVR	**Voineasa-Covas**	**96.09**	**315**	⇑P	**P**	**23 01 08.5**	**+3.8**	
RDO	**Rodhopi**	**96.11**	**311**	P	**P**	**23 01 02.8**	**-2.1**	
RDO				IAMs_20	IAMs_20	23 52 43.6		
	comp=Z,11µm,18.0s							
G19K	**Purcell Mounta**	**96.13**	**24**	P	**P**	**23 01 04.0**	**-0.4**	
G19K				IAmb	IAmb	23 01 28.8		
	comp=Z,52nm,0.9s							
G19K	**Purcell Mounta**	**96.13**	**24**	P	**P**	**23 01 04.5**	**+0.1**	
	baz=263,SNR=30							
M18K	**Stony River**	**96.17**	**29**	P	**P**	**23 01 03.1**	**-1.5**	
	baz=264,SNR=5.8							
E19K	**Redstone River**	**96.22**	**23**	P	**P**	**23 01 04.5**	**-0.2**	
	baz=263,SNR=27							
PRAR	**RASCA**	**96.22**	**317**	⇑P	**P**	**23 01 03.6**	**-1.6**	
MLR	**Muntele Rosu**	**96.24**	**315**	P	**P**	**23 01 03.0**	**-2.5**	
MLR				IAmb	IAmb	23 01 33.6		
	comp=Z,90nm,1.7s							
MLR	**Muntele Rosu**	**96.24**	**315**	P	**P**	**23 01 03.5**	**-2.0**	
	comp=Z,6.7nm,1.2s,baz=67,slow=1.8,SNR=7.2							
MLR				PP	**PP**	**23 04 58.3**	**-0.7**	
	comp=Z,12nm,0.9s,baz=62,slow=15,SNR=3.7							
	comp=Z,6.7nm,1.2s							
MLR	**Muntele Rosu**	**96.24**	**315**	⇓P	**P**	**23 01 02.6**	**-2.9**	
MLR	**Muntele Rosu**	**96.24**	**315**	⇓P	**PKKPbc**	**23 17 53.2**	**-0.2**	
MLR	**Muntele Rosu**	**96.24**	**315**	P	**P**	**23 01 03.0**	**-2.5**	
MLR				pmax	pmax			
	comp=Z,90nm,1.7s							
MLR				MLR	MLR			
	comp=Z,22µm,20.0s							
TURR	**Turia**	**96.24**	**316**	⇑P	**P**	**23 01 03.1**	**-2.3**	
P18K	**Big Mountain,**	**96.25**	**31**	P	**P**	**23 01 03.5**	**-1.6**	
	baz=264							
Q18K	**Katmai Hardscr**	**96.29**	**32**	P	**P**	**23 01 03.4**	**-1.9**	
	baz=264							
O18K	**Koktuh Hills**	**96.31**	**31**	P	**P**	**23 01 03.5**	**-1.8**	
	baz=264							
H19K	**Roundabout Mou**	**96.32**	**25**	P	**P**	**23 01 04.7**	**-0.5**	
	baz=264,SNR=41							
R18K	**Karluk**	**96.48**	**33**	P	**P**	**23 01 04.3**	**-1.8**	
	baz=265							
BOSR	**Bodos**	**96.49**	**316**	⇑P	**P**	**23 01 01.9**	**-4.6**	
MSF	**Maaselka**	**96.49**	**336**	P	**P**	**23 01 03.6**	**-2.4**	
J19K	**Poorman**	**96.52**	**26**	P	**P**	**23 01 05.6**	**-0.6**	
	baz=264,SNR=19							
B20K	**Meade River**	**96.53**	**20**	IAMs_20	IAMs_20	23 53 15.5		
	comp=Z,12µm,20.0s							
B20K	**Meade River**	**96.53**	**20**	P	**P**	**23 01 05.9**	**-0.2**	
	baz=264							
SII	**Sitkinak Islan**	**96.53**	**34**	IAMs_20	IAMs_20	23 39 35.3		
	comp=Z,15µm,22.0s							
SII	**Sitkinak Islan**	**96.53**	**34**	P	**P**	**23 01 05.9**	**-0.5**	
	baz=265							
NACGM	**Naroch**	**96.57**	**324**	*e*P	P	23 01 01.2	-5.3	
	comp=E,572nm,1.0s,baz=95							
PVL	**Pavlikeni**	**96.57**	**313**	P	**P**	**23 01 05.0**	**-1.9**	
D20K	**Etivluk River**	**96.59**	**22**	P	**P**	**23 01 06.7**	**+0.2**	
	baz=264,SNR=20							
DOPR	**Dopca**	**96.67**	**315**	⇓P	**P**	**23 01 06.1**	**-1.2**	
DOPR	**Dopca**	**96.67**	**315**	⇑P	**PKKPbc**	**23 17 51.0**	**-1.1**	
L19K	**White Mountain**	**96.69**	**28**	P	**P**	**23 01 05.8**	**-1.3**	
L19K	**White Mountain**	**96.69**	**28**	P	**P**	**23 01 06.1**	**-0.9**	
	baz=265,SNR=6.0							
E20K	**Nigu River**	**96.70**	**22**	P	**P**	**23 01 06.8**	**-0.1**	
	baz=264,SNR=29							
N19K	**Bonanza Creek**	**96.75**	**30**	P	**P**	**23 01 06.6**	**-0.8**	
	baz=265,SNR=8.2							
F20K	**Avaraart Lake**	**96.76**	**23**	P	**P**	**23 01 07.2**	**+0.1**	
	baz=265,SNR=27							
VADS	**Vadso**	**96.79**	**340**	*e*P	**P**	**23 01 06.8**	**-0.4**	
VADS				IVmBBB		23 01 10.8		
	comp=Z,740nm,2.5s							
VADS				*e*PP	**PP**	**23 05 05.8**	**+3.4**	
VADS				*e*SKSac	**SKSac**	**23 11 36.4**	**-5.7**	
VADS				*e*SP	SP	23 13 51.3	+3.9	
A21K	**Barrow**	**96.85**	**19**	P	**P**	**23 01 07.1**	**-0.4**	
	baz=264							
VOIR		**96.86**	**315**	⇓P	**P**	**23 01 06.0**	**-2.3**	
VOIR		**96.86**	**315**	⇑P	**PKKPbc**	**23 17 52.2**	**+0.6**	
VOIR		**96.86**	**315**	⇓P	**P**	**23 01 06.0**	**-2.3**	
M19K	**Big River Lodg**	**96.89**	**28**	P	**P**	**23 01 07.2**	**-0.7**	
	baz=265							
BURAR	**Bucovina Array**	**96.93**	**317**	P	**P**	**23 01 07.1**	**-1.4**	
BURAR	**Bucovina Array**	**96.93**	**317**	⇓P	**P**	**23 01 07.8**	**-0.7**	
BURAR	**Bucovina Array**	**96.93**	**317**	⇓P	**PKKPbc**	**23 17 46.5**	**-5.1**	
BURAR	**Bucovina Array**	**96.93**	**317**	⇓P	**P**	**23 01 07.8**	**-0.7**	
BUR08	**Bucovina Ar. S**	**96.94**	**317**	P	**P**	**23 01 07.1**	**-1.5**	
H20K	**Anotleneega Mo**	**96.97**	**25**	P	**P**	**23 01 08.3**	**+0.1**	
	baz=265,SNR=14							
Q19K	**Cape Douglas,**	**97.02**	**32**	P	**P**	**23 01 06.3**	**-2.3**	
	baz=266							
I20K	**Naaghedeneel**	**97.08**	**26**	P	**P**	**23 01 08.3**	**-0.3**	
	baz=266							
OHAK	**Old Harbor**	**97.08**	**33**	P	**P**	**23 01 08.9**	**+0.1**	
OHAK	**Old Harbor**	**97.08**	**33**	IAMs_20	IAMs_20	23 40 29.7		
	comp=Z,11µm,22.0s							
OHAK	**Old Harbor**	**97.08**	**33**	P	**P**	**23 01 07.2**	**-1.6**	
	baz=266							
ARR	**Arges**	**97.15**	**315**	⇓P	Pdif	23 01 13.9	+4.3	
ARR	**Arges**	**97.15**	**315**	⇑P	**PKKPbc**	**23 17 50.4**	**-0.4**	
K20K	**Telida**	**97.15**	**27**	P	**P**	**23 01 08.4**	**-0.7**	
	baz=266,SNR=10							
L20K	**Farewell, AK**	**97.17**	**28**	P	**P**	**23 01 08.5**	**-0.7**	
	baz=266							
J20K	**Nowinta River**	**97.18**	**26**	P	**P**	**23 01 09.0**	**-0.1**	
	baz=266,SNR=20							
P19K	**Oil Pt**	**97.29**	**31**	P	**P**	**23 01 08.1**	**-1.6**	
	baz=266							
C21K	**Knifeblade Rid**	**97.29**	**21**	P	Pdif	23 01 09.7	+0.1	
	baz=266							
A22K	**Sinclair Lake**	**97.36**	**19**	P	Pdif	23 01 10.0	+0.2	
	baz=266							
ARBE	**Arbavere**	**97.36**	**329**	*e*P	**P**	**23 01 09.2**	**-0.8**	
B21K	**Ikpikpuk River**	**97.38**	**21**	IAMs_20	IAMs_20	23 52 13.8		
	comp=Z,9µm,19.0s							
B21K	**Ikpikpuk River**	**97.38**	**21**	P	Pd

comp=Z,147nm,1.5s
PABE IAMs_20 IAMs_20 23 50 03.8
comp=Z,18µm,21.0s
PABE Paberze 98.22 325 *e*P **P 23 01 13.2 -0.8**
SKT Skwentna 98.24 28 P **P 23 01 11.6 -2.4**
SKT Skwentna 98.24 28 P **P 23 01 12.6 -1.4**
baz=268
MARR Marisel-Cluj 98.29 316 ⇑P **P 23 01 12.6 -2.1**
E22K Anaktuvuk Pass 98.32 22 P **P 23 01 13.4 -0.9**
baz=268
CAPN Captain Cook N 98.38 30 P **P 23 01 13.6 -0.9**
baz=268
AGG Agios Georgios 98.39 308 P **P 23 01 14.2 -1.0**
HOPEN Hopen 98.39 346 *e*Pdif Pdif 23 01 16.1 +1.7
HOPEN *e*PP **PP 23 05 18.9 +4.4**
HOPEN *e*SKSac **SKSac 23 11 48.3 -1.9**
HOPEN *e*SP **SP 23 14 09.6 +5.1**
HOPEN *e*SS **SS 23 19 26.9 +2.1**
DEV Deva 98.39 315 ⇓P **P 23 01 12.9 -2.1**
DEV Deva 98.39 315 ⇓P **P 23 01 12.9 -2.1**
G22K Bettles 98.41 23 Pdiff **P 23 01 13.5 -1.0**
baz=269
H22K Ishtalitna Cre 98.44 25 Pdiff **P 23 01 14.6 -0.2**
baz=268
GZR Gura Zlata 98.45 315 ⇓P **PKKPbc 23 17 47.0 -0.1**
BRSE Bradley Lake S 98.55 31 Pdiff **P 23 01 13.9 -1.5**
baz=268
BPAW Bear Paw Mtn. 98.56 26 Pdiff **P 23 01 14.6 -0.7**
baz=269
SUA Susitna One 98.60 29 P **P 23 01 13.4 -2.3**
SUA Susitna One 98.60 29 Pdiff **P 23 01 13.7 -2.0**
baz=268
SUW Suwalki 98.61 323 *e*Pdif **P 23 01 11.5 -4.3**
SUW *e*PP PP 23 04 35.3 -41
SUW *e*SKSac **SKSac 23 11 49.1 -3.0**
SUW *e*L L 23 46 46.4
comp=Z,17µm,29.2s
SUW Suwalki 98.61 323 P **P 23 01 13.2 -2.6**
SUW IAmb IAmb 23 01 38.8
comp=Z,55nm,1.0s
SUW Suwalki 98.61 323 *e*P **P 23 01 14.3 -1.5**
SUW Suwalki 98.61 323 P **P 23 01 13.2 -2.6**
SUW pmax pmax
comp=Z,55nm,1.0s
SUW MLR MLR
comp=Z,19µm,20.0s
HERR Herculane 98.68 314 ⇓P **P 23 01 14.8 -1.6**
HERR Herculane 98.68 314 ⇑P **PKKPbc 23 17 44.9 -1.5**
MLY Manley 98.68 25 Pdiff **P 23 01 15.6 -0.3**
baz=269
KWP Kalwaria Pacla 98.72 319 *e*Pdif **P 23 01 14.4 -2.0**
KWP *e*PP **PP 23 05 18.7 +1.0**
KWP *e*SKSac **SKSac 23 11 49.2 -3.7**
KWP *e*L L 23 53 42.1
comp=Z,11µm,19.2s
KWP Kalwaria Pacla 98.72 319 P **P 23 01 14.8 -1.6**
KWP IAmb IAmb 23 04 57.5
comp=Z,166nm,2.0s
KWP IAMs_20 IAMs_20 23 53 43.7
comp=Z,11µm,18.0s
KWP Kalwaria Pacla 98.72 319 P **P 23 01 14.8 -1.6**
KWP pmax pmax
comp=Z,166nm,2.0s
KWP MLR MLR
comp=Z,11µm,18.0s
HAMF Hammerfest 98.73 340 *e*Pdif Pdif 23 01 16.6 +0.6
HAMF IVmBBB 23 01 25.6
comp=Z,647nm,3.5s
HAMF *e*PP **PP 23 05 18.0 +0.8**
HAMF *e*SKSac **SKSac 23 11 52.1 +0.1**
HAMF *e*SP **SP 23 14 12.5 +4.1**
HAMF *e*SS **SS 23 19 36.1 +6.4**
D23K Nanushuk River 98.75 21 Pdiff Pdif 23 01 16.6 +0.5
baz=270
C23K Itkillik River 98.78 21 Pdiff **P 23 01 16.1 -0.1**
baz=270
CUT Chulitna 98.85 28 Pdiff **P 23 01 15.0 -1.6**
baz=269
KTK1 Kautokeino 98.89 339 *e*Pdif Pdif 23 01 17.3 +0.5
KTK1 IVmB_BB 23 01 26.0
comp=Z,548nm,3.5s
KTK1 *e*PP **PP 23 05 17.9 -0.5**
KTK1 *e*SKSac **SKSac 23 11 48.2 -4.7**
KTK1 *e*SP SP 23 14 11.9 +1.7
M22K Willow 98.91 29 Pdiff **P 23 01 15.5 -1.4**
baz=269
COLD Coldfoot 98.92 23 Pdiff Pdif 23 01 17.2 +0.2
baz=270
SURR Surduc 98.93 315 ⇑P **PKKPbc 23 17 45.4 -0.3**
KOLS Kolonicke sedl 98.97 318 *e*P **P 23 01 17.5 -0.1**
KOLS Kolonicke sedl 98.97 318 *e*PDIFF **P 23 01 17.5 -0.1**
G23K Bananza Creek 98.99 24 Pdiff Pdif 23 01 17.5 +0.2
baz=270
O22K Cooper Landing 99.08 30 Pdiff **Pdif 23 01 16.7 -1.0**
baz=269
RC01 Rabbit Creek A 99.08 29 Pdiff **Pdif 23 01 16.1 -1.7**
baz=269
VAF Ylistaro 99.09 333 *e*P **Pdif 23 01 16.4 -1.4**
BOVS Bovan 99.13 313 ⇓P **PKKPbc 23 17 42.9 -2.2**
E23K Chandalar 99.15 22 Pdiff **Pdif 23 01 17.7 -0.3**
baz=270
TOLK Toolik Lake Re 99.16 22 IAMs_20 IAMs_20 23 55 24.6
comp=Z,10µm,20.0s
TOLK Toolik Lake Re 99.16 22 Pdiff **Pdif 23 01 17.7 -0.3**
baz=271
MDVR Moldovita 99.18 314 ⇓P **Pdif 23 01 15.9 -2.7**
MDVR Moldovita 99.18 314 ⇓P **PKKPbc 23 17 45.4 +0.3**
H23K Yukon River 99.19 25 Pdiff **Pdif 23 01 17.9 -0.3**
baz=270
SEW Seward 99.21 30 Pdiff **Pdif 23 01 17.5 -0.8**
baz=269
I23K Minto, Yukon-K 99.27 25 Pdiff **Pdif 23 01 18.0 -0.5**
baz=270
SIRR Siria 99.28 316 ⇓P **Pdif 23 01 16.8 -2.2**
SIRR Siria 99.28 316 ⇓P **PKKPbc 23 17 44.2 -0.6**
BZS Buzias 99.28 315 ⇓P **Pdif 23 01 16.6 -2.4**
BZS Buzias 99.28 315 ⇓P **PKKPbc 23 17 44.6 -0.2**
BZS Buzias 99.28 315 ⇓P **Pdif 23 01 16.6 -2.4**
PMR Palmer 99.38 29 P **Pdif 23 01 18.4 -0.6**
PMR Palmer 99.38 29 Pdiff **Pdif 23 01 17.6 -1.4**
baz=270
PBUR Paburge 99.39 325 *e*P **Pdif 23 01 18.6 -0.6**
NEA2 Nenana 99.40 26 Pdiff **Pdif 23 01 17.7 -1.4**
baz=270
D24K Happy Valley 99.42 21 Pdiff **Pdif 23 01 18.7 -0.4**
baz=271
C24K Franklin Bluff 99.45 21 Pdiff **Pdif 23 01 19.0 -0.2**
baz=272
MCK McKinley 99.46 27 Pdiff **Pdif 23 01 18.4 -1.0**
baz=270
RND Reindeer 99.50 27 P **Pdif 23 01 17.6 -2.1**
RND Reindeer 99.50 27 P **Pdif 23 01 17.6 -2.1**
RND pmax pmax
comp=Z,21nm,1.1s
CRVS Cervenica-Dubn 99.51 318 *e*P **Pdif 23 01 20.5 +0.5**
CRVS *e* 23 05 29.7
CRVS Cervenica-Dubn 99.51 318 *e*PDIFF **Pdif 23 01 20.5 +0.5**
CRVS *e*PP **PP 23 05 29.7 +5.9**
CRVS *e* 23 05 46.7
RAF Rauma 99.51 331 *e*P **Pdif 23 01 18.6 -1.1**
E24K Your Creek 99.57 22 IAMs_20 IAMs_20 23 54 14.6
comp=Z,9µm,19.0s
E24K Your Creek 99.57 22 Pdiff **Pdif 23 01 19.3 -0.5**
baz=272
WAT1 Susitna Watana 99.64 28 Pdiff **Pdif 23 01 18.8 -1.5**
baz=271
KNK Knik Glacier 99.70 29 Pdiff **Pdif 23 01 19.5 -1.1**
baz=270
SML Sawmill 99.76 29 Pdiff **Pdif 23 01 19.7 -1.1**
baz=271
PWL Port Wells 99.76 30 Pdiff **Pdif 23 01 19.5 -1.3**
baz=270
F24K Squaw Lake 99.82 23 Pdiff **Pdif 23 01 21.1 +0.1**
baz=272
H24K Noodor Dome 99.87 25 **Pdif 23 01 20.2 -1.0**
H24K IAmb IAmb 23 01 52.3
comp=Z,111nm,1.7s
H24K Noodor Dome 99.87 25 Pdiff **Pdif 23 01 21.4 +0.1**
baz=272
COLA College 99.91 26 P **Pdif 23 01 23.9 +2.6**
COLA College 99.91 26 Pdiff **Pdif 23 01 19.7 -1.6**
baz=272
COLA College 99.91 26 ⇓P **Pdif 23 01 22.2 +0.9**
BJO1 Bjornoya 99.98 344 *e*Pdif **Pdif 23 01 23.3 +1.8**
BJO1 IVmB_BB 23 01 51.7
comp=Z,839nm,4.8s
BJO1 *e*PP **PP 23 05 29.3 +2.7**
BJO1 *e*SKSac **SKSac 23 11 53.3 -4.8**
BEL Belsk 100.00 321 *e*Pdif **Pdif 23 01 20.8 -1.2**
BEL *e*PP PP 23 05 11.8 -16
BEL *e*SKSac **SKSac 23 11 50.7 -8.4**
BEL *e*L L 23 52 19.1
comp=Z,24µm,20.1s
G24K Hadweenzic Riv 100.01 24 Pdiff **Pdif 23 01 22.2 +0.4**
baz=272
WAT6 Susitna Watana 100.02 28 Pdiff **Pdif 23 01 20.9 -1.2**
baz=271
M23K Glacier View 100.04 29 Pdiff **Pdif 23 01 20.8 -1.3**
baz=271
POKR Poker Plat Res 100.08 25 Pdiff **Pdif 23 01 20.0 -2.1**
baz=272
DHY Denali Highway 100.17 27 Pdiff **Pdif 23 01 21.6 -1.2**
baz=272
SCM Sheep Creek Mo 100.23 29 IAMs_20 IAMs_20 23 43 36.4
comp=Z,10µm,22.0s
SCM Sheep Creek Mo 100.23 29 Pdiff **Pdif 23 01 22.0 -0.9**
baz=272
P23K Montague Islan 100.24 31 Pdiff **Pdif 23 01 22.1 -0.8**
baz=271
NIE Niedzica 100.28 319 *e*Pdif **Pdif 23 01 25.4 +2.0**
NIE *e*PP **PP 23 05 30.1 +0.4**
NIE *e*SKSac **SKSac 23 11 59.9 -0.8**
NIE *e*SP SP 23 14 23.5 -2.6
NIE *e*SS **SS 23 19 45.9 -6.7**
NIE *e*L L 23 57 09.6
comp=Z,8µm,20.5s
D25K Kavik River 100.28 21 IAMs_20 IAMs_20 23 52 36.4
comp=Z,10µm,20.0s
D25K Kavik River 100.28 21 Pdiff **Pdif 23 01 22.3 -0.7**
baz=274
HDA Harding Lake 100.32 26 Pdiff **Pdif 23 01 21.5 -1.7**
baz=272
ILAR Eielson Array 100.33 26 P **Pdif 23 01 21.3 -1.9**
comp=Z,1.0nm,0.6s,baz=245,slow=4.6,SNR=12
ILAR PP PP 23 05 21.1 -8.5
comp=Z,2.2nm,1.0s,baz=280,slow=6.9,SNR=4.6
ILAR PKKPbc **PKKPbc 23 17 38.2 -4.2**
comp=Z,9.5nm,1.0s,baz=103,slow=2.0,SNR=15
ILAR PKPPKP 23 25 55.0
comp=Z,1.9nm,1.1s,baz=128,slow=0.3,SNR=5.8
GLI Glacier Island 100.37 30 Pdiff **Pdif 23 01 22.6 -0.9**
baz=272
TRO Tromso 100.39 339 *e*Pdif **Pdif 23 01 21.3 -2.0**
TRO IVmBBB 23 01 33.3
comp=Z,566nm,5.6s
TRO *e*PP **PP 23 05 28.5 -1.3**
TRO *e*SKSac **SKSac 23 12 03.0 +2.8**
TRO *e*SP SP 23 14 31.2 +5.0
TIR Tirane 100.39 310 IAMs_20 IAMs_20 23 55 28.9
comp=Z,9µm,19.0s
PSZ Piszkesteto 100.53 317 IAMs_20 IAMs_20 23 56 19.7
comp=Z,10µm,20.0s
PSZ Piszkesteto 100.53 317 ⇓P **Pdif 23 01 25.7 +1.1**
PSZ Piszkesteto 100.53 317 ⇓P **Pdif 23 01 25.7 +1.1**
HSPB Hornsund (broa 100.53 347 *e*Pdif **Pdif 23 01 21.5 -2.4**
HSPB *e*PP **PP 23 05 30.9 +0.1**
HSPB *e*SKSac **SKSac 23 11 57.5 -3.2**
HSPB *e*SS **SS 23 19 54.1 -0.5**
HSPB *e*L L 23 48 39.5
comp=Z,24µm,24.3s
FRGS Fruska Gora 100.54 314 ⇑P Pdif 23 00 45.9 -39
G25K Bearman Lake 100.55 24 Pdiff **Pdif 23 01 24.3 +0.2**
baz=274
OJC Ojcow 100.61 320 *e*Pdif **Pdif 23 01 20.9 -4.0**
OJC *e*PP PP 23 05 23.8 -8.3
OJC *e*SKSac **SKSac 23 11 57.9 -4.3**
OJC *e*SP **SP 23 14 25.4 -4.2**
OJC *e*SP SP 23 14 29.0 -0.6
OJC *e*L L 23 53 03.9
comp=Z,21µm,20.7s
VLO Vlora 100.64 310 IAMs_20 IAMs_20 23 52 01.6
comp=Z,14µm,21.0s
F25K Christian Rive 100.67 23 Pdiff **Pdif 23 01 25.3 +0.5**
baz=274
H25L Birch Creek 100.69 24 Pdiff **Pdif 23 01 25.2 +0.4**
baz=274
C26K Camden Bay 100.75 20 Pdiff **Pdif 23 01 25.7 +0.7**
baz=275
M24K Tolsona, Glenn 100.77 28 Pdiff **Pdif 23 01 25.5 +0.2**
baz=273
Q23K Middleton Isla 100.79 31 Pdiff **Pdif 23 01 24.7 -0.6**
baz=272
LANS Liptovska Anna 100.82 318 *e* 23 17 42.1
K24K Donnelly Dome 100.86 27 Pdiff **Pdif 23 01 24.8 -0.9**
baz=273
PRP Porcupine Dome 100.86 25 Pdiff **Pdif 23 01 24.4 -1.4**
baz=274
PDG Podgorica 100.88 312 ⇓P **Pdif 23 01 23.8 -2.4**
PDG Podgorica 100.88 312 ⇑P **PKKPbc 23 17 40.0 0.0**
KBS Kingsbay 100.91 349 *e*Pdif **Pdif 23 01 27.8 +2.2**
KBS IVmBBB 23 01 31.4
comp=Z,382nm,2.4s
KBS *e*PP **PP 23 05 33.4 -0.2**
KBS *e*SKSac **SKSac 23 12 02.0 -0.6**
KBS *e*SP SP 23 14 36.7 +5.1
KBS *e*SS **SS 23 20 06.4 +6.5**
KBS IVMs_BB IVMs_BB 23 26 22.2
comp=Z,1µm,11.9s
KBS Kingsbay 100.91 349 *i* P **Pdif 23 01 26.7 +1.2**
KLU Klutina 100.91 29 Pdiff **Pdif 23 01 25.7 -0.3**
baz=273
J25K Salcha River, 100.99 26 Pdiff **Pdif 23 01 24.7 -1.6**
baz=274
EYAK Cordova Ski Ar 101.04 30 Pdiff **Pdif 23 01 26.1 -0.4**
baz=273
PAX Paxson 101.05 27 Pdiff **Pdif 23 01 25.6 -1.0**
baz=273
C27K Jago River 101.19 21 Pdiff **Pdif 23 01 27.2 +0.2**
baz=276
HARP HAARP 101.23 28 Pdiff **Pdif 23 01 26.9 -0.4**
baz=274
F26K Sheenjek River 101.23 23 Pdiff **Pdif 23 01 27.8 +0.5**
baz=276
VYHS Vyhne 101.24 318 *e*P **Pdif 23 01 26.9 -0.8**
VYHS *e* 23 05 38.0
VYHS Vyhne 101.24 318 *e*PDIFF **Pdif 23 01 26.9 -0.8**
VYHS Vyhne 101.24 318 *e*PP PKiKP 23 05 38.0 -14
VYHS Vyhne 101.24 318 *e* **PKiKP 23 05 56.1 +3.8**
VYHS Vyhne 101.24 318 *e* 23 17 39.2
VYHS Vyhne 101.24 318 *e* 23 18 02.9
MORH Mrgy, Hungar 101.37 315 ⇑P **Pdif 23 01 24.4 -3.9**
MORH Mrgy, Hungar 101.37 315 ⇓P **PKKPbc 23 17 39.2 +0.4**
G26K Porcupine Rive 101.45 23 Pdiff **Pdif 23 01 28.3 +0.2**
baz=276
N25K Chitina, Valde 101.54 29 Pdiff **Pdif 23 01 28.5 -0.3**
baz=274
BMRM Bremner River 101.58 29 Pdiff **Pdif 23 01 28.2 -0.7**
baz=274
SRO Srobarova 101.59 317 *e*PP PKiKP 23 05 40.9 -12
SCRK Sand Creek 101.64 26 Pdiff **Pdif 23 01 28.7 -0.6**
baz=275
OKC Ostrava-Krasne 101.68 319 *e*PDIFF **Pdif 23 01 31.2 +1.6**
OKC AMS AMS 23 53 30.0
comp=Z,14µm,20.0s
KAIM Kayak Island 101.74 31 Pdiff **Pdif 23 01 29.1 -0.5**
baz=274
J26L Joseph Creek 101.78 26 Pdiff **Pdif 23 01 29.3 -0.5**
baz=275
TAOE Nuku Hiva Isla 101.80 101 *e*PKIKP **Pdif 23 01 26.1 -4.9**
comp=Z,627nm,25.3s
TAOE Nuku Hiva Isla 101.80 101 *e*PP **PP 23 05 38.3 -3.8**
comp=Z,1µm,31.7s
TAOE *e*S **Sdif 23 13 13.6 +1.7**
comp=Z,4µm,25.0s
TAOE *e*SS **SS 23 20 21.9 +6.5**
comp=Z,8µm,26.0s
TAOE Nuku Hiva Isla 101.80 101 *e*LQ LQ 23 30 25.8
comp=Z,17µm,28.2s
TAOE *e*LR LR 23 34 43.9
comp=Z,12µm,24.8s
I26K Coal Creek Min 101.87 25 Pdiff **Pdif 23 01 29.3 -0.8**
baz=276
MAUC Maruska 101.89 319 *e*PDIFF **Pdif 23 01 30.1 -0.5**
MAUC *e*PKKP **PKKPbc 23 17 37.6 +0.2**
STEI Steigen 101.90 338 *e*Pdif **Pdif 23 01 26.9 -3.2**
STEI IVmBBB 23 01 49.7
comp=Z,635nm,3.0s
STEI *e*PP **PP 23 05 43.6 +2.4**
STEI *e*SKSac **SKSac 23 12 01.7 -5.8**
STEI *e*SP SP 23 14 47.9 +5.6
FAUS Fauske 101.95 337 *e*Pdif **Pdif 23 01 31.2 +0.8**
FAUS IVmB_BB 23 02 04.4
comp=Z,648nm,5.3s
FAUS *e*PP **PP 23 05 43.7 +2.1**
FAUS *e*SKSac **SKSac 23 12 03.2 -4.7**
FAUS *e*PS PS 23 14 49.3 +2.4
L26K Log Cabin Wild 102.01 27 Pdiff **Pdif 23 01 29.7 -1.1**
baz=275
MORC Moravsky Berou 102.07 319 *e*PDIFF **Pdif 23 01 28.9 -2.5**
MORC *e*PP **PP 23 05 37.7 -5.5**
MORC *e*SKS 23 12 08.5
MORC *e*PKKP **PKKPbc 23 17 36.6 -0.3**
MORC Moravsky Berou 102.07 319 ⇑P **Pdif 23 01 18.1 -13**
MORC Moravsky Berou 102.07 319 ⇑P **PKKPbc 23 17 37.2 +0.2**
E27K Coleen River 102.13 22 Pdiff **Pdif 23 01 31.1 -0.1**
baz=278
D27M Malcolm River 102.20 21 IAMs_20 IAMs_20 23 56 24.1
comp=Z,8µm,20.0s
D27M Malcolm River 102.20 21 Pdiff **Pdif 23 01 31.9 +0.3**
baz=279
M26K Nabesna, AK 102.23 28 Pdiff **Pdif 23 01 31.5 -0.3**
baz=276
MODS Modra-Piesok 102.28 318 *e*P **Pdif 23 01 35.2 +2.9**
MODS *e* 23 05 44.3
MODS Modra-Piesok 102.28 318 *e*PDIFF **Pdif 23 01 35.2 +2.9**
MODS *e*PP **PP 23 05 44.3 -0.5**
MODS *e* 23 17 36.8
MODS *e* 23 17 59.7
BGLC Bering Glacier 102.29 30 Pdiff **Pdif 23 01 31.8 -0.2**
baz=275
G27K Doyon Strip 102.30 23 Pdiff **Pdif 23 01 32.3 +0.3**
baz=278
MCARA McCarthy VSAT 102.31 29 Pdiff **Pdif 23 01 31.7 -0.5**
baz=275
CRQE Cirque 102.33 30 Pdiff **Pdif 23 01 32.2 -0.2**
baz=275
ZST Bratislava 102.40 317 *e*PP **PKiKP 23 05 47.0 -7.4**
H27K Steamboat Moun 102.43 24 Pdiff **Pdif 23 01 32.8 +0.2**
baz=278
MOR8 Moi Rana 102.44 336 *e*Pdif **Pdif 23 01 32.7 +0.1**
MOR8 IVmB_BB 23 01 51.4
comp=Z,683nm,5.3s
MOR8 *e*PP **PP 23 05 46.5 +1.1**
MOR8 *e*SKSac **SKSac 23 12 05.5 -4.8**
MOR8 IVMs_BB IVMs_BB 23 26 07.6
comp=Z,2µm,24.2s
K27K Chicken 102.47 26 Pdiff **Pdif 23 01 33.5 +0.7**
baz=277
I27K Kandik River 102.47 25 Pdiff **Pdif 23 01 33.3 +0.4**
baz=277
LOF Lofoten 102.50 338 *e*Pdif **Pdif 23 01 35.0 +2.2**
LOF IVmB_BB 23 01 39.1
comp=Z,498nm,5.8s
LOF *e*PP **PP 23 05 48.2 +2.5**
LOF *e*SKSac **SKSac 23 12 08.0 -2.4**
LOF *e*SP SP 23 14 53.5 +4.8
KRLC Kraliky 102.56 319 *e*PKP PKiKP 23 05 31.6 -23
KRLC *e*PKKP **PKKPbc 23 17 36.3 +0.8**
KRLC AMS AMS 23 53 40.0
comp=Z,12µm,21.3s
L27K Beaver Creek, 102.69 27 Pdiff **Pdif 23 01 34.5 +0.6**
baz=277
VRAC Vranov 102.70 319 *e*PDIFF **Pdif 23 01 34.1 -0.1**
VRAC *e*PP **PP 23 05 44.8 -3.1**
VRAC *e*SKS 23 12 11.5
VRAC *e*PKKP **PKKPbc 23 17 34.8 -0.2**
VRAC Vranov 102.70 319 Pdiff **Pdif 23 01 33.4 -0.8**
comp=Z,1.7nm,0.8s,baz=47,slow=7.0,SNR=4.9
VRAC PP **PP 23 05 47.6 -0.3**
comp=Z,5.9nm,1.0s,baz=109,slow=9.5,SNR=6.4
VRAC PKKPbc **PKKPbc 23 17 34.6 -0.4**
comp=Z,3.8nm,1.0s,baz=269,slow=2.4,SNR=4.7
VRAC Vranov 102.70 319 ⇓P **PKKPbc 23 17 34.6 -0.4**
BCAR Beaver Creek A 102.71 27 **Pdif 23 01 33.3 -0.6**
M27K Edge Creek, AK 102.75 28 Pdiff **Pdif 23 01 34.1 -0.2**
baz=276
MATE Matera 102.77 310 ⇓P **PKKPbc 23 17 34.4 0.0**
EGAK Eagle 102.77 25 Pdiff **Pdif 23 01 33.9 -0.2**
baz=278
E28M Babbage River 102.82 21 IAMs_20 IAMs_20 23 56 47.4
comp=Z,9µm,20.0s
E28M Babbage River 102.82 21 Pdiff **Pdif 23 01 34.6 +0.3**
baz=280
KSP Ksiaz 102.84 320 *e*Pdif **Pdif 23 01 36.2 +1.5**
KSP *e*PP **PP 23 05 41.1 -7.7**
KSP *e*SKSac **SKSac 23 12 09.8 -3.0**
KSP *e*SS SS 23 20 15.6 -12
KSP *e*L L 23 54 12.5
comp=Z,14µm,20.5s
DPC Dobruska-Polom 102.84 320 *e*PDIFF **Pdif 23 01 36.8 +2.0**
DPC AMS AMS 23 56 20.0
comp=Z,12µm,16.6s
KRUC Moravsky 102.84 318 *e*PDIFF **Pdif 23 01 37.5 +2.7**
KRUC *e*PP **PP 23 05 44.8 -4.1**
KRUC *e*SKS 23 12 11.8
KRUC *e*PKKP **PKKPbc 23 17 34.1 -0.5**
F28M Old Crow 102.86 22 Pdiff **Pdif 23 01 34.3 -0.2**
baz=280
OSTC Ostas 102.90 320 *e*PDIFF **Pdif 23 01 34.5 -0.5**
OSTC *e*PKKP **PKKPbc 23 17 35.1 +0.6**
OSTC AMS AMS 23 55 10.0
comp=Z,14µm,16.7s
MESA MESA 102.95 30 Pdiff **Pdif 23 01 35.4 +0.1**
baz=276
RONA Rosalia, Austr 102.96 317 Pdiff **Pdif 23 01 36.8 +1.4**
comp=Z,4.8nm,1.6s
RONA *e*PKKP **PKKPbc 23 17 34.0 -0.3**
comp=Z,7.3nm,1.1s
D28M Stokes Point 102.97 21 Pdiff **Pdif 23 01 35.2 +0.4**
baz=281
STOK Stokkvaagen 102.98 336 *e*Pdif **Pdif 23 01 36.2 +1.3**
STOK IVmB_BB 23 02 05.6
comp=Z,573nm,4.9s
STOK *e*PP **PKiKP 23 05 53.4 -1.5**
STOK *e*SKSac **SKSac 23 12 09.2 -3.6**
CHVC Chvalec 103.00 320 *e*PDIFF **Pdif 23 01 36.7 +1.2**
CHVC AMS AMS 23 55 10.0
comp=Z,14µm,17.0s
UPC Upice 103.03 320 AMS AMS 23 54 00.0
comp=Z,16µm,19.7s
CTG Chitna Glacier 103.17 29 Pdiff **Pdif 23 01 36.1 0.0**
baz=277
I28M Mirror Creek 103.19 25 Pdiff **Pdif 23 01 36.2 +0.1**
baz=279
CONA Conrad Observa 103.24 317 Pdiff **Pdif 23 01 37.4 +0.7**
comp=Z,2.3nm,1.4s
CONA PKiKP **PKiKP 23 05 56.6 +0.6**
comp=Z,29nm,1.6s
CONA *e*PKKP **PKKPbc 23 17 33.4 0.0**
comp=Z,22nm,1.3s,SNR=6.9
BSD Bornholm Skovb 103.40 325 *i* P **Pdif 23 01 36.3 -0.7**
BSD IAMs_20 IAMs_20 23 54 27.5
comp=Z,17µm,17.8s
TREC Trest 103.43 319 *e*PDIFF **Pdif 23 01 38.1 +0.7**
TREC AMS AMS 23 54 40.0
comp=Z,19µm,20.6s
CUC Castrocucco 103.45 309 IAMs_20 IAMs_20 23 57 46.0
comp=Z,9µm,20.0s
E29M Blow River 103.45 22 Pdiff **Pdif 23 01 37.2 +0.1**
baz=282
GCIS Gornji Cirnik 103.47 315 *i* Pdiff **Pdif 23 01 36.1 -1.5**
GCIS *i* PP **PP 23 05 55.7 +1.9**
YUK3 Moose Creek 103.49 28 Pdiff **Pdif 23 01 37.5 -0.1**
baz=278
ARSA Arzberg 103.50 317 Pdiff **Pdif 23 01 37.1 -0.7**
comp=Z,3.2nm,1.4s
ARSA *e*PKKP **PKKPbc 23 17 32.7 +0.1**
comp=Z,9.0nm,1.3s
HFS Hagfors 103.54 330 Pdiff **Pdif 23 01 35.9 -1.7**
comp=Z,1.9nm,0.9s,baz=49,slow=12,SNR=2.6
HFS PP **PP 23 05 49.3 -4.5**
comp=Z,8.7nm,1.0s,baz=106,slow=11,SNR=4.3
HFS PKKPbc **PKKPbc 23 17 29.4 -3.4**
comp=Z,1.3nm,0.7s,baz=204,slow=3.3,SNR=4.0
DAWY Dawson 103.64 26 Pdiff **Pdif 23 01 38.2 +0.1**
baz=279
H29M Whitestone 103.69 24 Pdiff **Pdif 23 01 38.0 -0.2**
baz=281
G29M Pine Creek 103.70 23 Pdiff **Pdif 23 01 38.5 +0.2**
baz=281
NSS Namsos 103.71 334 *e*PP **PP 23 05 54.5 -0.3**
NSS *e*SKSac **SKSac 23 12 15.5 -0.8**
O28M Mount Upton 103.75 29 Pdiff **Pdif 23 01 39.1 +0.2**
baz=278
PINM Pinnacle 103.81 30 Pdiff **Pdif 23 01 38.7 -0.2**

	baz=277						
GOPC	**GO Pecny, Ondr**	**103.85**	**319**	*e*PDIFF	**Pdif**	**23 01 37.0**	**-2.3**
GOPC				AMS	AMS	23 54 30.0	
	comp=Z,17µm,21.0s						
SOKA	**Soboth**	**103.86**	**316**	pPKiKP	**PKiKP**	**23 06 00.0**	**+2.8**
	comp=Z,20nm,1.4s						
SOKA				*e*PKKP	**PKKPbc**	**23 17 31.4**	**-0.2**
	comp=Z,5.6nm,1.2s						
I29M	**Ogilvie Camp,**	**103.88**	**25**	Pdiff	**Pdif**	**23 01 39.0**	**0.0**
	baz=280						
YUK8	**Steele Glacier**	**103.88**	**29**	Pdiff	**Pdif**	**23 01 39.3**	**-0.2**
	baz=278						
PVCC	**Panska Ves**	**103.95**	**320**	AMS	AMS	23 54 40.0	
	comp=Z,13µm,19.0s						
PRU	**Pruhonice**	**104.00**	**319**	*e*PDIFF	**Pdif**	**23 01 36.1**	**-3.8**
PRU				*e*PKP	PKiKP	23 05 48.5	-8.7
PRU				AMS	AMS	23 54 40.0	
	comp=Z,17µm,20.5s						
NOR	**Nord**	**104.01**	**354**	*i* P	**Pdif**	**23 01 41.0**	**+1.7**
NOR				IAMs_20	IAMs_20	23 55 57.9	
	comp=Z,16µm,19.4s						
VISS	**Visnje**	**104.03**	**315**	*e*Pdiff	**Pdif**	**23 01 38.4**	**-1.7**
VISS				*e*SKSac	**SKSac**	**23 12 16.4**	**-2.2**
VISS				*e*PS	**PS**	**23 15 12.2**	**+2.4**
VISS				*e*SS	**SS**	**23 20 39.9**	**-4.7**
PRA	**Prague**	**104.07**	**319**	*e*PDIFF	**Pdif**	**23 01 30.1**	**-10**
PRA				*e*PKP	PKiKP	23 05 48.5	-8.8
PRA				AMS	AMS	23 54 40.0	
	comp=Z,17µm,21.0s						
J29N	**Klondike Camp**	**104.08**	**26**	Pdiff	**Pdif**	**23 01 39.5**	**-0.6**
	baz=280						
OBKA	**Obir**	**104.20**	**316**	*e*pPKiKP	**PKiKP**	**23 06 00.8**	**+3.0**
	comp=Z,16nm,1.5s						
OBKA				*i* PKKP	**PKKPbc**	**23 17 30.3**	**-0.3**
	comp=Z,11nm,1.3s						
CKRC	**Cesky Krumlov**	**104.23**	**318**	*e*PDIFF	**Pdif**	**23 01 39.0**	**-2.0**
CKRC				*e*PKP	PKiKP	23 05 48.5	-9.2
CKRC				*e*PKKP	**PKKPbc**	**23 17 30.3**	**-0.2**
CKRC				AMS	AMS	23 59 00.0	
	comp=Z,12µm,18.0s						
LJU	**Ljubljana**	**104.23**	**315**	*e*Pdiff	**Pdif**	**23 01 39.3**	**-1.7**
LJU				*e*		23 04 42.7	
LJU				*e*		23 05 15.7	
LJU				*e*PP	**PP**	**23 06 00.5**	**+1.0**
LJU				*e*SKSac	**SKSac**	**23 12 17.4**	**-2.1**
LJU				*e*PS	PS	23 15 13.1	+1.2
LJU				*e*		23 17 30.4	
LJU				*i*		23 17 49.8	
LJU				*e*		23 21 42.0	
LJU				*e*		23 29 56.0	
ZVC	**Zvikov**	**104.27**	**319**	*e*PDIFF	**Pdif**	**23 01 43.0**	**+1.9**
ZVC				*e*PKKP	**PKKPbc**	**23 17 30.5**	**+0.2**
ZVC				AMS	AMS	23 54 50.0	
	comp=Z,20µm,21.2s						
PNL	**Peninsula**	**104.29**	**31**	Pdiff	**Pdif**	**23 01 40.6**	**-0.4**
	baz=278						
M29M	**Somme Creek**	**104.31**	**28**	Pdiff	**Pdif**	**23 01 40.7**	**-0.4**
	baz=280						
EPYK	**Eagle Plains**	**104.32**	**23**	Pdiff	**Pdif**	**23 01 40.7**	**-0.3**
	baz=282						
MOA	**Molln**	**104.32**	**317**	PKiKP	**PKiKP**	**23 05 57.6**	**-0.3**
	comp=Z,16nm,1.4s						
MOA				*e*PKKP	**PKKPbc**	**23 17 30.1**	**0.0**
	comp=Z,17nm,1.3s,SNR=6.3						
BRG	**Berggiesshubel**	**104.32**	**320⇓**	*e*Pif		23 01 41.9	
BRG				Amp		23 01 43.9	
	comp=Z,4.5nm,1.3s						
BRG	**Berggiesshubel**	**104.32**	**320**	P	Pdif	23 02 03.2	+22
BRG				Amp		23 02 05.2	
	comp=Z,5.7nm,1.0s						
BRG	**Berggiesshubel**	**104.32**	**320**	P		23 04 52.3	
BRG				Amp		23 04 55.2	
	comp=Z,14nm,1.5s						
BRG				PP	**PKiKP**	**23 05 57.5**	**-0.3**
BRG				Amp		23 05 59.5	
	comp=Z,21nm,1.2s						
BRG	**Berggiesshubel**	**104.32**	**320**	SP	SP	23 15 19.0	+10
BRG				PKKP		23 17 30.6	
BRG				Amp		23 17 32.2	
	comp=Z,18nm,1.1s						
BRG	**Berggiesshubel**	**104.32**	**320**	Amp		23 17 51.2	
	comp=Z,31nm,1.4s						
BRG	**Berggiesshubel**	**104.32**	**320**	SS	SS	23 20 37.0	-11
BRG	**Berggiesshubel**	**104.32**	**320**	*i* P	**Pdif**	**23 01 41.9**	**+0.6**
BRG						23 05 57.4	
BRG				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BRG				pmax	pmax		
	comp=Z,21nm,1.2s						
BRG	**Berggiesshubel**	**104.32**	**320**	P	**PKKPab**	**23 17 49.4**	**+2.4**
L29M	**L29M**	**104.35**	**27**	Pdiff	**Pdif**	**23 01 41.6**	**+0.3**
	baz=280						
G30M	**tAoh Zraii Nji**	**104.38**	**23**	Pdiff	**Pdif**	**23 01 41.0**	**-0.3**
	baz=283						
F30M	**Barrier River**	**104.40**	**22**	Pdiff	**Pdif**	**23 01 40.9**	**-0.4**
	baz=283						
YUK4	**Talbot Arm**	**104.41**	**29**	Pdiff	**Pdif**	**23 01 42.6**	**+0.9**
	baz=279						
K29M	**Barlow Dome**	**104.49**	**26**	Pdiff	**Pdif**	**23 01 41.9**	**0.0**
	baz=281						
NC602	**NORSAR Array S**	**104.52**	**331**	*e*Pdif	**Pdif**	**23 01 43.9**	**+1.9**
NC602				IVmB_BB		23 02 12.5	
	comp=Z,388nm,7.3s						
NC602				*e*PP	**PP**	**23 06 00.1**	**-0.9**
NC602				*e*SKSac	**SKSac**	**23 12 15.3**	**-4.9**
NC602				*e*SP	**SP**	**23 15 06.6**	**-3.6**
NC602				*e*SS	**SS**	**23 20 55.5**	**+5.1**
O29M	**Mount Kennedy**	**104.61**	**30**	Pdiff	**Pdif**	**23 01 42.0**	**-0.5**
	baz=279						
YUK6	**Outpost Mounta**	**104.61**	**29**	Pdiff	**Pdif**	**23 01 42.9**	**+0.3**
	baz=279						
NB2	**NORSAR Subarra**	**104.63**	**331**	PKiK	**PKiKP**	**23 05 57.5**	**-0.6**
	comp=Z,530nm,5.0s,baz=81,slow=1.9						
NB2				PKKP	**PKKPbc**	**23 17 28.8**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=246,slow=2.4						
NB2	**NORSAR Subarra**	**104.63**	**331**	PKiKP	**PKiKP**	**23 05 57.5**	**-0.6**
	baz=81,slow=1.9						
NOA	**NORSAR Array B**	**104.63**	**331**	Pdiff	**Pdif**	**23 01 39.8**	**-2.7**
	comp=Z,0.4nm,0.9s,baz=84,slow=4.6,SNR=2.9						
NOA				PKiKP	**PKiKP**	**23 05 56.1**	**-2.0**
	comp=Z,2.8nm,0.9s,baz=87,slow=6.6,SNR=5.6						
NOA				PKKPbc	**PKKPbc**	**23 17 26.9**	**-2.8**
	comp=Z,6.6nm,1.0s,baz=63,slow=2.6,SNR=8.6						
GERES	**GERESS Array B**	**104.63**	**318**	Pdiff	**Pdif**	**23 01 43.0**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=65,slow=2.6,SNR=1.8						
GERES				PKiKP	**PKiKP**	**23 05 55.0**	**-3.5**
	comp=Z,1.0nm,0.8s,baz=77,slow=2.6,SNR=3.3						
GERES				PKKPbc	**PKKPbc**	**23 17 29.4**	**+0.1**
	comp=Z,5.0nm,0.9s,baz=270,slow=2.7,SNR=15						
HSKC	**Hora Svate Kat**	**104.67**	**320**	AMS	AMS	23 55 20.0	
	comp=Z,14µm,17.4s						
TBLU	**Trondheim**	**104.68**	**333**	*e*Pdif	**Pdif**	**23 01 44.2**	**+1.6**
TBLU				IVmB_BB		23 02 02.3	
	comp=Z,594nm,4.3s						
TBLU				*e*PP	**PKiKP**	**23 05 59.7**	**+1.6**
TBLU				*e*SKSac	**SKSac**	**23 12 18.0**	**-2.8**
KHC	**Kasperske Hory**	**104.69**	**319**	*e*PDIFF	**Pdif**	**23 01 41.0**	**-2.0**
KHC				*e*PKP	**PKiKP**	**23 05 56.6**	**-2.0**
KHC				*e*SKS	**SKSac**	**23 12 21.2**	**-0.3**
KHC				*e*PKKP	**PKKPbc**	**23 17 28.0**	**-1.1**
KHC				AMS	AMS	23 54 50.0	
	comp=Z,18µm,21.8s						
I30M	**Mount Dempster**	**104.70**	**25**	Pdiff	**Pdif**	**23 01 41.5**	**-1.3**
	baz=282						
BIOA	**Bad Ischl, Aus**	**104.75**	**317**	*e*PKKP	**PKKPbc**	**23 17 28.8**	**0.0**
	comp=Z,22nm,1.3s						
COP	**Copenhagen**	**104.75**	**325**	*i* P	**Pdif**	**23 01 44.7**	**+1.7**
COP				IAMs_20	IAMs_20	23 54 52.4	
	comp=Z,24µm,19.1s						
MYKA	**Terra Mystica**	**104.81**	**316**	*e*PKKP	**PKKPbc**	**23 17 28.2**	**-0.5**
	comp=Z,19nm,1.3s,SNR=5.7						
J30M	**Hart River**	**104.85**	**25**	Pdiff	**Pdif**	**23 01 43.3**	**-0.2**
	baz=282						
CLL	**Collm**	**104.88**	**321**	IAMs_20	IAMs_20	23 55 20.3	
	comp=Z,11µm,20.0s						
CLL	**Collm**	**104.88**	**321**	*e*P	**Pdif**	**23 01 42.0**	**-1.7**
CLL				*e*		23 06 01.0	
CLL				*e*S	**Sdif**	**23 13 37.0**	**+1.2**
CLL				MLR	MLR		
	comp=Z,12µm,19.5s						
PRED	**Cave del Predi**	**104.88**	**316**	IAMs_20	IAMs_20	23 56 03.0	
	comp=Z,14µm,22.0s						
OSL	**Oslo**	**105.05**	**330**	*e*PP	**PP**	**23 06 05.3**	**+0.4**
OSL				*e*SKSac	**SKSac**	**23 12 20.3**	**-2.2**
INK	**Inuvik**	**105.05**	**21**		**Pdif**	**23 01 41.4**	**-2.7**
	baz=286						
INK	**Inuvik**	**105.05**	**21**	P	**Pdif**	**23 01 41.4**	**-2.7**
INK				MLR	MLR		
	comp=Z,6µm,22.0s						
M30M	**Minto, Yukon**	**105.05**	**27**	Pdiff	**Pdif**	**23 01 44.9**	**+0.5**
	baz=281						
N30M	**Aishikik Lake**	**105.13**	**28**	Pdiff	**Pdif**	**23 01 44.2**	**-0.6**
	baz=281						
P29M	**Windy Craggy**	**105.13**	**30**	Pdiff	**Pdif**	**23 01 44.5**	**-0.3**
	baz=280						
G31M	**Satah River**	**105.14**	**23**	Pdiff	**Pdif**	**23 01 42.9**	**-1.6**
	baz=285						
F31M	**Tsiigehtchic**	**105.20**	**22**	Pdiff	**Pdif**	**23 01 43.3**	**-1.5**
	baz=285						
GUMA	**Gualdo di Mace**	**105.23**	**312**	IAMs_20	IAMs_20	23 56 10.7	
	comp=Z,10µm,21.0s						
NRCA	**Norcia**	**105.40**	**312**	IAMs_20	IAMs_20	23 55 55.3	
	comp=Z,12µm,21.0s						
FDMO	**Fiordimonte**	**105.41**	**312**	IAMs_20	IAMs_20	23 56 25.5	
	comp=Z,13µm,21.0s						
LESA	**Schwarzleotal**	**105.42**	**317**	PKiKP	**PKiKP**	**23 05 59.9**	**-0.1**
	comp=Z,4.8nm,1.2s						
LESA				*e*PKKP	**PKKPbc**	**23 17 26.2**	**-0.7**
	comp=Z,26nm,1.4s						
P30M	**Million Dollar**	**105.43**	**30**	Pdiff	**Pdif**	**23 01 45.0**	**-1.1**
	baz=280						
DOMB	**Dombas**	**105.46**	**332**	*e*Pdif	**Pdif**	**23 01 48.7**	**+2.5**
DOMB				IVmB_BB		23 02 06.3	
	comp=Z,401nm,5.5s						
DOMB				*e*PP	**PP**	**23 06 03.9**	**-4.0**
DOMB				*e*SKSac	**SKSac**	**23 12 24.3**	**-0.1**
DOMB				*e*SP	SP	23 15 21.2	+1.2
STAL	**STALIGIAL**	**105.48**	**316**	IAMs_20	IAMs_20	23 57 26.9	
	comp=Z,10µm,20.0s						
ABTA	**Abfaltersbach**	**105.58**	**316**	Pdiff	**Pdif**	**23 01 48.1**	**+1.0**
	comp=Z,2.2nm,1.0s						
ABTA				PKiKP	**PKiKP**	**23 05 59.6**	**-0.8**
	comp=Z,9.8nm,1.6s						
ABTA				*e*PKKP	**PKKPbc**	**23 17 26.5**	**+0.2**
	comp=Z,30nm,1.2s,SNR=8.7						
KONO	**Kongsberg**	**105.66**	**330**	*e*Pdif	**Pdif**	**23 01 47.8**	**+0.8**
KONO				IVmB_BB		23 02 46.1	
	comp=Z,511nm,3.1s						
KONO				*e*PP	**PP**	**23 06 11.1**	**+1.6**
KONO				*e*SKSac	**SKSac**	**23 12 23.3**	**-2.0**
KONO				*e*SP	**SP**	**23 15 21.2**	**-1.0**
KONO				*e*SS	**SKKPbc**	**23 21 09.4**	**+0.8**
KONO				IVMs_BB	IVMs_BB	23 30 13.0	
	comp=Z,3µm,20.0s						
O30N	**Mendenhall**	**105.73**	**29**	Pdiff	**Pdif**	**23 01 47.5**	**+0.1**
	baz=281						
N31M	**Braeburn, Yuko**	**105.74**	**28**	Pdiff	**Pdif**	**23 01 46.9**	**-0.5**
	baz=282						
OVD	**Ostervraa, Den**	**105.74**	**327**	*i* P	**Pdif**	**23 01 48.8**	**+1.4**
OVD				IAMs_20	IAMs_20	23 56 15.8	
	comp=Z,19µm,20.9s						
CESX	**Cesi**	**105.81**	**312**	IAMs_20	IAMs_20	23 59 28.9	
	comp=Z,11µm,18.0s						
PLBC	**Pleasant Camp**	**105.85**	**30**	Pdiff	**Pdif**	**23 01 46.8**	**-1.1**
	baz=281						
MOL	**Molde**	**106.03**	**333**	*e*Pdif	**Pdif**	**23 01 50.6**	**+2.0**
MOL				*e*PP	**PP**	**23 06 13.8**	**+1.6**
WTTA	**Wattenberg**	**106.14**	**317**	Pdiff	**Pdif**	**23 01 49.2**	**-0.5**
	comp=Z,3.1nm,1.2s						
WTTA				PKiKP	**PKiKP**	**23 06 01.2**	**-0.4**
	comp=Z,37nm,1.7s						
WTTA				*e*PKKP	**PKKPbc**	**23 17 24.8**	**0.0**
	comp=Z,30nm,1.2s,SNR=8.1						
GRA1	**Grafenberg Arr**	**106.17**	**319**	IAMs_20	IAMs_20	23 57 26.7	
	comp=Z,10µm,20.0s						
GRFO	**Grafenberg**	**106.17**	**319**	IAMs_20	IAMs_20	23 57 26.7	
	comp=Z,11µm,20.0s						
WATA	**Walderalm**	**106.17**	**317**	*i* Pdiff	**Pdif**	**23 01 48.4**	**-1.4**
	comp=Z,6.2nm,1.7s						
WATA				PKiKP	**PKiKP**	**23 06 00.8**	**-0.7**
	comp=Z,14nm,1.2s						
WATA				*e*PKKP	**PKKPbc**	**23 17 24.5**	**-0.2**
	comp=Z,26nm,1.3s,SNR=7.5						
S31K	**Pelican**	**106.19**	**32**	Pdiff	**Pdif**	**23 01 50.0**	**+0.6**
	baz=280						
M31M	**Drury Creek, Y**	**106.23**	**27**	Pdiff	**Pdif**	**23 01 49.7**	**+0.1**
	baz=283						
CTI	**Castel Tesino**	**106.23**	**315**	IAMs_20	IAMs_20	23 57 17.8	
	comp=Z,11µm,21.0s						
WHY	**Whitehorse**	**106.34**	**29**	Pdiff	**Pdif**	**23 01 49.3**	**-0.9**
	baz=282						
SSRD	**Sdr. Stenderup**	**106.35**	**325**	*i* P	**Pdif**	**23 01 50.5**	**+0.3**
SSRD				IAMs_20	IAMs_20	23 52 46.1	
	comp=Z,17µm,24.2s						
R31K	**City Hall, Gus**	**106.36**	**31**	Pdiff	**Pdif**	**23 01 51.9**	**+1.7**
	baz=281						
SKAG	**Skagway**	**106.37**	**30**	Pdiff	**Pdif**	**23 01 50.6**	**+0.4**
	baz=282						
A36M	**Sachs Harbour**	**106.43**	**17**	Pdiff	**Pdif**	**23 01 50.7**	**+0.5**
	baz=295						
SQTA	**Sankt Quirin**	**106.43**	**317**	Pdiff	**Pdif**	**23 01 49.7**	**-1.2**
	comp=Z,2.7nm,1.3s						
SQTA				PKiKP	**PKiKP**	**23 06 01.5**	**-0.5**
	comp=Z,11nm,1.1s						
SQTA				*e*PKKP	**PKKPbc**	**23 17 24.1**	**+0.3**
	comp=Z,29nm,1.2s,SNR=7.3						
MUD	**Monsted U'grnd**	**106.44**	**326**	*i* P	**Pdif**	**23 01 52.9**	**+2.3**
MUD				IAMs_20	IAMs_20	23 54 23.6	
	comp=Z,17µm,20.3s						
MOTA	**Moosalm**	**106.49**	**317**	Pdiff	**Pdif**	**23 01 52.3**	**+1.0**
	comp=Z,5.6nm,1.1s						
MOTA				PKiKP	**PKiKP**	**23 06 01.6**	**-0.5**
	comp=Z,7.6nm,1.3s						
FARO	**Faro, Yukon**	**106.69**	**27**	Pdiff	**Pdif**	**23 01 51.5**	**-0.1**
	baz=284						
RETA	**Reutte**	**106.71**	**317**	PKiKP	**PKiKP**	**23 06 02.0**	**-0.4**
	comp=Z,15nm,1.5s						
FETA	**Feichten**	**106.78**	**317**	Pdiff	**Pdif**	**23 01 50.6**	**-1.9**
	comp=Z,2.6nm,1.2s						
FETA				PKiKP	**PKiKP**	**23 06 02.5**	**-0.1**
	comp=Z,14nm,1.1s						
FETA				*e*PKKP	**PKKPbc**	**23 17 23.2**	**+0.4**
	comp=Z,32nm,1.2s,SNR=9.6						
SIT	**Sitka**	**106.84**	**33**	Pdiff	**Pdif**	**23 01 52.1**	**-0.2**
	baz=281						
HYA	**Hoyanger**	**106.99**	**332**	*e*Pdif	**Pdif**	**23 01 53.1**	**+0.3**
HYA				*e*PP	**PP**	**23 06 22.3**	**+3.1**
HYA				*e*SKSac	**SKSac**	**23 12 31.1**	**0.0**
HYA				*e*PS	PS	23 15 41.5	+1.7
HYA				*e*SS	**SS**	**23 21 30.9**	**+7.0**
HYA				IVMs_BB	IVMs_BB	23 30 36.1	
	comp=Z,2µm,15.4s						
R32K	**Eaglecrest**	**107.02**	**31**	Pdiff	**Pdif**	**23 01 53.5**	**+0.4**
	baz=282						
ODD1	**Odda**	**107.07**	**330**	*e*Pdif	**Pdif**	**23 01 50.7**	**-2.7**
ODD1				IVmBBB		23 02 05.6	
	comp=Z,620nm,3.5s						
ODD1				*e*PP	**PP**	**23 06 16.5**	**-3.4**
ODD1				*e*SKSac	**SKSac**	**23 12 29.6**	**-2.1**
ODD1				*e*SP	SP	23 15 37.4	+0.6
ODD1				*e*SS	**SS**	**23 21 34.6**	**+9.4**
N32M	**Quiet Lake**	**107.08**	**28**	Pdiff	**Pdif**	**23 01 54.1**	**+0.7**
	baz=284						
FUORN	**Ofenpass-Fuorn**	**107.14**	**316**	IAMs_20	IAMs_20	23 56 56.6	
	comp=Z,11µm,22.0s						
P32M	**Atlin**	**107.14**	**30**	Pdiff	**Pdif**	**23 01 53.8**	**0.0**
	baz=283						
S32K	**Killisnoo**	**107.16**	**32**	Pdiff	**Pdif**	**23 01 54.7**	**+1.0**
	baz=282						
BLS5	**Blasjo**	**107.27**	**330**	*e*Pdif	**Pdif**	**23 01 48.9**	**-5.4**
BLS5				*e*SKSac	**SKSac**	**23 12 30.6**	**-1.9**
BLS5				*e*SP	**SP**	**23 15 34.7**	**-4.1**
BLS5				*e*SS	SS	23 21 38.7	+11
DAVA	**Damuels**	**107.32**	**317**	Pdiff	**Pdif**	**23 01 55.3**	**+0.3**
	comp=Z,3.8nm,1.0s						
DAVA				PKiKP	**PKiKP**	**23 06 03.7**	**0.0**
	comp=Z,12nm,1.0s						
DAVA				*e*PKKP	**PKKPbc**	**23 17 21.3**	**+0.2**
	comp=Z,27nm,1.2s,SNR=6.4						
FOO	**Floro**	**107.42**	**332**	*e*Pdif	**Pdif**	**23 01 56.6**	**+1.8**
FOO				*e*PP	**PP**	**23 06 25.8**	**+3.5**
FOO				*e*SKSac	**SKSac**	**23 12 33.5**	**+0.6**
P33M	**Teslin, Yukon**	**107.44**	**29**	Pdiff	**Pdif**	**23 01 55.2**	**+0.2**
	baz=284						
MMPY	**Sheldon Lake,**	**107.53**	**27**	Pdiff	**Pdif**	**23 01 54.9**	**-0.5**
	baz=286						
DAG	**Danmarks Havn**	**107.56**	**350**	*i* P	**Pdif**	**23 01 55.8**	**+0.7**
DAG				*e*PP	**PP**	**23 06 24.6**	**+1.7**
DAG				IAMs_20	IAMs_20	23 59 27.9	
	comp=Z,25µm,19.5s						
BER	**Bergen**	**107.59**	**331**	*e*Pdif	**Pdif**	**23 01 54.7**	**-0.9**
BER				*e*PP	**PP**	**23 06 24.3**	**+0.7**
BER				*e*SKSac	**SKSac**	**23 12 31.6**	**-2.1**
STU	**Stuttgart**	**107.60**	**318**	IAMs_20	IAMs_20	23 59 03.6	
	comp=Z,10µm,19.0s						
SUE	**Sulen**	**107.69**	**332**	*e*Pdif	**Pdif**	**23 01 58.5**	**+2.5**
SUE				IVmB_BB		23 02 35.4	
	comp=Z,721nm,7.1s						
SUE				*e*PP	**PP**	**23 06 25.7**	**+1.4**
SUE				*e*SKSac	**SKSac**	**23 12 33.9**	**-0.2**
SUE				*e*SP	**SP**	**23 15 47.0**	**+4.1**
MSSA	**Maissana**	**107.90**	**314**	IAMs_20	IAMs_20	00 00 35.1	
	comp=Z,9µm,18.0s						
C36M	**Paulatuk**	**107.90**	**19**	Pdiff	**Pdif**	**23 01 56.1**	**-0.7**
	baz=295						
KMY	**Karmoy**	**107.92**	**330**	*e*Pdif	**Pdif**	**23 01 58.7**	**+1.6**
KMY				*e*PP	**PP**	**23 06 26.6**	**+0.5**
KMY				*e*SKSac	**SKSac**	**23 12 37.9**	**+2.7**
KMY				*e*SP	SP	23 15 48.5	+3.1
Q32M	**Nakina River**	**108.01**	**31**	Pdiff	**Pdif**	**23 01 58.3**	**+0.5**
	baz=284						
T33K	**Petersburg**	**108.16**	**33**	Pdiff	**Pdif**	**23 01 59.1**	**+0.9**
	baz=283						
U33K	**Whale Pass**	**108.22**	**34**	Pdiff	**Pdif**	**23 01 58.5**	**0.0**
	baz=282						
BFO	**Black Forest**	**108.23**	**318**	IAMs_20	IAMs_20	23 59 34.3	
	comp=Z,11µm,18.0s						
CRAG	**Craig**	**108.36**	**34**	Pdiff	**Pdif**	**23 01 59.9**	**+0.8**
	baz=282						
R33M	**Jennings River**	**108.55**	**30**	Pdiff	**Pdif**	**23 02 00.7**	**+0.6**
	baz=286						
KEST	**Kesra**	**108.70**	**305**	PKKPbc	PKKPbc	23 17 13.8	-2.4
	comp=Z,4.0nm,0.8s,baz=255,slow=5.0,SNR=5.9						
JMIC	**Jan Mayen**	**108.78**	**344**	*e*Pdif	**Pdif**	**23 02 04.0**	**+3.3**
JMIC				*e*PP	**PP**	**23 06 35.5**	**+3.5**
JMIC				*e*PS	**PS**	**23 16 01.1**	**+3.3**
JMIC				*e*SS	SS	23 21 49.5	+1.9
S34M	**Telegraph Cree**	**108.86**	**31**	Pdiff	**Pdif**	**23 02 02.6**	**+1.3**
	baz=285						
JMI	**Jan Mayen**	**108.88**	**344**	*e*Pdif	**Pdif**	**23 02 03.2**	**+2.1**
JMI				*e*PP	PP	23 06 41.6	+9.0
JMI				*e*PS	**PS**	**23 16 00.6**	**+1.8**
JMI				*e*SS	SS	23 21 56.5	+7.7
ECH	**Echery**	**109.02**	**318**	IAMs_20	IAMs_20	23 59 09.2	
	comp=Z,11µm,19.0s						
TGTN	**Hyland Airport**	**109.20**	**27**	Pdiff	**Pdif**	**23 02 04.1**	**+1.3**
	baz=289						
V35K	**Ketchikan**	**109.23**	**34**	Pdiff	**Pdif**	**23 02 03.3**	**+0.3**
	baz=284						
BTNL	**Ternell**	**109.28**	**321**	*d*PP	**PP**	**23 06 39.3**	**+3.0**
DLBC	**Dease Lake**	**109.28**	**31**	IAMs_20	IAMs_20	23 47 26.8	
	comp=Z,9µm,21.0s						
DLBC	**Dease Lake**	**109.28**	**31**	Pdiff	**Pdif**	**23 02 04.1**	**+0.8**
	baz=286						
MEM	**Membach**	**109.35**	**321**	*d*PP	**PP**	**23 06 42.6**	**+5.8**
WTLY	**Watson Lake, Y**	**109.40**	**29**	Pdiff	**Pdif**	**23 02 04.3**	**+0.6**
	baz=288						
WLF	**Walferdange**	**109.43**	**320**	IAMs_20	IAMs_20	00 00 03.9	
	comp=Z,12µm,18.0s						
WLF	**Walferdange**	**109.43**	**320**	*d*PKiKP	**PKiKP**	**23 06 07.2**	**-0.1**
WLF				*d*PP	**PP**	**23 06 36.2**	**-1.2**
DBG	**Daneborg**	**109.55**	**349**	*i* P	**Pdif**	**23 02 04.5**	**+0.4**
DBG				*e*PP	**PP**	**23 06 38.4**	**+1.0**
DBG				IAMs_20	IAMs_20	23 52 51.4	
	comp=Z,27µm,25.1s						
T35M	**Bob Quinn**	**109.56**	**32**	Pdiff	**Pdif**	**23 02 05.2**	**+0.7**
	baz=285						
BCLA	**Clavier**	**109.83**	**321**	*d*PP	**PP**	**23 06 38.8**	**-1.5**
RCHB	**Rochefort**	**109.93**	**320**	*d*PP	**PP**	**23 06 44.0**	**+3.0**
U35K	**Hyder**	**109.96**	**33**	Pdiff	**Pdif**	**23 02 08.0**	**+1.8**
	baz=285						
BGES	**Gesves**	**109.97**	**321**	*d*PP	**PP**	**23 06 42.9**	**+1.6**
BMRD	**Maredsous**	**110.19**	**321**	*dx*	PP	23 06 31.0	-12
DOU	**Dourbes**	**110.34**	**320**	*d*PKiKP	**PKiKP**	**23 06 08.8**	**-0.2**
DOU				*d*PP	**PP**	**23 06 42.4**	**-1.6**
NEEM	**North Greenlan**	**110.61**	**357**	*e*PP	**PP**	**23 06 49.4**	**+4.0**
NEEM				IAMs_20	IAMs_20	23 58 53.8	
	comp=Z,13µm,17.8s						
WRGLY	**Wrigley**	**110.67**	**25**	Pdiff	**Pdif**	**23 02 09.7**	**+0.4**
	baz=294						
LIRD	**Liard River Hi**	**110.92**	**29**	Pdiff	**Pdif**	**23 02 10.5**	**0.0**
	baz=290						
SSB	**Saint Sauveur**	**111.28**	**315**	IAMs_20	IAMs_20	00 02 04.2	
	comp=Z,8µm,18.0s						
TOAD	**Toad River Com**	**111.53**	**29**	Pdiff	**Pdif**	**23 02 14.4**	**+1.1**
	baz=291						
**KOTA

UPNV **Upernavik** 115.45 358 *e*PP PP 23 07 18.7 -0.7
UPNV *e*PP **PP** **23 07 18.7 -0.7**
UPNV IAMs_20 IAMs_20 00 06 42.8
comp=Z,12µm,20.0s
TOA0 **Torodi Ar. Sit** 115.87 281 **PKPdf** **23 06 19.8 -0.8**
TORD **Torodi Ar. Bea** 115.87 281 PKP **PKPdf** **23 06 19.7 -0.9**
comp=Z,17nm,0.7s,baz=70,slow=2.8,SNR=66
TORD PP **PP** **23 07 27.8 +3.2**
comp=Z,6.1nm,0.9s,baz=88,slow=3.9,SNR=5.4
TORD SKP 23 09 54.8
comp=Z,7.7nm,1.1s,baz=46,slow=4.2,SNR=3.6
TORD PKKPbc **PKKPbc** **23 16 51.3 -0.5**
comp=Z,2.4nm,0.7s,baz=327,slow=2.3,SNR=7.9
DSB **Dublin** 115.95 326 IAMs_20 IAMs_20 00 01 40.6
comp=Z,11µm,20.0s
NLWA **Neilton Lookou** 116.01 41 **PKiKP** **23 06 19.8 -0.2**
BORG **Borgarnes** 116.39 341 *c i*PKIKP **PKPdf** **23 06 19.7 -0.4**
E03A **Lebam** 116.46 42 **PKPdf** **23 06 20.5 -0.3**
SOEG **Soedalen** 116.52 347 *e*PP PP 23 07 30.6 +3.5
SOEG IAMs_20 IAMs_20 00 04 41.3
comp=Z,15µm,18.3s
NUUG **Nuugaatsiaq** 116.53 356 *e*PP PP 23 07 31.0 +4.0
NUUG IAMs_20 IAMs_20 23 58 17.4
comp=Z,13µm,21.3s
GNW **Green Mountain** 116.63 41 IAMs_20 IAMs_20 23 52 56.3
comp=Z,7µm,20.0s
CART **Cartagena** 116.75 308 IAMs_20 IAMs_20 00 04 28.0
comp=Z,7µm,19.0s
F04D **Rainier, OR** 116.96 42 IAMs_20 IAMs_20 23 49 34.0
comp=Z,7µm,21.0s
G03D **McMinnville, O** 117.04 43 IAMs_20 IAMs_20 23 53 14.2
comp=Z,7µm,20.0s
J01E **Myrtle Point** 117.13 46 **PKiKP** **23 06 22.5 +0.3**
COR **Corvallis** 117.19 44 IAMs_20 IAMs_20 23 46 58.2
comp=Z,10µm,22.0s
UMMG **Uummannaq** 117.31 356 *e*PP PP 23 07 37.1 +4.7
UMMG IAMs_20 IAMs_20 00 05 06.2
comp=Z,14µm,18.2s
I03D **Drain, OR** 117.39 45 IAMs_20 IAMs_20 23 47 04.9
comp=Z,10µm,22.0s
BRLDA **Berland Lookou** 117.40 32 **PKPdf** **23 06 21.8 -0.8**
KMPM **Mount Pierce** 117.66 49 IAMs_20 IAMs_20 23 52 32.2
comp=Z,9µm,22.0s
KHMM **Horse Mountain** 117.84 48 **PKiKP** **23 06 24.4 +0.5**
H04A **Detroit Lake** 117.92 44 IAMs_20 IAMs_20 23 47 33.7
comp=Z,7µm,22.0s
HUMO **Hull Mountain** 117.96 46 **PKPdf** **23 06 24.0 +0.1**
HUMO IAMs_20 IAMs_20 23 50 43.0
comp=Z,9µm,22.0s
KMRM **Mail Ridge** 118.01 49 IAMs_20 IAMs_20 23 52 54.7
comp=Z,12µm,21.0s
I04A **Tendick Farm,** 118.02 45 IAMs_20 IAMs_20 23 47 34.4
comp=Z,8µm,22.0s
ESBB **Sonseca Array** 118.58 311 **PKPdf** **23 06 24.8 -0.5**
ESDC **Sonseca Array** 118.58 311 **PKPdf** **23 06 24.1 -1.1**
ESDC **Sonseca Array** 118.58 311 PKP **PKPdf** **23 06 24.7 -0.6**
comp=Z,12nm,1.1s,baz=24,slow=2.7,SNR=35
ESDC PKKPbc **PKKPbc** **23 16 42.6 -0.2**
comp=Z,8.3nm,1.2s,baz=267,slow=3.9,SNR=15
ESDC SKKPbc SKKPbc 23 20 29.1 -0.2
comp=Z,6.2nm,1.2s,baz=253,slow=4.1,SNR=6.0
ESDC PKPPKP **P'P'df** **23 25 24.7 +2.0**
comp=Z,1.2nm,1.1s,baz=151,slow=31,SNR=3.0
I05D **Terrebonne, OR** 118.60 44 IAMs_20 IAMs_20 23 51 14.7
comp=Z,7µm,21.0s
O02D **Mt. Diablo Mer** 118.70 49 **PKPdf** **23 06 25.2 -0.3**
HOPS **Hopland Field** 118.77 50 IAMs_20 IAMs_20 23 50 07.9
comp=Z,9µm,22.0s
K04D **Chiloquin, OR** 118.81 46 IAMs_20 IAMs_20 23 51 19.5
comp=Z,7µm,21.0s
PAB **San Pablo** 118.90 311 **PKPdf** **23 06 25.0 -0.9**
PAB **San Pablo** 118.90 311 IAMs_20 IAMs_20 00 04 42.6
comp=Z,8µm,21.0s
PAB **San Pablo** 118.90 311 PKIKP **PKPdf** **23 06 25.0 -0.9**
J05D **Fort Rock, OR** 118.99 45 IAMs_20 IAMs_20 23 48 18.0
comp=Z,8µm,20.0s
F07A **Phinny Hill Vi** 119.06 42 IAMs_20 IAMs_20 23 56 54.5
comp=Z,7µm,19.0s
HAWA **Hanford** 119.15 41 **PKPdf** **23 06 25.6 -0.4**
HATC **Hat Creek Radi** 119.52 48 **PKPdf** **23 06 26.9 -0.2**
MG05 **Puerto Natales** 119.73 174 **PKiKP** **23 06 27.9 +0.8**
NEW **Newport** 119.98 38 **PKPdf** **23 06 27.4 -0.3**
NEW **Newport** 119.98 38 Pdiff **Pdif** **23 02 52.1 +1.1**
baz=293
NEW **Newport** 119.98 38 PKIKP **PKPdf** **23 06 27.4 -0.3**
PBRG **Braganca** 120.05 314 *e*PKPdf **PKiKP** **23 06 28.3 +0.2**
ECAB **El Cabril** 120.06 309 PKP **PKPdf** **23 06 28.3 +0.2**
GO09 **Cerro Castillo** 120.15 174 **PKiKP** **23 06 28.4 +0.4**
LIJA **Lijar** 120.32 308 PKP **PKPdf** **23 06 28.6 -0.1**
AFDM **Forest Hills D** 120.37 50 IAMs_20 IAMs_20 23 53 04.2
comp=Z,7µm,21.0s
CEU **Ceuta** 120.52 307 PKP **PKPdf** **23 06 28.9 0.0**
ECEU **Ceuta** 120.53 307 PKP **PKPdf** **23 06 28.9 -0.1**
SAO **San Andreas Ge** 120.53 52 IAMs_20 IAMs_20 23 57 45.8
comp=Z,10µm,20.0s
ESPR **Espera** 120.69 308 PKP **PKPdf** **23 06 29.4 +0.2**
DY2G **Dye2** 120.75 352 *e*PP PP 23 08 02.4 +5.9
DY2G IAMs_20 IAMs_20 00 00 31.1
comp=Z,16µm,23.0s
SFJD **Kangerlussuaq** 120.77 354 *e*PP PP 23 08 00.5 +4.2
SFJD IAMs_20 IAMs_20 00 04 56.3
comp=Z,19µm,20.5s
IFR **Ifrane** 120.81 304 PKP **PKiKP** **23 06 30.6 +0.7**
BBGB **Big Mountain B** 120.89 52 IAMs_20 IAMs_20 23 58 06.4
comp=Z,11µm,19.0s
PVRL **Vila Real** 120.91 313 *e*PKPdf **PKiKP** **23 06 30.4 +0.6**
POLO **Lamas de Olo** 120.94 314 *e*PKPdf **PKiKP** **23 06 30.1 +0.2**
PCAB **Cabril** 121.00 314 *e*PKPdf **PKiKP** **23 06 30.4 +0.5**
EMB **Emerald Bay** 121.02 49 IAMs_20 IAMs_20 23 53 36.3
comp=Z,7µm,20.0s
MTE **Manteigas** 121.04 312 **PKPdf** **23 06 29.8 -0.2**
MTE IAMs_20 IAMs_20 00 05 33.1
comp=Z,11µm,22.0s
MTE **Manteigas** 121.04 312 *e*PKPdf **PKiKP** **23 06 30.3 +0.2**
MTE **Manteigas** 121.04 312 *e*PP **PP** **23 08 03.6 +4.1**
MTE **Manteigas** 121.04 312 *e*SS SS 23 24 46.1 +15
MTE **Manteigas** 121.04 312 *e*LR LR 23 58 04.6
comp=Z,8µm,22.0s
WVOR **Wild Horse Val** 121.07 45 **PKPdf** **23 06 29.9 -0.1**
WVOR IAMs_20 IAMs_20 23 49 36.1
comp=Z,9µm,22.0s
WVOR **Wild Horse Val** 121.07 45 PKIKP **PKPdf** **23 06 29.9 -0.1**
WVOR MLR MLR
comp=Z,9µm,22.0s
EMIN **Mina Concepcio** 121.10 309 PKP **PKPdf** **23 06 30.3 +0.2**
EBAD **Badajoz** 121.10 310 PKP **PKiKP** **23 06 30.4 +0.2**
BMO **Blue Mountains** 121.15 42 **PKPdf** **23 06 28.9 -1.2**
BMO **Blue Mountains** 121.15 42 PKIKP **PKPdf** **23 06 28.9 -1.2**
PCBR **Castelo Branco** 121.15 312 *e*PKPdf **PKiKP** **23 06 30.5 +0.3**
PCBR **Castelo Branco** 121.15 312 *e*PP PP 23 08 14.5 +14
PMPB **Monarch Peak** 121.17 53 IAMs_20 IAMs_20 23 58 03.6
comp=Z,9µm,20.0s
PMRV **Marv??o** 121.20 311 *e*PKPdf **PKPdf** **23 06 30.3 +0.1**
PMRV **Marv??o** 121.20 311 *e*PP **PP** **23 08 04.0 +3.4**
PMRV **Marv??o** 121.20 311 *e*LR LR 23 56 27.1
comp=Z,6µm,20.0s
PVIS **Viseu** 121.20 313 *e*PKPdf **PKiKP** **23 06 30.6 +0.2**
PVIS **Viseu** 121.20 313 *e*PP **PP** **23 08 03.3 +2.7**
PBAR **Barrancos** 121.27 310 *e*PKPdf **PKiKP** **23 06 30.8 +0.3**
PBAR **Barrancos** 121.27 310 *e*PP **PP** **23 08 02.9 +1.8**
PBAR **Barrancos** 121.27 310 PKP **PKiKP** **23 06 30.6 +0.1**
PESTR **Estremoz** 121.51 311 **PKPdf** **23 06 30.7 -0.1**
PESTR **Estremoz** 121.51 311 *e*PKPdf **PKPdf** **23 06 31.0 +0.2**
PESTR **Estremoz** 121.51 311 *e*PP **PP** **23 08 05.8 +3.1**
PESTR **Estremoz** 121.51 311 PKP **PKiKP** **23 06 31.1 +0.2**
WAKR **Walker** 121.64 50 IAMs_20 IAMs_20 23 53 33.9
comp=Z,9µm,21.0s
KIC **Kosan Boka** 121.69 272 *e*PKIKP **PKPdf** **23 06 31.3 -0.6**
comp=Z,106nm,1.1s
COI **Coimbra** 121.73 312 **PKPdf** **23 06 30.6 -0.6**
COI IAMs_20 IAMs_20 00 08 27.4
comp=Z,12µm,20.0s
COI **Coimbra** 121.73 312 PKIKP **PKPdf** **23 06 30.6 -0.6**
EGRO **El Granado** 121.78 309 PKP **PKiKP** **23 06 32.1 +0.6**
DBIC **Dimbokro** 121.84 273 **PKPdf** **23 06 31.0 -1.1**
DBIC **Dimbokro** 121.84 273 PKP **PKPdf** **23 06 31.7 -0.4**
comp=Z,69nm,1.1s,baz=94,slow=1.8,SNR=23
DBIC PKKPbc **PKKPab** **23 16 31.3 +0.4**
comp=Z,8.3nm,0.8s,baz=286,slow=2.4,SNR=6.4
PCAS **Casmilo, Conde** 121.84 312 *e*PKPdf **PKiKP** **23 06 31.7 +0.1**
PCAS **Casmilo, Conde** 121.84 312 *e*PP **PP** **23 08 08.0 +3.1**
EVO **Evora** 121.92 310 *e*PKPdf **PKiKP** **23 06 32.0 +0.2**
EVO **Evora** 121.92 310 *e*PP **PP** **23 08 08.3 +2.9**
EVO **Evora** 121.92 310 PKP **PKiKP** **23 06 32.4 +0.6**

PMTG **Montargil** 121.92 311 *e*PKPdf **PKPdf** **23 06 31.6 0.0**
PMTG **Montargil** 121.92 311 *e*PP **PP** **23 08 07.3 +1.8**
PBEJ **Beja** 121.94 310 *e*PKPdf **PKiKP** **23 06 32.2 +0.4**
LIC **Lamto** 121.96 272 *e*PKIKP **PKPdf** **23 06 31.7 -0.7**
comp=Z,148nm,1.1s
PVAQ **Vaqueiros** 121.99 309 IAMs_20 IAMs_20 00 08 03.8
comp=Z,6µm,20.0s
PVAQ **Vaqueiros** 121.99 309 *e*PKPdf **PKiKP** **23 06 32.3 +0.4**
PVAQ **Vaqueiros** 121.99 309 *e*PP **PP** **23 08 08.0 +2.0**
PVAQ **Vaqueiros** 121.99 309 *e*SS SS 23 24 32.7 -10
PVAQ **Vaqueiros** 121.99 309 *e*LR LR 23 59 57.9
comp=Z,8µm,20.0s
PVAQ **Vaqueiros** 121.99 309 PKP **PKiKP** **23 06 32.4 +0.5**
TIC **Toumodi** 122.00 273 *e*PKIKP **PKPdf** **23 06 31.9 -0.6**
comp=Z,116nm,1.1s
SMMC **Simmler** 122.01 54 PKiKP **PKiKP** **23 06 32.8 +0.7**
baz=284
PCVE **Castro Verde** 122.18 309 *e*PKPdf **PKiKP** **23 06 32.8 +0.5**
PCVE **Castro Verde** 122.18 309 *e*PP **PP** **23 08 09.5 +2.2**
PCVE **Castro Verde** 122.18 309 PKP **PKiKP** **23 06 33.0 +0.7**
PBDV **Barranco-do-Ve** 122.20 309 *e*PKPdf **PKiKP** **23 06 33.3 +0.9**
PBDV **Barranco-do-Ve** 122.20 309 PKP **PKiKP** **23 06 33.2 +0.8**
PSBE **So Bento** 122.22 312 *e*PKPdf **PKiKP** **23 06 32.7 +0.3**
PSBE **So Bento** 122.22 312 *e*PP **PP** **23 08 10.8 +3.3**
VOG **Valley Oaks Go** 122.25 52 PKiKP **PKPdf** **23 06 32.2 -0.1**
baz=285
PKM **Mcpherson Peak** 122.26 54 PKiKP **PKiKP** **23 06 33.1 +0.3**
baz=283
MESJ **Messejana** 122.26 310 IAMs_20 IAMs_20 00 10 06.8
comp=Z,8µm,19.0s
MESJ **Messejana** 122.26 310 *e*PKPdf **PKiKP** **23 06 32.8 +0.3**
MESJ **Messejana** 122.26 310 *e*PP **PP** **23 08 04.6 -3.2**
MESJ **Messejana** 122.26 310 *e*PKPdf **PKiKP** **23 06 32.6 +0.1**
MESJ IAMs_20 IAMs_20 00 12 25.8
comp=Z,11µm,23.5s
MESJ **Messejana** 122.26 310 *e*PKIKP **PKiKP** **23 06 32.6 +0.1**
MLAC **Mammoth, Mammo** 122.34 51 PKiKP **PKiKP** **23 06 33.5 +0.5**
baz=286
LHV **Little Huntoon** 122.42 50 IAMs_20 IAMs_20 23 53 57.2
comp=Z,9µm,22.0s
PNCL **Nicolau / Gran** 122.42 310 *e*PKPdf **PKiKP** **23 06 33.0 +0.3**
PNCL **Nicolau / Gran** 122.42 310 *e*PP **PP** **23 08 13.6 +4.7**
PNCL **Nicolau / Gran** 122.42 310 PKP **PKiKP** **23 06 33.1 +0.4**
SBC **Santa Barbara** 122.44 54 PKiKP **PKPdf** **23 06 31.9 -0.8**
baz=283
NVAR **Mina Array Bea** 122.52 50 **PKiKP** **23 06 33.6 +0.3**
NVAR **Mina Array Bea** 122.52 50 PKP **PKiKP** **23 06 34.0 +0.7**
comp=Z,9.7nm,0.7s,baz=246,slow=2.3,SNR=38
NVAR PKKPbc **PKKPab** **23 16 28.1 +0.7**
comp=Z,8.4nm,1.0s,baz=139,slow=4.2,SNR=20
NVAR SKKPbc SKKPbc 23 20 21.2 +4.5
comp=Z,6.4nm,1.0s,baz=115,slow=4.8,SNR=6.4
MSO **Missoula** 122.54 39 PKiKP **PKPdf** **23 06 32.1 -0.6**
baz=295
BCW **Bitter Crk WRg** 122.56 54 IAMs_20 IAMs_20 23 55 52.5
comp=Z,8µm,20.0s
SCZ2 **Santa Cruz Isl** 122.60 55 PKiKP **PKiKP** **23 06 33.5 +0.2**
baz=283
VES **Vestal, Richgr** 122.61 53 PKiKP **PKPdf** **23 06 33.0 0.0**
baz=284
NV11 **Mina Array Sit** 122.63 49 **PKPdf** **23 06 33.0 -0.2**
LIS **Lisbon** 122.72 311 *e*PKPdf **PKiKP** **23 06 33.5 +0.2**
LIS IAMs_20 IAMs_20 00 08 58.0
comp=Z,9µm,13.6s
LIS **Lisbon** 122.72 311 *e*PKIKP **PKiKP** **23 06 33.5 +0.2**
AVE **Averroes** 122.73 304 IAMs_20 IAMs_20 00 05 45.9
comp=Z,8µm,20.0s
AVE **Averroes** 122.73 304 PKP **PKiKP** **23 06 34.0 +0.5**
PTEO **Sao Teotonio** 122.73 309 *e*PKPdf **PKiKP** **23 06 34.0 +0.6**
MORF **Marmelete** 122.74 309 **PKPdf** **23 06 32.4 -0.9**
MORF IAMs_20 IAMs_20 00 08 43.4
comp=Z,8µm,20.0s
MORF **Marmelete** 122.74 309 *e*PKPdf **PKiKP** **23 06 34.1 +0.6**
MORF **Marmelete** 122.74 309 *e*PKPdf **PKiKP** **23 06 33.7 +0.2**
MORF IAMs_20 IAMs_20 00 05 13.6
comp=E,14µm,26.8s
MORF **Marmelete** 122.74 309 PKIKP **PKPdf** **23 06 32.4 -0.9**
PMAFR **Mafra** 122.75 311 PKP **PKiKP** **23 06 33.6 +0.2**
SNCC **San Nicolas Is** 122.86 56 IAMs_20 IAMs_20 23 53 31.5
comp=Z,9µm,20.0s
SNCC **San Nicolas Is** 122.86 56 PKiKP **PKiKP** **23 06 34.0 +0.2**
baz=283
GO08 **Villa O'Higgin** 122.89 173 **PKiKP** **23 06 34.1 +0.6**
PFVI **Vila Bisbo** 122.92 309 IAMs_20 IAMs_20 00 08 50.2
comp=Z,7µm,20.0s
PFVI **Vila Bisbo** 122.92 309 *e*PKPdf **PKiKP** **23 06 34.2 +0.4**
PFVI **Vila Bisbo** 122.92 309 PKP **PKiKP** **23 06 34.1 +0.4**
TIN **Tinemaha, Big** 122.96 51 PKiKP **PKiKP** **23 06 34.4 +0.4**
baz=286
ARVC **Arvin** 122.98 53 PKiKP **PKiKP** **23 06 34.3 +0.3**
baz=284
OVMT **Ovando** 123.02 38 **PKPdf** **23 06 33.0 -0.7**
TIO **Tiouine** 123.08 301 PKP **PKPdf** **23 06 34.5 +0.2**
ISA **Isabella, Lake** 123.13 53 IAMs_20 IAMs_20 00 00 59.5
comp=Z,7µm,21.0s
ISA **Isabella, Lake** 123.13 53 PKiKP **PKiKP** **23 06 34.5 +0.2**
baz=285
OSI **Osito Audit: C** 123.19 54 PKiKP **PKiKP** **23 06 34.8 +0.4**
baz=284
CWC **Cottonwood Cre** 123.24 52 PKiKP **PKiKP** **23 06 34.7 +0.1**
baz=286
VA02 **Isla de Pascua** 123.24 130 IAMs_20 IAMs_20 23 57 56.2
comp=Z,9µm,20.0s
RPN **Rapa Nui** 123.34 130 IAMs_20 IAMs_20 23 57 57.7
comp=Z,9µm,20.0s
HLID **Hailey** 123.56 43 **PKPdf** **23 06 34.9 +0.1**
HLID **Hailey** 123.56 43 PKiKP **PKiKP** **23 06 35.6 +0.5**
baz=293
DECC **Green Verdugo** 123.59 54 PKiKP **PKiKP** **23 06 35.4 +0.2**
baz=284
CCAC **Calif City Air** 123.62 53 IAMs_20 IAMs_20 23 57 57.5
comp=Z,9µm,20.0s
GRAC **Grapevine Rang** 123.64 51 IAMs_20 IAMs_20 23 54 12.6
comp=Z,8µm,22.0s
GRAC **Grapevine Rang** 123.64 51 PKiKP **PKiKP** **23 06 35.6 +0.3**
baz=286
EDW2 **Edwards Air Fo** 123.71 54 PKiKP **PKiKP** **23 06 36.1 +0.6**
baz=285
SCI2 **San Clemente I** 123.71 56 PKiKP **PKiKP** **23 06 35.7 +0.2**
baz=283
CIS **Catalina Islan** 123.73 55 PKiKP **PKPdf** **23 06 35.6 +0.3**
baz=283
PASC **Pasadena Art C** 123.73 54 IAMs_20 IAMs_20 23 52 35.5
comp=Z,8µm,21.0s
FMP **Fort Macarthur** 123.75 55 PKiKP **PKPdf** **23 06 35.4 +0.1**
baz=284
MPMC **Manual Prospec** 123.80 52 PKiKP **PKiKP** **23 06 36.1 +0.2**
baz=286
LRMC **Laurel Mtn Rad** 123.80 53 PKiKP **PKiKP** **23 06 36.3 +0.6**
baz=285
ELK **Elko** 124.03 46 **PKPdf** **23 06 35.6 -0.3**
ELK **Elko** 124.03 46 PKIKP **PKPdf** **23 06 35.6 -0.3**
ELK MLR MLR
comp=Z,6µm,21.0s
BFSC **Mount Baldy Ra** 124.14 54 PKiKP **PKPdf** **23 06 36.3 +0.2**
baz=284
FURC **Furnace Creek,** 124.17 51 PKiKP **PKiKP** **23 06 36.6 +0.4**
baz=286
WCT **Wildcat Mounta** 124.27 51 IAMs_20 IAMs_20 23 54 28.2
comp=Z,7µm,21.0s
ELS **Elsinore Mount** 124.47 55 IAMs_20 IAMs_20 00 02 19.1
comp=Z,10µm,19.0s
EGMT **Eagleton** 124.50 36 **PKPdf** **23 06 35.3 -1.1**
EGMT **Eagleton** 124.50 36 PKiKP **PKPdf** **23 06 36.5 +0.1**
baz=300
RRX **Edison Barstow** 124.50 53 PKiKP **PKiKP** **23 06 37.5 +0.4**
baz=285
TPNV **Topopah Spring** 124.51 51 PKiKP **PKiKP** **23 06 37.6 +0.4**
baz=287
BOZ **Bozeman (W)** 124.52 39 PKiKP **PKPdf** **23 06 36.9 +0.3**
baz=297
FFC **Flin Flon** 124.54 26 **PKPdf** **23 06 35.2 -0.9**
FFC **Flin Flon** 124.54 26 IAMs_20 IAMs_20 23 56 44.7
comp=Z,8µm,22.0s
FFC **Flin Flon** 124.54 26 PKIKP **PKPdf** **23 06 35.3 -0.9**
FFC MLR MLR
comp=Z,8µm,22.0s
GSC **Goldstone, Bar** 124.54 53 IAMs_20 IAMs_20 23 58 37.7
comp=Z,7µm,20.0s
GSC **Goldstone, Bar** 124.54 53 PKiKP **PKiKP** **23 06 37.7 +0.5**
baz=286
FCC **Fort Churchill** 124.55 19 **PKPdf** **23 06 35.0 -1.0**
FCC **Fort Churchill** 124.55 19 PKIKP **PKPdf** **23 06 35.0 -1.0**
R11B **Troy Canyon, C** 124.58 49 PKiKP **PKiKP** **23 06 37.6 +0.3**
baz=289
MURC **Murrieta** 124.67 55 PKiKP **PKiKP** **23 06 37.5 +0.1**

baz=284
BBRC **Big Bear Solar** 124.72 54 PKiKP **PKiKP** **23 06 37.8 0.0**
baz=285
SHOC **Shoshone, Teco** 124.79 52 PKiKP **PKiKP** **23 06 38.1 +0.5**
baz=287
Q12A **Willow Creek R** 124.91 48 IAMs_20 IAMs_20 23 58 38.0
comp=Z,6µm,20.0s
109C **Camp Elliot, M** 124.91 56 IAMs_20 IAMs_20 23 54 42.0
comp=Z,9µm,21.0s
109C **Camp Elliot, M** 124.91 56 PKiKP **PKiKP** **23 06 38.1 +0.3**
baz=284
HEC **Hector,Ludlow** 125.04 53 PKiKP **PKiKP** **23 06 38.6 +0.4**
baz=286
TJX **Tijuana** 125.05 56 IAMs_20 IAMs_20 23 53 38.5
comp=Z,8µm,21.0s
YHL **Hebgen Lake** 125.14 40 **PKiKP** **23 06 38.4 +0.1**
TUQ **Turquoise Moun** 125.20 52 PKiKP **PKiKP** **23 06 38.8 +0.2**
baz=287
PFO **Pinyon Flats O** 125.26 55 **PKPdf** **23 06 38.3 -0.1**
PFO **Pinyon Flats O** 125.26 55 PKiKP **PKiKP** **23 06 39.0 +0.3**
baz=285
PFO **Pinyon Flats O** 125.26 55 PKIKP **PKPdf** **23 06 38.3 -0.1**
PFO MLR MLR
comp=Z,11µm,18.0s
TPFO **Pinon Flats** 125.27 55 PKiKP **PKiKP** **23 06 39.2 +0.5**
baz=285
SPR3 **Spring Creek 3** 125.29 48 IAMs_20 IAMs_20 00 03 20.0
comp=Z,6µm,20.0s
TKX **Tecate** 125.40 56 IAMs_20 IAMs_20 23 54 43.8
comp=Z,7µm,21.0s
MONP2 **Monument Peak** 125.47 55 PKiKP **PKiKP** **23 06 39.7 +0.4**
baz=284
BGU **Big Grassy Mou** 125.53 45 IAMs_20 IAMs_20 23 50 38.9
comp=Z,8µm,22.0s
BELC **Belle Mtn. Jos** 125.53 54 PKiKP **PKiKP** **23 06 39.7 +0.4**
baz=286
GMRC **Granite Mounta** 125.59 53 PKiKP **PKiKP** **23 06 40.2 +0.9**
baz=286
NRS **Narsarsuaq** 125.59 349 **PKPdf** **23 06 36.5 -1.4**
NRS **Narsarsuaq** 125.59 349 PKIKP **PKPdf** **23 06 36.5 -1.4**
H17A **Grant Village** 125.73 40 PKiKP **PKiKP** **23 06 40.3 +0.8**
baz=297
IKP **In-Ko-Pah, Jac** 125.79 56 PKiKP **PKiKP** **23 06 40.0 +0.3**
baz=284
COYC **Coyhaique** 125.79 173 IAMs_20 IAMs_20 23 57 17.2
comp=Z,9µm,22.0s
PSUT **Pine Spring** 125.80 48 **PKPdf** **23 06 39.2 -0.1**
YMP **Mirror Lake Pl** 125.84 40 **PKPdf** **23 06 39.6 +0.2**
YMP IAMs_20 IAMs_20 00 04 33.4
comp=Z,8µm,21.0s
YUH **Yuha Desert** 125.94 56 IAMs_20 IAMs_20 23 55 11.1
comp=Z,11µm,22.0s
DUG **Dugway, Tooele** 125.96 46 PKiKP **PKiKP** **23 06 40.1 +0.2**
baz=292
SWSC **Sam W. Stewart** 125.96 55 PKiKP **PKiKP** **23 06 40.4 +0.5**
baz=285
BC3 **Big Chuckawall** 126.06 54 PKiKP **PKiKP** **23 06 40.7 +0.4**
baz=286
ESJX **Sierra Juarez** 126.08 56 IAMs_20 IAMs_20 00 03 23.8
comp=Z,7µm,19.0s
IRM **Iron Mountain** 126.17 54 PKiKP **PKiKP** **23 06 40.9 +0.5**
baz=286
RLMT **Red Lodge** 126.22 39 PKiKP **PKiKP** **23 06 40.5 +0.1**
baz=299
VTX **Valle De La Tr** 126.36 57 IAMs_20 IAMs_20 23 59 14.4
comp=Z,6µm,20.0s
NEE2 **Needles Airpor** 126.41 53 PKiKP **PKiKP** **23 06 40.9 +0.1**
baz=287
CCUT **Cedar City** 126.50 49 IAMs_20 IAMs_20 23 56 40.2
comp=Z,9µm,22.0s
CTU **Camp Tracy** 126.51 45 IAMs_20 IAMs_20 23 53 12.0
comp=Z,7µm,22.0s
TCUT **Toone Canyon** 126.58 44 IAMs_20 IAMs_20 00 00 28.7
comp=Z,7µm,20.0s
SZCU **Shurtz Canyon** 126.69 49 IAMs_20 IAMs_20 23 56 22.2
comp=Z,7µm,19.0s
GLA **Glamis** 126.72 55 IAMs_20 IAMs_20 00 01 33.8
comp=Z,8µm,20.0s
GLA **Glamis** 126.72 55 PKiKP **PKiKP** **23 06 41.8 +0.3**
baz=286
JLU **Jordanelle** 126.76 45 IAMs_20 IAMs_20 23 52 56.5
comp=Z,9µm,22.0s
TCRU **Three Creeks R** 126.81 48 IAMs_20 IAMs_20 23 59 20.1
comp=Z,6µm,21.0s
W13A **Hualapai Mount** 126.89 52 IAMs_20 IAMs_20 00 00 01.9
comp=Z,8µm,19.0s
PDMCI **Parker Dam,Lak** 126.92 53 PKiKP **PKiKP** **23 06 42.1 +0.3**
baz=287
BW06 **Boulder Array** 127.12 42 PKiKP **PKPdf** **23 06 41.4 -0.4**
baz=297
PDAR **Pinedale Array** 127.12 42 **PKPdf** **23 06 40.7 -1.1**
PDAR **Pinedale Array** 127.12 42 PKP **PKPdf** **23 06 41.4 -0.4**
comp=Z,11nm,1.1s,baz=236,slow=1.1,SNR=43
PDAR PKKPbc PKKPbc 23 16 07.7
comp=Z,2.0nm,0.9s,baz=112,slow=6.6,SNR=5.6
PDAR SKKPbc SKKPbc 23 19 57.1 -4.3
comp=Z,5.3nm,0.9s,baz=104,slow=6.3,SNR=6.4
SFX **San Felipe** 127.22 57 IAMs_20 IAMs_20 23 59 39.2
comp=Z,6µm,21.0s
LAO **LASA Array** 127.25 36 PKiKP **PKiKP** **23 06 42.3 +0.1**
baz=303
BSUT **Blindstream Ca** 127.26 45 IAMs_20 IAMs_20 23 53 35.8
comp=Z,7µm,22.0s
PKCU **Pink Cliffs** 127.32 49 IAMs_20 IAMs_20 23 56 43.9
comp=Z,8µm,22.0s
DGMT **Dagmar** 127.38 33 PKiKP **PKPdf** **23 06 41.8 0.0**
baz=306
113A **Mohawk Valley,** 127.66 55 IAMs_20 IAMs_20 23 56 16.6
comp=Z,8µm,21.0s
U15A **North Rim** 127.69 50 IAMs_20 IAMs_20 00 02 21.8
comp=Z,8µm,20.0s
Y14A **Wickenburg** 127.93 53 IAMs_20 IAMs_20 00 06 47.6
comp=Z,8µm,19.0s
P18A **Preston Nutter** 128.00 46 IAMs_20 IAMs_20 23 59 22.3
comp=Z,6µm,20.0s
SRU **San Rafael Swe** 128.00 46 IAMs_20 IAMs_20 00 12 55.6
comp=Z,6µm,20.0s
RDMU **Red Mountain** 128.07 44 IAMs_20 IAMs_20 23 54 04.2
comp=Z,8µm,21.0s
LL02 **Futaleuf** 128.16 172 **PKiKP** **23 06 44.3 +0.2**
214A **Organ Pipe Nat** 128.66 56 IAMs_20 IAMs_20 00 06 57.2
comp=Z,9µm,19.0s
214A **Organ Pipe Nat** 128.66 56 PKiKP **PKPdf** **23 06 45.2 +0.5**
baz=286
WUAZ **Wupatki** 128.70 51 **PKPdf** **23 06 45.4 +0.4**
WUAZ **Wupatki** 128.70 51 PKiKP **PKiKP** **23 06 45.5 -0.1**
baz=290
LL01 **San Ignacio de** 128.88 172 **PKPdf** **23 06 45.2 +0.3**
X16A **Lo Mia Camp, P** 129.01 52 IAMs_20 IAMs_20 00 05 43.1
comp=Z,8µm,19.0s
K22A **Casper** 129.15 40 PKPdf **PKPdf** **23 06 44.9 -0.6**
baz=300
RWWY **Rawlins** 129.17 42 IAMs_20 IAMs_20 00 02 40.8
comp=Z,7µm,21.0s
O20A **White River Ci** 129.18 44 IAMs_20 IAMs_20 23 57 00.4
comp=Z,7µm,22.0s
O20A **White River Ci** 129.18 44 PKPdf **PKPdf** **23 06 45.8 +0.1**
baz=296
RSSD **Black Hills** 129.94 38 **PKPdf** **23 06 46.1 -1.0**
RSSD **Black Hills** 129.94 38 PKPdf **PKPdf** **23 06 46.4 -0.7**
baz=303
RSSD **Black Hills** 129.94 38 PKIKP **PKPdf** **23 06 46.1 -1.0**
RSSD MLR MLR
comp=Z,5µm,22.0s
PMPST **Porto Santo, M** 129.99 306 *e*PKPdf **PKiKP** **23 06 48.2 +0.2**
PMPST **Porto Santo, M** 129.99 306 *e*PP **PP** **23 08 58.9 -0.4**
W18A **Petrified Fore** 130.09 51 IAMs_20 IAMs_20 00 02 19.5
comp=Z,8µm,20.0s
W18A **Petrified Fore** 130.09 51 PKPdf **PKiKP** **23 06 48.5 +0.1**
baz=291
LL03 **Petrohue** 130.10 171 **PKPdf** **23 06 47.5 +0.3**
X18A **Snowflake** 130.14 51 IAMs_20 IAMs_20 00 06 13.7
comp=Z,8µm,19.0s
MDND **Maddock** 130.19 31 PKPdf **PKPdf** **23 06 46.5 -0.7**
baz=310
TUC **Tucson** 130.20 54 IAMs_20 IAMs_20 00 08 01.9
comp=Z,7µm,19.0s
TUC **Tucson** 130.20 54 PKPdf **PKPdf** **23 06 48.2 +0.5**
baz=288
MVCO **Mesa Verde** 130.23 48 IAMs_20 IAMs_20 00 04 27.8
comp=Z,6µm,19.0s
MVCO **Mesa Verde** 130.23 48 PKPdf **PKiKP** **23 06 48.4 -0.3**
baz=294
LL04 **Puerto Octay** 130.32 171 **PKPdf** **23 06 47.9 +0.2**
ULM **Lac du Bonnet** 130.33 27 **PKPdf** **23 06 46.0 -1.3**
ULM **Lac du Bonnet** 130.33 27 PKP **PKPdf** **23 06 46.2 -1.1**
comp=Z,15nm,1.1s,baz=317,slow=3.0,SNR=22

ULM				SKPbc	**SKPab**	**23 10 06.7**	**-2.1**	
	comp=Z,7.8nm,0.9s,baz=310,slow=2.9,SNR=2.8							
N23A	**Red Feather La**	**130.38**	**42**	PKPdf	**PKPdf**	**23 06 48.1**	**0.0**	
	baz=299							
E28A	**Huff**	**130.42**	**33**	IAMs_20	IAMs_20	00 06 45.9		
	comp=Z,8μm,22.0s							
SMCO	**Snowmass**	**130.48**	**45**	IAMs_20	IAMs_20	23 55 32.9		
	comp=Z,6μm,20.0s							
PHWY	**Pilot Hill**	**130.50**	**41**		**PKPdf**	**23 06 47.9**	**-0.4**	
PHWY				IAMs_20	IAMs_20	00 00 57.2		
	comp=Z,6μm,22.0s							
PMAR	**Madeira**	**130.57**	**306**	*e*PKPdf	**PKiKP**	**23 06 49.5**	**+0.1**	
PMAR	**Madeira**	**130.57**	**306**	*e*PP	**PP**	**23 09 06.6**	**+3.3**	
PLCA	**Paso Flores**	**130.75**	**173**	PKPdf	**PKiKP**	**23 06 50.0**	**+0.5**	
PLCA	**Paso Flores**	**130.75**	**173**	PKP	**PKPdf**	**23 06 49.2**	**+0.6**	
	comp=Z,88nm,1.3s,baz=207,slow=2.1,SNR=28							
PLCA				PP	**PP**	**23 09 04.8**	**+2.0**	
	comp=Z,21nm,1.0s,baz=202,slow=6.5,SNR=3.7							
PLCA				SKPbc	**SKPab**	**23 10 12.3**	**+1.3**	
	comp=Z,29nm,1.1s,baz=187,slow=5.4,SNR=5.6							
PLCA				SKKPbc	**SKKPbc**	**23 19 47.7**	**+0.3**	
	comp=Z,3.8nm,1.1s,baz=329,slow=6.9,SNR=3.2							
PLCA	**Paso Flores**	**130.75**	**173**	*e*P	**PKiKP**	**23 06 49.5**	**+0.1**	
PMOZ	**Porto Moniz, M**	**130.76**	**306**	*e*SS	SS	23 26 41.2	+8.3	
PMOZ	**Porto Moniz, M**	**130.76**	**306**	*e*LR	LR	23 55 40.6		
	comp=Z,5μm,20.0s							
PMOZ	**Porto Moniz, M**	**130.76**	**306**	PKP	**PKiKP**	**23 06 50.0**	**+0.3**	
ISCO	**Idaho Springs**	**131.13**	**43**	IAMs_20	IAMs_20	23 55 43.9		
	comp=Z,8μm,22.0s							
ISCO	**Idaho Springs**	**131.13**	**43**	PKPdf	**PKPdf**	**23 06 49.7**	**+0.1**	
	baz=298							
S22A	**4UR Ranch, Cre**	**131.21**	**46**	IAMs_20	IAMs_20	00 02 54.5		
	comp=Z,7μm,19.0s							
S22A	**4UR Ranch, Cre**	**131.21**	**46**	PKPdf	**PKiKP**	**23 06 50.4**	**-0.3**	
	baz=296							
LR03	**Panguipulli**	**131.58**	**171**	PKPdf	**PKiKP**	**23 06 51.0**	**0.0**	
319A	**Douglas**	**131.71**	**55**	IAMs_20	IAMs_20	00 04 06.8		
	comp=Z,7μm,20.0s							
AGMN	**Agassiz Nation**	**131.73**	**29**	IAMs_20	IAMs_20	00 17 07.2		
	comp=Z,7μm,19.0s							
AGMN	**Agassiz Nation**	**131.73**	**29**	PKPdf	**PKPdf**	**23 06 49.0**	**-1.0**	
	baz=315							
GO06	**Curarrehue**	**131.76**	**172**		**PKPdf**	**23 06 51.3**	**+0.7**	
Q24A	**Divide**	**131.84**	**44**	IAMs_20	IAMs_20	00 01 53.8		
	comp=Z,8μm,21.0s							
Q24A	**Divide**	**131.84**	**44**	PKPdf	**PKPdf**	**23 06 50.7**	**-0.3**	
	baz=298							
SDCO	**Great Sand Dun**	**132.16**	**46**	IAMs_20	IAMs_20	00 00 25.4		
	comp=Z,10μm,22.0s							
SDCO	**Great Sand Dun**	**132.16**	**46**	PKPdf	**PKPdf**	**23 06 51.7**	**+0.2**	
	baz=297							
121A	**Cookes Peak, D**	**132.53**	**53**		**PKPdf**	**23 06 52.8**	**+0.6**	
121A				IAMs_20	IAMs_20	00 09 49.2		
	comp=Z,9μm,19.0s							
121A	**Cookes Peak, D**	**132.53**	**53**	PKPdf	**PKPdf**	**23 06 52.9**	**+0.6**	
	baz=291							
Y22D	**IRIS PASSCAL I**	**132.64**	**51**	IAMs_20	IAMs_20	00 05 25.8		
	comp=Z,7μm,20.0s							
Y22D	**IRIS PASSCAL I**	**132.64**	**51**	PKPdf	**PKPdf**	**23 06 52.9**	**+0.5**	
	baz=293							
ANMO	**Albuquerque**	**132.65**	**50**	PKPdf	**PKPdf**	**23 06 52.8**	**+0.3**	
	baz=294							
SUSD	**Miller**	**132.70**	**34**	IAMs_20	IAMs_20	00 08 42.5		
	comp=Z,7μm,21.0s							
SUSD	**Miller**	**132.70**	**34**	PKPdf	**PKPdf**	**23 06 51.1**	**-0.9**	
	baz=309							
OGNE	**Ogallala**	**132.90**	**40**	IAMs_20	IAMs_20	00 14 52.5		
	comp=Z,6μm,20.0s							
OGNE	**Ogallala**	**132.90**	**40**	PKPdf	**PKPdf**	**23 06 51.9**	**-0.7**	
	baz=303							
SLBS	**Sierra La Lagu**	**133.09**	**65**	IAMs_20	IAMs_20	00 02 42.6		
	comp=Z,10μm,20.0s							
T25A	**Trinidad**	**133.20**	**46**	IAMs_20	IAMs_20	00 00 32.2		
	comp=Z,7μm,22.0s							
T25A	**Trinidad**	**133.20**	**46**	PKPdf	**PKPdf**	**23 06 53.7**	**+0.3**	
	baz=298							
F33A	**5 Mile Ranch,**	**133.22**	**31**	IAMs_20	IAMs_20	00 18 19.8		
	comp=Z,6μm,20.0s							
K30B	**Basset**	**133.41**	**37**	IAMs_20	IAMs_20	00 17 11.4		
	comp=Z,8μm,22.0s							
KSCO	**Kaye Shedlock'**	**133.53**	**43**	IAMs_20	IAMs_20	00 10 15.4		
	comp=Z,6μm,21.0s							
KSCO	**Kaye Shedlock'**	**133.53**	**43**	PKPdf	**PKPdf**	**23 06 53.9**	**-0.1**	
	baz=301							
SCHQ	**Schefferville**	**133.56**	**3**		**PKPdf**	**23 06 52.8**	**-0.6**	
SCHQ	**Schefferville**	**133.56**	**3**	PKP	**PKPdf**	**23 06 51.8**	**-1.5**	
	comp=Z,12nm,0.8s,baz=352,slow=3.8,SNR=11							
SCHQ				PP	**PP**	**23 09 21.4**	**+0.7**	
	comp=Z,43nm,1.2s,baz=25,slow=7.1,SNR=6.7							
SCHQ				SKPbc	**SKPbc**	**23 10 19.1**	**-1.1**	
	comp=Z,12nm,0.9s,baz=308,slow=8.4,SNR=3.9							
SCHQ				SKKPbc	SKKPbc	23 19 28.2	-11	
	comp=Z,16nm,1.1s,baz=117,slow=6.2,SNR=5.1							
EPT	**El Paso**	**133.81**	**54**	IAMs_20	IAMs_20	00 04 00.2		
	comp=Z,8μm,21.0s							
TRQA	**Tornquist**	**133.82**	**182**	PKPdf	**PKPdf**	**23 06 55.1**	**+0.7**	
TRQA	**Tornquist**	**133.82**	**182**	PKIKP	**PKPdf**	**23 06 55.1**	**+0.7**	
TRQA				MLR	MLR			
	comp=Z,15μm,22.0s							
TRQA	**Tornquist**	**133.82**	**182**	*e*P	**PKiKP**	**23 06 55.9**	**+0.2**	
EYMN	**Ely**	**133.97**	**26**	IAMs_20	IAMs_20	00 13 37.2		
	comp=Z,8μm,20.0s							
EYMN	**Ely**	**133.97**	**26**	PKPdf	**PKPdf**	**23 06 53.9**	**-0.4**	
	baz=320							
MBO	**M'Bour**	**134.00**	**282**	IAMs_20	IAMs_20	00 08 55.0		
	comp=Z,9μm,20.0s							
ECSD	**EROS Data Cent**	**134.45**	**34**	PKPdf	**PKPdf**	**23 06 54.5**	**-0.8**	
	baz=311							
BART	**Pico Bartolome**	**134.64**	**316**	*e*PP	**PP**	**23 09 29.1**	**+0.2**	
MNTX	**Cornudas Mount**	**134.73**	**53**	PKPdf	**PKPdf**	**23 06 56.7**	**+0.5**	
	baz=292							
PCALD	**Caldeiras da R**	**134.85**	**316**	*e*PP	PP	23 09 38.5	+8.4	
CMLA	**Cha da Macela**	**134.89**	**316**	IAMs_20	IAMs_20	00 13 26.9		
	comp=Z,9μm,19.0s							
CMLA	**Cha da Macela**	**134.89**	**316**	*e*PP	**PP**	**23 09 38.0**	**+7.7**	
PSMN	**Pico do Norte,**	**134.95**	**315**	*e*PP	**PP**	**23 09 37.0**	**+6.2**	
E38A	**The Farm, Brul**	**134.97**	**27**	IAMs_20	IAMs_20	00 13 13.6		
	comp=Z,7μm,21.0s							
PSET	**Sete Cidades**	**134.99**	**317**	*e*PP	**PP**	**23 09 37.7**	**+6.7**	
PSMA	**Santa Maria**	**135.00**	**315**	*e*PP	PP	23 09 39.4	+8.3	
BGNE	**Belgrade**	**135.04**	**37**	IAMs_20	IAMs_20	00 06 49.6		
	comp=Z,6μm,22.0s							
BGNE	**Belgrade**	**135.04**	**37**	PKPdf	**PKPdf**	**23 06 55.7**	**-0.9**	
	baz=307							
SPMN	**Marine on St.**	**135.40**	**29**	IAMs_20	IAMs_20	00 01 07.3		
	comp=Z,7μm,22.0s							
SPMN	**Marine on St.**	**135.40**	**29**	PKPdf	**PKPdf**	**23 06 56.2**	**-0.8**	
	baz=317							
PSCM	**Serra do Cume**	**135.46**	**319**	*e*PP	PP	23 09 43.8	+10	
PAGU	**Agualva, Azore**	**135.47**	**319**	*e*PP	**PP**	**23 09 38.3**	**+4.4**	
CBKS	**Cedar Bluff**	**135.54**	**41**	IAMs_20	IAMs_20	00 14 48.6		
	comp=Z,7μm,21.0s							
CBKS	**Cedar Bluff**	**135.54**	**41**	PKPdf	**PKPdf**	**23 06 57.0**	**-0.6**	
	baz=304							
PSBA	**Serra de Santa**	**135.56**	**319**	*e*PP	**PP**	**23 09 40.4**	**+5.9**	
MSTX	**Muleshoe**	**135.82**	**49**	IAMs_20	IAMs_20	23 59 59.8		
	comp=Z,8μm,22.0s							
MSTX	**Muleshoe**	**135.82**	**49**	PKPdf	**PKPdf**	**23 06 57.7**	**-0.6**	
	baz=296							
PGRA	**Graciosa**	**135.84**	**319**	*e*PP	PP	23 09 49.5	+13	
SRBC	**Serra Branca**	**135.87**	**319**	*e*PP	**PP**	**23 09 37.4**	**+1.0**	
I37A	**Lemond, Waseca**	**135.97**	**31**	IAMs_20	IAMs_20	00 16 23.5		
	comp=Z,6μm,20.0s							
HPIG		**136.06**	**60**		**PKPdf**	**23 06 57.7**	**-1.4**	
HPIG				IAMs_20	IAMs_20	00 06 43.8		
	comp=Z,7μm,19.0s							
PMAN	**Manadas**	**136.13**	**319**	*e*PP	**PP**	**23 09 43.5**	**+5.5**	
GO05	**Huala**	**136.16**	**170**		**PKPdf**	**23 06 58.4**	**-0.5**	
ROSA	**Rosais**	**136.18**	**319**	*e*PP	**PP**	**23 09 37.2**	**-1.2**	
AMTX	**Amarillo**	**136.21**	**47**	IAMs_20	IAMs_20	00 11 53.9		
	comp=Z,9μm,20.0s							
AMTX	**Amarillo**	**136.21**	**47**	PKPdf	**PKPdf**	**23 06 59.0**	**0.0**	
	baz=298							
PID	**Ribeirinha**	**136.26**	**319**	*e*PP	**PP**	**23 09 40.8**	**+1.9**	
PPNO	**Prainha do Nor**	**136.34**	**319**	*e*PP	**PP**	**23 09 40.2**	**+0.8**	
COWI	**Conover**	**136.42**	**26**	IAMs_20	IAMs_20	00 10 39.0		
	comp=Z,7μm,20.0s							
PICO	**Pico**	**136.42**	**319**	*e*PP	**PP**	**23 09 39.5**	**-0.5**	
PCED	**Cedros**	**136.53**	**319**	*e*PP	**PP**	**23 09 39.5**	**-1.0**	
CALA	**Caldeira**	**136.56**	**319**	*e*PP	**PP**	**23 09 38.9**	**-1.9**	
N35A	**Tabor**	**136.86**	**36**		**PKPdf**	**23 06 59.2**	**-0.7**	
BO01	**Tunca**	**136.91**	**171**		**PKPdf**	**23 06 60.0**	**-0.2**	
TXAR	**Lajitas Array**	**136.96**	**56**	PKhKP	PKPpre	23 06 50.5		
	comp=Z,6.2nm,1.0s,baz=258,slow=3.1,SNR=26							
TXAR				PKP	**PKPdf**	**23 07 01.2**	**+0.7**	
	comp=Z,8.3nm,1.0s,baz=174,slow=2.4,SNR=9.6							
F42A	**Maple Grove Fa**	**137.12**	**25**	IAMs_20	IAMs_20	00 19 36.5		
	comp=Z,10μm,20.0s							
ELIS	**Ellis County**	**137.23**	**44**		**PKPdf**	**23 07 00.5**	**-0.3**	
U32A	**Winter Ranch,**	**137.35**	**44**	IAMs_20	IAMs_20	00 21 01.7		
	comp=Z,7μm,22.0s							
KSU1	**Kansas State U**	**137.37**	**39**		**PKPdf**	**23 07 00.2**	**-0.7**	
KSU1				IAMs_20	IAMs_20	00 03 16.6		
	comp=Z,8μm,22.0s							
KSU1	**Kansas State U**	**137.37**	**39**	PKPdf	**PKPdf**	**23 07 00.3**	**-0.6**	
	baz=307							
BO04	**La Punta**	**137.37**	**171**		**PKPdf**	**23 07 01.5**	**+0.3**	
H07N1	**FLORES T-PHASE**	**137.41**	**322**	*e*PP	**PP**	**23 09 53.3**	**+7.4**	
I40A	**Norwalk**	**137.44**	**29**	IAMs_20	IAMs_20	00 12 31.2		
	comp=Z,7μm,21.0s							
OK038	**West end E0370**	**137.48**	**43**	IAMs_20	IAMs_20	00 18 28.0		
	comp=Z,7μm,21.0s							
SCIA	**State Center**	**137.53**	**33**	IAMs_20	IAMs_20	00 17 39.1		
	comp=Z,8μm,21.0s							
SCIA	**State Center**	**137.53**	**33**	PKPdf	**PKPdf**	**23 07 00.7**	**-0.4**	
	baz=314							
H07S1	**FLORES T-PHASE**	**137.65**	**322**	*e*PP	**PP**	**23 09 49.0**	**+1.5**	
OK032	**Salt Plains WL**	**137.66**	**43**	IAMs_20	IAMs_20	00 11 25.7		
	comp=Z,8μm,21.0s							
MT13	**San Alfonso**	**137.66**	**172**		**PKPdf**	**23 07 02.0**	**+0.2**	
KAN14	**Manchester OK**	**137.74**	**42**		**PKPdf**	**23 07 00.6**	**-1.1**	
MT03	**Universidad Ad**	**137.88**	**171**		**PKPdf**	**23 07 01.7**	**-0.5**	
MT16	**CCHEN**	**137.94**	**171**		**PKPdf**	**23 07 02.5**	**+0.3**	
CROK	**Carrier**	**137.98**	**43**	IAMs_20	IAMs_20	00 11 23.1		
	comp=Z,5μm,20.0s							
E46A	**Sault Ste Mari**	**138.13**	**22**	IAMs_20	IAMs_20	00 21 52.8		
	comp=Z,9μm,20.0s							
VA01	**Torpederas**	**138.15**	**170**		**PKPdf**	**23 07 02.2**	**-0.3**	
I42A	**Draeger Farm,**	**138.24**	**28**	IAMs_20	IAMs_20	00 14 58.3		
	comp=Z,8μm,21.0s							
N38A	**Joes South For**	**138.28**	**34**	IAMs_20	IAMs_20	00 17 50.1		
	comp=Z,7μm,20.0s							
H43A	**Windswept, Lux**	**138.30**	**26**	IAMs_20	IAMs_20	00 15 16.8		
	comp=Z,7μm,20.0s							
JFWS	**Jewell Farm**	**138.34**	**30**	IAMs_20	IAMs_20	00 22 06.3		
	comp=Z,8μm,21.0s							
JFWS	**Jewell Farm**	**138.34**	**30**	PKPdf	**PKPdf**	**23 07 01.4**	**-1.2**	
	baz=318							
WMOK	**Wichita Mounta**	**138.36**	**46**	IAMs_20	IAMs_20	00 12 51.7		
	comp=Z,8μm,20.0s							
WMOK	**Wichita Mounta**	**138.36**	**46**	PKPdf	**PKPdf**	**23 07 02.4**	**-0.5**	
	baz=301							
L40A	**Anamosa**	**138.48**	**31**	IAMs_20	IAMs_20	00 20 46.0		
	comp=Z,8μm,19.0s							
VLDQ	**Val d'Or**	**138.65**	**14**		**PKPdf**	**23 07 01.6**	**-1.3**	
OK029	**Liberty Lake**	**138.72**	**43**	IAMs_20	IAMs_20	00 15 12.9		
	comp=Z,8μm,20.0s							
OK048	**Pawnee Station**	**138.72**	**42**	IAMs_20	IAMs_20	00 19 28.8		
	comp=Z,7μm,20.0s							
G45A	**Suttons Bay**	**138.73**	**24**	IAMs_20	IAMs_20	00 20 28.8		
	comp=Z,10μm,20.0s							
OK051	**E0350 and S346**	**138.74**	**42**	IAMs_20	IAMs_20	00 12 02.3		
	comp=Z,6μm,20.0s							
ABTX	**Abilene, Hawle**	**138.76**	**49**	IAMs_20	IAMs_20	00 11 35.8		
	comp=Z,8μm,20.0s							
ABTX	**Abilene, Hawle**	**138.76**	**49**	PKPdf	**PKPdf**	**23 07 03.5**	**-0.2**	
	baz=298							
P38A	**Dawn**	**138.89**	**36**	IAMs_20	IAMs_20	00 22 39.4		
	comp=Z,8μm,20.0s							
QUOK	**Quay**	**139.02**	**42**	IAMs_20	IAMs_20	00 19 39.6		
	comp=Z,7μm,21.0s							
OK031	**S. Brethren Rd**	**139.05**	**43**	IAMs_20	IAMs_20	00 13 12.6		
	comp=Z,8μm,20.0s							
OK052	**Battle Ridge R**	**139.05**	**43**	IAMs_20	IAMs_20	00 13 23.6		
	comp=Z,7μm,20.0s							
L42A	**Oliver, Polo**	**139.31**	**30**	IAMs_20	IAMs_20	00 18 21.8		
	comp=Z,7μm,21.0s							
I45A	**Fountain**	**139.31**	**25**	IAMs_20	IAMs_20	00 15 17.3		
	comp=Z,9μm,21.0s							
GLMI	**Grayling**	**139.32**	**23**	PKPdf	**PKPdf**	**23 07 04.2**	**-0.1**	
	baz=327							
DEOK	**Depew**	**139.34**	**43**	IAMs_20	IAMs_20	00 16 52.3		
	comp=Z,8μm,21.0s							
K43A	**Burlington**	**139.43**	**28**	IAMs_20	IAMs_20	00 11 04.7		
	comp=Z,8μm,22.0s							
TBOT	**Tacuaremb**	**139.55**	**190**	*e*P	**PKPdf**	**23 07 04.4**	**-0.7**	
JCT	**Junction City**	**139.60**	**52**	IAMs_20	IAMs_20	00 18 22.4		
	comp=Z,7μm,19.0s							
JCT	**Junction City**	**139.60**	**52**	PKPdf	**PKPdf**	**23 07 05.2**	**-0.1**	
	baz=296							
N41A	**Harden Midland**	**139.64**	**33**	IAMs_20	IAMs_20	00 22 30.9		
	comp=Z,7μm,20.0s							
FW03	**Perrin-Whitt E**	**139.73**	**47**	IAMs_20	IAMs_20	00 20 05.1		
	comp=Z,5μm,20.0s							
TUL3	**Leonard**	**139.78**	**42**	IAMs_20	IAMs_20	00 15 47.6		
	comp=Z,7μm,20.0s							
TUL3	**Leonard**	**139.78**	**42**	PKPdf	**PKPdf**	**23 07 04.9**	**-0.5**	
	baz=305							
P40A	**Paris**	**139.81**	**35**	IAMs_20	IAMs_20	00 19 37.5		
	comp=Z,6μm,22.0s							
ZAIG	**Zacatecas**	**139.91**	**64**	IAMs_20	IAMs_20	00 05 56.1		
	comp=Z,6μm,21.0s							
L44A	**Lake County Fo**	**140.03**	**29**	IAMs_20	IAMs_20	00 16 37.7		
	comp=Z,6μm,21.0s							
L44A	**Lake County Fo**	**140.03**	**29**	PKiKP	**PKPdf**	**23 07 05.1**	**-0.5**	
	baz=321							
FW07	**Weatherford**	**140.10**	**48**	IAMs_20	IAMs_20	00 05 31.0		
	comp=Z,10μm,22.0s							
FW06	**Azle**	**140.13**	**47**	IAMs_20	IAMs_20	00 15 06.8		
	comp=Z,9μm,21.0s							
Z35A	**Perchaven, San**	**140.17**	**47**	IAMs_20	IAMs_20	00 19 47.7		
	comp=Z,10μm,22.0s							
S39A	**Bolivar**	**140.27**	**38**	IAMs_20	IAMs_20	00 21 31.2		
	comp=Z,8μm,20.0s							
CPSB	**Cacapava Do Su**	**140.28**	**194**	*e*P	**PKPdf**	**23 07 05.8**	**-0.7**	
HQIL	**Hanson Quary C**	**140.35**	**29**	IAMs_20	IAMs_20	00 16 40.2		
	comp=Z,7μm,21.0s							
U38A	**Gravette**	**140.38**	**40**	IAMs_20	IAMs_20	00 13 01.5		
	comp=Z,10μm,22.0s							
SACV	**Santiago Islan**	**140.39**	**283**	IAMs_20	IAMs_20	00 08 07.2		
	comp=Z,6μm,20.0s							
R40A	**Maddies Statio**	**140.51**	**36**	IAMs_20	IAMs_20	00 22 21.4		
	comp=Z,8μm,22.0s							
J47A	**Sunmer**	**140.55**	**25**	IAMs_20	IAMs_20	00 21 09.2		
	comp=Z,8μm,18.0s							
HDIL	**Hopedale**	**140.57**	**31**	IAMs_20	IAMs_20	00 18 14.3		
	comp=Z,8μm,21.0s							
HDIL	**Hopedale**	**140.57**	**31**	PKPdf	**PKPdf**	**23 07 05.8**	**-0.9**	
	baz=318							
M44A	**Midewin, Midew**	**140.57**	**29**	IAMs_20	IAMs_20	00 11 16.2		
	comp=Z,5μm,21.0s							
CNLB	**Canela**	**140.62**	**198**	*e*P	**PKPdf**	**23 07 08.5**	**+1.3**	
WHTX	**Lake Whitney,**	**140.69**	**48**	IAMs_20	IAMs_20	00 20 27.8		
	comp=Z,8μm,21.0s							
WHTX	**Lake Whitney,**	**140.69**	**48**	PKPdf	**PKPdf**	**23 07 06.7**	**-0.5**	
	baz=300							
X37A	**Clayton**	**140.81**	**44**	PKPdf	**PKPdf**	**23 07 06.2**	**-1.1**	
X37A				IAMs_20	IAMs_20	00 16 01.2		
	comp=Z,7μm,20.0s							
833A	**Chaparral WMA,**	**140.81**	**55**	IAMs_20	IAMs_20	00 12 47.9		
	comp=Z,7μm,21.0s							
833A	**Chaparral WMA,**	**140.81**	**55**	PKPdf	**PKPdf**	**23 07 07.2**	**-0.3**	
	baz=294							
BATG	**Bathurst New B**	**141.14**	**3**	IAMs_20	IAMs_20	00 19 22.7		
	comp=Z,9μm,19.0s							
435B	**Jarrell**	**141.17**	**50**	IAMs_20	IAMs_20	00 21 31.8		
	comp=Z,9μm,20.0s							
435B	**Jarrell**	**141.17**	**50**	PKPdf	**PKPdf**	**23 07 07.6**	**-0.5**	
	baz=298							
MGMO	**Mountain Grove**	**141.26**	**38**	IAMs_20	IAMs_20	00 11 23.3		
	comp=Z,10μm,22.0s							
CCM	**Cathedral Cave**	**141.27**	**36**	IAMs_20	IAMs_20	00 24 12.3		
	comp=Z,6μm,20.0s							
CCM	**Cathedral Cave**	**141.27**	**36**	PKPdf	**PKPdf**	**23 07 07.2**	**-0.8**	
	baz=313							
SLM	**Saint Louis**	**141.44**	**34**	IAMs_20	IAMs_20	00 15 33.7		
	comp=Z,7μm,20.0s							
PQI	**Presque Isle**	**141.61**	**5**	IAMs_20	IAMs_20	00 21 19.2		
	comp=Z,8μm,18.0s							
ITQB	**Itaqui**	**141.63**	**190**		**PKPdf**	**23 07 08.3**	**-0.6**	
ITQB	**Itaqui**	**141.63**	**190**	*e*P	**PKPdf**	**23 07 07.5**	**-1.4**	
ALGR	**Alto Alegre (B**	**141.71**	**195**	*e*P	**PKPdf**	**23 07 08.3**	**-0.9**	
FVM	**French Village**	**141.79**	**35**	IAMs_20	IAMs_20	00 23 33.0		
	comp=Z,6μm,19.0s							
SFIN	**Lafayette**	**141.81**	**30**	IAMs_20	IAMs_20	00 18 50.8		
	comp=Z,8μm,20.0s							
SFIN	**Lafayette**	**141.81**	**30**	PKPdf	**PKPdf**	**23 07 08.2**	**-0.7**	
	baz=320							
AAM	**Ann Arbor**	**141.81**	**24**	PKPdf	**PKPdf**	**23 07 08.2**	**-0.7**	
	baz=327							
Z38A	**Mt. Pleasant**	**141.81**	**45**	IAMs_20	IAMs_20	00 14 52.0		
	comp=Z,9μm,21.0s							
735A	**Kenedy**	**141.86**	**53**	IAMs_20	IAMs_20	00 04 13.5		
	comp=Z,8μm,22.0s							
MOIG	**Morelia**	**141.86**	**69**	IAMs_20	IAMs_20	00 07 13.7		
	comp=Z,9μm,20.0s							
237A	**Washetta, Mont**	**141.90**	**47**	IAMs_20	IAMs_20	00 10 49.5		
	comp=Z,7μm,20.0s							
Q44A	**Meyer Farm, Va**	**141.92**	**33**	IAMs_20	IAMs_20	00 19 14.2		
	comp=Z,9μm,20.0s							
DELO	**Deloro Mine**	**141.94**	**16**	IAMs_20	IAMs_20	00 23 05.1		
	comp=Z,9μm,19.0s							
MNTQ	**Montreal, Queb**	**141.97**	**12**	IAMs_20	IAMs_20	00 19 02.7		
	comp=Z,10μm,22.0s							
MIAR	**Mount Ida**	**142.04**	**42**	IAMs_20	IAMs_20	00 21 16.7		
	comp=Z,9μm,22.0s							
MIAR	**Mount Ida**	**142.04**	**42**	PKPdf	**PKPdf**	**23 07 08.9**	**-0.6**	
	baz=306							
T42A	**Van Buren**	**142.04**	**37**	IAMs_20	IAMs_20	00 19 38.1		
	comp=Z,9μm,20.0s							
N47A	**Urbana**	**142.08**	**28**	IAMs_20	IAMs_20	00 20 22.9		
	comp=Z,8μm,21.0s							
WBO	**Williamsburg**	**142.09**	**14**	IAMs_20	IAMs_20	00 21 20.9		
	comp=Z,10μm,22.0s							
FCAR	**Ozark Folk Cen**	**142.16**	**39**	IAMs_20	IAMs_20	00 24 38.3		
	comp=Z,7μm,20.0s							
LCO	**Las Campanas**	**142.23**	**170**	PKPdf	**PKPdf**	**23 07 10.7**	**+0.3**	
LCO	**Las Campanas**	**142.23**	**170**	IAMs_20	IAMs_20	00 09 39.5		
	comp=Z,9μm,21.0s							
LCO	**Las Campanas**	**142.23**	**170**	PKIKP	**PKPdf**	**23 07 10.7**	**+0.3**	
LCO				MLR	MLR			
	comp=Z,9μm,21.0s							
P46A	**Rosedale**	**142.33**	**30**	IAMs_20	IAMs_20	00 21 45.9		
	comp=Z,8μm,20.0s							
F64A	**Sherman**	**142.38**	**6**	IAMs_20	IAMs_20	00 17 09.6		
	comp=Z,7μm,22.0s							
WHAR	**Wooly Hollow**	**142.43**	**40**	IAMs_20	IAMs_20	00 17 34.7		
	comp=Z,8μm,20.0s							
F63A	**Nahmakanta, Br**	**142.47**	**6**	IAMs_20	IAMs_20	00 19 57.8		
	comp=Z,7μm,22.0s							
OLIL	**Olney**	**142.53**	**32**	IAMs_20	IAMs_20	00 18 40.4		
	comp=Z,7μm,21.0s							
X40A	**Basin Creek Fa**	**142.57**	**42**	IAMs_20	IAMs_20	00 17 44.5		
	comp=Z,6μm,21.0s							
LONY	**Lake Ozonia**	**142.60**	**13**	IAMs_20	IAMs_20	00 18 27.6		
	comp=Z,9μm,22.0s							
LONY	**Lake Ozonia**	**142.60**	**13**	PKPdf	**PKPdf**	**23 07 09.9**	**-0.4**	
	baz=342							
PBMO

TLIG	Tlapa	144.71	71			PKPab	23 07 13.7	+0.1
TLIG				IAMs_20		IAMs_20	00 09 30.4	
	comp=Z,6μm,22.0s							
OXF	Oxford	144.74	39	IAMs_20		IAMs_20	00 18 02.6	
	comp=Z,9μm,20.0s							
OXF	Oxford	144.74	39	PKPdf		PKPab	23 07 12.6	-0.5
	baz=312							
VAO	Valinhos	144.88	207	eP		PKPdf	23 07 15.4	+0.5
CPUP	Villa Florida	145.01	190	PKPbc		PKPdf	23 07 15.2	+0.1
	comp=Z,2μm,1.0s,baz=170,slow=3.0,SNR=846							
CPUP				PKKP		PKKPdf	23 16 24.2	+3.0
	comp=Z,8.0nm,0.9s,baz=260,slow=2.3,SNR=5.0							
CPUP	Villa Florida	145.01	190	eP		PKPdf	23 07 15.6	+0.6
L61B	Northampton	145.08	12	PKPdf		PKPbc	23 07 13.4	-0.6
	baz=344							
Q52A	Bidwell	145.17	26	IAMs_20		IAMs_20	00 24 42.6	
	comp=Z,7μm,21.0s							
KSPA	Keystone Colle	145.19	16	IAMs_20		IAMs_20	00 18 01.2	
	comp=Z,8μm,20.0s							
PLAL	Pickwick Lake	145.23	37	IAMs_20		IAMs_20	00 23 47.3	
	comp=Z,9μm,21.0s							
SJMB	Sao Joao De Ma	145.24	219	eP		PKPbc	23 07 15.3	+0.1
HRV	Adam Dziewonsk	145.24	10			PKPbc	23 07 14.0	-0.5
HRV	Adam Dziewonsk	145.24	10	PKPdf		PKPbc	23 07 14.2	-0.3
	baz=346							
HRV	Adam Dziewonsk	145.24	10	PKIKP		PKPbc	23 07 14.0	-0.5
PTGB	Pitanga	145.29	199	eP		PKPdf	23 07 15.9	+0.2
SSPA	Standing Stone	145.39	19			PKPbc	23 07 14.0	-1.1
SSPA	Standing Stone	145.39	19	PKPdf		PKPbc	23 07 14.6	-0.5
	baz=334							
U49A	Red Boiling Sp	145.41	32	IAMs_20		IAMs_20	00 19 58.8	
	comp=Z,10μm,22.0s							
V48A	Smith Brothers	145.41	35	IAMs_20		IAMs_20	00 19 44.0	
	comp=Z,7μm,21.0s							
CLTN	Cedars of Leba	145.43	34	IAMs_20		IAMs_20	00 19 58.3	
	comp=Z,9μm,21.0s							
VBMS	Vicksburg	145.48	43	IAMs_20		IAMs_20	00 19 13.8	
	comp=Z,7μm,19.0s							
VBMS	Vicksburg	145.48	43	PKPdf		PKPbc	23 07 15.6	0.0
	baz=308							
BSCB	Bom Sucesso	145.50	212	eP		PKPab	23 07 16.6	+0.2
MCWV	Mont Chateau	145.56	23	PKPdf		PKPdf	23 07 15.3	-0.2
	baz=331							
N58A	Sunbury	145.58	18	IAMs_20		IAMs_20	00 18 59.6	
	comp=Z,9μm,20.0s							
FRTB	Fartura	145.67	203	eP		PKPdf	23 07 15.4	-0.8
GUA01	Guaratinga, BA	145.87	223	eP		PKPab	23 07 18.1	+0.4
ODNJ	Ogdensburg	145.94	15	IAMs_20		IAMs_20	00 27 19.1	
	comp=Z,8μm,20.0s							
146A	Union	146.18	41	IAMs_20		IAMs_20	00 12 53.2	
	comp=Z,8μm,22.0s							
PAL	Palisades	146.19	14	IAMs_20		IAMs_20	00 17 04.6	
	comp=Z,9μm,21.0s							
PAL	Palisades	146.19	14	PKPdf		PKPdf	23 07 16.5	0.0
	baz=341							
LDASE	Londrina, Braz	146.20	201	eP		PKPbc	23 07 17.9	-0.2
X48A	Hartselle	146.20	36	IAMs_20		IAMs_20	00 25 04.2	
	comp=Z,9μm,22.0s							
SWET	Sewanee	146.29	34	IAMs_20		IAMs_20	00 20 35.2	
	comp=Z,8μm,21.0s							
M65A	Busby, Falmout	146.32	10	PKPdf		PKPdf	23 07 16.6	-0.1
	baz=347							
Q56A	Snyder Ridge,	146.35	22	IAMs_20		IAMs_20	00 26 50.5	
	comp=Z,8μm,18.0s							
P57A	Homestead Farm	146.38	20	IAMs_20		IAMs_20	00 26 05.2	
	comp=Z,8μm,20.0s							
Z47A	Carrollton	146.44	39	IAMs_20		IAMs_20	00 15 23.9	
	comp=Z,8μm,22.0s							
TZTN	Tazewell	146.53	30	PKPdf		PKPdf	23 07 17.4	+0.1
	baz=322							
PB14	IPOC Station P	146.56	169			PKPbc	23 07 19.7	+0.1
346A	Big Creek Wild	146.70	43	IAMs_20		IAMs_20	00 17 33.2	
	comp=Z,6μm,20.0s							
WUPA	West Chester U	146.74	17	IAMs_20		IAMs_20	00 18 05.4	
	comp=Z,5μm,20.0s							
SDMD	Soldier's Deli	146.84	19	IAMs_20		IAMs_20	00 22 32.2	
	comp=Z,6μm,21.0s							
CPCT	Cooper Cave	146.88	32	IAMs_20		IAMs_20	00 26 25.6	
	comp=Z,9μm,21.0s							
Y49A	Blount Mountai	146.99	36	IAMs_20		IAMs_20	00 27 49.1	
	comp=Z,8μm,22.0s							
DIAM	Diamantina, MG	147.06	216	eP		PKPdf	23 07 17.6	-1.2
V52A	Sevierville	147.06	31	IAMs_20		IAMs_20	00 27 11.2	
	comp=Z,7μm,20.0s							
LRAL	Lakeview Retre	147.22	38			PKPdf	23 07 17.8	-0.7
LRAL	Lakeview Retre	147.22	38	PKPdf		PKPdf	23 07 18.4	-0.1
	baz=314							
TRCB	Terra Rica	147.27	199	eP		PKPdf	23 07 19.2	+0.2
PAPY	Pozo Azul	147.36	189	eP		PKPdf	23 07 18.1	-0.9
BLA	Blacksburg	147.43	26	PKPdf		PKPdf	23 07 18.4	-0.4
	baz=328							
NBAN	Anadia - AL	147.49	237	eP		PKPdf	23 07 20.0	+0.5
S57A	Dark Hollow, R	147.56	23	IAMs_20		IAMs_20	00 28 06.5	
	comp=Z,9μm,22.0s							
CBN	Corbin Frederi	147.75	21	PKPdf		PKPdf	23 07 19.4	+0.1
	baz=334							
PCMB	Pacaembu	147.89	202	eP		PKPdf	23 07 21.7	+1.7
NBLA	Lagarto - SE	147.98	234	eP		PKPdf	23 07 18.8	-1.5
NBCA	Caruaru-PE	148.01	240	eP		PKPdf	23 07 20.3	-0.2
PB15	IPOC Station P	148.11	170	PKPbc		PKPbc	23 07 22.9	-0.9
R61A	Willards	148.30	18	IAMs_20		IAMs_20	00 19 59.7	
	comp=Z,6μm,20.0s							
PB05	IPOC Station P	148.32	168			PKPdf	23 07 22.3	+1.5
250A	Grady	148.39	39	IAMs_20		IAMs_20	00 25 38.3	
	comp=Z,9μm,21.0s							
PMNB	Patos De Minas	148.41	212	eP		PKPdf	23 07 19.8	-1.3
BRAL	Brewton	148.43	41	PKPdf		PKPdf	23 07 21.2	+0.7
	baz=311							
AF01	San Pedro de A	148.57	172			PKPbc	23 07 23.8	-1.3
KMSC	Kings Mountain	148.73	29	PKPdf		PKPdf	23 07 20.9	-0.1
	baz=324							
T59A	Double "B" Far	148.78	22	IAMs_20		IAMs_20	00 24 14.8	
	comp=Z,9μm,20.0s							
LVC	Limon Verde	148.80	170			PKPdf	23 07 23.5	+1.6
LVC	Limon Verde	148.80	170	IAMs_20		IAMs_20	00 11 53.3	
	comp=Z,7μm,22.0s							
LVC	Limon Verde	148.80	170	PKPbc		PKPbc	23 07 24.1	-1.6
	comp=Z,506nm,1.0s,baz=227,slow=1.6,SNR=37							
LVC	Limon Verde	148.80	170	PKIKP		PKPdf	23 07 23.5	+1.6
LVC				MLR		MLR		
	comp=Z,8μm,22.0s							
LVC	Limon Verde	148.80	170	eP		PKPdf	23 07 20.5	-1.4
GOGA	Godfrey	148.99	34	IAMs_20		IAMs_20	00 21 42.7	
	comp=Z,9μm,21.0s							
GOGA	Godfrey	148.99	34	PKPdf		PKPdf	23 07 21.4	0.0
	baz=319							
RCBR	Riachuelo	149.05	244			PKPdf	23 07 23.9	+1.7
RCBR	Riachuelo	149.05	244	IAMs_20		IAMs_20	00 09 53.9	
	comp=Z,7μm,19.0s							
RCBR	Riachuelo	149.05	244	PKIKP		PKPdf	23 07 23.9	+1.7
RCBR	Riachuelo	149.05	244	eP		PKPdf	23 07 20.9	-1.2
ITRB	Iturama	149.26	205	eP		PKPdf	23 07 21.2	-1.0
MURT	Porto Murtinho	149.63	191	eP		PKPdf	23 07 23.2	+0.4
IPMB	Ipameri, GO	149.78	210	eP		PKPdf	23 07 23.9	+0.7
154A	Montrose	149.79	34	IAMs_20		IAMs_20	00 25 55.9	
	comp=Z,9μm,21.0s							
JANB	Januaria	149.94	219	eP		PKPdf	23 07 24.4	+0.9
CNNC	Cliffs of the	150.17	24	IAMs_20		IAMs_20	00 25 05.8	
	comp=Z,8μm,20.0s							
CNNC	Cliffs of the	150.17	24	PKPdf		PKPdf	23 07 23.2	-0.1
	baz=331							
AQDB	Aquidauana	150.35	195	eP		PKPdf	23 07 24.9	+0.9
TIGA	Tifton	150.38	36	IAMs_20		IAMs_20	00 29 06.8	
	comp=Z,9μm,21.0s							
TIGA	Tifton	150.38	36	PKPdf		PKPdf	23 07 23.9	+0.2
	baz=317							
NHSC	New Hope	150.94	30	PKPdf		PKPdf	23 07 24.7	+0.2
	baz=324							
CCIG	Comitan	151.00	71	IAMs_20		IAMs_20	00 13 24.9	
	comp=Z,8μm,21.0s							
Y60A	Bolivia	151.10	26	IAMs_20		IAMs_20	00 25 54.5	
	comp=Z,9μm,21.0s							
PB11	IPOC Station P	151.44	168	IAMs_20		IAMs_20	00 13 56.4	
	comp=Z,8μm,21.0s							
BDFB	Brasilia	151.64	213	PKP		PKPdf	23 07 26.9	+0.7
	comp=Z,53nm,1.0s,baz=54,slow=1.3,SNR=47							
BDFB				PKPbc		pPKPdf	23 07 34.1	-1.4
	comp=Z,382nm,1.1s,baz=114,slow=1.2,SNR=56							
456A	Hilliard	151.82	35	IAMs_20		IAMs_20	00 30 22.6	
	comp=Z,8μm,21.0s							
PAYG	Puerto Ayora	151.88	107			PKPdf	23 07 25.8	-0.7
PAYG	Puerto Ayora	151.88	107	IAMs_20		IAMs_20	00 14 20.7	
	comp=Z,5μm,19.0s							
SDBA	SAO DESIDERIO	152.29	222	eP		PKPdf	23 07 25.6	-1.5
NBPB	Pedra_Branca-C	152.41	241	eP		PKPdf	23 07 28.5	+1.1
AP01	Chacalluta	152.62	166	IAMs_20		IAMs_20	00 13 08.9	
	comp=Z,7μm,21.0s							
PETF	Flores	152.96	69	PKPdf		PKPdf	23 07 27.4	-0.5
TEIG	Tepich	153.32	61			PKPdf	23 07 27.4	-1.0
TEIG				IAMs_20		IAMs_20	00 26 44.2	
	comp=Z,6μm,22.0s							
ARAG	Araguaiana, MT	153.44	206	eP		PKPdf	23 07 29.3	+0.6
MTO3	Montecristo	153.99	74	IAMs_20		IAMs_20	00 13 52.7	
	comp=Z,7μm,21.0s							
DWPF	Disney Wildern	154.08	38	PKPdf		PKPdf	23 07 29.3	0.0
	baz=316							
SNET	Serv Nac Est T	154.24	76	IAMs_20		IAMs_20	00 13 05.3	
	comp=Z,8μm,21.0s							
BBSD	Serra de San D	154.47	187	eP		PKPdf	23 07 31.1	+0.9
SALV	Santo Antonio	154.69	198	eP		PKPdf	23 07 31.1	+0.6
LPAZ	La Paz	155.11	169	PKP		PKPdf	23 07 33.1	+1.3
	comp=Z,37nm,1.1s,baz=164,slow=4.0,SNR=94							
LPAZ				PKPab		PKPab	23 07 58.5	+2.4
	comp=Z,203nm,1.0s,baz=160,slow=1.8,SNR=24							
LPAZ	La Paz	155.11	169	eP		PKPdf	23 07 29.8	-2.1
SIV	San Ignacio	155.70	186	PKP		PKPdf	23 07 32.6	+0.8
	comp=Z,34nm,1.0s,baz=173,slow=1.9,SNR=83							
SIV				PKPab		PKPab	23 08 00.4	+2.5
	comp=Z,206nm,1.0s,baz=171,slow=3.8,SNR=25							
SIV				PP		PP	23 11 33.0	0.0
	comp=Z,39nm,1.0s,baz=193,slow=4.3,SNR=5.6							
NNA	Nana	155.86	147	PKP		PKPdf	23 07 32.9	+0.7
	comp=Z,52nm,1.2s,baz=282,slow=0.9,SNR=10							
NNA				PKPab		PKPab	23 08 00.4	+1.7
	comp=Z,121nm,1.1s,baz=201,slow=9.5,SNR=6.3							
PTLB	Pontes e Lacer	155.97	190	eP		PKPdf	23 07 32.1	-0.1
TGUH	Tegucigalpa,Un	156.05	74	IAMs_20		IAMs_20	00 27 32.0	
	comp=Z,5μm,20.0s							
BBSR	BB Station	156.06	2	IAMs_20		IAMs_20	00 28 19.7	
	comp=Z,7μm,22.0s							
SNDB	Serra Nova Dou	156.43	211	eP		PKPdf	23 07 33.0	+0.2
SMTB	Santa Maria do	156.66	223	eP		PKPdf	23 07 34.3	+1.1
CNGN	Cerro Negro	156.86	78	IAMs_20		IAMs_20	00 34 56.8	
	comp=Z,8μm,22.0s							
CAMR	Camarioca	157.48	47	IAMs_20		IAMs_20	00 35 14.4	
	comp=Z,14μm,20.0s							
ROSB	Rosrio	157.65	241	eP		PKPdf	23 07 33.2	-1.2
BOAB	BOACO BROADBAN	157.86	77			PKPdf	23 07 33.2	-1.4
BOAB	BOACO BROADBAN	157.86	77	PKP		PKPdf	23 07 34.7	+0.1
ACON	Acoyapa	158.40	79			PKPdf	23 07 33.7	-1.6
ACON				IAMs_20		IAMs_20	00 35 48.9	
	comp=Z,6μm,22.0s							
VILB	Vilhena	158.59	189	eP		PKPdf	23 07 36.2	+0.6
ATAH	Atahualpa	158.66	136	PKP		PKPdf	23 07 37.5	+1.4
	comp=Z,63nm,1.0s,baz=259,slow=0.8,SNR=47							
ATAH				PKPab		PKPab	23 08 12.7	+1.3
	comp=Z,46nm,0.9s,baz=204,slow=2.1,SNR=6.6							
JTS	Las Juntas de	158.78	83			PKPdf	23 07 34.4	-1.4
JTS	Las Juntas de	158.78	83	IAMs_20		IAMs_20	00 15 37.3	
	comp=Z,7μm,20.0s							
JTS	Las Juntas de	158.78	83	PP		PP	23 11 51.8	-0.6
	comp=Z,5.8nm,0.6s,baz=340,slow=3.4,SNR=5.3							
JTS	Las Juntas de	158.78	83	PKIKP		PKPdf	23 07 34.4	-1.4
PDRB	Porto dos Gac	159.05	199	eP		PKPdf	23 07 36.2	+0.1
ESPN	Las Esperanzas	159.22	78	IAMs_20		IAMs_20	00 35 37.4	
	comp=Z,5μm,20.0s							
CLDB	Colider	159.42	202	eP		PKPdf	23 07 36.8	+0.2
HDC	Heredia	159.62	84	IAMs_20		IAMs_20	00 17 28.7	
	comp=Z,6μm,20.0s							
HDC	Heredia	159.62	84	eP		PKPdf	23 07 37.6	+0.7
LCR2	La Lucha 2	159.74	84	IAMs_20		IAMs_20	00 36 50.8	
	comp=Z,7μm,22.0s							
PRPB	Parauapebas	160.12	224	eP		PKPdf	23 07 37.7	+0.3
TMAB	Tom-Au,PA,Br	161.28	236	eP		PKPdf	23 07 38.3	-0.3
CZSB	Cruzeiro do Su	161.61	150			PKPdf	23 07 38.8	-0.2
CZSB				PKPab		PKPab	23 08 25.4	+1.8
CZSB	Cruzeiro do Su	161.61	150	eP		PKPdf	23 07 39.3	+0.3
ETMB	Extrema	161.77	172			PKPdf	23 07 38.4	-0.7
ETMB	Extrema	161.77	172	eP		PKPdf	23 07 39.8	+0.7
NPGB	Novo Progresso	162.68	208	eP		PKPdf	23 07 40.2	+0.2
SAML	Samuel	162.82	181			PKPdf	23 07 39.0	-1.2
SAML	Samuel	162.82	181	PKIKP		PKPdf	23 07 39.0	-1.2
SAML	Samuel	162.82	181	eP		PKPdf	23 07 40.9	+0.8
OTAV	Otavalo	163.10	118	eP		PKPdf	23 07 42.4	+1.4
MTDJ	Mount Denham	163.22	53			PKPdf	23 07 39.7	-0.8
IMBA	Imbabura, San	163.34	118			PKPdf	23 07 42.0	+0.7
NMDO	Nuevo Mundo	163.57	41			PKPdf	23 07 39.6	-1.1
BCIP	Isla Barro Col	163.87	86			PKPdf	23 07 40.1	-1.1
BCIP	Isla Barro Col	163.87	86	PKIKP		PKPdf	23 07 40.1	-1.1
ITTB	Itaituba	165.17	212	eP		PKPdf	23 07 42.2	-0.2
MCPB	Macapa, AP	165.66	233	eP		PKPdf	23 07 42.0	-0.7
TBTG	Tabatinga, AM	166.03	153	PKPdf		PKPdf	23 07 42.3	-0.8
TBTG						PKPab	23 08 43.1	+0.2
TBTG	Tabatinga, AM	166.03	153	eP		PKPdf	23 07 43.3	+0.2
SDDR	Presa de Saban	167.02	35			PKPdf	23 07 42.1	-1.6
TEFE	Tefe	168.18	175	eP		PKPdf	23 07 44.7	0.0
MACA	Manacapuru-AM	168.23	194	PKPdf		PKPdf	23 07 44.2	-0.5
MACA				PKPab		PKPab	23 08 53.8	+1.2
MACA	Manacapuru-AM	168.23	194	eP		PKPdf	23 07 44.4	-0.3
MDP	Montagnes des	168.71	254	PP		PP	23 12 43.2	-1.4
	comp=Z,15nm,1.1s,baz=95,slow=4.4,SNR=4.7							
ROSC	El Rosal	168.74	107	PKP		PKPdf	23 07 45.6	+0.2
	comp=Z,11nm,0.4s,baz=325,slow=2.3,SNR=45							
ROSC				PP		PP	23 12 46.0	+0.7
	comp=Z,17nm,0.9s,baz=268,slow=3.0,SNR=1.9							
AOPR	Arecibo Observ	169.57	17	eP		PKPdf	23 07 43.5	-1.9
UUPR	Utuado, UPR, P	169.67	17			PKPdf	23 07 43.5	-1.9
CELP	Cerrillos	169.88	17			PKPdf	23 07 44.2	-1.3
ANBD	Bethesda, Anti	171.17	349	eP		PKPdf	23 07 43.2	-3.1
GDSD	La Dsirade Is	171.72	343			PKPdf	23 07 44.6	-2.0
TBG	Guadaloupe-3	172.31	346	eP		PKPdf	23 07 41.3	-5.5
SDV	Santo Domingo	172.96	85			PKPdf	23 07 45.6	-1.8
SDV	Santo Domingo	172.96	85	PKP		PKPdf	23 07 46.1	-1.3
	comp=Z,21nm,0.8s,baz=208,slow=1.3,SNR=3.7							
SDV				PKPab		PKPab	23 09 14.4	+0.1
	comp=Z,46nm,0.8s,baz=264,slow=3.6,SNR=6.9							
SDV	Santo Domingo	172.96	85	eP		PKPdf	23 07 46.1	-1.3
ILAM	Ilet Lapin Mar	173.09	338	eP		PKPdf	23 07 44.4	-2.7
SVN	Savane Anatole	173.13	340	eP		PKPdf	23 07 46.1	-1.2
BOAV	Boa Vista	173.38	207			PKPdf	23 07 46.4	-1.0
BOAV				PKPab		PKPab	23 09 17.5	+2.0
BOAV	Boa Vista	173.38	207	eP		PKPdf	23 07 47.6	+0.2
BIM	Bigot	173.40	339	eP		PKPdf	23 07 46.9	-0.4
SLBI	Saint Lucia, B	173.82	336	eP		PKPdf	23 07 45.7	-1.8
BBGH	Gun Hill	173.83	321	eP		PKPdf	23 07 48.0	+0.5
SVB	Belmont	174.61	336	eP		PKPdf	23 07 44.2	-3.5
GCMP	Grenada, Carri	175.38	333	eP		PKPdf	23 07 43.5	-4.5
BAUV	El Baul	175.51	82			PKPdf	23 07 46.2	-1.9
BAUV				PKPab		PKPab	23 09 23.7	-1.7
BAUV	El Baul	175.51	82	eP		PKPdf	23 07 44.8	-3.2
GRSS	Sisters	175.63	334	eP		PKPdf	23 07 45.6	-2.4
GRHS	Sauteurs	175.71	334	eP		PKPdf	23 07 43.9	-4.1
GRGR	Grenville	175.80	334	eP		PKPdf	23 07 42.7	-5.4
TRN	Trinidad (W)	176.88	318	eP		PKPdf	23 07 47.6	-0.7
PCRV	Puerto La Cruz	177.88	31	PKP		PKPdf	23 07 46.8	-1.8
	comp=Z,20nm,1.2s,baz=15,slow=12,SNR=4.9							
PCRV				PKPab		pPKPab	23 09 41.1	-3.1
	comp=Z,9.7nm,1.0s,baz=311,slow=4.0,SNR=2.6							
PCRV				PP		PP	23 13 35.4	+7.8
	comp=Z,6.2nm,0.9s,baz=13,slow=8.7,SNR=4.5							
PCRV	Puerto La Cruz	177.88	31	eP		PKPdf	23 07 39.9	-8.6

*IDC **28** 22:55:35.9±1.0, 8°.25S×116°.52E, h0km, mb4.1/6, mbtmp4.1/6, Error ellipse: s-maj=52.7km s-min=22.5km az=63.0*
*NEIC **28** 22:55:36.1±1.5, 8°.2S±0°.1×116°.59E±0°.07, h10km±1km, mb4.8/8, Error ellipse: s-maj=18.8km s-min=10.4km az=13.0*
*DJA **28** 22:55:38.7±0.4, 8°S±3°×11°7E±°, h13km±3km, M4.9/6, mb5.4/5, mB7.0/1, MLv4.7/6, Mw(mB)7.0/1, MwMwp7.3/1, Mwp7.0/1*

ISC 28 22:55:36.9±0.5, **8°.31S**±0°.07×**116°.58E**±0°.04, **h10**km, **n41**, σ1°**36**/40, **mb4.3**/9, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.52	145	P	Pn	22 55 49.9	-0.6
PLAI	Plampang	1.29	114	P	Pg	22 56 03.3	+1.5
SRBI	Singaraja	1.37	279	P	Pg	22 56 03.0	-0.2
DNP	Denpasar	1.40	255	P	Pg	22 56 05.5	+1.7
JAGI	Jajag, Banyuwa	2.41	266	Pn	Pn	22 56 16.2	-0.2
JAGI	Jajag, Banyuwa	2.41	266	P	Pn	22 56 17.2	+0.8
WBSI	Waikabubak, Su	3.08	116	P	Pn	22 56 27.4	+1.7
GRJI	Gresik	4.29	289	P	Pn	22 56 43.5	+1.2
BASI	Baing, Sumba	4.38	116	P	Pn	22 56 45.2	+1.6
BSSI	Bau Bau, Buton	4.44	61	P	Pn	22 56 44.8	+0.5
BNSI	Bone	5.23	42	P	Pn	22 56 56.4	+1.2
MMRI	Maumere	5.61	94	Pn	Pn	22 56 58.6	-1.9
UGM	Wanagama	6.01	273	Pn	Pn	22 57 03.4	-2.5
BATI	Baumata	7.25	106	P	Pn	22 57 25.3	+2.3
CMJI	Cimerak	8.07	273	P	Pn	22 57 35.9	+1.7
CNJI	Cibinong	9.41	275	P	Pn	22 57 54.3	+1.6
KMSI	Cibinong	11.50	40	P	Pn	22 58 23.1	+1.8
	171nm,0.9s						
KASI	Kota Agung	12.31	282	P	Pn	22 58 34.2	+1.8
LWLI	Liwa	12.86	284	P	Pn	22 58 41.8	+1.8
	158nm,1.4s						
BNDI	Bandanaira	13.77	75	P	Pn	22 58 53.2	+0.9
	224nm,1.1s						
GIRL	Giralia	14.43	189	Pn	Pn	22 59 01.3	0.0
FAKI	Fak Fak	16.48	72	Pn	Pn	22 59 27.0	-1.5
PBSI	Pulau Batu	19.99	293	P	Pn	23 00 12.4	+0.9
	225nm,1.1s,76μm						
WRA	Warramunga Arr	20.72	126	P	Pn	23 00 18.9	-1.1
	6.6nm,0.7s,baz=299,slow=12,SNR=1.4						
	6.6nm,0.7s						
WR0	Warramunga Arr	20.89	126	P	P	23 00 17.9	-1.6
ASAR	Alice Springs	22.56	135	P	P	23 00 38.2	+0.8
	4.5nm,0.5s,baz=311,slow=9.7,SNR=1.1						
	4.5nm,0.5s						
AS31	Alice Springs	22.56	135	P	P	23 00 36.3	-1.2
AS31				IAmb	IAmb	23 00 36.6	
	comp=Z,38nm,1.4s						
USRK	Ussuriysk Ar.	54.09	14	P	P	23 05 00.3	-1.5
USRK	Ussuriysk Ar.	54.09	14	P	P	23 05 02.3	+0.5
	comp=Z,2.3nm,0.7s,baz=194,slow=7.2,SNR=3.2						
	comp=Z,2.3nm,0.7s						
SONM	Songino Array	56.62	352	P	P	23 05 20.4	+0.3
	comp=Z,1.4nm,0.9s,baz=168,slow=7.6,SNR=1.8						
	comp=Z,1.4nm,0.9s						
CASY	Casey	58.04	183	P	P	23 05 29.5	-0.3
CASY				IAmb	IAmb	23 05 43.4	
	comp=Z,20nm,1.4s						
LBZ	Lake Benmore	58.60	137	P	P	23 05 32.9	-1.2
MKAR	Makanchi Array	62.77	334	P	P	23 06 03.1	+0.6
	comp=Z,1.7nm,0.8s,baz=161,slow=7.7,SNR=2.0						
	comp=Z,1.7nm,0.8s						
ZALV	Zalesovo Beam	67.56	340	P	P	23 06 33.1	-0.3
	comp=Z,1.0nm,0.6s,baz=149,slow=5.4,SNR=1.5						
	comp=Z,1.0nm,0.6s						
VNDA	Vanda	73.05	171	P	P	23 07 06.9	+0.2
ABKAR	Akbulak array	75.63	326	P	P	23 07 20.4	-1.8
ABKAR	Akbulak array	75.63	326	P	P	23 07 20.5	-1.6
ABKAR				IAmb	IAmb	23 07 25.1	
	comp=Z,11nm,1.4s						
QSPA	South Pole Qui	81.69	180	P	P	23 07 54.6	-0.9
QSPA				IAmb	IAmb	23 07 56.5	
	comp=Z,19nm,1.4s						
TORD	Torodi Ar. Bea	115.98	281	PKP	PKPdf	23 14 19.8	-1.4
	comp=Z,0.7nm,0.6s,baz=81,slow=4.8,SNR=5.6						
CPUP	Villa Florida	145.06	190	PKPbc	PKPdf	23 15 16.0	+0.6
	comp=Z,7.9nm,0.9

JAGI	Jajag, Banyuwa	2.35	266	Pn	Pn	22 59 22.2	-1.4
JAGI	Jajag, Banyuwa	2.35	266	P	Pb	22 59 25.7	-1.7
GRJI	Gresik	4.24	289	P	Pn	22 59 52.3	+2.8
BASI	Baing, Sumba	4.43	116	P	Pn	22 59 50.8	-1.4
BSSI	Bau Bau, Buton	4.48	62	P	Pn	22 59 54.3	+1.5
EDFI	Ende, Flores	5.13	95	P	Pn	23 00 03.2	+1.3
MMRI	Maumere	5.66	94	Pn	Pn	23 00 09.4	+0.3
UGM	Wanagama	5.96	273	P	Pn	23 00 16.2	+3.0
BKB	Balikpapan	7.00	3	Pn	Pn	23 00 25.9	-1.5
BATI	Baumata	7.30	106	P	Pn	23 00 32.3	+0.7
GTOI	Gorontalo	10.98	36	P	Pn	23 01 25.1	+3.0
	24nm,2.5s						
SANI	Sanana	11.28	57	P	Pn	23 01 28.1	+1.9
PSA00	Pilbara Seismi	13.58	167	Pn	Pn	23 01 56.9	-0.8
WB0	Warramunga Arr	20.72	125	P	P	23 03 25.0	-0.7
WB0				IAmb	IAmb	23 03 30.1	
	comp=Z,88nm,1.4s						
WRA	Warramunga Arr	20.77	126	P	P	23 03 26.0	-0.2
	comp=Z,6.6nm,0.6s,baz=299,slow=12,SNR=7.3						
	comp=Z,6.6nm,0.6s						
WB2	Warramunga Arr	20.78	126	P	P	23 03 25.2	-1.1
AS31	Alice Springs	22.60	135	P	P	23 03 43.4	-2.5
ASAR	Alice Springs	22.60	135	P	P	23 03 44.0	-1.9
ASAR	Alice Springs	22.60	135	P	P	23 03 47.0	+1.1
	comp=Z,8.0nm,0.7s,baz=316,slow=9.1,SNR=5.1						
	comp=Z,8.0nm,0.7s						
LHMI	Lhok Sumawe	23.70	304	P	P	23 03 57.9	+0.8
JAY	Jayapura	24.74	78	P	P	23 04 07.8	+1.0
CMAR	Chiang Mai Arr	31.75	327	P	P	23 05 11.2	+1.8
	comp=Z,2.3nm,1.0s,baz=159,slow=7.7,SNR=2.9						
	comp=Z,2.3nm,1.0s						
JNU	Nakatsue	43.39	18	P	P	23 06 45.8	-2.0
JNU				IAmb	IAmb	23 07 10.1	
	comp=Z,32nm,1.3s						
LSA	Lhasa	44.98	328	P	P	23 06 58.6	-2.5
LSA				IAmb	IAmb	23 07 00.5	
	comp=Z,16nm,1.4s						
USRK	Ussuriysk Ar.	54.09	14	P	P	23 08 10.2	+0.4
	comp=Z,1.2nm,0.6s,baz=216,slow=8.1,SNR=2.3						
	comp=Z,1.2nm,0.6s						
SONM	Songino Array	56.60	352	P	P	23 08 26.5	-1.5
SONM	Songino Array	56.60	352	P	P	23 08 28.5	+0.5
	comp=Z,1.7nm,0.8s,baz=168,slow=9.5,SNR=3.6						
	comp=Z,1.7nm,0.8s						
CASY	Casey	58.04	183	P	P	23 08 38.4	+0.6
CASY				IAmb	IAmb	23 08 48.9	
	comp=Z,9.2nm,1.1s						
MKAR	Makanchi Array	62.74	334	P	P	23 09 09.2	-1.1
MKAR	Makanchi Array	62.74	334	P	P	23 09 09.4	-0.9
	comp=Z,1.1nm,0.8s,baz=148,slow=8.4,SNR=1.9						
	comp=Z,1.1nm,0.8s						
BVAR	Borovoye Array	72.54	333	P	P	23 10 10.4	-1.5
	comp=Z,1.1nm,0.8s,baz=138,slow=11,SNR=2.3						
	comp=Z,1.1nm,0.8s						
VNDA	Vanda	73.07	171	P	P	23 10 15.5	+0.8
VNDA				IAmb	IAmb	23 10 19.2	
	comp=Z,7.9nm,1.5s						
SBA	Scott Base	74.09	170	P	P	23 10 22.0	+1.3
SBA				IAmb	IAmb	23 10 51.2	
	comp=Z,5.9nm,1.2s						
ABKAR	Akbulak array	75.59	326	P	P	23 10 28.0	-1.9
QSPA	South Pole Qui	81.69	180	P	P	23 11 04.1	+0.7
CPUP	Villa Florida	145.07	190	PKPbc	PKPdf	23 18 24.0	+0.6
	comp=Z,6.4nm,0.8s,baz=170,slow=4.8,SNR=4.6						

*IDC **28** 23:03:36.8±2.1, 8°.41S×116°.28E, h0km, mb3.7/7, mbtmp3.8/7, Error ellipse: s-maj=98.8km s-min=22.3km az=53.0*
*DJA **28** 23:03:41.0±1.0, 8°S±16°×11°7E±°, h12km±7km, M4.0/5, MLv4.0/5*
ISC 28 23:03:38.1±0.8, **8°.4S**±0°.1×**116°.34E**±0°.08, **h10**km, **n12**, σ**0**§**68**/**12**, **mb3.8**/**6**, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.62	119	P	Pb	23 03 51.4	+0.4
TWSI				S	Sb	23 03 59.7	-0.1
DNP	Denpasar	1.14	258	P	Pn	23 04 08.1	+8.0
SRBI	Singaraja	1.16	287	P	Pn	23 04 05.2	+4.8
SRBI				S	Sn	23 04 23.9	+7.5
PLAI	Plampang	1.48	105	P	Pn	23 04 04.5	-0.3
PLAI				S	Sn	23 04 22.9	-1.3
JAGI	Jajag, Banyuwa	2.16	269	P	Pg	23 04 19.0	-0.5
WRA	Warramunga Arr	20.84	125	P	P	23 08 20.7	+0.4
	2.4nm,0.5s,baz=299,slow=12,SNR=11						
	2.4nm,0.5s						
ASAR	Alice Springs	22.64	134	P	P	23 08 40.7	+1.2
	1.0nm,0.6s,baz=311,slow=10.0,SNR=2.1						
	1.0nm,0.6s						
USRK	Ussuriysk Ar.	54.27	14	P	P	23 13 04.5	+0.2
	1.2nm,0.6s,baz=192,slow=7.0,SNR=2.9						
	1.2nm,0.6s						
SONM	Songino Array	56.71	352	P	P	23 13 22.2	+0.2
	0.8nm,0.7s,baz=171,slow=7.8,SNR=4.9						
	0.8nm,0.7s						
MKAR	Makanchi Array	62.78	334	P	P	23 14 04.1	+0.4
	0.4nm,0.6s,baz=148,slow=7.5,SNR=2.7						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	67.32	335	P	P	23 14 33.1	0.0
	0.3nm,0.6s,baz=134,slow=6.6,SNR=2.2						
	0.3nm,0.6s						
ZALV	Zalesovo Beam	67.61	340	P	P	23 14 34.4	-0.4
	0.8nm,0.5s,baz=147,slow=5.1,SNR=4.1						
	0.8nm,0.5s						

*IDC **28** 23:05:38.3±1.2, 8°.11S×116°.81E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=79.3km s-min=24.5km az=54.0*
*DJA **28** 23:05:39.8±0.4, 8°S±4°×11°7E±°, h13km±3km, M5.2/11, mb5.0/3, MLv5.4/11, Mw5.1/17*
ISC 28 23:05:39.3±0.8, **8°.2S**±0°.1×**116°.54E**±0°.09, **h10**km, **n14**, σ**1**§**08**/**14**, **mb3.7**/**3**, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.60	145	P	Pb	23 05 51.1	-0.9
SRBI	Singaraja	1.32	277	P	Pn	23 06 03.0	-0.8
PLAI	Plampang	1.36	116	P	Pg	23 06 05.3	-0.1
PLAI				S	Sn	23 06 23.9	+1.4
DNP	Denpasar	1.38	252	P	Pn	23 06 05.6	+0.9
JAGI	Jajag, Banyuwa	2.37	264	P	Pn	23 06 17.2	-1.1
GRJI	Gresik	4.23	288	P	Pn	23 06 43.5	-0.4
PWJI	Pagerwojo	4.69	272	P	Pn	23 06 50.2	0.0
UGM	Wanagama	5.96	273	P	Pn	23 07 08.9	+1.1
	139nm,1.9s						
WRA	Warramunga Arr	20.79	126	P	Pn	23 10 20.0	-3.3
	2.3nm,0.8s,baz=301,slow=12,SNR=6.1						
	2.3nm,0.8s						
ASAR	Alice Springs	22.63	135	P	P	23 10 39.7	-1.0
	1.4nm,0.6s,baz=313,slow=9.9,SNR=6.0						
	1.4nm,0.6s						
SONM	Songino Array	56.55	352	P	P	23 15 22.3	+0.2
	0.3nm,0.3s,baz=90,slow=3.0,SNR=2.5						
	0.3nm,0.3s						
MKAR	Makanchi Array	62.70	334	P	P	23 16 04.2	-0.2
	0.4nm,0.7s,baz=138,slow=12,SNR=2.5						
	0.4nm,0.7s						
TORD	Torodi Ar. Bea	115.93	281	PKP	PKiKP	23 24 25.6	+2.1
	0.4nm,0.6s,baz=67,slow=2.8,SNR=1.9						
CPUP	Villa Florida	145.12	190	PKPbc	PKPdf	23 25 17.2	-0.7
	3.6nm,1.0s,baz=125,slow=3.7,SNR=4.2						

*BJI **28** 23:06:47.0±0.0, 8°.30S×116°.50E, h10km, mb5.0/62, Ms5.6/1, Ms7 5.6/2*
*MOS **28** 23:06:48.9±1.2, 8°.22S×116°.47E, h28km, mb5.4/61, Error ellipse: s-maj=8.7km s-min=4.8km az=111.8*
*NEIC **28** 23:06:48.8±2.0, 8°.22S±0°.06×116°.46E±0°.05, h10km±1km, mb5.5/123, Mwws5.4/7, Error ellipse: s-maj=10.4km s-min=9.0km az=169.0*
*GCMT **28** 23:06:49.8±0.5, 8°.11S±0°.03×116°.32E±0°.04, h21km±3km, MW5.5/77, Moment Tensor Solution. s77,c117; Duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.02±.22; $M_{\theta\theta}$-1.23±.13; $M_{\phi\phi}$0.20±.11; $M_{r\theta}$-1.78±.35; $M_{\theta\phi}$0.05±.05; $M_{\phi r}$-1.69±.36; Best double couple: M_o2.68400×10^{17} NP1:ϕ_s233.00000°, δ80.00000°, λ74.00000°. NP2:ϕ_s112.00000°, δ19.00000°, λ148.00000°. Principal axes: T 2.8820, Plg52.0000°, Azm125.0000°; N -0.4030, Plg16.0000°, Azm236.0000°; P -2.4860, Plg33.0000°, Azm337.0000°; nsta1 refers to body waves.*

nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*DJA **28** 23:06:49.2±0.1, 8°S±1°×11°6E±°, h10km, M5.7/60, mb5.5/60, mB6.3/4, MLv5.8/24, Mw5.2/102, Mw(mB)6.0/4*
*IDC **28** 23:06:50.4±1.8, 8°.15S×116°.54E, h24km±10km, mb4.8/23, mbtmp5.0/24, ML4.8/1, Error ellipse: s-maj=15.5km s-min=9.6km az=78.0*
ISC 28 23:06:48.0±0.2, **8°.26S**±0°.03×**116°.48E**±0°.03, **h10**km, **n571**, σ**1**§**61**/**590**, **mb5.3**/**157**, **24C-3D**, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.63	140	P	Pb	23 07 01.1	0.0
TWSI				S	Sg	23 07 08.2	-0.2
SRBI	Singaraja	1.26	278	P	Pg	23 07 12.6	+0.3
DNP	Denpasar	1.32	251	P	Pg	23 07 15.0	+1.6
PLAI	Plampang	1.41	114	P	Pg	23 07 15.5	+0.4
PLAI	Plampang	1.41	114	P	Pb	23 07 14.6	+0.2
ABJI	Asem Bagus	2.27	281	P	Pb	23 07 27.8	-1.3
JAGI	Jajag, Banyuwa	2.31	265	P	Pn	23 07 27.2	+1.0
JAGI	Jajag, Banyuwa	2.31	265		Pn	23 07 26.7	+0.5
JAGI	Jajag, Banyuwa	2.31	265	P	Pn	23 07 26.4	+0.2
GRJI	Gresik	4.18	288	P	Pn	23 07 52.9	+1.0
BWJI	Bawean	4.48	302	P	Pn	23 07 57.1	+1.1
BASI	Baing, Sumba	4.50	116	P	Pn	23 07 59.0	+2.8
BSSI	Bau Bau, Buton	4.50	62	P	Pn	23 07 55.7	-0.6
KAPI	Kappang	4.58	46	P	Pn	23 07 58.4	+1.0
KAPI	Kappang	4.58	46	Pn	Pn	23 07 56.9	-0.4
	53nm,0.3s,baz=227,slow=9.9,SNR=10						
KAPI				Sn	Sn	23 08 47.3	-3.4
	99nm,0.3s,baz=225,slow=18,SNR=8.3						
KAPI				Lg	Lg	23 09 09.0	
	121nm,0.3s,baz=270,slow=20,SNR=5.2						
	63nm,0.3s						
PWJI	Pagerwojo	4.63	273	P	Pn	23 07 59.1	+1.0
BKSI	Bulukumba	4.65	51	P	Pn	23 07 58.1	-0.2
EDFI	Ende, Flores	5.18	96	P	Pn	23 08 06.2	+0.4
	1μm,1.0s,4.8nm						
BNSI	Bone	5.26	44	P	Pn	23 08 07.5	+0.7
MMRI	Maumere	5.71	94	P	Pn	23 08 14.4	+1.4
MMRI	Maumere	5.71	94	Pn	Pn	23 08 12.9	0.0
MMRI	Maumere	5.71	94	P	Pn	23 08 13.8	+0.8
UGM	Wanagama	5.90	273	P	Pn	23 08 20.0	+4.4
UGM	Wanagama	5.90	273		Pn	23 08 17.1	+1.4
UGM	Wanagama	5.90	273	P	Pn	23 08 17.1	+1.4
	1μm,1.0s						
SMRI	Semarang	6.10	281	P	Pn	23 08 23.6	+5.3
SMRI	Semarang	6.10	281	Pn	Pn	23 08 20.3	+1.9
SMRI	Semarang	6.10	281	P	Pn	23 08 20.8	+2.5
	750nm,0.9§,7.6nm						
YOGI	Yogyakarta	6.14	274	P	Pn	23 08 19.3	+0.5
	286nm,0.7s,6.2nm						
BBSI	Bau Bau	6.65	66	P	Pn	23 08 28.4	+2.6
	302nm,0.9s,2.9nm						
BKB	Balikpapan	6.96	3		Pn	23 08 32.0	+1.9
BATI	Baumata	7.36	106	P	Pn	23 08 37.9	+2.3
SOEI	Soe	7.84	102	P	Pn	23 08 45.2	+2.9
SOEI	Soe	7.84	102		Pn	23 08 42.9	+0.6
SOEI	Soe	7.84	102	P	Pn	23 08 43.8	+1.5
CMJI	Cimerak	7.96	273	P	Pn	23 08 43.4	-0.5
	323nm,0.9s,1.7nm						
BBJI	Bungbulang	8.78	275	P	Pn	23 08 59.1	+3.9
LEM	Lembang	8.90	279	P	Pn	23 08 59.3	+2.4
MPSI	Mapaga	9.19	22	P	Pn	23 09 01.5	+0.7
CNJI	Cibinong	9.31	275	P	Pn	23 09 03.5	+1.1
	151nm,1.1s						
LUWI	Luwuk	9.52	42	P	Pn	23 09 10.9	+5.6
LUWI	Luwuk	9.52	42	Pn	Pn	23 09 07.5	+2.2
LUWI	Luwuk	9.52	42	P	Pn	23 09 06.4	+1.1
	140nm,1.3s						
STKI	Sintang	9.65	329	P	Pn	23 09 07.3	+0.2
	128nm,0.9s						
DBJI	Dramaga	9.79	279	P	Pn	23 09 11.5	+2.5
	335nm,1.1s						
TOLI2	Tolitoli	10.25	25	P	Pn	23 09 19.5	+4.2
TOLI2	Tolitoli	10.25	25		Pn	23 09 16.1	+0.8
XMIS	Christmas Isla	10.91	257	Pn	Pn	23 09 25.5	+1.2
GTOI	Gorontalo	10.97	37	P	Pn	23 09 28.8	+3.6
SANI	Sanana	11.30	57	P	Pn	23 09 33.5	+3.8
SANI	Sanana	11.30	57	P	Pn	23 09 31.8	+2.1
	110nm,1.1s						
SBUM	Sibu	11.45	338	Pn	Pn	23 09 31.6	-0.2
KSM	Kuching	11.45	327	P	Pn	23 09 35.4	+3.6
KSM	Kuching	11.45	327	Pn	Pn	23 09 32.0	+0.2
PPBI	Pangkal Pinang	11.94	300	P	Pn	23 09 40.9	+2.4
	125nm,1.6s						
KASI	Kota Agung	12.20	282	P	Pn	23 09 43.8	+1.8
	120nm,0.7s,25μm						
PMBI	Palembang	12.79	294	Pn	Pn	23 09 51.9	+1.8
MBWA	Marble Bar	13.21	167	P	Pn	23 09 55.3	-0.5
MBWA	Marble Bar	13.21	167	Pn	Pn	23 09 54.3	-1.4
FITZ	Fitzroy Crossi	13.24	139	P	Pn	23 09 55.7	-0.4
FITZ	Fitzroy Crossi	13.24	139	Pn	Pn	23 09 55.5	-0.7
FITZ	Fitzroy Crossi	13.24	139	P	Pn	23 09 56.2	0.0
	3μm,0.8s,SNR=1.9						
MYLDM	Lahad Datu	13.50	9	Pn	Pn	23 10 01.4	+1.6
PSAC1	Pilbara Seismi	13.59	167	P	Pn	23 10 00.2	-0.7
	220nm,1.0s,SNR=2.4						
PSA00	Pilbara Seismi	13.63	167	P	Pn	23 10 01.9	+0.3
PSA00	Pilbara Seismi	13.63	167	Pn	Pn	23 09 59.8	-1.8
PSA00	Pilbara Seismi	13.63	167		Pn	23 09 59.3	-2.3
PSA00	Pilbara Seismi	13.63	167	P	Pn	23 10 02.0	+0.3
	143nm,0.2s,SNR=1.5						
BNDI	Bandanaira	13.85	75	P	Pn	23 10 06.8	+2.3
MNAI	Manna	13.98	285	Pn	Pn	23 10 07.7	+1.3
TNTI	Ternate	14.08	51	P	P	23 10 11.8	-3.7
TNTI	Ternate	14.08	51		Pn	23 10 08.6	+0.9
KNRA	Kununurra	14.10	123	Pn	Pn	23 10 07.1	-0.8
KNRA	Kununurra	14.10	123	P	Pn	23 10 07.3	-0.7
	347nm,1.0s,SNR=8.0						
KKM	Kota Kinabalu	14.21	359	P	Pn	23 10 12.0	+2.5
KKM	Kota Kinabalu	14.21	359		Pn	23 10 09.9	+0.4
GIRL	Giralia	14.47	188		Pn	23 10 10.7	-2.3
SAUI	Saumlaki	14.68	90	P	Pn	23 10 18.3	+2.4
SAUI	Saumlaki	14.68	90	Pn	Pn	23 10 14.0	-1.9
SAUI	Saumlaki	14.68	90	P	Pn	23 10 16.9	+1.0
	424nm,1.0s						
DRS	Darin Rock St	14.78	108	P	Pn	23 10 17.1	-0.2
MTN	Manton Dam	15.11	109	P	Pn	23 10 19.5	-2.2
MTN	Manton Dam	15.11	109		Pn	23 10 18.9	-2.8
MTN				IAmb	IAmb	23 10 24.1	
	comp=Z,156nm,1.1s						
MTN	Manton Dam	15.11	109	P	Pn	23 10 19.4	-2.4
	comp=Z,132nm,0.7s,SNR=3.3						
BTDF	Bukit Timah Da	15.86	306	P	P	23 10 37.9	+2.5
KDU	Kakadu	16.33	107	P	Pn	23 10 35.6	-2.0
KDU	Kakadu	16.33	107	P	Pn	23 10 35.6	-2.0
	comp=Z,176nm,1.0s,SNR=9.8						
SWI	Sorong	16.46	64	P	P	23 10 41.8	-0.1
	comp=Z,196nm,1.0s						
FAKI	Fak Fak	16.56	72	P	Pn	23 10 41.5	+0.9
FAKI	Fak Fak	16.56	72	Pn	Pn	23 10 38.5	-2.1
FAKI	Fak Fak	16.56	72	P	Pn	23 10 40.8	+0.2
	comp=Z,225nm,0.9s						
PDSI	Padang	17.54	294	P	P	23 10 54.0	0.0
BKNI	Bangkinang	17.59	298	P	P	23 11 00.1	+5.6
BKNI	Bangkinang	17.59	298		Pn	23 10 52.2	-1.3
BKNI	Bangkinang	17.59	298	P	P	23 10 56.5	+2.0
	comp=Z,327nm,1.2s						
DAV	Davao City (W)	17.72	31	P	P	23 11 00.3	+4.3
DAV	Davao City (W)	17.72	31		P	23 10 57.0	+1.1
DAV	Davao City (W)	17.72	31	P	P	23 10 56.8	+0.9
	comp=Z,140nm,0.4s,baz=148,slow=19,SNR=15						
MEEK	Meekatharra	18.40	174	P	P	23 11 04.0	+0.6
MEEK	Meekatharra	18.40	174	P	P	23 11 03.6	+0.2
	comp=Z,248nm,0.8s,SNR=2.8						
SISI	Saibi	18.63	291	P	Pn	23 11 07.9	+1.6
	comp=Z,85nm,0.9s						
WRKA	Warakurna	20.14	147	P	Pn	23 11 24.0	-0.4
WRKA	Warakurna	20.14	147	P	Pn	23 11 23.7	-0.7
	comp=Z,535nm,1.1s,SNR=12						
MORW	Morawa	20.71	181	P	Pn	23 11 30.8	-0.1
MORW	Morawa	20.71	181	P	P	23 11 29.3	+0.7
MORW				IAmb	IAmb	23 11 35.3	
	comp=Z,245nm,1.2s						
MORW	Morawa	20.71	181	P	Pn	23 11 31.5	+0.6
	comp=Z,172nm,1.1s,SNR=2.9						
KULM	Kulim	20.74	310	P	P	23 11 28.7	-0.4
KULM				IAmb	IAmb	23 11 43.6	
	comp=Z,225nm,1.6s						
WB0	Warramunga Arr	20.79	125	P	P	23 11 28.6	-1.0
WB0				IAmb	IAmb	23 11 31.8	
	comp=Z,224nm,1.0s						
WRA	Warramunga Arr	20.83	126	P	P	23 11 29.3	-0.8
WRA	Warramunga Arr	20.83	126	P	P	23 11 29.8	-0.3
	comp=Z,137nm,0.9s,baz=299,slow=12,SNR=95						
WRA				S	S	23 15 20.7	-1.9
	comp=Z,20nm,0.9s,baz=294,slow=24,SNR=4.6						
WRA				ScP	ScP	23 19 13.6	-2.3
	comp=Z,3.0nm,1.1s,baz=278,slow=4.1,SNR=6.0						
	comp=Z,137nm,0.9s						
WRAB	Tennant Creek	20.84	126	*i* P	P	23 11 28.6	-1.5
WRAB				pmax	pmax		
	comp=Z,203nm,0.9s						
WR0	Warramunga Arr	21.00	126	P	P	23 11 30.6	-1.3
WR0				IAmb	IAmb	23 11 34.4	
	comp=Z,407nm,1.1s						
GSI	Gunungsitoli	21.10	296	P	P	23 11 37.3	+4.3
GSI	Gunungsitoli	21.10	296	P	P	23 11 33.3	+0.4
GSI				IAmb	IAmb	23 11 49.5	
	comp=Z,138nm,1.0s						
GSI	Gunungsitoli	21.10	296	P	P	23 11 35.6	+2.6
	comp=Z,200nm,0.9s						
DLV	T Lat	21.58	338	P	P	23 11 40.6	+2.3
DLV	T Lat	21.58	338	P	P	23 11 38.0	-0.3
KCSI	Kotacane, Aceh	22.02	301	P	P	23 11 44.9	+2.0
	comp=Z,138nm,1.4s						
BLDU	Ballidu	22.25	179	P	P	23 11 46.9	+1.8
BLDU	Ballidu	22.25	179	P	P	23 11 46.5	+1.4
	comp=Z,201nm,0.9s,SNR=5.4						
ASPA	Alice Springs	22.66	135	P	P	23 11 50.0	+0.3
	comp=Z,75nm,1.0s,SNR=38						
AS31	Alice Springs	22.66	135	P	P	23 11 48.4	-1.3
ASAR	Alice Springs	22.66	135	P	P	23 11 49.1	-0.6
ASAR	Alice Springs	22.66	135	P	P	23 11 49.8	+0.1
	comp=Z,191nm,1.1s,baz=312,slow=8.9,SNR=82						
ASAR				PcP	PcP	23 15 42.4	-0.2
	comp=Z,7.5nm,0.9s,baz=329,slow=0.8,SNR=1.2						
ASAR				S	S	23 15 56.0	-2.0
	comp=Z,29nm,1.1s,baz=332,slow=24,SNR=6.1						
ASAR				ScP	ScP	23 19 18.1	-2.4
	comp=Z,5.3nm,1.0s,baz=310,slow=3.3,SNR=2.7						
	comp=Z,191nm,1.1s						
AS01	Alice Springs	22.70	134	P	P	23 11 50.3	+0.2
KLBR	Kellerberrin	23.25	177	P	P	23 11 56.8	+1.1
KLBR	Kellerberrin	23.25	177	P	P	23 11 56.2	+0.5
	comp=Z,312nm,0.9s,SNR=19						
KMBL	Kambalda	23.54	168	P	P	23 11 59.3	+0.7
KMBL	Kambalda	23.54	168	P	P	23 11 58.9	+0.3
	comp=Z,244nm,1.2s,SNR=7.5						
MLSI	Meulaboh, Aceh	23.57	301	P	P	23 11 59.7	+0.7
	comp=Z,143nm,0.8s						
MUN	Mundaring	23.61	181	P	P	23 12 00.2	+1.0
MUN	Mundaring	23.61	181	P	P	23 12 00.2	+1.0
	comp=Z,134nm,2.0s,SNR=3.5						
LHMI	Lhok Sumawe	23.64	304	P	P	23 12 05.9	+6.2
LHMI	Lhok Sumawe	23.64	304	P	P	23 12 00.5	+0.8
LHMI	Lhok Sumawe	23.64	304	P	P	23 12 00.7	+1.0
	comp=Z,430nm,1.1s						
SRIT	Nakonsritamara	23.73	314	P	P	23 12 02.3	+1.8
SRIT	Nakonsritamara	23.73	314	P	P	23 12 01.0	+0.5
SRIT				IAmb	IAmb	23 12 16.9	
	comp=Z,125nm,1.2s						
SURA	Surathani	24.11	316	P	P	23 12 07.0	+2.9
GENI	Genyem	24.24	78	P	P	23 12 05.0	-0.4
GENI	Genyem	24.24	78	P	P	23 12 06.4	+1.0
	comp=Z,133nm,0.9s						
NWAO	Narrogin (SRO)	24.56	178	P	P	23 12 10.0	+1.8
NWAO	Narrogin (SRO)	24.56	178	P	P	23 12 07.3	-0.8
NWAO				IAmb	IAmb	23 12 36.2	
	comp=Z,79nm,0.7s						
NWAO	Narrogin (SRO)	24.56	178	P	P	23 12 09.3	+1.1
	comp=Z,42nm,0.8s,baz=341,slow=11,SNR=9.7						
NWAO				S	S	23 16 36.7	+7.7
	comp=Z,19nm,0.7s,baz=345,slow=19,SNR=2.1						
	comp=Z,42nm,0.8s						
NWAO	Narrogin (SRO)	24.56	178	P	P	23 12 07.3	-0.8
NWAO				pmax	pmax		
	comp=Z,79nm,0.7s						
TABU	Tabubil	24.75	85	P	P	23 12 10.3	+0.2
JAY	Jayapura	24.78	78	P	P	23 12 11.1	+0.7
FORT	Forrest	24.89	156	P	P	23 12 12.8	+1.7
FORT	Forrest	24.89	156	P	P	23 12 11.2	+0.1
FORT	Forrest	24.89	156	P	P	23 12 12.1	+0.9
	comp=Z,187nm,1.3s,SNR=4.9						
QIS	Mount Isa	25.48	121	P	P	23 12 16.9	+0.3
QIS	Mount Isa	25.48	121	P	P	23 12 17.1	+0.4
	comp=Z,177nm,1.1s,SNR=4.3						
UBPT	Khong Chiam	25.80	335	P	P	23 12 23.2	+3.7
UBPT	Khong Chiam	25.80	335	P	P	23 12 19.5	0.0
SZP	Santa	25.94	9	P	P	23 12 24.4	+3.7
RKGY	Rocky Gully	26.23	179	P	P	23 12 27.2	+3.9
RKGY	Rocky Gully	26.23	179	P	P	23 12 29.4	+6.1
	comp=Z,204nm,0.9s,SNR=4.2						
OOD	Oodnadatta	26.60	139	P	P	23 12 26.8	+0.2
CO

STKA PcP **PcP** **23 16 09.3 +1.5**
comp=Z,14nm,0.8s,baz=20,slow=8.1,SNR=2.8
comp=Z,27nm,0.8s
STKA Stephens Creek 33.13 139 P **P** **23 13 23.5 -1.1**
STKA pmax pmax
comp=Z,10.0nm,0.9s
TATO Taipei 33.39 8 P **P** **23 13 28.2 +1.4**
TATO Taipei 33.39 8 P **P** **23 13 25.9 -0.9**
TATO IAmb IAmb 23 13 38.0
comp=Z,98nm,0.9s
CMSA Cobar Meteorol 35.72 134 P **P** **23 13 48.7 +1.7**
KMI Kunming 35.77 338 ⇑P **P** **23 13 51.5 +3.8**
KMI pmax pmax
comp=Z,39nm,1.2s
GYA Guiyang 35.80 345 P **P** **23 13 49.3 +1.5**
GYA pmax pmax
comp=Z,17nm,0.8s
RK1H Rockhampton Ha 35.90 119 P **P** **23 13 49.4 +0.8**
AULRC Lightning Ridg 36.30 130 P **P** **23 13 53.5 +1.5**
ARPS Mount Arapiles 36.57 145 P **P** **23 13 56.2 +2.0**
EIDS Eidsvold 37.08 122 P **P** **23 14 00.0 +1.3**
EIDS Eidsvold 37.08 122 P **P** **23 13 58.0 -0.8**
PZH PanZhiHua 37.40 338 P **P** **23 14 03.3 +1.9**
PZH pmax pmax
comp=Z,30nm,1.3s
TNCH TengChong 37.42 333 ⇑P **P** **23 14 04.5 +2.7**
TNCH pP sP 23 14 08.3 +2.3
TNCH sP pP 23 14 10.5 +5.7
AUDCS Dubbo College 38.20 133 P **P** **23 14 10.2 +2.1**
WHN Wuhan 38.63 357 ⇑P **P** **23 14 13.5 +1.9**
ENH Enshi 38.89 350 P P 23 14 19.7 +5.8
comp=Z,72nm,1.7s
ENH Enshi 38.89 350 P **P** **23 14 13.9 0.0**
GEXS Deakin Univers 38.96 144 P **P** **23 14 17.4 +3.0**
YNG Young 39.15 136 P **P** **23 14 17.3 +1.2**
TOO Toolangi 39.26 142 P **P** **23 14 19.0 +2.1**
TOO Toolangi 39.26 142 P **P** **23 14 17.9 +1.0**
TOO Toolangi 39.26 142 P **P** **23 14 17.9 +1.0**
TOO pmax pmax
comp=Z,56nm,1.1s
AUPHS Peel High Scho 39.31 130 P **P** **23 14 19.8 +2.3**
AUWSH Wavell State H 39.46 124 P **P** **23 14 21.2 +2.5**
ARMA Armidale 39.56 129 P **P** **23 14 22.9 +3.2**
ARMA Armidale 39.56 129 P **P** **23 14 20.2 +0.4**
ARMA IAmb IAmb 23 14 23.7
comp=Z,214nm,1.9s
CAN Canberra 40.13 137 P **P** **23 14 26.5 +2.2**
CAN Canberra 40.13 137 P **P** **23 14 25.1 +0.8**
CAN Canberra 40.13 137 P **P** **23 14 25.1 +0.8**
CAN pmax pmax
comp=Z,49nm,1.2s
NJ2 Nanjing 40.14 3 *e*P **P** **23 14 27.5 +3.2**
NJ2 pmax pmax
comp=Z,25nm,1.2s
CNB Canberra Magne 40.38 137 P **P** **23 14 28.5 +2.1**
NTLH Newcastle Hard 40.77 132 P **P** **23 14 32.1 +2.5**
CD2 Chengdu 40.81 343 P **P** **23 14 31.0 +1.1**
CD2 pmax pmax
comp=Z,40nm,0.7s
SHL Shillong 41.27 325 P **P** **23 14 34.4 +0.5**
SHL IAmb IAmb 23 14 45.7
comp=Z,123nm,0.9s
SHL Shillong 41.27 325 P **P** **23 14 34.4 +0.5**
SHL pmax pmax
comp=Z,123nm,0.9s
XAN Xi'an 42.67 351 P **P** **23 14 45.8 +0.7**
XAN pmax pmax
comp=Z,38nm,1.2s
LYN LuoYang 42.74 355 ⇑P **P** **23 14 46.5 +0.9**
LYN pmax pmax
comp=Z,35nm,1.0s
HNR Honiara 42.95 95 P **P** **23 14 47.8 +0.1**
HNR Honiara 42.95 95 P **P** **23 14 46.9 -0.8**
HNR Honiara 42.95 95 P **P** **23 14 46.9 -0.8**
HNR pmax pmax
comp=Z,190nm,0.9s
JCJ Chichijima 43.08 34 P **P** **23 14 51.1 +2.6**
JCJ Chichijima 43.08 34 P **P** **23 14 48.2 -0.3**
JNU Nakatsue 43.37 18 P P 23 14 57.2 +6.5
JMN Monobe 44.90 21 P **P** **23 15 05.1 +2.0**
JMN Monobe 44.90 21 P **P** **23 15 03.3 +0.2**
LSA Lhasa 44.92 328 P **P** **23 15 04.1 +0.3**
LSA Lhasa 44.92 328 P **P** **23 15 04.1 +0.3**
LSA pmax pmax
comp=Z,214nm,1.7s
HYB Hyderabad 45.33 304 *e*P **P** **23 15 05.6 -1.1**
HNS HongShan 45.44 358 ⇑P **P** **23 15 08.0 +0.8**
HNS pmax pmax
comp=Z,24nm,1.5s
LZH Lanzhou 45.68 346 *e*P **P** **23 15 11.3 +2.0**
LZH pP sP 23 15 17.5 +3.9
LZH pmax pmax
comp=Z,30nm,1.1s
KSAR Wonju Array Be 46.70 12 P **P** **23 15 17.8 +0.7**
KSAR Wonju Array Be 46.70 12 P **P** **23 15 17.8 +0.7**
KSRS Korea Array 46.72 13 P **P** **23 15 16.5 -0.7**
comp=Z,15nm,0.9s,baz=194,slow=7.2,SNR=26
comp=Z,15nm,0.9s
KS19 Wonju Array Si 46.75 12 P **P** **23 15 18.0 +0.5**
KS19 IAmb IAmb 23 15 27.7
comp=Z,34nm,1.1s
DL2 Dalian 47.16 5 P **P** **23 15 21.3 +0.6**
DL2 S **S** **23 22 12.5 -0.8**
DL2 pmax pmax
comp=Z,42nm,1.3s
DL2 LR LR
comp=Z,5μm,19.9s
DL2 LR LR
comp=Z,7μm,15.7s
INU Inuyama 47.51 23 P **P** **23 15 24.5 +1.1**
INU Inuyama 47.51 23 P **P** **23 15 22.6 -0.8**
KOUNC Koumac, New Ca 47.72 110 P **P** **23 15 26.9 +1.4**
KOUNC Koumac, New Ca 47.72 110 P **P** **23 15 26.0 +0.5**
JGF Kuroka 47.86 23 P P 23 15 31.2 +4.9
JGF Kuroka 47.86 23 P **P** **23 15 25.9 -0.4**
JGF IAmb IAmb 23 16 23.0
comp=Z,68nm,1.3s
BJT Baijiatuau 48.03 360 P **P** **23 15 29.0 +1.6**
comp=Z,49nm,1.2s
BJT Baijiatuau 48.03 360 P **P** **23 15 27.3 -0.1**
BJT IAmb IAmb 23 15 44.1
comp=Z,69nm,1.3s
BJT Baijiatuau 48.03 360 P **P** **23 15 27.3 -0.1**
BJT pmax pmax
comp=Z,69nm,1.3s
BJI Beijing 48.05 360 P **P** **23 15 28.5 +0.9**
BJI pmax pmax
comp=Z,22nm,1.2s
BTO Baotou 48.98 353 *e*P **P** **23 15 37.0 +2.1**
BTO pP **sP** **23 15 41.5 +2.3**
BTO sP **pP** **23 15 44.3 +6.3**
BTO pmax pmax
comp=Z,41nm,0.9s
BTO pmax pmax
comp=Z,55μm,12.9s
MAJO Matsushiro 49.01 23 P **P** **23 15 35.4 +0.3**
MAJO Matsushiro 49.01 23 P **P** **23 15 35.0 -0.1**
MAJO Matsushiro 49.01 23 P **P** **23 15 35.0 -0.1**
MAJO pmax pmax
comp=Z,215nm,1.6s
MJAR Matsushiro Arr 49.01 23 P **P** **23 15 35.0 -0.1**
comp=Z,18nm,1.0s,baz=201,slow=7.2,SNR=22
MJAR PcP **PcP** **23 16 55.9 -3.1**
comp=Z,4.1nm,0.8s,baz=190,slow=6.3,SNR=3.7
comp=Z,18nm,1.0s
MJB9 Matsu-Tunnel 49.02 23 P **P** **23 15 35.5 +0.3**
HHC Hu-ho-hao-te 49.07 355 *e*P P 23 15 40.5 +4.9
GTA Gaotai 49.88 343 P **P** **23 15 44.0 +2.2**
GTA pP sP 23 15 51.5 +5.4
GTA pmax pmax
comp=Z,23nm,0.9s
DZM Mont Dzumac 49.92 112 P **P** **23 15 44.3 +1.8**
DZM Mont Dzumac 49.92 112 P **P** **23 15 42.3 -0.2**
DZM IAmb IAmb 23 15 51.2
comp=Z,40nm,0.8s
ONTNC Ouen Toro 49.96 112 P **P** **23 15 44.9 +2.2**
ONTNC Ouen Toro 49.96 112 P **P** **23 15 42.6 -0.1**
SNY Shenyang 50.26 7 ⇓P **P** **23 15 44.3 -0.2**
SNY pmax pmax
comp=Z,19nm,1.2s
YATNC Mamie plateau, 50.33 112 P **P** **23 15 47.9 +2.4**
LIFNC LIFOU 50.50 110 P **P** **23 15 48.9 +2.2**
LIFNC LIFOU 50.50 110 P **P** **23 15 47.0 +0.3**
PINNC Pines Island, 50.92 112 P **P** **23 15 50.1 +0.2**
PINNC IAmb IAmb 23 16 14.8
comp=Z,100nm,1.2s
JMM Marumori 51.20 25 P **P** **23 15 55.9 +4.3**
JMM Marumori 51.20 25 P **P** **23 15 52.5 +0.9**
XLT XiLinHaoTe 51.91 360 *e*P **P** **23 15 57.8 +0.8**
XLT pP sP 23 16 01.8 +0.5
XLT sP pP 23 16 04.8 +4.7
XLT pmax pmax
comp=Z,22nm,1.3s
MSHR Mys Shultsa 52.34 14 *ce*P **P** **23 16 01.7 +1.7**
MSHR pmax pmax
comp=Z,35nm,1.7s
CN2 Changchun 52.45 8 *e*P **P** **23 16 01.0 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
JTM Tenmabayashi 53.80 23 P **P** **23 16 10.7 -0.2**
MDJ Mudanjiang 53.94 12 P **P** **23 16 12.8 +0.9**
MDJ pmax pmax
comp=Z,61nm,1.0s
MDJ Mudanjiang 53.94 12 P **P** **23 16 11.8 0.0**
MDJ IAmb IAmb 23 16 20.6
comp=Z,55nm,1.0s
USA0B Ussuriysk Arra 54.06 14 P **P** **23 16 12.9 +0.1**
USA0B Ussuriysk Arra 54.06 14 P **P** **23 16 12.9 +0.1**
USA0B pmax pmax
comp=Z,231nm,1.9s
USRK Ussuriysk Ar. 54.06 14 P **P** **23 16 12.9 +0.2**
USRK Ussuriysk Ar. 54.06 14 P **P** **23 16 13.5 +0.8**
comp=Z,27nm,0.8s,baz=188,slow=6.5,SNR=50
comp=Z,27nm,0.8s
BNX BinXian 54.64 9 ⇑P **P** **23 16 17.0 +0.1**
BNX pmax pmax
comp=Z,17nm,1.5s
ERM Erimo 55.67 24 P **P** **23 16 27.7 +3.3**
ERM Erimo 55.67 24 P **P** **23 16 25.1 +0.7**
ERM IAmb IAmb 23 16 32.0
comp=Z,39nm,0.9s
ERM Erimo 55.67 24 P **P** **23 16 25.1 +0.7**
ERM pmax pmax
comp=Z,39nm,0.9s
ULN Ulaanbaatar 56.49 352 P **P** **23 16 30.9 +0.5**
ULN **pP** **23 16 31.1 -2.5**
ULN IAmb IAmb 23 16 40.1
comp=Z,35nm,1.1s
ULN Ulaanbaatar 56.49 352 *ce*P **P** **23 16 31.4 +1.0**
ULN pmax pmax
comp=Z,31nm,1.3s
SONM Songino Array 56.55 352 P **P** **23 16 30.9 +0.1**
SONM IAmb IAmb 23 16 39.6
comp=Z,35nm,0.9s
SONM Songino Array 56.55 352 P **P** **23 16 31.7 +0.9**
comp=Z,27nm,0.8s,baz=171,slow=8.1,SNR=115
comp=Z,27nm,0.8s
SONM Songino Array 56.55 352 P **P** **23 16 30.9 +0.1**
SONM pmax pmax
comp=Z,35nm,0.9s
DCZ Deep Cove 57.13 140 P **P** **23 16 35.2 +0.3**
DCZ IAmb IAmb 23 16 45.6
comp=Z,86nm,1.3s
MCQ Macquarie Isla 57.20 152 P **P** **23 16 37.8 +2.6**
MCQ Macquarie Isla 57.20 152 P **P** **23 16 36.0 +0.8**
MCQ Macquarie Isla 57.20 152 P **P** **23 16 36.0 +0.8**
MCQ pmax pmax
comp=Z,86nm,0.9s
ASAJ Asahikawa 57.24 22 P **P** **23 16 35.4 -0.2**
ASAJ pmax pmax
comp=Z,85nm,1.0s
JKA Kamikawa-asahi 57.24 22 P **P** **23 16 35.4 -0.2**
HIA Hailar 57.35 3 P **P** **23 16 36.2 -0.1**
HIA IAmb IAmb 23 16 44.6
comp=Z,35nm,1.0s
HIA Hailar 57.35 3 P **P** **23 16 36.2 -0.1**
HIA pmax pmax
comp=Z,35nm,1.0s
JCZ Jackson Bay 57.65 138 P **P** **23 16 40.9 +2.1**
MLZ Mavora Lakes 57.71 139 P **P** **23 16 38.7 -0.3**
MLZ IAmb IAmb 23 16 41.6
comp=Z,44nm,1.0s
WHZ Wether Hill Ro 57.81 140 P **P** **23 16 40.1 +0.4**
WHZ IAmb IAmb 23 16 42.2
comp=Z,104nm,1.3s
WMQ Urumqi 58.03 336 *e*P **P** **23 16 42.3 +1.0**
WMQ sP sP 23 16 52.5 +6.9
WMQ pmax pmax
comp=Z,61nm,1.3s
CASY Casey 58.08 183 P **P** **23 16 41.2 0.0**
CASY IAmb IAmb 23 16 47.1
comp=Z,33nm,1.1s
FOZ Fox Glacier 58.15 137 P **P** **23 16 42.7 +0.6**
NIL Nilore 58.47 318 P **P** **23 16 44.5 0.0**
NIL Nilore 58.47 318 P **P** **23 16 44.5 0.0**
NIL pmax pmax
comp=Z,28nm,1.3s
KLR Kul'dur 58.79 12 *ce*P **P** **23 16 46.4 0.0**
KLR pmax pmax
comp=Z,28nm,1.7s
HEH HeiHe 59.04 8 *e*P **P** **23 16 48.3 +0.2**
HEH pmax pmax
comp=Z,62nm,1.0s
RPZ Rata Peaks 59.06 136 P **P** **23 16 49.3 +0.8**
ZAK Zakamensk 59.51 350 *e*P **P** **23 16 51.7 +0.2**
ZAK pmax pmax
comp=Z,19nm,1.8s
YSS Yuzh-Sakhalins 59.73 21 P **P** **23 16 53.8 +0.9**
YSS Yuzh-Sakhalins 59.73 21 P **P** **23 16 52.9 0.0**
YSS Yuzh-Sakhalins 59.73 21 *ce*P **P** **23 16 53.8 +0.9**
YSS pmax pmax
comp=Z,51nm,1.0s
RER Riviere de l'E 59.81 250 P **P** **23 16 54.7 +0.5**
CIT Chita 60.09 358 *e*P **P** **23 16 59.0 +3.6**
CIT *e* 23 17 09.2
CIT *e* 23 17 47.6
CIT pmax pmax
comp=Z,120nm,1.9s
KHZ Kahutara 60.37 134 P **P** **23 16 57.6 +0.1**
MSVF Nonsavu 60.51 106 P **P** **23 17 01.0 +2.0**
MSVF Nonsavu 60.51 106 P **P** **23 16 58.0 -1.0**
MSVF IAmb IAmb 23 17 12.6
comp=Z,71nm,1.4s
MSVF Nonsavu 60.51 106 P **P** **23 16 58.0 -1.0**
MSVF pmax pmax
comp=Z,71nm,1.4s
KSH Kashi 60.54 325 P **P** **23 16 57.8 -1.0**
KSH sP sP 23 17 08.8 +5.6
KSH pmax pmax
comp=Z,6.0nm,0.9s
TCW Tory Channel 60.56 133 P **P** **23 16 58.8 -0.1**
TOZ Tahuroa Road 60.61 129 P **P** **23 16 59.8 +0.6**
TOZ IAmb IAmb 23 17 06.8
comp=Z,70nm,1.2s
TARG Taragay, Kyrgy 61.06 328 P **P** **23 17 02.7 0.0**
TARG IAmb IAmb 23 17 24.7
comp=Z,28nm,1.1s
TARG Taragay, Kyrgy 61.06 328 P **P** **23 17 02.7 0.0**
TARG pmax pmax
comp=Z,28nm,1.1s
MOY Mondy 61.15 349 *e*P **P** **23 17 04.2 +1.5**
MOY pmax pmax
comp=Z,99nm,2.2s
IRK Irkutsk 61.16 351 *e*P P 23 17 08.1 +5.5
IRK pmax pmax
comp=Z,86nm,2.2s
SHLS Shalkode 61.24 330 *e*P **P** **23 17 02.0 -1.6**
comp=Z,24nm,1.1s,baz=330
SHLS Shalkode 61.24 330 *e*P **P** **23 17 01.9 -1.6**
SHLS pmax pmax
comp=Z,24nm,1.1s
GRNR Gornyy 61.27 14 ⇑*i*P **P** **23 17 05.3 +1.9**
GRNR pmax pmax
comp=Z,8.0nm,1.1s
PRZ Przheval'sk 61.29 329 P **P** **23 17 03.3 -0.6**
PRZ IAmb IAmb 23 17 16.6
comp=Z,59nm,1.3s
PRZ Przheval'sk 61.29 329 P **P** **23 17 03.3 -0.6**
PRZ pmax pmax
comp=Z,59nm,1.3s
UZB Uzynbulak 61.45 330 *e*P **P** **23 17 04.6 -0.4**
comp=Z,15nm,1.2s,baz=330
UZB Uzynbulak 61.45 330 *e*P **P** **23 17 04.6 -0.4**
UZB pmax pmax
comp=Z,15nm,1.2s
BKZ Black Stump Fm 61.69 130 P **P** **23 17 07.2 +0.6**
BKZ Black Stump Fm 61.69 130 P **P** **23 17 06.1 -0.5**
SATY Saty 61.70 329 *e*P **P** **23 17 06.1 -0.5**
comp=Z,14nm,1.3s,baz=329
SATY Saty 61.70 329 *e*P **P** **23 17 06.9 +0.3**
SATY pmax pmax
comp=Z,13nm,1.3s
KBL Kabul 61.82 316 P **P** **23 17 05.2 -2.5**
KBL Kabul 61.82 316 P **P** **23 17 05.2 -2.5**
KBL pmax pmax
comp=Z,24nm,1.3s
NRN Naryn 61.83 326 P **P** **23 17 06.2 -1.6**
NRN Naryn 61.83 326 P **P** **23 17 06.2 -1.6**
NRN pmax pmax
comp=Z,17nm,1.2s
KPKS Kokpek 61.85 330 *e*P **P** **23 17 07.8 +0.2**
comp=Z,18nm,1.2s,baz=330
KPKS Kokpek 61.85 330 *e*P **P** **23 17 07.8 +0.2**
KPKS pmax pmax
comp=Z,18nm,1.2s
ZSN Zaisan 62.14 336 *e*P **P** **23 17 09.1 -0.3**
comp=Z,14nm,0.9s,baz=336
ZSN Zaisan 62.14 336 *e*P **P** **23 17 09.0 -0.3**
ZSN pmax pmax
comp=Z,15nm,0.9s
ZEA Zeya 62.43 7 *e*P **P** **23 17 11.5 +0.4**
ZEA pmax pmax
comp=N,40nm,1.0s
ZEA pmax pmax
comp=Z,50nm,1.3s
TNSS Tian-Shan 62.44 328 *e*P **P** **23 17 11.8 -0.1**
baz=328
TNSS Tian-Shan 62.44 328 *e*P **P** **23 17 11.8 -0.1**
MDOK Medeo 62.47 328 *e*P **P** **23 17 11.8 0.0**
baz=328
MDOK *e*S **S** **23 25 40.3 +0.9**
baz=328
MDOK Medeo 62.47 328 *e*P **P** **23 17 11.8 0.0**
MDOK *e*S **S** **23 25 40.2 +0.9**
AAA Alma-Ata 62.57 328 *e*P **P** **23 17 12.5 0.0**
comp=Z,14nm,0.5s,baz=328
AAA Alma-Ata 62.57 328 *e*P **P** **23 17 12.4 0.0**
AAA pmax pmax
comp=Z,14nm,0.5s
BOOM Boomskoye usch 62.59 327 P **P** **23 17 11.9 -0.8**
BOOM IAmb IAmb 23 17 24.2
comp=Z,46nm,1.4s
BOOM Boomskoye usch 62.59 327 P **P** **23 17 11.9 -0.8**
BOOM pmax pmax
comp=Z,46nm,1.4s
MK31 Makanchi Array 62.68 334 P **P** **23 17 12.1 -0.9**
MK31 IAmb IAmb 23 17 28.6
comp=Z,39nm,1.1s
MK31 Makanchi Array 62.68 334 P **P** **23 17 12.1 -0.9**
MK31 pmax pmax
comp=Z,39nm,1.2s
MKAR Makanchi Array 62.68 334 P **P** **23 17 12.1 -0.9**
MKAR Makanchi Array 62.68 334 P **P** **23 17 12.5 -0.5**
comp=Z,17nm,0.9s,baz=141,slow=7.8,SNR=38
MKAR PKP2bc 23 46 24.4
comp=Z,0.7nm,0.8s,baz=0.0,slow=0.1,SNR=3.7
comp=Z,17nm,0.9s
ARXS Arharly 62.82 330 *e*P **P** **23 17 13.0 -1.1**
MAKZ Makanchi 62.83 334 P **P** **23 17 12.5 -1.5**
MAKZ IAmb IAmb 23 17 25.3
comp=Z,34nm,1.3s
MAKZ Makanchi 62.83 334 P **P** **23 17 12.5 -1.5**
MAKZ pmax pmax
comp=Z,34nm,1.3s
ARLS Aral 63.05 326 P **P** **23 17 17.4 +1.7**
ARLS pmax pmax
comp=Z,24nm,1.0s
TYV Tymovskoe 63.09 18 *e*P P 23 17 22.7 +7.1
TYV pmax pmax
comp=Z,26nm,1.2s
TYV pmax pmax
comp=Z,70nm,3.8s
AAK Ala-Archa 63.47 327 P **P** **23 17 18.5 0.0**
AAK IAmb IAmb 23 17 36.6
comp=Z,23nm,1.0s
AAK Ala-Archa 63.47 327 P **P** **23 17 18.5 0.0**
AAK pmax pmax
comp=Z,23nm,1.0s
FRU1 Bishkek 63.51 327 P **P** **23 17 20.8 +2.1**
FRU1 pmax pmax
comp=Z,23nm,1.8s
BTK Batken 63.93 322 P **P** **23 17 21.0 -0.5**
BTK IAmb IAmb 23 17 55.5
comp=Z,32nm,1.1s
BTK Batken 63.93 322 P **P** **23 17 21.0 -0.5**
BTK pmax pmax
comp=Z,31nm,1.2s
SGDS Sogindy 63.95 327 *e*P **P** **23 17 21.9 +0.4**
baz=327
SGDS Sogindy 63.95 327 *e*P **P** **23 17 21.9 +0.4**
SIMJ Simiganj 64.21 320 P **P** **23 17 22.9 -0.5**
SIMJ IAmb IAmb 23 17 40.2
comp=Z,40nm,1.4s
ARK Arkit 64.34 324 P **P** **23 17 22.3 -1.9**
TRKS Terek-Say 64.65 324 P **P** **23 17 28.4 +2.1**
TRKS pmax pmax
comp=Z,21nm,1.2s
BTLS Baital 65.33 328 *e*P **P** **23 17 31.0 +0.5**
baz=328
BTLS *e*S **S** **23 26 16.1 +1.6**
baz=328
BTLS Baital 65.33 328 *e*P **P** **23 17 30.9 +0.5**
BTLS *e*S **S** **23 26 16.0 +1.6**
IUG Iuzhnay 65.68 324 *e*P **P** **23 17 32.9 -0.1**
comp=Z,18nm,1.0s,baz=324
IUG Iuzhnay 65.68 324 *e*P **P** **23 17 32.8 -0.1**
IUG pmax pmax
comp=Z,18nm,1.0s
BOD Bodaibo 65.88 359 *e*P **P** **23 17 33.5 -0.2**
BOD pmax pmax
comp=Z,83nm,2.2s
KKAR Karatay Array 66.00 325 P **P** **23 17 33.7 -1.1**
KKAR Karatay Array 66.00 325 P **P** **23 17 33.3 -1.5**
KKAR Karatay Array 66.00 325 P **P** **23 17 33.3 -1.5**
CHM Chimkent 66.04 324 *e*P **P** **23 17 34.9 -0.3**
comp=Z,12nm,1.1s,baz=324
CHM Chimkent 66.04 324 *e*P **P** **23 17 34.8 -0.3**
CHM pmax pmax
comp=Z,12nm,1.1s
SEM Semipalatinsk 66.34 336 *e*P **P** **23 17 37.2 0.0**
comp=Z,14nm,1.1s,baz=336
SEM Semipalatinsk 66.34 336 *e*P **P** **23 17 37.1 0.0**
SEM pmax pmax
comp=Z,14nm,1.1s
KURBB Kurchatov Arra 67.22 335 P **P** **23 17 41.5 -0.9**
comp=Z,6.8nm,0.9s,baz=141,slow=5.8,SNR=26
KURBB PKP2bc 23 46 06.7
comp=Z,1.2nm,0.9s,baz=314,slow=3.6,SNR=6.6
comp=Z,6.8nm,0.9s
KURK Kurchatov 67.25 335 P **P** **23 17 40.9 -1.7**
KURK IAmb IAmb 23 18 02.5
comp=Z,66nm,1.4s
KURK Kurchatov 67.25 335 P **P** **23 17 41.5 -1.1**
ZAA0 Zalesovo Array 67.48 340 P **P** **23 17 42.5 -1.5**
ZAA0 IAmb IAmb 23 17 54.5
comp=Z,26nm,0.9s
ZALV Zalesovo Beam 67.48 340 P **P** **23 17 42.5 -1.6**
ZALV Zalesovo Beam 67.48 340 P **P** **23 17 42.6 -1.4**
comp=Z,23nm,0.9s,baz=147,slow=4.8,SNR=42
ZALV PKP2bc 23 46 06.5
comp=Z,0.3nm,0.4s,baz=236,slow=0.5,SNR=3.8
comp=Z,23nm,0.9s
ABPO Ambohimpanom 67.79 253 P **P** **23 17 45.5 -1.4**
ABPO IAmb IAmb 23 17 58.6
comp=Z,25nm,1.1s
ABPO Ambohimpanom 67.79 253 P **P** **23 17 45.5 -1.4**
ABPO pmax pmax
comp=Z,25nm,1.1s
VOI Vohitsoka 68.16 250 P **P** **23 17 48.6 -0.6**
VOI IAmb IAmb 23 18 00.7
comp=Z,38nm,0.9s
MAW Mawson 69.10 199 P **P** **23 17 55.0 +1.1**
comp=Z,33nm,0.9s,baz=58,slow=6.9,SNR=48
comp=Z,33nm,0.9s
PET Petropavlovsk 70.77 25 P **P** **23 18 06.9 +2.5**
PET Petropavlovsk 70.77 25 P **P** **23 18 04.1 -0.3**
PET IAmb IAmb 23 18 12.3
comp=Z,29nm,1.1s
PET Petropavlovsk 70.77 25 *ce*P **P** **23 18 06.2 +1.8**
PET pmax pmax
comp=Z,37nm,1.3s
PET Petropavlovsk 70.77 25 P **P** **23 18 06.8 +2.4**
comp=Z,35nm,1.8s
YAK Yakutsk 70.82 7 P **P** **23 18 04.1 -0.4**
YAK Yakutsk 70.82 7 *e*P **P** **23 18 04.7 +0.2**

YAK pmax pmax
comp=Z,41nm,0.9s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
BVAR Borovoye Array 72.48 333 P **P 23 18 13.8 -1.0**
comp=E,8.2nm,0.8s,baz=139,slow=7.5,SNR=27
comp=E,8.2nm,0.8s
BRVK Borovoye 72.55 333 P **P 23 18 13.4 -1.8**
BRVK Borovoye 72.55 333 *ce*P **P 23 18 14.2 -1.0**
BRVK pmax pmax
comp=Z,14nm,1.3s
MA2 Magadan 72.94 17 P **P 23 18 16.6 -0.8**
MA2 IAmb IAmb 23 18 40.7
comp=Z,43nm,1.1s
MA2 Magadan 72.94 17 *ce*P **P 23 18 17.2 -0.1**
MA2 pmax pmax
comp=Z,47nm,1.7s
VNDA Vanda 73.11 171 P **P 23 18 18.5 +0.3**
VNDA IAmb IAmb 23 18 20.9
comp=Z,37nm,1.1s
VNDA Vanda 73.11 171 P **P 23 18 19.2 +1.0**
comp=Z,26nm,1.0s,baz=326,slow=5.2,SNR=55
comp=Z,26nm,1.0s
VNDA Vanda 73.11 171 P **P 23 18 18.5 +0.3**
VNDA pmax pmax
comp=Z,37nm,1.1s
SBA Scott Base 74.14 170 P **P 23 18 24.5 +0.3**
SBA IAmb IAmb 23 18 39.3
comp=Z,44nm,1.1s
SBA Scott Base 74.14 170 P **P 23 18 24.5 +0.3**
SBA pmax pmax
comp=Z,44nm,1.2s
ABKAR Akbulak array 75.53 326 P **P 23 18 30.9 -1.9**
ABKAR Akbulak array 75.53 326 P **P 23 18 30.8 -1.9**
ABKAR IAmb IAmb 23 18 43.8
comp=Z,22nm,0.9s
SEY Seymchan 76.12 16 *ce*P **P 23 18 37.0 +1.3**
SEY pmax pmax
comp=Z,27nm,1.3s
RAYN Ar Rayn 76.14 297 P **P 23 18 34.3 -2.5**
RAYN Ar Rayn 76.14 297 P **P 23 18 34.3 -2.5**
RAYN pmax pmax
comp=Z,13nm,0.9s
KIBK Kibwezi 78.22 269 P **P 23 18 46.9 -1.9**
KMBO Kilima Mbogo 79.17 270 P **P 23 18 53.2 -1.0**
KMBO Kilima Mbogo 79.17 270 P **P 23 18 53.2 -1.0**
KMBO pmax pmax
comp=Z,15nm,1.1s
SVE Sverdlovsk 79.26 332 *e*P **P 23 18 52.3 -1.1**
NRIK Noril'sk 79.97 350 P **P 23 18 56.6 -0.4**
NRIK Noril'sk 79.97 350 P **P 23 18 58.4 +1.3**
comp=Z,2.0nm,0.5s,baz=172,slow=5.4,SNR=3.8
NRIK PKPPKP **P'P'df 23 45 41.8 -1.9**
comp=Z,2.8nm,0.3s,baz=79,slow=1.8,SNR=7.7
comp=Z,2.0nm,0.5s
NRIK Noril'sk 79.97 350 P **P 23 18 56.6 -0.4**
NRIK pmax pmax
comp=Z,20nm,1.2s
ARU Arti 80.01 331 *i* P **P 23 19 00.4 +2.9**
ARU pmax pmax
comp=Z,23nm,1.5s
TIXI Tiksi 80.16 4 *ce*P **P 23 18 58.2 +0.2**
TIXI pmax pmax
comp=Z,19nm,0.8s
POGA Pongola 81.64 244 P **P 23 19 06.9 0.0**
POGA IAmb IAmb 23 19 19.9
comp=Z,40nm,0.7s
LODK Lodwar 81.71 275 P **P 23 19 06.9 -0.8**
QSPA South Pole Qui 81.74 180 P **P 23 19 07.2 +0.4**
QSPA IAmb IAmb 23 19 10.6
comp=Z,61nm,1.1s
QSPA South Pole Qui 81.74 180 P **P 23 19 07.7 +0.9**
comp=Z,40nm,1.0s,baz=307,slow=2.9,SNR=14
comp=Z,40nm,1.0s
GURO Guroymak-BITLI 83.13 310 P **P 23 19 14.0 -0.6**
ELIB Princess Elisa 83.18 198 *d*P **P 23 19 15.2 +0.9**
comp=Z,26nm,1.1s
BILL Bilibino 83.79 17 *i* P **P 23 19 19.6 +2.4**
BILL pmax pmax
comp=Z,13nm,1.6s
KBZ Khabaz 84.00 316 P **P 23 19 19.8 +1.1**
comp=Z,1.8nm,0.7s,baz=14,slow=4.2,SNR=1.2
comp=Z,1.8nm,0.7s
KBZ Khabaz 84.00 316 *i* P **P 23 19 21.5 +2.8**
KBZ pmax pmax
comp=Z,11nm,1.4s
KIV Kislovodsk 84.21 316 *e*P **P 23 19 21.4 +1.4**
KIV pmax pmax
comp=Z,7.0nm,1.1s
GOF Gofitskoye 84.30 317 *ce*P P 23 19 34.9 +15
KIRV Kirov 85.38 331 *ce*P **P 23 19 25.4 +0.1**
GRHM Grahamstown, E 85.61 237 P **P 23 19 27.5 +0.2**
GRHM IAmb IAmb 23 19 42.0
comp=Z,55nm,1.0s
MBAR Mbarara 85.70 270 P **P 23 19 27.2 -1.0**
MBAR Mbarara 85.70 270 P **P 23 19 27.2 -1.0**
MBAR pmax pmax
comp=Z,13nm,0.8s
ARPR Arapgir-MALATY 86.06 310 P **P 23 19 29.5 0.0**
ARPR IAmb IAmb 23 19 54.7
comp=Z,29nm,1.0s
SOC Sochi 86.17 315 *e*P **P 23 19 27.2 -2.5**
SOC *e*S **SKSac 23 29 55.5 -0.5**
SOC *e*SS **SS 23 35 38.4 -5.3**
SOC *e*SSS SSS 23 39 16.8
SOC pmax pmax
comp=Z,7.0nm,0.7s
LSZ Lusaka 86.22 255 P **P 23 19 29.8 -0.9**
LSZ IAmb IAmb 23 19 42.2
comp=Z,29nm,0.9s
LSZ Lusaka 86.22 255 P **P 23 19 29.8 -0.9**
LSZ pmax pmax
comp=Z,29nm,0.9s
GHAJ Ghor Haditha 86.55 302 P **P 23 19 31.2 -0.6**
VRH Novokhopyorsk 86.97 323 *e*P **P 23 19 29.0 -4.4**
VRH pmax pmax
comp=Z,10.0nm,0.9s
MMAI Mount Meron Ar 87.04 304 P **P 23 19 33.8 -0.5**
comp=Z,4.6nm,0.9s,baz=38,slow=13,SNR=3.3
comp=Z,4.6nm,0.9s
NVL N'lazarevskaya 87.04 199 *e*P **P 23 19 30.2 -3.2**
NVL *e*S **SKSac 23 29 59.2 -1.3**
NVL pmax pmax
comp=Z,23nm,1.0s
BOSA Boshof 87.17 242 P **P 23 19 34.6 -0.5**
BOSA IAmb IAmb 23 19 46.4
comp=Z,28nm,0.9s
BOSA Boshof 87.17 242 P **P 23 19 35.6 +0.5**
comp=Z,17nm,0.9s,baz=127,slow=6.9,SNR=12
comp=Z,17nm,0.9s
BOSA Boshof 87.17 242 P **P 23 19 34.6 -0.5**
BOSA pmax pmax
comp=Z,28nm,0.9s
LBTB Lobatse 87.35 245 P **P 23 19 36.0 -0.1**
LBTB IAmb IAmb 23 19 47.6
comp=Z,27nm,0.9s
LBTB Lobatse 87.35 245 P **P 23 19 36.0 -0.1**
LBTB pmax pmax
comp=Z,27nm,0.9s
VSR Storozhevoye 88.52 322 *e*P **P 23 19 36.7 -4.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 88.61 323 *e*P **P 23 19 37.6 -3.6**
VORR pmax pmax
comp=Z,10.0nm,1.0s
TROLL Troll, Antarti 89.39 197 ⇑P **P 23 19 46.4 +1.6**
comp=Z,1μm,0.8s
BRTR Keskin Array B 89.75 310 P **P 23 19 45.2 -1.9**
comp=Z,1.9nm,0.9s,baz=138,slow=6.2,SNR=4.5
comp=Z,1.9nm,0.9s
OBN Obninsk 90.98 326 ⇓ *e*P **P 23 19 52.7 +0.5**
OBN pmax pmax
comp=Z,7.0nm,0.9s
SNAA Sanae 91.03 196 P **P 23 19 52.7 +0.4**
SNAA Sanae 91.03 196 ⇑P **P 23 19 53.4 +1.1**
comp=Z,475nm,0.8s
SNAA Sanae 91.03 196 P **P 23 19 54.0 +1.6**
comp=Z,27nm,0.9s,baz=134,slow=4.1,SNR=35
comp=Z,27nm,0.9s
SNAA Sanae 91.03 196 *ce*P **P 23 19 53.6 +1.2**
SNAA pmax pmax
comp=Z,57nm,1.2s
BELA Belgrano 2 92.51 186 P **P 23 19 59.2 +0.1**
VNA2 Neumayer--Watz 92.67 196 ⇑P **P 23 20 01.2 +1.3**
comp=Z,21nm,0.7s,baz=120,slow=3.8
VNA1 Neumayer--Stat 93.07 196 ⇑P **P 23 20 03.1 +1.5**
comp=Z,19nm,0.8s
VNA3 Neumayer Olymp 93.09 195 ⇑P **P 23 20 02.8 +1.0**
comp=Z,18nm,0.8s
G16K Koyuk River 93.78 24 P **P 23 20 04.3 -0.6**
G16K IAmb IAmb 23 20 26.8
comp=Z,15nm,1.1s
AKBB Malin Array Si 94.58 320 *i* P **P 23 20 10.0 +1.0**
ARCES ARCESS Array B 98.01 339 PP **PP 23 24 19.2 -3.8**
comp=Z,3.0nm,1.1s,baz=99,slow=5.6,SNR=2.7
ILAR Eielson Array 100.25 26 PP **PP 23 24 37.9 -2.3**
comp=Z,1.1nm,1.1s,baz=270,slow=7.3,SNR=4.5
ILAR PKKPbc **PKKPbc 23 36 52.0 -2.1**
comp=Z,1.4nm,0.9s,baz=120,slow=1.9,SNR=5.1
GERES GERESS Array B 104.58 318 PKKPbc PKKPbc 23 36 39.7 -1.3
comp=Z,0.5nm,0.8s,baz=277,slow=3.3,SNR=3.5
TOA0 Torodi Ar. Sit 115.87 281 **PKPdf 23 25 29.8 -2.3**
TORD Torodi Ar. Bea 115.87 281 PKP **PKPdf 23 25 29.8 -2.3**
comp=Z,3.6nm,0.7s,baz=71,slow=3.7,SNR=23
TORD PKKPbc **PKKPbc 23 36 01.7 -1.5**
comp=Z,0.3nm,0.7s,baz=283,slow=4.6,SNR=1.9
ESDC Sonseca Array 118.53 311 PKP **PKPdf 23 25 34.8 -1.8**
comp=Z,1.0nm,0.8s,baz=15,slow=3.4,SNR=6.4
PAHR Pah Rah Range 121.28 48 **PKPdf 23 25 41.6 -0.5**
DBIC Dimbokro 121.85 273 PKP **PKPdf 23 25 42.4 -1.2**
comp=Z,4.0nm,0.8s,baz=71,slow=5.1,SNR=4.5
NVAR Mina Array Bea 122.45 49 PKP **PKiKP 23 25 44.7 +0.1**
comp=Z,0.9nm,0.6s,baz=319,slow=1.8,SNR=5.9
NVAR PKKPbc **PKKPab 23 35 38.0 -1.1**
comp=Z,0.3nm,0.5s,baz=88,slow=5.7,SNR=2.6
HLID Hailey 123.49 43 **PKPdf 23 25 45.9 -0.3**
EGMT Eagleton 124.43 36 **PKPdf 23 25 46.5 -1.3**
BOZ Bozeman (W) 124.44 39 **PKPdf 23 25 47.4 -0.5**
BOZ Bozeman (W) 124.44 39 PKIKP **PKPdf 23 25 47.4 -0.5**
V12A Nelson 125.89 52 **PKPdf 23 25 50.5 -0.4**
DUG Dugway, Tooele 125.89 46 **PKPdf 23 25 50.6 -0.2**
DUG Dugway, Tooele 125.89 46 PKIKP **PKPdf 23 25 50.6 -0.2**
PDAR Pinedale Array 127.05 42 PKP **PKPdf 23 25 52.5 -0.7**
comp=Z,1.3nm,0.8s,baz=260,slow=0.9,SNR=5.5
LAO LASA Array 127.17 36 **PKPdf 23 25 52.4 -0.6**
U15A North Rim 127.62 50 **PKiKP 23 25 54.8 -0.2**
ULM Lac du Bonnet 130.25 27 PKP **PKPdf 23 25 57.1 -1.5**
comp=Z,0.9nm,0.5s,baz=250,slow=3.0,SNR=1.9
ULM SKPbc **SKPab 23 29 19.4 -2.4**
comp=Z,2.6nm,0.8s,baz=327,slow=1.1,SNR=3.1
PLCA Paso Flores 130.83 173 PKP **PKiKP 23 26 01.0 -0.1**
comp=Z,4.7nm,1.0s,baz=210,slow=0.9,SNR=7.2
PLCA SKPbc **SKPbc 23 29 22.5 -2.0**
comp=Z,9.5nm,1.1s,baz=199,slow=6.5,SNR=7.0
ANMO Albuquerque 132.58 49 PKIKP **PKiKP 23 26 04.7 -0.2**
TXAR Lajitas Array 136.90 55 PKhKP PKPpre 23 26 01.4
comp=Z,0.7nm,0.9s,baz=333,slow=7.3,SNR=3.4
TXAR SKPbc **SKPbc 23 29 43.7 -1.4**
comp=Z,0.9nm,0.9s,baz=300,slow=2.5,SNR=3.6
ZON Zonda 140.12 173 **PKPdf 23 26 17.1 -0.7**
ZON Zonda 140.12 173 PKIKP **PKPdf 23 26 17.1 -0.7**
T42A Van Buren 141.97 37 **PKPdf 23 26 19.5 -1.3**
LCO Las Campanas 142.31 170 PKIKP **PKPdf 23 26 20.4 -1.6**
HKT Hockley 142.83 50 PKIKP **PKPdf 23 26 19.4 -3.0**
O53A New Philadelph 144.44 24 **PKPab 23 26 21.9 -1.3**
WVT Waverly 144.49 35 **PKPab 23 26 22.2 -1.3**
WVT Waverly 144.49 35 PKIKP **PKPab 23 26 22.2 -1.3**
P52A Corning 144.59 25 **PKPab 23 26 22.2 -1.6**
SPB Sao Paulo 144.65 206 **PKPab 23 26 23.9 -0.6**
OXF Oxford 144.66 39 **PKPab 23 26 23.0 -1.2**
OXF Oxford 144.66 39 PKIKP **PKPab 23 26 23.0 -1.2**
VAO Valinhos 144.96 207 *eP* **PKPdf 23 26 27.5 +0.9**
CPUP Villa Florida 145.10 190 **PKPbc 23 26 25.5 -0.5**
CPUP Villa Florida 145.10 190 PKPbc **PKPdf 23 26 26.8 +0.2**
comp=Z,102nm,1.1s,baz=167,slow=3.0,SNR=91
CPUP Villa Florida 145.10 190 *eP* **PKPdf 23 26 27.2 +0.6**
KSPA Keystone Colle 145.10 16 **PKPbc 23 26 23.6 -2.0**
PLAL Pickwick Lake 145.15 37 **PKPbc 23 26 23.8 -2.1**
SSPA Standing Stone 145.31 19 **PKPbc 23 26 24.6 -1.6**
SJMB Sao Joao De Ma 145.31 219 *eP* **PKPdf 23 26 28.1 +0.9**
PTGB Pitanga 145.38 199 *eP* **PKPdf 23 26 28.0 +0.7**
VBMS Vicksburg 145.41 43 **PKPbc 23 26 25.5 -1.3**
T50A Nancy 145.44 31 **PKPbc 23 26 24.6 -2.2**
MCWV Mont Chateau 145.48 23 **PKPbc 23 26 25.3 -1.5**
BSCB Bom Sucesso 145.58 212 *eP* **PKPab 23 26 29.2 +1.1**
FRTB Fartura 145.75 203 *eP* **PKPab 23 26 30.0 +1.4**
TRNY Table Rock, Ra 145.89 14 **PKPdf 23 26 26.3 -1.2**
GUA01 Guaratinga, BA 145.94 224 *eP* **PKPab 23 26 29.8 +0.4**
SWET Sewanee 146.21 34 **PKPdf 23 26 27.3 -1.0**
LDASE Londrina, Braz 146.29 201 *eP* **PKPab 23 26 30.8 +0.2**
TZTN Tazewell 146.46 30 **PKPdf 23 26 27.4 -1.3**
PB14 IPOC Station P 146.64 169 **PKPdf 23 26 29.5 -0.2**
TKL Tuckaleechee C 147.03 31 **PKPdf 23 26 29.1 -0.5**
TKL Tuckaleechee C 147.03 31 PKP2 **PKPdf 23 26 29.1 -0.5**
DIAM Diamantina, MG 147.14 216 *eP* **PKPbc 23 26 33.4 +0.8**
LRAL Lakeview Retre 147.14 38 **PKPdf 23 26 28.5 -1.4**
TRCB Terra Rica 147.35 199 *eP* **PKPbc 23 26 33.2 +0.2**
NBAN Anadia - AL 147.54 237 *eP* **PKPbc 23 26 34.5 +0.8**
PCMB Pacaembu 147.98 202 *eP* **PKPdf 23 26 32.1 +0.5**
PB05 IPOC Station P 148.40 168 **PKPdf 23 26 33.9 +1.4**
PMNB Patos De Minas 148.49 212 *eP* **PKPdf 23 26 33.2 +0.5**
AF01 San Pedro de A 148.65 172 **PKPbc 23 26 35.7 -1.1**
LVC Limon Verde 148.88 170 **PKPbc 23 26 36.7 -0.7**
LVC Limon Verde 148.88 170 PKP2 **PKPbc 23 26 36.7 -0.7**
PB04 IPOC Station P 148.91 168 **PKPbc 23 26 37.1 -0.1**
ITRB Iturama 149.34 205 *eP* **PKPdf 23 26 34.5 +0.6**
MURT Porto Murtinho 149.71 191 *eP* **PKPdf 23 26 34.6 +0.2**
IPMB Ipameri, GO 149.86 210 *eP* **PKPdf 23 26 35.3 +0.5**
JANB Januaria 150.01 220 *eP* **PKPdf 23 26 35.3 +0.2**
CCIG Comitan 150.95 71 **PKPbc 23 26 41.2 -1.1**
HMBC Humberstone 150.96 168 **PKPbc 23 26 40.7 -1.6**
PB11 IPOC Station P 151.51 168 **PKPbc 23 26 42.2 -1.4**
BDFB Brasilia 151.72 213 **PKPbc 23 26 41.1 -2.9**
BDFB Brasilia 151.72 213 PKP **PKPdf 23 26 38.1 +0.3**
comp=Z,4.9nm,0.9s,baz=129,slow=3.0,SNR=4.6
BBSD Serra de San D 154.56 186 *eP* **PKPdf 23 26 42.1 +0.4**
SALV Santo Antonio 154.78 198 *eP* **PKPdf 23 26 43.8 +1.7**
LPAZ La Paz 155.19 169 PKP **PKPdf 23 26 44.3 +0.9**
comp=Z,4.0nm,1.0s,baz=143,slow=0.5,SNR=8.4
LPAZ PKPab **PKPab 23 27 08.7 +0.8**
comp=Z,21nm,0.8s,baz=156,slow=5.3,SNR=18
LPAZ La Paz 155.19 169 *eP* **PKPdf 23 26 43.9 +0.5**
SIV San Ignacio 155.79 186 PKP **PKPdf 23 26 42.8 -0.6**
comp=Z,3.8nm,0.9s,baz=181,slow=3.9,SNR=9.3
SIV PKPab **PKPab 23 27 09.0 -0.7**
comp=Z,18nm,0.8s,baz=227,slow=1.3,SNR=6.7
ATAH Atahualpa 158.70 135 PKP **PKPdf 23 26 48.8 +1.1**
comp=Z,5.9nm,0.8s,baz=149,slow=7.2,SNR=4.8
JTS Las Juntas de 158.76 83 PKP **PKPdf 23 26 48.7 +1.5**
comp=Z,3.2nm,0.5s,baz=354,slow=1.0,SNR=3.7
ETMB Extrema 161.85 171 **PKPdf 23 26 48.7 -2.0**
ETMB **PKPab 23 27 35.4 -0.5**
SAML Samuel 162.91 181 **PKPdf 23 26 50.6 -1.1**
SAML **PKPab 23 27 40.7 +0.1**
SAML Samuel 162.91 181 PKIKP **PKPdf 23 26 50.6 -1.1**
SAML 23 27 40.7
OTAV Otavalo 163.13 117 *eP* **PKPdf 23 26 53.8 +1.2**
ITTB Itaituba 165.25 212 *eP* **PKPdf 23 26 55.8 +1.9**
BOAV Boa Vista 173.46 207 **PKPdf 23 26 57.4 -1.5**
BOAV **PKPab 23 28 27.9 +0.6**

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*IDC **28** 23:15:56.9±0.7, 8°.25S×116°.49E, h0km, mb4.1/9, mbtmp4.2/10, ML4.0/1, Error ellipse: s-maj=29.0km s-min=16.6km az=76.0*
*DJA **28** 23:15:56.4±0.2, 9°S±3°×11°7E±°, h10km, M5.0/18, mb4.6/8, MLv5.2/18, Mw5.0/30*
*NEIC **28** 23:15:59.2±1.2, 8°.21S±0°.05×116°.56E±0°.07, h10km±1km, mb4.4/10, Error ellipse: s-maj=11.8km s-min=8.9km az=97.0*
ISC 28 23:15:58.3±0.5, **8°.29S**±0°.06×**116°.53E**±0°.07, **h10**km, **n49,**
σ1§**14**/46, **mb4.3**/10, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.57**	**143**	P	Pg	23 16 04.1	-5.2
SRBI	**Singaraja**	**1.32**	**279**	P	Pn	23 16 18.4	-4.4
PLAI	**Plampang**	**1.34**	**114**	P	Pn	23 16 17.1	-6.0
DNP	**Denpasar**	**1.37**	**253**	P	**Pn**	**23 16 20.8**	**-2.6**
ABJI	**Asem Bagus**	**2.33**	**282**	P	**Pn**	**23 16 35.8**	**-0.9**
JAGI	**Jajag, Banyuwa**	**2.36**	**265**	Pn	**Pn**	**23 16 37.7**	**+0.6**
JAGI	**Jajag, Banyuwa**	**2.36**	**265**	P	**Pn**	**23 16 34.5**	**-2.7**
GRJI	**Gresik**	**4.24**	**288**	P	**Pn**	**23 17 03.0**	**0.0**
BASI	**Baing, Sumba**	**4.43**	**116**	P	**Pn**	**23 17 02.8**	**-2.8**
BSSI	**Bau Bau, Buton**	**4.46**	**62**	P	**Pn**	**23 17 06.0**	**-0.1**
KAPI	**Kappang**	**4.56**	**45**	Pn	**Pn**	**23 17 06.8**	**-0.5**
KAPI	**Kappang**	**4.56**	**45**	Pn	**Pn**	**23 17 07.0**	**-0.3**
	7.0nm,0.3s,baz=201,slow=5.1,SNR=6.5						
	14nm,0.3s						
BKSI	**Bulukumba**	**4.62**	**51**	P	**Pn**	**23 17 07.8**	**-0.4**
PWJI	**Pagerwojo**	**4.69**	**273**	P	**Pn**	**23 17 07.8**	**-1.4**
EDFI	**Ende, Flores**	**5.12**	**96**	P	**Pn**	**23 17 15.0**	**-0.2**
	64nm,0.9s,1.6nm						
BNSI	**Bone**	**5.24**	**43**	P	**Pn**	**23 17 16.9**	**+0.1**
MMRI	**Maumere**	**5.65**	**94**	P	**Pn**	**23 17 20.8**	**-1.6**
	136nm,0.8s,2.3nm						
UGM	**Wanagama**	**5.96**	**273**		**Pn**	**23 17 27.7**	**+1.0**
UGM	**Wanagama**	**5.96**	**273**	P	**Pn**	**23 17 25.8**	**-0.9**
	131nm,0.8s						
BATI	**Baumata**	**7.29**	**106**	P	**Pn**	**23 17 44.4**	**-0.6**
	39nm,0.6s,1.0nm						
CNJI	**Cibinong**	**9.37**	**275**	P	**Pn**	**23 18 12.7**	**-0.8**
	46nm,1.2s						
MBWA	**Marble Bar**	**13.17**	**167**	Pn	**Pn**	**23 19 05.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**13.18**	**139**	Pn	**Pn**	**23 19 06.7**	**+1.1**
PSA00	**Pilbara Seismi**	**13.59**	**167**	Pn	**Pn**	**23 19 11.9**	**+0.6**
KKM	**Kota Kinabalu**	**14.24**	**359**	Pn	**Pn**	**23 19 19.4**	**-0.9**
FAKI	**Fak Fak**	**16.52**	**72**	Pn	**Pn**	**23 19 48.2**	**-2.1**
FAKI				IAmb	IAmb	23 19 54.5	
	comp=Z,22nm,1.1s						
WRA	**Warramunga Arr**	**20.77**	**126**	P	**P**	**23 20 40.6**	**+1.0**
	comp=Z,7.9nm,1.0s,baz=299,slow=12,SNR=7.5						
	comp=Z,7.9nm,1.0s						
KULM	**Kulim**	**20.80**	**310**	P	**P**	**23 20 39.8**	**-0.2**
WR0	**Warramunga Arr**	**20.94**	**126**	P	**P**	**23 20 42.0**	**+0.6**
WR0				IAmb	IAmb	23 20 44.0	
	comp=Z,38nm,1.4s						
ASAR	**Alice Springs**	**22.60**	**135**	P	**P**	**23 20 59.2**	**-0.1**
ASAR	**Alice Springs**	**22.60**	**135**	P	**P**	**23 21 00.3**	**+1.0**
	comp=Z,6.7nm,1.0s,baz=312,slow=8.9,SNR=7.5						
	comp=Z,6.7nm,1.0s						
AS31	**Alice Springs**	**22.60**	**135**	P	**P**	**23 20 59.8**	**+0.5**
COEN	**Coen**	**26.73**	**105**	P	**P**	**23 21 38.5**	**+0.3**
COEN				IAmb	IAmb	23 21 41.0	
	comp=Z,9.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.74**	**327**	P	**P**	**23 22 22.9**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=158,slow=7.4,SNR=7.7						
	comp=Z,1.4nm,0.6s						
KSRS	**Korea Array**	**46.73**	**12**	P	**P**	**23 24 27.0**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=204,slow=8.8,SNR=3.4						
	comp=Z,2.0nm,0.9s						
MJAR	**Matsushiro Arr**	**49.02**	**23**	P	**P**	**23 24 45.0**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=195,slow=9.0,SNR=2.4						
	comp=Z,1.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**54.08**	**14**	P	**P**	**23 25 23.6**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=173,slow=8.6,SNR=5.1						
	comp=Z,2.5nm,0.8s						
SONM	**Songino Array**	**56.59**	**352**	P	**P**	**23 25 41.5**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=172,slow=9.7,SNR=17						
	comp=Z,4.2nm,0.8s						
MKAR	**Makanchi Array**	**62.73**	**334**	P	**P**	**23 26 22.7**	**-0.9**
MKAR	**Makanchi Array**	**62.73**	**334**	P	**P**	**23 26 23.0**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=147,slow=7.3,SNR=6.8						
	comp=Z,1.6nm,0.7s						
VNDA	**Vanda**	**73.08**	**171**	P	**P**	**23 27 30.2**	**+2.0**
VNDA				IAmb	IAmb	23 27 31.4	
	comp=Z,3.4nm,1.1s						
QSPA	**South Pole Qui**	**81.71**	**180**	P	**P**	**23 28 17.9**	**+0.9**
SNAA	**Sanae**	**91.02**	**196**	P	**P**	**23 29 03.8**	**+1.3**
SNAA	**Sanae**	**91.02**	**196**	P	**P**	**23 29 03.3**	**+0.7**
	comp=Z,3.0nm,0.9s,baz=111,slow=2.6,SNR=6.0						
	comp=Z,3.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**115.94**	**281**	PKP	**PKPdf**	**23 34 41.2**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=87,slow=3.4,SNR=4.9						
CPUP	**Villa Florida**	**145.08**	**190**	PKPbc	**PKPbc**	**23 35 37.0**	**+0.9**
	comp=Z,6.9nm,0.9s,baz=183,slow=2.3,SNR=10						
BDFB	**Brasilia**	**151.73**	**213**	PKPbc	**PKPbc**	**23 35 54.4**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=78,slow=2.8,SNR=3.1						
LPAZ	**La Paz**	**155.15**	**169**	PKPab	**PKPab**	**23 36 15.8**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=242,slow=2.7,SNR=15						
SIV	**San Ignacio**	**155.76**	**186**	PKPab	**PKPab**	**23 36 20.8**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=145,slow=5.0,SNR=4.7						

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*IDC **28** 23:16:24.0±0.4, 8°.16S×116°.55E, h0km, mb4.5/19, mbtmp4.5/20, ML4.6/1, Error ellipse: s-maj=16.7km s-min=11.3km az=85.0*
*NEIC **28** 23:16:26.2±1.6, 8°.29S±0°.07×116°.54E±0°.06, h10km±1km, mb4.9/42, Error ellipse: s-maj=12.2km s-min=9.8km az=179.0*
ISC 28 23:16:25.8±0.3, **8°.25S**±0°.05×**116°.60E**±0°.06, **h10**km, **n113,**
σ1§**31**/112, **mb4.8**/40, **4C-2D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.43**	**265**		**Pn**	**23 17 04.4**	**-1.3**
KAPI	**Kappang**	**4.49**	**44**	P	**Pn**	**23 17 34.0**	**0.0**
KAPI	**Kappang**	**4.49**	**44**	Pn	**Pn**	**23 17 33.3**	**-0.6**
KAPI	**Kappang**	**4.49**	**44**	Pn	**Pn**	**23 17 33.4**	**-0.5**
	28nm,0.3s,baz=217,slow=7.5,SNR=4.5						
KAPI				Sn	**Sn**	**23 18 25.2**	**-1.0**
	80nm,0.3s,baz=195,slow=11,SNR=12						
KAPI				Lg	Lg	23 18 43.4	
	48nm,0.3s,baz=144,slow=19,SNR=5.8						
	62nm,0.3s						
MMRI	**Maumere**	**5.59**	**94**	P	**Pn**	**23 17 50.3**	**+1.2**
MMRI	**Maumere**	**5.59**	**94**	Pn	**Pn**	**23 17 49.8**	**+0.7**
UGM	**Wanagama**	**6.03**	**273**	P	Pn	23 17 59.9	+4.7
UGM	**Wanagama**	**6.03**	**273**	Pn	**Pn**	**23 17 54.9**	**-0.3**
SMRI	**Semarang**	**6.22**	**281**	Pn	**Pn**	**23 17 55.0**	**-2.9**
SOEI	**Soe**	**7.72**	**102**	P	**Pn**	**23 18 19.2**	**+0.7**
SOEI	**Soe**	**7.72**	**102**	Pn	**Pn**	**23 18 18.8**	**+0.3**
BBJI	**Bungbulang**	**8.90**	**274**	P	**Pn**	**23 18 38.5**	**+3.8**
LUWI	**Luwuk**	**9.44**	**41**	Pn	**Pn**	**23 18 43.3**	**+1.3**
TOLI2	**Tolitoli**	**10.19**	**24**	Pn	**Pn**	**23 18 53.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**13.15**	**139**	Pn	**Pn**	**23 19 32.7**	**-0.1**
MBWA	**Marble Bar**	**13.18**	**167**	Pn	**Pn**	**23 19 31.6**	**-1.7**
PSA00	**Pilbara Seismi**	**13.61**	**167**	P	**Pn**	**23 19 40.2**	**+1.2**
PSA00	**Pilbara Seismi**	**13.61**	**167**	Pn	**Pn**	**23 19 37.2**	**-1.8**
PSA00	**Pilbara Seismi**	**13.61**	**167**		**Pn**	**23 19 37.7**	**-1.3**
KNRA	**Kununurra**	**13.99**	**123**	Pn	**Pn**	**23 19 42.8**	**-1.5**
MNAI	**Manna**	**14.10**	**285**	Pn	**Pn**	**23 19 46.5**	**+0.7**
KKM	**Kota Kinabalu**	**14.21**	**358**	Pn	**Pn**	**23 19 47.9**	**+0.5**
MTN	**Manton Dam**	**14.99**	**109**	Pn	**Pn**	**23 19 58.1**	**+0.1**
FAKI	**Fak Fak**	**16.44**	**72**	Pn	**Pn**	**23 20 16.3**	**-0.6**
FAKI				IAmb	IAmb	23 20 34.0	
	comp=Z,65nm,0.9s						
WRKA	**Warakurna**	**20.08**	**148**	P	Pn	23 21 01.7	+0.3
WB0	**Warramunga Arr**	**20.68**	**125**	P	**P**	**23 21 06.2**	**-0.1**
WB0				IAmb	IAmb	23 21 12.5	
	comp=Z,29nm,0.8s						
MORW	**Morawa**	**20.71**	**181**	P	Pn	23 21 10.3	+1.5
WRA	**Warramunga Arr**	**20.73**	**126**	P	**P**	**23 21 07.3**	**+0.5**
WRA	**Warramunga Arr**	**20.73**	**126**	P	**P**	**23 21 07.1**	**+0.3**
	comp=Z,18nm,0.6s,baz=300,slow=12,SNR=23						
WRA				S	**S**	**23 24 58.7**	**+0.2**
	comp=Z,4.0nm,0.7s,baz=290,slow=21,SNR=2.4						
	comp=Z,18nm,0.6s						
WB2	**Warramunga Arr**	**20.74**	**126**	P	**P**	**23 21 06.2**	**-0.6**
WB2				IAmb	IAmb	23 21 12.8

comp=Z,1.3nm,0.8s,baz=154,slow=7.1,SNR=1.8
comp=Z,1.3nm,0.8s

STKA	**Stephens Creek**	**33.05 139**	P	**P**	**23 23 02.0**	**+0.3**
STKA	**Stephens Creek**	**33.05 139**	P	**P**	**23 23 02.2**	**+0.5**

comp=Z,12nm,0.7s,baz=316,slow=9.4,SNR=11
comp=Z,12nm,0.7s

KMI	**Kunming**	**35.82 338**	⇓P	**P**	**23 23 30.5**	**+4.5**
KMI			pmax	pmax		

comp=Z,9.0nm,1.5s

TNCH	**TengChong**	**37.48 332**	⇑P	**P**	**23 23 43.8**	**+3.7**
TNCH			pP	sP	23 23 46.8	+2.5
TNCH			sP	pP	23 23 49.5	+6.4
TNCH			pmax	pmax		

comp=Z,14nm,0.4s

TOO	**Toolangi**	**39.18 143**	P	**P**	**23 23 55.3**	**+1.2**
TOO			IAmb	IAmb	23 24 16.8	

comp=Z,46nm,1.5s

ARMA	**Armidale**	**39.47 129**	P	**P**	**23 23 56.9**	**+0.2**
SHL	**Shillong**	**41.34 325**	P	**P**	**23 24 12.1**	**-0.2**
SHL			IAmb	IAmb	23 24 23.1	

comp=Z,27nm,0.8s

XAN	**Xi'an**	**42.69 351**	P	P	23 24 31.3	+8.3
XAN			pmax	pmax		

comp=Z,16nm,1.3s

LZH	**Lanzhou**	**45.71 346**	*e*P	**P**	**23 24 50.0**	**+2.6**
LZH			pP	sP	23 24 54.8	+3.3
LZH			pmax	pmax		

comp=Z,22nm,1.0s

KSAR	**Wonju Array Be**	**46.67 12**	P	**P**	**23 24 55.0**	**+0.4**
KSRS	**Korea Array**	**46.69 12**	P	**P**	**23 24 55.0**	**+0.2**

comp=Z,3.2nm,0.9s,baz=204,slow=9.0,SNR=6.6
comp=Z,3.2nm,0.9s

KOUNC	**Koumac, New Ca**	**47.61 110**	P	**P**	**23 25 01.9**	**-0.5**
KOUNC			IAmb	IAmb	23 25 10.6	

comp=Z,19nm,1.1s

MAJO	**Matsushiro**	**48.96 23**	P	**P**	**23 25 12.3**	**-0.2**
MAJO			IAmb	IAmb	23 25 16.2	

comp=Z,24nm,1.2s

MJAR	**Matsushiro Arr**	**48.96 23**	P	**P**	**23 25 11.5**	**-1.1**

comp=Z,4.2nm,0.8s,baz=200,slow=8.7,SNR=7.6
comp=Z,4.2nm,0.8s

DZM	**Mont Dzumac**	**49.81 112**	P	**P**	**23 25 20.4**	**+1.0**
DZM			IAmb	IAmb	23 25 27.7	

comp=Z,38nm,1.2s

ONTNC	**Ouen Toro**	**49.85 112**	P	**P**	**23 25 20.6**	**+1.0**
GTA	**Gaotai**	**49.91 343**	*e*P	**P**	**23 25 21.5**	**+1.6**
GTA			pP	sP	23 25 26.8	+2.7
GTA			pmax	pmax		

comp=Z,6.0nm,1.1s

JMM	**Marumori**	**51.14 25**	P	**P**	**23 25 30.0**	**+1.0**
USA0B	**Ussuriysk Arra**	**54.03 14**	P	**P**	**23 25 50.3**	**-0.1**
USA0B			IAmb	IAmb	23 25 58.8	

comp=Z,11nm,0.9s

USRK	**Ussuriysk Ar.**	**54.03 14**	P	**P**	**23 25 50.3**	**-0.1**
USRK	**Ussuriysk Ar.**	**54.03 14**	P	**P**	**23 25 50.4**	**0.0**

comp=Z,8.0nm,0.8s,baz=175,slow=5.9,SNR=14
comp=Z,8.0nm,0.8s

BNX	**BinXian**	**54.61 9**	⇓P	**P**	**23 25 54.5**	**-0.1**
BNX			pmax	pmax		

comp=Z,7.0nm,1.0s

ULN	**Ulaanbaatar**	**56.51 352**	P	**P**	**23 26 08.4**	**0.0**
ULN			IAmb	IAmb	23 26 16.6	

comp=Z,6.9nm,0.9s

SONM	**Songino Array**	**56.57 352**	P	**P**	**23 26 08.8**	**+0.1**
SONM			IAmb	IAmb	23 26 17.1	

comp=Z,7.5nm,0.9s

SONM	**Songino Array**	**56.57 352**	P	**P**	**23 26 09.2**	**+0.4**

comp=Z,5.0nm,0.7s,baz=172,slow=8.1,SNR=14
comp=Z,5.0nm,0.7s

MLZ	**Mavora Lakes**	**57.63 139**	P	**P**	**23 26 15.6**	**-0.7**
WMQ	**Urumqi**	**58.08 336**	*e*P	**P**	**23 26 18.0**	**-1.4**
WMQ			pP	sP	23 26 26.0	+2.4
WMQ			pmax	pmax		

comp=Z,36nm,1.1s

CASY	**Casey**	**58.09 183**	P	**P**	**23 26 19.0**	**0.0**
CASY			IAmb	IAmb	23 26 24.4	

comp=Z,21nm,1.4s

LBZ	**Lake Benmore**	**58.62 137**	P	**P**	**23 26 23.3**	**0.0**
RPZ	**Rata Peaks**	**58.97 136**	P	**P**	**23 26 25.5**	**-0.2**
HEH	**HeiHe**	**59.02 8**	*e*P	**P**	**23 26 25.8**	**0.0**
HEH			pmax	pmax		

comp=Z,19nm,1.0s

YSS	**Yuzh-Sakhalins**	**59.69 20**	P	**P**	**23 26 30.2**	**-0.2**
BOOM	**Boomskoye usch**	**62.66 327**	P	**P**	**23 26 49.4**	**-1.5**
MK31	**Makanchi Array**	**62.74 334**	P	**P**	**23 26 50.4**	**-0.8**
MKAR	**Makanchi Array**	**62.74 334**	P	**P**	**23 26 50.2**	**-1.0**
MKAR	**Makanchi Array**	**62.74 334**	P	**P**	**23 26 50.4**	**-0.8**

comp=Z,4.4nm,0.8s,baz=147,slow=5.5,SNR=11
comp=Z,4.4nm,0.8s

AAK	**Ala-Archa**	**63.54 326**	P	**P**	**23 26 55.7**	**-1.0**
FRU1	**Bishkek**	**63.58 327**	P	**P**	**23 26 55.3**	**-1.6**
KURBB	**Kurchatov Arra**	**67.27 335**	P	**P**	**23 27 19.0**	**-1.6**

comp=Z,2.6nm,0.8s,baz=147,slow=5.8,SNR=6.4
comp=Z,2.6nm,0.8s

ZALV	**Zalesovo Beam**	**67.53 340**	P	**P**	**23 27 20.2**	**-1.9**

comp=Z,3.7nm,0.6s,baz=145,slow=5.3,SNR=9.4
comp=Z,3.7nm,0.6s

MAW	**Mawson**	**69.14 199**	P	**P**	**23 27 32.0**	**-0.1**

comp=Z,13nm,0.8s,baz=63,slow=7.2,SNR=11
comp=Z,13nm,0.8s

BVAR	**Borovoye Array**	**72.54 333**	P	**P**	**23 27 51.3**	**-1.7**

comp=Z,2.1nm,0.8s,baz=139,slow=9.5,SNR=2.4
comp=Z,2.1nm,0.8s

VNDA	**Vanda**	**73.09 171**	P	**P**	**23 27 56.8**	**+0.9**
VNDA			IAmb	IAmb	23 27 58.0	

comp=Z,10nm,1.1s

VNDA	**Vanda**	**73.09 171**	P	**P**	**23 27 56.8**	**+0.9**

comp=Z,5.5nm,1.1s,baz=307,slow=5.6,SNR=8.6
comp=Z,5.5nm,1.1s

SBA	**Scott Base**	**74.11 170**	P	**P**	**23 28 03.2**	**+1.3**
SBA			IAmb	IAmb	23 28 12.1	

comp=Z,9.5nm,1.1s

ABKAR	**Akbulak array**	**75.60 326**	P	**P**	**23 28 08.0**	**-2.9**
ABKAR	**Akbulak array**	**75.60 326**	P	**P**	**23 28 08.2**	**-2.8**
ABKAR			IAmb	IAmb	23 28 17.6	

comp=Z,5.0nm,0.9s

QSPA	**South Pole Qui**	**81.74 180**	P	**P**	**23 28 44.6**	**0.0**
QSPA			IAmb	IAmb	23 28 45.6	

comp=Z,13nm,1.2s

QSPA	**South Pole Qui**	**81.74 180**	P	**P**	**23 28 44.7**	**0.0**

comp=Z,6.5nm,1.0s,baz=268,slow=1.8,SNR=8.5
comp=Z,6.5nm,1.0s

POGA	**Pongola**	**81.75 244**	P	**P**	**23 28 45.4**	**0.0**
POGA			IAmb	IAmb	23 28 46.5	

comp=Z,14nm,0.7s

MATP	**Matopo**	**85.40 250**	P	**P**	**23 29 04.7**	**+0.3**

comp=Z,1.3nm,0.9s,baz=114,slow=5.7,SNR=5.0
comp=Z,1.3nm,0.9s

BOSA	**Boshof**	**87.28 242**	P	**P**	**23 29 12.7**	**-0.8**

comp=Z,5.8nm,0.7s,baz=91,slow=3.1,SNR=14
comp=Z,5.8nm,0.7s

LBTB	**Lobatse**	**87.47 245**	P	**P**	**23 29 13.3**	**-1.2**
LBTB			IAmb	IAmb	23 29 22.0	

comp=Z,7.7nm,1.0s

TROLL	**Troll, Antarti**	**89.42 196**	⇑P	**P**	**23 29 24.2**	**+1.4**

comp=Z,370nm,0.7s

BRTR	**Keskin Array B**	**89.84 310**	P	**P**	**23 29 23.1**	**-2.3**

comp=Z,0.5nm,0.7s,baz=138,slow=4.3,SNR=3.9
comp=Z,0.5nm,0.7s

SNAA	**Sanae**	**91.07 196**	P	**P**	**23 29 30.6**	**+0.2**
SNAA			IAmb	IAmb	23 29 32.5	

comp=Z,13nm,1.0s

SNAA	**Sanae**	**91.07 196**	⇑P	**P**	**23 29 31.2**	**+0.8**

comp=Z,210nm,0.9s

SNAA	**Sanae**	**91.07 196**	P	**P**	**23 29 31.0**	**+0.6**

comp=Z,9.3nm,0.9s,baz=158,slow=2.6,SNR=16
comp=Z,9.3nm,0.9s

VNA2	**Neumayer--Watz**	**92.71 196**	⇑P	**P**	**23 29 38.8**	**+0.9**

comp=Z,8.3nm,0.7s,baz=129,slow=3.4

TORD	**Torodi Ar. Bea**	**116.00 281**	PKP	**PKPdf**	**23 35 08.1**	**-2.0**

comp=Z,1.4nm,0.6s,baz=72,slow=3.3,SNR=16

ESDC	**Sonseca Array**	**118.63 311**	PKP	**PKPdf**	**23 35 12.6**	**-2.1**

comp=Z,0.5nm,0.8s,baz=8.9,slow=3.6,SNR=2.0

CPUP	**Villa Florida**	**145.12 190**	PKPbc	**PKPdf**	**23 36 04.6**	**+0.1**

comp=Z,19nm,0.8s,baz=175,slow=3.4,SNR=21

LVC	**Limon Verde**	**148.85 170**	PKPbc	**PKPbc**	**23 36 16.1**	**+1.0**

comp=Z,12nm,0.7s,baz=174,slow=3.2,SNR=4.6

BDFB	**Brasilia**	**151.79 213**	PKPbc	**PKPbc**	**23 36 21.8**	**-0.2**

comp=Z,3.0nm,0.5s,baz=213,slow=1.6,SNR=5.5

LPAZ	**La Paz**	**155.17 169**	PKPab	**PKPab**	**23 36 46.9**	**+1.3**

comp=Z,5.7nm,0.8s,baz=124,slow=2.8,SNR=13

SIV	**San Ignacio**	**155.80 185**	PKPab	**PKPab**	**23 36 48.0**	**+0.4**

comp=Z,4.8nm,0.8s,baz=168,slow=4.3,SNR=13

TAP ***28*** *23:18:09.0,24°.85N×122°.40E,h16km,ML3.8,C*

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JMA ***28*** *23:18:08.9±0.3,25°.N±3°.×12°.2E±°,h47km,MV3.2/9,NW OFF ISHIGAKIJIMA IS*

ISC 28 23:18:08.4±1.0,**24°.83N**±0°.02×**122°.46E**±0°.02,**h12**km±8km, **n144,**$_{c}$**0**$_{g}$**95/276,5C-1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.46 208**	⇑	*i* P		**Pb**	**23 18 18.7**	**+0.4**
	baz=201							
EOS2				*i* S		**Sb**	**23 18 26.1**	**+1.1**
	baz=201							
TWB1	**Santiao Chiao**	**0.47 293**	⇑	*i* P		**Pg**	**23 18 17.6**	**0.0**
	baz=293							
TWB1				*i* S		**Sg**	**23 18 23.5**	**-0.3**
	baz=293							
EGS	**EGS**	**0.48 272**		*i* P		**Pg**	**23 18 18.0**	**+0.1**
	baz=259							
EGS				*i* S		**Sg**	**23 18 24.8**	**+0.5**
	baz=259							
EOS3	**EOS3**	**0.55 194**		*i* P		**Pb**	**23 18 20.6**	**+0.6**
	baz=187							
EOS3				S		**Sb**	**23 18 29.8**	**+2.1**
	baz=187							
JYNG	**Yonagunijimaku**	**0.57 130**		P		**Pg**	**23 18 20.3**	**+0.7**
JYNG				S		**Sb**	**23 18 28.7**	**+0.2**
NTC	**Toucheng**	**0.58 273**		P		**Pg**	**23 18 20.1**	**+0.5**
	baz=270							
NTC				*e*S		**Sg**	**23 18 27.9**	**+0.6**
	baz=270							
SXI1	**Grass Mountain**	**0.60 297**	⇑	*i* P		**Pg**	**23 18 20.4**	**+0.3**
	baz=297							
SXI1				S		**Sg**	**23 18 28.4**	**+0.5**
	baz=297							
TIPB	**Shuangxi**	**0.60 284**	⇑	*i* P		**Pg**	**23 18 20.1**	**+0.1**
	baz=283							
TIPB				S		**Sg**	**23 18 27.5**	**-0.5**
	baz=283							
TWC	**Suao**	**0.60 249**	⇓	*i* P		**Pg**	**23 18 19.7**	**-0.4**
	baz=251							
TWC				*i* S		**Sg**	**23 18 27.5**	**-0.5**
	baz=251							
YOJ	**Yonaguni jima**	**0.62 126**		P		**Pg**	**23 18 20.8**	**+0.5**
YOJ	**Yonaguni jima**	**0.62 126**		P		**Pg**	**23 18 21.0**	**+0.7**
	baz=114							
YOJ				S		**Sb**	**23 18 29.8**	**+0.1**
	baz=114							
YOJ	**Yonaguni jima**	**0.62 126**		P		**Pg**	**23 18 21.1**	**+0.7**
YOJ				S		**Sg**	**23 18 29.5**	**+1.0**
ESAO	**Su ao**	**0.62 246**		P		**Pg**	**23 18 20.5**	**+0.2**
	baz=249							
ESAO				*i* S		**Sg**	**23 18 28.2**	**-0.3**
	baz=249							
ILA	**Ilan**	**0.65 265**		*e*P		**Pb**	**23 18 21.8**	**+0.1**
	baz=252							
ILA				*e*S		**Sg**	**23 18 30.1**	**+0.4**
	baz=252							
NWF	**Wu-fen Shan**	**0.67 292**		*i* P		**Pg**	**23 18 21.8**	**+0.4**
	baz=291							
NWF				*i* S		**Sg**	**23 18 30.1**	**-0.1**
	baz=291							
WFSB	**Wu-fen Shan**	**0.67 292**	⇑	P		**Pg**	**23 18 21.6**	**+0.3**
	baz=291							
WFSB				*i* S		**Sg**	**23 18 30.0**	**-0.1**
	baz=291							
TNOU	**National Taiwa**	**0.70 297**		P		**Pg**	**23 18 22.1**	**0.0**
	baz=297							
TNOU				S		**Sg**	**23 18 31.2**	**-0.1**
	baz=297							
NDS	**Dongshan**	**0.71 254**		P		**Pg**	**23 18 22.1**	**0.0**
	baz=240							
NDS				S		**Sg**	**23 18 31.2**	**-0.2**
	baz=240							
EOS4	**EOS4**	**0.71 191**		P		**Pb**	**23 18 23.2**	**+0.6**
	baz=185							
EOS4				S		**Sn**	**23 18 34.1**	**-0.5**
	baz=185							
EWUT	**Wuta**	**0.73 239**		P		**Pg**	**23 18 22.5**	**-0.1**
	baz=234							
EWUT				S		**Sg**	**23 18 32.0**	**-0.1**
	baz=234							
TWE	**Neicheng**	**0.73 262**		*i* P		**Pg**	**23 18 22.2**	**-0.4**
	baz=258							
TWE				*i* S		**Sg**	**23 18 31.8**	**-0.3**
	baz=258							
ENA	**Nanau**	**0.77 239**		*e*P		**Pg**	**23 18 22.9**	**-0.3**
	baz=234							
ENA				S		**Sg**	**23 18 33.2**	**-0.1**
	baz=234							
FUSB	**Fushanzhiwuyua**	**0.80 265**		P		**Pg**	**23 18 23.9**	**+0.1**
	baz=263							
FUSB				S		**Sg**	**23 18 34.5**	**+0.2**
	baz=263							
TWA	**Mucha**	**0.81 281**		*i* P		**Pg**	**23 18 24.1**	**0.0**
	baz=279							
TWA				S		**Sg**	**23 18 34.9**	**+0.1**
	baz=279							
NWRT	**Kuosheng**	**0.82 297**		P		**Pg**	**23 18 24.7**	**+0.4**
	baz=297							
NWRT				S		**Sg**	**23 18 34.9**	**-0.1**
	baz=297							
EAHA	**Aohua**	**0.82 233**		P		**Pg**	**23 18 24.3**	**0.0**
	baz=242							
EAHA				S		**Sg**	**23 18 34.4**	**-0.7**
	baz=242							
ENTT	**Nioudou**	**0.84 257**		*i* P		**Pg**	**23 18 24.4**	**-0.1**
	baz=239							
ENTT				*i* S		**Sg**	**23 18 35.3**	**-0.2**
	baz=239							
NHDH	**Xindian Distri**	**0.86 279**		*e*P		**Pg**	**23 18 25.4**	**+0.3**
	baz=278							
NHDH				*i* S		**Sg**	**23 18 36.3**	**-0.1**
	baz=278							
YM08	**YM08**	**0.87 295**		P		**Pg**	**23 18 24.9**	**-0.3**
	baz=294							
YM08				*e*S		**Sb**	**23 18 37.4**	**+0.3**
	baz=294							
NWLT	**Wulai**	**0.88 267**		*i* P		**Pg**	**23 18 25.4**	**+0.2**
	baz=265							
NWLT				*i* S		**Sg**	**23 18 36.0**	**-0.7**
	baz=265							
PCYT	**Pengchaiyu**	**0.88 336**		*i* P		**Pg**	**23 18 24.6**	**-0.7**
	baz=339							
PCYT				*e*S		**Sg**	**23 18 37.4**	**+0.7**
	baz=339							
NDT	**Datong Townshi**	**0.89 256**		P		**Pg**	**23 18 25.8**	**+0.2**
	baz=239							
NDT				S		**Sg**	**23 18 37.0**	**-0.2**
	baz=239							
TAP	**Taipei**	**0.90 284**		*i* P		**Pg**	**23 18 25.7**	**0.0**
	baz=283							
TAP				*i* S		**Sg**	**23 18 37.2**	**-0.1**
	baz=283							
TATO	**Taipei**	**0.90 280**		P		**Pg**	**23 18 25.6**	**-0.1**
TATO	**Taipei**	**0.90 280**		P		**Pg**	**23 18 25.4**	**-0.4**
	baz=278							
TATO				S		**Sg**	**23 18 37.5**	**+0.1**
	baz=278							
LATG	**Datong**	**0.90 251**		P		**Pg**	**23 18 25.6**	**-0.2**
	baz=235							
LATG				S		**Sg**	**23 18 37.6**	**0.0**
	baz=235							
TWY	**Chenhua**	**0.90 300**		*i* P		**Pg**	**23 18 25.7**	**-0.1**
	baz=300							
TWY				*i* S		**Sg**	**23 18 37.6**	**0.0**
	baz=300							
NSM	**Shimen**	**0.92 300**		P		**Pg**	**23 18 24.0**	**-2.1**
	baz=300							
NSM				S		**Sb**	**23 18 39.7**	**+1.3**
	baz=300							
ANP	**Anpu**	**0.93 293**		*i* P		**Pg**	**23 18 26.3**	**0.0**
	baz=292							
ANP				S		**Sg**	**23 18 37.1**	**-1.3**
	baz=292							
NTST	**Danshui**	**0.98 290**		*i* P		**Pg**	**23 18 26.5**	**-0.8**
	baz=289							
NTST				*i* S		**Sg**	**23 18 40.1**	**+0.1**
	baz=289							
TWS1	**Kuangyinshan**	**0.99 286**		*e*P		**Pg**	**23 18 27.3**	**-0.1**
	baz=285							
TWS1				*i* S		**Sg**	**23 18 40.3**	**-0.1**
	baz=285							
YHNB	**Yeheng**	**1.00 261**		P		**Pg**	**23 18 27.3**	**-0.4**
YHNB	**Yeheng**	**1.00 261**		P		**Pg**	**23 18 27.2**	**-0.4**
	baz=242							
YHNB				*e*S		**Sg**	**23 18 39.9**	**-0.9**
	baz=242							
ETL	**Fush Village**	**1.01 229**		P		**Pg**	**23 18 27.7**	**-0.2**
	baz=236							
ETL				S		**Sb**	**23 18 41.8**	**+0.6**
	baz=236							
NSK	**Sanguang**	**1.02 262**		*i* P		**Pg**	**23 18 27.6**	**-0.4**
	baz=243							
NSK				*e*S		**Sg**	**23 18 39.7**	**-1.6**
	baz=243							
NACB	**Ninganchiao**	**1.02 231**		P		**Pg**	**23 18 27.6**	**-0.5**
NACB	**Ninganchiao**	**1.02 231**		P		**Pg**	**23 18 27.6**	**-0.5**
	baz=237							
NACB				S		**Sg**	**23 18 40.5**	**-1.0**
	baz=237							
NNSB	**Datong**	**1.06 248**		P		**Pg**	**23 18 28.3**	**-0.5**
	baz=233							
NNSB				*e*S		**Sg**	**23 18 41.3**	**-1.3**
	baz=233							
NNS	**Nan Shan**	**1.06 249**		*i* P		**Pg**	**23 18 28.7**	**-0.2**
	baz=234							
NNS				S		**Sg**	**23 18 41.7**	**-1.1**
	baz=234							
NTY	**Taoyuan**	**1.07 280**		P		**Pg**	**23 18 28.3**	**-0.7**
	baz=278							
NTY				S		**Sg**	**23 18 42.1**	**-0.9**
	baz=278							
TWD	**Chiawan**	**1.08 227**		*i* P		**Pg**	**23 18 29.0**	**-0.3**
	baz=232							
TWD				*i* S		**Sg**	**23 18 43.2**	**-0.2**
	baz=232							
ETLH	**Xiulin Townshi**	**1.09 236**		*i* P		**Pg**	**23 18 28.9**	**-0.5**
	baz=232							
ETLH				S		**Sg**	**23 18 43.1**	**-0.3**
	baz=232							
HWA	**Hwalien**	**1.15 223**		P		**Pn**	**23 18 31.1**	**+0.8**
	baz=199							
HWA				*e*S		**Sn**	**23 18 47.5**	**+1.5**
	baz=199							
NCU	**National Centr**	**1.17 277**		P		**Pb**	**23 18 28.9**	**-1.6**
	baz=275							
NCU				*e*S		**Sg**	**23 18 45.9**	**-0.2**
	baz=275							
NCUH	**Zhongli**	**1.17 277**		*e*P		**Pb**	**23 18 30.5**	**-0.1**
	baz=275							
NCUH				*e*S		**Sb**	**23 18 46.5**	**+0.8**
	baz=275							
ETM	**Tongmen**	**1.23 226**		*i* P		**Pb**	**23 18 31.2**	**-0.4**
	baz=205							
ETM				*e*S		**Sb**	**23 18 47.6**	**+0.1**
	baz=205							
TEYL	**Yanliau Villag**	**1.24 220**		P		**Pb**	**23 18 32.2**	**+0.5**
	baz=199							
TEYL				*e*S		**Sg**	**23 18 48.2**	**0.0**
	baz=199							
NFF	**Wufeng Townshi**	**1.24 261**		P		**Pn**	**23 18 31.1**	**-0.5**
	baz=259							
NFF				S		**Sb**	**23 18 47.1**	**-0.6**
	baz=259							
LXIB	**Xiulin Townshi**	**1.25 230**		*i* P		**Pn**	**23 18 31.7**	**-0.1**
	baz=227							
LXIB				*e*S		**Sn**	**23 18 49.7**	**+1.1**
	baz=227							
IRIF	**Iriomote-Funau**	**1.25 113**		P		**Pn**	**23 18 30.0**	**-1.7**
NJD	**Zhudong**	**1.25 266**		P		**Pg**	**23 18 33.5**	**+1.0**
	baz=248							
NJD				*e*S		**Sb**	**23 18 48.4**	**+0.3**
	baz=248							
WHF	**Hehuan Shan**	**1.29 238**		*i* P		**Pn**	**23 18 32.6**	**0.0**
	baz=235							
WHF				*i* S		**Sg**	**23 18 49.0**	**-0.9**
	baz=235							
TWT	**Tachien**	**1.30 244**		*i* P		**Pn**	**23 18 33.1**	**+0.6**
	baz=241							
TWT				*i* S		**Sb**	**23 18 49.2**	**-0.5**
	baz=241							
HSN1	**Hsinchu**	**1.31 268**		*e*P		**Pn**	**23 18 32.6**	**0.0**
	baz=266							
HSN1				*e*S		**Sb**	**23 18 49.7**	**-0.1**
	baz=266							
TDCB	**Techi**	**1.32 245**		*i* P		**Pn**	**23 18 32.9**	**+0.1**
	baz=233							
TDCB				S		**Sb**	**23 18 49.5**	**-0.6**
	baz=233							
SHUL	**Shoufeng**	**1.32 219**		P		**Pn**	**23 18 33.2**	**+0.6**
	baz=201							
SHUL				*e*S		**Sb**	**23 18 50.5**	**+0.6**
	baz=201							
LIOB	**Emei**	**1.33 263**		*i* P		**Pn**	**23 18 32.7**	**-0.1**
	baz=260							
LIOB				*e*S		**Sb**	**23 18 50.1**	**-0.2**
	baz=260							
SBCB	**Hsinchu**	**1.34 269**		*e*P		**Pn**	**23 18 33.0**	**0.0**
	baz=267							
SBCB				*e*S		**Sb**	**23 18 49.4**	**-1.3**
	baz=267							
NSTT	**Nanjuang**	**1.34 262**		*i* P		**Pn**	**23 18 33.3**	**+0.3**
	baz=260							
NSTT				*e*S		**Sb**	**23 18 50.6**	**-0.1**
	baz=260							
HSN	**Hsinchu**	**1.36 269**		*e*P		**Pn**	**23 18 32.2**	**-0.9**
	baz=268							
HSN				*e*S		**Sb**	**23 18 49.3**	**-1.8**
	baz=268							
ESL	**Shilin**	**1.38 223**		*i* P		**Pn**	**23 18 34.0**	**+0.6**
	baz=204							
ESL				S		**Sb**	**23 18 51.6**	**0.0**
	baz=204							
CHGB	**Renai**	**1.40 237**		P		**Pb**	**23 18 35.0**	**+0.4**
	baz=248							
CHGB				S		**Sb**	**23 18 52.3**	**-0.2**
	baz=248							
HATJ	**Hateruma jima**	**1.44 122**		*e*P		**Pn**	**23 18 33.2**	**-1.1**
OWD	**Renai**	**1.46 234**		P		**Pn**	**23 18 35.6**	**+0.9**
	baz=244							
OWD				*e*S		**Sn**	**23 18 52.8**	**-1.0**
	baz=244							
WARBT	**Fenglin Townsh**	**1.48 222**		*i* P		**Pn**	**23 18 34.9**	**0.0**
	baz=219							
WARBT				*e*S		**Sn**	**23 18 54.5**	**+0.4**
	baz=219							
**WUS

	baz=241					
WDJ	**Dajia District**	**1.73 254**	*e*P	**Pb**	**23 18 39.8**	**-0.2**
	baz=270					
WDJ			*e*S	**Sn**	**23 19 00.8**	**+0.6**
	baz=270					
TCU	**Taichung**	**1.76 248**	P	**Pb**	**23 18 41.7**	**+1.0**
	baz=265					
TCU			*e*S	**Sn**	**23 19 02.5**	**+1.3**
	baz=265					
YULB	**Yu-li**	**1.78 217**	P	**Pb**	**23 18 40.9**	**-0.1**
YULB	**Yu-li**	**1.78 217**	P	**Pn**	**23 18 39.1**	**+0.1**
	baz=215					
YULB			*e*S	**Sn**	**23 19 01.0**	**-0.6**
	baz=215					
WWF	**Wufeng**	**1.79 245**	*e*P	**Pb**	**23 18 41.3**	**+0.2**
	baz=262					
WWF			*e*S	**Sb**	**23 19 04.6**	**+1.1**
	baz=262					
EYUL	**Yuli**	**1.81 216**	*i* P	**Pn**	**23 18 40.7**	**+1.3**
	baz=200					
EYUL			*e*S	**Sb**	**23 19 03.7**	**-0.3**
	baz=200					
TWF1	**Yuli**	**1.81 216**	*i* P	**Pn**	**23 18 39.9**	**+0.5**
	baz=214					
TWF1			*e*S	**Sn**	**23 19 01.6**	**-0.8**
	baz=214					
WHYT	**Xinyi Township**	**1.85 233**	P	**Pb**	**23 18 42.5**	**+0.3**
	baz=213					
WHYT			*e*S	**Sb**	**23 19 05.2**	**-0.1**
	baz=213					
WNT1	**Nantou City**	**1.87 241**	*e*P	**Pb**	**23 18 41.9**	**-0.6**
	baz=258					
WNT1			*e*S	**Sb**	**23 19 06.2**	**+0.5**
	baz=258					
WJS	**Zhushan**	**1.87 238**	*i* P	**Pb**	**23 18 42.0**	**-0.6**
	baz=255					
WJS			S	**Sg**	**23 19 08.0**	**-0.6**
	baz=255					
WNT	**Mingjian**	**1.88 240**	*i* P	**Pb**	**23 18 42.9**	**+0.3**
	baz=258					
WNT			S	**Sb**	**23 19 07.0**	**+0.9**
	baz=258					
CHKH	**Chenggong**	**1.90 211**	P	**Pn**	**23 18 40.8**	**+0.2**
	baz=195					
CHKH			*e*S	**Sn**	**23 19 03.9**	**-0.5**
	baz=195					
YUS	**Yu-Shan**	**1.92 226**	*i* P	**Pn**	**23 18 42.5**	**+1.1**
	baz=208					
YUS			*e*S	**Sn**	**23 19 06.0**	**+0.3**
	baz=208					
FULB	**Fuli**	**1.94 214**	P	**Pn**	**23 18 42.0**	**+0.8**
	baz=195					
FULB			*e*S	**Sn**	**23 19 06.3**	**+0.7**
	baz=195					
CHKT	**Chengkung**	**1.99 211**	P	**Pn**	**23 18 41.9**	**0.0**
	baz=194					
CHKT			S	**Sn**	**23 19 06.3**	**-0.4**
	baz=194					
EHD	**Haiduan**	**2.03 215**	*e*P	**Pn**	**23 18 43.0**	**+0.6**
	baz=213					
EHD			*e*S	**Sn**	**23 19 07.5**	**-0.2**
	baz=213					
ECS	**Chishang**	**2.06 214**	*e*P	**Pn**	**23 18 44.8**	**+1.8**
	baz=212					
ECS			*e*S	**Sn**	**23 19 10.5**	**+1.9**
	baz=212					
WGK	**Gukeng**	**2.07 237**	P	**Pb**	**23 18 46.5**	**+0.6**
	baz=252					
WGK			S	**Sb**	**23 19 12.6**	**+0.9**
	baz=252					
WDLH	**Douliu**	**2.09 238**	*i* P	**Pn**	**23 18 45.0**	**+1.8**
	baz=254					
WDLH			S	**Sb**	**23 19 12.0**	**-0.2**
	baz=254					
ELDTW	**Lidau**	**2.10 219**	*i* P	**Pn**	**23 18 42.8**	**-0.7**
	baz=204					
ELDTW			*e*S	**Sn**	**23 19 08.3**	**-1.2**
	baz=204					
WRL	**Guolierlin Hig**	**2.11 245**	P	**Pn**	**23 18 44.9**	**+1.4**
	baz=259					
WRL			*e*S	**Sn**	**23 19 10.2**	**+0.4**
	baz=259					
EDH	**Donghe**	**2.13 210**	P	**Pn**	**23 18 41.8**	**-2.0**
	baz=196					
EDH			S	**Sn**	**23 19 08.8**	**-1.4**
	baz=196					
WCKO	**Fanlu**	**2.19 231**	P	**Pb**	**23 18 47.5**	**-0.4**
	baz=213					
WCKO			S	**Sn**	**23 19 13.3**	**+1.6**
	baz=213					
WTK	**Tuku**	**2.21 240**	P	**Pb**	**23 18 47.2**	**-1.0**
	baz=255					
WTK			S	**Sn**	**23 19 14.0**	**+2.0**
	baz=255					
STYH	**Taoyuan**	**2.26 223**	P	**Pn**	**23 18 47.0**	**+1.4**
	baz=208					
STYH			*e*S	**Sn**	**23 19 14.7**	**+1.4**
	baz=208					
TPUB	**Ta-pu**	**2.26 228**	P	**Pn**	**23 18 47.7**	**+2.0**
	baz=211					
TPUB			S	**Sb**	**23 19 16.5**	**-0.6**
	baz=211					
LONT	**Longtian**	**2.27 213**	P	**Pn**	**23 18 46.4**	**+0.7**
	baz=211					
LONT			*e*S	**Sn**	**23 19 12.0**	**-1.6**
	baz=211					
STYT	**Tauyuan**	**2.27 224**	*i* P	**Pn**	**23 18 47.0**	**+1.1**
	baz=207					
STYT			*e*S	**Sn**	**23 19 15.1**	**+1.3**
	baz=207					
WTP	**Ta-pu**	**2.31 227**	*i* P	**Pn**	**23 18 48.2**	**+1.9**
	baz=210					
WTP			*e*S	**Sb**	**23 19 17.4**	**-1.2**
	baz=210					
LDUT	**Ludao**	**2.33 203**	*e*P	**Pn**	**23 18 47.0**	**+0.5**
	baz=201					
LDUT			S	**Sn**	**23 19 13.0**	**-2.0**
	baz=201					
TWGBT	**Beinan**	**2.37 213**	P	**Pn**	**23 18 47.4**	**+0.3**
TWGBT	**Beinan**	**2.37 213**	P	**Pn**	**23 18 46.7**	**-0.3**
	baz=211					
TWGBT			*e*S	**Sn**	**23 19 14.4**	**-1.7**
	baz=211					
TWG	**Pinlang**	**2.37 213**	*i* P	**Pn**	**23 18 47.1**	**0.0**
	baz=211					
TWG			*e*S	**Sn**	**23 19 14.3**	**-1.8**
	baz=211					
TWK	**Hsinying**	**2.38 230**	*i* P	**Pn**	**23 18 48.9**	**+1.6**
	baz=212					
TWK			*e*S	**Sb**	**23 19 19.5**	**-1.1**
	baz=212					
SNST	**Tainan City**	**2.41 229**	P	**Pb**	**23 18 50.6**	**-1.0**
	baz=211					
SNST			*e*S	**Sb**	**23 19 20.6**	**-0.7**
	baz=211					
CHN1	**Nanshi**	**2.41 228**	*i* P	**Pb**	**23 18 50.4**	**-1.3**
	baz=226					
CHN1			*e*S	**Sn**	**23 19 18.8**	**+1.7**
	baz=226					
SGST	**Jiashian**	**2.44 225**	*i* P	**Pn**	**23 18 49.3**	**+1.1**
	baz=208					
SGST			S	**Sb**	**23 19 22.1**	**-0.3**
	baz=208					
SLGT	**Liugui**	**2.47 223**	P	**Pn**	**23 18 50.1**	**+1.7**
	baz=207					
SLGT			*e*S	**Sn**	**23 19 19.6**	**+1.1**
	baz=207					
ICHU	**Yijhu**	**2.47 234**	*i* P	**Pn**	**23 18 50.1**	**+1.6**
	baz=250					
ICHU			*e*S	**Sb**	**23 19 22.1**	**-1.1**
	baz=250					
ECL	**Taimali**	**2.62 212**	*i* P	**Pn**	**23 18 51.4**	**+0.9**
	baz=210					
ECL			*e*S	**Sn**	**23 19 19.6**	**-2.6**
	baz=210					
MATB	**Ma-tsu**	**2.63 301**	P	**Pn**	**23 18 50.4**	**-0.3**
	baz=298					
MATB			*e*S	**Sn**	**23 19 22.1**	**-0.4**
	baz=298					
SCST	**Cishan**	**2.64 223**	*i* P	**Pb**	**23 18 54.0**	**-1.6**
	baz=222					
SCST			*e*S	**Sb**	**23 19 26.1**	**-2.0**
	baz=222					
TSMG	**Majia**	**2.69 219**	P	**Pn**	**23 18 53.6**	**+2.1**
	baz=203					
TSMG			*e*S	**Sn**	**23 19 26.6**	**+2.5**
	baz=203					
TSCK	**Chigu Township**	**2.74 233**	*e*P	**Pb**	**23 18 55.9**	**-1.5**
	baz=216					
TSCK			S	**Sn**	**23 19 27.8**	**+2.5**
	baz=216					
VWUC	**VWUC**	**2.74 274**	*e*P	**Pn**	**23 18 51.1**	**-1.1**
	baz=273					
VWUC			*e*S	**Sn**	**23 19 23.9**	**-1.4**
	baz=273					
MASBT	**Mashibuluo**	**2.77 218**	*i* P	**Pn**	**23 18 55.1**	**+2.5**
	baz=203					
MASBT			S	**Sn**	**23 19 29.4**	**+3.4**
	baz=203					
EAST	**Anshuo**	**2.85 212**	P	**Pn**	**23 18 54.6**	**+0.9**
	baz=210					
EAST			*e*S	**Sn**	**23 19 26.3**	**-1.7**
	baz=210					
LAY	**Lan-yu**	**2.90 197**	*e*P	**Pn**	**23 18 52.2**	**-2.1**
	baz=195					
LAY			*e*S	**Sn**	**23 19 29.1**	**-0.1**
	baz=195					
LYUB	**Lan-yu**	**2.92 196**	*e*P	**Pn**	**23 18 53.5**	**-1.2**
	baz=195					
LYUB			*e*S	**Sn**	**23 19 28.8**	**-1.0**
	baz=195					
XPSS	**Dashiqiu**	**2.93 316**	P	**Pn**	**23 18 56.9**	**+2.1**
	baz=314					
XPSS			*e*S	**Sn**	**23 19 30.5**	**+0.5**
	baz=314					
PNG	**Penghu**	**2.94 245**	*e*P	**Pn**	**23 18 55.7**	**+0.9**
	baz=244					
PNG			*e*S	**Sn**	**23 19 31.3**	**+1.2**
	baz=244					
SCZT	**Fangliau**	**2.97 215**	*i* P	**Pn**	**23 18 57.1**	**+1.7**
	baz=200					
SCZT			*e*S	**Sn**	**23 19 32.5**	**+1.6**
	baz=200					
WDGT	**Dungji**	**3.00 239**	*i* P	**Pn**	**23 18 56.6**	**+0.8**
	baz=254					
WDGT			*e*S	**Sn**	**23 19 32.5**	**+0.8**
	baz=254					

*IDC **28** 23:19:32.8±1.3, 8°.36S×116°.45E, h0km, mb4.0/7, mbtmp4.0/8, ML3.9/1, Error ellipse: s-maj=46.8km s-min=22.2km az=53.0*
*NEIC **28** 23:19:35.6±0.6, 8°.21S±0°.07×116°.51E±0°.07, h10km±1km, mb4.3/8, Error ellipse: s-maj=13.4km s-min=10.0km az=136.0*
*DJA **28** 23:19:36.5±0.2, 8°.S±2°.×11°.7E±°, h16km±2km, M4.8/24, mbB6.2/1, mb4.9/24, MLv4.8/17, Mw(mB)5.9/1*
ISC 28 23:19:35.5±0.5, **8°.22S**±0°.06×**116°.57E**±0°.04, **h10**km, **n46,** σ1§**08**/48, **mb4.3**/10, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.60**	**149**	P	**Pg**	**23 19 47.3**	**+0.1**
TWSI				S	**Sg**	**23 19 55.4**	**+0.3**
PLAI	**Plampang**	**1.34**	**117**	P	**Pn**	**23 20 00.2**	**-0.1**
SRBI	**Singaraja**	**1.35**	**276**	P	**Pg**	**23 20 01.3**	**-0.1**
DNP	**Denpasar**	**1.42**	**251**	P	**Pg**	**23 20 02.9**	**+0.2**
JAGI	**Jajag, Banyuwa**	**2.41**	**264**	Pn	**Pn**	**23 20 13.5**	**-1.4**
JAGI	**Jajag, Banyuwa**	**2.41**	**264**	P	**Pn**	**23 20 15.2**	**+0.3**
BSSI	**Bau Bau, Buton**	**4.40**	**62**	P	**Pn**	**23 20 42.4**	**0.0**
BASI	**Baing, Sumba**	**4.43**	**117**	P	**Pn**	**23 20 42.8**	**0.0**
KAPI	**Kappang**	**4.49**	**45**	Pn	**Pn**	**23 20 42.8**	**-0.8**
	5.9nm,0.3s,baz=53,slow=14,SNR=0.7						
KAPI				Sn	**Sn**	**23 21 34.6**	**-1.3**
	4.1nm,0.3s,baz=62,slow=23,SNR=1.1						
	20nm,0.3s						
BWJI	**Bawean**	**4.54**	**301**	P	**Pn**	**23 20 45.5**	**+1.2**
PWJI	**Pagerwojo**	**4.72**	**272**	P	**Pn**	**23 20 47.3**	**+0.5**
BNSI	**Bone**	**5.17**	**43**	P	**Pn**	**23 20 55.0**	**+2.0**
	181nm,1.4s,1.3nm						
MMRI	**Maumere**	**5.62**	**95**	Pn	**Pn**	**23 20 58.7**	**-0.5**
MMRI	**Maumere**	**5.62**	**95**	P	**Pn**	**23 20 59.1**	**-0.1**
	150nm,1.0s,1.1nm						
BBSI	**Bau Bau**	**6.55**	**66**	P	**Pn**	**23 21 13.0**	**+1.1**
	97nm,1.2s,0.8nm						
BKB	**Balikpapan**	**6.92**	**3**	P	**Pn**	**23 21 19.7**	**+2.7**
BATI	**Baumata**	**7.28**	**106**	P	**Pn**	**23 21 22.5**	**+0.5**
	39nm,0.8s						
SOEI	**Soe**	**7.76**	**102**	P	**Pn**	**23 21 29.1**	**+0.5**
	69nm,1.0s						
SKJI	**Sukabumi**	**10.00**	**276**	P	**Pn**	**23 22 01.1**	**+1.8**
GTOI	**Gorontalo**	**10.89**	**36**	P	**Pn**	**23 22 14.3**	**+2.8**
SWI	**Sorong**	**16.36**	**64**	P	**Pn**	**23 23 27.0**	**+1.6**
	21nm,0.8s						
FAKI	**Fak Fak**	**16.46**	**72**	Pn	**Pn**	**23 23 26.9**	**+0.1**
FAKI	**Fak Fak**	**16.46**	**72**	P	**Pn**	**23 23 26.9**	**+0.1**
	53nm,1.3s						
PBSI	**Pulau Batu**	**19.95**	**293**	P	**Pn**	**23 24 08.8**	**-0.8**
	238nm,1.4s						
WB0	**Warramunga Arr**	**20.73**	**125**		**P**	**23 24 16.3**	**-0.1**
WB0				IAmb	IAmb	23 24 20.4	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**20.78**	**126**	P	**P**	**23 24 16.1**	**-0.9**
WRA	**Warramunga Arr**	**20.78**	**126**	P	**P**	**23 24 15.8**	**-1.2**
	comp=Z,3.5nm,0.5s,baz=299,slow=12,SNR=6.9						
	comp=Z,3.5nm,0.5s						
AS31	**Alice Springs**	**22.62**	**135**	P	**P**	**23 24 36.4**	**-0.4**
ASAR	**Alice Springs**	**22.62**	**135**	P	**P**	**23 24 36.1**	**-0.7**
	comp=Z,3.3nm,0.6s,baz=311,slow=9.6,SNR=4.1						
	comp=Z,3.3nm,0.6s						
MLSI	**Meulaboh, Aceh**	**23.63**	**301**	P	**P**	**23 24 47.3**	**+0.2**
	comp=Z,23nm,1.0s						
LHMI	**Lhok Sumawe**	**23.70**	**304**	P	**P**	**23 24 48.6**	**+0.9**
	comp=Z,127nm,1.1s						
JAY	**Jayapura**	**24.68**	**78**	P	**P**	**23 24 56.2**	**-0.7**
USRK	**Ussuriysk Ar.**	**54.01**	**14**	P	**P**	**23 28 59.4**	**-0.4**
USRK	**Ussuriysk Ar.**	**54.01**	**14**	P	**P**	**23 29 00.5**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=219,slow=4.1,SNR=2.8						
	comp=Z,1.8nm,0.6s						
SONM	**Songino Array**	**56.53**	**352**	P	**P**	**23 29 17.7**	**-0.5**
SONM				IAmb	IAmb	23 29 39.7	
	comp=Z,3.1nm,1.3s						
SONM	**Songino Array**	**56.53**	**352**	P	**P**	**23 29 18.1**	**0.0**
	comp=Z,1.4nm,0.7s,baz=160,slow=4.7,SNR=3.2						
	comp=Z,1.4nm,0.7s						
MK31	**Makanchi Array**	**62.69**	**334**	P	**P**	**23 30 00.8**	**+0.2**
MK31				IAmb	IAmb	23 30 26.3	
	comp=Z,5.8nm,1.4s						
MKAR	**Makanchi Array**	**62.69**	**334**	P	**P**	**23 30 00.0**	**-0.5**
MKAR	**Makanchi Array**	**62.69**	**334**	P	**P**	**23 29 59.8**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=140,slow=7.7,SNR=4.3						
	comp=Z,1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**67.23**	**335**	P	**P**	**23 30 29.5**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=150,slow=6.0,SNR=2.0						
	comp=Z,0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**67.48**	**340**	P	**P**	**23 30 31.1**	**-0.4**
ZALV	**Zalesovo Beam**	**67.48**	**340**	P	**P**	**23 30 31.2**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=151,slow=3.4,SNR=3.0						
	comp=Z,1.1nm,0.6s						
VNDA	**Vanda**	**73.13**	**171**	P	**P**	**23 31 06.0**	**+0.3**
VNDA				IAmb	IAmb	23 31 07.1	
	comp=Z,4.3nm,1.4s						
ABKAR	**Akbulak array**	**75.55**	**326**	P	**P**	**23 31 18.6**	**-1.7**
QSPA	**South Pole Qui**	**81.77**	**180**	P	**P**	**23 31 56.1**	**+1.7**
TORD	**Torodi Ar. Bea**	**115.96**	**281**	PKP	**PKPdf**	**23 38 16.9**	**-2.8**
	comp=Z,0.4nm,0.7s,baz=63,slow=2.6,SNR=2.3						

JMA 28 23:32:09.7±0.3, **37°.0N**±0°.9×**14°.1E**±°, **h38**km±2km, **MV1.3**/10, **E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.54**	**278**	P	Pn	23 32 20.8	-0.2
ONAJ				S	Sn	23 32 28.6	-0.3
JFK	**Kawauchi**	**0.58**	**306**	S	Sn	23 32 29.3	-0.5
JFFD	**Fukushimafurud**	**0.73**	**275**	S	Sn	23 32 33.1	-0.2

*IDC **28** 23:32:16.2±18.0, 37°.89N×143°.04E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=469.3km s-min=41.0km az=171.0*
*JMA **28** 23:32:46.0±0.2, 41°.8N±0°.7×142°.2E±0°.7, h61km±3km, MV3.2/40, S OFF URAKAWA*
ISC 28 23:32:46.6±0.9, **41°.81N**±0°.04×**142°.20E**±0°.04, **h53**km±9km, **n24,** σ0§**90**/41, **mb3.8**/6, **9D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.62**	**41**	⇓P	**Pn**	**23 32 58.7**	**-0.9**
JNBK				⇓S	**Sn**	**23 33 08.7**	**-0.3**
JSHD	**Hidakashinhida**	**0.63**	**18**	⇓P	**Pn**	**23 32 59.8**	**+0.2**
JSHD				⇓S	**Sn**	**23 33 10.0**	**+1.0**
JEM	**Erimo**	**0.74**	**74**	P	**Pn**	**23 33 01.0**	**-0.1**
JEM				S	**Sn**	**23 33 11.9**	**+0.3**
JIAM	**Iburiatsuma**	**0.84**	**346**	P	**Pn**	**23 33 02.8**	**+0.5**
JIAM				*e*S	**Sn**	**23 33 15.4**	**+1.6**
JKB	**Kayabe**	**0.88**	**275**	P	**Pn**	**23 33 02.5**	**-0.3**
JKB				S	**Sn**	**23 33 14.1**	**-0.4**
JOT	**Ohata**	**0.96**	**244**	P	**Pn**	**23 33 04.0**	**+0.1**
JOT				S	**Sn**	**23 33 16.5**	**-0.2**
JBT2	**Biratori 2**	**0.97**	**7**	⇓P	**Pn**	**23 33 03.8**	**-0.3**
JBT2				⇓S	**Sn**	**23 33 17.5**	**+0.5**
JNB	**Noboribetsu**	**1.09**	**308**	P	**Pn**	**23 33 05.5**	**-0.1**
JNB				S	**Sn**	**23 33 18.9**	**-0.7**
JEW	**Eniwo**	**1.17**	**332**	⇓*i* P	**Pn**	**23 33 06.9**	**+0.2**
JEW				⇓S	**Sn**	**23 33 21.8**	**+0.1**
JCH	**Churui**	**1.18**	**47**	P	**Pn**	**23 33 06.8**	**0.0**
JCH				S	**Sn**	**23 33 23.4**	**+1.5**
JTM	**Tenmabayashi**	**1.33**	**220**	P	**Pn**	**23 33 09.9**	**+1.1**
JTM				S	**Sn**	**23 33 26.7**	**+1.2**
JSR	**Shiriuchi**	**1.36**	**259**	P	**Pn**	**23 33 09.9**	**+0.6**
JSR				S	**Sn**	**23 33 26.9**	**+0.7**
JFR	**Furan**	**1.38**	**12**	⇓*i* P	**Pn**	**23 33 09.2**	**-0.4**
JYM2	**Yakumo 2**	**1.40**	**283**	P	**Pn**	**23 33 10.1**	**+0.3**
JYM2				*e*S	**Sn**	**23 33 27.7**	**+0.6**
JANG	**Nango**	**1.53**	**200**	*i* P	**Pn**	**23 33 11.9**	**+0.4**
JANG				S	**Sn**	**23 33 30.8**	**+0.5**
JOMM	**Oshimamatsumae**	**1.67**	**261**	P	**Pn**	**23 33 13.8**	**+0.4**
JOMM				S	**Sn**	**23 33 34.4**	**+0.7**
JAR	**Ashorobuto**	**1.89**	**37**	*i* P	**Pn**	**23 33 17.1**	**+0.7**
JAR				S	**Sn**	**23 33 39.9**	**+0.8**
JHR	**Hokuryu**	**1.96**	**350**	P	**Pn**	**23 33 18.7**	**+1.2**
JHR				S	**Sn**	**23 33 42.8**	**+1.8**
ZALV	**Zalesovo Beam**	**39.29**	**308**	P	**P**	**23 40 10.5**	**+0.4**
	0.4nm,0.4s,baz=93,slow=7.2,SNR=2.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**42.26**	**298**	P	**P**	**23 40 31.5**	**-3.1**
	0.2nm,0.5s,baz=93,slow=8.8,SNR=2.1						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**45.18**	**35**	P	**P**	**23 40 57.3**	**-0.5**
	0.3nm,0.8s,baz=255,slow=5.5,SNR=4.3						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**47.91**	**309**	P	**P**	**23 41 20.1**	**+0.7**
	0.7nm,0.4s,baz=80,slow=8.2,SNR=7.5						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**64.89**	**332**	P	**P**	**23 43 20.4**	**+0.4**
	0.6nm,0.4s,baz=43,slow=8.4,SNR=10						
	0.6nm,0.4s						
HFS	**Hagfors**	**70.00**	**335**	P	**P**	**23 43 52.1**	**-0.1**
	3.5nm,1.1s,baz=38,slow=7.5,SNR=5.0						
	3.5nm,1.1s						

*IDC **28** 23:37:59.4±2.0, 8°.61S×116°.04E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=102.0km s-min=26.6km az=53.0.*
*DJA **28** 23:38:04.1±0.6, 8°.S±6°.×11°.7E±°, h10km, M4.1/6, MLv4.1/6*
ISC 28 23:38:01.7±1.5, **8°.3S**±0°.2×**116°.4E**±0°.2, **h10**km, **n9,** σ1§**14**/8, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.64**	**134**	P	**Pg**	**23 38 14.6**	**+0.5**
TWSI				S	**Sg**	**23 38 23.1**	**+0.6**
SRBI	**Singaraja**	**1.21**	**280**	P	Pn	23 38 28.7	+4.0
SRBI				S	Sn	23 38 48.9	+7.7
DNP	**Denpasar**	**1.25**	**252**	P	Pn	23 38 30.2	+4.9
PLAI	**Plampang**	**1.45**	**112**	P	**Pn**	**23 38 27.5**	**-0.5**
PLAI				S	**Sn**	**23 38 46.3**	**-0.7**
JAGI	**Jajag, Banyuwa**	**2.25**	**265**	P	Pg	23 38 42.3	-2.6
WRA	**Warramunga Arr**	**20.86**	**126**	P	**P**	**23 42 43.6**	**-0.5**
	1.0nm,0.6s,baz=301,slow=12,SNR=10						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**22.68**	**134**	P	**P**	**23 43 03.9**	**+0.3**
	2.0nm,0.9s,baz=312,slow=8.3,SNR=14						
	2.0nm,0.9s						
SONM	**Songino Array**	**56.59**	**352**	P	**P**	**23 47 46.0**	**+1.2**
	0.7nm,0.7s,baz=150,slow=5.4,SNR=5.0						
	0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**115.82**	**281**	PKP	**PKiKP**	**23 56 43.9**	**-1.8**
	0.2nm,0.6s,baz=77,slow=3.2,SNR=1.5						

*IDC **28** 23:39:20.2±2.6, 8°.13S×116°.80E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=169.3km s-min=21.4km az=52.0*
*DJA **28** 23:39:20.8±0.2, 8°.S±2°.×11°.6E±°, h11km±2km, M5.0/24, mb4.8/24, mB6.0/4, MLv4.9/19, Mw(mB)5.7/4*
ISC 28 23:39:20.6±0.7, **8°.25S**±0°.06×**116°.55E**±0°.05, **h10**km, **n28,** σ1§**14**/22, **mb3.7**/5, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.59**	**146**	P	**Pb**	**23 39 32.9**	**-0.1**
TWSI				S	**Sb**	**23 39 42.0**	**+0.6**
SRBI	**Singaraja**	**1.33**	**277**	P	**Pn**	**23 39 44.5**	**-0.7**
PLAI	**Plampang**	**1.35**	**115**	P	**Pg**	**23 39 46.7**	**+0.2**
DNP	**Denpasar**	**1.39**	**252**	P	**Pn**	**23 39 45.7**	**-0.3**
ABJI	**Asem Bagus**	**2.33**	**281**	P	**Pn**	**23 40 00.1**	**+1.1**
JAGI	**Jajag, Banyuwa**	**2.38**	**265**	P	**Pn**	**23 39 58.9**	**-0.8**
BASI	**Baing, Sumba**	**4.44**	**116**	P	**Pn**	**23 40 28.4**	**+0.4**
BSSI	**Bau Bau, Buton**	**4.44**	**62**	P	**Pn**	**23 40 28.4**	**+0.4**
KAPI	**Kappang**	**4.53**	**45**	P	**Pg**	**23 40 45.9**	**-1.4**
BKSI	**Bulukumba**	**4.59**	**51**	P	Pn	23 40 31.1	+1.0
PWJI	**Pagerwojo**	**4.70**	**272**	P	**Pn**	**23 40 30.9**	**-0.7**
EDFI	**Ende, Flores**	**5.11**	**96**	P	Pn	23 40 39.5	+2.1
	118nm,0.6s,0.5nm						
BNSI	**Bone**	**5.21**	**43**	P	Pn	23 40 40.9	+2.3
UGM	**Wanagama**	**5.97**	**273**	P	**Pb**	**23 41 05.3**	**+0.5**
UGM	**Wanagama**	**5.97**	**273**	P	**Pn**	**23 40 48.7**	**-0.4**
	172nm,0.9s,1.6nm						
BBSI	**Bau Bau**	**6.58**	**66**	P	Pn	23 40 58.3	+0.8
	37nm,0.8s,0.3nm						
BKB	**Balikpapan**	**6.95**	**3**	P	**Pn**	**23 41 05.1**	**+2.5**
	221nm,1.4s						
BATI	**Baumata**	**7.29**	**106**	P	**Pn**	**23 41 07.3**	**0.0**
	71nm,0.7s,0.3nm						
SOEI	**Soe**	**7.77**	**102**	P	Pn	23 41 15.5	+1.5
	72nm,0.7s,4μm0.4nm						
CMJI	**Cimerak**	**8.03**	**273**	P	Pn	23 41 13.5	-3.9
	84nm,0.8s						
FAKI	**Fak Fak**	**16.50**	**72**	P	**P**	**23 43 14.4**	**-0.6**
BKNI	**Bangkinang**	**17.65**	**298**	P	**Pn**	**23 43 25.0**	**-1.7**
WRA	**Warramunga Arr**	**20.78**	**126**	P	Pn	23 44 02.1	-2.4
	4.4nm,0.9s,baz=300,slow=12,SNR=14						
	4.4nm,0.9s						
ASAR	**Alice Springs**	**22.62**	**135**	P	**P**	**23 44 21.4**	**-0.4**
	4.1nm,1.0s,baz=314,slow=8.3,SNR=10						
	4.1nm,1.0s						
SONM	**Songino Array**	**56.56

BBJI	Bungbulang	8.69 274	P	Pn	23 41 46.2	+8.1
MBWA	Marble Bar	13.27 166	P	Pn	23 42 40.6	-0.1
MBWA	Marble Bar	13.27 166	Pn	Pn	23 42 39.2	-1.5
PSA00	Pilbara Seismi	13.69 166	P	Pn	23 42 45.8	-0.7
PSA00	Pilbara Seismi	13.69 166	Pn	Pn	23 42 45.6	-0.9
KNRA	Kununurra	14.19 123	Pn	Pn	23 42 52.3	-1.1
GIRL	Giralia	14.49 188	Pn	Pn	23 42 56.9	-0.7
MTN	Manton Dam	15.21 109	P	Pn	23 43 06.4	-0.8
MTN	Manton Dam	15.21 109	Pn	Pn	23 43 07.5	+0.3
MTN			IAmb	IAmb	23 43 09.3	
	comp=Z,35nm,1.4s					
FAKI	Fak Fak	16.63 72	P	Pn	23 43 27.1	+1.4
FAKI	Fak Fak	16.63 72	Pn	Pn	23 43 25.2	-0.5
FAKI			IAmb	IAmb	23 44 00.1	
	comp=Z,37nm,1.2s					
MEEK	Meekatharra	18.44 174	P	P	23 43 49.3	+1.2
WRKA	Warakurna	20.22 147	P	P	23 44 08.7	+1.1
MORW	Morawa	20.75 181	P	P	23 44 15.3	+2.1
MORW	Morawa	20.75 181	P	P	23 44 14.9	+1.7
MORW			IAmb	IAmb	23 44 41.2	
	comp=Z,20nm,1.0s					
WB0	Warramunga Arr	20.88 125	P	P	23 44 14.3	-0.4
WB0			IAmb	IAmb	23 44 23.3	
	comp=Z,16nm,0.7s					
WRA	Warramunga Arr	20.93 126		P	23 44 14.6	-0.7
WRA	Warramunga Arr	20.93 126	P	P	23 44 15.0	-0.3
	comp=Z,16nm,0.6s,baz=299,slow=13,SNR=13					
WRA			ScP	ScP	23 51 58.1	-2.2
	comp=Z,0.5nm,0.9s,baz=319,slow=3.3,SNR=1.4					
	comp=Z,16nm,0.6s					
WB2	Warramunga Arr	20.94 126		P	23 44 15.0	-0.3
WB2			IAmb	IAmb	23 44 20.5	
	comp=Z,19nm,0.6s					
GSI	Gunungsitoli	21.01 296	P	P	23 44 15.8	-0.3
WR0	Warramunga Arr	21.10 125	P	P	23 44 17.1	0.0
BLDU	Balidiu	22.29 179	P	P	23 44 31.7	+2.0
AS31	Alice Springs	22.75 134		P	23 44 35.4	+0.5
ASAR	Alice Springs	22.75 134	P	P	23 44 35.4	+0.6
ASAR	Alice Springs	22.75 134	P	P	23 44 34.5	-0.3
	comp=Z,6.8nm,0.6s,baz=308,slow=9.1,SNR=14					
ASAR			PcP	PcP	23 48 26.4	-0.4
	comp=Z,0.6nm,0.5s,baz=312,slow=1.8,SNR=2.8					
ASAR			ScP	ScP	23 52 02.2	-2.7
	comp=Z,0.8nm,0.7s,baz=347,slow=2.9,SNR=5.2					
	comp=Z,6.8nm,0.6s					
KLBR	Kellerberrin	23.29 177	P	P	23 44 42.3	+2.0
NWAO	Narrogin (SRO)	24.60 178	P	P	23 44 53.6	+0.9
FORT	Forrest	24.96 156	P	P	23 44 57.3	+1.4
QIS	Mount Isa	25.57 121	P	P	23 45 02.8	+1.1
COEN	Coen	26.88 105	P	P	23 45 13.0	-0.6
COEN			IAmb	IAmb	23 45 20.2	
	comp=Z,13nm,0.8s					
BBOO	Buckleboo	30.51 146	P	P	23 45 45.5	-0.3
CMAR	Chiang Mai Arr	31.60 327	P	P	23 45 55.4	0.0
CMAR	Chiang Mai Arr	31.60 327	P	P	23 45 56.5	+1.1
	comp=Z,3.8nm,1.0s,baz=155,slow=7.0,SNR=16					
	comp=Z,3.8nm,1.0s					
STKA	Stephens Creek	33.22 139	P	P	23 46 10.0	+0.5
STKA	Stephens Creek	33.22 139	P	P	23 46 09.9	+0.3
	comp=Z,5.1nm,0.7s,baz=317,slow=8.8,SNR=6.1					
	comp=Z,5.1nm,0.7s					
TOO	Toolangi	39.34 142		P	23 47 03.5	+1.7
TOO			IAmb	IAmb	23 47 07.8	
	comp=Z,14nm,1.1s					
SHL	Shillong	41.18 325	P	P	23 47 19.3	+1.9
SHL			IAmb	IAmb	23 47 35.4	
	comp=Z,9.7nm,0.7s					
MJAR	Matsushiro Arr	49.01 23	P	P	23 48 18.8	-0.5
	comp=Z,2.1nm,0.9s,baz=202,slow=8.4,SNR=2.9					
	comp=Z,2.1nm,0.9s					
DZM	Mont Dzumac	50.02 112	P	P	23 48 29.4	+2.0
USRK	Ussuriysk Ar.	54.05 14	P	P	23 48 57.2	+0.5
USRK	Ussuriysk Ar.	54.05 14	P	P	23 48 57.4	+0.6
	comp=Z,4.0nm,0.8s,baz=181,slow=6.9,SNR=7.7					
	comp=Z,4.0nm,0.8s					
SONM	Songino Array	56.50 352	P	P	23 49 16.1	+1.4
SONM	Songino Array	56.50 352	P	P	23 49 15.6	+0.9
	comp=Z,2.5nm,0.8s,baz=169,slow=8.2,SNR=12					
	comp=Z,2.5nm,0.8s					
MK31	Makanchi Array	62.61 334	P	P	23 49 56.6	0.0
MK31			IAmb	IAmb	23 50 00.2	
	comp=Z,3.4nm,0.9s					
MKAR	Makanchi Array	62.61 334	P	P	23 49 57.1	+0.4
MKAR	Makanchi Array	62.61 334	P	P	23 49 57.5	+0.8
	comp=Z,1.9nm,0.7s,baz=147,slow=7.2,SNR=11					
	comp=Z,1.9nm,0.7s					
KURBB	Kurchatov Arra	67.15 335	P	P	23 50 25.8	-0.3
	comp=Z,1.5nm,0.9s,baz=145,slow=5.7,SNR=8.7					
	comp=Z,1.5nm,0.9s					
KURK	Kurchatov	67.18 335	P	P	23 50 27.3	+1.0
KURK			IAmb	IAmb	23 50 38.0	
	comp=Z,5.3nm,1.3s					
ZAA0	Zalesovo Array	67.42 340	P	P	23 50 27.9	+0.2
ZAA0			IAmb	IAmb	23 50 29.6	
	comp=Z,5.6nm,1.2s					
ZALV	Zalesovo Beam	67.42 340	P	P	23 50 27.5	-0.3
	comp=Z,1.1nm,0.5s,baz=147,slow=8.5,SNR=6.7					
	comp=Z,1.1nm,0.5s					
MAW	Mawson	69.11 199	P	P	23 50 36.5	-1.6
	comp=Z,1.9nm,0.6s,baz=35,slow=9.8,SNR=4.0					
	comp=Z,1.9nm,0.6s					
BVAR	Borovoye Array	72.41 333	P	P	23 50 57.0	-1.5
	comp=Z,1.0nm,0.8s,baz=156,slow=7.6,SNR=4.8					
	comp=Z,1.0nm,0.8s					
VNDA	Vanda	73.17 171	P	P	23 51 04.2	+1.6
VNDA	Vanda	73.17 171	P	P	23 51 03.1	+0.4
	comp=Z,0.9nm,0.5s,baz=318,slow=7.4,SNR=9.1					
	comp=Z,0.9nm,0.5s					
ABKAR	Akbulak array	75.45 326	P	P	23 51 15.5	-0.9
QSPA	South Pole Qui	81.78 180	P	P	23 51 52.1	+0.9
QSPA			IAmb	IAmb	23 52 20.7	
	comp=Z,10nm,1.4s					
QSPA	South Pole Qui	81.78 180	P	P	23 51 51.6	+0.4
	comp=Z,2.1nm,1.0s,baz=274,slow=2.0,SNR=8.3					
	comp=Z,2.1nm,1.0s					
BOSA	Boshof	87.11 242	P	P	23 52 18.8	-0.2
	comp=Z,1.3nm,0.8s,baz=358,slow=11,SNR=1.9					
	comp=Z,1.3nm,0.8s					
SNAA	Sanae	91.05 196	P	P	23 52 36.3	-0.3
	comp=Z,1.7nm,0.7s,baz=155,slow=8.0,SNR=3.5					
	comp=Z,1.7nm,0.7s					
TORD	Torodi Ar. Bea	115.78 281	PKP	PKPdf	23 58 15.1	-1.0
	comp=Z,0.5nm,0.7s,baz=119,slow=1.8,SNR=4.9					
TXAR	Lajitas Array	136.95 55	PKP	PKPdf	23 58 53.4	-2.7
	comp=Z,0.1nm,0.4s,baz=25,slow=3.2,SNR=2.0					
CPUP	Villa Florida	145.12 190	PKPbc	PKPbc	23 59 10.4	+0.2
	comp=Z,6.3nm,1.0s,baz=138,slow=3.3,SNR=7.0					
BDFB	Brasilia	151.71 213	PKPab	PKPab	23 59 34.6	-2.2
	comp=Z,2.7nm,0.8s,baz=201,slow=5.3,SNR=4.1					
LPAZ	La Paz	155.25 170	PKPab	PKPab	23 59 51.6	-0.7
	comp=Z,1.5nm,0.6s,baz=163,slow=1.9,SNR=6.6					

*IDC **28** 23:55:50.9±2.3, 9°.69S×112°.58E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=115.8km s-min=21.3km az=49.0*
*DJA **28** 23:55:58.7±1.0, 9°.S±9°.×11°.3E±°, h10km, M3.9/7, MLv3.9/7*
ISC 28 23:55:52.3±1.3, 9°.6S±0°.1×112°.67E±0°.06, h10km, n13, σ1§38/15, mb3.9/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	Pagerwojo	1.80	332	P	Pg	23 56 27.8	+1.0
PWJI				S	Sg	23 56 50.4	+0.2
JAGI	Jajag, Banyuwa	1.86	52	P	Pn	23 56 24.8	+0.6
JAGI				S	Sn	23 56 46.0	-1.8
GRJI	Gresik	2.69	356	P	Pb	23 56 39.3	-1.3
UGM	Wanagama	2.71	308	P	Pg	23 56 42.3	-2.0
SRBI	Singaraja	2.94	59	P	Pn	23 56 41.3	+2.2
TWSI	Taliwang, Sumb	4.25	78	P	Pg	23 57 14.6	+0.7
PLAI	Plampang	5.11	82	P	Pg	23 57 27.8	-2.4
WRA	Warramunga Arr	23.31	119	P	P	00 01 00.3	-0.4
	0.3nm,0.6s,baz=292,slow=11,SNR=2.3						
	0.3nm,0.6s						
ASAR	Alice Springs	24.63	127	P	P	00 01 14.1	+0.8
	0.7nm,0.7s,baz=302,slow=9.2,SNR=8.7						
	0.7nm,0.7s						
SONM	Songino Array	57.47	355	P	P	00 05 42.1	+0.5
	0.9nm,0.7s,baz=173,slow=7.0,SNR=7.2						
	0.9nm,0.7s						
MKAR	Makanchi Array	62.36	337	P	P	00 06 15.8	+0.7
	0.7nm,0.4s,baz=151,slow=7.2,SNR=14						
	0.7nm,0.4s						
KURBB	Kurchatov Arra	66.92	337	P	P	00 06 45.2	+0.5
	0.5nm,0.6s,baz=151,slow=6.4,SNR=2.0						
	0.5nm,0.6s						
ZALV	Zalesovo Beam	67.57	343	P	P	00 06 49.0	+0.2
	1.2nm,0.6s,baz=156,slow=5.4,SNR=6.8						
	1.2nm,0.6s						

*CATAC **28** 23:58:13.5±0.6, 12°.34N×87°.33W, h78km±6km, ML3.2*
*SNET **28** 23:58:14.6±0.7, 12°.43N×87°.11W, h101km±3km, ML3.0*
ISC 28 23:58:15.2±1.7, 12°.45N±0°.07×87°.08W±0°.05, h98km±10km, n33, σ0§69/54, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.26	6	eP	Pn	23 58 29.3	-0.2
CRIN				eS	Sn	23 58 41.1	+0.9
QUEN	Al S del Volca	0.26	56	iP	Pn	23 58 28.6	-0.9
QUEN				IAML		23 58 44.5	
	comp=Z,4μm,1.0s						
PACN	Al O del Volca	0.28	79	iP	Pn	23 58 28.3	-1.2
PACN				iS	Sn	23 58 41.5	+1.2
PACN				IAML		23 58 48.4	
	comp=Z,2μm,1.0s						
TELN	Telica	0.29	57	iP	Pn	23 58 28.4	-1.3
TELN				iS	Sn	23 58 41.5	+1.0
TELN				IAML		23 58 45.5	
	comp=Z,200nm,1.0s						
HERN	Volcan Telica	0.29	56	iP	Pn	23 58 29.2	-0.5
HERN				iS	Sn	23 58 40.8	+0.3
HERN				IAML		23 58 44.9	
	comp=Z,2μm,1.0s						
CNGN	Cerro Negro	0.37	82	eP	Pn	23 58 29.5	-0.5
CNGN				eS	Sn	23 58 41.8	+0.7
CNGN	Cerro Negro	0.37	82	iP	Pn	23 58 29.5	-0.5
CNGN				iS	Sn	23 58 41.3	+0.1
CNGN				IAML		23 58 48.0	
	comp=Z,700nm,1.0s						
MACN	El Madrono	0.39	87	iP	Pn	23 58 29.8	-0.3
MACN				iS	Sn	23 58 42.3	+1.0
MACN				IAML		23 58 46.9	
	comp=Z,500nm,1.0s						
LEVN	Ruinas Leon Vi	0.45	95	iP	Pn	23 58 29.0	-1.4
LEVN				iS	Sn	23 58 42.4	+0.5
LEVN				IAML		23 58 48.4	
	comp=Z,720nm,1.0s						
COPN	Copaltepe	0.54	119	iP	Pn	23 58 30.2	-0.9
COPN				IAML		23 58 44.4	
	comp=Z,900nm,1.0s						
MOM2	El Cardon	0.58	91	iP	Pn	23 58 30.5	-0.9
MOM2				iS	Sn	23 58 44.5	+0.9
MOM2				IAML		23 58 48.3	
	comp=Z,320nm,1.0s						
SAPS	Ciudad Sandino	0.71	113	iP	Pn	23 58 31.9	-0.7
SAPS				iS	Sn	23 58 45.4	-0.2
SAPS				IAML		23 58 50.1	
	comp=Z,880nm,1.0s						
APQ2	Apoyeque	0.78	108	iP	Pn	23 58 32.6	-0.5
APQ2				iS	Sn	23 58 47.0	+0.4
APQ2				IAML		23 58 52.8	
	comp=Z,840nm,1.0s						
TISN	Laguna Tiscapa	0.84	111	iP	Pn	23 58 33.1	-0.8
TISN				IAML		23 58 50.1	
	comp=Z,53nm,1.0s						
HUEN		0.89	97	iP	Pn	23 58 33.8	-0.5
HUEN				IAML		23 58 34.0	
	comp=Z,230nm,1.0s						
HUEN				iS	Sn	23 58 49.5	+0.8
LIMN	Finca el Limon	0.93	48	iP	Pn	23 58 34.5	-0.3
LIMN				IAML		23 58 34.8	
	comp=Z,480nm,1.0s						
MAS3	Al N del Volca	0.98	115	iP	Pn	23 58 35.1	-0.2
MAS3				iS	Sn	23 58 50.3	-0.1
MAS3				IAML		23 58 52.6	
	comp=Z,700nm,1.0s						
NANN	Nandasmo	1.06	118	iP	Pn	23 58 36.7	+0.5
NANN				iS	Sn	23 58 52.9	+0.9
NANN				IAML		23 58 55.8	
	comp=Z,4μm,1.0s						
CNCH	Conchagua	1.11	318	eP	Pn	23 58 36.4	-0.4
CNCH				eS	Sn	23 58 53.9	+0.8
CNCH				IAML		23 58 58.2	
	comp=Z,410nm,0.2s						
LCND	La Caada	1.17	317	eP	Pn	23 58 36.9	-0.6
LCND				eS	Sn	23 58 54.8	+0.6
LCND				IAML		23 58 59.9	
	comp=Z,155nm,0.3s						
INTP	Intipuca	1.21	308	eP	Pn	23 58 37.3	-0.6
INTP				eS	Sn	23 58 54.8	-0.2
INTP				IAML		23 58 56.8	
	comp=Z,76nm,0.2s						
BLLM	Bellamira	1.50	311	eP	Pn	23 58 41.4	-0.1
YUSH	Yuscaran	1.52	9	eP	Pn	23 58 41.6	0.0
YUSH	Yuscaran	1.52	9	iP	Pn	23 58 41.7	0.0
YUSH				iS	Sn	23 59 02.2	+0.4
VSM	San Miguel	1.52	310	eP	Pn	23 58 42.4	+0.5
LCY	Lacayo	1.53	309	eP	Pn	23 58 41.7	-0.2
RANC	El Ranchito	1.54	310	eP	Pn	23 58 41.9	-0.1
PACA	Pacayal	1.58	310	eP	Pn	23 58 42.5	0.0
TGUH	Tegucigalpa,Un	1.61	353	eP	Pn	23 58 42.7	-0.3
TGUH	Tegucigalpa,Un	1.61	353	iP	Pn	23 58 41.6	-1.3
TGUH				IAML		23 58 43.2	
	comp=Z,110nm,1.0s						
TGUH				iS	Sn	23 59 03.5	-0.5
TECA	Tecapa	1.74	307	eP	Pn	23 58 44.5	0.0
TECA				eS	Sn	23 59 07.7	+0.9
PQSS	Presa 15 de Se	1.86	309	eP	Pn	23 58 45.8	-0.1
JAYA	Jayaque - finc	2.60	298	eP	Pn	23 58 55.4	-0.4
JAYA				eS	Sn	23 59 26.5	-0.5
JAYA				IAML		23 59 30.7	
	comp=Z,160nm,0.2s						

IDC 28 23:58:37.1±3.6, 27°.55S×179°.55W, h561km±52km, mb3.3/3, mbtmp4.3/6, Error ellipse: s-maj=103.1km s-min=37.7km az=84.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.22	140	P	P	23 59 48.9	+0.2
	83nm,0.3s,baz=272,slow=22,SNR=1.6						
URZ	Urewera	11.04	194	P	P	00 01 05.9	+0.3
	6.7nm,0.5s,baz=339,slow=3.5,SNR=6.2						
URZ				S	S	00 03 06.4	-1.4
	11nm,1.2s,baz=83,slow=17,SNR=1.4						
DZM	Mont Dzumac	13.83	290	P	P	00 01 34.5	-0.3
	8.9nm,1.1s,baz=113,slow=15,SNR=2.7						
STKA	Stephens Creek	33.90	253	P	P	00 04 34.5	+0.5
	2.3nm,0.7s,baz=117,slow=14,SNR=3.7						
	2.3nm,0.7s						
ASAR	Alice Springs	41.96	264	P	P	00 05 39.6	-0.1
	1.6nm,0.5s,baz=97,slow=7.8,SNR=42						
	1.6nm,0.5s						
WRA	Warramunga Arr	42.68	270	P	P	00 05 44.9	-0.5
	4.5nm,0.5s,baz=109,slow=7.3,SNR=38						
	4.5nm,0.5s						

*IDC **29** 00:05:27.8±0.8, 8°.21S×116°.55E, h0km, mb4.0/10, mbtmp4.0/11, ML3.7/1, Error ellipse: s-maj=30.9km s-min=15.4km az=62.0*
*DJA **29** 00:05:30.1±0.2, 8°.S±3°.×11°.6E±°, h12km±1km, M4.5/12, mB5.8/1, mb4.4/12, MLv4.6/11, Mw(mB)5.4/1*
*NEIC **29** 00:05:30.1±1.9, 8°.32S±0°.09×116°.44E±0°.02, h10km±1km, mb4.3/11, Error ellipse: s-maj=16.0km s-min=3.1km az=182.0*
ISC 29 00:05:29.3±0.5, 8°.26S±0°.06×116°.50E±0°.05, h10km, n48, σ1§08/50, mb4.2/15, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.61	142	P	Pb	00 05 42.4	+0.3
SRBI	Singaraja	1.28	277	P	Pn	00 05 52.4	-0.9
DNP	Denpasar	1.34	252	P	Pg	00 05 55.0	-0.1
PLAI	Plampang	1.39	114	P	Pn	00 05 56.1	+1.4
JAGI	Jajag, Banyuwa	2.33	265		Pn	00 06 07.2	-0.6
JAGI	Jajag, Banyuwa	2.33	265	P	Pn	00 06 07.2	-0.6
BASI	Baing, Sumba	4.47	116	P	Pn	00 06 38.0	+0.8
BSSI	Bau Bau, Buton	4.48	62	P	Pn	00 06 38.1	+0.8
KAPI	Kappang	4.56	45	Pn	Pn	00 06 39.0	+0.6
KAPI	Kappang	4.56	45	Pn	Pn	00 06 37.3	-1.1
	4.0nm,0.3s,baz=225,slow=17,SNR=2.8						
KAPI				Sn	Sn	00 07 29.7	-1.8
	8.0nm,0.3s,baz=110,slow=21,SNR=11						
	7.5nm,0.2s						
PWJI	Pagerwojo	4.65	273	P	Pn	00 06 40.6	+0.9
MMRI	Maumere	5.69	94	Pn	Pn	00 06 55.8	+1.8
UGM	Wanagama	5.93	273	Pn	Pn	00 06 57.7	+0.4
UGM	Wanagama	5.93	273	P	Pn	00 06 58.8	+1.5
	165nm,1.6s						
SOEI	Soe	7.82	102	Pn	Pn	00 07 24.4	+1.0
SOEI	Soe	7.82	102	P	Pn	00 07 24.6	+1.3
	32nm,0.9s,0.2nm						
MBWA	Marble Bar	13.20	167	Pn	Pn	00 08 34.6	-2.4
FITZ	Fitzroy Crossi	13.22	139	Pn	Pn	00 08 36.5	-0.7
PSA00	Pilbara Seismi	13.63	167	Pn	Pn	00 08 40.4	-2.4
KNRA	Kununurra	14.08	123	Pn	Pn	00 08 50.2	+1.2
GIRL	Giralia	14.47	188	Pn	Pn	00 08 51.8	-2.6
MTN	Manton Dam	15.09	109	Pn	Pn	00 09 01.6	-1.2
MTN				IAmb	IAmb	00 09 05.6	
	comp=Z,9.1nm,1.1s						
WB0	Warramunga Arr	20.77	125	P	P	00 10 10.2	-0.4
WB0				IAmb	IAmb	00 10 11.8	
	comp=Z,20nm,1.4s						
WRA	Warramunga Arr	20.82	126	P	P	00 10 10.7	-0.5
WRA	Warramunga Arr	20.82	126	P	P	00 10 11.1	0.0
	comp=Z,5.3nm,0.6s,baz=299,slow=12,SNR=20						
	comp=Z,5.3nm,0.6s						
AS31	Alice Springs	22.65	135	P	P	00 10 30.7	-0.1
ASAR	Alice Springs	22.65	135	P	P	00 10 31.5	+0.7
ASAR	Alice Springs	22.65	135	P	P	00 10 30.9	+0.1
	comp=Z,4.0nm,0.8s,baz=315,slow=8.4,SNR=20						
	comp=Z,4.0nm,0.8s						
SNSI	Sinabang, Aceh	22.74	297	P	P	00 10 32.2	+0.4
SNSI				pP	pP	00 10 35.3	+0.7
COEN	Coen	26.77	105	P	P	00 11 09.8	+0.1
COEN				IAmb	IAmb	00 11 14.7	
	comp=Z,7.5nm,1.0s						
CMAR	Chiang Mai Arr	31.70	327	P	P	00 11 54.4	+1.0
CMAR	Chiang Mai Arr	31.70	327	P	P	00 11 54.0	+0.6
	comp=Z,1.3nm,0.7s,baz=158,slow=7.6,SNR=10						
	comp=Z,1.3nm,0.7s						
STKA	Stephens Creek	33.12	139	P	P	00 12 05.6	-0.2
STKA				IAmb	IAmb	00 12 28.1	
	comp=Z,2.5nm,1.4s						
STKA	Stephens Creek	33.12	139	P	P	00 12 05.9	+0.1
	comp=Z,3.0nm,0.8s,baz=322,slow=13,SNR=2.2						
	comp=Z,3.0nm,0.8s						
LSA	Lhasa	44.93	328	P	P	00 13 45.7	+0.6
USRK	Ussuriysk Ar.	54.06	14	P	P	00 14 54.3	+0.3
	comp=Z,1.4nm,0.7s,baz=201,slow=9.4,SNR=2.4						
	comp=Z,1.4nm,0.7s						
SONM	Songino Array	56.56	352	P	P	00 15 12.2	+0.1
	comp=Z,1.1nm,0.9s,baz=160,slow=6.7,SNR=5.9						
	comp=Z,1.1nm,0.9s						
HEH	HeiHe	59.03	8	eP	P	00 15 29.3	0.0
HEH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSH	Kashi	60.56	325	P	P	00 15 38.5	-1.7
KSH				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MK31	Makanchi Array	62.69	334	P	P	00 15 54.9	+0.5
MK31				IAmb	IAmb	00 16 07.9	
	comp=Z,3.2nm,1.2s						
MKAR	Makanchi Array	62.69	334	P	P	00 15 54.2	-0.1
	comp=Z,1.6nm,0.8s,baz=134,slow=6.9,SNR=8.7						
	comp=Z,1.6nm,0.8s						
KURBB	Kurchatov Arra	67.23	335	P	P	00 16 23.8	+0.1
	comp=Z,0.3nm,0.3s,baz=144,slow=5.4,SNR=5.2						
	comp=Z,0.3nm,0.3s						
ZALV	Zalesovo Beam	67.49	340	P	P	00 16 24.1	-1.2
ZALV	Zalesovo Beam	67.49	340	P	P	00 16 23.9	-1.4
	comp=Z,0.9nm,0.6s,baz=108,slow=4.8,SNR=5.6						
	comp=Z,0.9nm,0.6s						
VNDA	Vanda	73.11	171	P	P	00 16 58.8	-0.7
	comp=Z,2.4nm,1.3s,baz=306,slow=4.9,SNR=5.2						
	comp=Z,2.4nm,1.3s						
SBA	Scott Base	74.13	170	P	P	00 17 07.1	+1.7
SBA				IAmb	IAmb	00 17 13.7	
	comp=Z,4.1nm,1.3s						
QSPA	South Pole Qui	81.74	180	P	P	00 17 48.9	+0.8
QSPA				IAmb	IAmb	00 18 07.6	
	comp=Z,4.9nm,1.4s						
CPUP	Villa Florida	145.10	190	PKPbc	PKPab	00 25 07.8	+0.5
	comp=Z,3.7nm,0.8s,baz=216,slow=1.5,SNR=8.1						

*TEH **29** 00:07:29.6, 34°.66N×46°.25E, h10km±25km, ML2.9*
*ISN **29** 00:07:30.2±1.4, 34°.65N×46°.26E, h24km±26km, ML2.9*
ISC 29 00:07:29.7±1.4, 34°.66N±0°.05×46°.27E±0°.04, h16km±12km, n11, σ0§61/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.10	67	Pg	Pb	00 07 32.9	-0.6
IDHR				Sg	Sb	00 07 35.5	-0.5
IGHG	Ghaleghazi	0.41	144	Pg	Pg	00 07 38.5	+0.3
KGS1	Ghasr-e-Shirin	0.59	255	Pg	Pb	00 07 41.4	-0.2
GLG1	Gilan-e-Gharb	0.62	209	Pg	Pg	00 07 41.3	-0.7
ILIN	Lien	0.62	65	Pg	Pg	00 07 41.9	-0.2
KCHF	Cheshme Sefid,	0.74	121	Pg	Pb	00 07 44.6	+0.1
KCHF				Sg	Sn	00 07 56.0	-0.9
ILBA	Ilam Banvizeh	1.03	183	Pg	Pb	00 07 49.3	-0.1
SNQR	Sonqor, Kerman	1.13	80	Pg	Pb	00 07 51.7	+0.5
IBZA	Bozab	1.32	98	Pg	Pg	00 07 55.4	+0.1
IBDR	Badra	1.57	191	ePg	Pb	00 07 58.0	-0.5
	baz=10.0						
IBDR				eSg	Sb	00 08 19.0	+0.9
IKRK	Kirkuk	1.75	295	ePn	Pn	00 08 00.0	+0.5
IKRK				eSn	Sb	00 08 24.0	+0.7
IKRK				AML	AML	00 08 29.8	
	comp=N,202nm,0.4s						
IKRK				AML	AML	00 08 33.6	
	comp=E,125nm,0.7s						

*GII **29** 00:07:54.8±0.3, 32°.86N±0°.01×35°.575E±0°.007, h0km, Md3.1/4, Mws3.1/7, confirmed*
*JSO **29** 00:07:55, 32°.87N×35°.58E, h2km, ML2.9/24*
*GRAL **29** 00:07:56.3±0.3, 32°.83N×35°.57E, h0km±2km, MD3.3*
**ISC 29 00:07:56.1±0.9, 32°.88N±0°.02×35°.58E±0°.03, h11km±8km, n52, σ

AMAZ	Amatzia	1.45 203	S	Sg	00 08 43.0	+0.1
AMAZ	Amatzia	1.45 203	P	Pn	00 08 22.8	+0.5
YTIR	Yattir	1.56 195	P	Pn	00 08 24.5	+0.6
YTIR	Yattir	1.56 195	P	Pn	00 08 24.4	+0.5
LISJ	El Lisan	1.63 183	P	Pb	00 08 25.9	-0.3
SWQJ	Swaqa	1.68 166	P	Pn	00 08 24.5	-1.0
BEIL	Beino	1.74 17	*e*P	Pn	00 08 26.9	+0.6
ZFRI	Zfri	2.34 189	P	Pn	00 08 35.6	+1.1
PRNI	Paran	2.56 191	P	Pn	00 08 38.3	+0.7
HRFI	Mount Harif	2.87 189	P	Pn	00 08 43.4	+1.6
MBRI	Mt Berech	3.12 191	P	Pn	00 08 47.1	+1.7

*IDC **29** 00:09:29.3±1.6, 8°.25S×116°.68E, h0km, mb3.3/4, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=28.7km s-min=24.2km az=91.0*
*DJA **29** 00:09:32.5±1.3, 8°S±36°×11°7E±1°.4, h13km±17km, M3.3/4, MLv3.3/4*
ISC 29 00:09:30.8±0.9, 8°.25S±0°.08×116°.63E±0°.08, h10km, n8, σ1§02/9, mb3.5/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.55 153		P	Pb	00 09 42.8	+0.2
TWSI				S	Sb	00 09 49.9	-0.7
PLAI	Plampang	1.27 117		P	Pn	00 09 55.6	+0.9
SRBI	Singaraja	1.41 276		P	Pn	00 09 56.9	+0.3
KAPI	Kappang	4.46 44		Pn	Pn	00 10 37.7	-0.9
	1.0nm,0.3s,baz=195,slow=16,SNR=1.1						
KAPI				Sn	Sn	00 11 29.7	-0.9
	3.5nm,0.3s,baz=254,slow=21,SNR=4.0						
KAPI				Lg	Lg	00 11 49.8	
	1.7nm,0.3s,baz=60,slow=20,SNR=1.9						
	2.7nm,0.2s						
WRA	Warramunga Arr	20.72 126		P	P	00 14 11.7	+0.1
	0.3nm,0.4s,baz=300,slow=12,SNR=3.3						
	0.3nm,0.4s						
ASAR	Alice Springs	22.56 135		P	P	00 14 30.2	-1.2
	0.4nm,0.6s,baz=312,slow=8.9,SNR=3.2						
	0.4nm,0.6s						
SONM	Songino Array	56.57 352		P	P	00 19 15.1	+1.4
	0.4nm,0.8s,baz=173,slow=5.8,SNR=2.1						
	0.4nm,0.8s						
MKAR	Makanchi Array	62.74 334		P	P	00 19 55.3	-0.9
	0.4nm,0.8s,baz=134,slow=9.3,SNR=2.6						
	0.4nm,0.8s						

*IDC **29** 00:18:30.3±1.2, 8°.22S×116°.56E, h0km, mb3.9/5, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=36.3km s-min=20.9km az=58.0*
*NEIC **29** 00:18:32.7±1.3, 8°.19S±0°.08×116°.59E±0°.07, h10km±1km, mb4.0/9, Error ellipse: s-maj=15.0km s-min=11.0km az=148.0*
*DJA **29** 00:18:33.7±0.3, 8°S±3°×11°7E±°, h16km±3km, M4.4/14, mB5.3/1, mb4.7/14, MLv4.3/12, Mw(mB)4.7/1*
ISC 29 00:18:32.5±0.5, 8°.22S±0°.05×116°.60E±0°.04, h10km, n42, σ1§07/44, mb4.0/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.59 152		P	Pg	00 18 44.4	+0.5
TWSI				S	Sg	00 18 52.7	+1.0
PLAI	Plampang	1.31 118		P	Pb	00 18 57.9	+0.7
IGBI	Denpasar	1.56 247		P	Pb	00 19 01.4	0.0
JAGI	Jajag, Banyuwa	2.44 264		Pn	Pn	00 19 11.4	-1.0
JAGI	Jajag, Banyuwa	2.44 264		P	Pn	00 19 12.0	-0.3
GRJI	Gresik	4.29 287		P	Pn	00 19 38.2	+0.4
BSSI	Bau Bau, Buton	4.38 62		P	Pn	00 19 39.3	+0.2
KAPI	Kappang	4.46 45		Pn	Pn	00 19 39.5	-0.8
KAPI	Kappang	4.46 45		Pn	Pn	00 19 40.3	0.0
	2.3nm,0.3s,baz=211,slow=5.3,SNR=7.5						
KAPI				Sn	Sn	00 20 31.1	-1.2
	5.2nm,0.3s,baz=33,slow=12,SNR=3.9						
	6.0nm,0.2s						
PWJI	Pagerwojo	4.75 272		P	Pn	00 19 44.2	0.0
EDFI	Ende, Flores	5.06 96		P	Pn	00 19 49.3	+0.7
	48nm,0.7s,0.2nm						
BNSI	Bone	5.15 43		P	Pn	00 19 51.8	+2.1
	50nm,0.7s,0.3nm						
MMRI	Maumere	5.59 95		P	Pn	00 19 56.2	+0.4
	60nm,0.5s,0.4nm						
UGM	Wanagama	6.03 272		P	Pn	00 20 04.3	+2.5
	180nm,1.9s						
LUWI	Luwuk	9.41 41		P	Pn	00 20 50.8	+2.5
	24nm,0.8s,1μm						
SKJI	Sukabumi	10.03 276		P	Pn	00 20 57.0	+0.3
FITZ	Fitzroy Crossi	13.18 139		Pn	Pn	00 21 39.1	-0.8
MBWA	Marble Bar	13.22 167		Pn	Pn	00 21 39.7	-0.7
KNRA	Kununurra	14.01 123		Pn	Pn	00 21 51.7	+0.4
MTN	Manton Dam	15.01 109		Pn	Pn	00 22 02.1	-2.7
MTN				IAmb	IAmb	00 22 29.5	
	comp=Z,11nm,1.2s						
FAKI	Fak Fak	16.44 72		Pn	Pn	00 22 23.5	+0.1
FAKI	Fak Fak	16.44 72		P	P	00 22 25.3	-0.9
	comp=Z,25nm,1.6s						
SISI	Saibi	18.73 291		P	P	00 22 51.7	+0.1
	comp=Z,75nm,0.7s						
PBSI	Pulau Batu	19.98 293		P	P	00 23 05.5	+0.3
	comp=Z,192nm,1.1s						
WB0	Warramunga Arr	20.71 126		P	P	00 23 12.6	-0.6
WB0				IAmb	IAmb	00 23 14.6	
	comp=Z,4.6nm,0.6s						
WRA	Warramunga Arr	20.76 126		P	P	00 23 13.6	0.0
WRA	Warramunga Arr	20.76 126		P	P	00 23 13.4	-0.2
	comp=Z,3.0nm,0.5s,baz=300,slow=12,SNR=28						
	comp=Z,3.0nm,0.5s						
AS31	Alice Springs	22.60 135		P	P	00 23 34.2	+0.6
ASAR	Alice Springs	22.60 135		P	P	00 23 34.7	+1.2
ASAR	Alice Springs	22.60 135		P	P	00 23 33.1	-0.4
	comp=Z,2.2nm,0.5s,baz=316,slow=11,SNR=19						
	comp=Z,2.2nm,0.5s						
COEN	Coen	26.68 105		P	P	00 24 10.7	-1.3
SONM	Songino Array	56.53 352		P	P	00 28 15.0	-0.1
SONM				IAmb	IAmb	00 28 16.9	
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	56.53 352		P	P	00 28 15.7	+0.6
	comp=Z,1.1nm,0.7s,baz=157,slow=7.8,SNR=4.6						
	comp=Z,1.1nm,0.7s						
MKAR	Makanchi Array	62.70 334		P	P	00 28 57.3	-0.3
MKAR	Makanchi Array	62.70 334		P	P	00 28 57.6	0.0
	comp=Z,0.9nm,0.8s,baz=146,slow=7.3,SNR=6.0						
	comp=Z,0.9nm,0.8s						
KKAR	Karatay Array	66.04 325		P	P	00 29 20.3	+0.8
ZALV	Zalesovo Beam	67.49 340		P	P	00 29 28.3	-0.2
ZALV	Zalesovo Beam	67.49 340		P	P	00 29 26.2	-2.3
	comp=Z,0.7nm,0.5s,baz=134,slow=4.3,SNR=4.1						
	comp=Z,0.7nm,0.5s						
VNDA	Vanda	73.13 171		P	P	00 30 03.0	+0.3
VNDA				IAmb	IAmb	00 30 05.4	
	comp=Z,3.0nm,1.4s						
ABKAR	Akbulak array	75.57 326		P	P	00 30 16.6	-0.8
ABKAR	Akbulak array	75.57 326		P	P	00 30 16.6	-0.8
ABKAR				IAmb	IAmb	00 30 32.6	
	comp=Z,1.4nm,1.2s						
CPUP	Villa Florida	145.16 190		PKPbc	PKPbc	00 38 08.9	-1.7
	comp=Z,1.9nm,0.8s,baz=153,slow=2.3,SNR=2.6						

*SJA **29** 00:21:17.4±1.2, 24°.29S×67°.21W, h200km±11km, ML3.0, MW3.5*
*GUC **29** 00:21:19.7±0.7, 24°.24S×67°.25W, h183km±10km, ML3.4*
ISC 29 00:21:18.5±2.7, 24°.27S±0°.06×67°.23W±0°.05, h189km±25km, n19, σ0§71/30, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.58 326		*e*P	Pn	00 21 52.6	+0.2
SLA	San Lorenzo	1.64 106		*i*P	Pn	00 21 52.9	+0.2
SLA				*i*S	Sn	00 22 18.8	-0.4
SLA	San Lorenzo	1.64 106		*e*P	Pn	00 21 53.0	+0.3
AZAP	Zapla	1.98 89		||*i*P	Pn	00 21 55.8	-0.4
AZAP				*i*S	Sn	00 22 26.3	+0.8
FSA	Cafayete	2.15 148		*i*P	Pn	00 21 58.2	+0.1
FSA				*i*S	Sn	00 22 28.6	-0.3
LVC	Limon Verde	2.26 317		*e*P	Pn	00 22 00.1	+0.6
LVC				*e*S	Sn	00 22 30.2	-1.1
LVC				IAML		00 22 31.6	
	247nm,0.1s						
PB15	IPOC Station P	2.31 297		*i*P	Pn	00 22 00.6	+0.7
PB15				*i*S	Sn	00 22 32.0	+0.1
PB15	IPOC Station P	2.31 297		*e*P	Pn	00 22 00.5	+0.7
PB15				*e*S	Sn	00 22 31.2	-0.7
GO02	Mina Guanaco	2.32 247		*i*P	Pn	00 22 00.9	+0.9
GO02				*i*S	Sn	00 22 32.1	-0.2
GO02	Mina Guanaco	2.32 247		*e*P	Pn	00 22 01.0	+1.0
GO02				*e*S	Sn	00 22 32.5	+0.2
GO02				IAML		00 22 34.9	
	comp=N,83nm,0.1s						
PB06	IPOC Station P	2.66 306		*i*P	Pn	00 22 04.4	+0.7
PB06				*i*S	Sn	00 22 38.0	-0.9
PB06				IAML		00 22 40.4	
	comp=Z,61nm,0.1s						
PB06	IPOC Station P	2.66 306		*e*P	Pn	00 22 04.4	+0.7
PB06				*e*S	Sn	00 22 37.5	-1.4
PB06				IAML		00 22 39.7	
	comp=E,136nm,0.3s						
PB14	IPOC Station P	2.91 262		*i*P	Pn	00 22 06.9	0.0
PB14				IAML		00 23 08.3	
	comp=Z,15nm,1.5s						
PB05	IPOC Station P	3.07 297		*e*P	Pn	00 22 08.9	+0.3
PB05				IAML		00 22 49.2	
	comp=N,27nm,0.2s						
PB09	IPOC Station P	3.08 323		*i*P	Pn	00 22 09.8	+1.0
PB09				IAML		00 23 40.6	
	comp=Z,28nm,2.6s						
PB09	IPOC Station P	3.08 323		*e*P	Pn	00 22 09.8	+1.0
PB09				*e*S	Sn	00 22 47.3	-0.8
PB04	IPOC Station P	3.31 305		*i*P	Pn	00 22 11.8	+0.3
PB04				IAML		00 23 10.0	
	comp=Z,35nm,1.8s						
PB04	IPOC Station P	3.31 305		*e*P	Pn	00 22 11.9	+0.4
PB04				IAML		00 22 53.1	
	comp=N,52nm,0.2s						
AC01	Pan de Azucar	3.58 238		*i*P	Pn	00 22 14.1	-0.5
AC01				IAML		00 23 22.9	
	comp=Z,24nm,2.8s						

*GII **29** 00:26:59.7±0.4, 32°.87N±0°.01×35°.580E±0°.007, h0km, Md2.4/3, Mws2.5/7, confirmed*
*JSO **29** 00:27:00, 32°.87N×35°.58E, h1km, ML2.5/18*
*GRAL **29** 00:27:01.1±0.3, 32°.85N×35°.61E, h0km±2km, MD3.1*
ISC 29 00:27:00.1±0.9, 32°.87N±0°.02×35°.58E±0°.03, h10km±8km, n46, σ0§54/49, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB1	Mount Meron ar	0.20 315		P	Pg	00 27 03.9	-0.5
MMB1				S	Sg	00 27 07.0	-0.3
MMA0B	Mount Meron ar	0.21 314		P	Pg	00 27 04.1	-0.4
MMA0B	Mount Meron ar	0.21 314		S	Sg	00 27 08.2	+0.7
MMC1	Mount Meron ar	0.22 317		P	Pg	00 27 04.3	-0.4
MMC7	Mount Meron ar	0.22 314		P	Pg	00 27 04.3	-0.4
KSHT	Keshet	0.22 60		S	Sg	00 27 08.9	+1.0
KSHT	Keshet	0.22 60		P	Pg	00 27 04.6	-0.2
GEM	Giv'at Ha'Em	0.34 12		P	Pg	00 27 06.6	-0.4
GEM	Giv'at Ha'Em	0.34 12		S	Sb	00 27 13.3	-0.7
GEM	Giv'at Ha'Em	0.34 12		P	Pg	00 27 06.6	-0.4
BLGI	Bet Lehem HaGe	0.35 247		P	Pg	00 27 06.9	-0.3
BLGI	Bet Lehem HaGe	0.35 247		S	Sg	00 27 13.1	+1.2
BLGI	Bet Lehem HaGe	0.35 247		P	Pg	00 27 07.0	-0.2
HNTI	Hanita	0.40 302		P	Pg	00 27 08.5	+0.4
HNTI	Hanita	0.40 302		S	Sb	00 27 15.1	-0.5
NATI	Neve Ativ	0.41 19		S	Sb	00 27 15.5	-0.4
NATI	Neve Ativ	0.41 19		P	Pg	00 27 07.8	-0.4
MMLI	Mount Malkishu	0.45 197		S	Sb	00 27 16.8	-0.3
MMLI	Mount Malkishu	0.45 197		P	Pg	00 27 08.8	-0.2
SHBL	Chebaa	0.49 16	*e*P	P	Pg	00 27 10.3	+0.5
QRNJ	Al-Qirein	0.54 180		P	Pg	00 27 10.7	+0.2
OFRI	`Ofer	0.56 244		P	Pg	00 27 11.0	0.0
OFRI	`Ofer	0.56 244		S	Sb	00 27 20.0	-0.2
OFRI	`Ofer	0.56 244		P	Pg	00 27 11.2	+0.2
HMDT	Nahal Hemdat	0.62 184		P	Pg	00 27 12.0	-0.2
HMDT	Nahal Hemdat	0.62 184		S	Sb	00 27 21.7	-0.1
HMDT	Nahal Hemdat	0.62 184		P	Pg	00 27 11.9	-0.2
RCY	Rachaya	0.66 19	*e*P	P	Pg	00 27 13.2	+0.2
RCY			*e*S	S	Sg	00 27 22.2	+0.6
QRWL	Qaraoun	0.68 7	*e*P	P	Pg	00 27 13.8	+0.5
SLTI	Sal'it	0.78 216		S	Sb	00 27 26.6	+0.2
SLTI	Sal'it	0.78 216		P	Pg	00 27 14.7	-0.5
DQRL	Deir Qamar	0.83 359	*e*P	P	Pg	00 27 16.5	+0.3
DQRL			*e*S	S	Sb	00 27 27.9	-0.2
HSUJ	Al Zarqa	0.92 146		P	Pg	00 27 17.6	-0.3
ZAHL	Zahle	1.02 14	*e*P	P	Pb	00 27 19.6	-0.4
BHL	Bhannes	1.03 3	*e*P	P	Pb	00 27 20.1	-0.1
DSI	Dead Sea	1.31 188		P	Pn	00 27 23.4	-1.1
DSI	Dead Sea	1.31 188		P	Pn	00 27 23.4	-1.1
HWQ	Hawqa	1.44 12	*e*P	P	Pn	00 27 26.9	+0.5
AMAZ	Amatzia	1.45 203		P	Pb	00 27 27.2	-0.1
AMAZ	Amatzia	1.45 203		S	Sg	00 27 47.9	+1.2
YTIR	Yattir	1.56 195		P	Pb	00 27 29.0	-0.1
YTIR	Yattir	1.56 195		S	Sg	00 27 50.0	-0.2
YTIR	Yattir	1.56 195		P	Pn	00 27 28.4	+0.4
LISJ	El Lisan	1.63 183		P	Pb	00 27 30.2	-0.1
BEIL	Beino	1.74 17	*e*P	P	Pb	00 27 31.6	-0.7
PRNI	Paran	2.56 191		P	Pn	00 27 42.7	+0.9

*IDC **29** 00:32:00.4±1.1, 8°.23S×116°.63E, h0km, mb3.6/5, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=24.3km s-min=20.9km az=84.0*
*DJA **29** 00:32:02.2±0.3, 8°S±3°×11°7E±°, h10km, M4.1/6, MLv4.1/6*
ISC 29 00:32:02.0±0.8, 8°.23S±0°.06×116°.62E±0°.05, h10km, n14, σ1§24/16, mb3.8/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.56 153		P	Pn	00 32 14.4	-1.8
TWSI				S	Sb	00 32 21.8	-0.4
PLAI	Plampang	1.29 118		P	Pg	00 32 27.6	+0.8
PLAI				S	Sg	00 32 45.3	+1.8
JAGI	Jajag, Banyuwa	2.46 264		P	Pn	00 32 41.6	-0.6
BSSI	Bau Bau, Buton	4.36 62		P	Pn	00 33 08.0	-0.4
KAPI	Kappang	4.46 44		Pn	Pn	00 33 08.1	-1.6
	3.2nm,0.3s,baz=224,slow=5.9,SNR=9.4						
KAPI				Sn	Sn	00 34 00.5	-1.3
	7.8nm,0.3s,baz=175,slow=21,SNR=7.8						
KAPI				Lg	Lg	00 34 22.2	
	4.8nm,0.3s,baz=156,slow=20,SNR=2.1						
	7.5nm,0.3s						
BKSI	Bulukumba	4.52 50		P	Pn	00 33 10.1	-0.5
PWJI	Pagerwojo	4.78 272		P	Pn	00 33 13.9	-0.2
WRA	Warramunga Arr	20.73 126		P	Pn	00 36 42.6	-2.7
	0.7nm,0.5s,baz=302,slow=12,SNR=11						
	0.7nm,0.5s						
ASAR	Alice Springs	22.58 135		P	P	00 37 03.5	+0.7
	1.3nm,0.4s,baz=313,slow=9.2,SNR=28						
	1.3nm,0.4s						
SONM	Songino Array	56.55 352		P	P	00 41 46.7	+1.8
	0.4nm,0.5s,baz=166,slow=6.7,SNR=2.8						
	0.4nm,0.5s						
MKAR	Makanchi Array	62.73 334		P	P	00 42 27.6	+0.3
	0.5nm,0.8s,baz=131,slow=6.6,SNR=3.7						
	0.5nm,0.8s						
ZALV	Zalesovo Beam	67.51 340		P	P	00 42 57.7	-0.5
	0.5nm,0.5s,baz=150,slow=5.1,SNR=2.5						
	0.5nm,0.5s						
TORD	Torodi Ar. Bea	116.01 281		PKP	PKiKP	00 50 45.1	-1.3
	0.2nm,0.5s,baz=71,slow=3.6,SNR=6.0						
CPUP	Villa Florida	145.15 190		PKPbc	PKPab	00 51 38.8	-1.4
	1.5nm,0.7s,baz=75,slow=3.1,SNR=3.0						

*IDC **29** 00:37:31.8±0.8, 8°.21S×116°.42E, h0km, mb4.0/9, mbtmp4.0/10, ML3.6/1, Error ellipse: s-maj=24.0km s-min=16.1km az=79.0*
*DJA **29** 00:37:34.6±0.2, 8°S±2°×11°6E±°, h11km±2km, M4.5/21, mB5.3/1, mb4.6/21, MLv4.5/16, Mw(mB)4.8/1*
*NEIC **29** 00:37:34.1±2.5, 8°.24S±0°.09×116°.57E±0°.04, h14km±4km, mb4.2/14, Error ellipse: s-maj=12.9km s-min=5.2km az=174.0*
ISC 29 00:37:33.3±0.5, 8°.26S±0°.06×116°.54E±0°.05, h10km, n57, σ1§30/59, mb4.1/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.58 144		P	Pb	00 37 46.8	+1.2
PLAI	Plampang	1.35 115		P	Pg	00 38 00.2	+1.0
DNP	Denpasar	1.37 253		P	Pn	00 37 59.1	+0.6
IGBI	Denpasar	1.48 248		P	Pn	00 38 00.2	+0.2
ABJI	Asem Bagus	2.33 281		P	Pn	00 38 13.1	+1.5
JAGI	Jajag, Banyuwa	2.37 265		Pn	Pn	00 38 11.7	-0.5
JAGI					Sb	00 38 46.7	+1.4
JAGI	Jajag, Banyuwa	2.37 265		P	Pn	00 38 11.8	-0.5
GRJI	Gresik	4.24 288		P	Pn	00 38 38.8	+0.8
BASI	Baing, Sumba	4.44 116		P	Pn	00 38 42.6	+1.9
BSSI	Bau Bau, Buton	4.46 62		P	Pn	00 38 42.2	+1.2
KAPI	Kappang	4.54 45		Pn	Pn	00 38 42.3	+0.2
KAPI	Kappang	4.54 45		Pn	Pn	00 38 42.6	+0.5
	3.2nm,0.3s,baz=196,slow=6.0,SNR=21						
KAPI				Sn	Sn	00 39 33.7	-1.4
	13nm,0.3s,baz=97,slow=20,SNR=12						
KAPI				Lg	Lg	00 39 57.0	
	7.6nm,0.3s,baz=180,slow=20,SNR=2.0						
	8.8nm,0.3s						
PWJI	Pagerwojo	4.69 273		P	Pn	00 38 45.3	+1.1
EDFI	Ende, Flores	5.12 96		P	Pn	00 38 52.6	+2.4
	57nm,0.6s,0.2nm						
BNSI	Bone	5.23 43		P	Pn	00 38 54.0	+2.4
	78nm,0.8s,0.4nm						
MMRI	Maumere	5.65 94		P	Pn	00 39 00.0	+2.5
	56nm,0.7s,0.4nm						
UGM	Wanagama	5.96 273		Pn	Pn	00 39 01.8	0.0
UGM	Wanagama	5.96 273		P	Pn	00 39 03.1	+1.4
	167nm,2.2s						
BBSI	Bau Bau	6.60 66		P	Pn	00 39 12.6	+2.2
	37nm,0.8s,0.2nm						
BATI	Baumata	7.30 106		P	Pn	00 39 21.9	+1.8
	46nm,0.7s,0.2nm						
SOEI	Soe	7.78 102		Pn	Pn	00 39 24.7	-2.1
SANI	Sanana	11.26 57		P	Pn	00 40 16.7	+2.3
	18nm,1.0s						
MBWA	Marble Bar	13.19 167			Pn	00 40 39.0	-1.7
PSA00	Pilbara Seismi	13.61 167		Pn	Pn	00 40 44.4	-2.2
KNRA	Kununurra	14.04 123		Pn	Pn	00 40 52.5	+0.1
MTN	Manton Dam	15.05 109		Pn	Pn	00 41 04.8	-1.5
MTN				IAmb	IAmb	00 41 21.3	
	comp=Z,6.0nm,0.6s						
FAKI	Fak Fak	16.51 72		P	Pn	00 41 26.2	+1.0
FAKI	Fak Fak	16.51 72		P	P	00 41 27.4	-0.5
	comp=Z,24nm,1.7s						
WB0	Warramunga Arr	20.73 125		P	P	00 42 14.7	+0.4
WB0				IAmb	IAmb	00 42 16.5	
	comp=Z,21nm,1.5s						
WRA	Warramunga Arr	20.78 126		P	P	00 42 14.9	+0.1
WRA	Warramunga Arr	20.78 126		P	P	00 42 15.5	+0.7
	comp=Z,2.9nm,0.6s,baz=299,slow=12,SNR=29						
	comp=Z,2.9nm,0.6s						
WB2	Warramunga Arr	20.79 126		P	P	00 42 15.0	+0.2
WB2				IAmb	IAmb	00 42 28.9	
	comp=Z,11nm,1.1s						
AS31	Alice Springs	22.62 135		P	P	00 42 34.8	+0.3
ASAR	Alice Springs	22.62 135		P	P	00 42 34.7	+0.2
ASAR	Alice Springs	22.62 135		P	P	00 42 35.3	+0.8
	comp=Z,1.4nm,0.4s,baz=307,slow=9.0,SNR=27						
	comp=Z,1.4nm,0.4s						
COEN	Coen	26.73 105		P	P	00 43 12.2	-1.1
COEN				IAmb	IAmb	00 43 21.5	
	comp=Z,6.2nm,0.9s						
CMAR	Chiang Mai Arr	31.72 327		P	P	00 43 59.8	+2.2
	comp=Z,0.3nm,0.3s,baz=144,slow=6.7,SNR=2.4						
STKA	Stephens Creek	33.09 139		P	P	00 44 09.7	+0.2
STKA				IAmb	IAmb	00 44 22.5	
	comp=Z,4.0nm,1.5s						
STKA	Stephens Creek	33.09 139		P	P	00 44 11.0	+1.5
	comp=Z,2.1nm,0.6s,baz=314,slow=12,SNR=3.4						
	comp=Z,2.1nm,0.6s						
USRK	Ussuriysk Ar.	54.06 14		P	P	00 46 58.0	-0.1
USRK	Ussuriysk Ar.	54.06 14		P	P	00 46 58.3	+0.3
	comp=Z,1.6nm,0.6s,baz=150,slow=42,SNR=2.4						
	comp=Z,1.6nm,0.6s						
SONM	Songino Array	56.57 352		P	P	00 47 16.8	+0.6
SONM				IAmb	IAmb	00 47 18.4	
	comp=Z,1.9nm,0.9s						
SONM	Songino Array	56.57 352		P	P	00 47 16.9	+0.6
	comp=Z,1.9nm,0.8s,baz=172,slow=9.5,SNR=8.7						
	comp=Z,1.9nm,0.8s						
LTZ	Lake Taylor	59.54 135		P	P	00 47 35.9	-1.3
MKAR	Makanchi Array	62.72 334		P	P	00 47 58.3	-0.2
MKAR	Makanchi Array	62.72 334		P	P	00 47 57.4	-1.1
	comp=Z,0.9nm,0.8s,baz=141,slow=7.8,SNR=4.8						
	comp=Z,0.9nm,0.8s						
ZALV	Zalesovo Beam	67.51 340		P	P	00 48 28.4	-1.0
ZALV	Zalesovo Beam	67.51 340		P	P	00 48 28.2	-1.3
	comp=Z,0.8nm,0.6s,baz=123,slow=5.5,SNR=4.6						
	comp=Z,0.8nm,0.6s						
VNDA	Vanda	73.10 171			P	00 49 03.4	0.0
VNDA				IAmb	IAmb	00 49 13.0	
	comp=Z,1.8nm,1.1s						
VNDA	Vanda	73.10 171		P	P	00 49 04.4	+1.0
	comp=Z,0.4nm,0.5s,baz=313,slow=5.9,SNR=8.4						
	comp=Z,0.4nm,0.5s						
ABKAR	Akbulak array	75.57 326		P	P	00 49 15.9	-2.3
ABKAR	Akbulak array	75.57 326		P	P	00 49 16.4	-1.8
ABKAR				IAmb	IAmb	00 49 25.3	
	comp=Z,1.0nm,0.7s						
QSPA	South Pole Qui	81.73 180		P	P	00 49 52.3	+0.3
QSPA				IAmb	IAmb	00 49 58.0	
	comp=Z,2.9nm,1.1s						
QSPA	South Pole Qui	81.73 180		P	P	00 49 52.6	+0.6
	comp=Z,2.2nm,1.0s,baz=314,slow=2.4,SNR=5.4						
	comp=Z,2.2nm,1.0s						
BOSA	Boshof	87.21 242		P	P	00 50 20.2	-0.4
TORD	Torodi Ar. Bea	115.93 281		PKP	PKPdf	00 56 15.8	-1.6
	comp=Z,0.4nm,0.8s,baz=306,slow=1.5,SNR=4.7						
CPUP	Villa Florida	145.10 190		PKPbc	PKPbc	00 57 11.5	+0.3
	comp=Z,2.3nm,0.6s,baz=170,slow=6.4,SNR=5.4						

*IDC **29** 00:43:52.0±1.2, 8°.15S×116°.71E, h0km, mb3.9/5, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=35.9km s-min=20.7km az=59.0*
*DJA **29** 00:43:54.0±0.3, 8°S±2°×11°7E±°, h16km±2km, M4.3/16, mB5.3/1, mb4.5/16,

*IDC **29** 00:49:13.5±6.0, 8.°52S×116.°77E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=273.4km s-min=29.7km az=57.0*

ISC 29 00:49:10.4±2.1, 8.°2S±0.°2×116.°48E±0.°08, h10km, n8, σ0.°78/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.67**	**143**	P	**Pg**	**00 49 23.5**	**0.0**
TWSI				S	**Sb**	**00 49 32.9**	**-0.8**
DNP	**Denpasar**	**1.34**	**249**	P	**Pn**	**00 49 35.9**	**+0.7**
PLAI	**Plampang**	**1.43**	**116**	P	**Pn**	**00 49 37.2**	**+0.7**
IGBI	**Denpasar**	**1.45**	**245**	P	**Pn**	**00 49 37.8**	**+1.0**
JAGI	**Jajag, Banyuwa**	**2.31**	**263**	P	**Pn**	**00 49 48.1**	**-0.6**
WRA	**Warramunga Arr**	**20.87**	**126**	P	**P**	**00 53 52.6**	**-0.3**
	1.1nm,0.6s,baz=301,slow=12,SNR=6.4 1.1nm,0.6s						
ASAR	**Alice Springs**	**22.71**	**135**	P	**P**	**00 54 12.5**	**-0.1**
	1.0nm,0.5s,baz=309,slow=9.6,SNR=10 1.0nm,0.5s						
SONM	**Songino Array**	**56.49**	**352**	P	P	00 58 60.0	+7.1
	0.5nm,0.6s,baz=167,slow=7.2,SNR=2.7 0.5nm,0.6s						

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*MOS **29** 00:58:47.7±1.0, 36.°96N×139.°70E, h19km, mb4.4/12, Error ellipse: s-maj=9.1km s-min=6.9km az=113.0*

*NEIC **29** 00:58:48.3±1.8, 36.°92N±0.°05×139.°75E±0.°05, h10km±1km, mb4.5/20, Error ellipse: s-maj=8.6km s-min=6.4km az=154.0*

*NIED **29** 00:58:48.2, 36.°95N×139.°68E, h7km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}=0.63; $M_{\theta\theta}$0.21; $M_{\phi\phi}$0.42; $M_{r\theta}$-0.28; $M_{\phi\theta}$-3.34; $M_{\phi r}$-0.35; Fault plane solution: $M_0$3.38000×10^15^ NP1:$\phi_0$0.00000°, δ83.00000°, λ-8.00000°. NP2:$\phi_0$91.00000°, δ82.00000°, λ-173.00000°.*

*JMA **29** 00:58:48.2±0.0, 37.°0N±0.°1×139.°7E±0.°2, h7km, MD4.5/20, MV4.4/20, NORTHERN TOCHIGI PREF*

JMA Felt III J1 at NORTHERN TOCHIGI PREF .

*IDC **29** 00:58:50.8±2.6, 36.°92N×139.°61E, h29km±18km, mb3.7/17, mbtmp3.9/21, ML3.4/4, MS3.6/1, Error ellipse: s-maj=19.4km s-min=13.9km az=77.0*

ISC 29 00:58:48.5±0.7, 36.°93N±0.°03×139.°71E±0.°03, h12km±4km, n157, σ1.°49/122, mb4.3/39, 1C-10D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSB	**Shiboa**	**0.18**	**78**	P	**Pg**	**00 58 52.6**	**+0.2**
JSB				S	**Sg**	**00 58 55.5**	**+0.4**
JSB	**Shiboa**	**0.18**	**78**	A	A	00 58 52.6	
	comp=E,172nm,1.9s,comp=N,326nm,1.1s						
JKT	**Katashina**	**0.40**	**246**	*i* P	**Pg**	**00 58 56.1**	**-0.4**
JKT				S	**Sg**	**00 59 01.2**	**-0.6**
JKT	**Katashina**	**0.40**	**246**	A	A	00 58 56.1	
	comp=E,61nm,0.4s,comp=N,48nm,0.5s						
JFY	**Yanaizu**	**0.47**	**360**	⇓*i* P	**Pg**	**00 58 57.2**	**-0.7**
JFY				⇓S	**Sg**	**00 59 03.2**	**-1.0**
JFY	**Yanaizu**	**0.47**	**360**	A	A	00 58 57.2	
	comp=E,71nm,1.2s,comp=N,29nm,1.1s						
JAG	**Ashikaga**	**0.54**	**202**	*i* P	**Pb**	**00 58 58.8**	**-1.2**
JAG				S	**Sg**	**00 59 06.0**	**-0.3**
JAG	**Ashikaga**	**0.54**	**202**	A	A	00 58 58.8	
	comp=E,40nm,5.7s,comp=N,27nm,1.4s						
JUON	**Uonuma**	**0.59**	**298**	⇓*i* P	**Pb**	**00 58 59.1**	**-1.6**
JUON				⇓S	**Sb**	**00 59 06.4**	**-2.7**
JUON	**Uonuma**	**0.59**	**298**	A	A	00 58 59.1	
	comp=E,31nm,1.2s,comp=N,42nm,0.2s						
JFFD	**Fukushimafurud**	**0.70**	**77**	A	A	00 59 02.1	
	comp=E,14nm,6.2s,comp=N,11nm,8.5s						
JHO	**Hitachi**	**0.76**	**114**	A	A	00 59 03.4	
	comp=E,11nm,3.3s,comp=N,10.0nm,6.3s						
JOTO	**OTAMA OYAMA**	**0.80**	**38**	*i* P	**Pb**	**00 59 03.6**	**-0.9**
JOTO	**OTAMA OYAMA**	**0.80**	**38**	A	A	00 59 03.6	
	comp=E,26nm,5.5s,comp=N,24nm,0.9s						
JYT	**Yasato**	**0.80**	**151**	A	A	00 59 04.1	
	comp=E,14nm,1.4s,comp=N,15nm,3.9s						
ONAJ	**Iwakimizuishiy**	**0.89**	**79**	A	A	00 59 05.6	
	comp=E,17nm,3.5s,comp=N,11nm,4.7s						
JHYU	**Hitachinakayam**	**0.92**	**129**	A	A	00 59 06.5	
	comp=E,18nm,4.2s,comp=N,12nm,1.0s						
JGK	**Kuni**	**0.93**	**247**	A	A	00 59 05.8	
	comp=E,22nm,3.8s,comp=N,21nm,3.3s						
JNS	**Sasagawa**	**0.94**	**341**	⇓*i* P	**Pb**	**00 59 05.4**	**-1.3**
JNS				⇓S	**Sb**	**00 59 17.6**	**-1.6**
JNS	**Sasagawa**	**0.94**	**341**	A	A	00 59 05.4	
	comp=E,16nm,3.9s,comp=N,12nm,3.9s						
JIZZ	**Izumozaki**	**1.00**	**307**	⇓*i* P	**Pb**	**00 59 07.7**	**0.0**
JIZZ				⇓S	**Sg**	**00 59 22.2**	**+1.5**
JIZZ	**Izumozaki**	**1.00**	**307**	A	A	00 59 07.7	
	comp=E,66nm,0.3s,comp=N,154nm,0.5s						
JFK	**Kawauchi**	**1.03**	**65**	A	A	00 59 08.0	
	comp=E,7.0nm,7.6s,comp=N,10.0nm,3.0s						
JYAR	**Yonezawaarcadi**	**1.04**	**19**	A	A	00 59 07.6	
	comp=E,39nm,1.4s,comp=N,24nm,1.0s						
JRY	**Ryogami san**	**1.12**	**216**	A	A	00 59 09.3	
	comp=E,11nm,1.2s,comp=N,8.0nm,1.0s						
JHU	**Hanno**	**1.13**	**198**	A	A	00 59 09.8	
	comp=E,28nm,1.0s,comp=N,16nm,0.8s						
JIHU	**Itakohorinouch**	**1.17**	**145**	A	A	00 59 10.8	
	comp=E,95nm,4.3s,comp=N,68nm,3.9s						
JMST	**Minamisoumatoc**	**1.23**	**50**	A	A	00 59 11.2	
	comp=E,7.0nm,7.9s,comp=N,5.0nm,2.9s						
MJA0	**Matsu Arr-Jizo**	**1.23**	**252**	*e*P	**Pn**	**00 59 11.1**	**-0.6**
MJA0				pmax	pmax		
	comp=Z,34nm,0.3s						
JJN	**Nakama**	**1.25**	**278**	A	A	00 59 11.0	
	comp=E,29nm,0.8s,comp=N,45nm,0.9s						
MJAR	**Matsushiro Arr**	**1.26**	**253**	Pg	**Pn**	**00 59 11.3**	**-0.7**
	comp=N,34nm,0.3s,baz=74,slow=17,SNR=872						
MJAR				Lg	Lg	00 59 30.1	
	comp=N,20nm,0.3s,baz=97,slow=11,SNR=3.8						
MAJO	**Matsushiro**	**1.27**	**253**	Pn	**Pn**	**00 59 11.6**	**-0.4**
MAJO				Sn	**Sn**	**00 59 28.4**	**-0.6**
MAJO	**Matsushiro**	**1.27**	**253**	P	**Pn**	**00 59 11.6**	**-0.4**
MAJO						00 59 28.4	
MJB9	**Matsu-Tunnel**	**1.27**	**253**	Pn	**Pn**	**00 59 12.6**	**+0.6**
MJB9				Sn	**Sn**	**00 59 29.2**	**+0.2**
JMM	**Marumori**	**1.27**	**43**	Pn	**Pb**	**00 59 11.6**	**-0.8**
JMM	**Marumori**	**1.27**	**43**	A	A	00 59 11.9	
	comp=E,11nm,0.9s,comp=N,11nm,0.9s						
JYS	**Shiratake**	**1.32**	**12**	A	A	00 59 12.4	
	comp=E,27nm,2.4s,comp=N,19nm,1.2s						
JSGW	**Sagamiharawaka**	**1.39**	**197**	A	A	00 59 14.0	
	comp=E,42nm,2.0s,comp=N,16nm,0.7s						
JNG	**Nsakai**	**1.39**	**248**	A	A	00 59 13.6	
	comp=E,6.0nm,3.3s,comp=N,7.0nm,1.4s						
JAW	**Awa shima**	**1.56**	**347**	A	A	00 59 16.1	
	comp=E,9.0nm,2.7s,comp=N,8.0nm,5.1s						
JSD	**Sado**	**1.59**	**314**		**Pn**	**00 59 15.9**	**-0.7**
JSD	**Sado**	**1.59**	**314**	A	A	00 59 16.5	
	comp=E,6.0nm,0.7s,comp=N,9.0nm,0.7s						
JOU	**Okura**	**1.62**	**28**	A	A	00 59 17.4	
	comp=E,11nm,2.8s,comp=N,8.0nm,1.2s						
JYA	**Atsumi**	**1.66**	**0**	A	A	00 59 17.8	
	comp=E,38nm,1.6s,comp=N,31nm,1.2s						
JYO	**Yokosk**	**1.70**	**181**	A	A	00 59 18.9	
	comp=E,25nm,1.7s,comp=N,19nm,2.0s						
JOD2	**Odawara 2**	**1.74**	**197**	A	A	00 59 19.4	
	comp=E,19nm,1.3s,comp=N,12nm,1.7s						
TATJ	**Tateyama 2**	**1.90**	**175**	A	A	00 59 21.9	
	comp=E,26nm,2.5s,comp=N,18nm,3.0s						
JFNN	**Fujinakano**	**1.92**	**206**	A	A	00 59 22.0	
	comp=E,19nm,4.1s,comp=N,10.0nm,1.9s						
JTT	**Ttatey**	**1.93**	**261**	A	A	00 59 21.8	
	comp=E,14nm,1.9s,comp=N,21nm,1.4s						
JSZ	**Suzu**	**1.94**	**286**	A	A	00 59 21.8	
	comp=E,11nm,1.3s,comp=N,11nm,1.4s						
JHTM	**Izuhatsuma**	**2.05**	**196**	A	A	00 59 23.9	
	comp=E,30nm,1.2s,comp=N,29nm,1.0s						
JYYZ	**Yamagatayuza**	**2.09**	**5**	A	A	00 59 24.0	
	comp=E,19nm,4.4s,comp=N,31nm,6.6s						
JNY	**Yasuok**	**2.17**	**224**	A	A	00 59 25.4	
	comp=E,6.0nm,2.3s,comp=N,6.0nm,4.2s						
SHZ3	**Shizuoka 3**	**2.22**	**214**	A	A	00 59 26.3	
	comp=E,6.0nm,1.3s,comp=N,8.0nm,1.4s						
JIZS	**Izushimoda**	**2.31**	**197**	A	A	00 59 27.8	
	comp=E,10.0nm,1.6s,comp=N,6.0nm,1.0s						
JGF	**Kuroka**	**2.32**	**236**		**Pn**	**00 59 28.1**	**+1.6**
JSG	**Sagara**	**2.57**	**209**	A	A	00 59 31.3	
	comp=E,16nm,1.6s,comp=N,11nm,3.0s						
JKKS	**Kakegawashinom**	**2.58**	**213**	A	A	00 59 31.6	
	comp=E,13nm,2.0s,comp=N,15nm,4.5s						
INU	**Inuyama**	**2.69**	**235**	Pn	**Pn**	**00 59 33.4**	**+1.8**
JHJ	**Hachijo jima 2**	**3.80**	**179**	Pn	**Pn**	**00 59 46.3**	**-0.6**
	comp=N,27nm,0.3s,baz=319,slow=24,SNR=7.3						
JHJ				Sn	**Sn**	**01 00 30.1**	**-1.5**
	comp=N,52nm,0.3s,baz=70,slow=22,SNR=6.5 comp=N,84nm,0.3s						
JHJ2	**Mitsune**	**3.81**	**179**	Pn	**Pn**	**00 59 46.2**	**-0.9**
JTM	**Tenmabayashi**	**3.99**	**15**		**Pn**	**00 59 51.7**	**+2.1**
JMN	**Monobe**	**5.74**	**238**	Pn	**Pn**	**01 00 14.6**	**+1.0**
ERM	**Erimo**	**5.74**	**27**	Pn	**Pn**	**01 00 13.4**	**0.0**
ERM	**Erimo**	**5.74**	**27**	P	**Pn**	**01 00 13.4**	**0.0**
ASAJ	**Asahikawa**	**7.51**	**16**	Pn	**Pn**	**01 00 38.9**	**+1.1**
	comp=N,0.5nm,0.3s,baz=206,slow=13,SNR=8.6 comp=N,5.7nm,0.6s						
JKA	**Kamikawa-asahi**	**7.51**	**16**	Pn	**Pn**	**01 00 37.4**	**-0.4**
JNU	**Nakatsue**	**8.18**	**245**	Pn	**Pn**	**01 00 48.4**	**+1.3**
JNU	**Nakatsue**	**8.18**	**245**	Pn	**Pn**	**01 00 49.8**	**+2.7**
	comp=N,0.5nm,0.3s,baz=50,slow=8.8,SNR=6.7						
JNU				LR	LR	01 04 12.7	
	comp=N,396nm,19.6s,baz=38,slow=40						
MSHR	**Mys Shultsa**	**8.67**	**313**	*i* P	**Pn**	**01 00 53.1**	**-0.6**
USA0B	**Ussuriysk Arra**	**9.33**	**323**	Pn	**Pn**	**01 01 03.9**	**+1.1**
USA0B	**Ussuriysk Arra**	**9.33**	**323**	*i* P	**Pn**	**01 01 04.4**	**+1.6**
USRK	**Ussuriysk Ar.**	**9.33**	**323**	Pn	**Pn**	**01 01 05.5**	**+2.7**
USRK	**Ussuriysk Ar.**	**9.33**	**323**	Pn	**Pn**	**01 01 04.8**	**+1.9**
	comp=N,0.4nm,0.3s,baz=140,slow=12,SNR=12 comp=N,3.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**9.33**	**323**	P	**Pn**	**01 01 05.5**	**+2.7**
KSRS	**Korea Array**	**9.42**	**277**	Pn	**Pn**	**01 01 07.0**	**+3.0**
	comp=N,2.4nm,0.3s,baz=88,slow=14,SNR=16						
KSAR	**Wonju Array Be**	**9.45**	**277**	Pn	**Pn**	**01 01 06.3**	**+1.9**
KSAR	**Wonju Array Be**	**9.45**	**277**	P	**Pn**	**01 01 06.3**	**+1.9**
KS19	**Wonju Array Si**	**9.46**	**277**		**Pn**	**01 01 05.7**	**+1.0**
YSS	**Yuzh-Sakhalins**	**10.27**	**12**	*e*P	**Pn**	**01 01 19.4**	**+3.8**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
BNX	**BinXian**	**12.75**	**317**	⇓P	**Pn**	**01 01 53.8**	**+4.2**
BNX				pmax	pmax		
	comp=Z,11nm,1.3s						
KLR	**Kul'dur**	**13.59**	**337**	Pn	**Pn**	**01 02 03.4**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=125,slow=13,SNR=5.4 comp=Z,2.0nm,0.9s						
KLR	**Kul'dur**	**13.59**	**337**	*e*P	**Pn**	**01 02 02.5**	**+1.5**
KLR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ZEA	**Zeya**	**18.90**	**337**	*e*P	**Pn**	**01 03 13.7**	**+4.3**
XLT	**XiLinHaoTe**	**19.25**	**299**	*e*P	**Pn**	**01 03 19.5**	**+5.7**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**22.21**	**289**	*e*P	**P**	**01 03 45.0**	**+0.1**
HHC				pmax	pmax		
	comp=Z,160nm,6.8s						
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LYN	**LuoYang**	**22.21**	**272**	*e*P	**P**	**01 03 46.0**	**+1.2**
LYN				pmax	pmax		
	comp=Z,28nm,0.5s						
ULN	**Ulaanbaatar**	**26.29**	**305**	P	**P**	**01 04 23.5**	**-0.4**
ULN	**Ulaanbaatar**	**26.29**	**305**	*i* P	**P**	**01 04 23.6**	**-0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**26.71**	**305**	P	**P**	**01 04 26.5**	**-1.2**
SONM	**Songino Array**	**26.71**	**305**	P	**P**	**01 04 26.3**	**-1.5**
	comp=Z,1.5nm,0.9s,baz=108,slow=9.0,SNR=6.7 comp=Z,1.5nm,0.9s						
SONM	**Songino Array**	**26.71**	**305**	P	**P**	**01 04 26.5**	**-1.2**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SEY	**Seymchan**	**27.17**	**13**	*i* P	**P**	**01 04 32.2**	**+0.6**
SEY				pmax	pmax		
	comp=Z,9.0nm,1.8s						
LZH	**Lanzhou**	**28.73**	**279**	*e*P	**P**	**01 04 50.5**	**+4.5**
LZH				pP	sP	01 04 59.0	+7.6
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**29.29**	**118**	T	T	01 34 43.4	
	baz=312,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**29.29**	**118**	T	T	01 34 49.7	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**29.30**	**118**	T	T	01 34 44.5	
	baz=312,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**29.97**	**120**	T	T	01 35 44.7	
	baz=314,slow=76,SNR=44						
H11S3	**WAKE ISLAND Hy**	**29.97**	**120**	T	T	01 35 33.4	
	baz=314,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**29.98**	**120**	T	T	01 35 42.1	
	baz=314,slow=76,SNR=26						
PZH	**PanZhiHua**	**33.73**	**263**	P	**P**	**01 05 31.3**	**+1.2**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
BILL	**Bilibino**	**34.52**	**17**	⇑*e*P	**P**	**01 05 33.2**	**-3.1**
BILL				*e**PP	**pP**	**01 05 39.5**	**-0.6**
BILL				*e*		01 06 52.2	
BILL						01 08 12.0	
BILL				pmax	pmax		
	comp=Z,11nm,2.5s						
BILL				MLR	MLR		
	comp=Z,1μm,21.0s						
ZALV	**Zalesovo Beam**	**40.98**	**312**	P	**P**	**01 06 30.1**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=95,slow=6.2,SNR=5.0 comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**40.98**	**312**	*e*P	**P**	**01 06 30.3**	**-0.7**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**43.01**	**302**	P	**P**	**01 06 48.0**	**+0.2**
MKAR	**Makanchi Array**	**43.01**	**302**	P	**P**	**01 06 47.0**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=91,slow=8.4,SNR=3.3 comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**43.01**	**302**	P	**P**	**01 06 48.0**	**+0.2**
F17K	**Baldwin Pennin**	**44.48**	**29**	P	**P**	**01 07 00.5**	**+1.3**
F17K				IAmb	IAmb	01 07 08.1	
	comp=Z,14nm,1.4s						
KURK	**Kurchatov**	**44.92**	**308**	P	**P**	**01 07 01.6**	**-1.4**
KURK				IAmb	IAmb	01 07 06.1	
	comp=Z,6.1nm,0.8s						
KURK	**Kurchatov**	**44.92**	**308**	P	**P**	**01 07 01.6**	**-1.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
E18K	**Tukpahlearik C**	**44.93**	**28**	P	**P**	**01 07 02.5**	**-0.3**
E18K				IAmb	IAmb	01 07 11.8	
	comp=Z,7.4nm,1.1s						
KURBB	**Kurchatov Arra**	**44.99**	**308**	P	**P**	**01 07 02.6**	**-0.9**
	comp=Z,3.2nm,0.6s,baz=84,slow=8.5,SNR=32 comp=Z,3.2nm,0.6s						
G18K	**Tagagawik**	**45.43**	**30**	P	**P**	**01 07 06.5**	**-0.4**
G18K				IAmb	IAmb	01 07 27.7	
	comp=Z,4.4nm,1.1s						
D19K	**Kuna River**	**46.05**	**27**	P	**P**	**01 07 11.8**	**+0.1**
KDAK	**Kodiak Island**	**48.09**	**42**	P	**P**	**01 07 28.3**	**+0.6**
KDAK	**Kodiak Island**	**48.09**	**42**	P	**P**	**01 07 28.3**	**+0.6**
KDAK				pmax	pmax		
	comp=Z,35nm,1.4s						
BVAR	**Borovoye Array**	**49.63**	**312**	P	**P**	**01 07 38.5**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=100,slow=8.0,SNR=8.5 comp=Z,1.2nm,0.7s						
BRVK	**Borovoye**	**49.69**	**312**	P	**P**	**01 07 39.4**	**-0.7**
BRVK				IAmb	IAmb	01 07 48.7	
	comp=Z,4.4nm,1.1s						
BRVK	**Borovoye**	**49.69**	**312**	P	**P**	**01 07 39.4**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ILAR	**Eielson Array**	**50.31**	**32**	P	**P**	**01 07 44.1**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=276,slow=6.9,SNR=9.0 comp=Z,0.8nm,0.8s						
ILAR	**Eielson Array**	**50.31**	**32**	*e*P	**P**	**01 07 44.5**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KK31	**Karatay Array**	**51.99**	**300**	P	**P**	**01 07 56.5**	**-1.1**
KK31				IAmb	IAmb	01 07 58.2	
	comp=Z,4.6nm,1.0s						
KK31	**Karatay Array**	**51.99**	**300**	P	**P**	**01 07 56.5**	**-1.1**
KK31				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KKAR	**Karatay Array**	**51.99**	**300**	P	**P**	**01 07 56.8**	**-0.8**
KKAR	**Karatay Array**	**51.99**	**300**	P	**P**	**01 07 56.6**	**-1.0**
KKAR				IAmb	IAmb	01 07 58.2	
	comp=Z,4.6nm,1.0s						
KKAR	**Karatay Array**	**51.99**	**300**	P	**P**	**01 07 56.6**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BCAR	**Beaver Creek A**	**52.75**	**34**	P	**P**	**01 08 03.3**	**+0.3**
KNRA	**Kunounurra**	**53.33**	**193**	P	**P**	**01 08 07.5**	**-0.2**
SIMJ	**Simiganj**	**54.58**	**295**	P	**P**	**01 08 16.2**	**-0.7**
SIMJ				IAmb	IAmb	01 08 32.3	
	comp=Z,4.7nm,0.9s						
ARU	**Arti**	**55.53**	**318**	*i* P	**P**	**01 08 22.9**	**-0.4**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.5s						
WB0	**Warramunga Arr**	**56.61**	**186**	P	**P**	**01 08 30.8**	**-0.5**
WRA	**Warramunga Arr**	**56.79**	**186**	P	**P**	**01 08 32.1**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=1.9,slow=7.4,SNR=14 comp=Z,1.2nm,0.4s						
WRA	**Warramunga Arr**	**56.79**	**186**	*e*P	**P**	**01 08 32.6**	**0.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WR0	**Warramunga Arr**	**56.79**	**186**	P	**P**	**01 08 32.2**	**-0.5**
WR0				IAmb	IAmb	01 08 38.2	
	comp=Z,5.3nm,0.8s						
ABKAR	**Abkulak array**	**56.96**	**310**	P	**P**	**01 08 32.8**	**-0.8**
ABKAR	**Abkulak array**	**56.96**	**310**	P	**P**	**01 08 33.0**	**-0.6**
ABKAR				IAmb	IAmb	01 08 33.7	
	comp=Z,2.6nm,0.8s						
MMPY	**Sheldon Lake,**	**57.54**	**33**	P	**P**	**01 08 36.8**	**-0.8**
ASAR	**Alice Springs**	**60.52**	**186**	P	**P**	**01 08 59.5**	**+0.9**
ASAR	**Alice Springs**	**60.52**	**186**	P	**P**	**01 08 58.6**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=10.0,slow=7.1,SNR=11 comp=Z,1.4nm,0.9s						
ASAR	**Alice Springs**	**60.52**	**186**	P	**P**	**01 08 59.5**	**+0.9**
MBWA	**Marble Bar**	**60.77**	**201**	P	**P**	**01 09 00.1**	**-0.2**
OBN	**Obninsk**	**67.35**	**323**	⇓*e*P	**P**	**01 09 43.8**	**+0.6**
OBN				*PP	**pP**	**01 09 46.0**	**-1.3**
OBN						01 10 10.0	
OBN				S	**S**	**01 18 35.0**	**-3.3**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**68.26**	**332**	P	**P**	**01 09 48.1**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=60,slow=4.6,SNR=5.6 comp=Z,2.5nm,0.9s						
KIV	**Kislovodsk**	**69.94**	**310**	*e*P	**P**	**01 09 59.4**	**-0.3**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKASG	**Malin Array Be**	**73.53**	**322**	P	**P**	**01 10 20.3**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=49,slow=6.2,SNR=2.0 comp=Z,0.9nm,0.5s						
HFS	**Hagfors**	**73.61**	**335**	P	**P**	**01 10 20.1**	**-1.3**
	comp=Z,3.1nm,0.9s,baz=68,slow=13,SNR=1.8 comp=Z,3.1nm,0.9s						
NB2	**NORSAR Subarra**	**73.75**	**337**	P	**P**	**01 10 21.5**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**73.75**	**337**	P	**P**	**01 10 21.9**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=40,slow=5.9,SNR=7.4 comp=Z,1.1nm,0.6s						
NVAR	**Mina Array Bea**	**76.14**	**52**	P	**P**	**01 10 36.4**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=290,slow=4.1,SNR=6.7 comp=Z,0.9nm,0.8s						
BUR08	**Bucovina Ar. S**	**77.53**	**321**	P	**P**	**01 10 43.6**	**-0.6**
BUR08				IAmb	IAmb	01 10 52.6	
	comp=Z,3.0nm,1.1s						
BURAR	**Bucovina Array**	**77.54**	**321**	P	**P**	**01 10 44.3**	**0.0**
BURAR	**Bucovina Array**	**77.54**	**321**	P	**P**	**01 10 44.3**	**0.0**
BURAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**77.89**	**311**	P	**P**	**01 10 46.1**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=95,slow=1.7,SNR=3.7 comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**78.71**	**45**	P	**P**	**01 10 51.0**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=298,slow=3.2,SNR=3.5 comp=Z,0.2nm,0.6s						
GERES	**GERESS Array B**	**82.07**	**327**	P	**P**	**01 11 07.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=316,slow=5.6,SNR=4.0 comp=Z,0.4nm,0.6s						
TXAR	**Lajitas Array**	**91.26**	**51**	P	**P**	**01 11 55.2**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=309,slow=2.7,SNR=6.5 comp=Z,0.4nm,0.7s						
LPAZ	**La Paz**	**147.91**	**58**	PKPbc	**PKPbc**	**01 18 33.8**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=322,slow=2.7,SNR=5.0						

IDC 29 00:59:01.8±12.0, 4.°15N×125.°66E, h128km±121km, mb3.3/5, mbtmp3.7/5, Error ellipse: s-maj=174.7km s-min=23.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.42**	**161**	P	P	01 04 17.9	+0.2
	0.8nm,0.6s,baz=340,slow=10,SNR=8.2 0.8nm,0.6s						
ASAR	**Alice Springs**	**28.80**	**164**	P	P	01 04 47.7	-0.2
	0.6nm,0.5s,baz=342,slow=7.4,SNR=13 0.6nm,0.5s						
MKAR	**Makanchi Array**	**56.60**	**326**	P	P	01 08 31.0	-0.3
	0.4nm,0.5s,baz=126,slow=7.3,SNR=2.1						
MKAR				PcP	PcP	01 09 25.4	-0.9
	0.8nm,0.8s,baz=132,slow=2.1,SNR=3.6 0.4nm,0.5s						

CPUP	**Villa Florida**	**144.76**	**190**	PKP	**PKPab**	**01 33 53.6**	**-2.2**
	2.8nm,1.0s,baz=144,slow=3.6,SNR=3.0						

PRU 29 01:44:01.5, 50.18N×19.05E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.48**	**85**	*e*Pg	Pg	01 44 09.9	-0.9
OJC				*e*Sg	Sg	01 44 16.3	-0.7
OKC	**Ostrava-Krasne**	**0.68**	**240**	*e*SG	Sg	01 44 23.7	+0.5
	comp=Z,7.5nm,0.4s						
MORC	**Moravsky Berou**	**1.05**	**248**	*e*PG	Pg	01 44 21.8	+0.1
MORC				*e*SG	Sg	01 44 34.8	-0.5
LANS	**Liptovska Anna**	**1.07**	**165**	*e*PG	Pg	01 44 19.9	-2.0
LANS				*e*SG	Sg	01 44 33.5	-2.2
LANS				*e*LG	Lg	01 44 38.0	
NIE	**Niedzica**	**1.11**	**133**	*e*Pg	Pg	01 44 21.1	-1.7
NIE				*e*Sg	Sg	01 44 36.1	-1.1
MAUC	**Maruska**	**1.14**	**225**	*e*SG	Sg	01 44 38.3	+0.3
KRLC	**Kraliky**	**1.46**	**267**	*e*PG	Pn	01 44 28.3	-0.9
KRLC				*e*SG	Sg	01 44 48.4	-0.1
	comp=Z,5.4nm,0.4s						
JAVC	**Velka Javorina**	**1.60**	**215**	*e*PN	Pn	01 44 31.1	0.0
VYHS	**Vyhne**	**1.69**	**185**	*e*PN	Pn	01 44 30.0	-2.3
VYHS				*e*SN	Sn	01 44 51.9	-2.8
DPC	**Dobruska-Polom**	**1.76**	**277**	*e*PG	Pn	01 44 33.4	+0.1
DPC				*e*SG	Sn	01 44 56.6	+0.2
	comp=Z,6.1nm,0.6s						
VRAC	**Vranov**	**1.82**	**242**	*e*PN	Pb	01 44 35.2	-0.4
VRAC				*e*SG	Sn	01 44 58.3	+0.5
OSTC	**Ostas**	**1.85**	**283**	*e*SG	Sb	01 44 59.6	-0.4
KECS	**Kecovo**	**1.94**	**151**	*e*SN	Sn	01 44 58.4	-2.4
CRVS	**Cervenica-Dubn**	**2.03**	**128**	*e*PG	Pn	01 44 37.1	+0.2
KRUC	**Moravsky**	**2.06**	**238**	*e*PN	Pb	01 44 39.4	-0.3
KRUC				*e*SG	Sb	01 45 05.7	-0.1
KOLS	**Kolonicke sedl**	**2.44**	**120**	*e*PG	Pb	01 44 46.1	-0.2
KOLS				*e*SN	Sn	01 45 13.7	+0.5
KOLS				*e*LG	Lg	01 45 25.0	
PRU	**Pruhonice**	**2.91**	**268**	*e*SG	Sg	01 45 33.0	-1.9
CKRC	**Cesky Krumlov**	**3.38**	**248**	*e*SG	Sg	01 45 47.3	-2.6
KHC	**Kasperske Hory**	**3.71**	**256**	*e*SG	Sg	01 45 59.8	-0.7

*IDC **29** 01:44:21.8±0.5, 8.14S×116.52E, h0km, mb4.5/13, mbtmp4.5/14, ML4.0/1, Error ellipse: s-maj=19.2km s-min=13.2km az=84.0*
*BJI **29** 01:44:24.2±0.0, 8.30S×116.60E, h10km, mb4.6/22, mB5.1/7, Ms4.8/3, Ms7 4.6/2*
*DJA **29** 01:44:24.4±0.3, 8.S±2.×11.7E±.°, h12km±2km, M4.9/26, mb5.0/26, mB5.4/7, MLv4.9/21, Mw4.4/49, Mw(mB)4.9/7*
*NEIC **29** 01:44:24.3±2.0, 8.36S±0.07×116.56E±0.06, h10km±1km, mb4.8/37, Error ellipse: s-maj=11.0km s-min=10.0km az=1.0*

ISC 29 01:44:24.0±0.3, 8.31S±0.04×116.58E±0.04, h10km, n138, σ1.48/138, mb4.8/35, 4C, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.52**	**145**	P	**Pb**	**01 44 35.7**	**+0.4**
TWSI				S	**Sb**	**01 44 44.1**	**+1.2**
PLAI	**Plampang**	**1.29**	**114**	P	**Pg**	**01 44 49.4**	**+0.6**
PLAI	**Plampang**	**1.29**	**114**	P	**Pg**	**01 44 49.1**	**+0.3**
PLAI				S	**Sg**	**01 45 07.6**	**+2.0**
SRBI	**Singaraja**	**1.37**	**279**	P	**Pn**	**01 44 48.4**	**-0.8**
DNP	**Denpasar**	**1.40**	**255**	P	**Pb**	**01 44 49.9**	**-0.4**
ABJI	**Asem Bagus**	**2.38**	**282**	P	**Pn**	**01 45 03.5**	**+0.4**
JAGI	**Jajag, Banyuwa**	**2.41**	**266**	P	**Pn**	**01 45 03.0**	**-0.5**
JAGI	**Jajag, Banyuwa**	**2.41**	**266**		**Pn**	**01 45 02.6**	**-0.9**
JAGI	**Jajag, Banyuwa**	**2.41**	**266**	P	**Pn**	**01 45 02.4**	**-1.1**
GRJI	**Gresik**	**4.29**	**289**	P	**Pn**	**01 45 29.5**	**0.0**
BASI	**Baing, Sumba**	**4.38**	**116**	P	**Pn**	**01 45 32.4**	**+1.8**
BSSI	**Bau Bau, Buton**	**4.44**	**61**	P	**Pn**	**01 45 30.8**	**-0.6**
KAPI	**Kappang**	**4.54**	**44**	P	**Pn**	**01 45 32.6**	**-0.3**
KAPI	**Kappang**	**4.54**	**44**	Pn	**Pn**	**01 45 31.4**	**-1.5**
KAPI	**Kappang**	**4.54**	**44**	Pn	**Pn**	**01 45 31.6**	**-1.3**
	8.4nm,0.3s,baz=199,slow=5.2,SNR=15						
KAPI				Sn	**Sn**	**01 46 21.9**	**-3.8**
	35nm,0.3s,baz=56,slow=22,SNR=15						
KAPI				Lg	Lg	01 46 45.7	
	24nm,0.3s,baz=78,slow=23,SNR=5.3						
	28nm,0.4s						
BKSI	**Bulukumba**	**4.60**	**50**	P	**Pn**	**01 45 32.1**	**-1.6**
PWJI	**Pagerwojo**	**4.74**	**273**	P	**Pn**	**01 45 35.4**	**-0.2**
EDFI	**Ende, Flores**	**5.07**	**95**	P	**Pn**	**01 45 41.0**	**+0.7**
	167nm,0.8s,0.6nm						
BNSI	**Bone**	**5.23**	**42**	P	**Pn**	**01 45 42.2**	**-0.1**
	226nm,0.9s,2μm1.7nm						
MMRI	**Maumere**	**5.61**	**94**	Pn	**Pn**	**01 45 47.2**	**-0.3**
MMRI	**Maumere**	**5.61**	**94**	P	**Pn**	**01 45 48.5**	**+1.0**
	225nm,0.9s,1.0nm						
UGM	**Wanagama**	**6.01**	**273**	P	**Pn**	**01 45 54.4**	**+1.3**
UGM	**Wanagama**	**6.01**	**273**		**Pn**	**01 45 53.3**	**+0.2**
UGM	**Wanagama**	**6.01**	**273**	P	**Pn**	**01 45 53.4**	**+0.3**
SMRI	**Semarang**	**6.21**	**281**	P	**Pn**	**01 45 55.3**	**-0.6**
	102nm,0.8s,0.7nm						
BBSI	**Bau Bau**	**6.57**	**65**	P	**Pn**	**01 46 04.8**	**+4.0**
	71nm,0.9s,0.3nm						
BATI	**Baumata**	**7.24**	**106**	P	**Pn**	**01 46 11.5**	**+1.5**
	97nm,0.5s,1μm0.4nm						
SOEI	**Soe**	**7.73**	**101**	P	**Pn**	**01 46 18.8**	**+2.0**
SOEI	**Soe**	**7.73**	**101**		**Pn**	**01 46 17.9**	**+1.1**
SOEI	**Soe**	**7.73**	**101**	P	**Pn**	**01 46 18.5**	**+1.7**
	104nm,0.8s,0.5nm						
SMKI	**Samarinda**	**7.84**	**5**	P	**Pn**	**01 46 16.7**	**-1.5**
BBJI	**Bungbulang**	**8.89**	**275**	P	**Pn**	**01 46 35.2**	**+2.5**
TOLI2	**Tolitoli**	**10.25**	**24**	Pn	**Pn**	**01 46 54.1**	**+2.7**
KSM	**Kuching**	**11.56**	**327**		**Pn**	**01 47 09.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**13.13**	**139**	Pn	**Pn**	**01 47 29.1**	**-1.6**
MBWA	**Marble Bar**	**13.13**	**167**	P	**Pn**	**01 47 30.6**	**-0.1**
MBWA	**Marble Bar**	**13.13**	**167**		**Pn**	**01 47 28.7**	**-2.0**
PSA00	**Pilbara Seismi**	**13.56**	**167**	P	**Pn**	**01 47 37.1**	**+0.6**
PSA00	**Pilbara Seismi**	**13.56**	**167**		**Pn**	**01 47 35.0**	**-1.5**
PSA00	**Pilbara Seismi**	**13.56**	**167**		**Pn**	**01 47 33.4**	**-3.1**
KNRA	**Kununurra**	**13.98**	**123**		**Pn**	**01 47 41.1**	**-1.2**
KKM	**Kota Kinabalu**	**14.26**	**359**		**Pn**	**01 47 48.0**	**+1.7**
MTN	**Manton Dam**	**15.00**	**109**		**Pn**	**01 47 52.9**	**-3.3**
FAKI	**Fak Fak**	**16.48**	**72**	P	**Pn**	**01 48 15.6**	**0.0**
FAKI	**Fak Fak**	**16.48**	**72**	Pn	**Pn**	**01 48 13.6**	**-2.0**
FAKI	**Fak Fak**	**16.48**	**72**	P	**Pn**	**01 48 15.1**	**-0.5**
	33nm,0.8s						
BKNI	**Bangkinang**	**17.71**	**298**	P	**P**	**01 48 34.0**	**+2.2**
BKNI				IAmb	IAmb	01 48 42.1	
	comp=Z,59nm,1.1s						
DAV	**Davao City (W)**	**17.72**	**31**		**Pn**	**01 48 31.5**	**+0.5**
MEEK	**Meekatharra**	**18.33**	**174**	P	**P**	**01 48 39.8**	**+1.1**
WRKA	**Warakurna**	**20.04**	**147**	P	Pn	01 48 59.0	-0.2
MORW	**Morawa**	**20.66**	**181**	P	Pn	01 49 06.5	+0.2
MORW	**Morawa**	**20.66**	**181**	P	Pn	01 49 05.9	-0.4
WB0	**Warramunga Arr**	**20.67**	**125**	P	**P**	**01 49 03.1**	**-1.2**
WB0				IAmb	IAmb	01 49 05.1	
	comp=Z,60nm,1.3s						
WRA	**Warramunga Arr**	**20.72**	**126**	P	**P**	**01 49 03.7**	**-1.1**
WRA	**Warramunga Arr**	**20.72**	**126**	P	**P**	**01 49 04.7**	**-0.1**
	comp=Z,22nm,0.6s,baz=299,slow=12,SNR=128						
WRA				S	**S**	**01 52 51.3**	**-5.0**
	comp=Z,1.1nm,0.7s,baz=294,slow=24,SNR=3.1						
	comp=Z,22nm,0.6s						
WR0	**Warramunga Arr**	**20.89**	**126**	P	**P**	**01 49 06.4**	**-0.2**
WR0				IAmb	IAmb	01 49 11.3	
	comp=Z,43nm,0.8s						
BLDU	**Ballidu**	**22.19**	**180**	P	**P**	**01 49 21.3**	**+0.7**
AS31	**Alice Springs**	**22.55**	**135**	P	**P**	**01 49 23.7**	**-0.9**
ASAR	**Alice Springs**	**22.55**	**135**	P	**P**	**01 49 24.0**	**-0.5**
ASAR	**Alice Springs**	**22.55**	**135**	P	**P**	**01 49 24.6**	**+0.1**
	comp=Z,22nm,0.8s,baz=311,slow=8.8,SNR=181						
	comp=Z,22nm,0.8s						
AS01	**Alice Springs**	**22.58**	**135**	P	**P**	**01 49 25.2**	**+0.3**
KLBR	**Kellerberrin**	**23.19**	**177**	P	**P**	**01 49 32.2**	**+1.1**
KMBL	**Kambalda**	**23.47**	**169**	P	**P**	**01 49 33.9**	**0.0**
MUN	**Mundaring**	**23.55**	**181**	P	**P**	**01 49 35.4**	**+0.7**
NWAO	**Narrogin (SRO)**	**24.50**	**179**	P	**P**	**01 49 45.1**	**+1.4**
FORT	**Forrest**	**24.80**	**156**	P	**P**	**01 49 48.1**	**+1.8**
FORT	**Forrest**	**24.80**	**156**	P	**P**	**01 49 47.9**	**+1.6**
FORT				IAmb	IAmb	01 50 16.5	
	comp=Z,35nm,0.8s						
QIS	**Mount Isa**	**25.36**	**121**	P	**P**	**01 49 52.1**	**+0.5**
OOD	**Oodnadatta**	**26.49**	**139**	P	**P**	**01 50 01.9**	**+0.2**
COEN	**Coen**	**26.68**	**105**	P	**P**	**01 50 03.8**	**+0.3**
COEN	**Coen**	**26.68**	**105**		**P**	**01 50 02.6**	**-1.0**
COEN				IAmb	IAmb	01 50 04.0	
	comp=Z,15nm,0.7s						

MULG	**Mulgathing**	**27.30**	**146**	P	**P**	**01 50 09.4**	**+0.4**
LCRK	**Leigh Creek**	**29.91**	**140**	P	**P**	**01 50 33.0**	**+0.8**
BBOO	**Buckleboo**	**30.33**	**146**	P	**P**	**01 50 37.5**	**+1.6**
BBOO	**Buckleboo**	**30.33**	**146**	P	**P**	**01 50 35.2**	**-0.7**
CTAO	**Charters Tower**	**31.00**	**115**		**P**	**01 50 41.6**	**-0.3**
CTAO				IAmb	IAmb	01 50 43.8	
	comp=Z,9.9nm,1.1s						
PHRA	**Phrae**	**31.14**	**329**	P	**P**	**01 50 44.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**31.79**	**327**	P	**P**	**01 50 50.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**31.79**	**327**	P	**P**	**01 50 49.5**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=146,slow=6.6,SNR=1.6						
HTT	**Hallett**	**32.41**	**144**	P	**P**	**01 50 55.7**	**+1.3**
STKA	**Stephens Creek**	**33.02**	**139**	P	**P**	**01 51 01.0**	**+1.3**
STKA	**Stephens Creek**	**33.02**	**139**	P	**P**	**01 50 59.8**	**+0.2**
STKA	**Stephens Creek**	**33.02**	**139**	P	**P**	**01 51 00.1**	**+0.5**
	comp=Z,13nm,0.6s,baz=314,slow=9.3,SNR=17						
	comp=Z,13nm,0.6s						
PZH	**PanZhiHua**	**37.48**	**338**	P	**P**	**01 51 42.5**	**+4.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TOO	**Toolangi**	**39.15**	**143**	P	**P**	**01 51 53.5**	**+1.4**
TOO	**Toolangi**	**39.15**	**143**	P	**P**	**01 51 52.8**	**+0.7**
TOO				IAmb	IAmb	01 52 28.7	
	comp=Z,30nm,1.2s						
ARMA	**Armidale**	**39.45**	**129**	P	**P**	**01 51 55.2**	**+0.4**
ARMA				IAmb	IAmb	01 51 57.9	
	comp=Z,42nm,2.0s						
NJ2	**Nanjing**	**40.19**	**3**	*e*P	**P**	**01 52 03.3**	**+2.6**
NJ2				sP	**sP**	**01 52 07.5**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,17nm,0.6s						
SHL	**Shillong**	**41.37**	**325**	P	**P**	**01 52 10.2**	**-0.6**
SHL				IAmb	IAmb	01 52 18.3	
	comp=Z,25nm,0.9s						
XAN	**Xi'an**	**42.74**	**351**	P	P	01 52 28.8	+7.2
XAN				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KSAR	**Wonju Array Be**	**46.73**	**12**	P	**P**	**01 52 53.4**	**0.0**
KOUNC	**Koumac, New Ca**	**47.61**	**110**	P	**P**	**01 53 00.1**	**-0.5**
HHC	**Hu-ho-hao-te**	**49.13**	**355**	*e*P	**P**	**01 53 15.3**	**+3.2**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,87nm,4.7s						
DZM	**Mont Dzumac**	**49.81**	**112**	P	**P**	**01 53 19.3**	**+1.7**
DZM	**Mont Dzumac**	**49.81**	**112**	P	**P**	**01 53 17.5**	**-0.1**
DZM				IAmb	IAmb	01 53 19.7	
	comp=Z,24nm,1.3s						
GTA	**Gaotai**	**49.96**	**343**	P	P	01 53 26.5	+8.0
GTA				pP	sP	01 53 34.0	+11
GTA				pmax	pmax		
	comp=Z,11nm,1.5s						
GTA				LR	LR		
	comp=N,430nm,19.9s						
GTA				LR	LR		
	comp=E,310nm,16.3s						
GTA				LR	LR		
	comp=Z,390nm,17.9s						
YATNC	**Mamie plateau,**	**50.22**	**112**	P	**P**	**01 53 21.4**	**+0.8**
USRK	**Ussuriysk Ar.**	**54.09**	**14**	P	**P**	**01 53 48.6**	**-0.4**
ULN	**Ulaanbaatar**	**56.56**	**352**	P	**P**	**01 54 05.4**	**-1.5**
SONM	**Songino Array**	**56.62**	**352**	P	**P**	**01 54 06.3**	**-1.0**
SONM				IAmb	IAmb	01 54 15.2	
	comp=Z,6.7nm,1.2s						
SONM	**Songino Array**	**56.62**	**352**	P	**P**	**01 54 05.9**	**-1.4**
	comp=Z,1.9nm,0.8s,baz=176,slow=7.9,SNR=11						
	comp=Z,1.9nm,0.8s						
CASY	**Casey**	**58.03**	**183**	P	**P**	**01 54 16.4**	**-0.5**
CASY				IAmb	IAmb	01 55 11.2	
	comp=Z,32nm,1.9s						
RPZ	**Rata Peaks**	**58.95**	**136**	P	**P**	**01 54 22.6**	**-1.1**
HEH	**HeiHe**	**59.08**	**8**	*e*P	**P**	**01 54 23.5**	**-0.8**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH	**Kashi**	**60.65**	**325**	P	P	01 54 41.8	+6.2
KSH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MRZ	**Mangatainoka R**	**61.25**	**132**	P	**P**	**01 54 39.3**	**-0.3**
BKZ	**Black Stump Fm**	**61.58**	**130**	P	**P**	**01 54 41.5**	**-0.4**
MK31	**Makanchi Array**	**62.78**	**334**	P	**P**	**01 54 48.1**	**-1.6**
MK31				IAmb	IAmb	01 54 56.9	
	comp=Z,6.1nm,1.0s						
MKAR	**Makanchi Array**	**62.78**	**334**	P	**P**	**01 54 48.3**	**-1.3**
	comp=Z,2.5nm,0.9s,baz=134,slow=8.7,SNR=11						
	comp=Z,2.5nm,0.9s						
KURBB	**Kurchatov Arra**	**67.31**	**335**	P	**P**	**01 55 17.0**	**-2.0**
	comp=Z,0.8nm,0.2s,baz=142,slow=5.6,SNR=2.6						
	comp=Z,0.8nm,0.2s						
KURK	**Kurchatov**	**67.34**	**335**	P	**P**	**01 55 19.6**	**+0.4**
KURK				IAmb	IAmb	01 55 35.6	
	comp=Z,11nm,1.4s						
ZAA0	**Zalesovo Array**	**67.57**	**340**	P	**P**	**01 55 20.3**	**-0.3**
ZAA0				IAmb	IAmb	01 55 36.0	
	comp=Z,4.2nm,0.9s						
ZALV	**Zalesovo Beam**	**67.57**	**340**	P	**P**	**01 55 19.1**	**-1.4**
ZALV	**Zalesovo Beam**	**67.57**	**340**	P	**P**	**01 55 18.2**	**-2.3**
	comp=Z,1.4nm,0.5s,baz=137,slow=2.8,SNR=6.0						
	comp=Z,1.4nm,0.5s						
MAW	**Mawson**	**69.08**	**199**	P	**P**	**01 55 30.0**	**+0.1**
	comp=Z,8.9nm,1.0s,baz=52,slow=8.9,SNR=12						
	comp=Z,8.9nm,1.0s						
BVAR	**Borovoye Array**	**72.58**	**333**	P	**P**	**01 55 49.2**	**-2.2**
	comp=Z,0.9nm,0.6s,baz=134,slow=6.4,SNR=4.7						
	comp=Z,0.9nm,0.6s						
VNDA	**Vanda**	**73.04**	**171**	P	**P**	**01 55 54.2**	**+0.4**
VNDA	**Vanda**	**73.04**	**171**	P	**P**	**01 55 54.4**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=317,slow=5.8,SNR=29						
	comp=Z,1.9nm,0.5s						
SBA	**Scott Base**	**74.06**	**170**	P	**P**	**01 56 00.7**	**+0.9**
SBA				IAmb	IAmb	01 57 53.5	
	comp=Z,26nm,2.0s						
ABKAR	**Akbulak array**	**75.63**	**326**	P	**P**	**01 56 06.3**	**-3.0**
ABKAR	**Akbulak array**	**75.63**	**326**	P	**P**	**01 56 06.5**	**-2.8**
ABKAR				IAmb	IAmb	01 56 13.9	
	comp=Z,2.1nm,0.8s						
QSPA	**South Pole Qui**	**81.68**	**180**	P	**P**	**01 56 42.2**	**-0.3**
QSPA				IAmb	IAmb	01 56 43.7	
	comp=Z,12nm,1.2s						
QSPA	**South Pole Qui**	**81.68**	**180**	P	**P**	**01 56 42.4**	**-0.1**
	comp=Z,5.3nm,1.0s,baz=299,slow=1.7,SNR=15						
	comp=Z,5.3nm,1.0s						
BOSA	**Boshof**	**87.23**	**242**	P	**P**	**01 57 10.2**	**-1.3**
BOSA	**Boshof**	**87.23**	**242**	P	**P**	**01 57 10.6**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=53,slow=3.0,SNR=7.7						
	comp=Z,2.8nm,0.8s						
LBTB	**Lobatse**	**87.42**	**245**	P	**P**	**01 57 11.2**	**-1.2**
SNAA	**Sanae**	**91.01**	**196**	P	**P**	**01 57 28.4**	**+0.1**
SNAA				IAmb	IAmb	01 57 30.0	
	comp=Z,6.8nm,0.9s						
SNAA	**Sanae**	**91.01**	**196**	⇑Pdiff	**P**	**01 57 28.8**	**+0.5**
	comp=Z,70nm,0.6s						
SNAA	**Sanae**	**91.01**	**196**	P	**P**	**01 57 29.0**	**+0.7**
	comp=Z,5.6nm,0.8s,baz=117,slow=3.0,SNR=16						
	comp=Z,5.6nm,0.8s						
VNA2	**Neumayer--Watz**	**92.65**	**196**	⇑Pdiff	**P**	**01 57 35.9**	**0.0**
	comp=Z,5.2nm,0.7s,baz=108,slow=2.2						
VNA1	**Neumayer--Stat**	**93.04**	**196**	⇑Pdiff	**P**	**01 57 38.1**	**+0.5**
	comp=Z,3.0nm,0.7s						
VNA3	**Neumayer Olymp**	**93.06**	**195**	⇑Pdiff	**P**	**01 57 34.9**	**-2.8**
	comp=Z,6.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**115.98**	**281**	PKP	**PKPdf**	**02 03 05.5**	**-2.8**
	comp=Z,0.9nm,0.5s,baz=72,slow=3.9,SNR=10.0						
CPUP	**Villa Florida**	**145.06**	**190**	PKPbc	**PKPbc**	**02 04 02.1**	**+0.3**
	comp=Z,14nm,0.8s,baz=155,slow=3.6,SNR=29						
LVC	**Limon Verde**	**148.81**	**170**	PKPbc	**PKiKP**	**02 04 14.2**	**-0.5**
	comp=Z,6.1nm,0.6s,baz=315,slow=1.4,SNR=4.4						
BDFB	**Brasilia**	**151.73**	**213**	PKPbc	**PKPbc**	**02 04 19.0**	**-1.1**
	comp=Z,3.8nm,0.8s,baz=41,slow=0.7,SNR=4.6						
BDFB				PKPab	**PKPab**	**02 04 29.4**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=67,slow=7.7,SNR=3.8						
LPAZ	**La Paz**	**155.12**	**169**	PKPab	**PKPab**	**02 04 43.5**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=181,slow=3.3,SNR=13						
SIV	**San Ignacio**	**155.75**	**186**	PKPab	**PKPab**	**02 04 46.5**	**+1.0**
	comp=Z,3.6nm,0.8s,baz=161,slow=4.5,SNR=16						

*MOS **29** 01:50:30.5±1.1, 8.25S×116.41E, h18km, mb5.2/50, MS4.6/5, Error ellipse: s-maj=9.1km s-min=5.2km az=108.5*
*DJA **29** 01:50:31.9±0.1, 8.S±1.×11.6E±.°, h10km, M5.3/90, mb5.4/90, mB5.7/42, MLv5.7/25, Mw5.1/56, Mw(mB)5.3/42*
*IDC **29** 01:50:32.9±4.2, 8.16S×116.39E, h20km±26km, mb4.9/21, mbtmp5.1/22, ML4.5/1, MS4.6/56, Error ellipse: s-maj=18.8km s-min=10.5km az=78.0*

*NEIC **29** 01:50:32.2±2.1, 8.31S±0.06×116.45E±0.06, h11km±3km, mb5.3/125, Mww5.3/13, Error ellipse: s-maj=9.4km s-min=7.9km az=172.0*
*GCMT **29** 01:50:35.2±0.2, 8.13S±0.02×116.42E±0.02, h30km, MW5.4/112, Moment Tensor Solution. s59,c70; s112,c179; Duration: 1s2 Moment tensor: Scale 10^17 Nm; M_{rr}1.20±.06; $M_{\theta\theta}$-0.98±.04; $M_{\phi\phi}$-0.21±.03; $M_{r\theta}$-0.86±.04; $M_{\theta\phi}$-0.11±.02; $M_{\phi r}$-0.24±.05; Best double couple: $M_0$1.41700×10^17 NP1:ϕ_s258.00000°, δ_s65.00000°, λ_s87.00000°. NP2:ϕ_s85.00000°, δ_s26.00000°, λ_s97.00000°. Principal axes: T 1.5200, Plg70.0000°, Azm161.0000°; N -0.2070, Plg3.0000°, Azm259.0000°; P -1.3140, Plg20.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 01:50:32.6±0.4, 8.34S±0.03×116.44E±0.03, h18km±1km, h19km: pP-P, n532, σ1.82/525, mb5.2/147, MS4.8/82, 17C-8D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.59**	**132**	P	**Pg**	**01 50 44.0**	**-0.4**
SRBI	**Singaraja**	**1.24**	**282**	P	**Pn**	**01 50 54.2**	**-0.8**
DNP	**Denpasar**	**1.26**	**254**	P	**Pg**	**01 50 56.3**	**-0.7**
PLAI	**Plampang**	**1.41**	**110**	P	**Pb**	**01 50 58.4**	**-0.1**
JAGI	**Jajag, Banyuwa**	**2.26**	**267**	P	**Pn**	**01 51 10.0**	**+0.8**
JAGI	**Jajag, Banyuwa**	**2.26**	**267**	Pn	**Pn**	**01 51 09.0**	**-0.2**
JAGI	**Jajag, Banyuwa**	**2.26**	**267**	P	**Pn**	**01 51 08.8**	**-0.4**
GRJI	**Gresik**	**4.17**	**290**	P	**Pn**	**01 51 35.8**	**+0.4**
BASI	**Baing, Sumba**	**4.49**	**115**	P	**Pn**	**01 51 41.2**	**+1.3**
BSSI	**Bau Bau, Buton**	**4.58**	**62**	P	**Pn**	**01 51 39.4**	**-1.6**
PWJI	**Pagerwojo**	**4.60**	**274**	P	**Pn**	**01 51 41.9**	**+0.6**
KAPI	**Kappang**	**4.67**	**45**	P	**Pn**	**01 51 41.1**	**-1.1**
KAPI	**Kappang**	**4.67**	**45**	Pn	**Pn**	**01 51 40.5**	**-1.8**
KAPI	**Kappang**	**4.67**	**45**	Pn	**Pn**	**01 51 40.3**	**-2.0**
	24nm,0.3s,baz=174,slow=19,SNR=16						
KAPI				Sn	**Sn**	**01 52 32.4**	**-3.6**
	134nm,0.3s,baz=214,slow=19,SNR=21						
KAPI				Lg	Lg	01 52 54.9	
	62nm,0.3s,baz=82,slow=19,SNR=4.8						
KAPI				LR	LR	01 53 37.3	
	comp=Z,5μm,18.8s,baz=215,slow=40						
	64nm,0.2s						
BKSI	**Bulukumba**	**4.73**	**51**	P	**Pn**	**01 51 41.3**	**-1.8**
EDFI	**Ende, Flores**	**5.21**	**95**	P	**Pn**	**01 51 49.8**	**-0.1**
BNSI	**Bone**	**5.35**	**43**	P	**Pn**	**01 51 51.7**	**+0.1**
MMRI	**Maumere**	**5.75**	**93**	P	**Pn**	**01 51 58.8**	**+1.7**
MMRI	**Maumere**	**5.75**	**93**	Pn	**Pn**	**01 51 57.4**	**+0.3**
MMRI	**Maumere**	**5.75**	**93**	P	**Pn**	**01 51 57.6**	**+0.5**
UWJI	**Ujung Watu**	**5.77**	**289**	P	**Pn**	**01 51 56.1**	**-1.3**
	455nm,0.9s,8μm2.9nm						
UGM	**Wanagama**	**5.87**	**274**	P	**Pn**	**01 52 01.2**	**+2.4**
UGM	**Wanagama**	**5.87**	**274**	Pn	**Pn**	**01 51 59.4**	**+0.6**
UGM	**Wanagama**	**5.87**	**274**	P	**Pn**	**01 52 00.2**	**+1.4**
SMRI	**Semarang**	**6.08**	**282**	P	**Pn**	**01 52 06.0**	**+4.3**
SMRI	**Semarang**	**6.08**	**282**		**Pn**	**01 52 01.9**	**+0.3**
SMRI	**Semarang**	**6.08**	**282**	P	**Pn**	**01 52 02.3**	**+0.6**
YOGI	**Yogyakarta**	**6.10**	**274**	P	**Pn**	**01 52 02.9**	**+0.9**
	625nm,0.9s,6μm6.5nm						
BBSI	**Bau Bau**	**6.72**	**65**	P	**Pn**	**01 52 11.6**	**+1.1**
	274nm,0.8s,3μm1.5nm						
BATI	**Baumata**	**7.37**	**105**	P	**Pn**	**01 52 19.4**	**-0.1**
	513nm

WB0			IAmb	IAmb	01 55 14.8	
	comp=Z,204nm,0.9s					
WRA	**Warramunga Arr**	**20.82 126**	P	**P**	**01 55 11.3**	**-2.0**
WRA	**Warramunga Arr**	**20.82 126**	P	**P**	**01 55 13.1**	**-0.2**
	comp=Z,181nm,1.0s,baz=298,slow=12,SNR=147					
WRA			S	**S**	**01 59 01.3**	**-3.8**
	comp=Z,7.4nm,0.9s,baz=292,slow=24,SNR=2.7					
WRA			LR	LR	02 04 20.7	
	comp=Z,1μm,18.1s,baz=270,slow=40					
	comp=Z,181nm,1.0s					
WRAB	**Tennant Creek**	**20.82 125**	*i* P	**P**	**01 55 13.2**	**-0.2**
WRAB			pmax	pmax		
	comp=Z,187nm,1.0s					
WB2	**Warramunga Arr**	**20.82 126**	P	**P**	**01 55 13.2**	**-0.2**
WB2			IAmb	IAmb	01 55 15.4	
	comp=Z,210nm,1.0s					
GSI	**Gunungsitoli**	**21.10 296**	P	**P**	**01 55 21.3**	**+4.8**
GSI	**Gunungsitoli**	**21.10 296**	P	**P**	**01 55 17.2**	**+0.8**
GSI			IAmb	IAmb	01 55 29.3	
	comp=Z,65nm,0.8s					
GSI	**Gunungsitoli**	**21.10 296**	P	**P**	**01 55 15.7**	**-0.8**
	comp=Z,99nm,0.8s					
DLV	**T Lat**	**21.65 338**	P	**P**	**01 55 25.0**	**+2.5**
DLV	**T Lat**	**21.65 338**	P	**P**	**01 55 21.3**	**-1.2**
KCSI	**Kotacane, Aceh**	**22.03 302**	P	**P**	**01 55 27.4**	**+0.9**
	comp=Z,109nm,1.1s,comp=Z,3μm					
BLDU	**Ballidu**	**22.16 179**	P	**P**	**01 55 30.0**	**+2.3**
AS31	**Alice Springs**	**22.63 134**	P	**P**	**01 55 32.2**	**-0.7**
AS31			IAmb	IAmb	01 55 40.0	
	comp=Z,106nm,1.2s					
ASAR	**Alice Springs**	**22.63 134**	P	**P**	**01 55 32.0**	**-0.8**
ASAR	**Alice Springs**	**22.63 134**	P	**P**	**01 55 32.8**	**-0.1**
	comp=Z,151nm,1.0s,baz=307,slow=8.8,SNR=142					
ASAR			PcP	**PcP**	**01 59 25.4**	**-0.3**
	comp=Z,5.8nm,0.6s,baz=314,slow=1.4,SNR=6.1					
ASAR			ScP	**ScP**	**02 03 01.2**	**-1.5**
	comp=Z,6.0nm,0.9s,baz=314,slow=1.2,SNR=6.5					
ASAR			LR	LR	02 05 33.3	
	comp=Z,2μm,18.9s,baz=294,slow=40					
	comp=Z,151nm,1.0s					
AS01	**Alice Springs**	**22.66 134**	P	**P**	**01 55 34.1**	**+0.9**
KLBR	**Kellerberrin**	**23.17 177**	P	**P**	**01 55 41.2**	**+2.9**
KMBL	**Kambalda**	**23.47 168**	P	**P**	**01 55 43.4**	**+2.1**
MUN	**Mundaring**	**23.52 180**	P	**P**	**01 55 43.3**	**+1.5**
MLSI	**Meulaboh, Aceh**	**23.58 301**	P	**P**	**01 55 41.6**	**-1.0**
	comp=Z,180nm,0.9s					
LHMI	**Lhok Sumawe**	**23.65 304**	P	**P**	**01 55 43.3**	**0.0**
LHMI	**Lhok Sumawe**	**23.65 304**	P	**P**	**01 55 43.1**	**-0.2**
	comp=Z,248nm,0.9s					
SRIT	**Nakonsritamara**	**23.76 315**	P	**P**	**01 55 48.6**	**+4.4**
SRIT	**Nakonsritamara**	**23.76 315**	P	**P**	**01 55 45.1**	**+0.8**
SRIT			IAmb	IAmb	01 55 48.1	
	comp=Z,66nm,1.0s					
SURA	**Surathani**	**24.14 316**	P	**P**	**01 55 51.4**	**+3.6**
GENI	**Genyem**	**24.29 78**	P	**P**	**01 55 50.0**	**+0.7**
GENI	**Genyem**	**24.29 78**	P	**P**	**01 55 48.9**	**-0.4**
	comp=Z,114nm,0.9s,comp=Z,2μm					
NWAO	**Narrogin (SRO)**	**24.48 178**	P	**P**	**01 55 53.4**	**+2.6**
NWAO	**Narrogin (SRO)**	**24.48 178**	P	**P**	**01 55 50.2**	**-0.6**
NWAO			IAmb	IAmb	01 56 17.8	
	comp=Z,150nm,1.1s					
NWAO	**Narrogin (SRO)**	**24.48 178**	LR	LR	02 05 03.0	
	comp=Z,1μm,21.7s,baz=3.0,slow=35					
NWAO	**Narrogin (SRO)**	**24.48 178**	P	**P**	**01 55 50.2**	**-0.6**
NWAO			pmax	pmax		
	comp=Z,150nm,1.1s					
TABU	**Tabubil**	**24.80 85**	P	**P**	**01 55 54.9**	**+0.9**
FORT	**Forrest**	**24.83 156**	P	**P**	**01 55 55.8**	**+1.8**
FORT	**Forrest**	**24.83 156**	P	**P**	**01 55 52.7**	**-1.3**
JAY	**Jayapura**	**24.83 78**	P	**P**	**01 55 54.0**	**-0.3**
	comp=Z,39nm,0.9s					
QIS	**Mount Isa**	**25.47 121**	P	**P**	**01 56 01.8**	**+1.9**
UBPT	**Khong Chiam**	**25.86 335**	P	**P**	**01 56 07.0**	**+3.5**
UBPT	**Khong Chiam**	**25.86 335**	P	**P**	**01 56 04.1**	**+0.6**
OOD	**Oodnadatta**	**26.56 139**	P	**P**	**01 56 10.6**	**+0.9**
COEN	**Coen**	**26.81 104**	P	**P**	**01 56 12.3**	**+0.2**
COEN	**Coen**	**26.81 104**	P	**P**	**01 56 11.7**	**-0.4**
NAYO	**Nakonayok**	**27.05 326**	P	**P**	**01 56 17.3**	**+3.1**
MULG	**Mulgathing**	**27.36 145**	P	**P**	**01 56 18.3**	**+1.4**
QIZ	**Qiongzhong**	**27.96 347**	P	**P**	**01 56 24.0**	**+1.6**
QIZ			S	**S**	**02 01 10.0**	**+4.2**
QIZ			pmax	pmax		
	comp=Z,25nm,2.1s					
QIZ			LR	LR		
	comp=Z,2μm,14.1s					
QIZ			LR	LR		
	comp=Z,1μm,15.9s					
QIZ			LR	LR		
	comp=Z,2μm,14.5s					
SRDT	**SRDT**	**28.34 323**	P	**P**	**01 56 29.8**	**+4.0**
MTSU	**Mount Surprise**	**28.79 113**	P	**P**	**01 56 31.3**	**+1.4**
LCRK	**Leigh Creek**	**29.98 140**	P	**P**	**01 56 41.8**	**+1.6**
INKA	**Innaminka**	**30.00 133**	P	**P**	**01 56 42.3**	**+1.9**
PMG	**Port Moresby**	**30.37 94**	LR	LR	02 11 43.2	
	comp=Z,1μm,19.1s,baz=265,slow=42					
BBOO	**Buckleboo**	**30.38 146**	P	**P**	**01 56 45.4**	**+1.6**
BBOO	**Buckleboo**	**30.38 146**	P	**P**	**01 56 43.8**	**0.0**
BBOO			IAmb	IAmb	01 56 52.4	
	comp=Z,67nm,1.0s					
PHRA	**Phrae**	**31.10 329**	P	**P**	**01 56 51.7**	**+1.5**
CTA	**Charters Tower**	**31.11 115**	P	**P**	**01 56 51.5**	**+1.1**
CTA	**Charters Tower**	**31.11 115**	LR	LR	02 11 41.6	
	comp=Z,230nm,18.1s,baz=280,slow=41					
CTAO	**Charters Tower**	**31.11 115**	P	**P**	**01 56 51.7**	**+1.3**
CTAO	**Charters Tower**	**31.11 115**	P	**P**	**01 56 50.0**	**-0.4**
CTAO			IAmb	IAmb	01 56 54.4	
	comp=Z,34nm,1.0s					
CTAO	**Charters Tower**	**31.11 115**	P	**P**	**01 56 50.0**	**-0.4**
CTAO			pmax	pmax		
	comp=Z,34nm,1.0s					
TV1H	**Townsville Har**	**31.36 113**	P	**P**	**01 56 54.1**	**+1.6**
WHYH	**Whyalla**	**31.41 144**	P	**P**	**01 56 54.2**	**+1.4**
TPUB	**Ta-pu**	**31.71 7**	P	**P**	**01 56 59.5**	**+3.9**
TPUB	**Ta-pu**	**31.71 7**	P	**P**	**01 56 55.2**	**-0.4**
TPUB			IAmb	IAmb	01 57 28.8	
	comp=Z,25nm,0.9s					
CM31	**Chiang Mai Arr**	**31.73 327**	P	**P**	**01 56 56.4**	**+0.6**
CM31			IAmb	IAmb	01 56 59.6	
	comp=Z,29nm,0.9s					
CMAR	**Chiang Mai Arr**	**31.73 327**	P	**P**	**01 56 56.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**31.73 327**	P	**P**	**01 56 57.8**	**+1.9**
	comp=Z,23nm,0.9s,baz=153,slow=7.0,SNR=71					
CMAR			ScP	**ScP**	**02 03 27.6**	**-2.5**
	comp=Z,1.2nm,0.4s,baz=189,slow=2.5,SNR=7.4					
CMAR			LR	LR	02 10 49.8	
	comp=Z,2μm,20.1s,baz=150,slow=39					
CMAR	**Chiang Mai Arr**	**31.73 327**	P	**P**	**01 56 56.6**	**+0.8**
YULB	**Yu-li**	**31.89 8**	P	**P**	**01 57 00.4**	**+3.2**
SLVN	**Son La**	**31.95 338**	P	**P**	**01 56 58.3**	**+0.5**
QLP	**Quilpie**	**32.00 128**	P	**P**	**01 56 59.9**	**+1.8**
CHTO	**Chiang Mai**	**32.03 328**	P	**P**	**01 56 58.9**	**+0.5**
CHTO			IAmb	IAmb	01 57 01.8	
	comp=Z,21nm,0.9s					
CHTO	**Chiang Mai**	**32.03 328**	P	**P**	**01 56 58.9**	**+0.5**
CHTO			pmax	pmax		
	comp=Z,21nm,0.9s					
SSLB	**Suanglung**	**32.23 8**	P	**P**	**01 57 03.3**	**+3.1**
SSLB	**Suanglung**	**32.23 8**	P	**P**	**01 57 00.9**	**+0.8**
SSLB			IAmb	IAmb	01 57 28.8	
	comp=Z,29nm,1.1s					
HTT	**Hallett**	**32.48 143**	P	**P**	**01 57 03.9**	**+1.6**
NACB	**Ninganchiao**	**32.71 9**	P	**P**	**01 57 07.6**	**+3.4**
NACB	**Ninganchiao**	**32.71 9**	IAmb	IAmb	01 57 19.6	
	comp=Z,21nm,0.8s					
STKA	**Stephens Creek**	**33.10 139**	P	**P**	**01 57 09.5**	**+1.8**
STKA	**Stephens Creek**	**33.10 139**	P	**P**	**01 57 07.3**	**-0.4**
STKA	**Stephens Creek**	**33.10 139**	P	**P**	**01 57 08.3**	**+0.6**
	comp=Z,33nm,0.7s,baz=312,slow=9.5,SNR=32					
STKA			PP	**PnPn**	**01 58 09.4**	**-8.0**
	comp=Z,31nm,0.9s,baz=303,slow=14,SNR=3.2					
STKA			LR	LR	02 12 27.9	
	comp=Z,2μm,19.4s,baz=316,slow=40					
	comp=Z,33nm,0.7s					
STKA	**Stephens Creek**	**33.10 139**	P	**P**	**01 57 07.3**	**-0.4**
STKA			pmax	pmax		
	comp=Z,8.0nm,0.8s					
YHNB	**Yeheng**	**33.16 8**	P	**P**	**01 57 10.6**	**+2.3**
YHNB	**Yeheng**	**33.16 8**	P	**P**	**01 57 08.0**	**-0.4**
YHNB			IAmb	IAmb	01 57 20.1	
	comp=Z,34nm,0.9s					
TATO	**Taipei**	**33.48 8**	P	**P**	**01 57 12.2**	**+1.2**
TATO	**Taipei**	**33.48 8**	P	**P**	**01 57 11.2**	**+0.3**
CMSA	**Cobar Meteorol**	**35.69 134**	P	**P**	**01 57 31.4**	**+1.3**
KMI	**Kunming**	**35.84 338**	⇑P	**P**	**01 57 35.5**	**+3.8**
KMI			S	**S**	**02 03 05.3**	**-3.6**
KMI			pmax	pmax		
	comp=Z,34nm,1.0s					
KMI			pmax	pmax		
	comp=Z,450nm,6.0s					
KMI			LR	LR		
	comp=Z,990nm,16.5s					
KMI			LR	LR		
	comp=Z,2μm,16.7s					
KMI			LR	LR		
	comp=Z,2μm,17.7s					
GYA	**Guiyang**	**35.87 345**	P	**P**	**01 57 33.8**	**+2.0**
GYA			S	**S**	**02 03 11.8**	**+2.7**
GYA			pmax	pmax		
	comp=Z,36nm,0.6s					
GYA			pmax	pmax		
	comp=Z,550nm,14.1s					
GYA			LR	LR		
	comp=Z,1μm,17.0s					
GYA			LR	LR		
	comp=Z,1μm,17.4s					
GYA			LR	LR		
	comp=Z,2μm,17.1s					
RK1H	**Rockhampton Ha**	**35.89 119**	P	**P**	**01 57 32.9**	**+0.9**
AULRC	**Lightning Ridg**	**36.28 130**	P	**P**	**01 57 37.8**	**+2.6**
ARPS	**Mount Arapiles**	**36.52 145**	P	**P**	**01 57 39.4**	**+2.2**
JOW	**Kunigami**	**36.80 18**	LR	LR	02 14 57.2	
	comp=Z,429nm,19.6s,baz=258,slow=40					
EIDS	**Eidsvold**	**37.07 121**	P	**P**	**01 57 43.9**	**+1.9**
PZH	**PanZhiHua**	**37.46 338**	P	**P**	**01 57 47.5**	**+2.1**
PZH			S	**S**	**02 03 37.3**	**+3.9**
PZH			pmax	pmax		
	comp=Z,20nm,1.1s					
PZH			pmax	pmax		
	comp=Z,320nm,5.7s					
PZH			LR	LR		
	comp=Z,810nm,16.9s					
PZH			LR	LR		
	comp=Z,1μm,17.5s					
PZH			LR	LR		
	comp=Z,1μm,18.6s					
TNCH	**TengChong**	**37.48 333**	P	**P**	**01 57 48.5**	**+2.8**
TNCH			sP	sP	01 57 53.0	-1.2
TNCH			S	**S**	**02 03 34.5**	**+0.6**
TNCH			sS	sS	02 03 42.5	-1.2
TNCH			pmax	pmax		
	comp=Z,34nm,1.5s					
TNCH			pmax	pmax		
	comp=Z,190nm,4.1s					
TNCH			LR	LR		
	comp=Z,1μm,14.2s					
TNCH			LR	LR		
	comp=Z,1μm,15.3s					
TNCH			LR	LR		
	comp=Z,3μm,14.6s					
AUMAG	**Moama Anglican**	**37.81 141**	P	**P**	**01 57 50.0**	**+1.9**
AUDCS	**Dubbo College**	**38.17 133**	P	**P**	**01 57 52.9**	**+1.7**
WHN	**Wuhan**	**38.71 357**	P	P	01 58 00.5	+4.8
WHN			S	**S**	**02 04 00.0**	**+8.0**
WHN			LR	LR		
	comp=Z,5μm,17.2s					
WHN			LR	LR		
	comp=Z,2μm,15.9s					
WHN			LR	LR		
	comp=Z,6μm,17.0s					
PALK	**Pallekele**	**38.85 293**	LR	LR	02 15 26.4	
	comp=Z,1μm,18.2s,baz=221,slow=39					
GEXS	**Deakin Univers**	**38.92 144**	P	**P**	**01 57 59.7**	**+2.3**
ENH	**Enshi**	**38.97 350**	P	**P**	**01 58 01.6**	**+3.7**
YNG	**Young**	**39.12 136**	P	**P**	**01 58 01.1**	**+1.9**
TOO	**Toolangi**	**39.21 142**	P	**P**	**01 58 02.0**	**+2.0**
TOO	**Toolangi**	**39.21 142**	IAmb	IAmb	01 58 03.4	
	comp=Z,42nm,0.9s					
AUPHS	**Peel High Scho**	**39.28 130**	P	**P**	**01 58 02.6**	**+1.9**
AUWSH	**Wavell State H**	**39.44 123**	P	**P**	**01 58 04.2**	**+2.2**
ARMA	**Armidale**	**39.54 129**	P	**P**	**01 58 05.8**	**+2.9**
CAN	**Canberra**	**40.10 137**	P	**P**	**01 58 09.7**	**+2.3**
CAN	**Canberra**	**40.10 137**	P	**P**	**01 58 07.1**	**-0.3**
CAN	**Canberra**	**40.10 137**	P	**P**	**01 58 07.1**	**-0.3**
CAN			pmax	pmax		
	comp=Z,39nm,1.1s					
NJ2	**Nanjing**	**40.23 3**	⇑P	**P**	**01 58 10.5**	**+2.1**
NJ2			pP	**pP**	**01 58 14.5**	**+0.3**
NJ2			pmax	pmax		
	comp=Z,17nm,0.5s					
NJ2			pmax	pmax		
	comp=Z,610nm,4.2s					
CNB	**Canberra Magne**	**40.34 137**	P	**P**	**01 58 11.0**	**+1.6**
CD2	**Chengdu**	**40.88 343**	P	**P**	**01 58 14.5**	**+0.7**
CD2			S	**S**	**02 04 27.3**	**+2.7**
CD2			pmax	pmax		
	comp=Z,120nm,0.6s					
CD2			LR	LR		
	comp=Z,2μm,15.9s					
CD2			LR	LR		
	comp=Z,2μm,14.7s					
AUUHS	**Ulladulla High**	**41.12 136**	P	**P**	**01 58 17.8**	**+2.0**
SHL	**Shillong**	**41.31 325**	P	**P**	**01 58 16.8**	**-0.9**
SHL			IAmb	IAmb	01 58 20.1	
	comp=Z,83nm,0.8s					
SHL	**Shillong**	**41.31 325**	P	**P**	**01 58 16.8**	**-0.9**
SHL			pmax	pmax		
	comp=Z,83nm,0.8s					
XAN	**Xi'an**	**42.75 351**	P	**P**	**01 58 29.5**	**+0.4**
XAN			sP	sP	01 58 35.8	-1.9
XAN			PP	**PP**	**02 00 11.5**	**+3.0**
XAN			S	**S**	**02 04 54.5**	**+2.3**
XAN			sS	sS	02 05 01.8	-0.1
XAN			SS	**SS**	**02 08 00.5**	**-2.9**
XAN			ScS	**ScS**	**02 08 29.5**	**-0.3**
XAN			pmax	pmax		
	comp=Z,19nm,0.9s					
XAN			pmax	pmax		
	comp=Z,550nm,6.9s					
XAN			LR	LR		
	comp=Z,3μm,14.6s					
XAN			LR	LR		
	comp=Z,1μm,15.5s					
XAN			LR	LR		
	comp=Z,5μm,15.3s					
LYN	**LuoYang**	**42.82 355**	*e*P	**P**	**01 58 30.3**	**+0.7**
LYN			pP	pP	01 58 35.8	+0.3
LYN			S	**S**	**02 04 57.3**	**+4.2**
LYN			sS	sS	02 05 03.8	+0.9
LYN			pmax	pmax		
	comp=Z,55nm,1.0s					
LYN			pmax	pmax		
	comp=Z,530nm,10.0s					
LYN			LR	LR		
	comp=Z,2μm,17.9s					
LYN			LR	LR		
	comp=Z,1μm,14.1s					
LYN			LR	LR		
	comp=Z,2μm,16.8s					
HNR	**Honiara**	**42.98 95**	P	**P**	**01 58 32.4**	**+1.1**
HNR	**Honiara**	**42.98 95**	P	**P**	**01 58 30.0**	**-1.3**
HNR	**Honiara**	**42.98 95**	LR	LR	02 18 39.9	
	comp=Z,9μm,18.5s,baz=283,slow=39					
HNR	**Honiara**	**42.98 95**	P	**P**	**01 58 30.0**	**-1.3**
JCJ	**Chichijima**	**43.17 34**	P	**P**	**01 58 33.2**	**+0.6**
JCJ	**Chichijima**	**43.17 34**	P	**P**	**01 58 32.0**	**-0.6**
JNU	**Nakatsue**	**43.46 18**	P	**P**	**01 58 38.0**	**+3.1**
JNU	**Nakatsue**	**43.46 18**	P	**P**	**01 58 35.1**	**+0.2**
JNU			IAmb	IAmb	01 58 51.9	
	comp=Z,36nm,1.1s					
TIA	**Tai'an**	**44.32 1**	P	**P**	**01 58 41.5**	**-0.2**
TIA			pmax	pmax		
	comp=Z,46nm,0.8s					
TIA			LR	LR		
	comp=Z,1μm,14.2s					
TIA			LR	LR		
	comp=Z,750nm,14.2s					
TIA			LR	LR		
	comp=Z,1μm,13.7s					
LSA	**Lhasa**	**44.97 328**	P	**P**	**01 58 49.5**	**+1.9**
LSA			pmax	pmax		
	comp=Z,48nm,1.0s					
LSA	**Lhasa**	**44.97 328**	IAmb	IAmb	01 58 51.1	
	comp=Z,40nm,0.9s					
JMN	**Monobe**	**45.00 21**	P	**P**	**01 58 49.3**	**+2.1**
JMN			IAmb	IAmb	01 58 53.3	
	comp=Z,44nm,0.9s					
HYB	**Hyderabad**	**45.35 305**	*e*P	**P**	**01 58 48.6**	**-1.6**
HYB			*e*pP	**pP**	**01 58 53.9**	**-2.1**
HYB			*e*ScP	**ScP**	**02 04 21.8**	**0.0**
HYB			*e*PcS	**PcS**	**02 04 23.4**	**-0.6**
HYB			*e*S	**S**	**02 05 30.6**	**0.0**
HNS	**HongShan**	**45.53 358**	⇑P	**P**	**01 58 51.0**	**-0.2**
HNS			S	**S**	**02 05 30.8**	**-1.7**
HNS			pmax	pmax		
	comp=Z,23nm,1.1s					
HNS			LR	LR		
	comp=Z,1μm,15.9s					
HNS			LR	LR		
	comp=Z,350nm,15.7s					
HNS			LR	LR		
	comp=Z,2μm,16.3s					
LZH	**Lanzhou**	**45.75 346**	*e*P	**P**	**01 58 56.0**	**+2.7**
LZH			pP	sP	01 59 00.5	-1.4
LZH			S	**S**	**02 05 34.5**	**-1.6**
LZH			pmax	pmax		
	comp=Z,33nm,1.2s					
LZH			pmax	pmax		
	comp=Z,590nm,5.6s					
LZH			LR	LR		
	comp=Z,1μm,16.1s					
LZH			LR	LR		
	comp=Z,1μm,16.5s					
LZH			LR	LR		
	comp=Z,1μm,17.9s					
KSAR	**Wonju Array Be**	**46.79 13**	P	**P**	**01 59 01.0**	**-0.2**
KSAR	**Wonju Array Be**	**46.79 13**	P	**P**	**01 59 01.0**	**-0.2**
KSRS	**Korea Array**	**46.81 13**	P	**P**	**01 59 01.1**	**-0.2**
	comp=Z,16nm,1.0s,baz=191,slow=8.0,SNR=27					
KSRS			LR	LR	02 23 01.1	
	comp=Z,181nm,18.4s,baz=210,slow=42					
	comp=Z,16nm,1.0s					
JHJ	**Hachijo jima 2**	**46.84 27**	LR	LR	02 17 33.3	
	comp=Z,360nm,20.5s,baz=242,slow=35					
DL2	**Dalian**	**47.25 6**	P	**P**	**01 59 04.3**	**-0.4**
DL2			S	**S**	**02 05 55.0**	**-2.1**
DL2			pmax	pmax		
	comp=Z,42nm,0.8s					
DL2			pmax	pmax		
	comp=Z,410nm,5.3s					
DL2			LR	LR		
	comp=Z,750nm,15.5s					
DL2			LR	LR		
	comp=Z,550nm,16.2s					
DL2			LR	LR		
	comp=Z,1μm,18.1s					
INU	**Inuyama**	**47.60 23**	P	**P**	**01 59 07.5**	**0.0**
INU			IAmb	IAmb	01 59 10.4	
	comp=Z,24nm,0.8s					
KOUNC	**Koumac, New Ca**	**47.73 110**	P	**P**	**01 59 10.6**	**+1.7**
KOUNC	**Koumac, New Ca**	**47.73 110**	P	**P**	**01 59 09.1**	**+0.2**
JGF	**Kuroka**	**47.95 23**	P	**P**	**01 59 11.6**	**+1.3**
JGF	**Kuroka**	**47.95 23**	P	**P**	**01 59 09.8**	**-0.6**
JGF			IAmb	IAmb	01 59 11.6	
	comp=Z,32nm,0.9s					
BJT	**Baijiatuau**	**48.12 360**	P	**P**	**01 59 13.8**	**+2.3**
BJT	**Baijiatuau**	**48.12 360**	IAmb	IAmb	01 59 13.8	
	comp=Z,22nm,1.0s					
BJI	**Beijing**	**48.14 360**	P	**P**	**01 59 11.5**	**-0.1**
BJI			S	**S**	**02 06 08.0**	**-1.7**
BJI			pmax	pmax		
	comp=Z,11nm,0.9s					
BJI			LR	LR		
	comp=Z,460nm,15.8s					
BJI			LR	LR		
	comp=Z,310nm,15.7s					
BJI			LR	LR		
	comp=Z,680nm,20.3s					
GOMU	**GeErMu**	**48.75 337**	P	**P**	**01 59 18.0**	**+1.1**
GOMU			pP	pP	01 59 22.0	-0.7
GOMU			sP	sP	01 59 26.0	+0.4
GOMU			pmax	pmax		
	comp=Z,29nm,0.9s					
GOMU			LR	LR		
	comp=Z,2μm,19.8s					
GOMU			LR	LR		
	comp=Z,1μm,19.6s					
GOMU			LR	LR		
	comp=Z,2μm,19.2s					
BTO	**Baotou**	**49.06 354**	*e*P	**P**	**01 59 20.0**	**+1.1**
BTO			pP	**pP**	**01 59 24.5**	**-0.3**
BTO			sP	**sP**	**01 59 27.3**	**-0.2**
BTO			S	**S**	**02 06 27.0**	**+4.0**
BTO			pmax	pmax		
	comp=Z,48nm,1.0s					
BTO			pmax	pmax		
	comp=Z,630nm,5.3s					
BTO			LR	LR		
	comp=Z,3μm,16.3s					
BTO			LR	LR		
	comp=Z,2μm,15.7s					
BTO			LR	LR		
	comp=Z,3μm,16.0s					
MAJO	**Matsushiro**	**49.11 23**	P	**P**	**01 59 20.0**	**+0.8**
MAJO	**Matsushiro**	**49.11 23**	P	**P**	**01 59 19.3**	**+0.1**
MAJO			IAmb	IAmb	01 59 28.2	
	comp=Z,69nm,1.2s					
MAJO	**Matsushiro**	**49.11 23**	P	**P**	**01 59 19.3**	**+0.1**
MAJO			pmax	pmax		
	comp=Z,69nm,1.3s					
MJAR	**Matsushiro Arr**	**49.11 23**	P	**P**	**01 59 18.3**	**-0.9**
	comp=Z,15nm,0.8s,baz=198,slow=7.3,SNR=26					
MJAR			LR	LR	02 19 41.1	
	comp=Z,386nm,20.9s,baz=210,slow=36					
	comp=Z,15nm,0.8s					
MJB9	**Matsu-Tunnel**	**49.11 23**	IAmb	IAmb	01 59 29.2	
	comp=Z,64nm,1.2s					
HHC	**Hu-ho-hao-te**	**49.15 355**	*e*P	**P**	**01 59 20.5**	**+0.9**
HHC			pmax	pmax		
	comp=Z,17nm,0.5s					
HHC			pmax	pmax		
	comp=Z,370nm,6.7s					
DZM	**Mont Dzumac**	**49.93 112**	P	**P**	**01 59 28.6**	**+2.7**
DZM	**Mont Dzumac**	**49.93 112**	P	**P**	**01 59 25.7**	**-0.2**
DZM			IAmb	IAmb	01 59 34.2	
	comp=Z,56nm,1.0s					
DZM	**Mont Dzumac**	**49.93 112**	LR	LR	02 22 50.8	
	comp=Z,788nm,19.7s,baz=286,slow=39					
GTA	**Gaotai**	**49.95 343**	P	**P**	**01 59 27.0**	**+1.3**
GTA			pP	sP	01 59 32.5	-1.9
GTA			S	**S**	**02 06 38.0**	**+2.5**
GTA			pmax	pmax		
	comp=Z,21nm,1.1s					
GTA			LR	LR		
	comp=Z,1μm,18.7s					
GTA			LR	LR		
	comp=Z,1μm,16.3s					
GTA			LR	LR		
	comp=Z,1μm,21.1s					
ONTNC	**Ouen Toro**	**49.97 112**	P	**P**	**01 59 28.5**	**+2.4**
ONTNC	**Ouen Toro**	**49.97 112**	P	**P**	**01 59 25.7**	**-0.3**
YATNC	**Mamie plateau,**	**50.34 112**	P	**P**	**01 59 31.4**	**+2.5**
SNY	**Shenyang**	**50.35 7**	⇓P	**P**	**01 59 28.0**	**-0.5**
SNY			S	**S**	**02 06 39.5**	**-1.2**
SNY			SS	**SS**	**02 10 17.0**	**+2.2**
SNY			pmax	pmax		
	comp=Z,15nm,0.8s					
SNY			LR	LR		
	comp=Z,530nm,16.6s					
SNY			LR	LR		
	comp=Z,460nm,15.2s					
SNY			LR	LR		
	comp=Z,580nm,17.1s					
LIFNC	**LIFOU**	**50.50 110**	P	**P**	**01 59 31.7**	**+1.6**
LIFNC	**LIFOU**	**50.50 110**	P	**P**	**01 59 30.1**	**-0.1**
DVP	**Devils Point**	**51.13 106**	P	**P**	**01 59 38.5**	**+3.6**
JMM	**Marumori**	**51.29 25**	P	**P**	**01 59 38.9**	**+3.2**
XLT	**XiLinHaoTe**	**51.99 360**	*e*P	**P**	**01 59 42.0**	**+1.0**
XLT			pP	pP	01 59 46.0	-0.9
XLT			S	**S**	**02 06 58.5**	**-5.1**
XLT			SS	**SS**	**02 10 38.3**	**-2.8**
XLT			pmax	pmax		
	comp=Z,29nm,0.9s					
XLT			pmax	pmax		
	comp=Z,340nm,6.0s					
XLT			LR	LR		
	comp=Z,70nm,20.7s					
XLT			LR	LR		
	comp=Z,600nm,17.4s					
XLT			LR	LR		
	comp=Z,1μm,21.4s					
MSHR	**Mys Shultsa**	**52.43 14**	*ce*P	**P**	**01 59 44.4**	**+0.3**
MSHR			pmax	pmax		
	com

CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,16.0s						
CN2				LR	LR		
	comp=E,600nm,16.0s						
CN2				LR	LR		
	comp=Z,600nm,16.0s						
JTM	**Tenmabayashi**	**53.90**	**23**	P	**P**	**01 59 55.5**	**+0.6**
MDJ	**Mudanjiang**	**54.03**	**12**	P	**P**	**01 59 58.6**	**+2.7**
MDJ	**Mudanjiang**	**54.03**	**12**	P	**P**	**01 59 55.8**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,79nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,480nm,6.5s						
USA0B	**Ussuriysk Arra**	**54.16**	**14**	P	**P**	**01 59 57.1**	**+0.3**
USA0B				IAmb	IAmb	01 59 58.4	
	comp=Z,36nm,0.8s						
USA0B	**Ussuriysk Arra**	**54.16**	**14**	P	**P**	**01 59 57.1**	**+0.3**
USA0B				pmax	pmax		
	comp=Z,36nm,0.8s						
USRK	**Ussuriysk Ar.**	**54.16**	**14**	P	**P**	**01 59 56.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**54.16**	**14**	P	**P**	**01 59 56.8**	**0.0**
	comp=Z,36nm,0.8s,baz=190,slow=7.0,SNR=68						
USRK				LR	LR	02 24 16.4	
	comp=Z,234nm,21.9s,baz=190,slow=38						
	comp=Z,36nm,0.8s						
BNX	**BinXian**	**54.73**	**9**	⇑P	**P**	**02 00 00.3**	**-0.6**
BNX				pP	**pP**	**02 00 05.5**	**-1.4**
BNX				S	**S**	**02 07 42.0**	**+1.5**
BNX				pmax	pmax		
	comp=Z,22nm,0.7s						
BNX				pmax	pmax		
	comp=Z,320nm,10.3s						
BNX				LR	LR		
	comp=Z,370nm,17.8s						
BNX				LR	LR		
	comp=Z,340nm,17.4s						
BNX				LR	LR		
	comp=Z,520nm,18.0s						
ERM	**Erimo**	**55.77**	**24**	P	**P**	**02 00 10.1**	**+1.6**
ERM	**Erimo**	**55.77**	**24**	P	**P**	**02 00 08.9**	**+0.5**
ERM				IAmb	IAmb	02 00 15.8	
	comp=Z,36nm,1.0s						
ERM	**Erimo**	**55.77**	**24**	P	**P**	**02 00 09.0**	**+0.5**
ERM				pmax	pmax		
	comp=Z,36nm,1.0s						
TEY	**Ternei**	**56.15**	**17**⇑	*e*P	**P**	**02 00 11.2**	**+0.1**
TEY				*e*		02 07 55.6	
TEY				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ULN	**Ulaanbaatar**	**56.57**	**352**	P	**P**	**02 00 14.2**	**-0.1**
ULN				IAmb	IAmb	02 00 16.4	
	comp=Z,18nm,0.8s						
ULN	**Ulaanbaatar**	**56.57**	**352**	*ce*P	**P**	**02 00 14.5**	**+0.2**
ULN				pmax	pmax		
	comp=Z,17nm,0.7s						
SONM	**Songino Array**	**56.63**	**352**	P	**P**	**02 00 14.6**	**-0.1**
SONM				IAmb	IAmb	02 00 16.7	
	comp=Z,33nm,0.8s						
SONM	**Songino Array**	**56.63**	**352**	P	**P**	**02 00 14.8**	**0.0**
	comp=Z,35nm,0.8s,baz=170,slow=7.2,SNR=145						
SONM				LR	LR	02 28 21.8	
	comp=Z,931nm,18.2s,baz=183,slow=40						
	comp=Z,35nm,0.8s						
SONM	**Songino Array**	**56.63**	**352**	P	**P**	**02 00 14.6**	**-0.1**
SONM				pmax	pmax		
	comp=Z,33nm,0.8s						
DCZ	**Deep Cove**	**57.09**	**140**	P	**P**	**02 00 18.3**	**+0.4**
MCQ	**Macquarie Isla**	**57.15**	**152**	P	**P**	**02 00 21.1**	**+3.0**
ASAJ	**Asahikawa**	**57.33**	**22**	LR	LR	02 26 52.9	
	comp=Z,270nm,20.2s,baz=170,slow=38						
ASAJ	**Asahikawa**	**57.33**	**22**	P	**P**	**02 00 19.7**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,63nm,1.1s						
JKA	**Kamikawa-asahi**	**57.33**	**22**	P	**P**	**02 00 19.7**	**+0.1**
JKA				IAmb	IAmb	02 00 29.4	
	comp=Z,63nm,1.1s						
HIA	**Hailar**	**57.44**	**3**	P	**P**	**02 00 21.2**	**+0.9**
HIA	**Hailar**	**57.44**	**3**	IAmb	IAmb	02 00 27.5	
	comp=Z,16nm,0.8s						
HIA	**Hailar**	**57.44**	**3**	*i* P	**P**	**02 00 20.6**	**+0.3**
HIA				pmax	pmax		
	comp=Z,18nm,0.9s						
JCZ	**Jackson Bay**	**57.62**	**137**	P	**P**	**02 00 23.3**	**+1.5**
MLZ	**Mavora Lakes**	**57.67**	**139**	P	**P**	**02 00 22.5**	**+0.4**
CASY	**Casey**	**57.99**	**183**	P	**P**	**02 00 24.3**	**+0.4**
CASY				IAmb	IAmb	02 00 33.0	
	comp=Z,30nm,0.9s						
WMQ	**Urumqi**	**58.09**	**336**	*e*P	**P**	**02 00 25.5**	**+0.5**
WMQ				pP	pP	02 00 31.5	+0.5
WMQ				PcP	**PcP**	**02 01 16.0**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,43nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,320nm,4.9s						
LBZ	**Lake Benmore**	**58.67**	**137**	P	**P**	**02 00 30.8**	**+1.7**
KLR	**Kul'dur**	**58.88**	**12**	*ce*P	**P**	**02 00 29.9**	**-0.4**
KLR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
RPZ	**Rata Peaks**	**59.02**	**136**	P	**P**	**02 00 33.6**	**+2.0**
RPZ	**Rata Peaks**	**59.02**	**136**	LR	LR	02 25 44.0	
	comp=Z,1μm,20.5s,baz=308,slow=36						
HEH	**HeiHe**	**59.13**	**8**	*e*P	**P**	**02 00 32.0**	**0.0**
HEH				pP	**sP**	**02 00 40.3**	**-0.5**
HEH				S	**S**	**02 08 38.5**	**+0.1**
HEH				sS	**sS**	**02 08 50.0**	**+1.4**
HEH				pmax	pmax		
	comp=Z,63nm,1.0s						
HEH				pmax	pmax		
	comp=Z,430nm,4.8s						
HEH				LR	LR		
	comp=Z,590nm,17.5s						
HEH				LR	LR		
	comp=Z,320nm,14.3s						
HEH				LR	LR		
	comp=Z,820nm,17.6s						
ZAK	**Zakamensk**	**59.59**	**350**	*e*P	**P**	**02 00 35.2**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
THZ	**Tophouse**	**59.70**	**134**	P	**P**	**02 00 37.3**	**+0.9**
RER	**Riviere de l'E**	**59.74**	**250**	P	**P**	**02 00 37.0**	**-0.1**
YSS	**Yuzh-Sakhalins**	**59.83**	**21**	P	**P**	**02 00 37.5**	**+0.6**
YSS	**Yuzh-Sakhalins**	**59.83**	**21**	P	**P**	**02 00 36.3**	**-0.6**
YSS	**Yuzh-Sakhalins**	**59.83**	**21**	*e*P	**P**	**02 00 37.3**	**+0.4**
YSS				*e*S	**S**	**02 08 46.3**	**-1.3**
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				pmax	pmax		
	comp=Z,400nm,6.1s						
MSVF	**Nonsavu**	**60.53**	**106**	P	**P**	**02 00 44.4**	**+2.0**
MSVF	**Nonsavu**	**60.53**	**106**	P	**P**	**02 00 44.0**	**+1.6**
MSVF	**Nonsavu**	**60.53**	**106**	P	**P**	**02 00 44.0**	**+1.6**
MSVF				pmax	pmax		
	comp=Z,139nm,1.8s						
KSH	**Kashi**	**60.59**	**325**	P	**P**	**02 00 41.0**	**-1.5**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSH				LR	LR		
	comp=Z,610nm,18.6s						
KSH				LR	LR		
	comp=Z,690nm,19.2s						
KSH				LR	LR		
	comp=Z,810nm,21.3s						
TARG	**Taragay, Kyrgy**	**61.12**	**328**	IAmb	IAmb	02 01 16.7	
	comp=Z,25nm,1.3s						
MOY	**Mondy**	**61.23**	**349**	*e*P	**P**	**02 00 46.4**	**-0.2**
MOY				pmax	pmax		
	comp=Z,37nm,1.5s						
IRK	**Irkutsk**	**61.24**	**352**	*e*P	**P**	**02 00 45.9**	**-0.6**
IRK				pmax	pmax		
	comp=Z,31nm,1.4s						
SHLS	**Shalkode**	**61.30**	**330**	*e*P	**P**	**02 00 45.2**	**-2.1**
	comp=Z,5.8nm,0.8s,baz=330						
SHLS	**Shalkode**	**61.30**	**330**	*e*P	**P**	**02 00 45.1**	**-2.1**
SHLS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GRNR	**Gornyy**	**61.37**	**14**⇑	*i* P	**P**	**02 00 48.3**	**+0.9**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
UZB	**Uzynbulak**	**61.51**	**330**	*e*P	**P**	**02 00 48.4**	**-0.3**
	comp=Z,5.5nm,1.0s,baz=330						
UZB	**Uzynbulak**	**61.51**	**330**	*e*P	**P**	**02 00 48.4**	**-0.3**
UZB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BKZ	**Black Stump Fm**	**61.66**	**130**	P	**P**	**02 00 51.6**	**+1.8**
BKZ	**Black Stump Fm**	**61.66**	**130**	P	**P**	**02 00 49.7**	**-0.1**
SATY	**Saty**	**61.75**	**329**	*e*P	**P**	**02 00 50.1**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=329						
SATY	**Saty**	**61.75**	**329**	*e*P	**P**	**02 00 50.0**	**-0.3**
SATY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBL	**Kabul**	**61.86**	**316**	P	**P**	**02 00 48.4**	**-2.9**
KBL	**Kabul**	**61.86**	**316**	P	**P**	**02 00 48.4**	**-2.9**
KBL				pmax	pmax		
	comp=Z,12nm,1.0s						
NRN	**Naryn**	**61.88**	**326**	P	**P**	**02 00 51.6**	**+0.2**
NRN	**Naryn**	**61.88**	**326**	P	**P**	**02 00 51.6**	**+0.2**
NRN				pmax	pmax		
	comp=Z,14nm,1.1s						
KPKS	**Kokpek**	**61.91**	**330**	*e*P	**P**	**02 00 50.1**	**-1.2**
	comp=Z,6.6nm,0.9s,baz=330						
KPKS	**Kokpek**	**61.91**	**330**	*e*P	**P**	**02 00 50.9**	**-0.4**
KPKS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
RTZ	**Ruatahuna**	**61.91**	**129**	P	**P**	**02 00 51.0**	**-0.5**
URZ	**Urewera**	**61.94**	**129**	LR	LR	02 29 39.2	
	comp=Z,1μm,18.1s,baz=21,slow=38						
ZSN	**Zaisan**	**62.20**	**336**	*e*P	**P**	**02 00 53.2**	**+0.1**
	comp=Z,5.8nm,0.8s,baz=336						
ZSN	**Zaisan**	**62.20**	**336**	*e*P	**P**	**02 00 53.2**	**+0.1**
ZSN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TNSS	**Tian-Shan**	**62.49**	**328**	*e*P	**P**	**02 00 54.8**	**-0.8**
	baz=328						
TNSS	**Tian-Shan**	**62.49**	**328**	*e*P	**P**	**02 00 54.7**	**-0.8**
ZEA	**Zeya**	**62.52**	**7**	*e*P	**P**	**02 00 55.5**	**+0.5**
ZEA				pmax	pmax		
	comp=N,30nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,30nm,1.0s						
MDOK	**Medeo**	**62.52**	**328**	*e*P	**P**	**02 00 54.9**	**-0.7**
	baz=328						
MDOK	**Medeo**	**62.52**	**328**	*e*P	**P**	**02 00 54.8**	**-0.7**
AAA	**Alma-Ata**	**62.63**	**328**	*e*P	**P**	**02 00 55.5**	**-0.6**
	baz=328						
AAA	**Alma-Ata**	**62.63**	**328**	*e*P	**P**	**02 00 55.5**	**-0.6**
BOOM	**Boomskoye usch**	**62.64**	**327**	IAmb	IAmb	02 01 15.0	
	comp=Z,30nm,1.2s						
MK31	**Makanchi Array**	**62.74**	**334**	IAmb	IAmb	02 00 59.3	
	comp=Z,18nm,0.9s						
MK31	**Makanchi Array**	**62.74**	**334**	*ce*P	**P**	**02 00 56.1**	**-0.6**
MKAR	**Makanchi Array**	**62.74**	**334**	P	**P**	**02 00 55.6**	**-1.1**
MKAR	**Makanchi Array**	**62.74**	**334**	P	**P**	**02 00 55.9**	**-0.9**
	comp=Z,19nm,0.8s,baz=147,slow=7.7,SNR=41						
MKAR				PKP2bc	**P'P'bc**	**02 30 05.5**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=296,slow=4.6,SNR=4.0						
MKAR				PKP2ab	**P'P'ab**	**02 30 11.7**	**-0.2**
	comp=Z,1.0nm,1.0s,baz=280,slow=2.2,SNR=4.1						
MKAR				LR	LR	02 31 16.9	
	comp=Z,416nm,18.2s,baz=148,slow=39						
	comp=Z,19nm,0.8s						
MAKZ	**Makanchi**	**62.89**	**334**	P	**P**	**02 00 56.8**	**-0.9**
MAKZ	**Makanchi**	**62.89**	**334**	P	**P**	**02 00 56.8**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CHKK	**Chushkaly**	**63.04**	**329**	*e*P	**P**	**02 00 58.4**	**-0.5**
	baz=329						
CHKK	**Chushkaly**	**63.04**	**329**	*e*P	**P**	**02 00 58.3**	**-0.5**
TYV	**Tymovskoe**	**63.19**	**18**	*e*P	**P**	**02 01 01.1**	**+1.6**
TYV				*e*S	**S**	**02 09 34.7**	**+4.6**
TYV				pmax	pmax		
	comp=Z,100nm,4.2s						
TYV				pmax	pmax		
	comp=Z,12nm,1.0s						
TYV				smax	smax		
	comp=N,300nm,6.8s						
TYV				smax	smax		
	comp=E,300nm,6.8s						
AAK	**Ala-Archa**	**63.52**	**327**	P	**P**	**02 01 01.7**	**-0.5**
AAK				IAmb	IAmb	02 01 21.7	
	comp=Z,22nm,1.0s						
AAK	**Ala-Archa**	**63.52**	**327**	LR	LR	02 33 00.1	
	comp=Z,749nm,18.9s,baz=141,slow=40						
AAK	**Ala-Archa**	**63.52**	**327**	*ce*P	**P**	**02 01 02.0**	**-0.2**
AAK				pmax	pmax		
	comp=Z,16nm,1.0s						
BTK	**Batken**	**63.97**	**322**	P	**P**	**02 01 03.9**	**-1.2**
SGDS	**Sogindy**	**64.00**	**327**	*e*P	**P**	**02 01 04.8**	**-0.4**
	comp=Z,6.3nm,0.9s,baz=327						
SGDS	**Sogindy**	**64.00**	**327**	*e*P	**P**	**02 01 04.7**	**-0.4**
SGDS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SIMJ	**Simiganj**	**64.25**	**320**	P	**P**	**02 01 04.7**	**-2.3**
SIMJ				IAmb	IAmb	02 01 28.0	
	comp=Z,15nm,1.1s						
WSAR	**Wadi Sarin**	**64.63**	**301**	LR	LR	02 30 13.9	
	comp=Z,415nm,18.9s,baz=139,slow=37						
BTLS	**Baital**	**65.38**	**328**	*e*P	**P**	**02 01 14.0**	**-0.1**
	baz=328						
BTLS	**Baital**	**65.38**	**328**	*e*P	**P**	**02 01 14.0**	**-0.1**
IUG	**Iuzhnay**	**65.73**	**324**	*e*P	**P**	**02 01 16.1**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=324						
IUG	**Iuzhnay**	**65.73**	**324**	*e*P	**P**	**02 01 16.1**	**-0.4**
IUG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BOD	**Bodaibo**	**65.96**	**359**	*e*P	**P**	**02 01 17.1**	**-0.4**
BOD				pmax	pmax		
	comp=Z,40nm,1.2s						
KK31	**Karatay Array**	**66.04**	**325**	P	**P**	**02 01 17.4**	**-1.0**
KK31	**Karatay Array**	**66.04**	**325**	P	**P**	**02 01 17.4**	**-1.0**
KK31				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KKAR	**Karatay Array**	**66.04**	**325**	P	**P**	**02 01 16.8**	**-1.6**
KKAR	**Karatay Array**	**66.04**	**325**	P	**P**	**02 01 16.8**	**-1.6**
SEM	**Semipalatinsk**	**66.40**	**336**	*e*P	**P**	**02 01 20.6**	**-0.3**
	baz=336						
SEM	**Semipalatinsk**	**66.40**	**336**	*e*P	**P**	**02 01 20.5**	**-0.3**
H04N2	**CROZET ISLANDS**	**66.53**	**223**	T	T	03 13 20.9	
	baz=76,slow=74,SNR=5.3						
H04N1	**CROZET ISLANDS**	**66.55**	**223**	T	T	03 13 24.3	
	baz=76,slow=74,SNR=4.9						
H04N3	**CROZET ISLANDS**	**66.55**	**223**	T	T	03 13 22.6	
	baz=76,slow=74,SNR=6.5						
KURBB	**Kurchatov Arra**	**67.28**	**335**	P	**P**	**02 01 24.9**	**-1.3**
	comp=Z,7.7nm,0.9s,baz=144,slow=5.5,SNR=27						
KURBB				PKPPKP	**P'P'df**	**02 29 50.5**	**+0.7**
	comp=Z,1.5nm,1.0s,baz=320,slow=3.1,SNR=6.9						
KURBB				LR	LR	02 33 14.7	
	comp=Z,722nm,21.4s,baz=151,slow=38						
	comp=Z,7.7nm,0.9s						
KURK	**Kurchatov**	**67.31**	**335**	P	**P**	**02 01 25.3**	**-1.0**
KURK				IAmb	IAmb	02 01 28.3	
	comp=Z,16nm,0.8s						
KURK	**Kurchatov**	**67.31**	**335**	P	**P**	**02 01 25.3**	**-1.0**
KURK				pmax	pmax		
	comp=Z,16nm,0.9s						
ZAA0	**Zalesovo Array**	**67.55**	**340**	IAmb	IAmb	02 01 28.8	
	comp=Z,20nm,0.9s						
ZALV	**Zalesovo Beam**	**67.55**	**340**	P	**P**	**02 01 25.3**	**-2.5**
ZALV	**Zalesovo Beam**	**67.55**	**340**	P	**P**	**02 01 25.6**	**-2.2**
	comp=Z,18nm,0.8s,baz=138,slow=5.1,SNR=51						
ZALV				PKPPKP	**P'P'df**	**02 29 48.7**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=242,slow=3.1,SNR=2.1						
ZALV				LR	LR	02 33 43.3	
	comp=Z,387nm,19.8s,baz=158,slow=38						
	comp=Z,18nm,0.8s						
ABPO	**Ambohimpanom**	**67.73**	**253**	P	**P**	**02 01 29.1**	**-0.8**
ABPO				IAmb	IAmb	02 01 42.8	
	comp=Z,17nm,1.0s						
ABPO	**Ambohimpanom**	**67.73**	**253**	P	**P**	**02 01 29.1**	**-0.8**
ABPO				pmax	pmax		
	comp=Z,17nm,1.0s						
VOI	**Vohitsoka**	**68.09**	**250**	P	**P**	**02 01 31.7**	**-0.4**
MAW	**Mawson**	**69.00**	**199**	P	**P**	**02 01 38.3**	**+1.7**
	comp=Z,39nm,0.9s,baz=49,slow=7.5,SNR=60						
MAW				LR	LR	02 25 35.5	
	comp=Z,354nm,21.9s,baz=48,slow=30						
	comp=Z,39nm,0.9s						
YAK	**Yakutsk**	**70.91**	**7**	P	**P**	**02 01 49.0**	**+0.6**
YAK	**Yakutsk**	**70.91**	**7**	LR	LR	02 35 30.7	
	comp=Z,170nm,20.7s,baz=189,slow=38						
YAK	**Yakutsk**	**70.91**	**7**	*e*P	**P**	**02 01 48.1**	**-0.3**
YAK				*e**PP	**pP**	**02 01 53.3**	**-1.1**
YAK				*e*		02 02 08.6	
YAK				*e*		02 04 24.4	
YAK				*e*PPP	PPP	02 06 07.3	
YAK				*e*S	**S**	**02 11 03.4**	**+0.6**
YAK				*e*		02 11 50.9	
YAK				*e*SS	**SS**	**02 15 38.5**	**+2.5**
YAK				pmax	pmax		
	comp=Z,56nm,1.1s						
YAK				pmax	pmax		
	comp=N,12nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,295nm,9.4s						
YAK				pmax	pmax		
	comp=N,131nm,7.8s						
YAK				pmax	pmax		
	comp=E,106nm,6.4s						
YAK				smax	smax		
	comp=E,225nm,7.8s						
YAK				smax	smax		
	comp=N,186nm,7.2s						
YAK				MLR	MLR		
	comp=Z,372nm,18.0s						
YAK				MLR	MLR		
	comp=N,355nm,25.0s						
YAK				MLR	MLR		
	comp=E,352nm,27.0s						
BVAR	**Borovoye Array**	**72.54**	**333**	P	**P**	**02 01 56.9**	**-1.6**
	comp=E,9.3nm,0.8s,baz=132,slow=6.6,SNR=48						
BVAR				LR	LR	02 38 14.0	
	comp=E,830nm,18.4s,baz=146,slow=40						
	comp=E,9.3nm,0.8s						
BRVK	**Borovoye**	**72.61**	**333**	P	**P**	**02 01 57.3**	**-1.6**
BRVK	**Borovoye**	**72.61**	**333**	*ce*P	**P**	**02 01 57.6**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MA2	**Magadan**	**73.03**	**17**	LR	LR	02 37 41.1	
	comp=Z,144nm,19.0s,baz=206,slow=39						
MA2	**Magadan**	**73.03**	**17**	*ce*P	**P**	**02 02 01.1**	**-0.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VNDA	**Vanda**	**73.04**	**171**	P	**P**	**02 02 01.9**	**+0.8**
VNDA				IAmb	IAmb	02 02 04.4	
	comp=Z,33nm,1.0s						
VNDA	**Vanda**	**73.04**	**171**	P	**P**	**02 02 02.2**	**+1.2**
	comp=Z,32nm,1.1s,baz=312,slow=5.7,SNR=87						
VNDA				LR	LR	02 34 19.7	
	comp=Z,348nm,18.1s,baz=312,slow=36						
	comp=Z,32nm,1.1s						
VNDA	**Vanda**	**73.04**	**171**	P	**P**	**02 02 01.9**	**+0.8**
VNDA				pmax	pmax		
	comp=Z,33nm,1.0s						
SBA	**Scott Base**	**74.06**	**170**	P	**P**	**02 02 09.2**	**+2.2**
SBA				IAmb	IAmb	02 02 21.5	
	comp=Z,36nm,1.1s						
SBA	**Scott Base**	**74.06**	**170**	P	**P**	**02 02 09.2**	**+2.2**
SBA				pmax	pmax		
	comp=Z,36nm,1.1s						
ABKAR	**Akbulak array**	**75.58**	**326**	P	**P**	**02 02 13.8**	**-2.5**
ABKAR	**Akbulak array**	**75.58**	**326**	P	**P**	**02 02 13.9**	**-2.3**
ABKAR				IAmb	IAmb	02 02 35.0	
	comp=Z,14nm,0.9s						
ATD	**Arta Tunnel**	**75.80**	**284**	LR	LR	02 33 42.3	
	comp=Z,7.7nm,18.9s,baz=115,slow=34						
RAYN	**Ar Rayn**	**76.14**	**297**	P	**P**	**02 02 17.8**	**-2.3**
RAYN	**Ar Rayn**	**76.14**	**297**	P	**P**	**02 02 17.8**	**-2.3**
RAYN				pmax	pmax		
	comp=Z,15nm,1.0s						
SEY	**Seymchan**	**76.21**	**16**	*ce*P	**P**	**02 02 19.3**	**-0.3**
SEY				pmax	pmax		
	comp=Z,13nm,1.3s						
AKTO	**Aktyubinsk**	**77.25**	**326**	LR	LR	02 42 06.7	
	comp=Z,706nm,18.1s,baz=124,slow=40						
KIBK	**Kibwezi**	**78.18**	**269**	P	**P**	**02 02 30.8**	**-1.0**
KIBK				IAmb	IAmb	02 02 48.7	
	comp=Z,17nm,1.0s						
KMBO	**Kilima Mbogo**	**79.14**	**270**	P	**P**	**02 02 36.9**	**-0.4**
KMBO	**Kilima Mbogo**	**79.14**	**270**	P	**P**	**02 02 36.9**	**-0.4**
KMBO				pmax	pmax		
	comp=Z,11nm,1.0s						
SVE	**Sverdlovsk**	**79.31**	**332**	*e*P	**P**	**02 02 35.9**	**-1.1**
SVE				pmax	pmax		
	comp=Z,21nm,1.2s						
FURI	**Furi**	**79.33**	**281**	P	**P**	**02 02 36.8**	**-1.6**
FURI				IAmb	IAmb	02 03 01.1	
	comp=Z,24nm,0.7s						
FURI	**Furi**	**79.33**	**281**	LR	LR	02 36 59.0	
	comp=Z,451nm,18.8s,baz=100,slow=35						
NRIK	**Noril'sk**	**80.05**	**350**	P	**P**	**02 02 40.1**	**-0.7**
NRIK	**Noril'sk**	**80.05**	**350**	P	**P**	**02 02 39.2**	**-1.5**
	comp=Z,5.5nm,0.9s,baz=117,slow=7.1,SNR=5.5						
	comp=Z,5.5nm,0.9s						
NRIK	**Noril'sk**	**80.05**	**350**	*ce*P	**P**	**02 02 39.9**	**-0.8**
NRIK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARU	**Arti**	**80.07**	**331**	P	**P**	**02 02 41.0**	**-0.1**
ARU	**Arti**	**80.07**	**331**	LR	LR	02 42 17.1	
	comp=Z,604nm,21.0s,baz=118,slow=39						
ARU	**Arti**	**80.07**	**331**	*ce*P	**P**	**02 02 39.0**	**-2.1**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TIXI	**Tiksi**	**80.25**	**4**	P	**P**	**02 02 40.1**	**-1.7**
TIXI				IAmb	IAmb	02 02 56.6	
	comp=Z,21nm,0.9s						
TIXI	**Tiksi**	**80.25**	**4**	LR	LR	02 42 16.3	
	comp=Z,588nm,18.8s,baz=212,slow=39						
TIXI	**Tiksi**	**80.25**	**4**	*ce*P	**P**	**02 02 40.3**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,13nm,1.0s						
MAK	**Makhachkala**	**80.60**	**316**	*e*P	P	02 02 39.5	-4.8
MAK				*e*		02 05 48.1	
MAK				*e*PPP	PPP	02 07 37.8	
MAK				*e*S	**S**	**02 12 43.2**	**-7.5**
MAK				*e*SS	**SS**	**02 18 02.8**	**-0.9**
MAK				*e*SSS	SSS	02 21 24.8	
MAK				MLR	MLR		
	comp=Z,597nm,18.0s						
RAR	**Rarotonga**	**81.27**	**110**	LR	LR	02 36 29.2	
	comp=Z,158nm,21.8s,baz=282,slow=34						
POGA	**Pongola**	**81.56**	**244**	P	**P**	**02 02 49.0**	**-0.9**
GNI	**Garni**	**81.62**	**313**	LR	LR	02 43 58.7	
	comp=Z,379nm,19.5s,baz=114,slow=39						
QSPA	**South Pole Qui**	**81.65**	**180**	P	**P**	**02 02 50.7**	**+1.1**
QSPA	**South Pole Qui**	**81.65**	**180**	P	**P**	**02 02 50.4**	**+0.8**
	comp=Z,42nm,1.0s,baz=322,slow=2.0,SNR=47						
QSPA				LR	LR	02 35 57.2	
	comp=Z,416nm,21.5s,baz=332,slow=33						
	comp=Z,42nm,1.0s						
LODK	**Lodwar**	**81.68**	**275**	P	**P**	**02 02 50.1**	**-0.6**
ELIB	**Princess Elisa**	**83.09**	**198**	*d*P	**P**	**02 02 57.9**	**+0.8**
	comp=Z,32nm,0.9s						
GURO	**Guroymak-BITLI**	**83.16**	**310**	P	**P**	**02 02 56.8**	**-1.3**
BILL	**Biiibino**	**83.88**	**17**⇓	*e*P	**P**

LSZ	**Lusaka**	**86.16 255**	P	**P**	**02 03 13.7**	**0.0**	
LSZ			pmax	pmax			
comp=Z,39nm,1.1s							
EIL	**Elat**	**86.76 300**	LR	LR	02 44 42.6		
comp=Z,476nm,18.8s,baz=96,slow=38							
NVL	**N'lazarevskaya**	**86.94 199**	*e*P	**P**	**02 03 14.1**	**-2.2**	
NVL			*e*S	**SKSac**	**02 13 42.6**	**+0.3**	
NVL			pmax	pmax			
comp=Z,22nm,1.0s							
NVL			MLR	MLR			
comp=Z,324nm,18.0s							
VRH	**Novokhopyorsk**	**87.01 323**	*e*P	**P**	**02 03 14.1**	**-2.8**	
VRH			pmax	pmax			
comp=Z,10.0nm,0.5s							
MMAI	**Mount Meron Ar**	**87.05 304**	LR	LR	02 47 15.7		
comp=Z,311nm,19.3s,baz=54,slow=39							
BOSA	**Boshof**	**87.09 242**	P	**P**	**02 03 18.3**	**+0.2**	
BOSA	**Boshof**	**87.09 242**	P	**P**	**02 03 17.9**	**-0.1**	
comp=Z,8.5nm,0.8s,baz=106,slow=3.9,SNR=20							
BOSA			LR	LR	02 39 34.2		
comp=Z,268nm,18.1s,baz=100,slow=34							
comp=Z,8.5nm,0.8s							
BOSA	**Boshof**	**87.09 242**	P	**P**	**02 03 18.3**	**+0.2**	
BOSA			pmax	pmax			
comp=Z,60nm,1.0s							
LBTB	**Lobatse**	**87.28 245**	P	**P**	**02 03 18.4**	**-0.6**	
LBTB	**Lobatse**	**87.28 245**	LR	LR	02 40 03.4		
comp=Z,184nm,18.2s,baz=104,slow=34							
LBTB	**Lobatse**	**87.28 245**	P	**P**	**02 03 18.4**	**-0.6**	
LBTB			pmax	pmax			
comp=Z,46nm,0.9s							
BNN	**Bunyan**	**87.92 310**	P	**P**	**02 03 22.2**	**+0.4**	
BNN			IAmb	IAmb	02 04 22.9		
comp=Z,30nm,1.2s							
VORD	**Divnogorie**	**88.42 322**	*e*P	**P**	**02 03 20.0**	**-3.6**	
VORD			pmax	pmax			
comp=Z,8.0nm,0.9s							
VSR	**Storozhevoye**	**88.56 322**	*e*P	**P**	**02 03 20.7**	**-3.6**	
VSR			pmax	pmax			
comp=Z,20nm,1.0s							
VORR	**Voronezh**	**88.66 323**	*e*P	P	02 03 17.9	-6.8	
VORR			pmax	pmax			
comp=Z,17nm,0.4s							
LPSR	**Galich'ya Gora**	**89.06 323**	*e*P	**P**	**02 03 23.4**	**-3.2**	
LPSR			pmax	pmax			
comp=Z,10.0nm,1.0s							
TROLL	**Troll, Antarti**	**89.29 197**	⇓P	**P**	**02 03 28.9**	**+1.3**	
comp=Z,859nm,0.6s							
BRTR	**Keskin Array B**	**89.77 310**	P	**P**	**02 03 27.9**	**-2.6**	
BRTR	**Keskin Array B**	**89.77 310**	P	**P**	**02 03 28.1**	**-2.3**	
comp=Z,1.3nm,0.8s,baz=122,slow=6.0,SNR=11							
BRTR			LR	LR	02 47 25.5		
comp=Z,142nm,19.8s,baz=112,slow=38							
comp=Z,1.3nm,0.8s							
BR131	**Keskin Array S**	**89.77 310**	P	**P**	**02 03 28.2**	**-2.3**	
BR131	**Keskin Array S**	**89.77 310**	P	**P**	**02 03 28.2**	**-2.3**	
BR131			pmax	pmax			
comp=Z,5.0nm,1.0s							
SUR	**Sutherland**	**90.30 237**	LR	LR	02 37 51.5		
comp=Z,172nm,21.0s,baz=107,slow=31							
SNAA	**Sanae**	**90.94 196**	P	**P**	**02 03 35.9**	**+0.7**	
SNAA	**Sanae**	**90.94 196**	⇓P	**P**	**02 03 36.3**	**+1.1**	
comp=Z,422nm,0.6s							
SNAA	**Sanae**	**90.94 196**	P	**P**	**02 03 36.3**	**+1.1**	
comp=Z,40nm,0.9s,baz=118,slow=4.2,SNR=68							
SNAA			LR	LR	02 38 21.1		
comp=Z,591nm,21.7s,baz=58,slow=32							
comp=Z,40nm,0.9s							
SNAA	**Sanae**	**90.94 196**	P	**P**	**02 03 35.9**	**+0.7**	
SNAA			pmax	pmax			
comp=Z,46nm,1.0s							
OBN	**Obninsk**	**91.03 326**	LR	LR	02 51 34.0		
comp=Z,499nm,18.6s,baz=138,slow=40							
PPT	**Papeete**	**91.28 108**	LR	LR	02 42 01.7		
comp=Z,131nm,21.3s,baz=289,slow=34							
VNA2	**Neumayer--Watz**	**92.58 196**	⇓P	**P**	**02 03 44.4**	**+1.6**	
comp=Z,22nm,0.6s,baz=120,slow=3.7							
VNA1	**Neumayer--Stat**	**92.97 196**	⇓P	**P**	**02 03 46.2**	**+1.7**	
comp=Z,19nm,0.8s							
VNA3	**Neumayer Olymp**	**93.00 195**	⇓P	**P**	**02 03 46.0**	**+1.3**	
comp=Z,25nm,0.9s							
MILM	**Milestii Mici**	**94.40 317**	*e*P	**P**	**02 03 51.0**	**-0.5**	
MILM	**Milestii Mici**	**94.40 317**	*e*PP	**PP**	**02 07 46.0**	**+6.9**	
MILM			*e*L	L	02 50 49.0		
MILM			LRM	MLR	02 53 43.0		
comp=Z,300nm,18.0s							
MILM	**Milestii Mici**	**94.40 317**	*e*P	**P**	**02 03 51.0**	**-0.5**	
MILM			*e*		02 07 46.0		
AKASG	**Malin Array Be**	**94.62 320**	LR	LR	02 53 19.8		
comp=Z,168nm,18.2s,baz=83,slow=40							
H17K	**Granite Mounta**	**94.81 25**	IAmb	IAmb	02 04 17.1		
comp=Z,14nm,1.1s							
TSUM	**Tsumeb**	**95.56 250**	LR	LR	02 40 33.4		
comp=Z,224nm,21.4s,baz=111,slow=31							
D19K	**Kuna River**	**96.03 22**	IAmb	IAmb	02 04 22.5		
comp=Z,7.5nm,0.9s							
G19K	**Purcell Mounta**	**96.14 24**	IAmb	IAmb	02 04 19.9		
comp=Z,5.3nm,0.8s							
MLR	**Muntele Rosu**	**96.22 315**	LR	LR	02 54 09.1		
comp=Z,410nm,19.6s,baz=95,slow=40							
E19K	**Redstone River**	**96.23 23**	IAmb	IAmb	02 04 35.9		
comp=Z,6.2nm,0.9s							
H19K	**Roundabout Mou**	**96.33 25**	IAmb	IAmb	02 04 24.0		
comp=Z,14nm,1.2s							
FINES	**FINESS Array B**	**97.43 331**	LR	LR	02 53 32.4		
comp=Z,420nm,18.3s,baz=88,slow=39							
KDAK	**Kodiak Island**	**97.51 33**	LR	LR	02 45 53.5		
comp=Z,133nm,20.7s,baz=263,slow=34							
ARCES	**ARCESS Array B**	**98.08 339**	LR	LR	02 55 44.5		
comp=Z,590nm,18.6s,baz=106,slow=40							
E22K	**Anaktuvuk Pass**	**98.33 22**	IAmb	IAmb	02 04 33.6		
comp=Z,8.8nm,1.1s							
G23K	**Bananza Creek**	**99.00 24**	IAmb	IAmb	02 04 36.2		
comp=Z,5.9nm,1.0s							
CRVS	**Cervenica-Dubn**	**99.49 318**	*e*P	**Pdif**	**02 04 20.2**	**+5.6**	
CRVS	**Cervenica-Dubn**	**99.49 318**	*e*PDIFF	**Pdif**	**02 04 20.2**	**+5.6**	
ILAR	**Eielson Array**	**100.34 26**	P	**Pdif**	**02 04 15.6**	**-2.3**	
comp=Z,0.2nm,0.7s,baz=292,slow=5.7,SNR=2.5							
ILAR			PP	**PP**	**02 08 21.4**	**-2.9**	
comp=Z,0.6nm,1.0s,baz=264,slow=7.2,SNR=4.5							
ILAR			PKKPbc	**PKKPbc**	**02 20 33.7**	**-3.4**	
comp=Z,0.6nm,0.9s,baz=105,slow=2.4,SNR=5.5							
GERES	**GERESS Array B**	**104.61 318**	PKKPbc	PKKPbc	02 20 22.9	-1.2	
comp=Z,0.3nm,0.5s,baz=280,slow=5.8,SNR=4.1							
NOA	**NORSAR Array B**	**104.62 331**	PKKP	**PKKPdf**	**02 20 30.0**	**-4.2**	
comp=Z,1.0nm,0.8s,baz=240,slow=1.9,SNR=3.8							
TORD	**Torodi Ar. Bea**	**115.85 281**		**PKPdf**	**02 09 13.5**	**-1.8**	
TORD	**Torodi Ar. Bea**	**115.85 281**	PKP	**PKPdf**	**02 09 13.2**	**-2.0**	
comp=Z,3.6nm,0.6s,baz=84,slow=3.7,SNR=31							
ESDC	**Sonseca Array**	**118.56 311**	PKP	**PKPdf**	**02 09 18.7**	**-1.2**	
comp=Z,1.0nm,0.6s,baz=33,slow=2.9,SNR=9.6							
ESDC			PKKPab	**PKKPab**	**02 19 39.0**	**-0.1**	
comp=Z,0.5nm,1.0s,baz=290,slow=3.8,SNR=2.8							
PCAB	**Cabril**	**120.98 314**	*e*PKPdf	**PKPdf**	**02 09 24.0**	**-0.5**	
PCBR	**Castelo Branco**	**121.14 312**	*e*PKPdf	**PKPdf**	**02 09 21.8**	**-3.0**	
PBAR	**Barrancos**	**121.26 310**	*e*PKPdf	**PKPdf**	**02 09 24.9**	**-0.1**	
PESTR	**Estremoz**	**121.49 311**	*e*PKPdf	**PKPdf**	**02 09 25.1**	**-0.4**	
DBIC	**Dimbokro**	**121.81 273**	PKP	**PKPdf**	**02 09 25.0**	**-1.8**	
comp=Z,8.8nm,1.0s,baz=136,slow=5.3,SNR=6.0							
DBIC	**Dimbokro**	**121.81 273**	PKIKP	**PKPdf**	**02 09 25.0**	**-1.8**	
MESJ	**Messejana**	**122.25 310**	*e*PKPdf	**PKPdf**	**02 09 26.7**	**-0.3**	
NVAR	**Mina Array Bea**	**122.54 50**		**PKPdf**	**02 09 27.6**	**-0.2**	
NVAR	**Mina Array Bea**	**122.54 50**	PKP	**PKPdf**	**02 09 26.9**	**-0.9**	
comp=Z,1.4nm,0.8s,baz=229,slow=3.4,SNR=9.4							
NVAR			PKKPbc	**PKKPbc**	**02 19 29.8**	**+6.9**	
comp=Z,1.0nm,0.9s,baz=111,slow=4.9,SNR=5.6							
MSO	**Missoula**	**122.55 39**	PKPdf	**PKPdf**	**02 09 26.7**	**-0.8**	
PFO	**Pinyon Flats O**	**125.28 55**	PKPdf	**PKiKP**	**02 09 33.5**	**+0.1**	
PFO	**Pinyon Flats O**	**125.28 55**	PKIKP	**PKiKP**	**02 09 33.5**	**+0.1**	
NRS	**Narsarsuaq**	**125.59 349**		PKPpre	02 09 24.6		
NRS	**Narsarsuaq**	**125.59 349**	PKIKP	PKPdf	02 09 24.6	-8.0	
PDAR	**Pinedale Array**	**127.14 42**		**PKPdf**	**02 09 35.3**	**-1.2**	
PDAR	**Pinedale Array**	**127.14 42**	PKP	**PKPdf**	**02 09 35.5**	**-1.1**	
comp=Z,2.3nm,1.1s,baz=249,slow=1.3,SNR=8.6							
ULM	**Lac du Bonnet**	**130.35 27**	SKPab	**SKPab**	**02 13 01.0**	**-3.5**	
comp=Z,2.0nm,1.0s,baz=301,slow=6.2,SNR=3.1							
PLCA	**Paso Flores**	**130.75 173**	PKP	**PKiKP**	**02 09 44.0**	**-0.1**	
comp=Z,1.5nm,0.6s,baz=215,slow=1.5,SNR=8.4							
PLCA			SKPab	**SKPbc**	**02 13 06.3**	**-0.2**	
comp=Z,11nm,1.2s,baz=178,slow=6.8,SNR=5.5							
TXAR	**Lajitas Array**	**136.98 56**	PKhKP	PKPpre	02 09 43.5		
comp=Z,0.5nm,0.8s,baz=263,slow=2.4,SNR=6.2							
TXAR			SKP	**SKPbc**	**02 13 26.6**	**-1.0**	
comp=Z,0.8nm,0.9s,baz=241,slow=3.0,SNR=4.5							
CCM	**Cathedral Cave**	**141.28 36**		PKPpre	02 09 55.8		
CCM	**Cathedral Cave**	**141.28 36**	PKHKP	PKPpre	02 09 55.8		
HKT	**Hockley**	**142.92 50**		**PKPdf**	**02 10 05.1**	**-0.7**	
HKT	**Hockley**	**142.92 50**	PKIKP	**PKPdf**	**02 10 05.1**	**-0.7**	
WCI	**Wyandotte Cave**	**143.86 31**		PKPpre	02 10 03.7		
WCI	**Wyandotte Cave**	**143.86 31**	PKIKP	PKPab	02 10 03.7	-0.7	
AC06	**Mina Casimiro**	**143.91 170**		**PKPdf**	**02 10 06.9**	**-0.9**	
WVT	**Waverly**	**144.58 35**		**PKPab**	**02 10 05.4**	**-1.7**	
WVT	**Waverly**	**144.58 35**	PKIKP	**PKPab**	**02 10 05.4**	**-1.7**	
CPUP	**Villa Florida**	**145.01 190**	PKPbc	**PKPbc**	**02 10 09.0**	**+0.1**	
comp=Z,106nm,1.0s,baz=169,slow=3.1,SNR=94							
HRV	**Adam Dziewonsk**	**145.25 10**		**PKPbc**	**02 10 08.1**	**-1.2**	
HRV	**Adam Dziewonsk**	**145.25 10**	PKIKP	**PKPbc**	**02 10 08.1**	**-1.2**	
SSPA	**Standing Stone**	**145.40 19**		**PKPbc**	**02 10 08.0**	**-1.8**	
LVC	**Limon Verde**	**148.80 170**	PKPbc	**PKiKP**	**02 10 21.5**	**-0.4**	
comp=Z,18nm,0.7s,baz=236,slow=1.8,SNR=19							
BDFB	**Brasilia**	**151.63 213**		**PKPbc**	**02 10 26.4**	**-0.7**	
BDFB	**Brasilia**	**151.63 213**	PKP	**PKPdf**	**02 10 21.7**	**+0.8**	
comp=Z,2.0nm,0.6s,baz=82,slow=8.6,SNR=3.8							
BDFB			PKPbc	**pPKPdf**	**02 10 27.5**	**-0.2**	
comp=Z,14nm,0.8s,baz=157,slow=3.7,SNR=17							
LPAZ	**La Paz**	**155.12 170**	PKP	**PKPdf**	**02 10 27.2**	**+0.7**	
comp=Z,2.7nm,0.9s,baz=68,slow=2.6,SNR=8.5							
LPAZ			PKPbc	**sPKPdf**	**02 10 36.5**	**+0.8**	
comp=Z,5.0nm,1.0s,baz=140,slow=2.5,SNR=12							
LPAZ			PKPab	**PKPab**	**02 10 52.6**	**+1.8**	
comp=Z,25nm,0.8s,baz=163,slow=4.8,SNR=24							
SIV	**San Ignacio**	**155.70 186**	PKP	**PKPdf**	**02 10 26.8**	**+0.2**	
comp=Z,2.6nm,0.9s,baz=153,slow=2.9,SNR=12							
SIV			PKPab	**PKPab**	**02 10 53.7**	**+1.1**	
comp=Z,26nm,0.9s,baz=170,slow=3.9,SNR=26							
ETMB	**Extrema**	**161.77 172**		**PKPab**	**02 11 19.5**	**+0.7**	
SAML	**Samuel**	**162.82 181**		**PKPdf**	**02 10 34.9**	**0.0**	
SAML	**Samuel**	**162.82 181**	PKIKP	**PKPdf**	**02 10 34.9**	**0.0**	
ROSC	**El Rosal**	**168.76 107**	PKPab	**PKPab**	**02 11 52.9**	**+2.3**	
comp=Z,7.6nm,1.0s,baz=49,slow=15,SNR=3.5							

*ISK **29** 01:53:41.9,38.°55N×25.°20E,h7km,ML3.4/30*
*IDC **29** 01:53:42.8±1.3,38.°58N×25.°47E,h0km,mb3.3/3,*
mbtmp3.3/7,ML3.2/3,Error ellipse: s-maj=25.1km
s-min=20.2km az=103.0
*THE **29** 01:53:44.1,38.°59N×25.°36E,h2km±1km,ML3.3/6,Error*
ellipse: s-maj=1.1km s-min=0.5km az=95.0
*ATH **29** 01:53:44.7,38.°57N×25.°38E,h19km±3km,ML3.2/20,Error*
ellipse: s-maj=3.5km s-min=0.9km az=61.0
ISC 29 01:53:44.1±1.1,38.°55N±0.°02×25.°36E±0.°02,h9km±9km,
n163,g0°93/182,mb3.4/3,13C-6D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.57**	**106**	Pg	**Pb**	**01 53 55.7**	**-0.6**
CHOS	**Chios island**	**0.57**	**106**	P	**Pb**	**01 53 56.2**	**-0.1**
CHOS				S	**Sb**	**01 54 04.3**	**-0.2**
CHOS	**Chios island**	**0.57**	**106**	P	**Pb**	**01 53 55.9**	**-0.3**
EAG2	**Marmaro, Chios**	**0.58**	**90**	P	**Pb**	**01 53 56.2**	**-0.4**
EAG2				S	**Sb**	**01 54 03.3**	**-1.7**
SKY	**Skiros Island**	**0.72**	**298**	P	**Pg**	**01 53 58.1**	**+0.1**
SKY	**Skiros Island**	**0.72**	**298**	P	**Pg**	**01 53 57.9**	**-0.1**
SKY				S	**Sg**	**01 54 07.7**	**+0.4**
SKY				AML	AML	01 54 10.2	
comp=E,3366μm,0.2s							
SKY				AML	AML	01 54 10.3	
comp=N,4455μm,0.4s							
CESE	**eme**	**0.77**	**106**	Pg	**Pb**	**01 53 59.4**	**-0.2**
SIGR	**SIGRI**	**0.77**	**30**	Pg	**Pg**	**01 53 58.5**	**-0.4**
SIGR				Sg	**Sb**	**01 54 09.4**	**-0.8**
SIGR	**SIGRI**	**0.77**	**30**	P	**Pg**	**01 53 58.7**	**-0.2**
SIGR				S	**Sg**	**01 54 09.0**	**+0.1**
comp=N,2μm,0.3s							
SIGR	**SIGRI**	**0.77**	**30**	P	**Pg**	**01 53 58.5**	**-0.4**
SIGR				S	**Sg**	**01 54 08.9**	**0.0**
SIGR				AML	AML	01 54 10.1	
comp=E,3532μm,0.2s							
SIGR				AML	AML	01 54 13.2	
comp=N,5336μm,0.4s							
URLA	**Izmir**	**0.98**	**101**	Pn	**Pn**	**01 54 03.5**	**-0.7**
URLA				Sn	**Sn**	**01 54 19.4**	**+1.1**
KYMI	**Kymi, Euboea I**	**0.99**	**275**	P	**Pb**	**01 54 02.8**	**-0.7**
KYMI				AML	AML	01 54 18.6	
comp=N,1183μm,0.5s							
KYMI				AML	AML	01 54 19.2	
comp=E,1536μm,0.9s							
PRK	**Paraskevi**	**0.99**	**45**	P	**Pg**	**01 54 02.9**	**-0.3**
PRK				AML	AML	01 54 19.6	
comp=E,6644μm,0.5s							
PRK				AML	AML	01 54 24.6	
comp=N,5890μm,0.6s							
FOCM	**Foa**	**1.08**	**81**	Pn	**Pn**	**01 54 05.5**	**0.0**
GPNR	**Gulpinar-Canak**	**1.09**	**33**	Pn	**Pb**	**01 54 04.5**	**-0.6**
CAND	**Candarli**	**1.20**	**70**	Pn	**Pg**	**01 54 07.4**	**+0.3**
DION	**Dionisos Attik**	**1.22**	**248**	P	**Pn**	**01 54 07.2**	**-0.2**
DION				S	**Sg**	**01 54 24.7**	**+1.4**
comp=N,2μm,0.5s							
DION	**Dionisos Attik**	**1.22**	**248**	P	**Pn**	**01 54 07.0**	**-0.4**
DION				AML	AML	01 54 30.7	
comp=E,3537μm,0.6s							
DION				AML	AML	01 54 30.7	
comp=N,1894μm,0.4s							
PTL	**Penteli**	**1.28**	**248**	P	**Pn**	**01 54 07.1**	**-1.2**
PTL				S	**Sg**	**01 54 27.2**	**+1.9**
PTL	**Penteli**	**1.28**	**248**	P	**Pn**	**01 54 06.9**	**-1.4**
PTL				AML	AML	01 54 28.7	
comp=E,1756μm,0.6s							
PTL				AML	AML	01 54 31.8	
comp=N,1889μm,0.9s							
GMLD	**Gumuldur**	**1.31**	**111**	Pn	**Pg**	**01 54 08.6**	**-0.6**
DKL	**Dikili**	**1.31**	**66**	Pn	**Pg**	**01 54 08.8**	**-0.5**
LIA	**Limnos Island**	**1.36**	**354**	P	**Pn**	**01 54 07.9**	**-1.4**
LIA				S	**Sn**	**01 54 27.6**	**+0.2**
comp=N,1μm,0.6s							
LIA	**Limnos Island**	**1.36**	**354**	P	**Pn**	**01 54 07.8**	**-1.5**
LIA				AML	AML	01 54 28.5	
comp=N,2704μm,0.7s							
LIA				AML	AML	01 54 31.2	
comp=E,2551μm,0.6s							
ATHU	**Athens Univers**	**1.37**	**246**	P	**Pn**	**01 54 08.9**	**-0.6**
ATHU				S	**Sg**	**01 54 29.4**	**+1.2**
ATHU	**Athens Univers**	**1.37**	**246**	P	**Pn**	**01 54 08.1**	**-1.4**
ATH	**Athens Observa**	**1.42**	**247**	P	**Pn**	**01 54 10.1**	**0.0**
ATH				S	**Sg**	**01 54 30.8**	**+1.1**
comp=E,628nm,0.4s							
ATH	**Athens Observa**	**1.42**	**247**	P	**Pn**	**01 54 09.4**	**-0.7**
ATH				AML	AML	01 54 33.7	
comp=E,1152μm,0.3s							
ATH				AML	AML	01 54 35.1	
comp=N,1408μm,0.5s							
VLY	**Voula,Athens**	**1.42**	**241**	P	**Pn**	**01 54 09.6**	**-0.5**
VLY				S	**Sg**	**01 54 30.8**	**+1.1**
comp=N,1μm,0.5s							
VLY	**Voula,Athens**	**1.42**	**241**	P	**Pn**	**01 54 08.8**	**-1.3**
VLY				AML	AML	01 54 33.5	
comp=E,2130μm,0.4s							
VLY				AML	AML	01 54 34.6	
comp=N,1896μm,0.6s							
EZNE	**Ezine-Canakkal**	**1.44**	**33**	Pn	**Pn**	**01 54 10.1**	**-0.3**
EZN	**Ezine**	**1.48**	**30**	Pn	**Pn**	**01 54 10.7**	**-0.3**
EZN	**Ezine**	**1.48**	**30**	P	**Pn**	**01 54 09.4**	**-1.6**
EZN				S	**Sb**	**01 54 30.8**	**+0.1**
APE	**Apeiranthos**	**1.48**	**175**	⇑P	**Pn**	**01 54 09.8**	**-1.3**
APE				⇑S	**Sn**	**01 54 28.5**	**-2.0**
APE	**Apeiranthos**	**1.48**	**175**	Pn	**Pn**	**01 54 09.7**	**-1.3**
APE	**Apeiranthos**	**1.48**	**175**	P	**Pn**	**01 54 10.6**	**-0.4**
APE				S	**Sg**	**01 54 33.2**	**+1.5**
comp=N,1μm,0.4s							
APE	**Apeiranthos**	**1.48**	**175**	P	**Pn**	**01 54 10.0**	**-1.0**
APE				AML	AML	01 54 34.3	
comp=E,2302μm,0.4s							
APE				AML	AML	01 54 34.4	
comp=N,1831μm,0.4s							
VILL	**Villia**	**1.66**	**257**	P	**Pn**	**01 54 12.8**	**-0.7**
VIL2	**Platees**	**1.68**	**259**	P	**Pn**	**01 54 12.5**	**-1.3**
VIL2				AML	AML	01 54 44.8	
comp=N,966μm,0.6s							
VIL2				AML	AML	01 54 49.1	
comp=E,1280μm,0.7s							
GADA	**Gvkgeada**	**1.69**	**14**	Pn	**Pn**	**01 54 13.3**	**-0.6**
GCAM	**G?zelcaml?**	**1.70**	**119**	Pn	**Pb**	**01 54 14.3**	**-1.3**
COMU	**Canakkale**	**1.77**	**29**	Pn	**Pn**	**01 54 14.7**	**-0.3**
SMTH	**Samothraki Isl**	**1.93**	**4**	P	**Pn**	**01 54 15.7**	**-1.4**
SMTH	**Samothraki Isl**	**1.93**	**4**	P	**Pn**	**01 54 15.3**	**-1.9**
YENI	**Yenice-Canakka**	**2.01**	**46**	Pn	**Pn**	**01 54 18.8**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.04**	**25**	Pn	**Pn**	**01 54 17.9**	**-0.8**
CMBO	**Columbo, Santo**	**2.07**	**179**	P	**Pn**	**01 54 19.3**	**+0.2**
CMBO	**Columbo, Santo**	**2.07**	**179**	P	**Pn**	**01 54 17.9**	**-1.2**
CMBO				AML	AML	01 54 58.4	
comp=N,2612μm,0.5s							
CMBO				AML	AML	01 55 02.3	
comp=E,2801μm,0.5s							
AYDB	**Zeytinkoy-Aydi**	**2.08**	**106**	Pn	**Pn**	**01 54 19.8**	**+0.5**
OUR	**Ouranopolis**	**2.08**	**329**	P	**Pn**	**01 54 18.2**	**-1.0**
OUR	**Ouranopolis**	**2.08**	**329**	P	**Pn**	**01 54 17.9**	**-1.3**
THR2	**Thira island,**	**2.10**	**178**	P	**Pn**	**01 54 18.6**	**-0.9**
KRND	**KRANIDI**	**2.10**	**237**	P	**Pn**	**01 54 19.1**	**-0.4**
KRND				S	**Sn**	**01 54 47.1**	**+1.3**
KRND	**KRANIDI**	**2.10**	**237**	P	**Pn**	**01 54 17.8**	**-1.7**
KRND				AML	AML	01 54 54.6	
comp=E,905μm,0.5s							
KRND				AML	AML	01 54 54.9	
comp=N,688μm,0.5s							
SAP3	**Santorini-Thir**	**2.11**	**180**	P	**Pn**	**01 54 19.2**	**-0.4**
SAP3	**Santorini-Thir**	**2.11**	**180**	P	**Pn**	**01 54 18.8**	**-0.9**
THAS	**Thassos island**	**2.12**	**347**	P	**Pn**	**01 54 17.8**	**-1.9**
LPK	**Lapseki**	**2.12**	**30**	Pn	**Pn**	**01 54 19.5**	**-0.3**
THR5	**Thira Island,**	**2.13**	**180**	P	**Pn**	**01 54 19.8**	**-0.1**
THR5	**Thira Island,**	**2.13**	**180**	P	**Pn**	**01 54 18.8**	**-1.0**
SNT1	**Gialos, Santor**	**2.13**	**179**	P	**Pn**	**01 54 20.0**	**+0.1**
SNT1	**Gialos, Santor**	**2.13**	**179**	P	**Pn**	**01 54 18.6**	**-1.3**
AXAR	**Agios Charalam**	**2.13**	**277**	P	**Pn**	**01 54 19.3**	**-0.6**
AXAR	**Agios Charalam**	**2.13**	**277**	P	**Pn**	**01 54 18.9**	**-1.1**
AXAR				AML	AML	01 54 59.6	
comp=E,773μm,0.8s							
AXAR				AML	AML	01 55 05.7	
comp=N,776μm,0.8s							
THR3	**Thira Island,**	**2.13**	**179**	P	**Pn**	**01 54 19.6**	**-0.4**
THR3	**Thira Island,**	**2.13**	**179**	P	**Pn**	**01 54 19.4**	**-0.6**
THR8	**Santorini-Mono**	**2.14**	**178**	P	**Pn**	**01 54 19.9**	**-0.1**
THR8	**Santorini-Mono**	**2.14**	**178**	P	**Pn**	**01 54 19.1**	**-0.9**
BODT	**Bodrum**	**2.14**	**133**	Pn	**Pn**	**01 54 20.5**	**+0.4**
BODT	**Bodrum**	**2.14**	**133**	P	**Pn**	**01 54 20.0**	**-0.1**
SNT5	**Nea Kammeni, S**	**2.14**	**179**	P	**Pn**	**01 54 19.2**	**-0.8**
ENZZ	**Sultanice-Enez**	**2.14**	**16**	Pn	**Pn**	**01 54 19.6**	**-0.5**
SANT	**Santorini**	**2.17**	**178**	⇑S	**Sn**	**01 54 46.9**	**-0.7**
SANT	**Santorini**	**2.17**	**178**	Pn	**Pn**	**01 54 19.6**	**-1.0**
SANT	**Santorini**	**2.17**	**178**	P	**Pn**	**01 54 20.7**	**+0.2**
SANT				AML	AML	01 54 58.7	
comp=N,381μm,0.4s							
SANT				AML	AML	01 54 59.2	
comp=E,934μm,0.5s							
THR9	**Santorini-Faro**	**2.19**	**180**	P	**Pn**	**01 54 20.8**	**+0.1**
THR9	**Santorini-Faro**	**2.19**	**180**	P	**Pn**	**01 54 19.9**	**-0.8**
THR6	**Thira Island,**	**2.19**	**179**	P	**Pn**	**01 54 20.2**	**-0.5**
THR6	**Thira Island,**	**2.19**	**179**	P	**Pn**	**01 54 20.0**	**-0.7**
ENEZ	**Enez**	**2.27**	**15**	Pn	**Pn**	**01 54 21.5**	**-0.3**
ENEZ	**Enez**	**2.27**	**15**	P	**Pn**	**01 54 21.2**	**-0.6**
ERIK	**Erikli-Kesan**	**2.30**	**22**	Pn	**Pn**	**01 54 21.7**	**-0.5**
GONE	**Gonen-Balikesi**	**2.34**	**50**	Pn	**Pn**	**01 54 23.5**	**+0.7**
PLG	**Polygyros**	**2.35**	**321**	P	**Pn**	**01 54 21.5**	**-1.5**
PLG				AML	AML	01 55 05.2	
comp=E,81μm,0.9s							
PLG				AML	AML	01 55 08.2	
comp=N,129μm,0.7s							
KRBG	**Karabiga-Canak**	**2.38**	**38**	Pn	**Pn**	**01 54 23.5**	**+0.2**
NAZL	**Nazilli-Aydin**	**2.38**	**103**	Pn	**Pn**	**01 54 24.1**	**+0.7**
ALN	**Alexandroupoli**	**2.41**	**12**	P	**Pn**

NOA	NORSAR Array B	24.19	343	P	P	01 59 01.4 +0.7
	comp=N,0.8nm,0.8s,baz=154,slow=8.8,SNR=3.3					
	comp=N,0.8nm,0.8s					
TORD	Torodi Ar. Bea	32.88	226	P	P	02 00 19.8 +1.2
	comp=N,0.3nm,0.5s,baz=42,slow=9.7,SNR=5.3					
	comp=N,0.3nm,0.5s					

*NOU **29** 02:05:00.7, 18.80S×176.81W, h586km, mb4.5/15, Fiji Islands Region*
*IDC **29** 02:05:04.1±3.5, 19.27S×177.62W, h546km±38km, mb3.4/13, mbtmp4.3/14, Error ellipse: s-maj=19.4km s-min=13.9km az=68.0*
*NEIC **29** 02:05:05.5±1.7, 19.3S±0.1×177.48W±0.08, h548km±9km, mb4.3/13, Error ellipse: s-maj=21.1km s-min=7.4km az=157.0*

ISC 29 02:05:04.5±0.4, 19.25S±0.09×177.56W±0.08, h550km, n94, σ1§35/97, mb4.3/24, 5C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.44	289	P	P	02 06 33.0	+3.1
MSVF	Nonsavu	4.44	289	P	P	02 06 32.3	+2.4
NIUE	Niue	7.21	90	P	P	02 06 55.4	+0.8
AFI	Afiamalu	7.67	47	P	P	02 06 58.4	-0.8
PINNC	Pines Island,	14.41	254	P	P	02 08 08.3	+0.4
YATNC	Mamie plateau,	14.82	256	P	P	02 08 14.4	+2.1
DZM	Mont Dzumac	15.24	257	P	P	02 08 18.9	+2.3
DZM	Mont Dzumac	15.24	257	P	P	02 08 17.4	+0.8
DZM				IAmb	IAmb	02 08 30.3	
	comp=Z,13nm,1.3s						
DZM	Mont Dzumac	15.24	257	P	P	02 08 08.4	-8.2
	comp=Z,1.4nm,0.5s,baz=82,slow=15,SNR=10						
KOUNC	Koumac, New Ca	17.13	263	P	P	02 08 35.3	+0.8
OUZ	Omahuta	17.73	204	P	P	02 08 42.0	+2.2
OUZ	Omahuta	17.73	204	P	P	02 08 41.3	+1.5
GRZ	Great Barrier	18.02	199	P	P	02 08 43.9	+1.5
WCZ	Waipu Caves	18.09	202	P	P	02 08 44.5	+1.4
KUZ	Kuaotunu	18.40	197	P	P	02 08 45.6	-0.3
KUZ	Kuaotunu	18.40	197	P	P	02 08 47.1	+1.2
MXZ	Matakaoa Point	18.60	190	P	P	02 08 48.9	+1.2
MBAZ	Motutapu North	18.67	199	P	P	02 08 50.0	+1.7
ETAZ	East Tamaki Re	18.83	199	P	P	02 08 51.3	+1.5
WMGZ	Waiomatatini S	18.83	190	P	P	02 08 50.0	+0.1
HAZ	Te Kaha	18.88	191	P	P	02 08 48.9	-1.3
MKAZ	Moumakai	18.90	198	P	P	02 08 51.5	+1.1
WTAZ	Waiatarua	18.92	200	P	P	02 08 52.5	+1.8
AWAZ	Awhitu Peninsu	19.02	199	P	P	02 08 52.9	+1.3
TWGZ	Tauwhareparae	19.25	191	P	P	02 08 54.3	+0.6
MWZ	Matawai	19.49	192	P	P	02 08 53.8	-2.1
URZ	Urewera	19.50	193	P	P	02 08 55.3	-0.6
URZ	Urewera	19.50	193	P	P	02 08 53.3	-2.6
	comp=Z,16nm,0.3s,baz=356,slow=2.3,SNR=32						
URZ	Urewera	19.50	193	P	P	02 08 53.7	-2.2
QRZ	Quartz Range	23.12	199	P	P	02 09 28.8	+0.3
RPZ	Rata Peaks	26.20	199	P	P	02 09 55.0	-0.7
JCZ	Jackson Bay	27.27	202	P	P	02 10 05.4	+0.2
WHZ	Wether Hill Ro	29.14	201	P	P	02 10 22.2	+0.8
CTAO	Charters Tower	34.05	262	P	P	02 11 04.0	+0.4
PMG	Port Moresby	35.49	281	P	P	02 11 16.4	+0.7
TOO	Toolangi	36.98	233	P	P	02 11 28.7	+1.0
COEN	Coen	37.94	272	P	P	02 11 36.2	+0.4
COEN				IAmb	IAmb	02 11 36.7	
	comp=Z,9.5nm,0.7s						
STKA	Stephens Creek	38.72	243	P	P	02 11 41.5	-0.4
	comp=Z,4.6nm,0.6s,baz=100,slow=8.2,SNR=6.0						
	comp=Z,4.6nm,0.6s						
HTT	Hallett	41.19	241	P	P	02 12 02.3	+0.6
LCRK	Leigh Creek	41.42	246	P	P	02 12 04.0	+0.5
WHYH	Whyalla	42.25	242	P	P	02 12 09.8	-0.2
WRA	Warramunga Arr	45.20	261	P	P	02 12 31.9	-1.2
	comp=Z,1.7nm,0.3s,baz=98,slow=7.7,SNR=53						
WRA				PcP	PcP	02 14 00.9	-0.7
	comp=Z,2.1nm,1.0s,baz=95,slow=3.6,SNR=5.9						
WRA				S	S	02 18 28.8	-4.5
	comp=Z,0.6nm,0.8s,baz=89,slow=16,SNR=5.0						
	comp=Z,1.7nm,0.3s						
ASAR	Alice Springs	45.22	255	P	P	02 12 33.0	-0.2
	comp=Z,2.3nm,0.4s,baz=85,slow=8.3,SNR=47						
ASAR				PcP	PcP	02 14 01.0	-0.7
	comp=Z,2.1nm,0.7s,baz=97,slow=4.4,SNR=7.2						
ASAR				S	S	02 18 29.7	-3.9
	comp=Z,2.1nm,0.8s,baz=92,slow=16,SNR=16						
	comp=Z,2.3nm,0.4s						
SBA	Scott Base	59.14	184	P	P	02 14 14.1	+2.1
SBA				IAmb	IAmb	02 14 14.9	
	comp=Z,14nm,1.0s						
VNDA	Vanda	59.18	185	P	P	02 14 13.3	+1.0
VNDA	Vanda	59.18	185	P	P	02 14 13.4	+1.0
	comp=Z,2.5nm,0.8s,baz=354,slow=7.6,SNR=30						
	comp=Z,2.5nm,0.8s						
CASY	Casey	65.27	205	P	P	02 14 51.5	-0.4
CASY				IAmb	IAmb	02 14 52.7	
	comp=Z,7.4nm,0.8s						
MJAR	Matsushiro Arr	69.46	323	P	P	02 15 17.1	-1.0
	comp=Z,3.4nm,0.7s,baz=160,slow=5.7,SNR=9.9						
	comp=Z,3.4nm,0.7s						
QSPA	South Pole Qui	70.81	180	P	P	02 15 26.2	+0.5
QSPA	South Pole Qui	70.81	180	P	P	02 15 26.3	+0.5
	comp=Z,17nm,0.9s,baz=19,slow=0.6,SNR=74						
	comp=Z,17nm,0.9s						
USRK	Ussuriysk Ar.	78.17	325	P	P	02 16 08.6	+1.3
	comp=Z,2.4nm,0.8s,baz=108,slow=5.1,SNR=6.0						
	comp=Z,2.4nm,0.8s						
NVAR	Mina Array Bea	79.83	43	P	P	02 16 17.0	+0.5
	comp=Z,0.6nm,0.7s,baz=225,slow=7.7,SNR=4.8						
	comp=Z,0.6nm,0.7s						
U15A	North Rim	82.81	48	P	P	02 16 32.8	+0.9
MAW	Mawson	82.88	200	P	P	02 16 30.5	-0.8
	comp=Z,3.4nm,0.6s,baz=134,slow=8.6,SNR=8.7						
	comp=Z,3.4nm,0.6s						
VHRN	Van Horn	85.61	55	P	P	02 16 46.6	+1.1
VHRN				IAmb	IAmb	02 16 47.3	
	comp=Z,2.5nm,0.8s						
TX31	Lajitas Ar. Si	86.03	57	P	P	02 16 48.4	+0.8
TXAR	Lajitas Array	86.03	57	P	P	02 16 48.8	+1.2
	comp=Z,1.4nm,0.7s,baz=222,slow=6.4,SNR=14						
	comp=Z,1.4nm,0.7s						
ILAR	Eielson Array	87.01	13	P	P	02 16 50.8	-0.4
	comp=Z,0.2nm,0.8s,baz=224,slow=6.3,SNR=1.9						
	comp=Z,0.2nm,0.8s						
DLMT	Dillon	87.16	40	P	P	02 16 53.5	+0.9
DLMT				IAmb	IAmb	02 16 54.2	
	comp=Z,9.5nm,1.2s						
PDAR	Pinedale Array	87.77	43	P	P	02 16 55.4	-0.3
	comp=Z,0.3nm,0.6s,baz=207,slow=4.8,SNR=3.5						
	comp=Z,0.3nm,0.6s						
ELIB	Princess Elisa	87.92	186	dP	P	02 16 55.0	-0.7
	comp=Z,13nm,0.7s						
HHC	Hu-ho-hao-te	88.79	314	eP	P	02 17 01.3	+1.1
HHC				pmax	pmax		
	comp=Z,210nm,7.1s						
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TROLL	Troll, Antarti	88.97	180	⇑P	P	02 16 60.0	-0.7
	comp=Z,354nm,0.8s						
SNAA	Sanae	89.24	178	P	P	02 17 01.1	-0.7
SNAA				IAmb	IAmb	02 17 01.5	
	comp=Z,3.8nm,0.8s						
SNAA	Sanae	89.24	178	⇑P	P	02 17 00.7	-1.0
	comp=Z,67nm,0.6s						
SNAA	Sanae	89.24	178	P	P	02 17 00.8	-1.0
	comp=Z,3.0nm,0.7s,baz=175,slow=4.8,SNR=9.6						
	comp=Z,3.0nm,0.7s						
VNA3	Neumayer Olymp	89.35	176	⇑P	P	02 17 01.4	-0.9
	comp=Z,14nm,0.5s						
VNA2	Neumayer--Watz	89.80	177	⇑P	P	02 17 03.8	-0.5
	comp=Z,9.3nm,0.6s,baz=181,slow=4.0						
VNA1	Neumayer--Stat	90.02	176	⇑P	P	02 17 04.9	-0.4
	comp=Z,11nm,0.9s						
PZH	PanZhiHua	90.50	298	P	P	02 17 10.3	+1.8
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ZALV	Zalesovo Beam	109.78	321	PKiKP	PKiKP	02 22 31.5	-1.5
	comp=Z,0.5nm,0.4s,baz=204,slow=1.4,SNR=1.8						
MKAR	Makanchi Array	110.64	314	PKiKP	PKiKP	02 22 33.1	-1.8
	comp=Z,0.4nm,0.5s,baz=37,slow=0.1,SNR=6.8						
BVAR	Borovoye Array	118.39	320	PKP	PKPdf	02 22 47.9	-1.6
	comp=Z,1.0nm,0.3s,baz=136,slow=1.7,SNR=4.5						
ARCES	ARCESS Array B	127.77	350	PKP	PKPdf	02 23 06.0	-1.1
	comp=Z,0.6nm,0.4s,baz=18,slow=1.9,SNR=12						
EKA	Eskdalemuir Ar	143.73	5	PKP	PKPab	02 23 34.4	-1.5
	comp=Z,1.5nm,0.8s,baz=328,slow=2.5,SNR=3.4						
BRTR	Keskin Array B	146.30	314	PKPbc	PKPbc	02 23 43.3	-1.0
	comp=Z,1.0nm,0.6s,baz=129,slow=5.5,SNR=8.0						
MMAI	Mount Meron Ar	147.54	302	PKPbc	PKPbc	02 23 47.8	+0.1
	comp=Z,2.3nm,0.5s,baz=78,slow=7.9,SNR=6.1						
KHC	Kasperske Hory	148.87	346		PKPbc	02 23 49.9	-0.6
GERES	GERESS Array B	149.11	345	PKPbc	PKPbc	02 23 50.5	-0.6
	comp=Z,1.3nm,0.8s,baz=23,slow=4.4,SNR=6.7						
CONA	Conrad Observa	149.38	342	ePKP	PKPbc	02 23 51.2	-0.6
	comp=Z,3.3nm,0.7s,SNR=5.4						
RONA	Rosalia, Austr	149.46	341	ePKP	PKPbc	02 23 51.4	-0.5
	comp=Z,2.4nm,0.6s						
MOA	Molln	149.90	344	ePKP	PKPbc	02 23 51.4	-1.5
	comp=Z,1.5nm,0.7s						
BIOA	Bad Ischl, Aus	150.20	345	ePKP	PKPbc	02 23 52.4	-1.3
	comp=Z,0.9nm,0.5s						
LESA	Schwarzleotal	150.68	346	iPKP	PKPbc	02 23 54.0	-0.8
	comp=Z,2.2nm,0.5s						
KBA	Koelnbreinsper	150.84	345	iPKP	PKPbc	02 23 54.2	-1.2
	comp=Z,2.7nm,0.6s						
WATA	Walderalm	151.01	347	ePKP	PKPbc	02 23 54.4	-1.3
	comp=Z,1.5nm,0.5s,SNR=4.2						
RETA	Reutte	151.03	348	ePKP	PKPbc	02 23 54.2	-1.4
	comp=Z,3.6nm,1.2s						
WTTA	Wattenberg	151.07	347	ePKP	PKPbc	02 23 54.8	-1.0
	comp=Z,4.5nm,0.5s,SNR=9.5						
MOTA	Moosalm	151.10	348	ePKP	PKPbc	02 23 54.8	-1.1
	comp=Z,1.8nm,0.8s						
MYKA	Terra Mystica	151.19	344	iPKP	PKPbc	02 23 54.4	-1.6
	comp=Z,2.0nm,0.5s						
SQTA	Sankt Quirin	151.20	348	iPKP	PKPbc	02 23 55.2	-0.9
	comp=Z,3.4nm,0.7s						
ABTA	Abfaltersbach	151.36	345	iPKP	PKPbc	02 23 55.0	-1.4
	comp=Z,4.2nm,0.6s,SNR=6.7						
FUORN	Ofenpass-Fuorn	151.96	348		PKPbc	02 23 57.6	-0.4
TORD	Torodi Ar. Bea	173.89	173	PKP	PKPdf	02 24 10.0	-2.0
	comp=Z,0.7nm,0.9s,baz=38,slow=3.3,SNR=4.3						
TORD				PKPab	PKPab	02 25 45.5	-0.7
	comp=Z,0.7nm,0.7s,baz=157,slow=3.8,SNR=3.7						

*IDC **29** 02:20:06.0±0.5, 8.28S×116.37E, h0km, mb4.3/16, mbtmp4.3/17, ML4.3/1, MS3.9/8, Error ellipse: s-maj=22.0km s-min=12.6km az=75.0*
*DJA **29** 02:20:08.9±0.3, 8.3S±2.1×117.6E±.1, h12km±2km, M5.0/31, mb5.0/31, mB5.5/7, MLv5.1/24, Mw4.7, Mw(mB)4.9/7*
*NEIC **29** 02:20:08.6±2.2, 8.41S±0.06×116.52E±0.05, h10km±1km, mb4.8/29, Error ellipse: s-maj=11.4km s-min=6.5km az=37.0*

ISC 29 02:20:08.4±0.4, 8.36S±0.05×116.53E±0.04, h10km, n135, σ1§49/127, mb4.5/31, MS3.9/7, 2C, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.51	138	P	Pn	02 20 20.9	-0.9
PLAI	Plampang	1.31	111	P	Pg	02 20 34.3	+0.6
SRBI	Singaraja	1.34	282	P	Pn	02 20 32.2	-0.9
DNP	Denpasar	1.35	256	P	Pg	02 20 34.0	-0.3
ABJI	Asem Bagus	2.34	284	P	Pn	02 20 47.8	+0.8
JAGI	Jajag, Banyuwa	2.36	267	P	Pn	02 20 46.5	-0.8
JAGI	Jajag, Banyuwa	2.36	267	Pn	Pn	02 20 46.2	-1.0
JAGI	Jajag, Banyuwa	2.36	267	P	Pn	02 20 46.4	-0.8
GRJI	Gresik	4.27	289	P	Pn	02 21 13.1	-0.4
BASI	Baing, Sumba	4.40	115	P	Pn	02 21 17.7	+2.4
BSSI	Bau Bau, Buton	4.50	61	P	Pn	02 21 16.2	-0.5
KAPI	Kappang	4.61	44	P	Pn	02 21 17.4	-0.8
KAPI	Kappang	4.61	44	Pn	Pn	02 21 17.2	-1.0
KAPI	Kappang	4.61	44	Pn	Pn	02 21 16.5	-1.7
	13nm,0.3s,baz=210,slow=4.6,SNR=22						
KAPI				Sn	Sn	02 22 08.3	-3.5
	72nm,0.3s,baz=89,slow=19,SNR=14						
KAPI				Lg	Lg	02 22 29.3	
	18nm,0.3s,baz=41,slow=19,SNR=2.6						
KAPI				LR	LR	02 23 19.8	
	comp=Z,2μm,20.1s,baz=196,slow=42						
	29nm,0.3s						
BKSI	Bulukumba	4.67	50	P	Pn	02 21 17.6	-1.4
PWJI	Pagerwojo	4.70	274	P	Pn	02 21 19.1	-0.3
EDFI	Ende, Flores	5.11	95	P	Pn	02 21 26.0	+0.8
	233nm,0.8s,3μm1.0nm						
BNSI	Bone	5.30	42	P	Pn	02 21 28.1	+0.4
MMRI	Maumere	5.65	93	P	Pn	02 21 35.4	+2.9
MMRI	Maumere	5.65	93		Pn	02 21 33.9	+1.4
MMRI	Maumere	5.65	93	P	Pn	02 21 34.5	+2.0
UWJI	Ujung Watu	5.87	289	P	Pn	02 21 34.7	-0.8
	208nm,1.1s,1.0nm						
UGM	Wanagama	5.97	274	P	Pn	02 21 39.7	+2.8
UGM	Wanagama	5.97	274	Pn	Pn	02 21 36.1	-0.8
UGM	Wanagama	5.97	274	P	Pn	02 21 37.4	+0.5
YOGI	Yogyakarta	6.20	275	P	Pn	02 21 41.2	+1.1
	200nm,1.5s,1.7nm						
BBSI	Bau Bau	6.64	65	P	Pn	02 21 46.9	+0.8
	76nm,0.7s,0.4nm						
BATI	Baumata	7.27	105	P	Pn	02 21 57.4	+2.6
	128nm,0.6s,0.5nm						
MTKI	Muara Teweh, K	7.55	347	P	Pn	02 21 57.3	-1.3
	101nm,0.5s						
SOEI	Soe	7.76	101	P	Pn	02 22 04.2	+2.5
SOEI	Soe	7.76	101	Pn	Pn	02 22 01.9	+0.3
SOEI	Soe	7.76	101	P	Pn	02 22 02.2	+0.5
	157nm,1.1s,3μm0.7nm						
BBJI	Bungbulang	8.85	275	P	Pn	02 22 19.9	+3.4
CNJI	Cibinong	9.38	276	P	Pn	02 22 26.0	+2.3
	50nm,1.1s						
TOLI2	Tolitoli	10.32	24	Pn	Pn	02 22 39.1	+2.5
SBUM	Sibu	11.57	338	Pn	Pn	02 22 53.8	+0.1
MBWA	Marble Bar	13.09	167	P	Pn	02 23 13.8	-0.8
MBWA	Marble Bar	13.09	167	Pn	Pn	02 23 12.3	-2.3
FITZ	Fitzroy Crossi	13.12	138	Pn	Pn	02 23 14.9	-0.1
PSA00	Pilbara Seismi	13.52	167	P	Pn	02 23 20.3	-0.1
PSA00	Pilbara Seismi	13.52	167		Pn	02 23 19.6	-0.8
PSA00	Pilbara Seismi	13.52	167		Pn	02 23 18.8	-1.6
KNRA	Kununurra	13.99	122	Pn	Pn	02 23 26.4	-0.5
KKM	Kota Kinabalu	14.31	359	Pn	Pn	02 23 34.1	+2.7
MTN	Manton Dam	15.02	108	Pn	Pn	02 23 39.5	-1.5
MTN				IAmb	IAmb	02 23 43.3	
	comp=Z,33nm,1.2s						
SWI	Sorong	16.45	64	P	Pn	02 23 58.1	-1.4
	comp=Z,36nm,1.2s						
FAKI	Fak Fak	16.54	72	P	Pn	02 24 01.0	+0.3
FAKI	Fak Fak	16.54	72	Pn	Pn	02 24 00.4	-0.4
FAKI	Fak Fak	16.54	72	P	Pn	02 24 00.3	-0.4
	comp=Z,38nm,0.9s						
BKNI	Bangkinang	17.69	298	P	P	02 24 17.0	+1.0
DAV	Davao City (W)	17.78	31		P	02 24 18.1	+1.1
DAV	Davao City (W)	17.78	31	LR	LR	02 32 30.6	
	comp=Z,468nm,20.3s,baz=178,slow=42						
MEEK	Meekatharra	18.29	174	P	P	02 24 24.4	+1.9
WRKA	Warakurna	20.02	147	P	Pn	02 24 43.5	+0.1
MORW	Morawa	20.61	181	P	Pn	02 24 51.5	+1.4
MORW	Morawa	20.61	181	P	Pn	02 24 48.8	-1.3
MORW				IAmb	IAmb	02 25 04.3	
	comp=Z,40nm,1.3s						
WB0	Warramunga Arr	20.68	125	P	P	02 24 49.2	+0.5
WB0				IAmb	IAmb	02 24 50.2	
	comp=Z,94nm,1.4s						
WRA	Warramunga Arr	20.73	126	P	P	02 24 49.2	-0.1
WRA	Warramunga Arr	20.73	126	P	P	02 24 49.5	+0.2
	comp=Z,19nm,0.8s,baz=300,slow=12,SNR=104						
	comp=Z,19nm,0.8s						
WB2	Warramunga Arr	20.74	126	P	P	02 24 49.0	-0.4
WB2				IAmb	IAmb	02 24 56.0	
	comp=Z,56nm,1.3s						
WR0	Warramunga Arr	20.90	125	P	P	02 24 50.9	-0.3
BLIU	Ballidu	22.14	180	P	P	02 25 05.9	+1.5
AS31	Alice Springs	22.55	134	P	P	02 25 08.5	-0.4
ASAR	Alice Springs	22.55	134	P	P	02 25 08.2	-0.7
ASAR	Alice Springs	22.55	134	P	P	02 25 09.7	+0.7
	comp=Z,14nm,0.9s,baz=314,slow=10,SNR=69						
ASAR				LR	LR	02 33 50.6	
	comp=Z,528nm,20.1s,baz=311,slow=36						
	comp=Z,14nm,0.9s						
AS01	Alice Springs	22.58	134	P	P	02 25 10.2	+1.0
MTKN	Mount Kenneth	23.47	182	P	P	02 25 20.0	+1.8
NWAO	Narrogin (SRO)	24.46	179	P	P	02 25 29.7	+2.1
FORT	Forrest	24.77	156	P	P	02 25 32.4	+2.0
FORT	Forrest	24.77	156	P	P	02 25 31.4	+1.0
QIS	Mount Isa	25.38	121	P	P	02 25 37.8	+1.7
OOD	Oodnadatta	26.48	139	P	P	02 25 46.4	+0.4
COEN	Coen	26.71	104	P	P	02 25 48.3	+0.1
COEN	Coen	26.71	104	P	P	02 25 47.8	-0.4
COEN				IAmb	IAmb	02 25 49.2	
	comp=Z,21nm,0.8s						
MULG	Mulgathing	27.29	145	P	P	02 25 53.8	+0.5
LCRK	Leigh Creek	29.90	140	P	P	02 26 17.5	+1.0
BBOO	Buckleboo	30.32	146	P	P	02 26 22.3	+2.1
BBOO	Buckleboo	30.32	146	P	P	02 26 19.7	-0.5
CTA	Charters Tower	31.02	115	P	P	02 26 27.7	+1.2
	comp=Z,0.2nm,0.8s,baz=281,slow=12,SNR=5.8						
CTAO	Charters Tower	31.02	115	P	P	02 26 26.6	+0.1
CMAR	Chiang Mai Arr	31.80	327	P	P	02 26 33.0	-0.4
CMAR	Chiang Mai Arr	31.80	327	P	P	02 26 34.6	+1.2
	comp=Z,1.4nm,0.3s,baz=148,slow=5.3,SNR=4.8						
HTT	Hallett	32.40	144	P	P	02 26 39.9	+1.3
STKA	Stephens Creek	33.02	139	P	P	02 26 44.1	+0.1
STKA	Stephens Creek	33.02	139	P	P	02 26 44.9	+0.9
	comp=Z,4.0nm,0.7s,baz=323,slow=13,SNR=8.4						
	comp=Z,4.0nm,0.7s						
GUMO	Guam	35.59	52	LR	LR	02 41 59.7	
	comp=Z,168nm,19.9s,baz=232,slow=37						
GYA	Guiyang	35.91	345	P	P	02 27 10.3	+1.1
GYA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
JOW	Kunigami	36.79	18	LR	LR	02 44 12.7	
	comp=Z,185nm,20.5s,baz=261,slow=39						
PZH	PanZhiHua	37.51	338	P	P	02 27 24.8	+2.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PALK	Pallekele	38.95	293	LR	LR	02 43 56.0	
	comp=Z,229nm,19.9s,baz=225,slow=37						
NJ2	Nanjing	40.24	3	eP	P	02 27 48.0	+2.5
NJ2				sP	sP	02 27 51.8	+1.9
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,390nm,5.4s						
SHL	Shillong	41.38	325	P	P	02 27 54.9	-0.3
SHL				IAmb	IAmb	02 29 24.6	
	comp=Z,11nm,0.7s						
XAN	Xi'an	42.78	351	P	P	02 28 11.0	+4.6
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HNR	Honiara	42.88	95	LR	LR	02 47 55.8	
	comp=Z,3μm,18.5s,baz=290,slow=39						
JCJ	Chichijima	43.13	34	LR	LR	02 44 35.4	
	comp=Z,53nm,21.7s,baz=144,slow=34						
JNU	Nakatsue	43.45	18	LR	LR	02 48 17.9	
	comp=Z,145nm,19.9s,baz=214,slow=39						
LZH	Lanzhou	45.80	346	eP	P	02 28 32.3	+1.7
LZH				pP	sP	02 28 40.3	+5.3
LZH				pmax	pmax		
	comp=Z,12nm,0.9s						
KSRS	Korea Array	46.80	12	P	P	02 28 38.5	+0.2
	comp=Z,1.1nm,0.7s,baz=186,slow=10,SNR=3.0						
	comp=Z,1.1nm,0.7s						
MJAR	Matsushiro Arr	49.09	23	P	P	02 28 55.0	-1.1
	comp=Z,3.2nm,0.9s,baz=197,slow=8.5,SNR=5.1						
	comp=Z,3.2nm,0.9s						
HHC	Hu-ho-hao-te	49.18	355	eP	P	02 28 59.0	+2.2
DZM	Mont Dzumac	49.83	112	P	P	02 29 01.0	-1.2
DZM				IAmb	IAmb	02 29 43.0	
	comp=Z,21nm,1.4s						
GTA	Gaotai	50.00	343	P	P	02 29 08.5	+5.4
GTA				pP	sP	02 29 15.8	+8.3
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
USA0B	Ussuriysk Arra	54.15	14	P	P	02 29 33.3	-0.5
USA0B				IAmb	IAmb	02 29 48.0	
	comp=Z,11nm,1.1s						
USRK	Ussuriysk Ar.	54.15	14	P	P	02 29 32.8	-1.0
	comp=Z,4.2nm,0.7s,baz=186,slow=7.2,SNR=10						
	comp=Z,4.2nm,0.7s						
ULN	Ulaanbaatar	56.60	352	P	P	02 29 50.9	-0.8
ULN				IAmb	IAmb	02 31 37.8	
	comp=Z,12nm,1.6s						
SONM	Songino Array	56.66	352	P	P	02 29 51.2	-0.8
SONM				IAmb	IAmb	02 30 03.5	
	comp=Z,26nm,2.0s						
SONM	Songino Array	56.66	352	P	P	02 29 51.7	-0.3
	comp=Z,3.8nm,0.7s,baz=170,slow=9.0,SNR=20						
	comp=Z,3.8nm,0.7s						
JKA	Kamikawa-asahi	57.31	22	P	P	02 29 55.4	-1.1
HEH	HeiHe	59.13	8	eP	P	02 30 07.5	-1.6
HEH				pmax	pmax		
	comp=Z,11nm,1.0s						
YSS	Yuzh-Sakhalins	59.81	20	P	P	02 30 13.2	-0.7
MK31	Makanchi Array	62.80	334	P	P	02 30 33.3	-0.9
MK31				IAmb	IAmb	02 31 19.7	
	comp=Z,4.6nm,1.2s						
MKAR	Makanchi Array	62.80	334	P	P	02 30 33.8	-0.4
MKAR	Makanchi Array	62.80	334	P	P	02 30 32.2	-2.0
	comp=Z,2.4nm,0.9s,baz=163,slow=7.1,SNR=5.7						
	comp=Z,2.4nm,0.9s						
KURBB	Kurchatov Arra	67.34	335	P	P	02 31 01.6	-1.9
	comp=

PWJI	Pagerwojo	4.63	273	P	Pn	02 23 01.3	+3.3
EDFI	Ende, Flores	5.18	95	P	Pn	02 23 07.9	+2.2
	236nm,1.6s						
MMRI	Maumere	5.71	94	P	Pn	02 23 14.6	+1.7
	370nm,1.1s						
BATI	Baumata	7.34	105	P	Pn	02 23 36.4	+1.0
	112nm,1.1s						
SOEI	Soe	7.83	101	P	Pn	02 23 43.7	+1.5
	238nm,0.9s						
PPSI	Pulau Pagai	17.28	288	P	P	02 25 51.3	+0.3
	206nm,0.7s						
KMPI	Kaimana, Papua	17.75	76	P	P	02 25 55.8	-0.4
	146nm,0.8s						
WRA	Warramunga Arr	20.80	126	P	P	02 26 29.6	0.0
	16nm,0.8s,baz=300,slow=12,SNR=8.3						
	16nm,0.8s						
ASAR	Alice Springs	22.62	134	P	P	02 26 50.0	+0.8
	66nm,1.3s,baz=311,slow=9.4,SNR=7.5						
	66nm,1.3s						
STKA	Stephens Creek	33.09	139	P	P	02 28 23.3	-0.8
	3.3nm,0.5s,baz=327,slow=12,SNR=3.7						
	3.3nm,0.5s						
KSRS	Korea Array	46.78	13	P	P	02 30 19.0	+1.4
	1.8nm,0.8s,baz=190,slow=8.0,SNR=2.3						
	1.8nm,0.8s						
MJAR	Matsushiro Arr	49.07	23	P	P	02 30 34.8	-0.7
	2.7nm,0.9s,baz=188,slow=7.4,SNR=3.0						
	2.7nm,0.9s						
USRK	Ussuriysk Ar.	54.13	14	P	P	02 31 13.3	+0.1
	3.1nm,0.7s,baz=188,slow=6.9,SNR=5.0						
	3.1nm,0.7s						
SONM	Songino Array	56.62	352	P	P	02 31 31.3	+0.1
	1.8nm,0.8s,baz=166,slow=8.7,SNR=3.6						
	1.8nm,0.8s						
MKAR	Makanchi Array	62.74	334	P	P	02 32 12.1	-1.2
	1.7nm,0.8s,baz=152,slow=6.8,SNR=2.8						
	1.7nm,0.8s						
KURBB	Kurchatov Arra	67.27	335	P	P	02 32 42.9	+0.2
	0.7nm,0.6s,baz=144,slow=5.7,SNR=2.6						
	0.7nm,0.6s						
ZALV	Zalesovo Beam	67.54	340	P	P	02 32 43.7	-0.6
	2.5nm,0.7s,baz=123,slow=5.3,SNR=3.2						
	2.5nm,0.7s						
MAW	Mawson	69.03	199	P	P	02 32 53.8	+0.3
	2.0nm,0.6s,baz=67,slow=7.7,SNR=2.9						
	2.0nm,0.6s						
VNDA	Vanda	73.05	171	P	P	02 33 18.5	+0.8
	1.8nm,0.8s,baz=322,slow=8.4,SNR=3.2						
	1.8nm,0.8s						
NRIK	Noril'sk	80.03	350	P	P	02 33 58.1	+0.9
	2.2nm,0.5s,baz=148,slow=3.7,SNR=2.3						
	2.2nm,0.5s						
QSPA	South Pole Qui	81.67	180	P	P	02 34 06.6	+0.2
	3.8nm,0.9s,baz=32,slow=4.8,SNR=3.8						
	3.8nm,0.9s						
BOSA	Boshof	87.13	242	P	P	02 34 34.6	-0.3
	0.9nm,0.6s,baz=84,slow=10,SNR=1.3						
	0.9nm,0.6s						
TROLL	Troll, Antarti	89.32	197	⇑Pdiff	P	02 34 45.9	+1.5
	comp=Z,157nm,0.6s						
SNAA	Sanae	90.97	196	⇑Pdiff	P	02 34 51.7	-0.3
	comp=Z,43nm,0.6s						
SNAA	Sanae	90.97	196	P	P	02 34 53.3	+1.3
	comp=Z,2.5nm,0.7s,baz=76,slow=4.2,SNR=4.8						
	comp=Z,2.5nm,0.7s						
TORD	Torodi Ar. Bea	115.88	281	PKP	PKPdf	02 40 29.9	-2.0
	comp=Z,0.3nm,0.5s,baz=80,slow=4.6,SNR=2.0						
CPUP	Villa Florida	145.04	190	PKPbc	PKPdf	02 41 26.1	-0.3
	comp=Z,5.1nm,0.7s,baz=128,slow=3.1,SNR=5.2						

*IDC **29** 02:29:53.4±3.7,7°.97S×116°.76E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=275.7km s-min=24.7km az=51.0*
*DJA **29** 02:29:53.6±0.5,8°.5±6°.×11°.7E±°, h10km, M3.8/6, MLv3.8/6*
ISC 29 02:29:54.0±0.9,8°.14S±0°.10×116°.53E±0°.06,h10km,n14,
σ0s83/13,mb3.8/3,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.69	150	P	Pg	02 30 07.7	+0.3
SRBI	Singaraja	1.30	272	P	Pn	02 30 17.3	-0.9
SRBI				S	Sn	02 30 35.8	+0.1
DNP	Denpasar	1.41	247	P	Pn	02 30 19.3	-0.4
PLAI	Plampang	1.42	119	P	Pg	02 30 20.5	-0.7
ABJI	Asem Bagus	2.30	278	P	Pn	02 30 31.0	-0.9
JAGI	Jajag, Banyuwa	2.37	262	P	Pn	02 30 32.9	-0.1
BSSI	Bau Bau, Buton	4.40	64	P	Pn	02 31 02.0	+1.1
BKSI	Bulukumba	4.53	52	P	Pn	02 31 02.7	0.0
PWJI	Pagerwojo	4.68	271	P	Pn	02 31 05.2	+0.5
EDFI	Ende, Flores	5.14	97	P	Pn	02 31 13.6	+2.4
WRA	Warramunga Arr	20.86	126	P	P	02 34 35.0	-1.4
	1.2nm,1.0s,baz=300,slow=12,SNR=3.4						
	1.2nm,1.0s						
ASAR	Alice Springs	22.71	135	P	P	02 34 57.4	+1.2
	0.7nm,0.5s,baz=308,slow=9.1,SNR=2.6						
	0.7nm,0.5s						
MKAR	Makanchi Array	62.60	334	P	P	02 40 18.6	+0.2
	0.5nm,0.7s,baz=128,slow=9.3,SNR=3.5						
	0.5nm,0.7s						
ZALV	Zalesovo Beam	67.39	340	P	P	02 40 50.3	+0.9
	0.4nm,0.3s,baz=132,slow=4.3,SNR=2.8						
	0.4nm,0.3s						

DJA 29 02:33:44.9±0.3,9°.5±8°.×11°.6E±°, h18km±3km, M3.7/7, mb4.0/1, MLv3.6/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.56	114	P	Pb	02 33 56.4	+0.2
TWSI				S	Sg	02 34 02.0	-1.8
DNP	Denpasar	1.15	262	P	Pn	02 34 05.3	-0.8
SRBI	Singaraja	1.21	290	P	Pn	02 34 07.1	+0.1
SRBI				S	Sn	02 34 23.0	+0.1
PLAI	Plampang	1.44	103	P	Pn	02 34 10.0	-0.1
PLAI				S	Sb	02 34 29.3	+0.2
JAGI	Jajag, Banyuwa	2.18	271	P	Pn	02 34 20.6	+0.2
BSSI	Bau Bau, Buton	4.72	60	P	Pn	02 34 51.1	-4.2
BKSI	Bulukumba	4.90	50	P	Pn	02 34 56.7	-1.0
EDFI	Ende, Flores	5.28	93	P	Pn	02 35 01.6	-1.4

OMAN 29 02:36:32.3±0.2,14°.63N×57°.90E, h10km, mb4.4/5, Error ellipse: s-maj=2.8km s-min=2.0km az=342.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAO	Shalim	4.02	327	P	Pn	02 37 33.5	-0.4
	SNR=8.5						
SHAO				S	Sn	02 38 22.3	+1.2
DMTO	DMTO	4.18	318	P	Pn	02 37 36.1	-0.1
	SNR=9.1						
DMTO				S	Sn	02 38 26.3	+1.3
ABTO	Aybut	5.19	302	P	Pn	02 37 49.9	-0.2
DQM	DQM	5.28	356	P	Pn	02 37 51.8	+0.5
DQM				S	Sn	02 38 53.5	+1.2
MHTO	MHTO	6.32	1	P	Pn	02 38 04.2	-1.3
	SNR=13						
JMDO	Jabal Madar	7.70	1	P	Pn	02 38 24.2	-0.3
WBK	Wadi Bani Khal	8.00	7	P	Pn	02 38 27.3	-1.4
	SNR=23						
SMDO	Samad	8.39	1	P	Pn	02 38 33.1	-1.0
ARQ	Araqi	8.76	352	P	Pn	02 38 40.3	+1.2
	SNR=9.7						
HOQ	Hoqain	8.92	357	P	Pn	02 38 42.6	+1.3
SOHO	SOHO	9.54	352	P	Pn	02 38 50.5	+0.8
ASHO	Ashiyiah	10.15	350	P	Pn	02 38 58.5	+0.3
UOSS	Minazif	10.38	351	P	Pn	02 39 02.1	+0.7
MASF	Masafi	10.81	352	P	Pn	02 39 08.0	+0.7

DJA 29 02:56:07.8±0.3,9°.5±6°.×11°.6E±°, h12km±2km, M4.0/12, mb4.3/1, MLv3.9/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.48	112	P	Pb	02 56 19.3	+1.1
TWSI	Taliwang, Sumb	0.48	112	P	Pb	02 56 18.6	+0.4
TWSI				S	Sb	02 56 25.1	-0.2
DNP	Denpasar	1.21	264	P	Pg	02 56 32.3	+1.2
DNP	Denpasar	1.21	264	P	Pn	02 56 29.3	-1.3
SRBI	Singaraja	1.29	291	P	Pn	02 56 30.9	-0.8
SRBI	Singaraja	1.29	291	P	Pn	02 56 29.7	-2.0
PLAI	Plampang	1.36	101	P	Pb	02 56 33.3	+0.1
PLAI	Plampang	1.36	101	P	Pb	02 56 33.0	-0.2
PLAI				S	Sg	02 56 52.9	+1.3
JAGI	Jajag, Banyuwa	2.25	272	P	Pn	02 56 44.9	-0.1
JAGI	Jajag, Banyuwa	2.25	272	P	Pn	02 56 44.0	-1.0
ABJI	Asem Bagus	2.30	289	P	Pb	02 56 47.7	-1.6
ABJI	Asem Bagus	2.30	289	P	Pb	02 56 49.1	-0.2
PWJI	Pagerwojo	4.61	276	P	Pn	02 57 17.8	+0.5
PWJI	Pagerwojo	4.61	276	P	Pn	02 57 18.0	+0.7
BSSI	Bau Bau, Buton	4.69	59	P	Pn	02 57 14.2	-4.3
BSSI	Bau Bau, Buton	4.69	59	P	Pn	02 57 14.4	-4.1
BKSI	Bulukumba	4.88	49	P	Pn	02 57 21.2	+0.2
BKSI	Bulukumba	4.88	49	P	Pn	02 57 22.9	+1.9
EDFI	Ende, Flores	5.21	92	P	Pn	02 57 24.8	-0.8
EDFI	Ende, Flores	5.21	92	P	Pn	02 57 23.4	-2.2

*IDC **29** 03:00:49.4±4.5, 15°.11S×167°.43E, h120km±38km, mb3.8/8, mbtmp4.2/9, MS3.2/1, Error ellipse: s-maj=30.3km s-min=25.1km az=64.0*
*NOU **29** 03:00:49.3, 14°.99S×167°.42E, h113km, ML4.4/12, Vanuatu Islands*
*NEIC **29** 03:00:52.0±1.4, 15°.22S±0°.03×167°.4E±0°.2, h125km±10km, mb4.3/12, Error ellipse: s-maj=24.7km s-min=3.5km az=98.0*
ISC 29 03:00:50.1±0.7,15°.09S±0°.08×167°.5E±0°.1,h129km,n53,
σ1s23/50,mb4.4/15,5C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	2.71	165	P	Pn	03 01 33.7	+0.8
RTV	Rentapao	2.84	161	P	Pn	03 01 34.9	+0.3
LIFNC	LIFOU	5.66	182	P	Pn	03 02 11.3	-0.7
LIFNC	LIFOU	5.66	182	Pn	Pn	03 02 11.5	-0.5
KOUNC	Koumac, New Ca	6.21	209	P	Pn	03 02 19.7	+0.3
KOUNC	Koumac, New Ca	6.21	209	Pn	Pn	03 02 19.2	-0.2
MARNC	Mare, Loyalty	6.38	175	P	Pn	03 02 22.4	+0.8
YATNC	Mamie plateau,	6.95	184	P	Pn	03 02 29.7	+0.3
DZM	Mont Dzumac	7.01	188	P	Pn	03 02 30.7	+0.5
DZM	Mont Dzumac	7.01	188	Pn	Pn	03 02 30.1	-0.1
DZM	Mont Dzumac	7.01	188	P	Pn	03 02 30.4	+0.1
	11nm,0.4s,baz=90,slow=19,SNR=54						
DZM				S	Sn	03 03 46.5	-2.1
	13nm,0.4s,baz=150,slow=20,SNR=1.9						
ONTNC	Ouen Toro	7.24	187	P	Pn	03 02 34.5	+1.2
ONTNC	Ouen Toro	7.24	187	Pn	Pn	03 02 33.4	+0.2
PINNC	Pines Island,	7.48	180	Pn	Pn	03 02 36.5	0.0
EIDS	Eidsvold	18.44	234		P	03 04 56.3	+0.6
TOZ	Tahuroa Road	23.65	164	P	P	03 05 50.8	+1.2
TOZ				IAmb	IAmb	03 05 52.9	
	comp=Z,26nm,0.7s						
HIZ	Hauiti	24.23	166	P	P	03 05 57.1	+2.3
BKZ	Black Stump Fm	25.26	163	P	P	03 06 04.6	+0.3
BKZ				IAmb	IAmb	03 06 07.7	
	comp=Z,15nm,1.1s						
STKA	Stephens Creek	28.90	230	P	P	03 06 38.6	+1.8
STKA	Stephens Creek	28.90	230	P	P	03 06 38.2	+1.3
	comp=Z,5.6nm,0.6s,baz=55,slow=6.1,SNR=6.1						
	comp=Z,5.6nm,0.6s						
WB0	Warramunga Arr	31.85	257	P	P	03 07 01.9	-1.2
WB0				IAmb	IAmb	03 07 07.6	
	comp=Z,2.4nm,0.9s						
WB2	Warramunga Arr	31.90	256	P	P	03 07 05.6	+2.1
WB2				IAmb	IAmb	03 07 24.8	
	comp=Z,3.4nm,1.1s						
WRA	Warramunga Arr	31.91	256	P	P	03 07 02.4	-1.3
	comp=Z,0.8nm,0.8s,baz=86,slow=8.3,SNR=4.9						
	comp=Z,0.8nm,0.8s						
AS31	Alice Springs	32.71	250	P	P	03 07 10.1	-0.5
ASAR	Alice Springs	32.72	250	P	P	03 07 10.4	-0.2
ASAR	Alice Springs	32.72	250	P	P	03 07 09.8	-0.8
	comp=Z,3.4nm,0.8s,baz=80,slow=9.1,SNR=26						
	comp=Z,3.4nm,0.8s						
BBOO	Buckleboo	33.50	233	P	P	03 07 18.2	+0.9
GUMO	Guam	36.22	321	LR	LR	03 21 52.4	
	comp=Z,41nm,21.7s,baz=212,slow=35						
FORT	Forrest	39.27	240	P	P	03 08 05.7	-0.6
VNDA	Vanda	62.50	181	P	P	03 10 59.7	+0.3
VNDA				IAmb	IAmb	03 11 02.6	
	comp=Z,1.3nm,0.8s						
VNDA	Vanda	62.50	181	P	P	03 10 59.8	+0.4
	comp=Z,1.3nm,0.7s,baz=356,slow=7.5,SNR=13						
	comp=Z,1.3nm,0.7s						
SBA	Scott Base	62.78	180	P	P	03 11 02.2	+1.1
SBA				IAmb	IAmb	03 11 03.7	
	comp=Z,5.9nm,1.1s						
SONM	Songino Array	82.89	324	P	P	03 13 01.0	+0.5
	comp=Z,1.3nm,0.8s,baz=144,slow=4.4,SNR=7.1						
	comp=Z,1.3nm,0.8s						
ILAR	Eielson Array	86.81	18	P	P	03 13 18.6	-0.9
	comp=Z,0.4nm,1.0s,baz=236,slow=6.4,SNR=2.6						
	comp=Z,0.4nm,1.0s						
TROLL	Troll, Antarti	92.52	185	⇑P	P	03 13 46.8	+0.3
	comp=Z,220nm,0.5s						
SNAA	Sanae	93.20	183	⇑P	P	03 13 48.7	-0.8
	comp=Z,40nm,0.6s						
SNAA	Sanae	93.20	183	P	P	03 13 48.7	-0.8
	comp=Z,1.6nm,0.6s,baz=168,slow=6.1,SNR=6.0						
	comp=Z,1.6nm,0.6s						
VNA3	Neumayer Olymp	93.86	181	⇑P	P	03 13 51.3	-1.2
	comp=Z,6.8nm,0.6s						
VNA2	Neumayer--Watz	94.12	182	⇑P	P	03 13 50.1	-3.6
	comp=Z,3.9nm,0.5s,baz=276,slow=2.4						
VNA1	Neumayer--Stat	94.42	181	⇑P	P	03 13 51.5	-3.5
	comp=Z,1.9nm,0.7s						
MKAR	Makanchi Array	97.59	316	P	Pdif	03 14 11.1	+1.2
	comp=Z,1.0nm,0.7s,baz=91,slow=4.9,SNR=6.7						
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	120.65	345	PKP	PKPdf	03 19 26.2	+0.1
	comp=Z,1.0nm,0.5s,baz=82,slow=1.7,SNR=12						
WTTA	Wattenberg	142.15	333	*e*PKP	PKPdf	03 20 07.7	+0.4
	comp=Z,2.2nm,0.9s						
MOTA	Moosalm	142.32	333	*e*PKiKP	PKiKP	03 20 11.4	+0.8
	comp=Z,3.6nm,1.3s						
FETA	Feichten	142.73	333	*e*PKP	PKPdf	03 20 06.1	-2.2
	comp=Z,2.4nm,0.7s						
DAVA	Damuels	142.88	335	*e*PKP	PKPdf	03 20 06.4	-2.2
	comp=Z,2.9nm,0.7s						
FUORN	Ofenpass-Fuorn	143.25	333		PKPpre	03 20 07.8	
TUE	Stuetta	143.75	334	PKPpre	PKPpre	03 20 08.9	
SENIN	Lac Senin/Sane	144.67	336		PKPdf	03 20 11.7	-0.2
INTR	Introdacqua	144.79	325		PKPdf	03 20 12.0	0.0
TIP	Timpagrande	144.84	319		PKPdf	03 20 12.5	+0.3
KEST	Kesra	151.60	320	PKPbc	PKiKP	03 20 30.4	+0.3
	comp=Z,2.8nm,0.7s,baz=0.0,slow=3.0,SNR=6.7						
TORD	Torodi Ar. Bea	166.06	264	PKP	PKPdf	03 20 40.3	-0.4
	comp=Z,0.9nm,0.7s,baz=50,slow=1.4,SNR=10.0						

*IDC **29** 03:03:21.1±1.4, 8°.20S×116°.56E, h0km, mb3.4/4, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=34.1km s-min=25.9km az=75.0*
*DJA **29** 03:03:23.5±0.4, 8°.5±3°.×11°.7E±°, h13km±3km, M4.4/13, mb4.4/9, MLv4.5/13*
ISC 29 03:03:22.8±0.7,8°.30S±0°.09×116°.54E±0°.04,h10km,n17,
σ1s26/17,mb3.5/3,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.55	142	P	Pn	03 03 35.2	-1.5
PLAI	Plampang	1.33	113	P	Pg	03 03 49.0	+0.6
SRBI	Singaraja	1.33	279	P	Pb	03 03 46.2	-1.8
DNP	Denpasar	1.37	254	P	Pg	03 03 49.4	+0.2
JAGI	Jajag, Banyuwa	2.37	266	P	Pn	03 04 01.0	-0.8
BSSI	Bau Bau, Buton	4.47	62	P	Pn	03 04 30.7	0.0
KAPI	Kappang	4.56	45	Pn	Pn	03 04 31.4	-0.6
	2.9nm,0.3s,baz=179,slow=2.4,SNR=14						
KAPI				Sn	Sn	03 05 22.9	-2.2
	2.7nm,0.3s,baz=259,slow=23,SNR=6.3						
	7.1nm,0.2s						
PWJI	Pagerwojo	4.70	273	P	Pn	03 04 33.9	0.0
EDFI	Ende, Flores	5.11	95	P	Pn	03 04 41.4	+1.8
	21nm,0.6s,0.3nm						
UGM	Wanagama	5.97	273	P	Pn	03 04 52.3	+0.9
	106nm,1.6s						
BATI	Baumata	7.28	106	P	Pn	03 05 11.5	+2.1
	26nm,0.8s,0.2nm						
CMJI	Cimerak	8.03	273	P	Pn	03 05 19.2	-0.5
	80nm,0.9s						
WRA	Warramunga Arr	20.75	126	P	Pn	03 08 04.3	-2.1
	1.8nm,0.8s,baz=301,slow=12,SNR=14						
	1.8nm,0.8s						
ASAR	Alice Springs	22.58	135	P	P	03 08 23.8	0.0
	1.5nm,0.8s,baz=313,slow=9.4,SNR=16						
	1.5nm,0.8s						
MKAR	Makanchi Array	62.75	334	P	P	03 13 47.4	-0.9
	0.3nm,0.6s,baz=152,slow=9.8,SNR=2.7						
	0.3nm,0.6s						
VNDA	Vanda	73.06	171	P	P	03 14 53.2	+0.5
	0.2nm,0.4s,baz=312,slow=6.6,SNR=1.5						
	0.2nm,0.4s						
CPUP	Villa Florida	145.06	190	PKPbc	PKPdf	03 23 00.5	-0.9
	2.2nm,1.0s,baz=216,slow=0.7,SNR=2.6						

*IDC **29** 03:04:26.1±0.7, 8°.26S×116°.39E, h0km, mb3.9/10, mbtmp3.9/11, MLJ3.9/1, MS3.7/3, Error ellipse: s-maj=32.9km s-min=16.1km az=70.0*
*DJA **29** 03:04:28.5±0.2, 8°.5±2°.×11°.7E±°, h11km±2km, M4.7/19, mB5.5/5, mb4.7/19, MLv4.7/18, Mw(mB)5.0/5*
*NEIC **29** 03:04:28±1.7, 8°.28S±0°.06×116°.49E±0°.07, h10km±1km, mb4.4/18, Error ellipse: s-maj=11.8km s-min=10.2km az=291.0*
ISC 29 03:04:27.7±0.4,8°.28S±0°.05×116°.50E±0°.04,h10km,n67,
σ1s02/67,mb4.1/13,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.59	140	P	Pb	03 04 41.1	+0.9
TWSI				S	Sg	03 04 47.9	+0.9
SRBI	Singaraja	1.29	279	P	Pn	03 04 51.5	-0.3
DNP	Denpasar	1.33	253	P	Pn	03 04 52.1	-0.3
PLAI	Plampang	1.38	113	P	Pg	03 04 54.7	+0.5
IGBI	Denpasar	1.44	248	P	Pg	03 04 55.2	-0.2
JAGI	Jajag, Banyuwa	2.33	265	Pn	Pn	03 05 05.8	-0.3
JAGI	Jajag, Banyuwa	2.33	265	P	Pn	03 05 07.7	+1.5
GRJI	Gresik	4.21	289	P	Pn	03 05 32.9	+0.9
BASI	Baing, Sumba	4.46	116	P	Pn	03 05 35.2	-0.3
BSSI	Bau Bau, Buton	4.50	62	P	Pn	03 05 36.9	+0.9
KAPI	Kappang	4.58	45	Pn	Pn	03 05 36.4	-0.7
KAPI	Kappang	4.58	45	Pn	Pn	03 05 37.1	0.0
	5.2nm,0.3s,baz=187,slow=6.8,SNR=6.3						
KAPI				Sn	Sn	03 06 28.2	-2.3
	16nm,0.3s,baz=197,slow=22,SNR=7.5						
KAPI				Lg	Lg	03 06 50.0	
	10nm,0.3s,baz=210,slow=20,SNR=1.7						
	16nm,0.3s						
EDFI	Ende, Flores	5.16	96	P	Pn	03 05 46.2	+1.0
	71nm,0.6s,0.3nm						
MMRI	Maumere	5.69	94	P	Pn	03 05 52.9	+0.5
	94nm,0.6s,0.6nm						
UWJI	Ujung Watu	5.81	288	P	Pn	03 05 55.3	+1.3
	223nm,1.2s						
UGM	Wanagama	5.93	273	Pn	Pn	03 05 55.3	-0.4
UGM	Wanagama	5.93	273	P	Pn	03 05 58.0	+2.3
	177nm,1.5s						
BATI	Baumata	7.33	106	P	Pn	03 06 15.6	+0.7
	36nm,0.5s,0.2nm						
SOEI	Soe	7.81	101	P	Pn	03 06 21.9	+0.2
	44nm,0.7s,2μm0.3nm						
LUWI	Luwuk	9.53	41	P	Pn	03 06 45.8	+0.7
SANI	Sanana	11.30	57	P	Pn	03 07 11.2	+1.8
MBWA	Marble Bar	13.18	167	Pn	Pn	03 07 33.2	-1.9
FITZ	Fitzroy Crossi	13.20	139	Pn	Pn	03 07 33.8	-1.6
PSA00	Pilbara Seismi	13.60	167	Pn	Pn	03 07 39.2	-1.6
KNRA	Kununurra	14.06	123	Pn	Pn	03 07 46.3	-0.9
GIRL	Giralia	14.44	188	Pn	Pn	03 07 50.4	-1.9
FAKI	Fak Fak	16.55	72	Pn	Pn	03 08 20.4	+0.2
FAKI				IAmb	IAmb	03 08 27.6	
	comp=Z,56nm,1.3s						
FAKI	Fak Fak	16.55	72	P	Pn	03 08 20.8	+0.6
	comp=Z,32nm,1.6s						
DAV	Davao City (W)	17.74	31	LR	LR	03 17 00.2	
	comp=Z,140nm,18.6s,baz=165,slow=42						
MORW	Morawa	20.68	181	Pn	P	03 09 09.2	+1.2
MORW				IAmb	IAmb	03 09 35.5	
	comp=Z,35nm,1.3s						
WB0	Warramunga Arr	20.75	125	P	P	03 09 08.9	0.0
WB0				IAmb	IAmb	03 09 14.9	
	comp=Z,29nm,1.4s						
WRA	Warramunga Arr	20.80	126	P	P	03 09 09.4	+0.1
WRA	Warramunga Arr	20.80	126	P	P	03 09 09.5	+0.1
	comp=Z,6.7nm,0.6s,baz=299,slow=12,SNR=28						
	comp=Z,6.7nm,0.6s						
WRAB	Tennant Creek	20.80	126	P	P	03 09 09.3	-0.2
WRAB				IAmb	IAmb	03 09 52.5	
	comp=Z,11nm,0.8s						
WB2	Warramunga Arr	20.81	126	P	P	03 09 09.1	-0.4
WR0	Warramunga Arr	20.97	126	P	P	03 09 11.1	-0.1
WR0				IAmb	IAmb	03 09 20.4	
	comp=Z,18nm,0.9s						
AS31	Alice Springs	22.63	135	P	P	03 09 29.0	-0.1
ASAR	Alice Springs	22.63	135	P	P	03 09 29.6	+0.5
ASAR	Alice Springs	22.63	135	P	P	03 09 29.8	+0.7
	comp=Z,2.6nm,0.6s,baz=315,slow=9.3,SNR=10						
	comp=Z,2.6nm,0.6s						
SNSI	Sinabang, Aceh	22.75	297	P	P	03 09 31.3	+0.9
FORT	Forrest	24.85	156	P	P	03 09 51.3	+0.8
COEN	Coen	26.76	105	P	P	03 10 07.8	-0.2
COEN				IAmb	IAmb	03 10 09.8	
	comp=Z,5.6nm,0.8s						
BBOO	Buckleboo	30.40	146	P	P	03 10 39.5	-0.7
CTAO	Charters Tower	31.08	115	P	P	03 10 45.6	-0.8
CTAO				IAmb	IAmb	03 10 52.5	
	comp=Z,3.8nm,1.0s						
CMAR	Chiang Mai Arr	31.72	327	P	P	03 10 54.1	+2.1
	comp=Z,0.4nm,0.3s,baz=189,slow=29,SNR=4.5						
CMAR				LR	LR	03 25 03.0	
	comp=Z,133nm,18.6s,baz=195,slow=39						
USRK	Ussuriysk Ar.	54.09	14	P	P	03 13 53.5	+0.8

RAO	**Raoul Island**	**3.24 188**	Pn	**Pn**	**03 20 01.2**	**+0.6**
RAO			Sn	**Sn**	**03 20 42.5**	**+2.3**
RAO	**Raoul Island**	**3.24 188**	P	**Pn**	**03 20 00.8**	**+0.1**
	251nm,0.3s,baz=2.1,slow=2.5,SNR=7.7					
RAO			S	**Sn**	**03 20 40.5**	**+0.3**
	254nm,0.3s,baz=72,slow=19,SNR=2.4					
MSVF	**Nonsavu**	**9.27 332**	Pn	Pn	03 21 23.3	+3.1
NIUE	**Niue**	**9.78 46**	Pn	**Pn**	**03 21 27.5**	**+0.7**
URZ	**Urewera**	**13.04 199**	P	**P**	**03 22 12.7**	**-0.7**
	5.1nm,0.3s,baz=336,slow=2.3,SNR=12					
URZ			S	Sn	03 24 18.2	-15
	4.0nm,0.3s,baz=3.5,slow=19,SNR=1.4					
AFI	**Afiamalu**	**13.16 25**	Pn	Pn	03 22 04.6	-6.3
BKZ	**Black Stump Fm**	**14.07 200**		**Pn**	**03 22 20.2**	**-1.8**
DZM	**Mont Dzumac**	**15.27 282**	P	**P**	**03 22 40.8**	**+2.4**
DZM			IAmb	IAmb	03 23 17.6	
	comp=Z,15nm,1.3s					
DZM	**Mont Dzumac**	**15.27 282**	P	**P**	**03 22 41.9**	**+3.5**
	comp=Z,3.3nm,0.7s,baz=55,slow=16,SNR=6.9					
MSWZ	**Moikau Station**	**16.51 200**		**P**	**03 22 49.1**	**-2.7**
EIDS	**Eidsvold**	**28.37 264**	P	**P**	**03 24 50.8**	**+1.8**
EIDS			IAmb	IAmb	03 25 33.2	
	comp=Z,15nm,1.5s					
CTAO	**Charters Tower**	**33.88 272**	P	**P**	**03 25 38.6**	**+1.2**
CTAO			IAmb	IAmb	03 25 40.6	
	comp=Z,7.8nm,0.7s					
STKA	**Stephens Creek**	**36.19 251**	P	**P**	**03 25 57.7**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=112,slow=14,SNR=3.8					
	comp=Z,1.9nm,0.6s					
BBOO	**Buckleboo**	**40.84 249**	P	**P**	**03 26 34.8**	**-1.0**
AS31	**Alice Springs**	**44.05 262**	P	**P**	**03 27 01.3**	**-0.6**
ASAR	**Alice Springs**	**44.05 262**	P	**P**	**03 27 00.0**	**-1.9**
ASAR	**Alice Springs**	**44.05 262**	P	**P**	**03 27 01.6**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=94,slow=7.4,SNR=30					
	comp=Z,1.7nm,0.6s					
WR0	**Warramunga Arr**	**44.45 267**	P	**P**	**03 27 04.4**	**-0.7**
WB2	**Warramunga Arr**	**44.63 267**	P	**P**	**03 27 05.7**	**-0.9**
WB2			IAmb	IAmb	03 27 08.3	
	comp=Z,5.0nm,0.7s					
WRA	**Warramunga Arr**	**44.64 267**	P	**P**	**03 27 05.9**	**-0.7**
WRA	**Warramunga Arr**	**44.64 267**	P	**P**	**03 27 06.0**	**-0.6**
	comp=Z,4.3nm,0.4s,baz=104,slow=7.8,SNR=47					
	comp=Z,4.3nm,0.4s					
WB0	**Warramunga Arr**	**44.64 268**	P	**P**	**03 27 05.5**	**-1.1**
WB0			IAmb	IAmb	03 27 08.3	
	comp=Z,4.9nm,0.6s					
FORT	**Forrest**	**47.82 251**	P	**P**	**03 27 29.4**	**-1.9**
KNRA	**Kununurra**	**51.05 270**	P	**P**	**03 27 55.0**	**-0.9**
KNRA			IAmb	IAmb	03 27 58.3	
	comp=Z,11nm,0.7s					
SBA	**Scott Base**	**52.42 184**	P	**P**	**03 28 07.9**	**+2.8**
VNDA	**Vanda**	**52.48 186**	P	**P**	**03 28 08.0**	**+2.4**
VNDA	**Vanda**	**52.48 186**	P	**P**	**03 28 08.1**	**+2.4**
	comp=Z,0.9nm,0.7s,baz=360,slow=7.2,SNR=8.3					
	comp=Z,0.9nm,0.7s					
FITZ	**Fitzroy Crossi**	**53.03 266**	P	**P**	**03 28 09.4**	**-1.1**
MORW	**Morawa**	**58.38 251**	P	**P**	**03 28 47.4**	**-1.1**
CASY	**Casey**	**59.25 207**	P	**P**	**03 28 53.2**	**-0.7**
CASY			IAmb	IAmb	03 29 05.4	
	comp=Z,7.6nm,1.3s					
QSPA	**South Pole Qui**	**64.06 180**	P	**P**	**03 29 26.4**	**+0.1**
QSPA			IAmb	IAmb	03 29 29.3	
	comp=Z,3.0nm,0.9s					
QSPA	**South Pole Qui**	**64.06 180**	P	**P**	**03 29 26.7**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=57,slow=1.7,SNR=10					
	comp=Z,2.1nm,0.8s					
MAW	**Mawson**	**76.57 200**	P	**P**	**03 30 43.2**	**+1.2**
	comp=Z,2.9nm,0.5s,baz=106,slow=6.5,SNR=12					
	comp=Z,2.9nm,0.5s					
TROLL	**Troll, Antarti**	**82.23 180**	⇑P	**P**	**03 31 13.7**	**+1.0**
	comp=Z,141nm,0.3s					
SNAA	**Sanae**	**82.49 178**	⇑P	**P**	**03 31 14.1**	**+0.1**
	comp=Z,4.2nm,0.2s					
SNAA	**Sanae**	**82.49 178**	P	**P**	**03 31 14.2**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=189,slow=11,SNR=3.8					
	comp=Z,1.1nm,0.7s					
VNA3	**Neumayer Olymp**	**82.61 176**	⇑P	**P**	**03 31 14.4**	**-0.2**
	comp=Z,2.0nm,0.5s					
VNA2	**Neumayer--Watz**	**83.06 177**	⇑P	**P**	**03 31 15.9**	**-1.0**
	comp=Z,6.1nm,0.8s,baz=21,slow=7.4					
VNA1	**Neumayer--Stat**	**83.28 176**	⇑P	**P**	**03 31 17.7**	**-0.3**
	comp=Z,4.1nm,0.7s					
NVAR	**Mina Array Bea**	**84.68 43**	P	**P**	**03 31 27.9**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=225,slow=8.9,SNR=2.5					
	comp=Z,0.3nm,0.5s					
NCB	**Newcomb**	**116.75 52**	PKPdf	**PKPdf**	**03 37 30.9**	**-4.1**
KURBB	**Kurchatov Arra**	**118.41 315**	PKP	**PKPdf**	**03 37 36.5**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=100,slow=2.2,SNR=1.4					
ABKAR	**Akbulak array**	**130.37 314**	PKPdf	**PKPdf**	**03 37 57.8**	**-3.0**
HFS	**Hagfors**	**145.06 350**	PKP	**PKPdf**	**03 38 27.3**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=11,slow=1.5,SNR=6.0					
AKBB	**Malin Array Si**	**148.03 327**		**PKPbc**	**03 38 36.0**	**0.0**
BRTR	**Keskin Array B**	**150.73 306**	PKPbc	**PKPbc**	**03 38 42.8**	**-0.4**
BRTR	**Keskin Array B**	**150.73 306**	PKPbc	**PKiKP**	**03 38 43.5**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=142,slow=4.6,SNR=4.5					
BRTR			PKPab	**PKPab**	**03 38 51.5**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=98,slow=2.5,SNR=4.3					
TORD	**Torodi Ar. Bea**	**167.16 176**	PKP	**PKPdf**	**03 38 56.9**	**-0.2**
	comp=Z,0.3nm,0.9s,baz=180,slow=6.8,SNR=1.9					
TORD			PKPab	**PKPab**	**03 40 01.5**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=215,slow=1.8,SNR=2.0					

*IDC **29** 03:22:50.4±1.0, 31°.92N×83°.13E, h0km, mb3.8/9, mbtmp3.8/12, ML3.7/3, MS3.8/1, Error ellipse: s-maj=31.8km s-min=18.5km az=55.0*

ISC 29 03:22:55.5±1.0, 32°.0N±0°.1×83°.2E±0°.2, h35km, n14, σ0°95/13, mb3.8/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.81**	**357**	Pn	**Pn**	**03 26 21.7**	**-0.6**
	0.1nm,0.3s,baz=178,slow=15,SNR=5.8						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**18.95**	**351**	P	**P**	**03 27 13.2**	**-0.2**
	0.1nm,0.3s,baz=168,slow=9.8,SNR=11						
	2.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.55**	**130**	P	**P**	**03 27 18.8**	**-1.5**
	0.4nm,0.3s,baz=316,slow=10,SNR=7.3						
	1.1nm,0.3s						
ZALV	**Zalesovo Beam**	**21.98**	**3**	P	**P**	**03 27 45.0**	**-1.2**
	2.0nm,0.6s,baz=167,slow=13,SNR=9.6						
	2.0nm,0.6s						
BVAR	**Borovoye Array**	**22.99**	**340**	P	**P**	**03 27 57.3**	**+0.4**
	0.6nm,0.5s,baz=173,slow=7.3,SNR=3.2						
	0.6nm,0.5s						
SONM	**Songino Array**	**23.67**	**41**	P	**P**	**03 28 04.5**	**+0.7**
	0.5nm,0.5s,baz=227,slow=10,SNR=3.7						
	0.5nm,0.5s						
JOW	**Kunigami**	**39.37**	**86**	LR	LR	03 49 12.0	
	comp=Z,112nm,18.2s,baz=292,slow=40						
FINES	**FINESS Array B**	**46.86**	**326**	P	**P**	**03 31 21.9**	**+0.1**
	1.0nm,0.5s,baz=100,slow=8.3,SNR=11						
	1.0nm,0.5s						
ARCES	**ARCESS Array B**	**49.23**	**337**	P	**P**	**03 31 40.9**	**+0.8**
	0.5nm,0.5s,baz=96,slow=7.4,SNR=9.8						
	0.5nm,0.5s						
HFS	**Hagfors**	**52.77**	**324**	P	**P**	**03 32 07.4**	**+0.7**
	2.6nm,0.5s,baz=98,slow=7.6,SNR=20						
	2.6nm,0.5s						
NB2	**NORSAR Subarra**	**53.97**	**325**	P	**P**	**03 32 15.8**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=87,slow=7.4						
NOA	**NORSAR Array B**	**53.97**	**325**	P	**P**	**03 32 15.8**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=87,slow=7.2,SNR=9.3						
	comp=Z,1.8nm,0.6s						
WRA	**Warramunga Arr**	**71.15**	**129**	P	**P**	**03 34 12.2**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=324,slow=6.4,SNR=7.5						
	comp=Z,0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.05**	**277**	P	**P**	**03 34 38.8**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=32,slow=6.1,SNR=5.5						
	comp=Z,0.8nm,0.8s						

*IDC **29** 03:27:34.4±2.1, 8°.24S×116°.58E, h0km, mb3.4/3, mbtmp3.5/4, ML3.2/1, MS2.5/1, Error ellipse: s-maj=35.2km s-min=23.0km az=98.0*

*DJA **29** 03:27:34.9±0.3, 8°.S±4°×11°.6E±°, h10km, M3.9/10, MLv3.9/10*

ISC 29 03:27:35.0±0.9, 8°.26S±0°.07×116°.49E±0°.04, h10km, n13, σ1°11/15, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.61**	**140**	P	**Pn**	**03 27 48.1**	**-1.7**
TWSI				Pg	**Pb**	**03 27 48.3**	**+0.5**
TWSI				Pn	Pg	03 27 50.6	+3.7
SRBI	**Singaraja**	**1.27**	**278**	P	**Pn**	**03 27 57.6**	**-1.2**
SRBI				S	**Sb**	**03 28 14.9**	**-0.6**
DNP	**Denpasar**	**1.33**	**252**	P	**Pn**	**03 27 59.4**	**-0.2**
PLAI	**Plampang**	**1.39**	**114**	P	**Pg**	**03 28 01.7**	**-0.1**
PLAI				S	**Sg**	**03 28 21.3**	**+1.4**
JAGI	**Jajag, Banyuwa**	**2.32**	**265**	P	**Pn**	**03 28 13.1**	**-0.1**
BSSI	**Bau Bau, Buton**	**4.50**	**62**	P	**Pn**	**03 28 42.9**	**-0.3**
KAPI	**Kappang**	**4.58**	**45**	Pn	**Pn**	**03 28 44.8**	**+0.6**
	1.2nm,0.3s,baz=179,slow=5.9,SNR=5.2						
KAPI				Sn	**Sn**	**03 29 35.1**	**-2.5**
	4.6nm,0.3s,baz=70,slow=23,SNR=7.4						
KAPI				Lg	Lg	03 29 56.5	
	5.5nm,0.3s,baz=213,slow=23,SNR=5.8						
	3.2nm,0.3s						
PWJI	**Pagerwojo**	**4.64**	**273**	P	**Pn**	**03 28 45.1**	**-0.1**
BKSI	**Bulukumba**	**4.64**	**51**	P	**Pn**	**03 28 44.8**	**-0.4**
WRA	**Warramunga Arr**	**20.82**	**126**	P	Pn	03 32 16.9	-2.4
	1.1nm,0.5s,baz=299,slow=12,SNR=20						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**22.65**	**135**	P	**P**	**03 32 36.7**	**+0.2**
	1.1nm,0.8s,baz=306,slow=9.1,SNR=11						
	1.1nm,0.8s						
CTA	**Charters Tower**	**31.10**	**115**	LR	LR	03 48 13.3	
	comp=Z,9.4nm,20.6s,baz=264,slow=40						
SONM	**Songino Array**	**56.56**	**352**	P	**P**	**03 37 18.9**	**+1.1**
	0.2nm,0.4s,baz=160,slow=8.9,SNR=1.6						
	0.2nm,0.4s						

*VAO **29** 03:43:57.0±0.6, 14°.91S×73°.80W, h53km±5km, mb4.9*
*NEIC **29** 03:43:57.9±1.6, 14°.81S±0°.08×73°.72W±0°.09, h68km±7km, mb4.6/40, Error ellipse: s-maj=13.8km s-min=9.2km az=56.0*
*IDC **29** 03:44:01.3±0.5, 14°.72S×73°.73W, h101km±4km, mb3.9/10, mbtmp4.2/13, MS3.3/2, Error ellipse: s-maj=17.6km s-min=10.3km az=46.0*

ISC 29 03:44:00.2±0.4, 14°.89S±0°.05×73°.66W±0°.07, h98km, n127, σ1°68/138, mb4.4/26, 5D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.23**	**313**	Pn	**Pn**	**03 45 00.1**	**-2.5**
NNA	**Nana**	**4.23**	**313**	P	**Pn**	**03 44 59.9**	**-2.8**
	38nm,0.3s,baz=150,slow=9.0,SNR=38						
NNA				S	**Sn**	**03 45 47.0**	**-4.1**
	200nm,0.3s,baz=231,slow=24,SNR=8.7						
NNA				LR	LR	03 46 56.0	
	comp=Z,314nm,18.3s,baz=106,slow=43						
AP01	**Chacalluta**	**4.70**	**138**	Pn	**Pn**	**03 45 08.9**	**0.0**
PB18	**Visviri**	**4.83**	**124**	Pn	**Pn**	**03 45 11.2**	**+0.1**
LPAZ	**La Paz**	**5.50**	**105**	P	**Pn**	**03 45 23.1**	**+2.7**
	20nm,0.4s,baz=280,slow=7.8,SNR=119						
LPAZ	**La Paz**	**5.50**	**105**	*eP*	**Pn**	**03 45 18.9**	**-1.5**
PB11	**IPOC Station P**	**6.17**	**142**	Pn	**Pn**	**03 45 27.0**	**-2.1**
PB11	**IPOC Station P**	**6.17**	**142**	⇓*iP*	**Pn**	**03 45 26.9**	**-2.1**
PB11				*i* S	**Sn**	**03 46 33.1**	**-5.1**
TA02	**Huaiquique**	**6.32**	**148**		**Pn**	**03 45 28.8**	**-2.1**
GO01	**Chusmiza**	**6.38**	**139**		**Pn**	**03 45 30.9**	**-1.3**
GO01	**Chusmiza**	**6.38**	**139**	*i* P	**Pn**	**03 45 31.3**	**-0.9**
HMBC	**Humberstone**	**6.45**	**147**		**Pn**	**03 45 30.6**	**-2.3**
TA01	**Diego Aracena**	**6.54**	**150**		**Pn**	**03 45 30.7**	**-3.3**
CZSB	**Cruzeiro do Su**	**7.18**	**8**	Pn	**Pn**	**03 45 39.2**	**-3.4**
CZSB	**Cruzeiro do Su**	**7.18**	**8**	*eP*	**Pn**	**03 45 40.2**	**-2.5**
PB09	**IPOC Station P**	**8.05**	**149**	Pn	**Pn**	**03 45 52.8**	**-1.7**
PB04	**IPOC Station P**	**8.12**	**156**		**Pn**	**03 45 52.5**	**-3.0**
PB05	**IPOC Station P**	**8.57**	**158**	Pn	**Pn**	**03 45 58.6**	**-3.0**
PB06	**IPOC Station P**	**8.68**	**154**	Pn	**Pn**	**03 46 00.8**	**-2.4**
ETMB	**Extrema**	**8.85**	**56**	Pn	**Pn**	**03 46 03.8**	**-1.6**
ETMB	**Extrema**	**8.85**	**56**	*eP*	**Pn**	**03 46 04.2**	**-1.2**
LVC	**Limon Verde**	**8.90**	**150**	Pn	**Pn**	**03 46 04.6**	**-1.7**
LVC	**Limon Verde**	**8.90**	**150**	P	**Pn**	**03 46 04.9**	**-1.4**
	14nm,0.3s,baz=334,slow=8.8,SNR=50						
LVC				S	**Sn**	**03 47 39.6**	**-5.4**
	18nm,0.5s,baz=110,slow=23,SNR=7.9						
LVC				LR	LR	03 49 31.5	
	comp=Z,183nm,21.9s,baz=336,slow=36						
LVC	**Limon Verde**	**8.90**	**150**	*eP*	**Pn**	**03 46 03.7**	**-2.6**
ATAH	**Atahualpa**	**9.00**	**328**	P	**Pn**	**03 46 10.2**	**+2.3**
	39nm,0.7s,baz=141,slow=7.9,SNR=15						
PB15	**IPOC Station P**	**9.17**	**155**	Pn	**Pn**	**03 46 07.4**	**-2.5**
GO02	**Mina Guanaco**	**10.91**	**160**	Pn	**Pn**	**03 46 31.8**	**-1.8**
TBTG	**Tabatinga, AM**	**11.26**	**20**	Pn	**Pn**	**03 46 34.8**	**-3.4**
TBTG	**Tabatinga, AM**	**11.26**	**20**	*eP*	**Pn**	**03 46 35.1**	**-3.0**
SAML	**Samuel**	**11.83**	**61**	Pn	**Pn**	**03 46 42.1**	**-3.6**
SIV	**San Ignacio**	**12.19**	**97**	P	**Pn**	**03 46 48.7**	**-1.9**
	3.5nm,0.5s,baz=288,slow=9.1,SNR=20						
BBSD	**Serra de San D**	**12.75**	**102**	*eP*	**Pn**	**03 46 55.6**	**-2.5**
VILB	**Vilhena**	**13.21**	**83**	*eP*	**Pn**	**03 47 03.5**	**-0.6**
PTLB	**Pontes e Lacer**	**14.03**	**94**	Pn	**Pn**	**03 47 14.8**	**+0.1**
PTLB	**Pontes e Lacer**	**14.03**	**94**	*eP*	**Pn**	**03 47 15.6**	**+0.9**
TEFE	**Tefe**	**14.39**	**39**	*eP*	**Pn**	**03 47 19.7**	**+0.3**
SLOR	**San Lorenzo -**	**14.86**	**341**	P	**Pn**	**03 47 27.3**	**+1.4**
TULM	**Tulcn-Chalpat**	**16.04**	**345**	P	**Pn**	**03 47 37.8**	**-2.9**
PDRB	**Porto dos Gac**	**16.80**	**81**	*eP*	**P**	**03 47 51.2**	**+1.0**
MACA	**Manacapuru-AM**	**17.31**	**49**	Pn	**P**	**03 47 53.1**	**-2.7**
MACA	**Manacapuru-AM**	**17.31**	**49**	*eP*	**P**	**03 47 55.7**	**-0.1**
SALV	**Santo Antonio**	**17.35**	**96**	*eP*	**Pn**	**03 47 57.4**	**+1.0**
AQDB	**Aquidauana**	**17.98**	**111**	P	**Pn**	**03 48 03.4**	**-0.6**
AQDB	**Aquidauana**	**17.98**	**111**	*eP*	**Pn**	**03 48 04.7**	**+0.7**
VA03	**San Esteban**	**18.02**	**172**	P	**Pn**	**03 48 04.4**	**0.0**
VA03				IAmb	IAmb	03 48 13.6	
	comp=Z,21nm,0.8s						
RVDE	**Rio Verde (Bra**	**18.37**	**106**	*eP*	**Pn**	**03 48 10.9**	**+2.2**
MT08	**Bocatoma Ro**	**18.76**	**170**	P	**P**	**03 48 10.9**	**-1.0**
MT09	**Talagante**	**18.96**	**173**	P	**P**	**03 48 14.0**	**+0.1**
MT09				IAmb	IAmb	03 48 21.6	
	comp=Z,24nm,0.6s						
MT01	**Popeta**	**19.02**	**174**	P	**Pn**	**03 48 15.2**	**-1.0**
MT01				IAmb	IAmb	03 48 21.3	
	comp=Z,13nm,0.6s						
MT13	**San Alfonso**	**19.02**	**171**	P	**P**	**03 48 14.2**	**-0.3**
MT13				IAmb	IAmb	03 48 24.0	
	comp=Z,20nm,0.8s						
CPUP	**Villa Florida**	**19.03**	**129**	P	**Pn**	**03 48 15.6**	**-0.8**
	comp=Z,3.5nm,0.9s,baz=317,slow=12,SNR=7.7						
LMEL	**Las Melosas**	**19.13**	**171**	P	**P**	**03 48 15.8**	**-0.1**
BO01	**Tunca**	**19.55**	**174**	P	**P**	**03 48 20.9**	**+0.7**
NPGB	**Novo Progresso**	**19.57**	**68**	*eP*	**P**	**03 48 20.8**	**+0.1**
ROSC	**El Rosal**	**19.62**	**358**	P	**P**	**03 48 21.7**	**+0.2**
ROSC				IAmb	IAmb	03 48 30.9	
	comp=Z,20nm,0.7s						
ROSC	**El Rosal**	**19.62**	**358**	P	**Pn**	**03 48 26.3**	**+2.5**
	comp=Z,24nm,0.8s,baz=167,slow=9.4,SNR=7.4						
BO02	**Sierra Bellavi**	**19.98**	**173**	P	**P**	**03 48 24.1**	**-0.9**
BO02				IAmb	IAmb	03 48 32.5	
	comp=Z,14nm,0.6s						
ITTB	**Itaituba**	**20.51**	**61**	*eP*	**P**	**03 48 32.2**	**+1.4**
ML02	**Paulmavida**	**20.88**	**175**	P	**P**	**03 48 34.3**	**-0.3**
TRCB	**Terra Rica**	**21.38**	**115**	P	**P**	**03 48 39.9**	**-0.1**
TRCB	**Terra Rica**	**21.38**	**115**	*eP*	**P**	**03 48 41.9**	**+1.8**
ITQB	**Itaqui**	**21.52**	**136**	*eP*	**P**	**03 48 43.1**	**+1.7**
BOAV	**Boa Vista**	**21.55**	**38**	P	**P**	**03 48 40.9**	**-0.9**
BOAV				IAmb	IAmb	03 48 47.0	
	comp=Z,21nm,0.7s						
BOAV	**Boa Vista**	**21.55**	**38**	*eP*	**P**	**03 48 44.4**	**+2.6**
BI02	**San Fabin de**	**21.79**	**175**	P	**P**	**03 48 44.6**	**+0.4**
BI02				IAmb	IAmb	03 48 48.1	
	comp=Z,17nm,0.8s						
PSAL	**Palomas, Salto**	**21.82**	**140**	*eP*	**P**	**03 48 46.2**	**+1.6**
SNDB	**Serra Nova Dou**	**21.94**	**85**	*eP*	**P**	**03 48 48.2**	**+2.1**
CRSM	**Crissiumal (Br**	**22.14**	**128**	*eP*	**P**	**03 48 49.5**	**+1.5**
PCMB	**Pacaembu**	**22.28**	**111**	*eP*	**P**	**03 48 50.9**	**+1.3**
ITRB	**Iturama**	**22.75**	**105**	*eP*	**P**	**03 48 56.7**	**+2.2**
LDASE	**Londrina, Braz**	**22.89**	**115**	*eP*	**P**	**03 48 57.4**	**+1.6**
TBOT	**Tacuaremb**	**23.27**	**139**	*eP*	**P**	**03 49 00.1**	**+0.8**
ITAB	**Concordia**	**23.50**	**125**	P	**P**	**03 49 02.1**	**+0.6**
ITAB				IAmb	IAmb	03 49 08.1	
	comp=Z,47nm,1.4s						
ALGR	**Alto Alegre (B**	**23.57**	**129**	*eP*	**P**	**03 49 03.4**	**+1.2**
CPSB	**Cacapava Do Su**	**24.16**	**133**	*eP*	**P**	**03 49 09.2**	**+1.8**
FRTB	**Fartura**	**24.24**	**114**	*eP*	**P**	**03 49 09.8**	**+1.5**
BAUV	**El Baul**	**24.33**	**14**	P	**P**	**03 49 08.7**	**-0.2**
IPMB	**Ipameri, GO**	**24.59**	**101**	*eP*	**P**	**03 49 12.4**	**+0.9**
GO06	**Curarrehue**	**24.67**	**176**	P	**P**	**03 49 12.7**	**+0.6**
GO06				IAmb	IAmb	03 49 14.0	
	comp=Z,11nm,0.8s						
BDFB	**Brasília**	**24.75**	**95**	P	**P**	**03 49 13.6**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=42,slow=6.0,SNR=4.4						
	comp=Z,2.4nm,0.7s						
LR05	**Currie**	**25.29**	**177**	P	**P**	**03 49 17.7**	**+0.2**
PLCA	**Paso Flores**	**25.89**	**175**	P	**P**	**03 49 23.9**	**+0.8**
PLCA				IAmb	IAmb	03 49 58.5	
	comp=Z,16nm,1.1s						
PLCA	**Paso Flores**	**25.89**	**175**	P	**P**	**03 49 24.2**	**+1.2**
	comp=Z,3.7nm,0.5s,baz=353,slow=10,SNR=19						
PLCA				PcP	**PcP**	**03 52 50.9**	**+1.2**
	comp=Z,2.7nm,1.1s,baz=329,slow=2.2,SNR=3.2						
	comp=Z,3.7nm,0.5s						
PLCA	**Paso Flores**	**25.89**	**175**	*eP*	**P**	**03 49 23.8**	**+0.8**
RIB01	**Linhares ES**	**32.07**	**103**	*eP*	**P**	**03 50 18.9**	**+0.9**
HNDO	**Hondo**	**50.62**	**331**	P	**P**	**03 52 48.4**	**-1.0**
HNDO				IAmb	IAmb	03 53 15.3	
	comp=Z,8.1nm,0.8s						
WLAR	**White Oak Lake**	**51.75**	**339**	P	**P**	**03 52 57.5**	**-0.3**
TXAR	**Lajitas Array**	**52.66**	**327**	P	**P**	**03 53 04.7**	**-0.1**
TXAR	**Lajitas Array**	**52.66**	**327**	P	**P**	**03 53 04.4**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=152,slow=9.4,SNR=6.2						
TXAR				pP	**pP**	**03 53 29.3**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=154,slow=8.4,SNR=7.0						
	comp=Z,0.4nm,0.7s						
ABTX	**Abilene, Hawle**	**53.39**	**333**	P	**P**	**03 53 09.8**	**-0.1**
ABTX				IAmb	IAmb	03 53 35.6	
	comp=Z,8.3nm,1.1s						
SMWD	**Samnorwood**	**55.76**	**334**	P	**P**	**03 53 26.8**	**-0.2**
SMWD				IAmb	IAmb	03 53 53.6	
	comp=Z,6.9nm,0.8s						
W18A	**Petrified Fore**	**60.37**	**326**	P	**P**	**03 53 58.4**	**-1.1**
MSU	**Marysvale**	**64.21**	**327**	P	**P**	**03 54 25.6**	**+0.6**
MVU	**Marysvale**	**64.22**	**327**	P	**P**	**03 54 26.0**	**+0.9**
DUG	**Dugway, Tooele**	**65.79**	**328**	P	**P**	**03 54 35.5**	**+0.3**
DUG				IAmb	IAmb	03 55 02.9	
	comp=Z,5.1nm,1.1s						
PDAR	**Pinedale Array**	**66.17**	**332**	pP	pP	03 55 02.5	-1.3
	comp=Z,0.5nm,0.8s,baz=156,slow=7.5,SNR=3.4						
NVAR	**Mina Array Bea**	**67.53**	**323**	pP	pP	03 55 12.0	-0.5
	comp=Z,0.7nm,0.8s,baz=123,slow=7.3,SNR=3.0						
VNA3	**Neumayer Olymp**	**67.74**	**162**	⇓P	**P**	**03 54 48.1**	**+1.1**
	comp=Z,6.0nm,0.8s						
ULM	**Lac du Bonnet**	**67.74**	**345**	P	**P**	**03 54 46.7**	**-0.4**
ULM	**Lac du Bonnet**	**67.74**	**345**	P	**P**	**03 54 46.7**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=204,slow=4.1,SNR=4.2						
ULM				pP	**PcP**	**03 55 10.3**	**-2.9**
	comp=Z,1.5nm,0.5s,baz=164,slow=8.1,SNR=3.5						
	comp=Z,2.3nm,0.8s						
VNA1	**Neumayer--Stat**	**67.98**	**161**	⇓P	**P**	**03 54 49.2**	**+0.8**
	comp=Z,5.2nm,0.6s						
VNA2	**Neumayer--Watz**	**68.34**	**161**	⇓P	**P**	**03 54 52.1**	**+1.4**
	comp=Z,4.5nm,0.5s,baz=328,slow=2.8						
SNAA	**Sanae**	**69.95**	**161**	P	**P**	**03 55 01.8**	**+1.1**
SNAA				IAmb	IAmb	03 55 03.0	
	comp=Z,8.1nm,0.7s						
SNAA	**Sanae**	**69.95**	**161**	⇓P	**P**	**03 55 01.9**	**+1.1**
	comp=Z,159nm,0.7s						
SNAA	**Sanae**	**69.95**	**161**	P	**P**	**03 55 02.2**	**+1.4**
	comp=Z,7.0nm,0.7s,baz=278,slow=6.1,SNR=21						
	comp=Z,7.0nm,0.7s						
DBIC	**Dimbokro**	**71.47**	**78**	P	**P**	**03 55 10.5**	**-0.4**
DBIC	**Dimbokro**	**71.47**	**78**	P	**P**	**03 55 10.9**	**+0

2.8nm,0.3s,baz=162,slow=19,SNR=1.9
GUMO S **Sn** **03 50 04.7 0.0**
13nm,0.3s,baz=72,slow=11,SNR=1.2
30nm,0.7s
JHJ2 Mitsune 15.76 339 Pn **Pn** **03 51 30.4 +0.2**
JGF Kuroka 18.89 336 P **P** **03 52 08.0 +0.5**
JGF IAmb IAmb 03 52 24.1
comp=Z,15nm,1.1s
MJAR Matsushiro Arr 19.43 339 P **P** **03 52 13.9 +0.5**
comp=Z,0.1nm,0.3s,baz=184,slow=11,SNR=2.5
comp=Z,0.8nm,0.5s
MAJO Matsushiro 19.43 339 **P** **03 52 14.2 +0.8**
MAJO IAmb IAmb 03 52 46.8
comp=Z,14nm,1.4s
MJB9 Matsu-Tunnel 19.43 339 Pn **Pn** **03 52 14.9 -0.3**
JMM Marumori 19.95 347 P **P** **03 52 20.2 +1.2**
COEN Coen 32.42 186 P **P** **03 54 15.0 -1.3**
COEN IAmb IAmb 03 54 44.3
comp=Z,7.6nm,1.1s
BJT Baijiatuau 33.84 316 P **P** **03 54 27.1 -1.4**
WB0 Warramunga Arr 39.85 198 P **P** **03 55 19.1 -0.6**
WB0 IAmb IAmb 03 55 58.3
comp=Z,4.5nm,1.2s
WR0 Warramunga Arr 39.99 198 P **P** **03 55 18.4 -2.5**
WR0 IAmb IAmb 03 55 47.7
comp=Z,6.8nm,1.3s
WB2 Warramunga Arr 40.03 198 P **P** **03 55 20.7 -0.5**
WB2 IAmb IAmb 03 55 27.4
comp=Z,4.5nm,1.2s
WRA Warramunga Arr 40.03 198 P **P** **03 55 21.1 -0.2**
comp=Z,0.6nm,0.7s,baz=16,slow=8.1,SNR=6.3
WRA PcP **PcP** **03 57 26.3 +1.1**
comp=Z,0.3nm,0.6s,baz=18,slow=3.6,SNR=4.7
comp=Z,0.6nm,0.7s
FITZ Fitzroy Crossi 41.77 211 P **P** **03 55 34.3 -1.2**
ASAR Alice Springs 43.69 197 P **P** **03 55 52.1 +1.1**
ASAR Alice Springs 43.69 197 P **P** **03 55 51.6 +0.6**
comp=Z,0.3nm,0.8s,baz=26,slow=7.2,SNR=6.4
comp=Z,0.3nm,0.8s
SONM Songino Array 43.81 321 P **P** **03 55 52.7 +0.7**
SONM Songino Array 43.81 321 P **P** **03 55 51.8 -0.1**
comp=Z,0.6nm,0.6s,baz=145,slow=6.3,SNR=4.1
comp=Z,0.6nm,0.6s
PSA00 Pilbara Seismi 47.64 214 P **P** **03 56 21.7 -0.5**
K20K Telida 60.04 27 P **P** **03 57 51.6 -0.6**
K20K IAmb IAmb 03 58 20.5
comp=Z,8.8nm,1.4s
KURK Kurchatov 61.96 318 P **P** **03 58 07.4 +1.9**
KURK IAmb IAmb 03 58 08.0
comp=Z,1.1nm,0.7s
KURBB Kurchatov Arra 62.01 318 P **P** **03 58 05.2 -0.6**
comp=Z,0.4nm,0.3s,baz=94,slow=8.0,SNR=8.0
comp=Z,0.4nm,0.3s
ISLE Juniper Island 64.79 31 P **P** **03 58 22.9 -1.3**
ISLE IAmb IAmb 03 58 33.3
comp=Z,8.8nm,1.0s
J26L Joseph Creek 64.82 27 P **P** **03 58 22.2 -2.0**
J26L IAmb IAmb 03 59 06.3
comp=Z,4.4nm,1.4s
BMAR Burnt Mountain 64.98 23 P **P** **03 58 25.7 +0.5**
BVAR Borovoye Array 67.15 320 P **P** **03 58 39.4 +0.1**
comp=Z,2.0nm,0.5s,baz=94,slow=7.7,SNR=12
comp=Z,2.0nm,0.5s
BRVK Borovoye 67.21 321 P **P** **03 58 40.6 +1.0**
KKAR Karatay Array 67.52 310 P **P** **03 58 41.7 -0.1**
ABKAR Akbulak array 74.04 317 P **P** **03 59 20.4 -0.9**
NVAR Mina Array Bea 82.62 52 P **P** **04 00 10.3 +1.1**
comp=Z,0.3nm,0.7s,baz=290,slow=3.7,SNR=2.6
comp=Z,0.3nm,0.7s
ARCES ARCESS Array B 82.93 342 P **P** **04 00 10.2 +0.4**
ARCES ARCESS Array B 82.93 342 P **P** **04 00 10.5 +0.6**
comp=Z,1.0nm,0.6s,baz=73,slow=8.2,SNR=6.5
comp=Z,1.0nm,0.6s
FINES FINESS Array B 87.41 336 P **P** **04 00 31.4 -0.9**
comp=Z,1.8nm,0.5s,baz=72,slow=4.8,SNR=25
comp=Z,1.8nm,0.5s

ISK ***29*** *04:08:15.8, 37°.47N±22°.12E, h3km, ML3.3/18*
IDC ***29*** *04:08:16.1±0.9, 37°.48N±22°.15E, h0km, mb3.7/11, mbtmp3.7/14, ML3.6/2, Error ellipse: s-maj=19.2km s-min=16.7km az=105.0*
THE ***29*** *04:08:17.7, 37°.42N±22°.12E, h0km±1km, ML3.5/5, Error ellipse: s-maj=1.3km s-min=0.4km az=215.0*
ATH ***29*** *04:08:17.6, 37°.44N±22°.10E, h5km±1km, ML3.4/29, Error ellipse: s-maj=1.9km s-min=0.6km az=263.0*
NEIC ***29*** *04:08:18.1±2.0, 37°.42N±0°.04×22°.10E±0°.06, h10km±2km, mb4.1/6, Error ellipse: s-maj=9.3km s-min=3.5km az=129.0*
BEO ***29*** *04:08:25.5±4.8, 37°.98N×22°.13E, h0km, ML3.4/9*
NAO ***29*** *04:08:30.2, 38°.93N×24°.74E, h33km, mb3.6*
ISC 29 04:08:17.7±0.9, 37°.44N±0°.02×22°.10E±0°.02, h10km±7km, n214, σ1°00/238, mb3.9/12, 1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.29**	**208**	Pg	**Pg**	**04 08 23.1**	**-0.5**
ITM				Sg	**Sg**	**04 08 28.1**	**+0.6**
ITM	**Ithomi**	**0.29**	**208**	Pg	**Pg**	**04 08 22.4**	**-1.1**
ITM				Sg	**Sg**	**04 08 27.6**	**+0.1**
ITM	**Ithomi**	**0.29**	**208**	P	**Pg**	**04 08 23.2**	**-0.3**
ITM				S	**Sg**	**04 08 27.8**	**+0.3**
ITM	**Ithomi**	**0.29**	**208**	P	**Pg**	**04 08 23.0**	**-0.5**
ITM				S	**Sg**	**04 08 26.7**	**-0.7**
ITM				AML	AML	04 08 28.5	
	comp=N,47380μm,0.4s						
ITM				AML	AML	04 08 28.7	
	comp=E,31087μm,0.5s						
GUR	**Goura**	**0.53**	**21**	P	**Pg**	**04 08 27.7**	**-0.4**
GUR				S	**Sb**	**04 08 37.1**	**+0.1**
GUR	**Goura**	**0.53**	**21**	P	**Pg**	**04 08 27.1**	**-1.0**
GUR				S	**Sg**	**04 08 35.3**	**+0.1**
GUR				AML	AML	04 08 37.5	
	comp=N,32833μm,0.4s						
GUR				AML	AML	04 08 38.8	
	comp=E,23258μm,0.5s						
DRO	**Drossia**	**0.60**	**329**	P	**Pg**	**04 08 28.9**	**-0.4**
DRO				S	**Sb**	**04 08 39.0**	**+0.1**
DRO	**Drossia**	**0.60**	**329**	P	**Pg**	**04 08 28.7**	**-0.6**
DRO				S	**Sb**	**04 08 38.1**	**-0.7**
DRO				AML	AML	04 08 43.2	
	comp=N,12555μm,0.4s						
DRO				AML	AML	04 08 46.9	
	comp=E,17216μm,0.4s						
KLV	**Kalavryta, Ach**	**0.61**	**4**	P	**Pg**	**04 08 29.3**	**-0.2**
KLV				S	**Sb**	**04 08 38.6**	**-0.5**
	comp=E,3μm,0.3s						
KLV	**Kalavryta, Ach**	**0.61**	**4**	P	**Pg**	**04 08 28.2**	**-1.2**
KLV				S	**Sb**	**04 08 37.8**	**-1.3**
KLV				AML	AML	04 08 40.7	
	comp=E,7392μm,0.4s						
KLV				AML	AML	04 08 41.1	
	comp=N,5730μm,0.3s						
PYL	**PYLOS**	**0.61**	**208**	P	**Pg**	**04 08 29.1**	**-0.4**
PYL				S	**Sg**	**04 08 37.6**	**+0.1**
	comp=N,5μm,0.4s						
PYL	**PYLOS**	**0.61**	**208**	P	**Pg**	**04 08 28.5**	**-1.0**
PYL				S	**Sg**	**04 08 37.4**	**-0.2**
PYL				AML	AML	04 08 41.8	
	comp=E,10671μm,0.4s						
PYL				AML	AML	04 08 42.5	
	comp=N,10638μm,0.5s						
ALIK	**Aliki, Aigiali**	**0.82**	**1**	P	**Pg**	**04 08 33.1**	**-0.4**
ALIK				S	**Sb**	**04 08 45.8**	**+0.6**
KRND	**KRANIDI**	**0.84**	**93**	P	**Pg**	**04 08 33.4**	**-0.4**
KRND				S	**Sg**	**04 08 45.0**	**+0.3**
	comp=N,3μm,0.4s						
KRND	**KRANIDI**	**0.84**	**93**	P	**Pg**	**04 08 33.1**	**-0.7**
KRND				AML	AML	04 08 49.7	
	comp=N,6851μm,0.4s						
KRND				AML	AML	04 08 51.2	
	comp=E,6260μm,0.4s						
UPR	**University Cam**	**0.88**	**344**	P	**Pg**	**04 08 34.1**	**-0.5**
UPR				S	**Sn**	**04 08 48.5**	**-0.5**
LOUT	**Loutraki**	**0.89**	**51**	P	**Pg**	**04 08 34.0**	**-0.7**
KALE	**Kalithea**	**0.95**	**2**	P	**Pg**	**04 08 35.6**	**-0.4**
KALE				S	**Sb**	**04 08 50.1**	**+1.0**
	comp=E,3μm,0.3s						
KALE	**Kalithea**	**0.95**	**2**	P	**Pg**	**04 08 34.5**	**-1.5**
KALE				AML	AML	04 08 50.3	
	comp=E,4636μm,0.5s						
KALE				AML	AML	04 08 51.6	
	comp=N,6080μm,0.4s						

VLI	**Veliai**	**0.98**	**137**	P	**Pg**	**04 08 36.2**	**-0.3**
VLI	**Veliai**	**0.98**	**137**	P	**Pg**	**04 08 35.9**	**-0.7**
VLI				AML	AML	04 08 56.0	
	comp=E,4316μm,0.5s						
VLI				AML	AML	04 08 56.5	
	comp=N,4504μm,0.5s						
EFP	**Efpalio**	**1.00**	**351**	P	**Pg**	**04 08 36.7**	**-0.2**
EFP				S	**Sn**	**04 08 52.6**	**+0.6**
EFP	**Efpalio**	**1.00**	**351**	P	**Pg**	**04 08 35.6**	**-1.3**
EFP				AML	AML	04 08 53.4	
	comp=N,4699μm,0.3s						
EFP				AML	AML	04 08 54.7	
	comp=E,3341μm,0.5s						
LTHK	**Lithakia**	**1.04**	**286**	P	**Pg**	**04 08 37.1**	**-0.6**
LTHK				S	**Sn**	**04 08 54.3**	**+1.4**
LTHK	**Lithakia**	**1.04**	**286**	P	**Pg**	**04 08 36.7**	**-0.9**
LTHK				AML	AML	04 08 59.8	
	comp=E,6313μm,0.3s						
LTHK				AML	AML	04 09 00.0	
	comp=N,6266μm,0.5s						
ANX	**Ano Chora**	**1.16**	**353**	P	**Pg**	**04 08 39.6**	**-0.4**
ANX				S	**Sn**	**04 08 57.8**	**+1.7**
ANX	**Ano Chora**	**1.16**	**353**	P	**Pg**	**04 08 38.2**	**-1.8**
ANX				AML	AML	04 09 05.4	
	comp=E,5338μm,0.5s						
ANX				AML	AML	04 09 06.9	
	comp=N,6455μm,0.5s						
VILL	**Villia**	**1.20**	**53**	P	**Pg**	**04 08 40.3**	**-0.5**
RTZL	**Ratzakli, Kefa**	**1.23**	**302**	P	**Pb**	**04 08 41.6**	**+0.6**
PVO	**Paravola**	**1.26**	**339**	P	**Pg**	**04 08 41.2**	**-0.7**
PVO	**Paravola**	**1.26**	**339**	P	**Pg**	**04 08 40.9**	**-1.0**
PSDA	**Pessada-Kefalo**	**1.38**	**300**	P	**Pb**	**04 08 44.0**	**+0.5**
PSDA	**Pessada-Kefalo**	**1.38**	**300**	P	**Pn**	**04 08 43.1**	**+0.1**
ATH	**Athens Observa**	**1.39**	**67**	P	**Pn**	**04 08 43.0**	**-0.1**
ATH	**Athens Observa**	**1.39**	**67**	P	**Pn**	**04 08 42.9**	**-0.1**
ATH				AML	AML	04 09 05.0	
	comp=E,2550μm,0.3s						
ATH				AML	AML	04 09 07.3	
	comp=N,2118μm,0.5s						
AXAR	**Agios Charalam**	**1.40**	**18**	P	**Pn**	**04 08 43.1**	**-0.2**
AXAR	**Agios Charalam**	**1.40**	**18**	P	**Pn**	**04 08 42.6**	**-0.7**
AXAR				AML	AML	04 09 09.2	
	comp=N,7192μm,0.8s						
AXAR				AML	AML	04 09 17.6	
	comp=E,5891μm,0.5s						
VLS	**Valsamata**	**1.41**	**302**	P	**Pn**	**04 08 43.4**	**0.0**
VLS				AML	AML	04 09 11.3	
	comp=E,1387μm,0.7s						
VLS				AML	AML	04 09 18.5	
	comp=N,1617μm,0.6s						
VLY	**Voula,Athens**	**1.41**	**72**	P	**Pn**	**04 08 43.1**	**-0.3**
VLY	**Voula,Athens**	**1.41**	**72**	P	**Pn**	**04 08 42.6**	**-0.7**
VLY				AML	AML	04 09 06.0	
	comp=E,2833μm,0.5s						
VLY				AML	AML	04 09 08.4	
	comp=N,2372μm,0.7s						
ATHU	**Athens Univers**	**1.44**	**68**	P	**Pn**	**04 08 43.5**	**-0.3**
ATHU				S	**Sn**	**04 09 05.1**	**+2.4**
ATHU	**Athens Univers**	**1.44**	**68**	P	**Pn**	**04 08 43.2**	**-0.6**
ATHU				AML	AML	04 09 07.0	
	comp=E,630μm,0.6s						
ATHU				AML	AML	04 09 11.3	
	comp=N,918μm,0.6s						
EVR	**Evrytania**	**1.50**	**351**	P	**Pb**	**04 08 45.6**	**0.0**
EVR	**Evrytania**	**1.50**	**351**	P	**Pn**	**04 08 44.7**	**0.0**
EVR				AML	AML	04 09 17.8	
	comp=E,2404μm,0.7s						
EVR				AML	AML	04 09 19.2	
	comp=N,2326μm,0.8s						
PTL	**Penteli**	**1.53**	**66**	P	**Pn**	**04 08 45.0**	**0.0**
PTL	**Penteli**	**1.53**	**66**	P	**Pn**	**04 08 44.5**	**-0.6**
PTL				AML	AML	04 09 10.9	
	comp=N,1664μm,0.5s						
PTL				AML	AML	04 09 15.3	
	comp=E,1819μm,0.4s						
MAKR	**Makrakomi, Fth**	**1.57**	**1**	P	**Pb**	**04 08 46.9**	**0.0**
MAKR	**Makrakomi, Fth**	**1.57**	**1**	P	**Pn**	**04 08 46.3**	**+0.5**
MAKR				AML	AML	04 09 16.6	
	comp=E,4694μm,0.5s						
MAKR				AML	AML	04 09 18.3	
	comp=N,4110μm,0.8s						
DION	**Dionisos Attik**	**1.59**	**66**	P	**Pb**	**04 08 46.9**	**-0.2**
DION				S	**Sg**	**04 09 08.6**	**-0.1**
DION	**Dionisos Attik**	**1.59**	**66**	P	**Pn**	**04 08 46.3**	**+0.4**
DION				AML	AML	04 09 11.8	
	comp=E,2525μm,0.4s						
DION				AML	AML	04 09 18.6	
	comp=N,3031μm,0.8s						
FSK	**Fiskardo**	**1.59**	**310**	P	**Pn**	**04 08 46.7**	**+0.8**
FSK	**Fiskardo**	**1.59**	**310**	P	**Pn**	**04 08 45.7**	**-0.1**
FSK				AML	AML	04 09 23.6	
	comp=N,884μm,0.6s						
FSK				AML	AML	04 09 24.9	
	comp=E,1473μm,0.6s						
AGG	**Agios Georgios**	**1.59**	**6**	Pn	**Pn**	**04 08 46.1**	**+0.1**
AGG	**Agios Georgios**	**1.59**	**6**	Pn	**Pn**	**04 08 45.8**	**-0.1**
AGG	**Agios Georgios**	**1.59**	**6**	P	**Pn**	**04 08 46.3**	**+0.3**
AGG	**Agios Georgios**	**1.59**	**6**	P	**Pn**	**04 08 45.3**	**-0.7**
EVGI	**Lefkada island**	**1.64**	**316**	P	**Pb**	**04 08 48.2**	**+0.1**
EVGI	**Lefkada island**	**1.64**	**316**	P	**Pn**	**04 08 46.6**	**0.0**
NYDR	**Nydri-Lefkada**	**1.69**	**319**	P	**Pn**	**04 08 48.5**	**+1.3**
NYDR	**Nydri-Lefkada**	**1.69**	**319**	P	**Pn**	**04 08 46.9**	**-0.3**
LKD2	**Lefkada island**	**1.77**	**320**	P	**Pn**	**04 08 49.6**	**+1.3**
LKD2	**Lefkada island**	**1.77**	**320**	P	**Pn**	**04 08 48.8**	**+0.4**
TSLK	**Tsoukalades, L**	**1.79**	**321**	P	**Pn**	**04 08 49.7**	**+1.0**
TSLK	**Tsoukalades, L**	**1.79**	**321**	P	**Pn**	**04 08 48.6**	**-0.1**
ANKY	**Antikythira Is**	**1.84**	**148**	P	**Pn**	**04 08 49.8**	**+0.5**
ANKY	**Antikythira Is**	**1.84**	**148**	P	**Pn**	**04 08 50.4**	**+1.1**
ANKY				AML	AML	04 09 33.4	
	comp=E,1224μm,0.7s						
ANKY				AML	AML	04 09 35.3	
	comp=N,944μm,0.7s						
KYMI	**Kymi, Euboea I**	**1.98**	**52**	P	**Pn**	**04 08 51.0**	**-0.2**
KYMI				AML	AML	04 09 25.2	
	comp=N,1088μm,0.6s						
KYMI				AML	AML	04 09 26.7	
	comp=E,756μm,0.4s						
NEO	**Neokhori**	**2.06**	**25**	P	**Pn**	**04 08 52.4**	**0.0**
NEO				AML	AML	04 09 28.9	
	comp=E,834μm,0.4s						
NEO				AML	AML	04 09 29.9	
	comp=N,1534μm,0.8s						
THL	**Klokotos Trika**	**2.13**	**358**	P	**Pn**	**04 08 53.8**	**+0.6**
THL	**Klokotos Trika**	**2.13**	**358**	P	**Pn**	**04 08 53.3**	**0.0**
THL				AML	AML	04 09 33.6	
	comp=E,440μm,0.4s						
THL				AML	AML	04 09 36.5	
	comp=N,408μm,0.7s						
TYRN	**Tyrnavos**	**2.27**	**3**	P	**Pn**	**04 08 55.7**	**+0.4**
TYRN	**Tyrnavos**	**2.27**	**3**	P	**Pn**	**04 08 55.1**	**-0.1**
RODP	**Rodopos**	**2.30**	**144**	Pn	**Pn**	**04 08 56.3**	**+0.6**
RODP	**Rodopos**	**2.30**	**144**	P	**Pn**	**04 08 56.7**	**+1.0**
SKY	**Skiros Island**	**2.41**	**53**	P	**Pn**	**04 08 57.1**	**0.0**
SKY	**Skiros Island**	**2.41**	**53**	P	**Pn**	**04 08 56.7**	**-0.4**
SKY				AML	AML	04 09 44.1	
	comp=N,715μm,1.1s						
SKY				AML	AML	04 09 45.1	
	comp=E,796μm,0.9s						
JAN	**Janina**	**2.42**	**337**	P	**Pn**	**04 08 58.5**	**+1.1**
IMMV	**Iera Moni Meta**	**2.49**	**142**	Pn	**Pn**	**04 08 58.6**	**+0.4**
IMMV				Sn	**Sn**	**04 09 30.3**	**+1.6**
IMMV	**Iera Moni Meta**	**2.49**	**142**	P	**Pn**	**04 08 59.2**	**+1.0**
IMMV	**Iera Moni Meta**	**2.49**	**142**	P	**Pn**	**04 08 59.5**	**+1.3**
IMMV				AML	AML	04 09 45.6	
	comp=N,864μm,0.5s						
IMMV				AML	AML	04 09 58.6	
	comp=E,900μm,0.6s						
KPRO	**Kipourio**	**2.58**	**347**	P	**Pn**	**04 09 00.7**	**+1.1**
APE	**Apeiranthos**	**2.76**	**97**	Pn	**Pn**	**04 09 01.9**	**-0.2**
APE	**Apeiranthos**	**2.76**	**97**	P	**Pn**	**04 09 01.9**	**-0.2**
APE				AML	AML	04 09 50.8	
	comp=N,292μm,0.6s						
APE				AML	AML	04 09 54.7	
	comp=E,163μm,0.4s						
THR5	**Thira Island,**	**2.79**	**110**	P	**Pn**	**04 09 03.2**	**+0.8**
CMBO	**Columbo, Santo**	**2.82**	**109**	P	**Pn**	**04 09 03.7**	**+0.9**
THR3	**Thira Island,**	**2.84**	**110**	P	**Pn**	**04 09 04.0**	**+1.0**
SANT	**Santorini**	**2.89**	**111**	Pn	**Pn**	**04 09 04.4**	**+0.5**
SANT	**Santorini**	**2.89**	**111**	Pn	**Pn**	**04 09 04.4**	**+0.5**
KEK	**Kerkira**	**2.90**	**322**	Pn	**Pn**	**04 09 04.2**	**+0.3**
KEK	**Kerkira**	**2.90**	**322**	Pn	**Pn**	**04 09 05.5**	**+1.6**
KTI	**Kastanea**	**2.95**	**0**	P	**Pn**	**04 09 06.4**	**+1.7**
GVD	**Gavdhos**	**3.05**	**148**	Pn	**Pn**	**04 09 07.0**	**+1.0**
IDI	**Anoyia**	**3.11**	**133**	Pn	**Pn**	**04 09 07.5**	**+0.7**

IDI	**Anoyia**	**3.11**	**133**	Pn	**Pn**	**04 09 07.4**	**+0.5**
IDI	**Anoyia**	**3.11**	**133**	P	**Pn**	**04 09 07.2**	**+0.4**
IDI	**Anoyia**	**3.11**	**133**	Pn	**Pn**	**04 09 06.9**	**0.0**
	comp=E,4.8nm,0.3s,baz=284,slow=6.5,SNR=15						
IDI				Sn	**Sn**	**04 09 42.1**	**-2.0**
	comp=E,9.7nm,0.3s,baz=266,slow=14,SNR=5.8						
IDI	**Anoyia**	**3.11**	**133**	P	**Pn**	**04 09 06.3**	**-0.5**
IDI				AML	AML	04 09 55.0	
	comp=E,181μm,0.4s						
IDI				AML	AML	04 09 58.2	
	comp=N,183μm,0.4s						
PLG	**Polygyros**	**3.12**	**19**	P	**Pn**	**04 09 07.0**	**+0.1**
PLG	**Polygyros**	**3.12**	**19**	P	**Pn**	**04 09 06.2**	**-0.7**
HORT	**Hortiatis**	**3.25**	**14**	Pn	**Pn**	**04 09 08.8**	**0.0**
HORT	**Hortiatis**	**3.25**	**14**	P	**Pn**	**04 09 09.5**	**+0.7**
CHOS	**Chios island**	**3.27**	**72**	Pn	**Pn**	**04 09 09.3**	**+0.2**
CHOS	**Chios island**	**3.27**	**72**	P	**Pn**	**04 09 09.2**	**+0.2**
FNA	**Florina**	**3.39**	**351**	Pn	**Pn**	**04 09 10.9**	**+0.2**
FNA	**Florina**	**3.39**	**351**	Pn	**Pn**	**04 09 11.7**	**+1.0**
FNA	**Florina**	**3.39**	**351**	P	**Pn**	**04 09 12.1**	**+1.4**
FNA	**Florina**	**3.39**	**351**	*e*Pn	**Pn**	**04 09 12.0**	**+1.4**
LIA	**Limnos Island**	**3.44**	**44**	P	**Pn**	**04 09 11.9**	**+0.5**
SIGR	**SIGRI**	**3.44**	**58**	Pn	**Pn**	**04 09 11.1**	**-0.3**
SIGR	**SIGRI**	**3.44**	**58**	P	**Pn**	**04 09 11.7**	**+0.3**
SOH	**Sokhos**	**3.52**	**16**	P	**Pn**	**04 09 13.2**	**+0.8**
VLO	**Vlora**	**3.65**	**327**	Pn	**Pn**	**04 09 14.0**	**-0.1**
URLA	**Izmir**	**3.67**	**74**	Pn	**Pn**	**04 09 14.8**	**+0.2**
PRK	**Paraskevi**	**3.74**	**60**	P	**Pn**	**04 09 16.1**	**+0.6**
KNT	**Kendrikon**	**3.77**	**9**	Pn	**Pn**	**04 09 16.5**	**+0.6**
OHR	**Ohrid**	**3.81**	**345**	*i* Pn	**Pn**	**04 09 20.6**	**+4.2**
SRS	**Serrai**	**3.85**	**17**	P	**Pn**	**04 09 17.4**	**+0.4**
SRS	**Serrai**	**3.85**	**17**	*e*Pn	**Pn**	**04 09 18.3**	**+1.3**
SCTE	**Santa Cesarea**	**3.87**	**314**	Pn	**Pn**	**04 09 18.4**	**+1.1**
VAY	**Valandovo**	**3.90**	**5**	*i* Pn	**Pn**	**04 09 19.8**	**+2.2**
ZKR	**Zakros**	**4.05**	**124**	Pn	**Pn**	**04 09 21.2**	**+1.4**
GCAM	**G?zelcaml?**	**4.09**	**85**	Pn	**Pn**	**04 09 20.2**	**0.0**
NVR	**Nevrokopi**	**4.14**	**19**	P	**Pn**	**04 09 22.9**	**+1.9**
BODT	**Bodrum**	**4.17**	**94**	Pn	**Pn**	**04 09 21.9**	**+0.5**
TIR	**Tirane**	**4.27**	**337**	Pn	**Pn**	**04 09 23.3**	**+0.5**
KARP	**Karpathos**	**4.49**	**113**	Pn	**Pn**	**04 09 27.6**	**+1.8**
TIP	**Timpagrande**	**4.55**	**294**	Pn	**Pn**	**04 09 27.3**	**+0.7**
RDO	**Rodhopi**	**4.56**	**35**	Pn	**Pn**	**04 09 25.6**	**-1.2**
RDO	**Rodhopi**	**4.56**	**35**	P	**Pn**	**04 09 28.5**	**+1.8**
ALN	**Alexandroupoli**	**4.62**	**40**	Pn	**Pn**	**04 09 28.0**	**+0.5**
PUK	**Puka**	**4.90**	**340**	Pn	**Pn**	**04 09 31.9**	**+0.3**
CEL	**Celeste**	**4.98**	**281**	Pn	**Pn**	**04 09 32.8**	**+0.3**
ARG	**Arkhangelos**	**4.99**	**102**	Pn	**Pn**	**04 09 33.0**	**+0.4**
BOSS	**Bosilegrad**	**5.06**	**3**	*e*Pn	**Pn**	**04 09 34.5**	**+0.9**
PLD	**Plovdiv**	**5.13**	**23**	*e*Pn	**Pn**	**04 09 35.4**	**+0.9**
DRME	**Dracevica, Mon**	**5.25**	**336**	*e*Pn	**Pn**	**04 09 37.1**	**+0.9**
VTS	**Vitosha**	**5.25**	**9**	*e*Pn	**Pn**	**04 09 37.2**	**+0.9**
PDG	**Podgorica**	**5.45**	**337**	Pn	**Pn**	**04 09 40.3**	**+1.4**
PDG	**Podgorica**	**5.45**	**337**	*e*Pn	**Pn**	**04 09 40.0**	**+1.1**
CUC	**Castrocucco**	**5.54**	**299**	Pn	**Pn**	**04 09 40.1**	**-0.1**
SELS	**Selova**	**5.83**	**353**	*e*Pn	**Pn**	**04 09 45.4**	**+1.3**
ZAPS	**Zavoj**	**5.84**	**4**	*e*Pn	**Pn**	**04 09 45.4**	**+1.0**
TREB	**Trebinje**	**6.01**	**333**	*e*Pn	**Pn**	**04 09 46.4**	**-0.2**
SJES	**Sjenica**	**6.04**	**345**	*e*Pn	**Pn**	**04 09 48.9**	**+1.7**
SJES	**Sjenica**	**6.04**	**345**	*e*Pn	**Pn**	**04 09 47.0**	**-0.2**
DBRK	**Dubrovnik**	**6.04**	**331**	*e*Pn	**Pn**	**04 09 46.6**	**-0.4**
BRY	**Bratogost**	**6.10**	**335**	*e*Pn	**Pn**	**04 09 47.7**	**-0.3**
RAFF	**Raffo Rosso**	**6.17**	**270**	Pn	**Pn**	**04 09 48.2**	**-0.6**
STON	**Ston**	**6.39**	**330**	*e*Pn	**Pn**	**04 09 51.2**	**-0.7**
STON	**Ston**	**6.39**	**330**	*e*Pn	**Pn**	**04 09 51.1**	**-0.7**
RUDO	**Rudo**	**6.51**	**342**	*e*Pn	**Pn**	**04 09 53.0**	**-0.6**
SGRT	**San Giovanni R**	**6.53**	**313**	Pn	**Pn**	**04 09 52.5**	**-1.4**
BBLS	**Lazi&#263i**	**6.74**	**343**	*e*Pn	**Pn**	**04 09 57.4**	**+0.7**
BBLS	**Lazi&#263i**	**6.74**	**343**	*e*Pn	**Pn**	**04 09 55.6**	**-1.1**
DIVS	**Divibare**	**6.84**	**347**	*e*Pn	**Pn**	**04 09 58.5**	**+0.3**
PAOL	**Paolisi**	**6.86**	**304**	Pn	**Pn**	**04 09 59.8**	**+1.4**
TRUS	**Trudelj**	**6.90**	**350**	*e*Pn	**Pn**	**04 09 59.1**	**+0.2**
HAPS	**Han Pijesak,BI**	**7.06**	**341**	*e*Pn	**Pn**	**04 10 01.1**	**0.0**
CLTB	**Caltabellotta**	**7.07**	**274**	Pn	**Pn**	**04 10 02.9**	**+1.7**
RICI	**Ricice**	**7.14**	**330**	*i* Pn	**Pn**	**04 10 02.1**	**0.0**
RICI				Sn	**Sn**	**04 11 21.2**	**-2.0**
TEKS	**Tekeris**	**7.37**	**346**	*e*Pn	**Pn**	**04 10 05.6**	**+0.3**
MDUB	**Mudurnu**	**7.71**	**64**	Pn	**Pn**	**04 10 11.6**	**+1.5**
INTR	**Introdacqua**	**7.79**	**308**	Pn	**Pn**	**04 10 13.1**	**+1.9**
FRGS	**Fruska Gora**	**7.90**	**348**	*e*Pn	**Pn**	**04 10 07.7**	**-4.9**
ZIRJ	**Zirje**	**7.92**	**324**	*e*Pn	**Pn**	**04 10 13.5**	**+0.7**
MGRS	**Mrkonjic Grad**	**7.94**	**333**	*e*Pn	**Pn**	**04 10 14.0**	**+0.9**
MORI	**Morici**	**8.05**	**325**	*e*Pn	**Pn**	**04 10 15.7**	**+1.1**
MORI				Sn	**Sn**	**04 11 41.9**	**-3.8**
BLY	**Banja Luka**	**8.19**	**335**	*e*Pn	**Pn**	**04 10 15.6**	**-1.0**
A050A	**Klekovaca**	**8.20**	**331**	*e*Pn	**Pn**	**04 10 17.3**	**+0.5**
CAMP	**Campotosto**	**8.39**	**310**	Pn	**Pn**	**04 10 19.7**	**+0.2**
A051A	**Mrakov

MKAR	Makanchi Array	44.63	58	P		P	04 16 29.5	-0.7
	comp=Z,0.5nm,0.4s,baz=276,slow=7.9,SNR=10.0							
	comp=Z,0.5nm,0.4s							
ZALV	Zalesovo Beam	45.26	48	P		P	04 16 33.9	-1.2
	comp=Z,0.9nm,0.3s,baz=272,slow=7.0,SNR=3.9							
	comp=Z,0.9nm,0.3s							
BOSA	Boshof	65.77	177	P		P	04 19 03.7	+0.8
	comp=Z,3.1nm,1.2s,baz=34,slow=11,SNR=2.0							
	comp=Z,3.1nm,1.2s							

*OSPL **29** 04:12:45.4±0.3, 18°.87N×67°.49W, h20km±4km, ML2.1*
*RSPR **29** 04:12:46.9, 18°.79N×67°.46W, h11km±1km, MD2.9/9*
*SDD **29** 04:12:49.3±2.1, 18°.60N×67°.47W, h13km±73km, MD2.9, ML1.7, MW2.4*
ISC 29 04:12:47.2±1.2, 18°.64N±0°.07×67°.48W±0°.04, h25km±11km, n27, σ0°93/35, 20C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.39	116	↑eP		Pb	04 12 55.5	-0.2
AGPR	Aguadilla, PR	0.39	116	↓ePg		Pb	04 12 55.4	-0.2
AGPR				↑eSg		Sb	04 13 01.6	+0.3
AGPR				IAML			04 13 03.9	
	comp=N,75nm,1.6s							
AGPR				IAML			04 13 04.8	
	comp=E,92nm,0.9s							
AGPR	Aguadilla, PR	0.39	116	i P		Pb	04 12 55.4	-0.2
AGPR				eS		Sb	04 13 02.6	+1.3
AGPR				IAML			04 13 04.3	
	comp=Z,47nm,0.6s							
PRSN	Puerto Rico Se	0.53	143	↑eP		Pb	04 12 58.4	+0.5
PRSN	Puerto Rico Se	0.53	143	eS		Sn	04 13 07.9	+0.5
LSP	Las Mesas	0.59	141	↑eP		Pb	04 12 59.2	+0.2
LSP	Las Mesas	0.59	141	eS		Sn	04 13 09.5	+0.4
CRPR	Cabo Rojo, PR	0.72	151	↓eP		Pn	04 13 01.8	-0.1
CRPR	Cabo Rojo, PR	0.72	151	↓ePg		Pn	04 13 02.4	+0.5
CRPR				↑eSg		Sb	04 13 09.3	-1.4
CRPR				IAML			04 13 18.4	
	comp=N,34nm,2.5s							
CRPR				IAML			04 13 22.8	
	comp=E,26nm,2.8s							
CRPR	Cabo Rojo, PR	0.72	151	i P		Pn	04 13 01.7	-0.1
CRPR				eS		Sn	04 13 13.9	+1.8
CRPR				IAML			04 13 16.6	
	comp=Z,60nm,1.9s							
AOPR	Arecibo Observ	0.75	113	↓eP		Pn	04 13 03.6	+1.3
AOPR				↑eSg		Sb	04 13 10.8	-0.7
AOPR				↑e			04 13 10.8	
AOPR				IAML			04 13 23.1	
	comp=E,37nm,1.1s							
AOPR				IAML			04 13 28.5	
	comp=N,20nm,1.4s							
MLPR	Magueyes Islan	0.79	148	↑eP		Pb	04 13 01.9	-0.3
MLPR	Magueyes Islan	0.79	148	eS		Sn	04 13 14.1	+0.4
MLPR	Magueyes Islan	0.79	148	↓ePg		Pn	04 13 03.3	+0.5
MLPR				↑eSg		Sb	04 13 13.1	+0.7
MLPR				IAML			04 13 15.1	
	comp=E,15nm,0.7s							
MLPR				IAML			04 13 17.9	
	comp=N,16nm,0.9s							
UUPR	Utuado, UPR, P	0.82	118	↑eP		Pb	04 13 01.9	-0.9
UUPR	Utuado, UPR, P	0.82	118	eS		Sb	04 13 13.4	-0.1
PCDR	Punta Cana, DR	0.86	262	↑eP		Pb	04 13 02.1	-1.5
PCDR	Punta Cana, DR	0.86	262	eS		Sn	04 13 15.0	-0.6
PCDR	Punta Cana, DR	0.86	262	i P		Pb	04 13 01.5	-2.0
PCDR				IAML			04 13 16.2	
	comp=Z,66nm,2.8s							
OBIP	Obispado Ponce	1.02	125	↑eP		Pn	04 13 05.6	-0.4
OBIP	Obispado Ponce	1.02	125	eS		Sb	04 13 19.2	-0.1
CELP	Cerrillos	1.02	123	↑eP		Pn	04 13 05.4	-0.7
CELP	Cerrillos	1.02	123	eS		Sb	04 13 19.3	0.0
CELP	Cerrillos	1.02	123	↑ePg		Pb	04 13 06.2	-0.2
CELP				↑eSg		Sb	04 13 19.4	0.0
CELP				IAML			04 13 23.1	
	comp=N,27nm,3.1s							
MIDR	Miches	1.52	283	↑ePg		Pb	04 13 16.1	+1.2
MIDR				↑eSg		Sb	04 13 35.6	+1.9
MIDR				IAML			04 13 37.6	
	comp=N,28nm,2.1s							
HUMP	Col San Antoni	1.63	107	↑eP		Pn	04 13 13.2	-1.1
HUMP	Col San Antoni	1.63	107	eS		Sn	04 13 33.4	-1.1

*IDC **29** 04:22:49.5±1.0, 8°.27S×116°.55E, h0km, mb3.9/7, mbtmp3.9/8, ML3.2/1, Error ellipse: s-maj=25.0km s-min=18.0km az=95.0*
*NEIC **29** 04:22:51.0±2.1, 8°.30S±0°.08×116°.47E±0°.07, h10km±1km, mb4.2/14, Error ellipse: s-maj=13.2km s-min=10.8km az=198.0*
*DJA **29** 04:22:51.0±0.3, 8°.5S±3°×11°.6E±°, h13km±3km, M4.2/13, mb4.3/6, MLv4.2/13*
ISC 29 04:22:50.9±0.6, 8°.31S±0°.06×116°.51E±0°.04, h10km, n46, σ1§18/47, mb4.1/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.56	139	P		Pb	04 23 03.4	+0.5
TWSI				S		Sb	04 23 12.1	+1.1
SRBI	Singaraja	1.30	280	P		Pn	04 23 14.1	-1.1
DNP	Denpasar	1.33	254	P		Pg	04 23 16.9	+0.4
PLAI	Plampang	1.36	112	P		Pg	04 23 17.5	+0.5
ABJI	Asem Bagus	2.31	283	P		Pn	04 23 28.3	-0.7
JAGI	Jajag, Banyuwa	2.33	266	Pn		Pn	04 23 28.3	-1.1
JAGI	Jajag, Banyuwa	2.33	266	P		Pn	04 23 28.7	-0.7
BASI	Baing, Sumba	4.44	116	P		Pn	04 23 59.4	+1.0
BSSI	Bau Bau, Buton	4.50	62	P		Pn	04 23 59.5	+0.2
KAPI	Kappang	4.60	45	Pn		Pn	04 23 59.9	-0.7
	1.3nm,0.3s,baz=168,slow=7.1,SNR=7.4							
KAPI				Sn		Sn	04 24 51.2	-2.9
	5.2nm,0.3s,baz=35,slow=22,SNR=10							
KAPI				Lg		Lg	04 25 13.4	
	5.1nm,0.3s,baz=76,slow=21,SNR=4.0							
	4.7nm,0.4s							
BKSI	Bulukumba	4.66	51	P		Pn	04 24 01.4	0.0
PWJI	Pagerwojo	4.66	273	P		Pn	04 24 01.2	-0.3
EDFI	Ende, Flores	5.15	95	P		Pn	04 24 07.6	-0.6
	44nm,1.0s,0.2nm							
UGM	Wanagama	5.94	273	Pn		Pn	04 24 17.5	-1.5
UGM	Wanagama	5.94	273	P		Pn	04 24 19.3	+0.3
	170nm,1.6s							
BATI	Baumata	7.31	105	P		Pn	04 24 35.3	-2.6
	39nm,1.4s							
LUWI	Luwuk	9.55	41	Pn		Pn	04 25 03.3	-5.3
MBWA	Marble Bar	13.14	167	Pn		Pn	04 25 55.7	-2.1
FITZ	Fitzroy Crossi	13.17	138	Pn		Pn	04 25 57.4	-0.8
PSA00	Pilbara Seismi	13.57	167	Pn		Pn	04 26 02.0	-1.7
KNRA	Kununurra	14.04	123	Pn		Pn	04 26 10.0	-0.1
GIRL	Giralia	14.41	188	Pn		Pn	04 26 12.9	-2.3
MORW	Morawa	20.65	181	P		P	04 27 30.4	-0.4
MORW				IAmb		IAmb	04 27 46.0	
	comp=Z,19nm,1.3s							
WB0	Warramunga Arr	20.73	125	P		P	04 27 31.7	-0.2
WB0				IAmb		IAmb	04 27 32.7	
	comp=Z,6.3nm,0.8s							
WRA	Warramunga Arr	20.78	126	P		P	04 27 31.1	-1.3
WRA	Warramunga Arr	20.78	126	P		P	04 27 32.5	+0.2
	comp=Z,5.6nm,0.8s,baz=300,slow=12,SNR=37							
	comp=Z,5.6nm,0.8s							
WB2	Warramunga Arr	20.79	126	P		P	04 27 32.2	-0.3
WB2				IAmb		IAmb	04 27 33.4	
	comp=Z,7.7nm,0.9s							
WR0	Warramunga Arr	20.95	125	P		P	04 27 34.0	-0.2
WR0				IAmb		IAmb	04 27 35.3	
	comp=Z,10nm,0.9s							
AS31	Alice Springs	22.60	134	P		P	04 27 50.5	-1.5
ASAR	Alice Springs	22.60	134	P		P	04 27 51.3	-0.7
ASAR	Alice Springs	22.60	134	P		P	04 27 52.1	+0.1
	comp=Z,2.7nm,0.7s,baz=312,slow=8.5,SNR=24							
	comp=Z,2.7nm,0.7s							
NWAO	Narrogin (SRO)	24.50	179	P		P	04 28 11.4	+0.8
FORT	Forrest	24.82	156	P		P	04 28 13.8	+0.3
COEN	Coen	26.75	104	P		P	04 28 30.7	-0.4
COEN				IAmb		IAmb	04 28 32.0	
	comp=Z,6.4nm,0.8s							
STKA	Stephens Creek	33.07	139	P		P	04 29 27.4	+0.4
STKA				IAmb		IAmb	04 29 31.6	
	comp=Z,3.9nm,1.5s							
STKA	Stephens Creek	33.07	139	P		P	04 29 27.4	+0.4
	comp=Z,3.8nm,1.0s,baz=321,slow=10,SNR=3.4							
	comp=Z,3.8nm,1.0s							
SONM	Songino Array	56.62	352	P		P	04 32 34.1	-0.1
	comp=Z,0.8nm,0.7s,baz=167,slow=9.1,SNR=5.7							
HEH	HeiHe	59.09	8	eP		P	04 32 55.5	+4.1
HEH				pmax		pmax		
	comp=Z,5.0nm,0.9s							
MKAR	Makanchi Array	62.75	334	P		P	04 33 16.5	+0.1
	comp=Z,0.2nm,0.5s,baz=145,slow=5.3,SNR=2.0							
	comp=Z,0.2nm,0.5s							
KURK	Kurchatov	67.32	335	P		P	04 33 46.2	+0.2
VNDA	Vanda	73.05	171	P		P	04 34 20.7	-0.1
VNDA				IAmb		IAmb	04 35 02.8	
	comp=Z,2.5nm,1.5s							
VNDA	Vanda	73.05	171	P		P	04 34 20.7	-0.1
	comp=Z,0.7nm,0.9s,baz=292,slow=6.9,SNR=4.2							
	comp=Z,0.7nm,0.9s							
SBA	Scott Base	74.07	170	P		P	04 34 27.4	+0.7
QSPA	South Pole Qui	81.68	180	P		P	04 35 09.8	+0.3
QSPA				IAmb		IAmb	04 35 50.2	
	comp=Z,4.5nm,1.4s							
QSPA	South Pole Qui	81.68	180	P		P	04 35 09.2	-0.2
	comp=Z,2.3nm,1.0s,baz=285,slow=3.1,SNR=4.5							
	comp=Z,2.3nm,1.0s							
CPUP	Villa Florida	145.05	190	PKPbc		PKPab	04 42 28.8	+0.1
	comp=Z,4.5nm,1.0s,baz=198,slow=4.8,SNR=6.5							

*NEIC **29** 04:30:52.6±1.5, 18°.1N±0°.2×68°.0W±0°.1, h127km±6km, ML2.4/24, Md3.2/10(RSPR), Error ellipse: s-maj=24.7km s-min=11.5km az=209.0*
*OSPL **29** 04:30:54.4±0.4, 17°.93N×68°.06W, h116km±8km, ML2.3*
*SDD **29** 04:30:54.1±1.5, 17°.86N×68°.11W, h115km±20km, MD3.0, ML2.4, MW2.6*
*RSPR **29** 04:30:55.7, 18°.04N×67°.87W, h123km±1km, MD3.2/10*
ISC 29 04:30:52.5±2.6, 18°.0N±0°.1×68°.05W±0°.07, h124km±16km, n40, σ0°79/55, 14C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.59	328	Pn		Pn	04 31 11.4	-0.1
PCDR				IAML			04 31 26.2	
	comp=N,168nm,2.0s							
PCDR				IAML			04 31 38.9	
	comp=E,95nm,2.1s							
PCDR	Punta Cana, DR	0.59	328	i P		Pn	04 31 12.1	+0.6
PCDR				IAML			04 31 24.8	
	comp=Z,61nm,2.2s							
CRPR	Cabo Rojo, PR	0.90	90	↓eP		Pn	04 31 15.4	+1.5
CRPR	Cabo Rojo, PR	0.90	90	eS		Sn	04 31 30.1	-0.1
CRPR	Cabo Rojo, PR	0.90	90			Pn	04 31 15.1	+1.1
CRPR						Sn	04 31 29.8	-0.4
CRPR	Cabo Rojo, PR	0.90	90	↑ePg		Pn	04 31 15.6	+1.6
CRPR				↓eSg		Sn	04 31 29.6	-0.6
CRPR				IAML			04 31 38.9	
	comp=E,34nm,3.1s							
CRPR				IAML			04 31 43.7	
	comp=N,34nm,2.6s							
CRPR	Cabo Rojo, PR	0.90	90	i P		Pn	04 31 14.4	+0.4
CRPR				↓eS		Sn	04 31 28.9	-1.3
CRPR				IAML			04 31 31.7	
	comp=Z,44nm,1.9s							
CRPR				i			04 31 37.9	
LSP	Las Mesas	0.93	80	↓eP		Pn	04 31 16.0	+1.7
LSP	Las Mesas	0.93	80			Pn	04 31 16.0	+1.7
MLPR	Magueyes Islan	0.96	93	↓eP		Pn	04 31 14.6	+0.1
MLPR	Magueyes Islan	0.96	93	eS		Sn	04 31 31.0	-0.2
MLPR	Magueyes Islan	0.96	93	Pn		Pn	04 31 13.4	-1.1
MLPR				Sn		Sn	04 31 30.8	-0.4
MLPR				IAML			04 31 37.7	
	comp=E,30nm,2.5s							
MLPR	Magueyes Islan	0.96	93	↑ePg		Pn	04 31 13.9	-0.6
MLPR				↑eSg		Sn	04 31 29.4	-1.8
MLPR				IAML			04 32 03.1	
	comp=N,26nm,3.0s							
AGPR	Aguadilla, PR	1.00	63	↓eP		Pn	04 31 15.8	+0.8
AGPR	Aguadilla, PR	1.00	63	eS		Sn	04 31 32.4	+0.5
AGPR	Aguadilla, PR	1.00	63	Pn		Pn	04 31 15.2	+0.3
AGPR				Sn		Sn	04 31 31.4	-0.5
AGPR				IAML			04 31 32.4	
	comp=E,104nm,2.9s							
AGPR				IAML			04 31 42.1	
	comp=N,102nm,2.0s							
AGPR	Aguadilla, PR	1.00	63	↑ePg		Pn	04 31 15.6	+0.6
AGPR				↑eSg		Sn	04 31 31.5	-0.5
AGPR				IAML			04 31 31.7	
	comp=E,101nm,2.6s							
AGPR				IAML			04 31 37.0	
	comp=N,97nm,2.5s							
AGPR	Aguadilla, PR	1.00	63	i P		Pn	04 31 15.5	+0.6
AGPR				eS		Sn	04 31 31.4	-0.5
AGPR				IAML			04 31 35.2	
	comp=Z,34nm,1.1s							
AOPR	Arecibo Observ	1.28	75	↓eP		Pn	04 31 18.5	+0.7
AOPR	Arecibo Observ	1.28	75	eS		Sn	04 31 36.7	-0.3
AOPR	Arecibo Observ	1.28	75	Pn		Pn	04 31 17.6	-0.2
AOPR				Sn		Sn	04 31 36.0	-1.0
AOPR	Arecibo Observ	1.28	75	↑ePg		Pn	04 31 18.2	+0.4
AOPR				↑eSg		Sn	04 31 36.9	-0.1
AOPR				IAML			04 31 39.0	
	comp=E,188nm,0.3s							
AOPR				IAML			04 31 40.3	
	comp=N,94nm,0.3s							
UUPR	Utuado, UPR, P	1.29	79	↑eP		Pn	04 31 18.9	+1.0
UUPR	Utuado, UPR, P	1.29	79	eS		Sn	04 31 37.0	-0.2
UUPR	Utuado, UPR, P	1.29	79	Pn		Pn	04 31 18.6	+0.7
UUPR				Sn		Sn	04 31 36.3	-0.9
MIDR	Miches	1.35	316	↑ePg		Pn	04 31 18.9	+0.3
MIDR				IAML			04 31 37.6	
	comp=N,23nm,1.9s							
MIDR				↑eSg		Sn	04 31 38.0	-0.4
OBIP	Obispado Ponce	1.38	89	↓eP		Pn	04 31 19.6	+0.7
OBIP	Obispado Ponce	1.38	89	eS		Sn	04 31 38.6	-0.2
OBIP	Obispado Ponce	1.38	89	Pn		Pn	04 31 18.8	0.0
OBIP				IAML			04 31 42.3	
	comp=N,27nm,2.4s							
CELP	Cerrillos	1.40	87	↑eP		Pn	04 31 19.9	+0.7
CELP	Cerrillos	1.40	87	eS		Sn	04 31 39.6	+0.2
CELP	Cerrillos	1.40	87	Pn		Pn	04 31 19.2	+0.1
CELP				Sn		Sn	04 31 39.1	-0.2
CELP	Cerrillos	1.40	87	↑ePg		Pn	04 31 19.6	+0.5
CELP				↑eSg		Sn	04 31 39.2	-0.2
CELP				IAML			04 31 54.3	
	comp=N,17nm,1.9s							
EMPR	Esperanza - Ma	1.52	72	Pn		Pn	04 31 20.1	-0.3
IGPR	InterUniversit	1.85	91	↓eP		Pn	04 31 25.4	+1.0
IGPR	InterUniversit	1.85	91	Pn		Pn	04 31 25.0	+0.6
IGPR				IAML			04 31 55.3	
	comp=E,21nm,0.3s							
IGPR				IAML			04 32 02.9	
	comp=N,28nm,2.1s							
GCPR	Guaynabo City	1.89	81	Pn		Pn	04 31 25.3	+0.4
GCPR				IAML			04 31 57.2	
	comp=E,23nm,2.5s							
GCPR				IAML			04 32 12.6	
	comp=N,20nm,2.2s							
HUMP	Col San Antoni	2.10	86	↑eP		Pn	04 31 28.1	+0.7
HUMP	Col San Antoni	2.10	86	eS		Sn	04 31 53.4	-0.7
HUMP	Col San Antoni	2.10	86	Pn		Pn	04 31 27.4	0.0
HUMP				Sn		Sn	04 31 53.0	-1.1
HUMP				IAML			04 31 55.7	
	comp=E,13nm,0.4s							
HUMP				IAML			04 31 56.3	
	comp=N,13nm,0.4s							

*IDC **29** 04:54:27.4±1.7, 5°.85S×130°.36E, h0km, mb3.5/1, mbtmp3.9/3, ML4.2/2, MS4.3/1, Error ellipse: s-maj=117.7km s-min=32.4km az=69.0*
*DJA **29** 04:54:36.5±0.3, 6°.5S±4°×13°.0E±°, h141km±8km, M4.3/7, mb4.0/7, mB5.0/2, MLv4.5/7, Mw(mB)4.3/2*
ISC 29 04:54:36.2±0.9, 5°.86S±0°.05×130°.55E±0°.08, h124km, n19, σ2§04/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.47	334	P		Pn	04 55 06.2	+2.6
BNDI	Bandanaira	1.47	334	P		Pn	04 55 05.9	+2.3
SAUI	Saumlaki	2.24	161	P		Pn	04 55 14.9	+2.0
SAUI	Saumlaki	2.24	161	P		Pn	04 55 14.5	+1.6
FAKI	Fak Fak	3.37	30	P		Pn	04 55 29.0	+1.5
FAKI	Fak Fak	3.37	30	P		Pn	04 55 29.0	+1.5
FAKI				S		Sn	04 56 06.3	-0.9
KMPI	Kaimana, Papua	3.82	55	P		Pn	04 55 36.5	+3.0
KMPI				S		Sn	04 56 17.6	-0.3
SWI	Sorong	5.01	8	P		Pn	04 55 50.3	+0.9
	34nm,0.6s,4μm0.7nm							
SWI				S		Sn	04 56 43.8	-2.5
	34nm,0.6s,4μm0.7nm							
DRS	Darwin Rock St	6.54	177	P		Pn	04 56 10.4	+0.4
MTN	Manton Dam	6.97	175	P		Pn	04 56 15.8	0.0
KDU	Kakadu	7.05	165	P		Pn	04 56 16.4	-0.5
SOEI	Soe	7.33	238	P		Pn	04 56 23.5	+2.6
FITZ	Fitzroy Crossi	13.08	201	P		Pn	04 57 37.5	+0.1
WRA	Warramunga Arr	14.48	166	Pn		Pn	04 57 52.7	-2.7
	1.1nm,0.3s,baz=348,slow=13,SNR=37							
	2.1nm,0.4s							
JAGI	Jajag, Banyuwa	16.48	260	P		Pn	04 58 16.6	-3.7
	31nm,1.4s							
ASAR	Alice Springs	18.00	170	P		Pn	04 58 40.3	+1.6
	0.8nm,0.3s,baz=345,slow=11,SNR=42							
	1.8nm,0.4s							
RAO	Raoul Island	53.83	122	LR		LR	05 28 17.5	
	comp=Z,261nm,18.2s,baz=260,slow=38							
MKAR	Makanchi Array	67.58	326	P		P	05 05 25.1	+5.6
	0.2nm,0.5s,baz=121,slow=7.0,SNR=2.8							
	0.2nm,0.5s							
LPAZ	La Paz	151.26	140	PKPbc		PKPab	05 14 25.2	+0.1
	0.4nm,0.3s,baz=217,slow=5.1,SNR=2.1							

*CNRM **29** 05:01:32.7, 36°.15N×10°.37W, h9km*
INMG 29 05:01:33.4±1.1, 36°.48N×11°.09W, h36km, ML1.6, Error ellipse: s-maj=10.0km s-min=5.5km az=103.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.93	70	eP		Pn	05 02 02.2	-1.5
PFVI				eS		Sn	05 02 24.0	-2.8
PFVI				A		A	05 02 24.8	
	7.0nm,0.6s							
PTEO	Sao Teotonio	2.18	60	eS		Sn	05 02 30.5	-2.2
PNCL	Nicolau / Gran	2.62	51	eP		Pn	05 02 11.7	-1.4
PNCL				eS		Sn	05 02 40.9	-2.7
PNCL				A		A	05 02 43.6	
	1.2nm,0.2s							
PBDV	Barranco-do-Ve	2.65	72	eS		Sn	05 02 41.6	-2.9
MESJ	Messejana	2.67	59	eS		Sn	05 02 42.7	-2.2
MESJ				A		A	05 02 52.1	
	1.4nm,0.8s							
PCVE	Castro Verde	2.70	64	eS		Sn	05 02 43.2	-2.5
PCVE				A		A	05 02 45.8	
	0.9nm,0.3s							
PVAQ	Vaqueiros	2.86	70	eP		Pn	05 02 15.4	-1.0
PVAQ				eS		Sn	05 02 46.5	-3.1
PVAQ				A		A	05 02 52.1	
	1.8nm,0.7s							
PVAQ	Vaqueiros	2.86	70	P		Pn	05 02 12.9	-3.5
PVAQ	Vaqueiros	2.86	70	S		Sn	05 02 44.9	-4.7
PMAFR	Mafra	2.86	30	eS		Sn	05 02 46.5	-3.2
EVO	Evora	3.19	49	eP		Pn	05 02 20.2	-0.9
EVO				eS		Sn	05 02 55.0	-2.9
EVO				A		A	05 02 57.5	
	1.3nm,0.1s							
PMTG	Montargil	3.44	40	eS		Sn	05 03 00.7	-3.3
PBAR	Barrancos	3.65	61	eS		Sn	05 03 05.8	-3.3
PESTR	Estremoz	3.66	48	eS		Sn	05 03 05.6	-3.9
PESTR	Estremoz	3.66	48	P		Pn	05 02 26.6	-0.9
PESTR	Estremoz	3.66	48	S		Sn	05 03 09.8	+0.3
PMRV	Marv??o	4.15	44	eS		Sn	05 03 16.9	-4.6
OUK	Oukaimeden	5.90	152	P		Pn	05 02 54.1	-4.5
OUK	Oukaimeden	5.90	152	S		Sn	05 03 56.7	-8.5
TISM	Timmit	6.12	140	P		Pn	05 02 54.8	-6.3
TISM	Timmit	6.12	140	S		Sn	05 03 58.8	-11
MD31	MD31	6.34	123	P		Pn	05 02 57.4	-7.0
MD31	MD31	6.34	123	S		Sn	05 04 03.7	-12
MDT	Midelt	6.47	122	P		Pn	05 02 59.2	-7.0
MDT	Midelt	6.47	122	S		Sn	05 04 06.8	-12

*IDC **29** 05:16:16.9±1.1, 49°.50N×157°.10E, h0km, mb3.4/4, mbtmp3.6/6, ML3.7/2, Error ellipse: s-maj=54.6km s-min=23.5km az=140.0*
*KRSC **29** 05:16:22.6±1.2, 49°.90N×156°.72E, h31km±16km, Ml4.2*
*MOS **29** 05:16:22.4±0.6, 49°.76N×156°.45E, h59km, mb4.3/1, Error ellipse: s-maj=36.8km s-min=5.3km az=75.9*
ISC 29 05:16:24.3±0.9, 49°.85N±0°.08×156°.40E±0°.08, h55km, n50, σ1§21/62, mb3.3/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.85	348	eP		Pn	05 16 39.2	-1.0
SKR				eS		Sn	05 16 50.3	-1.6
SKR	Severo-Kuril's	0.85	348	ePN		Pn	05 16 39.2	-1.0
SKR				eS		Sn	05 16 50.3	-1.6
SKR				pmax	pmax			
	comp=Z,1μm,0.3s							
SKR				smax	smax			
	comp=E,2μm,0.3s							
SKR				smax	smax			
	comp=N,2μm,0.2s							
KDTR	Khodutka, Kamc	2.23	28	eP		Pn	05 16 57.9	-1.0
KDTR				eS		Sn	05 17 23.2	-2.0
KDTR	Khodutka, Kamc	2.23	28	PN		Pn	05 16 57.8	-1.0
KDTR				S		Sn	05 17 23.1	-2.0
ASAK	Asacha	2.71	20	eP		Pn	05 17 05.5	+0.1
ASAK	Asacha	2.71	20	PN		Pn	05 17 05.5	+0.1
MTVR	Mutnovka	2.87	22	eP		Pn	05 17 07.6	0.0
MTVR				eS		Sn	05 17 40.1	-0.9
MTVR	Mutnovka	2.87	22	PN		Pn	05 17 07.6	0.0
MTVR				S		Sn	05 17 40.1	-0.9
GRL	Gorelyy	2.91	21	eP		Pn	05 17 08.4	+0.2
GRL				eS		Sn	05 17 41.2	-0.7
GRL	Gorelyy	2.91	21	PN		Pn	05 17 08.3	+0.2
GRL				S		Sn	05 17 41.1	-0.7
APC	Apacha	3.12	9	eP		Pn	05 17 10.6	-0.3
APC	Apacha	3.12	9

H11N3 WAKE ISLAND Hy 31.21 161 T T 05 55 45.5
baz=347,slow=76,SNR=56
H11S1 WAKE ISLAND Hy 32.34 162 T T 05 57 08.3
baz=348,slow=76,SNR=270
H11S3 WAKE ISLAND Hy 32.35 162 T T 05 57 08.3
baz=348,slow=76,SNR=263
H11S2 WAKE ISLAND Hy 32.36 161 T T 05 57 09.7
baz=348,slow=76,SNR=176
ILAR Eielson Array 32.77 41 P **P** **05 22 50.2 -1.4**
comp=N,0.3nm,0.7s,baz=267,slow=6.3,SNR=6.6
comp=N,0.3nm,0.7s
WRA Warramunga Arr 72.18 202 P **P** **05 27 42.0 -1.1**
comp=N,0.3nm,0.5s,baz=18,slow=6.1,SNR=4.7
comp=N,0.3nm,0.5s
TXAR Lajitas Array 74.10 63 P **P** **05 27 54.1 -0.5**
comp=N,0.2nm,0.5s,baz=284,slow=4.6,SNR=5.9
comp=N,0.2nm,0.5s
ASAR Alice Springs 75.87 201 P **P** **05 28 04.3 -0.3**
comp=N,0.2nm,0.4s,baz=11,slow=6.2,SNR=2.1
comp=N,0.2nm,0.4s

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*TEH **29** 05:25:06.5,34°.67N×46°.23E,h10km±62km,ML2.6*
*ISN **29** 05:25:07.1±1.2,34°.67N×46°.27E,h28km±23km,ML2.6*
ISC 29 05:25:06.3±1.2,34°.67N±0°.05×46°.22E±0°.04,h12km±12km,
n10,σ0s68/12,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**77**	Pg	**Pg**	**05 25 10.0**	**+0.1**
IGHG	**Ghaleghazi**	**0.45**	**139**	Pg	**Pb**	**05 25 15.9**	**-0.4**
GLG1	**Gilan-e-Gharb**	**0.61**	**205**	Pg	**Pb**	**05 25 18.6**	**-0.3**
ILIN	**Lien**	**0.66**	**68**	Pg	**Pb**	**05 25 19.2**	**-0.9**
KCHF	**Cheshme Sefid,**	**0.79**	**120**	Pg	**Pb**	**05 25 21.4**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.04**	**180**	Pg	**Pn**	**05 25 26.5**	**-0.4**
SNQR	**Sonqor, Kerman**	**1.18**	**80**	Pg	**Pg**	**05 25 29.8**	**+0.8**
IBZA	**Bozab**	**1.37**	**98**	Pg	**Pb**	**05 25 32.2**	**+0.1**
IBDR	**Badra**	**1.57**	**189**	*e*Pg	**Pb**	**05 25 35.0**	**-0.4**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**05 25 57.0**	**+0.1**
IKRK	**Kirkuk**	**1.70**	**296**	*e*Pn	**Pb**	**05 25 37.0**	**-0.6**
IKRK				*e*Sn	**Sb**	**05 26 00.0**	**+0.9**
IKRK				AML	AML	05 26 09.8	
	comp=E,11nm,0.8s						
IKRK				AML	AML	05 26 11.2	
	comp=N,9.7nm,0.7s						

IDC 29 05:36:26.4±5.2,8°.23S×119°.83E,h216km±64km,mb3.2/3,
mbtmp3.7/4,Error ellipse: s-maj=150.3km
s-min=14.6km az=48.0,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.25**	**131**	P	P	05 40 23.9	-0.1
	0.9nm,0.7s,baz=304,slow=13,SNR=25						
WRA				S	S	05 43 42.2	+0.8
	0.9nm,0.8s,baz=308,slow=24,SNR=2.3						
ASAR	**Alice Springs**	**20.43**	**140**	P	P	05 40 47.5	0.0
	0.8nm,0.5s,baz=316,slow=10,SNR=19						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**64.15**	**332**	P	P	05 46 38.5	+0.7
	0.5nm,0.5s,baz=136,slow=6.1,SNR=6.1						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**68.62**	**339**	P	P	05 47 04.7	-1.2
	0.8nm,0.5s,baz=131,slow=6.5,SNR=2.7						
	0.8nm,0.5s						

IDC 29 05:46:35.9±5.2,21°.58S×147°.89E,h0km,mbtmp2.8/2,
ML2.3/3,Error ellipse: s-maj=40.7km s-min=29.8km
az=82.0,Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.13**	**314**	Pn	Pn	05 47 12.4	-0.3
	0.2nm,0.3s,baz=133,slow=15,SNR=38						
CTA				Lg	Lg	05 47 44.2	
	0.8nm,0.3s,baz=67,slow=20,SNR=21						
WRA	**Warramunga Arr**	**12.78**	**275**	Pn	Pn	05 49 38.1	-0.9
	baz=91,slow=12,SNR=2.2						
WRA				Lg	Lg	05 53 20.7	
	0.4nm,0.3s,baz=98,slow=23,SNR=3.3						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**13.08**	**258**	Pn	Pn	05 49 44.5	+1.4
	baz=82,slow=14,SNR=1.2						
ASAR				Sn	Sn	05 52 12.2	+2.7
	baz=74,slow=25,SNR=1.8						
ASAR				Lg	Lg	05 53 29.7	
	baz=76,slow=32,SNR=3.3						
	0.2nm,0.7s						
I22FR	**PORTLAGUERRE I**	**17.61**	**95**	I	I	07 34 50.0	
	baz=266,slow=278,SNR=3.0						

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*ISU **29** 05:46:56.3,41°.74N×68°.89E,h11km*
*KRNET **29** 05:46:59.8±0.1,41°.70N×69°.14E,mb2.4*
*NNC **29** 05:47:03.6±12.0,41°.78N×69°.16E,h0km,mb3.4,mpv3.3,*
Error ellipse: s-maj=85.1km s-min=36.2km az=37.0
SOME 29 05:47:01.6,41°.73N×69°.08E,h15km,8C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMG	**Chimgan**	**0.72**	**104**	P	Pg	05 47 13.2	-2.4
CHMG				S	Sb	05 47 25.9	+0.3
IUG	**Iuzhnay**	**0.82**	**59**	*e*P	Pg	05 47 17.2	-0.3
	8.5nm,0.0s						
IUG				*e*S	Sg	05 47 28.3	-0.1
	26nm,0.2s						
TRKS	**Terek-Say**	**1.56**	**97⇑**	*e*P	Pn	05 47 28.3	-0.6
	baz=98						
TRKS				⇑*i*S	Sn	05 47 49.0	+0.1
	baz=98						
KK31	**Karatay Array**	**1.73**	**37**	⇑Pg	Pb	05 47 33.4	+0.3
	0.5nm,0.3s,baz=212,slow=17,SNR=15						
KK31				⇑Lg	Lg	05 47 56.8	
	5.2nm,0.4s,baz=220,slow=24,SNR=28						
KKAR	**Karatay Array**	**1.73**	**37**	⇓*e*P	Pn	05 47 31.7	+0.5
	baz=35						
KKAR				⇓*e*S	Sb	05 47 54.9	+0.2
	baz=35						
BTK	**Batken**	**2.13**	**141**	⇓*e*P	Pn	05 47 36.9	+0.2
	baz=42						
BTK				⇓*e*S	Sn	05 48 03.9	+1.0
	baz=42						
ARK	**Arkit**	**2.15**	**87⇑**	*e*P	Pn	05 47 37.5	+0.4
	baz=86						
ARK				⇑*e*S	Sn	05 48 05.0	+1.4
	baz=86						
MNAS	**Manas**	**2.65**	**72⇑**	*e*P	Pn	05 47 44.6	+0.6
	baz=71						
MNAS				⇑*e*S	Sn	05 48 17.3	+1.3
	baz=71						
ARSB	**Arslanbob**	**2.96**	**97**	⇓*e*P	Pn	05 47 48.8	+0.7
	baz=96						
ARSB				⇓*e*S	Sn	05 48 24.5	+1.1
	baz=96						
MRKS	**Merke**	**3.24**	**70**	*e*P	Pb	05 47 59.9	+1.0
	1.7nm,3.5s						
MRKS				*e*S	Sb	05 48 41.6	+3.5
	4.4nm,0.2s						
KRBS	**Karabastau**	**5.24**	**66**	*e*P	Pg	05 48 37.5	-4.4
	0.2nm,0.1s						
KRBS				*e*S	Sg	05 49 46.4	-3.3
	0.7nm,0.2s						
KRBS	**Karabastau**	**5.24**	**66**	Lg	Lg	05 49 43.9	
	0.9nm,0.3s						
KRBS				Pg	Sg	05 49 17.1	-33
	0.8nm,0.5s						

SOME 29 05:48:40.0,42°.38N×81°.07E,h0km,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek**	**2.06**	**303**	*e*P	Pg	05 49 19.0	-0.4
	4.4nm,0.3s						
KPKS				*e*S	Sg	05 49 47.2	+1.1
	6.1nm,0.1s						
KPKS	**Kokpek**	**2.06**	**303**	Pg	Pg	05 49 19.0	-0.4
	4.4nm,0.3s						
KPKS				Lg	Lg	05 49 47.2	
	6.5nm,0.5s						
SATY	**Saty**	**2.07**	**290**	*e*P	Pg	05 49 19.4	-0.4
	1.3nm,0.1s						
SATY				*e*S	Sg	05 49 47.7	+1.0
	5.2nm,0.1s						
BLB	**Baldybastay**	**2.55**	**313**	Pg	Pb	05 49 27.2	+0.4
	4.0nm,0.3s						
BLB				Lg	Lg	05 50 01.2	
	5.7nm,0.4s						
ARXS	**Arharly**	**2.99**	**309**	*e*P	Pg	05 49 36.0	-1.3
	1.0nm,0.2s						
ARXS				*e*S	Sg	05 50 16.3	+0.2
	3.0nm,0.3s						
KTBS	**Karatobe**	**3.48**	**294**	*e*P	Pb	05 49 44.0	+1.5
	0.7nm,0.2s						
KTBS				*e*S	Sg	05 50 30.1	-1.6
	4.0nm,0.3s						

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*IDC **29** 05:49:50.9±2.6,30°.92S×67°.84W,h76km±23km,mb3.4/2,*
mbtmp3.6/5,MS2.6/1,Error ellipse: s-maj=46.3km
s-min=23.6km az=109.0
*SJA **29** 05:49:54.9±0.7,31°.14S×67°.48W,h109km±3km,ML3.6,*
MW3.6
ISC 29 05:49:55.4±0.8,31°.16S±0°.04×67°.47W±0°.04,h112km±7km,
n39,σ1s23/54,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVFE	**Valle Fertil**	**0.50**	**1**	*e*P	**Pn**	**05 50 12.7**	**+0.1**
AVFE				*e*S	**Sn**	**05 50 25.2**	**-0.3**
AVFE				IAML		05 50 26.4	
	comp=Z,3μm,0.3s						
ACHE	**Chepes**	**0.69**	**90**	*e*P	**Pn**	**05 50 14.8**	**+0.8**
SJA	**San Juan**	**1.00**	**248**	*e*P	**Pn**	**05 50 17.1**	**+0.3**
SJA				*e*S	**Sn**	**05 50 33.2**	**+0.1**
SJA				IAML		05 50 34.6	
	comp=Z,963nm,0.2s						
ZON	**Zonda**	**1.10**	**249**	*e*P	**Pn**	**05 50 17.9**	**0.0**
ZON				*e*S	**Sn**	**05 50 35.3**	**+0.4**
ZON				IAML		05 50 35.5	
	comp=Z,880nm,0.2s						
RTCV	**Cerro Valdivia**	**1.15**	**232**	*e*P	Pn	05 50 14.1	-4.3
DOCA	**Reserva Natura**	**1.40**	**278**	*e*P	**Pn**	**05 50 21.4**	**-0.1**
DOCA				*e*S	**Sn**	**05 50 41.5**	**+0.1**
DOCA				IAML		05 50 52.0	
	comp=Z,926nm,1.1s						
ACCO	**Cerro Coronel**	**1.49**	**292**	*e*P	**Pn**	**05 50 22.5**	**0.0**
ACCO				*e*S	**Sn**	**05 50 44.0**	**+0.9**
RTLS	**Leoncito**	**1.69**	**247**	*e*P	**Pn**	**05 50 25.5**	**+0.6**
RTLS				*e*S	**Sn**	**05 50 48.9**	**+1.6**
RTLS				IAML		05 50 49.6	
	comp=Z,1μm,0.3s						
ACDV	**Cuesta del Vie**	**1.73**	**304**	*e*P	**Pn**	**05 50 25.5**	**+0.2**
ACDV				*e*S	**Sn**	**05 50 46.4**	**-1.7**
ACDV				IAML		05 50 48.0	
	comp=Z,398nm,0.3s						
ACLC	**CERRO LA CRUZ**	**1.79**	**15**	*e*P	**Pn**	**05 50 26.1**	**0.0**
ACLC				*e*S	**Sn**	**05 50 49.3**	**0.0**
ACLC				IAML		05 50 49.5	
	comp=Z,331nm,0.2s						
ASAL	**Salagasta**	**1.84**	**219**	*e*P	**Pn**	**05 50 27.1**	**+0.5**
ASAL				*e*S	**Sn**	**05 50 51.4**	**+1.1**
MRA	**San Martin**	**1.95**	**131**	*e*P	**Pn**	**05 50 28.8**	**+0.9**
MRA				*e*S	**Sn**	**05 50 53.6**	**+0.9**
MRA				IAML		05 50 54.1	
	comp=Z,181nm,0.4s						
AROD	**Rodeo**	**1.99**	**299**	*e*P	**Pn**	**05 50 29.0**	**+0.3**
AROD				*e*S	**Sn**	**05 50 54.0**	**-0.1**
ARCO	**CERRO ARCO**	**2.09**	**216**	*e*P	**Pn**	**05 50 30.3**	**+0.6**
ARCO				*e*S	**Sn**	**05 50 55.7**	**-0.3**
ARCO				IAML		05 50 59.9	
	comp=Z,388nm,0.5s						
AAGR	**Agrelo**	**2.24**	**211**	*e*P	**Pn**	**05 50 32.3**	**+0.7**
AAGR				*e*S	**Sn**	**05 50 54.0**	**-5.4**
AVIZ	**Vizcacheras**	**2.47**	**201**	*e*P	**Pn**	**05 50 35.2**	**+0.6**
AVIZ				*e*S	Sn	05 50 53.8	-11
VCA	**Vinchina**	**2.50**	**345**	*e*P	**Pn**	**05 50 35.5**	**+0.5**
VCA				*e*S	**Sn**	**05 51 05.8**	**+0.3**
VCA				IAML		05 51 12.9	
	comp=Z,428nm,0.3s						
CO01	**Juntas del Tor**	**2.55**	**297**	*e*P	**Pn**	**05 50 37.0**	**+1.2**
CO01				*e*S	**Sn**	**05 51 07.5**	**+0.6**
CO01				IAML		05 51 07.7	
	comp=Z,213nm,0.7s						
CO03	**El Pedregal**	**2.79**	**276**	*e*P	**Pn**	**05 50 39.5**	**+0.8**
CO03				*e*S	**Sn**	**05 51 12.8**	**+0.8**
CO03				IAML		05 51 14.6	
	comp=Z,194nm,0.3s						
CO02	**Combarbal**	**3.03**	**268**	*e*P	**Pn**	**05 50 42.3**	**+0.4**
CO02				*e*S	**Sn**	**05 51 18.7**	**+0.9**
CO02				IAML		05 51 19.9	
	comp=Z,409nm,0.5s						
GO04	**Tololo Observa**	**3.04**	**288**	*e*P	**Pn**	**05 50 42.6**	**+0.5**
VA03	**San Esteban**	**3.07**	**238**	*e*P	**Pn**	**05 50 43.3**	**+0.9**
VA03				*e*S	Sn	05 51 05.8	-13
VA03				IAML		05 51 29.4	
	comp=Z,114nm,0.5s						
CYA	**Choya**	**3.07**	**29**	*e*P	**Pn**	**05 50 42.0**	**-0.5**
CYA				*e*S	**Sn**	**05 51 17.5**	**-1.3**
CYA				IAML		05 51 18.1	
	comp=Z,193nm,0.8s						
PIL	**Pilar**	**3.11**	**100**	*e*P	**Pn**	**05 50 44.9**	**+2.0**
MT08	**Bocatoma Ro**	**3.14**	**223**	*e*P	**Pn**	**05 50 44.1**	**+0.6**
MT08				IAML		05 51 25.7	
	comp=Z,130nm,0.4s						
MT04	**Ro Olivares**	**3.18**	**225**	*e*P	**Pn**	**05 50 45.2**	**+1.2**
MT04				IAML		05 51 25.0	
	comp=Z,53nm,0.6s						
AC05	**El Transito**	**3.36**	**313**	*e*P	**Pn**	**05 50 47.3**	**+0.9**
AC05				IAML		05 51 28.8	
	comp=Z,61nm,0.3s						
MT03	**Universidad Ad**	**3.47**	**227**	*e*P	**Pn**	**05 50 48.5**	**+0.7**
MT03				IAML		05 51 35.1	
	comp=Z,143nm,0.2s						
MT05	**Renca**	**3.55**	**230**	*e*S	**Sn**	**05 51 27.6**	**-2.5**
MT05				IAML		05 51 34.0	
	comp=Z,157nm,0.5s						
BO02	**Sierra Bellavi**	**4.57**	**217**	*e*P	**Pn**	**05 51 02.7**	**+0.3**
BO02				IAML		05 52 03.6	
	comp=Z,59nm,0.1s						
LVC	**Limon Verde**	**8.61**	**351**	P	Pn	05 51 49.1	-8.4
	comp=Z,2.1nm,0.7s,baz=150,slow=8.1,SNR=9.2						
PLCA	**Paso Flores**	**9.87**	**194**	P	**Pn**	**05 52 12.8**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=0.4,slow=10,SNR=10.0						
CPUP	**Villa Florida**	**10.11**	**64**	P	**Pn**	**05 52 15.0**	**-2.5**
	comp=Z,0.5nm,0.4s,baz=234,slow=17,SNR=1.2						
SIV	**San Ignacio**	**16.19**	**23**	LR	LR	06 01 20.2	
	comp=Z,22nm,20.0s,baz=111,slow=43						
QSPA	**South Pole Qui**	**59.07**	**180**	P	**P**	**05 59 44.7**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=114,slow=4.1,SNR=1.6						
	comp=Z,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**79.59**	**68**	P	**P**	**06 01 51.2**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=246,slow=2.5,SNR=13						
	comp=Z,0.8nm,0.5s						
WRA	**Warramunga Arr**	**125.04**	**205**	PKP	**PKPdf**	**06 08 41.3**	**-1.9**
	comp=Z,0.7nm,1.1s,baz=157,slow=4.5,SNR=2.5						
KURBB	**Kurchatov Arra**	**148.17**	**42**	PKPbc	**PKPbc**	**06 09 28.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=290,slow=2.8,SNR=2.0						
MKAR	**Makanchi Array**	**152.00**	**47**	PKPbc	**PKPbc**	**06 09 37.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=292,slow=3.8,SNR=4.2						

RSNC 29 06:08:52.5±0.0,10°N±1°×7°4W±°,h94km±2km,M3.1,mb4.0,
mB4.4,ML2.9,Mw(mB)3.5,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARGC	**Ariguani, Magd**	**0.63**	**246**	P	Pn	06 09 09.3	+0.5
ARGC				S	Sn	06 09 22.0	+1.1
LL8C	**La Loma 8 Chim**	**0.79**	**190**	P	Pn	06 09 10.0	-0.3
LL8C				S	Sn	06 09 23.2	-0.3
SMRC	**Santa Marta, M**	**1.18**	**332**	P	Pn	06 09 14.8	+0.3
SMRC				S	Sn	06 09 31.2	+0.1
CRJC	**Cerrejon, Guaj**	**1.18**	**40**	P	Pn	06 09 14.8	+0.2
CRJC				S	Sn	06 09 31.5	+0.2
SJCC	**San Jacinto, C**	**1.51**	**262**	P	Pn	06 09 18.1	-0.6
SJCC				S	Sn	06 09 37.9	-0.6
AGCC	**Aguachica**	**1.60**	**177**	P	Pn	06 09 18.8	-1.0
AGCC				S	Sn	06 09 38.9	-1.5
OCAC	**Ocana**	**1.90**	**170**	P	Pn	06 09 23.0	-0.7
OCAC				S	Sn	06 09 46.4	-1.1
VMM05	**San Martn**	**2.20**	**177**	P	Pn	06 09 27.3	-0.2
VMM05				S	Sn	06 09 51.1	-3.2
URIC	**Uribia, Colomb**	**2.27**	**46**	P	Pn	06 09 28.5	+0.1
URIC				S	Sn	06 09 55.5	-0.4
EZNC	**La Esperanza**	**2.50**	**172**	P	Pn	06 09 31.1	-0.4
EZNC				S	Sn	06 10 00.8	-0.7
VMM07	**Puerto Wilches**	**2.75**	**184**	P	Pn	06 09 34.3	-0.5
VMM07				S	Sn	06 10 07.3	0.0
ZARC	**Zaragoza, Cauc**	**2.87**	**204**	P	Pn	06 09 34.7	-1.7
ZARC				S	Sn	06 10 07.7	-2.4
PAMC	**Pamplona, Colo**	**2.92**	**161**	P	Pn	06 09 37.3	-0.2
PAMC				S	Sn	06 10 11.6	-0.5
UREC	**San Jos de Ur**	**2.99**	**218**	P	Pn	06 09 38.0	-0.1
UREC				S	Sn	06 10 08.9	-4.3
SDV	**Santo Domingo**	**3.23**	**112**	P	Pn	06 09 41.7	+0.3
SDV				S	Sn	06 10 17.6	-1.5
VMM10	**El Carmen**	**3.33**	**181**	P	Pn	06 09 41.7	-0.9
VMM10				S	Sn	06 10 20.1	-1.2
APAC	**Apartado, Choc**	**3.63**	**233**	P	Pn	06 09 45.3	-1.3
APAC				S	Sn	06 10 24.9	-3.6
PTBC	**PUERTO BERRIO,**	**3.64**	**193**	P	Pn	06 09 46.7	-0.2
PTBC				S	Sn	06 10 25.9	-3.0
DBBC	**Dabeiba**	**3.98**	**219**	P	Pn	06 09 50.9	-0.6
DBBC				S	Sn	06 10 31.0	-6.2
TAMC	**Tame, Arauca**	**4.10**	**153**	P	Pn	06 09 53.4	+0.3
TAMC				S	Sn	06 10 37.8	-2.2
RUSC	**La Rusia**	**4.24**	**172**	P	Pn	06 09 55.0	-0.3
RUSC				S	Sn	06 10 41.6	-2.4
SPBC	**San Pablo de B**	**4.46**	**185**	P	Pn	06 09 57.9	0.0
SPBC				S	Sn	06 10 45.2	-3.5
NORC	**Norcasia**	**4.68**	**195**	P	Pn	06 10 01.4	+0.4
NORC				S	Sn	06 10 53.5	-0.7
GUY2C	**Guyana, Caldas**	**5.15**	**199**	P	Pn	06 10 07.8	+0.1
	27nm,0.5s,448nm						
GUY2C				S	Sn	06 11 06.7	+0.6
	27nm,0.5s,448nm						
ROSC	**El Rosal**	**5.29**	**187**	P	Pn	06 10 10.5	+1.0
ROSC				S	Sn	06 11 10.5	+1.2
CHIC	**Chingaza**	**5.46**	**181**	P	Pn	06 10 12.2	+0.4
	11nm,0.9s						
CHIC				S	Sn	06 11 11.9	-1.6
	11nm,0.9s						
CVER	**Cruz Verde, Cu**	**5.58**	**184**	P	Pn	06 10 13.4	-0.1
	22nm,0.5s,791nm						
CVER				S	Sn	06 11 17.1	+0.6
	22nm,0.5s,791nm						
PLMC	**San Jos del P**	**5.80**	**207**	P	Pn	06 10 16.3	+0.2
VILC	**Villavicencio,**	**5.97**	**180**	P	Pn	06 10 18.5	0.0
VILC				S	Sn	06 11 25.9	+0.3
BCIP	**Isla Barro Col**	**6.16**	**262**	P	Pn	06 10 20.0	-1.0
	34nm,1.7s						
BCIP				S	Sn	06 11 22.9	-7.3
	34nm,1.7s						
ORTC	**Ortega, Tolima**	**6.37**	**194**	P	Pn	06 10 24.1	+0.2
	9.7nm,0.7s						
PRAC	**Prado**	**6.48**	**191**	P	Pn	06 10 25.1	-0.3
	4.0nm,0.7s						
PRAC				S	Sn	06 11 38.0	+0.1
	4.0nm,0.7s						
YOTC	**Yotoco, Valle**	**6.65**	**204**	P	Pn	06 10 27.3	-0.5
POPC	**Popayan, Colom**	**8.10**	**202**	P	Pn	06 10 46.2	-1.5

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*GII **29** 06:17:36.2±0.2,33°.173N±0°.001×36°.268E±0°.001,h0km,*
Md1.5/1,confirmed
*GRAL **29** 06:17:36.2±0.3,32°.95N×36°.23E,h7km±2km,MD3.2*
ISC 29 06:17:37.1±1.3,33°.13N±0°.03×36°.26E±0°.07,h0km,n33,
σ0s61/35,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSHT	**Keshet**	**0.40**	**249**	P	**Pg**	**06 17 45.6**	**+0.8**
KSHT	**Keshet**	**0.40**	**249**	S	**Sb**	**06 17 53.0**	**-0.8**
NATI	**Neve Ativ**	**0.45**	**287**	P	**Pg**	**06 17 46.5**	**+0.6**
NATI	**Neve Ativ**	**0.45**	**287**	S	**Sb**	**06 17 54.3**	**-0.9**
GEM	**Giv'at Ha'Em**	**0.50**	**279**	P	**Pg**	**06 17 47.1**	**+0.4**
GEM	**Giv'at Ha'Em**	**0.50**	**279**	S	**Sb**	**06 17 55.9**	**-0.9**
RCY	**Rachaya**	**0.51**	**316**	*e*P	**Pg**	**06 17 47.6**	**+0.8**
RCY				*e*S	**Sb**	**06 17 56.3**	**-0.7**
QRWL	**Qaraoun**	**0.64**	**311**	*e*P	**Pg**	**06 17 49.8**	**+0.5**
MMA0B	**Mount Meron ar**	**0.72**	**261**	P	**Pg**	**06 17 51.4**	**+0.4**
MMA0B	**Mount Meron ar**	**0.72**	**261**	S	**Sb**	**06 18 03.3**	**+0.1**
MMC7	**Mount Meron ar**	**0.73**	**262**	P	**Pg**	**06 17 51.6**	**+0.5**
ZAHL	**Zahle**	**0.79**	**337**	*e*P	**Pg**	**06 17 53.1**	**+0.9**
DQRL	**Deir Qamar**	**0.81**	**315**	*e*P	**Pg**	**06 17 53.0**	**+0.3**
HNTI	**Hanita**	**0.91**	**267**	S	**Sb**	**06 18 08.7**	**+0.3**
HNTI	**Hanita**	**0.91**	**267**	P	**Pg**	**06 17 54.9**	**+0.4**
BHL	**Bhannes**	**0.92**	**327**	*e*P	**Pg**	**06 17 55.2**	**+0.4**
BHL				*e*S	**Sb**	**06 18 09.1**	**+0.2**
MMLI	**Mount Malkishu**	**0.98**	**226**	P	**Pg**	**06 17 56.2**	**+0.3**
MMLI	**Mount Malkishu**	**0.98**	**226**	S	**Sb**	**06 18 11.9**	**+1.3**
HMDT	**Nahal Hemdat**	**1.07**	**215**	P	**Pg**	**06 17 57.6**	**+0.1**
HMDT	**Nahal Hemdat**	**1.07**	**215**	S	**Sn**	**06 18 14.5**	**-0.4**
HWQ	**Hawqa**	**1.17**	**347**	*e*P	**Pg**	**06 17 59.8**	**+0.1**
OFRI	**`Ofer**	**1.18**	**245**	P	**Pg**	**06 17 60.0**	**+0.2**
OFRI	**`Ofer**	**1.18**	**245**	S	**Sn**	**06 18 17.5**	**-0.3**
SLTI	**Sal'it**	**1.35**	**229**	P	**Pg**	**06 18 02.9**	**-0.2**
SLTI	**Sal'it**	**1.35**	**229**	S	**Sn**	**06 18 22.2**	**+0.3**
BEIL	**Beino**	**1.41**	**358**	*e*P	**Pn**	**06 18 03.5**	**-0.6**
DSI	**Dead Sea**	**1.72**	**206**	P	**Pn**	**06 18 07.7**	**-0.6**
DSI	**Dead Sea**	**1.72**	**206**	S	**Sn**	**06 18 30.9**	**-0.1**
YTIR	**Yattir**	**2.01**	**209**	P	**Pn**	**06 18 12.1**	**-0.2**
YTIR	**Yattir**	**2.01**	**209**	S	**Sb**	**06 18 39.3**	**-0.9**
PRNI	**Paran**	**2.97**	**201**	P	**Pn**	**06 18 25.7**	**+0.2**
MBRI	**Mt Berech**	**3.52**	**199**	P	**Pn**	**06 18 32.9**	**-0.2**
MBRI	**Mt Berech**	**3.52**	**199**	S	**Sn**	**06 19 16.7**	**+1.2**

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*IDC **29** 06:21:19.1±6.6,36°.37N×140°.21E,h53km±51km,mb3.3/4,*
mbtmp3.5/4,Error ellipse: s-maj=55.4km s-min=29.5km
az=58.0
*NEIC **29** 06:21:21.1±0.5,36°.04N±0°.05×139°.9E±0°.1,h73km±29km,*
ML3.2/16,Error ellipse: s-maj=14.0km s-min=6.1km
az=112.0
*JMA **29** 06:21:22.1±0.1,36°.1N±0°.3×139°.9E±0°.3,h49km,MV3.6/37,*
SW IBARAKI PREF
JMA Felt II J1 at SW IBARAKI PREF .
ISC 29 06:21:20.8±1.0,36°.09N±0°.04×139°.91E±0°.05,h57km±8km,
n28,σ1s02/31,mb3.6/4,5D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.27**	**60**	*i*P	**Pn**	**06 21 31.1**	**+0.7**
JYT				*e

H11N1	**WAKE ISLAND Hy 28.76 117**		T	T	06 57 22.3	
	baz=311					
H11N3	**WAKE ISLAND Hy 28.77 117**		T	T	06 57 21.0	
	baz=311,SNR=3.2					
H11S1	**WAKE ISLAND Hy 29.41 119**		T	T	06 58 11.3	
	baz=314,slow=76,SNR=10					
H11S3	**WAKE ISLAND Hy 29.41 119**		T	T	06 58 10.4	
	baz=314,slow=76,SNR=6.3					
H11S2	**WAKE ISLAND Hy 29.43 119**		T	T	06 58 15.5	
	baz=314,slow=76,SNR=4.2					
ZALV	**Zalesovo Beam**	**41.66 313**	P	**P**	**06 29 01.9**	**-1.5**
	comp=E,0.4nm,0.3s,baz=99,slow=8.9,SNR=2.3					
	comp=E,0.4nm,0.3s					
MKAR	**Makanchi Array**	**43.60 303**	P	**P**	**06 29 19.6**	**+0.4**
	comp=E,0.4nm,0.8s,baz=82,slow=11,SNR=3.7					
	comp=E,0.4nm,0.8s					
KURBB	**Kurchatov Arra**	**45.63 309**	P	**P**	**06 29 33.4**	**-1.9**
	comp=E,0.5nm,0.5s,baz=84,slow=8.1,SNR=8.1					
	comp=E,0.5nm,0.5s					
WRA	**Warramunga Arr**	**55.98 186**	P	**P**	**06 30 54.0**	**+0.6**
	comp=E,0.2nm,0.3s,baz=2.0,slow=7.4,SNR=2.9					
	comp=E,0.2nm,0.3s					

*IDC **29** 06:25:17.3±2.2, 8°.17S×116°.77E, h0km, mb3.4/3, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=35.9km s-min=22.9km az=98.0*
*DJA **29** 06:25:17.5±0.7, 9°S±10°×11°6E±°, h32km±9km, M3.7/7, mb4.0/1, MLv3.6/7*
ISC 29 06:25:17.3±1.7, 8°.24S±0°.07×116°.5E±0°.1, h10km, n11, σ1§20/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.61**	**144**	P	**Pn**	**06 25 30.6**	**-1.4**
TWSI				S	**Sb**	**06 25 39.1**	**+0.5**
SRBI	**Singaraja**	**1.31**	**277**	P	Pn	06 25 38.7	-3.0
PLAI	**Plampang**	**1.37**	**115**	P	**Pg**	**06 25 43.6**	**0.0**
PLAI				S	**Sn**	**06 26 01.1**	**+0.4**
DNP	**Denpasar**	**1.37**	**252**	P	Pn	06 25 36.4	-6.1
IGBI	**Denpasar**	**1.48**	**247**	P	Pn	06 25 36.7	-7.3
JAGI	**Jajag, Banyuwa**	**2.36**	**264**	P	Pn	06 25 51.5	-4.6
KAPI	**Kappang**	**4.53**	**45**	Pn	**Pn**	**06 26 25.9**	**-0.2**
	0.8nm,0.3s,baz=202,slow=12,SNR=1.3						
KAPI				Sn	**Sn**	**06 27 16.9**	**-2.0**
	1.6nm,0.3s,baz=20,slow=20,SNR=4.1						
KAPI				Lg	Lg	06 27 32.7	
	5.0nm,0.3s,baz=260,slow=12,SNR=4.4						
	4.3nm,0.5s						
EDFI	**Ende, Flores**	**5.13**	**96**	P	**Pn**	**06 26 35.3**	**+0.9**
WRA	**Warramunga Arr**	**20.80**	**126**	P	Pn	06 29 59.2	-2.2
	0.7nm,0.6s,baz=302,slow=12,SNR=12						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**22.64**	**135**	P	**P**	**06 30 18.4**	**-0.4**
	0.7nm,0.5s,baz=310,slow=9.3,SNR=11						
	0.7nm,0.5s						
SONM	**Songino Array**	**56.55**	**352**	P	**P**	**06 35 01.2**	**+1.1**
	0.2nm,0.3s,baz=164,slow=7.2,SNR=2.4						
	0.2nm,0.3s						

*IDC **29** 06:33:48.8±2.2, 36°.58N×141°.15E, h44km±21km, mb3.5/6, mbtmp3.8/9, ML3.8/3, MS3.0/1, Error ellipse: s-maj=19.0km s-min=11.8km az=72.0*
*NIED **29** 06:33:49.4, 36°.60N×140°.97E, h48km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=0.74; Mθθ=4.02; Mφφ=4.76; Mrθ=5.10; Mθφ=-4.72; Mφr=0.84; Fault plane solution: M0 8.26000×10^14 NP1: φs=293.00000°, δ=84.00000°, λ=-142.00000°. NP2: φs=198.00000°, δ=52.00000°, λ=-8.00000°.*
*JMA **29** 06:33:49.4±0.1, 36°.6N±0°.2×141°.0E±0°.6, h48km±1km, MD4.0/40, MV4.1/40, E OFF IBARAKI PREF*
JMA Felt III J1 at E OFF IBARAKI PREF .
ISC 29 06:33:48.8±1.2, 36°.60N±0°.04×141°.07E±0°.07, h40km±11km, n44, σ1§13/40, mb3.6/6, 12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.40**	**272**	⇓P	**Pn**	**06 33 58.6**	**+0.3**
JHO				⇓S	**Sn**	**06 34 04.8**	**-0.1**
JHO	**Hitachi**	**0.40**	**272**	A	A	06 33 58.6	
	comp=E,36nm,0.2s,comp=N,50nm,0.3s						
JHYU	**Hitachinakayam**	**0.47**	**237**	*i* P	**Pn**	**06 33 59.5**	**+0.3**
JHYU				*e*S	**Sn**	**06 34 06.3**	**0.0**
JHYU	**Hitachinakayam**	**0.47**	**237**	A	A	06 33 59.5	
	comp=E,33nm,0.2s,comp=N,40nm,0.4s						
ONAJ	**Iwakimizuishiy**	**0.55**	**337**	⇓P	**Pn**	**06 34 00.3**	**+0.1**
ONAJ				⇓*e*S	**Sn**	**06 34 08.0**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.55**	**337**	A	A	06 34 00.3	
	comp=E,14nm,0.2s,comp=N,9.0nm,0.2s						
JFFD	**Fukushimafurud**	**0.64**	**321**	⇓*i* P	**Pn**	**06 34 01.5**	**+0.1**
JFFD				⇓*e*S	**Sn**	**06 34 09.7**	**-0.8**
JFFD	**Fukushimafurud**	**0.64**	**321**	A	A	06 34 01.5	
	comp=E,10.0nm,4.7s,comp=N,16nm,0.3s						
JFK	**Kawauchi**	**0.78**	**349**	⇓*i* P	**Pn**	**06 34 03.4**	**-0.1**
JFK				⇓*e*S	**Sn**	**06 34 13.6**	**-0.4**
JYT	**Yasato**	**0.80**	**243**	P	**Pn**	**06 34 03.2**	**-0.3**
JYT				*e*S	**Sn**	**06 34 13.2**	**-1.1**
JYT	**Yasato**	**0.80**	**243**	A	A	06 34 03.2	
	comp=E,11nm,0.3s,comp=N,15nm,0.4s						
JSB	**Shiboa**	**0.99**	**292**	A	A	06 34 06.2	
	comp=E,6.0nm,0.3s,comp=N,8.0nm,0.7s						
JOTO	**OTAMA OYAMA**	**1.12**	**329**	*i* P	**Pn**	**06 34 08.9**	**+0.7**
JOTO	**OTAMA OYAMA**	**1.12**	**329**	A	A	06 34 08.9	
	comp=E,17nm,0.4s,comp=N,11nm,0.4s						
JMM	**Marumori**	**1.28**	**350**	P	**Pn**	**06 34 10.8**	**+0.5**
JMM	**Marumori**	**1.28**	**350**	⇓*i* P	**Pn**	**06 34 10.6**	**+0.3**
JMM				⇓*e*S	**Sn**	**06 34 26.5**	**+0.2**
JAG	**Ashikaga**	**1.31**	**263**	*i* P	**Pn**	**06 34 10.5**	**-0.2**
JAG				*e*S	**Sn**	**06 34 25.4**	**-1.6**
JAG	**Ashikaga**	**1.31**	**263**	A	A	06 34 10.5	
	comp=E,4.0nm,0.3s,comp=N,5.0nm,0.4s						
JFY	**Yanaizu**	**1.36**	**307**	⇓*i* P	**Pn**	**06 34 11.5**	**+0.2**
JFY				⇓*e*S	**Sn**	**06 34 28.4**	**+0.3**
JKT	**Katashina**	**1.47**	**277**	P	**Pn**	**06 34 13.3**	**+0.3**
JKT				*e*S	**Sn**	**06 34 30.4**	**-0.6**
MJAR	**Matsushiro Arr**	**2.30**	**269**	P	**Pn**	**06 34 25.1**	**+0.8**
	comp=N,7.5nm,0.3s,baz=105,slow=11,SNR=340						
MJAR				S	**Sn**	**06 34 53.2**	**+1.8**
	comp=N,66nm,0.5s,baz=217,slow=49,SNR=5.1						
	comp=N,93nm,0.5s						
MAJO	**Matsushiro**	**2.30**	**269**	P	**Pn**	**06 34 25.7**	**+1.4**
JSD	**Sado**	**2.66**	**304**	P	**Pn**	**06 34 29.7**	**+0.5**
JSG	**Sagara**	**3.03**	**232**	P	**Pn**	**06 34 36.7**	**+2.4**
JGF	**Kuroka**	**3.17**	**253**	P	**Pn**	**06 34 38.3**	**+2.1**
INU	**Inuyama**	**3.51**	**250**	P	**Pn**	**06 34 43.2**	**+2.3**
JHJ2	**Mitsune**	**3.63**	**197**	P	**Pn**	**06 34 44.6**	**+2.1**
JHJ	**Hachijo jima 2**	**3.63**	**197**	P	**Pn**	**06 34 43.1**	**+0.6**
	comp=N,20nm,0.3s,baz=324,slow=21,SNR=12						
JHJ				S	**Sn**	**06 35 23.8**	**-0.3**
	comp=N,141nm,0.4s,baz=83,slow=21,SNR=6.0						
	comp=N,61nm,0.3s						
JTM	**Tenmabayashi**	**4.18**	**0**	P	**Pn**	**06 34 52.6**	**+2.5**
ASAJ	**Asahikawa**	**7.60**	**8**	P	**Pn**	**06 35 36.0**	**-1.0**
	comp=N,2.6nm,0.3s,baz=209,slow=11,SNR=16						
	comp=N,6.4nm,0.4s						
JCJ	**Chichijima**	**9.52**	**174**	P	Pn	06 35 56.7	-6.7
	comp=N,41nm,0.3s,baz=322,slow=22,SNR=8.0						
KLR	**Kul'dur**	**14.34**	**335**	LR	LR	06 42 35.9	
	comp=N,58nm,18.5s,baz=236,slow=37						
SONM	**Songino Array**	**27.80**	**305**	P	**P**	**06 39 34.6**	**+0.5**
	comp=N,0.9nm,0.6s,baz=121,slow=10,SNR=5.0						
	comp=N,0.9nm,0.6s						
H11N2	**WAKE ISLAND Hy 28.17 120**		T	T	07 09 36.2	
	baz=313,slow=75,SNR=170						
H11N1	**WAKE ISLAND Hy 28.18 120**		T	T	07 09 41.1	
	baz=313,slow=75,SNR=182						
H11N3	**WAKE ISLAND Hy 28.19 120**		T	T	07 09 37.2	
	baz=313,slow=75,SNR=128						
H11S1	**WAKE ISLAND Hy 28.86 122**		T	T	07 10 26.3	
	baz=314,slow=76,SNR=437						
H11S3	**WAKE ISLAND Hy 28.86 122**		T	T	07 10 28.0	
	baz=314,slow=76,SNR=260						
H11S2	**WAKE ISLAND Hy 28.88 122**		T	T	07 10 25.7	
	baz=314,slow=76,SNR=231						
KURBB	**Kurchatov Arra**	**46.05**	**308**	P	**P**	**06 42 06.4**	**-2.0**
	comp=N,0.5nm,0.6s,baz=86,slow=8.2,SNR=7.8						
	comp=N,0.5nm,0.6s						
ILAR	**Eielson Array**	**50.01**	**32**	P	**P**	**06 42 38.4**	**-0.5**
	comp=N,0.5nm,0.7s,baz=274,slow=6.6,SNR=8.8						
	comp=N,0.5nm,0.7s						
BVAR	**Borovoye Array**	**50.66**	**313**	P	**P**	**06 42 45.0**	**+1.1**
	comp=N,0.2nm,0.3s,baz=90,slow=8.6,SNR=1.8						
	comp=N,0.2nm,0.3s						
WRA	**Warramunga Arr**	**56.59**	**188**	P	**P**	**06 43 27.1**	**-0.5**
	comp=N,1.3nm,0.5s,baz=3.8,slow=7.3,SNR=25						
	comp=N,1.3nm,0.5s						
ASAR	**Alice Springs**	**60.32**	**188**	P	**P**	**06 43 53.5**	**-0.1**
	comp=N,0.7nm,0.7s,baz=18,slow=9.9,SNR=7.1						
	comp=N,0.7nm,0.7s						

*IDC **29** 06:52:05.3±3.4, 8°.37S×116°.38E, h0km, mb3.2/4, mbtmp3.3/4, Error ellipse: s-maj=191.0km s-min=24.2km az=53.0*
*DJA **29** 06:52:09.0±0.5, 8°S±10°×11°6E±°, h12km±4km, M3.7/8, mb3.8/1, MLv3.6/8*
ISC 29 06:52:07.1±0.8, 8°.4S±0°.1×116°.45E±0°.04, h10km, n12, σ1§29/13, mb3.2/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.55**	**129**	P	**Pn**	**06 52 19.8**	**-1.3**
TWSI				S	**Sb**	**06 52 28.5**	**+1.6**
DNP	**Denpasar**	**1.26**	**257**	P	**Pg**	**06 52 32.3**	**+1.0**
SRBI	**Singaraja**	**1.26**	**284**	P	**Pg**	**06 52 31.0**	**-0.3**
IGBI	**Denpasar**	**1.36**	**252**	P	**Pg**	**06 52 33.5**	**+0.3**
PLAI	**Plampang**	**1.38**	**108**	P	**Pg**	**06 52 33.9**	**+0.2**
PLAI				S	**Sg**	**06 52 52.0**	**+0.3**
JAGI	**Jajag, Banyuwa**	**2.27**	**268**	P	**Pb**	**06 52 45.6**	**-2.7**
PWJI	**Pagerwojo**	**4.61**	**274**	P	**Pn**	**06 53 18.7**	**+1.8**
EDFI	**Ende, Flores**	**5.20**	**94**	P	**Pn**	**06 53 25.5**	**+0.4**
WRA	**Warramunga Arr**	**20.78**	**125**	P	Pn	06 56 48.8	-2.1
	0.9nm,0.8s,baz=301,slow=12,SNR=13						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**22.59**	**134**	P	**P**	**06 57 08.4**	**+0.4**
	0.3nm,0.4s,baz=311,slow=8.5,SNR=8.5						
	0.3nm,0.4s						
SONM	**Songino Array**	**56.68**	**352**	P	**P**	**07 01 50.4**	**-0.4**
	0.2nm,0.2s,baz=163,slow=10,SNR=2.5						
	0.2nm,0.2s						
MKAR	**Makanchi Array**	**62.79**	**334**	P	**P**	**07 02 32.2**	**-0.6**
	0.1nm,0.5s,baz=144,slow=8.2,SNR=1.6						
	0.1nm,0.5s						

TRN 29 06:58:17.2, 16°.54N×61°.03W, h30km, MD3.8, North-east of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABD	**La Joyeuse, An**	**0.45**	**262**	*e*P	Pn	06 58 28.4	+0.9
MAGL	**Barre de l'ile**	**0.63**	**203**	*e*P	Pn	06 58 31.2	+1.0
CBE	**Ff, Capester**	**0.72**	**230**	*e*P	Pn	06 58 32.8	+1.4
ANBD	**Bethesda, Anti**	**0.87**	**306**	*e*P	Pb	06 58 33.9	+0.1
ANBD				*e*S	Sb	06 58 47.2	+2.2
TDBA	**Terre de Bas,**	**0.90**	**220**	*e*P	Pb	06 58 35.6	+1.3
TBG	**Guadaloupe-3**	**0.90**	**221**	*e*P	Pb	06 58 36.1	+1.7
TBG				*e*S	Sb	06 58 48.2	+2.1
MBFL	**Flemmings, Mon**	**1.15**	**281**	*e*P	Pb	06 58 39.3	+0.7
MBFL				*e*S	Sb	06 58 55.0	+1.8
SVN	**Savane Anatole**	**1.69**	**185**	*e*P	Pn	06 58 45.9	+1.1
SVN				*e*S	Sb	06 59 08.1	-0.5
BAMF	**Morne Balai**	**1.72**	**184**	*e*P	Pb	06 58 46.9	-1.3
CXM	**Morne La Croix**	**1.72**	**184**	*e*P	Pb	06 58 50.1	+1.8
PCM	**Pelee Case Pet**	**1.72**	**186**	*e*P	Pb	06 58 47.1	-1.2
PCM	**Pelee Case Pet**	**1.72**	**186**	*e*P	Pb	06 58 47.2	-1.0
GBMF	**Grand Be**	**1.74**	**184**	*e*P	Pb	06 58 47.0	-1.5
ILAM	**Ilet Lapin Mar**	**1.76**	**175**	*e*P	Pb	06 58 47.3	-1.6
ILAM				*e*S	Sn	06 59 08.2	+1.1
FDF	**Fort de France**	**1.80**	**184**	*e*P	Pn	06 58 47.6	+1.4
LPMF	**Morne Lapointe**	**1.95**	**178**	*e*P	Pn	06 58 49.4	+1.1
MVM	**Montagne Vaucl**	**1.98**	**176**	*e*P	Pn	06 58 48.7	+0.1
BIM	**Bigot**	**2.01**	**181**	*e*P	Pn	06 58 50.8	+1.6
BIM				*e*S	Sn	06 59 15.0	+1.7
MPOM	**Morne Pois Mar**	**2.09**	**175**	*e*P	Pn	06 58 52.0	+1.9
SLBI	**Saint Lucia, B**	**2.50**	**179**	*e*P	Pn	06 58 57.9	+2.0
SLBI				*e*S	Sn	06 59 27.1	+1.7
SVB	**Belmont**	**3.25**	**184**	*e*P	Pn	06 59 09.8	+3.6

IDC 29 07:06:51.6±4.3, 5°.58S×129°.73E, h361km±49km, mb2.9/2, mbtmp3.7/4, Error ellipse: s-maj=100.1km s-min=14.4km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.97**	**163**	P	P	07 10 05.4	0.0
	0.9nm,0.3s,baz=341,slow=12,SNR=37						
WRA				S	S	07 12 45.6	-0.5
	0.7nm,0.4s,baz=345,slow=21,SNR=9.2						
ASAR	**Alice Springs**	**18.43**	**168**	P	P	07 10 42.6	0.0
	1.3nm,0.3s,baz=346,slow=12,SNR=39						
ASAR				S	S	07 13 54.8	+0.7
	2.1nm,1.0s,baz=348,slow=21,SNR=10						
MKAR	**Makanchi Array**	**66.89**	**327**	P	P	07 17 06.0	0.0
	0.3nm,0.5s,baz=113,slow=6.7,SNR=3.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**71.16**	**328**	P	P	07 17 31.9	0.0
	0.2nm,0.4s,baz=114,slow=5.6,SNR=2.5						
	0.2nm,0.4s						

*SOME **29** 07:10:43.9, 49°.37N×77°.45E, h0km*
*NNC **29** 07:11:10.8±0.4, 48°.65N×77°.69E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=4.2km s-min=2.7km az=86.0, Suspected Mining explosion.*
ISC 29 07:11:11.2±1.0, 48°.65N±0°.04×77°.77E±0°.08, h0km, n9, σ2§02/14, 2C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.04**	**14**	⇓Pn	**Pn**	**07 11 46.9**	**+0.1**
	13nm,0.6s						
KURBB				⇓Sn	**Sn**	**07 12 13.7**	**+0.7**
	22nm,0.6s						
KURK	**Kurchatov**	**2.14**	**15**	⇓Pn	**Pn**	**07 11 47.9**	**-0.3**
	9.7nm,0.6s						
KURK				⇓Sn	**Sn**	**07 12 16.3**	**+0.8**
	13nm,0.8s						
MAKZ	**Makanchi**	**3.38**	**121**	⇓Pn	**Pn**	**07 12 05.8**	**+0.5**
	1.1nm,0.5s						
MAKZ				⇓Lg	Lg	07 12 58.6	
	4.5nm,0.8s						
MK31	**Makanchi Array**	**3.57**	**120**	⇑Pn	**Pn**	**07 12 08.4**	**+0.5**
	1.4nm,0.7s,baz=303,slow=11,SNR=11						
MK31				⇑Lg	Lg	07 13 04.8	
	6.1nm,0.8s,baz=306,slow=26,SNR=11						
OTUK	**Ortayu**	**3.64**	**266**	⇓Pg	**Pb**	**07 12 15.7**	**-0.7**
	1.8nm,0.8s						
OTUK				⇓Lg	Lg	07 13 05.3	
	6.5nm,0.8s						
ARXS	**Arharly**	**4.43**	**179**	*e*P	**Pn**	**07 12 20.1**	**+0.3**
	1.2nm,0.4s						
ARXS				*e*S	**Sg**	**07 13 30.4**	**-3.3**
	13nm,0.8s						
DJR	**Jarkent**	**4.54**	**161**	*e*P	**Pn**	**07 12 22.4**	**+1.2**
	0.6nm,0.1s						
DJR				*e*S	**Sg**	**07 13 34.3**	**-2.5**
	4.1nm,0.3s						
KTBS	**Karatobe**	**4.99**	**189**	*e*P	**Pn**	**07 12 28.2**	**+0.7**
	0.4nm,0.1s						
KTBS				*e*S	**Sb**	**07 13 44.1**	**+4.1**
	8.6nm,0.4s						
KPKS	**Kokpek**	**5.22**	**173**	*e*P	Pn	07 12 35.2	+4.6
	1.3nm,0.1s						
KPKS				*e*S	**Sg**	**07 13 56.2**	**-2.6**
	5.5nm,0.3s						

*GUC **29** 07:42:51.7±0.7, 21°.29S×68°.14W, h141km±4km, ML3.1*
*SCB **29** 07:42:52.0±0.9, 21°.27S×68°.13W, h112km±18km, ML3.3/3, MW3.1, Error ellipse: s-maj=2.6km s-min=2.6km az=0.0*
ISC 29 07:42:51.0±1.8, 21°.29S±0°.04×68°.16W±0°.04, h144km±19km, n23, σ0§68/37, 2C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.12**	**243**	⇓*i* P	**Pn**	**07 43 17.0**	**+0.5**
PB09				*e*S	**Sn**	**07 43 37.1**	**+1.2**
LVC	**Limon Verde**	**1.48**	**208**	*e*P	**Pn**	**07 43 20.3**	**-0.1**
LVC				*e*S	**Sn**	**07 43 43.0**	**+0.3**
LVC				IAML		07 43 43.7	
	226nm,0.4s						
AF01	**San Pedro de A**	**1.65**	**180**	Pg	**Pn**	**07 43 22.3**	**+0.2**
GO01	**Chusmiza**	**1.88**	**329**	⇑*i* P	**Pn**	**07 43 25.2**	**+0.3**
GO01				IAML		07 43 57.9	
	comp=N,238nm,0.2s						
GO01	**Chusmiza**	**1.88**	**329**	Pg	**Pn**	**07 43 25.5**	**+0.6**
HMBC	**Humberstone**	**1.90**	**302**	*e*P	**Pn**	**07 43 24.4**	**-0.3**
HMBC				*e*S	**Sn**	**07 43 50.4**	**-0.2**
PB06	**IPOC Station P**	**1.92**	**223**	*e*P	**Pn**	**07 43 25.1**	**+0.1**
PB06				*e*S	**Sn**	**07 43 51.0**	**-0.1**
PB06				IAML		07 43 52.7	
	comp=E,83nm,0.2s						
TA01	**Diego Aracena**	**2.02**	**291**	*e*P	**Pn**	**07 43 25.4**	**-0.6**
TA01				*e*S	**Sn**	**07 43 51.9**	**-0.9**
PB11	**IPOC Station P**	**2.07**	**317**	⇑*i* P	**Pn**	**07 43 26.6**	**-0.1**
PB11				*e*S	**Sn**	**07 43 53.9**	**-0.2**
PB11				IAML		07 43 56.3	
	comp=E,227nm,0.2s						
PB11	**IPOC Station P**	**2.07**	**317**	Pg	**Pn**	**07 43 26.8**	**+0.1**
PB11				Sg	**Sn**	**07 43 53.9**	**-0.2**
PB11				IAML		07 43 56.5	
	comp=E,181nm,0.6s						
TA02	**Huaiquique**	**2.10**	**299**	*e*P	**Pn**	**07 43 26.7**	**-0.3**
TA02				*e*S	**Sn**	**07 43 53.5**	**-1.1**
TA02				IAML		07 43 55.4	
	comp=N,147nm,0.4s						
PB04	**IPOC Station P**	**2.12**	**240**	*e*P	**Pn**	**07 43 27.5**	**+0.2**
PB04				*e*S	**Sn**	**07 43 54.4**	**-0.9**
PB15	**IPOC Station P**	**2.26**	**212**	*e*P	**Pn**	**07 43 29.5**	**+0.4**
PB15				*e*S	**Sn**	**07 43 58.8**	**+0.4**
PB15	**IPOC Station P**	**2.26**	**212**	Pg	**Pn**	**07 43 30.4**	**+1.3**
PB15				Sg	**Sn**	**07 43 59.0**	**+0.6**
PB15				IAML		07 44 02.2	
	comp=N,348nm,0.3s						
MOCB	**Mochara**	**2.36**	**89**	Pg	**Pn**	**07 43 30.6**	**+0.1**
MOCB				Sg	**Sn**	**07 43 59.9**	**-0.9**
MOCB				IAML		07 44 00.7	
	comp=N,48nm,0.6s						
PB05	**IPOC Station P**	**2.45**	**230**	*e*P	**Pn**	**07 43 31.3**	**0.0**
PB05				*e*S	**Sn**	**07 44 01.4**	**-1.0**
YJA	**Yavi**	**2.62**	**110**	*e*P	**Pn**	**07 43 33.2**	**-0.4**
YJA				*e*S	**Sn**	**07 44 05.3**	**-1.3**
SOEO	**Opoqueri**	**2.73**	**6**	Pg	**Pn**	**07 43 36.3**	**+1.1**
AOEA	**Aiquile**	**4.15**	**42**	Pg	**Pn**	**07 43 54.5**	**+1.2**
SOEJ	**Jacaque**	**4.29**	**360**	Pg	**Pn**	**07 43 55.7**	**+0.2**
BBOE	**La Paz, Chanca**	**4.46**	**2**	Pg	**Pn**	**07 43 58.3**	**+0.6**
BBOD	**La Paz, Gloria**	**4.65**	**355**	Pg	**Pn**	**07 44 00.8**	**+0.6**
LPAZ	**La Paz**	**4.98**	**0**	Pg	**Pn**	**07 44 04.8**	**+0.2**

*IDC **29** 07:42:51.1±1.1, 24°.26N×104°.26E, h0km, mb3.6/6, mbtmp3.6/7, ML4.3/1, Error ellipse: s-maj=30.0km s-min=18.2km az=76.0*
ISC 29 07:42:56.2±1.1, 24°.3N±0°.1×104°.2E±0°.2, h35km, n7, σ1§20/7, mb3.6/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.55**	**221**	Pn	**Pn**	**07 44 43.8**	**-0.1**
	1.2nm,0.3s,baz=35,slow=12,SNR=5.4						
CMAR				Lg	Lg	07 46 52.2	
	1.1nm,0.3s,baz=41,slow=31,SNR=2.0						
	1.0nm,0.3s						
SONM	**Songino Array**	**23.60**	**4**	P	**P**	**07 48 04.7**	**+0.8**
	0.4nm,0.4s,baz=198,slow=9.1,SNR=4.5						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**32.95**	**330**	P	**P**	**07 49 26.4**	**-1.0**
	0.8nm,0.8s,baz=134,slow=9.2,SNR=4.5						
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**33.01**	**339**	P	**P**	**07 49 26.4**	**-1.4**
	0.7nm,0.6s,baz=138,slow=8.8,SNR=1.9						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**38.38**	**327**	P	**P**	**07 50 15.4**	**+1.4**
	0.3nm,0.5s,baz=136,slow=7.5,SNR=2.1						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**52.86**	**144**	P	**P**	**07 52 08.5**	**-0.2**
	0.9nm,0.6s,baz=330,slow=8.6,SNR=18						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**55.70**	**147**	P	**P**	**07 52 29.6**	**+0.2**
	0.5nm,0.9s,baz=319,slow=5.5,SNR=2.6						
	0.5nm,0.9s						

*IDC **29** 07:54:09.3±0.9, 8°.33S×116°.69E, h0km, mb3.7/6, mbtmp3.7/7, ML3.4/1, MS4.5/1, Error ellipse: s-maj=24.6km s-min=18.7km az=85.0*
*DJA **29** 07:54:10.8±0.3, 8°S±4°×11°7E±°, h10km, M4.1/11, mb4.6/2, MLv3.9/11*
ISC 29 07:54:10.4±0.7, 8°.36S±0°.07×116°.62E±0°.05, h10km, n18, σ0§91/20, mb3.8/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.46**	**145**	P	**Pn**	**07 54 21.0**	**-2.0**
TWSI				S	**Sb**	**07 54 28.0**	**+0.5**
PLAI	**Plampang**	**1.24**	**112**	P	**Pg**	**07 54 34.7**	**+0.5**
SRBI	**Singaraja**	**1.42**	**281**	P	**Pn**	**07 54 35.4**	**-0.8**
IGBI	**Denpasar**	**1.52**	**253**	P	**Pb**	**07 54 38.4**	**-0.3**
JAGI	**Jajag, Banyuwa**	**2.44**	**267**	P	**Pn**	**07 54 49.7**	**-0.6**
BSSI	**Bau Bau, Buton**	**4.43**	**60**	P	**Pn**	**07 55 18.5**	**+0.8**
KAPI	**Kappang**	**4.56**	**43**	Pn	**Pn**	**07 55 19.7**	**+0.2**
	1.9nm,0.3s,baz=228,slow=14,SNR

T 2.9100, Plg77.0000°, Azm256.0000°; N 0.5730, Plg10.0000°, Azm33.0000°; P -3.4770, Plg9.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*BGR **29** 08:12:46.8, 46.83N×150.71E, h14km±1km, mb4.9, Hypocentre not reviewed by the ISC*
ISC 29 08:12:37.0±0.4, 45.57N±0.04×151.65E±0.04, h44km±3km, h44km:pP-P, n1009, σ1.15/913, mb4.8/260, MS4.3/83, 58C-38D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.68**	**264**	*i* P		**Pn**	**08 13 16.7**	**-0.9**
KUR					AMB	AMB	08 13 19.6	
	770nm,0.5s							
KUR				*i* S		**Sn**	**08 13 49.5**	**+0.7**
KUR					A	A	08 13 58.7	
	2μm,0.5s							
KUR					A	A	08 13 58.7	
	2μm,0.5s							
KUR					AMS	AMS	08 14 26.0	
	6μm,9.0s							
KUR					AMS	AMS	08 14 26.0	
	10μm,9.0s							
KUR					AMS	AMS	08 14 26.0	
	7μm,9.0s							
KUR	**Kuril'sk**	**2.68**	**264**	*e*PN		**Pn**	**08 13 18.5**	**+0.9**
KUR				*e*S		**Sn**	**08 13 50.6**	**+1.8**
SHO	**Shikotan**	**3.83**	**245**	*i* P		**Pn**	**08 13 31.6**	**-1.8**
SHO					AMB	AMB	08 13 36.8	
	280nm,0.4s							
SHO				*e*S		**Sn**	**08 14 15.8**	**-1.3**
SHO					A	A	08 14 20.4	
	510nm,0.4s							
SHO					A	A	08 14 20.4	
	450nm,0.4s							
SHO					AMS	AMS	08 15 06.0	
	3μm,15.0s							
SHO					AMS	AMS	08 15 06.0	
	2μm,15.0s							
SHO					AMS	AMS	08 15 06.0	
	3μm,15.0s							
SHO	**Shikotan**	**3.83**	**245**	⇓*i*PN		**Pn**	**08 13 31.5**	**-1.8**
SHO				*e*S		**Sn**	**08 14 16.6**	**-0.5**
SHO					pmax	pmax		
	comp=N,111nm,0.4s							
SHO					pmax	pmax		
	comp=Z,281nm,0.4s							
SHO					pmax	pmax		
	comp=E,172nm,0.5s							
SHO					smax	smax		
	comp=N,473nm,0.5s							
SHO					smax	smax		
	comp=E,403nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**4.39**	**252**	*e*P		**Pn**	**08 13 40.6**	**-0.5**
YUK					AMB	AMB	08 13 44.4	
	comp=E,590nm,0.4s							
YUK				*e*S		**Sn**	**08 14 30.9**	**0.0**
YUK					A	A	08 14 41.2	
	comp=E,1μm,0.6s							
YUK					A	A	08 14 41.2	
	comp=E,2μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**4.39**	**252**	*e*PN		**Pn**	**08 13 40.8**	**-0.3**
YUK				*e*S		**Sn**	**08 14 32.9**	**+2.0**
YUK					pmax	pmax		
	comp=Z,585nm,0.4s							
YUK					pmax	pmax		
	comp=N,119nm,0.5s							
YUK					smax	smax		
	comp=E,2μm,0.6s							
YUK					smax	smax		
	comp=N,1μm,0.7s							
NEM2	**Nemuro 2**	**4.76**	**245**	P		**Pn**	**08 13 44.1**	**-2.0**
NEM2				S		**Sn**	**08 14 37.9**	**-2.1**
NMR	**Nemuro--Hokkai**	**4.77**	**245**	*e*P		**Pn**	**08 13 44.2**	**-2.1**
NMR				*e*S		**Sn**	**08 14 37.8**	**-2.4**
NMR	**Nemuro--Hokkai**	**4.77**	**245**	*e*PN		**Pn**	**08 13 43.9**	**-2.4**
NMR				*e*S		**Sn**	**08 14 37.3**	**-2.9**
RUSJ	**Misakicho**	**4.78**	**254**	⇑*i*PN		**Pn**	**08 13 47.9**	**+1.5**
RUSJ				*e*S		**Sn**	**08 14 42.6**	**+2.1**
JRA	**Rausu**	**4.92**	**253**	P		**Pn**	**08 13 48.6**	**+0.3**
JNK	**Nakash**	**5.33**	**251**	P		**Pn**	**08 13 53.5**	**-0.5**
JNK				*e*S		**Sn**	**08 14 54.0**	**-0.1**
JAK	**Akkeshi**	**5.61**	**245**	P		**Pn**	**08 13 56.4**	**-1.4**
JAK				S		**Sn**	**08 15 00.6**	**-0.4**
JTKR	**Abashiri--Toko**	**5.74**	**257**	P		**Pn**	**08 13 59.6**	**+0.2**
SKR	**Severo-Kuril's**	**5.93**	**29**	*e*P		**Pn**	**08 14 02.4**	**+0.3**
SKR					AMB	AMB	08 14 04.1	
	comp=N,310nm,0.7s							
SKR					AMB	AMB	08 14 04.3	
	comp=N,400nm,3.2s							
SKR				*e*S		**Sn**	**08 15 07.4**	**-1.3**
SKR					A	A	08 15 13.7	
	comp=N,260nm,0.4s							
SKR					A	A	08 15 13.7	
	comp=N,320nm,0.4s							
SKR					AMS	AMS	08 16 30.1	
	comp=N,2μm,13.0s							
SKR					AMS	AMS	08 16 30.1	
	comp=N,2μm,13.0s							
SKR					AMS	AMS	08 16 30.1	
	comp=N,1μm,13.0s							
SKR	**Severo-Kuril's**	**5.93**	**29**	*e*PN		**Pn**	**08 14 02.5**	**+0.3**
SKR					pmax	pmax		
	comp=Z,308nm,0.7s							
SKR					pmax	pmax		
	comp=Z,400nm,3.2s							
SKR					MLR	MLR		
	comp=Z,1μm,17.0s							
SKR					MLR	MLR		
	comp=N,2μm,15.0s							
SKR					MLR	MLR		
	comp=E,1μm,14.0s							
JAR	**Ashorobuto**	**6.08**	**251**	P		**Pn**	**08 14 04.2**	**0.0**
JOB	**Onbets**	**6.21**	**247**	P		**Pn**	**08 14 05.4**	**-0.6**
YSS	**Yuzh-Sakhalins**	**6.32**	**286**	P		**Pn**	**08 14 08.4**	**+0.9**
YSS	**Yuzh-Sakhalins**	**6.32**	**286**			**Pn**	**08 14 07.1**	**-0.4**
YSS	**Yuzh-Sakhalins**	**6.32**	**286**	*e*P		**Pn**	**08 14 08.2**	**+0.8**
YSS					AMB	AMB	08 14 11.0	
	comp=E,120nm,0.6s							
YSS					AMB	AMB	08 14 11.1	
	comp=E,300nm,3.0s							
YSS				*e*S		**Sn**	**08 15 18.3**	**-0.1**
YSS					A	A	08 15 26.0	
	comp=E,50nm,0.6s							
YSS					A	A	08 15 26.0	
	comp=E,50nm,0.6s							
YSS					AMS	AMS	08 16 23.9	
	comp=E,1μm,16.0s							
YSS					AMS	AMS	08 16 23.9	
	comp=E,2μm,16.0s							
YSS					AMS	AMS	08 16 23.9	
	comp=E,3μm,16.0s							
YSS	**Yuzh-Sakhalins**	**6.32**	**286**	*e*PN		**Pn**	**08 14 08.3**	**+0.8**
YSS				*e*S		**Sn**	**08 15 18.2**	**-0.1**
YSS					pmax	pmax		
	comp=E,40nm,0.5s							
YSS					pmax	pmax		
	comp=Z,120nm,0.5s							
YSS					pmax	pmax		
	comp=N,80nm,0.7s							
YSS					pmax	pmax		
	comp=Z,300nm,3.2s							
YSS					smax	smax		
	comp=N,50nm,0.8s							
YSS					smax	smax		
	comp=E,50nm,0.5s							
YSS					MLR	MLR		
	comp=Z,3μm,17.0s							
YSS					MLR	MLR		
	comp=E,2μm,16.0s							
JKK2	**Kamakawa 2**	**6.56**	**258**	P		**Pn**	**08 14 11.8**	**+1.0**
JKA	**Kamikawa-asahi**	**6.59**	**261**			**Pn**	**08 14 11.3**	**+0.1**
JKA	**Kamikawa-asahi**	**6.59**	**261**	*e*P		**Pn**	**08 14 11.4**	**+0.1**
ASAJ	**Asahikawa**	**6.59**	**261**	Pn		**Pn**	**08 14 12.2**	**+0.9**
	comp=E,3.9nm,0.3s,baz=85,slow=12,SNR=60							
ASAJ					LR	LR	08 16 46.0	
	comp=E,2μm,20.7s,baz=73,slow=39							
ASAJ	**Asahikawa**	**6.59**	**261**	PN		**Pn**	**08 14 11.4**	**+0.1**
JCH	**Churui**	**6.66**	**247**	P		**Pn**	**08 14 11.1**	**-1.0**
JWK2	**Keihoku**	**6.86**	**271**	P		**Pn**	**08 14 18.7**	**+3.8**
JAB	**Ashibetsu**	**7.04**	**256**	P		**Pn**	**08 14 19.1**	**+1.6**
JEM	**Erimo**	**7.09**	**243**	P		**Pn**	**08 14 17.2**	**-0.9**
ERM	**Erimo**	**7.09**	**243**	P		**Pn**	**08 14 18.6**	**+0.4**
ERM	**Erimo**	**7.09**	**243**			**Pn**	**08 14 17.6**	**-0.5**
ERM	**Erimo**	**7.09**	**243**	*e*PN		**Pn**	**08 14 18.5**	**+0.4**
ERM					pmax	pmax		
	comp=Z,316nm,1.3s							
JNBK	**Urakawa-nobuka**	**7.21**	**246**	P		**Pn**	**08 14 17.8**	**-2.0**
UGL	**Uglegorsk**	**7.40**	**302**	*e*P		**Pn**	**08 14 24.2**	**+2.0**
UGL					AMB	AMB	08 14 26.7	
	comp=Z,130nm,1.0s							
UGL					AMS	AMS	08 17 37.0	
	comp=Z,2μm,15.0s							
UGL					AMS	AMS	08 17 37.0	
	comp=Z,3μm,15.0s							
UGL					AMS	AMS	08 17 37.0	
	comp=Z,3μm,15.0s							
UGL	**Uglegorsk**	**7.40**	**302**	*e*PN		**Pn**	**08 14 22.8**	**+0.6**
UGL					pmax	pmax		
	comp=Z,131nm,1.0s							
UGL					MLR	MLR		
	comp=N,1μm,15.0s							
UGL					MLR	MLR		
	comp=E,3μm,15.0s							
UGL					MLR	MLR		
	comp=Z,3μm,15.0s							
JRBN	**Rebuntou**	**7.44**	**273**	P		**Pn**	**08 14 25.0**	**+2.2**
TYV	**Tymovskoe**	**8.01**	**315**	*e*S		**Sn**	**08 16 00.8**	**+1.1**
TYV					A	A	08 16 08.1	
	comp=Z,30nm,0.6s							
TYV					A	A	08 16 08.1	
	comp=Z,30nm,0.6s							
TYV					AMS	AMS	08 17 51.8	
	comp=Z,1μm,14.0s							
TYV					AMS	AMS	08 17 51.8	
	comp=Z,2μm,14.0s							
TYV					AMS	AMS	08 17 51.8	
	comp=Z,2μm,14.0s							
TYV	**Tymovskoe**	**8.01**	**315**	*e*PN		**Pn**	**08 14 32.1**	**+1.5**
TYV					pmax	pmax		
	comp=Z,24nm,0.8s							
TYV					pmax	pmax		
	comp=Z,200nm,3.8s							
TYV					MLR	MLR		
	comp=Z,1μm,16.0s							
TYV					MLR	MLR		
	comp=N,600nm,14.0s							
TYV					MLR	MLR		
	comp=E,1μm,14.0s							
PET	**Petropavlovsk**	**8.75**	**29**	Pn		**Pn**	**08 14 41.5**	**+0.7**
PET	**Petropavlovsk**	**8.75**	**29**	*e*P		**Pn**	**08 14 42.3**	**+1.5**
PET				*e*S		**Sn**	**08 16 14.8**	**-3.2**
PET	**Petropavlovsk**	**8.75**	**29**	*e*PN		**Pn**	**08 14 42.3**	**+1.5**
JANG	**Nango**	**9.06**	**239**	S		Sn	08 16 15.4	-10
JTM	**Tenmabayashi**	**9.08**	**242**	P		**Pn**	**08 14 42.9**	**-2.5**
JTM	**Tenmabayashi**	**9.08**	**242**	Pn		**Pn**	**08 14 43.1**	**-2.3**
JTH	**Tanohata**	**9.13**	**235**	P		Pn	08 14 42.5	-3.5
JTH				*e*S		Sn	08 16 15.7	-12
OKH	**Okha**	**9.79**	**328**	*e*P		**Pn**	**08 14 56.5**	**+1.6**
OKH					AMB	AMB	08 15 06.0	
	comp=E,100nm,8.0s							
OKH					AMS	AMS	08 19 36.1	
	comp=E,500nm,16.0s							
OKH					AMS	AMS	08 19 36.1	
	comp=E,1μm,16.0s							
OKH					AMS	AMS	08 19 36.1	
	comp=E,1μm,16.0s							
OKH	**Okha**	**9.79**	**328**	*de*PN		**Pn**	**08 14 56.5**	**+1.6**
OKH					pmax	pmax		
	comp=Z,100nm,8.3s							
OKH					MLR	MLR		
	comp=E,1μm,15.0s							
OKH					MLR	MLR		
	comp=N,500nm,16.0s							
OKH					MLR	MLR		
	comp=Z,900nm,14.0s							
NKL	**Nikolayevsk**	**10.42**	**321**	*e*P		**Pn**	**08 15 04.5**	**+0.9**
NKL				*e*S		**Sn**	**08 17 01.1**	**+2.3**
TEY	**Ternei**	**10.62**	**272**	*e*P		**Pn**	**08 15 08.4**	**+2.1**
TEY	**Ternei**	**10.62**	**272**	⇑*e*PN		**Pn**	**08 15 08.4**	**+2.1**
TEY				*e*			08 17 11.9	
TEY					pmax	pmax		
	comp=E,20nm,0.9s							
TEY					pmax	pmax		
	comp=Z,20nm,0.9s							
JMM	**Marumori**	**11.17**	**230**	Pn		Pn	08 15 09.8	-4.2
GRNR	**Gornyy**	**11.41**	**303**	*e*P		**Pn**	**08 15 19.6**	**+2.4**
GRNR	**Gornyy**	**11.41**	**303**	⇓*i*PN		**Pn**	**08 15 19.6**	**+2.4**
GRNR					pmax	pmax		
	comp=Z,10.0nm,0.8s							
GRNR					MLR	MLR		
	comp=E,1μm,14.0s							
GRNR					MLR	MLR		
	comp=N,630nm,17.0s							
GRNR					MLR	MLR		
	comp=Z,1μm,15.0s							
KBG	**Krutoberegovo**	**12.75**	**29**	*e*P		Pn	08 15 30.1	-5.3
MJB9	**Matsu-Tunnel**	**13.55**	**233**	Pn		**Pn**	**08 15 44.8**	**-1.7**
MAJO	**Matsushiro**	**13.55**	**233**	P		**Pn**	**08 15 45.0**	**-1.5**
MAJO	**Matsushiro**	**13.55**	**233**	Pn		**Pn**	**08 15 43.9**	**-2.7**
MAJO	**Matsushiro**	**13.55**	**233**	*i* PN		**Pn**	**08 15 46.7**	**+0.2**
MJAR	**Matsushiro Arr**	**13.55**	**233**	Pn		Pn	08 15 42.9	-3.6
	comp=Z,5.3nm,0.9s,baz=30,slow=14,SNR=15							
KLR	**Kul'dur**	**13.96**	**292**	Pn		**Pn**	**08 15 52.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=99,slow=15,SNR=29							
KLR					LR	LR	08 21 28.9	
	comp=Z,1μm,18.9s,baz=104,slow=39							
KLR	**Kul'dur**	**13.96**	**292**	*e*P		**Pn**	**08 15 51.1**	**-0.9**
KLR	**Kul'dur**	**13.96**	**292**	*ce*P		**Pn**	**08 15 52.9**	**+0.9**
KLR					pmax	pmax		
	comp=Z,27nm,1.0s							
USA0B	**Ussuriysk Arra**	**14.01**	**271**	Pn		**Pn**	**08 15 51.0**	**-1.6**
USA0B	**Ussuriysk Arra**	**14.01**	**271**	P		**Pn**	**08 15 51.0**	**-1.6**
USRK	**Ussuriysk Ar.**	**14.01**	**271**	Pn		**Pn**	**08 15 51.5**	**-1.1**
USRK	**Ussuriysk Ar.**	**14.01**	**271**	Pn		**Pn**	**08 15 50.9**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=78,slow=13,SNR=18							
USRK					LR	LR	08 21 14.2	
	comp=Z,955nm,18.9s,baz=74,slow=38							
	comp=Z,15nm,0.7s							
USRK	**Ussuriysk Ar.**	**14.01**	**271**	P		**Pn**	**08 15 51.5**	**-1.1**
MA2	**Magadan**	**14.04**	**358**	Pn		**Pn**	**08 15 52.8**	**-0.2**
MA2	**Magadan**	**14.04**	**358**	Pn		**Pn**	**08 15 52.7**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=186,slow=19,SNR=5.3							
MA2					LR	LR	08 21 36.6	
	comp=Z,612nm,18.6s,baz=180,slow=39							
	comp=Z,7.0nm,0.6s							
MA2	**Magadan**	**14.04**	**358**	*e*P		**Pn**	**08 15 51.8**	**-1.2**
MA2	**Magadan**	**14.04**	**358**	*i* P		**Pn**	**08 15 51.8**	**-1.2**
MA2					pmax	pmax		
	comp=Z,14nm,1.1s							
JGF	**Kuroka**	**14.71**	**232**	Pn		**Pn**	**08 16 00.5**	**-1.6**
MSHR	**Mys Shultsa**	**15.02**	**266**	*i* P		**Pn**	**08 16 04.0**	**-2.2**
INU	**Inuyama**	**15.08**	**233**	Pn		**Pn**	**08 16 04.7**	**-2.2**
INU					IAmb	IAmb	08 16 04.9	
	comp=Z,35nm,1.0s							
JHJ	**Hachijo jima 2**	**15.43**	**220**	LR		LR	08 23 04.0	
	comp=Z,140nm,20.8s,baz=84,slow=41							
MDJ	**Mudanjiang**	**15.60**	**274**	P		**Pn**	**08 16 14.4**	**+0.7**
MDJ	**Mudanjiang**	**15.60**	**274**	P		**Pn**	**08 16 12.8**	**-0.9**
MDJ				sP		pP	08 16 25.3	-2.1
MDJ				S		**Sn**	**08 19 01.3**	**-4.0**
MDJ					pmax	pmax		
	comp=Z,26nm,1.1s							
MDJ					LR	LR		
	comp=Z,590nm,15.1s							
MDJ					LR	LR		
	comp=Z,1μm,17.2s							
MDJ					LR	LR		
	comp=Z,2μm,16.5s							
MDJ	**Mudanjiang**	**15.60**	**274**	Pn		**Pn**	**08 16 12.2**	**-1.4**
MDJ					IAmb	IAmb	08 16 17.0	
	comp=Z,53nm,0.9s							
SHEM	**Shemya Is, Ala**	**16.30**	**56**	LR		LR	08 21 49.2	
	comp=Z,395nm,21.7s,baz=280,slow=34							
BNX	**BinXian**	**16.94**	**279**	⇓P		**Pn**	**08 16 29.5**	**-1.1**
BNX					pmax	pmax		
	comp=Z,9.0nm,1.0s							
SEY	**Seymchan**	**17.41**	**1**	P		**Pn**	**08 16 34.4**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=188,slow=15,SNR=8.4							
SEY					LR	LR	08 24 10.0	
	comp=Z,781nm,19.2s,baz=158,slow=40							
	comp=Z,4.9nm,0.9s							
SEY	**Seymchan**	**17.41**	**1**	*i* P		**Pn**	**08 16 34.8**	**-1.4**
ZEA	**Zeya**	**17.72**	**306**	*e*P		**Pn**	**08 16 40.0**	**-0.2**
ZEA	**Zeya**	**17.72**	**306**	*e*P		**Pn**	**08 16 40.0**	**-0.2**
ZEA					pmax	pmax		
	comp=E,20nm,1.2s							
ZEA					pmax	pmax		
	comp=N,20nm,1.0s							
ZEA					pmax	pmax		
	comp=Z,30nm,1.0s							
ZEA					pmax	pmax		
	comp=Z,200nm,7.8s							
ZEA					MLR	MLR		
	comp=E,400nm,12.0s							
ZEA					MLR	MLR		
	comp=N,300nm,15.0s							
ZEA					MLR	MLR		
	comp=Z,600nm,15.0s							
JMN	**Monobe**	**18.04**	**235**			**P**	**08 16 42.9**	**-1.4**
CN2	**Changchun**	**18.69**	**274**	*e*P		**P**	**08 16 49.5**	**-1.8**
CN2				*e*S		**Sn**	**08 20 15.3**	**-4.7**
CN2					pmax	pmax		
	comp=Z,20nm,0.9s							
CN2					pmax	pmax		
	comp=Z,100nm,4.0s							
CN2					LR	LR		
	comp=Z,600nm,15.0s							
CN2					LR	LR		
	comp=Z,1μm,15.0s							
CN2					LR	LR		
	comp=Z,1μm,16.0s							
KSRS	**Korea Array**	**19.48**	**254**	P		**P**	**08 16 59.5**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=58,slow=11,SNR=30							
KSRS					LR	LR	08 24 20.2	
	comp=Z,373nm,18.1s,baz=55,slow=36							
	comp=Z,15nm,0.8s							
KS19	**Wonju Array Si**	**19.49**	**254**	P		**P**	**08 16 59.7**	**-0.5**
KS19					IAmb	IAmb	08 17 02.7	
	comp=Z,30nm,1.0s							
KSAR	**Wonju Array Be**	**19.51**	**254**	P		**P**	**08 16 59.4**	**-1.0**
KSAR	**Wonju Array Be**	**19.51**	**254**	P		**P**	**08 16 59.4**	**-1.0**
JNU	**Nakatsue**	**20.24**	**239**	P		**P**	**08 17 09.7**	**+1.3**
JNU	**Nakatsue**	**20.24**	**239**			**P**	**08 17 07.9**	**-0.4**
JNU					IAmb	IAmb	08 17 14.6	
	comp=Z,45nm,1.0s							
JNU	**Nakatsue**	**20.24**	**239**	P		**P**	**08 17 08.0**	**-0.4**
	comp=Z,14nm,0.9s,baz=85,slow=5.3,SNR=3.1							
JNU					LR	LR	08 26 18.2	
	comp=Z,364nm,18.1s,baz=32,slow=41							
	comp=Z,14nm,0.9s							
INCN	**Inchon**	**20.34**	**255**	P		**P**	**08 17 11.0**	**+1.6**
INCN	**Inchon**	**20.34**	**255**	P		**P**	**08 17 09.0**	**-0.4**
INCN					IAmb	IAmb	08 17 12.0	
	comp=Z,32nm,0.8s							
INCN	**Inchon**	**20.34**	**255**	P		**P**	**08 17 09.0**	**-0.4**
INCN					pmax	pmax		
	comp=Z,31nm,0.9s							
TJN	**Taejon**	**20.44**	**252**	P		**P**	**08 17 11.3**	**+0.8**
TJN	**Taejon**	**20.44**	**252**	P		**P**	**08 17 10.4**	**-0.1**
TJN	**Taejon**	**20.44**	**252**	P		**P**	**08 17 10.4**	**-0.1**
TJN					pmax	pmax		
	comp=Z,122nm,0.9s							
SNY	**Shenyang**	**20.59**	**270**	⇑P		**P**	**08 17 11.8**	**-0.2**
SNY				S		Sn	08 21 04.5	-1.3
SNY					pmax	pmax		
	comp=Z,29nm,0.8s							
SNY					LR	LR		
	comp=Z,390nm,14.7s							
SNY					LR	LR		
	comp=Z,830nm,14.2s							
SNY					LR	LR		
	comp=Z,1μm,16.3s							
YAK	**Yakutsk**	**20.80**	**330**	P		**P**	**08 17 15.1**	**+0.9**
YAK	**Yakutsk**	**20.80**	**330**	P		**P**	**08 17 14.6**	**+0.4**
	comp=Z,113nm,0.8s,baz=128,slow=7.5,SNR=6.5							
YAK					S	**S**	**08 20 55.7**	**-7.9**
	comp=Z,11nm,0.5s,baz=195,slow=11,SNR=1.0							
YAK					LR	LR	08 25 25.6	
	comp=Z,427nm,18.7s,baz=134,slow=38							
YAK	**Yakutsk**	**20.80**	**330**	*e*P		**P**	**08 17 14.0**	**-0.2**
YAK	**Yakutsk**	**20.80**	**330**	*e*P		**P**	**08 17 14.0**	**-0.2**
YAK				*e*			08 17 32.2	
YAK				*e*S		**S**	**08 21 03.1**	**-0.5**
YAK				*e**SS		**sS**	**08 21 18.0**	**-1.2**
YAK				*e*SS		**SnSn**	**08 21 37.7**	**+12**
YAK					pmax	pmax		
	comp=Z,147nm,1.3s							
YAK					pmax	pmax		
	comp=N,33nm,1.3s							
YAK					pmax	pmax		
	comp=E,32nm,1.4s							
YAK					pmax	pmax		
	comp=Z,78nm,1.5s							
YAK					pmax	pmax		
	comp=N,37nm,1.2s							
YAK					pmax	pmax		
	comp=E,64nm,2.3s							
YAK					smax	smax		
	comp=E,150nm,5.6s							
YAK					smax	smax		
	comp=N,113nm,4.8s							
YAK					MLR	MLR		
	comp=Z,557nm,24.0s							
YAK					MLR	MLR		
	comp=N,328nm,13.0s							
YAK					MLR	MLR		
	comp=E,398nm,22.0s							
KIWB	**Kanaga Island**	**21.42**	**62**	P		**P**	**08 17 21.4**	**+0.6**
ADK	**Adak**	**21.71**	**62**	P		**P**	**08 17 22.1**	**-1.9**
ADK					IAmb	IAmb	08 17 39.5	
	comp=Z,34nm,1.1s							
ADK	**Adak**	**21.71**	**62**	P		**P**	**08 17 22.1**	**-1.9**
ADK					pmax	pmax		
	comp=Z,34nm,1.1s							
HIA	**Hailar**	**21.81**	**291**	P		**P**	**08 17 27.8**	**+2.6**
ATKA	**Atka Island**	**23.26**	**61**	P		**P**	**08 17 40.1**	**-0.2**
ATKA					IAmb	IAmb	08 17 46.6	
	comp=Z,34nm,1.2s							
BILL	**Bilibino**	**23.78**	**14**	P		**P**	**08 17 44.6**	**-0.5**
BILL					IAmb	IAmb	08 17 51.4	
	comp=Z,13nm,0.4s							
BILL	**Bilibino**	**23.78**	**14**	*e*P		**P**	**08 17 43.9**	**-1.2**
BILL	**Bilibino**	**23.78**	**14**	⇑*e*P		**P**	**08 17 43.9**	**-1.2**
BILL					*PP	**pP**	**08 17 57.0**	**+0.9**
BILL					*SP	**sP**	**08 18 03.0**	**+1.7**
BILL					PPP	PPP	08 18 22.0	
BILL							08 21 25.0	
BILL				*e*S		**S**	**08 21 58.9**	**+1.7**
BILL				*e*SS		**SnSn**	**08 22 40.2**	**+1.8**
BILL					pmax	pmax		
	comp=Z,4.0nm,0.6s							
BILL					MLR	MLR		
	comp=Z,762nm,17.0s							
XLT	**XiLinHaoTe**	**25.20**	**279**	*e*P		**P**	**08 17 52.8**	**-5.6**
XLT				sS		sS	08 22 36.0	-2.4
XLT					pmax	pmax		
	comp=Z,15nm,0.8s							
XLT					LR	LR		
	comp=N,42nm,15.1s							
XLT					LR	LR		
	comp=E,700nm,17.1s							
XLT					LR	LR		
	comp=Z,880nm,16.9s							
CLES	**Cleveland East**	**25.91**	**60**	P		**P**	**08 18 04.0**	**-0.6**
BJI	**Beijing**	**26.46**	**271**	P		**P**	**08 18 08.8**	**-0.8**
BJI				S		**S**	**08 22 41.5**	**+1.2**
BJI					pmax	pmax		
	comp=Z,28nm,0.8s							
BJI					LR	LR		
	comp=Z,220nm,15.3s							
BJI					LR	LR		
	comp=Z,330nm,15.4s							
BJI					LR	LR		
	comp=Z,450nm,16.5s							
BJT	**Baijiatuau**	**26.47**	**271**	P		**P**	**08 18 11.7**	**+1.9**
BJT	**Baijiatuau**	**26.47**	**271**	P		**P**	**08 18 08.8**	**-0.9**
BJT	**Baijiatuau**	**26.47**	**271**	P		**P**	**08 18 08.9**	**-0.9**
BJT					pmax	pmax		
	comp=Z,42nm,0.8s							
TIA	**Tai'an**	**27.54**	**262**	P		**P**

comp=Z,6.0nm,0.9s
HNS HongShan 28.65 267 ⇑P **P** **08 18 29.5 +0.2**
HNS S **S** **08 23 14.0 -0.8**
HNS pmax pmax
comp=Z,30nm,0.8s
HNS LR LR
comp=Z,220nm,14.4s
HNS LR LR
comp=Z,430nm,15.7s
HNS LR LR
comp=Z,440nm,16.9s
NJ2 Nanjing 28.68 253 *e*P **P** **08 18 29.8 +0.2**
NJ2 pP **pP** **08 18 40.5 +0.1**
NJ2 sP **pwP** **08 18 42.5 -2.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,460nm,3.6s
H11N2 WAKE ISLAND Hy 28.68 149 T T 08 49 08.7
baz=336
H11N1 WAKE ISLAND Hy 28.70 149 T T 08 49 09.7
baz=336,slow=74
H11N3 WAKE ISLAND Hy 28.70 149 T T 08 49 09.9
baz=336,slow=74
HHC Hu-ho-hao-te 29.37 275 *e*P **P** **08 18 35.8 0.0**
HHC sP pP 08 18 49.0 +1.7
HHC S **S** **08 23 29.0 +2.5**
HHC sS sS 08 23 46.8 +2.3
HHC pmax pmax
comp=Z,23nm,1.0s
HHC LR LR
comp=Z,410nm,16.5s
HHC LR LR
comp=Z,950nm,16.1s
HHC LR LR
comp=Z,1μm,15.9s
H11S1 WAKE ISLAND Hy 29.74 150 T T 08 50 22.7
baz=339,slow=76,SNR=330
H11S3 WAKE ISLAND Hy 29.75 150 T T 08 50 22.7
baz=339,slow=76,SNR=235
H11S2 WAKE ISLAND Hy 29.76 150 T T 08 50 26.3
baz=339,slow=76,SNR=205
ULN Ulaanbaatar 30.34 291 P **P** **08 18 44.3 -0.1**
ULN Ulaanbaatar 30.34 291 *e*P **P** **08 18 44.3 -0.1**
ULN Ulaanbaatar 30.34 291 P **P** **08 18 44.3 -0.1**
ULN pmax pmax
comp=Z,3.0nm,0.7s
BTO Baotou 30.55 276 *e*P **P** **08 18 48.3 +2.1**
BTO pP **pP** **08 18 58.0 +0.3**
BTO sP **sP** **08 19 01.8 -1.0**
BTO S **S** **08 23 52.0 +7.1**
BTO sS **sS** **08 24 03.0 +0.1**
BTO SS **SnSn** **08 25 28.0 +3.9**
BTO pmax pmax
comp=Z,18nm,0.5s
BTO pmax pmax
comp=Z,200nm,4.6s
BTO LR LR
comp=Z,960nm,17.2s
BTO LR LR
comp=Z,2μm,16.0s
BTO LR LR
comp=Z,2μm,17.1s
L14K Kuka Creek 30.66 43 P **P** **08 18 46.3 -0.6**
baz=260
SONM Songino Array 30.78 291 P **P** **08 18 48.4 +0.2**
SONM Songino Array 30.78 291 P **P** **08 18 48.3 +0.1**
comp=Z,1.7nm,0.7s,baz=69,slow=7.8,SNR=11
SONM PcP **PcP** **08 21 44.6 -0.1**
comp=Z,0.7nm,0.7s,baz=149,slow=3.0,SNR=3.8
SONM LR LR 08 32 13.1
comp=Z,777nm,18.0s,baz=88,slow=39
comp=Z,1.7nm,0.7s
F15K North Star Dit 30.90 34 P **P** **08 18 49.6 +0.7**
O14K Tigyukauivet M 31.09 47 P **P** **08 18 50.3 -0.4**
baz=265
H16K Elim 31.56 36 P **P** **08 18 54.5 -0.3**
baz=255
C16K Lisburne Hills 31.59 29 P **P** **08 18 54.5 -0.4**
baz=246
LYN LuoYang 31.65 264 ⇓P **P** **08 18 56.8 +0.9**
LYN pP pP 08 19 06.0 -1.1
LYN S **S** **08 24 05.5 +3.5**
LYN sS sS 08 24 20.5 +0.5
LYN pmax pmax
comp=Z,56nm,0.6s
LYN pmax pmax
comp=Z,130nm,4.5s
LYN LR LR
comp=Z,560nm,16.5s
LYN LR LR
comp=Z,230nm,14.4s
LYN LR LR
comp=Z,430nm,15.5s
O15K Ungalikthiuk R 31.83 47 P **P** **08 18 57.2 +0.1**
baz=266
S14K Fog Glacier 31.92 53 P **P** **08 18 57.1 -1.0**
baz=271
CHNA Chernabura Isl 31.96 55 P **P** **08 18 57.4 -0.9**
baz=274
J16K Anvik River 31.97 39 P **P** **08 18 57.1 -1.2**
baz=259
I17K Unalakleet 32.05 38 P **P** **08 18 58.3 -0.7**
baz=258
D17K Noatak River 32.16 31 P **P** **08 18 59.2 -0.8**
baz=250
L16K Owhat River 32.24 42 P **P** **08 19 00.4 -0.3**
baz=263
ZAK Zakamensk 32.27 296 *e*P **P** **08 18 59.8 -1.5**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
RDOG Red Dog Mine 32.35 30 P **P** **08 19 01.7 +0.1**
baz=249
M16K Timber Creek 32.41 44 P **P** **08 19 02.8 +0.6**
M16K IAmb IAmb 08 19 04.6
comp=Z,13nm,1.1s
M16K Timber Creek 32.41 44 P **P** **08 19 02.1 -0.1**
baz=264
C17K DeLong Mountai 32.41 29 P **P** **08 19 02.8 +0.6**
baz=248
E17K Hotham Inlet 32.42 32 P **P** **08 19 02.9 +0.6**
baz=252,SNR=5.7
G17K Kiwalik Mounta 32.43 35 P **P** **08 19 02.9 +0.5**
baz=256
F17K Baldwin Pennin 32.45 33 P **P** **08 19 03.2 +0.7**
F17K IAmb IAmb 08 19 06.8
comp=Z,8.3nm,1.0s
F17K Baldwin Pennin 32.45 33 P **P** **08 19 02.6 +0.2**
baz=254
N16K Nishlik Lake 32.45 45 P **P** **08 19 02.2 -0.4**
baz=265
CHGN Chignik 32.55 52 P **P** **08 19 03.3 -0.1**
baz=272
H17K Granite Mounta 32.60 36 P **P** **08 19 03.3 -0.6**
baz=257
WHN Wuhan 32.65 256 P **P** **08 19 08.0 +3.4**
WHN S **S** **08 24 21.8 +4.2**
WHN LR LR
comp=Z,1μm,20.7s
WHN LR LR
comp=Z,1μm,20.4s
WHN LR LR
comp=Z,920nm,16.8s
J17K VABM Dome 32.66 39 P **P** **08 19 04.1 -0.3**
baz=260
O16K Kokwok River B 32.73 46 P **P** **08 19 05.1 +0.1**
baz=267
L17K Donlin 32.84 42 P **P** **08 19 06.1 +0.1**
baz=263
K17K Iditarod 32.91 41 P **P** **08 19 06.6 0.0**
baz=262
YULB Yu-li 33.08 238 P **P** **08 19 07.6 -0.8**
YULB IAmb IAmb 08 19 22.7
comp=Z,8.0nm,0.9s
F18K Selawik 33.11 33 P **P** **08 19 08.2 -0.1**
baz=255
C18K Utukok River 33.16 29 P **P** **08 19 09.1 +0.3**
C18K Utukok River 33.16 29 P **P** **08 19 08.7 -0.1**
baz=250
M17K Holitna River 33.17 43 P **P** **08 19 08.6 -0.3**
baz=265
B18K Kokolik River 33.20 28 P **P** **08 19 09.0 -0.1**
baz=249
O17K Koliganek Bris 33.25 46 P **P** **08 19 09.3 -0.3**
baz=268
H18K Honhosa River 33.29 36 P **P** **08 19 09.9 0.0**
baz=259

G18K Tagagawik 33.33 35 P **P** **08 19 10.2 0.0**
baz=257
TPUB Ta-pu 33.55 239 P **P** **08 19 13.4 +0.8**
TPUB Ta-pu 33.55 239 P **P** **08 19 11.7 -0.8**
P17K Kvichak River 33.57 47 P **P** **08 19 12.0 -0.3**
baz=270
R17L Mt. Peulik Vol 33.63 50 P **P** **08 19 12.6 -0.4**
baz=272
TWGBT Beinan 33.64 238 P **P** **08 19 13.4 0.0**
TWG Pinlang 33.65 238 P **P** **08 19 12.6 -0.8**
J18K Innko River 33.73 39 P **P** **08 19 13.7 0.0**
baz=263
C19K Lookout Ridge 33.85 29 P **P** **08 19 15.3 +0.5**
C19K Lookout Ridge 33.85 29 P **P** **08 19 14.7 -0.1**
baz=252
Q17K Contact Creek 33.86 49 P **P** **08 19 14.6 -0.5**
baz=271
N18K Kilae Creek 33.88 44 P **P** **08 19 14.9 -0.3**
baz=268
F19K Shaleruckik Mo 33.89 33 P **P** **08 19 14.7 -0.4**
baz=257
M18K Stony River 33.95 43 P **P** **08 19 15.1 -0.5**
baz=267
G19K Purcell Mounta 34.01 35 P **P** **08 19 16.8 +0.7**
G19K Purcell Mounta 34.01 35 P **P** **08 19 14.9 -1.3**
baz=258
H19K Roundabout Mou 34.15 36 P **P** **08 19 18.4 +1.1**
H19K IAmb IAmb 08 19 45.3
comp=Z,5.6nm,0.8s
H19K Roundabout Mou 34.15 36 P **P** **08 19 17.2 -0.1**
baz=260,SNR=5.8
D19K Kuna River 34.18 30 P **P** **08 19 18.0 +0.4**
D19K IAmb IAmb 08 19 40.5
comp=Z,7.2nm,0.8s
D19K Kuna River 34.18 30 P **P** **08 19 17.7 0.0**
baz=254,SNR=5.8
O18K Koktuh Hills 34.20 46 P **P** **08 19 17.3 -0.6**
baz=270
E19K Redstone River 34.24 32 P **P** **08 19 17.5 -0.6**
baz=256
J19K Poorman 34.27 39 P **P** **08 19 18.4 0.0**
baz=263
XAN Xi'an 34.40 266 ⇑P **P** **08 19 19.5 -0.5**
XAN S **S** **08 24 46.3 +1.4**
XAN pmax pmax
comp=Z,38nm,0.8s
XAN pmax pmax
comp=Z,120nm,5.2s
XAN LR LR
comp=Z,700nm,13.2s
XAN LR LR
comp=Z,470nm,13.1s
XAN LR LR
comp=Z,680nm,17.5s
L19K White Mountain 34.46 42 P **P** **08 19 20.4 +0.3**
baz=266
N19K Bonanza Creek 34.58 44 P **P** **08 19 21.3 +0.1**
baz=269
M19K Big River Lodg 34.66 42 P **P** **08 19 21.7 -0.2**
baz=267
F20K Avaraart Lake 34.72 33 P **P** **08 19 22.0 -0.3**
baz=259
D20K Etivluk River 34.77 30 P **P** **08 19 22.8 0.0**
baz=255,SNR=9.9
H20K Anotleneega Mo 34.79 36 P **P** **08 19 23.5 +0.6**
baz=262
E20K Nigu River 34.81 31 P **P** **08 19 23.6 +0.5**
baz=256,SNR=6.7
SII Sitkinak Islan 34.88 52 P **P** **08 19 22.8 -1.0**
baz=275
J20K Nowinta River 34.94 38 P **P** **08 19 24.4 +0.2**
baz=264
B20K Meade River 34.95 28 P **P** **08 19 24.1 0.0**
baz=253
M20K Styx River 35.25 42 P **P** **08 19 27.7 +0.7**
baz=268
OHAK Old Harbor 35.31 50 P **P** **08 19 27.8 +0.4**
baz=275
IMAR Indian Mountai 35.32 35 P **P** **08 19 28.2 +0.7**
G21K Allakaket 35.50 34 P **P** **08 19 30.1 +1.1**
G21K Allakaket 35.50 34 P **P** **08 19 29.4 +0.4**
baz=262
C21K Knifeblade Rid 35.52 30 P **P** **08 19 29.6 +0.5**
baz=257,SNR=5.4
F21K Alatna River 35.62 33 P **P** **08 19 30.3 +0.3**
baz=261
KDAK Kodiak Island 35.64 49 P **P** **08 19 30.6 +0.3**
baz=275
E21K Killik River 35.66 31 P **P** **08 19 30.2 -0.2**
baz=258
H21K Melozitna Rive 35.67 36 P **P** **08 19 31.3 +0.8**
H21K Melozitna Rive 35.67 36 P **P** **08 19 30.6 +0.2**
baz=263,SNR=5.0
N20K Mount Spurr 35.69 44 P **P** **08 19 30.9 +0.2**
baz=270
B21K Ikpikpuk River 35.69 29 P **P** **08 19 31.4 +0.9**
B21K Ikpikpuk River 35.69 29 P **P** **08 19 30.8 +0.3**
baz=256,SNR=13
CHUM Lake Minchumin 35.72 39 P **P** **08 19 31.3 +0.4**
baz=266
PPLA Purkeypile 35.73 41 P **P** **08 19 31.4 +0.2**
baz=268
CAST Castle Rocks 35.80 40 P **P** **08 19 31.7 +0.1**
baz=267
A22K Sinclair Lake 35.93 27 P **P** **08 19 32.9 +0.3**
baz=254
SKT Skwentna 36.01 42 P **P** **08 19 33.6 +0.1**
baz=270
ENH Enshi 36.15 260 P **P** **08 19 34.7 -0.3**
F22K John River 36.16 33 P **P** **08 19 35.0 +0.4**
baz=262
D22K Ayikyak River 36.21 30 P **P** **08 19 36.0 +0.9**
D22K Ayikyak River 36.21 30 P **P** **08 19 35.4 +0.4**
baz=259
B22K Teshekpuk Lake 36.26 28 P **P** **08 19 36.0 +0.6**
B22K IAmb IAmb 08 19 36.4
comp=Z,9.5nm,0.7s
B22K Teshekpuk Lake 36.26 28 P **P** **08 19 36.0 +0.6**
baz=256,SNR=6.1
H22K Ishtalitna Cre 36.28 36 P **P** **08 19 36.2 +0.5**
baz=264
BPAW Bear Paw Mtn. 36.31 39 P **P** **08 19 36.7 +0.7**
baz=267
G22K Bettles 36.34 34 P **P** **08 19 36.1 0.0**
baz=263
SUA Susitna One 36.39 43 P **P** **08 19 37.4 +0.6**
baz=271
BRSE Bradley Lake S 36.46 46 P **P** **08 19 37.2 -0.1**
baz=274
MLY Manley 36.47 37 P **P** **08 19 38.7 +1.3**
MLY Manley 36.47 37 P **P** **08 19 37.6 +0.3**
baz=266
CUT Chulitna 36.60 42 P **P** **08 19 39.1 +0.7**
baz=270
COLD Coldfoot 36.88 33 P **P** **08 19 41.0 +0.3**
baz=264
RC01 Rabbit Creek A 36.89 44 P **P** **08 19 40.8 -0.1**
baz=272
G23K Bananza Creek 36.90 34 P **P** **08 19 41.8 +0.8**
G23K Bananza Creek 36.90 34 P **P** **08 19 41.3 +0.3**
baz=265
LZH Lanzhou 36.91 272 *e*P **P** **08 19 42.0 +0.4**
LZH pP pP 08 19 51.8 -1.0
LZH pmax pmax
comp=Z,73nm,1.2s
LZH LR LR
comp=Z,420nm,16.1s
LZH LR LR
comp=Z,320nm,19.9s
LZH LR LR
comp=Z,340nm,21.3s
D23K Nanushuk River 36.93 31 P **P** **08 19 41.0 -0.2**
baz=261
H23K Yukon River 37.02 36 P **P** **08 19 43.5 +1.5**
H23K Yukon River 37.02 36 P **P** **08 19 42.5 +0.5**
baz=266,SNR=5.8
I23K Minto, Yukon-K 37.06 37 P **P** **08 19 43.6 +1.3**
I23K Minto, Yukon-K 37.06 37 P **P** **08 19 43.6 +1.3**
baz=267
SEW Seward 37.09 45 P **P** **08 19 42.6 0.0**
baz=274
C23K Itkillik River 37.10 29 P **P** **08 19 43.4 +0.9**
C23K IAmb IAmb 08 19 44.2
comp=Z,12nm,0.8s
C23K Itkillik River 37.10 29 P **P** **08 19 42.7 +0.1**
baz=260,SNR=8.9
PMR Palmer 37.16 43 P **P** **08 19 43.2 0.0**

baz=272
NEA2 Nenana 37.17 38 P **P** **08 19 43.1 -0.1**
baz=268,SNR=7.3
E23K Chandalar 37.20 32 P **P** **08 19 43.2 -0.4**
baz=263,SNR=7.1
MCK McKinley 37.21 39 P **P** **08 19 43.9 +0.3**
baz=270
RND Reindeer 37.25 40 IAmb IAmb 08 19 45.2
comp=Z,7.8nm,1.0s
TOLK Toolik Lake Re 37.29 31 P **P** **08 19 44.5 +0.3**
baz=263
WAT1 Susitna Watana 37.39 41 P **P** **08 19 45.4 +0.2**
baz=271
KNK Knik Glacier 37.49 43 P **P** **08 19 46.3 +0.3**
baz=273
SML Sawmill 37.53 42 P **P** **08 19 47.4 +1.0**
SML IAmb IAmb 08 19 57.8
comp=Z,14nm,0.8s
SML Sawmill 37.53 42 P **P** **08 19 46.2 -0.2**
baz=273,SNR=5.9
SML Sawmill 37.53 42 P **P** **08 19 47.4 +1.0**
SML pmax pmax
comp=Z,14nm,0.8s
MDM Murphy Dome 37.54 37 P **P** **08 19 46.9 +0.5**
D24K Happy Valley 37.62 30 P **P** **08 19 47.9 +0.9**
D24K IAmb IAmb 08 19 48.5
comp=Z,9.0nm,0.8s
D24K Happy Valley 37.62 30 P **P** **08 19 47.2 +0.2**
baz=263,SNR=5.6
E24K Your Creek 37.62 32 P **P** **08 19 47.4 +0.3**
baz=264
COLA College 37.70 37 P **P** **08 19 48.4 +0.7**
COLA College 37.70 37 P **P** **08 19 48.0 +0.4**
baz=269
COLA College 37.70 37 P **P** **08 19 48.4 +0.7**
COLA pmax pmax
comp=Z,12nm,0.3s
H24K Noodor Dome 37.71 36 P **P** **08 19 47.5 -0.4**
baz=268
C24K Franklin Bluff 37.74 29 P **P** **08 19 48.3 +0.4**
baz=262
WAT6 Susitna Watana 37.77 41 P **P** **08 19 48.2 -0.4**
baz=272
F24K Squaw Lake 37.80 33 P **P** **08 19 48.6 0.0**
baz=266
M23K Glacier View 37.82 42 P **P** **08 19 49.0 +0.2**
baz=273
POKR Poker Plat Res 37.88 37 P **P** **08 19 49.4 +0.2**
baz=269
G24K Hadweenzic Riv 37.91 34 IAmb IAmb 08 19 51.3
comp=Z,6.5nm,0.8s
G24K Hadweenzic Riv 37.91 34 P **P** **08 19 49.8 +0.3**
baz=267,SNR=8.7
SCM Sheep Creek Mo 38.01 42 P **P** **08 19 50.6 +0.2**
baz=274
HDA Harding Lake 38.08 38 P **P** **08 19 51.3 +0.3**
baz=271
ILAR Eielson Array 38.11 38 P **P** **08 19 51.6 +0.4**
ILAR Eielson Array 38.11 38 P **P** **08 19 50.9 -0.3**
comp=Z,1.4nm,0.8s,baz=262,slow=7.3,SNR=22
ILAR LR LR 08 37 38.2
comp=Z,138nm,19.0s,baz=272,slow=40
comp=Z,1.4nm,0.8s
ILAR Eielson Array 38.11 38 P **P** **08 19 51.6 +0.4**
P23K Montague Islan 38.12 45 P **P** **08 19 51.5 +0.2**
baz=276
GTA Gaotai 38.16 280 P **P** **08 19 53.0 +1.0**
GTA pP pP 08 20 04.5 +0.9
GTA S **S** **08 25 50.3 +8.1**
GTA pmax pmax
comp=Z,20nm,0.9s
GTA LR LR
comp=Z,330nm,16.7s
GTA LR LR
comp=Z,480nm,13.5s
GTA LR LR
comp=Z,580nm,12.7s
G25K Bearman Lake 38.46 34 P **P** **08 19 54.4 +0.3**
baz=268
D25K Kavik River 38.51 30 IAmb IAmb 08 19 56.0
comp=Z,8.7nm,0.7s
D25K Kavik River 38.51 30 P **P** **08 19 54.6 +0.1**
baz=265,SNR=17
M24K Tolsona, Glenn 38.53 42 P **P** **08 19 55.0 +0.2**
baz=274
H25L Birch Creek 38.56 35 P **P** **08 19 55.2 +0.3**
baz=269
K24K Donnelly Dome 38.61 39 P **P** **08 19 55.7 +0.2**
baz=272
F25K Christian Rive 38.66 33 P **P** **08 19 56.1 +0.2**
baz=268
PRP Porcupine Dome 38.68 36 P **P** **08 19 55.4 -0.8**
baz=270
KLU Klutina 38.70 43 P **P** **08 19 57.3 +1.0**
KLU IAmb IAmb 08 19 58.8
comp=Z,8.6nm,1.0s
KLU Klutina 38.70 43 P **P** **08 19 56.4 +0.2**
baz=275
J25K Salcha River, 38.76 38 P **P** **08 19 56.5 -0.3**
baz=272
PAX Paxson 38.80 40 P **P** **08 19 56.6 -0.5**
baz=274
FYU Fort Yukon 38.80 35 IAmb IAmb 08 20 12.4
comp=Z,9.6nm,1.1s
EYAK Cordova Ski Ar 38.88 44 P **P** **08 19 57.7 +0.1**
baz=276
HARP HAARP 38.98 41 P **P** **08 19 59.3 +0.7**
baz=275
C26K Camden Bay 39.07 29 P **P** **08 19 59.0 -0.1**
baz=266
BMAR Burnt Mountain 39.07 33 P **P** **08 20 00.0 +0.8**
F26K Sheenjek River 39.24 33 P **P** **08 20 01.3 +0.6**
baz=269
NRIK Noril'sk 39.26 330 P **P** **08 19 59.8 -0.9**
comp=Z,2.8nm,0.8s,baz=114,slow=5.3,SNR=2.7
NRIK PcP **PcP** **08 22 09.6 +0.8**
comp=Z,3.2nm,0.6s,baz=102,slow=3.9,SNR=4.3
comp=Z,2.8nm,0.8s
NRIK Noril'sk 39.26 330 *i* P **P** **08 19 59.0 -1.7**
NRIK pmax pmax
comp=Z,5.0nm,1.1s
NRIK MLR MLR
comp=Z,240nm,17.0s
N25K Chitina, Valde 39.32 43 P **P** **08 20 01.4 -0.1**
baz=276
G26K Porcupine Rive 39.38 34 P **P** **08 20 02.3 +0.6**
baz=270,SNR=6.6
BMRM Bremner River 39.39 44 P **P** **08 20 02.3 +0.3**
baz=277
SCRK Sand Creek 39.40 39 P **P** **08 20 01.7 -0.4**
baz=274
C27K Jago River 39.47 30 P **P** **08 20 02.6 +0.1**
baz=267,SNR=6.4
J26L Joseph Creek 39.55 38 P **P** **08 20 03.4 +0.1**
baz=274
KAIM Kayak Island 39.62 45 P **P** **08 20 04.2 +0.4**
baz=278
L26K Log Cabin Wild 39.76 40 P **P** **08 20 05.2 +0.2**
L26K Log Cabin Wild 39.76 40 P **P** **08 20 05.5 +0.4**
baz=275
M26K Nabesna, AK 39.98 41 P **P** **08 20 07.7 +0.8**
M26K IAmb IAmb 08 20 29.2
comp=Z,10nm,1.0s
M26K Nabesna, AK 39.98 41 P **P** **08 20 07.4 +0.5**
baz=276,SNR=5.6
MCARA McCarthy VSAT 40.10 43 P **P** **08 20 08.8 +1.0**
baz=278
CRQE Cirque 40.15 44 P **P** **08 20 08.0 -0.4**
baz=278,SNR=7.4
E27K Coleen River 40.20 32 P **P** **08 20 08.7 0.0**
baz=271
G27K Doyon Strip 40.22 34 P **P** **08 20 09.0 +0.2**
baz=272
K27K Chicken 40.23 39 P **P** **08 20 09.5 +0.6**
baz=275
H27K Steamboat Moun 40.30 35 P **P** **08 20 09.7 +0.2**
baz=273,SNR=6.9
I27K Kandik River 40.30 36 P **P** **08 20 09.5 0.0**
baz=274
D27M Malcolm River 40.43 30 P **P** **08 20 10.4 -0.1**
baz=270
L27K Beaver Creek, 40.44 40 P **P** **08 20 11.3 +0.6**
baz=277,SNR=13
BCAR Beaver Creek A 40.46 40 P **P** **08 20 11.9 +1.1**
GYA Guiyang 40.46 258 ⇑P **P** **08 20 12.5 +1.1**
GYA pmax pmax
comp=Z,24nm,0.8s
M27K Edge Creek, AK 40.51 41 P **P** **08 20 12.0 +0.6**

baz=277,SNR=7.3
EGAK Eagle 40.56 37 P **P 08 20 11.7 +0.2**
baz=275,SNR=6.5
MESA MESA 40.80 45 P **P 08 20 13.8 0.0**
baz=280
GRNC Granite Creek 40.80 44 IAmb IAmb 08 20 16.5
comp=Z,18nm,0.9s
F28M Old Crow 40.88 33 P **P 08 20 14.2 0.0**
baz=273
E28M Babbage River 40.96 31 P **P 08 20 16.0 +1.1**
E28M Babbage River 40.96 31 P **P 08 20 15.5 +0.7**
baz=272
CTG Chitna Glacier 40.97 43 P **P 08 20 15.9 +0.7**
baz=280,SNR=5.8
CTGM Chitina Glacie 40.97 43 IAmb IAmb 08 20 17.8
comp=Z,15nm,0.9s
I28M Miner Creek 41.01 36 P **P 08 20 16.5 +1.0**
I28M Miner Creek 41.01 36 P **P 08 20 15.4 0.0**
baz=276,SNR=8.1
TABL Table Mountain 41.15 44 IAmb IAmb 08 20 19.2
comp=Z,11nm,0.9s
LOGN Logan Glacier 41.15 43 IAmb IAmb 08 20 24.0
comp=Z,12nm,1.0s
YUK3 Moose Creek 41.25 42 P **P 08 20 17.6 +0.1**
baz=279,SNR=8.1
DAWY Dawson 41.40 38 P **P 08 20 19.2 +0.6**
baz=278
O28M Mount Upton 41.55 43 P **P 08 20 19.9 -0.3**
baz=281,SNR=6.8
E29M Blow River 41.57 32 P **P 08 20 20.9 +1.1**
baz=274,SNR=6.1
H29M Whitestone 41.58 35 P **P 08 20 20.8 +0.9**
baz=276
G29M Pine Creek 41.65 34 P **P 08 20 21.1 +0.5**
baz=276
PINM Pinnacle 41.65 44 P **P 08 20 20.8 +0.1**
baz=281
YUK8 Steele Glacier 41.66 43 P **P 08 20 21.6 +0.6**
baz=280
I29M Ogilvie Camp, 41.70 36 P **P 08 20 21.8 +0.9**
baz=277,SNR=8.5
M29M Somme Creek 42.06 41 P **P 08 20 25.6 +1.5**
M29M Somme Creek 42.06 41 P **P 08 20 25.1 +1.0**
baz=280,SNR=5.4
L29M L29M 42.10 40 P **P 08 20 25.8 +1.5**
baz=280
PNL Peninsula 42.16 45 P **P 08 20 25.7 +0.9**
baz=282
YUK4 Talbot Arm 42.18 42 P **P 08 20 25.6 +0.4**
baz=281
EPYK Eagle Plains 42.22 35 P **P 08 20 26.0 +0.7**
baz=277
K29M Barlow Dome 42.25 39 P **P 08 20 26.3 +0.7**
baz=279,SNR=8.8
G30M tAoh Zrail Nji 42.34 34 P **P 08 20 26.7 +0.5**
baz=277,SNR=5.3
YUK6 Outpost Mounta 42.40 43 P **P 08 20 27.4 +0.5**
baz=282
O29M Mount Kennedy 42.43 44 P **P 08 20 27.9 +0.8**
baz=282
F30M Barrier River 42.44 33 P **P 08 20 27.9 +1.0**
baz=277
ZALV Zalesovo Beam 42.48 306 P **P 08 20 27.5 +0.1**
ZALV Zalesovo Beam 42.48 306 P **P 08 20 26.4 -1.0**
comp=Z,0.8nm,0.4s,baz=84,slow=14,SNR=5.6
ZALV PcP **PcP 08 22 19.5 0.0**
comp=Z,10nm,0.8s,baz=80,slow=2.8,SNR=21
comp=Z,0.8nm,0.4s
I30M Mount Dempster 42.52 36 IAmb IAmb 08 20 30.8
comp=Z,13nm,1.1s
I30M Mount Dempster 42.52 36 P **P 08 20 28.3 +0.5**
baz=279,SNR=12
J30M Hart River 42.64 37 P **P 08 20 29.2 +0.4**
baz=280
M30M Minto, Yukon 42.80 40 P **P 08 20 31.1 +1.1**
M30M Minto, Yukon 42.80 40 P **P 08 20 30.7 +0.7**
baz=281,SNR=7.3
N30M Aishikik Lake 42.89 42 P **P 08 20 31.9 +1.1**
baz=282
P29M Windy Craggy 42.99 45 IAmb IAmb 08 20 34.9
comp=Z,20nm,0.9s
P29M Windy Craggy 42.99 45 P **P 08 20 33.4 +1.8**
baz=284,SNR=8.5
G31M Satah River 43.11 34 P **P 08 20 33.1 +0.8**
G31M Satah River 43.11 34 P **P 08 20 32.5 +0.2**
baz=279
INK Inuvik 43.19 32 P **P 08 20 34.2 +1.2**
baz=278,SNR=5.8
INK Inuvik 43.19 32 LR LR 08 41 53.3
comp=Z,110nm,18.7s,baz=323,slow=41
F31M Tsiigehtchic 43.24 33 P **P 08 20 34.0 +0.7**
baz=279
P30M Million Dollar 43.26 44 P **P 08 20 34.0 +0.3**
baz=284
QIZ Qiongzhong 43.44 246 P **P 08 20 35.5 -0.1**
QIZ S **S 08 27 02.3 +1.4**
QIZ LR LR
comp=Z,210nm,15.9s
QIZ LR LR
comp=Z,300nm,19.8s
QIZ LR LR
comp=Z,310nm,17.5s
N31M Braeburn, Yuko 43.50 42 IAmb IAmb 08 20 39.2
comp=Z,24nm,1.1s
N31M Braeburn, Yuko 43.50 42 P **P 08 20 37.1 +1.5**
baz=283,SNR=16
O30N Mendenhall 43.52 43 IAmb IAmb 08 20 39.0
comp=Z,13nm,1.0s
O30N Mendenhall 43.52 43 P **P 08 20 37.0 +1.2**
baz=284,SNR=16
PLBC Pleasant Camp 43.71 45 P **P 08 20 38.6 +1.3**
baz=285,SNR=11
PZH PanZhiHua 43.84 262 P **P 08 20 39.3 +0.4**
PZH pmax pmax
comp=Z,40nm,0.9s
PZH pmax pmax
comp=Z,60nm,4.2s
M31M Drury Creek, Y 43.98 40 IAmb IAmb 08 20 42.5
comp=Z,9.0nm,0.8s
M31M Drury Creek, Y 43.98 40 P **P 08 20 40.9 +1.5**
baz=284,SNR=9.6
KMI Kunming 44.02 259 ||P **P 08 20 41.3 +0.8**
KMI pmax pmax
comp=Z,22nm,1.2s
KMI LR LR
comp=Z,270nm,17.7s
KMI LR LR
comp=Z,240nm,9.7s
KMI LR LR
comp=Z,270nm,21.5s
WHY Whitehorse 44.12 43 IAmb IAmb 08 20 44.0
comp=Z,12nm,1.0s
WHY Whitehorse 44.12 43 P **P 08 20 42.4 +1.7**
baz=285,SNR=10
S31K Pelican 44.18 47 P **P 08 20 42.0 +1.0**
baz=286
SKAG Skagway 44.22 44 IAmb IAmb 08 20 44.8
comp=Z,6.8nm,0.9s
SKAG Skagway 44.22 44 P **P 08 20 42.9 +1.5**
baz=286
WMQ Urumqi 44.41 292 *e*P **P 08 20 43.5 +0.3**
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ LR LR
comp=Z,710nm,23.9s
WMQ LR LR
comp=Z,2μm,24.0s
FARO Faro, Yukon 44.44 40 IAmb IAmb 08 20 45.9
comp=Z,9.2nm,0.8s
FARO Faro, Yukon 44.44 40 P **P 08 20 44.2 +1.0**
baz=284,SNR=8.6
ZSN Zaisan 44.71 298 *e*P **P 08 20 45.2 -0.3**
baz=298
ZSN Zaisan 44.71 298 *e*P **P 08 20 45.2 -0.3**
N32M Quiet Lake 44.84 42 P **P 08 20 47.6 +1.2**
baz=286
SIT Sitka 44.92 48 P **P 08 20 48.5 +1.5**
baz=288
R32K Eaglecrest 44.96 46 P **P 08 20 48.8 +1.5**
baz=287
P32M Atlin 44.98 44 P **P 08 20 49.5 +2.1**
P32M IAmb IAmb 08 20 50.6
comp=Z,9.3nm,0.9s
P32M Atlin 44.98 44 P **P 08 20 49.0 +1.5**
baz=287,SNR=5.7
P33M Teslin, Yukon 45.23 43 P **P 08 20 50.9 +1.4**
baz=287,SNR=30
A36M Sachs Harbour 45.36 26 P **P 08 20 51.7 +1.5**
baz=282
Q32M Nakina River 45.87 44 P **P 08 20 55.4 +0.6**
baz=288
SEM Semipalatinsk 46.34 303 *e*P **P 08 20 58.7 +0.1**
baz=303
SEM Semipalatinsk 46.34 303 *e*P **P 08 20 58.7 +0.1**
C36M Paulatuk 46.35 29 P **P 08 20 59.5 +1.4**
baz=285
R33M Jennings River 46.37 44 P **P 08 20 60.0 +1.4**
baz=289,SNR=25
U33K Whale Pass 46.38 48 P **P 08 20 59.4 +0.9**
baz=290
MK31 Makanchi Array 46.58 298 IAmb IAmb 08 21 04.1
comp=Z,4.3nm,0.8s
MK31 Makanchi Array 46.58 298 *ce*P **P 08 20 58.7 -1.6**
MKAR Makanchi Array 46.58 298 P **P 08 20 58.7 -1.6**
MKAR Makanchi Array 46.58 298 P **P 08 20 57.4 -2.9**
comp=Z,4.0nm,0.8s,baz=57,slow=9.3,SNR=31
MKAR PcP **PcP 08 22 34.2 +0.5**
comp=Z,5.3nm,0.7s,baz=67,slow=3.9,SNR=9.8
MKAR LR LR 08 41 26.1
comp=Z,445nm,22.0s,baz=103,slow=37
comp=Z,4.0nm,0.8s
CRAG Craig 46.60 49 P **P 08 21 00.9 +0.7**
baz=291
MAKZ Makanchi 46.77 298 P **P 08 21 00.4 -1.4**
MAKZ Makanchi 46.77 298 P **P 08 21 00.4 -1.4**
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
S34M Telegraph Cree 46.78 46 IAmb IAmb 08 21 05.3
comp=Z,14nm,0.9s
S34M Telegraph Cree 46.78 46 P **P 08 21 02.3 +0.6**
baz=290,SNR=7.3
TGTN Hyland Airport 46.95 40 P **P 08 21 04.1 +1.1**
baz=289
DLBC Dease Lake 47.15 45 P **P 08 21 05.0 +0.4**
baz=290,SNR=14
DLBC Dease Lake 47.15 45 LR LR 08 43 26.7
comp=Z,68nm,18.7s,baz=294,slow=39
WTLY Watson Lake, Y 47.17 42 IAmb IAmb 08 21 07.6
comp=Z,12nm,0.8s
KURK Kurchatov 47.17 304 P **P 08 21 03.4 -1.4**
KURK IAmb IAmb 08 21 07.6
comp=Z,9.2nm,0.9s
KURK Kurchatov 47.17 304 *e*P **P 08 21 03.7 -1.1**
KURK Kurchatov 47.17 304 *ce*P **P 08 21 03.7 -1.1**
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURK MLR MLR
comp=Z,216nm,15.0s
KURBB Kurchatov Arra 47.27 304 P **P 08 21 02.3 -3.2**
comp=Z,5.1nm,0.7s,baz=74,slow=8.4,SNR=12
KURBB PcP **PcP 08 22 36.4 +0.3**
comp=Z,4.6nm,0.8s,baz=74,slow=3.5,SNR=11
KURBB LR LR 08 41 41.7
comp=Z,188nm,18.7s,baz=178,slow=37
comp=Z,5.1nm,0.7s
T35M Bob Quinn 47.56 47 P **P 08 21 08.1 +0.4**
baz=291,SNR=9.5
WRGLY Wrigley 48.48 37 P **P 08 21 14.8 +0.1**
baz=291
NONG Nongkai 48.54 252 P **P 08 21 16.1 +0.4**
LIRD Liard River Hi 48.70 42 P **P 08 21 16.9 +0.4**
baz=292
TOAD Toad River Com 49.33 43 P **P 08 21 21.9 +0.5**
baz=293,SNR=24
KOTAN Kotaneelee Air 49.38 41 P **P 08 21 23.5 +1.8**
baz=293
SHLS Shalkode 50.03 295 *e*P **P 08 21 24.8 -2.2**
baz=294
SHLS Shalkode 50.03 295 *e*P **P 08 21 24.8 -2.2**
KPKS Kokpek 50.38 295 *e*P **P 08 21 29.8 +0.2**
baz=295
KPKS Kokpek 50.38 295 *e*P **P 08 21 29.8 +0.2**
BBB Bella Bella 50.64 52 LR LR 08 45 57.9
comp=Z,38nm,18.1s,baz=294,slow=40
SATY Saty 50.75 295 *e*P **P 08 21 32.5 -0.1**
comp=Z,7.2nm,1.0s,baz=295
SATY Saty 50.75 295 *e*P **P 08 21 32.4 -0.1**
SATY pmax pmax
comp=Z,7.0nm,1.0s
BVAR Borovoye Array 50.83 310 P **P 08 21 29.9 -2.8**
comp=Z,4.3nm,0.9s,baz=73,slow=4.6,SNR=4.4
BVAR PcP **PcP 08 22 49.0 0.0**
comp=Z,5.8nm,0.7s,baz=82,slow=2.7,SNR=8.4
comp=Z,4.3nm,0.9s
CHTO Chiang Mai 50.85 256 P **P 08 21 32.7 -0.6**
CHTO Chiang Mai 50.85 256 P **P 08 21 32.7 -0.6**
CHTO pmax pmax
comp=Z,20nm,0.9s
CMAR Chiang Mai Arr 51.10 256 P **P 08 21 34.9 -0.3**
CMAR Chiang Mai Arr 51.10 256 P **P 08 21 35.9 +0.7**
comp=Z,6.9nm,0.8s,baz=38,slow=7.5,SNR=28
CMAR PcP **PcP 08 22 51.9 +1.4**
comp=Z,1.9nm,0.7s,baz=21,slow=2.4,SNR=5.2
CMAR LR LR 08 46 07.8
comp=Z,151nm,19.7s,baz=90,slow=40
comp=Z,6.9nm,0.8s
CHKK Chushkaly 51.26 297 *e*P **P 08 21 35.8 -0.4**
baz=296
CHKK Chushkaly 51.26 297 *e*P **P 08 21 35.7 -0.4**
SHL Shillong 51.32 268 P **P 08 21 36.7 -0.3**
SHL pmax pmax
comp=Z,48nm,0.9s
MDOK Medeo 51.56 296 *e*P **P 08 21 38.5 -0.2**
baz=296
MDOK Medeo 51.56 296 *e*P **P 08 21 38.4 -0.2**
RES Resolute Bay 52.28 18 LR LR 08 47 12.3
comp=Z,142nm,19.3s,baz=9.5,slow=40
YKA Yellowknife Ar 52.48 36 P **P 08 21 45.7 +0.8**
comp=Z,6.0nm,0.9s,baz=296,slow=6.8,SNR=6.2
YKA LR LR 08 45 41.2
comp=Z,86nm,21.9s,baz=308,slow=38
comp=Z,6.0nm,0.9s
BTLS Baital 52.49 299 *e*P **P 08 21 44.1 -1.2**
baz=299
BTLS Baital 52.49 299 *e*P **P 08 21 45.0 -0.3**
BOOM Boomskoye usch 52.61 296 IAmb IAmb 08 21 48.1
comp=Z,9.6nm,0.6s
LUWI Luwuk 52.97 217 P **P 08 21 51.8 +2.7**
AAK Ala-Archa 53.45 296 P **P 08 21 52.1 -0.4**
AAK IAmb IAmb 08 21 54.3
comp=Z,8.2nm,0.7s
AAK Ala-Archa 53.45 296 LR LR 08 45 55.1
comp=Z,350nm,18.6s,baz=72,slow=38
AAK Ala-Archa 53.45 296 *e*P **P 08 21 53.0 +0.4**
AAK Ala-Archa 53.45 296 *ce*P **P 08 21 53.0 +0.4**
AAK pmax pmax
comp=Z,8.0nm,0.7s
AAK MLR MLR
comp=Z,350nm,17.0s
SVE Sverdlovsk 54.01 317 *e*P **P 08 21 56.3 +0.1**
SVE pmax pmax
comp=Z,10.0nm,0.8s
KSH Kashi 54.16 292 P **P 08 22 02.3 +4.5**
KSH sP sP 08 22 18.0 +3.3
KSH pmax pmax
comp=Z,8.0nm,0.8s
KSH LR LR
comp=Z,590nm,19.2s
KSH LR LR
comp=Z,330nm,19.6s
KSH LR LR
comp=Z,570nm,17.2s
ARSB Arslanbob 55.10 296 IAmb IAmb 08 22 06.4
comp=Z,4.7nm,1.0s
ARU Arti 55.20 317 P **P 08 22 02.5 -2.3**
ARU IAmb IAmb 08 22 07.8
comp=Z,9.4nm,1.0s
ARU Arti 55.20 317 *d*P **P 08 22 02.8 -2.0**
ARU AP **pP 08 22 18.2 +1.3**
ARU PP **PP 08 24 03.6 -4.6**
ARU S **S 08 29 42.3 -2.4**
ARU pmax pmax
comp=Z,11nm,1.0s
KK31 Karatay Array 55.68 299 P **P 08 22 07.5 -1.1**
KK31 IAmb IAmb 08 22 09.3
comp=Z,8.9nm,0.9s
KK31 Karatay Array 55.68 299 P **P 08 22 07.5 -1.1**
KK31 pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 55.68 299 P **P 08 22 07.6 -0.9**
KKAR Karatay Array 55.68 299 P **P 08 22 07.6 -0.9**
NEEM North Greenlan 56.45 6 *i*P **P 08 22 12.1 -1.8**
NEEM IAmb IAmb 08 22 13.8
comp=Z,43nm,0.9s
IUG Iuzhnay 56.50 298 *e*P **P 08 22 14.7 +0.1**
comp=Z,12nm,0.7s,baz=298
IUG Iuzhnay 56.50 298 *e*P **P 08 22 14.6 +0.1**
IUG pmax pmax
comp=Z,12nm,0.7s
CHM Chimkent 56.67 298 *e*P **P 08 22 15.6 0.0**
baz=298
CHM Chimkent 56.67 298 *e*P **P 08 22 15.6 0.0**
KSM Kuching 56.95 232 P **P 08 22 19.1 +1.3**
KSM Kuching 56.95 232 P **P 08 22 17.4 -0.4**
KSM IAmb IAmb 08 22 19.7
comp=Z,11nm,0.9s
BTK Batken 57.17 296 P **P 08 22 19.4 +0.1**
BTK Batken 57.17 296 P **P 08 22 19.4 +0.1**
BTK pmax pmax
comp=Z,16nm,1.1s
LTY Liberty 57.29 54 P **P 08 22 20.1 +0.1**
B08A Colville Reser 57.43 52 IAmb IAmb 08 22 38.6
comp=Z,6.9nm,1.1s
I03D Drain, OR 57.70 59 IAmb IAmb 08 22 31.2
comp=Z,7.8nm,1.0s
H04A Detroit Lake 57.84 57 IAmb IAmb 08 22 26.6
comp=Z,10nm,0.9s
KIRV Kirov 58.11 323 LR LR 08 49 49.5
comp=Z,460nm,18.4s,baz=48,slow=39
I04A Tendick Farm, 58.21 58 IAmb IAmb 08 22 33.4
comp=Z,5.4nm,1.1s
C09A Chrisman Ranch 58.33 52 P **P 08 22 27.9 +0.6**
C09A IAmb IAmb 08 22 44.8
comp=Z,7.1nm,1.1s
ABKAR Akbulak array 58.40 310 P **P 08 22 26.5 -1.2**
KULLO Kullorsuaq 58.59 9 *i*P **P 08 22 26.9 -1.7**
KULLO IAmb IAmb 08 22 32.5
comp=Z,53nm,1.2s
ARCES ARCESS Array B 58.63 341 P **P 08 22 28.7 -0.3**
ARCES IAmb IAmb 08 22 29.5
comp=Z,9.2nm,1.1s
ARCES ARCESS Array B 58.63 341 P **P 08 22 28.2 -0.8**
comp=Z,4.2nm,0.8s,baz=66,slow=11,SNR=14
ARCES PcP **PcP 08 23 19.1 +0.5**
comp=Z,3.8nm,0.7s,baz=37,slow=4.6,SNR=7.4
ARCES LR LR 08 51 23.4
comp=Z,60nm,18.6s,baz=36,slow=40
comp=Z,4.2nm,0.8s
ARCES ARCESS Array B 58.63 341 P **P 08 22 28.7 -0.3**
ARCES pmax pmax
comp=Z,9.0nm,1.1s
NEW Newport 58.71 51 IAmb IAmb 08 22 47.5
comp=Z,5.7nm,1.1s
NEW Newport 58.71 51 P **P 08 22 30.3 +0.5**
baz=305,SNR=5.1
NEW Newport 58.71 51 LR LR 08 47 10.1
comp=Z,57nm,21.0s,baz=309,slow=35
AKTO Aktyubinsk 58.75 312 LR LR 08 50 16.6
comp=Z,899nm,18.4s,baz=56,slow=39
PINE Pine Mountain 59.09 57 IAmb IAmb 08 22 36.0
comp=Z,8.0nm,0.8s
SIMJ Simiganj 59.12 295 P **P 08 22 33.2 +0.2**
E09A Wood Farm, Sta 59.14 54 IAmb IAmb 08 22 35.2
comp=Z,9.1nm,1.1s
J05D Fort Rock, OR 59.20 58 IAmb IAmb 08 22 36.6
comp=Z,6.3nm,0.8s
YBH Yreka Blue Hor 59.21 60 IAmb IAmb 08 22 51.6
comp=Z,4.2nm,0.9s
NIL Nilore 59.31 288 P **P 08 22 34.9 +0.6**
NIL Nilore 59.31 288 P **P 08 22 34.9 +0.6**
NIL pmax pmax
comp=Z,70nm,0.9s
G08A Pilot Rock 59.38 55 IAmb IAmb 08 22 37.1
comp=Z,4.0nm,1.1s
F10A Beach Ranch, E 59.97 54 IAmb IAmb 08 22 52.3
comp=Z,4.5nm,0.9s
DRS Darwin Rock St 60.69 203 P **P 08 22 44.2 +0.5**
J08A Circle Bar Ran 60.79 57 IAmb IAmb 08 23 04.1
comp=Z,9.0nm,1.2s
MTN Manton Dam 61.02 203 P **P 08 22 46.0 +0.1**
WVOR Wild Horse Val 61.25 58 IAmb IAmb 08 22 50.0
comp=Z,7.4nm,0.9s
MSO Missoula 61.29 51 P **P 08 22 48.7 +1.0**
MSO IAmb IAmb 08 22 50.0
comp=Z,8.0nm,1.1s
MSO Missoula 61.29 51 P **P 08 22 48.2 +0.5**
baz=307,SNR=9.8
KBL Kabul 61.55 291 P **P 08 22 48.5 -1.3**
KBL Kabul 61.55 291 P **P 08 22 48.5 -1.3**
KBL pmax pmax
comp=Z,28nm,0.9s
AFDM Forest Hills D 61.93 62 IAmb IAmb 08 23 09.6
comp=Z,3.7nm,0.9s
SUMG Summit 61.95 3 P **P 08 22 52.4 +0.3**
SUMG Summit 61.95 3 P **P 08 22 52.4 +0.3**
SUMG pmax pmax
comp=Z,49nm,1.1s
SUMG Summit 61.95 3 *i*P **P 08 22 52.0 -0.1**
SUMG IAmb IAmb 08 22 53.3
comp=Z,42nm,1.0s
FFC Flin Flon 62.30 39 P **P 08 22 55.0 +0.8**
FFC Flin Flon 62.30 39 P **P 08 22 55.0 +0.8**
FFC pmax pmax
comp=Z,11nm,0.9s
TWSI Taliwang, Sumb 62.42 219 P **P 08 22 54.2 -1.2**
PAHR Pah Rah Range 62.44 60 IAmb IAmb 08 22 58.0
comp=Z,6.1nm,1.0s
PNTR Pine Nut 62.69 61 P **P 08 22 58.0 +0.6**
PNTR IAmb IAmb 08 22 60.0
comp=Z,9.0nm,0.8s
BELG Belogornoye 62.73 318 LR LR 08 52 33.8
comp=Z,221nm,18.3s,baz=109,slow=38
EGMT Eagleton 62.81 48 IAmb IAmb 08 23 00.0
comp=Z,9.9nm,1.1s
EGMT Eagleton 62.81 48 P **P 08 22 58.0 +0.2**
baz=309
CMB Columbia Colle 62.85 62 IAmb IAmb 08 23 00.6
comp=Z,4.6nm,0.9s
YERR Yerington 62.97 61 IAmb IAmb 08 23 01.8
comp=Z,11nm,1.0s
HLID Hailey 63.02 54 P **P 08 22 59.8 +0.4**
HLID Hailey 63.02 54 P **P 08 23 00.4 +1.0**
baz=308
WAKR Walker 63.15 62 IAmb IAmb 08 23 03.1
comp=Z,5.9nm,0.9s
BOZ Bozeman (W) 63.32 51 IAmb IAmb 08 23 03.2
comp=Z,3.9nm,0.9s
BOZ Bozeman (W) 63.32 51 P **P 08 23 02.0 +0.7**
baz=309,SNR=8.7
KVN Kaiserville 63.63 60 IAmb IAmb 08 23 06.0
comp=Z,8.2nm,1.0s
RYN Ryan 63.63 61 IAmb IAmb 08 23 06.0
comp=Z,7.1nm,0.9s
NVAR Mina Array Bea 63.89 61 P **P 08 23 06.3 +1.0**
NVAR Mina Array Bea 63.89 61 P **P 08 23 06.8 +1.5**
comp=Z,4.4nm,0.8s,baz=290,slow=6.9,SNR=37
comp=Z,4.4nm,0.8s
MDPB Devils Postpil 63.91 62 IAmb IAmb 08 23 23.2
comp=Z,5.8nm,1.2s
NV11 Mina Array Sit 63.98 61 IAmb IAmb 08 23 08.3
comp=Z,5.1nm,1.1s
YHL Hebgen Lake 64.03 52 IAmb IAmb 08 23 18.2
comp=Z,6.6nm,1.2s
H17A Grant Village 64.66 52 P **P 08 23 10.0 -0.3**
baz=310
FINES FINESS Array B 64.67 334 P **P 08 23 07.7 -2.0**
comp=Z,9.7nm,0.7s,baz=46,slow=8.2,SNR=26
comp=Z,9.7nm,0.7s
DSP Deep Springs 64.76 62 IAmb IAmb 08 23 13.6
comp=Z,8.3nm,1.0s
IMW Indian Meadow 64.77 52 IAmb IAmb 08 23 31.6
comp=Z,4.6nm,1.0s
RLMT Red Lodge 64.91 51 P **P 08 23 11.9 0.0**
baz=310
TPAW Teton Pass 65.03 53 IAmb IAmb 08 23 25.5
comp=Z,10nm,1.1s
VES Vestal, Richgr 65.03 64 P **P 08 23 13.4 +0.9**
baz=309
HVU Hansel Valley 65.08 55 IAmb IAmb 08 23 33.3
comp=Z,3.9nm,0.9s
SNOW Snow King Moun 65.15 53 IAmb IAmb 08 23 31.5
comp=Z,6.9nm,1.1s
CWC Cottonwood Cre 65.28 63 P **P 08 23 14.8 +0.4**
baz=310
ICESG Greenland Ices 65.36 4 *i*P **P 08 23 13.6 -0.9**
ICESG IAmb IAmb 08 23 16.1
comp=Z,17nm,0.7s
DGMT Dagmar 65.36 45 P **P 08 23 14.8 +0.3**
baz=312
GRAC Grapevine Rang 65.37 62 IAmb IAmb 08 23 17.4
comp=Z,8.0nm,0.8s
GRAC Grapevine Rang 65.37 62 P **P 08 23 15.5 +0.7**

baz=310,SNR=6.3
LAO **LASA Array** 65.50 48 IAmb IAmb 08 23 25.4
comp=Z,8.1nm,1.1s
LAO **LASA Array** 65.50 48 P **P** **08 23 15.9 +0.4**
baz=311
SBC **Santa Barbara** 65.52 65 P **P** **08 23 17.0 +1.4**
baz=310
ISA **Isabella, Lake** 65.53 63 P **P** **08 23 17.1 +1.2**
baz=310
R11B **Troy Canyon, C** 65.60 60 IAmb IAmb 08 23 39.3
comp=Z,4.4nm,1.1s
R11B **Troy Canyon, C** 65.60 60 P **P** **08 23 16.6 +0.2**
baz=310,SNR=7.4
Q12A **Willow Creek R** 65.62 59 IAmb IAmb 08 23 26.2
comp=Z,7.3nm,1.0s
ARVC **Arvin** 65.64 64 P **P** **08 23 17.0 +0.5**
baz=310
OBN **Obninsk** 65.70 325 *e*P **P** **08 23 16.2 -0.3**
OBN **Obninsk** 65.70 325⇑ *e*P **P** **08 23 16.2 -0.3**
OBN *PP **pP** **08 23 30.0 +1.3**
OBN *SP **sP** **08 23 36.0 +2.5**
OBN 08 23 48.0
OBN S S 08 31 50.0 -9.0
OBN 08 33 01.0
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,200nm,16.0s
SCZ2 **Santa Cruz Isl** 65.85 66 P **P** **08 23 17.5 -0.4**
baz=310
MPMC **Manual Prospec** 65.89 63 P **P** **08 23 18.6 +0.3**
baz=310,SNR=8.4
S11A **Rachel** 65.95 60 IAmb IAmb 08 23 39.5
comp=Z,9.7nm,0.8s
WCT **Wildcat Mounta** 65.96 61 IAmb IAmb 08 23 20.8
comp=Z,5.1nm,1.1s
FURC **Furnace Creek,** 66.02 62 P **P** **08 23 19.5 +0.7**
baz=310,SNR=5.4
DUG **Dugway, Tooele** 66.07 57 IAmb IAmb 08 23 39.4
comp=Z,4.3nm,0.9s
DUG **Dugway, Tooele** 66.07 57 P **P** **08 23 20.3 +1.0**
baz=310
TPNV **Topopah Spring** 66.09 61 P **P** **08 23 20.1 +0.5**
baz=310,SNR=8.0
BW06 **Boulder Array** 66.27 53 P **P** **08 23 20.6 -0.1**
baz=311
PDAR **Pinedale Array** 66.27 53 P **P** **08 23 20.6 -0.1**
PDAR **Pinedale Array** 66.27 53 P **P** **08 23 21.0 +0.3**
comp=Z,1.4nm,0.8s,baz=306,slow=2.0,SNR=16
PDAR LR LR 08 48 29.2
comp=Z,24nm,22.0s,baz=316,slow=33
comp=Z,1.4nm,0.8s
GWY **Greenwater Val** 66.32 62 IAmb IAmb 08 23 23.1
comp=Z,5.1nm,0.8s
EDW2 **Edwards Air Fo** 66.33 64 P **P** **08 23 21.4 +0.4**
baz=310
SFJD **Kangerlussuaq** 66.49 9 LR LR 08 56 26.7
comp=Z,133nm,18.3s,baz=346,slow=40
SFJD **Kangerlussuaq** 66.49 9 *i* P **P** **08 23 19.6 -1.8**
SFJD IAmb IAmb 08 23 21.3
comp=Z,11nm,0.9s
FRB **Frobisher Bay** 66.50 18 LR LR 08 55 40.2
comp=Z,104nm,18.5s,baz=359,slow=39
DECC **Green Verdugo** 66.51 65 P **P** **08 23 23.0 +0.9**
baz=310
NLU **North Lily Min** 66.66 56 IAmb IAmb 08 23 41.8
comp=Z,4.9nm,1.0s
SHOC **Shoshone, Teco** 66.75 62 P **P** **08 23 23.9 +0.3**
baz=310
GSC **Goldstone, Bar** 66.80 63 P **P** **08 23 24.6 +0.6**
baz=310
BFSC **Mount Baldy Ra** 66.95 64 P **P** **08 23 26.2 +1.2**
baz=310
CIS **Catalina Islan** 67.01 65 P **P** **08 23 26.2 +0.9**
baz=310
WRAB **Tennant Creek** 67.06 198 P **P** **08 23 25.0 -0.5**
WRAB IAmb IAmb 08 23 26.4
comp=Z,7.6nm,0.8s
WRAB **Tennant Creek** 67.06 198 P **P** **08 23 25.0 -0.5**
WRAB pmax pmax
comp=Z,8.0nm,0.8s
WB2 **Warramunga Arr** 67.07 198 IAmb IAmb 08 23 26.4
comp=Z,6.9nm,0.9s
WRA **Warramunga Arr** 67.07 198 P **P** **08 23 25.0 -0.6**
WRA **Warramunga Arr** 67.07 198 P **P** **08 23 25.3 -0.3**
comp=Z,5.5nm,0.9s,baz=14,slow=6.5,SNR=15
comp=Z,5.5nm,0.9s
WRA **Warramunga Arr** 67.07 198 P **P** **08 23 25.0 -0.6**
BBRC **Big Bear Solar** 67.40 64 P **P** **08 23 27.1 -1.0**
baz=311
HEC **Hector,Ludlow** 67.40 63 P **P** **08 23 28.2 +0.3**
baz=311,SNR=6.5
DY2G **Dye2** 67.45 8 *i* P **P** **08 23 25.9 -1.8**
DY2G IAmb IAmb 08 23 28.8
comp=Z,12nm,0.6s
CCUT **Cedar City** 67.46 59 IAmb IAmb 08 23 50.1
comp=Z,3.9nm,0.9s
MURC **Murrieta** 67.66 64 P **P** **08 23 29.4 0.0**
baz=311
RDMU **Red Mountain** 67.70 54 IAmb IAmb 08 23 32.2
comp=Z,9.2nm,0.9s
P17A **Butcher Ranch,** 67.75 56 IAmb IAmb 08 23 32.4
comp=Z,7.5nm,1.2s
MTPU **Mount Pierson** 67.84 58 IAmb IAmb 08 23 33.0
comp=Z,5.0nm,1.1s
GMRC **Granite Mounta** 67.85 63 P **P** **08 23 31.1 +0.4**
baz=311
LCMT **Little Creek M** 67.88 59 IAmb IAmb 08 23 33.5
comp=Z,6.1nm,0.9s
K22A **Casper** 68.03 51 IAmb IAmb 08 23 43.8
comp=Z,4.0nm,0.8s
K22A **Casper** 68.03 51 P **P** **08 23 32.3 +0.6**
baz=312
MDND **Maddock** 68.04 43 P **P** **08 23 31.9 +0.4**
baz=314
ULM **Lac du Bonnet** 68.08 40 P **P** **08 23 31.9 +0.1**
comp=Z,1.5nm,0.7s,baz=286,slow=7.4,SNR=3.6
ULM LR LR 08 54 53.0
comp=Z,47nm,21.2s,baz=330,slow=37
comp=Z,1.5nm,0.7s
PFO **Pinyon Flats O** 68.11 64 P **P** **08 23 33.2 +0.8**
baz=311
PFO **Pinyon Flats O** 68.11 64 LR LR 08 49 07.8
comp=Z,47nm,19.6s,baz=276,slow=32
SRU **San Rafael Swe** 68.12 56 IAmb IAmb 08 23 53.7
comp=Z,4.8nm,0.9s
TPFO **Pinon Flats** 68.12 64 P **P** **08 23 33.7 +1.2**
baz=311
KNB **Kanab** 68.13 59 IAmb IAmb 08 23 35.3
comp=Z,7.3nm,1.0s
BELC **Belle Mtn. Jos** 68.15 63 P **P** **08 23 33.5 +0.9**
baz=311
109C **Camp Elliot, M** 68.18 65 P **P** **08 23 34.0 +1.4**
baz=311
RSSD **Black Hills** 68.37 49 P **P** **08 23 33.9 -0.1**
RSSD IAmb IAmb 08 23 45.6
comp=Z,4.0nm,0.8s
RSSD **Black Hills** 68.37 49 P **P** **08 23 34.2 +0.2**
baz=313
RSSD **Black Hills** 68.37 49 P **P** **08 23 33.9 -0.1**
RSSD pmax pmax
comp=Z,4.0nm,0.9s
IRM **Iron Mountain** 68.58 63 P **P** **08 23 36.0 +0.8**
baz=311
MONP2 **Monument Peak** 68.61 65 P **P** **08 23 37.1 +1.5**
baz=311
DZM **Mont Dzumac** 68.65 165 LR LR 08 55 40.4
comp=Z,113nm,18.3s,baz=302,slow=38
BC3 **Big Chuckawall** 68.72 63 P **P** **08 23 36.9 +0.8**
baz=311
O20A **White River Ci** 68.75 54 P **P** **08 23 36.9 +0.5**
baz=312
NC303 **NORSAR Array S** 68.81 341 IAmb IAmb 08 23 43.1
comp=Z,10nm,1.0s
U15A **North Rim** 68.84 59 IAmb IAmb 08 23 39.7
comp=Z,6.1nm,1.0s
IKP **In-Ko-Pah, Jac** 68.97 65 P **P** **08 23 38.5 +0.9**
baz=311
SWSC **Sam W. Stewart** 68.97 64 P **P** **08 23 37.7 +0.1**
baz=311
NB201 **NORSAR Array S** 68.98 341 P **P** **08 23 36.7 -0.5**
NB2 **NORSAR Subarra** 69.01 341 P **P** **08 23 36.6 -0.8**
comp=Z,11nm,0.7s,baz=28,slow=6.2
NOA **NORSAR Array B** 69.01 341 P **P** **08 23 36.2 -1.2**
comp=Z,9.5nm,0.7s,baz=28,slow=6.3,SNR=40
NOA LR LR 08 58 51.9
comp=Z,86nm,18.2s,baz=15,slow=40
comp=Z,9.5nm,0.7s

PDMCI **Parker Dam,Lak** 69.11 62 P **P** **08 23 39.4 +0.9**
baz=312
HFS **Hagfors** 69.20 339 P **P** **08 23 37.1 -1.4**
comp=Z,17nm,0.7s,baz=55,slow=5.5,SNR=58
HFS LR LR 08 56 35.2
comp=Z,157nm,20.5s,baz=26,slow=38
comp=Z,17nm,0.7s
NC602 **NORSAR Array S** 69.20 340 IAmb IAmb 08 23 43.2
comp=Z,9.9nm,1.0s
NAO01 **NORSAR Array S** 69.26 341 IAmb IAmb 08 23 40.9
comp=Z,12nm,0.9s
MNK **Minsk** 69.49 329 *i* P **P** **08 23 40.2 -0.2**
comp=E,6.0nm,1.0s
MNK *i* P **P** **08 23 40.2 -0.2**
comp=N,24nm,0.9s
MNK *i* P **P** **08 23 40.2 -0.2**
comp=Z,16nm,0.8s,baz=39
MNK *i* pP **sP** **08 23 56.6 -0.9**
MNK *i* PP **PP** **08 26 14.0 +0.2**
MNK *i* PPP PPP 08 27 55.3
MNK *i* S **S** **08 32 41.2 -3.1**
MNK *i* sS SKiKP 08 33 11.4 -13
MNK *i* SS SS 08 37 48.9 +38
MNK *i* LQ LQ 08 49 23.4
MNK *i* LR LR 08 54 40.4
MNK *i* LRM MLR 08 57 16.5
comp=E,70nm,15.6s
MNK *i* LRM MLR 08 57 17.9
comp=Z,192nm,16.4s
MNK *i* LRM MLR 08 57 34.1
comp=N,437nm,23.9s
MNK **Minsk** 69.49 329 *e*P **P** **08 23 40.2 -0.2**
AGMN **Agassiz Nation** 69.49 41 IAmb IAmb 08 23 41.1
comp=Z,4.8nm,0.9s
AGMN **Agassiz Nation** 69.49 41 P **P** **08 23 41.3 +0.7**
baz=316
GLA **Glamis** 69.51 63 P **P** **08 23 42.0 +1.0**
baz=312
N23A **Red Feather La** 69.53 52 P **P** **08 23 42.2 +0.9**
baz=313
GOF **Gofitskoye** 69.92 314 *ce*P **P** **08 23 43.6 +0.3**
WUAZ **Wupatki** 70.00 60 P **P** **08 23 44.6 +0.4**
baz=312
SEKA **Sheki** 70.44 309 P **P** **08 23 46.8 +0.2**
MVCO **Mesa Verde** 70.58 57 P **P** **08 23 48.3 +0.6**
baz=313
X16A **Lo Mia Camp, P** 70.70 60 IAmb IAmb 08 23 51.0
comp=Z,5.6nm,0.9s
NCK **Nalchik** 70.75 313 *i* P **P** **08 23 49.3 +0.9**
NCK pmax pmax
comp=Z,15nm,0.3s
NCK MLR MLR
comp=Z,327nm,16.0s
SUSD **Miller** 70.76 46 P **P** **08 23 49.1 +0.7**
baz=316
ASAR **Alice Springs** 70.77 197 P **P** **08 23 48.8 +0.2**
ASAR **Alice Springs** 70.77 197 P **P** **08 23 49.5 +0.9**
comp=Z,4.7nm,0.8s,baz=14,slow=6.4,SNR=20
comp=Z,4.7nm,0.8s
MNGR **Mingechevir, A** 70.80 309 P **P** **08 23 49.4 +0.7**
KIV **Kislovodsk** 70.89 314 ⇑P **P** **08 23 47.9 -1.4**
KIV **Kislovodsk** 70.89 314 P **P** **08 23 49.8 +0.4**
KIV **Kislovodsk** 70.89 314 *e*P **P** **08 23 49.7 +0.4**
KIV **Kislovodsk** 70.89 314 *e*P **P** **08 23 49.7 +0.4**
KIV pmax pmax
comp=Z,32nm,1.0s
KIV MLR MLR
comp=Z,231nm,18.0s
KIV **Kislovodsk** 70.89 314 P **P** **08 23 48.5 -0.8**
KBZ **Khabaz** 70.94 313 P **P** **08 23 49.8 +0.3**
comp=Z,21nm,0.8s,baz=44,slow=8.7,SNR=39
KBZ LR LR 08 59 14.4
comp=Z,507nm,19.3s,baz=40,slow=40
comp=Z,21nm,0.8s
KBZ **Khabaz** 70.94 313 *e*P **P** **08 23 49.6 +0.2**
KBZ **Khabaz** 70.94 313 *ce*P **P** **08 23 49.6 +0.2**
KBZ pmax pmax
comp=Z,28nm,0.9s
KBZ MLR MLR
comp=Z,511nm,19.0s
SHA1 **Shidzhatmaz** 71.06 314 *ce*P **P** **08 23 50.6 +0.1**
F33A **5 Mile Ranch,** 71.07 43 IAmb IAmb 08 23 51.4
comp=Z,9.3nm,1.1s
S22A **4UR Ranch, Cre** 71.18 55 P **P** **08 23 51.3 -0.1**
baz=314,SNR=5.2
W18A **Petrified Fore** 71.26 59 P **P** **08 23 52.1 +0.3**
baz=313
LKRN **Lenkeran, Azer** 71.28 306 P **P** **08 23 52.6 +1.0**
Q24A **Divide** 71.30 53 P **P** **08 23 52.3 +0.2**
baz=314
GANJ **Ganja** 71.30 309 P **P** **08 23 52.4 +0.6**
214A **Organ Pipe Nat** 71.51 63 P **P** **08 23 53.7 +0.5**
baz=313
SUW **Suwalki** 71.54 331 *e*P **P** **08 23 52.0 -0.9**
OGNE **Ogallala** 71.63 50 P **P** **08 23 54.2 +0.3**
baz=315
EYMN **Ely** 71.73 39 P **P** **08 23 54.6 +0.4**
EYMN IAmb IAmb 08 23 55.5
comp=Z,8.3nm,1.1s
EYMN **Ely** 71.73 39 P **P** **08 23 54.0 -0.2**
baz=319
SDCO **Great Sand Dun** 71.94 54 P **P** **08 23 56.4 +0.3**
baz=314
AKASG **Malin Array Be** 71.95 326 P **P** **08 23 53.3 -2.2**
comp=Z,4.2nm,0.6s,baz=36,slow=5.9,SNR=21
comp=Z,4.2nm,0.6s
AKBB **Malin Array Si** 71.95 326 IAmb IAmb 08 23 55.7
comp=Z,15nm,1.1s
AKBB **Malin Array Si** 71.95 326 *ce*P **P** **08 23 53.8 -1.7**
AKBB pmax pmax
comp=Z,15nm,1.1s
KIEV **Kiev** 71.97 326 ⇓P **P** **08 23 54.9 -0.6**
KIEV **Kiev** 71.97 326 P **P** **08 23 54.0 -1.5**
KIEV IAmb IAmb 08 23 56.8
comp=Z,6.8nm,0.7s
KIEV **Kiev** 71.97 326 P **P** **08 23 54.0 -1.5**
KIEV pmax pmax
comp=Z,7.0nm,0.7s
KIEV **Kiev** 71.97 326 P **P** **08 23 54.2 -1.3**
IVI **Ivigtut** 72.38 10 *i* P **P** **08 23 56.9 -0.9**
IVI IAmb IAmb 08 23 59.6
comp=Z,30nm,1.2s
ECSD **EROS Data Cent** 72.44 45 IAmb IAmb 08 23 59.0
comp=Z,4.7nm,0.9s
ECSD **EROS Data Cent** 72.44 45 P **P** **08 23 58.6 0.0**
baz=317,SNR=9.8
GNI **Garni** 72.51 310 P **P** **08 23 58.3 -0.9**
GNI **Garni** 72.51 310 LR LR 08 59 12.1
comp=Z,161nm,19.2s,baz=52,slow=39
GNI **Garni** 72.51 310 *ce*P **P** **08 24 00.1 +0.9**
GNI pmax pmax
comp=Z,10.0nm,0.7s
GNI MLR MLR
comp=Z,204nm,17.0s
GNI **Garni** 72.51 310 P **P** **08 23 58.8 -0.4**
TUC **Tucson** 72.53 62 P **P** **08 23 59.9 +0.6**
baz=313
SOC **Sochi** 72.64 315 *e*P **P** **08 23 57.3 -2.4**
SOC *e* 08 26 37.1
SOC *e*PPP PPP 08 28 21.0
SOC *e*S **S** **08 33 19.1 -2.2**
SOC *e*SS **SS** **08 38 00.9 +0.7**
SOC pmax pmax
comp=Z,19nm,0.7s
SOC MLR MLR
comp=Z,147nm,15.0s
KSCO **Kaye Shedlock'** 72.67 52 P **P** **08 23 59.9 -0.2**
baz=315
E38A **The Farm, Brul** 72.71 40 IAmb IAmb 08 24 01.6
comp=Z,11nm,0.9s
NAX **Nakhchivan** 72.79 309 P **P** **08 24 01.5 +0.7**
T25A **Trinidad** 72.99 54 P **P** **08 24 02.6 +0.4**
baz=315
SPMN **Marine on St.** 73.18 42 P **P** **08 24 03.3 +0.5**
baz=319
ANMO **Albuquerque** 73.33 57 P **P** **08 24 04.8 +0.6**
baz=314
ANMO **Albuquerque** 73.33 57 LR LR 08 52 43.5
comp=Z,59nm,21.8s,baz=251,slow=33
BGNE **Belgrade** 73.35 47 P **P** **08 24 04.4 +0.4**
baz=317
Y22D **IRIS PASSCAL I** 73.66 58 P **P** **08 24 06.8 +0.7**
baz=314
319A **Douglas** 74.10 61 IAmb IAmb 08 24 11.4
comp=Z,11nm,1.0s
BEL **Belsk** 74.16 331 *e*P **P** **08 24 08.8 +0.3**

121A **Cookes Peak, D** 74.21 60 P **P** **08 24 10.1 +0.7**
baz=314
SIM **Simferopol'** 74.30 319 *e*P **P** **08 24 09.2 -0.3**
SIM pmax pmax
comp=Z,21nm,0.9s
SIM MLR MLR
comp=Z,130nm,15.0s
SORM **Soroca** 74.33 324 ⇑P **P** **08 24 09.0 -0.6**
SORM **Soroca** 74.33 324 P **P** **08 24 08.9 -0.6**
LVV **L'vov** 74.66 328 *e*P **P** **08 24 10.9 -0.5**
LVV pmax pmax
comp=Z,60nm,1.2s
SCHQ **Schefferville** 74.79 22 P **P** **08 24 12.3 +0.2**
comp=Z,5.6nm,0.8s,baz=335,slow=7.5,SNR=6.3
SCHQ LR LR 09 00 07.3
comp=Z,72nm,19.9s,baz=344,slow=38
comp=Z,5.6nm,0.8s
MILM **Milestii Mici** 75.10 323 ⇓P **P** **08 24 13.3 -0.8**
MILM **Milestii Mici** 75.10 323 P **P** **08 24 13.2 -0.8**
KWP **Kalwaria Pacla** 75.31 328 *e*P **P** **08 24 16.2 +1.1**
BSEG **Bad Segeberg** 75.54 338 *e*P 08 24 16.5
comp=Z,10.0nm,0.8s,baz=27,slow=5.6
ARMA **Armidale** 75.62 180 IAmb IAmb 08 24 21.3
comp=Z,12nm,0.9s
KSU1 **Kansas State U** 75.84 48 P **P** **08 24 19.2 +0.8**
baz=318
RUE **Ruedersdorf** 75.85 335 *e*P 08 24 18.5
comp=Z,16nm,0.8s,baz=27,slow=5.6
OJC **Ojcow** 75.85 330 *e*P **P** **08 24 18.4 +0.1**
BURAR **Bucovina Array** 76.00 326 ⇑P **P** **08 24 19.5 +0.2**
BURAR **Bucovina Array** 76.00 326 P **P** **08 24 18.8 -0.5**
BURAR **Bucovina Array** 76.00 326 P **P** **08 24 19.5 +0.2**
KOLS **Kolonicke sedl** 76.04 328 *e*P **P** **08 24 19.7 +0.3**
KOLS pmax pmax
comp=Z,28nm,0.8s
KOLS **Kolonicke sedl** 76.04 328 *e*P **P** **08 24 19.7 +0.3**
JFWS **Jewell Farm** 76.13 42 P **P** **08 24 20.2 +0.2**
baz=320
AMTX **Amarillo** 76.14 54 P **P** **08 24 20.7 +0.3**
baz=316
MSTX **Muleshoe** 76.17 56 P **P** **08 24 21.3 +0.7**
baz=316
MNTX **Cornudas Mount** 76.25 59 P **P** **08 24 20.7 -0.1**
baz=315
VLDR **Vladesti** 76.26 323 ⇑P **P** **08 24 20.0 -0.7**
DIKM **Dikmen** 76.28 316 ⇑P **P** **08 24 20.6 -0.2**
TESR **Tescani** 76.32 324 ⇑P **P** **08 24 21.0 0.0**
NIE **Niedzica** 76.35 330 *e*P **P** **08 24 22.5 +1.3**
CRVS **Cervenica-Dubn** 76.37 329 *e*P **P** **08 24 21.6 +0.3**
CRVS pmax pmax
comp=Z,20nm,0.9s
CRVS **Cervenica-Dubn** 76.37 329 *e*P **P** **08 24 21.6 +0.3**
TLCR 76.47 322 ⇓P **P** **08 24 22.0 +0.1**
TLCR 76.47 322 P **P** **08 24 22.0 +0.1**
KSP **Ksiaz** 76.49 333 *e*P **P** **08 24 21.7 -0.2**
NEGRR **Negrea** 76.59 323 ⇑P **P** **08 24 22.0 -0.6**
BMR **Baia Mare** 76.62 327 ⇑P **P** **08 24 22.7 0.0**
BMR **Baia Mare** 76.62 327 P **P** **08 24 22.7 0.0**
BZK **Bozkurt** 76.64 317 ⇓P **P** **08 24 21.9 -1.0**
SCHLR **Schela** 76.67 323 ⇑P **P** **08 24 22.5 -0.4**
FLTG **Flechtingen** 76.72 336 *e*P 08 24 22.9
comp=Z,15nm,0.8s,baz=27,slow=5.6
OKC **Ostrava-Krasne** 76.74 331 AMS AMS 09 04 10.0
comp=Z,200nm,18.4s
OSTC **Ostas** 76.77 333 *e*P **P** **08 24 24.0 +0.5**
OSTC AMS AMS 09 02 10.0
comp=Z,200nm,19.3s
OSTC **Ostas** 76.77 333 *e*P **P** **08 24 24.0 +0.5**
OSTC MLR MLR
comp=Z,200nm,19.3s
CFR **Carcaliu** 76.77 323 ⇑P **P** **08 24 23.0 -0.6**
CFR **Carcaliu** 76.77 323 P **P** **08 24 22.9 -0.6**
ARCR **ARCALIA** 76.78 326 ⇑P **P** **08 24 23.8 +0.2**
JURR **Jurilovca** 76.78 322 ⇑P **P** **08 24 23.5 -0.1**
CHVC **Chvalec** 76.79 333 *e*P **P** **08 24 23.9 +0.3**
CHVC **Chvalec** 76.79 333 *e*P **P** **08 24 23.9 +0.3**
VRI **Vrincioaia** 76.81 324 ⇓P **P** **08 24 23.3 -0.6**
VRI **Vrincioaia** 76.81 324 P **P** **08 24 23.2 -0.6**
PLOR **Plostina** 76.85 324 ⇑P **P** **08 24 24.3 +0.2**
PLOR **Plostina** 76.85 324 P **P** **08 24 24.3 +0.2**
LANS **Liptovska Anna** 76.87 330 *e*P **P** **08 24 25.5 +1.4**
LANS pmax pmax
comp=Z,20nm,0.8s
LANS **Liptovska Anna** 76.87 330 *e*P **P** **08 24 25.5 +1.4**
UPC **Upice** 76.88 333 *e*P **P** **08 24 24.4 +0.3**
UPC AMS AMS 09 02 20.0
comp=Z,200nm,16.0s
UPC **Upice** 76.88 333 *e*P **P** **08 24 24.4 +0.3**
UPC MLR MLR
comp=Z,200nm,16.0s
NRDL **Niedersach Rie** 76.89 337 *e*P 08 24 24.1
comp=Z,9.2nm,0.8s,baz=27,slow=5.6
TPGR **Topolog** 76.91 322 ⇑P **P** **08 24 24.5 +0.1**
DPC **Dobruska-Polom** 76.91 332 *e*P **P** **08 24 25.0 +0.7**
DPC AMS AMS 09 02 00.0
comp=Z,200nm,16.0s
DPC **Dobruska-Polom** 76.91 332 *e*P **P** **08 24 25.0 +0.7**
DPC MLR MLR
comp=Z,200nm,16.0s
DPC **Dobruska-Polom** 76.91 332 P **P** **08 24 24.1 -0.2**
TURR **Turia** 76.95 324 ⇑P **P** **08 24 24.8 +0.1**
KRLC **Kraliky** 77.00 332 *e*P **P** **08 24 25.4 +0.6**
KRLC *ex* x 08 24 29.3
KRLC AMS AMS 09 06 00.0
comp=Z,200nm,18.0s
KRLC **Kraliky** 77.00 332 *e*P **P** **08 24 25.4 +0.6**
KRLC *e* 08 24 29.3
KRLC MLR MLR
comp=Z,200nm,18.0s
MORC **Moravsky Berou** 77.00 331 ⇑P **P** **08 24 25.5 +0.6**
MORC **Moravsky Berou** 77.00 331 *e*P **P** **08 24 25.2 +0.3**
MORC **Moravsky Berou** 77.00 331 P **P** **08 24 25.4 +0.6**
OZUR 77.01 325 ⇓P **P** **08 24 24.9 -0.1**
P38A **Dawn** 77.04 46 IAmb IAmb 08 24 25.6
comp=Z,4.2nm,0.8s
COVR **Voineasa-Covas** 77.04 324 ⇑P **P** **08 24 25.0 -0.2**
BISRR **Bisoca** 77.07 324 ⇑P **P** **08 24 24.7 -0.6**
BOSR **Bodos** 77.08 325 ⇓P **P** **08 24 24.9 -0.5**
CLL **Collm** 77.11 335 *i* P **P** **08 24 25.1 -0.3**
comp=Z,31nm,0.9s
CLL *i* x x 08 24 29.1
CLL AMS AMS 09 01 00.0
comp=N,200nm,19.3s
CLL AMS AMS 09 01 00.0
comp=E,100nm,19.6s
CLL AMS AMS 09 01 00.0
comp=Z,200nm,19.9s
CLL **Collm** 77.11 335 *i* P **P** **08 24 24.9 -0.5**
CLL pmax pmax
comp=Z,31nm,0.9s
CLL **Collm** 77.11 335 *e*P 08 24 25.2
comp=Z,20nm,0.8s,baz=27,slow=5.6
GLMI **Grayling** 77.15 37 P **P** **08 24 25.7 0.0**
baz=323
BRG **Berggiesshubel** 77.21 334 *i* P **P** **08 24 25.7 -0.2**
BRG Amp 08 24 26.8
comp=Z,8.4nm,0.9s
BRG **Berggiesshubel** 77.21 334 P P 08 24 36.5 +11
BRG Amp 08 24 37.3
comp=Z,4.3nm,0.9s
BRG **Berggiesshubel** 77.21 334 *i* P **P** **08 24 25.7 -0.2**
BRG 08 24 36.5
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG MLR MLR
comp=Z,214nm,23.8s
BRG MLR MLR
comp=E,109nm,17.4s
BRG MLR MLR
comp=N,104nm,24.0s
BRG **Berggiesshubel** 77.21 334 *e*P 08 24 25.8
comp=N,5.7nm,0.8s,baz=27,slow=5.6
EKA **Eskdalemuir Ar** 77.24 346 P **P** **08 24 25.9 -0.2**
comp=N,1.8nm,0.4s,baz=19,slow=4.7,SNR=20
comp=N,1.8nm,0.4s
HARR **Harsova** 77.25 323 ⇑P **P** **08 24 26.5 +0.2**
HARR **Harsova** 77.25 323 P **P** **08 24 26.4 +0.2**
MAUC **Maruska** 77.26 331 *e*P **P** **08 24 26.7 +0.4**
MESR **Meseseni** 77.27 327 ⇓P **P** **08 24 26.3 0.0**
DOPR **Dopca** 77.28 325 ⇑P **P** **08 24 27.0 +0.6**
VLDQ **Val d'Or** 77.29 31 IAmb IAmb 08 24 54.5
comp=Z,5.9nm,1.0s
PVCC **Panska Ves** 77.31 334 *e*P **P** **08 24 26.8 +0.3**
PVCC AMS AMS 09 02 10.0

comp=Z,200nm,16.5s
PVCC Panska Ves 77.31 334 *eP* **P 08 24 26.8 +0.3**
PVCC MLR MLR
comp=Z,200nm,16.5s
TLBR Topalu 77.32 322 ⇓P **P 08 24 26.9 +0.3**
CJR Cluj-Napoca 77.38 326 ⇑P **P 08 24 27.1 +0.1**
CJR Cluj-Napoca 77.38 326 P **P 08 24 27.1 +0.1**
CLZ Clausthal 77.40 337 *eP* 08 24 27.0
comp=Z,13nm,0.8s,baz=27,slow=5.6
MLR Muntele Rosu 77.44 324 ⇑P **P 08 24 27.5 0.0**
MLR Muntele Rosu 77.44 324 LR LR 09 01 10.2
comp=Z,158nm,18.4s,baz=46,slow=38
MLR Muntele Rosu 77.44 324 P **P 08 24 27.5 0.0**
MFTR Murfatlar 77.45 322 ⇑P **P 08 24 27.7 +0.4**
RICC Richard 77.45 334 *eP* **P 08 24 28.2 +0.9**
ISR Istrita 77.49 324 ⇑P **P 08 24 27.8 +0.1**
ISR Istrita 77.49 324 P **P 08 24 27.8 +0.1**
MDB Medias 77.54 325 ⇑P **P 08 24 27.9 -0.1**
MDB Medias 77.54 325 P **P 08 24 27.8 -0.1**
NEUB Neuenburg 77.56 335 *eP* 08 24 28.0
comp=Z,18nm,1.0s,baz=27,slow=5.6
MARR Marisel-Cluj 77.59 327 ⇓P **P 08 24 28.0 -0.3**
HSKC Hora Svate Kat 77.60 334 *eP* **P 08 24 28.0 -0.2**
STKA Stephens Creek 77.62 189 *i P* **P 08 24 28.9 +0.7**
VYHS Vyhne 77.65 330 *eP* **P 08 24 28.9 +0.4**
VYHS pmax pmax
comp=Z,16nm,0.9s
VYHS Vyhne 77.65 330 *eP* **P 08 24 28.9 +0.4**
DRGR 77.66 327 ⇑P **P 08 24 28.2 -0.4**
DRGR 77.66 327 P **P 08 24 28.2 -0.4**
IBBN Ibbenburen 77.69 338 *eP* 08 24 28.8
comp=Z,22nm,0.7s,baz=27,slow=5.6
VRAC Vranov 77.72 332 ⇑P **P 08 24 29.6 +0.8**
VRAC Vranov 77.72 332 *eP* **P 08 24 29.3 +0.5**
VRAC Vranov 77.72 332 LR LR 09 03 10.2
comp=Z,147nm,19.6s,baz=22,slow=39
VRAC Vranov 77.72 332 P **P 08 24 29.6 +0.8**
JAVC Velka Javorina 77.74 331 *eP* **P 08 24 30.3 +1.3**
PRA Prague 77.76 333 *eP* **P 08 24 30.0 +1.0**
PRA AMS AMS 09 02 20.0
comp=Z,400nm,16.3s
PRA Prague 77.76 333 *eP* **P 08 24 30.0 +1.0**
PRA MLR MLR
comp=Z,400nm,16.3s
PSZ Piszkesteto 77.76 329 ⇓P **P 08 24 29.7 +0.5**
PSZ Piszkesteto 77.76 329 P **P 08 24 29.6 +0.5**
ICOR Ion Corvin 77.76 322 ⇓P **P 08 24 28.8 -0.3**
GTTG Gottingen 77.78 337 *eP* 08 24 29.1
comp=Z,11nm,0.9s,baz=27,slow=5.6
GOPC GO Pecny, Ondr 77.78 333 *eP* **P 08 24 29.3 +0.1**
GOPC GO Pecny, Ondr 77.78 333 *eP* **P 08 24 29.3 +0.1**
L44A Lake County Fo 77.79 41 P **P 08 24 29.2 -0.1**
baz=322
PRU Pruhonice 77.80 333 *eP* **P 08 24 29.6 +0.4**
PRU *ex* x 08 24 33.4
PRU AMS AMS 09 02 30.0
comp=Z,300nm,17.8s
PRU Pruhonice 77.80 333 *eP* **P 08 24 29.6 +0.4**
PRU *e* 08 24 33.4
PRU MLR MLR
comp=Z,300nm,17.8s
VOIR 77.85 325 ⇑P **P 08 24 29.8 +0.1**
VOIR 77.85 325 P **P 08 24 29.8 +0.1**
P40A Paris 77.85 45 IAmb IAmb 08 24 30.8
comp=Z,5.0nm,0.8s
KRUC Moravsky 78.00 332 *eP* **P 08 24 30.7 +0.3**
MTUR Matau 78.01 325 ⇑P **P 08 24 30.4 -0.3**
MTUR Matau 78.01 325 P **P 08 24 30.3 -0.3**
TANN Tannenbergstha 78.06 335 *eP* 08 24 30.8
comp=Z,4.4nm,0.8s,baz=27,slow=5.6
ARR Arges 78.07 325 ⇓P **P 08 24 31.4 +0.4**
MOX Moxa 78.11 335 *eP* 08 24 30.9
comp=Z,7.3nm,0.8s,baz=27,slow=5.6
MOX *epP* 08 24 34.9
SMOL Smolenice 78.12 331 *eP* **P 08 24 31.8 +0.7**
SMOL pmax pmax
comp=Z,11nm,0.8s
MODS Modra-Piesok 78.29 331 *eP* **P 08 24 32.8 +0.7**
MODS pmax pmax
comp=Z,46nm,1.0s
MODS Modra-Piesok 78.29 331 *eP* **P 08 24 32.8 +0.7**
LOT Lotru 78.35 325 ⇑P **P 08 24 33.0 +0.5**
ZVC Zvikov 78.39 333 *eP* **P 08 24 33.2 +0.7**
ZVC AMS AMS 09 02 50.0
comp=Z,300nm,15.5s
HDIL Hopedale 78.41 43 P **P 08 24 32.7 -0.1**
baz=321
UBBA Unterbreizbach 78.42 336 *eP* 08 24 32.7
comp=Z,4.5nm,0.7s,baz=27,slow=5.6
SIRR Siria 78.49 327 ⇓P **P 08 24 33.6 +0.4**
ZST Bratislava 78.51 331 *eP* **P 08 24 34.5 +1.3**
ZST pmax pmax
comp=Z,61nm,1.0s
ZST Bratislava 78.51 331 *eP* **P 08 24 34.5 +1.3**
KASTN Kahler Asten 78.51 337 *eP* 08 24 33.2
comp=Z,12nm,0.8s,baz=27,slow=5.6
LPIG La Paz 78.51 67 LR LR 08 51 12.0
comp=Z,48nm,20.4s,baz=254,slow=30
BR131 Keskin Array S 78.54 316 IAmb IAmb 08 24 35.2
comp=Z,11nm,0.9s
BR131 Keskin Array S 78.54 316 *i P* **P 08 24 33.3 -0.4**
BRTR Keskin Array B 78.54 316 P **P 08 24 33.9 +0.2**
comp=Z,6.3nm,0.8s,baz=75,slow=4.7,SNR=34
BRTR LR LR 09 04 56.9
comp=Z,146nm,18.0s,baz=58,slow=40
comp=Z,6.3nm,0.8s
MANZ Manzenberg 78.55 335 *eP* 08 24 33.8
comp=Z,1.8nm,0.8s,baz=27,slow=5.6
BUG Bochum--Univer 78.60 338 *eP* 08 24 33.8
comp=Z,12nm,0.8s,baz=27,slow=5.6
S39A Bolivar 78.61 47 IAmb IAmb 08 24 34.2
comp=Z,4.5nm,0.8s
TUL3 Leonard 78.65 50 P **P 08 24 33.4 -0.8**
baz=319
R40A Maddies Statio 78.69 46 IAmb IAmb 08 24 34.6
comp=Z,5.6nm,0.8s
ROTZ Rotzenmuhle 78.71 335 *eP* 08 24 34.7
comp=Z,2.1nm,0.8s,baz=27,slow=5.6
SURR Surduc 78.74 327 ⇓P **P 08 24 35.1 +0.5**
GZR Gura Zlata 78.79 326 ⇓P **P 08 24 35.0 +0.1**
GZR Gura Zlata 78.79 326 P **P 08 24 35.0 +0.1**
ANTO Ankara 78.84 317 ⇑P **P 08 24 34.3 -1.0**
ANTO Ankara 78.84 317 P **P 08 24 35.5 +0.2**
ANTO Ankara 78.84 317 P **P 08 24 35.5 +0.2**
ANTO pmax pmax
comp=Z,23nm,0.8s
COPA Copaceanca 78.84 324 ⇑P **P 08 24 34.9 -0.2**
KHC Kasperske Hory 78.85 333 P **P 08 24 35.0 -0.1**
KHC Kasperske Hory 78.85 333 *eP* **P 08 24 35.8 +0.7**
KHC AMS AMS 09 03 20.0
comp=Z,300nm,17.2s
KHC Kasperske Hory 78.85 333 P **P 08 24 35.0 -0.1**
KHC pmax pmax
comp=Z,22nm,0.8s
KHC Kasperske Hory 78.85 333 P **P 08 24 35.2 +0.1**
CKRC Cesky Krumlov 78.89 333 *eP* **P 08 24 35.7 +0.4**
CKRC AMS AMS 09 03 40.0
comp=Z,200nm,16.9s
CKRC Cesky Krumlov 78.89 333 *eP* **P 08 24 35.7 +0.4**
CKRC MLR MLR
comp=Z,200nm,16.9s
ABTX Abilene, Hawle 78.95 55 P **P 08 24 36.4 +0.4**
baz=317
TXAR Lajitas Array 78.97 59 P **P 08 24 36.7 +0.5**
TXAR Lajitas Array 78.97 59 P **P 08 24 36.9 +0.7**
comp=Z,1.4nm,0.7s,baz=298,slow=4.0,SNR=22
TXAR PKKPbc **PKKPbc 08 43 29.1 +2.7**
comp=Z,0.1nm,0.6s,baz=123,slow=4.4,SNR=4.1
comp=Z,1.4nm,0.7s
BZS Buzias 79.06 327 ⇓P **P 08 24 36.3 0.0**
BZS Buzias 79.06 327 P **P 08 24 36.3 0.0**
WET Wettzell 79.06 334 *eP* 08 24 36.4
comp=Z,13nm,0.9s,baz=27,slow=5.6
GEC2 GERESS Array S 79.06 333 IAmb IAmb 08 24 37.3
comp=Z,8.9nm,0.8s
GERES GERESS Array B 79.06 333 P **P 08 24 36.2 -0.2**
GERES GERESS Array B 79.06 333 P **P 08 24 35.9 -0.4**
comp=Z,4.4nm,0.8s,baz=24,slow=5.4,SNR=31
comp=Z,4.4nm,0.8s
GERES GERESS Array B 79.06 333 P **P 08 24 36.2 -0.2**
GEC2 GERESS Array S 79.06 333 *eP* 08 24 36.7
comp=Z,5.1nm,0.8s,baz=27,slow=5.6
GRF Grafenberg Arr 79.07 335 *eP* 08 24 36.5
comp=Z,22nm,0.8s,baz=27,slow=5.6
GRFO Grafenberg 79.07 335 P **P 08 24 36.8 +0.5**
GRFO Grafenberg 79.07 335 P **P 08 24 36.8 +0.5**
GRFO pmax pmax
comp=Z,25nm,0.8s
CONA Conrad Observa 79.16 331 *eP* **P 08 24 37.5 +0.6**
comp=Z,15nm,0.8s,SNR=11
RONA Rosalia, Austr 79.21 331 *eP* **P 08 24 37.9 +0.8**
comp=Z,15nm,0.9s,SNR=7.3
HERR Herculane 79.36 326 ⇑P **P 08 24 37.5 -0.4**
CCM Cathedral Cave 79.39 46 P **P 08 24 37.9 -0.3**
CCM IAmb IAmb 08 24 39.1
comp=Z,7.1nm,0.9s
CCM Cathedral Cave 79.39 46 P **P 08 24 37.9 -0.3**
CCM pmax pmax
comp=Z,7.0nm,1.0s
TNS Taunus Mts 79.39 337 *eP* 08 24 38.1
comp=Z,12nm,0.8s,baz=27,slow=5.6
AHRW Bad Neuenahr-A 79.47 338 *eP* 08 24 38.7
comp=Z,16nm,0.9s,baz=27,slow=5.6
AHRW *epP* 08 24 42.7
ELND Elena 79.55 323 ⇑P **P 08 24 38.7 -0.3**
SFIN Lafayette 79.58 42 P **P 08 24 39.1 -0.1**
baz=322
AAM Ann Arbor 79.60 38 P **P 08 24 39.5 +0.3**
baz=324
MORH Mrgy, Hungar 79.66 329 ⇓P **P 08 24 39.4 -0.1**
BTNL Ternell 79.67 338 *dP* **P 08 24 39.8 +0.2**
comp=Z,13nm,0.9s
MEM Membach 79.68 339 *dP* **P 08 24 39.8 +0.2**
comp=Z,20nm,0.9s
MDVR Moldovita 79.72 326 ⇑P **P 08 24 39.6 -0.3**
MOA Molln 79.75 332 *eP* **P 08 24 40.2 +0.2**
comp=Z,8.2nm,0.9s
RAR Rarotonga 79.77 135 LR LR 08 55 33.7
comp=Z,120nm,20.2s,baz=290,slow=32
BSTI Sart Tilman 79.82 339 *dP* **P 08 24 41.5 +1.2**
comp=Z,4.3nm,0.0s
ARSA Arzberg 79.86 331 *eP* **P 08 24 40.8 +0.1**
comp=Z,6.7nm,1.1s
BHOU Houvegnez 79.92 338 *dP* **P 08 24 41.5 +0.7**
TRQ Mont Tremblant 79.94 31 IAmb IAmb 08 24 41.7
comp=Z,6.4nm,1.0s
BCLA Clavier 80.04 339 *dP* **P 08 24 41.5 0.0**
comp=Z,11nm,0.9s
BIOA Bad Ischl, Aus 80.10 333 *eP* **P 08 24 42.4 +0.5**
comp=Z,14nm,1.1s,SNR=9.3
BGES Gesves 80.12 339 *dP* **P 08 24 42.5 +0.6**
comp=Z,12nm,1.0s
FRGS Fruska Gora 80.13 328 ⇓P **P 08 24 42.4 +0.3**
BMRD Maredsous 80.28 339 *dP* **P 08 24 43.2 +0.4**
comp=Z,15nm,1.0s
RCHB Rochefort 80.30 339 *dP* **P 08 24 43.2 +0.3**
comp=Z,7.3nm,1.0s
RJOB Jochberg 80.33 333 *eP* 08 24 43.5
comp=Z,6.9nm,0.8s,baz=27,slow=5.6
RJOB *epP* 08 24 47.5
JCT Junction City 80.43 56 IAmb IAmb 08 24 46.8
comp=Z,7.9nm,1.1s
JCT Junction City 80.43 56 P **P 08 24 44.2 +0.2**
baz=318
DOU Dourbes 80.51 339 *dP* **P 08 24 44.0 -0.1**
comp=Z,5.2nm,1.2s
SOKA Soboth 80.52 331 *eP* **P 08 24 44.1 -0.2**
comp=Z,13nm,1.0s,SNR=11
PERS Pernice 80.53 331 *i P* **P 08 24 44.4 +0.1**
O48B Farmland 80.57 40 IAmb IAmb 08 24 45.2
comp=Z,13nm,1.1s
O48B Farmland 80.57 40 P **P 08 24 44.0 -0.6**
baz=324
FCAR Ozark Folk Cen 80.60 48 IAmb IAmb 08 24 45.4
comp=Z,7.5nm,0.7s
LESA Schwarzleotal 80.64 333 *eP* **P 08 24 45.0 +0.1**
comp=Z,17nm,1.1s
WHTX Lake Whitney, 80.66 54 P **P 08 24 44.8 -0.4**
baz=318
BOVS Bovan 80.68 326 ⇓P **P 08 24 44.5 -0.6**
DRIO Del Rio 80.72 57 IAmb IAmb 08 25 07.0
comp=Z,7.1nm,1.0s
KBA Koelnbreinsper 80.73 333 *i P* **P 08 24 45.9 +0.4**
comp=Z,22nm,1.1s,SNR=11
PBMO Poplar Bluff 80.78 46 IAmb IAmb 08 24 48.2
comp=Z,10nm,1.0s
OBKA Obir 80.83 332 *eP* **P 08 24 45.6 -0.3**
comp=Z,6.4nm,1.1s
MIAR Mount Ida 80.87 49 IAmb IAmb 08 24 47.5
comp=Z,7.2nm,0.8s
MIAR Mount Ida 80.87 49 P **P 08 24 46.7 +0.4**
baz=320
GOLS Golise 80.90 331 *i P* **P 08 24 46.0 -0.2**
WHAR Wooly Hollow 80.98 48 IAmb IAmb 08 24 47.7
comp=Z,8.4nm,0.9s
MYKA Terra Mystica 81.03 332 *eP* **P 08 24 46.4 -0.6**
comp=Z,9.8nm,1.3s
WATA Walderalm 81.06 334 *i P* **P 08 24 47.6 +0.4**
comp=Z,11nm,0.6s,SNR=8.8
WTTA Wattenberg 81.11 334 *eP* **P 08 24 48.0 +0.4**
comp=Z,9.5nm,0.5s,SNR=8.1
BFO Black Forest 81.13 336 P **P 08 24 47.3 -0.2**
BFO IAmb IAmb 08 24 48.7
comp=Z,12nm,0.9s
BFO Black Forest 81.13 336 P **P 08 24 47.3 -0.2**
BFO pmax pmax
comp=Z,12nm,0.9s
BFO Black Forest 81.14 336 *eP* 08 24 47.6
comp=Z,9.4nm,0.9s,baz=27,slow=5.6
BFO *epP* 08 24 52.1
RETA Reutte 81.18 334 *eP* **P 08 24 47.9 +0.1**
comp=Z,12nm,1.1s,SNR=5.1
MOTA Moosalm 81.20 334 *eP* **P 08 24 48.2 +0.2**
comp=Z,23nm,1.2s
UBR Ueberruh 81.20 335 *eP* 08 24 48.1
comp=Z,3.1nm,0.9s,baz=27,slow=5.6
PRED Cave del Predi 81.22 332 P **P 08 24 47.3 -0.7**
PRED IAmb IAmb 08 24 50.4
comp=Z,5.3nm,0.8s
SQTA Sankt Quirin 81.28 334 *eP* **P 08 24 48.4 0.0**
comp=Z,20nm,1.2s,SNR=6.3
ABTA Abfaltersbach 81.29 333 *eP* **P 08 24 47.7 -0.7**
comp=Z,5.3nm,1.2s
LONY Lake Ozonia 81.31 31 P **P 08 24 47.6 -0.8**
baz=329
ERPA Erie 81.31 36 P **P 08 24 48.3 -0.2**
baz=326
P49A Miami Univ. Ec 81.36 41 P **P 08 24 48.6 -0.1**
baz=324
ECH Echery 81.56 337 IAmb IAmb 08 24 50.9
comp=Z,12nm,1.0s
ACSO Alum Creek Sta 81.57 39 P **P 08 24 49.7 -0.1**
baz=325
M53A WI Miller and 81.58 37 P **P 08 24 49.8 -0.2**
baz=326
GBRS Gornja Briga 81.60 331 *i P* **P 08 24 49.3 -0.7**
FETA Feichten 81.61 334 *eP* **P 08 24 50.0 -0.1**
comp=Z,7.6nm,1.1s,SNR=7.2
DAVA Damuels 81.62 335 *eP* **P 08 24 50.4 +0.1**
comp=Z,17nm,1.1s
WCI Wyandotte Cave 81.67 42 P **P 08 24 50.5 +0.2**
WCI IAmb IAmb 08 24 51.2
comp=Z,7.6nm,0.8s
WCI Wyandotte Cave 81.67 42 P **P 08 24 50.3 -0.1**
baz=323
WCI Wyandotte Cave 81.67 42 P **P 08 24 50.6 +0.2**
WCI pmax pmax
comp=Z,8.0nm,0.9s
BATG Bathurst New B 81.79 25 IAmb IAmb 08 24 52.1
comp=Z,11nm,0.8s
DAVOX Davos/Dischmat 82.08 335 LR LR 09 04 36.9
comp=Z,160nm,20.7s,baz=81,slow=38
FUORN Ofenpass-Fuorn 82.11 334 IAmb IAmb 08 24 54.7
comp=Z,12nm,1.1s
CTI Castel Tesino 82.19 333 IAmb IAmb 08 24 53.4
comp=Z,8.2nm,1.1s
833A Chaparral WMA, 82.26 57 P **P 08 24 54.2 +0.5**
baz=318
T47A Sharon Grove 82.27 44 IAmb IAmb 08 24 54.6
comp=Z,7.5nm,0.8s
PPT Papeete 82.31 125 LR LR 09 00 24.2
comp=Z,118nm,18.4s,baz=322,slow=35
O53A New Philadelph 82.33 38 P **P 08 24 53.7 -0.2**
baz=326
NATX Nacogdoches 82.39 52 P **P 08 24 54.0 -0.4**
baz=320
P52A Corning 82.44 39 P **P 08 24 55.0 +0.5**
baz=325
TUE Stuetta 82.52 335 IAmb IAmb 08 24 58.4
comp=Z,11nm,1.0s
TUE Stuetta 82.52 335 P **P 08 24 54.4 -0.6**
PKME Peaks-Kenny Pk 82.58 28 P **P 08 24 55.3 +0.2**
baz=332
LBNH Lisbon 82.59 30 P **P 08 24 55.1 -0.1**
baz=331
WVT Waverly 82.59 45 P **P 08 24 55.7 +0.4**
WVT IAmb IAmb 08 24 56.5
comp=Z,5.3nm,0.8s
WVT Waverly 82.59 45 P **P 08 24 54.8 -0.5**
baz=322
WVT Waverly 82.59 45 P **P 08 24 55.7 +0.4**
WVT pmax pmax
comp=Z,5.0nm,0.9s
PDG Podgorica 82.66 327 ⇑P **P 08 24 55.2 -0.3**
PDG Podgorica 82.66 327 IAmb IAmb 08 24 56.8
comp=Z,12nm,1.0s
PUK Puka 82.74 326 IAmb IAmb 08 24 58.0
comp=Z,6.3nm,0.8s
MMAI Mount Meron Ar 82.82 311 P **P 08 24 57.3 +0.6**
comp=Z,5.1nm,0.6s,baz=49,slow=5.6,SNR=6.8
MMAI LR LR 09 06 19.4
comp=Z,332nm,20.2s,baz=334,slow=39
comp=Z,5.1nm,0.6s
BINY Binghamton 82.84 34 P **P 08 24 55.8 -0.8**
baz=329
OXF Oxford 83.07 47 P **P 08 24 57.6 -0.2**
baz=322
U49A Red Boiling Sp 83.28 43 IAmb IAmb 08 25 00.1
comp=Z,8.7nm,0.8s
T50A Nancy 83.32 42 IAmb IAmb 08 25 00.3
comp=Z,6.9nm,0.8s
TIR Tirane 83.34 326 ⇑P **P 08 24 58.9 -0.2**
TIR Tirane 83.34 326 P **P 08 24 58.9 -0.2**
CLTN Cedars of Leba 83.36 44 IAmb IAmb 08 25 00.6
comp=Z,8.8nm,0.8s
PLAL Pickwick Lake 83.38 46 IAmb IAmb 08 24 59.7
comp=Z,3.9nm,0.7s
V48A Smith Brothers 83.40 44 IAmb IAmb 08 25 00.4
comp=Z,5.5nm,0.8s
MCWV Mont Chateau 83.41 37 P **P 08 24 59.3 -0.2**
baz=326
SSPA Standing Stone 83.41 36 P **P 08 24 59.7 +0.3**
baz=328
SSF Saint Saulge 83.60 339 *eP* **P 08 25 00.2 -0.1**
SSF pmax pmax
comp=Z,10.0nm,1.0s
HBVL Hebbronville 83.62 58 IAmb IAmb 08 25 19.3
comp=Z,7.7nm,1.1s
RAYN Ar Rayn 84.08 298 P **P 08 25 02.8 -0.4**
RAYN Ar Rayn 84.08 298 P **P 08 25 02.8 -0.4**
RAYN pmax pmax
comp=Z,10.0nm,0.9s
LPL La Plagne 84.15 336 *i P* **P 08 25 05.0 +1.6**
LPL pmax pmax
comp=Z,9.0nm,0.8s
HRV Adam Dziewonsk 84.23 31 P **P 08 25 03.7 +0.1**
baz=331
VBMS Vicksburg 84.28 49 P **P 08 25 04.0 0.0**
baz=322
X48A Hartselle 84.31 45 IAmb IAmb 08 25 04.7
comp=Z,4.6nm,0.8s
TZTN Tazewell 84.31 42 P **P 08 25 03.2 -1.0**
baz=325
PAL Palisades 84.67 33 P **P 08 25 06.1 +0.3**
baz=330
CPCT Cooper Cave 84.74 43 IAmb IAmb 08 25 07.9
comp=Z,7.9nm,1.0s
MFF Saint Martin d 84.91 341 *eP* **P 08 25 07.9 +0.9**
MFF pmax pmax
comp=Z,10.0nm,0.7s
TKL Tuckaleechee C 84.93 42 LR LR 09 02 14.2
comp=Z,115nm,22.0s,baz=340,slow=35
SSB Saint Sauveur 84.98 337 IAmb IAmb 08 25 09.9
comp=Z,6.5nm,0.7s
INTR Introdacqua 85.00 330 IAmb IAmb 08 25 09.7
comp=Z,9.3nm,1.1s
BLA Blacksburg 85.19 39 P **P 08 25 08.6 -0.1**
baz=326
LRAL Lakeview Retre 85.46 46 P **P 08 25 09.7 -0.3**
baz=323
EIL Elat 85.65 309 LR LR 09 09 02.4
comp=Z,72nm,18.3s,baz=70,slow=40
CAF Calviac 85.95 339 *eP* **P 08 25 11.9 -0.4**
CAF pmax pmax
comp=Z,19nm,1.0s
LFF La Frestale 86.27 340 *eP* **P 08 25 15.1 +1.4**
LFF pmax pmax
comp=Z,129nm,2.1s
TIP Timpagrande 86.42 327 ⇓P **P 08 25 14.6 -0.1**
TIP Timpagrande 86.42 327 IAmb IAmb 08 25 16.5
comp=Z,7.7nm,0.9s
KMSC Kings Mountain 86.49 41 P **P 08 25 15.3 +0.3**
baz=326
GOGA Godfrey 86.90 43 P **P 08 25 17.4 +0.4**
baz=325
BRAL Brewton 86.92 47 P **P 08 25 18.0 +0.8**
baz=323
TIGA Tifton 88.45 45 P **P 08 25 25.3 +0.8**
baz=325
NHSC New Hope 88.71 41 P **P 08 25 26.5 +0.8**
baz=327
KEST Kesra 92.20 330 P **P 08 25 41.1 -0.9**
comp=Z,7.0nm,1.0s,baz=339,slow=8.6,SNR=7.7
KEST LR LR 09 09 59.5
comp=Z,115nm,21.9s,baz=248,slow=38
comp=Z,7.0nm,1.0s
DWPF Disney Wildern 92.25 45 P **P 08 25 43.9 +1.7**
baz=326
ESDC Sonseca Array 92.36 341 P **P 08 25 41.1 -1.5**
comp=Z,1.5nm,1.0s,baz=359,slow=3.6,SNR=5.1
ESDC LR LR 09 13 16.6
comp=Z,105nm,19.1s,baz=18,slow=40
comp=Z,1.5nm,1.0s
CMIG Matias Romero 93.42 62 LR LR 09 06 25.2
comp=Z,33nm,19.8s,baz=1.0,slow=35
MDT Midelt 99.07 340 LR LR 09 16 20.0
comp=Z,84nm,19.3s,baz=42,slow=39
TORD Torodi Ar. Bea 115.56 327 PKP **PKiKP 08 31 13.2 -1.2**
comp=Z,0.3nm,0.5s,baz=68,slow=3.6,SNR=2.1
VNDA Vanda 122.97 177 PKP **PKPdf 08 31 26.4 -0.4**
comp=Z,0.9nm,1.0s,baz=326,slow=3.3,SNR=5.0
QSPA South Pole Qui 135.30 180 PKP **PKPdf 08 31 51.2 +0.7**
comp=Z,2.4nm,0.9s,baz=296,slow=2.1,SNR=7.8
LPAZ La Paz 135.80 62 PKP **PKPdf 08 31 54.5 +0.8**
comp=Z,1.0nm,0.8s,baz=0.0,slow=2.0,SNR=5.9
H03N2 Juan Fernandez 139.76 91 T T 11 07 51.9
baz=306,slow=77,SNR=12
H03N1 Juan Fernandez 139.78 91 T T 11 07 53.4
baz=306,slow=77,SNR=14
H03N3 Juan Fernandez 139.78 91 T T 11 07 48.4
baz=306,slow=77,SNR=18
ELIB Princess Elisa 144.29 205 *d*PKPdf **PKPab 08 32 05.6 +0.7**
BDFB Brasilia 145.90 35 PKPbc **PKPbc 08 32 11.9 0.0**
comp=Z,4.6nm,0.7s,baz=296,slow=2.6,SNR=9.4
AQDB Aquidauana 146.36 51 *eP* **PKPab 08 32 14.4 +0.5**
NVL N'lazarevskaya 148.14 204 *e*PKP2 **PKPab 08 32 22.5 +3.0**
NVL pmax pmax
comp=Z,11nm,0.7s
PLCA Paso Flores 149.10 96 PKPbc **PKPbc 08 32 20.4 +0.4**
comp=Z,5.3nm,0.7s,baz=255,slow=3.0,SNR=12
TROLL Troll, Antarti 149.75 198 ⇑PKPbc **PKPbc 08 32 20.8 +0.1**
comp=Z,390nm,0.4s
CPUP Villa Florida 149.94 60 PKPbc **PKPbc 08 32 22.5 +0.1**
comp=Z,5.2nm,0.7s,baz=340,slow=3.0,SNR=16
SNAA Sanae 151.13 196 **PKPbc 08 32 23.7 -0.2**
SNAA Sanae 151.13 196 ⇑PKPbc **PKPbc 08 32 23.6 -0.2**
comp=Z,120nm,0.7s
SNAA Sanae 151.13 196 PKPbc **PKPbc 08 32 23.5 -0.4**
comp=Z,5.2nm,0.7s,baz=152,slow=3.8,SNR=23
SNAA Sanae 151.13 196 PKIKP **PKPbc 08 32 23.7 -0.2**
VNA3 Neumayer Olymp 152.71 193 ⇑PKPbc **PKPbc 08 32 26.2 -1.2**
comp=Z,5.0nm,0.7s

IDC ***29*** *08:13:13.4±10.0, 4°.85S×129°.46E, h156km±111km, mb3.5/6, mbtmp3.8/8, Error ellipse: s-maj=42.3km s-min=35.2km az=64.0*
DJA ***29*** *08:13:19.8±0.4, 5°.S±4°×13°.0E±°, h220km±5km, M4.2/9, mb4.0/4, MLv4.2/9*
ISC 29 08:13:19.8±0.6, 5°.04S±0°.06×129°.57E±0°.08, h250km, n27, σ2.9s06/30, mb3.5/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.61**	**33**	P	**Pn**	**08 13 51.1**	**-2.0**
BNDI	**Bandanaira**	**0.61**	**33**	P	**Pn**	**08 13 50.2**	**-2.9**
BNDI				S	**S**	**08 14 14.2**	**-5.1**
NLAI	**Namlea**	**3.05**	**306**	P	**Pn**	**08 14 12.0**	**-0.9**
FAKI	**Fak Fak**	**3.40**	**52**	P	**Pn**	**08 14 15.2**	**-1.6**

FAKI	Fak Fak	3.40	52	P	Pn	08 14 15.2	-1.6
KMPI	Kaimana, Papua	4.34	72	P	Pn	08 14 27.3	-0.4
SWI	Sorong	4.48	22	P	Pn	08 14 26.8	-2.6
SANI	Sanana	4.65	310	P	Pn	08 14 28.4	-3.0
SANI	Sanana	4.65	310	P	Pn	08 14 28.2	-3.2
DRS	Darwin Rock St	7.46	170	P	Pn	08 15 05.7	-0.6
KDU	Kakadu	8.12	160	P	Pn	08 15 14.1	-0.6
EDFI	Ende, Flores	8.65	244	P	Pn	08 15 23.2	+1.7
	22nm,1.4s						
BKSI	Bulukumba	9.41	268	P	Pn	08 15 30.8	-0.3
	22nm,0.8s						
FITZ	Fitzroy Crossi	13.53	196	P	P	08 16 24.4	+0.9
	21nm,1.1s						
WRA	Warramunga Arr	15.52	163	P	Pn	08 16 46.2	-0.1
	0.6nm,0.8s,baz=335,slow=13,SNR=13						
WRA				S	S	08 19 35.1	-1.4
	2.3nm,0.7s,baz=330,slow=22,SNR=9.2						
COEN	Coen	16.07	124	P	Pn	08 16 54.8	+1.9
QIS	Mount Isa	18.25	149	P	Pn	08 17 18.6	+0.1
ASAR	Alice Springs	18.98	168	P	Pn	08 17 25.7	-1.4
	1.9nm,0.7s,baz=352,slow=12,SNR=28						
ASAR				S	S	08 20 45.7	+0.5
	1.0nm,0.8s,baz=345,slow=21,SNR=5.6						
AS01	Alice Springs	18.99	168	P	Pn	08 17 26.0	-1.2
MTSU	Mount Surprise	19.42	133	P	Pn	08 17 30.7	-1.5
WRKA	Warakurna	19.92	183	P	Pn	08 17 34.8	-3.3
CMAR	Chiang Mai Arr	38.17	309	P	P	08 20 16.1	+0.4
	0.4nm,0.3s,baz=128,slow=6.9,SNR=4.7						
	0.4nm,0.3s						
MJAR	Matsushiro Arr	42.15	10	P	P	08 20 47.8	-0.3
	1.2nm,0.7s,baz=192,slow=9.7,SNR=2.5						
	1.2nm,0.7s						
KSRS	Korea Array	42.30	358	P	P	08 20 51.0	+1.8
	0.8nm,0.6s,baz=177,slow=9.7,SNR=2.0						
	0.8nm,0.6s						
USRK	Ussuriysk Ar.	49.06	2	P	P	08 21 43.6	+1.7
	0.9nm,0.5s,baz=191,slow=7.0,SNR=2.3						
	0.9nm,0.5s						
SEY	Seymchan	69.97	11	P	P	08 24 06.6	+2.6
	2.9nm,0.6s,baz=196,slow=7.4,SNR=6.3						
	2.9nm,0.6s						
KURBB	Kurchatov Arra	70.63	328	P	P	08 24 09.9	+1.7
	0.5nm,0.6s,baz=129,slow=5.6,SNR=3.0						
	0.5nm,0.6s						

KRSC 29 08:17:25.0±1.0, 49°.56N×156°.77E, h42km±19km, MI3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.20	340	eP	Pn	08 17 46.4	+1.1
SKR				eS	Sn	08 18 01.2	+0.9
KDTR	Khodutka, Kamc	2.40	20	eP	Pn	08 18 04.7	+3.0
KDTR				eS	Sn	08 18 33.4	+3.6
ASAK	Asacha	2.91	14	eP	Pn	08 18 12.5	+3.6
MTVR	Mutnovka	3.06	16	eP	Pn	08 18 14.5	+3.6
MTVR				eS	Sn	08 18 49.9	+3.6
GRL	Gorelyy	3.10	15	eP	Pn	08 18 14.9	+3.3
GRL				eS	Sn	08 18 51.9	+4.5
APC	Apacha	3.38	4	eP	Pn	08 18 18.6	+3.4
PET	Petropavlovsk	3.66	18	eP	Pn	08 18 22.7	+3.6
PET				eS	Sn	08 19 06.0	+5.1
DALK	Dalny	3.69	19	eP	Pn	08 18 22.8	+3.4
UGLR	Uglovaya	3.87	19	eP	Pn	08 18 27.1	+5.1
AVH	Avacha	3.91	18	eP	Pn	08 18 26.8	+4.3
KOK	Koryaka	3.91	17	eP	Pn	08 18 27.4	+4.7
SMAR	Somma	3.92	18	eP	Pn	08 18 27.4	+4.6
KRER	Koryakskii	3.95	17	eP	Pn	08 18 26.3	+3.1
KRX	Arik	3.98	16	eP	Pn	08 18 27.6	+4.0
SPN	Mys Shipunski	4.09	29	eP	Pn	08 18 28.9	+4.0

*DJA **29** 08:19:18.8±0.4, 2°.N±4°.×12°.7E±°, h10km, M4.7/13, mb4.8/6, mB5.1/2, MLv4.6/13, Mw(mB)4.5/2*
*IDC **29** 08:19:20.4±2.9, 2°.27N×126°.85E, h45km±28km, mb4.0/17, mbtmp4.2/18, ML4.3/1, MS3.8/9, Error ellipse: s-maj=28.3km s-min=10.6km az=77.0*
*NEIC **29** 08:19:21.9±1.5, 2°.18N±0°.08×126°.80E±0°.08, h49km±4km, mb4.5/53, Error ellipse: s-maj=13.7km s-min=8.9km az=224.0*

ISC 29 08:19:21.5±0.4, 2°.24N±0°.05×126°.82E±0°.08, h50km, n107, σ1§24/101, mb4.5/48, MS3.7/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.56	159	Pn	Pn	08 19 45.4	-1.4
TNTI	Ternate	1.56	159	P	Pn	08 19 46.9	+0.1
SGSI	Sangihe	1.93	318	P	Pn	08 19 49.8	-2.2
LBMI	Labuha	2.94	167	P	Pn	08 20 05.6	-0.2
KMSI	Cibinong	3.28	240	P	Pn	08 20 10.6	+0.1
GTOI	Gorontalo	4.13	247	P	Pn	08 20 23.0	+0.9
SANI	Sanana	4.34	191	P	Pn	08 20 25.6	+0.6
LUWI	Luwuk	5.20	231		Pn	08 20 36.2	-0.6
LUWI	Luwuk	5.20	231	P	Pn	08 20 37.8	+1.0
NLAI	Namlea	5.45	177	P	Pn	08 20 40.8	+0.6
	41nm,0.8s,0.2nm						
TOLI2	Tolitoli	6.14	260		Pn	08 20 48.6	-1.1
FAKI	Fak Fak	7.46	133	Pn	Pn	08 21 07.6	-0.3
FAKI	Fak Fak	7.46	133	P	Pn	08 21 09.7	+1.8
MYLDM	Lahad Datu	8.80	290		Pn	08 21 26.7	+0.5
BKSI	Bulukumba	10.06	222	P	Pn	08 21 43.4	0.0
KAPI	Kappang	10.09	224	Pn	Pn	08 21 42.7	-1.2
KAPI	Kappang	10.09	224	P	Pn	08 21 45.3	+1.5
	2.3nm,0.3s,baz=83,slow=8.1,SNR=2.4						
	8.2nm,0.4s						
KKM	Kota Kinabalu	11.23	290		Pn	08 22 00.6	+1.0
SBUM	Sibu	14.59	271	Pn	Pn	08 22 46.1	+1.0
MTN	Manton Dam	15.58	164		Pn	08 22 57.4	-0.7
KSM	Kuching	16.52	268	Pn	Pn	08 23 09.8	-0.2
KNRA	Kununurra	17.90	174		Pn	08 23 26.9	-0.1
KNRA				IAmb	IAmb	08 23 29.5	
	comp=Z,18nm,0.7s						
FITZ	Fitzroy Crossi	20.24	183	P	P	08 23 52.9	+0.2
GUMO	Guam	21.11	57	LR	LR	08 30 16.2	
	comp=Z,219nm,21.1s,baz=304,slow=31						
TPUB	Ta-pu	21.78	345	P	P	08 24 06.3	-3.0
TPUB				IAmb	IAmb	08 24 14.9	
	comp=Z,21nm,0.8s						
SSLB	Suanglung	22.16	346	P	P	08 24 11.2	-2.3
SSLB				IAmb	IAmb	08 24 16.9	
	comp=Z,11nm,0.6s						
COEN	Coen	22.84	135	P	P	08 24 20.4	-0.3
WB0	Warramunga Arr	23.10	162	P	P	08 24 21.7	-1.6
WB0				IAmb	IAmb	08 24 38.5	
	comp=Z,15nm,0.6s						
WRAB	Tennant Creek	23.24	162	P	P	08 24 24.6	0.0
WRAB				IAmb	IAmb	08 24 45.2	
	comp=Z,14nm,0.8s						
WRA	Warramunga Arr	23.25	162	P	P	08 24 22.1	-2.6
WRA	Warramunga Arr	23.25	162	P	P	08 24 23.1	-1.6
	comp=Z,4.4nm,0.4s,baz=343,slow=11,SNR=34						
WRA				S	S	08 28 30.5	-2.7
	comp=Z,0.7nm,0.9s,baz=331,slow=21,SNR=2.3						
	comp=Z,4.4nm,0.4s						
WB2	Warramunga Arr	23.25	162	P	P	08 24 23.5	-1.3
WB2				IAmb	IAmb	08 24 33.1	
	comp=Z,15nm,0.5s						
WR0	Warramunga Arr	23.32	161	P	P	08 24 22.9	-2.5
WR0				IAmb	IAmb	08 24 29.7	
	comp=Z,12nm,0.6s						
PMG	Port Moresby	23.33	120	LR	LR	08 34 46.2	
	comp=Z,259nm,20.7s,baz=331,slow=40						
UBPT	Khong Chiam	24.72	303	P	P	08 24 38.0	-0.4
UBPT				IAmb	IAmb	08 24 38.5	
	comp=Z,29nm,1.5s						
AS31	Alice Springs	26.65	165	P	P	08 24 55.9	0.0
ASAR	Alice Springs	26.66	165	P	P	08 24 56.6	+0.7
ASAR	Alice Springs	26.66	165	P	P	08 24 55.6	-0.3
	comp=Z,1.4nm,0.5s,baz=345,slow=11,SNR=13						
ASAR				PcP	PcP	08 28 18.9	0.0
	comp=Z,0.5nm,0.4s,baz=344,slow=2.5,SNR=3.7						
ASAR				S	S	08 29 28.8	+1.1
	comp=Z,0.5nm,0.9s,baz=347,slow=20,SNR=2.1						
ASAR				LR	LR	08 37 11.8	
	comp=Z,168nm,19.4s,baz=345,slow=40						
	comp=Z,1.4nm,0.5s						
NJ2	Nanjing	30.59	347	eP	P	08 25 34.0	+3.2
NJ2				pP	pwP	08 25 44.8	-1.1
NJ2				sP	sP	08 25 51.5	+2.8
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,290nm,3.9s						
PHRA	Phrae	30.66	304	P	P	08 25 31.0	-0.6
CMAR	Chiang Mai Arr	31.72	302	P	P	08 25 40.2	-0.7
	comp=Z,0.9nm,0.4s,baz=98,slow=6.5,SNR=7.5						
	comp=Z,0.9nm,0.4s						
CHTO	Chiang Mai	31.88	303	P	P	08 25 40.8	-1.6
CHTO				IAmb	IAmb	08 25 47.0	
	comp=Z,5.1nm,0.8s						
MORW	Morawa	32.80	198	P	P	08 25 50.4	+0.2
FORT	Forrest	32.85	178	P	P	08 25 51.4	+0.7
PZH	PanZhiHua	34.08	317	P	P	08 26 03.3	+1.7
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH				pmax	pmax		
	comp=Z,200nm,8.1s						
INU	Inuyama	34.28	15	P	P	08 26 02.5	-0.5
JGF	Kuroka	34.61	15	P	P	08 26 05.6	-0.3
KSRS	Korea Array	35.06	2	P	P	08 26 10.3	+0.6
	comp=Z,1.7nm,0.5s,baz=178,slow=9.9,SNR=13						
	comp=Z,1.7nm,0.5s						
KS19	Wonju Array Si	35.11	1	P	P	08 26 10.2	+0.1
KS19				IAmb	IAmb	08 26 12.3	
	comp=Z,6.7nm,0.8s						
MAJO	Matsushiro	35.72	16	P	P	08 26 15.2	-0.3
MAJO				IAmb	IAmb	08 26 15.4	
	comp=Z,5.1nm,0.8s						
MJAR	Matsushiro Arr	35.72	16	P	P	08 26 13.5	-2.0
	comp=Z,3.0nm,0.6s,baz=189,slow=9.2,SNR=13						
	comp=Z,3.0nm,0.6s						
MJB9	Matsu-Tunnel	35.72	16	P	P	08 26 16.0	+0.5
MJB9				IAmb	IAmb	08 26 44.2	
	comp=Z,15nm,1.5s						
BBOO	Buckleboo	35.94	167	P	P	08 26 17.2	-0.2
NWAO	Narrogin (SRO)	36.13	194	P	P	08 26 18.2	-0.7
EIDS	Eidsvold	36.13	141	P	P	08 26 19.1	-0.1
EIDS				IAmb	IAmb	08 26 22.8	
	comp=Z,6.6nm,1.0s						
STKA	Stephens Creek	36.71	159	P	P	08 26 23.4	-0.6
STKA	Stephens Creek	36.71	159	P	P	08 26 23.8	-0.2
	comp=Z,2.3nm,0.4s,baz=328,slow=17,SNR=6.0						
	comp=Z,2.3nm,0.4s						
JMM	Marumori	37.71	18	P	P	08 26 31.9	-0.4
LZH	Lanzhou	39.83	330	eP	P	08 26 53.3	+2.9
LZH				pP	pwP	08 27 06.3	+0.6
LZH				pmax	pmax		
	comp=Z,18nm,0.9s						
ARMA	Armidale	40.18	146	P	P	08 26 53.8	+0.5
HHC	Hu-ho-hao-te	40.84	342	eP	P	08 27 01.0	+2.5
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SHL	Shillong	40.84	308	P	P	08 26 58.4	-0.5
SHL				IAmb	IAmb	08 27 12.4	
	comp=Z,7.3nm,0.7s						
USA0B	Ussuriysk Arra	42.04	6	P	P	08 27 08.3	+0.2
USA0B				IAmb	IAmb	08 27 10.2	
	comp=Z,6.6nm,0.8s						
USRK	Ussuriysk Ar.	42.04	6	P	P	08 27 08.1	-0.1
	comp=Z,5.0nm,0.7s,baz=186,slow=6.1,SNR=13						
	comp=Z,5.0nm,0.7s						
H11S3	WAKE ISLAND Hy	42.26	65	T	T	09 12 23.6	
	baz=251						
H11S2	WAKE ISLAND Hy	42.28	65	T	T	09 12 33.1	
	baz=251						
H11S1	WAKE ISLAND Hy	42.28	65	T	T	09 12 30.7	
	baz=251						
ASAJ	Asahikawa	43.99	16	LR	LR	08 43 51.1	
	comp=Z,98nm,20.3s,baz=50,slow=34						
JKA	Kamikawa-asahi	43.99	16	P	P	08 27 24.5	+0.6
JKA				IAmb	IAmb	08 27 29.4	
	comp=Z,6.8nm,0.9s						
DZM	Mont Dzumac	45.62	124	LR	LR	08 45 52.5	
	comp=Z,120nm,20.5s,baz=296,slow=35						
SONM	Songino Array	48.73	342	P	P	08 28 00.1	-1.2
	comp=Z,0.8nm,0.4s,baz=151,slow=6.3,SNR=4.8						
SONM				LR	LR	08 52 11.5	
	comp=Z,84nm,18.3s,baz=158,slow=40						
	comp=Z,0.8nm,0.4s						
MK31	Makanchi Array	58.83	326	P	P	08 29 13.5	-1.5
MKAR	Makanchi Array	58.83	326	P	P	08 29 13.8	-1.2
MKAR	Makanchi Array	58.83	326	P	P	08 29 13.4	-1.6
	comp=Z,1.5nm,0.3s,baz=121,slow=6.5,SNR=20						
	comp=Z,1.5nm,0.3s						
NIL	Nilore	58.91	308	P	P	08 29 14.7	-1.1
MAKZ	Makanchi	59.01	326	P	P	08 29 16.0	-0.3
MAKZ				IAmb	IAmb	08 29 29.9	
	comp=Z,5.5nm,1.2s						
KSH	Kashi	59.16	316	P	P	08 29 20.3	+2.7
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
URZ	Urewera	61.40	136	LR	LR	08 58 19.2	
	comp=Z,132nm,18.2s,baz=32,slow=38						
ZALV	Zalesovo Beam	61.95	333	P	P	08 29 34.1	-2.0
	comp=Z,0.9nm,0.4s,baz=124,slow=7.8,SNR=4.5						
	comp=Z,0.9nm,0.4s						
BTK	Batken	63.02	314	P	P	08 29 42.9	-0.8
BTK				IAmb	IAmb	08 30 10.2	
	comp=Z,8.9nm,1.4s						
KURBB	Kurchatov Arra	63.04	328	P	P	08 29 42.3	-1.1
	comp=Z,4.2nm,0.5s,baz=130,slow=6.6,SNR=17						
	comp=Z,4.2nm,0.5s						
KURK	Kurchatov	63.04	328	P	P	08 29 42.9	-0.6
KK31	Karatay Array	64.38	317	P	P	08 29 52.1	-0.4
KKAR	Karatay Array	64.38	317	P	P	08 29 52.1	-0.4
BVAR	Borovoye Array	68.61	327	P	P	08 30 18.9	-0.4
	comp=Z,0.9nm,0.4s,baz=97,slow=4.5,SNR=5.3						
	comp=Z,0.9nm,0.4s						
TIXI	Tiksi	69.32	1	LR	LR	09 02 33.1	
	comp=Z,48nm,19.9s,baz=210,slow=37						
ABKAR	Akbulak array	73.36	321	P	P	08 30 48.6	+0.4
ARU	Arti	76.24	328	P	P	08 31 04.0	-0.7
ARU				IAmb	IAmb	08 31 05.7	
	comp=Z,7.3nm,1.1s						
E18K	Tukpahlearik C	81.30	22	P	P	08 31 32.8	+0.6
VNDA	Vanda	81.94	173	P	P	08 31 35.6	+0.1
VNDA	Vanda	81.94	173	P	P	08 31 35.0	-0.4
	comp=Z,0.6nm,0.4s,baz=326,slow=6.3,SNR=14						
	comp=Z,0.6nm,0.4s						
C19K	Lookout Ridge	82.10	20	P	P	08 31 37.9	+1.4
C19K				IAmb	IAmb	08 32 03.9	
	comp=Z,12nm,1.4s						
G19K	Purcell Mounta	82.35	23	P	P	08 31 39.0	+1.2
G19K				IAmb	IAmb	08 31 40.3	
	comp=Z,3.0nm,0.8s						
D19K	Kuna River	82.47	21	P	P	08 31 39.4	+1.0
D19K				IAmb	IAmb	08 31 41.7	
	comp=Z,4.6nm,0.7s						
H19K	Roundabout Mou	82.48	24	P	P	08 31 39.9	+1.4
H19K				IAmb	IAmb	08 31 59.4	
	comp=Z,5.0nm,1.0s						
E19K	Redstone River	82.57	22	IAmb	IAmb	08 31 56.1	
	comp=Z,5.7nm,1.1s						
IMAR	Indian Mountai	83.66	24	P	P	08 31 45.4	+0.8
B21K	Ikpikpuk River	83.93	20	P	P	08 31 46.8	+0.9
B21K				IAmb	IAmb	08 31 47.9	
	comp=Z,6.5nm,1.1s						
B22K	Teshekpuk Lake	84.46	20	P	P	08 31 49.7	+1.2
C23K	Itkillik River	85.34	20	P	P	08 31 53.8	+0.8
C23K				IAmb	IAmb	08 31 55.8	
	comp=Z,2.9nm,0.6s						
RND	Reindeer	85.47	27	P	P	08 31 53.7	-0.2
RND				IAmb	IAmb	08 31 55.2	
	comp=Z,2.6nm,0.9s						
ILAR	Eielson Array	86.40	25	P	P	08 31 57.0	-1.4
	comp=Z,0.3nm,0.6s,baz=257,slow=4.9,SNR=6.3						
	comp=Z,0.3nm,0.6s						
I28M	Miner Creek	89.34	25	P	P	08 32 12.6	+0.1
ARCES	ARCESS Array B	91.87	340	P	P	08 32 23.1	-1.0
	comp=Z,1.4nm,0.9s,baz=91,slow=4.9,SNR=2.0						
	comp=Z,1.4nm,0.9s						
AKASG	Malin Array Be	93.10	321	P	P	08 32 30.9	+0.8
	comp=Z,0.1nm,0.3s,baz=72,slow=4.0,SNR=1.6						
	comp=Z,0.1nm,0.3s						
FINES	FINESS Array B	93.18	332	P	P	08 32 31.4	+1.1
	comp=Z,4.0nm,1.0s,baz=112,slow=1.5,SNR=5.8						
	comp=Z,4.0nm,1.0s						
DLBC	Dease Lake	94.97	31	LR	LR	09 12 00.8	
	comp=Z,45nm,19.7s,baz=306,slow=33						

*SJA **29** 08:22:39.1±0.8, 32°.76S×71°.30W, h36km±2km, ML3.5, MW3.5*
*GUC **29** 08:22:40.7±0.6, 32°.74S×71°.18W, h63km±3km, ML3.7*

ISC 29 08:22:41.7±1.3, 32°.77S±0°.03×71°.28W±0°.04, h50km±8km, n37, σ1§65/65, 8C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	Catapilco	0.20	355	⇑iP	Pn	08 22 49.9	-0.2
VA06				iS	Sn	08 22 56.7	+0.7
VA06				IAML		08 22 57.2	
	comp=E,9μm,0.2s						
ROCH	El Roble	0.30	133	⇑iP		08 22 50.9	
ROCH				⇑iP	Pn	08 22 50.8	-0.3
ROCH				iS	Sn	08 22 58.5	+0.6
VA01	Torpederas	0.40	230	iP	Pn	08 22 52.4	+0.5
VA01				iS	Sn	08 23 01.2	+2.1
VA01				IAML		08 23 01.7	
	comp=E,11μm,0.2s						
VA03	San Esteban	0.61	90	eP	Pn	08 22 52.8	-1.7
VA03				eS	Sn	08 23 02.8	-0.9
VA03				IAML		08 23 03.3	
	comp=Z,7μm,0.1s						
VA03	San Esteban	0.61	90	⇑iP	Pn	08 22 53.2	-1.3
VA03				iS	Sn	08 23 02.4	-1.3
PEL	Peldehue	0.62	127	iP	Pn	08 22 53.1	-1.5
PEL				iS	Sn	08 23 03.3	-0.5
PEL				IAML		08 23 04.0	
	comp=E,6μm,0.2s						
MT05	Renca	0.77	144	eP	Pn	08 22 56.4	-0.1
MT05				eS	Sn	08 23 08.7	+1.5
MT05				IAML		08 23 09.0	
	comp=Z,2μm,0.2s						
MT10	Hacienda Santa	0.80	129	⇑iP	Pn	08 22 56.0	-0.9
MT10				iS	Sn	08 23 07.7	-0.4
MT10				IAML		08 23 08.4	
	comp=E,8μm,0.5s						
MT14	Cerro Cal¡n	0.89	136	⇑iP	Pn	08 22 57.1	-0.9
MT14				iS	Sn	08 23 09.7	-0.3
MT14				IAML		08 23 10.6	
	comp=E,5μm,0.4s						
MT03	Universidad Ad	0.97	139	eP	Pn	08 22 58.2	-1.0
MT03				eS	Sn	08 23 10.7	-1.3
MT03				IAML		08 23 13.0	
	comp=Z,6μm,0.1s						
MT09	Talagante	1.04	167	⇑iP	Pn	08 22 59.8	-0.3
MT09				iS	Sn	08 23 14.0	+0.3
MT09				IAML		08 23 16.3	
	comp=N,1μm,0.2s						
MT15	Las Vizcachas	1.05	142	⇑iP	Pn	08 22 59.3	-1.0
MT15				iS	Sn	08 23 13.6	-0.4
MT01	Popeta	1.10	179	eP	Pn	08 22 59.8	-1.0
MT01				eP		08 23 00.6	
MT01				eS	Sn	08 23 15.8	+0.9
MT01				IAML		08 23 16.8	
	comp=Z,696nm,0.3s						
MT04	Ro Olivares	1.15	124	eP	Pn	08 23 00.6	-1.1
MT04				eS	Sn	08 23 16.9	+0.4
MT04				IAML		08 23 17.4	
	comp=Z,681nm,0.2s						
MT08	Bocatoma Ro	1.26	123	eP	Pn	08 23 02.4	-0.8
MT08				eS	Sn	08 23 19.8	+0.7
MT13	San Alfonso	1.28	140	eP	Pn	08 23 02.6	-0.8
MT13				eP		08 23 02.8	
MT13				eS	Sn	08 23 19.4	-0.2
MT13				IAML		08 23 20.6	
	comp=Z,763nm,0.2s						
LMEL	Las Melosas	1.41	141	eP	Pn	08 23 04.5	-0.6
LMEL				eS	Sn	08 23 23.0	+0.4
LMEL				IAML		08 23 24.4	
	comp=Z,986nm,0.2s						
CO02	Combarbal	1.57	9	eP	Pn	08 23 06.0	-1.4
CO02				eS	Sn	08 23 27.4	+0.7
CO02				IAML		08 23 30.6	
	comp=Z,466nm,0.1s						
BO01	Tunca	1.63	174	eP	Pn	08 23 07.5	-0.6
BO01				eS	Sn	08 23 28.6	+0.7
RTLS	Leoncito	1.93	61	eP	Pn	08 23 12.8	+0.3
RTLS				eS	Sn	08 23 38.4	+2.7
RTLS				IAML		08 23 40.4	
	comp=Z,238nm,0.3s						
ARCO	CERRO ARCO	1.98	93	eP	Pn	08 23 14.1	+1.2
ARCO				eS	Sn	08 23 34.6	-2.0
CO03	El Pedregal	1.98	15	eP	Pn	08 23 12.2	-0.7
CO03				eS	Sn	08 23 37.6	+0.9
CO03				IAML		08 23 39.0	
	comp=Z,163nm,0.2s						
BO02	Sierra Bellavi	2.06	169	eP	Pn	08 23 13.4	-0.6
BO02				eP		08 23 14.1	
BO02				eS	Sn	08 23 41.0	+2.4
BO02				IAML		08 23 45.5	
	comp=Z,318nm,0.2s						
ASAL	Salagasta	2.07	86	eP	Pn	08 23 15.1	+1.0
ASAL				eS	Sn	08 23 47.4	+8.7
AAGR	Agrelo	2.08	99	eP	Pn	08 23 15.3	+0.9
AAGR				eS	Sn	08 23 40.1	+0.9
GO05	Huala	2.30	193	eP	Pn	08 23 15.9	-1.4
GO05				eS	Sn	08 23 30.2	-14
DOCA	Reserva Natura	2.60	46	eP	Pn	08 23 21.6	0.0
DOCA				eS	Sn	08 23 54.9	+2.7
GO04	Tololo Observa	2.62	9	eP	Pn	08 23 21.4	-0.3
GO04				eS	Sn	08 23 52.6	+0.2
GO04				IAML		08 23 58.9	
	comp=Z,260nm,0.3s						
ACCO	Cerro Coronel	2.88	42	eP	Pn	08 23 25.9	+0.5
ACCO				eS	Sn	08 24 14.1	+15
CO01	Juntas del Tor	2.96	20	eP	Pn	08 23 26.4	-0.1
CO01				eS	Sn	08 24 11.6	+11
ML02	Panimavida	2.99	182	eS	Sn	08 23 49.6	-12
RFA	San Rafael	3.08	131	eP	Pn	08 23 28.0	0.0
ACDV	Cuesta del Vie	3.18	36	eP	Pn	08 23 30.4	+1.1
LCO	Las Campanas	3.77	8	eP	Pn	08 23 36.7	-1.0
LCO				eS	Sn	08 24 20.0	-1.0
LCO				IAML		08 24 28.6	
	comp=Z,69nm,1.0s						
AVFE	Valle Fertil	3.87	58	eP	Pn	08 23 38.4	-0.5
AVFE				eS	Sn	08 24 18.6	-4.6
AC04	Llanos de Chal	4.55	2	eP	Pn	08 23 46.2	-1.9
AC04				IAML		08 24 54.2	
	comp=Z,20nm,1.8s						
VCA	Vinchina	4.81	34	eP	Pn	08 23 51.4	-0.3

*NOU **29** 08:55:45.5, 18°.59S×176°.28W, h380km, mb4.4/22, Fiji Islands Region*
*IDC **29** 08:56:00.5±2.0, 19°.60S×177°.71W, h426km±19km, mb3.7/16, mbtmp

TCW	Tory Channel	22.48	196	P	P	09 00 27.9	+0.8
QRZ	Quartz Range	22.62	199	P	P	09 00 28.3	-0.1
QRZ	Quartz Range	22.62	199	P	P	09 00 28.2	-0.1
KHZ	Kahutara	23.80	196	P	P	09 00 38.2	-0.7
JCZ	Jackson Bay	26.76	202	P	P	09 01 05.4	+0.1
WHZ	Wether Hill Ro	28.64	201	P	P	09 01 22.6	+0.9
WHZ				IAmb	IAmb	09 01 33.1	
	comp=Z,21nm,1.2s						
EIDS	Eidsvold	29.18	253	P	P	09 01 28.4	+1.7
ARMA	Armidale	29.53	243	P	P	09 01 32.3	+2.5
ARMA	Armidale	29.53	243	P	P	09 01 32.4	+2.5
CNB	Canberra Magne	32.78	235	P	P	09 02 00.7	+2.9
CTAO	Charters Tower	33.68	263	P	P	09 02 06.9	+1.3
CTAO	Charters Tower	33.68	263	P	P	09 02 06.8	+1.2
CMSA	Cobar Meteorol	34.75	243	P	P	09 02 16.8	+2.4
QLP	Quilpie	35.41	252	P	P	09 02 22.2	+2.2
MTSU	Mount Surprise	35.74	266	P	P	09 02 23.7	+0.7
TOO	Toolangi	36.47	233	P	P	09 02 29.8	+1.0
TOO				IAmb	IAmb	09 02 30.1	
	comp=Z,19nm,1.1s						
COEN	Coen	37.64	273	P	P	09 02 39.2	+0.5
STKA	Stephens Creek	38.24	243	P	P	09 02 45.0	+1.6
STKA	Stephens Creek	38.24	243	P	P	09 02 44.2	+0.7
	comp=Z,1.7nm,0.5s,baz=84,slow=13,SNR=11						
	comp=Z,1.7nm,0.5s						
BBOO	Buckleboo	43.01	243	P	P	09 03 22.6	+0.8
BBOO				IAmb	IAmb	09 03 23.2	
	comp=Z,8.2nm,0.6s						
WR0	Warramunga Arr	44.63	261	P	P	09 03 34.7	+0.1
WB0	Warramunga Arr	44.80	261	P	P	09 03 35.9	0.0
WB0				IAmb	IAmb	09 03 36.4	
	comp=Z,13nm,1.1s						
WB2	Warramunga Arr	44.81	261	P	P	09 03 36.1	+0.1
WB2				IAmb	IAmb	09 03 36.5	
	comp=Z,12nm,1.1s						
AS31	Alice Springs	44.81	256	P	P	09 03 36.9	+0.9
ASAR	Alice Springs	44.81	256	P	P	09 03 36.7	+0.7
ASAR	Alice Springs	44.81	256	P	P	09 03 36.5	+0.4
	comp=Z,13nm,0.5s,baz=90,slow=8.6,SNR=210						
ASAR				S	S	09 09 37.9	-1.8
	comp=Z,1.5nm,0.9s,baz=92,slow=15,SNR=8.2						
	comp=Z,13nm,0.5s						
WRAB	Tennant Creek	44.81	261	P	P	09 03 35.8	-0.2
WRA	Warramunga Arr	44.82	261	P	P	09 03 36.0	-0.1
WRA	Warramunga Arr	44.82	261	P	P	09 03 36.0	-0.1
	comp=Z,4.0nm,0.4s,baz=98,slow=6.0,SNR=154						
WRA				ScP	ScP	09 08 20.1	+2.3
	comp=Z,0.3nm,0.6s,baz=91,slow=4.4,SNR=2.7						
WRA				S	S	09 09 37.0	-2.9
	comp=Z,1.4nm,0.8s,baz=94,slow=13,SNR=9.3						
	comp=Z,4.0nm,0.4s						
GUMO	Guam	49.36	309	P	P	09 04 10.3	-0.1
	comp=Z,25nm,0.6s,baz=174,slow=19,SNR=4.4						
	comp=Z,25nm,0.6s						
FORT	Forrest	49.72	246	P	P	09 04 13.9	+0.9
FORT				IAmb	IAmb	09 04 25.4	
	comp=Z,18nm,0.9s						
KNRA	Kununurra	50.82	266	P	P	09 04 21.5	+0.2
KNRA				IAmb	IAmb	09 04 22.2	
	comp=Z,12nm,0.7s						
FAKI	Fak Fak	51.42	282	P	P	09 04 25.9	+0.2
FAKI				IAmb	IAmb	09 04 50.4	
	comp=Z,19nm,1.1s						
SOEI	Soe	56.58	271	P	P	09 05 01.4	-1.2
SBA	Scott Base	58.70	184	P	P	09 05 18.1	+2.3
SBA				IAmb	IAmb	09 05 19.4	
	comp=Z,22nm,1.1s						
VNDA	Vanda	58.74	185	P	P	09 05 16.9	+0.7
VNDA	Vanda	58.74	185	P	P	09 05 17.3	+1.2
	comp=Z,3.8nm,0.9s,baz=356,slow=8.0,SNR=23						
VNDA				PcP	PcP	09 06 00.3	+0.1
	comp=Z,2.0nm,0.8s,baz=336,slow=3.2,SNR=5.3						
	comp=Z,3.8nm,0.9s						
CASY	Casey	64.75	205	P	P	09 05 56.1	+0.4
CASY				IAmb	IAmb	09 05 58.1	
	comp=Z,5.3nm,0.7s						
JHJ2	Mitsune	66.23	322	P	P	09 06 01.3	-4.3
JMM	Marumori	69.17	326	P	P	09 06 22.9	-0.6
MJAR	Matsushiro Arr	69.61	323	P	P	09 06 25.3	-0.9
	comp=Z,8.1nm,0.6s,baz=153,slow=6.2,SNR=21						
	comp=Z,8.1nm,0.6s						
MAJO	Matsushiro	69.61	323	P	P	09 06 26.0	-0.3
MJB9	Matsu-Tunnel	69.61	323	IAmb	IAmb	09 06 27.2	
	comp=Z,13nm,0.9s						
KKM	Kota Kinabalu	69.65	284	P	P	09 06 26.0	-1.1
KKM				IAmb	IAmb	09 06 37.5	
	comp=Z,5.5nm,0.7s						
QSPA	South Pole Qui	70.39	180	P	P	09 06 31.3	+0.7
QSPA	South Pole Qui	70.39	180	P	P	09 06 31.0	+0.3
	comp=Z,29nm,0.7s,baz=63,slow=0.9,SNR=205						
	comp=Z,29nm,0.7s						
SSLB	Suanglung	73.61	303	P	P	09 06 48.7	-1.3
TPUB	Ta-pu	73.62	303	P	P	09 06 48.9	-1.2
CHNA	Chernabura Isl	75.84	11	P	P	09 06 56.2	-5.6
	baz=198						
SDPT	Sand Point	76.18	10	P	P	09 06 58.1	-5.6
	baz=197						
S12K	Black Hills	76.27	9	P	P	09 06 58.3	-6.0
	baz=195						
KSRS	Korea Array	76.34	318	P	P	09 07 05.1	+0.1
	comp=Z,1.0nm,0.7s,baz=142,slow=6.2,SNR=2.6						
	comp=Z,1.0nm,0.7s						
USRK	Ussuriysk Ar.	78.34	326	P	P	09 07 17.0	+1.2
USRK	Ussuriysk Ar.	78.34	326	P	P	09 07 15.9	0.0
	comp=Z,3.7nm,0.7s,baz=186,slow=5.5,SNR=7.2						
	comp=Z,3.7nm,0.7s						
MONP2	Monument Peak	78.59	49	P	P	09 07 21.5	+3.8
	baz=238						
IKP	In-Ko-Pah, Jac	78.69	49	P	P	09 07 23.5	+5.4
	baz=238						
BBRC	Big Bear Solar	78.98	48	P	P	09 07 25.9	+6.1
	baz=237						
SMAI	San Martin Ant	79.34	159	P	P	09 07 20.8	-0.1
SMAI				IAmb	IAmb	09 07 21.9	
	comp=Z,7.8nm,0.7s						
Q18K	Katmai Hardscr	80.29	12	P	P	09 07 23.7	-2.3
	baz=202						
M11K	Mekoryuk	80.34	6	P	P	09 07 23.9	-2.1
	baz=191						
NVAR	Mina Array Bea	80.36	43	P	P	09 07 26.3	-0.7
	comp=Z,0.8nm,1.0s,baz=219,slow=7.0,SNR=4.0						
	comp=Z,0.8nm,1.0s						
N14K	Kuskokwak Cree	80.41	8	P	P	09 07 25.5	-0.9
	baz=195						
P17K	Kvichak River	80.53	11	P	P	09 07 25.5	-1.6
	baz=200						
O16K	Kokwok River B	80.63	10	P	P	09 07 25.9	-1.7
	baz=199						
214A	Organ Pipe Nat	80.72	51	P	P	09 07 36.9	+8.1
	baz=240						
N15K	Kwethluk River	80.86	9	P	P	09 07 27.7	-1.1
	baz=197						
O17K	Koliganek Bris	80.96	10	P	P	09 07 28.4	-0.9
	baz=200						
M15K	Kasigluk River	81.29	8	P	P	09 07 29.6	-1.4
	baz=196						
N16K	Nishlik Lake	81.36	9	P	P	09 07 30.7	-0.7
	baz=198						
O18K	Koktuh Hills	81.38	11	P	P	09 07 30.2	-1.4
	baz=201						
P19K	Oil Pt	81.57	12	P	P	09 07 31.1	-1.5
	baz=203						
L14K	Kuka Creek	81.65	7	P	P	09 07 31.5	-1.3
	baz=194						
BKNI	Bangkinang	81.70	273	P	P	09 07 32.5	-1.7
M16K	Timber Creek	81.85	9	P	P	09 07 33.6	-0.3
	baz=198						
O19K	Port Alsworth	81.86	12	P	P	09 07 33.1	-0.9
	baz=202						
N18K	Kilae Creek	82.03	11	P	P	09 07 32.8	-2.0
	baz=201						
L15K	Ungalak Mounta	82.13	8	P	P	09 07 34.0	-1.3
	baz=195						
BRSE	Bradley Lake S	82.18	13	P	P	09 07 34.4	-1.2
	baz=206						
MAW	Mawson	82.37	200	P	P	09 07 36.4	-0.2
	comp=Z,3.2nm,0.6s,baz=125,slow=7.0,SNR=8.2						
	comp=Z,3.2nm,0.6s						
N19K	Bonanza Creek	82.40	11	P	P	09 07 35.0	-1.9
	baz=202						
L16K	Owhat River	82.43	9	P	P	09 07 36.3	-0.6
	baz=197						
M17K	Holitna River	82.45	10	P	P	09 07 36.8	-0.2
	baz=199						
K15K	Wolf Creek Mou	82.72	8	P	P	09 07 38.8	+0.5
	baz=195						
SEW	Seward	82.79	14	P	P	09 07 37.7	-1.0
	baz=207						
M18K	Stony River	82.80	10	P	P	09 07 37.5	-1.2
	baz=201						
Q23K	Middleton Isla	82.94	16	P	P	09 07 39.9	+0.4
	baz=210						
L17K	Donlin	83.01	9	P	P	09 07 39.6	-0.2
	baz=198						
GAMB	Gambell	83.31	3	P	P	09 07 41.2	0.0
	baz=186						
L18K	Granite Mounta	83.34	10	P	P	09 07 41.2	-0.3
	baz=200						
M19K	Big River Lodg	83.43	11	P	P	09 07 40.8	-1.1
	baz=202						
K17K	Iditarod	83.56	9	P	P	09 07 41.3	-1.2
	baz=198						
L19K	White Mountain	83.61	11	P	P	09 07 42.4	-0.4
	baz=202						
RC01	Rabbit Creek A	83.61	13	P	P	09 07 42.5	-0.3
	baz=206						
SUA	Susitna One	83.73	13	P	P	09 07 42.9	-0.7
	baz=206						
J16K	Anvik River	83.79	8	P	P	09 07 42.5	-1.2
	baz=196						
KAIM	Kayak Island	83.87	16	P	P	09 07 43.1	-1.0
	baz=211						
CRAG	Craig	83.92	24	P	P	09 07 44.1	-0.4
	baz=222						
GLI	Glacier Island	84.03	15	P	P	09 07 43.3	-1.6
	baz=209						
SKT	Skwentna	84.05	12	P	P	09 07 43.4	-1.6
	baz=205						
L20K	Farewell, AK	84.06	11	P	P	09 07 43.4	-1.7
	baz=202						
EYAK	Cordova Ski Ar	84.07	15	P	P	09 07 44.5	-0.5
	baz=210						
J17K	VABM Dome	84.10	8	P	P	09 07 43.8	-1.4
	baz=198						
M22K	Willow	84.13	13	P	P	09 07 44.2	-1.1
	baz=206						
KNK	Knik Glacier	84.18	14	P	P	09 07 44.7	-1.0
	baz=208						
PMR	Palmer	84.19	13	P	P	09 07 44.3	-1.4
	baz=207						
U33K	Whale Pass	84.41	23	P	P	09 07 46.3	-0.5
	baz=222						
J18K	Innoko River	84.51	9	IAmb	IAmb	09 07 47.8	
	comp=Z,8.4nm,0.9s						
J18K	Innoko River	84.51	9	P	P	09 07 46.7	-0.5
	baz=200						
ANM	Nome	84.52	5	P	P	09 07 46.7	-0.5
	baz=192						
CUT	Chulitna	84.68	13	P	P	09 07 46.4	-1.7
	baz=206						
S31K	Pelican	84.71	21	P	P	09 07 48.4	+0.1
	baz=219						
BMRM	Bremner River	84.72	16	P	P	09 07 47.4	-1.0
	baz=211						
MESA	MESA	84.75	17	P	P	09 07 48.1	-0.7
	baz=214						
SCM	Sheep Creek Mo	84.81	14	P	P	09 07 48.1	-0.7
	baz=209						
K20K	Telida	84.84	11	P	P	09 07 48.3	-0.6
	baz=202						
KLU	Klutina	84.84	15	P	P	09 07 48.5	-0.5
	baz=210						
H16K	Elim	84.91	7	P	P	09 07 48.6	-0.5
	baz=195						
G15K	Niukluk	85.07	6	P	P	09 07 49.6	-0.3
	baz=193						
PINM	Pinnacle	85.17	18	P	P	09 07 50.0	-0.6
	baz=215						
J19K	Poorman	85.18	10	P	P	09 07 50.6	+0.1
	baz=201						
CAST	Castle Rocks	85.25	11	IAmb	IAmb	09 07 49.7	
	comp=Z,6.6nm,0.8s						
N25K	Chitina, Valde	85.26	15	P	P	09 07 49.7	-1.4
	baz=211						
TNA	Tin City	85.31	4	P	P	09 07 50.0	-1.0
	baz=189						
M24K	Tolsona, Glenn	85.32	14	P	P	09 07 51.1	-0.2
	baz=210						
F14K	Arctic Creek	85.34	5	P	P	09 07 51.1	-0.2
	baz=191						
WAT6	Susitna Watana	85.38	13	P	P	09 07 51.0	-0.7
	baz=208						
WAT1	Susitna Watana	85.42	13	P	P	09 07 50.5	-1.3
	baz=207						
H17K	Granite Mounta	85.47	8	P	P	09 07 50.5	-1.4
	baz=197						
MCARA	McCarthy VSAT	85.47	16	P	P	09 07 50.9	-1.2
	baz=213						
J20K	Nowinta River	85.59	10	P	P	09 07 51.3	-1.2
	baz=202						
CHUM	Lake Minchumin	85.64	11	P	P	09 07 50.6	-2.1
	baz=204						
HLID	Hailey	85.64	41	P	P	09 07 56.9	+3.4
	baz=238						
O28M	Mount Upton	85.74	18	P	P	09 07 52.2	-1.4
	baz=215						
H18K	Honhosa River	85.87	8	P	P	09 07 52.2	-1.6
	baz=198						
RND	Reindeer	85.87	13	IAmb	IAmb	09 07 54.0	
	comp=Z,13nm,1.0s						
DHY	Denali Highway	85.89	13	P	P	09 07 53.0	-1.2
	baz=208						
G17K	Kiwalik Mounta	85.92	7	P	P	09 07 53.0	-1.1
	baz=196						
BPAW	Bear Paw Mtn.	86.08	11	P	P	09 07 53.7	-1.1
	baz=205						
MCK	McKinley	86.15	12	P	P	09 07 54.4	-0.9
	baz=207						
P30M	Million Dollar	86.17	19	P	P	09 07 55.0	-0.5
	baz=218						
PAX	Paxson	86.23	14	P	P	09 07 54.7	-1.1
	baz=210						
M26K	Nabesna, AK	86.34	15	P	P	09 07 55.7	-0.6
	baz=213						
S34M	Telegraph Cree	86.47	23	P	P	09 07 56.8	0.0
	baz=223						
YUK3	Moose Creek	86.48	17	P	P	09 07 57.2	+0.1
	baz=215						
H19K	Roundabout Mou	86.50	9	P	P	09 07 56.4	-0.3
H19K	Roundabout Mou	86.50	9	P	P	09 07 56.2	-0.6
	baz=200						
TXAR	Lajitas Array	86.53	57	P	P	09 07 57.7	-0.2
	comp=Z,1.1nm,0.8s,baz=219,slow=6.9,SNR=16						
	comp=Z,1.1nm,0.8s						
G18K	Tagagawik	86.54	8	P	P	09 07 55.5	-1.5
	baz=198						
M27K	Edge Creek, AK	86.59	16	P	P	09 07 57.0	-0.5
	baz=214						
YUK4	Talbot Arm	86.64	18	P	P	09 07 57.7	-0.2
	baz=217						
H20K	Anotleneega Mo	86.69	9	P	P	09 07 55.1	-2.7
	baz=202						
F17K	Baldwin Pennin	86.76	7	P	P	09 07 57.6	-0.4
	baz=196						
L26K	Log Cabin Wild	86.78	15	P	P	09 07 57.8	-0.5
	baz=212						
P32M	Atlin	86.81	21	P	P	09 07 58.4	-0.1
	baz=221						
Q32M	Nakina River	86.83	22	P	P	09 07 58.5	-0.3
	baz=222						
K24K	Donnelly Dome	86.88	14	P	P	09 07 58.1	-0.6
	baz=210						
NEA2	Nenana	86.89	12	P	P	09 07 58.0	-0.8
	baz=207						
O30N	Mendenhall	86.95	19	P	P	09 07 59.3	+0.2
	baz=219						
MLY	Manley	86.97	11	P	P	09 07 57.8	-1.4
	baz=205						
WRH	Wood River Hil	86.98	12	IAmb	IAmb	09 07 58.9	
	comp=Z,7.3nm,0.9s						
G19K	Purcell Mounta	86.99	8	P	P	09 07 59.0	-0.2
	baz=199						
F18K	Selawik	87.10	7	P	P	09 07 59.2	-0.4
	baz=197						
HDA	Harding Lake	87.16	13	P	P	09 07 58.7	-1.3
	baz=209,SNR=5.5						
H21K	Melozitna Rive	87.18	10	P	P	09 07 59.4	-0.7
	baz=203						
N30M	Aishikik Lake	87.19	18	P	P	09 07 59.7	-0.6
	baz=218						
CCB	Clear Creek Bu	87.19	12	IAmb	IAmb	09 07 59.1	
	comp=Z,6.9nm,0.7s						
L27K	Beaver Creek,	87.19	16	P	P	09 07 59.6	-0.6
	baz=214						
E17K	Hotham Inlet	87.32	6	P	P	09 07 59.4	-1.2
	baz=195,SNR=6.2						
I23K	Minto, Yukon-K	87.33	12	P	P	09 07 59.7	-1.0
	baz=207						
COLA	College	87.38	12	P	P	09 07 59.9	-1.1
MDM	Murphy Dome	87.38	12	P	P	09 07 59.4	-1.7
MDM				IAmb	IAmb	09 08 00.5	
	comp=Z,6.4nm,1.0s						
SCRK	Sand Creek	87.44	14	P	P	09 08 00.5	-0.9
	baz=212						
IL31		87.49	13	IAmb	IAmb	09 08 00.7	
	comp=Z,6.2nm,1.1s						
ILAR	Eielson Array	87.49	13	P	P	09 07 59.8	-1.7
ILAR	Eielson Array	87.49	13	P	P	09 07 59.4	-2.1
	comp=Z,1.5nm,0.5s,baz=226,slow=4.8,SNR=29						
ILAR				PP	PP	09 11 34.5	-0.1
	comp=Z,0.3nm,1.0s,baz=209,slow=7.5,SNR=4.2						
	comp=Z,1.5nm,0.5s						
F19K	Shaleruckik Mo	87.55	8	P	P	09 08 00.9	-0.8
	baz=199						
P33M	Teslin, Yukon	87.57	21	P	P	09 08 02.0	-0.1
	baz=222						
M29M	Somme Creek	87.58	17	P	P	09 08 02.4	+0.2
	baz=217						
N31M	Braeburn, Yuko	87.60	19	P	P	09 08 02.2	0.0
	baz=219						
H22K	Ishtalitna Cre	87.64	11	P	P	09 08 01.7	-0.5
	baz=205						
MSO	Missoula	87.66	38	P	P	09 08 05.8	+2.9
	baz=238						
J25K	Salcha River,	87.67	13	IAmb	IAmb	09 08 02.0	
	comp=Z,3.4nm,0.6s						
J25K	Salcha River,	87.67	13	P	P	09 08 01.2	-1.3
	baz=210,SNR=5.5						
POKR	Poker Plat Res	87.68	12	P	P	09 08 01.1	-1.3
	baz=208						
E18K	Tukpahlearik C	87.78	7	P	P	09 08 02.7	-0.2
	baz=196						
D17K	Noatak River	87.80	6	P	P	09 08 02.2	-0.7
	baz=194						
G21K	Allakaket	87.86	10	IAmb	IAmb	09 08 03.1	
	comp=Z,3.9nm,0.8s						
G21K	Allakaket	87.86	10	P	P	09 08 02.1	-1.1
	baz=203,SNR=5.5						
H23K	Yukon River	87.90	11	P	P	09 08 01.9	-1.5
	baz=206						
O20A	White River Ci	87.92	46	P	P	09 08 07.6	+3.3
	baz=242						
K27K	Chicken	87.94	15	P	P	09 08 03.9	+0.2
	baz=213						
J26L	Joseph Creek	87.98	14	IAmb	IAmb	09 08 04.3	
	comp=Z,3.6nm,0.7s						
J26L	Joseph Creek	87.98	14	P	P	09 08 03.5	-0.5
	baz=212,SNR=7.6						
F20K	Avaraart Lake	88.03	9	P	P	09 08 03.6	-0.4
	baz=201						
M30M	Minto, Yukon	88.16	18	IAmb	IAmb	09 08 05.4	
	comp=Z,6.0nm,1.1s						
M30M	Minto, Yukon	88.16	18	P	P	09 08 03.8	-0.9
	baz=218,SNR=5.6						
L29M	L29M	88.20	17	IAmb	IAmb	09 08 05.6	
	comp=Z,5.1nm,0.9s						
L29M	L29M	88.20	17	P	P	09 08 04.2	-0.7
	baz=217						
E19K	Redstone River	88.21	8	IAmb	IAmb	09 08 04.8	
	comp=Z,4.5nm,0.8s						
E19K	Redstone River	88.21	8	P	P	09 08 03.9	-0.9
	baz=199,SNR=6.2						
H24K	Noodor Dome	88.23	12	P	P	09 08 05.1	0.0
	baz=208						
BW06	Boulder Array	88.29	43	P	P	09 08 10.0	+3.9
	baz=241						
PDAR	Pinedale Array	88.29	43	P	P	09 08 04.5	-1.7
	comp=Z,0.2nm,0.6s,baz=174,slow=2.5,SNR=2.9						
	comp=Z,0.2nm,0.6s						
BOZ	Bozeman (W)	88.39	40	P	P	09 08 09.1	+2.7
	baz=240						
PRP	Porcupine Dome	88.43	13	P	P	09 08 05.5	-0.5
	baz=210						
F21K	Alatna River	88.52	9	P	P	09 08 05.8	-0.5
	baz=203						
C17K	DeLong Mountai	88.55	5	P	P	09 08 06.2	-0.2
	baz=194						
TROLL	Troll, Antarti	88.55	180	⇑P	P	09 08 06.2	-0.6
	comp=Z,610nm,0.6s						
G22K	Bettles	88.55	10	P	P	09 08 06.0	-0.4
	baz=205						
G23K	Bananza Creek	88.61	11	P	P	09 08 06.2	-0.6
	baz=206						
DAWY	Dawson	88.64	16	P	P	09 08 06.8	-0.2
	baz=216						
SDCO	Great Sand Dun	88.74	49	P	P	09 08 12.8	+4.4
	baz=244						
I26K	Coal Creek Min	88.76	14	P	P	09 08 07.1	-0.3
	baz=212						
EGAK	Eagle	88.78	15	P	P	09 08 07.3	-0.2
	baz=214						
SNAA	Sanae	88.83	178	P	P	09 08 07.2	-0.8
SNAA				IAmb	IAmb	09 08 08.0	
	comp=Z,6.9nm,1.1s						
SNAA	Sanae	88.83	178	⇑P	P	09 08 06.6	-1.4
	comp=Z,58nm,0.5s						
SNAA	Sanae	88.83	178	P	P	09 08 06.6	-1.4
	comp=Z,3.8nm,0.8s,baz=210,slow=3.3,SNR=13						
	comp=Z,3.8nm,0.8s						
VNA3	Neumayer Olymp	88.95	176	⇑P	P	09 08 07.9	-0.6
	comp=Z,35nm,0.6s						
K29M	Barlow Dome	88.96	17	P	P	09 08 08.1	-0.5
	baz=218,SNR=6.0						
F22K	John River	88.98	10	P	P	09 08 08.0	-0.5
	baz=204						
H25L	Birch Creek	89.02	12	P	P	09 08 07.1	-1.5
	baz=210						
COLD	Coldfoot	89.05	10	P	P	09 08 08.1	-0.7
	baz=206,SNR=6.6						
G24K	Hadweenzic Riv	89.07	12	P	P	09 08 08.8	-0.1
	baz=208						
D19K	Kuna River	89.09	7	P	P	09 08 07.7	-1.3
D19K				IAmb	IAmb	09 08 15.5	
	comp=Z,4.9nm,1.0s						
D19K	Kuna River	89.09	7	P	P	09 08 08.2	-0.8
	baz=198						
E20K	Nigu River	89.10	8	P	P	09 08 08.0	-1.1
	baz=200,SNR=7.8						
MSTX	Muleshoe	89.14	53	P	P	09 08 17.9	+7.7
	baz=246						
TOAD	Toad River Com	89.36	24	P	P	09 08 10.5	+0.1
	baz=228						
I27K	Kandik River	89.36	14	P	P	09 08 09.1	-1.2
	baz=214						
G25K	Bearman Lake	89.39	12	P	P	09 08 09.7	-0.6
	baz=210						
VNA2	Neumayer--Watz	89.40	177	⇑P	P	09 08 10.2	-0.4
	comp=Z,24nm,0.6s,baz=186,slow=4.3						
D20K	Etivluk River	89.48	8	P	P	09 08 10.1	-0.7
	baz=200						
C19K	Lookout Ridge	89.51	6	P	P	09 08 10.4	-0.5
	baz=197						
B18K	Kokolik River	89.54	6	P	P	09 08 10.5	-0.4
	baz=195						
E21K	Killik River	89.58	9	IAmb	IAmb	09 08 10.8	
	comp=Z,6.2nm,1.0s						
E21K	Killik River	89.58	9	P	P	09 08 10.6	-0.6
	baz=202						
VNA1	Neumayer--Stat	89.62	177	⇑P	P	09 08 11.1	-0.5
	comp=Z,23nm,0.8s						
I28M	Miner Creek	89.63	15	P	P	09 08 11.0	-0.7
	baz=215						
F24K	Squaw Lake	89.72	11	IAmb	IAmb	09 08 12.1	
	comp=Z,2.9nm,0.7s						
F24K	Squaw Lake	89.72	11	P	P	09 08 11.1	-0.8
	baz=208,SNR=5.7						
N23A	Red Feather La	89.82	46	P	P	09 08 17.4	+4.1
	baz=244						
J30M	Hart River	89.86	17	P	P	09 08 12.3	-0.4
	baz=219						
E23K	Chandalar	89.90	10	P	P	09 08 12.2	-0.6
	baz=206

baz=202,SNR=5.3
D22K Ayikyak River 90.17 9 P **P 09 08 13.7 -0.2**
baz=204
F25K Christian Rive 90.20 12 P **P 09 08 13.8 -0.4**
baz=210
BMAR Burnt Mountain 90.27 12 P **P 09 08 14.2 -0.3**
I30M Mount Dempster 90.35 16 IAmb IAmb 09 08 14.9
comp=Z,4.1nm,0.9s
I30M Mount Dempster 90.35 16 P **P 09 08 14.4 -0.6**
baz=218
TOLK Toolik Lake Re 90.43 10 P **P 09 08 14.5 -0.7**
baz=206
D23K Nanushuk River 90.55 10 P **P 09 08 15.8 +0.1**
baz=205
F26K Sheenjek River 90.58 12 P **P 09 08 15.2 -0.7**
baz=211
B21K Ikpikpuk River 90.59 8 P **P 09 08 15.3 -0.5**
baz=202
B20K Meade River 90.64 7 P **P 09 08 15.4 -0.6**
baz=199
H29M Whitestone 90.64 15 IAmb IAmb 09 08 16.6
comp=Z,6.3nm,1.0s
H29M Whitestone 90.64 15 P **P 09 08 15.0 -1.2**
baz=217,SNR=6.1
D24K Happy Valley 91.01 10 P **P 09 08 17.8 0.0**
baz=207
EPYK Eagle Plains 91.17 15 P **P 09 08 17.5 -1.1**
baz=218
G29M Pine Creek 91.28 15 P **P 09 08 18.4 -0.8**
baz=217
C23K Itkillik River 91.34 9 P **P 09 08 19.0 -0.4**
baz=206
B22K Teshekpuk Lake 91.41 8 P **P 09 08 19.4 -0.2**
baz=203
F28M Old Crow 91.42 14 P **P 09 08 19.5 -0.2**
baz=215
E27K Coleen River 91.52 13 P **P 09 08 18.6 -1.6**
baz=214
C24K Franklin Bluff 91.54 10 P **P 09 08 20.0 -0.2**
baz=207
G30M tAoh Zraii Nji 91.77 15 IAmb IAmb 09 08 21.0
comp=Z,4.7nm,0.8s
G30M tAoh Zraii Nji 91.77 15 P **P 09 08 21.1 -0.4**
baz=219
A22K Sinclair Lake 91.83 7 P **P 09 08 21.1 -0.4**
baz=201
G31M Satah River 92.21 16 IAmb IAmb 09 08 23.1
comp=Z,5.1nm,0.8s
G31M Satah River 92.21 16 P **P 09 08 23.1 -0.3**
baz=220
E28M Babbage River 92.30 13 P **P 09 08 23.3 -0.5**
baz=216
C27K Jago River 92.32 11 P **P 09 08 23.4 -0.5**
baz=212
C26K Camden Bay 92.35 11 P **P 09 08 24.9 +0.9**
baz=211
F30M Barrier River 92.37 15 P **P 09 08 24.6 +0.5**
baz=219
RSSD Black Hills 92.49 44 P P 09 08 30.4 +4.9
baz=245
D27M Malcolm River 92.53 12 P **P 09 08 24.8 -0.1**
baz=214
F31M Tsiigehtchic 92.74 16 P **P 09 08 25.9 +0.1**
baz=221
INK Inuvik 93.45 15 P **P 09 08 28.4 -0.6**
baz=221
ZALV Zalesovo Beam 109.92 321 PKiKP **PKiKP 09 13 40.8 -1.4**
comp=Z,0.6nm,0.5s,baz=98,slow=3.1,SNR=1.8
MKAR Makanchi Array 110.71 314 PKiKP **PKiKP 09 13 42.4 -1.7**
comp=Z,0.5nm,0.5s,baz=71,slow=1.0,SNR=5.4
KURBB Kurchatov Arra 113.51 318 PKiKP **PKiKP 09 13 47.8 -1.4**
comp=Z,1.1nm,0.7s,baz=90,slow=2.0,SNR=13
BVAR Borovoye Array 118.51 320 PKP **PKPdf 09 13 57.4 -1.4**
comp=Z,2.0nm,0.3s,baz=106,slow=2.7,SNR=13
ARCES ARCESS Array B 128.13 350 PKP **PKPdf 09 14 15.6 -1.1**
comp=Z,1.3nm,0.4s,baz=27,slow=1.4,SNR=36
FINES FINESS Array B 135.01 344 PKP **PKPdf 09 14 29.2 -0.7**
comp=Z,1.2nm,0.7s,baz=48,slow=2.8,SNR=7.9
FINES SKPbc **SKPbc 09 17 18.5 +0.8**
comp=Z,1.7nm,0.8s,baz=0.0,slow=0.4,SNR=4.6
NOA NORSAR Array B 138.18 353 PKP **PKPdf 09 14 36.4 +0.6**
comp=Z,0.3nm,0.5s,baz=14,slow=3.8,SNR=2.0
HFS Hagfors 138.74 351 PKhKP PKPpre 09 14 27.0
comp=Z,2.4nm,0.9s,baz=241,slow=1.5,SNR=5.0
AKASG Malin Array Be 142.34 332 PKhKP PKPpre 09 14 37.2
comp=Z,0.8nm,0.5s,baz=41,slow=4.1,SNR=5.1
AKASG SKPbc **SKPbc 09 17 39.0 +0.6**
comp=Z,0.2nm,0.3s,baz=37,slow=1.2,SNR=4.1
EKA Eskdalemuir Ar 144.18 5 PKP PKPbc 09 14 44.6 -1.3
comp=Z,6.9nm,0.5s,baz=315,slow=3.1,SNR=28
BR131 Keskin Array S 146.36 313 PKPbc 09 14 52.2 -1.0
BRTR Keskin Array B 146.36 313 PKPbc 09 14 52.8 -0.4
BRTR Keskin Array B 146.36 313 PKPbc **PKPdf 09 14 51.9 +0.8**
comp=Z,2.2nm,0.6s,baz=84,slow=1.9,SNR=13
BRTR PP **PP 09 18 14.4 -5.9**
comp=Z,0.2nm,0.3s,baz=120,slow=8.5,SNR=3.8
OSTC Ostas 147.21 343 *e*PKP **PKPbc 09 14 55.3 +0.3**
CLL Collm 147.28 347 PKPbc 09 14 54.5 -0.7
DPC Dobruska-Polom 147.37 343 *e*PKP **PKPbc 09 14 55.3 -0.2**
DPC *ex* x 09 14 59.0
MMAI Mount Meron Ar 147.49 301 PKPbc **PKPbc 09 14 56.5 +0.1**
comp=Z,3.3nm,0.5s,baz=75,slow=6.1,SNR=4.9
PRU Pruhonice 148.17 345 *e*PKP **PKPbc 09 14 57.1 -0.4**
KHC Kasperske Hory 149.20 345 *e*PKP **PKPbc 09 14 59.8 -0.3**
KHC *ex* x 09 15 05.0
CKRC Cesky Krumlov 149.31 344 *e*PKP **PKPbc 09 15 00.1 -0.3**
GERES GERESS Array B 149.44 345 PKPbc **PKPbc 09 15 00.0 -0.7**
comp=Z,1.6nm,0.6s,baz=12,slow=5.3,SNR=11
CONA Conrad Observa 149.69 342 *e*PKP **PKPbc 09 15 00.8 -0.5**
comp=Z,4.9nm,0.6s
RONA Rosalia, Austr 149.76 341 *e*PKP **PKPbc 09 15 01.2 -0.3**
comp=Z,6.6nm,0.6s,SNR=8.6
MOA Molln 150.21 343 *e*PKP **PKPbc 09 15 01.7 -0.9**
comp=Z,2.8nm,0.6s
BIOA Bad Ischl, Aus 150.52 344 *e*PKP **PKPbc 09 15 02.3 -1.0**
comp=Z,1.7nm,0.5s
LESA Schwarzleotal 151.01 345 *i* PKP **PKPbc 09 15 03.6 -0.9**
comp=Z,1.8nm,0.4s
SOKA Soboth 151.06 341 *i* PKP **PKPbc 09 15 03.3 -1.3**
comp=Z,3.3nm,0.7s,SNR=4.2
KBA Koelnbreinsper 151.16 344 *i* PKP **PKPbc 09 15 03.8 -1.1**
comp=Z,3.3nm,0.5s
WATA Walderalm 151.35 347 *i* PKP **PKPbc 09 15 04.3 -1.0**
comp=Z,3.6nm,0.5s
OBKA Obir 151.35 342 *i* PKP **PKPbc 09 15 03.8 -1.5**
comp=Z,2.0nm,0.7s
WTTA Wattenberg 151.40 346 *i* PKP **PKPbc 09 15 04.7 -0.8**
comp=Z,6.0nm,0.5s,SNR=6.1
MOTA Moosalm 151.44 347 *i* PKP **PKPbc 09 15 04.5 -1.1**
comp=Z,2.7nm,0.7s
MYKA Terra Mystica 151.50 343 *i* PKP **PKPbc 09 15 04.0 -1.6**
comp=Z,4.0nm,0.6s
SQTA Sankt Quirin 151.54 347 *i* PKP **PKPbc 09 15 04.9 -0.9**
comp=Z,3.7nm,0.5s
ABTA Abfaltersbach 151.68 345 *i* PKP **PKPbc 09 15 04.6 -1.4**
comp=Z,6.0nm,0.6s,SNR=12
DAVA Damuels 151.74 349 *i* PKP **PKPbc 09 15 05.3 -0.9**
comp=Z,2.7nm,0.6s
FETA Feichten 151.83 347 *i* PKP **PKPbc 09 15 05.7 -0.7**
comp=Z,1.5nm,0.6s
STAL STALIGIAL 152.09 344 PKPbc 09 15 06.0 -0.9
FUORN Ofenpass-Fuorn 152.30 348 PKPbc 09 15 07.7 0.0
FNA Florina 153.28 326 PKPbc 09 15 08.7 -1.0
ESDC Sonseca Array 159.39 13 PKPab **PKPab 09 15 49.4 -0.6**
comp=Z,1.0nm,0.9s,baz=346,slow=5.5,SNR=5.4
TORD Torodi Ar. Bea 173.50 176 PKP **PKPdf 09 15 18.6 -2.4**
comp=Z,1.2nm,0.9s,baz=126,slow=1.0,SNR=4.9
TORD PKPab **PKPab 09 16 51.9 -0.8**
comp=Z,0.8nm,0.6s,baz=214,slow=1.9,SNR=6.6
TORD PP **PP 09 20 42.7 -0.9**
comp=Z,0.9nm,0.9s,baz=162,slow=6.3,SNR=4.1

IDC 29 08:56:27.9±1.3, 5°.89N×125°.80E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=104.7km s-min=12.1km az=77.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.19**	**349**	Pg	Pg	08 56 49.6	-1.1
	115nm,0.3s,baz=209,slow=22,SNR=10						
DAV				Lg	Lg	08 57 06.5	
	151nm,0.3s,baz=303,slow=21,SNR=9.1						
WRA	**Warramunga Arr**	**27.01**	**162**	P	P	09 02 11.2	-0.7
	0.1nm,0.3s,baz=336,slow=11,SNR=9.0						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**30.43**	**165**	P	P	09 02 42.2	0.0
	0.2nm,0.4s,baz=346,slow=7.1,SNR=5.7						
	0.2nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**41.76**	**69**	T	T	09 48 08.3	
	baz=258,slow=75,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**41.78**	**69**	T	T	09 48 06.4	
	baz=258,slow=75,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**41.78**	**69**	T	T	09 48 08.1	
	baz=258,slow=75,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**42.22**	**67**	T	T	09 48 57.8	
	baz=254						
H11N2	**WAKE ISLAND Hy**	**42.23**	**67**	T	T	09 49 00.2	
	baz=254						
H11N3	**WAKE ISLAND Hy**	**42.24**	**67**	T	T	09 49 01.5	
	baz=254						
MKAR	**Makanchi Array**	**55.26**	**325**	P	P	09 06 04.7	+1.7
	0.3nm,0.6s,baz=132,slow=6.2,SNR=4.1						
	0.3nm,0.6s						

*AEIC **29** 09:20:57.3±2.0, 60°.332N±0°.004×139°.67W±0°.03, h4km±6km, ML3.0, ML3.1(OTT), ML3.1/108(NEIC), Error ellipse: s-maj=1.8km s-min=0.4km az=77.0*
*NEIC **29** 09:20:57.3±1.4, 60°.30N±0°.01×139°.67W±0°.03, h4km±7km, Error ellipse: s-maj=2.3km s-min=1.8km az=145.0*
*PGC **29** 09:20:58.1±0.0, 60°.28N×139°.67W, h3km, ML3.0, ML3.1/28, 110km northeast of Yakutat, Ak Southeastern Alaska*

ISC 29 09:20:57.1±1.0, 60°.32N±0°.01×139°.65W±0°.01, h4km±9km, n336, σ1°00/399, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPM	**Bancas Point**	**0.37**	**178**		**Pg**	**09 21 04.3**	**+0.1**
BCPM	**Bancas Point**	**0.37**	**178**		**Sg**	**09 21 09.6**	**+0.5**
PINM	**Pinnacle**	**0.38**	**233**	P	**Pg**	**09 21 05.0**	**+0.7**
	baz=51,SNR=1000						
PINM				S	**Sg**	**09 21 10.5**	**+1.2**
	baz=51						
PCA	**Pinnacle**	**0.38**	**233**		**Pg**	**09 21 05.0**	**+0.6**
PCA					**Sg**	**09 21 10.5**	**+1.2**
PCA	**Pinnacle**	**0.38**	**233**	P	**Pg**	**09 21 05.0**	**+0.6**
PCA				S	**Sg**	**09 21 10.5**	**+1.2**
O28M	**Mount Upton**	**0.52**	**330**		**Pg**	**09 21 07.5**	**+0.2**
O28M					**Sg**	**09 21 14.7**	**+0.6**
O28M	**Mount Upton**	**0.52**	**330**	P	**Pg**	**09 21 07.4**	**+0.2**
	baz=150,SNR=803						
O28M				S	**Sg**	**09 21 15.1**	**+1.1**
	baz=150						
O28M	**Mount Upton**	**0.52**	**330**	P	**Pg**	**09 21 07.5**	**+0.2**
O28M				S	**Sg**	**09 21 14.7**	**+0.6**
O29M	**Mount Kennedy**	**0.54**	**92**		**Pg**	**09 21 07.3**	**-0.2**
O29M				IAML		09 21 15.5	
	comp=N,880nm,0.3s						
O29M	**Mount Kennedy**	**0.54**	**92**		**Pg**	**09 21 07.4**	**-0.1**
O29M	**Mount Kennedy**	**0.54**	**92**	P	**Pg**	**09 21 07.3**	**-0.1**
	baz=274,SNR=953						
O29M				S	**Sg**	**09 21 14.6**	**+0.1**
	baz=274						
O29M	**Mount Kennedy**	**0.54**	**92**	P	**Pg**	**09 21 07.4**	**-0.1**
SAMH	**Samovar Hills**	**0.59**	**252**		**Pb**	**09 21 09.5**	**-0.7**
SAMH	**Samovar Hills**	**0.59**	**252**	P	**Pb**	**09 21 09.5**	**-0.7**
PNL	**Peninsula**	**0.67**	**169**	P	**Pg**	**09 21 09.4**	**-0.5**
PNL	**Peninsula**	**0.67**	**169**		**Pg**	**09 21 09.5**	**-0.4**
PNL	**Peninsula**	**0.67**	**169**		**Pg**	**09 21 09.6**	**-0.4**
PNL	**Peninsula**	**0.67**	**169**	P	**Pg**	**09 21 09.5**	**-0.4**
	baz=349,SNR=1000						
PNL				S	**Sg**	**09 21 18.0**	**-0.6**
	baz=349						
PNL	**Peninsula**	**0.67**	**169**	P	**Pg**	**09 21 09.6**	**-0.4**
TABL	**Table Mountain**	**0.75**	**280**		**Pg**	**09 21 10.4**	**-1.1**
TABL	**Table Mountain**	**0.75**	**280**	IAML		09 21 24.6	
	comp=E,613nm,0.6s						
TABL	**Table Mountain**	**0.75**	**280**	P	**Pg**	**09 21 10.4**	**-1.1**
YUK7	**Dusty Glacier**	**0.78**	**74**		**Pg**	**09 21 12.3**	**+0.3**
YUK7					**Sg**	**09 21 23.2**	**+1.0**
YUK7	**Dusty Glacier**	**0.78**	**74**		**Pg**	**09 21 12.4**	**+0.3**
YUK7					**Sg**	**09 21 22.9**	**+0.7**
YUK7	**Dusty Glacier**	**0.78**	**74**	P	**Pg**	**09 21 12.4**	**+0.3**
YUK7				S	**Sg**	**09 21 22.9**	**+0.7**
YKU2	**Yakutat**	**0.81**	**181**	P	**Pg**	**09 21 12.9**	**+0.2**
YKU2	**Yakutat**	**0.81**	**181**		**Pg**	**09 21 12.9**	**+0.2**
YKU2					**Sb**	**09 21 25.2**	**+0.2**
LOGN	**Logan Glacier**	**0.84**	**308**		**Pg**	**09 21 12.0**	**-1.2**
LOGN	**Logan Glacier**	**0.84**	**308**	P	**Pg**	**09 21 12.2**	**-1.0**
RKAV	**Rock Avalanche**	**0.84**	**269**		**Pg**	**09 21 12.8**	**-0.4**
RKAV					**Sb**	**09 21 25.5**	**-0.6**
RKAV	**Rock Avalanche**	**0.84**	**269**	P	**Pg**	**09 21 12.8**	**-0.4**
RKAV				S	**Sb**	**09 21 25.5**	**-0.6**
YUK6	**Outpost Mounta**	**0.89**	**45**		**Pg**	**09 21 14.7**	**+0.5**
YUK6					**Sb**	**09 21 27.0**	**-0.7**
YUK6	**Outpost Mounta**	**0.89**	**45**		**Pg**	**09 21 14.8**	**+0.5**
YUK6					**Sb**	**09 21 26.9**	**-0.7**
YUK6	**Outpost Mounta**	**0.89**	**45**	P	**Pg**	**09 21 14.8**	**+0.5**
	baz=227,SNR=642						
YUK6				S	**Sb**	**09 21 26.8**	**-0.8**
	baz=227						
YUK6	**Outpost Mounta**	**0.89**	**45**	P	**Pg**	**09 21 14.8**	**+0.5**
YUK6				S	**Sb**	**09 21 26.9**	**-0.7**
YUK8	**Steele Glacier**	**0.97**	**357**		**Pg**	**09 21 15.8**	**+0.1**
YUK8					**Sb**	**09 21 29.3**	**-0.5**
YUK8	**Steele Glacier**	**0.97**	**357**		**Pg**	**09 21 15.8**	**+0.1**
YUK8					**Sb**	**09 21 29.0**	**-0.8**
YUK8	**Steele Glacier**	**0.97**	**357**	P	**Pg**	**09 21 15.8**	**+0.1**
	baz=177,SNR=196						
YUK8				S	**Sb**	**09 21 29.2**	**-0.7**
	baz=177						
YUK8	**Steele Glacier**	**0.97**	**357**	P	**Pg**	**09 21 15.8**	**+0.1**
YUK8				S	**Sb**	**09 21 29.0**	**-0.8**
CTGM	**Chitina Glacie**	**1.05**	**309**		**Pg**	**09 21 15.9**	**-1.3**
CTGM	**Chitina Glacie**	**1.05**	**309**	IAML		09 21 33.7	
	comp=N,336nm,0.6s						
CTGM	**Chitina Glacie**	**1.05**	**309**	P	**Pg**	**09 21 15.9**	**-1.3**
CTG	**Chitna Glacier**	**1.05**	**309**	P	**Pg**	**09 21 15.9**	**-1.4**
	baz=127,SNR=136						
CTG				S	**Sg**	**09 21 30.5**	**-0.5**
	baz=127						
GRNC	**Granite Creek**	**1.12**	**293**		**Pg**	**09 21 16.7**	**-1.8**
GRNC	**Granite Creek**	**1.12**	**293**	P	**Pg**	**09 21 16.7**	**-1.8**
YUK4	**Talbot Arm**	**1.14**	**25**		**Pn**	**09 21 21.3**	**+1.2**
YUK4					**Sn**	**09 21 37.8**	**+1.6**
YUK4	**Talbot Arm**	**1.14**	**25**	P	**Pn**	**09 21 21.3**	**+1.2**
	baz=207,SNR=1000						
YUK4				S	**Sn**	**09 21 38.5**	**+2.3**
	baz=207						
YUK4	**Talbot Arm**	**1.14**	**25**	P	**Pn**	**09 21 21.3**	**+1.2**
YUK4				S	**Sn**	**09 21 37.8**	**+1.6**
MESA	**MESA**	**1.15**	**264**		**Pg**	**09 21 19.2**	**-0.1**
MESA	**MESA**	**1.15**	**264**	P	**Pg**	**09 21 19.1**	**-0.1**
	baz=81,SNR=170						
MESA				S	**Sb**	**09 21 34.7**	**-0.5**
	baz=81						
MESA	**MESA**	**1.15**	**264**	P	**Pg**	**09 21 19.2**	**-0.1**
P29M	**Windy Craggy**	**1.19**	**125**	Pg	**Pg**	**09 21 18.3**	**-1.6**
P29M	**Windy Craggy**	**1.19**	**125**		**Pg**	**09 21 17.8**	**-2.0**
P29M	**Windy Craggy**	**1.19**	**125**	P	**Pg**	**09 21 17.9**	**-2.0**
	baz=307,SNR=174						
P29M				S	**Sg**	**09 21 35.4**	**+0.1**
	baz=307						
P29M	**Windy Craggy**	**1.19**	**125**	P	**Pg**	**09 21 17.8**	**-2.0**
YUK5	**Granite Creek**	**1.20**	**47**		**Pg**	**09 21 20.4**	**+0.3**
YUK5					**Sb**	**09 21 36.3**	**-0.1**
YUK5	**Granite Creek**	**1.20**	**47**	P	**Pg**	**09 21 20.4**	**+0.3**
YUK5				S	**Sb**	**09 21 36.3**	**-0.1**
BAGL	**Bagley Icefiel**	**1.22**	**279**		**Pg**	**09 21 19.4**	**-1.1**
ISLE	**Juniper Island**	**1.36**	**283**		**Pn**	**09 21 21.3**	**-1.7**
ISLE				IAML		09 21 43.1	
	comp=E,248nm,0.4s						
ISLE				IAML		09 21 44.0	
	comp=N,279nm,1.1s						
P30M	**Million Dollar**	**1.36**	**97**		**Pn**	**09 21 21.7**	**-1.3**
P30M	**Million Dollar**	**1.36**	**97**	Pn	**Pn**	**09 21 21.6**	**-1.3**
P30M	**Million Dollar**	**1.36**	**97**	IAML		09 21 44.6	
	comp=N,246nm,1.0s						
P30M	**Million Dollar**	**1.36**	**97**	P	**Pn**	**09 21 21.7**	**-1.3**
	baz=280						
P30M				S	**Sg**	**09 21 40.3**	**-0.4**
	baz=280						
P30M	**Million Dollar**	**1.36**	**97**	Pn	**Pn**	**09 21 21.6**	**-1.3**
BARK	**Barkley Ridge**	**1.41**	**275**		**Pn**	**09 21 23.2**	**-0.4**
CYK	**Cape Yakataga**	**1.43**	**262**		**Pn**	**09 21 23.5**	**-0.3**
KIAG	**Kiagna River**	**1.46**	**296**	Pn	**Pn**	**09 21 22.7**	**-1.8**
KIAG	**Kiagna River**	**1.46**	**296**	Pn	**Pn**	**09 21 22.7**	**-1.8**
BALM	**Baldy**	**1.51**	**300**	Pn	**Pn**	**09 21 23.1**	**-1.9**
BALM	**Baldy**	**1.51**	**300**	Pn	**Pn**	**09 21 23.1**	**-1.9**
YUK3	**Moose Creek**	**1.51**	**345**		**Pn**	**09 21 25.2**	**+0.1**
YUK3	**Moose Creek**	**1.51**	**345**	P	**Pn**	**09 21 25.1**	**+0.1**
	baz=165,SNR=1000						
YUK3				S	**Sg**	**09 21 46.0**	**+0.4**
	baz=165						
YUK3	**Moose Creek**	**1.51**	**345**	Pn	**Pn**	**09 21 25.3**	**+0.1**
YUK2	**White River**	**1.58**	**339**		**Pn**	**09 21 26.2**	**+0.2**
YUK2	**White River**	**1.58**	**339**	Pn	**Pn**	**09 21 26.2**	**+0.2**
YUK2				Sg	**Sg**	**09 21 48.1**	**+0.3**
WAX	**Waxell Ridge**	**1.59**	**276**		**Pn**	**09 21 25.8**	**-0.3**
SNH	**Sunshine Point**	**1.59**	**266**		**Pn**	**09 21 25.6**	**-0.5**
SNH				IAML		09 21 50.0	
	comp=N,222nm,0.6s						
SNH				IAML		09 21 58.2	
	comp=E,177nm,1.2s						
TGL	**Tana Glacier**	**1.63**	**287**		**Pn**	**09 21 25.9**	**-0.8**
TGL				IAML		09 21 52.3	
	comp=E,198nm,0.5s						
TGL				IAML		09 21 53.3	
	comp=N,254nm,1.0s						
PTPK	**Patty Peak**	**1.63**	**303**		**Pn**	**09 21 25.5**	**-1.3**
PTPK	**Patty Peak**	**1.63**	**303**	Pn	**Pn**	**09 21 25.5**	**-1.3**
PTPK				Sg	**Sn**	**09 21 47.7**	**-0.6**
N30M	**Aishikik Lake**	**1.70**	**47**		**Pb**	**09 21 29.2**	**+0.3**
N30M				IAML		09 21 54.9	
	comp=N,190nm,0.5s						
N30M				IAML		09 21 54.9	
	comp=E,160nm,0.3s						
N30M	**Aishikik Lake**	**1.70**	**47**	P	**Pn**	**09 21 28.1**	**+0.6**
	baz=229,SNR=356						
N30M				S	**Sb**	**09 21 50.8**	**+0.2**
	baz=229						
N30M	**Aishikik Lake**	**1.70**	**47**	Pn	**Pn**	**09 21 27.7**	**+0.1**
N30M				Pg	**Pb**	**09 21 29.4**	**+0.5**
N30M				Sg	**Sb**	**09 21 50.9**	**+0.3**
CRQE	**Cirque**	**1.75**	**286**	P	**Pn**	**09 21 27.3**	**-1.1**
	baz=102						
CRQE				S	**Sb**	**09 21 52.4**	**+0.1**
	baz=102						
CRQM	**Cirque**	**1.78**	**286**		**Pn**	**09 21 27.5**	**-1.3**
CRQM				IAML		09 21 57.3	
	comp=E,201nm,0.5s						
KHIT	**Khitrov Hills**	**1.79**	**275**		**Pn**	**09 21 29.0**	**+0.1**
O30N	**Mendenhall**	**1.82**	**74**		**Pn**	**09 21 29.1**	**-0.1**
O30N				IAML		09 21 54.9	
	comp=N,175nm,0.3s						
O30N				IAML		09 21 55.2	
	comp=E,175nm,0.3s						
O30N	**Mendenhall**	**1.82**	**74**	P	**Pn**	**09 21 29.1**	**-0.1**
	baz=258,SNR=403						
O30N				S	**Sb**	**09 21 53.9**	**-0.2**
	baz=258						
O30N	**Mendenhall**	**1.82**	**74**	Pn	**Pn**	**09 21 29.2**	**-0.1**
O30N				Sg	**Sb**	**09 21 53.6**	**-0.5**
BGLC	**Bering Glacier**	**1.82**	**265**		**Pn**	**09 21 29.6**	**+0.4**
BGLC	**Bering Glacier**	**1.82**	**265**	P	**Pn**	**09 21 29.3**	**+0.1**
	baz=82						
BGLC				Sb	**Sg**	**09 21 55.8**	**+0.2**
	baz=82						
GRIN	**Grindle Hills**	**1.82**	**270**		**Pn**	**09 21 29.4**	**+0.2**
PLBC	**Pleasant Camp**	**1.87**	**116**		**Pn**	**09 21 30.1**	**+0.2**
PLBC	**Pleasant Camp**	**1.87**	**116**	P	**Pn**	**09 21 29.3**	**-0.6**
	baz=299,SNR=86						
PLBC				S	**Sn**	**09 21 54.2**	**+0.3**
	baz=299						
PLBC	**Pleasant Camp**	**1.87**	**116**	Pn	**Pn**	**09 21 29.1**	**-0.8**
MCARA	**McCarthy VSAT**	**1.96**	**304**		**Pn**	**09 21 31.7**	**+0.6**
MCARA				IAML		09 22 03.3	
	comp=E,236nm,0.6s						
MCARA	**McCarthy VSAT**	**1.96**	**304**	P	**Pn**	**09 21 31.6**	**+0.4**
	baz=121,SNR=113						
MCARA				Sb	**Sg**	**09 22 00.3**	**+0.1**
	baz=121						
SUCK	**Suckling Hills**	**2.07**	**265**		**Pn**	**09 21 33.2**	**+0.5**
SUCK				IAML		09 22 03.6	
	comp=N,102nm,0.6s						
SUCK				IAML		09 22 06.6	
	comp=E,102nm,1.0s						
VRDI	**Verde Repeater**	**2.07**	**298**		**Pn**	**09 21 32.6**	**-0.3**
VRDI				IAML		09 22 02.3	
	comp=N,127nm,0.7s						
NICHA	**Nichawak Mount**	**2.15**	**270**		**Pn**	**09 21 34.0**	**+0.2**
M29M	**Somme Creek**	**2.21**	**15**		**Pn**	**09 21 35.8**	**+1.2**
M29M				IAML		09 22 09.5	
	comp=E,80nm,0.3s						
M29M				IAML		09 22 11.5	
	comp=N,79nm,0.7s						
M29M	**Somme Creek**	**2.21**	**15**	P	**Pn**	**09 21 35.5**	**+0.9**
	baz=196,SNR=361						
M29M				S	**Sb**	**09 22 03.8**	**-1.5**
	baz=196						
M29M	**Somme Creek**	**2.21**	**15**	Pn	**Pn**	**09 21 35.6**	**+1.0**
M29M				Pg	**Pg**	**09 21 39.1**	**-0.3**
N31M	**Braeburn, Yuko**	**2.23**	**57**		**Pn**	**09 21 35.5**	**+0.7**
N31M				IAML		09 22 12.3	
	comp=N,119nm,0.9s						
N31M				IAML		09 22 16.1	
	comp=E,129nm,1.0s						
N31M	**Braeburn, Yuko**	**2.23**	**57**	P	**Pn**	**09 21 35.5**	**+0.7**
	baz=240,SNR=312						
N31M				S	**Sn**	**09 22 04.3**	**+1.6**
	baz=240						
N31M	**Braeburn, Yuko**	**2.23**	**57**	Pn	**Pn**	**09 21 35.6**	**+0.9**
HMT	**Hamilton**	**2.29**	**272**		**Pn**	**09 21 36.0**	**+0.3**
M27K	**Edge Creek, AK**	**2.31**	**333**		**Pn**	**09 21 37.2**	**+1.2**
M27K	**Edge Creek, AK**	**2.31**	**333**	P	**Pn**	**09 21 36.9**	**+0.8**
	baz=151,SNR=56						
M27K				Sb	**Sg**	**09 22 10.7**	**-0.5**
	baz=151						
M27K	**Edge Creek, AK**	**2.31**	**333**	Pn	**Pn**	**09 21 37.0**	**+1.0**
GLB	**Gilahina Butte**	**2.32**	**301**		**Pn**	**09 21 36.6**	**+0.4**
GLB				IAML		09 22 16.8	
	comp=N,109nm,0.6s						
SKAG	**Skagway**	**2.34**	**110**	P	**Pn**	**09 21 36.3**	**-0.1**
SKAG	**Skagway**	**2.34**	**110**		**Pn**	**09 21 36.2**	**-0.1**
SKAG	**Skagway**	**2.34**	**110**	P	**Pn**	**09 21 36.1**	**-0.3**
	baz=294,SNR=14						
SKAG				S	**Sn**	**09 22 05.7**	**+0.1**
	baz=294						
WHY	**Whitehorse**	**2.39**	**80**		**Pn**	**09 21 37.1**	**+0.1**
WHY	**Whitehorse**	**2.39**	**80**	P	**Pn**	**09 21 37.0**	**-0.1**
	baz=264,SNR=188						
WHY				S	**Sn**	**09 22 08.2**	**+1.4**
	baz=264						
WHY	**Whitehorse**	**2.39**	**80**	Pn	**Pn**	**09 21 36.9**	**-0.1**
WHY				Sn	**Sn**	**09 22 07.6**	**+0.8**
KAIM	**Kayak Island**	**2.42**	**263**		**Pn**	**09 21 37.3**	**-0.1**
KAIM	**Kayak Island**	**2.42**	**263**	IAML		09 22 30.2	
	comp=N,73nm,1.6s						
KAIM				IAML		09 22 58.0	
	comp=E,67nm,2.0s						
KAIM	**Kayak Island**	**2.42**	**263**	P	**Pn**	**09 21 37.1**	**-0.3**
	baz=78						
K

N25K	Chitina, Valde	2.73 300	Pn	Pn	09 21 42.4	+0.6
R31K	City Hall, Gus	2.77 132	Sb	Sb	09 22 22.3	+1.0
	baz=316					
L29M	L29M	2.89 14		Pn	09 21 44.9	+1.0
L29M	L29M	2.89 14	P	Pn	09 21 45.3	+1.3
	baz=195,SNR=155					
L29M			Sb	Sg	09 22 28.6	-1.2
	baz=195					
L29M	L29M	2.89 14	Pn	Pn	09 21 45.4	+1.5
L29M			Pg	Pg	09 21 51.3	-1.2
L29M			Sg	Sg	09 22 29.0	-0.9
BCAR	Beaver Creek A	2.94 341		Pn	09 21 45.4	+0.8
L27K	Beaver Creek,	2.94 340		Pn	09 21 45.1	+0.5
L27K	Beaver Creek,	2.94 340	P	Pn	09 21 44.9	+0.2
	baz=158,SNR=14					
L27K			Sb	Sg	09 22 29.7	-1.7
	baz=158					
L27K	Beaver Creek,	2.94 340	Pn	Pn	09 21 44.8	+0.2
S31K	Pelican	2.95 142		Pn	09 21 44.7	0.0
S31K	Pelican	2.95 142	P	Pn	09 21 45.1	+0.4
	baz=325,SNR=24					
S31K	Pelican	2.95 142	Pn	Pn	09 21 44.8	0.0
BESE	Bessie Mountai	3.01 123		Pn	09 21 43.9	-1.7
BESE	Bessie Mountai	3.01 123	Pn	Pn	09 21 43.6	-2.0
EYAK	Cordova Ski Ar	3.03 277		Pn	09 21 45.6	-0.2
EYAK	Cordova Ski Ar	3.03 277	P	Pn	09 21 45.4	-0.4
	baz=92					
EYAK			Sb	Sb	09 22 31.2	+2.3
	baz=92					
P32M	Atlin	3.08 101		Pn	09 21 45.6	-0.9
P32M			IAML		09 22 38.8	
	comp=N,41nm,1.0s					
P32M	Atlin	3.08 101	P	Pn	09 21 45.6	-0.9
	baz=287,SNR=38					
P32M			S	Sn	09 22 22.8	-0.9
	baz=287					
P32M	Atlin	3.08 101	Pn	Pn	09 21 45.2	-1.3
M31M	Drury Creek, Y	3.17 51		Pn	09 21 49.0	+1.3
M31M	Drury Creek, Y	3.17 51	IAML		09 22 38.4	
	comp=E,67nm,0.7s					
M31M			IAML		09 22 39.0	
	comp=N,65nm,0.6s					
M31M	Drury Creek, Y	3.17 51	P	Pn	09 21 49.0	+1.3
	baz=236					
M31M			Sb	Sg	09 22 36.8	-2.0
	baz=236					
M31M	Drury Creek, Y	3.17 51	Pn	Pn	09 21 48.9	+1.1
M31M			Pg	Pg	09 21 56.2	-1.6
M31M			Sg	Sg	09 22 36.5	-2.3
L26K	Log Cabin Wild	3.23 329		Pn	09 21 50.1	+1.4
L26K	Log Cabin Wild	3.23 329	IAML		09 22 32.3	
	comp=N,36nm,0.3s					
L26K			IAML		09 22 50.5	
	comp=E,34nm,0.5s					
L26K	Log Cabin Wild	3.23 329	P	Pn	09 21 50.0	+1.3
	baz=145,SNR=19					
L26K			S	Sn	09 22 30.4	+2.8
	baz=145					
L26K	Log Cabin Wild	3.23 329	Pn	Pn	09 21 49.8	+1.2
KLU	Klutina	3.28 294		Pn	09 21 49.7	+0.4
KLU	Klutina	3.28 294	P	Pn	09 21 49.8	+0.4
	baz=108					
KLU			S	Sn	09 22 29.7	+0.9
	baz=108					
N32M	Quiet Lake	3.33 73		Pn	09 21 50.2	+0.1
N32M	Quiet Lake	3.33 73	P	Pn	09 21 50.3	+0.3
	baz=259					
N32M			S	Sn	09 22 30.5	+0.4
	baz=259					
N32M	Quiet Lake	3.33 73	Pn	Pn	09 21 50.2	+0.1
R32K	Eaglecrest	3.34 126		Pn	09 21 49.5	-0.6
R32K			IAML		09 22 41.5	
	comp=E,30nm,0.7s					
R32K			IAML		09 22 45.9	
	comp=N,36nm,0.8s					
R32K	Eaglecrest	3.34 126	S	Sn	09 22 30.0	-0.1
	baz=310					
JIS	Juneau Island	3.39 125	P	Pn	09 21 49.9	-0.9
JIS	Juneau Island	3.39 125		Pn	09 21 49.3	-1.4
JIS	Juneau Island	3.39 125	IAML		09 22 45.0	
	comp=N,37nm,0.6s					
JIS			IAML		09 22 46.8	
	comp=E,41nm,0.7s					
FID	Port Fidalgo	3.40 280		Pn	09 21 50.9	0.0
FID	Port Fidalgo	3.40 280	IAML		09 22 41.7	
	comp=E,47nm,0.6s					
FID			IAML		09 22 44.3	
	comp=N,58nm,0.7s					
HIN	Hinchinbrook I	3.40 274	Pn	Pn	09 21 49.2	-1.8
HIN			IAML		09 22 53.1	
	comp=E,62nm,1.1s					
HIN			IAML		09 22 59.4	
	comp=N,52nm,0.8s					
P33M	Teslin, Yukon	3.41 89		Pn	09 21 50.4	-0.7
P33M	Teslin, Yukon	3.41 89	P	Pn	09 21 50.3	-0.8
	baz=275,SNR=39					
P33M			Sb	Sb	09 22 43.5	+3.7
	baz=275					
P33M	Teslin, Yukon	3.41 89	Pn	Pn	09 21 50.0	-1.0
FARO	Faro, Yukon	3.60 55		Pn	09 21 52.6	-1.0
FARO	Faro, Yukon	3.60 55	S	Sn	09 22 37.4	+0.9
	baz=241					
M24K	Tolsona, Glenn	3.63 302		Pn	09 21 54.8	+0.7
M24K			IAML		09 22 52.8	
	comp=N,42nm,2.5s					
M24K	Tolsona, Glenn	3.63 302	P	Pn	09 21 55.1	+1.0
	baz=117					
K29M	Barlow Dome	3.67 15		Pn	09 21 56.4	+1.6
K29M	Barlow Dome	3.67 15	IAML		09 22 59.9	
	comp=E,41nm,0.8s					
K29M			IAML		09 23 00.0	
	comp=N,24nm,0.7s					
K29M	Barlow Dome	3.67 15	P	Pn	09 21 56.5	+1.7
	baz=197,SNR=103					
K29M			S	Sn	09 22 40.0	+1.4
	baz=197					
K29M	Barlow Dome	3.67 15	Pn	Pn	09 21 56.3	+1.6
GLI	Glacier Island	3.71 282		Pn	09 21 54.9	-0.3
GLI	Glacier Island	3.71 282	IAML		09 22 52.2	
	comp=N,41nm,0.5s					
GLI			IAML		09 22 52.5	
	comp=E,30nm,0.7s					
GLI	Glacier Island	3.71 282	P	Pn	09 21 55.2	+0.1
	baz=95					
DAWY	Dawson	3.76 2		Pn	09 21 57.2	+1.3
DAWY	Dawson	3.76 2	P	Pn	09 21 57.3	+1.3
	baz=182,SNR=129					
DAWY			S	Sn	09 22 41.9	+1.4
	baz=182					
DAWY	Dawson	3.76 2	Pn	Pn	09 21 57.2	+1.3
PAX	Paxson	3.84 316	P	Pn	09 21 57.5	+0.4
	baz=131					
PAX	Paxson	3.84 316	Pn	Pn	09 21 57.4	+0.4
P23K	Montague Islan	3.89 269		Pn	09 21 56.9	-0.6
P23K	Montague Islan	3.89 269	P	Pn	09 21 56.9	-0.6
	baz=82					
S32K	Killisnoo	3.89 135	Pg	Pb	09 22 05.5	-0.6
K27K	Chicken	3.89 344		Pn	09 21 58.3	+0.7
K27K	Chicken	3.89 344	P	Pn	09 21 58.5	+0.9
	baz=162					
K27K			Sb	Sg	09 22 58.3	-3.7
	baz=162					
K27K	Chicken	3.89 344	Pn	Pn	09 21 58.5	+0.9
DOT	Dot Lake	3.93 330		Pn	09 21 58.4	+0.1
DOT	Dot Lake	3.93 330	Pn	Pn	09 21 58.2	-0.1
SIT	Sitka	3.98 144	P	Pn	09 21 59.2	+0.4
SIT	Sitka	3.98 144		Pn	09 21 58.5	-0.3
SIT	Sitka	3.98 144	P	Pn	09 21 58.6	-0.2
	baz=327					
Q32M	Nakina River	3.99 107		Pn	09 21 58.4	-0.8
Q32M	Nakina River	3.99 107	IAML		09 23 06.2	
	comp=N,22nm,1.2s					
Q32M			IAML		09 23 18.9	
	comp=E,25nm,1.1s					
Q32M	Nakina River	3.99 107	P	Pn	09 21 58.3	-0.9
	baz=293,SNR=13					
Q32M			S	Sn	09 22 45.9	-0.6
	baz=293					
Q32M	Nakina River	3.99 107	Pn	Pn	09 21 58.0	-1.2
SCM	Sheep Creek Mo	4.02 295		Pn	09 22 00.1	+0.6
SCM	Sheep Creek Mo	4.02 295	P	Pn	09 21 59.9	+0.3
	baz=109					
SCM			S	Sn	09 22 48.2	+1.1
	baz=109					
M23K	Glacier View	4.19 294	P	Pn	09 22 02.0	+0.2
	baz=107					
SCRK	Sand Creek	4.19 333		Pn	09 22 02.4	+0.5
SCRK	Sand Creek	4.19 333	P	Pn	09 22 02.8	+0.9
	baz=149,SNR=17					
J29N	Klondike Camp	4.20 9		Pn	09 22 02.3	+0.3
J29N	Klondike Camp	4.20 9	P	Pn	09 22 03.4	+1.5
	baz=190					
J29N	Klondike Camp	4.20 9	Pn	Pn	09 22 03.5	+1.6
PWL	Port Wells	4.32 281		Pn	09 22 03.6	+0.2
KNK	Knik Glacier	4.44 288		Pn	09 22 04.5	-0.7
KNK	Knik Glacier	4.44 288	P	Pn	09 22 05.5	+0.3
	baz=100					
SML	Sawmill	4.47 293		Pn	09 22 05.9	+0.2
SML	Sawmill	4.47 293	P	Pn	09 22 05.4	-0.3
	baz=106					
R33M	Jennings River	4.48 98		Pn	09 22 05.1	-0.8
R33M	Jennings River	4.48 98	IAML		09 23 27.4	
	comp=N,16nm,0.8s					
R33M			IAML		09 23 33.1	
	comp=E,19nm,1.1s					
R33M	Jennings River	4.48 98	P	Pn	09 22 05.2	-0.6
	baz=286,SNR=9.4					
R33M	Jennings River	4.48 98	Pn	Pn	09 22 05.0	-0.8
R33M			Sn	Sn	09 22 56.3	-2.1
WAT6	Susitna Watana	4.49 304		Pn	09 22 06.0	-0.1
WAT6	Susitna Watana	4.49 304	P	Pn	09 22 06.1	+0.1
	baz=117					
EGAK	Eagle	4.53 352		Pn	09 22 07.4	+1.1
EGAK	Eagle	4.53 352	IAML		09 23 25.7	
	comp=E,26nm,0.8s					
EGAK	Eagle	4.53 352	P	Pn	09 22 07.7	+1.3
	baz=171,SNR=22					
EGAK	Eagle	4.53 352	Pn	Pn	09 22 07.6	+1.3
J30M	Hart River	4.54 18		Pn	09 22 08.3	+1.6
J30M	Hart River	4.54 18	IAML		09 23 24.2	
	comp=N,19nm,0.5s					
J30M			IAML		09 23 25.6	
	comp=E,21nm,0.7s					
J30M	Hart River	4.54 18	P	Pn	09 22 08.1	+1.4
	baz=202,SNR=45					
J30M	Hart River	4.54 18	Pn	Pn	09 22 08.1	+1.4
J26L	Joseph Creek	4.57 338		Pn	09 22 07.8	+0.7
J26L	Joseph Creek	4.57 338	P	Pn	09 22 07.9	+0.9
	baz=155,SNR=33					
DHY	Denali Highway	4.60 310		Pn	09 22 08.1	+0.7
DHY	Denali Highway	4.60 310	P	Pn	09 22 07.9	+0.4
	baz=124					
GHO	Glory Hole Cre	4.74 292		Pn	09 22 09.4	+0.1
PMR	Palmer	4.79 290		Pn	09 22 10.4	+0.4
PMR	Palmer	4.79 290	P	Pn	09 22 10.5	+0.6
	baz=101					
SEW	Seward	4.89 272	P	Pn	09 22 11.4	+0.1
	baz=83					
WAT1	Susitna Watana	4.94 304	P	Pn	09 22 12.6	+0.5
	baz=117					
S34M	Telegraph Cree	5.01 115	P	Pn	09 22 12.8	-0.2
	baz=302					
RC01	Rabbit Creek A	5.01 283	Pn	Pn	09 22 12.4	-0.6
J25K	Salcha River,	5.06 331		Pn	09 22 14.6	+0.9
J25K	Salcha River,	5.06 331	P	Pn	09 22 14.0	+0.4
	baz=146					
J25K	Salcha River,	5.06 331	Pn	Pn	09 22 14.1	+0.4
I29M	Ogilvie Camp,	5.10 6		Pn	09 22 15.3	+1.1
I29M	Ogilvie Camp,	5.10 6	Pn	Pn	09 22 15.8	+1.6
I29M			Sn	Sn	09 23 15.5	+2.0
I30M	Mount Dempster	5.14 16		Pn	09 22 16.9	+2.0
I30M	Mount Dempster	5.14 16	P	Pn	09 22 16.5	+1.5
	baz=199,SNR=36					
I30M	Mount Dempster	5.14 16	Pn	Pn	09 22 16.8	+1.8
I28M	Miner Creek	5.15 359		Pn	09 22 16.0	+1.0
I28M	Miner Creek	5.15 359	P	Pn	09 22 15.7	+0.8
	baz=178,SNR=23					
I28M	Miner Creek	5.15 359	Pn	Pn	09 22 15.9	+0.9
I26K	Coal Creek Min	5.25 344		Pn	09 22 17.6	+1.2
I26K	Coal Creek Min	5.25 344	P	Pn	09 22 17.3	+1.0
	baz=161					
I26K	Coal Creek Min	5.25 344	Pn	Pn	09 22 17.7	+1.3
DLBC	Dease Lake	5.27 107		Pn	09 22 15.3	-1.3
DLBC	Dease Lake	5.27 107	P	Pn	09 22 16.3	-0.4
	baz=295					
M22K	Willow	5.29 290		Pn	09 22 17.2	+0.4
M22K	Willow	5.29 290	P	Pn	09 22 16.9	+0.2
	baz=101					
I27K	Kandik River	5.38 351		Pn	09 22 19.6	+1.5
I27K	Kandik River	5.38 351	P	Pn	09 22 19.2	+1.1
	baz=170					
I27K	Kandik River	5.38 351	Pn	Pn	09 22 18.4	+0.3
CUT	Chulitna	5.52 297		Pn	09 22 21.6	+1.6
CUT	Chulitna	5.52 297	P	Pn	09 22 21.5	+1.6
	baz=108					
SUA	Susitna One	5.54 287	Pn	Pn	09 22 20.6	+0.3
SUA	Susitna One	5.54 287	P	Pn	09 22 21.4	+1.1
	baz=97					
IL31		5.58 326	Pn	Pn	09 22 19.4	-1.3
ILAR	Eielson Array	5.58 326	Pn	Pn	09 22 20.5	-0.3
PRP	Porcupine Dome	5.86 335		Pn	09 22 22.9	-1.9
CNPM	China Poot	5.88 267	Pn	Pn	09 22 24.6	-0.4
H29M	Whitestone	5.95 5		Pn	09 22 26.9	+0.9
H29M	Whitestone	5.95 5	P	Pn	09 22 26.8	+0.9
	baz=186,SNR=16					
H29M	Whitestone	5.95 5	Pn	Pn	09 22 26.6	+0.7
H29M			Sn	Sn	09 23 32.7	-1.7
SKT	Skwentna	5.99 291		Pn	09 22 27.1	+0.6
SKT	Skwentna	5.99 291	P	Pn	09 22 26.5	+0.1
	baz=101					
H27K	Steamboat Moun	5.99 353	P	Pn	09 22 27.4	+0.9
	baz=171					
H27K	Steamboat Moun	5.99 353	Pn	Pn	09 22 27.4	+0.9
STLK	Strandline Lak	6.06 287		Pn	09 22 28.4	+1.0
NEA2	Nenana	6.12 319	Pn	Pn	09 22 27.3	-0.9
KTH	Kantishna Hill	6.22 306		Pn	09 22 31.1	+1.4
BPAW	Bear Paw Mtn.	6.51 310	Pn	Pn	09 22 34.9	+1.2
H25L	Birch Creek	6.58 338	P	Pn	09 22 36.3	+1.8
	baz=152					
CAST	Castle Rocks	6.65 303	Pn	Pn	09 22 37.4	+1.9
G29M	Pine Creek	6.66 6	Pn	Pn	09 22 35.6	0.0
M20K	Styx River	6.72 289	Pn	Pn	09 22 37.3	+0.8
M20K	Styx River	6.72 289	P	Pn	09 22 36.8	+0.3
	baz=97					
P19K	Oil Pt	6.85 270	P	Pn	09 22 38.2	0.0
	baz=78					
G30M	tAoh Zraii Nji	6.86 11	Pn	Pn	09 22 39.2	+0.9
G30M	tAoh Zraii Nji	6.86 11	P	Pn	09 22 38.9	+0.5
	baz=194,SNR=8.2					
G30M	tAoh Zraii Nji	6.86 11	Pn	Pn	09 22 38.8	+0.5
G26K	Porcupine Rive	6.90 346	P	Pn	09 22 40.1	+1.2
	baz=163					
CHUM	Lake Minchumin	6.93 306	P	Pn	09 22 39.5	+0.3
	baz=115					
G31M	Satah River	7.04 18	Pn	Pn	09 22 41.2	+0.3
G31M	Satah River	7.04 18	P	Pn	09 22 41.5	+0.7
	baz=202,SNR=12					
G31M	Satah River	7.04 18	Pn	Pn	09 22 41.7	+0.8
G25K	Bearman Lake	7.08 339	P	Pn	09 22 41.8	+0.5
	baz=153					
KDAK	Kodiak Island	7.14 255	Pn	Pn	09 22 42.0	-0.1
KDAK	Kodiak Island	7.14 255	P	Pn	09 22 41.4	-0.7
	baz=64					
L20K	Farewell, AK	7.16 294	P	Pn	09 22 42.2	-0.3
	baz=101					
Q19K	Cape Douglas,	7.23 265	Pn	Pn	09 22 43.5	0.0
Q19K	Cape Douglas,	7.23 265	P	Pn	09 22 43.7	+0.2
	baz=73					
G24K	Hadweenzic Riv	7.29 335	Pn	Pn	09 22 44.9	+0.6
G24K	Hadweenzic Riv	7.29 335	P	Pn	09 22 45.5	+1.2
	baz=148					
M19K	Big River Lodg	7.31 289	Pn	Pn	09 22 44.6	0.0
M19K	Big River Lodg	7.31 289	P	Pn	09 22 44.9	+0.3
	baz=96					
BMAR	Burnt Mountain	7.46 345	Pn	Pn	09 22 47.8	+1.2
K20K	Telida	7.47 300	Pn	Pn	09 22 47.3	+0.6
K20K	Telida	7.47 300	P	Pn	09 22 47.5	+0.8
	baz=108					
L19K	White Mountain	7.56 291	Pn	Pn	09 22 48.7	+0.6
L19K	White Mountain	7.56 291	P	Pn	09 22 48.4	+0.4
	baz=98					
F26K	Sheenjek River	7.66 347	P	Pn	09 22 51.1	+1.8
	baz=163,SNR=22					
F26K	Sheenjek River	7.66 347	Pn	Pn	09 22 50.9	+1.6
OHAK	Old Harbor	7.74 252	Pn	Pn	09 22 48.5	-1.8
F25K	Christian Rive	7.76 343	P	Pn	09 22 51.9	+1.2
	baz=157,SNR=6.9					
F25K	Christian Rive	7.76 343	Pn	Pn	09 22 52.2	+1.5
J20K	Nowinta River	7.78 306	Pn	Pn	09 22 50.8	-0.2
J20K	Nowinta River	7.78 306	P	Pn	09 22 52.0	+1.0
	baz=113					
F24K	Squaw Lake	8.08 337	Pn	Pn	09 22 56.3	+1.2
F24K	Squaw Lake	8.08 337	P	Pn	09 22 57.4	+2.3
	baz=150					
DIB	Dawson Inlet,	8.15 148	Pn	Pn	09 22 56.1	+0.1
E28M	Babbage River	8.32 0	Pn	Pn	09 22 58.6	+0.2
J19K	Poorman	8.32 303	Pn	Pn	09 22 57.6	-0.8
J19K	Poorman	8.32 303	P	Pn	09 22 59.3	+0.9
	baz=109					
IMAR	Indian Mountai	8.53 318	Pn	Pn	09 23 03.1	+2.0
P17K	Kvichak River	8.55 270	P	Pn	09 23 02.0	+0.5
	baz=75					
E24K	Your Creek	8.67 338	Pn	Pn	09 23 05.2	+1.9
E24K	Your Creek	8.67 338	P	Pn	09 23 05.4	+2.2
	baz=150					
M17K	Holitna River	8.74 285	Pn	Pn	09 23 03.8	-0.4
E23K	Chandalar	8.88 335	P	Pn	09 23 07.6	+1.5
	baz=146					
D27M	Malcolm River	8.98 357	P	Pn	09 23 07.7	+0.3
	baz=176					
K17K	Iditarod	9.22 293	P	Pn	09 23 09.9	-0.8
	baz=97					
TOLK	Toolik Lake Re	9.37 337	P	Pn	09 23 13.7	+1.0
	baz=148					

*ISN **29** 09:26:25.6±1.2,34°.69N×46°.27E,h31km±23km,ML2.9*
*TEH **29** 09:26:25.1,34°.68N×46°.19E,h8km±49km,ML2.7*
ISC 29 09:26:25.3±1.1,34°.67N±0°.05×46°.24E±0°.06,h15km±10km,
n10,σ0s47/13,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.12	75	Pg	Pb	09 26 28.6	-0.9
IDHR				Sg	Sg	09 26 31.3	-0.3
IGHG	Ghaleghazi	0.43	141	Pg	Pg	09 26 34.2	+0.2
GLG1	Gilan-e-Gharb	0.62	207	Pg	Pb	09 26 37.3	-0.6
ILIN	Lien	0.64	67	Pg	Pb	09 26 38.1	-0.2
KCHF	Cheshme Sefid,	0.77	120	Pg	Pb	09 26 40.4	0.0
ILBA	Ilam Banvizeh	1.04	182	Pg	Pn	09 26 45.5	+0.1
SNQR	Sonqor, Kerman	1.16	80	Pg	Pg	09 26 48.4	+0.7
IBDR	Badra	1.57	190	ePg	Pb	09 26 54.0	-0.1
	baz=10.0						
IBDR				eSg	Sg	09 27 16.0	0.0
IKRK	Kirkuk	1.72	296	ePn	Pn	09 26 55.0	+0.3
IKRK				eSn	Sb	09 27 18.0	-0.1
IKRK				AML	AML	09 27 25.6	
	comp=N,138nm,0.8s						
IKRK				AML	AML	09 27 30.0	
	comp=E,151nm,0.5s						
IKFM	Kafar-mosalman	1.75	130	Pg	Pg	09 26 59.1	+0.1

*IDC **29** 09:36:23.6±3.6,38°.05N×72°.86E,h108km±30km,mb3.6/11,*
mbtmp4.1/16,Error ellipse: s-maj=26.9km s-min=16.3km
az=29.0
*NEIC **29** 09:36:26.3±1.4,38°.22N±0°.05×72°.93E±0°.08,h130km±9km,*
mb4.4/23,Error ellipse: s-maj=10.3km s-min=7.0km
az=117.0
*NNC **29** 09:36:27.8±1.4,38°.40N×72°.80E,h156km±18km,mb3.5,*
mpv4.3,Error ellipse: s-maj=14.3km s-min=7.7km az=21.0
*SOME **29** 09:36:31.9,39°.78N×73°.23E,h0km*
ISC 29 09:36:24.3±0.5,38°.02N±0°.05×72°.80E±0°.06,h127km,n118,
σ2s27/132,mb4.3/19,9C-4D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	1.66	332		Pn	09 36 54.6	+0.3
BTK	Batken	2.56	324	Pn	Pn	09 37 05.9	+0.7
SIMJ	Simiganj	3.05	283	Pn	Pn	09 37 12.1	+0.5
ARSB	Arslanbob	3.31	2		Pn	09 37 14.1	-0.9
AML	Almayashu	4.17	9	P	Pn	09 37 26.5	-0.1
	SNR=49						
NRN	Naryn	4.21	35		Pn	09 37 25.6	-1.4
NIL	Nilore	4.37	175	Pn	Pn	09 37 32.8	+3.8
UCH	Uchtor	4.41	17	P	Pn	09 37 29.8	0.0
	SNR=22						
KBL	Kabul	4.61	222	Pn	Pn	09 37 36.1	+3.7
IUG	Iuzhnay	4.64	334	eP	Pn	09 37 34.7	+2.1
	153nm,0.2s						
IUG				eS	Sn	09 38 23.8	-1.9
	848nm,0.5s						
EKS2	Erkin-Say	4.70	9	P	Pn	09 37 33.5	+0.1
	SNR=56						
MRKS	Merke	4.73	4	eP	Pn	09 37 30.8	-3.1
	90nm,0.2s						
MRKS				eS	Sn	09 38 16.8	-11
	186nm,0.3s						
AAK	Ala-Archa	4.79	15	P	Pn	09 37 35.0	+0.3
	SNR=30						
AAK	Ala-Archa	4.79	15		Pn	09 37 34.3	-0.4
AAK	Ala-Archa	4.79	15	P	Pn	09 37 34.7	0.0
	39nm,0.4s,baz=195,slow=11,SNR=38						
AAK				S	Sn	09 38 26.7	-2.8
	32nm,0.4s,baz=143,slow=20,SNR=3.5						
AAK	Ala-Archa	4.79	15	⇑P	Pn	09 37 35.0	+0.3
	48nm,0.7s						
AAK				⇑S	Sn	09 38 26.8	-2.6
	133nm,0.6s						
ULHL	Ulahol	4.98	31	P	Pn	09 37 36.8	-0.4
	SNR=23						
FRU1	Bishkek	4.99	16	Pn	Pn	09 37 37.3	+0.1
BOOM	Boomskoye usch	5.07	27		Pn	09 37 37.8	-0.6
CHMS	Chumysh	5.19	16	P	Pn	09 37 40.0	0.0
	SNR=30						
CHMS	Chumysh	5.19	16	⇑P	Pn	09 37 39.5	-0.4
	27nm,0.5s						
CHMS				⇓S	Sn	09 38 34.7	-4.2
	47nm,0.8s						
TKM2	Tokmak 2	5.34	23	P	Pn	09 37 41.8	-0.3
	SNR=13						
TKM2	Tokmak 2	5.34	23	⇑P	Pn	09 37 41.4	-0.7
	13nm,0.7s						
TARG	Taragay, Kyrgy	5.34	45	Pn	Pn	09 37 41.4	-1.0
KK31	Karatay Array	5.37	342		Pn	09 37 41.9	-0.4
KK31	Karatay Array	5.37	342	⇑P	Pn	09 37 41.7	-0.6
	13nm,0.4s,baz=148,slow=10,SNR=190						
KK31				⇓S	Sn	09 38 38.3	-4.7
	185nm,0.5s,baz=154,slow=15,SNR=30						
KKAR	Karatay Array	5.37	342		Pn	09 37 42.2	-0.1
KKAR	Karatay Array	5.37	342		Pn	09 37 42.6	+0.3
USP	Ospenovka	5.40	13	P	Pn	09 37 42.5	-0.2
	SNR=20						
JMU	Jammu	5.56	161	eS	Sn	09 38 44.9	-2.8
JMU				eS		09 38 45.3	
JMU				IAML		09 38 51.5	
	comp=E,4μm,0.6s						
JMU				IAML		09 38 52.3	
	comp=N,4μm,0.6s						
KST	Kastek	5.57	25	eP	Pn	09 37 45.2	+0.1
	comp=N,38nm,0.6s						
KST				eS	Sn	09 38 42.6	-5.4
	comp=N,42nm,0.6s						
DGS	Degeres	5.69	22	eP	Pn	09 37 46.5	-0.1
	comp=N,20nm,0.8s						
DGS				eS	Sn	09 38 44.8	-6.0
	comp=N,36nm,0.5s						
DGS	Degeres	5.69	22	Lg	Lg	09 38 44.8	
	comp=N,36nm,0.5s						
MTBS	Maitube	5.81	27	eP	Pn	09 37 48.4	+0.1
	comp=N,38nm,0.3s						
MTBS				eS	Sn	09 38 48.1	-5.6
	comp=N,17nm,0.3s						
MTBS	Maitube	5.81	27	P	Pn	09 37 48.3	+0.1
	comp=N,38nm,0.5s						
TNSS	Tian-Shan	5.93	31	eP	Pn	09 37 51.0	+0.9
	comp=N,10nm,0.2s						
TNSS				eS	Sn	09 38 52.7

comp=E,9.8nm,0.4s
KRBS **Karabastau** 6.08 20 P Pn 09 37 51.1 -0.8
comp=E,7.8nm,0.8s
KOTS **Kotyrbulak** 6.16 31 P Pn 09 37 52.3 -0.7
comp=E,11nm,0.4s
PRZ **Przheval'sk** 6.18 42 Pn 09 37 53.7 +0.3
KTBS **Karatobe** 6.40 26 P Pn 09 37 55.0 -1.2
comp=E,11nm,0.5s
DHRM **DHARAMSHALA** 6.43 152 eP Pn 09 37 58.2 +1.4
DHRM eS Sn 09 39 05.5 -3.5
DHRM IAML 09 39 12.7
comp=E,420nm,0.5s
DHRM IAML 09 39 13.3
comp=E,439nm,0.3s
SATY **Saty** 6.60 39 P Pn 09 37 58.3 -0.7
comp=E,8.4nm,0.4s
CHKK **Chushkaly** 6.64 27 P Pn 09 37 58.4 -0.9
comp=E,12nm,0.4s
KURS **Kuram** 6.82 35 eP Pn 09 38 09.7 +7.9
comp=E,3.5nm,0.2s
KURS eS Sn 09 39 25.7 +7.7
comp=E,8.7nm,0.5s
KURS **Kuram** 6.82 35 P Pn 09 38 01.4 -0.4
comp=E,20nm,0.8s
UZB **Uzynbulak** 6.98 41 P Pn 09 38 03.3 -0.7
comp=E,18nm,0.6s
KPKS **Kokpek** 7.04 38 P Pn 09 38 04.2 -0.6
comp=E,10nm,0.4s
BTLS **Baital** 7.08 7 P Pn 09 38 04.4 -0.8
comp=E,5.4nm,0.5s
SHLS **Shalkode** 7.21 43 P Pn 09 38 10.0 +2.8
comp=E,26nm,0.7s
BHK **Bhakra** 7.23 155 eP Pn 09 38 09.3 +1.9
BHK eS Sn 09 39 22.9 -5.1
BHK eS 09 39 23.6
BHK IAML 09 39 31.2
comp=N,2μm,0.6s
ARXS **Arharly** 7.26 30 eP Pn 09 38 15.0 +7.2
comp=N,5.8nm,0.3s
ARXS eS Sn 09 39 35.3 +6.5
comp=N,4.9nm,0.2s
ARXS **Arharly** 7.26 30 P Pn 09 38 06.5 -1.3
comp=N,19nm,0.8s
PDGK **Podgornoye** 7.35 42 P Pn 09 38 07.8 -1.2
comp=N,12nm,0.8s
PDGK **Podgornoye** 7.35 42 ⇑P Pn 09 38 07.5 -1.5
comp=N,23nm,0.7s
BLB **Baldybastay** 7.43 33 P Pn 09 38 08.9 -1.4
comp=N,35nm,0.5s
SMLA **Simla** 7.76 151 eP Pn 09 38 14.9 +0.4
SMLA eS Sn 09 39 34.0 -6.8
SMLA IAML 09 39 36.2
comp=E,358nm,0.6s
SMLA IAML 09 39 38.7
comp=E,344nm,0.3s
KLP **Kalpa** 7.87 144 eP Pn 09 38 18.4 +2.0
KLP eS Sn 09 39 35.5 -8.6
KLP IAML 09 39 44.9
comp=N,222nm,0.7s
KLP IAML 09 39 46.0
comp=E,275nm,0.8s
DJR **Jarkent** 8.22 38 P Pn 09 38 19.2 -1.5
comp=E,13nm,0.7s
OTUK **Ortayu** 10.23 358 P Pn 09 38 45.9 -1.8
comp=E,1.5nm,1.2s
OTUK **Ortayu** 10.23 358 ⇓P Pn 09 38 45.3 -2.4
comp=E,4.9nm,1.0s
MAKZ **Makanchi** 11.09 35 Pn 09 38 57.8 -1.4
MAKZ **Makanchi** 11.09 35 ⇓P Pn 09 38 57.6 -1.7
comp=E,36nm,1.2s
MK31 **Makanchi Array** 11.22 36 Pn Pn 09 38 59.2 -1.7
MK31 **Makanchi Array** 11.22 36 P Pn 09 38 59.7 -1.3
comp=E,4.8nm,0.7s,baz=212,slow=12,SNR=29
MKAR **Makanchi Array** 11.22 36 Pn Pn 09 38 59.1 -1.9
MKAR **Makanchi Array** 11.22 36 P Pn 09 38 59.8 -1.2
comp=E,3.9nm,0.8s,baz=214,slow=14,SNR=26
AJM **Ajmer** 11.61 172 eP Pn 09 39 07.5 +1.3
AJM eS Sn 09 41 07.6 -6.6
AJM IAML 09 41 12.7
comp=N,24nm,0.4s
AJM IAML 09 41 17.0
comp=E,26nm,0.2s
KURBB **Kurchatov Arra** 13.25 16 P Pn 09 39 23.9 -3.4
comp=E,4.8nm,0.7s,baz=202,slow=12,SNR=23
KURK **Kurchatov** 13.35 16 Pn Pn 09 39 25.1 -3.5
KURK **Kurchatov** 13.35 16 ⇑P Pn 09 39 24.4 -4.2
comp=E,9.9nm,0.8s
AB31 **Akbulak array** 14.56 325 P Pn 09 39 42.8 -1.3
comp=E,2.8nm,0.5s,baz=129,slow=13,SNR=130
ABKAR **Akbulak array** 14.56 325 P Pn 09 39 42.3 -1.9
ABKAR **Akbulak array** 14.56 325 P Pn 09 39 42.4 -1.7
BVA0 **Borovoye Array** 15.10 354 ⇑P Pn 09 39 50.4 -0.5
comp=E,5.4nm,0.5s,baz=160,slow=10.0,SNR=31
BVAR **Borovoye Array** 15.10 354 P Pn 09 39 49.4 -1.5
comp=E,7.0nm,0.4s,baz=164,slow=14,SNR=14
BVAR S Sn 09 42 27.4 -11
comp=E,3.5nm,0.7s,baz=156,slow=22,SNR=5.6
BRVK **Borovoye** 15.14 354 Pn 09 39 49.9 -1.4
AKTO **Aktyubinsk** 16.28 324 P Pn 09 40 05.3 -0.2
comp=E,5.9nm,0.3s,baz=128,slow=11,SNR=20
AKTO S Sn 09 42 52.4 -14
comp=E,7.8nm,0.8s,baz=37,slow=17,SNR=7.6
ZAA0 **Zalesovo Array** 17.95 24 P P 09 40 23.4 -1.0
ZAA0 IAmb IAmb 09 40 24.9
comp=Z,12nm,0.8s
ZAA0 **Zalesovo Array** 17.95 24 ⇑P P 09 40 23.7 -0.7
comp=Z,1.9nm,0.8s
ZALV **Zalesovo Beam** 17.95 24 P P 09 40 23.8 -0.6
ZALV **Zalesovo Beam** 17.95 24 P P 09 40 24.1 -0.3
comp=Z,7.9nm,0.5s,baz=218,slow=12,SNR=40
SHL **Shillong** 20.38 122 P P 09 40 50.6 -0.7
SHL IAmb IAmb 09 40 53.5
comp=Z,15nm,1.0s
ARU **Arti** 20.73 337 P P 09 40 54.5 0.0
ARU IAmb IAmb 09 40 56.1
comp=Z,9.2nm,0.7s
ARU **Arti** 20.73 337 P P 09 40 55.3 +0.8
comp=Z,6.8nm,0.5s,baz=146,slow=3.6,SNR=13
comp=Z,6.8nm,0.5s
SONM **Songino Array** 26.30 57 P P 09 41 49.1 +1.0
comp=Z,1.2nm,0.9s,baz=251,slow=9.0,SNR=5.1
comp=Z,1.2nm,0.9s
CMAR **Chiang Mai Arr** 30.00 123 P P 09 42 22.0 +1.0
comp=Z,0.7nm,0.5s,baz=308,slow=10,SNR=2.1
comp=Z,0.7nm,0.5s
BURAR **Bucovina Array** 35.70 301 P P 09 43 11.8 +1.3
FIA1 **FINESS Array S** 37.05 325 P P 09 43 22.2 +0.6
FINES **FINESS Array B** 37.05 325 P P 09 43 22.4 +0.7
FINES **FINESS Array B** 37.05 325 P P 09 43 22.8 +1.2
comp=Z,1.5nm,0.5s,baz=118,slow=10,SNR=13
comp=Z,1.5nm,0.5s
ARCES **ARCESS Array B** 40.31 336 P P 09 43 50.3 +1.6
comp=Z,1.6nm,0.7s,baz=106,slow=8.1,SNR=6.8
comp=Z,1.6nm,0.7s
HFS **Hagfors** 42.78 321 P P 09 44 10.5 +1.6
comp=Z,2.7nm,0.4s,baz=102,slow=11,SNR=21
comp=Z,2.7nm,0.4s
NC405 **NORSAR Array S** 43.81 322 P P 09 44 17.8 +0.5
NC405 IAmb IAmb 09 44 37.8
comp=Z,18nm,1.4s
TIXI **Tiksi** 43.83 22 P P 09 44 17.3 +0.1
TIXI IAmb IAmb 09 44 18.7
comp=Z,7.8nm,0.8s
NC303 **NORSAR Array S** 43.98 322 P P 09 44 20.2 +1.6
NB2 **NORSAR Subarra** 44.05 322 P P 09 44 20.2 +1.0
comp=Z,0.9nm,0.5s,baz=92,slow=7.9
NOA **NORSAR Array B** 44.05 322 P P 09 44 20.1 +1.0
comp=Z,0.9nm,0.4s,baz=92,slow=7.7,SNR=5.6
comp=Z,0.9nm,0.4s
SUMG **Summit** 60.09 341 P P 09 46 18.8 +0.7
SUMG IAmb IAmb 09 46 46.3
comp=Z,5.6nm,1.2s
C16K **Lisburne Hills** 65.54 20 P P 09 46 53.7 +0.1
C16K IAmb IAmb 09 47 04.1
comp=Z,9.4nm,1.4s
B20K **Meade River** 66.35 17 P P 09 46 59.6 +0.8
C18K **Utukok River** 66.38 19 P P 09 47 00.2 +1.0
C18K IAmb IAmb 09 47 04.7
comp=Z,8.8nm,1.4s
TORD **Torodi Ar. Bea** 67.18 269 P P 09 47 05.7 +0.7
comp=Z,0.4nm,0.6s,baz=60,slow=7.0,SNR=5.5
comp=Z,0.4nm,0.6s
D19K **Kuna River** 67.26 18 P P 09 47 06.3 +1.6
D19K IAmb IAmb 09 47 06.8
comp=Z,4.8nm,0.7s
E18K **Tukpahlearik C** 67.42 20 P P 09 47 06.4 +0.7
E18K IAmb IAmb 09 47 08.5
comp=Z,8.3nm,1.5s
E21K **Killik River** 68.29 17 P P 09 47 12.2 +1.1
E21K IAmb IAmb 09 47 13.0
comp=Z,3.5nm,0.8s
TOLK **Toolik Lake Re** 69.09 15 P P 09 47 17.8 +1.7
D25K **Kavik River** 69.15 14 P P 09 47 17.2 +0.7
F21K **Alatna River** 69.37 18 P P 09 47 18.7 +0.9
E24K **Your Creek** 69.78 15 P P 09 47 21.9 +1.5
CAST **Castle Rocks** 72.78 19 P P 09 47 38.4 0.0
CAST IAmb IAmb 09 47 40.2
comp=Z,6.7nm,1.2s
ILAR **Eielson Array** 72.92 17 P P 09 47 39.9 +0.7
comp=Z,1.2nm,0.9s,baz=316,slow=5.6,SNR=15
comp=Z,1.2nm,0.9s
I30M **Mount Dempster** 74.60 12 P P 09 47 49.8 +0.6
YKA **Yellowknife Ar** 79.66 3 P P 09 48 18.7 +1.4
comp=Z,1.4nm,0.7s,baz=350,slow=6.9,SNR=3.2
comp=Z,1.4nm,0.7s
WRA **Warramunga Arr** 81.60 123 P P 09 48 29.6 +1.3
comp=Z,0.6nm,0.6s,baz=324,slow=5.1,SNR=4.6
comp=Z,0.6nm,0.6s

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*UPP **29** 09:39:13.7±0.1, 67°.64N×21°.02E, h0km, ML1.7, Unknown*
*IDC **29** 09:39:14.0±2.3, 67°.60N×21°.13E, h0km, mbtmp2.5/2, ML1.8/2, Error ellipse: s-maj=37.2km s-min=14.4km az=105.0*
*HEL **29** 09:39:14.5±0.1, 67°.66N×21°.00E, h0km, ML1.6, Explosion*
ISC 29 09:39:11.9±0.8, 67°.66N±0°.03×21°.04E±0°.03, h0km, n19, σ0s68/28, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.40**	**319**	P	**Pb**	**09 39 21.6**	**-0.2**
KUA				S	**Sb**	**09 39 27.4**	**-1.1**
MASU	**Masugnsbyn**	**0.42**	**118**	P	**Pb**	**09 39 21.7**	**-0.5**
MASU				S	**Sb**	**09 39 27.8**	**-1.3**
LANU	**Lannavaara**	**0.54**	**42**	P	**Pb**	**09 39 24.2**	**+0.1**
LANU	**Lannavaara**	**0.54**	**42**	eP	**Pb**	**09 39 24.3**	**+0.1**
LANU				eS	**Sb**	**09 39 32.0**	**-0.5**
DUNU	**Dundret**	**0.57**	**199**	P	**Pb**	**09 39 24.1**	**-0.6**
SALU	**Saltoluokta**	**1.01**	**255**	eP	**Pg**	**09 39 31.1**	**-0.2**
SALU	**Saltoluokta**	**1.01**	**255**	P	**Pb**	**09 39 32.2**	**-0.1**
KLF	**Kolari**	**1.21**	**109**	eP	**Pn**	**09 39 36.4**	**+0.4**
KLF				MSG		09 39 51.3	
comp=Z,3.7nm,0.2s							
KLF				eSB	**Sn**	**09 39 52.7**	**-0.4**
HEF	**Hetta**	**1.24**	**51**	eP	**Pg**	**09 39 35.7**	**0.0**
HEF	**Hetta**	**1.24**	**51**	MSG		09 39 49.0	
comp=Z,3.2nm,0.2s							
HEF				eS	**Sb**	**09 39 53.0**	**+0.3**
HARU	**Harads**	**1.50**	**181**	P	**Pg**	**09 39 40.6**	**0.0**
I37NO	**I37NO**	**1.68**	**329**	I	I	09 50 14.2	
baz=148,slow=305,SNR=11							
KALU	**Kalix**	**2.03**	**152**	ePB	**Pg**	**09 39 50.1**	**-0.6**
KALU				eSB	**Sg**	**09 40 16.5**	**-0.4**
TOF	**Tornio**	**2.05**	**139**	ePB	**Pg**	**09 39 50.7**	**-0.4**
TOF				MSG		09 40 16.7	
comp=Z,4.3nm,0.2s							
TOF				eSG	**Sg**	**09 40 17.6**	**0.0**
SGF	**Sodankyl**	**2.12**	**93**	eP	**Pb**	**09 39 50.8**	**-0.3**
SGF				eS	**Sb**	**09 40 18.5**	**+0.6**
RNF	**Rovaniemi**	**2.21**	**116**	ePB	**Pb**	**09 39 53.3**	**+0.6**
RNF				eSG	**Sg**	**09 40 22.4**	**-0.4**
STEI	**Steigen**	**2.22**	**280**	ePG	**Pg**	**09 39 54.1**	**-0.2**
STEI				eSG	**Sg**	**09 40 23.4**	**+0.3**
ARCES	**ARCESS Array B**	**2.50**	**39**	Pn	**Pb**	**09 39 56.4**	**-1.2**
comp=Z,0.2nm,0.3s,baz=218,slow=14,SNR=13							
ARCES				Sn	**Sb**	**09 40 28.9**	**0.0**
comp=Z,0.4nm,0.3s,baz=219,slow=24,SNR=9.5							
comp=Z,0.6nm,0.3s							
FINES	**FINESS Array B**	**6.60**	**158**	Pn	**Pn**	**09 40 52.0**	**+2.0**
comp=Z,0.1nm,0.3s,baz=355,slow=14,SNR=0.9							
comp=Z,0.7nm,0.8s							

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*HEL **29** 09:40:21.3±0.8, 67°.67N×20°.76E, h0km, ML1.8, Suspected explosion*
*IDC **29** 09:40:23.5±2.4, 67°.61N×21°.12E, h0km, mbtmp2.7/2, ML1.7/2, Error ellipse: s-maj=38.3km s-min=14.8km az=106.0*
ISC 29 09:40:23.5±1.6, 67°.64N±0°.04×21°.02E±0°.08, h0km, n17, σ0s79/24, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.55**	**42**	PG	**Pg**	**09 40 33.4**	**-0.6**
LANU				SG	**Sg**	**09 40 41.7**	**+0.5**
KLF	**Kolari**	**1.21**	**108**	PG	**Pg**	**09 40 45.4**	**-1.3**
KLF				MSG		09 41 01.0	
comp=Z,5.8nm,0.2s							
KLF				SG	**Sg**	**09 41 02.2**	**0.0**
HEF	**Hetta**	**1.26**	**51**	PN	**Pg**	**09 40 46.0**	**-1.6**
baz=234							
HEF				MSG		09 41 01.2	
comp=Z,7.1nm,0.2s							
HEF				SN	**Sg**	**09 41 03.9**	**0.0**
I37NO	**I37NO**	**1.69**	**329**	I	I	09 51 19.6	
baz=148,slow=304							
KALU	**Kalix**	**2.02**	**151**	PG	**Pn**	**09 40 58.9**	**+0.2**
baz=336							
KALU				SG	**Sb**	**09 41 26.0**	**-0.6**
TOF	**Tornio**	**2.04**	**139**	PG	**Pn**	**09 40 59.9**	**+0.8**
TOF				MSG		09 41 24.5	
comp=Z,8.2nm,0.2s							
TOF				SB	**Sb**	**09 41 26.8**	**-0.5**
SGF	**Sodankyl**	**2.13**	**93**	PG	**Pn**	**09 41 00.4**	**+0.2**
baz=282							
SGF				SG	**Sb**	**09 41 29.4**	**-0.3**
RNF	**Rovaniemi**	**2.21**	**116**	PB	**Pn**	**09 41 02.1**	**+0.7**
baz=304							
RNF				SG	**Sb**	**09 41 31.6**	**-0.6**
ARA0	**ARCESS Array S**	**2.52**	**39**	PG	**Pn**	**09 41 05.9**	**+0.3**
ARCES	**ARCESS Array B**	**2.52**	**39**	Pn	**Pn**	**09 41 05.5**	**-0.1**
comp=Z,0.1nm,0.3s,baz=217,slow=13,SNR=4.9							
ARCES				Sn	**Sn**	**09 41 38.5**	**+1.6**
comp=Z,0.3nm,0.3s,baz=218,slow=26,SNR=6.8							
comp=Z,0.5nm,0.3s							
RANF	**Ranua**	**2.81**	**123**	SG	**Sb**	**09 41 49.3**	**0.0**
RAJF	**Raja-Jooseppi**	**2.87**	**70**	SG	**Sb**	**09 41 50.8**	**-0.2**
OUL	**Oulu**	**3.23**	**140**	SG	**Sb**	**09 42 02.5**	**+0.9**
OLKF	**Oulanka, Finla**	**3.55**	**108**	SN	**Sn**	**09 42 03.7**	**+1.2**
MSF	**Maaselka**	**3.62**	**115**	SN	**Sn**	**09 42 05.0**	**+0.9**
UMAU	**Umeaa**	**3.78**	**182**	SN	**Sn**	**09 42 08.4**	**+0.4**
FINES	**FINESS Array B**	**6.59**	**158**	Pn	**Pn**	**09 42 01.6**	**+0.1**
comp=Z,0.1nm,0.3s,baz=352,slow=13,SNR=2.5							
comp=Z,1.8nm,0.8s							

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*PPT **29** 09:48:45.3±0.3, 48°.80N×155°.29E, h10km, mb4.9/12, MLv5.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*KRSC **29** 09:48:52.7±2.1, 49°.39N×156°.42E, h61km±28km, Ml4.8, Felt [II-III] at Severo-Kurilsk.*
*MOS **29** 09:48:56.0±0.9, 49°.59N×156°.01E, h66km, mb4.8/22, Error ellipse: s-maj=9.9km s-min=3.2km az=74.4*
MOS Felt (II) at Severo-Kuril'sk.
*NEIC **29** 09:48:57.0±1.1, 49°.7N±0°.1×156°.0E±0°.2, h54km±6km, mb4.7/148, Error ellipse: s-maj=18.0km s-min=10.9km az=137.0*
*IDC **29** 09:48:58.3±2.8, 49°.66N×156°.02E, h69km±25km, mb4.0/26, mbtmp4.3/30, MS3.3/36, Error ellipse: s-maj=15.7km s-min=11.2km az=154.0*
ISC 29 09:48:56.1±0.4, 49°.51N±0°.06×156°.20E±0°.05, h54km, n749, σ1s15/763, mb4.6/132, MS3.4/31, 5C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.18**	**357**	eP	**Pn**	**09 49 16.9**	**+0.6**
SKR				eS	**Sn**	**09 49 32.1**	**+0.8**
SKR	**Severo-Kuril's**	**1.18**	**357**	⇓PN	**Pn**	**09 49 16.9**	**+0.6**
SKR				eS	**Sn**	**09 49 32.1**	**+0.8**
SKR				pmax	pmax		
comp=Z,1μm,0.4s							
SKR				smax	smax		
comp=N,11μm,0.4s							
SKR				smax	smax		
comp=E,6μm,0.5s							
KDTR	**Khodutka, Kamc**	**2.60**	**27**	eP	**Pn**	**09 49 35.6**	**0.0**
KDTR				eS	**Sn**	**09 50 04.6**	**-1.2**
KDTR	**Khodutka, Kamc**	**2.60**	**27**	PN	**Pn**	**09 49 35.5**	**0.0**
KDTR				S	**Sn**	**09 50 04.6**	**-1.2**
ASAK	**Asacha**	**3.07**	**20**	eP	**Pn**	**09 49 43.2**	**+1.0**
ASAK				eS	**Sn**	**09 50 18.3**	**+0.6**
ASAK	**Asacha**	**3.07**	**20**	PN	**Pn**	**09 49 43.2**	**+1.0**
ASAK				S	**Sn**	**09 50 18.3**	**+0.6**
MTVR	**Mutnovka**	**3.23**	**22**	eP	**Pn**	**09 49 45.2**	**+0.8**
MTVR				eS	**Sn**	**09 50 22.2**	**+0.5**
MTVR	**Mutnovka**	**3.23**	**22**	PN	**Pn**	**09 49 45.2**	**+0.8**
MTVR				S	**Sn**	**09 50 22.2**	**+0.5**
GRL	**Gorelyy**	**3.27**	**21**	eP	**Pn**	**09 49 46.3**	**+1.3**
GRL				eS	**Sn**	**09 50 23.7**	**+1.0**
GRL	**Gorelyy**	**3.27**	**21**	PN	**Pn**	**09 49 46.2**	**+1.3**
GRL				S	**Sn**	**09 50 23.6**	**+1.0**
APC	**Apacha**	**3.48**	**10**	eP	**Pn**	**09 49 48.8**	**+1.2**
APC	**Apacha**	**3.48**	**10**	PN	**Pn**	**09 49 48.8**	**+1.2**
KRMR	**Karymshinskiy**	**3.54**	**19**	eP	**Pn**	**09 49 50.4**	**+1.8**
KRMR				eS	**Sn**	**09 50 31.9**	**+2.8**
KRMR	**Karymshinskiy**	**3.54**	**19**	PN	**Pn**	**09 49 50.3**	**+1.8**
KRMR				S	**Sn**	**09 50 31.9**	**+2.8**
PET	**Petropavlovsk**	**3.84**	**23**	P	**Pn**	**09 49 53.8**	**+1.2**
PET	**Petropavlovsk**	**3.84**	**23**	Pn	**Pn**	**09 49 53.2**	**+0.6**
PET	**Petropavlovsk**	**3.84**	**23**	eP	**Pn**	**09 49 53.5**	**+0.8**
PET				eS	**Sn**	**09 50 36.6**	**+0.1**
PET	**Petropavlovsk**	**3.84**	**23**	PN	**Pn**	**09 49 53.4**	**+0.8**
PET				S	**Sn**	**09 50 36.6**	**+0.1**
DALK	**Dalny**	**3.88**	**23**	eP	**Pn**	**09 49 53.9**	**+0.8**
DALK				eS	**Sn**	**09 50 36.9**	**-0.4**
DALK	**Dalny**	**3.88**	**23**	PN	**Pn**	**09 49 53.9**	**+0.8**
DALK				S	**Sn**	**09 50 36.9**	**-0.4**
UGLR	**Uglovaya**	**4.05**	**23**	eP	**Pn**	**09 49 57.2**	**+1.6**
UGLR	**Uglovaya**	**4.05**	**23**	PN	**Pn**	**09 49 57.2**	**+1.6**
AVH	**Avacha**	**4.08**	**22**	eP	**Pn**	**09 49 58.2**	**+2.2**
AVH				eS	**Sn**	**09 50 44.5**	**+1.9**
AVH	**Avacha**	**4.08**	**22**	PN	**Pn**	**09 49 58.2**	**+2.2**
AVH				S	**Sn**	**09 50 44.4**	**+1.9**
KOK	**Koryaka**	**4.09**	**21**	eP	**Pn**	**09 49 58.5**	**+2.5**
KOK				eS	**Sn**	**09 50 45.5**	**+2.8**
KOK	**Koryaka**	**4.09**	**21**	PN	**Pn**	**09 49 58.5**	**+2.5**
KOK				S	**Sn**	**09 50 45.4**	**+2.8**
SMAR	**Somma**	**4.10**	**22**	eP	**Pn**	**09 49 57.8**	**+1.4**
SMAR				eS	**Sn**	**09 50 44.6**	**+1.4**
SMAR	**Somma**	**4.10**	**22**	PN	**Pn**	**09 49 57.7**	**+1.4**
SMAR				S	**Sn**	**09 50 44.5**	**+1.4**
KRER	**Koryakskii**	**4.12**	**22**	eP	**Pn**	**09 49 58.5**	**+1.8**
KRER				eS	**Sn**	**09 50 45.0**	**+1.3**
KRER	**Koryakskii**	**4.12**	**22**	PN	**Pn**	**09 49 58.5**	**+1.8**
KRER				S	**Sn**	**09 50 45.0**	**+1.3**
KRX	**Arik**	**4.15**	**21**	eP	**Pn**	**09 49 59.1**	**+2.1**
KRX				eS	**Sn**	**09 50 46.3**	**+2.0**
KRX	**Arik**	**4.15**	**21**	PN	**Pn**	**09 49 59.1**	**+2.1**
KRX				S	**Sn**	**09 50 46.3**	**+2.0**
SPN	**Mys Shipunski**	**4.32**	**32**	eP	**Pn**	**09 49 59.3**	**+0.1**
SPN				eS	**Sn**	**09 50 46.5**	**-1.8**
SPN	**Mys Shipunski**	**4.32**	**32**	PN	**Pn**	**09 49 59.3**	**+0.1**
SPN				S	**Sn**	**09 50 46.4**	**-1.8**
GNL	**Ganaly**	**4.33**	**14**	eP	**Pn**	**09 50 01.9**	**+2.4**
GNL				eS	**Sn**	**09 50 51.8**	**+3.1**
GNL	**Ganaly**	**4.33**	**14**	PN	**Pn**	**09 50 01.8**	**+2.4**
GNL				S	**Sn**	**09 50 51.8**	**+3.1**
KII	**Karymskiy**	**4.96**	**23**	eP	**Pn**	**09 50 10.2**	**+2.1**
KII	**Karymskiy**	**4.96**	**23**	PN	**Pn**	**09 50 10.2**	**+2.1**
TUMD	**Tumrok D**	**6.26**	**23**	eP	**Pn**	**09 50 26.9**	**+1.1**
TUMD	**Tumrok D**	**6.26**	**23**	PN	**Pn**	**09 50 26.8**	**+1.1**
TUMR	**Tumrok**	**6.27**	**21**	eP	**Pn**	**09 50 27.3**	**+1.3**
TUMR	**Tumrok**	**6.27**	**21**	PN	**Pn**	**09 50 27.2**	**+1.3**
ESO	**Esso**	**6.61**	**12**	eP	**Pn**	**09 50 32.4**	**+1.9**
ESO	**Esso**	**6.61**	**12**	PN	**Pn**	**09 50 32.3**	**+1.9**
KMNR	**Kamenistaya**	**6.72**	**20**	eP	**Pn**	**09 50 34.0**	**+1.8**
KMNR	**Kamenistaya**	**6.72**	**20**	PN	**Pn**	**09 50 34.0**	**+1.8**
KPT	**Kopyto**	**6.91**	**19**	eP	**Pn**	**09 50 36.5**	**+1.7**
KPT	**Kopyto**	**6.91**	**19**	PN	**Pn**	**09 50 36.4**	**+1.7**
KIRR	**Kirishev**	**6.93**	**20**	eP	**Pn**	**09 50 36.4**	**+1.4**
KIRR	**Kirishev**	**6.93**	**20**	PN	**Pn**	**09 50 36.4**	**+1.4**
KOZ	**Kozyrevsk**	**6.93**	**17**	eP	**Pn**	**09 50 35.5**	**+0.5**
KOZ	**Kozyrevsk**	**6.93**	**17**	PN	**Pn**	**09 50 35.4**	**+0.5**
BZP	**Bezymyannyi-Pe**	**6.94**	**21**	eP	**Pn**	**09 50 36.7**	**+1.6**
BZP	**Bezymyannyi-Pe**	**6.94**	**21**	PN	**Pn**	**09 50 36.7**	**+1.6**
BZMR	**Bezymyannaya**	**6.95**	**20**	eP	**Pn**	**09 50 36.9**	**+1.6**
BZMR	**Bezymyannaya**	**6.95**	**20**	PN	**Pn**	**09 50 36.8**	**+1.6**
BZWR	**Bezymyannyi-We**	**6.97**	**20**	eP	**Pn**	**09 50 37.3**	**+1.7**
BZWR	**Bezymyannyi-We**	**6.97**	**20**	PN	**Pn**	**09 50 37.3**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**7.00**	**21**	eP	**Pn**	**09 50 38.0**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**7.00**	**21**	PN	**Pn**	**09 50 37.9**	**+2.0**
KUR	**Kuril'sk**	**7.09**	**236**	eP	**Pn**	**09 50 40.3**	**+3.1**
KUR				eS	**Sn**	**09 51 58.3**	**+2.0**
KUR	**Kuril'sk**	**7.09**	**236**	ePN	**Pn**	**09 50 40.1**	**+3.0**
KUR				eS	**Sn**	**09 51 59.9**	**+3.7**
KUR				pmax	pmax		
comp=N,86nm,0.7s							
KUR				pmax	pmax		
comp=Z,152nm,0.7s							
KUR				pmax	pmax		
comp=E,52nm,0.6s							
KUR				smax	smax		
comp=N,127nm,0.6s							
KUR				smax	smax		
comp=E,68nm,0.6s							
LGNR	**Loginova**	**7.13**	**21**	eP	**Pn**	**09 50 39.5**	**+1.6**
LGNR	**Loginova**	**7.13**	**21**	PN	**Pn**	**09 50 39.5**	**+1.6**
SRDR	**Sredinnyy**	**7.14**	**16**	eP	**Pn**	**09 50 39.5**	**+1.6**
SRDR	**Sredinnyy**	**7.14**	**16**	PN	**Pn**	**09 50 39.5**	**+1.6**
CIRR	**Tsirk**	**7.17**	**21**	eP	**Pn**	**09 50 40.5**	**+2.2**
CIRR	**Tsirk**	**7.17**	**21**	PN	**Pn**	**09 50 40.5**	**+2.2**
KRSR	**Krestovskiy**	**7.22**	**20**	eP	**Pn**	**09 50 40.5**	**+1.4**
KRSR	**Krestovskiy**	**7.22**	**20**	PN	**Pn**	**09 50 40.4**	**+1.4**
KBTR	**Krutoberegovo**	**7.81**	**28**	eP	**Pn**	**09 50 46.6**	**-0.5**
KBTR	**Krutoberegovo**	**7.81**	**28**	PN	**Pn**	**09 50 46.5**	**-0.5**
KBG	**Krutoberegovo**	**7.82**	**28**	eP	**Pn**	**09 50 48.1**	**+1.1**
KBG	**Krutoberegovo**	**7.82**	**28**	PN	**Pn**	**09 50 48.1**	**+1.1**
BKI	**Bering**	**8.26**	**43**	eP	**Pn**	**09 50 51.9**	**-1.2**
BKI	**Bering**	**8.26**	**43**	PN	**Pn**	**09 50 51.9**	**-1.2**
SHO	**Shikotan**	**8.56**	**232**	eP	**Pn**	**09 50 54.4**	**-2.8**
SHO	**Shikotan**	**8.56**	**232**	ePN	**Pn**	**09 50 54.5**	**-2.7**
SHO				pmax	pmax		
comp=Z,61nm,0.4s							
SHO				pmax	pmax		
comp=N,33nm,0.3s							
SHO				pmax	pmax		
comp=E,24nm,0.3s							
TYV	**Tymovskoe**	**8.80**	**284**	ePN	**Pn**	**09 51 05.0**	**+4.5**
TYV				pmax	pmax		
comp=Z,100nm,3.7s							
TYV				pmax	pmax		
comp=Z,13nm,1.1s							
YUK	**Yuzh-Kuril'sk**	**8.96**	**236**	eP	**Pn**	**09 51 02.7**	**0.0**
YUK	**Yuzh-Kuril'sk**	**8.96**	**236**	ePN	**Pn**	**09 51 02.6**	**-0.1**
YUK				pmax	pmax		
comp=N,108nm,0.4s							
YUK				pmax	pmax		
comp=E,74nm,0.4s							
YUK				pmax	pmax		
comp=Z,383nm,0.4s							
RUSJ	**Misakicho**	**9.25**	**238**	ePN	**Pn**	**09 51 07.9**	**+1.2**
YSS	**Yuzh-Sakhalins**	**9.33**	**259**	**Pn**	**Pn**	**09 51 10.2**	**+2.5**
YSS	**Yuzh-Sakhalins**	**9.33**	**259**	ePN	**Pn**	**09 51 12.1**	**+4.3**
YSS				pmax	pmax		
comp=Z,30nm,0.7s							
NMR	**Nemuro--Hokkai**	**9.48**	**234**	ePN	**

ERM Erimo 11.78 235 *i* PN **Pn 09 51 40.3 -1.0**
SEY Seymchan 13.62 353 P **Pn 09 52 09.3 +3.1**
comp=Z,0.9nm,0.3s,baz=169,slow=15,SNR=8.0
SEY Seymchan 13.62 353 *i* P **Pn 09 52 06.2 0.0**
JTM Tenmabayashi 13.77 236 Pn Pn 09 52 02.4 -6.0
TEY Ternei 14.03 259 *e*P **Pn 09 52 14.2 +2.4**
KLR Kul'dur 15.91 278 P **P 09 52 42.5 +3.4**
comp=Z,2.5nm,0.5s,baz=79,slow=10,SNR=14
KLR LR LR 09 58 24.7
comp=Z,156nm,21.1s,baz=122,slow=36
KLR Kul'dur 15.91 278 *i* P **Pn 09 52 36.3 0.0**
USA0B Ussuriysk Arra 17.36 261 P **Pn 09 52 53.2 -1.1**
USA0B Ussuriysk Arra 17.36 261 P **Pn 09 52 53.3 -1.1**
USA0B pmax pmax
comp=Z,5.0nm,0.8s
USRK Ussuriysk Ar. 17.36 261 Pn 09 52 53.5 -0.8
USRK Ussuriysk Ar. 17.36 261 P **Pn 09 52 53.8 -0.6**
comp=Z,3.8nm,0.5s,baz=61,slow=12,SNR=13
USRK LR LR 09 59 00.5
comp=Z,86nm,21.4s,baz=160,slow=35
MJB9 Matsu-Tunnel 18.40 232 P **P 09 53 06.9 +0.2**
MAJO Matsushiro 18.40 232 P **Pn 09 53 08.0 +0.8**
MAJO Matsushiro 18.40 232 P **P 09 53 06.7 +0.1**
MAJO Matsushiro 18.40 232 P **P 09 53 06.7 +0.1**
MAJO pmax pmax
comp=Z,18nm,0.9s
MJAR Matsushiro Arr 18.40 232 P **P 09 53 06.3 -0.3**
comp=Z,7.1nm,0.8s,baz=28,slow=11,SNR=23
MDJ Mudanjiang 18.73 265 P **Pn 09 53 13.0 +2.0**
MDJ pmax pmax
comp=Z,14nm,0.7s
MDJ pmax pmax
comp=Z,160nm,4.8s
BILL Bilibino 19.26 12 P **P 09 53 14.8 -0.9**
BILL IAmb IAmb 09 53 16.9
comp=Z,18nm,0.5s
BILL Bilibino 19.26 12*de*P **P 09 53 15.2 -0.5**
BILL pmax pmax
comp=Z,10.0nm,0.6s
BILL MLR MLR
comp=Z,159nm,17.0s
YAK Yakutsk 19.31 320 LR LR 10 00 18.9
comp=Z,72nm,19.8s,baz=156,slow=36
JGF Kuroka 19.57 232 P **P 09 53 19.6 +0.2**
JGF IAmb IAmb 09 53 37.4
comp=Z,39nm,1.4s
INU Inuyama 19.94 232 P **P 09 53 24.1 +0.7**
INU Inuyama 19.94 232 P **P 09 53 23.6 +0.2**
INU IAmb IAmb 09 53 24.6
comp=Z,56nm,1.5s
JHJ Hachijo jima 2 20.42 223 LR LR 10 00 14.6
comp=Z,35nm,21.6s,baz=296,slow=33
SPIA Saint Paul Isl 21.27 56 P **P 09 53 38.6 +1.0**
baz=264
P08K Saint George I 21.60 58 P **P 09 53 42.0 +0.9**
baz=266
NIKH Nikolski High 22.02 68 P **P 09 53 47.0 +1.4**
baz=276
GAMB Gambell 22.37 38 P **P 09 53 49.8 +0.5**
baz=246
UNV Unalaska Valle 23.34 65 P **P 09 54 00.4 +1.0**
baz=275
KSRS Korea Array 23.64 250 P **P 09 54 02.5 +0.2**
comp=Z,5.3nm,0.5s,baz=47,slow=10,SNR=24
KSRS LR LR 10 02 33.6
comp=Z,77nm,21.0s,baz=55,slow=34
comp=Z,5.3nm,0.5s
KS19 Wonju Array Si 23.64 250 P **P 09 54 01.9 -0.4**
KS19 IAmb IAmb 09 54 05.9
comp=Z,41nm,1.4s
KSAR Wonju Array Be 23.67 250 P **P 09 54 01.8 -0.8**
KSAR Wonju Array Be 23.67 250 P **P 09 54 01.8 -0.8**
M11K Mekoryuk 23.84 49 P **P 09 54 03.9 +0.1**
baz=260
TNA Tin City 24.59 36 P **P 09 54 11.1 +0.4**
baz=247,SNR=12
JCJ Chichijima 24.85 211 LR LR 10 02 22.2
comp=Z,26nm,20.1s,baz=166,slow=32
K13K Kusilvak Mount 24.87 45 P **P 09 54 13.1 -0.2**
baz=259
JNU Nakatsue 24.92 238 P **P 09 54 16.4 +2.4**
JNU Nakatsue 24.92 238 P **P 09 54 15.2 +1.2**
JNU IAmb IAmb 09 54 17.2
comp=Z,23nm,0.9s
JNU Nakatsue 24.92 238 LR LR 10 04 04.8
comp=Z,69nm,19.3s,baz=50,slow=36
FALS False Pass 25.07 62 P **P 09 54 16.0 +0.9**
baz=275
F14K Arctic Creek 25.17 37 P **P 09 54 16.6 +0.6**
baz=249,SNR=14
M13K Dall Lake 25.24 49 P **P 09 54 17.6 +1.0**
baz=263
ANM Nome 25.24 39 P **P 09 54 17.0 +0.4**
ANM IAmb IAmb 09 54 20.2
comp=Z,49nm,1.4s
ANM Nome 25.24 39 P **P 09 54 16.9 +0.2**
baz=252
ANM Nome 25.24 39 P **P 09 54 17.0 +0.4**
ANM pmax pmax
comp=Z,49nm,1.4s
TIXI Tiksi 25.48 340 P **P 09 54 17.2 -1.5**
TIXI IAmb IAmb 09 54 18.8
comp=Z,14nm,0.7s
TIXI Tiksi 25.48 340 LR LR 10 04 24.3
comp=Z,63nm,20.8s,baz=198,slow=37
TIXI Tiksi 25.48 340*ce*P **P 09 54 16.9 -1.8**
TIXI pmax pmax
comp=Z,13nm,0.7s
TIXI MLR MLR
comp=Z,61nm,21.0s
J14K Nanvaranak Lak 25.55 44 P **P 09 54 20.2 +0.8**
J14K IAmb IAmb 09 54 22.5
comp=Z,16nm,0.6s
J14K Nanvaranak Lak 25.55 44 P **P 09 54 20.1 +0.7**
baz=258,SNR=5.6
L14K Kuka Creek 25.69 47 P **P 09 54 21.7 +1.0**
baz=262
S12K Black Hills 25.78 60 P **P 09 54 22.1 +0.5**
baz=274
F15K North Star Dit 25.91 37 P **P 09 54 23.2 +0.6**
F15K North Star Dit 25.91 37 P **P 09 54 22.5 -0.1**
baz=251
G15K Niukluk 25.92 38 P **P 09 54 22.4 -0.4**
baz=253,SNR=5.8
N14K Kuskokwak Cree 26.02 50 P **P 09 54 24.0 +0.4**
baz=266
O14K Tigyukauivet M 26.19 52 P **P 09 54 25.6 +0.4**
baz=268
L15K Ungalak Mounta 26.31 46 P **P 09 54 26.5 +0.3**
baz=262
K15K Wolf Creek Mou 26.38 45 P **P 09 54 29.0 +2.1**
K15K IAmb IAmb 09 54 31.9
comp=Z,28nm,1.1s
K15K Wolf Creek Mou 26.38 45 P **P 09 54 27.2 +0.2**
baz=261,SNR=6.1
H16K Elim 26.56 40 P **P 09 54 28.9 +0.3**
baz=256
M15K Kasigluk River 26.58 49 P **P 09 54 29.4 +0.7**
baz=265
C16K Lisburne Hills 26.64 31 P **P 09 54 29.3 +0.1**
C16K IAmb IAmb 09 54 30.9
comp=Z,27nm,1.1s
C16K Lisburne Hills 26.64 31 P **P 09 54 29.5 +0.4**
baz=245
SDPT Sand Point 26.71 61 P **P 09 54 30.8 +0.8**
baz=276
G16K Koyuk River 26.72 38 P **P 09 54 30.3 +0.4**
G16K Koyuk River 26.72 38 P **P 09 54 30.5 +0.6**
baz=254
N15K Kwethluk River 26.83 50 P **P 09 54 31.6 +0.5**
baz=267
J16K Anvik River 26.97 43 P **P 09 54 32.9 +0.6**
J16K IAmb IAmb 09 54 37.1
comp=Z,13nm,0.9s
J16K Anvik River 26.97 43 P **P 09 54 32.5 +0.3**
baz=260
I17K Unalakleet 27.05 42 P **P 09 54 33.5 +0.6**
I17K Unalakleet 27.05 42 P **P 09 54 33.1 +0.3**
baz=259
S14K Fog Glacier 27.14 59 P **P 09 54 34.8 +0.9**
baz=275
D17K Noatak River 27.19 33 P **P 09 54 34.5 +0.4**
baz=249,SNR=13
L16K Owhat River 27.26 47 P **P 09 54 35.4 +0.5**
L16K IAmb IAmb 09 55 09.2
comp=Z,21nm,1.5s
L16K Owhat River 27.26 47 P **P 09 54 35.6 +0.7**
baz=264
RDOG Red Dog Mine 27.38 32 P **P 09 54 36.2 +0.3**
RDOG IAmb IAmb 09 54 37.5
comp=Z,15nm,0.7s
RDOG Red Dog Mine 27.38 32 P **P 09 54 36.5 +0.6**
baz=248
G17K Kiwalik Mounta 27.43 38 P **P 09 54 36.1 -0.2**
baz=256,SNR=9.9
E17K Hotham Inlet 27.43 35 P **P 09 54 36.7 +0.4**
baz=252,SNR=39
M16K Timber Creek 27.45 48 P **P 09 54 37.5 +0.9**
baz=266
C17K DeLong Mountai 27.45 31 P **P 09 54 36.3 -0.3**
baz=247
F17K Baldwin Pennin 27.45 36 P **P 09 54 37.6 +1.1**
F17K IAmb IAmb 09 54 38.6
comp=Z,28nm,1.0s
F17K Baldwin Pennin 27.45 36 P **P 09 54 36.6 +0.1**
baz=253,SNR=14
N16K Nishlik Lake 27.51 49 P **P 09 54 38.0 +0.9**
baz=267
H17K Granite Mounta 27.60 40 P **P 09 54 38.4 +0.5**
H17K IAmb IAmb 09 54 39.9
comp=Z,12nm,0.8s
H17K Granite Mounta 27.60 40 P **P 09 54 37.9 0.0**
baz=258,SNR=8.1
J17K VABM Dome 27.67 43 P **P 09 54 39.4 +0.9**
J17K IAmb IAmb 09 54 44.4
comp=Z,14nm,1.1s
J17K VABM Dome 27.67 43 P **P 09 54 38.4 -0.1**
baz=262,SNR=6.1
CHGN Chignik 27.77 58 P **P 09 54 40.3 +0.9**
baz=276
O16K Kokwok River B 27.82 51 P **P 09 54 40.4 +0.6**
baz=270
L17K Donlin 27.86 46 P **P 09 54 40.6 +0.4**
baz=265
P16K Nushagak River 27.87 52 P **P 09 54 40.6 +0.4**
baz=271
K17K Iditarod 27.93 45 P **P 09 54 41.5 +0.7**
K17K Iditarod 27.93 45 P **P 09 54 42.1 +1.3**
baz=264
E18K Tukpahlearik C 27.99 34 P **P 09 54 42.6 +1.3**
E18K Tukpahlearik C 27.99 34 P **P 09 54 42.0 +0.7**
baz=252,SNR=5.1
F18K Selawik 28.11 36 P **P 09 54 42.9 +0.6**
baz=255,SNR=13
R16K Pilot Point 28.14 56 P **P 09 54 43.4 +0.7**
baz=274
C18K Utukok River 28.19 32 P **P 09 54 43.3 +0.1**
C18K IAmb IAmb 09 54 44.6
comp=Z,21nm,1.1s
C18K Utukok River 28.19 32 P **P 09 54 43.3 +0.1**
baz=250,SNR=6.9
M17K Holitna River 28.21 47 P **P 09 54 44.1 +0.8**
M17K IAmb IAmb 09 54 45.5
comp=Z,25nm,1.1s
M17K Holitna River 28.21 47 P **P 09 54 43.9 +0.5**
baz=267
B18K Kokolik River 28.26 30 P **P 09 54 43.1 -0.6**
baz=248
H18K Honhosa River 28.29 39 P **P 09 54 44.6 +0.6**
H18K IAmb IAmb 09 54 45.9
comp=Z,18nm,1.4s
H18K Honhosa River 28.29 39 P **P 09 54 45.0 +0.9**
baz=259,SNR=7.8
O17K Koliganek Bris 28.32 51 P **P 09 54 45.3 +1.0**
baz=270
G18K Tagagawik 28.33 38 P **P 09 54 44.7 +0.3**
G18K IAmb IAmb 09 54 46.1
comp=Z,10nm,0.8s
G18K Tagagawik 28.33 38 P **P 09 54 44.6 +0.2**
baz=257,SNR=13
L18K Granite Mounta 28.62 46 P **P 09 54 48.1 +1.1**
L18K Granite Mounta 28.62 46 P **P 09 54 47.6 +0.6**
baz=266
P17K Kvichak River 28.66 52 P **P 09 54 48.6 +1.3**
baz=272
J18K Innoko River 28.73 43 P **P 09 54 48.6 +0.6**
J18K Innoko River 28.73 43 P **P 09 54 48.5 +0.6**
baz=264,SNR=5.4
R17L Mt. Peulik Vol 28.79 55 P **P 09 54 49.5 +1.0**
baz=275
F19K Shaleruckik Mo 28.89 36 P **P 09 54 49.8 +0.5**
F19K Shaleruckik Mo 28.89 36 P **P 09 54 49.9 +0.5**
baz=257,SNR=5.2
C19K Lookout Ridge 28.90 31 P **P 09 54 49.9 +0.5**
C19K IAmb IAmb 09 54 51.4
comp=Z,20nm,1.2s
C19K Lookout Ridge 28.90 31 P **P 09 54 49.7 +0.2**
baz=251,SNR=5.6
N18K Kilae Creek 28.93 49 P **P 09 54 50.3 +0.5**
baz=270
M18K Stony River 28.99 47 P **P 09 54 51.0 +0.8**
baz=268
Q17K Contact Creek 28.99 54 P **P 09 54 50.7 +0.2**
baz=274
G19K Purcell Mounta 29.01 38 P **P 09 54 50.7 +0.3**
G19K Purcell Mounta 29.01 38 P **P 09 54 50.8 +0.5**
baz=258,SNR=7.1
H19K Roundabout Mou 29.15 39 P **P 09 54 52.2 +0.7**
H19K IAmb IAmb 09 54 53.4
comp=Z,23nm,0.9s
H19K Roundabout Mou 29.15 39 P **P 09 54 51.6 0.0**
baz=260,SNR=28
D19K Kuna River 29.21 33 P **P 09 54 53.0 +0.8**
D19K IAmb IAmb 09 54 54.3
comp=Z,18nm,1.1s
D19K Kuna River 29.21 33 P **P 09 54 52.0 -0.2**
baz=253
E19K Redstone River 29.25 35 P **P 09 54 53.5 +0.9**
E19K Redstone River 29.25 35 P **P 09 54 52.6 +0.1**
baz=256
J19K Poorman 29.27 42 P **P 09 54 53.1 +0.3**
J19K IAmb IAmb 09 54 53.7
comp=Z,11nm,0.6s
J19K Poorman 29.27 42 P **P 09 54 52.7 -0.1**
baz=264,SNR=9.4
O18K Koktuh Hills 29.28 51 P **P 09 54 53.0 +0.1**
baz=272
P18K Big Mountain, 29.28 52 P **P 09 54 53.0 +0.1**
baz=272
CHIR Chirikof Islan 29.39 59 P **P 09 54 54.3 +0.5**
baz=278
Q18K Katmai Hardscr 29.43 53 P **P 09 54 54.5 +0.2**
baz=274
L19K White Mountain 29.48 46 P **P 09 54 54.8 +0.2**
baz=268
N19K Bonanza Creek 29.63 49 P **P 09 54 56.5 +0.5**
baz=271
M19K Big River Lodg 29.68 47 P **P 09 54 56.9 +0.5**
baz=269
F20K Avaraart Lake 29.73 36 P **P 09 54 57.0 +0.3**
F20K Avaraart Lake 29.73 36 P **P 09 54 56.7 0.0**
baz=258
H20K Anotleneega Mo 29.79 39 P **P 09 54 57.5 +0.2**
baz=262,SNR=16
D20K Etivluk River 29.80 33 P **P 09 54 57.4 0.0**
baz=255,SNR=16
R18K Karluk 29.81 55 P **P 09 54 57.8 +0.3**
baz=276
E20K Nigu River 29.84 34 P **P 09 54 58.2 +0.4**
baz=256,SNR=17
I20K Naaghedeneel 29.86 41 P **P 09 54 59.0 +1.1**
baz=264
K20K Telida 29.91 44 P **P 09 54 59.4 +1.0**
K20K IAmb IAmb 09 55 00.3
comp=Z,9.0nm,0.8s
K20K Telida 29.91 44 P **P 09 54 59.1 +0.7**
baz=266,SNR=6.5
J20K Nowinta River 29.94 42 P **P 09 54 58.8 +0.2**
J20K IAmb IAmb 09 55 01.1
comp=Z,11nm,1.1s
J20K Nowinta River 29.94 42 P **P 09 54 59.5 +0.9**
baz=265,SNR=9.9
L20K Farewell, AK 29.95 45 P **P 09 54 59.6 +0.8**
baz=268
B20K Meade River 30.00 30 P **P 09 54 59.2 +0.1**
B20K IAmb IAmb 09 55 05.8
comp=Z,11nm,0.8s
B20K Meade River 30.00 30 P **P 09 54 58.3 -0.8**
baz=252,SNR=6.4
SII Sitkinak Islan 30.08 57 P **P 09 55 01.0 +1.0**
baz=278
Q19K Cape Douglas, 30.12 53 P **P 09 55 01.1 +0.8**
baz=275
M20K Styx River 30.28 47 P **P 09 55 03.5 +1.7**
M20K Styx River 30.28 47 P **P 09 55 02.1 +0.3**
baz=270
P19K Oil Pt 30.29 51 P **P 09 55 01.7 -0.1**
baz=274
IMAR Indian Mountai 30.32 38 P **P 09 55 02.5 +0.5**
OHAK Old Harbor 30.48 56 P **P 09 55 04.7 +1.3**
OHAK Old Harbor 30.48 56 P **P 09 55 03.6 +0.1**
baz=278
G21K Allakaket 30.50 37 P **P 09 55 04.3 +0.7**
G21K IAmb IAmb 09 55 05.3
comp=Z,10nm,0.8s
G21K Allakaket 30.50 37 P **P 09 55 03.2 -0.3**
baz=262,SNR=14
C21K Knifeblade Rid 30.56 32 P **P 09 55 04.3 +0.2**
baz=256,SNR=21
O20K Slope Mountain 30.57 50 P **P 09 55 05.0 +0.7**
baz=273
A21K Barrow 30.61 28 P **P 09 55 04.4 0.0**
baz=250
F21K Alatna River 30.62 36 P **P 09 55 04.9 +0.2**
F21K Alatna River 30.62 36 P **P 09 55 04.5 -0.2**
baz=260
H21K Melozitna Rive 30.66 39 P **P 09 55 05.5 +0.5**
H21K IAmb IAmb 09 55 06.8
comp=Z,13nm,0.8s
H21K Melozitna Rive 30.66 39 P **P 09 55 04.7 -0.3**
baz=264,SNR=14
E21K Killik River 30.68 34 P **P 09 55 05.3 +0.2**
E21K Killik River 30.68 34 P **P 09 55 05.4 +0.2**
baz=258
CHUM Lake Minchumin 30.72 43 P **P 09 55 05.5 0.0**
baz=267
B21K Ikpikpuk River 30.74 31 P **P 09 55 06.0 +0.5**
B21K Ikpikpuk River 30.74 31 P **P 09 55 05.6 0.0**
baz=255,SNR=24
PPLA Purkeypile 30.74 45 P **P 09 55 06.3 +0.4**
baz=269
KDAK Kodiak Island 30.79 55 P **P 09 55 06.7 +0.5**
baz=277
Q20K Shuyak Island 30.80 53 P **P 09 55 07.1 +0.8**
baz=276
CAST Castle Rocks 30.80 44 P **P 09 55 07.2 +0.9**
CAST Castle Rocks 30.80 44 P **P 09 55 06.7 +0.4**
baz=268
H11N2 WAKE ISLAND Hy 30.92 160 T T 10 28 12.2
baz=347,slow=76,SNR=447
H11N1 WAKE ISLAND Hy 30.93 160 T T 10 28 06.1
baz=347,slow=76,SNR=586
H11N3 WAKE ISLAND Hy 30.93 160 T T 10 28 13.0
baz=347,slow=76,SNR=1063
A22K Sinclair Lake 31.01 29 P **P 09 55 08.6 +0.6**
baz=253
SKT Skwentna 31.04 46 P **P 09 55 09.2 +0.8**
baz=271
HOM Homer 31.09 51 P **P 09 55 09.9 +1.1**
baz=275
F22K John River 31.17 36 P **P 09 55 09.9 +0.5**
baz=261
JOW Kunigami 31.23 234 LR LR 10 07 42.5
comp=Z,79nm,21.1s,baz=304,slow=36
D22K Ayikyak River 31.23 33 P **P 09 55 10.3 +0.3**
D22K Ayikyak River 31.23 33 P **P 09 55 10.5 +0.5**
baz=258,SNR=6.6
H22K Ishtalitna Cre 31.27 39 P **P 09 55 11.0 +0.5**
baz=265
BPAW Bear Paw Mtn. 31.32 42 P **P 09 55 11.6 +0.8**
BPAW IAmb IAmb 09 55 12.6
comp=Z,11nm,0.8s
BPAW Bear Paw Mtn. 31.32 42 P **P 09 55 11.1 +0.3**
baz=268,SNR=12
B22K Teshekpuk Lake 31.32 30 P **P 09 55 11.3 +0.6**
B22K Teshekpuk Lake 31.32 30 P **P 09 55 10.8 +0.1**
baz=255
KTH Kantishna Hill 31.33 43 P **P 09 55 11.8 +0.9**
KTH IAmb IAmb 09 55 13.1
comp=Z,18nm,1.0s
G22K Bettles 31.34 37 P **P 09 55 11.1 +0.2**
baz=263
SUA Susitna One 31.43 47 P **P 09 55 12.5 +0.6**
baz=273
MLY Manley 31.47 41 P **P 09 55 13.2 +1.0**
MLY IAmb IAmb 09 55 14.1
comp=Z,8.1nm,0.7s
MLY Manley 31.47 41 P **P 09 55 12.6 +0.4**
baz=267,SNR=11
BRSE Bradley Lake S 31.54 51 P **P 09 55 13.6 +0.8**
baz=276
M22K Willow 31.71 47 P **P 09 55 14.4 +0.2**
baz=273
COLD Coldfoot 31.89 36 P **P 09 55 15.5 -0.2**
baz=264,SNR=22
G23K Bananza Creek 31.90 37 P **P 09 55 16.6 +0.6**
G23K IAmb IAmb 09 55 17.5
comp=Z,8.2nm,0.8s
G23K Bananza Creek 31.90 37 P **P 09 55 15.9 0.0**
baz=265,SNR=12
RC01 Rabbit Creek A 31.93 48 P **P 09 55 16.6 +0.4**
baz=274
D23K Nanushuk River 31.96 33 P **P 09 55 16.4 +0.1**
baz=260
BWN Browne 31.98 42 P **P 09 55 18.1 +1.4**
H23K Yukon River 32.02 39 P **P 09 55 18.0 +1.1**
H23K IAmb IAmb 09 55 19.2
comp=Z,11nm,0.8s
H23K Yukon River 32.02 39 P **P 09 55 17.7 +0.7**
baz=267,SNR=12
H11S1 WAKE ISLAND Hy 32.06 161 T T 10 29 26.0
baz=347,slow=76,SNR=4227
I23K Minto, Yukon-K 32.06 40 P **P 09 55 18.4 +1.1**
I23K IAmb IAmb 09 55 18.7
comp=Z,7.5nm,0.7s
I23K Minto, Yukon-K 32.06 40 P **P 09 55 17.9 +0.6**
baz=268,SNR=9.3
H11S3 WAKE ISLAND Hy 32.07 161 T T 10 29 30.3
baz=347,slow=76,SNR=4596
H11S2 WAKE ISLAND Hy 32.08 161 T T 10 29 27.4
baz=347,slow=76,SNR=2447
C23K Itkillik River 32.14 31 P **P 09 55 18.3 +0.4**
C23K Itkillik River 32.14 31 P **P 09 55 18.1 +0.2**
baz=259,SNR=25
SEW Seward 32.15 50 P **P 09 55 18.6 +0.5**
baz=276
NEA2 Nenana 32.17 41 P **P 09 55 18.9 +0.7**
baz=269,SNR=35
PMR Palmer 32.19 47 P **P 09 55 19.0 +0.5**
baz=274
E23K Chandalar 32.21 35 P **P 09 55 19.0 +0.3**
baz=263,SNR=28
MCK McKinley 32.22 43 P **P 09 55 19.0 +0.3**
baz=271,SNR=11
HHC Hu-ho-hao-te 32.22 272 *e*P **P 09 55 18.8 -0.3**
HHC PP PnPn 09 56 18.3 -8.3
HHC pmax pmax
comp=Z,83nm,7.0s
HHC pmax pmax
comp=Z,8.0nm,0.5s
RND Reindeer 32.26 44 P **P 09 55 19.2 +0.1**
RND Reindeer 32.26 44 P **P 09 55 19.2 +0.1**
RND pmax pmax
comp=Z,22nm,0.9s
TOLK Toolik Lake Re 32.31 34 P **P 09 55 19.8 +0.4**
TOLK Toolik Lake Re 32.31 34 P **P 09 55 20.4 +0.9**
baz=262,SNR=17
WAT1 Susitna Watana 32.41 45 P **P 09 55 20.6 +0.2**
baz=272
SONM Songino Array 32.45 286 PcP **PcP 09 58 06.9 -0.1**
comp=Z,1.1nm,0.7s,baz=126,slow=1.8,SNR=4.9
SONM LR LR 10 08 50.2
comp=Z,70nm,18.4s,baz=170,slow=37
KNK Knik Glacier 32.53 47 P **P 09 55 21.5 +0.1**
baz=275
MDM Murphy Dome 32.53 41 P **P 09 55 22.3 +0.8**
MDM IAmb IAmb 09 55 23.8
comp=Z,14nm,0.8s
SML Sawmill 32.56 47 P **P 09 55 22.5 +0.7**
SML Sawmill 32.56 47 P **P 09 55 22.1 +0.4**
baz=274,SNR=14
PWL Port Wells 32.63 48 P **P 09 55 23.2 +0.8**
baz=276
E24K Your Creek 32.63 35 P **P 09 55 23.1 +0.8**
baz=264,SNR=31
D24K Happy Valley 32.65 33 P **P 09 55 22.8 +0.4**
baz=262,SNR=12
COLA College 32.69 41 P **P 09 55 23.9 +1.1**
COLA College 32.69 41 P **P 09 55 23.2 +0.4**
baz=270

H24K	Noodor Dome	32.71	39	P	P	09 55 23.2 +0.2
	baz=268,SNR=11					
C24K	Franklin Bluff	32.78	32	P	P	09 55 24.0 +0.5
	baz=261					
WAT6	Susitna Watana	32.79	45	P	P	09 55 24.1 +0.2
	baz=273					
NJ2	Nanjing	32.80	252	*e*P	P	09 55 24.5 +0.4
NJ2				pP	pP	09 55 36.8 -0.9
NJ2				sP	sP	09 55 42.8 -1.2
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.6s					
NJ2				pmax	pmax	
	comp=Z,750nm,6.1s					
F24K	Squaw Lake	32.81	36	P	P	09 55 23.8 -0.1
	baz=266,SNR=22					
M23K	Glacier View	32.85	47	P	P	09 55 24.8 +0.5
	baz=275					
POKR	Poker Plat Res	32.87	40	P	P	09 55 25.4 +1.0
	baz=270,SNR=14					
G24K	Hadweenzic Riv	32.91	38	P	P	09 55 25.4 +0.7
	baz=267,SNR=33					
DHY	Denali Highway	32.93	44	P	P	09 55 25.2 +0.1
	baz=273,SNR=9.6					
SCM	Sheep Creek Mo	33.03	47	P	P	09 55 26.7 +0.8
SCM	Sheep Creek Mo	33.03	47	P	P	09 55 26.4 +0.4
	baz=275,SNR=5.7					
SCM	Sheep Creek Mo	33.03	47	P	P	09 55 26.7 +0.8
SCM				pmax	pmax	
	comp=Z,16nm,0.9s					
HDA	Harding Lake	33.08	42	P	P	09 55 26.3 +0.1
HDA	Harding Lake	33.08	42	P	P	09 55 26.4 +0.1
	baz=271,SNR=24					
IL31		33.11	41	P	P	09 55 26.6 +0.3
IL31				IAmb	IAmb	09 55 27.7
	comp=Z,16nm,1.0s					
ILAR	Eielson Array	33.11	41	P	P	09 55 27.1 +0.7
ILAR	Eielson Array	33.11	41	P	P	09 55 26.6 +0.1
	comp=Z,8.5nm,0.8s,baz=250,slow=6.9,SNR=111					
ILAR				PcP	PcP	09 58 07.3 -1.1
	comp=Z,0.6nm,1.0s,baz=258,slow=2.7,SNR=2.4					
ILAR				LR	LR	10 10 31.0
	comp=Z,41nm,19.6s,baz=262,slow=39					
	comp=Z,8.5nm,0.8s					
P23K	Montague Islan	33.19	50	P	P	09 55 27.6 +0.4
	baz=278					
GLI	Glacier Island	33.23	48	P	P	09 55 28.0 +0.4
	baz=277					
G25K	Bearman Lake	33.46	37	P	P	09 55 30.4 +0.9
	baz=268					
D25K	Kavik River	33.54	33	P	P	09 55 31.0 +0.8
	baz=264,SNR=78					
M24K	Tolsona, Glenn	33.55	46	P	P	09 55 31.1 +0.6
	baz=275					
H25L	Birch Creek	33.56	38	P	P	09 55 31.5 +1.2
	baz=269,SNR=16					
K24K	Donnelly Dome	33.62	43	P	P	09 55 31.5 +0.6
	baz=273,SNR=12					
F25K	Christian Rive	33.67	36	P	P	09 55 31.8 +0.4
	baz=268,SNR=11					
PRP	Porcupine Dome	33.68	40	P	P	09 55 32.0 +0.4
	baz=271,SNR=40					
KLU	Klutina	33.73	47	P	P	09 55 31.9 -0.2
	baz=277					
J25K	Salcha River,	33.76	41	P	P	09 55 31.3 -1.0
	baz=272,SNR=30					
FYU	Fort Yukon	33.80	38	P	P	09 55 33.9 +1.5
PAX	Paxson	33.81	44	P	P	09 55 32.5 -0.1
	baz=275					
EYAK	Cordova Ski Ar	33.93	49	P	P	09 55 33.3 -0.3
	baz=278					
HARP	HAARP	34.00	45	P	P	09 55 34.3 +0.1
	baz=276					
BMAR	Burnt Mountain	34.07	36	P	P	09 55 36.3 +1.5
C26K	Camden Bay	34.11	32	P	P	09 55 34.8 -0.3
	baz=265,SNR=13					
F26K	Sheenjek River	34.25	36	P	P	09 55 36.7 +0.3
	baz=269,SNR=10					
N25K	Chitina, Valde	34.35	47	P	P	09 55 38.6 +1.2
N25K				IAmb	IAmb	09 55 39.2
	comp=Z,5.5nm,0.8s					
N25K	Chitina, Valde	34.35	47	P	P	09 55 37.7 +0.4
	baz=277					
G26K	Porcupine Rive	34.38	37	P	P	09 55 38.3 +0.9
	baz=270,SNR=32					
SCRK	Sand Creek	34.40	42	P	P	09 55 37.6 -0.2
SCRK	Sand Creek	34.40	42	P	P	09 55 37.7 -0.1
	baz=274,SNR=18					
BMRM	Bremner River	34.43	48	P	P	09 55 38.2 +0.2
	baz=278					
C27K	Jago River	34.50	32	P	P	09 55 38.8 +0.4
	baz=266,SNR=15					
J26L	Joseph Creek	34.55	42	P	P	09 55 39.2 +0.1
	baz=274,SNR=5.6					
I26K	Coal Creek Min	34.67	40	P	P	09 55 40.2 +0.2
	baz=273					
KAIM	Kayak Island	34.68	50	P	P	09 55 40.9 +0.8
	baz=280					
L26K	Log Cabin Wild	34.77	44	P	P	09 55 41.5 +0.6
	baz=276,SNR=8.0					
M26K	Nabesna, AK	35.00	45	P	P	09 55 44.5 +1.6
M26K	Nabesna, AK	35.00	45	P	P	09 55 43.8 +0.9
	baz=278,SNR=21					
CRQE	Cirque	35.19	48	P	P	09 55 45.7 +1.0
	baz=280					
E27K	Coleen River	35.22	35	P	P	09 55 46.1 +1.4
E27K				IAmb	IAmb	09 55 47.0
	comp=Z,8.4nm,0.8s					
E27K	Coleen River	35.22	35	P	P	09 55 45.5 +0.8
	baz=270,SNR=9.3					
G27K	Doyon Strip	35.22	37	P	P	09 55 46.3 +1.5
G27K	Doyon Strip	35.22	37	P	P	09 55 45.6 +0.9
	baz=272,SNR=10					
K27K	Chicken	35.23	42	P	P	09 55 46.1 +1.2
	baz=276					
H27K	Steamboat Moun	35.30	38	P	P	09 55 46.5 +1.1
	baz=273,SNR=18					
I27K	Kandik River	35.30	39	P	P	09 55 45.7 +0.2
	baz=274					
L27K	Beaver Creek,	35.45	44	P	P	09 55 47.5 +0.8
	baz=278,SNR=50					
D27M	Malcolm River	35.45	33	P	P	09 55 47.1 +0.4
	baz=270,SNR=10					
M27K	Edge Creek, AK	35.52	45	P	P	09 55 48.3 +0.8
	baz=278,SNR=11					
EGAK	Eagle	35.56	41	P	P	09 55 47.8 +0.2
	baz=276,SNR=34					
MESA	MESA	35.85	49	P	P	09 55 51.3 +0.9
	baz=282					
F28M	Old Crow	35.88	36	P	P	09 55 51.1 +0.7
	baz=273,SNR=26					
E28M	Babbage River	35.97	34	P	P	09 55 51.7 +0.6
	baz=272,SNR=6.9					
CTG	Chitna Glacier	36.00	47	P	P	09 55 52.5 +0.8
	baz=281,SNR=6.9					
CTGM	Chitina Glacie	36.01	47	P	P	09 55 52.3 +0.6
I28M	Miner Creek	36.01	40	P	P	09 55 52.2 +0.6
	baz=276,SNR=25					
LOGN	Logan Glacier	36.19	48	P	P	09 55 54.0 +0.7
LOGN				IAmb	IAmb	09 55 55.3
	comp=Z,9.4nm,1.0s					
TABL	Table Mountain	36.20	48	P	P	09 55 53.2 -0.2
D28M	Stokes Point	36.24	33	P	P	09 55 54.0 +0.6
	baz=272					
YUK3	Moose Creek	36.27	46	P	P	09 55 54.8 +0.8
	baz=280,SNR=11					
DAWY	Dawson	36.40	42	P	P	09 55 56.0 +1.1
DAWY				IAmb	IAmb	09 55 56.6
	comp=Z,6.1nm,0.8s					
DAWY	Dawson	36.40	42	P	P	09 55 55.6 +0.7
	baz=278,SNR=11					
H29M	Whitestone	36.57	38	P	P	09 55 57.3 +1.0
	baz=276,SNR=20					
E29M	Blow River	36.59	35	P	P	09 55 57.2 +0.8
	baz=274,SNR=17					
O28M	Mount Upton	36.59	48	P	P	09 55 57.3 +0.5
	baz=282,SNR=7.6					
G29M	Pine Creek	36.65	37	P	P	09 55 57.8 +0.9
	baz=276,SNR=23					
I29M	Ogilvie Camp,	36.70	40	P	P	09 55 58.3 +1.0
	baz=277,SNR=18					
PINM	Pinnacle	36.70	49	P	P	09 55 58.8 +1.2
	baz=283					
J29N	Klondike Camp	36.85	41	P	P	09 55 60.0 +1.2
	baz=279					
GUMO	Guam	37.01	199	LR	LR	10 09 22.2
	comp=Z,21nm,19.2s,baz=5.5,slow=33					
M29M	Somme Creek	37.08	45	P	P	09 56 02.4 +1.6
M29M	Somme Creek	37.08	45	P	P	09 56 02.0 +1.3
	baz=281,SNR=18					
L29M	L29M	37.11	43	P	P	09 56 02.8 +1.8
L29M	L29M	37.11	43	P	P	09 56 02.2 +1.2
	baz=280,SNR=21					
YUK4	Talbot Arm	37.21	46	P	P	09 56 02.9 +0.9
	baz=282					
PNL	Peninsula	37.22	49	P	P	09 56 02.8 +0.9
	baz=284					
EPYK	Eagle Plains	37.22	38	P	P	09 56 02.7 +0.9
	baz=277,SNR=12					
K29M	Barlow Dome	37.25	42	P	P	09 56 03.0 +0.8
	baz=280,SNR=11					
G30M	tAoh Zraii Nji	37.34	37	P	P	09 56 03.9 +1.0
	baz=277,SNR=13					
YUK6	Outpost Mounta	37.43	47	P	P	09 56 04.6 +0.7
	baz=283					
F30M	Barrier River	37.44	36	P	P	09 56 04.6 +1.0
	baz=276,SNR=10					
O29M	Mount Kennedy	37.47	48	P	P	09 56 04.9 +0.8
	baz=284					
I30M	Mount Dempster	37.52	40	P	P	09 56 05.2 +0.7
	baz=279,SNR=35					
J30M	Hart River	37.64	41	P	P	09 56 06.5 +0.9
	baz=280,SNR=5.4					
M30M	Minto, Yukon	37.81	44	P	P	09 56 08.1 +1.2
	baz=282					
N30M	Aishikik Lake	37.92	46	P	P	09 56 09.1 +1.4
	baz=283					
P29M	Windy Craggy	38.05	49	P	P	09 56 09.6 +0.8
	baz=285					
G31M	Satah River	38.11	37	P	P	09 56 10.3 +1.0
G31M	Satah River	38.11	37	P	P	09 56 10.2 +1.0
	baz=279,SNR=18					
INK	Inuvik	38.21	34	P	P	09 56 11.1 +1.1
INK				IAmb	IAmb	09 56 11.8
	comp=Z,9.9nm,0.8s					
INK	Inuvik	38.21	34	P	P	09 56 09.9 -0.1
	baz=278,SNR=11					
INK	Inuvik	38.21	34	P	P	09 56 11.1 +1.1
INK				pmax	pmax	
	comp=Z,10.0nm,0.8s					
F31M	Tsiigehtchic	38.24	36	P	P	09 56 11.0 +0.7
	baz=278,SNR=12					
P30M	Million Dollar	38.30	48	P	P	09 56 12.1 +1.1
	baz=285					
N31M	Braeburn, Yuko	38.52	46	P	P	09 56 13.7 +0.9
	baz=284,SNR=6.3					
O30N	Mendenhall	38.55	47	P	P	09 56 13.1 0.0
	baz=285,SNR=10					
PLBC	Pleasant Camp	38.77	49	P	P	09 56 15.1 +0.3
	baz=286					
M31M	Drury Creek, Y	38.99	44	P	P	09 56 17.5 +0.8
	baz=284,SNR=9.4					
WHY	Whitehorse	39.15	47	P	P	09 56 19.6 +1.4
WHY	Whitehorse	39.15	47	P	P	09 56 19.1 +0.8
	baz=286					
S31K	Pelican	39.27	51	P	P	09 56 19.8 +0.8
	baz=288					
SKAG	Skagway	39.27	49	P	P	09 56 20.1 +1.0
	baz=287					
FARO	Faro, Yukon	39.45	44	P	P	09 56 21.8 +1.2
FARO	Faro, Yukon	39.45	44	P	P	09 56 21.2 +0.6
	baz=285,SNR=5.9					
N32M	Quiet Lake	39.86	46	P	P	09 56 24.8 +0.7
	baz=287					
P32M	Atlin	40.02	48	P	P	09 56 26.7 +1.4
	baz=288					
SIT	Sitka	40.02	52	P	P	09 56 26.5 +1.2
	baz=290					
R32K	Eaglecrest	40.03	50	P	P	09 56 26.2 +0.8
	baz=289					
P33M	Teslin, Yukon	40.26	47	P	P	09 56 28.3 +0.9
P33M	Teslin, Yukon	40.26	47	P	P	09 56 28.1 +0.7
	baz=288,SNR=6.6					
A36M	Sachs Harbour	40.45	28	P	P	09 56 29.0 +0.3
	baz=280					
Q32M	Nakina River	40.92	49	P	P	09 56 33.3 +0.3
	baz=290					
C36M	Paulatuk	41.39	32	P	P	09 56 37.3 +0.9
C36M	Paulatuk	41.39	32	P	P	09 56 35.7 -0.8
	baz=284,SNR=7.5					
R33M	Jennings River	41.41	48	P	P	09 56 38.7 +1.8
R33M	Jennings River	41.41	48	P	P	09 56 36.8 -0.2
	baz=290,SNR=6.6					
U33K	Whale Pass	41.50	53	P	P	09 56 38.0 +0.5
	baz=292					
CRAG	Craig	41.74	54	P	P	09 56 39.8 +0.3
	baz=293					
S34M	Telegraph Cree	41.85	50	P	P	09 56 41.4 +1.1
	baz=292					
TGTN	Hyland Airport	41.96	44	P	P	09 56 42.0 +0.7
	baz=290					
WTLY	Watson Lake, Y	42.20	46	P	P	09 56 44.1 +0.9
	baz=291					
DLBC	Dease Lake	42.20	49	P	P	09 56 44.2 +0.8
	baz=292					
DLBC	Dease Lake	42.20	49	LR	LR	10 14 48.5
	comp=Z,49nm,18.7s,baz=280,slow=37					
V35K	Ketchikan	42.59	54	P	P	09 56 47.4 +1.1
	baz=294					
T35M	Bob Quinn	42.64	51	P	P	09 56 47.6 +0.8
	baz=293					
ZALV	Zalesovo Beam	42.72	304	P	P	09 56 45.9 -1.5
	comp=Z,0.7nm,0.4s,baz=60,slow=8.8,SNR=4.2					
ZALV				PcP	PcP	09 58 38.9 +0.8
	comp=Z,1.1nm,0.8s,baz=35,slow=3.5,SNR=3.7					
	comp=Z,0.7nm,0.4s					
WRGLY	Wrigley	43.48	40	P	P	09 56 53.7 +0.3
	baz=291					
LIRD	Liard River Hi	43.73	46	P	P	09 56 56.3 +0.8
	baz=293					
GRNB	Grenville Isla	44.08	55	P	P	09 57 00.5 +2.1
GRNB				IAmb	IAmb	09 57 02.5
	comp=Z,14nm,1.0s					
GYA	Guiyang	44.33	257	P	P	09 57 02.8 +1.9
GYA				S	S	10 03 34.8 +3.5
GYA				pmax	pmax	
	comp=Z,11nm,0.5s					
GYA				pmax	pmax	
	comp=Z,110nm,5.4s					
TOAD	Toad River Com	44.36	47	P	P	09 57 01.6 +1.0
	baz=294,SNR=8.3					
BBB	Bella Bella	45.83	56	LR	LR	10 14 00.7
	comp=Z,31nm,20.0s,baz=281,slow=33					
WMQ	Urumqi	45.88	290	*e*P	P	09 57 13.5 +0.5
WMQ				pmax	pmax	
	comp=Z,26nm,0.7s					
EUNU	Eureka	46.00	12	P	P	09 57 14.0 +0.5
PZH	PanZhiHua	47.45	262	P	P	09 57 26.0 +0.5
PZH				pmax	pmax	
	comp=Z,20nm,0.8s					
PZH				pmax	pmax	
	comp=Z,160nm,9.0s					
YKA	Yellowknife Ar	47.48	39	P	P	09 57 25.2 +0.1
	comp=Z,7.0nm,1.1s,baz=303,slow=8.1,SNR=5.6					
YKA				LR	LR	10 18 30.7
	comp=Z,46nm,20.4s,baz=340,slow=37					
	comp=Z,7.0nm,1.1s					
MK31	Makanchi Array	47.53	297	P	P	09 57 25.3 -0.5
MK31	Makanchi Array	47.53	297	P	P	09 57 25.3 -0.5
MK31				pmax	pmax	
	comp=Z,1.0nm,0.9s					
MKAR	Makanchi Array	47.53	297	P	P	09 57 24.8 -1.0
MKAR	Makanchi Array	47.53	297	P	P	09 57 25.0 -0.8
	comp=Z,1.1nm,0.6s,baz=62,slow=7.7,SNR=13					
MKAR				LR	LR	10 18 41.7
	comp=Z,98nm,18.9s,baz=98,slow=38					
	comp=Z,1.1nm,0.6s					
MKAR	Makanchi Array	47.53	297	P	P	09 57 25.0 -0.8
RES	Resolute Bay	47.55	20	LR	LR	10 19 45.8
	comp=Z,36nm,19.3s,baz=356,slow=39					
KURK	Kurchatov	47.58	303	P	P	09 57 25.3 -0.7
KURK	Kurchatov	47.58	303	*e*P	P	09 57 25.2 -0.8
KURK				pmax	pmax	
	comp=Z,5.0nm,1.3s					
KURK				MLR	MLR	
	comp=Z,60nm,19.0s					
KURBB	Kurchatov Arra	47.68	303	P	P	09 57 26.1 -0.7
	comp=Z,2.1nm,0.6s,baz=64,slow=7.7,SNR=15					
KURBB				PcP	PcP	09 58 55.3 0.0
	comp=Z,1.3nm,0.8s,baz=70,slow=3.3,SNR=7.5					
	comp=Z,2.1nm,0.6s					
BRLDA	Berland Lookou	50.44	50	P	P	09 57 48.5 +0.6
NLWA	Neilton Lookou	50.67	60	P	P	09 57 50.7 +1.0
NLWA				IAmb	IAmb	09 57 52.0
	comp=Z,7.9nm,0.9s					
BVAR	Borovoye Array	50.72	309	P	P	09 57 49.4 -0.6
	comp=Z,1.4nm,0.3s,baz=52,slow=7.4,SNR=7.6					
	comp=Z,1.4nm,0.3s					
NEEM	North Greenlan	52.18	7	*i*P	P	09 57 58.3 -2.6
NEEM				IAmb	IAmb	09 58 01.6
	comp=Z,8.9nm,0.7s					
H04A	Detroit Lake	53.18	62	P	P	09 58 09.5 +1.0
H04A				IAmb	IAmb	09 58 10.5
	comp=Z,7.4nm,0.9s					
I04A	Tendick Farm,	53.58	63	P	P	09 58 12.5 +1.1
I04A				IAmb	IAmb	09 58 13.2
	comp=Z,6.1nm,0.8s					
NEW	Newport	53.88	56	P	P	09 58 14.2 +0.6
	baz=307					
NEW	Newport	53.88	56	LR	LR	10 22 13.7
	comp=Z,26nm,18.4s,baz=302,slow=37					
ARU	Arti	54.38	317	*c i*P	P	09 58 15.2 -1.8
ARU						09 59 18.5
ARU						10 00 15.6
ARU				S	S	10 05 51.5 +0.6
ARU				SS	SS	10 09 29.8 -3.1
ARU				pmax	pmax	
	comp=Z,3.0nm,0.7s					
PINE	Pine Mountain	54.44	62	P	P	09 58 19.9 +2.0
PINE				IAmb	IAmb	09 58 20.6
	comp=Z,5.0nm,0.9s					
J05D	Fort Rock, OR	54.57	63	P	P	09 58 20.8 +2.0
YBH	Yreka Blue Hor	54.66	65	LR	LR	10 21 43.7
	comp=Z,18nm,18.7s,baz=280,slow=36					
CHTO	Chiang Mai	54.75	257	P	P	09 58 21.9 +1.7
CHTO				pmax	pmax	
	comp=Z,7.0nm,0.7s					
CMAR	Chiang Mai Arr	55.02	257	P	P	09 58 23.8 +1.7
	comp=Z,4.4nm,0.8s,baz=33,slow=6.9,SNR=20					
	comp=Z,4.4nm,0.8s					
BMO	Blue Mountains	55.85	59	P	P	09 58 29.1 +1.2
BMO	Blue Mountains	55.85	59	P	P	09 58 29.1 +1.2
BMO				pmax	pmax	
	comp=Z,7.0nm,1.5s					
ARCES	ARCESS Array B	55.92	341	P	P	09 58 27.1 -0.7
	comp=Z,0.4nm,0.4s,baz=30,slow=7.8,SNR=1.8					
ARCES				PcP	PcP	09 59 26.0 +0.1
	comp=Z,0.8nm,0.6s,baz=61,slow=4.6,SNR=2.4					
ARCES				LR	LR	10 24 38.4
	comp=Z,40nm,21.9s,baz=80,slow=38					
	comp=Z,0.4nm,0.4s					
J08A	Circle Bar Ran	56.12	61	P	P	09 58 31.5 +1.7
J08A				IAmb	IAmb	09 58 32.3
	comp=Z,13nm,1.3s					
MSO	Missoula	56.47	55	P	P	09 58 33.4 +1.1
	baz=309					
BPMT	Black Pine Rid	56.98	56	P	P	09 58 36.9 +0.8
LYMT	Lyon Mountain	57.26	54	P	P	09 58 39.4 +1.3
FFC	Flin Flon	57.30	42	P	P	09 58 39.1 +1.2
FFC				pmax	pmax	
	comp=Z,5.0nm,0.9s					
SUMG	Summit	57.78	5	P	P	09 58 41.2 -0.3
SUMG	Summit	57.78	5	P	P	09 58 41.2 -0.3
SUMG				pmax	pmax	
	comp=Z,14nm,0.9s					
SUMG	Summit	57.78	5	*i*P	P	09 58 41.0 -0.5
SUMG				IAmb	IAmb	09 58 42.7
	comp=Z,9.8nm,0.8s					
FCC	Fort Churchill	57.82	35	P	P	09 58 41.7 +0.3
FCC	Fort Churchill	57.82	35	P	P	09 58 41.7 +0.3
FCC				pmax	pmax	
	comp=Z,15nm,1.1s					
EGMT	Eagleton	57.91	52	P	P	09 58 43.0 +0.6
	baz=310					
ABKAR	Akbulak array	58.24	310	P	P	09 58 43.9 -0.7
ABKAR	Akbulak array	58.24	310	P	P	09 58 43.8 -0.7
HLID	Hailey	58.28	59	P	P	09 58 46.0 +0.9
	baz=310,SNR=8.0					
YERR	Yerington	58.45	66	P	P	09 58 48.1 +1.7
BOZ	Bozeman (W)	58.49	55	P	P	09 58 47.4 +0.8
	baz=310,SNR=13					
KVN	Kaiserville	59.08	65	P	P	09 58 52.2 +1.5
KVN				IAmb	IAmb	09 58 53.0
	comp=Z,6.0nm,0.7s					
KVN	Kaiserville	59.08	65	P	P	09 58 52.3 +1.5
KVN				pmax	pmax	
	comp=Z,6.0nm,0.7s					
RYN	Ryan	59.10	65	P	P	09 58 52.2 +1.3
RYN				IAmb	IAmb	09 58 53.0
	comp=Z,6.3nm,0.8s					
NVAR	Mina Array Bea	59.36	66	P	P	09 58 54.1 +1.3
	comp=Z,5.7nm,0.7s,baz=296,slow=7.4,SNR=50					
	comp=Z,5.7nm,0.7s					
MLAC	Mammoth, Mammo	59.57	67	P	P	09 58 55.4 +1.1
	baz=312					
H17A	Grant Village	59.84	56	P	P	09 58 57.2 +1.1
	baz=312					
RLMT	Red Lodge	60.06	55	P	P	09 58 59.4 +1.9
RLMT	Red Lodge	60.06	55	P	P	09 58 57.5 0.0
	baz=312,SNR=8.1					
FXWY	Fox Creek	60.09	57	P	P	09 58 59.2 +1.4
DGMT	Dagmar	60.42	49	P	P	09 58 59.2 -0.5
	baz=313					
LAO	LASA Array	60.60	52	P	P	09 59 01.0 0.0
	baz=312,SNR=10.0					
VES	Vestal, Richgr	60.60	68	P	P	09 59 01.5 +0.4
	baz=312					
PKM	Mcpherson Peak	60.80	69	P	P	09 59 03.7 +1.0
	baz=312					
CWC	Cottonwood Cre	60.81	67	P	P	09 59 03.8 +1.1
	baz=312					
GRAC	Grapevine Rang	60.87	66	P	P	09 59 04.1 +1.2
	baz=312					
R11B	Troy Canyon, C	61.02	64	P	P	09 59 04.6 +0.5
R11B				IAmb	IAmb	09 59 06.0
	comp=Z,4.2nm,0.9s					
R11B	Troy Canyon, C	61.02	64	P	P	09 59 04.8 +0.7
	baz=312,SNR=12					
ISA	Isabella, Lake	61.09	68	P	P	09 59 05.0 +0.6
	baz=312					
ICESG	Greenland Ices	61.14	6	*i*P	P	09 59 04.7 +0.1
ICESG				IAmb	IAmb	09 59 11.3
	comp=Z,7.2nm,1.2s					
SBC	Santa Barbara	61.16	70	P	P	09 59 05.3 +0.5
	baz=313					
DUG	Dugway, Tooele	61.39	61	P	P	09 59 07.6 +1.1
	baz=312,SNR=8.8					
MPMC	Manual Ptcspec	61.42	67	P	P	09 59 07.7 +0.8
	baz=313,SNR=5.3					
BW06	Boulder Array	61.48	57	P	P	09 59 07.7 +0.5
	baz=313,SNR=9.3					
PDAR	Pinedale Array	61.48	57	P	P	09 59 08.2 +1.0
	comp=Z,5.0nm,0.9s,baz=318,slow=2.2,SNR=38					
	comp=Z,5.0nm,0.9s					
FURC	Furnace Creek,	61.52	66	P	P	09 59 08.1 +0.9
	baz=313,SNR=12					
TPNV	Topopah Spring	61.56	66	P	P	09 59 08.9 +1.2
	baz=313,SNR=8.1					
LRMC	Laurel Mtn Rad	61.69	68	P	P	09 59 09.4 +0.8
	baz=313					
FRB	Frobisher Bay	61.75	21	LR	LR	10 28 26.0
	comp=Z,55nm,19.9s,baz=22,slow=38					
EDW2	Edwards Air Fo	61.91	68	P	P	09 59 10.6 +0.6
	baz=313					
NLU	North Lily Min	61.97	61	P	P	09 59 11.9 +1.4
NLU				IAmb	IAmb	09 59 12.7
	comp=Z,5.0nm,0.8s					
SFJD	Kangerlussuaq	62.05	12	LR	LR	10 28 09.4
	comp=Z,22nm,18.5s,baz=353,slow=38					
SNCC	San Nicolas Is	62.08	71	P	P	09 59 11.6 +0.5
	baz=313					
DECC	Green Verdugo	62.13	69	P	P	09 59 12.5 +1.1
	baz=313					
MPU	Maple Canyon	62.18	60	P	P	09 59 12.9 +1.1
MPU				IAmb	IAmb	09 59 14.1
	comp=Z,5.1nm,0.7s					
SHOC	Shoshone, Teco	62.26	66	P	P	09 59 13.0 +0.8
	baz=313					
GSC	Goldstone, Bar	62.34	67	P	P	09 59 13.9 +1.0
	baz=313,SNR=5.1					
FINES	FINESS Array B	62.41	336	P	P	09 59 11.6 -1.2
	comp=Z,2.6nm,0.7s,baz=27,slow=9.5,SNR=11					
FINES				LR	LR	10 29 42.8
	comp=Z,26nm,19.5s,baz=34,slow=39					
	comp=Z,2.6nm,0.7s					
BFSC	Mount Baldy Ra	62.55	69	P	P	09 59 14.9 +0.5
	baz=313					
CIS	Catalina Islan	62.65	70	P	P	09 59 15.6 +0.7
	baz=313					
TUQ	Turquoise Moun	62.78	67	P	P	09 59 17.0 +1.1
	baz=313

baz=314
HEC Hector,Ludlow 62.95 67 P P 09 59 18.3 +1.3
baz=313
BBRC Big Bear Solar 62.98 68 P P 09 59 18.5 +1.2
baz=313
P17A Butcher Ranch, 63.05 60 P P 09 59 19.3 +1.6
P17A IAmb IAmb 09 59 19.5
comp=Z,4.4nm,0.8s
MDND Maddock 63.08 47 P P 09 59 18.6 +1.1
baz=315,SNR=5.8
DY2G Dye2 63.08 10 *i* P **P 09 59 15.2 -2.3**
DY2G IAmb IAmb 09 59 17.6
comp=Z,7.3nm,0.7s
ULM Lac du Bonnet 63.09 43 P P 09 59 17.4 -0.1
ULM IAmb IAmb 09 59 18.8
comp=Z,4.5nm,0.8s
ULM Lac du Bonnet 63.09 43 P P 09 59 17.6 +0.1
comp=Z,3.5nm,0.7s,baz=319,slow=7.7,SNR=11
ULM LR LR 10 30 06.4
comp=Z,27nm,18.0s,baz=342,slow=39
comp=Z,3.5nm,0.7s
ULM Lac du Bonnet 63.09 43 P P 09 59 17.4 -0.1
ULM pmax pmax
comp=Z,5.0nm,0.8s
K22A Casper 63.19 55 P P 09 59 19.4 +0.8
baz=314
MURC Murrieta 63.26 69 P P 09 59 20.0 +1.0
baz=314
GMRC Granite Mounta 63.38 67 P P 09 59 20.8 +1.0
baz=314,SNR=7.4
RSSD Black Hills 63.48 52 P P 09 59 21.1 +0.5
baz=314
PFO Pinyon Flats O 63.70 68 P P 09 59 23.0 +1.0
baz=314
PFO Pinyon Flats O 63.70 68 LR LR 10 26 15.5
comp=Z,27nm,18.9s,baz=263,slow=35
TPFO Pinon Flats 63.71 68 P P 09 59 22.7 +0.6
baz=314
BELC Belle Mtn. Jos 63.71 68 P P 09 59 23.0 +0.9
baz=314
109C Camp Elliot, M 63.80 69 P P 09 59 23.3 +0.7
baz=314
O20A White River Ci 63.99 58 P P 09 59 24.5 +0.6
O20A IAmb IAmb 09 59 25.7
comp=Z,10.0nm,1.2s
O20A White River Ci 63.99 58 P P 09 59 24.7 +0.7
baz=314
HMU Henry Mountain 64.10 61 P P 09 59 25.7 +1.0
IRM Iron Mountain 64.12 67 P P 09 59 25.8 +1.2
baz=314
MONP2 Monument Peak 64.22 69 P P 09 59 26.4 +0.9
baz=314
W13A Hualapai Mount 64.22 66 P P 09 59 26.0 +0.4
BC3 Big Chuckawall 64.28 68 P P 09 59 26.6 +0.9
baz=314
AGMN Agassiz Nation 64.51 45 P P 09 59 27.3 +0.4
baz=317,SNR=5.4
IKP In-Ko-Pah, Jac 64.58 69 P P 09 59 28.5 +0.8
baz=314
PDMCI Parker Dam,Lak 64.62 66 P P 09 59 29.0 +1.2
baz=314
ISOG Isortoq, Green 64.68 7 *i* P **P 09 59 26.5 -1.2**
ISOG IAmb IAmb 09 59 47.3
comp=Z,9.1nm,1.0s
ANGG Ammassalik, Gr 64.72 6 *i* P **P 09 59 28.3 +0.4**
ANGG IAmb IAmb 09 59 32.3
comp=Z,18nm,0.5s
N23A Red Feather La 64.72 56 P P 09 59 29.0 +0.3
baz=315,SNR=5.9
GLA Glamis 65.08 68 P P 09 59 31.3 +0.4
baz=314
SMCO Snowmass 65.36 58 P P 09 59 34.2 +1.1
SMCO IAmb IAmb 09 59 35.0
comp=Z,4.8nm,0.8s
WUAZ Wupatki 65.41 64 P P 09 59 34.1 +0.9
baz=315
Y14A Wickenburg 65.55 66 P P 09 59 35.0 +1.1
ISCO Idaho Springs 65.67 57 P P 09 59 35.2 +0.2
baz=315
SUSD Miller 65.83 49 P P 09 59 35.7 +0.1
baz=317
MVCO Mesa Verde 65.89 61 P P 09 59 36.9 +0.6
MVCO IAmb IAmb 09 59 38.2
comp=Z,5.7nm,0.8s
MVCO Mesa Verde 65.89 61 P P 09 59 37.0 +0.6
baz=315,SNR=6.6
F33A 5 Mile Ranch, 66.10 47 P P 09 59 37.7 +0.5
F33A IAmb IAmb 09 59 38.6
comp=Z,9.4nm,0.9s
NC204 NORSAR Array S 66.13 343 P P 09 59 36.6 -0.6
X16A Lo Mia Camp, P 66.14 65 P P 09 59 39.8 +1.8
X16A IAmb IAmb 09 59 40.3
comp=Z,5.5nm,0.9s
NB2 NORSAR Subarra 66.26 342 P P 09 59 37.1 -0.9
comp=Z,0.6nm,0.5s,baz=24,slow=6.5
NOA NORSAR Array B 66.26 342 P **P 09 59 37.2 -0.9**
comp=Z,0.8nm,0.6s,baz=26,slow=6.4,SNR=6.7
NOA LR LR 10 33 00.1
comp=Z,28nm,19.6s,baz=15,slow=40
comp=Z,0.8nm,0.6s
S22A 4UR Ranch, Cre 66.45 59 P P 09 59 40.7 +0.7
baz=315,SNR=9.7
Q24A Divide 66.52 57 P P 09 59 40.6 +0.1
baz=316
HFS Hagfors 66.57 341 P P 09 59 39.0 -1.0
comp=Z,1.1nm,0.3s,baz=38,slow=2.6,SNR=3.2
HFS LR LR 10 31 06.2
comp=Z,28nm,20.3s,baz=64,slow=38
comp=Z,1.1nm,0.3s
HFS Hagfors 66.57 341 P P 09 59 39.0 -1.0
W18A Petrified Fore 66.65 63 P P 09 59 41.5 +0.4
baz=315
EYMN Ely 66.73 43 P P 09 59 41.4 +0.1
baz=319,SNR=7.3
OGNE Ogallala 66.78 54 P P 09 59 41.8 +0.1
baz=316
214A Organ Pipe Nat 67.06 67 P P 09 59 44.9 +1.3
baz=315
SDCO Great Sand Dun 67.19 58 P P 09 59 46.2 +1.5
SDCO Great Sand Dun 67.19 58 P P 09 59 45.4 +0.7
baz=316,SNR=5.4
ECSD EROS Data Cent 67.50 49 P P 09 59 46.5 +0.3
ECSD EROS Data Cent 67.50 49 P P 09 59 46.5 +0.3
baz=318,SNR=14
TUC Tucson 68.02 66 P P 09 59 51.3 +1.5
baz=316
TUC Tucson 68.02 66 P P 09 59 50.7 +1.0
TUC pmax pmax
comp=Z,3.0nm,1.0s
SPMN Marine on St. 68.19 45 P P 09 59 51.3 +0.7
baz=319
T25A Trinidad 68.23 58 P P 09 59 52.5 +1.3
baz=316,SNR=5.4
BGNE Belgrade 68.44 51 P P 09 59 52.4 +0.2
baz=318
ANMO Albuquerque 68.66 61 P P 09 59 54.5 +0.7
baz=316
ANMO Albuquerque 68.66 61 LR LR 10 28 46.9
comp=Z,25nm,18.9s,baz=298,slow=35
ANMO Albuquerque 68.66 61 P P 09 59 54.0 +0.2
ANMO pmax pmax
comp=Z,3.0nm,0.9s
I37A Lemond, Waseca 68.83 46 P P 09 59 55.3 +0.8
CBKS Cedar Bluff 69.54 54 P P 09 59 59.5 +0.5
baz=318
121A Cookes Peak, D 69.63 64 P P 10 00 00.5 +0.7
baz=317
SCHQ Schefferville 69.95 25 P P 10 00 01.0 -0.3
comp=Z,4.0nm,0.6s,baz=335,slow=5.0,SNR=13
comp=Z,4.0nm,0.6s
I40A Norwalk 70.22 45 P P 10 00 02.5 -0.6
I40A IAmb IAmb 10 00 03.9
comp=Z,13nm,1.1s
KIV Kislovodsk 70.32 315 *eP* **P 10 00 04.8 +1.0**
KIV pmax pmax
comp=Z,4.0nm,1.1s
AKASG Malin Array Be 70.37 327 P P 10 00 02.3 -1.6
comp=Z,1.2nm,0.4s,baz=35,slow=6.1,SNR=3.4
comp=Z,1.2nm,0.4s
KBZ Khabaz 70.40 315 P P 10 00 02.9 -1.2
comp=Z,1.6nm,0.4s,baz=34,slow=3.9,SNR=4.5
comp=Z,1.6nm,0.4s
SCIA State Center 70.52 48 P P 10 00 05.0 0.0
SCIA State Center 70.52 48 P P 10 00 05.3 +0.4
baz=320
KSU1 Kansas State U 70.95 52 P P 10 00 07.3 -0.3
baz=319

H43A Windswept, Lux 71.06 43 P P 10 00 07.7 -0.4
JFWS Jewell Farm 71.15 45 P P 10 00 08.9 +0.2
baz=321
AMTX Amarillo 71.39 58 P P 10 00 10.4 0.0
baz=318
MSTX Muleshoe 71.45 59 P P 10 00 11.2 +0.4
baz=318
MNTX Cornudas Mount 71.63 63 P P 10 00 12.7 +0.9
baz=318,SNR=7.2
WRA Warramunga Arr 71.82 202 P P 10 00 13.4 +0.6
comp=Z,0.9nm,0.9s,baz=19,slow=6.5,SNR=5.2
comp=Z,0.9nm,0.9s
SOC Sochi 71.96 317 *eP* **P 10 00 10.9 -2.7**
SOC *e* 10 02 52.4
SOC *e*PPP PPP 10 04 37.8
SOC *e*S **S 10 09 27.8 -2.7**
SOC *e*SS **SS 10 14 00.0 -6.9**
SOC pmax pmax
comp=Z,11nm,0.8s
P38A Dawn 72.11 50 P P 10 00 14.1 -0.4
P38A IAmb IAmb 10 00 15.4
comp=Z,10nm,0.8s
GLMI Grayling 72.15 41 P P 10 00 14.7 -0.1
baz=324
VLDQ Val d'Or 72.31 35 P P 10 00 14.2 -1.4
L44A Lake County Fo 72.80 44 P P 10 00 18.6 0.0
baz=322
WMOK Wichita Mounta 73.08 56 P P 10 00 20.9 +0.5
WMOK Wichita Mounta 73.08 56 P P 10 00 20.5 +0.1
baz=319,SNR=9.0
WMOK Wichita Mounta 73.08 56 P P 10 00 21.0 +0.5
WMOK pmax pmax
comp=Z,6.0nm,1.1s
HDIL Hopedale 73.43 46 P P 10 00 22.1 -0.3
HDIL Hopedale 73.43 46 P P 10 00 22.3 -0.1
baz=322,SNR=7.5
TUL3 Leonard 73.79 54 P P 10 00 24.3 -0.2
baz=320
EKA Eskdalemuir Ar 74.11 348 P P 10 00 26.0 -0.1
comp=Z,1.7nm,0.3s,baz=19,slow=5.0,SNR=20
comp=Z,1.7nm,0.3s
EKA Eskdalemuir Ar 74.11 348 P P 10 00 26.0 -0.1
ABTX Abilene, Hawle 74.20 58 P P 10 00 27.4 +0.4
baz=319
BUR08 Bucovina Ar. S 74.37 328 P P 10 00 26.8 -1.1
TXAR Lajitas Array 74.37 63 P P 10 00 29.2 +1.0
comp=Z,6.5nm,0.7s,baz=299,slow=4.4,SNR=103
comp=Z,6.5nm,0.7s
BURAR Bucovina Array 74.39 328 P P 10 00 27.4 -0.6
CCM Cathedral Cave 74.45 49 P P 10 00 28.4 0.0
baz=322
AAM Ann Arbor 74.59 42 P P 10 00 29.3 +0.1
baz=324
SFIN Lafayette 74.60 45 P P 10 00 29.4 +0.2
baz=323
CLL Collm 74.77 337 *i* P **P 10 00 29.4 -0.6**
CLL *i* x x 10 00 58.1
CLL Collm 74.77 337 *i* P **P 10 00 29.4 -0.6**
CLL *i* 10 00 58.1
P46A Rosedale 75.15 46 P P 10 00 32.3 -0.1
LMQ La Malbaie 75.29 31 P P 10 00 33.1 0.0
LMQ IAmb IAmb 10 00 49.8
comp=Z,9.0nm,1.0s
ASAR Alice Springs 75.50 201 P P 10 00 35.8 +1.3
comp=Z,0.8nm,1.0s,baz=10,slow=5.4,SNR=8.2
comp=Z,0.8nm,1.0s
O48B Farmland 75.58 44 P P 10 00 35.4 +0.5
baz=324
VRAC Vranov 75.62 334 LR LR 10 37 25.9
comp=Z,45nm,18.6s,baz=37,slow=38
VYHS Vyhne 75.69 332 *eP* **P 10 00 36.1 +0.8**
VYHS Vyhne 75.69 332 *eP* **P 10 00 36.1 +0.8**
FCAR Ozark Folk Cen 75.70 51 P P 10 00 35.5 0.0
FCAR IAmb IAmb 10 00 36.0
comp=Z,6.5nm,0.8s
JCT Junction City 75.72 60 P P 10 00 36.5 +0.6
baz=320
PBMO Poplar Bluff 75.85 49 P P 10 00 36.2 -0.3
WHTX Lake Whitney, 75.88 57 P P 10 00 36.9 +0.2
baz=320
MLR Muntele Rosu 75.95 326 P P 10 00 36.4 -0.7
MLR Muntele Rosu 75.95 326 LR LR 10 36 12.5
comp=Z,40nm,19.1s,baz=32,slow=37
MLR Muntele Rosu 75.95 326 P P 10 00 36.4 -0.7
MLR pmax pmax
comp=Z,4.0nm,1.0s
MIAR Mount Ida 75.99 53 P P 10 00 37.3 0.0
MIAR IAmb IAmb 10 00 38.6
comp=Z,11nm,1.1s
MIAR Mount Ida 75.99 53 P P 10 00 37.3 0.0
baz=321,SNR=7.5
MIAR Mount Ida 75.99 53 P P 10 00 37.3 0.0
MIAR pmax pmax
comp=Z,11nm,1.1s
ERPA Erie 76.30 40 P P 10 00 38.2 -0.7
baz=326
LONY Lake Ozonia 76.32 35 P P 10 00 38.8 -0.2
baz=329
P49A Miami Univ. Ec 76.37 44 P P 10 00 39.1 -0.3
baz=324
ACSO Alum Creek Sta 76.57 43 P P 10 00 40.4 -0.1
baz=325
M53A WI Miller and 76.58 40 P P 10 00 40.1 -0.4
baz=326
KHC Kasperske Hory 76.61 336 *eP* **P 10 00 41.5 +0.9**
KHC *ex* x 10 00 46.0
KHC Kasperske Hory 76.61 336 *ceP* **P 10 00 41.6 +0.9**
KHC pmax pmax
comp=Z,8.0nm,0.8s
WCI Wyandotte Cave 76.69 46 P P 10 00 40.8 -0.4
baz=324
GERES GERESS Array B 76.84 336 P P 10 00 41.8 -0.1
comp=Z,0.6nm,0.5s,baz=31,slow=6.2,SNR=5.2
comp=Z,0.6nm,0.5s
CONA Conrad Observa 77.07 334 *eP* **P 10 00 43.8 +0.5**
comp=Z,1.5nm,0.6s
O53A New Philadelph 77.33 41 P P 10 00 44.2 -0.5
O53A IAmb IAmb 10 00 45.7
comp=Z,8.4nm,0.8s
O53A New Philadelph 77.33 41 P P 10 00 43.7 -1.0
baz=326
P52A Corning 77.44 42 P P 10 00 43.8 -1.6
baz=326
NATX Nacogdoches 77.58 55 P P 10 00 46.5 +0.2
baz=321
833A Chaparral WMA, 77.59 61 P P 10 00 46.9 +0.5
baz=320
MOA Molln 77.59 335 *i* P **P 10 00 45.8 -0.3**
comp=Z,1.2nm,0.6s
H62A Milan 77.60 33 P P 10 00 46.4 +0.3
LBNH Lisbon 77.61 33 P P 10 00 45.9 -0.3
baz=330
PKME Peaks-Kenny Pk 77.63 31 P P 10 00 45.5 -0.8
baz=332
WVT Waverly 77.64 48 P P 10 00 46.8 +0.2
baz=324
BRTR Keskin Array B 77.75 318 P P 10 00 46.6 -0.7
comp=Z,1.3nm,0.7s,baz=35,slow=4.5,SNR=6.7
comp=Z,1.3nm,0.7s
ARSA Arzberg 77.78 334 *i* P **P 10 00 47.8 +0.6**
comp=Z,0.7nm,0.3s
BINY Binghamton 77.85 37 P P 10 00 47.4 -0.3
baz=328
OXF Oxford 78.15 50 P P 10 00 49.7 +0.3
baz=323
T50A Nancy 78.35 46 P P 10 00 50.6 +0.1
T50A IAmb IAmb 10 00 51.6
comp=Z,7.4nm,0.7s
CLTN Cedars of Leba 78.39 47 P P 10 00 50.9 +0.2
CLTN IAmb IAmb 10 00 52.1
comp=Z,6.7nm,0.8s
SSPA Standing Stone 78.41 39 P P 10 00 50.4 -0.3
baz=328
LESA Schwarzleotal 78.42 336 *eP* **P 10 00 51.4 +0.6**
comp=Z,1.6nm,0.4s
SOKA Soboth 78.44 334 *eP* **P 10 00 51.2 +0.3**
comp=Z,1.3nm,0.4s
PERS Pernice 78.46 334 *i* P **P 10 00 51.2 +0.3**
GROS Grobnik 78.51 333 *i* P **P 10 00 51.2 -0.1**
KBA Koelnbreinsper 78.55 335 *i* P **P 10 00 52.0 +0.4**
comp=Z,9.2nm,0.6s
OBKA Obir 78.74 334 *eP* **P 10 00 52.9 +0.4**
comp=Z,3.9nm,0.5s
WATA Walderalm 78.79 336 *i* P **P 10 00 53.5 +0.5**
comp=Z,1.1nm,0.3s
RETA Reutte 78.86 337 *eP* **P 10 00 53.6 +0.4**
comp=Z,0.7nm,0.4s

MYKA Terra Mystica 78.88 335 *eP* **P 10 00 53.9 +0.5**
comp=Z,0.7nm,0.3s
MOTA Moosalm 78.91 337 *eP* **P 10 00 53.6 +0.1**
comp=Z,1.3nm,0.4s
SQTA Sankt Quirin 78.99 337 *i* P **P 10 00 54.7 +0.7**
comp=Z,0.8nm,0.3s
ABTA Abfaltersbach 79.08 335 *i* P **P 10 00 55.0 +0.6**
comp=Z,1.8nm,0.5s
CRES Cresnjev 79.09 333 *i* P **P 10 00 54.3 -0.2**
HRV Adam Dziewonsk 79.25 34 P P 10 00 55.3 -0.1
baz=331
SWET Sewanee 79.29 47 P P 10 00 55.9 +0.2
SWET IAmb IAmb 10 00 56.4
comp=Z,7.0nm,0.7s
FETA Feichten 79.30 337 *eP* **P 10 00 56.3 +0.5**
comp=Z,1.2nm,0.5s
TZTN Tazewell 79.33 45 P P 10 00 56.0 +0.1
TZTN IAmb IAmb 10 00 56.7
comp=Z,6.6nm,0.9s
TZTN Tazewell 79.33 45 P P 10 00 56.2 +0.3
baz=325
VBMS Vicksburg 79.40 52 P P 10 00 56.8 +0.5
baz=323
DAVOX Davos/Dischmat 79.74 337 LR LR 10 42 08.1
comp=Z,25nm,18.4s,baz=80,slow=40
TKL Tuckaleechee C 79.95 46 LR LR 10 40 43.1
comp=Z,35nm,18.7s,baz=348,slow=39
BLA Blacksburg 80.19 43 P P 10 01 00.6 0.0
baz=327
LRAL Lakeview Retre 80.53 49 P P 10 01 02.6 +0.3
baz=324
250A Grady 81.75 50 P P 10 01 08.6 -0.3
GOGA Godfrey 81.94 47 P P 10 01 09.7 -0.1
baz=326
FDMO Fiordimonte 82.33 334 P P 10 01 11.3 -0.5
FDMO IAmb IAmb 10 01 14.6
comp=Z,5.0nm,0.7s
MMAI Mount Meron Ar 82.48 313 P P 10 01 13.0 +0.2
comp=Z,6.8nm,0.5s,baz=48,slow=6.4,SNR=14
comp=Z,6.8nm,0.5s
TIGA Tifton 83.50 48 P P 10 01 18.1 +0.1
baz=326
NHSC New Hope 83.73 45 P P 10 01 19.7 +0.6
baz=327
DWPF Disney Wildern 87.30 48 P P 10 01 37.5 +0.5
baz=327
ESDC Sonseca Array 89.49 345 P P 10 01 46.6 -0.7
comp=Z,1.6nm,0.7s,baz=9.5,slow=4.1,SNR=12
ESDC LR LR 10 47 56.8
comp=Z,19nm,18.5s,baz=87,slow=40
comp=Z,1.6nm,0.7s
LPAZ La Paz 131.24 63 PKP **PKiKP 10 08 03.7 -0.2**
comp=Z,0.7nm,0.8s,baz=27,slow=2.3,SNR=3.8
H03N2 Juan Fernandez 136.68 90 T T 12 40 23.5
baz=312,slow=77,SNR=64
H03N1 Juan Fernandez 136.70 90 T T 12 40 24.8
baz=312,slow=77,SNR=64
H03N3 Juan Fernandez 136.70 90 T T 12 40 22.7
baz=312,slow=77,SNR=72
QSPA South Pole Qui 139.25 180 PKhKP PKPpre 10 08 06.6
comp=Z,1.4nm,1.1s,baz=267,slow=0.9,SNR=1.7
CPUP Villa Florida 145.31 61 PKPbc **PKPbc 10 08 27.1 -0.3**
comp=Z,4.2nm,0.8s,baz=329,slow=5.3,SNR=9.1
PLCA Paso Flores 146.34 93 PKPbc **PKPdf 10 08 29.3 +0.3**
comp=Z,3.3nm,0.8s,baz=307,slow=5.7,SNR=6.7
ELIB Princess Elisa 149.18 206 *d*PKP **PKPbc 10 08 37.0 -0.1**

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*IDC **29** 10:04:58.9±0.8, 8°.21S×116°.45E, h0km, mb3.9/8, mbtmp3.9/9, ML3.8/1, Error ellipse: s-maj=30.1km s-min=17.0km az=75.0*
*DJA **29** 10:05:01.0±0.2, 8°.3S±3°×11°.6E±°, h11km±2km, M4.5/18, mb4.6/17, mB5.4/2, MLv4.5/18, Mw(mB)4.8/2*
*NEIC **29** 10:05:02.0±1.7, 8°.24S±0°.08×116°.42E±0°.07, h18km±3km, mb4.2/13, Error ellipse: s-maj=11.8km s-min=9.2km az=143.0*
ISC 29 10:05:00.2±0.5, 8°.26S±0°.06×116°.48E±0°.06, h10km, n51, σ0°.94/53, mb4.0/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.62**	**140**	P	**Pg**	**10 05 12.7**	**+0.5**
SRBI	**Singaraja**	**1.27**	**278**	P	**Pn**	**10 05 24.5**	**+0.6**
DNP	**Denpasar**	**1.32**	**252**	P	**Pn**	**10 05 24.9**	**+0.2**
PLAI	**Plampang**	**1.40**	**114**	P	**Pn**	**10 05 26.0**	**+0.2**
ABJI	**Asem Bagus**	**2.27**	**282**	P	**Pn**	**10 05 39.9**	**+2.2**
JAGI	**Jajag, Banyuwa**	**2.31**	**265**	Pn	**Pn**	**10 05 37.3**	**-1.1**
JAGI	**Jajag, Banyuwa**	**2.31**	**265**	P	**Pn**	**10 05 38.8**	**+0.5**
GRJI	**Gresik**	**4.18**	**288**	P	**Pn**	**10 06 04.4**	**+0.3**
BASI	**Baing, Sumba**	**4.49**	**116**	P	**Pn**	**10 06 07.9**	**-0.4**
BSSI	**Bau Bau, Buton**	**4.50**	**62**	P	**Pn**	**10 06 09.4**	**+0.9**
KAPI	**Kappang**	**4.58**	**45**	Pn	**Pn**	**10 06 09.5**	**0.0**
KAPI	**Kappang**	**4.58**	**45**	Pn	**Pn**	**10 06 10.1**	**+0.6**
	4.3nm,0.3s,baz=219,slow=14,SNR=8.3						
KAPI				Sn	**Sn**	**10 07 01.4**	**-1.5**
	23nm,0.3s,baz=162,slow=20,SNR=10						
	14nm,0.2s						
PWJI	**Pagerwojo**	**4.63**	**273**	P	**Pn**	**10 06 11.3**	**+1.0**
BKSI	**Bulukumba**	**4.65**	**51**	P	**Pn**	**10 06 12.1**	**+1.6**
BNSI	**Bone**	**5.26**	**43**	P	**Pn**	**10 06 18.1**	**-0.9**
	74nm,0.8s,0.3nm						
UGM	**Wanagama**	**5.91**	**273**	Pn	**Pn**	**10 06 27.9**	**+0.1**
UGM	**Wanagama**	**5.91**	**273**	P	**Pn**	**10 06 29.7**	**+1.9**
	219nm,1.4s						
BATI	**Baumata**	**7.35**	**106**	P	**Pn**	**10 06 47.5**	**-0.2**
	64nm,1.2s,0.2nm						
KPJI	**Karang Pucung**	**7.53**	**277**	P	**Pn**	**10 06 50.2**	**0.0**
	35nm,2.1s,0.3nm						
CMJI	**Cimerak**	**7.97**	**273**	P	**Pn**	**10 06 56.5**	**+0.4**
MBWA	**Marble Bar**	**13.20**	**167**	Pn	**Pn**	**10 08 06.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**13.23**	**139**	Pn	**Pn**	**10 08 08.6**	**+0.4**
PSA00	**Pilbara Seismi**	**13.63**	**167**	Pn	**Pn**	**10 08 12.8**	**-0.9**
KNRA	**Kununurra**	**14.09**	**123**	Pn	**Pn**	**10 08 21.1**	**+1.1**
GIRL	**Giralia**	**14.46**	**188**	Pn	**Pn**	**10 08 23.7**	**-1.4**
FAKI	**Fak Fak**	**16.56**	**72**	Pn	**Pn**	**10 08 52.8**	**+0.1**
FAKI				IAmb	IAmb	10 09 30.2	
	comp=Z,25nm,1.2s						
MORW	**Morawa**	**20.70**	**181**	P	**P**	**10 09 40.9**	**+0.2**
MORW				IAmb	IAmb	10 10 06.0	
	comp=Z,29nm,1.5s						
WB0	**Warramunga Arr**	**20.78**	**125**	P	**P**	**10 09 41.8**	**+0.2**
WB0				IAmb	IAmb	10 09 43.0	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**20.83**	**126**	P	**P**	**10 09 42.5**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=299,slow=12,SNR=28						
	comp=Z,2.6nm,0.8s						
WB2	**Warramunga Arr**	**20.84**	**126**	P	**P**	**10 09 42.4**	**+0.2**
WR0	**Warramunga Arr**	**21.00**	**126**	P	**P**	**10 09 44.6**	**+0.6**
WR0				IAmb	IAmb	10 09 53.4	
	comp=Z,7.5nm,1.1s						
AS31	**Alice Springs**	**22.66**	**135**	P	**P**	**10 10 02.9**	**+1.1**
ASAR	**Alice Springs**	**22.66**	**135**	P	**P**	**10 10 02.3**	**+0.5**
ASAR	**Alice Springs**	**22.66**	**135**	P	**P**	**10 10 02.4**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=306,slow=9.0,SNR=24						
ASAR				PcP	**PcP**	**10 13 54.4**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=309,slow=1.4,SNR=5.5						
	comp=Z,1.2nm,0.4s						
FORT	**Forrest**	**24.88**	**156**	P	**P**	**10 10 23.5**	**+0.3**
COEN	**Coen**	**26.79**	**105**	P	**P**	**10 10 40.9**	**+0.3**
USRK	**Ussuriysk Ar.**	**54.07**	**14**	P	**P**	**10 14 24.9**	**0.0**
USRK	**Ussuriysk Ar.**	**54.07**	**14**	P	**P**	**10 14 25.7**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=190,slow=6.0,SNR=5.0						
	comp=Z,1.0nm,0.6s						
ERM	**Erimo**	**55.68**	**24**	P	**P**	**10 14 35.9**	**-0.7**
SONM	**Songino Array**	**56.56**	**352**	P	**P**	**10 14 43.0**	**0.0**
SONM				IAmb	IAmb	10 14 45.2	
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**56.56**	**352**	P	**P**	**10 14 43.9**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=165,slow=9.0,SNR=9.8						
	comp=Z,2.0nm,0.8s						
MK31	**Makanchi Array**	**62.69**	**334**	P	**P**	**10 15 25.9**	**+0.6**
MKAR	**Makanchi Array**	**62.69**	**334**	P	**P**	**10 15 25.6**	**+0.4**
MKAR	**Makanchi Array**	**62.69**	**334**	P	**P**	**10 15 25.0**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=150,slow=7.9,SNR=7.0						
	comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**67.49**	**340**	P	**P**	**10 15 54.2**	**-2.0**
	comp=Z,0.9nm,0.7s,baz=123,slow=5.3,SNR=4.5						
	comp=Z,0.9nm,0.7s						
VNDA	**Vanda**	**73.11**	**171**	P	**P**	**10 16 31.5**	**+1.2**
VNDA				IAmb	IAmb	10 16 33.2	
	comp=Z,2.9nm,1.4s						
VNDA	**Vanda**	**73.11**	**171**	P	**P**	**10 16 31.7**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=327,slow=5.5,SNR=7.5						
	comp=Z,0.5nm,0.5s						
ABKAR	**Akbulak array**	**75.54**	**326**	P	**P**	**10 16 42.3**	**-2.5**

QSPA	**South Pole Qui**	**81.73 180**	P	**P**	**10 17 19.1 +0.2**
QSPA			IAmb	IAmb	10 17 31.3
	comp=Z,7.4nm,1.4s				
QSPA	**South Pole Qui**	**81.73 180**	P	**P**	**10 17 19.1 +0.2**
	comp=Z,1.8nm,1.1s,baz=291,slow=3.4,SNR=6.0				
	comp=Z,1.8nm,1.1s				
CPUP	**Villa Florida**	**145.09 190**	PKPbc	**PKPbc**	**10 24 38.9 +0.8**
	comp=Z,1.6nm,0.5s,baz=133,slow=4.9,SNR=5.8				

PRU 29 10:09:00.7,50°.15N×18°.49E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.38**	**215**	*e*PG	Pg	10 09 07.7	-0.3
OKC				*e*SG	Sg	10 09 12.9	-0.1
	comp=Z,24nm,0.6s						
MORC	**Moravsky Berou**	**0.72**	**239**	*e*PG	Pg	10 09 13.4	-1.0
MORC				*e*SG	Sg	10 09 24.3	+0.6
OJC	**Ojcow**	**0.84**	**85**	*e*Pg	Pg	10 09 12.8	-4.1
OJC				*e*Sg	Sg	10 09 23.1	-4.6
MAUC	**Maruska**	**0.90**	**209**	*e*PG	Pg	10 09 16.9	-0.9
KRLC	**Kraliky**	**1.10**	**267**	*e*PG	Pg	10 09 19.5	-2.3
KRLC				*e*SG	Sg	10 09 35.6	-0.5
	comp=Z,14nm,0.7s						
LANS	**Liptovska Anna**	**1.19**	**147**	*e*PG	Pg	10 09 21.1	-2.3
LANS				*e*SG	Sg	10 09 38.1	-0.6
LANS				*e*LG	Lg	10 09 39.6	
NIE	**Niedzica**	**1.38**	**121**	*e*Pg	Pg	10 09 24.2	-3.0
NIE				*e*Sg	Sg	10 09 43.9	-1.2
DPC	**Dobruska-Polom**	**1.41**	**279**	*e*PG	Pn	10 09 26.5	-1.1
DPC				*e*SG	Sg	10 09 45.7	-0.1
	comp=Z,8.1nm,0.6s						
VRAC	**Vranov**	**1.49**	**236**	*e*PG	Pn	10 09 27.1	-1.7
VRAC				*e*SG	Sg	10 09 47.0	-1.6
OSTC	**Ostas**	**1.51**	**286**	*e*SG	Sg	10 09 48.9	-0.4
VYHS	**Vyhne**	**1.67**	**172**	*e*PG	Pn	10 09 28.7	-2.5
VYHS				*e*SG	Sn	10 09 53.2	-0.2
KRUC	**Moravsky**	**1.75**	**232**	*e*PN	Pn	10 09 31.3	-0.9
KRUC				*e*SG	Sn	10 09 55.0	-0.1
GOPC	**GO Pecny, Ondr**	**2.40**	**266**	*e*SG	Sb	10 10 16.2	+1.3
PRU	**Pruhonice**	**2.55**	**268**	*e*SG	Sb	10 10 20.5	+1.3
BRG	**Berggiesshubel**	**2.99**	**286**	Sg	Sg	10 10 36.2	-0.5
BRG				Amp		10 10 38.0	
	comp=Z,1.3nm,0.3s						
KHC	**Kasperske Hory**	**3.35**	**254**	*e*SG	Sg	10 10 47.1	-1.2
	comp=Z,4.8nm,0.7s						
CLL	**Collm**	**3.67**	**290**	*e*Sg	Sg	10 10 59.0	+0.3
CLL	**Collm**	**3.67**	**290**	*e*S	Sg	10 10 59.0	+0.3

*NEIC **29** 11:15:20.1±0.7,35°.791N±0°.009×97°.20W±0°.01,h5km±1km, Error ellipse: s-maj=2.9km s-min=1.7km az=27.0*

TUL 29 11:15:20.4±0.8,35°.798N±0°.009×97°.20W±0°.01,h5km±5km, ML2.6,mb_Lg2.4/62(NEIC),ML2.6/61(NEIC),Error ellipse: s-maj=1.4km s-min=0.9km az=145.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.20**	**225**		Pg	11 15 24.3	-0.1
ADOK				Sg	Sg	11 15 27.9	+0.8
OK029	**Liberty Lake**	**0.21**	**270**		Pg	11 15 24.9	+0.4
OK029				Sg	Sg	11 15 28.2	+0.8
OK029				IAML		11 15 28.4	
	995nm,0.5s						
OK031	**S. Brethren Rd**	**0.33**	**62**		Pg	11 15 27.3	+0.5
OK031				IAML		11 15 32.3	
	568nm,0.3s						
OK052	**Battle Ridge R**	**0.37**	**58**		Pg	11 15 28.1	+0.5
OK052				IAML		11 15 33.7	
	642nm,0.3s						
OK052				IAML		11 15 33.7	
	627nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.44**	**207**		Pg	11 15 28.8	-0.1
OKCSW				IAML		11 15 35.6	
	comp=N,646nm,0.2s						
QUOK	**Quay**	**0.54**	**46**		Pg	11 15 30.8	-0.1
QUOK				IAML		11 15 38.9	
	comp=N,387nm,0.4s						
QUOK				IAML		11 15 39.5	
	comp=E,454nm,0.2s						
FNO	**Franklin**	**0.56**	**197**		Pg	11 15 31.2	-0.1
FNO				IAML		11 15 39.9	
	comp=N,277nm,0.2s						
DEOK	**Depew**	**0.57**	**85**		Pg	11 15 31.2	-0.1
DEOK				IAML		11 15 40.0	
	comp=N,400nm,0.3s						
OK048	**Pawnee Station**	**0.65**	**18**		Pg	11 15 33.1	+0.2
OK048				IAML		11 15 44.4	
	comp=N,270nm,0.5s						
OK051	**E0350 and S346**	**0.76**	**22**		Pg	11 15 34.8	-0.3
OK051				IAML		11 15 55.3	
	comp=N,310nm,0.2s						
CROK	**Carrier**	**0.95**	**318**		Pg	11 15 38.7	+0.1
CROK				IAML		11 15 53.9	
	comp=E,287nm,0.4s						
BLOK	**Blackwell**	**0.96**	**359**		Pg	11 15 39.0	+0.1
BLOK				IAML		11 15 53.9	
	comp=E,308nm,0.2s						
TUL3	**Leonard**	**1.15**	**84**		Pg	11 15 41.4	-0.9
TUL3				IAML		11 16 01.5	
	comp=N,91nm,0.4s						
GC02	**Grant County #**	**1.18**	**333**		Pg	11 15 42.3	-0.7
CSTR	**Hydro, Custer**	**1.23**	**263**	Pg	Pg	11 15 43.1	-0.8
KAN13	**South Haven SW**	**1.23**	**349**		Pg	11 15 43.6	-0.5
T35A	**Sooner Cattle**	**1.25**	**26**	Pg	Pg	11 15 43.8	-0.5
T35A				IAmb_Lg		11 15 59.7	
	comp=Z,32nm,1.1s						
OK032	**Salt Plains WL**	**1.30**	**321**		Pn	11 15 43.6	-1.6
OK032				IAML		11 16 05.6	
	comp=Z,174nm,0.4s						
X34A	**Smith Ranch, M**	**1.30**	**204**		Pn	11 15 44.8	-0.5
X34A				IAML		11 16 04.2	
	comp=E,162nm,0.6s						
X34A				IAML		11 16 04.3	
	comp=N,176nm,0.4s						
KAN14	**Manchester OK**	**1.31**	**332**		Pn	11 15 45.0	-0.5
KAN17	**Caldwell West**	**1.33**	**340**		Pn	11 15 45.1	-0.5
KAN17				IAML		11 16 05.9	
	comp=N,188nm,0.4s						
KAN09	**Caldwell North**	**1.38**	**346**		Pn	11 15 45.8	-0.6
OK038	**West end E0370**	**1.43**	**299**		Pn	11 15 46.5	-0.6
KAN01	**Argonia South**	**1.43**	**342**		Pn	11 15 46.7	-0.3
KAN08	**Anthony NE Sta**	**1.56**	**337**		Pn	11 15 48.5	-0.3
U32A	**Winter Ranch,**	**1.57**	**292**		Pn	11 15 48.3	-0.8
NOKA	**Waynoka**	**1.63**	**301**		Pn	11 15 48.9	-1.0
WMOK	**Wichita Mounta**	**1.67**	**231**		Pn	11 15 50.7	+0.3
RLO	**Rose Lookout**	**1.80**	**78**		Pn	11 15 52.2	+0.1
LOOK	**Love County**	**1.80**	**180**		Pn	11 15 51.2	-1.0
LOOK				IAmb_Lg		11 16 21.3	
	comp=Z,14nm,0.8s						
X37A	**Clayton**	**1.92**	**128**	IAmb_Lg		11 16 23.8	
	comp=Z,20nm,0.7s						
WTFS	**Witchita Falls**	**2.28**	**208**		Pn	11 15 58.0	-0.7
Z38A	**Mt. Pleasant**	**3.12**	**144**	IAmb_Lg		11 17 04.0	
	comp=Z,11nm,0.8s						
MIAR	**Mount Ida**	**3.22**	**112**	IAmb_Lg		11 17 05.9	
	comp=Z,7.0nm,0.7s						
KSU1	**Kansas State U**	**3.33**	**8**	IAmb_Lg		11 17 09.0	
	comp=Z,11nm,0.8s						
CBKS	**Cedar Bluff**	**3.63**	**327**	IAmb_Lg		11 17 23.0	
	comp=Z,10nm,0.9s						
DKNS	**Dickens**	**3.73**	**236**	IAmb_Lg		11 17 24.6	
	comp=Z,8.4nm,1.0s						
ABTX	**Abilene, Hawle**	**3.76**	**213**	IAmb_Lg		11 17 25.8	
	comp=Z,5.9nm,0.9s						
X40A	**Basin Creek Fa**	**3.81**	**109**	IAmb_Lg		11 17 27.6	
	comp=Z,11nm,0.8s						
WLAR	**White Oak Lake**	**3.97**	**121**	IAmb_Lg		11 17 35.4	
	comp=Z,9.2nm,0.7s						
WHAR	**Wooly Hollow**	**4.03**	**96**	IAmb_Lg		11 17 31.6	
	comp=Z,7.7nm,0.9s						
SN07	**Snyder 07**	**4.08**	**230**	IAmb_Lg		11 17 41.2	
	comp=Z,6.7nm,0.7s						
UALR	**University of**	**4.10**	**103**	IAmb_Lg		11 17 37.5	
	comp=Z,9.2nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.12**	**87**	IAmb_Lg		11 17 32.3	
	comp=Z,9.4nm,0.8s						
MGMO	**Mountain Grove**	**4.19**	**70**	IAmb_Lg		11 17 39.3	
	comp=Z,7.3nm,0.8s						
SN05	**Snyder 5**	**4.22**	**227**	IAmb_Lg		11 17 35.5	
	comp=Z,12nm,0.8s						
POST	**Post**	**4.48**	**234**	IAmb_Lg		11 17 54.2	
	comp=Z,5.2nm,0.8s						
RTBA	**Rita Blanca**	**4.53**	**280**	IAmb_Lg		11 17 52.2	
	comp=Z,6.7nm,0.7s						
BRDY	**Brady**	**4.75**	**199**	IAmb_Lg		11 17 58.8	
	comp=Z,4.8nm,0.8s						
P38A	**Dawn**	**4.80**	**36**	IAmb_Lg		11 18 03.1	
	comp=Z,7.0nm,0.7s						
435B	**Jarrell**	**5.01**	**184**	IAmb_Lg		11 18 10.3	
	comp=Z,6.1nm,0.9s						
CCM	**Cathedral Cave**	**5.27**	**63**	IAmb_Lg		11 18 15.6	
	comp=Z,4.5nm,0.7s						
PBMO	**Poplar Bluff**	**5.55**	**78**	IAmb_Lg		11 18 22.3	
	comp=Z,7.5nm,0.9s						
ODSA	**Odessa**	**5.77**	**232**	IAmb_Lg		11 18 21.4	
	comp=Z,8.5nm,0.7s						
FVM	**French Village**	**5.85**	**66**	IAmb_Lg		11 18 31.8	
	comp=Z,5.1nm,0.9s						
T25A	**Trinidad**	**5.97**	**285**	IAmb_Lg		11 18 34.2	
	comp=Z,7.1nm,0.8s						
MNHN	**Monahans**	**6.43**	**228**	IAmb_Lg		11 18 47.7	
	comp=Z,4.2nm,0.7s						
HNDO	**Hondo**	**6.49**	**196**	IAmb_Lg		11 18 48.3	
	comp=Z,6.5nm,0.8s						
S44A	**Carbondale**	**6.65**	**71**	IAmb_Lg		11 19 01.4	
	comp=Z,6.1nm,0.8s						
PLAL	**Pickwick Lake**	**7.49**	**94**	IAmb_Lg		11 19 21.7	
	comp=Z,2.7nm,0.8s						
PHWY	**Pilot Hill**	**8.49**	**313**	IAmb_Lg		11 20 09.5	
	comp=Z,2.6nm,0.7s						

IDC 29 11:16:39.5±1.7,3°.49N×123°.05E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=212.8km s-min=28.8km az=66.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.79**	**155**	P	P	11 22 12.3	0.0
	0.2nm,0.4s,baz=332,slow=10,SNR=6.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**28.99**	**159**	P	P	11 22 41.1	0.0
	0.2nm,0.3s,baz=346,slow=7.0,SNR=8.4						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**59.19**	**335**	P	P	11 26 42.1	-0.1
	0.4nm,0.3s,baz=116,slow=8.3,SNR=2.3						
	0.4nm,0.3s						

*NEIC **29** 11:17:31.8±0.5,35°.787N±0°.010×97°.199W±0°.007, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=280.0*

TUL 29 11:17:32.1±0.5,35°.796N±0°.007×97°.19W±0°.01,h5km±5km, ML2.6,mb_Lg2.4/47(NEIC),ML2.6/59(NEIC),Error ellipse: s-maj=1.3km s-min=1.0km az=116.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.20**	**225**	Pg	Pg	11 17 36.4	+0.3
ADOK				Sg	Sg	11 17 39.3	+0.5
OK029	**Liberty Lake**	**0.21**	**270**	Pg	Pg	11 17 36.6	+0.3
OK029				Sg	Sg	11 17 39.4	+0.3
OK029				IAML		11 17 40.1	
	2μm,0.3s						
OK029				IAML		11 17 40.1	
	766nm,0.2s						
OK031	**S. Brethren Rd**	**0.33**	**61**	Pg	Pg	11 17 38.9	+0.4
OK031				IAML		11 17 44.0	
	502nm,0.4s						
OK031				IAML		11 17 44.0	
	464nm,0.1s						
OK052	**Battle Ridge R**	**0.37**	**58**	Pg	Pg	11 17 39.7	+0.4
OK052				IAML		11 17 45.4	
	518nm,0.3s						
OK052				IAML		11 17 45.4	
	691nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.44**	**207**	Pg	Pg	11 17 40.5	-0.1
OKCSW				IAML		11 17 47.3	
	comp=N,643nm,0.2s						
QUOK	**Quay**	**0.54**	**46**	Pg	Pg	11 17 42.9	+0.3
QUOK				IAML		11 17 50.6	
	comp=N,359nm,0.4s						
QUOK				IAML		11 17 51.2	
	comp=E,443nm,0.2s						
FNO	**Franklin**	**0.56**	**198**	Pg	Pg	11 17 43.0	0.0
FNO				IAML		11 17 51.3	
	comp=E,788nm,0.4s						
FNO				IAML		11 17 51.6	
	comp=N,294nm,0.2s						
DEOK	**Depew**	**0.56**	**85**	Pg	Pg	11 17 43.1	+0.1
DEOK				IAML		11 17 51.8	
	comp=N,270nm,0.3s						
OK048	**Pawnee Station**	**0.65**	**18**	Pg	Pg	11 17 44.8	+0.2
OK048				IAML		11 17 56.1	
	comp=N,263nm,0.5s						
OK051	**E0350 and S346**	**0.76**	**22**	Pg	Pg	11 17 46.4	-0.4
OK051				IAML		11 18 00.1	
	comp=N,351nm,0.1s						
CROK	**Carrier**	**0.95**	**318**	Pg	Pg	11 17 49.9	-0.5
CROK				IAML		11 18 08.9	
	comp=E,333nm,0.3s						
BLOK	**Blackwell**	**0.96**	**359**	Pg	Pg	11 17 50.1	-0.5
BLOK				IAML		11 18 08.9	
	comp=E,370nm,0.2s						
TUL3	**Leonard**	**1.14**	**84**	Pg	Pg	11 17 53.1	-0.9
GC02	**Grant County #**	**1.18**	**333**		Pg	11 17 53.9	-0.9
CSTR	**Hydro, Custer**	**1.23**	**263**		Pg	11 17 55.0	-0.6
KAN13	**South Haven SW**	**1.24**	**349**		Pg	11 17 54.9	-0.9
T35A	**Sooner Cattle**	**1.25**	**26**		Pg	11 17 55.3	-0.7
OK032	**Salt Plains WL**	**1.30**	**321**		Pn	11 17 56.2	-0.8
X34A	**Smith Ranch, M**	**1.30**	**204**		Pn	11 17 56.7	-0.3
X34A				IAML		11 18 16.0	
	comp=E,159nm,0.3s						
X34A				IAML		11 18 16.1	
	comp=N,179nm,0.3s						
KAN14	**Manchester OK**	**1.31**	**332**		Pn	11 17 56.2	-1.0
KAN17	**Caldwell West**	**1.33**	**340**		Pn	11 17 56.6	-0.8
KAN09	**Caldwell North**	**1.38**	**346**		Pn	11 17 57.8	-0.3
KAN05	**Bluff City Nor**	**1.42**	**337**		Pn	11 17 57.9	-0.8
OK038	**West end E0370**	**1.43**	**299**		Pn	11 17 58.4	-0.3
KAN01	**Argonia South**	**1.43**	**342**		Pn	11 17 58.9	+0.1
KS21	**Milan North St**	**1.54**	**346**		Pn	11 17 59.5	-0.8
U32A	**Winter Ranch,**	**1.58**	**292**		Pn	11 18 00.5	-0.4
NOKA	**Waynoka**	**1.64**	**301**		Pn	11 18 01.7	+0.1
WMOK	**Wichita Mounta**	**1.68**	**231**		Pn	11 18 02.0	-0.1
RLO	**Rose Lookout**	**1.80**	**78**		Pn	11 18 03.9	+0.1
LOOK	**Love County**	**1.80**	**180**		Pn	11 18 04.4	+0.5
LOOK				IAmb_Lg		11 18 33.0	
	comp=Z,14nm,0.8s						
ELIS	**Ellis County**	**1.83**	**279**		Pn	11 18 05.0	+0.7
X37A	**Clayton**	**1.92**	**128**		Pn	11 18 06.4	+1.0
X37A				IAmb_Lg		11 18 35.8	
	comp=Z,16nm,1.0s						
WTFS	**Witchita Falls**	**2.28**	**208**		Pn	11 18 10.6	+0.1
U38A	**Gravette**	**2.36**	**73**		Pn	11 18 12.3	+0.7
Z35A	**Perchaven, San**	**2.46**	**181**	Pn	Pn	11 18 12.6	-0.3
Z38A	**Mt. Pleasant**	**3.12**	**144**	IAmb_Lg		11 19 14.1	
	comp=Z,11nm,0.8s						
MIAR	**Mount Ida**	**3.21**	**112**	IAmb_Lg		11 19 22.1	
	comp=Z,9.5nm,1.1s						
KSU1	**Kansas State U**	**3.33**	**8**	IAmb_Lg		11 19 20.7	
	comp=Z,9.8nm,0.8s						
S39A	**Bolivar**	**3.64**	**58**	IAmb_Lg		11 19 35.6	
	comp=Z,7.4nm,0.8s						
DKNS	**Dickens**	**3.74**	**236**	IAmb_Lg		11 19 36.2	
	comp=Z,9.0nm,1.0s						
ABTX	**Abilene, Hawle**	**3.76**	**213**	IAmb_Lg		11 19 38.6	
	comp=Z,5.8nm,0.8s						
X40A	**Basin Creek Fa**	**3.80**	**109**	IAmb_Lg		11 19 42.6	
	comp=Z,7.4nm,1.1s						
SN07	**Snyder 07**	**4.08**	**230**	IAmb_Lg		11 19 48.1	
	comp=Z,10nm,1.1s						
UALR	**University of**	**4.09**	**103**	IAmb_Lg		11 19 50.1	
	comp=Z,12nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.12**	**87**	IAmb_Lg		11 19 44.3	
	comp=Z,9.3nm,0.9s						
MGMO	**Mountain Grove**	**4.19**	**70**	IAmb_Lg		11 19 53.3	
	comp=Z,8.1nm,0.8s						
SN05	**Snyder 5**	**4.22**	**227**	IAmb_Lg		11 19 47.2	
	comp=Z,11nm,0.8s						
POST	**Post**	**4.48**	**234**	IAmb_Lg		11 19 59.0	
	comp=Z,7.3nm,0.8s						
RTBA	**Rita Blanca**	**4.54**	**280**	IAmb_Lg		11 20 05.9	
	comp=Z,6.3nm,0.8s						
R40A	**Maddies Statio**	**4.66**	**56**	IAmb_Lg		11 19 59.5	
	comp=Z,4.4nm,0.7s						
BRDY	**Brady**	**4.75**	**199**	IAmb_Lg		11 20 05.0	
	comp=Z,8.3nm,1.1s						
P38A	**Dawn**	**4.80**	**36**	IAmb_Lg		11 20 16.9	
	comp=Z,5.2nm,0.7s						
T42A	**Van Buren**	**5.07**	**74**	IAmb_Lg		11 20 11.8	
	comp=Z,4.2nm,0.8s						
CCM	**Cathedral Cave**	**5.27**	**63**	IAmb_Lg		11 20 26.5	
	comp=Z,7.2nm,0.7s						
PBMO	**Poplar Bluff**	**5.55**	**78**	IAmb_Lg		11 20 33.5	
	comp=Z,7.1nm,0.8s						
FVM	**French Village**	**5.84**	**66**	IAmb_Lg		11 20 39.7	
	comp=Z,5.4nm,0.7s						
CGM3	**Cape Girardeau**	**6.25**	**74**	IAmb_Lg		11 20 50.5	
	comp=Z,4.4nm,0.8s						
ALPN	**Alpine**	**7.65**	**227**	IAmb_Lg		11 21 46.9	
	comp=Z,3.2nm,0.9s						

*BEO **29** 11:17:29.1±4.6,37°.13N×19°.80E,h122km±2km,ML2.9/5*
*IDC **29** 11:17:35.9±3.0,38°.47N×20°.65E,h0km,mb3.6/3, mbtmp3.4/5,ML3.6/2,MS2.9/1,Error ellipse: s-maj=55.2km s-min=29.8km az=14.0*
*THE **29** 11:17:38.7,38°.34N×20°.36E,h0km±1km,ML3.3/10,Error ellipse: s-maj=1.5km s-min=0.5km az=260.0*
*TIR **29** 11:17:38.3,38°.52N×20°.20E,h25km±2km,Ml3.2*
*ATH **29** 11:17:40.0,38°.36N×20°.50E,h6km±1km,ML3.2/17,Error ellipse: s-maj=1.9km s-min=1.0km az=274.0*

ISC 29 11:17:38.0±0.7,38°.36N±0°.02×20°.33E±0°.03,h14km±5km, n105,σ1°.47/134,mb3.5/3,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMLN	**Damoulianata-K**	**0.12**	**165**	P	**Pg**	**11 17 42.7**	**+1.2**
DMLN				S	**Sg**	**11 17 45.8**	**+2.0**
FSK	**Fiskardo**	**0.21**	**61**	P	**Pg**	**11 17 42.5**	**-0.3**
FSK				S	**Sg**	**11 17 45.6**	**-0.3**
	46μm,0.1s						
FSK	**Fiskardo**	**0.21**	**61**	P	**Pg**	**11 17 42.4**	**-0.3**
FSK				S	**Sg**	**11 17 44.7**	**-1.2**
FSK				AML	AML	11 17 45.4	
	comp=N,47212μm,0.1s						
FSK				AML	AML	11 17 45.4	
VLS	**Valsamata**	**0.27**	**132**	P	**Pg**	**11 17 43.8**	**0.0**
VLS				S	**Sg**	**11 17 47.2**	**-0.5**
	comp=N,21μm,0.3s						
VLS	**Valsamata**	**0.27**	**132**	P	**Pg**	**11 17 43.6**	**-0.2**
VLS				S	**Sg**	**11 17 47.3**	**-0.5**
VLS				AML	AML	11 17 47.4	
	comp=N,52992μm,0.3s						
VLS				AML	AML	11 17 48.1	
	comp=E,31846μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.31**	**141**	P	**Pg**	**11 17 44.6**	**+0.1**
PSDA				S	**Sg**	**11 17 49.1**	**+0.2**
	comp=E,21μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.31**	**141**	P	**Pg**	**11 17 44.5**	**+0.1**
PSDA				S	**Sg**	**11 17 49.1**	**+0.2**
EVGI	**Lefkada island**	**0.37**	**44**	P	**Pg**	**11 17 45.4**	**-0.1**
EVGI				S	**Sg**	**11 17 50.7**	**+0.2**
EVGI	**Lefkada island**	**0.37**	**44**	P	**Pg**	**11 17 45.3**	**-0.1**
EVGI				S	**Sg**	**11 17 50.3**	**-0.2**
RTZL	**Ratzakli, Kefa**	**0.45**	**129**	P	**Pg**	**11 17 46.5**	**-0.4**
RTZL				S	**Sg**	**11 17 53.1**	**+0.2**
NYDR	**Nydri-Lefkada**	**0.46**	**39**	P	**Pg**	**11 17 46.9**	**-0.2**
NYDR				S	**Sb**	**11 17 54.1**	**-0.3**
NYDR	**Nydri-Lefkada**	**0.46**	**39**	P	**Pg**	**11 17 46.8**	**-0.3**
LKD2	**Lefkada island**	**0.50**	**31**	P	**Pg**	**11 17 47.8**	**-0.1**
	baz=52						
LKD2				S	**Sg**	**11 17 54.5**	**-0.2**
	baz=52						
LKD2				AMP			
	comp=N,4.8nm,0.2s,baz=52						
LKD2	**Lefkada island**	**0.50**	**31**	P	**Pg**	**11 17 48.1**	**+0.1**
LKD2	**Lefkada island**	**0.50**	**31**	P	**Pg**	**11 17 47.9**	**-0.1**
LKD2				AML	AML	11 18 00.2	
	comp=N,3238μm,0.2s						
LKD2				AML	AML	11 18 03.1	
	comp=E,2733μm,0.3s						
TSLK	**Tsoukalades, L**	**0.53**	**28**	P	**Pg**	**11 17 48.6**	**+0.1**
TSLK				S	**Sb**	**11 17 57.3**	**+0.7**
	comp=E,2μm,0.5s						
TSLK	**Tsoukalades, L**	**0.53**	**28**	P	**Pg**	**11 17 48.5**	**+0.1**
LTHK	**Lithakia**	**0.76**	**148**	P	**Pg**	**11 17 52.1**	**-0.7**
LTHK	**Lithakia**	**0.76**	**148**	P	**Pg**	**11 17 52.1**	**-0.7**
LTHK				AML	AML	11 18 09.3	
	comp=E,8395μm,0.4s						
LTHK				AML	AML	11 18 09.5	
	comp=N,8019μm,0.6s						
RLS	**Riolos of Patr**	**0.94**	**108**	P	**Pg**	**11 17 55.1**	**-1.1**
RLS	**Riolos of Patr**	**0.94**	**108**	P	**Pg**	**11 17 54.8**	**-1.4**
RLS				AML	AML	11 18 14.3	
	comp=E,2636μm,0.5s						
RLS				AML	AML	11 18 15.9	
	comp=N,2907μm,0.5s						
PVO	**Paravola**	**0.97**	**74**	P	**Pg**	**11 17 56.3**	**-0.5**
PVO				S	**Sb**	**11 18 10.8**	**+1.5**
PVO	**Paravola**	**0.97**	**74**	P	**Pg**	**11 17 56.1**	**-0.8**
UPR	**University Cam**	**1.15**	**93**	P	**Pb**	**11 18 00.1**	**+0.5**
DRO	**Drossia**	**1.16**	**110**	P	**Pb**	**11 18 00.3**	**+0.5**
DRO				S	**Sn**	**11 18 17.1**	**+1.7**
	comp=N,2μm,0.5s						
DRO	**Drossia**	**1.16**	**110**	P	**Pg**	**11 17 59.3**	**-1.1**
EFP	**Efpalio**	**1.24**	**86**	P	**Pg**	**11 18 01.1**	**-0.8**
EFP				S	**Sn**	**11 18 19.5**	**+2.2**
	comp=N,1μm,0.5s						
EFP	**Efpalio**	**1.24**	**86**	P	**Pg**	**11 17 59.8**	**-2.1**
EFP				AML	AML	11 18 21.8	
	comp=N,3276μm,0.5s						
EFP				AML	AML	11 18 22.6	
	comp=E,2329μm,0.4s						
ANX	**Ano Chora**	**1.27**	**79**	P	**Pg**	**11 18 01.6**	**-0.9**
ANX				S	**Sn**	**11 18 20.9**	**+2.7**
ANX	**Ano Chora**	**1.27**	**79**	P	**Pg**	**11 18 00.2**	**-2.3**
ANX				AML	AML	11 18 23.7	
	comp=N,3353μm,0.7s						
ANX				AML	AML	11 18 24.2	
	comp=E,3914μm,0.7s						
EVR	**Evrytania**	**1.28**	**64**	P	**Pg**	**11 18 02.5**	**-0.3**
EVR				S	**Sn**	**11 18 21.1**	**+2.5**
	comp=E,680nm,0.6s						
EVR	**Ev

GUR				AML	AML	11 18 32.5
	comp=E,1382μm,0.3s					
AGG	**Agios Georgios**	**1.70**	**66**	P	**Pn**	**11 18 08.9 +1.7**
AGG	**Agios Georgios**	**1.70**	**66**	P	**Pn**	**11 18 08.2 +0.9**
ITM	**Ithomi**	**1.73**	**132**	P	**Pn**	**11 18 09.1 +1.5**
ITM	**Ithomi**	**1.73**	**132**	P	**Pn**	**11 18 09.3 +1.7**
ITM				AML	AML	11 18 40.1
	comp=N,491μm,0.5s					
ITM				AML	AML	11 18 47.9
	comp=E,412μm,0.4s					
THL	**Klokotos Trika**	**1.78**	**47**	P	**Pn**	**11 18 10.0 +1.7**
THL				S	**Sg**	**11 18 34.5 -0.8**
THL	**Klokotos Trika**	**1.78**	**47**	P	**Pn**	**11 18 10.0 +1.7**
THL				AML	AML	11 18 39.5
	comp=N,587μm,0.8s					
THL				AML	AML	11 18 39.8
	comp=E,889μm,0.7s					
KPRO	**Kipourio**	**1.79**	**26**	P	**Pb**	**11 18 10.5 0.0**
PYL	**PYLOS**	**1.84**	**142**	P	**Pn**	**11 18 10.3 +1.2**
PYL	**PYLOS**	**1.84**	**142**	P	**Pn**	**11 18 10.8 +1.6**
AXAR	**Agios Charalam**	**1.87**	**77**	P	**Pn**	**11 18 11.4 +1.9**
AXAR	**Agios Charalam**	**1.87**	**77**	P	**Pn**	**11 18 10.7 +1.1**
AXAR				AML	AML	11 18 48.9
	comp=N,2606μm,0.7s					
AXAR				AML	AML	11 18 49.6
	comp=E,2011μm,0.9s					
LOUT	**Loutraki**	**2.12**	**99**	P	**Pn**	**11 18 14.1 +1.2**
LOUT	**Loutraki**	**2.12**	**99**	P	**Pn**	**11 18 13.7 +0.8**
VLO	**Vlora**	**2.21**	**343**	P	**Pn**	**11 18 16.6 +2.5**
	baz=345					
SCTE	**Santa Cesarea**	**2.24**	**320**	P	**Pn**	**11 18 14.9 +0.2**
	baz=320					
SCTE				S	**Sn**	**11 18 42.8 +0.7**
	baz=320					
SCTE				AMP		
	comp=N,0.5nm,0.4s,baz=320					
VIL2	**Platees**	**2.31**	**93**	P	**Pn**	**11 18 17.2 +1.5**
VIL2				AML	AML	11 19 01.8
	comp=N,492μm,0.4s					
VIL2				AML	AML	11 19 07.5
	comp=E,530μm,0.6s					
EPID	**Epidavros**	**2.32**	**108**	P	**Pn**	**11 18 16.2 +0.4**
VILL	**Villia**	**2.35**	**94**	P	**Pn**	**11 18 17.6 +1.4**
KRND	**KRANIDI**	**2.43**	**113**	P	**Pn**	**11 18 19.2 +1.9**
FNA	**Florina**	**2.55**	**18**	P	**Pn**	**11 18 21.5 +2.5**
	baz=21					
FNA				S	**Sn**	**11 18 52.4 +2.5**
	baz=21					
FNA				AMP		
	comp=N,0.2nm,0.4s,baz=21					
FNA	**Florina**	**2.55**	**18**	P	**Pn**	**11 18 21.0 +2.0**
FNA	**Florina**	**2.55**	**18**	*e*Pn	**Pn**	**11 18 21.6 +2.6**
FNA				*e*Sn	**Sb**	**11 18 55.4 +0.5**
FNA	**Florina**	**2.55**	**18**	P	**Pn**	**11 18 21.4 +2.3**
VLI	**Veliai**	**2.64**	**128**	P	**Pn**	**11 18 22.5 +2.4**
VLI	**Veliai**	**2.64**	**128**	P	**Pn**	**11 18 21.3 +1.2**
ATHU	**Athens Univers**	**2.75**	**97**	P	**Pn**	**11 18 22.1 +0.5**
OHR	**Ohrid**	**2.77**	**7**	*i* Pn	**Pb**	**11 18 27.2 -0.1**
DION	**Dionisos Attik**	**2.85**	**95**	P	**Pn**	**11 18 25.1 +2.1**
DION	**Dionisos Attik**	**2.85**	**95**	P	**Pn**	**11 18 24.1 +1.0**
TIR	**Tirane**	**3.01**	**353**	*e*Pn	**Pn**	**11 18 29.4 +4.2**
NOCI	**Noci**	**3.50**	**315**	P	**Pn**	**11 18 34.0 +2.0**
	baz=315					
NOCI				S	**Sn**	**11 19 14.0 +0.7**
	baz=315					
NOCI				AMP		
	comp=N,0.7nm,0.1s,baz=315					
PUK	**Puka**	**3.70**	**355**	P	**Pn**	**11 18 36.9 +2.2**
	baz=357					
PUK				S	**Sn**	**11 19 19.7 +1.6**
	baz=357					
PUK				AMP		
	comp=N,0.1nm,0.1s,baz=357					
SRS	**Serrai**	**3.73**	**41**	*e*Pn	**Pn**	**11 18 38.6 +3.5**
BOSS	**Bosilegrad**	**4.45**	**21**	*e*Pn	Pn	11 18 50.7 +5.7
DBRK	**Dubrovnik**	**4.62**	**340**	*e*Pn	**Pn**	**11 18 48.4 +1.1**
SGRT	**San Giovanni R**	**4.89**	**315**	P	**Pn**	**11 18 53.1 +2.0**
	baz=315					
SELS	**Selova**	**4.89**	**7**	*e*Pn	**Pn**	**11 18 54.0 +2.9**
SJES	**Sjenica**	**4.91**	**357**	*e*Pn	**Pn**	**11 18 55.5 +4.1**
STON	**Ston**	**4.93**	**337**	*e*Pn	**Pn**	**11 18 52.2 +0.6**
ZAPS	**Zavoj**	**5.21**	**19**	*e*Pn	Pn	11 19 01.4 +5.9
MAKA	**Makarska**	**5.53**	**334**	*e*Pn	**Pn**	**11 19 01.0 +1.2**
MAKA				Sn	**Sn**	**11 20 00.7 -2.4**
HVAR	**Hvar**	**5.64**	**330**	*e*Pn	**Pn**	**11 19 01.9 +0.5**
RICI	**Ricice**	**5.67**	**336**	*e*Pn	**Pn**	**11 19 03.0 +1.2**
RICI				Sn	**Sn**	**11 20 05.3 -1.5**
DIVS	**Divibare**	**5.74**	**358**	*e*Pn	**Pn**	**11 19 04.9 +2.1**
TRUS	**Trudelj**	**5.86**	**1**	*e*Pn	**Pn**	**11 19 06.8 +2.4**
ZIRJ	**Zirje**	**6.37**	**328**	*e*Pn	**Pn**	**11 19 11.9 +0.6**
KIJV	**Kijevo**	**6.37**	**334**	*e*Pn	**Pn**	**11 19 12.7 +1.3**
MORI	**Morici**	**6.52**	**329**	*e*Pn	**Pn**	**11 19 14.4 +1.0**
DUGI	**Dugi Otok**	**6.89**	**326**	*e*Pn	**Pn**	**11 19 19.7 +1.2**
UDBI	**Udbina**	**7.05**	**332**	*e*Pn	**Pn**	**11 19 21.7 +0.9**
NVLJ	**Novalja**	**7.43**	**328**	*e*Pn	**Pn**	**11 19 27.4 +1.5**
SOKA	**Soboth**	**9.19**	**337**	*e*Pn	**Pn**	**11 19 50.9 +0.8**
	comp=N,0.3nm,0.2s					
MOA	**Molln**	**10.47**	**337**	*i* Pn	**Pn**	**11 20 08.7 +1.1**
	comp=N,0.5nm,0.3s					
LESA	**Schwarzleotal**	**10.65**	**331**	*e*Pn	**Pn**	**11 20 11.5 +1.3**
	comp=N,1.1nm,0.5s					
WTTA	**Wattenberg**	**10.95**	**327**	*e*Pn	**Pn**	**11 20 15.8 +1.5**
	comp=N,0.5nm,0.3s					
GERES	**GERESS Array B**	**11.53**	**338**	Pn	**Pn**	**11 20 23.2 +1.0**
	comp=N,0.1nm,0.3s,baz=150,slow=9.9,SNR=1.2					
	comp=N,0.1nm,0.3s					
ESDC	**Sonseca Array**	**18.91**	**282**	P	**Pn**	**11 22 00.5 +1.6**
	comp=N,0.1nm,0.3s,baz=79,slow=12,SNR=2.2					
	comp=N,0.4nm,0.8s					
HFS	**Hagfors**	**22.20**	**351**	LR	LR	11 31 31.8
	comp=N,32nm,21.1s,baz=70,slow=38					
FINES	**FINESS Array B**	**23.39**	**7**	P	**P**	**11 22 44.0 -1.9**
	comp=N,1.0nm,0.7s,baz=187,slow=9.8,SNR=1.4					
	comp=N,1.0nm,0.7s					
MKAR	**Makanchi Array**	**45.33**	**58**	P	**P**	**11 25 52.9 -2.5**
	comp=N,0.3nm,0.5s,baz=276,slow=7.6,SNR=4.4					
	comp=N,0.3nm,0.5s					
ZALV	**Zalesovo Beam**	**45.68**	**48**	P	**P**	**11 25 56.6 -1.4**
	comp=N,0.9nm,0.4s,baz=283,slow=8.8,SNR=2.4					
	comp=N,0.9nm,0.4s					

IDC 29 11:25:22.5±11.0, 2°.83N×127°.98E, h90km±101km, mb3.4/5, mbtmp3.7/5, Error ellipse: s-maj=128.3km s-min=29.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.48**	**165**	P	P	11 30 24.2	-0.1
	1.2nm,0.6s,baz=345,slow=10.0,SNR=19						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**26.96**	**168**	P	P	11 30 56.1	+0.2
	0.2nm,0.6s,baz=348,slow=7.2,SNR=6.6						
ASAR				PcP	PcP	11 34 15.8	+0.1
	0.3nm,0.5s,baz=359,slow=1.9,SNR=6.4						
	0.2nm,0.6s						
STKA	**Stephens Creek**	**36.86**	**160**	P	P	11 32 22.2	-0.1
	0.9nm,0.2s,baz=330,slow=10,SNR=6.6						
	0.9nm,0.2s						
H11N1	**WAKE ISLAND Hy**	**41.53**	**63**	T	T	12 17 20.6	
	baz=250						
H11N2	**WAKE ISLAND Hy**	**41.54**	**63**	T	T	12 17 28.3	
	baz=250						
H11N3	**WAKE ISLAND Hy**	**41.55**	**63**	T	T	12 17 22.1	
	baz=250						
KURBB	**Kurchatov Arra**	**63.17**	**327**	P	P	11 35 40.9	-0.1
	0.3nm,0.7s,baz=121,slow=6.6,SNR=2.7						
	0.3nm,0.7s						
VNDA	**Vanda**	**82.38**	**173**	P	P	11 37 33.7	-0.4
	0.3nm,0.3s,baz=339,slow=3.5,SNR=6.8						
	0.3nm,0.3s						

*SJA **29** 11:29:22.8±0.7, 21°.84S×68°.50W, h137km±5km, ML4.5, MW4.2*

*IDC **29** 11:29:23.1±0.7, 21°.74S×68°.27W, h110km±6km, mb4.1/16, mbtmp4.5/20, MS3.5/2, Error ellipse: s-maj=14.3km s-min=10.4km az=84.0*

*NEIC **29** 11:29:23.9, 21°.82S×68°.31W, h112km*

*NEIC **29** 11:29:24.0±2.2, 21°.81S±0°.05×68°.30W±0°.07, h112km±5km, mb4.5/48, Mwr4.4/16, Mwr4.4(GUC), Error ellipse: s-maj=9.9km s-min=7.5km az=78.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-4.53; $M_{\theta\theta}$2.61; $M_{\phi\phi}$1.92; $M_{r\theta}$1.50; $M_{\theta\phi}$-2.25; $M_{\phi r}$-2.31; Fault*

plane solution: $M_0$5.31000×10^{15} NP1:ϕ_s122.58000°, δ30.41000°, λ-104.20000°. NP2:ϕ_s318.93000°, δ60.61000°, λ-81.81000°. Principal axes: T 5.2640, Plg15.0000°, Azm43.0000°; N 0.0811, Plg7.0000°, Azm135.0000°; P -5.3452, Plg73.0000°, Azm249.0000°;

*VAO **29** 11:29:25.8±0.8, 21°.50S×68°.09W, h105km±8km, mb4.7*

*GUC **29** 11:29:25.2±0.7, 21°.82S×68°.48W, h118km±4km, ML4.5*

ISC 29 11:29:23.8±0.6, 21°.78S±0°.03×68°.39W±0°.04, h116km±5km, n302, σ1$32/328, mb4.5/36, 10C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.79**	**269**		**Pn**	**11 29 44.6**	**+0.9**
PB09				Sn	**Sn**	**11 29 59.2**	**+0.5**
PB09	**IPOC Station P**	**0.79**	**269**	⇑*i*P	**Pn**	**11 29 44.5**	**+0.9**
PB09				*e*S	**Sn**	**11 29 59.3**	**+0.7**
LVC	**Limon Verde**	**0.96**	**210**		**Pn**	**11 29 45.4**	**0.0**
LVC	**Limon Verde**	**0.96**	**210**	*e*P	**Pn**	**11 29 45.9**	**+0.4**
LVC				*e*S	**Sn**	**11 30 03.1**	**+1.3**
LVC	**Limon Verde**	**0.96**	**210**	P	**Pn**	**11 29 45.8**	**+0.4**
	5μm,0.3s,baz=19,slow=6.8,SNR=3224						
LVC				S	**Sn**	**11 30 01.9**	**+0.2**
	2μm,0.4s,baz=179,slow=19,SNR=21						
LVC	**Limon Verde**	**0.96**	**210**	*e*P	**Pn**	**11 29 45.7**	**+0.3**
LVC				*e*S	**Sn**	**11 30 02.0**	**+0.2**
LVC				IAML		11 30 03.7	
	comp=Z,22μm,0.7s						
AF01	**San Pedro de A**	**1.18**	**170**		**Pn**	**11 29 48.7**	**+1.0**
AF01	**San Pedro de A**	**1.18**	**170**	*e*P	**Pn**	**11 29 49.1**	**+1.4**
AF01				IAML		11 30 35.5	
	comp=Z,7μm,0.8s						
AF01	**San Pedro de A**	**1.18**	**170**	⇑*i*P	**Pn**	**11 29 49.1**	**+1.4**
AF01				*e*S	**Sn**	**11 30 07.4**	**+1.6**
PB06	**IPOC Station P**	**1.43**	**230**		**Pn**	**11 29 50.1**	**-0.2**
PB06	**IPOC Station P**	**1.43**	**230**	*e*P	**Pn**	**11 29 50.1**	**-0.2**
PB06				*e*S	**Sn**	**11 30 11.1**	**+0.7**
PB06				IAML		11 30 12.2	
	comp=Z,6μm,0.9s						
PB06	**IPOC Station P**	**1.43**	**230**	⇑*i*P	**Pn**	**11 29 50.5**	**+0.2**
PB06				*e*S	**Sn**	**11 30 10.3**	**-0.1**
PB06				IAML		11 30 12.7	
	comp=E,5μm,0.5s						
PB04	**IPOC Station P**	**1.72**	**251**		**Pn**	**11 29 53.0**	**-0.8**
PB04	**IPOC Station P**	**1.72**	**251**	*e*P	**Pn**	**11 29 53.4**	**-0.3**
PB04				*e*S	**Sn**	**11 30 16.7**	**+0.1**
PB04				IAML		11 30 22.4	
	comp=Z,3μm,0.5s						
PB04	**IPOC Station P**	**1.72**	**251**	⇑*i*P	**Pn**	**11 29 53.4**	**-0.3**
PB04				*e*S	**Sn**	**11 30 15.5**	**-1.1**
PB04				IAML		11 30 18.2	
	comp=E,3μm,0.4s						
PB15	**IPOC Station P**	**1.74**	**215**		**Pn**	**11 29 53.7**	**-0.3**
PB15	**IPOC Station P**	**1.74**	**215**	*e*P	**Pn**	**11 29 54.1**	**+0.1**
PB15				*e*S	**Sn**	**11 30 19.8**	**+2.8**
PB15				IAML		11 30 26.3	
	comp=Z,5μm,0.3s						
PB15	**IPOC Station P**	**1.74**	**215**	⇑*i*P	**Pn**	**11 29 54.3**	**+0.3**
PB15				*e*S	**Sn**	**11 30 17.4**	**+0.4**
PX03	**IPOC Station P**	**1.79**	**320**	*e*P	**Pn**	**11 29 54.8**	**+0.2**
PX03				*e*S	**Sn**	**11 30 18.4**	**+0.4**
PATCX	**Punta Patache**	**1.90**	**300**	⇑*i*P	**Pn**	**11 29 56.0**	**+0.1**
PATCX				*e*S	**Sn**	**11 30 20.0**	**-0.3**
PATCX				IAML		11 30 28.6	
	comp=E,5μm,0.2s						
PB05	**IPOC Station P**	**1.99**	**237**	⇑*i*P	**Pn**	**11 29 56.5**	**-0.5**
PB05				*e*S	**Sn**	**11 30 20.7**	**-1.7**
TA01	**Diego Aracena**	**2.06**	**306**		**Pn**	**11 29 57.3**	**-0.5**
TA01	**Diego Aracena**	**2.06**	**306**	*e*P	**Pn**	**11 29 57.9**	**+0.1**
TA01				*e*S	**Sn**	**11 30 25.6**	**+1.8**
TA01	**Diego Aracena**	**2.06**	**306**	⇑*i*P	**Pn**	**11 29 57.7**	**-0.1**
TA01				*e*S	**Sn**	**11 30 23.1**	**-0.7**
TA01				IAML		11 30 26.1	
	comp=E,4μm,0.3s						
TA02	**Huaiquique**	**2.21**	**312**		**Pn**	**11 30 00.0**	**+0.3**
TA02	**Huaiquique**	**2.21**	**312**	*e*P	**Pn**	**11 30 00.1**	**+0.4**
TA02				*e*S	**Sn**	**11 30 27.8**	**+0.6**
TA02				IAML		11 30 35.7	
	comp=Z,2μm,0.1s						
TA02	**Huaiquique**	**2.21**	**312**	*e*P	**Pn**	**11 30 00.0**	**+0.3**
TA02				*e*S	**Sn**	**11 30 27.1**	**-0.1**
GO01	**Chusmiza**	**2.23**	**340**		**Pn**	**11 30 01.2**	**+0.7**
GO01	**Chusmiza**	**2.23**	**340**	*e*P	**Pn**	**11 30 01.9**	**+1.4**
GO01				*e*P		11 30 02.0	
GO01				*e*S	**Sn**	**11 30 30.5**	**+2.1**
GO01				IAML		11 30 33.4	
	comp=Z,2μm,0.3s						
GO01	**Chusmiza**	**2.23**	**340**	⇑*i*P	**Pn**	**11 30 01.7**	**+1.3**
GO01				*e*S	**Sn**	**11 30 29.9**	**+1.4**
GO01				IAML		11 30 33.4	
	comp=N,4μm,0.2s						
PB11	**IPOC Station P**	**2.33**	**329**	Pn	**Pn**	**11 30 01.4**	**0.0**
PB11	**IPOC Station P**	**2.33**	**329**	*e*P	**Pn**	**11 30 02.0**	**+0.6**
PB11				*e*S	**Sn**	**11 30 31.5**	**+1.3**
PB11				IAML		11 30 32.5	
	comp=Z,2μm,0.3s						
PB11	**IPOC Station P**	**2.33**	**329**	⇑*i*P	**Pn**	**11 30 01.9**	**+0.4**
PB11				*e*S	**Sn**	**11 30 30.5**	**+0.3**
YJA	**Yavi**	**2.70**	**99**	*e*P	**Pn**	**11 30 09.6**	**+3.2**
PB14	**IPOC Station P**	**3.38**	**213**	Pn	**Pn**	**11 30 17.4**	**+2.1**
PB14	**IPOC Station P**	**3.38**	**213**	*e*P	**Pn**	**11 30 14.5**	**-0.9**
PB14				*e*S	Sn	11 30 40.8	-14
PB14				IAML		11 31 21.3	
	comp=Z,651nm,0.7s						
GO02	**Mina Guanaco**	**3.54**	**198**	Pn	**Pn**	**11 30 16.4**	**-1.1**
GO02	**Mina Guanaco**	**3.54**	**198**	*e*P	**Pn**	**11 30 16.9**	**-0.5**
AP01	**Chacalluta**	**3.85**	**331**	*e*P	**Pn**	**11 30 22.4**	**+1.1**
AP01				*e*S	**Sn**	**11 31 08.1**	**+2.2**
AP01				IAML		11 31 13.4	
	comp=Z,744nm,0.2s						
AZAP	**Zapla**	**3.91**	**129**	*e*P	**Pn**	**11 30 24.0**	**+1.7**
SLA	**San Lorenzo**	**3.95**	**138**	*e*P	**Pn**	**11 30 25.9**	**+3.2**
SLA				*e*S	Sn	11 30 51.2	-17
PB18	**Visviri**	**4.29**	**346**		**Pn**	**11 30 30.3**	**+2.6**
AC01	**Pan de Azucar**	**4.79**	**204**	*e*P	**Pn**	**11 30 31.7**	**-2.2**
AC01				*e*S	**Sn**	**11 31 23.5**	**-4.9**
AC01				IAML		11 31 41.3	
	comp=Z,247nm,0.8s						
LPAZ	**La Paz**	**5.47**	**3**	Pn	**Pn**	**11 30 45.4**	**+1.8**
LPAZ	**La Paz**	**5.47**	**3**	P	**Pn**	**11 30 44.2**	**+0.6**
	comp=Z,54nm,0.3s,baz=180,slow=4.4,SNR=288						
AC06	**Mina Casimiro**	**5.83**	**197**		**Pn**	**11 30 44.4**	**-3.6**
GO03	**Copiap**	**6.03**	**196**		**Pn**	**11 30 46.8**	**-3.9**
AC04	**Llanos de Chal**	**6.84**	**200**	Pn	Pn	11 30 57.0	-4.6
AC05	**El Transito**	**7.23**	**193**		**Pn**	**11 31 03.2**	**-3.7**
CO01	**Juntas del Tor**	**8.31**	**190**		**Pn**	**11 31 18.4**	**-3.2**
GO04	**Tololo Observa**	**8.63**	**194**		**Pn**	**11 31 21.7**	**-4.3**
SIV	**San Ignacio**	**9.01**	**52**	P	**Pn**	**11 31 27.8**	**-3.1**
	comp=Z,74nm,0.3s,baz=236,slow=11,SNR=390						
SIV				S	**Sn**	**11 33 05.4**	**-5.3**
	comp=Z,11nm,0.5s,baz=304,slow=20,SNR=4.0						
CO03	**El Pedregal**	**9.26**	**192**		Pn	11 31 29.4	-4.9
MURT	**Porto Murtinho**	**10.02**	**91**	*e*P	**Pn**	**11 31 42.4**	**-2.3**
PTLB	**Pontes e Lacer**	**10.80**	**56**	Pn	**Pn**	**11 31 52.6**	**-2.5**
CPUP	**Villa Florida**	**11.07**	**116**	*e*P	**Pn**	**11 31 58.2**	**-0.6**
MT08	**Bocatoma Ro**	**11.71**	**187**		**Pn**	**11 32 05.7**	**-1.7**
VILB	**Vilhena**	**11.75**	**43**	Pn	**Pn**	**11 32 01.7**	**-0.3**
AQDB	**Aquidauana**	**11.92**	**86**	*e*P	**Pn**	**11 32 07.4**	**-2.6**
ETMB	**Extrema**	**12.08**	**10**	Pn	**Pn**	**11 32 09.5**	**-2.7**
ETMB	**Extrema**	**12.08**	**10**	*e*P	**Pn**	**11 32 08.9**	**-3.3**
NNA	**Nana**	**12.65**	**319**	P	**Pn**	**11 32 20.8**	**+1.0**
	comp=Z,9.6nm,0.9s,baz=163,slow=13,SNR=2.3						
NNA				S	**Sn**	**11 34 36.2**	**-2.9**
	comp=Z,3.5nm,0.3s,baz=145,slow=12,SNR=2.0						
ITQB	**Itaqui**	**13.19**	**129**	*e*P	**Pn**	**11 32 28.3**	**+1.6**
SALV	**Santo Antonio**	**13.36**	**66**	*e*P	**Pn**	**11 32 26.4**	**-2.5**
ML02	**Panimavida**	**14.18**	**190**		**Pn**	**11 32 37.3**	**-2.1**
RODS	**Rosario do Sul**	**14.60**	**128**	*e*P	**P**	**11 32 47.3**	**-0.6**
TRCB	**Terra Rica**	**14.62**	**97**	*e*P	**Pn**	**11 32 45.0**	**-0.1**
TBOT	**Tacuaremb**	**14.86**	**134**	*e*P	**P**	**11 32 49.7**	**-1.1**
BI02	**San Fabin de**	**15.04**	**189**	Pn	**Pn**	**11 32 48.9**	**-1.5**
BI02				IAmb	IAmb	11 32 51.1	
	comp=Z,25nm,0.9s						
PDRB	**Porto dos Gac**	**15.06**	**50**	*e*P	**Pn**	**11 32 46.8**	**-3.9**
ALGR	**Alto Alegre (B**	**15.55**	**120**	*e*P	**P**	**11 32 58.6**	**0.0**
ITAB	**Concordia**	**15.76**	**113**		**P**	**11 33 00.0**	**-0.8**
ITAB	**Concordia**	**15.76**	**113**	*e*P	**P**	**11 33 01.0**	**+0.1**
PCMB	**Pacaembu**	**15.92**	**93**	*e*P	**P**	**11 33 01.5**	**-1.2**
LDASE	**Londrina, Braz**	**16.04**	**99**	*e*P	**P**	**11 33 04.1**	**+0.1**
CLDB	**Colider**	**16.23**	**50**	*e*P	**Pn**	**11 33 04.0**	**-1.1**
PLTB	**Pedras Altas**	**16.51**	**130**	*e*P	**P**	**11 33 11.4**	**+2.2**
ARAG	**Araguaiana, MT**	**16.82**	**72**	*e*P	**P**	**11 33 12.3**	**-0.4**
ITRB	**Iturama**	**16.99**	**86**	*e*P	**P**	**11 33 14.8**	**+0.3**
TRQA	**Tornquist**	**17.14**	**163**	P	**P**	**11 33 13.8**	**-2.3**
TRQA	**Tornquist**	**17.14**	**163**	*e*P	**Pn**	**11 33 21.9**	**+5.7**
FRTB	**Fartura**	**17.46**	**99**	*e*P	**Pn**	**11 33 20.1**	**-0.1**
TBTG	**Tabatinga, AM**	**17.55**	**355**	*e*P	**P**	**11 33 20.8**	**+0.1**
GO06	**Curarrehue**	**17.94**	**188**	P	**P**	**11 33 24.3**	**-0.6**
BB19B	**Bebedouro**	**18.51**	**91**	*e*P	**P**	**11 33 30.8**	**-0.5**
TEFE	**Tefe**	**18.52**	**12**	*e*P	**P**	**11 33 30.4**	**-1.0**
PLCA	**Paso Flores**	**18.98**	**185**	P	**P**	**11 33 36.8**	**+0.6**
PLCA	**Paso Flores**	**18.98**	**185**	P	**P**	**11 33 37.2**	**+1.0**
	comp=Z,2.9nm,0.7s,baz=18,slow=11,SNR=9.1						
PLCA				PcP	**PcP**	**11 37 57.1**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=315,slow=5.7,SNR=4.3						
PLCA	**Paso Flores**	**18.98**	**185**	*e*P	**Pn**	**11 33 40.6**	**+2.4**
SNDB	**Serra Nova Dou**	**19.03**	**62**	*e*P	**P**	**11 33 36.0**	**-0.9**
NPGB	**Novo Progresso**	**19.31**	**43**	*e*P	**P**	**11 33 38.0**	**-2.0**
IPMB	**Ipameri, GO**	**19.35**	**82**	*e*P	**P**	**11 33 39.4**	**-1.0**
SPB	**Sao Paulo**	**19.42**	**99**	*e*P	**P**	**11 33 40.2**	**-0.9**
PET01	**Itanhaem-SP**	**19.59**	**101**	*e*P	**P**	**11 33 42.4**	**-0.5**
VAO	**Valinhos**	**19.85**	**98**	P	**P**	**11 33 44.8**	**-1.0**
VAO				IAmb	IAmb	11 33 46.0	
	comp=Z,16nm,0.8s						
VAO	**Valinhos**	**19.85**	**98**	*e*P	**P**	**11 33 44.6**	**-1.2**
MACA	**Manacapuru-AM**	**19.96**	**23**	P	**P**	**11 33 45.4**	**-1.6**
MACA	**Manacapuru-AM**	**19.96**	**23**	*e*P	**P**	**11 33 45.3**	**-1.7**
BDFB	**Brasilia**	**20.23**	**76**		**P**	**11 33 49.2**	**-0.9**
BDFB	**Brasilia**	**20.23**	**76**	P	**P**	**11 33 48.4**	**-1.7**
	comp=Z,5.1nm,0.5s,baz=222,slow=7.3,SNR=11						
	comp=Z,5.1nm,0.5s						
PMNB	**Patos De Minas**	**20.86**	**85**	*e*P	**P**	**11 33 55.1**	**-1.7**
PARB	**Paraibuna**	**21.08**	**99**	*e*P	**P**	**11 33 57.6**	**-1.5**
ITTB	**Itaituba**	**21.22**	**37**	*e*P	**P**	**11 33 58.8**	**-1.7**
BSCB	**Bom Sucesso**	**22.00**	**92**	*e*P	**P**	**11 34 08.3**	**-0.6**
SLOR	**San Lorenzo -**	**23.12**	**333**	P	**P**	**11 34 23.1**	**+2.6**
ANTS	**Antisana-Sarah**	**23.20**	**334**	P	**P**	**11 34 22.6**	**+1.2**
ANTS				IAmb	IAmb	11 34 37.9	
	comp=Z,29nm,1.0s						
PRPB	**Parauapebas**	**23.74**	**52**	*e*P	**P**	**11 34 23.7**	**-1.9**
OTAV	**Otavalo**	**23.98**	**335**	*e*P	**P**	**11 34 31.1**	**+2.8**
BOAV	**Boa Vista**	**25.23**	**19**	P	**P**	**11 34 38.9**	**-0.2**
BOAV				IAmb	IAmb	11 34 42.0	
	comp=Z,10.0nm,0.7s						
BOAV	**Boa Vista**	**25.23**	**19**	*e*P	**P**	**11 34 39.4**	**+0.3**
MDP	**Montagnes des**	**30.85**	**32**	LR	LR	11 49 04.2	
	comp=Z,78nm,19.1s,baz=114,slow=38						
FDF	**Fort de France**	**36.98**	**12**	P	**P**	**11 36 21.7**	**-0.5**
MTO3	**Montecristo**	**41.42**	**328**	P	**P**	**11 36 59.7**	**+0.3**
MTO3				IAmb	IAmb	11 37 01.7	
	comp=Z,6.0nm,0.7s						
TEIG	**Tepich**	**46.05**	**334**	P	**P**	**11 37 36.1**	**0.0**
TEIG				IAmb	IAmb	11 37 37.0	
	comp=Z,12nm,1.1s						
DWPF	**Disney Wildern**	**51.17**	**345**	P	**P**	**11 38 15.1**	**-0.1**
	baz=164						
TIGA	**Tifton**	**54.88**	**344**	P	**P**	**11 38 41.7**	**-0.6**
	baz=163						
NHSC	**New Hope**	**55.73**	**348**	P	**P**	**11 38 49.0**	**+0.7**
	baz=167						
GOGA	**Godfrey**	**56.73**	**345**	P	**P**	**11 38 55.5**	**0.0**
	baz=163						
LRAL	**Lakeview Retre**	**57.33**	**341**	P	**P**	**11 38 59.7**	**-0.1**
	baz=159						
KMSC	**Kings Mountain**	**57.93**	**347**	P	**P**	**11 39 04.2**	**+0.3**
	baz=166						
833A	**Chaparral WMA,**	**58.11**	**328**	P	**P**	**11 39 05.2**	**-0.1**
	baz=146						
V55A	**Taylorsville**	**58.59**	**348**	P	**P**	**11 39 09.2**	**+0.7**
NATX	**Nacogdoches**	**58.88**	**334**	P	**P**	**11 39 10.5**	**-0

baz=144
214A Organ Pipe Nat 68.28 320 P P 11 40 13.0 +0.5
baz=136
DBIC Dimbokro 68.35 73 P P 11 40 12.8 -0.4
DBIC Dimbokro 68.35 73 P P 11 40 12.8 -0.4
comp=Z,9.4nm,0.6s,baz=226,slow=6.1,SNR=15
comp=Z,9.4nm,0.6s
QSPA South Pole Qui 68.41 180 P P 11 40 14.0 +1.1
QSPA South Pole Qui 68.41 180 P P 11 40 13.7 +0.7
comp=Z,9.0nm,0.5s,baz=165,slow=4.0,SNR=131
comp=Z,9.0nm,0.5s
SDCO Great Sand Dun 68.73 329 P P 11 40 16.1 +0.6
SDCO Great Sand Dun 68.73 329 P P 11 40 16.3 +0.8
baz=143,SNR=11
S22A 4UR Ranch, Cre 69.37 328 P P 11 40 20.3 +0.9
baz=142
Q24A Divide 69.54 330 P P 11 40 21.1 +0.6
baz=144
MVCO Mesa Verde 69.79 327 P P 11 40 22.5 +0.6
MVCO IAmb IAmb 11 40 24.2
comp=Z,18nm,1.5s
MVCO Mesa Verde 69.79 327 P P 11 40 22.7 +0.7
baz=140,SNR=6.8
WUAZ Wupatki 70.04 324 P P 11 40 24.4 +1.0
baz=138,SNR=8.8
GLA Glamis 70.26 320 P P 11 40 25.7 +1.0
baz=134
SMCO Snowmass 70.57 329 P P 11 40 28.2 +1.4
PDMCI Parker Dam,Lak 70.73 321 P P 11 40 28.7 +1.3
baz=135
IKP In-Ko-Pah, Jac 70.76 319 P P 11 40 28.9 +1.1
baz=133
SWSC Sam W. Stewart 70.78 319 P P 11 40 29.0 +1.3
baz=134
BC3 Big Chuckawall 71.06 320 P P 11 40 30.7 +1.2
baz=134
MONP2 Monument Peak 71.12 319 P P 11 40 31.3 +1.2
baz=133
IRM Iron Mountain 71.22 320 P P 11 40 31.9 +1.5
baz=134,SNR=6.0
NEE2 Needles Airpor 71.34 321 P P 11 40 32.8 +1.7
baz=135
N23A Red Feather La 71.45 331 P P 11 40 33.1 +1.1
baz=143
109C Camp Elliot, M 71.54 318 P P 11 40 33.9 +1.6
baz=133
BELC Belle Mtn. Jos 71.62 320 P P 11 40 34.2 +1.2
baz=134
TPFO Pinon Flats 71.63 319 P P 11 40 35.0 +2.0
baz=133
PFO Pinyon Flats O 71.63 319 P P 11 40 35.1 +2.0
baz=133
O20A White River Ci 71.93 329 P P 11 40 36.5 +1.7
baz=141,SNR=5.8
KNB Kanab 71.93 324 P P 11 40 35.3 +0.4
GMRC Granite Mounta 71.96 321 P P 11 40 36.5 +1.5
baz=134,SNR=14
MURC Murrieta 72.08 319 P P 11 40 37.0 +1.4
baz=133
SRU San Rafael Swe 72.27 327 P P 11 40 38.0 +1.2
SRU IAmb IAmb 11 40 39.0
comp=Z,8.5nm,0.7s
MTPU Mount Pierson 72.34 325 P P 11 40 38.9 +1.5
BBRC Big Bear Solar 72.36 319 P P 11 40 38.8 +1.3
baz=133
HEC Hector Ludlow 72.39 320 P P 11 40 39.3 +1.8
baz=134,SNR=7.9
MSU Marysvale 72.68 325 P P 11 40 40.5 +1.2
MVU Marysvale 72.69 325 P P 11 40 40.9 +1.5
BFSC Mount Baldy Ra 72.79 319 P P 11 40 40.9 +1.0
baz=133
RDMU Red Mountain 72.91 328 P P 11 40 40.8 +0.2
RDMU IAmb IAmb 11 40 42.5
comp=Z,5.8nm,0.8s
GSC Goldstone, Bar 73.00 320 P P 11 40 42.5 +1.4
baz=134,SNR=6.2
K22A Casper 73.12 332 P P 11 40 43.4 +1.7
baz=143
DECC Green Verdugo 73.21 319 P P 11 40 43.4 +1.1
baz=132
RSSD Black Hills 73.26 334 P P 11 40 44.1 +1.6
baz=146
EDW2 Edwards Air Fo 73.43 319 P P 11 40 45.1 +1.5
baz=132
PSUT Pine Spring 73.60 324 P P 11 40 46.2 +1.5
PSUT IAmb IAmb 11 40 47.4
comp=Z,4.4nm,0.7s
LRMC Laurel Mtn Rad 73.64 320 P P 11 40 46.2 +1.3
baz=133
TPNV Topopah Spring 73.81 322 P P 11 40 47.5 +1.6
baz=134,SNR=6.5
FURC Furnace Creek, 73.83 321 P P 11 40 47.6 +1.8
baz=134,SNR=5.4
MPMC Manual Prospec 73.92 320 P P 11 40 47.8 +1.2
baz=133
ISA Isabella, Lake 74.24 320 P P 11 40 49.4 +1.0
baz=132,SNR=5.8
DUG Dugway, Tooele 74.26 326 P P 11 40 49.4 +1.0
baz=138
R11B Troy Canyon, C 74.42 323 P P 11 40 50.6 +1.2
baz=135,SNR=7.6
GRAC Grapevine Rang 74.49 321 P P 11 40 50.5 +0.8
baz=133
CWC Cottonwood Cre 74.53 320 P P 11 40 50.7 +0.6
baz=133
PKM Mcpherson Peak 74.55 318 P P 11 40 51.1 +0.8
baz=131
BW06 Boulder Array 74.59 330 P P 11 40 51.1 +0.7
baz=141
PDAR Pinedale Array 74.59 330 P P 11 40 51.2 +0.8
PDAR Pinedale Array 74.59 330 P P 11 40 50.9 +0.5
comp=Z,1.0nm,0.6s,baz=130,slow=7.3,SNR=13
comp=Z,1.0nm,0.6s
GMN Gold Mountain 74.64 321 P P 11 40 51.9 +1.1
VES Vestal, Richgr 74.73 319 P P 11 40 52.0 +0.9
baz=132,SNR=5.4
MDND Maddock 74.76 339 P P 11 40 51.7 +0.7
baz=150
SMMC Simmler 74.94 318 P P 11 40 53.4 +1.0
baz=131
VOG Valley Oaks Go 75.23 320 P P 11 40 55.2 +1.3
baz=132
ULM Lac du Bonnet 75.73 342 P P 11 40 55.9 -0.5
ULM IAmb IAmb 11 41 17.5
comp=Z,4.3nm,0.6s
ULM Lac du Bonnet 75.73 342 P P 11 40 55.9 -0.5
comp=Z,1.8nm,0.4s,baz=159,slow=7.5,SNR=10.0
comp=Z,1.8nm,0.4s
MLAC Mammoth, Mammo 75.78 321 P P 11 40 58.3 +1.0
baz=132
OMMB Old Mammoth Mi 75.86 321 P P 11 40 58.8 +0.9
OMMB IAmb IAmb 11 41 00.4
comp=Z,6.1nm,0.9s
NVAR Mina Array Bea 76.01 322 P P 11 40 59.7 +1.1
comp=Z,1.8nm,0.8s,baz=160,slow=6.5,SNR=16
comp=Z,1.8nm,0.8s
FLWY Flagg Ranch 76.14 330 P P 11 41 00.6 +1.4
FLWY IAmb IAmb 11 41 01.9
comp=Z,8.8nm,0.9s
LAO LASA Array 76.24 334 P P 11 41 00.0 +0.5
baz=144
RLMT Red Lodge 76.29 332 P P 11 41 00.9 +0.9
baz=141
SCHQ Schefferville 76.31 1 P P 11 40 59.0 -0.7
comp=Z,1.5nm,0.5s,baz=153,slow=6.8,SNR=4.0
comp=Z,1.5nm,0.5s
H17A Grant Village 76.32 330 P P 11 41 01.3 +1.0
baz=140
DGMT Dagmar 76.92 336 P P 11 41 05.0 +1.7
baz=146
YHL Hebgen Lake 76.94 330 P P 11 41 05.4 +1.6
YHL IAmb IAmb 11 41 06.8
comp=Z,11nm,1.4s
TOA0 Torodi Ar. Sit 77.00 70 P P 11 41 03.7 -0.7
TOA0 IAmb IAmb 11 41 06.0
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 77.00 70 P P 11 41 03.4 -1.0
TORD IAmb IAmb 11 41 05.9
comp=Z,9.5nm,0.8s
TORD Torodi Ar. Bea 77.00 70 P P 11 41 03.4 -1.0
comp=Z,8.1nm,0.6s,baz=264,slow=5.8,SNR=65
comp=Z,8.1nm,0.6s
HLID Hailey 77.53 328 P P 11 41 07.9 +0.9
baz=137
BOZ Bozeman (W) 77.72 331 P P 11 41 09.1 +1.2
baz=139
DLMT Dillon 77.99 330 P P 11 41 10.3 +0.9
EGMT Eagleton 78.76 333 P P 11 41 14.7 +1.2
baz=141
MSO Missoula 79.70 330 P P 11 41 20.2 +1.5
baz=138
BMO Blue Mountains 79.91 327 P P 11 41 21.1 +1.2
BMO IAmb IAmb 11 41 22.1
comp=Z,4.9nm,0.8s
F10A Beach Ranch, E 80.66 328 P P 11 41 24.7 +0.9
YBH Yreka Blue Hor 80.73 322 P P 11 41 24.0 -0.3
comp=Z,2.3nm,0.8s,baz=116,slow=2.4,SNR=7.1
comp=Z,2.3nm,0.8s
PINE Pine Mountain 81.09 324 P P 11 41 28.2 +1.9
PINE IAmb IAmb 11 41 29.1
comp=Z,7.3nm,0.8s
BOSA Boshof 82.89 118 P P 11 41 35.7 -0.5
comp=Z,3.2nm,0.4s,baz=252,slow=3.8,SNR=23
comp=Z,3.2nm,0.4s
MAW Mawson 83.92 163 P P 11 41 40.6 +0.1
comp=Z,4.4nm,0.6s,baz=200,slow=6.3,SNR=17
comp=Z,4.4nm,0.6s
ESDC Sonseca Array 85.69 44 P P 11 41 49.8 -0.1
comp=Z,1.8nm,1.1s,baz=216,slow=6.3,SNR=6.2
comp=Z,1.8nm,1.1s
SFJD Kangerlussuaq 89.50 7 LR LR 12 23 39.6
comp=Z,25nm,18.9s,baz=69,slow=36
YKA Yellowknife Ar 91.61 340 P P 11 42 16.8 -0.4
comp=Z,3.7nm,0.8s,baz=137,slow=4.1,SNR=7.4
comp=Z,3.7nm,0.8s
Q32M Nakina River 95.94 332 P P 11 42 38.1 +0.7
baz=123
SIT Sitka 96.31 330 P P 11 42 39.8 +0.9
baz=121
R32K Eaglecrest 96.57 331 P P 11 42 41.1 +1.0
baz=121
P30M Million Dollar 98.58 332 P P 11 42 49.4 +0.2
baz=119
E29M Blow River 102.83 339 P Pdif 11 43 08.6 +0.8
baz=117
J26L Joseph Creek 103.27 335 P Pdif 11 43 11.1 +1.1
baz=113
M24K Tolsona, Glenn 103.48 332 P Pdif 11 43 11.7 +0.8
baz=111
J25K Salcha River, 104.04 334 P Pdif 11 43 13.9 +0.5
baz=111
KNK Knik Glacier 104.26 331 P Pdif 11 43 15.0 +0.6
baz=109
WAT6 Susitna Watana 104.33 332 P Pdif 11 43 15.3 +0.4
baz=110
PMR Palmer 104.62 331 P Pdif 11 43 16.7 +0.8
baz=108
F26K Sheenjek River 104.69 338 P Pdif 11 43 17.4 +1.2
baz=111
HFS Hagfors 104.79 31 PKiKP PKiKP 11 47 31.8 +0.4
comp=Z,0.7nm,0.3s,baz=346,slow=5.2,SNR=10
G24K Handweenziz Riv 105.57 336 P PKiKP 11 47 33.2 +0.5
baz=109
SII Sitkinak Islan 105.63 325 P PKiKP 11 47 32.8 -0.3
baz=106
SKT Skwentna 105.83 331 P PKiKP 11 47 33.1 -0.2
baz=106
E17K Hotham Inlet 111.18 335 P PKiKP 11 47 43.5 +0.4
baz=96
D17K Noatak River 111.71 336 P PKiKP 11 47 44.6 +0.4
baz=94
K13K Kusilvak Mount 111.90 330 P PKiKP 11 47 44.5 -0.2
baz=95
TNA Tin City 113.55 333 P PKiKP 11 47 48.3 +0.6
baz=91
CTA Charters Tower 126.35 222 PKP PKPdf 11 48 14.2 +0.4
comp=Z,0.1nm,0.4s,baz=63,slow=6.8,SNR=1.7
ASAR Alice Springs 129.89 207 PKP PKPdf 11 48 20.4 0.0
comp=Z,3.6nm,0.8s,baz=149,slow=2.5,SNR=18
NRIK Norilʼsk 130.25 11 PKP PKPdf 11 48 19.0 -0.6
comp=Z,2.0nm,0.3s,baz=279,slow=3.5,SNR=1.9
WRA Warramunga Arr 132.96 210 PKP PKPdf 11 48 26.3 0.0
comp=Z,2.4nm,0.6s,baz=158,slow=1.8,SNR=27
BVAR Borovoye Array 135.75 35 PKP PKPdf 11 48 30.1 -0.4
comp=Z,1.0nm,0.5s,baz=327,slow=2.4,SNR=6.3
KURBB Kurchatov Arra 141.30 34 PKP PKPdf 11 48 40.8 +0.1
comp=Z,1.2nm,0.7s,baz=308,slow=2.2,SNR=9.7
ZAA0 Zalesovo Array 142.00 26 PKPdf PKPdf 11 48 43.0 +1.1
ZALV Zalesovo Beam 142.00 26 PKPdf PKPdf 11 48 42.6 +0.8
ZALV Zalesovo Beam 142.00 26 PKP PKPdf 11 48 42.1 +0.2
comp=Z,4.1nm,0.6s,baz=302,slow=2.6,SNR=15
NRN Naryn 144.23 49 PKPdf PKPab 11 48 44.9 +0.2
MK31 Makanchi Array 145.57 37 PKPdf PKPdf 11 48 49.1 +0.8
MKAR Makanchi Array 145.57 37 PKPdf PKPdf 11 48 49.2 +0.8
MKAR Makanchi Array 145.57 37 PKPbc PKPdf 11 48 48.9 +0.5
comp=Z,1.9nm,0.7s,baz=350,slow=2.9,SNR=19
JKA Kamikawa-asahi 146.08 318 PKPdf PKPdf 11 48 50.6 +1.4
GUMO Guam 147.34 261 PKPbc PKPdf 11 48 54.3 +2.1
comp=Z,16nm,0.7s,baz=130,slow=11,SNR=3.6
KLR Kulʼdur 148.28 335 PKPbc PKPbc 11 48 56.2 -0.1
comp=Z,2.5nm,0.7s,baz=356,slow=4.1,SNR=8.4
USRK Ussuriysk Ar. 152.00 328 PKPbc PKPbc 11 49 04.8 -0.6
comp=Z,5.0nm,0.9s,baz=307,slow=0.7,SNR=8.0
KAPI Kappang 152.20 198 PKPbc PKPbc 11 49 06.2 -0.5
comp=Z,3.8nm,0.3s,baz=180,slow=2.0,SNR=4.0
MJAR Matsushiro Arr 152.62 308 PKPbc PKPbc 11 49 06.9 -0.2
comp=Z,2.2nm,0.9s,baz=84,slow=1.4,SNR=5.8
SONM Songino Array 153.67 8 PKP PKPdf 11 49 02.1 +0.8
comp=Z,1.3nm,0.9s,baz=271,slow=0.5,SNR=5.4
SONM PKPbc PKPbc 11 49 08.4 -0.8
comp=Z,0.3nm,0.6s,baz=316,slow=2.5,SNR=3.7
KSRS Korea Array 158.95 322 PKP PKPdf 11 49 08.1 -0.1
comp=Z,0.9nm,0.7s,baz=69,slow=2.4,SNR=2.5

*NOU **29** 11:46:21.3, 34°.66S×179°.83E, h0km, mb4.3/7, South of Kermadec Islands*
*WEL **29** 11:46:35.9±1.1, 35°S±6°×17°9E±1°1, h12km, M3.7/14, ML3.9/18, MLv3.7/14, Error ellipse: s-maj=0.0km s-min=0.0km az=80.7, confirmed*
ISC 29 11:46:38.0±3.0, 35°.60S±0°.09×178°.30E±0°.10, h2km±16km, n41, σ2s29/50, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.96	180	P	Pn	11 47 11.5	-0.8
MXZ	Matakaoa Point	1.96	180	P	Pn	11 47 11.9	-0.5
MXZ				S	Sb	11 47 38.1	-1.4
MXZ				T	T	11 49 28.5	
HAZ	Te Kaha	2.20	191	P	Pb	11 47 17.3	-1.1
HAZ				S	Sg	11 47 49.2	+0.6
WMGZ	Waiomatatini S	2.22	178	P	Pb	11 47 18.7	-0.2
PKGZ	Pakihiroa	2.27	184	P	Pn	11 47 17.6	+0.9
KUZ	Kuaotunu	2.38	240	P	Pb	11 47 21.5	0.0
RUGZ	Raukumara Rang	2.42	192	P	Pb	11 47 21.5	-0.8
RUGZ				S	Sg	11 47 53.9	-1.7
PUZ	Puketiti	2.47	181	P	Pb	11 47 21.8	-1.4
PUZ				S	Sg	11 47 57.4	0.0
TWGZ	Tauwhareparae	2.59	186	P	Pb	11 47 24.7	-0.5
TWGZ				S	Sg	11 48 02.3	+1.2
OPRZ	Ohinepanea	2.65	211	P	Pg	11 47 29.6	+1.0
TGRZ	Tauranga	2.69	217	P	Pg	11 47 31.6	+2.2
MWZ	Matawai	2.80	192	P	Pb	11 47 26.3	-2.5
URZ	Urewera	2.82	199	P	Pb	11 47 26.6	-2.5
URZ	Urewera	2.82	199	P	Pb	11 47 26.6	-2.5
URZ				S	Sb	11 48 02.9	-1.2
TKGZ	Te Karaka	2.86	187	P	Pb	11 47 28.5	-1.3
TKGZ				S	Sg	11 48 07.9	-2.0
CNGZ	Carnagh Statio	2.88	181	P	Pb	11 47 28.0	-2.2
CNGZ				S	Sg	11 48 08.5	-2.1
RAGZ	Rawiri	2.98	193	P	Pb	11 47 29.5	-2.3
TOZ	Tahuroa Road	3.10	226	P	Pg	11 47 38.9	+1.5
RTZ	Ruatahuna	3.19	199	P	Pb	11 47 32.1	-3.4
WCZ	Waipu Caves	3.23	263	P	Pb	11 47 32.5	-3.6
SNGZ	Shannon Statio	3.27	193	P	Pb	11 47 34.4	-2.4
SNGZ				S	Sb	11 48 19.1	+2.0
MTHZ	Maungataniwha	3.45	199	P	Pn	11 47 35.4	+2.6
RAHZ	Arahi	3.45	196	P	Pb	11 47 37.1	-2.8
MRHZ	Matea Rd	3.56	204	P	Pb	11 47 39.7	-2.0
NMHZ	Naumai	3.69	198	P	Pb	11 47 41.1	-2.8
BKZ	Black Stump Fm	3.84	201	P	Pn	11 47 41.5	+3.3
BKZ	Black Stump Fm	3.84	201	P	Pn	11 47 41.8	+3.6
OUZ	Omahuta	3.86	274	P	Pn	11 47 39.9	+1.6
OUZ	Omahuta	3.86	274	P	Pn	11 47 39.3	+0.9
HIZ	Hauiti	4.01	222	P	Pb	11 47 46.2	-3.1
ETVZ	East Tongariro	4.09	209	P	Pb	11 47 48.5	-2.3
KWHZ	Kaweka Forest	4.10	201	P	Pn	11 47 45.7	+3.9
NNVZ	North Ngauruho	4.13	210	P	Pb	11 47 48.4	-3.0
NGZ	Ngauruhoe	4.17	210	P	Pb	11 47 50.2	-1.9
COVZ	Chateau Observ	4.21	211	P	Pb	11 47 51.4	-1.5
WHVZ	Whangaehu Hut	4.26	210	P	Pb	11 47 49.9	-3.9
TRVZ	Turoa	4.29	210	P	Pb	11 47 51.4	-3.0
WNVZ	Wahianoa	4.30	209	P	Pb	11 47 50.2	-4.1
MOVZ	Moawhango	4.31	207	P	Pb	11 47 49.4	-5.1
MOVZ				S	Sb	11 48 46.9	-0.1
VRZ	Vera Road	4.51	218	P	Pb	11 47 55.9	-2.0
BFZ	Birch Farm	5.33	197	P	Pn	11 47 59.8	+1.2

*SJA **29** 11:57:49.6±0.6, 21°.27S×69°.87W, h70km±6km, ML3.7, MW3.9*
*GUC **29** 11:57:52.2±0.8, 21°.29S×69°.78W, h37km±4km, ML3.3*
ISC 29 11:57:48.4±1.5, 21°.29S±0°.02×69°.80W±0°.06, h5km±13km, n22, σ0s84/38, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATCX	Punta Patache	0.57	325	⇑iP	Pn	11 58 03.2	-0.1
PATCX				eS	Sn	11 58 12.2	-1.0
PATCX				IAML		11 58 12.8	
	comp=E,7μm,0.1s						
PB09	IPOC Station P	0.72	134	⇑iP	Pn	11 58 05.6	0.0
PB09				eS	Sn	11 58 15.6	-1.5
PB09				IAML		11 58 16.6	
	comp=E,1μm,0.2s						
TA01	Diego Aracena	0.80	334	eP	Pn	11 58 06.2	-0.2
TA01				eS	Sn	11 58 18.1	-0.7
TA01	Diego Aracena	0.80	334	eP	Pn	11 58 06.2	-0.2
TA01				eS	Sb	11 58 17.5	+1.4
TA01				IAML		11 58 18.7	
	comp=E,2μm,0.2s						
TA02	Huaiquique	1.06	343	eP	Pb	11 58 09.6	+0.4
TA02				eS	Sb	11 58 24.4	+0.9
TA02				IAML		11 58 25.5	
	comp=Z,2μm,0.1s						
TA02	Huaiquique	1.06	343	eP	Pb	11 58 09.7	+0.4
TA02				eS	Sb	11 58 24.1	+0.6
TA02				IAML		11 58 25.6	
	comp=N,2μm,0.1s						
PB04	IPOC Station P	1.09	197	eP	Pn	11 58 10.6	0.0
PB04				eS	Sn	11 58 25.9	-0.2
PB04				IAML		11 58 27.7	
	comp=Z,844nm,0.1s						
PB04	IPOC Station P	1.09	197	⇓iP	Pn	11 58 10.7	+0.2
PB04				eS	Sb	11 58 25.1	+0.6
PB04				IAML		11 58 25.9	
	comp=N,687nm,0.1s						
PB06	IPOC Station P	1.43	171	eP	Pn	11 58 15.3	+0.1
PB06				eS	Sn	11 58 34.5	+0.1
PB06	IPOC Station P	1.43	171	⇑iP	Pn	11 58 15.2	+0.1
PB11	IPOC Station P	1.53	5	eP	Pn	11 58 16.4	-0.2
PB11				eS	Sn	11 58 35.7	-1.2
PB11	IPOC Station P	1.53	5	eP	Pn	11 58 16.4	-0.2
LVC	Limon Verde	1.55	148	eP	Pb	11 58 17.6	-0.3
LVC				eS	Sg	11 58 38.8	+0.4
LVC	Limon Verde	1.55	148	eP	Pg	11 58 18.2	-0.1
LVC				eS	Sg	11 58 38.1	-0.3
LVC				IAML		11 58 40.7	
	comp=N,732nm,0.3s						
PB05	IPOC Station P	1.60	193	eP	Pn	11 58 17.9	+0.3
GO01	Chusmiza	1.71	20	eP	Pn	11 58 19.7	+0.4
GO01				eS	Sn	11 58 41.4	-0.5
GO01				IAML		11 58 42.4	
	comp=Z,791nm,0.1s						
GO01	Chusmiza	1.71	20	eP	Pn	11 58 19.9	+0.5
PB15	IPOC Station P	1.93	171	eP	Pn	11 58 23.0	+0.8
PB15				eS	Sb	11 58 49.5	+0.6
PB15				IAML		11 58 55.6	
	comp=Z,610nm,0.2s						
PB15	IPOC Station P	1.93	171	eP	Pn	11 58 23.0	+0.8
PB15				IAML		11 58 54.0	
	comp=N,671nm,0.4s						
PB14	IPOC Station P	3.37	189	eP	Pn	11 58 41.3	-0.7
PB14				eS	Sb	11 59 32.7	+2.4
GO02	Mina Guanaco	3.86	177	eP	Pn	11 58 49.4	+0.6
GO02				eS	Sg	11 59 51.1	-1.4
AC01	Pan de Azucar	4.89	188	eP	Pn	11 59 00.9	-1.8

*IDC **29** 12:03:47.2±0.7, 6°.66S×106°.38E, h0km, mb3.9/12, mbtmp3.9/12, Error ellipse: s-maj=41.7km s-min=15.8km az=56.0*
*DJA **29** 12:03:50.6±0.4, 7°S±3°×10°6E±°, h10km, M4.0/8, MLv4.0/8*
ISC 29 12:03:49.4±0.7, 7°.06S±0°.06×106°.25E±0°.05, h10km, n34, σ1s42/24, mb4.0/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.31	79	P	Pb	12 03 57.5	+0.4
SKJI				S	Sb	12 04 02.3	+0.1
DBJI	Dramaga	0.71	45	P	Pb	12 04 05.2	+1.3
DBJI				S	Sb	12 04 14.9	+1.1
CBJI	Citeko	0.88	43	P	Pg	12 04 05.7	-0.6
CNJI	Cibinong	0.91	106	P	Pg	12 04 06.9	0.0
CNJI				S	Sb	12 04 19.3	-0.1
SBJI	Serang	0.94	353	P	Pg	12 04 09.0	+1.4
LEM	Lembang	1.38	80	P	Pg	12 04 17.2	+1.3
CMJI	Cimerak	2.30	108	P	Pn	12 04 28.3	+1.0
KASI	Kota Agung	2.32	311	P	Pn	12 04 29.4	+1.8
KPJI	Karang Pucung	2.68	96	P	Pb	12 04 37.5	+0.1
CMAR	Chiang Mai Arr	26.36	344	P	P	12 09 23.7	-2.2
	0.5nm,0.6s,baz=180,slow=8.8,SNR=5.7						
	0.5nm,0.6s						
H01W3	Cape Leeuwin H	28.62	166	T	T	12 40 09.2	
	baz=341,slow=71						
H01W1	Cape Leeuwin H	28.64	166	T	T	12 40 17.3	
	baz=341,slow=71						
H01W2	Cape Leeuwin H	28.64	166	T	T	12 40 14.4	
	baz=341,slow=71						
WRA	Warramunga Arr	30.10	118	P	P	12 10 00.2	+0.8
	0.6nm,0.7s,baz=300,slow=8.7,SNR=9.0						
WRA				PcP	PcP	12 13 01.2	0.0
	0.6nm,1.1s,baz=312,slow=2.2,SNR=2.4						
	0.6nm,0.7s						
ASAR	Alice Springs	31.26	125	P	P	12 10 10.1	+0.4
	0.3nm,0.8s,baz=301,slow=8.0,SNR=4.5						
	0.3nm,0.8s						
H08S2	Diego Garcia H	33.48	267	T	T	12 45 52.9	
	baz=92,slow=76,SNR=140						
H08S3	Diego Garcia H	33.48	267	T	T	12 45 55.3	
	baz=92,slow=76,SNR=158						
H08S1	Diego Carcia H	33.49	267	T	T	12 45 55.3	
	baz=92,slow=76,SNR=140						
STKA	Stephens Creek	41.16	132	P	P	12 11 34.0	-0.1
	1.7nm,0.7s,baz=334,slow=13,SNR=3.6						
	1.7nm,0.7s						
MKAR	Makanchi Array	57.70	341	P	P	12 13 36.3	-3.9
	1.0nm,0.4s,baz=150,slow=9.4,SNR=9.4						
	1.0nm,0.4s						
H04N2	CROZET ISLANDS	60.73	220	T	T	13 19 56.4	
	baz=68,slow=75,SNR=271						
H04N1	CROZET ISLANDS	60.74	220	T	T	13 19 56.6	
	baz=68,slow=75,SNR=177						
H04N3	CROZET ISLANDS	60.74	220	T	T	13 19 55.3	
	baz=68,slow=75,SNR=200						
H04S1	CROZET ISLANDS	60.92	220	T	T	13 20 07.5	
	baz=68,slow=76,SNR=24						
H04S3	CROZET ISLANDS	60.93	220	T	T	13 20 07.6	
	baz=68,slow=76,SNR=5.6						
H04S2	CROZET ISLANDS	60.93	220	T	T	13 20 08.7	
	baz=68,slow=76,SNR=6.9						
KURBB	Kurchatov Arra	62.26	340	P	P	12 14 08.5	-2.9
	0.6nm,0.6s,baz=152,slow=6.3,SNR=4.9						
	0.6nm,0.6s						
MAW	Mawson	67.09	197	P	P	12 14 45.0	+2.3
	1.9nm,0.9s,baz=0.0,slow=8.1,SNR=2.4						
	1.9nm,0.9s						
BVAR	Borovoye Array	67.14	337	P	P	12 14 39.7	-3.6
	0.9nm,0.5s,baz=148,slow=8.3,SNR=5.7						
	0.9nm,0.5s						
ARU	Arti	74.36	335	P	P	12 15 24.2	-2.9
	2.0nm,0.5s,baz=24,slow=16,SNR=3.4						
	2.0nm,0.5s						
KBZ	Khabaz	76.20	318	P	P	12 15 37.0	-0.9
	2.2nm,0.8s,baz=99,slow=3.3,SNR=4.4						
	2.2nm,0.8s						
BRTR	Keskin Array B	81.31	312	P	P	12 16 05.8	-0.7
	0.9nm,0.7s,baz=143,slow=6.9,SNR=5.9						
	0.9nm,0.7s						
QSPA	South Pole Qui	82.93	180	P	P	12 16 15.7	+1.3
	0.5nm,0.7s,baz=288,slow=3.2,SNR=1.7						
	0.5nm,0.7s						
TXAR	Lajitas Array	144.17	48	PKP	PKPab	12 23 24.4	+0.4
	0.1nm,0.4s,baz=182,slow=2.2,SNR=3.5						

IDC 29 12:05:35.5±1.6, 32°.87S×178°.48W, h0km, mb3.5/4,

mbtmp3.5/4, MS3.5/1, Error ellipse: s-maj=47.5km s-min=38.1km az=20.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**13.58**	**214**	LR	LR	12 13 30.1	
	comp=Z,209nm,20.9s,baz=217,slow=35						
ASAR	**Alice Springs**	**42.63**	**270**	P	P	12 13 32.8	-1.1
	0.4nm,0.8s,baz=121,slow=8.8,SNR=4.2						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**43.84**	**275**	P	P	12 13 44.6	+1.0
	0.2nm,0.6s,baz=120,slow=7.4,SNR=1.3						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**57.25**	**180**	P	P	12 15 24.6	+0.1
	1.2nm,1.0s,baz=27,slow=2.3,SNR=5.4						
	1.2nm,1.0s						
H03S2	**Juan Fernandez**	**79.45**	**123**	T	T	13 45 56.7	
	baz=232,slow=74,SNR=15						
H03S1	**Juan Fernandez**	**79.46**	**123**	T	T	13 45 56.6	
	baz=232,slow=74,SNR=14						
H03S3	**Juan Fernandez**	**79.47**	**123**	T	T	13 45 55.5	
	baz=232,slow=74,SNR=16						
H03N3	**Juan Fernandez**	**79.66**	**123**	T	T	13 46 08.8	
	baz=237,slow=72,SNR=29						
H03N2	**Juan Fernandez**	**79.66**	**123**	T	T	13 46 07.8	
	baz=237,slow=72,SNR=29						
H03N1	**Juan Fernandez**	**79.67**	**123**	T	T	13 46 08.2	
	baz=237,slow=72,SNR=40						
NVAR	**Mina Array Bea**	**90.32**	**43**	P	P	12 18 38.4	-0.2
	0.3nm,0.7s,baz=193,slow=3.7,SNR=2.4						
	0.3nm,0.7s						

*IDC **29** 12:23:42.9±1.6, 57.°47N×155.°73W, h61km±14km, mb4.0/27, mbtmp4.3/32, MS3.1/8, Error ellipse: s-maj=17.1km s-min=10.2km az=10.0*

*MOS **29** 12:23:42.2±0.8, 57.°42N×155.°74W, h71km, mb5.0/35, Error ellipse: s-maj=11.2km s-min=5.3km az=90.0*

*NEIC **29** 12:23:44.2±1.2, 57.°26N±0.°04×155.°52W±0.°06, h81km±5km, Error ellipse: s-maj=5.7km s-min=4.4km az=207.0, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr0.25; Mθθ-1.98; Mφφ1.73; Mrθ1.91; Mθφ0.36; Mrφ1.47; Fault plane solution: M0 3.07000×1015 NP1:φs53.05000°, δ87.09000°, λ52.14000°. NP2:φs319.32000°, δ37.96000°, λ175.27000°. Principal axes: T 3.0241, Plg36.0000°, Azm290.0000°; N 0.0883, Plg38.0000°, Azm55.0000°; P -3.1124, Plg31.0000°, Azm174.0000°;*

*NEIC **29** 12:23:44.7, 57.°28N×155.°48W, h79km*

*AEIC **29** 12:23:45.5±1.6, 57.°26N±0.°04×155.°51W±0.°06, h71km±5km, ML4.2, mb4.6/25(NEIC), ML4.2/93(NEIC), Mwr4.3/39(NEIC), Error ellipse: s-maj=5.5km s-min=4.3km az=209.0*

ISC 29 12:23:43.3±0.5, 57.°32N±0.°04×155.°49W±0.°03, h70km±4km, n549, σt962/570, mb4.7/79, 15C-2D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.56**	**312**		**Pn**	**12 23 58.8**	**+2.0**
PLK3					**Sn**	**12 24 09.9**	**+3.2**
PLK4	**Peulik 4**	**0.57**	**304**		**Pn**	**12 23 58.5**	**+1.6**
PLK4	**Peulik 4**	**0.57**	**304**		**Sn**	**12 24 09.6**	**+2.8**
PLK4	**Peulik 4**	**0.57**	**304**	IAML		12 24 10.4	
	comp=E,22μm,0.8s						
PLK4				IAML		12 24 10.4	
	comp=N,9μm,0.8s						
R17L	**Mt. Peulik Vol**	**0.57**	**304**	P	**Pn**	**12 23 58.6**	**+1.7**
	baz=129						
R17L				S	**Sn**	**12 24 09.6**	**+2.9**
	baz=129						
R18K	**Karluk**	**0.61**	**65**		**Pn**	**12 23 59.1**	**+1.9**
R18K	**Karluk**	**0.61**	**65**	P	**Pn**	**12 23 59.1**	**+1.9**
	baz=242						
PLK2	**Peulik 2**	**0.64**	**315**		**Pn**	**12 23 59.7**	**+2.2**
PLK1	**Peulik 1**	**0.78**	**309**		**Pn**	**12 24 01.0**	**+1.9**
PLK1					**Sn**	**12 24 13.9**	**+3.3**
ANCK	**Angle Creek**	**0.89**	**360**		**Pn**	**12 24 02.5**	**+2.1**
ANCK					**Sn**	**12 24 16.5**	**+3.4**
ACHA	**Angle Creek He**	**0.90**	**5**		**Pn**	**12 24 02.5**	**+1.9**
KABU	**Katmai Buttres**	**0.96**	**6**		**Pn**	**12 24 03.9**	**+2.5**
KABU					**Sn**	**12 24 19.0**	**+4.2**
CNTC	**Contact Creek**	**0.97**	**348**		**Pn**	**12 24 03.3**	**+1.7**
CNTC					**Sn**	**12 24 17.9**	**+2.7**
Q17K	**Contact Creek**	**0.97**	**347**	P	**Pn**	**12 24 03.3**	**+1.7**
	baz=169						
Q17K				S	**Sn**	**12 24 17.9**	**+2.7**
	baz=169						
PLK5	**Peulik 5**	**1.01**	**313**		**Pn**	**12 24 03.8**	**+1.9**
PLK5					**Sn**	**12 24 18.6**	**+2.8**
SII	**Sitkinak Islan**	**1.04**	**136**	P	**Pn**	**12 24 03.5**	**+1.2**
SII	**Sitkinak Islan**	**1.04**	**136**	Pn	**Pn**	**12 24 03.1**	**+0.8**
SII	**Sitkinak Islan**	**1.04**	**136**		**Sn**	**12 24 18.0**	**+1.5**
SII	**Sitkinak Islan**	**1.04**	**136**	IAML		12 24 18.5	
	comp=E,9μm,0.8s						
SII				IAML		12 24 18.8	
	comp=N,14μm,0.6s						
SII	**Sitkinak Islan**	**1.04**	**136**	P	**Pn**	**12 24 03.4**	**+1.0**
	baz=314						
SII				S	**Sn**	**12 24 18.0**	**+1.5**
	baz=314						
OHAK	**Old Harbor**	**1.20**	**94**	P	**Pn**	**12 24 05.7**	**+1.4**
OHAK	**Old Harbor**	**1.20**	**94**		**Pn**	**12 24 05.6**	**+1.4**
OHAK					**Sn**	**12 24 21.7**	**+1.7**
OHAK	**Old Harbor**	**1.20**	**94**	IAML		12 24 22.3	
	comp=N,3μm,0.5s						
OHAK				IAML		12 24 22.6	
	comp=E,3μm,0.3s						
OHAK	**Old Harbor**	**1.20**	**94**	P	**Pn**	**12 24 05.6**	**+1.4**
	baz=272						
OHAK				S	**Sn**	**12 24 21.7**	**+1.7**
	baz=272						
KAHG	**Katmai Hook Gl**	**1.28**	**23**		**Pn**	**12 24 07.9**	**+2.4**
KAHC	**Katmai Hardscr**	**1.36**	**11**		**Pn**	**12 24 08.7**	**+2.2**
KAHC					**Sn**	**12 24 26.5**	**+2.6**
Q18K	**Katmai Hardscr**	**1.36**	**11**	P	**Pn**	**12 24 08.7**	**+2.2**
	baz=191						
Q18K				S	**Sn**	**12 24 26.5**	**+2.6**
	baz=191						
Q16K	**King Salmon**	**1.50**	**336**		**Pn**	**12 24 09.8**	**+1.6**
Q16K	**King Salmon**	**1.50**	**336**	P	**Pn**	**12 24 09.8**	**+1.6**
	baz=156						
KDAK	**Kodiak Island**	**1.63**	**72**		**Sn**	**12 24 32.0**	**+1.8**
KDAK	**Kodiak Island**	**1.63**	**72**	IAML		12 24 41.0	
	comp=E,2μm,0.7s						
KDAK				IAML		12 24 41.0	
	comp=E,2μm,0.7s						
KDAK	**Kodiak Island**	**1.63**	**72**	S	**Sn**	**12 24 32.0**	**+1.8**
	baz=253						
KDAK	**Kodiak Island**	**1.63**	**72**	P	**Pn**	**12 24 11.3**	**+1.3**
	comp=E,796nm,0.3s,baz=265,slow=9.3,SNR=6019						
KDAK				S	**Sn**	**12 24 31.4**	**+1.2**
	comp=E,1μm,0.3s,baz=273,slow=19,SNR=34						
KDAK				LR	LR	12 24 38.9	
	comp=E,113nm,20.3s,baz=281,slow=32						
KDAK	**Kodiak Island**	**1.63**	**72**	P	**Pn**	**12 24 11.4**	**+1.4**
KDAK						12 24 32.0	
Q19K	**Cape Douglas,**	**1.89**	**30**		**Pn**	**12 24 15.3**	**+1.8**
Q19K				IAML		12 24 40.7	
	comp=N,2μm,0.8s						
Q19K				IAML		12 24 44.1	
	comp=E,2μm,0.7s						
Q19K	**Cape Douglas,**	**1.89**	**30**	P	**Pn**	**12 24 15.5**	**+2.0**
	baz=211						
CHGN	**Chignik**	**1.90**	**239**		**Pn**	**12 24 14.4**	**+0.8**
CHGN				IAML		12 24 37.9	
	comp=E,3μm,0.5s						
CHGN	**Chignik**	**1.90**	**239**		**Sn**	**12 24 35.7**	**-0.9**
CHGN	**Chignik**	**1.90**	**239**	P	**Pn**	**12 24 14.5**	**+0.9**
	baz=58						
CHGN				S	**Sn**	**12 24 35.7**	**-0.9**
	baz=58						
P17K	**Kvichak River**	**1.95**	**345**		**Pn**	**12 24 15.9**	**+1.6**
P17K					**Sn**	**12 24 40.1**	**+2.3**
P17K	**Kvichak River**	**1.95**	**345**	P	**Pn**	**12 24 15.9**	**+1.6**
	baz=166						
P17K				S	**Sn**	**12 24 40.1**	**+2.3**
	baz=166						
P18K	**Big Mountain,**	**2.09**	**4**		**Pn**	**12 24 17.9**	**+1.7**
P18K	**Big Mountain,**	**2.09**	**4**		**Sn**	**12 24 42.9**	**+1.8**
P18K	**Big Mountain,**	**2.09**	**4**	P	**Pn**	**12 24 17.9**	**+1.7**
	baz=184						
P18K				S	**Sn**	**12 24 42.9**	**+1.8**
	baz=184						
Q20K	**Shuyak Island**	**2.10**	**50**	P	**Pn**	**12 24 18.5**	**+2.3**
	baz=232						
Q20K				S	**Sn**	**12 24 43.0**	**+1.7**
	baz=232						
SYI	**Shuyak Island**	**2.10**	**50**		**Pn**	**12 24 18.2**	**+2.0**
SYI				IAML		12 24 43.6	
	comp=N,1μm,0.4s						
SYI				IAML		12 24 45.2	
	comp=E,1μm,0.5s						
SYI	**Shuyak Island**	**2.10**	**50**		**Sn**	**12 24 43.0**	**+1.6**
P16K	**Nushagak River**	**2.17**	**323**		**Pn**	**12 24 18.8**	**+1.6**
P16K					**Sn**	**12 24 45.6**	**+2.5**
P16K	**Nushagak River**	**2.17**	**323**	P	**Pn**	**12 24 18.8**	**+1.6**
	baz=143						
P16K				S	**Sn**	**12 24 45.6**	**+2.5**
	baz=143						
AUCH	**Augustine Cone**	**2.32**	**27**		**Pn**	**12 24 22.0**	**+2.8**
AU22	**Augustine Moun**	**2.35**	**28**		**Pn**	**12 24 22.4**	**+2.9**
S14K	**Fog Glacier**	**2.46**	**247**	P	**Pn**	**12 24 21.9**	**+0.6**
	baz=65						
VNFG	**Fog Glacier, M**	**2.46**	**247**		**Pn**	**12 24 21.9**	**+0.6**
VNFG	**Fog Glacier, M**	**2.46**	**247**	IAML		12 24 56.3	
	comp=N,2μm,0.4s						
VNFG				IAML		12 25 01.6	
	comp=E,2μm,0.6s						
O18K	**Koktuh Hills**	**2.55**	**3**		**Pn**	**12 24 24.4**	**+2.0**
O18K				IAML		12 25 14.4	
	comp=E,667nm,0.9s						
O18K	**Koktuh Hills**	**2.55**	**3**	P	**Pn**	**12 24 24.3**	**+2.0**
	baz=184						
O17K	**Koliganek Bris**	**2.60**	**342**		**Pn**	**12 24 24.6**	**+1.5**
O17K	**Koliganek Bris**	**2.60**	**342**	P	**Pn**	**12 24 24.6**	**+1.5**
	baz=161						
P19K	**Oil Pt**	**2.63**	**26**		**Pn**	**12 24 25.7**	**+2.3**
P19K				IAML		12 24 59.7	
	comp=E,852nm,0.5s						
P19K				IAML		12 25 22.0	
	comp=N,667nm,0.6s						
P19K	**Oil Pt**	**2.63**	**26**	P	**Pn**	**12 24 26.1**	**+2.7**
	baz=208						
O16K	**Kokwok River B**	**2.66**	**330**		**Pn**	**12 24 24.8**	**+0.9**
O16K	**Kokwok River B**	**2.66**	**330**	P	**Pn**	**12 24 25.5**	**+1.7**
	baz=149						
ILSW	**Iliamna Southw**	**2.94**	**24**		**Pn**	**12 24 30.2**	**+2.4**
O15K	**Ungalikthiuk R**	**2.96**	**311**		**Pn**	**12 24 29.4**	**+1.6**
O15K	**Ungalikthiuk R**	**2.96**	**311**	P	**Pn**	**12 24 29.4**	**+1.6**
	baz=128						
IVE	**Iliamna Volcan**	**3.00**	**24**		**Pn**	**12 24 30.9**	**+2.3**
HOM	**Homer**	**3.10**	**39**		**Pn**	**12 24 32.4**	**+2.6**
HOM	**Homer**	**3.10**	**39**	P	**Pn**	**12 24 32.5**	**+2.7**
	baz=222						
CNPM	**China Poot**	**3.15**	**43**	Pn	**Pn**	**12 24 32.3**	**+1.8**
CNPM				IAML		12 25 09.0	
	comp=E,528nm,0.6s						
CNPM				IAML		12 25 16.2	
	comp=N,503nm,0.6s						
O20K	**Slope Mountain**	**3.15**	**27**		**Pn**	**12 24 33.2**	**+2.7**
O20K	**Slope Mountain**	**3.15**	**27**	P	**Pn**	**12 24 33.2**	**+2.7**
	baz=209						
N17K	**Nushagak Hills**	**3.34**	**345**		**Pn**	**12 24 34.8**	**+1.7**
N17K				IAML		12 25 26.8	
	comp=N,349nm,0.6s						
N17K				IAML		12 25 26.9	
	comp=E,452nm,0.6s						
N17K	**Nushagak Hills**	**3.34**	**345**	P	**Pn**	**12 24 34.7**	**+1.7**
	baz=164						
N18K	**Kilae Creek**	**3.38**	**357**		**Pn**	**12 24 35.3**	**+1.6**
N18K				IAML		12 25 27.1	
	comp=E,409nm,1.0s						
N18K	**Kilae Creek**	**3.38**	**357**	P	**Pn**	**12 24 35.4**	**+1.8**
	baz=177						
CHNA	**Chernabura Isl**	**3.39**	**224**	P	**Pn**	**12 24 33.3**	**-0.5**
	baz=42						
CNBA	**Chernabura Isl**	**3.40**	**224**	Pn	**Pn**	**12 24 33.4**	**-0.5**
CNBA				IAML		12 25 16.6	
	comp=E,344nm,0.6s						
SDPT	**Sand Point**	**3.41**	**237**		**Pn**	**12 24 34.6**	**+0.6**
SDPT	**Sand Point**	**3.41**	**237**	IAML		12 25 19.4	
	comp=N,643nm,0.7s						
SDPT				IAML		12 25 28.7	
	comp=E,732nm,1.0s						
SDPT	**Sand Point**	**3.41**	**237**	P	**Pn**	**12 24 34.6**	**+0.6**
	baz=53						
RED	**Redoubt Volcan**	**3.42**	**23**		**Pn**	**12 24 36.8**	**+2.5**
BRLK	**Bradley Lake**	**3.44**	**43**	Pn	**Pn**	**12 24 35.5**	**+1.0**
BRLK				IAML		12 25 14.5	
	comp=E,694nm,0.5s						
BRLK				IAML		12 25 14.7	
	comp=N,738nm,0.4s						
RSO	**Redoubt South**	**3.46**	**23**	Pn	**Pn**	**12 24 37.9**	**+3.0**
RDWB	**Redoubt West**	**3.46**	**22**		**Pn**	**12 24 37.4**	**+2.5**
BRSE	**Bradley Lake S**	**3.48**	**44**		**Pn**	**12 24 36.5**	**+1.5**
BRSE	**Bradley Lake S**	**3.48**	**44**	P	**Pn**	**12 24 36.5**	**+1.5**
	baz=227						
NCT	**North Crescent**	**3.52**	**21**		**Pn**	**12 24 38.2**	**+2.6**
N19K	**Bonanza Creek**	**3.55**	**8**		**Pn**	**12 24 38.4**	**+2.4**
N19K	**Bonanza Creek**	**3.55**	**8**	P	**Pn**	**12 24 38.4**	**+2.4**
	baz=189						
N16K	**Nishlik Lake**	**3.60**	**333**		**Pn**	**12 24 38.5**	**+1.9**
N16K	**Nishlik Lake**	**3.60**	**333**	P	**Pn**	**12 24 38.5**	**+1.9**
	baz=151						
O14K	**Tigyukauivet M**	**3.62**	**305**	Pn	**Pn**	**12 24 38.4**	**+1.6**
O14K				IAML		12 25 46.2	
	comp=N,354nm,0.9s						
O14K	**Tigyukauivet M**	**3.62**	**305**	P	**Pn**	**12 24 38.4**	**+1.6**
	baz=121						
RDT	**Redoubt**	**3.64**	**25**		**Pn**	**12 24 39.3**	**+2.2**
N15K	**Kwethluk River**	**3.73**	**322**		**Pn**	**12 24 40.3**	**+1.9**
N15K				IAML		12 25 27.5	
	comp=E,478nm,0.9s						
N15K				IAML		12 25 43.6	
	comp=N,548nm,1.0s						
N15K	**Kwethluk River**	**3.73**	**322**	P	**Pn**	**12 24 40.4**	**+1.9**
	baz=139						
SVW2	**Sparrevohn**	**3.79**	**359**	P	**Pn**	**12 24 41.3**	**+2.0**
SVW2	**Sparrevohn**	**3.79**	**359**		**Pn**	**12 24 41.1**	**+1.8**
S12K	**Black Hills**	**3.98**	**249**	Pn	**Pn**	**12 24 43.4**	**+1.5**
S12K				IAML		12 25 29.0	
	comp=N,501nm,0.5s						
S12K				IAML		12 25 30.0	
	comp=E,458nm,0.4s						
S12K	**Black Hills**	**3.98**	**249**	P	**Pn**	**12 24 43.0**	**+1.1**
	baz=64						
CAPN	**Captain Cook N**	**4.12**	**31**	Pn	**Pn**	**12 24 46.2**	**+2.5**
M16K	**Timber Creek**	**4.12**	**336**		**Pn**	**12 24 45.4**	**+1.6**
M16K				IAML		12 25 33.0	
	comp=E,245nm,0.6s						
M16K				IAML		12 25 35.1	
	comp=N,260nm,1.0s						
M16K	**Timber Creek**	**4.12**	**336**	P	**Pn**	**12 24 45.8**	**+2.0**
	baz=153						
N14K	**Kuskokwak Cree**	**4.16**	**311**		**Pn**	**12 24 46.2**	**+1.9**
N14K	**Kuskokwak Cree**	**4.16**	**311**	P	**Pn**	**12 24 46.2**	**+1.9**
	baz=127						
M18K	**Stony River**	**4.19**	**358**		**Pn**	**12 24 46.8**	**+2.1**
M18K	**Stony River**	**4.19**	**358**	P	**Pn**	**12 24 46.8**	**+2.1**
	baz=178						
SLKM	**Skilak Lake**	**4.21**	**38**		**Pn**	**12 24 46.4**	**+1.5**
SEW	**Seward**	**4.21**	**46**		**Pn**	**12 24 45.7**	**+0.8**
SEW	**Seward**	**4.21**	**46**	P	**Pn**	**12 24 45.7**	**+0.8**
	baz=230						
M17K	**Holitna River**	**4.22**	**347**		**Pn**	**12 24 46.5**	**+1.5**
M17K	**Holitna River**	**4.22**	**347**	P	**Pn**	**12 24 47.0**	**+2.0**
	baz=166						
N20K	**Mount Spurr**	**4.24**	**22**	P	**Pn**	**12 24 47.8**	**+2.3**
	baz=205						
SPCR	**Spurr Chakacha**	**4.24**	**22**		**Pn**	**12 24 47.8**	**+2.3**
SPU	**Mount Spurr**	**4.26**	**23**		**Pn**	**12 24 47.5**	**+1.9**
SPBG	**Spurr Blockage**	**4.27**	**21**		**Pn**	**12 24 48.5**	**+2.7**
SPCP	**Crater Peak Br**	**4.32**	**22**		**Pn**	**12 24 49.2**	**+2.7**
M15K	**Kasigluk River**	**4.33**	**324**		**Pn**	**12 24 48.2**	**+1.7**
M15K	**Kasigluk River**	**4.33**	**324**	P	**Pn**	**12 24 48.2**	**+1.7**
	baz=140						
O22K	**Cooper Landing**	**4.36**	**41**		**Pn**	**12 24 48.5**	**+1.6**
O22K	**Cooper Landing**	**4.36**	**41**	P	**Pn**	**12 24 48.5**	**+1.6**
	baz=225						
SPCG	**Spurr Capps Gl**	**4.37**	**23**		**Pn**	**12 24 49.6**	**+2.4**
STLK	**Strandline Lak**	**4.59**	**22**		**Pn**	**12 24 52.5**	**+2.3**
M19K	**Big River Lodg**	**4.64**	**6**		**Pn**	**12 24 53.0**	**+2.2**
M19K	**Big River Lodg**	**4.64**	**6**	IAML		12 26 19.7	
	comp=E,132nm,0.7s						
M19K	**Big River Lodg**	**4.64**	**6**	P	**Pn**	**12 24 53.0**	**+2.2**
	baz=188						
FIS	**Fire Island**	**4.70**	**33**	Pn	**Pn**	**12 24 54.1**	**+2.5**
M20K	**Styx River**	**4.74**	**14**		**Pn**	**12 24 54.6**	**+2.4**
M20K	**Styx River**	**4.74**	**14**	P	**Pn**	**12 24 55.0**	**+2.8**
	baz=196						
M14K	**Bethel**	**4.80**	**319**	Pn	**Pn**	**12 24 55.2**	**+2.3**
M14K				IAML		12 26 04.0	
	comp=E,296nm,1.6s						
M14K				IAML		12 26 04.7	
	comp=N,263nm,1.4s						
M14K	**Bethel**	**4.80**	**319**	P	**Pn**	**12 24 54.6**	**+1.7**
	baz=134						
RC01	**Rabbit Creek A**	**4.80**	**36**	Pn	**Pn**	**12 24 54.5**	**+1.4**
RC01				IAML		12 25 49.0	
	comp=N,264nm,0.4s						
RC01	**Rabbit Creek A**	**4.80**	**36**	P	**Pn**	**12 24 54.4**	**+1.4**
	baz=220						
SUA	**Susitna One**	**4.81**	**28**	Pn	**Pn**	**12 24 55.4**	**+2.1**
SUA	**Susitna One**	**4.81**	**28**	P	**Pn**	**12 24 55.6**	**+2.3**
	baz=212						
L16K	**Owhat River**	**4.85**	**337**	Pn	**Pn**	**12 24 55.2**	**+1.5**
L16K				IAML		12 26 16.4	
	comp=E,128nm,0.9s						
L16K				IAML		12 26 21.0	
	comp=N,159nm,1.0s						
L16K	**Owhat River**	**4.85**	**337**	P	**Pn**	**12 24 55.1**	**+1.4**
	baz=154						
L19K	**White Mountain**	**4.89**	**3**		**Pn**	**12 24 56.5**	**+2.2**
L19K				IAML		12 25 51.9	
	comp=N,219nm,1.3s						
L19K				IAML		12 26 18.6	
	comp=E,171nm,1.0s						
L19K	**White Mountain**	**4.89**	**3**	P	**Pn**	**12 24 56.4**	**+2.2**
	baz=184						
L18K	**Granite Mounta**	**4.96**	**353**	Pn	**Pn**	**12 24 57.6**	**+2.5**
L18K				IAML		12 25 53.4	
	comp=N,212nm,0.9s						
L18K				IAML		12 25 53.8	
	comp=E,116nm,1.0s						
L18K	**Granite Mounta**	**4.96**	**353**	P	**Pn**	**12 24 57.2**	**+2.1**
	baz=173						
P23K	**Montague Islan**	**5.00**	**54**		**Pn**	**12 24 57.4**	**+1.6**
P23K	**Montague Islan**	**5.00**	**54**	P	**Pn**	**12 24 57.4**	**+1.6**
	baz=240						
L17K	**Donlin**	**5.04**	**345**		**Pn**	**12 24 57.9**	**+1.6**
L17K	**Donlin**	**5.04**	**345**	P	**Pn**	**12 24 57.9**	**+1.6**
	baz=163						
SKT	**Skwentna**	**5.09**	**22**	Pn	**Pn**	**12 24 58.5**	**+1.5**
SKT	**Skwentna**	**5.09**	**22**	P	**Pn**	**12 24 59.0**	**+2.0**
	baz=205						
PWL	**Port Wells**	**5.12**	**43**		**Pn**	**12 24 58.2**	**+0.9**
PWL				IAML		12 25 56.2	
	comp=E,241nm,0.6s						
PWL	**Port Wells**	**5.12**	**43**	P	**Pn**	**12 24 58.5**	**+1.1**
	baz=229						
M13K	**Dall Lake**	**5.13**	**311**		**Pn**	**12 24 59.6**	**+2.2**
M13K				IAML		12 26 26.5	
	comp=E,180nm,1.9s						
M13K				IAML		12 26 56.3	
	comp=N,199nm,1.6s						
M13K	**Dall Lake**	**5.13**	**311**	P	**Pn**	**12 24 59.6**	**+2.2**
	baz=124						
M22K	**Willow**	**5.22**	**29**		**Pn**	**12 25 00.4**	**+1.7**
M22K	**Willow**	**5.22**	**29**	P	**Pn**	**12 25 00.3**	**+1.7**
	baz=214						
L20K	**Farewell, AK**	**5.24**	**8**		**Pn**	**12 25 01.4**	**+2.3**
L20K	**Farewell, AK**	**5.24**	**8**	P	**Pn**	**12 25 01.4**	**+2.3**
	baz=190						
Q23K	**Middleton Isla**	**5.25**	**62**		**Pn**	**12 25 00.5**	**+1.4**
Q23K	**Middleton Isla**	**5.25**	**62**	IAML		12 26 01.2	
	comp=N,230nm,0.9s						
Q23K	**Middleton Isla**	**5.25**	**62**	P	**Pn**	**12 25 00.5**	**+1.4**
	baz=250						
MID	**Middleton Isla**	**5.26**	**62**	P	**Pn**	**12 25 00.9**	**+1.7**
MID	**Middleton Isla**	**5.26**	**62**	Pn	**Pn**	**12 25 01.2**	**+2.0**
MID				IAML		12 26 01.1	
	comp=N,216nm,0.9s						
MID	**Middleton Isla**	**5.26**	**62**	P	**Pn**	**12 25 01.2**	**+2.0**
L15K	**Ungalak Mounta**	**5.34**	**328**		**Pn**	**12 25 01.8**	**+1.5**
L15K	**Ungalak Mounta**	**5.34**	**328**	P	**Pn**	**12 25 01.8**	**+1.5**
	baz=143						
PMR	**Palmer**	**5.38**	**34**	P	**Pn**	**12 25 01.8**	**+1.0**
PMR	**Palmer**	**5.38**	**34**	Pn	**Pn**	**12 25 01.6**	**+0.8**
PMR	**Palmer**	**5.38**	**34**	P	**Pn**	**12 25 01.8**	**+1.0**
	baz=220						
PMR	**Palmer**	**5.38**	**34**	P	**Pn**	**12 25 01.6**	**+0.8**
KNK	**Knik Glacier**	**5.46**	**38**		**Pn**	**12 25 02.9**	**+0.9**
KNK	**Knik Glacier**	**5.46**	**38**	P	**Pn**	**12 25 03.2**	**+1.3**
	baz=224						
L14K	**Kuka Creek**	**5.46**	**321**	Pn	**Pn**	**12 25 03.5**	**+1.5**
L14K	**Kuka Creek**	**5.46**	**321**	P	**Pn**	**12 25 03.6**	**+1.6**
	baz=135						
GHO	**Glory Hole Cre**	**5.58**	**34**		**Pn**	**12 25 04.7**	**+1.0**
HIN	**Hinchinbrook I**	**5.59**	**53**	Pn	**Pn**	**12 25 05.1**	**+1.3**
K17K	**Iditarod**	**5.60**	**347**	Pn	**Pn**	**12 25 06.2**	**+2.3**
K17K	**Iditarod**	**5.60**	**347**	P	**Pn**	**12 25 06.0**	**+2.1**
	baz=164						
GLI	**Glacier Island**	**5.61**	**47**		**Pn**	**12 25 04.2**	**+0.2**
GLI	**Glacier Island**	**5.61**	**47**	P	**Pn**	**12 25 04.2**	**+0.2**
	baz=234						
CUT	**Chulitna**	**5.74**	**25**		**Pn**	**12 25 08.0**	**+2.2**
CUT	**Chulitna**	**5.74**	**25**	P	**Pn**	**12 25 07.7**	**+1.9**
	baz=209						
FID	**Port Fidalgo**	**5.79**	**50**		**Pn**	**12 25 07.0**	**+0.5**
SML	**Sawmill**	**5.79**	**36**		**Pn**	**12 25 08.4**	**+1.9**
SML	**Sawmill**	**5.79**	**36**	P	**Pn**	**12 25 07.6**	**+1.1**
	baz=222						
SML	**Sawmill**	**5.79**	**36**	P	**Pn**	**12 25 08.4**	**+1.9**
PPLA	**Purkeypile**	**5.84**	**15**		**Pn**	**12 25 09.2**	**+1.9**
PPLA	**Purkeypile**	**5.84**	**15**	P	**Pn**	**12 25 09.2**	**+1.9**
	baz=198						
K15K	**Wolf Creek Mou**	**5.85**	**331**	Pn	**Pn**	**12 25 09.9**	**+2.6**
K15K	**Wolf Creek Mou**	**5.85**	**331**	P	**Pn**	**12 25 08.8**	**+1.5**
	baz=146						
M23K	**Glacier View**	**5.97**	**38**		**Pn**	**12 25 10.8**	**+1.8**
M23K	**Glac

J14K Nanvaranak Lak 6.78 327 Pn **Pn 12 25 21.6 +1.6**
J14K Nanvaranak Lak 6.78 327 P **Pn 12 25 20.9 +0.9**
baz=140
J20K Nowinta River 6.92 5 Pn **Pn 12 25 23.8 +1.9**
J20K Nowinta River 6.92 5 P **Pn 12 25 23.8 +1.9**
baz=186
RND Reindeer 6.94 26 Pn **Pn 12 25 22.4 +0.2**
RND Reindeer 6.94 26 P **Pn 12 25 22.4 +0.2**
GRIN Grindle Hills 6.98 60 **Pn 12 25 24.0 +1.2**
N25K Chitina, Valde 7.02 48 Pn **Pn 12 25 24.7 +1.4**
N25K Chitina, Valde 7.02 48 P **Pn 12 25 24.8 +1.4**
baz=237
DHY Denali Highway 7.05 32 Pn **Pn 12 25 24.3 +0.5**
DHY Denali Highway 7.05 32 P **Pn 12 25 24.7 +0.9**
baz=218
I17K Unalakleet 7.07 341 **Pn 12 25 25.8 +1.9**
I17K Unalakleet 7.07 341 P **Pn 12 25 25.5 +1.6**
baz=157
KHIT Khitrov Hills 7.07 59 **Pn 12 25 25.4 +1.3**
UNV Unalaska Valle 7.15 246 P **Pn 12 25 24.9 -0.1**
BPAW Bear Paw Mtn. 7.15 16 **Pn 12 25 26.2 +1.0**
BPAW Bear Paw Mtn. 7.15 16 P **Pn 12 25 26.0 +0.9**
baz=200
SNH Sunshine Point 7.18 61 **Pn 12 25 26.8 +1.3**
MCK McKinley 7.20 24 **Pn 12 25 26.9 +1.1**
MCK McKinley 7.20 24 P **Pn 12 25 26.9 +1.1**
baz=210
MCK McKinley 7.20 24 P **Pn 12 25 26.9 +1.1**
MNAT Makushin Natee 7.21 246 **Pn 12 25 26.3 +0.3**
CRQM Cirque 7.24 56 **Pn 12 25 28.0 +1.5**
MSW Makushin Switc 7.25 247 **Pn 12 25 26.4 -0.1**
GLB Gilahina Butte 7.25 50 Pn **Pn 12 25 27.1 +0.6**
WAX Waxell Ridge 7.26 59 **Pn 12 25 27.6 +1.0**
CRQE Cirque 7.26 57 P **Pn 12 25 27.9 +1.2**
baz=247
HARP HAARP 7.28 41 **Pn 12 25 28.3 +1.5**
HARP HAARP 7.28 41 P **Pn 12 25 28.3 +1.5**
baz=230
VRDI Verde Repeater 7.30 53 Pn **Pn 12 25 27.9 +0.5**
WACK Wrangell Chich 7.34 46 **Pn 12 25 29.3 +1.4**
TGL Tana Glacier 7.38 57 **Pn 12 25 29.6 +1.3**
BARK Barkley Ridge 7.41 60 **Pn 12 25 30.0 +1.2**
BWN Browne 7.48 21 **Pn 12 25 30.0 +0.4**
GCSA Galena City Sc 7.49 355 **Pn 12 25 31.2 +1.5**
GCSA Galena City Sc 7.49 355 P **Pn 12 25 31.2 +1.5**
baz=174
I20K Naaghedeneel 7.52 3 **Pn 12 25 32.3 +2.2**
I20K Naaghedeneel 7.52 3 P **Pn 12 25 31.9 +1.8**
baz=184
ISLE Juniper Island 7.55 59 Pn **Pn 12 25 32.5 +1.8**
PAX Paxson 7.55 37 **Pn 12 25 31.4 +0.8**
PAX Paxson 7.55 37 P **Pn 12 25 31.5 +0.8**
baz=226
PAX Paxson 7.55 37 P **Pn 12 25 31.5 +0.8**
MCARA McCarthy VSAT 7.56 52 **Pn 12 25 32.9 +2.2**
MCARA McCarthy VSAT 7.56 52 P **Pn 12 25 31.3 +0.6**
baz=243
MESA MESA 7.60 62 **Pn 12 25 32.7 +1.2**
BAGL Bagley Icefiel 7.63 60 **Pn 12 25 33.0 +1.4**
KIAG Kiagna River 7.66 56 **Pn 12 25 33.5 +1.3**
BALM Baldy 7.71 56 **Pn 12 25 33.8 +1.0**
PTPK Patty Peak 7.72 54 **Pn 12 25 34.3 +1.3**
GRNC Granite Creek 7.87 58 **Pn 12 25 36.6 +1.5**
RKAV Rock Avalanche 7.92 62 **Pn 12 25 37.1 +1.3**
NEA2 Nenana 7.94 20 **Pn 12 25 35.1 -0.7**
NEA2 Nenana 7.94 20 P **Pn 12 25 35.5 -0.3**
baz=206
H17K Granite Mounta 7.94 346 Pn **Pn 12 25 38.3 +2.4**
H17K Granite Mounta 7.94 346 P **Pn 12 25 38.0 +2.2**
baz=163
H18K Honhosa River 7.99 351 **Pn 12 25 38.8 +2.4**
H18K Honhosa River 7.99 351 P **Pn 12 25 38.8 +2.4**
baz=169
SPIA Saint Paul Isl 8.01 275 P **Pn 12 25 38.4 +1.6**
WRH Wood River Hil 8.03 24 Pn **Pn 12 25 36.6 -0.4**
TABL Table Mountain 8.06 61 **Pn 12 25 39.2 +1.5**
MLY Manley 8.07 14 **Pn 12 25 38.2 +0.5**
MLY Manley 8.07 14 P **Pn 12 25 38.2 +0.5**
baz=199
M26K Nabesna, AK 8.09 46 Pn **Pn 12 25 39.6 +1.7**
M26K Nabesna, AK 8.09 46 P **Pn 12 25 39.5 +1.6**
baz=236
MENT Mentasta 8.13 41 **Pn 12 25 40.2 +1.7**
CTG Chitna Glacier 8.14 57 P **Pn 12 25 39.9 +1.3**
baz=249
CTGM Chitina Glacie 8.14 57 **Pn 12 25 40.3 +1.6**
SAMH Samovar Hills 8.15 64 **Pn 12 25 39.9 +1.0**
H20K Anotleneega Mo 8.21 2 **Pn 12 25 41.1 +1.5**
H20K Anotleneega Mo 8.21 2 P **Pn 12 25 41.1 +1.5**
baz=182
HDA Harding Lake 8.24 27 Pn **Pn 12 25 40.1 +0.2**
CCB Clear Creek Bu 8.24 24 Pn **Pn 12 25 39.5 -0.4**
LOGN Logan Glacier 8.24 59 Pn **Pn 12 25 41.7 +1.5**
H19K Roundabout Mou 8.26 357 Pn **Pn 12 25 42.3 +2.2**
H19K Roundabout Mou 8.26 357 P **Pn 12 25 41.3 +1.2**
baz=176
L26K Log Cabin Wild 8.32 41 **Pn 12 25 43.3 +2.2**
I23K Minto, Yukon-K 8.39 18 Pn **Pn 12 25 42.2 +0.3**
I23K Minto, Yukon-K 8.39 18 P **Pn 12 25 41.9 -0.1**
baz=203
PCA Pinnacle 8.40 64 **Pn 12 25 42.9 +0.6**
PINM Pinnacle 8.40 64 P **Pn 12 25 42.9 +0.6**
baz=257
MDM Murphy Dome 8.43 22 **Pn 12 25 42.6 +0.1**
COLA College 8.43 23 P **Pn 12 25 42.3 -0.2**
COLA College 8.43 23 Pn **Pn 12 25 42.5 0.0**
COLA College 8.43 23 P **Pn 12 25 42.5 0.0**
H21K Melozitna Rive 8.47 8 Pn **Pn 12 25 45.0 +1.9**
H21K Melozitna Rive 8.47 8 P **Pn 12 25 44.7 +1.6**
baz=190
DOT Dot Lake 8.48 37 **Pn 12 25 44.8 +1.4**
M27K Edge Creek, AK 8.51 48 Pn **Pn 12 25 45.6 +1.9**
IL31 8.56 26 Pn **Pn 12 25 43.8 -0.4**
ILAR Eielson Array 8.56 26 Pn **Pn 12 25 44.1 -0.2**
ILAR Eielson Array 8.56 26 P **Pn 12 25 43.5 -0.8**
comp=N,7.7nm,0.3s,baz=217,slow=13,SNR=197
ILAR S **Sn 12 27 11.0 -8.1**
comp=N,2.9nm,0.6s,baz=215,slow=22,SNR=2.4
ILAR ScP **ScP 12 35 32.5 -0.5**
comp=N,0.4nm,0.8s,baz=232,slow=2.2,SNR=4.3
G17K Kiwalik Mounta 8.58 345 **Pn 12 25 46.5 +2.0**
G17K Kiwalik Mounta 8.58 345 P **Pn 12 25 46.5 +2.0**
baz=161
O28M Mount Upton 8.61 60 **Pn 12 25 46.3 +1.1**
O28M Mount Upton 8.61 60 P **Pn 12 25 46.3 +1.1**
baz=253
YUK2 White River 8.67 53 **Pn 12 25 47.5 +1.5**
ANM Nome 8.71 331 **Pn 12 25 47.9 +1.6**
ANM Nome 8.71 331 P **Pn 12 25 47.9 +1.6**
POKR Poker Plat Res 8.73 23 Pn **Pn 12 25 47.1 +0.5**
POKR Poker Plat Res 8.73 23 P **Pn 12 25 46.8 +0.1**
baz=210
G15K Niukluk 8.73 335 **Pn 12 25 47.8 +1.1**
G15K Niukluk 8.73 335 P **Pn 12 25 47.8 +1.1**
baz=148
SCRK Sand Creek 8.74 35 Pn **Pn 12 25 47.1 +0.3**
SCRK Sand Creek 8.74 35 P **Pn 12 25 47.8 +1.0**
baz=225
IMAR Indian Mountai 8.74 5 **Pn 12 25 48.5 +1.8**
G18K Tagagawik 8.74 351 Pn **Pn 12 25 49.2 +2.4**
G18K Tagagawik 8.74 351 P **Pn 12 25 49.2 +2.4**
baz=169
G16K Koyuk River 8.74 341 Pn **Pn 12 25 48.7 +1.9**
G16K Koyuk River 8.74 341 P **Pn 12 25 47.4 +0.7**
baz=155
PNL Peninsula 8.75 68 P **Pn 12 25 48.0 +1.1**
PNL Peninsula 8.75 68 **Pn 12 25 47.8 +0.9**
PNL Peninsula 8.75 68 P **Pn 12 25 47.8 +0.9**
baz=261
NIKH Nikolski High 8.80 246 P **Pn 12 25 48.2 +0.5**
J25K Salcha River, 8.81 30 Pn **Pn 12 25 47.9 +0.2**
J25K Salcha River, 8.81 30 P **Pn 12 25 47.9 +0.2**
baz=218
G19K Purcell Mounta 8.89 356 Pn **Pn 12 25 50.5 +1.7**
G19K Purcell Mounta 8.89 356 P **Pn 12 25 50.2 +1.4**
baz=174
L27K Beaver Creek, 8.90 44 Pn **Pn 12 25 50.7 +1.6**
L27K Beaver Creek, 8.90 44 P **Pn 12 25 50.2 +1.1**
baz=236
BCAR Beaver Creek A 8.92 44 Pn **Pn 12 25 50.8 +1.5**
H23K Yukon River 8.99 16 Pn **Pn 12 25 50.7 +0.5**
H23K Yukon River 8.99 16 P **Pn 12 25 50.5 +0.3**
baz=201
J26L Joseph Creek 9.24 34 Pn **Pn 12 25 55.1 +1.4**
J26L Joseph Creek 9.24 34 P **Pn 12 25 53.4 -0.2**
baz=224
O29M Mount Kennedy 9.27 64 Pn **Pn 12 25 56.0 +2.0**
O29M Mount Kennedy 9.27 64 P **Pn 12 25 55.1 +1.0**
baz=258
H24K Noodor Dome 9.28 20 Pn **Pn 12 25 54.0 -0.2**
H24K Noodor Dome 9.28 20 P **Pn 12 25 53.6 -0.5**
baz=206
G21K Allakaket 9.28 5 **Pn 12 25 55.0 +0.9**
G21K Allakaket 9.28 5 P **Pn 12 25 55.0 +0.9**
baz=187
K27K Chicken 9.40 39 **Pn 12 25 57.0 +1.3**
K27K Chicken 9.40 39 P **Pn 12 25 57.0 +1.3**
baz=230
F15K North Star Dit 9.48 336 Pn **Pn 12 25 59.7 +2.9**
F15K North Star Dit 9.48 336 P **Pn 12 25 59.5 +2.6**
baz=149
YUK4 Talbot Arm 9.50 58 P **Pn 12 25 59.6 +2.3**
baz=252
PRP Porcupine Dome 9.50 26 Pn **Pn 12 25 57.3 +0.1**
PRP Porcupine Dome 9.50 26 P **Pn 12 25 56.6 -0.6**
baz=215
F18K Selawik 9.52 350 **Pn 12 26 00.2 +2.8**
F18K Selawik 9.52 350 P **Pn 12 26 00.2 +2.8**
baz=166
P29M Windy Craggy 9.58 69 Pn **Pn 12 26 00.3 +2.0**
F19K Shaleruckik Mo 9.61 355 Pn **Pn 12 26 01.7 +3.1**
F19K Shaleruckik Mo 9.61 355 P **Pn 12 26 00.5 +1.9**
baz=173
G23K Bananza Creek 9.77 13 Pn **Pn 12 26 01.0 +0.2**
G23K Bananza Creek 9.77 13 P **Pn 12 26 00.5 -0.3**
baz=198
F20K Avaraart Lake 9.77 359 Pn **Pn 12 26 03.2 +2.4**
F20K Avaraart Lake 9.77 359 P **Pn 12 26 03.4 +2.6**
baz=179
YUK5 Granite Creek 9.80 60 **Pn 12 25 59.8 -1.6**
I26K Coal Creek Min 9.95 31 **Pn 12 26 03.9 +0.6**
I26K Coal Creek Min 9.95 31 P **Pn 12 26 03.9 +0.6**
baz=222
M29M Somme Creek 9.96 52 Pn **Pn 12 26 05.1 +1.5**
M29M Somme Creek 9.96 52 P **Pn 12 26 05.1 +1.5**
baz=246
F21K Alatna River 9.99 5 Pn **Pn 12 26 05.7 +1.9**
SKAG Skagway 10.79 70 P **Pn 12 26 15.8 +1.1**
SIT Sitka 10.94 83 P **Pn 12 26 17.2 +0.4**
WHY Whitehorse 11.13 64 Pn **Pn 12 26 20.7 +1.2**
R32K Eaglecrest 11.22 76 **Pn 12 26 21.1 +0.4**
JIS Juneau Island 11.29 76 P **Pn 12 26 22.6 +1.0**
I29M Ogilvie Camp, 11.50 38 **Pn 12 26 25.0 +0.7**
P32M Atlin 11.62 70 Pn **Pn 12 26 27.5 +1.5**
C18K Utukok River 11.66 350 Pn **Pn 12 26 29.2 +2.6**
D22K Ayikyak River 11.68 5 **Pn 12 26 28.5 +1.7**
ATKA Atka Island 11.94 253 P **Pn 12 26 31.4 +1.0**
FARO Faro, Yukon 12.16 57 **Pn 12 26 34.3 +0.9**
Q32M Nakina River 12.36 73 **Pn 12 26 38.7 +2.4**
CRAG Craig 12.51 89 P **Pn 12 26 38.5 +0.3**
G29M Pine Creek 12.57 33 **Pn 12 26 40.0 +1.0**
R33M Jennings River 13.02 71 Pn **Pn 12 26 45.9 +0.8**
ADK Adak 13.41 255 P **Pn 12 26 50.8 +0.5**
DLBC Dease Lake 13.57 75 P **Pn 12 26 54.8 +2.3**
comp=N,2.3nm,0.5s,baz=332,slow=5.4,SNR=11
DLBC S **Sn 12 29 17.6 -3.7**
comp=N,1.7nm,0.5s,baz=321,slow=15,SNR=2.7
INK Inuvik 14.79 33 P **Pn 12 27 07.6 -0.7**
comp=N,4.0nm,0.5s,baz=215,slow=9.4,SNR=29
BBB Bella Bella 16.55 96 P **P 12 27 33.4 +1.3**
comp=N,3.7nm,1.0s,baz=34,slow=7.3,SNR=1.5
BBB LR LR 12 32 57.6
comp=N,33nm,18.8s,baz=328,slow=33
SHEM Shemya Is, Ala 17.94 268 P **P 12 27 46.9 -0.5**
comp=N,10.0nm,0.3s,baz=49,slow=9.3,SNR=5.4
SHEM LR LR 12 35 30.1
comp=N,39nm,18.6s,baz=320,slow=40
C36M Paulatuk 18.26 36 P **P 12 27 50.9 +0.1**
C36M IAmb IAmb 12 27 53.4
comp=Z,12nm,0.5s
A36M Sachs Harbour 19.24 28 P **P 12 28 03.3 +1.8**
BILL Bilibino 20.18 318*c i*P **P 12 28 11.7 -0.1**
BILL *e*S **S 12 31 51.0 -3.1**
BILL pmax pmax
comp=Z,37nm,1.3s
YKA Yellowknife Ar 20.86 59 P **P 12 28 19.9 +0.7**
comp=Z,0.8nm,0.6s,baz=275,slow=10.0,SNR=6.1
comp=Z,0.8nm,0.6s
J01E Myrtle Point 24.37 112 P **P 12 28 57.5 +2.9**
J01E IAmb IAmb 12 29 04.7
comp=Z,26nm,1.5s
NEW Newport 24.60 95 LR LR 12 37 21.3
comp=Z,38nm,20.0s,baz=324,slow=33
DBO Dodson Butte 24.75 111 P **P 12 29 01.5 +3.3**
SEY Seymchan 25.93 304*ce*P **P 12 29 07.2 -1.4**
SEY pmax pmax
comp=Z,4.0nm,1.0s
YBH Yreka Blue Hor 26.04 113 P **P 12 29 11.5 +1.6**
comp=Z,1.0nm,0.8s,baz=309,slow=7.4,SNR=2.2
comp=Z,1.0nm,0.8s
LYMT Lyon Mountain 27.99 93 P **P 12 29 29.5 +2.0**
NVAR Mina Array Bea 30.74 112 P **P 12 29 54.9 +3.0**
comp=Z,0.6nm,0.8s,baz=294,slow=11,SNR=5.1
NVAR LR LR 12 39 56.9
comp=Z,43nm,19.4s,baz=277,slow=31
comp=Z,0.6nm,0.8s
R11B Troy Canyon, C 32.19 109 P **P 12 30 06.7 +2.1**
R11B IAmb IAmb 12 30 26.7
comp=Z,8.8nm,1.5s
PDAR Pinedale Array 32.20 97 P **P 12 30 06.1 +1.4**
PDAR Pinedale Array 32.20 97 P **P 12 30 07.0 +2.3**
comp=Z,0.7nm,0.6s,baz=314,slow=4.8,SNR=12
PDAR LR LR 12 41 28.1
comp=Z,26nm,19.5s,baz=308,slow=33
comp=Z,0.7nm,0.6s
TIXI Tiksi 32.93 326*ce*P **P 12 30 08.7 -1.7**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
SRU San Rafael Swe 34.27 102 P **P 12 30 25.3 +2.7**
SRU IAmb IAmb 12 30 45.8
comp=Z,9.3nm,0.9s
SRU San Rafael Swe 34.27 102 P **P 12 30 25.3 +2.7**
SRU pmax pmax
comp=Z,9.0nm,0.9s
RSSD Black Hills 34.28 90 P **P 12 30 24.6 +1.8**
RSSD IAmb IAmb 12 30 44.9
comp=Z,3.6nm,0.6s
RSSD Black Hills 34.28 90 P **P 12 30 24.6 +1.8**
RSSD pmax pmax
comp=Z,4.0nm,0.6s
ULM Lac du Bonnet 34.89 76 P **P 12 30 28.8 +1.1**
comp=Z,0.6nm,0.4s,baz=336,slow=10.0,SNR=1.3
comp=Z,0.6nm,0.4s
PFO Pinyon Flats O 35.45 115 LR LR 12 43 27.0
comp=Z,42nm,18.9s,baz=268,slow=33
YAK Yakutsk 36.13 309 LR LR 12 47 18.1
comp=Z,70nm,19.0s,baz=192,slow=39
YAK Yakutsk 36.13 309*ce*P **P 12 30 35.8 -2.3**
YAK pmax pmax
comp=Z,20nm,0.6s
JKA Kamikawa-asahi 39.94 278 P **P 12 31 09.7 -0.8**
JKA IAmb IAmb 12 31 11.2
comp=Z,10.0nm,0.7s
ASAJ Asahikawa 39.94 278 P **P 12 31 09.7 -0.7**
ASAJ pmax pmax
comp=Z,10.0nm,0.7s
ERM Erimo 41.06 275 *i* P **P 12 31 18.7 -1.0**
ERM pmax pmax
comp=Z,24nm,0.8s
ZEA Zeya 41.69 299 *i* P **P 12 31 23.0 -1.6**
KLR Kul'dur 42.29 291*ce*P **P 12 31 28.3 -1.3**
KLR pmax pmax
comp=Z,19nm,1.0s
TXAR Lajitas Array 45.39 105 P **P 12 31 56.5 +1.7**
comp=Z,0.6nm,0.9s,baz=303,slow=5.3,SNR=5.5
comp=Z,0.6nm,0.9s
USRK Ussuriysk Ar. 45.51 286 P **P 12 31 53.5 -2.0**
comp=Z,2.9nm,0.5s,baz=46,slow=9.3,SNR=8.4
comp=Z,2.9nm,0.5s
NRIK Noril'sk 45.73 334 P **P 12 31 54.4 -2.4**
comp=Z,4.5nm,0.6s,baz=50,slow=6.6,SNR=5.3
comp=Z,4.5nm,0.6s
NRIK Noril'sk 45.73 334*ce*P **P 12 31 55.7 -1.2**
NRIK pmax pmax
comp=Z,9.0nm,1.0s
SCHQ Schefferville 46.17 53 P **P 12 32 00.7 +0.1**
comp=Z,1.9nm,0.8s,baz=305,slow=12,SNR=2.0
comp=Z,1.9nm,0.8s
LPIG La Paz 46.32 116 LR LR 12 49 49.8
comp=Z,30nm,18.4s,baz=192,slow=34
MJAR Matsushiro Arr 47.66 274 P **P 12 32 10.8 -1.5**
comp=Z,2.6nm,0.8s,baz=38,slow=6.3,SNR=8.0
comp=Z,2.6nm,0.8s
MAJO Matsushiro 47.66 274 *i* P **P 12 32 10.5 -1.9**
MAJO pmax pmax
comp=Z,21nm,1.4s
CN2 Changchun 49.16 290 *e*P **P 12 32 22.0 -1.8**
CN2 *e*S S 12 39 08.8 -15
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=N,100nm,10.0s
CN2 LR LR
comp=E,200nm,10.0s
CN2 LR LR
comp=Z,200nm,11.0s
KSRS Korea Array 52.50 283 P **P 12 32 48.5 -0.3**
comp=Z,9.2nm,0.9s,baz=42,slow=7.3,SNR=21
comp=Z,9.2nm,0.9s
KSAR Wonju Array Be 52.53 283 P **P 12 32 48.6 -0.5**
KSAR Wonju Array Be 52.53 283 P **P 12 32 48.6 -0.5**
ARCES ARCESS Array B 53.45 360 P **P 12 32 54.2 -1.3**
comp=Z,0.6nm,0.5s,baz=24,slow=6.9,SNR=6.8
ARCES PcP **PcP 12 33 59.5 -2.1**
comp=Z,1.8nm,0.8s,baz=36,slow=3.4,SNR=4.0
comp=Z,0.6nm,0.5s
DL2 Dalian 54.70 288 P **P 12 33 03.8 -1.2**
DL2 pmax pmax
comp=Z,17nm,0.8s
LVZ Lovozero 54.87 355*ce*P **P 12 33 05.1 -0.8**
LVZ pmax pmax
comp=Z,22nm,1.7s
ULN Ulaanbaatar 55.00 305*ce*P **P 12 33 06.6 -0.7**
ULN pmax pmax
comp=Z,3.0nm,0.8s
APA Apatity 55.25 356⇓ *i* P P 12 33 04.3 -4.3
APA pmax pmax
comp=Z,3.0nm,0.8s
APA MLR MLR
comp=Z,100nm,15.0s
SONM Songino Array 55.31 306 P **P 12 33 09.4 -0.1**
SONM IAmb IAmb 12 33 10.1
comp=Z,7.6nm,0.8s
SONM Songino Array 55.31 306 P **P 12 33 09.2 -0.3**
comp=Z,9.0nm,0.7s,baz=46,slow=7.2,SNR=39
SONM PcP **PcP 12 34 10.0 +0.7**
comp=Z,1.9nm,0.5s,baz=66,slow=3.0,SNR=6.7
comp=Z,9.0nm,0.7s
SONM Songino Array 55.31 306 P **P 12 33 09.4 -0.1**
SONM pmax pmax
comp=Z,8.0nm,0.8s
HHC Hu-ho-hao-te 58.26 297 *e*P **P 12 33 34.0 +3.6**
ZAA0 Zalesovo Array 58.76 323 P **P 12 33 32.6 -0.9**
ZAA0 IAmb IAmb 12 33 33.9
comp=Z,5.9nm,0.8s
ZALV Zalesovo Beam 58.76 323 P **P 12 33 32.9 -0.6**
comp=Z,3.0nm,0.4s,baz=36,slow=6.6,SNR=26
ZALV PcP **PcP 12 34 22.5 0.0**
comp=Z,1.2nm,0.6s,baz=53,slow=5.6,SNR=4.8
comp=Z,3.0nm,0.4s
NB2 NORSAR Subarra 61.52 7 P **P 12 33 52.3 -0.1**
comp=Z,59nm,3.3s,baz=354,slow=6.9
NB2 NORSAR Subarra 61.52 7 P **P 12 33 52.3 -0.1**
baz=354,slow=6.9
NOA NORSAR Array B 61.52 7 P **P 12 33 52.2 -0.1**
comp=Z,4.9nm,0.8s,baz=353,slow=6.8,SNR=17
comp=Z,4.9nm,0.8s
FINES FINESS Array B 61.57 359 P **P 12 33 52.0 -0.6**
comp=Z,5.5nm,0.8s,baz=9.6,slow=8.1,SNR=26
comp=Z,5.5nm,0.8s
HFS Hagfors 62.58 6 P **P 12 33 59.0 -0.4**
comp=Z,7.8nm,0.6s,baz=12,slow=3.5,SNR=30
comp=Z,7.8nm,0.6s
HFS Hagfors 62.58 6 P **P 12 33 59.0 -0.4**
LYN LuoYang 62.73 292 *e*P **P 12 34 01.3 +0.5**
LYN pmax pmax
comp=Z,24nm,0.5s
LYN pmax pmax
comp=Z,130nm,9.3s
SEM Semipalatinsk 63.25 324 *e*P **P 12 34 04.3 0.0**
baz=324
SEM Semipalatinsk 63.25 324 *e*P **P 12 34 04.3 0.0**
ARU Arti 63.34 340 P **P 12 34 02.9 -1.6**
ARU Arti 63.34 340*d i*P **P 12 34 03.2 -1.3**
ARU *PP **pP 12 34 20.2 -2.6**
ARU 12 34 39.4
ARU 12 36 19.9
ARU S **S 12 42 32.9 +1.9**
ARU SS **SS 12 46 40.4 +3.0**
ARU pmax pmax
comp=Z,9.0nm,0.6s
KURK Kurchatov 63.50 325 P **P 12 34 04.7 -0.9**
KURK IAmb IAmb 12 34 05.9
comp=Z,5.8nm,0.9s
KURK Kurchatov 63.50 325*ce*P **P 12 34 04.9 -0.7**
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURBB Kurchatov Arra 63.61 325 P **P 12 34 05.5 -0.8**
comp=Z,2.8nm,0.7s,baz=31,slow=6.3,SNR=22
KURBB PcP **PcP 12 34 42.0 -0.1**
comp=Z,1.2nm,0.6s,baz=37,slow=4.5,SNR=6.7
comp=Z,2.8nm,0.7s
BVAR Borovoye Array 63.82 331 P **P 12 34 06.8 -0.9**
comp=Z,16nm,0.6s,baz=31,slow=7.0,SNR=85
comp=Z,16nm,0.6s
ZSN Zaisan 64.23 319 *e*P **P 12 34 09.9 -0.6**
comp=Z,4.3nm,0.5s,baz=319
ZSN Zaisan 64.23 319 *e*P **P 12 34 09.9 -0.6**
ZSN pmax pmax
comp=Z,4.0nm,0.5s
VSU Vasula 64.56 359*ce*P **P 12 34 12.2 -0.2**
VSU pmax pmax
comp=Z,36nm,2.5s
EKA Eskdalemuir Ar 65.49 17 P **P 12 34 19.1 +0.6**
comp=Z,1.3nm,0.4s,baz=338,slow=5.5,SNR=12
comp=Z,1.3nm,0.4s
MK31 Makanchi Array 65.70 320 P **P 12 34 18.8 -1.2**
MK31 Makanchi Array 65.70 320 P **P 12 34 18.8 -1.2**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 65.70 320 P **P 12 34 19.1 -0.9**
comp=Z,3.6nm,0.5s,baz=40,slow=7.2,SNR=49
comp=Z,3.6nm,0.5s
OBN Obninsk 67.50 353*ce*P **P 12 34 30.3 -1.0**
OBN *i* *PP **pP 12 34 46.9 -2.8**
OBN *SP **sP 12 34 55.0 -2.5**
OBN *i* 12 34 58.1
OBN *i* SS SS 12 47 39.0 -2.9
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,28nm,20.0s
TDK Taldyqorghan 68.58 322 *e*P **P 12 34 38.6 +0.2**
comp=Z,8.4nm,0.8s,baz=322
TDK Taldyqorghan 68.58 322 *e*P **P 12 34 38.5 +0.2**
TDK pmax pmax
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 69.82 336 P **P 12 34 45.3 -0.5**
ABKAR Akbulak array 69.82 336 P **P 12 34 45.2 -0.7**
KPKS Kokpek 69.84 321 *e*P **P 12 34 45.9 -0.4**
comp=Z,3.9nm,0.4s,baz=321
KPKS Kokpek 69.84 321 *e*P **P 12 34 45.8 -0.5**
KPKS pmax pmax
comp=Z,4.0nm,0.4s
BTLS Baital 69.96 325 *e*P **P 12 34 46.3 -0.5**
comp=Z,3.6nm,0.4s,baz=325
BTLS Baital 69.96 325 *e*P **P 12 34 46.3 -0.5**
BTLS pmax pmax
comp=Z,4.0nm,0.4s
UZB Uzynbulak 70.01 321 *e*P **P 12 34 47.1 -0.2**
baz=321
UZB Uzynbulak 70.01 321 *e*P **P 12 34 47.1 -0.2**
SATY Saty 70.30 321 *e*P **P 12 34 48.6 -0.6**
baz=321
SATY Saty 70.30 321 *e*P **P 12 34 48.5 -0.6**
MDOK Medeo 70.67 322 *e*P **P 12 34 50.1 -1.3**
baz=322
MDOK Medeo 70.67 322 *e*P **P 12 34 50.9 -0.5**
AAA Alma-Ata 70.67 322 *e*P **P 12 34 51.1 -0.1**
comp=Z,7.9nm,0.4s,baz=322
AAA Alma-Ata 70.67 322 *e*P **P 12 34 51.1 -0.1**
AAA pmax pmax
comp=Z,8.0nm,0.4s
TNSS Tian-Shan 70.81 322 *e*P **P 12 34 52.2 -0.4**

baz=322
TNSS Tian-Shan 70.81 322 *e*P **P 12 34 52.1 -0.4**
SGDS Sogindy 71.20 324 *e*P **P 12 34 54.3 -0.2**
baz=324
SGDS Sogindy 71.20 324 *e*P **P 12 34 54.2 -0.2**
CLL Collm 71.33 8 *i* P **P 12 34 55.2 +0.2**
comp=Z,3.0nm,0.9s
AAK Ala-Archa 71.97 324 *ce*P **P 12 34 59.3 0.0**
AAK pmax pmax
comp=Z,7.0nm,0.7s
AK03 Malin Array Si 72.25 357 P P 12 35 09.8 +9.3
AKASG Malin Array Be 72.28 357 P **P 12 34 59.7 -1.0**
comp=Z,6.0nm,0.5s,baz=8.0,slow=5.8,SNR=22
comp=Z,6.0nm,0.5s
AKBB Malin Array Si 72.28 357 P **P 12 34 59.6 -1.1**
AKBB Malin Array Si 72.28 357 *ce*P **P 12 34 59.7 -1.0**
AKBB pmax pmax
comp=Z,10.0nm,0.6s
KIEV Kiev 72.28 357 P **P 12 34 59.6 -1.1**
KIEV Kiev 72.28 357 P **P 12 34 59.6 -1.1**
KIEV pmax pmax
comp=Z,11nm,0.6s
KK31 Karatay Array 72.79 327 P **P 12 35 03.9 0.0**
KK31 IAmb IAmb 12 35 04.5
comp=Z,10nm,0.8s
KK31 Karatay Array 72.79 327 P **P 12 35 03.9 0.0**
KK31 pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 72.79 327 P **P 12 35 03.7 -0.2**
KKAR Karatay Array 72.79 327 P **P 12 35 03.9 -0.1**
KKAR IAmb IAmb 12 35 04.5
comp=Z,10nm,0.8s
KKAR Karatay Array 72.79 327 P **P 12 35 03.7 -0.2**
KKAR pmax pmax
comp=Z,10.0nm,0.8s
KHC Kasperske Hory 73.53 7 *e*P **P 12 35 09.0 +0.8**
KHC Kasperske Hory 73.53 7 *ce*P **P 12 35 09.8 +1.6**
KHC pmax pmax
comp=Z,17nm,2.5s
CHM Chimkent 73.78 327 *e*P **P 12 35 09.3 -0.4**
comp=Z,10.0nm,0.7s,baz=327
CHM Chimkent 73.78 327 *e*P **P 12 35 09.3 -0.4**
CHM pmax pmax
comp=Z,10.0nm,0.7s
IUG Iuzhnay 73.81 326 *e*P **P 12 35 10.1 0.0**
comp=Z,12nm,0.7s,baz=326
IUG Iuzhnay 73.81 326 *e*P **P 12 35 10.0 0.0**
IUG pmax pmax
comp=Z,12nm,0.7s
LANS Liptovska Anna 73.82 3 *e*P **P 12 35 11.7 +1.8**
LANS pmax pmax
comp=Z,3.0nm,0.9s
LANS Liptovska Anna 73.82 3 *e*P **P 12 35 11.7 +1.8**
GERES GERESS Array B 73.83 7 P **P 12 35 10.3 +0.3**
comp=Z,1.4nm,0.8s,baz=342,slow=6.2,SNR=5.9
comp=Z,1.4nm,0.8s
KSH Kashi 74.28 321 P **P 12 35 16.3 +3.4**
KSH pmax pmax
comp=Z,14nm,0.8s
VYHS Vyhne 74.45 4 *e*P **P 12 35 14.1 +0.6**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 74.45 4 *e*P **P 12 35 14.1 +0.6**
MODS Modra-Piesok 74.51 5 *e*P **P 12 35 15.5 +1.6**
MODS pmax pmax
comp=Z,19nm,1.2s
MODS Modra-Piesok 74.51 5 *e*P **P 12 35 15.5 +1.6**
CONA Conrad Observa 74.88 6 *e*P **P 12 35 16.7 +0.6**
comp=Z,1.3nm,0.7s
MOTA Moosalm 75.11 9 *e*P **P 12 35 18.5 +0.9**
comp=Z,5.8nm,1.2s
WATA Walderalm 75.16 9 *e*P **P 12 35 19.1 +1.2**
comp=Z,2.7nm,0.6s
WTTA Wattenberg 75.24 9 *e*P **P 12 35 19.1 +0.7**
comp=Z,1.5nm,0.5s
SQTA Sankt Quirin 75.24 9 *i* P **P 12 35 19.0 +0.8**
comp=Z,7.9nm,1.3s
FETA Feichten 75.40 10 *i* P **P 12 35 20.1 +0.9**
comp=Z,0.5nm,0.4s
BUR08 Bucovina Ar. S 75.41 360 P **P 12 35 18.8 -0.4**
BURAR Bucovina Array 75.44 360 P **P 12 35 18.9 -0.4**
KBA Koelnbreinsper 75.56 8 *e*P **P 12 35 21.0 +0.8**
comp=Z,1.7nm,0.5s
SOKA Soboth 76.07 7 *e*P **P 12 35 24.0 +1.0**
comp=Z,1.1nm,0.5s
OBKA Obir 76.21 7 *e*P **P 12 35 24.0 +0.3**
comp=Z,5.3nm,0.6s
SIMJ Simiganj 77.32 326 P **P 12 35 30.2 0.0**
KIV Kislovodsk 77.95 347 *e*P **P 12 35 33.8 +0.2**
KIV pmax pmax
comp=Z,17nm,1.1s
KBZ Khabaz 78.15 346 P **P 12 35 34.5 -0.1**
comp=Z,9.6nm,0.9s,baz=353,slow=7.2,SNR=16
comp=Z,9.6nm,0.9s
SHA1 Shidzhatmaz 78.17 347 *ce*P **P 12 35 35.2 +0.2**
NCK Nalchik 78.29 346 *i* P **P 12 35 35.0 -0.4**
NCK pmax pmax
comp=Z,12nm,0.4s
ESDC Sonseca Array 80.44 22 P **P 12 35 48.4 +1.2**
ESDC Sonseca Array 80.44 22 P **P 12 35 47.9 +0.7**
comp=Z,2.7nm,1.0s,baz=342,slow=5.4,SNR=12
comp=Z,2.7nm,1.0s
CM31 Chiang Mai Arr 82.76 293 P **P 12 35 58.6 -1.0**
CM31 IAmb IAmb 12 35 59.8
comp=Z,9.0nm,0.6s
CMAR Chiang Mai Arr 82.76 293 P **P 12 35 58.8 -0.8**
CMAR Chiang Mai Arr 82.76 293 P **P 12 35 59.0 -0.5**
comp=Z,6.2nm,0.7s,baz=12,slow=5.6,SNR=41
comp=Z,6.2nm,0.7s
BR131 Keskin Array S 83.02 353 P **P 12 36 00.6 -0.2**
BR131 IAmb IAmb 12 36 02.0
comp=Z,3.7nm,0.8s
BR131 Keskin Array S 83.02 353 P **P 12 36 00.6 -0.2**
BR131 pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 83.02 353 P **P 12 36 00.2 -0.7**
BRTR Keskin Array B 83.02 353 P **P 12 36 00.9 +0.1**
comp=Z,2.4nm,0.8s,baz=27,slow=3.0,SNR=13
comp=Z,2.4nm,0.8s
BRTR Keskin Array B 83.02 353 P **P 12 36 01.0 +0.1**
QSPA South Pole Qui 147.10 180 PKPbc **PKPdf 12 43 16.5 +2.1**
comp=Z,1.9nm,0.7s,baz=176,slow=0.7,SNR=7.7
BOSA Boshof 151.31 359 PKPbc **PKPbc 12 43 27.7 -0.9**
comp=Z,1.6nm,0.9s,baz=12,slow=2.9,SNR=3.7
BOSA PKPab **PKPab 12 43 37.0 +0.2**
comp=Z,1.9nm,0.8s,baz=0.0,slow=3.0,SNR=4.4

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*ISN **29** 12:24:19.8±1.4, 34°.62N×46°.26E, h23km±26km, ML2.7*
*TEH **29** 12:24:19.5, 34°.62N×46°.24E, h10km±62km, ML2.7*
ISC 29 12:24:19.6±1.2, 34°.60N±0°.05×46°.25E±0°.04, h12km±12km, n10, σ0s27/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.15**	**48**	Pg	**Pg**	**12 24 23.3**	**+0.1**
IGHG	**Ghaleghazi**	**0.38**	**136**	Pg	**Pb**	**12 24 28.2**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.56**	**261**	Pg	**Pg**	**12 24 30.5**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.56**	**210**	Pg	**Pg**	**12 24 30.9**	**+0.3**
ILIN	**Lien**	**0.67**	**61**	Pg	**Pg**	**12 24 32.5**	**0.0**
KCHF	**Cheshme Sefid,**	**0.73**	**116**	Pg	**Pg**	**12 24 33.7**	**0.0**
ILBA	**Ilam Banvizeh**	**0.97**	**182**	Pg	**Pb**	**12 24 38.5**	**0.0**
SNQR	**Sonqor, Kerman**	**1.16**	**77**	Pg	**Pg**	**12 24 42.3**	**+0.4**
IBDR	**Badra**	**1.51**	**190**	*e*Pg	**Pb**	**12 24 47.0**	**-0.1**
baz=10.0							
IBDR				*e*Sg	**Sg**	**12 25 08.0**	**-0.1**
IBDR				AML	AML	12 25 16.1	
comp=N,73nm,0.5s							
IBDR				AML	AML	12 25 20.9	
comp=E,75nm,0.3s							
IKRK	**Kirkuk**	**1.76**	**298**	*e*Pn	**Pn**	**12 24 50.0**	**+0.1**
IKRK				*e*Sn	**Sb**	**12 25 14.0**	**+0.1**
IKRK				AML	AML	12 25 20.0	
comp=N,181nm,0.2s							
IKRK				AML	AML	12 25 23.7	
comp=E,184nm,0.3s							

IDC 29 12:29:23.7±3.4, 4°.63N×124°.19E, h0km, mb3.4/2, mbtmp3.6/3, ML4.5/1, Error ellipse: s-maj=129.1km s-min=29.2km az=96.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.79**	**30**	Pn	Pn	12 30 09.5	-0.2
69nm,0.3s,baz=252,slow=20,SNR=2.5							
140nm,0.3s							
WRA	**Warramunga Arr**	**26.38**	**158**	P	P	12 35 01.9	0.0
0.6nm,0.9s,baz=336,slow=10.0,SNR=8.0							
0.6nm,0.9s							
ASAR	**Alice Springs**	**29.68**	**162**	P	P	12 35 31.4	0.0
0.2nm,0.4s,baz=343,slow=7.0,SNR=12							
0.2nm,0.4s							
TXAR	**Lajitas Array**	**123.02**	**51**	PKP	PKPdf	12 48 22.9	-0.2
0.2nm,0.8s,baz=293,slow=1.4,SNR=1.6							

IDC 29 12:42:40.3±8.2, 18°.91S×176°.87W, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=354.2km s-min=42.4km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.90**	**260**	P	P	12 51 04.8	-0.1
0.2nm,0.6s,baz=97,slow=7.5,SNR=6.5							
0.2nm,0.6s							
ASAR	**Alice Springs**	**45.94**	**255**	P	P	12 51 05.2	-0.1
0.3nm,0.6s,baz=94,slow=7.2,SNR=6.1							
0.3nm,0.6s							
ILAR	**Eielson Array**	**86.54**	**12**	P	P	12 55 24.7	0.0
0.1nm,0.6s,baz=205,slow=3.5,SNR=2.1							
0.1nm,0.6s							

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*NEIC **29** 13:00:48.4±0.9, 25°.1S±0°.2×179°.4E±0°.1, h584km±13km, mb4.1/13, Error ellipse: s-maj=27.0km s-min=13.8km az=201.0*
*IDC **29** 13:00:53.1±11.0, 24°.91S×179°.31E, h650km±147km, mb2.8/4, mbtmp3.9/4, Error ellipse: s-maj=59.0km s-min=25.1km az=66.0*
ISC 29 13:00:48.8±0.8, 24°.9S±0°.1×179°.3E±0°.1, h600km, n23, σ1s22/22, mb4.0/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.25**	**351**	P	**P**	**13 02 40.9**	**-0.5**
QRZ	**Quartz Range**	**16.83**	**198**	P	**P**	**13 04 11.8**	**-1.8**
EIDS	**Eidsvold**	**25.53**	**263**	P	**P**	**13 05 32.5**	**+0.7**
EIDS				IAmb	IAmb	13 05 58.0	
comp=Z,9.3nm,1.4s							
CTAO	**Charters Tower**	**30.86**	**272**	P	**P**	**13 06 19.2**	**+1.1**
AS31	**Alice Springs**	**41.25**	**262**	P	**P**	**13 07 44.9**	**+1.5**
ASAR	**Alice Springs**	**41.25**	**262**	P	**P**	**13 07 44.7**	**+1.3**
ASAR	**Alice Springs**	**41.25**	**262**	P	**P**	**13 07 44.9**	**+1.5**
comp=Z,0.4nm,0.3s,baz=97,slow=6.7,SNR=24							
comp=Z,0.4nm,0.3s							
WR0	**Warramunga Arr**	**41.53**	**268**	P	**P**	**13 07 46.1**	**+0.5**
WR0				IAmb	IAmb	13 07 46.9	
comp=Z,6.4nm,1.4s							
WB2	**Warramunga Arr**	**41.70**	**268**	P	**P**	**13 07 47.5**	**+0.5**
WB2				IAmb	IAmb	13 08 30.5	
comp=Z,6.1nm,1.3s							
WB0	**Warramunga Arr**	**41.71**	**268**	P	**P**	**13 07 47.7**	**+0.7**
WB0				IAmb	IAmb	13 07 51.6	
comp=Z,10.0nm,1.4s							
WRA	**Warramunga Arr**	**41.71**	**268**	P	**P**	**13 07 47.8**	**+0.8**
WRA	**Warramunga Arr**	**41.71**	**268**	P	**P**	**13 07 48.3**	**+1.2**
comp=Z,0.9nm,0.4s,baz=103,slow=8.1,SNR=28							
comp=Z,0.9nm,0.4s							
KNRA	**Kununurra**	**48.06**	**271**	P	**P**	**13 08 37.1**	**+1.7**
KNRA				IAmb	IAmb	13 08 52.7	
comp=Z,7.3nm,1.2s							
VNDA	**Vanda**	**53.30**	**185**	P	**P**	**13 09 13.0**	**+0.6**
VNDA	**Vanda**	**53.30**	**185**	P	**P**	**13 09 13.2**	**+0.7**
comp=Z,0.4nm,0.5s,baz=15,slow=8.4,SNR=1.9							
comp=Z,0.4nm,0.5s							
MORW	**Morawa**	**55.93**	**251**	P	**P**	**13 09 28.6**	**-3.0**
QSPA	**South Pole Qui**	**65.16**	**180**	P	**P**	**13 10 32.2**	**+0.6**
QSPA				IAmb	IAmb	13 10 33.3	
comp=Z,6.5nm,1.1s							
QSPA	**South Pole Qui**	**65.16**	**180**	P	**P**	**13 10 32.4**	**+0.8**
comp=Z,2.3nm,0.7s,baz=35,slow=1.2,SNR=18							
comp=Z,2.3nm,0.7s							
SMAI	**San Martin Ant**	**75.37**	**159**	P	**P**	**13 11 32.1**	**+0.5**
BELA	**Belgrano 2**	**75.50**	**173**	P	**P**	**13 11 32.0**	**-0.2**
SNAA	**Sanae**	**83.65**	**179**	P	**P**	**13 12 14.9**	**-0.1**
SNAA				IAmb	IAmb	13 12 46.6	
comp=Z,7.8nm,1.5s							
TXAR	**Lajitas Array**	**91.51**	**58**	P	**P**	**13 12 52.7**	**0.0**
comp=Z,3.3nm,1.0s,baz=231,slow=4.3,SNR=15							
HFS	**Hagfors**	**143.42**	**348**	PKP	PKPbc	13 19 14.5	+0.3
comp=Z,1.0nm,0.7s,baz=57,slow=5.3,SNR=4.3							

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*BJI **29** 13:00:48.4±0.0, 45°.49N×151°.81E, h5km, mb5.0/82, mB5.1/40, Ms4.7/79, Ms7 4.6/76*
*IDC **29** 13:00:51.0±0.4, 45°.70N×151°.51E, h0km, mb4.8/29, mbtmp4.8/33, ML3.6/3, MS4.3/74, Error ellipse: s-maj=13.2km s-min=11.4km az=143.0*
*SKHL **29** 13:00:52.9±0.2, 45°.40N×152°.00E, h36km±5km, mb5.4/11, mbv5.4/4, ms4.8/8, msh5.2/3*
*JMA **29** 13:00:53.1±1.1, 46°.N±4°.×15°.2E±°., h30km, MV5.1/19, MW5.1/19, KURILE ISLANDS REGION*
*NIED **29** 13:00:53.1, 45°.83N×151°.81E, h30km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; M_{rr}1.97; $M_{\theta\theta}$0.90; $M_{\phi\phi}$-2.87; $M_{r\theta}$-0.21; $M_{\theta\phi}$-1.61; $M_{\phi r}$1.61; Fault plane solution: $M_0$3.29000×10^16 NP1: ϕ_s355.00000°, δ65.00000°, λ58.00000°. NP2: ϕ_s231.00000°, δ40.00000°, λ139.00000°.*
*MOS **29** 13:00:54.5±1.1, 45°.52N×151°.62E, h38km, mb5.3/68, MS4.7/17 Error ellipse: s-maj=5.6km s-min=4.1km az=116.8*
*NEIC **29** 13:00:56.5±1.8, 45°.74N±0°.07×151°.4E±0°.1, h35km±1km, mb5.1/569, Mww5.0/15, Error ellipse: s-maj=15.0km s-min=10.6km az=304.0*
*NEIC **29** 13:00:56.5, 45°.14N×152°.55E, h24km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^16 Nm; M_{rr}2.08; $M_{\theta\theta}$-0.39; $M_{\phi\phi}$-1.69; $M_{r\theta}$1.17; $M_{\theta\phi}$-2.49; $M_{\phi r}$2.15; Fault plane solution: $M_0$3.78000×10^16 NP1: ϕ_s-26.45000°, δ66.25000°, λ76.81000°. NP2: ϕ_s236.65000°, δ26.99000°, λ117.41000°. Principal axes: T 3.0551, Plg66.0000°, Azm273.0000°; N 1.4449, Plg12.0000°, Azm32.0000°; P -4.5000, Plg20.0000°, Azm126.0000°;*
*NEIC **29** 13:00:56.5, 45°.74N×151°.41E, h24km*
*GCMT **29** 13:00:58.5±0.2, 45°.71N±0°.01×151°.75E±0°.02, h28km, MW5.1/115, Moment Tensor Solution. s84, c123; s115, c195; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}4.65±.13; $M_{\theta\theta}$-1.53±.10; $M_{\phi\phi}$-3.12±.09; $M_{r\theta}$0.18±.17; $M_{\theta\phi}$-2.72±.06; $M_{\phi r}$1.99±.14; Best double couple: $M_0$5.30800×10^16 NP1: ϕ_s25.00000°, δ56.00000°, λ75.00000°. NP2: ϕ_s230.00000°, δ37.00000°, λ110.00000°. Principal axes: T 5.1670, Plg74.0000°, Azm253.0000°; N 0.2840, Plg12.0000°, Azm33.0000°; P -5.4500, Plg10.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **29** 13:01:03.5, 46°.50N×150°.62E, h16km±1km, mb5.2, Hypocentre not reviewed by the ISC*
ISC 29 13:00:55.6±0.4, 45°.61N±0°.04×151°.54E±0°.03, h30km±2km, h30km:pP-P, n1331, σ1s47/1128, mb5.1/436, MS4.5/106, 75C-43D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.62**	**263**	*e*P	**Pn**	**13 01 37.0**	**+1.3**
KUR				AMB	AMB	13 01 43.0	
620nm,0.3s							
KUR				AMB	AMB	13 01 44.6	
3μm,2.0s							
KUR				*e*S	**Sn**	**13 02 10.1**	**+3.7**
KUR				A	A	13 02 17.6	
1μm,0.4s							
KUR				A	A	13 02 17.6	
2μm,0.4s							
KUR				A	A	13 02 19.8	
8μm,2.3s							
KUR				A	A	13 02 19.8	
11μm,2.3s							
KUR				AMS	AMS	13 02 51.0	
16μm,13.0s							
KUR				AMS	AMS	13 02 51.0	
13μm,13.0s							
KUR				AMS	AMS	13 02 51.0	
14μm,13.0s							
KUR	**Kuril'sk**	**2.62**	**263**	*e*PN	**Pn**	**13 01 37.0**	**+1.3**
KUR				*i* S	**Sb**	**13 02 11.0**	**-2.4**
KUR				pmax	pmax		
comp=N,301nm,0.3s							
KUR				pmax	pmax		
comp=E,87nm,0.3s							
KUR				pmax	pmax		
comp=Z,616nm,0.3s							
KUR				pmax	pmax		
comp=Z,3μm,2.0s							
KUR				smax	smax		
comp=N,1μm,0.4s							
KUR				smax	smax		
comp=E,2μm,0.4s							
KUR				smax	smax		
comp=E,11μm,2.4s							
KUR				smax	smax		
comp=N,8μm,2.3s							
KUR				MLR	MLR		
comp=Z,8μm,10.0s							
SHO	**Shikotan**	**3.78**	**244**	*i* P	**Pn**	**13 01 51.8**	**+0.1**
SHO				AMB	AMB	13 01 55.8	
comp=Z,250nm,0.4s							
SHO				*e*S	**Sn**	**13 02 35.8**	**+0.6**
SHO				A	A	13 02 45.0	
comp=Z,690nm,0.4s							
SHO				A	A	13 02 45.0	
comp=Z,710nm,0.4s							
SHO				AMS	AMS	13 03 15.0	
comp=Z,5μm,15.0s							
SHO				AMS	AMS	13 03 15.0	
comp=Z,7μm,15.0s							
SHO				AMS	AMS	13 03 15.0	
comp=Z,5μm,15.0s							
SHO	**Shikotan**	**3.78**	**244**	⇓*i*PN	**Pn**	**13 01 51.8**	**+0.1**
SHO				*e*S	**Sn**	**13 02 35.8**	**+0.6**
SHO				pmax	pmax		
comp=Z,186nm,0.3s							
SHO				pmax	pmax		
comp=E,51nm,0.2s							
SHO				pmax	pmax		
comp=N,44nm,0.1s							
SHO				smax	smax		
comp=E,412nm,0.7s							
SHO				smax	smax		
comp=N,577nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**4.34**	**251**	*i* P	**Pn**	**13 02 00.6**	**+1.2**
YUK				AMB	AMB	13 02 06.0	
comp=N,570nm,0.2s							
YUK				*e*S	**Sn**	**13 02 51.3**	**+2.4**
YUK				A	A	13 03 04.5	
comp=N,1μm,0.3s							
YUK				A	A	13 03 04.5	
comp=N,330nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**4.34**	**251**	*c i*PN	**Pn**	**13 02 02.0**	**+2.6**
YUK				*e*S	**Sn**	**13 02 53.2**	**+4.3**
YUK				pmax	pmax		
comp=E,79nm,0.2s							
YUK				pmax	pmax		
comp=Z,573nm,0.2s							
YUK				pmax	pmax		
comp=N,143nm,0.1s							
YUK				smax	smax		
comp=E,332nm,0.3s							
YUK				smax	smax		
comp=N,1μm,0.4s							
NEM2	**Nemuro 2**	**4.72**	**244**	P	**Pn**	**13 02 04.7**	**+0.1**
NEM2				S	**Sn**	**13 02 58.5**	**+0.2**
RUSJ	**Misakicho**	**4.72**	**254**	*e*PN	**Pn**	**13 02 08.1**	**+3.5**
RUSJ				*e*S	**Sb**	**13 03 07.8**	**-6.1**
NMR	**Nemuro--Hokkai**	**4.72**	**244**	*i* P	**Pn**	**13 02 04.6**	**-0.1**
NMR				*e*S	**Sn**	**13 02 58.6**	**+0.2**
NMR	**Nemuro--Hokkai**	**4.72**	**244**	⇑*i*PN	**Pn**	**13 02 04.1**	**-0.6**
JRA	**Rausu**	**4.87**	**252**	P	**Pn**	**13 02 09.6**	**+3.0**
JNK	**Nakash**	**5.28**	**250**	P	**Pn**	**13 02 14.0**	**+1.7**
JNK				*e*S	**Sn**	**13 03 13.9**	**+1.8**
AKK	**Akkeshi**	**5.46**	**244**	*i* P	**Pn**	**13 02 14.6**	**-0.2**
JAK	**Akkeshi**	**5.56**	**244**	P	**Pn**	**13 02 16.6**	**+0.4**
JAK				*e*S	**Sn**	**13 03 18.5**	**-0.6**
JTKR	**Abashiri--Toko**	**5.68**	**256**	P	**Pn**	**13 02 20.4**	**+2.6**
SKR	**Severo-Kuril's**	**5.93**	**29**	*e*P	**Pn**	**13 02 21.4**	**+0.3**
SKR				AMB	AMB	13 02 24.3	
comp=N,890nm,0.8s							
SKR				*e*S	**Sn**	**13 03 26.1**	**-1.8**
SKR				A	A	13 03 41.9	
comp=N,670nm,0.7s							
SKR				A	A	13 03 41.9	
comp=N,600nm,0.7s							
SKR				AMS	AMS	13 04 49.6	
comp=N,4μm,12.0s							
SKR				AMS	AMS	13 04 49.6	
comp=N,4μm,12.0s							
SKR				AMS	AMS	13 04 49.6	
comp=N,3μm,12.0s							
SKR	**Severo-Kuril's**	**5.93**	**29**	*e*PN	**Pn**	**13 02 23.0**	**+1.9**
SKR				pmax	pmax		
comp=Z,891nm,0.8s							
SKR				MLR	MLR		
comp=Z,4μm,13.0s							
SKR				MLR	MLR		
comp=N,4μm,16.0s							
SKR				MLR	MLR		
comp=E,3μm,14.0s							
JAR	**Ashorobuto**	**6.03**	**250**	P	**Pn**	**13 02 24.5**	**+2.0**
JAR				*e*S	**Sn**	**13 03 35.0**	**+4.5**
JOB	**Onbets**	**6.16**	**247**	*e*P	**Pn**	**13 02 25.6**	**+1.2**
JOB				S	**Sn**	**13 03 33.9**	**+0.1**
YSS	**Yuzh-Sakhalins**	**6.24**	**286**		**Pn**	**13 02 24.4**	**-1.0**
YSS	**Yuzh-Sakhalins**	**6.24**	**286**	*e*P	**Pn**	**13 02 29.0**	**+3.5**
YSS				AMB	AMB	13 02 31.6	
comp=E,300nm,4.0s							
YSS				AMB	AMB	13 02 33.2	
comp=E,120nm,0.8s							
YSS				*e*S	**Sn**	**13 03 40.7**	**+5.0**
YSS				AMS	AMS	13 04 43.6	
comp=E,2μm,16.0s							
YSS				AMS	AMS	13 04 43.6	
comp=E,4μm,16.0s							
YSS				AMS	AMS	13 04 43.6	
comp=E,6μm,16.0s							
YSS	**Yuzh-Sakhalins**	**6.24**	**286**	*ke*PN	**Pn**	**13 02 28.6**	**+3.1**
YSS				*e*S	**Sn**	**13 03 40.7**	**+5.0**
YSS				pmax	pmax		
comp=Z,300nm,4.0s							
YSS				pmax	pmax		
comp=Z,120nm,0.8s							
YSS				smax	smax		
comp=N,30nm,0.9s							
YSS				smax	smax		
comp=E,60nm,0.9s							
YSS				MLR	MLR		
comp=E,4μm,17.0s							
YSS				MLR	MLR		
comp=Z,6μm,17.0s							
JKK2	**Kamakawa 2**	**6.50**	**258**	P	**Pn**	**13 02 32.1**	**+3.0**
JKA	**Kamikawa-asahi**	**6.53**	**260**		**Pn**	**13 02 29.3**	**-0.2**
JKA	**Kamikawa-asahi**	**6.53**	**260**	*e*P	**Pn**	**13 02 29.3**	**-0.2**
ASAJ	**Asahikawa**	**6.53**	**260**	Pn	**Pn**	**13 02 32.7**	**+3.2**
comp=Z,6.2nm,0.3s,baz=32,slow=6.0,SNR=41							
ASAJ				Sn	**Sn**	**13 03 39.2**	**-3.7**
comp=Z,2.1nm,0.3s,baz=82,slow=24,SNR=1.4							
ASAJ				LR	LR	13 05 05.8	
comp=Z,4μm,21.0s,baz=81,slow=39							
ASAJ	**Asahikawa**	**6.53**	**260**	PN	**Pn**	**13 02 29.3**	**-0.2**
JCH	**Churui**	**6.61**	**246**	P	**Pn**	**13 02 31.3**	**+0.8**
JCH				*e*S	**Sn**	**13 03 43.1**	**-1.6**
JWK2	**Keihoku**	**6.79**	**271**	*e*P	Pn	13 02 39.2	+6.2
JAB	**Ashibetsu**	**6.98**	**256**	*e*P	**Pn**	**13 02 39.5**	**+3.8**
ERM	**Erimo**	**7.05**	**242**		**Pn**	**13 02 35.9**	**-0.7**
ERM	**Erimo**	**7.05**	**242**	*ce*PN	**Pn**	**13 02 38.1**	**+1.5**
ERM				pmax	pmax		
comp=Z,281nm,1.3s							
JNBK	**Urakawa-nobuka**	**7.16**	**245**	P	**Pn**	**13 02 38.1**	**-0.1**
JNBK				*e*S	**Sn**	**13 03 57.9**	**-0.6**
UGL	**Uglegorsk**	**7.31**	**302**	*e*P	Pn	13 02 45.2	+5.0
UGL				AMB	AMB	13 02 47.1	
comp=Z,170nm,1.0s							
UGL				*e*S	**Sn**	**13 04 08.3**	**+6.2**
UGL				A	A	13 04 08.8	
comp=Z,500nm,3.0s							
UGL				A	A	13 04 08.8	
comp=Z,500nm,3.0s							
UGL				AMS	AMS	13 06 38.0	
comp=Z,3μm,13.0s							
UGL				AMS	AMS	13 06 38.0	
comp=Z,2μm,13.0s							
UGL				AMS	AMS	13 06 38.0	

comp=Z,3μm,13.0s
UGL Uglegorsk 7.31 302 *e*PN Pn 13 02 45.2 +5.0
UGL pmax pmax
comp=Z,172nm,1.0s
UGL MLR MLR
comp=N,3μm,13.0s
UGL MLR MLR
comp=Z,3μm,13.0s
UGL MLR MLR
comp=E,2μm,12.0s
JRBN Rebuntou 7.37 272 P Pn 13 02 46.1 +5.2
KDTR Khodutka, Kamc 7.56 32 *e*P **Pn 13 02 42.5 -1.0**
KDTR *e*S **Sn 13 04 03.6 -4.5**
TYV Tymovskoe 7.92 315 *e*P **Pn 13 02 52.2 +3.6**
TYV AMB AMB 13 02 55.6
comp=E,300nm,3.5s
TYV *e*S **Sn 13 04 23.6 +6.5**
TYV A A 13 04 31.1
comp=E,200nm,5.0s
TYV A A 13 04 31.1
comp=E,200nm,5.0s
TYV AMS AMS 13 06 11.1
comp=E,1μm,15.0s
TYV AMS AMS 13 06 11.1
comp=E,3μm,15.0s
TYV AMS AMS 13 06 11.1
comp=E,3μm,15.0s
TYV Tymovskoe 7.92 315 *e*PN **Pn 13 02 52.2 +3.6**
TYV pmax pmax
comp=Z,300nm,3.5s
TYV pmax pmax
comp=Z,45nm,1.1s
TYV MLR MLR
comp=Z,3μm,17.0s
TYV MLR MLR
comp=N,1μm,15.0s
TYV MLR MLR
comp=E,3μm,15.0s
PET Petropavlovsk 8.75 29 Pn 13 02 58.8 -1.1
PET Petropavlovsk 8.75 29 *e*P **Pn 13 02 59.5 -0.4**
PET AMB AMB 13 03 10.4
comp=E,60nm,0.7s
PET *e*S **Sn 13 04 35.2 -2.1**
PET Petropavlovsk 8.75 29 *e*PN **Pn 13 03 01.5 +1.7**
PET pmax pmax
comp=Z,59nm,0.7s
PET MLR MLR
comp=Z,1μm,16.0s
PET Petropavlovsk 8.75 29 P **Pn 13 03 01.6 +1.7**
comp=Z,60nm,0.8s,comp=Z,736nm
JANG Nango 9.02 238 P **Pn 13 03 01.5 -2.1**
JANG S **Sn 13 04 35.9 -8.2**
JTM Tenmabayashi 9.04 241 Pn **Pn 13 03 02.7 -1.2**
JTH Tanohata 9.10 235 P **Pn 13 03 02.5 -2.2**
JTH *e*S Sn 13 04 35.9 -10
OKH Okha 9.71 328 *e*P **Pn 13 03 16.1 +3.1**
OKH AMB AMB 13 03 18.4
comp=Z,200nm,6.0s
OKH AMS AMS 13 07 51.0
comp=Z,1μm,15.0s
OKH AMS AMS 13 07 51.0
comp=Z,3μm,15.0s
OKH AMS AMS 13 07 51.0
comp=Z,2μm,15.0s
OKH Okha 9.71 328*c i*PN **Pn 13 03 16.1 +3.1**
OKH *e*S Sn 13 05 09.6 +8.7
OKH pmax pmax
comp=Z,200nm,6.1s
OKH smax smax
comp=E,200nm,9.3s
OKH MLR MLR
comp=N,1μm,15.0s
OKH MLR MLR
comp=E,3μm,15.0s
OKH MLR MLR
comp=Z,2μm,14.0s
NKL Nikolayevsk 10.34 321 *e*P **Pn 13 03 25.1 +3.5**
NKL AMB AMB 13 03 30.0
comp=Z,60nm,0.8s
NKL *e*S **Sn 13 05 21.3 +4.9**
NKL A A 13 05 26.0
comp=Z,40nm,0.8s
NKL A A 13 05 26.0
comp=Z,40nm,0.8s
NKL AMS AMS 13 08 02.9
comp=Z,2μm,14.0s
NKL AMS AMS 13 08 02.9
comp=Z,11μm,14.0s
NKL AMS AMS 13 08 02.9
comp=Z,12μm,14.0s
NKL Nikolayevsk 10.34 321 *e*PN **Pn 13 03 24.1 +2.5**
NKL pmax pmax
comp=N,71nm,1.2s
NKL pmax pmax
comp=E,255nm,1.2s
NKL pmax pmax
comp=Z,285nm,1.2s
NKL MLR MLR
comp=E,11μm,18.0s
NKL MLR MLR
comp=N,2μm,11.0s
NKL MLR MLR
comp=Z,12μm,16.0s
TEY Ternei 10.54 272 *e*P **Pn 13 03 28.5 +4.1**
TEY Ternei 10.54 272⇑*e*PN **Pn 13 03 28.5 +4.1**
TEY pmax pmax
comp=Z,10.0nm,1.1s
TEY pmax pmax
comp=E,10.0nm,1.1s
GRNR Gornyy 11.33 303 *e*P **Pn 13 03 39.5 +4.2**
GRNR Gornyy 11.33 303⇑*i*PN **Pn 13 03 39.5 +4.2**
GRNR pmax pmax
comp=E,10.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,2μm,15.0s
GRNR MLR MLR
comp=Z,3μm,15.0s
GRNR MLR MLR
comp=N,1μm,16.0s
MAJO Matsushiro 13.52 233 Pn **Pn 13 04 02.5 -2.8**
MAJO Matsushiro 13.52 233 *i* P **Pn 13 04 04.0 -1.2**
MJAR Matsushiro Arr 13.52 233 Pn **Pn 13 04 03.7 -1.6**
comp=N,0.1nm,0.3s,baz=27,slow=14,SNR=12
MJAR Sn **Sn 13 06 38.6 +4.3**
comp=N,0.1nm,0.3s,baz=299,slow=34,SNR=1.6
comp=N,17nm,1.2s
MJB9 Matsu-Tunnel 13.52 233 Pn **Pn 13 04 03.5 -1.8**
KLR Kul'dur 13.88 292 Pn **Pn 13 04 10.7 +0.7**
comp=N,0.1nm,0.3s,baz=100,slow=13,SNR=7.5
KLR LR LR 13 09 48.8
comp=N,2μm,19.0s,baz=102,slow=39
KLR Kul'dur 13.88 292 *e*P **Pn 13 04 11.8 +1.8**
KLR Kul'dur 13.88 292*c i*P **Pn 13 04 13.2 +3.2**
KLR pmax pmax
comp=Z,81nm,1.3s
USRK Ussuriysk Ar. 13.93 271 Pn **Pn 13 04 11.8 +1.0**
comp=Z,0.4nm,0.3s,baz=87,slow=11,SNR=26
USRK LR LR 13 09 34.2
comp=Z,2μm,19.0s,baz=78,slow=38
USA0B Ussuriysk Arra 13.93 271 Pn 13 04 07.1 -3.7
USA0B Ussuriysk Arra 13.93 271 *i* P **Pn 13 04 11.7 +0.9**
MA2 Magadan 14.00 358 Pn **Pn 13 04 08.7 -2.9**
MA2 Magadan 14.00 358 Pn **Pn 13 04 12.1 +0.5**
comp=Z,29nm,0.8s,baz=182,slow=8.9,SNR=20
MA2 LR LR 13 09 56.4
comp=Z,1μm,18.4s,baz=180,slow=39
MA2 Magadan 14.00 358 *e*P **Pn 13 04 13.0 +1.4**
MA2 Magadan 14.00 358 *i* P **Pn 13 04 13.0 +1.4**
VLA Vladivostok 14.28 267 *i* P **Pn 13 04 15.0 -0.5**
VLA pmax pmax
comp=Z,74nm,1.2s
JGF Kuroka 14.68 232 Pn **Pn 13 04 18.2 -2.8**
MSHR Mys Shultsa 14.96 266*ce*P **Pn 13 04 24.0 -0.6**
MSHR pmax pmax
comp=Z,46nm,1.3s
INU Inuyama 15.05 232 Pn **Pn 13 04 24.1 -1.9**
JHJ Hachijo jima 2 15.41 220 LR LR 13 11 35.0
comp=Z,330nm,20.6s,baz=98,slow=42
MDJ Mudanjiang 15.53 274 P **Pn 13 04 31.3 -0.9**
MDJ PP **PnPn 13 04 40.3 -0.1**
MDJ S **S 13 07 32.5 -5.5**
MDJ pmax pmax
comp=Z,5.0nm,1.7s
MDJ pmax pmax
comp=Z,230nm,4.1s
MDJ LR LR
comp=Z,1μm,14.8s
MDJ LR LR
comp=Z,2μm,16.5s
MDJ LR LR
comp=Z,3μm,16.5s
MDJ Mudanjiang 15.53 274 Pn **Pn 13 04 30.3 -1.9**
MDJ IAmb IAmb 13 04 37.9
comp=Z,92nm,1.1s
SHEM Shemya Is, Ala 16.34 56 LR LR 13 10 31.8
comp=Z,478nm,21.5s,baz=258,slow=36
BNX BinXian 16.86 279 ⇓P **Pn 13 04 49.8 +0.6**
BNX sP **P 13 04 54.5 +3.5**
BNX S **Sn 13 07 56.0 +0.5**
BNX pmax pmax
comp=Z,11nm,1.2s
BNX pmax pmax
comp=Z,340nm,10.2s
BNX LR LR
comp=Z,1μm,14.7s
BNX LR LR
comp=Z,2μm,14.5s
BNX LR LR
comp=Z,3μm,16.4s
SEY Seymchan 17.37 1 P **Pn 13 04 54.3 -1.0**
comp=Z,0.6nm,0.3s,baz=174,slow=13,SNR=9.4
comp=Z,8.9nm,0.8s
SEY Seymchan 17.37 1*ce*P **Pn 13 04 55.5 +0.2**
SEY pmax pmax
comp=Z,30nm,1.7s
ZEA Zeya 17.64 306 *e*P **P 13 04 59.2 -0.3**
ZEA Zeya 17.64 306 *e*P **P 13 04 59.7 +0.2**
ZEA pmax pmax
comp=Z,200nm,1.9s
ZEA pmax pmax
comp=N,30nm,1.6s
ZEA pmax pmax
comp=E,30nm,1.6s
ZEA pmax pmax
comp=Z,50nm,1.5s
ZEA MLR MLR
comp=E,800nm,15.0s
ZEA MLR MLR
comp=Z,1μm,15.0s
ZEA MLR MLR
comp=N,600nm,13.0s
CN2 Changchun 18.61 274 *e*P **P 13 05 10.0 -0.3**
CN2 *e*S **Sn 13 08 29.8 -8.1**
CN2 pmax pmax
comp=N,20nm,0.8s
CN2 pmax pmax
comp=N,100nm,5.0s
CN2 LR LR
comp=N,1μm,16.0s
CN2 LR LR
comp=N,2μm,16.0s
CN2 LR LR
comp=N,2μm,17.1s
KSRS Korea Array 19.42 254 P **P 13 05 19.9 +0.7**
comp=N,0.3nm,0.3s,baz=60,slow=10,SNR=26
KSRS LR LR 13 12 40.1
comp=N,792nm,18.1s,baz=55,slow=36
comp=N,36nm,1.1s
KS19 Wonju Array Si 19.43 254 P **P 13 05 19.1 -0.3**
KSAR Wonju Array Be 19.45 254 P **P 13 05 17.7 -1.9**
KSAR Wonju Array Be 19.45 254 P **P 13 05 17.7 -1.9**
JNU Nakatsue 20.20 239 **P 13 05 26.4 -1.3**
JNU IAmb IAmb 13 05 34.2
comp=Z,72nm,1.2s
JNU Nakatsue 20.20 239 P **P 13 05 28.2 +0.5**
comp=Z,10nm,0.9s,baz=18,slow=21,SNR=1.9
JNU LR LR 13 13 35.0
comp=Z,859nm,20.9s,baz=34,slow=38
comp=Z,10nm,0.9s
INCN Inchon 20.28 255 P **P 13 05 28.9 +0.3**
INCN IAmb IAmb 13 05 33.0
comp=Z,69nm,1.1s
INCN Inchon 20.28 255 P **P 13 05 28.9 +0.3**
INCN pmax pmax
comp=Z,69nm,1.2s
TJN Taejon 20.39 252 **P 13 05 29.7 0.0**
TJN Taejon 20.39 252*ce*P **P 13 05 29.7 0.0**
SNY Shenyang 20.52 269 ⇓P **P 13 05 32.3 +1.2**
SNY S **S 13 09 18.0 -1.0**
SNY pmax pmax
comp=Z,38nm,1.2s
SNY LR LR
comp=Z,750nm,14.2s
SNY LR LR
comp=Z,2μm,14.0s
SNY LR LR
comp=Z,2μm,15.4s
YAK Yakutsk 20.73 330 P **P 13 05 32.0 -1.3**
YAK Yakutsk 20.73 330 P **P 13 05 33.5 +0.2**
comp=Z,23nm,0.4s,baz=51,slow=1.0,SNR=5.8
YAK LR LR 13 13 45.6
comp=Z,905nm,18.9s,baz=134,slow=38
comp=Z,23nm,0.4s
YAK Yakutsk 20.73 330 *e*P **P 13 05 33.2 -0.1**
YAK *e* 13 05 51.1
YAK *e*PPP PPP 13 05 59.1
YAK *e*S Sn 13 09 25.8 -2.8
YAK *e**SS **pS 13 09 40.3 +4.4**
YAK *e*SSS SSS 13 09 58.5
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=E,16nm,1.7s
YAK pmax pmax
comp=N,13nm,1.0s
YAK smax smax
comp=N,233nm,3.3s
YAK smax smax
comp=E,131nm,2.2s
YAK MLR MLR
comp=Z,941nm,19.0s
YAK MLR MLR
comp=N,616nm,12.0s
YAK MLR MLR
comp=E,342nm,10.0s
HIA Hailar 21.73 291 P **P 13 05 41.6 -2.6**
HIA Hailar 21.73 291 P **P 13 05 41.6 -2.6**
HIA pmax pmax
comp=Z,8.0nm,0.6s
DL2 Dalian 23.05 264 P **P 13 05 55.3 -2.8**
DL2 S **S 13 10 02.5 -4.3**
DL2 sS **pS 13 10 10.5 -5.3**
DL2 pmax pmax
comp=Z,61nm,1.2s
DL2 pmax pmax
comp=Z,310nm,4.2s
DL2 LR LR
comp=Z,490nm,12.6s
DL2 LR LR
comp=Z,420nm,12.5s
DL2 LR LR
comp=Z,690nm,15.5s
BILL Biiibino 23.75 14 P **P 13 06 03.2 -1.6**
BILL Biiibino 23.75 14 *e*P **P 13 06 04.1 -0.7**
BILL Biiibino 23.75 14*c i*P **P 13 06 04.1 -0.7**
BILL *i* *SP **pP 13 06 09.7 -3.5**
BILL *e*PPP PPP 13 06 44.3
BILL *i* 13 09 48.1
BILL S **S 13 10 11.0 -6.9**
BILL SSS SSS 13 11 14.0
BILL pmax pmax
comp=Z,8.0nm,0.6s
BILL MLR MLR
comp=Z,2μm,17.0s
XLT XiLinHaoTe 25.12 279 *e*P **P 13 06 18.3 +0.6**
XLT PP **PnPn 13 06 58.3 +6.4**
XLT S **S 13 10 34.5 -6.0**
XLT pmax pmax
comp=Z,37nm,1.2s
XLT LR LR
comp=Z,2μm,16.4s
XLT LR LR
comp=Z,2μm,17.2s
SPIA Saint Paul Isl 26.14 50 P **P 13 06 24.6 -2.0**
baz=261
BJI Beijing 26.39 271 P **P 13 06 29.8 +0.8**
BJI S **S 13 10 56.3 -4.0**
BJI pmax pmax
comp=Z,24nm,1.0s
BJI LR LR
comp=Z,450nm,16.3s
BJI LR LR
comp=Z,710nm,15.3s
BJI LR LR
comp=Z,1μm,16.1s
BJT Baijiatuau 26.40 270 P **P 13 06 28.7 -0.5**
BJT IAmb IAmb 13 06 32.9
comp=Z,40nm,0.9s
BJT Baijiatuau 26.40 270 P **P 13 06 28.7 -0.5**
BJT pmax pmax
comp=Z,40nm,0.9s
P08K Saint George I 26.43 51 P **P 13 06 28.1 -1.2**
baz=262
NIKH Nikolski High 26.58 59 P **P 13 06 30.5 -0.2**
baz=270
GAMB Gambell 27.38 35 P **P 13 06 36.1 -1.6**
baz=246
TIA Tai'an 27.48 262 P **P 13 06 39.3 +0.4**
TIA S **S 13 11 22.8 +5.2**
TIA pmax pmax
comp=Z,21nm,1.3s
TIA pmax pmax
comp=Z,240nm,10.7s
TIA LR LR
comp=Z,480nm,17.2s
TIA LR LR
comp=Z,660nm,11.8s
TIA LR LR
comp=Z,590nm,14.2s
SSE Sheshan 27.67 249 P **P 13 06 41.3 +0.6**
SSE S **S 13 11 22.8 +2.1**
SSE pmax pmax
comp=Z,7.0nm,0.8s
SSE pmax pmax
comp=Z,100nm,3.5s
SSE LR LR
comp=Z,250nm,16.2s
SSE LR LR
comp=Z,320nm,16.8s
UNV Unalaska Valle 27.99 58 P **P 13 06 42.3 -1.0**
baz=270
TIXI Tiksi 28.27 345 P **P 13 06 43.1 -2.6**
TIXI Tiksi 28.27 345 LR LR 13 20 21.5
comp=Z,681nm,18.2s,baz=158,slow=42
TIXI Tiksi 28.27 345*ce*P **P 13 06 44.0 -1.6**
TIXI pmax pmax
comp=Z,13nm,1.3s
HNS HongShan 28.58 266 ⇑P **P 13 06 49.8 +1.1**
HNS S **S 13 11 34.5 -0.4**
HNS pmax pmax
comp=Z,25nm,1.2s
HNS LR LR
comp=Z,360nm,15.7s
HNS LR LR
comp=Z,920nm,15.7s
HNS LR LR
comp=Z,760nm,16.9s
NJ2 Nanjing 28.62 253 *e*P **P 13 06 49.0 -0.1**
NJ2 sP **pP 13 06 54.5 -2.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
H11N2 WAKE ISLAND Hy 28.76 149 T T 13 37 20.7
baz=338,slow=75,SNR=2726
H11N1 WAKE ISLAND Hy 28.77 149 T T 13 37 20.0
baz=338,slow=75,SNR=926
H11N3 WAKE ISLAND Hy 28.77 149 T T 13 37 20.4
baz=338,slow=75,SNR=1141
M11K Mekoryuk 28.81 44 P **P 13 06 49.0 -1.6**
baz=259
HHC Hu-ho-hao-te 29.30 275⇑*i*P **P 13 06 56.0 +0.8**
HHC pP pP 13 07 00.3 -3.3
HHC sP sP 13 07 02.8 -4.4
HHC S **S 13 11 48.0 +1.6**
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,130nm,3.7s
HHC LR LR
comp=Z,760nm,17.6s
HHC LR LR
comp=Z,2μm,16.0s
HHC LR LR
comp=Z,3μm,15.9s
TNA Tin City 29.59 33 P **P 13 06 56.0 -1.3**
baz=248
FALS False Pass 29.78 55 P **P 13 06 58.9 -0.3**
baz=271
H11S1 WAKE ISLAND Hy 29.81 150 T T 13 38 36.7
baz=339,slow=76,SNR=790
H11S3 WAKE ISLAND Hy 29.82 150 T T 13 38 35.5
baz=339,slow=76,SNR=564
H11S2 WAKE ISLAND Hy 29.83 150 T T 13 38 38.0
baz=339,slow=76,SNR=598
K13K Kusilvak Mount 29.87 41 P **P 13 06 59.7 -0.2**
baz=258
TIY Taiyuan 30.03 269 *e*P **P 13 07 03.0 +1.3**
TIY S **S 13 12 01.3 +3.5**
TIY pmax pmax
comp=Z,160nm,4.7s
TIY LR LR
comp=Z,450nm,19.2s
TIY LR LR
comp=Z,610nm,15.5s
TIY LR LR
comp=Z,830nm,16.5s
F14K Arctic Creek 30.17 34 P **P 13 07 02.2 -0.3**
baz=250
M13K Dall Lake 30.21 44 P **P 13 07 02.3 -0.6**
baz=262
ANM Nome 30.25 36 P **P 13 07 02.5 -0.8**
baz=252
ULN Ulaanbaatar 30.26 291 P **P 13 07 01.1 -2.6**
ULN Ulaanbaatar 30.26 291 *e*P **P 13 07 04.0 +0.2**
ULN Ulaanbaatar 30.26 291*ce*P **P 13 07 04.0 +0.2**
ULN pmax pmax
comp=Z,14nm,1.7s
BTO Baotou 30.47 276 *e*P **P 13 07 07.3 +1.7**
BTO pP **pP 13 07 11.5 -2.5**
BTO sP **sP 13 07 14.3 -3.3**
BTO PP **PnPn 13 08 06.5 +1.7**
BTO S **S 13 12 08.5 +3.7**
BTO sS **pS 13 12 14.5 +0.2**
BTO SS **ScP 13 13 50.5 +6.1**
BTO pmax pmax
comp=Z,22nm,1.8s
BTO pmax pmax
comp=Z,430nm,10.9s
BTO LR LR
comp=Z,2μm,17.6s
BTO LR LR
comp=Z,3μm,16.3s
BTO LR LR
comp=Z,4μm,16.9s
S12K Black Hills 30.55 54 P **P 13 07 05.4 -0.6**
baz=271
J14K Nanvaranak Lak 30.55 40 P **P 13 07 04.8 -1.1**
baz=257
L14K Kuka Creek 30.68 43 P **P 13 07 05.8 -1.3**
baz=261
SONM Songino Array 30.70 291 P **P 13 07 06.4 -1.2**
SONM Songino Array 30.70 291 P **P 13 07 07.3 -0.3**
comp=Z,3.9nm,1.0s,baz=76,slow=8.0,SNR=22
SONM PcP **PcP 13 10 04.8 0.0**
comp=Z,2.2nm,1.0s,baz=100,slow=0.9,SNR=4.3
SONM LR LR 13 20 33.0
comp=Z,2μm,18.3s,baz=92,slow=39
comp=Z,3.9nm,1.0s
SONM Songino Array 30.70 291 P **P 13 07 06.4 -1.2**
SONM pmax pmax
comp=Z,7.0nm,1.2s
F15K North Star Dit 30.91 34 P **P 13 07 08.2 -0.8**
baz=251
G15K Niukluk 30.93 35 P **P 13 07 08.2 -1.0**
baz=253
M14K Bethel 30.94 44 P **P 13 07 07.5 -1.8**
baz=262
N14K Kuskokwak Cree 30.97 45 P **P 13 07 07.9 -1.7**
baz=264
O14K Tigyukauivet M 31.12 47 P **P 13 07 10.3 -0.7**
baz=266
L15K Ungalak Mounta 31.30 42 P **P 13 07 11.4 -1.1**
baz=261
K15K Wolf Creek Mou 31.38 41 P **P 13 07 12.9 -0.4**
baz=260
SDPT Sand Point 31.46 54 P **P 13 07 13.2 -0.8**
baz=273
M15K Kasigluk River 31.55 44 P **P 13 07 13.3 -1.4**

	baz=264						
H16K	Elim	31.57	36	P	P	13 07 13.8	-1.2
	baz=256						
LYN	LuoYang	31.58	263	P	P	13 07 16.5	+1.2
LYN				S	S	13 12 25.5	+3.4
LYN				SS	SnSn	13 14 15.5	+6.7
LYN				pmax	pmax		
	comp=Z,58nm,1.2s						
LYN				pmax	pmax		
	comp=Z,180nm,3.8s						
LYN				LR	LR		
	comp=Z,800nm,15.1s						
LYN				LR	LR		
	comp=Z,450nm,12.7s						
LYN				LR	LR		
	comp=Z,930nm,15.1s						
C16K	Lisburne Hills	31.59	29	P	P	13 07 14.0	-1.0
	baz=247						
G16K	Koyuk River	31.73	35	P	P	13 07 15.4	-0.8
	baz=254						
N15K	Kwethluk River	31.79	45	P	P	13 07 15.8	-1.1
	baz=265						
O15K	Ungalikthiuk R	31.85	47	P	P	13 07 16.7	-0.7
	baz=267						
S14K	Fog Glacier	31.95	53	P	P	13 07 17.9	-0.6
	baz=272						
J16K	Anvik River	31.98	39	P	P	13 07 17.9	-0.6
	baz=260						
CHNA	Chernabura Isl	32.00	55	P	P	13 07 17.3	-1.4
	baz=274						
I17K	Unalakleet	32.06	38	P	P	13 07 18.1	-1.0
	baz=259						
D17K	Noatak River	32.16	31	P	P	13 07 19.9	-0.2
	baz=250,SNR=5.7						
ZAK	Zakamensk	32.19	296	*e*P	P	13 07 18.5	-2.1
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
L16K	Owhat River	32.25	42	P	P	13 07 19.6	-1.4
	baz=263						
RDOG	Red Dog Mine	32.35	30	P	P	13 07 21.3	-0.5
	baz=250						
C17K	DeLong Mountai	32.41	29	P	P	13 07 21.5	-0.7
	baz=249						
GUMO	Guam	32.41	192	LR	LR	13 22 43.5	
	comp=Z,366nm,18.3s,baz=22,slow=40						
E17K	Hotham Inlet	32.42	32	P	P	13 07 22.2	-0.1
	baz=252,SNR=14						
M16K	Timber Creek	32.42	44	P	P	13 07 21.3	-1.2
	baz=265						
G17K	Kiwalik Mounta	32.44	35	P	P	13 07 21.4	-1.1
	baz=256,SNR=8.8						
F17K	Baldwin Pennin	32.45	33	P	P	13 07 21.2	-1.4
	baz=254						
N16K	Nishlik Lake	32.47	45	P	P	13 07 21.5	-1.4
	baz=266						
CHGN	Chignik	32.58	53	P	P	13 07 22.1	-1.8
	baz=273						
H17K	Granite Mounta	32.61	36	P	P	13 07 23.6	-0.4
	baz=258						
J17K	VABM Dome	32.68	39	P	P	13 07 23.6	-1.1
	baz=261						
O16K	Kokwok River B	32.76	46	P	P	13 07 25.1	-0.2
	baz=268						
P16K	Nushagak River	32.79	47	P	P	13 07 24.9	-0.7
	baz=269						
L17K	Donlin	32.86	42	P	P	13 07 25.5	-0.7
	baz=264						
K17K	Iditarod	32.93	41	P	P	13 07 26.2	-0.6
	baz=263						
E18K	Tukpahlearik C	32.98	32	P	P	13 07 26.3	-0.9
	baz=253						
F18K	Selawik	33.11	33	P	P	13 07 26.4	-1.9
	baz=256,SNR=8.8						
C18K	Utukok River	33.15	29	P	P	13 07 28.3	-0.5
	baz=251,SNR=8.7						
M17K	Holitna River	33.19	43	P	P	13 07 29.8	+0.7
M17K				IAmb	IAmb	13 07 31.4	
	comp=Z,22nm,0.9s						
M17K	Holitna River	33.19	43	P	P	13 07 28.8	-0.4
	baz=266,SNR=5.3						
B18K	Kokolik River	33.20	28	P	P	13 07 27.6	-1.5
	baz=249						
N17K	Nushagak Hills	33.26	45	P	P	13 07 28.9	-0.8
	baz=267						
O17K	Koliganek Bris	33.27	46	P	P	13 07 29.3	-0.6
	baz=268						
H18K	Honhosa River	33.30	36	P	P	13 07 29.0	-1.1
	baz=259						
G18K	Tagagawik	33.34	35	P	P	13 07 30.2	-0.2
G18K	Tagagawik	33.34	35	P	P	13 07 29.8	-0.6
	baz=258,SNR=13						
TPUB	Ta-pu	33.51	239	P	P	13 07 32.3	0.0
QZH	Quanzhou	33.55	243	⇑*i*P	P	13 07 34.0	+1.4
QZH				*e*S	S	13 12 55.0	+2.2
QZH				LR	LR		
	comp=Z,400nm,14.4s						
QZH				LR	LR		
	comp=Z,370nm,13.1s						
QZH				LR	LR		
	comp=Z,390nm,15.1s						
P17K	Kvichak River	33.59	47	P	P	13 07 32.3	-0.3
	baz=270						
TWG	Pinlang	33.61	238	P	P	13 07 32.5	-0.6
L18K	Granite Mounta	33.62	42	P	P	13 07 32.1	-0.8
	baz=265						
R17L	Mt. Peulik Vol	33.66	50	P	P	13 07 32.6	-0.7
	baz=272						
J18K	Innoko River	33.74	39	P	P	13 07 33.4	-0.5
	baz=263						
A19K	Wainwright	33.74	27	P	P	13 07 33.3	-0.5
	baz=249						
GCSA	Galena City Sc	33.85	37	P	P	13 07 33.7	-1.1
	baz=261						
C19K	Lookout Ridge	33.85	29	IAmb	IAmb	13 07 37.2	
	comp=Z,21nm,1.1s						
C19K	Lookout Ridge	33.85	29	P	P	13 07 34.3	-0.6
	baz=252,SNR=6.5						
Q17K	Contact Creek	33.89	49	P	P	13 07 34.8	-0.6
	baz=272						
F19K	Shaleruckik Mo	33.89	33	P	P	13 07 34.3	-0.8
	baz=257,SNR=7.7						
N18K	Kilae Creek	33.90	44	P	P	13 07 35.7	+0.3
N18K				IAmb	IAmb	13 07 37.9	
	comp=Z,20nm,1.0s						
N18K	Kilae Creek	33.90	44	P	P	13 07 35.2	-0.2
	baz=268,SNR=6.2						
M18K	Stony River	33.97	43	P	P	13 07 34.7	-1.2
	baz=267						
G19K	Purcell Mounta	34.01	35	P	P	13 07 35.4	-0.9
	baz=259,SNR=8.1						
H19K	Roundabout Mou	34.16	36	IAmb	IAmb	13 07 39.2	
	comp=Z,17nm,0.8s						
H19K	Roundabout Mou	34.16	36	P	P	13 07 37.6	+0.1
	baz=260,SNR=18						
CHIR	Chirikof Islan	34.18	53	P	P	13 07 37.2	-0.6
	baz=276						
D19K	Kuna River	34.18	30	P	P	13 07 36.7	-1.1
	baz=254						
P18K	Big Mountain,	34.21	47	IAmb	IAmb	13 07 40.8	
	comp=Z,39nm,1.1s						
P18K	Big Mountain,	34.21	47	P	P	13 07 37.2	-0.9
	baz=271						
O18K	Koktuh Hills	34.22	46	P	P	13 07 37.7	-0.5
	baz=270						
E19K	Redstone River	34.24	32	P	P	13 07 37.6	-0.6
	baz=257						
J19K	Poorman	34.29	39	P	P	13 07 39.5	+0.9
	baz=264,SNR=5.5						
XAN	Xi'an	34.34	266	⇑P	P	13 07 39.8	+0.3
XAN				pP	pP	13 07 44.5	-3.5
XAN				PP	PP	13 08 56.0	-1.4
XAN				S	S	13 13 09.8	+4.8
XAN				pmax	pmax		
	comp=Z,58nm,1.2s						
XAN				pmax	pmax		
	comp=Z,300nm,6.5s						
XAN				LR	LR		
	comp=Z,950nm,14.1s						
XAN				LR	LR		
	comp=Z,470nm,14.4s						
XAN				LR	LR		
	comp=Z,1μm,16.0s						
Q18K	Katmai Hardscr	34.34	48	P	P	13 07 38.6	-0.7
	baz=272						
L19K	White Mountain	34.47	42	P	P	13 07 39.8	-0.5
	baz=267						
N19K	Bonanza Creek	34.60	44	P	P	13 07 41.0	-0.4
	baz=269						
M19K	Big River Lodg	34.68	42	P	P	13 07 41.9	-0.1
	baz=268						
F20K	Avaraart Lake	34.73	33	P	P	13 07 42.0	-0.4
	baz=259						
D20K	Etivluk River	34.77	30	P	P	13 07 41.5	-1.3
	baz=256						
H20K	Anotleneega Mo	34.80	36	P	P	13 07 42.6	-0.4
	baz=262,SNR=7.3						
E20K	Nigu River	34.81	31	P	P	13 07 42.6	-0.7
	baz=257						
SII	Sitkinak Islan	34.91	52	P	P	13 07 44.1	0.0
	baz=276						
K20K	Telida	34.91	40	P	P	13 07 44.5	+0.4
	baz=266						
B20K	Meade River	34.94	28	P	P	13 07 43.8	-0.3
	baz=253						
L20K	Farewell, AK	34.94	41	P	P	13 07 44.3	-0.1
	baz=267						
J20K	Nowinta River	34.95	38	IAmb	IAmb	13 07 46.4	
	comp=Z,48nm,1.9s						
J20K	Nowinta River	34.95	38	P	P	13 07 44.4	+0.1
	baz=265,SNR=5.7						
CNSH	ChangSha	35.03	254	P	P	13 07 46.5	+1.0
CNSH				S	S	13 13 22.8	+7.1
CNSH				LR	LR		
	comp=Z,600nm,17.2s						
CNSH				LR	LR		
	comp=Z,920nm,16.7s						
CNSH				LR	LR		
	comp=Z,630nm,16.3s						
Q19K	Cape Douglas,	35.04	48	P	P	13 07 44.9	-0.3
	baz=273						
P19K	Oil Pt	35.23	46	P	P	13 07 46.5	-0.4
	baz=272						
M20K	Styx River	35.27	42	P	P	13 07 47.7	+0.4
	baz=269						
IMAR	Indian Mountai	35.33	35	P	P	13 07 47.7	+0.1
OHAK	Old Harbor	35.34	51	P	P	13 07 48.0	+0.2
	baz=275,SNR=6.2						
G21K	Allakaket	35.50	34	P	P	13 07 49.2	+0.1
	baz=262						
A21K	Barrow	35.51	26	P	P	13 07 48.5	-0.6
	baz=252						
O20K	Slope Mountain	35.52	46	P	P	13 07 49.7	+0.3
	baz=272						
C21K	Knifebiade Rid	35.52	30	P	P	13 07 49.5	+0.3
	baz=257,SNR=12						
F21K	Alatna River	35.62	33	P	P	13 07 49.7	-0.4
	baz=261,SNR=9.0						
E21K	Killik River	35.66	31	P	P	13 07 49.8	-0.7
	baz=259						
KDAK	Kodiak Island	35.67	50	P	P	13 07 50.2	-0.4
KDAK	Kodiak Island	35.67	50	P	P	13 07 50.3	-0.3
	baz=275						
KDAK	Kodiak Island	35.67	50	LR	LR	13 21 24.6	
	comp=Z,336nm,21.9s,baz=264,slow=35						
KDAK	Kodiak Island	35.67	50	*i*P	P	13 07 48.6	-2.0
KDAK				pmax	pmax		
	comp=Z,52nm,0.9s						
KDAK	Kodiak Island	35.67	50	P	P	13 07 50.6	0.0
KDAK				sP	sP	13 08 05.8	+3.3
KDAK				PcP	PcP	13 10 18.7	+0.3
H21K	Melozitna Rive	35.67	36	P	P	13 07 51.1	+0.5
H21K	Melozitna Rive	35.67	36	P	P	13 07 50.1	-0.5
	baz=264,SNR=11						
B21K	Ikpikpuk River	35.69	29	P	P	13 07 50.2	-0.5
	baz=256,SNR=28						
N20K	Mount Spurr	35.71	44	P	P	13 07 51.0	0.0
	baz=271						
Q20K	Shuyak Island	35.71	48	P	P	13 07 50.9	-0.1
	baz=274						
CHUM	Lake Minchumin	35.73	39	P	P	13 07 51.0	-0.1
	baz=267						
PPLA	Purkeypile	35.74	41	P	P	13 07 51.1	-0.2
	baz=268						
SPU	Mount Spurr	35.78	44	IAmb	IAmb	13 07 54.0	
	comp=Z,26nm,1.2s						
A22K	Sinclair Lake	35.93	27	P	P	13 07 51.8	-0.8
	baz=254,SNR=11						
I21K	Tanana	35.97	37	P	P	13 07 51.5	-1.6
	baz=265						
SKT	Skwentna	36.03	42	P	P	13 07 52.2	-1.4
	baz=270						
HOM	Homer	36.03	46	P	P	13 07 52.0	-1.7
	baz=273						
F22K	John River	36.16	33	P	P	13 07 53.2	-1.5
	baz=262						
D22K	Ayikyak River	36.21	30	IAmb	IAmb	13 07 57.7	
	comp=Z,27nm,1.5s						
D22K	Ayikyak River	36.21	30	P	P	13 07 54.0	-1.1
	baz=260,SNR=6.8						
B22K	Teshekpuk Lake	36.26	28	P	P	13 07 54.7	-0.8
	baz=257,SNR=7.9						
H22K	Ishtalitna Cre	36.29	36	P	P	13 07 55.0	-0.8
	baz=265						
BPAW	Bear Paw Mtn.	36.33	39	P	P	13 07 55.6	-0.6
	baz=268,SNR=9.6						
KTH	Kantishna Hill	36.34	40	IAmb	IAmb	13 07 58.6	
	comp=Z,34nm,1.0s						
G22K	Bettles	36.34	34	P	P	13 07 55.5	-0.8
	baz=263						
SUA	Susitna One	36.41	43	P	P	13 07 55.5	-1.6
	baz=272						
MLY	Manley	36.48	37	IAmb	IAmb	13 07 59.6	
	comp=Z,48nm,1.9s						
MLY	Manley	36.48	37	P	P	13 07 56.2	-1.3
	baz=267,SNR=9.0						
CUT	Chulitna	36.62	42	P	P	13 07 57.7	-0.9
	baz=271						
M22K	Willow	36.70	43	P	P	13 07 58.7	-0.6
	baz=272						
LZH	Lanzhou	36.84	272	⇑P	P	13 08 02.8	+1.7
LZH				sP	pP	13 08 11.3	+1.7
LZH				sS	sS	13 14 00.0	+2.1
LZH				pmax	pmax		
	comp=Z,83nm,1.3s						
LZH				LR	LR		
	comp=Z,630nm,18.9s						
LZH				LR	LR		
	comp=Z,520nm,14.4s						
LZH				LR	LR		
	comp=Z,720nm,15.1s						
COLD	Coldfoot	36.89	33	P	P	13 08 00.6	-0.3
	baz=264,SNR=6.6						
G23K	Bananza Creek	36.91	34	IAmb	IAmb	13 08 13.7	
	comp=Z,32nm,1.8s						
G23K	Bananza Creek	36.91	34	P	P	13 08 00.5	-0.7
	baz=265,SNR=8.6						
RC01	Rabbit Creek A	36.91	44	P	P	13 08 00.6	-0.5
	baz=273						
D23K	Nanushuk River	36.93	31	P	P	13 08 01.3	0.0
	baz=261						
O22K	Cooper Landing	36.95	45	P	P	13 08 01.3	-0.2
	baz=274						
H23K	Yukon River	37.03	36	P	P	13 08 02.0	-0.2
	baz=267,SNR=10						
I23K	Minto, Yukon-K	37.07	37	IAmb	IAmb	13 08 04.8	
	comp=Z,39nm,1.7s						
I23K	Minto, Yukon-K	37.07	37	P	P	13 08 02.4	-0.1
	baz=268,SNR=11						
C23K	Itkillik River	37.10	29	IAmb	IAmb	13 08 04.5	
	comp=Z,31nm,0.8s						
C23K	Itkillik River	37.10	29	P	P	13 08 02.5	-0.2
	baz=260,SNR=22						
SEW	Seward	37.11	45	P	P	13 08 02.7	-0.1
	baz=274						
PMR	Palmer	37.18	43	P	P	13 08 03.4	0.0
	baz=273,SNR=7.5						
NEA2	Nenana	37.18	38	IAmb	IAmb	13 08 16.4	
	comp=Z,35nm,1.7s						
NEA2	Nenana	37.18	38	P	P	13 08 03.0	-0.4
	baz=269,SNR=13						
E23K	Chandalar	37.20	32	P	P	13 08 03.4	-0.3
	baz=264,SNR=16						
MCK	McKinley	37.23	39	P	P	13 08 03.1	-0.7
	baz=270,SNR=5.4						
RND	Reindeer	37.26	40	IAmb	IAmb	13 08 05.4	
	comp=Z,19nm,1.0s						
GHO	Glory Hole Cre	37.27	43	IAmb	IAmb	13 08 22.3	
	comp=Z,27nm,1.2s						
TOLK	Toolik Lake Re	37.29	31	P	P	13 08 03.9	-0.5
	baz=263,SNR=9.3						
WAT1	Susitna Watana	37.41	41	P	P	13 08 05.2	-0.3
	baz=272						
KNK	Knik Glacier	37.51	43	IAmb	IAmb	13 08 07.7	
	comp=Z,44nm,1.2s						
KNK	Knik Glacier	37.51	43	P	P	13 08 05.9	-0.4
	baz=274,SNR=5.5						
SML	Sawmill	37.55	43	P	P	13 08 06.5	-0.2
	baz=273,SNR=12						
PWL	Port Wells	37.60	44	P	P	13 08 06.1	-1.0
	baz=274						
D24K	Happy Valley	37.62	30	IAmb	IAmb	13 08 08.8	
	comp=Z,21nm,0.8s						
D24K	Happy Valley	37.62	30	P	P	13 08 06.5	-0.6
	baz=263,SNR=9.2						
E24K	Your Creek	37.62	32	IAmb	IAmb	13 08 09.4	
	comp=Z,25nm,1.1s						
E24K	Your Creek	37.62	32	P	P	13 08 06.6	-0.6
	baz=265,SNR=26						
COLA	College	37.71	37	P	P	13 08 08.3	+0.5
COLA				IAmb	IAmb	13 08 09.8	
	comp=Z,20nm,0.8s						
COLA	College	37.71	37	P	P	13 08 07.3	-0.5
	baz=270						
COLA	College	37.71	37	P	P	13 08 08.3	+0.5
COLA				pmax	pmax		
	comp=Z,20nm,0.9s						
COLA	College	37.71	37	P	P	13 08 08.6	+0.8
COLA				pP	sP	13 08 18.8	-0.9
H24K	Noodor Dome	37.72	36	IAmb	IAmb	13 08 10.4	
	comp=Z,43nm,1.7s						
H24K	Noodor Dome	37.72	36	P	P	13 08 08.0	0.0
	baz=268,SNR=11						
CCB	Clear Creek Bu	37.72	38	IAmb	IAmb	13 08 11.3	
	comp=Z,37nm,1.9s						
C24K	Franklin Bluff	37.74	29	P	P	13 08 07.6	-0.4
	baz=262						
WAT6	Susitna Watana	37.79	41	P	P	13 08 07.2	-1.6
	baz=273						
F24K	Squaw Lake	37.80	33	P	P	13 08 08.2	-0.5
	baz=266						
M23K	Glacier View	37.84	43	P	P	13 08 09.0	0.0
	baz=274						
POKR	Poker Plat Res	37.89	37	IAmb	IAmb	13 08 11.7	
	comp=Z,20nm,0.8s						
POKR	Poker Plat Res	37.89	37	P	P	13 08 09.9	+0.5
	baz=270,SNR=9.4						
G24K	Hadweenzic Riv	37.92	34	IAmb	IAmb	13 08 12.1	
	comp=Z,16nm,0.8s						
G24K	Hadweenzic Riv	37.92	34	P	P	13 08 09.8	+0.1
	baz=268,SNR=18						
DHY	Denali Highway	37.94	40	IAmb	IAmb	13 08 11.4	
	comp=Z,54nm,1.8s						
DHY	Denali Highway	37.94	40	P	P	13 08 09.5	-0.6
	baz=272,SNR=9.6						
SCM	Sheep Creek Mo	38.02	42	IAmb	IAmb	13 08 13.5	
	comp=Z,22nm,1.0s						
SCM	Sheep Creek Mo	38.02	42	P	P	13 08 10.1	-0.6
	baz=274						
GTA	Gaotai	38.08	280	P	P	13 08 13.0	+1.5
GTA				pP	pP	13 08 16.0	-4.0
GTA				PcP	PcP	13 10 27.3	+1.1
GTA				pmax	pmax		
	comp=Z,26nm,1.2s						
GTA				LR	LR		
	comp=Z,740nm,16.3s						
GTA				LR	LR		
	comp=Z,1μm,14.3s						
GTA				LR	LR		
	comp=Z,1μm,14.3s						
HDA	Harding Lake	38.09	38	P	P	13 08 11.0	-0.2
	baz=271,SNR=6.8						
ILAR	Eielson Array	38.12	38	P	P	13 08 10.9	-0.4
	comp=Z,4.8nm,1.0s,baz=262,slow=7.2,SNR=36						
ILAR				LR	LR	13 25 58.0	
	comp=Z,321nm,19.4s,baz=268,slow=40						
	comp=Z,4.8nm,1.0s						
GLI	Glacier Island	38.21	44	P	P	13 08 11.5	-0.7
	baz=275						
G25K	Bearman Lake	38.46	34	P	P	13 08 13.9	-0.3
	baz=269,SNR=5.5						
D25K	Kavik River	38.51	30	IAmb	IAmb	13 08 16.3	
	comp=Z,21nm,0.8s						
D25K	Kavik River	38.51	30	P	P	13 08 14.4	-0.2
	baz=265,SNR=25						
M24K	Tolsona, Glenn	38.55	42	IAmb	IAmb	13 09 17.8	
	comp=Z,30nm,1.1s						
M24K	Tolsona, Glenn	38.55	42	P	P	13 08 15.0	-0.1
	baz=275						
H25L	Birch Creek	38.57	35	P	P	13 08 15.4	+0.3
	baz=270,SNR=6.6						
K24K	Donnelly Dome	38.63	39	P	P	13 08 15.0	-0.7
	baz=273						
F25K	Christian Rive	38.67	33	P	P	13 08 16.1	0.0
	baz=268,SNR=6.9						
PRP	Porcupine Dome	38.69	36	P	P	13 08 16.1	-0.3
	baz=271,SNR=10						
KLU	Klutina	38.72	43	IAmb	IAmb	13 08 18.5	
	comp=Z,28nm,1.2s						
KLU	Klutina	38.72	43	P	P	13 08 16.0	-0.6
	baz=276,SNR=7.7						
J25K	Salcha River,	38.77	38	P	P	13 08 15.9	-1.1
	baz=272,SNR=7.0						
FYU	Fort Yukon	38.81	35	IAmb	IAmb	13 08 19.7	
	comp=Z,74nm,1.6s						
PAX	Paxson	38.81	40	P	P	13 08 17.3	0.0
	baz=274,SNR=5.6						
EYAK	Cordova Ski Ar	38.90	44	P	P	13 08 17.7	-0.2
	baz=277						
HARP	HAARP	39.00	41	P	P	13 08 19.3	+0.5
	baz=275						
C26K	Camden Bay	39.07	29	P	P	13 08 19.2	0.0
	baz=266						
BMAR	Burnt Mountain	39.07	33	P	P	13 08 19.7	+0.3
NRIK	Noril'sk	39.18	330	P	P	13 08 18.3	-1.9
NRIK	Noril'sk	39.18	330	P	P	13 08 18.6	-1.6
	comp=Z,6.3nm,1.0s,baz=105,slow=8.7,SNR=5.7						
NRIK				PcP	PcP	13 10 29.8	+0.9
	comp=Z,9.5nm,1.1s,baz=145,slow=4.7,SNR=5.2						
NRIK				LR	LR	13 26 03.9	
	comp=Z,505nm,18.0s,baz=98,slow=39						
	comp=Z,6.3nm,1.0s						
NRIK	Noril'sk	39.18	330	*ce*P	P	13 08 18.6	-1.6
NRIK				pmax	pmax		
	comp=Z,12nm,1.2s						
F26K	Sheenjek River	39.24	33	P	P	13 08 20.7	-0.1
	baz=269,SNR=10.0						
N25K	Chitina, Valde	39.34	43	P	P	13 08 21.1	-0.6
	baz=276						
G26K	Porcupine Rive	39.38	34	P	P	13 08 22.4	+0.5
	baz=271,SNR=14						
BMRM	Bremner River	39.41	44	P	P	13 08 22.2	-0.1
	baz=277,SNR=8.5						
SCRK	Sand Creek	39.41	39	P	P	13 08 21.1	-1.3
	baz=274,SNR=7.2						
RAGM	Ragged Mountai	39.45	45	IAmb	IAmb	13 08 27.1	
	comp=Z,27nm,1.0s						
C27K	Jago River	39.47	30	P	P	13 08 22.3	-0.3
	baz=267,SNR=12						
J26L	Joseph Creek	39.56	38	P	P	13 08 23.8	+0.3
	baz=274						
KAIM	Kayak Island	39.64	45	P	P	13 08 23.1	-1.0
	baz=279						
I26K	Coal Creek Min	39.69	37	P	P	13 08 24.6	+0.1
	baz=273						
CD2	Chengdu	39.70	265	*e*P	P	13 08 23.0	-2.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
M26K	Nabesna, AK	40.00	41	IAmb	IAmb	13 08 30.1	
	comp=Z,35nm,1.1s						
M26K	Nabesna, AK	40.00	41	P	P	13 08 26.8	-0.4
	baz=277,SNR=21						
MCARA	McCarthy VSAT	40.11	43	P	P	13 08 28.7	+0.6
	baz=278						
CRQE	Cirque	40.17	44	P	P	13 08 28.6	-0.1
	baz=279,SNR=17						
BGLC	Bering Glacier	40.17	45	P	P	13 08 29.4	+0.9
	baz=275						
E27K	Coleen River	40.21	32	P	P	13 08 28.6	-0.2
	baz=271,SNR=8.7						
G27K	Doyon Strip	40.23	34	P	P	13 08 29.0	0.0
	baz=273,SNR=6.5						
K27K	Chicken	40.24	39	P	P	13 08 28.5	-0.6
	baz=276						
TGL	Tana Glacier	40.30	44	IAmb	IAmb	13 08 32.3	
	comp=Z,40nm,1.1s						
H27K	Steamboat Moun	40.31	35	P	P	13 08 29.8	+0.1
	baz=274,SNR=13						
I27K	Kandik River	40.31	36	P	P	13 08 30.2	+0.5
	baz=274						
WAX	Waxell Ridge	40.33	44	IAmb	IAmb	13 08 32.7	
	comp=Z,37nm,1.0s						
GYA	Guiyang	40.40	257	P	P	13 08 31.8	+0.8
GYA				S	S	13 14 44.0	+6.6
GYA				pmax	pmax		

comp=Z,34nm,1.7s
GYA pmax pmax
comp=Z,150nm,5.5s
GYA LR LR
comp=Z,540nm,15.5s
GYA LR LR
comp=Z,410nm,16.4s
GYA LR LR
comp=Z,560nm,17.8s
D27M Malcolm River 40.43 31 P **P 13 08 30.9 +0.3**
baz=270,SNR=9.6
L27K Beaver Creek, 40.46 40 P **P 13 08 30.9 0.0**
L27K IAmb IAmb 13 08 33.9
comp=Z,94nm,1.8s
L27K Beaver Creek, 40.46 40 P **P 13 08 30.8 -0.1**
baz=277,SNR=30
BCAR Beaver Creek A 40.48 40 P **P 13 08 31.1 0.0**
M27K Edge Creek, AK 40.52 41 P **P 13 08 31.1 -0.5**
baz=278,SNR=16
ISLE Juniper Island 40.56 44 IAmb IAmb 13 08 37.2
comp=Z,47nm,1.0s
EGAK Eagle 40.57 37 P **P 13 08 31.1 -0.6**
EGAK IAmb IAmb 13 08 33.1
comp=Z,62nm,1.8s
EGAK Eagle 40.57 37 P **P 13 08 31.3 -0.4**
baz=276,SNR=14
MESA MESA 40.82 45 IAmb IAmb 13 08 36.9
comp=Z,45nm,1.0s
MESA MESA 40.82 45 P **P 13 08 34.2 +0.1**
baz=280
GRNC Granite Creek 40.82 44 IAmb IAmb 13 08 36.7
comp=Z,47nm,1.0s
F28M Old Crow 40.88 33 P **P 13 08 34.3 -0.1**
baz=273,SNR=9.4
E28M Babbage River 40.96 31 P **P 13 08 35.8 +0.8**
baz=273,SNR=6.2
CTG Chitna Glacier 40.98 43 P **P 13 08 35.6 +0.2**
baz=280,SNR=19
CTGM Chitina Glacie 40.99 43 IAmb IAmb 13 08 38.0
comp=Z,48nm,1.0s
I28M Miner Creek 41.02 36 P **P 13 08 35.0 -0.6**
baz=276,SNR=14
LOGN Logan Glacier 41.17 43 IAmb IAmb 13 08 43.6
comp=Z,51nm,1.2s
TABL Table Mountain 41.17 44 IAmb IAmb 13 08 39.4
comp=Z,42nm,1.0s
D28M Stokes Point 41.22 30 P **P 13 08 36.9 -0.2**
baz=272
YUK3 Moose Creek 41.27 42 P **P 13 08 38.4 +0.6**
baz=280,SNR=23
DAWY Dawson 41.41 38 P **P 13 08 39.0 +0.2**
baz=278
O28M Mount Upton 41.57 43 P **P 13 08 40.8 +0.4**
baz=281,SNR=18
E29M Blow River 41.57 32 P **P 13 08 40.6 +0.6**
baz=274,SNR=7.0
H29M Whitestone 41.58 35 P **P 13 08 40.7 +0.6**
baz=276,SNR=6.1
G29M Pine Creek 41.65 34 P **P 13 08 40.5 -0.1**
G29M IAmb IAmb 13 08 43.6
comp=Z,80nm,1.8s
G29M Pine Creek 41.65 34 P **P 13 08 41.4 +0.7**
baz=276,SNR=8.8
PINM Pinnacle 41.67 44 P **P 13 08 41.4 +0.4**
baz=282
YUK8 Steele Glacier 41.68 43 P **P 13 08 41.7 +0.4**
baz=281
I29M Ogilvie Camp, 41.71 36 P **P 13 08 41.8 +0.6**
baz=277,SNR=9.7
BCPM Bancas Point 42.00 45 IAmb IAmb 13 08 45.8
comp=Z,27nm,1.0s
M29M Somme Creek 42.08 41 P **P 13 08 45.2 +0.8**
M29M Somme Creek 42.08 41 P **P 13 08 44.9 +0.5**
baz=280,SNR=16
L29M L29M 42.12 40 P **P 13 08 45.0 +0.5**
baz=280,SNR=15
PNL Peninsula 42.18 45 P **P 13 08 45.3 +0.2**
baz=283
YUK4 Talbot Arm 42.20 42 P **P 13 08 46.4 +0.9**
baz=282,SNR=11
EPYK Eagle Plains 42.23 35 IAmb IAmb 13 08 47.9
comp=Z,47nm,1.5s
EPYK Eagle Plains 42.23 35 P **P 13 08 45.8 +0.3**
baz=278,SNR=13
K29M Barlow Dome 42.26 39 P **P 13 08 45.5 -0.3**
baz=280,SNR=22
G30M tAoh Zraii Nji 42.35 34 IAmb IAmb 13 08 48.8
comp=Z,64nm,1.7s
G30M tAoh Zraii Nji 42.35 34 P **P 13 08 46.6 +0.2**
baz=277,SNR=9.5
ZAA0 Zalesovo Array 42.40 306 P **P 13 08 46.0 -1.0**
ZALV Zalesovo Beam 42.40 306 P **P 13 08 45.8 -1.1**
ZALV Zalesovo Beam 42.40 306 P **P 13 08 46.0 -0.9**
comp=Z,0.9nm,0.4s,baz=76,slow=8.1,SNR=8.2
ZALV PcP **PcP 13 10 40.0 +0.4**
comp=Z,16nm,0.9s,baz=77,slow=3.2,SNR=26
ZALV LR LR 13 27 26.3
comp=Z,944nm,20.9s,baz=70,slow=38
YUK6 Outpost Mounta 42.41 43 P **P 13 08 47.4 +0.2**
baz=282,SNR=9.1
F30M Barrier River 42.44 33 P **P 13 08 47.7 +0.6**
baz=277,SNR=15
O29M Mount Kennedy 42.45 44 P **P 13 08 48.2 +0.8**
baz=283
I30M Mount Dempster 42.53 36 IAmb IAmb 13 08 51.0
comp=Z,30nm,1.1s
I30M Mount Dempster 42.53 36 P **P 13 08 48.3 +0.3**
baz=279,SNR=32
J30M Hart River 42.65 37 P **P 13 08 49.4 +0.4**
baz=280,SNR=13
M30M Minto, Yukon 42.82 40 P **P 13 08 50.8 +0.6**
baz=282,SNR=21
N30M Aishikik Lake 42.91 42 P **P 13 08 51.4 +0.4**
baz=283,SNR=11
P29M Windy Craggy 43.01 45 IAmb IAmb 13 08 55.1
comp=Z,47nm,0.9s
P29M Windy Craggy 43.01 45 P **P 13 08 52.6 +0.8**
baz=284,SNR=23
GOMU GeErMu 43.09 278 P **P 13 08 51.8 -1.4**
GOMU pP pP 13 08 54.3 -7.5
GOMU sP pwP 13 08 59.5 -2.3
GOMU pmax pmax
comp=Z,110nm,0.9s
GOMU LR LR
comp=Z,2μm,15.6s
GOMU LR LR
comp=Z,2μm,15.8s
GOMU LR LR
comp=Z,3μm,16.1s
G31M Satah River 43.12 34 IAmb IAmb 13 08 54.8
comp=Z,51nm,1.6s
G31M Satah River 43.12 34 P **P 13 08 52.7 +0.2**
baz=279,SNR=9.6
INK Inuvik 43.20 32 P **P 13 08 53.9 +0.7**
INK Inuvik 43.20 32 P **P 13 08 53.5 +0.4**
baz=278,SNR=18
INK Inuvik 43.20 32 LR LR 13 30 12.4
comp=Z,305nm,18.9s,baz=306,slow=41
INK Inuvik 43.20 32 P **P 13 08 53.9 +0.7**
INK pmax pmax
comp=Z,22nm,1.1s
F31M Tsiigehtchic 43.24 33 IAmb IAmb 13 08 55.7
comp=Z,37nm,1.2s
F31M Tsiigehtchic 43.24 33 P **P 13 08 52.9 -0.6**
baz=279,SNR=5.1
P30M Million Dollar 43.27 44 P **P 13 08 54.4 +0.4**
baz=284
QIZ Qiongzhong 43.40 246 P **P 13 08 54.8 -0.6**
QIZ S **S 13 15 22.5 +1.0**
QIZ ScS **ScS 13 18 54.3 +1.2**
QIZ LR LR
comp=Z,330nm,17.6s
QIZ LR LR
comp=Z,450nm,18.5s
QIZ LR LR
comp=Z,470nm,21.1s
N31M Braeburn, Yuko 43.52 42 P **P 13 08 57.2 +1.3**
baz=284,SNR=39
O30N Mendenhall 43.54 43 IAmb IAmb 13 08 59.3
comp=Z,44nm,1.1s
O30N Mendenhall 43.54 43 P **P 13 08 56.9 +0.8**
baz=284,SNR=27
PLBC Pleasant Camp 43.73 45 P **P 13 08 58.5 +0.9**
baz=285,SNR=24
PZH PanZhiHua 43.77 262 P **P 13 08 59.5 +1.0**
PZH S **S 13 15 27.3 +0.2**
PZH pmax pmax
comp=Z,50nm,1.3s
PZH pmax pmax
comp=Z,200nm,9.1s
PZH LR LR
comp=Z,270nm,13.7s
PZH LR LR
comp=Z,240nm,15.3s
PZH LR LR
comp=Z,340nm,12.7s
KMI Kunming 43.96 259 ⇓P **P 13 09 01.8 +1.7**
KMI pmax pmax
comp=Z,40nm,1.0s
KMI LR LR
comp=Z,590nm,18.5s
KMI LR LR
comp=Z,320nm,13.8s
KMI LR LR
comp=Z,490nm,16.5s
M31M Drury Creek, Y 43.99 40 IAmb IAmb 13 09 02.7
comp=Z,29nm,1.1s
M31M Drury Creek, Y 43.99 40 P **P 13 09 00.4 +0.7**
baz=284,SNR=29
WHY Whitehorse 44.14 43 P **P 13 09 02.7 +1.7**
WHY IAmb IAmb 13 09 04.3
comp=Z,38nm,1.0s
WHY Whitehorse 44.14 43 P **P 13 09 02.1 +1.1**
baz=285,SNR=26
S31K Pelican 44.21 47 P **P 13 09 02.4 +1.0**
baz=287
SKAG Skagway 44.24 44 IAmb IAmb 13 09 05.1
comp=Z,23nm,1.0s
SKAG Skagway 44.24 44 P **P 13 09 02.7 +1.1**
baz=286,SNR=8.9
WMQ Urumqi 44.33 292 *e*P **P 13 09 04.5 +1.8**
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ LR LR
comp=Z,940nm,15.1s
WMQ LR LR
comp=Z,800nm,15.1s
WMQ LR LR
comp=Z,570nm,20.1s
FARO Faro, Yukon 44.46 40 IAmb IAmb 13 09 06.1
comp=Z,22nm,0.9s
FARO Faro, Yukon 44.46 40 P **P 13 09 04.2 +0.8**
baz=285,SNR=25
ZSN Zaisan 44.63 297 *e*P **P 13 09 06.2 +1.1**
baz=297
ZSN Zaisan 44.63 297 *e*P **P 13 09 06.1 +1.1**
N32M Quiet Lake 44.86 42 P **P 13 09 07.3 +0.6**
baz=286
SIT Sitka 44.94 48 IAmb IAmb 13 09 10.4
comp=Z,27nm,1.0s
SIT Sitka 44.94 48 P **P 13 09 07.9 +0.7**
baz=288
R32K Eaglecrest 44.98 46 IAmb IAmb 13 09 11.0
comp=Z,29nm,0.8s
R32K Eaglecrest 44.98 46 P **P 13 09 08.7 +1.0**
baz=288,SNR=12
P32M Atlin 44.99 44 IAmb IAmb 13 09 10.9
comp=Z,24nm,0.9s
P32M Atlin 44.99 44 P **P 13 09 09.2 +1.4**
baz=287
S32K Killisnoo 45.20 47 IAmb IAmb 13 09 12.7
comp=Z,21nm,0.9s
S32K Killisnoo 45.20 47 P **P 13 09 10.5 +1.2**
baz=288
P33M Teslin, Yukon 45.25 43 P **P 13 09 11.0 +1.2**
baz=287,SNR=64
A36M Sachs Harbour 45.35 26 P **P 13 09 11.5 +1.1**
baz=282,SNR=14
Q32M Nakina River 45.89 44 IAmb IAmb 13 09 18.7
comp=Z,57nm,1.6s
Q32M Nakina River 45.89 44 P **P 13 09 15.9 +0.9**
baz=289,SNR=12
SEM Semipalatinsk 46.26 303 *e*P **P 13 09 19.2 +1.1**
baz=303
SEM Semipalatinsk 46.26 303 *e*P **P 13 09 19.2 +1.1**
C36M Paulatuk 46.35 29 P **P 13 09 18.6 +0.4**
baz=285,SNR=6.2
R33M Jennings River 46.39 44 P **P 13 09 20.5 +1.6**
baz=289,SNR=72
U33K Whale Pass 46.41 48 P **P 13 09 20.1 +1.2**
baz=291
MK31 Makanchi Array 46.50 298 *ce*P **P 13 09 19.4 -0.4**
MKAR Makanchi Array 46.50 298 P **P 13 09 18.8 -1.1**
comp=Z,9.8nm,1.0s,baz=74,slow=7.1,SNR=29
MKAR PcP **PcP 13 10 54.2 +0.4**
comp=Z,7.4nm,0.8s,baz=64,slow=5.5,SNR=8.3
comp=Z,9.8nm,1.0s
CRAG Craig 46.63 49 P **P 13 09 21.7 +1.1**
baz=291
MAKZ Makanchi 46.69 298 P **P 13 09 20.0 -1.3**
MAKZ Makanchi 46.69 298 P **P 13 09 20.0 -1.3**
MAKZ pmax pmax
comp=Z,10.0nm,1.1s
MAKZ Makanchi 46.69 298 P **P 13 09 21.2 -0.1**
S34M Telegraph Cree 46.80 46 P **P 13 09 23.3 +1.4**
baz=290
TNCH TengChong 46.95 263 ⇑P **P 13 09 25.0 +1.3**
TNCH pP pP 13 09 27.5 -5.0
TNCH sP sP 13 09 29.5 -6.5
TNCH S **S 13 16 16.0 +2.9**
TNCH pmax pmax
comp=Z,92nm,1.0s
TNCH pmax pmax
comp=Z,370nm,5.1s
TNCH LR LR
comp=Z,290nm,8.3s
TNCH LR LR
comp=Z,170nm,8.1s
TNCH LR LR
comp=Z,380nm,9.7s
TGTN Hyland Airport 46.96 40 P **P 13 09 24.8 +1.5**
baz=289,SNR=8.8
KURK Kurchatov 47.09 304 P **P 13 09 22.3 -2.0**
KURK IAmb IAmb 13 09 27.5
comp=Z,16nm,1.0s
KURK Kurchatov 47.09 304 *e*P **P 13 09 23.3 -1.0**
KURK Kurchatov 47.09 304 *ce*P **P 13 09 23.3 -1.0**
KURK pmax pmax
comp=Z,23nm,1.3s
DLBC Dease Lake 47.17 45 P **P 13 09 26.7 +1.8**
baz=291,SNR=37
DLBC Dease Lake 47.17 45 LR LR 13 32 31.7
comp=Z,143nm,18.2s,baz=290,slow=40
KURBB Kurchatov Arra 47.18 304 P **P 13 09 23.6 -1.4**
comp=Z,9.0nm,0.9s,baz=71,slow=8.6,SNR=16
KURBB PcP **PcP 13 10 56.4 +0.3**
comp=Z,7.5nm,0.9s,baz=73,slow=3.5,SNR=12
KURBB LR LR 13 30 01.2
comp=Z,265nm,19.3s,baz=165,slow=37
comp=Z,9.0nm,0.9s
WTLY Watson Lake, Y 47.19 42 P **P 13 09 26.3 +1.2**
baz=290,SNR=11
V35K Ketchikan 47.48 49 P **P 13 09 27.9 +0.6**
baz=292
T35M Bob Quinn 47.58 47 P **P 13 09 29.4 +1.3**
baz=292,SNR=32
U35K Hyder 48.10 48 P **P 13 09 33.6 +1.6**
baz=293
WRGLY Wrigley 48.49 37 P **P 13 09 35.8 +0.8**
baz=291,SNR=12
LIRD Liard River Hi 48.72 42 P **P 13 09 37.7 +0.9**
baz=292,SNR=8.8
LSA Lhasa 49.25 273 P **P 13 09 44.5 +2.7**
LSA pmax pmax
comp=Z,17nm,1.3s
LSA Lhasa 49.25 273 IAmb IAmb 13 09 50.4
comp=Z,18nm,0.9s
TOAD Toad River Com 49.34 43 P **P 13 09 43.0 +1.3**
baz=294,SNR=45
KOTAN Kotaneelee Air 49.39 41 P **P 13 09 42.9 +0.9**
baz=293
SHLS Shalkode 49.95 295 *e*P **P 13 09 45.4 -1.2**
baz=294
SHLS Shalkode 49.95 295 *e*P **P 13 09 45.4 -1.2**
UZB Uzynbulak 50.24 295 *e*P **P 13 09 49.4 +0.6**
comp=Z,10nm,1.0s,baz=295
UZB Uzynbulak 50.24 295 *e*P **P 13 09 49.4 +0.6**
UZB pmax pmax
comp=Z,10.0nm,1.0s
KPKS Kokpek 50.29 295 *e*P **P 13 09 50.5 +1.3**
comp=Z,17nm,1.1s,baz=295
KPKS Kokpek 50.29 295 *e*P **P 13 09 50.4 +1.3**
KPKS pmax pmax
comp=Z,17nm,1.1s
ZHN Zhinishke 50.60 295 *e*P **P 13 09 52.3 +0.8**
baz=295
ZHN Zhinishke 50.60 295 *e*P **P 13 09 52.3 +0.8**
SATY Saty 50.67 295 *e*P **P 13 09 52.9 +0.8**
comp=Z,10nm,1.0s,baz=295
SATY Saty 50.67 295 *e*P **P 13 09 52.9 +0.8**
SATY pmax pmax
comp=Z,10.0nm,1.0s
BBB Bella Bella 50.67 52 LR LR 13 27 57.0
comp=Z,127nm,21.8s,baz=292,slow=32
BVAR Borovoye Array 50.74 310 P **P 13 09 50.7 -1.6**
comp=Z,9.0nm,1.0s,baz=64,slow=7.4,SNR=22
BVAR PcP **PcP 13 11 09.5 +0.5**
comp=Z,3.1nm,0.4s,baz=83,slow=3.6,SNR=11
BVAR LR LR 13 33 05.0
comp=Z,1μm,18.4s,baz=61,slow=38
comp=Z,9.0nm,1.0s
BRVK Borovoye 50.78 310 P **P 13 09 51.2 -1.4**
BRVK PcP **PcP 13 11 09.8 +0.6**
CHTO Chiang Mai 50.79 256 P **P 13 09 53.3 +0.2**
CHTO Chiang Mai 50.79 256 P **P 13 09 53.3 +0.2**
CHTO pmax pmax
comp=Z,40nm,1.1s
ALE Alert 50.98 5 P **P 13 09 53.6 -0.1**
ALE PcP **PcP 13 11 09.9 +0.5**
CMAR Chiang Mai Arr 51.04 256 P **P 13 09 54.9 -0.1**
CMAR Chiang Mai Arr 51.04 256 P **P 13 09 56.4 +1.4**
comp=Z,11nm,1.0s,baz=33,slow=8.1,SNR=47
CMAR LR LR 13 34 17.8
comp=Z,321nm,19.7s,baz=50,slow=39
comp=Z,11nm,1.0s
CHKK Chushkaly 51.17 296 *e*P **P 13 09 56.7 +1.0**
baz=296
CHKK Chushkaly 51.17 296 *e*P **P 13 09 56.7 +1.0**
SHL Shillong 51.25 268 P **P 13 09 57.2 +0.5**
SHL pmax pmax
comp=Z,57nm,1.2s
MDOK Medeo 51.48 296 *e*P **P 13 09 58.9 +0.7**
baz=296
MDOK Medeo 51.48 296 *e*P **P 13 09 58.9 +0.7**
AAA Alma-Ata 51.54 296 *e*P **P 13 09 59.7 +1.2**
comp=Z,17nm,0.7s,baz=296
AAA Alma-Ata 51.54 296 *e*P **P 13 09 59.7 +1.2**
AAA Alma-Ata 51.54 296 *e*P **P 13 09 59.7 +1.2**
AAA pmax pmax
comp=Z,17nm,0.7s
TNSS Tian-Shan 51.61 296 *e*P **P 13 09 59.1 -0.3**
baz=296
TNSS Tian-Shan 51.61 296 *e*P **P 13 09 59.9 +0.5**
TARG Taragay, Kyrgy 51.73 294 IAmb IAmb 13 11 16.0
comp=Z,18nm,1.0s
TARG Taragay, Kyrgy 51.73 294 P **P 13 10 01.4 +1.1**
TARG pmax pmax
comp=Z,7.0nm,0.8s
RES Resolute Bay 52.26 18 LR LR 13 35 32.6
comp=Z,337nm,19.4s,baz=332,slow=40
YKA Yellowknife Ar 52.49 36 P **P 13 10 05.8 +0.6**
comp=Z,16nm,0.9s,baz=301,slow=7.2,SNR=21
YKA LR LR 13 34 11.7
comp=Z,144nm,21.5s,baz=320,slow=38
comp=Z,16nm,0.9s
BOOM Boomskoye usch 52.52 295 IAmb IAmb 13 10 08.5
comp=Z,34nm,1.1s
BOOM Boomskoye usch 52.52 295 P **P 13 10 04.2 -1.8**
SGDS Sogindy 52.85 297 *e*P **P 13 10 08.9 +0.6**
comp=Z,7.9nm,0.7s,baz=297
SGDS Sogindy 52.85 297 *e*P **P 13 10 08.8 +0.6**
SGDS pmax pmax
comp=Z,8.0nm,0.7s
AAK Ala-Archa 53.36 296 P **P 13 10 11.3 -0.9**
AAK IAmb IAmb 13 10 14.1
comp=Z,19nm,1.1s
AAK Ala-Archa 53.36 296 *i* P **P 13 10 13.4 +1.3**
SNR=7.0
AAK Ala-Archa 53.36 296 LR LR 13 34 15.0
comp=Z,766nm,18.7s,baz=56,slow=38
AAK Ala-Archa 53.36 296 *e*P **P 13 10 12.8 +0.7**
AAK Ala-Archa 53.36 296 *ce*P **P 13 10 12.8 +0.7**
AAK pmax pmax
comp=Z,23nm,1.3s
AAK MLR MLR
comp=Z,751nm,17.0s
AAK Ala-Archa 53.36 296 P **P 13 10 12.8 +0.7**
KBS Kingsbay 53.46 351 P **P 13 10 11.5 -0.6**
KBS Kingsbay 53.46 351 *e*P **P 13 10 11.9 -0.2**
KBS IAmb IAmb 13 10 13.7
comp=Z,31nm,1.1s
KBS Kingsbay 53.46 351 *ce*P **P 13 10 13.1 +1.0**
KBS pmax pmax
comp=Z,38nm,1.3s
KBS Kingsbay 53.46 351 P **P 13 10 12.2 +0.2**
SVE Sverdlovsk 53.92 317 *e*P **P 13 10 15.4 -0.4**
SVE pmax pmax
comp=Z,17nm,0.9s
SVE MLR MLR
comp=Z,833nm,17.0s
KSH Kashi 54.08 292 P P 13 10 22.5 +5.1
KSH PcP **PcP 13 11 22.5 +0.5**
KSH pmax pmax
comp=Z,15nm,1.1s
KSH LR LR
comp=Z,1μm,22.7s
KSH LR LR
comp=Z,740nm,22.0s
KSH LR LR
comp=Z,1μm,18.5s
PMG Port Moresby 54.90 185 LR LR 13 31 40.2
comp=Z,164nm,20.6s,baz=335,slow=34
SBUM Sibu 55.06 231 P **P 13 10 23.8 -0.8**
ARU Arti 55.12 317 P **P 13 10 21.7 -2.8**
ARU IAmb IAmb 13 10 27.6
comp=Z,20nm,1.1s
ARU Arti 55.12 317 LR LR 13 36 14.8
comp=Z,460nm,18.6s,baz=54,slow=39
ARU Arti 55.12 317 *d i*P **P 13 10 23.3 -1.2**
ARU PP **PP 13 12 26.0 -1.5**
ARU S **S 13 18 04.7 -0.3**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 55.12 317 P **P 13 10 23.4 -1.0**
ARU PcP **PcP 13 11 25.8 +0.4**
HNR Honiara 55.31 170 LR LR 13 36 53.1
comp=Z,4μm,18.0s,baz=13,slow=39
NLWA Neilton Lookou 55.42 55 IAmb IAmb 13 10 29.4
comp=Z,16nm,0.9s
KK31 Karatay Array 55.59 299 IAmb IAmb 13 10 29.6
comp=Z,18nm,1.1s
KKAR Karatay Array 55.59 299 P **P 13 10 26.1 -2.1**
KKAR Karatay Array 55.59 299 IAmb IAmb 13 10 29.6
comp=Z,18nm,1.1s
KKAR Karatay Array 55.59 299 P **P 13 10 26.1 -2.1**
GNW Green Mountain 55.93 55 IAmb IAmb 13 10 33.0
comp=Z,33nm,2.0s
BJO1 Bjornoya 56.06 346 *e*P **P 13 10 32.9 +2.0**
BJO1 IAmb IAmb 13 10 33.1
comp=Z,49nm,0.9s
NEEM North Greenlan 56.41 6 *i* P **P 13 10 32.4 -1.5**
NEEM IAmb IAmb 13 10 34.1
comp=Z,78nm,0.9s
MTKI Muara Teweh, K 56.53 226 P **P 13 10 36.7 +1.6**
CHM Chimkent 56.58 298 *e*P **P 13 10 36.1 +0.8**
comp=Z,6.4nm,0.3s,baz=298
CHM Chimkent 56.58 298 *e*P **P 13 10 36.0 +0.8**
CHM pmax pmax
comp=Z,6.0nm,0.3s
D05A Enumclaw 56.61 55 IAmb IAmb 13 10 38.0
comp=Z,14nm,0.9s
DRK Karamyk 56.79 294 IAmb IAmb 13 10 39.8
comp=Z,29nm,1.2s
KSM Kuching 56.91 232 P **P 13 10 38.0 +0.2**
KSM IAmb IAmb 13 10 40.2
comp=Z,13nm,1.0s
COR Corvallis 57.27 58 P **P 13 10 42.3 +2.3**
COR sP **sP 13 10 58.0 +5.7**
LVZ Lovozero 57.38 336 *i* P **P 13 10 39.0 -1.5**
LVZ pmax pmax
comp=Z,13nm,1.2s
STKI Sintang 57.45 230 P **P 13 10 43.9 +2.3**
B08A Colville Reser 57.46 52 IAmb IAmb 13 10 43.4
comp=Z,18nm,1.1s
BUCK Buck Mountain 57.68 58 IAmb IAmb 13 11 15.1
comp=Z,34nm,1.3s
DAG Danmarks Havn 57.74 357 P **P 13 10 42.6 -0.2**
DAG pmax pmax
comp=Z,32nm,1.0s
DAG Danmarks Havn 57.74 357 *i* P **P 13 10 41.6 -1.2**
DAG IAmb IAmb 13 10 43.3

comp=Z,33nm,1.1s
KAPI Kappang 57.82 218 LR LR 13 36 31.0
comp=Z,192nm,20.0s,baz=285,slow=37
MXC Moxie City 57.91 54 IAmb IAmb 13 10 47.0
comp=Z,17nm,1.1s
KIRV Kirov 58.03 323 LR LR 13 38 09.3
comp=Z,997nm,18.6s,baz=45,slow=39
KEV Kevo 58.05 340 P P 13 10 43.1 -2.0
KEV Kevo 58.05 340 P P 13 10 43.1 -2.0
KEV pmax pmax
comp=Z,9.0nm,0.9s
KEV Kevo 58.05 340 P P 13 10 45.3 +0.2
KEV PcP PcP 13 11 37.6 +0.9
HAMF Hammerfest 58.14 342 eP P 13 10 45.4 -0.3
HAMF IAmb IAmb 13 10 45.9
comp=Z,15nm,1.0s
E07A Sunnyside 58.18 54 IAmb IAmb 13 10 48.8
comp=Z,21nm,1.2s
I04A Tendick Farm, 58.25 58 IAmb IAmb 13 11 01.6
comp=Z,28nm,1.3s
ABKAR Akbulak array 58.32 310 P P 13 10 45.2 -2.1
ABKAR Akbulak array 58.32 310 IAmb IAmb 13 10 49.8
comp=Z,13nm,1.1s
C09A Chrisman Ranch 58.36 52 IAmb IAmb 13 10 49.5
comp=Z,18nm,1.1s
HAWA Hanford 58.45 54 IAmb IAmb 13 10 50.7
comp=Z,20nm,1.1s
G06A Carlson Farm, 58.48 56 IAmb IAmb 13 10 51.2
comp=Z,26nm,1.4s
KULLO Kullorsuaq 58.56 9 i P P 13 10 48.3 -0.3
KULLO IAmb IAmb 13 10 49.8
comp=Z,332nm,2.2s
ARCES ARCESS Array B 58.57 341 P P 13 10 47.6 -1.2
ARCES IAmb IAmb 13 10 49.7
comp=Z,19nm,1.1s
ARCES ARCESS Array B 58.57 341 P P 13 10 47.7 -1.0
comp=Z,12nm,0.9s,baz=39,slow=7.8,SNR=19
ARCES LR LR 13 39 52.5
comp=Z,140nm,19.3s,baz=31,slow=40
comp=Z,12nm,0.9s
ARCES ARCESS Array B 58.57 341 P P 13 10 47.6 -1.2
ARCES pmax pmax
comp=Z,19nm,1.1s
AKTO Aktyubinsk 58.67 312 LR LR 13 38 36.3
comp=Z,2µm,18.3s,baz=47,slow=39
NEW Newport 58.74 51 IAmb IAmb 13 10 52.3
comp=Z,22nm,1.2s
NEW Newport 58.74 51 P P 13 10 50.4 +0.1
baz=305,SNR=15
NEW Newport 58.74 51 LR LR 13 33 05.4
comp=Z,123nm,21.5s,baz=313,slow=33
SIMJ Simiganj 59.04 295 P P 13 10 52.1 -0.5
SIMJ Simiganj 59.04 295 P P 13 10 53.1 +0.4
PINE Pine Mountain 59.12 57 IAmb IAmb 13 10 56.3
comp=Z,21nm,0.9s
E09A Wood Farm, Sta 59.17 54 IAmb IAmb 13 10 55.5
comp=Z,23nm,1.1s
NIL Nilore 59.23 288 P P 13 10 53.3 -0.6
NIL Nilore 59.23 288 P P 13 10 53.3 -0.6
NIL pmax pmax
comp=Z,120nm,1.0s
NIL Nilore 59.23 288 P P 13 10 55.4 +1.5
J05D Fort Rock, OR 59.24 58 IAmb IAmb 13 10 56.9
comp=Z,16nm,0.9s
YBH Yreka Blue Hor 59.25 60 IAmb IAmb 13 10 57.0
comp=Z,14nm,1.1s
YBH Yreka Blue Hor 59.25 60 LR LR 13 31 22.0
comp=Z,142nm,21.8s,baz=302,slow=31
G08A Pilot Rock 59.41 55 IAmb IAmb 13 10 57.5
comp=Z,12nm,1.1s
KTK1 Kautokeino 59.49 341 eP P 13 10 54.5 -0.7
KTK1 IAmb IAmb 13 10 55.9
comp=Z,17nm,1.0s
KULM Kulim 59.59 244 P P 13 10 56.6 +0.1
KULM IAmb IAmb 13 10 58.6
comp=Z,18nm,1.1s
I07A Izee 59.80 56 IAmb IAmb 13 11 29.4
comp=Z,19nm,1.7s
TRO Tromso 59.95 343 eP P 13 10 57.9 -0.3
TRO IAmb IAmb 13 10 58.8
comp=Z,43nm,1.1s
F10A Beach Ranch, E 60.00 54 IAmb IAmb 13 11 09.2
comp=Z,13nm,1.1s
DBG Daneborg 60.25 357 i P P 13 10 56.5 -3.8
DBG IAmb IAmb 13 11 13.8
comp=Z,30nm,1.3s
BMO Blue Mountains 60.62 55 IAmb IAmb 13 11 17.7
comp=Z,11nm,1.1s
J08A Circle Bar Ran 60.83 57 IAmb IAmb 13 11 07.5
comp=Z,20nm,1.1s
MTN Manton Dam 61.03 203 P P 13 11 05.5 -0.8
MTN Manton Dam 61.03 203 P P 13 11 05.2 -1.1
comp=Z,25nm,1.4s,SNR=4.8
ORV Oroville 61.28 62 IAmb IAmb 13 11 09.4
comp=Z,11nm,0.9s
WVOR Wild Horse Val 61.28 58 IAmb IAmb 13 11 10.3
comp=Z,16nm,0.9s
MSO Missoula 61.32 51 P P 13 11 08.5 +0.4
baz=307,SNR=20
KBL Kabul 61.47 291 P P 13 11 08.5 -1.0
KBL Kabul 61.47 291 P P 13 11 08.5 -1.0
KBL pmax pmax
comp=Z,64nm,1.2s
JOF Joensuu 61.87 333 eP P 13 11 10.9 -0.5
SUMG Summit 61.91 3 IAmb IAmb 13 11 13.9
comp=Z,109nm,1.1s
SUMG Summit 61.91 3 i P P 13 11 12.0 0.0
SUMG IAmb IAmb 13 11 13.6
comp=Z,108nm,1.1s
AFDM Forest Hills D 61.97 62 IAmb IAmb 13 11 14.5
comp=Z,13nm,1.1s
STEI Steigen 62.12 343 eP P 13 11 12.3 -0.6
STEI IAmb IAmb 13 11 13.4
comp=Z,12nm,1.1s
PPBI Pangkal Pinang 62.24 234 P P 13 11 16.9 +2.4
LOF Lofoten 62.30 344 eP P 13 11 14.2 +0.1
LOF IAmb IAmb 13 11 14.8
comp=Z,39nm,1.0s
FFC Flin Flon 62.31 39 P P 13 11 14.7 +0.2
FFC Flin Flon 62.31 39 P P 13 11 14.7 +0.2
FFC pmax pmax
comp=Z,33nm,1.0s
FFC Flin Flon 62.31 39 P P 13 11 15.3 +0.8
PAHR Pah Rah Range 62.48 60 IAmb IAmb 13 11 18.3
comp=Z,18nm,1.0s
EMB Emerald Bay 62.49 61 IAmb IAmb 13 11 18.5
comp=Z,17nm,0.9s
FAUS Fauske 62.57 342 eP P 13 11 15.9 -0.1
FAUS IAmb IAmb 13 11 16.6
comp=Z,34nm,0.9s
BELG Belogornoye 62.66 318 LR LR 13 40 53.5
comp=Z,476nm,18.4s,baz=49,slow=38
BELG Belogornoye 62.66 318 i P P 13 11 17.2 +0.4
BELG pmax pmax
comp=Z,7.0nm,1.3s
BELG MLR MLR
comp=Z,81nm,16.0s
EGMT Eagleton 62.83 48 P P 13 11 18.2 0.0
baz=309,SNR=14
CMB Columbia Colle 62.89 62 IAmb IAmb 13 11 20.9
comp=Z,13nm,0.9s
DLMT Dillon 62.96 52 IAmb IAmb 13 11 53.8
comp=Z,15nm,1.2s
HLID Hailey 63.05 54 P P 13 11 20.5 +0.6
baz=308,SNR=13
WAKR Walker 63.19 62 IAmb IAmb 13 11 23.4
comp=Z,15nm,1.0s
BOZ Bozeman (W) 63.35 51 P P 13 11 22.3 +0.5
baz=309,SNR=15
BMN Battle Mountai 63.35 59 IAmb IAmb 13 11 24.2
comp=Z,14nm,0.9s
KVN Kaiserville 63.67 60 IAmb IAmb 13 11 26.4
comp=Z,22nm,1.0s
RYN Ryan 63.68 61 IAmb IAmb 13 11 26.3
comp=Z,14nm,0.9s
MOR8 Moi Rana 63.78 342 eP P 13 11 22.5 -1.6
MOR8 IAmb IAmb 13 11 23.4
comp=Z,44nm,1.0s
NVAR Mina Array Bea 63.94 61 P P 13 11 26.2 +0.3
NVAR Mina Array Bea 63.94 61 P P 13 11 26.6 +0.7
comp=Z,10nm,0.8s,baz=286,slow=6.9,SNR=86
NVAR LR LR 13 36 50.0
comp=Z,113nm,20.0s,baz=304,slow=34
comp=Z,10nm,0.8s
MDPB Devils Postpil 63.95 62 IAmb IAmb 13 11 28.2
comp=Z,13nm,1.0s
NV11 Mina Array Sit 64.02 61 IAmb IAmb 13 11 28.6
comp=Z,13nm,1.1s
MLAC Mammoth, Mammo 64.11 62 P P 13 11 27.6 +0.6
baz=309
YHB Horse Butte 64.12 52 IAmb IAmb 13 11 25.9
comp=Z,15nm,1.0s
PWJI Pagerwojo 64.16 225 P P 13 11 27.4 +0.2
comp=Z,93nm,1.4s
VAF Ylistaro 64.33 337 eP P 13 11 27.4 -0.3
ELK Elko 64.33 57 LR LR 13 34 58.3
comp=Z,141nm,21.8s,baz=290,slow=32
KNRA Kununurra 64.40 204 P P 13 11 28.8 +0.1
KNRA IAmb IAmb 13 11 30.2
comp=Z,24nm,1.1s
KNRA Kununurra 64.40 204 P P 13 11 28.5 -0.1
comp=Z,21nm,1.4s,SNR=4.2
KEF Keuruu 64.40 335 eP P 13 11 27.9 -0.3
VOG Valley Oaks Go 64.58 63 P P 13 11 31.2 +1.4
baz=309
FINES FINESS Array B 64.60 334 P P 13 11 28.4 -1.0
FINES FINESS Array B 64.60 334 P P 13 11 28.3 -1.2
comp=Z,19nm,0.9s,baz=52,slow=7.5,SNR=32
FINES LR LR 13 42 17.6
comp=Z,431nm,19.4s,baz=54,slow=38
comp=Z,19nm,0.9s
FINES FINESS Array B 64.60 334 P P 13 11 28.5 -1.0
YPP Pitchstone Pla 64.64 52 IAmb IAmb 13 11 48.4
comp=Z,22nm,1.7s
H17A Grant Village 64.69 52 IAmb IAmb 13 11 34.6
comp=Z,14nm,1.0s
H17A Grant Village 64.69 52 P P 13 11 31.8 +1.1
baz=310,SNR=6.6
MOS Moscow 64.76 325 eP P 13 11 27.9 -2.7
MOS e 13 12 01.9
IMW Indian Meadow 64.80 52 IAmb IAmb 13 11 34.4
comp=Z,14nm,1.1s
DSP Deep Springs 64.80 62 IAmb IAmb 13 11 33.9
comp=Z,20nm,1.0s
SMMC Simmler 64.83 65 P P 13 11 32.6 +1.1
baz=310
FXWY Fox Creek 64.92 53 IAmb IAmb 13 11 35.1
comp=Z,15nm,1.4s
RLMT Red Lodge 64.94 50 IAmb IAmb 13 11 34.9
comp=Z,21nm,1.2s
RLMT Red Lodge 64.94 50 P P 13 11 33.0 +0.7
baz=310,SNR=10
TPAW Teton Pass 65.06 53 IAmb IAmb 13 11 45.7
comp=Z,22nm,1.1s
VES Vestal, Richgr 65.07 64 P P 13 11 33.2 +0.2
baz=310,SNR=7.1
LOHW Long Hollow 65.17 52 IAmb IAmb 13 11 36.7
comp=Z,27nm,1.5s
SNOW Snow King Moun 65.18 53 IAmb IAmb 13 11 36.9
comp=Z,18nm,1.1s
PKM Mcpherson Peak 65.22 65 P P 13 11 34.6 +0.4
baz=310
ICESG Greenland Ices 65.32 4 i P P 13 11 33.2 -1.3
ICESG IAmb IAmb 13 11 40.2
comp=Z,39nm,0.9s
CWC Cottonwood Cre 65.32 63 P P 13 11 35.4 +0.5
baz=310
DGMT Dagmar 65.38 45 IAmb IAmb 13 11 36.7
comp=Z,29nm,1.2s
DGMT Dagmar 65.38 45 P P 13 11 34.9 0.0
baz=312
GRAC Grapevine Rang 65.41 62 IAmb IAmb 13 11 37.7
comp=Z,23nm,0.9s
GRAC Grapevine Rang 65.41 62 P P 13 11 35.8 +0.5
baz=310,SNR=12
BCW Bitter Crk WRg 65.44 65 IAmb IAmb 13 11 37.9
comp=Z,22nm,1.1s
LAO LASA Array 65.53 48 IAmb IAmb 13 11 38.3
comp=Z,24nm,1.1s
LAO LASA Array 65.53 48 P P 13 11 36.3 +0.4
baz=311,SNR=8.0
CTA Charters Tower 65.56 185 LR LR 13 35 39.8
comp=Z,7.9nm,21.4s,baz=320,slow=32
CTAO Charters Tower 65.56 185 P P 13 11 36.4 +0.2
CTAO Charters Tower 65.56 185 P P 13 11 36.4 +0.2
CTAO pmax pmax
comp=Z,6.0nm,1.0s
CTAO Charters Tower 65.56 185 P P 13 11 37.0 +0.9
CTAO PcP PcP 13 12 09.2 +1.5
SBC Santa Barbara 65.56 65 P P 13 11 35.0 -1.2
baz=310
ISA Isabella, Lake 65.57 63 P P 13 11 36.0 -0.4
baz=310,SNR=5.1
OBN Obninsk 65.63 325 LR LR 13 42 33.6
comp=Z,363nm,19.0s,baz=11,slow=38
OBN Obninsk 65.63 325 eP P 13 11 35.8 -0.5
OBN Obninsk 65.63 325 eP P 13 11 35.8 -0.5
OBN *SP pP 13 11 44.0 -1.3
OBN e 13 11 50.0
OBN i 13 12 07.4
OBN 13 14 02.0
OBN PPP PPP 13 15 38.0
OBN eS S 13 20 15.0 -4.5
OBN ePS PnS 13 20 45.4 +4.4
OBN i 13 21 31.6
OBN SS SS 13 24 31.0 -1.8
OBN pmax pmax
comp=Z,19nm,1.3s
OBN MLR MLR
comp=Z,399nm,15.0s
R11B Troy Canyon, C 65.64 60 IAmb IAmb 13 11 38.9
comp=Z,11nm,1.0s
R11B Troy Canyon, C 65.64 60 P P 13 11 37.1 +0.2
baz=310,SNR=22
Q12A Willow Creek R 65.66 59 IAmb IAmb 13 11 58.9
comp=Z,14nm,0.9s
ARVC Arvin 65.69 64 P P 13 11 37.0 0.0
baz=310
NSS Namsos 65.72 342 eP P 13 11 36.7 -0.1
NSS IAmb IAmb 13 11 37.1
comp=Z,15nm,0.8s
MPMC Manual Prospec 65.93 63 P P 13 11 38.8 -0.1
baz=310,SNR=20
WCT Wildcat Mounta 66.00 61 IAmb IAmb 13 11 41.1
comp=Z,11nm,1.0s
SKJI Sukabumi 66.01 230 P P 13 11 41.9 +2.6
FURC Furnace Creek, 66.06 62 P P 13 11 39.8 +0.4
baz=310,SNR=16
MEF Metsahovi 66.08 334 eP P 13 11 38.8 -0.3
DUG Dugway, Tooele 66.11 56 IAmb IAmb 13 11 42.1
comp=Z,15nm,1.0s
DUG Dugway, Tooele 66.11 56 P P 13 11 40.1 +0.2
baz=310,SNR=18
DUG Dugway, Tooele 66.11 56 P P 13 11 38.9 -1.0
TPNV Topopah Spring 66.13 61 P P 13 11 40.7 +0.6
baz=310,SNR=18
VRH Novokhopyorsk 66.18 320 eP P 13 11 36.8 -3.1
VRH pmax pmax
comp=Z,10.0nm,0.9s
LRMC Laurel Mtn Rad 66.18 63 P P 13 11 40.6 +0.2
baz=310,SNR=9.3
RAF Rauma 66.21 336 eP P 13 11 39.5 -0.4
BW06 Boulder Array 66.30 53 P P 13 11 41.2 0.0
baz=311,SNR=12
PD31 Pinedale Array 66.30 53 IAmb IAmb 13 11 53.4
comp=Z,11nm,1.1s
PDAR Pinedale Array 66.30 53 P P 13 11 40.8 -0.4
PDAR Pinedale Array 66.30 53 P P 13 11 41.2 0.0
comp=Z,4.2nm,0.9s,baz=318,slow=2.0,SNR=35
PDAR LR LR 13 37 23.5
comp=Z,59nm,22.0s,baz=300,slow=33
comp=Z,4.2nm,0.9s
TCUT Toone Canyon 66.33 55 IAmb IAmb 13 11 55.6
comp=Z,12nm,1.0s
GWY Greenwater Val 66.36 62 IAmb IAmb 13 11 43.4
comp=Z,18nm,1.0s
EDW2 Edwards Air Fo 66.37 64 P P 13 11 42.0 +0.5
baz=310,SNR=13
LPSR Galich'ya Gora 66.44 322 eP P 13 11 39.6 -1.9
LPSR pmax pmax
comp=Z,10.0nm,0.9s
SNCC San Nicolas Is 66.44 66 P P 13 11 41.7 -0.2
baz=310
SFJD Kangerlussuaq 66.46 9 P P 13 11 39.1 -2.3
SFJD IAmb IAmb 13 11 42.8
comp=Z,19nm,0.9s
SFJD Kangerlussuaq 66.46 9 LR LR 13 44 46.7
comp=Z,327nm,18.1s,baz=348,slow=40
SFJD Kangerlussuaq 66.46 9 P P 13 11 39.1 -2.3
SFJD pmax pmax
comp=Z,19nm,1.0s
SFJD Kangerlussuaq 66.46 9 i P P 13 11 40.2 -1.2
SFJD IAmb IAmb 13 11 42.5
comp=Z,20nm,0.9s
SFJD Kangerlussuaq 66.46 9 P P 13 11 41.5 +0.1
SFJD pP pwP 13 11 52.8 +0.3
FRB Frobisher Bay 66.48 18 LR LR 13 43 51.1
comp=Z,223nm,19.7s,baz=358,slow=39
DECC Green Verdugo 66.56 65 P P 13 11 42.5 -0.2
baz=310
PRN Pahroc Range 66.57 60 IAmb IAmb 13 11 45.1
comp=Z,44nm,1.9s
VSU Vasula 66.72 332 ceP P 13 11 43.7 +0.5
VSU pmax pmax
comp=Z,16nm,1.3s
QIS Mount Isa 66.74 192 P P 13 11 42.3 -1.4
comp=Z,7.7nm,1.5s,SNR=1.7
SHOC Shoshone, Teco 66.79 62 P P 13 11 44.6 +0.5
baz=311,SNR=5.2
GSC Goldstone, Bar 66.85 63 P P 13 11 45.2 +0.6
baz=311,SNR=9.0
FMP Fort Macarthur 66.93 65 P P 13 11 45.1 +0.1
baz=311
VORR Voronezh 66.97 321 eP P 13 11 42.5 -2.5
VORR pmax pmax
comp=Z,10.0nm,0.9s
BFSC Mount Baldy Ra 67.00 64 P P 13 11 45.4 -0.2
baz=311,SNR=6.1
RRX Edison Barstow 67.00 63 P P 13 11 45.9 +0.4
baz=311
CIS Catalina Islan 67.06 65 P P 13 11 46.2 +0.3
baz=311
WRAB Tennant Creek 67.08 198 i P P 13 11 44.7 -1.2
WRAB pmax pmax
comp=Z,16nm,1.1s
WRA Warramunga Arr 67.09 198 P P 13 11 45.1 -0.8
WRA Warramunga Arr 67.09 198 P P 13 11 45.6 -0.3
comp=Z,8.6nm,1.0s,baz=15,slow=6.5,SNR=15
WRA LR LR 13 42 12.3
comp=Z,106nm,19.5s,baz=10,slow=37
comp=Z,8.6nm,1.0s
WRA Warramunga Arr 67.09 198 P P 13 11 45.2 -0.8
TBLU Trondheim 67.21 342 eP P 13 11 45.3 -1.0
SCI2 San Clemente I 67.24 66 P P 13 11 47.3 +0.3
baz=311
TUQ Turquoise Moun 67.31 62 P P 13 11 47.8 +0.2
baz=311,SNR=5.7
VSR Storozhevoye 67.32 321 eP P 13 11 44.1 -3.0
VSR pmax pmax
comp=Z,10.0nm,1.0s
DY2G Dye2 67.42 8 i P P 13 11 46.9 -0.9
DY2G IAmb IAmb 13 11 48.6
comp=Z,26nm,0.9s
VORD Divnogorie 67.44 321 eP P 13 11 46.3 -1.6
VORD pmax pmax
comp=Z,10.0nm,1.0s
HEC Hector,Ludlow 67.44 63 P P 13 11 48.6 +0.2
baz=311,SNR=15
BBRC Big Bear Solar 67.45 64 P P 13 11 48.8 +0.2
baz=311
MTSE Matsula 67.46 333 eP P 13 11 47.6 -0.3
CCUT Cedar City 67.50 59 IAmb IAmb 13 11 51.1
comp=Z,12nm,1.1s
ELS Elsinore Mount 67.53 65 IAmb IAmb 13 11 50.4
comp=Z,11nm,1.0s
MURC Murrieta 67.70 64 P P 13 11 50.1 +0.2
baz=311,SNR=5.1
V12A Nelson 67.78 61 IAmb IAmb 13 11 52.7
comp=Z,16nm,1.3s
P17A Butcher Ranch, 67.79 56 IAmb IAmb 13 11 52.7
comp=Z,15nm,1.1s
GMRC Granite Mounta 67.89 63 P P 13 11 51.9 +0.6
baz=311,SNR=13
LCMT Little Creek M 67.92 59 IAmb IAmb 13 11 53.8
comp=Z,16nm,1.0s
P18A Preston Nutter 67.97 56 IAmb IAmb 13 12 19.7
comp=Z,25nm,1.7s
K22A Casper 68.05 51 IAmb IAmb 13 11 53.9
comp=Z,28nm,1.4s
K22A Casper 68.05 51 P P 13 11 52.3 +0.1
baz=312,SNR=8.8
MDND Maddock 68.06 43 P P 13 11 52.0 0.0
baz=314
ULM Lac du Bonnet 68.10 40 P P 13 11 51.4 -0.7
ULM IAmb IAmb 13 11 53.2
comp=Z,12nm,1.1s
ULM Lac du Bonnet 68.10 40 P P 13 11 51.7 -0.4
comp=Z,6.8nm,0.9s,baz=320,slow=6.8,SNR=12
ULM LR LR 13 44 15.8
comp=Z,121nm,19.7s,baz=339,slow=38
comp=Z,6.8nm,0.9s
ULM Lac du Bonnet 68.10 40 P P 13 11 51.4 -0.7
ULM pmax pmax
comp=Z,12nm,1.1s
SRU San Rafael Swe 68.15 56 IAmb IAmb 13 11 54.7
comp=Z,14nm,1.0s
PFO Pinyon Flats O 68.16 64 P P 13 11 52.6 -0.3
PFO Pinyon Flats O 68.16 64 P P 13 11 53.1 +0.2
baz=311
PFO Pinyon Flats O 68.16 64 LR LR 13 37 18.4
comp=Z,115nm,20.2s,baz=304,slow=32
PFO Pinyon Flats O 68.16 64 i P P 13 11 51.9 -1.0
PFO pmax pmax
comp=Z,15nm,1.3s
PFO Pinyon Flats O 68.16 64 P P 13 11 53.6 +0.7
TPFO Pinon Flats 68.17 64 P P 13 11 53.2 +0.2
baz=311
KNB Kanab 68.17 59 IAmb IAmb 13 11 55.6
comp=Z,19nm,1.0s
BELC Belle Mtn. Jos 68.20 63 P P 13 11 53.0 -0.2
baz=311,SNR=5.6
109C Camp Elliot, M 68.22 65 IAmb IAmb 13 11 54.8
comp=Z,16nm,1.0s
109C Camp Elliot, M 68.22 65 P P 13 11 53.2 0.0
baz=311
RWWY Rawlins 68.32 52 IAmb IAmb 13 11 55.5
comp=Z,12nm,1.1s
MOL Molde 68.39 343 eP P 13 11 54.6 +0.9
MOL IAmb IAmb 13 11 55.9
comp=Z,17nm,0.7s
RSSD Black Hills 68.39 49 P P 13 11 53.9 -0.5
RSSD IAmb IAmb 13 12 06.3
comp=Z,19nm,1.2s
RSSD Black Hills 68.39 49 P P 13 11 54.1 -0.2
baz=313
RSSD Black Hills 68.39 49 P P 13 11 53.9 -0.5
RSSD pmax pmax
comp=Z,19nm,1.3s
RSSD Black Hills 68.39 49 P P 13 11 54.7 +0.3
RSSD pP pwP 13 12 05.5 +0.2
DOMB Dombas 68.54 342 eP P 13 11 54.7 -0.1
DOMB IAmb IAmb 13 11 55.3
comp=Z,27nm,0.9s
NEE2 Needles Airpor 68.55 62 P P 13 11 54.9 -0.4
baz=312
IRM Iron Mountain 68.63 63 P P 13 11 56.1 +0.4
baz=312,SNR=15
MONP2 Monument Peak 68.65 65 P P 13 11 56.1 0.0
baz=311
DZM Mont Dzumac 68.71 165 LR LR 13 42 14.1
comp=Z,325nm,18.0s,baz=0.0,slow=36
BC3 Big Chuckawall 68.76 63 P P 13 11 56.8 +0.1
baz=312
O20A White River Ci 68.78 54 IAmb IAmb 13 12 14.8
comp=Z,20nm,1.6s
O20A White River Ci 68.78 54 P P 13 11 56.8 -0.1
baz=312
HMU Henry Mountain 68.80 57 IAmb IAmb 13 12 16.0
comp=Z,14nm,1.0s
ISOG Isortoq, Green 68.88 5 i P P 13 11 55.3 -1.4
ISOG IAmb IAmb 13 11 57.6
comp=Z,14nm,0.7s
U15A North Rim 68.88 59 IAmb IAmb 13 11 60.0
comp=Z,17nm,1.0s
ANGG Ammassalik, Gr 68.88 4 i P P 13 11 57.0 +0.3
ANGG IAmb IAmb 13 12 02.2
comp=Z,20nm,0.9s
NB2 NORSAR Subarra 68.95 341 P P 13 11 56.8 -0.5
comp=Z,44nm,1.1s,baz=28,slow=6.2
NB2 NORSAR Subarra 68.95 341 P P 13 11 56.8 -0.5
baz=28,slow=6.2
NOA NORSAR Array B 68.95 341 P P 13 11 56.5 -0.8
comp=Z,16nm,0.8s,baz=29,slow=6.3,SNR=42
NOA LR LR 13 44 29.3
comp=Z,205nm,20.0s,baz=15,slow=38
comp=Z,16nm,0.8s
MAK Makhachkala 68.98 310 eP P 13 11 54.4 -3.3
MAK ePPP PPP 13 16 07.5
MAK eS S 13 20 56.6 -3.6
MAK eSS SS 13 25 24.8 -0.5
MAK MLR MLR

comp=Z,583nm,14.0s
IKP In-Ko-Pah, Jac 69.01 65 P P 13 11 58.6 +0.4
baz=312,SNR=7.0
SWSC Sam W. Stewart 69.01 64 P P 13 11 57.9 -0.2
baz=312
NBO00 NORSAR Array S 69.06 341 IAmb IAmb 13 11 59.0
comp=Z,23nm,1.1s
HFS Hagfors 69.14 339 P P 13 11 57.8 -0.7
comp=Z,22nm,0.7s,baz=47,slow=6.5,SNR=74
HFS LR LR 13 44 55.1
comp=Z,332nm,20.7s,baz=22,slow=38
comp=Z,22nm,0.7s
NC602 NORSAR Array S 69.14 340 IAmb IAmb 13 11 59.1
comp=Z,23nm,1.0s
NC602 NORSAR Array S 69.14 340 *e*P **P 13 11 57.9 -0.6**
NC602 IAmb IAmb 13 11 58.8
comp=Z,19nm,0.9s
PDMCI Parker Dam,Lak 69.16 62 P P 13 11 59.2 +0.2
baz=312,SNR=7.5
ISAL Salakas 69.20 330 *e*P **P 13 12 01.1 +2.2**
BLYC Blythe 69.28 63 IAmb IAmb 13 12 01.7
comp=Z,15nm,1.1s
MNK Minsk 69.41 329 *e*P **P 13 12 00.4 +0.2**
AGMN Agassiz Nation 69.51 41 IAmb IAmb 13 12 01.9
comp=Z,35nm,1.4s
AGMN Agassiz Nation 69.51 41 P P 13 12 00.1 -0.8
baz=316,SNR=12
GLA Glamis 69.56 63 IAmb IAmb 13 12 03.4
comp=Z,14nm,1.0s
GLA Glamis 69.56 63 P P 13 12 01.8 +0.3
baz=312
N23A Red Feather La 69.56 52 IAmb IAmb 13 12 03.9
comp=Z,16nm,1.2s
N23A Red Feather La 69.56 52 P P 13 12 01.2 -0.5
baz=313,SNR=9.7
VSVD Vaisvydziai 69.62 332 *e*P **P 13 12 01.8 +0.3**
BORG Borgarnes 69.84 357 LR LR 13 42 00.1
comp=Z,48nm,20.0s,baz=344,slow=35
GOF Gofitskoye 69.84 314 *ce*P **P 13 12 04.2 +1.1**
HYA Hoyanger 69.94 343 *e*P **P 13 12 03.6 +0.3**
HYA IAmb IAmb 13 12 04.3
comp=Z,40nm,1.0s
PABE Paberze 69.99 331 *e*P **P 13 12 03.7 0.0**
WUAZ Wupatki 70.04 59 IAmb IAmb 13 12 06.9
comp=Z,16nm,1.2s
WUAZ Wupatki 70.04 59 P P 13 12 05.1 +0.5
baz=312,SNR=6.7
Y14A Wickenburg 70.10 62 IAmb IAmb 13 12 06.8
comp=Z,12nm,1.0s
SEKA Sheki 70.35 309 P P 13 12 07.9 +1.6
ISCO Idaho Springs 70.50 53 IAmb IAmb 13 12 12.3
comp=Z,9.3nm,0.6s
ISCO Idaho Springs 70.50 53 P P 13 12 05.6 -1.9
baz=314
KONO Kongsberg 70.56 341 P P 13 12 07.2 +0.1
KONO IAmb IAmb 13 12 08.3
comp=Z,18nm,0.9s
KONO Kongsberg 70.56 341 *e*P **P 13 12 05.6 -1.5**
KONO Kongsberg 70.56 341 *ce*P **P 13 12 08.5 +1.4**
KONO pmax pmax
comp=Z,27nm,1.3s
KONO Kongsberg 70.56 341 P P 13 12 07.5 +0.3
KONO pP **pP 13 12 18.4 +2.2**
MVCO Mesa Verde 70.61 56 P P 13 12 08.7 +0.5
baz=313
ERBR Yeremizino-Bor 70.64 316 *e*P **P 13 12 09.0 +1.1**
ERBR pmax pmax
comp=Z,55nm,1.0s
NCK Nalchik 70.67 313 *i*P **P 13 12 08.4 +0.3**
NCK pmax pmax
comp=Z,45nm,0.9s
BRIGG Briggsdale 70.67 52 IAmb IAmb 13 12 10.6
comp=Z,16nm,0.9s
MNGR Mingechevir, A 70.72 309 P P 13 12 08.8 +0.4
X16A Lo Mia Camp, P 70.74 60 IAmb IAmb 13 12 11.3
comp=Z,15nm,1.0s
SUSD Miller 70.78 46 P P 13 12 06.7 -2.1
baz=316
ASAR Alice Springs 70.79 197 P P 13 12 09.3 +0.4
ASAR Alice Springs 70.79 197 P P 13 12 09.7 +0.7
comp=Z,8.0nm,0.9s,baz=10,slow=5.4,SNR=27
ASAR LR LR 13 41 06.3
comp=Z,132nm,21.8s,baz=359,slow=34
comp=Z,8.0nm,0.9s
KIV Kislovodsk 70.81 314 ⇑P **P 13 12 11.8 +2.7**
KIV Kislovodsk 70.81 314 P P 13 12 09.5 +0.4
KIV Kislovodsk 70.81 314 *i*P **P 13 12 10.0 +1.0**
SNR=8.4
KIV Kislovodsk 70.81 314 *e*P **P 13 12 08.7 -0.4**
KIV Kislovodsk 70.81 314 *e*P **P 13 12 08.7 -0.4**
KIV pmax pmax
comp=Z,49nm,1.0s
KIV MLR MLR
comp=Z,513nm,18.0s
KIV Kislovodsk 70.81 314 P P 13 12 09.5 +0.4
comp=Z,48nm,1.1s,comp=Z,460nm
KIV Kislovodsk 70.81 314 P P 13 12 10.6 +1.5
KIV pP **sP 13 12 21.8 +0.3**
KBZ Khabaz 70.86 313 P P 13 12 10.6 +1.3
comp=Z,42nm,0.9s,baz=56,slow=2.3,SNR=49
KBZ LR LR 13 47 34.2
comp=Z,1μm,19.3s,baz=39,slow=40
comp=Z,42nm,0.9s
KBZ Khabaz 70.86 313 *e*P **P 13 12 10.0 +0.8**
KBZ Khabaz 70.86 313 *ce*P **P 13 12 10.0 +0.8**
KBZ pmax pmax
comp=Z,55nm,0.9s
SHA1 Shidzhatmaz 70.97 313 *ce*P **P 13 12 11.8 +1.5**
ODD1 Odda 70.99 342 *e*P **P 13 12 09.9 +0.1**
F33A 5 Mile Ranch, 71.08 43 IAmb IAmb 13 12 11.8
comp=Z,25nm,1.1s
LKRN Lenkeran, Azer 71.20 306 P P 13 12 11.9 +0.5
S22A 4UR Ranch, Cre 71.21 55 P P 13 12 12.5 +0.5
baz=314,SNR=10
GANJ Ganja 71.22 309 P P 13 12 12.4 +0.8
LABN Labinsk 71.30 315 *e*P **P 13 12 13.6 +1.7**
LABN *e*S **S 13 21 24.1 -3.2**
LABN pmax pmax
comp=Z,43nm,0.6s
LABN MLR MLR
comp=Z,701nm,16.0s
W18A Petrified Fore 71.30 59 P P 13 12 12.2 -0.1
baz=313
Q24A Divide 71.33 53 P P 13 12 12.4 -0.2
baz=314
PALK Pallekele 71.45 261 LR LR 13 47 51.2
comp=Z,147nm,18.1s,baz=203,slow=40
SUW Suwalki 71.47 331 *e*P **P 13 12 12.6 -0.1**
SUW Suwalki 71.47 331 *e*P **P 13 12 12.9 +0.1**
214A Organ Pipe Nat 71.55 63 P P 13 12 14.2 +0.5
baz=313
X18A Snowflake 71.57 59 IAmb IAmb 13 12 16.2
comp=Z,10nm,0.7s
OGNE Ogallala 71.66 50 P P 13 12 14.3 0.0
baz=315,SNR=9.6
EYMN Ely 71.74 39 IAmb IAmb 13 12 16.2
comp=Z,24nm,1.1s
EYMN Ely 71.74 39 P P 13 12 14.5 -0.1
baz=319,SNR=16
AK03 Malin Array Si 71.86 326 P P 13 12 14.5 -0.7
AK23 Malin Array Si 71.87 326 P P 13 12 14.3 -0.9
AKASG Malin Array Be 71.88 326 P P 13 12 14.1 -1.2
AKASG IAmb IAmb 13 12 16.3
comp=Z,22nm,1.4s
AKASG Malin Array Be 71.88 326 P P 13 12 13.7 -1.6
comp=Z,1.5nm,0.3s,baz=36,slow=6.1,SNR=35
AKASG LR LR 13 46 29.7
comp=Z,567nm,19.3s,baz=49,slow=38
comp=Z,1.5nm,0.3s
AKASG Malin Array Be 71.88 326 P P 13 12 14.1 -1.2
AKASG pmax pmax
comp=Z,23nm,1.4s
AKBB Malin Array Si 71.88 326 IAmb IAmb 13 12 16.7
comp=Z,29nm,1.1s
AKBB Malin Array Si 71.88 326 *ce*P **P 13 12 14.8 -0.5**
AKBB pmax pmax
comp=Z,40nm,1.3s
AKBB Malin Array Si 71.88 326 P P 13 12 14.4 -0.9
AK01 Malin Array Si 71.89 326 P P 13 12 14.4 -1.0
KIEV Kiev 71.89 326 P P 13 12 14.1 -1.2
KIEV IAmb IAmb 13 12 16.7
comp=Z,26nm,1.1s
KIEV Kiev 71.89 326 *i*P **P 13 12 14.7 -0.7**
SNR=6.3
KIEV Kiev 71.89 326 P P 13 12 14.1 -1.2
KIEV pmax pmax
comp=Z,26nm,1.1s
KIEV Kiev 71.89 326 P P 13 12 14.7 -0.7
KIEV pP **pP 13 12 25.5 +1.0**
KIEV sP **sP 13 12 30.0 +2.2**
SDCO Great Sand Dun 71.98 54 P P 13 12 17.1 +0.6
baz=314,SNR=7.4
QLP Quilpie 72.15 187 P P 13 12 17.2 +0.2
comp=Z,22nm,1.3s,SNR=1.7
MI30 MI30,Zelenitsa 72.25 326 P P 13 12 16.8 -0.7
IVI Ivigtut 72.35 10 *i*P **P 13 12 16.5 -1.3**
IVI IAmb IAmb 13 12 19.6
comp=Z,19nm,1.0s
GNI Garni 72.43 310 P P 13 12 20.8 +1.8
GNI Garni 72.43 310 LR LR 13 47 40.7
comp=Z,485nm,18.1s,baz=52,slow=39
GNI Garni 72.43 310 *i*P **P 13 12 20.0 +1.0**
GNI pmax pmax
comp=Z,61nm,1.1s
GNI Garni 72.43 310 P P 13 12 18.8 -0.2
comp=Z,50nm,1.4s,comp=Z,588nm
ECSD EROS Data Cent 72.46 45 IAmb IAmb 13 12 19.9
comp=Z,23nm,1.2s
ECSD EROS Data Cent 72.46 45 P P 13 12 18.9 -0.1
baz=317,SNR=18
VSLR Vesyoloye 72.50 315 *i*P **P 13 12 19.4 +0.3**
VSLR pmax pmax
comp=Z,74nm,1.1s
SOC Sochi 72.56 315 *e*P **P 13 12 18.6 -0.9**
SOC *e* 13 14 59.1
SOC *e*PPP PPP 13 16 44.5
SOC *e*S **S 13 21 42.1 +0.2**
SOC *e*SS **SS 13 26 26.9 +6.7**
SOC pmax pmax
comp=Z,7.0nm,0.2s
SOC MLR MLR
comp=Z,412nm,19.0s
TUC Tucson 72.57 62 P P 13 12 19.7 -0.2
TUC Tucson 72.57 62 P P 13 12 20.3 +0.4
baz=314
TUC Tucson 72.57 62 P P 13 12 19.7 -0.2
TUC pmax pmax
comp=Z,8.0nm,1.1s
RNPP9 Sopachiv 72.60 328 P P 13 12 19.5 -0.1
KSCO Kaye Shedlock' 72.70 52 P P 13 12 20.2 -0.4
baz=315
NAX Nakhchivan 72.71 309 P P 13 12 21.3 +0.7
E38A The Farm, Brul 72.73 40 IAmb IAmb 13 12 21.1
comp=Z,22nm,1.1s
ANN Anapa 72.78 317 *e*P **P 13 12 20.3 -0.5**
ANN Anapa 72.78 317 *e*P **P 13 12 20.3 -0.5**
ANN *e*S **S 13 21 43.1 -1.2**
ANN pmax pmax
comp=Z,41nm,1.3s
T25A Trinidad 73.02 54 P P 13 12 22.9 +0.3
baz=315,SNR=7.8
LUBAR Lubar, Ukraine 73.07 326 P P 13 12 21.3 -1.1
BSD Bornholm Skovb 73.16 336 *e*P **P 13 12 22.1 -0.7**
SPMN Marine on St. 73.19 42 IAmb IAmb 13 12 24.2
comp=Z,18nm,1.1s
SPMN Marine on St. 73.19 42 P P 13 12 22.6 -0.6
baz=319
ANMO Albuquerque 73.37 57 P P 13 12 24.1 -0.6
ANMO Albuquerque 73.37 57 P P 13 12 24.9 +0.2
baz=314
ANMO Albuquerque 73.37 57 LR LR 13 40 18.9
comp=Z,106nm,21.9s,baz=76,slow=32
ANMO Albuquerque 73.37 57 *i*P **P 13 12 23.1 -1.6**
ANMO pmax pmax
comp=Z,3.0nm,1.4s
BGNE Belgrade 73.38 47 P P 13 12 23.7 -0.8
baz=317
WRKA Warakurna 73.42 202 P P 13 12 24.2 -0.5
comp=Z,26nm,1.0s,SNR=3.4
DUN6 Lazy B Ranch 73.44 60 IAmb IAmb 13 12 27.3
comp=Z,32nm,1.0s
GKP Gorka Klasztor 74.04 333 *e*P **P 13 12 28.6 +0.6**
GKP Gorka Klasztor 74.04 333 *e*P **P 13 12 29.0 +1.0**
BEL Belsk 74.08 331 *e*P **P 13 12 29.1 +0.7**
319A Douglas 74.14 61 IAmb IAmb 13 12 31.7
comp=Z,27nm,0.9s
SIM Simferopol' 74.22 319 *e*P **P 13 12 29.4 +0.1**
SIM pmax pmax
comp=Z,45nm,1.1s
SIM MLR MLR
comp=Z,340nm,16.0s
121A Cookes Peak, D 74.25 60 IAmb IAmb 13 12 32.3
comp=Z,16nm,1.1s
121A Cookes Peak, D 74.25 60 P P 13 12 30.9 +1.0
baz=314,SNR=9.4
SORM Soroca 74.25 324 ⇑P **P 13 12 29.0 -0.4**
SORM Soroca 74.25 324 ⇑P **P 13 12 29.0 -0.4**
SORM Soroca 74.25 324 P P 13 12 28.1 -1.3
comp=Z,49nm,1.1s
CBKS Cedar Bluff 74.42 50 P P 13 12 29.8 -0.8
baz=317
LVV L'vov 74.59 328 *e*P **P 13 12 30.9 -0.4**
LVV *e*S **S 13 22 01.9 -2.7**
LVV pmax pmax
comp=Z,120nm,1.2s
LVV MLR MLR
comp=N,100nm,16.0s
LVV MLR MLR
comp=E,400nm,16.0s
LVV MLR MLR
comp=Z,300nm,16.0s
KMPD K-Podol'skiy 74.67 326 P P 13 12 30.7 -1.1
KMPD P **P 13 12 30.7 -1.1**
SCHQ Schefferville 74.78 22 IAmb IAmb 13 12 33.7
comp=Z,21nm,0.9s
SCHQ Schefferville 74.78 22 P P 13 12 32.1 -0.2
comp=Z,18nm,1.0s,baz=345,slow=6.4,SNR=15
SCHQ LR LR 13 48 06.7
comp=Z,174nm,20.7s,baz=326,slow=38
comp=Z,18nm,1.0s
KIS Kishinev 74.96 323 ⇑*i*P **P 13 12 33.0 -0.5**
comp=Z,80nm,1.6s
KIS *e*L L 13 46 57.0
KIS LRM MLR 13 48 24.0
comp=Z,200nm,17.0s
KIS Kishinev 74.96 323 *c i*P **P 13 12 33.0 -0.5**
KIS pmax pmax
comp=Z,80nm,1.6s
KIS MLR MLR
comp=Z,200nm,17.0s
MILM Milestii Mici 75.03 323 ⇑*i*P **P 13 12 33.0 -0.9**
comp=Z,70nm,1.2s
MILM *e*L L 13 44 25.0
MILM LRM MLR 13 48 47.0
comp=Z,500nm,16.0s
MILM Milestii Mici 75.03 323 *c i*P **P 13 12 33.0 -0.9**
MILM pmax pmax
comp=Z,70nm,1.2s
MILM MLR MLR
comp=Z,600nm,16.5s
MILM MLR MLR
comp=N,500nm,16.0s
MORS Morshin 75.20 327 P P 13 12 34.3 -0.6
KWP Kalwaria Pacla 75.23 328 *e*P **P 13 12 35.9 +0.8**
KWP Kalwaria Pacla 75.23 328 P P 13 12 34.4 -0.7
comp=N,153nm,1.1s,comp=N,1μm
STNU Starunia 75.31 327 P P 13 12 34.9 -0.6
SHIU Shidnytsya 75.33 328 P P 13 12 34.9 -0.7
KSV Kosov 75.42 326 P P 13 12 35.4 -0.7
SHME Shamm 75.43 292 P P 13 12 37.1 +0.5
BSEG Bad Segeberg 75.48 338 *e*P 13 12 36.8
comp=N,16nm,0.9s,baz=27,slow=5.6
SCIA State Center 75.49 44 P P 13 12 35.9 -0.7
baz=319
ARMA Armidale 75.67 180 P P 13 12 38.9 +1.2
WSAR Wadi Sarin 75.72 289 LR LR 13 49 57.4
comp=N,265nm,20.5s,baz=84,slow=39
RUE Ruedersdorf 75.78 335 *e*P **P 13 12 38.7 +0.6**
OJC Ojcow 75.78 330 *e*P **P 13 12 38.5 +0.3**
RUE Ruedersdorf 75.78 335 *e*P 13 12 38.8
comp=N,32nm,0.8s,baz=27,slow=5.6
BURAR Bucovina Array 75.93 326 ⇑P **P 13 12 39.7 +0.5**
BURAR Bucovina Array 75.93 326 P P 13 12 39.2 0.0
BURAR Bucovina Array 75.93 326 ⇑P **P 13 12 39.7 +0.5**
KOLS Kolonicke sedl 75.97 328 *e*P **P 13 12 39.7 +0.4**
KOLS pmax pmax
comp=Z,52nm,1.0s
KOLS Kolonicke sedl 75.97 328 *e*P **P 13 12 39.7 +0.4**
RAKU Rahkiv 76.00 327 P P 13 12 38.0 -1.5
E46A Sault Ste Mari 76.06 36 IAmb IAmb 13 12 40.4
comp=Z,22nm,1.2s
JFWS Jewell Farm 76.14 42 P P 13 12 39.2 -1.2
baz=321
UOSS Minazif 76.15 291 P P 13 12 40.7 0.0
UOSS IAmb IAmb 13 12 42.1
comp=Z,33nm,1.1s
UOSS Minazif 76.15 291 P P 13 12 41.1 +0.5
AMTX Amarillo 76.18 54 IAmb IAmb 13 12 42.5
comp=Z,21nm,1.1s
AMTX Amarillo 76.18 54 P P 13 12 40.7 -0.1
baz=316
BRIU Brid 76.18 327 P P 13 12 40.8 +0.3
DIKM Dikmen 76.20 316 ⇓P **P 13 12 42.4 +1.7**
MSTX Muleshoe 76.21 55 IAmb IAmb 13 12 43.0
comp=Z,16nm,1.1s
MSTX Muleshoe 76.21 55 P P 13 12 40.9 -0.2
baz=316,SNR=5.3
MUKU Mukachevo 76.21 328 P P 13 12 40.9 +0.3
HATD Hatta, Dubai 76.28 291 P P 13 12 42.4 +1.0
NIE Niedzica 76.28 330 *e*P **P 13 12 42.7 +1.6**
NIE Niedzica 76.28 330 P P 13 12 41.7 +0.6
comp=Z,25nm,1.0s,comp=Z,217nm
MNTX Cornudas Mount 76.29 59 P P 13 12 41.4 0.0
baz=316,SNR=9.4
KORU Korolevo 76.29 327 P P 13 12 41.7 +0.6
CRVS Cervenica-Dubn 76.30 329 *e*P **P 13 12 41.8 +0.7**
CRVS pmax pmax
comp=Z,45nm,1.0s
CRVS Cervenica-Dubn 76.30 329 *e*P **P 13 12 41.8 +0.7**
N38A Joes South For 76.32 45 IAmb IAmb 13 12 42.1
comp=Z,13nm,0.8s
TLCR 76.40 322 ⇑P **P 13 12 42.3 +0.6**
TLCR 76.40 322 ⇑P **P 13 12 42.3 +0.6**
TRSU Trosnyk 76.41 327 P P 13 12 43.2 +1.5
TRSU Trosnyk 76.41 327 P P 13 12 43.2 +1.5
BERU Beregovo 76.41 328 P P 13 12 42.4 +0.6
ASHO Ashiyiah 76.42 291 P P 13 12 43.5 +1.2
KSP Ksiaz 76.42 333 *e*P **P 13 12 42.3 +0.5**
KSP Ksiaz 76.42 333 P P 13 12 42.6 +0.8
comp=Z,45nm,1.0s,comp=Z,397nm
BMR Baia Mare 76.55 327 ⇑P **P 13 12 44.1 +1.5**
BMR Baia Mare 76.55 327 ⇑P **P 13 12 44.1 +1.5**
FLTG Flechtingen 76.65 336 *e*P 13 12 43.3
comp=Z,23nm,0.9s,baz=27,slow=5.6
OKC Ostrava-Krasne 76.67 331 *e*P **P 13 12 44.1 +0.9**
OKC Ostrava-Krasne 76.67 331 *e*P **P 13 12 44.1 +0.9**
CFR Carcaliu 76.69 323 ⇑P **P 13 12 43.1 -0.3**
CFR Carcaliu 76.69 323 ⇑P **P 13 12 43.1 -0.3**
OSTC Ostas 76.70 333 *e*P **P 13 12 44.6 +1.2**
OSTC Ostas 76.70 333 *e*P **P 13 12 44.6 +1.2**
ARCR ARCALIA 76.70 326 ⇑P **P 13 12 45.0 +1.6**
CHVC Chvalec 76.72 333 *e*P **P 13 12 44.3 +0.8**
CHVC Chvalec 76.72 333 *e*P **P 13 12 44.3 +0.8**
VRI Vrincioaia 76.73 324 ⇓P **P 13 12 44.1 +0.4**
VRI Vrincioaia 76.73 324 ⇓P **P 13 12 44.1 +0.4**
VRI Vrincioaia 76.73 324 P P 13 12 43.5 -0.2
comp=Z,14nm,1.1s,comp=Z,183nm
PLOR5 Plostina Array 76.78 324 P P 13 12 44.4 +0.4
comp=Z,22nm,1.1s
PLOR3 Plostina Array 76.78 324 P P 13 12 44.4 +0.4
comp=Z,14nm,0.9s
LANS Liptovska Anna 76.80 330 *e*P **P 13 12 45.7 +1.7**
LANS pmax pmax
comp=Z,37nm,0.9s
LANS Liptovska Anna 76.80 330 *e*P **P 13 12 45.7 +1.7**
UPC Upice 76.80 333 *e*P **P 13 12 44.8 +0.8**
UPC Upice 76.80 333 *e*P **P 13 12 44.8 +0.8**
NRDL Niedersach Rie 76.82 337 *e*P 13 12 44.3
comp=Z,17nm,0.9s,baz=27,slow=5.6
TPGR Topolog 76.83 322 ⇑P **P 13 12 45.0 +0.7**
DPC Dobruska-Polom 76.84 332 *e*P **P 13 12 44.9 +0.7**
DPC Dobruska-Polom 76.84 332 *e*P **P 13 12 44.9 +0.7**
DPC Dobruska-Polom 76.84 332 P P 13 12 44.6 +0.4
comp=Z,29nm,1.2s
KRLC Kraliky 76.93 332 *e*P **P 13 12 45.5 +0.8**
KRLC Kraliky 76.93 332 *e*P **P 13 12 45.5 +0.8**
MORC Moravsky Berou 76.93 331 ⇓P **P 13 12 45.8 +1.0**
MORC Moravsky Berou 76.93 331 *e*P **P 13 12 45.2 +0.4**
MORC Moravsky Berou 76.93 331 ⇓P **P 13 12 45.8 +1.0**
OZUR 76.93 325 ⇑P **P 13 12 46.2 +1.4**
ASUD Al Ashush, Dub 76.94 292 P P 13 12 46.0 +0.8
COVR Voineasa-Covas 76.97 324 ⇑P **P 13 12 45.7 +0.7**
CMSA Cobar Meteorol 76.97 185 P P 13 12 47.8 +3.0
KECS Kecovo 77.00 329 *e*P **P 13 12 46.2 +1.1**
KECS pmax pmax
comp=Z,30nm,0.9s
KECS Kecovo 77.00 329 *e*P **P 13 12 46.2 +1.1**
CLL Collm 77.04 335 ⇑*i*P **P 13 12 45.3 0.0**
CLL pmax pmax
comp=Z,61nm,1.0s
CLL MLR MLR
comp=Z,500nm,19.9s
CLL Collm 77.04 335 P P 13 12 45.8 +0.5
comp=Z,65nm,1.0s
CLL Collm 77.04 335 *e*P 13 12 45.2
comp=Z,38nm,0.9s,baz=27,slow=5.6
P38A Dawn 77.06 46 IAmb IAmb 13 12 46.4
comp=Z,23nm,1.2s
BRG Berggiesshubel 77.14 334 ⇑*i*P **P 13 12 46.0 +0.1**
BRG Amp 13 12 47.8
comp=Z,20nm,1.0s
BRG Berggiesshubel 77.14 334 P P 13 12 49.9 +4.1
BRG Amp 13 12 51.4
comp=Z,8.8nm,1.0s
BRG Berggiesshubel 77.14 334 ⇑*i*P **P 13 12 45.9 +0.1**
BRG 13 12 56.8
BRG pmax pmax
comp=Z,20nm,1.0s
BRG MLR MLR
comp=N,200nm,17.5s
BRG MLR MLR
comp=E,185nm,20.2s
BRG MLR MLR
comp=Z,350nm,19.3s
BRG Berggiesshubel 77.14 334 *e*P 13 12 45.9
comp=Z,12nm,0.9s,baz=27,slow=5.6
GLMI Grayling 77.16 37 P P 13 12 44.3 -1.8
baz=324
HARR Harsova 77.17 322 ⇓P **P 13 12 46.7 +0.6**
HARR Harsova 77.17 322 ⇓P **P 13 12 46.7 +0.6**
EKA Eskdalemuir Ar 77.18 345 P P 13 12 46.1 +0.2
comp=Z,2.1nm,0.3s,baz=17,slow=5.0,SNR=28
comp=Z,2.1nm,0.3s
MESR Meseseni 77.19 327 ⇑P **P 13 12 48.1 +1.9**
K43A Burlington 77.20 41 IAmb IAmb 13 13 41.9
comp=Z,18nm,1.1s
DOPR Dopca 77.20 325 ⇓P **P 13 12 47.8 +1.5**
TLBR Topalu 77.24 322 ⇓P **P 13 12 46.7 +0.2**
CBBR Cluj-Babes-Bol 77.28 326 ⇑P **P 13 12 44.9 -1.8**
VLDQ Val d'Or 77.29 31 IAmb IAmb 13 12 46.5
comp=Z,22nm,1.1s
CJR Cluj-Napoca 77.30 326 ⇑P **P 13 12 47.6 +0.7**
CJR Cluj-Napoca 77.30 326 ⇑P **P 13 12 47.6 +0.7**
CLZ Clausthal 77.33 337 *e*P 13 12 46.9
comp=Z,31nm,0.9s,baz=27,slow=5.6
CLZ *ep*P 13 12 52.0
MLR Muntele Rosu 77.36 324 ⇓P **P 13 12 48.3 +0.9**
MLR Muntele Rosu 77.36 324 LR LR 13 49 30.3
comp=Z,283nm,18.7s,baz=38,slow=38
MLR Muntele Rosu 77.36 324 ⇓P **P 13 12 48.3 +0.9**
MLR Muntele Rosu 77.36 324 P P 13 12 46.1 -1.3
comp=Z,40nm,1.2s,comp=Z,350nm
MFTR Murfatlar 77.37 322 ⇑P **P 13 12 48.0 +0.7**
ISR Istrita 77.41 324 P P 13 12 48.1 +0.5
comp=Z,91nm,1.1s
NEUB Neuenburg 77.49 335 *e*P 13 12 48.2
comp=Z,39nm,1.0s,baz=27,slow=5.6
MARR Marisel-Cluj 77.52 326 ⇓P **P 13 12 49.3 +1.1**
HSKC Hora Svate Kat 77.53 334 *e*P **P 13 12 48.8 +0.7**
VYHS Vyhne 77.58 330 *e*P **P 13 12 49.2 +0.8**
VYHS pmax pmax
comp=Z,43nm,1.1s
VYHS Vyhne 77.58 330 *e*P **P 13 12 49.2 +0.8**
DRGR 77.58 327 P P 13 12 49.4 +0.9
POST Post 77.59 55 IAmb IAmb 13 12 50.3
comp=Z,13nm,1.0s
IBBN Ibbenburen 77.62 338 *e*P 13 12 49.0
comp=Z,29nm,0.8s,baz=27,slow=5.6
STKA Stephens Creek 77.65 189 LR LR 13 46 41.3
comp=Z,193nm,21.1s,baz=8.2,slow=35
VRAC Vranov 77.65 332 ⇑P **P 13 12 49.8 +1.0**
VRAC Vranov 77.65 332 *e*P **P 13 12 49.4 +0.7**
VRAC Vranov 77.65 332 LR LR 13 51 29.8
comp=Z,334nm,19.0s,baz=20,slow=39
VRAC Vranov 77.65 332 ⇑P **P 13 12 49.8 +1.0**

JAVC **Velka Javorina** 77.67 331 *e*P P 13 12 50.3 +1.4
OK051 **E0350 and S346** 77.67 50 IAmb IAmb 13 12 50.0
comp=Z,18nm,0.9s
OK048 **Pawnee Station** 77.68 50 IAmb IAmb 13 12 50.1
comp=Z,19nm,1.0s
PRA **Prague** 77.69 333 *e*P P 13 12 50.2 +1.3
PRA **Prague** 77.69 333 *e*P P 13 12 50.2 +1.3
PSZ **Piszkesteto** 77.69 329 ⇑P P 13 12 49.9 +0.8
PSZ **Piszkesteto** 77.69 329 ⇑P P 13 12 49.9 +0.8
GTTG **Gottingen** 77.71 337 *e*P 13 12 49.1
comp=Z,24nm,0.9s,baz=27,slow=5.6
GOPC **GO Pecny, Ondr** 77.71 333 *e*P P 13 12 49.9 +0.8
GOPC **GO Pecny, Ondr** 77.71 333 *e*P P 13 12 49.9 +0.8
PRU **Pruhonice** 77.72 333 *e*P P 13 12 49.8 +0.7
PRU AMS AMS 13 50 40.0
comp=Z,500nm,12.9s
PRU **Pruhonice** 77.72 333 *e*P P 13 12 49.8 +0.7
PRU MLR MLR
comp=Z,500nm,12.9s
VOIR 77.77 325 ⇓P P 13 12 50.9 +1.3
VOIR 77.77 325 ⇓P P 13 12 50.9 +1.3
L44A **Lake County Fo** 77.80 41 P P 13 12 48.8 -0.9
baz=322
P40A **Paris** 77.87 45 IAmb IAmb 13 12 51.1
comp=Z,20nm,1.0s
WMOK **Wichita Mounta** 77.91 52 P P 13 12 48.4 -2.1
baz=318
KRUC **Moravsky** 77.93 332 *e*P P 13 12 50.8 +0.5
QUOK **Quay** 77.99 50 IAmb IAmb 13 12 52.0
comp=Z,26nm,1.1s
TANN **Tannenbergstha** 77.99 335 *e*P 13 12 51.2
comp=Z,7.3nm,0.9s,baz=27,slow=5.6
ARR **Arges** 78.00 325 ⇓P P 13 12 52.5 +1.7
MOX **Moxa** 78.04 335 *e*P 13 12 51.3
comp=Z,17nm,0.9s,baz=27,slow=5.6
SMOL **Smolenice** 78.05 331 *e*P P 13 12 52.6 +1.6
SMOL pmax pmax
comp=Z,27nm,1.0s
OK052 **Battle Ridge R** 78.07 50 IAmb IAmb 13 12 52.5
comp=Z,27nm,1.1s
OK031 **S. Brethren Rd** 78.08 50 IAmb IAmb 13 12 52.5
comp=Z,29nm,1.2s
APMT **Aspermont** 78.19 54 IAmb IAmb 13 12 53.2
comp=Z,15nm,1.1s
MODS **Modra-Piesok** 78.22 331 *e*P P 13 12 55.5 +3.5
MODS pmax pmax
comp=Z,114nm,1.1s
MODS **Modra-Piesok** 78.22 331 *e*P P 13 12 55.5 +3.5
DEV **Deva** 78.26 326 ⇑P P 13 12 53.3 +1.1
DEV **Deva** 78.26 326 ⇑P P 13 12 53.3 +1.1
SRO **Srobarova** 78.34 330 *e*P P 13 12 54.1 +1.5
SRO pmax pmax
comp=Z,57nm,1.1s
SRO **Srobarova** 78.34 330 *e*P P 13 12 54.1 +1.5
UBBA **Unterbreizbach** 78.35 336 *e*P 13 12 52.7
comp=Z,5.3nm,0.8s,baz=27,slow=5.6
M44A **Midewin, Midew** 78.36 41 IAmb IAmb 13 12 53.5
comp=Z,25nm,1.0s
SIRR **Siria** 78.42 327 ⇓P P 13 12 53.7 +0.6
HDIL **Hopedale** 78.42 43 P P 13 12 52.7 -0.5
baz=322,SNR=6.7
ZST **Bratislava** 78.43 331 *e*P P 13 12 54.5 +1.4
ZST pmax pmax
comp=Z,86nm,1.1s
ZST **Bratislava** 78.43 331 *e*P P 13 12 54.5 +1.4
KASTN **Kahler Asten** 78.44 337 *e*P 13 12 53.5
comp=Z,25nm,0.9s,baz=27,slow=5.6
BR131 **Keskin Array S** 78.46 316 IAmb IAmb 13 12 55.5
comp=Z,28nm,1.1s
BR131 **Keskin Array S** 78.46 316 *c i*P P 13 12 54.0 +0.4
BRTR **Keskin Array B** 78.46 316 P P 13 12 53.6 0.0
BRTR **Keskin Array B** 78.46 316 P P 13 12 54.2 +0.6
comp=Z,14nm,0.9s,baz=70,slow=4.1,SNR=66
BRTR LR LR 13 52 48.8
comp=Z,309nm,19.1s,baz=40,slow=40
comp=Z,14nm,0.9s
BR106 **Keskin Array S** 78.47 316 P P 13 12 53.8 +0.2
comp=Z,18nm,1.1s,comp=Z,147nm
BR104 **Keskin Array S** 78.47 316 P P 13 12 53.8 +0.1
comp=Z,20nm,1.1s,comp=Z,158nm
BR105 **Keskin Array S** 78.48 316 P P 13 12 53.8 +0.1
comp=Z,21nm,1.1s,comp=Z,167nm
MANZ **Manzenberg** 78.48 335 *e*P 13 12 53.9
comp=Z,4.1nm,0.9s,baz=27,slow=5.6
MANZ *e*pP 13 12 58.4
BUG **Bochum--Univer** 78.53 338 *e*P 13 12 54.0
comp=Z,30nm,0.9s,baz=27,slow=5.6
LPIG **La Paz** 78.56 67 LR LR 13 43 29.0
comp=Z,53nm,18.2s,baz=316,slow=33
PRD **Provadia** 78.62 322 P P 13 12 54.0 -0.2
ROTZ **Rotzenmuhle** 78.64 334 *e*P 13 12 54.9
comp=Z,4.2nm,0.9s,baz=27,slow=5.6
ROTZ *e*pP 13 12 59.2
SURR **Surduc** 78.67 327 ⇑P P 13 12 53.6 -0.8
TUL3 **Leonard** 78.68 50 IAmb IAmb 13 12 55.7
comp=Z,17nm,1.2s
TUL3 **Leonard** 78.68 50 P P 13 12 54.7 0.0
baz=319
R40A **Maddies Statio** 78.71 46 IAmb IAmb 13 12 55.4
comp=Z,17nm,1.0s
GZR **Gura Zlata** 78.72 326 ⇓P P 13 12 55.2 +0.4
GZR **Gura Zlata** 78.72 326 ⇓P P 13 12 55.2 +0.4
ANTO **Ankara** 78.76 317 ⇑P P 13 12 56.5 +1.4
ANTO **Ankara** 78.76 317 P P 13 12 55.3 +0.1
ANTO **Ankara** 78.76 317 P P 13 12 55.3 +0.1
ANTO pmax pmax
comp=Z,38nm,0.9s
ANTO **Ankara** 78.76 317 P P 13 12 55.4 +0.2
comp=Z,22nm,1.1s,comp=Z,227nm
COPA **Copaceanca** 78.77 324 ⇓P P 13 12 55.3 +0.3
KHC **Kasperske Hory** 78.78 333 *e*P P 13 12 55.9 +0.9
KHC *ex* x 13 13 00.0
KHC **Kasperske Hory** 78.78 333 *ce*P P 13 12 56.0 +0.9
KHC pmax pmax
comp=Z,161nm,1.3s
KHC **Kasperske Hory** 78.78 333 P P 13 12 55.7 +0.7
comp=Z,59nm,1.3s,comp=Z,515nm
CKRC **Cesky Krumlov** 78.82 333 *e*P P 13 12 55.8 +0.5
CKRC **Cesky Krumlov** 78.82 333 *e*P P 13 12 55.8 +0.5
ABTX **Abilene, Hawle** 78.98 54 P P 13 12 56.4 -0.1
baz=318
WET **Wettzell** 78.99 334 *e*P 13 12 56.9
comp=Z,30nm,0.9s,baz=27,slow=5.6
GEC2 **GERESS Array S** 78.99 333 IAmb IAmb 13 12 57.7
comp=Z,23nm,1.0s
GERES **GERESS Array B** 78.99 333 P P 13 12 55.4 -0.9
GERES **GERESS Array B** 78.99 333 P P 13 12 56.8 +0.5
comp=Z,7.4nm,0.8s,baz=33,slow=5.1,SNR=43
comp=Z,7.4nm,0.8s
GEC2 **GERESS Array S** 78.99 333 *e*P 13 12 56.5
comp=Z,14nm,0.9s,baz=27,slow=5.6
GRF **Grafenberg Arr** 79.00 335 *e*P 13 12 56.7
comp=Z,38nm,0.8s,baz=27,slow=5.6
GRFO **Grafenberg** 79.00 335 P P 13 12 56.6 +0.4
GRFO **Grafenberg** 79.00 335 P P 13 12 56.6 +0.4
GRFO pmax pmax
comp=Z,61nm,1.0s
TXAR **Lajitas Array** 79.01 59 P P 13 12 56.5 -0.3
TXAR **Lajitas Array** 79.01 59 P P 13 12 56.9 +0.1
comp=Z,6.2nm,1.0s,baz=297,slow=3.6,SNR=24
comp=Z,6.2nm,1.0s
CONA **Conrad Observa** 79.09 331 *e*pP P 13 12 57.7 +0.9
comp=Z,30nm,1.0s,SNR=26
RONA **Rosalia, Austr** 79.14 331 *e*pP P 13 12 58.0 +1.0
comp=Z,36nm,1.1s,SNR=26
SZH **Strazhitsa** 79.16 323 P P 13 12 56.0 -1.2
MPLH **Magyarpolny** 79.16 330 P P 13 12 57.7 +0.6
comp=Z,143nm,1.2s,comp=Z,1um
MZR **Muzera** 79.28 292 *i*P P 13 12 58.6 +0.4
SNR=9.6
HERR **Herculane** 79.28 326 ⇓P P 13 12 57.8 0.0
TNS **Taunus Mts** 79.32 337 *e*P 13 12 58.7
comp=Z,23nm,0.9s,baz=27,slow=5.6
AHRW **Bad Neuenahr-A** 79.40 338 *e*P 13 12 59.0
comp=Z,33nm,1.0s,baz=27,slow=5.6
CCM **Cathedral Cave** 79.41 46 P P 13 12 57.6 -1.0
CCM IAmb IAmb 13 12 59.4
comp=Z,23nm,1.1s
CCM **Cathedral Cave** 79.41 46 P P 13 12 57.7 -1.0
baz=321
CCM **Cathedral Cave** 79.41 46 P P 13 12 57.6 -1.0
CCM pmax pmax
comp=Z,23nm,1.1s
SADO **Sadowa** 79.45 34 LR LR 13 50 38.1
comp=Z,80nm,19.9s,baz=269,slow=38
ELND **Elena** 79.47 323 ⇓P P 13 12 59.2 +0.3

BEBN **Eben Emael** 79.53 339 *d*P P 13 12 59.1 +0.1
L48A **N Adams** 79.56 39 IAmb IAmb 13 13 00.4
comp=Z,16nm,1.0s
FW03 **Perrin-Whitt E** 79.57 53 IAmb IAmb 13 13 00.7
comp=Z,26nm,1.3s
MGMO **Mountain Grove** 79.58 47 IAmb IAmb 13 12 60.0
comp=Z,18nm,1.3s
MORH **Mrgy, Hungar** 79.59 329 ⇑P P 13 12 58.2 -1.2
MORH **Mrgy, Hungar** 79.59 329 P P 13 12 59.2 -0.2
comp=Z,19nm,1.2s
PLPT **Palo Pinto** 79.59 53 IAmb IAmb 13 13 00.9
comp=Z,21nm,1.3s
SFIN **Lafayette** 79.60 42 IAmb IAmb 13 13 00.4
comp=Z,19nm,1.1s
SFIN **Lafayette** 79.60 42 P P 13 12 58.4 -1.2
baz=323,SNR=6.1
BTNL **Ternell** 79.61 338 *d*P P 13 12 59.7 +0.2
comp=Z,22nm,1.0s
MEM **Membach** 79.62 338 *d*P P 13 12 60.0 +0.4
comp=Z,35nm,1.0s
MDVR **Moldovita** 79.64 326 ⇓P P 13 13 00.0 +0.2
MOA **Molln** 79.68 332 *i*pP P 13 13 00.3 +0.3
comp=Z,17nm,1.0s,SNR=8.0
BSTI **Sart Tilman** 79.75 339 *d*P P 13 13 01.2 +0.9
comp=Z,8.1nm,1.2s
ARSA **Arzberg** 79.79 331 *e*pP P 13 13 01.2 +0.6
comp=Z,17nm,1.1s,SNR=14
N47A **Urbana** 79.84 40 IAmb IAmb 13 13 02.0
comp=Z,20nm,1.1s
Q44A **Meyer Farm, Va** 79.85 44 IAmb IAmb 13 13 01.9
comp=Z,29nm,1.1s
RAR **Rarotonga** 79.85 135 LR LR 13 41 20.6
comp=Z,152nm,21.9s,baz=300,slow=30
BHOU **Houvegnez** 79.85 338 *d*P P 13 13 01.6 +0.7
comp=Z,17nm,1.0s
FVM **French Village** 79.87 45 IAmb IAmb 13 13 02.0
comp=Z,14nm,0.9s
TRQ **Mont Tremblant** 79.94 31 IAmb IAmb 13 13 02.0
comp=Z,17nm,1.0s
BCLA **Clavier** 79.97 339 *d*P P 13 13 01.6 +0.1
comp=Z,21nm,1.1s
MPEP **Malo Peshtene** 80.02 324 P P 13 13 02.0 +0.2
BIOA **Bad Ischl, Aus** 80.03 333 *e*pP P 13 13 02.4 +0.6
comp=Z,29nm,1.1s,SNR=21
FRGS **Fruska Gora** 80.05 328 ⇓P P 13 13 02.6 +0.6
FRGS **Fruska Gora** 80.05 328 P P 13 13 01.7 -0.3
comp=Z,63nm,1.2s,comp=Z,647nm
BGES **Gesves** 80.06 339 *d*P P 13 13 02.0 0.0
comp=Z,20nm,1.0s
BMRD **Maredsous** 80.22 339 *d*P P 13 13 02.6 -0.2
comp=Z,30nm,1.1s
RCHB **Rochefort** 80.23 339 *d*P P 13 13 03.2 +0.4
comp=Z,20nm,1.2s
RJOB **Jochberg** 80.26 333 *e*P 13 13 03.6
comp=Z,13nm,0.9s,baz=27,slow=5.6
RJOB *e*pP 13 13 08.0
STU **Stuttgart** 80.42 336 IAmb IAmb 13 13 05.5
comp=Z,28nm,1.0s
STU **Stuttgart** 80.42 336 *e*P 13 13 04.5
comp=Z,49nm,0.9s,baz=27,slow=5.6
OLIL **Olney** 80.42 43 IAmb IAmb 13 13 05.2
comp=Z,21nm,1.1s
WLF **Walferdange** 80.45 338 *d*P P 13 13 01.7 -2.3
DOU **Dourbes** 80.45 339 *d*P P 13 13 04.4 +0.3
SOKA **Soboth** 80.45 331 *e*pP P 13 13 04.5 +0.2
comp=Z,46nm,1.1s,SNR=28
PERS **Pernice** 80.46 331 *i*P P 13 13 04.5 +0.3
JCT **Junction City** 80.47 56 IAmb IAmb 13 13 06.4
comp=Z,24nm,1.2s
JCT **Junction City** 80.47 56 P P 13 13 04.2 -0.4
baz=318,SNR=6.5
N49A **Columbus Grove** 80.49 39 IAmb IAmb 13 13 05.3
comp=Z,20nm,1.1s
PGB **Panagyurishte** 80.53 323 P P 13 13 05.0 +0.3
LESA **Schwarzleotal** 80.57 333 *e*pP P 13 13 05.4 +0.5
comp=Z,35nm,1.1s
O48B **Farmland** 80.59 40 IAmb IAmb 13 13 05.5
comp=Z,26nm,1.0s
O48B **Farmland** 80.59 40 P P 13 13 03.7 -1.3
baz=324,SNR=10
BOVS **Bovan** 80.60 326 ⇑P P 13 13 04.4 -0.6
FCAR **Ozark Folk Cen** 80.63 48 IAmb IAmb 13 13 05.6
comp=Z,17nm,1.0s
KBA **Koelnbreinsper** 80.66 333 *e*pP P 13 13 06.2 +0.7
comp=Z,58nm,1.2s,SNR=28
WHTX **Lake Whitney,** 80.69 54 IAmb IAmb 13 13 07.0
comp=Z,24nm,1.2s
WHTX **Lake Whitney,** 80.69 54 P P 13 13 05.3 -0.4
baz=319
DRIO **Del Rio** 80.76 57 IAmb IAmb 13 13 08.0
comp=Z,25nm,1.1s
OBKA **Obir** 80.76 331 *e*pP P 13 13 05.9 0.0
comp=Z,9.8nm,0.9s,SNR=8.1
CGM3 **Cape Girardeau** 80.79 45 IAmb IAmb 13 13 06.9
comp=Z,20nm,1.2s
PBMO **Poplar Bluff** 80.81 46 IAmb IAmb 13 13 08.5
comp=Z,22nm,1.0s
GOLS **Golise** 80.83 331 *i*P P 13 13 06.2 0.0
VTS **Vitosha** 80.83 324 P P 13 13 06.0 -0.4
PLNA **Plana** 80.87 324 P P 13 13 07.0 +0.4
MIAR **Mount Ida** 80.89 49 IAmb IAmb 13 13 07.8
comp=Z,20nm,0.9s
MIAR **Mount Ida** 80.89 49 P P 13 13 06.3 -0.4
baz=320,SNR=21
MYKA **Terra Mystica** 80.96 332 *e*pP P 13 13 06.8 -0.1
comp=Z,14nm,1.2s,SNR=8.9
WATA **Walderalm** 80.99 334 *i*pP P 13 13 07.8 +0.6
comp=Z,40nm,1.1s,SNR=21
WHAR **Wooly Hollow** 81.00 48 IAmb IAmb 13 13 08.0
comp=Z,26nm,1.0s
O49A **Covington** 81.02 40 IAmb IAmb 13 13 08.1
comp=Z,27nm,1.4s
WTTA **Wattenberg** 81.04 334 *i*pP P 13 13 08.2 +0.7
comp=Z,23nm,0.7s,SNR=22
D62A **Allapoint, All** 81.04 27 IAmb IAmb 13 13 22.6
comp=Z,42nm,1.8s
BFO **Black Forest** 81.07 336 P P 13 13 06.7 -0.7
BFO **Black Forest** 81.07 336 P P 13 13 06.7 -0.7
BFO pmax pmax
comp=Z,37nm,1.1s
BFO **Black Forest** 81.07 336 *e*P 13 13 08.0
comp=Z,21nm,0.9s,baz=27,slow=5.6
P48A **Milroy** 81.10 41 IAmb IAmb 13 13 08.4
comp=Z,19nm,1.1s
RETA **Reutte** 81.11 334 *i*pP P 13 13 08.3 +0.5
comp=Z,21nm,1.1s,SNR=13
MOTA **Moosalm** 81.13 334 *i*pP P 13 13 08.3 +0.4
comp=Z,45nm,1.1s
PRED **Cave del Predi** 81.15 332 IAmb IAmb 13 13 08.6
comp=Z,22nm,1.1s
LJU **Ljubljana** 81.18 331 *i*P P 13 13 07.8 -0.3
SQTA **Sankt Quirin** 81.21 334 *i*pP P 13 13 08.9 +0.6
comp=Z,29nm,1.0s,SNR=16
ABTA **Abfaltersbach** 81.22 333 *e*P P 13 13 08.0 -0.4
comp=Z,18nm,1.2s,SNR=9.6
LONY **Lake Ozonia** 81.31 31 P P 13 13 07.9 -0.9
baz=329
ERPA **Erie** 81.31 36 P P 13 13 08.2 -0.6
baz=326
P49A **Miami Univ. Ec** 81.37 41 IAmb IAmb 13 13 10.0
comp=Z,31nm,1.2s
P49A **Miami Univ. Ec** 81.37 41 P P 13 13 08.4 -0.8
baz=324
KKB **Krupnik** 81.52 324 P P 13 13 09.0 -0.9
FETA **Feichten** 81.54 334 *i*pP P 13 13 10.6 +0.5
comp=Z,19nm,1.2s,SNR=12
DAVA **Damuels** 81.56 335 *e*pP P 13 13 10.5 +0.3
comp=Z,20nm,1.1s,SNR=6.9
ACSO **Alum Creek Sta** 81.58 39 IAmb IAmb 13 13 11.2
comp=Z,18nm,1.1s
ACSO **Alum Creek Sta** 81.58 39 P P 13 13 09.8 -0.5
baz=325
STAL **STALIGIAL** 81.59 333 IAmb IAmb 13 13 10.4
comp=Z,17nm,1.1s
M53A **Wi Miller and** 81.59 37 P P 13 13 09.9 -0.4
baz=326
WCI **Wyandotte Cave** 81.68 42 P P 13 13 10.1 -0.7
WCI IAmb IAmb 13 13 12.0
comp=Z,25nm,1.1s
WCI **Wyandotte Cave** 81.68 42 P P 13 13 10.7 -0.2
baz=323
WCI **Wyandotte Cave** 81.68 42 P P 13 13 10.1 -0.7
WCI pmax pmax
comp=Z,25nm,1.1s
BATG **Bathurst New B** 81.78 25 IAmb IAmb 13 13 12.4
comp=Z,14nm,0.9s
F62A **Pittston Farm,** 81.80 28 IAmb IAmb 13 13 12.4
comp=Z,13nm,0.9s
EZN **Ezine** 81.80 321 P P 13 13 11.1 -0.3
comp=Z,45nm,1.2s
DAVOX **Davos/Dischmat** 82.01 335 LR LR 13 53 07.1
comp=Z,366nm,20.2s,baz=79,slow=38
FUORN **Ofenpass-Fuorn** 82.04 334 IAmb IAmb 13 13 15.0
comp=Z,25nm,1.1s
N53A **Lisbon** 82.04 37 IAmb IAmb 13 13 13.7
comp=Z,26nm,1.1s
CTI **Castel Tesino** 82.12 333 IAmb IAmb 13 13 13.7
comp=Z,21nm,1.1s
J58A **Remsen** 82.13 32 IAmb IAmb 13 13 13.6
comp=Z,16nm,1.1s
O52A **Adamsville** 82.18 38 IAmb IAmb 13 13 14.3
comp=Z,24nm,1.1s
T47A **Sharon Grove** 82.28 44 IAmb IAmb 13 13 15.3
comp=Z,23nm,1.0s
833A **Chaparral WMA,** 82.30 57 P P 13 13 14.3 +0.1
baz=318
O53A **New Philadelph** 82.34 38 IAmb IAmb 13 13 15.1
comp=Z,20nm,1.1s
O53A **New Philadelph** 82.34 38 P P 13 13 13.9 -0.4
baz=326
M55A **Ridgway** 82.36 36 IAmb IAmb 13 13 15.5
comp=Z,29nm,1.2s
PPT **Papeete** 82.39 125 LR LR 13 41 41.0
comp=Z,246nm,21.8s,baz=320,slow=30
NATX **Nacogdoches** 82.42 52 P P 13 13 14.9 +0.1
baz=320
TUE **Stuetta** 82.45 335 IAmb IAmb 13 13 16.8
comp=Z,31nm,1.1s
TUE **Stuetta** 82.45 335 P P 13 13 15.4 +0.4
comp=Z,94nm,1.1s
P52A **Corning** 82.45 39 P P 13 13 14.1 -0.7
baz=326
H62A **Milan** 82.56 29 IAmb IAmb 13 13 16.6
comp=Z,20nm,0.9s
PKME **Peaks-Kenny Pk** 82.58 28 P P 13 13 14.6 -0.7
baz=333
LBNH **Lisbon** 82.59 30 P P 13 13 15.3 -0.2
baz=331
WVT **Waverly** 82.61 45 P P 13 13 15.0 -0.7
WVT IAmb IAmb 13 13 16.8
comp=Z,14nm,0.9s
WVT **Waverly** 82.61 45 P P 13 13 15.8 +0.1
baz=323
WVT **Waverly** 82.61 45 P P 13 13 15.0 -0.7
WVT pmax pmax
comp=Z,14nm,1.0s
PUK **Puka** 82.66 326 IAmb IAmb 13 13 31.4
comp=Z,36nm,1.5s
ACCN **Adirondack Com** 82.71 31 IAmb IAmb 13 13 18.6
comp=Z,15nm,1.2s
MMAI **Mount Meron Ar** 82.74 311 P P 13 13 17.1 +0.6
comp=Z,21nm,1.0s,baz=59,slow=4.1,SNR=14
MMAI LR LR 13 54 38.9
comp=Z,653nm,20.4s,baz=330,slow=39
comp=Z,21nm,1.0s
BINY **Binghamton** 82.85 34 P P 13 13 16.3 -0.6
baz=329
OXF **Oxford** 83.09 47 P P 13 13 18.4 +0.2
baz=322,SNR=5.5
L59A **Walton** 83.22 33 IAmb IAmb 13 13 19.6
comp=Z,27nm,1.1s
U49A **Red Boiling Sp** 83.30 43 IAmb IAmb 13 13 20.4
comp=Z,19nm,0.9s
T50A **Nancy** 83.34 42 IAmb IAmb 13 13 20.6
comp=Z,20nm,0.9s
CLTN **Cedars of Leba** 83.37 44 IAmb IAmb 13 13 20.9
comp=Z,21nm,0.9s
SSPA **Standing Stone** 83.42 36 P P 13 13 18.8 -1.0
baz=328
MCWV **Mont Chateau** 83.42 37 P P 13 13 19.6 -0.2
baz=327
LMN **Caledonia Moun** 83.44 25 IAmb IAmb 13 13 20.9
comp=Z,13nm,0.9s
HBVL **Hebbronville** 83.66 58 IAmb IAmb 13 13 23.9
comp=Z,20nm,1.1s
L61B **Northampton** 83.88 31 P P 13 13 21.2 -0.9
baz=331
RAYN **Ar Rayn** 84.00 298 P P 13 13 23.1 0.0
RAYN **Ar Rayn** 84.00 298 *i*P P 13 13 24.0 +0.9
SNR=12
RAYN **Ar Rayn** 84.00 298 P P 13 13 23.1 0.0
RAYN pmax pmax
comp=Z,31nm,1.2s
GUMA **Gualdo di Mace** 84.20 331 IAmb IAmb 13 13 27.1
comp=Z,36nm,1.0s
HRV **Adam Dziewonsk** 84.23 31 P P 13 13 23.7 -0.3
baz=331
VBMS **Vicksburg** 84.31 49 P P 13 13 24.4 -0.1
baz=322
TZTN **Tazewell** 84.33 42 IAmb IAmb 13 13 26.9
comp=Z,14nm,1.1s
TZTN **Tazewell** 84.33 42 P P 13 13 24.2 -0.4
baz=325
X48A **Hartselle** 84.33 45 IAmb IAmb 13 13 25.1
comp=Z,8.3nm,0.8s
R55A **Marlinton** 84.45 38 IAmb IAmb 13 13 26.5
comp=Z,24nm,1.2s
OSSC **Osservatorio P** 84.50 332 IAmb IAmb 13 13 27.0
comp=Z,12nm,0.8s
W50A **Signal Mountai** 84.58 44 IAmb IAmb 13 13 26.8
comp=Z,12nm,0.8s
PAL **Palisades** 84.67 33 P P 13 13 25.9 -0.3
baz=330
CPCT **Cooper Cave** 84.76 43 IAmb IAmb 13 13 28.2
comp=Z,16nm,0.9s
V52A **Sevierville** 84.88 42 IAmb IAmb 13 13 28.6
comp=Z,18nm,1.0s
INTR **Introdacqua** 84.93 330 IAmb IAmb 13 13 39.4
comp=Z,19nm,1.0s
TKL **Tuckaleechee C** 84.95 42 IAmb IAmb 13 13 29.2
comp=Z,18nm,1.0s
TKL **Tuckaleechee C** 84.95 42 LR LR 13 50 46.2
comp=Z,246nm,21.9s,baz=334,slow=35
FPAL **Fort Paine** 84.97 44 IAmb IAmb 13 13 28.6
comp=Z,15nm,1.0s
Y49A **Blount Mountai** 85.12 45 IAmb IAmb 13 13 29.2
comp=Z,15nm,0.9s
U54A **Nelsons Funny** 85.15 40 IAmb IAmb 13 13 29.3
comp=Z,23nm,1.2s
BLA **Blacksburg** 85.20 39 IAmb IAmb 13 13 30.1
comp=Z,20nm,1.1s
BLA **Blacksburg** 85.20 39 P P 13 13 28.7 -0.3
baz=327
LRAL **Lakeview Retre** 85.48 46 P P 13 13 30.0 -0.4
baz=323
EIL **Elat** 85.57 309 LR LR 13 56 40.6
comp=Z,234nm,18.6s,baz=69,slow=39
Y52A **Lilburn** 86.27 43 IAmb IAmb 13 13 35.5
comp=Z,13nm,0.9s
TIP **Timpagrande** 86.34 326 P P 13 13 34.9 +0.2
KMSC **Kings Mountain** 86.51 41 IAmb IAmb 13 13 36.4
comp=Z,12nm,1.0s
KMSC **Kings Mountain** 86.51 41 P P 13 13 35.0 -0.4
baz=326
URZ **Urewera** 86.60 160 LR LR 13 46 21.8
comp=Z,227nm,21.1s,baz=36,slow=32
HODGE **Hodges** 86.83 42 IAmb IAmb 13 13 38.4
comp=Z,16nm,1.2s
152A **Waverly Hall** 86.92 45 IAmb IAmb 13 13 38.3
comp=Z,12nm,1.0s
GOGA **Godfrey** 86.92 43 P P 13 13 37.0 -0.4
baz=325
BRAL **Brewton** 86.95 47 P P 13 13 37.9 +0.2
baz=323
V58A **Windy Hill, Pi** 86.96 39 IAmb IAmb 13 13 38.9
comp=Z,20nm,1.2s
CEST **Esterri de Car** 88.27 339 IAmb IAmb 13 13 51.3
comp=Z,24nm,1.1s
TIGA **Tifton** 88.47 45 P P 13 13 45.4 +0.5
baz=325,SNR=5.0
VAE **Valguarnera** 88.72 327 LR LR 13 58 31.6
comp=Z,261nm,18.4s,baz=331,slow=39
NHSC **New Hope** 88.73 41 P P 13 13 46.3 +0.2
baz=327
KEST **Kesra** 92.13 330 P P 13 14 02.0 0.0
comp=Z,12nm,0.9s,baz=311,slow=2.9,SNR=14
KEST LR LR 13 59 25.1
comp=Z,238nm,21.1s,baz=346,slow=38
comp=Z,12nm,0.9s
ESDC **Sonseca Array** 92.30 341 P P 13 14 02.0 -0.7
comp=Z,3.1nm,1.0s,baz=9.6,slow=4.0,SNR=12
ESDC LR LR 14 01 35.9
comp=Z,219nm,18.9s,baz=24,slow=40
comp=Z,3.1nm,1.0s
ATD **Arta Tunnel** 94.54 291 LR LR 14 02 25.2

comp=Z,5.7nm,18.5s,baz=62,slow=39
MDT Midelt 99.00 340 LR LR 14 05 44.1
comp=Z,130nm,19.7s,baz=19,slow=39
FURI Furi 99.21 293 LR LR 14 04 39.7
comp=Z,192nm,19.9s,baz=23,slow=39
HDC Heredia 105.50 58 *eP* **Pdif 13 15 04.2 +1.6**
TORD Torodi Ar. Bea 115.49 327 PKP **PKiKP 13 19 33.5 -1.2**
comp=Z,0.5nm,0.9s,baz=17,slow=6.2,SNR=3.6
VNDA Vanda 123.02 177 PKP **PKPdf 13 19 46.5 -0.8**
comp=Z,1.9nm,1.0s,baz=314,slow=1.0,SNR=5.9
DBIC Dimbokro 123.83 331 PKP **PKPdf 13 19 49.3 -1.5**
comp=Z,4.6nm,1.0s,baz=318,slow=6.1,SNR=3.4
CZSB Cruzeiro do Su 126.40 59 *eP* **PKPdf 13 19 55.2 -0.4**
TEFE Tefe 127.51 48 *eP* **PKPdf 13 19 57.4 -0.4**
MCPB Macapa, AP 130.37 32 *eP* **PKPdf 13 20 03.6 +0.3**
ETMB Extrema 131.88 54 PKPdf 13 20 04.8 -1.3
ETMB Extrema 131.88 54 *eP* **PKiKP 13 20 08.3 +1.2**
ITTB Itaituba 132.53 38 *eP* **PKPdf 13 20 07.6 +0.2**
QSPA South Pole Qui 135.34 180 PKP **PKPdf 13 20 11.7 +0.7**
comp=Z,6.4nm,1.0s,baz=339,slow=1.1,SNR=11
LPAZ La Paz 135.84 62 PKP **PKPdf 13 20 14.2 0.0**
comp=Z,2.3nm,0.8s,baz=13,slow=6.1,SNR=8.9
LPAZ La Paz 135.84 62 *eP* **PKPdf 13 20 14.0 -0.2**
PRPB Paraupebas 136.56 32 *eP* **PKiKP 13 20 16.6 0.0**
VILB Vilhena 137.78 50 *eP* **PKiKP 13 20 18.7 -0.4**
CLDB Colider 138.24 43 *eP* **PKiKP 13 20 19.2 -0.8**
H03N2 Juan Fernandez 139.83 91 T T 15 56 00.4
baz=307,slow=77,SNR=32
H03N3 Juan Fernandez 139.85 91 T T 15 56 01.3
baz=307,slow=77,SNR=30
H03N1 Juan Fernandez 139.85 91 T T 15 56 01.8
baz=307,slow=77,SNR=13
SMTB Santa Maria do 139.85 30 *eP* **PKiKP 13 20 22.5 -0.8**
PTLB Pontes e Lacer 140.42 51 *eP* **PKiKP 13 20 23.5 -0.8**
ELIB Princess Elisa 144.30 205 *d*PKPdf PKPbc 13 20 25.9 +0.2
ELIB *dp*PKPdf sPKPdf 13 20 39.7 -0.2
ARAG Araguaiana, MT 144.32 41 *eP* **PKPdf 13 20 30.1 +1.3**
NBLA Lagarto - SE 144.59 16 *eP* PKPbc 13 20 28.2 +0.2
RVDE Rio Verde (Bra 145.61 48 *eP* **PKPab 13 20 31.9 +0.4**
BDFB Brasilia 145.90 35 PKPbc **PKPbc 13 20 32.4 +0.1**
comp=Z,8.9nm,0.8s,baz=139,slow=0.6,SNR=12
MURT Porto Murtinho 146.26 55 *eP* **PKPbc 13 20 33.5 +0.4**
AQDB Aquidauana 146.39 51 *eP* **PKPbc 13 20 33.5 0.0**
JANB Januaria 146.74 29 *eP* **PKPbc 13 20 35.3 +0.6**
IPMB Ipameri, GO 147.92 37 *eP* **PKPbc 13 20 36.9 -1.0**
NVL N'lazarevskaya 148.15 204 *e*PKIKP **PKPdf 13 20 33.5 -0.1**
NVL *e*PPP PPP 13 27 31.6
NVL *e*SS SS 13 43 14.1 +4.0
NVL pmax pmax
comp=Z,28nm,1.0s
ITRB Iturama 148.47 42 *eP* **PKPbc 13 20 39.4 +0.1**
PLCA Paso Flores 149.18 96 PKPbc **PKPbc 13 20 40.5 -0.1**
comp=Z,9.5nm,0.8s,baz=244,slow=3.4,SNR=4.9
TROLL Troll, Antarti 149.77 199 ⇑PKPdf **PKiKP 13 20 41.9 -0.2**
comp=Z,1μm,0.8s
CPUP Villa Florida 149.98 60 PKPbc **PKPbc 13 20 42.9 0.0**
comp=Z,11nm,0.9s,baz=323,slow=3.6,SNR=18
SNAA Sanae 151.15 196 ⇑PKPdf **PKPbc 13 20 43.5 -0.8**
comp=Z,160nm,0.8s
SNAA Sanae 151.15 196 PKPbc **PKPbc 13 20 44.2 -0.2**
comp=Z,8.0nm,0.9s,baz=134,slow=1.8,SNR=21
VNA2 Neumayer--Watz 152.62 195 ⇑PKPdf **PKPdf 13 20 44.3 +3.7**
comp=Z,4.7nm,0.5s,baz=2.0,slow=0.9
VNA3 Neumayer Olymp 152.74 193 ⇑PKPdf **PKPbc 13 20 47.9 0.0**
comp=Z,5.4nm,0.7s
VNA1 Neumayer--Stat 153.01 195 ⇑PKPdf **PKiKP 13 20 48.8 +0.2**
comp=Z,0.5nm,0.4s

*IDC **29** 13:05:27.9±2.1,4°.59N×126°.84E,h102km±19km,mb3.6/9, mbtmp3.9/10,MS3.0/1,Error ellipse: s-maj=75.1km s-min=13.0km az=69.0*
*NEIC **29** 13:05:27.9±1.6,4°.35N±0°.08×126°.9E±0°.1,h82km±9km, mb4.3/13,Error ellipse: s-maj=22.0km s-min=10.2km az=73.0*
*DJA **29** 13:05:29.3±0.5,4°N±3°×12°7E±°,h14km±4km,M4.1/11, mb4.3/7,mB4.9/2,MLv4.0/11,Mw(mB)4.2/2*
ISC 29 13:05:25.9±0.6,4°.33N±0°.06×126°.8E±0°.1,h81km,n40, σ1§81/44,mb4.0/14,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.96**	**337**	Pn	**Pn**	**13 06 13.0**	**+2.3**
DAV	**Davao City (W)**	**2.96**	**337**	P	**Pn**	**13 06 12.2**	**+1.4**
	189nm,0.4s,baz=64,slow=22,SNR=2.9						
DAV				S	**Sn**	**13 06 43.9**	**-1.4**
	178nm,0.4s,baz=45,slow=13,SNR=1.9						
DAV				LR	LR	13 07 20.6	
	comp=Z,250nm,18.9s,baz=114,slow=41						
TNTI	**Ternate**	**3.59**	**170**	Pn	**Pn**	**13 06 19.7**	**+0.4**
TNTI	**Ternate**	**3.59**	**170**	P	**Pn**	**13 06 17.8**	**-1.5**
TNTI				S	**Sn**	**13 06 55.6**	**-5.0**
KMSI	**Cibinong**	**4.65**	**217**	P	**Pn**	**13 06 34.1**	**+0.4**
GTOI	**Gorontalo**	**5.24**	**226**	P	**Pn**	**13 06 42.3**	**+0.5**
SANI	**Sanana**	**6.38**	**187**	P	**Pn**	**13 06 55.5**	**-1.9**
	17nm,0.7s,960nm0.1nm						
LUWI	**Luwuk**	**6.66**	**217**	Pn	**Pn**	**13 07 03.2**	**+2.1**
LUWI	**Luwuk**	**6.66**	**217**	P	**Pn**	**13 07 05.6**	**+4.5**
TOLI2	**Tolitoli**	**6.77**	**242**	Pn	**Pn**	**13 07 01.6**	**-1.1**
NLAI	**Namlea**	**7.53**	**177**	P	**Pn**	**13 07 12.9**	**-0.1**
MYLDM	**Lahad Datu**	**8.27**	**276**		**Pn**	**13 07 24.5**	**+1.4**
FAKI	**Fak Fak**	**9.06**	**143**	Pn	**Pn**	**13 07 33.5**	**-0.4**
MTN	**Manton Dam**	**17.61**	**166**	P	**P**	**13 09 24.4**	**-1.6**
MTN				IAmb	IAmb	13 09 26.0	
	comp=Z,7.1nm,0.6s						
KNRA	**Kununurra**	**19.98**	**174**	P	**P**	**13 09 53.4**	**+1.5**
KNRA				IAmb	IAmb	13 09 55.5	
	comp=Z,6.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.32**	**183**	P	**P**	**13 10 19.2**	**+2.2**
WB0	**Warramunga Arr**	**25.10**	**163**	P	**P**	**13 10 44.6**	**+1.3**
WB0				IAmb	IAmb	13 10 46.4	
	comp=Z,14nm,0.5s						
WRAB	**Tennant Creek**	**25.24**	**163**	P	**P**	**13 10 46.0**	**+1.4**
WRAB				IAmb	IAmb	13 10 47.9	
	comp=Z,9.6nm,0.6s						
WRA	**Warramunga Arr**	**25.25**	**163**	P	**P**	**13 10 46.1**	**+1.5**
	comp=Z,6.3nm,0.6s,baz=343,slow=10,SNR=63						
WRA				PcP	**PcP**	**13 14 17.5**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=343,slow=2.3,SNR=1.1						
	comp=Z,6.3nm,0.6s						
WB2	**Warramunga Arr**	**25.25**	**163**	P	**P**	**13 10 45.7**	**+1.1**
WB2				IAmb	IAmb	13 10 48.0	
	comp=Z,10nm,0.7s						
WR0	**Warramunga Arr**	**25.32**	**163**	P	**P**	**13 10 46.9**	**+1.6**
WR0				IAmb	IAmb	13 10 48.6	
	comp=Z,7.1nm,0.9s						
AS31	**Alice Springs**	**28.69**	**166**	P	**P**	**13 11 16.6**	**+1.1**
ASAR	**Alice Springs**	**28.69**	**166**	P	**P**	**13 11 16.7**	**+1.3**
ASAR	**Alice Springs**	**28.69**	**166**	P	**P**	**13 11 16.9**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=348,slow=7.4,SNR=28						
ASAR				PcP	**PcP**	**13 14 25.9**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=349,slow=2.4,SNR=6.7						
	comp=Z,0.5nm,0.4s						
FORT	**Forrest**	**34.94**	**178**	P	**P**	**13 12 12.0**	**+1.9**
STKA	**Stephens Creek**	**38.68**	**160**	P	**P**	**13 12 43.5**	**+1.6**
	comp=Z,1.7nm,0.4s,baz=94,slow=7.1,SNR=3.1						
	comp=Z,1.7nm,0.4s						
SONM	**Songino Array**	**46.74**	**341**	P	**P**	**13 13 45.4**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=141,slow=7.1,SNR=2.3						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**57.08**	**325**	P	**P**	**13 15 05.7**	**+1.9**
MKAR	**Makanchi Array**	**57.08**	**325**	P	**P**	**13 15 01.7**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=119,slow=9.1,SNR=3.8						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**61.25**	**327**	P	**P**	**13 15 30.4**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=125,slow=6.4,SNR=5.2						
	comp=Z,0.4nm,0.6s						
TCW	**Tory Channel**	**62.69**	**141**	P	**P**	**13 15 42.3**	**0.0**
BVAR	**Borovoye Array**	**66.83**	**327**	P	**P**	**13 16 08.2**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=123,slow=5.3,SNR=2.6						
	comp=Z,1.0nm,0.7s						
IMAR	**Indian Mountai**	**81.79**	**24**	P	**P**	**13 17 35.5**	**-0.2**
G21K	**Allakaket**	**81.96**	**23**	P	**P**	**13 17 37.9**	**+1.3**
B21K	**Ikpikpuk River**	**82.00**	**20**	P	**P**	**13 17 37.4**	**+0.7**
B21K				IAmb	IAmb	13 17 39.6	
	comp=Z,6.2nm,1.4s						
MLY	**Manley**	**82.93**	**25**	P	**P**	**13 17 42.9**	**+1.2**
RC01	**Rabbit Creek A**	**83.09**	**29**	P	**P**	**13 17 44.0**	**+1.4**
ILAR	**Eielson Array**	**84.55**	**25**	P	**P**	**13 17 47.5**	**-2.4**
	comp=Z,0.5nm,0.9s,baz=251,slow=5.3,SNR=3.2						
	comp=Z,0.5nm,0.9s						
BMAR	**Burnt Mountain**	**85.52**	**23**	P	**P**	**13 17 55.7**	**+0.9**
ARCES	**ARCESS Array B**	**89.89**	**340**	P	**P**	**13 18 13.5**	**-2.2**
	comp=Z,0.5nm,0.7s,baz=82,slow=6.7,SNR=1.2						
	comp=Z,0.5nm,0.7s						

IDC 29 13:05:35.0±6.1,9°.60S×150°.27E,h0km,mb3.2/2, mbtmp3.2/3,ML2.8/1,Error ellipse: s-maj=170.9km s-min=37.2km az=113.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.50**	**234**	P	P	13 09 52.1	-0.8
	baz=55,slow=10,SNR=2.7						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**20.98**	**226**	P	P	13 10 19.4	-0.7
	0.3nm,0.7s,baz=60,slow=9.6,SNR=2.4						
	0.3nm,0.7s						
SONM	**Songino Array**	**69.11**	**330**	P	P	13 16 43.6	+0.5
	0.7nm,0.7s,baz=126,slow=3.7,SNR=4.1						
	0.7nm,0.7s						

*IDC **29** 13:49:04.2±1.4,32°.45S×71°.61W,h0km,mb4.2/5, mbtmp4.0/9,ML3.7/4,MS3.2/1,Error ellipse: s-maj=56.3km s-min=22.3km az=103.0*
*NEIC **29** 13:49:06.3±0.8,32°.50S±0°.04×71°.94W±0°.06,h16km±7km, mb4.3/4,ML3.9(GUC),Error ellipse: s-maj=7.6km s-min=5.0km az=55.0*
*GUC **29** 13:49:07.8±0.8,32°.52S×71°.84W,h24km±15km,ML3.9*
ISC 29 13:49:05.8±1.4,32°.49S±0°.03×71°.88W±0°.05,h16km±9km, n82,σ0§77/87,mb4.2/7,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.49**	**99**		**Pb**	**13 49 17.1**	**+1.0**
VA06	**Catapilco**	**0.49**	**99**	*eP*	**Pn**	**13 49 17.2**	**-0.9**
VA06				*i* S	**Sb**	**13 49 23.2**	**+0.2**
VA06				IAML		13 49 24.7	
	comp=N,19μm,0.5s						
VA01	**Torpederas**	**0.57**	**160**		**Pb**	**13 49 17.7**	**+0.4**
VA01	**Torpederas**	**0.57**	**160**	*eP*	**Pb**	**13 49 17.9**	**+0.5**
VA01				*i* S	**Sb**	**13 49 25.4**	**+0.2**
ROCH	**El Roble**	**0.87**	**124**	*eP*	**Pg**	**13 49 23.0**	**+0.2**
ROCH				*i* S	**Sg**	**13 49 34.2**	**-0.2**
ROCH				IAML		13 49 38.6	
	comp=E,6μm,0.6s						
VA03	**San Esteban**	**1.15**	**104**		**Pb**	**13 49 27.1**	**-0.2**
VA03	**San Esteban**	**1.15**	**104**	*eP*	**Pb**	**13 49 27.3**	**0.0**
VA03				*i* S	**Sn**	**13 49 42.1**	**-0.7**
VA03				IAML		13 49 43.6	
	comp=N,6μm,0.4s						
VA05	**Santo Domingo**	**1.19**	**169**		**Pn**	**13 49 27.8**	**+0.1**
PEL	**Peldehue**	**1.20**	**123**	*eP*	**Pn**	**13 49 28.0**	**+0.1**
PEL				*i* S	**Sn**	**13 49 43.3**	**-0.5**
PEL				IAML		13 49 46.5	
	comp=N,5μm,0.3s						
MT05	**Renca**	**1.31**	**134**		**Pg**	**13 49 31.2**	**+0.1**
MT05	**Renca**	**1.31**	**134**	*eP*	**Pg**	**13 49 31.4**	**+0.2**
MT05				*i* S	**Sg**	**13 49 48.3**	**+0.1**
MT05				IAML		13 49 52.7	
	comp=E,4μm,0.4s						
MT10	**Hacienda Santa**	**1.37**	**125**	*eP*	**Pb**	**13 49 31.3**	**+0.1**
MT10				*i* S	**Sb**	**13 49 48.3**	**-0.2**
MT10				IAML		13 49 57.4	
	comp=N,5μm,0.4s						
MT01	**Popeta**	**1.47**	**159**		**Pn**	**13 49 32.1**	**+0.5**
MT01	**Popeta**	**1.47**	**159**	*eP*	**Pn**	**13 49 32.0**	**+0.4**
MT01				*i* S	**Sn**	**13 49 50.0**	**-0.4**
MT01				IAML		13 49 55.1	
	comp=E,2μm,0.3s						
MT16	**CCHEN**	**1.47**	**130**		**Pn**	**13 49 32.3**	**+0.6**
CO02	**Combarbal**	**1.48**	**30**		**Pb**	**13 49 33.0**	**0.0**
CO02	**Combarbal**	**1.48**	**30**	*eP*	**Pb**	**13 49 33.3**	**+0.3**
CO02				*i* S	**Sb**	**13 49 52.5**	**+0.9**
MT09	**Talagante**	**1.48**	**150**		**Pn**	**13 49 32.5**	**+0.5**
MT09	**Talagante**	**1.48**	**150**	*eP*	**Pn**	**13 49 32.7**	**+0.7**
MT09				*i* S	**Sb**	**13 49 51.5**	**-0.3**
MT09				IAML		13 49 56.5	
	comp=N,2μm,0.3s						
MT03	**Universidad Ad**	**1.52**	**131**		**Pn**	**13 49 33.1**	**+0.7**
MT03	**Universidad Ad**	**1.52**	**131**	*eP*	**Pb**	**13 49 33.3**	**-0.4**
MT03				*i* S	**Sb**	**13 49 52.5**	**-0.3**
MT03				IAML		13 49 57.0	
	comp=E,5μm,0.7s						
FCH	**Farellones**	**1.57**	**123**	*eP*	**Pb**	**13 49 34.3**	**-0.4**
FCH				*i* S	**Sb**	**13 49 53.9**	**-0.6**
MT15	**Las Vizcachas**	**1.60**	**134**	*eP*	**Pb**	**13 49 34.6**	**-0.3**
MT15				*i* S	**Sb**	**13 49 55.0**	**+0.1**
MT04	**Ro Olivares**	**1.72**	**122**	*eP*	**Pn**	**13 49 36.2**	**+0.9**
MT04				*i* S	**Sb**	**13 49 58.2**	**-0.5**
CO06	**Fray Jorge**	**1.82**	**7**		**Pn**	**13 49 36.8**	**+0.4**
MT13	**San Alfonso**	**1.83**	**134**		**Pn**	**13 49 37.8**	**+1.1**
MT13	**San Alfonso**	**1.83**	**134**	*eP*	**Pb**	**13 49 38.3**	**-0.6**
MT13				*i* S	**Sb**	**13 50 01.0**	**-0.7**
MT13				IAML		13 50 05.7	
	comp=N,2μm,0.4s						
MT08	**Bocatoma Ro**	**1.83**	**122**		**Pb**	**13 49 38.0**	**-1.0**
MT08	**Bocatoma Ro**	**1.83**	**122**	*eP*	**Pb**	**13 49 38.1**	**-0.9**
MT08				*i* S	**Sb**	**13 50 01.2**	**-0.6**
BO04	**La Punta**	**1.83**	**145**		**Pn**	**13 49 37.6**	**+1.0**
CO03	**El Pedregal**	**1.93**	**32**		**Pb**	**13 49 39.7**	**-0.9**
LMEL	**Las Melosas**	**1.95**	**134**		**Pn**	**13 49 39.7**	**+1.3**
LMEL	**Las Melosas**	**1.95**	**134**	*eP*	**Pb**	**13 49 40.1**	**-0.9**
LMEL				*i* S	**Sb**	**13 50 04.5**	**-0.6**
BO01	**Tunca**	**2.01**	**161**		**Pn**	**13 49 39.7**	**+0.7**
BO02	**Sierra Bellavi**	**2.47**	**159**		**Pn**	**13 49 46.0**	**+0.6**
GO04	**Tololo Observa**	**2.49**	**22**		**Pn**	**13 49 47.0**	**+1.2**
GO05	**Huala**	**2.52**	**181**		**Pn**	**13 49 45.5**	**-0.5**
CO05	**La Serena**	**2.62**	**12**		**Pn**	**13 49 48.2**	**+0.9**
ZON	**Zonda**	**2.87**	**72**	Pn	**Pn**	**13 49 52.6**	**+1.6**
CO01	**Juntas del Tor**	**2.93**	**32**		**Pn**	**13 49 53.5**	**+1.5**
ML02	**Panimavida**	**3.29**	**173**		**Pn**	**13 49 56.7**	**+0.1**
LCO	**Las Campanas**	**3.61**	**17**		**Pn**	**13 50 02.0**	**+0.7**
BI02	**San Fabin de**	**4.19**	**173**	Pn	**Pn**	**13 50 09.8**	**+0.6**
AC04	**Llanos de Chal**	**4.33**	**9**		**Pn**	**13 50 10.8**	**-0.1**
GO03	**Copiap**	**5.08**	**17**	Pn	**Pn**	**13 50 21.4**	**+0.1**
AC06	**Mina Casimiro**	**5.28**	**15**		**Pn**	**13 50 23.9**	**-0.1**
H03N1	**Juan Fernandez**	**5.99**	**259**	T	T	13 57 04.8	
	baz=87,slow=73,SNR=621						
H03N3	**Juan Fernandez**	**6.00**	**259**	T	T	13 57 05.4	
	baz=87,slow=73,SNR=594						
H03N2	**Juan Fernandez**	**6.01**	**259**	T	T	13 57 07.0	
	baz=87,slow=73,SNR=516						
H03S3	**Juan Fernandez**	**6.05**	**255**	T	T	13 56 58.6	
	baz=82,slow=75,SNR=55						
H03S1	**Juan Fernandez**	**6.05**	**255**	T	T	13 56 57.2	
	baz=82,slow=75,SNR=45						
H03S2	**Juan Fernandez**	**6.06**	**255**	T	T	13 56 58.1	
	baz=82,slow=75,SNR=60						
AC01	**Pan de Azucar**	**6.42**	**10**	Pn	**Pn**	**13 50 37.8**	**-1.8**
GO06	**Curarrehue**	**7.09**	**177**	Pn	**Pn**	**13 50 49.5**	**+0.6**
LR04	**Corral**	**7.48**	**189**	Pn	**Pn**	**13 50 54.2**	**+0.1**
GO02	**Mina Guanaco**	**7.57**	**16**	Pn	**Pn**	**13 50 54.7**	**-1.0**
PLCA	**Paso Flores**	**8.30**	**173**	Pn	**Pn**	**13 51 05.6**	**+0.2**
PLCA	**Paso Flores**	**8.30**	**173**	Pn	**Pn**	**13 51 06.2**	**+0.8**
	comp=N,0.3nm,0.3s,baz=345,slow=7.8,SNR=3.1						
	comp=N,0.7nm,0.3s						
TRQA	**Tornquist**	**9.81**	**127**	Pn	**Pn**	**13 51 27.2**	**+1.0**
LVC	**Limon Verde**	**10.19**	**16**	Pn	**Pn**	**13 51 32.3**	**+0.6**
LVC	**Limon Verde**	**10.19**	**16**	Pn	**Pn**	**13 51 28.6**	**-3.1**
	comp=N,0.2nm,0.3s,baz=193,slow=14,SNR=1.6						
LVC				LR	LR	13 55 41.3	
	comp=N,144nm,19.7s,baz=196,slow=39						
	comp=N,0.8nm,0.3s						
LPAZ	**La Paz**	**16.48**	**13**		**Pn**	**13 52 57.8**	**+0.8**
LPAZ	**La Paz**	**16.48**	**13**	Pn	**Pn**	**13 52 57.9**	**+0.9**
	comp=N,0.4nm,0.3s,baz=180,slow=8.6,SNR=12						
	comp=N,1.6nm,0.5s						
SIV	**San Ignacio**	**19.13**	**33**	P	**P**	**13 53 27.1**	**-1.2**
	baz=208,slow=9.3,SNR=9.5						
	comp=N,1.9nm,0.8s						
ETMB	**Extrema**	**23.16**	**14**	P	**P**	**13 54 12.0**	**+0.4**
ETMB				IAmb	IAmb	13 54 14.9	
	comp=Z,6.3nm,0.9s						
BDFB	**Brasilia**	**27.39**	**58**	P	**P**	**13 54 49.7**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=241,slow=8.4,SNR=3.5						
	comp=Z,1.9nm,0.7s						
BOAV	**Boa Vista**	**36.32**	**19**	P	**P**	**13 56 09.0**	**+0.1**
QSPA	**South Pole Qui**	**57.74**	**180**	P	**P**	**13 58 56.7**	**+1.0**
	comp=Z,1.6nm,1.0s,baz=186,slow=11,SNR=3.4						
	comp=Z,1.6nm,1.0s						
WVT	**Waverly**	**69.88**	**346**	P	**P**	**14 00 15.9**	**+0.3**
WVT				IAmb	IAmb	14 00 28.0	
	comp=Z,2.2nm,0.7s						
DBIC	**Dimbokro**	**74.57**	**72**	P	**P**	**14 00 44.1**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=225,slow=6.5,SNR=3.8						
	comp=Z,1.7nm,0.5s						
BOSA	**Boshof**	**80.65**	**118**	P	**P**	**14 01 18.1**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=225,slow=7.1,SNR=2.9						
	comp=Z,2.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P	**P**	**14 01 33.6**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=277,slow=2.6,SNR=14						
	comp=Z,1.9nm,0.7s						
H11S2	**WAKE ISLAND Hyl**	**25.92**	**270**	T	T	16 27 09.1	
	baz=118,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hyl**	**25.93**	**270**	T	T	16 27 06.6	
	baz=118,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hyl**	**25.93**	**270**	T	T	16 27 07.4	
	baz=118,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hyl**	**26.29**	**272**	T	T	16 27 33.5	
	baz=118						
H11N1	**WAKE ISLAND Hyl**	**26.31**	**272**	T	T	16 27 34.9	
	baz=119						
H11N2	**WAKE ISLAND Hyl**	**26.31**	**272**	T	T	16 27 36.3	
	baz=118						
BVAR	**Borovoye Array**	**146.07**	**41**	PKPbc	**PKPab**	**14 08 45.5**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=289,slow=2.4,SNR=10						
KURBB	**Kurchatov Arra**	**151.66**	**42**	PKPbc	**PKPbc**	**14 08 59.3**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=301,slow=3.0,SNR=12						
ZALV	**Zalesovo Beam**	**152.87**	**31**	PKPbc	**PKPbc**	**14 09 01.9**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=318,slow=1.9,SNR=8.9						
MKAR	**Makanchi Array**	**155.65**	**47**	PKPab	**PKPab**	**14 09 24.5**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=309,slow=3.5,SNR=5.9						

*NEIC **29** 13:54:06.6±2.0,31°.89N±0°.02×115°.86W±0°.03,h23km±9km, Error ellipse: s-maj=3.2km s-min=2.7km az=72.0*
*IDC **29** 13:54:07.0±2.1,32°.05N×115°.75W,h0km,mb3.6/2, mbtmp3.4/8,ML3.7/4,MS3.0/6,Error ellipse: s-maj=32.6km s-min=9.5km az=46.0*
*ECX **29** 13:54:07.3±0.5,31°.90N×115°.82W,h0km±2km,MD4.1, ML4.3,Fault plane solution: NP1:φ0±12.00000°, δ88.00000°,λ-22.00000°.*
*PAS **29** 13:54:07.3±3.1,31°.90N±0°.02×115°.85W±0°.02,h7km±5km, Mwr4.0/7,mb3.9/5(NEIC),ML4.2/55(NEIC),Error ellipse: s-maj=3.0km s-min=2.5km az=62.0*
*NEIC **29** 13:54:07,31°.90N×115°.85W,h5km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.79; $M_{\theta\theta}$-0.17; $M_{\phi\phi}$0.95; $M_{r\theta}$-0.27; $M_{\theta\phi}$-0.97; $M_{\phi r}$-0.37; Fault plane solution: $M_0$1.35000×10^{15} NP1:φ±115.00000°, δ55.00000°,λ-145.00000°. NP2:φ±3.00000°,δ62.00000°, λ-41.00000°. Principal axes: T 1.5269, Plg5.0000°, Azm61.0000°; N -0.3487, Plg42.0000°, Azm155.0000°; P -1.1782, Plg48.0000°, Azm326.0000°;*
*ANF **29** 13:54:07.8±0.6,32°.00N×115°.79W,h13km±3km,ML4.2/40 Error ellipse: s-maj=4.5km s-min=2.7km az=0.0*
*MEX **29** 13:54:08.4±0.9,31°.95N×115°.81W,h5km,MD4.3*
ISC 29 13:54:07.1±0.8,31°.91N±0°.02×115°.81W±0°.02,h9km±5km, n186,σ1§20/218,mb4.0/3,28C-24D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALAMX	**Rancho Alamar**	**0.13**	**41**	⇑*iP*	**Pg**	**13 54 10.0**	**-0.1**
ALAMX				*eS*	**Sg**	**13 54 12.1**	**0.0**
ESJX	**Sierra Juarez**	**0.15**	**308**		**Pg**	**13 54 10.2**	**-0.4**
SJX	**San Joaquin**	**0.20**	**222**	⇓*iP*	**Pg**	**13 54 10.3**	**-0.9**
SJX				*eS*	**Sg**	**13 54 12.7**	**-1.2**
RSLU	**Rancho San Lui**	**0.21**	**352**	⇓*iP*	**Pg**	**13 54 11.3**	**-0.2**
RSLU				*eS*	**Sg**	**13 54 14.3**	**-0.2**
OJOX	**Ej. Ojos Negro**	**0.25**	**258**	⇑*iP*	**Pg**	**13 54 12.0**	**-0.3**
OJOX				*eS*	**Sg**	**13 54 15.5**	**-0.3**
RACA	**Rancho agua Ca**	**0.43**	**285**	⇑*iP*	**Pg**	**13 54 15.5**	**-0.1**
RACA				*eS*	**Sg**	**13 54 21.7**	**+0.3**
VTX	**Valle De La Tr**	**0.52**	**178**		**Sg**	**13 54 24.1**	**0.0**
VTX	**Valle De La Tr**	**0.52**	**178**		**Pg**	**13 54 16.6**	**-0.5**
VTX	**Valle De La Tr**	**0.52**	**178**	IAML		13 54 25.0	
	comp=N,7μm,0.4s						
VTX				IAML		13 54 25.1	
	comp=E,16μm,0.6s						
VTX	**Valle De La Tr**	**0.52**	**178**	⇓*iP*	**Pg**	**13 54 16.8**	**-0.4**
VTX				*eS*	**Sg**	**13 54 24.0**	**0.0**
VTX				⇑*e*		13 54 25.1	
VTX				IAML		13 54 25.1	
	comp=E,13μm,0.2s						
AGSX	**Ej. Aguas Cali**	**0.65**	**57**	⇑*iP*	**Pb**	**13 54 20.3**	**-0.3**
AGSX				*eS*	**Sb**	**13 54 30.1**	**+0.2**
JARAX	**Ej. Heriberto**	**0.65**	**17**	⇑*iP*	**P

TKX	Tecate	0.94	314			Sg	13 54 36.9	-0.7
TKX	Tecate	0.94	314	IAML			13 54 38.3	
	comp=E,6μm,0.1s							
TKX				IAML			13 54 38.7	
	comp=N,5μm,0.2s							
TKX	Tecate	0.94	314	⇓	*i* P	Pg	13 54 23.9	-1.4
TKX					*e* S	Sg	13 54 36.2	-1.4
CRR	Carrizo Plain	0.98	352			Pg	13 54 25.5	-0.6
SWSC	Sam W. Stewart	1.03	0			Pg	13 54 26.2	-0.8
SWSC						Sb	13 54 40.5	-0.3
SWSC	Sam W. Stewart	1.03	0	P		Pg	13 54 26.2	-0.8
	baz=182,SNR=1000							
SWSC				S		Sg	13 54 39.7	-0.7
	baz=182							
SWSC	Sam W. Stewart	1.03	0	⇓	*i* P	Pg	13 54 26.1	-0.8
SLRCX	San Luis Rio C	1.08	59	⇑	*e* P	Pg	13 54 26.6	-1.3
MONP2	Monument Peak	1.11	332	P		Pg	13 54 27.4	-1.0
	baz=154,SNR=1000							
MONP2				S		Sg	13 54 41.8	-1.1
	baz=154							
MONP2	Monument Peak	1.11	332	⇓	*i* P	Pg	13 54 27.5	-1.0
COA	Coachella	1.11	31			Pg	13 54 27.3	-1.2
OLP	Otay Lakes Par	1.18	306	⇓	*i* P	Pg	13 54 28.0	-1.8
SFX	San Felipe	1.19	137			Sg	13 54 45.4	-0.2
SFX	San Felipe	1.19	137			Pb	13 54 29.3	-0.5
SFX	San Felipe	1.19	137	IAML			13 54 46.3	
	comp=E,10μm,0.2s							
SFX				IAML			13 54 46.4	
	comp=N,18μm,0.6s							
SFX	San Felipe	1.19	137	*e* P		Pb	13 54 29.4	-0.5
SFX				*e* S		Sg	13 54 44.9	-0.6
SFX	San Felipe	1.19	137	⇓	*i* P	Pb	13 54 28.2	-1.7
TJX	Tijuana	1.22	300	Pg		Pg	13 54 29.2	-1.3
TJX	Tijuana	1.22	300	⇓	*i* P	Pg	13 54 29.1	-1.3
SDRC	San Diego Road	1.27	311	⇓	*i* P	Pb	13 54 29.5	-1.7
EML	El Monte Cty P	1.31	318	⇓	*i* P	Pn	13 54 30.2	-1.4
CORX	Isla Coronado	1.32	293	⇓	*i* P	Pn	13 54 30.8	-1.0
CORX				*e* S		Sb	13 54 48.0	-1.1
SQX	San Quintin	1.33	183	⇓	*i* P	Pn	13 54 30.4	-1.4
SQX				*e* S		Sb	13 54 47.8	-1.6
SQX				⇑	*e*		13 54 51.5	
SQX				IAML			13 54 51.5	
	comp=N,7μm,0.3s							
SQX				IAML			13 54 51.9	
	comp=E,7μm,0.3s							
SQX				⇑	*e*		13 54 51.9	
SLH	Sleepy Hollow	1.33	344	⇓	*i* P	Pn	13 54 30.9	-1.0
GLA	Glamis	1.41	36	IAML			13 54 53.3	
	comp=N,3μm,0.5s							
GLA				IAML			13 55 00.0	
	comp=E,3μm,0.9s							
GLA	Glamis	1.41	36	P		Pn	13 54 31.4	-1.6
	baz=217,SNR=332							
GLA				S		Sb	13 54 50.2	-1.5
	baz=217							
GLA	Glamis	1.41	36	⇑	*i* P	Pn	13 54 31.4	-1.6
BOMB	Bombay Beach	1.45	3			Pn	13 54 32.4	-1.1
MATG	Mataguay Scout	1.47	331	⇓	*i* P	Pn	13 54 33.5	-0.4
109C	Camp Elliot, M	1.47	312			Pn	13 54 32.7	-1.1
109C				IAML			13 54 52.0	
	comp=E,5μm,0.3s							
109C				IAML			13 54 53.8	
	comp=N,5μm,0.2s							
109C	Camp Elliot, M	1.47	312	P		Pn	13 54 32.7	-1.1
	baz=133,SNR=423							
109C				S		Sn	13 54 51.6	-1.5
	baz=133							
BC3	Big Chuckawall	1.77	10	P		Pn	13 54 37.0	-0.9
	baz=191,SNR=177							
BC3				S		Sn	13 54 58.8	-1.8
	baz=191							
PFO	Pinyon Flats O	1.78	342			Pn	13 54 37.1	-1.1
PFO				IAML			13 55 05.5	
	comp=N,1μm,0.6s							
PFO	Pinyon Flats O	1.78	342	P		Pn	13 54 37.2	-1.1
	baz=163,SNR=675							
PFO				S		Sb	13 55 01.4	-1.1
	baz=163							
PFO	Pinyon Flats O	1.78	342	Pg		Pn	13 54 37.1	-1.1
	comp=N,44nm,0.3s,baz=158,slow=16,SNR=186							
PFO				Lg		Lg	13 55 01.2	
	comp=N,110nm,0.3s,baz=225,slow=12,SNR=14							
113A	Mohawk Valley,	1.93	63			Pn	13 54 39.0	-1.0
PPXB	Puerto Peasco	1.94	107	⇑	*i* P	Pn	13 54 37.9	-2.3
PIX	Pinacate	2.03	99	⇑	*i* P	Pn	13 54 39.2	-2.3
MURC	Murrieta	2.05	326	P		Pn	13 54 41.5	-0.3
	baz=146,SNR=532							
MURC				Sb		Sb	13 55 09.7	-0.5
	baz=146							
BELC	Belle Mtn. Jos	2.09	356	P		Pn	13 54 41.8	-0.6
	baz=177,SNR=232							
BELC				S		Sn	13 55 07.8	-0.8
	baz=177							
BLYC	Blythe	2.13	30			Pn	13 54 42.0	-0.8
BLYC				IAML			13 55 22.4	
	comp=E,1μm,0.8s							
BLYC				IAML			13 55 23.8	
	comp=N,2μm,0.8s							
ELS	Elsinore Mount	2.21	322	Pn		Pn	13 54 43.9	-0.1
ELS				IAML			13 55 16.2	
	comp=E,1μm,0.5s							
ELS				IAML			13 55 22.0	
	comp=N,1μm,0.7s							
IRM	Iron Mountain	2.31	14	P		Pn	13 54 44.8	-0.5
	baz=195,SNR=67							
SLGB	San Luis Gonza	2.40	149	⇓	*e* P	Pn	13 54 45.2	-1.3
BBRC	Big Bear Solar	2.53	339	P		Pn	13 54 48.6	+0.1
	baz=159,SNR=156							
214A	Organ Pipe Nat	2.55	88			Pn	13 54 46.8	-1.8
214A	Organ Pipe Nat	2.55	88	P		Pn	13 54 46.9	-1.8
	baz=270,SNR=47							
214A	Organ Pipe Nat	2.55	88	*i* P		Pn	13 54 46.8	-1.8
214A				*i* S		Sn	13 55 12.3	-7.5
214A	Organ Pipe Nat	2.55	88	⇑	*i* P	Pn	13 54 46.9	-1.8
SCI2	San Clemente I	2.55	295	P		Pn	13 54 47.5	-1.1
	baz=115,SNR=15							
CIS	Catalina Islan	2.66	305	P		Pn	13 54 49.3	-0.8
	baz=124,SNR=19							
CIS				S		Sn	13 55 21.7	-0.7
	baz=124							
FMP	Fort Macarthur	2.76	311	P		Pn	13 54 51.0	-0.5
	baz=131							
FMP				S		Sn	13 55 25.6	+0.7
	baz=131							
PDMCI	Parker Dam,Lak	2.77	30	P		Pn	13 54 50.4	-1.2
	baz=211,SNR=16							
BFSC	Mount Baldy Ra	2.79	327	P		Pn	13 54 51.6	-0.5
	baz=147,SNR=167							
BFSC				Sb		Sb	13 55 33.1	+1.4
	baz=147							
GMRC	Granite Mounta	2.87	2	P		Pn	13 54 52.7	-0.5
	baz=183,SNR=24							
HEC	Hector,Ludlow	2.94	351	P		Pn	13 54 53.7	-0.4
	baz=172,SNR=19							
PASC	Pasadena Art C	3.01	319			Pn	13 54 54.5	-0.5
PASC				IAML			13 55 38.7	
	comp=N,482nm,0.7s							
PASC				IAML			13 55 43.7	
	comp=E,468nm,0.9s							
NEE2	Needles Airpor	3.02	19	P		Pn	13 54 54.8	-0.3
	baz=200							
RRX	Edison Barstow	3.12	342	P		Pn	13 54 56.4	-0.1
	baz=162,SNR=71							
DECC	Green Verdugo	3.16	318	P		Pn	13 54 57.3	+0.3
	baz=138							
DECC				Sb		Sb	13 55 42.3	+0.3
	baz=138							
LAPR	La Primavera	3.30	114	*e* P		Pn	13 54 57.2	-1.8
LAPR	La Primavera	3.30	114	⇑	*e* P	Pn	13 54 57.8	-1.2
SNCC	San Nicolas Is	3.41	294			Pn	13 54 59.6	-0.8
SNCC	San Nicolas Is	3.41	294	P		Pn	13 55 00.4	-0.1
	baz=112							
SNCC				S		Sn	13 55 41.3	+0.3
	baz=112							
EDW2	Edwards Air Fo	3.48	329	P		Pn	13 55 01.8	+0.3
	baz=148,SNR=79							
EDW2				Sb		Sb	13 55 53.0	+1.6
	baz=148							
GSC	Goldstone, Bar	3.48	346	Pn		Pn	13 55 01.6	0.0
GSC				IAML			13 56 07.8	
	comp=N,302nm,1.0s							
GSC				IAML			13 56 08.7	
	comp=E,420nm,0.9s							
GSC	Goldstone, Bar	3.48	346	P		Pn	13 55 01.2	-0.4
	baz=167,SNR=19							
TUQ	Turquoise Moun	3.52	358	P		Pn	13 55 01.6	-0.5
	baz=179							
BAHB	Baha de los	3.54	146	*e* P		Pb	13 55 12.9	+3.1
W13A	Hualapai Mount	3.56	26			Pn	13 55 02.8	0.0
CCAC	Calif City Air	3.72	331			Pn	13 55 04.7	-0.1
CCAC				IAML			13 56 17.7	
	comp=N,743nm,0.9s							
CCAC				IAML			13 56 17.9	
	comp=E,463nm,1.4s							
SCZ2	Santa Cruz Isl	3.83	304	P		Pn	13 55 06.4	+0.1
	baz=22							
LRMC	Laurel Mtn Rad	3.89	337	P		Pn	13 55 06.8	-0.4
	baz=156,SNR=8.4							
V12A	Nelson	3.89	12	Pn		Pn	13 55 07.5	+0.4
SHOC	Shoshone, Teco	4.00	355	P		Pn	13 55 08.3	-0.2
	baz=175,SNR=7.2							
ARVC	Arvin	4.08	323	P		Pn	13 55 09.7	0.0
	baz=142,SNR=8.6							
BCW	Bitter Crk WRg	4.27	316			Pn	13 55 10.9	-1.5
BCW				IAML			13 56 25.1	
	comp=N,331nm,1.1s							
BCW				IAML			13 56 34.5	
	comp=E,510nm,1.3s							
TUC	Tucson	4.28	83			Pn	13 55 10.6	-1.9
TUC	Tucson	4.28	83	P		Pn	13 55 10.7	-1.9
	baz=266							
TUC	Tucson	4.28	83	*e* P		Pn	13 55 11.1	-1.4
GWY	Greenwater Val	4.33	351	Pn		Pn	13 55 13.3	+0.1
SFQB	San Francisqui	4.33	143	*e* P		Pn	13 55 19.1	+6.1
ISA	Isabella, Lake	4.35	330	Pn		Pn	13 55 13.6	+0.1
ISA				IAML			13 56 25.6	
	comp=E,138nm,0.9s							
ISA	Isabella, Lake	4.35	330	P		Pn	13 55 13.5	+0.1
	baz=149,SNR=12							
MPMC	Manual Prospec	4.37	342	P		Pn	13 55 13.6	-0.1
	baz=161,SNR=24							
PKM	Mcpherson Peak	4.48	313	P		Pn	13 55 16.2	+0.9
	baz=131,SNR=9.4							
SHPR	Sheep Range	4.62	6	Pn		Pn	13 55 17.7	+0.5
FURC	Furnace Creek,	4.63	349	P		Pn	13 55 17.5	+0.3
	baz=169							
VES	Vestal, Richgr	4.78	326	P		Pn	13 55 20.7	+1.5
	baz=145,SNR=7.8							
SMMC	Simmler	4.87	315	P		Pn	13 55 22.0	+1.4
	baz=134,SNR=16							
CWC	Cottonwood Cre	4.90	338	P		Pn	13 55 22.2	+1.1
	baz=157							
WCT	Wildcat Mounta	4.92	352			Pn	13 55 22.0	+0.7
TPNV	Topopah Spring	5.04	356	P		Pn	13 55 24.4	+1.4
	baz=176,SNR=42							
WUAZ	Wupatki	5.16	45	Pn		Pn	13 55 25.5	+0.9
WUAZ	Wupatki	5.16	45	P		Pn	13 55 26.1	+1.5
	baz=227,SNR=27							
319A	Douglas	5.59	94			Pn	13 55 30.6	+0.1
W18A	Petrified Fore	5.99	56	P		Pn	13 55 37.4	+1.2
	baz=239,SNR=12							
R11B	Troy Canyon, C	6.43	2	P		Pn	13 55 43.5	+1.4
	baz=182,SNR=9.0							
NVAR	Mina Array Bea	6.82	343	Pn		Pn	13 55 46.2	-1.3
	comp=E,0.3nm,0.5s,baz=161,slow=14,SNR=2.5							
NVAR				Pg	Pg		13 56 11.8	-5.9
	comp=E,0.8nm,0.3s,baz=167,slow=18,SNR=9.0							
NVAR				Lg	Lg		13 57 39.3	
	baz=158,slow=31							
NVAR				LR	LR		13 58 24.5	
	comp=E,55nm,21.5s,baz=176,slow=39							
121A	Cookes Peak, D	6.83	83	Pn		Pn	13 55 46.5	-1.1
121A	Cookes Peak, D	6.83	83	P		Pn	13 55 47.3	-0.3
	baz=267,SNR=28							
MVCO	Mesa Verde	8.02	47	P		Pn	13 56 06.5	+2.5
	baz=231,SNR=13							
ANMO	Albuquerque	8.38	66	P		Pn	13 56 09.8	+1.0
	baz=251							
ANMO	Albuquerque	8.38	66	Pn		Pn	13 56 09.9	+1.0
	comp=E,0.2nm,0.3s,baz=161,slow=24,SNR=5.5							
ANMO				LR	LR		13 59 24.0	
	comp=E,165nm,20.9s,baz=14,slow=38							
	comp=E,0.7nm,0.3s							
ELK	Elko	8.83	3	Pn		Pn	13 56 16.9	+1.8
	comp=E,0.4nm,0.5s,baz=183,slow=18,SNR=1.6							
ELK				Lg	Lg		13 58 41.0	
	comp=E,0.1nm,0.3s,baz=273,slow=11,SNR=1.4							
MNTX	Cornudas Mount	8.87	89	P		Pn	13 56 16.2	+0.6
	baz=274,SNR=9.5							
LPIG	La Paz	9.17	147	Lg	Lg		13 59 01.6	
	comp=E,0.6nm,0.3s,baz=197,slow=19,SNR=1.2							
LPIG				LR	LR		13 59 21.4	
	comp=E,98nm,21.6s,baz=6.5,slow=34							
VHRN	Van Horn	9.32	94			Pn	13 56 22.3	+0.5
S22A	4UR Ranch, Cre	9.40	49	P		Pn	13 56 24.8	+1.9
	baz=234							
O20A	White River Ci	10.24	35	P		Pn	13 56 36.8	+2.5
	baz=219							
SDCO	Great Sand Dun	10.27	53	P		Pn	13 56 35.7	+0.7
	baz=238							
ALPN	Alpine	10.54	95			Pn	13 56 39.4	+0.9
TX31	Lajitas Ar. Si	10.77	101			Pn	13 56 42.6	+1.1
TXAR	Lajitas Array	10.77	101			Pn	13 56 42.6	+1.0
TXAR	Lajitas Array	10.77	101	Pn		Pn	13 56 43.4	+1.8
	comp=E,0.4nm,0.3s,baz=278,slow=12,SNR=43							
TXAR				Lg	Lg		13 59 47.0	
	baz=297,slow=29,SNR=1.2							
	comp=E,2.9nm,0.7s							
YBH	Yreka Blue Hor	11.25	333	LR	LR		14 00 20.7	
	comp=E,60nm,18.3s,baz=200,slow=34							
HLID	Hailey	11.69	5	P		Pn	13 56 54.2	+0.1
	baz=186							
BW06	Boulder Array	11.92	23	P		Pn	13 57 01.5	+4.1
	baz=207							
PDAR	Pinedale Array	11.92	23	Pn		Pn	13 56 58.6	+1.2
	comp=E,0.1nm,0.3s,baz=213,slow=8.2,SNR=2.3							
PDAR				Lg	Lg		14 00 24.7	
	baz=186,slow=26							
PDAR				LR	LR		14 01 32.0	
	comp=E,114nm,18.4s,baz=198,slow=38							
	comp=E,0.2nm,0.5s							
N23A	Red Feather La	11.97	39	P		Pn	13 57 02.5	+4.3
	baz=225							
NEW	Newport	16.37	357	P		P	13 58 00.4	+0.5
NEW	Newport	16.37	357	Pn		Pn	13 57 57.6	+0.6
	comp=E,0.1nm,0.3s,baz=166,slow=8.3,SNR=2.4							
	comp=E,2.0nm,0.7s							
LAO	LASA Array	16.50	24	Pn		Pn	13 57 58.5	-0.2
LAO				IAmb	IAmb		13 58 09.1	
	comp=Z,12nm,1.0s							
MIAR	Mount Ida	18.78	76	P		Pn	13 58 28.1	+1.1
MIAR				IAmb	IAmb		13 58 33.1	
	comp=Z,8.5nm,1.0s							
T42A	Van Buren	20.98	69	P		P	13 58 51.3	+0.7
T42A				IAmb	IAmb		13 58 56.8	
	comp=Z,4.3nm,0.8s							
ULM	Lac du Bonnet	23.57	33	P		P	13 59 18.9	+1.2
ULM	Lac du Bonnet	23.57	33	P		P	13 59 19.1	+1.2
	comp=Z,4.2nm,0.9s,baz=224,slow=10,SNR=6.2							
	comp=Z,4.2nm,0.9s							
CMIG	Matias Romero	24.02	123	LR	LR		14 09 43.7	
	comp=Z,64nm,19.2s,baz=237,slow=39							
ILAR	Eielson Array	38.05	339	P		P	14 01 27.1	+1.5
	comp=Z,0.4nm,0.9s,baz=151,slow=7.7,SNR=4.6							
	comp=Z,0.4nm,0.9s							
HHC	Hu-ho-hao-te	95.41	326	*e* P		P	14 07 32.0	-0.2
HHC				pmax	pmax			
	comp=Z,49nm,4.9s							
HHC				pmax	pmax			
	comp=Z,8.0nm,0.6s							

IDC ***29*** *14:08:47.8±1.0, 28°.07S×178°.20W, h231km±11km, mb3.1/4, mbtmp3.8/5, Error ellipse: s-maj=29.5km s-min=26.7km az=128.0*

ISC 29 14:08:48.2±0.9, 28°.3S±0°.1×178°.1W±0°.2, h250km, n14, σ1§57/16, mb3.2/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.96	173	P	Pn	14 09 22.3	-0.7
	513nm,0.3s,baz=289,slow=1.9,SNR=24						
RAO				S	S	14 09 49.3	-1.2
	255nm,0.3s,baz=251,slow=23,SNR=2.2						
URZ	Urewera	10.73	201	P	Pn	14 11 16.2	+0.4
	7.7nm,1.0s,baz=166,slow=15,SNR=1.4						
URZ				S	S	14 13 13.7	-2.2
	7.2nm,0.7s,baz=51,slow=17,SNR=1.9						
ASAR	Alice Springs	43.21	265	P	P	14 16 25.6	+0.5
	0.2nm,0.5s,baz=95,slow=7.2,SNR=6.2						
ASAR				PcP	PcP	14 18 11.6	+2.0
	0.3nm,0.8s,baz=115,slow=5.4,SNR=1.5						
	0.2nm,0.5s						
WRA	Warramunga Arr	44.01	270	P	P	14 16 31.8	+0.3
	0.5nm,0.7s,baz=108,slow=6.1,SNR=6.1						
	0.5nm,0.7s						
QSPA	South Pole Qui	61.81	180	P	P	14 18 43.3	+2.8
	0.9nm,0.8s,baz=45,slow=3.5,SNR=3.1						
	0.9nm,0.8s						
MJAR	Matsushiro Arr	76.49	325	P	P	14 20 09.9	-0.6
	1.5nm,0.6s,baz=154,slow=5.3,SNR=7.9						
	1.5nm,0.6s						
ARCES	ARCESS Array B	136.52	348	PKP	PKiKP	14 27 40.0	-1.3
	0.8nm,0.8s,baz=8.7,slow=1.2,SNR=4.4						
FINES	FINESS Array B	143.15	341	PKhKP	PKPpre	14 27 48.4	
	2.1nm,1.0s,baz=45,slow=2.8,SNR=4.8						
NB2	NORSAR Subarra	146.67	352	PKP	PKPab	14 28 00.4	-1.2
	comp=Z,0.2nm,0.3s,baz=31,slow=3.5						
NOA	NORSAR Array B	146.67	352	PKPbc	PKPab	14 28 00.3	-1.3
	comp=Z,0.3nm,0.7s,baz=18,slow=4.3,SNR=4.3						
HFS	Hagfors	147.17	349	PKPbc	PKPab	14 28 01.7	-1.8
	comp=Z,0.7nm,0.3s,baz=89,slow=0.7,SNR=17						
AKASG	Malin Array Be	149.57	325	PKPbc	PKiKP	14 28 07.5	-1.1
	comp=Z,0.9nm,0.5s,baz=41,slow=3.4,SNR=4.2						
MMAI	Mount Meron Ar	150.91	288	PKPbc	PKiKP	14 28 13.7	+1.6
	comp=Z,1.8nm,0.4s,baz=108,slow=3.3,SNR=4.1						
BRTR	Keskin Array B	151.50	302	PKPbc	PKiKP	14 28 13.9	+0.8
	comp=Z,0.7nm,0.6s,baz=133,slow=4.0,SNR=4.1						

BJI ***29*** *14:10:20.2±0.0, 44°.10N×128°.80W, h5km, mb5.0/60, mB5.3/29, Ms5.2/47, Ms7 4.8/49*

IDC ***29*** *14:10:20.9±0.6, 44°.11N×128°.84W, h0km, mb4.6/28, mbtmp4.5/34, ML3.9/6, MS4.5/80, Error ellipse: s-maj=17.2km s-min=9.0km az=30.0*

MOS ***29*** *14:10:21.6±1.1, 44°.08N×128°.81W, h13km, mb5.4/58, MS4.5/9, Error ellipse: s-maj=7.6km s-min=5.1km az=105.6*

NEIC ***29*** *14:10:22.6, 44°.03N×128°.78W, h12km*

NEIC ***29*** *14:10:22.6, 44°.13N×128°.92W, h12km, Moment Tensor Solution. Duration: 2§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.72; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$1.08; $M_{r\theta}$0.40; $M_{\theta\phi}$-0.16; $M_{\phi r}$-0.15; Fault plane solution: $M_0$1.05000×10^{17} NP1: ϕ_s326.13000°, δ58.76000°, λ-128.00000°. NP2: ϕ_s202.55000°, δ47.64000°, λ-44.58000°. Principal axes: T 1.1182, Plg6.0000°, Azm82.0000°; N -0.1355, Plg32.0000°, Azm348.0000°; P -0.9827, Plg57.0000°, Azm182.0000°;*

GCMT ***29*** *14:10:22.6±0.1, 43°.99N±0°.01×129°.04W±0°.01, h12km, MW5.2/140, Moment Tensor Solution. s96,c149; s140,c256; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.54±.01; $M_{\theta\theta}$-0.58±.01; $M_{\phi\phi}$1.12±.01; $M_{r\theta}$0.07±.04; $M_{\theta\phi}$-0.20±.01; $M_{\phi r}$-0.08±.03; Best double couple: $M_0$0.89800×10^{17} NP1:ϕ_s314.00000°, δ71.00000°, λ-154.00000°. NP2:ϕ_s215.00000°, δ66.00000°, λ-21.00000°. Principal axes: T 1.1480, Plg3.0000°, Azm83.0000°; N -0.5030, Plg58.0000°, Azm348.0000°; P -0.6480, Plg32.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***29*** *14:10:22.6±1.6, 44°.03N±0°.05×128°.8W±0°.1, h10km±1km, mb5.1/467, ML4.1/50, Mww5.3/65 Error ellipse: s-maj=14.4km s-min=7.6km az=250.0*

ISC 29 14:10:22.2±0.3, 43°.99N±0°.05×128°.86W±0°.05, h10km, n964, σ1§25/727, mb5.1/304, MS4.6/98, 18C-4D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	Myrtle Point	3.68	101	Pn	Pn	14 11 17.2	-1.9
J01E				IAML		14 12 03.8	
	comp=E,329nm,1.1s						
J01E				IAML		14 12 29.9	
	comp=N,322nm,2.0s						
KBO	Bosley Butte	3.83	116		Pn	14 11 20.1	-1.2
KBO				IAML		14 12 17.9	
	comp=N,233nm,2.3s						
KBO				IAML		14 12 54.0	
	comp=E,193nm,4.5s						
HEBO	Mount Hebo	3.85	70		Pn	14 11 19.9	-1.6
HEBO				IAML		14 12 11.1	
	comp=N,420nm,2.1s						
G03D	McMinnville, O	4.18	71	Pn	Pn	14 11 25.8	-0.3
G03D				IAML		14 12 21.8	
	comp=E,347nm,0.7s						
F03A	Seaside	4.24	61	Pn	Pn	14 11 26.5	-0.3
KSXB	Camp Six Broad	4.25	119	Pn	Pn	14 11 25.9	-1.2
L02F	Cave Junction	4.30	114		Pn	14 11 26.5	-1.3
L02F				IAML		14 12 20.7	
	comp=E,195nm,2.2s						
RADR	Rader Ridge	4.33	54		Pn	14 11 27.7	-0.4
RADR				IAML		14 13 55.5	
	comp=N,299nm,1.6s						
RADR				IAML		14 14 03.2	
	comp=E,238nm,4.2s						
KRMB	Red Mountain	4.40	122		Pn	14 11 28.5	-0.7
KRMB				IAML		14 13 13.5	
	comp=N,170nm,4.8s						
HUMO	Hull Mountain	4.53	106	Pn	Pn	14 11 30.7	-0.2
HUMO				IAML		14 12 24.8	
	comp=E,119nm,0.6s						
HUMO				IAML		14 12 27.1	
	comp=N,177nm,2.1s						
E03A	Lebam	4.53	54	Pn	Pn	14 11 30.3	-0.6
E03A				IAML		14 12 27.6	
	comp=E,258nm,1.1s						
KRPM	Rodgers	4.56	127		Pn	14 11 31.1	-0.1
KRPM				IAML		14 14 01.4	
	comp=E,149nm,4.8s						
KRPM				IAML		14 14 22.0	
	comp=N,112nm,4.7s						
F04D	Rainier, OR	4.65	61		Pn	14 11 32.5	+0.1
WISH	Wishkah	4.75	47		Pn	14 11 33.6	-0.3
WISH				IAML		14 12 47.6	
	comp=N,207nm,1.9s						
WISH				IAML		14 13 46.7	
	comp=E,187nm,2.1s						
JCC	Jacoby Creek,	4.78	130		Pn	14 11 35.5	+1.2
JCC				IAML		14 13 34.7	
	comp=N,110nm,4.5s						
NLWA	Neilton Lookou	4.88	44		Pn	14 11 34.9	-0.8
KHMM	Horse Mountain	4.91	128	Pn	Pn	14 11 36.2	0.0
C03A	Quillayute Air	4.96	36		Pn	14 11 35.8	-1.0
C03A				IAML		14

BMO	Blue Mountains	8.32	80	Pn	Pn	14 12 21.5 -1.5
BMO	Blue Mountains	8.32	80	P	Pn	14 12 21.5 -1.5
NEW	Newport	9.20	58	P	Pn	14 12 33.4 -1.6
	baz=247,SNR=37					
NEW	Newport	9.20	58	Pn	Pn	14 12 34.4 -0.6
	comp=N,2.5nm,0.3s,baz=247,slow=12,SNR=24					
NEW				LR	LR	14 16 10.3
	comp=N,6µm,18.1s,baz=248,slow=38					
	comp=N,10nm,0.5s					
MFID	Camas Ranch	9.46	89	Pn	Pn	14 12 38.0 -0.6
H02S1	DAWSON INLET T	9.53	347	T	T	14 22 03.9
NVAR	Mina Array Bea	9.70	121		Pn	14 12 43.8 +1.8
NVAR	Mina Array Bea	9.70	121	Pn	Pn	14 12 45.4 +3.4
	comp=N,0.4nm,0.3s,baz=298,slow=13,SNR=30					
NVAR				LR	LR	14 15 43.2
	comp=N,730nm,21.5s,baz=302,slow=33					
	comp=N,13nm,0.8s					
GRNB	Grenville Isla	9.89	356		Pn	14 12 44.7 +0.3
MLAC	Mammoth, Mammo	9.90	126	P	Pn	14 12 46.5 +1.8
	baz=314					
HLID	Hailey	10.46	87	P	Pn	14 12 53.9 +1.5
	baz=278,SNR=122					
VOG	Valley Oaks Go	10.54	133	P	Pn	14 12 53.8 +0.4
	baz=320					
ELK	Elko	10.59	103	Pn	Pn	14 12 57.4 +3.2
	comp=N,0.4nm,0.3s,baz=306,slow=11,SNR=50					
ELK				LR	LR	14 17 04.2
	comp=N,5µm,19.5s,baz=290,slow=38					
	comp=N,14nm,0.8s					
TIN	Tinemaha, Big	10.65	127	P	Pn	14 12 57.0 +2.1
	baz=314					
MSO	Missoula	10.87	70		Pn	14 12 56.9 -1.0
MSO	Missoula	10.87	70	P	Pn	14 12 57.8 -0.2
	baz=260,SNR=56					
SMMC	Simmler	11.03	139	P	Pn	14 13 00.7 +0.7
	baz=325					
VES	Vestal, Richgr	11.06	134	P	Pn	14 13 02.0 +1.6
	baz=321,SNR=19					
CWC	Cottonwood Cre	11.16	129	P	Pn	14 13 05.4 +3.4
	baz=316					
GRAC	Grapevine Rang	11.19	125	P	Pn	14 13 05.8 +3.6
	baz=313,SNR=9.1					
PKM	Mcpherson Peak	11.46	139	P	Pn	14 13 05.2 -0.9
	baz=326					
R11B	Troy Canyon, C	11.48	115	P	Pn	14 13 09.0 +2.6
	baz=304,SNR=24					
V35K	Ketchikan	11.49	352	P	Pn	14 13 07.7 +1.5
	baz=170,SNR=8.5					
ISA	Isabella, Lake	11.52	133	P	Pn	14 13 07.7 +0.9
	baz=320,SNR=25					
ARVC	Arvin	11.75	135	P	Pn	14 13 10.7 +0.8
	baz=322,SNR=11					
MPMC	Manual Prospec	11.77	128	P	Pn	14 13 11.3 +1.0
	baz=316,SNR=18					
CRAG	Craig	11.82	348	P	Pn	14 13 10.2 -0.4
	baz=164,SNR=7.8					
FURC	Furnace Creek,	11.85	125	P	Pn	14 13 14.0 +2.9
	baz=314,SNR=88					
SBC	Santa Barbara	11.87	140	P	Pn	14 13 12.0 +0.4
	baz=327					
TPNV	Topopah Spring	11.90	122	P	Pn	14 13 15.2 +3.1
	baz=310,SNR=40					
U35K	Hyder	11.96	357	P	Pn	14 13 12.2 -0.4
	baz=176					
LRMC	Laurel Mtn Rad	12.08	131	P	Pn	14 13 15.7 +1.1
	baz=318					
OSI	Osito Audit: C	12.21	137	P	Pn	14 13 17.0 +0.8
	baz=324					
BOZ	Bozeman (W)	12.35	77		Pn	14 13 18.1 -0.1
BOZ	Bozeman (W)	12.35	77	P	Pn	14 13 18.2 0.0
	baz=269,SNR=45					
BOZ	Bozeman (W)	12.35	77	P	Pn	14 13 18.1 -0.1
EDW2	Edwards Air Fo	12.37	134	P	Pn	14 13 18.5 +0.1
	baz=321,SNR=18					
U33K	Whale Pass	12.44	349	P	Pn	14 13 19.2 +0.1
	baz=165					
DUG	Dugway, Tooele	12.51	102	P	Pn	14 13 19.1 -1.3
	baz=293					
DUG	Dugway, Tooele	12.51	102	P	Pn	14 13 22.9 +2.5
SHOC	Shoshone, Teco	12.58	126	P	Pn	14 13 23.4 +2.1
	baz=314,SNR=46					
DECC	Green Verdugo	12.69	136	P	Pn	14 13 23.2 +0.4
	baz=324					
GSC	Goldstone, Bar	12.70	129	P	Pn	14 13 25.3 +2.4
	baz=317,SNR=26					
RRX	Edison Barstow	12.91	131	P	Pn	14 13 26.4 +0.7
	baz=319					
T35M	Bob Quinn	13.04	357	P	Pn	14 13 26.5 -0.9
	baz=175,SNR=8.2					
BFSC	Mount Baldy Ra	13.04	134	P	Pn	14 13 29.1 +1.4
	baz=322,SNR=12					
T33K	Petersburg	13.10	350	P	Pn	14 13 30.0 +1.8
	baz=167					
TUQ	Turquoise Moun	13.11	126	P	Pn	14 13 30.4 +1.9
	baz=315,SNR=16					
FMP	Fort Macarthur	13.14	138	P	Pn	14 13 29.5 +0.6
	baz=325					
HEC	Hector,Ludlow	13.31	129	P	Pn	14 13 32.6 +1.4
	baz=318,SNR=13					
CIS	Catalina Islan	13.34	139	P	Pn	14 13 31.9 +0.3
	baz=326					
BBRC	Big Bear Solar	13.41	132	P	Pn	14 13 34.0 +1.2
	baz=320					
SCI2	San Clemente I	13.63	140	P	Pn	14 13 34.8 -0.7
	baz=327					
SIT	Sitka	13.71	345		Pn	14 13 38.5 +2.1
SIT	Sitka	13.71	345	P	Pn	14 13 36.0 -0.4
	baz=160,SNR=6.4					
SIT	Sitka	13.71	345	P	Pn	14 13 38.5 +2.1
GMRC	Granite Mounta	13.72	128	P	Pn	14 13 37.7 +0.7
	baz=316,SNR=30					
MURC	Murrieta	13.78	135	P	Pn	14 13 37.5 -0.2
	baz=323,SNR=13					
EGMT	Eagleton	13.88	66	P	Pn	14 13 37.4 -1.5
	baz=260,SNR=52					
S32K	Killisnoo	13.97	347	P	Pn	14 13 40.2 +0.2
	baz=162,SNR=7.1					
RLMT	Red Lodge	14.02	79		Pn	14 13 39.4 -1.6
RLMT	Red Lodge	14.02	79	P	Pn	14 13 40.2 -0.8
	baz=272,SNR=9.6					
BW06	Boulder Array	14.10	88	P	Pn	14 13 41.5 -0.6
	baz=282,SNR=24					
PDAR	Pinedale Array	14.10	88		Pn	14 13 42.1 0.0
PDAR	Pinedale Array	14.10	88	Pn	Pn	14 13 45.0 +2.9
	comp=N,0.1nm,0.3s,baz=286,slow=10,SNR=43					
PDAR				LR	LR	14 19 17.9
	comp=N,4µm,18.8s,baz=262,slow=38					
	comp=N,10.0nm,1.1s					
BELC	Belle Mtn. Jos	14.11	131	P	Pn	14 13 42.8 +0.6
	baz=319,SNR=29					
PFO	Pinyon Flats O	14.15	133		Pn	14 13 44.0 +1.1
PFO	Pinyon Flats O	14.15	133	P	Pn	14 13 44.3 +1.4
	baz=321,SNR=13					
PFO	Pinyon Flats O	14.15	133	Pn	Pn	14 13 43.2 +0.4
	comp=N,0.1nm,0.3s,baz=317,slow=11,SNR=19					
PFO				LR	LR	14 19 18.7
	comp=N,731nm,19.6s,baz=308,slow=38					
PFO	Pinyon Flats O	14.15	133	P	Pn	14 13 44.0 +1.1
TPFO	Pinon Flats	14.16	133	P	Pn	14 13 44.4 +1.4
	baz=321,SNR=16					
NEE2	Needles Airpor	14.34	125	P	Pn	14 13 46.3 +1.0
	baz=315					
109C	Camp Elliot, M	14.39	136	P	Pn	14 13 46.4 +0.4
	baz=324					
IRM	Iron Mountain	14.47	128	P	Pn	14 13 49.2 +2.2
	baz=317,SNR=43					
DLBC	Dease Lake	14.49	358	P	Pn	14 13 47.4 +0.1
	baz=176,SNR=7.8					
DLBC	Dease Lake	14.49	358	Pn	Pn	14 13 50.4 +3.1
	comp=N,0.2nm,0.3s,baz=179,slow=11,SNR=8.0					
DLBC				LR	LR	14 18 37.1
	comp=N,3µm,19.7s,baz=178,slow=34					
BC3	Big Chuckawall	14.67	130	P	Pn	14 13 52.0 +2.2
	baz=319,SNR=31					
S31K	Pelican	14.73	344	P	Pn	14 13 51.0 +0.6
	baz=158					
R32K	Eaglecrest	14.73	348	P	Pn	14 13 50.0 -0.5
	baz=164,SNR=9.1					
MONP2	Monument Peak	14.74	135	P	Pn	14 13 51.7 +0.8
	baz=323,SNR=68					
PDMCI	Parker Dam,Lak	14.95	125	P	Pn	14 13 54.7 +1.2
	baz=315,SNR=15					
SWSC	Sam W. Stewart	15.02	133	P	Pn	14 13 55.0 +0.5
	baz=321,SNR=12					
TOAD	Toad River Com	15.05	7	P	Pn	14 13 54.9 +0.1
	baz=190,SNR=14					
R31K	City Hall, Gus	15.06	346	P	Pn	14 13 54.9 0.0
	baz=160					
CBX	Cerro Bola	15.08	137	IAmb	IAmb	14 13 58.6
	comp=Z,203nm,1.6s					
IKP	In-Ko-Pah, Jac	15.09	134	P	Pn	14 13 57.0 +1.4
	baz=323,SNR=20					
BLYC	Blythe	15.12	128	IAmb	IAmb	14 14 00.2
	comp=Z,159nm,1.9s					
Q32M	Nakina River	15.14	353	P	Pn	14 13 57.4 +1.2
	baz=170					
GLA	Glamis	15.46	130	P	Pn	14 14 01.5 +1.1
	baz=319,SNR=8.7					
R33M	Jennings River	15.48	356	IAmb	IAmb	14 14 07.1
	comp=Z,167nm,1.9s					
R33M	Jennings River	15.48	356	P	P	14 14 03.7 -1.4
	baz=174,SNR=52					
LIRD	Liard River Hi	15.54	5	P	Pn	14 14 03.2 +2.0
	baz=187					
ESJX	Sierra Juarez	15.68	135	IAmb	IAmb	14 14 07.4
	comp=Z,117nm,1.5s					
O20A	White River Ci	15.79	97	IAmb	IAmb	14 14 13.0
	comp=Z,93nm,1.0s					
O20A	White River Ci	15.79	97	P	Pn	14 14 06.0 +1.3
	baz=291,SNR=61					
WUAZ	Wupatki	15.87	116	P	Pn	14 14 07.5 +1.8
	baz=308,SNR=50					
P32M	Atlin	15.90	351	P	Pn	14 14 07.0 +1.0
	baz=167,SNR=18					
SKAG	Skagway	15.99	348	P	Pn	14 14 08.2 +1.2
	baz=163,SNR=15					
LAO	LASA Array	16.14	72	IAmb	IAmb	14 14 16.1
	comp=Z,159nm,1.3s					
LAO	LASA Array	16.14	72	P	Pn	14 14 09.2 +0.1
	baz=269,SNR=24					
WTLY	Watson Lake, Y	16.15	0	P	Pn	14 14 09.1 -0.1
	baz=180					
PLBC	Pleasant Camp	16.16	346	P	Pn	14 14 10.2 +1.0
	baz=160,SNR=12					
K22A	Casper	16.31	87	P	P	14 14 12.6 -1.8
	baz=282,SNR=17					
HILA	High Level	16.32	23	P	P	14 14 14.7 +0.4
P33M	Teslin, Yukon	16.43	353		P	14 14 14.7 -0.8
P33M	Teslin, Yukon	16.43	353	P	Pn	14 14 13.1 +0.4
	baz=170,SNR=19					
KOTAN	Kotaneelee Air	16.43	9	P	Pn	14 14 13.7 +1.0
	baz=192,SNR=20					
P29M	Windy Craggy	16.57	344	P	Pn	14 14 15.5 +1.0
	baz=157,SNR=12					
MVCO	Mesa Verde	16.86	107	IAmb	IAmb	14 14 24.6
	comp=Z,289nm,1.7s					
MVCO	Mesa Verde	16.86	107	P	P	14 14 19.9 -0.7
	baz=300,SNR=18					
P30M	Million Dollar	16.89	346	P	P	14 14 20.2 -0.4
	baz=159					
PNL	Peninsula	16.96	341	P	P	14 14 20.7 -0.7
	baz=153,SNR=16					
WHY	Whitehorse	17.09	350	P	P	14 14 22.8 0.0
	baz=165,SNR=21					
W18A	Petrified Fore	17.18	115	P	P	14 14 25.3 +1.3
	baz=307,SNR=16					
N23A	Red Feather La	17.19	92	P	Pn	14 14 22.6 0.0
	baz=288,SNR=38					
O29M	Mount Kennedy	17.36	344	P	P	14 14 25.4 -0.5
	baz=156,SNR=14					
O30N	Mendenhall	17.36	348	P	P	14 14 26.9 +1.1
	baz=162,SNR=38					
N32M	Quiet Lake	17.38	353	P	P	14 14 26.5 +0.5
	baz=170					
214A	Organ Pipe Nat	17.41	128	P	P	14 14 27.1 +0.6
	baz=318,SNR=16					
PINM	Pinnacle	17.54	341	P	P	14 14 27.9 +0.1
	baz=152,SNR=13					
TGTN	Hyland Airport	17.57	1	P	P	14 14 28.8 +0.7
	baz=181,SNR=19					
DGMT	Dagmar	17.62	67	IAmb	IAmb	14 14 36.3
	comp=Z,258nm,1.3s					
DGMT	Dagmar	17.62	67	P	Pn	14 14 27.4 -0.3
	baz=264,SNR=18					
S22A	4UR Ranch, Cre	17.77	103	IAmb	IAmb	14 14 38.3
	comp=Z,255nm,1.8s					
S22A	4UR Ranch, Cre	17.77	103	P	P	14 14 31.1 +0.3
	baz=298,SNR=83					
ISCO	Idaho Springs	17.79	96	P	P	14 14 32.4 +1.4
	baz=291					
RSSD	Black Hills	17.83	81		Pn	14 14 30.2 -0.4
RSSD				IAmb	IAmb	14 14 37.4
	comp=Z,223nm,1.9s					
RSSD	Black Hills	17.83	81	P	Pn	14 14 30.1 -0.4
	baz=278					
RSSD	Black Hills	17.83	81	P	Pn	14 14 30.2 -0.4
RSSD				pmax	pmax	
	comp=Z,223nm,1.9s					
YUK6	Outpost Mounta	17.91	345	P	P	14 14 33.3 +1.3
	baz=157,SNR=38					
N31M	Braeburn, Yuko	18.00	349	P	P	14 14 34.4 +1.6
	baz=164,SNR=19					
MESA	MESA	18.04	339	P	P	14 14 34.2 +0.8
	baz=148,SNR=6.8					
O28M	Mount Upton	18.13	342	P	Pn	14 14 33.7 -0.5
	baz=153,SNR=11					
N30M	Aishikik Lake	18.17	347	P	Pn	14 14 34.3 -0.1
	baz=160,SNR=27					
YUK4	Talbot Arm	18.33	345	P	P	14 14 38.6 +2.0
	baz=157,SNR=14					
TUC	Tucson	18.34	123	P	P	14 14 38.5 +1.7
TUC	Tucson	18.34	123	P	P	14 14 39.1 +2.2
	baz=315					
TUC	Tucson	18.34	123	P	P	14 14 38.5 +1.7
TUC				pmax	pmax	
	comp=Z,45nm,1.4s					
BGLC	Bering Glacier	18.36	337	P	P	14 14 37.2 +0.5
	baz=145					
Q24A	Divide	18.44	98	IAmb	IAmb	14 14 45.9
	comp=Z,300nm,2.0s					
Q24A	Divide	18.44	98	P	P	14 14 38.0 -0.1
	baz=294					
FARO	Faro, Yukon	18.46	353	P	Pn	14 14 40.2 +2.2
	baz=170,SNR=62					
YUK8	Steele Glacier	18.50	343	P	Pn	14 14 40.7 +2.0
	baz=154,SNR=22					
WAX	Waxell Ridge	18.51	338	IAmb	IAmb	14 14 43.0
	comp=Z,144nm,1.2s					
M31M	Drury Creek, Y	18.53	352	P	Pn	14 14 41.0 +2.1
	baz=167,SNR=27					
KAIM	Kayak Island	18.54	335	P	Pn	14 14 39.3 +0.5
	baz=142					
CTGM	Chitina Glacie	18.57	341	IAmb	IAmb	14 14 48.7
	comp=Z,122nm,1.4s					
CTG	Chitna Glacier	18.57	341	P	Pn	14 14 41.0 +1.7
	baz=150,SNR=21					
SDCO	Great Sand Dun	18.71	101	P	Pn	14 14 42.7 +1.3
	baz=297,SNR=78					
TGL	Tana Glacier	18.76	338	IAmb	IAmb	14 14 46.4
	comp=Z,210nm,2.0s					
CRQE	Cirque	18.83	338	P	Pn	14 14 44.3 +1.8
	baz=146,SNR=20					
CRQM	Cirque	18.85	338	IAmb	IAmb	14 14 47.1
	comp=Z,203nm,1.3s					
YUK3	Moose Creek	19.09	343	P	Pn	14 14 47.3 +1.6
	baz=154,SNR=12					
M30M	Minto, Yukon	19.19	349	P	Pn	14 14 48.2 +1.4
	baz=162,SNR=22					
M29M	Somme Creek	19.32	346	P	Pn	14 14 49.2 +0.8
	baz=158,SNR=41					
MCARA	McCarthy VSAT	19.34	339	P	Pn	14 14 49.6 +0.9
	baz=148,SNR=8.2					
BMRM	Bremner River	19.43	337	P	Pn	14 14 51.3 +1.6
	baz=144					
EYAK	Cordova Ski Ar	19.44	334	P	Pn	14 14 51.4 +1.7
	baz=141					
ANMO	Albuquerque	19.46	110	P	Pn	14 14 51.0 +0.5
ANMO				IAmb	IAmb	14 14 57.7
	comp=Z,142nm,1.9s					
ANMO	Albuquerque	19.46	110	P	Pn	14 14 51.9 +1.5
	baz=305					
ANMO	Albuquerque	19.46	110	P	Pn	14 14 51.0 +0.5
	comp=Z,0.2nm,0.3s,baz=344,slow=24,SNR=20					
ANMO				LR	LR	14 22 43.7
	comp=Z,5µm,19.0s,baz=98,slow=38					
	comp=Z,4.4nm,0.7s					
ANMO	Albuquerque	19.46	110	P	Pn	14 14 51.0 +0.5
WRGLY	Wrigley	19.53	7	P	Pn	14 14 51.2 +0.5
WRGLY	Wrigley	19.53	7	P	Pn	14 14 53.0 +2.2
	baz=192,SNR=58					
HIN	Hinchinbrook I	19.56	333	IAmb	IAmb	14 14 55.0
	comp=Z,148nm,1.4s					
P23K	Montague Islan	19.57	331	P	Pn	14 14 53.0 +1.8
	baz=137					
Y22D	IRIS PASSCAL I	19.66	113	P	Pn	14 14 54.6 +1.8
	baz=307					
T25A	Trinidad	19.76	102	P	Pn	14 14 54.9 +1.0
	baz=298,SNR=62					
L29M	L29M	19.89	348	P	Pn	14 14 55.4 +0.2
	baz=160,SNR=30					
319A	Douglas	19.91	123	IAmb	IAmb	14 15 01.5
	comp=Z,118nm,1.4s					
M27K	Edge Creek, AK	19.91	342	P	Pn	14 14 56.3 +0.8
	baz=151,SNR=29					
N25K	Chitina, Valde	19.95	338	P	Pn	14 14 56.5 +0.6
	baz=145,SNR=18					
OGNE	Ogallala	19.99	89	IAmb	IAmb	14 15 06.4
	comp=Z,185nm,1.6s					
OGNE	Ogallala	19.99	89	P	Pn	14 14 55.7 -0.9
	baz=288					
121A	Cookes Peak, D	20.06	118	IAmb	IAmb	14 15 03.5
	comp=Z,174nm,1.8s					
121A	Cookes Peak, D	20.06	118	P	Pn	14 14 58.0 +0.5
	baz=311,SNR=23					
GLI	Glacier Island	20.12	334	P	Pn	14 14 59.4 +1.6
	baz=139,SNR=6.0					
M26K	Nabesna, AK	20.21	341	IAmb	IAmb	14 15 03.6
	comp=Z,103nm,1.6s					
M26K	Nabesna, AK	20.21	341	P	Pn	14 14 59.7 +0.8
	baz=149,SNR=20					
KDAK	Kodiak Island	20.21	321	P	P	14 14 58.4 +1.4
KDAK	Kodiak Island	20.21	321	P	P	14 14 57.5 +0.4
	comp=Z,28nm,0.9s,baz=135,slow=7.2,SNR=12					
KDAK				LR	LR	14 20 55.9
	comp=Z,3µm,18.4s,baz=151,slow=32					
	comp=Z,28nm,0.9s					
KDAK	Kodiak Island	20.21	321	P	P	14 14 58.4 +1.4
KDAK				pmax	pmax	
	comp=Z,39nm,1.0s					
KSCO	Kaye Shedlock'	20.23	95	P	Pn	14 14 59.8 +0.3
	baz=293,SNR=7.0					
KLU	Klutina	20.23	336	P	Pn	14 14 58.9 -0.4
	baz=142,SNR=16					
OHAK	Old Harbor	20.24	319	P	Pn	14 14 59.7 +0.4
OHAK	Old Harbor	20.24	319	P	Pn	14 14 59.1 -0.2
	baz=120					
YKA	Yellowknife Ar	20.32	19	P	P	14 14 57.8 -0.3
YKA	Yellowknife Ar	20.32	19	P	P	14 14 58.2 +0.1
	comp=Z,45nm,1.0s,baz=211,slow=11,SNR=36					
YKA				PcP	PcP	14 19 10.7 -0.2
	comp=Z,0.9nm,0.9s,baz=184,slow=1.9,SNR=1.9					
YKA				LR	LR	14 22 27.3
	comp=Z,967nm,20.0s,baz=210,slow=36					
	comp=Z,45nm,1.0s					
SEW	Seward	20.37	330	P	Pn	14 15 00.4 -0.4
	baz=133,SNR=7.4					
FFC	Flin Flon	20.41	49	P	P	14 14 59.5 +0.2
FFC				IAmb	IAmb	14 15 04.4
	comp=Z,132nm,0.9s					
FFC	Flin Flon	20.41	49	P	P	14 14 59.5 +0.2
FFC				pmax	pmax	
	comp=Z,132nm,1.0s					
K29M	Barlow Dome	20.50	349	P	Pn	14 15 02.6 +0.2
	baz=162,SNR=45					
PWL	Port Wells	20.51	332	IAmb	IAmb	14 15 06.8
	comp=Z,140nm,1.6s					
PWL	Port Wells	20.51	332	P	Pn	14 15 01.9 -0.6
	baz=136,SNR=6.9					
BCAR	Beaver Creek A	20.52	343	P	P	14 15 00.7 +0.3
L27K	Beaver Creek,	20.53	343	P	Pn	14 15 01.8 -0.9
	baz=152,SNR=34					
SYI	Shuyak Island	20.59	324	P	P	14 15 01.9 +0.8
SYI				IAmb	IAmb	14 15 10.0
	comp=Z,176nm,1.3s					
Q20K	Shuyak Island	20.59	324	P	P	14 15 02.7 +1.5
	baz=125					
BRSE	Bradley Lake S	20.61	328	P	P	14 15 01.8 +0.5
	baz=130					
MDND	Maddock	20.66	69	P	P	14 15 02.7 +0.7
	baz=270					
CNPM	China Poot	20.67	327	IAmb	IAmb	14 15 11.9
	comp=Z,235nm,1.7s					
BRLK	Bradley Lake	20.68	327	IAmb	IAmb	14 15 10.1
	comp=Z,114nm,1.6s					
O22K	Cooper Landing	20.73	330	P	P	14 15 03.2 +0.7
	baz=133,SNR=7.8					
HARP	HAARP	20.75	338	P	P	14 15 01.9 -1.0
	baz=145					
M24K	Tolsona, Glenn	20.80	337	IAmb	IAmb	14 15 16.5
	comp=Z,205nm,1.7s					
M24K	Tolsona, Glenn	20.80	337	P	P	14 15 02.0 -1.4
	baz=143					
L26K	Log Cabin Wild	20.83	341	P	P	14 15 04.0 +0.2
	baz=149,SNR=33					
MENT	Mentasta	20.84	341	IAmb	IAmb	14 15 12.2
	comp=Z,102nm,1.2s					
HOM	Homer	20.91	327	P	P	14 15 04.7 +0.1
	baz=128					
SCM	Sheep Creek Mo	20.92	335	IAmb	IAmb	14 15 14.1
	comp=Z,162nm,1.2s					
SCM	Sheep Creek Mo	20.92	335	P	P	14 15 05.5 +0.8
	baz=140,SNR=21					
KNK	Knik Glacier	20.96	333	IAmb	IAmb	14 15 14.6
	comp=Z,166nm,1.4s					
KNK	Knik Glacier	20.96	333	P	P	14 15 05.5 +0.4
	baz=137,SNR=18					
R18K	Karluk	20.96	319	P	P	14 15 05.8 +0.7
	baz=119					
DAWY	Dawson	20.99	347	IAmb	IAmb	14 15 13.1
	comp=Z,117nm,1.2s					
DAWY	Dawson	20.99	347	P	P	14 15 05.2 -0.3
	baz=158,SNR=74					
M23K	Glacier View	21.01	335	P	P	14 15 06.9 +1.2
	baz=139,SNR=35					
J30M	Hart River	21.06	351	IAmb	IAmb	14 15 13.8
	comp=Z,94nm,1.2s					
J30M	Hart River	21.06	351	P	P	14 15 07.0 +0.8
	baz=165,SNR=76					
RC01	Rabbit Creek A	21.15	331	IAmb	IAmb	14 15 15.4
	comp=Z,103nm,1.2s					
RC01	Rabbit Creek A	21.15	331	P	P	14 15 07.7 +0.5
	baz=134					
J29N	Klondike Camp	21.18	349	IAmb	IAmb	14 15 14.8
	comp=Z,94nm,1.1s					
J29N	Klondike Camp	21.18	349	P	P	14 15 08.5 +1.0
	baz=161,SNR=7.1					
SML	Sawmill	21.21	334	IAmb	IAmb	14 15 23.1
	comp=Z,125nm,1.4s					
SML	Sawmill	21.21	334	P	P	14 15 08.7 +0.8
	baz=138,SNR=12					
RTBA	Rita Blanca	21.27	102	IAmb	IAmb	14 15 20.7
	comp=Z,164nm,1.5s					
PAX	Paxson	21.31	339	P	P	14 15 08.9 0.0
	baz=145,SNR=17					
PMR	Palmer	21.31	333	IAmb	IAmb	14 15 13.3
	comp=Z,75nm,1.2s					
PMR	Palmer	21.31	333	P	P	14 15 09.1 +0.3
	baz=136,SNR=29					
Q19K	Cape Douglas,	21.31	323	P	P	14 15 09.4 +0.4
	baz=124					
EPT	El Paso	21.37	117	IAmb	IAmb	14 15 17.8
	comp=Z,184nm,1.5s					
GHO	Glory Hole Cre	21.37	333	IAmb	IAmb	14 15 14.2
	comp=Z,89nm,1.2s					
SUSD	Miller	21.39	78	IAmb	IAmb	14 15 22.6
	comp=Z,85nm,0.8s					
SUSD	Miller	21.39	78	P	P	14 15 09.7 -0.2
	baz=279,SNR=10					
CAPN	Captain Cook N	21.44	329	P	P	14 15 10.1 -0.1
	baz=131					
K27K	Chicken	21.44	344	P	P	14 15 11.6 +1.3
	baz=153					
P19K	Oil Pt	21.55	325	P	P	14 15 11.3 -0.2
	baz=126					
O20K	Slope Mountain	21.56	327	P	P	14 15 11.3 -0.4
	baz=128,SNR=12					
WAT6	Susitna Watana	21.62	336	P	P	14 15 13.0 +0.6
	baz=140,SNR=34					
I30M	Mount Dempster	21.69	351

PLK4	Peulik 4	21.90 318	P	P	14 15 17.0	+1.7
PLK4			IAmb	IAmb	14 15 23.0	
	comp=Z,70nm,1.2s					
DHY	Denali Highway	21.91 337	P	P	14 15 16.4	+1.0
	baz=142,SNR=61					
EGAK	Eagle	21.95 346	IAmb	IAmb	14 15 21.8	
	comp=Z,66nm,1.1s					
EGAK	Eagle	21.95 346	P	P	14 15 15.2	-0.5
	baz=156,SNR=48					
WAT1	Susitna Watana	22.05 336	P	P	14 15 17.1	+0.2
	baz=140					
I29M	Ogilvie Camp,	22.05 349	IAmb	IAmb	14 15 22.3	
	comp=Z,110nm,1.4s					
I29M	Ogilvie Camp,	22.05 349	P	P	14 15 16.9	+0.1
	baz=161,SNR=46					
K24K	Donnelly Dome	22.08 340	P	P	14 15 17.6	+0.5
	baz=146,SNR=19					
N20K	Mount Spurr	22.11 329	P	P	14 15 17.9	+0.3
	baz=130,SNR=12					
MNTX	Cornudas Mount	22.15 116	P	P	14 15 19.8	+1.6
	baz=311,SNR=30					
J26L	Joseph Creek	22.16 343	IAmb	IAmb	14 15 22.7	
	comp=Z,172nm,1.7s					
J26L	Joseph Creek	22.16 343	P	P	14 15 19.3	+1.2
	baz=151,SNR=47					
P18K	Big Mountain,	22.25 323	P	P	14 15 19.0	0.0
	baz=122					
CUT	Chulitna	22.27 333	P	P	14 15 18.9	-0.2
	baz=136,SNR=9.9					
I28M	Miner Creek	22.37 348	IAmb	IAmb	14 15 23.6	
	comp=Z,62nm,1.1s					
I28M	Miner Creek	22.37 348	P	P	14 15 20.9	+0.5
	baz=158,SNR=66					
CBKS	Cedar Bluff	22.39 93	P	P	14 15 20.4	-0.3
	baz=293					
CHGN	Chignik	22.39 314	P	P	14 15 22.5	+2.0
SKT	Skwentna	22.39 331	IAmb	IAmb	14 15 29.9	
	comp=Z,80nm,1.2s					
SKT	Skwentna	22.39 331	P	P	14 15 20.7	+0.2
	baz=133,SNR=19					
O18K	Koktuh Hills	22.49 324	IAmb	IAmb	14 15 26.2	
	comp=Z,92nm,0.9s					
O18K	Koktuh Hills	22.49 324	P	P	14 15 21.2	-0.4
	baz=123,SNR=17					
Q16K	King Salmon	22.52 321	P	P	14 15 20.4	-1.5
	baz=118					
MSTX	Muleshoe	22.53 107	IAmb	IAmb	14 15 44.8	
	comp=Z,76nm,1.7s					
MSTX	Muleshoe	22.53 107	P	P	14 15 22.2	-0.1
	baz=304,SNR=5.3					
RND	Reindeer	22.58 336	IAmb	IAmb	14 15 32.7	
	comp=Z,128nm,1.4s					
BGNE	Belgrade	22.66 86	IAmb	IAmb	14 15 29.4	
	comp=Z,95nm,1.1s					
BGNE	Belgrade	22.66 86	P	P	14 15 23.1	-0.4
	baz=287					
J25K	Salcha River,	22.66 341	IAmb	IAmb	14 15 27.4	
	comp=Z,71nm,1.2s					
J25K	Salcha River,	22.66 341	P	P	14 15 23.1	-0.3
	baz=148,SNR=54					
P17K	Kvichak River	22.68 322	P	P	14 15 23.8	+0.3
	baz=120,SNR=12					
N19K	Bonanza Creek	22.74 327	P	P	14 15 24.0	-0.3
	baz=126,SNR=51					
I27K	Kandik River	22.78 346	P	P	14 15 24.5	-0.2
	baz=156,SNR=75					
AMTX	Amarillo	22.80 104	P	P	14 15 23.6	-1.5
	baz=302					
I26K	Coal Creek Min	22.80 344	P	P	14 15 24.8	+0.1
	baz=152					
EPYK	Eagle Plains	22.84 352	P	P	14 15 25.8	+0.6
	baz=165,SNR=64					
MCK	McKinley	22.86 337	P	P	14 15 26.2	+0.8
	baz=140,SNR=28					
HDA	Harding Lake	22.87 340	IAmb	IAmb	14 15 30.5	
	comp=Z,133nm,1.6s					
HDA	Harding Lake	22.87 340	P	P	14 15 26.1	+0.6
	baz=145,SNR=25					
H29M	Whitestone	22.88 350	P	P	14 15 26.1	+0.4
	baz=162,SNR=88					
M20K	Styx River	22.89 330	IAmb	IAmb	14 15 34.9	
	comp=Z,77nm,1.2s					
M20K	Styx River	22.89 330	P	P	14 15 26.8	+0.9
	baz=130,SNR=21					
S14K	Fog Glacier	22.98 313	P	P	14 15 28.0	+1.2
	baz=109					
VHRN	Van Horn	23.00 117	P	P	14 15 28.3	+1.0
IL31		23.15 340	IAmb	IAmb	14 15 32.9	
	comp=Z,76nm,1.2s					
ILAR	Eielson Array	23.15 340	P	P	14 15 28.8	+0.3
ILAR	Eielson Array	23.15 340	P	P	14 15 28.4	0.0
	comp=Z,31nm,1.1s,baz=155,slow=8.5,SNR=102					
ILAR			PcP	PcP	14 19 16.4	-0.1
	comp=Z,1.8nm,1.0s,baz=188,slow=1.2,SNR=8.3					
ILAR			LR	LR	14 23 02.9	
	comp=Z,2μm,18.7s,baz=144,slow=33					
	comp=Z,31nm,1.1s					
AGMN	Agassiz Nation	23.16 68	P	P	14 15 27.8	-0.9
AGMN			IAmb	IAmb	14 15 33.2	
	comp=Z,81nm,1.4s					
AGMN	Agassiz Nation	23.16 68	P	P	14 15 27.7	-0.9
	baz=272,SNR=28					
ULM	Lac du Bonnet	23.17 63	IAmb	IAmb	14 15 33.2	
	comp=Z,48nm,0.9s					
ULM	Lac du Bonnet	23.17 63	P	P	14 15 28.6	-0.1
	comp=Z,47nm,1.0s,baz=273,slow=9.4,SNR=29					
ULM			LR	LR	14 24 27.4	
	comp=Z,3μm,19.1s,baz=260,slow=37					
	comp=Z,47nm,1.0s					
G31M	Satah River	23.17 355	IAmb	IAmb	14 15 31.8	
	comp=Z,86nm,1.4s					
G31M	Satah River	23.17 355	P	P	14 15 30.1	+1.5
	baz=170,SNR=23					
ECSD	EROS Data Cent	23.18 79	P	P	14 15 28.8	-0.1
ECSD			IAmb	IAmb	14 15 35.0	
	comp=Z,110nm,1.2s					
ECSD	EROS Data Cent	23.18 79	P	P	14 15 29.0	0.0
	baz=282,SNR=82					
WRH	Wood River Hil	23.21 339	IAmb	IAmb	14 15 33.8	
	comp=Z,121nm,1.3s					
N18K	Kilae Creek	23.23 325	P	P	14 15 29.2	-0.1
	baz=124,SNR=27					
PPLA	Purkeypile	23.25 333	P	P	14 15 30.3	+0.7
	baz=134,SNR=23					
O17K	Koliganek Bris	23.26 323	P	P	14 15 29.7	+0.2
	baz=120,SNR=16					
CCB	Clear Creek Bu	23.28 339	IAmb	IAmb	14 15 34.1	
	comp=Z,74nm,1.3s					
P16K	Nushagak River	23.30 320	P	P	14 15 29.6	-0.4
	baz=117					
KTH	Kantishna Hill	23.31 335	IAmb	IAmb	14 15 34.3	
	comp=Z,166nm,2.0s					
H27K	Steamboat Moun	23.34 347	P	P	14 15 31.5	+1.1
	baz=156,SNR=72					
PECS	Pecos	23.35 114	IAmb	IAmb	14 15 37.4	
	comp=Z,179nm,1.8s					
M19K	Big River Lodg	23.37 329	P	P	14 15 30.2	-0.5
	baz=128					
G30M	tAoh Zraii Nji	23.39 353	P	P	14 15 30.6	-0.2
	baz=166,SNR=12					
PRP	Porcupine Dome	23.47 343	IAmb	IAmb	14 15 37.9	
	comp=Z,73nm,1.6s					
PRP	Porcupine Dome	23.47 343	P	P	14 15 32.4	+0.7
	baz=148,SNR=16					
COLA	College	23.47 340	P	P	14 15 32.3	+0.7
COLA			IAmb	IAmb	14 15 34.7	
	comp=Z,77nm,1.6s					
COLA	College	23.47 340	P	P	14 15 32.5	+0.9
	baz=144					
COLA	College	23.47 340	P	P	14 15 32.3	+0.7
COLA			pmax	pmax		
	comp=Z,82nm,2.7s					
G29M	Pine Creek	23.50 351	P	P	14 15 32.7	+0.7
	baz=163,SNR=36					
L20K	Farewell, AK	23.55 331	P	P	14 15 33.5	+1.0
	baz=130,SNR=24					
NEA2	Nenana	23.57 338	P	P	14 15 34.0	+1.4
	baz=141,SNR=57					
POKR	Poker Plat Res	23.57 340	IAmb	IAmb	14 15 37.0	
	comp=Z,96nm,1.5s					
POKR	Poker Plat Res	23.57 340	P	P	14 15 34.2	+1.5
	baz=145,SNR=10					
O16K	Kokwok River B	23.61 322	IAmb	IAmb	14 15 37.8	
	comp=Z,90nm,0.9s					
O16K	Kokwok River B	23.61 322	P	P	14 15 33.0	0.0
	baz=118,SNR=18					
MDM	Murphy Dome	23.64 339	IAmb	IAmb	14 15 46.0	
	comp=Z,38nm,1.1s					
F31M	Tsiigehtchic	23.65 355	P	P	14 15 33.7	+0.3
	baz=171,SNR=13					
M18K	Stony River	23.67 327	P	P	14 15 33.5	0.0
	baz=125,SNR=17					
N17K	Nushagak Hills	23.69 324	P	P	14 15 34.2	+0.4
	baz=121,SNR=18					
L19K	White Mountain	23.71 329	P	P	14 15 34.8	+0.7
	baz=128,SNR=75					
BPAW	Bear Paw Mtn.	23.73 336	IAmb	IAmb	14 15 42.3	
	comp=Z,42nm,1.1s					
BPAW	Bear Paw Mtn.	23.73 336	P	P	14 15 35.6	+1.4
	baz=137,SNR=27					
ODSA	Odessa	23.76 111	P	P	14 15 35.7	+0.9
ODSA			IAmb	IAmb	14 15 40.4	
	comp=Z,129nm,1.4s					
ELIS	Ellis County	23.80 99	P	P	14 15 36.1	+0.9
ELIS			IAmb	IAmb	14 15 47.7	
	comp=Z,76nm,1.1s					
NOKA	Waynoka	23.89 98	IAmb	IAmb	14 15 46.6	
	comp=Z,50nm,0.9s					
G27K	Doyon Strip	23.90 347	P	P	14 15 37.6	+1.8
	baz=157,SNR=84					
F30M	Barrier River	23.97 353	P	P	14 15 37.4	+1.0
	baz=168,SNR=16					
DKNS	Dickens	23.98 106	IAmb	IAmb	14 15 41.2	
	comp=Z,50nm,1.3s					
CHUM	Lake Minchumin	23.98 334	P	P	14 15 38.5	+2.0
	baz=135,SNR=16					
I23K	Minto, Yukon-K	24.08 339	IAmb	IAmb	14 15 41.2	
	comp=Z,84nm,0.9s					
I23K	Minto, Yukon-K	24.08 339	P	P	14 15 38.8	+1.3
	baz=142,SNR=62					
H25L	Birch Creek	24.17 343	P	P	14 15 39.3	+1.0
	baz=149,SNR=50					
K20K	Telida	24.19 332	P	P	14 15 39.4	+0.9
	baz=131,SNR=26					
O15K	Ungalikthiuk R	24.22 320	P	P	14 15 39.1	+0.3
	baz=115					
M17K	Holitna River	24.26 326	P	P	14 15 40.2	+1.1
	baz=123,SNR=9.0					
H24K	Noodor Dome	24.27 341	IAmb	IAmb	14 15 44.3	
	comp=Z,85nm,1.1s					
H24K	Noodor Dome	24.27 341	P	P	14 15 41.1	+1.9
	baz=145,SNR=48					
SN07	Snyder 07	24.32 107	IAmb	IAmb	14 16 03.6	
	comp=Z,37nm,0.7s					
OK032	Salt Plains WL	24.33 97	IAmb	IAmb	14 16 00.3	
	comp=Z,56nm,1.1s					
N16K	Nishlik Lake	24.34 323	P	P	14 15 40.6	+0.6
	baz=119					
MLY	Manley	24.36 337	IAmb	IAmb	14 15 43.5	
	comp=Z,81nm,1.2s					
MLY	Manley	24.36 337	P	P	14 15 40.9	+0.8
	baz=139,SNR=66					
G26K	Porcupine Rive	24.38 346	P	P	14 15 41.6	+1.3
	baz=153,SNR=29					
F28M	Old Crow	24.40 350	IAmb	IAmb	14 15 43.9	
	comp=Z,52nm,1.1s					
F28M	Old Crow	24.40 350	P	P	14 15 41.3	+0.9
	baz=160,SNR=29					
L18K	Granite Mounta	24.42 328	P	P	14 15 41.2	+0.5
	baz=125,SNR=32					
SN05	Snyder 5	24.45 107	IAmb	IAmb	14 15 50.6	
	comp=Z,63nm,1.5s					
INK	Inuvik	24.50 356	IAmb	IAmb	14 15 44.2	
	comp=Z,31nm,1.0s					
INK	Inuvik	24.50 356	P	P	14 15 42.0	+0.7
	baz=172,SNR=23					
INK	Inuvik	24.50 356	LR	LR	14 24 57.1	
	comp=Z,2μm,18.6s,baz=176,slow=36					
KSU1	Kansas State U	24.54 90	IAmb	IAmb	14 15 48.5	
	comp=Z,57nm,0.8s					
KSU1	Kansas State U	24.54 90	P	P	14 15 42.9	+1.0
	baz=292,SNR=15					
CROK	Carrier	24.62 97	IAmb	IAmb	14 15 58.1	
	comp=Z,59nm,1.0s					
G25K	Bearman Lake	24.66 344	P	P	14 15 44.7	+1.9
	baz=149,SNR=44					
H23K	Yukon River	24.66 340	IAmb	IAmb	14 15 53.6	
	comp=Z,59nm,1.2s					
H23K	Yukon River	24.66 340	P	P	14 15 43.7	+0.9
	baz=142,SNR=12					
M16K	Tinker Creek	24.69 324	P	P	14 15 43.8	+0.7
	baz=120,SNR=24					
APMT	Aspermont	24.72 106	IAmb	IAmb	14 15 48.2	
	comp=Z,64nm,1.6s					
KAN13	South Haven SW	24.76 96	IAmb	IAmb	14 15 46.9	
	comp=Z,60nm,1.3s					
J20K	Nowinta River	24.77 333	IAmb	IAmb	14 15 52.4	
	comp=Z,73nm,1.3s					
J20K	Nowinta River	24.77 333	P	P	14 15 44.6	+0.8
	baz=132,SNR=27					
N15K	Kwethluk River	24.77 322	P	P	14 15 44.8	+0.9
	baz=117					
TX31	Lajitas Ar. Si	24.82 118	IAmb	IAmb	14 15 57.3	
	comp=Z,82nm,1.5s					
TXAR	Lajitas Array	24.82 118	P	P	14 15 46.1	+1.5
	comp=Z,7.0nm,0.8s,baz=300,slow=7.7,SNR=44					
TXAR			PcP	PcP	14 19 20.2	-0.6
	comp=Z,0.4nm,0.6s,baz=221,slow=1.3,SNR=5.6					
TXAR			LR	LR	14 26 50.3	
	comp=Z,551nm,18.9s,baz=299,slow=40					
	comp=Z,7.0nm,0.8s					
G24K	Hadweenzic Riv	24.89 342	IAmb	IAmb	14 15 48.8	
	comp=Z,70nm,1.1s					
G24K	Hadweenzic Riv	24.89 342	P	P	14 15 45.6	+0.7
	baz=147,SNR=62					
WMOK	Wichita Mounta	24.91 101	P	P	14 15 45.9	+0.6
WMOK			IAmb	IAmb	14 15 54.2	
	comp=Z,69nm,1.1s					
WMOK	Wichita Mounta	24.91 101	P	P	14 15 45.6	+0.2
	baz=301,SNR=34					
WMOK	Wichita Mounta	24.91 101	P	P	14 15 45.9	+0.6
WMOK			pmax	pmax		
	comp=Z,69nm,1.1s					
E29M	Blow River	24.92 352	IAmb	IAmb	14 15 50.4	
	comp=Z,94nm,1.3s					
E29M	Blow River	24.92 352	P	P	14 15 46.6	+1.6
	baz=164,SNR=27					
BMAR	Burnt Mountain	24.95 346	P	P	14 15 46.8	+1.3
LPIG	La Paz	24.99 137	LR	LR	14 25 20.3	
	comp=Z,700nm,19.2s,baz=324,slow=36					
L17K	Donlin	25.00 327	P	P	14 15 46.6	+0.7
	baz=123,SNR=29					
BLOK	Blackwell	25.06 96	IAmb	IAmb	14 15 58.2	
	comp=Z,46nm,1.0s					
F26K	Sheenjek River	25.11 346	P	P	14 15 47.6	+0.7
	baz=153,SNR=39					
J19K	Poorman	25.13 332	P	P	14 15 47.1	0.0
	baz=130,SNR=58					
E27K	Coleen River	25.17 349	P	P	14 15 48.4	+1.1
	baz=158,SNR=64					
J18K	Innoko River	25.18 330	P	P	14 15 48.6	+1.1
	baz=127,SNR=57					
H22K	Ishtalitna Cre	25.19 338	P	P	14 15 48.6	+1.0
	baz=139					
L16K	Owhat River	25.25 325	P	P	14 15 49.8	+1.7
	baz=120,SNR=61					
M15K	Kasigluk River	25.28 323	P	P	14 15 49.1	+0.7
	baz=117,SNR=14					
F25K	Christian Rive	25.29 345	P	P	14 15 49.2	+0.7
	baz=151,SNR=66					
HPIG		25.29 125	P	P	14 15 49.5	+0.4
I20K	Naaghedeneel	25.30 334	P	P	14 15 50.0	+1.6
	baz=133,SNR=38					
E28M	Babbage River	25.30 351	IAmb	IAmb	14 15 53.6	
	comp=Z,42nm,1.1s					
E28M	Babbage River	25.30 351	P	P	14 15 49.9	+1.4
	baz=162,SNR=22					
K17K	Iditarod	25.32 328	P	P	14 15 49.3	+0.5
	baz=124,SNR=38					
N14K	Kuskokwak Cree	25.39 320	P	P	14 15 50.7	+1.4
	baz=114,SNR=7.1					
I37A	Lemond, Waseca	25.39 77	IAmb	IAmb	14 16 05.6	
	comp=Z,29nm,0.9s					
H21K	Melozitna Rive	25.41 337	IAmb	IAmb	14 15 53.1	
	comp=Z,67nm,1.2s					
H21K	Melozitna Rive	25.41 337	P	P	14 15 50.1	+0.5
	baz=137,SNR=54					
SAND	Sanderson	25.41 114	IAmb	IAmb	14 15 56.6	
	comp=Z,40nm,1.0s					
ABTX	Abilene, Hawle	25.45 107	P	P	14 15 51.8	+1.5
	baz=305					
G23K	Bananza Creek	25.49 341	IAmb	IAmb	14 15 54.4	
	comp=Z,87nm,1.2s					
G23K	Bananza Creek	25.49 341	P	P	14 15 51.0	+0.7
	baz=143,SNR=59					
SLBS	Sierra La Lagu	25.52 136	P	P	14 15 51.6	+0.7
C36M	Paulatuk	25.54 4	P	P	14 15 49.6	-1.1
C36M			IAmb	IAmb	14 15 54.6	
	comp=Z,37nm,1.3s					
C36M	Paulatuk	25.54 4	P	P	14 15 51.0	+0.3
	baz=188					
SPMN	Marine on St.	25.57 75	IAmb	IAmb	14 16 07.2	
	comp=Z,72nm,1.2s					
SPMN	Marine on St.	25.57 75	P	P	14 15 52.9	+1.7
	baz=280,SNR=10					
FNO	Franklin	25.63 99	IAmb	IAmb	14 16 04.4	
	comp=Z,97nm,1.6s					
F24K	Squaw Lake	25.67 343	P	P	14 15 52.6	+0.7
	baz=147,SNR=25					
M14K	Bethel	25.86 322	P	P	14 15 53.6	-0.1
	baz=115,SNR=17					
H20K	Anotleneega Mo	25.90 335	P	P	14 15 54.9	+0.8
	baz=133,SNR=100					
D28M	Stokes Point	25.91 352	P	P	14 15 54.6	+0.6
	baz=163					
IMAR	Indian Mountai	25.91 337	P	P	14 15 55.0	+0.8
COLD	Coldfoot	25.94 341	P	P	14 15 55.9	+1.5
	baz=143,SNR=20					
J17K	VABM Dome	26.00 329	IAmb	IAmb	14 16 02.5	
	comp=Z,79nm,1.3s					
J17K	VABM Dome	26.00 329	P	P	14 15 55.8	+0.9
	baz=124,SNR=15					
G22K	Bettles	26.02 340	P	P	14 15 56.8	+1.7
	baz=141					
GCSA	Galena City Sc	26.04 333	P	P	14 15 55.8	+0.6
	baz=129					
SCIA	State Center	26.05 82	P	P	14 15 55.6	0.0
	baz=287					
L15K	Ungalak Mounta	26.07 324	P	P	14 15 56.3	+0.7
	baz=118,SNR=8.2					
D27M	Malcolm River	26.08 350	IAmb	IAmb	14 16 00.9	
	comp=Z,68nm,1.4s					
D27M	Malcolm River	26.08 350	P	P	14 15 57.3	+1.7
	baz=160,SNR=13					
EYMN	Ely	26.10 68	IAmb	IAmb	14 16 00.3	
	comp=Z,29nm,0.9s					
EYMN	Ely	26.10 68	P	P	14 15 55.8	-0.3
	baz=275,SNR=36					
E38A	The Farm, Brul	26.22 71	IAmb	IAmb	14 16 00.7	
	comp=Z,37nm,1.4s					
E24K	Your Creek	26.27 343	IAmb	IAmb	14 16 01.5	
	comp=Z,41nm,1.2s					
E24K	Your Creek	26.27 343	P	P	14 15 58.2	+0.8
	baz=147,SNR=40					
FW03	Perrin-Whitt E	26.32 104	IAmb	IAmb	14 16 04.9	
	comp=Z,80nm,1.5s					
UNV	Unalaska Valle	26.34 305	P	P	14 15 59.1	+1.0
	baz=96					
M13K	Dall Lake	26.35 321	P	P	14 15 59.2	+1.1
	baz=113,SNR=11					
N38A	Joes South For	26.38 84	IAmb	IAmb	14 16 20.7	
	comp=Z,22nm,0.7s					
K15K	Wolf Creek Mou	26.38 325	IAmb	IAmb	14 16 07.1	
	comp=Z,58nm,1.1s					
K15K	Wolf Creek Mou	26.38 325	P	P	14 15 58.9	+0.5
	baz=119,SNR=13					
H19K	Roundabout Mou	26.41 334	P	P	14 15 58.3	-0.3
	baz=131,SNR=64					
L14K	Kuka Creek	26.43 323	P	P	14 15 59.6	+0.7
	baz=115					
TUL3	Leonard	26.47 96	P	P	14 16 00.2	+0.7
	baz=298					
E23K	Chandalar	26.49 343	P	P	14 16 00.0	+0.6
	baz=145,SNR=52					
J16K	Anvik River	26.52 328	IAmb	IAmb	14 16 03.6	
	comp=Z,52nm,1.0s					
J16K	Anvik River	26.52 328	P	P	14 16 00.1	+0.5
	baz=122,SNR=22					
P38A	Dawn	26.56 87	IAmb	IAmb	14 16 06.7	
	comp=Z,72nm,1.1s					
JCT	Junction City	26.62 111	IAmb	IAmb	14 16 08.6	
	comp=Z,60nm,1.4s					
JCT	Junction City	26.62 111	P	P	14 16 00.9	0.0
	baz=309,SNR=9.1					
F22K	John River	26.64 340	P	P	14 16 01.2	+0.5
	baz=140					
DRIO	Del Rio	26.75 113	IAmb	IAmb	14 16 09.2	
	comp=Z,61nm,1.3s					
F21K	Alatna River	26.75 339	IAmb	IAmb	14 16 18.8	
	comp=Z,47nm,1.2s					
F21K	Alatna River	26.75 339	P	P	14 16 01.8	0.0
	baz=138,SNR=20					
H18K	Honhosa River	26.78 333	P	P	14 16 02.5	+0.4
	baz=128					
C27K	Jago River	26.80 349	P	P	14 16 02.6	+0.5
	baz=156,SNR=28					
I17K	Unalakleet	26.87 329	P	P	14 16 04.1	+1.3
	baz=122,SNR=13					
D25K	Kavik River	26.94 346	IAmb	IAmb	14 16 11.7	
	comp=Z,38nm,1.1s					
D25K	Kavik River	26.94 346	P	P	14 16 05.1	+1.6
	baz=151,SNR=24					
TOLK	Toolik Lake Re	26.96 343	P	P	14 16 05.3	+1.6
	baz=146,SNR=40					
G19K	Purcell Mounta	27.01 335	P	P	14 16 04.1	+0.1
	baz=131,SNR=51					
FW13	Cleburne	27.14 105	IAmb	IAmb	14 16 14.1	
	comp=Z,119nm,2.0s					
H17K	Granite Mounta	27.18 331	P	P	14 16 05.8	+0.2
	baz=125,SNR=12					
F20K	Avaraart Lake	27.23 337	P	P	14 16 05.9	-0.1
	baz=134,SNR=14					
C26K	Camden Bay	27.24 348	P	P	14 16 07.0	+0.9
	baz=154					
D24K	Happy Valley	27.24 345	IAmb	IAmb	14 16 19.6	
	comp=Z,68nm,1.4s					
D24K	Happy Valley	27.24 345	P	P	14 16 07.0	+0.9
	baz=147,SNR=9.0					
WHTX	Lake Whitney,	27.33 105	P	P	14 16 07.8	+0.5
	baz=305					
G18K	Tagagawik	27.34 334	IAmb	IAmb	14 16 14.3	
	comp=Z,52nm,1.3s					
G18K	Tagagawik	27.34 334	P	P	14 16 07.8	+0.8
	baz=128,SNR=26					
G40A	Rib Lake	27.37 74	IAmb	IAmb	14 16 13.9	
	comp=Z,32nm,1.2s					
I40A	Norwalk	27.38 77	IAmb	IAmb	14 16 19.0	
	comp=Z,47nm,1.4s					
X37A	Clayton	27.41 99	IAmb	IAmb	14 16 20.9	
	comp=Z,63nm,1.2s					
J14K	Nanvaranak Lak	27.43 325	IAmb	IAmb	14 16 15.8	
	comp=Z,85nm,1.4s					
J14K	Nanvaranak Lak	27.43 325	P	P	14 16 08.0	+0.3
	baz=117					
D23K	Nanushuk River	27.46 343	P	P	14 16 09.3	+1.3
	baz=144					
K13K	Kusilvak Mount	27.54 323	P	P	14 16 09.5	+0.7
	baz=114					
M11K	Mekoryuk	27.66 320	P	P	14 16 10.8	+0.9
	baz=109					
F19K	Shaleruckik Mo	27.67 336	P	P	14 16 11.0	+1.1
	baz=131					
C24K	Franklin Bluff	27.70 345	P	P	14 16 11.3	+1.1
	baz=148					
G17K	Kiwalik Mounta	27.76 332	P	P	14 16 11.3	+0.5
	baz=125,SNR=13					
E21K	Killik River	27.79 340	P	P	14 16 11.5	+0.4
	baz=139,SNR=9.1					
D22K	Ayikyak River	27.83 342	IAmb	IAmb	14 16 15.5	
	comp=Z,55nm,1.5s					
D22K	Ayikyak River	27.83 342	P	P	14 16 11.6	+0.2
	baz=141,SNR=13					
H16K	Elim	27.84 330	P	P	14 16 11.0	-0.5
	baz=122					
JFWS	Jewell Farm	27.89 79	P	P	14 16 11.3	-0.9
	baz=286					
E19K	Redstone River	27.94 337	P	P	14 16 12.4	0.0
	baz=133					
435B	Jarrell	27.95 108	P	P	14 16 12.0	-0.8
	baz=307					
COWI	Conover	27.95 72	IAmb	IAmb	14 16 14.8	
	comp=Z,58nm,1.7s					
R40A	Maddies Statio	27.98 89	IAmb	IAmb	14 16 22.9	
	comp=Z,72nm,1.4s					
F18K	Selawik	28.10 334	P	P	14 16 13.8	+0.1
	baz=128,SNR=16					
A36M	Sachs Harbour	28.13 2	P	P	14 16 14.3	+0.3
A36M			IAmb	IAmb	14 16 16.9	
	comp=Z,26nm,1.1s					
A36M	Sachs Harbour	28.13 2	P	P	14 16 15.0	+1.0
	baz=185					
C23K	Itkillik River	28.16 344	IAmb	IAmb	14 16 18.4	
	comp=Z,66nm,1.4s					
C23K	Itkillik River	28.16 344	P	P	14 16 15.4	+1.1

baz=145,SNR=21
E20K Nigu River 28.21 339 P **P 14 16 16.4 +1.6**
baz=135
833A Chaparral WMA, 28.27 114 P **P 14 16 15.9 +0.2**
baz=312
G16K Koyuk River 28.29 331 P **P 14 16 15.5 +0.1**
baz=123
P08K Saint George I 28.44 311 P **P 14 16 16.6 -0.3**
baz=99
F17K Baldwin Pennin 28.51 333 IAmb IAmb 14 16 26.0
comp=Z,59nm,1.1s
F17K Baldwin Pennin 28.51 333 P **P 14 16 18.7 +1.3**
baz=126
C21K Knifeblade Rid 28.53 341 P **P 14 16 18.2 +0.6**
baz=138,SNR=13
L42A Oliver, Polo 28.56 80 IAmb IAmb 14 16 20.1
comp=Z,40nm,1.0s
I42A Draeger Farm, 28.57 76 IAmb IAmb 14 16 20.6
comp=Z,44nm,1.3s
D20K Etivluk River 28.65 339 P **P 14 16 19.5 +0.8**
baz=135
G15K Niukluk 28.69 329 P **P 14 16 18.1 -1.0**
baz=120
F42A Maple Grove Fa 28.70 72 IAmb IAmb 14 16 26.4
comp=Z,47nm,1.6s
MIAR Mount Ida 28.71 97 IAmb IAmb 14 16 34.8
comp=Z,66nm,1.4s
MIAR Mount Ida 28.71 97 P **P 14 16 19.3 -0.2**
baz=300,SNR=6.2
CCM Cathedral Cave 28.81 89 P **P 14 16 19.7 -0.7**
CCM Cathedral Cave 28.81 89 P **P 14 16 19.9 -0.6**
baz=294
CCM Cathedral Cave 28.81 89 P **P 14 16 19.7 -0.7**
CCM pmax pmax
comp=Z,107nm,1.8s
B21K Ikpikpuk River 28.84 342 IAmb IAmb 14 16 24.0
comp=Z,39nm,1.4s
B21K Ikpikpuk River 28.84 342 P **P 14 16 20.8 +0.5**
baz=139,SNR=7.8
D19K Kuna River 28.89 338 P **P 14 16 21.6 +0.8**
baz=133
E18K Tukpahlearik C 28.90 335 P **P 14 16 21.7 +0.8**
baz=128
SPIA Saint Paul Isl 28.91 312 P **P 14 16 20.1 -0.9**
baz=99
ANM Nome 28.98 328 P **P 14 16 21.7 0.0**
baz=118
E17K Hotham Inlet 29.07 334 P **P 14 16 22.5 0.0**
baz=126
B22K Teshekpuk Lake 29.14 343 IAmb IAmb 14 16 26.6
comp=Z,63nm,1.4s
B22K Teshekpuk Lake 29.14 343 P **P 14 16 23.4 +0.5**
baz=142
F15K North Star Dit 29.27 330 P **P 14 16 24.4 +0.2**
baz=120
WHAR Wooly Hollow 29.28 95 IAmb IAmb 14 16 41.9
comp=Z,36nm,1.2s
HDIL Hopedale 29.29 83 P **P 14 16 24.1 -0.4**
baz=290,SNR=11
K43A Burlington 29.30 78 IAmb IAmb 14 16 30.9
comp=Z,35nm,1.1s
NATX Nacogdoches 29.42 103 P **P 14 16 24.7 -1.1**
baz=304
P43A Skaggs, Pawnee 29.45 85 IAmb IAmb 14 16 32.2
comp=Z,54nm,1.3s
HKT Hockley 29.66 107 *i* P **P 14 16 29.8 +1.9**
HKT pmax pmax
comp=Z,52nm,1.5s
C19K Lookout Ridge 29.70 338 IAmb IAmb 14 16 31.6
comp=Z,33nm,1.4s
C19K Lookout Ridge 29.70 338 P **P 14 16 27.2 -0.8**
baz=132
B20K Meade River 29.72 341 P **P 14 16 26.2 -1.9**
baz=136
LCAR Lake Charles 29.73 92 IAmb IAmb 14 16 43.2
comp=Z,33nm,1.3s
L44A Lake County Fo 29.75 79 IAmb IAmb 14 16 30.6
comp=Z,42nm,1.1s
L44A Lake County Fo 29.75 79 P **P 14 16 27.2 -1.5**
baz=288
F14K Arctic Creek 29.77 329 P **P 14 16 27.3 -1.3**
baz=118
D17K Noatak River 29.83 334 P **P 14 16 27.6 -1.5**
baz=125,SNR=6.0
C18K Utukok River 29.85 337 IAmb IAmb 14 16 32.4
comp=Z,32nm,1.3s
C18K Utukok River 29.85 337 P **P 14 16 27.9 -1.4**
baz=129,SNR=11
M44A Midewin, Midew 29.90 81 IAmb IAmb 14 16 32.1
comp=Z,28nm,1.1s
PBMO Poplar Bluff 29.94 91 IAmb IAmb 14 16 34.4
comp=Z,62nm,1.8s
A22K Sinclair Lake 29.98 343 P **P 14 16 29.3 -1.1**
baz=140,SNR=8.3
RDOG Red Dog Mine 29.99 335 P **P 14 16 30.1 -0.4**
baz=126
C17K DeLong Mountai 30.32 336 P **P 14 16 33.0 -0.4**
baz=126,SNR=5.6
TNA Tin City 30.40 329 P **P 14 16 33.8 -0.4**
baz=116
B18K Kokolik River 30.47 338 P **P 14 16 34.4 -0.4**
baz=129
A21K Barrow 30.57 343 P **P 14 16 35.3 -0.3**
baz=138
A19K Wainwright 30.82 339 P **P 14 16 37.5 -0.4**
baz=131
C16K Lisburne Hills 30.86 334 P **P 14 16 37.4 -0.8**
baz=123,SNR=16
SFIN Lafayette 30.92 82 IAmb IAmb 14 16 45.5
comp=Z,60nm,1.4s
SFIN Lafayette 30.92 82 P **P 14 16 37.2 -1.9**
baz=291
E46A Sault Ste Mari 31.19 70 IAmb IAmb 14 16 45.1
comp=Z,15nm,0.9s
GAMB Gambell 31.22 324 P **P 14 16 40.4 -1.0**
baz=109,SNR=5.6
GLMI Grayling 31.33 73 P **P 14 16 40.9 -1.8**
baz=284
USIN University of 31.43 87 IAmb IAmb 14 16 54.2
comp=Z,53nm,1.2s
OXF Oxford 31.73 94 P **P 14 16 44.5 -1.7**
baz=300,SNR=13
BLO Bloomington 31.78 84 IAmb IAmb 14 16 52.6
comp=Z,41nm,1.1s
WVT Waverly 32.10 90 P **P 14 16 47.9 -1.6**
baz=297
VBMS Vicksburg 32.11 98 P **P 14 16 48.9 -0.6**
baz=303
T47A Sharon Grove 32.25 88 IAmb IAmb 14 17 01.5
comp=Z,25nm,1.2s
L48A N Adams 32.28 78 IAmb IAmb 14 16 53.0
comp=Z,46nm,1.1s
WCI Wyandotte Cave 32.31 85 P **P 14 16 51.0 -0.4**
baz=294
O48B Farmland 32.35 81 P **P 14 16 50.3 -1.3**
baz=291
P48A Milroy 32.45 83 IAmb IAmb 14 17 03.0
comp=Z,21nm,1.0s
PLAL Pickwick Lake 32.46 92 IAmb IAmb 14 16 57.0
comp=Z,18nm,0.9s
AAM Ann Arbor 32.72 77 P **P 14 16 54.7 0.0**
baz=289
N49A Columbus Grove 32.80 80 IAmb IAmb 14 16 57.4
comp=Z,37nm,1.2s
P49A Miami Univ. Ec 32.93 82 IAmb IAmb 14 17 02.4
comp=Z,36nm,1.3s
P49A Miami Univ. Ec 32.93 82 P **P 14 16 55.8 -0.9**
baz=292
O49A Covington 32.96 81 IAmb IAmb 14 17 00.9
comp=Z,41nm,1.6s
CLTN Cedars of Leba 33.20 89 IAmb IAmb 14 17 05.6
comp=Z,23nm,1.3s
Z47A Carrollton 33.35 95 IAmb IAmb 14 17 10.4
comp=Z,43nm,1.3s
U49A Red Boiling Sp 33.41 88 IAmb IAmb 14 17 12.2
comp=Z,77nm,2.0s
X48A Hartselle 33.46 92 IAmb IAmb 14 17 11.1
comp=Z,41nm,1.6s
ACSO Alum Creek Sta 33.91 80 IAmb IAmb 14 17 11.3
comp=Z,19nm,0.9s
ACSO Alum Creek Sta 33.91 80 P **P 14 17 04.4 -0.8**
baz=292
N51A Ashland 34.09 79 IAmb IAmb 14 17 12.7
comp=Z,34nm,1.1s
Q51A Peebles 34.11 82 IAmb IAmb 14 17 14.2
comp=Z,32nm,1.3s
P51A Williamsport 34.13 81 IAmb IAmb 14 17 08.7
comp=Z,21nm,1.0s

LRAL Lakeview Retre 34.20 94 P **P 14 17 06.5 -1.4**
baz=301
RES Resolute Bay 34.28 15 P **P 14 17 07.9 -0.2**
RES IAmb IAmb 14 17 10.9
comp=Z,44nm,1.1s
RES Resolute Bay 34.28 15 LR LR 14 31 29.4
comp=Z,315nm,21.2s,baz=260,slow=37
RES Resolute Bay 34.28 15 P **P 14 17 07.9 -0.2**
RES pmax pmax
comp=Z,44nm,1.1s
SSFO Shawnee State 34.35 83 IAmb IAmb 14 17 20.0
comp=Z,20nm,1.0s
W50A Signal Mountai 34.35 90 IAmb IAmb 14 17 19.3
comp=Z,48nm,1.5s
FPAL Fort Paine 34.45 91 IAmb IAmb 14 17 19.8
comp=Z,21nm,0.9s
P52A Corning 34.74 81 P **P 14 17 10.6 -1.8**
baz=293
O52A Adamsville 34.76 80 IAmb IAmb 14 17 18.4
comp=Z,31nm,1.4s
CPCT Cooper Cave 34.80 89 IAmb IAmb 14 17 19.3
comp=Z,47nm,1.8s
TZTN Tazewell 35.01 86 P **P 14 17 13.4 -1.4**
baz=297
SADO Sadowa 35.10 71 IAmb IAmb 14 17 18.6
comp=Z,32nm,1.2s
SADO Sadowa 35.10 71 LR LR 14 31 59.6
comp=Z,3µm,18.7s,baz=284,slow=37
M53A WI Miller and 35.10 77 P **P 14 17 14.4 -1.2**
baz=291
BRAL Brewton 35.16 97 P **P 14 17 15.2 -0.9**
baz=304
O53A New Philadelph 35.16 79 IAmb IAmb 14 17 17.9
comp=Z,30nm,1.2s
O53A New Philadelph 35.16 79 P **P 14 17 15.0 -1.1**
baz=292
N53A Lisbon 35.22 78 IAmb IAmb 14 17 18.4
comp=Z,37nm,1.2s
TKL Tuckaleechee C 35.25 88 P **P 14 17 17.0 +0.1**
comp=Z,3.7nm,1.0s,baz=235,slow=4.9,SNR=3.2
TKL LR LR 14 32 15.4
comp=Z,5µm,19.2s,baz=294,slow=37
comp=Z,3.7nm,1.0s
TKL Tuckaleechee C 35.25 88 P **P 14 17 17.0 +0.1**
P53A Whipple 35.32 81 IAmb IAmb 14 17 21.7
comp=Z,77nm,1.9s
ERPA Erie 35.35 76 P **P 14 17 16.6 -1.1**
baz=290
VLDQ Val d'Or 35.37 65 IAmb IAmb 14 17 17.3
comp=Z,30nm,1.5s
ALLY Alegheny Colle 35.40 76 IAmb IAmb 14 17 20.2
comp=Z,45nm,1.2s
O54A Avella 35.77 79 IAmb IAmb 14 17 27.6
comp=Z,36nm,1.3s
Y52A Lilburn 35.90 91 IAmb IAmb 14 17 32.1
comp=Z,19nm,0.9s
Q54A Coxs Mills 35.92 81 IAmb IAmb 14 17 28.7
comp=Z,58nm,1.6s
MCWV Mont Chateau 36.35 79 IAmb IAmb 14 17 32.6
comp=Z,60nm,1.7s
MCWV Mont Chateau 36.35 79 P **P 14 17 25.6 -0.7**
baz=293
M55A Ridgway 36.43 76 IAmb IAmb 14 17 33.4
comp=Z,61nm,1.4s
J55A Hilton 36.47 73 IAmb IAmb 14 17 33.0
comp=Z,25nm,0.8s
GOGA Godfrey 36.56 91 IAmb IAmb 14 17 33.9
comp=Z,42nm,1.7s
GOGA Godfrey 36.56 91 P **P 14 17 27.6 -0.5**
baz=300
R55A Marlinton 36.72 82 IAmb IAmb 14 17 41.0
comp=Z,23nm,1.1s
BLA Blacksburg 36.96 83 IAmb IAmb 14 17 43.0
comp=Z,30nm,1.1s
BLA Blacksburg 36.96 83 P **P 14 17 31.1 -0.4**
baz=296
Q56A Snyder Ridge, 37.07 80 IAmb IAmb 14 17 40.1
comp=Z,79nm,1.8s
KMSC Kings Mountain 37.25 87 P **P 14 17 33.7 -0.2**
baz=299
SSPA Standing Stone 37.36 77 P **P 14 17 33.7 -1.1**
SSPA Standing Stone 37.36 77 P **P 14 17 33.0 -1.9**
baz=293
TIGA Tifton 37.50 94 P **P 14 17 34.7 -1.4**
baz=303
M57A Sunshine Farm, 37.63 76 IAmb IAmb 14 17 38.9
comp=Z,46nm,1.2s
P57A Homestead Farm 37.72 79 IAmb IAmb 14 17 44.8
comp=Z,98nm,2.0s
TRQ Mont Tremblant 37.77 67 IAmb IAmb 14 17 39.6
comp=Z,57nm,1.5s
SHEM Shemya Is, Ala 37.98 304 LR LR 14 30 21.0
comp=Z,490nm,21.1s,baz=98,slow=32
N58A Sunbury 38.10 76 IAmb IAmb 14 17 42.9
comp=Z,32nm,1.1s
BINY Binghamton 38.11 74 P **P 14 17 39.8 -1.4**
baz=291
J58A Remsen 38.18 72 IAmb IAmb 14 17 43.3
comp=Z,35nm,1.3s
CBN Corbin Frederi 38.71 80 P **P 14 17 46.1 -0.1**
baz=296
FRB Frobisher Bay 38.84 38 LR LR 14 33 15.1
comp=Z,487nm,19.8s,baz=267,slow=36
T59A Double "B" Far 39.12 82 IAmb IAmb 14 17 53.6
comp=Z,49nm,1.8s
CMIG Matias Romero 39.23 122 LR LR 14 34 46.7
comp=Z,514nm,20.9s,baz=298,slow=37
PAL Palisades 40.00 75 P **P 14 17 55.4 -1.5**
baz=293
LBNH Lisbon 40.16 69 P **P 14 17 56.1 -2.2**
baz=290
L61B Northampton 40.29 72 P **P 14 17 58.0 -1.4**
baz=292
SCHQ Schefferville 40.50 52 P **P 14 17 59.1 -1.9**
comp=Z,12nm,1.1s,baz=269,slow=9.2,SNR=7.2
SCHQ LR LR 14 34 43.4
comp=Z,1µm,21.2s,baz=284,slow=36
comp=Z,12nm,1.1s
BILL Bilibino 40.84 329 P **P 14 18 03.4 -0.3**
BILL IAmb IAmb 14 18 11.6
comp=Z,59nm,1.2s
BILL Bilibino 40.84 329*d* *i* P **P 14 18 03.9 +0.3**
BILL *i* *PP **pP 14 18 04.9 -1.1**
BILL *i* *SP **pwP 14 18 08.7 -0.3**
BILL *i* 14 19 43.0
BILL *e* 14 20 04.1
BILL *e*S **S 14 24 10.6 -3.7**
BILL SSS SSS 14 27 39.0
BILL pmax pmax
comp=Z,62nm,1.7s
BILL MLR MLR
comp=Z,1µm,16.0s
TEIG Tepich 41.18 112 P **P 14 18 06.4 -0.5**
TEIG Tepich 41.18 112 LR LR 14 37 37.0
comp=Z,358nm,20.4s,baz=310,slow=40
PKME Peaks-Kenny Pk 41.57 67 P **P 14 18 08.5 -1.4**
baz=290
G65A Princeton 42.73 66 IAmb IAmb 14 18 21.2
comp=Z,63nm,1.6s
BATG Bathurst New B 42.99 63 P **P 14 18 21.4 0.0**
GGN Saint George 43.24 66 IAmb IAmb 14 18 25.4
comp=Z,52nm,1.5s
KULLO Kullorsuaq 43.31 22 *i* P **P 14 18 24.4 +0.8**
KULLO IAmb IAmb 14 18 26.5
comp=Z,81nm,1.3s
APG El Apazote 43.56 119 LR LR 14 37 50.2
comp=Z,45nm,18.8s,baz=313,slow=38
LMN Caledonia Moun 44.30 64 P **P 14 18 32.6 +0.5**
LMN IAmb IAmb 14 18 39.5
comp=Z,38nm,1.5s
NEEM North Greenlan 44.87 18 *i* P **P 14 18 36.7 +0.1**
NEEM IAmb IAmb 14 18 40.0
comp=Z,680nm,2.8s
SFJD Kangerlussuaq 46.04 32 LR LR 14 37 21.3
comp=Z,547nm,18.7s,baz=282,slow=35
NUUK Nuuk 46.16 36 *i* P **P 14 18 47.7 +1.1**
NUUK IAmb IAmb 14 18 50.0
comp=Z,19nm,1.1s
PET Petropavlovsk 46.94 308 *e*P **P 14 18 52.1 -0.7**
PET *e*S **S 14 25 42.4 -1.2**
PET pmax pmax
comp=Z,38nm,1.1s
SEY Seymchan 47.17 322 LR LR 14 37 30.7
comp=Z,428nm,21.7s,baz=124,slow=35
SEY Seymchan 47.17 322*ce*P **P 14 18 54.6 +0.1**
SEY pmax pmax
comp=Z,68nm,1.7s

DY2G Dye2 47.84 32 *i* P **P 14 18 59.8 -0.1**
DY2G IAmb IAmb 14 19 02.8
comp=Z,109nm,1.4s
IVI Ivigtut 48.54 40 *i* P **P 14 19 04.3 -0.7**
IVI IAmb IAmb 14 19 09.4
comp=Z,29nm,0.9s
SUMG Summit 48.82 24 P **P 14 19 07.4 -0.2**
SUMG Summit 48.82 24 P **P 14 19 07.4 -0.2**
SUMG pmax pmax
comp=Z,41nm,1.1s
SUMG Summit 48.82 24 *i* P **P 14 19 07.0 -0.6**
SUMG IAmb IAmb 14 19 10.6
comp=Z,34nm,1.0s
MA2 Magadan 48.91 318 P **P 14 19 08.6 +0.6**
MA2 Magadan 48.91 318 LR LR 14 38 14.4
comp=Z,386nm,18.3s,baz=72,slow=34
MA2 Magadan 48.91 318*ce*P **P 14 19 09.7 +1.7**
MA2 pmax pmax
comp=Z,48nm,1.7s
ICESG Greenland Ices 49.50 28 *i* P **P 14 19 11.5 -1.2**
ICESG IAmb IAmb 14 19 14.7
comp=Z,75nm,1.4s
JTS Las Juntas de 50.61 118 LR LR 14 44 53.1
comp=Z,263nm,19.9s,baz=312,slow=41
ISOG Isortoq, Green 50.96 32 *i* P **P 14 19 22.7 -0.7**
ISOG IAmb IAmb 14 19 26.1
comp=Z,43nm,1.3s
DAG Danmarks Havn 51.97 16 P **P 14 19 31.2 +0.3**
DAG Danmarks Havn 51.97 16 *i* P **P 14 19 31.0 +0.1**
DAG IAmb IAmb 14 19 33.1
comp=Z,22nm,1.1s
TIXI Tiksi 52.57 337 P **P 14 19 35.9 +0.6**
TIXI IAmb IAmb 14 19 37.3
comp=Z,35nm,1.1s
TIXI Tiksi 52.57 337 LR LR 14 42 40.0
comp=Z,581nm,18.5s,baz=88,slow=37
TIXI Tiksi 52.57 337*ce*P **P 14 19 34.2 -1.1**
TIXI pmax pmax
comp=Z,80nm,2.5s
DBG Daneborg 52.90 19 *i* P **P 14 19 37.2 -0.6**
DBG IAmb IAmb 14 19 40.6
comp=Z,65nm,1.2s
TYV Tymovskoe 56.80 311 *e*P **P 14 20 06.8 +0.4**
TYV *e*S **S 14 28 01.9 +2.6**
TYV pmax pmax
comp=Z,100nm,3.7s
TYV pmax pmax
comp=Z,13nm,1.4s
TYV smax smax
comp=N,100nm,5.1s
TYV smax smax
comp=E,100nm,5.1s
YAK Yakutsk 57.13 327 P **P 14 20 08.0 -0.5**
YAK Yakutsk 57.13 327 LR LR 14 43 47.6
comp=E,596nm,19.1s,baz=62,slow=35
YAK Yakutsk 57.13 327 *e*P **P 14 20 07.8 -0.7**
YAK *e* 14 21 00.7
YAK *e* 14 22 14.4
YAK *e*S **S 14 28 02.8 -0.4**
YAK *e**SS sS 14 28 19.8 +12
YAK *e* 14 29 51.3
YAK *e*SS **SS 14 31 48.6 -2.7**
YAK *e*SSS SSS 14 34 12.4
YAK pmax pmax
comp=Z,41nm,1.2s
YAK pmax pmax
comp=N,11nm,1.4s
YAK pmax pmax
comp=E,19nm,1.5s
YAK pmax pmax
comp=Z,208nm,7.4s
YAK pmax pmax
comp=N,36nm,2.7s
YAK pmax pmax
comp=E,35nm,2.4s
YAK smax smax
comp=N,138nm,6.3s
YAK smax smax
comp=E,83nm,5.8s
YAK MLR MLR
comp=E,429nm,23.0s
JMIC Jan Mayen 57.70 20 LR LR 14 44 28.8
comp=E,276nm,18.6s,baz=333,slow=36
BORG Borgarnes 57.87 29 LR LR 14 45 43.6
comp=E,389nm,18.2s,baz=306,slow=37
H11N3 WAKE ISLAND Hy 58.14 267 T T 15 23 01.2
baz=49,slow=75
H11N2 WAKE ISLAND Hy 58.15 267 T T 15 23 01.2
baz=49,slow=75
H11N1 WAKE ISLAND Hy 58.16 267 T T 15 23 01.8
baz=49,slow=75,SNR=8425
YSS Yuzh-Sakhalins 58.79 307 P **P 14 20 19.4 -1.0**
YSS IAmb IAmb 14 20 27.4
comp=Z,24nm,1.0s
YSS Yuzh-Sakhalins 58.79 307 *e*P **P 14 20 20.3 -0.1**
YSS *e*S **S 14 28 20.3 -5.1**
YSS *e*PS **PnS 14 28 39.0 +2.3**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS smax smax
comp=N,300nm,7.9s
YSS smax smax
comp=E,200nm,8.7s
YSS MLR MLR
comp=Z,200nm,16.0s
H11S1 WAKE ISLAND Hy 59.07 266 T T 15 24 14.3
baz=50,slow=75,SNR=2077
H11S2 WAKE ISLAND Hy 59.08 266 T T 15 24 16.0
baz=50,slow=75,SNR=1461
H11S3 WAKE ISLAND Hy 59.09 266 T T 15 24 17.1
baz=50,slow=75,SNR=1170
GRNR Gornyy 60.20 313 ⇑ *i* P **P 14 20 29.8 -0.3**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=N,160nm,14.0s
GRNR MLR MLR
comp=Z,210nm,14.0s
JKA Kamikawa-asahi 60.44 304 P **P 14 20 31.5 -0.3**
ASAJ Asahikawa 60.44 304 LR LR 14 42 08.8
comp=Z,276nm,21.7s,baz=64,slow=32
ASAJ Asahikawa 60.44 304 P **P 14 20 31.5 -0.3**
ASAJ pmax pmax
comp=Z,45nm,1.0s
SDV Santo Domingo 61.20 107 LR LR 14 50 32.5
comp=Z,299nm,18.2s,baz=306,slow=39
SDV Santo Domingo 61.20 107 *e*P **P 14 20 39.4 +1.8**
ERM Erimo 61.28 302 *i* P **P 14 20 38.9 +1.3**
ERM pmax pmax
comp=Z,62nm,1.3s
ROSC El Rosal 61.62 113 P **P 14 20 41.5 +0.9**
comp=Z,4.8nm,0.4s,baz=102,slow=22,SNR=6.7
ROSC LR LR 14 49 32.5
comp=Z,309nm,21.6s,baz=9.5,slow=38
comp=Z,4.8nm,0.4s
OTAV Otavalo 62.43 120 P **P 14 20 45.9 -0.3**
OTAV IAmb IAmb 14 20 48.7
comp=Z,15nm,1.2s
OTAV Otavalo 62.43 120 P **P 14 20 45.9 -0.3**
OTAV pmax pmax
comp=Z,15nm,1.2s
OTAV Otavalo 62.43 120 *e*P **P 14 20 47.5 +1.4**
BAUV El Baul 62.96 104 P **P 14 20 48.5 -0.7**
ZEA Zeya 63.01 320 *e*P **P 14 20 48.9 -0.1**
ZEA pmax pmax
comp=Z,100nm,2.3s
ZEA pmax pmax
comp=Z,20nm,1.2s
TEY Ternei 63.41 308 *e*P **P 14 20 49.7 -2.1**
KLR Kul'dur 63.55 314 LR LR 14 47 51.4
comp=Z,239nm,18.6s,baz=56,slow=36
KLR Kul'dur 63.55 314*ce*P **P 14 20 53.4 +0.8**
KLR pmax pmax
comp=Z,22nm,1.7s
NRIK Noril'sk 63.84 346 P **P 14 20 54.0 -0.2**
NRIK Noril'sk 63.84 346 P **P 14 20 53.9 -0.4**
comp=Z,20nm,1.1s,baz=57,slow=4.8,SNR=25
NRIK LR LR 14 49 46.1
comp=Z,230nm,20.1s,baz=48,slow=37
comp=Z,20nm,1.1s
NRIK Noril'sk 63.84 346*ce*P **P 14 20 54.8 +0.6**
NRIK pmax pmax
comp=Z,48nm,1.3s
PPT Papeete 64.12 202 LR LR 14 41 16.3
comp=Z,140nm,20.1s,baz=349,slow=29
PCRV Puerto La Cruz 64.50 101 LR LR 14 51 12.5

comp=Z,783nm,19.5s,slow=38
KEV Kevo 65.20 9 P P 14 21 02.5 -0.6
KEV IAmb IAmb 14 21 04.3
comp=Z,33nm,1.5s
KEV Kevo 65.20 9 P P 14 21 02.5 -0.6
KEV pmax pmax
comp=Z,33nm,1.5s
ARCES ARCESS Array B 65.23 10 P P 14 21 03.3 -0.1
ARCES IAmb IAmb 14 21 05.3
comp=Z,14nm,1.3s
ARCES ARCESS Array B 65.23 10 P P 14 21 03.3 -0.1
comp=Z,2.6nm,0.9s,baz=1.9,slow=7.3,SNR=7.1
ARCES LR LR 14 51 08.4
comp=Z,135nm,18.8s,baz=348,slow=38
comp=Z,2.6nm,0.9s
USA0B Ussuriysk Arra 66.53 309 *i* P **P 14 21 12.2 +0.1**
USRK Ussuriysk Ar. 66.53 309 P **P 14 21 11.6 -0.5**
USRK Ussuriysk Ar. 66.53 309 P **P 14 21 12.1 0.0**
comp=Z,12nm,1.1s,baz=46,slow=5.2,SNR=15
USRK LR LR 14 47 34.7
comp=Z,329nm,21.8s,baz=38,slow=34
comp=Z,12nm,1.1s
VLA Vladivostok 67.27 308 *i* P **P 14 21 16.0 -0.8**
VLA pmax pmax
comp=Z,43nm,1.6s
MAJO Matsushiro 67.63 300 P **P 14 21 19.2 0.0**
MAJO IAmb IAmb 14 21 25.8
comp=Z,17nm,0.9s
MAJO Matsushiro 67.63 300 P **P 14 21 19.2 0.0**
MAJO pmax pmax
comp=Z,17nm,0.9s
MJAR Matsushiro Arr 67.63 300 P **P 14 21 18.0 -1.2**
comp=Z,3.1nm,0.9s,baz=40,slow=5.2,SNR=8.0
comp=Z,3.1nm,0.9s
MJB9 Matsu-Tunnel 67.63 300 P **P 14 21 20.0 +0.7**
MJB9 IAmb IAmb 14 21 26.8
comp=Z,16nm,0.9s
LVZ Lovozero 67.75 7 P **P 14 21 18.4 -1.1**
LVZ Lovozero 67.75 7 *ce*P **P 14 21 19.3 -0.2**
LVZ pmax pmax
comp=Z,30nm,1.0s
LVZ Lovozero 67.75 7 P **P 14 21 20.6 +1.1**
comp=Z,35nm,1.2s
APA Apatity 67.96 7 ⇓ *i* P **P 14 21 19.5 -1.3**
APA pmax pmax
comp=Z,5.0nm,1.1s
BNX BinXian 68.04 313 ⇓ P **P 14 21 21.5 -0.1**
BNX S **S 14 30 22.5 +1.7**
BNX pmax pmax
comp=Z,14nm,1.0s
BNX LR LR
comp=Z,230nm,14.9s
BNX LR LR
comp=Z,200nm,17.3s
BNX LR LR
comp=Z,300nm,16.5s
JHJ Hachijo jima 2 68.77 296 LR LR 14 54 13.2
comp=Z,106nm,18.1s,baz=80,slow=38
CIT Chita 70.27 324 *e*P **P 14 21 36.8 +1.4**
CIT *e* 14 21 58.2
CIT *e* 14 24 14.9
CIT pmax pmax
comp=Z,100nm,1.9s
CN2 Changchun 70.36 312 *e*P **P 14 21 35.5 -0.6**
CN2 *e*S **S 14 30 46.8 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
NB2 NORSAR Subarra 70.42 19 P **P 14 21 36.0 -0.2**
comp=Z,0.9nm,0.7s,baz=332,slow=6.2
NOA NORSAR Array B 70.42 19 P **P 14 21 35.9 -0.2**
comp=Z,5.3nm,1.1s,baz=333,slow=6.0,SNR=5.9
NOA LR LR 14 52 49.8
comp=Z,198nm,19.1s,baz=335,slow=36
comp=Z,5.3nm,1.1s
EKA Eskdalemuir Ar 70.90 29 P **P 14 21 38.2 -1.0**
comp=Z,0.6nm,0.5s,baz=311,slow=5.6,SNR=1.8
comp=Z,0.6nm,0.5s
HFS Hagfors 71.80 19 P **P 14 21 43.5 -1.0**
comp=Z,3.8nm,0.8s,baz=28,slow=3.5,SNR=7.3
HFS LR LR 14 51 33.8
comp=Z,231nm,21.0s,baz=329,slow=34
comp=Z,3.8nm,0.8s
ADZR Andozero 71.95 6 *e*P **P 14 21 44.1 -1.2**
ADZR pmax pmax
comp=Z,33nm,0.5s
CZSB Cruzeiro do Su 72.19 120 P **P 14 21 46.5 -0.9**
CZSB IAmb IAmb 14 21 54.6
comp=Z,19nm,1.0s
BOAV Boa Vista 72.85 104 P **P 14 21 51.5 +0.1**
BOAV IAmb IAmb 14 22 16.9
comp=Z,12nm,1.1s
FINES FINESS Array B 72.98 12 P **P 14 21 51.8 +0.3**
FINES FINESS Array B 72.98 12 P **P 14 21 51.2 -0.2**
comp=Z,6.1nm,1.0s,baz=348,slow=8.0,SNR=9.0
FINES LR LR 14 52 38.7
comp=Z,155nm,20.1s,baz=346,slow=35
comp=Z,6.1nm,1.0s
FINES FINESS Array B 72.98 12 P **P 14 21 51.8 +0.3**
RPN Rapa Nui 73.00 162 LR LR 14 45 56.4
comp=Z,93nm,18.3s,baz=321,slow=29
KSRS Korea Array 73.28 306 P **P 14 21 54.4 +0.7**
comp=Z,2.6nm,0.9s,baz=60,slow=7.5,SNR=6.4
KSRS LR LR 14 49 36.5
comp=Z,140nm,21.8s,baz=45,slow=32
comp=Z,2.6nm,0.9s
KSAR Wonju Array Be 73.31 306 P **P 14 21 53.1 -0.8**
KSAR Wonju Array Be 73.31 306 P **P 14 21 53.1 -0.8**
VALR Valaam 73.73 10 *e*P **P 14 21 55.8 -0.1**
VALR pmax pmax
comp=Z,49nm,1.1s
IRK Irkutsk 73.77 329 *e*P **P 14 21 55.2 -1.2**
IRK pmax pmax
comp=Z,120nm,2.0s
XLT XiLinHaoTe 75.09 317 *e*P **P 14 22 04.8 +0.5**
XLT pP pwP 14 22 09.5 -0.4
XLT S **S 14 31 38.0 -4.5**
XLT pmax pmax
comp=Z,13nm,1.2s
XLT LR LR
comp=Z,510nm,13.8s
XLT LR LR
comp=Z,310nm,24.1s
ZAK Zakamensk 75.64 329 *e*P **P 14 22 07.7 +0.4**
ZAK pmax pmax
comp=Z,20nm,1.6s
DL2 Dalian 75.83 311 P **P 14 22 09.3 +0.8**
DL2 S **S 14 31 54.0 +3.4**
DL2 pmax pmax
comp=Z,21nm,1.0s
DL2 LR LR
comp=Z,460nm,21.8s
DL2 LR LR
comp=Z,410nm,19.5s
DL2 LR LR
comp=Z,580nm,19.7s
ULN Ulaanbaatar 76.16 325 P **P 14 22 10.2 -0.2**
ULN Ulaanbaatar 76.16 325 *ce*P **P 14 22 11.4 +1.0**
ULN pmax pmax
comp=Z,30nm,1.7s
SONM Songino Array 76.45 325 P **P 14 22 12.0 -0.1**
SONM Songino Array 76.45 325 P **P 14 22 13.0 +0.9**
comp=Z,15nm,1.1s,baz=48,slow=3.6,SNR=54
comp=Z,15nm,1.1s
SONM Songino Array 76.45 325 P **P 14 22 12.0 -0.1**
SONM pmax pmax
comp=Z,55nm,1.3s
MDP Montagnes des 76.56 96 LR LR 14 57 52.7
comp=Z,289nm,20.4s,baz=300,slow=37
KIRV Kirov 77.78 1 LR LR 14 59 50.4
comp=Z,198nm,18.9s,baz=0.4,slow=38
KIRV Kirov 77.78 1 *ce*P **P 14 22 20.6 +1.5**
ETMB Extrema 77.90 116 IAmb IAmb 14 22 26.7
comp=Z,16nm,0.9s
GUMO Guam 78.04 277 LR LR 14 49 20.2
comp=Z,477nm,21.4s,baz=60,slow=30
ZAA0 Zalesovo Array 78.28 340 IAmb IAmb 14 22 29.6
comp=Z,47nm,1.6s
ZALV Zalesovo Beam 78.28 340 P **P 14 22 21.2 -0.8**
comp=Z,4.3nm,0.8s,baz=20,slow=5.5,SNR=22
ZALV LR LR 15 00 02.3
comp=Z,200nm,18.1s,baz=32,slow=38
comp=Z,4.3nm,0.8s
SVE Sverdlovsk 79.24 355 *e*P **P 14 22 28.2 +1.0**
SVE pmax pmax
comp=Z,37nm,1.5s
CLL Collm 79.49 23 *i* P **P 14 22 29.6 +0.9**
CLL *e*S **S 14 32 36.0 +6.2**
CLL pmax pmax
comp=Z,18nm,1.5s
CLL Collm 79.49 23 P **P 14 22 30.1 +1.4**
comp=Z,8.8nm,1.9s
HHC Hu-ho-hao-te 79.59 318 *e*P **P 14 22 30.3 +0.7**
HHC SS SS 14 37 41.8 +3.5
HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,45nm,3.7s
HHC LR LR
comp=Z,270nm,14.5s
HHC LR LR
comp=Z,300nm,15.5s
HHC LR LR
comp=Z,320nm,18.0s
ARU Arti 79.76 356 P **P 14 22 28.8 -1.3**
ARU IAmb IAmb 14 22 32.0
comp=Z,30nm,1.2s
ARU Arti 79.76 356 LR LR 15 01 21.0
comp=Z,171nm,18.3s,baz=0.5,slow=38
ARU Arti 79.76 356 *c i* P **P 14 22 30.9 +0.8**
ARU 14 25 34.4
ARU S **S 14 32 34.3 +1.8**
ARU SS **SS 14 37 40.3 +0.7**
ARU pmax pmax
comp=Z,35nm,1.3s
ARU Arti 79.76 356 P **P 14 22 30.7 +0.6**
comp=Z,22nm,1.4s,comp=Z,340nm
MNK Minsk 79.90 14 *i* P **P 14 22 29.3 -1.6**
MNK *i* 14 25 30.1
MNK *i* S **S 14 32 32.7 -1.3**
MNK *i* SS **SS 14 37 42.4 +0.5**
MNK *i* SSS SSS 14 41 08.2
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=Z,13nm,1.3s
MNK MLR MLR
comp=Z,200nm,19.0s
MOS Moscow 79.99 8 *e*P **P 14 22 29.4 -1.9**
MOS pmax pmax
comp=Z,29nm,0.7s
BRG Berggiesshubel 80.15 23 *e*P **P 14 22 33.6 +1.3**
BRG Amp 14 22 36.0
comp=Z,24nm,1.4s
BRG Berggiesshubel 80.15 23 *e*P **P 14 22 33.6 +1.3**
BRG pmax pmax
comp=Z,24nm,1.4s
BRG MLR MLR
comp=N,236nm,15.0s
BRG MLR MLR
comp=E,170nm,15.0s
BRG MLR MLR
comp=Z,395nm,18.0s
TIA Tai'an 80.24 311 *e*P **P 14 22 33.3 +0.2**
TIA pmax pmax
comp=Z,14nm,1.4s
TIA LR LR
comp=Z,220nm,24.5s
TIA LR LR
comp=Z,460nm,23.0s
TIA LR LR
comp=Z,520nm,18.6s
JOW Kunigami 80.38 298 LR LR 14 52 44.3
comp=Z,171nm,21.9s,baz=186,slow=32
OBN Obninsk 80.50 8 LR LR 14 59 28.8
comp=Z,314nm,19.4s,baz=4.0,slow=37
OBN Obninsk 80.50 8 *ce*P **P 14 22 34.5 +0.5**
OBN *e* 14 22 38.7
OBN *i* 14 22 40.7
OBN S S 14 32 31.0 -9.2
OBN *e*PS **PnS 14 33 19.2 -5.6**
OBN PPS PPS 14 33 40.0
OBN pmax pmax
comp=Z,46nm,1.3s
OBN MLR MLR
comp=Z,285nm,19.0s
OBN Obninsk 80.50 8 P **P 14 22 35.4 +1.4**
comp=Z,17nm,0.5s,comp=Z,584nm
BTO Baotou 80.52 319 *e*P **P 14 22 34.8 +0.2**
BTO pP **sP 14 22 39.5 +1.4**
BTO sP **PcP 14 22 41.8 +0.2**
BTO S **S 14 32 39.5 -1.8**
BTO SS **SS 14 37 56.0 +3.8**
BTO pmax pmax
comp=Z,32nm,1.0s
BTO pmax pmax
comp=Z,240nm,10.2s
BTO LR LR
comp=Z,1μm,18.2s
BTO LR LR
comp=Z,1μm,18.2s
BTO LR LR
comp=Z,1μm,21.8s
HNS HongShan 80.64 314 ⇑ P **P 14 22 36.0 +0.9**
HNS S **S 14 32 47.5 +5.2**
HNS pmax pmax
comp=Z,15nm,1.4s
HNS LR LR
comp=Z,360nm,19.0s
HNS LR LR
comp=Z,340nm,17.5s
BFO Black Forest 80.67 27 P **P 14 22 35.1 -0.1**
BFO Black Forest 80.67 27 P **P 14 22 35.1 -0.1**
BFO pmax pmax
comp=Z,17nm,1.4s
KSP Ksiaz 80.81 22 *e*P **P 14 22 37.1 +1.2**
KSP Ksiaz 80.81 22 P **P 14 22 37.2 +1.3**
comp=Z,13nm,1.8s
BEL Belsk 81.01 19 *e*P **P 14 22 38.3 +1.4**
DPC Dobruska-Polom 81.27 22 P **P 14 22 39.7 +1.3**
comp=Z,9.4nm,1.7s
KHC Kasperske Hory 81.61 24 *ce*P **P 14 22 42.2 +2.0**
KHC pmax pmax
comp=Z,39nm,2.5s
KHC Kasperske Hory 81.61 24 P **P 14 22 41.7 +1.5**
comp=Z,6.3nm,1.6s
LPAZ La Paz 81.61 122 IAmb IAmb 14 22 47.9
comp=Z,11nm,0.8s
LPAZ La Paz 81.61 122 P **P 14 22 40.9 -0.3**
comp=Z,7.2nm,0.7s,baz=352,slow=5.7,SNR=20
comp=Z,7.2nm,0.7s
LPAZ La Paz 81.61 122 *e*P **P 14 22 41.2 0.0**
GEC2 GERESS Array S 81.90 24 IAmb IAmb 14 22 49.7
comp=Z,22nm,1.9s
GERES GERESS Array B 81.90 24 P **P 14 22 41.1 -0.7**
GERES GERESS Array B 81.90 24 P **P 14 22 41.5 -0.3**
comp=Z,0.9nm,0.7s,baz=328,slow=6.6,SNR=6.8
comp=Z,0.9nm,0.7s
BVAR Borovoye Array 81.96 348 P **P 14 22 41.2 -0.7**
comp=Z,6.5nm,0.8s,baz=20,slow=4.7,SNR=35
BVAR LR LR 15 01 27.1
comp=Z,249nm,20.4s,baz=31,slow=38
comp=Z,6.5nm,0.8s
DAVA Damuels 82.10 27 *e*pP pP 14 22 44.8 -0.7
comp=Z,5.7nm,1.3s
MORC Moravsky Berou 82.12 21 *e*P **P 14 22 43.8 +0.9**
OJC Ojcow 82.28 20 *e*P **P 14 22 43.7 +0.1**
OJC Ojcow 82.28 20 IAmb IAmb 14 22 46.2
comp=Z,12nm,1.2s
OJC Ojcow 82.28 20 P **P 14 22 44.4 +0.8**
comp=Z,7.6nm,1.2s
VRAC Vranov 82.29 22 *e*P **P 14 22 44.6 +0.9**
VRAC Vranov 82.29 22 LR LR 14 58 34.3
comp=Z,245nm,21.8s,baz=332,slow=35
NJ2 Nanjing 82.35 308 *e*P **P 14 22 44.5 +0.2**
NJ2 sP **sP 14 22 48.5 +0.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,370nm,3.8s
MOTA Moosalm 82.44 26 *e*pP pP 14 22 47.1 -0.2
comp=Z,7.7nm,1.8s
KRUC Moravsky 82.46 22 *e*P **P 14 22 45.1 +0.5**
DAVOX Davos/Dischmat 82.54 27 LR LR 14 59 18.0
comp=Z,326nm,19.1s,baz=268,slow=36
SQTA Sankt Quirin 82.58 26 *e*pP pP 14 22 46.9 -1.1
comp=Z,9.0nm,1.5s
WATA Walderalm 82.60 26 *e*pP **P 14 22 46.7 +1.1**
comp=Z,0.3nm,0.2s
FETA Feichten 82.61 27 *e*pP **P 14 22 46.2 +0.6**
comp=Z,6.4nm,1.4s
SEM Semipalatinsk 82.63 342 *e*P **P 14 22 46.1 +0.4**
comp=Z,17nm,1.2s,baz=342
SEM Semipalatinsk 82.63 342 *e*P **P 14 22 46.1 +0.4**
SEM pmax pmax
comp=Z,17nm,1.2s
WTTA Wattenberg 82.68 26 *e*pP pP 14 22 47.5 -1.1
comp=Z,6.7nm,1.2s
KURK Kurchatov 82.70 343 P **P 14 22 45.8 +0.1**
KURK Kurchatov 82.70 343 *ce*P **P 14 22 46.6 +0.8**
KURK pmax pmax
comp=Z,46nm,1.7s
KURBB Kurchatov Arra 82.80 343 P **P 14 22 45.6 -0.7**
comp=Z,11nm,0.9s,baz=22,slow=5.0,SNR=55
KURBB LR LR 15 04 11.6
comp=Z,248nm,18.8s,baz=174,slow=39
comp=Z,11nm,0.9s
FUORN Ofenpass-Fuorn 82.81 27 IAmb IAmb 14 22 50.7
comp=Z,25nm,1.6s
LESA Schwarzleotal 82.86 25 *e*pP **P 14 22 47.8 +0.9**
comp=Z,5.3nm,1.2s
BIOA Bad Ischl, Aus 82.91 24 *e*pP **P 14 22 48.1 +1.1**
comp=Z,5.6nm,1.4s
CEST Esterri de Car 82.92 35 IAmb IAmb 14 22 51.3
comp=Z,69nm,2.0s
MOA Molln 82.96 24 *e*pP **P 14 22 48.1 +0.9**
comp=Z,6.9nm,1.3s
ESDC Sonseca Array 83.03 40 P **P 14 22 47.7 -0.1**
ESDC IAmb IAmb 14 22 50.0
comp=Z,14nm,1.6s
ESDC Sonseca Array 83.03 40 P **P 14 22 46.8 -1.0**
comp=Z,2.8nm,1.2s,baz=307,slow=4.4,SNR=10.0
ESDC LR LR 14 57 35.8
comp=Z,294nm,18.0s,baz=310,slow=34
comp=Z,2.8nm,1.2s
NIE Niedzica 83.14 20 *e*P **P 14 22 50.3 +2.1**
LANS Liptovska Anna 83.19 20 *e*P **P 14 22 49.9 +1.5**
LANS pmax pmax
comp=Z,6.0nm,1.2s
LANS Liptovska Anna 83.19 20 *e*P **P 14 22 49.9 +1.5**
HNR Honiara 83.28 250 LR LR 14 52 10.9
comp=Z,9μm,21.6s,baz=39,slow=30
MODS Modra-Piesok 83.33 22 *e*P **P 14 22 51.0 +1.8**
MODS pmax pmax
comp=Z,44nm,1.3s
MODS Modra-Piesok 83.33 22 *e*P **P 14 22 51.0 +1.8**
CONA Conrad Observa 83.35 23 *e*pP **P 14 22 50.7 +1.4**
comp=Z,11nm,1.3s,SNR=6.3
KBA Koelnbreinsper 83.38 25 *e*pP **P 14 22 50.9 +1.2**
comp=Z,7.8nm,1.3s
ABTA Abfaltersbach 83.41 26 pP **P 14 22 50.8 +1.0**
comp=Z,13nm,1.5s,SNR=8.1
KWP Kalwaria Pacla 83.51 18 *e*P **P 14 22 50.8 +0.8**
KWP Kalwaria Pacla 83.51 18 IAmb IAmb 14 23 28.3
comp=Z,22nm,1.4s
VYHS Vyhne 83.63 21 *e*P **P 14 22 51.9 +1.2**
VYHS pmax pmax
comp=Z,38nm,2.2s
VYHS Vyhne 83.63 21 *e*P **P 14 22 51.9 +1.2**
RONA Rosalia, Austr 83.68 23 *e*pP pP 14 22 52.5 -1.0
comp=Z,10nm,1.5s
AKASG Malin Array Be 83.78 14 P **P 14 22 50.7 -0.6**
comp=Z,3.6nm,1.0s,baz=337,slow=4.4,SNR=16
AKASG LR LR 14 58 53.5
comp=Z,186nm,21.1s,baz=20,slow=35
comp=Z,3.6nm,1.0s
AKBB Malin Array Si 83.78 14 *ce*P **P 14 22 52.0 +0.6**
AKBB pmax pmax
comp=Z,23nm,1.5s
KIEV Kiev 83.79 14 P **P 14 22 50.8 -0.6**
KIEV IAmb IAmb 14 22 53.1
comp=Z,30nm,1.6s
KIEV Kiev 83.79 14 P **P 14 22 50.8 -0.6**
KIEV pmax pmax
comp=Z,30nm,1.6s
KIEV Kiev 83.79 14 P **P 14 22 51.6 +0.2**
comp=Z,49nm,1.2s
ARSA Arzberg 83.86 24 *e*pP pP 14 22 53.4 -1.1
comp=Z,13nm,1.6s,SNR=6.9
MYKA Terra Mystica 83.87 25 *e*pP **P 14 22 52.7 +0.7**
comp=Z,4.8nm,1.0s
CRVS Cervenica-Dubn 83.90 19 *e*P **P 14 22 53.4 +1.3**
CRVS pmax pmax
comp=Z,24nm,1.4s
CRVS Cervenica-Dubn 83.90 19 *e*P **P 14 22 53.4 +1.3**
BELG Belogornoye 83.95 2 LR LR 15 05 27.7
comp=Z,107nm,18.9s,baz=1.4,slow=39
LYN LuoYang 83.98 313 *e*P **P 14 22 53.3 +0.6**
LYN pP pwP 14 23 00.0 +1.7
LYN pmax pmax
comp=Z,30nm,0.5s
LYN pmax pmax
comp=Z,210nm,7.6s
LYN LR LR
comp=Z,460nm,14.8s
LYN LR LR
comp=Z,290nm,14.4s
LYN LR LR
comp=Z,600nm,22.3s
SRO Srobarova 84.12 22 *e*P **P 14 22 55.9 +2.7**
SRO Srobarova 84.12 22 *e*P **P 14 22 55.9 +2.7**
VILB Vilhena 84.15 114 IAmb IAmb 14 23 09.8
comp=Z,16nm,0.8s
VORR Voronezh 84.16 7 *e*P **P 14 22 53.5 +0.2**
VORR pmax pmax
comp=Z,42nm,0.4s
ZSN Zaisan 84.21 338 *e*P **P 14 22 54.6 +0.8**
comp=Z,16nm,1.0s,baz=338
ZSN Zaisan 84.21 338 *e*P **P 14 22 54.5 +0.8**
ZSN pmax pmax
comp=Z,16nm,1.0s
SOKA Soboth 84.24 24 *e*pP **P 14 22 54.6 +0.7**
comp=Z,20nm,1.3s,SNR=11
OBKA Obir 84.25 24 *e*pP **P 14 22 54.7 +0.7**
comp=Z,6.3nm,0.8s,SNR=7.1
PSZ Piszkesteto 84.44 21 P **P 14 22 56.9 +2.0**
PB01 IPOC Station P 84.47 126 IAmb IAmb 14 23 02.4
comp=Z,15nm,1.0s
MPLH Magyarpolny 84.50 22 P **P 14 22 56.8 +1.7**
VRH Novokhopyorsk 84.84 6 *e*P **P 14 22 56.3 -0.4**
VRH pmax pmax
comp=Z,13nm,0.6s
MK31 Makanchi Array 85.50 339 IAmb IAmb 14 23 07.1
comp=Z,24nm,1.4s
MK31 Makanchi Array 85.50 339 *ce*P **P 14 23 00.7 +0.5**
MKAR Makanchi Array 85.50 339 P **P 14 22 59.8 -0.4**
MKAR Makanchi Array 85.50 339 P **P 14 23 00.3 +0.1**
comp=Z,2.0nm,0.7s,baz=30,slow=5.6,SNR=23
MKAR LR LR 15 03 44.1
comp=Z,363nm,19.8s,baz=344,slow=38
comp=Z,2.0nm,0.7s
MAKZ Makanchi 85.57 339 P **P 14 23 00.3 -0.2**
MAKZ Makanchi 85.57 339 P **P 14 23 00.3 -0.2**
MAKZ pmax pmax
comp=Z,52nm,1.5s
AKTO Aktyubinsk 85.77 356 LR LR 15 05 51.5
comp=Z,172nm,18.1s,baz=8.0,slow=39
SIV San Ignacio 85.82 117 LR LR 15 06 27.9
comp=Z,262nm,18.5s,baz=320,slow=39
BUR08 Bucovina Ar. S 85.93 17 IAmb IAmb 14 23 10.8
comp=Z,24nm,1.8s
BURAR Bucovina Array 85.96 17 P **P 14 23 01.6 -1.0**
BURAR Bucovina Array 85.96 17 P **P 14 23 01.6 -1.0**
BURAR pmax pmax
comp=Z,14nm,2.0s
WHN Wuhan 86.03 309 P P 14 23 08.8 +5.8
WHN S **S 14 33 38.0 +0.9**
WHN LR LR
comp=Z,680nm,25.1s
GTA Gaotai 86.08 324 P **P 14 23 04.5 +1.2**
GTA pP pwP 14 23 09.8 +0.9
GTA pmax pmax
comp=Z,9.0nm,1.8s
GTA pmax pmax
comp=Z,85nm,3.6s
GTA LR LR
comp=Z,300nm,23.9s
GTA LR LR
comp=Z,420nm,20.7s
GTA LR LR
comp=Z,440nm,19.5s

XAN	**Xi'an**	**86.21 315**	P	**P**	**14 23 04.3 +0.3**
XAN			pmax	pmax	
	comp=Z,17nm,1.5s				
XAN			LR	LR	
	comp=Z,400nm,19.2s				
XAN			LR	LR	
	comp=Z,550nm,19.6s				
XAN			LR	LR	
	comp=Z,610nm,21.5s				
WMQ	**Urumqi**	**86.68 334**	*e*P	**P**	**14 23 07.3 +1.1**
WMQ			pmax	pmax	
	comp=Z,17nm,0.9s				
WMQ			pmax	pmax	
	comp=Z,120nm,3.8s				
WMQ			LR	LR	
	comp=Z,350nm,16.1s				
WMQ			LR	LR	
	comp=Z,430nm,18.5s				
WMQ			LR	LR	
	comp=Z,330nm,23.1s				
ABKAR	**Akbulak array**	**86.82 354**	P	**P**	**14 23 07.0 +0.3**
ABKAR	**Akbulak array**	**86.82 354**	IAmb	IAmb	14 23 09.2
	comp=Z,29nm,1.4s				
BBSD	**Serra de San D**	**87.00 117**	*e*P	**P**	**14 23 06.8 -1.0**
LZH	**Lanzhou**	**87.04 320**	*e*P	**P**	**14 23 09.0 +0.8**
LZH			pP	pwP	14 23 14.8 +1.0
LZH			pmax	pmax	
	comp=Z,28nm,1.4s				
LZH			LR	LR	
	comp=Z,480nm,19.9s				
LZH			LR	LR	
	comp=Z,660nm,19.6s				
LZH			LR	LR	
	comp=Z,630nm,22.0s				
MILM	**Milestii Mici**	**87.35 15**	*e*P	**P**	**14 23 05.0 -4.2**
MILM			*e*L	L	15 02 52.0
MILM			LRM	MLR	15 06 09.0
	comp=Z,200nm,16.0s				
MILM	**Milestii Mici**	**87.35 15**	*e*P	**P**	**14 23 05.0 -4.2**
MILM			MLR	MLR	
	comp=Z,200nm,16.0s				
MLR	**Muntele Rosu**	**88.14 17**	LR	LR	15 04 30.5
	comp=Z,283nm,18.2s,baz=340,slow=37				
MDT	**Midelt**	**88.22 44**	LR	LR	15 01 43.8
	comp=Z,106nm,18.1s,baz=342,slow=35				
DZM	**Mont Dzumac**	**88.42 237**	P	**P**	**14 23 14.8 +0.2**
DZM	**Mont Dzumac**	**88.42 237**	P	**P**	**14 23 15.3 +0.7**
	comp=Z,12nm,1.1s,baz=68,slow=6.1,SNR=4.4				
DZM			LR	LR	14 53 48.2
	comp=Z,360nm,22.0s,baz=20,slow=30				
	comp=Z,12nm,1.1s				
BTLS	**Baital**	**89.04 344**	*e*P	**P**	**14 23 18.1 +0.7**
	baz=344				
BTLS	**Baital**	**89.04 344**	*e*P	**P**	**14 23 18.0 +0.7**
KPKS	**Kokpek**	**89.52 340**	*e*P	**P**	**14 23 20.6 +0.8**
	baz=340				
KPKS	**Kokpek**	**89.52 340**	*e*P	**P**	**14 23 20.5 +0.8**
CHKK	**Chushkaly**	**89.55 342**	*e*P	**P**	**14 23 20.5 +0.7**
	baz=342				
CHKK	**Chushkaly**	**89.55 342**	*e*P	**P**	**14 23 20.4 +0.7**
SHLS	**Shalkode**	**89.61 340**	*e*P	**P**	**14 23 20.4 +0.2**
	comp=Z,18nm,1.0s,baz=339				
SHLS	**Shalkode**	**89.61 340**	*e*P	**P**	**14 23 20.4 +0.2**
SHLS			pmax	pmax	
	comp=Z,18nm,1.0s				
UZB	**Uzynbulak**	**89.73 340**	*e*P	**P**	**14 23 21.4 +0.6**
	baz=340				
UZB	**Uzynbulak**	**89.73 340**	*e*P	**P**	**14 23 21.4 +0.6**
SATY	**Saty**	**89.97 340**	*e*P	**P**	**14 23 22.7 +0.8**
	comp=Z,17nm,1.0s,baz=340				
SATY	**Saty**	**89.97 340**	*e*P	**P**	**14 23 22.6 +0.8**
SATY			pmax	pmax	
	comp=Z,17nm,1.0s				
AAA	**Alma-Ata**	**90.18 341**	*e*P	**P**	**14 23 23.4 +0.6**
	comp=Z,15nm,0.8s,baz=341				
AAA	**Alma-Ata**	**90.18 341**	*e*P	**P**	**14 23 23.3 +0.6**
AAA			pmax	pmax	
	comp=Z,15nm,0.8s				
MDOK	**Medeo**	**90.19 341**	*e*P	**P**	**14 23 23.5 +0.5**
	baz=341				
MDOK	**Medeo**	**90.19 341**	*e*P	**P**	**14 23 23.4 +0.5**
TNSS	**Tian-Shan**	**90.33 341**	*e*P	**P**	**14 23 24.4 +0.4**
	baz=341				
TNSS	**Tian-Shan**	**90.33 341**	*e*P	**P**	**14 23 24.3 +0.4**
SGDS	**Sogindy**	**90.45 343**	*e*P	**P**	**14 23 24.6 +0.6**
	comp=Z,9.7nm,1.0s,baz=343				
SGDS	**Sogindy**	**90.45 343**	*e*P	**P**	**14 23 24.6 +0.6**
SGDS			pmax	pmax	
	comp=Z,10.0nm,1.0s				
GOMU	**GeErMu**	**90.88 326**	P	**P**	**14 23 26.5 0.0**
GOMU			pP	pP	14 23 29.8 +0.7
GOMU			pmax	pmax	
	comp=Z,14nm,1.3s				
GOMU			LR	LR	
	comp=Z,890nm,19.6s				
GOMU			LR	LR	
	comp=Z,530nm,19.4s				
GOMU			LR	LR	
	comp=Z,1μm,19.5s				
AAK	**Ala-Archa**	**91.26 343**	LR	LR	15 07 18.8
	comp=Z,306nm,18.5s,baz=36,slow=38				
AAK	**Ala-Archa**	**91.26 343**	*c*e*P*	**P**	**14 23 27.3 -0.6**
AAK			pmax	pmax	
	comp=Z,13nm,1.3s				
CD2	**Chengdu**	**91.31 317**	*e*P	**P**	**14 23 26.3 -1.9**
CD2			pmax	pmax	
	comp=Z,10.0nm,0.5s				
KKAR	**Karatay Array**	**91.58 346**	P	**P**	**14 23 28.3 -0.9**
KKAR	**Karatay Array**	**91.58 346**	P	**P**	**14 23 28.3 -0.9**
KEST	**Kesra**	**92.03 33**	P	**P**	**14 23 31.8 +0.2**
	comp=Z,2.5nm,1.1s,baz=283,slow=8.0,SNR=3.6				
KEST			LR	LR	15 03 16.4
	comp=Z,216nm,20.5s,baz=274,slow=34				
	comp=Z,2.5nm,1.1s				
KIV	**Kislovodsk**	**92.12 6**	*e*P	**P**	**14 23 30.4 -1.4**
KIV			pmax	pmax	
	comp=Z,5.0nm,1.1s				
KIV			MLR	MLR	
	comp=Z,121nm,19.0s				
PMG	**Port Moresby**	**92.16 259**	LR	LR	14 57 01.7
	comp=Z,300nm,21.6s,baz=84,slow=30				
SOC	**Sochi**	**92.22 8**	*e*P	**P**	**14 23 31.5 -0.6**
SOC			*e*		14 27 10.3
SOC			*e*PPP	PPP	14 29 11.4
SOC			*e*S	**SKSac**	**14 34 04.4 -0.9**
SOC			*e*SS	**SS**	**14 40 52.9 +10**
SOC			*e*SSS	SSS	14 44 25.8
SOC			pmax	pmax	
	comp=Z,8.0nm,0.5s				
SOC			MLR	MLR	
	comp=Z,161nm,18.0s				
VAE	**Valguarnera**	**92.35 28**	LR	LR	15 04 38.1
	comp=Z,234nm,18.7s,baz=338,slow=35				
KBZ	**Khabaz**	**92.36 6**	LR	LR	15 07 08.4
	comp=Z,153nm,18.5s,baz=358,slow=37				
MAK	**Makhachkala**	**93.38 3**	*c i*P	P	14 23 32.7 -4.7
MAK			*e*		14 34 03.6
GYA	**Guiyang**	**93.41 312**	P	**P**	**14 23 38.5 +0.4**
GYA			pmax	pmax	
	comp=Z,6.0nm,0.8s				
KSH	**Kashi**	**93.91 341**	P	**P**	**14 23 43.8 +3.7**
KSH			sP	pwP	14 23 48.5 +2.8
KSH			pmax	pmax	
	comp=Z,3.0nm,0.6s				
KSH			LR	LR	
	comp=Z,650nm,16.5s				
KSH			LR	LR	
	comp=Z,610nm,18.2s				
KSH			LR	LR	
	comp=Z,260nm,19.9s				
BDFB	**Brasilia**	**94.29 107**	LR	LR	15 09 46.2
	comp=Z,404nm,19.3s,baz=322,slow=38				
BRTR	**Keskin Array B**	**95.19 13**	LR	LR	15 08 48.5
	comp=Z,102nm,19.4s,baz=354,slow=37				
BBTS	**Babate**	**95.24 64**	LR	LR	15 05 19.2
	comp=Z,287nm,18.9s,baz=189,slow=35				
URZ	**Urewera**	**95.33 220**	LR	LR	14 59 01.8
	comp=Z,218nm,21.2s,baz=63,slow=31				
CPUP	**Villa Florida**	**95.75 121**	LR	LR	15 08 32.6
	comp=Z,89nm,18.4s,baz=348,slow=36				
PZH	**PanZhiHua**	**95.93 316**	P	**P**	**14 23 49.5 -0.1**
PZH			pmax	pmax	
	comp=Z,10.0nm,1.2s				
PZH			pmax	pmax	
	comp=Z,150nm,7.4s				
GNI	**Garni**	**96.05 5**	LR	LR	15 11 24.8
	comp=Z,110nm,18.1s,baz=26,slow=38				
RCBR	**Riachuelo**	**96.14 92**	LR	LR	15 03 04.3
	comp=Z,110nm,21.7s,baz=153,slow=33				
DAV	**Davao City (W)**	**96.17 286**	LR	LR	15 01 01.5
	comp=Z,440nm,20.5s,baz=54,slow=32				
QIZ	**Qiongzhong**	**97.49 305**	P	**P**	**14 23 55.3 -1.3**
QIZ			S	**S**	**14 35 19.3 -2.3**
QIZ			LR	LR	
	comp=Z,170nm,22.6s				
QIZ			LR	LR	
	comp=Z,180nm,22.7s				
QIZ			LR	LR	
	comp=Z,260nm,21.0s				
VNDA	**Vanda**	**128.31 195**	PKP	**PKPdf**	**14 29 26.9 -0.5**
	comp=Z,1.4nm,0.9s,baz=146,slow=4.8,SNR=4.9				
QSPA	**South Pole Qui**	**133.79 180**	PKP	**PKPdf**	**14 29 37.2 -1.0**
	comp=Z,2.8nm,0.8s,baz=0.7,slow=1.4,SNR=9.0				
SNAA	**Sanae**	**142.26 155**	PKhKP	PKPpre	14 29 48.4
	comp=Z,1.4nm,0.9s,baz=175,slow=19,SNR=4.2				
NVL	**N'lazarevskaya**	**146.94 157**	*e*PKHKP	PKPpre	14 29 59.1
NVL			pmax	pmax	
	comp=Z,15nm,1.1s				
ELIB	**Princess Elisa**	**148.94 164**	*d*PKPdf	**PKPdf**	**14 30 05.8 +0.6**

*IDC **29** 14:17:41.9±2.1, 7°.17S×155°.10E, h0km, mb3.7/5, mbtmp3.7/5, ML2.2/1, Error ellipse: s-maj=71.7km s-min=26.9km az=122.0*

ISC 29 14:17:48.1±1.8, 7°.2S±0°.2×155°.0E±0°.4, h41km, n7, σ0s76/7, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.39**	**213**		Pn	**Pn**	**14 21 23.1**	**+0.5**
	baz=83,slow=22,SNR=1.2							
WRA	**Warramunga Arr**	**23.75**	**236**		P	**P**	**14 22 55.9**	**-1.0**
	1.7nm,0.8s,baz=59,slow=10.0,SNR=9.3							
	1.7nm,0.8s							
ASAR	**Alice Springs**	**26.08**	**229**		P	**P**	**14 23 18.4**	**+0.3**
	0.7nm,0.8s,baz=59,slow=9.2,SNR=10							
	0.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**60.91**	**296**		P	**P**	**14 27 57.6**	**+0.3**
	0.6nm,0.3s,baz=123,slow=6.6,SNR=4.4							
	0.6nm,0.3s							
ILAR	**Eielson Array**	**83.54**	**21**		P	**P**	**14 30 11.7**	**+0.1**
	0.1nm,0.4s,baz=252,slow=5.6,SNR=4.4							
	0.1nm,0.4s							
MKAR	**Makanchi Array**	**83.58**	**319**		P	**P**	**14 30 12.5**	**+0.3**
	0.5nm,0.5s,baz=101,slow=4.4,SNR=6.1							
	0.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**153.12**	**285**	PKPbc		**PKPbc**	**14 37 41.6**	**-0.9**
	0.6nm,0.8s,baz=46,slow=4.2,SNR=2.9							

*JMA **29** 14:19:15.6±0.1, 23°.4N±0°.6×122°.0E±0°.9, h45km±4km, MV2.4/17, TAIWAN REGION*
*TAP **29** 14:19:16.2, 23°.35N×122°.03E, h31km, ML2.7, D*

ISC 29 14:19:13.8±1.0, 23°.31N±0°.02×122°.03E±0°.02, h17km±8km, n128, σ0s61/251, 5C-9D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.53**	**271**		P	**Pn**	**14 19 26.7**	**+0.1**
	baz=267							
ECBN					S	**Sn**	**14 19 34.3**	**-0.8**
	baz=267							
HGSD	**Ruisui**	**0.58**	**288**	⇓	P	**Pn**	**14 19 26.8**	**-0.5**
	baz=284							
HGSD				*i*	S	**Sb**	**14 19 34.7**	**+1.1**
	baz=284							
CHKH	**Chenggong**	**0.59**	**258**		P	**Pn**	**14 19 27.1**	**-0.3**
	baz=255							
CHKH					S	**Sb**	**14 19 35.0**	**+1.2**
	baz=255							
SHUL	**Shoufeng**	**0.64**	**318**	⇑	P	**Pn**	**14 19 27.9**	**-0.2**
	baz=315							
SHUL					S	**Sb**	**14 19 36.5**	**+1.4**
	baz=315							
CHKT	**Chengkung**	**0.65**	**251**	⇓ *i*	P	**Pn**	**14 19 27.9**	**-0.3**
	baz=241							
CHKT				*i*	S	**Sb**	**14 19 36.3**	**+1.0**
	baz=241							
EYUL	**Yuli**	**0.65**	**273**	⇓ *i*	P	**Pn**	**14 19 28.4**	**+0.1**
	baz=263							
EYUL				*i*	S	**Sn**	**14 19 37.4**	**-0.8**
	baz=263							
EHYH	**Wanrong**	**0.65**	**286**		P	**Pn**	**14 19 27.7**	**-0.6**
	baz=283							
EHYH					S	**Sn**	**14 19 37.6**	**-0.6**
	baz=283							
EGFH	**Guangfu**	**0.66**	**303**		P	**Pn**	**14 19 28.2**	**-0.1**
	baz=310							
EGFH					S	**Sn**	**14 19 37.1**	**-1.1**
	baz=310							
TWF1	**Yuli**	**0.67**	**274**	⇓ *i*	P	**Pn**	**14 19 28.6**	**0.0**
	baz=264							
TWF1				*i*	S	**Sn**	**14 19 37.9**	**-0.8**
	baz=264							
EHY	**Hungye**	**0.68**	**287**	*i*	P	**Pn**	**14 19 28.5**	**-0.1**
	baz=283							
EHY				*i*	S	**Sn**	**14 19 37.6**	**-1.1**
	baz=283							
YULB	**Yu-li**	**0.68**	**277**	⇓	P	**Pn**	**14 19 28.6**	**-0.1**
	baz=274							
YULB					S	**Sb**	**14 19 37.4**	**+1.2**
	baz=274							
TEYL	**Yanliau Villag**	**0.68**	**325**		P	**Pn**	**14 19 28.7**	**+0.1**
	baz=324							
TEYL					S	**Sn**	**14 19 38.6**	**-0.3**
	baz=324							
FULB	**Fuli**	**0.68**	**261**	⇓ *i*	P	**Pn**	**14 19 28.4**	**-0.3**
	baz=249							
FULB				*i*	S	**Sb**	**14 19 37.5**	**+1.0**
	baz=249							
WARBT	**Fenglin Townsh**	**0.71**	**305**	*i*	P	**Pn**	**14 19 28.9**	**-0.3**
	baz=311							
WARBT					S	**Sb**	**14 19 37.9**	**+0.6**
	baz=311							
ESL	**Shilin**	**0.74**	**313**	⇑ *i*	P	**Pb**	**14 19 28.8**	**+0.6**
	baz=310							
ESL				*i*	S	**Sg**	**14 19 37.9**	**-0.3**
	baz=310							
EDH	**Donghe**	**0.75**	**243**	⇓ *i*	P	**Pn**	**14 19 29.4**	**-0.2**
	baz=237							
EDH				*i*	S	**Sb**	**14 19 38.9**	**+0.7**
	baz=237							
HWA	**Hwalien**	**0.77**	**330**	*i*	P	**Pb**	**14 19 29.3**	**+0.6**
	baz=328							
HWA				*i*	S	**Sb**	**14 19 40.1**	**+1.3**
	baz=328							
EHD	**Haiduan**	**0.77**	**258**		P	**Pn**	**14 19 29.5**	**-0.5**
	baz=248							
EHD					S	**Sn**	**14 19 40.5**	**-0.7**
	baz=248							
ECS	**Chishang**	**0.77**	**254**		P	**Pn**	**14 19 30.6**	**+0.6**
	baz=251							
ECS					S	**Sn**	**14 19 41.5**	**+0.3**
	baz=251							
ETM	**Tongmen**	**0.81**	**323**		P	**Pb**	**14 19 29.9**	**+0.3**
	baz=321							
ETM					S	**Sg**	**14 19 39.5**	**-1.1**
	baz=321							
LDUT	**Ludao**	**0.82**	**219**		P	**Pn**	**14 19 30.9**	**+0.3**
	baz=217							
LDUT				*i*	S	**Sb**	**14 19 40.5**	**+0.2**
	baz=217							
EOS4	**EOS4**	**0.85**	**18**		P	**Pn**	**14 19 31.0**	**+0.4**
	baz=19							
EOS4					S	**Sb**	**14 19 41.4**	**+0.6**
	baz=19							
TWD	**Chiawan**	**0.86**	**333**	⇑ *i*	P	**Pg**	**14 19 30.6**	**-0.1**
	baz=331							
TWD					S	**Sb**	**14 19 41.3**	**-0.2**
	baz=331							
LXIB	**Xiulin Townshi**	**0.90**	**322**	*i*	P	**Pg**	**14 19 31.5**	**0.0**
	baz=319							
LXIB					S	**Sb**	**14 19 43.0**	**+0.1**
	baz=319							
LONT	**Longtian**	**0.92**	**244**	*i*	P	**Pn**	**14 19 32.5**	**+0.6**
	baz=237							
LONT				*i*	S	**Sn**	**14 19 44.8**	**0.0**
	baz=237							
ETL	**Fush Village**	**0.92**	**336**		P	**Pg**	**14 19 31.6**	**-0.2**
	baz=335							
ETL					S	**Sg**	**14 19 43.7**	**-0.3**
	baz=335							
VWDT	**VWDT**	**0.93**	**299**		P	**Pn**	**14 19 32.6**	**+0.6**
	baz=296							
VWDT					S	**Sg**	**14 19 43.8**	**-0.2**
	baz=296							
ELDTW	**Lidau**	**0.94**	**263**	⇓ *i*	P	**Pn**	**14 19 32.3**	**0.0**
	baz=260							
ELDTW				*i*	S	**Sg**	**14 19 44.1**	**-0.4**
	baz=260							
NACB	**Ninganchiao**	**0.94**	**335**	⇑	P	**Pb**	**14 19 31.7**	**-0.1**
	baz=341							
NACB					S	**Sb**	**14 19 43.5**	**-0.5**
	baz=341							
TTN	**Taitung**	**0.98**	**236**	*e*	P	**Pn**	**14 19 33.1**	**+0.3**
	baz=234							
TTN					S	**Sn**	**14 19 46.6**	**+0.4**
	baz=234							
TWGBT	**Beinan**	**1.00**	**241**		P	**Pn**	**14 19 33.5**	**+0.5**
	baz=232							
TWGBT					S	**Sn**	**14 19 46.4**	**-0.4**
	baz=232							
YUS	**Yu-Shan**	**1.00**	**280**	*i*	P	**Pn**	**14 19 34.1**	**+0.5**
	baz=288							
YUS				*i*	S	**Sg**	**14 19 46.8**	**+0.1**
	baz=288							
EOS3	**EOS3**	**1.00**	**15**		P	**Pg**	**14 19 33.8**	**+0.5**
	baz=10.0							
EOS3					S	**Sg**	**14 19 46.4**	**-0.1**
	baz=10.0							
TWG	**Pinlang**	**1.01**	**241**	*i*	P	**Pn**	**14 19 33.5**	**+0.4**
	baz=232							
TWG				*i*	S	**Sg**	**14 19 46.1**	**-0.5**
	baz=232							
OWD	**Renai**	**1.01**	**309**	*i*	P	**Pn**	**14 19 33.4**	**+0.1**
	baz=307							
OWD					S	**Sb**	**14 19 45.7**	**-0.2**
	baz=307							
ETLH	**Xiulin Townshi**	**1.02**	**331**		P	**Pb**	**14 19 33.3**	**+0.1**
	baz=329							
ETLH					S	**Sb**	**14 19 45.9**	**-0.4**
	baz=329							
EAHA	**Aohua**	**1.05**	**345**		P	**Pb**	**14 19 33.6**	**+0.1**
	baz=344							
EAHA				*e*	S	**Sb**	**14 19 46.7**	**-0.2**
	baz=344							
WUSB	**Renai**	**1.07**	**309**	*i*	P	**Pg**	**14 19 34.6**	**-0.1**
	baz=307							
WUSB				*e*	S	**Sg**	**14 19 48.6**	**-0.2**
	baz=307							
CHGB	**Renai**	**1.08**	**314**	*i*	P	**Pg**	**14 19 34.7**	**-0.2**
	baz=312							
CHGB				*i*	S	**Sb**	**14 19 47.9**	**-0.2**
	baz=312							
WHF	**Hehuan Shan**	**1.08**	**320**	*i*	P	**Pb**	**14 19 34.5**	**+0.2**
	baz=318							
WHF				*i*	S	**Sb**	**14 19 47.8**	**-0.6**
	baz=318							
SSLB	**Suanglung**	**1.09**	**296**		P	**Pn**	**14 19 34.5**	**+0.1**
	baz=286							
SSLB					S	**Sb**	**14 19 48.5**	**+0.2**
	baz=286							
EOS2	**EOS2**	**1.12**	**10**	*i*	P	**Pg**	**14 19 35.7**	**+0.2**
	baz=4.0							
EOS2					S	**Sb**	**14 19 48.3**	**-0.5**
	baz=4.0							
ENA	**Nanau**	**1.14**	**347**	*i*	P	**Pn**	**14 19 35.1**	**+0.1**
	baz=346							
ENA				*i*	S	**Sb**	**14 19 48.8**	**-0.9**
	baz=346							
WHYT	**Xinyi Township**	**1.14**	**290**		P	**Pg**	**14 19 36.3**	**+0.3**
	baz=288							
WHYT					S	**Sg**	**14 19 50.6**	**-0.4**
	baz=288							
EWUT	**Wuta**	**1.15**	**349**	*i*	P	**Pb**	**14 19 35.4**	**+0.1**
	baz=347							
EWUT					S	**Sb**	**14 19 49.3**	**-0.6**
	baz=347							
STYH	**Taoyuan**	**1.16**	**263**	*i*	P	**Pg**	**14 19 36.5**	**+0.2**
	baz=255							
STYH				*i*	S	**Sn**	**14 19 50.6**	**-0.1**
	baz=255							
FUSS	**Fushou**	**1.18**	**323**		P	**Pb**	**14 19 36.1**	**+0.2**
	baz=321							
FUSS					S	**Sb**	**14 19 50.2**	**-0.7**
	baz=321							
STYT	**Tauyuan**	**1.18**	**263**	*i*	P	**Pg**	**14 19 36.5**	**-0.1**
	baz=254							
STYT					S	**Sn**	**14 19 51.1**	**-0.1**
	baz=254							
SMLT	**Sun Moon Lake**	**1.18**	**299**		P	**Pg**	**14 19 36.7**	**0.0**
	baz=303							
SMLT					S	**Sb**	**14 19 50.9**	**0.0**
	baz=303							
WPL	**Puli Township**	**1.20**	**306**		P	**Pg**	**14 19 37.1**	**0.0**
	baz=312							
WPL				*e*	S	**Sb**	**14 19 50.3**	**-1.2**
	baz=312							
ECL	**Taimali**	**1.22**	**234**		P	**Pn**	**14 19 35.9**	**-0.2**
	baz=244							
ECL					S	**Sb**	**14 19 50.8**	**-1.0**
	baz=244							
TWT	**Tachien**	**1.22**	**320**		P	**Pg**	**14 19 37.6**	**+0.1**
	baz=318							
TWT					S	**Sb**	**14 19 51.6**	**-0.5**
	baz=318							
TYC	**Yuchr**	**1.23**	**299**	*i*	P	**Pg**	**14 19 37.5**	**0.0**
	baz=297							
TYC				*i*	S	**Sg**	**14 19 53.0**	**-0.5**
	baz=297							
DPDB	**Guoxing**	**1.24**	**306**		P	**Pg**	**14 19 37.3**	**-0.5**
	baz=312							
DPDB				*i*	S	**Sb**	**14 19 52.3**	**-0.2**
	baz=312							
NNSB	**Datong**	**1.26**	**332**		P	**Pb**	**14 19 37.1**	**0.0**
	baz=330							
NNSB					S	**Sb**	**14 19 52.3**	**-0.8**
	baz=330							
NNSH	**Datong**	**1.26**	**332**	*e*	P	**Pn**	**14 19 36.8**	**+0.1**
	baz=330							
NNSH					S	**Sb**	**14 19 52.3**	**-0.8**
	baz=330							
WCS	**Beigang Elemen**	**1.26**	**306**		P	**Pg**	**14 19 37.9**	**-0.4**
	baz=312							
WCS					S	**Sb**	**14 19 53.0**	**-0.1**
	baz=312							
ESAO	**Su ao**	**1.27**	**352**	*e*	P	**Pb**	**14 19 37.7**	**+0.4**
	baz=351							
ESAO				*e*	S	**Sb**	**14 19 53.3**	**0.0**
	baz=351							
NNS	**Nan Shan**	**1.27**	**332**	*i*	P	**Pb**	**14 19 37.5**	**+0.1**
	baz=330							
NNS				*i*	S	**Sb**	**14 19 52.8**	**-0.7**
	baz=330							
TPUB	**Ta-pu**	**1.28**	**270**		P	**Pg**	**14 19 38.2**	**-0.4**
	baz=268							
TPUB					S	**Sg**	**14 19 55.8**	**+0.3**
	baz=268							
WJS	**Zhushan**	**1.30**	**293**	*e*	P	**Pg**	**14 19 39.8**	**+0.9**
	baz=284							
WJS				*e*	S	**Sg**	**14 19 56.8**	**+0.9**
	baz=284							
LATG	**Datong**	**1.30**	**339**		P	**Pn**	**14 19 37.6**	**+0.3**
	baz=338							
LATG					S	**Sb**	**14 19 54.4**	**+0.1**
	baz=338							
TWC	**Suao**	**1.30**	**353**	*i*	P	**Pb**	**14 19 38.0**	**+0.1**
	baz=352							
TWC				*i*	S	**Sb**	**14 19 54.1**	**-0.2**
	baz=352							
WTP	**Ta-pu**	**1.30**	**267**	⇓ *i*	P	**Pg**	**14 19 39.2**	**+0.2**
	baz=258							
WTP				*i*	S	**Sg**	**14 19 56.5**	**+0.5**
	baz=258							
SLGT	**Liugui**	**1.31**	**256**	*i*	P	**Pg**	**14 19 39.0**	**-0.1**
	baz=254							
SLGT					S	**Sg**	**14 19 55.9**	**-0.3**
	baz=254							
WCKO	**Fanlu**	**1.31**	**276**		P	**Pg**	**14 19 39.8**	**+0.6**
	baz=274							
WCKO					S	**Sg**	**14 19 56.9**	**+0.5**
	baz=274							
LAY	**Lan-yu**	**1.34**	**199**	*e*	P	**Pn**	**14 19 38.0**	**+0.2**
	baz=199							
LAY					S	**Sn**	**14 19 54.3**	**-0.9**
	baz=199							
NDS	**Dongshan**	**1.35**	**348**	*e*	P	**Pn**	**14 19 37.3**	**-0.5**
	baz=338							
NDS					S	**Sn**	**14 19 55.0**	**-0.4**
	baz=338							
SGST	**Jiashian**	**1.35**	**261**		P	**Pg**	**14 19 39.4**	**-0.5**
	baz=252							

SGST				S		Sg	14 19 57.3 -0.2
	baz=252						
WNT	**Mingjian**	**1.35 295**	*i* P			**Pg**	**14 19 40.6 +0.6**
	baz=293						
WNT			*i* S			**Sg**	**14 19 57.5 -0.2**
	baz=293						
LYUB	**Lan-yu**	**1.37 198**	*e*P			**Pn**	**14 19 36.2 -1.9**
	baz=197						
LYUB			*e*S			**Sn**	**14 19 54.4 -1.4**
	baz=197						
NDT	**Datong Townshi**	**1.37 340**	P			**Pb**	**14 19 38.8 -0.2**
	baz=338						
NDT			S			**Sn**	**14 19 54.8 -1.1**
	baz=338						
WNT1	**Nantou City**	**1.37 296**	*e*P			**Pg**	**14 19 40.2 -0.1**
	baz=294						
WNT1			*i* S			**Sg**	**14 19 58.2 0.0**
	baz=294						
WHP	**Taichung City**	**1.38 314**	*i* P			**Pg**	**14 19 40.2 -0.3**
	baz=312						
WHP			*e*S			**Sb**	**14 19 56.8 +0.2**
	baz=312						
CHN1	**Nanshi**	**1.39 265**	*i* P			**Pg**	**14 19 40.8 +0.2**
	baz=257						
CHN1			*i* S			**Sg**	**14 19 59.3 +0.7**
	baz=257						
ENTT	**Nioudou**	**1.39 342**	*i* P			**Pb**	**14 19 39.1 -0.2**
	baz=341						
ENTT			*i* S			**Sn**	**14 19 56.1 -0.3**
	baz=341						
WGK	**Gukeng**	**1.40 286**	P			**Pg**	**14 19 41.0 +0.2**
	baz=284						
WGK			*i* S			**Sg**	**14 19 59.1 +0.1**
	baz=284						
SSD	**Sandimen**	**1.40 247**	*i* P			**Pb**	**14 19 39.3 -0.3**
	baz=245						
SSD			*e*S			**Sn**	**14 19 56.1 -0.6**
	baz=245						
SNST	**Tainan City**	**1.41 267**	*i* P			**Pg**	**14 19 41.0 0.0**
	baz=265						
SNST			*i* S			**Sg**	**14 19 59.6 +0.1**
	baz=265						
TSMG	**Majia**	**1.41 245**	*i* P			**Pb**	**14 19 39.9 +0.2**
	baz=243						
TSMG			S			**Sn**	**14 19 56.6 -0.3**
	baz=243						
JYNG	**Yonagunijimaku**	**1.41 36**	*e*P			**Pn**	**14 19 39.4 +0.7**
JYNG			*e*S			**Sn**	**14 19 56.1 -0.8**
TAW	**Tawu**	**1.41 228**	*e*P			**Pb**	**14 19 39.8 +0.1**
	baz=236						
TAW			S			**Sn**	**14 19 56.7 -0.2**
	baz=236						
TWK	**Hsinying**	**1.42 268**	*i* P			**Pg**	**14 19 41.2 0.0**
	baz=266						
TWK			*i* S			**Sg**	**14 20 00.6 +0.9**
	baz=266						
WDLH	**Douliu**	**1.42 286**	P			**Pg**	**14 19 41.3 +0.1**
	baz=283						
WDLH			*i* S			**Sg**	**14 19 59.1 -0.6**
	baz=283						
WWF	**Wufeng**	**1.42 301**	P			**Pg**	**14 19 41.5 +0.2**
	baz=299						
WWF			S			**Sg**	**14 20 00.2 +0.5**
	baz=299						
EAST	**Anshuo**	**1.43 230**	*i* P			**Pb**	**14 19 39.7 -0.3**
	baz=237						
EAST			*i* S			**Sn**	**14 19 57.4 0.0**
	baz=237						
TAWH	**Dawu Township**	**1.43 228**	*e*P			**Pn**	**14 19 39.2 +0.2**
	baz=235						
TAWH			*i* S			**Sn**	**14 19 56.7 -0.6**
	baz=235						
TWE	**Neicheng**	**1.44 347**	*i* P			**Pb**	**14 19 40.0 -0.2**
	baz=338						
TWE			S			**Sn**	**14 19 57.5 -0.1**
	baz=338						
YOJ	**Yonaguni jima**	**1.46 38**	P			**Pn**	**14 19 40.0 +0.8**
	baz=50						
YOJ			S			**Sn**	**14 19 57.7 -0.3**
	baz=50						
YOJ	**Yonaguni jima**	**1.46 38**	*e*P			**Pn**	**14 19 40.1 +0.8**
YOJ			*e*S			**Sn**	**14 19 57.5 -0.5**
MASBT	**Mashibuluo**	**1.46 242**	P			**Pb**	**14 19 40.7 +0.2**
	baz=233						
MASBT			S			**Sn**	**14 19 58.0 -0.1**
	baz=233						
SCST	**Cishan**	**1.48 254**	*i* P			**Pg**	**14 19 42.1 -0.2**
	baz=252						
SCST			*e*S			**Sg**	**14 20 02.3 +0.8**
	baz=252						
YHNB	**Yeheng**	**1.48 336**	*i* P			**Pb**	**14 19 40.5 -0.4**
	baz=334						
YHNB			*i* S			**Sn**	**14 19 58.0 -0.7**
	baz=334						
NSK	**Sanguang**	**1.49 336**	⇑*i*P			**Pn**	**14 19 40.6 +0.7**
	baz=334						
NSK			*i* S			**Sn**	**14 19 58.4 -0.6**
	baz=334						
TCU	**Taichung**	**1.49 304**	P			**Pg**	**14 19 42.0 -0.7**
	baz=302						
TCU			*i* S			**Sg**	**14 20 02.5 +0.4**
	baz=302						
FUSB	**Fushanzhiwuyua**	**1.50 344**	P			**Pb**	**14 19 41.1 -0.1**
	baz=343						
FUSB			*e*S			**Sn**	**14 19 59.6 +0.5**
	baz=343						
EGS		**1.53 357**	*i* P			**Pb**	**14 19 41.5 -0.2**
	baz=6.0						
EGS			*i* S			**Sn**	**14 19 59.7 0.0**
	baz=6.0						
NWLT	**Wulai**	**1.54 342**	*i* P			**Pn**	**14 19 41.3 +0.8**
	baz=329						
NWLT			S			**Sn**	**14 19 59.4 -0.6**
	baz=329						
TWQ1	**Liyutan**	**1.54 312**	*i* P			**Pg**	**14 19 43.2 -0.4**
	baz=310						
TWQ1			*i* S			**Sg**	**14 20 02.6 -1.2**
	baz=310						
WTK	**Tuku**	**1.55 284**	P			**Pg**	**14 19 43.0 -0.7**
	baz=282						
WTK			S			**Sg**	**14 20 02.7 -1.3**
	baz=282						
NFF	**Wufeng Townshi**	**1.56 328**	P			**Pb**	**14 19 41.9 -0.3**
	baz=326						
NFF			S			**Sn**	**14 20 00.5 -0.1**
	baz=326						
NSY	**Sanyi**	**1.60 314**	*i* P			**Pb**	**14 19 43.3 +0.4**
	baz=312						
NSY			*i* S			**Sg**	**14 20 05.0 -0.4**
	baz=312						
SCZT	**Fangliau**	**1.60 234**	*i* P			**Pb**	**14 19 42.8 -0.2**
	baz=227						
SCZT			S			**Sb**	**14 20 03.7 +0.9**
	baz=227						
ICHU	**Yijhu**	**1.61 272**	*e*P			**Pb**	**14 19 43.2 +0.2**
	baz=270						
ICHU			S			**Sg**	**14 20 04.7 -1.0**
	baz=270						
NSTT	**Nanjuang**	**1.61 325**	*i* P			**Pb**	**14 19 43.3 +0.2**
	baz=323						
NSTT			*i* S			**Sb**	**14 20 03.0 -0.3**
	baz=323						
LIOB	**Emei**	**1.62 325**	*i* P			**Pb**	**14 19 44.0 +0.8**
	baz=323						
LIOB			S			**Sb**	**14 20 03.1 -0.3**
	baz=323						
WRL	**Guolierlin Hig**	**1.62 292**	P			**Pg**	**14 19 44.9 -0.2**
	baz=289						
WRL			S			**Sg**	**14 20 04.8 -1.5**
	baz=289						
TIPB	**Shuangxi**	**1.66 354**	*i* P			**Pb**	**14 19 43.7 -0.3**
	baz=5.0						
TIPB			S			**Sn**	**14 20 04.0 +0.9**
	baz=5.0						
WSL	**Shuilin Townsh**	**1.67 278**	*e*P			**Pg**	**14 19 45.3 -0.7**
	baz=275						
WSL			S			**Sg**	**14 20 06.2 -1.4**
	baz=275						
TWB1	**Santiao Chiao**	**1.69 359**	*i* P			**Pn**	**14 19 43.6 +1.0**
	baz=358						
TWB1			*e*S			**Sn**	**14 20 03.5 -0.3**
	baz=358						
TWKBT	**Hengchun**	**1.77 220**	*e*P			**Pb**	**14 19 45.1 -0.7**
	baz=227						
TWKBT			S			**Sb**	**14 20 07.4 -0.3**
	baz=227						
TWK1	**Hengchun**	**1.77 220**	*e*P			**Pb**	**14 19 46.0 +0.2**
	baz=227						
TWK1			*e*S			**Sb**	**14 20 07.4 -0.3**
	baz=227						
SXI1	**Grass Mountain**	**1.78 356**	P			**Pb**	**14 19 45.2 -0.8**
	baz=9.0						
SXI1			S			**Sb**	**14 20 07.6 -0.5**
	baz=9.0						
HATJ	**Hateruma jima**	**1.79 65**	*e*P			**Pn**	**14 19 44.6 +0.7**
HATJ			*e*S			**Sn**	**14 20 05.8 -0.4**
TSCK	**Chigu Township**	**1.79 265**	P			**Pb**	**14 19 46.6 +0.4**
	baz=263						
TSCK			*e*S			**Sg**	**14 20 10.2 -1.5**
	baz=263						
IRIF	**Iriomote-Funau**	**1.86 57**	*e*P			**Pn**	**14 19 45.8 +0.9**
IRIF			*e*S			**Sn**	**14 20 08.4 +0.4**
JKRS	**Kuro-shima**	**2.04 63**	*e*P			**Pn**	**14 19 48.4 +1.1**
JIJ	**Ishigaki jima**	**2.20 61**	*e*P			**Pn**	**14 19 50.4 +0.8**
JIJ			*e*S			**Sn**	**14 20 15.1 -1.3**
PNG	**Penghu**	**2.29 277**	P			**Pn**	**14 19 52.4 +1.6**
	baz=275						
PNG			S			**Sn**	**14 20 19.1 +0.6**
	baz=275						
VCHM	**Qimei**	**2.39 268**	P			**Pn**	**14 19 53.9 +1.7**
	baz=266						
VCHM			S			**Sn**	**14 20 21.3 +0.2**
	baz=266						
JISG	**Ishigakijimahi**	**2.44 58**	P			**Pn**	**14 19 53.2 +0.2**
JTJ	**Tarama**	**2.78 61**	*e*P			**Pn**	**14 19 58.3 +0.7**
JTJ			*e*S			**Sn**	**14 20 30.6 -0.1**
PTMZ	**Houxiangcun**	**3.16 304**	*i* P			**Pn**	**14 20 04.2 +1.4**
	baz=301						
PTMZ			S			**Sn**	**14 20 39.1 -1.0**
	baz=301						
JIRB	**Irabujima**	**3.25 62**	*e*P			**Pn**	**14 20 04.6 +0.7**
JMJ2	**Miyako jima3**	**3.34 64**	*e*P			**Pn**	**14 20 06.4 +1.3**
MATB	**Ma-tsu**	**3.40 327**	*e*P			**Pn**	**14 20 06.7 +0.6**
	baz=324						
MATB			*e*S			**Sn**	**14 20 45.1 -0.9**
	baz=324						
JOGS	**Gusukube**	**3.41 64**	*e*P			**Pn**	**14 20 07.3 +1.2**
KNMB	**Chin-men Tao**	**3.52 290**	*e*P			**Pn**	**14 20 09.2 +1.5**
	baz=287						
KNMB			*e*S			**Sn**	**14 20 48.9 -0.1**
	baz=287						

*PAS **29** 14:19:49.7±1.4, 31°.894N±0°.006×115°.85W±0°.02, h10km±8km, ML3.0/81, ML2.8/34(NEIC), Error ellipse: s-maj=2.4km s-min=1.0km az=89.0*
*NEIC **29** 14:19:49.3±1.1, 31°.89N±0°.02×115°.87W±0°.02, h15km±9km, Error ellipse: s-maj=2.4km s-min=2.3km az=199.0*
*ECX **29** 14:19:49.7±0.6, 31°.90N×115°.82W, h0km±2km, MD2.9, ML3.1*
*ANF **29** 14:19:49.5±0.7, 31°.97N×115°.77W, h15km, ML2.6/10, Error ellipse: s-maj=5.1km s-min=3.8km az=12.0*

ISC 29 14:19:48.7±0.8, 31°.92N±0°.02×115°.79W±0°.02, h14km±5km, n82, σ0s66/114, 15C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALAMX	**Rancho Alamar**	**0.12**	**38**⇑	*e*P	**Pg**	**14 19 52.4**	**+0.3**
ALAMX				*e*S	**Sg**	**14 19 54.5**	**+0.2**
ALAMX				IAML		14 19 54.9	
	comp=E,6μm,0.2s						
ALAMX				⇑*e*		14 19 54.9	
ALAMX				IAML		14 19 56.0	
	comp=N,8μm,0.3s						
ALAMX				⇑*e*		14 19 56.0	
ESJX	**Sierra Juarez**	**0.16**	**304**		**Pg**	**14 19 52.8**	**0.0**
ESJX	**Sierra Juarez**	**0.16**	**304**	IAML		14 19 55.5	
	comp=N,6μm,0.1s						
ESJX				IAML		14 19 55.7	
	comp=E,8μm,0.1s						
RSLU	**Rancho San Lui**	**0.20**	**349**⇓	*i*P	**Pg**	**14 19 53.8**	**+0.3**
RSLU				*e*S	**Sg**	**14 19 56.9**	**+0.2**
SJX	**San Joaquin**	**0.21**	**223**	*e*P	**Pg**	**14 19 52.7**	**-0.6**
SJX				*e*S	**Sg**	**14 19 55.1**	**-1.3**
OJOX	**Ej. Ojos Negro**	**0.27**	**258**⇑	*i*P	**Pg**	**14 19 54.6**	**+0.2**
OJOX				*e*S	**Sg**	**14 19 58.2**	**0.0**
RACA	**Rancho agua Ca**	**0.44**	**284**⇑	*i*P	**Pg**	**14 19 58.2**	**+0.6**
VTX	**Valle De La Tr**	**0.52**	**179**		**Pg**	**14 19 59.2**	**+0.2**
VTX					**Sg**	**14 20 06.3**	**+0.2**
VTX	**Valle De La Tr**	**0.52**	**179**	IAML		14 20 06.8	
	comp=E,733nm,0.1s						
VTX				IAML		14 20 06.9	
	comp=N,697nm,0.1s						
VTX	**Valle De La Tr**	**0.52**	**179**⇑	*e*P	**Pg**	**14 19 59.2**	**+0.2**
VTX				*e*S	**Sg**	**14 20 06.2**	**+0.2**
VTX				IAML		14 20 06.9	
	comp=N,930nm,0.1s						
VTX				⇑*e*		14 20 06.9	
AGSX	**Ej. Aguas Cali**	**0.64**	**57**⇑	*e*P	**Pn**	**14 20 02.7**	**-0.8**
AGSX				*e*S	**Sn**	**14 20 11.6**	**-1.9**
JARAX	**Ej. Heriberto**	**0.65**	**16**	*e*P	**Pb**	**14 20 01.9**	**0.0**
JARAX				*e*S	**Sn**	**14 20 11.5**	**-2.1**
JARAX				⇓*e*		14 20 15.9	
JARAX				IAML		14 20 15.9	
	comp=E,1μm,0.3s						
CPBX	**Cerro Prieto**	**0.65**	**39**		**Pn**	**14 20 02.9**	**-0.7**
SV2X	**San Vicente**	**0.69**	**214**⇑	*e*P	**Pg**	**14 20 02.0**	**-0.1**
SV2X				*e*S	**Sg**	**14 20 10.8**	**-0.4**
GUVIX	**Guadalupe Vict**	**0.72**	**57**		**Sn**	**14 20 16.0**	**+0.6**
GUVIX	**Guadalupe Vict**	**0.72**	**57**		**Pn**	**14 20 04.2**	**-0.3**
GUVIX	**Guadalupe Vict**	**0.72**	**57**	IAML		14 20 16.7	
	comp=E,2μm,0.5s						
GUVIX				IAML		14 20 17.1	
	comp=N,3μm,0.6s						
RMX	**La Rumorosa**	**0.73**	**341**		**Pg**	**14 20 02.0**	**-0.9**
RMX					**Sg**	**14 20 11.2**	**-1.4**
RMX	**La Rumorosa**	**0.73**	**341**	IAML		14 20 11.6	
	comp=E,306nm,0.4s						
RMX				IAML		14 20 16.1	
	comp=N,284nm,0.3s						
RMX	**La Rumorosa**	**0.73**	**341**⇑	*e*P	**Pg**	**14 20 02.0**	**-0.9**
RMX				*e*S	**Sg**	**14 20 11.6**	**-1.0**
SGL	**Mount Signal**	**0.73**	**4**		**Pb**	**14 20 03.7**	**+0.3**
SGL					**Sn**	**14 20 14.1**	**-1.7**
YUH	**Yuha Desert**	**0.74**	**351**	Pg	**Pb**	**14 20 03.2**	**-0.2**
YUH				IAML		14 20 13.5	
	comp=N,229nm,0.2s						
YUH				IAML		14 20 13.6	
	comp=E,279nm,0.6s						
YUH	**Yuha Desert**	**0.74**	**351**		**Sb**	**14 20 13.0**	**-0.4**
YUH2	**Yuha Desert**	**0.74**	**352**⇑	*e*P	**Pb**	**14 20 03.3**	**-0.1**
CCX	**Cicese**	**0.74**	**267**		**Sg**	**14 20 13.2**	**+0.2**
CCX	**Cicese**	**0.74**	**267**		**Pg**	**14 20 02.7**	**-0.4**
CCX	**Cicese**	**0.74**	**267**	IAML		14 20 13.5	
	comp=E,496nm,0.3s						
CCX				IAML		14 20 13.6	
	comp=N,450nm,0.3s						
CCX	**Cicese**	**0.74**	**267**	*e*P	**Pg**	**14 20 03.0**	**-0.1**
CCX				*e*S	**Sg**	**14 20 13.1**	**+0.1**
ECBX	**El Chinero**	**0.77**	**125**	*e*P	**Pg**	**14 20 04.2**	**+0.5**
ECBX				*e*S	**Sg**	**14 20 14.8**	**+1.0**
ECBX				IAML		14 20 16.5	
	comp=E,445nm,0.6s						
ECBX				⇓*e*		14 20 16.5	
UABX	**UABC, Campus M**	**0.78**	**23**		**Pn**	**14 20 05.3**	**0.0**
IKP	**In-Ko-Pah, Jac**	**0.78**	**340**		**Pb**	**14 20 04.1**	**-0.1**
IKP					**Sb**	**14 20 14.3**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**0.78**	**340**	P	**Pb**	**14 20 04.1**	**-0.1**
	baz=164,SNR=83						
IKP				S	**Sb**	**14 20 14.2**	**-0.4**
	baz=164						
IKP	**In-Ko-Pah, Jac**	**0.78**	**340**⇑	*e*P	**Pb**	**14 20 04.1**	**-0.1**
5053	**Calexico**	**0.80**	**19**		**Pn**	**14 20 05.5**	**-0.1**
5053					**Sn**	**14 20 17.5**	**+0.3**
PBX	**Punta Banda**	**0.81**	**258**⇑	*i*P	**Pb**	**14 20 04.4**	**-0.2**
PBX				*e*S	**Sg**	**14 20 15.0**	**-0.1**
CBX	**Cerro Bola**	**0.84**	**299**		**Pg**	**14 20 04.8**	**-0.2**
CBX				IAML		14 20 17.2	
	comp=N,355nm,0.5s						
CBX				IAML		14 20 17.3	
	comp=E,388nm,0.7s						
CBX	**Cerro Bola**	**0.84**	**299**⇑	*e*P	**Pg**	**14 20 05.1**	**+0.1**
CBX				*e*S	**Sg**	**14 20 16.5**	**+0.5**
WESC	**Westside Schoo**	**0.84**	**4**		**Pn**	**14 20 06.0**	**-0.3**
WESC					**Sn**	**14 20 18.1**	**-0.4**
TJIG	**Tijuana**	**0.91**	**305**	*e*P	**Pb**	**14 20 05.9**	**-0.4**
SPIG	**San Pedro Mart**	**0.91**	**162**⇑	*e*P	**Pb**	**14 20 06.6**	**+0.1**
SPIG				*e*S	**Sb**	**14 20 18.6**	**-0.1**
COK2	**Cook Ranch 2**	**0.94**	**3**		**Pn**	**14 20 07.3**	**-0.2**
TKX	**Tecate**	**0.95**	**314**		**Pb**	**14 20 06.6**	**-0.4**
TKX				IAML		14 20 24.2	
	comp=N,254nm,0.2s						
TKX				IAML		14 20 25.0	
	comp=E,222nm,0.2s						
CRR	**Carrizo Plain**	**0.98**	**351**		**Pn**	**14 20 08.0**	**-0.1**
CRR					**Sn**	**14 20 21.1**	**-0.7**
SNR	**Schaffner Ranc**	**0.99**	**18**		**Pn**	**14 20 08.8**	**+0.5**
SWSC	**Sam W. Stewart**	**1.03**	**360**		**Sn**	**14 20 23.4**	**+0.4**
SWSC	**Sam W. Stewart**	**1.03**	**360**	P	**Pn**	**14 20 08.8**	**0.0**
	baz=182,SNR=67						
SWSC				S	**Sn**	**14 20 22.5**	**-0.5**
	baz=182						
DUZA	**Dulzura**	**1.08**	**310**		**Pb**	**14 20 08.9**	**-0.3**
DUZA					**Sb**	**14 20 22.8**	**-0.5**
COA	**Coachella**	**1.10**	**31**		**Pg**	**14 20 10.8**	**+0.9**
MONP2	**Monument Peak**	**1.11**	**332**		**Pb**	**14 20 10.1**	**+0.2**
MONP2	**Monument Peak**	**1.11**	**332**	P	**Pb**	**14 20 10.1**	**+0.2**
	baz=154,SNR=116						
MONP2				S	**Sg**	**14 20 24.4**	**-0.3**
	baz=154						
SFX	**San Felipe**	**1.19**	**137**		**Pn**	**14 20 10.7**	**-0.3**
SFX				IAML		14 20 28.8	
	comp=N,313nm,0.6s						
SFX				IAML		14 20 28.9	
	comp=E,318nm,0.6s						
SFX	**San Felipe**	**1.19**	**137**	*e*P	**Pn**	**14 20 10.6**	**-0.4**
ERRC	**Elmore Ranch**	**1.20**	**359**		**Sg**	**14 20 29.8**	**+2.4**
SDRC	**San Diego Road**	**1.27**	**310**		**Sb**	**14 20 28.3**	**-0.5**
EML	**El Monte Cty P**	**1.32**	**318**		**Pn**	**14 20 13.0**	**+0.2**
EML					**Sb**	**14 20 30.0**	**-0.1**
SLH	**Sleepy Hollow**	**1.33**	**343**		**Pg**	**14 20 14.2**	**-0.1**
SQX	**San Quintin**	**1.34**	**183**	*e*P	**Pn**	**14 20 12.9**	**-0.1**
SQX				IAML		14 20 31.7	
	comp=N,548nm,0.4s						
SQX				⇓*e*		14 20 31.7	
JUEM	**Julian Eagle M**	**1.35**	**330**		**Pb**	**14 20 14.1**	**+0.3**
JUEM					**Sg**	**14 20 32.0**	**-0.2**
GLA	**Glamis**	**1.40**	**36**		**Pn**	**14 20 13.8**	**-0.1**
GLA				IAML		14 20 36.0	
	comp=N,84nm,0.5s						
GLA	**Glamis**	**1.40**	**36**	P	**Pn**	**14 20 14.0**	**+0.1**
	baz=217,SNR=13						
GLA				S	**Sb**	**14 20 31.4**	**-1.0**
	baz=217						
BORC	**Borrego Spring**	**1.45**	**339**		**Sg**	**14 20 34.9**	**-0.5**
DPP	**Dos Picos Cty**	**1.45**	**318**		**Pb**	**14 20 15.9**	**+0.3**
DPP					**Sb**	**14 20 34.3**	**+0.3**
MATG	**Mataguay Scout**	**1.47**	**331**		**Pb**	**14 20 16.4**	**+0.5**
MATG					**Sg**	**14 20 35.6**	**-0.5**
109C	**Camp Elliot, M**	**1.48**	**312**		**Pn**	**14 20 15.1**	**+0.1**
109C				IAML		14 20 36.9	
	comp=N,155nm,0.2s						
109C				IAML		14 20 37.2	
	comp=E,129nm,0.3s						
109C	**Camp Elliot, M**	**1.48**	**312**	P	**Pn**	**14 20 15.5**	**+0.6**
	baz=133,SNR=30						
109C				S	**Sn**	**14 20 34.3**	**+0.2**
	baz=133						
CPE	**Camp Elliot**	**1.48**	**312**		**Pn**	**14 20 15.6**	**+0.7**
CPE					**Sn**	**14 20 34.3**	**+0.3**
PLM	**Palomar**	**1.69**	**328**		**Pb**	**14 20 19.6**	**-0.2**
PLM					**Sb**	**14 20 41.9**	**+0.8**
FRD	**Ford Ranch, An**	**1.72**	**337**		**Pg**	**14 20 21.8**	**+0.1**
GORC	**Green Oak Ranc**	**1.73**	**316**		**Sb**	**14 20 42.9**	**+0.9**
BC3	**Big Chuckawall**	**1.76**	**9**	S	**Sn**	**14 20 40.5**	**-0.7**
	baz=191						
PFO	**Pinyon Flats O**	**1.78**	**342**		**Pn**	**14 20 19.9**	**+0.6**
PFO	**Pinyon Flats O**	**1.78**	**342**	P	**Pn**	**14 20 20.1**	**+0.8**
	baz=163,SNR=25						
PFO				Sb	**Sg**	**14 20 45.2**	**-0.9**
	baz=163						
CRY	**Cary Ranch**	**1.83**	**334**		**Pg**	**14 20 23.6**	**-0.3**
113A	**Mohawk Valley,**	**1.92**	**63**		**Pn**	**14 20 21.7**	**+0.7**
POB	**Polly Butte**	**2.01**	**332**		**Pn**	**14 20 23.8**	**+1.4**
MURC	**Murrieta**	**2.05**	**325**	Pb	**Pb**	**14 20 25.6**	**-0.2**
	baz=146						
MURC				Sb	**Sb**	**14 20 52.0**	**+0.6**
	baz=146						
BELC	**Belle Mtn. Jos**	**2.09**	**355**	P	**Pn**	**14 20 24.3**	**+0.9**
	baz=177,SNR=20						
BELC				Sg	**Sg**	**14 20 57.0**	**+1.1**
	baz=177						
ELS	**Elsinore Mount**	**2.21**	**322**		**Pn**	**14 20 25.7**	**+0.6**
ELS				IAML		14 20 57.7	
	comp=N,43nm,0.4s						
214A	**Organ Pipe Nat**	**2.54**	**88**		**Pn**	**14 20 30.0**	**+0.5**
214A	**Organ Pipe Nat**	**2.54**	**88**	P	**Pn**	**14 20 29.7**	**+0.1**
	baz=269						
214A				S	**Sn**	**14 20 59.9**	**-0.4**
	baz=269						
SCI2	**San Clemente I**	**2.56**	**295**	S	**Sn**	**14 21 02.7**	**+1.9**
	baz=115						
CIS	**Catalina Islan**	**2.66**	**305**	S	**Sn**	**14 21 03.7**	**+0.3**
	baz=124						

*IDC **29** 14:22:49.2±0.8, 9°.33S×159°.23E, h0km, mb4.0/11, mbtmp4.0/12, ML2.8/2, MS4.0/2, Error ellipse: s-maj=26.8km s-min=19.0km az=95.0*
*NEIC **29** 14:22:51.0±1.5, 9°.33S±0°.06×159°.28E±0°.06, h5km±5km, mb4.5/21, Error ellipse: s-maj=10.7km s-min=5.7km az=223.0*

ISC 29 14:22:50.9±0.5, 9°.32S±0°.08×159°.23E±0°.07, h10km, n45, σ1s00/46, mb4.2/20, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.71**	**99**		**Pg**	**14 23 03.9**	**-0.8**
PMG	**Port Moresby**	**11.92**	**269**	LR	LR	14 30 10.4	
	comp=Z,557nm,18.1s,baz=121,slow=37						
KOUNC	**Koumac, New Ca**	**12.18**	**157**	Pn	**Pn**	**14 25 45.1**	**+0.5**
LIFNC	**LIFOU**	**13.76**	**147**	Pn	**Pn**	**14 26 04.2**	**-2.0**
DZM	**Mont Dzumac**	**14.45**	**152**	Pn	**Pn**	**14 26 16.4**	**+0.7**
DZM	**Mont Dzumac**	**14.45**	**152**	Pn	**Pn**	**14 26 15.5**	**-0.2**
	0.2nm,0.3s,baz=120,slow=18,SNR=1.3						
DZM				LR	LR	14 31 25.0	
	comp=Z,542nm,19.1s,baz=316,slow=36						
	2.6nm,0.8s						
CTA	**Charters Tower**	**16.49**	**228**	Pn	**Pn**	**14 26 42.4**	**-0.1**
	baz=38,slow=7.1,SNR=3.2						
CTA				LR	LR	14 32 08.5	
	comp=Z,17nm,20.1s,baz=296,slow=34						
CTAO	**Charters Tower**	**16.49**	**228**	Pn	**Pn**	**14 26 42.9**	**+0.4**
EIDS	**Eidsvold**	**17.75**	**205**	P	**P**	**14 27 00.7**	**+1.6**
MSVF	**Nonsavu**	**20.10**	**117**	P	**P**	**14 27 25.5**	**+0.5**
MSVF				IAmb	IAmb	14 27 51.7	
	comp=Z,23nm,1.2s						
WR0	**Warramunga Arr**	**26.09**	**243**	P	**P**	**14 28 25.3**	**+0.2**
WR0				IAmb	IAmb	14 28 41.2	
	comp=Z,13nm,0.9s						
WB0	**Warramunga Arr**	**26.15**	**244**	P	**P**	**14 28 25.9**	**+0.3**
WB0				IAmb	IAmb	14 28 36.6	
	comp=Z,12nm,0.9s						
WB2	**Warramunga Arr**	**26.25**	**244**	P	**P**	**14 28 26.6**	**0.0**
WB2				IAmb	IAmb

comp=Z,7.5nm,1.0s
USRK Ussuriysk Ar. 58.71 337 P P 14 32 48.3 -0.5
comp=Z,1.1nm,0.6s,baz=169,slow=8.5,SNR=3.1
comp=Z,1.1nm,0.6s
CMAR Chiang Mai Arr 65.56 295 P P 14 33 35.4 +0.1
CMAR Chiang Mai Arr 65.56 295 P P 14 33 35.3 -0.1
comp=Z,1.0nm,0.5s,baz=118,slow=3.9,SNR=6.3
comp=Z,1.0nm,0.5s
VNDA Vanda 68.19 179 P P 14 33 51.1 0.0
VNDA IAmb IAmb 14 34 04.0
comp=Z,4.2nm,0.9s
VNDA Vanda 68.19 179 P P 14 33 51.4 +0.3
comp=Z,2.5nm,0.8s,baz=339,slow=8.3,SNR=15
comp=Z,2.5nm,0.8s
SONM Songino Array 73.57 326 P P 14 34 24.5 +0.1
comp=Z,0.7nm,0.7s,baz=140,slow=7.1,SNR=3.9
comp=Z,0.7nm,0.7s
QSPA South Pole Qui 80.67 180 P P 14 35 03.5 -0.6
QSPA IAmb IAmb 14 35 10.3
comp=Z,4.3nm,1.3s
QSPA South Pole Qui 80.67 180 P P 14 35 03.7 -0.3
comp=Z,0.8nm,0.7s,baz=336,slow=1.1,SNR=5.2
comp=Z,0.8nm,0.7s
IMAR Indian Mountai 82.61 18 P P 14 35 14.3 +0.3
E19K Redstone River 82.68 16 P P 14 35 15.3 +1.0
D19K Kuna River 83.22 15 P P 14 35 17.8 +0.6
D19K IAmb IAmb 14 35 27.8
comp=Z,7.8nm,1.4s
ILAR Eielson Array 84.03 20 P P 14 35 20.7 -0.7
comp=Z,0.7nm,0.9s,baz=252,slow=4.9,SNR=8.9
comp=Z,0.7nm,0.9s
J25K Salcha River, 84.47 21 P P 14 35 23.8 +0.1
J25K IAmb IAmb 14 35 33.7
comp=Z,6.2nm,1.4s
D22K Ayikyak River 84.89 16 P P 14 35 26.0 +0.4
MK31 Makanchi Array 87.92 318 P P 14 35 40.5 -0.5
MK31 IAmb IAmb 14 35 49.4
comp=Z,1.2nm,0.9s
MKAR Makanchi Array 87.92 318 P P 14 35 40.6 -0.4
MKAR Makanchi Array 87.92 318 P P 14 35 41.0 -0.1
comp=Z,1.8nm,0.8s,baz=104,slow=6.5,SNR=9.3
comp=Z,1.8nm,0.8s
NVAR Mina Array Bea 89.88 51 P P 14 35 50.9 +0.2
comp=Z,0.3nm,0.6s,baz=289,slow=2.8,SNR=3.8
comp=Z,0.3nm,0.6s

*IDC **29** 14:27:08.8±2.5, 44°.05N×128°.76W, h0km, mb3.3/3, mbtmp3.3/9, ML3.4/4, MS3.2/4, Error ellipse: s-maj=42.1km s-min=18.2km az=52.0*
*NEIC **29** 14:27:09.8±1.0, 44°.04N±0°.06×128°.6W±0°.2, h10km±2km, ML3.2/42, Error ellipse: s-maj=25.0km s-min=3.1km az=246.0*
ISC 29 14:27:11.2±1.9, 44°.2N±0°.1×128°.6W±0°.2, h13km, n41, σ1§25/35, mb3.3/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	**Myrtle Point**	**3.49**	**105**	Pn	**Pn**	**14 28 03.7**	**-1.4**
HEBO	**Mount Hebo**	**3.58**	**71**	Pn	**Pn**	**14 28 05.6**	**-0.8**
HEBO	comp=N,47nm,2.1s			IAML		14 29 48.9	
I03D	**Drain, OR**	**3.78**	**95**		**Pn**	**14 28 08.4**	**-0.7**
COR	**Corvallis**	**3.79**	**82**		**Pn**	**14 28 09.1**	**-0.1**
COR	comp=N,31nm,4.8s			IAML		14 28 48.7	
COR	comp=N,40nm,1.6s			IAML		14 29 02.1	
F03A	**Seaside**	**3.96**	**62**		**Pn**	**14 28 11.4**	**-0.1**
F03A	comp=E,49nm,4.7s			IAML		14 28 49.8	
DBO	**Dodson Butte**	**3.99**	**103**		**Pn**	**14 28 11.2**	**-0.9**
BUCK	**Buck Mountain**	**4.00**	**87**	Pn	**Pn**	**14 28 11.8**	**-0.4**
BUCK	comp=E,45nm,4.9s			IAML		14 28 58.5	
BUCK	comp=N,34nm,5.0s			IAML		14 29 26.4	
RADR	**Rader Ridge**	**4.04**	**54**	Pn	**Pn**	**14 28 13.5**	**+0.8**
RADR	comp=E,30nm,4.7s			IAML		14 28 50.6	
RADR	comp=N,30nm,4.9s			IAML		14 29 00.3	
H04D	**Lebanon**	**4.18**	**83**	Pn	**Pn**	**14 28 15.3**	**+0.7**
H04D	comp=E,26nm,2.1s			IAML		14 29 11.3	
H04D	comp=N,25nm,5.0s			IAML		14 30 43.7	
E03A	**Lebam**	**4.25**	**54**	Pn	**Pn**	**14 28 16.2**	**+0.7**
E03A	comp=E,26nm,3.1s			IAML		14 29 14.7	
E03A	comp=N,22nm,4.8s			IAML		14 30 44.3	
HUMO	**Hull Mountain**	**4.36**	**109**	Pn	**Pn**	**14 28 16.8**	**-0.3**
I04A	**Tendick Farm,**	**4.44**	**93**		**Pn**	**14 28 18.2**	**-0.1**
I04A	comp=N,14nm,4.2s			IAML		14 28 50.3	
WISH	**Wishkah**	**4.47**	**47**	Pn	**Pn**	**14 28 20.0**	**+1.5**
H04A	**Detroit Lake**	**4.59**	**81**	Pn	**Pn**	**14 28 21.5**	**+1.2**
H04A	comp=N,16nm,0.5s			IAML		14 29 22.8	
H04A	comp=E,15nm,2.6s			IAML		14 29 24.5	
NLWA	**Neilton Lookou**	**4.60**	**44**	Pn	**Pn**	**14 28 21.9**	**+1.5**
NLWA	comp=E,12nm,4.6s			IAML		14 30 55.2	
C03A	**Quillayute Air**	**4.70**	**35**	Pn	**Pn**	**14 28 22.4**	**+0.8**
YBH	**Yreka Blue Hor**	**4.92**	**117**	Pn	**Pn**	**14 28 27.7**	**+2.8**
YBH	comp=E,2.3nm,0.8s,baz=304,slow=11,SNR=3.7			Sn	**Sn**	**14 29 22.6**	**+0.9**
YBH	comp=E,0.1nm,0.3s,baz=354,slow=7.3,SNR=2.5			LR	LR	14 30 15.9	
HOOD	**Mount Hood Mea**	**5.05**	**74**		**Pn**	**14 28 27.4**	**+0.7**
HOOD	comp=N,25nm,2.3s			IAML		14 29 39.4	
OZB	**Mount Ozzard**	**5.25**	**23**	Pn	**Pn**	**14 28 30.2**	**+0.9**
OZB	comp=E,21nm,3.8s			IAML		14 30 02.2	
G05A	**Wamic**	**5.27**	**76**	Pn	**Pn**	**14 28 31.1**	**+1.5**
J05D	**Fort Rock, OR**	**5.37**	**97**		**Pn**	**14 28 32.5**	**+1.3**
LON	**Longmire**	**5.40**	**59**		**Pn**	**14 28 33.6**	**+2.2**
PINE	**Pine Mountain**	**5.50**	**91**		**Pn**	**14 28 33.0**	**+0.1**
CLRS	**Cowichan Lake**	**5.57**	**32**	Pn	**Pn**	**14 28 34.2**	**+0.5**
LTY	**Liberty**	**6.33**	**58**		**Pn**	**14 28 44.6**	**+0.5**
G08A	**Pilot Rock**	**6.92**	**77**		**Pn**	**14 28 52.8**	**+0.4**
BBB	**Bella Bella**	**8.04**	**2**	Pn	**Pn**	**14 29 09.1**	**+1.5**
	comp=E,0.1nm,0.3s,baz=306,slow=4.7,SNR=2.0						
	comp=E,6.1nm,1.0s						
NEW	**Newport**	**8.92**	**59**	Pn	**Pn**	**14 29 22.5**	**+2.8**
	comp=E,0.1nm,0.3s,baz=144,slow=8.4,SNR=3.6						
NEW				LR	LR	14 32 59.2	
	comp=E,63nm,19.5s,baz=294,slow=38						
	comp=E,2.1nm,0.8s						
NVAR	**Mina Array Bea**	**9.60**	**123**	Pn	**Pn**	**14 29 30.9**	**+1.8**
	comp=E,0.2nm,0.6s,baz=285,slow=12,SNR=0.5						
PDAR	**Pinedale Array**	**13.87**	**89**	Pn	**P**	**14 30 33.7**	**-2.2**
	comp=E,0.1nm,0.3s,baz=278,slow=7.2,SNR=4.2						
	comp=E,0.1nm,0.3s						
ANMO	**Albuquerque**	**19.31**	**111**	P	**Pn**	**14 31 36.8**	**-0.3**
	baz=160,slow=24,SNR=1.8						
ANMO				LR	LR	14 37 57.0	
	comp=E,148nm,19.4s,baz=312,slow=33						
	comp=E,0.9nm,0.9s						
ULM	**Lac du Bonnet**	**22.89**	**63**	P	**P**	**14 32 14.7**	**+0.3**
	comp=E,1.5nm,0.7s,baz=354,slow=7.3,SNR=3.1						
	comp=E,1.5nm,0.7s						
ILAR	**Eielson Array**	**23.07**	**340**	P	**P**	**14 32 15.8**	**-0.3**
	comp=E,0.5nm,1.0s,baz=155,slow=10,SNR=4.8						
	comp=E,0.5nm,1.0s						
TXAR	**Lajitas Array**	**24.70**	**118**	P	**P**	**14 32 32.1**	**+0.1**
	comp=E,0.7nm,0.9s,baz=305,slow=8.7,SNR=6.7						
	comp=E,0.7nm,0.9s						
LPIG	**La Paz**	**24.96**	**137**	LR	LR	14 42 14.5	
	comp=E,54nm,21.2s,baz=72,slow=36						
H11N3	**WAKE ISLAND Hy**	**58.38**	**267**	T	T	15 39 47.3	
	baz=49,slow=75,SNR=56						
H11N2	**WAKE ISLAND Hy**	**58.38**	**267**	T	T	15 39 50.5	
	baz=49,slow=75,SNR=50						
H11N1	**WAKE ISLAND Hy**	**58.40**	**267**	T	T	15 39 50.3	
	baz=49,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**59.31**	**266**	T	T	15 41 02.2	
	baz=49,slow=75,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**59.32**	**266**	T	T	15 41 02.7	
	baz=49,slow=75,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**59.33**	**266**	T	T	15 41 04.5	
	baz=49,slow=75,SNR=7.3						

*CATAC **29** 14:33:05.1±0.4, 13°.34N×90°.50W, h13km±2km, ML3.5*
*GCG **29** 14:33:09.0±0.7, 13°.52N×90°.75W, h27km±9km, MD3.7*
ISC 29 14:33:05.5±1.9, 13°.35N±0°.08×90°.55W±0°.05, h24km±15km, n39, σ0§75/69, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.93**	**54**	*i* P	**Pn**	**14 33 22.2**	**-1.1**
NUBE				*i* S	**Sb**	**14 33 34.4**	**-0.8**
NUBE	comp=Z,720nm,1.0s			IAML		14 33 42.5	
CEVE	**Cerro Verde**	**1.02**	**62**	*i* P	**Pn**	**14 33 24.4**	**-0.2**
CEVE				*i* S	**Sb**	**14 33 37.6**	**-0.2**
CEVE	comp=Z,2μm,1.0s			IAML		14 33 49.7	
JAYA	**Jayaque - finc**	**1.12**	**74**	*i* P	**Pn**	**14 33 25.1**	**-0.7**
JAYA				*i* S	**Sn**	**14 33 39.2**	**-1.4**
JAYA	comp=Z,3μm,1.0s			IAML		14 33 40.6	
FUG	**Fuego 3**	**1.13**	**346↓**	*e* P	**Pb**	**14 33 26.5**	**0.0**
FUG				*e* S	**Sn**	**14 33 38.8**	**-2.1**
UNIC	**Universidad Ca**	**1.16**	**57**	*i* P	**Pn**	**14 33 25.9**	**-0.5**
UNIC				*i* S	**Sn**	**14 33 40.6**	**-0.9**
UNIC	comp=Z,520nm,1.0s			IAML		14 33 43.3	
LALI	**Alcalda de L**	**1.21**	**83**	*i* P	**Pn**	**14 33 26.0**	**-0.9**
LALI				*i* S	**Sn**	**14 33 41.6**	**-0.9**
LALI	comp=Z,180nm,1.0s			IAML		14 33 43.7	
CEDA	**San Andres**	**1.21**	**68**	*i* P	**Pn**	**14 33 27.1**	**0.0**
CEDA				*i* S	**Sn**	**14 33 43.0**	**+0.2**
CEDA	comp=Z,2μm,1.0s			IAML		14 33 47.5	
GCG4	**OSOP**	**1.23**	**1**	*i* P	**Pb**	**14 33 28.1**	**-0.2**
GCG4				*i* S	**Sb**	**14 33 44.2**	**+0.4**
GCG4	comp=Z,1μm,1.0s			IAML		14 33 52.4	
NBG	**Las Nubes**	**1.25**	**9**	*e* P	**Pb**	**14 33 29.6**	**+1.0**
NBG				*e* S	**Sb**	**14 33 46.4**	**+2.0**
PMON	**Piamonte**	**1.26**	**73**	*i* P	**Pn**	**14 33 27.8**	**+0.1**
PMON				*i* S	**Sn**	**14 33 43.9**	**-0.1**
PMON	comp=Z,2μm,1.0s			IAML		14 33 47.0	
ITCA	**Escuela Especi**	**1.28**	**75**	*i* P	**Pn**	**14 33 27.8**	**-0.2**
ITCA				*i* S	**Sn**	**14 33 44.6**	**+0.1**
ITCA	comp=Z,2μm,1.0s			IAML		14 33 47.2	
SNET	**Serv Nac Est T**	**1.33**	**75**	*i* S	**Sn**	**14 33 45.8**	**+0.1**
UEES	**Universidad Ev**	**1.33**	**74**	*i* P	**Pn**	**14 33 28.7**	**0.0**
UEES				*i* S	**Sn**	**14 33 45.7**	**0.0**
UEES	comp=Z,780nm,1.0s			IAML		14 33 49.6	
QUEZ	**Alcaldia de Qu**	**1.34**	**69**	*i* P	**Pn**	**14 33 28.6**	**-0.1**
QUEZ				IAML		14 33 30.4	
QUEZ	comp=Z,5μm,1.0s			*i* S	**Sn**	**14 33 45.9**	**+0.1**
PANCS	**Alcalda de**	**1.36**	**79**	*i* P	**Pn**	**14 33 28.9**	**-0.2**
PANCS				*i* S	**Sn**	**14 33 46.7**	**+0.2**
PANCS	comp=Z,3μm,1.0s			IAML		14 33 52.0	
LOMA	**Loma Larga**	**1.38**	**77**	*i* P	**Pn**	**14 33 29.6**	**+0.2**
LOMA				IAML		14 33 50.9	
UDBS	**Universidad Do**	**1.41**	**75**	*i* S	**Sn**	**14 33 48.3**	**+0.7**
CHTG	**Tecpan**	**1.47**	**343**	*i* P	**Pn**	**14 33 31.3**	**+0.5**
CHTG				*i* S	**Sb**	**14 33 50.5**	**-0.1**
CHTG	comp=Z,2μm,1.0s			IAML		14 33 53.8	
MTO3	**Montecristo**	**1.56**	**48**	*i* P	**Pn**	**14 33 31.9**	**-0.1**
MTO3				*i* S	**Sn**	**14 33 51.6**	**0.0**
MTO3	comp=Z,230nm,1.0s			IAML		14 33 55.2	
COEG	**Centro de Oper**	**1.65**	**80**	*i* P	**Pn**	**14 33 32.9**	**-0.2**
COEG				*i* S	**Sn**	**14 33 53.7**	**+0.1**
COEG	comp=Z,300nm,1.0s			IAML		14 34 00.5	
STG3	**Santiaguito 3,**	**1.68**	**324**	*e* P	**Pn**	**14 33 34.2**	**+0.7**
STG3				*e* S	**Sn**	**14 33 52.8**	**-1.5**
SOKI	**Kika Raxquin**	**1.68**	**331**	*i* P	**Pn**	**14 33 34.7**	**+0.9**
SOKI				*i* S	**Sb**	**14 33 56.3**	**-0.6**
SOKI	comp=Z,340nm,1.0s			IAML		14 34 01.3	
TECO	**Alcaldia de Te**	**1.73**	**84**	*i* P	**Pn**	**14 33 33.8**	**-0.4**
TECO				*i* S	**Sn**	**14 33 55.9**	**+0.3**
TECO	comp=Z,170nm,1.0s			IAML		14 34 03.4	
UESV	**Universidad de**	**1.74**	**80**	*i* P	**Pn**	**14 33 33.9**	**-0.4**
UESV				*i* S	**Sn**	**14 33 56.6**	**+0.8**
UESV	comp=Z,270nm,1.0s			IAML		14 34 00.6	
LLGN	**La Laguna**	**1.76**	**62**	*i* P	**Pn**	**14 33 34.1**	**-0.5**
LLGN	comp=Z,250nm,1.0s			IAML		14 33 54.9	
LLGN				*i* S	**Sn**	**14 33 57.2**	**+0.8**
SCLA	**Alcaldia de Sa**	**1.81**	**79**	*i* P	**Pn**	**14 33 35.4**	**+0.1**
SCLA				*i* S	**Sn**	**14 33 58.8**	**+1.3**
SCLA	comp=Z,89nm,1.0s			IAML		14 34 12.6	
PQSS	**Presa 15 de Se**	**1.96**	**82**	*i* P	**Pn**	**14 33 37.2**	**-0.1**
PQSS				*i* S	**Sn**	**14 34 02.0**	**+0.9**
PQSS	comp=Z,150nm,1.0s			IAML		14 34 09.1	
QUIS	**Sacapulas**	**2.00**	**345**	*i* P	**Pb**	**14 33 40.1**	**-1.2**
QUIS				IAML		14 33 40.8	
QUIS	comp=Z,380nm,1.0s			*i* S	**Sb**	**14 34 05.8**	**-0.1**
PACA	**Pacayal**	**2.17**	**87**	*i* P	**Pn**	**14 33 40.6**	**+0.3**
PACA				*i* S	**Sn**	**14 34 07.3**	**+0.7**
PACA	comp=Z,2μm,1.0s			IAML		14 34 14.2	
RANC	**El Ranchito**	**2.21**	**88**	*i* P	**Pn**	**14 33 40.6**	**-0.2**
RANC				IAML		14 34 15.8	
RANC	comp=Z,150nm,1.0s						
CNCH	**Conchagua**	**2.65**	**91**	*i* P	**Pn**	**14 33 46.8**	**-0.1**
CNCH				*i* S	**Sn**	**14 34 19.2**	**+0.9**
CNCH	comp=Z,440nm,1.0s			IAML		14 34 27.4	
TGUH	**Tegucigalpa,Un**	**3.27**	**77**	*i* P	**Pn**	**14 33 54.2**	**-1.2**
TGUH				*i* S	**Sn**	**14 34 34.2**	**+0.6**
TGUH	comp=Z,39nm,1.0s			IAML		14 34 45.7	
CCIG	**Comitan**	**3.29**	**332**	*i* P	**Pn**	**14 33 57.3**	**+1.5**
CCIG	comp=Z,36nm,1.0s			IAML		14 34 59.8	
PKGN	**Cerro Pekin**	**3.55**	**101**	*i* P	**Pn**	**14 33 58.8**	**-0.4**
PKGN	comp=Z,3μm,1.0s			IAML		14 35 19.1	
YUSH	**Yuscaran**	**3.66**	**80**	*i* P	**Pn**	**14 34 00.4**	**-0.3**
PACN	**Al O del Volca**	**3.76**	**103**	*i* P	**Pn**	**14 34 01.8**	**-0.3**
PACN	comp=Z,96nm,1.0s			IAML		14 34 02.4	
PACN				*i* S	**Sn**	**14 34 46.0**	**+0.3**
SOMN	**Somoto**	**3.83**	**88**	*i* P	**Pn**	**14 34 03.6**	**+0.4**
SOMN	comp=Z,20nm,1.0s			IAML		14 34 06.9	
CNGN	**Cerro Negro**	**3.85**	**102**	*i* P	**Pn**	**14 34 02.6**	**-0.8**
CNGN				*i* S	**Sn**	**14 34 49.2**	**+1.2**
CNGN	comp=Z,56nm,1.0s			IAML		14 34 53.6	
MACN	**El Madrono**	**3.88**	**103**	*i* P	**Pn**	**14 34 02.9**	**-0.9**
MACN	comp=Z,29nm,1.0s			IAML		14 34 54.1	

NEIC 29 14:41:06.9±1.0, 44°.17N±0°.05×128°.5W±0°.2, h10km±2km, ML3.0/52, Error ellipse: s-maj=24.5km s-min=3.1km az=251.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	**Myrtle Point**	**3.46**	**105**	Pn	Pn	14 42 00.6	-0.3
J01E				IAML		14 42 45.5	
	comp=E,32nm,0.3s						
KBO	**Bosley Butte**	**3.68**	**121**	Pn	Pn	14 42 03.5	-0.5
COR	**Corvallis**	**3.75**	**82**		Pn	14 42 05.4	+0.7
COR	comp=E,28nm,2.1s			IAML		14 42 57.8	
I03D	**Drain, OR**	**3.75**	**95**		Pn	14 42 04.3	-0.5
G03D	**McMinnville, O**	**3.88**	**73**		Pn	14 42 06.5	-0.1
G03D	comp=E,20nm,2.8s			IAML		14 42 38.0	
G03D	comp=N,33nm,1.7s			IAML		14 43 00.5	
F03A	**Seaside**	**3.92**	**62**		Pn	14 42 07.2	+0.1
F03A	comp=E,30nm,3.0s			IAML		14 42 55.0	
F03A	comp=N,30nm,0.5s			IAML		14 43 01.6	
DBO	**Dodson Butte**	**3.95**	**104**		Pn	14 42 07.3	-0.5
BUCK	**Buck Mountain**	**3.96**	**88**	Pn	Pn	14 42 08.3	+0.4
BUCK	comp=N,16nm,4.4s			IAML		14 43 38.1	
BUCK	comp=E,23nm,3.4s			IAML		14 44 25.8	
RADR	**Rader Ridge**	**4.01**	**54**	Pn	Pn	14 42 08.8	+0.4
RADR	comp=E,23nm,3.5s			IAML		14 42 53.9	
RADR	comp=N,19nm,2.5s			IAML		14 44 37.9	
L02F	**Cave Junction**	**4.14**	**118**	Pn	Pn	14 42 10.4	+0.2
L02F	comp=E,15nm,1.0s			IAML		14 43 00.7	
H04D	**Lebanon**	**4.15**	**83**	Pn	Pn	14 42 10.1	-0.2
H04D	comp=E,18nm,1.8s			IAML		14 43 15.2	
H04D	comp=N,17nm,2.5s			IAML		14 43 34.9	
E03A	**Lebam**	**4.21**	**54**	Pn	Pn	14 42 10.7	-0.5
E03A	comp=N,16nm,5.0s			IAML		14 43 18.4	
E03A	comp=E,13nm,5.0s			IAML		14 44 44.7	
HUMO	**Hull Mountain**	**4.33**	**109**	Pn	Pn	14 42 12.9	0.0
HUMO	comp=E,12nm,0.5s			IAML		14 43 06.6	
I04A	**Tendick Farm,**	**4.41**	**93**		Pn	14 42 13.9	-0.1
I04A	comp=N,10nm,3.8s			IAML		14 43 04.5	
I04A	comp=E,10nm,3.8s			IAML		14 43 55.7	
WISH	**Wishkah**	**4.44**	**47**	Pn	Pn	14 42 13.6	-0.7
H04A	**Detroit Lake**	**4.55**	**81**	Pn	Pn	14 42 16.9	+1.0
H04A	comp=N,11nm,0.7s			IAML		14 43 19.6	
C03A	**Quillayute Air**	**4.67**	**34**	Pn	Pn	14 42 17.5	+0.1
YBH	**Yreka Blue Hor**	**4.89**	**118**	Pn	Pn	14 42 21.4	+0.8
HOOD	**Mount Hood Mea**	**5.01**	**74**		Pn	14 42 22.2	-0.1
HOOD	comp=N,11nm,2.0s			IAML		14 43 35.5	
I05D	**Terrebonne, OR**	**5.14**	**86**		Pn	14 42 24.1	0.0
GNW	**Green Mountain**	**5.22**	**47**	Pn	Pn	14 42 25.2	+0.2
OZB	**Mount Ozzard**	**5.22**	**22**	Pn	Pn	14 42 24.8	-0.3
G05A	**Wamic**	**5.23**	**76**	Pn	Pn	14 42 24.2	-1.0
J05D	**Fort Rock, OR**	**5.34**	**97**	Pn	Pn	14 42 26.3	-0.5
J05D	comp=N,8.1nm,3.8s			IAML		14 45 53.6	
J05D	comp=E,11nm,4.5s			IAML		14 45 58.6	
PINE	**Pine Mountain**	**5.47**	**91**		Pn	14 42 28.0	-0.6
CLRS	**Cowichan Lake**	**5.55**	**31**	Pn	Pn	14 42 28.7	-0.8
CBB	**Campbell River**	**6.25**	**19**	Pn	Pn	14 42 39.9	+0.8
LTY	**Liberty**	**6.29**	**58**		Pn	14 42 41.1	+1.3
I07A	**Izee**	**6.47**	**88**		Pn	14 42 43.1	+0.8
G08A	**Pilot Rock**	**6.89**	**77**		Pn	14 42 49.4	+1.3

*IDC **29** 14:48:24.7±2.0, 43°.85N×128°.96W, h0km, mb3.8/5, mbtmp3.5/10, ML3.1/5, Error ellipse: s-maj=47.8km s-min=16.0km az=47.0*
*NEIC **29** 14:48:25.9±1.1, 43°.92N±0°.10×128°.9W±0°.2, h10km±1km, mb3.8/12, ML3.3/32, Error ellipse: s-maj=23.6km s-min=8.7km az=228.0*
ISC 29 14:48:27.1±1.3, 44°.0N±0°.1×128°.8W±0°.1, h15km, n47, σ1§15/39, mb3.8/8, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	**Myrtle Point**	**3.65**	**101**	Pn	**Pn**	**14 49 22.6**	**-0.4**
J01E				IAML		14 50 07.2	
	comp=N,22nm,0.5s						
J01E				IAML		14 50 07.7	
	comp=E,35nm,0.3s						
I03D	**Drain, OR**	**3.98**	**92**		**Pn**	**14 49 26.5**	**-1.0**
COR	**Corvallis**	**4.02**	**79**		**Pn**	**14 49 27.1**	**-1.0**
DBO	**Dodson Butte**	**4.15**	**100**	Pn	**Pn**	**14 49 29.9**	**-0.1**
DBO				IAML		14 52 15.4	
	comp=E,20nm,1.0s						
DBO				IAML		14 52 16.1	
	comp=N,16nm,0.8s						
G03D	**McMinnville, O**	**4.17**	**71**		**Pn**	**14 49 29.3**	**-0.8**
G03D				IAML		14 52 14.2	
	comp=N,89nm,0.8s						
G03D				IAML		14 52 18.8	
	comp=E,87nm,0.6s						
BUCK	**Buck Mountain**	**4.22**	**85**	Pn	**Pn**	**14 49 31.1**	**+0.1**
BUCK				IAML		14 52 17.7	
	comp=E,27nm,0.6s						
BUCK				IAML		14 52 20.0	
	comp=N,21nm,1.2s						
F03A	**Seaside**	**4.22**	**61**		**Pn**	**14 49 30.7**	**-0.2**
RADR	**Rader Ridge**	**4.32**	**54**		**Pn**	**14 49 32.2**	**0.0**
RADR				IAML		14 52 22.1	
	comp=N,48nm,1.4s						
RADR				IAML		14 52 26.0	
	comp=E,45nm,1.2s						
H04D	**Lebanon**	**4.41**	**81**	Pn	**Pn**	**14 49 33.7**	**+0.2**
H04D				IAML		14 52 32.1	
	comp=N,66nm,0.7s						
HUMO	**Hull Mountain**	**4.50**	**106**		**Pn**	**14 49 34.7**	**0.0**
HUMO				IAML		14 50 29.7	
	comp=N,13nm,1.4s						
HUMO				IAML		14 52 28.7	
	comp=E,24nm,1.1s						
I04A	**Tendick Farm,**	**4.64**	**90**		**Pn**	**14 49 35.9**	**-0.8**
I04A				IAML		14 52 34.1	
	comp=N,36nm,0.8s						
H04A	**Detroit Lake**	**4.82**	**79**	Pn	**Pn**	**14 49 38.7**	**-0.4**
C03A	**Quillayute Air**	**4.96**	**35**	Pn	**Pn**	**14 49 40.4**	**-0.7**
C03A				IAML		14 52 44.2	
	comp=E,27nm,1.5s						
C03A				IAML		14 52 58.6	
	comp=N,34nm,1.4s						
YBH	**Yreka Blue Hor**	**5.03**	**114**	Pn	**Pn**	**14 49 42.0**	**0.0**
	comp=N,0.2nm,0.3s,baz=298,slow=10.0,SNR=2.2						
YBH				Sn	**Sn**	**14 50 41.4**	**+1.5**
	comp=N,0.3nm,0.3s,baz=65,slow=14,SNR=3.1						
	comp=N,0.4nm,0.3s						
HOOD	**Mount Hood Mea**	**5.30**	**73**		**Pn**	**14 49 45.7**	**-0.1**
G05A	**Wamic**	**5.51**	**74**	Pn	**Pn**	**14 49 49.4**	**+0.7**
GNW	**Green Mountain**	**5.53**	**47**	Pn	**Pn**	**14 49 49.5**	**+0.7**
J05D	**Fort Rock, OR**	**5.56**	**94**	Pn	**Pn**	**14 49 50.4**	**+1.0**
LON	**Longmire**	**5.67**	**58**		**Pn**	**14 49 50.5**	**-0.3**
CBB	**Campbell River**	**6.51**	**20**	Pn	**Pn**	**14 50 02.2**	**0.0**
I07A	**Izee**	**6.72**	**86**	Pn	**Pn**	**14 50 05.8**	**+0.4**
BBB	**Bella Bella**	**8.23**	**3**	Pn	**Pn**	**14 50 27.4**	**+1.5**
	comp=N,0.1nm,0.3s,baz=202,slow=11,SNR=1.5						
	comp=N,4.4nm,0.9s						
NVAR	**Mina Array Bea**	**9.67**	**121**	Pn	**Pn**	**14 50 48.2**	**+2.3**
	comp=N,0.1nm,0.3s,baz=291,slow=13,SNR=3.1						
	comp=N,0.3nm,0.6s						
YHB	**Horse Butte**	**12.65**	**80**		**Pn**	**14 51 24.3**	**-2.3**
YHL	**Hebgen Lake**	**12.65**	**80**		**Pn**	**14 51 25.5**	**-1.2**
PDAR	**Pinedale Array**	**14.07**	**88**	Pn	**Pn**	**14 51 49.4**	**+3.3**
	baz=286,slow=14,SNR=1.8						
	comp=N,0.1nm,0.3s						
WUAZ	**Wupatki**	**15.84**	**116**	P	**P**	**14 52 12.2**	**-1.2**
WUAZ				IAmb	IAmb	14 52 24.7	
	comp=Z,10nm,1.2s						
ANMO	**Albuquerque**	**19.44**	**110**		**P**	**14 52 52.7**	**-0.5**
ANMO	**Albuquerque**	**19.44**	**110**	P	**Pn**	**14 52 54.1**	**-0.2**
	baz=341,slow=24,SNR=1.5						
	comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**20.32**	**19**	P	Pn	14 53 05.1	+0.7

TXAR	Lajitas Array	24.79	118	P	P	14 53 49.5 +0.9
	comp=Z,0.6nm,0.8s,baz=302,slow=7.1,SNR=9.0					
	comp=Z,0.6nm,0.8s					
WMOK	Wichita Mounta	24.89	101	P	P	14 53 47.5 -1.8
E27K	Coleen River	25.19	349	P	P	14 53 51.6 -0.1
IMAR	Indian Mountai	25.94	337	P	P	14 53 57.6 -0.9
H11N3	WAKE ISLAND Hy	58.17	267	T	T	16 01 05.4
	baz=49,slow=75,SNR=92					
H11N2	WAKE ISLAND Hy	58.17	267	T	T	16 01 05.3
	baz=49,slow=75,SNR=250					
H11N1	WAKE ISLAND Hy	58.18	267	T	T	16 01 05.9
	baz=49,slow=75,SNR=209					
H11S1	WAKE ISLAND Hy	59.10	266	T	T	16 02 19.1
	baz=49,slow=75,SNR=58					
H11S2	WAKE ISLAND Hy	59.10	266	T	T	16 02 19.6
	baz=49,slow=75,SNR=42					
H11S3	WAKE ISLAND Hy	59.12	266	T	T	16 02 19.5
	baz=49,slow=75,SNR=40					
SDV	Santo Domingo	61.17	107	P	P	14 58 41.3 -0.2
	comp=Z,2.7nm,0.4s,baz=318,slow=14,SNR=3.5					
	comp=Z,2.7nm,0.4s					
KURBB	Kurchatov Arra	82.82	343	P	P	15 00 49.8 -0.7
	comp=Z,0.5nm,0.2s,baz=46,slow=6.6,SNR=1.9					
	comp=Z,0.5nm,0.2s					

*IDC **29** 14:51:05.7±0.8, 44°.05N×128°.97W, h0km, mb4.0/12, mbtmp4.0/20, ML3.5/8, MS3.8/38, Error ellipse: s-maj=19.8km s-min=10.6km az=38.0*

*GCMT **29** 14:51:07.5±0.4, 43°.89N±0°.03×129°.11W±0°.03, h13km±2km, MW4.7/74, Moment Tensor Solution. s7,c8; s74,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.40±.13; $M_{\theta\theta}$-0.93±.08; $M_{\phi\phi}$ 1.33±.10; $M_{r\theta}$-0.71±.31; $M_{\theta\phi}$-0.32±.06; $M_{\phi r}$-0.55±.21; Best double couple: $M_0$1.52000×10^{16} NP1:ϕ_s32.00000°, δ53.00000°, λ-163.00000°. Principal axes: T 1.4960, Plg15.0000°, Azm87.0000°; N 0.0470, Plg50.0000°, Azm196.0000°; P -1.5430, Plg36.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **29** 14:51:09.5±1.1, 44°.10N±0°.06×128°.6W±0°.1, h10km±1km, mb4.4/196, ML3.7/60 Error ellipse: s-maj=19.1km s-min=4.4km az=240.0*

ISC 29 14:51:08.5±0.5, 44°.08N±0°.07×128°.74W±0°.07, h10km, n528, σ1§03/411, mb4.5/86, MS3.8/31, 1D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	Myrtle Point	3.61	103	Pn	Pn	14 52 03.6	-0.8
J01E				IAML		14 52 49.6	
	comp=E,123nm,0.9s						
J01E				IAML		14 53 14.6	
	comp=N,100nm,1.9s						
I03D	Drain, OR	3.92	94		Pn	14 52 07.0	-1.7
I03D				IAML		14 52 59.5	
	comp=N,79nm,1.2s						
COR	Corvallis	3.93	81		Pn	14 52 08.8	-0.1
COR				IAML		14 53 07.1	
	comp=N,77nm,0.8s						
G03D	McMinnville, O	4.07	72		Pn	14 52 10.4	-0.2
G03D				IAML		14 53 26.8	
	comp=E,86nm,1.9s						
DBO	Dodson Butte	4.11	102	Pn	Pn	14 52 11.0	-0.4
DBO				IAML		14 53 06.9	
	comp=E,79nm,0.8s						
DBO				IAML		14 53 26.0	
	comp=N,77nm,1.9s						
F03A	Seaside	4.11	62		Pn	14 52 11.2	-0.2
BUCK	Buck Mountain	4.14	86	Pn	Pn	14 52 11.6	-0.3
BUCK				IAML		14 53 11.3	
	comp=N,93nm,1.0s						
RADR	Rader Ridge	4.20	54		Pn	14 52 13.2	+0.6
RADR				IAML		14 54 41.9	
	comp=N,87nm,1.7s						
RADR				IAML		14 54 51.8	
	comp=E,75nm,1.8s						
KSXB	Camp Six Broad	4.22	121		Pn	14 52 12.2	-0.7
L02F	Cave Junction	4.26	116		Pn	14 52 12.9	-0.5
L02F				IAML		14 53 05.9	
	comp=N,52nm,0.7s						
L02F				IAML		14 53 06.4	
	comp=E,70nm,0.9s						
H04D	Lebanon	4.33	82	Pn	Pn	14 52 14.9	+0.5
H04D				IAML		14 53 25.1	
	comp=N,100nm,1.3s						
E03A	Lebam	4.40	54	Pn	Pn	14 52 15.5	+0.2
E03A				IAML		14 53 17.1	
	comp=E,76nm,1.4s						
E03A				IAML		14 53 29.3	
	comp=N,58nm,2.0s						
HUMO	Hull Mountain	4.47	107	Pn	Pn	14 52 16.4	+0.1
HUMO				IAML		14 53 11.1	
	comp=E,74nm,0.5s						
HUMO				IAML		14 53 11.3	
	comp=N,88nm,1.0s						
F04D	Rainier, OR	4.52	62		Pn	14 52 16.7	-0.3
F04D				IAML		14 53 22.8	
	comp=E,98nm,1.6s						
I04A	Tendick Farm,	4.58	91		Pn	14 52 17.8	0.0
I04A				IAML		14 53 16.1	
	comp=E,79nm,1.9s						
I04A				IAML		14 53 17.5	
	comp=N,78nm,1.4s						
WISH	Wishkah	4.62	47	IAML		14 53 34.0	
	comp=N,63nm,1.9s						
WISH				IAML		14 54 06.4	
	comp=E,46nm,1.9s						
H04A	Detroit Lake	4.74	80	IAML		14 53 22.0	
H04A				IAML		14 53 23.3	
	comp=E,48nm,0.6s						
H04A				IAML		14 53 23.3	
	comp=N,50nm,0.6s						
JCC	Jacoby Creek,	4.78	132		Pn	14 52 20.9	+0.5
C03A	Quillayute Air	4.83	35	IAML		14 53 24.3	
	comp=N,78nm,0.8s						
KHMM	Horse Mountain	4.90	129	Pn	Pn	14 52 23.4	+1.1
YBH	Yreka Blue Hor	5.01	116	Pn	Pn	14 52 24.6	+0.8
YBH	Yreka Blue Hor	5.01	116	Pn	Pn	14 52 24.2	+0.4
	comp=N,0.6nm,0.3s,baz=288,slow=7.8,SNR=20						
YBH				Sn	Sn	14 53 22.8	+1.0
	comp=N,0.6nm,0.3s,baz=145,slow=9.3,SNR=5.6						
YBH				LR	LR	14 54 18.5	
	comp=N,1μm,18.9s,baz=312,slow=38						
	comp=N,7.7nm,0.7s						
I05D	Terrebonne, OR	5.33	85	IAML		14 53 59.7	
	comp=N,45nm,1.2s						
OZB	Mount Ozzard	5.37	24		Pn	14 52 28.6	0.0
OZB				IAML		14 53 37.2	
	comp=N,54nm,2.0s						
OZB				IAML		14 53 46.0	
	comp=E,41nm,0.8s						
CLRS	Cowichan Lake	5.71	32	Pn	Pn	14 52 33.0	-0.2
PGC	Sidney	5.85	37		Pn	14 52 35.7	+0.5
CBB	Campbell River	6.38	20	Pn	Pn	14 52 43.9	+1.5
BBB	Bella Bella	8.12	3	Pn	Pn	14 53 05.0	-1.2
	comp=E,0.4nm,0.3s,baz=295,slow=2.2,SNR=7.8						
BBB				Sn	Sn	14 54 36.6	-1.4
	comp=E,0.1nm,0.3s,baz=283,slow=11,SNR=1.4						
BBB				LR	LR	14 55 19.3	
	comp=E,195nm,18.9s,baz=171,slow=31						
	comp=E,7.5nm,0.9s						
NEW	Newport	9.08	59	P	Pn	14 53 20.1	+0.5
	baz=247						
NEW	Newport	9.08	59	Pn	Pn	14 53 20.2	+0.6
	comp=E,0.7nm,0.3s,baz=245,slow=9.9,SNR=7.4						
NEW				LR	LR	14 56 47.8	
	comp=E,695nm,20.5s,baz=244,slow=37						
	comp=E,1.8nm,0.4s						
H02S1	DAWSON INLET T	9.45	346	T	T	15 02 53.5	
NVAR	Mina Array Bea	9.67	122	Pn	Pn	14 53 30.4	+2.5
	comp=E,0.1nm,0.3s,baz=298,slow=12,SNR=16						
	comp=E,5.6nm,1.0s						
MLAC	Mammoth, Mammo	9.89	127	P	Pn	14 53 31.6	+0.8
	baz=314						
HLID	Hailey	10.37	88	P	Pn	14 53 38.3	+1.0
	baz=278,SNR=64						
ELK	Elko	10.53	104	Pn	Pn	14 53 44.3	+4.7
	comp=E,0.1nm,0.3s,baz=298,slow=12,SNR=17						
ELK				LR	LR	14 57 59.2	
	comp=E,632nm,18.0s,baz=291,slow=39						
	comp=E,3.6nm,0.8s						
MSO	Missoula	10.75	70	Pn	Pn	14 53 42.7	+0.1
MSO	Missoula	10.75	70	P	Pn	14 53 43.2	+0.7
	baz=260,SNR=12						
VES	Vestal, Richgr	11.07	135	P	Pn	14 53 47.5	+0.8
	baz=321,SNR=8.7						
CWC	Cottonwood Cre	11.16	130	P	Pn	14 53 48.8	+0.7
	baz=317						
GRAC	Grapevine Rang	11.17	125	P	Pn	14 53 49.4	+1.1
	baz=313						
R11B	Troy Canyon, C	11.44	116	P	Pn	14 53 53.2	+1.2
	baz=305,SNR=6.4						
ISA	Isabella, Lake	11.52	133	Pn	Pn	14 53 53.7	+0.6
ISA	Isabella, Lake	11.52	133	P	Pn	14 53 54.5	+1.4
	baz=320,SNR=9.9						
CRAG	Craig	11.74	348	P	Pn	14 53 57.3	+1.5
	baz=164						
ARVC	Arvin	11.76	136	P	Pn	14 53 57.1	+0.9
	baz=323,SNR=5.4						
MPMC	Manual Prospec	11.76	129	P	Pn	14 53 57.4	+1.0
	baz=317						
FURC	Furnace Creek,	11.83	126	P	Pn	14 53 59.3	+2.1
	baz=314,SNR=21						
TPNV	Topopah Spring	11.87	123	P	Pn	14 53 59.5	+1.6
	baz=311,SNR=14						
BOZ	Bozeman (W)	12.24	77	Pn	Pn	14 54 03.9	+0.9
BOZ	Bozeman (W)	12.24	77	P	Pn	14 54 03.3	+0.3
	baz=269,SNR=22						
SCZ2	Santa Cruz Isl	12.30	142	P	Pn	14 54 05.4	+1.7
	baz=328						
EDW2	Edwards Air Fo	12.37	134	P	Pn	14 54 06.1	+1.4
	baz=322,SNR=6.1						
DUG	Dugway, Tooele	12.44	103	P	Pn	14 54 06.1	+0.4
	baz=294						
SHOC	Shoshone, Teco	12.57	126	P	Pn	14 54 08.6	+1.3
	baz=315,SNR=10						
GSC	Goldstone, Bar	12.69	130	P	Pn	14 54 10.9	+1.8
	baz=318,SNR=9.9						
SNCC	San Nicolas Is	12.99	143	P	Pn	14 54 14.2	+1.2
	baz=330						
BFSC	Mount Baldy Ra	13.05	135	P	Pn	14 54 15.3	+1.4
	baz=323						
NLU	North Lily Min	13.06	103	Pn	Pn	14 54 14.3	+0.2
TUQ	Turquoise Moun	13.10	127	P	Pn	14 54 16.3	+1.6
	baz=316,SNR=6.8						
HEC	Hector,Ludlow	13.30	130	P	Pn	14 54 18.9	+1.6
	baz=318,SNR=10.0						
CIS	Catalina Islan	13.36	140	P	Pn	14 54 18.9	+0.9
	baz=326						
BBRC	Big Bear Solar	13.41	133	P	Pn	14 54 19.3	+0.3
	baz=321						
ELS	Elsinore Mount	13.63	136	Pn	Pn	14 54 22.5	+0.6
SIT	Sitka	13.63	345	P	Pn	14 54 22.6	+0.9
	baz=159						
SCI2	San Clemente I	13.64	141	P	Pn	14 54 22.7	+0.7
	baz=328						
GMRC	Granite Mounta	13.71	128	P	Pn	14 54 23.5	+0.5
	baz=317,SNR=6.9						
EGMT	Eagleton	13.76	67	Pn	Pn	14 54 24.2	+0.7
EGMT	Eagleton	13.76	67	P	Pn	14 54 22.6	-0.9
	baz=260,SNR=7.2						
MURC	Murrieta	13.79	136	P	Pn	14 54 24.0	0.0
	baz=323						
S32K	Killisnoo	13.89	347	P	Pn	14 54 25.5	+0.4
	baz=162						
RLMT	Red Lodge	13.91	79	Pn	Pn	14 54 26.4	+0.5
RLMT	Red Lodge	13.91	79	P	Pn	14 54 24.6	-1.2
	baz=273						
BW06	Boulder Array	14.01	89	P	Pn	14 54 26.5	-0.6
	baz=282,SNR=8.9						
PDAR	Pinedale Array	14.01	89		Pn	14 54 27.7	+0.6
PDAR	Pinedale Array	14.01	89	Pn	Pn	14 54 30.8	+3.7
	baz=279,slow=10,SNR=19						
PDAR				LR	LR	15 00 03.8	
	comp=E,456nm,19.0s,baz=258,slow=38						
	comp=E,3.4nm,1.0s						
BELC	Belle Mtn. Jos	14.10	131	P	Pn	14 54 28.8	+0.4
	baz=320						
PFO	Pinyon Flats O	14.16	133	Pn	Pn	14 54 29.9	+0.8
PFO	Pinyon Flats O	14.16	133	P	Pn	14 54 28.7	-0.4
	baz=322						
PFO	Pinyon Flats O	14.16	133	Pn	Pn	14 54 30.3	+1.2
	comp=E,0.1nm,0.3s,baz=325,slow=15,SNR=5.5						
PFO				LR	LR	14 59 46.1	
	comp=E,249nm,18.4s,baz=303,slow=36						
	comp=E,2.1nm,0.8s						
TPFO	Pinon Flats	14.16	133	P	Pn	14 54 29.0	-0.2
	baz=322						
NEE2	Needles Airpor	14.32	126	P	Pn	14 54 29.9	-1.4
	baz=315						
DLBC	Dease Lake	14.39	357	P	Pn	14 54 31.8	-0.4
	baz=176						
DLBC	Dease Lake	14.39	357	Pn	P	14 54 36.9	-2.3
	comp=E,0.1nm,0.3s,baz=181,slow=7.9,SNR=5.7						
DLBC				LR	LR	14 59 22.3	
	comp=E,638nm,21.4s,baz=176,slow=34						
109C	Camp Elliot, M	14.40	137	P	Pn	14 54 32.7	+0.4
	baz=325						
IRM	Iron Mountain	14.46	129	P	Pn	14 54 33.2	+0.1
	baz=318,SNR=7.0						
R32K	Eaglecrest	14.65	348	P	P	14 54 44.4	+2.4
R32K	Eaglecrest	14.65	348	P	Pn	14 54 36.4	+0.7
	baz=163						
S31K	Pelican	14.66	344	P	Pn	14 54 36.2	+0.6
	baz=158						
BC3	Big Chuckawall	14.66	131	P	Pn	14 54 35.5	-0.5
	baz=320,SNR=17						
MONP2	Monument Peak	14.74	135	P	Pn	14 54 37.0	-0.2
	baz=323,SNR=18						
SWSC	Sam W. Stewart	15.02	133	P	Pn	14 54 41.1	+0.3
	baz=322						
Q32M	Nakina River	15.05	353	P	Pn	14 54 41.7	+0.4
	baz=170						
IKP	In-Ko-Pah, Jac	15.09	135	P	Pn	14 54 42.8	+1.0
	baz=323,SNR=10						
YUH	Yuha Desert	15.19	134	IAmb	IAmb	14 54 51.4	
	comp=Z,24nm,1.1s						
R33M	Jennings River	15.39	356	P	Pn	14 54 46.2	+0.6
	baz=174,SNR=6.2						
CCX	Cicese	15.45	138	IAmb	IAmb	14 54 54.2	
	comp=Z,29nm,1.3s						
GLA	Glamis	15.46	131	IAmb	IAmb	14 54 49.5	
	comp=Z,24nm,1.4s						
GLA	Glamis	15.46	131	P	Pn	14 54 47.0	+0.4
	baz=320						
O20A	White River Ci	15.71	97	IAmb	IAmb	14 54 58.5	
	comp=Z,32nm,0.9s						
O20A	White River Ci	15.71	97	P	Pn	14 54 49.8	-0.2
	baz=291,SNR=14						
P32M	Atlin	15.82	351	Pn	Pn	14 54 51.8	+0.7
P32M	Atlin	15.82	351	P	Pn	14 54 51.7	+0.5
	baz=166						
WUAZ	Wupatki	15.83	117	IAmb	IAmb	14 55 02.1	
	comp=Z,33nm,1.1s						
WUAZ	Wupatki	15.83	117	P	Pn	14 54 52.0	+0.4
	baz=308,SNR=24						
SKAG	Skagway	15.91	348	P	P	14 54 57.2	+1.2
SKAG	Skagway	15.91	348	P	Pn	14 54 53.8	+1.5
	baz=162,SNR=5.4						
RWWY	Rawlins	15.96	91	IAmb	IAmb	14 55 00.2	
	comp=Z,24nm,1.1s						
LAO	LASA Array	16.02	73	Pn	Pn	14 54 53.1	-0.7
LAO				IAmb	IAmb	14 55 01.0	
	comp=Z,34nm,1.1s						
LAO	LASA Array	16.02	73	P	Pn	14 54 53.8	-0.1
	baz=269,SNR=13						
PLBC	Pleasant Camp	16.08	346	P	Pn	14 54 56.1	+1.6
	baz=160						
K22A	Casper	16.21	87	P	Pn	14 54 56.7	+0.2
	baz=283,SNR=5.5						
KOTAN	Kotaneelee Air	16.32	8	P	Pn	14 54 58.5	+1.0
	baz=192						
P33M	Teslin, Yukon	16.34	353	P	Pn	14 54 59.0	+1.1
	baz=169						
P29M	Windy Craggy	16.50	344	P	Pn	14 55 01.7	+1.8
	baz=156						
MVCO	Mesa Verde	16.80	107	IAmb	IAmb	14 55 11.3	
	comp=Z,30nm,1.1s						
MVCO	Mesa Verde	16.80	107	P	Pn	14 55 03.6	-0.4
	baz=301,SNR=23						
P30M	Million Dollar	16.81	346	P	Pn	14 55 04.8	+1.0
	baz=159						
PNL	Peninsula	16.90	341	P	Pn	14 55 06.1	+1.2
	baz=152						
WHY	Whitehorse	17.01	350	P	Pn	14 55 07.1	+0.8
	baz=164,SNR=7.0						
N23A	Red Feather La	17.10	93	IAmb	IAmb	14 55 12.9	
	comp=Z,40nm,1.4s						
N23A	Red Feather La	17.10	93	P	Pn	14 55 07.2	-0.6
	baz=288,SNR=13						
W18A	Petrified Fore	17.14	115	P	Pn	14 55 08.0	-0.2
	baz=308						
O30N	Mendenhall	17.28	348	P	Pn	14 55 10.0	+0.3
	baz=162,SNR=8.2						
N32M	Quiet Lake	17.29	353	P	Pn	14 55 10.5	+0.7
	baz=169						
O29M	Mount Kennedy	17.29	343	P	Pn	14 55 10.8	+0.9
	baz=155						
214A	Organ Pipe Nat	17.40	129	P	Pn	14 55 11.9	+0.5
	baz=319						
TGTN	Hyland Airport	17.48	1	P	Pn	14 55 13.4	+1.3
	baz=181						
PINM	Pinnacle	17.48	341	P	Pn	14 55 13.4	+1.2
	baz=151						
DGMT	Dagmar	17.50	67	IAmb	IAmb	14 55 18.5	
	comp=Z,47nm,1.1s						
DGMT	Dagmar	17.50	67	P	Pn	14 55 12.1	-0.4
	baz=265,SNR=6.6						
S22A	4UR Ranch, Cre	17.70	103	P	Pn	14 55 15.3	0.0
	baz=298,SNR=13						
ISCO	Idaho Springs	17.71	96	P	Pn	14 55 15.1	-0.4
	baz=292						
RSSD	Black Hills	17.73	81		P	14 55 16.5	+0.1
RSSD	Black Hills	17.73	81	P	Pn	14 55 15.1	-0.5
	baz=279						
YUK6	Outpost Mounta	17.84	345	P	Pn	14 55 17.4	+0.6
	baz=157,SNR=7.0						
MESA	MESA	17.98	338	P	Pn	14 55 19.5	+0.9
	baz=148						
O28M	Mount Upton	18.07	342	P	P	14 55 21.1	+1.1
	baz=152						
N30M	Aishikik Lake	18.09	347	P	P	14 55 21.5	+1.4
	baz=160,SNR=7.7						
YUK4	Talbot Arm	18.26	345	P	P	14 55 23.3	+1.2
	baz=157						
TUC	Tucson	18.32	124	P	Pn	14 55 22.6	-0.2
TUC	Tucson	18.32	124	P	Pn	14 55 22.8	0.0
	baz=315						
Q24A	Divide	18.37	98	IAmb	IAmb	14 55 29.6	
	comp=Z,36nm,1.4s						
Q24A	Divide	18.37	98	P	Pn	14 55 22.8	-0.7
	baz=294,SNR=5.2						
FARO	Faro, Yukon	18.38	353	P	P	14 55 24.4	+1.2
	baz=169,SNR=10						
YUK8	Steele Glacier	18.43	343	P	P	14 55 25.0	+1.0
	baz=154						
M31M	Drury Creek, Y	18.45	352	P	Pn	14 55 25.3	+1.2
	baz=167						
KAIM	Kayak Island	18.49	335	P	P	14 55 25.3	+0.9
	baz=142						
CTG	Chitna Glacier	18.50	340	P	Pn	14 55 26.2	+1.4
	baz=150						
SDCO	Great Sand Dun	18.64	102	P	P	14 55 26.4	-0.1
	baz=297,SNR=35						
CRQE	Cirque	18.77	338	P	P	14 55 28.8	+1.2
	baz=146						
CRQM	Cirque	18.79	338	IAmb	IAmb	14 55 32.3	
	comp=Z,44nm,1.3s						
YUK3	Moose Creek	19.02	343	P	P	14 55 31.2	+0.8
	baz=153						
M30M	Minto, Yukon	19.11	349	P	P	14 55 32.2	+0.9
	baz=162						
M29M	Somme Creek	19.25	346	P	P	14 55 34.1	+1.3
M29M	Somme Creek	19.25	346	P	P	14 55 34.0	+1.2
	baz=158,SNR=6.8						
MCARA	McCarthy VSAT	19.29	339	P	P	14 55 34.4	+1.3
	baz=147						
BMRM	Bremner River	19.38	336	P	P	14 55 35.8	+1.6
	baz=143						
EYAK	Cordova Ski Ar	19.39	334	P	P	14 55 36.0	+1.7
	baz=140						
ANMO	Albuquerque	19.42	110	P	P	14 55 35.1	+0.2
	baz=305						
ANMO	Albuquerque	19.42	110	Pn	Pn	14 55 37.9	+1.8
	comp=Z,0.1nm,0.3s,baz=340,slow=23,SNR=15						
ANMO				LR	LR	15 03 38.1	
	comp=Z,478nm,18.0s,baz=276,slow=38						
	comp=Z,4.6nm,0.9s						
WRGLY	Wrigley	19.42	7	P	P	14 55 35.8	+1.2
	baz=191,SNR=14						
T25A	Trinidad	19.69	102	IAmb	IAmb	14 55 47.4	
	comp=Z,33nm,1.2s						
T25A	Trinidad	19.69	102	P	P	14 55 38.9	+0.9
	baz=298,SNR=26						
L29M	L29M	19.82	347	P	P	14 55 40.5	+1.5
	baz=160,SNR=9.6						
M27K	Edge Creek, AK	19.85	342	P	P	14 55 41.2	+1.7
	baz=151						
N25K	Chitina, Valde	19.89	337	P	P	14 55 41.4	+1.5
	baz=144						
OGNE	Ogallala	19.90	90	IAmb	IAmb	14 55 48.6	
	comp=Z,33nm,1.1s						
OGNE	Ogallala	19.90	90	P	P	14 55 41.0	+0.9
	baz=288						
121A	Cookes Peak, D	20.02	118	IAmb	IAmb	14 55 51.4	
	comp=Z,44nm,1.4s						
121A	Cookes Peak, D	20.02	118	P	P	14 55 42.6	+1.0
	baz=311,SNR=10						
GLI	Glacier Island	20.07	333	P	P	14 55 43.3	+1.6
	baz=138						
M26K	Nabesna, AK	20.15	341	P	P	14 55 44.2	+1.6
	baz=149,SNR=6.5						
KSCO	Kaye Shedlock'	20.15	96	P	P	14 55 43.3	+0.4
	baz=293						
KLU	Klutina	20.18	336	P	P	14 55 43.9	+0.9
	baz=142						
KDAK	Kodiak Island	20.19	321	P	P	14 55 44.5	+1.4
	baz=122						
KDAK	Kodiak Island	20.19	321	LR	LR	15 01 32.8	
	comp=Z,278nm,18.4s,baz=142,slow=31						
YKA	Yellowknife Ar	20.20	19	P	P	14 55 42.6	-0.4
YKA	Yellowknife Ar	20.20	19	P	P	14 55 43.3	+0.3
	comp=Z,16nm,1.0s,baz=210,slow=11,SNR=14						
YKA				LR	LR	15 03 25.4	
	comp=Z,415nm,18.8s,baz=227,slow=36						
	comp=Z,16nm,1.0s						
OHAK	Old Harbor	20.23	319	P	P	14 55 44.2	+0.9
	baz=120						
FFC	Flin Flon	20.28	49	P	P	14 55 44.3	+0.3
SEW	Seward	20.33	329	P	P	14 55 45.5	+1.0
	baz=133						
SII	Sitkinak Islan	20.34	317	P	P	14 55 45.9	+1.2
	baz=117						
K29M	Barlow Dome	20.42	349	IAmb	IAmb	14 55 50.6	
	comp=Z,21nm,1.4s						
K29M	Barlow Dome	20.42	349	P	P	14 55 47.2	+1.6
	baz=161,SNR=10						
BCAR	Beaver Creek A	20.45	343	P	P	14 55 47.1	+1.2
L27K	Beaver Creek,	20.46	343	P	P	14 55 47.6	+1.6
	baz=152,SNR=6.5						
PWL	Port Wells	20.47	332	P	P	14 55 47.3	+1.3
	baz=136						
MDND	Maddock	20.54	69	P	P	14 55 47.2	+0.2
	baz=270						
Q20K	Shuyak Island	20.57	323	P	P	14 55 48.5	+1.4
	baz=124						
BRSE	Bradley Lake S	20.58	327	P	P	14 55 48.0	+0.7
	baz=130						
HARP	HAARP	20.70	338	P	P	14 55 49.5	+1.0
	baz=145						
M24K	Tolsona, Glenn	20.74	337	P	P	14 55 50.4	+1.4
	baz=142						
CHIR	Chirikof Islan	20.76	314	P	P	14 55 50.4	+1.2
	baz=113						
L26K	Log Cabin Wild	20.77	341	IAmb	IAmb	14 55 59.8	
	comp=Z,23nm,1.4s						
SCM	Sheep Creek Mo	20.87	335	P	P	14 55 51.5	+1.0
	baz=140						
HOM	Homer	20.88	326	P	P	14 55 51.5	+1.0
	baz=128						
KNK	Knik Glacier	20.91	333	IAmb	IAmb	14 55 54.3	
	comp=Z,35nm,1.4s		

	baz=134				
SML	Sawmill	21.16 334	IAmb	IAmb	14 56 11.4
	comp=Z,36nm,1.5s				
SML	Sawmill	21.16 334	P	P	14 55 54.3 +0.7
	baz=138				
RTBA	Rita Blanca	21.20 102	IAmb	IAmb	14 56 06.3
	comp=Z,37nm,1.4s				
PAX	Paxson	21.25 339	P	P	14 55 55.3 +0.8
	baz=145				
PMR	Palmer	21.26 333	IAmb	IAmb	14 55 57.7
	comp=Z,16nm,1.1s				
PMR	Palmer	21.26 333	P	P	14 55 55.5 +1.0
	baz=136,SNR=5.7				
SUSD	Miller	21.28 79	P	P	14 55 54.6 -0.4
	baz=280				
Q19K	Cape Douglas,	21.29 323	P	P	14 55 55.8 +0.8
	baz=123				
GHO	Glory Hole Cre	21.33 333	IAmb	IAmb	14 56 29.1
	comp=Z,21nm,1.2s				
EPT	El Paso	21.34 118	IAmb	IAmb	14 56 01.6
	comp=Z,24nm,1.1s				
K27K	Chicken	21.37 344	P	P	14 55 56.2 +0.4
	baz=153				
P19K	Oil Pt	21.52 325	P	P	14 55 58.0 +0.5
	baz=125				
O20K	Slope Mountain	21.53 326	P	P	14 55 58.4 +0.9
	baz=127				
WAT6	Susitna Watana	21.57 336	P	P	14 55 58.2 +0.1
	baz=140				
I30M	Mount Dempster	21.61 351	P	P	14 55 58.8 +0.4
	baz=165,SNR=9.3				
ILSW	Iliamna Southw	21.68 326	IAmb	IAmb	14 56 04.9
	comp=Z,28nm,1.1s				
M22K	Willow	21.71 332	P	P	14 56 00.1 +0.7
	baz=135				
SUA	Susitna One	21.72 331	IAmb	IAmb	14 56 02.5
	comp=Z,19nm,1.0s				
SUA	Susitna One	21.72 331	P	P	14 56 00.6 +0.9
	baz=133,SNR=5.1				
SCRK	Sand Creek	21.73 342	IAmb	IAmb	14 56 03.2
	comp=Z,16nm,1.3s				
SCRK	Sand Creek	21.73 342	P	P	14 56 00.5 +0.7
	baz=149,SNR=10				
Q18K	Katmai Hardscr	21.74 321	P	P	14 56 00.7 +0.8
	baz=120				
DHY	Denali Highway	21.85 337	P	P	14 56 01.9 +0.8
	baz=142,SNR=7.1				
EGAK	Eagle	21.88 346	IAmb	IAmb	14 56 04.4
	comp=Z,19nm,1.3s				
EGAK	Eagle	21.88 346	P	P	14 56 02.2 +1.0
	baz=155,SNR=7.6				
R17L	Mt. Peulik Vol	21.89 318	P	P	14 56 01.9 +0.5
	baz=116				
Q17K	Contact Creek	21.95 320	P	P	14 56 03.0 +0.9
	baz=118				
I29M	Ogilvie Camp,	21.98 349	IAmb	IAmb	14 56 05.6
	comp=Z,16nm,1.4s				
I29M	Ogilvie Camp,	21.98 349	P	P	14 56 02.8 +0.6
	baz=161,SNR=11				
WAT1	Susitna Watana	22.00 335	P	P	14 56 03.4 +0.8
	baz=139				
SPU	Mount Spurr	22.01 329	IAmb	IAmb	14 56 06.2
	comp=Z,21nm,1.3s				
K24K	Donnelly Dome	22.02 340	P	P	14 56 03.8 +1.2
	baz=146				
N20K	Mount Spurr	22.07 329	P	P	14 56 04.4 +1.0
	baz=130				
SPCR	Spurr Chakacha	22.07 329	P	P	14 56 04.0 +0.6
	baz=130				
J26L	Joseph Creek	22.10 343	IAmb	IAmb	14 56 08.9
	comp=Z,23nm,1.5s				
J26L	Joseph Creek	22.10 343	P	P	14 56 04.3 +0.7
	baz=150,SNR=10				
MNTX	Cornudas Mount	22.11 116	P	P	14 56 04.2 +0.3
	baz=311,SNR=5.3				
CUT	Chulitna	22.22 333	P	P	14 56 06.3 +1.4
	baz=136				
I28M	Miner Creek	22.29 348	IAmb	IAmb	14 56 10.5
	comp=Z,32nm,1.5s				
I28M	Miner Creek	22.29 348	P	P	14 56 07.2 +1.5
	baz=158,SNR=12				
CBKS	Cedar Bluff	22.30 94	P	P	14 56 05.4 -0.6
	baz=293				
SKT	Skwentna	22.35 331	P	P	14 56 07.3 +1.0
	baz=133				
O18K	Koktuh Hills	22.46 324	P	P	14 56 08.2 +0.7
	baz=123				
MSTX	Muleshoe	22.48 108	P	P	14 56 08.3 +0.4
	baz=305				
RND	Reindeer	22.53 336	IAmb	IAmb	14 56 13.2
	comp=Z,23nm,1.4s				
BGNE	Belgrade	22.56 86	P	P	14 56 08.0 -0.7
	baz=287				
CHNA	Chernabura Isl	22.57 309	P	P	14 56 09.1 +0.5
	baz=106				
J25K	Salcha River,	22.59 341	IAmb	IAmb	14 56 12.6
	comp=Z,15nm,1.3s				
J25K	Salcha River,	22.59 341	P	P	14 56 09.0 +0.1
	baz=147,SNR=12				
P17K	Kvichak River	22.66 322	P	P	14 56 08.9 -0.6
	baz=120				
N19K	Bonanza Creek	22.71 327	P	P	14 56 10.4 +0.2
	baz=126,SNR=9.7				
I27K	Kandik River	22.71 346	P	P	14 56 09.8 -0.4
	baz=155,SNR=13				
I26K	Coal Creek Min	22.73 344	P	P	14 56 10.6 +0.4
	baz=152				
AMTX	Amarillo	22.73 105	P	P	14 56 10.0 -0.7
	baz=302				
EPYK	Eagle Plains	22.76 352	P	P	14 56 10.5 -0.1
	baz=165,SNR=11				
H29M	Whitestone	22.80 350	P	P	14 56 11.2 +0.2
	baz=162,SNR=12				
MCK	McKinley	22.80 337	P	P	14 56 11.5 +0.4
	baz=140				
HDA	Harding Lake	22.81 340	IAmb	IAmb	14 56 14.9
	comp=Z,17nm,1.4s				
HDA	Harding Lake	22.81 340	P	P	14 56 11.5 +0.4
	baz=144,SNR=5.7				
M20K	Styx River	22.85 330	IAmb	IAmb	14 56 14.8
	comp=Z,25nm,1.4s				
M20K	Styx River	22.85 330	P	P	14 56 12.5 +0.8
	baz=130				
VHRN	Van Horn	22.97 117	IAmb	IAmb	14 56 23.4
	comp=Z,20nm,1.4s				
S14K	Fog Glacier	22.98 313	P	P	14 56 13.7 +0.7
	baz=109				
AGMN	Agassiz Nation	23.04 68	IAmb	IAmb	14 56 26.2
	comp=Z,14nm,1.1s				
AGMN	Agassiz Nation	23.04 68	P	P	14 56 13.4 -0.3
	baz=272,SNR=6.7				
ULM	Lac du Bonnet	23.05 63	P	P	14 56 13.6 -0.1
ULM			IAmb	IAmb	14 56 16.3
	comp=Z,17nm,1.0s				
ULM	Lac du Bonnet	23.05 63	P	P	14 56 13.9 +0.1
	comp=Z,14nm,1.0s,baz=274,slow=11,SNR=15				
ULM			LR	LR	15 04 46.6
	comp=Z,262nm,19.1s,baz=256,slow=35				
	comp=Z,14nm,1.0s				
ECSD	EROS Data Cent	23.07 80	IAmb	IAmb	14 56 16.4
	comp=Z,18nm,0.9s				
ECSD	EROS Data Cent	23.07 80	P	P	14 56 13.4 -0.7
	baz=282,SNR=17				
G31M	Satah River	23.09 354	IAmb	IAmb	14 56 17.0
	comp=Z,26nm,1.4s				
G31M	Satah River	23.09 354	P	P	14 56 14.8 +0.9
	baz=170,SNR=7.3				
ILAR	Eielson Array	23.09 340	P	P	14 56 14.7 +0.6
ILAR	Eielson Array	23.09 340	P	P	14 56 13.0 -1.0
	comp=Z,3.4nm,1.1s,baz=156,slow=8.4,SNR=25				
ILAR			PcP	PcP	14 59 59.0 -3.6
	comp=Z,0.4nm,0.9s,baz=163,slow=3.5,SNR=4.6				
ILAR			LR	LR	15 03 39.7
	comp=Z,354nm,18.4s,baz=130,slow=33				
	comp=Z,3.4nm,1.1s				
WRH	Wood River Hil	23.15 339	IAmb	IAmb	14 56 19.9
	comp=Z,23nm,1.4s				
R32A	Long Quarter,	23.20 94	IAmb	IAmb	14 56 22.7
	comp=Z,12nm,0.9s				
SDPT	Sand Point	23.20 310	P	P	14 56 16.4 +1.3
	baz=106				
N18K	Kilae Creek	23.20 325	P	P	14 56 15.9 +0.7
	baz=123				
PPLA	Purkeypile	23.20 332	P	P	14 56 15.9 +0.5
	baz=133,SNR=7.1				
CCB	Clear Creek Bu	23.22 339	IAmb	IAmb	14 56 20.1
	comp=Z,14nm,1.3s				
O17K	Koliganek Bris	23.24 322	P	P	14 56 15.4 -0.2
	baz=120				
H27K	Steamboat Moun	23.27 347	P	P	14 56 15.6 -0.3
	baz=156,SNR=10				
G30M	tAoh Zraii Nji	23.30 353	P	P	14 56 16.1 -0.1
	baz=166				
PECS	Pecos	23.31 115	IAmb	IAmb	14 56 26.6
	comp=Z,10.0nm,1.1s				
M19K	Big River Lodg	23.33 329	P	P	14 56 17.1 +0.6
	baz=128				
PRP	Porcupine Dome	23.40 342	P	P	14 56 17.4 +0.1
	baz=148				
COLA	College	23.41 339	P	P	14 56 18.6 +1.4
	baz=143				
G29M	Pine Creek	23.42 351	IAmb	IAmb	14 56 34.2
	comp=Z,18nm,1.5s				
G29M	Pine Creek	23.42 351	P	P	14 56 17.9 +0.5
	baz=163,SNR=8.2				
POKR	Poker Plat Res	23.51 340	IAmb	IAmb	14 56 22.2
	comp=Z,21nm,1.4s				
POKR	Poker Plat Res	23.51 340	P	P	14 56 19.2 +1.0
	baz=144,SNR=6.5				
L20K	Farewell, AK	23.51 330	P	P	14 56 19.1 +0.8
	baz=130				
NEA2	Nenana	23.51 338	IAmb	IAmb	14 56 38.9
	comp=Z,14nm,1.4s				
NEA2	Nenana	23.51 338	P	P	14 56 18.9 +0.7
	baz=141,SNR=5.5				
F31M	Tsiigehtchic	23.56 355	P	P	14 56 19.4 +0.7
	baz=171				
O16K	Kokwok River B	23.59 321	P	P	14 56 20.1 +1.0
	baz=118				
SMWD	Samnorwood	23.62 103	IAmb	IAmb	14 56 24.2
	comp=Z,17nm,0.9s				
M18K	Stony River	23.63 327	P	P	14 56 20.0 +0.5
	baz=125				
N17K	Nushagak Hills	23.66 324	P	P	14 56 20.8 +1.0
	baz=121				
L19K	White Mountain	23.68 329	P	P	14 56 21.0 +1.0
	baz=128,SNR=7.7				
BPAW	Bear Paw Mtn.	23.68 336	IAmb	IAmb	14 56 42.8
	comp=Z,12nm,1.4s				
BPAW	Bear Paw Mtn.	23.68 336	P	P	14 56 20.7 +0.8
	baz=137				
G27K	Doyon Strip	23.82 347	IAmb	IAmb	14 56 24.0
	comp=Z,14nm,1.5s				
G27K	Doyon Strip	23.82 347	P	P	14 56 22.3 +1.0
	baz=156,SNR=19				
POST	Post	23.86 108	IAmb	IAmb	14 56 26.4
	comp=Z,16nm,1.4s				
F30M	Barrier River	23.88 353	P	P	14 56 22.4 +0.6
	baz=167				
U32A	Winter Ranch,	23.88 99	IAmb	IAmb	14 56 27.6
	comp=Z,18nm,1.0s				
DKNS	Dickens	23.92 106	IAmb	IAmb	14 56 26.8
	comp=Z,15nm,1.4s				
CHUM	Lake Minchumin	23.93 334	P	P	14 56 23.0 +0.7
	baz=135				
I23K	Minto, Yukon-K	24.02 339	IAmb	IAmb	14 56 25.6
	comp=Z,14nm,1.1s				
I23K	Minto, Yukon-K	24.02 339	P	P	14 56 23.9 +0.8
	baz=141,SNR=11				
ALPN	Alpine	24.11 116	IAmb	IAmb	14 56 31.2
	comp=Z,12nm,1.1s				
H25L	Birch Creek	24.11 343	P	P	14 56 24.7 +0.8
	baz=149				
K20K	Telida	24.15 332	IAmb	IAmb	14 56 31.4
	comp=Z,12nm,1.2s				
K20K	Telida	24.15 332	P	P	14 56 24.9 +0.5
	baz=131				
O15K	Ungalikthiuk R	24.20 320	P	P	14 56 25.5 +0.6
	baz=115				
H24K	Noodor Dome	24.20 341	IAmb	IAmb	14 56 29.5
	comp=Z,24nm,1.4s				
H24K	Noodor Dome	24.20 341	P	P	14 56 25.7 +0.7
	baz=145,SNR=6.2				
M17K	Holitna River	24.23 326	P	P	14 56 25.2 +0.1
	baz=122				
FYU	Fort Yukon	24.25 344	IAmb	IAmb	14 56 53.2
	comp=Z,7.5nm,1.0s				
MLY	Manley	24.30 337	P	P	14 56 26.9 +1.1
	baz=139,SNR=8.1				
G26K	Porcupine Rive	24.31 346	P	P	14 56 26.6 +0.8
	baz=153				
N16K	Nishlik Lake	24.31 323	P	P	14 56 26.8 +0.9
	baz=119				
F28M	Old Crow	24.32 350	IAmb	IAmb	14 56 30.3
	comp=Z,17nm,1.4s				
F28M	Old Crow	24.32 350	P	P	14 56 26.7 +0.8
	baz=160				
L18K	Granite Mounta	24.39 328	IAmb	IAmb	14 56 34.0
	comp=Z,17nm,1.3s				
L18K	Granite Mounta	24.39 328	P	P	14 56 27.1 +0.5
	baz=125				
INK	Inuvik	24.41 356	IAmb	IAmb	14 56 31.8
	comp=Z,17nm,1.5s				
INK	Inuvik	24.41 356	P	P	14 56 27.6 +0.9
	baz=172				
KSU1	Kansas State U	24.45 91	P	P	14 56 26.7 -0.7
	baz=292				
G25K	Bearman Lake	24.59 343	P	P	14 56 29.3 +0.9
	baz=149,SNR=5.4				
H23K	Yukon River	24.60 339	IAmb	IAmb	14 56 34.3
	comp=Z,13nm,1.4s				
H23K	Yukon River	24.60 339	P	P	14 56 29.9 +1.3
	baz=142				
M16K	Timber Creek	24.66 324	P	P	14 56 30.0 +0.9
	baz=120				
J20K	Nowinta River	24.72 333	IAmb	IAmb	14 56 46.4
	comp=Z,12nm,1.4s				
J20K	Nowinta River	24.72 333	P	P	14 56 31.2 +1.6
	baz=132				
TXAR	Lajitas Array	24.79 118	P	P	14 56 30.2 -0.4
TXAR	Lajitas Array	24.79 118	P	P	14 56 32.1 +1.6
	comp=Z,4.3nm,1.0s,baz=303,slow=7.6,SNR=26				
TXAR			PcP	PcP	15 00 04.9 -2.0
	comp=Z,0.2nm,0.6s,baz=321,slow=1.2,SNR=3.0				
TXAR			LR	LR	15 06 49.6
	comp=Z,70nm,20.4s,baz=307,slow=38				
	comp=Z,4.3nm,1.0s				
G24K	Hadweenzic Riv	24.83 342	IAmb	IAmb	14 56 36.1
	comp=Z,14nm,1.2s				
G24K	Hadweenzic Riv	24.83 342	P	P	14 56 31.7 +1.1
	baz=146,SNR=6.5				
E29M	Blow River	24.83 352	P	P	14 56 32.2 +1.6
	baz=164,SNR=7.6				
WMOK	Wichita Mounta	24.84 102	P	P	14 56 31.6 +0.6
	baz=301,SNR=37				
BMAR	Burnt Mountain	24.88 345	P	P	14 56 32.4 +1.3
O14K	Tigyukauivet M	24.91 319	P	P	14 56 32.8 +1.6
	baz=113				
F26K	Sheenjek River	25.04 346	P	P	14 56 34.2 +1.7
	baz=153,SNR=7.4				
J19K	Poorman	25.09 332	IAmb	IAmb	14 56 37.1
	comp=Z,12nm,1.1s				
J19K	Poorman	25.09 332	P	P	14 56 34.0 +1.1
	baz=130,SNR=9.0				
E27K	Coleen River	25.09 349	P	P	14 56 33.6 +0.7
	baz=158,SNR=10				
H22K	Ishlitna Cre	25.14 338	P	P	14 56 34.3 +1.0
	baz=139				
J18K	Innoko River	25.14 330	IAmb	IAmb	14 56 37.1
	comp=Z,11nm,1.0s				
J18K	Innoko River	25.14 330	P	P	14 56 34.8 +1.5
	baz=127,SNR=8.7				
E28M	Babbage River	25.22 351	IAmb	IAmb	14 56 38.1
	comp=Z,17nm,1.4s				
E28M	Babbage River	25.22 351	P	P	14 56 35.1 +1.1
	baz=161				
F25K	Christian Rive	25.22 345	P	P	14 56 35.5 +1.4
	baz=150,SNR=16				
L16K	Owhat River	25.22 325	P	P	14 56 34.7 +0.6
	baz=120,SNR=5.9				
I20K	Naaghedeneel	25.25 334	P	P	14 56 35.3 +1.0
	baz=133,SNR=6.0				
M15K	Kasigluk River	25.25 322	P	P	14 56 35.4 +1.0
	baz=116				
HPIG		25.28 125	P	P	14 56 35.7 +0.6
HPIG			IAmb	IAmb	14 56 39.4
	comp=Z,12nm,1.0s				
K17K	Iditarod	25.29 328	P	P	14 56 35.9 +1.2
	baz=124,SNR=5.4				
H21K	Melozitna Rive	25.35 337	IAmb	IAmb	14 56 38.2
	comp=Z,16nm,1.5s				
H21K	Melozitna Rive	25.35 337	P	P	14 56 35.8 +0.5
	baz=136,SNR=7.7				
SAND	Sanderson	25.37 115	IAmb	IAmb	14 56 42.3
	comp=Z,14nm,1.1s				
N14K	Kuskokwak Cree	25.37 320	P	P	14 56 36.3 +0.9
	baz=114				
G23K	Bananza Creek	25.43 340	P	P	14 56 37.0 +1.0
	baz=142,SNR=11				
C36M	Paulatuk	25.44 4	P	P	14 56 36.6 +0.6
	baz=188				
F24K	Squaw Lake	25.61 343	P	P	14 56 38.1 +0.5
	baz=147				
M14K	Bethel	25.84 322	P	P	14 56 40.5 +0.9
	baz=115				
H20K	Anotleneega Mo	25.85 335	P	P	14 56 41.0 +1.2
	baz=133,SNR=14				
IMAR	Indian Mountai	25.86 337	P	P	14 56 41.0 +1.1
COLD	Coldfoot	25.88 341	P	P	14 56 41.0 +1.0
	baz=143				
SCIA	State Center	25.95 82	P	P	14 56 40.8 -0.2
	baz=287				
G22K	Bettles	25.96 340	P	P	14 56 41.8 +1.1
	baz=140,SNR=11				
EYMN	Ely	25.98 68	P	P	14 56 41.4 +0.2
EYMN			IAmb	IAmb	14 56 46.4
	comp=Z,12nm,1.1s				
EYMN	Ely	25.98 68	P	P	14 56 41.1 -0.1
	baz=275,SNR=10				
GCSA	Galena City Sc	25.99 333	P	P	14 56 41.7 +0.7
	baz=129				
D27M	Malcolm River	26.00 350	P	P	14 56 41.8 +0.6
	baz=160				
G21K	Allakaket	26.18 338	P	P	14 56 43.7 +0.9
	baz=137				
E24K	Your Creek	26.20 343	IAmb	IAmb	14 56 46.6
	comp=Z,13nm,1.4s				
E24K	Your Creek	26.20 343	P	P	14 56 43.9 +0.9
	baz=146,SNR=5.3				
M13K	Dall Lake	26.33 321	P	P	14 56 45.2 +1.1
	baz=112				
H19K	Roundabout Mou	26.36 334	P	P	14 56 45.3 +1.0
	baz=131,SNR=9.2				
UNV	Unalaska Valle	26.36 305	P	P	14 56 45.8 +1.3
	baz=96				
TUL3	Leonard	26.39 97	P	P	14 56 45.4 +0.4
	baz=298				
L14K	Kuka Creek	26.41 323	P	P	14 56 46.0 +1.2
	baz=115				
E23K	Chandalar	26.42 342	P	P	14 56 46.4 +1.4
	baz=145,SNR=6.5				
J16K	Anvik River	26.48 328	P	P	14 56 46.7 +1.2
	baz=121				
JCT	Junction City	26.57 111	P	P	14 56 47.2 +0.5
	baz=309				
F22K	John River	26.58 340	P	P	14 56 48.1 +1.7
	baz=140				
BRDY	Brady	26.62 109	IAmb	IAmb	14 56 57.2
	comp=Z,7.3nm,1.1s				
F21K	Alatna River	26.69 339	IAmb	IAmb	14 56 58.9
	comp=Z,11nm,1.4s				
F21K	Alatna River	26.69 339	P	P	14 56 48.7 +1.3
	baz=136				
C27K	Jago River	26.72 348	P	P	14 56 48.9 +1.3
	baz=155				
H18K	Honhosa River	26.74 332	P	P	14 56 49.2 +1.4
	baz=128				
I17K	Unalakleet	26.84 329	P	P	14 56 49.7 +1.1
	baz=122				
D25K	Kavik River	26.87 346	P	P	14 56 49.9 +0.9
	baz=151				
TOLK	Toolik Lake Re	26.89 343	IAmb	IAmb	14 56 53.1
	comp=Z,14nm,1.2s				
TOLK	Toolik Lake Re	26.89 343	P	P	14 56 50.4 +1.2
	baz=145				
G19K	Purcell Mounta	26.96 335	P	P	14 56 51.6 +1.8
	baz=131,SNR=5.9				
E22K	Anaktuvuk Pass	26.98 341	P	P	14 56 51.3 +1.3
	baz=141				
H17K	Granite Mounta	27.14 331	P	P	14 56 52.0 +0.6
	baz=125				
U38A	Gravette	27.16 94	IAmb	IAmb	14 56 58.6
	comp=Z,7.6nm,0.9s				
C26K	Camden Bay	27.16 348	P	P	14 56 52.5 +1.0
	baz=154				
F20K	Avaraart Lake	27.18 337	P	P	14 56 52.5 +0.8
	baz=134				
G40A	Rib Lake	27.26 74	IAmb	IAmb	14 57 16.5
	comp=Z,18nm,1.4s				
G18K	Tagagawik	27.29 333	IAmb	IAmb	14 56 59.6
	comp=Z,16nm,1.4s				
G18K	Tagagawik	27.29 333	P	P	14 56 53.8 +1.0
	baz=128				
S39A	Bolivar	27.38 91	IAmb	IAmb	14 57 03.7
	comp=Z,12nm,1.3s				
D23K	Nanushuk River	27.39 343	P	P	14 56 54.2 +0.5
	baz=144				
J14K	Nanvaranak Lak	27.40 325	P	P	14 56 53.6 -0.1
	baz=116				
K13K	Kusilvak Mount	27.51 323	P	P	14 56 54.7 -0.1
	baz=114				
F19K	Shaleruckik Mo	27.62 336	P	P	14 56 55.7 0.0
	baz=131				
C24K	Franklin Bluff	27.63 345	P	P	14 56 56.0 +0.3
	baz=148				
NIKH	Nikolski High	27.69 303	P	P	14 56 57.3 +0.8
	baz=92				
G17K	Kiwalik Mounta	27.72 332	P	P	14 56 57.3 +0.7
	baz=125				
E21K	Killik River	27.73 340	P	P	14 56 56.8 0.0
	baz=139				
D22K	Ayikyak River	27.76 342	IAmb	IAmb	14 57 02.4
	comp=Z,7.2nm,1.3s				
D22K	Ayikyak River	27.76 342	P	P	14 56 58.5 +1.5
	baz=141				
JFWS	Jewell Farm	27.78 79	P	P	14 56 57.1 -0.2
	baz=286				
H16K	Elim	27.81 329	P	P	14 56 58.9 +1.5
	baz=121				
E19K	Redstone River	27.88 337	P	P	14 56 59.2 +1.1
	baz=133				
R40A	Maddies Statio	27.89 89	IAmb	IAmb	14 57 04.8
	comp=Z,12nm,1.1s				
435B	Jarrell	27.89 108	P	P	14 56 59.4 +0.9
	baz=307				
A36M	Sachs Harbour	28.03 2	P	P	14 57 00.2 +0.9
	baz=185				
F18K	Selawik	28.05 334	P	P	14 57 01.0 +1.5
	baz=128				
C23K	Itkillik River	28.09 344	IAmb	IAmb	14 57 07.0
	comp=Z,6.5nm,1.2s				
C23K	Itkillik River	28.09 344	P	P	14 57 01.0 +1.1
	baz=145				
E20K	Nigu River	28.16 339	P	P	14 57 01.7 +1.1
	baz=135				
833A	Chaparral WMA,	28.23 114	P	P	14 57 02.6 +1.0
	baz=312				
MGMO	Mountain Grove	28.36 91	IAmb	IAmb	14 57 16.9
	comp=Z,12nm,1.4s				
P08K	Saint George I	28.44 311	P	P	14 57 04.8 +1.7
	baz=98				
I42A	Draeger Farm,	28.46 76	IAmb	IAmb	14 57 07.8
	comp=Z,12nm,1.2s				
C21K	Knifeblade Rid	28.46 341	P	P	14 57 04.9 +1.7
	baz=138				
F17K	Baldwin Pennin	28.47 333	P	P	14 57 04.2 +1.0
	baz=126				
D20K	Etivluk River	28.59 339	P	P	14 57 05.7 +1.3
	baz=135				
G15K	Niukluk	28.65 329	P	P	14 57 06.1 +1.2
	baz=120				
CCM	Cathedral Cave	28.72 89	P	P	14 57 05.9 +0.1
CCM			IAmb	IAmb	14 57 12.1
	comp=Z,9.5nm,1.1s				
CCM	Cathedral Cave	28.72 89	P	P	14 57 05.9 +0.1
	baz=294				
B21K	Ikpikpuk River	28.78 341	P	P	14 57 06.6 +0.6
	baz=139				
D19K	Kuna River	28.84 338	P	P	14 57 07.2 +0.6
	baz=133				
E18K	Tukpahlearik C	28.85 335	P	P	14 57 07.2 +0.5
	baz=128				
SPIA	Saint Paul Isl	28.91 312	P	P	14 57 07.6 +0.3
	baz=99				
ANM	Nome	28.95 328	P	P	14 57 07.8 +0.2
	baz=117				
E17K	Hotham Inlet	29.03 334	P	P	14 57 08.6 +0.4
	baz=126				
B22K	Teshekpuk Lake	29.07 343	P	P	14 57 08.7 +0.2
	baz=142				
HDIL	Hopedale	29.19 83	P	P	14 57 08.8 -1.1
	baz=290				
C19K	Lookout Ridge	29.64 338	P	P	14 57 14.4 +0.7
	baz=132				
L44A	Lake County Fo	29.64 79	P	P	14 57 13.3 -0.7

baz=288
LCAR Lake Charles 29.65 93 IAmb IAmb 14 57 27.9
comp=Z,7.1nm,1.2s
B20K Meade River 29.66 341 P **P** **14 57 14.3 +0.5**
baz=136
F14K Arctic Creek 29.73 329 P **P** **14 57 15.0 +0.6**
baz=118
C18K Utukok River 29.79 337 P **P** **14 57 15.2 +0.1**
baz=129
A22K Sinclair Lake 29.92 343 P **P** **14 57 16.2 +0.1**
baz=140
C17K DeLong Mountai 30.27 336 P **P** **14 57 19.7 +0.5**
baz=126
TNA Tin City 30.36 329 P **P** **14 57 20.6 +0.6**
baz=116
C16K Lisburne Hills 30.81 334 P **P** **14 57 25.3 +1.3**
baz=123
SFIN Lafayette 30.82 82 P **P** **14 57 24.2 -0.1**
baz=291
OXF Oxford 31.64 94 P **P** **14 57 31.8 +0.1**
baz=300,SNR=6.8
WVT Waverly 32.02 90 P **P** **14 57 35.3 +0.3**
WVT IAmb IAmb 14 57 41.3
comp=Z,6.7nm,1.1s
WVT Waverly 32.02 90 P **P** **14 57 35.0 0.0**
baz=297
WCI Wyandotte Cave 32.22 86 P **P** **14 57 36.1 -0.6**
baz=294
O48B Farmland 32.25 81 P **P** **14 57 37.0 0.0**
baz=292
AAM Ann Arbor 32.61 77 P **P** **14 57 40.3 +0.2**
baz=289
P49A Miami Univ. Ec 32.83 82 P **P** **14 57 42.1 0.0**
baz=293
ACSO Alum Creek Sta 33.80 80 P **P** **14 57 50.8 +0.3**
baz=292
LRAL Lakeview Retre 34.12 94 P **P** **14 57 54.0 +0.7**
baz=301
RES Resolute Bay 34.16 15 LR LR 15 11 36.1
comp=Z,173nm,20.7s,baz=342,slow=36
FPAL Fort Paine 34.36 91 IAmb IAmb 14 57 57.6
comp=Z,7.3nm,1.1s
P52A Corning 34.63 81 P **P** **14 57 58.2 +0.4**
baz=293
TZTN Tazewell 34.91 87 P **P** **14 58 00.1 -0.1**
baz=297
SADO Sadowa 34.98 71 LR LR 15 12 45.5
comp=Z,420nm,18.4s,baz=281,slow=37
O53A New Philadelph 35.05 79 P **P** **14 58 01.2 -0.2**
baz=292
TKL Tuckaleechee C 35.16 88 LR LR 15 13 02.0
comp=Z,533nm,19.6s,baz=292,slow=37
ERPA Erie 35.24 76 P **P** **14 58 02.5 -0.5**
baz=290
MCWV Mont Chateau 36.25 80 P **P** **14 58 11.4 -0.2**
baz=293
BLA Blacksburg 36.86 84 P **P** **14 58 16.7 -0.2**
baz=296
KMSC Kings Mountain 37.16 87 P **P** **14 58 19.4 0.0**
baz=299
M57A Sunshine Farm, 37.52 76 IAmb IAmb 14 58 27.3
comp=Z,9.8nm,0.9s
TRQ Mont Tremblant 37.65 67 IAmb IAmb 14 58 27.1
comp=Z,9.9nm,1.1s
BINY Binghamton 37.99 74 P **P** **14 58 26.0 -0.5**
baz=291
SHEM Shemya Is, Ala 38.00 304 LR LR 15 09 59.9
comp=Z,78nm,21.1s,baz=352,slow=30
FRB Frobisher Bay 38.71 38 LR LR 15 13 51.1
comp=Z,104nm,18.3s,baz=286,slow=35
CMIG Matias Romero 39.21 123 LR LR 15 14 01.2
comp=Z,69nm,18.5s,baz=350,slow=35
LBNH Lisbon 40.05 69 P **P** **14 58 43.7 +0.1**
baz=290
SCHQ Schefferville 40.37 52 P **P** **14 58 45.9 -0.3**
comp=Z,5.2nm,1.0s,baz=274,slow=4.2,SNR=4.2
SCHQ LR LR 15 15 18.4
comp=Z,138nm,21.5s,baz=271,slow=36
comp=Z,5.2nm,1.0s
TEIG Tepich 41.13 112 LR LR 15 18 10.8
comp=Z,59nm,20.1s,baz=88,slow=39
SFJD Kangerlussuaq 45.91 32 LR LR 15 18 45.0
comp=Z,99nm,20.8s,baz=290,slow=36
MA2 Magadan 48.90 318 LR LR 15 18 31.8
comp=Z,96nm,18.1s,baz=264,slow=34
YAK Yakutsk 57.10 327 LR LR 15 23 53.5
comp=Z,99nm,19.5s,baz=245,slow=34
BORG Borgarnes 57.74 29 LR LR 15 24 46.7
comp=Z,55nm,18.7s,baz=306,slow=35
H11N3 WAKE ISLAND Hy 58.24 267 T T 16 03 54.4
baz=49,slow=75,SNR=73
H11N2 WAKE ISLAND Hy 58.24 267 T T 16 03 51.1
baz=49,slow=75,SNR=122
H11N1 WAKE ISLAND Hy 58.25 267 T T 16 03 49.2
baz=49,slow=75,SNR=95
H11S1 WAKE ISLAND Hy 59.17 266 T T 16 04 58.8
baz=49,slow=75,SNR=78
H11S2 WAKE ISLAND Hy 59.18 266 T T 16 04 57.1
baz=49,slow=75,SNR=64
H11S3 WAKE ISLAND Hy 59.19 266 T T 16 04 57.7
baz=49,slow=75,SNR=71
SDV Santo Domingo 61.14 107 LR LR 15 31 37.4
comp=Z,43nm,18.2s,baz=319,slow=40
ROSC El Rosal 61.58 113 LR LR 15 32 23.9
comp=Z,67nm,19.1s,baz=62,slow=40
OTAV Otavalo 62.40 120 P **P** **15 01 31.8 -0.4**
PPT Papeete 64.25 202 LR LR 15 21 49.0
comp=Z,50nm,20.8s,baz=327,slow=29
MJAR Matsushiro Arr 67.66 300 P **P** **15 02 03.9 -1.8**
comp=Z,1.0nm,0.8s,baz=39,slow=5.2,SNR=3.2
comp=Z,1.0nm,0.8s
JCJ Chichijima 71.07 290 LR LR 15 27 09.5
comp=Z,78nm,21.6s,baz=105,slow=30
RPN Rapa Nui 73.06 162 LR LR 15 28 27.3
comp=Z,46nm,19.2s,baz=142,slow=31
SONM Songino Array 76.42 325 P **P** **15 02 57.6 -0.6**
comp=Z,1.3nm,0.8s,baz=22,slow=4.8,SNR=7.6
comp=Z,1.3nm,0.8s
MDP Montagnes des 76.48 96 LR LR 15 38 27.2
comp=Z,40nm,20.2s,baz=12,slow=37
ETMB Extrema 77.86 117 P **P** **15 03 05.2 -1.2**
ETMB IAmb IAmb 15 03 06.4
comp=Z,3.6nm,0.9s
ZALV Zalesovo Beam 78.22 341 P **P** **15 03 08.4 +0.5**
ZALV Zalesovo Beam 78.22 341 P **P** **15 03 06.8 -1.1**
comp=Z,0.8nm,0.7s,baz=12,slow=8.2,SNR=3.8
comp=Z,0.8nm,0.7s
HHC Hu-ho-hao-te 79.58 318 *e*P **P** **15 03 17.3 +1.5**
HHC pmax pmax
comp=Z,14nm,0.7s
LPAZ La Paz 81.58 122 P **P** **15 03 26.2 -1.1**
comp=Z,2.1nm,0.8s,baz=333,slow=5.8,SNR=7.2
comp=Z,2.1nm,0.8s
BVAR Borovoye Array 81.88 348 P **P** **15 03 26.4 -1.3**
comp=Z,0.4nm,0.5s,baz=29,slow=3.3,SNR=2.2
BVAR LR LR 15 42 32.1
comp=Z,79nm,19.0s,baz=24,slow=38
comp=Z,0.4nm,0.5s
VRAC Vranov 82.17 22 LR LR 15 41 08.0
comp=Z,38nm,19.6s,baz=26,slow=36
KURBB Kurchatov Arra 82.74 343 P **P** **15 03 31.4 -0.8**
comp=Z,0.4nm,0.3s,baz=19,slow=4.7,SNR=8.3
comp=Z,0.4nm,0.3s
HNR Honiara 83.40 250 LR LR 15 37 54.3
comp=Z,1μm,18.1s,baz=110,slow=34
BELG Belogornoye 83.85 2 LR LR 15 47 56.4
comp=Z,38nm,18.2s,baz=24,slow=41
MKAR Makanchi Array 85.44 339 P **P** **15 03 44.6 -1.5**
comp=Z,0.2nm,0.6s,baz=36,slow=6.3,SNR=2.0
MKAR LR LR 15 46 09.3
comp=Z,59nm,18.3s,baz=127,slow=39
comp=Z,0.2nm,0.6s
WMQ Urumqi 86.63 334 *e*P **P** **15 03 56.8 +4.7**
WMQ pmax pmax
comp=Z,25nm,0.7s
MLR Muntele Rosu 88.02 18 LR LR 15 44 25.1
comp=Z,72nm,18.4s,baz=46,slow=36
PZH PanZhiHua 95.92 316 P **P** **15 04 36.0 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,180nm,9.3s
GNI Garni 95.94 5 LR LR 15 50 18.9
comp=Z,29nm,21.3s,baz=7.5,slow=37
RCBR Riachuelo 96.05 92 LR LR 15 44 55.0
comp=Z,21nm,20.4s,baz=154,slow=34
VNDA Vanda 128.43 195 PKP **PKPdf** **15 10 11.9 -1.9**
comp=Z,0.3nm,0.8s,baz=74,slow=5.6,SNR=1.5
QSPA South Pole Qui 133.89 180 PKP **PKPdf** **15 10 22.3 -2.2**
comp=Z,1.4nm,0.8s,baz=78,slow=3.1,SNR=5.0
ELIB Princess Elisa 149.01 164 *d*PKPdf **PKPdf** **15 10 53.4 +1.9**

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*NEIC **29** 15:09:48.3±1.2, 45°.84N±0°.02×116°.99W±0°.02, h10km±2km,*
Error ellipse: s-maj=4.6km s-min=3.0km az=205.0
SEA 29 15:09:48.9±1.1, 45°.83N±0°.02×116°.99W±0°.02, h3km±6km,
ML2.7/6, ML2.4/50(NEIC), Error ellipse: s-maj=3.2km
s-min=1.8km az=170.0, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F10A	**Beach Ranch, E**	**0.22**	**312**	Pg	Pg	15 09 53.2	+0.1
LNOR	**Lincton Mounta**	**0.90**	**273**		Pg	15 10 06.0	-0.1
LNOR					Sb	15 10 19.2	-0.4
BMO	**Blue Mountains**	**1.00**	**193**		Pg	15 10 07.3	-0.7
BMO	**Blue Mountains**	**1.00**	**193**		Sb	15 10 21.7	-0.7
E09A	**Wood Farm, Sta**	**1.05**	**311**	Pg	Pg	15 10 07.6	-1.5
E09A	**Wood Farm, Sta**	**1.05**	**311**		Sb	15 10 23.9	0.0
YPT	**Yellepit**	**1.39**	**280**		Pn	15 10 14.2	-0.9
YPT					Sb	15 10 33.6	0.0
G08A	**Pilot Rock**	**1.48**	**249**		Pn	15 10 15.0	-1.4
E08A	**Dider Farm, El**	**1.58**	**296**		Pn	15 10 16.2	-1.6
E08A				IAML		15 10 41.4	
	comp=N,57nm,0.5s						
E08A				IAML		15 10 44.9	
	comp=E,39nm,0.5s						
D08A	**Wollman Farm,**	**1.81**	**313**		Pn	15 10 19.7	-1.2
D08A				IAML		15 10 45.6	
	comp=E,26nm,0.4s						
D08A				IAML		15 10 45.6	
	comp=N,28nm,0.5s						
HAWA	**Hanford**	**1.85**	**289**		Pn	15 10 19.0	-2.5
HAWA				IAML		15 10 52.3	
	comp=N,19nm,0.5s						
HAWA				IAML		15 10 56.9	
	comp=N,33nm,0.6s						
F07A	**Phinny Hill Vi**	**2.05**	**273**		Pn	15 10 22.0	-2.1
F07A				IAML		15 10 50.4	
	comp=E,30nm,0.5s						
F07A				IAML		15 10 50.8	
	comp=N,26nm,0.8s						
E07A	**Sunnyside**	**2.12**	**291**	Pn	Pn	15 10 23.5	-1.6
E07A				IAML		15 11 03.2	
	comp=E,31nm,0.5s						
C09A	**Chrisman Ranch**	**2.16**	**336**		Pn	15 10 24.4	-1.3
MSO	**Missoula**	**2.34**	**64**	Pn	Pn	15 10 26.6	-1.7
MSO				IAML		15 10 58.3	
	comp=E,23nm,0.3s						
MSO				IAML		15 11 00.8	
	comp=E,24nm,0.4s						
MXC	**Moxie City**	**2.41**	**289**	Pn	Pn	15 10 28.1	-1.0
MXC				IAML		15 11 08.6	
	comp=N,13nm,0.7s						
NEW	**Newport**	**2.44**	**358**	Pn	Pn	15 10 28.5	-1.1
NEW				IAML		15 11 02.2	
	comp=N,29nm,0.3s						
NEW				IAML		15 11 06.9	
	comp=N,12nm,0.6s						
I07A	**Izee**	**2.50**	**226**	Pn	Pn	15 10 28.9	-1.5
BPMT	**Black Pine Rid**	**2.54**	**75**		Pn	15 10 28.7	-2.4
MFID	**Camas Ranch**	**2.55**	**161**	Pn	Pn	15 10 29.5	-1.7
G06A	**Carlson Farm,**	**2.63**	**258**	Pn	Pn	15 10 30.9	-1.3
LTY	**Liberty**	**2.91**	**301**		Pn	15 10 34.1	-2.0
LTY				IAML		15 11 21.2	
	comp=E,10nm,0.5s						
HLID	**Hailey**	**2.92**	**140**		Pn	15 10 34.7	-1.6
HLID				IAML		15 11 19.8	
	comp=E,8.6nm,0.3s						
HLID				IAML		15 11 24.0	
	comp=E,8.0nm,0.3s						
OVMT	**Ovando**	**3.03**	**64**		Pn	15 10 34.3	-3.5
G05A	**Wamic**	**3.09**	**261**	Pn	Pn	15 10 37.7	-0.9
G05A				IAML		15 11 08.5	
	comp=E,13nm,4.3s						
DLMT	**Dillon**	**3.12**	**97**	Pn	Pn	15 10 36.6	-2.5
DLMT				IAML		15 11 28.3	
	comp=E,14nm,0.9s						
DLMT				IAML		15 11 29.1	
	comp=E,16nm,1.1s						
HOOD	**Mount Hood Mea**	**3.31**	**263**	Pn	Pn	15 10 40.7	-0.9
HOOD				IAML		15 11 59.9	
	comp=E,8.4nm,3.7s						
HOOD				IAML		15 12 20.6	
	comp=N,7.4nm,3.1s						
LYMT	**Lyon Mountain**	**3.45**	**69**		Pn	15 10 40.4	-3.2
LON	**Longmire**	**3.46**	**287**	Pn	Pn	15 10 42.0	-1.7
PINE	**Pine Mountain**	**3.47**	**235**	Pn	Pn	15 10 43.2	-0.7
PINE				IAML		15 11 21.7	
	comp=N,7.9nm,4.2s						
PINE				IAML		15 12 29.7	
	comp=E,9.9nm,4.7s						
BOZ	**Bozeman (W)**	**3.77**	**92**	Pn	Pn	15 10 45.2	-2.6
BOZ				IAML		15 11 44.8	
	comp=E,8.4nm,0.4s						
BOZ				IAML		15 11 45.7	
	comp=E,8.2nm,0.5s						
YHL	**Hebgen Lake**	**4.21**	**101**	Pn	Pn	15 10 52.3	-1.9

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*JMA **29** 15:20:10.8±0.2, 24°.N±1°×123°.0E±0°.5, h60km±4km,*
MV2.0/13, NEAR ISHIGAKIJIMA ISLAND
*TAP **29** 15:20:11.9, 23°.70N×122°.99E, h51km±1km, ML3.0, D*
ISC 29 15:20:10.9±1.3, 23°.62N±0°.03×123°.04E±0°.02, h33km±3km,
n115, σ1$26/211, 1C, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.82**	**58**	P	**Pb**	**15 20 26.7**	**-0.2**
HATJ				S	**Sb**	**15 20 38.0**	**+0.3**
EOS4	**EOS4**	**0.83**	**307**	P	**Pb**	**15 20 26.6**	**-0.1**
EOS4	baz=298			*e*S	**Sb**	**15 20 37.4**	**-0.1**
	baz=298						
JYNG	**Yonagunijimaku**	**0.83**	**354**	*e*P	**Pb**	**15 20 26.5**	**-0.5**
JYNG				*e*S	**Sb**	**15 20 37.7**	**-0.2**
YOJ	**Yonaguni jima**	**0.84**	**358**	*e*P	**Pb**	**15 20 26.9**	**-0.2**
	baz=1.0						
YOJ				*i* S	**Sb**	**15 20 37.5**	**-0.6**
	baz=1.0						
EOS3	**EOS3**	**0.94**	**315**	P	**Pb**	**15 20 28.6**	**0.0**
	baz=319						
EOS3				*e*S	**Sb**	**15 20 40.8**	**+0.1**
	baz=319						
IRIF	**Iriomote-Funau**	**0.95**	**41**	P	**Pb**	**15 20 28.4**	**-0.5**
IRIF				*e*S	**Sb**	**15 20 40.9**	**-0.4**
JKRS	**Kuro-shima**	**1.08**	**55**	P	**Pn**	**15 20 30.3**	**+0.7**
JKRS				S	**Sb**	**15 20 44.2**	**-0.7**
EOS2	**EOS2**	**1.08**	**317**	P	**Pn**	**15 20 31.0**	**+1.4**
	baz=320						
EOS2				*e*S	**Sb**	**15 20 44.9**	**-0.1**
	baz=320						
JIJ	**Ishigaki jima**	**1.25**	**54**	*e*P	**Pn**	**15 20 32.3**	**+0.2**
JIJ				*e*S	**Sn**	**15 20 47.8**	**+0.1**
TEYL	**Yanliau Villag**	**1.34**	**281**	*e*P	**Pn**	**15 20 33.5**	**+0.1**
	baz=279						
TEYL				*e*S	**Sn**	**15 20 48.2**	**-1.8**
	baz=279						
HWA	**Hwalien**	**1.36**	**285**	*e*P	**Pn**	**15 20 33.7**	**+0.2**
	baz=273						
HWA				*e*S	**Sn**	**15 20 49.6**	**-0.9**
	baz=273						
SHUL	**Shoufeng**	**1.36**	**277**	*e*P	**Pn**	**15 20 33.6**	**0.0**
	baz=273						
SHUL				S	**Sn**	**15 20 49.7**	**-0.9**
	baz=273						
EAHA	**Aohua**	**1.38**	**301**	*e*P	**Pn**	**15 20 34.1**	**+0.2**
	baz=288						
EAHA				*e*S	**Sn**	**15 20 50.9**	**-0.1**
	baz=288						
TWD	**Chiawan**	**1.40**	**289**	*e*P	**Pn**	**15 20 33.4**	**-0.7**
	baz=286						
TWD				*i* S	**Sn**	**15 20 49.8**	**-1.7**
	baz=286						
ETL	**Fush Village**	**1.40**	**293**	*e*P	**Pn**	**15 20 34.6**	**+0.4**
	baz=290						
EWUT	**Wuta**	**1.42**	**306**	*e*P	**Pn**	**15 20 34.7**	**+0.4**
	baz=293						
EWUT				S	**Sn**	**15 20 51.2**	**-0.6**
	baz=293						
NACB	**Ninganchiao**	**1.43**	**293**	P	**Pn**	**15 20 34.3**	**-0.3**
	baz=290						
NACB				S	**Sn**	**15 20 50.5**	**-1.8**
	baz=290						
ENA	**Nanau**	**1.43**	**304**	P	**Pn**	**15 20 35.0**	**+0.4**
	baz=292						
ENA				S	**Sn**	**15 20 51.5**	**-0.8**
	baz=292						
ESAO	**Su ao**	**1.45**	**311**	*e*P	**Pn**	**15 20 35.6**	**+0.9**
	baz=310						
ESAO				*e*S	**Sn**	**15 20 51.3**	**-1.3**
	baz=310						
ETM	**Tongmen**	**1.46**	**284**	P	**Pn**	**15 20 34.9**	**-0.1**
	baz=275						
ETM				S	**Sn**	**15 20 51.5**	**-1.4**
	baz=275						
TWC	**Suao**	**1.47**	**312**	*e*P	**Pn**	**15 20 35.5**	**+0.5**
	baz=311						
TWC				*e*S	**Sn**	**15 20 51.9**	**-1.2**
	baz=311						
ESL	**Shilin**	**1.49**	**278**	*i* P	**Pn**	**15 20 34.6**	**-0.7**
	baz=266						
ESL				*i* S	**Sn**	**15 20 51.2**	**-2.4**
	baz=266						
HGSD	**Ruisui**	**1.49**	**265⇑**	*i*P	**Pn**	**15 20 34.9**	**-0.5**
	baz=261						
HGSD				*e*S	**Sn**	**15 20 51.6**	**-2.0**
	baz=261						
ECBN	**Changbin**	**1.49**	**259**	*e*P	**Pn**	**15 20 35.3**	**-0.1**
	baz=254						
ECBN				S	**Sn**	**15 20 52.2**	**-1.5**
	baz=254						
JISG	**Ishigakijimahi**	**1.51**	**50**	P	**Pn**	**15 20 35.5**	**-0.1**
JISG				*e*S	**Sn**	**15 20 53.4**	**-0.7**
WARBT	**Fenglin Townsh**	**1.52**	**274**	P	**Pn**	**15 20 35.3**	**-0.5**
	baz=270						
WARBT				*e*S	**Sn**	**15 20 52.5**	**-2.0**
	baz=270						
ETLH	**Xiulin Townshi**	**1.54**	**293**	P	**Pn**	**15 20 36.1**	**0.0**
	baz=290						
ETLH				S	**Sn**	**15 20 53.5**	**-1.5**
	baz=290						
LXIB	**Xiulin Townshi**	**1.54**	**285**	P	**Pn**	**15 20 36.3**	**+0.1**
	baz=277						
LXIB				*e*S	**Sn**	**15 20 53.8**	**-1.4**
	baz=277						
EHYH	**Wanrong**	**1.56**	**266**	*e*P	**Pn**	**15 20 35.3**	**-1.0**
	baz=261						
EHYH				S	**Sn**	**15 20 54.9**	**-0.6**
	baz=261						
CHKH	**Chenggong**	**1.57**	**255**	*e*P	**Pn**	**15 20 35.5**	**-1.0**
	baz=250						
CHKH				S	**Sn**	**15 20 53.5**	**-2.1**
	baz=250						
NDS	**Dongshan**	**1.57**	**310**	*e*P	**Pn**	**15 20 37.3**	**+0.8**
	baz=309						
NDS				S	**Sn**	**15 20 55.7**	**-0.1**
	baz=309						
EHY	**Hungye**	**1.58**	**266**	*e*P	**Pn**	**15 20 36.7**	**+0.1**
	baz=262						
EHY				*e*S	**Sn**	**15 20 54.6**	**-1.3**
	baz=262						
EGS		**1.58**	**320**	P	**Pn**	**15 20 37.1**	**+0.5**
	baz=330						
EGS				S	**Sn**	**15 20 55.4**	**-0.5**
	baz=330						
EYUL	**Yuli**	**1.60**	**261**	*i* P	**Pn**	**15 20 36.8**	**-0.2**
	baz=249						
EYUL				S	**Sn**	**15 20 55.4**	**-1.1**
	baz=249						
YULB	**Yu-li**	**1.62**	**262**	*e*P	**Pn**	**15 20 37.0**	**-0.1**
	baz=251						
YULB				*e*S	**Sn**	**15 20 55.9**	**-1.0**
	baz=251						
TWF1	**Yuli**	**1.62**	**261**	*e*P	**Pn**	**15 20 36.9**	**-0.3**
	baz=249						
TWF1				*e*S	**Sn**	**15 20 56.2**	**-0.8**
	baz=249						
CHKT	**Chengkung**	**1.62**	**252**	*e*P	**Pn**	**15 20 36.5**	**-0.8**
	baz=239						
CHKT				*i* S	**Sn**	**15 20 54.8**	**-2.2**
	baz=239						
LATG	**Datong**	**1.66**	**304**	P	**Pn**	**15 20 38.4**	**+0.7**
	baz=291						
LATG				S	**Sn**	**15 20 57.2**	**-0.8**
	baz=291						
FULB	**Fuli**	**1.66**	**256**	*i* P	**Pn**	**15 20 37.1**	**-0.6**
	baz=243						
FULB				*e*S	**Sn**	**15 20 56.2**	**-1.7**
	baz=243						
TWE	**Neicheng**	**1.67**	**311**	*i* P	**Pn**	**15 20 38.5**	**+0.7**
	baz=310						
TWE				S	**Sn**	**15 20 57.8**	**-0.2**
	baz=310						
TWB1	**Santiao Chiao**	**1.68**	**325**	P	**Pn**	**15 20 37.9**	**-0.1**
	baz=325						
TWB1				*e*S	**Sn**	**15 20 57.1**	**-1.3**
	baz=325						
ENTT	**Nioudou**	**1.69**	**307**	*e*P	**Pn**	**15 20 38.7**	**+0.7**
	baz=295						
ENTT				S	**Sn**	**15 20 58.4**	**-0.1**
	baz=295						
NDT	**Datong Townshi**	**1.70**	**305**	*e*P	**Pn**	**15 20 38.8**	**+0.5**
	baz=294						
NDT				S	**Sn**	**15 20 58.6**	**-0.4**
	baz=294						
WHF	**Hehuan Shan**	**1.71**	**288**	*e*P	**Pn**	**15 20 39.0**	**+0.3**
	baz=285						
WHF				*i* S	**Sn**	**15 20 58.4**	**-1.2**
	baz=285						
NNSB	**Datong**	**1.72**	**298**	P	**Pn**	**15 20 39.0**	**+0.4**
	baz=288						
NNSB				S	**Sn**	**15 20 58.3**	**-1.1**
	baz=288						
NNSH	**Datong**	**1.72**	**298**	*e*P	**Pn**	**15 20 39.0**	**+0.4**
	baz=298						
EDH	**Donghe**	**1.72**	**248**	*i* P	**Pn**	**15 20 38.1**	**-0.4**
	baz=244						
EDH				*e*S	**Sn**	**15 20 57.1**	**-2.3**
	baz=244						
LDUT	**Ludao**	**1.73**	**237**	P	**Pn**	**15 20 38.0**	**-0.6**
	baz=240						
LDUT				*e*S	**Sn**	**15 20 57.3**	**-2.2**
	baz=240						
NNS	**Nan Shan**	**1.73**	**298**	*e*P	**Pn**	**15 20 37.5**	**-1.3**
	baz=288						
NNS				*e*S	**Sn**	**15 20 58.9**	**-0.9**
	baz=288						
OWD	**Renai**	**1.74**	**281**	*i* P	**Pn**	**15 20 39.3**	**+0.3**
	baz=278						
OWD				*e*S	**Sn**	**15 20 58.4**	**-1.6**
	baz=278						
TIPB	**Shuangxi**	**1.74**	**321**	*e*P	**Pn**	**15 20 39.3**	**+0.4**
	baz=320						
TIPB				*e*S	**Sn**	**15 20 58.3**	**-1.6**
	baz=320						
FUSB	**Fushanzhiwuyua**	**1.75**	**311**	P	**Pn**	**15 20 39.9**	**+1.0**
	baz=298						
FUSB				S	**Sn**	**15 21 00.0**	**0.0**
	baz=298						
VWDT	**VWDT**	**1.75**	**275**	P	**Pn**	**15 20 39.1**	**+0.2**
	baz=271						
VWDT				*e*S	**Sn**	**15 20 58.5**	**-1.5**
	baz=271						
EHD	**Haiduan**	**1.75**	**255**	P	**Pn**	**15 20 38.8**	**-0.1**
	baz=244						
EHD				*e*S	**Sn**	**15 20 58.7**	**-1.4**
	baz=244						
ECS	**Chishang**	**1.75**	**253**	*e*P	**Pn**	**15 20 40.1**	**+1.1**
	baz=241						
ECS				*e*S	**Sn**	**15 20 58.9**	**-1.3**
	baz=241						
FUSS	**Fushou**	**1.76**	**291**	*e*P	**Pn**	**15 20 39.7**	**+0.4**
	baz=288						
FUSS				S	**Sn**	**15 20 59.5**	**-1.2**
	baz=288						
CHGB	**Renai**	**1.76**	**285**	P	**Pn**	**15 20 39.8**	**+0.4**
	baz=275						
CHGB				*e*S	**Sn**	**15 20 59.1**	**-1.6**
	baz=275						
WUSB	**Renai**	**1.80**	**282**	P	**Pn**	**15 20 40.4**	**+0.7**
	baz=279						
WUSB				*e*S	**Sn**	**15 20 59.2**	**-2.3**
	baz=279						
SXI1	**Grass Mountain**	**1.81**	**324**	P	**Pn**	**15 20 40.3**	**+0.4**
	baz=334						
SXI1				*e*S	**Sn**	**15 21 00.6**	**-1.2**
	baz=334						
NWLT	**Wulai**	**1.82**	**310**	P	**Pn**	**15 20 40.6**	**+0.8**
	baz=298						
NWLT				S	**Sn**	**15 21 01.7**	**-0.1**
	baz=298						
JTJ	**Tarama**	**1.82**	**56**	*e*S	**Sn**	**15 21 02.4**	**+0.4**

WFSB	**Wu-fen Shan**	**1.84 322**	*e*P	**Pn**	**15 20 40.8**	**+0.6**
	baz=321					
YHNB	**Yeheng**	**1.84 305**	*e*P	**Pn**	**15 20 40.8**	**+0.5**
YHNB	baz=293		*e*S	**Sn**	**15 21 00.8**	**-1.7**
NSK	**Sanguang**	**1.86 305**	*e*P	**Pn**	**15 20 41.3**	**+0.8**
NSK	baz=292		*i* S	**Sn**	**15 21 02.0**	**-0.9**
LONT	**Longtian**	**1.90 248**	P	**Pn**	**15 20 41.5**	**+0.5**
LONT	baz=244		S	**Sn**	**15 21 02.5**	**-1.2**
ELDTW	**Lidau**	**1.91 257**	*i* P	**Pn**	**15 20 41.0**	**-0.2**
ELDTW	baz=253		*e*S	**Sn**	**15 21 00.8**	**-3.4**
SSLB	**Suanglung**	**1.92 275**	*e*P	**Pn**	**15 20 42.0**	**+0.6**
SSLB	baz=272		S	**Sn**	**15 21 03.3**	**-1.1**
YUS	**Yu-Shan**	**1.92 266**	*e*P	**Pn**	**15 20 42.3**	**+0.6**
TATO	baz=263 **Taipei**	**1.96 314**	P	**Pn**	**15 20 41.9**	**+0.2**
TATO	baz=325		S	**Sn**	**15 21 05.2**	**+0.1**
TWGBT	**Beinan**	**1.97 246**	*e*P	**Pn**	**15 20 42.0**	**0.0**
TWGBT	baz=242		*e*S	**Sn**	**15 21 03.8**	**-1.8**
DPDB	**Guoxing**	**1.98 282**	*e*P	**Pn**	**15 20 45.4**	**+3.2**
	baz=280					
SMLT	**Sun Moon Lake**	**1.98 278**	*e*P	**Pn**	**15 20 44.2**	**+2.0**
SMLT	baz=275		*e*S	**Sn**	**15 21 06.2**	**+0.2**
TWG	**Pinlang**	**1.98 247**	*e*P	**Pn**	**15 20 42.0**	**-0.1**
TWG	baz=242		*i* S	**Sn**	**15 21 04.3**	**-1.5**
WCS	**Beigang Elemen**	**2.00 283**	*e*P	**Pn**	**15 20 44.7**	**+2.4**
WCS	baz=274		*e*S	**Sn**	**15 21 05.6**	**-0.6**
WHYT	**Xinyi Township**	**2.01 273**	*e*P	**Pn**	**15 20 44.5**	**+2.0**
WHYT	baz=269		*e*S	**Sn**	**15 21 07.8**	**+1.3**
TYC	**Yuchr**	**2.02 278**	*e*P	**Pn**	**15 20 45.0**	**+2.4**
NFF	baz=269 **Wufeng Townshi**	**2.02 300**	*e*P	**Pn**	**15 20 44.0**	**+1.3**
NFF	baz=298		S	**Sn**	**15 21 06.9**	**-0.1**
WHP	**Taichung City**	**2.02 289**	*e*P	**Pn**	**15 20 45.2**	**+2.4**
WHP	baz=286		*e*S	**Sn**	**15 21 06.9**	**-0.1**
LYUB	**Lan-yu**	**2.10 220**	*e*P	**Pn**	**15 20 44.7**	**+1.0**
NTY	baz=225 **Taoyuan**	**2.10 311**	*e*P	**Pn**	**15 20 44.4**	**+0.6**
LIOB	baz=323 **Emei**	**2.11 299**	*e*P	**Pn**	**15 20 45.4**	**+1.5**
LIOB	baz=288		*e*S	**Sn**	**15 21 09.1**	**0.0**
NSTT	**Nanjuang**	**2.12 299**	P	**Pn**	**15 20 45.4**	**+1.4**
NSTT	baz=288		S	**Sn**	**15 21 09.2**	**+0.1**
STYH	**Taoyuan**	**2.13 258**	*e*P	**Pn**	**15 20 45.1**	**+1.0**
STYH	baz=249		*e*S	**Sn**	**15 21 09.0**	**-0.4**
WJS	**Zhushan**	**2.13 276**	*e*P	**Pn**	**15 20 45.9**	**+1.7**
WJS	baz=266		*e*S	**Sn**	**15 21 11.6**	**+2.1**
STYT	**Tauyuan**	**2.15 258**	*e*P	**Pn**	**15 20 45.3**	**+0.8**
STYT	baz=248		*e*S	**Sn**	**15 21 09.3**	**-0.7**
CHN5	**Tsauling**	**2.17 270**	P	**Pn**	**15 20 46.1**	**+1.3**
CHN5	baz=260		*e*S	**Sn**	**15 21 11.7**	**+1.2**
WNT	**Mingjian**	**2.17 277**	*e*P	**Pn**	**15 20 46.7**	**+1.9**
WNT	baz=274		*e*S	**Sn**	**15 21 11.9**	**+1.3**
WNT1	**Nantou City**	**2.18 278**	*e*P	**Pn**	**15 20 45.6**	**+0.8**
PCYT	baz=275 **Pengchaiyu**	**2.19 336**	*e*P	**Pn**	**15 20 45.5**	**+0.6**
WWF	baz=327 **Wufeng**	**2.19 282**	*e*P	**Pn**	**15 20 47.5**	**+2.5**
WWF	baz=273		*e*S	**Sn**	**15 21 13.5**	**+2.7**
TWQ1	**Liyutan**	**2.20 290**	*e*P	**Pn**	**15 20 47.1**	**+2.1**
TWQ1	baz=287		*e*S	**Sn**	**15 21 12.1**	**+1.0**
TCU	**Taichung**	**2.23 284**	*e*P	**Pn**	**15 20 46.9**	**+1.4**
TPUB	baz=297 **Ta-pu**	**2.24 262**	*e*P	**Pn**	**15 20 46.7**	**+1.0**
TPUB	baz=259		*e*S	**Sn**	**15 21 12.8**	**+0.6**
WCKO	**Fanlu**	**2.24 266**	*e*P	**Pn**	**15 20 47.8**	**+2.1**
WCKO	baz=262		*e*S	**Sn**	**15 21 14.2**	**+1.9**
NMLH	**Miaoli**	**2.25 294**	*e*P	**Pn**	**15 20 47.2**	**+1.4**
NMLH	baz=292		*e*S	**Sn**	**15 21 13.9**	**+1.5**
WTP	**Ta-pu**	**2.26 261**	*e*P	**Pn**	**15 20 47.8**	**+1.8**
WTP	baz=257		*e*S	**Sn**	**15 21 14.0**	**+1.2**
SLGT	**Liugui**	**2.29 255**	P	**Pn**	**15 20 47.6**	**+1.3**
SLGT	baz=251		*e*S	**Sn**	**15 21 14.1**	**+0.7**
WDLH	**Douliu**	**2.30 272**	*e*P	**Pn**	**15 20 48.6**	**+2.2**
WDLH	baz=269		*e*S	**Sn**	**15 21 15.6**	**+2.0**
SGST	**Jiashian**	**2.32 257**	*e*P	**Pn**	**15 20 48.5**	**+1.6**
SGST	baz=253		*e*S	**Sn**	**15 21 15.6**	**+1.3**
CHN1	**Nanshi**	**2.35 260**	*e*P	**Pn**	**15 20 49.8**	**+2.6**
CHN1	baz=256		*e*S	**Sn**	**15 21 16.8**	**+1.8**
EAST	**Anshuo**	**2.37 239**	*e*P	**Pn**	**15 20 47.7**	**+0.3**
EAST	baz=243		*e*S	**Sn**	**15 21 15.0**	**-0.4**
SNST	**Tainan City**	**2.37 261**	P	**Pn**	**15 20 48.8**	**+1.3**
SNST	baz=257		*e*S	**Sn**	**15 21 17.4**	**+2.0**
TWK	**Hsinying**	**2.37 262**	*e*P	**Pn**	**15 20 49.4**	**+1.9**
TWK	baz=258		*e*S	**Sn**	**15 21 17.8**	**+2.3**
JMJ	**Miyako jima 2**	**2.38 60**	*e*P	**Pn**	**15 20 48.2**	**+0.7**
JMJ	baz=63		*e*S	**Sn**	**15 21 15.7**	**+0.2**
SSD	**Sandimen**	**2.38 249**	*e*P	**Pn**	**15 20 49.3**	**+1.7**
WTK	baz=239 **Tuku**	**2.43 272**	*e*P	**Pn**	**15 20 50.5**	**+2.2**
WTK	baz=269		*e*S	**Sn**	**15 21 19.1**	**+2.2**
MASBT	**Mashibuluo**	**2.43 246**	*e*P	**Pn**	**15 20 49.0**	**+0.6**
SCST	baz=237 **Cishan**	**2.46 253**	*e*P	**Pn**	**15 20 50.6**	**+2.0**
SCST	baz=249		*e*S	**Sn**	**15 21 21.6**	**+4.1**
WRL	**Guolierlin Hig**	**2.46 277**	*e*P	**Pn**	**15 20 50.4**	**+1.7**
	baz=266					
SLIU	**Shizi**	**2.50 236**	*e*P	**Pn**	**15 20 50.6**	**+1.4**
	baz=240					
SLIU			*e*S	**Sn**	**15 21 17.9**	**-0.6**
	baz=240					
SCZT	**Fangliau**	**2.55 241**	*e*P	**Pn**	**15 20 51.4**	**+1.4**
	baz=242					
SCZT			*e*S	**Sn**	**15 21 18.9**	**-1.0**
	baz=242					
TWKBT	**Hengchun**	**2.65 231**	*e*P	**Pn**	**15 20 52.9**	**+1.6**
	baz=234					
TSCK	**Chigu Township**	**2.76 261**	*e*P	**Pn**	**15 20 54.6**	**+1.8**
	baz=258					
MATB	**Ma-tsu**	**3.77 312**	*e*P	**Pn**	**15 21 06.2**	**-0.6**
	baz=312					
PTMZ	**Houxiangcun**	**3.84 292**	*e*P	**Pn**	**15 21 08.0**	**+0.3**
	baz=291					

IDC 29 15:22:22.4±2.9, 9°.83S×151°.45E, h0km, mb3.4/2, mbtmp3.4/4, ML2.1/2, Error ellipse: s-maj=56.3km s-min=34.7km az=123.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.25**	**275**	Pn	Pn	15 23 29.2	+0.7
	0.8nm,0.3s,baz=168,slow=14,SNR=2.5						
PMG				Sn	Sn	15 24 22.0	+3.1
	0.2nm,0.3s,baz=275,slow=22,SNR=1.4						
	6.7nm,0.7s						
WRA	**Warramunga Arr**	**19.33**	**237**	P	P	15 26 47.7	-1.8
	baz=55,slow=13,SNR=4.5						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**21.68**	**228**	P	P	15 27 15.7	+0.7
	0.6nm,0.7s,baz=57,slow=9.3,SNR=11						
	0.6nm,0.7s						
SONM	**Songino Array**	**69.90**	**329**	P	P	15 33 35.4	0.0
	0.9nm,0.9s,baz=144,slow=5.4,SNR=5.2						
	0.9nm,0.9s						

IDC 29 15:23:55.3±2.1, 10°.23S×151°.61E, h0km, mb3.3/3, mbtmp3.4/5, ML2.5/2, MS3.3/1, Error ellipse: s-maj=50.1km s-min=29.5km az=140.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.46**	**280**	Pn	Pn	15 25 04.2	0.0
	2.2nm,0.3s,baz=108,slow=17,SNR=1.9						
PMG				Sn	Sn	15 25 58.2	+1.2
	1.9nm,0.3s,baz=147,slow=22,SNR=2.0						
	17nm,0.5s						
WRA	**Warramunga Arr**	**19.26**	**238**	P	P	15 28 20.4	-1.2
	baz=65,slow=13,SNR=5.0						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**21.54**	**229**	P	P	15 28 47.7	+1.4
	0.6nm,0.9s,baz=66,slow=9.0,SNR=2.7						
	0.6nm,0.9s						
JHJ	**Hachijo jima 2**	**44.56**	**346**	LR	LR	15 50 10.7	
	comp=Z,37nm,19.9s,baz=332,slow=35						
SONM	**Songino Array**	**70.32**	**329**	P	P	15 35 10.7	-0.2
	0.7nm,0.8s,baz=152,slow=6.4,SNR=5.7						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**87.60**	**22**	P	P	15 36 45.2	+0.1
	0.2nm,0.7s,baz=231,slow=4.3,SNR=2.0						
	0.2nm,0.7s						

*GII **29** 15:25:39.0±0.1, 34°.400N±0°.001×23°.529E±0°.001, h1km, confirmed*
*IDC **29** 15:25:43.7±2.7, 34°.47N×22°.98E, h60km±23km, mb3.6/8, mbtmp3.8/11, ML4.0/3, MS3.5/1, Error ellipse: s-maj=25.2km s-min=18.8km az=159.0*
*ATH **29** 15:25:46.3, 34°.71N×23°.38E, h15km±2km, ML2.7/5, Error ellipse: s-maj=9.5km s-min=2.5km az=30.0*

ISC 29 15:25:37.4±2.2, 34°.24N±0°.08×23°.21E±0°.06, h12km±11km, n54, σ1§11/57, mb3.8/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.94**	**50**	P	**Pn**	**15 25 57.1**	**+0.7**
GVD				S	**Sn**	**15 26 12.5**	**+2.8**
GVD	**Gavdhos**	**0.94**	**50**	P	**Pn**	**15 25 57.7**	**+1.3**
GVD				AML	AML	15 26 25.9	
	comp=N,1502μm,0.4s						
GVD				AML	AML	15 26 31.1	
	comp=E,1695μm,0.4s						
KNDR	**Palaiochora Ch**	**1.07**	**21**	P	**Pb**	**15 25 57.2**	**-0.6**
IMMV	**Iera Moni Meta**	**1.38**	**27**	P	**Pg**	**15 26 03.7**	**-0.1**
IMMV				S	**Sn**	**15 26 19.8**	**-0.7**
IMMV	**Iera Moni Meta**	**1.38**	**27**	P	**Pg**	**15 26 02.9**	**-1.0**
IMMV				AML	AML	15 26 28.7	
	comp=E,788μm,0.7s						
IMMV				AML	AML	15 26 32.1	
	comp=N,520μm,0.7s						
RODP	**Rodopos**	**1.40**	**19**	P	**Pg**	**15 26 04.7**	**+0.5**
CHAN	**Chania**	**1.45**	**28**	P	**Pg**	**15 26 05.3**	**+0.1**
CHAN				AML	AML	15 26 37.6	
	comp=N,800μm,0.7s						
CHAN				AML	AML	15 26 41.0	
	comp=E,894μm,0.8s						
ANKY	**Antikythira Is**	**1.63**	**3**	P	**Pg**	**15 26 07.5**	**-1.2**
ANKY				S	**Sg**	**15 26 30.1**	**+0.3**
ANKY	**Antikythira Is**	**1.63**	**3**	P	**Pb**	**15 26 07.3**	**-0.1**
ANKY				AML	AML	15 26 46.8	
	comp=N,663μm,0.9s						
ANKY				AML	AML	15 26 46.9	
	comp=E,770μm,1.0s						
IDI	**Anoyia**	**1.73**	**52**	P	**Pg**	**15 26 10.7**	**0.0**
IDI				S	**Sg**	**15 26 34.1**	**+0.8**
IDI	**Anoyia**	**1.73**	**52**	P	**Pg**	**15 26 10.9**	**+0.2**
	comp=E,40nm,0.3s,baz=238,slow=10,SNR=30						
IDI				S	**Sg**	**15 26 34.1**	**+0.8**
	comp=E,30nm,0.5s,baz=266,slow=13,SNR=8.3						
IDI	**Anoyia**	**1.73**	**52**	P	**Pg**	**15 26 10.4**	**-0.3**
VLI	**Veliai**	**2.49**	**355**	P	**Pn**	**15 26 19.6**	**+2.0**
VLI	**Veliai**	**2.49**	**355**	P	**Pn**	**15 26 19.6**	**+2.0**
VLI				AML	AML	15 26 51.9	
	comp=N,186μm,1.2s						
VLI				AML	AML	15 27 09.8	
	comp=E,188μm,0.9s						
ZKR	**Zakros**	**2.63**	**70**	P	**Pb**	**15 26 22.9**	**-1.5**
ZKR	**Zakros**	**2.63**	**70**	P	**Pb**	**15 26 23.6**	**-0.8**
MHLO	**Agia Marina, M**	**2.63**	**21**	P	**Pn**	**15 26 20.9**	**+1.3**
SANT	**Santorini**	**2.81**	**40**	P	**Pb**	**15 26 25.2**	**-2.4**
KRND	**KRANIDI**	**3.14**	**359**	P	**Pn**	**15 26 27.8**	**+1.2**
KRND	**KRANIDI**	**3.14**	**359**	P	**Pn**	**15 26 27.6**	**+1.0**
VLY	**Voula,Athens**	**3.64**	**7**	P	**Pn**	**15 26 34.9**	**+1.4**
GUR	**Goura**	**3.76**	**349**	P	**Pn**	**15 26 36.9**	**+1.7**
KLV	**Kalavryta, Ach**	**3.90**	**348**	P	**Pn**	**15 26 38.2**	**+1.1**
DRO	**Drossia**	**3.90**	**342**	P	**Pn**	**15 26 38.5**	**+1.4**
ANX	**Ano Chora**	**4.47**	**347**	P	**Pn**	**15 26 46.6**	**+1.6**
MMC7	**Mount Meron ar**	**10.23**	**93**	P	**Pn**	**15 28 04.0**	**0.0**
MMA0B	**Mount Meron ar**	**10.24**	**93**	P	**Pn**	**15 28 04.2**	**0.0**
MMAI	**Mount Meron Ar**	**10.24**	**93**	P	**Pn**	**15 28 05.2**	**+1.0**
	comp=E,1.1nm,0.3s,baz=275,slow=12,SNR=7.5						
MMLI	**Mount Malkishu**	**10.37**	**97**	P	**Pn**	**15 28 05.8**	**-0.1**
HMDT	**Nahal Hemdat**	**10.50**	**97**	P	**Pn**	**15 28 07.9**	**+0.2**
HMDT	**Nahal Hemdat**	**10.50**	**97**	S	**Sn**	**15 30 04.0**	**-1.2**
DSI	**Dead Sea**	**10.57**	**101**	P	**Pn**	**15 28 08.9**	**+0.3**
DSI	**Dead Sea**	**10.57**	**101**	S	**Sn**	**15 30 06.1**	**-0.8**
KSHT	**Keshet**	**10.58**	**93**	P	**Pn**	**15 28 08.8**	**-0.1**
PRNI	**Paran**	**10.70**	**108**	P	**Pn**	**15 28 11.1**	**+0.6**
PRNI	**Paran**	**10.70**	**108**	S	**Sn**	**15 30 09.9**	**-0.3**
HRFI	**Mount Harif**	**10.86**	**109**	P	**Pn**	**15 28 13.7**	**+1.0**
HRFI	**Mount Harif**	**10.86**	**109**	S	**Sn**	**15 30 14.2**	**+0.1**
MBRI	**Mt Berech**	**10.87**	**111**	P	**Pn**	**15 28 13.6**	**+0.7**
MBRI	**Mt Berech**	**10.87**	**111**	S	**Sn**	**15 30 14.8**	**+0.2**
EIL	**Elat**	**10.96**	**111**	P	**Pn**	**15 28 14.8**	**+0.9**
EIL	**Elat**	**10.96**	**111**	S	**Sn**	**15 30 16.6**	**+0.1**
VRAC	**Vranov**	**15.84**	**344**	P	**Pn**	**15 29 21.2**	**+1.2**
	comp=E,0.3nm,0.3s,baz=159,slow=11,SNR=5.7						
	comp=E,4.1nm,0.8s						
GERES	**GERESS Array B**	**16.22**	**337**	P	**Pn**	**15 29 24.9**	**-0.1**
	comp=E,0.1nm,0.3s,baz=142,slow=11,SNR=4.6						
	comp=E,0.4nm,0.5s						
AKASG	**Malin Array Be**	**17.03**	**13**	P	**Pn**	**15 29 34.5**	**-0.7**
	comp=E,1.4nm,0.3s,baz=209,slow=9.8,SNR=6.7						
	comp=E,0.4nm,0.3s						
HFS	**Hagfors**	**26.65**	**349**	P	**P**	**15 31 14.0**	**-1.6**
	comp=E,1.0nm,0.4s,baz=160,slow=11,SNR=13						
	comp=E,1.0nm,0.4s						
FINES	**FINESS Array B**	**27.29**	**3**	P	**P**	**15 31 19.4**	**-1.9**
	comp=E,0.8nm,0.5s,baz=155,slow=12,SNR=6.3						
	comp=E,0.8nm,0.5s						
NOA	**NORSAR Array B**	**27.92**	**348**	P	**P**	**15 31 26.2**	**-0.8**
	comp=E,0.1nm,0.4s,baz=151,slow=9.0,SNR=4.3						
	comp=E,0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**28.67**	**228**	P	P	15 31 35.3	+1.1
	comp=E,0.5nm,0.6s,baz=36,slow=9.3,SNR=6.2						
	comp=E,0.5nm,0.6s						
ARCES	**ARCESS Array B**	**35.37**	**1**	P	**P**	**15 32 30.9**	**-1.5**
	comp=E,0.2nm,0.3s,baz=193,slow=9.5,SNR=6.3						
	comp=E,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**42.95**	**50**	P	**P**	**15 33 37.0**	**+1.1**
	comp=E,2.3nm,0.2s,baz=278,slow=8.2,SNR=1.5						
	comp=E,2.3nm,0.2s						
MKAR	**Makanchi Array**	**45.62**	**56**	P	**P**	**15 33 58.4**	**+0.9**
	comp=E,0.5nm,0.3s,baz=271,slow=8.0,SNR=28						
	comp=E,0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**46.80**	**46**	P	**P**	**15 34 06.3**	**-0.2**
	comp=E,0.8nm,0.3s,baz=265,slow=8.1,SNR=5.7						
	comp=E,0.8nm,0.3s						
SFJD	**Kangerlussuaq**	**52.73**	**332**	LR	LR	15 58 30.6	
	comp=E,46nm,19.6s,baz=38,slow=38						

*IDC **29** 15:27:21.8±5.5, 7°.49S×128°.21E, h85km±51km, mb3.7/7, mbtmp4.0/9, ML3.8/2, MS3.8/1, Error ellipse: s-maj=120.5km s-min=18.1km az=69.0*
*NEIC **29** 15:27:28.3±1.6, 7°.7S±0°.1×128°.12E±0°.07, h169km±15km, mb4.2/4, Error ellipse: s-maj=16.9km s-min=9.2km az=156.0*
*DJA **29** 15:27:29.1±1.0, 8°.5S±3°×12°.8E±°, h28km±9km, M4.5/13, mB5.2/2, mb4.6/7, MLv4.5/13, Mw(mB)4.6/2*

ISC 29 15:27:28.2±0.6, 7°.72S±0°.06×128°.11E±0°.05, h142km, n51, σ2§16/54, mb3.7/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.17**	**95**	Pn	**Pn**	**15 28 18.5**	**+1.1**
SAUI	**Saumlaki**	**3.17**	**95**	P	**Pn**	**15 28 18.2**	**+0.8**
SAUI				S	**Sn**	**15 28 55.9**	**+0.4**
BNDI	**Bandanaira**	**3.64**	**29**	P	**Pn**	**15 28 25.1**	**+1.6**
BNDI				S	**Sn**	**15 29 07.2**	**+0.8**
SOEI	**Soe**	**4.31**	**242**	Pn	**Pn**	**15 28 33.3**	**+0.9**
SOEI	**Soe**	**4.31**	**242**	P	**Pn**	**15 28 33.6**	**+1.2**
SOEI				S	**Sn**	**15 29 22.7**	**+0.4**
NLAI	**Namlea**	**4.56**	**347**	P	**Pn**	**15 28 37.2**	**+1.6**
BATI	**Baumata**	**5.04**	**240**	P	**Pn**	**15 28 43.1**	**+1.0**
BATI				S	**Sn**	**15 29 40.0**	**+0.3**
DRS	**Darwin Rock St**	**5.43**	**150**	P	**Pn**	**15 28 47.3**	**+0.1**
MMRI	**Maumere**	**5.89**	**261**	Pn	**Pn**	**15 28 54.0**	**+0.7**
MMRI	**Maumere**	**5.89**	**261**	P	**Pn**	**15 28 53.6**	**+0.3**
	60nm,0.5s,0.2nm						
MTN	**Manton Dam**	**5.90**	**150**	Pn	**Pn**	**15 28 53.7**	**+0.3**
FAKI	**Fak Fak**	**6.30**	**41**	Pn	**Pn**	**15 28 57.1**	**-1.7**
FAKI	**Fak Fak**	**6.30**	**41**	P	**Pn**	**15 28 57.3**	**-1.5**
EDFI	**Ende, Flores**	**6.44**	**260**	P	**Pn**	**15 29 02.2**	**+1.4**
KDU	**Kakadu**	**6.54**	**139**	P	**Pn**	**15 29 02.0**	**-0.1**
KMPI	**Kaimana, Papua**	**6.87**	**54**	P	**Pn**	**15 29 05.6**	**-0.9**
SWI	**Sorong**	**7.50**	**25**	P	**Pn**	**15 29 14.7**	**-0.2**
KNRA	**Kununurra**	**7.94**	**175**		**Pn**	**15 29 19.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**10.60**	**193**		**Pn**	**15 29 53.6**	**-2.7**
WB0	**Warramunga Arr**	**13.44**	**154**		**Pn**	**15 30 30.3**	**-3.0**
WRA	**Warramunga Arr**	**13.57**	**154**	Pn	**Pn**	**15 30 32.4**	**-2.7**
WRA	**Warramunga Arr**	**13.57**	**154**	P	**Pn**	**15 30 32.2**	**-2.8**
	0.6nm,0.3s,baz=325,slow=15,SNR=22						
WRA				S	Sn	15 32 54.7	-11
	6.3nm,0.5s,baz=329,slow=22,SNR=11						
	1.1nm,0.5s						
WB2	**Warramunga Arr**	**13.58**	**154**		**Pn**	**15 30 32.8**	**-2.3**
WR0	**Warramunga Arr**	**13.67**	**154**	Pn	**Pn**	**15 30 33.9**	**-2.4**
MBWA	**Marble Bar**	**15.63**	**210**	P	**P**	**15 31 03.8**	**+1.9**
MBWA	**Marble Bar**	**15.63**	**210**		**P**	**15 30 59.6**	**-1.1**
MBWA				IAmb	IAmb	15 31 24.8	
	comp=Z,24nm,1.4s						
PSA00	**Pilbara Seismi**	**15.92**	**209**	P	**P**	**15 31 05.4**	**+0.2**
PSA00	**Pilbara Seismi**	**15.92**	**209**	P	**Pn**	**15 31 02.9**	**-1.5**
PSA00				IAmb	IAmb	15 31 46.8	
	comp=Z,8.6nm,1.4s						
COEN	**Coen**	**16.04**	**114**	P	**P**	**15 31 08.2**	**+1.7**
COEN	**Coen**	**16.04**	**114**	P	**Pn**	**15 31 04.3**	**-1.5**
AS31	**Alice Springs**	**16.80**	**161**	P	**P**	**15 31 12.8**	**-2.2**
ASAR	**Alice Springs**	**16.80**	**161**	P	**Pn**	**15 31 15.7**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=344,slow=12,SNR=55						
ASAR				S	**S**	**15 34 14.8**	**-8.0**
	comp=Z,1.2nm,0.4s,baz=317,slow=16,SNR=6.3						
	comp=Z,2.3nm,0.6s						
AS01	**Alice Springs**	**16.82**	**161**	P	**Pn**	**15 31 17.0**	**+1.6**
QIS	**Mount Isa**	**16.93**	**140**	P	**Pn**	**15 31 19.8**	**+3.0**
WRKA	**Warakurna**	**17.23**	**179**	P	**Pn**	**15 31 21.3**	**+1.0**
MEEK	**Meekatharra**	**20.87**	**204**	P	Pn	15 32 03.8	+0.5
OOD	**Oodnadatta**	**21.22**	**161**	P	**P**	**15 32 05.3**	**+2.5**
MULG	**Mulgathing**	**23.13**	**167**	P	**P**	**15 32 25.1**	**+3.2**
INKA	**Innaminka**	**23.23**	**151**	P	**P**	**15 32 26.3**	**+3.5**
MORW	**Morawa**	**24.09**	**207**	P	**P**	**15 32 35.2**	**+4.5**
QLP	**Quilpie**	**24.22**	**143**	P	**P**	**15 32 35.6**	**+3.7**
LCRK	**Leigh Creek**	**24.52**	**159**	P	**P**	**15 32 37.5**	**+3.0**
STKA	**Stephens Creek**	**27.12**	**154**	P	**P**	**15 32 58.0**	**0.0**
	comp=Z,1.3nm,0.5s,baz=139,slow=20,SNR=1.8						
	comp=Z,1.3nm,0.5s						
KLR	**Kul'dur**	**56.79**	**3**	LR	LR	16 01 34.4	
	comp=Z,80nm,20.5s,baz=210,slow=36						
SONM	**Songino Array**	**58.55**	**343**	P	**P**	**15 37 08.6**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=172,slow=2.9,SNR=3.0						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**67.81**	**328**	P	**P**	**15 38 10.0**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=119,slow=8.0,SNR=11						
	comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**71.41**	**335**	P	**P**	**15 38 31.3**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=132,slow=6.2,SNR=4.5						
	comp=Z,0.5nm,0.4s						
VNDA	**Vanda**	**71.97**	**173**	P	**P**	**15 38 37.2**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=326,slow=6.7,SNR=9.7						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**72.15**	**329**	P	**P**	**15 38 36.7**	**-0.5**
	comp=Z,3.5nm,0.2s,baz=114,slow=4.1,SNR=1.8						
	comp=Z,3.5nm,0.2s						
QSPA	**South Pole Qui**	**82.27**	**180**	P	**P**	**15 39 34.7**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=37,slow=13,SNR=2.2						
	comp=Z,0.5nm,0.6s						
LPAZ	**La Paz**	**151.24**	**146**	PKPbc	**PKiKP**	**15 47 07.7**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=39,slow=5.6,SNR=7.8						

*NEIC **29** 15:32:51.9±0.9, 19°.406N±0°.006×155°.262W±0°.008, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.3km az=164.0*

HVO 29 15:32:51.5±0.8, 19°.416N±0°.005×155°.256W±0°.008, h0km±5km, ML3.5/34, ML2.9/38(NEIC), Error ellipse: s-maj=1.0km s-min=0.8km az=63.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**225**	Pg	Pg	15 32 51.9	+0.2
HATHI	**Halema'uma'u T**	**0.01**	**325**	Pg	Pg	15 32 52.0	+0.2
SBLHI	**Steaming Bluff**	**0.02**	**314**		Pg	15 32 52.1	+0.3
KKO	**Keanakako'i**	**0.02**	**208**		Pg	15 32 52.3	+0.4
UWB	**Uwekahuna B**	**0.02**	**292**		Pg	15 32 52.1	+0.1
OBL	**Observatory Le**	**0.03**	**273**		Pg	15 32 52.2	+0.2
RIM	**Rim**	**0.03**	**220**		Pg	15 32 52.4	+0.4
UWE	**Uwekahuna**	**0.04**	**278**	Pg	Pg	15 32 52.4	+0.2
WRMHI	**West Rim**	**0.04**	**257**		Pg	15 32 52.7	+0.4
SDHHI	**Sand Hill**	**0.04**	**234**		Pg	15 32 52.8	+0.4
RSD	**Rain

comp=N,2μm,0.4s
JOKA IAML 15 33 04.5
comp=E,2μm,1.2s
HMH Humu'ula Sheep 0.28 311 Pg 15 32 57.6 +0.7
HMH IAML 15 33 03.0
comp=N,2μm,0.9s
HMH IAML 15 33 06.3
comp=E,2μm,1.2s
PAH Pahoa 0.30 75 Pg Pg 15 32 58.1 +0.9
MLOA Mauna Loa Obse 0.33 292 Pg Pg 15 32 58.5 +0.8
MLOA IAML 15 33 08.0
comp=E,2μm,1.3s
MWH Moku'aweowe 0.33 282 Pg 15 32 58.5 +0.7
KHU Kahuku 0.38 244 Pg Pg 15 32 59.1 +0.3
KHU IAML 15 33 06.9
comp=N,1μm,0.7s
ALEP Alea Permanent 0.39 289 Pg 15 32 59.7 +0.8
POHA Pohakuloa 0.43 323 Sg 15 33 07.1 +1.8
HUH Hualalai 0.61 296 Pg 15 33 03.6 +0.4
HPAH Hawaii Prepara 0.74 326 Pg 15 33 04.3 -1.4
HPAH IAML 15 33 26.6
comp=E,748nm,1.2s
HPAH Hawaii Prepara 0.74 326 Sg 15 33 15.1 -0.2
MHA Mahukona 0.98 322 Pg Pg 15 33 08.3 -1.9

*UPA **29** 15:36:41.4±0.9, 8°.71N×82°.78W, h20km±4km, MD3.8, ML4.3, MW3.9*
*UCR **29** 15:36:41.2±0.7, 8°.61N×82°.78W, h17km±2km, MW3.8*
ISC 29 15:36:41.3±1.0, **8°.65N**±0°.03×**82°.81W**±0°.02, **h19**km±2km, **n42**, σ0**°66**/55, **1C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLIR3	**Monte Lirio, C**	**0.14**	**354**	*eP*	**Pg**	**15 36 46.1**	**+0.4**
BRU2	**Volcan**	**0.18**	**40**	‖*iP*	**Pg**	**15 36 46.3**	**0.0**
BRU2				AMP		15 36 46.4	
comp=Z,49μm,0.2s							
BRU2				*eS*	**Sg**	**15 36 50.0**	**+0.4**
BRU2	**Volcan**	**0.18**	**40**	*eP*	**Pg**	**15 36 46.3**	**0.0**
BRU2				*eS*	**Sg**	**15 36 50.0**	**+0.4**
BCO2	**Palmira**	**0.28**	**77**	‖*iP*	**Pb**	**15 36 47.9**	**0.0**
BCO2				AMP		15 36 48.0	
comp=Z,86μm,0.1s							
BCO2				*eS*	**Sg**	**15 36 52.6**	**+0.4**
FITO	**Golfito**	**0.34**	**266**	*eP*	**Pg**	**15 36 48.2**	**-0.5**
FITO				*eS*	**Sg**	**15 36 53.7**	**+0.1**
EDAD	**Golfito**	**0.35**	**270**	*eP*	**Pg**	**15 36 48.4**	**-0.4**
EDAD				*eS*	**Sg**	**15 36 53.5**	**-0.5**
LNBQ3	**Los Naranjos,**	**0.39**	**69**	‖*iP*	**Pg**	**15 36 49.0**	**-0.6**
LNBQ3				AMP		15 36 49.2	
comp=Z,13μm,0.1s							
DVD	**David**	**0.41**	**121**	*eP*	**Pg**	**15 36 49.9**	**0.0**
DVD				*eS*	**Sb**	**15 36 57.3**	**+1.2**
PTPM	**Petroterminale**	**0.45**	**189**	*eP*	**Pg**	**15 36 51.0**	**+0.4**
PTPM				*eS*	**Sn**	**15 36 60.0**	**-0.4**
LOCO3	**Loma Colorada,**	**0.46**	**122**	*eP*	**Pg**	**15 36 50.6**	**0.0**
PEDE3	**Pedregal, Chir**	**0.47**	**125**	*eP*	**Pg**	**15 36 50.7**	**-0.1**
LOMA3	**Las Lomas, Chi**	**0.47**	**118**	*eP*	**Pg**	**15 36 50.7**	**-0.2**
EDP2	**Potrero Grande**	**0.51**	**315**	*eP*	**Pb**	**15 36 52.2**	**+0.4**
EDP2				*eS*	**Sn**	**15 37 01.3**	**-0.6**
JIME	**Puerto Jimenez**	**0.52**	**258**	*eP*	**Pb**	**15 36 51.6**	**-0.3**
JIME				*eS*	**Sb**	**15 36 59.9**	**+0.9**
EDBA	**Buenos Aires**	**0.69**	**318**	*eP*	**Pg**	**15 36 55.3**	**+0.4**
EDPN	**Palmar Norte**	**0.71**	**296**	*eP*	**Pb**	**15 36 54.5**	**-0.6**
EDPN				*eS*	**Sg**	**15 37 05.2**	**+0.3**
CHGR2	**Aguacate**	**0.72**	**67**	*eP*	**Pb**	**15 36 54.1**	**-1.1**
CHGR2				AMP		15 36 54.3	
comp=Z,17μm,0.1s							
CHGR2				*eS*	**Sb**	**15 37 03.8**	**-0.8**
BURE	**Buenos Aires**	**0.74**	**315**	*eP*	**Pb**	**15 36 55.7**	**+0.2**
DRK0	**Durika**	**0.74**	**325**	‖*iP*	**Pb**	**15 36 55.4**	**-0.4**
DRK0				*eS*	**Sb**	**15 37 04.5**	**-1.1**
DRK0	**Durika**	**0.74**	**325**	*eP*	**Pb**	**15 36 55.4**	**-0.4**
BRIBI	**Bribri**	**0.97**	**358**	*eP*	**Pg**	**15 37 01.0**	**+0.9**
BUS1	**Rivas**	**1.29**	**314**	*eP*	**Pn**	**15 37 04.1**	**-0.7**
TURIB	**Turrialba**	**1.52**	**325**	*eP*	**Pn**	**15 37 08.2**	**+0.6**
VERB	**Verbena**	**1.55**	**326**	*eP*	**Pb**	**15 37 09.1**	**-0.5**
IRES	**Siquirres**	**1.59**	**334**	*eP*	**Pb**	**15 37 10.0**	**-0.1**
PCAYA	**Pacayas**	**1.60**	**322**	*eP*	**Pn**	**15 37 09.7**	**+0.9**
LCR2	**La Lucha 2**	**1.60**	**313**	*eP*	**Pn**	**15 37 08.6**	**-0.2**
LCOCO	**El Coco**	**1.60**	**333**	*eP*	**Pb**	**15 37 10.2**	**-0.2**
VTCV	**VTCV, Calle Va**	**1.60**	**326**	*eP*	**Pn**	**15 37 09.7**	**+0.9**
RVLA	**Villa Bonita**	**1.64**	**332**	*eP*	**Pb**	**15 37 10.6**	**-0.4**
CVTQ	**Turrialba Volc**	**1.64**	**325**	*eP*	**Pb**	**15 37 10.6**	**-0.6**
VTLA	**Turrialba Volc**	**1.65**	**325**	*eP*	**Pb**	**15 37 10.7**	**-0.6**
VTR0	**Volcan Turrial**	**1.65**	**325**	*eP*	**Pb**	**15 37 10.8**	**-0.6**
CVTR	**Volcan Turrial**	**1.65**	**325**	*eP*	**Pn**	**15 37 10.6**	**+0.9**
VICA	**Volcano Irazu**	**1.67**	**322**	*eP*	**Pn**	**15 37 10.6**	**+0.6**
ACOS	**Acosta**	**1.75**	**310**	*eP*	**Pn**	**15 37 11.7**	**+0.8**
SJS3	**Mercedes San J**	**1.77**	**316**	*eP*	**Pn**	**15 37 12.0**	**+0.9**
LUJA	**Lujan**	**1.78**	**316**	*eP*	**Pb**	**15 37 12.8**	**-0.6**
BELE	**Belen**	**1.89**	**314**	*eP*	**Pn**	**15 37 13.5**	**+0.7**
TRB2	**Turrubares**	**2.05**	**308**	*eP*	**Pn**	**15 37 14.9**	**+0.2**
AZU	**Azuero**	**2.65**	**109**	*eP*	**Pn**	**15 37 22.4**	**-0.6**
AZU				*eS*	**Sn**	**15 37 53.9**	**-0.9**
AZU	**Azuero**	**2.65**	**109**	*eP*	**Pn**	**15 37 25.0**	**+1.9**

*DJA **29** 15:40:26.6±1.1, 2°.S±5°.×13°.8E±°, h14km±8km, M4.5/11, mB5.3/1, mb4.7/11, MLv4.4/6, Mw(mB)4.8/1*
*NEIC **29** 15:40:30.6±1.3, 2°.37S±0°.09×138°.07E±0°.08, h35km±2km, mb4.1/18, Error ellipse: s-maj=15.7km s-min=13.6km az=34.0*
*IDC **29** 15:40:32.0±4.0, 2°.44S×137°.99E, h49km±42km, mb3.8/6, mbtmp4.0/9, ML3.8/2, Error ellipse: s-maj=49.7km s-min=13.6km az=87.0*
ISC 29 15:40:29.7±0.6, **2°.23S**±0°.06×**138°.38E**±0°.05, **h36**km, **n63,** σ1**°73**/66, **mb4.2**/14, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.82**	**102**	P	**Pn**	**15 40 57.7**	**-0.8**
GENI	**Genyem**	**1.82**	**102**	P	**Pn**	**15 40 57.7**	**-0.8**
GENI				S	**Sn**	**15 41 21.9**	**+1.6**
JAY	**Jayapura**	**2.34**	**97**	P	**Pn**	**15 41 04.1**	**-1.5**
JAY				S	**Sn**	**15 41 32.4**	**-0.8**
TABU	**Tabubil**	**4.14**	**137**	P	**Pn**	**15 41 33.7**	**+3.2**
KMPI	**Kaimana, Papua**	**4.89**	**253**	P	**Pn**	**15 41 42.2**	**+1.5**
200nm,0.8s,3μm0.8nm							
KMPI				S	**Sn**	**15 42 39.9**	**+3.9**
200nm,0.8s,3μm0.8nm							
FAKI	**Fak Fak**	**6.17**	**263**	P	**Pn**	**15 41 58.8**	**+0.5**
FAKI	**Fak Fak**	**6.17**	**263**	Pn	**Pn**	**15 41 54.4**	**-3.9**
FAKI	**Fak Fak**	**6.17**	**263**	P	**Pn**	**15 41 58.1**	**-0.2**
63nm,0.9s,0.2nm							
MMPI	**Merauke**	**6.51**	**162**	P	**Pn**	**15 42 04.6**	**+1.6**
MMPI				S	**Sn**	**15 43 20.7**	**+4.6**
SWI	**Sorong**	**7.25**	**281**	P	**Pn**	**15 42 12.3**	**-0.8**
BNDI	**Bandanaira**	**8.77**	**255**	P	**Pn**	**15 42 35.0**	**+1.0**
161nm,1.4s							
SAUI	**Saumlaki**	**9.08**	**231**	P	**Pn**	**15 42 38.7**	**+0.4**
PMG	**Port Moresby**	**11.27**	**130**	Pn	**Pn**	**15 43 10.8**	**+2.5**
PMG	**Port Moresby**	**11.27**	**130**	P	Pn	15 43 12.3	+3.9
16nm,0.7s,baz=314,slow=6.0,SNR=7.1							
NLAI	**Namlea**	**11.32**	**265**	P	**Pn**	**15 43 09.2**	**+0.2**
20nm,1.0s							
KDU	**Kakadu**	**11.93**	**209**	P	**Pn**	**15 43 16.9**	**-0.4**
COEN	**Coen**	**12.58**	**158**	P	**Pn**	**15 43 25.6**	**-0.7**
COEN	**Coen**	**12.58**	**158**	Pn	**Pn**	**15 43 25.4**	**-0.9**
MTN	**Manton Dam**	**12.76**	**214**	Pn	**Pn**	**15 43 26.7**	**-2.0**
KNRA	**Kununurra**	**16.39**	**215**	Pn	**Pn**	**15 44 14.5**	**-2.6**
KNRA				IAmb	IAmb	15 44 22.7	
comp=Z,8.7nm,0.9s							
MTSU	**Mount Surprise**	**16.85**	**160**	P	**P**	**15 44 25.8**	**+1.1**
WB0	**Warramunga Arr**	**17.87**	**192**	P	**Pn**	**15 44 32.9**	**-2.6**
WR0	**Warramunga Arr**	**18.02**	**192**	P	**Pn**	**15 44 34.8**	**-2.7**
WB2	**Warramunga Arr**	**18.05**	**192**	P	**Pn**	**15 44 35.1**	**-2.6**
WB2				IAmb	IAmb	15 45 17.0	
comp=Z,5.5nm,0.8s							
WRA	**Warramunga Arr**	**18.05**	**192**	P	**Pn**	**15 44 35.0**	**-2.8**
WRA	**Warramunga Arr**	**18.05**	**192**	P	**Pn**	**15 44 35.6**	**-2.2**
comp=Z,1.0nm,0.3s,baz=17,slow=13,SNR=38							
WRA				S	Sn	15 47 45.4	-13
comp=Z,1.3nm,0.7s,baz=10,slow=22,SNR=2.9							
comp=Z,1.8nm,0.4s							
QIS	**Mount Isa**	**18.26**	**176**	P	**Pn**	**15 44 40.9**	**+0.5**
CTA	**Charters Tower**	**19.35**	**157**	P	**Pn**	**15 44 53.2**	**-0.3**
baz=344,slow=11,SNR=14							
comp=Z,0.4nm,0.7s							
CTAO	**Charters Tower**	**19.35**	**157**	P	**Pn**	**15 44 53.6**	**+0.1**
CTAO	**Charters Tower**	**19.35**	**157**	Pn	**Pn**	**15 44 53.7**	**+0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO				IAmb	IAmb	15 44 58.5	
comp=Z,5.9nm,0.8s							
FITZ	**Fitzroy Crossi**	**20.13**	**218**	P	**P**	**15 44 58.0**	**-2.7**
FITZ				IAmb	IAmb	15 45 04.2	
comp=Z,106nm,1.1s							
AS01	**Alice Springs**	**21.74**	**191**	P	**P**	**15 45 17.3**	**-0.9**
AS31	**Alice Springs**	**21.75**	**191**	P	**P**	**15 45 16.3**	**-1.9**
AS31				IAmb	IAmb	15 45 40.9	
comp=Z,2.8nm,0.7s							
ASAR	**Alice Springs**	**21.75**	**191**	P	**P**	**15 45 16.4**	**-1.9**
ASAR	**Alice Springs**	**21.75**	**191**	P	**P**	**15 45 17.2**	**-1.0**
comp=Z,3.0nm,0.4s,baz=12,slow=11,SNR=101							
ASAR				S	**S**	**15 49 12.8**	**-4.4**
comp=Z,5.3nm,0.7s,baz=12,slow=22,SNR=19							
comp=Z,3.0nm,0.4s							
WRKA	**Warakurna**	**24.68**	**202**	P	**P**	**15 45 47.3**	**-0.1**
INKA	**Innaminka**	**25.47**	**175**	P	**P**	**15 45 56.3**	**+1.8**
OOD	**Oodnadatta**	**25.56**	**186**	P	**P**	**15 45 56.3**	**+1.0**
EIDS	**Eidsvold**	**26.06**	**153**	P	**P**	**15 45 59.8**	**-0.1**
EIDS				IAmb	IAmb	15 46 03.6	
comp=Z,8.5nm,1.0s							
STKA	**Stephens Creek**	**29.65**	**174**	P	**P**	**15 46 32.1**	**+0.2**
STKA	**Stephens Creek**	**29.65**	**174**	P	**P**	**15 46 31.7**	**-0.3**
STKA	**Stephens Creek**	**29.65**	**174**	P	**P**	**15 46 31.6**	**-0.4**
comp=Z,2.1nm,0.8s,baz=2.3,slow=7.1,SNR=5.8							
comp=Z,2.1nm,0.8s							
CMSA	**Cobar Meteorol**	**29.96**	**167**	P	**P**	**15 46 36.0**	**+1.3**
CAN	**Canberra**	**34.38**	**165**	P	**P**	**15 47 14.7**	**+1.2**
PZH	**PanZhiHua**	**45.46**	**311**	P	**P**	**15 48 47.3**	**+1.6**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,170nm,8.8s							
HHC	**Hu-ho-hao-te**	**49.35**	**333**	*eP*	P	15 49 20.0	+4.3
HHC				pmax	pmax		
comp=Z,73nm,4.9s							
HHC				pmax	pmax		
comp=Z,14nm,0.6s							
LZH	**Lanzhou**	**49.90**	**323**	*eP*	**P**	**15 49 21.0**	**+0.9**
LZH				sP	sP	15 49 37.5	+2.4
LZH				pmax	pmax		
comp=Z,14nm,1.1s							
TUWZ	**Tuamarina**	**50.45**	**145**	P	**P**	**15 49 24.9**	**+1.0**
RTZ	**Ruatahuna**	**50.52**	**141**	P	**P**	**15 49 24.8**	**+0.1**
MK31	**Makanchi Array**	**69.21**	**322**	P	**P**	**15 51 33.2**	**+0.3**
MK31				IAmb	IAmb	15 51 40.7	
comp=Z,1.7nm,0.9s							
MKAR	**Makanchi Array**	**69.21**	**322**	P	**P**	**15 51 33.1**	**+0.2**
MKAR	**Makanchi Array**	**69.21**	**322**	P	**P**	**15 51 33.5**	**+0.6**
comp=Z,1.1nm,0.7s,baz=106,slow=7.7,SNR=12							
comp=Z,1.1nm,0.7s							
MAKZ	**Makanchi**	**69.41**	**322**	P	**P**	**15 51 33.8**	**-0.3**
MAKZ				IAmb	IAmb	15 51 41.1	
comp=Z,5.7nm,1.3s							
KSH	**Kashi**	**70.52**	**313**	P	**P**	**15 51 41.3**	**+0.1**
KSH				pmax	pmax		
comp=Z,2.0nm,0.5s							
ZALV	**Zalesovo Beam**	**71.36**	**330**	P	**P**	**15 51 45.4**	**-0.4**
DRK	**Karamyk**	**73.56**	**312**	P	**P**	**15 51 58.8**	**-0.9**
VNDA	**Vanda**	**76.29**	**175**	P	**P**	**15 52 14.6**	**+0.3**
VNDA				IAmb	IAmb	15 52 16.2	
comp=Z,1.2nm,1.0s							
VNDA	**Vanda**	**76.29**	**175**	P	**P**	**15 52 14.3**	**0.0**
comp=Z,0.4nm,0.7s,baz=314,slow=8.5,SNR=3.6							
comp=Z,0.4nm,0.7s							
BVAR	**Borovoye Array**	**78.73**	**325**	P	**P**	**15 52 28.8**	**+0.4**
comp=Z,1.3nm,0.5s,baz=98,slow=6.4,SNR=9.6							
comp=Z,1.3nm,0.5s							
BMAR	**Burnt Mountain**	**87.08**	**22**	P	**P**	**15 53 13.2**	**+1.8**
QSPA	**South Pole Qui**	**87.72**	**180**	P	**P**	**15 53 14.5**	**-0.1**
QSPA				IAmb	IAmb	15 53 21.9	
comp=Z,5.1nm,1.3s							
QSPA	**South Pole Qui**	**87.72**	**180**	P	**P**	**15 53 14.6**	**-0.1**
comp=Z,1.1nm,0.7s,baz=316,slow=0.4,SNR=8.7							
comp=Z,1.1nm,0.7s							
DBIC	**Dimbokro**	**143.10**	**278**	PKP	**PKiKP**	**16 00 01.6**	**-2.6**
comp=Z,7.6nm,1.2s,baz=74,slow=8.9,SNR=3.5							

*NEIC **29** 15:43:24.2±2.7, 36°.60N±0°.06×141°.8E±0°.1, h35km±2km, mb4.4/6, Error ellipse: s-maj=15.4km s-min=9.2km az=102.0*
*JMA **29** 15:43:25.9±0.3, 36°.6N±0°.7×14°.2E±°, h53km±4km, MV3.5/32, E OFF IBARAKI PREF*
*NIED **29** 15:43:25.9, 36°.59N×141°.55E, h53km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; M_{rr}=3.46; $M_{\theta\theta}$=0.74; $M_{\phi\phi}$=2.72; $M_{r\theta}$=0.08; $M_{\theta\phi}$=1.95; $M_{r\phi}$=2.04; Fault plane solution: M_0=4.24000×10^14 NP1: ϕ_s=197.00000°, δ=60.00000°, λ=-106.00000°. NP2: ϕ_s=47.00000°, δ=34.00000°, λ=-65.00000°.*
*IDC **29** 15:43:28.4±3.3, 36°.39N×141°.65E, h54km±30km, mb3.5/7, mbtmp3.8/11, ML3.4/4, MS3.0/3 Error ellipse: s-maj=27.0km s-min=13.4km az=69.0*
ISC 29 15:43:23.4±0.7, **36°.57N**±0°.05×**141°.75E**±0°.07, **h26**km, **n46,** σ1**°59**/43, **mb3.8**/11, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.93**	**305**	P	**Pb**	**15 43 40.9**	**0.0**
JHO	**Hitachi**	**0.95**	**273**	P	**Pn**	**15 43 40.7**	**-0.4**
JHYU	**Hitachinakayam**	**0.96**	**256**	P	**Pn**	**15 43 41.3**	**0.0**
JFK	**Kawauchi**	**1.06**	**319**	P	**Pn**	**15 43 42.7**	**+0.1**
JFFD	**Fukushimafurud**	**1.08**	**299**	P	**Pn**	**15 43 43.0**	**+0.1**
JMM	**Marumori**	**1.50**	**330**	Pn	**Pn**	**15 43 49.1**	**+0.5**
JMM	**Marumori**	**1.50**	**330**	*i P*	**Pn**	**15 43 49.2**	**+0.6**
JOTO	**OTAMA OYAMA**	**1.50**	**311**	*i P*	**Pb**	**15 43 50.3**	**-0.3**
JFY	**Yanaizu**	**1.83**	**298**	P	**Pb**	**15 43 55.1**	**-1.2**
JAG	**Ashikaga**	**1.85**	**266**	P	**Pn**	**15 43 54.2**	**+0.6**
JIO	**Ouri**	**1.90**	**351**	P	**Pn**	**15 43 54.7**	**+0.5**
JRY	**Ryogami san**	**2.37**	**257**	P	**Pn**	**15 44 01.2**	**+0.6**
JMK	**Ichinoseki**	**2.41**	**350**	P	**Pn**	**15 44 02.8**	**+1.6**
MJAR	**Matsushiro Arr**	**2.85**	**270**	P	**Pn**	**15 44 09.0**	**+1.8**
4.8nm,0.3s,baz=82,slow=9.7,SNR=268							
MJAR				S	**Sn**	**15 44 42.9**	**+2.1**
18nm,0.4s,baz=94,slow=16,SNR=5.1							
MJAR				LR	LR	15 45 27.5	
comp=Z,122nm,19.9s,baz=68,slow=43							
44nm,0.5s							
MAJO	**Matsushiro**	**2.85**	**270**		**Pn**	**15 44 08.9**	**+1.6**
MJB9	**Matsu-Tunnel**	**2.85**	**270**		**Pn**	**15 44 09.5**	**+2.2**
JSD	**Sado**	**3.14**	**299**	Pn	**Pn**	**15 44 11.7**	**+0.5**
JGF	**Kuroka**	**3.69**	**256**		**Pn**	**15 44 17.7**	**-1.1**
JHJ2	**Mitsune**	**3.80**	**205**	Pn	**Pn**	**15 44 20.2**	**-0.1**
JHJ	**Hachijo jima 2**	**3.81**	**206**	P	**Pn**	**15 44 21.4**	**+1.0**
24nm,0.3s,baz=56,slow=23,SNR=8.7							
JHJ				S	**Sn**	**15 45 03.8**	**-0.5**
61nm,0.3s,baz=54,slow=17,SNR=1.3							
126nm,0.9s							
INU	**Inuyama**	**4.03**	**254**		**Pn**	**15 44 23.5**	**+0.1**
JTM	**Tenmabayashi**	**4.24**	**353**	Pn	**Pn**	**15 44 26.2**	**-0.1**
ERM	**Erimo**	**5.54**	**11**	Pn	**Pn**	**15 44 44.4**	**+0.2**
ASAJ	**Asahikawa**	**7.56**	**5**	P	**Pn**	**15 45 13.8**	**+1.9**
1.2nm,0.4s,baz=191,slow=17,SNR=5.5							
ASAJ				S	**Sn**	**15 46 33.1**	**-3.6**
2.7nm,0.8s,baz=222,slow=22,SNR=1.9							
JKA	**Kamikawa-asahi**	**7.56**	**5**	Pn	**Pn**	**15 45 12.3**	**+0.4**
USRK	**Ussuriysk Ar.**	**10.64**	**319**	P	Pn	15 45 59.1	+5.0
0.3nm,0.3s,baz=196,slow=30,SNR=2.6							
3.1nm,0.6s							
KSRS	**Korea Array**	**11.09**	**279**	P	Pn	15 46 05.3	+5.0
0.1nm,0.3s,baz=96,slow=14,SNR=3.1							
KSRS				LR	LR	15 50 25.6	
comp=Z,54nm,19.2s,baz=205,slow=38							
0.8nm,0.6s							
TPUB	**Ta-pu**	**22.52**	**240**	P	**P**	**15 48 20.6**	**-0.6**
TPUB				IAmb	IAmb	15 48 31.9	
comp=Z,13nm,1.0s							
SONM	**Songino Array**	**28.27**	**305**	P	**P**	**15 49 17.2**	**+2.6**
comp=Z,0.7nm,0.6s,baz=99,slow=9.1,SNR=3.9							
comp=Z,0.7nm,0.6s							
H11S1	**WAKE ISLAND Hy**	**28.39**	**123**	T	T	16 18 25.5	
baz=313,slow=74							
H11S3	**WAKE ISLAND Hy**	**28.39**	**123**	T	T	16 18 24.4	
baz=313							
H11S2	**WAKE ISLAND Hy**	**28.40**	**123**	T	T	16 18 22.9	
baz=313,slow=74							
CHTO	**Chiang Mai**	**41.44**	**257**	P	**P**	**15 51 05.2**	**-2.8**
CHTO				IAmb	IAmb	15 51 24.9	
comp=Z,3.8nm,1.1s							
ZAA0	**Zalesovo Array**	**42.42**	**313**	P	**P**	**15 51 13.1**	**-2.6**
ZALV	**Zalesovo Beam**	**42.42**	**313**	P	**P**	**15 51 13.1**	**-2.6**
ZALV	**Zalesovo Beam**	**42.42**	**313**	P	**P**	**15 51 17.3**	**+1.7**
comp=Z,0.7nm,0.5s,baz=100,slow=8.1,SNR=1.8							
comp=Z,0.7nm,0.5s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**46.50**	**308**	P	**P**	**15 51 50.4**	**+2.1**
comp=Z,1.1nm,0.2s,baz=87,slow=8.1,SNR=1.6							
comp=Z,1.1nm,0.2s							
RC01	**Rabbit Creek A**	**48.56**	**37**	P	**P**	**15 52 02.5**	**-1.7**
WB0	**Warramunga Arr**	**56.46**	**188**	P	**P**	**15 53 00.8**	**-2.3**
WB0				IAmb	IAmb	15 53 38.6	
comp=Z,11nm,1.4s							
WB2	**Warramunga Arr**	**56.64**	**188**	P	**P**	**15 53 02.4**	**-2.0**
WB2				IAmb	IAmb	15 53 28.1	
comp=Z,8.2nm,1.3s							
WRA	**Warramunga Arr**	**56.64**	**188**	P	**P**	**15 53 03.8**	**-0.6**
comp=Z,0.4nm,0.4s,baz=7.2,slow=7.6,SNR=5.5							
comp=Z,0.4nm,0.4s							
ASAR	**Alice Springs**	**60.37**	**188**	P	**P**	**15 53 31.1**	**+0.8**
comp=Z,0.4nm,0.8s,baz=356,slow=5.5,SNR=4.7							
comp=Z,0.4nm,0.8s							
NOA	**NORSAR Array B**	**74.71**	**337**	LR	LR	16 31 26.7	
comp=Z,22nm,19.6s,baz=145,slow=38							
NVAR	**Mina Array Bea**	**75.05**	**53**	P	**P**	**15 55 06.2**	**+3.1**
comp=Z,0.6nm,0.8s,baz=286,slow=6.5,SNR=4.4							
comp=Z,0.6nm,0.8s							
TXAR	**Lajitas Array**	**90.19**	**53**	P	**P**	**15 56 23.3**	**+1.4**
comp=Z,0.2nm,0.7s,baz=299,slow=3.7,SNR=2.4							
comp=Z,0.2nm,0.7s							
LPAZ	**La Paz**	**146.69**	**61**	PKPbc	**PKPab**	**16 03 05.4**	**+0.2**
comp=Z,0.6nm,0.5s,baz=28,slow=13,SNR=4.5							

*IDC **29** 15:52:53.6±1.1, 31°.78S×57°.80E, h0km, mb4.1/9, mbtmp4.1/10, ML3.8/1, Error ellipse: s-maj=39.0km s-min=23.1km az=66.0*
*NEIC **29** 15:52:54.1±1.2, 31°.9S±0°.2×57°.7E±0°.2, h10km±2km, mb4.2/6, Error ellipse: s-maj=37.4km s-min=9.8km az=222.0*
ISC 29 15:52:54.4±0.8, **31°.7S**±0°.2×**57°.7E**±0°.1, **h10**km, **n32,** σ1**°07**/23, **mb4.2**/11, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**11.62**	**303**	Pn	**Pn**	**15 55 40.0**	**-0.3**
VOI	**Vohitsoka**	**13.81**	**312**	Pn	**Pn**	**15 56 09.5**	**-1.0**
H04N2	**CROZET ISLANDS**	**15.13**	**196**	T	T	16 11 53.8	
baz=20,slow=75,SNR=132							
H04N1	**CROZET ISLANDS**	**15.13**	**196**	T	T	16 11 54.9	
baz=20,slow=75,SNR=116							
H04N3	**CROZET ISLANDS**	**15.15**	**196**	T	T	16 11 53.8	
baz=20,slow=75,SNR=113							
ABPO	**Ambohimpanom**	**15.81**	**321**	Pn	**Pn**	**15 56 37.5**	**+0.2**
OPO	**Ambohidratompo**	**16.20**	**321**	Pn	**Pn**	**15 56 43.2**	**+0.9**
baz=196,slow=4.9,SNR=3.9							
OPO				Sn	Sn	15 59 30.4	-12
baz=102,slow=18,SNR=2.3							
2.7nm,0.7s							
H08S1	**Diego Carcia H**	**27.62**	**33**	T	T	16 27 35.1	
baz=207,slow=76,SNR=38							
H08S2	**Diego Garcia H**	**27.63**	**33**	T	T	16 27 34.1	
baz=207,slow=76,SNR=18							
H08S3	**Diego Garcia H**	**27.64**	**33**	T	T	16 27 39.2	
baz=207,slow=76,SNR=36							
H01W2	**Cape Leeuwin H**	**46.71**	**110**	T	T	16 51 13.0	
baz=257,slow=75,SNR=24							
H01W3	**Cape Leeuwin H**	**46.72**	**110**	T	T	16 51 13.4	
baz=257,slow=75,SNR=21							
H01W1	**Cape Leeuwin H**	**46.73**	**110**	T	T	16 51 12.8	
baz=257,slow=75,SNR=25							
QSPA	**South Pole Qui**	**58.44**	**180**	P	**P**	**16 02 50.8**	**+0.5**
0.9nm,0.8s,baz=121,slow=0.4,SNR=5.8							
0.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**63.65**	**44**	P	**P**	**16 03 25.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**63.65**	**44**	P	**P**	**16 03 27.0**	**+1.0**
1.7nm,0.9s,baz=229,slow=7.2,SNR=8.3							
1.7nm,0.9s							
ASAR	**Alice Springs**	**66.69**	**104**	P	**P**	**16 03 44.0**	**-1.9**
ASAR	**Alice Springs**	**66.69**	**104**	P	**P**	**16 03

comp=Z,0.2nm,0.6s,baz=351,slow=7.6,SNR=9.0
ASAR PcP **PcP** **16 09 08.7 -0.2**
comp=Z,0.3nm,0.6s,baz=331,slow=2.3,SNR=5.3
comp=Z,0.2nm,0.6s
PZH PanZhiHua 31.54 314 P **P** **16 06 24.3 +2.4**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,150nm,5.4s
KSRS Korea Array 31.85 2 LR LR 16 19 44.1
comp=Z,60nm,19.4s,baz=220,slow=37
MJAR Matsushiro Arr 32.73 18 P **P** **16 06 32.0 0.0**
comp=Z,0.9nm,0.8s,baz=186,slow=7.3,SNR=1.4
comp=Z,0.9nm,0.8s
MORW Morawa 35.79 196 P **P** **16 06 58.6 +0.1**
HHC Hu-ho-hao-te 37.67 341 *eP* **P** **16 07 17.8 +3.2**
HHC pmax pmax
comp=Z,46nm,3.8s
HHC pmax pmax
comp=Z,22nm,0.7s
USRK Ussuriysk Ar. 38.86 6 P **P** **16 07 24.8 +0.4**
comp=Z,1.1nm,0.7s,baz=169,slow=8.4,SNR=3.0
comp=Z,1.1nm,0.7s
USA0B Ussuriysk Arra 38.86 6 P **P** **16 07 23.0 -1.4**
USA0B IAmb IAmb 16 07 25.3
comp=Z,2.5nm,0.8s
STKA Stephens Creek 39.84 160 P **P** **16 07 31.7 -1.0**
comp=Z,3.2nm,1.0s,baz=332,slow=17,SNR=2.5
comp=Z,3.2nm,1.0s
JKA Kamikawa-asahi 41.00 18 P **P** **16 07 41.3 -0.8**
JKA IAmb IAmb 16 08 23.5
comp=Z,14nm,1.5s
SONM Songino Array 45.57 341 P **P** **16 08 19.5 +0.4**
comp=Z,0.3nm,0.4s,baz=144,slow=9.7,SNR=1.9
comp=Z,0.3nm,0.4s
MK31 Makanchi Array 55.99 325 P **P** **16 09 36.1 -1.3**
MK31 IAmb IAmb 16 09 41.2
comp=Z,2.2nm,0.8s
MKAR Makanchi Array 55.99 325 P **P** **16 09 36.5 -0.9**
MKAR Makanchi Array 55.99 325 P **P** **16 09 37.7 +0.3**
comp=Z,3.5nm,0.8s,baz=128,slow=7.9,SNR=19
MKAR PcP **PcP** **16 10 35.6 +0.6**
comp=Z,1.1nm,0.7s,baz=142,slow=3.0,SNR=6.0
comp=Z,3.5nm,0.8s
MAKZ Makanchi 56.18 325 P **P** **16 09 37.1 -1.6**
MAKZ IAmb IAmb 16 09 42.2
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 58.93 333 P **P** **16 09 58.7 +0.8**
comp=Z,1.4nm,0.6s,baz=126,slow=7.0,SNR=7.4
comp=Z,1.4nm,0.6s
KURBB Kurchatov Arra 60.15 327 P **P** **16 10 06.5 +0.2**
comp=Z,5.2nm,0.7s,baz=124,slow=6.5,SNR=27
comp=Z,5.2nm,0.7s
KURK Kurchatov 60.15 327 P **P** **16 10 05.5 -0.8**
KKAR Karatay Array 61.80 316 P **P** **16 10 16.7 -1.0**
BVAR Borovoye Array 65.73 327 P **P** **16 10 44.5 +1.2**
comp=Z,5.0nm,0.7s,baz=123,slow=7.8,SNR=24
comp=Z,5.0nm,0.7s
NRIK Noril'sk 68.68 346 P **P** **16 11 02.6 +0.9**
comp=Z,1.5nm,0.6s,baz=130,slow=11,SNR=2.8
comp=Z,1.5nm,0.6s
ABKAR Akbulak array 70.66 320 P **P** **16 11 14.0 -0.2**
KBZ Khabaz 81.61 313 P **P** **16 12 18.1 +1.6**
comp=Z,0.8nm,0.4s,baz=278,slow=19,SNR=1.9
comp=Z,0.8nm,0.4s
BRTR Keskin Array B 88.73 310 P **P** **16 12 52.3 -0.1**
comp=Z,0.3nm,0.5s,baz=94,slow=3.5,SNR=2.3
comp=Z,0.3nm,0.5s
ARCES ARCESS Array B 88.73 340 P **P** **16 12 53.0 +1.4**
comp=Z,0.8nm,0.6s,baz=80,slow=5.4,SNR=5.2
comp=Z,0.8nm,0.6s
FINES FINESS Array B 90.19 332 P **P** **16 12 58.3 -0.2**
FINES FINESS Array B 90.19 332 P **P** **16 12 59.0 +0.5**
comp=Z,1.0nm,0.6s,baz=51,slow=6.8,SNR=5.4
comp=Z,1.0nm,0.6s
TORD Torodi Ar. Bea 122.14 289 PKP **PKPdf** **16 18 54.8 +0.9**
comp=Z,0.4nm,0.7s,baz=94,slow=2.4,SNR=2.5

*IDC **29** 16:13:42.7±0.8,59°.87S×18°.11W,h0km,mb4.2/7,*
mbtmp4.3/8,ML4.8/1,MS3.7/23,Error ellipse:
s-maj=31.0km s-min=18.4km az=59.0
*NEIC **29** 16:13:44.9±2.4,60°.05S±0°.09×18°.5W±0°.3,h10km±1km,*
mb4.7/19,Error ellipse: s-maj=22.7km s-min=15.3km
az=82.0
ISC 29 16:13:45.6±0.5,60°.02S±0°.08×18°.40W±0°.10,h18km,n65,
σ1s08/40,mb4.5/17,MS3.7/22,6C-3D,East of South
Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**11.36**	**292**	Pn	**Pn**	**16 16 25.7**	**-1.1**
VNA1	**Neumayer--Stat**	**11.46**	**163**	⇑P	**Pn**	**16 16 28.2**	**+0.2**
	comp=Z,39nm,0.6s						
VNA1				⇑S	**Sn**	**16 18 32.1**	**-3.1**
	comp=Z,8.8nm,0.9s						
VNA3	**Neumayer Olymp**	**11.81**	**166**	⇑P	**Pn**	**16 16 31.9**	**-0.9**
	comp=Z,9.0nm,0.2s						
VNA3				⇓S	Sn	16 18 30.6	-13
	comp=Z,6.2nm,0.8s						
VNA2	**Neumayer--Watz**	**11.83**	**162**	⇑P	**Pn**	**16 16 32.6**	**-0.5**
	comp=Z,25nm,0.6s,baz=330,slow=15						
VNA2				⇓S	Sn	16 18 32.6	-12
	comp=Z,16nm,0.8s,baz=132,slow=14						
ORCD	**Orcadas**	**13.02**	**255**	Pn	Pn	16 16 38.9	-10
SNAA	**Sanae**	**13.25**	**158**		**Pn**	**16 16 50.9**	**-1.6**
SNAA	**Sanae**	**13.25**	**158**	⇑P	**Pn**	**16 16 52.7**	**+0.2**
	comp=Z,313nm,0.4s						
SNAA				⇓S	Sn	16 19 08.7	-10
	comp=Z,58nm,0.6s						
SNAA	**Sanae**	**13.25**	**158**	Pn	**Pn**	**16 16 52.5**	**0.0**
	comp=Z,4.4nm,0.3s,baz=332,slow=15,SNR=49						
SNAA				LR	LR	16 20 57.8	
	comp=Z,153nm,20.8s,baz=36,slow=33						
	comp=Z,50nm,0.9s						
TROLL	**Troll, Antarti**	**14.60**	**154**	⇑P	**Pn**	**16 17 12.5**	**+1.5**
	comp=Z,2μm,0.6s						
BELA	**Belgrano 2**	**18.71**	**191**	P	**P**	**16 18 02.6**	**0.0**
PMSA	**Palmer Station**	**21.29**	**238**	LR	LR	16 25 00.6	
	comp=Z,138nm,21.1s,baz=74,slow=32						
SMAI	**San Martin Ant**	**22.19**	**228**	P	**P**	**16 18 40.8**	**+0.5**
SMAI				IAmb	IAmb	16 18 59.3	
	comp=Z,30nm,1.2s						
QSPA	**South Pole Qui**	**30.22**	**180**	P	**P**	**16 19 55.0**	**+0.3**
QSPA				IAmb	IAmb	16 19 57.2	
	comp=Z,20nm,1.1s						
QSPA	**South Pole Qui**	**30.22**	**180**	P	**P**	**16 19 55.5**	**+0.7**
	comp=Z,12nm,1.0s,baz=206,slow=5.2,SNR=30						
	comp=Z,12nm,1.0s						
MAW	**Mawson**	**34.11**	**138**	P	**P**	**16 20 28.8**	**+0.2**
	comp=Z,7.1nm,1.2s,baz=216,slow=7.4,SNR=5.1						
MAW				LR	LR	16 32 45.7	
	comp=Z,106nm,18.9s,baz=278,slow=34						
	comp=Z,7.1nm,1.2s						
PLCA	**Paso Flores**	**37.23**	**277**	P	**P**	**16 20 57.1**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=158,slow=7.5,SNR=2.8						
PLCA				LR	LR	16 35 33.4	
	comp=Z,68nm,18.4s,baz=134,slow=35						
	comp=Z,1.6nm,0.7s						
SUR	**Sutherland**	**37.80**	**61**	LR	LR	16 32 55.5	
	comp=Z,299nm,18.7s,baz=192,slow=31						
BI02	**San Fabin de**	**40.73**	**281**	P	**P**	**16 21 25.2**	**+0.2**
H04S2	**CROZET ISLANDS**	**41.83**	**104**	T	T	17 06 45.9	
	baz=225,slow=74,SNR=129						
H04S3	**CROZET ISLANDS**	**41.83**	**104**	T	T	17 06 55.5	
	baz=225,slow=74,SNR=119						
H04S1	**CROZET ISLANDS**	**41.84**	**104**	T	T	17 06 53.5	
	baz=225,slow=74,SNR=82						
SBA	**Scott Base**	**42.34**	**182**	P	**P**	**16 21 40.0**	**+2.3**
SBA				IAmb	IAmb	16 21 41.4	
	comp=Z,12nm,1.1s						
VNDA	**Vanda**	**42.71**	**180**	P	**P**	**16 21 42.7**	**+1.9**
VNDA	**Vanda**	**42.71**	**180**	P	**P**	**16 21 42.6**	**+1.9**
	comp=Z,1.9nm,0.8s,baz=198,slow=7.2,SNR=13						
	comp=Z,1.9nm,0.8s						
MT09	**Talagante**	**42.89**	**284**	P	**P**	**16 21 42.6**	**-0.3**
MT09				IAmb	IAmb	16 21 48.9	
	comp=Z,37nm,1.5s						
CPUP	**Villa Florida**	**42.94**	**304**	P	**P**	**16 21 43.4**	**+0.3**
	comp=Z,2.4nm,1.0s,baz=90,slow=3.5,SNR=3.0						
CPUP				LR	LR	16 37 19.6	
	comp=Z,89nm,21.7s,baz=176,slow=33						
	comp=Z,2.4nm,1.0s						
BOSA	**Boshof**	**42.99**	**63**	LR	LR	16 35 58.5	
	comp=Z,145nm,18.9s,baz=187,slow=31						
VA03	**San Esteban**	**43.50**	**285**	P	**P**	**16 21 49.2**	**+1.4**
VA03				IAmb	IAmb	16 22 04.6	
	comp=Z,11nm,1.1s						
CO01	**Juntas del Tor**	**45.57**	**288**	P	**P**	**16 22 05.7**	**+1.2**
CO01				IAmb	IAmb	16 22 13.3	
	comp=Z,23nm,1.4s						
LBTB	**Lobatse**	**46.26**	**61**	P	**P**	**16 22 09.8**	**+0.1**
LBTB				IAmb	IAmb	16 22 19.1	
	comp=Z,6.6nm,1.1s						
LBTB	**Lobatse**	**46.26**	**61**	LR	LR	16 37 55.0	
	comp=Z,242nm,18.8s,baz=164,slow=32						
AC05	**El Transito**	**46.61**	**288**	P	**P**	**16 22 13.1**	**+0.5**
AC06	**Mina Casimiro**	**47.89**	**289**	P	**P**	**16 22 21.9**	**-0.6**
TSUM	**Tsumeb**	**48.18**	**48**	LR	LR	16 38 19.8	
	comp=Z,111nm,20.4s,baz=175,slow=31						
CASY	**Casey**	**48.46**	**155**	P	**P**	**16 22 27.7**	**+1.5**
CASY				IAmb	IAmb	16 22 29.1	
	comp=Z,8.9nm,1.1s						
BDFB	**Brasilia**	**49.28**	**321**	LR	LR	16 41 37.1	
	comp=Z,78nm,18.9s,baz=145,slow=34						
GO02	**Mina Guanaco**	**49.39**	**292**	P	**P**	**16 22 35.2**	**+0.8**
H10S2	**ASCENSION HYDR**	**51.03**	**5**	T	T	17 18 08.9	
	baz=183,slow=74,SNR=10.0						
H10S3	**ASCENSION HYDR**	**51.04**	**5**	T	T	17 18 12.9	
	baz=37,slow=74,SNR=12						
LVC	**Limon Verde**	**51.27**	**294**	LR	LR	16 46 26.1	
	comp=Z,76nm,19.0s,baz=192,slow=38						
H10N1	**ASCENSION HYDR**	**52.14**	**5**	T	T	17 19 35.7	
	baz=180						
H10N3	**ASCENSION HYDR**	**52.15**	**5**	T	T	17 19 27.8	
	baz=180						
H10N2	**ASCENSION HYDR**	**52.16**	**5**	T	T	17 19 28.5	
	baz=180						
LSZ	**Lusaka**	**55.98**	**58**	P	**P**	**16 23 22.9**	**0.0**
LSZ				IAmb	IAmb	16 23 26.4	
	comp=Z,5.7nm,1.0s						
LPAZ	**La Paz**	**56.44**	**298**	P	**P**	**16 23 26.9**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=137,slow=6.8,SNR=4.0						
LPAZ				LR	LR	16 47 35.2	
	comp=Z,28nm,19.7s,baz=107,slow=36						
	comp=Z,0.6nm,0.4s						
SAML	**Samuel**	**60.94**	**307**	P	**P**	**16 23 57.3**	**0.0**
SAML				IAmb	IAmb	16 24 04.3	
	comp=Z,6.0nm,1.2s						
NNA	**Nana**	**64.18**	**292**	LR	LR	16 50 04.9	
	comp=Z,65nm,21.9s,baz=183,slow=34						
RPN	**Rapa Nui**	**67.36**	**255**	LR	LR	16 45 58.4	
	comp=Z,72nm,18.6s,baz=216,slow=29						
ATAH	**Atahualpa**	**69.15**	**293**	LR	LR	16 54 20.6	
	comp=Z,37nm,21.0s,baz=161,slow=35						
MDP	**Montagnes des**	**70.30**	**323**	LR	LR	16 52 56.8	
	comp=Z,44nm,19.8s,baz=177,slow=34						
TOA0	**Torodi Ar. Sit**	**74.69**	**20**	P	**P**	**16 25 23.5**	**-0.3**
TOA0				IAmb	IAmb	16 25 34.3	
	comp=Z,5.5nm,1.2s						
TORD	**Torodi Ar. Bea**	**74.69**	**20**	P	**P**	**16 25 23.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**74.69**	**20**	P	**P**	**16 25 23.3**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=175,slow=4.4,SNR=6.4						
TORD				LR	LR	16 50 49.0	
	comp=Z,49nm,20.3s,baz=138,slow=30						
	comp=Z,1.5nm,0.9s						
MSWZ	**Moikau Station**	**78.30**	**190**	P	**P**	**16 25 43.0**	**-1.1**
SDV	**Santo Domingo**	**80.14**	**308**	LR	LR	17 02 11.0	
	comp=Z,36nm,20.6s,baz=78,slow=36						
ATD	**Arta Tunnel**	**86.27**	**59**	LR	LR	17 02 33.1	
	comp=Z,5.4nm,19.5s,baz=248,slow=34						
STKA	**Stephens Creek**	**86.96**	**163**	LR	LR	17 05 34.2	
	comp=Z,172nm,18.0s,baz=235,slow=36						
SOCE	**Pocosol**	**87.46**	**296**	P	**P**	**16 26 31.2**	**-0.6**
SOCE				IAmb	IAmb	16 27 00.4	
	comp=Z,23nm,1.2s						
PPT	**Papeete**	**93.21**	**226**	LR	LR	16 59 47.1	
	comp=Z,35nm,18.7s,baz=182,slow=30						
KEST	**Kesra**	**98.11**	**22**	LR	LR	17 06 32.8	
	comp=Z,46nm,18.1s,baz=240,slow=32						
CTA	**Charters Tower**	**99.20**	**165**	LR	LR	17 12 01.1	
	comp=Z,13nm,18.4s,baz=293,slow=35						
SONM	**Songino Array**	**146.31**	**86**	PKPbc	**PKPbc**	**16 33 23.0**	**-1.2**
	comp=Z,4.8nm,0.9s,baz=225,slow=3.3,SNR=23						
DLBC	**Dease Lake**	**146.39**	**298**	PKPbc	**PKPbc**	**16 33 23.4**	**-0.5**
	comp=Z,6.8nm,1.0s,baz=123,slow=0.9,SNR=7.0						
MJAR	**Matsushiro Arr**	**152.11**	**137**	PKPbc	**PKPbc**	**16 33 38.3**	**-0.8**
	comp=Z,2.8nm,1.1s,baz=202,slow=4.1,SNR=5.9						
ILAR	**Eielson Array**	**156.24**	**304**	PKPab	**PKPab**	**16 34 04.8**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=89,slow=3.1,SNR=6.3						

*IDC **29** 16:15:43.4±0.8,9°.32S×159°.28E,h0km,mb4.0/15,*
mbtmp4.0/16,ML2.6/2,MS3.5/7,Error ellipse:
s-maj=29.9km s-min=16.9km az=94.0
*NEIC **29** 16:15:46.8±1.2,9°.34S±0°.07×159°.38E±0°.04,h19km±5km,*
mb4.4/21,Error ellipse: s-maj=10.8km s-min=4.9km
az=203.0
ISC 29 16:15:47.2±0.5,9°.35S±0°.08×159°.38E±0°.06,h26km,n50,
σ0s86/49,mb4.2/25,MS3.6/6,Bougainville-Solomon
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.57**	**98**	Pg	**Pb**	**16 15 58.1**	**-0.4**
HNR				Sg	**Sb**	**16 16 05.6**	**-0.7**
PMG	**Port Moresby**	**12.06**	**269**	Pn	**Pn**	**16 18 37.6**	**+0.1**
PMG	**Port Moresby**	**12.06**	**269**	LR	LR	16 23 04.8	
	comp=Z,414nm,18.1s,baz=145,slow=37						
DZM	**Mont Dzumac**	**14.35**	**153**	Pn	**Pn**	**16 19 08.2**	**-0.8**
DZM	**Mont Dzumac**	**14.35**	**153**	Pn	**Pn**	**16 19 10.1**	**+1.2**
	0.1nm,0.3s,baz=105,slow=22,SNR=1.5						
	2.6nm,0.8s						
CTA	**Charters Tower**	**16.57**	**228**	Pn	**Pn**	**16 19 36.9**	**-1.1**
	baz=278,slow=15,SNR=1.6						
CTAO	**Charters Tower**	**16.57**	**228**	P	**P**	**16 19 40.6**	**+0.3**
EIDS	**Eidsvold**	**17.78**	**205**		**Pn**	**16 19 52.5**	**-0.4**
WR0	**Warramunga Arr**	**26.20**	**243**	P	**P**	**16 21 19.4**	**-0.7**
WR0				IAmb	IAmb	16 21 25.0	
	comp=Z,7.5nm,0.9s						
WB0	**Warramunga Arr**	**26.27**	**244**	P	**P**	**16 21 20.1**	**-0.6**
WB0				IAmb	IAmb	16 21 29.5	
	comp=Z,10nm,1.2s						
WB2	**Warramunga Arr**	**26.36**	**244**	P	**P**	**16 21 21.1**	**-0.5**
WB2				IAmb	IAmb	16 21 39.7	
	comp=Z,7.9nm,1.1s						
WRA	**Warramunga Arr**	**26.38**	**244**	P	**P**	**16 21 21.0**	**-0.7**
	comp=Z,3.2nm,1.0s,baz=71,slow=9.2,SNR=17						
WRA				PcP	**PcP**	**16 24 47.5**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=74,slow=2.8,SNR=6.1						
	comp=Z,3.2nm,1.0s						
STKA	**Stephens Creek**	**27.83**	**214**	P	**P**	**16 21 34.8**	**+0.2**
STKA	**Stephens Creek**	**27.83**	**214**	P	**P**	**16 21 34.3**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=160,slow=18,SNR=1.6						
	comp=Z,1.9nm,0.9s						
AS31	**Alice Springs**	**28.20**	**237**	P	**P**	**16 21 36.4**	**-1.7**
ASAR	**Alice Springs**	**28.20**	**237**	P	**P**	**16 21 36.3**	**-1.8**
ASAR	**Alice Springs**	**28.20**	**237**	P	**P**	**16 21 36.5**	**-1.5**
	comp=Z,1.4nm,1.0s,baz=64,slow=9.6,SNR=14						
ASAR				PcP	**PcP**	**16 24 51.7**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=75,slow=2.3,SNR=3.2						
ASAR				LR	LR	16 32 29.2	
	comp=Z,148nm,18.3s,baz=316,slow=36						
	comp=Z,1.4nm,1.0s						
KNRA	**Kununurra**	**30.52**	**255**	P	**P**	**16 21 57.4**	**-1.3**
KNRA				IAmb	IAmb	16 22 33.4	
	comp=Z,5.1nm,1.0s						
BBOO	**Buckleboo**	**31.76**	**219**	P	**P**	**16 22 09.6**	**+0.2**
URZ	**Urewera**	**32.91**	**154**	LR	LR	16 33 11.1	
	comp=Z,142nm,21.5s,baz=30,slow=32						
FITZ	**Fitzroy Crossi**	**33.86**	**251**	P	**P**	**16 22 26.7**	**-1.2**
PLWZ	**Palliser**	**35.02**	**159**	P	**P**	**16 22 38.0**	**+0.2**
JCJ	**Chichijima**	**39.89**	**336**	LR	LR	16 36 57.1	
	comp=Z,27nm,21.8s,baz=114,slow=32						
RAR	**Rarotonga**	**41.01**	**112**	LR	LR	16 36 29.6	
	comp=Z,113nm,21.6s,baz=278,slow=30						
MJAR	**Matsushiro Arr**	**49.80**	**338**	P	**P**	**16 24 36.8**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=148,slow=7.8,SNR=2.2						
MJAR				LR	LR	16 42 42.4	
	comp=Z,58nm,21.7s,baz=220,slow=32						
	comp=Z,0.8nm,0.7s						
KSRS	**Korea Array**	**55.10**	**330**	P	**P**	**16 25 17.6**	**+0.5**
	comp=Z,1.6nm,1.0s,baz=150,slow=8.0,SNR=3.0						
KSRS				LR	LR	16 47 41.3	
	comp=Z,24nm,19.9s,baz=215,slow=35						
	comp=Z,1.6nm,1.0s						
USRK	**Ussuriysk Ar.**	**58.80**	**337**	P	**P**	**16 25 43.6**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=156,slow=7.3,SNR=4.9						
	comp=Z,2.2nm,0.9s						
PET	**Petropavlovsk**	**62.13**	**360**	P	**P**	**16 26 06.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**65.71**	**295**	P	**P**	**16 26 30.6**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=122,slow=4.6,SNR=7.0						
	comp=Z,1.1nm,0.8s						
VNDA	**Vanda**	**68.16**	**179**	P	**P**	**16 26 46.0**	**+1.4**
VNDA				IAmb	IAmb	16 26 54.8	
	comp=Z,2.5nm,0.8s						
VNDA	**Vanda**	**68.16**	**179**	P	**P**	**16 26 45.8**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=329,slow=5.1,SNR=8.6						
	comp=Z,1.2nm,0.8s						
SONM	**Songino Array**	**73.68**	**326**	P	**P**	**16 27 20.0**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=132,slow=4.2,SNR=4.3						
	comp=Z,0.9nm,0.8s						
PLK4	**Peulik 4**	**75.87**	**23**	P	**P**	**16 27 31.7**	**+0.4**
QSPA	**South Pole Qui**	**80.64**	**180**	P	**P**	**16 27 58.0**	**+0.4**
	comp=Z,1.6nm,1.1s,baz=31,slow=6.2,SNR=3.1						
	comp=Z,1.6nm,1.1s						
RND	**Reindeer**	**82.49**	**21**	P	**P**	**16 28 08.0**	**+0.7**
RND				IAmb	IAmb	16 28 17.8	
	comp=Z,8.9nm,1.4s						
IMAR	**Indian Mountai**	**82.60**	**18**	P	**P**	**16 28 08.6**	**+0.9**
G21K	**Allakaket**	**83.04**	**17**	P	**P**	**16 28 11.2**	**+1.2**
G21K				IAmb	IAmb	16 28 35.9	
	comp=Z,1.4nm,0.9s						
CCB	**Clear Creek Bu**	**83.62**	**20**	P	**P**	**16 28 12.9**	**-0.1**
H23K	**Yukon River**	**83.79**	**19**	P	**P**	**16 28 15.1**	**+1.2**
H23K				IAmb	IAmb	16 28 16.1	
	comp=Z,2.1nm,0.9s						
ILAR	**Eielson Array**	**84.01**	**20**	P	**P**	**16 28 14.8**	**-0.2**
	comp=Z,1.0nm,1.0s,baz=246,slow=4.5,SNR=7.4						
	comp=Z,1.0nm,1.0s						
J25K	**Salcha River,**	**84.44**	**21**	P	**P**	**16 28 17.8**	**+0.5**
J25K				IAmb	IAmb	16 28 18.9	
	comp=Z,6.4nm,1.4s						
D22K	**Ayikyak River**	**84.89**	**16**	P	**P**	**16 28 20.3**	**+0.9**
D22K				IAmb	IAmb	16 28 30.8	
	comp=Z,3.8nm,0.9s						
KSXB	**Camp Six Broad**	**86.45**	**47**	P	**P**	**16 28 27.5**	**-0.4**
MK31	**Makanchi Array**	**88.04**	**318**	P	**P**	**16 28 35.0**	**-0.3**
MK31				IAmb	IAmb	16 28 35.9	
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**88.04**	**318**	P	**P**	**16 28 35.1**	**-0.3**
MKAR	**Makanchi Array**	**88.04**	**318**	P	**P**	**16 28 35.2**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=99,slow=6.0,SNR=19						
	comp=Z,1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**88.56**	**325**	P	**P**	**16 28 36.3**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=101,slow=3.0,SNR=2.4						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**91.40**	**321**	P	**P**	**16 28 50.2**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=106,slow=3.7,SNR=4.1						
	comp=Z,0.5nm,0.9s						
BVAR	**Borovoye Array**	**96.79**	**323**	P	**P**	**16 29 14.4**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=114,slow=3.6,SNR=4.7						
	comp=Z,0.6nm,0.7s						
ESDC	**Sonseca Array**	**146.34**	**336**	PKPbc	**PKPbc**	**16 35 25.5**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=54,slow=2.2,SNR=2.5						

RSNC 29 16:40:41.3±0.0,7°N±1°×7°3W±°,h143km±3km,M3.6,mb4.1,
mB4.5,ML3.3,Mw(mB)3.7,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.63**	**37**	P	Pn	16 41 03.0	-0.2
PAMC				S	Sn	16 41 19.8	0.0
RUSC	**La Rusia**	**0.93**	**180**	P	Pn	16 41 03.9	-1.5
RUSC				S	Sn	16 41 22.1	-1.6
TAMC	**Tame, Arauca**	**1.34**	**107**	P	Pn	16 41 08.5	-0.2
TAMC				S	Sn	16 41 28.3	-1.3
PTBC	**PUERTO BERRIO,**	**1.40**	**258**	P	Pn	16 41 06.5	-2.8
PTBC				S	Sn	16 41 27.5	-3.1
OCAC	**Ocana**	**1.42**	**350**	P	Pn	16 41 08.5	-1.2
OCAC				S	Sn	16 41 29.8	-1.6
SPBC	**San Pablo de B**	**1.53**	**220**	P	Pn	16 41 09.0	-1.8
SPBC				S	Sn	16 41 31.1	-2.2
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	P	Pn	16 41 13.1	-1.6
ZARC				S	Sn	16 41 38.9	-1.3
NORC	**Norcasia**	**2.18**	**235**	P	Pn	16 41 15.8	-2.4
NORC				S	Sn	16 41 44.6	-2.0
CHIC	**Chingaza**	**2.28**	**197**	P	Pn	16 41 18.2	-1.6
CHIC				S	Sn	16 41 47.1	-2.3
ROSC	**El Rosal**	**2.33**	**212**	P	Pn	16 41 19.8	-0.6
ROSC				S	Sn	16 41 52.6	+2.2
CVER	**Cruz Verde, Cu**	**2.50**	**203**	P	Pn	16 41 21.6	-1.0
CVER				S	Sn	16 41 53.7	-0.5
UREC	**San Jos de Ur**	**2.60**	**291**	P	Pn	16 41 20.5	-2.9
UREC				S	Sn	16 41 52.4	-3.4
VILC	**Villavicencio,**	**2.77**	**193**	P	Pn	16 41 24.2	-1.4
VILC				S	Sn	16 41 57.0	-2.8
GUY2C	**Guyana, Caldas**	**2.78**	**235**	P	Pn	16 41 24.4	-1.6
GUY2C				S	Sn	16 41 59.1	-1.3
PTGC	**Puerto Gaitan,**	**2.78**	**160**	P	Pn	16 41 23.4	-2.2
PTGC				S	Sn	16 41 56.0	-3.8
RECRC	**Villamaria, Ca**	**2.93**	**231**	P	Pn	16 41 29.5	+1.5
RECRC				S	Sn	16 42 03.7	-0.2
CBOC	**Ciudad Bolivar**	**3.07**	**252**	P	Pn	16 41 28.3	-1.1
CBOC				S	Sn	16 42 05.2	-1.4
DBBC	**Dabeiba**	**3.11**	**274**	P	Pn	16 41 28.1	-1.8
DBBC				S	Sn	16 42 04.2	-3.3
SDV	**Santo Domingo**	**3.17**	**50**	P	Pn	16 41 30.4	-0.4
SDV				S	Sn	16 42 07.8	-1.2
ARGC	**Ariguani, Magd**	**3.22**	**339**	P	Pn	16 41 31.6	+0.3
ARGC				S	Sn	16 42 09.7	-0.3
ANIL	**Santa Ana**	**3.28**	**225**	P	Pn	16 41 31.3	-1.0
ANIL				S	Sn	16 42 10.5	-1.2
**

MNGA	Volcan de Coli	1.77	308	eP	Pn	17 06 16.9	+1.3
CDAR	Ciudad de Arme	1.86	288	eP	Pn	17 06 16.6	0.0
CEGR	Campo Tres	1.91	302	eP	Pn	17 06 18.1	+0.6
MEIG	Mezcala	2.44	100	eP	Pn	17 06 25.2	+0.6
PLIG	Platanillo	2.50	89	eP	Pn	17 06 26.1	+0.6
DAIG	Los Arroyos	2.73	119	eP	Pn	17 06 28.4	-0.1
JRQG	Juriquilla Cam	2.81	34	eP	Pn	17 06 39.0	+9.1
YAIG	Yautepec	2.95	80	eP	Pn	17 06 32.5	+0.8
PPM	Popocatepetl	3.39	78	eP	Pn	17 06 39.7	+1.6
MGIG	Malinaltepec	3.53	108	eP	Pn	17 06 41.1	+1.4
AAIG	Aguscalientes	3.58	356	eP	Pn	17 06 41.4	+1.1
FTIG	Fresnillo de T	3.83	96	eP	Pn	17 06 45.2	+1.3
TXIG	Tlaxiaco	4.31	104	eP	Pn	17 06 52.4	+1.9
YOIG	Yosondua	4.63	108	eP	Pn	17 06 56.8	+1.9
TOIG	Toxpalan	4.83	93	eP	Pn	17 06 58.8	+1.3
CMIG	Matias Romero	7.03	99	LR	LR	17 10 27.9	
	comp=Z,71nm,21.4s,baz=13,slow=40						
TXAR	Lajitas Array	10.99	353	P	Pn	17 08 24.0	+2.2
	1.2nm,0.9s,baz=166,slow=14,SNR=11						
TXAR				LR	LR	17 13 08.7	
	comp=Z,69nm,20.2s,baz=144,slow=42						
ANMO	Albuquerque	16.94	348	LR	LR	17 16 43.0	
	comp=Z,52nm,19.5s,baz=286,slow=40						
NVAR	Mina Array Bea	24.45	328	P	P	17 11 02.0	+0.6
	1.5nm,0.8s,baz=149,slow=11,SNR=9.6						
	1.5nm,0.8s						
PDAR	Pinedale Array	25.11	347	P	P	17 11 05.3	-2.0
	0.6nm,0.7s,baz=155,slow=11,SNR=6.1						
	0.6nm,0.7s						
YKA	Yellowknife Ar	44.92	352	P	P	17 13 53.6	-2.9
	0.7nm,0.7s,baz=166,slow=8.2,SNR=4.2						
	0.7nm,0.7s						
SCHQ	Schefferville	45.25	28	LR	LR	17 34 30.8	
	comp=Z,39nm,19.0s,baz=256,slow=39						
ILAR	Eielson Array	55.09	338	P	P	17 15 11.8	-1.8
	0.8nm,0.8s,baz=139,slow=5.2,SNR=12						
ILAR				PcP	PcP	17 16 13.7	-0.8
	0.3nm,0.5s,baz=135,slow=1.9,SNR=7.4						
	0.8nm,0.8s						

*CATAC **29** 17:06:14.2±0.3, 15°.75N×88°.86W, h2km±3km, ML3.8*
*SNET **29** 17:06:14.4±1.7, 15°.74N×88°.87W, h1km±8km, ML3.5*
ISC 29 17:06:12.7±1.0, 15°.70N±0°.03×88°.86W±0°.03, h16km±12km, n31, σ0°91/51, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZABA	Izabal, Puerto	0.27	84	i P	Pg	17 06 18.3	-0.2
IZABA				i S	Sg	17 06 24.0	+1.5
IZABA				IAML		17 06 25.4	
	comp=Z,100nm,1.0s						
MTO3	Montecristo	1.38	201	i P	Pb	17 06 38.7	+0.3
MTO3				IAML		17 07 01.1	
	comp=Z,1μm,1.0s						
LLGN	La Laguna	1.53	183	i P	Pb	17 06 41.3	+0.5
LLGN				i S	Sg	17 07 02.0	-0.2
LLGN				IAML		17 07 04.5	
	comp=Z,1μm,1.0s						
PETF	Flores	1.55	321	eP	Pg	17 06 42.0	-0.6
PETF	Flores	1.55	321	i P	Pg	17 06 41.8	-0.7
PETF				i S	Sg	17 07 02.8	+0.2
PETF				IAML		17 07 08.5	
	comp=Z,4μm,1.0s						
INTHN	La Esperanza I	1.56	152	i P	Pg	17 06 42.8	0.0
INTHN				i S	Sg	17 07 03.7	+0.5
MARCA	Marcala la Paz	1.73	152	i P	Pg	17 06 44.8	-1.2
MARCA				i S	Sg	17 07 08.1	-0.4
UNIC	Universidad Ca	1.83	201	i P	Pb	17 06 46.1	+0.1
UNIC				i S	Sg	17 07 11.4	-0.5
UNIC				IAML		17 07 14.3	
	comp=Z,340nm,1.0s						
QUEZ	Alcaldia de Qu	1.90	192	i S	Sg	17 07 14.0	+0.1
CEDA	San Andres	1.96	195	eS	Sg	17 07 16.2	+0.5
GCG4	OSOP	1.96	236	i P	Pb	17 06 49.2	+1.1
GCG4				IAML		17 07 18.3	
	comp=Z,2μm,1.0s						
SCLA	Alcaldia de Sa	1.99	176	eP	Pb	17 06 49.3	+0.7
SCLA				eS	Sg	17 07 17.0	+0.1
SCLA	Alcaldia de Sa	1.99	176	i P	Pb	17 06 48.9	+0.2
SCLA				i S	Sg	17 07 16.2	-0.7
SCLA				IAML		17 07 34.8	
	comp=Z,530nm,1.0s						
NUBE	Las Nubes	2.00	207	eP	Pb	17 06 49.2	+0.4
NUBE	Las Nubes	2.00	207	i P	Pb	17 06 49.0	+0.2
NUBE				i S	Sg	17 07 16.2	-0.9
NUBE				IAML		17 07 23.3	
	comp=Z,440nm,1.0s						
CEVE	Cerro Verde	2.00	202	eP	Pg	17 06 50.3	-0.9
CEVE				eS	Sg	17 07 18.3	+1.0
CAHU	Cacacuatique	2.02	162	eP	Pg	17 06 51.0	-0.5
PMON	Piamonte	2.03	193	i P	Pb	17 06 50.3	+1.0
PMON				IAML		17 07 26.5	
	comp=Z,750nm,1.0s						
LOMA	Loma Larga	2.07	188	i P	Pb	17 06 50.1	+0.1
LOMA				i S	Sg	17 07 18.7	-0.6
LOMA				IAML		17 07 26.8	
	comp=Z,240nm,1.0s						
COEG	Centro de Oper	2.07	181	i P	Pb	17 06 50.6	+0.6
COEG				i S	Sg	17 07 19.0	-0.4
COEG				IAML		17 07 26.3	
	comp=Z,500nm,1.0s						
PQSS	Presa 15 de Se	2.09	172	eS	Sg	17 07 19.3	-0.6
PQSS	Presa 15 de Se	2.09	172	i P	Pb	17 06 50.2	0.0
PQSS				i S	Sg	17 07 18.7	-1.2
PQSS				IAML		17 07 23.0	
	comp=Z,410nm,1.0s						
JAYA	Jayaque - finc	2.11	196	eP	Pb	17 06 51.1	+0.3
JAYA				eS	Sg	17 07 21.2	+0.4
JAYA				IAML		17 07 22.9	
	comp=Z,347nm,0.2s						
JAYA	Jayaque - finc	2.11	196	i P	Pb	17 06 50.8	0.0
JAYA				i S	Sg	17 07 20.3	-0.5
JAYA				IAML		17 07 22.7	
	comp=Z,810nm,1.0s						
TECO	Alcaldia de Te	2.15	178	i P	Pb	17 06 51.3	-0.1
TECO				IAML		17 06 54.9	
	comp=Z,180nm,1.0s						
TECO				i S	Sb	17 07 20.3	+2.4
QUIS	Sacapulas	2.19	260	i P	Pb	17 06 50.8	-1.3
QUIS				IAML		17 07 00.2	
	comp=Z,920nm,1.0s						
TGUH	Tegucigalpa,Un	2.24	137	i P	Pb	17 06 52.9	-0.1
TGUH				i S	Sg	17 07 22.5	-2.4
TGUH				IAML		17 07 36.7	
	comp=Z,680nm,1.0s						
LALI	Alcalda de L	2.25	192	i P	Pb	17 06 52.5	-0.4
LALI				IAML		17 07 05.3	
	comp=Z,120nm,1.0s						
LALI				i S	Sg	17 07 23.6	-1.4
PACA	Pacayal	2.28	167	i P	Pb	17 06 54.1	+0.5
PACA				i S	Sg	17 07 24.3	-1.8
PACA				IAML		17 07 33.1	
	comp=Z,3μm,1.0s						
BLLM	Bellamira	2.33	165	eP	Pb	17 06 55.3	+1.0
YUSH	Yuscaran	2.61	131	i P	Pb	17 06 57.9	-1.4
YUSH				i S	Sb	17 07 32.5	+1.3

*NOU **29** 17:15:23.5, 39°.04S×174°.71E, h234km, MLv3.5/12, North Island, New Zealand*
*WEL **29** 17:15:28.2±1.1, 39°S±23°×17°5E±°, h192km±9km, M2.4/8, ML2.6/8, MLv2.4/8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.3, confirmed*
ISC 29 17:15:22.7±1.8, 39°.07S±0°.07×174°.74E±0°.06, h233km±10km, n124, σ1°46/129, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHEZ	Mangahewa	0.32	269	P	Pn	17 15 54.9	+1.8
MHEZ				S	S	17 16 16.7	-0.2
DREZ	Durham Road	0.43	254	P	Pn	17 15 55.0	+1.6
LREZ	Lake Rotokare	0.47	214	P	Pn	17 15 55.0	+1.6
LREZ				S	S	17 16 17.5	-0.1
PREZ	Palmer Road	0.52	239	P	Pn	17 15 55.5	+1.8
NEZ	North Egmont	0.54	248	P	Pn	17 15 55.5	+1.7
TWVZ	Taurewa	0.55	90	P	Pn	17 16 00.8	+7.0
HIZ	Hauiti	0.57	9	P	Pn	17 15 54.7	+0.9
HIZ	Hauiti	0.57	9	P	Pn	17 15 54.7	+0.9
PKE	Pukeiti	0.60	258	P	Pn	17 15 55.6	+1.6
KHEZ	Kahui Hut	0.60	248	P	Pn	17 15 56.0	+2.0
KHEZ	Kahui Hut	0.60	248	P	Pn	17 15 55.8	+1.8
COVZ	Chateau Observ	0.64	102	P	Pn	17 15 55.5	+1.3
COVZ				S	S	17 16 16.3	-2.5
MTVZ	Mangateitei	0.65	119	P	Pn	17 15 55.5	+1.3
FWVZ	Far West T-bar	0.66	106	P	Pn	17 15 55.6	+1.2
WTVZ	West Tongariro	0.66	94	P	Pn	17 15 55.5	+1.2
TRVZ	Turoa	0.67	110	P	Pn	17 15 55.7	+1.3
TRVZ				S	S	17 16 16.8	-2.5
MAVZ	Matarangi	0.67	107	P	Pn	17 15 55.7	+1.2
MAVZ				S	S	17 16 16.5	-2.9
NGZ	Ngauruhoe	0.68	99	P	Pn	17 15 55.8	+1.4
WHVZ	Whangaehu Hut	0.69	108	P	Pn	17 15 55.9	+1.3
NBEZ	Newall Road No	0.70	254	P	Pn	17 15 56.2	+1.9
WAZ	Wanganui	0.71	164	P	Pn	17 15 56.1	+1.7
WAZ				S	S	17 16 17.7	-1.6
SNVZ	South Ngauruho	0.71	99	P	Pn	17 15 56.0	+1.5
WNVZ	Wahianoa	0.71	111	P	Pn	17 15 56.0	+1.4
WNVZ				S	S	17 16 16.8	-2.7
OTVZ	Oturere	0.73	97	P	Pn	17 15 56.2	+1.6
NMEZ	Namu Road	0.75	243	P	Pn	17 15 56.3	+1.9
MOVZ	Moawhango	0.85	113	P	Pn	17 15 56.2	+1.1
OHWZ	Ohakea	1.22	159	P	Pn	17 15 59.4	+2.2
MRHZ	Matea Rd	1.33	80	P	Pn	17 15 58.8	+0.7
KWHZ	Kaweka Forest	1.35	105	P	Pn	17 16 00.1	+1.8
TSZ	Takapari Road	1.36	137	P	Pn	17 15 59.9	+1.6
BKZ	Black Stump Fm	1.37	94	P	Pn	17 15 59.4	+1.1
BKZ	Black Stump Fm	1.37	94	P	Pn	17 15 59.5	+1.1
KRHZ	Kereru	1.39	115	P	Pn	17 16 00.0	+1.6
PNHZ	Pukenui	1.41	127	P	Pn	17 16 00.2	+1.6
POWZ	Post Office Ro	1.54	149	P	Pn	17 16 01.0	+1.4
MCHZ	McNeill Hill	1.56	104	P	Pn	17 16 02.1	+2.2
NMHZ	Naumai	1.61	91	P	Pn	17 16 02.5	+2.1
WPHZ	Waipukurau	1.65	127	P	Pn	17 16 02.3	+1.8
DVHZ	Dannevirke	1.65	138	P	Pn	17 16 02.0	+1.5
MTHZ	Maungataniwha	1.65	83	P	Pn	17 16 01.8	+1.1
LIRZ	Lichensteins R	1.68	51	P	Pn	17 16 02.1	+1.2
MUGZ	Murupara	1.70	70	P	Pn	17 16 07.3	+6.3
MRZ	Mangatainoka R	1.71	158	P	Pn	17 16 02.4	+1.4
PRWZ	Pori Road	1.76	148	P	Pn	17 16 03.3	+1.8
ARHZ	Aropaoanui	1.77	97	P	Pn	17 16 03.5	+1.9
OGWZ	Otaki Gorge	1.77	169	P	Pn	17 16 03.3	+1.8
KIW	Kapiti Island	1.79	176	P	Pn	17 16 03.2	+1.4
KAHZ	Kahuranaki	1.81	114	P	Pn	17 16 04.0	+2.1
RTZ	Ruatahuna	1.81	76	P	Pn	17 16 03.1	+1.0
DUWZ	D'Urville Isla	1.84	200	P	Pn	17 16 03.7	+1.6
RAHZ	Arahi	1.84	86	P	Pn	17 16 03.9	+1.6
PRHZ	Porangahau	1.89	130	P	Pn	17 16 04.5	+1.9
PXZ	Pawanui	1.90	121	P	Pn	17 16 04.5	+1.8
CKHZ	Cape Kidnapper	1.91	109	P	Pn	17 16 04.9	+2.1
TIWZ	Tintock	1.92	153	P	Pn	17 16 04.4	+1.5
HOWZ	Holdsworth Sta	1.92	162	P	Pn	17 16 04.2	+1.3
ANWZ	Angora Road	1.93	137	P	Pn	17 16 04.8	+1.9
WHHZ	Waihua	1.94	91	P	Pn	17 16 04.4	+1.3
BFZ	Birch Farm	1.98	145	P	Pn	17 16 04.8	+1.3
BFZ	Birch Farm	1.98	145	P	Pn	17 16 04.8	+1.3
URZ	Urewera	2.03	67	P	Pn	17 16 04.6	+0.6
URZ	Urewera	2.03	67	P	Pn	17 16 04.8	+0.9
CAW	Cannon Point	2.05	173	P	Pn	17 16 05.6	+1.5
SNGZ	Shannon Statio	2.05	83	P	Pn	17 16 05.6	+1.4
MTW	Mount Morrison	2.16	165	P	Pn	17 16 06.3	+1.1
TCW	Tory Channel	2.16	189	P	Pn	17 16 07.0	+1.8
RAGZ	Rawiri	2.17	75	P	Pn	17 16 06.7	+1.2
WEL	Wellington	2.21	179	P	Pn	17 16 07.2	+1.5
TMWZ	Te Maipa	2.21	157	P	Pn	17 16 07.0	+1.3
SNZO	South Karori	2.23	181	P	Pn	17 16 07.3	+1.4
KNZ	Kokohu	2.29	90	P	Pn	17 16 07.9	+1.5
MWZ	Matawai	2.30	72	P	Pn	17 16 07.7	+1.0
BHW	Baring Head	2.33	178	P	Pn	17 16 08.3	+1.4
PAWZ	Paruwai Farm	2.37	167	P	Pn	17 16 08.5	+1.2
MSWZ	Moikau Station	2.37	171	P	Pn	17 16 08.5	+1.2
NNZ	Nelson	2.38	206	P	Pn	17 16 08.8	+1.5
TKNZ	Takaka Hill	2.39	214	P	Pn	17 16 08.5	+1.0
RIGZ	Rimuhau	2.39	82	P	Pn	17 16 09.1	+1.5
TUWZ	Tuamarina	2.43	194	P	Pn	17 16 10.3	+2.5
TRWZ	Traveller	2.43	163	P	Pn	17 16 09.2	+1.3
QRZ	Quartz Range	2.44	223	P	Pn	17 16 08.8	+0.8
QRZ	Quartz Range	2.44	223	P	Pn	17 16 09.0	+1.0
KUZ	Kuaotunu	2.45	19	P	Pn	17 16 09.4	+1.2
KUZ	Kuaotunu	2.45	19	P	Pn	17 16 10.1	+1.9
PRGZ	Paritu Road	2.46	87	P	Pn	17 16 09.9	+1.7
MHGZ	Mahia Peninsul	2.47	93	P	Pn	17 16 10.3	+2.0
TKGZ	Te Karaka	2.51	76	P	Pn	17 16 10.3	+1.5
PLWZ	Palliser	2.52	171	P	Pn	17 16 10.1	+1.2
RUGZ	Raukumara Rang	2.56	65	P	Pn	17 16 09.6	+0.1
CMWZ	Cape Campbell	2.70	188	P	Pn	17 16 11.3	+0.6
BSWZ	Blackbirch Sta	2.72	194	P	Pn	17 16 12.9	+2.0
HAZ	Te Kaha	2.73	62	P	Pn	17 16 11.4	+0.3
MRNZ	Matariki Terra	2.77	213	P	Pn	17 16 12.5	+1.0
CNGZ	Carnagh Statio	2.77	79	P	Pn	17 16 13.3	+1.7
PKGZ	Pakihiroa	2.88	67	P	Pn	17 16 13.8	+1.0
THZ	Tophouse	3.03	207	P	Pn	17 16 15.6	+1.2
WMGZ	Waiomatatini S	3.15	68	P	Pn	17 16 16.9	+1.2
KHZ	Kahutara	3.46	195	P	Pn	17 16 20.9	+1.7
KHZ	Kahutara	3.46	195	P	Pn	17 16 20.7	+1.5
DSZ	Denniston Nort	3.48	219	P	Pn	17 16 20.5	+0.9
GVZ	Greta Valley S	4.10	198	P	Pn	17 16 28.1	+1.3
LTZ	Lake Taylor	4.15	206	P	Pn	17 16 28.6	+1.2
AMCZ	Amberley	4.39	200	P	Pn	17 16 31.4	+1.1
INZ	Inchbonnie	4.42	213	P	Pn	17 16 31.2	+0.5
OXZ	Oxford	4.71	205	P	Pn	17 16 34.7	+0.4
OKCZ	Okains Bay	4.81	195	P	Pn	17 16 36.4	+0.8
MQZ	McQueen's Vall	4.89	198	P	Pn	17 16 36.7	+0.3
AKCZ	Akaroa Harbour	4.99	195	P	Pn	17 16 38.5	+0.8
WVZ	Waitaha Valley	5.01	216	P	Pn	17 16 39.3	+1.4
RACZ	Rakaia	5.04	202	P	Pn	17 16 38.8	+0.5
MHCZ	Mount Hutt	5.05	207	P	Pn	17 16 39.4	+0.5
WACZ	Wakanui South	5.33	203	P	Pn	17 16 42.7	+0.8
GCSZ	Gaunt Creek Bo	5.39	217	P	Pn	17 16 43.6	+0.9
RPZ	Rata Peaks	5.40	210	P	Pn	17 16 43.6	+0.8
RPZ	Rata Peaks	5.40	210	P	Pn	17 16 43.3	+0.5
ARCZ	Arundel	5.55	208	P	Pn	17 16 45.2	+0.4
FOZ	Fox Glacier	5.79	218	P	Pn	17 16 48.5	+0.8
TMZ	Timaru	5.99	207	P	Pn	17 16 51.2	+0.9
LBZ	Lake Benmore	6.30	211	P	Pn	17 16 54.7	+0.5
JCZ	Jackson Bay	6.70	220	P	Pn	17 16 59.6	+0.3
JCZ	Jackson Bay	6.70	220	P	Pn	17 16 59.4	+0.1
ODZ	Otahua Downs	6.70	206	P	Pn	17 17 00.7	+1.5
ODZ	Otahua Downs	6.70	206	P	Pn	17 17 00.5	+1.3
EAZ	Earnscleugh	7.36	211	P	Pn	17 17 08.0	+0.4

*IDC **29** 17:19:04.5±4.5, 10°.43S×112°.07E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=243.7km s-min=24.4km az=46.0*
*DJA **29** 17:19:07.5±1.2, 11°S±5°×11°2E±°, h28km±15km, M4.6/13, mb4.8/9, mB5.0/1, MLv4.5/13, Mw(mB)4.3/1*
ISC 29 17:19:05.8±0.9, 10°.66S±0°.07×111°.88E±0°.07, h22km, n28, σ2°39/29, mb3.4/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	Pagerwojo	2.62	358	P	Pn	17 19 49.2	+2.4
PWJI				S	Sb	17 20 22.6	-1.2
UGM	Wanagama	3.04	334	P	Pn	17 19 55.6	+3.0
UGM	Wanagama	3.04	334	P	Pn	17 19 53.0	+0.4
UGM				S	Sn	17 20 30.3	+2.0
JAGI	Jajag, Banyuwa	3.12	46	P	Pb	17 19 58.7	-1.9
JAGI	Jajag, Banyuwa	3.12	46	P	Pb	17 19 58.0	-2.6
YOGI	Yogyakarta	3.23	331	P	Pn	17 19 57.0	+1.9
YOGI				S	Sn	17 20 34.9	+2.0
ABJI	Asem Bagus	3.67	39	P	Pb	17 20 16.5	-3.5
GRJI	Gresik	3.77	9	P	Pn	17 20 04.7	+2.1
GRJI				S	Sb	17 20 51.3	-5.5
SMRI	Semarang	3.86	338	P	Pn	17 20 04.9	+1.1
SRBI	Singaraja	4.17	52	P	Pn	17 20 13.1	+5.0
CMJI	Cimerak	4.43	310	P	Pn	17 20 11.9	+0.2
BBJI	Bungbulang	5.25	307	P	Pn	17 20 24.7	+1.7
CNJI	Cibinong	5.75	305	P	Pn	17 20 30.3	+0.5
	62nm,1.5s,1μm0.2nm						
XMI	Christmas Isla	6.09	271	P	Pn	17 20 32.1	-2.4
KASI	Kota Agung	8.91	304	P	Pn	17 21 14.0	+0.7
	54nm,0.6s						
LWLI	Liwa	9.56	305	P	Pn	17 21 22.4	+0.1
	141nm,0.8s						
EDFI	Ende, Flores	9.86	80	P	Pn	17 21 29.5	+3.1
	8.5nm,0.5s						
MNAI	Manna	10.83	305	P	Pn	17 21 40.4	+0.8
MNAI	Manna	10.83	305	P	Pn	17 21 38.8	-0.8
BATI	Baumata	11.60	89	P	Pn	17 21 54.8	+4.6
MBWA	Marble Bar	12.88	145	P	Pn	17 22 02.5	-5.1
PSA00	Pilbara Seismi	13.28	146	P	Pn	17 22 08.4	-4.6
LUWI	Luwuk	14.44	49	P	P	17 22 33.5	-2.1
FITZ	Fitzroy Crossi	15.24	121	P	Pn	17 22 37.2	-2.5
WRA	Warramunga Arr	23.52	116	P	P	17 24 16.1	+1.6
	0.4nm,0.7s,baz=290,slow=9.7,SNR=6.5						
	0.4nm,0.7s						
ASAR	Alice Springs	24.66	124	P	P	17 24 26.8	+1.6
	0.3nm,0.7s,baz=302,slow=9.5,SNR=4.5						
	0.3nm,0.7s						
MKAR	Makanchi Array	63.01	338	P	P	17 29 32.6	+1.6
	0.4nm,0.5s,baz=143,slow=7.2,SNR=5.9						
	0.4nm,0.5s						
ZALV	Zalesovo Beam	68.33	343	P	P	17 30 06.0	+0.9
	0.7nm,0.4s,baz=134,slow=6.2,SNR=3.9						
	0.7nm,0.4s						

*IDC **29** 17:32:13.2±2.7, 9°.91S×151°.07E, h0km, mb3.7/5, mbtmp3.6/6, ML2.8/1, Error ellipse: s-maj=90.0km s-min=29.3km az=123.0*
ISC 29 17:32:18.6±2.5, 10°.05S±0°.4×151°.0E±0°.5, h35km, n6, σ1°00/6, mb3.8/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.88	236	P	Pn	17 36 35.9	-1.0
	baz=62,slow=11,SNR=4.7						
	0.5nm,0.8s						
ASAR	Alice Springs	21.25	228	P	P	17 37 02.9	+1.1
	1.0nm,0.9s,baz=51,slow=12,SNR=6.3						
	1.0nm,0.9s						
SONM	Songino Array	69.80	330	P	P	17 43 26.2	+0.7
	1.5nm,1.0s,baz=143,slow=5.6,SNR=7.7						
	1.5nm,1.0s						
MKAR	Makanchi Array	83.07	320	P	P	17 44 40.4	-0.2
	1.4nm,1.1s,baz=123,slow=6.0,SNR=7.4						
	1.4nm,1.1s						
KURBB	Kurchatov Arra	86.77	323	P	P	17 44 58.5	-0.6
	0.2nm,0.3s,baz=119,slow=5.4,SNR=4.1						
	0.2nm,0.3s						
ILAR	Eielson Array	87.60	22	P	P	17 45 02.6	-0.2
	0.6nm,1.0s,baz=232,slow=4.4,SNR=4.5						
	0.6nm,1.0s						

DJA 29 17:52:08.6±0.8, 2°N±6°×12°8E±°, h210km±10km, M3.7/12, mb3.5/6, mB4.3/1, MLv3.7/12, Mw(mB)3.4/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.43	218	P	Pn	17 52 44.0	+1.4
TNTI				S	S	17 52 59.1	-10
LBMI	Labuha	2.64	196	P	Pn	17 52 54.9	+0.2
SWI	Sorong	4.09	132	P	Pn	17 53 12.0	+0.1
KMSI	Cibinong	4.46	253	P	Pn	17 53 17.0	+0.5
SANI	Sanana	4.53	210	P	Pn	17 53 16.5	-0.9
NLAI	Namlea	5.24	193	P	Pn	17 53 27.7	+1.4
	10nm,0.8s,525nm0.1nm						
GTOI	Gorontalo	5.38	256	P	Pn	17 53 29.6	+1.5
	7.3nm,1.1s,0.0nm						
LUWI	Luwuk	6.20	242	P	Pn	17 53 38.8	+0.1
FAKI	Fak Fak	6.25	140	P	Pn	17 53 38.5	-0.8

*IDC **29** 17:59:10.0±0.6, 5°.76S×151°.91E, h0km, mb4.3/18, mbtmp4.4/19, ML2.4/2, MS3.9/24, Error ellipse: s-maj=21.0km s-min=13.2km az=93.0*
*NEIC **29** 17:59:15.9±1.3, 5°.87S±0°.07×151°.91E±0°.08, h33km±6km, mb4.9/91, Error ellipse: s-maj=11.8km s-min=9.9km az=101.0*
*BJI **29** 17:59:16.3±0.0, 5°.75S×151°.18E, h6km, mb4.5/27, mB4.9/8, Ms4.6/4, Ms7 4.4/4*
*DJA **29** 17:59:40.3±1.2, 7°S±5°×15°1E±°, h208km±11km, M4.5/16, mB4.8/2, mb4.5/16, Mw(mB)4.1/2*
ISC 29 17:59:16.4±0.5, 5°.84S±0°.05×151°.97E±0°.07, h42km±3km, h43km; pP-P, n356, σ0°98/315, mb4.8/71, MS3.9/24, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.65	7	Pn	Pn	17 59 42.1	-0.8
PMG	Port Moresby	5.94	233	Pn	Pn	18 00 40.8	-1.0
	9.6nm,0.3s,baz=69,slow=8.1,SNR=15						
PMG				Sn	Sn	18 01 49.5	+0.9
	7.2nm,0.3s,baz=342,slow=21,SNR=1.5						
	173nm,0.9s						
HNR	Honiara	8.68	115		Pn	18 01 20.4	+0.9
HNR	Honiara	8.68	115	LR	LR	18 04 23.7	
	comp=Z,5μm,20.2s,baz=241,slow=36						
COEN	Coen	11.83	226	Pn	Pn	18 01 59.0	-3.7
GENI	Genyem	12.20	285	P	P	18 02 23.8	+4.5
	59nm,1.1s						
CTA	Charters Tower	15.21	201	Pn	Pn	18 02 47.0	-1.4
	baz=232,slow=23,SNR=2.6						
CTA				LR	LR	18 07 02.9	
	comp=Z,18nm,21.1s,baz=355,slow=31						
EIDS	Eidsvold	19.43	182	P	P	18 03 38.0	-1.4
GUMO	Guam	20.55	340	P	P	18 03 49.5	-2.1
	21nm,0.8s,baz=202

comp=Z,0.6nm,0.8s
NJ2 Nanjing 49.14 322 *e*P **P 18 08 01.3 +1.1**
NJ2 pP **pP 18 08 09.0 -1.8**
NJ2 sP **pwP 18 08 13.5 -2.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
USRK Ussuriysk Ar. 52.97 342 LR LR 18 30 55.7
comp=Z,99nm,18.4s,baz=172,slow=36
LYN LuoYang 54.79 320 *e*P P 18 08 50.5 +8.3
LYN pmax pmax
comp=Z,16nm,0.6s
LYN pmax pmax
comp=Z,260nm,7.5s
CMAR Chiang Mai Arr 57.58 296 P **P 18 09 02.2 -0.2**
comp=Z,1.2nm,0.8s,baz=124,slow=6.5,SNR=8.0
CMAR LR LR 18 34 37.3
comp=Z,51nm,19.0s,baz=180,slow=37
comp=Z,1.2nm,0.8s
KLR Kul'dur 57.61 344 LR LR 18 30 16.2
comp=Z,78nm,21.6s,baz=208,slow=32
PZH PanZhiHua 58.30 306 P **P 18 09 08.0 +0.5**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,130nm,5.8s
HHC Hu-ho-hao-te 59.41 325 *e*P **P 18 09 17.3 +2.4**
HHC pmax pmax
comp=Z,20nm,0.5s
HHC pmax pmax
comp=Z,91nm,5.4s
HHC LR LR
comp=Z,240nm,17.8s
HHC LR LR
comp=Z,120nm,16.0s
HHC LR LR
comp=Z,190nm,13.2s
DRV Dumont d'Urvil 61.28 185 P **P 18 09 27.4 +0.3**
DRV pP **pP 18 09 38.2 +1.4**
DRV sP **sP 18 09 42.4 +1.6**
SHEM Shemya Is, Ala 61.30 15 LR LR 18 31 11.9
comp=Z,95nm,21.9s,baz=306,slow=31
LZH Lanzhou 61.40 317 *e*P P 18 09 34.3 +5.6
LZH pmax pmax
comp=Z,12nm,1.0s
SONM Songino Array 66.77 328 P **P 18 10 02.9 -0.8**
SONM Songino Array 66.77 328 P **P 18 10 03.1 -0.5**
comp=Z,1.3nm,0.8s,baz=134,slow=5.3,SNR=7.3
SONM LR LR 18 39 25.5
comp=Z,64nm,18.6s,baz=188,slow=36
comp=Z,1.3nm,0.8s
CASY Casey 66.78 197 P **P 18 10 03.0 -0.2**
CASY IAmb IAmb 18 10 16.3
comp=Z,25nm,1.6s
CASY Casey 66.78 197 P **P 18 10 03.3 0.0**
CASY pP **pP 18 10 13.0 -0.3**
CCD Concordia, Ant 71.13 188 P **P 18 10 30.9 +0.2**
CCD pP **pP 18 10 41.6 +0.8**
CCD sP **sP 18 10 46.3 +1.4**
VNDA Vanda 71.83 178 P **P 18 10 34.1 -0.2**
VNDA Vanda 71.83 178 P **P 18 10 34.9 +0.6**
comp=Z,2.4nm,0.9s,baz=330,slow=6.5,SNR=16
VNDA LR LR 18 41 00.2
comp=Z,50nm,18.0s,baz=328,slow=35
comp=Z,2.4nm,0.9s
VNDA Vanda 71.83 178 P **P 18 10 34.7 +0.4**
K13K Kusilvak Mount 75.35 20 P **P 18 10 56.3 +1.1**
baz=225
L14K Kuka Creek 75.61 21 P **P 18 10 58.3 +1.6**
baz=227
R17L Mt. Peulik Vol 75.72 26 P **P 18 10 58.8 +1.3**
baz=234
N15K Kwethluk River 75.78 23 P **P 18 10 59.1 +1.4**
baz=230
SII Sitkinak Islan 76.07 27 P **P 18 11 00.6 +1.2**
baz=236
J14K Nanvaranak Lak 76.29 19 P **P 18 11 02.3 +1.8**
baz=226
R18K Karluk 76.52 26 P **P 18 11 03.2 +1.3**
baz=235
K15K Wolf Creek Mou 76.66 20 P **P 18 11 03.9 +1.2**
K15K IAmb IAmb 18 11 34.0
comp=Z,17nm,1.1s
K15K Wolf Creek Mou 76.66 20 P **P 18 11 03.8 +1.2**
baz=228
M16K Timber Creek 76.76 22 P **P 18 11 04.4 +1.2**
baz=231
OHAK Old Harbor 76.85 27 P **P 18 11 05.6 +1.8**
baz=236
Q18K Katmai Hardscr 76.90 25 P **P 18 11 04.7 +0.5**
baz=235
L16K Owhat River 77.01 22 P **P 18 11 06.1 +1.5**
baz=230
TNA Tin City 77.02 16 P **P 18 11 06.5 +1.9**
baz=221
N17K Nushagak Hills 77.13 23 P **P 18 11 07.3 +1.9**
baz=232
P18K Big Mountain, 77.24 25 P **P 18 11 07.8 +1.8**
baz=234
F14K Arctic Creek 77.40 17 P **P 18 11 08.5 +1.8**
baz=223
KDAK Kodiak Island 77.47 27 P **P 18 11 08.2 +0.9**
baz=237
KDAK Kodiak Island 77.47 27 LR LR 18 38 31.8
comp=Z,49nm,21.7s,baz=262,slow=30
O18K Koktuh Hills 77.52 24 P **P 18 11 08.7 +1.2**
baz=234
M17K Holitna River 77.57 22 P **P 18 11 09.4 +1.6**
baz=232
Q19K Cape Douglas, 77.64 26 P **P 18 11 09.1 +0.8**
baz=236
J16K Anvik River 77.64 20 P **P 18 11 10.4 +2.3**
baz=229
L17K Donlin 77.71 22 P **P 18 11 09.9 +1.4**
baz=231
G15K Niukluk 77.72 18 P **P 18 11 09.9 +1.4**
baz=225
N18K Kilae Creek 77.73 23 P **P 18 11 09.9 +1.2**
baz=234
Q20K Shuyak Island 78.01 26 P **P 18 11 11.3 +1.1**
baz=237
I17K Unalakleet 78.01 19 P **P 18 11 11.3 +1.2**
baz=228
F15K North Star Dit 78.05 17 P **P 18 11 12.1 +1.8**
baz=224
K17K Iditarod 78.08 21 P **P 18 11 11.5 +0.9**
baz=231
P19K Oil Pt 78.22 25 P **P 18 11 12.9 +1.4**
baz=236
J17K VABM Dome 78.24 20 P **P 18 11 13.0 +1.6**
baz=230
M18K Stony River 78.24 23 P **P 18 11 12.6 +1.1**
baz=233
L18K Granite Mounta 78.36 22 P **P 18 11 13.2 +1.1**
baz=232
N19K Bonanza Creek 78.37 24 P **P 18 11 14.0 +1.7**
baz=235
G16K Koyuk River 78.51 18 P **P 18 11 13.9 +1.1**
baz=227
O20K Slope Mountain 78.72 25 P **P 18 11 14.8 +0.5**
baz=237
H17K Granite Mounta 78.97 19 P **P 18 11 16.6 +1.1**
baz=229
CNPM China Poot 79.01 26 P **P 18 11 16.4 +0.7**
L19K White Mountain 79.02 22 P **P 18 11 16.2 +0.4**
baz=234
M19K Big River Lodg 79.04 23 P **P 18 11 17.1 +1.2**
baz=235
G17K Kiwalik Mounta 79.11 18 P **P 18 11 17.4 +1.3**
baz=228
J18K Innoko River 79.11 21 P **P 18 11 17.5 +1.2**
J18K Innoko River 79.11 21 P **P 18 11 17.8 +1.6**
baz=232
BRSE Bradley Lake S 79.33 26 P **P 18 11 18.4 +0.8**
baz=238
M20K Styx River 79.52 23 P **P 18 11 20.0 +1.4**
baz=236
F17K Baldwin Pennin 79.56 17 P **P 18 11 19.9 +1.3**
baz=228
L20K Farewell, AK 79.57 23 P **P 18 11 20.1 +1.3**
baz=235
H18K Honhosa River 79.61 19 P **P 18 11 20.0 +1.1**
baz=230
CAPN Captain Cook N 79.70 25 P **P 18 11 20.1 +0.7**
baz=238
J19K Poorman 79.82 21 P **P 18 11 21.3 +1.2**
baz=233
E17K Hotham Inlet 79.83 17 P **P 18 11 21.0 +0.9**
baz=227
D17K Noatak River 79.91 16 P **P 18 11 21.6 +1.2**
baz=226
G18K Tagagawik 79.99 18 P **P 18 11 21.6 +0.6**
G18K IAmb IAmb 18 14 14.9
comp=Z,16nm,1.8s
G18K Tagagawik 79.99 18 P **P 18 11 21.7 +0.8**
baz=230
K20K Telida 80.00 22 P **P 18 11 21.8 +0.7**
baz=235
SEW Seward 80.08 26 P **P 18 11 22.6 +1.1**
baz=240
F18K Selawik 80.14 18 P **P 18 11 22.6 +0.8**
baz=229
O22K Cooper Landing 80.16 25 P **P 18 11 22.8 +0.8**
baz=239
SKT Skwentna 80.20 24 P **P 18 11 22.7 +0.5**
baz=237
SUA Susitna One 80.24 24 P **P 18 11 22.4 -0.1**
baz=238
E18K Tukpahlearik C 80.41 17 P **P 18 11 23.9 +0.7**
baz=228
C17K DeLong Mountai 80.43 15 P **P 18 11 24.3 +1.0**
baz=225
J20K Nowinta River 80.45 21 P **P 18 11 24.9 +1.5**
J20K IAmb IAmb 18 11 37.7
comp=Z,26nm,1.8s
J20K Nowinta River 80.45 21 P **P 18 11 24.3 +0.9**
baz=235
RC01 Rabbit Creek A 80.46 25 P **P 18 11 24.2 +0.6**
baz=239
H19K Roundabout Mou 80.47 19 P **P 18 11 24.2 +0.7**
H19K Roundabout Mou 80.47 19 P **P 18 11 24.2 +0.7**
baz=232
G19K Purcell Mounta 80.64 19 P **P 18 11 24.8 +0.3**
G19K Purcell Mounta 80.64 19 P **P 18 11 25.2 +0.8**
baz=232
I20K Naaghedeneel 80.69 20 P **P 18 11 25.6 +0.9**
baz=234
F19K Shaleruckik Mo 80.86 18 P **P 18 11 26.5 +0.9**
baz=231
P23K Montague Islan 80.92 26 P **P 18 11 26.4 +0.3**
baz=241
PWL Port Wells 80.94 25 P **P 18 11 27.1 +0.9**
PWL Port Wells 80.94 25 P **P 18 11 26.9 +0.7**
baz=240
CHUM Lake Minchumin 80.95 22 P **P 18 11 26.6 +0.5**
baz=236
H20K Anotleneega Mo 80.97 20 P **P 18 11 27.0 +0.7**
baz=234
PMR Palmer 80.97 24 P **P 18 11 27.0 +0.7**
baz=240
Q23K Middleton Isla 81.12 27 P **P 18 11 28.1 +0.9**
baz=242
GHO Glory Hole Cre 81.15 24 P **P 18 11 28.6 +1.2**
GHO IAmb IAmb 18 11 42.7
comp=Z,8.4nm,1.0s
KNK Knik Glacier 81.16 25 P **P 18 11 28.1 +0.7**
baz=240
SML Sawmill 81.41 24 P **P 18 11 29.0 +0.2**
baz=240
E19K Redstone River 81.42 18 P **P 18 11 29.3 +0.7**
E19K IAmb IAmb 18 11 40.7
comp=Z,9.0nm,0.9s
E19K Redstone River 81.42 18 P **P 18 11 29.2 +0.7**
baz=231,SNR=8.8
GLI Glacier Island 81.48 26 P **P 18 11 29.2 +0.2**
baz=242
BPAW Bear Paw Mtn. 81.56 22 P **P 18 11 29.5 +0.1**
baz=238
ZALV Zalesovo Beam 81.56 327 P **P 18 11 28.4 -1.2**
ZALV Zalesovo Beam 81.56 327 P **P 18 11 28.2 -1.4**
comp=Z,1.0nm,0.5s,baz=122,slow=6.5,SNR=8.8
comp=Z,1.0nm,0.5s
F20K Avaraart Lake 81.63 18 P **P 18 11 30.4 +0.8**
F20K Avaraart Lake 81.63 18 P **P 18 11 30.0 +0.3**
baz=233
IMAR Indian Mountai 81.64 20 P **P 18 11 30.3 +0.5**
M23K Glacier View 81.65 25 P **P 18 11 30.5 +0.5**
baz=241
H21K Melozitna Rive 81.77 20 P **P 18 11 30.7 +0.2**
baz=236
C19K Lookout Ridge 81.81 16 P **P 18 11 31.3 +0.6**
baz=229
D19K Kuna River 81.82 17 P **P 18 11 31.1 +0.3**
D19K Kuna River 81.82 17 P **P 18 11 31.3 +0.6**
baz=230
WAT1 Susitna Watana 81.83 24 P **P 18 11 31.4 +0.5**
baz=240
SCM Sheep Creek Mo 81.84 25 P **P 18 11 31.0 0.0**
baz=241
RND Reindeer 82.00 23 IAmb IAmb 18 11 32.7
comp=Z,7.7nm,0.9s
G21K Allakaket 82.03 19 P **P 18 11 32.0 +0.2**
baz=235
WAT6 Susitna Watana 82.03 24 P **P 18 11 32.0 -0.1**
baz=241
MCK McKinley 82.14 23 P **P 18 11 32.2 -0.3**
baz=240,SNR=5.5
MLY Manley 82.15 21 P **P 18 11 32.7 +0.2**
MLY Manley 82.15 21 P **P 18 11 32.2 -0.3**
baz=238,SNR=7.9
E20K Nigu River 82.23 17 P **P 18 11 33.2 +0.3**
baz=232,SNR=6.9
KLU Klutina 82.27 25 IAmb IAmb 18 11 35.5
comp=Z,14nm,1.0s
KLU Klutina 82.27 25 P **P 18 11 33.6 +0.3**
baz=243
D20K Etivluk River 82.39 17 P **P 18 11 33.9 +0.2**
baz=232
H22K Ishtalitna Cre 82.39 20 P **P 18 11 34.5 +0.8**
baz=237
DHY Denali Highway 82.42 24 IAmb IAmb 18 11 35.8
comp=Z,7.4nm,1.1s
DHY Denali Highway 82.42 24 P **P 18 11 34.5 +0.3**
baz=241
F21K Alatna River 82.44 19 P **P 18 11 34.7 +0.7**
baz=235
M24K Tolsona, Glenn 82.45 25 P **P 18 11 34.5 +0.3**
baz=242
NEA2 Nenana 82.53 22 P **P 18 11 34.5 +0.1**
baz=239
BMRM Bremner River 82.60 26 P **P 18 11 35.2 +0.2**
baz=244
I23K Minto, Yukon-K 82.71 21 IAmb IAmb 18 12 12.5
comp=Z,21nm,1.9s
I23K Minto, Yukon-K 82.71 21 P **P 18 11 35.6 +0.2**
baz=239
BGLC Bering Glacier 82.82 27 P **P 18 11 36.4 +0.4**
baz=245
WRH Wood River Hil 82.83 22 IAmb IAmb 18 11 36.7
comp=Z,7.5nm,1.0s
N25K Chitina, Valde 82.89 26 P **P 18 11 36.3 -0.2**
baz=244
G22K Bettles 82.91 19 P **P 18 11 37.0 +0.6**
baz=237
KSH Kashi 82.98 311 P P 18 11 44.8 +7.2
KSH pmax pmax
comp=Z,3.0nm,0.8s
H23K Yukon River 82.99 21 P **P 18 11 37.2 +0.3**
baz=239
E21K Killik River 83.00 18 IAmb IAmb 18 11 50.6
comp=Z,17nm,1.5s
E21K Killik River 83.00 18 P **P 18 11 37.4 +0.5**
baz=234
HARP HAARP 83.00 25 P **P 18 11 37.8 +0.8**
baz=243
F22K John River 83.02 19 P **P 18 11 37.4 +0.4**
baz=236
MDM Murphy Dome 83.02 22 IAmb IAmb 18 11 53.6
comp=Z,6.6nm,1.2s
PAX Paxson 83.14 24 P **P 18 11 38.1 +0.4**
baz=243
CRQE Cirque 83.17 27 P **P 18 11 38.5 +0.4**
baz=245
C21K Knifeblade Rid 83.19 17 P **P 18 11 39.0 +1.2**
baz=233
HDA Harding Lake 83.23 23 P **P 18 11 39.0 +0.8**
baz=241
G23K Bananza Creek 83.29 20 P **P 18 11 39.3 +0.9**
baz=238,SNR=5.7
K24K Donnelly Dome 83.40 23 P **P 18 11 39.7 +0.7**
baz=242
IL31 83.43 22 IAmb IAmb 18 11 39.3
comp=Z,5.5nm,0.8s
ILAR Eielson Array 83.43 22 P **P 18 11 38.1 -1.0**
comp=Z,3.9nm,0.7s,baz=250,slow=5.3,SNR=50
ILAR LR LR 18 45 51.3
comp=Z,76nm,19.5s,baz=268,slow=34
comp=Z,3.9nm,0.7s
MESA MESA 83.45 27 P **P 18 11 40.0 +0.4**
baz=246
MCARA McCarthy VSAT 83.47 26 P **P 18 11 40.5 +1.1**
baz=245
COLD Coldfoot 83.51 19 P **P 18 11 40.7 +1.2**
baz=238
B21K Ikpikpuk River 83.51 16 P **P 18 11 40.1 +0.7**
baz=234
H24K Noodor Dome 83.59 21 IAmb IAmb 18 11 50.0
comp=Z,9.7nm,1.6s
H24K Noodor Dome 83.59 21 P **P 18 11 41.0 +1.0**
baz=240
D22K Ayikyak River 83.64 17 P **P 18 11 41.0 +0.9**
D22K IAmb IAmb 18 11 42.5
comp=Z,5.2nm,0.8s
D22K Ayikyak River 83.64 17 P **P 18 11 41.3 +1.1**
baz=236
M26K Nabesna, AK 83.91 25 P **P 18 11 42.7 +0.9**
baz=245
J25K Salcha River, 83.93 23 IAmb IAmb 18 11 42.5
comp=Z,11nm,0.9s
J25K Salcha River, 83.93 23 P **P 18 11 41.3 -0.5**
baz=243,SNR=18
L26K Log Cabin Wild 84.03 24 P **P 18 11 42.6 +0.3**
baz=245
CTG Chitna Glacier 84.04 27 P **P 18 11 43.0 +0.5**
baz=247,SNR=5.3
CTGM Chitina Glacie 84.05 27 P **P 18 11 42.8 +0.2**
KURBB Kurchatov Arra 84.11 322 P **P 18 11 41.5 -1.4**
comp=Z,1.7nm,0.9s,baz=109,slow=4.5,SNR=12
comp=Z,1.7nm,0.9s
QSPA South Pole Qui 84.12 180 P **P 18 11 42.9 0.0**
QSPA IAmb IAmb 18 11 44.0
comp=Z,9.2nm,0.9s
QSPA South Pole Qui 84.12 180 P **P 18 11 42.9 0.0**
comp=Z,5.8nm,0.8s,baz=333,slow=1.4,SNR=28
comp=Z,5.8nm,0.8s
E23K Chandalar 84.14 19 P **P 18 11 42.9 +0.1**
baz=238
G24K Hadweenzic Riv 84.16 20 IAmb IAmb 18 11 44.7
comp=Z,6.6nm,1.1s
G24K Hadweenzic Riv 84.16 20 P **P 18 11 43.5 +0.7**
baz=241
SCRK Sand Creek 84.19 23 P **P 18 11 43.7 +0.5**
baz=244,SNR=5.2
PINM Pinnacle 84.20 28 P **P 18 11 43.1 -0.2**
baz=248
A22K Sinclair Lake 84.25 15 P **P 18 11 42.8 -0.3**
baz=233
B22K Teshekpuk Lake 84.27 16 P **P 18 11 42.9 -0.3**
baz=235
D23K Nanushuk River 84.29 18 P **P 18 11 43.3 -0.2**
baz=237,SNR=9.3
PRP Porcupine Dome 84.29 22 P **P 18 11 43.7 0.0**
baz=242
MAW Mawson 84.30 203 P **P 18 11 43.5 0.0**
comp=Z,3.8nm,0.9s,baz=69,slow=7.8,SNR=6.3
MAW LR LR 18 46 24.6
comp=Z,100nm,19.9s,baz=54,slow=34
comp=Z,3.8nm,0.9s
M27K Edge Creek, AK 84.37 25 P **P 18 11 44.5 +0.4**
baz=246,SNR=13
F24K Squaw Lake 84.43 20 IAmb IAmb 18 11 46.1
comp=Z,6.9nm,0.9s
F24K Squaw Lake 84.43 20 P **P 18 11 44.2 0.0**
baz=240,SNR=10.0
PNL Peninsula 84.44 28 P **P 18 11 44.9 +0.4**
baz=249,SNR=5.2
TOLK Toolik Lake Re 84.46 18 P **P 18 11 44.7 +0.3**
baz=238
O28M Mount Upton 84.49 27 P **P 18 11 44.8 -0.2**
baz=248,SNR=6.2
E24K Your Creek 84.51 19 P **P 18 11 44.9 +0.2**
baz=240
H25L Birch Creek 84.53 21 P **P 18 11 45.0 +0.3**
baz=242
J26L Joseph Creek 84.58 23 P **P 18 11 45.1 0.0**
baz=244
G25K Bearman Lake 84.67 21 P **P 18 11 45.7 +0.3**
baz=242,SNR=5.6
L27K Beaver Creek, 84.68 25 P **P 18 11 46.0 +0.5**
baz=246
BCAR Beaver Creek A 84.69 25 P **P 18 11 45.7 +0.1**
YUK3 Moose Creek 84.75 26 P **P 18 11 46.4 +0.2**
baz=247,SNR=7.5
C23K Itkillik River 84.78 17 IAmb IAmb 18 11 60.0
comp=Z,1nm,1.1s
C23K Itkillik River 84.78 17 P **P 18 11 46.5 +0.6**
baz=237,SNR=6.2
YUK8 Steele Glacier 84.87 27 P **P 18 11 47.4 +0.5**
baz=248,SNR=5.2
D24K Happy Valley 84.96 18 IAmb IAmb 18 11 48.6
comp=Z,7.3nm,0.9s
D24K Happy Valley 84.96 18 P **P 18 11 47.2 +0.4**
baz=239
K27K Chicken 84.97 24 IAmb IAmb 18 12 00.4
comp=Z,6.6nm,0.9s
K27K Chicken 84.97 24 P **P 18 11 47.8 +0.9**
baz=246
O29M Mount Kennedy 85.06 28 IAmb IAmb 18 11 49.9
comp=Z,8.0nm,1.1s
O29M Mount Kennedy 85.06 28 P **P 18 11 48.2 +0.5**
baz=249
I26K Coal Creek Min 85.09 22 P **P 18 11 47.5 0.0**
baz=245
F25K Christian Rive 85.22 20 P **P 18 11 48.5 +0.3**
baz=242
P29M Windy Craggy 85.22 29 P **P 18 11 49.0 +0.6**
baz=250
C24K Franklin Bluff 85.29 18 P **P 18 11 49.0 +0.6**
baz=239
YUK6 Outpost Mounta 85.38 27 P **P 18 11 49.6 +0.2**
baz=249
YUK4 Talbot Arm 85.40 27 P **P 18 11 50.1 +0.7**
baz=249,SNR=5.6
S31K Pelican 85.41 31 P **P 18 11 49.4 +0.1**
baz=252
BMAR Burnt Mountain 85.50 20 P **P 18 11 50.8 +1.1**
G26K Porcupine Rive 85.57 21 P **P 18 11 50.5 +0.6**
baz=244,SNR=12
SIT Sitka 85.59 32 P **P 18 11 50.8 +0.7**
baz=252
EGAK Eagle 85.64 23 IAmb IAmb 18 11 51.8
comp=Z,7.7nm,1.0s
EGAK Eagle 85.64 23 P **P 18 11 51.3 +1.0**
baz=247,SNR=6.2
P30M Million Dollar 85.75 28 P **P 18 11 51.6 +0.6**
baz=251
F26K Sheenjek River 85.77 20 P **P 18 11 51.7 +0.7**
baz=244,SNR=6.3
I27K Kandik River 85.79 22 P **P 18 11 51.8 +0.7**
baz=246,SNR=7.7
D25K Kavik River 85.80 18 IAmb IAmb 18 11 52.7
comp=Z,5.5nm,0.9s
D25K Kavik River 85.80 18 P **P 18 11 51.7 +0.7**
baz=241,SNR=6.6
PLBC Pleasant Camp 85.82 29 P **P 18 11 52.1 +0.8**
baz=251
M29M Somme Creek 85.87 26 IAmb IAmb 18 12 04.2
comp=Z,6.5nm,0.8s
M29M Somme Creek 85.87 26 P **P 18 11 51.9 +0.2**
baz=249,SNR=9.3
DAWY Dawson 86.07 24 IAmb IAmb 18 11 54.5
comp=Z,11nm,1.2s
DAWY Dawson 86.07 24 P **P 18 11 52.7 +0.2**
baz=248
H27K Steamboat Moun 86.08 22 P **P 18 11 53.0 +0.5**
baz=246,SNR=12
S32K Killisnoo 86.10 31 P **P 18 11 53.4 +0.7**
baz=253
N30M Aishikik Lake 86.14 27 IAmb IAmb 18 11 55.7
comp=Z,6.4nm,1.2s
N30M Aishikik Lake 86.14 27 P **P 18 11 53.6 +0.7**
baz=250
L29M L29M 86.25 25 P **P 18 11 54.3 +0.9**
baz=249,SNR=11
G27K Doyon Strip 86.27 21 P **P 18 11 53.8 +0.4**
baz=246,SNR=5.7
SKAG Skagway 86.32 29 P **P 18 11 54.5 +0.8**
baz=252
R32K Eaglecrest 86.37 31 P **P 18 11 54.8 +0.7**
baz=253
O30N Mendenhall 86.37 28 P **P 18 11 54.8 +0.7**
baz=251,SNR=11
I28M Miner Creek 86.38 23 P **P 18 11 54.9 +0.9**
baz=248,SNR=6.6

U33K	Whale Pass baz=254	86.49	33	P	P	18 11 55.5	+0.9
C26K	Camden Bay baz=243,SNR=9.2	86.53	18	P	P	18 11 56.0	+1.4
M30M	Minto, Yukon comp=Z,10nm,1.1s	86.64	26	IAmb	IAmb	18 12 07.0	
M30M	Minto, Yukon baz=251	86.64	26	P	P	18 11 55.9	+0.5
N31M	Braeburn, Yuko baz=252,SNR=9.4	86.74	27	P	P	18 11 56.6	+0.7
K29M	Barlow Dome baz=250,SNR=20	86.76	25	P	P	18 11 56.9	+0.9
C27K	Jago River baz=244,SNR=6.3	86.78	18	P	P	18 11 56.8	+1.0
E27K	Coleen River comp=Z,7.5nm,0.9s	86.86	20	IAmb	IAmb	18 11 58.1	
E27K	Coleen River baz=246,SNR=7.8	86.86	20	P	P	18 11 56.6	+0.4
WHY	Whitehorse baz=252,SNR=8.3	86.90	28	P	P	18 11 57.5	+0.7
I29M	Ogilvie Camp, comp=Z,12nm,1.1s	86.98	23	IAmb	IAmb	18 11 58.3	
I29M	Ogilvie Camp, baz=249,SNR=9.3	86.98	23	P	P	18 11 57.7	+0.8
V35K	Ketchikan baz=256	87.10	34	P	P	18 11 58.5	+0.8
P32M	Atlin baz=254,SNR=5.9	87.15	29	P	P	18 11 58.5	+0.7
F28M	Old Crow comp=Z,5.4nm,0.9s	87.23	21	IAmb	IAmb	18 11 59.8	
F28M	Old Crow baz=248,SNR=5.8	87.23	21	P	P	18 11 58.5	+0.5
H29M	Whitestone baz=249	87.26	22	P	P	18 11 58.8	+0.6
D27M	Malcolm River comp=Z,5.9nm,0.8s	87.49	19	IAmb	IAmb	18 12 01.8	
D27M	Malcolm River baz=246	87.49	19	P	P	18 12 00.1	+0.8
J30M	Hart River baz=251,SNR=17	87.50	24	P	P	18 12 00.1	+0.5
M31M	Drury Creek, Y comp=Z,8.6nm,1.0s	87.59	27	IAmb	IAmb	18 12 11.7	
M31M	Drury Creek, Y baz=253,SNR=13	87.59	27	P	P	18 12 00.6	+0.7
G29M	Pine Creek baz=249,SNR=5.8	87.64	22	P	P	18 12 00.7	+0.7
Q32M	Nakina River comp=Z,7.8nm,0.9s	87.69	30	IAmb	IAmb	18 12 12.8	
Q32M	Nakina River baz=255	87.69	30	P	P	18 12 00.7	0.0
I30M	Mount Dempster comp=Z,6.0nm,0.9s	87.69	24	IAmb	IAmb	18 12 01.9	
I30M	Mount Dempster baz=251,SNR=8.2	87.69	24	P	P	18 12 00.3	-0.2
E28M	Babbage River baz=248	87.72	20	P	P	18 12 00.6	+0.2
P33M	Teslin, Yukon comp=Z,5.9nm,0.9s	87.76	29	IAmb	IAmb	18 12 14.3	
P33M	Teslin, Yukon baz=254,SNR=5.8	87.76	29	P	P	18 12 00.7	-0.1
N32M	Quiet Lake baz=254	87.89	28	P	P	18 12 01.9	+0.5
EPYK	Eagle Plains baz=251,SNR=9.7	87.94	22	P	P	18 12 01.8	+0.3
S34M	Telegraph Cree baz=256	88.00	31	P	P	18 12 02.5	+0.5
FARO	Faro, Yukon baz=254,SNR=12	88.07	27	P	P	18 12 02.9	+0.7
E29M	Blow River baz=249	88.21	20	P	P	18 12 03.0	+0.3
T35M	Bob Quinn baz=257	88.24	32	P	P	18 12 03.2	0.0
G30M	tAoh Zraii Nji comp=Z,10nm,1.2s	88.33	22	IAmb	IAmb	18 12 05.0	
G30M	tAoh Zraii Nji baz=251	88.33	22	P	P	18 12 04.2	+0.8
BBB	Bella Bella comp=Z,44nm,18.8s,baz=235,slow=32	88.42	37	LR	LR	18 46 43.2	
R33M	Jennings River baz=256,SNR=6.3	88.45	30	P	P	18 12 04.7	+0.5
F30M	Barrier River baz=251	88.69	21	P	P	18 12 06.0	+1.0
DLBC	Dease Lake baz=257,SNR=6.5	88.70	31	P	P	18 12 05.7	+0.4
G31M	Satah River comp=Z,7.2nm,1.0s	89.04	22	IAmb	IAmb	18 12 07.8	
G31M	Satah River baz=253	89.04	22	P	P	18 12 07.2	+0.6
MMPY	Sheldon Lake, baz=256	89.11	27	P	P	18 12 08.4	+1.3
F31M	Tsilgehtchic baz=253	89.39	22	P	P	18 12 09.0	+0.8
BVAR	Borovoye Array comp=Z,1.4nm,0.7s,baz=98,slow=6.4,SNR=10 comp=Z,1.4nm,0.7s	89.58	323	P	P	18 12 08.4	-1.0
INK	Inuvik comp=Z,12nm,1.4s	89.72	21	IAmb	IAmb	18 12 20.3	
INK	Inuvik baz=254	89.72	21	P	P	18 12 10.9	+1.1
YBH	Yreka Blue Hor comp=Z,63nm,18.5s,baz=278,slow=33	90.36	48	LR	LR	18 48 59.2	
TOAD	Toad River Com baz=261	91.23	31	P	P	18 12 18.6	+1.5
SCZ2	Santa Cruz Isl baz=264	91.90	56	P	P	18 12 21.2	+0.5
WRGLY	Wrigley baz=263	92.73	27	P	P	18 12 25.2	+1.4
EDW2	Edwards Air Fo baz=265	93.33	55	P	P	18 12 28.0	+0.6
NVAR	Mina Array Bea comp=Z,1.5nm,0.9s,baz=253,slow=6.5,SNR=8.5 comp=Z,1.5nm,0.9s	93.38	52	P	P	18 12 29.1	+1.3
CWC	Cottonwood Cre baz=265	93.39	54	P	P	18 12 28.0	+0.2
LRMC	Laurel Mtn Rad baz=265	93.64	55	P	P	18 12 29.9	+1.0
GSC	Goldstone, Bar baz=266	94.34	55	P	P	18 12 33.0	+0.9
FURC	Furnace Creek, baz=266	94.37	54	P	P	18 12 32.7	+0.6
TPNV	Topopah Spring baz=266	94.89	53	P	P	18 12 35.2	+0.5
NEW	Newport baz=267	94.92	42	P	P	18 12 34.6	+0.3
NEW	Newport comp=Z,70nm,19.5s,baz=286,slow=33	94.92	42	LR	LR	18 50 44.0	
R11B	Troy Canyon, C baz=267	95.50	52	P	P	18 12 37.6	+0.1
ELIB	Princess Elisa comp=Z,1.5nm,1.1s	95.60	194	dP	P	18 12 37.0	-0.1
ELK	Elko comp=Z,70nm,18.1s,baz=345,slow=34	95.89	50	LR	LR	18 52 57.1	
ARU	Arti comp=Z,80nm,21.3s,baz=108,slow=35	96.71	326	LR	LR	18 56 02.0	
YKA	Yellowknife Ar comp=Z,0.5nm,0.7s,baz=276,slow=4.6,SNR=3.7	96.73	28	P	P	18 12 42.0	-0.2
YKA				LR	LR	18 50 53.9	
	comp=Z,44nm,20.5s,baz=318,slow=32 comp=Z,0.5nm,0.7s						
EGMT	Eagleton baz=272	99.85	42	P	Pdif	18 12 57.0	+0.3
N23A	Red Feather La baz=274	102.94	50	P	Pdif	18 13 10.2	-0.6
WHTX	Lake Whitney, baz=276	110.51	58	P	PKiKP	18 17 44.2	-0.7
MIAR	Mount Ida baz=279	113.39	55	P	PKiKP	18 17 49.9	-0.4
OXF	Oxford baz=282	116.78	54	P	PKiKP	18 17 56.1	-0.7
WCI	Wyandotte Cave baz=286	118.33	50	P	PKiKP	18 17 59.2	-0.6
LRAL	Lakeview Retre baz=283	119.06	55	P	PKiKP	18 18 00.9	-0.4
O53A	New Philadelph baz=291	121.43	46	P	PKiKP	18 18 05.5	-0.2
GERES	GERESS Array B comp=Z,0.2nm,0.5s,baz=20,slow=3.1,SNR=1.9	124.50	328	PKP	PKiKP	18 18 10.9	-0.8
LBNH	Lisbon baz=302	125.85	38	P	PKiKP	18 18 13.8	-0.5
L61B	Northampton baz=300	126.29	40	P	PKPdf	18 18 14.2	-0.6
PKME	Peaks-Kenny Pk baz=305	126.85	36	P	PKiKP	18 18 15.8	-0.5
HRV	Adam Dziewonsk baz=301	126.98	40	P	PKiKP	18 18 15.9	-0.8
LPAZ	La Paz comp=Z,2.3nm,0.8s,baz=131,slow=2.1,SNR=9.3	134.64	120	PKP	PKiKP	18 18 32.8	-0.8
TORD	Torodi Ar. Bea comp=Z,6.5nm,0.8s,baz=74,slow=3.6,SNR=32	149.82	286	PKPbc	PKPbc	18 19 02.1	-0.9
BDFB	Brasilia comp=Z,7.1nm,0.8s,baz=178,slow=5.6,SNR=10	150.89	137	PKPbc	PKiKP	18 19 06.0	-0.3
DBIC	Dimbokro comp=Z,3.8nm,0.8s,baz=65,slow=4.0,SNR=4.6	156.95	273	PKPab	PKPab	18 19 38.0	-0.7

*IDC **29** 18:03:13.0±0.9, 8°.17S×116°.52E, h0km, mb4.0/8, mbtmp4.1/9, ML3.4/1, Error ellipse: s-maj=23.2km s-min=17.5km az=87.0*
*DJA **29** 18:03:15.7±0.1, 8°.S±2°×11°.7E±°, h10km, M4.6/25, mB5.9/3, mb4.6/22, MLv4.5/25, Mw(mB)5.5/3*
ISC 29 18:03:14.7±0.6, 8°.22S±0°.06×116°.51E±0°.04, h10km, n33, σ1§12/34, mb4.1/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.64	144	P	Pb	18 03 27.0	-0.9
TWSI				S	Sb	18 03 35.6	-1.3
SRBI	Singaraja	1.29	276	P	Pg	18 03 38.3	-1.1
DNP	Denpasar	1.36	250	P	Pg	18 03 40.9	+0.1
PLAI	Plampang	1.40	116	P	Pg	18 03 40.7	-0.8
ABJI	Asem Bagus	2.29	280	P	Pb	18 03 54.7	-1.4
JAGI	Jajag, Banyuwa	2.34	264	P	Pn	18 03 53.2	-0.1
GRJI	Gresik	4.20	288	P	Pn	18 04 20.0	+1.2
BSSI	Bau Bau, Buton	4.46	63	P	Pn	18 04 23.1	+0.7
BWJI	Bawean	4.48	301	P	Pn	18 04 24.3	+1.6
BASI	Baing, Sumba	4.49	117	P	Pn	18 04 24.0	+1.2
KAPI	Kappang 1.7nm,0.3s,baz=95,slow=14,SNR=2.0	4.53	46	Pn	Pn	18 04 23.0	-0.3
KAPI				Sn	Sn	18 05 15.7	-0.3
	6.9nm,0.3s,baz=204,slow=19,SNR=7.3						
KAPI				Lg	Lg	18 05 36.2	
	8.6nm,0.3s,baz=268,slow=4.9,SNR=4.0 7.7nm,0.3s						
PWJI	Pagerwojo	4.66	272	P	Pn	18 04 26.5	+1.4
EDFI	Ende, Flores	5.16	96	P	Pn	18 04 33.9	+1.8
BNSI	Bone 46nm,1.0s,0.3nm	5.21	44	P	Pn	18 04 34.9	+2.2
MMRI	Maumere 42nm,1.2s,0.3nm	5.69	95	P	Pn	18 04 40.0	+0.7
UGM	Wanagama 204nm,2.0s	5.93	272	P	Pn	18 04 44.1	+1.4
SMRI	Semarang 59nm,2.3s,0.6nm	6.12	280	P	Pn	18 04 46.8	+1.5
YOGI	Yogyakarta 267nm,1.2s	6.16	273	P	Pn	18 04 46.9	+1.1
BBSI	Bau Bau 31nm,0.9s,0.2nm	6.60	66	P	Pn	18 04 53.7	+1.8
BATI	Baumata 56nm,1.0s,0.3nm	7.34	106	P	Pn	18 05 03.0	+1.0
SOEI	Soe 61nm,1.0s,0.3nm	7.82	102	P	Pn	18 05 09.2	+0.5
GTOI	Gorontalo 5.8nm,0.9s	10.93	37	P	Pn	18 05 54.7	+3.5
WRA	Warramunga Arr 3.5nm,0.6s,baz=303,slow=11,SNR=11 3.5nm,0.6s	20.83	126	P	P	18 07 56.0	-0.7
ASAR	Alice Springs 2.3nm,0.6s,baz=308,slow=9.2,SNR=16 2.3nm,0.6s	22.67	135	P	P	18 08 15.9	-0.5
MMPI	Merauke	23.63	92	P	P	18 08 27.4	+1.2
STKA	Stephens Creek 8.4nm,1.2s,baz=319,slow=8.1,SNR=4.8 8.4nm,1.2s	33.14	139	P	P	18 09 51.3	0.0
SONM	Songino Array 1.6nm,0.7s,baz=172,slow=8.5,SNR=4.6 1.6nm,0.7s	56.52	352	P	P	18 12 57.6	+0.4
MKAR	Makanchi Array 0.8nm,0.8s,baz=138,slow=7.0,SNR=3.8 0.8nm,0.8s	62.66	334	P	P	18 13 38.8	-0.7
ZALV	Zalesovo Beam 0.8nm,0.6s,baz=138,slow=6.9,SNR=2.7 0.8nm,0.6s	67.46	340	P	P	18 14 08.9	-1.6
QSPA	South Pole Qui 1.4nm,1.0s,baz=57,slow=4.7,SNR=2.3 1.4nm,1.0s	81.78	180	P	P	18 15 33.6	-0.1
SNAA	Sanae 2.0nm,0.9s,baz=21,slow=4.1,SNR=4.6 2.0nm,0.9s	91.08	196	P	P	18 16 19.6	+0.4
CPUP	Villa Florida 2.0nm,0.5s,baz=166,slow=3.4,SNR=5.0	145.14	190	PKPbc	PKPdf	18 22 53.2	-0.1
LPAZ	La Paz 0.8nm,0.7s,baz=201,slow=5.8,SNR=3.6	155.23	169	PKPab	PKPab	18 23 35.3	+0.6

*SOME **29** 18:07:17.1, 41°.58N×84°.38E, h20km*
*NNC **29** 18:07:20.0±2.0, 41°.35N×83°.97E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=15.8km s-min=10.5km az=172.0*
ISC 29 18:07:20.9±2.9, 41°.5N±0°.1×84°.01E±0°.08, h10km, n20, σ3§08/25, 2C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode 6.4nm,0.3s	3.77	298	eP	Pb	18 08 23.9	-3.8
SHLS				eS	Sb	18 09 12.1	-1.3
	43nm,0.0s						
SHLS	Shalkode 6.4nm,0.3s	3.77	298	Pg	Pb	18 08 23.8	-3.8
SHLS				Lg	Lg	18 09 12.1	
	43nm,0.0s						
PDGK	Podgornoye 1.3nm,0.2s	3.83	301	Pg	Pb	18 08 30.6	+2.0
PDGK				Lg	Lg	18 09 23.7	
	9.5nm,0.9s						
UZB	Uzynbulak 3.6nm,0.4s	4.06	296	eP	Pb	18 08 35.0	+2.5
UZB				eS	Sg	18 09 31.2	-0.1
	8.6nm,0.4s						
UZB	Uzynbulak 3.6nm,0.4s	4.06	296	Pg	Pb	18 08 35.0	+2.5
UZB				Lg	Lg	18 09 31.2	
	8.6nm,0.4s						
DJR	Jarkent 1.4nm,0.1s	4.22	314	eP	Pb	18 08 36.5	+1.3
DJR				eS	Sg	18 09 33.7	-2.6
	8.0nm,0.2s						
DJR	Jarkent 1.4nm,0.1s	4.22	314	Pg	Pb	18 08 36.5	+1.3
DJR				Lg	Lg	18 09 33.7	
	8.0nm,0.2s						
KPKS	Kokpek 3.3nm,0.2s	4.41	299	eP	Pb	18 08 41.3	+2.7
KPKS				eS	Sg	18 09 42.0	-0.6
	15nm,0.5s						
KPKS	Kokpek 3.3nm,0.2s	4.41	299	Pg	Pb	18 08 41.3	+2.7
KPKS				Lg	Lg	18 09 42.0	
	15nm,0.5s						
SATY	Saty 3.9nm,0.3s	4.45	293	eP	Pg	18 08 43.0	-3.2
SATY				eS	Sg	18 09 44.8	+1.0
	12nm,0.9s						
SATY	Saty 3.9nm,0.3s	4.45	293	Pg	Pg	18 08 43.0	-3.2
SATY				Lg	Lg	18 09 44.7	
	12nm,0.9s						
KNOS	Konyrlen 0.6nm,0.3s	4.57	311	Pg	Pb	18 08 42.7	+1.3
KNOS				Lg	Lg	18 09 44.4	
	6.7nm,0.8s						
BLB	Baldybastay 6.3nm,0.2s	4.84	305	Pg	Pb	18 08 48.2	+2.3
BLB				Lg	Lg	18 09 53.8	
	12nm,0.2s						
ARXS	Arharly 1.2nm,0.2s	5.31	303	eP	Pb	18 08 56.3	+2.5
ARXS				eS	Sg	18 10 07.7	-3.6
	4.5nm,0.3s						
ARXS	Arharly 1.4nm,0.8s	5.31	303	Pg	Pg	18 08 58.9	-3.6
ARXS				Lg	Lg	18 10 12.1	
	7.4nm,1.5s						
MK31	Makanchi Array baz=152,slow=14,SNR=5.2	5.46	348	⇑Pn	Pn	18 08 44.2	+1.8
MK31				⇓Pg	Pg	18 09 02.3	-3.2
	0.2nm,0.2s,baz=171,slow=16,SNR=3.2						
MK31				⇓Lg	Lg	18 10 17.4	
	3.1nm,0.8s,baz=158,slow=30,SNR=3.6						
MAKZ	Makanchi 2.3nm,1.3s	5.53	345	⇓Pg	Pb	18 09 03.2	+5.6
MAKZ				⇓Lg	Lg	18 10 19.0	
	7.1nm,0.8s						
ZSN	Zaisan 0.9nm,0.2s	6.01	6	Pg	Pb	18 09 04.3	-1.4
ZSN				Lg	Lg	18 10 21.4	
	5.9nm,1.4s						
KURK	Kurchatov 4.2nm,1.1s	9.97	340	⇓Sn	Sn	18 11 43.9	+7.9
KURK				⇑Lg	Lg	18 12 38.5	
	5.4nm,1.3s						
GTA	Gaotai	12.22	94	eP	Pn	18 10 06.8	-8.3
GTA				pP		18 10 14.8	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						

*DJA **29** 18:07:57.3±0.3, 8°.S±7°×11°.6E±°, h10km, M3.8/10, MLv3.8/10*
*IDC **29** 18:08:09.3±9.3, 8°.82S×116°.55E, h128km±87km, mb3.2/3, mbtmp3.7/4, Error ellipse: s-maj=86.3km s-min=21.8km az=65.0*
ISC 29 18:07:57.3±0.9, 8°.51S±0°.09×116°.45E±0°.04, h10km, n12, σ0§70/13, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.48	118	P	Pg	18 08 07.2	+0.5
DNP	Denpasar	1.24	262	P	Pg	18 08 21.7	+0.6
SRBI	Singaraja	1.30	289	P	Pn	18 08 20.9	-0.6
PLAI	Plampang	1.35	103	P	Pn	18 08 22.1	-0.1
JAGI	Jajag, Banyuwa	2.27	271	P	Pn	18 08 35.3	+0.4
ABJI	Asem Bagus	2.31	288	P	Pn	18 08 35.4	0.0
WBSI	Waikabubak, Su	3.11	111	P	Pn	18 08 46.9	+0.4
PWJI	Pagerwojo	4.62	276	P	Pn	18 09 07.1	-0.2
KAPI	Kappang 10nm,0.4s,baz=212,slow=18,SNR=1.1	4.78	44	P	Pb	18 09 21.7	+0.5
KAPI				S	Sb	18 10 18.4	-0.4
	21nm,0.4s,baz=197,slow=20,SNR=1.9						
WRA	Warramunga Arr 1.8nm,0.6s,baz=300,slow=12,SNR=16 1.8nm,0.6s	20.70	125	P	P	18 12 36.5	-1.4
ASAR	Alice Springs 1.2nm,0.6s,baz=310,slow=9.3,SNR=14 1.2nm,0.6s	22.50	134	P	P	18 12 56.1	-1.1
MKAR	Makanchi Array 0.3nm,0.6s,baz=156,slow=7.7,SNR=2.6 0.3nm,0.6s	62.90	334	P	P	18 18 23.9	+0.2

*SKHL **29** 18:30:59.2±0.2, 46°.70N×151°.30E, h67km±3km, mb4.7/5, ms3.8/3*
*MOS **29** 18:31:01.2±1.6, 46°.93N×151°.29E, h75km, mb4.3/1, Error ellipse: s-maj=12.2km s-min=8.5km az=62.0*
*IDC **29** 18:31:05.8±2.8, 46°.91N×151°.20E, h100km±25km, mb3.6/17, mbtmp3.9/23, MS3.2/6, Error ellipse: s-maj=17.0km s-min=12.6km az=136.0*
*NEIC **29** 18:31:12.0±1.8, 47°.0N±0°.1×150°.0E±0°.2, h206km±7km, mb4.3/31, Error ellipse: s-maj=22.4km s-min=13.7km az=128.0*
ISC 29 18:31:04.3±0.4, 46°.82N±0°.05×151°.07E±0°.05, h100km, n273, σ1§44/267, mb4.2/34, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.74	236	eP	Pn	18 31 42.4	-4.1
KUR				AMB	AMB	18 31 53.1	
	70nm,0.5s						
KUR				eS	Sn	18 32 13.8	-5.1
KUR				A	A	18 32 26.5	
	230nm,0.5s						
KUR				A	A	18 32 26.5	
	210nm,0.5s						
KUR				AMS	AMS	18 32 55.0	
	1μm,11.0s						
KUR				AMS	AMS	18 32 55.0	
	2μm,11.0s						
KUR	Kuril'sk	2.74	236	PN	Pn	18 31 42.0	-4.5
KUR				S	Sn	18 32 21.2	+2.3
KUR				pmax	pmax		
	comp=N,49nm,0.8s						
KUR				pmax	pmax		
	comp=Z,98nm,0.8s						
KUR				pmax	pmax		
	comp=E,33nm,0.6s						
KUR				smax	smax		
	comp=N,118nm,0.6s						
KUR				smax	smax		
	comp=E,175nm,0.6s						
SHO	Shikotan	4.20	227	eP	Pn	18 32 01.4	-4.7
SHO				AMB	AMB	18 32 09.6	
	comp=E,20nm,0.3s						
SHO				eS	Sn	18 32 48.2	-5.8
SHO				A	A	18 32 59.3	
	comp=E,50nm,0.4s						
SHO				A	A	18 32 59.3	
	comp=E,60nm,0.4s						
SHO	Shikotan	4.20	227	PN	Pn	18 32 09.0	+2.9
SHO				S	Sn	18 32 54.9	+0.9
SHO				smax	smax		
	comp=N,59nm,0.5s						
SHO				smax	smax		
	comp=E,41nm,0.5s						
YUK	Yuzh-Kuril'sk	4.60	235	eP	Pn	18 32 08.8	-2.8
YUK				AMB	AMB	18 32 12.5	
	comp=E,150nm,0.8s						
YUK				eS	Sn	18 32 59.4	-4.4
YUK				A	A	18 33 15.2	
	comp=E,190nm,0.7s						
YUK				A	A	18 33 15.2	
	comp=E,260nm,0.7s						
SKR	Severo-Kuril's	5.11	39	eP	Pn	18 32 13.2	-5.1
SKR				AMB	AMB	18 32 14.8	
	comp=E,60nm,0.5s						
SKR				eS	Sn	18 33 08.6	-7.4
SKR				A	A	18 33 19.5	
	comp=E,140nm,0.5s						
SKR				A	A	18 33 19.5	
	comp=E,130nm,0.5s						
SKR				AMS	AMS	18 34 20.5	
	comp=E,530nm,13.0s						
SKR				AMS	AMS	18 34 20.5	
	comp=E,450nm,13.0s						
SKR	Severo-Kuril's	5.11	39	ePN	Pn	18 32 13.3	-5.1
SKR				eS	Sn	18 33 12.9	-3.1
SKR				pmax	pmax		
	comp=Z,62nm,0.5s						
SKR				smax	smax		
	comp=E,127nm,0.4s						
SKR				smax	smax		
	comp=N,136nm,0.5s						
SKR				MLR	MLR		
	comp=N,300nm,13.0s						
SKR				MLR	MLR		
	comp=E,400nm,13.0s						
SKR				MLR	MLR		
	comp=Z,800nm,13.0s						
NMR	Nemuro--Hokkai	5.12	230	eP	Pn	18 32 14.4	-4.1
NMR				eS	Sn	18 33 10.8	-5.5
YSS	Yuzh-Sakhalins	5.70	274	Pn	Pn	18 32 24.8	-1.6
YSS	Yuzh-Sakhalins	5.70	274	eP	Pn	18 32 23.9	-2.5
YSS				eS	Sn	18 33 29.7	-0.8
YSS				AMS	AMS	18 34 26.7	
	comp=Z,200nm,14.0s						
YSS				AMS	AMS	18 34 26.7	
	comp=Z,200nm,14.0s						
YSS	Yuzh-Sakhalins	5.70	274	⇓ePN	Pn	18 32 24.1	-2.3
YSS				eS	Sn	18 33 31.2	+0.7
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				smax	smax		
	comp=N,20nm,0.5s						
YSS				smax	smax		
	comp=E,30nm,0.6s						
YSS				MLR	MLR		
	comp=N,200nm,13.0s						
YSS				MLR	MLR		
	comp=Z,200nm,13.0s						
YSS				MLR	MLR		
	comp=E,200nm,15.0s						
UGL	Uglegorsk	6.46	294	eP	Pn	18 32 35.1	-1.6
JKA	Kamikawa-asahi	6.54	249	Pn	Pn	18 32 39.5	+1.7
ASAJ	Asahikawa	6.54	249	P	Pn	18 32 41.7	+3.8
	comp=E,7.1nm,0.8s,baz=96,slow=18,SNR=6.0						
TYV	Tymovskoe	6.87	309	eP	Pn	18 32 40.5	-1.8
TYV				eS	Sn	18 33 58.3	-0.5
TYV	Tymovskoe	6.87	309	ePN	Pn	18 32 40.5	-1.8
TYV				pmax	pmax		
	comp=Z,12nm,0.8s						
TYV				pmax	pmax		

comp=Z,100nm,2.4s
ERM Erimo 7.42 233 Pn **Pn 18 32 51.0 +1.2**
ERM Erimo 7.42 233 PN **Pn 18 32 51.1 +1.2**
PET Petropavlovsk 7.90 35 *e*P **Pn 18 32 53.5 -2.8**
PET Petropavlovsk 7.90 35 *e*PN **Pn 18 32 53.5 -2.8**
PET *e*S **Sn 18 34 23.0 -1.0**
PET pmax pmax
comp=Z,100nm,4.9s
PET pmax pmax
comp=Z,7.0nm,0.6s
PET pmax pmax
comp=Z,200nm,3.9s
PET MLR MLR
comp=Z,300nm,11.0s
PET MLR MLR
comp=Z,200nm,11.0s
KLR Kul'dur 13.15 288 P **P 18 34 09.7 -3.7**
comp=Z,2.5nm,0.9s,baz=96,slow=16,SNR=7.0
KLR LR LR 18 39 50.1
comp=Z,129nm,18.2s,baz=228,slow=40
KLR Kul'dur 13.15 288 *e*P **Pn 18 34 05.0 -2.0**
USA0B Ussuriysk Arra 13.63 266 Pn Pn 18 34 07.3 -6.0
USA0B Ussuriysk Arra 13.63 266 P Pn 18 34 07.3 -6.0
USRK Ussuriysk Ar. 13.63 266 Pn Pn 18 34 07.5 -5.8
USRK Ussuriysk Ar. 13.63 266 P **P 18 34 16.9 -1.8**
comp=Z,3.4nm,0.9s,baz=186,slow=33,SNR=1.6
MJAR Matsushiro Arr 14.04 228 P **P 18 34 23.1 -0.2**
comp=Z,0.5nm,0.5s,baz=23,slow=12,SNR=2.3
MJAR LR LR 18 40 29.4
comp=Z,77nm,19.5s,baz=294,slow=40
SEY Seymchan 16.17 2 P **P 18 34 46.1 -0.5**
comp=Z,8.2nm,1.1s,baz=174,slow=11,SNR=6.7
SEY Seymchan 16.17 2 *e*P **P 18 34 45.3 -1.3**
SEY pmax pmax
comp=Z,10.0nm,1.2s
ZEA Zeya 16.67 303 *e*P **P 18 34 57.2 +4.9**
KSRS Korea Array 19.49 250 LR LR 18 42 05.6
comp=Z,24nm,20.1s,baz=225,slow=34
YAK Yakutsk 19.52 329 P **Pn 18 35 25.1 -0.5**
comp=Z,7.7nm,0.7s,baz=143,slow=18,SNR=6.9
YAK LR LR 18 42 46.5
comp=Z,57nm,18.4s,baz=191,slow=36
YAK Yakutsk 19.52 329 *e*P **Pn 18 35 26.4 +0.8**
YAK Yakutsk 19.52 329 *e*P **Pn 18 35 26.4 +0.8**
YAK pmax pmax
comp=Z,8.0nm,0.7s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK MLR MLR
comp=N,147nm,25.0s
YAK MLR MLR
comp=E,675nm,24.0s
NIKH Nikolski High 26.27 62 P **P 18 36 30.3 +0.3**
baz=274
GAMB Gambell 26.60 37 P **P 18 36 32.9 +0.1**
baz=250
TNA Tin City 28.76 35 P **P 18 36 51.9 -0.1**
baz=251
K13K Kusilvak Mount 29.19 43 P **P 18 36 56.1 +0.2**
baz=261
H11N2 WAKE ISLAND Hy 29.96 149 T T 19 08 14.1
baz=339,slow=76,SNR=3544
H11N1 WAKE ISLAND Hy 29.98 149 T T 19 08 16.2
baz=339,slow=76,SNR=2459
H11N3 WAKE ISLAND Hy 29.98 149 T T 19 08 11.3
baz=339,slow=76,SNR=1842
SONM Songino Array 29.98 289 LR LR 18 49 36.7
comp=E,47nm,18.2s,baz=190,slow=37
F15K North Star Dit 30.10 35 P **P 18 37 04.3 +0.4**
baz=254
S12K Black Hills 30.12 55 P **P 18 37 05.1 +0.9**
baz=274
C16K Lisburne Hills 30.70 30 P **P 18 37 08.6 -0.5**
C16K IAmb IAmb 18 37 09.9
comp=Z,7.8nm,0.9s
C16K Lisburne Hills 30.70 30 P **P 18 37 09.2 0.0**
baz=250
H11S1 WAKE ISLAND Hy 31.03 150 T T 19 09 29.5
baz=340,slow=76,SNR=1640
H11S3 WAKE ISLAND Hy 31.04 150 T T 19 09 31.3
baz=340,slow=76,SNR=2036
H11S2 WAKE ISLAND Hy 31.05 150 T T 19 09 32.1
baz=340,slow=76,SNR=1692
D17K Noatak River 31.30 32 P **P 18 37 14.6 +0.2**
baz=253
C17K DeLong Mountai 31.52 30 P **P 18 37 16.7 +0.3**
baz=252
E17K Hotham Inlet 31.58 33 P **P 18 37 17.0 +0.1**
baz=255
CNBA Chernabura Isl 31.60 57 P **P 18 37 19.3 +2.1**
F17K Baldwin Pennin 31.63 35 P **P 18 37 17.4 0.0**
baz=257
G17K Kiwalik Mounta 31.65 36 P **P 18 37 17.9 +0.4**
baz=259
K17K Iditarod 32.24 42 P **P 18 37 23.1 +0.4**
baz=266
C18K Utukok River 32.27 31 P **P 18 37 22.8 -0.2**
C18K IAmb IAmb 18 37 23.8
comp=Z,5.1nm,0.7s
C18K Utukok River 32.27 31 P **P 18 37 23.0 0.0**
baz=254
F18K Selawik 32.29 35 P **P 18 37 23.3 +0.2**
baz=258
B18K Kokolik River 32.29 29 P **P 18 37 23.1 0.0**
baz=252
H18K Honhosa River 32.53 37 P **P 18 37 25.6 +0.3**
H18K IAmb IAmb 18 37 25.7
comp=Z,6.1nm,1.2s
H18K Honhosa River 32.53 37 P **P 18 37 25.6 +0.3**
baz=262
G18K Tagagawik 32.54 36 P **P 18 37 24.1 -1.2**
G18K IAmb IAmb 18 37 26.4
comp=Z,6.2nm,1.1s
G18K Tagagawik 32.54 36 P **P 18 37 25.9 +0.5**
baz=260
M17K Holitna River 32.55 44 P **P 18 37 25.6 +0.2**
baz=269
C19K Lookout Ridge 32.96 30 P **P 18 37 28.8 -0.2**
baz=255
F19K Shaleruckik Mo 33.07 34 P **P 18 37 29.6 -0.3**
F19K Shaleruckik Mo 33.07 34 P **P 18 37 30.0 +0.1**
baz=260
G19K Purcell Mounta 33.22 36 P **P 18 37 30.6 -0.6**
baz=262
D19K Kuna River 33.31 31 P **P 18 37 31.7 -0.4**
D19K IAmb IAmb 18 37 33.2
comp=Z,11nm,0.8s
D19K Kuna River 33.31 31 P **P 18 37 32.1 0.0**
baz=257,SNR=11
H19K Roundabout Mou 33.38 37 P **P 18 37 31.5 -1.1**
H19K IAmb IAmb 18 37 33.7
comp=Z,12nm,1.1s
H19K Roundabout Mou 33.38 37 P **P 18 37 32.5 -0.1**
baz=263,SNR=8.6
E19K Redstone River 33.41 33 P **P 18 37 32.4 -0.5**
E19K IAmb IAmb 18 37 34.2
comp=Z,5.7nm,1.1s
E19K Redstone River 33.41 33 P **P 18 37 32.6 -0.2**
baz=260
J19K Poorman 33.56 40 P **P 18 37 34.5 +0.3**
baz=266
D20K Etivluk River 33.90 31 P **P 18 37 37.0 -0.2**
baz=258,SNR=11
F20K Avaraart Lake 33.90 34 P **P 18 37 36.9 -0.3**
baz=262
E20K Nigu River 33.96 32 P **P 18 37 37.8 +0.1**
baz=259,SNR=10
H20K Anotleneega Mo 34.02 37 P **P 18 37 37.6 -0.7**
baz=265
B20K Meade River 34.03 29 P **P 18 37 38.2 0.0**
B20K Meade River 34.03 29 P **P 18 37 37.9 -0.3**
baz=256,SNR=5.9
I20K Naaghedeneel 34.12 38 P **P 18 37 39.1 +0.1**
baz=266
R18K Karluk 34.17 51 P **P 18 37 39.4 -0.2**
baz=277
K20K Telida 34.20 41 P **P 18 37 39.5 -0.3**
baz=269
J20K Nowinta River 34.22 40 P **P 18 37 39.4 -0.5**
baz=267
SII Sitkinak Islan 34.43 53 P **P 18 37 42.0 +0.1**
baz=278
A21K Barrow 34.57 27 P **P 18 37 42.9 +0.1**
baz=255
P19K Oil Pt 34.64 48 P **P 18 37 43.7 0.0**
baz=275
C21K Knifeblade Rid 34.64 31 P **P 18 37 43.9 +0.4**
baz=260
G21K Allakaket 34.70 35 P **P 18 37 43.6 -0.4**
baz=265
F21K Alatna River 34.80 34 P **P 18 37 44.7 -0.1**
baz=264
E21K Killik River 34.80 32 P **P 18 37 44.6 -0.3**
baz=261
B21K Ikpikpuk River 34.80 30 P **P 18 37 45.6 +0.8**
B21K Ikpikpuk River 34.80 30 P **P 18 37 44.7 -0.1**
baz=259,SNR=15
H21K Melozitna Rive 34.90 37 P **P 18 37 46.0 +0.2**
baz=266
A22K Sinclair Lake 35.00 27 P **P 18 37 46.9 +0.3**
baz=257,SNR=6.8
CHUM Lake Minchumin 35.01 40 P **P 18 37 46.9 +0.2**
baz=270
Q20K Shuyak Island 35.16 49 P **P 18 37 48.7 +0.7**
baz=277
F22K John River 35.33 34 P **P 18 37 49.3 -0.2**
baz=264
D22K Ayikyak River 35.34 31 P **P 18 37 49.7 +0.2**
baz=262
B22K Teshekpuk Lake 35.35 29 P **P 18 37 49.8 +0.3**
B22K IAmb IAmb 18 37 50.4
comp=Z,8.3nm,0.7s
B22K Teshekpuk Lake 35.35 29 P **P 18 37 49.4 -0.1**
baz=259
SKT Skwentna 35.37 43 P **P 18 37 50.3 +0.5**
baz=273
H22K Ishtalitna Cre 35.50 37 P **P 18 37 51.0 0.0**
baz=268
BPAW Bear Paw Mtn. 35.60 40 P **P 18 37 52.0 +0.2**
baz=270
MLY Manley 35.73 38 P **P 18 37 52.6 -0.3**
baz=269
COLD Coldfoot 36.07 34 P **P 18 37 55.8 +0.1**
baz=267
D23K Nanushuk River 36.07 31 P **P 18 37 56.3 +0.6**
baz=264
G23K Bananza Creek 36.10 35 P **P 18 37 56.3 +0.2**
baz=268
C23K Itkillik River 36.21 30 P **P 18 37 57.4 +0.5**
C23K Itkillik River 36.21 30 P **P 18 37 56.9 0.0**
baz=263,SNR=9.6
H23K Yukon River 36.25 37 P **P 18 37 57.8 +0.4**
baz=269
I23K Minto, Yukon-K 36.31 38 P **P 18 37 58.4 +0.5**
baz=270
E23K Chandalar 36.36 33 P **P 18 37 58.5 +0.2**
baz=266,SNR=7.0
TOLK Toolik Lake Re 36.43 32 P **P 18 37 59.1 +0.2**
TOLK IAmb IAmb 18 38 00.9
comp=Z,8.7nm,1.4s
TOLK Toolik Lake Re 36.43 32 P **P 18 37 58.9 +0.1**
baz=266
NEA2 Nenana 36.44 39 P **P 18 37 59.2 +0.3**
baz=271
MCK McKinley 36.51 40 P **P 18 38 00.0 +0.4**
baz=273
D24K Happy Valley 36.75 31 P **P 18 38 01.5 0.0**
baz=266
E24K Your Creek 36.78 33 P **P 18 38 02.9 +1.0**
E24K IAmb IAmb 18 38 04.4
comp=Z,16nm,1.4s
E24K Your Creek 36.78 33 P **P 18 38 01.9 0.0**
baz=267,SNR=10
C24K Franklin Bluff 36.85 30 P **P 18 38 02.1 -0.2**
baz=265
KNK Knik Glacier 36.86 44 P **P 18 38 02.7 +0.1**
baz=276
SML Sawmill 36.89 44 P **P 18 38 02.0 -0.9**
SML Sawmill 36.89 44 P **P 18 38 02.9 0.0**
baz=276
H24K Noodor Dome 36.94 37 P **P 18 38 03.4 +0.2**
baz=271
F24K Squaw Lake 36.98 34 P **P 18 38 03.3 -0.2**
baz=269
WAT6 Susitna Watana 37.11 42 P **P 18 38 04.4 -0.5**
baz=275
G24K Hadweenzic Riv 37.11 35 P **P 18 38 05.3 +0.7**
G24K IAmb IAmb 18 38 07.4
comp=Z,3.7nm,0.9s
G24K Hadweenzic Riv 37.11 35 P **P 18 38 04.7 +0.1**
baz=270
POKR Poker Plat Res 37.13 38 P **P 18 38 04.4 -0.4**
baz=272
DHY Denali Highway 37.24 41 P **P 18 38 05.5 -0.4**
baz=275
HDA Harding Lake 37.36 39 P **P 18 38 06.4 -0.4**
baz=274
SCM Sheep Creek Mo 37.36 43 P **P 18 38 07.2 +0.3**
baz=277
ILAR Eielson Array 37.37 39 P **P 18 38 06.5 -0.3**
comp=Z,0.5nm,0.6s,baz=263,slow=8.2,SNR=7.5
ILAR PcP **PcP 18 40 24.2 +0.7**
comp=Z,0.4nm,0.6s,baz=280,slow=3.8,SNR=2.9
comp=Z,0.5nm,0.6s
P23K Montague Islan 37.54 46 P **P 18 38 08.4 +0.1**
baz=279
GLI Glacier Island 37.58 45 P **P 18 38 08.5 0.0**
baz=278
D25K Kavik River 37.63 31 P **P 18 38 09.4 +0.3**
D25K IAmb IAmb 18 38 10.3
comp=Z,6.1nm,0.7s
D25K Kavik River 37.63 31 P **P 18 38 09.3 +0.3**
baz=268,SNR=9.5
G25K Bearman Lake 37.66 35 P **P 18 38 09.3 +0.1**
baz=271
F25K Christian Rive 37.84 34 P **P 18 38 10.6 -0.3**
baz=271
M24K Tolsona, Glenn 37.88 43 P **P 18 38 11.7 +0.5**
baz=277
K24K Donnelly Dome 37.91 40 P **P 18 38 11.6 +0.3**
baz=275
PRP Porcupine Dome 37.92 37 P **P 18 38 09.9 -1.7**
PRP Porcupine Dome 37.92 37 P **P 18 38 12.0 +0.4**
baz=273
J25K Salcha River, 38.03 39 P **P 18 38 12.5 +0.1**
baz=275
KLU Kluina 38.06 44 P **P 18 38 13.4 +0.6**
baz=278
C26K Camden Bay 38.18 30 P **P 18 38 14.4 +0.9**
baz=268
BMAR Burnt Mountain 38.25 34 P **P 18 38 14.2 -0.1**
F26K Sheenjek River 38.41 34 P **P 18 38 16.4 +0.8**
baz=272
G26K Porcupine Rive 38.57 35 P **P 18 38 17.9 +1.0**
baz=273
C27K Jago River 38.59 31 P **P 18 38 17.2 +0.2**
baz=270
SCRK Sand Creek 38.68 40 P **P 18 38 17.9 -0.1**
baz=277
BMRM Bremner River 38.77 45 P **P 18 38 19.0 +0.4**
baz=280
M26K Nabesna, AK 39.31 42 P **P 18 38 23.7 +0.5**
baz=279,SNR=6.2
E27K Coleen River 39.37 33 P **P 18 38 23.7 +0.2**
baz=274
K27K Chicken 39.51 40 P **P 18 38 23.6 -1.1**
K27K Chicken 39.51 40 P **P 18 38 25.3 +0.5**
baz=278
H27K Steamboat Moun 39.52 36 P **P 18 38 25.0 +0.2**
baz=276
CRQE Cirque 39.53 45 P **P 18 38 25.5 +0.3**
baz=281
D27M Malcolm River 39.56 31 P **P 18 38 24.6 -0.6**
baz=273
L27K Beaver Creek, 39.75 41 P **P 18 38 27.1 +0.3**
L27K IAmb IAmb 18 38 28.5
comp=Z,7.3nm,1.2s
L27K Beaver Creek, 39.75 41 P **P 18 38 27.3 +0.5**
baz=280
BCAR Beaver Creek A 39.77 41 P **P 18 38 26.6 -0.3**
EGAK Eagle 39.82 38 P **P 18 38 25.3 -1.9**
EGAK Eagle 39.82 38 P **P 18 38 27.0 -0.3**
baz=278
M27K Edge Creek, AK 39.84 42 P **P 18 38 27.8 +0.2**
baz=280
F28M Old Crow 40.05 34 P **P 18 38 29.1 -0.1**
baz=276
E28M Babbage River 40.10 32 P **P 18 38 29.9 +0.3**
baz=275
I28M Miner Creek 40.25 37 P **P 18 38 31.5 +0.6**
I28M Miner Creek 40.25 37 P **P 18 38 31.6 +0.6**
baz=278
CTG Chitna Glacier 40.34 44 P **P 18 38 32.0 +0.2**
baz=282
YUK3 Moose Creek 40.60 43 P **P 18 38 34.6 +0.6**
baz=282
E29M Blow River 40.72 32 P **P 18 38 34.9 +0.2**
baz=277
H29M Whitestone 40.79 36 P **P 18 38 35.8 +0.5**
baz=279
G29M Pine Creek 40.84 35 P **P 18 38 35.9 +0.2**
baz=278
O28M Mount Upton 40.93 44 P **P 18 38 37.2 +0.4**
baz=283
PINM Pinnacle 41.05 45 P **P 18 38 38.4 +0.9**
baz=284
M29M Somme Creek 41.39 42 P **P 18 38 40.6 +0.2**
M29M Somme Creek 41.39 42 P **P 18 38 40.8 +0.5**
baz=283
L29M L29M 41.40 40 P **P 18 38 40.8 +0.4**
L29M IAmb IAmb 18 38 42.1
comp=Z,3.7nm,0.7s
L29M L29M 41.40 40 P **P 18 38 41.3 +0.9**
baz=282
EPYK Eagle Plains 41.43 35 P **P 18 38 41.4 +0.9**
baz=280
K29M Barlow Dome 41.53 39 P **P 18 38 42.4 +0.9**
baz=282
G30M tAoh Zraii Nji 41.53 34 P **P 18 38 42.4 +1.0**
baz=280
F30M Barrier River 41.61 34 P **P 18 38 42.6 +0.7**
baz=279
I30M Mount Dempster 41.76 37 P **P 18 38 42.7 -0.7**
I30M IAmb IAmb 18 38 44.8
comp=Z,5.6nm,0.9s
I30M Mount Dempster 41.76 37 P **P 18 38 43.5 +0.1**
baz=281,SNR=8.8
J30M Hart River 41.90 38 P **P 18 38 45.2 +0.7**
baz=282
M30M Minto, Yukon 42.11 41 P **P 18 38 47.0 +0.8**
baz=284
N30M Aishikik Lake 42.24 43 P **P 18 38 47.9 +0.7**
baz=285
G31M Satah River 42.30 34 P **P 18 38 48.4 +0.9**
baz=281
INK Inuvik 42.34 32 P **P 18 38 48.5 +0.7**
baz=280
P29M Windy Craggy 42.39 46 P **P 18 38 49.0 +0.6**
baz=286
P30M Million Dollar 42.64 45 P **P 18 38 51.3 +0.8**
baz=286
N31M Braeburn, Yuko 42.84 42 P **P 18 38 52.9 +0.8**
baz=286
O30N Mendenhall 42.88 44 P **P 18 38 53.1 +0.7**
baz=286
PLBC Pleasant Camp 43.11 45 P **P 18 38 55.3 +1.1**
baz=288
M31M Drury Creek, Y 43.29 41 P **P 18 38 56.9 +1.2**
baz=286
WHY Whitehorse 43.48 43 P **P 18 38 58.8 +1.4**
baz=287
FARO Faro, Yukon 43.75 41 P **P 18 39 00.4 +1.0**
baz=287
N32M Quiet Lake 44.18 42 P **P 18 39 03.7 +0.8**
baz=288
A36M Sachs Harbour 44.41 26 P **P 18 39 05.1 +0.7**
MMPY Sheldon Lake, 44.57 40 P **P 18 39 07.4 +1.4**
baz=288
P33M Teslin, Yukon 44.59 44 P **P 18 39 07.5 +1.4**
baz=289
MKAR Makanchi Array 45.66 296 P **P 18 39 16.2 +1.6**
comp=Z,1.1nm,0.8s,baz=68,slow=7.0,SNR=7.1
MKAR PcP **PcP 18 40 53.5 +2.4**
comp=Z,0.5nm,0.9s,baz=67,slow=2.3,SNR=5.6
MKAR LR LR 19 01 35.1
comp=Z,69nm,18.4s,baz=166,slow=40
comp=Z,1.1nm,0.8s
R33M Jennings River 45.75 44 P **P 18 39 17.2 +1.9**
baz=291
KURK Kurchatov 46.15 303 *e*P **P 18 39 20.0 +1.6**
KURK Kurchatov 46.15 303 P **P 18 39 20.0 +1.6**
KURK 18 40 54.9
KURBB Kurchatov Arra 46.24 303 P **P 18 39 20.0 +0.9**
comp=Z,0.9nm,0.7s,baz=69,slow=8.6,SNR=5.8
KURBB PcP **PcP 18 40 54.9 +1.9**
comp=Z,0.4nm,0.5s,baz=72,slow=4.0,SNR=2.8
comp=Z,0.9nm,0.7s
DLBC Dease Lake 46.55 45 P **P 18 39 23.5 +2.0**
baz=293
V35K Ketchikan 46.95 50 P **P 18 39 25.8 +1.3**
baz=294
TOAD Toad River Com 48.69 43 P **P 18 39 39.4 +1.4**
baz=296
BVAR Borovoye Array 49.72 309 P **P 18 39 47.1 +1.2**
comp=Z,0.9nm,0.9s,baz=38,slow=5.6,SNR=4.0
BVAR PcP **PcP 18 41 07.7 +2.2**
comp=Z,1.2nm,0.7s,baz=72,slow=3.1,SNR=7.4
comp=Z,0.9nm,0.9s
CMAR Chiang Mai Arr 51.03 255 P **P 18 39 58.8 +2.5**
comp=Z,0.8nm,0.7s,baz=39,slow=7.6,SNR=6.8
comp=Z,0.8nm,0.7s
YKA Yellowknife Ar 51.70 36 P **P 18 40 00.8 +0.2**
comp=Z,0.9nm,0.8s,baz=309,slow=7.1,SNR=5.1
comp=Z,0.9nm,0.8s
NEW Newport 58.24 52 P **P 18 40 48.4 +0.4**
baz=307
MSO Missoula 60.83 52 P **P 18 41 06.8 +0.9**
baz=309
EGMT Eagleton 62.27 48 P **P 18 41 16.6 +1.1**
baz=311
BOZ Bozeman (W) 62.85 52 P **P 18 41 20.8 +1.3**
baz=311
NVAR Mina Array Bea 63.64 61 P **P 18 41 25.8 +0.9**
comp=Z,0.4nm,0.5s,baz=288,slow=6.8,SNR=5.5
comp=Z,0.4nm,0.5s
GSI Gunungsitoli 64.86 243 P P 18 41 25.2 -7.7
R11B Troy Canyon, C 65.32 60 P **P 18 41 37.2 +1.4**
baz=312
DUG Dugway, Tooele 65.72 57 P **P 18 41 39.1 +0.8**
baz=312
PDAR Pinedale Array 65.83 53 P **P 18 41 39.8 +0.7**
comp=Z,1.0nm,0.8s,baz=300,slow=2.1,SNR=8.6
comp=Z,1.0nm,0.8s
ULM Lac du Bonnet 67.38 40 P **P 18 41 48.8 +0.4**
comp=Z,1.7nm,0.8s,baz=329,slow=8.8,SNR=3.4
comp=Z,1.7nm,0.8s
NOA NORSAR Array B 67.70 340 P **P 18 41 51.5 +1.1**
comp=Z,0.4nm,0.5s,baz=26,slow=6.4,SNR=2.5
comp=Z,0.4nm,0.5s
RSSD Black Hills 67.84 49 P **P 18 41 52.3 +0.5**
baz=315
HFS Hagfors 67.89 339 P **P 18 41 52.2 +0.7**
comp=Z,1.5nm,0.7s,baz=32,slow=5.8,SNR=1.9
comp=Z,1.5nm,0.7s
WB0 Warramunga Arr 67.96 197 P **P 18 41 49.3 -3.1**
WB0 IAmb IAmb 18 42 00.5
comp=Z,16nm,1.5s
WB2 Warramunga Arr 68.14 197 P **P 18 41 49.3 -4.2**
WB2 IAmb IAmb 18 42 04.3
comp=Z,11nm,1.4s
WRA Warramunga Arr 68.14 197 P **P 18 41 54.4 +0.9**
comp=Z,0.9nm,0.6s,baz=14,slow=6.7,SNR=10
comp=Z,0.9nm,0.6s
AKASG Malin Array Be 70.70 325 P **P 18 42 09.4 +0.4**
comp=Z,1.1nm,0.6s,baz=36,slow=7.1,SNR=5.4
comp=Z,1.1nm,0.6s
S22A 4UR Ranch, Cre 70.79 55 P **P 18 42 11.4 +1.2**
baz=315
W18A Petrified Fore 70.95 59 P **P 18 42 12.0 +0.9**
baz=315
EYMN Ely 71.01 39 P **P 18 42 11.3 +0.3**
baz=321
OGNE Ogallala 71.14 50 P **P 18 42 12.7 +0.8**
baz=317
214A Organ Pipe Nat 71.30 63 P **P 18 42 14.2 +1.2**
baz=315
SDCO Great Sand Dun 71.54 54 P **P 18 42 15.1 +0.4**
baz=316
ECSD EROS Data Cent 71.84 45 P **P 18 42 16.6 +0.5**
baz=319
ASAR Alice Springs 71.85 197 P P 18 42 10.7 -5.5
ASAR Alice Springs 71.85 197 P P 18 42 18.2 +2.1
comp=Z,1.3nm,0.8s,baz=9.5,slow=5.9,SNR=15
comp=Z,1.3nm,0.8s
ASAR Alice Springs 71.85 197 P P 18 42 10.7 -5.5
TUC Tucson 72.29 62 P **P 18 42 20.0 +1.0**
baz=315
T25A Trinidad 72.58 54 P **P 18 42 21.1 +0.3**
baz=317
ANMO Albuquerque 72.98 57 P **P 18 42 24.1 +0.8**
baz=316
SCHQ Schefferville 73.78 22 P **P 18 42 28.1 +0.8**

comp=Z,1.4nm,0.4s,baz=254,slow=16,SNR=5.1
comp=Z,1.4nm,0.4s
AMTX Amarillo 75.73 54 P P 18 42 40.1 +1.1
baz=318
MSTX Muleshoe 75.79 55 P P 18 42 40.5 +1.1
baz=318
MNTX Cornudas Mount 75.94 59 P P 18 42 41.4 +1.2
baz=317
WMOK Wichita Mounta 77.44 52 P P 18 42 49.3 +0.8
baz=319
TXAR Lajitas Array 78.67 59 P P 18 42 56.6 +1.0
comp=Z,1.8nm,0.8s,baz=294,slow=4.4,SNR=21
comp=Z,1.8nm,0.8s
CCM Cathedral Cave 78.80 45 P P 18 42 56.2 +0.3
baz=322
O48B Farmland 79.88 40 P P 18 43 02.3 +0.5
baz=325
MIAR Mount Ida 80.35 49 P P 18 43 05.3 +0.9
baz=322
ERPA Erie 80.53 36 P P 18 43 05.8 +0.5
baz=328
P49A Miami Univ. Ec 80.67 40 P P 18 43 06.4 +0.4
baz=326
M53A Wt Miller and 80.82 37 P P 18 43 07.4 +0.6
baz=328
WCI Wyandotte Cave 81.01 42 P P 18 43 08.6 +0.7
baz=325
O53A New Philadelph 81.59 38 P P 18 43 11.5 +0.6
baz=328
MMAI Mount Meron Ar 81.70 310 P P 18 43 13.4 +1.7
comp=Z,2.2nm,0.8s,baz=54,slow=6.2,SNR=2.0
comp=Z,2.2nm,0.8s
P52A Corning 81.71 39 P P 18 43 12.2 +0.6
baz=327
WVT Waverly 81.98 44 P P 18 43 13.9 +0.9
baz=324
OXF Oxford 82.50 46 P P 18 43 16.7 +1.0
baz=324
SSPA Standing Stone 82.62 35 P P 18 43 17.2 +0.9
baz=329
LPAZ La Paz 135.54 60 PKP PKiKP 18 50 14.0 -1.2
comp=Z,0.9nm,0.6s,baz=99,slow=1.4,SNR=3.0
H03N2 Juan Fernandez 140.16 89 T T 21 25 57.3
baz=308,slow=77,SNR=60
H03N1 Juan Fernandez 140.17 89 T T 21 25 58.5
baz=308,slow=77,SNR=54
H03N3 Juan Fernandez 140.17 89 T T 21 25 51.9
baz=308,slow=77,SNR=57
PLCA Paso Flores 149.61 94 PKPbc PKPab 18 50 43.9 -3.3
comp=Z,4.1nm,0.7s,baz=243,slow=1.4,SNR=16
CPUP Villa Florida 149.63 58 PKPbc PKPab 18 50 43.6 -3.9
comp=Z,1.8nm,0.8s,baz=256,slow=3.7,SNR=6.5
SNAA Sanae 152.21 197 PKPbc PKiKP 18 50 48.5 +1.4
comp=Z,1.1nm,0.6s,baz=142,slow=2.3,SNR=5.5

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*NEIC **29** 18:40:45.8±0.8, 33°.501N±0°.007×116°.748W±0°.010, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=52.0*
*ANF **29** 18:40:45.6±0.1, 33°.51N×116°.75W, h12km±1km, ML2.8/28, Error ellipse: s-maj=1.1km s-min=0.9km az=55.0*
*PAS **29** 18:40:46.4±0.8, 33°.513N±0°.008×116°.757W±0°.010, h4km±2km, ML2.8/178, ML2.7/31(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=124.0*
ISC 29 18:40:45.7±0.8, 33°.51N±0°.01×116.75W±0°.01, h13km±5km, n96, σ0=52/148, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNDA	**J Saunders Pla**	**0.12**	**71**		**Pg**	**18 40 49.1**	**-0.1**
SNDA					**Sg**	**18 40 51.0**	**-0.7**
GVDA	**Garner Valley**	**0.17**	**23**		**Pg**	**18 40 49.8**	**-0.1**
GVDA					**Sg**	**18 40 52.3**	**-0.4**
POB	**Polly Butte**	**0.22**	**321**		**Pg**	**18 40 50.9**	**+0.2**
POB					**Sg**	**18 40 53.8**	**-0.3**
DGR	**Domenigoni Val**	**0.25**	**303**		**Pn**	**18 40 54.8**	**-0.5**
BACC	**Bachelor Mtn.**	**0.26**	**293**		**Pn**	**18 40 55.1**	**-0.2**
PFO	**Pinyon Flats O**	**0.27**	**68**	Pg	**Pg**	**18 40 51.4**	**0.0**
PFO	**Pinyon Flats O**	**0.27**	**68**	P	**Pg**	**18 40 51.6**	**+0.2**
	baz=248,SNR=1000						
PFO				S	**Sg**	**18 40 55.0**	**-0.2**
	baz=248						
HMTC	**Hemet**	**0.29**	**313**		**Pg**	**18 40 51.9**	**+0.1**
HMTC					**Sg**	**18 40 55.6**	**-0.2**
MATG	**Mataguay Scout**	**0.32**	**164**		**Pb**	**18 40 53.1**	**-0.4**
MATG					**Sg**	**18 40 57.6**	**+0.7**
PMD	**Palm Desert**	**0.34**	**67**		**Sg**	**18 40 57.1**	**-0.3**
MURC	**Murrieta**	**0.38**	**284**		**Pg**	**18 40 53.8**	**+0.3**
MURC					**Sg**	**18 40 59.2**	**+0.7**
MURC	**Murrieta**	**0.38**	**284**	P	**Pg**	**18 40 53.7**	**+0.3**
	baz=103,SNR=149						
MURC				S	**Sg**	**18 40 59.0**	**+0.5**
	baz=103						
DEVC	**Devers**	**0.45**	**19**		**Sb**	**18 41 01.5**	**-0.6**
JUEM	**Julian Eagle M**	**0.45**	**163**		**Pb**	**18 40 55.2**	**-0.4**
JUEM					**Sb**	**18 41 01.6**	**-0.7**
BBSC	**Beaumont Base**	**0.45**	**335**		**Pb**	**18 40 55.3**	**-0.3**
BBSC					**Sb**	**18 41 01.8**	**-0.5**
PEC	**Perris**	**0.51**	**318**		**Sg**	**18 41 02.6**	**0.0**
EW2	**E Wide Canyon**	**0.52**	**34**		**Sg**	**18 41 03.2**	**+0.4**
SLH	**Sleepy Hollow**	**0.53**	**127**		**Pb**	**18 40 56.8**	**0.0**
SLH					**Sb**	**18 41 03.7**	**-0.6**
DPP	**Dos Picos Cty**	**0.54**	**197**		**Pg**	**18 40 56.5**	**+0.2**
DPP					**Sg**	**18 41 03.6**	**+0.2**
GORC	**Green Oak Ranc**	**0.54**	**228**		**Pg**	**18 40 56.4**	**+0.2**
GORC					**Sg**	**18 41 03.6**	**+0.2**
ELS	**Elsinore Mount**	**0.58**	**284**		**Pg**	**18 40 57.2**	**+0.1**
ELS	**Elsinore Mount**	**0.58**	**284**		**Sg**	**18 41 05.2**	**+0.4**
ELS	**Elsinore Mount**	**0.58**	**284**	IAML		18 41 05.9	
	comp=E,316nm,0.2s						
ELS				IAML		18 41 06.5	
	comp=N,245nm,0.2s						
CFT	**Crafton Hills**	**0.60**	**330**		**Pb**	**18 40 58.2**	**0.0**
EML	**El Monte Cty P**	**0.62**	**187**		**Sg**	**18 41 06.2**	**0.0**
BLAC	**Blackrock camp**	**0.63**	**29**		**Sg**	**18 41 06.7**	**+0.1**
CTCC	**Cactus City**	**0.65**	**77**		**Pb**	**18 40 59.1**	**+0.1**
CTCC					**Sb**	**18 41 08.2**	**+0.2**
SVD	**Seven Oaks Dam**	**0.66**	**334**		**Pb**	**18 40 59.2**	**0.0**
SVD					**Sb**	**18 41 08.1**	**-0.1**
RSBC	**Riverside Bore**	**0.66**	**314**		**Pg**	**18 40 58.8**	**+0.2**
RSBC					**Sg**	**18 41 07.7**	**+0.2**
RSBC	**Riverside Bore**	**0.66**	**314**		**Pg**	**18 40 58.6**	**0.0**
RSBC					**Sg**	**18 41 07.6**	**+0.2**
MONP2	**Monument Peak**	**0.68**	**156**		**Sg**	**18 41 08.2**	**+0.3**
MONP2	**Monument Peak**	**0.68**	**156**	P	**Pb**	**18 40 59.4**	**-0.1**
	baz=336,SNR=28						
MONP2				S	**Sg**	**18 41 08.3**	**+0.3**
	baz=336						
SALN	**Salton City**	**0.68**	**110**		**Sb**	**18 41 09.4**	**+0.6**
109C	**Camp Elliot, M**	**0.69**	**205**		**Pg**	**18 40 58.9**	**-0.2**
109C				IAML		18 41 10.0	
	comp=E,314nm,0.2s						
109C				IAML		18 41 10.3	
	comp=N,273nm,0.2s						
109C	**Camp Elliot, M**	**0.69**	**205**	P	**Pg**	**18 40 59.1**	**0.0**
	baz=25,SNR=28						
109C				S	**Sg**	**18 41 08.2**	**0.0**
	baz=25						
CPE	**Camp Elliot**	**0.69**	**205**		**Pg**	**18 40 59.1**	**0.0**
CPE					**Sg**	**18 41 08.4**	**+0.3**
RVR	**Riverside**	**0.71**	**313**		**Pg**	**18 40 59.3**	**-0.2**
RVR					**Sg**	**18 41 08.6**	**-0.2**
HLNC	**Highland**	**0.72**	**328**		**Pb**	**18 41 00.3**	**+0.1**
MTRP	**Mission Trails**	**0.73**	**200**		**Pg**	**18 40 59.8**	**-0.2**
MTRP					**Sg**	**18 41 09.6**	**-0.1**
CFSC	**Central Fire S**	**0.74**	**324**		**Sb**	**18 41 10.9**	**+0.4**
CLTC	**Calectric**	**0.74**	**321**		**Pg**	**18 41 00.2**	**-0.1**
CTW	**Cottonwood Mou**	**0.75**	**77**		**Pb**	**18 41 00.8**	**0.0**
CTW					**Sb**	**18 41 10.9**	**-0.1**
BBRC	**Big Bear Solar**	**0.76**	**350**		**Pb**	**18 41 00.8**	**-0.2**
BBRC					**Sg**	**18 41 10.7**	**+0.1**
BBRC	**Big Bear Solar**	**0.76**	**350**	P	**Pb**	**18 41 00.8**	**-0.2**
	baz=170						
BBRC				S	**Sb**	**18 41 11.0**	**-0.3**
	baz=170						
SDRC	**San Diego Road**	**0.79**	**192**		**Pg**	**18 41 00.8**	**-0.3**
SDRC					**Sg**	**18 41 11.2**	**-0.3**
SDMC	**San Diego Miss**	**0.79**	**204**		**Pg**	**18 41 01.1**	**0.0**
SDMC					**Sb**	**18 41 11.9**	**-0.2**
BELC	**Belle Mtn. Jos**	**0.80**	**52**		**Pg**	**18 41 01.4**	**+0.2**
BELC					**Sg**	**18 41 11.6**	**-0.1**
BELC	**Belle Mtn. Jos**	**0.80**	**52**	P	**Pg**	**18 41 01.4**	**+0.2**
	baz=232,SNR=51						
BELC				S	**Sg**	**18 41 11.8**	**0.0**
	baz=232						
FON	**Fontana**	**0.82**	**316**		**Pg**	**18 41 01.6**	**0.0**
FON					**Sg**	**18 41 12.2**	**-0.1**
BAR	**Barrett**	**0.83**	**175**		**Pg**	**18 41 01.7**	**-0.2**
BAR					**Sg**	**18 41 12.6**	**-0.2**
MLSC	**Mira Loma**	**0.83**	**306**		**Pg**	**18 41 01.6**	**-0.3**
MLSC					**Sg**	**18 41 13.0**	**+0.1**
GTM	**Goat Mountain**	**0.85**	**23**		**Sg**	**18 41 13.2**	**-0.1**
BOMB	**Bombay Beach**	**0.87**	**99**		**Pb**	**18 41 03.0**	**+0.4**
BOMB					**Sn**	**18 41 15.8**	**-0.4**
ERRC	**Elmore Ranch**	**0.87**	**117**		**Pn**	**18 41 03.8**	**+0.1**
ERRC					**Sn**	**18 41 16.7**	**+0.4**
DUZA	**Dulzura**	**0.90**	**181**		**Pg**	**18 41 02.8**	**-0.4**
DUZA					**Sg**	**18 41 14.8**	**-0.2**
CRR	**Carrizo Plain**	**0.91**	**133**		**Pn**	**18 41 03.7**	**-0.4**
CRR					**Sn**	**18 41 16.4**	**-0.7**
CHNC	**Chino**	**0.91**	**302**		**Pg**	**18 41 03.2**	**-0.2**
OLP	**Otay Lakes Par**	**0.91**	**189**		**Pb**	**18 41 03.0**	**-0.5**
OLP					**Sg**	**18 41 14.9**	**-0.5**
TKX	**Tecate**	**0.95**	**173**		**Pb**	**18 41 03.4**	**-0.7**
SWSC	**Sam W. Stewart**	**0.98**	**125**	P	**Pb**	**18 41 04.4**	**-0.2**
SWSC	baz=306,SNR=67						
				S	**Sg**	**18 41 18.0**	**+0.6**
	baz=306						
IKP	**In-Ko-Pah, Jac**	**1.01**	**148**	P	**Pn**	**18 41 05.6**	**-0.2**
	baz=328,SNR=40						
IKP				S	**Sg**	**18 41 18.9**	**+0.3**
	baz=328						
BFSC	**Mount Baldy Ra**	**1.04**	**314**	P	**Pb**	**18 41 05.4**	**-0.4**
	baz=134,SNR=71						
BFSC				S	**Sb**	**18 41 19.2**	**-0.2**
	baz=134						
RMX	**La Rumorosa**	**1.07**	**148**		**Pn**	**18 41 07.5**	**+1.0**
RMX				IAML		18 41 23.3	
	comp=E,217nm,0.2s						
RMX				IAML		18 41 23.5	
	comp=N,147nm,0.2s						
BC3	**Big Chuckawall**	**1.09**	**82**	Pg	**Pg**	**18 41 07.0**	**+0.1**
	baz=263						
BC3				S	**Sg**	**18 41 21.1**	**0.0**
	baz=263						
YUH	**Yuha Desert**	**1.11**	**141**		**Pb**	**18 41 06.7**	**-0.1**
YUH				IAML		18 41 23.6	
	comp=E,160nm,0.4s						
CBX	**Cerro Bola**	**1.20**	**176**		**Pn**	**18 41 08.1**	**-0.2**
FMP	**Fort Macarthur**	**1.30**	**279**	S	**Sg**	**18 41 27.7**	**0.0**
	baz=98						
HEC	**Hector,Ludlow**	**1.36**	**15**		**Pg**	**18 41 11.6**	**-0.3**
HEC	**Hector,Ludlow**	**1.36**	**15**	Pg	**Pg**	**18 41 11.6**	**-0.3**
	baz=195						
HEC				Sb	**Sg**	**18 41 29.8**	**+0.2**
	baz=195						
PASC	**Pasadena Art C**	**1.36**	**299**		**Pn**	**18 41 10.5**	**+0.1**
RRX	**Edison Barstow**	**1.38**	**352**	Pg	**Pg**	**18 41 12.2**	**0.0**
	baz=172						
RRX				S	**Sg**	**18 41 30.3**	**+0.2**
	baz=172						
CIS	**Catalina Islan**	**1.39**	**266**	P	**Pn**	**18 41 10.8**	**-0.1**
	baz=85						
CIS				S	**Sb**	**18 41 29.4**	**+0.1**
	baz=85						
IRM	**Iron Mountain**	**1.49**	**64**	P	**Pn**	**18 41 12.2**	**0.0**
	baz=245,SNR=17						
IRM				Sb	**Sg**	**18 41 33.3**	**-0.3**
	baz=245						
DECC	**Green Verdugo**	**1.51**	**300**	P	**Pn**	**18 41 12.7**	**+0.2**
	baz=119,SNR=9.1						
DECC				S	**Sb**	**18 41 32.8**	**+0.2**
	baz=119						
GMRC	**Granite Mounta**	**1.56**	**35**	P	**Pn**	**18 41 13.5**	**+0.2**
	baz=216						
GMRC				Sb	**Sg**	**18 41 35.5**	**-0.5**
	baz=216						
SCI2	**San Clemente I**	**1.59**	**251**	P	**Pn**	**18 41 13.9**	**+0.3**
	baz=70						
SCI2				S	**Sn**	**18 41 34.3**	**+0.2**
	baz=70						
CCX	**Cicese**	**1.64**	**177**		**Pb**	**18 41 15.6**	**-0.3**
CCX				IAML		18 41 39.3	
	comp=E,85nm,0.6s						
ESJX	**Sierra Juarez**	**1.65**	**155**		**Pb**	**18 41 15.6**	**-0.5**
ESJX				IAML		18 41 39.3	
	comp=N,74nm,0.3s						
ESJX				IAML		18 41 39.5	
	comp=E,106nm,0.3s						
GLA	**Glamis**	**1.68**	**105**	P	**Pn**	**18 41 14.7**	**-0.2**
	baz=286						
GLA				S	**Sn**	**18 41 36.7**	**+0.5**
	baz=286						
EDW2	**Edwards Air Fo**	**1.71**	**323**	Pb	**Pb**	**18 41 16.8**	**-0.2**
	baz=143						
EDW2				Sb	**Sg**	**18 41 40.0**	**-0.8**
	baz=143						
GSC	**Goldstone, Bar**	**1.79**	**359**		**Pb**	**18 41 17.8**	**-0.6**
GSC				IAML		18 41 46.0	
	comp=E,95nm,0.6s						
GSC				IAML		18 41 47.6	
	comp=N,90nm,0.5s						
GSC	**Goldstone, Bar**	**1.79**	**359**	Pb	**Pb**	**18 41 18.3**	**-0.1**
	baz=179						
GSC				S	**Sb**	**18 41 39.9**	**-0.8**
	baz=179						
BLYC	**Blythe**	**1.88**	**82**		**Pb**	**18 41 19.4**	**-0.5**
BLYC				IAML		18 41 46.0	
	comp=N,66nm,0.7s						
BLYC				IAML		18 41 47.6	
	comp=E,69nm,0.5s						
CCAC	**Calif City Air**	**1.94**	**328**		**Pb**	**18 41 20.1**	**-0.9**
CCAC				IAML		18 41 50.8	
	comp=E,64nm,0.6s						
OSI	**Osito Audit: C**	**1.97**	**304**	Sb	**Sg**	**18 41 47.7**	**-1.5**
	baz=124						
TUQ	**Turquoise Moun**	**2.04**	**19**	Pg	**Pg**	**18 41 24.3**	**-0.6**
	baz=200						
TUQ				Sb	**Sg**	**18 41 50.4**	**-0.9**
	baz=200						
NEE2	**Needles Airpor**	**2.17**	**54**	P	**Pn**	**18 41 22.4**	**+0.8**
	baz=235						
NEE2				Sb	**Sg**	**18 41 54.0**	**-1.5**
	baz=235						
ARVC	**Arvin**	**2.36**	**314**	P	**Pn**	**18 41 25.5**	**+1.4**
	baz=133						
SHOC	**Shoshone, Teco**	**2.42**	**9**	Sb	**Sg**	**18 42 02.2**	**-1.2**
	baz=190						
ISA	**Isabella, Lake**	**2.57**	**327**	P	**Pn**	**18 41 28.6**	**+1.4**
	baz=146						
MPMC	**Manual Prospec**	**2.61**	**347**	Pg	**Pg**	**18 41 35.4**	**-0.5**
	baz=166						
BCW	**Bitter Crk WRg**	**2.62**	**304**		**Pn**	**18 41 29.6**	**+1.7**
BCW				IAML		18 42 10.5	
	comp=E,34nm,2.6s						
BCW				IAML		18 42 33.0	
	comp=N,36nm,3.7s						
GWY	**Greenwater Val**	**2.67**	**1**	Pn	**Pn**	**18 41 30.0**	**+1.4**
V12A	**Nelson**	**2.71**	**35**		**Pn**	**18 41 30.8**	**+1.7**
W13A	**Hualapai Mount**	**2.85**	**56**		**Pn**	**18 41 32.6**	**+1.5**
X16A	**Lo Mia Camp, P**	**4.51**	**77**	Pn	**Pn**	**18 41 55.4**	**+1.5**

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*CATAC **29** 19:11:31.6±0.5, 13°.17N×89°.80W, h19km±2km, ML3.9*
*SNET **29** 19:11:34.2±1.8, 13°.26N×89°.74W, h31km, ML3.8*
*GCG **29** 19:11:35.7±1.1, 13°.44N×90°.01W, h19km±7km, MD3.9*
ISC 29 19:11:30.2±1.8, 13°.20N±0°.06×89°.80W±0°.03, h8km±12km, n43, σ0=80/81, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.55**	**59**	*e*P	**Pn**	**19 11 43.9**	**-0.5**
LALI				*e*S	**Sb**	**19 11 52.2**	**+2.2**
LALI	**Alcalda de L**	**0.55**	**59**	*i* P	**Pn**	**19 11 43.8**	**-0.5**
LALI				*i* S	**Sb**	**19 11 51.8**	**+1.8**
LALI				IAML		19 11 52.0	
	comp=Z,4μm,1.0s						
JAYA	**Jayaque - finc**	**0.56**	**37**	*e*P	**Pn**	**19 11 44.3**	**-0.4**
JAYA				*e*S	**Sn**	**19 11 53.6**	**-0.7**
JAYA	**Jayaque - finc**	**0.56**	**37**	*i* P	**Pn**	**19 11 44.3**	**-0.4**
JAYA				*i* S	**Sn**	**19 11 53.2**	**-1.1**
JAYA				IAML		19 11 54.9	
	comp=Z,27μm,1.0s						
CEVE	**Cerro Verde**	**0.64**	**16**	*e*P	**Pn**	**19 11 45.7**	**-0.2**
CEVE				*e*S	**Sn**	**19 11 56.5**	**+0.2**
CEVE	**Cerro Verde**	**0.64**	**16**	*i* P	**Pn**	**19 11 45.8**	**-0.1**
CEVE				*i* S	**Sn**	**19 11 56.6**	**+0.2**
CEVE				IAML		19 12 01.9	
	comp=Z,4μm,1.0s						
ITCA	**Escuela Especi**	**0.69**	**47**	*i* P	**Pn**	**19 11 45.9**	**-0.5**
ITCA				*i* S	**Sn**	**19 11 56.3**	**-1.1**
ITCA				IAML		19 11 58.9	
	comp=Z,9μm,1.0s						
PMON	**Piamonte**	**0.69**	**43**	*i* P	**Pn**	**19 11 46.2**	**-0.2**
PMON				*i* S	**Sn**	**19 11 57.1**	**-0.3**
PMON				IAML		19 12 04.8	
	comp=Z,7μm,1.0s						
NUBE	**Las Nubes**	**0.69**	**2**	*i* P	**Pn**	**19 11 46.0**	**-0.5**
NUBE				*i* S	**Sn**	**19 11 56.2**	**-1.3**
NUBE				IAML		19 11 57.6	
	comp=Z,2μm,1.0s						
CEDA	**San Andres**	**0.71**	**34**	*e*P	**Pn**	**19 11 46.9**	**+0.2**
CEDA				*e*S	**Sn**	**19 11 57.6**	**-0.2**
CEDA	**San Andres**	**0.71**	**34**	*i* P	**Pn**	**19 11 46.4**	**-0.3**
CEDA				*i* S	**Sn**	**19 11 57.3**	**-0.6**
CEDA				IAML		19 12 10.9	
	comp=Z,6μm,1.0s						
PANCS	**Alcalda de**	**0.73**	**56**	*i* P	**Pn**	**19 11 46.0**	**-0.9**
PANCS				*i* S	**Sn**	**19 11 56.5**	**-1.7**
PANCS				IAML		19 11 57.5	
	comp=Z,23μm,1.0s						
BOQS	**Boqueron**	**0.73**	**44**	*e*P	**Pn**	**19 11 46.9**	**-0.2**
SNET	**Serv Nac Est T**	**0.73**	**49**	*i* P	**Pn**	**19 11 46.4**	**-0.5**
SNET				*i* S	**Sn**	**19 11 57.1**	**-1.3**
SNET				IAML		19 11 59.4	
	comp=Z,6μm,1.0s						
UEES	**Universidad Ev**	**0.75**	**47**	*i* P	**Pn**	**19 11 46.6**	**-0.6**
UEES				*i* S	**Sn**	**19 11 57.8**	**-0.9**
UEES				IAML		19 11 59.5	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**0.75**	**54**	*i* P	**Pn**	**19 11 46.8**	**-0.5**
LOMA				*i* S	**Sn**	**19 11 57.8**	**-1.2**
LOMA				IAML		19 11 59.4	
	comp=Z,8μm,1.0s						
UDBS	**Universidad Do**	**0.81**	**51**	*i* P	**Pn**	**19 11 47.4**	**-0.6**
UDBS				*i* S	**Sn**	**19 11 59.3**	**-0.9**
UDBS				IAML		19 12 01.3	
	comp=Z,6μm,1.0s						
UNIC	**Universidad Ca**	**0.81**	**18**	*i* P	**Pn**	**19 11 47.5**	**-0.5**
UNIC				*i* S	**Sn**	**19 11 59.7**	**-0.6**
UNIC				IAML		19 12 05.4	
	comp=Z,620nm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.81**	**39**	*i* P	**Pn**	**19 11 47.9**	**-0.1**
QUEZ				*i* S	**Sn**	**19 12 00.3**	**+0.1**
QUEZ				IAML		19 12 07.7	
	comp=Z,7μm,1.0s						
COEG	**Centro de Oper**	**0.99**	**65**	*e*P	**Pn**	**19 11 50.3**	**-0.2**
COEG				*e*S	**Sn**	**19 12 04.0**	**-0.6**
COEG	**Centro de Oper**	**0.99**	**65**	*i* P	**Pn**	**19 11 50.1**	**-0.3**
COEG				*i* S	**Sn**	**19 12 03.7**	**-0.9**
COEG				IAML		19 12 05.9	
	comp=Z,3μm,1.0s						
TECO	**Alcaldia de Te**	**1.05**	**71**	*i* P	**Pb**	**19 11 50.9**	**+0.3**
TECO				*i* S	**Sb**	**19 12 04.6**	**+0.1**
TECO				IAML		19 12 08.1	
	comp=Z,2μm,1.0s						
UESV	**Universidad de**	**1.08**	**66**	*i* P	**Pn**	**19 11 51.7**	**+0.1**
UESV				*i* S	**Sn**	**19 12 06.4**	**-0.4**
UESV				IAML		19 12 11.8	
	comp=Z,2μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.16**	**65**	*i* P	**Pn**	**19 11 53.0**	**+0.3**
SCLA				*i* S	**Sn**	**19 12 09.0**	**+0.2**
SCLA				IAML		19 12 17.4	
	comp=Z,640nm,1.0s						
MTO3	**Montecristo**	**1.26**	**20**	*i* P	**Pn**	**19 11 54.5**	**+0.1**
MTO3				*i* S	**Sn**	**19 12 12.1**	**+0.4**
MTO3				IAML		19 12 16.6	
	comp=Z,630nm,1.0s						
LLGN	**La Laguna**	**1.27**	**41**	*i* P	**Pn**	**19 11 54.7**	**+0.4**
LLGN				*i* S	**Sn**	**19 12 11.9**	**+0.3**
LLGN				IAML		19 12 13.4	
	comp=Z,1μm,1.0s						
PACA	**Pacayal**	**1.46**	**79**	*i* S	**Sb**	**19 12 16.4**	**-0.2**
NBG	**Las Nubes**	**1.47**	**339**	*e*P	**Pb**	**19 11 58.8**	**+0.7**
NBG				*e*S	**Sg**	**19 12 14.5**	**-3.1**
RANC	**El Ranchito**	**1.49**	**81**	*i* P	**Pn**	**19 11 57.7**	**+0.3**
RANC				*i* S	**Sb**	**19 12 17.3**	**-0.1**
RANC				IAML		19 12 23.7	
	comp=Z,1μm,1.0s						
JUCU	**Jucuarın**	**1.51**	**88**	*e*P	**Pn**	**19 11 57.6**	**-0.1**
JUCU				*e*S	**Sb**	**19 12 16.7**	**-1.3**
JUCU	**Jucuarın**	**1.51**	**88**	*i* P	**Pn**	**19 11 58.0**	**+0.3**
JUCU				*i* S	**Sb**	**19 12 16.7**	**-1.3**
JUCU				IAML		19 12 21.8	
	comp=Z,1μm,1.0s						
BLLM	**Bellamira**	**1.54**	**81**	*e*P	**Pn**	**19 11 58.5**	**+0.5**
FUG	**Fuego 3**	**1.60**	**321**	*e*P	**Pn**	**19 11 58.6**	**-0.3**
FUG				*e*S	**Sn**	**19 12 20.6**	**+0.8**
CNRM	**Centro Naciona**	**1.61**	**80**	*i* S	**Sn**	**19 12 20.1**	**+0.2**
LCND	**La Caada**	**1.86**	**87**	*i* P	**Pn**	**19 12 02.8**	**+0.4**
LCND				*i* S	**Sn**	**19 12 25.6**	**-0.6**
LCND				IAML		19 12 30.5	
	comp=Z,820nm,1.0s						
MRL	**Marmol**	**1.87**	**4**	*e*P	**Pg**	**19 12 07.4**	**+1.3**
MRL				*e*S	**Sn**	**19 12 26.9**	**+0.3**
CNCH	**Conchagua**	**1.92**	**88**	*i* P	**Pn**	**19 12 03.8**	**+0.5**
CNCH				*i* S	**Sn**	**19 12 27.4**	**-0.3**
CNCH				IAML		19 12 32.0	
	comp=Z,2μm,1.0s						
SOKI	**Kika Raxquin**	**2.24**	**316**	*i* P	**Pn**	**19 12 07.9**	**0.0**
SOKI				*i* S	**Sn**	**19 12 36.3**	**+0.4**
SOKI				IAML		19 12 47.4	
	comp=Z,270nm,1.0s						
RTAL	**Retalhuleu**	**2.26**	**306**	*i* S	**Sn**	**19 12 36.1**	**+0.1**
STG3	**Santiaguito 3,**	**2.28**	**311**	*e*P	**Pn**	**19 12 08.3**	**0.0**
STG3				*e*S	**Sn**	**19 12 34.7**	**-2.0**
TGUH	**Tegucigalpa,Un**	**2.60**	**71**	*i* P	**Pn**	**19 12 13.1**	**+0.4**
TGUH				*i* S	**Sn**	**19 12 45.3**	**+0.7**
TGUH				IAML		19 12 57.0	
	comp=Z,150nm,1.0s						
YUSH	**Yuscaran**	**2.97**	**75**	*i* P	**Pn**	**19 12 18.2**	**+0.4**
YUSH				*i* S	**Sn**	**19 12 53.8**	**+0.1**
BOAB	**BOACO BROADBAN**	**3.10**	**100**	*i* P	**Pn**	**19 12 32.7**	**-0.5**
BOAB				*i* S	**Sn**	**19 13 21.5**	**0.0**
BOAB				IAML		19 14 01.5	
	comp=Z,23nm,1.0s						

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*IDC **29** 19:18:40.2±0.9, 38°.19N×23°.20E, h0km, mb3.5/10, mbtmp3.6/16, ML2.0/3, MS2.8/1, Error ellipse: s-maj=15.5km s-min=14.1km az=99.0*
*ISK **29** 19:18:41.3, 38°.28N×23°.26E, h9km, ML3.6/26*
*ATH **29** 19:18:42.4, 38°.26N×23°.15E, h13km±1km, ML3.6/30, Manual Solution by M.Charalampakis This location: 2020/06/26 18:35:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*TH

VLY				S	Sb	19 19 04.1	+0.4
AXAR	**Agios Charalam**	**0.65**	**319**	P	Pg	19 18 55.1	-0.5
AXAR				S	Sb	19 19 05.1	+0.7
AXAR	**Agios Charalam**	**0.65**	**319**	P	Pg	19 18 55.1	-0.5
EPID	**Epidavros**	**0.66**	**186**	P	Pg	19 18 55.2	-0.5
EPID				S	Sb	19 19 04.6	0.0
EPID	**Epidavros**	**0.66**	**186**	P	Pg	19 18 55.1	-0.6
EPID				S	Sg	19 19 04.4	-0.1
GUR	**Goura**	**0.76**	**244**	P	Pg	19 18 56.4	-1.1
GUR				S	Sg	19 19 07.6	0.0
GUR	**Goura**	**0.76**	**244**	P	Pg	19 18 56.0	-1.5
GUR				S	Sg	19 19 06.6	-1.0
KYMI	**Kymi, Euboea I**	**0.79**	**63**	P	Pn	19 18 59.1	0.0
KYMI				S	Sn	19 19 11.2	+0.7
KYMI	**Kymi, Euboea I**	**0.79**	**63**	P	Pb	19 18 58.7	+0.8
KALE	**Kalithea**	**0.84**	**278**	P	Pg	19 18 58.0	-1.2
KALE				S	Sb	19 19 10.6	+0.6
	4μm,0.5s						
KALE	**Kalithea**	**0.84**	**278**	P	Pg	19 18 57.8	-1.3
ALIK	**Aliki, Aigiali**	**0.86**	**270**	P	Pb	19 18 59.2	+0.1
KLV	**Kalavryta, Ach**	**0.86**	**255**	P	Pg	19 18 58.4	-1.1
KLV	**Kalavryta, Ach**	**0.86**	**255**	P	Pg	19 18 58.2	-1.3
AGG	**Agios Georgios**	**1.01**	**318**	Pg	Pg	19 19 01.5	-0.9
AGG				Sg	Sb	19 19 16.3	+1.4
AGG	**Agios Georgios**	**1.01**	**318**	P	Pg	19 19 01.5	-0.9
AGG	**Agios Georgios**	**1.01**	**318**	P	Pg	19 19 01.4	-0.9
EFP	**Efpalio**	**1.03**	**279**	P	Pg	19 19 01.4	-1.3
EFP				S	Sb	19 19 17.0	+1.7
EFP	**Efpalio**	**1.03**	**279**	P	Pg	19 19 01.2	-1.4
NEO	**Neokhori**	**1.03**	**1**	P	Pn	19 19 03.0	+0.6
NEO				S	Sn	19 19 18.4	+1.9
NEO	**Neokhori**	**1.03**	**1**	P	Pb	19 19 02.9	+0.7
ANX	**Ano Chora**	**1.06**	**288**	P	Pg	19 19 02.0	-1.2
ANX	**Ano Chora**	**1.06**	**288**	P	Pg	19 19 01.9	-1.3
UPR	**University Cam**	**1.11**	**271**	P	Pn	19 19 04.4	+0.9
UPR				S	Sn	19 19 20.0	+1.6
SKY	**Skiros Island**	**1.22**	**60**	P	Pn	19 19 06.1	+1.2
DRO	**Drossia**	**1.22**	**255**	P	Pg	19 19 05.2	-1.1
DRO				S	Sb	19 19 22.7	+1.9
DRO	**Drossia**	**1.22**	**255**	P	Pg	19 19 04.9	-1.4
EVR	**Evrytania**	**1.27**	**301**	P	Pn	19 19 07.0	+1.3
EVR				S	Sn	19 19 24.4	+2.0
EVR	**Evrytania**	**1.27**	**301**	P	Pn	19 19 06.8	+1.1
PVO	**Paravola**	**1.36**	**285**	P	Pb	19 19 08.2	+0.5
PVO				S	Sn	19 19 27.8	+3.3
PVO	**Paravola**	**1.36**	**285**	P	Pn	19 19 07.8	+1.0
RLS	**Riolos of Patr**	**1.39**	**262**	P	Pn	19 19 07.7	+0.5
RLS				S	Sn	19 19 28.2	+3.1
RLS	**Riolos of Patr**	**1.39**	**262**	P	Pn	19 19 07.4	+0.2
ITM	**Ithomi**	**1.49**	**223**	Pn	Pn	19 19 09.8	+1.1
ITM				Sn	Sg	19 19 30.2	-0.5
ITM	**Ithomi**	**1.49**	**223**	P	Pn	19 19 09.7	+1.1
ITM				S	Sg	19 19 30.2	-0.5
ITM	**Ithomi**	**1.49**	**223**	P	Pn	19 19 09.5	+0.8
VLI	**Veliai**	**1.57**	**188**	P	Pn	19 19 11.0	+1.3
VLI				S	Sg	19 19 33.6	+0.4
VLI	**Veliai**	**1.57**	**188**	P	Pn	19 19 09.5	-0.2
THL	**Klokotos Trika**	**1.59**	**325**	P	Pn	19 19 11.2	+1.2
THL	**Klokotos Trika**	**1.59**	**325**	P	Pn	19 19 10.4	+0.3
TYRN	**Tyrnavos**	**1.62**	**333**	P	Pn	19 19 11.3	+0.8
TYRN	**Tyrnavos**	**1.62**	**333**	P	Pn	19 19 11.1	+0.6
PYL	**PYLOS**	**1.80**	**221**	P	Pn	19 19 14.6	+1.7
PYL				S	Sb	19 19 39.3	+1.9
PYL	**PYLOS**	**1.80**	**221**	P	Pn	19 19 14.5	+1.5
MHLO	**Agia Marina, M**	**1.84**	**149**	P	Pn	19 19 15.4	+1.9
MHLO				S	Sg	19 19 41.2	-0.9
MHLO	**Agia Marina, M**	**1.84**	**149**	P	Pn	19 19 14.0	+0.4
RTZL	**Ratzakli, Kefa**	**1.93**	**265**	P	Pn	19 19 16.2	+1.6
LTHK	**Lithakia**	**1.95**	**254**	P	Pn	19 19 16.9	+1.9
LTHK				S	Sb	19 19 42.9	+1.1
LTHK	**Lithakia**	**1.95**	**254**	P	Pn	19 19 16.7	+1.7
NYDR	**Nydri-Lefkada**	**2.01**	**283**	P	Pn	19 19 17.6	+1.8
EVGI	**Lefkada island**	**2.03**	**281**	P	Pn	19 19 18.4	+2.3
VLS	**Valsamata**	**2.06**	**268**	P	Pn	19 19 18.4	+1.8
VLS	**Valsamata**	**2.06**	**268**	P	Pn	19 19 18.3	+1.8
LKD2	**Lefkada island**	**2.06**	**285**	P	Pb	19 19 19.1	-0.6
PSDA	**Pessada-Kefalo**	**2.07**	**266**	P	Pn	19 19 18.4	+1.8
PSDA	**Pessada-Kefalo**	**2.07**	**266**	P	Pn	19 19 18.1	+1.4
TSLK	**Tsoukalades, L**	**2.07**	**286**	P	Pn	19 19 18.5	+1.8
FSK	**Fiskardo**	**2.08**	**276**	P	Pn	19 19 18.9	+2.1
FSK	**Fiskardo**	**2.08**	**276**	P	Pn	19 19 18.5	+1.7
PLG	**Polygyros**	**2.11**	**5**	P	Pn	19 19 17.6	+0.4
OUR	**Ouranopolis**	**2.15**	**16**	P	Pn	19 19 18.3	+0.6
APE	**Apeiranthos**	**2.20**	**122**	⇑P	Pn	19 19 18.9	+0.4
APE	**Apeiranthos**	**2.20**	**122**	Pn	Pn	19 19 18.6	+0.1
APE	**Apeiranthos**	**2.20**	**122**	P	Pn	19 19 20.6	+2.1
APE				S	Sb	19 19 50.1	+1.0
APE	**Apeiranthos**	**2.20**	**122**	P	Pn	19 19 19.0	+0.5
KPRO	**Kipourio**	**2.21**	**320**	P	Pn	19 19 19.7	+1.1
KPRO	**Kipourio**	**2.21**	**320**	P	Pn	19 19 19.4	+0.8
DMLN	**Damoulianata-K**	**2.23**	**270**	P	Pn	19 19 20.2	+1.4
LIA	**Limnos Island**	**2.24**	**43**	P	Pn	19 19 19.4	+0.4
CHOS	**Chios island**	**2.25**	**86**	Pn	Pn	19 19 19.4	+0.3
SIGR	**SIGRI**	**2.28**	**65**	Pn	Pn	19 19 19.9	+0.4
SIGR	**SIGRI**	**2.28**	**65**	P	Pn	19 19 21.2	+1.7
JAN	**Janina**	**2.30**	**308**	P	Pn	19 19 21.6	+1.8
JAN				S	Sn	19 19 51.4	+3.7
KZN	**Kozani**	**2.32**	**332**	P	Pn	19 19 21.2	+1.1
KZN	**Kozani**	**2.32**	**332**	P	Pn	19 19 21.2	+1.1
HORT	**Hortiatis**	**2.32**	**358**	Pn	Pn	19 19 20.7	+0.5
HORT	**Hortiatis**	**2.32**	**358**	P	Pn	19 19 21.4	+1.2
HORT	**Hortiatis**	**2.32**	**358**	P	Pn	19 19 20.5	+0.2
ANKY	**Antikythira Is**	**2.40**	**178**	P	Pn	19 19 21.4	+0.2
THR5	**Thira Island,**	**2.52**	**137**	P	Pn	19 19 25.3	+2.5
SOH	**Sokhos**	**2.55**	**3**	P	Pn	19 19 24.2	+0.9
THR3	**Thira Island,**	**2.56**	**136**	P	Pn	19 19 25.2	+1.9
SNT5	**Nea Kammeni, S**	**2.56**	**136**	P	Pn	19 19 23.6	+0.3
PRK	**Paraskevi**	**2.59**	**67**	P	Pn	19 19 25.8	+2.0
PRK	**Paraskevi**	**2.59**	**67**	P	Pn	19 19 25.5	+1.8
THR6	**Thira Island,**	**2.59**	**137**	P	Pn	19 19 25.9	+2.1
THAS	**Thassos island**	**2.61**	**26**	P	Pn	19 19 26.6	+2.6
THAS	**Thassos island**	**2.61**	**26**	P	Pn	19 19 24.1	+0.1
KOKK	**Kokkinochori,**	**2.62**	**13**	P	Pn	19 19 24.4	+0.3
URLA	**Izmir**	**2.67**	**87**	Pn	Pn	19 19 25.5	+0.6
RODP	**Rodopos**	**2.74**	**171**	Pn	Pn	19 19 25.9	0.0
GADA	**Gvkgeada**	**2.84**	**47**	Pn	Pn	19 19 27.6	+0.4
SMTH	**Samothraki Isl**	**2.84**	**39**	P	Pn	19 19 27.3	0.0
SRS	**Serrai**	**2.86**	**6**	P	Pn	19 19 29.1	+1.6
SRS	**Serrai**	**2.86**	**6**	P	Pn	19 19 28.2	+0.7
IMMV	**Iera Moni Meta**	**2.88**	**167**	Pn	Pn	19 19 27.7	0.0
IMMV	**Iera Moni Meta**	**2.88**	**167**	P	Pn	19 19 27.6	-0.1
FNA	**Florina**	**2.88**	**331**	Pn	Pn	19 19 28.7	+0.9
FNA	**Florina**	**2.88**	**331**	P	Pn	19 19 29.4	+1.6
FNA	**Florina**	**2.88**	**331**	P	Pn	19 19 29.2	+1.4
EZN	**Ezine**	**2.88**	**56**	Pn	Pn	19 19 28.1	+0.3
KNT	**Kendrikon**	**2.90**	**355**	Pn	Pn	19 19 29.1	+1.1
KNT	**Kendrikon**	**2.90**	**355**	P	Pn	19 19 29.5	+1.5
KNT				S	Sn	19 20 06.5	+4.1
KAVA	**Kavala**	**2.90**	**20**	P	Pn	19 19 30.2	+2.1
KAVA	**Kavala**	**2.90**	**20**	P	Pn	19 19 28.2	+0.2
KEK	**Kerkira**	**3.02**	**300**	Pn	Pn	19 19 31.4	+1.7
KEK	**Kerkira**	**3.02**	**300**	P	Pn	19 19 32.2	+2.5
KEK	**Kerkira**	**3.02**	**300**	P	Pn	19 19 31.3	+1.7
KNDR	**Palaiochora Ch**	**3.06**	**173**	Pn	Pn	19 19 31.5	+1.3
IDI	**Anoyia**	**3.27**	**155**	Pn	Pn	19 19 33.9	+0.7
IDI	**Anoyia**	**3.27**	**155**	P	Pn	19 19 35.5	+2.3
IDI	**Anoyia**	**3.27**	**155**	Pn	Pn	19 19 33.1	-0.1
	8.7nm,0.3s,baz=336,slow=12,SNR=53						
IDI				Sn	Sn	19 20 10.0	-1.8
	8.8nm,0.3s,baz=302,slow=20,SNR=3.2						
	24nm,0.4s						
IDI	**Anoyia**	**3.27**	**155**	P	Pn	19 19 34.1	+0.8
GELI	**Tayfur-Gelibol**	**3.31**	**49**	Pn	Pn	19 19 34.4	+0.8
ENEZ	**Enez**	**3.36**	**42**	Pn	Pn	19 19 34.7	+0.4
RDO	**Rodhopi**	**3.39**	**31**	Pn	Pn	19 19 34.9	+0.1
RDO	**Rodhopi**	**3.39**	**31**	P	Pn	19 19 34.9	+0.1
ALN	**Alexandroupoli**	**3.42**	**39**	Pn	Pn	19 19 35.2	0.0
LPK	**Lapseki**	**3.46**	**52**	Pn	Pn	19 19 36.6	+0.8
BODT	**Bodrum**	**3.48**	**109**	Pn	Pn	19 19 37.4	+1.4
GVD	**Gavdhos**	**3.50**	**168**	Pn	Pn	19 19 37.7	+1.4
GVD	**Gavdhos**	**3.50**	**168**	P	Pn	19 19 38.2	+1.9
GVD	**Gavdhos**	**3.50**	**168**	P	Pn	19 19 37.9	+1.6
ERIK	**Erikli-Kesan**	**3.51**	**46**	Pn	Pn	19 19 36.8	+0.4
KKB	**Krupnik**	**3.57**	**359**	P	Pn	19 19 38.0	+0.8
AYDB	**Zeytinkoy-Aydi**	**3.71**	**94**	Pn	Pn	19 19 40.0	+0.7
DAT	**Datca**	**3.80**	**113**	Pn	Pn	19 19 41.6	+1.0
ZKR	**Zakros**	**3.97**	**142**	Pn	Pn	19 19 44.4	+1.6
TIR	**Tirane**	**4.00**	**321**	⇑P	Pb	19 19 51.4	-1.4
DIM	**Dimitrovgrad**	**4.18**	**25**	P	Pn	19 19 46.8	+1.1
PLNA	**Plana**	**4.20**	**2**	S	Sn	19 20 35.0	+0.2
PLNA				P	Pn	19 19 48.0	+1.9
VTS	**Vitosha**	**4.34**	**0**	S	Sn	19 20 36.6	-1.7
VTS				P	Pn	19 19 48.7	+0.7
ELND	**Elena**	**5.08**	**23**	⇑P	Pn	19 19 58.3	+0.4
MPEP	**Malo Peshtene**	**5.09**	**4**	P	Pn	19 19 59.5	+1.3
TIP	**Timpagrande**	**5.12**	**282**	⇑P	Pn	19 20 00.5	+1.8
PDG	**Podgorica**	**5.13**	**325**	⇑P	Pn	19 20 00.2	+1.5
MATE	**Matera**	**5.56**	**297**	⇑P	Pg	19 20 26.2	-3.0
PRD	**Provadia**	**5.83**	**32**	P	Pn	19 20 09.2	+0.8
NEF	**NEVSHA**	**5.87**	**30**	P	Pn	19 20 09.4	+0.6
COPA	**Copaceanca**	**6.05**	**14**	⇑P	Pg	19 20 35.2	-3.2
PSN	**Preselentsi**	**6.53**	**33**	P	Pn	19 20 18.7	+0.8
MDVR	**Moldovita**	**6.60**	**351**	⇓P	Pn	19 20 26.1	+7.2
ICOR	**Ion Corvin**	**6.79**	**29**	⇓P	Pn	19 20 22.7	+1.2
VAE	**Valguarnera**	**7.00**	**266**	Pn	Pn	19 20 25.9	+1.5
	0.6nm,0.3s,baz=35,slow=24,SNR=1.6						
VAE				Sn	Sn	19 21 46.9	+3.2
	0.3nm,0.3s,baz=43,slow=18,SNR=1.5						
	3.1nm,0.4s						
GZR	**Gura Zlata**	**7.12**	**358**	⇓P	Pn	19 20 31.7	+5.6
ARR	**Arges**	**7.17**	**8**	⇑P	Pn	19 20 26.6	-0.2
LOT	**Lotru**	**7.18**	**3**	⇑P	Pn	19 20 28.4	+1.4
TLBR	**Topalu**	**7.25**	**29**	⇓P	Pn	19 20 34.5	+6.8
VOIR		**7.29**	**10**	⇓P	Pn	19 20 29.5	+1.1
HARR	**Harsova**	**7.33**	**27**	⇓P	Pn	19 20 29.2	+0.3
MLR	**Muntele Rosu**	**7.50**	**15**	⇓P	Pn	19 20 32.4	+1.1
MLR	**Muntele Rosu**	**7.50**	**15**	Pn	Pn	19 20 33.3	+2.0
	5.8nm,0.5s,baz=187,slow=8.2,SNR=30						
MLR				Sn	Sn	19 21 57.3	+1.4
	baz=180,slow=20						
MLR				Lg	Lg	19 22 43.8	
	baz=239,slow=18						
TPGR	**Topolog**	**7.65**	**29**	⇑P	Pn	19 20 34.7	+1.4
CFR	**Carcaliu**	**7.82**	**27**	⇑P	Pn	19 20 37.5	+1.9
DOPR	**Dopca**	**7.86**	**11**	⇓P	Pn	19 20 39.0	+2.8
COVR	**Voineasa-Covas**	**7.89**	**15**	⇑P	Pn	19 20 38.6	+2.0
PLOR	**Plostina**	**8.00**	**18**	⇑P	Pn	19 20 39.8	+1.7
BOSR	**Bodos**	**8.01**	**12**	⇓P	Pn	19 20 39.4	+1.2
VRI	**Vrincioaia**	**8.03**	**18**	⇑P	Pn	19 20 40.6	+2.1
TURR	**Turia**	**8.05**	**14**	⇑P	Pn	19 20 39.8	+0.9
BRTR	**Keskin Array B**	**8.26**	**77**	Pn	Pn	19 20 42.3	+0.6
	0.1nm,0.3s,baz=340,slow=13,SNR=2.6						
BRTR				Sn	Sn	19 22 13.4	-1.3
	baz=267,slow=23,SNR=1.1						
BRTR				LR	LR	19 23 58.6	
	comp=Z,53nm,18.3s,baz=162,slow=38						
	0.2nm,0.4s						
MARR	**Marisel-Cluj**	**8.40**	**360**	⇑P	Pn	19 20 42.0	-1.7
BURAR	**Bucovina Array**	**9.45**	**8**	⇓P	Pn	19 20 59.8	+1.7
MMAI	**Mount Meron Ar**	**11.22**	**114**	Pn	Pn	19 21 22.2	-0.1
	6.8nm,1.1s,baz=295,slow=14,SNR=2.1						
EIL	**Elat**	**12.98**	**128**	Pn	Pn	19 21 43.9	-2.4
	2.1nm,0.6s,baz=9.8,slow=14,SNR=1.8						
ESDC	**Sonseca Array**	**21.14**	**282**	P	P	19 23 27.1	+0.3
	0.6nm,0.8s,baz=74,slow=9.9,SNR=5.2						
	0.6nm,0.8s						
HFS	**Hagfors**	**22.70**	**348**	P	P	19 23 44.1	+0.8
	0.9nm,0.5s,baz=161,slow=9.4,SNR=6.3						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**23.27**	**3**	P	P	19 23 49.5	+0.5
	1.1nm,0.7s,baz=183,slow=13,SNR=7.0						
	1.1nm,0.7s						
NOA	**NORSAR Array B**	**24.00**	**346**	P	P	19 23 56.0	-0.2
	1.1nm,0.9s,baz=148,slow=9.8,SNR=3.3						
	1.1nm,0.9s						
EKA	**Eskdalemuir Ar**	**24.61**	**322**	P	P	19 24 01.7	-0.1
	1.4nm,0.8s,baz=120,slow=11,SNR=1.9						
	1.4nm,0.8s						
ARCES	**ARCESS Array B**	**31.35**	**2**	P	P	19 25 02.1	+0.2
	2.0nm,1.0s,baz=183,slow=10.0,SNR=3.2						
	2.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**31.49**	**223**	P	P	19 25 02.9	-0.7
	0.4nm,0.8s,baz=20,slow=9.9,SNR=3.4						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**40.47**	**54**	P	P	19 26 21.4	+1.2
	0.3nm,0.5s,baz=274,slow=8.6,SNR=3.5						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**43.45**	**59**	P	P	19 26 45.5	+0.9
	0.4nm,0.5s,baz=274,slow=7.3,SNR=6.6						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**44.05**	**48**	P	P	19 26 50.2	+0.9
	0.6nm,0.5s,baz=280,slow=8.9,SNR=3.6						
	0.6nm,0.5s						

*SKO **29** 19:38:28.4, 40°.90N×22°.74E, h15km, ML2.7*
*ATH **29** 19:38:30.4, 40°.96N×22°.75E, h8km±1km, ML2.0/7, Error ellipse: s-maj=1.8km s-min=0.8km az=142.0*
*BEO **29** 19:38:30.9±0.4, 40°.98N×22°.75E, h0km, ML2.0/6*

ISC 29 19:38:29.7±0.9, 40°.98N±0°.02×22°.76E±0°.02, h16km±7km, n35, σ0°59/56, 3C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.20**	**30**	⇑*i*Pg	**Pg**	**19 38 34.8**	**+0.3**
KNT				*i* Sg	**Sb**	19 38 37.9	-0.9
VAY	**Valandovo**	**0.37**	**337**	⇑*i*Pg	**Pg**	**19 38 37.3**	**+0.1**
VAY				*i* Sg	**Sg**	**19 38 42.4**	**0.0**
VAY				*e*Lg	Lg	19 38 42.6	
	comp=E,769nm,0.3s						
VAY				*e*Lg	Lg	19 38 42.6	
	comp=N,291nm,0.2s						
THE	**Thessaloniki**	**0.38**	**156**	⇑*i*Pg	**Pg**	**19 38 37.4**	**-0.1**
THE				*i* Sg	**Sg**	**19 38 42.7**	**-0.1**
THE	**Thessaloniki**	**0.38**	**156**	P	**Pg**	**19 38 37.4**	**-0.1**
THE				S	**Sg**	**19 38 42.2**	**-0.6**
THE				AML	AML	19 38 44.4	
	comp=E,896μm,0.2s						
THE				AML	AML	19 38 44.4	
	comp=N,993μm,0.3s						
HORT	**Hortiatis**	**0.46**	**146**	P	**Pg**	**19 38 39.0**	**+0.1**
HORT				S	**Sb**	**19 38 45.8**	**-0.4**
HORT				AML	AML	19 38 47.1	
	comp=E,1038μm,0.2s						
HORT				AML	AML	19 38 47.6	
	comp=N,816μm,0.3s						
SOH	**Sokhos**	**0.47**	**110**	⇓*i*Pg	**Pb**	**19 38 39.6**	**-0.2**
SOH				*i* Sg	**Sb**	**19 38 46.6**	**+0.1**
SOH	**Sokhos**	**0.47**	**110**	P	**Pb**	**19 38 39.6**	**-0.2**
SOH				S	**Sb**	**19 38 46.4**	**-0.1**
SRS	**Serrai**	**0.64**	**78**	*e*Pg	**Pb**	**19 38 42.3**	**-0.2**
SRS				*e*Sg	**Sg**	**19 38 50.8**	**+0.1**
SRS	**Serrai**	**0.64**	**78**	⇓*i*Pg	**Pb**	**19 38 42.3**	**-0.2**
SRS	**Serrai**	**0.64**	**78**	P	**Pb**	**19 38 42.3**	**-0.2**
SRS				S	**Sg**	**19 38 50.9**	**+0.1**
PLG	**Polygyros**	**0.80**	**139**	P	**Pg**	**19 38 45.3**	**+0.1**
PLG				S	**Sb**	**19 38 55.5**	**-0.4**
PLG				AML	AML	19 38 59.4	
	comp=E,201μm,0.2s						
PLG				AML	AML	19 38 59.7	
	comp=N,215μm,0.2s						
KKB	**Krupnik**	**0.90**	**18**	*i* Pg	**Pb**	**19 38 46.8**	**-0.1**
KKB				*i* Sg	**Sg**	**19 38 59.0**	**0.0**
NVR	**Nevrokopi**	**0.91**	**66**	P	**Pn**	**19 38 48.4**	**+0.6**
NVR				S	**Sn**	**19 39 00.4**	**-0.2**
NVR				AML	AML	19 39 01.2	
	comp=N,163μm,0.6s						
NVR				AML	AML	19 39 02.8	
	comp=E,214μm,0.2s						
KOKK	**Kokkinochori,**	**0.95**	**100**	P	**Pb**	**19 38 47.8**	**0.0**
KOKK				S	**Sn**	**19 39 01.2**	**-0.5**
KZN	**Kozani**	**1.01**	**229**	P	**Pg**	**19 38 49.7**	**+0.4**
KZN				S	**Sg**	**19 39 03.0**	**+0.3**
KZN				AML	AML	19 39 05.9	
	comp=E,208μm,0.5s						
KZN				AML	AML	19 39 07.3	
	comp=N,132μm,0.6s						
FNA	**Florina**	**1.07**	**260**	*e*Pg	**Pb**	**19 38 49.4**	**-0.5**
FNA				*e*Sg	**Sg**	**19 39 05.0**	**+0.6**
FNA	**Florina**	**1.07**	**260**	*i* Pg	**Pb**	**19 38 49.5**	**-0.5**
FNA	**Florina**	**1.07**	**260**	P	**Pb**	**19 38 49.4**	**-0.5**
FNA				S	**Sb**	**19 39 04.0**	**+0.3**
FNA				AML	AML	19 39 08.1	
	comp=E,151μm,0.3s						
FNA				AML	AML	19 39 09.4	
	comp=N,128μm,0.3s						
OUR	**Ouranopolis**	**1.13**	**125**	P	**Pg**	**19 38 51.6**	**+0.1**
KAVA	**Kavala**	**1.32**	**89**	P	**Pb**	**19 38 54.1**	**-0.1**
KAVA				S	**Sg**	**19 39 12.0**	**-0.4**
TYRN	**Tyrnavos**	**1.33**	**198**	P	**Pn**	**19 38 53.7**	**0.0**
KPRO	**Kipourio**	**1.48**	**227**	P	**Pb**	**19 38 56.9**	**0.0**
BOSS	**Bosilegrad**	**1.53**	**352**	*e*Pg	**Pg**	**19 38 58.6**	**-0.5**
BOSS				*e*Sg	**Sb**	**19 39 17.7**	**+0.9**
THL	**Klokotos Trika**	**1.53**	**202**	P	**Pb**	**19 38 56.9**	**-0.8**
THL				S	**Sn**	**19 39 16.0**	**+0.1**
THL				AML	AML	19 39 21.2	
	comp=N,34μm,0.6s						
THL				AML	AML	19 39 21.5	
	comp=E,74μm,0.8s						
THAS	**Thassos island**	**1.53**	**104**	P	**Pb**	**19 38 58.0**	**+0.3**
VTS	**Vitosha**	**1.67**	**12**	*e*Pn	**Pb**	**19 39 00.0**	**-0.2**
VTS				*e*Sg	**Sg**	**19 39 24.4**	**+0.8**
NEO	**Neokhori**	**1.71**	**168**	P	**Pn**	**19 38 59.1**	**+0.2**
PLD	**Plovdiv**	**1.89**	**51**	*e*Pn	**Pb**	**19 39 04.3**	**+0.5**
PLD				*e*Sg	**Sg**	**19 39 30.2**	**-0.3**
AGG	**Agios Georgios**	**1.99**	**190**	P	**Pn**	**19 39 03.4**	**+0.7**
RDO	**Rodhopi**	**2.10**	**85**	P	**Pb**	**19 39 06.0**	**-1.4**
LIA	**Limnos Island**	**2.14**	**120**	P	**Pn**	**19 39 05.6**	**+0.9**
SMTH	**Samothraki Isl**	**2.16**	**103**	P	**Pn**	**19 39 05.6**	**+0.5**
ZAPS	**Zavoj**	**2.29**	**358**	*e*Pn	**Pb**	**19 39 11.0**	**+0.3**
ANX	**Ano Chora**	**2.47**	**195**	P	**Pn**	**19 39 10.6**	**+1.1**
SELS	**Selova**	**2.55**	**332**	*e*Pn	**Pb**	**19 39 12.6**	**-2.5**

*IDC **29** 19:48:24.6±1.6, 8°.27S×116°.64E, h0km, mb3.6/4, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=27.8km s-min=22.1km az=83.0*
*DJA **29** 19:48:26.8±0.2, 8°S±4°×11°7E±°, h10km, M4.0/13, mb4.1/1, MLv3.9/13*

ISC 29 19:48:25.8±0.7, 8°30S±0°.06×116°.60E±0°.03, h10km, n26, σ2°05/27, mb3.6/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.51**	**147**	P	**Pb**	**19 48 36.6**	**-0.3**
TWSI				S	**Sb**	**19 48 43.3**	**-1.1**
PLAI	**Plampang**	**1.27**	**114**	P	**Pg**	**19 48 50.7**	**+0.4**
PLAI	**Plampang**	**1.27**	**114**	P	**Pg**	**19 48 50.1**	**-0.2**
SRBI	**Singaraja**	**1.39**	**279**	P	**Pg**	**19 48 52.1**	**-0.5**
DNP	**Denpasar**	**1.43**	**255**	P	**Pg**	**19 48 52.7**	**-0.5**
ABJI	**Asem Bagus**	**2.40**	**282**	P	**Pn**	**19 49 06.1**	**+0.9**
JAGI	**Jajag, Banyuwa**	**2.43**	**266**	P	**Pn**	**19 49 06.0**	**+0.4**
JAGI	**Jajag, Banyuwa**	**2.43**	**266**	P	**Pn**	**19 49 05.8**	**+0.2**
GRJI	**Gresik**	**4.32**	**288**	P	**Pn**	**19 49 32.1**	**+0.6**
BSSI	**Bau Bau, Buton**	**4.41**	**61**	P	**Pn**	**19 49 34.5**	**+1.6**
KAPI	**Kappang**	**4.52**	**44**	Pn	**Pn**	**19 49 33.1**	**-1.3**
	2.2nm,0.3s,baz=209,slow=8.4,SNR=8.6						
KAPI				Sn	**Sn**	**19 50 24.7**	**-2.4**
	4.2nm,0.3s,baz=210,slow=20,SNR=6.3						
KAPI				Lg	Lg	19 50 48.2	
	2.6nm,0.3s,baz=196,slow=20,SNR=6.0						
	5.0nm,0.3s						
BKSI	**Bulukumba**	**4.58**	**50**	P	**Pn**	**19 49 36.2**	**+1.0**
PWJI	**Pagerwojo**	**4.76**	**273**	P	**Pn**	**19 49 38.7**	**+1.1**
EDFI	**Ende, Flores**	**5.05**	**95**	P	**Pn**	**19 49 43.2**	**+1.4

baz=251
NDS eS **Sg** **20 01 36.0 +0.3**
baz=251
TWE Neicheng 0.70 261 P **Pb** **20 01 27.4 -0.2**
baz=258
TWE S **Sb** **20 01 37.1 -0.1**
baz=258
EWUT Wuta 0.71 237 eP **Pg** **20 01 27.0 -0.3**
baz=235
EWUT eS **Sb** **20 01 37.7 +0.3**
baz=235
EOS4 EOS4 0.72 188 P **Pb** **20 01 27.9 +0.1**
baz=183
EOS4 eS **Sb** **20 01 38.8 +1.4**
baz=183
ENA Nanau 0.75 237 eP **Pg** **20 01 27.1 -0.9**
baz=235
ENA S **Sg** **20 01 37.5 -0.3**
baz=235
FUSB Fushanzhiwuyua 0.77 265 P **Pb** **20 01 29.1 +0.2**
baz=277
FUSB eS **Sb** **20 01 39.1 -0.1**
baz=277
TWA Mucha 0.78 281 eS **Sg** **20 01 39.2 +0.2**
baz=279
EAHA Aohua 0.80 231 eP **Pg** **20 01 28.9 -0.2**
baz=244
EAHA eS **Sb** **20 01 40.0 -0.2**
baz=244
ENTT Nioudou 0.81 256 eP **Pg** **20 01 29.3 +0.1**
baz=254
YM08 YM08 0.84 295 P **Pb** **20 01 30.4 +0.3**
baz=293
YM08 eS **Sg** **20 01 40.7 -0.1**
baz=293
NWLT Wulai 0.84 266 eP **Pb** **20 01 30.4 +0.3**
baz=276
NWLT eS **Sg** **20 01 41.1 +0.2**
baz=276
PCYT Pengchaiyu 0.86 338 eP **Pb** **20 01 30.7 +0.4**
baz=332
NDT Datong Townshi 0.86 255 eP **Pg** **20 01 30.3 0.0**
baz=253
TATO Taipei 0.87 280 eS **Sg** **20 01 41.3 -0.3**
baz=278
TWY Chenhua 0.87 300 eP **Pn** **20 01 31.2 -0.4**
baz=285
TWY eS **Sb** **20 01 42.2 +0.1**
baz=285
LATG Datong 0.87 250 P **Pb** **20 01 30.6 -0.1**
baz=249
ANP Anpu 0.90 293 eP **Pb** **20 01 31.4 +0.4**
baz=292
YHNB Yeheng 0.97 261 P **Pg** **20 01 32.3 0.0**
baz=259
YHNB eS **Sb** **20 01 45.9 +0.7**
baz=259
NSK Sanguang 0.99 261 P **Pg** **20 01 32.4 -0.2**
baz=259
NSK eS **Sg** **20 01 44.3 -1.1**
baz=259
NACB Ninganchiao 1.00 229 P **Pg** **20 01 32.7 -0.2**
baz=238
NACB eS **Sg** **20 01 44.3 -1.7**
baz=238
NNSB Datong 1.03 247 P **Pg** **20 01 32.9 -0.6**
baz=234
NNSB eS **Sb** **20 01 47.6 +0.6**
baz=234
NNS Nan Shan 1.04 248 P **Pg** **20 01 33.5 -0.1**
baz=235
NNS eS **Sb** **20 01 47.5 +0.4**
baz=235
ETLH Xiulin Townshi 1.06 234 eP **Pb** **20 01 33.7 -0.2**
baz=243
ETLH eS **Sg** **20 01 47.8 -0.2**
baz=243
TWD Chiawan 1.07 226 eP **Pb** **20 01 34.0 +0.1**
baz=231
TWD eS **Sb** **20 01 47.7 -0.1**
baz=231
NFF Wufeng Townshi 1.21 261 eP **Pn** **20 01 36.0 -0.2**
baz=260
FUSS Fushou 1.23 242 eP **Pn** **20 01 36.7 0.0**
baz=240
FUSS eS **Sn** **20 01 53.4 +0.1**
baz=240
LXIB Xiulin Townshi 1.23 229 eP **Pn** **20 01 36.7 +0.1**
baz=228
WHF Hehuan Shan 1.26 237 P **Pg** **20 01 37.9 0.0**
baz=236
WHF eS **Sg** **20 01 54.2 -0.2**
baz=236
TWT Tachien 1.28 243 eP **Pg** **20 01 38.5 +0.4**
baz=234
TWT S **Sg** **20 01 55.4 +0.5**
baz=234
TDCB Techi 1.29 244 eP **Pb** **20 01 38.1 +0.3**
baz=234
TDCB eS **Sg** **20 01 55.6 +0.3**
baz=234
LIOB Emei 1.30 262 eP **Pb** **20 01 38.1 +0.3**
baz=261
NSTT Nanjuang 1.31 261 eP **Pg** **20 01 39.9 +1.1**
baz=260
ESL Shilin 1.36 222 eP **Pn** **20 01 38.1 -0.2**
baz=203
CHGB Renai 1.38 236 P **Pg** **20 01 39.8 -0.3**
baz=235
CHGB eS **Sg** **20 01 57.9 -0.2**
baz=235
OWD Renai 1.44 233 eP **Pg** **20 01 41.0 -0.2**
baz=214
WUSB Renai 1.46 235 eP **Pg** **20 01 41.4 -0.2**
baz=241
WUSB eS **Sg** **20 02 00.3 -0.3**
baz=241
WARBT Fenglin Townsh 1.46 221 eP **Pb** **20 01 40.6 -0.1**
baz=203
HATJ Hateruma jima 1.47 121 P **Pg** **20 01 41.4 -0.4**
JKRS Kuro-shima 1.56 112 eP **Pb** **20 01 42.0 -0.3**
WCS Beigang Elemen 1.58 241 eP **Pg** **20 01 43.7 -0.3**
baz=240
VWDT VWDT 1.59 228 eP **Pb** **20 01 43.1 +0.3**
baz=212
HGSD Ruisui 1.62 215 eP **Pn** **20 01 42.0 +0.1**
baz=200
SMLT Sun Moon Lake 1.69 236 eP **Pg** **20 01 45.3 -0.6**
baz=222
SSLB Suanglung 1.70 233 eP **Pb** **20 01 45.5 +0.7**
baz=215
TYC Yuchr 1.71 237 eP **Pg** **20 01 45.8 -0.5**
baz=219
YULB Yu-li 1.77 216 eP **Pn** **20 01 43.1 -0.9**
baz=215
FULB Fuli 1.93 213 eP **Pn** **20 01 46.5 +0.3**
baz=197

*NEIC **29** 20:04:44.1±2.2, 43°.60N±0°.03×105°.0W±0°.1, h0km±1km, ML3.4/38, Error ellipse: s-maj=12.4km s-min=4.9km az=97.0*
*IDC **29** 20:04:48.6±1.0, 44°.19N×105°.90W, h0km, mbtmp3.4/4, ML3.5/4, Error ellipse: s-maj=27.6km s-min=8.7km az=145.0*
ISC 29 20:04:45.6±1.2, 43°.60N±0°.06×104°.95W±0°.07, h0km, n39, σ1§55/34, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.84**	**52**		Pg	**Pg**	**20 05 01.7**	**0.0**
K22A	**Casper**	**1.50**	**231**		Pg	Pn	20 05 07.3	-6.6
K22A					IAML		20 05 38.7	
	comp=E,726nm,0.3s							
K22A					IAML		20 05 38.7	
	comp=N,475nm,0.7s							
PHWY	**Pilot Hill**	**2.33**	**190**			**Pn**	**20 05 21.8**	**-3.7**
RWWY	**Rawlins**	**2.54**	**222**			**Pn**	**20 05 25.4**	**-2.9**
N23A	**Red Feather La**	**2.81**	**196**		Pn	**Pn**	**20 05 30.4**	**-1.6**
N23A					IAML		20 06 17.5	
	comp=E,113nm,1.0s							
LAO	**LASA Array**	**3.21**	**344**		Pn	**Pn**	**20 05 36.7**	**-0.8**
OGNE	**Ogallala**	**3.43**	**140**		Pn	**Pn**	**20 05 39.7**	**-0.6**
RLMT	**Red Lodge**	**3.45**	**298**			**Pn**	**20 05 39.2**	**-1.6**
RLMT					IAML		20 06 35.7	
	comp=E,79nm,0.4s							
RLMT					IAML		20 06 42.0	
	comp=E,70nm,1.1s							
PD31	**Pinedale Array**	**3.47**	**258**			Pn	20 05 36.1	-5.0
PDAR	**Pinedale Array**	**3.47**	**258**		Pn	**Pn**	**20 05 36.8**	**-4.4**
PDAR	**Pinedale Array**	**3.47**	**258**		Pn	**Pn**	**20 05 40.3**	**-0.9**
	comp=E,4.6nm,0.3s,baz=65,slow=18,SNR=19							
PDAR					Lg	Lg	20 06 22.5	
	comp=E,11nm,0.3s,baz=68,slow=33,SNR=2.5							
	comp=E,4.1nm,0.3s							
YMP	**Mirror Lake Pl**	**3.92**	**289**		Pn	**Pn**	**20 05 46.5**	**-0.8**
GCMT	**Greycliff**	**4.01**	**305**		Pn	**Pn**	**20 05 47.6**	**-0.9**
LOHW	**Long Hollow**	**4.11**	**272**		Pn	**Pn**	**20 05 50.8**	**+0.9**
LOHW					IAML		20 06 57.1	
	comp=E,36nm,1.1s							
FLWY	**Flagg Ranch**	**4.19**	**279**		Pn	**Pn**	**20 05 50.3**	**-0.6**
FLWY					IAML		20 07 05.1	
	comp=E,65nm,1.8s							
FLWY					IAML		20 07 05.1	
	comp=E,79nm,1.8s							
REDW	**Red Top Meadow**	**4.30**	**269**			**Pn**	**20 05 52.5**	**-0.1**
IMW	**Indian Meadow**	**4.35**	**276**			**Pn**	**20 05 51.8**	**-1.5**
IMW					IAML		20 07 04.3	
	comp=E,44nm,0.9s							
IMW					IAML		20 07 09.6	
	comp=E,32nm,0.9s							
TPAW	**Teton Pass**	**4.37**	**271**			**Pn**	**20 05 53.5**	**0.0**
TPAW					IAML		20 07 20.4	
	comp=E,46nm,1.0s							
TPAW					IAML		20 07 31.6	
	comp=E,66nm,1.1s							
FXWY	**Fox Creek**	**4.41**	**273**		Pn	**Pn**	**20 05 54.0**	**-0.1**
RDMU	**Red Mountain**	**4.58**	**230**			**Pn**	**20 05 57.7**	**+1.3**
RDMU					IAML		20 07 11.6	
	comp=N,52nm,1.1s							
RDMU					IAML		20 07 38.7	
	comp=E,39nm,1.1s							
YHL	**Hebgen Lake**	**4.65**	**288**			**Pn**	**20 05 56.2**	**-1.2**
YHL					IAML		20 07 15.8	
	comp=E,49nm,1.0s							
YHL					IAML		20 07 24.9	
	comp=N,40nm,1.2s							
BOZ	**Bozeman (W)**	**5.17**	**295**		Pn	**Pn**	**20 06 02.8**	**-1.6**
BOZ					IAML		20 07 21.5	
	comp=N,24nm,1.5s							
BOZ					IAML		20 07 23.9	
	comp=N,23nm,1.0s							
HWUT	**Hardware Ranch**	**5.28**	**250**		Pn	**Pn**	**20 06 05.7**	**-0.2**
P18A	**Preston Nutter**	**5.62**	**227**			**Pn**	**20 06 11.8**	**+1.1**
P17A	**Butcher Ranch,**	**5.99**	**228**			**Pn**	**20 06 17.0**	**+1.3**
SPUT	**South Promonto**	**6.00**	**250**		Pn	**Pn**	**20 06 16.1**	**+0.2**
ECSD	**EROS Data Cent**	**6.05**	**86**		Pn	Pn	20 06 21.8	+5.5
HVU	**Hansel Valley**	**6.05**	**255**			**Pn**	**20 06 16.0**	**-0.5**
SRU	**San Rafael Swe**	**6.14**	**225**		Pn	**Pn**	**20 06 18.4**	**+0.6**
LYMT	**Lyon Mountain**	**6.18**	**306**			**Pn**	**20 06 16.8**	**-1.5**
TMUT	**Trail Mountain**	**6.37**	**230**		Pn	**Pn**	**20 06 22.5**	**+1.4**
Q16A	**Castle Valley**	**6.62**	**227**			**Pn**	**20 06 24.0**	**-0.4**
BPMT	**Black Pine Rid**	**6.66**	**298**		Pn	**Pn**	**20 06 23.6**	**-1.3**
DUG	**Dugway, Tooele**	**6.79**	**243**		Pn	**Pn**	**20 06 26.2**	**-0.4**
HMU	**Henry Mountain**	**7.17**	**220**		Pn	**Pn**	**20 06 32.5**	**+0.6**
ULM	**Lac du Bonnet**	**9.09**	**40**		Pn	**Pn**	**20 06 59.1**	**+1.1**
	comp=N,3.1nm,0.3s,baz=229,slow=11,SNR=22							
ULM					Lg	Lg	20 09 30.9	
	comp=N,0.4nm,0.3s,baz=125,slow=20,SNR=2.1							
	comp=N,4.7nm,0.3s							
I56US	**NEWPORT INFRAS**	**9.68**	**303**		I	I	20 59 00.0	
	baz=115,slow=311,SNR=2.8							
NVAR	**Mina Array Bea**	**11.33**	**247**		Pn	**Pn**	**20 07 31.2**	**+2.2**
	baz=62,slow=11,SNR=2.7							
	comp=N,0.3nm,0.6s							
TXAR	**Lajitas Array**	**14.28**	**175**		Pn	P	20 08 22.5	+5.8
	comp=N,0.1nm,0.3s,baz=360,slow=11,SNR=2.4							
TXAR					Lg	Lg	20 12 24.8	
	baz=355,slow=26							
	comp=N,0.4nm,0.8s							

DJA 29 20:09:46.8±0.3, 8°S±4°×11°6E±°, h10km, M3.9/10, mb4.1/1, MLv3.7/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.70**	**145**		P	Pg	20 09 59.1	-1.3
SRBI	**Singaraja**	**1.25**	**273**		P	Pn	20 10 09.3	-1.0
SRBI					S	Sn	20 10 27.9	+0.7
DNP	**Denpasar**	**1.35**	**248**		P	Pb	20 10 12.3	+0.1
DNP					S	Sg	20 10 33.1	+2.9
PLAI	**Plampang**	**1.45**	**117**		P	Pn	20 10 12.2	-0.9
PLAI					S	Sn	20 10 32.3	0.0
JAGI	**Jajag, Banyuwa**	**2.31**	**262**		P	Pn	20 10 23.8	-1.2
BSSI	**Bau Bau, Buton**	**4.46**	**64**		P	Pn	20 10 53.6	-1.0
BKSI	**Bulukumba**	**4.59**	**52**		P	Pn	20 10 55.3	-1.1
EDFI	**Ende, Flores**	**5.20**	**97**		P	Pn	20 11 04.1	-0.7

DJA 29 20:29:48.3±2.3, 2°S±4°×12°8E±°, h24km±23km, M4.3/6, mb5.2/3, mB5.5/1, MLv3.8/6, Mw(mB)5.0/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.53**	**230**		P	Pn	20 30 13.7	-0.4
SWI	**Sorong**	**3.29**	**65**		P	Pn	20 30 38.2	-0.2
SWI					S	Sn	20 31 17.4	+0.6
LUWI	**Luwuk**	**5.62**	**282**		P	Pn	20 31 10.3	-0.2
	97nm,0.4s,4μm0.5nm							
SAUI	**Saumlaki**	**6.45**	**152**		P	Pn	20 31 22.0	+0.2
	372nm,0.9s							

*IDC **29** 20:38:54.0±0.9, 32°.93N×142°.43E, h0km, mb3.6/12, mbtmp3.6/16, ML3.4/4, MS3.0/2, Error ellipse: s-maj=23.5km s-min=18.0km az=65.0*
*JMA **29** 20:38:57.5±0.5, 33°N±1°×14°2E±°, h75km, MV3.7/26, FAR E OFF IZU ISLANDS*
ISC 29 20:38:59.2±0.8, 33°.06N±0°.07×142°.41E±0°.08, h33km, n30, σ1§50/34, mb3.6/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.98**	**324**	eP		**Pn**	**20 39 30.1**	**+0.2**
BSO1				eS		**Sn**	**20 39 55.6**	**+2.3**
JHJ2	**Mitsune**	**2.18**	**272**	eP		**Pn**	**20 39 32.5**	**-0.5**
JHJ2				S		**Sn**	**20 39 59.1**	**+0.3**
JHJ	**Hachijo jima 2**	**2.20**	**272**		Pn	**Pn**	**20 39 32.5**	**-0.9**
	19nm,0.3s,baz=68,slow=19,SNR=16							
JHJ					Sn	**Sn**	**20 39 58.9**	**-0.6**
	80nm,0.3s,baz=53,slow=16,SNR=4.1							
	109nm,0.6s							
BSO3	**Boso 3**	**2.34**	**318**		P	**Pn**	**20 39 35.8**	**+0.6**
JMKN	**Mikurajimanish**	**2.50**	**290**		P	**Pn**	**20 39 37.3**	**-0.2**
BSO4	**Boso 4**	**2.58**	**319**		P	**Pn**	**20 39 39.6**	**+1.1**
JMYK	**Miyake Tsubota**	**2.59**	**293**	eS		**Sn**	**20 40 09.0**	**0.0**
JOD2	**Odawara 2**	**3.52**	**310**		P	**Pn**	**20 39 51.0**	**-0.6**
JYN	**Shimob**	**4.02**	**308**		P	**Pn**	**20 39 58.7**	**+0.3**
JRY	**Ryogami san**	**4.13**	**317**	eP		**Pn**	**20 40 00.3**	**+0.3**
JAG	**Ashikaga**	**4.14**	**325**	eP		**Pn**	**20 40 00.6**	**+0.5**
JOTO	**OTAMA OYAMA**	**4.80**	**340**	eP		**Pn**	**20 40 09.2**	**+0.1**
JOTO				S		**Sn**	**20 41 01.4**	**-2.2**
MJAR	**Matsushiro Art**	**4.90**	**316**		Pn	**Pn**	**20 40 11.5**	**+1.0**
	0.8nm,0.3s,baz=160,slow=13,SNR=66							
MJAR					Sn	**Sn**	**20 41 06.7**	**+0.7**
	0.2nm,0.3s,baz=197,slow=25,SNR=1.2							
	3.9nm,0.4s							
JIE	**Ise**	**4.93**	**287**	eP		**Pn**	**20 40 11.5**	**+0.6**
JCJ	**Chichijima**	**5.95**	**182**		Pn	Pn	20 40 17.4	-7.6
	4.7nm,0.3s,baz=354,slow=22,SNR=10							
JCJ					Sn	Sn	20 41 18.4	-14
	3.2nm,0.3s,baz=280,slow=20,SNR=1.1							
ASAJ	**Asahikawa**	**11.04**	**1**		Pn	**Pn**	**20 41 33.9**	**-0.8**
	0.5nm,0.3s,baz=195,slow=16,SNR=5.6							
ASAJ					Sn	**Sn**	**20 43 30.6**	**-6.3**
	0.2nm,0.3s,baz=259,slow=25,SNR=1.6							
	1.5nm,0.3s							
KSRS	**Korea Array**	**12.62**	**294**		Pn	**Pn**	**20 41 54.7**	**-1.6**
	0.1nm,0.3s,baz=113,slow=14,SNR=1.6							
KSRS					LR	LR	20 48 04.6	
	comp=Z,28nm,18.6s,baz=225,slow=43							
	0.7nm,0.6s							
MA2	**Magadan**	**27.10**	**9**		LR	LR	20 57 52.8	
	comp=Z,55nm,19.2s,baz=232,slow=42							
SONM	**Songino Array**	**30.81**	**309**		P	**P**	**20 45 11.6**	**-0.3**
	0.3nm,0.5s,baz=114,slow=8.4,SNR=2.7							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**47.00**	**305**		P	**P**	**20 47 27.4**	**+0.3**
	0.3nm,0.5s,baz=86,slow=9.8,SNR=4.0							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**49.15**	**311**		P	**P**	**20 47 43.6**	**-0.1**
	0.6nm,0.5s,baz=88,slow=8.2,SNR=6.6							
	0.6nm,0.5s							
ILAR	**Eielson Array**	**52.45**	**31**		P	**P**	**20 48 08.7**	**+0.4**
	0.2nm,0.7s,baz=254,slow=9.1,SNR=2.4							
	0.2nm,0.7s							
WRA	**Warramunga Arr**	**53.27**	**189**		P	**P**	**20 48 13.3**	**-1.4**
	1.2nm,0.5s,baz=6.9,slow=7.6,SNR=23							
	1.2nm,0.5s							
BVAR	**Borovoye Array**	**53.89**	**315**		P	**P**	**20 48 19.9**	**+0.9**
	0.3nm,0.5s,baz=134,slow=8.2,SNR=2.3							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**56.99**	**189**		P	**P**	**20 48 40.5**	**-1.1**
	0.5nm,0.8s,baz=353,slow=6.7,SNR=5.5							
	0.5nm,0.8s							
FINES	**FINESS Array B**	**72.71**	**333**		P	**P**	**20 50 24.8**	**+1.3**
	2.0nm,1.0s,baz=59,slow=5.4,SNR=2.1							
	2.0nm,1.0s							
HFS	**Hagfors**	**78.04**	**336**		P	**P**	**20 50 55.7**	**+1.6**
	1.4nm,0.8s,baz=58,slow=3.6,SNR=2.1							
	1.4nm,0.8s							
PDAR	**Pinedale Array**	**79.87**	**45**		P	**P**	**20 51 04.9**	**+0.1**
	0.2nm,0.4s,baz=318,slow=4.8,SNR=1.7							
	0.2nm,0.4s							
BRTR	**Keskin Array B**	**82.11**	**313**		P	**P**	**20 51 17.8**	**+1.1**
	0.1nm,0.3s,baz=109,slow=3.8,SNR=3.2							
	0.1nm,0.3s							
TXAR	**Lajitas Array**	**91.88**	**53**		P	**P**	**20 52 05.3**	**+0.8**
	0.2nm,0.7s,baz=319,slow=3.5,SNR=2.8							
	0.2nm,0.7s							

*NEIC **29** 20:42:43.1±0.8, 40°.528N±0°.010×112°.14W±0°.02, h0km±1km, ML1.8/46, Error ellipse: s-maj=3.0km s-min=2.4km az=240.0*
*IDC **29** 20:42:48.7±1.6, 40°.89N×112°.49W, h0km, mbtmp2.5/1, ML3.2/1, Error ellipse: s-maj=65.2km s-min=8.8km az=146.0*
ISC 29 20:42:42.0±1.0, 40°.49N±0°.03×112°.33W±0°.03, h0km, n25, σ0§97/25, Utah

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DUG	**Dugway, Tooele**	**0.47**	**231**		Pg	**Pn**	**20 42 55.6**	**-0.6**
DUG					IAML		20 43 10.1	
	44nm,0.8s							
DUG					IAML		20 43 10.5	
	64nm,0.8s							
CTU	**Camp Tracy**	**0.48**	**65**			**Pg**	**20 42 50.5**	**-0.7**
NLU	**North Lily Min**	**0.57**	**160**		Pg	**Pb**	**20 42 54.8**	**-0.2**
NLU					IAML		20 43 15.2	
	comp=N,48nm,1.4s							
NLU					IAML		20 43 15.4	
	comp=E,58nm,1.4s							
JLU	**Jordanelle**	**0.68**	**80**			**Pg**	**20 42 54.2**	**-0.8**
JLU					IAML		20 43 11.2	
	comp=N,49nm,0.6s							
BGU	**Big Grassy Mou**	**0.69**	**309**		Pg	**Pn**	**20 42 59.5**	**+0.3**
MPU	**Maple Canyon**	**0.71**	**131**			**Pb**	**20 42 56.4**	**-1.0**
SPUT	**South Promonto**	**0.82**	**354**			**Pb**	**20 42 59.2**	**0.0**
SPUT					IAML		20 43 15.8	
	comp=N,26nm,0.8s							
TCUT	**Toone Canyon**	**0.94**	**48**			**Pg**	**20 42 59.2**	**-0.7**
HWUT	**Hardware Ranch**	**1.25**	**27**		Pg	**Pg**	**20 43 06.1**	**0.0**
HWUT					IAML		20 43 26.0	
	comp=N,27nm,0.7s							
HWUT					IAML		20 43 28.6	
	comp=N,30nm,0.9s							
HVU	**Hansel Valley**	**1.33**	**346**			**Pn**	**20 43 08.6**	**+0.6**
HVU					IAML		20 43 35.3	
	comp=N,26nm,0.9s							
TMUT	**Trail Mountain**	**1.47**	**144**			**Pb**	**20 43 10.7**	**+0.3**
P17A	**Butcher Ranch,**	**1.59**	**129**			**Pn**	**20 43 11.6**	**0.0**
P17A					IAML		20 43 35.5	
	comp=E,11nm,2.0s							
P17A					IAML		20 43 38.6	
	comp=N,9.4nm,2.0s							
Q16A	**Castle Valley**	**1.81**	**150**			**Pb**	**20 43 15.7**	**-0.4**
Q16A					IAML		20 43 43.0	
	comp=E,9.7nm,1.3s							
Q16A					IAML		20 43 43.1	
	comp=N,14nm,1.6s							
P18A	**Preston Nutter**	**1.82**	**118**			**Pb**	**20 43 15.7**	**-0.6**
P18A					IAML		20 43 44.8	
	comp=N,7.1nm,1.5s							
P18A					IAML		20 44 06.6	
	comp=E,7.4nm,1.2s							
TCRU	**Three Creeks R**	**1.88**	**183**			**Pg**	**20 43 19.0**	**+1.0**
TCRU					IAML		20 43 26.2	
	comp=N,12nm,0.8s							
SRU	**San Rafael Swe**	**1.96**	**134**			**Pn**	**20 43 17.3**	**+0.7**
SRU					IAML		20 43 48.0	
	comp=N,7.4nm,1.0s							
SRU					IAML		20 43 48.0	
	comp=E,13nm,0.8s							
MSU	**Marysvale**	**1.98**	**177**			**Pg**	**20 43 20.4**	**+0.5**
SPR3	**Spring Creek 3**	**2.15**	**227**			**Pg**	**20 43 23.8**	**+0.7**
SPR3					IAML		20 44 14.1	
	comp=E,7.2nm,0.8s							
ELK	**Elko**	**2.23**	**277**			**Pg**	**20 43 24.6**	**-0.1**
PSUT	**Pine Spring**	**2.28**	**212**		Pn	**Pb**	**20 43 24.6**	**+0.5**
PSUT					IAML		20 44 02.1	
	comp=E,7.5nm,1.2s							
AHID	**Auburn Hatcher**	**2.45**	**22**			**Pn**	**20 43 23.5**	**+0.1**
PDAR	**Pinedale Array**	**3.08**	**42**		Pn	**Pb**	**20 43 36.9**	**-0.9**
	comp=E,0.4nm,0.3s,baz=219,slow=13,SNR=15							
PDAR					Pg	**Pg**	**20 43 43.6**	**+2.6**
	comp=E,0.6nm,0.3s,baz=219,slow=16,SNR=13							
PDAR					Lg	Lg	20 44 18.0	
	comp=E,0.4nm,0.3s,baz=221,slow=25,SNR=1.5							
	comp=E,2.9nm,0.8s							
R11B	**Troy Canyon, C**	**3.31**	**231**		Pn	**Pb**	**20 43 39.1**	**-2.5**
R11B					IAML		20 44 37.6	
	comp=N,2.5nm,1.8s							
NVAR	**Mina Array Bea**	**5.06**	**248**		Pg	**Pg**	**20 44 19.4**	**+0.4**
	baz=73,slow=15,SNR=4.8							
NVAR					Lg	Lg	20 45 27.7	
	comp=N,0.1nm,0.3s,baz=62,slow=38,SNR=3.3							
I56US	**NEWPORT INFRAS**	**8.49**	**338**		I	I	21 31 10.0	
	baz=158,slow=314,SNR=4.3							

IDC 29 21:15:23.7±66.0, 17°.58S×177°.50E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=1163.0km s-min=150.6km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.40**	**239**		P	P	21 22 23.1	+1.6
	1.6nm,0.9s,baz=63,slow=7.0,SNR=3.7							
	1.6nm,0.9s							
WRA	**Warramunga Arr**	**40.85**	**260**		P	P	21 23 07.3	-0.4
	0.3nm,0.8s,baz=99,slow=7.8,SNR=9.9							
	0.3nm,0.8s							
ASAR	**Alice Springs**	**41.13**	**254**		P	P	21 23 09.0	-0.9
	1.3nm,0.6s,baz=88,slow=7.9,SNR=18							
	1.3nm,0.6s							

*IDC **29** 21:19:26.4±1.1, 1°.93S×139°.27E, h0km, mb3.7/8, mbtmp3.7/9, ML3.5/2, MS3.8/1, Error ellipse: s-maj=48.5km s-min=18.2km az=80.0*
ISC 29 21:19:28.4±0.9, 2°.05S±0°.08×139°.1E±0°.2, h10km, n15, σ1§60/13, mb3.6/9, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.38**	**194**		P	**Pn**	**21 23 44.4**	**+0.8**
	0.5nm,0.3s,baz=14,slow=12,SNR=39							
WRA					S	**Sn**	**21 27 05.3**	**-3.8**
	1.0nm,0.8s,baz=5.3,slow=23,SNR=3.7							
	0.9nm,0.3s							
CTA	**Charters Tower**	**19.24**	**159**		P	**P**	**21 23 54.4**	**+1.4**
	baz=357,slow=12,SNR=1.7							
ASAR	**Alice Springs**	**22.07**	**193**		P	**P**	**21 24 24.8**	**+1.1**
	0.9nm,0.5s,baz=22,slow=10,SNR=22							
ASAR					S	**S**	**21 28 28.1**	**+0.9**
	0.6nm,1.0s,baz=11,slow=26,SNR=4.1							
	0.9nm,0.5s							
STKA	**Stephens Creek**	**29.76**	**176**		P	**P**	**21 25 35.1**	**-0.1**
	0.4nm,0.4s,baz=54,slow=19,SNR=0.8							
	0.4nm,0.4s							
H11S3	**WAKE ISLAND Hy**	**33.96**	**52**		T	T	22 01 48.9	
	baz=236,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**33.98**	**52**		T	T	22 01 50.3	
	baz=236,slow=76,SNR=8.8							
H11S1	**WAKE ISLAND Hy**	**33.98**	**52**		T	T	22 01 47.5	
	baz=236,slow=76,SNR=6.4							
CMAR	**Chiang Mai Arr**	**44.46**	**299**		P	**P**	**21 27 41.4**	**+1.2**

0.4nm,0.6s,baz=121,slow=6.8,SNR=4.4
0.4nm,0.6s
SONM Songino Array 57.30 334 LR LR 21 53 16.2
comp=Z,72nm,19.4s,baz=192,slow=36
MKAR Makanchi Array 69.51 322 P **P 21 30 36.8 -0.6**
0.3nm,0.6s,baz=100,slow=6.7,SNR=4.2
0.3nm,0.6s
ZALV Zalesovo Beam 71.57 330 P **P 21 30 48.9 -0.8**
0.3nm,0.4s,baz=106,slow=7.7,SNR=1.3
0.3nm,0.4s
KURBB Kurchatov Arra 73.42 325 P **P 21 30 59.2 -1.6**
0.5nm,0.2s,baz=150,slow=3.9,SNR=2.8
0.5nm,0.2s
BVAR Borovoye Array 79.00 325 P **P 21 31 32.7 +0.2**
0.9nm,0.7s,baz=96,slow=7.4,SNR=6.4
0.9nm,0.7s
ILAR Eielson Array 85.07 24 P **P 21 32 03.3 -0.9**
0.1nm,0.5s,baz=280,slow=5.1,SNR=1.1
0.1nm,0.5s
SPITS Spitsbergen Ar 98.41 350 P **P 21 33 05.5 -0.7**
0.8nm,0.4s,baz=9.9,slow=6.8,SNR=1.9

*AFAD **29** 21:25:16.1±0.0, 36.°05N×29.°58E, h7km±2km, ML1.6*
ISK 29 21:25:07.4, 35.°59N×29.°33E, h12km, ML2.0/5, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.68**	**19**	Pg	Pg	21 25 20.8	+0.2
AKAS				Sg	Sb	21 25 31.1	+0.3
AKAS	**Kas**	**0.68**	**19**	P	Pg	21 25 20.4	-0.2
IZZE	**Mula-Seydike**	**0.85**	**354**	P	Pn	21 25 25.3	+0.1
IZZE				S	Sb	21 25 35.9	+0.4
IZZE				*i* AML	AML	21 25 41.0	
	comp=N,46nm,0.3s						
FETY	**Fethiye**	**1.06**	**349**	Pg	Pn	21 25 28.2	0.0
FETY				Sg	Sn	21 25 43.3	+0.4
AKUM	**Antalya-Kumluc**	**1.10**	**48**	P	Pn	21 25 28.8	+0.1
ELL	**Elmali**	**1.25**	**22**	Pn	Pg	21 25 31.4	0.0
ELL				Sn	Sn	21 25 48.5	+0.8
SABU	**Mula-Dalaman**	**1.26**	**347**	P	Pg	21 25 31.7	0.0
SABU				S	Sb	21 25 46.8	-0.7
SABU				*i* AML	AML	21 26 04.0	
	comp=N,16nm,0.7s						
SABU				*i* AML	AML	21 26 11.0	
	comp=E,19nm,1.8s						
KNIK	**Mula-Seydike**	**1.27**	**9**	P	Pg	21 25 31.7	-0.1
CAME	**Cameli-Denizli**	**1.35**	**359**	Pn	Pb	21 25 32.7	-0.1
CAME				Sn	Sg	21 25 51.2	+0.3
GOLH	**Golhisar**	**1.65**	**6**	P	Pb	21 25 38.3	+0.4
GOLH				*i* AML	AML	21 25 58.0	
	comp=N,12nm,2.7s						
GOLH				*i* AML	AML	21 26 05.0	
	comp=E,12nm,1.0s						
DNZT	**Denizli-Tavas-**	**1.70**	**352**	P	Pb	21 25 39.3	+0.6
DNZT				S	Sn	21 25 57.7	-1.2
APMY	**Acipayam-Deniz**	**1.88**	**359**	Pn	Pn	21 25 40.4	+0.9

IDC 29 21:37:17.2±5.2, 39.°19N×110.°52E, h0km, mb3.5/3, mbtmp3.5/4, ML2.9/1, MS3.5/1, Error ellipse: s-maj=108.4km s-min=25.0km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.15**	**342**	Pn	Pn	21 39 31.5	+0.9
	0.1nm,0.3s,baz=162,slow=14,SNR=13						
SONM				Sn	Sn	21 41 10.9	-3.3
	baz=156,slow=25,SNR=3.8						
SONM				Lg	Lg	21 42 06.8	
	0.2nm,0.3s,baz=154,slow=29,SNR=9.5						
	1.7nm,0.8s						
MKAR	**Makanchi Array**	**21.92**	**299**	P	P	21 42 11.5	-0.5
	0.8nm,0.9s,baz=100,slow=13,SNR=6.8						
	0.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**22.97**	**209**	P	P	21 42 23.3	0.0
	1.0nm,0.8s,baz=15,slow=11,SNR=6.1						
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**25.18**	**308**	P	P	21 42 44.3	+0.2
	0.7nm,0.2s,baz=110,slow=10,SNR=1.3						
	0.7nm,0.2s						
BRTR	**Keskin Array B**	**57.54**	**297**	LR	LR	22 13 13.5	
	comp=Z,35nm,18.4s,baz=132,slow=38						

IDC 29 21:44:06.4±2.2, 6.°51S×128.°99E, h0km, mb3.3/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=110.5km s-min=32.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.32**	**159**	Pn	Pn	21 47 32.4	+1.7
	0.2nm,0.3s,baz=338,slow=14,SNR=17						
WRA				Sn	Sn	21 49 55.5	-15
	0.3nm,0.3s,baz=330,slow=22,SNR=7.2						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**17.70**	**165**	P	Pn	21 48 13.2	-1.3
	0.2nm,0.3s,baz=341,slow=11,SNR=15						
ASAR				S	Sn	21 51 17.5	-15
	0.2nm,0.5s,baz=313,slow=17,SNR=1.5						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**67.28**	**327**	P	P	21 55 03.0	+0.1
	0.2nm,0.5s,baz=134,slow=8.3,SNR=2.4						
	0.2nm,0.5s						

DJA 29 21:48:34.8±0.7, 9.°3S±7.°×11.°6E±.°, h14km±4km, M3.6/6, mb3.9/1, MLv3.5/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.54**	**75**	P	Pb	21 48 47.0	+1.0
TWSI				S	Sb	21 48 53.7	+0.1
DNP	**Denpasar**	**1.15**	**280**	P	Pn	21 48 55.2	-1.3
PLAI	**Plampang**	**1.40**	**88**	P	Pn	21 48 59.8	-0.2
GRJI	**Gresik**	**4.31**	**297**	P	Pn	21 49 41.7	+1.7
BSSI	**Bau Bau, Buton**	**4.92**	**57**	P	Pn	21 49 48.3	0.0
BKSI	**Bulukumba**	**5.14**	**47**	P	Pn	21 49 51.2	-0.2

*IDC **29** 21:59:56.9±2.1, 42.°14N×77.°64E, h0km, mb2.9/1, mbtmp3.3/6, ML2.9/5, Error ellipse: s-maj=27.3km s-min=11.1km az=162.0*
*KRNET **29** 21:59:56.9±0.1, 42.°08N×77.°67E, h18km, mb3.5*
*SOME **29** 21:59:57.0, 42.°17N×77.°65E, h5km*
*KNET **29** 21:59:58.9±0.4, 42.°16N×77.°51E, h10km±1km, ml3.5, Error ellipse: s-maj=4.3km s-min=2.5km az=14.0*
*NNC **29** 21:59:58.3±0.5, 42.°21N×77.°67E, h0km, mb3.8, mpv3.9, Error ellipse: s-maj=2.9km s-min=1.9km az=174.0*
ISC 29 21:59:58.1±1.1, 42.°18N±0.°03×77.°59E±0.°02, h7km±9km, n90, σ1s34/158, 53C-24D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.31**	**260**	⇑*i*P	**Pg**	**22 00 04.1**	**0.0**
	baz=77						
KDJ				⇑*e*S	**Sg**	**22 00 09.3**	**+1.1**
	baz=77						
PRZ	**Przheval'sk**	**0.68**	**63**	⇑*i*P	**Pg**	**22 00 09.9**	**-1.2**
	baz=52						
PRZ				⇑*e*S	**Sb**	**22 00 19.3**	**-2.7**
	baz=52						
TNSS	**Tian-Shan**	**0.97**	**331**	*e*P	**Pg**	**22 00 16.8**	**-0.1**
	82nm,0.1s						
TNSS				*e*S	**Sb**	**22 00 31.0**	**+0.2**
	167nm,0.1s						
TNSS	**Tian-Shan**	**0.97**	**331**	P	**Pg**	**22 00 16.8**	**-0.1**
	82nm,0.1s						
TNSS				S	**Sb**	**22 00 31.0**	**+0.2**
	167nm,0.1s						
ULHL	**Ulahol**	**1.00**	**274**	⇑P	**Pg**	**22 00 16.8**	**-0.4**
	115nm,0.2s						
ULHL				⇑S	**Sb**	**22 00 31.5**	**+0.1**
	174nm,0.1s						
ULHL	**Ulahol**	**1.00**	**274**	⇑*i*P	**Pg**	**22 00 16.8**	**-0.4**
	baz=79						
ULHL				⇑*e*S	**Sb**	**22 00 31.4**	**+0.1**
	baz=79						
MDOK	**Medeo**	**1.06**	**338**	*e*P	**Pg**	**22 00 18.1**	**-0.3**
	61nm,0.1s						
MDOK				*e*S	**Sb**	**22 00 33.1**	**+0.2**
	132nm,0.1s						
MDOK	**Medeo**	**1.06**	**338**	⇑P	**Pg**	**22 00 17.8**	**-0.6**
	18nm,0.3s						
MDOK				Pg	**Pg**	**22 00 18.1**	**-0.3**
	61nm,0.1s						
MDOK				⇓S	**Sg**	**22 00 32.6**	**+0.6**
	76nm,0.4s						
MDOK				Lg	Lg	22 00 33.1	
	132nm,0.1s						
SATY	**Saty**	**1.06**	**34**	*e*P	**Pg**	**22 00 17.2**	**-1.4**
	30nm,0.2s						
SATY				*e*S	**Sg**	**22 00 31.4**	**-0.9**
	632nm,0.2s						
SATY	**Saty**	**1.06**	**34**	P	**Pg**	**22 00 17.2**	**-1.4**
	30nm,0.2s						
SATY				S	**Sg**	**22 00 31.4**	**-0.9**
	632nm,0.2s						
KOTS	**Kotyrbulak**	**1.11**	**342**	*e*P	**Pg**	**22 00 19.1**	**-0.2**
	106nm,0.5s						
KOTS				*e*S	**Sb**	**22 00 34.9**	**+0.6**
	164nm,0.3s						
KOTS	**Kotyrbulak**	**1.11**	**342**	P	**Pg**	**22 00 19.1**	**-0.2**
	106nm,0.5s						
KOTS				S	**Sb**	**22 00 34.9**	**+0.6**
	164nm,0.3s						
KNDC	**Almaty**	**1.13**	**336**	⇓P	**Pg**	**22 00 19.6**	**-0.2**
	22nm,0.2s						
KNDC				⇑S	**Sn**	**22 00 36.3**	**0.0**
	223nm,0.3s						
AAA	**Alma-Ata**	**1.14**	**335**	*e*P	**Pn**	**22 00 20.1**	**-0.4**
	254nm,0.2s						
AAA				*e*S	**Sn**	**22 00 36.6**	**+0.1**
	59nm,0.0s						
AAA	**Alma-Ata**	**1.14**	**335**	P	**Pn**	**22 00 20.1**	**-0.4**
	254nm,0.2s						
AAA				S	**Sn**	**22 00 36.6**	**+0.1**
	59nm,0.0s						
KASK	**Kaskelen**	**1.25**	**326**	⇑P	**Pn**	**22 00 21.2**	**-0.8**
KASK				⇑S	**Sn**	**22 00 40.2**	**+1.1**
BOOM	**Boomskoye usch**	**1.26**	**285**	⇑*e*P	**Pg**	**22 00 21.5**	**-0.7**
	baz=88						
BOOM				⇑*e*S	**Sb**	**22 00 39.6**	**+0.9**
	baz=88						
MTBS	**Maitube**	**1.27**	**318**	*e*P	**Pn**	**22 00 22.1**	**-0.3**
	52nm,0.3s						
MTBS				*e*S	**Sn**	**22 00 40.1**	**+0.3**
	344nm,0.2s						
MTBS	**Maitube**	**1.27**	**318**	P	**Pn**	**22 00 22.1**	**-0.3**
	52nm,0.3s						
MTBS				S	**Sn**	**22 00 40.1**	**+0.3**
	344nm,0.2s						
KURS	**Kuram**	**1.37**	**18**	*e*P	**Pn**	**22 00 23.1**	**-0.6**
	28nm,0.3s						
KURS				*e*S	**Sn**	**22 00 41.8**	**-0.5**
	72nm,0.2s						
KURS	**Kuram**	**1.37**	**18**	P	**Pn**	**22 00 23.2**	**-0.6**
	28nm,0.3s						
KURS				S	**Sn**	**22 00 41.8**	**-0.5**
	72nm,0.2s						
NRN	**Naryn**	**1.40**	**238**	⇑*e*P	**Pn**	**22 00 23.2**	**-1.2**
	baz=43						
NRN				⇑*e*S	**Sb**	**22 00 42.3**	**-0.7**
	baz=43						
UZB	**Uzynbulak**	**1.43**	**47**	*e*P	**Pn**	**22 00 23.7**	**-0.9**
	46nm,0.1s						
UZB				*e*S	**Sn**	**22 00 42.7**	**-1.1**
	272nm,0.2s						
UZB	**Uzynbulak**	**1.43**	**47**	P	**Pn**	**22 00 23.7**	**-0.9**
	46nm,0.1s						
UZB				S	**Sn**	**22 00 42.7**	**-1.1**
	272nm,0.2s						
KST	**Kastek**	**1.47**	**306**	*e*P	**Pb**	**22 00 25.8**	**-0.1**
	20nm,0.6s						
KST				*e*S	**Sg**	**22 00 46.3**	**+0.9**
	127nm,0.5s						
KST	**Kastek**	**1.47**	**306**	P	**Pb**	**22 00 25.8**	**-0.1**
	20nm,0.6s						
KST				S	**Sg**	**22 00 46.3**	**+0.9**
	127nm,0.5s						
KPKS	**Kokpek**	**1.52**	**32**	*e*P	**Pb**	**22 00 25.2**	**-1.4**
	65nm,0.2s						
KPKS				*e*S	**Sb**	**22 00 45.3**	**-0.8**
	512nm,0.3s						
KPKS	**Kokpek**	**1.52**	**32**	P	**Pb**	**22 00 25.2**	**-1.4**
	65nm,0.2s						
KPKS				S	**Sb**	**22 00 45.3**	**-0.8**
	512nm,0.3s						
TKM2	**Tokmak 2**	**1.64**	**297**	⇑P	**Pb**	**22 00 28.6**	**-0.2**
	38nm,0.2s,SNR=34						
TKM2				⇓S	**Sg**	**22 00 51.8**	**+0.9**
	747nm,0.1s						
TKM2	**Tokmak 2**	**1.64**	**297**	⇑P	**Pb**	**22 00 28.5**	**-0.4**
	15nm,0.3s						
TKM2				⇑S	**Sg**	**22 00 52.0**	**+1.1**
	123nm,0.2s						
TKM2	**Tokmak 2**	**1.64**	**297**	⇑*i*P	**Pb**	**22 00 28.7**	**-0.2**
	baz=99						
TKM2				⇑*i*S	**Sg**	**22 00 51.9**	**+1.0**
	baz=99						
KTBS	**Karatobe**	**1.67**	**337**	*e*P	**Pb**	**22 00 29.2**	**+0.1**
	86nm,0.3s						
KTBS				*e*S	**Sg**	**22 00 52.3**	**+0.7**
	919nm,0.3s						
KTBS	**Karatobe**	**1.67**	**337**	P	**Pb**	**22 00 29.2**	**+0.1**
	86nm,0.3s						
KTBS				S	**Sg**	**22 00 52.3**	**+0.7**
	919nm,0.3s						
SHLS	**Shalkode**	**1.69**	**54**	*e*P	**Pg**	**22 00 32.7**	**+2.1**
	85nm,0.2s						
SHLS				*e*S	**Sg**	**22 00 57.8**	**+5.3**
	563nm,0.2s						
SHLS	**Shalkode**	**1.69**	**54**	P	**Pg**	**22 00 32.7**	**+2.1**
	85nm,0.2s						
SHLS				S	**Sg**	**22 00 57.8**	**+5.3**
	563nm,0.2s						
DGS	**Degeres**	**1.70**	**309**	*e*P	**Pb**	**22 00 29.9**	**0.0**
	21nm,0.3s						
DGS				*e*S	**Sg**	**22 00 53.5**	**+0.6**
	300nm,0.2s						
DGS	**Degeres**	**1.70**	**309**	P	**Pb**	**22 00 29.9**	**0.0**
	21nm,0.3s						
DGS				S	**Sg**	**22 00 53.4**	**+0.6**
	300nm,0.2s						
CHKK	**Chushkaly**	**1.73**	**346**	*e*P	**Pb**	**22 00 30.3**	**+0.1**
	95nm,0.2s						
CHKK				*e*S	**Sg**	**22 00 54.1**	**+0.6**
	327nm,0.2s						
CHKK	**Chushkaly**	**1.73**	**346**	P	**Pb**	**22 00 30.3**	**+0.1**
	95nm,0.2s						
CHKK				S	**Sg**	**22 00 54.1**	**+0.6**
	327nm,0.2s						
KBK	**Karagaybulak**	**2.01**	**284**	⇑P	**Pb**	**22 00 34.9**	**-0.1**
	23nm,0.1s,SNR=55						
KBK				⇓S	**Sg**	**22 01 03.2**	**+0.6**
	240nm,0.2s						
KBK	**Karagaybulak**	**2.01**	**284**	⇑*i*P	**Pn**	**22 00 33.6**	**+1.0**
	baz=87						
KBK				⇑*e*S	**Sb**	**22 01 00.4**	**0.0**
	baz=87						
BLB	**Baldybastay**	**2.02**	**19**	Pg	**Pb**	**22 00 35.1**	**-0.1**
	571nm,0.2s						
BLB				Lg	Lg	22 01 02.4	
	1μm,0.3s						
ARXS	**Arharly**	**2.04**	**5**	*e*P	**Pb**	**22 00 35.5**	**0.0**
	86nm,0.3s						
ARXS				*e*S	**Sg**	**22 01 03.0**	**-0.5**
	128nm,0.1s						
ARXS	**Arharly**	**2.04**	**5**	Pg	**Pb**	**22 00 35.5**	**0.0**
	86nm,0.3s						
ARXS				Lg	Lg	22 01 03.0	
	128nm,0.1s						
KRBS	**Karabastau**	**2.06**	**318**	*e*P	**Pb**	**22 00 36.3**	**+0.4**
	120nm,0.2s						
KRBS				*e*S	**Sg**	**22 01 04.3**	**0.0**
	347nm,0.2s						
KRBS	**Karabastau**	**2.06**	**318**	Pg	**Pb**	**22 00 36.3**	**+0.4**
	120nm,0.2s						
KRBS				Lg	Lg	22 01 04.3	
	347nm,0.2s						
CHMS	**Chumysh**	**2.25**	**292**	⇑P	**Pb**	**22 00 38.2**	**-0.8**
	12nm,0.2s,SNR=21						
CHMS				⇑S	**Sb**	**22 01 08.9**	**+1.9**
	121nm,0.2s						
CHMS	**Chumysh**	**2.25**	**292**	⇑Pn	**Pb**	**22 00 38.1**	**-0.9**
	8.5nm,0.4s						
CHMS				⇑Sn	**Sb**	**22 01 08.4**	**+1.3**
	74nm,0.5s						
CHMS	**Chumysh**	**2.25**	**292**	⇓*i*P	**Pn**	**22 00 37.0**	**+1.3**
	baz=94						
CHMS				⇓*i*S	**Sb**	**22 01 06.1**	**-0.9**
	baz=94						
FRU1	**Bishkek**	**2.27**	**287**	⇑*e*P	**Pn**	**22 00 37.6**	**+1.5**
	baz=89						
FRU1				⇑*e*S	**Sb**	**22 01 07.1**	**-0.8**
	baz=89						
UCH	**Uchtor**	**2.28**	**272**	⇑P	**Pb**	**22 00 39.5**	**-0.4**
	69nm,0.4s,SNR=52						
UCH				⇑S	**Sb**	**22 01 10.3**	**+1.8**
	41nm,0.3s						
UCH	**Uchtor**	**2.28**	**272**	⇑*i*P	**Pn**	**22 00 37.4**	**+0.8**
	baz=75						
UCH				⇑*i*S	**Sn**	**22 01 06.8**	**+1.6**
	baz=75						
AAK	**Ala-Archa**	**2.33**	**282**	⇑P	**Pb**	**22 00 40.1**	**-0.4**
	46nm,0.3s,SNR=23						
AAK				⇑S	**Sb**	**22 01 12.0**	**+2.3**
	223nm,0.3s						
AAK	**Ala-Archa**	**2.33**	**282**	Pn	**Pb**	**22 00 40.3**	**-0.3**
	19nm,0.3s,baz=118,slow=10,SNR=52						
AAK				Lg	Lg	22 01 13.0	
	36nm,0.3s,baz=263,slow=20,SNR=67						
	40nm,0.3s						
AAK	**Ala-Archa**	**2.33**	**282**	⇑Pn	**Pb**	**22 00 39.6**	**-0.9**
	26nm,0.5s						
AAK				Sn	**Sb**	**22 01 11.2**	**+1.6**
	172nm,0.5s						
AAK	**Ala-Archa**	**2.33**	**282**	⇑*e*P	**Pn**	**22 00 38.1**	**+1.0**
	baz=84						
AAK				⇑*e*S	**Sn**	**22 01 08.1**	**+2.0**
	baz=84						
ARLS	**Aral**	**2.45**	**264**	⇑*i*P	**Pn**	**22 00 39.3**	**+0.6**
	baz=66						
ARLS				⇑*i*S	**Sn**	**22 01 10.1**	**+1.1**
	baz=66						
KNOS	**Konyrlen**	**2.47**	**28**	Pg	**Pb**	**22 00 42.8**	**0.0**
	1.1nm,0.6s						
KNOS				Lg	Lg	22 01 15.7	
	131nm,0.1s						
SGDS	**Sogindy**	**2.52**	**301**	Pg	**Pb**	**22 00 44.8**	**+1.1**
	8.5nm,0.0s						
SGDS				Lg	Lg	22 01 18.5	
	323nm,0.2s						
USP	**Ospenovka**	**2.52**	**297**	⇑P	**Pb**	**22 00 42.3**	**-1.3**
	11nm,0.1s,SNR=28						
USP	**Ospenovka**	**2.52**	**297**	⇓*e*P	**Pn**	**22 00 40.8**	**+1.3**
	baz=98						
USP				⇓*e*S	**Sn**	**22 01 12.8**	**+2.3**
	baz=98						
DJR	**Jarkent**	**2.69**	**36**	*e*P	**Pb**	**22 00 46.3**	**-0.2**
	7.5nm,0.6s						
DJR				*e*S	**Sg**	**22 01 21.1**	**-3.2**
	372nm,0.3s						
DJR	**Jarkent**	**2.69**	**36**	Pg	**Pb**	**22 00 46.3**	**-0.2**
	7.5nm,0.6s						
DJR				Lg	Lg	22 01 21.1	
	372nm,0.3s						
EKS2	**Erkin-Say**	**2.86**	**281**	⇑P	**Pb**	**22 00 47.2**	**-2.3**
	10.0nm,0.2s,SNR=13						
EKS2	**Erkin-Say**	**2.86**	**281**	⇓*e*P	**Pn**	**22 00 45.4**	**+1.1**
	baz=83						
EKS2				⇓*i*S	**Sn**	**22 01 20.7**	**+1.7**
	baz=83						
AML	**Almayashu**	**2.89**	**270**	⇓P	**Pn**	**22 00 47.2**	**+2.2**
	37nm,0.3s,SNR=62						
AML	**Almayashu**	**2.89**	**270**	⇓*e*P	**Pn**	**22 00 45.8**	**+0.8**
	baz=72						
AML				⇓*e*S	**Sn**	**22 01 21.4**	**+1.2**
	baz=72						
MRKS	**Merke**	**3.27**	**281**	*e*P	**Pb**	**22 00 58.2**	**+1.6**
	10nm,0.4s						
MRKS				*e*S	**Sg**	**22 01 41.8**	**-1.3**
	92nm,0.1s						
MRKS	**Merke**	**3.27**	**281**	Pg	**Pb**	**22 00 58.2**	**+1.6**
	10nm,0.4s						
MRKS				Lg	Lg	22 01 41.8	
	92nm,0.1s						
ARSB	**Arslanbob**	**3.55**	**258**	⇑*i*P	**Pn**	**22 00 54.3**	**+0.5**
	baz=59						
ARSB				⇑*i*S	**Sn**	**22 01 36.2**	**+0.1**
	baz=59						
SFK	**Sufi-Kurgan**	**3.77**	**236**	⇓*e*P	**Pn**	**22 00 56.8**	**-0.1**
	baz=38						
SFK				⇓*i*S	**Sn**	**22 01 40.6**	**-1.0**
	baz=38						
MNAS	**Manas**	**3.78**	**276**	⇑*e*P	**Pn**	**22 00 58.0**	**+1.1**
	baz=78						
MNAS				⇑*i*S	**Sn**	**22 01 42.6**	**+0.9**
	baz=78						
BTLS	**Baital**	**3.84**	**319**	*e*P	**Pg**	**22 01 08.9**	**-2.7**
	5.6nm,0.2s						
BTLS				*e*S	**Sg**	**22 02 00.3**	**-1.1**
	14nm,0.5s						
BTLS	**Baital**	**3.84**	**319**	Pg	**Pg**	**22 01 08.9**	**-2.7**
	5.6nm,0.2s						
BTLS				Lg	Lg	22 02 00.3	
	14nm,0.5s						
ARK	**Arkit**	**4.21**	**267**	⇓*i*P	**Pn**	**22 01 03.7**	**+0.9**
	baz=68						
ARK				⇓*i*S	**Sn**	**22 01 52.4**	**+0.1**
	baz=68						
KK31	**Karatay Array**	**5.30**	**282**	Pg	**Pg**	**22 01 35.6**	**-3.9**
	2.7nm,0.6s,baz=103,slow=16,SNR=29						
KK31				⇓Lg	Lg	22 02 48.7	
	7.7nm,0.5s,baz=93,slow=27,SNR=23						
KKAR	**Karatay Array**	**5.30**	**282**	⇑*e*P	**Pn**	**22 01 18.9**	**+1.2**
	baz=83						
KKAR				⇑*i*S	**Sn**	**22 02 18.9**	**-0.1**
	baz=83						
BTK	**Batken**	**5.53**	**250**	⇓*e*P	**Pn**	**22 01 21.4**	**+0.4**
	baz=51						
BTK				⇓*i*S	**Sn**	**22 02 23.1**	**-1.8**
	baz=51						
MAKZ	**Makanchi**	**5.59**	**33**	Pn	**Pn**	**22 01 22.1**	**+0.5**
	1.2nm,0.9s						
MAKZ				⇑Pg	**Pb**	**22 01 38.5**	**+2.5**
	3.7nm,1.0s						
MAKZ				⇓Lg	Lg	22 02 52.6	
	5.2nm,0.8s						
IUG	**Iuzhnay**	**5.61**	**272**	*e*P	**Pg**	**22 01 42.3**	**-3.3**
	20nm,1.2s						
IUG				*e*S	**Sg**	**22 02 58.2**	**-0.1**
	32nm,0.3s						
IUG	**Iuzhnay**	**5.61**	**272**	Pg	**Pg**	**22 01 42.3**	**-3.3**
	20nm,1.2s						
IUG				Lg	Lg	22 02 58.2	
	32nm,0.3s						
MK31	**Makanchi Array**	**5.71**	**35**	⇑Pn	**Pn**	**22 01 23.4**	**+0.2**
	0.7nm,0.2s,baz=216,slow=12,SNR=42						
MK31				⇓Pg	**Pb**	**22 01 40.9**	**+3.0**
	3.2nm,0.7s,baz=222,slow=17,SNR=4.4						
MK31				⇑Sn	**Sn**	**22 02 29.7**	**+0.6**
	4.9nm,0.6s						
MK31				⇓Lg	Lg	22 02 56.1	
	4.7nm,0.5s,baz=215,slow=28,SNR=5.3						
MKAR	**Makanchi Array**	**5.71**	**35**	Pn	**Pn**	**22 01 24.7**	**+1.4**
	0.6nm,0.3s,baz=215,slow=12,SNR=41						
MKAR				Sn	**Sn**	**22 02 31.0**	**+1.9**
	0.7nm,0.3s,baz=223,slow=25,SNR=7.6						
MKAR				Lg	Lg	22 02 50.7	
	1.8nm,0.3s,baz=198,slow=32,SNR=8.5						
	0.8nm,0.2s						
OTUK	**Ortayu**	**7.10**	**330**	⇓Lg	Lg	22 03 43.9	
	15nm,0.7s						
KURBB	**Kurchatov Arra**	**8.47**	**4**	Pn	**Pn**	**22 02 02.2**	**+1.1**
	0.1nm,0.3s,baz=187,slow=12,SNR=2.2						
KURBB				Lg	Lg	22 04 23.9	
	0.1nm,0.3s,baz=179,slow=29,SNR=7.1						
	0.2nm,0.3s						
KURK	**Kurchatov**	**8.56**	**4**	⇑Lg	Lg	22 04 28.8	
	5.7nm,0.7s						
BVAR	**Borovoye Array**	**11.88**	**338**	Pn	**Pn**	**22 02 47.2**	**-0.6**
	baz=148,slow=12,SNR=3.0						
BVAR				Lg	Lg	22 06 12.0	
	baz=149,slow=30,SNR=6.4						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**12.72**	**20**	Pn	**Pn**	**22 03 00.1**	**+0.9**
	0.2nm,0.3s,baz=206,slow=13,SNR=4.1						

σ0°22/6, mb3.2/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.24	256	P	P	22 10 16.8	-0.1
	0.9nm,0.6s,baz=100,slow=7.8,SNR=8.8						
	0.9nm,0.6s						
WRA	Warramunga Arr	45.25	261	P	P	22 10 17.2	+0.1
	0.3nm,0.3s,baz=98,slow=7.6,SNR=15						
	0.3nm,0.3s						
QSPA	South Pole Qui	70.44	180	P	P	22 13 09.9	0.0
	0.7nm,0.8s,baz=45,slow=0.9,SNR=1.7						
	0.7nm,0.8s						
HFS	Hagfors	138.76	352	PKP	PKPdf	22 21 17.3	0.0
	1.9nm,0.9s,baz=20,slow=3.0,SNR=6.1						
AKASG	Malin Array Be	142.50	332	PKP	PKiKP	22 21 27.2	-0.2
	0.9nm,0.4s,baz=45,slow=2.6,SNR=5.2						
BRTR	Keskin Array B	146.63	314	PKPbc	PKiKP	22 21 36.8	+0.2
	0.3nm,0.5s,baz=56,slow=3.7,SNR=3.8						

RSNC 29 22:04:02.6±0.0, 11°N±1°×7°3W±°, h81km±4km, M2.7, mb4.1, ML2.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	Cerrejon, Guaj	0.70	50	P	Pn	22 04 17.2	-1.3
CRJC				S	Sn	22 04 29.4	-0.8
SMRC	Santa Marta, M	0.98	307	P	Pn	22 04 20.1	-1.4
SMRC				S	Sn	22 04 34.0	-1.6
ARGC	Ariguani, Magd	1.07	229	P	Pn	22 04 21.1	-1.5
ARGC				S	Sn	22 04 36.5	-1.0
URIC	Uribia, Colomb	1.80	51	P	Pn	22 04 30.5	-1.4
URIC				S	Sn	22 04 53.3	-0.9
SJCC	San Jacinto, C	1.85	249	P	Pn	22 04 31.1	-1.5
SJCC				S	Sn	22 04 54.6	-0.8
OCAC	Ocana	2.32	177	P	Pn	22 04 36.8	-2.2
OCAC				S	Sn	22 05 06.2	-0.5
SDV	Santo Domingo	3.23	121	P	Pn	22 04 49.6	-1.6
SDV				S	Sn	22 05 25.4	-3.3
PAMC	Pamplona, Colo	3.29	167	P	Pn	22 04 50.2	-2.2
PAMC				S	Sn	22 05 29.7	-1.0
LCBC	Los crdobas,	3.36	240	P	Pn	22 04 55.3	+2.4
LCBC				S	Sn	22 05 29.4	-2.3
ZARC	Zaragoza, Cauc	3.37	205	P	Pn	22 04 52.4	-0.6
ZARC				S	Sn	22 05 29.7	-2.2
PTBC	PUERTO BERRIO,	4.13	194	P	Pn	22 05 02.3	-1.1
PTBC				S	Sn	22 05 50.6	0.0
CAPC	Capurgana	4.32	244	P	Pn	22 05 02.0	-3.9
CAPC				S	Sn	22 05 48.3	-6.8
TAMC	Tame, Arauca	4.42	158	P	Pn	22 05 06.2	-1.1
TAMC				S	Sn	22 05 56.7	-0.8
RUSC	La Rusia	4.66	176	P	Pn	22 05 08.6	-2.4
RUSC				S	Sn	22 06 04.0	-0.1
SPBC	San Pablo de B	4.93	187	P	Pn	22 05 13.7	-0.6
SPBC				S	Sn	22 06 07.3	-2.8
NORC	Norcasia	5.17	196	P	Pn	22 05 17.4	-0.3
GUY2C	Guyana, Caldas	5.65	200	P	Pn	22 05 24.6	+0.1
	14nm,0.7s						
GUY2C				S	Sn	22 06 26.3	-1.9
	14nm,0.7s						
BCIP	Isla Barro Col	6.47	258	P	Pn	22 05 33.1	-2.1
BCIP				S	Sn	22 06 39.9	-7.7
PRAC	Prado	6.96	192	P	Pn	22 05 42.6	+0.5
PRAC				S	Sn	22 06 57.8	-2.0

*HVO **29** 22:05:52.4±1.3, 19°.412N±0°.008×155°.264W±0°.007, h0km±3km, ML3.7/21, ML3.2/29(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=185.0*
*NEIC **29** 22:05:53.1±1.3, 19°.416N±0°.006×155°.271W±0°.008, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.2km az=27.0*
*IDC **29** 22:05:55.3±2.2, 19°.68N×155°.28W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=79.2km s-min=16.0km az=163.0*

ISC 29 22:05:54.1±0.8, 19°.41N±0°.04×155°.27W±0°.03, h10km, n42, σ1°65/38, mb3.4/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	Observatory Le	0.01	303		Pg	22 05 54.2	-1.9
BYL	Byron's Ledge	0.01	86	Pg	Pg	22 05 52.9	-3.2
UWB	Uwekahuna B	0.01	344		Pg	22 05 54.1	-2.0
KKO	Keanakako`i	0.01	151		Pg	22 05 53.8	-2.3
RIM	Rim	0.02	181		Pg	22 05 54.1	-2.0
HATHI	Halema'uma'u T	0.02	45	Pg	Pg	22 05 53.2	-2.9
SBLHI	Steaming Bluff	0.02	19		Pg	22 05 53.9	-2.2
UWE	Uwekahuna	0.02	299	Pg	Pg	22 05 53.7	-2.5
WRMHI	West Rim	0.03	260		Pg	22 05 55.0	-1.1
SDHHI	Sand Hill	0.03	222		Pg	22 05 54.9	-1.2
RSD	Rainshed	0.05	356	Pg	Pg	22 05 54.1	-2.2
PUH	Pauahi	0.07	124	Pg	Pg	22 05 54.6	-1.8
PUH				IAML		22 05 55.0	
	comp=N,8μm,1.4s						
KNHH	Kane Nui o Ham	0.10	108		Pg	22 05 55.3	-1.6
HLP	Hilina Pali	0.12	196		Pg	22 05 56.0	-1.0
HLP	Hilina Pali	0.12	196	IAML		22 05 56.5	
	comp=N,9μm,1.2s						
HLP				IAML		22 05 57.2	
	comp=E,16μm,1.1s						
MLH	Mauna Loa	0.13	308		Sg	22 06 00.8	+1.0
MLH	Mauna Loa	0.13	308		Pg	22 05 56.4	-1.1
MLH				IAML		22 05 59.5	
	comp=N,10μm,0.8s						
MLH				IAML		22 05 59.8	
	comp=E,8μm,0.8s						
STCH	Steam Cracks	0.14	100		Pg	22 05 56.1	-1.3
STCH					Sg	22 05 58.6	-1.1
STCH	Steam Cracks	0.14	100	IAML		22 05 59.0	
	comp=N,8μm,0.9s						
NPOC	North of Pu'u	0.16	97		Pg	22 05 56.9	-0.8
NPOC					Sg	22 06 00.7	+0.6
JCUZ	Jacuzzi	0.17	99		Pg	22 05 57.0	-0.8
JOKA	Jonika Flow	0.26	85		Pg	22 05 57.9	-1.4
JOKA				IAML		22 06 02.6	
	comp=E,4μm,1.7s						
HMH	Humu'ula Sheep	0.27	314		Sg	22 06 03.3	-0.4
HMH	Humu'ula Sheep	0.27	314	Pg	Pg	22 05 59.0	-0.8
HMH	Humu'ula Sheep	0.27	314	IAML		22 06 05.3	
	comp=N,5μm,1.0s						
HMH				IAML		22 06 07.2	
	comp=E,5μm,0.6s						
MLOA	Mauna Loa Obse	0.31	294	Pg	Pg	22 05 59.2	-1.4
MLOA				IAML		22 06 06.5	
	comp=N,6μm,1.0s						
MWH	Moku'aweowe	0.31	284	Pg	Pg	22 05 59.2	-1.4
PAH	Pahoa	0.32	75	Pg	Pg	22 05 58.9	-1.7
KHU	Kahuku	0.36	243	Pg	Pg	22 06 00.4	-1.0
ALEP	Alea Permanent	0.37	290		Sg	22 06 04.7	-2.0
HPO	Honuapo	0.42	220		Sb	22 06 09.1	-0.9
HPO	Honuapo	0.42	220	Pg	Pg	22 06 01.2	-1.1
POHA	Pohakuloa	0.42	325	Pg	Pg	22 06 02.1	-0.5
HUH	Hualalai	0.60	297	Pg	Pg	22 06 05.2	-0.6
I59US	HAWAII INFRASO	0.61	287	Pg	Pb	22 06 06.6	-0.5
	baz=120,slow=52						
I59US				I	I	22 10 00.0	
	baz=106,slow=316,SNR=2.9						
HPAH	Hawaii Prepara	0.73	327	Pg	Pg	22 06 06.6	-1.7
H11N3	WAKE ISLAND Hy	35.59	277	T	T	22 50 01.2	
	baz=84,slow=73,SNR=7.6						
H11N2	WAKE ISLAND Hy	35.60	277	T	T	22 50 02.0	
	baz=84,slow=73,SNR=9.2						
H11N1	WAKE ISLAND Hy	35.60	277	T	T	22 50 02.6	
	baz=84,slow=73,SNR=6.6						
PDAR	Pinedale Array	44.86	48	P	P	22 14 11.2	+2.2
	comp=N,0.1nm,0.3s,baz=258,slow=4.2,SNR=1.0						
	comp=N,0.1nm,0.3s						
ILAR	Eielson Array	45.68	5	P	P	22 14 15.0	+0.1
	comp=N,0.4nm,0.9s,baz=200,slow=7.7,SNR=2.6						
	comp=N,0.4nm,0.9s						
TXAR	Lajitas Array	47.71	68	P	P	22 14 32.8	+1.4
	comp=N,1.4nm,1.0s,baz=263,slow=7.2,SNR=6.1						
	comp=N,1.4nm,1.0s						

*IDC **29** 22:10:24.4±1.5, 19°.30N×155°.19W, h0km, mb3.7/9, mbtmp3.7/9, MS4.2/59, Error ellipse: s-maj=39.5km s-min=14.6km az=3.0*
*NEIC **29** 22:10:25.6, 19°.21N×155°.28W, h12km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.93; $M_{\theta\theta}$0.50; $M_{\phi\phi}$0.44; $M_{r\theta}$-0.50; $M_{\theta\phi}$0.45; $M_{\phi r}$-0.09; Fault plane solution: $M_0$1.06000×10^{17} NP1:φs61.10000°, δ58.94000°, λ-75.18000°. NP2:φs213.94000°, δ34.09000°, λ-113.02000°. Principal axes: T 1.0183, Plg13.0000°, Azm140.0000°; N 0.0754, Plg13.0000°, Azm233.0000°; P -1.0937, Plg72.0000°, Azm7.0000°;*
*HVO **29** 22:10:25.6±1.8, 19°.4N±0°.3×155°.3W±0°.3, h1km±9km, ML3.9/34, mb4.7/22(NEIC), ML3.5/35(NEIC), Mww5.3/19(NEIC) Error ellipse: s-maj=39.9km s-min=36.0km az=187.0*
*NEIC **29** 22:10:25.6, 19°.41N×155°.28W, h12km*
*NEIC **29** 22:10:26.1±1.2, 19°.424N±0°.009×155°.320W±0°.007, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=174.0*
*BJI **29** 22:10:26.0±0.0, 19°.40N×155°.30W, h5km, mb4.7/21, mB5.6/25, Ms5.1/29, Ms7 4.9/29*
*GCMT **29** 22:10:35.6±0.1, 19°.36N±0°.01×155°.15W±0°.01, h12km, MW5.2/152, Moment Tensor Solution. s96,c146; s152,c272; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.91±.01; $M_{\theta\theta}$0.49±.01; $M_{\phi\phi}$0.42±.01; $M_{r\theta}$0.17±.03; $M_{\theta\phi}$0.30±.01; $M_{\phi r}$-0.11±.03; Best double couple: $M_0$0.85100×10^{17} NP1:φs238.00000°, δ48.00000°, λ-76.00000°. NP2:φs38.00000°, δ44.00000°, λ-105.00000°. Principal axes: T 0.7600, Plg2.0000°, Azm319.0000°; N 0.1830, Plg10.0000°, Azm49.0000°; P -0.9430, Plg80.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 22:10:25.3±0.9, 19°.44N±0°.03×155°.28W±0°.03, h2km±5km, n143, σ1°57/80, mb4.7/29, MS4.4/73, 1C, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	Uwekahuna B	0.01	159		Pg	22 10 27.4	+1.4
SBLHI	Steaming Bluff	0.02	127		Pg	22 10 27.5	+1.5
UWE	Uwekahuna	0.02	208	Pg	Pg	22 10 26.5	+0.5
OBL	Observatory Le	0.02	181		Pg	22 10 27.1	+1.1
RSD	Rainshed	0.03	12	Pg	Pg	22 10 27.3	+1.2
RSD				IAML		22 10 28.2	
	comp=N,10μm,0.3s						
RSD				IAML		22 10 28.4	
	comp=E,16μm,0.3s						
HATHI	Halema'uma'u T	0.03	125	Pg	Pg	22 10 27.1	+1.0
BYL	Byron's Ledge	0.03	140	Pg	Pg	22 10 26.9	+0.8
WRMHI	West Rim	0.04	206		Pg	22 10 27.4	+1.2
KKO	Keanakako`i	0.04	158		Pg	22 10 27.3	+1.0
RIM	Rim	0.04	168		Pg	22 10 27.2	+0.9
SDHHI	Sand Hill	0.05	192		Pg	22 10 27.2	+0.7
PUH	Pauahi	0.09	135	Pg	Pg	22 10 28.1	+1.0
PUH				IAML		22 10 28.9	
	comp=E,13μm,0.8s						
PUH				IAML		22 10 29.0	
	comp=N,10μm,0.5s						
MLH	Mauna Loa	0.11	300	Pg	Pg	22 10 28.6	+1.1
MLH				IAML		22 10 32.3	
	comp=E,19μm,0.4s						
MLH				IAML		22 10 32.5	
	comp=N,23μm,0.3s						
KNHH	Kane Nui o Ham	0.12	118	Pg	Pg	22 10 29.0	+1.3
HLP	Hilina Pali	0.14	189	Pg	Pg	22 10 28.8	+0.7
HLP				IAML		22 10 30.9	
	comp=E,13μm,0.8s						
HLP				IAML		22 10 31.1	
	comp=N,17μm,1.2s						
STCH	Steam Cracks	0.16	109	Pg	Pg	22 10 29.4	+0.9
STCH				IAML		22 10 32.8	
	comp=N,6μm,0.4s						
STCH				IAML		22 10 32.9	
	comp=E,30μm,1.0s						
HMH	Humu'ula Sheep	0.25	311	Pg	Pg	22 10 31.7	+1.5
HMH				IAML		22 10 38.2	
	comp=E,12μm,1.2s						
HMH				IAML		22 10 39.9	
	comp=N,30μm,2.6s						
JOKA	Jonika Flow	0.26	91	Pg	Pg	22 10 31.9	+1.5
JOKA				IAML		22 10 38.1	
	comp=E,12μm,1.1s						
MLOA	Mauna Loa Obse	0.29	289	Pg	Pg	22 10 32.7	+1.6
PAH	Pahoa	0.32	80	Pg	Pb	22 10 33.5	-0.3
KHU	Kahuku	0.37	239	Pg	Pg	22 10 33.6	+1.2
KHU				IAML		22 10 41.4	
	comp=E,9μm,0.7s						
KHU				IAML		22 10 42.3	
	comp=N,6μm,0.8s						
HPO	Honuapo	0.43	216	Pg	Pg	22 10 33.9	+0.3
HUH	Hualalai	0.58	295	Pg	Pg	22 10 38.2	+1.8
I59US	HAWAII INFRASO	0.59	285	Pg	Pb	22 10 38.5	0.0
	baz=111,slow=30						
I59US				I	I	22 13 50.0	
	comp=N,0.1nm,0.8s,baz=107,slow=315,SNR=4.4						
HPAH	Hawaii Prepara	0.71	327	Pg	Pg	22 10 38.9	0.0
MHA	Mahukona	0.95	322	Pg	Pg	22 10 42.5	-1.1
HLK	Haleakala	1.60	326		Pn	22 10 54.5	-0.3
KHLH	Kahului Airpor	1.81	324	Pn	Pn	22 10 56.1	-1.4
KPA	Kalaupapa	2.36	318	Pn	Pn	22 11 02.8	-2.4
DHH	Diamond Head	2.98	308	Pn	Pn	22 11 11.0	-2.6
HON	Honolulu	3.17	307	Pn	Pn	22 11 13.9	-2.3
KIP	Kipapa	3.23	308	Pn	Pn	22 11 15.1	-2.0
KEKH	Kekaha	4.86	302	Pn	Pn	22 11 38.3	-1.1
YBH	Yreka Blue Hor	35.45	44	LR	LR	22 27 56.8	
	comp=N,185nm,20.9s,baz=254,slow=30						
H11N3	WAKE ISLAND Hy	35.57	277	T	T	22 54 33.7	
	baz=84,slow=74,SNR=53						
H11N2	WAKE ISLAND Hy	35.59	277	T	T	22 54 34.5	
	baz=84,slow=74,SNR=52						
H11N1	WAKE ISLAND Hy	35.59	277	T	T	22 54 35.0	
	baz=84,slow=74,SNR=18						
H11S2	WAKE ISLAND Hy	35.91	275	T	T	22 54 58.2	
	baz=83,slow=74,SNR=15						
H11S1	WAKE ISLAND Hy	35.92	275	T	T	22 54 59.0	
	baz=83,slow=74						
H11S3	WAKE ISLAND Hy	35.93	275	T	T	22 54 58.4	
	baz=83,slow=74,SNR=9.8						
DSP	Deep Springs	37.07	53	P	P	22 17 35.2	-1.8
NVAR	Mina Array Bea	37.17	51	P	P	22 17 38.0	-0.1
	comp=N,0.4nm,0.7s,baz=242,slow=7.7,SNR=1.8						
NVAR				LR	LR	22 30 27.4	
	comp=N,261nm,20.7s,baz=272,slow=32						
	comp=N,0.4nm,0.7s						
PFO	Pinyon Flats O	37.27	60	LR	LR	22 29 27.1	
	comp=N,221nm,18.2s,baz=255,slow=31						
KDAK	Kodiak Island	38.34	2	LR	LR	22 29 56.1	
	comp=N,941nm,21.4s,baz=210,slow=30						
BLYC	Blythe	38.88	60	P	P	22 17 50.4	-1.9
BBB	Bella Bella	38.96	27	LR	LR	22 30 01.3	
	comp=N,228nm,19.8s,baz=212,slow=30						
ELK	Elko	40.18	49	LR	LR	22 33 55.1	
	comp=N,205nm,18.7s,baz=262,slow=35						
RAR	Rarotonga	40.64	186	LR	LR	22 31 01.8	
	comp=N,620nm,19.1s,baz=8.5,slow=30						
SHEM	Shemya Is, Ala	40.84	332	LR	LR	22 31 42.4	
	comp=N,933nm,21.7s,baz=120,slow=31						
LPIG	La Paz	41.89	75	LR	LR	22 30 49.5	
	comp=N,365nm,21.4s,baz=256,slow=29						
NEW	Newport	42.10	38	LR	LR	22 31 43.4	
	comp=N,139nm,20.6s,baz=238,slow=30						
HWUT	Hardware Ranch	43.09	49	P	P	22 18 26.4	-0.8
DLBC	Dease Lake	43.09	19	LR	LR	22 32 27.6	
	comp=N,420nm,20.8s,baz=251,slow=31						
REDW	Red Top Meadow	44.13	47	P	P	22 18 33.4	-2.2
KTH	Kantishna Hill	44.18	3	P	P	22 18 37.5	+2.0
BCAR	Beaver Creek A	44.57	9	P	P	22 18 39.4	+0.8
PDAR	Pinedale Array	44.85	48	P	P	22 18 40.6	-0.8
	comp=N,0.2nm,0.3s,baz=234,slow=5.5,SNR=2.3						
	comp=N,0.2nm,0.3s						
WRH	Wood River Hil	45.26	4	P	P	22 18 44.0	-0.1
WRH				IAmb	IAmb	22 18 54.3	
	comp=Z,10nm,1.0s						
CCB	Clear Creek Bu	45.46	5	P	P	22 18 46.1	+0.5
CCB				IAmb	IAmb	22 18 55.6	
	comp=Z,10nm,1.3s						
J25K	Salcha River,	45.63	6	P	P	22 18 48.0	+1.0
J25K				IAmb	IAmb	22 18 57.4	
	comp=Z,9.1nm,1.2s						
ANMO	Albuquerque	45.65	60	LR	LR	22 35 08.9	
	comp=Z,201nm,18.1s,baz=72,slow=32						
ILAR	Eielson Array	45.65	5	P	P	22 18 45.8	-1.4
ILAR	Eielson Array	45.65	5	P	P	22 18 46.9	-0.2
	comp=Z,1.3nm,0.9s,baz=196,slow=7.2,SNR=14						
ILAR				LR	LR	22 33 38.1	
	comp=Z,467nm,22.0s,baz=179,slow=30						
	comp=Z,1.3nm,0.9s						
MLY	Manley	45.67	3	P	P	22 18 46.9	-0.4
MLY				IAmb	IAmb	22 19 20.4	
	comp=Z,27nm,2.0s						
MDM	Murphy Dome	45.74	4	P	P	22 18 47.5	-0.3
MDM				IAmb	IAmb	22 18 58.0	
	comp=Z,9.8nm,1.1s						
I30M	Mount Dempster	47.45	11	P	P	22 19 01.6	+0.2
I30M				IAmb	IAmb	22 19 11.8	
	comp=Z,8.7nm,1.4s						
TX31	Lajitas Ar. Si	47.71	68	P	P	22 19 02.5	-1.4
TX31				IAmb	IAmb	22 19 15.1	
	comp=Z,6.4nm,1.1s						
TXAR	Lajitas Array	47.71	68	P	P	22 19 03.3	-0.6
	comp=Z,1.6nm,0.8s,baz=254,slow=7.7,SNR=19						
TXAR				LR	LR	22 35 07.2	
	comp=Z,78nm,20.7s,baz=218,slow=31						
	comp=Z,1.6nm,0.8s						
H29M	Whitestone	48.05	9	P	P	22 19 07.3	+1.4
SAND	Sanderson	49.05	67	P	P	22 19 13.7	-0.5
SAND				IAmb	IAmb	22 19 25.2	
	comp=Z,12nm,1.4s						
F28M	Old Crow	49.15	8	P	P	22 19 14.9	+0.6
F28M				IAmb	IAmb	22 19 45.8	
	comp=Z,4.9nm,0.4s						
G31M	Satah River	49.36	11	P	P	22 19 17.4	+1.5
D25K	Kavik River	50.18	4	P	P	22 19 22.1	-0.1
DRIO	Del Rio	50.37	68	P	P	22 19 22.7	-1.5
DRIO				IAmb	IAmb	22 19 44.5	
	comp=Z,15nm,1.7s						
INK	Inuvik	50.73	10	P	P	22 19 25.4	-0.8
INK				IAmb	IAmb	22 19 36.0	
	comp=Z,19nm,1.6s						
INK	Inuvik	50.73	10	LR	LR	22 39 03.4	
	comp=Z,439nm,18.8s,baz=204,slow=34						
YKA	Yellowknife Ar	51.30	23	P	P	22 19 29.7	-0.9
	comp=Z,0.5nm,0.5s,baz=240,slow=7.8,SNR=4.7						
YKA				LR	LR	22 37 57.2	
	comp=Z,173nm,20.8s,baz=244,slow=32						
	comp=Z,0.5nm,0.5s						
OK052	Battle Ridge R	53.58	59	P	P	22 19 48.0	0.0
OK052				IAmb	IAmb	22 19 57.8	
	comp=Z,14nm,1.2s						
ECSD	EROS Data Cent	54.30	50	P	P	22 19 53.3	+0.1
DZM	Mont Dzumac	55.69	224	LR	LR	22 43 29.0	
	comp=Z,105nm,18.1s,baz=115,slow=36						
ULM	Lac du Bonnet	55.81	42	LR	LR	22 41 48.0	
	comp=Z,113nm,18.5s,baz=248,slow=34						
SEY	Seymchan	56.09	334	LR	LR	22 42 52.0	
	comp=Z,229nm,18.6s,baz=149,slow=35						
CMIG	Matias Romero	57.15	82	LR	LR	22 38 54.6	
	comp=Z,222nm,21.3s,baz=330,slow=30						
R40A	Maddies Statio	57.24	56	P	P	22 20 14.2	-0.2
GUMO	Guam	57.44	274	LR	LR	22 39 45.1	
	comp=Z,320nm,21.8s,baz=86,slow=31						
JCJ	Chichijima	57.46	290	LR	LR	22 40 06.7	
	comp=Z,258nm,20.0s,baz=94,slow=31						
JHJ	Hachijo jima 2	58.97	297	LR	LR	22 42 25.6	
	comp=Z,331nm,20.1s,baz=88,slow=32						
MJAR	Matsushiro Arr	60.06	302	P	P	22 20 34.5	+0.4
	comp=Z,0.3nm,0.4s,baz=90,slow=4.9,SNR=1.5						
MJAR				LR	LR	22 42 07.9	
	comp=Z,268nm,21.3s,baz=72,slow=32						
	comp=Z,0.3nm,0.4s						
APG	El Apazote	61.76	83	LR	LR	22 41 26.7	
	comp=Z,25nm,22.0s,baz=271,slow=30						
TEIG	Tepich	62.62	77	LR	LR	22 44 24.8	
	comp=Z,113nm,20.0s,baz=236,slow=33						
URZ	Urewera	62.98	204	LR	LR	22 43 41.6	
	comp=Z,261nm,19.4s,baz=122,slow=32						
PMG	Port Moresby	63.52	248	LR	LR	22 42 17.1	
	comp=Z,177nm,21.7s,baz=11,slow=30						
RES	Resolute Bay	63.71	15	LR	LR	22 44 44.6	
	comp=Z,411nm,21.7s,baz=224,slow=32						
TKL	Tuckaleechee C	64.17	59	LR	LR	22 44 17.7	
	comp=Z,85nm,21.9s,baz=277,slow=32						
RPN	Rapa Nui	64.23	135	LR	LR	22 42 32.0	
	comp=Z,469nm,20.5s,baz=306,slow=30						
KLR	Kul'dur	64.47	316	LR	LR	22 44 14.6	
	comp=Z,388nm,21.1s,baz=83,slow=31						
JNU	Nakatsue	66.40	298	LR	LR	22 50 30.5	
	comp=Z,310nm,18.0s,baz=82,slow=36						
SADO	Sadowa	66.85	49	LR	LR	22 51 16.3	
	comp=Z,82nm,18.1s,baz=266,slow=37						
TIXI	Tiksi	67.24	341	LR	LR	22 50 07.4	
	comp=Z,357nm,19.7s,baz=142,slow=35						
KSRS	Korea Array	68.17	303	LR	LR	22 49 52.0	
	comp=Z,260nm,18.8s,baz=75,slow=35						
JTS	Las Juntas de	68.20	86	LR	LR	22 43 53.8	
	comp=Z,289nm,21.4s,baz=291,slow=30						
CN2	Changchun	69.18	310	eP	P	22 21 34.3	+0.7
CN2				eS	S	22 30 41.8	+1.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,300nm,6.0s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
CN2				LR	LR		
	comp=Z,700nm,18.0s						
CN2				LR	LR		
	comp=Z,800nm,20.0s						
CTA	Charters Tower	69.45	239	LR	LR	22 44 58.7	
	comp=Z,20nm,21.5s,baz=81,slow=30						
JOW	Kunigami	69.75	292	LR	LR	22 48 00.3	
	comp=Z,162nm,19.8s,baz=100,slow=32						
FRB	Frobisher Bay	71.33	28	LR	LR	22 49 30.4	
	comp=Z,108nm,21.2s,baz=327,slow=33						
DL2	Dalian	72.81	306	P	P	22 21 58.0	+2.3
DL2				S	S	22 31 23.5	+0.8
DL2				pmax	pmax		
	comp=Z,15nm,0.9s						
DL2				pmax	pmax		
	comp=Z,390nm,5.1s						
DL2				LR	LR		
	comp=Z,210nm,20.1s						
DL2				LR	LR		
	comp=Z,390nm,19.8s						
DL2				LR	LR		
	comp=Z,700nm,23.1s						
NJ2	Nanjing	76.55	299	eP	P	22 22 17.3	-0.2
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
DAV	Davao City (W)	77.47	273	LR	LR	22 50 45.5	
	comp=Z,232nm,20.7s,baz=92,slow=31						
SFJD	Kangerlussuaq	77.86	23	LR	LR	22 52 46.5	
	comp=Z,274nm,21.6s,baz=298,slow=33						
HNS	HongShan	78.47	306	↑P	P	22 22 35.5	+7.4
HNS				pmax	pmax		
	comp=Z,480nm,8.6s						
HNS				LR	LR		
	comp=Z,360nm,24.3s			

ATAH	**Atahualpa**	**80.12 101**	LR	LR	22 51 41.4		
	comp=Z,265nm,18.6s,baz=292,slow=31						
NRIK	**Noril'sk**	**81.00 341**	LR	LR	22 56 58.7		
	comp=Z,301nm,21.7s,baz=64,slow=34						
SONM	**Songino Array**	**81.23 318**	P	**P**	**22 22 42.6**		**-0.6**
	comp=Z,0.1nm,0.3s,baz=117,slow=15,SNR=1.9						
	comp=Z,0.1nm,0.3s						
ASAR	**Alice Springs**	**81.24 241**	P	**P**	**22 22 42.2**		**-1.2**
	comp=Z,0.3nm,0.7s,baz=220,slow=39,SNR=1.8						
ASAR			LR	LR	22 54 14.6		
	comp=Z,168nm,18.6s,baz=353,slow=32						
	comp=Z,0.3nm,0.7s						
SDV	**Santo Domingo**	**82.08 83**	LR	LR	22 52 17.2		
	comp=Z,129nm,20.3s,baz=260,slow=31						
SPITS	**Spitsbergen Ar**	**82.46 2**	LR	LR	22 55 57.1		
	comp=Z,158nm,21.2s,baz=325,slow=33						
NNA	**Nana**	**83.30 105**	LR	LR	22 50 52.1		
	comp=Z,274nm,21.7s,baz=278,slow=29						
XAN	**Xi'an**	**83.96 304**	P	P	22 23 04.3		+6.8
XAN			pmax	pmax			
	comp=Z,7.0nm,0.9s						
XAN			pmax	pmax			
	comp=Z,470nm,6.2s						
XAN			LR	LR			
	comp=Z,340nm,22.8s						
XAN			LR	LR			
	comp=Z,540nm,20.4s						
XAN			LR	LR			
	comp=Z,800nm,23.7s						
JMIC	**Jan Mayen**	**86.92 10**	LR	LR	22 58 43.8		
	comp=Z,146nm,21.9s,baz=265,slow=33						
LZH	**Lanzhou**	**87.14 307**	*e*P	P	22 23 18.5		+5.0
LZH			pmax	pmax			
	comp=Z,370nm,5.8s						
LZH			LR	LR			
	comp=Z,260nm,16.2s						
LZH			LR	LR			
	comp=Z,360nm,19.2s						
LZH			LR	LR			
	comp=Z,560nm,20.0s						
PCRV	**Puerto La Cruz**	**87.27 80**	LR	LR	22 59 17.5		
	comp=Z,87nm,19.8s,slow=34						
GYA	**Guiyang**	**88.39 297**	P	**P**	**22 23 18.5**		**-1.1**
GYA			S	**S**	**22 34 08.3**		**+1.8**
GYA			pmax	pmax			
	comp=Z,4.0nm,0.8s						
GYA			pmax	pmax			
	comp=Z,370nm,7.6s						
GYA			LR	LR			
	comp=Z,340nm,17.5s						
GYA			LR	LR			
	comp=Z,500nm,22.8s						
GYA			LR	LR			
	comp=Z,510nm,20.5s						
GTA	**Gaotai**	**88.79 312**	P	P	22 23 26.5		+5.3
GTA			S	**S**	**22 34 15.3**		**+5.5**
GTA			pmax	pmax			
	comp=Z,3.0nm,2.5s						
GTA			pmax	pmax			
	comp=Z,270nm,6.0s						
GTA			LR	LR			
	comp=Z,300nm,20.7s						
GTA			LR	LR			
	comp=Z,320nm,23.9s						
GTA			LR	LR			
	comp=Z,500nm,24.9s						
BORG	**Borgarnes**	**88.98 18**	LR	LR	23 00 07.7		
	comp=Z,97nm,21.6s,baz=323,slow=34						
H03N2	**Juan Fernandez**	**89.73 126**	T	T	00 02 36.3		
	baz=298,slow=76,SNR=11						
H03N3	**Juan Fernandez**	**89.74 126**	T	T	00 02 31.8		
	baz=298,slow=76,SNR=8.9						
H03N1	**Juan Fernandez**	**89.74 126**	T	T	00 02 37.6		
	baz=298,slow=76,SNR=10.0						
ZALV	**Zalesovo Beam**	**90.64 329**	P	**P**	**22 23 31.1**		**+1.6**
	comp=Z,0.3nm,0.4s,baz=90,slow=35,SNR=1.6						
	comp=Z,0.3nm,0.4s						
ARCES	**ARCESS Array B**	**91.27 360**	LR	LR	23 05 50.3		
	comp=Z,126nm,18.6s,baz=16,slow=36						
PZH	**PanZhiHua**	**92.47 299**	P	**P**	**22 23 38.5**		**-0.1**
PZH			S	**S**	**22 34 38.5**		**-5.5**
PZH			pmax	pmax			
	comp=Z,10.0nm,1.0s						
PZH			pmax	pmax			
	comp=Z,190nm,7.1s						
PZH			LR	LR			
	comp=Z,240nm,18.2s						
PZH			LR	LR			
	comp=Z,260nm,19.2s						
PZH			LR	LR			
	comp=Z,310nm,24.3s						
LPAZ	**La Paz**	**92.70 106**	LR	LR	22 57 35.2		
	comp=Z,154nm,21.8s,baz=276,slow=31						
WMQ	**Urumqi**	**94.71 320**	*e*P	**P**	**22 23 49.3**		**+0.8**
WMQ			LR	LR			
	comp=Z,450nm,13.7s						
WMQ			LR	LR			
	comp=Z,240nm,15.7s						
WMQ			LR	LR			
	comp=Z,290nm,19.5s						
BVAR	**Borovoye Array**	**97.74 334**	LR	LR	23 08 42.1		
	comp=Z,201nm,20.3s,baz=51,slow=36						
CMAR	**Chiang Mai Arr**	**98.01 293**	LR	LR	23 07 50.6		
	comp=Z,154nm,19.3s,baz=65,slow=35						
NOA	**NORSAR Array B**	**99.07 7**	LR	LR	23 06 28.4		
	comp=Z,108nm,20.9s,baz=350,slow=34						
PRU	**Pruhonice**	**110.30 7**	*e*SP	SP	22 39 02.2		+0.9
PRU			AMS	AMS	23 16 20.0		
	comp=Z,200nm,23.5s						
KHC	**Kasperske Hory**	**111.02 8**	*e*SP	SP	22 39 09.0		+0.8
KHC			AMS	AMS	23 16 20.0		
	comp=Z,200nm,20.2s						

DJA 29 22:14:54.8±0.6, 9°S±6°×11°6E±°, h12km±4km, M3.7/9, mb3.8/3, MLv3.6/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.59**	**86**	P	Pb	22 15 06.8	-0.2
DNP	**Denpasar**	**1.07**	**275**	P	Pg	22 15 15.4	-0.1
SRBI	**Singaraja**	**1.27**	**303**	P	Pn	22 15 17.3	-1.1
BWJI	**Bawean**	**4.63**	**309**	P	Pn	22 16 04.8	+0.2
BSSI	**Bau Bau, Buton**	**4.92**	**58**	P	Pn	22 16 08.3	-0.3
BKSI	**Bulukumba**	**5.12**	**48**	P	Pn	22 16 11.7	+0.3
	14nm,0.9s,0.1nm						
EDFI	**Ende, Flores**	**5.34**	**90**	P	Pn	22 16 14.5	0.0

*NEIC **29** 22:22:02.8±1.2, 40°.19N±0°.03×119°.63W±0°.03, h7km±6km, Error ellipse: s-maj=4.8km s-min=1.6km az=223.0*

REN 29 22:22:03.8±1.9, 40°.14N±0°.02×119°.69W±0°.03, h12km±8km, ML2.7/11, ML2.6/50(NEIC), Error ellipse: s-maj=4.3km s-min=2.3km az=223.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAHR	**Pah Rah Range**	**0.49**	**152**		Pg	22 22 13.5	+0.1
PAHR					Sg	22 22 20.4	+0.5
PAHR	**Pah Rah Range**	**0.49**	**152**	IAML		22 22 20.8	
	comp=E,695nm,0.6s						
PAHR				IAML		22 22 20.9	
	comp=N,502nm,0.5s						
PEAR	**Peavine Mounta**	**0.57**	**202**		Pg	22 22 15.3	+0.3
PEAR					Sb	22 22 23.6	-0.4
BEKR	**Beckworth**	**0.59**	**242**		Pg	22 22 15.2	-0.1
BEKR					Sg	22 22 23.2	+0.2
BABR	**Babbit Peak**	**0.63**	**211**		Pg	22 22 16.3	+0.3
BABR					Sb	22 22 25.3	-0.5
MPK	**Martis Peak**	**0.88**	**198**		Pb	22 22 21.7	+0.5
MPK	**Martis Peak**	**0.88**	**198**	IAML		22 22 39.0	
	comp=N,149nm,0.6s						
MPK				IAML		22 22 51.8	
	comp=E,142nm,0.8s						
DONR	**Donner Summit**	**0.93**	**212**		Pg	22 22 21.6	-0.1
PNTR	**Pine Nut**	**1.05**	**176**		Pg	22 22 23.9	-0.1
PNTR	**Pine Nut**	**1.05**	**176**	IAML		22 22 44.4	
	comp=N,173nm,0.8s						
PNTR				IAML		22 22 49.4	
	comp=E,172nm,0.8s						
YERR	**Yerington**	**1.20**	**163**		Pb	22 22 26.6	0.0
EMB	**Emerald Bay**	**1.21**	**196**		Pb	22 22 26.5	-0.2
HATC	**Hat Creek Radi**	**1.51**	**297**		Pn	22 22 31.1	+0.2
ORV	**Oroville**	**1.52**	**248**		Pb	22 22 31.6	-0.3
AFDM	**Forest Hills D**	**1.55**	**220**		Pn	22 22 31.1	-0.1
AFDM				IAML		22 22 55.2	
	comp=N,80nm,0.5s						
KVN	**Kaiserville**	**1.64**	**131**		Pb	22 22 33.3	-0.7
KVN	**Kaiserville**	**1.64**	**131**	IAML		22 22 57.5	
	comp=N,83nm,1.2s						
KVN				IAML		22 22 57.6	
	comp=E,85nm,0.6s						
WAKR	**Walker**	**1.64**	**173**		Pn	22 22 32.5	-0.2
WAKR				IAML		22 22 59.8	
	comp=N,50nm,0.7s						
RYN	**Ryan**	**1.76**	**149**		Pb	22 22 35.5	-0.5
BMN	**Battle Mountai**	**1.91**	**80**		Pn	22 22 35.4	-0.8
BMN				IAML		22 23 11.5	
	comp=E,46nm,0.8s						
BMN				IAML		22 23 11.5	
	comp=N,56nm,0.8s						
NV09	**Mina Array Sit**	**2.00**	**148**		Pb	22 22 39.9	-0.3
NVAR	**Mina Array Bea**	**2.02**	**147**		Pn	22 22 37.2	-0.7
NV08	**Mina Array Sit**	**2.03**	**148**		Pb	22 22 40.2	-0.5
NV11	**Mina Array Sit**	**2.08**	**145**		Pn	22 22 38.4	-0.2
NV11				IAML		22 23 11.8	
	comp=N,47nm,0.7s						
NV11				IAML		22 23 20.8	
	comp=E,42nm,1.0s						
LHV	**Little Huntoon**	**2.10**	**154**		Pn	22 22 39.0	+0.3
CMB	**Columbia Colle**	**2.17**	**195**		Pb	22 22 43.2	+0.1
CMB	**Columbia Colle**	**2.17**	**195**	IAML		22 23 16.3	
	comp=N,28nm,0.5s						
WVOR	**Wild Horse Val**	**2.42**	**19**		Pn	22 22 43.1	-0.3
WVOR				IAML		22 23 23.0	
	comp=N,30nm,0.7s						
WVOR				IAML		22 23 25.8	
	comp=N,23nm,0.5s						
YBH	**Yreka Blue Hor**	**2.79**	**306**		Pb	22 22 52.0	-1.7
TPH	**Tonopah**	**2.81**	**136**	Pn	Pn	22 22 49.2	+0.4
K04D	**Chiloquin, OR**	**2.93**	**329**	Pn	Pn	22 22 50.9	+0.6
MZP	**Montezuma Peak**	**3.02**	**143**		Pb	22 22 56.7	-1.0
DSP	**Deep Springs**	**3.07**	**154**		Pn	22 22 52.3	+0.2
KHMM	**Horse Mountain**	**3.17**	**285**		Pn	22 22 55.5	+1.9
J08A	**Circle Bar Ran**	**3.34**	**15**		Pn	22 22 58.0	+2.0
J05D	**Fort Rock, OR**	**3.35**	**340**		Pn	22 22 57.2	+1.0
ELK	**Elko**	**3.45**	**78**		Pn	22 22 58.1	+0.6
ELK				IAML		22 23 53.7	
	comp=N,12nm,0.3s						
R11B	**Troy Canyon, C**	**3.65**	**118**	Pn	Pn	22 23 00.8	+0.5
R11B				IAML		22 24 01.2	
	comp=N,8.7nm,0.4s						
PINE	**Pine Mountain**	**3.77**	**346**	Pn	Pn	22 23 02.9	+1.0
PINE				IAML		22 24 03.9	
	comp=E,8.8nm,0.7s						
PINE				IAML		22 24 06.7	
	comp=N,8.6nm,0.8s						
Q12A	**Willow Creek R**	**3.91**	**105**		Pn	22 23 06.4	+2.6
I07A	**Izee**	**3.94**	**2**	Pn	Pn	22 23 04.2	0.0
WCT	**Wildcat Mounta**	**4.11**	**143**	Pn	Pn	22 23 06.7	+0.1
MFID	**Camas Ranch**	**4.36**	**40**	Pn	Pn	22 23 09.2	-0.8
PRN	**Pahroc Range**	**4.53**	**126**	Pn	Pn	22 23 13.6	+1.3
GWY	**Greenwater Val**	**4.61**	**148**	Pn	Pn	22 23 12.6	-0.8
PSUT	**Pine Spring**	**4.80**	**108**	Pn	Pn	22 23 16.9	+0.9
SHPR	**Sheep Range**	**5.08**	**134**	Pn	Pn	22 23 21.2	+1.3
HVU	**Hansel Valley**	**5.48**	**70**	Pn	Pn	22 23 24.6	-0.8
MSU	**Marysvale**	**6.04**	**103**	Pn	Pn	22 23 35.7	+2.5

*IDC **29** 22:34:03.3±1.9, 8°.28S×116°.59E, h0km, mb3.4/3, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=32.3km s-min=25.2km az=90.0*

*DJA **29** 22:34:06.8±0.6, 8°S±16°×11°6E±°, h12km±4km, M3.6/6, MLv3.6/6*

ISC 29 22:34:04.0±0.9, 8°.22S±0°.08×116°.55E±0°.04, h10km, n10, σ1$21/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.61**	**148**	P	**Pn**	**22 34 17.4**	**-1.4**
SRBI	**Singaraja**	**1.33**	**276**	P	**Pg**	**22 34 29.8**	**+0.2**
SRBI				S	**Sb**	**22 34 46.6**	**+0.3**
PLAI	**Plampang**	**1.35**	**117**	P	**Pg**	**22 34 31.6**	**+1.5**
DNP	**Denpasar**	**1.40**	**251**	P	**Pn**	**22 34 29.5**	**-0.2**
ABJI	**Asem Bagus**	**2.33**	**280**	P	**Pb**	**22 34 44.9**	**-1.3**
JAGI	**Jajag, Banyuwa**	**2.39**	**264**	P	**Pn**	**22 34 44.1**	**+0.8**
KAPI	**Kappang**	**4.50**	**45**	Pn	**Pn**	**22 35 12.1**	**-0.2**
	2.0nm,0.3s,baz=132,slow=16,SNR=2.1						
KAPI				Sn	**Sn**	**22 36 03.1**	**-1.6**
	4.1nm,0.3s,baz=157,slow=21,SNR=4.0						
KAPI				Lg	Lg	22 36 27.5	
	5.3nm,0.3s,baz=198,slow=20,SNR=5.0						
	5.8nm,0.4s						
WRA	**Warramunga Arr**	**20.79**	**126**	P	Pn	22 38 46.0	-2.0
	0.9nm,0.6s,baz=300,slow=12,SNR=15						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**22.64**	**135**	P	**P**	**22 39 05.2**	**-0.3**
	0.6nm,0.4s,baz=317,slow=9.3,SNR=6.8						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**62.68**	**334**	P	**P**	**22 44 30.5**	**+1.5**
	0.4nm,0.8s,baz=133,slow=8.1,SNR=2.7						
	0.4nm,0.8s						

*IDC **29** 22:47:36.8±0.7, 45°.71N×151°.85E, h0km, mb4.0/23, mbtmp4.0/28, ML3.5/5, MS3.7/3, Error ellipse: s-maj=19.7km s-min=15.7km az=145.0*

*JMA **29** 22:47:40.1±1.0, 46°.N±6°×15°.2E±°, h30km, MV4.9/14, KURILE ISLANDS REGION*

*SKHL **29** 22:47:40.9±0.3, 45°.40N×151°.90E, h35km±5km, mb5.0/7*

*BJI **29** 22:47:41.8±0.0, 45°.64N×151°.69E, h39km, mb4.6/44, mB4.8/11, Ms4.4/5, Ms7 4.1/5*

*MOS **29** 22:47:42.0±1.2, 45°.39N×151°.75E, h44km, mb4.6/18, Error ellipse: s-maj=8.2km s-min=6.8km az=129.7*

*NEIC **29** 22:47:46.4±2.0, 45°.7N±0°.1×151°.5E±0°.1, h48km±9km, mb4.7/41, Error ellipse: s-maj=20.9km s-min=9.6km az=147.0*

ISC 29 22:47:42.5±0.5, 45°.43N±0°.05×151°.75E±0°.06, h36km±1km, h36km:pP-P, n233, σ1$61/242, mb4.4/70, MS3.5/3, 17C-15D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.75**	**267**	*e*P	**Pn**	**22 48 24.4**	**+0.4**
KUR				AMB	AMB	22 48 27.8	
	230nm,0.3s						
KUR				*e*S	**Sn**	**22 48 56.6**	**+0.8**
KUR				A	A	22 49 07.7	
	860nm,0.5s						
KUR				A	A	22 49 07.7	
	820nm,0.5s						
KUR	**Kuril'sk**	**2.75**	**267**	*e*PN	**Pn**	**22 48 24.1**	**+0.1**
KUR				*e*S	**Sn**	**22 48 58.3**	**+2.5**
KUR				pmax	pmax		
	comp=Z,271nm,0.5s						
KUR				smax	smax		
	comp=N,598nm,0.5s						
KUR				smax	smax		
	comp=E,736nm,0.5s						
SHO	**Shikotan**	**3.84**	**248**	*e*P	**Pn**	**22 48 38.9**	**-0.1**
SHO				AMB	AMB	22 48 42.9	
	comp=E,140nm,0.4s						
SHO				*e*S	**Sn**	**22 49 22.2**	**-0.7**
SHO				A	A	22 49 30.4	
	comp=E,230nm,0.6s						
SHO				A	A	22 49 30.4	
	comp=E,260nm,0.6s						
SHO	**Shikotan**	**3.84**	**248**	*e*PN	**Pn**	**22 48 38.9**	**-0.1**
SHO				*e*S	**Sn**	**22 49 22.2**	**-0.7**
SHO				smax	smax		
	comp=N,191nm,0.6s						
SHO				smax	smax		
	comp=E,57nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.42**	**254**	*e*P	**Pn**	**22 48 48.4**	**+1.4**
YUK				AMB	AMB	22 48 51.8	
	comp=E,450nm,0.3s						
YUK				*e*S	**Sn**	**22 49 36.9**	**-0.3**
YUK				A	A	22 49 46.9	
	comp=E,580nm,0.5s						
YUK				A	A	22 49 46.9	
	comp=E,470nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.42**	**254**	*i* PN	**Pn**	**22 48 49.4**	**+2.4**
NEM2	**Nemuro 2**	**4.77**	**246**	*e*P	**Pn**	**22 48 51.6**	**-0.2**
NEM2				*e*S	**Sn**	**22 49 45.0**	**-0.8**
NMR	**Nemuro--Hokkai**	**4.78**	**247**	*e*P	**Pn**	**22 48 51.7**	**-0.2**
NMR				*e*S	**Sn**	**22 49 46.3**	**+0.3**
JRA	**Rausu**	**4.96**	**255**	P	**Pn**	**22 48 56.6**	**+2.3**
JNK	**Nakash**	**5.36**	**252**	P	**Pn**	**22 49 00.6**	**+0.7**
JNK				*e*S	**Sn**	**22 49 58.8**	**-1.5**
AKK	**Akkeshi**	**5.52**	**247**	*e*P	**Pn**	**22 49 01.5**	**-0.6**
JAK	**Akkeshi**	**5.62**	**247**	P	**Pn**	**22 49 03.4**	**-0.1**
JAK				*e*S	**Sn**	**22 50 05.3**	**-1.5**
JTKR	**Abashiri--Toko**	**5.78**	**258**	P	**Pn**	**22 49 07.5**	**+1.9**
SKR	**Severo-Kuril's**	**6.01**	**28**	*e*P	**Pn**	**22 49 08.3**	**-0.6**
SKR				AMB	AMB	22 49 12.0	
	comp=E,90nm,0.6s						
SKR				*e*S	**Sn**	**22 50 14.7**	**-1.7**
SKR				A	A	22 50 17.8	
	comp=E,120nm,0.6s						
SKR				A	A	22 50 17.8	
	comp=E,140nm,0.6s						
SKR	**Severo-Kuril's**	**6.01**	**28**	*i* PN	**Pn**	**22 49 11.0**	**+2.1**
JAR	**Ashorobuto**	**6.10**	**252**	P	**Pn**	**22 49 11.8**	**+1.7**
JAR				*e*S	**Sn**	**22 50 17.9**	**-0.8**
JOB	**Onbets**	**6.23**	**249**	*e*P	**Pn**	**22 49 12.0**	**+0.2**
JOB				*e*S	**Sn**	**22 50 21.3**	**-0.3**
YSS	**Yuzh-Sakhalins**	**6.43**	**287**	Pn	**Pn**	**22 49 15.5**	**+1.0**
YSS	**Yuzh-Sakhalins**	**6.43**	**287**	*e*P	**Pn**	**22 49 17.1**	**+2.6**
YSS				AMB	AMB	22 49 18.0	
	comp=E,30nm,0.6s						
YSS				*e*S	**Sn**	**22 50 27.0**	**+0.5**
YSS	**Yuzh-Sakhalins**	**6.43**	**287**	*e*PN	**Pn**	**22 49 17.1**	**+2.6**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
JKK2	**Kamakawa 2**	**6.61**	**260**	P	**Pn**	**22 49 19.5**	**+2.5**
JKA	**Kamikawa-asahi**	**6.64**	**262**	Pn	**Pn**	**22 49 20.3**	**+2.7**
ASAJ	**Asahikawa**	**6.64**	**262**	Pn	**Pn**	**22 49 17.9**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=98,slow=12,SNR=6.5						
ASAJ				Sn	**Sn**	**22 50 35.8**	**+3.8**
	baz=158,slow=26						
ASAJ				LR	LR	22 51 44.0	
	comp=Z,433nm,18.2s,baz=63,slow=37						
	comp=Z,18nm,0.8s						
JCH	**Churui**	**6.67**	**248**	P	**Pn**	**22 49 18.4**	**+0.5**
JCH				*e*S	**Sn**	**22 50 30.5**	**-2.1**
JAB	**Ashibetsu**	**7.08**	**258**	P	**Pn**	**22 49 26.8**	**+3.3**
ERM	**Erimo**	**7.10**	**244**	*i* PN	**Pn**	**22 49 24.4**	**+0.6**
JNBK	**Urakawa-nobuka**	**7.22**	**247**	*e*P	**Pn**	**22 49 25.3**	**-0.2**
JNBK				*e*S	**Sn**	**22 50 43.4**	**-2.8**
TYV	**Tymovskoe**	**8.15**	**315**	*e*P	**Pn**	**22 49 40.5**	**+2.3**
TYV				*e*S	**Sn**	**22 51 09.7**	**+0.8**
TYV	**Tymovskoe**	**8.15**	**315**	*e*PN	**Pn**	**22 49 40.5**	**+2.3**
TYV				pmax	pmax		
	comp=Z,200nm,3.7s						
TYV				pmax	pmax		
	comp=Z,11nm,1.1s						
JANG	**Nango**	**9.05**	**240**	*e*P	**Pn**	**22 49 48.2**	**-2.4**
JANG				*e*S	Sn	22 51 22.5	-8.6
JTM	**Tenmabayashi**	**9.08**	**243**	Pn	**Pn**	**22 49 50.8**	**-0.2**
MJA0	**Matsu Arr-Jizo**	**13.51**	**234**	*e*PN	**Pn**	**22 50 53.5**	**+1.9**
MJAR	**Matsushiro Arr**	**13.53**	**234**	Pn	**Pn**	**22 50 51.3**	**-0.5**
	baz=27,slow=12,SNR=4.7						
	comp=Z,0.6nm,0.6s						
KLR	**Kul'dur**	**14.08**	**293**	Pn	**Pn**	**22 50 57.0**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=114,slow=18,SNR=1.7						
	comp=Z,0.5nm,0.6s						
KLR	**Kul'dur**	**14.08**	**293**	*e*P	**Pn**	**22 50 58.7**	**-0.5**
KLR	**Kul'dur**	**14.08**	**293**	*ce*P	**Pn**	**22 51 03.0**	**+3.8**
KLR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
USA0B	**Ussuriysk Arra**	**14.08**	**272**		**Pn**	**22 50 58.6**	**-0.6**
USA0B	**Ussuriysk Arra**	**14.08**	**272**	*i* P	**Pn**	**22 50 59.9**	**+0.6**
USRK	**Ussuriysk Ar.**	**14.08**	**272**	Pn	**Pn**	**22 50 58.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=88,slow=13,SNR=5.2						
	comp=Z,3.8nm,0.7s						
MDJ	**Mudanjiang**	**15.68**	**275**	P	**Pn**	**22 51 20.0**	**-0.6**
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ZEA	**Zeya**	**17.86**	**307**	*e*P	**Pn**	**22 51 47.3**	**-0.5**
ZEA	**Zeya**	**17.86**	**307**	*e*P	**P**	**22 51 50.8**	**+2.5**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2	**Changchun**	**18.77**	**274**	*e*P	**P**	**22 51 56.8**	**-1.6**
CN2				*e*S	**Sn**	**22 55 21.0**	**-6.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,100nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
KSRS	**Korea Array**	**19.51**	**254**	P	**P**	**22 52 06.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=56,slow=11,SNR=7.0						
	comp=Z,2.6nm,0.6s						
KSRS	**Korea Array**	**19.51**	**254**	*e*P	**Pn**	**22 52 09.4**	**+1.5**
KSRS	**Korea Array**	**19.51**	**254**	*e*P	**Pn**	**22 52 09.4**	**+1.5**
JNU	**Nakatsue**	**20.23**	**240**	LR	LR	23 01 39.9	
	comp=Z,209nm,18.1s,baz=10,slow=41						
YAK	**Yakutsk**	**20.96**	**330**	P	**P**	**22 52 21.6**	**-0.4**
YAK	**Yakutsk**	**20.96**	**330**	P	**P**	**22 52 19.3**	**-2.7**
	comp=Z,10nm,0.4s,baz=77,slow=3.3,SNR=1.8						
	comp=Z,10nm,0.4s						
YAK	**Yakutsk**	**20.96**	**330**	*e*P	Pn	22 52 24.9	+0.2
YAK	**Yakutsk**	**20.96**	**330**	*e*P	**P**	**22 52 18.8**	**-3.2**
YAK				*e*		22 52 38.0	
YAK				*e*S	**S**	**22 56 07.0**	**-6.3**
YAK				*e*SS	**sS**	**22 56 25.6**	**-0.5**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				smax	smax		
	comp=E,44nm,6.1s						
YAK				smax	smax		
	comp=N,38nm,3.5s						
BILL	**Bilibino**	**23.89**	**13**	*e*P	**P**	**22 52 49.5**	**-2.9**
BILL				*PP	**pwP**	**22 53 04.0**	**-1.4**
BILL				*SP	**sP**	**22 53 06.6**	**+0.9**
BILL				PPP	PPP	22 53 26.0	
BILL				S	**S**	**22 57 04.0**	**-1.9**
BILL				SS	**SnSn**	**22 57 54.0**	**+7.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BILL				MLR	MLR		
	comp=Z,88nm,17.0s						
JOW	**Kunigami**	**26.37**	**233**	P	**P**	**22 53 16.9**	**+1.5**
BJI	**Beijing**	**26.53**	**271**	P	**P**	**22 53 18.8**	**+2.2**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.53**	**149**	T	T	23 24 08.6	
	baz=338						
H11N1	**WAKE ISLAND Hy**	**28.55**	**149**	T	T	23 24 08.6	
	baz=338						
H11N3	**WAKE ISLAND Hy**	**28.55**	**149**	T	T	23 24 11.5	
	baz=338						
HHC	**Hu-ho-hao-te**	**29.46**	**276**	*e*P	**P**	**22 53 47.0**	**+4.1**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**29.59**	**150**	T	T	23 25 27.7	
	baz=339

D25K Kavik River 38.59 30 P **P** **22 55 02.4 +0.8**
GYA Guiyang 40.50 258 P **P** **22 55 17.8 -0.3**
GYA pmax pmax
comp=Z,27nm,0.8s
I30M Mount Dempster 42.59 36 P **P** **22 55 36.3 +1.6**
ZALV Zalesovo Beam 42.62 307 P **P** **22 55 32.2 -2.7**
comp=Z,0.4nm,0.4s,baz=64,slow=11,SNR=1.4
ZALV PcP **PcP** **22 57 27.4 +0.9**
comp=Z,1.7nm,0.7s,baz=77,slow=2.0,SNR=8.1
comp=Z,0.4nm,0.4s
GOMU GeErMu 43.26 278 P **P** **22 55 41.0 +0.2**
GOMU pmax pmax
comp=Z,22nm,0.8s
PZH PanZhiHua 43.89 262 P **P** **22 55 47.5 +1.9**
PZH pmax pmax
comp=Z,20nm,0.9s
P33M Teslin, Yukon 45.28 43 P **P** **22 55 58.1 +1.8**
MK31 Makanchi Array 46.71 298 P **P** **22 56 07.4 -0.3**
MK31 Makanchi Array 46.71 298 P **P** **22 56 07.4 -0.3**
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 46.71 298 P **P** **22 56 07.7 0.0**
MKAR Makanchi Array 46.71 298 P **P** **22 56 05.8 -1.9**
comp=Z,1.2nm,0.6s,baz=68,slow=6.6,SNR=13
MKAR PcP **PcP** **22 57 41.1 +0.4**
comp=Z,1.0nm,0.6s,baz=68,slow=3.1,SNR=7.1
comp=Z,1.2nm,0.6s
MKAR Makanchi Array 46.71 298 *e*P **P** **22 56 08.3 +0.6**
MKAR Makanchi Array 46.71 298 *e*P **P** **22 56 08.3 +0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 47.31 304 P **P** **22 56 10.5 -1.7**
KURK IAmb IAmb 22 56 15.3
comp=Z,3.2nm,0.7s
KURK Kurchatov 47.31 304 *e*P **P** **22 56 12.9 +0.7**
KURK Kurchatov 47.31 304 P **P** **22 56 10.5 -1.7**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURBB Kurchatov Arra 47.40 304 P **P** **22 56 11.1 -1.9**
comp=Z,1.2nm,0.4s,baz=75,slow=8.7,SNR=7.6
KURBB PcP **PcP** **22 57 43.6 +0.6**
comp=Z,0.4nm,0.3s,baz=68,slow=3.9,SNR=5.3
comp=Z,1.2nm,0.4s
CHTO Chiang Mai 50.89 257 P **P** **22 56 42.2 +2.2**
CHTO IAmb IAmb 22 56 42.5
comp=Z,4.8nm,0.9s
CHTO Chiang Mai 50.89 257 P **P** **22 56 42.2 +2.2**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 50.97 310 P **P** **22 56 37.1 -3.1**
comp=Z,0.3nm,0.4s,baz=64,slow=10,SNR=2.4
BVAR PcP **PcP** **22 57 56.3 +0.3**
comp=Z,1.1nm,0.4s,baz=101,slow=3.0,SNR=6.9
comp=Z,0.3nm,0.4s
CMAR Chiang Mai Arr 51.13 256 P **P** **22 56 42.1 +0.2**
comp=Z,1.1nm,0.6s,baz=35,slow=7.4,SNR=7.8
comp=Z,1.1nm,0.6s
CMAR Chiang Mai Arr 51.13 256 *e*P **P** **22 56 43.8 +1.9**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
SHL Shillong 51.39 269 P **P** **22 56 44.9 +1.0**
SHL IAmb IAmb 22 56 45.1
comp=Z,9.9nm,0.9s
SHL Shillong 51.39 269 P **P** **22 56 44.9 +1.0**
SHL pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 53.57 297 *e*P **P** **22 57 00.5 +0.6**
AAK Ala-Archa 53.57 297 *ce*P **P** **22 57 00.5 +0.6**
AAK pmax pmax
comp=Z,1.0nm,0.6s
KSH Kashi 54.28 293 P P 22 57 09.8 +4.8
KSH pmax pmax
comp=Z,2.0nm,0.6s
ARU Arti 55.34 318 *e*P **P** **22 57 11.8 -0.5**
ARU Arti 55.34 318 *c i*P **P** **22 57 11.8 -0.5**
ARU *PP **pwP** **22 57 24.7 -1.9**
ARU 22 58 10.4
ARU 22 59 14.7
ARU S **S** **23 04 54.4 +0.7**
ARU SS **SS** **23 08 38.4 +0.7**
ARU pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 55.80 299 P **P** **22 57 15.8 0.0**
KKAR Karatay Array 55.80 299 IAmb IAmb 22 57 17.0
comp=Z,2.4nm,0.8s
KKAR Karatay Array 55.80 299 P **P** **22 57 15.9 0.0**
BTK Batken 57.29 296 IAmb IAmb 22 57 28.1
comp=Z,3.0nm,0.8s
GAR Garm 58.21 295 IAmb IAmb 22 57 38.3
comp=Z,9.6nm,1.0s
ABKAR Akbulak array 58.54 310 P **P** **22 57 33.8 -1.3**
ARCES ARCESS Array B 58.78 341 P **P** **22 57 34.8 -1.6**
comp=Z,1.5nm,0.8s,baz=41,slow=11,SNR=3.1
ARCES PcP **PcP** **22 58 24.5 -1.3**
comp=Z,1.0nm,0.7s,baz=47,slow=5.3,SNR=4.2
comp=Z,1.5nm,0.8s
ARCES ARCESS Array B 58.78 341 *e*P **P** **22 57 39.7 +3.2**
ARCES pmax pmax
comp=Z,1.0nm,0.8s
SIMJ Simiganj 59.24 295 P **P** **22 57 40.7 +0.4**
KBL Kabul 61.67 292 P **P** **22 57 56.7 -0.3**
KBL IAmb IAmb 22 57 57.2
comp=Z,7.2nm,0.7s
KBL Kabul 61.67 292 P **P** **22 57 56.7 -0.3**
KBL pmax pmax
comp=Z,7.0nm,0.7s
SUMG Summit 62.08 3 P **P** **22 57 58.2 -1.1**
SUMG Summit 62.08 3 P **P** **22 57 58.2 -1.1**
SUMG pmax pmax
comp=Z,26nm,1.5s
NVAR Mina Array Bea 63.90 61 P **P** **22 58 09.5 -2.2**
comp=Z,0.3nm,0.6s,baz=308,slow=5.5,SNR=3.6
comp=Z,0.3nm,0.6s
FINES FINESS Array B 64.82 334 P **P** **22 58 15.2 -1.9**
comp=Z,2.8nm,0.6s,baz=40,slow=6.8,SNR=18
FINES PcP **PcP** **22 58 49.3 -1.0**
comp=Z,1.5nm,0.9s,baz=116,slow=4.4,SNR=3.5
comp=Z,2.8nm,0.6s
FINES FINESS Array B 64.82 334 *e*P **P** **22 58 16.3 -0.8**
FINES pmax pmax
comp=Z,3.0nm,0.6s
WRA Warramunga Arr 66.96 198 P **P** **22 58 32.7 +1.4**
comp=Z,0.7nm,0.7s,baz=13,slow=6.3,SNR=5.6
comp=Z,0.7nm,0.7s
WRA Warramunga Arr 66.96 198 *e*P **P** **22 58 32.9 +1.5**
WRA pmax pmax
comp=Z,1.0nm,0.7s
MDND Maddock 68.09 43 P **P** **22 58 39.5 +1.1**
PFO Pinyon Flats O 68.11 64 LR LR 23 25 23.5
comp=Z,55nm,19.3s,baz=233,slow=33
NC405 NORSAR Array S 68.98 340 IAmb IAmb 22 58 44.7
comp=Z,8.6nm,0.8s
NB2 NORSAR Subarra 69.16 341 P **P** **22 58 44.4 -0.4**
comp=Z,3.0nm,0.6s,baz=30,slow=6.5
NOA NORSAR Array B 69.16 341 P **P** **22 58 43.5 -1.3**
comp=Z,2.8nm,0.7s,baz=27,slow=6.4,SNR=18
comp=Z,2.8nm,0.7s
NOA NORSAR Array B 69.16 341 *e*P **P** **22 58 44.6 -0.2**
NOA pmax pmax
comp=Z,2.0nm,0.6s
HFS Hagfors 69.35 339 P **P** **22 58 44.8 -1.2**
comp=Z,5.0nm,0.5s,baz=51,slow=5.9,SNR=44
comp=Z,5.0nm,0.5s
SEKA Sheki 70.58 309 P **P** **22 58 54.2 +0.3**
ASAR Alice Springs 70.66 197 P **P** **22 58 56.4 +2.0**
comp=Z,0.7nm,0.9s,baz=5.5,slow=4.8,SNR=2.6
comp=Z,0.7nm,0.9s
NCK Nalchik 70.89 313 *i* P **P** **22 58 57.0 +1.3**
NCK pmax pmax
comp=Z,6.0nm,0.9s
MNGR Mingechevir, A 70.94 309 P **P** **22 58 56.7 +0.7**
KIV Kislovodsk 71.03 314 P **P** **22 58 58.3 +1.6**
KIV IAmb IAmb 22 58 59.6
comp=Z,6.0nm,0.7s
KIV Kislovodsk 71.03 314 *e*P **P** **22 58 58.0 +1.4**
KIV Kislovodsk 71.03 314 *e*P **P** **22 58 58.0 +1.4**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 71.08 314 P **P** **22 58 56.0 -0.8**
comp=Z,6.0nm,0.8s,baz=37,slow=1.8,SNR=15
comp=Z,6.0nm,0.8s
KBZ Khabaz 71.08 314 *e*P **P** **22 58 58.0 +1.2**
KBZ Khabaz 71.08 314 *e*P **P** **22 58 58.0 +1.2**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
SHA1 Shidzhatmaz 71.20 314 *ce*P **P** **22 59 00.3 +2.5**

LKRN Lenkeran, Azer 71.42 306 P **P** **22 58 59.5 +0.6**
GANJ Ganja 71.44 309 P **P** **22 58 59.5 +0.4**
AKASG Malin Array Be 72.11 326 P **P** **22 59 01.1 -1.8**
comp=Z,0.6nm,0.3s,baz=36,slow=6.9,SNR=4.4
comp=Z,0.6nm,0.3s
AKASG Malin Array Be 72.11 326 *e*P **P** **22 59 02.7 -0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
NAX Nakhchivan 72.93 309 P **P** **22 59 08.8 +0.7**
SORM Soroca 74.48 325 ⇑P **P** **22 59 16.4 -0.5**
SORM Soroca 74.48 325 ⇑P **P** **22 59 16.4 -0.5**
LVV L'vov 74.81 328 *e*P P 22 59 24.6 +5.8
OJC Ojcow 76.01 331 IAmb IAmb 22 59 26.8
comp=Z,7.3nm,0.7s
BUR08 Bucovina Ar. S 76.14 326 IAmb IAmb 22 59 28.0
comp=Z,7.8nm,0.7s
BURAR Bucovina Array 76.16 326 ⇑P **P** **22 59 26.8 +0.1**
BURAR Bucovina Array 76.16 326 P **P** **22 59 26.9 +0.3**
BURAR IAmb IAmb 22 59 28.0
comp=Z,11nm,0.7s
BURAR Bucovina Array 76.16 326 ⇑P **P** **22 59 26.8 +0.1**
KOLS Kolonicke sedl 76.20 328 *e*P **P** **22 59 27.5 +0.7**
KOLS pmax pmax
comp=Z,7.0nm,0.7s
KOLS Kolonicke sedl 76.20 328 *e*P **P** **22 59 27.5 +0.7**
TESR Tescani 76.47 324 ⇑P **P** **22 59 28.5 +0.2**
CRVS Cervenica-Dubn 76.52 329 *e*P **P** **22 59 29.2 +0.6**
CRVS pmax pmax
comp=Z,7.0nm,0.9s
CRVS Cervenica-Dubn 76.52 329 *e*P **P** **22 59 29.2 +0.6**
TLCR 76.63 322 ⇑P **P** **22 59 29.9 +0.7**
TLCR 76.63 322 ⇑P **P** **22 59 29.9 +0.7**
CFR Carcaliu 76.92 323 ⇓P **P** **22 59 31.3 +0.4**
CFR Carcaliu 76.92 323 ⇓P **P** **22 59 31.3 +0.4**
ARCR ARCALIA 76.93 326 ⇑P **P** **22 59 32.3 +1.4**
LANS Liptovska Anna 77.03 330 *e*P **P** **22 59 33.1 +1.6**
LANS pmax pmax
comp=Z,6.0nm,0.7s
LANS Liptovska Anna 77.03 330 *e*P **P** **22 59 33.1 +1.6**
TPGR Topolog 77.06 322 ⇑P **P** **22 59 32.3 +0.6**
DPC Dobruska-Polom 77.06 333 *e*P **P** **22 59 32.3 +0.6**
DPC Dobruska-Polom 77.06 333 *e*P **P** **22 59 32.3 +0.6**
TURR Turia 77.10 325 ⇓P **P** **22 59 33.5 +1.5**
KRLC Kraliky 77.15 332 *e*P **P** **22 59 32.2 0.0**
KRLC Kraliky 77.15 332 *e*P **P** **22 59 32.2 0.0**
MORC Moravsky Berou 77.15 332 ⇓P **P** **22 59 33.1 +0.9**
MORC Moravsky Berou 77.15 332 IAmb IAmb 22 59 34.0
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 77.15 332 *e*P **P** **22 59 32.7 +0.5**
MORC Moravsky Berou 77.15 332 ⇓P **P** **22 59 33.1 +0.9**
OZUR 77.16 325 ⇓P **P** **22 59 33.7 +1.4**
CLL Collm 77.26 335 IAmb IAmb 22 59 33.3
comp=Z,7.0nm,0.8s
CLL Collm 77.26 335 *i* P **P** **22 59 32.5 -0.2**
CLL comp=Z,9.0nm,0.9s *e*pP **sP** **22 59 49.0 +1.5**
CLL Collm 77.26 335 *i* P **P** **22 59 32.5 -0.2**
CLL *e**SP **sP** **22 59 49.0 +1.5**
CLL pmax pmax
comp=Z,9.0nm,0.9s
EKA Eskdalemuir Ar 77.39 346 P **P** **22 59 32.7 -0.6**
comp=Z,1.0nm,0.4s,baz=18,slow=4.8,SNR=11
comp=Z,1.0nm,0.4s
MAUC Maruska 77.41 331 *e*P **P** **22 59 34.3 +0.7**
MLR Muntele Rosu 77.59 324 ⇑P **P** **22 59 35.2 +0.4**
MLR Muntele Rosu 77.59 324 P **P** **22 59 34.8 0.0**
MLR IAmb IAmb 22 59 36.8
comp=Z,5.2nm,0.6s
MLR Muntele Rosu 77.59 324 P **P** **22 59 34.8 0.0**
MLR pmax pmax
comp=Z,5.0nm,0.6s
VYHS Vyhne 77.80 330 *e*P **P** **22 59 36.5 +0.7**
VYHS pmax pmax
comp=Z,4.0nm,0.8s
VYHS Vyhne 77.80 330 *e*P **P** **22 59 36.5 +0.7**
VRAC Vranov 77.87 332 ⇓P **P** **22 59 37.4 +1.2**
VRAC Vranov 77.87 332 *e*P **P** **22 59 36.7 +0.5**
VRAC Vranov 77.87 332 ⇓P **P** **22 59 37.4 +1.2**
JAVC Velka Javorina 77.90 331 *e*P **P** **22 59 37.9 +1.5**
ICOR Ion Corvin 77.92 322 ⇓P **P** **22 59 37.6 +1.2**
GOPC GO Pecny, Ondr 77.94 333 *e*P **P** **22 59 37.2 +0.7**
GOPC GO Pecny, Ondr 77.94 333 *e*P **P** **22 59 37.2 +0.7**
PRU Pruhonice 77.95 333 *e*P **P** **22 59 37.1 +0.6**
PRU Pruhonice 77.95 333 *e*P **P** **22 59 37.1 +0.6**
VOIR 78.00 325 ⇓P **P** **22 59 38.2 +1.2**
VOIR 78.00 325 ⇓P **P** **22 59 38.2 +1.2**
KRUC Moravsky 78.15 332 *e*P **P** **22 59 38.3 +0.6**
ARR Arges 78.22 325 ⇓P **P** **22 59 39.2 +0.9**
MODS Modra-Piesok 78.45 331 *e*P **P** **22 59 41.1 +1.7**
MODS Modra-Piesok 78.45 331 *e*P **P** **22 59 41.1 +1.7**
ZVC Zvikov 78.54 333 *e*P **P** **22 59 40.1 +0.3**
SIRR Siria 78.65 327 ⇑P **P** **22 59 41.4 +0.9**
BRTR Keskin Array B 78.69 316 P **P** **22 59 40.5 -0.5**
comp=Z,1.6nm,0.8s,baz=80,slow=2.4,SNR=11
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 78.69 316 *e*P **P** **22 59 41.8 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
SURR Surduc 78.90 327 ⇓P **P** **22 59 42.4 +0.5**
GZR Gura Zlata 78.94 326 ⇑P **P** **22 59 42.3 +0.1**
GZR Gura Zlata 78.94 326 ⇑P **P** **22 59 42.3 +0.1**
TXAR Lajitas Array 78.97 59 P **P** **22 59 40.4 -2.3**
comp=Z,0.1nm,0.5s,baz=297,slow=5.5,SNR=2.7
comp=Z,0.1nm,0.5s
KHC Kasperske Hory 79.00 333 IAmb IAmb 22 59 44.0
comp=Z,4.3nm,0.6s
KHC Kasperske Hory 79.00 333 *e*P **P** **22 59 43.1 +0.7**
KHC *ex* x 22 59 48.0
KHC Kasperske Hory 79.00 333 *e*P **P** **22 59 43.1 +0.7**
KHC *e* 22 59 48.0
GERES GERESS Array B 79.22 333 P **P** **22 59 42.3 -1.3**
comp=Z,0.9nm,0.6s,baz=44,slow=4.1,SNR=7.0
comp=Z,0.9nm,0.6s
GERES GERESS Array B 79.22 333 *e*P **P** **22 59 43.7 0.0**
GERES pmax pmax
comp=Z,1.0nm,0.6s
CONA Conrad Observa 79.31 332 *e*P **P** **22 59 45.0 +0.8**
comp=Z,3.2nm,0.7s
RONA Rosalia, Austr 79.36 331 *e*P **P** **22 59 45.6 +1.2**
comp=Z,3.5nm,0.9s
MOA Molln 79.91 332 *e*P **P** **22 59 48.2 +0.8**
comp=Z,2.7nm,0.8s
BIOA Bad Ischl, Aus 80.25 333 *e*P **P** **22 59 49.6 +0.4**
comp=Z,4.0nm,1.1s
SOKA Soboth 80.68 331 *e*P **P** **22 59 51.7 +0.1**
comp=Z,3.3nm,1.0s
LESA Schwarzleotal 80.79 333 *e*P **P** **22 59 52.8 +0.6**
comp=Z,1.2nm,0.5s
KBA Koelnbreinsper 80.88 333 *e*P **P** **22 59 53.5 +0.7**
comp=Z,1.3nm,0.5s
OBKA Obir 80.99 332 *e*P **P** **22 59 53.9 +0.6**
comp=Z,1.1nm,0.6s
WATA Walderalm 81.22 334 *e*P **P** **22 59 55.1 +0.5**
comp=Z,2.6nm,0.4s
WTTA Wattenberg 81.26 334 *e*P **P** **22 59 55.1 +0.2**
comp=Z,3.7nm,0.4s
MOTA Moosalm 81.35 334 *e*P **P** **22 59 55.2 -0.1**
comp=Z,4.4nm,0.8s
SQTA Sankt Quirin 81.43 334 *e*P **P** **22 59 56.0 +0.3**
comp=Z,4.1nm,0.9s
H06N1 SOCORRO T-PHAS 81.73 72 T T 00 31 18.7
SNR=9.6
FETA Feichten 81.76 334 *e*P **P** **22 59 55.2 -2.2**
comp=Z,1.0nm,0.7s
TUE Stuetta 82.67 335 P **P** **23 00 03.4 +1.1**
TUE IAmb IAmb 23 00 04.7
comp=Z,2.6nm,0.7s
MMAI Mount Meron Ar 82.96 311 P **P** **23 00 03.8 -0.1**
comp=Z,2.7nm,0.7s,baz=44,slow=7.4,SNR=6.5
comp=Z,2.7nm,0.7s
NRCA Norcia 84.71 331 IAmb IAmb 23 00 14.9
comp=Z,6.4nm,0.8s
Y49A Blount Mountai 85.14 45 P **P** **23 00 18.6 +3.7**
ESDC Sonseca Array 92.51 341 P **P** **23 00 49.7 -0.2**
comp=Z,0.4nm,0.7s,baz=10,slow=3.2,SNR=2.1
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 115.71 327 PKP **PKiKP** **23 06 20.9 -0.4**
comp=Z,0.5nm,1.0s,baz=36,slow=3.6,SNR=2.5
H03N2 Juan Fernandez 139.69 91 T T 01 42 51.2
baz=306
H03N3 Juan Fernandez 139.70 91 T T 01 42 53.5
baz=306
H03N1 Juan Fernandez 139.70 91 T T 01 42 54.1
baz=306
ELIB Princess Elisa 144.20 205 *d*PKP **PKPab** **23 07 06.9 -4.2**

IDC 29 23:02:33.6±2.2,6°.09S×151°.45E,h0km,mb3.6/3,
mbtmp3.6/3,Error ellipse: s-maj=147.7km
s-min=29.4km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.58**	**229**	P	P	23 07 24.8	-0.3
	1.1nm,0.8s,baz=55,slow=10.0,SNR=5.6						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**24.29**	**222**	P	P	23 07 53.1	+0.1
	3.7nm,0.8s,baz=52,slow=9.5,SNR=25						
	3.7nm,0.8s						
ILAR	**Eielson Array**	**83.86**	**22**	P	P	23 15 04.2	-0.7
	0.2nm,0.5s,baz=238,slow=5.0,SNR=5.3						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.39**	**285**	PKPbc	PKPbc	23 22 25.9	+0.2
	0.6nm,0.6s,baz=78,slow=4.3,SNR=7.7						

*BEO **29** 23:15:08.2±4.8,38°.69N×15°.83E,h0km,ML3.8/13*
*IDC **29** 23:15:09.4±4.0,38°.70N×15°.63E,h93km±46km,mb3.3/6,*
mbtmp3.6/9,Error ellipse: s-maj=29.5km s-min=21.5km
az=110.0
*LDG **29** 23:15:09.7,38°.54N×15°.77E,h89km*
*ROM **29** 23:15:10.8±0.1,38°.583N±0°.006×15°.740E±0°.009,*
h88km±1km,ML3.7/150,Error ellipse: s-maj=0.7km
s-min=0.6km az=135.0
*THE **29** 23:15:14.6,38°.70N×16°.26E,h14km±15km,ML4.0/4,Error*
ellipse: s-maj=21.0km s-min=1.4km az=260.0
ISC 29 23:15:09.6±1.0,38°.60N±0°.03×15°.79E±0°.03,h97km±7km,
n219,σ1°.51/209,mb3.5/6,21C-14D,Sicily

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JOPP	**Joppolo**	**0.08**	**82**	⇓P	Pn	23 15 23.5	+0.3
JOPP				S	Sn	23 15 33.0	-0.4
JOPP				AML	AML		
	comp=E,14850μm,0.6s						
JOPP				AML	AML		
	comp=N,21650μm,1.0s						
JOPP				AML	AML		
	comp=N,21650μm,1.0s						
JOPP				AML	AML		
	comp=E,14828μm,0.4s						
JOPP				AML	AML		
	comp=N,17625μm,0.1s						
CEL	**Celeste**	**0.35**	**166**	⇓P	**Pn**	**23 15 24.2**	**+0.1**
CEL				S	**Sn**	**23 15 34.3**	**-0.7**
CEL				AML	AML		
	comp=E,5810μm,0.4s						
CEL				AML	AML		
	comp=N,5390μm,0.2s						
CEL				AML	AML		
	comp=N,6660μm,0.2s						
CEL				AML	AML		
	comp=N,5385μm,0.2s						
CEL				AML	AML		
	comp=E,7215μm,0.4s						
CEL				AML	AML		
	comp=E,5805μm,0.4s						
GMB	**Gambarie**	**0.43**	**176**	P	**Pn**	**23 15 24.9**	**+0.1**
GMB				S	**Sn**	**23 15 35.6**	**-0.4**
GMB				AML	AML		
	comp=E,41650μm,0.7s						
GMB				AML	AML		
	comp=N,39350μm,0.2s						
IST3	**Stromboli F**	**0.48**	**295**	⇑P	Pn	23 15 25.4	+0.5
IST3				S	Sn	23 15 36.2	-0.2
IST3				AML	AML		
	comp=E,27500μm,1.5s						
IST3				AML	AML		
	comp=N,45850μm,0.8s						
IST3				AML	AML		
	comp=E,27500μm,0.5s						
IST3				AML	AML		
	comp=N,45850μm,1.2s						
ISTR	**Stromboli Gino**	**0.50**	**292**	⇑P	Pn	23 15 25.2	+0.2
ISTR				S	**Sn**	**23 15 35.6**	**-1.0**
PLAC	**Placanica**	**0.53**	**106**	⇓P	Pn	23 15 26.3	+1.0
PLAC				S	**Sn**	**23 15 37.8**	**+0.6**
PLAC				AML	AML		
	comp=E,3145μm,0.4s						
PLAC				AML	AML		
	comp=E,2765μm,1.6s						
PLAC				AML	AML		
	comp=N,2595μm,1.6s						
PLAC				AML	AML		
	comp=N,3360μm,0.4s						
GRI	**Girifalco**	**0.54**	**65**	⇑P	Pn	23 15 26.5	+1.1
GRI				S	Sn	23 15 38.2	+0.9
GRI				AML	AML		
	comp=N,6100μm,0.4s						
GRI				AML	AML		
	comp=E,5580μm,0.5s						
MILZ	**Milazzo**	**0.54**	**233**	⇓P	**Pn**	**23 15 25.5**	**+0.1**
MILZ				S	**Sn**	**23 15 35.9**	**-1.3**
MILZ				AML	AML		
	comp=E,37750μm,0.6s						
MILZ				AML	AML		
	comp=N,22050μm,0.3s						
SOI	**Samo**	**0.56**	**158**	⇓P	**Pn**	**23 15 26.2**	**+0.6**
SOI				S	**Sn**	**23 15 37.5**	**-0.1**
SOI				AML	AML		
	comp=N,2525μm,0.8s						
SOI				AML	AML		
	comp=E,2180μm,1.4s						
SOI				AML	AML		
	comp=E,2180μm,0.6s						
MPNC	**Port Mandanici**	**0.57**	**217**	⇓P	**Pn**	**23 15 25.5**	**-0.1**
MPNC				S	**Sn**	**23 15 36.3**	**-1.3**
MPNC				AML	AML		
	comp=E,30400μm,0.7s						
MPNC				AML	AML		
	comp=N,31200μm,0.2s						
MPNC				AML	AML		
	comp=N,31200μm,1.8s						
MTTG	**Motta San Giov**	**0.60**	**187**	⇓P	**Pn**	**23 15 26.7**	**+0.8**
MTTG				S	**Sn**	**23 15 38.2**	**+0.2**
MTTG				AML	AML		
	comp=E,7150μm,0.6s						
MTTG				AML	AML		
	comp=N,7885μm,0.5s						
VPL	**Vulcano Piano**	**0.67**	**251**	⇑P	**Pn**	**23 15 26.7**	**+0.3**
VPL				S	**Sn**	**23 15 38.2**	**-0.9**
VPL				AML	AML		
	comp=N,19850μm,0.4s						
VPL				AML	AML		
	comp=E,14000μm,0.8s						
VPL				AML	AML		
	comp=N,19850μm,1.6s						
VPL				AML	AML		
	comp=E,14000μm,1.2s						
LLI	**Lipari**	**0.68**	**257**	⇑P	**Pn**	**23 15 27.2**	**+0.7**
LLI				S	**Sn**	**23 15 39.1**	**0.0**
LLI				AML	AML		
	comp=E,79650μm,1.6s						
LLI				AML	AML		
	comp=N,83550μm,0.3s						
LLI				AML	AML		
	comp=E,79650μm,0.4s						
IVGP	**Vulcano Grotta**	**0.68**	**253**	⇑P	**Pn**	**23 15 26.6**	**+0.1**
IVGP				S	**Sn**	**23 15 37.2**	**-2.0**
CAR1	**CAROLEI**	**0.73**	**27**	⇓P	Pn	23 15 27.7	+0.6
CAR1				S	**Sn**	**23 15 40.4**	**+0.1**
CAR1				AML	AML		
	comp=N,7990μm,1.5s						
CAR1				AML	AML		
	comp=N,8500μm,0.5s						
CAR1				AML	AML		
	comp=E,7450μm,0.4s						
CAR1				AML	AML		
	comp=E,7785μm,0.4s						
CAR1				AML	AML		
	comp=N,7990μm,0.5s						
AIO	**Antillo**	**0.76**	**215**	P	**Pn**	**23 15 27.9**	**+0.5**
AIO				S	**Sn**	**23 15 40.8**	**+0.1**
AIO				AML	AML		
	comp=E,5190μm,0.5s						
AIO				AML	AML		
	comp=E,5190μm,1.5s						
AIO				AML	AML		
	comp=N,4990μm,0.8s						
NOV	**Novara**	**0.76**	**222**	P	**Pn**	**23 15 27.9**	**+0.5**
NOV				S	**Sn**	**23 15 40.7**	**-0.1**

NOV				AML	AML	
	comp=N,19000µm,0.4s					
NOV				AML	AML	
	comp=E,24750µm,0.8s					
NOV				AML	AML	
	comp=E,24750µm,1.2s					
SPS2	**Spezzano della**	**0.82**	**32**	⇓P	Pn	23 15 28.8 +0.8
SPS2				S	**Sn**	**23 15 42.3 +0.6**
SPS2				AML	AML	
	comp=E,1730µm,1.6s					
SPS2				AML	AML	
	comp=N,2430µm,0.3s					
SERS	**Sersale**	**0.83**	**58**	⇓P	Pn	23 15 29.6 +1.4
SERS				AML	AML	
	comp=E,1620µm,0.3s					
SERS				AML	AML	
	comp=E,1785µm,0.4s					
SERS				AML	AML	
	comp=N,1650µm,0.3s					
SERS				AML	AML	
	comp=N,1785µm,0.4s					
MUCR	**Ucria**	**0.91**	**233**	⇑P	**Pn**	**23 15 29.2 +0.3**
MUCR				AML	AML	
	comp=N,4160µm,0.4s					
MUCR				AML	AML	
	comp=E,3795µm,0.4s					
CET2	**Cetraro**	**0.94**	**8**	⇓P	**Pn**	**23 15 29.8 +0.6**
CET2				AML	AML	
	comp=E,9265µm,0.3s					
CET2				AML	AML	
	comp=N,16000µm,0.4s					
TIP	**Timpagrande**	**0.95**	**52**	⇓P	Pn	23 15 30.9 +1.5
TIP				AML	AML	
	comp=N,1620µm,0.6s					
TIP				AML	AML	
	comp=N,1990µm,0.6s					
TIP				AML	AML	
	comp=E,1016µm,1.2s					
TIP				AML	AML	
	comp=E,1216µm,1.1s					
TIP				AML	AML	
	comp=N,1990µm,1.4s					
TIP				AML	AML	
	comp=E,1016µm,0.8s					
TIP				AML	AML	
	comp=N,1620µm,1.4s					
TIP				AML	AML	
	comp=E,1216µm,0.9s					
EMSG	**Monte Spagnolo**	**1.02**	**221**	P	**Pn**	**23 15 31.7 +1.5**
EMSG				AML	AML	
	comp=N,9470µm,1.1s					
EMSG				AML	AML	
	comp=E,9455µm,0.4s					
EMSG				AML	AML	
	comp=N,9470µm,0.9s					
EVRN	**Santa Venerina**	**1.04**	**210**	P	**Pn**	**23 15 31.2 +0.9**
EPZF	**Pizzo Felice**	**1.06**	**224**	⇑P	**Pn**	**23 15 32.1 +1.5**
EPZF				AML	AML	
	comp=E,15950µm,0.4s					
EPZF				AML	AML	
	comp=N,10800µm,0.3s					
MNO	**Monte Soro**	**1.08**	**233**	⇑P	**Pn**	**23 15 31.7 +0.7**
MNO				AML	AML	
	comp=E,3460µm,0.4s					
MNO				AML	AML	
	comp=N,3235µm,0.7s					
ESLN	**Serra La Nave**	**1.11**	**216**	P	**Pn**	**23 15 32.3 +1.1**
ESLN				AML	AML	
	comp=E,2685µm,0.5s					
ESLN				AML	AML	
	comp=E,2685µm,1.5s					
ESLN				AML	AML	
	comp=N,1925µm,0.6s					
IACL	**Alicudi**	**1.12**	**267**	⇑P	**Pn**	**23 15 31.3 +0.1**
IACL				AML	AML	
	comp=E,1290µm,0.5s					
IACL				AML	AML	
	comp=N,1460µm,0.3s					
GRIS	**Grisolia**	**1.14**	**3**	P	**Pn**	**23 15 32.5 +1.0**
LADO	**San Nicola del**	**1.16**	**53**	⇓P	**Pn**	**23 15 32.8 +1.2**
LADO				AML	AML	
	comp=E,136µm,0.5s					
LADO				AML	AML	
	comp=N,92µm,0.7s					
LADO				AML	AML	
	comp=N,92µm,1.3s					
PIPA	**Pietrapaola**	**1.20**	**42**	⇓P	**Pn**	**23 15 33.8 +1.7**
PIPA				AML	AML	
	comp=E,1585µm,1.6s					
PIPA				AML	AML	
	comp=E,1570µm,1.6s					
PIPA				AML	AML	
	comp=E,1570µm,0.4s					
PIPA				AML	AML	
	comp=N,1785µm,0.4s					
PIPA				AML	AML	
	comp=E,1585µm,0.4s					
PIPA				AML	AML	
	comp=N,1710µm,0.4s					
ESML	**S. M. di Licod**	**1.21**	**217**	P	**Pn**	**23 15 33.7 +1.5**
ESML				AML	AML	
	comp=E,2515µm,0.3s					
ESML				AML	AML	
	comp=N,2120µm,0.8s					
EPOZ	**Pozzillo**	**1.22**	**207**	P	**Pn**	**23 15 30.8 -1.5**
EPOZ				AML	AML	
	comp=N,9420µm,0.2s					
EPOZ				AML	AML	
	comp=E,9405µm,0.4s					
MMN	**Mormanno**	**1.30**	**7**	P	**Pn**	**23 15 34.2 +0.9**
MMN				AML	AML	
	comp=E,3320µm,0.4s					
MMN				AML	AML	
	comp=N,4800µm,0.2s					
GALF	**Gagliano Caste**	**1.31**	**228**	P	**Pn**	**23 15 35.1 +1.7**
GALF				AML	AML	
	comp=E,442µm,0.7s					
GALF				AML	AML	
	comp=E,1365µm,0.7s					
GALF				AML	AML	
	comp=N,609µm,0.6s					
GALF				AML	AML	
	comp=N,1875µm,0.6s					
SALB	**San Lorenzo Be**	**1.35**	**19**	P	Pn	23 15 35.8 +1.8
SALB				AML	AML	
	comp=N,853µm,0.7s					
SALB				AML	AML	
	comp=E,2105µm,0.3s					
SALB				AML	AML	
	comp=N,853µm,1.3s					
CUC	**Castrocucco**	**1.40**	**1**	P	**Pn**	**23 15 35.3 +0.8**
CUC				AML	AML	
	comp=E,1390µm,0.3s					
CUC				AML	AML	
	comp=E,1720µm,0.3s					
CUC				AML	AML	
	comp=N,1775µm,1.1s					
CUC				AML	AML	
	comp=N,1430µm,1.1s					
CUC				AML	AML	
	comp=E,1720µm,1.7s					
CUC				AML	AML	
	comp=E,1390µm,1.7s					
HAGA	**Augusta**	**1.40**	**201**	P	**Pn**	**23 15 33.9 -0.5**
HAGA				AML	AML	
	comp=E,2100µm,1.2s					
HAGA				AML	AML	
	comp=E,2100µm,0.8s					
HAGA				AML	AML	
	comp=N,2240µm,0.5s					
CAGR	**Agira**	**1.41**	**227**	P	**Pn**	**23 15 36.4 +1.8**
AGST	**Augusta-Monte**	**1.41**	**198**	P	**Pn**	**23 15 33.7 -0.8**
AGST				AML	AML	
	comp=N,3115µm,0.7s					
AGST				AML	AML	
	comp=E,2425µm,0.2s					
PLLN	**Pollina**	**1.43**	**245**	⇑P	**Pn**	**23 15 35.0 +0.1**
PLLN				AML	AML	
	comp=E,1089µm,0.8s					
PLLN				AML	AML	
	comp=N,1002µm,0.4s					
CSLB	**Castelbuono**	**1.51**	**245**	⇑P	**Pn**	**23 15 35.8 -0.1**
CSLB				AML	AML	
	comp=E,178µm,0.6s					
CSLB				AML	AML	
	comp=N,216µm,0.4s					
GIB	**Gibilmanna**	**1.51**	**247**	⇑P	**Pn**	**23 15 35.9 -0.1**
GIB				AML	AML	
	comp=E,636µm,0.5s					
GIB				AML	AML	
	comp=N,889µm,0.8s					
GIB				AML	AML	
	comp=N,889µm,1.2s					
BULG	**Bulgheria - Ca**	**1.51**	**348**	P	**Pn**	**23 15 37.2 +1.3**
BULG				AML	AML	
	comp=N,1750µm,0.5s					
BULG				AML	AML	
	comp=N,1820µm,0.5s					
BULG				AML	AML	
	comp=E,1380µm,0.3s					
BULG				AML	AML	
	comp=E,1440µm,0.3s					
PETRA	**Petralia Sopra**	**1.52**	**240**	⇑P	**Pn**	**23 15 36.8 +0.6**
PETRA				AML	AML	
	comp=E,640µm,0.5s					
PETRA				AML	AML	
	comp=N,874µm,0.7s					
PETRA				AML	AML	
	comp=E,640µm,1.5s					
SSY	**Sortino**	**1.55**	**202**	P	**Pn**	**23 15 36.4 +0.1**
SSY				AML	AML	
	comp=N,6890µm,1.5s					
SSY				AML	AML	
	comp=N,6890µm,0.5s					
SSY				AML	AML	
	comp=E,3255µm,0.3s					
MGR	**Morigerati**	**1.55**	**353**	⇑P	**Pn**	**23 15 37.3 +1.0**
MGR				AML	AML	
	comp=E,1695µm,1.4s					
MGR				AML	AML	
	comp=N,864µm,0.3s					
MGR				AML	AML	
	comp=E,1225µm,1.5s					
MGR				AML	AML	
	comp=N,1094µm,1.6s					
MGR				AML	AML	
	comp=N,1094µm,0.4s					
MGR				AML	AML	
	comp=E,1695µm,0.6s					
MGR				AML	AML	
	comp=E,1225µm,0.5s					
ORI	**Oriolo Calabro**	**1.55**	**19**	P	Pn	23 15 38.7 +2.4
ORI				AML	AML	
	comp=E,1610µm,0.4s					
ORI				AML	AML	
	comp=N,1645µm,0.3s					
MEU	**Monte Lauro**	**1.64**	**205**	P	**Pn**	**23 15 38.1 +0.5**
MEU				AML	AML	
	comp=E,1675µm,0.3s					
MEU				AML	AML	
	comp=N,1775µm,0.3s					
MEU				AML	AML	
	comp=E,1675µm,1.7s					
MEU				AML	AML	
	comp=N,1775µm,1.7s					
HVZN	**Vizzini**	**1.65**	**211**	P	**Pn**	**23 15 38.2 +0.6**
RESU	**Resuttano**	**1.66**	**236**	P	**Pn**	**23 15 39.8 +2.0**
MTSN	**Montesano sull**	**1.67**	**359**	P	**Pn**	**23 15 38.8 +1.0**
MTSN				AML	AML	
	comp=E,805µm,0.4s					
MTSN				AML	AML	
	comp=N,921µm,0.3s					
MCEL	**Monticello**	**1.73**	**0**	P	Pn	23 15 40.9 +2.2
VGG3	**Viggiano (Prot**	**1.74**	**3**	P	**Pn**	**23 15 40.9 +2.1**
CMPR	**Campora**	**1.76**	**348**	P	**Pn**	**23 15 40.5 +1.5**
CMPR				AML	AML	
	comp=E,424µm,0.5s					
CMPR				AML	AML	
	comp=N,390µm,0.9s					
RAFF	**Raffo Rosso**	**1.77**	**220**	P	**Pn**	**23 15 39.8 +0.6**
SLCN	**Sala Consilina**	**1.79**	**356**	P	**Pn**	**23 15 40.9 +1.4**
ALJA	**Alia**	**1.81**	**243**	⇑P	**Pn**	**23 15 40.9 +1.2**
ALJA				AML	AML	
	comp=N,316µm,1.2s					
ALJA				AML	AML	
	comp=N,316µm,0.8s					
ALJA				AML	AML	
	comp=E,248µm,1.0s					
HMDC	**Modica**	**1.82**	**206**	P	**Pn**	**23 15 39.6 -0.2**
SOLUN	**Solunto**	**1.84**	**255**	⇑P	**Pn**	**23 15 40.3 +0.3**
SOLUN				AML	AML	
	comp=N,128µm,1.2s					
SOLUN				AML	AML	
	comp=E,139µm,1.5s					
SOLUN				AML	AML	
	comp=N,128µm,0.8s					
SRN3	**Sant'Arsenio**	**1.90**	**352**	P	**Pn**	**23 15 42.6 +1.7**
CMDO	**Montedoro**	**1.92**	**235**	P	**Pn**	**23 15 44.3 +3.3**
MPG	**Monte Pellegri**	**1.96**	**258**	⇑P	**Pn**	**23 15 41.8 +0.3**
MPG				AML	AML	
	comp=E,83µm,1.2s					
MPG				AML	AML	
	comp=N,86µm,0.6s					
HPAC	**Pachino**	**1.97**	**196**	P	**Pn**	**23 15 42.2 +0.5**
HPAC				AML	AML	
	comp=N,1595µm,0.5s					
HPAC				AML	AML	
	comp=E,1160µm,0.6s					
HPAC				AML	AML	
	comp=N,1595µm,1.5s					
PGN3	**Pignola, Italy**	**1.97**	**0**	P	Pn	23 15 44.3 +2.5
PST3	**Postiglione**	**2.01**	**348**	P	**Pn**	**23 15 44.0 +1.8**
CROCE	**Santa Croce Ca**	**2.02**	**210**	AML	AML	
	comp=E,426µm,1.3s					
CROCE				AML	AML	
	comp=N,374µm,0.5s					
CLTA	**Licata**	**2.04**	**226**	P	**Pn**	**23 15 44.3 +1.8**
CLTA				AML	AML	
	comp=E,205µm,0.7s					
CLTA				AML	AML	
	comp=N,146µm,0.7s					
USI	**Ustica**	**2.04**	**274**	⇑P	**Pn**	**23 15 42.6 0.0**
USI				AML	AML	
	comp=E,136µm,0.6s					
USI				AML	AML	
	comp=N,374µm,0.8s					
MIGL	**Miglionico**	**2.07**	**14**	P	**Pn**	**23 15 44.1 +1.2**
MIGL				AML	AML	
	comp=E,1003µm,1.3s					
MIGL				AML	AML	
	comp=N,902µm,0.2s					
CORL	**Corleone**	**2.08**	**251**	⇑P	**Pn**	**23 15 44.0 +0.9**
CORL				AML	AML	
	comp=E,364µm,0.6s					
CORL				AML	AML	
	comp=N,288µm,0.6s					
CORL				AML	AML	
	comp=E,364µm,1.4s					
SCL3	**Muro Lucano (S**	**2.11**	**354**	P	Pn	23 15 46.5 +3.0
COL3	**Colliano**	**2.12**	**351**	P	**Pn**	**23 15 46.0 +2.3**
FAVR	**Favara**	**2.14**	**232**	P	**Pn**	**23 15 46.0 +2.2**
LTRZ	**Laterza**	**2.16**	**21**	P	**Pn**	**23 15 44.1 +0.1**
MATE	**Matera**	**2.17**	**19**	P	**Pn**	**23 15 44.8 +0.6**
MATE				AML	AML	
	comp=E,674µm,0.9s					
MATE				AML	AML	
	comp=N,490µm,0.9s					
MATE				AML	AML	
	comp=E,674µm,1.1s					
MATE				AML	AML	
	comp=N,490µm,1.1s					
MRLC	**Muro Lucano**	**2.17**	**354**	P	Pn	23 15 47.0 +2.7
MRLC				AML	AML	
	comp=E,192µm,1.2s					
MRLC				AML	AML	
	comp=E,192µm,0.8s					
MRLC				AML	AML	
	comp=N,205µm,0.4s					
SNR3	**Senerchia**	**2.19**	**348**	P	**Pn**	**23 15 46.2 +1.7**
ACER	**Acerenza**	**2.19**	**3**	P	**Pn**	**23 15 46.6 +2.0**
ACER				AML	AML	
	comp=E,386µm,0.5s					
ACER				AML	AML	
	comp=N,400µm,0.6s					
ACER				AML	AML	
	comp=N,418µm,0.4s					
ACER				AML	AML	
	comp=E,368µm,0.5s					
MCRV	**Calabrutti - M**	**2.23**	**348**	P	**Pn**	**23 15 46.8 +1.5**
TAR1	**Taranto**	**2.25**	**31**	P	**Pn**	**23 15 45.4 +0.2**
TAR1				AML	AML	
	comp=E,3090µm,0.2s					
TAR1				AML	AML	
	comp=N,2365µm,0.5s					
CLTB	**Caltabellotta**	**2.27**	**244**	P	**Pn**	**23 15 47.7 +2.0**
RDM3	**Ruvo Del Monte**	**2.28**	**355**	P	Pn	23 15 49.1 +3.3
NSC3	**Nusco**	**2.31**	**347**	P	**Pn**	**23 15 48.2 +2.1**
MBFT	**Monte Bonifato**	**2.32**	**255**	⇑P	**Pn**	**23 15 47.1 +0.8**
MBFT				AML	AML	
	comp=N,81µm,1.3s					
MBFT				AML	AML	
	comp=E,123µm,0.8s					
CRJA	**Costa Raja**	**2.33**	**251**	P	**Pn**	**23 15 48.4 +2.0**
LIO3	**Lioni**	**2.34**	**349**	P	**Pn**	**23 15 49.0 +2.4**
PALZ	**Palazzo San Ge**	**2.35**	**3**	P	**Pn**	**23 15 48.1 +1.5**
PALZ				AML	AML	
	comp=E,268µm,1.5s					
PALZ				AML	AML	
	comp=N,218µm,1.4s					
VULT	**Monte Vulture**	**2.36**	**357**	P	**Pn**	**23 15 48.8 +2.0**
SNAL	**S. Angelo Dei**	**2.37**	**349**	P	**Pn**	**23 15 49.1 +2.2**
AMUR	**Altamura**	**2.39**	**15**	P	**Pn**	**23 15 47.2 0.0**
AMUR				AML	AML	
	comp=E,733µm,0.4s					
AMUR				AML	AML	
	comp=N,696µm,0.5s					
AMUR				AML	AML	
	comp=N,696µm,1.5s					
AMUR				AML	AML	
	comp=E,733µm,1.6s					
MTMR	**Montemarano**	**2.40**	**346**	P	**Pn**	**23 15 49.3 +2.0**
NOCI	**Noci**	**2.40**	**24**	P	**Pn**	**23 15 47.3 0.0**
NOCI				AML	AML	
	comp=N,1270µm,0.5s					
NOCI				AML	AML	
	comp=N,1270µm,1.5s					
NOCI				AML	AML	
	comp=E,1115µm,0.3s					
RSF3	**Rocca San Feli**	**2.41**	**349**	P	**Pn**	**23 15 49.7 +2.3**
VTIR	**Vesuvio Tirone**	**2.44**	**335**	P	**Pn**	**23 15 49.7 +1.8**
VCRE	**Vesuvio Crater**	**2.45**	**335**	P	**Pn**	**23 15 50.5 +2.5**
VBKN	**Vesuvio Bunker**	**2.46**	**335**	P	**Pn**	**23 15 50.0 +1.8**
CAFE	**Carife**	**2.46**	**350**	P	**Pn**	**23 15 50.6 +2.3**
OVO	**Vesuviano**	**2.47**	**335**	P	**Pn**	**23 15 49.3 +1.1**
VVDG	**Vesuvio Valle**	**2.47**	**335**	P	**Pn**	**23 15 49.8 +1.5**
SCTE	**Santa Cesarea**	**2.55**	**54**	P	**Pn**	**23 15 49.1 -0.1**
SCTE				AML	AML	
	comp=E,901µm,0.7s					
SCTE				AML	AML	
	comp=N,788µm,1.3s					
SCTE				AML	AML	
	comp=N,788µm,0.7s					
MESG	**Mesagne**	**2.55**	**38**	P	**Pn**	**23 15 49.6 +0.4**
MESG				AML	AML	
	comp=E,1360µm,0.9s					
MESG				AML	AML	
	comp=E,1360µm,1.1s					
MESG				AML	AML	
	comp=N,2775µm,0.5s					
SGTA	**Sant Agata di**	**2.56**	**353**	P	Pn	23 15 52.0 +2.6
CAPA	**Cerignola FG**	**2.56**	**1**	P	**Pn**	**23 15 51.8 +2.4**
CAVT	**Castelvetrano**	**2.56**	**250**	P	**Pn**	**23 15 51.0 +1.6**
ERC	**Erice**	**2.58**	**258**	P	**Pn**	**23 15 50.3 +0.6**
MRB1	**Monte Rocchett**	**2.60**	**346**	P	**Pn**	**23 15 52.3 +2.3**
PAOL	**Paolisi**	**2.61**	**339**	P	**Pn**	**23 15 51.1 +1.1**
MARS	**Marsala (TP) I**	**2.67**	**253**	P	**Pn**	**23 15 53.0 +2.1**
PSB1	**Pescosannita**	**2.73**	**344**	P	**Pn**	**23 15 53.9 +2.3**
VITU	**Vitulano (BN)**	**2.73**	**341**	P	**Pn**	**23 15 53.4 +1.7**
MOCO	**Biccari - m.te**	**2.81**	**350**	P	**Pn**	**23 15 55.3 +2.5**
PIGN	**Pignataro Magg**	**2.88**	**335**	P	**Pn**	**23 15 55.3 +1.7**
SACR	**S. Croce Del S**	**2.92**	**344**	P	**Pn**	**23 15 56.7 +2.5**
WDD	**Wied Dalam**	**2.93**	**200**	P	**Pn**	**23 15 56.1 +1.8**
SGG	**Gregorio Mates**	**2.99**	**339**	P	**Pn**	**23 15 57.1 +2.0**
GATE	**Gambatesa**	**2.99**	**347**	P	Pn	23 15 58.0 +2.9
VAGA	**Valle Agricola**	**3.06**	**338**	P	**Pn**	**23 15 58.0 +1.9**
BSSO	**Busso**	**3.08**	**343**	P	**Pn**	**23 15 59.1 +2.6**
MSAG	**Monte S. Angel**	**3.11**	**2**	P	**Pn**	**23 15 58.1 +1.3**
CIGN	**Sant'Elia a Pi**	**3.13**	**348**	P	Pn	23 16 01.6 +4.6
MELA	**Melanico ??? S**	**3.15**	**351**	P	Pn	23 16 00.3 +3.1
SGRT	**San Giovanni R**	**3.15**	**359**	P	**Pn**	**23 15 59.1 +1.8**
APRC	**Apricena**	**3.16**	**357**	P	**Pn**	**23 15 59.4 +1.9**
APRC				AML	AML	
	comp=N,98µm,0.7s					
APRC				AML	AML	
	comp=E,105µm,0.5s					
MIDA	**Miranda**	**3.26**	**339**	P	**Pn**	**23 15 59.8 +0.9**
CERA	**Filignano**	**3.29**	**336**	P	**Pn**	**23 16 01.0 +1.9**
TRIV	**Trivento**	**3.31**	**344**	P	**Pn**	**23 16 02.0 +2.6**
KEK	**Kerkira**	**3.31**	**69**	P	**Pn**	**23 16 00.2 +0.8**
KEK				S	**Sn**	**23 16 35.8 -2.1**
	comp=E,605nm,0.2s					
KEK	**Kerkira**	**3.31**	**69**	P	**Pn**	**23 15 59.7 +0.3**
VLO	**Vlora**	**3.42**	**56**	P	**Pn**	**23 16 02.1 +1.2**
POFI	**Posta Fibreno**	**3.50**	**334**	P	**Pn**	**23 16 04.5 +2.5**
SRN	**Sarande**	**3.51**	**67**	P	**Pn**	**23 16 02.3 +0.2**
TREM	**Isole Tremiti**	**3.53**	**357**	P	Pn	23 16 05.3 +3.0
DMLN	**Damoulianata-K**	**3.62**	**94**	P	**Pn**	**23 16 04.9 +1.3**
DMLN				S	**Sn**	**23 16 45.0 -0.4**
	comp=E,1µm,0.2s					
FSK	**Fiskardo**	**3.75**	**91**	P	**Pn**	**23 16 07.0 +1.7**
FSK				S	**Sn**	**23 16 47.9 -0.5**
	comp=E,715nm,0.2s					
VLS	**Valsamata**	**3.80**	**95**	P	**Pn**	**23 16 07.7 +1.7**
VLS				S	**Sn**	**23 16 48.4 -1.2**
	comp=E,630nm,0.1s					
VLS	**Valsamata**	**3.80**	**95**	AML	AML	
	comp=E,262µm,1.0s					
VLS				AML	AML	
	comp=N,260µm,1.5s					
VLS				AML	AML	
	comp=N,260µm,0.5s					
PSDA	**Pessada-Kefalo**	**3.80**	**96**	P	**Pn**	**23 16 07.7 +1.7**
PSDA				S	**Sn**	**23 16 49.9 +0.2**
EVGI	**Lefkada island**	**3.81**	**88**	P	**Pn**	**23 16 07.2 +1.0**
TSLK	**Tsoukalades, L**	**3.81**	**85**	P	**Pn**	**23 16 07.3 +1.1**
LKD2	**Lefkada island**	**3.82**	**86**	P	**Pn**	**23 16 07.4 +1.2**
LKD2				S	**Sn**	**23 16 49.1 -1.0**
NYDR	**Nydri-Lefkada**	**3.85**	**87**	P	**Pn**	**23 16 09.0 +2.4**
NYDR				S	**Sn**	**23 16 49.3 -1.5**
JAN	**Janina**	**4.08**	**73**	P	**Pn**	**23 16 11.1 +1.3**
LTHK	**Lithakia**	**4.08**	**101**	P	**Pn**	**23 16 11.6 +1.9**
TIR	**Tirane**	**4.17**	**47**	P	**Pn**	**23 16 13.2 +2.3**
TIR	**Tirane**	**4.17**	**47**	*e*Pn	**Pn**	**23 16 11.1 +0.2**
TIR	**Tirane**	**4.17**	**47**	P	**Pn**	**23 16 11.3 +0.3**
TIR				AML	AML	
	comp=N,394µm,1.2s					
TIR				AML	AML	
	comp=E,302µm,0.3s					
TIR				AML	AML	
	comp=N,394µm,0.8s					
DRME	**Dracevica, Mon**	**4.43**	**35**	*e*Pn	**Pn**	**23 16 13.9 -0.5**
DBRK	**Dubrovnik**	**4.45**	**23**	*e*Pn	**Pn**	**23 16 14.2 -0.5**
DBRK				Sn	**Sn**	**23 16 59.7 -5.6**
RLS	**Riolos of Patr**	**4.50**	**95**	P	**Pn**	**23 16 17.1 +1.7**
STON	**Ston**	**4.51**	**18**	*e*Pn	**Pn**	**23 16 15.4 -0.1**
STON	**Ston**	**4.51**	**18**	*e*Pn	**Pn**	**23 16 15.2 -0.3**
STON	**Ston**	**4.51**	**18**	*e*Pn	**Pn**	**23 16 13.2 -2.3**
KPRO	**Kipourio**	**4.54**	**71**	P	**Pn**	**23 16 18.4 +2.4**
TREB	**Trebinje**	**4.55**	**25**	*e*Pn	**Pn**	**23 16 14.7 -1.5**
TREB	**Trebinje**	**4.55**	**25**	*e*Pn	**Pn**	**23 16 15.3 -0.9**
OHR	**Ohrid**	**4.60**	**55**	*i* Pn	**Pn**	**23 16 17.9 +1.1**
HVAR	**Hvar**	**4.60**	**6**	*e*Pn	**Pn**	**23 16 17.3 +0.4**
PDG	**Podgorica**	**4.65**	**34**	*e*Pn	**Pn**	**23 16 17.7 +0.2**
PDG	**Podgorica**	**4.65**	**34**	P	**Pn**	**23 16 17.8 +0.3**
PDG				AML	AML	
	comp=E,196µm,0.3s					
PDG				AML	AML	
	comp=N,228µm,1.3s					
PDG				AML	AML	
	comp=N,216µm,1.3s					
PDG				AML	AML	
	comp=N,216µm,0.7s					
PDG				AML	AML	
	comp=N,228µm,0.7s					
PDG				AML	AML	
	comp=E,174µm,0.5s					
PDG	**Podgorica**	**4.65**	**34**	*e*Pn	**Pn**	**23 16 17.6 +0.1**
PUK	**Puka**	**4.66**	**41**	P	**Pn**	**23 16 19.1 +1.5**
PUK				AML	AML	
	comp=N,214µm,0.4s					
PUK				AML	AML	
	comp=E,184µm,0.3s					
MAKA	**Makarska**	**4.78**	**11**	*e*Pn	**Pn**	**23 16 20.0 +0.8**
BRY	**Bratogost**	**4.78**	**25**	*e*Pn	**Pn**	**23 16 19.1 -0.3**
ANX	**Ano Chora**	**4.81**	**88**	P	**Pn**	**23 16 22.0 +2.3**
FNA	**Florina**	**4.83**	**61**	P	**Pn**	**23 16 22.4 +2.4**

FNA	Florina	4.83	61	ePn	Pn	23 16 21.3	+1.3
THL	Klokotos Trika	4.94	77	P	Pn	23 16 23.6	+2.2
THL	Klokotos Trika	4.94	77	P	Pn	23 16 23.5	+2.0
KALE	Kalithea	4.99	90	P	Pn	23 16 24.9	+2.8
RICI	Ricice	5.00	11	ePn	Pn	23 16 22.1	-0.1
KLV	Kalavryta, Ach	5.04	94	P	Pn	23 16 24.9	+2.1
KLV	Kalavryta, Ach	5.04	94	P	Pn	23 16 24.6	+1.8
ITM	Ithomi	5.06	104	P	Pn	23 16 25.4	+2.3
ITM	Ithomi	5.06	104	AML	AML		
	comp=N,82µm,0.8s						
ITM				AML	AML		
	comp=E,110µm,0.7s						
ITM				AML	AML		
	comp=E,110µm,1.3s						
ITM				AML	AML		
	comp=N,82µm,1.2s						
TYRN	Tyrnavos	5.13	75	P	Pn	23 16 26.2	+2.2
UPM	Unac-Piva	5.17	26	ePn	Pn	23 16 25.6	+0.9
GUR	Goura	5.20	95	P	Pn	23 16 27.8	+2.7
MORI	Morici	5.26	359	ePn	Pn	23 16 27.2	+1.4
LIT	Litokhoron	5.41	72	P	Pn	23 16 29.4	+1.6
DUGI	Dugi Otok	5.42	354	ePn	Pn	23 16 30.2	+2.3
KIJV	Kijevo	5.42	5	ePn	Pn	23 16 29.0	+1.1
SJES	Sjenica	5.64	33	ePn	Pn	23 16 32.4	+1.5
SJES	Sjenica	5.64	33	ePn	Pn	23 16 32.1	+1.2
RUDO	Rudo	5.70	27	ePn	Pn	23 16 31.5	-0.2
VIRC	Vir	5.72	355	ePn	Pn	23 16 35.5	+3.6
KEST	Kesra	5.88	243	P	Pn	23 16 34.5	+0.2
	comp=N,1.0nm,0.7s,baz=17,slow=20,SNR=1.9						
MGRS	Mrkonjic Grad	5.90	9	ePn	Pn	23 16 39.3	+4.9
A050A	Klekovaca	5.91	5	ePn	Pn	23 16 36.7	+2.1
BBLS	Lazi&#263i	5.93	26	ePn	Pn	23 16 36.0	+1.1
BBLS	Lazi&#263i	5.93	26	ePn	Pn	23 16 35.4	+0.5
VILL	Villia	5.93	92	P	Pn	23 16 37.2	+2.3
KRND	KRANIDI	5.94	99	P	Pn	23 16 37.9	+2.9
HAPS	Han Pijesak,BI	5.98	22	ePn	Pn	23 16 37.4	+1.8
HAPS	Han Pijesak,BI	5.98	22	ePn	Pn	23 16 36.6	+1.0
SELS	Selova	6.13	39	ePn	Pn	23 16 38.0	+0.4
BLY	Banja Luka	6.24	9	ePn	Pn	23 16 41.1	+2.1
DIVS	Divibare	6.34	29	ePn	Pn	23 16 40.6	+0.1
BOSS	Bosilegrad	6.41	50	ePn	Pn	23 16 41.9	+0.5
A051A	Mrakovica	6.46	7	ePn	Pn	23 16 43.1	+0.9
BRJN	Brijuni	6.49	347	ePn	Pn	23 16 47.7	+5.3
PGF	Pioggiola	6.50	310	eP	Pn	23 16 45.8	+3.1
PGF				eSn	Sn	23 17 52.5	-2.9
	comp=N,1.0nm,0.3s						
SRS	Serrai	6.51	65	ePn	Pn	23 16 43.2	+0.4
TEKS	Tekeris	6.58	24	ePn	Pn	23 16 43.0	-0.6
TRUS	Trudelj	6.61	30	ePn	Pn	23 16 44.5	+0.5
ZAPS	Zavoj	6.98	46	ePn	Pn	23 16 49.8	+0.7
ZAGS	Zajecar	7.12	41	ePn	Pn	23 16 51.8	+0.7
FRGS	Fruska Gora	7.21	23	ePn	Pn	23 16 56.2	+4.0
LMR	La Mourre	8.46	307	ePn	Pn	23 17 10.4	+1.1
MBDF	Montbardon	9.11	315	ePn	Pn	23 17 18.7	+0.5
SMRF	Simiane la Rot	9.38	308	ePn	Pn	23 17 22.9	+1.2
ESDC	Sonseca Array	15.37	280	P	Pn	23 18 40.7	-0.4
	comp=N,1.2nm,0.9s,baz=77,slow=11,SNR=10						
MMAI	Mount Meron Ar	16.85	103	P	Pn	23 18 59.8	+0.3
	comp=N,0.5nm,0.2s,baz=301,slow=11,SNR=2.1						
EKA	Eskdalemuir Ar	21.04	329	P	P	23 19 43.7	-1.7
	comp=N,1.7nm,0.8s,baz=61,slow=4.4,SNR=2.4						
	comp=N,1.7nm,0.8s						
HFS	Hagfors	21.60	357	P	P	23 19 48.9	-2.3
	comp=N,1.5nm,0.6s,baz=187,slow=7.5,SNR=8.2						
	comp=N,1.5nm,0.6s						
FINES	FINESS Array B	23.75	12	P	P	23 20 12.6	0.0
	comp=N,2.3nm,1.1s,baz=191,slow=9.1,SNR=4.2						
	comp=N,2.3nm,1.1s						
TORD	Torodi Ar. Bea	28.27	210	P	P	23 20 53.5	-0.2
	comp=N,0.3nm,0.6s,baz=24,slow=9.8,SNR=5.1						
	comp=N,0.3nm,0.6s						
ZALV	Zalesovo Beam	48.17	48	P	P	23 23 40.9	+1.1
	comp=N,0.6nm,0.3s,baz=277,slow=7.5,SNR=3.0						
	comp=N,0.6nm,0.3s						
MKAR	Makanchi Array	48.24	58	P	P	23 23 41.8	+1.4
	comp=N,0.4nm,0.6s,baz=279,slow=6.9,SNR=4.1						
	comp=N,0.4nm,0.6s						

*IDC **29** 23:16:40.4±1.4, 36°.51N×27°.40E, h0km, mb3.5/3, mbtmp3.3/5, ML2.8/2, Error ellipse: s-maj=36.6km s-min=23.8km az=146.0*
*ISK **29** 23:16:40.7, 36°.20N×27°.38E, h8km, ML3.1/24*
*AFAD **29** 23:16:43.0±0.0, 36°.27N×27°.57E, h6km±1km, ML3.0*
*GII **29** 23:16:43.4±0.8, 35°.893N±0°.005×27°.539E±0°.002, h10km, Mws3.4, confirmed*
*THE **29** 23:16:43.9, 36°.27N×27°.59E, h12km±2km, ML3.3/3, Error ellipse: s-maj=2.4km s-min=0.7km az=56.0*
ISC 29 23:16:43.2±1.0, 36°.27N±0°.03×27°.56E±0°.03, h24km±9km, n88, σ1§17/115, mb3.4/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAZI	Mula-Dat§a-	0.42	348	P	Pb	23 16 51.3	-0.8
YAZI				S	Sb	23 16 57.7	-0.5
YAZI				i AML	AML	23 17 00.0	
	comp=N,1µm,0.3s						
ARG	Arkhangelos	0.46	96	Pg	Pb	23 16 52.6	-0.1
ARG	Arkhangelos	0.46	96	P	Pb	23 16 52.7	0.0
ARG				S	Sb	23 16 59.6	+0.5
	8µm,0.2s						
DAT	Datca	0.46	2	Pg	Pb	23 16 52.1	-0.7
DAT				Sg	Sb	23 17 00.1	+0.7
DAT	Datca	0.46	2	P	Pb	23 16 52.0	-0.9
DAT				S	Sb	23 16 58.9	-0.5
DAT				i AML	AML	23 17 02.0	
	comp=N,1µm,0.2s						
DAT				i AML	AML	23 17 03.0	
	comp=E,1µm,0.5s						
DAT	Datca	0.46	2	P	Pb	23 16 52.2	-0.6
DAT				S	Sb	23 17 00.5	+1.1
NISR	Nisiros	0.49	315	P	Pb	23 16 54.1	+0.9
NISR				S	Sn	23 17 01.7	-0.8
	3µm,0.2s						
MRSB	Marmaris-Mugla	0.68	49	Pg	Pb	23 16 57.1	+0.7
TURN	Turunc	0.75	47	Pg	Pb	23 16 58.0	+0.4
TURN	Turunc	0.75	47	P	Pn	23 16 57.4	-0.8
TURN				S	Sb	23 17 06.1	-1.2
TURN				i AML	AML	23 17 10.0	
	comp=N,486nm,0.3s						
KARP	Karpathos	0.79	205	P	Pb	23 16 58.5	+0.2
KARP				S	Sn	23 17 11.6	+1.7
	4µm,0.2s						
BDRM	Kayabasi	0.80	353	P	Pn	23 16 58.4	-0.7
BDRM				S	Sn	23 17 09.5	-0.7
BDRM				i AML	AML	23 17 11.0	
	comp=E,1µm,0.4s						
BODT	Bodrum	0.82	346	Pg	Pn	23 16 57.9	-1.4
BODT				Sg	Sn	23 17 10.2	-0.4
BODT	Bodrum	0.82	346	P	Pn	23 16 58.9	-0.4
BODT				S	Sb	23 17 11.6	+2.1
YKAV	Yalikavak-Bodr	0.89	345	Pg	Pn	23 16 59.1	-1.0
YKAV				Sg	Sb	23 17 12.4	+1.1
MLSB	Milas	1.04	9	Pn	Pb	23 17 03.1	+0.5
DIDI	Didim-Aydin	1.14	347	Pn	Pn	23 17 03.6	0.0
MULA	Mugla, Merkez-	1.16	31	P	Pb	23 17 04.9	+0.2
DDIM	Aydin, Didim	1.22	348	P	Pn	23 17 05.2	+0.5
DDIM				S	Sb	23 17 21.9	+1.1
DDIM				i AML	AML	23 17 27.0	
	comp=N,554nm,0.6s						
DDIM				i AML	AML	23 17 28.0	
	comp=E,414nm,0.4s						
SABU	Mula-Dalaman	1.26	63	P	Pb	23 17 06.3	-0.1
SABU				S	Sn	23 17 19.7	-1.8
SABU				i AML	AML	23 17 31.0	
	comp=N,183nm,0.3s						
FETY	Fethiye	1.28	73	Pn	Pb	23 17 07.9	+1.3
FETY	Fethiye	1.28	73	P	Pb	23 17 06.6	0.0
FETY				S	Sb	23 17 24.8	+2.1
IZZE	Mula-Seydike	1.35	82	P	Pb	23 17 07.8	0.0
IZZE				S	Sb	23 17 24.9	+0.1
GCAM	G?zelcaml?	1.46	350	Pn	Pn	23 17 08.5	+0.5
GCAM	G?zelcaml?	1.46	350	P	Pb	23 17 09.3	-0.3
GCAM				i AML	AML	23 17 36.0	
	comp=E,208nm,0.7s						
DNZT	Denizli-Tavas-	1.55	49	P	Pb	23 17 12.0	+0.7
DNZT				S	Sb	23 17 31.9	+1.4
CAME	Cameli-Denizli	1.56	64	Pn	Pb	23 17 11.7	+0.3
TAVA	DENIZLI_Tavas	1.61	42	P	Pb	23 17 12.8	+0.5
TAVA				S	Sb	23 17 32.4	0.0
CAEL	Denizli, Camel	1.65	58	P	Pb	23 17 14.4	+1.4
CAEL				S	Sb	23 17 35.6	+2.1
CAEL				i AML	AML	23 17 49.0	
	comp=E,388nm,1.1s						
CAEL				i AML	AML	23 17 53.0	
	comp=N,267nm,0.9s						
AKAS	Kas	1.65	91	Pn	Pb	23 17 12.9	-0.1
AKAS	Kas	1.65	91	P	Pb	23 17 13.5	+0.5
AKAS				S	Sb	23 17 32.0	-1.5
AKAS				i AML	AML	23 17 45.0	
	comp=N,224nm,1.1s						
AKAS				i AML	AML	23 17 45.0	
	comp=E,218nm,0.7s						
ESEN	Aydn-Nazilli	1.65	22	P	Pn	23 17 11.8	+1.1
ESEN				S	Sn	23 17 30.8	-0.3
THR8	Santorini-Mono	1.69	275	P	Pn	23 17 11.8	+0.7
AYDB	Zeytinkoy-Aydi	1.70	9	Pn	Pb	23 17 12.7	-1.1
KNIK	Mula-Seydike	1.72	70	P	Pb	23 17 14.9	+0.7
KNIK				S	Sb	23 17 34.6	-0.8
THR6	Thira Island,	1.75	274	P	Pn	23 17 13.1	+1.1
NAZL	Nazilli-Aydin	1.79	19	Pn	Pn	23 17 14.0	+1.4
DNIZ	Denizli-Tavas-	1.80	41	P	Pb	23 17 15.3	-0.3
DNIZ				S	Sn	23 17 35.6	+0.7
DNIZ				i AML	AML	23 17 48.0	
	comp=E,252nm,0.3s						
DNIZ				i AML	AML	23 17 54.0	
	comp=N,169nm,0.4s						
APE	Apeiranthos	1.82	297	Pn	Pn	23 17 11.9	-1.1
APE	Apeiranthos	1.82	297	P	Pn	23 17 13.6	+0.6
APMY	Acipayam-Deniz	1.84	49	Pn	Pb	23 17 15.8	-0.4
DGB	zmir	1.86	343	P	Pn	23 17 13.8	+0.3
GOLH	Golhisar	1.88	58	P	Pb	23 17 18.0	+1.2
GOLH				S	Sb	23 17 39.8	0.0
GOLH				i AML	AML	23 17 53.0	
	comp=N,121nm,0.5s						
GOLH				i AML	AML	23 17 53.0	
	comp=E,132nm,0.5s						
GMLD	Gumuldur	1.88	344	Pn	Pn	23 17 14.7	+0.9
IZMR	zmir-demi	1.89	9	P	Pn	23 17 14.5	+0.6
IZMR				i AML	AML	23 17 51.0	
	comp=E,87nm,0.7s						
ELL	Elmali	1.95	75	Pn	Pb	23 17 17.7	-0.4
KIRA	zmir-Kiraz	2.04	19	P	Pn	23 17 17.1	+1.0
ZEYE	Izmir, Urla-Ze	2.14	337	P	Pn	23 17 17.4	0.0
ZEYE				i AML	AML	23 17 55.0	
	comp=N,90nm,0.7s						
INCE	Denizli-Bozkur	2.16	48	P	Pb	23 17 21.0	-0.7
INCE				S	Sb	23 17 47.3	-0.8
URLA	Izmir	2.23	340	Pn	Pn	23 17 19.4	+0.8
URLA	Izmir	2.23	340	P	Pn	23 17 18.7	+0.1
URLA				i AML	AML	23 18 02.0	
	comp=N,99nm,1.0s						
URLA				i AML	AML	23 18 02.0	
	comp=E,77nm,0.5s						
IDI	Anoyia	2.38	247	P	Pn	23 17 21.5	+0.7
KULA	Kula-Manisa	2.41	21	Pn	Pn	23 17 23.1	+1.9
KULA	Kula-Manisa	2.41	21	P	Pn	23 17 21.4	+0.2
BCK	Bucak	2.70	63	Pn	Pb	23 17 28.4	-2.5
DKL	Dikili	2.85	350	Pn	Pn	23 17 28.2	+1.1
SIMA	Simav-Kutahya	3.03	21	Pn	Pn	23 17 31.9	+2.2
SHUT	Suhut-Afyon	3.30	45	Pn	Pn	23 17 36.4	+3.0
DION	Dionisos Attik	3.42	303	P	Pn	23 17 35.4	+0.4
ATH	Athens Observa	3.51	300	P	Pn	23 17 37.1	+0.8
SUSR	Susurluk-Balik	3.71	6	Pn	Pn	23 17 41.4	+2.4
VLI	Veliai	3.75	278	P	Pn	23 17 40.6	+1.0
CSS	Mathiatis	4.88	104	P	Pn	23 17 56.8	+1.7
BRTR	Keskin Array B	5.91	52	Pn	Pn	23 18 10.9	+1.5
	baz=233,slow=15,SNR=2.4						
BRTR				Sn	Sn	23 19 15.6	-0.8
	baz=285,slow=25						
	0.2nm,0.3s						
MMC7	Mount Meron ar	7.22	114	P	Pn	23 18 28.1	+0.9
MMA0B	Mount Meron ar	7.23	114	S	Sn	23 19 47.9	-0.9
MMA0B	Mount Meron ar	7.23	114	P	Pn	23 18 28.2	+0.8
MMAI	Mount Meron Ar	7.23	114	Pn	Pn	23 18 28.5	+1.1
	1.2nm,0.3s,baz=300,slow=13,SNR=3.5						
MMAI				Sn	Sn	23 19 48.3	-0.5
	2.1nm,0.3s,baz=283,slow=31,SNR=6.2						
	0.7nm,0.3s						
GEM	Giv'at Ha'Em	7.33	112	P	Pn	23 18 29.7	+1.0
GEM	Giv'at Ha'Em	7.33	112	S	Sn	23 19 49.9	-1.3
NATI	Neve Ativ	7.36	112	P	Pn	23 18 30.2	+1.1
MMLI	Mount Malkishu	7.54	118	P	Pn	23 18 32.1	+0.5
KSHT	Keshet	7.55	113	P	Pn	23 18 32.7	+0.9
HMDT	Nahal Hemdat	7.71	119	P	Pn	23 18 34.3	+0.3
AMAZ	Amatzia	7.72	126	P	Pn	23 18 33.8	-0.3
KZIT	Kziot	7.81	131	S	Sn	23 19 59.9	-3.2
KZIT	Kziot	7.81	131	P	Pn	23 18 35.5	+0.1
YTIR	Yattir	7.96	126	P	Pn	23 18 36.8	-0.7
DSI	Dead Sea	8.01	124	P	Pn	23 18 37.8	-0.2
ZFRI	Zfri	8.54	130	P	Pn	23 18 44.3	-1.0
PRNI	Paran	8.58	131	P	Pn	23 18 44.8	-1.0
HRFI	Mount Harif	8.82	133	S	Sn	23 20 24.4	-3.5
HRFI	Mount Harif	8.82	133	P	Pn	23 18 49.1	-0.1
MBRI	Mt Berech	8.93	134	P	Pn	23 18 48.5	-2.2
EIL	Elat	9.04	135	P	Pn	23 18 50.8	-1.4
NOA	NORSAR Array B	26.88	342	P	P	23 22 19.1	-2.8
	0.3nm,0.7s,baz=150,slow=9.0,SNR=3.4						
	0.3nm,0.7s						
TORD	Torodi Ar. Bea	32.70	232	P	P	23 23 15.3	+1.5
	0.4nm,0.3s,baz=37,slow=9.0,SNR=18						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	38.90	52	P	P	23 24 08.2	+1.5
	0.5nm,0.7s,baz=279,slow=7.3,SNR=4.5						
	0.5nm,0.7s						

*IDC **29** 23:35:01.9±1.9, 8°.35S×116°.78E, h0km, mb3.7/3, mbtmp3.7/4, ML3.0/1, MS4.1/2, Error ellipse: s-maj=31.9km s-min=23.3km az=96.0*
*DJA **29** 23:35:03.2±0.3, 8°S±4°×11°7E±°, h10km, M3.8/10, mb4.2/1, MLv3.7/10*
ISC 29 23:35:02.1±0.9, 8°.38S±0°.06×116°.63E±0°.04, h10km, n16, σ1§85/18, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.44	145	P	Pn	23 35 13.0	-1.5
TWSI				S	Sb	23 35 20.5	+1.9
PLAI	Plampang	1.22	112	P	Pn	23 35 27.1	+1.8
PLAI				S	Sn	23 35 44.0	+2.1
SRBI	Singaraja	1.43	282	P	Pn	23 35 27.2	-0.9
SRBI				S	Sn	23 35 46.6	-0.4
ABJI	Asem Bagus	2.44	284	P	Pn	23 35 43.6	+1.6
JAGI	Jajag, Banyuwa	2.45	268	P	Pn	23 35 42.0	-0.2
WBSI	Waikabubak, Su	3.01	115	P	Pb	23 35 51.9	-3.9
GRJI	Gresik	4.36	289	P	Pn	23 36 09.8	+1.3
BSSI	Bau Bau, Buton	4.43	60	P	Pn	23 36 10.5	+1.1
KAPI	Kappang	4.56	43	Pn	Pn	23 36 08.6	-2.6
	0.8nm,0.3s,baz=185,slow=16,SNR=1.1						
KAPI				Sn	Sn	23 37 03.5	-0.8
	0.7nm,0.3s,baz=207,slow=21,SNR=1.5						
KAPI				Lg	Lg	23 37 24.7	
	1.3nm,0.3s,baz=135,slow=19,SNR=1.7						
	3.5nm,0.2s						
BKSI	Bulukumba	4.61	49	P	Pn	23 36 13.6	+1.7
EDFI	Ende, Flores	5.02	95	P	Pn	23 36 18.8	+1.1
WRA	Warramunga Arr	20.64	126	P	P	23 39 41.4	-0.7
	1.6nm,0.6s,baz=300,slow=12,SNR=18						
	1.6nm,0.6s						
ASAR	Alice Springs	22.47	135	P	P	23 40 02.9	+1.1
	1.6nm,0.6s,baz=313,slow=10.0,SNR=12						
	1.6nm,0.6s						
RPZ	Rata Peaks	58.87	136	LR	LR	00 11 56.9	
	comp=Z,204nm,18.1s,baz=142,slow=38						
MKAR	Makanchi Array	62.86	334	P	P	23 45 30.1	+1.8
	1.9nm,1.2s,baz=131,slow=6.5,SNR=2.5						
	1.9nm,1.2s						
AKTO	Aktyubinsk	77.39	326	LR	LR	00 25 39.7	
	comp=Z,71nm,18.7s,baz=279,slow=39						

IDC 29 23:49:34.8±3.1, 9°.35S×118°.91E, h0km, mb3.1/3, mbtmp3.2/4, ML3.5/1, Error ellipse: s-maj=185.0km s-min=27.0km az=53.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.25	127	P	P	23 53 50.3	+0.3
	0.2nm,0.3s,baz=303,slow=12,SNR=5.6						
	0.3nm,0.3s						
ASAR	Alice Springs	20.20	137	P	P	23 54 10.9	-0.5
	0.3nm,0.4s,baz=309,slow=9.7,SNR=4.5						
	0.3nm,0.4s						
CMAR	Chiang Mai Arr	33.94	325	P	P	23 56 13.8	-6.2
	1.2nm,0.3s,baz=17,slow=17,SNR=1.3						
SONM	Songino Array	58.01	350	P	P	23 59 29.0	-0.5
	0.1nm,0.4s,baz=182,slow=5.6,SNR=1.7						
	0.1nm,0.4s						
MKAR	Makanchi Array	64.73	333	P	P	00 00 15.4	+0.4
	0.1nm,0.4s,baz=138,slow=6.0,SNR=3.0						
	0.1nm,0.4s						

DJA 29 23:52:01.7±0.3, 9°S±15°×11°6E±°, h10km, M3.6/10, MLv3.6/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.50	114	P	Pg	23 52 11.8	+0.3
SRBI	Singaraja	1.27	290	P	Pn	23 52 24.7	-0.9
PLAI	Plampang	1.37	103	P	Pn	23 52 26.9	-0.1
ABJI	Asem Bagus	2.28	288	P	Pn	23 52 39.5	0.0
WBSI	Waikabubak, Su	3.13	111	P	Pn	23 52 51.2	0.0
GRJI	Gresik	4.22	292	P	Pn	23 53 06.3	+0.1
BASI	Baing, Sumba	4.43	113	P	Pn	23 53 08.9	-0.2
BWJI	Bawean	4.58	305	P	Pn	23 53 11.1	0.0
PWJI	Pagerwojo	4.60	276	P	Pn	23 53 11.5	+0.2

*TRN **30** 00:24:22.1, 10°.66N×62°.91W, h118km, MD3.8, Paria peninsula.*
*FUNV **30** 00:24:23.7, 10°.59N×62°.91W, h23km, MW3.8*
ISC 30 00:24:20.6±1.6, 10°.59N±0°.06×62°.92W±0°.06, h126km±19km, n17, σ1§85/31, 6C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	1.49	88	eP	Pn	00 24 49.9	+1.7
TRN				eS	Sn	00 25 09.0	-0.3
PCRV	Puerto La Cruz	1.74	257	⇑iP	Pn	00 24 52.0	+0.7
PCRV				eS	Sn	00 25 12.5	-2.1
PCRV	Puerto La Cruz	1.74	257	eP	Pn	00 24 53.3	+2.1
PCRV				eS	Sn	00 25 15.1	+0.5
GRFF	Grenada Fort F	1.86	38	eP	Pn	00 24 53.5	+0.9
GRFF				eS	Sn	00 25 15.6	-1.5
GRGR	Grenville	1.97	39	eP	Pn	00 24 54.0	+0.1
GRGR				eS	Sn	00 25 17.4	-2.2
GRW	Mount Saint Ca	1.99	38	eP	Pn	00 24 54.7	+0.4
GRHS	Sauteurs	2.05	37	eP	Pn	00 24 55.6	+0.7
GCMP	Grenada, Carri	2.39	38	eP	Pn	00 24 59.5	+0.3
GCMP				eS	Sn	00 25 28.3	-0.5
TACV	Tcata	4.07	264	⇑eP	Pn	00 25 23.5	+2.3
TACV				eS	Sn	00 26 07.5	-0.7
BENV	Beln	4.65	263	⇑eP	Pn	00 25 31.6	+2.6
BENV				eS	Sn	00 26 22.0	-0.1
CACV	CAICARA DEL OR	4.67	230	⇑iP	Pn	00 25 26.3	-2.9
CACV				eS	Sn	00 26 12.5	-10
TURV	Turiamo	4.84	269	eP	Pn	00 25 33.9	+2.4
TURV				eS	Sn	00 26 25.8	-0.9
LUEV	Luepa	4.93	163	⇑eP	Pn	00 25 34.6	+1.7
LUEV				eS	Sn	00 26 28.2	-0.9
BAUV	El Baul	5.31	253	⇑eP	Pn	00 25 39.5	+1.8
BAUV				eS	Sn	00 26 36.5	-1.5
BAUV	El Baul	5.31	253	eP	Pn	00 25 39.1	+1.3
BAUV				eS	Sn	00 26 36.2	-1.7
TEPV	Terepaima	6.21	265	eP	Pn	00 25 52.2	+2.3
TEPV				eS	Sn	00 26 57.3	-2.3
SOCV	Socops	8.16	254	eP	Pn	00 26 18.3	+2.1
SOCV				eS	Sn	00 27 43.1	-3.9

*TEH **30** 00:44:22.4, 34°.84N×45°.61E, h13km±24km, ML3.0*
*ISN **30** 00:44:22.5±1.3, 34°.90N×45°.71E, h18km, ML3.0*
ISC 30 00:44:23.4±1.2, 34°.88N±0°.04×45°.63E±0°.04, h17km±11km, n18, σ1§29/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.37	186	Pg	Pb	00 44 30.4	-1.2
IDHR	Dehrash	0.65	106	Pg	Pb	00 44 35.9	-0.5
IDHR				Sg	Sn	00 44 46.3	-1.7
GLG1	Gilan-e-Gharb	0.80	163	Pg	Pb	00 44 37.8	-1.0
IGHG	Ghaleghazi	0.95	125	Pg	Pn	00 44 41.9	-0.3
ILIN	Lien	1.09	87	Pg	Pn	00 44 44.7	+0.1
IKRK	Kirkuk	1.18	297	ePg	Pb	00 44 45.0	-0.4
IKRK				eSg	Sn	00 45 01.0	+0.1
IKRK				AML	AML	00 45 04.7	
	comp=N,276nm,1.0s						
IKRK				AML	AML	00 45 05.1	
	comp=E,336nm,0.4s						
SDS1	Sardasht. Az.	1.27	355	Pg	Pg	00 44 48.5	+0.5
KCHF	Cheshme Sefid,	1.31	117	Pg	Pg	00 44 48.3	-0.3
KCHF				Sg	Sg	00 45 08.0	+2.3
ILBA	Ilam Banvizeh	1.34	159	Pg	Pg	00 44 48.2	-0.9
ILBA				Sg	Sg	00 45 07.1	+0.5
SNQR	Sonqor, Kerman	1.64	90	Pg	Pg	00 44 54.1	-0.9
IBDR	Badra	1.78	172	ePn	Pb	00 44 55.0	-0.6
IBDR				eSn	Sb	00 45 17.0	-0.6
IBZA	Bozab	1.88	102	Pn	Pb	00 44 57.0	-0.5
MAHB	Mahabad	1.89	2	Pn	Pg	00 44 57.8	-1.8
IKFM	Kafar-mosalman	2.28	126	Pn	Pb	00 45 03.1	-0.9
HSAM	Samen	2.54	104	Pn	Pb	00 45 06.8	-1.9
RAFI	Al-Rafai	3.17	173	ePn	Pn	00 45 13.0	+0.5
RAFI				eSn	Sn	00 45 52.0	+2.0
JHBN	Jahan bin	4.96	121	Pn	Pn	00 45 39.2	+1.8
ZNGN	Zangian	5.16	121	Pn	Pn	00 45 42.3	+2.1

**IDC 30 00:51:52

comp=E,22nm,0.3s
BRQR Ronquire 1.12 256 *d*P **Pg 01 14 13.7 +0.8**
DOU Dourbes 1.16 228 *d*P **Pn 01 14 12.2 -1.0**
DOU *d*S **Sb 01 14 26.7 -1.3**
DOU Dourbes 1.16 228 *d*P **Pg 01 14 14.5 +0.8**
DOU *d*S **Sb 01 14 29.1 +1.1**
comp=E,12nm,0.2s
DOU Dourbes 1.16 228 P **Pg 01 14 14.7 +1.0**
DOU S **Sb 01 14 29.6 +1.6**
WLF Walferdange 1.23 173 P **Pg 01 14 15.6 +0.7**
WLF Walferdange 1.23 173 S **Sg 01 14 31.0 +0.2**
BAIF Baives 1.38 234 *e*Pn **Pn 01 14 15.8 -0.3**
BAIF Baives 1.38 234 *e*Pg **Pg 01 14 18.2 +0.4**
BAIF *e*Sn **Sn 01 14 33.5 -0.5**
BAIF *e*Sg **Sg 01 14 36.9 +1.3**
comp=E,7.0nm,0.3s
ABH Alteburg 1.44 133 P **Pn 01 14 17.3 +0.3**
ABH Alteburg 1.44 133 S **Sb 01 14 36.4 +0.4**
VOEL Voellerdingen 2.06 158 S **Sn 01 14 51.8 +0.8**
SAVF Savonnieres en 2.33 193 *e*Pn **Pn 01 14 29.2 +0.1**
SAVF Savonnieres en 2.33 193 *e*Pg **Pb 01 14 34.7 +1.7**
SAVF *e*Sn **Sn 01 14 55.8 -1.7**
SAVF *e*Sg **Sb 01 15 04.0 +2.4**
comp=E,2.7nm,0.3s
PAGF Fort de Pagny 2.33 183 *e*Pg **Pg 01 14 35.4 -0.6**
PAGF *e*Sn **Sn 01 14 56.4 -1.2**
PAGF *e*Sg **Sg 01 15 05.1 -1.1**
comp=E,7.7nm,0.6s
MEZF Maizieres J'vi 2.45 194 *e*Pn **Pn 01 14 30.6 -0.2**
MEZF Maizieres J'vi 2.45 194 *e*Pg **Pb 01 14 36.8 +1.7**
MEZF *e*Sg **Sb 01 15 07.7 +2.6**
comp=E,4.0nm,0.4s
CDF Champ du Feu 2.62 160 *e*Pn **Pn 01 14 32.7 -0.6**
CDF Champ du Feu 2.62 160 *e*Pg **Pg 01 14 40.1 -1.4**
CDF *e*Sn **Sn 01 15 03.0 -1.9**
CDF *e*Sg **Sb 01 15 12.8 +2.7**
comp=E,1.7nm,0.4s
SFTF Sexfontaines 2.74 193 *e*Pn **Pn 01 14 34.4 -0.4**
SFTF *e*Sn **Sn 01 15 06.2 -1.5**
SFTF *e*Sg **Sg 01 15 18.1 -1.2**
comp=E,4.7nm,0.5s
HAU Haudompre 2.89 174 *e*Pn **Pn 01 14 37.2 +0.3**
HAU *e*Sg **Sb 01 15 20.7 +2.9**
comp=E,1.2nm,0.2s
LOR Lormes 3.86 201 *e*Pn **Pn 01 14 50.3 0.0**
LOR Lormes 3.86 201 *e*Pg **Pb 01 15 02.7 +3.5**
LOR *e*Sn **Sn 01 15 34.1 -1.3**
LOR *e*Sg **Sg 01 15 51.8 -3.5**
comp=E,1.3nm,0.4s
SSF Saint Saulge 4.14 204 *e*Pn **Pn 01 14 53.1 -1.0**
SSF *e*Sn **Sn 01 15 39.6 -2.7**
SSF *e*Sg **Sg 01 16 00.9 -3.4**
comp=E,1.2nm,0.3s
FLN La Foliniere 4.66 245 *e*Pn **Pn 01 15 02.0 +0.8**
FLN *e*Sn **Sn 01 15 53.9 -1.2**
comp=E,0.7nm,0.2s
FLN *e*Sg **Sg 01 16 16.6 -4.3**
comp=E,1.0nm,0.2s
GRR Gorron 5.07 243 *e*Pn **Pn 01 15 07.2 +0.4**
GRR *e*Sn **Sn 01 16 03.0 -2.1**
comp=E,0.9nm,0.2s

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*IDC **30** 01:20:56.4±1.7, 9°.91S×151°.40E, h0km, mb3.6/4, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=48.0km s-min=27.2km az=139.0*
ISC 30 01:21:01.2±1.3, 10°.05±0°.2×151°.5E±0°.1, h35km, n7, σ1§15/8, mb3.8/4, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.28**	**278**	Pn	**Pn**	**01 22 04.0**	**+0.2**
	25nm,0.6s,baz=91,slow=6.5,SNR=11						
PMG				Sn	**Sn**	**01 22 53.1**	**+0.6**
	1.9nm,0.3s,baz=98,slow=22,SNR=1.1						
WRA	**Warramunga Arr**	**19.22**	**237**	P	**P**	**01 25 21.2**	**-1.2**
	0.1nm,0.3s,baz=63,slow=12,SNR=4.6						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**21.54**	**229**	P	**P**	**01 25 48.7**	**+1.1**
	0.8nm,0.7s,baz=51,slow=11,SNR=6.7						
	0.8nm,0.7s						
SONM	**Songino Array**	**70.08**	**330**	P	**P**	**01 32 09.3**	**-0.6**
	1.5nm,1.1s,baz=134,slow=6.2,SNR=5.9						
	1.5nm,1.1s						
MKAR	**Makanchi Array**	**83.40**	**320**	P	**P**	**01 33 24.0**	**-1.0**
	0.7nm,0.9s,baz=95,slow=7.2,SNR=4.2						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**87.49**	**22**	P	**P**	**01 33 46.4**	**+1.5**
	0.5nm,0.8s,baz=257,slow=4.1,SNR=4.3						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.22**	**279**	PKPbc	**PKiKP**	**01 40 49.9**	**-0.6**
	0.5nm,0.7s,baz=54,slow=3.2,SNR=4.5						

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*IDC **30** 01:23:24.6±11.0, 3°.00N×128°.60E, h195km±120km, mb3.4/6, mbtmp3.9/6, Error ellipse: s-maj=68.3km s-min=17.8km az=81.0*
*NEIC **30** 01:23:28.9±0.9, 2°.9N±0°.1×128°.42E±0°.07, h229km±10km, mb4.2/17, Error ellipse: s-maj=19.9km s-min=3.7km az=152.0*
ISC 30 01:23:25.7±0.8, 3°.0N±0°.1×128°.6E±0°.1, h200km, n34, σ1§14/26, mb4.1/15, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.55**	**208**	Pn	**Pn**	**01 24 13.3**	**+3.1**
LUWI	**Luwuk**	**7.07**	**235**	Pn	**Pn**	**01 25 07.5**	**+0.5**
TOLI2	**Tolitoli**	**8.02**	**256**	Pn	**Pn**	**01 25 20.0**	**+0.7**
MTN	**Manton Dam**	**15.97**	**171**	P	**P**	**01 26 58.1**	**-1.4**
KNRA	**Kununurra**	**18.59**	**179**	P	**P**	**01 27 28.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**21.19**	**188**	P	**P**	**01 27 54.6**	**-1.3**
WB0	**Warramunga Arr**	**23.36**	**166**	P	**P**	**01 28 15.7**	**-0.8**
WB0				IAmb	IAmb	01 28 21.2	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**23.52**	**166**	P	**P**	**01 28 16.4**	**-1.5**
WRA	**Warramunga Arr**	**23.52**	**166**	P	**P**	**01 28 16.5**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=343,slow=10.0,SNR=25						
	comp=Z,0.7nm,0.4s						
WB2	**Warramunga Arr**	**23.52**	**166**	P	**P**	**01 28 17.4**	**-0.6**
WB2				IAmb	IAmb	01 28 37.3	
	comp=Z,6.0nm,1.1s						
WR0	**Warramunga Arr**	**23.58**	**166**	P	**P**	**01 28 18.3**	**-0.3**
WR0				IAmb	IAmb	01 28 37.5	
	comp=Z,6.2nm,1.2s						
ASAR	**Alice Springs**	**27.04**	**169**	P	**P**	**01 28 48.9**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=351,slow=7.1,SNR=6.6						
	comp=Z,0.5nm,0.3s						
MJAR	**Matsushiro Arr**	**34.51**	**14**	P	P	01 29 54.4	-0.6
	comp=Z,1.3nm,0.4s,baz=182,slow=9.4,SNR=4.2						
	comp=Z,1.3nm,0.4s						
BBOO	**Buckleboo**	**36.34**	**169**	P	**P**	**01 30 10.1**	**-0.6**
STKA	**Stephens Creek**	**36.85**	**161**	P	**P**	**01 30 14.1**	**-0.9**
STKA	**Stephens Creek**	**36.85**	**161**	P	**P**	**01 30 14.3**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=350,slow=16,SNR=2.8						
	comp=Z,2.4nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**40.34**	**65**	T	T	02 14 52.5	
	baz=245						
H11S2	**WAKE ISLAND Hy**	**40.36**	**65**	T	T	02 14 53.4	
	baz=245						
H11S1	**WAKE ISLAND Hy**	**40.36**	**65**	T	T	02 14 59.9	
	baz=245						
H11N1	**WAKE ISLAND Hy**	**40.91**	**63**	T	T	02 15 31.6	
	baz=254						
H11N2	**WAKE ISLAND Hy**	**40.92**	**63**	T	T	02 15 32.4	
	baz=254						
H11N3	**WAKE ISLAND Hy**	**40.93**	**63**	T	T	02 15 30.5	
	baz=254						
MK31	**Makanchi Array**	**59.18**	**325**	P	**P**	**01 33 05.5**	**-0.2**
MKAR	**Makanchi Array**	**59.18**	**325**	P	**P**	**01 33 05.4**	**-0.4**
MKAR	**Makanchi Array**	**59.18**	**325**	P	**P**	**01 33 05.7**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=112,slow=8.6,SNR=6.0						
	comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**63.32**	**327**	P	**P**	**01 33 32.8**	**-0.6**
	comp=Z,0.6nm,0.2s,baz=122,slow=6.5,SNR=6.3						
	comp=Z,0.6nm,0.2s						
L18K	**Granite Mounta**	**80.24**	**27**	P	**P**	**01 35 15.0**	**+1.1**
L18K				IAmb	IAmb	01 35 24.1	
	comp=Z,9.2nm,1.4s						
J20K	**Nowinta River**	**81.75**	**26**	P	**P**	**01 35 23.1**	**+1.3**
J20K				IAmb	IAmb	01 35 49.8	
	comp=Z,10nm,1.5s						
M20K	**Styx River**	**81.82**	**28**	P	**P**	**01 35 22.9**	**+0.6**
M20K				IAmb	IAmb	01 35 38.5	
	comp=Z,10nm,1.5s						
SKT	**Skwentna**	**82.59**	**28**	P	P	01 35 25.4	-0.9
SKT				IAmb	IAmb	01 35 41.1	
	comp=Z,7.6nm,1.3s						
B21K	**Ikpikpuk River**	**82.59**	**20**	P	**P**	**01 35 26.8**	**+0.7**
B21K				IAmb	IAmb	01 35 27.7	
	comp=Z,1.8nm,0.8s						
E22K	**Anaktuvuk Pass**	**83.33**	**22**	P	**P**	**01 35 31.7**	**+1.7**
C23K	**Itkillik River**	**84.00**	**20**	P	**P**	**01 35 33.6**	**+0.3**
C23K				IAmb	IAmb	01 35 50.2	
	comp=Z,8.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**124.89**	**288**	PKP	**PKPdf**	**01 42 01.9**	**-1.1**
	comp=Z,0.7nm,1.0s,baz=91,slow=1.4,SNR=2.4						

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*NEIC **30** 01:23:59.4±1.0, 17°.5S±0°.2×178°.9W±0°.1, h563km±12km, mb4.1/18, Error ellipse: s-maj=29.8km s-min=13.5km az=167.0*
*IDC **30** 01:24:08.2±26.0, 17°.41S×179°.63W, h629km±210km, mb3.3/3, mbtmp4.3/4, Error ellipse: s-maj=249.0km s-min=111.0km az=63.0*
ISC 30 01:23:58.2±1.4, 17°.4S±0°.2×178°.9W±0°.2, h550km, n27, σ1§12/28, mb4.0/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.96**	**264**	P	**P**	**01 25 14.7**	**+1.6**
DZM	**Mont Dzumac**	**14.57**	**249**	P	**P**	**01 27 05.9**	**+2.4**
	3.7nm,0.8s,baz=94,slow=19,SNR=2.1						
THZ	**Tophouse**	**25.25**	**195**	P	**P**	**01 28 40.5**	**-0.5**
THZ				IAmb	IAmb	01 28 44.1	
	comp=Z,13nm,1.1s						
LTZ	**Lake Taylor**	**26.36**	**195**	P	**P**	**01 28 50.2**	**-0.6**
EIDS	**Eidsvold**	**29.02**	**249**	P	**P**	**01 29 13.9**	**-0.4**
EIDS				IAmb	IAmb	01 29 15.1	
	comp=Z,6.7nm,1.0s						
MLZ	**Mavora Lakes**	**29.89**	**199**		**P**	**01 29 21.4**	**-0.2**
MLZ				IAmb	IAmb	01 29 27.6	
	comp=Z,14nm,1.2s						
COEN	**Coen**	**36.67**	**270**	P	**P**	**01 30 18.2**	**-0.9**
COEN				IAmb	IAmb	01 30 38.0	
	comp=Z,4.2nm,1.0s						
STKA	**Stephens Creek**	**38.48**	**241**	P	**P**	**01 30 33.8**	**+0.2**
STKA	**Stephens Creek**	**38.48**	**241**	P	**P**	**01 30 34.0**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=96,slow=7.5,SNR=6.6						
	comp=Z,1.6nm,0.4s						
BBOO	**Buckleboo**	**43.25**	**240**	P	**P**	**01 31 11.1**	**-0.4**
BBOO				IAmb	IAmb	01 31 12.5	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**44.10**	**259**	P	**P**	**01 31 16.7**	**-1.6**
WB0	**Warramunga Arr**	**44.25**	**259**	P	**P**	**01 31 18.7**	**-0.8**
WB0				IAmb	IAmb	01 31 21.2	
	comp=Z,4.5nm,1.1s						
WB2	**Warramunga Arr**	**44.28**	**259**	P	**P**	**01 31 18.5**	**-1.2**
WB2				IAmb	IAmb	01 31 36.2	
	comp=Z,3.3nm,1.1s						
WRAB	**Tennant Creek**	**44.28**	**259**	P	**P**	**01 31 18.2**	**-1.5**
WRA	**Warramunga Arr**	**44.29**	**259**	P	**P**	**01 31 17.6**	**-2.2**
WRA	**Warramunga Arr**	**44.29**	**259**	P	**P**	**01 31 18.7**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=96,slow=7.9,SNR=13						
	comp=Z,0.5nm,0.3s						
AS31	**Alice Springs**	**44.50**	**254**	P	**P**	**01 31 21.1**	**-0.2**
AS31				IAmb	IAmb	01 31 21.7	
	comp=Z,2.9nm,0.5s						
ASAR	**Alice Springs**	**44.50**	**254**	P	**P**	**01 31 20.3**	**-1.1**
ASAR	**Alice Springs**	**44.50**	**254**	P	**P**	**01 31 21.1**	**-0.3**
	comp=Z,6.4nm,0.4s,baz=88,slow=8.0,SNR=63						
ASAR				PcP	**PcP**	**01 32 52.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=80,slow=5.2,SNR=1.6						
	comp=Z,6.4nm,0.4s						
FORT	**Forrest**	**49.81**	**244**	P	**P**	**01 32 00.7**	**-0.4**
KNRA	**Kununurra**	**50.10**	**264**	P	**P**	**01 32 03.2**	**-0.2**
KNRA				IAmb	IAmb	01 32 04.9	
	comp=Z,2.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.68**	**260**	P	**P**	**01 32 22.1**	**0.0**
MBWA	**Marble Bar**	**57.77**	**256**	P	**P**	**01 32 56.7**	**-0.7**
MBWA				IAmb	IAmb	01 33 15.9	
	comp=Z,8.5nm,1.1s						
GIRL	**Giralia**	**62.61**	**253**	P	**P**	**01 33 27.4**	**-2.1**
QSPA	**South Pole Qui**	**72.61**	**180**	P	**P**	**01 34 30.0**	**+0.1**
GCPR	**Guaynabo City**	**116.37**	**78**	PKPdf	**PKPdf**	**01 41 41.5**	**+1.2**
SPB4	**Spitsbergen Ar**	**118.78**	**356**	PKPdf	**PKPdf**	**01 41 43.2**	**-0.1**

IDC 30 01:28:10.8±1.5, 24°.47N×141°.89E, h0km, mb3.6/5, mbtmp3.6/5, MS3.6/4, Error ellipse: s-maj=51.5km s-min=28.6km az=83.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**12.93**	**314**	LR	LR	01 35 36.7	
	comp=Z,89nm,19.9s,baz=228,slow=34						
H11S3	**WAKE ISLAND Hy**	**23.82**	**100**	T	T	01 59 01.1	
	baz=289,slow=75,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**23.82**	**100**	T	T	01 59 01.8	
	baz=289,slow=75,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**23.83**	**100**	T	T	01 59 01.9	
	baz=289,slow=75,SNR=3.4						
PMG	**Port Moresby**	**34.06**	**171**	LR	LR	01 47 11.0	
	comp=Z,169nm,19.5s,baz=286,slow=34						
YAK	**Yakutsk**	**38.45**	**351**	LR	LR	01 50 34.2	
	comp=Z,110nm,18.6s,baz=204,slow=35						
WRA	**Warramunga Arr**	**44.75**	**190**	P	P	01 36 25.9	-0.2
	1.0nm,0.8s,baz=8.5,slow=8.1,SNR=9.1						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**51.96**	**311**	P	P	01 37 21.9	+0.3
	0.2nm,0.7s,baz=98,slow=6.0,SNR=1.6						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**54.70**	**316**	P	P	01 37 41.1	-0.6
	0.4nm,0.3s,baz=98,slow=9.2,SNR=1.7						
	0.4nm,0.3s						
KDAK	**Kodiak Island**	**56.63**	**36**	LR	LR	01 58 15.9	
	comp=Z,49nm,22.0s,baz=249,slow=32						
BVAR	**Borovoye Array**	**59.80**	**318**	P	P	01 38 18.1	+0.4
	0.7nm,0.6s,baz=69,slow=8.3,SNR=3.8						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**60.14**	**28**	P	P	01 38 19.6	-0.3
	0.3nm,0.8s,baz=264,slow=7.0,SNR=2.8						
	0.3nm,0.8s						

DJA 30 01:57:43.8±0.2, 8°.S±.5°×117°.E±°, h10km, M3.7/13, MLv3.7/13, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.45**	**133**	P	Pg	01 57 53.1	+0.5
TWSI				S	Sb	01 57 59.7	-0.9
PLAI	**Plampang**	**1.27**	**108**	P	Pn	01 58 07.4	-0.3
PLAI				S	Sg	01 58 25.2	+0.3
DNP	**Denpasar**	**1.35**	**259**	P	Pn	01 58 08.0	-0.7
SRBI	**Singaraja**	**1.37**	**284**	P	Pn	01 58 08.7	-0.3
SRBI				S	Sn	01 58 27.3	+0.2
JAGI	**Jajag, Banyuwa**	**2.37**	**269**	P	Pn	01 58 22.0	-0.8
ABJI	**Asem Bagus**	**2.38**	**285**	P	Pn	01 58 22.9	0.0
WBSI	**Waikabubak, Su**	**3.05**	**113**	P	Pn	01 58 32.0	-0.2
GRJI	**Gresik**	**4.31**	**290**	P	Pn	01 58 49.6	+0.2
BASI	**Baing, Sumba**	**4.35**	**114**	P	Pn	01 58 50.5	+0.4
BSSI	**Bau Bau, Buton**	**4.52**	**60**	P	Pn	01 58 50.5	-1.9
PWJI	**Pagerwojo**	**4.71**	**275**	P	Pn	01 58 58.1	+3.1

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*NNC **30** 02:01:17.9±2.2, 45°.48N×84°.77E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=16.8km s-min=6.8km az=119.0*
*SOME **30** 02:01:17.3, 45°.40N×84°.90E, h10km*
ISC 30 02:01:18.2±2.2, 45°.43N±0°.08×84°.7E±0°.1, h10km, n19, σ2§08/25, 7C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**2.03**	**3**	*e*P	**Pg**	**02 01 55.3**	**-1.7**
	50nm,0.5s						
ZSN				*e*S	**Sg**	**02 02 22.6**	**-0.6**
	75nm,0.2s						
ZSN	**Zaisan**	**2.03**	**3**	Pg	**Pg**	**02 01 55.3**	**-1.7**
	50nm,0.5s						
ZSN				Lg	Lg	02 02 22.6	
	75nm,0.2s						
MK31	**Makanchi Array**	**2.16**	**310**	⇑Pg	**Pb**	**02 01 57.8**	**+0.4**
	1.8nm,0.2s,baz=127,slow=16,SNR=137						
MK31				⇑Lg	Lg	02 02 27.5	
	18nm,0.3s,baz=122,slow=29,SNR=54						
MAKZ	**Makanchi**	**2.34**	**307**	⇓Pg	**Pb**	**02 02 01.2**	**+0.7**
	3.1nm,0.3s						
MAKZ				⇓Lg	Lg	02 02 32.2	
	20nm,0.4s						
DJR	**Jarkent**	**3.66**	**254**	*e*P	**Pg**	**02 02 26.5**	**-1.7**
	2.9nm,0.4s						
DJR				*e*S	**Sg**	**02 03 16.2**	**+0.6**
	6.5nm,0.4s						
DJR	**Jarkent**	**3.66**	**254**	Pg	**Pg**	**02 02 26.5**	**-1.7**
	3.0nm,0.4s						
DJR				Lg	Lg	02 03 16.2	
	7.6nm,0.5s						
KNOS	**Konyrlen**	**4.06**	**257**	Pg	**Pg**	**02 02 34.5**	**-1.5**
	2.3nm,0.3s						
KNOS				Lg	Lg	02 03 29.6	
	6.4nm,0.3s						
SHLS	**Shalkode**	**4.39**	**241**	*e*P	**Pb**	**02 02 34.2**	**-1.2**
	5.3nm,0.1s						
SHLS				*e*S	**Sb**	**02 03 29.2**	**+0.7**
	21nm,0.4s						
BLB	**Baldybastay**	**4.62**	**255**	Pg	**Pg**	**02 02 44.6**	**-2.1**
	13nm,0.3s						
BLB				Lg	Lg	02 03 46.9	
	32nm,0.6s						
UZB	**Uzynbulak**	**4.67**	**243**	*e*P	**Pg**	**02 02 45.1**	**-2.5**
	2.2nm,0.2s						
UZB				*e*S	**Sg**	**02 03 47.3**	**-0.8**
	7.0nm,0.6s						
UZB	**Uzynbulak**	**4.67**	**243**	Pg	**Pb**	**02 02 43.6**	**+3.4**
	2.2nm,0.2s						
UZB				Lg	Lg	02 03 44.7	
	7.0nm,0.6s						
KPKS	**Kokpek**	**4.73**	**248**	*e*P	**Pg**	**02 02 46.2**	**-2.5**
	1.9nm,0.2s						
KPKS				*e*S	**Sg**	**02 03 49.5**	**-0.5**
	19nm,0.3s						
KPKS	**Kokpek**	**4.73**	**248**	Pg	**Pb**	**02 02 44.1**	**+2.9**
	1.3nm,0.2s						
KPKS				Lg	Lg	02 03 46.0	
	20nm,0.3s						
ARXS	**Arharly**	**5.04**	**258**	*e*P	**Pg**	**02 02 51.8**	**-2.9**
	2.6nm,0.3s						
ARXS				*e*S	**Sg**	**02 03 59.3**	**-0.5**
	11nm,0.5s						
ARXS	**Arharly**	**5.04**	**258**	Pg	**Pg**	**02 02 51.4**	**-3.2**
	2.6nm,0.3s						
ARXS				Lg	Lg	02 03 58.5	
	10nm,0.6s						
SATY	**Saty**	**5.10**	**245**	*e*P	**Pg**	**02 02 55.2**	**-0.7**
	1.5nm,0.2s						
SATY				*e*S	**Sg**	**02 04 04.6**	**+2.6**
	12nm,0.3s						
KURBB	**Kurchatov Arra**	**6.64**	**324**	⇓Pg	**Pb**	**02 03 16.3**	**+2.6**
	2.4nm,0.3s						
KURBB				⇑Lg	Lg	02 04 49.3	
	26nm,0.8s						
KURK	**Kurchatov**	**6.67**	**325**	⇑Pg	**Pb**	**02 03 17.1**	**+2.9**
	0.8nm,0.4s						
KURK				⇑Lg	Lg	02 04 48.6	
	6.0nm,0.5s						
TKM2	**Tokmak 2**	**7.01**	**252**	⇑Pg	Pb	02 03 26.4	+6.3
	0.7nm,0.5s						
TKM2				⇑Lg	Lg	02 05 03.4	
	2.1nm,0.6s						

NNC 30 02:06:55.5±14.0, 36°.97N×70°.69E, h0km, mb3.6, mpv3.3, 3C-2D, Error ellipse: s-maj=151.3km s-min=90.4km az=144.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.13**	**359**	Pn	Pn	02 08 30.4	+3.0
	1.3nm,0.3s,baz=174,slow=12,SNR=25						
KK31				⇑Sn	Sn	02 09 38.6	+0.4
	1.6nm,0.3s,baz=185,slow=29,SNR=6.0						
AAK	**Ala-Archa**	**6.37**	**26**	⇑Pn	Pn	02 08 29.8	-1.0
	1.1nm,0.5s						
AAK				⇓Sn	Sn	02 09 40.1	-4.3
	3.1nm,0.5s						
TKM2	**Tokmak 2**	**7.04**	**31**	⇓Pn	Pn	02 08 38.0	-2.0
	1.3nm,0.7s						
TKM2				⇑Sn	Sn	02 10 08.9	+8.1
	0.3nm,0.4s						
AB31	**Akbulak array**	**14.55**	**331**	P	Pn	02 10 21.5	-1.1
	0.5nm,0.5s,baz=150,slow=12,SNR=13						

HEL 30 02:22:21.9, 64°.21N×20°.31E, h10km, ML0.3, Confirmed Earthquake, Sweden

HEL 30 02:22:30.3±0.1, 63°.96N×21°.09E, h13km±1km, ML0.2, ML0.4(UPP), 1C-1D, Confirmed Earthquake, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMAU	**Umeaa**	**0.20**	**246**	⇓*i*P	Pg	02 22 34.4	-0.3
UMAU				*i* S	Sg	02 22 37.8	+0.1
ODEU	**Stanfors**	**0.47**	**340**	⇑*i*P	Pg	02 22 38.8	-0.9
ODEU				*i* S	Sg	02 22 45.5	-0.5
SVAU	**Svanoeiden**	**0.85**	**309**	*i* P	Pg	02 22 45.2	-1.5
SVAU				*i* S	Sg	02 22 56.6	-1.2
HUSU	**Husum**	**1.04**	**234**	*e*P	Pb	02 22 49.1	-1.1
HUSU				*e*S	Sb	02 23 01.6	-2.1
BREU	**Bredtraesk**	**1.11**	**267**	*e*P	Pb	02 22 49.5	-1.8
BREU				*e*S	Sb	02 23 04.1	-1.5
LILU	**Lilltraesk**	**1.43**	**339**	*e*P	Pn	02 22 55.7	-0.2
LILU				*e*S	Sn	02 23 13.8	-0.8
OBF0	**Syolatti, Pyha**	**1.48**	**67**	*e*S	Sn	02 23 14.4	-1.3
SJUU	**Sjulsmark**	**1.57**	**8**	*e*S	Sn	02 23 17.6	-0.3
OUF	**Merijarvi**	**1.65**	**74**	*e*S	Sn	02 23 20.0	+0.2
OUF				MSG		02 23 22.3	
	comp=Z,0.1nm,0.1s						
OBF4	**Vikkela, Lumij**	**1.94**	**62**	*e*S	Sn	02 23 25.4	-1.7
OBF4				MSG		02 23 37.9	
	comp=Z,0.1nm,0.1s						
KPF	**Kankaanpaa**	**2.19**	**168**	*e*S	Sn	02 23 34.7	+1.6
KPF				MSG		02 23 49.9	
	comp=Z,0.1nm,0.1s						

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*NEIC **30** 02:39:22.2±0.5, 36°.297N±0°.010×98°.21W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=20.0*
TUL 30 02:39:22.4±0.6, 36°.300N±0°.010×98°.208W±0°.008, h5km±3km, ML2.8, mb_Lg2.7/74(NEIC), ML3.0/51(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=176.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.27**	**41**	Pg	Pg	02 39 28.4	+0.7
CROK				Sg	Sg	02 39 32.4	+1.1
CROK				IAML		02 39 32.8	
	comp=N,3μm,0.3s						
OK038	**West end E0370**	**0.47**	**293**	Pg	Pg	02 39 31.6	+0.2
OK038				Sg	Sg	02 39 38.3	+0.8
OK038				IAML		02 39 40.4	
	comp=N,1μm,0.2s						
OK038				IAML		02 39 41.1	
	comp=N,1μm,0.2s						
OK032	**Salt Plains WL**	**0.50**	**360**	Pg

KAN13	South Haven SW	0.92	39		Pg	02 39 39.8	-0.3
KAN01	Argonia South	0.93	23	Pg	Pg	02 39 39.9	-0.3
ADOK	Arcadia Dam	0.94	133	Pg	Pg	02 39 40.0	-0.4
KAN08	Anthony NE Sta	0.94	12	Pg	Pg	02 39 40.4	-0.2
KAN09	Caldwell North	0.96	29	Pg	Pg	02 39 40.6	-0.2
ELIS	Ellis County	1.01	257	Pg	Pg	02 39 41.5	-0.2
ELIS	comp=N,405nm,0.2s			IAML		02 40 02.9	
ELIS	comp=E,342nm,0.3s			IAML		02 40 05.1	
KAN12	Harper NE Stat	1.01	10	Pg	Pg	02 39 41.5	-0.3
OK048	Pawnee Station	1.03	83	Pg	Pg	02 39 41.8	-0.3
OK048	comp=E,254nm,0.2s			IAML		02 39 57.5	
OK048	comp=E,256nm,0.2s			IAML		02 40 01.3	
KS21	Milan North St	1.08	24	Pg	Pg	02 39 42.5	-0.5
OKCSW	OKLAHOMA CITY	1.09	145	Pg	Pg	02 39 43.0	-0.2
OKCSW	comp=E,428nm,0.1s			IAML		02 40 01.3	
OK051	E0350 and S346	1.12	79	Pg	Pg	02 39 43.4	-0.6
OK031	S. Brethren Rd	1.16	107		Pg	02 39 43.7	-1.0
OK031	comp=E,477nm,0.2s			IAML		02 40 00.4	
OK031	comp=E,346nm,0.2s			IAML		02 40 00.5	
OK052	Battle Ridge R	1.18	105		Pg	02 39 44.1	-0.9
OK052	comp=E,277nm,0.2s			IAML		02 40 01.4	
OK052	comp=E,382nm,0.2s			IAML		02 40 02.0	
QUOK	Quay	1.22	96		Pg	02 39 44.7	-1.0
QUOK	comp=E,436nm,0.2s			IAML		02 40 05.4	
FNO	Franklin	1.23	148		Pg	02 39 44.7	-1.2
FNO	comp=N,442nm,0.2s			IAML		02 40 03.5	
DEOK	Depew	1.46	108		Pn	02 39 48.3	-1.1
T35A	Sooner Cattle	1.50	65		Pn	02 39 48.9	-1.1
WMOK	Wichita Mounta	1.63	197		Pn	02 39 50.7	-1.1
X34A	Smith Ranch, M	1.72	170	IAmb_Lg		02 40 21.1	
TUL3	comp=Z,57nm,0.9s						
TUL3	Leonard	2.00	101	Pn	Pn	02 39 55.8	-1.0
SMWD	comp=Z,42nm,0.9s			IAmb_Lg		02 40 29.4	
SMWD	Samnorwood	2.04	235	IAmb_Lg		02 40 30.5	
LOOK	comp=Z,27nm,0.9s						
WTFS	Love County	2.45	160	Pn	Pn	02 40 02.0	-1.1
RLO	Witchita Falls	2.54	185	Pn	Pn	02 40 03.2	-1.0
CBKS	Rose Lookout	2.58	92	Pn	Pn	02 40 04.5	-0.3
X37A	Cedar Bluff	2.79	335	IAmb_Lg		02 40 54.3	
AMTX	comp=Z,16nm,0.8s						
APMT	Clayton	2.88	126	Pn	Pn	02 40 08.4	-0.5
DKNS	Amarillo	3.16	244	IAmb_Lg		02 41 10.6	
DKNS	comp=Z,20nm,0.9s						
HHAR	Apermont	3.36	209	Pn	Pn	02 40 15.4	-0.2
PLPT	Dickens	3.45	221	Pn	Pn	02 40 15.2	-1.6
RTBA	comp=Z,20nm,0.8s			IAmb_Lg		02 41 18.8	
ABTX	Hobbs	3.45	89	Pn	Pn	02 40 16.1	-0.7
SN05	Palo Pinto	3.48	182	Pn	Pn	02 40 17.1	-0.2
S39A	Rita Blanca	3.66	273	Pn	Pn	02 40 20.1	+0.3
MIAR	Abilene, Hawle	3.85	198	Pn	Pn	02 40 19.0	-3.4
POST	Snyder 5	4.07	214	IAmb_Lg		02 41 37.3	
POST	comp=Z,18nm,0.9s						
MSTX	Bolivar	4.15	69	IAmb_Lg		02 41 44.1	
KSCO	comp=Z,12nm,0.7s						
X40A	Mount Ida	4.17	113	Pn	Pn	02 40 27.1	+0.4
MGMO	Post	4.21	221	Pn	Pn	02 40 26.2	-1.2
WHAR	comp=Z,12nm,0.8s			IAmb_Lg		02 41 44.2	
WLAR	Muleshoe	4.40	239	Pn	Pn	02 40 27.6	-2.5
P38A	Kaye Shedlock'	4.43	309	IAmb_Lg		02 41 42.1	
T25A	comp=Z,17nm,0.7s						
BGNE	Basin Creek Fa	4.75	111	Pn	Pn	02 40 31.3	-3.3
MGMO	Mountain Grove	4.85	78	IAmb_Lg		02 41 58.3	
WHAR	comp=Z,13nm,0.9s						
WLAR	Wooly Hollow	4.92	100	Pn	Pn	02 40 34.5	-2.4
T25A	White Oak Lake	4.93	120	IAmb_Lg		02 42 05.2	
BGNE	comp=Z,11nm,0.7s						
T25A	Dawn	4.97	47	IAmb_Lg		02 42 04.5	
CCAR	comp=Z,11nm,0.8s						
CCM	Trinidad	5.05	281	Pn	Pn	02 40 39.4	+0.4
L34A	comp=Z,12nm,1.0s			IAmb_Lg		02 42 09.7	
JCT	Belgrade	5.10	0	Pn	Pn	02 40 38.5	-1.0
SDCO	comp=Z,15nm,0.8s			IAmb_Lg		02 42 18.2	
Q24A	Maddies Statio	5.13	65	Pn	Pn	02 40 40.2	+0.2
435B	Jarrell	5.53	174	IAmb_Lg		02 42 23.0	
LCAR	comp=Z,13nm,1.1s						
T42A	Lake Charles	5.71	90	IAmb_Lg		02 42 35.9	
CCAR	comp=Z,6.1nm,0.8s						
CCM	Van Buren	5.77	81	IAmb_Lg		02 42 41.1	
L34A	comp=Z,8.8nm,1.1s						
JCT	Cane Creek	5.79	112	IAmb_Lg		02 42 40.3	
SDCO	comp=Z,11nm,0.8s						
Q24A	Cathedral Cave	5.83	70	IAmb_Lg		02 42 29.5	
435B	comp=Z,15nm,0.7s						
LCAR	Svendsen Farm,	5.83	14	IAmb_Lg		02 42 43.6	
T42A	comp=Z,12nm,0.7s						
CCAR	Junction City	5.96	193	IAmb_Lg		02 42 38.0	
CCM	comp=Z,10nm,0.7s						
L34A	Great Sand Dun	6.01	286	Pn	Pn	02 40 49.5	-2.7
JCT	Divide	6.12	298	IAmb_Lg		02 42 36.6	
SDCO	comp=Z,8.8nm,0.9s						
Q24A	Poplar Bluff	6.28	83	IAmb_Lg		02 42 43.5	
435B	comp=Z,12nm,0.9s						
LCAR	Briggsdale	6.42	314	IAmb_Lg		02 42 52.9	
T42A	comp=Z,11nm,0.8s						
CCAR	Basset	6.46	351	IAmb_Lg		02 43 02.7	
CCM	comp=Z,10.0nm,0.7s						
L34A	Socs Landing,	6.66	121	IAmb_Lg		02 42 58.8	
JCT	comp=Z,9.7nm,0.8s						
SDCO	Saint Louis	6.75	67	IAmb_Lg		02 42 58.0	
Q24A	comp=Z,11nm,0.7s						
435B	Idaho Springs	6.81	303	IAmb_Lg		02 43 11.2	
LCAR	comp=Z,5.1nm,0.7s						
T42A	Cape Girardeau	6.93	79	IAmb_Lg		02 43 01.5	
CCAR	comp=Z,9.5nm,0.7s						
CCM	Pilot Hill	7.55	314	IAmb_Lg		02 43 28.8	
L34A	comp=Z,4.9nm,0.7s						
JCT	Red Feather La	7.60	309	IAmb_Lg		02 43 43.1	
SDCO	comp=Z,8.6nm,0.8s						
Q24A	Black Hills	8.99	332	IAmb_Lg		02 44 15.6	
435B	comp=Z,4.8nm,0.9s						
LCAR	Jewell Farm	9.02	40	IAmb_Lg		02 44 14.0	
T42A	comp=Z,8.7nm,0.7s						

*IDC **30** 02:42:49.5±2.5, 39°.45N×143°.01E, h0km, mb3.7/9, mbtmp3.6/12, ML3.3/3, Error ellipse: s-maj=51.0km s-min=28.8km az=148.0*
*JMA **30** 02:43:01.5±0.1, 40°.3N±0°.3×142°.5E±0°.8, h36km±1km, MV3.4/28, NE OFF IWATE PREF*
ISC 30 02:42:57.6±1.8, 40°.34N±0°.06×142°.72E±0°.09, h24km±12km, n26, σ1$53/24, mb3.8/9, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.77	239	⇓P	Pb	02 43 13.0	+0.7
JTH				⇓S	Sn	02 43 21.4	-2.4
JKEN	Kujiedanarisaw	0.78	261	⇓P	Pb	02 43 13.2	+0.6
JKEN				⇓S	Sn	02 43 21.4	-2.8
JANG	Nango	0.92	273	⇓iP	Pb	02 43 15.5	+0.6
JANG				⇓S	Sn	02 43 25.6	-2.0
MIYJ	Miyakonagasawa	1.03	223	eP	Pb	02 43 16.9	+0.1
MIYJ				eS	Sn	02 43 28.0	-2.2
JKZ	Kuzumaki	1.12	252	⇓iP	Pb	02 43 18.4	0.0
JKZ				⇓eS	Sn	02 43 30.1	-2.5
JARK	Aomorirokkasho	1.23	303	⇓iP	Pb	02 43 20.9	+0.8
JTM	Tenmabayashi	1.34	290	⇓iP	Pb	02 43 22.3	+0.3
JOM	Ohasama	1.40	232	⇓iP	Pb	02 43 22.7	-0.3
ASAJ	Asahikawa	3.78	359	Pn	Pb	02 44 01.9	-1.7
ASAJ	3.0nm,0.3s,baz=210,slow=14,SNR=9.6 1.1nm,0.3s,baz=84,slow=19,SNR=7.1 5.7nm,0.3s			Sn	Sb	02 44 48.8	-0.1
MJAR	Matsushiro Arr	5.19	224	Pn	Pn	02 44 03.3	-10
USRK	0.2nm,0.3s,baz=17,slow=10,SNR=1.6 1.4nm,0.3s Ussuriysk Ar.	8.84	299	Pn	Pn	02 45 08.6	+4.7
	0.3nm,0.3s,baz=101,slow=17,SNR=4.4 1.3nm,0.5s						

SONM	Songino Array	26.95	298	P	P	02 48 36.5	-0.8
	0.3nm,0.5s,baz=110,slow=12,SNR=2.1 0.3nm,0.5s						
H11N2	WAKE ISLAND Hy	29.16	128	T	T	03 19 53.2	
	baz=319,slow=75,SNR=33						
H11N1	WAKE ISLAND Hy	29.17	128	T	T	03 19 57.5	
	baz=319,slow=75,SNR=30						
H11N3	WAKE ISLAND Hy	29.18	128	T	T	03 19 50.7	
	baz=319,slow=75,SNR=31						
H11S1	WAKE ISLAND Hy	29.98	129	T	T	03 21 03.8	
	baz=321,slow=76,SNR=8.3						
H11S3	WAKE ISLAND Hy	29.99	130	T	T	03 21 07.4	
	baz=321,slow=76,SNR=9.2						
H11S2	WAKE ISLAND Hy	30.00	130	T	T	03 21 01.8	
	baz=321,slow=76,SNR=6.7						
ZALV	Zalesovo Beam	40.52	310	P	P	02 50 35.2	+0.7
	0.6nm,0.3s,baz=79,slow=7.6,SNR=1.9 0.6nm,0.3s						
MKAR	Makanchi Array	43.31	299	P	P	02 50 58.3	+0.9
	0.5nm,0.5s,baz=83,slow=9.8,SNR=5.1 0.5nm,0.5s						
KURBB	Kurchatov Arra	44.84	306	P	P	02 51 10.5	+0.9
	0.8nm,0.6s,baz=81,slow=8.9,SNR=7.1 0.8nm,0.6s						
ILAR	Eielson Array	46.17	34	P	P	02 51 19.3	-0.7
	0.1nm,0.6s,baz=256,slow=6.3,SNR=1.5 0.1nm,0.6s						
BVAR	Borovoye Array	49.16	310	P	P	02 51 44.4	+1.1
	0.9nm,0.3s,baz=86,slow=9.4,SNR=5.9 0.9nm,0.3s						
FINES	FINESS Array B	66.38	332	P	P	02 53 45.6	+1.5
	1.0nm,0.9s,baz=18,slow=9.5,SNR=3.9 1.0nm,0.9s						
HFS	Hagfors	71.50	336	P	P	02 54 17.9	+1.9
	0.7nm,0.4s,baz=36,slow=7.9,SNR=6.6 0.7nm,0.4s						
NOA	NORSAR Array B	71.54	337	P	P	02 54 18.1	+1.9
	0.4nm,0.8s,baz=29,slow=4.4,SNR=1.6 0.4nm,0.8s						

*SJA **30** 02:43:31.7±0.5, 34°.47S×68°.71W, h18km±5km, ML4.0, MW3.7*
*NEIC **30** 02:43:33.5±2.2, 34°.49S±0°.05×68°.65W±0°.07, h11km±4km, mb4.0/4, Error ellipse: s-maj=9.0km s-min=7.8km az=112.0*
*IDC **30** 02:43:35.6±3.8, 34°.46S×69°.37W, h34km±33km, mb3.5/2, mbtmp3.7/6, ML3.4/4, Error ellipse: s-maj=77.2km s-min=19.3km az=101.0*
ISC 30 02:43:32.7±1.2, 34°.48S±0°.03×68°.66W±0°.03, h6km±9km, n76, σ1$53/105, mb3.8/3, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFA	San Rafael	0.34	151	eP	Pg	02 43 40.0	+0.7
RFA				i S	Sg	02 43 45.3	+1.5
RFA	comp=E,132μm,0.3s			AMP		02 43 47.8	
AVIZ	Vizcacheras	1.01	7	eP	Pb	02 43 51.0	-1.7
AAGR	Agrelo	1.40	354	eP	Pn	02 43 58.0	-0.9
AAGR				eS	Sg	02 44 17.8	+0.2
EDS3	Malargue	1.42	205	eP	Pn	02 43 58.5	-0.8
EDS3				eS	Sb	02 44 19.6	+1.4
LMEL	Las Melosas	1.42	296	Pn	Pn	02 43 58.0	-1.2
LMEL				Sn	Sn	02 44 17.6	-0.9
LMEL	Las Melosas	1.42	296	i P	Pn	02 43 58.1	-1.1
LMEL				i S	Sn	02 44 17.1	-1.3
MT08	Bocatoma Ro	1.52	312	Pn	Pn	02 43 59.6	-1.2
MT08				Sn	Sn	02 44 19.2	-1.9
MT08	Bocatoma Ro	1.52	312	eP	Pn	02 43 59.6	-1.2
MT08				i S	Sn	02 44 19.1	-1.9
MT13	San Alfonso	1.53	298	Pn	Pn	02 43 59.9	-0.8
MT13	San Alfonso	1.53	298	eP	Pn	02 43 59.9	-0.8
MT04	Ro Olivares	1.63	311	eP	Pn	02 44 01.5	-0.6
MT04				eP	Pn	02 44 01.6	-0.6
MT04				eS	Sn	02 44 22.9	-0.7
ARCO	CERRO ARCO	1.65	352	eP	Pn	02 44 01.5	-0.9
ARCO				eS	Sb	02 44 24.9	+0.2
ARCO	comp=Z,2μm,0.5s			IAML		02 44 27.0	
BO04	La Punta	1.68	286	Pn	Pn	02 44 02.8	0.0
BO04				Sn	Sn	02 44 24.6	-0.1
BO02	Sierra Bellavi	1.77	259	Pn	Pn	02 44 04.0	0.0
BO02	Sierra Bellavi	1.77	259	eP	Pn	02 44 04.3	+0.3
BO02				eS	Sb	02 44 28.8	+0.6
MT03	Universidad Ad	1.82	302	Pn	Pn	02 44 05.2	+0.5
MT03				Sn	Sn	02 44 28.8	+0.6
MT03	Universidad Ad	1.82	302	eP	Pn	02 44 05.2	+0.5
MT03				eS	Sb	02 44 29.4	-0.2
MT16	CCHEN	1.87	304	Pn	Pn	02 44 05.8	+0.5
MT16				Sn	Sb	02 44 30.5	-0.4
ASAL	Salagasta	1.89	356	eP	Pn	02 44 05.0	-0.6
ASAL				eS	Sb	02 44 32.3	+0.7
BO01	Tunca	2.00	272	Pn	Pn	02 44 07.9	+0.8
BO01	Tunca	2.00	272	eP	Pn	02 44 07.7	+0.6
BO01				eS	Sb	02 44 35.1	+0.3
MT05	Renca	2.04	302	Pn	Pn	02 44 09.1	+1.4
MT05	Renca	2.04	302	eP	Pb	02 44 09.8	-0.3
MT05				eS	Sg	02 44 37.9	-0.3
MT09	Talagante	2.05	289	Pn	Pn	02 44 08.1	+0.2
PEL	Peldehue	2.15	308	eP	Pn	02 44 10.4	+1.2
PEL				eS	Sb	02 44 38.8	-0.2
MT01	Popeta	2.23	285	Pn	Pn	02 44 10.6	+0.3
MT01	Popeta	2.23	285	eP	Pn	02 44 10.6	+0.3
MT01				eS	Sn	02 44 38.4	+0.3
VA03	San Esteban	2.32	317	Pn	Pn	02 44 12.4	+0.8
VA03	San Esteban	2.32	317	eP	Pn	02 44 13.1	+1.4
VA03				eS	Sb	02 44 45.4	+1.3
VA03	comp=Z,490nm,0.8s			IAML		02 44 47.3	
ROC1	El Roble	2.47	307	eP	Pn	02 44 14.5	+0.7
ROC1				eS	Sb	02 44 49.4	+1.0
VA05	Santo Domingo	2.58	288		Pn	02 44 17.3	+2.2
ML02	Panimavida	2.60	240		Pn	02 44 15.9	+0.6
RTLS	Leoncito	2.72	349	eP	Pn	02 44 17.0	-0.3
RTLS				eS	Sb	02 44 53.4	-2.5
RTLS	comp=Z,760nm,0.4s			IAML		02 45 04.0	
GO05	Huala	2.74	258	Pn	Pn	02 44 17.1	-0.2
GO05	Huala	2.74	258	eP	Pn	02 44 18.5	+1.2
GO05				eS	Sb	02 44 56.6	+0.6
VA01	Torpederas	2.88	299	Pn	Pn	02 44 19.4	+0.3
VA06	Catapilco	2.91	310	Pn	Pn	02 44 19.8	+0.2
ZON	Zonda	2.92	360	Pn	Pn	02 44 19.9	0.0
ZON	Zonda	2.92	360	eP	Pn	02 44 21.6	+1.8
ZON				eS	Sn	02 44 56.9	+1.5
ZON	comp=Z,352nm,0.3s			IAML		02 45 04.2	
BI02	San Fabin de	3.05	224	Pn	Pn	02 44 21.5	-0.1
DOCA	Reserva Natura	3.54	354	eP	Pn	02 44 28.6	+0.1
DOCA				IAML		02 45 29.4	
CO02	comp=Z,695nm,1.0s Combarbal	3.81	328	Pn	Pn	02 44 32.0	-0.1
CO02	Combarbal	3.81	328	eP	Pn	02 44 32.6	+0.5
CO02				eS	Sb	02 45 30.4	+3.4
CO02	comp=Z,292nm,0.5s			IAML		02 45 33.2	
ACCO	Cerro Coronel	3.89	355	eP	Pn	02 44 33.9	+0.4
ACCO				eS	Sn	02 45 22.8	+3.2
AVFE	Valle Fertil	3.94	15	eP	Pn	02 44 33.6	-0.2
AVFE				eS	Sb	02 45 34.6	+3.9
AVFE	comp=Z,276nm,0.4s			IAML		02 45 38.5	
CO03	El Pedregal	4.01	334	Pn	Pn	02 44 34.6	-0.2
CO03	El Pedregal	4.01	334	eP	Pn	02 44 35.5	+0.7
CO03				eS	Sb	02 45 37.0	+4.3
CO03	comp=Z,184nm,1.4s			IAML		02 45 38.8	
ACDV	Cuesta del Vie	4.31	355	eP	Pn	02 44 41.1	+2.0
ACDV				eS	Sg	02 45 47.1	-4.2
ACDV	comp=Z,138nm,0.5s			IAML		02 45 51.3	
CO06	Fray Jorge	4.55	326	Pn	Pn	02 44 42.0	-0.1
CO01	Juntas del Tor	4.65	345		Pn	02 44 44.9	+1.2
ACLC	CERRO LA CRUZ	5.24	17	eP	Pn	02 44 52.1	+0.3
ACLC				IAML		02 46 19.9	
LCO	comp=Z,84nm,0.4s Las Campanas	5.72	342	Pn	Pn	02 44 57.0	-1.5
AC05	El Transito	5.79	346		Pn	02 45 00.2	+0.9
LR05	Currie	6.33	204		Pn	02 45 08.5	+1.9
PLCA	Paso Flores	6.42	193	Pn	Pn	02 45 07.0	-0.9
PLCA	Paso Flores	6.42	193	Pn	Pn	02 45 08.0	+0.1
	comp=Z,0.1nm,0.3s,baz=13,slow=15,SNR=2.3						
PLCA				Pg	Pg	02 45 31.7	-4.0
	comp=Z,0.3nm,0.3s,baz=12,slow=16,SNR=7.3						
PLCA				Lg	Lg	02 46 49.3	
	comp=Z,0.6nm,0.3s,baz=38,slow=13,SNR=3.3 comp=Z,2.6nm,1.1s						
TRQA	Tornquist	6.47	125	Pn	Pn	02 45 07.4	-1.2
AC04	Llanos de Chal	6.58	341	Pn	Pn	02 45 11.1	+1.0
LL04	Puerto Octay	7.07	204	Pn	Pn	02 45 18.1	+1.4
AC06	Mina Casimiro	7.25	348	Pn	Pn	02 45 21.4	+2.2
ITQB	Itaqui	11.28	68	Pn	Pn	02 46 14.5	0.0
LVC	Limon Verde	11.83	359	Pn	Pn	02 46 21.5	-0.9
	comp=Z,0.3nm,0.3s,baz=223,slow=20,SNR=1.3						
LVC				Lg	Lg	02 49 44.9	
	comp=Z,0.2nm,0.3s,baz=233,slow=20,SNR=1.6 comp=Z,1.0nm,0.4s						
CPUP	Villa Florida	12.71	53	Pn	Pn	02 46 31.5	-2.5
CPUP	Villa Florida	12.71	53	Pn	Pn	02 46 34.1	+0.1
	comp=Z,0.1nm,0.3s,baz=239,slow=12,SNR=2.8						
CPUP				Sn	Sn	02 49 12.8	+17
	comp=Z,0.2nm,0.3s,baz=199,slow=16,SNR=1.8						
CPUP				Lg	Lg	02 50 15.6	
	comp=Z,0.3nm,0.3s,baz=311,slow=19,SNR=3.3						
PLTB	Pedras Altas	12.91	82	Pn	Pn	02 46 32.3	-4.6
TA02	Huaiquique	14.21	354	P	P	02 47 06.3	+4.1
AP01	Chacalluta	16.11	354	P	P	02 47 23.1	-0.1
LPAZ	La Paz	18.12	2	P	P	02 47 48.4	+2.2
LPAZ	La Paz	18.12	2	P	P	02 47 47.3	+1.1
	comp=Z,0.1nm,0.3s,baz=187,slow=9.0,SNR=5.2 comp=Z,1.0nm,0.6s						
SIV	San Ignacio	19.63	22	P	Pn	02 48 03.5	-0.1
	baz=202,slow=9.5,SNR=9.6 comp=Z,3.2nm,1.0s						
PTLB	Pontes e Lacer	20.80	27	P	Pn	02 48 16.9	-0.3
PTLB				IAmb	IAmb	02 48 17.8	
	comp=Z,4.8nm,0.8s						
ETMB	Extrema	24.65	6	P	P	02 48 57.6	+3.4
ETMB				IAmb	IAmb	02 48 58.0	
	comp=Z,5.7nm,1.4s						
QSPA	South Pole Qui	55.76	180	P	P	02 53 08.9	-1.3
	comp=Z,0.8nm,0.9s,baz=144,slow=2.7,SNR=6.5 comp=Z,0.8nm,0.9s						
TORD	Torodi Ar. Bea	81.77	68	P	P	02 55 54.3	+1.5
	comp=Z,0.6nm,0.7s,baz=252,slow=4.1,SNR=7.0 comp=Z,0.6nm,0.7s						
WRA	Warramunga Arr	121.62	206	PKP	PKPdf	03 02 24.5	-3.5
	comp=Z,0.2nm,0.5s,baz=163,slow=1.6,SNR=1.8						
BVAR	Borovoye Array	145.69	45	PKPbc	PKPdf	03 03 10.1	-1.4
	comp=Z,0.4nm,0.4s,baz=274,slow=5.6,SNR=1.9						

*TAP **30** 02:46:10.7, 23°.48N×121°.73E, h46km±1km, ML3.3, C*
*JMA **30** 02:46:10.5±0.1, 23°.5N±0°.5×12°2°E±°, h50km±1km, MV2.9/12, TAIWAN REGION*
ISC 30 02:46:11.6±1.2, 23°.49N±0°.02×121°.70E±0°.03, h41km±7km, n84, σ0$74/125, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	Ruisui	0.25	271	i P	Pn	02 46 19.3	-0.2
	baz=271						
ECBN	Changbin	0.29	233	eP	Pn	02 46 19.9	+0.1
	baz=236						
ECBN				eS	Sn	02 46 26.6	+1.1
	baz=236						
EGFH	Guangfu	0.31	306	eP	Pn	02 46 19.7	-0.4
	baz=303						
SHUL	Shoufeng	0.32	337	P	Pn	02 46 19.9	-0.3
	baz=333						
SHUL				eS	Sn	02 46 27.3	+1.1
	baz=333						
EHY	Hungye	0.35	273	i P	Pn	02 46 19.7	-0.8
	baz=273						
EHY				eS	Sn	02 46 26.1	-0.7
	baz=273						
EYUL	Yuli	0.38	248	eP	Pn	02 46 20.5	-0.3
	baz=250						
TEYL	Yanliau Villag	0.39	346	eP	Pn	02 46 20.9	-0.1
	baz=344						
TWF1	Yuli	0.39	250	i P	Pn	02 46 20.3	-0.7
	baz=251						
ESL	Shilin	0.41	323	eP	Pn	02 46 20.4	-0.9
	baz=321						
CHKH	Chenggong	0.41	224	P	Pn	02 46 21.1	-0.1
	baz=226						
CHKH				eS	Sn	02 46 27.8	-0.1
	baz=226						
FULB	Fuli	0.47	232	eP	Pn	02 46 21.8	-0.3
	baz=234						
FULB				eS	Sn	02 46 30.8	+1.4
	baz=234						
HWA	Hwalien	0.49	350	eP	Pn	02 46 22.1	-0.3
	baz=347						
CHKT	Chengkung	0.49	219	eP	Pn	02 46 22.1	-0.2
	baz=220						
CHKT				eS	Sn	02 46 29.5	-0.4
	baz=220						
ETM	Tongmen	0.51	338	eP	Pn	02 46 21.7	-0.8
	baz=335						
EHD	Haiduan	0.57	233	eP	Pn	02 46 22.1	-1.2
	baz=235						
LXIB	Xiulin Townshi	0.59	334	eP	Pn	02 46 22.5	-1.3
	baz=331						
LXIB				eS	Sn	02 46 31.4	-1.0
	baz=331						
TWD	Chiawan	0.60	351	i P	Pn	02 46 22.9	-0.7
	baz=349						
TWD				S	Sn	02 46 32.6	+0.3
	baz=349						
EDH	Donghe	0.63	215	eP	Pn	02 46 23.4	-0.7
	baz=217						
EDH				eS	Sn	02 46 32.6	-0.4
	baz=217						
OWD	Renai	0.67	314	eP	Pn	02 46 23.9	-0.8
	baz=312						
ETL	Fush Village	0.67	354	eP	Pn	02 46 24.2	-0.5
	baz=351						
NACB	Ninganchiao	0.69	352	P	Pn	02 46 23.7	-1.2
	baz=349						
ELDTW	Lidau	0.69	245	eP	Pn	02 46 23.8	-1.3
	baz=245						
ETLH	Xiulin Townshi	0.74	344	eP	Pn	02 46 24.4	-1.3
	baz=342						
CHGB	Renai	0.75	320	P	Pn	02 46 25.2	-0.7
	baz=318						
SSLB	Suanglung	0.75	294	eP	Pn	02 46 25.0	-0.7
	baz=293						
SSLB				eS	Sn	02 46 35.4	-0.5
	baz=293						
LONT	Longtian	0.78	222	eP	Pn	02 46 24.8	-1.4
	baz=223						
SMLT	Sun Moon Lake	0.83	298	eP	Pn	02 46 26.6	-0.3
	baz=297						
SMLT				eS	Sn	02 46 38.0	-0.2
	baz=297				

	baz=1.0						
CHN5	**Tsauling**	**0.94**	**277**	P	**Pn**	**02 46 28.4**	**-0.1**
	baz=276						
CHN5				*e*S	**Sn**	**02 46 41.0**	**+0.2**
	baz=276						
EWUT	**Wuta**	**0.95**	**4**	*e*P	**Pn**	**02 46 28.2**	**-0.4**
	baz=2.0						
EWUT				*e*S	**Sn**	**02 46 40.5**	**-0.5**
	baz=2.0						
EOS3	**EOS3**	**0.97**	**35**	*e*P	**Pn**	**02 46 28.7**	**+0.1**
	baz=33						
EOS3				*e*S	**Sn**	**02 46 42.2**	**+1.0**
	baz=33						
NNSB	**Datong**	**0.98**	**343**	*e*P	**Pn**	**02 46 28.3**	**-0.7**
	baz=341						
NNSB				*e*S	**Sn**	**02 46 40.6**	**-1.2**
	baz=341						
NNS	**Nan Shan**	**0.99**	**343**	*e*P	**Pn**	**02 46 28.6**	**-0.6**
	baz=341						
NNS				S	**Sn**	**02 46 41.1**	**-1.0**
	baz=341						
TPUB	**Ta-pu**	**1.00**	**259**	*i* P	**Pn**	**02 46 29.4**	**+0.2**
	baz=259						
TPUB				*i* S	**Sn**	**02 46 42.9**	**+0.8**
	baz=259						
EOS2	**EOS2**	**1.05**	**28**	*e*P	**Pn**	**02 46 30.2**	**+0.5**
	baz=26						
LATG	**Datong**	**1.05**	**351**	*e*P	**Pn**	**02 46 29.4**	**-0.6**
	baz=349						
SLGT	**Liugui**	**1.09**	**243**	*e*P	**Pn**	**02 46 30.6**	**+0.2**
	baz=243						
SLGT				*e*S	**Sn**	**02 46 45.8**	**+1.6**
	baz=243						
ESAO	**Su ao**	**1.09**	**7**	*e*S	**Sn**	**02 46 44.2**	**-0.1**
	baz=5.0						
SGST	**Jiashian**	**1.10**	**249**	*e*P	**Pn**	**02 46 30.3**	**-0.3**
	baz=249						
SGST				*e*S	**Sn**	**02 46 45.5**	**+0.8**
	baz=249						
CHN1	**Nanshi**	**1.12**	**255**	*e*P	**Pn**	**02 46 31.1**	**+0.3**
	baz=254						
CHN1				*e*S	**Sn**	**02 46 45.9**	**+0.9**
	baz=254						
ECL	**Taimali**	**1.12**	**218**	*e*P	**Pn**	**02 46 29.7**	**-1.1**
	baz=218						
NDT	**Datong Townshi**	**1.12**	**351**	*e*P	**Pn**	**02 46 30.8**	**-0.1**
	baz=349						
TWC	**Suao**	**1.12**	**7**	*e*P	**Pn**	**02 46 30.9**	**0.0**
	baz=6.0						
TWK	**Hsinying**	**1.14**	**259**	*e*P	**Pn**	**02 46 31.0**	**-0.1**
	baz=259						
TWK				*e*S	**Sn**	**02 46 45.9**	**+0.4**
	baz=259						
SNST	**Tainan City**	**1.14**	**257**	*e*P	**Pn**	**02 46 31.0**	**-0.1**
	baz=256						
SNST				*e*S	**Sn**	**02 46 46.4**	**+0.9**
	baz=256						
NDS	**Dongshan**	**1.14**	**1**	*e*P	**Pn**	**02 46 30.9**	**-0.2**
	baz=359						
TCU	**Taichung**	**1.15**	**305**	*e*P	**Pn**	**02 46 31.4**	**+0.3**
	baz=304						
TCU				*e*S	**Sn**	**02 46 46.8**	**+1.2**
	baz=304						
ENTT	**Nioudou**	**1.15**	**354**	*e*P	**Pn**	**02 46 30.6**	**-0.7**
	baz=352						
TWQ1	**Liyutan**	**1.21**	**315**	*e*P	**Pn**	**02 46 32.4**	**+0.4**
	baz=314						
TWQ1				*e*S	**Sn**	**02 46 48.3**	**+1.1**
	baz=314						
NSK	**Sanguang**	**1.22**	**345**	*e*P	**Pn**	**02 46 32.0**	**-0.3**
	baz=344						
NSK				*i* S	**Sn**	**02 46 46.9**	**-0.8**
	baz=344						
TWE	**Neicheng**	**1.23**	**359**	*e*P	**Pn**	**02 46 32.2**	**-0.1**
	baz=358						
SSD	**Sandimen**	**1.23**	**233**	*e*P	**Pn**	**02 46 33.0**	**+0.7**
	baz=233						
TSMG	**Majia**	**1.25**	**231**	*e*P	**Pn**	**02 46 32.9**	**+0.4**
	baz=232						
NFF	**Wufeng Townshi**	**1.26**	**335**	*e*P	**Pn**	**02 46 33.1**	**+0.4**
	baz=333						
NFF				*e*S	**Sn**	**02 46 49.0**	**+0.5**
	baz=333						
NSY	**Sanyi**	**1.26**	**317**	*e*P	**Pn**	**02 46 33.1**	**+0.3**
	baz=316						
SCST	**Cishan**	**1.26**	**242**	*e*P	**Pn**	**02 46 34.0**	**+1.2**
	baz=242						
FUSB	**Fushanzhiwuyua**	**1.27**	**355**	*e*P	**Pn**	**02 46 32.7**	**-0.3**
	baz=354						
NWLT	**Wulai**	**1.30**	**352**	*e*P	**Pn**	**02 46 33.1**	**-0.2**
	baz=350						
NWLT				*e*S	**Sn**	**02 46 48.8**	**-0.6**
	baz=350						
NSTT	**Nanjuang**	**1.30**	**331**	*e*P	**Pn**	**02 46 34.0**	**+0.7**
	baz=330						
NSTT				*e*S	**Sn**	**02 46 50.2**	**+0.6**
	baz=330						
ICHU	**Yijhu**	**1.31**	**265**	*e*S	**Sn**	**02 46 50.4**	**+0.7**
	baz=264						
LIOB	**Emei**	**1.31**	**332**	*e*P	**Pn**	**02 46 34.0**	**+0.5**
	baz=330						
LIOB				*e*S	**Sn**	**02 46 50.6**	**+0.8**
	baz=330						
MASBT	**Mashibuluo**	**1.31**	**229**	*e*P	**Pn**	**02 46 33.4**	**-0.1**
	baz=229						
EAST	**Anshuo**	**1.35**	**216**	*e*P	**Pn**	**02 46 34.3**	**+0.3**
	baz=216						
TIPB	**Shuangxi**	**1.48**	**4**	*e*P	**Pn**	**02 46 36.2**	**+0.4**
	baz=3.0						
JYNG	**Yonagunijimaku**	**1.49**	**50**	*e*P	**Pn**	**02 46 36.1**	**+0.3**
JYNG				*e*S	**Sn**	**02 46 54.6**	**+0.6**
SCZT	**Fangliau**	**1.49**	**222**	*e*P	**Pn**	**02 46 36.8**	**+0.9**
	baz=222						
SLIU	**Shizi**	**1.52**	**213**	*e*P	**Pn**	**02 46 37.3**	**+1.1**
	baz=214						
YOJ	**Yonaguni jima**	**1.54**	**51**	*e*S	**Sn**	**02 46 55.8**	**+0.4**
SXI1	**Grass Mountain**	**1.61**	**6**	*e*P	**Pn**	**02 46 37.9**	**+0.3**
	baz=4.0						
TWKBT	**Hengchun**	**1.75**	**208**	*e*P	**Pn**	**02 46 39.0**	**-0.4**
	baz=208						
HATJ	**Hateruma jima**	**2.01**	**73**	P	**Pn**	**02 46 43.1**	**+0.1**
HATJ				S	**Sn**	**02 47 06.9**	**0.0**
IRIF	**Iriomote-Funau**	**2.04**	**65**	P	**Pn**	**02 46 43.8**	**+0.4**
IRIF				S	**Sn**	**02 47 08.7**	**+1.1**
JIJ	**Ishigaki jima**	**2.40**	**68**	P	**Pn**	**02 46 48.1**	**-0.2**
JIJ				*e*S	**Sn**	**02 47 16.1**	**-0.4**
JISG	**Ishigakijimahi**	**2.62**	**65**	P	**Pn**	**02 46 51.3**	**-0.2**
JISG				*e*S	**Sn**	**02 47 21.1**	**-1.0**

*IDC **30** 02:45:53.1±6.9, 18°.90S×169°.73E, h0km, mb3.5/3, mbtmp3.5/3, MS4.2/1, Error ellipse: s-maj=313.1km s-min=37.9km az=147.0*
*NOU **30** 02:46:22.7, 19°.06S×169°.32E, h119km, MLv3.6/10, Vanuatu Islands*
ISC 30 02:46:17.1±1.8, 18°.91S±0°.10×169°.4E±0°.3, h200km, n11, σ1°.20/10, mb3.2/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.46**	**319**	P	**Pn**	**02 46 49.8**	**-0.6**
DVP	**Devils Point**	**1.66**	**315**	P	**Pn**	**02 46 54.0**	**+1.7**
LIFNC	**LIFOU**	**2.77**	**227**	P	**Pn**	**02 47 03.6**	**-0.4**
MARNC	**Mare, Loyalty**	**2.88**	**207**	P	**Pn**	**02 47 05.5**	**+0.2**
YATNC	**Mamie plateau,**	**3.93**	**217**	P	**Pn**	**02 47 18.2**	**+0.2**
DZM	**Mont Dzumac**	**4.21**	**221**	P	**Pn**	**02 47 23.0**	**+1.4**
NOUC	**Port Laguerre**	**4.32**	**222**	P	**Pn**	**02 47 24.3**	**+1.4**
WRA	**Warramunga Arr**	**33.07**	**262**	P	**P**	**02 52 32.8**	**-1.4**
	0.8nm,1.2s,baz=97,slow=8.4,SNR=2.3 0.8nm,1.2s						
ASAR	**Alice Springs**	**33.38**	**256**	P	**P**	**02 52 36.3**	**-0.5**
	0.5nm,0.4s,baz=80,slow=8.7,SNR=12 0.5nm,0.4s						
KAPI	**Kappang**	**50.33**	**279**	LR	LR	03 15 44.2	
	comp=Z,227nm,19.1s,baz=146,slow=35						
ILAR	**Eielson Array**	**89.86**	**17**	P	**P**	**02 58 53.0**	**+0.3**
	0.1nm,0.7s,baz=238,slow=5.4,SNR=5.3 0.1nm,0.7s						

*IDC **30** 03:24:19.2±1.1, 25°.50N×141°.44E, h0km, mb3.7/7, mbtmp3.6/8, ML3.6/1, Error ellipse: s-maj=34.2km s-min=25.0km az=76.0*
ISC 30 03:24:31.1±3.2, 26°.5N±0°.5×141°.5E±0°.1, h50km, n15, σ0°.56/8, mb3.6/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.89**	**46**	Pn	**Pn**	**03 24 47.2**	**-0.2**
	30nm,0.3s,baz=276,slow=23,SNR=20						
JCJ				Sn	Sn	03 25 08.4	+9.1
	11nm,0.3s,baz=291,slow=23,SNR=10						
KSRS	**Korea Array**	**15.86**	**317**	Pn	**P**	**03 28 14.8**	**+0.8**
	0.2nm,0.3s,baz=130,slow=12,SNR=1.8 0.4nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**24.31**	**101**	T	T	03 54 51.8	
	baz=289,slow=74						
H11N1	**WAKE ISLAND Hy**	**24.31**	**101**	T	T	03 54 51.1	
	baz=289						
H11N3	**WAKE ISLAND Hy**	**24.32**	**101**	T	T	03 54 53.4	
	baz=289,slow=74						
H11S3	**WAKE ISLAND Hy**	**24.58**	**104**	T	T	03 55 09.2	
	baz=291,slow=75						
H11S1	**WAKE ISLAND Hy**	**24.59**	**104**	T	T	03 55 09.3	
	baz=291,slow=75						
H11S2	**WAKE ISLAND Hy**	**24.60**	**104**	T	T	03 55 13.1	
	baz=291,slow=75						
SONM	**Songino Array**	**34.73**	**317**	P	**P**	**03 31 15.9**	**-0.6**
	0.3nm,0.5s,baz=139,slow=9.0,SNR=2.0 0.3nm,0.5s						
WRA	**Warramunga Arr**	**46.65**	**189**	P	P	03 32 41.9	-13
	3.7nm,0.8s,baz=7.6,slow=8.5,SNR=20 3.7nm,0.8s						
MKAR	**Makanchi Array**	**50.38**	**310**	P	**P**	**03 33 23.1**	**-0.2**
	0.3nm,0.7s,baz=99,slow=8.0,SNR=3.7 0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**53.02**	**315**	P	**P**	**03 33 42.3**	**-0.5**
	0.5nm,0.7s,baz=93,slow=8.7,SNR=6.3 0.5nm,0.7s						
BVAR	**Borovoye Array**	**58.07**	**318**	P	**P**	**03 34 19.4**	**+0.3**
	0.6nm,0.5s,baz=99,slow=8.9,SNR=2.7 0.6nm,0.5s						
ILAR	**Eielson Array**	**58.56**	**28**	P	**P**	**03 34 22.6**	**+0.2**
	0.7nm,0.9s,baz=262,slow=5.9,SNR=8.4 0.7nm,0.9s						
PDAR	**Pinedale Array**	**85.10**	**44**	P	**P**	**03 37 02.4**	**+0.2**
	0.4nm,0.9s,baz=336,slow=1.8,SNR=3.7 0.4nm,0.9s						

*SJA **30** 03:27:49.8±0.7, 23°.95S×66°.84W, h222km±7km, ML3.4, MW3.6*
*GUC **30** 03:27:52.5±0.6, 23°.94S×67°.24W, h241km±5km, ML4.0*
ISC 30 03:27:49.0±1.8, 23°.96S±0°.04×66°.88W±0°.06, h230km±14km, n26, σ1°.61/49, 3C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.47**	**121**	*e*P	**Pn**	**03 28 26.1**	**+0.7**
AF01	**San Pedro de A**	**1.56**	**310**	*e*P	**Pn**	**03 28 28.1**	**+1.7**
AF01				*i* S	**S**	**03 28 55.9**	**+0.6**
AZAP	**Zapla**	**1.68**	**99**	*e*P	**Pn**	**03 28 27.3**	**0.0**
YJA	**Yavi**	**2.18**	**36**	*e*P	**Pn**	**03 28 33.1**	**+1.0**
YJA				*e*S	**S**	**03 29 04.8**	**-1.0**
LVC	**Limon Verde**	**2.30**	**305**	*e*P	**Pn**	**03 28 34.5**	**+1.3**
LVC				*e*S	**S**	**03 29 07.0**	**-0.7**
LVC	**Limon Verde**	**2.30**	**305**	*e*P	**Pn**	**03 28 34.4**	**+1.1**
LVC				*i* S	**S**	**03 29 06.3**	**-1.4**
PB15	**IPOC Station P**	**2.49**	**287**	*e*P	**Pn**	**03 28 36.3**	**+1.2**
PB15				*e*S	**S**	**03 29 10.1**	**-0.9**
PB15	**IPOC Station P**	**2.49**	**287**	*e*P	**Pn**	**03 28 36.3**	**+1.2**
PB15				*i* S	**S**	**03 29 09.4**	**-1.5**
GO02	**Mina Guanaco**	**2.74**	**244**	*e*P	**Pn**	**03 28 39.3**	**+1.5**
GO02				*e*S	**S**	**03 29 15.8**	**-0.1**
GO02	**Mina Guanaco**	**2.74**	**244**	↑*i*P	**Pn**	**03 28 39.5**	**+1.7**
GO02				*i* S	**S**	**03 29 15.3**	**-0.7**
GO02				IAML		03 29 16.1	
	comp=N,413nm,0.3s						
PB06	**IPOC Station P**	**2.77**	**296**	*e*P	**Pn**	**03 28 39.2**	**+1.2**
PB06				*e*S	**S**	**03 29 14.7**	**-1.6**
PB06				IAML		03 29 18.6	
	comp=Z,118nm,0.2s						
PB06	**IPOC Station P**	**2.77**	**296**	↑*i*P	**Pn**	**03 28 39.2**	**+1.2**
PB06				*e*S	**S**	**03 29 14.2**	**-2.0**
PB06				IAML		03 29 16.1	
	comp=N,237nm,0.3s						
PB09	**IPOC Station P**	**3.06**	**314**	*e*P	**Pn**	**03 28 43.0**	**+1.8**
PB09				*e*S	**S**	**03 29 21.7**	**-0.5**
PB09				IAML		03 29 23.7	
	comp=Z,31nm,0.9s						
PB09	**IPOC Station P**	**3.06**	**314**	*e*P	**Pn**	**03 28 43.1**	**+1.9**
PB09				*i* S	**S**	**03 29 21.3**	**-0.9**
PB14	**IPOC Station P**	**3.28**	**258**	*e*P	**Pn**	**03 28 45.2**	**+1.3**
PB14				*e*S	**S**	**03 29 25.8**	**-1.0**
PB14				IAML		03 29 31.4	
	comp=Z,73nm,0.3s						
PB14	**IPOC Station P**	**3.28**	**258**	*e*P	**Pn**	**03 28 45.1**	**+1.3**
PB14				*i* S	**S**	**03 29 24.3**	**-2.5**
PB04	**IPOC Station P**	**3.42**	**298**	*e*P	**Pn**	**03 28 46.6**	**+1.3**
PB04				*e*S	**S**	**03 29 28.3**	**-1.1**
PB04				IAML		03 29 30.8	
	comp=Z,81nm,0.1s						
PB04	**IPOC Station P**	**3.42**	**298**	*e*P	**Pn**	**03 28 46.6**	**+1.3**
PB04				*e*S	**S**	**03 29 26.7**	**-2.7**
AC01	**Pan de Azucar**	**4.01**	**236**	*e*P	**Pn**	**03 28 53.1**	**+1.1**
AC01				*e*S	**S**	**03 29 39.9**	**-2.0**
AC01				IAML		03 29 40.5	
	comp=Z,40nm,0.1s						
AC01	**Pan de Azucar**	**4.01**	**236**	↑*e*P	**Pn**	**03 28 53.2**	**+1.1**
AC01				*e*S	**S**	**03 29 39.7**	**-2.1**
HMBC	**Humberstone**	**4.61**	**322**	*e*P	**Pn**	**03 29 00.1**	**+0.6**
HMBC				*e*S	**S**	**03 29 51.9**	**-3.3**
HMBC				IAML		03 29 57.0	
	comp=Z,27nm,0.3s						
HMBC	**Humberstone**	**4.61**	**322**	*e*P	**Pn**	**03 29 00.3**	**+0.7**
HMBC				*i* S	**S**	**03 29 51.3**	**-3.9**
AC06	**Mina Casimiro**	**4.61**	**222**	*e*P	**Pn**	**03 29 00.6**	**+1.2**
AC06				*i* S	**S**	**03 29 53.9**	**-1.2**
GO03	**Copiap**	**4.71**	**219**	*e*P	**Pn**	**03 29 02.0**	**+1.3**
GO03				*e*S	**S**	**03 29 56.9**	**-0.6**
GO03	**Copiap**	**4.71**	**219**	*e*P	**Pn**	**03 29 02.0**	**+1.3**
GO01	**Chusmiza**	**4.78**	**333**	*e*P	**Pn**	**03 29 05.0**	**+2.9**
GO01				*e*S	**S**	**03 29 59.6**	**-0.1**

IDC 30 03:48:37.3±11.0, 22°.86S×68°.99E, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=365.8km s-min=28.2km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**15.50**	**13**	T	T	04 07 54.5	
	baz=192,slow=76,SNR=146						
H08S2	**Diego Garcia H**	**15.50**	**13**	T	T	04 07 50.3	
	baz=192,slow=76,SNR=114						
H08S3	**Diego Garcia H**	**15.52**	**13**	T	T	04 07 51.4	
	baz=192,slow=76,SNR=135						
H04N2	**CROZET ISLANDS**	**27.10**	**207**	T	T	04 23 06.2	
	baz=38,slow=75,SNR=186						
H04N1	**CROZET ISLANDS**	**27.11**	**207**	T	T	04 23 04.3	
	baz=38,slow=75,SNR=168						
H04N3	**CROZET ISLANDS**	**27.12**	**207**	T	T	04 23 03.0	
	baz=38,slow=75,SNR=192						
ASAR	**Alice Springs**	**59.15**	**105**	P	P	03 58 40.2	0.0
	1.4nm,0.8s,baz=253,slow=6.1,SNR=10 1.4nm,0.8s						
WRA	**Warramunga Arr**	**60.46**	**101**	P	P	03 58 49.2	-0.2
	2.1nm,0.0s,baz=260,slow=6.3,SNR=11 2.1nm,0.8s						
MKAR	**Makanchi Array**	**70.36**	**10**	P	P	03 59 52.8	-0.1
	1.4nm,0.8s,baz=191,slow=5.7,SNR=12 1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**73.65**	**6**	P	P	04 00 12.0	-0.3
	0.5nm,0.7s,baz=200,slow=6.4,SNR=5.3 0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**77.71**	**9**	P	P	04 00 35.9	+0.3
	1.3nm,0.5s,baz=198,slow=4.4,SNR=7.7 1.3nm,0.5s						
SONM	**Songino Array**	**77.98**	**25**	P	P	04 00 37.9	+0.5
	0.8nm,0.9s,baz=232,slow=7.1,SNR=4.2 0.8nm,0.9s						

GUC 30 04:10:21.2±0.7, 24°.25S×67°.51W, h212km±6km, ML3.5, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.43**	**334**	*e*P	Pn	04 10 54.9	-0.9
AF01				*i* S	S	04 11 21.4	-1.1
PB15	**IPOC Station P**	**2.07**	**299**	*e*P	Pn	04 11 01.9	+0.3
PB15				*i* S	S	04 11 32.3	-0.5
GO02	**Mina Guanaco**	**2.10**	**244**	*e*P	Pn	04 11 02.2	+0.2
GO02				*i* S	S	04 11 33.6	+0.1
GO02				IAML		04 11 35.6	
	comp=E,217nm,0.2s						
PB06	**IPOC Station P**	**2.44**	**309**	*e*P	Pn	04 11 05.6	+0.2
PB06				*i* S	S	04 11 38.7	-0.8
PB06				IAML		04 11 40.6	
	comp=N,197nm,0.3s						
PB14	**IPOC Station P**	**2.67**	**261**	*e*P	Pn	04 11 08.6	+0.5
PB14				*i* S	S	04 11 44.3	+0.1
PB09	**IPOC Station P**	**2.92**	**326**	*e*P	Pn	04 11 11.2	+0.5
PB09				*i* S	S	04 11 48.8	-0.3
PB09				IAML		04 11 50.4	
	comp=N,32nm,0.5s						
PB04	**IPOC Station P**	**3.08**	**308**	*e*P	Pn	04 11 13.3	+0.6
PB04				*i* S	S	04 11 51.7	-0.9
AC01	**Pan de Azucar**	**3.38**	**235**	*e*P	Pn	04 11 15.5	-0.4
AC01				*i* S	S	04 11 57.9	-0.7
HMBC	**Humberstone**	**4.52**	**330**	*e*P	Pn	04 11 28.9	-1.2
HMBC				*i* S	S	04 12 21.1	-3.0
AC04	**Llanos de Chal**	**5.08**	**218**	*e*P	Pn	04 11 35.3	-1.6

RSNC 30 04:17:57.2±0.0, 5°N±2°×7°6W±°, h115km±4km, M2.5, mb4.1, ML2.5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.18**	**5**	P	Pn	04 18 11.5	-1.8
PLMC				S	Sn	04 18 25.5	+0.1
YOTC	**Yotoco, Valle**	**0.73**	**184**	P	Pn	04 18 14.5	-2.0
YOTC				S	Sn	04 18 29.3	-1.7
ANIL	**Santa Ana**	**0.92**	**104**	P	Pn	04 18 16.5	-1.9
ANIL				S	Sn	04 18 32.7	-1.6
RECRC	**Villamaria, Ca**	**0.97**	**76**	P	Pn	04 18 18.6	-0.5
RECRC				S	Sn	04 18 35.7	+0.1
GUY2C	**Guyana, Caldas**	**1.06**	**62**	P	Pn	04 18 19.2	-0.7
GUY2C				S	Sn	04 18 36.9	-0.1
PIZC	**Pizarro, Choco**	**1.08**	**283**	P	Pn	04 18 19.5	-0.1
PIZC				S	Sn	04 18 37.0	+0.4
MALC	**Bahia Malaga**	**1.25**	**236**	P	Pn	04 18 20.6	-0.8
MALC				S	Sn	04 18 40.0	+0.2
ORTC	**Ortega, Tolima**	**1.32**	**127**	P	Pn	04 18 20.4	-1.9
ORTC				S	Sn	04 18 38.9	-2.5
JAMC	**Jamundi, Valle**	**1.54**	**194**	P	Pn	04 18 22.6	-2.5
JAMC				S	Sn	04 18 43.2	-3.0
NORC	**Norcasia**	**1.65**	**59**	P	Pn	04 18 26.2	0.0
NORC				S	Sn	04 18 48.9	+0.6
PRAC	**Prado**	**1.73**	**125**	P	Pn	04 18 25.4	-1.7
PRAC				S	Sn	04 18 48.3	-1.6
POPC	**Popayan, Colom**	**2.20**	**190**	P	Pn	04 18 30.4	-2.8
POPC				S	Sn	04 18 56.1	-4.6
BETC	**Betania**	**2.20**	**157**	P	Pn	04 18 31.1	-1.9
BETC				S	Sn	04 18 57.4	-3.0
DBBC	**Dabeiba**	**2.28**	**2**	P	Pn	04 18 39.8	+5.7
DBBC				S	Sn	04 19 03.4	+1.0
URMC	**La Uribe, Meta**	**2.41**	**127**	P	Pn	04 18 33.8	-2.0
URMC				S	Sn	04 19 02.4	-2.9
PTBC	**PUERTO BERRIO,**	**2.58**	**45**	P	Pn	04 18 37.1	-0.7
PTBC				S	Sn	04 19 07.4	-1.6
GARC	**Garzon, Huila**	**2.64**	**162**	P	Pn	04 18 36.3	-2.6
GARC				S	Sn	04 19 06.8	-4.2
VILC	**Villavicencio,**	**2.67**	**103**	P	Pn	04 18 39.4	+0.3
VILC				S	Sn	04 19 13.6	+2.2
PTAC	**Punta Ardita,**	**2.84**	**328**	P	Pn	04 18 40.0	-1.3
PTAC				S	Sn	04 19 12.3	-2.9
BBAC	**Balboa, Cauca**	**2.84**	**199**	P	Pn	04 18 39.2	-2.3
ZARC	**Zaragoza, Cauc**	**3.10**	**27**	P	Pn	04 18 44.8	0.0
ZARC				S	Sn	04 19 20.2	-1.3
UREC	**San Jos de Ur**	**3.11**	**14**	P	Pn	04 18 42.9	-1.9
FLOC	**Florencia**	**3.18**	**168**	P	Pn	04 18 43.3	-2.5
CRUC	**La Cruz**	**3.20**	**192**	P	Pn	04 18 44.2	-2.1
CRUC				S	Sn	04 19 22.5	-1.7
GCUF	**Volcan Galeras**	**3.62**	**197**	P	Pn	04 18 49.2	-2.9
GCUF				S	Sn	04 19 29.7	-4.8
CAPC	**Capurgana**	**4.03**	**345**	P	Pn	04 18 57.0	-0.1
OCAC	**Ocana**	**4.58**	**40**	P	Pn	04 19 03.0	-1.6
OCAC				S	Sn	04 19 54.8	-2.2
BCIP	**Isla Barro Col**	**5.64**	**322**	P	Pn	04 19 17.9	-0.9
BCIP				S	Sn	04 20 22.7	+0.3

IDC 30 04:19:49.9±3.2, 54°.21N×87°.29E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=27.3km s-min=18.0km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**261**	I	I	04 28 47.0	
	baz=78,slow=316,SNR=6.9						
ZALV	**Zalesovo Beam**	**1.48**	**261**	Pg	Pn	04 20 16.4	-1.4
	1.0nm,0.3s,baz=81,slow=16,SNR=11						
ZALV				Lg	Lg	04 20 37.5	
	1.1nm,0.3s,baz=79,slow=29,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.45**	**240**	Pn	Pn	04 21 26.1	+0.1
	0.1nm,0.3s,baz=57,slow=14,SNR=4.9						
KURBB				Lg	Lg	04 23 15.8	
	baz=52,slow=32,SNR=1.3 0.5nm,0.4s						
MKAR	**Makanchi Array**	**8.08**	**205**	Pn	Pn	04 21 50.5	+2.0
	0.1nm,0.3s,baz=26,slow=14,SNR=2.6						
MKAR				Sn	Sn	04 23 19.2	-1.2
	0.1nm,0.3s,baz=18,slow=27,SNR=2.9 0.1nm,0.4s						

*IDC **30** 04:28:16.8±9.5, 17°.42S×178°.94W, h583km±116km, mb3.0/8, mbtmp3.9/8, Error ellipse: s-maj=43.9km s-min=30.6km az=109.0*
ISC 30 04:28:13.1±0.9, 17°.4S±0°.2×178°.9W±0°.2, h539km, n10, σ0°.63/10, mb3.2/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.12**	**260**	P	**P**	**04 34 05.3**	**+0.3**
	0.1nm,0.4s,baz=81,slow=11,SNR=4.5						
STKA	**Stephens Creek**	**38.52**	**240**	P	**P**	**04 34 49.9**	**+0.3**
	2.8nm,0.7s,baz=86,slow=8.9,SNR=4.1 2.8nm,0.7s						
WRA	**Warramunga Arr**	**44.32**	**259**	P	**P**	**04 35 35.1**	**-0.5**
	1.6nm,0.8s,baz=95,slow=7.9,SNR=23 1.6nm,0.8s						
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**04 35 37.5**	**+0.2**
	11nm,0.7s,baz=86,slow=8.3,SNR=89 11nm,0.7s						
QSPA	**South Pole Qui**	**72.67**	**180**	P	**P**	**04 38 45.7**	**-0.4**
	2.1nm,0.9s,baz=27,slow=1.1,SNR=5.0 2.1nm,0.9s		

```
ASAR                                  pP      pP      04 37 44.5 +1.7
      0.8nm,0.7s,baz=54,slow=9.4,SNR=4.9
ASAR                                  sP      sP      04 37 56.1 +1.9
      1.5nm,0.8s,baz=61,slow=8.8,SNR=5.9
      0.6nm,0.5s
ILAR  Eielson Array      82.65  22    P       P       04 44 14.2 -0.3
      0.2nm,0.6s,baz=237,slow=5.0,SNR=4.6
      0.2nm,0.6s
TORD  Torodi Ar. Bea    149.39 288    PKPbc   PKPbc   04 51 40.9 -0.1
      0.3nm,0.8s,baz=74,slow=4.5,SNR=2.2
```

TEH ***30*** *04:33:45.4,34°.64N×46°.28E,h11km±23km,ML2.6*
ISN ***30*** *04:33:45.9±1.3,34°.64N×46°.26E,h20km±24km,ML2.6*
ISC 30 04:33:45.7±1.2,34°.62N±0°.05×46°.32E±0°.04,h9km±11km,
n10,σ0ˢ51/12,Western Iran

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Code  Station Name      Δ°   AZ°   Phase ID        Time      Res
                                   Op    ISC       h m s     ISC
IDHR  Dehrash           0.10  35   Pg    Pg        04 33 48.5 +0.2
IGHG  Ghaleghazi        0.35 144   Pg    Pb        04 33 53.7 -0.6
GLG1  Gilan-e-Gharb     0.60 214   Pg    Pg        04 33 57.5 +0.2
KGS1  Ghasr-e-Shirin    0.61 260   Pg    Pg        04 33 57.1 -0.4
ILIN  Lien              0.61  60   Pg    Pg        04 33 57.6  0.0
KCHF  Cheshme Sefid,    0.69 120   Pg    Pb        04 33 59.8 -0.2
ILBA  Ilam Banvizeh     0.99 185   Pg    Pb        04 34 04.8 -0.3
SNQR  Sonqor, Kerman    1.11  77   Pg    Pn        04 34 07.5 -0.2
IBDR  Badra             1.54 192   ePg   Pn        04 34 13.0 -0.2
      baz=10.0
IBDR                               eSg   Sb        04 34 35.0 +1.1
IKRK  Kirkuk            1.80 296   ePn   Pn        04 34 17.0 +0.1
IKRK                               eSn   Sn        04 34 40.0 +0.1
IKRK                               AML   AML       04 34 49.3
      comp=E,12nm,0.9s
IKRK                               AML   AML       04 34 51.0
      comp=N,16nm,0.8s
```

IGIL ***30*** *04:54:37.9,35°.92N×4°.54W,h12km,ML2.1*
CNRM ***30*** *04:54:38.5,35°.58N×4°.65W,h86km,ML2.6*
INMG ***30*** *04:54:38.4±1.9,35°.84N×4°.56W,h91km±11km,ML2.2,*
Error ellipse: s-maj=5.7km s-min=4.2km az=91.0
SFS ***30*** *04:54:38.3,35°.79N×4°.57W,h81km,ML2.6/23,MLv2.4/23*
MDD ***30*** *04:54:39.7±0.7,35°.92N×4°.54W,h86km±6km,Mb2.7/16,*
Error ellipse: s-maj=6.0km s-min=3.3km az=162.0
ISC 30 04:54:35.4±1.2,35.78N±0°.02×4.51W±0°.03,h101km±7km,
n85,σ1ˢ94/142,11C,Strait of Gibraltar

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Code  Station Name      Δ°   AZ°   Phase ID        Time      Res
                                   Op    ISC       h m s     ISC
PVLZ  Peæn de           0.63 164   Pn    Pn        04 54 52.3 +0.1
CEU   Ceuta             0.71 280   Pn    Pn        04 54 53.3 +0.3
CEU                                Sn    Sn        04 55 04.5 -1.7
ECEU  Ceuta             0.71 280   Pn    Pn        04 54 53.6 +0.6
ECEU                               Sn    Sn        04 55 04.4 -1.9
ECEU  Ceuta             0.71 280   P     Pn        04 54 56.1 +3.0
ECEU                               S     Sn        04 55 06.5 +0.2
PALE  Palemas           0.73 140   P     Pn        04 54 54.6 +1.4
PALE  Palemas           0.73 140   S     Sn        04 55 06.0 -0.6
EMIJ  Mijas             0.81 345   Pn    Pn        04 54 54.5 +0.5
EMIJ                               Sn    Sn        04 55 06.9 -1.1
EMIJ  Mijas             0.81 345   P     Pn        04 54 54.5 +0.5
EMIJ                               S     Sn        04 55 06.4 -1.6
CHEFC Chefchaouen       0.95 226   P     Pn        04 54 58.6 +3.1
CHEFC Chefchaouen       0.95 226   S     Sn        04 55 07.8 -2.8
EMAL  Malaga-Limoner    0.98  4    Pn    Pn        04 54 56.7 +1.0
EMAL                               Sn    Sn        04 55 10.0 -1.0
EJIF  Jimena Fronter    1.03 311   P     Pn        04 54 59.0 +2.9
ELGU  Los Guajares,     1.30  33   Pn    Pn        04 55 00.3 +0.9
ELGU                               Sn    Sn        04 55 16.8 -0.7
ELGU  Los Guajares,     1.30  33   P     Pn        04 55 00.3 +0.9
ELGU                               ⇑iVmb_V         04 55 01.5
      307nm,SNR=1.3
ELGU                               S     Sn        04 55 16.5 -1.0
LIJA  Lijar             1.34 328   Pn    Pn        04 55 02.3 +2.5
LIJA                               Sn    Sn        04 55 17.1 -1.2
EGOR  Sierra Gorda,     1.37  14   Pn    Pn        04 55 01.6 +1.4
EGOR  Sierra Gorda,     1.37  14   P     Pn        04 55 02.9 +2.7
EGOR                               ⇑iVmb_V         04 55 10.8
      144nm,SNR=0.9
EGOR                               S     Sn        04 55 17.1 -1.9
AKLM  AKL               1.37 157   S     Sn        04 55 15.1 -3.9
ESPR  Espera            1.54 315   Pn    Pn        04 55 04.5 +2.4
ESPR  Espera            1.54 315   P     Pn        04 55 04.5 +2.4
ESPR                               ⇑iVmb_V         04 55 04.7
      524nm,SNR=5.3
ESPR                               S     Sn        04 55 22.5  0.0
EQUE  Quentar           1.67  31   S     Sn        04 55 27.5 +2.0
EBER  Berja             1.72  49   Pn    Pn        04 55 06.6 +2.0
EBER  Berja             1.72  49   ⇑iVmb_V         04 55 06.0
      336nm,SNR=2.0
EBER                               P     Pn        04 55 06.5 +1.9
EBER                               S     Sn        04 55 25.5 -1.3
LCRM  LCR               2.11 188   P     Pn        04 55 10.7 +1.1
LCRM  LCR               2.11 188   S     Sn        04 55 36.0 +0.4
IFR   Ifrane            2.31 193   Pn    Pn        04 55 13.6 +1.4
IFR                                Sn    Sn        04 55 38.9 -1.5
EADA  Adamuz            2.39 359   Pn    Pn        04 55 15.1 +2.1
EADA                               Sn    Sn        04 55 41.1 -0.8
EADA  Adamuz            2.39 359   P     Pn        04 55 15.2 +2.1
EADA                               ⇑iVmb_V         04 55 15.6
      122nm,SNR=1.6
EADA                               S     Sn        04 55 39.5 -2.4
ECAB  El Cabril         2.41 343   P     Pn        04 55 14.5 +1.3
ECAB                               ⇑iVmb_V         04 55 16.6
      126nm,SNR=1.7
ECAB                               S     Sn        04 55 42.0 -0.4
EMIN  Mina Concepcio    2.64 319   Pn    Pn        04 55 17.7 +1.4
EMIN                               Sn    Sn        04 55 46.0 -1.7
EMIN  Mina Concepcio    2.64 319   P     Pn        04 55 17.6 +1.4
EMIN                               ⇑iVmb_V         04 55 17.8
      731nm,SNR=11
EMIN                               S     Sn        04 55 46.1 -1.7
CZD   Col de Zad        2.77 189   P     Pn        04 55 18.3 -0.1
CZD   Col de Zad        2.77 189   S     Sn        04 55 50.1 -1.4
MD31  MD31              2.91 184   P     Pn        04 55 22.1 +2.0
MD31  MD31              2.91 184   S     Sn        04 55 52.7 -1.7
ZHG   ZHG               2.92 218   P     Pn        04 55 21.6 +1.5
ZHG   ZHG               2.92 218   S     Sn        04 55 54.8 +0.3
MDT   Midelt            2.96 182   P     Pn        04 55 22.1 +1.4
MDT   Midelt            2.96 182   S     Sn        04 55 54.0 -1.6
EGRO  El Granado        2.96 307   Pn    Pn        04 55 22.0 +1.3
EGRO                               Sn    Sn        04 55 53.5 -2.0
EGRO  El Granado        2.96 307   P     Pn        04 55 21.9 +1.3
EGRO                               ⇑iVmb_V         04 55 23.3
      264nm,SNR=2.6
EGRO                               S     Sn        04 55 54.9 -0.6
PVAQ  Vaqueiros         3.05 303   eP    Pn        04 55 22.9 +1.2
PVAQ                               eS    Sn        04 55 55.9 -1.6
PVAQ                               A     A         04 55 57.6
      6.0nm,0.3s
PVAQ  Vaqueiros         3.05 303   Pn    Pn        04 55 22.9 +1.2
PVAQ                               Sn    Sn        04 55 55.7 -1.9
PVAQ  Vaqueiros         3.05 303   P     Pn        04 55 23.2 +1.5
PSIM  Granatula de C    3.10  11   P     Pn        04 55 24.7 +2.2
PSIM                               S     Sn        04 55 56.9 -1.8
PBDV  Barranco-do-Ve    3.12 299   eP    Pn        04 55 23.9 +1.2
PBDV                               eS    Sn        04 55 57.7 -1.6
PBDV                               A     A         04 56 00.3
      3.3nm,0.3s
PBDV  Barranco-do-Ve    3.12 299   Pn    Pn        04 55 24.0 +1.2
PBDV                               Sn    Sn        04 55 57.7 -1.6
PBAR  Barrancos         3.13 321   eP    Pn        04 55 24.4 +1.5
PBAR                               eS    Sn        04 55 57.9 -1.7
PBAR                               A     A         04 56 01.0
      7.1nm,0.1s
PBAR  Barrancos         3.13 321   Pn    Pn        04 55 24.4 +1.5
PBAR                               Sn    Sn        04 55 57.8 -1.8
PCVE  Castro Verde      3.39 304   eP    Pn        04 55 27.6 +1.3
PCVE                               eS    Sn        04 56 04.0 -1.7
PCVE                               A     A         04 56 05.9
      3.2nm,0.2s
PCVE  Castro Verde      3.39 304   Pn    Pn        04 55 27.4 +1.1
PCVE                               Sn    Sn        04 56 03.9 -1.7
AVE   Averroes          3.44 225   Pn    Pn        04 55 28.8 +1.7
AVE                                Sn    Sn        04 56 05.6 -1.5
PBEJ  Beja              3.50 311   eP    Pn        04 55 29.4 +1.6
PBEJ                               eS    Sn        04 56 06.6 -1.8
PBEJ                               A     A         04 56 07.5
      4.9nm,0.3s
EBAD  Badajoz           3.58 327   Pn    Pn        04 55 30.7 +1.8
EBAD                               Sn    Sn        04 56 09.0 -1.3
EBAD  Badajoz           3.58 327   P     Pn        04 55 30.6 +1.7
EBAD                               ⇑iVmb_V         04 55 30.8
      283nm,SNR=4.9
EBAD                               S     Sn        04 56 08.4 -1.8
MESJ  Messejana         3.62 306   eP    Pn        04 55 30.9 +1.5
MESJ                               eS    Sn        04 56 09.5 -1.7
MESJ                               A     A         04 56 10.1
      5.3nm,0.4s
MESJ  Messejana         3.62 306   eP    Pn        04 55 30.7 +1.3
MESJ                               eS    Sn        04 56 09.4 -1.7
MESJ                               IAML            04 56 10.9
      comp=N,5.6nm,0.3s
MORF  Marmelete         3.67 296   eP    Pn        04 55 31.7 +1.6
MORF  Marmelete         3.67 296   eP    Pn        04 55 31.5 +1.5
PFVI  Vila Bisbo        3.73 293   eP    Pn        04 55 32.7 +1.8
PAB   San Pablo         3.76   2   P     Pn        04 55 34.0 +2.5
PAB                                ⇑iVmb_V         04 55 43.0
      comp=N,96nm,SNR=1.7
PAB                                S     Sn        04 56 11.4 -3.4
PTEO  Sao Teotonio      3.82 299   eP    Pn        04 55 33.8 +1.7
PTEO                               eS    Sn        04 56 14.1 -1.9
EVO   Evora             3.92 316   eP    Pn        04 55 35.2 +1.7
EVO                                eS    Sn        04 56 16.9 -1.6
EVO                                A     A         04 56 18.6
      comp=N,6.9nm,0.3s
EVO   Evora             3.92 316   Pn    Pn        04 55 35.4 +1.9
EVO                                Sn    Sn        04 56 16.8 -1.7
PESTR Estremoz          3.94 322   eP    Pn        04 55 35.8 +2.1
PESTR                              eS    Sn        04 56 17.2 -1.8
PESTR                              A     A         04 56 18.7
      comp=N,2.3nm,0.1s
PESTR Estremoz          3.94 322   Pn    Pn        04 55 35.6 +1.9
PESTR                              Sn    Sn        04 56 17.2 -1.8
PNCL  Nicolau / Gran    3.97 307   eP    Pn        04 55 35.5 +1.3
PNCL                               eS    Sn        04 56 17.5 -2.3
PNCL                               A     A         04 56 22.5
      comp=N,1.5nm,0.4s
PNCL  Nicolau / Gran    3.97 307   Pn    Pn        04 55 35.5 +1.3
PNCL                               Sn    Sn        04 56 17.4 -2.3
PMRV  Marv??o           4.30 329   eP    Pn        04 55 40.6 +2.0
PMRV                               eS    Sn        04 56 25.6 -2.1
PMRV                               A     A         04 56 38.8
      comp=N,3.7nm,0.6s
PMTG  Montargil         4.42 319   eP    Pn        04 55 41.9 +1.7
PMTG                               eS    Sn        04 56 28.0 -2.5
PMTG                               A     A         04 56 31.8
      comp=N,1.6nm,0.7s
EPLA  Plasencia         4.46 344   P     Pn        04 55 42.7 +2.0
EPLA                               ⇑iVmb_V         04 55 46.1
      comp=N,113nm,SNR=1.2
EPLA                               S     Sn        04 56 28.9 -2.5
PCBR  Castelo Branco    4.69 331   eP    Pn        04 55 46.1 +2.3
PCBR                               eS    Sn        04 56 34.6 -2.4
PCBR                               A     A         04 56 34.7
      comp=N,3.4nm,0.3s
PMAFR Mafra             4.95 311   eP    Pn        04 55 50.2 +2.8
PMAFR                              eS    Sn        04 56 37.9 -5.5
PMAFR                              A     A         04 56 46.5
      comp=N,6.6nm,0.3s
PSBE  So Bento          5.05 319   eP    Pn        04 55 51.3 +2.6
PSBE                               eS    Sn        04 56 44.0 -1.8
MTE   Manteigas         5.20 334   eP    Pn        04 55 53.0 +2.2
MTE                                eS    Sn        04 56 47.4 -2.1
MTE                                A     A         04 56 52.0
      comp=N,1.5nm,0.2s
OUZM  OUZ               5.21 202   P     Pn        04 55 52.6 +1.6
PCAS  Casmilo, Conde    5.31 325   eP    Pn        04 55 55.1 +2.9
PCAS                               eS    Sn        04 56 49.4 -2.6
OUK   Oukaimeden        5.35 213   P     Pn        04 55 53.2  0.0
TIO   Tiouine           5.36 206   Pn    Pn        04 55 55.0 +1.9
TIO                                Sn    Sn        04 56 52.1 -1.5
TIO   Tiouine           5.36 206   P     Pn        04 55 53.4 +0.3
ETOR  Torete            5.39  20   P     Pn        04 55 54.9 +1.5
ETOR                               S     Sn        04 56 49.4 -4.8
PVIS  Viseu             5.60 333   eP    Pn        04 55 58.6 +2.3
PVIS                               eS    Sn        04 56 58.3 -1.0
PVIS                               A     A         04 57 00.1
      comp=N,2.5nm,0.3s
POLO  Lamas de Olo      6.15 336   eP    Pn        04 56 06.3 +2.6
POLO                               eS    Sn        04 57 09.7 -3.0
PCAB  Cabril            6.53 336   eP    Pn        04 56 11.3 +2.5
PCAB                               eS    Sn        04 57 20.0 -1.8
PCAB                               A     A         04 57 22.2
      comp=N,2.9nm,0.5s
ELOB  Lobios            6.68 337   P     Pn        04 56 10.9  0.0
ELOB                               S     Sn        04 57 21.3 -4.2
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NNC ***30*** *04:59:23.2±3.2,45°.69N×94°.74E,h0km,mb4.0,mpv3.9,*
Error ellipse: s-maj=51.9km s-min=29.3km az=32.0
IDC ***30*** *04:59:26.4±0.7,45°.55N×94°.17E,h0km,mb4.0/15,*
mbtmp3.9/19,ML3.1/4,MS3.0/1,Error ellipse:
s-maj=22.1km s-min=11.7km az=18.0
MOS ***30*** *04:59:27.8±1.3,45°.61N×94°.10E,h18km,mb4.4/9,Error*
ellipse: s-maj=9.2km s-min=6.5km az=20.4
BJI ***30*** *04:59:29.4±0.0,45°.73N×94°.23E,h15km,mb4.0/5,*
mB4.4/3,ML4.2/8
NEIC ***30*** *04:59:29±1.6,45°.66N±0°.06×94°.1E±0°.1,h10km±1km,*
mb4.4/58,Error ellipse: s-maj=12.8km s-min=9.7km
az=99.0
ASRS ***30*** *04:59:41.0±0.5,46°N±2°×9°4E±°,h8km,MLh5.0/4,Error*
ellipse: s-maj=5.7km s-min=4.6km az=139.5,confirmed
ISC 30 04:59:28.9±0.4,45.77N±0°.04×94.16E±0°.04,h10km,n172,
σ1ˢ92/191,mb4.3/45,10C-5D,Mongolia

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Code  Station Name      Δ°   AZ°   Phase ID        Time      Res
                                   Op    ISC       h m s     ISC
WMQ   Urumqi            5.00 249   Pn    Pn        05 00 48.3 +4.4
WMQ                                Sn    Sn        05 01 45.5 +3.8
WMQ                                smax  smax
      comp=N,310nm,0.9s
WMQ                                smax  smax
      comp=E,250nm,0.9s
TEL   Teeli             5.88 335   Pn    Pn        05 01 03.4 +7.4
TEL                                Pg    Pg        05 01 18.7 -2.6
TEL                                Sg    Sg        05 02 36.4 -1.0
DGZ   Jazzator, Alta    6.00 313   Pg    Pg        05 01 25.7 +2.0
DGZ                                Sg    Sg        05 02 40.5 -0.9
AKAR  Aktash            6.32 318   Pn    Pb        05 01 15.5 -3.4
AKAR                               Pg    Pg        05 01 33.1 +3.3
AKAR                               Sg    Sg        05 02 50.5 -1.0
ULGR  Ulagan, Altay     6.38 322   Pn    Pn        05 01 10.9 +7.9
ULGR                               Pg    Pg        05 01 26.8 -4.2
ULGR                               Sg    Sg        05 02 55.6 +2.1
TDJR  Todzha            6.76  10   Pg    Pg        05 01 38.8 +0.7
TDJR                               Sg    Sg        05 03 03.9 -1.6
CERR  Cheremushki       7.31 347   Pg    Pg        05 01 46.1 -2.6
CERR                               Sg    Sg        05 03 20.2 -3.2
YALR  Yailyu, Altay     7.40 327   Pn    Pn        05 01 26.7 +10
YALR                               Pg    Pg        05 01 48.5 -1.9
YALR                               Sg    Sg        05 03 27.9 +1.8
ARTR  Artybash          7.55 326   Pn    Pb        05 01 30.7 -9.1
ARTR                               Pg    Pg        05 01 50.4 -2.9
ARTR                               Sg    Sg        05 03 33.7 +2.8
GTA   Gaotai            7.60 145   Pn    Pn        05 01 19.5 -0.3
GTA                                Sn    Sn        05 02 38.8 -7.2
GTA                                Sg    Sb        05 03 19.0 +7.5
GTA                                smax  smax
      comp=N,67nm,0.9s
GTA                                smax  smax
      comp=E,51nm,0.9s
ELDR  Elanda            7.64 318   Pn    Pn        05 01 30.2 +10
ELDR                               Pg    Pg        05 02 02.3 +7.2
ELDR                               Sg    Sg        05 03 36.9 +3.1
VEH   Verkhnyaya Baz    7.89 343   Pn    Pn        05 01 33.1 +9.4
VEH                                Pg    Pb        05 01 42.3 -3.4
VEH                                Sg    Sg        05 03 39.9 -2.1
TASR  Tashtagol         8.11 332   Sg    Sg        05 03 47.6 -1.3
MK31  Makanchi Array    8.29 281   Pn    Pn        05 01 28.7 -0.3
MK31  Makanchi Array    8.29 281   Pn    Pn        05 01 29.9 +0.9
      3.4nm,0.6s,baz=96,slow=14,SNR=27
MK31                               ⇑Sn   Sn        05 03 09.2 +6.6
      9.1nm,0.5s,baz=93,slow=26,SNR=3.6
MK31                               ⇑Lg   Lg        05 03 56.0
      28nm,0.6s,baz=92,slow=31,SNR=3.7
MK31  Makanchi Array    8.29 281   P     Pn        05 01 29.9 +0.9
MK31                               S     Sn        05 03 09.2 +6.6
MKAR  Makanchi Array    8.29 281   Pn    Pn        05 01 28.6 -0.5
MKAR  Makanchi Array    8.29 281   Pn    Pn        05 01 29.0  0.0
      0.4nm,0.3s,baz=97,slow=14,SNR=18
MKAR                               Pg    Pb        05 01 48.0 -4.3
      1.2nm,0.3s,baz=112,slow=15,SNR=5.8
MKAR                               Sn    Sn        05 03 04.1 +1.4
      1.4nm,0.3s,baz=88,slow=14,SNR=1.5
MKAR                               Lg    Lg        05 03 50.9
      5.7nm,0.3s,baz=84,slow=29,SNR=5.5
      1.3nm,0.5s
MKAR  Makanchi Array    8.29 281   Pn    Pn        05 01 30.2 +1.1
MKAR                               Sg    Sg        05 03 52.3 -2.2
MAKZ  Makanchi          8.50 281   Pn    Pn        05 01 30.4 -1.6
MAKZ  Makanchi          8.50 281   ⇓Pn   Pn        05 01 31.7 -0.3
      2.9nm,0.7s
MAKZ                               ⇓Lg   Lg        05 03 59.6
      42nm,0.7s
MAKZ  Makanchi          8.50 281   Pn    Pn        05 01 32.3 +0.3
MAKZ                               Sg    Sg        05 04 00.3 -1.2
MAKZ  Makanchi          8.50 281   P     Pn        05 01 31.7 -0.3
LUZB  Luzhba, Kemero    8.60 339   Sg    Sg        05 04 01.9 -2.6
SONM  Songino Array     8.65  72   Pn    Pn        05 01 34.6 +0.6
SONM  Songino Array     8.65  72   Pn    Pn        05 01 33.5 -0.6
      0.2nm,0.3s,baz=254,slow=15,SNR=10
SONM                               Pg    Pg        05 02 03.4 -11
      1.1nm,0.3s,baz=262,slow=17,SNR=4.1
SONM                               Lg    Lg        05 04 03.0
      3.4nm,0.3s,baz=250,slow=29,SNR=5.4
      2.0nm,0.7s
ULN   Ulaanbaatar       9.09  72   Pn    Pn        05 01 41.6 +1.4
ULN   Ulaanbaatar       9.09  72   ceP   Pn        05 01 42.4 +2.2
ULN                                pmax  pmax
      comp=Z,5.0nm,1.7s
MINR  Mina              9.14   0   Pg    Pn        05 02 19.1 +38
MINR                               Sg    Sn        05 04 20.2 +57
GOMU  GeErMu            9.58 177   P     Pn        05 01 47.8 +0.7
GOMU                               S     Sn        05 03 45.8 +11
GOMU                               smax  smax
      comp=Z,85nm,1.0s
GOMU                               smax  smax
      comp=Z,98nm,0.9s
ZAA0  Zalesovo Array   10.16 327   ⇑Lg   Lg        05 04 57.9
      comp=Z,7.9nm,1.1s
ZALV  Zalesovo Beam    10.16 327   Pg    Pn        05 02 38.5 +44
      baz=148,slow=15
ZALV                               Lg    Lg        05 04 55.4
      comp=Z,0.5nm,0.3s,baz=152,slow=19,SNR=6.8
ZALV                               LR    LR        05 05 58.6
      comp=Z,89nm,19.5s,baz=34,slow=38
UZB   Uzynbulak        11.13 262   eP    Pn        05 02 08.7 +0.5
KURK  Kurchatov        11.47 301   Pn    Pn        05 02 12.3 -0.3
KURK  Kurchatov        11.47 301   Pn    Pn        05 02 11.0 -1.6
KURK                               Sn    Sn        05 04 31.2 +10
KURK                               ⇑Lg   Lg        05 05 38.7
      comp=Z,75nm,0.9s
KURK  Kurchatov        11.47 301   P     Pn        05 02 12.8 +0.2
KURK                                             05 04 21.7
KURBB Kurchatov Arra   11.50 301   Pn    Pn        05 02 12.8 -0.2
      comp=Z,0.1nm,0.3s,baz=105,slow=15,SNR=5.2
KURBB                              Sn    Sn        05 04 21.7 +0.4
      comp=Z,0.1nm,0.3s,baz=153,slow=23,SNR=1.7
KURBB                              Lg    Lg        05 05 33.3
      comp=Z,0.3nm,0.3s,baz=294,slow=23,SNR=5.2
      comp=Z,0.3nm,0.3s
KURBB Kurchatov Arra   11.50 301   Pn    Pn        05 02 11.0 -1.9
KURBB                              Sn    Sn        05 04 32.1 +11
KURBB                              Lg    Lg        05 05 39.3
KURBB Kurchatov Arra   11.50 301   P     Pn        05 02 11.2 -1.7
KURBB                              SN    Sn        05 04 32.7 +11
ARXS  Arharly          11.67 268   eP    Pn        05 02 17.7 +2.2
PRZ   Przheval'sk      11.79 259   Pn    Pn        05 02 17.9 +0.7
PRZ   Przheval'sk      11.79 259   P     Pn        05 02 17.9 +0.7
TARG  Taragay, Kyrgy   12.49 257   Pn    Pn        05 02 24.6 -2.4
TARG  Taragay, Kyrgy   12.49 257   P     Pn        05 02 24.6 -2.4
BOOM  Boomskoye usch   13.49 262   Pn    Pn        05 02 38.6 -1.8
BOOM  Boomskoye usch   13.49 262   P     Pn        05 02 38.6 -1.8
TKM2  Tokmak 2         13.59 265   ⇑Pn   P         05 02 47.3 -3.5
      comp=Z,3.8nm,0.7s
TKM2  Tokmak 2         13.59 265   i P   P         05 02 47.3 -3.5
TKM2                               pmax  pmax
      comp=Z,4.0nm,0.7s
BTLS  Baital           14.15 274   eP    Pn        05 02 50.0 +0.8
AAK   Ala-Archa        14.45 264   i P   Pn        05 02 53.5 +0.1
KSH   Kashi            14.76 251   P     P         05 03 10.5 +6.7
KSH                                pmax  pmax
      comp=Z,5.0nm,0.7s
OTUK  Ortayu           15.08 287   ⇓Pn   Pn        05 03 03.2 +1.3
      comp=Z,3.0nm,0.8s
OTUK                               Lg    Lg        05 07 37.1
OTUK  Ortayu           15.08 287   P     Pn        05 03 03.2 +1.3
LSA   Lhasa            16.22 189   Pn    Pn        05 03 15.2 -2.0
LSA                                IAmb  IAmb      05 03 28.9
      comp=Z,10nm,0.5s
LSA   Lhasa            16.22 189   P     Pn        05 03 15.2 -2.0
LSA                                pmax  pmax
      comp=Z,10.0nm,0.5s
BVA0  Borovoye Array   17.04 304   ⇓P    Pn        05 03 25.2 -1.8
      comp=Z,5.7nm,1.1s,baz=120,slow=14,SNR=23
BVA0  Borovoye Array   17.04 304   P     Pn        05 03 25.2 -1.8
BVAR  Borovoye Array   17.04 304   P     Pn        05 03 26.5 -0.5
      baz=109,slow=13,SNR=5.1
BVAR                               Lg    Lg        05 08 28.4
      baz=224,slow=41,SNR=1.8
      comp=Z,2.9nm,0.7s
KK31  Karatay Array    17.08 269                   Pn 05 03 27.3 -0.3
KK31  Karatay Array    17.08 269   ⇓P    Pn        05 03 27.4 -0.3
      comp=Z,0.5nm,0.5s,baz=74,slow=14,SNR=6.6
KK31  Karatay Array    17.08 269   P     Pn        05 03 27.3 -0.3
KK31                               pmax  pmax
      comp=Z,5.0nm,1.4s
KKAR  Karatay Array    17.08 269   Pn    Pn        05 03 26.1 -1.6
KKAR  Karatay Array    17.08 269   P     Pn        05 03 26.1 -1.6
KKAR                               pmax  pmax
      comp=Z,5.0nm,1.4s
BRVK  Borovoye         17.11 304   Pn    Pn        05 03 26.5 -1.4
BRVK  Borovoye         17.11 304   P     Pn        05 03 26.5 -1.4
BRVK                               pmax  pmax
      comp=Z,3.0nm,0.7s
GAR   Garm             18.83 257   P     P         05 03 48.4 -0.4
CHGR  Chuyangaron      19.79 258   P     P         05 03 57.5 -1.8
CHGR                               IAmb  IAmb      05 03 59.9
      comp=Z,12nm,0.6s
CHGR  Chuyangaron      19.79 258   P     P         05 03 57.5 -1.8
CHGR                               pmax  pmax
      comp=Z,12nm,0.6s
SIMJ  Simiganj         19.89 258   P     P         05 03 59.2 -1.2
NIL   Nilore           20.06 240   P     P         05 04 01.9 -0.3
NIL   Nilore           20.06 240   P     P         05 04 01.9 -0.3
NIL                                pmax  pmax
      comp=Z,8.0nm,0.8s
SHL   Shillong         20.24 186   P     P         05 04 02.5 -1.9
SHL   Shillong         20.24 186   P     P         05 04 02.5 -1.9
SHL                                pmax  pmax
      comp=Z,8.0nm,0.7s
ZEA   Zeya             22.65  57   eP    P         05 04 34.4 +4.5
AB31  Akbulak array    23.25 291   ⇑P    P         05 04 37.3 +1.1
      comp=Z,5.2nm,0.8s,baz=88,slow=9.9,SNR=46
AB31  Akbulak array    23.25 291   P     P         05 04 37.3 +1.1
ABKAR Akbulak array    23.25 291   P     P         05 04 37.1 +0.9
NRIK  Noril'sk         23.87 354   P     P         05 04 43.4 +1.4
      comp=Z,1.6nm,0.5s,baz=140,slow=8.5,SNR=1.9
      comp=Z,1.6nm,0.5s
NRIK  Noril'sk         23.87 354   i P   P         05 04 45.0 +3.0
NRIK                               pmax  pmax
      comp=Z,4.0nm,0.9s
AKTO  Aktyubinsk       24.42 294   P     P         05 04 48.0 +0.7
      comp=Z,4.2nm,0.6s,baz=93,slow=8.5,SNR=12
      comp=Z,4.2nm,0.6s
ARU   Arti             24.49 309   P     P         05 04 48.1 +0.2
ARU   Arti             24.49 309   P     P         05 04 48.7 +0.9
      comp=Z,13nm,0.5s,baz=70,slow=8.2,SNR=4.5
      comp=Z,13nm,0.5s
ARU   Arti             24.49 309   c iP  P         05 04 48.9 +1.0
ARU                                              05 05 17.0
ARU                                S     S         05 09 11.2 +3.3
ARU                                SS    SnSn      05 09 56.4 +4.5
ARU                                pmax  pmax
      comp=Z,12nm,0.6s
ARU   Arti             24.49 309   P     P         05 04 48.8 +0.9
      comp=Z,21nm,0.8s
KLR   Kul'dur          25.46  68   ceP   P         05 04 56.6 -0.1
KLR                                pmax  pmax
      comp=Z,5.0nm,2.5s
OBN   Obninsk          36.86 306   eP    P         05 06 37.6 +0.6
OBN                                e                05 08 01.5
OBN                                pmax  pmax
      comp=Z,4.0nm,1.0s
ARCES ARCESS Array B   40.69 330   P     P         05 07 10.2 +1.2
ARCES ARCESS Array B   40.69 330   P     P         05 07 10.0 +1.0
```

comp=Z,1.3nm,0.6s,baz=75,slow=9.3,SNR=11
comp=Z,1.3nm,0.6s
ARCES ARCESS Array B 40.69 330 P P 05 07 10.2 +1.2
ARCES pmax pmax
comp=Z,3.0nm,1.2s
FIA1 FINESS Array S 41.24 317 P P 05 07 14.3 +0.7
FINES FINESS Array B 41.24 317 P P 05 07 13.2 -0.4
FINES FINESS Array B 41.24 317 P P 05 07 13.8 +0.3
comp=Z,1.7nm,0.8s,baz=79,slow=9.9,SNR=6.0
comp=Z,1.7nm,0.8s
BILL Bilibino 42.05 32 *e*P **P 05 07 21.8 +1.7**
BILL *e* 05 08 59.2
BILL *e*PPP PPP 05 09 28.1
BILL pmax pmax
comp=Z,3.0nm,1.0s
AK09 Malin Array Si 42.28 301 P P 05 07 22.8 +0.6
AKASG Malin Array Be 42.29 301 P P 05 07 22.8 +0.5
comp=Z,1.7nm,0.5s,baz=62,slow=8.6,SNR=4.5
comp=Z,1.7nm,0.5s
AKBB Malin Array Si 42.29 301 P P 05 07 22.3 0.0
AKBB IAmb IAmb 05 07 23.7
comp=Z,4.3nm,0.7s
AKBB Malin Array Si 42.29 301 *ce*P **P 05 07 21.8 -0.5**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 42.29 301 P P 05 07 22.6 +0.3
AK08 Malin Array Si 42.29 301 P P 05 07 22.9 +0.6
KIEV Kiev 42.30 301 P P 05 07 22.1 -0.2
KIEV IAmb IAmb 05 07 23.7
comp=Z,3.9nm,0.7s
KIEV Kiev 42.30 301 P P 05 07 22.1 -0.2
KIEV pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 42.30 301 P P 05 07 22.7 +0.3
comp=Z,22nm,1.1s
AK02 Malin Array Si 42.31 301 P P 05 07 23.4 +0.9
AK04 Malin Array Si 42.31 301 P P 05 07 23.3 +0.8
AK11 Malin Array Si 42.33 301 P P 05 07 23.2 +0.6
BR131 Keskin Array S 43.92 285 P P 05 07 35.9 +0.1
BR131 Keskin Array S 43.92 285 P P 05 07 35.9 +0.1
BR131 pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 43.92 285 P P 05 07 36.7 +0.9
BRTR Keskin Array B 43.92 285 P P 05 07 36.4 +0.6
comp=Z,1.3nm,0.7s,baz=95,slow=7.4,SNR=9.2
comp=Z,1.3nm,0.7s
BRTR Keskin Array B 43.92 285 P P 05 07 36.7 +0.9
HORU Horodok 44.51 300 P P 05 07 41.1 +0.9
HORU Horodok 44.51 300 P P 05 07 41.1 +0.9
KMPD K-Podol'skiy 44.74 299 P pP 05 07 42.1 -3.9
KMPD P P 05 07 41.1 -1.0
PLOR3 Plostina Array 45.74 296 P P 05 07 51.8 +1.7
BUR08 Bucovina Ar. S 45.88 298 P P 05 07 51.2 -0.1
BURAR Bucovina Array 45.89 298 P P 05 07 51.9 +0.6
HFS Hagfors 47.44 318 P P 05 08 03.6 +0.4
comp=Z,4.3nm,0.7s,baz=59,slow=5.7,SNR=12
comp=Z,4.3nm,0.7s
NC405 NORSAR Array S 48.01 320 P P 05 08 08.3 +0.8
NB2 NORSAR Subarra 48.26 320 P P 05 08 10.0 +0.4
comp=Z,0.9nm,0.7s,baz=67,slow=7.4
NOA NORSAR Array B 48.26 320 P P 05 08 09.9 +0.4
comp=Z,1.5nm,0.8s,baz=65,slow=7.3,SNR=7.3
comp=Z,1.5nm,0.8s
IDI Anoyia 52.16 284 P P 05 08 38.5 -1.0
C19K Lookout Ridge 53.39 25 P P 05 08 49.9 +1.8
C19K IAmb IAmb 05 08 55.7
comp=Z,11nm,1.5s
B20K Meade River 53.59 24 P P 05 08 51.0 +1.5
D19K Kuna River 54.17 26 P P 05 08 54.7 +0.9
D19K IAmb IAmb 05 09 01.2
comp=Z,5.5nm,1.2s
B22K Teshekpuk Lake 54.43 23 P P 05 08 56.9 +1.2
B22K IAmb IAmb 05 08 57.4
comp=Z,4.1nm,0.7s
E19K Redstone River 55.05 26 P P 05 09 01.1 +0.9
E19K IAmb IAmb 05 09 09.3
comp=Z,3.0nm,1.1s
C23K Itkillik River 55.50 22 P P 05 09 04.3 +0.9
C23K IAmb IAmb 05 09 15.7
comp=Z,5.3nm,1.1s
D22K Ayikyak River 55.54 24 P P 05 09 05.1 +1.4
D22K IAmb IAmb 05 09 13.0
comp=Z,7.8nm,1.4s
E22K Anaktuvuk Pass 56.26 24 P P 05 09 10.0 +1.1
E22K IAmb IAmb 05 09 16.9
comp=Z,5.8nm,1.2s
F21K Alatna River 56.35 26 P P 05 09 09.7 +0.2
F21K IAmb IAmb 05 09 18.9
comp=Z,3.9nm,1.1s
H19K Roundabout Mou 56.46 28 P P 05 09 12.0 +1.7
IMAR Indian Mountai 57.05 27 P P 05 09 15.6 +1.1
E24K Your Creek 57.24 23 P P 05 09 16.7 +0.8
H21K Melozitna River 57.56 27 P P 05 09 19.8 +1.7
H21K IAmb IAmb 05 09 20.6
comp=Z,4.3nm,1.0s
J19K Poorman 57.70 29 P P 05 09 20.7 +1.7
J19K IAmb IAmb 05 09 31.0
comp=Z,5.5nm,1.1s
J20K Nowinta River 58.08 29 P P 05 09 23.6 +1.8
J20K IAmb IAmb 05 09 24.6
comp=Z,2.6nm,0.8s
D27M Malcolm River 58.36 20 P P 05 09 24.9 +1.2
H23K Yukon River 58.46 26 P P 05 09 25.9 +1.5
H23K IAmb IAmb 05 09 34.0
comp=Z,6.2nm,1.2s
G24K Hadweenzic Riv 58.47 24 P P 05 09 26.0 +1.5
BMAR Burnt Mountain 58.76 23 P P 05 09 28.0 +1.5
E27K Coleen River 58.99 21 P P 05 09 29.1 +1.0
E27K IAmb IAmb 05 09 37.0
comp=Z,1.7nm,0.8s
CAST Castle Rocks 59.27 29 P P 05 09 31.7 +1.6
CAST IAmb IAmb 05 09 44.7
comp=Z,5.1nm,1.3s
E29M Blow River 59.74 20 P P 05 09 33.7 +0.5
E29M IAmb IAmb 05 09 35.3
comp=Z,3.2nm,0.8s
M20K Styx River 59.94 30 P P 05 09 36.9 +2.0
IL31 59.99 26 P P 05 09 35.7 +0.7
IL31 IAmb IAmb 05 09 42.8
comp=Z,1.6nm,0.8s
ILAR Eielson Array 59.99 26 P P 05 09 35.9 +0.8
ILAR Eielson Array 59.99 26 P P 05 09 35.5 +0.4
comp=Z,0.9nm,0.8s,baz=311,slow=5.7,SNR=15
comp=Z,0.9nm,0.8s
ILAR Eielson Array 59.99 26 P P 05 09 35.9 +0.8
SKT Skwentna 60.43 30 P P 05 09 39.5 +1.4
SUA Susitna One 61.06 30 P P 05 09 42.7 +0.2
J26L Joseph Creek 61.18 25 P P 05 09 43.4 +0.1
J26L IAmb IAmb 05 10 23.2
comp=Z,6.0nm,1.4s
H29M Whitestone 61.30 22 P P 05 09 44.4 +0.4
H29M IAmb IAmb 05 10 08.5
comp=Z,3.9nm,1.1s
G31M Satah River 61.75 20 P P 05 09 46.1 -0.8
G31M IAmb IAmb 05 09 48.2
comp=Z,3.1nm,0.8s
C36M Paulatuk 61.79 14 P P 05 09 47.5 +0.3
DAWY Dawson 62.70 23 P P 05 09 53.5 0.0
DAWY IAmb IAmb 05 09 55.5
comp=Z,1.6nm,0.9s
BCAR Beaver Creek A 62.78 25 P P 05 09 55.2 +1.2
M27K Edge Creek, AK 63.30 26 P P 05 09 59.2 +1.7
K29M Barlow Dome 63.39 23 P P 05 09 58.7 +0.6
K29M IAmb IAmb 05 10 07.0
comp=Z,1.5nm,0.8s
M29M Somme Creek 64.24 24 P P 05 10 05.0 +1.3
M29M IAmb IAmb 05 10 06.1
comp=Z,3.1nm,0.8s
ESDC Sonseca Array 67.80 304 P P 05 10 27.2 +0.3
comp=Z,0.6nm,0.7s,baz=37,slow=4.0,SNR=2.5
comp=Z,0.6nm,0.7s
WB0 Warramunga Arr 74.75 141 P P 05 11 07.0 -1.9
WB0 IAmb IAmb 05 11 12.8
comp=Z,7.2nm,1.2s
WRA Warramunga Arr 74.88 141 P P 05 11 08.1 -1.6
comp=Z,1.3nm,0.6s,baz=338,slow=6.4,SNR=19
comp=Z,1.3nm,0.6s
WB2 Warramunga Arr 74.88 141 P P 05 11 08.0 -1.8
WR0 Warramunga Arr 74.98 141 P P 05 11 07.7 -2.6
ASAR Alice Springs 77.97 143 P P 05 11 25.6 -1.6
comp=Z,0.5nm,0.6s,baz=333,slow=5.3,SNR=4.8
comp=Z,0.5nm,0.6s
FFC Flin Flon 78.94 9 P P 05 11 32.5 +0.3
FFC IAmb IAmb 05 11 54.1
comp=Z,5.1nm,1.4s
FFC Flin Flon 78.94 9 P P 05 11 32.5 +0.3
FFC pmax pmax
comp=Z,5.0nm,1.4s
TORD Torodi Ar. Bea 82.41 281 P P 05 11 50.0 -1.4
comp=Z,0.5nm,0.9s,baz=60,slow=7.9,SNR=4.7
comp=Z,0.5nm,0.9s
NVAR Mina Array Bea 91.25 25 P P 05 12 35.1 +0.5
comp=Z,0.3nm,0.7s,baz=343,slow=2.8,SNR=2.4
comp=Z,0.3nm,0.7s
LPAZ La Paz 147.08 327 PKPbc **PKPdf 05 19 11.2 +0.4**
comp=Z,0.7nm,0.7s,baz=14,slow=4.6,SNR=2.3
CPUP Villa Florida 150.12 301 PKPbc **PKPdf 05 19 17.0 +2.3**
comp=Z,1.7nm,1.0s,baz=49,slow=3.3,SNR=3.4
CPUP Villa Florida 150.12 301 PKIKP **PKPdf 05 19 17.0 +2.3**

*CATAC **30** 05:07:17.2±0.6, 9°.49N×82°.64W, h8km±5km, ML3.8*
*UPA **30** 05:07:19.5±1.2, 9°.33N×82°.74W, h7km±4km, MW3.7*
*UCR **30** 05:07:19.2±0.9, 9°.44N×82°.68W, h20km±6km, MW4.0*
ISC 30 05:07:19.6±0.9, **9°.42N**±0°.03×**82°.70W**±0°.03, **h27**km±8km,
n37, σ1§**00**/58, **2D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI2	**El Empalme, Bo**	**0.23**	**90**	*e*P	**Pb**	**05 07 24.6**	**-1.1**
CNI2				*e*S	**Sb**	**05 07 29.1**	**-0.9**
BRIBI	**Bribri**	**0.25**	**324**	*e*P	**Pb**	**05 07 26.6**	**+0.6**
BRIBI				*e*S	**Sb**	**05 07 32.6**	**+2.2**
DRK0	**Durika**	**0.56**	**253**	*e*P	**Pb**	**05 07 29.9**	**-1.1**
DRK0				*e*S	**Sb**	**05 07 38.0**	**-0.7**
DRK0	**Durika**	**0.56**	**253**	*i* P	**Pb**	**05 07 29.8**	**-1.1**
DRK0				IAML		05 07 38.2	
	comp=Z,27μm,1.0s						
DRK0				*i* S	**Sb**	**05 07 38.5**	**-0.2**
DRK0	**Durika**	**0.56**	**253**	*e*P	**Pb**	**05 07 29.8**	**-1.1**
DRK0				*e*S	**Sb**	**05 07 38.0**	**-0.7**
BRU2	**Volcan**	**0.62**	**179**	||*i*P	**Pb**	**05 07 31.1**	**-1.0**
BRU2				*e*S	**Sb**	**05 07 40.4**	**-0.2**
BRU2	**Volcan**	**0.62**	**179**	*i* P	**Pb**	**05 07 31.1**	**-1.0**
BRU2				*i* S	**Sb**	**05 07 40.3**	**-0.2**
BRU2				IAML		05 07 42.2	
	comp=Z,6μm,1.0s						
BRU2	**Volcan**	**0.62**	**179**	*e*P	**Pb**	**05 07 31.1**	**-1.0**
BRU2				*e*S	**Sb**	**05 07 40.3**	**-0.2**
LNBQ3	**Los Naranjos,**	**0.68**	**158**	*e*P	**Pb**	**05 07 31.6**	**-1.3**
BCO2	**Palmira**	**0.72**	**166**	||*i*P	**Pb**	**05 07 32.6**	**-1.1**
BCO2				*e*S	**Sb**	**05 07 42.9**	**-0.3**
CHGR2	**Aguacate**	**0.73**	**131**	*e*P	**Pb**	**05 07 32.7**	**-1.0**
CHGR2				*e*S	**Sb**	**05 07 42.8**	**-0.6**
CDITO	**Canoas**	**0.86**	**191**	*i* P	**Pb**	**05 07 35.6**	**-0.3**
CDITO				*i* S	**Sn**	**05 07 48.1**	**+0.4**
CDITO				IAML		05 07 53.1	
	comp=Z,2μm,1.0s						
EDPN	**Palmar Norte**	**0.87**	**238**	*e*P	**Pn**	**05 07 36.1**	**-0.1**
FITO	**Golfito**	**0.91**	**209**	*e*P	**Pb**	**05 07 35.6**	**-1.2**
OCHAL	**Ojochal**	**0.98**	**251**	*i* P	**Pb**	**05 07 37.7**	**-0.3**
OCHAL				*i* S	**Sn**	**05 07 52.0**	**+1.2**
OCHAL				IAML		05 07 55.6	
	comp=Z,2μm,1.0s						
DVD	**David**	**1.01**	**166**	*e*P	**Pb**	**05 07 37.8**	**-0.7**
DVD				*e*S	**Sn**	**05 07 52.3**	**+0.9**
LOMA3	**Las Lomas, Chi**	**1.03**	**163**	*e*P	**Pb**	**05 07 38.0**	**-0.8**
BUS1	**Rivas**	**1.04**	**277**	*e*P	**Pb**	**05 07 38.0**	**-1.2**
LOCO3	**Loma Colorada,**	**1.04**	**164**	*e*P	**Pn**	**05 07 38.4**	**-0.1**
PTJ1	**Puerto Jimnez**	**1.06**	**214**	*i* P	**Pn**	**05 07 38.6**	**-0.1**
PTJ1				IAML		05 07 38.9	
	comp=Z,6μm,1.0s						
PTJ1				*i* S	**Sn**	**05 07 54.6**	**+2.0**
PTJ1	**Puerto Jimnez**	**1.06**	**214**	*e*P	**Pn**	**05 07 38.4**	**-0.3**
JIME	**Puerto Jimenez**	**1.07**	**215**	*e*P	**Pn**	**05 07 38.7**	**-0.1**
VERB	**Verbena**	**1.11**	**298**	*e*P	**Pn**	**05 07 38.7**	**-0.8**
RAFA	**San Farael, Vo**	**1.22**	**296**	*i* P	**Pn**	**05 07 40.6**	**-0.5**
RAFA				*i* S	**Sn**	**05 07 57.3**	**+0.4**
RAFA				IAML		05 08 03.1	
	comp=Z,2μm,1.0s						
LCR2	**La Lucha 2**	**1.32**	**284**	*i* P	**Pn**	**05 07 42.7**	**+0.2**
LCR2				*i* S	**Sn**	**05 07 59.6**	**+0.2**
LCR2				IAML		05 09 00.0	
	comp=Z,3μm,1.0s						
LCR2	**La Lucha 2**	**1.32**	**284**	*e*P	**Pn**	**05 07 42.4**	**-0.1**
HDC3	**Heredia 3**	**1.50**	**293**	*i* P	**Pn**	**05 07 44.8**	**-0.1**
HDC3				*i* S	**Sb**	**05 08 05.7**	**+0.1**
HDC3				IAML		05 08 11.5	
	comp=Z,570nm,1.0s						
TCS1	**Tacares**	**1.69**	**291**	*i* P	**Pn**	**05 07 47.0**	**-0.5**
TCS1				IAML		05 08 17.6	
	comp=Z,4μm,1.0s						
TCS1	**Tacares**	**1.69**	**291**	*e*P	**Pn**	**05 07 48.3**	**+0.9**
SOCE	**Pocosol**	**2.11**	**297**	*i* P	**Pn**	**05 07 53.6**	**+0.3**
SOCE				IAML		05 08 05.6	
	comp=Z,400nm,1.0s						
CHIT3	**Chitre**	**2.69**	**123**	*e*P	**Pn**	**05 08 00.8**	**-0.3**
CHIT3				*e*S	**Sn**	**05 08 34.9**	**+2.1**
CACAO	**El Cacao, Vera**	**2.75**	**138**	*e*P	**Pn**	**05 08 03.1**	**+1.1**
CACAO				*e*S	**Sn**	**05 08 35.7**	**+1.3**
BLUN	**Bluefields**	**2.77**	**338**	*i* P	**Pn**	**05 08 00.2**	**-2.1**
BLUN				IAML		05 08 33.7	
	comp=Z,140nm,1.0s						
INDI	**Punta indio, G**	**2.79**	**279**	*i* P	**Pn**	**05 08 03.4**	**+0.8**
INDI				IAML		05 08 49.1	
	comp=Z,84nm,1.0s						
BCIP	**Isla Barro Col**	**2.84**	**95**	*i* P	**Pn**	**05 08 02.0**	**-1.2**
BCIP				IAML		05 08 37.5	
	comp=Z,88nm,1.0s						
AZU	**Azuero**	**2.90**	**124**	*e*P	**Pn**	**05 08 05.9**	**+1.9**
AZU				*e*S	**Sn**	**05 08 40.0**	**+2.0**
BOAB	**BOACO BROADBAN**	**3.18**	**316**	*i* P	**Pn**	**05 08 21.6**	**-0.1**
BOAB				*i* S	**Sn**	**05 09 10.5**	**+0.7**
BOAB				IAML		05 09 41.5	
	comp=Z,26nm,1.0s						

*CATAC **30** 05:18:24.1±0.5, 8°.95N×84°.21W, h5km±3km, ML4.0*
*UPA **30** 05:18:24.6±1.4, 9°.06N×84°.15W, h0km±9km, MD3.9, MW4.3*
*UCR **30** 05:18:25.7±0.9, 8°.98N×84°.18W, h15km±6km, MW4.1*
ISC 30 05:18:23.7±1.4, **8°.96N**±0°.03×**84°.21W**±0°.03, **h3**km±11km,
n94, σ0§**49**/115, **18C-23D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVQ2	**Quepos**	**0.47**	**5**	||*e*P	**Pb**	**05 18 34.1**	**-0.5**
SVQ2				*e*S	**Sb**	**05 18 41.2**	**-0.7**
LLNJ	**Naranjito**	**0.52**	**12**	||*i*P	**Pb**	**05 18 35.0**	**-0.4**
OCHAL	**Ojochal**	**0.57**	**76**	*i* P	**Pg**	**05 18 35.4**	**+0.8**
OCHAL				*i* S	**Sb**	**05 18 43.4**	**-1.5**
OCHAL				IAML		05 18 44.6	
	comp=Z,2μm,1.0s						
ZELE	**Perez Zeledon**	**0.64**	**50**	*e*P	**Pg**	**05 18 36.8**	**+0.8**
ZELE				*e*S	**Sb**	**05 18 46.2**	**-0.7**
RAZU	**San Marcos de**	**0.71**	**15**	*e*P	**Pb**	**05 18 38.4**	**-0.6**
EDPN	**Palmar Norte**	**0.74**	**90**	||*e*P	**Pg**	**05 18 38.2**	**+0.3**
BUS1	**Rivas**	**0.74**	**38**	||*e*P	**Pg**	**05 18 38.6**	**+0.6**
ABE2	**San Pablo**	**0.75**	**12**	||*e*P	**Pb**	**05 18 39.4**	**-0.2**
BITO	**Garabito Jaco**	**0.77**	**328**	*e*P	**Pb**	**05 18 39.5**	**-0.2**
LCR2	**La Lucha 2**	**0.80**	**14**	*i* P	**Pb**	**05 18 39.9**	**-0.5**
LCR2				*i* S	**Sb**	**05 18 52.3**	**+0.6**
LCR2				IAML		05 18 53.2	
	comp=Z,3μm,1.0s						
LCR2	**La Lucha 2**	**0.80**	**14**	||*e*P	**Pb**	**05 18 39.9**	**-0.5**
ACOS	**Acosta**	**0.83**	**3**	*e*P	**Pb**	**05 18 40.5**	**-0.4**
BURE	**Buenos Aires**	**0.88**	**76**	*e*P	**Pb**	**05 18 41.4**	**-0.3**
TAGO	**Cartago**	**0.94**	**17**	*e*P	**Pb**	**05 18 42.3**	**-0.4**
EDBA	**Buenos Aires**	**0.94**	**78**	||*e*P	**Pg**	**05 18 41.6**	**-0.1**
TRIO	**Tres Rios**	**0.96**	**13**	||*e*P	**Pg**	**05 18 42.4**	**+0.3**
SANTA	**Santa Ana**	**0.96**	**1**	||*e*P	**Pb**	**05 18 42.8**	**-0.4**
LUJA	**Lujan**	**0.97**	**8**	||*e*P	**Pb**	**05 18 43.7**	**+0.5**
JIME	**Puerto Jimenez**	**0.97**	**116**	||||*i*P	**Pb**	**05 18 43.4**	**+0.3**
CENT	**San Jose**	**0.97**	**7**	*e*P	**Pn**	**05 18 43.9**	**-0.5**
TRB2	**Turrubares**	**0.97**	**346**	||||*i*P	**Pb**	**05 18 43.0**	**-0.2**
MEXI	**Barrio Mexico**	**0.98**	**7**	||*e*P	**Pb**	**05 18 43.1**	**-0.3**
SJS3	**Mercedes San J**	**0.98**	**9**	||*e*P	**Pb**	**05 18 43.0**	**-0.4**
SJS	**Escuela Geolog**	**0.98**	**9**	||*e*P	**Pb**	**05 18 43.1**	**-0.4**
PTJ1	**Puerto Jimnez**	**0.99**	**115**	*i* P	**Pb**	**05 18 43.7**	**+0.2**
PTJ1				*i* S	**Sb**	**05 18 57.1**	**+0.2**
PTJ1				IAML		05 19 02.5	
	comp=Z,7μm,1.0s						
PTJ1	**Puerto Jimnez**	**0.99**	**115**	||||*i*P	**Pb**	**05 18 43.5**	**+0.1**
LUPE	**Guadalupe**	**0.99**	**9**	||*i*P	**Pb**	**05 18 43.2**	**-0.4**
DRK0	**Durika**	**0.99**	**72**	*i* P	**Pg**	**05 18 42.7**	**-0.1**
DRK0				*e*S	**Sb**	**05 18 57.7**	**+0.4**
DRK0	**Durika**	**0.99**	**72**	*i* P	**Pg**	**05 18 42.7**	**-0.1**
DRK0				*i* S	**Sb**	**05 18 57.0**	**-0.3**
DRK0				IAML		05 19 00.6	
	comp=Z,10μm,1.0s						
DRK0	**Durika**	**0.99**	**72**	*e*P	**Pg**	**05 18 42.8**	**0.0**
TIBA	**Tibas**	**1.00**	**8**	*e*P	**Pb**	**05 18 43.6**	**-0.2**
BELE	**Belen**	**1.01**	**1**	||*e*P	**Pb**	**05 18 43.5**	**-0.4**
DOMI	**Santo Domingo**	**1.02**	**6**	||*e*P	**Pb**	**05 18 43.8**	**-0.3**
EDP2	**Potrero Grande**	**1.02**	**87**	*e*P	**Pb**	**05 18 43.7**	**-0.3**
CORON	**Coronado**	**1.02**	**11**	*e*P	**Pb**	**05 18 43.9**	**-0.3**
PCAYA	**Pacayas**	**1.02**	**22**	||*e*P	**Pb**	**05 18 43.8**	**-0.4**
VINA	**Juan Vinas**	**1.03**	**26**	||*e*P	**Pg**	**05 18 43.8**	**+0.3**
HDC	**Heredia**	**1.04**	**5**	||*e*P	**Pb**	**05 18 44.1**	**-0.3**
HDC3	**Heredia 3**	**1.04**	**5**	*i* P	**Pb**	**05 18 44.1**	**-0.3**
HDC3				IAML		05 18 45.9	
	comp=Z,3μm,1.0s						
HDC3				*i* S	**Sb**	**05 18 58.9**	**+0.4**
RAFA	**San Farael, Vo**	**1.06**	**21**	*i* P	**Pg**	**05 18 44.4**	**+0.3**
RAFA				*i* S	**Sb**	**05 18 59.7**	**+0.3**
RAFA				IAML		05 19 03.5	
	comp=Z,12μm,1.0s						
RAFA	**San Farael, Vo**	**1.06**	**21**	||*i*P	**Pg**	**05 18 44.4**	**+0.3**
TURIB	**Turrialba**	**1.07**	**29**	||*e*P	**Pg**	**05 18 44.1**	**-0.1**
CBL1	**Cabuya**	**1.07**	**305**	*e*P	**Pg**	**05 18 44.5**	**+0.3**
EDAD	**Golfito**	**1.07**	**107**	*e*P	**Pg**	**05 18 44.1**	**-0.2**
VICA	**Volcano Irazu**	**1.08**	**19**	||*i*P	**Pg**	**05 18 44.7**	**+0.3**
TCS1	**Tacares**	**1.08**	**355**	*i* P	**Pb**	**05 18 45.1**	**+0.1**
TCS1				IAML		05 18 45.6	
	comp=Z,12μm,1.0s						
TCS1	**Tacares**	**1.08**	**355**	||*e*P	**Pb**	**05 18 45.1**	**+0.1**
CVIMO	**Finca Echandi**	**1.09**	**14**	||*e*P	**Pb**	**05 18 45.0**	**-0.3**
FITO	**Golfito**	**1.09**	**108**	*e*P	**Pg**	**05 18 44.3**	**-0.4**
VERB	**Verbena**	**1.10**	**27**	||*e*P	**Pg**	**05 18 45.0**	**+0.2**
GREC	**Grecia**	**1.11**	**355**	||*e*P	**Pn**	**05 18 46.9**	**+0.6**
VTLA	**Turrialba Volc**	**1.12**	**22**	||*i*P	**Pg**	**05 18 45.5**	**+0.3**
VTCV	**VTCV, Calle Va**	**1.12**	**25**	||*i*P	**Pg**	**05 18 45.5**	**+0.3**
CVTQ	**Turrialba Volc**	**1.12**	**23**	||*e*P	**Pg**	**05 18 45.5**	**+0.2**
SARCI	**Sarchi**	**1.13**	**353**	||*e*P	**Pb**	**05 18 46.3**	**+0.3**
VTR0	**Volcan Turrial**	**1.14**	**23**	||*e*P	**Pg**	**05 18 45.7**	**+0.1**
CVTR	**Volcan Turrial**	**1.14**	**23**	*e*P	**Pg**	**05 18 45.6**	**0.0**
RAMO	**San Ramon**	**1.15**	**347**	||*e*P	**Pn**	**05 18 47.3**	**+0.5**
RVSTA	**Santa Teresita**	**1.15**	**29**	*e*P	**Pg**	**05 18 45.9**	**+0.2**
VPS6	**Volcano Poas**	**1.22**	**359**	||*i*P	**Pb**	**05 18 47.5**	**-0.1**
VITO	**San Vito**	**1.23**	**97**	*e*P	**Pb**	**05 18 47.6**	**0.0**
LCOCO	**El Coco**	**1.28**	**30**	*e*P	**Pg**	**05 18 48.2**	**-0.2**
RVLA	**Villa Bonita**	**1.29**	**28**	||*i*P	**Pg**	**05 18 48.4**	**0.0**
IRES	**Siquirres**	**1.32**	**31**	||*e*P	**Pb**	**05 18 49.0**	**-0.1**
CDITO	**Canoas**	**1.37**	**106**	*i* P	**Pn**	**05 18 49.1**	**-0.7**
CDITO				*i* S	**Sn**	**05 19 08.9**	**+0.4**
CDITO				IAML		05 19 11.6	
	comp=Z,1μm,1.0s						
TAAN	**Batan**	**1.40**	**37**	*e*P	**Pn**	**05 18 50.1**	**0.0**
NYURE	**Nandayure**	**1.46**	**315**	||*i*P	**Pb**	**05 18 49.9**	**-1.0**
CARI	**Cariari**	**1.47**	**18**	*e*P	**Pg**	**05 18 52.4**	**+0.6**
SOCE	**Pocosol**	**1.47**	**344**	*i* P	**Pn**	**05 18 51.4**	**+0.3**
SOCE				IAML		05 18 52.6	
	comp=Z,5μm,1.0s						
SOCE				*i* S	**Sn**	**05 19 11.5**	**+0.6**
SOCE	**Pocosol**	**1.47**	**344**	||*e*P	**Pg**	**05 18 52.4**	**+0.5**
ITAL	**Pital**	**1.48**	**357**	*e*P	**Pg**	**05 18 52.5**	**+0.4**
MTEVE	**Monteverde**	**1.48**	**336**	*e*P	**Pb**	**05 18 52.1**	**+0.1**
BRIBI	**Bribri**	**1.49**	**64**	*e*P	**Pg**	**05 18 53.8**	**+1.5**
BRU2	**Volcan**	**1.51**	**96**	*e*P	**Pn**	**05 18 51.8**	**0.0**
BRU2				*e*S	**Sb**	**05 19 12.0**	**0.0**
BRU2	**Volcan**	**1.51**	**96**	*i* P	**Pn**	**05 18 51.4**	**-0.4**
BRU2				*i* S	**Sb**	**05 19 12.0**	**0.0**
BRU2				IAML		05 19 16.7	
	comp=Z,910nm,1.0s						
BRU2	**Volcan**	**1.51**	**96**	||*e*P	**Pn**	**05 18 51.1**	**-0.7**
JUNT	**Juntas**	**1.51**	**331**	*e*P	**Pn**	**05 18 50.9**	**-0.7**
JTS	**Las Juntas de**	**1.51**	**331**	*e*P	**Pn**	**05 18 51.2**	**-0.5**
JTS	**Las Juntas de**	**1.51**	**331**	*e*P	**Pn**	**05 18 50.8**	**-0.9**
INDI	**Punta indio, G**	**1.56**	**305**	*i* P	**Pn**	**05 18 51.3**	**-1.1**
INDI				*i* S	**Sn**	**05 19 13.5**	**+0.3**
INDI				IAML		05 19 31.5	
	comp=Z,310nm,1.0s						
VACR	**Volcan Arenal**	**1.57**	**343**	*e*P	**Pn**	**05 18 52.7**	**+0.2**
ARE1	**Arenal 1**	**1.57**	**341**	*e*P	**Pn**	**05 18 53.1**	**+0.6**
CEDE	**Laguna Cedeo**	**1.59**	**342**	*e*P	**Pb**	**05 18 53.9**	**0.0**
BCO2	**Palmira**	**1.68**	**98**	*e*P	**Pn**	**05 18 53.8**	**-0.3**
BCO2				*e*S	**Sb**	**05 19 16.8**	**-0.1**
NICO	**Nicoya**	**1.69**	**314**	*e*P	**Pb**	**05 18 55.2**	**-0.3**
CNAS	**Canas**	**1.70**	**329**	*e*P	**Pb**	**05 18 55.4**	**-0.2**
COVE	**Coope Vega, Sa**	**1.76**	**354**	*i* P	**Pn**	**05 18 55.4**	**+0.3**
COVE				*i* S	**Sg**	**05 19 19.7**	**-0.5**
COVE				IAML		05 19 29.6	
	comp=Z,880nm,1.0s						
CNI2	**El Empalme, Bo**	**1.77**	**75**	*e*P	**Pn**	**05 18 54.8**	**-0.5**
CNI2				*e*S	**Sn**	**05 19 17.1**	**-1.2**
DVD	**David**	**1.81**	**107**	*e*P	**Pn**	**05 18 56.8**	**+1.0**
LOMA3	**Las Lomas, Chi**	**1.87**	**106**	*e*P	**Pn**	**05 18 57.4**	**+0.8**
CHGR2	**Aguacate**	**2.04**	**91**	*e*P	**Pn**	**05 18 58.8**	**-0.2**
CHGR2				*e*S	**Sn**	**05 19 24.5**	**-0.4**
BLUN	**Bluefields**	**3.05**	**8**	*i* P	**Pn**	**05 19 12.5**	**-0.4**
BLUN				*i* S	**Sn**	**05 19 50.6**	**+0.6**
BLUN				IAML		05 19 57.1	
	comp=Z,200nm,1.0s						
ACON	**Acoyapa**	**3.13**	**342**	*i* P	**Pn**	**05 19 14.4**	**+0.4**
ACON				IAML		05 19 29.7	
	comp=Z,110nm,1.0s						
ACON				*i* S	**Sn**	**05 19 52.6**	**+0.6**
GMAL	**Guarumal, Vera**	**3.17**	**112**	*e*P	**Pn**	**05 19 14.9**	**+0.3**
GMAL				*e*S	**Sn**	**05 19 54.0**	**+1.1**

*IDC **30** 05:31:06.7±2.0

comp=Z,26nm,1.3s
JKA Kamikawa-asahi 22.53 359 P P 05 35 40.3 -1.1
JKA IAmb IAmb 05 35 41.1
comp=Z,16nm,1.4s
USRK Ussuriysk Ar. 24.41 340 P P 05 35 58.5 0.0
comp=Z,2.5nm,0.6s,baz=167,slow=8.3,SNR=7.2
comp=Z,2.5nm,0.6s
USA0B Ussuriysk Arra 24.41 340 P P 05 35 59.1 +0.6
TOLI2 Tolitoli 29.75 230 P P 05 36 46.3 +0.1
TOLI2 IAmb IAmb 05 36 47.7
comp=Z,6.3nm,0.8s
KKM Kota Kinabalu 30.23 243 P P 05 36 50.2 -0.3
KKM IAmb IAmb 05 36 52.0
comp=Z,8.1nm,0.7s
HEH HeiHe 31.22 340 eP P 05 36 59.5 +0.9
HEH pmax pmax
comp=Z,12nm,0.8s
HIA Hailar 33.32 332 P P 05 37 18.3 +1.5
HIA IAmb IAmb 05 37 18.7
comp=Z,8.6nm,0.6s
DLV T Lat 34.42 260 P P 05 37 28.0 +1.1
KAPI Kappang 34.92 224 P P 05 37 31.6 +0.7
COEN Coen 35.27 180 P P 05 37 34.6 +0.8
COEN IAmb IAmb 05 37 34.9
comp=Z,11nm,1.1s
SBUM Sibu 35.52 242 P P 05 37 37.5 +1.4
SBUM IAmb IAmb 05 37 38.1
comp=Z,5.9nm,0.4s
MTN Manton Dam 36.12 200 P P 05 37 40.3 -0.7
MTN IAmb IAmb 05 37 42.7
comp=Z,11nm,0.9s
UBPT Khong Chiam 36.18 267 P P 05 37 41.9 +0.3
SLVN Son La 36.42 277 P P 05 37 43.6 0.0
SONM Songino Array 39.42 321 P P 05 38 09.1 +0.8
comp=Z,0.6nm,0.4s,baz=125,slow=5.6,SNR=5.5
comp=Z,0.6nm,0.4s
KNRA Kununurra 39.56 202 P P 05 38 09.3 -0.3
KNRA IAmb IAmb 05 38 09.8
comp=Z,13nm,0.7s
AMKA Amchitka 40.96 34 P P 05 38 20.4 -0.2
CHTO Chiang Mai 41.44 274 P P 05 38 25.4 +0.5
CTAO Charters Tower 41.48 176 P P 05 38 24.9 -0.2
CMAR Chiang Mai Arr 41.51 274 P P 05 38 25.5 0.0
comp=Z,2.9nm,0.5s,baz=81,slow=6.2,SNR=15
comp=Z,2.9nm,0.5s
WB0 Warramunga Arr 41.92 192 P P 05 38 28.4 -0.3
WB0 IAmb IAmb 05 38 29.0
comp=Z,18nm,1.1s
WR0 Warramunga Arr 42.08 192 P P 05 38 29.3 -0.7
WRAB Tennant Creek 42.09 192 P P 05 38 29.6 -0.4
WRAB IAmb IAmb 05 38 30.4
comp=Z,18nm,0.7s
WB2 Warramunga Arr 42.10 192 P P 05 38 29.9 -0.2
WB2 IAmb IAmb 05 38 30.5
comp=Z,20nm,0.7s
WRA Warramunga Arr 42.10 192 P P 05 38 29.4 -0.8
comp=Z,6.3nm,0.3s,baz=13,slow=9.4,SNR=356
WRA PcP PcP 05 40 17.6 -0.8
comp=Z,0.3nm,0.4s,baz=6.7,slow=3.9,SNR=4.5
comp=Z,6.3nm,0.3s
KULM Kulim 44.15 255 P P 05 38 48.5 +1.9
ATKA Atka Island 44.87 36 P P 05 38 53.0 +1.3
ASAR Alice Springs 45.81 192 P P 05 38 58.0 -1.4
comp=Z,1.4nm,0.3s,baz=13,slow=7.3,SNR=23
ASAR PcP PcP 05 40 30.1 -1.1
comp=Z,0.2nm,0.3s,baz=15,slow=4.0,SNR=4.4
comp=Z,1.4nm,0.3s
SHL Shillong 46.89 285 P P 05 39 08.8 +0.8
MBWA Marble Bar 48.18 210 P P 05 39 17.3 -0.2
MBWA IAmb IAmb 05 39 56.9
comp=Z,16nm,1.3s
PSA00 Pilbara Seismi 48.48 209 P P 05 39 19.5 -0.3
GSI Gunungsitoli 48.67 252 P P 05 39 22.0 +0.5
UNV Unalaska Valle 49.79 37 P P 05 39 29.9 +0.6
baz=250
S12K Black Hills 52.82 36 P P 05 39 51.5 -0.2
STKA Stephens Creek 53.12 182 P P 05 39 53.9 -0.2
STKA Stephens Creek 53.12 182 P P 05 39 52.9 -1.2
comp=Z,7.4nm,0.7s,baz=5.9,slow=7.1,SNR=12
comp=Z,7.4nm,0.7s
M13K Dall Lake 53.75 30 P P 05 40 00.3 +2.1
M13K Dall Lake 53.75 30 P P 05 39 59.9 +1.7
baz=248
K13K Kusilvak Mount 53.77 28 P P 05 39 59.9 +1.6
K13K IAmb IAmb 05 40 00.5
comp=Z,8.8nm,1.0s
K13K Kusilvak Mount 53.77 28 P P 05 39 59.6 +1.2
baz=246
CHNA Chernabura Isl 53.95 37 P P 05 40 00.8 +1.1
baz=256
FORT Forrest 53.98 196 P P 05 40 00.1 -0.1
TNA Tin City 54.12 23 P P 05 40 02.2 +1.4
baz=240
ZAA0 Zalesovo Array 54.29 322 P P 05 40 02.8 +0.5
ZAA0 PcP PcP 05 41 01.6 -0.4
ZALV Zalesovo Beam 54.29 322 P P 05 40 02.5 +0.2
comp=Z,3.9nm,0.6s,baz=102,slow=7.6,SNR=16
ZALV PcP PcP 05 41 01.3 -0.7
comp=Z,3.3nm,0.4s,baz=124,slow=3.2,SNR=9.3
comp=Z,3.9nm,0.6s
O14K Tigyukauivet M 54.34 31 P P 05 40 03.7 +1.3
N14K Kuskokwak Cree 54.36 31 P P 05 40 02.4 -0.2
baz=250
L14K Kuka Creek 54.40 29 P P 05 40 04.4 +1.6
L14K IAmb IAmb 05 40 14.3
comp=Z,26nm,1.5s
L14K Kuka Creek 54.40 29 P P 05 40 03.5 +0.6
baz=248
BBOO Buckleboo 54.45 187 P P 05 40 03.2 -0.4
M14K Bethel 54.52 30 P P 05 40 05.3 +1.6
M14K Bethel 54.52 30 P P 05 40 04.3 +0.6
baz=249
ANM Nome 54.60 25 P P 05 40 04.8 +0.5
baz=243
F14K Arctic Creek 54.66 23 P P 05 40 06.1 +1.4
baz=242
MK31 Makanchi Array 54.75 313 P P 05 40 06.8 +1.1
MKAR Makanchi Array 54.75 313 P P 05 40 06.5 +0.7
comp=Z,3.8nm,0.5s,baz=91,slow=8.8,SNR=38
MKAR PcP PcP 05 41 03.5 -0.5
comp=Z,0.9nm,0.4s,baz=78,slow=5.4,SNR=5.5
comp=Z,3.8nm,0.5s
CHGN Chignik 54.96 35 P P 05 40 06.8 -0.1
MAKZ Makanchi 54.97 313 P P 05 40 08.3 +1.1
O15K Ungalikthiuk R 55.02 32 P P 05 40 07.7 +0.4
baz=252
N15K Kwethluk River 55.19 31 P P 05 40 09.8 +1.3
N15K PcP PcP 05 41 06.1 +0.7
N15K Kwethluk River 55.19 31 P P 05 40 09.0 +0.4
baz=252
K15K Wolf Creek Mou 55.26 28 P P 05 40 10.5 +1.5
K15K IAmb IAmb 05 40 30.4
comp=Z,20nm,1.4s
K15K PcP PcP 05 41 06.6 +1.0
K15K Wolf Creek Mou 55.26 28 P P 05 40 10.1 +1.1
baz=249
G15K Niukluk 55.31 24 P P 05 40 10.3 +1.0
baz=244
F15K North Star Dit 55.39 23 P P 05 40 10.8 +0.9
F15K North Star Dit 55.39 23 P P 05 40 11.2 +1.4
baz=243
R16K Pilot Point 55.72 34 P P 05 40 12.3 +0.1
baz=256
H16K Elim 55.86 25 P P 05 40 14.3 +1.1
baz=247
N16K Nishlik Lake 55.91 31 P P 05 40 14.4 +0.7
baz=253
M16K Timber Creek 55.99 30 P P 05 40 15.2 +1.0
baz=252
J16K Anvik River 56.02 27 P P 05 40 15.2 +0.9
J16K Anvik River 56.02 27 P P 05 40 15.7 +1.4
baz=249
G16K Koyuk River 56.12 24 P P 05 40 15.9 +1.0
G16K Koyuk River 56.12 24 P P 05 40 16.1 +1.1
baz=246
I17K Unalakleet 56.20 26 P P 05 40 17.2 +1.7
I17K IAmb IAmb 05 40 42.9
comp=Z,18nm,1.4s
I17K Unalakleet 56.20 26 P P 05 40 16.7 +1.1
baz=249
C16K Lisburne Hills 56.35 21 P P 05 40 17.3 +0.8
PLK4 Peulik 4 56.37 34 P P 05 40 18.4 +1.4
CHIR Chirikof Islan 56.38 36 P P 05 40 18.6 +1.7
O17K Koliganek Bris 56.52 32 P P 05 40 19.0 +1.1
baz=255
L17K Donlin 56.63 29 P P 05 40 19.6 +0.9
baz=252
MORW Morawa 56.67 208 P P 05 40 18.8 -0.5
N17K Nushagak Hills 56.68 31 P P 05 40 20.1 +1.1
baz=254
P17K Kvichak River 56.70 32 P P 05 40 19.8 +0.7
baz=256
J17K VABM Dome 56.70 27 P P 05 40 21.2 +2.0
J17K IAmb IAmb 05 40 21.5
comp=Z,7.1nm,0.8s
J17K VABM Dome 56.70 27 P P 05 40 20.1 +1.0
baz=250
M17K Holitna River 56.81 30 P P 05 40 20.2 +0.3
baz=253
K17K Iditarod 56.81 28 P P 05 40 22.0 +2.1
K17K IAmb IAmb 05 40 22.4
comp=Z,11nm,0.8s
K17K Iditarod 56.81 28 P P 05 40 20.8 +0.9
baz=252
G17K Kiwalik Mounta 56.82 24 P P 05 40 21.0 +1.1
baz=248
D17K Noatak River 56.84 22 P P 05 40 21.4 +1.4
baz=244,SNR=5.5
H17K Granite Mounta 56.90 25 P P 05 40 21.8 +1.4
H17K Granite Mounta 56.90 25 P P 05 40 21.2 +0.7
baz=249
F17K Baldwin Pennin 56.96 23 P P 05 40 21.1 +0.3
F17K IAmb IAmb 05 40 24.2
comp=Z,8.1nm,0.8s
F17K Baldwin Pennin 56.96 23 P P 05 40 21.9 +1.1
baz=246
E17K Hotham Inlet 57.01 23 P P 05 40 22.5 +1.2
baz=246
C17K DeLong Mountai 57.15 21 P P 05 40 23.4 +1.2
baz=243
Q18K Katmai Hardscr 57.29 33 P P 05 40 24.3 +0.8
baz=257
SII Sitkinak Islan 57.31 36 P P 05 40 24.7 +1.2
SII Sitkinak Islan 57.31 36 P P 05 40 23.5 0.0
baz=260
N18K Kilae Creek 57.34 31 P P 05 40 25.2 +1.6
N18K IAmb IAmb 05 40 54.6
comp=Z,20nm,1.4s
N18K Kilae Creek 57.34 31 P P 05 40 24.4 +0.7
baz=255
L18K Granite Mounta 57.38 29 P P 05 40 25.5 +1.6
L18K IAmb IAmb 05 40 26.1
comp=Z,12nm,1.4s
L18K Granite Mounta 57.38 29 P P 05 40 25.3 +1.4
baz=254
O18K Koktuh Hills 57.47 32 P P 05 40 26.3 +1.7
O18K Koktuh Hills 57.47 32 P P 05 40 25.4 +0.9
baz=256
KURK Kurchatov 57.54 317 P P 05 40 25.7 +0.5
KURK IAmb IAmb 05 40 26.4
comp=Z,6.6nm,0.8s
M18K Stony River 57.58 30 P P 05 40 26.2 +0.9
baz=255
E18K Tukpahlearik C 57.58 22 P P 05 40 26.8 +1.6
E18K Tukpahlearik C 57.58 22 P P 05 40 26.9 +1.7
baz=247
H18K Honhosa River 57.59 25 P P 05 40 26.3 +1.1
H18K Honhosa River 57.59 25 P P 05 40 26.5 +1.2
baz=250,SNR=5.0
KURBB Kurchatov Arra 57.59 317 P P 05 40 26.1 +0.5
comp=Z,14nm,0.6s,baz=95,slow=8.0,SNR=150
comp=Z,14nm,0.6s
F18K Selawik 57.61 23 P P 05 40 26.7 +1.4
baz=248
G18K Tagagawik 57.73 24 P P 05 40 27.4 +1.2
G18K Tagagawik 57.73 24 P P 05 40 27.4 +1.2
baz=249
J18K Innoko River 57.73 27 P P 05 40 27.3 +1.0
J18K IAmb IAmb 05 40 27.4
comp=Z,11nm,1.4s
J18K Innoko River 57.73 27 P P 05 40 27.5 +1.2
baz=253
C18K Utukok River 57.88 21 P P 05 40 28.2 +0.8
C18K Utukok River 57.88 21 P P 05 40 28.0 +0.7
baz=245
OHAK Old Harbor 57.91 35 P P 05 40 28.2 +0.6
O19K Port Alsworth 57.98 32 P P 05 40 28.9 +0.9
baz=257
B18K Kokolik River 57.99 20 P P 05 40 29.1 +1.1
baz=244
N19K Bonanza Creek 58.04 31 P P 05 40 29.4 +0.8
N19K IAmb IAmb 05 40 30.3
comp=Z,4.8nm,0.7s
N19K Bonanza Creek 58.04 31 P P 05 40 29.5 +0.9
baz=257
GCSA Galena City Sc 58.05 26 P P 05 40 29.1 +0.6
baz=252
NRIK Noril'sk 58.12 340 P P 05 40 30.1 +1.2
NRIK IAmb IAmb 05 40 30.1
comp=Z,6.3nm,0.8s
NRIK Noril'sk 58.12 340 P P 05 40 29.3 +0.4
comp=Z,5.3nm,0.7s,baz=105,slow=8.3,SNR=8.0
comp=Z,5.3nm,0.7s
L19K White Mountain 58.20 29 P P 05 40 31.0 +1.4
L19K IAmb IAmb 05 40 35.3
comp=Z,11nm,1.4s
J19K Poorman 58.35 27 P P 05 40 31.9 +1.4
J19K IAmb IAmb 05 40 32.4
comp=Z,5.1nm,0.6s
J19K Poorman 58.35 27 P P 05 40 31.9 +1.4
baz=254,SNR=5.0
KDAK Kodiak Island 58.38 35 P P 05 40 31.5 +0.7
KDAK Kodiak Island 58.38 35 P P 05 40 31.5 +0.7
baz=260
F19K Shaleruckik Mo 58.39 24 P P 05 40 31.8 +1.0
F19K Shaleruckik Mo 58.39 24 P P 05 40 31.4 +0.6
baz=250
P19K Oil Pt 58.40 32 P P 05 40 31.3 +0.4
baz=258
G19K Purcell Mounta 58.42 24 P P 05 40 32.4 +1.5
G19K Purcell Mounta 58.42 24 P P 05 40 32.2 +1.2
baz=251,SNR=5.5
H19K Roundabout Mou 58.47 25 P P 05 40 32.6 +1.4
H19K IAmb IAmb 05 40 33.4
comp=Z,7.3nm,0.7s
H19K Roundabout Mou 58.47 25 P P 05 40 32.7 +1.4
baz=252,SNR=11
A19K Wainwright 58.59 19 P P 05 40 33.7 +1.7
baz=244
C19K Lookout Ridge 58.60 21 P P 05 40 33.6 +1.4
C19K Lookout Ridge 58.60 21 P P 05 40 33.8 +1.5
baz=247,SNR=7.0
E19K Redstone River 58.81 23 P P 05 40 34.8 +1.1
E19K IAmb IAmb 05 40 35.6
comp=Z,7.7nm,1.1s
E19K Redstone River 58.81 23 P P 05 40 34.9 +1.3
baz=250,SNR=7.2
K20K Telida 58.84 28 P P 05 40 35.1 +1.1
K20K Telida 58.84 28 P P 05 40 35.3 +1.3
baz=255
D19K Kuna River 58.86 22 P P 05 40 34.5 +0.5
D19K IAmb IAmb 05 40 37.6
comp=Z,15nm,1.5s
D19K Kuna River 58.86 22 P P 05 40 35.4 +1.3
baz=248
M20K Styx River 58.92 30 P P 05 40 35.7 +1.1
baz=257
J20K Nowinta River 59.02 27 P P 05 40 36.7 +1.5
J20K Nowinta River 59.02 27 P P 05 40 36.6 +1.5
baz=255,SNR=8.7
I20K Naaghedeneel 59.05 26 P P 05 40 36.8 +1.5
I20K Naaghedeneel 59.05 26 P P 05 40 36.7 +1.4
baz=254
H20K Anotleneega Mo 59.08 25 P P 05 40 37.0 +1.4
baz=253,SNR=7.5
BOOM Boomskoye usch 59.14 307 P P 05 40 37.9 +1.3
BOOM IAmb IAmb 05 40 38.6
comp=Z,3.7nm,0.5s
F20K Avaraart Lake 59.22 24 P P 05 40 37.7 +1.3
F20K Avaraart Lake 59.22 24 P P 05 40 37.7 +1.3
baz=252
E20K Nigu River 59.45 22 P P 05 40 39.2 +1.1
baz=250,SNR=5.7
D20K Etivluk River 59.46 22 P P 05 40 38.9 +0.8
baz=250,SNR=12
SKT Skwentna 59.68 30 P P 05 40 39.9 +0.2
baz=259
CAST Castle Rocks 59.73 28 P P 05 40 41.0 +1.0
CAST IAmb IAmb 05 40 41.7
comp=Z,9.5nm,0.9s
CAST Castle Rocks 59.73 28 P P 05 40 41.2 +1.3
baz=257
CHUM Lake Minchumin 59.73 28 P P 05 40 41.1 +1.1
baz=257
B20K Meade River 59.74 20 P P 05 40 41.1 +1.2
B20K Meade River 59.74 20 P P 05 40 41.3 +1.4
baz=249
G21K Allakaket 59.91 24 P P 05 40 42.1 +1.0
G21K IAmb IAmb 05 40 43.3
comp=Z,8.4nm,1.2s
G21K Allakaket 59.91 24 P P 05 40 42.4 +1.3
baz=254,SNR=6.1
SUA Susitna One 59.95 30 P P 05 40 42.0 +0.4
SUA IAmb IAmb 05 41 00.2
comp=Z,12nm,1.2s
SUA Susitna One 59.95 30 P P 05 40 42.2 +0.6
baz=260
H21K Melozitna Rive 59.96 26 P P 05 40 42.8 +1.3
H21K IAmb IAmb 05 40 43.7
comp=Z,7.9nm,0.9s
H21K Melozitna Rive 59.96 26 P P 05 40 42.8 +1.3
baz=255,SNR=9.1
F21K Alatna River 60.11 24 P P 05 40 43.6 +1.0
F21K Alatna River 60.11 24 P P 05 40 43.7 +1.2
baz=254
C21K Knifeblade Rid 60.23 21 P P 05 40 44.7 +1.5
baz=251
E21K Killik River 60.29 22 P P 05 40 44.2 +0.5
E21K Killik River 60.29 22 P P 05 40 45.1 +1.4
baz=253
M22K Willow 60.29 30 P P 05 40 44.7 +0.9
baz=260
BPAW Bear Paw Mtn. 60.35 27 P P 05 40 45.0 +0.9
BPAW Bear Paw Mtn. 60.35 27 P P 05 40 45.2 +1.0
baz=258,SNR=10.0
SEW Seward 60.35 32 P P 05 40 44.5 +0.3
SEW Seward 60.35 32 P P 05 40 44.7 +0.5
baz=262
RC01 Rabbit Creek A 60.37 31 P P 05 40 44.4 +0.1
RC01 IAmb IAmb 05 40 53.9
comp=Z,16nm,1.1s
RC01 Rabbit Creek A 60.37 31 P P 05 40 45.0 +0.7
baz=261
A21K Barrow 60.39 19 P P 05 40 45.2 +1.0
baz=248
B21K Ikpikpuk River 60.44 21 P P 05 40 45.7 +1.1
B21K IAmb IAmb 05 40 46.5
comp=Z,7.2nm,0.6s
B21K Ikpikpuk River 60.44 21 P P 05 40 45.4 +0.8
baz=251
H22K Ishtalitna Cre 60.59 25 P P 05 40 46.8 +1.0
baz=257,SNR=5.1
MLY Manley 60.65 26 P P 05 40 47.2 +1.0
MLY Manley 60.65 26 P P 05 40 47.2 +1.0
baz=258,SNR=6.0
F22K John River 60.68 24 P P 05 40 47.4 +1.1
baz=255
PMR Palmer 60.73 30 P P 05 40 46.8 +0.1
PMR IAmb IAmb 05 40 47.2
comp=Z,10nm,1.2s
PMR Palmer 60.73 30 P P 05 40 46.7 0.0
baz=261
A22K Sinclair Lake 60.78 19 P P 05 40 48.2 +1.4
baz=250
G22K Bettles 60.78 24 P P 05 40 48.1 +1.1
baz=256
D22K Ayikyak River 60.87 22 P P 05 40 49.1 +1.5
D22K Ayikyak River 60.87 22 P P 05 40 48.5 +0.9
baz=254,SNR=27
E22K Anaktuvuk Pass 60.97 23 P P 05 40 49.4 +1.1
E22K IAmb IAmb 05 40 50.5
comp=Z,9.2nm,1.4s
E22K Anaktuvuk Pass 60.97 23 P P 05 40 49.7 +1.4
baz=255
PWL Port Wells 61.01 31 P P 05 40 48.7 +0.1
PWL Port Wells 61.01 31 P P 05 40 48.9 +0.3
baz=262,SNR=6.2
KNK Knik Glacier 61.02 31 P P 05 40 49.4 +0.7
baz=262
B22K Teshekpuk Lake 61.05 20 P P 05 40 49.6 +0.9
B22K IAmb IAmb 05 40 50.4
comp=Z,10.0nm,0.8s
B22K Teshekpuk Lake 61.05 20 P P 05 40 49.6 +0.9
baz=252
SML Sawmill 61.14 30 P P 05 40 50.0 +0.4
SML IAmb IAmb 05 40 51.0
comp=Z,8.4nm,0.9s
SML Sawmill 61.14 30 P P 05 40 50.0 +0.4
baz=262
MCK McKinley 61.17 28 P P 05 40 50.8 +1.1
baz=260
WAT1 Susitna Watana 61.20 29 P P 05 40 50.6 +0.8
baz=261
I23K Minto, Yukon-K 61.25 26 P P 05 40 51.0 +0.9
I23K IAmb IAmb 05 40 52.3
comp=Z,7.4nm,0.6s
I23K Minto, Yukon-K 61.25 26 P P 05 40 51.3 +1.2
baz=259,SNR=8.5
NEA2 Nenana 61.27 27 IAmb IAmb 05 40 51.7
comp=Z,4.8nm,0.5s
NEA2 Nenana 61.27 27 P P 05 40 51.2 +0.9
baz=260,SNR=6.6
G23K Bananza Creek 61.30 25 P P 05 40 51.5 +1.0
G23K IAmb IAmb 05 40 52.8
comp=Z,9.6nm,1.4s
G23K Bananza Creek 61.30 25 P P 05 40 51.7 +1.2
baz=258,SNR=6.3
H23K Yukon River 61.31 26 P P 05 40 51.7 +1.1
H23K Yukon River 61.31 26 P P 05 40 51.6 +1.0
baz=258,SNR=5.6
COLD Coldfoot 61.35 24 P P 05 40 52.2 +1.5
baz=257,SNR=6.3
P23K Montague Islan 61.36 32 P P 05 40 51.8 +0.9
baz=264
M23K Glacier View 61.42 30 P P 05 40 51.6 +0.2
baz=262
WAT6 Susitna Watana 61.53 29 P P 05 40 52.7 +0.4
baz=262
D23K Nanushuk River 61.59 22 P P 05 40 53.3 +0.9
baz=256,SNR=7.8
GLI Glacier Island 61.61 31 P P 05 40 52.8 +0.2
GLI IAmb IAmb 05 40 54.4
comp=Z,5.3nm,0.7s
GLI Glacier Island 61.61 31 P P 05 40 53.3 +0.7
baz=263
SCM Sheep Creek Mo 61.62 30 P P 05 40 53.5 +0.7
baz=263
WRH Wood River Hil 61.66 27 P P 05 40 52.4 -0.5
MDM Murphy Dome 61.69 27 P P 05 40 53.1 +0.1
MDM IAmb IAmb 05 40 54.9
comp=Z,4.3nm,0.4s
E23K Chandalar 61.76 23 P P 05 40 54.6 +1.0
baz=257,SNR=20
DHY Denali Highway 61.76 29 P P 05 40 54.0 +0.2
baz=262
CCB Clear Creek Bu 61.81 27 P P 05 40 53.7 -0.2
COLA College 61.83 27 P P 05 40 54.8 +0.8
baz=260
C23K Itkillik River 61.83 21 P P 05 40 55.0 +1.1
C23K Itkillik River 61.83 21 P P 05 40 55.3 +1.3
baz=255,SNR=10.0
FID Port Fidalgo 61.90 32 P P 05 40 54.4 -0.1
FID IAmb IAmb 05 40 55.2
comp=Z,6.3nm,0.6s
TOLK Toolik Lake Re 61.90 23 P P 05 40 55.8 +1.4
TOLK Toolik Lake Re 61.90 23 P P 05 40 55.9 +1.4
baz=257,SNR=12
H24K Noodor Dome 61.98 26 P P 05 40 56.1 +1.1
H24K IAmb IAmb 05 40 56.8
comp=Z,5.3nm,0.7s
H24K Noodor Dome 61.98 26 P P 05 40 56.3 +1.2
baz=260,SNR=8.7
POKR Poker Plat Res 62.05 27 P P 05 40 55.7 +0.2
baz=261
HDA Harding Lake 62.14 27 P P 05 40 56.2 +0.1
baz=262
E24K Your Creek 62.17 23 IAmb IAmb 05 40 58.5
comp=Z,5.4nm,0.7s
E24K Your Creek 62.17 23 P P 05 40 57.0 +0.7
baz=258
M24K Tolsona, Glenn 62.19 30 P P 05 40 57.1 +0.6
baz=264
ILAR Eielson Array 62.22 27 P P 05 40 55.8 -0.8
comp=Z,3.0nm,0.6s,baz=261,slow=5.5,SNR=53
comp=Z,3.0nm,0.6s
EYAK Cordova Ski Ar 62.23 32 P P 05 40 57.4 +0.7
baz=265
KLU Klutina 62.24 31 P P 05 40 57.8 +0.9
baz=264
D24K Happy Valley 62.28 22 P P 05 40 58.4 +1.5

baz=257,SNR=5.5
F24K Squaw Lake 62.29 24 P P 05 40 58.4 +1.4
F24K Squaw Lake 62.29 24 P P 05 40 58.0 +1.0
baz=259
G24K Hadweenzic Riv 62.30 25 IAmb IAmb 05 40 59.3
comp=Z,7.2nm,0.9s
G24K Hadweenzic Riv 62.30 25 P P 05 40 58.5 +1.4
baz=260,SNR=6.6
C24K Franklin Bluff 62.45 21 P P 05 40 58.9 +0.9
baz=257
K24K Donnelly Dome 62.57 28 P P 05 40 59.5 +0.5
baz=263
PAX Paxson 62.61 29 P P 05 40 59.2 -0.1
baz=264
HARP HAARP 62.70 30 P P 05 41 00.9 +1.1
baz=264
BVAR Borovoye Array 62.75 320 P P 05 41 00.7 +0.4
comp=Z,14nm,0.3s,baz=92,slow=7.2,SNR=64
comp=Z,14nm,0.3s
RAGM Ragged Mountai 62.75 32 P P 05 41 01.3 +1.1
RAGM IAmb IAmb 05 41 31.9
comp=Z,9.3nm,1.2s
BRVK Borovoye 62.81 320 P P 05 41 01.6 +0.9
BRVK IAmb IAmb 05 41 02.1
comp=Z,8.5nm,0.8s
BMRM Bremner River 62.83 31 P P 05 41 01.3 +0.6
baz=266
G25K Bearman Lake 62.84 25 P P 05 41 01.7 +1.1
baz=261
J25K Salcha River, 62.85 27 P P 05 41 00.9 +0.1
baz=263,SNR=6.8
KAIM Kayak Island 62.85 33 P P 05 41 01.6 +0.8
baz=266
H25L Birch Creek 62.88 25 P P 05 41 01.6 +0.8
baz=262,SNR=6.5
N25K Chitina, Valde 62.88 31 P P 05 41 02.3 +1.2
N25K Chitina, Valde 62.88 31 P P 05 41 01.5 +0.4
baz=265
PRP Porcupine Dome 62.90 26 P P 05 41 01.5 +0.3
baz=262
KKAR Karatay Array 63.10 308 IAmb IAmb 05 41 04.4
comp=Z,4.1nm,0.8s
F25K Christian Rive 63.15 24 P P 05 41 03.7 +1.0
baz=261,SNR=12
FYU Fort Yukon 63.16 25 IAmb IAmb 05 41 04.8
comp=Z,10nm,1.0s
D25K Kavik River 63.17 22 P P 05 41 04.0 +1.2
D25K Kavik River 63.17 22 P P 05 41 03.8 +1.0
baz=260
SCRK Sand Creek 63.38 28 P P 05 41 04.6 +0.3
SCRK IAmb IAmb 05 41 05.3
comp=Z,5.6nm,0.6s
SCRK Sand Creek 63.38 28 P P 05 41 04.8 +0.5
baz=265,SNR=11
MENT Mentasta 63.41 29 IAmb IAmb 05 41 11.0
comp=Z,3.1nm,0.6s
CRQE Cirque 63.55 32 P P 05 41 06.2 +0.7
baz=267
L26K Log Cabin Wild 63.58 29 P P 05 41 06.2 +0.7
baz=266
J26L Joseph Creek 63.61 28 IAmb IAmb 05 41 06.7
comp=Z,6.7nm,0.8s
J26L Joseph Creek 63.61 28 P P 05 41 06.0 +0.1
baz=265,SNR=10.0
M26K Nabesna, AK 63.70 30 P P 05 41 06.6 +0.3
baz=266
F26K Sheenjek River 63.73 24 P P 05 41 07.6 +1.2
baz=263,SNR=18
G26K Porcupine Rive 63.78 25 P P 05 41 07.9 +1.2
baz=263,SNR=6.7
C26K Camden Bay 63.78 21 P P 05 41 08.1 +1.4
baz=261
I26K Coal Creek Min 63.86 27 P P 05 41 07.5 +0.2
baz=265
MESA MESA 64.10 32 P P 05 41 09.5 +0.3
baz=268
C27K Jago River 64.15 22 P P 05 41 10.4 +1.3
baz=262,SNR=5.9
M27K Edge Creek, AK 64.22 30 P P 05 41 10.2 +0.4
baz=267
K27K Chicken 64.22 28 P P 05 41 10.5 +0.8
baz=266
L27K Beaver Creek, 64.28 29 P P 05 41 11.0 +1.0
baz=267
CTG Chitna Glacier 64.42 32 P P 05 41 11.9 +0.8
baz=268
I27K Kandik River 64.52 26 P P 05 41 12.5 +0.9
baz=266
G27K Doyon Strip 64.60 25 P P 05 41 13.0 +0.9
baz=265
H27K Steamboat Moun 64.61 26 P P 05 41 13.5 +1.4
baz=266,SNR=21
CHGR Chuyangaron 64.62 304 P P 05 41 13.8 +1.0
EGAK Eagle 64.66 27 P P 05 41 13.2 +0.7
baz=267
E27K Coleen River 64.74 24 IAmb IAmb 05 41 15.1
comp=Z,3.7nm,0.9s
E27K Coleen River 64.74 24 P P 05 41 14.1 +1.1
baz=265,SNR=6.0
YUK3 Moose Creek 64.86 31 P P 05 41 14.6 +0.5
baz=269
O28M Mount Upton 64.98 32 P P 05 41 15.6 +0.7
baz=270
D27M Malcolm River 65.07 22 IAmb IAmb 05 41 17.2
comp=Z,7.2nm,0.9s
D27M Malcolm River 65.07 22 P P 05 41 16.1 +1.1
baz=265
I28M Miner Creek 65.21 27 IAmb IAmb 05 41 17.6
comp=Z,5.9nm,0.8s
I28M Miner Creek 65.21 27 P P 05 41 16.9 +0.8
baz=268,SNR=8.5
F28M Old Crow 65.35 24 P P 05 41 18.2 +1.4
F28M IAmb IAmb 05 41 18.9
comp=Z,6.9nm,0.8s
F28M Old Crow 65.35 24 P P 05 41 18.2 +1.4
baz=267,SNR=16
DAWY Dawson 65.40 28 P P 05 41 18.1 +0.8
DAWY IAmb IAmb 05 41 18.9
comp=Z,3.5nm,0.8s
DAWY Dawson 65.40 28 P P 05 41 18.1 +0.9
baz=269,SNR=5.6
E28M Babbage River 65.53 23 P P 05 41 19.4 +1.4
E28M IAmb IAmb 05 41 20.3
comp=Z,6.7nm,0.9s
E28M Babbage River 65.53 23 P P 05 41 19.2 +1.2
baz=266,SNR=9.0
YUK4 Talbot Arm 65.73 31 P P 05 41 20.2 +0.6
baz=271,SNR=10
O29M Mount Kennedy 65.78 32 P P 05 41 20.8 +1.0
baz=271
M29M Somme Creek 65.81 30 P P 05 41 21.3 +1.3
M29M IAmb IAmb 05 41 22.1
comp=Z,6.0nm,0.8s
M29M Somme Creek 65.81 30 P P 05 41 21.0 +1.1
baz=270,SNR=9.1
D28M Stokes Point 65.86 22 P P 05 41 21.2 +1.2
baz=267
YUK6 Outpost Mounta 65.87 32 P P 05 41 21.5 +0.9
baz=271
H29M Whitestone 65.88 26 P P 05 41 21.4 +1.1
baz=269,SNR=7.2
I29M Ogilvie Camp, 65.89 27 IAmb IAmb 05 41 21.8
comp=Z,7.7nm,1.2s
I29M Ogilvie Camp, 65.89 27 P P 05 41 20.9 +0.6
baz=269
J29N Klondike Camp 65.92 28 P P 05 41 21.6 +1.0
baz=270
L29M L29M 65.96 29 P P 05 41 22.3 +1.5
L29M IAmb IAmb 05 41 23.1
comp=Z,8.4nm,0.9s
L29M L29M 65.96 29 P P 05 41 21.9 +1.1
baz=270,SNR=7.8
G29M Pine Creek 66.04 25 P P 05 41 22.2 +1.0
baz=269,SNR=7.5
E29M Blow River 66.13 23 P P 05 41 22.6 +0.9
baz=268
P29M Windy Craggy 66.22 33 P P 05 41 23.1 +0.6
baz=272
K29M Barlow Dome 66.23 28 IAmb IAmb 05 41 24.5
comp=Z,4.5nm,0.8s
K29M Barlow Dome 66.23 28 P P 05 41 23.1 +0.5
baz=270,SNR=6.8
N30M Aishikik Lake 66.48 31 IAmb IAmb 05 41 26.1
comp=Z,4.6nm,0.9s
N30M Aishikik Lake 66.48 31 P P 05 41 24.9 +0.7
baz=272,SNR=5.4
EPYK Eagle Plains 66.55 26 P P 05 41 25.4 +0.9
EPYK Eagle Plains 66.55 26 P P 05 41 25.4 +0.9
baz=270,SNR=9.1
M30M Minto, Yukon 66.58 30 P P 05 41 26.1 +1.3
M30M Minto, Yukon 66.58 30 P P 05 41 26.0 +1.2
baz=272
P30M Million Dollar 66.59 32 P P 05 41 25.8 +0.9
baz=273
I30M Mount Dempster 66.70 27 P P 05 41 26.1 +0.6
I30M IAmb IAmb 05 41 28.6
comp=Z,7.1nm,1.2s
I30M Mount Dempster 66.70 27 P P 05 41 26.2 +0.6
baz=271,SNR=7.9
J30M Hart River 66.74 28 P P 05 41 26.5 +0.7
baz=271
G30M tAoh Zraii Nji 66.75 25 IAmb IAmb 05 41 27.7
comp=Z,8.7nm,0.9s
G30M tAoh Zraii Nji 66.75 25 P P 05 41 26.3 +0.5
baz=270,SNR=8.2
F30M Barrier River 66.91 24 P P 05 41 27.5 +0.8
baz=270,SNR=5.4
PLBC Pleasant Camp 66.93 33 P P 05 41 27.7 +0.8
baz=273
O30N Mendenhall 66.99 32 P P 05 41 27.9 +0.5
baz=273
N31M Braeburn, Yuko 67.10 31 P P 05 41 28.7 +0.7
baz=273,SNR=5.0
R31K City Hall, Gus 67.32 34 P P 05 41 29.7 +0.3
baz=274
SKAG Skagway 67.46 33 P P 05 41 31.1 +0.9
baz=274
G31M Satah River 67.52 25 P P 05 41 30.7 +0.3
baz=272,SNR=16
F31M Tsiigehtchic 67.70 24 P P 05 41 32.4 +0.8
baz=272
M31M Drury Creek, Y 67.72 30 P P 05 41 32.4 +0.6
baz=274
INK Inuvik 67.75 24 P P 05 41 31.9 +0.1
INK IAmb IAmb 05 41 32.8
comp=Z,4.5nm,1.0s
INK Inuvik 67.75 24 P P 05 41 32.1 +0.3
baz=272,SNR=5.7
R32K Eaglecrest 67.98 34 P P 05 41 33.3 -0.2
baz=276
BKZ Black Stump Fm 67.99 153 P P 05 41 33.3 -0.5
FARO Faro, Yukon 68.20 30 P P 05 41 35.8 +0.9
baz=275
P32M Atlin 68.27 33 P P 05 41 36.4 +1.1
baz=276
N32M Quiet Lake 68.43 31 P P 05 41 37.0 +0.7
baz=276
P33M Teslin, Yukon 68.65 32 IAmb IAmb 05 41 39.4
comp=Z,5.8nm,1.2s
P33M Teslin, Yukon 68.65 32 P P 05 41 38.7 +1.0
baz=276
Q32M Nakina River 69.07 34 P P 05 41 41.0 +0.6
baz=277
ABKAR Akbulak array 69.61 316 P P 05 41 43.8 +0.2
R33M Jennings River 69.68 33 P P 05 41 44.8 +0.8
baz=278
S34M Telegraph Cree 69.81 35 P P 05 41 45.4 +0.8
baz=278
A36M Sachs Harbour 70.22 19 P P 05 41 47.5 +0.6
baz=278,SNR=8.4
DLBC Dease Lake 70.31 34 P P 05 41 48.7 +0.9
baz=279
TGTN Hyland Airport 70.67 31 P P 05 41 50.7 +0.7
baz=290,SNR=5.4
C36M Paulatuk 71.05 22 P P 05 41 52.2 +0.3
baz=280
LIRD Liard River Hi 72.13 32 P P 05 41 59.6 +1.1
baz=282
WRGLY Wrigley 72.54 28 P P 05 42 02.0 +1.2
baz=283
TOAD Toad River Com 72.69 33 P P 05 42 02.5 +0.6
baz=283
SPA0 Spitsbergen Ar 75.98 350 eP P 05 42 21.0 +0.6
SPITS Spitsbergen Ar 75.98 350 P P 05 42 20.2 -0.2
comp=Z,1.5nm,0.4s,baz=84,slow=7.7,SNR=9.2
comp=Z,1.5nm,0.4s
KBS Kingsbay 76.14 351 eP P 05 42 21.9 +0.7
NLWA Neilton Lookou 76.45 44 IAmb IAmb 05 42 25.7
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 76.64 28 P P 05 42 24.1 -0.2
comp=Z,6.7nm,0.6s,baz=293,slow=5.6,SNR=19
comp=Z,6.7nm,0.6s
VADS Vadso 77.61 341 eP P 05 42 30.2 +0.7
VADS IAmb IAmb 05 42 30.4
comp=Z,8.3nm,0.6s
KEV Kevo 78.49 341 P P 05 42 34.1 -0.2
KEV IAmb IAmb 05 42 35.7
comp=Z,7.3nm,0.9s
I04A Tendick Farm, 78.53 47 P P 05 42 35.5 +0.3
I04A IAmb IAmb 05 42 35.9
comp=Z,3.1nm,0.7s
HUMO Hull Mountain 78.53 49 P P 05 42 35.4 +0.2
LTY Liberty 78.56 44 P P 05 42 35.4 +0.2
LTY IAmb IAmb 05 42 36.3
comp=Z,4.4nm,1.1s
HAMF Hammerfest 78.96 343 eP P 05 42 37.1 +0.3
YBH Yreka Blue Hor 78.99 50 P P 05 42 38.6 +0.9
YBH IAmb IAmb 05 42 39.5
comp=Z,3.1nm,0.9s
KCPM Cahto Peak 79.02 52 P P 05 42 39.2 +1.3
MXC Moxie City 79.03 44 IAmb IAmb 05 42 39.4
comp=Z,3.8nm,1.1s
B08A Colville Reser 79.04 42 IAmb IAmb 05 42 39.0
comp=Z,4.1nm,0.8s
ARCES ARCESS Array B 79.05 341 P P 05 42 37.5 +0.1
comp=Z,3.1nm,0.4s,baz=75,slow=9.4,SNR=83
comp=Z,3.1nm,0.4s
J05D Fort Rock, OR 79.51 48 P P 05 42 41.0 +0.5
J05D IAmb IAmb 05 42 42.1
comp=Z,5.1nm,0.8s
D08A Wollman Farm, 79.75 43 IAmb IAmb 05 42 43.9
comp=Z,4.1nm,1.0s
KTK1 Kautokeino 80.02 342 eP P 05 42 42.5 0.0
NEW Newport 80.46 42 IAmb IAmb 05 42 46.5
comp=Z,3.8nm,0.7s
NEW Newport 80.46 42 P P 05 42 45.7 +0.3
baz=292
TRO Tromso 80.87 343 eP P 05 42 46.8 -0.2
J08A Circle Bar Ran 81.37 47 P P 05 42 50.6 +0.2
J08A IAmb IAmb 05 42 52.2
comp=Z,3.8nm,1.0s
BMO Blue Mountains 81.60 45 P P 05 42 51.9 +0.4
BMO IAmb IAmb 05 42 52.6
comp=Z,3.0nm,0.7s
CMB Columbia Colle 81.93 52 IAmb IAmb 05 42 54.3
comp=Z,4.2nm,0.8s
PNTR Pine Nut 82.12 51 P P 05 42 55.3 +0.8
PNTR IAmb IAmb 05 42 55.9
comp=Z,4.4nm,0.8s
YERR Yerington 82.42 51 P P 05 42 56.9 +0.9
YERR IAmb IAmb 05 42 57.1
comp=Z,2.5nm,0.8s
KBZ Khabaz 82.43 314 P P 05 42 55.9 +0.3
comp=Z,5.2nm,0.8s,baz=121,slow=4.6,SNR=11
comp=Z,5.2nm,0.8s
WAKR Walker 82.45 52 P P 05 42 57.0 +0.8
WAKR IAmb IAmb 05 43 31.5
comp=Z,6.2nm,1.4s
STEI Steigen 83.00 343 eP P 05 42 57.6 -0.4
MFID Camas Ranch 83.13 46 IAmb IAmb 05 43 00.7
comp=Z,6.0nm,1.1s
KVN Kaiserville 83.22 51 P P 05 43 00.3 +0.3
KVN IAmb IAmb 05 43 01.1
comp=Z,5.5nm,1.4s
FIA1 FINESS Array S 83.30 334 P P 05 42 59.0 -0.7
FINES FINESS Array B 83.30 334 P P 05 42 58.8 -0.9
comp=Z,4.3nm,0.4s,baz=66,slow=4.8,SNR=71
comp=Z,4.3nm,0.4s
NVAR Mina Array Bea 83.31 51 P P 05 43 00.3 -0.3
comp=Z,2.3nm,0.7s,baz=277,slow=5.1,SNR=27
comp=Z,2.3nm,0.7s
LOF Lofoten 83.33 343 eP P 05 42 59.5 -0.2
FAUS Fauske 83.36 342 eP P 05 42 59.4 -0.4
NV11 Mina Array Sit 83.42 51 P P 05 43 01.1 +0.1
VES Vestal, Richgr 83.70 54 P P 05 43 01.8 -0.5
baz=292
SCZ2 Santa Cruz Isl 83.96 56 P P 05 43 02.9 -0.8
baz=292
HLID Hailey 84.02 46 P P 05 43 04.3 +0.3
baz=294
ISA Isabella, Lake 84.22 54 P P 05 43 04.5 -0.5
baz=292
MOR8 Moi Rana 84.43 341 eP P 05 43 03.6 -1.7
DLMT Dillon 84.46 43 P P 05 43 06.1 0.0
DLMT IAmb IAmb 05 43 07.6
comp=Z,3.7nm,1.1s
ELK Elko 84.59 48 P P 05 43 07.4 +0.4
ELK IAmb IAmb 05 43 08.2
comp=Z,4.4nm,1.1s
MPMC Manual Prospec 84.81 53 P P 05 43 07.9 -0.2
baz=293
LRMC Laurel Mtn Rad 84.89 54 P P 05 43 08.3 -0.1
baz=293
BOZ Bozeman (W) 84.97 43 IAmb IAmb 05 43 09.6
comp=Z,2.5nm,0.6s
BOZ Bozeman (W) 84.97 43 P P 05 43 09.0 +0.3
baz=296
EGMT Eagleton 85.06 40 P P 05 43 08.6 -0.3
baz=297
FURC Furnace Creek, 85.12 53 P P 05 43 09.5 +0.2
baz=293
R11B Troy Canyon, C 85.31 51 P P 05 43 10.5 0.0
baz=294
TPNV Topopah Spring 85.38 52 P P 05 43 10.8 -0.1
baz=294
YHL Hebgen Lake 85.58 43 P P 05 43 12.8 +0.9
YHL IAmb IAmb 05 43 13.6
comp=Z,4.8nm,0.9s
YHB Horse Butte 85.62 43 IAmb IAmb 05 43 10.3
comp=Z,3.9nm,0.7s
YMR Madison River 85.80 43 P P 05 43 13.8 +0.9
MURC Murrieta 85.99 56 P P 05 43 13.4 -0.3
baz=293
PRN Pahroc Range 86.08 51 P P 05 43 14.7 +0.5
PRN IAmb IAmb 05 43 15.5
comp=Z,4.3nm,1.1s
SHPR Sheep Range 86.36 52 P P 05 43 16.4 +0.7
PSUT Pine Spring 86.47 50 P P 05 43 16.4 +0.2
PSUT IAmb IAmb 05 43 17.0
comp=Z,3.9nm,1.2s
DUG Dugway, Tooele 86.50 48 P P 05 43 16.4 +0.2
baz=295
PFO Pinyon Flats O 86.55 55 P P 05 43 16.2 -0.3
baz=294
TPFO Pinon Flats 86.55 55 P P 05 43 16.3 -0.3
baz=294
RLMT Red Lodge 86.67 43 IAmb IAmb 05 43 19.8
comp=Z,3.0nm,0.7s
RLMT Red Lodge 86.67 43 P P 05 43 17.6 +0.6
baz=297
GMRC Granite Mounta 86.69 54 P P 05 43 17.1 -0.1
baz=294
BELC Belle Mtn. Jos 86.75 55 P P 05 43 17.3 -0.2
baz=294
MONP2 Monument Peak 86.86 56 P P 05 43 18.0 -0.1
baz=294
V12A Nelson 86.91 53 P P 05 43 18.5 +0.3
V12A IAmb IAmb 05 43 19.5
comp=Z,2.7nm,0.9s
CTU Camp Tracy 87.02 47 P P 05 43 17.7 -1.0
CTU IAmb IAmb 05 43 55.5
comp=Z,2.1nm,0.6s
IKP In-Ko-Pah, Jac 87.20 56 P P 05 43 19.5 -0.1
baz=294
BC3 Big Chuckawall 87.30 55 P P 05 43 19.9 -0.2
baz=294
SWSC Sam W. Stewart 87.32 56 P P 05 43 19.5 -0.5
baz=294
IRM Iron Mountain 87.33 54 P P 05 43 19.6 -0.5
baz=294
PDAR Pinedale Array 87.57 45 P P 05 43 20.4 -1.0
comp=Z,0.2nm,0.4s,baz=189,slow=1.2,SNR=7.1
comp=Z,0.2nm,0.4s
AKASG Malin Array Be 87.59 324 P P 05 43 19.4 -1.6
comp=Z,0.5nm,0.3s,baz=53,slow=5.2,SNR=5.0
comp=Z,0.5nm,0.3s
LAO LASA Array 87.80 40 P P 05 43 23.0 +0.8
baz=299
KNB Kanab 87.85 51 IAmb IAmb 05 43 24.4
comp=Z,3.9nm,1.0s
GLA Glamis 88.02 55 P P 05 43 23.1 -0.3
baz=294
PDMCI Parker Dam,Lak 88.03 54 P P 05 43 23.6 +0.2
baz=295
DGMT Dagmar 88.10 38 P P 05 43 23.8 +0.4
baz=301
HFS Hagfors 88.85 337 P P 05 43 24.9 -1.8
comp=Z,1.8nm,0.4s,baz=92,slow=4.5,SNR=21
comp=Z,1.8nm,0.4s
Y14A Wickenburg 89.03 54 P P 05 43 28.6 +0.4
Y14A IAmb IAmb 05 43 29.7
comp=Z,2.6nm,0.5s
NB2 NORSAR Subarra 89.07 339 P P 05 43 26.1 -1.7
comp=Z,1.1nm,0.7s,baz=48,slow=4.6
NB2 NORSAR Subarra 89.07 339 P P 05 43 26.1 -1.7
baz=48,slow=4.6
NOA NORSAR Array B 89.07 339 P P 05 43 26.3 -1.4
comp=Z,1.2nm,0.7s,baz=47,slow=4.5,SNR=7.0
comp=Z,1.2nm,0.7s
O20A White River Ci 89.66 47 P P 05 43 31.3 +0.1
baz=298
214A Organ Pipe Nat 90.03 56 P P 05 43 33.4 +0.5
baz=296
BRTR Keskin Array B 90.40 313 P P 05 43 33.0 -1.5
comp=Z,0.9nm,0.7s,baz=101,slow=3.9,SNR=5.2
comp=Z,0.9nm,0.7s
RSSD Black Hills 90.42 42 P P 05 43 34.5 -0.1
baz=301
N23A Red Feather La 90.83 45 P P 05 43 36.7 0.0
baz=300
SMCO Snowmass 90.98 47 P P 05 43 38.0 +0.4
SMCO IAmb IAmb 05 43 38.7
comp=Z,2.6nm,0.9s
MDND Maddock 91.03 37 P P 05 43 37.5 +0.4
baz=304
TUC Tucson 91.42 54 P P 05 43 39.3 0.0
baz=297
S22A 4UR Ranch, Cre 91.77 48 P P 05 43 41.4 +0.3
baz=299
TXAR Lajitas Array 98.22 54 PKKPbc PKKPbc 06 00 40.6 -0.3
comp=Z,0.2nm,0.5s,baz=128,slow=5.8,SNR=4.6
BOSA Boshof 123.79 249 PKP PKPdf 05 49 28.3 -1.1
comp=Z,2.5nm,0.9s,baz=107,slow=7.4,SNR=3.2
SNAA Sanae 126.17 193 PKP PKPdf 05 49 31.7 -0.9
comp=Z,1.3nm,0.6s,baz=222,slow=2.1,SNR=5.9
TORD Torodi Ar. Bea 128.78 309 PKP PKPdf 05 49 38.3 -0.8
comp=Z,0.8nm,0.5s,baz=40,slow=1.6,SNR=12
LL02 Futaleuf 143.80 135 PKPdf PKPab 05 50 04.2 +0.3
PLCA Paso Flores 145.71 132 PKPbc PKPbc 05 50 10.6 +0.1
comp=Z,12nm,0.6s,baz=254,slow=3.5,SNR=27
MT13 San Alfonso 148.16 120 PKPdf PKPdf 05 50 14.0 +0.1
MT13 PKPbc 05 50 17.9 +0.3
MT13 PKPab PKPab 05 50 23.1 +1.6
VA03 San Esteban 148.16 118 PKPbc PKPbc 05 50 17.6 +0.1
CO03 El Pedregal 148.40 114 PKPbc PKPbc 05 50 17.7 -0.5
LCO Las Campanas 148.62 111 PKPdf PKPdf 05 50 14.3 -0.6
LCO PKPbc PKPbc 05 50 19.2 +0.2
LCO PKPab PKPab 05 50 24.5 +0.8
AC01 Pan de Azucar 148.89 105 PKPbc PKPbc 05 50 19.8 +0.3
AC05 El Transito 149.01 110 PKPdf PKPdf 05 50 15.6 +0.2
AC05 PKPbc PKPbc 05 50 20.2 +0.4
AC05 PKPab PKPab 05 50 25.7 +0.6
PATCX Punta Patache 149.02 95 PKPbc PKPbc 05 50 20.3 +0.3
CO01 Juntas del Tor 149.03 113 PKPbc PKPbc 05 50 20.5 +0.5
CO01 PKPab PKPab 05 50 25.5 +0.2
AC06 Mina Casimiro 149.06 108 PKPbc PKPbc 05 50 20.5 +0.7
PB14 IPOC Station P 149.07 102 PKPbc PKPbc 05 50 20.5 +0.2
PB05 IPOC Station P 149.17 99 PKPbc PKPbc 05 50 20.8 +0.4
HMBC Humberstone 149.19 94 PKPbc PKPbc 05 50 20.7 +0.2
ETMB Extrema 149.53 72 PKPbc 05 50 20.3 -1.0
GO02 Mina Guanaco 149.81 103 PKPbc PKPbc 05 50 22.5 +0.4
PB15 IPOC Station P 149.87 99 PKPbc PKPbc 05 50 22.6 +0.4
ZON Zonda 149.97 116 PKPbc PKPbc 05 50 21.9 0.0
ZON PKPab PKPab 05 50 29.9 +1.0
PB09 IPOC Station P 149.97 97 PKPbc PKPbc 05 50 22.5 +0.1
LPAZ La Paz 150.03 85 PKPbc PKPbc 05 50 23.6 +0.4
LPAZ PKPab PKPab 05 50 30.7 +0.5
LPAZ La Paz 150.03 85 PKPbc PKPbc 05 50 23.3 +0.1
comp=Z,9.5nm,0.5s,baz=274,slow=2.6,SNR=20
LVC Limon Verde 150.35 98 PKPbc PKPbc 05 50 24.0 +0.5
MACA Manacapuru-AM 150.54 55 PKPdf PKPdf 05 50 15.8 -2.3
MACA PKPbc PKPbc 05 50 23.4 -0.4
MACA PKPab PKPab 05 50 30.3 -1.3
AF01 San Pedro de A 151.04 99 PKPdf PKPdf 05 50 18.1 -0.8
AF01 PKPab PKPab 05 50 33.8 -0.1
SAML Samuel 151.78 68 PKPdf PKPdf 05 50 19.6 -0.3
SAML PKPbc PKPbc 05 50 25.9 -0.7
SAML PKPab PKPab 05 50 35.1 -1.6
TRQA Tornquist 152.83 133 PKPbc PKPbc 05 50 27.7 -0.6
TRQA PKPab PKPab 05 50 40.9 +0.3

*IDC **30** 05:43:09.8±9.5, 20.°12S×178.°11W, h560km±89km, mb3.4/4, mbtmp4.3/5, Error ellipse: s-maj=81.2km s-min=34.0km az=45.0*
*NEIC **30** 05:43:16.5±2.7, 19.°8S±0.°1×178.°3W±0.°2, h657km±10km, mb4.2/19, Error ellipse: s-maj=22.8km s-min=18.2km az=106.0*

ISC 30 05:43:15.7±0.7, 19.°8S±0.°1×178.°4W±0.°1, h650km, n31, σ1$29/32, mb4.2/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.95**	**300**	P		**P**	**05 44 44.0**	**-0.7**
NIUE	**Niue**	**7.98**	**87**	P		**P**	**05 45 16.4**	**-0.3**
AFI	**Afiamalu**	**8.57**	**48**	P		**P**	**05 45 22.9**	**+0.6**
FUNA	**Funafuti**	**11.41**	**348**	P		**P**	**05 45 48.0**	**-1.1**
LIFNC	**LIFOU**	**13.55**	**263**	P		**P**	**05 46 07.5**	**-1.3**
DZM	**Mont Dzumac**	**14.39**	**258**	P		**P**	**05 46 14.2**	**-2.3**
DZM	**Mont Dzumac**	**14.39**	**258**	P		**P**	**05 46 15.2**	**-1.3**
	3.1nm,0.6s,baz=90,slow=18,SNR=7.3							
CTAO	**Charters Tower**	**33.24**	**263**	P		**P**	**05 49 01.7**	**-0.7**
CTAO				IAmb		IAmb	05 49 44.7	
	comp=Z,6.7nm,1.1s							
STKA	**Stephens Creek**	**37.82**	**243**	P		**P**	**05 49 39.6**	**-0.2**
STKA	**Stephens Creek**	**37.82**	**243**	P		**P**	**05 49 39.3**	**-0.5**
	comp=Z,2.5nm,0.5s,baz=90,slow=11,SNR=5.9							
	comp=Z,2.5nm,0.5s							
BBOO	**Buckleboo**	**42.58**	**243**	P		**P**	**05 50 15.3**	**-2.1**
WR0	**Warramunga Arr**	**44.19**	**261**	P		**P**	**05 50 30.9**	**+1.0**
WR0				IAmb		IAmb	05 50 32.5	
	comp=Z,12nm,1.2s							
WB0	**Warramunga Arr**	**44.35**	**262**	P		**P**	**05 50 32.4**	**+1.2**
WB0				IAmb		IAmb	05 50 33.0	
	comp=Z,8.0nm,0.4s							
WB2	**Warramunga Arr**	**44.36**	**261**	P		**P**	**05 50 32.6**	**+1.2**
WB2				IAmb		IAmb	05 50 32.9	
	comp=Z,5.8nm,0.7s							
AS31	**Alice Springs**	**44.37**	**256**	P		**P**	**05 50 32.5**	**+1.1**
WRAB	**Tennant Creek**	**44.37**	**261**	P		**P**	**05 50 31.6**	**+0.2**
WRAB				IAmb		IAmb	05 50 32.8	
	comp=Z,3.8nm,0.7s							
ASAR	**Alice Springs**	**44.37**	**256**	P		**P**	**05 50 32.4**	**+1.0**
	comp=Z,6.7nm,0.6s,baz=94,slow=7.6,SNR=109							
ASAR				PcP		**PcP**	**05 52 03.5**	**+3.1**
	comp=Z,0.4nm,0.6s,baz=100,slow=4.1,SNR=1.7							
	comp=Z,6.7nm,0.6s							
WRA	**Warramunga Arr**	**44.38**	**261**	P		**P**	**05 50 32.4**	**+0.9**
	comp=Z,3.8nm,0.4s,baz=97,slow=7.6,SNR=189							
	comp=Z,3.8nm,0.4s							
MTN	**Manton Dam**	**48.82**	**270**	P		**P**	**05 51 05.4**	**+0.7**
FORT	**Forrest**	**49.28**	**246**	P		**P**	**05 51 07.9**	**0.0**
KNRA	**Kununurra**	**50.38**	**266**	P		**P**	**05 51 17.6**	**+1.5**
KNRA				IAmb		IAmb	05 51 20.2	
	comp=Z,7.3nm,1.1s							
FITZ	**Fitzroy Crossi**	**52.80**	**262**	P		**P**	**05 51 35.5**	**+2.2**
PSA00	**Pilbara Seismi**	**57.51**	**257**	P		**P**	**05 52 07.7**	**+1.9**
PSA00				IAmb		IAmb	05 52 49.9	
	comp=Z,26nm,1.4s							
MBWA	**Marble Bar**	**57.69**	**257**	P		**P**	**05 52 08.4**	**+1.4**
MBWA				IAmb		IAmb	05 52 28.9	
	comp=Z,22nm,1.4s							
SBA	**Scott Base**	**58.59**	**184**	P		**P**	**05 52 12.3**	**+0.3**
VNDA	**Vanda**	**58.62**	**185**	P		**P**	**05 52 11.7**	**-0.5**
MORW	**Morawa**	**59.80**	**247**	P		**P**	**05 52 22.0**	**+1.1**
MORW				IAmb		IAmb	05 52 32.1	
	comp=Z,29nm,1.5s							
MJB9	**Matsu-Tunnel**	**69.42**	**324**	P		**P**	**05 53 21.0**	**+0.1**
MJB9				IAmb		IAmb	05 53 21.4	
	comp=Z,5.6nm,0.4s							
QSPA	**South Pole Qui**	**70.31**	**180**	P		**P**	**05 53 25.2**	**-0.6**
QSPA				IAmb		IAmb	05 53 54.3	
	comp=Z,5.9nm,1.5s							
QSPA	**South Pole Qui**	**70.31**	**180**	P		**P**	**05 53 25.1**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=44,slow=5.4,SNR=7.5							
	comp=Z,0.4nm,0.4s							
AKASG	**Malin Array Be**	**142.20**	**331**	PKP		**PKiKP**	**06 01 38.6**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=45,slow=1.9,SNR=6.9							

IDC 30 06:00:14.9±3.5, 54.°16N×87.°32E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=30.6km s-min=18.0km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**263**	I		I	06 09 00.0	
	baz=79,slow=318,SNR=3.3							
ZALV	**Zalesovo Beam**	**1.49**	**263**	Pg		Pn	06 00 42.6	-0.2
	0.8nm,0.3s,baz=80,slow=16,SNR=8.4							
ZALV				Lg		Lg	06 01 02.3	
	1.5nm,0.3s,baz=81,slow=30,SNR=3.7							
KURBB	**Kurchatov Arra**	**6.44**	**240**	Pn		Pn	06 01 50.9	0.0
	0.1nm,0.3s,baz=53,slow=14,SNR=2.1							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**8.04**	**206**	Pn		Pn	06 02 14.4	+1.6
	0.1nm,0.3s,baz=20,slow=16,SNR=3.0							
MKAR				Sn		Sn	06 03 43.2	-1.1
	baz=26,slow=26,SNR=3.3							
	0.2nm,0.4s							

*NOU **30** 06:06:35.6, 23.°78S×174.°54W, h0km, mb5.0/21, Tonga Islands Region*
*IDC **30** 06:06:37.6±0.4, 23.°56S×175.°25W, h0km, mb4.8/21, mbtmp4.8/23, ML3.4/1, MS4.3/44, Error ellipse: s-maj=17.4km s-min=14.0km az=89.0*
*BJI **30** 06:06:37.1±0.0, 23.°14S×174.°63W, h5km, mb5.4/43, mB5.7/15, Ms5.0/4, Ms7 4.7/6*
*BGR **30** 06:06:37.7, 23.°83S×172.°90W, h10km, Hypocentre not reviewed by the ISC*
*NEIC **30** 06:06:37.7±2.7, 23.°47S±0.°03×174.°83W±0.°08, h10km±1km, mb5.1/168, Error ellipse: s-maj=12.2km s-min=5.1km az=88.0*
*MOS **30** 06:06:39.0±1.9, 23.°57S×175.°15W, h20km, mb5.2/32, MS4.6/7, Error ellipse: s-maj=10.8km s-min=9.2km az=102.2*
*GCMT **30** 06:06:41.7±0.2, 23.°64S±0.°01×174.°82W±0.°02, h17km, MW5.1/124, Moment Tensor Solution. s61,c89; s124,c198; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=5.12±.17; Mθθ5.20±.12; Mφφ=0.07±.10; Mrθ2.22±.24; Mθφ=0.33±.07; Mφr1.28±.30; Best double couple: M0=5.76800×10^16^ NP1:φs=260.00000°, δ58.00000°, λ=105.00000°. NP2:φs=107.00000°, δ35.00000°, λ=68.00000°. Principal axes: T 5.6580, Plg12.0000°, Azm1.0000°; N 0.2260, Plg13.0000°, Azm268.0000°; P =5.8780, Plg73.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 06:06:37.2±0.6, 23.°64S±0.°04×174.°86W±0.°05, h9km±3km, h9km: pP-P, n801, σ1$65/759, mb5.1/139, MS4.5/59, 45C-26D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**6.22**	**206**	P		**Pn**	**06 08 09.2**	**+0.1**
RIZ				S		Sn	06 09 15.4	-4.9
RAO	**Raoul Island**	**6.22**	**205**	P		**Pn**	**06 08 09.7**	**+0.5**
RAO	**Raoul Island**	**6.22**	**205**	Pn		**Pn**	**06 08 09.6**	**+0.5**
	462nm,0.3s,baz=34,slow=23,SNR=12							
RAO				Sn		**Sn**	**06 09 16.2**	**-4.2**
	313nm,0.3s,baz=115,slow=22,SNR=7.3							
GLKZ	**Green Lake**	**6.23**	**205**	P		**Pn**	**06 08 09.5**	**+0.2**
GLKZ				S		**Sn**	**06 09 16.5**	**-4.1**
NIUE	**Niue**	**6.47**	**46**	P		**Pn**	**06 08 10.2**	**-2.4**
NIUE	**Niue**	**6.47**	**46**	Pn		**Pn**	**06 08 09.7**	**-2.8**
NIUE	**Niue**	**6.47**	**46**	P		**Pn**	**06 08 10.0**	**-2.6**
	4μm,0.7s,SNR=23							
NIUE				S		**Sn**	**06 09 17.8**	**-8.7**
MSVF	**Nonsavu**	**8.86**	**310**	P		**Pn**	**06 08 48.8**	**+3.2**
MSVF	**Nonsavu**	**8.86**	**310**	Pn		**Pn**	**06 08 48.3**	**+2.7**
MSVF	**Nonsavu**	**8.86**	**310**	*i* P		**Pn**	**06 08 48.6**	**+3.0**
AFI	**Afiamalu**	**10.11**	**17**	Pn		**Pn**	**06 08 58.9**	**-3.8**
AFI	**Afiamalu**	**10.11**	**17**	P		**Pn**	**06 08 58.9**	**-3.8**
RAR	**Rarotonga**	**14.16**	**83**			**Pn**	**06 09 57.0**	**-1.0**
RAR	**Rarotonga**	**14.16**	**83**	Pn		**Pn**	**06 09 57.2**	**-0.9**
	31nm,0.3s,baz=257,slow=10,SNR=38							
RAR				Sn		Sn	06 12 19.0	-16
	1.9nm,0.3s,baz=85,slow=16,SNR=1.2							
RAR				LR		LR	06 14 48.6	
	comp=Z,2μm,19.0s,baz=268,slow=34							
RAR	**Rarotonga**	**14.16**	**83**	P		**Pn**	**06 09 57.0**	**-1.0**
MXZ	**Matakaoa Point**	**15.06**	**201**	Pn		**Pn**	**06 10 12.5**	**+2.4**
MXZ				IAmb		IAmb	06 10 16.2	
	comp=Z,206nm,1.5s							
WMGZ	**Waiomatatini S**	**15.26**	**201**	P		**Pn**	**06 10 09.5**	**-3.3**
WMGZ				S		Sn	06 12 48.4	-14
OUZ	**Omahuta**	**15.29**	**218**	P		**Pn**	**06 10 13.4**	**+0.2**
OUZ	**Omahuta**	**15.29**	**218**	P		**Pn**	**06 10 17.0**	**+3.8**
PKGZ	**Pakihiroa**	**15.41**	**201**	P		Pn	06 10 07.7	-7.2
PKGZ				S		Sn	06 12 52.4	-13
HAZ	**Te Kaha**	**15.41**	**202**	P		Pn	06 10 07.5	-7.3
HAZ				S		Sn	06 12 52.2	-13
PUZ	**Puketiti**	**15.54**	**201**	P		Pn	06 10 10.1	-6.4
PUZ				S		Sn	06 12 55.1	-14
RUGZ	**Raukumara Rang**	**15.64**	**202**	P		Pn	06 10 11.6	-6.3
RUGZ				S		Sn	06 12 54.3	-17
CNGZ	**Carnagh Statio**	**15.93**	**200**	P		Pn	06 10 12.9	-8.7
CNGZ				S		Sn	06 13 00.1	-18
MWZ	**Matawai**	**16.02**	**202**	P		Pn	06 10 17.1	-5.6
MWZ				S		Sn	06 13 04.0	-16
FUNA	**Funafuti**	**16.07**	**338**	Pn		**Pn**	**06 10 20.3**	**-3.2**
URZ	**Urewera**	**16.10**	**203**	Pn		Pn	06 10 17.2	-6.6
	comp=Z,0.6nm,0.3s,baz=132,slow=7.7,SNR=1.5							
URZ				Sn		Sn	06 13 05.2	-17
	comp=Z,4.9nm,0.3s,baz=173,slow=23,SNR=8.2							
URZ	**Urewera**	**16.10**	**203**	P		Pn	06 10 17.3	-6.4
URZ				S		Sn	06 13 05.6	-17
RAGZ	**Rawiri**	**16.20**	**202**	P		**Pn**	**06 10 23.7**	**-1.4**
RAGZ				S		Sn	06 13 10.3	-15
RIGZ	**Rimuhau**	**16.28**	**201**	P		**Pn**	**06 10 22.9**	**-3.2**
RIGZ				S		Sn	06 13 10.9	-16
PINNC	**Pines Island,**	**16.31**	**270**	Pn		**Pn**	**06 10 26.0**	**-0.4**
NFK	**Norfolk Island**	**16.32**	**247**	P		**P**	**06 10 32.4**	**+2.8**
	comp=Z,175nm,0.8s,SNR=3.1							
PRGZ	**Paritu Road**	**16.43**	**200**	P		**Pn**	**06 10 26.1**	**-1.9**
PRGZ				S		Sn	06 13 13.3	-17
SNGZ	**Shannon Statio**	**16.49**	**202**	P		Pn	06 10 21.7	-7.0
SNGZ				S		Sn	06 13 14.6	-17
RTV	**Rentapao**	**16.68**	**287**	P		**P**	**06 10 36.2**	**+2.6**
RAHZ	**Arahi**	**16.70**	**202**	P		**Pn**	**06 10 32.4**	**+1.0**
RAHZ				S		Sn	06 13 22.1	-15
MTHZ	**Maungataniwha**	**16.73**	**203**	P		**Pn**	**06 10 27.4**	**-4.4**
MTHZ				S		Sn	06 13 21.7	-16
LIFNC	**LIFOU**	**16.82**	**276**	P		**P**	**06 10 37.2**	**+2.1**
LIFNC	**LIFOU**	**16.82**	**276**	Pn		**Pn**	**06 10 31.8**	**-1.2**
LIFNC				IAmb		IAmb	06 10 40.7	
	comp=Z,172nm,0.8s							
YATNC	**Mamie plateau,**	**16.89**	**272**	P		**Pn**	**06 10 35.4**	**+1.5**
DVP	**Devils Point**	**16.91**	**287**	P		**P**	**06 10 38.6**	**+2.4**
BKZ	**Black Stump Fm**	**17.13**	**203**	P		**Pn**	**06 10 35.8**	**-1.0**
BKZ	**Black Stump Fm**	**17.13**	**203**	P		**Pn**	**06 10 33.3**	**-3.6**
BKZ				S		Sn	06 13 30.9	-16
HIZ	**Hauiti**	**17.22**	**208**	P		**Pn**	**06 10 38.0**	**+0.1**
ONTNC	**Ouen Toro**	**17.26**	**271**	Pn		**Pn**	**06 10 36.7**	**-1.8**
DZM	**Mont Dzumac**	**17.30**	**272**	P		**P**	**06 10 42.1**	**+1.5**
DZM	**Mont Dzumac**	**17.30**	**272**	Pn		**Pn**	**06 10 37.5**	**-1.6**
DZM	**Mont Dzumac**	**17.30**	**272**	Pn		**Pn**	**06 10 37.3**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=96,slow=15,SNR=2.6							
	comp=Z,4.0nm,0.8s							
MCHZ	**McNeill Hill**	**17.30**	**202**	P		**Pn**	**06 10 40.1**	**+1.2**
MCHZ				S		Sn	06 13 32.0	-20
TMVZ	**Te Maari**	**17.38**	**205**	P		**Pn**	**06 10 40.3**	**+0.2**
TMVZ				S		Sn	06 13 37.7	-16
ETVZ	**East Tongariro**	**17.40**	**205**	P		**Pn**	**06 10 35.8**	**-4.5**
ETVZ				S		Sn	06 13 39.5	-15
NOUC	**Port Laguerre**	**17.43**	**271**	P		**P**	**06 10 43.5**	**+1.6**
NNVZ	**North Ngauruho**	**17.43**	**205**	P		**Pn**	**06 10 43.2**	**+2.5**
OTVZ	**Oturere**	**17.44**	**205**	P		**Pn**	**06 10 37.1**	**-3.8**
SNVZ	**South Ngauruho**	**17.47**	**205**	P		**Pn**	**06 10 37.5**	**-3.7**
NGZ	**Ngauruhoe**	**17.47**	**205**	P		**Pn**	**06 10 42.7**	**+1.4**
KRHZ	**Kereru**	**17.59**	**203**	P		**Pn**	**06 10 41.4**	**-1.3**
MOVZ	**Moawhango**	**17.61**	**205**	P		**Pn**	**06 10 43.8**	**+0.9**
PKVZ	**Pokaka**	**17.67**	**206**	P		**Pn**	**06 10 44.4**	**+0.8**
PXZ	**Pawanui**	**17.77**	**201**	P		**Pn**	**06 10 44.1**	**-0.7**
PNHZ	**Pukenui**	**17.89**	**203**	P		**Pn**	**06 10 44.8**	**-1.5**
PRHZ	**Porangahau**	**18.06**	**201**	P		**Pn**	**06 10 45.6**	**-2.7**
TSZ	**Takapari Road**	**18.11**	**203**	P		**Pn**	**06 10 47.2**	**-1.7**
DVHZ	**Dannevirke**	**18.25**	**202**	P		**P**	**06 10 49.6**	**-1.2**
ANWZ	**Angora Road**	**18.29**	**201**	P		**P**	**06 10 50.9**	**-0.3**
BFZ	**Birch Farm**	**18.56**	**202**	P		**P**	**06 10 51.4**	**-2.9**
BFZ	**Birch Farm**	**18.56**	**202**	P		**P**	**06 10 51.4**	**-2.9**
TIWZ	**Tintock**	**18.77**	**202**	P		**P**	**06 10 55.6**	**-1.0**
HOWZ	**Holdsworth Sta**	**19.01**	**203**	P		**P**	**06 10 57.0**	**-2.2**
TMWZ	**Te Maipa**	**19.06**	**202**	P		**P**	**06 10 59.0**	**-0.8**
TRWZ	**Traveller**	**19.39**	**202**	P		**P**	**06 11 05.0**	**+1.6**
PAWZ	**Paruwai Farm**	**19.47**	**202**	P		**P**	**06 11 04.0**	**-0.3**
MSWZ	**Moikau Station**	**19.56**	**203**	P		**P**	**06 11 04.6**	**-0.7**
KOUNC	**Koumac, New Ca**	**19.56**	**275**	P		**P**	**06 11 04.7**	**-0.7**
SNZO	**South Karori**	**19.66**	**204**	P		**P**	**06 11 06.4**	**+0.1**
PLWZ	**Palliser**	**19.69**	**202**	P		**P**	**06 11 06.7**	**0.0**
QRZ	**Quartz Range**	**20.14**	**209**	P		**P**	**06 11 11.5**	**-0.1**
KHZ	**Kahutara**	**21.06**	**204**	P		**P**	**06 11 21.6**	**+0.2**
RPZ	**Rata Peaks**	**23.13**	**207**	P		**P**	**06 11 42.0**	**-1.6**
ODZ	**Otahua Downs**	**24.40**	**205**	P		**P**	**06 11 56.7**	**+0.9**
JCZ	**Jackson Bay**	**24.40**	**209**	P		**P**	**06 11 56.5**	**+0.5**
PPT	**Papeete**	**24.41**	**80**	LR		LR	06 19 31.2	
	comp=Z,1μm,21.4s,baz=244,slow=31							
SYZ	**Scrubby Hill**	**26.23**	**206**	P		**P**	**06 12 12.7**	**+0.4**
TARA	**Tarawa**	**27.54**	**333**	P		**P**	**06 12 23.3**	**-1.2**
ARMA	**Armidale**	**30.52**	**250**	P		**P**	**06 12 50.1**	**-0.9**
ARMA				IAmb		IAmb	06 12 54.1	
	comp=Z,49nm,1.6s							
ARMA	**Armidale**	**30.52**	**250**	P		**P**	**06 12 50.3**	**-0.8**
	comp=Z,18nm,1.4s,SNR=2.0							
EIDS	**Eidsvold**	**30.99**	**260**	P		**P**	**06 12 53.8**	**-1.3**
EIDS				IAmb		IAmb	06 12 54.3	
	comp=Z,15nm,0.7s							
EIDS	**Eidsvold**	**30.99**	**260**	P		**P**	**06 12 53.6**	**-1.5**
	comp=Z,24nm,0.8s,SNR=3.5							
CMSA	**Cobar Meteorol**	**35.68**	**248**	P		**P**	**06 13 34.2**	**-1.7**
	comp=Z,16nm,1.6s,SNR=1.5							
CTA	**Charters Tower**	**36.18**	**268**	LR		LR	06 25 45.1	
	comp=Z,25nm,20.6s,baz=108,slow=32							
CTAO	**Charters Tower**	**36.18**	**268**	P		**P**	**06 13 38.5**	**-1.9**
CTAO				IAmb		IAmb	06 13 42.4	
	comp=Z,29nm,0.8s							
CTAO	**Charters Tower**	**36.18**	**268**	P		**P**	**06 13 38.5**	**-1.9**
CTAO				pmax		pmax		
	comp=Z,29nm,0.8s							
TOO	**Toolangi**	**36.56**	**238**	P		**P**	**06 13 43.4**	**0.0**
TOO				IAmb		IAmb	06 14 20.3	
	comp=Z,96nm,1.9s							
TOO	**Toolangi**	**36.56**	**238**	P		**P**	**06 13 43.4**	**0.0**
TOO				pmax		pmax		
	comp=Z,96nm,1.9s							
PMG	**Port Moresby**	**38.92**	**285**	P		**P**	**06 14 01.7**	**-1.8**
PMG	**Port Moresby**	**38.92**	**285**	P		**P**	**06 14 01.7**	**-1.8**
PMG				pmax		pmax		
	comp=Z,103nm,0.9s							
STKA	**Stephens Creek**	**39.18**	**248**	P		**P**	**06 14 05.6**	**0.0**
STKA	**Stephens Creek**	**39.18**	**248**	P		**P**	**06 14 04.1**	**-1.5**
	comp=Z,5.9nm,0.9s,baz=73,slow=9.3,SNR=4.6							
STKA				LR		LR	06 28 52.2	
	comp=Z,788nm,20.6s,baz=78,slow=34							
	comp=Z,5.9nm,0.9s							
STKA	**Stephens Creek**	**39.18**	**248**	P		**P**	**06 14 05.6**	**0.0**
STKA				pmax		pmax		
	comp=Z,7.0nm,1.7s							
COEN	**Coen**	**40.74**	**276**	P		**P**	**06 14 17.3**	**-1.4**
COEN	**Coen**	**40.74**	**276**	P		**P**	**06 14 18.3**	**-0.4**
HTT	**Hallett**	**41.47**	**246**	P		**P**	**06 14 23.4**	**-1.2**
	comp=Z,23nm,1.4s,SNR=1.2							
QIS	**Mount Isa**	**42.16**	**265**	P		**P**	**06 14 28.2**	**-2.2**
MANU	**Manus Island**	**42.39**	**295**	P		**P**	**06 14 31.0**	**-1.3**
MANU				IAmb		IAmb	06 14 31.5	
	comp=Z,92nm,1.6s							
BBOO	**Buckleboo**	**43.87**	**247**	P		**P**	**06 14 43.2**	**-0.8**
AS31	**Alice Springs**	**46.71**	**259**	P		**P**	**06 15 04.9**	**-1.9**
ASAR	**Alice Springs**	**46.71**	**259**	P		**P**	**06 15 04.6**	**-2.2**
	comp=Z,8.2nm,0.7s,baz=96,slow=6.4,SNR=67							
ASAR				PcP		**PcP**	**06 16 40.5**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=112,slow=4.3,SNR=1.5							
ASAR				S		S	06 21 45.2	-12
	comp=Z,1.1nm,0.9s,baz=99,slow=15,SNR=3.9							
ASAR				LR		LR	06 34 29.9	
	comp=Z,644nm,20.1s,baz=100,slow=36							
	comp=Z,8.2nm,0.7s							
ASPA	**Alice Springs**	**46.71**	**259**	P		**P**	**06 15 04.8**	**-2.0**
	comp=Z,6.4nm,0.7s,SNR=6.3							
WR0	**Warramunga Arr**	**46.93**	**264**	P		**P**	**06 15 06.0**	**-2.5**
WR0				IAmb		IAmb	06 15 10.6	
	comp=Z,12nm,0.9s							
WB2	**Warramunga Arr**	**47.10**	**264**	P		**P**	**06 15 07.5**	**-2.4**
WB2				IAmb		IAmb	06 15 11.6	
	comp=Z,23nm,0.9s							
WRAB	**Tennant Creek**	**47.11**	**264**	P		**P**	**06 15 07.3**	**-2.6**
WRAB				IAmb		IAmb	06 15 11.6	
	comp=Z,21nm,0.8s							
WRAB	**Tennant Creek**	**47.11**	**264**	P		**P**	**06 15 07.3**	**-2.6**
WRAB				pmax		pmax		
	comp=Z,21nm,0.8s							
WB0	**Warramunga Arr**	**47.11**	**264**	P		**P**	**06 15 07.6**	**-2.3**
WRA	**Warramunga Arr**	**47.12**	**264**	P		**P**	**06 15 07.4**	**-2.5**
WRA	**Warramunga Arr**	**47.12**	**264**	P		**P**	**06 15 07.3**	**-2.6**
	comp=Z,17nm,0.7s,baz=103,slow=8.2,SNR=108							
WRA				S		S	06 21 52.2	-10
	comp=Z,1.0nm,0.8s,baz=99,slow=14,SNR=5.5							
WRA				LR		LR	06 34 57.7	
	comp=Z,603nm,18.7s,baz=130,slow=36							
	comp=Z,17nm,0.7s							
KIP	**Kipapa**	**47.70**	**21**	*ce*P		**P**	**06 15 15.7**	**+1.4**
KIP				pmax		pmax		
	comp=Z,39nm,1.7s							
FORT	**Forrest**	**50.80**	**249**	P		**P**	**06 15 36.1**	**-2.0**
FORT	**Forrest**	**50.80**	**249**	P		**P**	**06 15 35.6**	**-2.5**
	comp=Z,66nm,0.7s,SNR=2.5							
KDU	**Kakadu**	**50.96**	**273**	P		**P**	**06 15 36.5**	**-2.9**
WRKA	**Warakurna**	**51.48**	**256**	P		**P**	**06 15 41.0**	**-2.3**
MTN	**Manton Dam**	**52.14**	**272**	P		**P**	**06 15 45.6**	**-2.6**
MTN				IAmb		IAmb	06 15 49.4	
	comp=Z,21nm,0.7s							
MTN	**Manton Dam**	**52.14**	**272**	P		**P**	**06 15 45.3**	**-3.0**
KNRA	**Kununurra**	**53.40**	**268**	P		**P**	**06 15 56.2**	**-1.4**
KNRA	**Kununurra**	**53.40**	**268**	P		**P**	**06 15 55.9**	**-1.7**
GUMO	**Guam**	**54.03**	**309**	LR		LR	06 37 36.4	
	comp=Z,109nm,20.7s,baz=130,slow=35							
VNDA	**Vanda**	**55.08**	**186**	P		**P**	**06 16 10.7**	**+1.7**
VNDA				IAmb		IAmb	06 16 14.3	
	comp=Z,47nm,1.9s							
VNDA	**Vanda**	**55.08**	**186**	P		**P**	**06 16 12.8**	**+3.9**
	comp=Z,5.0nm,0.9s,baz=3.8,slow=7.0,SNR=37							
VNDA				S		**S**	**06 23 46.9**	**-4.3**
	comp=Z,1.5nm,0.7s,baz=80,slow=18,SNR=12							
VNDA				LR		LR	06 34 58.4	
	comp=Z,181nm,21.1s,baz=1.5,slow=31							
	comp=Z,5.0nm,0.9s							
VNDA	**Vanda**	**55.08**	**186**	P		**P**	**06 16 10.7**	**+1.7**
VNDA				pmax		pmax		
	comp=Z,47nm,2.0s							
FITZ	**Fitzroy Crossi**	**55.54**	**264**	P		**P**	**06 16 11.6**	**-1.5**
	comp=Z,430nm,1.2s,SNR=4.4							
VA02	**Isla de Pascua**	**58.61**	**108**	P		**P**	**06 16 33.6**	**-1.2**
RPN	**Rapa Nui**	**58.71**	**108**	LR		LR	06 38 50.6	
	comp=Z,113nm,18.5s,baz=250,slow=33							
KLBR	**Kellerberrin**	**59.41**	**246**	P		**P**	**06 16 39.0**	**-1.3**
	comp=Z,67nm,0.7s,SNR=3.8							
SOEI	**Soe**	**59.52**	**272**	P		**P**	**06 16 40.7**	**-0.7**
PSA00	**Pilbara Seismi**	**59.83**	**258**	P		**P**	**06 16 41.2**	**-2.1**
MBWA	**Marble Bar**	**60.04**	**258**	P		**P**	**06 16 43.2**	**-1.6**
MORW	**Morawa**	**61.37**	**249**	P		**P**	**06 16 52.9**	**-0.9**
MORW				IAmb		IAmb	06 16 53.5	
	comp=Z,18nm,0.8s							
MORW	**Morawa**	**61.37**	**249**	P		**P**	**06 16 52.4**	**-1.3**
	comp=Z,35nm,1.5s,SNR=2.6							
CASY	**Casey**	**62.41**	**206**	P		**P**	**06 17 01.6**	**+1.5**
LUWI	**Luwuk**	**64.37**	**281**	P		**P**	**06 17 12.1**	**-1.8**
JCJ	**Chichijima**	**65.31**	**318**	P		**P**	**06 17 17.2**	**-2.5**
JCJ	**Chichijima**	**65.31**	**318**	LR		LR	06 41 28.3	
	comp=Z,304nm,21.8s,baz=124,slow=32							
KAPI	**Kappang**	**65.47**	**275**	LR		LR	06 46 14.4	
	comp=Z,241nm,19.0s,baz=126,slow=36							
QSPA	**South Pole Qui**	**66.44**	**180**	P		**P**	**06 17 29.2**	**+2.5**
QSPA	**South Pole Qui**	**66.44**	**180**	P		**P**	**06

BELC	Belle Mtn. Jos	80.10	46	P	P	06 18 49.1 +1.4
	baz=233					
BC3	Big Chuckawall	80.25	47	P	P	06 18 50.5 +2.0
	baz=233					
CWC	Cottonwood Cre	80.26	43	P	P	06 18 50.3 +1.8
	baz=231					
GLA	Glamis	80.32	48	P	P	06 18 50.5 +1.7
	baz=234					
GSC	Goldstone, Bar	80.36	45	P	P	06 18 51.4 +2.3
	baz=232					
HEC	Hector,Ludlow	80.38	45	P	P	06 18 50.6 +1.5
	baz=232					
MPMC	Manual Prospec	80.39	44	P	P	06 18 51.3 +1.9
	baz=232					
IRM	Iron Mountain	80.76	47	P	P	06 18 53.7 +2.5
	baz=233					
GMRC	Granite Mounta	80.79	46	P	P	06 18 53.3 +1.9
	baz=233					
YBH	Yreka Blue Hor	80.99	37	LR	LR	06 51 10.0
	comp=Z,96nm,18.8s,baz=231,slow=33					
TUQ	Turquoise Moun	81.02	45	P	P	06 18 54.1 +1.5
	baz=233					
FURC	Furnace Creek,	81.04	44	P	P	06 18 54.8 +2.3
	baz=232					
GRAC	Grapevine Rang	81.05	43	P	P	06 18 54.6 +1.9
	baz=232					
214A	Organ Pipe Nat	81.07	49	P	P	06 18 55.1 +2.2
	baz=235					
HATC	Hat Creek Radi	81.07	38	P	P	06 18 53.3 +0.6
HATC				IAmb	IAmb	06 19 12.5
	comp=Z,15nm,1.1s					
KSRS	Korea Array	81.16	317	P	P	06 18 54.6 +1.5
	comp=Z,19nm,1.1s,baz=139,slow=6.0,SNR=17					
KSRS				LR	LR	06 50 30.7
	comp=Z,125nm,21.9s,baz=145,slow=33					
	comp=Z,19nm,1.1s					
KSAR	Wonju Array Be	81.17	317	P	P	06 18 50.7 -2.5
KSAR	Wonju Array Be	81.17	317	P	P	06 18 50.7 -2.5
NVAR	Mina Array Bea	81.37	42	P	P	06 18 57.4 +2.8
	comp=Z,3.1nm,0.7s,baz=222,slow=7.8,SNR=22					
NVAR				LR	LR	06 47 43.9
	comp=Z,180nm,21.6s,baz=250,slow=30					
	comp=Z,3.1nm,0.7s					
PDMCI	Parker Dam,Lak	81.52	47	P	P	06 18 57.5 +2.4
	baz=234					
SII	Sitkinak Islan	81.78	11	P	P	06 18 58.8 +2.7
	baz=199					
H03S2	Juan Fernandez	81.83	123	T	T	07 51 04.6
	baz=246,slow=75,SNR=6.2					
H03S1	Juan Fernandez	81.85	123	T	T	07 51 03.3
	baz=246,slow=75,SNR=7.8					
H03S3	Juan Fernandez	81.85	123	T	T	07 51 11.0
	baz=246,slow=75,SNR=8.4					
COYC	Coyhaique	81.88	136	P	P	06 18 56.7 -0.3
R17L	Mt. Peulik Vol	82.44	10	P	P	06 19 02.5 +3.1
	baz=197					
BUCK	Buck Mountain	82.52	35	P	P	06 19 00.5 +0.2
BUCK				IAmb	IAmb	06 20 34.5
	comp=Z,50nm,1.8s					
I04A	Tendick Farm,	82.55	35	P	P	06 19 00.1 -0.3
MSHR	Mys Shultsa	82.56	323	*ce*P	P	06 19 00.7 +0.3
MSHR				pmax	pmax	
	comp=Z,44nm,1.3s					
OHAK	Old Harbor	82.57	12	P	P	06 19 03.0 +2.9
	baz=200					
TUC	Tucson	82.69	50	P	P	06 19 00.4 -1.0
TUC	Tucson	82.69	50	P	P	06 19 02.8 +1.3
	baz=236					
TUC	Tucson	82.69	50	P	P	06 19 00.4 -1.0
TUC				pmax	pmax	
	comp=Z,10.0nm,1.5s					
H04D	Lebanon	82.87	35	IAmb	IAmb	06 19 31.2
	comp=Z,15nm,1.1s					
R11B	Troy Canyon, C	83.00	43	P	P	06 19 01.5 -1.5
R11B	Troy Canyon, C	83.00	43	P	P	06 19 04.4 +1.4
	baz=233					
LL02	Futaleuf	83.06	134	P	P	06 19 04.2 +1.0
TYV	Tymovskoe	83.10	334	*e*P	P	06 19 07.4 +4.4
TYV				pmax	pmax	
	comp=Z,200nm,2.6s					
TYV				pmax	pmax	
	comp=Z,21nm,1.3s					
USA0B	Ussuriysk Arra	83.19	325	*i*P	P	06 19 05.1 +1.5
USRK	Ussuriysk Ar.	83.19	325	P	P	06 19 05.6 +2.0
	comp=Z,35nm,0.9s,baz=118,slow=4.2,SNR=30					
USRK				LR	LR	06 51 04.7
	comp=Z,139nm,20.8s,baz=151,slow=32					
	comp=Z,35nm,0.9s					
KDAK	Kodiak Island	83.23	12	LR	LR	06 50 12.4
	comp=Z,368nm,21.7s,baz=238,slow=31					
319A	Douglas	83.25	52	P	P	06 19 02.5 -1.9
H04A	Detroit Lake	83.27	35	P	P	06 19 03.0 -1.1
H04A				IAmb	IAmb	06 19 29.1
	comp=Z,25nm,1.5s					
BMN	Battle Mountai	83.28	40	IAmb	IAmb	06 19 24.0
	comp=Z,23nm,1.7s					
PINE	Pine Mountain	83.33	36	P	P	06 19 03.1 -1.6
X16A	Lo Mia Camp, P	83.41	48	P	P	06 19 04.3 -1.0
Q18K	Katmai Hardscr	83.62	10	P	P	06 19 06.9 +1.2
	baz=198					
WVOR	Wild Horse Val	83.72	38	P	P	06 19 04.4 -2.2
WVOR				IAmb	IAmb	06 19 26.1
	comp=Z,10nm,1.1s					
WVOR	Wild Horse Val	83.72	38	P	P	06 19 04.4 -2.2
WVOR				pmax	pmax	
	comp=Z,10.0nm,1.1s					
ELIB	Princess Elisa	83.84	186	*d*P	P	06 19 08.8 +1.9
	comp=Z,22nm,0.9s					
E03A	Lebam	83.85	33	P	P	06 19 05.8 -1.1
E03A				IAmb	IAmb	06 19 33.0
	comp=Z,22nm,1.0s					
U15A	North Rim	83.98	46	P	P	06 19 07.0 -1.2
U15A				IAmb	IAmb	06 19 13.2
	comp=Z,21nm,1.4s					
NJ2	Nanjing	84.11	309	*e*P	P	06 19 09.5 +0.9
NJ2				pP	PcP	06 19 12.8 +0.3
NJ2				pmax	pmax	
	comp=Z,28nm,1.0s					
Q19K	Cape Douglas,	84.12	11	P	P	06 19 08.6 +0.5
	baz=200					
PSUT	Pine Spring	84.19	44	IAmb	IAmb	06 19 16.7
	comp=Z,19nm,1.8s					
NLWA	Neilton Lookou	84.29	32	P	P	06 19 09.3 0.0
NLWA				IAmb	IAmb	06 19 15.3
	comp=Z,15nm,1.3s					
G06A	Carlson Farm,	84.46	35	P	P	06 19 10.1 -0.1
G06A				IAmb	IAmb	06 19 13.9
	comp=Z,36nm,1.8s					
TROLL	Troll, Antarti	84.59	179	⇑P	P	06 19 13.1 +2.4
	comp=Z,2μm,0.6s					
ELK	Elko	84.66	41	P	P	06 19 10.1 -1.5
ELK	Elko	84.66	41	P	P	06 19 10.1 -1.5
ELK				pmax	pmax	
	comp=Z,4.0nm,1.0s					
O18K	Koktuh Hills	84.74	10	P	P	06 19 12.9 +1.7
	baz=198					
MDJ	Mudanjiang	84.75	324	P	P	06 19 13.5 +1.9
MDJ				S	S	06 29 41.0 +1.5
MDJ				pmax	pmax	
	comp=Z,18nm,0.8s					
MDJ				pmax	pmax	
	comp=Z,340nm,4.2s					
MDJ				LR	LR	
	comp=Z,260nm,17.9s					
SNAA	Sanae	84.78	177	P	P	06 19 13.2 +1.6
SNAA				IAmb	IAmb	06 19 14.2
	comp=Z,19nm,0.9s					
SNAA	Sanae	84.78	177	⇑P	P	06 19 13.0 +1.4
	comp=Z,283nm,0.7s					
SNAA	Sanae	84.78	177	P	P	06 19 13.6 +2.0
	comp=Z,15nm,0.8s,baz=212,slow=5.6,SNR=47					
SNAA				LR	LR	06 52 40.1
	comp=Z,390nm,21.0s,baz=216,slow=32					
	comp=Z,15nm,0.8s					
SNAA	Sanae	84.78	177	P	P	06 19 13.2 +1.6
SNAA				pmax	pmax	
	comp=Z,19nm,0.9s					
VNA3	Neumayer Olymp	84.81	175	⇑P	P	06 19 13.4 +1.8
	comp=Z,56nm,0.6s					
M15K	Kasigluk River	84.82	7	P	P	06 19 12.8 +1.3
	baz=193					
GNW	Green Mountain	84.92	32	P	P	06 19 12.5 +0.1
121A	Cookes Peak, D	84.94	51	P	P	06 19 13.7 +0.6
	baz=238					
W18A	Petrified Fore	84.96	48	P	P	06 19 14.5 +1.3
	baz=237					
TLIG	Tlapa	84.97	68	P	P	06 19 12.3 -1.2
PLCA	Paso Flores	85.01	132	P	P	06 19 16.7 +3.4
	comp=Z,7.9nm,1.0s,baz=242,slow=4.1,SNR=7.9					
	comp=Z,7.9nm,1.0s					
TCRU	Three Creeks R	85.13	44	P	P	06 19 13.4 -0.6
TCRU				IAmb	IAmb	06 19 36.3
	comp=Z,20nm,1.5s					
ILSW	Iliamna Southw	85.20	11	P	P	06 19 14.4 +0.8
L14K	Kuka Creek	85.25	6	P	P	06 19 15.5 +1.9
	baz=191					
VNA2	Neumayer--Watz	85.28	176	⇑P	P	06 19 16.2 +2.2
	comp=Z,40nm,0.7s,baz=190,slow=4.4					
M16K	Timber Creek	85.34	8	P	P	06 19 16.2 +2.0
	baz=195					
G08A	Pilot Rock	85.39	36	IAmb	IAmb	06 19 21.5
	comp=Z,12nm,1.1s					
BRSE	Bradley Lake S	85.41	12	P	P	06 19 15.5 +1.0
	baz=202					
N18K	Kilae Creek	85.43	9	P	P	06 19 15.3 +0.6
	baz=198					
CBB	Campbell River	85.45	29	IAmb	IAmb	06 19 19.1
	comp=Z,15nm,1.4s					
VNA1	Neumayer--Stat	85.49	176	⇓P	P	06 19 17.1 +2.1
	comp=Z,34nm,0.7s					
L15K	Ungalak Mounta	85.70	6	P	P	06 19 18.2 +2.3
	baz=192					
NVL	N'lazarevskaya	85.73	182	*e*P	P	06 19 13.3 -2.9
NVL				pmax	pmax	
	comp=Z,10.0nm,1.1s					
N19K	Bonanza Creek	85.77	10	P	P	06 19 18.5 +2.1
	baz=199					
BBB	Bella Bella	85.84	27	LR	LR	06 53 41.1
	comp=Z,115nm,18.4s,baz=231,slow=33					
M17K	Holitna River	85.91	8	P	P	06 19 19.1 +2.1
	baz=196					
L16K	Owhat River	85.95	7	P	P	06 19 18.8 +1.6
	baz=194					
BMO	Blue Mountains	86.01	37	P	P	06 19 16.9 -1.1
BMO	Blue Mountains	86.01	37	P	P	06 19 16.9 -1.1
BMO				pmax	pmax	
	comp=Z,11nm,1.7s					
VHRN	Van Horn	86.08	54	IAmb	IAmb	06 19 23.3
	comp=Z,39nm,1.8s					
M18K	Stony River	86.22	9	P	P	06 19 21.5 +3.0
	baz=198					
MNTX	Cornudas Mount	86.25	53	P	P	06 19 21.0 +1.6
	baz=239					
K15K	Wolf Creek Mou	86.30	6	P	P	06 19 21.0 +2.1
	baz=192					
TXAR	Lajitas Array	86.35	56	P	P	06 19 23.1 +3.0
	comp=Z,3.3nm,1.0s,baz=214,slow=8.0,SNR=26					
TXAR				LR	LR	06 51 50.4
	comp=Z,172nm,19.6s,baz=240,slow=31					
	comp=Z,3.3nm,1.0s					
L17K	Donlin	86.50	8	P	P	06 19 21.8 +1.9
	baz=195					
CN2	Changchun	86.56	321	*e*P	P	06 19 22.5 +1.9
CN2				pmax	pmax	
	comp=Z,30nm,1.0s					
WHN	Wuhan	86.63	305	⇓*i*P	P	06 19 25.5 +4.2
WHN				pmax	pmax	
	comp=Z,78nm,1.1s					
SRU	San Rafael Swe	86.65	45	P	P	06 19 20.4 -1.0
SRU	San Rafael Swe	86.65	45	P	P	06 19 20.4 -1.0
SRU				pmax	pmax	
	comp=Z,10.0nm,1.2s					
BNX	BinXian	86.66	324	⇑P	P	06 19 22.0 +0.9
BNX				pmax	pmax	
	comp=Z,38nm,1.2s					
KLR	Kul'dur	86.71	328	P	P	06 19 23.9 +2.6
	comp=Z,5.2nm,0.9s,baz=116,slow=4.3,SNR=14					
KLR				LR	LR	06 52 57.2
	comp=Z,251nm,21.6s,baz=152,slow=32					
	comp=Z,5.2nm,0.9s					
KLR	Kul'dur	86.71	328	*ce*P	P	06 19 23.4 +2.2
KLR				pmax	pmax	
	comp=Z,23nm,1.7s					
F10A	Beach Ranch, E	86.76	36	P	P	06 19 23.4 +1.8
HLID	Hailey	86.85	39	P	P	06 19 23.5 +1.2
	baz=233					
ALPN	Alpine	86.88	55	P	P	06 19 22.5 -0.2
ALPN				IAmb	IAmb	06 19 27.0
	comp=Z,38nm,1.7s					
PWL	Port Wells	86.91	13	P	P	06 19 23.3 +1.4
PWL				IAmb	IAmb	06 19 41.0
	comp=Z,21nm,1.3s					
PWL	Port Wells	86.91	13	P	P	06 19 23.5 +1.5
	baz=204					
KAIM	Kayak Island	86.92	15	P	P	06 19 24.1 +2.1
	baz=208					
MVCO	Mesa Verde	86.94	47	P	P	06 19 23.5 +0.6
	baz=237					
U33K	Whale Pass	86.97	22	P	P	06 19 24.0 +1.7
	baz=218					
P18A	Preston Nutter	87.12	44	P	P	06 19 23.1 -0.8
ANMO	Albuquerque	87.14	50	P	P	06 19 22.1 -1.9
ANMO				IAmb	IAmb	06 19 28.5
	comp=Z,16nm,1.4s					
ANMO	Albuquerque	87.14	50	P	P	06 19 24.5 +0.6
	baz=239					
ANMO	Albuquerque	87.14	50	LR	LR	06 53 15.3
	comp=Z,489nm,19.2s,baz=92,slow=32					
ANMO	Albuquerque	87.14	50	*i*P	P	06 19 26.4 +2.4
ANMO				pmax	pmax	
	comp=Z,7.0nm,1.4s					
EYAK	Cordova Ski Ar	87.18	14	P	P	06 19 24.0 +0.9
	baz=207					
GLI	Glacier Island	87.19	13	P	P	06 19 24.3 +1.0
	baz=205					
B08A	Colville Reser	87.19	33	P	P	06 19 23.6 0.0
GULI	GuiLin	87.21	299	P	P	06 19 26.8 +2.6
GULI				pmax	pmax	
	comp=Z,40nm,1.1s					
PV10	Paradox Valley	87.21	46	P	P	06 19 22.9 -1.4
SKT	Skwentna	87.36	11	P	P	06 19 25.4 +1.3
	baz=201					
J16K	Anvik River	87.36	6	P	P	06 19 25.7 +1.7
	baz=193					
BGLC	Bering Glacier	87.36	15	P	P	06 19 25.8 +1.7
	baz=209					
M22K	Willow	87.39	11	P	P	06 19 26.0 +1.8
	baz=203					
KNK	Knik Glacier	87.40	12	P	P	06 19 25.8 +1.5
	baz=204					
PMR	Palmer	87.43	12	P	P	06 19 23.5 -0.9
PMR				IAmb	IAmb	06 19 43.5
	comp=Z,16nm,1.3s					
PMR	Palmer	87.43	12	P	P	06 19 25.6 +1.2
	baz=204					
PMR	Palmer	87.43	12	P	P	06 19 23.5 -0.9
PMR				pmax	pmax	
	comp=Z,16nm,1.3s					
S31K	Pelican	87.45	19	P	P	06 19 25.7 +1.2
	baz=215					
TIA	Tai'an	87.53	311	P	P	06 19 26.5 +1.0
TIA				pmax	pmax	
	comp=Z,47nm,1.1s					
MA2	Magadan	87.59	343	LR	LR	06 55 10.5
	comp=Z,106nm,20.0s,baz=135,slow=33					
MA2	Magadan	87.59	343	*i*P	P	06 19 25.7 +0.4
MA2				pmax	pmax	
	comp=Z,11nm,1.1s					
J17K	VABM Dome	87.64	7	P	P	06 19 27.0 +1.6
	baz=194					
MESA	MESA	87.74	16	P	P	06 19 27.9 +1.7
	baz=210					
SML	Sawmill	87.78	12	P	P	06 19 27.7 +1.5
	baz=204					
BMRM	Bremner River	87.81	14	P	P	06 19 27.8 +1.5
	baz=208					
MT09	Talagante	87.85	126	P	P	06 19 26.4 -1.2
CMIG	Matias Romero	87.93	70	LR	LR	06 49 43.3
	comp=Z,213nm,21.7s,baz=226,slow=29					
I17K	Unalakleet	87.94	6	P	P	06 19 28.6 +1.8
	baz=193					
PNL	Peninsula	87.97	17	P	P	06 19 28.6 +1.5
	baz=212					
KLU	Klutina	87.99	13	P	P	06 19 26.9 -0.3
KLU				IAmb	IAmb	06 19 34.5
	comp=Z,9.9nm,1.2s					
KLU	Klutina	87.99	13	P	P	06 19 28.8 +1.6
	baz=206					
J18K	Innoko River	87.99	8	P	P	06 19 29.0 +1.9
	baz=197					
SCM	Sheep Creek Mo	88.00	13	P	P	06 19 26.7 -0.6
SCM	Sheep Creek Mo	88.00	13	P	P	06 19 28.5 +1.3
	baz=205					
SCM	Sheep Creek Mo	88.00	13	P	P	06 19 26.7 -0.6
SCM				pmax	pmax	
	comp=Z,29nm,1.4s					
TGL	Tana Glacier	88.03	15	P	P	06 19 25.9 -1.6
TGL				IAmb	IAmb	06 19 46.4
	comp=Z,20nm,1.2s					
PPLA	Purkeypile	88.10	10	P	P	06 19 28.4 +0.6
	baz=201					
K20K	Telida	88.25	9	P	P	06 19 29.7 +1.4
	baz=199					
NEW	Newport	88.26	34	P	P	06 19 30.1 +1.3
	baz=231					
NEW	Newport	88.26	34	LR	LR	06 55 41.4
	comp=Z,235nm,18.8s,baz=222,slow=33					
VRDI	Verde Repeater	88.30	15	IAmb	IAmb	06 19 48.4
	comp=Z,12nm,1.2s					
S22A	4UR Ranch, Cre	88.35	47	P	P	06 19 30.3 +0.5
	baz=238					
AHID	Auburn Hatcher	88.35	41	P	P	06 19 28.9 -0.7
AHID				IAmb	IAmb	06 19 50.1
	comp=Z,14nm,1.7s					
N25K	Chitina, Valde	88.38	14	IAmb	IAmb	06 19 47.9
	comp=Z,8.7nm,0.9s					
N25K	Chitina, Valde	88.38	14	P	P	06 19 30.2 +1.1
	baz=208					
P29M	Windy Craggy	88.39	18	P	P	06 19 30.6 +1.5
	baz=214					
GLB	Gilahina Butte	88.41	14	P	P	06 19 28.6 -0.5
GLB				IAmb	IAmb	06 19 49.7
	comp=Z,28nm,1.9s					
M24K	Tolsona, Glenn	88.49	13	P	P	06 19 30.8 +1.3
	baz=206					
MCARA	McCarthy VSAT	88.54	15	P	P	06 19 31.2 +1.4
	baz=209					
LOGN	Logan Glacier	88.54	16	P	P	06 19 29.5 -0.4
LOGN				IAmb	IAmb	06 19 49.5
	comp=Z,20nm,1.4s					
CTG	Chitna Glacier	88.58	16	P	P	06 19 31.4 +1.3
	baz=210					
WAT6	Susitna Watana	88.60	12	P	P	06 19 31.1 +0.9
	baz=205					
CAST	Castle Rocks	88.61	10	P	P	06 19 30.3 +0.2
CAST	Castle Rocks	88.61	10	P	P	06 19 31.5 +1.4
	baz=201					
J19K	Poorman	88.64	8	P	P	06 19 31.8 +1.7
	baz=198					
PLBC	Pleasant Camp	88.64	19	P	P	06 19 31.8 +1.5
	baz=215					
WAT1	Susitna Watana	88.68	12	P	P	06 19 31.9 +1.5
	baz=204					
O20A	White River Ci	88.69	45	P	P	06 19 32.3 +1.1
	baz=237					
O29M	Mount Kennedy	88.73	17	P	P	06 19 31.8 +1.0
	baz=213					
G15K	Niukluk	88.75	5	P	P	06 19 32.3 +1.7
	baz=190					
KTH	Kantishna Hill	88.93	10	P	P	06 19 30.7 -0.9
KTH				IAmb	IAmb	06 19 49.7
	comp=Z,9.8nm,1.0s					
SKAG	Skagway	88.95	19	P	P	06 19 33.2 +1.6
	baz=216					
HARP	HAARP	88.96	13	P	P	06 19 33.5 +1.8
	baz=207					
CHUM	Lake Minchumin	89.01	10	P	P	06 19 32.9 +1.0
	baz=201					
J20K	Nowinta River	89.02	9	IAmb	IAmb	06 19 51.0
	comp=Z,11nm,1.1s					
J20K	Nowinta River	89.02	9	P	P	06 19 33.4 +1.5
	baz=199					
P30M	Million Dollar	89.02	18	P	P	06 19 33.8 +1.7
	baz=214					
S34M	Telegraph Cree	89.06	22	P	P	06 19 33.4 +1.2
	baz=219					
F14K	Arctic Creek	89.07	4	P	P	06 19 34.1 +2.0
	baz=188					
TNA	Tin City	89.08	3	P	P	06 19 33.3 +1.2
	baz=186					
MSO	Missoula	89.08	37	P	P	06 19 33.6 +0.8
	baz=233					
DHY	Denali Highway	89.12	12	P	P	06 19 34.1 +1.5
	baz=205					
RND	Reindeer	89.15	11	P	P	06 19 31.2 -1.5
RND				IAmb	IAmb	06 19 51.8
	comp=Z,23nm,1.2s					
RND	Reindeer	89.15	11	P	P	06 19 31.2 -1.5
RND				pmax	pmax	
	comp=Z,23nm,1.2s					
833A	Chaparral WMA,	89.16	59	P	P	06 19 34.4 +0.9
	baz=243					
YUK8	Steele Glacier	89.25	16	P	P	06 19 34.8 +1.4
	baz=212					
G16K	Koyuk River	89.27	5	P	P	06 19 34.8 +1.8
	baz=192					
MSTX	Muleshoe	89.28	52	P	P	06 19 34.9 +0.9
	baz=241					
BW06	Boulder Array	89.29	42	P	P	06 19 35.2 +1.1
	baz=236					
PD31	Pinedale Array	89.29	42	P	P	06 19 33.6 -0.5
PDAR	Pinedale Array	89.29	42	P	P	06 19 34.3 +0.2
PDAR	Pinedale Array	89.29	42	P	P	06 19 35.4 +1.3
	comp=Z,1.0nm,0.8s,baz=184,slow=3.9,SNR=8.7					
PDAR				LR	LR	06 54 28.3
	comp=Z,58nm,18.9s,baz=246,slow=32					
	comp=Z,1.0nm,0.8s					
YUK6	Outpost Mounta	89.32	17	P	P	06 19 35.2 +1.5
	baz=213					
PAX	Paxson	89.41	13	P	P	06 19 35.9 +2.0
	baz=207					
F15K	North Star Dit	89.41	4	P	P	06 19 34.9 +1.1
	baz=189					
H18K	Honhosa River	89.42	7	P	P	06 19 35.0 +1.2
	baz=195					
BPAW	Bear Paw Mtn.	89.43	10	P	P	06 19 35.1 +1.2
	baz=202					
MCK	McKinley	89.44	11	P	P	06 19 35.6 +1.7
	baz=204					
M26K	Nabesna, AK	89.44	14	P	P	06 19 35.4 +1.4
M26K				IAmb	IAmb	06 19 53.1
	comp=Z,11nm,1.1s					
M26K	Nabesna, AK	89.44	14	P	P	06 19 35.7 +1.7
	baz=209					
YHL	Hebgen Lake	89.49	40	IAmb	IAmb	06 19 39.6
	comp=Z,18nm,1.7s					
YUK3	Moose Creek	89.49	16	P	P	06 19 35.9 +1.4
	baz=211,SNR=9.1					
Q32M	Nakina River	89.50	21	P	P	06 19 36.1 +1.6
	baz=218					
HEH	HeiHe	89.51	327	*e*P	P	06 19 36.3 +1.8
HEH				pmax	pmax	
	comp=Z,14nm,0.8s					
G17K	Kiwalik Mounta	89.53	6	P	P	06 19 36.2 +1.9
	baz=193					
P32M	Atlin	89.54	20	P	P	06 19 36.4 +1.9
	baz=217					
I20K	Naaghedeneel	89.56	9	P	P	06 19 35.3 +1.0
	baz=199					
M27K	Edge Creek, AK	89.66	15	P	P	06 19 36.4 +1.3
M27K				IAmb	IAmb	06 19 41.2
	comp=Z,22nm,1.1s					
M27K	Edge Creek, AK	89.66	15	P	P	06 19 36.3 +1.1
	baz=210,SNR=19					
BOZ	Bozeman (W)	89.66	39	P	P	06 19 36.5 +1.0
	baz=235					
T25A	Trinidad	89.69	49	P	P	06 19 35.1 -0.9
T25A	Trinidad	89.69	49	P	P	06 19 36.7 +0.7
	baz=240					
OVMT	Ovando	89.74	37	P	P	06 19 34.5 -1.4
HNS	HongShan	89.80	311	⇑P	P	06 19 38.5 +2.3
HNS				pmax	pmax	
	comp=Z,20nm,1.0s					
HNS				LR	LR	
	comp=Z,260nm,19.2s					
O30N	Mendenhall	89.80	18	P	P	06 19 36.0 +0.3
O30N				IAmb	IAmb	06 19 42.4
	comp=Z,9.4nm,1.1s					
O30N	Mendenhall	89.80	18	P	P	06 19 37.3 +1.6
	baz=215					
DLBC	Dease Lake	89.83	22	P	P	06 19 37.5 +1.5
	baz=220					
DLBC	Dease Lake	89.83	22	LR	LR	06 53 21.2
	comp=Z,96nm,21.3s,baz=258,slow=31					
JCT	Junction City	89.84	57	P	P	06 19 37.2 +0.6
	baz=242					
L26K	Log Cabin Wild	89.91	14	P	P	06 19 37.7 +1.5
	baz=209					
LYN	LuoYang	89.98	308	P	P	06 19 39.5 +2.4
LYN				SKS	SKSac	06 30 02.5 -5.8
LYN				pmax	pmax	

comp=Z,66nm,0.6s
H19K Roundabout Mou 90.00 8 P P 06 19 36.4 -0.1
H19K IAmb IAmb 06 19 56.0
comp=Z,11nm,1.2s
H19K Roundabout Mou 90.00 8 P P 06 19 38.0 +1.5
baz=197
WHY Whitehorse 90.06 18 P P 06 19 38.7 +1.7
baz=216
K24K Donnelly Dome 90.09 12 P P 06 19 38.4 +1.4
baz=206
N30M Aishikik Lake 90.09 17 P P 06 19 39.3 +2.2
baz=214
SEY Seymchan 90.10 346 P P 06 19 37.9 +0.9
comp=Z,3.3nm,0.2s,baz=102,slow=5.1,SNR=7.0
comp=Z,3.3nm,0.2s
SEY Seymchan 90.10 346 *ce*P **P 06 19 38.2 +1.2**
SEY pmax pmax
comp=Z,18nm,1.4s
Q24A Divide 90.11 47 P P 06 19 38.8 +0.8
baz=239
G18K Tagagawik 90.11 7 P P 06 19 39.1 +2.1
baz=195
BJI Beijing 90.16 314 P P 06 19 40.8 +3.0
BJI pmax pmax
comp=Z,10.0nm,2.1s
H20K Anotleneega Mo 90.17 8 P P 06 19 39.1 +1.8
baz=198
NEA2 Nenana 90.20 11 P P 06 19 38.9 +1.4
baz=204
R33M Jennings River 90.26 21 P P 06 19 39.4 +1.4
baz=220
WRH Wood River Hil 90.27 11 P P 06 19 39.4 +1.7
WRH IAmb IAmb 06 19 56.7
comp=Z,25nm,1.2s
L27K Beaver Creek, 90.28 14 P P 06 19 39.4 +1.5
baz=210,SNR=7.4
BCAR Beaver Creek A 90.29 14 P P 06 19 38.2 +0.2
P33M Teslin, Yukon 90.31 20 P P 06 19 39.6 +1.4
baz=218
MLY Manley 90.33 10 P P 06 19 39.8 +1.7
baz=202
F17K Baldwin Pennin 90.40 5 P P 06 19 40.0 +1.8
baz=192
HDA Harding Lake 90.42 12 P P 06 19 39.8 +1.3
HDA IAmb IAmb 06 19 57.4
comp=Z,7.9nm,1.0s
HDA Harding Lake 90.42 12 P P 06 19 40.1 +1.7
baz=206
CCB Clear Creek Bu 90.48 11 P P 06 19 39.8 +1.1
CCB IAmb IAmb 06 19 57.4
comp=Z,14nm,1.3s
N31M Braeburn, Yuko 90.48 18 P P 06 19 39.3 +0.5
N31M IAmb IAmb 06 19 58.8
comp=Z,14nm,1.1s
N31M Braeburn, Yuko 90.48 18 P P 06 19 40.5 +1.7
baz=215
RTBA Rita Blanca 90.51 50 IAmb IAmb 06 19 43.1
comp=Z,13nm,1.2s
AMTX Amarillo 90.51 52 P P 06 19 40.7 +0.9
baz=241
G19K Purcell Mounta 90.52 7 P P 06 19 40.6 +1.7
baz=196
M29M Somme Creek 90.56 16 P P 06 19 39.0 -0.3
M29M Somme Creek 90.56 16 P P 06 19 40.9 +1.6
baz=213,SNR=8.5
N23A Red Feather La 90.58 45 P P 06 19 40.9 +0.8
baz=239
H21K Melozitna Rive 90.61 9 P P 06 19 40.9 +1.6
baz=200
SCRK Sand Creek 90.61 13 P P 06 19 40.7 +1.1
SCRK Sand Creek 90.61 13 P P 06 19 40.7 +1.1
baz=208
I23K Minto, Yukon-K 90.67 10 P P 06 19 40.6 +1.1
I23K IAmb IAmb 06 20 03.0
comp=Z,12nm,1.4s
I23K Minto, Yukon-K 90.67 10 P P 06 19 41.5 +1.9
baz=203
COLA College 90.67 11 P P 06 19 41.3 +1.7
baz=205
COLA College 90.67 11 *i*P **P 06 19 40.8 +1.2**
COLA pmax pmax
comp=Z,13nm,1.6s
MDM Murphy Dome 90.69 11 P P 06 19 39.2 -0.5
MDM IAmb IAmb 06 19 58.3
comp=Z,14nm,1.2s
F18K Selawik 90.70 6 P P 06 19 41.6 +2.0
baz=194
IL31 90.76 12 P P 06 19 39.1 -0.8
IL31 IAmb IAmb 06 19 58.8
comp=Z,9.0nm,1.2s
ILAR Eielson Array 90.76 12 P P 06 19 40.9 +0.8
ILAR Eielson Array 90.76 12 P P 06 19 41.0 +1.0
comp=Z,4.5nm,1.1s,baz=220,slow=4.7,SNR=19
comp=Z,4.5nm,1.1s
IL03 Eielson Array 90.76 12 P P 06 19 39.4 -0.6
RLMT Red Lodge 90.77 40 P P 06 19 41.7 +0.8
baz=237
IMAR Indian Mountai 90.79 8 P 06 19 41.4 +1.3
BRDY Brady 90.82 56 P P 06 19 39.2 -2.0
BRDY IAmb IAmb 06 19 44.7
comp=Z,18nm,1.5s
GCMT Greycliff 90.90 39 P P 06 19 40.9 -0.5
J25K Salcha River, 90.90 12 P P 06 19 39.2 -1.6
J25K IAmb IAmb 06 20 00.0
comp=Z,9.1nm,1.1s
J25K Salcha River, 90.90 12 P P 06 19 42.1 +1.3
baz=207,SNR=9.6
APG El Apazote 90.92 74 LR LR 06 51 19.3
comp=Z,15nm,21.4s,baz=241,slow=29
ABTX Abilene, Hawle 90.95 55 P P 06 19 42.2 +0.5
baz=242
POKR Poker Plat Res 90.97 11 P P 06 19 42.2 +1.2
baz=205
E17K Hotham Inlet 90.98 5 P P 06 19 42.2 +1.3
baz=192
N32M Quiet Lake 90.98 19 P P 06 19 42.9 +1.7
baz=218
H22K Ishtalitna Cre 91.04 9 P P 06 19 42.7 +1.3
baz=202
K27K Chicken 91.07 14 P P 06 19 42.8 +1.3
baz=210
M30M Minto, Yukon 91.10 17 P P 06 19 40.6 -1.1
M30M IAmb IAmb 06 20 01.3
comp=Z,8.7nm,1.1s
M30M Minto, Yukon 91.10 17 P P 06 19 43.1 +1.3
baz=214
F19K Shaleruckik Mo 91.11 7 P P 06 19 43.2 +1.6
F19K IAmb IAmb 06 20 00.5
comp=Z,7.7nm,0.9s
F19K Shaleruckik Mo 91.11 7 P P 06 19 43.1 +1.5
baz=196
J26L Joseph Creek 91.16 13 P P 06 19 43.6 +1.5
baz=208,SNR=28
L29M L29M 91.20 16 P P 06 19 44.1 +1.9
baz=213,SNR=13
G21K Allakaket 91.32 8 P P 06 19 42.3 -0.3
G21K IAmb IAmb 06 21 02.5
comp=Z,24nm,1.8s
G21K Allakaket 91.32 8 P P 06 19 43.6 +1.0
baz=200
E18K Tukpahlearik C 91.41 5 P P 06 19 44.6 +1.6
E18K IAmb IAmb 06 20 02.1
comp=Z,9.4nm,1.1s
E18K Tukpahlearik C 91.41 5 P P 06 19 44.1 +1.1
baz=193
M31M Drury Creek, Y 91.44 18 P P 06 19 43.0 -0.3
M31M Drury Creek, Y 91.44 18 P P 06 19 44.6 +1.2
baz=217
D17K Noatak River 91.49 4 P P 06 19 44.8 +1.5
baz=191
F20K Avaraart Lake 91.55 7 P P 06 19 45.2 +1.6
baz=198
PRP Porcupine Dome 91.68 12 P P 06 19 46.3 +1.8
PRP IAmb IAmb 06 20 03.6
comp=Z,12nm,1.2s
PRP Porcupine Dome 91.68 12 P P 06 19 45.5 +1.0
baz=207,SNR=9.3
DAWY Dawson 91.71 15 P P 06 19 46.2 +1.7
baz=212,SNR=10
FARO Faro, Yukon 91.76 18 P P 06 19 46.7 +1.9
baz=218
E19K Redstone River 91.78 7 P P 06 19 45.9 +1.2
E19K IAmb IAmb 06 20 03.9
comp=Z,10nm,0.9s
E19K Redstone River 91.78 7 P P 06 19 46.5 +1.8
baz=196
ZEA Zeya 91.79 330 *i*P **P 06 19 47.9 +2.9**

C16K Lisburne Hills 91.91 4 P P 06 19 46.5 +1.3
baz=189
EGAK Eagle 91.92 14 P P 06 19 44.5 -0.9
EGAK IAmb IAmb 06 20 05.0
comp=Z,11nm,1.1s
EGAK Eagle 91.92 14 P P 06 19 46.6 +1.2
baz=211,SNR=8.0
I26K Coal Creek Min 91.96 13 P P 06 19 47.2 +1.7
baz=209
K29M Barlow Dome 91.97 16 P P 06 19 44.7 -1.1
K29M IAmb IAmb 06 20 05.8
comp=Z,13nm,1.1s
K29M Barlow Dome 91.97 16 P P 06 19 47.1 +1.2
baz=214,SNR=13
G22K Bettles 91.98 9 P P 06 19 47.6 +1.9
baz=201
F21K Alatna River 92.00 8 P P 06 19 47.4 +1.6
baz=200
G23K Bananza Creek 92.01 10 P P 06 19 47.4 +1.6
baz=203
EGMT Eagleton 92.09 38 P P 06 19 48.1 +1.4
baz=236
XAN Xi'an 92.33 306 ⇑P **P 06 19 50.5 +2.3**
XAN pmax pmax
comp=Z,47nm,1.2s
XAN pmax pmax
comp=Z,170nm,4.6s
G24K Hadweenzic Riv 92.41 11 P P 06 19 50.0 +2.3
baz=205
F22K John River 92.44 9 P P 06 19 48.9 +1.1
baz=201
COLD Coldfoot 92.46 9 P P 06 19 49.2 +1.3
baz=203
NNA Nana 92.46 104 LR LR 06 51 55.0
comp=Z,225nm,21.9s,baz=234,slow=29
BILL Bilibino 92.47 353 *eP* **P 06 19 48.4 +0.5**
BILL *e* 06 23 31.2
BILL *e*PPP PPP 06 25 30.5
BILL pmax pmax
comp=Z,7.0nm,1.4s
BILL MLR MLR
comp=Z,249nm,19.0s
I27K Kandik River 92.53 13 P P 06 19 50.0 +1.7
baz=210
WMOK Wichita Mounta 92.55 53 P P 06 19 50.2 +1.1
baz=243
E20K Nigu River 92.66 7 P P 06 19 50.3 +1.5
baz=197
HKT Hockley 92.67 59 *i*P **P 06 19 52.8 +3.1**
HKT pmax pmax
comp=Z,7.0nm,1.1s
D19K Kuna River 92.69 6 P P 06 19 50.8 +1.8
baz=195
G25K Bearman Lake 92.70 11 P P 06 19 50.2 +1.2
baz=206
TGTN Hyland Airport 92.75 20 P P 06 19 50.9 +1.5
baz=222
I28M Miner Creek 92.76 14 IAmb IAmb 06 20 08.8
comp=Z,17nm,1.6s
I28M Miner Creek 92.76 14 P P 06 19 50.7 +1.3
baz=212
PHRA Phrae 92.78 289 P P 06 19 49.9 -0.6
J30M Hart River 92.87 16 P P 06 19 51.6 +1.7
baz=215
D20K Etivluk River 93.05 7 P P 06 19 52.1 +1.5
baz=197
I29M Ogilvie Camp, 93.05 14 P P 06 19 48.9 -1.8
I29M Ogilvie Camp, 93.05 14 P P 06 19 52.5 +1.8
baz=213
ATAH Atahualpa 93.06 99 LR LR 06 52 03.7
comp=Z,276nm,21.8s,baz=234,slow=29
E22K Anaktuvuk Pass 93.08 8 P P 06 19 52.7 +1.9
baz=201
F24K Squaw Lake 93.08 10 P P 06 19 53.1 +2.3
baz=205
E21K Killik River 93.09 8 P P 06 19 52.6 +1.8
baz=199
H27K Steamboat Moun 93.10 13 P P 06 19 52.2 +1.3
baz=210
C19K Lookout Ridge 93.14 5 P P 06 19 52.4 +1.3
baz=194
X34A Smith Ranch, M 93.19 54 P P 06 19 49.2 -2.9
G26K Porcupine Rive 93.28 12 P P 06 19 53.3 +1.6
baz=208
E23K Chandalar 93.31 9 P P 06 19 53.4 +1.5
baz=203
KMI Kunming 93.35 296 ⇑P **P 06 19 56.0 +2.7**
KMI pmax pmax
comp=Z,28nm,0.7s
TGUH Tegucigalpa,Un 93.37 76 P P 06 19 50.8 -2.6
TGUH IAmb IAmb 06 20 05.7
comp=Z,14nm,1.1s
I30M Mount Dempster 93.39 15 IAmb IAmb 06 19 57.7
comp=Z,6.5nm,1.1s
I30M Mount Dempster 93.39 15 P P 06 19 53.5 +1.1
baz=215
LAO LASA Array 93.40 40 P P 06 19 52.4 -0.4
LAO IAmb IAmb 06 20 14.6
comp=Z,20nm,1.4s
LAO LASA Array 93.40 40 P P 06 19 53.8 +1.0
baz=239
RSSD Black Hills 93.43 43 P P 06 19 52.0 -1.1
RSSD IAmb IAmb 06 19 58.8
comp=Z,8.6nm,1.1s
RSSD Black Hills 93.43 43 P P 06 19 53.7 +0.5
baz=240
RSSD Black Hills 93.43 43 P P 06 19 52.1 -1.1
RSSD pmax pmax
comp=Z,9.0nm,1.1s
E24K Your Creek 93.50 10 P P 06 19 54.2 +1.4
baz=204
F25K Christian Rive 93.53 11 P P 06 19 54.2 +1.3
baz=207
BMAR Burnt Mountain 93.56 11 P P 06 19 51.5 -1.5
G27K Doyon Strip 93.57 13 P P 06 19 55.0 +1.9
baz=210
HHC Hu-ho-hao-te 93.62 313 *eP* **P 06 19 52.3 -1.7**
HHC sP PcP 06 19 58.5 +4.0
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,4.0s
D22K Ayikyak River 93.66 8 P P 06 19 54.7 +1.3
baz=200
C21K Knifeblade Rid 93.67 7 P P 06 19 55.1 +1.6
baz=198
CBKS Cedar Bluff 93.73 49 P P 06 19 55.4 +0.9
baz=243
H29M Whitestone 93.76 14 IAmb IAmb 06 20 14.3
comp=Z,21nm,1.9s
H29M Whitestone 93.76 14 P P 06 19 55.4 +1.5
baz=213
TOLK Toolik Lake Re 93.86 9 P P 06 19 55.8 +1.4
baz=203
F26K Sheenjek River 93.88 11 P P 06 19 56.2 +1.8
baz=208
CMAR Chiang Mai Arr 93.88 288 P P 06 19 55.6 +0.1
comp=Z,2.5nm,0.4s,baz=128,slow=3.2,SNR=18
CMAR LR LR 07 01 36.6
comp=Z,61nm,19.3s,baz=175,slow=35
comp=Z,2.5nm,0.4s
B21K Ikpikpuk River 94.14 7 P P 06 19 57.7 +2.2
baz=199
B20K Meade River 94.24 6 P P 06 19 57.4 +1.4
baz=196
EPYK Eagle Plains 94.26 14 P P 06 19 57.5 +1.3
baz=215
R32A Long Quarter, 94.27 50 IAmb IAmb 06 20 00.4
comp=Z,13nm,0.9s
G29M Pine Creek 94.42 14 P P 06 19 57.6 +0.6
baz=214
BTO Baotou 94.54 312 *eP* **P 06 19 59.0 +0.8**
BTO pP **PcP 06 20 04.0 +5.4**
BTO sP **pwP 06 20 06.3 -4.6**
BTO pmax pmax
comp=Z,19nm,0.4s
BTO pmax pmax
comp=Z,130nm,4.2s
LVC Limon Verde 94.62 117 LR LR 06 57 29.0
comp=Z,126nm,18.4s,baz=199,slow=32
F28M Old Crow 94.62 13 P P 06 19 59.2 +1.3
baz=212
PZH PanZhiHua 94.73 297 P P 06 19 57.5 -2.0
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,160nm,8.4s

E27K Coleen River 94.78 12 P P 06 19 59.9 +1.3
baz=210
C23K Itkillik River 94.83 8 P P 06 19 59.8 +1.2
baz=202
G30M tAoh Zraii Nji 94.87 14 IAmb IAmb 06 20 17.6
comp=Z,7.6nm,1.2s
G30M tAoh Zraii Nji 94.87 14 P P 06 19 60.0 +0.9
baz=215
TEIG Tepich 94.92 70 LR LR 06 56 55.6
comp=Z,163nm,19.5s,baz=227,slow=32
B22K Teshekpuk Lake 94.95 7 P P 06 20 00.4 +1.2
baz=200
TUL3 Leonard 95.26 53 P P 06 20 02.3 +0.7
baz=245
G31M Satah River 95.28 15 P P 06 20 02.1 +1.3
G31M IAmb IAmb 06 20 05.8
comp=Z,6.4nm,1.1s
G31M Satah River 95.28 15 P P 06 20 02.1 +1.3
baz=217
DGMT Dagmar 95.49 39 P P 06 20 03.5 +1.2
baz=240
E28M Babbage River 95.53 12 P P 06 20 03.6 +1.6
baz=212
C27K Jago River 95.66 10 P P 06 20 04.2 +1.6
baz=209
E29M Blow River 95.68 13 P P 06 20 04.4 +1.8
baz=214
D27M Malcolm River 95.81 12 P P 06 20 04.5 +1.2
baz=211
F31M Tsiigehtchic 95.82 15 IAmb IAmb 06 20 08.3
comp=Z,9.6nm,1.1s
F31M Tsiigehtchic 95.82 15 P P 06 20 04.4 +1.1
baz=217
YAK Yakutsk 96.11 337 LR LR 06 58 10.0
comp=Z,74nm,21.9s,baz=132,slow=32
MIAR Mount Ida 96.34 55 P P 06 20 06.8 +0.3
baz=246
INK Inuvik 96.56 14 P P 06 20 07.0 +0.4
baz=218
INK Inuvik 96.56 14 LR LR 06 57 48.8
comp=Z,182nm,21.6s,baz=188,slow=32
ECSD EROS Data Cent 98.01 46 IAmb IAmb 06 20 17.0
comp=Z,7.1nm,1.4s
ECSD EROS Data Cent 98.01 46 P P 06 20 13.3 -0.5
baz=245
YKA Yellowknife Ar 98.16 24 LR LR 06 58 12.2
comp=Z,95nm,21.8s,baz=260,slow=32
LPAZ La Paz 98.19 112 P Pdif 06 20 20.4 +4.3
comp=Z,1.9nm,1.0s,baz=212,slow=7.2,SNR=4.7
LPAZ LR LR 06 59 35.9
comp=Z,143nm,18.2s,baz=178,slow=32
comp=Z,1.9nm,1.0s
SONM Songino Array 100.02 318 P Pdif 06 20 24.2 +1.3
comp=Z,0.5nm,0.7s,baz=48,slow=2.1,SNR=2.6
SONM LR LR 07 00 36.4
comp=Z,55nm,20.1s,baz=124,slow=32
comp=Z,0.5nm,0.7s
AGMN Agassiz Nation 100.37 42 P Pdif 06 20 24.2 0.0
baz=246
A36M Sachs Harbour 101.19 14 P Pdif 06 20 28.2 +0.9
baz=226
GTA Gaotai 101.20 308 P Pdif 06 20 33.0 +4.7
GTA sP pwP 06 20 41.5 +0.4
GTA pmax pmax
comp=Z,5.0nm,1.3s
P52A Corning 106.69 54 P PKiKP 06 25 02.6 -0.3
baz=253
BLA Blacksburg 107.27 56 P PKiKP 06 25 03.8 -0.4
baz=253
O53A New Philadelph 107.54 53 P PKiKP 06 25 03.8 -0.8
baz=254
ERPA Erie 108.93 52 P PKiKP 06 25 06.1 -1.0
baz=255
CBN Corbin Frederi 109.86 56 P PKiKP 06 25 08.2 -0.7
baz=255
WMQ Urumqi 111.17 310 *e*PKP **PKiKP 06 25 10.5 -0.9**
WMQ LR LR
comp=Z,1μm,11.9s
WMQ LR LR
comp=Z,780nm,16.5s
WMQ LR LR
comp=Z,2μm,22.7s
PAL Palisades 113.11 54 P PKiKP 06 25 14.7 -0.3
baz=258
LONY Lake Ozonia 113.33 50 P PKiKP 06 25 14.3 -1.0
baz=260
ZALV Zalesovo Beam 114.75 320 PKP PKiKP 06 25 17.9 +0.2
comp=Z,2.5nm,0.6s,baz=192,slow=1.4,SNR=14
ZALV Zalesovo Beam 114.75 320 PKIKP PKiKP 06 25 18.0 +0.2
LBNH Lisbon 115.14 51 P PKiKP 06 25 19.0 +0.2
baz=261
MK31 Makanchi Array 115.46 312 *i*PKIKP **PKiKP 06 25 20.5 +1.1**
MKAR Makanchi Array 115.46 312 PKP PKiKP 06 25 19.6 +0.2
comp=Z,1.4nm,0.6s,baz=46,slow=2.2,SNR=4.5
MKAR PKKPbc **PKKPbc 06 35 55.0 +1.1**
comp=Z,0.5nm,0.7s,baz=268,slow=3.6,SNR=4.9
PKME Peaks-Kenny Pk 117.14 50 P PKiKP 06 25 22.9 +0.2
baz=263
KURK Kurchatov 118.27 316 PKPdf PKPdf 06 25 23.4 -1.3
KURK Kurchatov 118.27 316 PKIKP PKiKP 06 25 25.0 +0.4
KURBB Kurchatov Arra 118.32 316 PKP PKiKP 06 25 25.0 +0.3
comp=Z,3.0nm,0.7s,baz=97,slow=2.2,SNR=27
KSH Kashi 119.05 303 PKP PKiKP 06 25 28.3 +1.6
BOOM Boomskoye usch 119.43 307 PKPdf PKPdf 06 25 25.8 -1.6
BOOM Boomskoye usch 119.43 307 PKIKP PKPdf 06 25 25.8 -1.6
NEEM North Greenlan 120.05 12 *i*P **PKiKP 06 25 28.4 +0.6**
AAK Ala-Archa 120.51 307 PKPdf PKPdf 06 25 28.7 -0.8
AAK Ala-Archa 120.51 307 *c i*PKIKP **PKiKP 06 25 31.1 +1.6**
AAK pmax pmax
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 123.35 319 PKP PKiKP 06 25 35.1 +0.5
comp=Z,5.9nm,0.6s,baz=94,slow=1.5,SNR=27
KKAR Karatay Array 123.46 307 PKPdf PKPdf 06 25 35.0 +0.1
KKAR Karatay Array 123.46 307 PKIKP PKPdf 06 25 35.0 +0.1
BOSA Boshof 124.55 202 PKP PKiKP 06 25 39.4 +1.4
comp=Z,2.5nm,0.7s,baz=89,slow=6.0,SNR=5.4
SFJD Kangerlussuaq 124.72 23 PKPdf PKPdf 06 25 36.7 +0.2
SFJD Kangerlussuaq 124.72 23 PKIKP PKPdf 06 25 36.7 +0.2
SPITS Spitsbergen Ar 125.15 357 PKP PKiKP 06 25 38.3 +0.8
comp=Z,5.8nm,0.7s,baz=90,slow=5.0,SNR=4.4
SUMG Summit 125.48 15 *i*P **PKPdf 06 25 38.1 -0.3**
DAG Danmarks Havn 125.54 7 *i*P **PKPdf 06 25 37.6 -0.3**
DY2G Dye2 126.51 23 *i*P **PKiKP 06 25 40.6 -0.1**
ICESG Greenland Ices 127.29 19 *i*P **PKPdf 06 25 42.0 +0.1**
ARU Arti 129.43 325 *i*PKIKP **PKiKP 06 25 47.5 +0.9**
ARU 06 27 57.3
ARU 06 32 58.0
ARU SS SS 06 45 22.8 +5.6
ABKAR Akbulak array 130.36 315 PKPdf PKPdf 06 25 48.4 +0.6
ARCES ARCESS Array B 132.51 350 PKPdf PKPdf 06 25 50.9 -0.4
ARCES ARCESS Array B 132.51 350 PKP PKiKP 06 25 53.2 +0.8
comp=Z,2.8nm,0.8s,baz=27,slow=0.5,SNR=16
APA Apatity 132.70 346 ||*i*PKIKP **PKPdf 06 25 49.2 -2.5**
APA pmax pmax
comp=Z,3.0nm,0.9s
JOF Joensuu 136.99 343 *eP* **PKiKP 06 26 02.2 +0.6**
FINES FINESS Array B 139.58 345 PKhKP PKPpre 06 25 56.6
comp=Z,0.9nm,0.5s,baz=82,slow=4.0,SNR=3.9
FINES PKP sPKPdf 06 26 05.3 +0.8
comp=Z,2.7nm,0.8s,baz=114,slow=4.8,SNR=6.3
VRH Novokhopyorsk 140.65 324 *e*PKHKP PKPpre 06 25 45.7
VRH pmax pmax
comp=Z,4.0nm,0.3s
OBN Obninsk 140.89 332 *e*PKIKP **PKPdf 06 26 08.2 +1.0**
OBN *e* 06 29 10.7
OBN *e*PPP PPP 06 32 17.6
OBN pmax pmax
comp=Z,6.0nm,1.1s
VORR Voronezh 141.73 326 *e*PKIKP **PKPdf 06 26 05.7 -3.1**
NOA NORSAR Array B 142.39 355 PKhKP PKPpre 06 26 07.3
comp=Z,0.9nm,0.7s,baz=269,slow=3.0,SNR=3.6
HFS Hagfors 143.04 353 PKhKP PKPpre 06 26 08.1
comp=Z,3.1nm,0.6s,baz=63,slow=3.6,SNR=11
RAYN Ar Rayn 143.09 278 PKPdf PKPdf 06 26 12.2 0.0
RAYN Ar Rayn 143.09 278 PKIKP PKPdf 06 26 12.2 0.0
KBZ Khabaz 143.16 312 PKhKP PKPpre 06 26 08.8
comp=Z,3.3nm,0.8s,baz=127,slow=2.4,SNR=5.6
KBZ Khabaz 143.16 312 *i*PKIKP **PKPdf 06 26 11.8 +0.2**
KIV Kislovodsk 143.22 313 *i*PKIKP **PKiKP 06 26 16.2 +1.0**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,113nm,24.0s
ASCN Ascension 143.29 146 PKPdf PKPbc 06 26 11.3 +1.5
SHA1 Shidzhatmaz 143.31 312 *c i*PKIKP **PKiKP 06 26 14.9 -0.7**
ERBR Yeremizino-Bor 143.96 316 *i*PKIKP **PKPdf 06 26 13.0 0.0**

ERBR e 06 26 16.3
ERBR pmax pmax
comp=Z,25nm,0.6s
LABN Labinsk 144.26 315 *i* PKIKP **PKiKP 06 26 17.8 +0.7**
LABN *e* 06 26 19.8
LABN pmax pmax
comp=Z,21nm,0.5s
STRU Stroemstad 144.38 355 *i* P **PKPab 06 26 11.1 -0.3**
LODK Lodwar 144.55 240 PKPdf PKPbc 06 26 15.0 +1.3
GEVA Gevas 144.62 303 PKPdf **PKPdf 06 26 14.3 -0.3**
MNK Minsk 144.81 337 *i* PKIKP **PKPdf 06 26 15.0 +0.8**
MNK *i* 06 29 27.8
MNK *i* 06 33 19.8
MNK *i* SS SS 06 48 17.5 -1.8
MNK *i* SSS SSS 06 53 43.6
MNK pmax pmax
comp=N,19nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK pmax pmax
comp=Z,50nm,0.9s
MNK MLR MLR
comp=E,144nm,16.0s
MNK MLR MLR
comp=N,395nm,17.0s
MNK MLR MLR
comp=Z,127nm,18.0s
BCA Borcka 144.81 309 ⇓P **PKPdf 06 26 14.7 0.0**
VSLR Vesyoloye 145.19 313 *i* PKIKP **PKPdf 06 26 16.0 +0.8**
PABE Paberze 145.26 341 *e*P **PKPdf 06 26 15.9 +1.0**
HOMB Homborsund 145.32 357 *i* P **PKPdf 06 26 14.8 -0.1**
TJOU Tjoern 145.33 354 *i* P **PKPbc 06 26 13.1 -1.6**
SOC Sochi 145.35 314 *e*PKIKP **PKPbc 06 26 14.8 -0.5**
SOC *e* 06 29 33.8
SOC *e*PPP PPP 06 32 48.9
SOC *e*SS SS 06 48 20.5 -6.4
SOC *e*SSS SSS 06 53 53.0
SOC pmax pmax
comp=Z,17nm,0.8s
SOC MLR MLR
comp=Z,122nm,20.0s
MBAR Mbarara 145.37 229*c* *i*PKIKP **PKPab 06 26 18.8 +2.2**
MBAR pmax pmax
comp=Z,55nm,1.3s
PBUR Paburge 145.38 343 *e*P **PKPdf 06 26 16.1 +1.0**
BORU Boraas 145.60 353 *i* P **PKPbc 06 26 14.6 -1.1**
ONAU Onsala 145.92 353 *i* P **PKPdf 06 26 15.9 -0.1**
KOPT Kop Dagi 146.07 307 PKPdf **PKPdf 06 26 17.6 +0.4**
FABU Falkenberg 146.22 353 *i* P **PKPdf 06 26 16.2 -0.3**
ANN Anapa 146.30 317 *i* PKP2 **PKPbc 06 26 18.3 +0.1**
ANN pmax pmax
comp=Z,81nm,1.4s
DEL Delary 146.59 351 *e*P **PKPab 06 26 19.4 -0.3**
DEL Delary 146.59 351 *i* P **PKPbc 06 26 18.3 -0.4**
MARD Mardin 146.60 302 PKPdf **PKPdf 06 26 17.1 -0.9**
BJUU Bjuv 147.09 352 *i* P **PKPbc 06 26 19.9 -0.2**
MUD Monsted U'grnd 147.09 356 *i* P **PKPab 06 26 21.0 -0.6**
AKASG Malin Array Be 147.16 331 PKPdf **PKPdf 06 26 18.1 -0.2**
AKASG Malin Array Be 147.16 331 PKPbc **PKPbc 06 26 20.9 +0.4**
comp=Z,23nm,0.6s,baz=42,slow=3.7,SNR=116
AKBB Malin Array Si 147.16 331 **PKPbc 06 26 21.0 +0.5**
AKBB Malin Array Si 147.16 331 PKP2 **PKPbc 06 26 21.0 +0.5**
KIEV Kiev 147.17 331 ⇓P **PKPbc 06 26 20.9 +0.4**
KIEV Kiev 147.17 331 **PKPbc 06 26 20.9 +0.4**
KIEV Kiev 147.17 331 PKP2 **PKPbc 06 26 20.9 +0.4**
AK05 Malin Array Si 147.22 331 PKPbc **PKPbc 06 26 21.2 +0.5**
LUNU Lund 147.46 351 *i* P **PKPbc 06 26 21.0 -0.2**
BSD Bornholm Skovb 147.74 349 *e*P **PKPbc 06 26 22.9 +1.0**
BSD Bornholm Skovb 147.74 349 *i* P **PKPbc 06 26 21.9 0.0**
EKA Eskdalemuir Ar 147.76 9 PKPbc **PKPbc 06 26 22.7 +0.7**
comp=Z,5.3nm,0.9s,baz=339,slow=2.1,SNR=7.2
SIM Simferopol' 148.26 319 *e*PKP2 **PKiKP 06 26 25.4 0.0**
SIM pmax pmax
comp=Z,72nm,1.0s
DIKM Dikmen 149.15 313 ⇑P **PKiKP 06 26 28.0 +0.7**
GAZ Gaziantep 149.39 304 PKPbc **PKPbc 06 26 26.8 -0.1**
BEL Belsk 149.39 341 *e*PKPbc **PKiKP 06 26 28.2 +0.7**
SORM Soroca 149.39 329 ⇑P **PKiKP 06 26 27.3 -0.3**
SORM Soroca 149.39 329 ⇑PKP2 **PKiKP 06 26 27.3 -0.3**
BSEG Bad Segeberg 149.50 354 *e*PKPbc 06 26 28.4
baz=8.6,slow=2.2
LVV L'vov 149.97 335 *e*PKP2 **PKiKP 06 26 28.9 +0.1**
RUE Ruedersdorf 150.46 349 *e*PKPbc 06 26 30.9
baz=8.6,slow=2.2
KWP Kalwaria Pacla 150.63 336 *e*PKPbc **PKiKP 06 26 30.8 +0.7**
NRDL Niedersach Rie 150.94 354 *e*PKPbc 06 26 31.3
baz=8.6,slow=2.2
FLTG Flechtingen 150.98 352 *e*PKPbc 06 26 31.8
baz=8.6,slow=2.2
BR131 Keskin Array S 151.09 310 **PKPbc 06 26 31.0 0.0**
BR131 Keskin Array S 151.09 310 PKIKP **PKPbc 06 26 31.0 0.0**
BRTR Keskin Array B 151.09 310 PKPbc **PKiKP 06 26 31.7 +0.1**
comp=Z,9.6nm,0.7s,baz=140,slow=3.6,SNR=50
VLDR Vladesti 151.10 326 ⇑P **PKiKP 06 26 32.5 +1.3**
OJC Ojcow 151.11 340 *e*PKPbc **PKiKP 06 26 31.8 +0.7**
OJC *e*PP **PP 06 30 09.2 +1.2**
TLCR 151.15 324 ⇓P **PKPbc 06 26 31.2 +0.4**
TLCR 151.15 324 ⇓PKIKP **PKPbc 06 26 31.2 +0.4**
BUR08 Bucovina Ar. S 151.19 331 **PKPbc 06 26 30.8 -0.2**
BURAR Bucovina Array 151.21 331 ⇓P **PKiKP 06 26 31.6 0.0**
GHRR 151.30 327 ⇑P **PKiKP 06 26 33.5 +1.9**
IBBN Ibbenburen 151.31 357 *e*PKPbc 06 26 32.5
baz=8.6,slow=2.2
KOLS Kolonicke sedl 151.36 336 *e*PKIKP **PKiKP 06 26 33.3 +1.6**
KOLS Kolonicke sedl 151.36 336 *e*PKP **PKiKP 06 26 33.3 +1.6**
JURR Jurilovca 151.38 323 ⇓P **PKiKP 06 26 32.6 +0.8**
KSP Ksiaz 151.50 345 *e*PKPbc **PKiKP 06 26 33.4 +1.5**
CFR Carcaliu 151.52 325 ⇑P **PKiKP 06 26 33.2 +1.1**
CFR Carcaliu 151.52 325 ⇑PKIKP **PKiKP 06 26 33.2 +1.1**
CLZ Clausthal 151.56 353 *e*PKPbc 06 26 32.9
baz=8.6,slow=2.2
TPGR Topolog 151.57 324 ⇓P **PKiKP 06 26 33.0 +0.8**
ONER Baraj Valea Uz 151.61 328 ⇓P **PKiKP 06 26 33.9 +1.6**
ANTO Ankara 151.61 311 ⇑P **PKiKP 06 26 33.8 +1.2**
ANTO Ankara 151.61 311 ⇑PKIKP **PKiKP 06 26 33.8 +1.2**
NIE Niedzica 151.65 339 *e*PKPbc **PKiKP 06 26 34.1 +1.8**
CRVS Cervenica-Dubn 151.69 337 *e*PKIKP **PKiKP 06 26 34.0 +1.6**
CRVS Cervenica-Dubn 151.69 337 *e*PKP **PKiKP 06 26 33.9 +1.6**
CLL Collm 151.72 350 *e*PKPdf **PKPdf 06 26 27.0 +1.4**
CLL ⇓*i*PKPbc **PKiKP 06 26 33.4 +1.1**
comp=Z,40nm,1.3s
CLL *i* (pPKPbc) 06 26 35.6
comp=Z,26nm,0.9s
CLL *e*PKPab **sPKPab 06 26 41.0 +0.5**
CLL *i* x x 06 26 48.5
CLL Collm 151.72 350 ⇓*i*PKIKP **PKiKP 06 26 33.4 +1.1**
CLL *i* 06 26 35.6
CLL pmax pmax
comp=Z,40nm,1.3s
CLL Collm 151.72 350 *e*PKPbc 06 26 33.4
baz=8.6,slow=2.2
VRI Vrincioaia 151.78 327 ⇑P **PKiKP 06 26 33.4 +0.8**
VRI Vrincioaia 151.78 327 ⇑PKIKP **PKiKP 06 26 33.4 +0.8**
CHVC Chvalec 151.79 345⇑*e*PKP **PKiKP 06 26 34.0 +1.5**
CHVC Chvalec 151.79 345 *e*PKIKP **PKiKP 06 26 34.0 +1.5**
PLOR Plostina 151.82 327 ⇑P **PKiKP 06 26 33.5 +0.7**
PLOR Plostina 151.82 327 ⇑PKIKP **PKiKP 06 26 33.5 +0.7**
MMAI Mount Meron Ar 151.85 296 PKPbc **PKiKP 06 26 34.9 +1.6**
comp=Z,16nm,0.6s,baz=80,slow=6.0,SNR=16
UPC Upice 151.88 345⇑*e*PKP **PKiKP 06 26 34.1 +1.4**
UPC Upice 151.88 345 *e*PKIKP **PKiKP 06 26 34.1 +1.4**
GTTG Gottingen 151.90 354 *e*PKPbc 06 26 33.7
baz=8.6,slow=2.2
HARR Harsova 151.95 324 ⇑P **PKiKP 06 26 34.3 +1.3**
HARR Harsova 151.95 324 ⇑PKIKP **PKiKP 06 26 34.3 +1.3**
DPC Dobruska-Polom 151.95 345⇑*e*PKP **PKiKP 06 26 34.3 +1.4**
DPC AMS AMS 07 35 30.0
comp=Z,100nm,23.2s
DPC Dobruska-Polom 151.95 345 *e*PKIKP **PKiKP 06 26 34.3 +1.4**
DPC MLR MLR
comp=Z,100nm,23.2s
BRG Berggiesshubel 151.97 348 *e*PKP **PKPdf 06 26 27.9 +1.9**
BRG Amp 06 26 28.6
comp=Z,5.1nm,1.0s
BRG Berggiesshubel 151.97 348 P **PKiKP 06 26 34.3 +1.4**
BRG Amp 06 26 36.9
comp=Z,17nm,0.7s
BRG Berggiesshubel 151.97 348 P PKPab 06 26 51.0 +9.3
BRG Amp 06 26 51.3
comp=Z,16nm,0.8s
BRG Berggiesshubel 151.97 348 *e*PKIKP **PKPdf 06 26 27.8 +1.9**
BRG 06 26 34.2
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 151.97 348 *e*PKPbc 06 26 34.2
baz=8.6,slow=2.2
TLBR Topalu 151.98 324 ⇑P **PKiKP 06 26 34.2 +1.2**
TURR Turia 151.99 328 ⇓P **PKiKP 06 26 34.9 +1.8**
ARCR ARCALIA 151.99 331 ⇓P **PKiKP 06 26 34.3 +1.3**
NEUB Neuenburg 152.01 351 *e*PKPbc 06 26 33.8
baz=8.6,slow=2.2
MFTR Murfatlar 152.01 323 ⇑P **PKiKP 06 26 34.6 +1.4**
COVR Voineasa-Covas 152.05 328 ⇑P **PKiKP 06 26 34.0 +0.7**
KRLC Kraliky 152.09 344⇑*e*PKP **PKiKP 06 26 34.6 +1.4**
KRLC Kraliky 152.09 344 *e*PKIKP **PKiKP 06 26 34.6 +1.4**
LANS Liptovska Anna 152.15 340 *e*PKIKP **PKiKP 06 26 35.7 +2.4**
LANS Liptovska Anna 152.15 340 *e*PKP **PKiKP 06 26 35.7 +2.4**
MORC Moravsky Berou 152.16 343 ⇓P **PKiKP 06 26 34.6 +1.2**
MORC Moravsky Berou 152.16 343 **PKiKP 06 26 33.8 +0.4**
MORC Moravsky Berou 152.16 343 *e*PKP **PKiKP 06 26 34.3 +1.0**
MORC Moravsky Berou 152.16 343 ⇓PKIKP **PKiKP 06 26 34.6 +1.2**
BUG Bochum--Univer 152.20 357 *e*PKPbc 06 26 34.0
baz=8.6,slow=2.2
HSKC Hora Svate Kat 152.32 349⇑*e*PKP **PKiKP 06 26 34.9 +1.3**
DOPR Dopca 152.36 329 ⇓P **PKiKP 06 26 35.3 +1.4**
KASTN Kahler Asten 152.37 356 *e*PKPbc 06 26 34.3
baz=8.6,slow=2.2
MLR Muntele Rosu 152.43 327 ⇓P **PKPbc 06 26 34.1 +0.2**
MLR Muntele Rosu 152.43 327 **PKPbc 06 26 33.4 -0.5**
MLR Muntele Rosu 152.43 327 ⇓PKIKP **PKPbc 06 26 34.1 +0.2**
MAUC Maruska 152.45 342⇑*e*PKP **PKiKP 06 26 35.8 +1.9**
MOX Moxa 152.58 351 *e*PKPbc 06 26 35.5
baz=8.6,slow=2.2
TANN Tannenbergstha 152.67 350 *e*PKPbc 06 26 35.3
baz=8.6,slow=2.2
PRU Pruhonice 152.69 347 AMS AMS 07 43 20.0
comp=Z,200nm,20.9s
GOPC GO Pecny, Ondr 152.71 346⇑*e*PKP **PKiKP 06 26 35.6 +1.2**
GOPC AMS AMS 07 42 50.0
comp=Z,200nm,19.3s
GOPC GO Pecny, Ondr 152.71 346 *e*PKIKP **PKiKP 06 26 35.6 +1.2**
GOPC MLR MLR
comp=Z,200nm,19.3s
VRAC Vranov 152.84 343 *e*PKP **PKiKP 06 26 35.6 +0.9**
VRAC *e* 06 26 46.8
MARR Marisel-Cluj 152.85 332 ⇑P **PKiKP 06 26 36.2 +1.3**
VOIR 152.91 328 ⇓P **PKiKP 06 26 36.7 +1.6**
VOIR 152.91 328 ⇓PKIKP **PKiKP 06 26 36.7 +1.6**
VYHS Vyhne 152.93 340 *e*PKIKP **PKiKP 06 26 36.4 +1.5**
VYHS Vyhne 152.93 340 *e*PKP **PKiKP 06 26 36.4 +1.5**
VYHS *e* 06 26 50.1
JAVC Velka Javorina 152.95 342 *e*PKP **PKiKP 06 26 37.6 +2.6**
CSS Mathiatis 153.04 301 PKPdf **PKPdf 06 26 26.7 -1.4**
CSS PKPbc **PKPbc 06 26 34.9 -0.5**
CSS PKPab **PKPab 06 26 44.9 -1.9**
KRUC Moravsky 153.12 343 *e*PKP **PKiKP 06 26 36.6 +1.3**
MANZ Manzenberg 153.15 350 *e*PKPbc 06 26 36.8
baz=8.6,slow=2.2
ARR Arges 153.16 329 ⇑P **PKiKP 06 26 37.7 +2.1**
ZVC Zvikov 153.29 347 AMS AMS 07 43 50.0
comp=Z,200nm,19.6s
ROTZ Rotzenmuhle 153.34 350 *e*PKPbc 06 26 36.9
baz=8.6,slow=2.2
TNS Taunus Mts 153.34 355 *e*PKPbc 06 26 37.1
baz=8.6,slow=2.2
MODS Modra-Piesok 153.50 342 *e*PKIKP **PKiKP 06 26 36.6 +0.5**
MODS Modra-Piesok 153.50 342 *e*PKP **PKiKP 06 26 36.6 +0.5**
KHC Kasperske Hory 153.71 347 PKPdf **PKPdf 06 26 27.7 -0.9**
KHC PKPab **PKPab 06 26 48.1 -1.0**
KHC Kasperske Hory 153.71 347⇑*e*PKP **PKiKP 06 26 38.3 +1.8**
KHC AMS AMS 07 38 50.0
comp=Z,200nm,19.2s
KHC Kasperske Hory 153.71 347 PKIKP **PKPdf 06 26 27.7 -0.9**
KHC 06 26 48.1
SIRR Siria 153.78 333 ⇑P **PKiKP 06 26 38.4 +1.6**
CKRC Cesky Krumlov 153.85 346⇑*e*PKP **PKiKP 06 26 38.3 +1.5**
CKRC AMS AMS 07 38 50.0
comp=Z,200nm,16.6s
CKRC Cesky Krumlov 153.85 346 *e*PKIKP **PKiKP 06 26 38.3 +1.5**
CKRC MLR MLR
comp=Z,200nm,16.6s
GEC2 GERESS Array S 153.95 347 PKPdf **PKPdf 06 26 27.4 -1.6**
GEC2 PKPab **PKPab 06 26 48.5 -1.7**
GERES GERESS Array B 153.95 347 PKP **PKPdf 06 26 30.2 +1.1**
comp=Z,0.4nm,0.4s,baz=8.9,slow=9.5,SNR=3.5
SURR Surduc 154.00 332 ⇓P **PKiKP 06 26 38.3 +1.1**
WLF Walferdange 154.01 358 *e*PKPbc 06 26 38.4
baz=8.6,slow=2.2
CONA Conrad Observa 154.30 343 *e*PKP **PKPdf 06 26 29.8 +0.2**
comp=Z,4.9nm,0.7s
RONA Rosalia, Austr 154.39 342 *e*PKP **PKPdf 06 26 29.2 -0.4**
comp=Z,9.7nm,0.9s
HERR Herculane 154.55 331 ⇓P **PKiKP 06 26 39.1 +0.7**
MDVR Moldovita 154.94 331 ⇓P **PKiKP 06 26 40.0 +0.8**
LESA Schwarzleotal 155.51 348 *i* PKP **PKPdf 06 26 31.4 +0.1**
comp=Z,5.5nm,1.0s
SOKA Soboth 155.67 343 *i* pPKP pPKPdf 06 26 32.8 +1.4
comp=Z,6.7nm,1.5s
KBA Koelnbreinsper 155.71 346 *e*PKP **PKPdf 06 26 31.7 +0.1**
comp=Z,0.6nm,0.4s
RETA Reutte 155.78 351 *e*PKP **PKPdf 06 26 29.9 -1.7**
comp=Z,3.2nm,0.6s
WTTA Wattenberg 155.86 349 *e*pPKP pPKPdf 06 26 33.7 +1.9
comp=Z,2.4nm,0.5s
MOTA Moosalm 155.87 350 *e*pPKP pPKPdf 06 26 33.0 +1.2
comp=Z,4.1nm,0.9s
OBKA Obir 155.96 344 *i* PKP **PKPdf 06 26 32.4 +0.5**
comp=Z,7.5nm,1.1s
MYKA Terra Mystica 156.06 345 *i* PKP **PKPdf 06 26 32.6 +0.6**
comp=Z,5.7nm,1.0s
DAVA Damuels 156.10 352 *e*PKP **PKPdf 06 26 32.1 -0.1**
comp=Z,2.7nm,0.4s
ABTA Abfaltersbach 156.19 347 *i* pPKP pPKPdf 06 26 33.5 +1.4
comp=Z,15nm,1.6s
FETA Feichten 156.25 350 *e*PKP **PKPdf 06 26 32.5 +0.1**
comp=Z,5.8nm,0.8s
PRED Cave del Predi 156.26 345 PKPdf **PKPdf 06 26 30.8 -1.5**
PRED PKPab **PKPab 06 26 59.0 -1.2**
ARG Arkhangelos 156.53 308 PKPdf **PKPdf 06 26 30.3 -2.6**
ARG PKPab **PKPab 06 26 59.5 -2.1**
ARG Arkhangelos 156.53 308 PKIKP **PKPdf 06 26 30.3 -2.6**
ARG 06 26 59.6
STAL STALIGIAL 156.62 347 PKPdf **PKPdf 06 26 30.7 -2.0**
STAL PKPab **pPKPab 06 27 01.5 -0.1**
SABO M.te Sabotino 156.69 345 PKPdf **PKPdf 06 26 31.0 -1.8**
SABO PKPab **PKPab 06 27 00.0 -1.9**
FDMO Fiordimonte 159.57 343 PKPdf **PKPdf 06 26 34.3 -2.1**
FDMO PKPab **PKPab 06 27 13.5 -1.0**
NRCA Norcia 159.75 343 PKPdf **PKPdf 06 26 33.8 -2.8**
NRCA PKPab **PKPab 06 27 13.9 -1.4**
MTE Manteigas 160.17 30 *e*PKP **PKPdf 06 26 38.8 +1.6**
DBIC Dimbokro 160.58 149 PKP **PKPdf 06 26 39.0 +0.7**
comp=Z,1.3nm,0.6s,baz=275,slow=19,SNR=3.0
DBIC PKPab **sPKPab 06 27 21.6 +2.3**
comp=Z,8.8nm,1.1s,baz=186,slow=6.9,SNR=2.6
PCBR Castelo Branco 160.65 30 *e*PKP **PKPdf 06 26 40.5 +2.9**
PBAR Barrancos 162.17 33 *e*PKP **PKPdf 06 26 42.0 +2.7**
ESDC Sonseca Array 162.26 24 PKP **PKPdf 06 26 40.5 +1.1**
comp=Z,1.4nm,0.8s,baz=346,slow=4.1,SNR=7.2
KEST Kesra 167.41 344 PKPdf **PKPdf 06 26 42.1 -1.9**
KEST PKPab **PKPab 06 27 48.2 -0.9**
KEST Kesra 167.41 344 PKPab **PKPab 06 27 49.9 +0.8**
comp=Z,5.5nm,1.0s,baz=293,slow=5.0,SNR=4.4
TOA0 Torodi Ar. Sit 169.06 162 PKPdf **PKPdf 06 26 43.4 -2.2**
TOA0 PKPab **PKPab 06 27 57.5 +0.7**
TORD Torodi Ar. Bea 169.06 162 PKPdf **PKPdf 06 26 44.5 -1.2**
TORD PKPab **PKPab 06 27 57.5 +0.8**
TORD Torodi Ar. Bea 169.06 162 PKP **PKPdf 06 26 46.0 +0.3**
comp=Z,3.2nm,1.2s,baz=151,slow=3.3,SNR=7.7
TORD PKPab **sPKPab 06 27 59.0 +2.4**
comp=Z,3.2nm,0.6s,baz=152,slow=3.6,SNR=20

IDC ***30*** *07:18:44.1±1.5,40°.73N×83°.05E,h0km,mb3.6/3, mbtmp3.5/9,ML3.0/6,MS3.8/2,Error ellipse: s-maj=24.6km s-min=17.1km az=64.0*
SOME ***30*** *07:18:51.8,40°.97N×83°.37E,h10km*
NNC ***30*** *07:18:54.2±2.8,40°.83N×83°.22E,h0km,mb4.4,mpv4.1, Error ellipse: s-maj=21.4km s-min=15.7km az=171.0*
ISC 30 07:18:47.0±0.7,40°.89N±0°.05×83°.45E±0°.03,h10km,n59,
$\sigma_0$2.8**40/**75**,mb3.6/**3**,MS3.9/**3**,11C-3D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.73**	**309**	*e*P	**Pb**	**07 19 55.2**	**+2.1**
	76nm,0.4s						
SHLS				*e*S	**Sb**	**07 20 40.9**	**+2.4**
	344nm,0.3s						
SHLS	**Shalkode**	**3.73**	**309**	Pg	**Pb**	**07 19 55.2**	**+2.1**
	76nm,0.4s						
SHLS				Lg	Lg	07 20 40.9	
	344nm,0.3s						
UZB	**Uzynbulak**	**3.99**	**306**	*e*P	**Pg**	**07 20 05.9**	**+2.4**
	49nm,0.3s						
UZB				*e*S	**Sg**	**07 20 58.1**	**+2.9**
	87nm,0.4s						
UZB	**Uzynbulak**	**3.99**	**306**	Pg	**Pg**	**07 20 05.9**	**+2.4**
	49nm,0.3s						
UZB				Lg	Lg	07 20 58.1	
	87nm,0.4s						
WMQ	**Urumqi**	**4.30**	**46**	*e*Pn	**Pb**	**07 20 01.5**	**-1.2**
WMQ				LR	LR		
	comp=N,610nm,5.9s						
WMQ				LR	LR		
	comp=E,610nm,5.7s						
SATY	**Saty**	**4.33**	**302**	*e*P	**Pg**	**07 20 13.0**	**+2.9**
	comp=E,54nm,0.6s						
SATY				*e*S	**Sg**	**07 21 11.1**	**+4.9**
	comp=E,90nm,0.4s						
SATY	**Saty**	**4.33**	**302**	Pg	**Pg**	**07 20 13.0**	**+2.9**
	comp=E,54nm,0.6s						
SATY				Lg	Lg	07 21 11.1	
	comp=E,90nm,0.4s						
DJR	**Jarkent**	**4.37**	**323**	*e*P	**Pg**	**07 20 10.3**	**-0.4**
	comp=E,30nm,0.4s						
DJR				*e*S	**Sg**	**07 21 06.5**	**-0.8**
	comp=E,64nm,0.6s						
DJR	**Jarkent**	**4.37**	**323**	Pg	**Pg**	**07 20 10.3**	**-0.4**
	comp=E,30nm,0.4s						
DJR				Lg	Lg	07 21 06.5	
	comp=E,64nm,0.6s						
ZHN	**Zhinishke**	**4.37**	**303**	*e*P	**Pg**	**07 20 12.6**	**+1.9**
	comp=E,22nm,0.5s						
ZHN				*e*S	**Sg**	**07 21 09.7**	**+2.4**
	comp=E,101nm,0.3s						
ZHN	**Zhinishke**	**4.37**	**303**	Pg	**Pg**	**07 20 12.6**	**+1.9**
	comp=E,22nm,0.5s						
ZHN				Lg	Lg	07 21 09.7	
	comp=E,101nm,0.3s						
KPKS	**Kokpek**	**4.37**	**308**	*e*P	**Pg**	**07 20 10.1**	**-0.7**
	comp=E,35nm,0.4s						
KPKS				*e*S	**Sg**	**07 21 05.7**	**-1.8**
	comp=E,125nm,0.5s						
KPKS	**Kokpek**	**4.37**	**308**	Pg	**Pg**	**07 20 10.1**	**-0.7**
	comp=E,35nm,0.4s						
KPKS				Lg	Lg	07 21 05.7	
	comp=E,125nm,0.5s						
KNOS	**Konyrlen**	**4.68**	**319**	Pg	**Pg**	**07 20 17.1**	**+0.5**
	comp=E,13nm,0.3s						
KNOS				Lg	Lg	07 21 17.7	
	comp=E,70nm,0.6s						
KURS	**Kuram**	**4.70**	**305**	*e*P	**Pg**	**07 20 17.9**	**+0.9**
	comp=E,18nm,0.5s						
KURS				*e*S	**Sg**	**07 21 19.1**	**+1.2**
	comp=E,97nm,1.1s						
BLB	**Baldybastay**	**4.87**	**313**	Pg	**Pg**	**07 20 19.0**	**-1.4**
	comp=E,48nm,0.3s						
BLB				Lg	Lg	07 21 21.3	
	comp=E,103nm,0.5s						
MDOK	**Medeo**	**5.28**	**298**	*e*P	**Pg**	**07 20 29.6**	**+1.6**
	comp=E,19nm,0.6s						
MDOK				*e*S	**Sg**	**07 21 39.2**	**+2.7**
	comp=E,57nm,0.9s						
MDOK	**Medeo**	**5.28**	**298**	⇑Pg	**Pg**	**07 20 27.8**	**-0.3**
	comp=E,16nm,0.6s						
MDOK				Pg	Pb	07 20 29.6	+10
	comp=E,19nm,0.6s						
MDOK				⇓Lg	Lg	07 21 38.5	
	comp=E,100nm,0.8s						
MDOK				Lg	Lg	07 21 39.2	
	comp=E,57nm,0.9s						
TNSS	**Tian-Shan**	**5.30**	**296**	*e*P	**Pg**	**07 20 28.5**	**0.0**
	comp=E,10nm,0.5s						
TNSS				*e*S	**Sg**	**07 21 36.9**	**-0.2**
	comp=E,20nm,0.8s						
TNSS	**Tian-Shan**	**5.30**	**296**	Pg	**Pg**	**07 20 28.5**	**0.0**
	comp=E,10nm,0.5s						
TNSS				Lg	Lg	07 21 36.9	
	comp=E,20nm,0.8s						
ARXS	**Arharly**	**5.31**	**310**	*e*P	**Pg**	**07 20 31.2**	**+2.4**
	comp=E,20nm,0.5s						
ARXS				*e*S	**Sg**	**07 21 42.3**	**+4.7**
	comp=E,49nm,0.7s						
ARXS	**Arharly**	**5.31**	**310**	Pg	**Pg**	**07 20 31.2**	**+2.4**
	comp=E,20nm,0.5s						
ARXS				Lg	Lg	07 21 42.3	
	comp=E,49nm,0.7s						
CHKK	**Chushkaly**	**5.62**	**304**	*e*P	**Pg**	**07 20 35.1**	**+0.4**
	comp=E,8.0nm,0.4s						
CHKK				*e*S	**Sg**	**07 21 49.0**	**+1.5**
	comp=E,29nm,0.6s						
CHKK	**Chushkaly**	**5.62**	**304**	Pg	**Pg**	**07 20 35.1**	**+0.4**
	comp=E,8.0nm,0.4s						
CHKK				Lg	Lg	07 21 49.0	
	comp=E,29nm,0.6s						
MTBS	**Maitube**	**5.69**	**295**	*e*P	**Pg**	**07 20 36.4**	**+0.5**
	comp=E,12nm,0.5s						
MTBS				*e*S	**Sg**	**07 21 53.0**	**+3.5**
	comp=E,34nm,0.7s						
MTBS	**Maitube**	**5.69**	**295**	Pg	**Pg**	**07 20 36.4**	**+0.5**
	comp=E,12nm,0.5s						
MTBS				Lg	Lg	07 21 53.0	
	comp=E,34nm,0.7s						
KTBS	**Karatobe**	**5.75**	**302**	*e*P	**Pg**	**07 20 39.4**	**+2.2**
	comp=E,12nm,0.4s						
KTBS				*e*S	**Sg**	**07 21 55.8**	**+4.2**
	comp=E,50nm,0.6s						
KTBS	**Karatobe**	**5.75**	**302**	Pg	**Pg**	**07 20 39.3**	**+2.2**
	comp=E,12nm,0.4s						
KTBS				Lg	Lg	07 21 55.8	
	comp=E,50nm,0.6s						
KSH	**Kashi**	**5.88**	**259**	Pn	Pb	07 20 25.0	-4.8
KSH				Sn	**Sb**	**07 21 36.5**	**-3.9**
KSH				smax	smax		
	comp=N,150nm,0.7s						
KSH				smax	smax		
	comp=E,210nm,1.0s						
MK31	**Makanchi Array**	**5.96**	**352**	Pn	**Pn**	**07 20 20.0**	**+4.7**
	comp=E,0.3nm,0.3s,baz=184,slow=12,SNR=16						
MK31				⇑Pg	**Pg**	**07 20 40.6**	**-0.5**
	comp=E,2.8nm,0.5s,baz=163,slow=16,SNR=5.8						
MK31				⇓Lg	Lg	07 22 04.2	
	comp=E,26nm,0.5s,baz=170,slow=29,SNR=6.0						
MKAR	**Makanchi Array**	**5.96**	**352**	Pn	**Pn**	**07 20 19.2**	**+4.0**
	comp=E,0.4nm,0.3s,baz=186,slow=11,SNR=19						
MKAR				Sn	**Sn**	**07 21 21.0**	**-2.6**
	comp=E,2.6nm,0.3s,baz=181,slow=19,SNR=3.3						
MKAR				Lg	Lg	07 21 56.3	
	comp=E,5.6nm,0.3s,baz=160,slow=27,SNR=5.9						
	comp=E,0.6nm,0.3s						
KST	**Kastek**	**5.98**	**294**	*e*P	**Pg**	**07 20 42.5**	**+1.0**
	comp=E,25nm,0.6s						
KST				*e*S	**Sg**	**07 22 01.1**	**+2.3**
	comp=E,84nm,0.8s						
KST	**Kastek**	**5.98**	**294**	Pg	**Pg**	**07 20 42.5**	**+1.0**
	comp=E,25nm,0.6s						
KST				Lg	Lg	07 22 01.1	
	comp=E,84nm,0.8s						
DGS	**Degeres**	**6.17**	**295**	*e*P	**Pg**	**07 20 43.9**	**-1.4**
	comp=E,8.9nm,0.5s						
DGS				*e*S	**Sg**	**07 22 03.2**	**-2.0**
	comp=E,41nm,0.5s						
DGS	**Degeres**	**6.17**	**295**	Pg	Pg	07 20 41.1	-4.2
	comp=E,8.9nm,0.5s						
DGS				Lg	Lg	07 21 59.2	
	comp=E,41nm,0.7s						
TKM2	**Tokmak 2**	**6.20**	**292**	⇑Pn	Pn	07 20 23.9	+5.2
	comp=E,3.5nm,0.5s						
TKM2				⇑Pg	**Pg**	**07 20 42.7**	**-3.0**
	comp=E,30nm,1.2s						
TKM2				⇑Lg	Lg	07 22 13.1	
	comp=E,61nm,0.8s						
KRBS	**Karabastau**	**6.41**	**298**	*e*P	**Pg**	**07 20 50.1**	**+0.4**
	comp=E,7.1nm,0.5s						
KRBS				*e*S	**Sg**	**07 22 14.2**	**+1.5**
	comp=E,19nm,0.6s						
KRBS

ZSN	**Zaisan**	**6.63**	**8**	Pg	**Pg**	**07 20 53.5**	**-0.5**
	comp=E,5.9nm,0.4s						
ZSN				Lg	Lg	07 22 19.8	
	comp=E,130nm,1.0s						
AAK	**Ala-Archa**	**6.92**	**288**	Pn	**Pn**	**07 20 27.3**	**-1.3**
	comp=E,0.7nm,0.3s,baz=156,slow=21,SNR=1.7						
AAK				Lg	Lg	07 22 17.6	
	comp=E,1.2nm,0.3s,baz=41,slow=5.4,SNR=2.0						
	comp=E,1.8nm,0.4s						
SGDS	**Sogindy**	**7.03**	**294**	Pg	**Pg**	**07 21 02.9**	**+1.3**
	comp=E,6.6nm,0.8s						
SGDS				Lg	Lg	07 22 35.8	
	comp=E,14nm,0.7s						
MRKS	**Merke**	**7.86**	**287**	*e*P	**Pg**	**07 21 15.7**	**-1.6**
	comp=E,6.3nm,0.8s						
MRKS				*e*S	**Sg**	**07 22 58.2**	**-0.9**
	comp=E,8.0nm,0.7s						
MRKS	**Merke**	**7.86**	**287**	Pg	**Pg**	**07 21 15.7**	**-1.6**
	comp=E,6.3nm,0.8s						
MRKS				Lg	Lg	07 22 58.2	
	comp=E,8.0nm,0.7s						
KK31	**Karatay Array**	**9.88**	**287**	Pg	Pn	07 21 52.6	+44
	comp=E,0.3nm,0.4s,baz=100,slow=16,SNR=4.0						
KK31				⇑Lg	Lg	07 24 08.2	
	comp=E,3.7nm,0.6s,baz=95,slow=28,SNR=3.5						
GOMU	**GeErMu**	**10.06**	**114**	Pn	**Pn**	**07 21 13.8**	**+1.9**
GOMU				Pg		07 21 56.5	
GOMU				Sn	**Sn**	**07 23 04.8**	**-0.2**
GOMU				Sg		07 24 14.5	
GOMU				smax	smax		
	comp=N,21nm,0.7s						
GOMU				smax	smax		
	comp=E,17nm,0.7s						
KURBB	**Kurchatov Arra**	**10.31**	**342**	Pn	**Pn**	**07 21 16.2**	**+1.3**
	comp=E,0.1nm,0.3s,baz=160,slow=12,SNR=4.1						
KURBB				Sn	**Sn**	**07 23 08.6**	**-2.0**
	comp=E,0.1nm,0.3s,baz=158,slow=20,SNR=1.6						
KURBB				Lg	Lg	07 24 11.8	
	comp=E,0.2nm,0.3s,baz=161,slow=26,SNR=4.7						
	comp=E,0.6nm,0.2s						
KURBB	**Kurchatov Arra**	**10.31**	**342**	⇑Pn	Pn	07 21 27.2	+12
	comp=E,0.8nm,0.5s						
KURBB				⇑Sn	Sn	07 23 29.6	+19
	comp=E,17nm,0.7s						
KURBB				⇓Lg	Lg	07 24 23.1	
	comp=E,38nm,0.9s						
KURK	**Kurchatov**	**10.38**	**343**	⇑Pn	Pn	07 21 29.7	+14
	comp=E,0.9nm,0.5s						
KURK				⇑Sn	Sn	07 23 32.6	+20
	comp=E,17nm,0.8s						
KURK				⇑Lg	Lg	07 24 26.0	
	comp=E,28nm,0.9s						
ZALV	**Zalesovo Beam**	**13.09**	**4**	Pn	**Pn**	**07 21 54.0**	**+1.1**
	comp=E,0.4nm,0.3s,baz=184,slow=12,SNR=6.1						
ZALV				Lg	Lg	07 25 47.2	
	baz=181,slow=24						
	comp=E,2.2nm,0.6s						
BVAR	**Borovoye Array**	**15.03**	**328**	Pn	**Pn**	**07 22 16.7**	**-2.6**
	baz=138,slow=8.9,SNR=3.0						
BVAR				Sn	Sn	07 24 46.3	-19
	baz=129,slow=28,SNR=3.0						
BVAR				Lg	Lg	07 26 41.5	
	baz=134,slow=29,SNR=1.5						
	comp=E,0.2nm,0.3s						
LZH	**Lanzhou**	**16.67**	**100**	*e*P	**Pn**	**07 22 41.0**	**+0.2**
LZH				pP	pP	07 22 48.5	+2.2
LZH				pmax	pmax		
	comp=Z,25nm,1.5s						
SONM	**Songino Array**	**17.78**	**59**	Pn	**P**	**07 22 56.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=248,slow=12,SNR=6.6						
	comp=Z,1.3nm,0.8s						
TNCH	**TengChong**	**20.21**	**137**	P	Pn	07 23 29.0	+4.9
TNCH				PP	**PnPn**	**07 23 48.5**	**+10**
TNCH				S	Sn	07 27 18.0	+6.3
TNCH				SS	SnSn	07 27 43.3	+17
TNCH				pmax	pmax		
	comp=Z,85nm,4.5s						
TNCH				LR	LR		
	comp=N,240nm,7.0s						
TNCH				LR	LR		
	comp=E,170nm,7.7s						
TNCH				LR	LR		
	comp=Z,200nm,10.1s						
USRK	**Ussurivsk Ar.**	**35.50**	**68**	LR	LR	07 40 59.0	
	comp=Z,94nm,18.2s,baz=214,slow=37						
AKASG	**Malin Array Be**	**38.27**	**304**	P	**P**	**07 26 04.0**	**-3.2**
	comp=Z,0.7nm,0.5s,baz=85,slow=9.9,SNR=2.0						
	comp=Z,0.7nm,0.5s						
NOA	**NORSAR Array B**	**46.98**	**321**	P	**P**	**07 27 14.5**	**-3.4**
	comp=Z,0.6nm,0.8s,baz=135,slow=16,SNR=1.9						
	comp=Z,0.6nm,0.8s						
WRA	**Warramunga Arr**	**76.78**	**131**	P	**P**	**07 30 38.5**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=324,slow=5.5,SNR=2.1						
	comp=Z,0.4nm,0.8s						
TSUM	**Tsumeb**	**85.42**	**240**	LR	LR	08 13 55.6	
	comp=Z,90nm,20.8s,baz=328,slow=39						

*IDC **30** 07:21:26.3±2.4, 27°.47S×177°.88W, h134km±20km, mb3.5/6, mbtmp3.9/6, Error ellipse: s-maj=37.1km s-min=27.8km az=66.0*

ISC 30 07:21:27.3±1.2, 27°.6S±0°.1×177°.8W±0°.3, h150km, n11, σ1°§12/13, mb3.7/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.65**	**184**	P	**Pn**	**07 21 57.4**	**-1.0**
	528nm,0.2s,baz=90,slow=20,SNR=26						
RAO				S	**Sn**	**07 22 22.2**	**-0.2**
	464nm,0.4s,baz=84,slow=19,SNR=2.4						
ASAR	**Alice Springs**	**43.52**	**264**	P	**P**	**07 29 16.4**	**+0.1**
	0.5nm,0.7s,baz=102,slow=6.8,SNR=5.7						
ASAR				PcP	**PcP**	**07 31 02.1**	**+0.6**
	0.4nm,0.6s,baz=114,slow=3.3,SNR=4.7						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**44.26**	**269**	P	**P**	**07 29 21.8**	**-0.3**
	0.4nm,0.7s,baz=108,slow=7.4,SNR=5.1						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**62.50**	**180**	P	**P**	**07 31 36.4**	**+1.8**
	0.7nm,0.8s,baz=32,slow=0.9,SNR=5.7						
	0.7nm,0.8s						
MJAR	**Matsushiro Arr**	**76.06**	**325**	P	**P**	**07 32 57.9**	**-0.3**
	2.7nm,0.6s,baz=161,slow=6.0,SNR=6.4						
	2.7nm,0.6s						
KSRS	**Korea Array**	**82.35**	**319**	P	**P**	**07 33 32.6**	**+0.4**
	1.0nm,0.6s,baz=154,slow=7.0,SNR=2.9						
	1.0nm,0.6s						
KLR	**Kul'dur**	**88.72**	**330**	P	**P**	**07 34 04.8**	**+1.3**
	0.9nm,0.6s,baz=84,slow=3.8,SNR=3.9						
	0.9nm,0.6s						
HFS	**Hagfors**	**146.54**	**350**	PKPbc	**PKPab**	**07 40 49.9**	**-1.8**
	1.1nm,0.6s,baz=13,slow=2.0,SNR=7.3						
AKASG	**Malin Array Be**	**149.15**	**326**	PKPbc	**PKiKP**	**07 40 57.8**	**-1.0**
	0.9nm,0.4s,baz=40,slow=2.8,SNR=4.5						
MMAI	**Mount Meron Ar**	**150.92**	**289**	PKPbc	**PKiKP**	**07 41 01.9**	**-1.2**
	2.5nm,0.5s,baz=61,slow=10,SNR=3.8						
BRTR	**Keskin Array B**	**151.33**	**303**	PKPbc	**PKiKP**	**07 41 04.0**	**+0.1**
	0.4nm,0.4s,baz=128,slow=2.4,SNR=3.9						

NNC 30 07:27:04.0±0.4, 50°.01N×78°.78E, h0km, mb3.5, mpv3.0, 18C-7D, Error ellipse: s-maj=6.9km s-min=1.9km az=74.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**344**	⇑P	Pg	07 27 15.5	+0.1
KUR07				⇑S	Sg	07 27 24.2	+1.1
KUR06	**Kurchatov Arra**	**0.61**	**345**	⇑P	Pg	07 27 15.9	+0.2
KUR06				⇑S	Sg	07 27 24.9	+1.1
KUR14	**Kurchatov Arra**	**0.61**	**349**	⇑P	Pg	07 27 15.8	0.0
KUR14				⇑S	Sg	07 27 24.7	+1.0
KUR15	**Kurchatov Arra**	**0.62**	**347**	⇑P	Pg	07 27 16.0	+0.1
KUR15				⇑S	Sg	07 27 25.1	+1.0
KURBB	**Kurchatov Arra**	**0.63**	**345**	⇓P	Pg	07 27 16.3	+0.2
	25nm,0.6s						
KURBB				⇑S	Sg	07 27 25.3	+1.0
	95nm,0.6s						
KUR16	**Kurchatov Arra**	**0.64**	**344**	⇑P	Pg	07 27 16.4	+0.1
KUR16				⇓S	Sg	07 27 25.5	+0.9
KUR05	**Kurchatov Arra**	**0.65**	**346**	⇑P	Pg	07 27 16.5	0.0
KUR05				⇑S	Sg	07 27 25.6	+0.8
KUR17	**Kurchatov Arra**	**0.65**	**342**	⇑P	Pg	07 27 16.8	+0.4
KUR17				⇑S	Sg	07 27 26.2	+1.3
KUR04	**Kurchatov Arra**	**0.67**	**347**	⇑P	Pg	07 27 17.0	+0.2
KUR04				⇓S	Sg	07 27 26.6	+1.1
KURK	**Kurchatov**	**0.71**	**352**	⇓P	Pg	07 27 17.5	-0.1
	11nm,0.5s						
KURK				⇓S	Sg	07 27 28.1	+1.3
	68nm,0.8s						
MAKZ	**Makanchi**	**3.85**	**145**	⇑Pg	Pg	07 28 16.0	-1.8
	5.4nm,0.8s						
MAKZ				⇓Lg	Lg	07 29 04.3	
	21nm,0.7s						
MK31	**Makanchi Array**	**3.98**	**143**	Pg	Pb	07 28 17.5	+2.5
	1.5nm,0.5s,baz=329,slow=16,SNR=10						
MK31				⇓Lg	Lg	07 29 10.8	
	23nm,0.7s,baz=337,slow=25,SNR=17						
OTUK	**Ortayu**	**4.58**	**250**	⇑Pg	Pg	07 28 28.9	-3.0
	2.2nm,0.7s						
OTUK				⇑Lg	Lg	07 29 28.0	
	10.0nm,0.7s						

IDC 30 07:30:33.4±2.5, 54°.30N×86°.30E, h0km, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=21.2km s-min=13.1km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**249**	I	I	07 34 30.0	
	baz=65,slow=318,SNR=2.6						
ZALV	**Zalesovo Beam**	**0.94**	**249**	Pg	Pg	07 30 49.5	-1.8
	1.5nm,0.3s,baz=68,slow=16,SNR=12						
ZALV				Lg	Lg	07 31 05.5	
	3.1nm,0.3s,baz=72,slow=34,SNR=6.6						
KURBB	**Kurchatov Arra**	**6.01**	**235**	Pn	Pn	07 32 04.8	+1.3
	0.3nm,0.3s,baz=53,slow=14,SNR=4.3						
	2.2nm,0.2s						
MKAR	**Makanchi Array**	**7.94**	**200**	Pn	Pn	07 32 31.0	+1.0
	0.5nm,0.3s,baz=24,slow=14,SNR=14						
MKAR				Lg	Lg	07 34 44.5	
	baz=22,slow=33						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**9.53**	**269**	Pn	Pn	07 32 50.7	-1.1
	baz=76,slow=13,SNR=2.9						
	0.2nm,0.3s						

*IDC **30** 07:37:17.1±5.9, 7°.54S×128°.18E, h118km±56km, mb3.7/6, mbtmp4.1/8, Error ellipse: s-maj=133.2km s-min=21.9km az=68.0*

*NEIC **30** 07:37:17.2±2.0, 7°.47S±0°.09×128°.29E±0°.08, h120km±7km, mb4.1/9, Error ellipse: s-maj=13.6km s-min=10.7km az=171.0*

*DJA **30** 07:37:22.6±1.2, 8°.S±6°.×12°.8E±°, h12km±8km, M4.6/7, mb4.7/3, mB5.3/1, MLv4.6/7, Mw(mB)4.8/1*

ISC 30 07:37:20.8±0.6, 7°.61S±0°.07×128°.30E±0°.05, h151km, n46, σ2°§26/50, mb4.0/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.00**	**97**	Pn	Pn	07 38 02.7	-5.4
SAUI				Sn	**Sn**	**07 38 40.0**	**-4.8**
SAUI	**Saumlaki**	**3.00**	**97**	P	**Pn**	**07 38 09.9**	**+1.8**
SAUI				S	**Sn**	**07 38 46.6**	**+1.9**
SOEI	**Soe**	**4.52**	**242**	Pn	**Pn**	**07 38 25.1**	**-2.9**
SOEI	**Soe**	**4.52**	**242**	P	**Pn**	**07 38 27.4**	**-0.6**
SOEI				S	**Sn**	**07 39 21.2**	**+0.9**
BATI	**Baumata**	**5.26**	**240**	P	**Pn**	**07 38 38.6**	**+0.9**
	222nm,0.5s,3μm0.9nm						
BATI				S	**Sn**	**07 39 38.7**	**+1.0**
	222nm,0.5s,3μm0.9nm						
DRS	**Darwin Rock St**	**5.43**	**152**	P	**Pn**	**07 38 41.4**	**+1.5**
MTN	**Manton Dam**	**5.90**	**152**	P	**Pn**	**07 38 47.1**	**+0.9**
MTN	**Manton Dam**	**5.90**	**152**	Pn	**Pn**	**07 38 47.0**	**+0.9**
FAKI	**Fak Fak**	**6.10**	**40**	Pn	Pn	07 38 42.9	-6.0
KDU	**Kakadu**	**6.50**	**141**	P	**Pn**	**07 38 55.0**	**+0.8**
EDFI	**Ende, Flores**	**6.64**	**260**	P	**Pn**	**07 38 58.3**	**+2.1**
EDFI				S	**Sn**	**07 40 14.7**	**+3.8**
KNRA	**Kununurra**	**8.03**	**177**		**Pn**	**07 39 14.6**	**0.0**
FITZ	**Fitzroy Crossi**	**10.74**	**194**	P	**Pn**	**07 39 48.8**	**-1.8**
FITZ	**Fitzroy Crossi**	**10.74**	**194**		**Pn**	**07 39 49.1**	**-1.5**
WB0	**Warramunga Arr**	**13.45**	**155**	Pn	**Pn**	**07 40 24.2**	**-1.5**
WRAB	**Tennant Creek**	**13.58**	**155**	Pn	**Pn**	**07 40 26.3**	**-1.1**
WRA	**Warramunga Arr**	**13.58**	**155**	Pn	**Pn**	**07 40 25.4**	**-2.1**
WRA	**Warramunga Arr**	**13.58**	**155**	P	**Pn**	**07 40 25.2**	**-2.2**
	2.2nm,0.6s,baz=321,slow=14,SNR=80						
WRA				S	Sn	07 42 49.1	-8.9
	10nm,0.7s,baz=322,slow=24,SNR=12						
WB2	**Warramunga Arr**	**13.59**	**155**	Pn	**Pn**	**07 40 26.1**	**-1.4**
WR0	**Warramunga Arr**	**13.68**	**154**	Pn	**Pn**	**07 40 27.4**	**-1.3**
MBWA	**Marble Bar**	**15.81**	**211**	P	**P**	**07 40 58.0**	**+2.1**
MBWA	**Marble Bar**	**15.81**	**211**		**Pn**	**07 40 54.0**	**-1.2**
MBWA				IAmb	IAmb	07 41 00.1	
	comp=Z,22nm,1.4s						
COEN	**Coen**	**15.91**	**115**	P	**P**	**07 41 03.3**	**+6.2**
COEN	**Coen**	**15.91**	**115**		**P**	**07 40 57.2**	**+0.1**
COEN				IAmb	IAmb	07 41 01.7	
	comp=Z,23nm,1.5s						
MYLDM	**Lahad Datu**	**16.03**	**322**		**Pn**	**07 40 56.2**	**-1.8**
MYLDM				IAmb	IAmb	07 41 01.4	
	comp=Z,7.6nm,0.8s						
PSA00	**Pilbara Seismi**	**16.10**	**210**	P	**P**	**07 41 00.7**	**+1.5**
PSA00	**Pilbara Seismi**	**16.10**	**210**	Pn	**Pn**	**07 40 57.0**	**-1.8**
AS31	**Alice Springs**	**16.84**	**162**		**Pn**	**07 41 08.5**	**+0.7**
ASAR	**Alice Springs**	**16.84**	**162**	P	**P**	**07 41 04.1**	**-3.3**
ASAR	**Alice Springs**	**16.84**	**162**	P	**Pn**	**07 41 08.2**	**+0.4**
	comp=Z,5.6nm,0.6s,baz=340,slow=11,SNR=73						
ASAR				S	**S**	**07 44 08.2**	**-6.9**
	comp=Z,1.6nm,0.4s,baz=345,slow=26,SNR=8.0						
QIS	**Mount Isa**	**16.89**	**141**	P	**Pn**	**07 41 10.0**	**+1.6**
WRKA	**Warakurna**	**17.33**	**180**	P	**Pn**	**07 41 14.2**	**+0.6**
SBUM	**Sibu**	**18.90**	**301**	P	**P**	**07 41 25.4**	**-4.6**
OOD	**Oodnadatta**	**21.26**	**162**	P	**P**	**07 41 57.4**	**+2.2**
MULG	**Mulgathing**	**23.19**	**167**	P	**P**	**07 42 16.5**	**+2.3**
SONM	**Songino Array**	**58.51**	**343**	P	**P**	**07 47 01.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=185,slow=9.8,SNR=4.2						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**67.83**	**328**	P	**P**	**07 48 02.0**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=122,slow=7.7,SNR=10						
	comp=Z,0.8nm,0.5s						
ZAA0	**Zalesovo Array**	**71.40**	**335**	P	**P**	**07 48 23.1**	**-1.1**
ZAA0				IAmb	IAmb	07 48 23.2	
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**71.40**	**335**	P	**P**	**07 48 23.5**	**-0.8**
ZALV	**Zalesovo Beam**	**71.40**	**335**	P	**P**	**07 48 22.9**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=138,slow=7.0,SNR=4.1						
	comp=Z,1.5nm,0.5s						
KURBB	**Kurchatov Arra**	**72.16**	**329**	P	**P**	**07 48 28.5**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=129,slow=5.0,SNR=3.4						
	comp=Z,1.8nm,0.5s						
KURK	**Kurchatov**	**72.17**	**329**	P	**P**	**07 48 28.2**	**-0.8**
KURK				IAmb	IAmb	07 48 29.2	
	comp=Z,3.2nm,0.8s						
BVAR	**Borovoye Array**	**77.69**	**328**	P	**P**	**07 48 59.3**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=120,slow=5.6,SNR=4.8						
	comp=Z,1.3nm,0.7s						
QSPA	**South Pole Qui**	**82.37**	**180**	P	**P**	**07 49 26.6**	**+0.9**
QSPA	**South Pole Qui**	**82.37**	**180**	P	**P**	**07 49 26.6**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=294,slow=4.2,SNR=1.5						
	comp=Z,0.7nm,0.9s						
LPAZ	**La Paz**	**151.22**	**146**	PKPbc	**PKiKP**	**07 56 58.4**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=207,slow=2.3,SNR=7.0						

IDC 30 07:41:49.5±1.6, 54°.63N×83°.70E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=16.3km s-min=10.1km az=13.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**136**	I	I	07 47 20.0	
	baz=317,slow=320,SNR=2.4						
ZALV	**Zalesovo Beam**	**0.95**	**136**	Pg	Pg	07 42 07.3	-0.4
	1.8nm,0.3s,baz=313,slow=16,SNR=13						
ZALV				Lg	Lg	07 42 21.8	
	6.8nm,0.3s,baz=317,slow=29,SNR=17						
KURBB	**Kurchatov Arra**	**5.10**	**220**	Pn	Pn	07 43 06.9	-0.3
	baz=42,slow=13,SNR=3.9						
	0.3nm,0.2s						
MKAR	**Makanchi Array**	**7.90**	**187**	Pn	Pn	07 43 45.3	-0.3
	0.1nm,0.3s,baz=12,slow=13,SNR=2.8						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**8.04**	**264**	Pn	Pn	07 43 47.0	-0.4
	baz=70,slow=15,SNR=5.3						
	0.7nm,0.5s						

IDC 30 07:42:50.1±2.9, 54°.08N×86°.84E, h0km, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=27.7km s-min=14.6km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**264**	I	I	07 49 50.0	
	baz=83,slow=319,SNR=3.0						
ZALV	**Zalesovo Beam**	**1.20**	**264**	Pg	Pg	07 43 11.5	-1.5
	2.1nm,0.3s,baz=84,slow=16,SNR=5.5						
ZALV				Lg	Lg	07 43 29.1	
	1.0nm,0.3s,baz=80,slow=32,SNR=2.4						
KURBB	**Kurchatov Arra**	**6.16**	**239**	Pn	Pn	07 44 22.7	+0.5
	0.1nm,0.3s,baz=58,slow=14,SNR=5.7						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**7.85**	**203**	Pn	Pn	07 44 46.1	+0.6
	0.1nm,0.3s,baz=23,slow=12,SNR=4.7						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**9.85**	**271**	Pn	Pn	07 45 12.5	-0.3
	0.2nm,0.3s,baz=74,slow=15,SNR=11						
	0.7nm,0.4s						

IDC 30 07:43:56.7±3.4, 53°.70N×88°.10E, h0km, mbtmp3.2/3, ML2.8/2, Error ellipse: s-maj=32.8km s-min=21.0km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**279**	I	I	07 56 37.7	
	0.5nm,0.9s,baz=91,slow=322,SNR=20						
ZALV	**Zalesovo Beam**	**1.96**	**279**	Pn	Pn	07 44 30.8	-0.3
	1.9nm,0.3s,baz=96,slow=10,SNR=14						
ZALV				Sn	Sg	07 44 59.1	-0.6
	4.4nm,0.3s,baz=95,slow=24,SNR=19						
KURBB	**Kurchatov Arra**	**6.65**	**246**	Pn	Pn	07 45 35.4	-0.2
	0.2nm,0.3s,baz=63,slow=14,SNR=4.3						
KURBB				Lg	Lg	07 47 27.4	
	0.2nm,0.3s,baz=59,slow=34,SNR=1.6						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**7.85**	**211**	Pn	Pn	07 45 52.9	+0.8
	0.1nm,0.3s,baz=28,slow=14,SNR=3.7						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**10.61**	**273**	Pn	Pn	07 46 30.3	+0.5
	0.5nm,0.5s,baz=78,slow=15,SNR=2.3						
BVAR				Sn	Sn	07 48 22.8	-6.5
	baz=82,slow=25,SNR=2.7						

*BJI **30** 07:46:39.1±0.0, 9°.74S×151°.43E, h15km, mb5.2/87, mB5.4/66, Ms5.1/80, Ms7 4.9/76*

*MOS **30** 07:46:41.2±0.9, 9°.72S×150°.78E, h11km, mb5.7/60, MS5.0/9, Error ellipse: s-maj=7.9km s-min=5.3km az=100.9*

*IDC **30** 07:46:41.3±0.5, 9°.68S×150°.80E, h0km, mb5.2/19, mbtmp5.1/21, ML3.8/3, MS4.8/50, Error ellipse: s-maj=19.7km s-min=12.3km az=82.0*

*NEIC **30** 07:46:43.4, 9°.73S×150°.81E, h10km*

*NEIC **30** 07:46:43.4±1.6, 9°.71S±0°.06×150°.83E±0°.07, h10km±1km, mb5.7/374, Ms_20 5.1/365, Mwb5.5/36, Mww5.5/38, Error ellipse: s-maj=11.4km s-min=10.8km az=110.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}0.36; $M_{\theta\theta}$1.08; $M_{\phi\phi}$-1.44; $M_{r\theta}$0.50; $M_{\theta\phi}$1.41; $M_{\phi r}$0.38; Fault plane solution: $M_0$2.02000×10^17^ NP1: ϕ_s112.79000°, δ72.78000°, λ12.79000°. NP2: ϕ_s18.94000°, δ77.79000°, λ162.37000°. Principal axes: T 1.9438, Plg21.0000°, Azm335.0000°; N 0.1369, Plg69.0000°, Azm165.0000°; P -2.0808, Plg3.0000°, Azm66.0000°;*

*NEIC **30** 07:46:43.5, 9°.77S×150°.82E, h12km*

*NEIC **30** 07:46:43.5, 9°.77S×150°.72E, h12km, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^17^Nm; M_{rr}-1.01; $M_{\theta\theta}$1.29; $M_{\phi\phi}$-0.28; $M_{r\theta}$-0.64; $M_{\theta\phi}$0.97; $M_{\phi r}$1.34; Fault plane solution: $M_0$2.06000×10^17^ NP1: ϕ_s98.61000°, δ58.70000°, λ-37.81000°. NP2: ϕ_s210.56000°, δ58.41000°, λ-142.42000°. Principal axes: T 1.7473, Plg0.0000°, Azm155.0000°; N 0.6187, Plg42.0000°, Azm245.0000°; P -2.3660, Plg48.0000°, Azm64.0000°;*

*GCMT **30** 07:46:46.4±0.1, 9°.76S±0°.01×150°.81E±0°.01, h12km, MW5.4/140, Moment Tensor Solution. s105,c178; s140,c271; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; M_{rr}-1.00±.02; $M_{\theta\theta}$1.47±.02; $M_{\phi\phi}$-0.46±.02; $M_{r\theta}$-0.56±.05; $M_{\theta\phi}$0.95±.02; $M_{\phi r}$0.04±.06; Best double couple: $M_0$1.59400×10^17^ NP1: ϕ_s94.00000°, δ62.00000°, λ-54.00000°. NP2: ϕ_s216.00000°, δ45.00000°, λ-138.00000°. Principal axes: T 1.9440, Plg10.0000°, Azm159.0000°; N -0.6990, Plg32.0000°, Azm255.0000°; P -1.2430, Plg57.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **30** 07:46:47.5±1.1, 10°.S±2°.×15°.1E±°, h22km±8km, M5.5/78, mB5.9/40, mb5.4/78, MLv5.9/1, Mw(mB)5.5/40, MwMwp5.1/10, Mwp5.3/10*

ISC 30 07:46:44.0±0.4, 9°.81S±0°.03×150°.86E±0°.04, h19km±1km, h19km:pP-P, n1327, σ1°§63/1196, mb5.6/296, MS5.0/263, 15C-23D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALOT	**Alotau**	**0.62**	**219**	P	**Pg**	**07 46 53.9**	**-2.4**
MISM	**Misima Island**	**2.13**	**114**	P	**Pb**	**07 47 22.7**	**+0.6**
PMG	**Port Moresby**	**3.67**	**276**	P	**Pn**	**07 47 41.5**	**+1.7**
PMG	**Port Moresby**	**3.67**	**276**	P	**Pn**	**07 47 41.2**	**+1.4**
PMG	**Port Moresby**	**3.67**	**276**		**Pn**	**07 47 39.7**	**-0.1**
PMG	**Port Moresby**	**3.67**	**276**	Pn	**Pn**	**07 47 39.1**	**-0.7**
	11nm,0.3s,baz=52,slow=1.8,SNR=14						
PMG	**Port Moresby**	**3.67**	**276**	P	**Pn**	**07 47 39.7**	**-0.1**
I40PG	**Keravat**	**5.60**	**12**	I	I	08 25 40.0	
	baz=191,slow=309,SNR=2.1						
**

WB0	Warramunga Arr	18.73 236		Pn	07 51 02.8 +0.6
WRAB	Tennant Creek	18.84 236	P	P	07 51 03.2 +0.2
WRAB	Tennant Creek	18.84 236*c*	*i*P	Pn	07 51 04.7 +1.0
WRAB			pmax	pmax	
comp=Z,206nm,1.6s					
WB2	Warramunga Arr	18.85 236		Pn	07 51 03.6 -0.1
WRA	Warramunga Arr	18.86 236	P	P	07 51 03.4 +0.1
comp=Z,0.7nm,0.3s,baz=59,slow=10,SNR=58					
WRA			S	Sn	07 54 26.1 -8.4
comp=Z,2.6nm,0.9s,baz=53,slow=23,SNR=3.1					
WRA			LR	LR	07 58 19.5
comp=Z,6μm,18.5s,baz=58,slow=37					
comp=Z,17nm,0.7s					
LIFNC	LIFOU	19.18 127	P	Pn	07 51 12.6 +5.0
LIFNC	LIFOU	19.18 127	P	P	07 51 05.3 -1.4
DZM	Mont Dzumac	19.29 131	P	Pn	07 51 12.3 +3.2
DZM	Mont Dzumac	19.29 131	P	P	07 51 07.3 -0.7
DZM	Mont Dzumac	19.29 131	P	Pn	07 51 10.6 +1.4
comp=Z,0.4nm,0.3s,baz=341,slow=9.9,SNR=12					
DZM			LR	LR	07 57 39.8
comp=Z,9μm,21.1s,baz=318,slow=34					
comp=Z,59nm,1.1s					
SAUI	Saumlaki	19.41 274	P	Pn	07 51 12.6 +2.1
comp=Z,423nm,1.3s					
ONTNC	Ouen Toro	19.44 132	P	Pn	07 51 14.7 +3.9
ONTNC	Ouen Toro	19.44 132	P	P	07 51 09.7 +0.1
MTN	Manton Dam	19.57 259	P	Pn	07 51 13.2 +0.7
MTN	Manton Dam	19.57 259		P	07 51 10.7 -0.4
MTN	Manton Dam	19.57 259	P	Pn	07 51 12.4 -0.1
comp=Z,107nm,1.8s,SNR=16					
YATNC	Mamie plateau,	19.62 130	P	Pn	07 51 16.3 +3.3
AULRC	Lightning Ridg	19.70 187	P	Pn	07 51 14.6 +0.7
FAKI	Fak Fak	19.71 289	P	Pn	07 51 15.0 +0.9
FAKI	Fak Fak	19.71 289	P	P	07 51 10.9 -1.7
FAKI			IAmb	IAmb	07 51 19.3
comp=Z,589nm,1.3s					
FAKI	Fak Fak	19.71 289	P	Pn	07 51 15.0 +0.9
comp=Z,431nm,1.5s,comp=Z,6μmcomp=Z,3μm					
DRS	Darwin Rock St	19.75 261	P	Pn	07 51 15.1 +0.5
INKA	Innaminka	20.22 207	P	Pn	07 51 20.6 +0.6
PINNC	Pines Island,	20.36 131	P	Pn	07 51 24.8 +3.1
ARMA	Armidale	20.51 178	P	Pn	07 51 24.0 +0.4
ARMA	Armidale	20.51 178	P	Pn	07 51 22.6 -1.0
ARMA			IAmb	IAmb	07 51 32.1
comp=Z,323nm,1.3s					
ARMA	Armidale	20.51 178	P	Pn	07 51 23.6 0.0
comp=Z,5μm,SNR=3.2					
AUPHS	Peel High Scho	21.18 180	P	P	07 51 30.9 +2.5
AS01	Alice Springs	21.22 227	P	P	07 51 31.1 +2.1
AS31	Alice Springs	21.25 228	P	P	07 51 30.1 +0.7
ASAR	Alice Springs	21.26 228	P	P	07 51 30.6 +1.3
ASAR	Alice Springs	21.26 228	P	P	07 51 30.9 +1.5
comp=Z,50nm,1.0s,baz=62,slow=9.9,SNR=69					
ASAR			S	S	07 55 16.7 -8.3
comp=Z,2.3nm,1.1s,baz=58,slow=19,SNR=1.9					
ASAR			PcP	PcP	07 55 33.1 -1.1
comp=Z,0.6nm,0.6s,baz=42,slow=4.3,SNR=1.8					
ASAR			LR	LR	07 59 36.0
comp=Z,6μm,18.1s,baz=58,slow=36					
comp=Z,50nm,1.0s					
ASPA	Alice Springs	21.26 228	P	P	07 51 30.6 +1.2
comp=Z,19nm,0.9s,SNR=19					
SWI	Sorong	21.43 293	P	P	07 51 33.4 +2.2
comp=Z,328nm,1.5s,comp=Z,4μmcomp=Z,3μm					
BNDI	Bandaniira	21.44 283	P	P	07 51 33.2 +1.9
CMSA	Cobar Meteorol	22.14 192	P	P	07 51 39.6 +0.9
CMSA	Cobar Meteorol	22.14 192	P	P	07 51 39.9 +1.2
comp=Z,126nm,1.6s,SNR=11					
KNRA	Kununurra	22.32 253	P	P	07 51 40.8 +0.1
KNRA	Kununurra	22.32 253	P	P	07 51 40.2 -0.5
comp=Z,121nm,1.8s,SNR=16					
AUDCS	Dubbo College	22.40 185	P	P	07 51 43.0 +1.5
MSAI	Masohi	22.70 285	P	P	07 51 47.7 +2.8
comp=Z,94nm,0.8s,comp=Z,8μm					
OOD	Oodnadatta	22.89 217	P	P	07 51 47.7 +1.0
LHI	Lord Howe Isla	22.90 162	P	P	07 51 48.0 +1.2
NTLH	Newcastle Hard	22.99 178	P	P	07 51 50.8 +3.1
STKA	Stephens Creek	23.57 200	P	P	07 51 54.0 +0.5
STKA	Stephens Creek	23.57 200	P	P	07 51 53.6 0.0
STKA	Stephens Creek	23.57 200	P	P	07 51 54.3 +0.7
comp=Z,22nm,1.9s,SNR=8.4					
STKA	Stephens Creek	23.57 200	P	P	07 51 54.1 +0.5
comp=Z,18nm,0.9s,baz=4.8,slow=9.5,SNR=16					
STKA			LR	LR	08 01 20.1
comp=Z,5μm,19.4s,baz=12,slow=37					
comp=Z,18nm,0.9s					
STKA	Stephens Creek	23.57 200	P	P	07 51 53.6 0.0
STKA			pmax	pmax	
comp=Z,52nm,1.6s					
LCRK	Leigh Creek	23.67 208	P	P	07 51 56.0 +1.4
SYDH	Sydney Hard Ro	23.84 180	P	P	07 51 58.1 +2.0
RIV	Riverview	23.90 179	P	P	07 51 59.6 +2.9
RIV	Riverview	23.90 179	P	P	07 51 59.3 +2.6
comp=Z,334nm,1.6s,SNR=11					
GUMO	Guam	24.00 346	P	P	07 51 56.2 -1.5
GUMO			IAmb	IAmb	07 52 03.9
comp=Z,297nm,1.3s					
GUMO	Guam	24.00 346	LR	LR	07 59 25.5
comp=Z,2μm,20.6s,baz=149,slow=32					
GUMO	Guam	24.00 346	P	P	07 51 56.2 -1.5
GUMO			pmax	pmax	
comp=Z,297nm,1.3s					
YNG	Young	24.47 185	P	P	07 52 03.5 +1.5
YNG	Young	24.47 185	P	P	07 52 03.8 +1.7
comp=Z,758nm,1.7s,SNR=16					
NLAI	Namlea	24.48 284	P	P	07 52 06.0 +3.8
WOLH	Wollongong Har	24.48 180	P	P	07 52 06.8 +4.8
TARA	Tarawa	24.61 64	P	P	07 52 03.1 -0.3
TARA			IAmb	IAmb	07 52 09.1
comp=Z,361nm,1.6s					
LBMI	Labuha	24.96 290	P	P	07 52 10.3 +3.7
comp=Z,276nm,2.2s,comp=Z,7μm					
CNB	Canberra Magne	25.42 183	P	P	07 52 13.9 +3.3
CNB	Canberra Magne	25.42 183	P	P	07 52 13.5 +2.9
comp=Z,143nm,1.5s,SNR=8.8					
AUUHS	Ulladulla High	25.43 181	P	P	07 52 14.9 +4.3
CAN	Canberra	25.45 184	P	P	07 52 14.2 +3.3
CAN	Canberra	25.45 184	P	P	07 52 11.1 +0.2
CAN			IAmb	IAmb	07 52 16.2
comp=Z,287nm,1.6s					
CAN	Canberra	25.45 184	P	P	07 52 13.5 +2.6
comp=Z,117nm,1.7s,SNR=6.5					
CAN	Canberra	25.45 184	P	P	07 52 11.1 +0.2
CAN			pmax	pmax	
comp=Z,287nm,1.6s					
CAN			MLR	MLR	
comp=Z,8μm,20.0s					
MULG	Mulgathing	25.70 215	P	P	07 52 14.6 +1.5
FITZ	Fitzroy Crossi	25.80 249	P	P	07 52 13.8 -0.4
FITZ	Fitzroy Crossi	25.80 249	P	P	07 52 14.1 -0.1
FITZ	Fitzroy Crossi	25.80 249	P	P	07 52 14.5 +0.4
SANI	Sanana	25.89 286	P	P	07 52 17.1 +2.0
SANI	Sanana	25.89 286	P	P	07 52 17.8 +2.7
comp=Z,190nm,1.4s,comp=Z,4μm					
HTT	Hallett	25.95 203	P	P	07 52 17.3 +1.9
HTT	Hallett	25.95 203	P	P	07 52 16.7 +1.2
comp=Z,84nm,1.1s,SNR=3.3					
WHYH	Whyalla	26.15 206	P	P	07 52 19.7 +2.5
SOEI	Soe	26.20 268	P	P	07 52 20.3 +2.3
SOEI	Soe	26.20 268	P	P	07 52 17.6 -0.5
SOEI			IAmb	IAmb	07 52 45.0
comp=Z,156nm,1.1s					
SOEI			IAMs_20	IAMs_20	08 04 21.8
comp=Z,6μm,20.0s					
SOEI	Soe	26.20 268	P	P	07 52 19.2 +1.2
comp=Z,146nm,1.1s,comp=Z,4μm					
WRKA	Warakurna	26.25 232	P	P	07 52 19.4 +1.1
WRKA	Warakurna	26.25 232	P	P	07 52 16.9 -1.4
BBOO	Buckleboo	26.65 209	P	P	07 52 23.5 +1.7
BBOO	Buckleboo	26.65 209	P	P	07 52 22.8 +1.0
BBOO	Buckleboo	26.65 209	P	P	07 52 22.1 +0.3
comp=Z,89nm,2.8s,SNR=2.8					
BATI	Baumata	26.78 267	P	P	07 52 26.1 +2.9
comp=Z,71nm,1.3s					
MILA	Mila	27.16 183	P	P	07 52 29.7 +3.3
ARPS	Mount Arapiles	28.05 196	P	P	07 52 36.9 +2.6
ARPS	Mount Arapiles	28.05 196	P	P	07 52 35.2 +0.9
comp=Z,56nm,1.6s,SNR=3.9					
TOO	Toolangi	28.06 189	P	P	07 52 38.4 +4.0
TOO	Toolangi	28.06 189	P	P	07 52 35.1 +0.7
TOO			IAmb	IAmb	07 52 40.1
comp=Z,131nm,1.5s					
TOO	Toolangi	28.06 189	P	P	07 52 35.0 +0.7
comp=Z,60nm,1.6s,SNR=3.5					
TOO	Toolangi	28.06 189	P	P	07 52 35.1 +0.7
TOO			pmax	pmax	
comp=Z,131nm,1.5s					
MMRI	Maumere	28.27 270	P	P	07 52 36.2 -0.3
MMRI	Maumere	28.27 270	P	P	07 52 39.5 +3.0
comp=Z,290nm,1.4s					
BRAT	Ballarat	28.31 192	P	P	07 52 40.1 +3.5
BBSI	Bau Bau	28.35 277	P	P	07 52 40.5 +3.3
comp=Z,255nm,2.1s					
SGSI	Sangihe	28.58 297	P	P	07 52 41.8 +2.6
KMSI	Cibinong	28.67 290	P	P	07 52 42.5 +2.4
EDFI	Ende, Flores	28.80 270	P	P	07 52 42.7 +1.4
comp=Z,91nm,1.6s					
LUWI	Luwuk	29.26 286	P	P	07 52 47.8 +2.5
LUWI	Luwuk	29.26 286	P	P	07 52 45.0 -0.2
LUWI			IAmb	IAmb	07 53 18.9
comp=Z,178nm,1.0s					
LUWI	Luwuk	29.26 286	P	P	07 52 49.7 +4.4
comp=Z,111nm,0.9s					
GTOI	Gorontalo	29.60 289	P	P	07 52 52.4 +4.1
comp=Z,50nm,1.5s					
FORT	Forrest	29.75 222	P	P	07 52 49.7 +0.2
FORT			IAmb	IAmb	07 52 52.8
comp=Z,170nm,1.6s					
FORT	Forrest	29.75 222	P	P	07 52 51.4 +1.9
comp=Z,42nm,0.9s,SNR=1.5					
BASI	Baing, Sumba	29.82 267	P	P	07 52 53.5 +3.3
DAV	Davao City (W)	30.25 303	LR	LR	08 05 31.8
comp=Z,1μm,20.5s,baz=124,slow=38					
BNSI	Bone	30.97 278	P	P	07 53 03.7 +3.3
comp=Z,93nm,2.1s,comp=Z,3μm					
KAPI	Kappang	31.20 277	P	P	07 53 03.5 +1.0
KAPI	Kappang	31.20 277	P	P	07 53 01.7 -0.7
KAPI			IAmb	IAmb	07 53 10.4
comp=Z,245nm,1.6s					
KAPI	Kappang	31.20 277	P	P	07 53 01.7 -0.7
KAPI			pmax	pmax	
comp=Z,245nm,1.6s					
CORO	Coronation Par	31.68 185	P	P	07 53 09.5 +3.2
TOLI2	Tolitoli	31.85 288	P	P	07 53 08.6 +0.4
TOLI2	Tolitoli	31.85 288	P	P	07 53 06.5 -1.6
MBWA	Marble Bar	31.98 246	P	P	07 53 11.4 +2.2
MBWA	Marble Bar	31.98 246	P	P	07 53 07.8 -1.5
MBWA	Marble Bar	31.98 246	IAMs_20	IAMs_20	08 06 15.3
comp=Z,4μm,19.0s					
PSA00	Pilbara Seismi	31.99 245	P	P	07 53 11.6 +2.2
PSA00	Pilbara Seismi	31.99 245	P	P	07 53 07.3 -2.1
PSA00			IAmb	IAmb	07 53 12.5
comp=Z,110nm,1.5s					
PSA00	Pilbara Seismi	31.99 245	P	P	07 53 07.5 -1.9
PSA00			IAmb	IAmb	07 53 12.4
comp=Z,69nm,1.7s					
PSA00	Pilbara Seismi	31.99 245	P	P	07 53 11.0 +1.7
comp=Z,47nm,2.1s,SNR=4.1					
MPSI	Mapaga	32.42 286	P	P	07 53 16.4 +3.2
WAKE	Wake Island	32.84 28	IAMs_20	IAMs_20	08 05 00.7
comp=Z,3μm,19.0s					
TAU	Tasmania Unive	33.11 185	P	P	07 53 22.5 +3.6
TAU	Tasmania Unive	33.11 185	P	P	07 53 20.1 +1.2
TAU			IAmb	IAmb	07 53 24.4
comp=Z,81nm,1.1s					
TAU	Tasmania Unive	33.11 185	P	P	07 53 20.1 +1.2
TAU			pmax	pmax	
comp=Z,81nm,1.1s					
KMBL	Kambalda	34.39 227	P	P	07 53 31.9 +1.7
KMBL	Kambalda	34.39 227	P	P	07 53 31.5 +1.3
comp=Z,165nm,1.0s,SNR=7.8					
MEEK	Meekatharra	34.75 237	P	P	07 53 35.5 +2.1
MEEK	Meekatharra	34.75 237	P	P	07 53 33.9 +0.5
comp=Z,75nm,1.8s,SNR=5.7					
KUZ	Kuaotunu	35.00 144	P	P	07 53 39.5 +4.1
RAO	Raoul Island	35.03 128	LR	LR	08 05 29.7
comp=Z,2μm,20.4s,baz=316,slow=32					
TOZ	Tahuroa Road	35.57 145	P	P	07 53 41.7 +1.5
JAGI	Jajag, Banyuwa	36.25 269	P	P	07 53 46.7 +0.3
JAGI	Jajag, Banyuwa	36.25 269	P	P	07 53 45.9 -0.5
JAGI			IAmb	IAmb	07 53 47.7
comp=Z,120nm,1.1s					
JAGI			IAMs_20	IAMs_20	08 09 30.2
comp=Z,2μm,18.0s					
JAGI	Jajag, Banyuwa	36.25 269	P	P	07 53 47.1 +0.7
comp=Z,118nm,1.2s					
QRZ	Quartz Range	36.36 152	P	P	07 53 46.0 -1.0
QRZ			IAmb	IAmb	07 53 54.0
comp=Z,198nm,1.8s					
URZ	Urewera	36.85 144	LR	LR	08 07 17.2
comp=Z,5μm,19.8s,baz=38,slow=33					
FOZ	Fox Glacier	37.43 157	IAMs_20	IAMs_20	08 09 09.3
comp=Z,3μm,19.0s					
TCW	Tory Channel	37.49 150	P	P	07 53 56.7 +0.1
JCZ	Jackson Bay	37.51 159	P	P	07 53 59.7 +2.9
KLBR	Kellerberrin	37.55 230	P	P	07 53 58.6 +1.3
KLBR	Kellerberrin	37.55 230	P	P	07 53 59.4 +2.1
comp=Z,117nm,1.1s,SNR=7.1					
MORW	Morawa	37.80 235	P	P	07 54 00.6 +1.2
MORW	Morawa	37.80 235	P	P	07 53 59.8 +0.4
MORW			IAmb	IAmb	07 54 02.8
comp=Z,118nm,1.1s					
MORW	Morawa	37.80 235	P	P	07 53 59.9 +0.4
comp=Z,101nm,1.4s,SNR=6.4					
BLDU	Ballidu	37.91 232	P	P	07 54 01.9 +1.6
BLDU	Ballidu	37.91 232	P	P	07 54 02.8 +2.4
comp=Z,78nm,1.8s,SNR=3.3					
KKM	Kota Kinabalu	37.94 293	P	P	07 54 02.3 +1.4
KKM	Kota Kinabalu	37.94 293	P	P	07 53 59.4 -1.5
RPZ	Rata Peaks	38.07 156	LR	LR	08 07 35.4
comp=Z,5μm,21.6s,baz=322,slow=33					
KHZ	Kahutara	38.08 152	IAMs_20	IAMs_20	08 07 54.6
comp=Z,3μm,19.0s					
MSWZ	Moikau Station	38.12 150	P	P	07 54 02.6 +0.6
LBZ	Lake Benmore	38.29 157	IAMs_20	IAMs_20	08 09 37.2
comp=Z,3μm,19.0s					
NWAO	Narrogin (SRO)	38.57 228	P	P	07 54 05.2 -0.7
NWAO	Narrogin (SRO)	38.57 228	LR	LR	08 10 06.4
comp=Z,5μm,18.4s,baz=57,slow=36					
NWAO	Narrogin (SRO)	38.57 228	P	P	07 54 05.2 -0.7
NWAO			pmax	pmax	
comp=Z,138nm,1.5s					
NWAO			MLR	MLR	
comp=Z,6μm,20.0s					
PWJI	Pagerwojo	38.61 269	P	P	07 54 08.8 +2.4
comp=Z,80nm,2.2s					
MUN	Mundaring	38.90 230	P	P	07 54 10.5 +1.9
MUN	Mundaring	38.90 230	P	P	07 54 10.6 +1.9
comp=Z,101nm,1.5s,SNR=4.9					
NIUE	Niue	39.00 108	P	P	07 54 08.5 -1.1
NIUE			IAmb	IAmb	07 54 11.7
comp=Z,256nm,1.1s					
ODZ	Otahua Downs	39.02 158	IAMs_20	IAMs_20	08 10 18.5
comp=Z,2μm,18.0s					
SMRI	Semarang	40.06 271	P	P	07 54 18.5 -0.1
SMRI	Semarang	40.06 271	P	P	07 54 21.6 +3.1
SBUM	Sibu	40.36 286	P	P	07 54 19.1 -2.0
STKI	Sintang	40.40 282	P	P	07 54 24.4 +3.1
KPJI	Karang Pucung	41.51 270	P	P	07 54 33.1 +2.6
comp=Z,77nm,1.6s					
KSM	Kuching	41.90 283	P	P	07 54 36.5 +2.8
JOW	Kunigami	42.52 329	P	P	07 54 41.6 +3.1
JOW	Kunigami	42.52 329	P	P	07 54 37.7 -0.8
JOW			IAmb	IAmb	07 54 42.7
comp=Z,122nm,1.0s					
JOW	Kunigami	42.52 329	LR	LR	08 10 16.5
comp=Z,2μm,20.4s,baz=141,slow=33					
YOJ	Yonaguni jima	43.58 322	P	P	07 54 49.8 +2.7
YOJ	Yonaguni jima	43.58 322	P	P	07 54 47.2 0.0
YOJ			IAmb	IAmb	07 54 53.2
comp=Z,216nm,1.7s					
YOJ	Yonaguni jima	43.58 322	P	P	07 54 47.2 0.0
YOJ			pmax	pmax	
comp=Z,216nm,1.7s					
CBJI	Citeko	43.67 271	P	P	07 54 49.5 +1.4
DBJI	Dramaga	43.76 271	P	P	07 54 51.8 +3.0
comp=Z,126nm,1.8s					
YULB	Yu-li	43.88 319	P	P	07 54 51.5 +1.9
YULB	Yu-li	43.88 319	P	P	07 54 47.2 -2.4
JHJ	Hachijo jima 2	43.98 347	LR	LR	08 13 16.9
comp=Z,628nm,18.1s,baz=166,slow=36					
NACB	Ninganchiao	44.25 320	P	P	07 54 54.4 +1.9
NACB	Ninganchiao	44.25 320	P	P	07 54 52.1 -0.4
NACB			IAmb	IAmb	07 54 56.2
comp=Z,160nm,1.5s					
TPUB	Ta-pu	44.25 318	P	P	07 54 54.4 +1.8
TPUB	Ta-pu	44.25 318	P	P	07 54 52.8 +0.2
SSLB	Suanglung	44.38 319	P	P	07 54 52.8 -0.9
YHNB	Yeheng	44.74 321	P	P	07 54 59.3 +2.7
YHNB	Yeheng	44.74 321	P	P	07 54 56.2 -0.4
YHNB			IAmb	IAmb	07 55 02.4
comp=Z,139nm,1.5s					
MCQ	Macquarie Isla	45.03 173	P	P	07 54 59.1 +0.8
MCQ	Macquarie Isla	45.03 173	P	P	07 54 59.1 +0.8
MCQ			pmax	pmax	
comp=Z,586nm,1.9s					
PPBI	Pangkal Pinang	45.08 277	P	P	07 55 02.3 +2.9
JSG	Sagara	45.85 345	P	P	07 55 07.3 +2.3
JSG	Sagara	45.85 345	P	P	07 55 05.3 +0.3
KASI	Kota Agung	46.11 272	P	P	07 55 10.7 +3.1
comp=Z,75nm,1.3s					
JMN	Monobe	46.21 340	P	P	07 55 11.0 +3.0
JMN	Monobe	46.21 340	P	P	07 55 08.2 +0.2
JMN			IAmb	IAmb	07 55 11.6
comp=Z,121nm,1.1s					
QZH	Quanzhou	46.72 318	P	P	07 55 11.3 -0.8
QZH			S	S	08 02 03.0 +1.8
QZH			pmax	pmax	
comp=Z,400nm,7.5s					
QZH			LR	LR	
comp=Z,690nm,18.9s					
QZH			LR	LR	
comp=Z,820nm,21.6s					
QZH			LR	LR	
comp=Z,1μm,24.7s					
JNU	Nakatsue	46.75 337	P	P	07 55 14.6 +2.4
JNU	Nakatsue	46.75 337	P	P	07 55 11.4 -0.8
JNU	Nakatsue	46.75 337	LR	LR	08 12 13.2
comp=Z,810nm,22.0s,baz=164,slow=33					
INU	Inuyama	46.78 344	P	P	07 55 14.6 +2.2
INU	Inuyama	46.78 344	P	P	07 55 11.8 -0.6
INU			IAmb	IAmb	07 55 16.4
comp=Z,120nm,1.2s					
JGF	Kuroka	46.93 345	P	P	07 55 16.1 +2.5
JGF	Kuroka	46.93 345	P	P	07 55 12.9 -0.7
JGF			IAmb	IAmb	07 55 33.1
comp=Z,208nm,2.0s					
DLV	T Lat	47.33 296	P	P	07 55 20.0 +2.7
DLV	T Lat	47.33 296	P	P	07 55 17.2 0.0
MJAR	Matsushiro Arr	47.62 346	P	P	07 55 18.5 -0.4
comp=Z,30nm,1.0s,baz=166,slow=9.3,SNR=21					
MJAR			PcP	PcP	07 56 49.1 +0.6
comp=Z,7.2nm,1.1s,baz=176,slow=4.9,SNR=4.5					
MJAR			LR	LR	08 12 08.9
comp=Z,632nm,21.6s,baz=151,slow=32					
comp=Z,30nm,1.0s					
MAJO	Matsushiro	47.62 346	P	P	07 55 21.8 +2.8
MAJO	Matsushiro	47.62 346	P	P	07 55 18.4 -0.6
MAJO			IAmb	IAmb	07 55 26.3
comp=Z,77nm,1.1s					
MAJO	Matsushiro	47.62 346	P	P	07 55 18.4 -0.6
MAJO			pmax	pmax	
comp=Z,77nm,1.1s					
MJB9	Matsu-Tunnel	47.62 346	P	P	07 55 19.1 +0.1
MJB9			IAmb	IAmb	07 55 27.3
comp=Z,72nm,1.1s					
RAR	Rarotonga	48.72 110	LR	LR	08 12 20.5
comp=Z,436nm,21.9s,baz=270,slow=32					
QIZ	Qiongzhong	49.56 305	P	P	07 55 37.0 +2.8
QIZ	Qiongzhong	49.56 305	P	P	07 55 34.5 +0.3
QIZ			PP	PP	07 57 28.5 -0.2
QIZ			S	S	08 02 43.8 +2.2
QIZ			SS	SS	08 06 17.5 +3.4
QIZ			pmax	pmax	
comp=Z,38nm,1.2s					
QIZ			pmax	pmax	
comp=Z,400nm,12.0s					
QIZ			LR	LR	
comp=Z,480nm,19.0s					
QIZ			LR	LR	
comp=Z,400nm,18.4s					
QIZ			LR	LR	
comp=Z,940nm,29.0s					
QIZ	Qiongzhong	49.56 305	P	P	07 55 32.9 -1.3
SSE	Sheshan	49.64 326	P	P	07 55 35.5 +0.9
SSE			pP	pP	07 55 38.3 -2.1
SSE			S	S	08 02 45.5 +3.2
SSE			pmax	pmax	
comp=Z,13nm,0.7s					
SSE			pmax	pmax	
comp=Z,170nm,3.6s					
SSE			LR	LR	
comp=Z,190nm,21.9s					
TJN	Taejon	50.99 336	P	P	07 55 46.8 +2.1
TJN	Taejon	50.99 336	P	P	07 55 44.1 -0.6
TJN	Taejon	50.99 336	P	P	07 55 44.1 -0.6
TJN			pmax	pmax	
comp=Z,158nm,1.0s					
JTM	Tenmabayashi	51.15 350	P	P	07 55 45.4 -0.4
JTM			IAmb	IAmb	07 55 48.5
comp=Z,80nm,1.1s					
UBPT	Khong Chiam	51.42 298	P	P	07 55 51.4 +3.1
UBPT	Khong Chiam	51.42 298	P	P	07 55 47.7 -0.5
NJ2	Nanjing	51.66 325	*e*P	P	07 55 50.8 +1.0
NJ2			sP	sP	07 55 58.0 -0.1
NJ2			pmax	pmax	
comp=Z,39nm,0.9s					
KSRS	Korea Array	51.70 337	P	P	07 55 49.4 -0.6
comp=Z,72nm,1.1s,baz=156,slow=7.9,SNR=38					
KSRS			LR	LR	08 14 39.1
comp=Z,779nm,20.7s,baz=145,slow=32					
comp=Z,72nm,1.1s					
KSAR	Wonju Array Be	51.70 337	P	P	07 55 49.5 -0.5
KSAR	Wonju Array Be	51.70 337	P	P	07 55 49.5 -0.5
KS19	Wonju Array Si	51.76 337	P	P	07 55 50.0 -0.5
KS19			IAmb	IAmb	07 55 54.0
comp=Z,125nm,1.2s					
KULM	Kulim	52.22 285	IAmb	IAmb	07 55 57.8
comp=Z,88nm,1.2s					
INCN	Inchon	52.24 336	P	P	07 55 56.3 +2.2
INCN	Inchon	52.24 336	P	P	07 55 53.3 -0.8
INCN			IAmb	IAmb	07 55 57.4
comp=Z,124nm,1.2s					
INCN	Inchon	52.24 336	P	P	07 55 53.3 -0.8
INCN			pmax	pmax	
comp=Z,124nm,1.3s					
WHN	Wuhan	53.29 320⇑	*i*P	P	07 56 02.3 +0.4
WHN			pP	pP	07 56 07.5 -0.3
WHN			sP	sP	07 56 10.3 +0.1
WHN			S	S	08 03 35.0 +2.4
WHN			pmax	pmax	
comp=Z,1μm,2.8s					
WHN			pmax	pmax	
comp=Z,1μm,2.8s					
WHN			LR	LR	
comp=Z,2μm,16.8s					
GSI	Gunungsitoli	54.18 279	P	P	07 56 11.5 +2.7
GSI	Gunungsitoli	54.18 279	P	P	07 56 10.8 +2.0
comp=Z,116nm,1.9s					
ASAJ	Asahikawa	54.20 353	LR	LR	08 19 00.7
comp=Z,568nm,19.9s,baz=174,slow=36					
JKA	Kamikawa-asahi	54.20 353	IAmb	IAmb	07 56 14.9
comp=Z,88nm,1.6s					
SRIT	Nakonsritamara	54.21 288	P	P	07 56 11.9 +2.9
SURA	Surathani	54.37 289	P	P	07 56 13.4 +3.3
NONG	Nongkai	54.64 300	P	P	07 56 11.9 -0.1
NAYO	Nakonayok	54.66 295	P	P	07 56 15.2 +3.0
MSHR	Mys Shultsa	55.17 342⇓	*e*P	P	07 56 15.2 -0.2
MSHR			pmax	pmax	
comp=Z,47nm,1.1s					
DL2	Dalian	55.59 332	P	P	07 56 16.8 -1.7
DL2			S	S	08 04 03.0 -0.4
DL2			pmax	pmax	
comp=Z,70nm,1.3s					
DL2			pmax	pmax	
comp=Z,390nm,4.8s					
DL2			LR	LR	
comp=Z,1μm,21.5s					

comp=Z,1μm,21.1s
GYA Guiyang 56.05 311 ⇓P **P** **07 56 24.5 +2.3**
GYA S **S** **08 04 08.0 -2.3**
GYA pmax pmax
comp=Z,28nm,1.4s
GYA pmax pmax
comp=Z,360nm,11.4s
GYA LR LR
comp=Z,470nm,22.6s
GYA LR LR
comp=Z,440nm,17.0s
GYA LR LR
comp=Z,560nm,19.3s
TEY Ternei 56.09 348 *e*P P 07 56 14.2 -7.7
TEY *e* 08 04 14.7
ENH Enshi 56.30 317 P **P** **07 56 25.0 +1.2**
USA0B Ussuriysk Arra 56.42 344 P **P** **07 56 24.1 -0.2**
USA0B IAmb IAmb 07 56 28.6
comp=Z,110nm,1.4s
USA0B Ussuriysk Arra 56.42 344 P **P** **07 56 24.1 -0.2**
USA0B pmax pmax
comp=Z,110nm,1.4s
USRK Ussuriysk Ar. 56.42 344 P **P** **07 56 23.8 -0.5**
USRK Ussuriysk Ar. 56.42 344 P **P** **07 56 24.0 -0.3**
comp=Z,41nm,1.1s,baz=171,slow=7.5,SNR=35
USRK LR LR 08 19 37.2
comp=Z,304nm,19.0s,baz=162,slow=35
comp=Z,41nm,1.1s
SRDT 56.64 294 P **P** **07 56 29.9 +3.4**
YSS Yuzh-Sakhalins 56.97 353 *de*P **P** **07 56 27.8 -0.4**
YSS *e*PPP PPP 07 59 49.6
YSS *e*S **S** **08 04 17.5 -4.0**
YSS *e*PS **PnS** **08 04 42.4 +9.1**
YSS *e* 08 06 19.0
YSS *e*SS **SS** **08 08 05.8 -4.6**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS pmax pmax
comp=Z,500nm,4.7s
YSS pmax pmax
comp=N,200nm,4.3s
YSS pmax pmax
comp=E,200nm,4.3s
YSS smax smax
comp=N,300nm,6.6s
YSS smax smax
comp=E,200nm,7.5s
YSS MLR MLR
comp=N,400nm,14.0s
YSS MLR MLR
comp=Z,400nm,14.0s
YSS MLR MLR
comp=E,400nm,15.0s
SNY Shenyang 57.17 336 ⇑P **P** **07 56 29.0 -0.7**
SNY S **S** **08 04 24.3 +0.1**
SNY pmax pmax
comp=E,36nm,1.2s
SNY pmax pmax
comp=E,320nm,6.6s
SNY LR LR
comp=E,580nm,23.2s
SNY LR LR
comp=E,710nm,23.0s
SNY LR LR
comp=E,1μm,20.8s
LYN LuoYang 57.18 322 P **P** **07 56 29.5 -0.4**
LYN sP sP 07 56 36.5 -1.8
LYN S **S** **08 04 25.3 +0.6**
LYN pmax pmax
comp=E,130nm,1.1s
LYN LR LR
comp=E,920nm,21.6s
LYN LR LR
comp=E,620nm,18.6s
LYN LR LR
comp=E,1μm,20.3s
PHRA Phrae 57.33 299 P **P** **07 56 30.1 -1.2**
MDJ Mudanjiang 57.49 342 P **P** **07 56 34.2 +2.3**
MDJ Mudanjiang 57.49 342 P **P** **07 56 32.3 +0.4**
MDJ S **S** **08 04 32.5 +4.1**
MDJ pmax pmax
comp=E,30nm,1.2s
MDJ pmax pmax
comp=E,650nm,7.6s
MDJ LR LR
comp=E,600nm,21.3s
MDJ LR LR
comp=E,320nm,23.0s
MDJ LR LR
comp=E,940nm,22.3s
HNS HongShan 57.90 326 ⇓P **P** **07 56 34.0 -0.9**
HNS S **S** **08 04 31.3 -2.7**
HNS pmax pmax
comp=E,85nm,1.2s
HNS pmax pmax
comp=E,490nm,5.5s
HNS LR LR
comp=E,420nm,20.7s
HNS LR LR
comp=E,730nm,17.5s
HNS LR LR
comp=E,910nm,20.7s
CN2 Changchun 58.15 339 *e*P **P** **07 56 37.5 +1.0**
CN2 PcP **PcP** **07 57 28.0 0.0**
CN2 *e*S **S** **08 04 32.8 -4.2**
CN2 *e*SS **SS** **08 08 26.5 -2.5**
CN2 pmax pmax
comp=E,20nm,1.0s
CN2 pmax pmax
comp=E,560nm,3.0s
CN2 LR LR
comp=E,250nm,19.0s
CN2 LR LR
comp=E,200nm,19.0s
PPT Papeete 58.20 105 LR LR 08 16 10.8
comp=E,387nm,21.8s,baz=266,slow=30
KMI Kunming 58.34 308 ⇑P **P** **07 56 41.3 +2.8**
KMI S **S** **08 04 45.8 +5.1**
KMI pmax pmax
comp=E,28nm,1.7s
KMI pmax pmax
comp=E,270nm,6.0s
KMI LR LR
comp=E,280nm,26.9s
KMI LR LR
comp=E,500nm,25.7s
KMI LR LR
comp=E,790nm,24.7s
CMAR Chiang Mai Arr 58.42 299 P **P** **07 56 38.7 -0.2**
CMAR Chiang Mai Arr 58.42 299 P **P** **07 56 39.1 +0.2**
comp=E,7.9nm,0.9s,baz=121,slow=5.2,SNR=19
CMAR LR LR 08 23 00.9
comp=E,141nm,20.5s,baz=125,slow=37
CMAR PKP2bc 08 26 30.4
comp=E,0.7nm,0.3s,baz=302,slow=5.1,SNR=4.1
comp=E,7.9nm,0.9s
CHTO Chiang Mai 58.56 299 P **P** **07 56 39.0 -1.0**
CHTO Chiang Mai 58.56 299 P **P** **07 56 39.0 -1.0**
CHTO pmax pmax
comp=Z,53nm,1.5s
KIP Kipapa 59.02 58 P **P** **07 56 46.6 +3.6**
KIP Kipapa 59.02 58 P **P** **07 56 43.3 +0.3**
KIP Kipapa 59.02 58 P **P** **07 56 43.3 +0.3**
KIP pmax pmax
comp=Z,168nm,1.3s
XAN Xi'an 59.04 320 ⇓P **P** **07 56 42.0 -1.1**
XAN S **S** **08 04 45.5 -3.7**
XAN SS **SS** **08 08 43.0 -0.6**
XAN pmax pmax
comp=Z,190nm,1.1s
XAN pmax pmax
comp=Z,870nm,4.8s
XAN LR LR
comp=Z,700nm,21.3s
XAN LR LR
comp=Z,800nm,22.8s
XAN LR LR
comp=Z,2μm,19.7s
BJT Baijiatuau 59.08 329 P **P** **07 56 43.9 +0.8**
BJT Baijiatuau 59.08 329 IAMs_20 IAMs_20 08 20 42.0
comp=Z,1μm,20.0s
BJI Beijing 59.09 329 P **P** **07 56 42.0 -1.2**
BJI S **S** **08 04 49.5 +0.1**
BJI pmax pmax
comp=Z,19nm,1.8s
BJI pmax pmax
comp=Z,190nm,5.9s
BJI LR LR
comp=Z,500nm,17.9s
BJI LR LR
comp=Z,130nm,18.8s
BJI LR LR
comp=Z,700nm,20.0s
BNX BinXian 59.18 341 ⇑P **P** **07 56 43.0 -0.7**
BNX pP **pP** **07 56 46.3 -3.5**
BNX PP **PP** **07 58 54.5 -0.3**
BNX S **S** **08 04 52.5 +2.1**
BNX sS **sS** **08 04 58.3 -2.2**
BNX pmax pmax
comp=Z,41nm,1.3s
BNX pmax pmax
comp=Z,550nm,6.8s
BNX LR LR
comp=Z,460nm,20.6s
BNX LR LR
comp=Z,440nm,18.4s
BNX LR LR
comp=Z,950nm,20.6s
TIY Taiyuan 59.39 325 ⇑P **P** **07 56 48.0 +2.6**
TIY PP **PP** **07 58 59.0 +2.1**
TIY S **S** **08 04 55.5 +1.9**
TIY pmax pmax
comp=Z,46nm,0.7s
TIY pmax pmax
comp=Z,280nm,6.7s
TIY LR LR
comp=Z,480nm,20.6s
TIY LR LR
comp=Z,320nm,21.3s
TIY LR LR
comp=Z,730nm,23.4s
PZH PanZhiHua 59.81 308 P **P** **07 56 52.0 +3.4**
PZH S **S** **08 05 01.3 +1.8**
PZH SS **SS** **08 09 00.0 +4.0**
PZH pmax pmax
comp=Z,30nm,1.1s
PZH pmax pmax
comp=Z,330nm,7.8s
PZH LR LR
comp=Z,370nm,25.0s
PZH LR LR
comp=Z,390nm,22.6s
PZH LR LR
comp=Z,520nm,22.1s
CD2 Chengdu 60.66 314 P **P** **07 56 56.3 +2.1**
CD2 sP sP 07 57 02.0 -0.6
CD2 S **S** **08 05 14.5 +4.4**
CD2 SS **SS** **08 09 10.0 +1.0**
CD2 pmax pmax
comp=Z,80nm,0.8s
CD2 LR LR
comp=Z,570nm,20.6s
CD2 LR LR
comp=Z,510nm,17.6s
TYV Tymovskoe 60.84 354 *e*P **P** **07 56 54.8 -0.2**
TYV *e*S **S** **08 05 16.1 +4.5**
TYV pmax pmax
comp=Z,14nm,1.1s
TYV pmax pmax
comp=Z,300nm,3.5s
TYV smax smax
comp=N,200nm,7.6s
TYV smax smax
comp=E,200nm,7.6s
KLR Kul'dur 61.15 346 LR LR 08 21 07.8
comp=E,489nm,21.9s,baz=172,slow=34
KLR Kul'dur 61.15 346 *d*iP **P** **07 56 56.5 -0.6**
KLR pmax pmax
comp=Z,52nm,1.7s
GRNR Gornyy 61.62 350 *e*P **P** **07 56 59.9 -0.4**
TNCH TengChong 61.64 305 P **P** **07 57 00.8 -0.4**
TNCH PP **PP** **07 59 21.5 +4.4**
TNCH S **S** **08 05 27.3 +4.2**
TNCH sS sS 08 05 42.5 +9.4
TNCH SS **SS** **08 09 28.0 +3.1**
TNCH pmax pmax
comp=Z,260nm,5.8s
HHC Hu-ho-hao-te 62.08 327 *e*P **P** **07 57 05.0 +1.3**
HHC pP sP 07 57 10.5 -1.6
HHC S **S** **08 05 31.3 +3.4**
HHC sS pS 08 05 35.5 +0.1
HHC SS **SS** **08 09 33.8 +2.7**
HHC pmax pmax
comp=Z,53nm,1.1s
HHC pmax pmax
comp=Z,140nm,6.0s
HHC LR LR
comp=Z,490nm,18.2s
HHC LR LR
comp=Z,740nm,18.8s
HHC LR LR
comp=Z,1μm,19.4s
XLT XiLinHaoTe 62.08 332 *e*P **P** **07 57 03.0 -0.7**
XLT S **S** **08 05 28.5 +0.6**
XLT ScS **SKSac** **08 06 51.3 -3.6**
XLT SS **SS** **08 09 26.3 -4.8**
XLT pmax pmax
comp=Z,74nm,1.2s
XLT LR LR
comp=Z,710nm,19.1s
XLT LR LR
comp=Z,1μm,20.1s
CASY Casey 62.69 197 P **P** **07 57 08.3 +1.0**
CASY IAmb IAmb 07 57 11.3
comp=Z,65nm,1.4s
CASY Casey 62.69 197 IAMs_20 IAMs_20 08 21 56.0
comp=Z,1μm,19.0s
BTO Baotou 62.75 326 *e*P **P** **07 57 11.5 +3.3**
BTO pP **sP** **07 57 16.5 -0.1**
BTO sP **pP** **07 57 18.8 +4.6**
BTO PP **PP** **07 59 31.8 +5.3**
BTO S **S** **08 05 42.5 +6.1**
BTO sS **sS** **08 05 52.8 +6.3**
BTO pmax pmax
comp=Z,120nm,1.1s
BTO pmax pmax
comp=Z,910nm,7.9s
BTO LR LR
comp=Z,2μm,17.1s
BTO LR LR
comp=Z,1μm,19.2s
BTO LR LR
comp=Z,2μm,18.7s
PET Petropavlovsk 62.94 5 P **P** **07 57 08.6 -0.5**
PET Petropavlovsk 62.94 5 *e*P **P** **07 57 08.6 -0.5**
PET *e* 07 57 48.6
PET *e*S **S** **08 05 37.7 -0.3**
PET *e*SS **SS** **08 09 44.9 +1.0**
PET pmax pmax
comp=Z,300nm,6.4s
PET pmax pmax
comp=Z,500nm,6.4s
HEH HeiHe 63.22 343 *e*P **P** **07 57 09.8 -1.2**
HEH pP **pP** **07 57 12.5 -4.6**
HEH PcP **PcP** **07 57 46.0 -2.2**
HEH PP **PP** **07 59 29.0 -1.3**
HEH S **S** **08 05 42.3 +0.7**
HEH pmax pmax
comp=Z,52nm,1.2s
HEH pmax pmax
comp=Z,730nm,5.7s
HEH LR LR
comp=Z,460nm,20.0s
HEH LR LR
comp=Z,380nm,20.1s
HEH LR LR
comp=Z,840nm,19.6s
LZH Lanzhou 63.58 319 *e*P **P** **07 57 14.0 +0.1**
LZH pP pP 07 57 17.3 -2.6
LZH S **S** **08 05 49.5 +2.5**
LZH SS **SS** **08 09 54.8 -0.1**
LZH pmax pmax
comp=Z,28nm,1.5s
LZH pmax pmax
comp=Z,330nm,5.2s
LZH LR LR
comp=Z,380nm,14.4s
LZH LR LR
comp=Z,460nm,16.5s
LZH LR LR
comp=Z,900nm,14.8s
SHEM Shemya Is, Ala 65.40 15 LR LR 08 21 13.8
comp=Z,993nm,21.9s,baz=207,slow=32
AMKA Amchitka 65.72 19 P **P** **07 57 27.9 +0.6**
ZEA Zeya 66.41 345 *de*P **P** **07 57 31.8 +0.1**
ZEA *e* 07 57 31.8
ZEA *e* 07 59 58.2
ZEA *e*S **S** **08 06 24.5 +3.7**
ZEA *e*PS **PnS** **08 06 52.2 +10**
ZEA *e*SS **SS** **08 10 42.8 +4.9**
ZEA pmax pmax
comp=N,60nm,1.2s
ZEA pmax pmax
comp=Z,90nm,1.1s
ZEA pmax pmax
comp=E,100nm,2.0s
ZEA pmax pmax
comp=N,200nm,2.9s
ZEA pmax pmax
comp=Z,300nm,1.9s
ZEA pmax pmax
comp=N,100nm,5.8s
ZEA pmax pmax
comp=Z,200nm,5.8s
ZEA smax smax
comp=E,300nm,7.6s
ZEA smax smax
comp=N,300nm,10.5s
ADK Adak 67.51 21 P **P** **07 57 38.6 -0.1**
ADK Adak 67.51 21 P **P** **07 57 38.7 -0.1**
ADK pmax pmax
comp=Z,106nm,1.0s
VNDA Vanda 67.93 177 P **P** **07 57 42.7 +1.6**
VNDA Vanda 67.93 177 P **P** **07 57 41.6 +0.5**
comp=Z,18nm,1.3s,baz=342,slow=7.1,SNR=20
VNDA LR LR 08 25 33.4
comp=Z,1μm,18.3s,baz=352,slow=34
VNDA PKP2bc 08 25 54.6
comp=Z,0.6nm,1.0s,baz=178,slow=4.7,SNR=3.1
comp=Z,18nm,1.3s
VNDA Vanda 67.93 177 P **P** **07 57 42.7 +1.6**
VNDA pmax pmax
comp=Z,36nm,1.5s
GTA Gaotai 68.10 320 P **P** **07 57 42.8 -0.2**
GTA pP pP 07 57 45.8 -3.2
GTA S **S** **08 06 44.8 +2.7**
GTA SS **SS** **08 11 04.5 -0.6**
GTA pmax pmax
comp=Z,8.0nm,1.5s
GTA pmax pmax
comp=Z,440nm,7.2s
GTA LR LR
comp=Z,190nm,23.1s
GTA LR LR
comp=Z,300nm,20.7s
GTA LR LR
comp=Z,340nm,23.1s
SBA Scott Base 68.51 176 P **P** **07 57 45.1 +0.3**
SBA IAmb IAmb 07 58 32.6
comp=Z,78nm,2.0s
SBA Scott Base 68.51 176 P **P** **07 57 45.1 +0.3**
SBA pmax pmax
comp=Z,79nm,2.0s
MA2 Magadan 69.16 360 P **P** **07 57 48.1 -0.8**
MA2 IAmb IAmb 07 57 52.1
comp=Z,46nm,1.2s
MA2 IAMs_20 IAMs_20 08 23 34.2
comp=Z,1μm,22.0s
MA2 Magadan 69.16 360 LR LR 08 24 29.4
comp=Z,674nm,22.0s,baz=170,slow=33
MA2 Magadan 69.16 360 *d*iP **P** **07 57 48.2 -0.8**
MA2 pmax pmax
comp=Z,39nm,1.2s
MA2 Magadan 69.16 360 P **P** **07 57 48.5 -0.4**
comp=Z,28nm,1.3s,comp=Z,906nm
ULN Ulaanbaatar 69.28 330 IAMs_20 IAMs_20 08 26 07.1
comp=Z,942nm,22.0s
ULN Ulaanbaatar 69.28 330 *d*iP **P** **07 57 49.6 -0.6**
ULN pmax pmax
comp=Z,102nm,1.3s
CIT Chita 69.43 336 *e*P **P** **07 57 51.4 +0.5**
CIT *e* 07 58 15.0
CIT pmax pmax
comp=Z,169nm,1.4s
LSA Lhasa 69.57 307 P **P** **07 57 56.0 +3.3**
LSA pmax pmax
comp=Z,37nm,1.2s
SONM Songino Array 69.59 330 P **P** **07 57 52.0 0.0**
SONM Songino Array 69.59 330 P **P** **07 57 52.3 +0.2**
comp=Z,81nm,1.1s,baz=146,slow=5.4,SNR=63
SONM PKP2bc 08 26 00.1
comp=Z,2.2nm,1.1s,baz=244,slow=2.2,SNR=8.3
SONM LR LR 08 27 55.3
comp=Z,822nm,21.0s,baz=130,slow=36
comp=Z,81nm,1.1s
SONM Songino Array 69.59 330 P **P** **07 57 52.0 0.0**
SONM pmax pmax
comp=Z,129nm,1.2s
GOMU GeErMu 69.78 314 P **P** **07 57 53.5 -0.2**
GOMU pP pP 07 57 57.3 -2.5
GOMU sP sP 07 58 02.5 +0.3
GOMU S **S** **08 06 54.0 -8.5**
GOMU pmax pmax
comp=Z,11nm,1.1s
GOMU LR LR
comp=Z,380nm,16.4s
GOMU LR LR
comp=Z,750nm,17.0s
GOMU LR LR
comp=Z,1μm,17.2s
NIKH Nikolski High 71.35 24 P **P** **07 58 01.0 -1.4**
baz=222
PALK Pallekele 71.90 281 P **P** **07 58 05.4 -1.3**
PALK IAmb IAmb 07 58 10.8
comp=Z,66nm,1.4s
PALK Pallekele 71.90 281 LR LR 08 32 29.9
comp=Z,411nm,20.2s,baz=210,slow=38
PALK Pallekele 71.90 281 P **P** **07 58 05.4 -1.3**
PALK pmax pmax
comp=Z,66nm,1.4s
SEY Seymchan 72.53 1 LR LR 08 27 01.9
comp=Z,375nm,21.4s,baz=156,slow=33
SEY Seymchan 72.53 1 *d*iP **P** **07 58 08.9 -0.5**
SEY pmax pmax
comp=Z,61nm,1.3s
ZAK Zakamensk 72.81 330 *e*P **P** **07 58 10.8 -0.7**
ZAK pmax pmax
comp=Z,100nm,1.3s
UNV Unalaska Valle 72.95 25 P **P** **07 58 10.5 -1.6**
baz=224
YAK Yakutsk 73.50 350 P **P** **07 58 14.7 -0.4**
YAK Yakutsk 73.50 350 LR LR 08 28 42.1
comp=Z,272nm,21.8s,baz=158,slow=34
YAK Yakutsk 73.50 350 *e*P **P** **07 58 14.8 -0.4**
YAK *e**PP **sP** **07 58 22.2 -1.4**
YAK *e* 07 58 30.7
YAK *e* 08 00 58.8
YAK *e*S **S** **08 07 43.6 -0.1**
YAK *e* 08 08 20.1
YAK *e*SS **SS** **08 12 23.3 -3.6**
YAK pmax pmax
comp=Z,155nm,1.0s
YAK pmax pmax
comp=N,28nm,0.9s
YAK pmax pmax
comp=E,22nm,1.0s
YAK pmax pmax
comp=Z,106nm,3.3s
YAK pmax pmax
comp=N,75nm,3.8s
YAK pmax pmax
comp=E,37nm,3.6s
YAK smax smax
comp=N,148nm,3.8s
YAK smax smax
comp=E,182nm,3.5s
IRK Irkutsk 73.56 332 *e*P **P** **07 58 15.3 -0.5**
IRK pmax pmax
comp=E,150nm,1.5s
BOD Bodaibo 73.80 340 *e*P **P** **07 58 16.1 -0.9**
BOD pmax pmax
comp=Z,62nm,1.9s
P08K Saint George I 73.80 22 P **P** **07 58 14.9 -2.1**
baz=221
SPIA Saint Paul Isl 73.99 21 P **P** **07 58 16.6 -1.5**
baz=220
MOY Mondy 74.74 330 *e*P **P** **07 58 22.4 -0.4**

MOY pmax pmax
comp=Z,115nm,1.6s
S12K Black Hills 76.09 25 P P 07 58 29.1 -1.2
baz=228
HYB Hyderabad 76.37 291 *e*P **P 07 58 33.2 +0.4**
SDPT Sand Point 76.54 26 P **P 07 58 31.3 -1.5**
baz=230
CHNA Chernabura Isl 76.60 27 P **P 07 58 31.2 -1.9**
baz=230
S14K Fog Glacier 77.54 26 P **P 07 58 36.3 -2.3**
baz=230
M11K Mekoryuk 77.80 20 P **P 07 58 38.0 -1.8**
baz=223
CHGN Chignik 78.04 26 P **P 07 58 38.9 -2.4**
baz=231
WMQ Urumqi 78.16 319 *e*P **P 07 58 41.3 -1.0**
WMQ sP PcP 07 58 50.8 -1.0
WMQ S **S 08 08 37.8 +1.8**
WMQ pmax pmax
comp=Z,84nm,1.1s
WMQ pmax pmax
comp=Z,700nm,4.9s
BILL Bilibino 78.44 6 P **P 07 58 43.6 +0.4**
BILL Bilibino 78.44 6*d* *i*P **P 07 58 43.0 -0.2**
BILL *e* 07 58 50.1
BILL *e* 08 01 39.3
BILL *e*PPP PPP 08 03 26.5
BILL pmax pmax
comp=Z,137nm,1.3s
BILL MLR MLR
comp=Z,336nm,19.0s
GAMB Gambell 78.70 16 P **P 07 58 42.6 -2.1**
baz=218
O14K Tigyukauivet M 78.79 23 P **P 07 58 45.3 0.0**
O14K IAmb IAmb 07 58 50.3
comp=Z,72nm,1.1s
O14K Tigyukauivet M 78.79 23 P **P 07 58 43.2 -2.1**
baz=228
M13K Dall Lake 78.81 21 P **P 07 58 46.0 +0.7**
M13K Dall Lake 78.81 21 P **P 07 58 43.2 -2.1**
baz=226
CHIR Chirikof Islan 79.00 28 P **P 07 58 44.1 -2.4**
baz=234
N14K Kuskokwak Cree 79.08 22 P **P 07 58 45.4 -1.5**
baz=228
R16K Pilot Point 79.19 25 P **P 07 58 46.5 -1.0**
baz=232
O15K Ungalikthiuk R 79.30 23 P **P 07 58 46.4 -1.7**
baz=230
K13K Kusilvak Mount 79.44 20 IAms_20 IAms_20 08 28 28.6
comp=Z,722nm,22.0s
K13K Kusilvak Mount 79.44 20 P **P 07 58 47.3 -1.5**
baz=225,SNR=9.9
M14K Bethel 79.55 21 IAmb IAmb 07 58 53.7
comp=Z,99nm,1.1s
M14K Bethel 79.55 21 P **P 07 58 47.6 -1.7**
baz=227
L14K Kuka Creek 79.69 21 P **P 07 58 50.4 +0.2**
L14K IAmb IAmb 07 58 55.2
comp=Z,78nm,1.1s
L14K Kuka Creek 79.69 21 P **P 07 58 48.4 -1.7**
baz=227,SNR=13
R17L Mt. Peulik Vol 79.75 26 P **P 07 58 49.1 -1.6**
baz=233
PLK4 Peulik 4 79.75 26 IAms_20 IAms_20 08 27 36.3
comp=Z,848nm,19.0s
N15K Kwethluk River 79.85 23 IAmb IAmb 07 58 56.1
comp=Z,73nm,1.1s
N15K Kwethluk River 79.85 23 P **P 07 58 49.1 -1.9**
baz=229
M15K Kasigluk River 79.97 22 P **P 07 58 49.5 -2.2**
baz=228
SII Sitkinak Islan 80.08 27 P **P 07 58 50.8 -1.6**
baz=235
QSPA South Pole Qui 80.18 180 P **P 07 58 53.5 +0.4**
comp=Z,27nm,1.2s,baz=320,slow=1.1,SNR=31
QSPA PP **PP 08 01 56.8 +1.6**
comp=Z,2.7nm,1.1s,baz=274,slow=1.6,SNR=3.0
QSPA LR LR 08 33 23.7
comp=Z,650nm,18.8s,baz=12,slow=35
comp=Z,27nm,1.2s
MAW Mawson 80.23 203 P **P 07 58 54.4 +1.4**
comp=Z,9.9nm,1.0s,baz=85,slow=7.6,SNR=19
MAW LR LR 08 32 15.0
comp=Z,1µm,20.5s,baz=94,slow=34
comp=Z,9.9nm,1.0s
O16K Kokwok River B 80.25 24 IAms_20 IAms_20 08 28 32.4
comp=Z,791nm,21.0s
O16K Kokwok River B 80.25 24 P **P 07 58 51.4 -1.8**
baz=231
Q16K King Salmon 80.26 25 P **P 07 58 51.9 -1.4**
baz=232
Q17K Contact Creek 80.33 25 P **P 07 58 52.0 -1.9**
baz=233,SNR=9.3
L15K Ungalak Mounta 80.34 21 P **P 07 58 52.3 -1.4**
baz=228
J14K Nanvaranak Lak 80.38 19 P **P 07 58 55.0 +1.1**
J14K IAmb IAmb 07 58 59.1
comp=Z,72nm,1.2s
J14K Nanvaranak Lak 80.38 19 P **P 07 58 52.2 -1.6**
baz=226
R18K Karluk 80.54 26 P **P 07 58 53.6 -1.2**
baz=235
N16K Nishlik Lake 80.55 23 P **P 07 58 53.1 -1.8**
baz=230
P17K Kvichak River 80.67 25 P **P 07 58 53.8 -1.7**
baz=233
K15K Wolf Creek Mou 80.74 20 IAmb IAmb 07 59 00.9
comp=Z,63nm,0.9s
K15K IAms_20 IAms_20 08 29 33.3
comp=Z,904nm,22.0s
K15K Wolf Creek Mou 80.74 20 P **P 07 58 54.4 -1.4**
baz=228,SNR=13
O17K Koliganek Bris 80.76 24 P **P 07 58 54.1 -1.8**
baz=232
M16K Timber Creek 80.83 22 P **P 07 58 57.2 +0.9**
M16K IAmb IAmb 07 59 01.4
comp=Z,70nm,1.1s
M16K Timber Creek 80.83 22 P **P 07 58 55.3 -1.0**
baz=230,SNR=14
OHAK Old Harbor 80.86 27 P **P 07 58 54.7 -1.9**
baz=236
Q18K Katmai Hardscr 80.94 25 P **P 07 58 55.7 -1.4**
baz=234,SNR=11
L16K Owhat River 81.08 22 P **P 07 58 58.1 +0.4**
L16K Owhat River 81.08 22 P **P 07 58 56.7 -1.0**
baz=230,SNR=8.9
ANM Nome 81.11 18 IAmb IAmb 07 59 02.1
comp=Z,74nm,1.3s
ANM IAms_20 IAms_20 08 29 20.6
comp=Z,982nm,22.0s
ANM Nome 81.11 18 P **P 07 58 57.2 -0.5**
baz=224
TNA Tin City 81.12 16 P **P 07 58 58.2 +0.5**
baz=221,SNR=8.5
N17K Nushagak Hills 81.19 23 IAms_20 IAms_20 08 28 27.2
comp=Z,1µm,22.0s
N17K Nushagak Hills 81.19 23 P **P 07 58 58.5 +0.2**
baz=232
P18K Big Mountain, 81.28 25 IAms_20 IAms_20 08 28 59.8
comp=Z,822nm,22.0s
P18K Big Mountain, 81.28 25 P **P 07 58 58.8 0.0**
baz=234
KDAK Kodiak Island 81.49 27 P **P 07 59 00.6 +0.7**
KDAK IAmb IAmb 07 59 05.1
comp=Z,106nm,1.6s
KDAK Kodiak Island 81.49 27 P **P 07 58 59.2 -0.7**
baz=236
KDAK Kodiak Island 81.49 27 LR LR 08 29 08.3
comp=Z,720nm,21.9s,baz=256,slow=31
KDAK Kodiak Island 81.49 27 P **P 07 59 00.6 +0.7**
KDAK pmax pmax
comp=Z,106nm,1.6s
F14K Arctic Creek 81.50 17 P **P 07 58 60.0 +0.2**
baz=223,SNR=12
ZSN Zaisan 81.50 321 *e*P **P 07 58 59.8 -0.5**
comp=Z,24nm,0.8s,baz=321
ZSN *e*S **S 08 09 11.0 -0.1**
baz=321
ZSN Zaisan 81.50 321 *e*P **P 07 58 59.7 -0.5**
ZSN *e*S **S 08 09 11.0 -0.1**
ZSN pmax pmax
comp=Z,25nm,0.8s
O18K Koktuh Hills 81.57 24 IAms_20 IAms_20 08 29 10.2
comp=Z,849nm,20.0s
O18K Koktuh Hills 81.57 24 P **P 07 59 00.2 -0.1**
baz=234

M17K Holitna River 81.64 22 P **P 07 59 01.9 +1.2**
M17K Holitna River 81.64 22 P **P 07 59 00.7 +0.1**
baz=231,SNR=6.7
Q19K Cape Douglas, 81.68 26 IAms_20 IAms_20 08 28 26.2
comp=Z,817nm,22.0s
Q19K Cape Douglas, 81.68 26 P **P 07 59 00.4 -0.5**
baz=235
J16K Anvik River 81.73 20 P **P 07 59 02.1 +1.1**
J16K IAmb IAmb 07 59 05.8
comp=Z,73nm,1.2s
J16K IAms_20 IAms_20 08 30 13.2
comp=Z,932nm,22.0s
J16K Anvik River 81.73 20 P **P 07 59 01.0 -0.1**
baz=228,SNR=20
L17K Donlin 81.78 22 P **P 07 59 01.0 -0.4**
baz=231,SNR=11
N18K Kilae Creek 81.79 23 IAmb IAmb 07 59 07.6
comp=Z,137nm,1.7s
N18K IAms_20 IAms_20 08 29 09.1
comp=Z,703nm,22.0s
N18K Kilae Creek 81.79 23 P **P 07 59 01.5 0.0**
baz=233,SNR=11
G15K Niukluk 81.81 18 P **P 07 59 01.1 -0.4**
baz=225,SNR=10
Q20K Shuyak Island 82.03 26 P **P 07 59 01.7 -1.0**
baz=236
I17K Unalakleet 82.10 20 IAms_20 IAms_20 08 30 24.0
comp=Z,661nm,21.0s
I17K Unalakleet 82.10 20 P **P 07 59 03.0 +0.1**
baz=228,SNR=12
H16K Elim 82.11 19 P **P 07 59 02.8 -0.3**
baz=227,SNR=5.7
O19K Port Alsworth 82.13 24 IAms_20 IAms_20 08 29 28.1
comp=Z,831nm,21.0s
O19K Port Alsworth 82.13 24 P **P 07 59 02.2 -0.9**
baz=234
F15K North Star Dit 82.14 17 P **P 07 59 03.9 +0.7**
F15K North Star Dit 82.14 17 P **P 07 59 03.3 0.0**
baz=224,SNR=12
K17K Iditarod 82.15 21 IAmb IAmb 07 59 08.4
comp=Z,79nm,1.0s
K17K Iditarod 82.15 21 P **P 07 59 03.9 +0.5**
baz=230,SNR=22
P19K Oil Pt 82.26 25 P **P 07 59 03.5 -0.5**
baz=236
M18K Stony River 82.31 23 P **P 07 59 04.0 -0.2**
baz=233,SNR=10
J17K VABM Dome 82.32 20 P **P 07 59 04.9 +0.7**
J17K IAms_20 IAms_20 08 30 19.9
comp=Z,923nm,22.0s
J17K VABM Dome 82.32 20 P **P 07 59 04.4 +0.2**
baz=230,SNR=13
N19K Bonanza Creek 82.42 24 IAms_20 IAms_20 08 30 00.9
comp=Z,874nm,22.0s
N19K Bonanza Creek 82.42 24 P **P 07 59 05.1 +0.2**
baz=234
L18K Granite Mounta 82.43 22 IAmb IAmb 07 59 09.9
comp=Z,50nm,1.0s
L18K Granite Mounta 82.43 22 P **P 07 59 03.8 -0.9**
baz=232,SNR=20
TIXI Tiksi 82.60 353 P **P 07 59 04.6 -0.8**
TIXI Tiksi 82.60 353 LR LR 08 37 19.6
comp=Z,368nm,18.9s,baz=170,slow=37
TIXI Tiksi 82.60 353*d* *i*P **P 07 59 03.7 -1.7**
TIXI pmax pmax
comp=Z,110nm,1.2s
G16K Koyuk River 82.60 18 P **P 07 59 06.3 +0.8**
G16K IAmb IAmb 07 59 09.9
comp=Z,45nm,1.1s
G16K IAms_20 IAms_20 08 30 52.2
comp=Z,840nm,22.0s
G16K Koyuk River 82.60 18 P **P 07 59 05.3 -0.3**
baz=226,SNR=18
O20K Slope Mountain 82.76 25 P **P 07 59 06.2 -0.4**
baz=236,SNR=5.8
MK31 Makanchi Array 82.85 320 P **P 07 59 06.8 -0.6**
MK31 IAmb IAmb 07 59 11.6
comp=Z,99nm,1.4s
MK31 Makanchi Array 82.85 320 P **P 07 59 06.8 -0.6**
MK31 pmax pmax
comp=Z,99nm,1.4s
MKAR Makanchi Array 82.85 320 P **P 07 59 06.8 -0.5**
comp=Z,40nm,1.1s,baz=108,slow=6.2,SNR=77
MKAR PKPPKP **P'P'df 08 25 38.9 +4.2**
comp=Z,0.5nm,0.9s,baz=327,slow=5.8,SNR=5.3
MKAR LR LR 08 36 29.5
comp=Z,267nm,19.5s,baz=102,slow=36
comp=Z,40nm,1.1s
HOM Homer 82.94 26 P **P 07 59 07.0 -0.5**
baz=237,SNR=7.5
H17K Granite Mounta 83.05 19 IAms_20 IAms_20 08 31 55.2
comp=Z,714nm,21.0s
H17K Granite Mounta 83.05 19 P **P 07 59 08.4 +0.4**
baz=229,SNR=18
MAKZ Makanchi 83.06 320 P **P 07 59 08.0 -0.5**
MAKZ Makanchi 83.06 320 P **P 07 59 08.0 -0.5**
MAKZ pmax pmax
comp=Z,132nm,1.3s
MAKZ MLR MLR
comp=Z,400nm,20.0s
L19K White Mountain 83.09 23 P **P 07 59 09.0 +0.8**
L19K IAmb IAmb 07 59 13.0
comp=Z,45nm,1.1s
L19K IAms_20 IAms_20 08 32 08.4
comp=Z,730nm,20.0s
L19K White Mountain 83.09 23 P **P 07 59 08.7 +0.4**
baz=234,SNR=14
M19K Big River Lodg 83.10 23 IAms_20 IAms_20 08 31 36.7
comp=Z,773nm,22.0s
M19K Big River Lodg 83.10 23 P **P 07 59 08.9 +0.6**
baz=234
J18K Innoko River 83.19 21 P **P 07 59 08.9 +0.2**
J18K Innoko River 83.19 21 P **P 07 59 08.8 +0.1**
baz=232,SNR=17
G17K Kiwalik Mounta 83.20 18 P **P 07 59 09.0 +0.3**
baz=228,SNR=21
BRLK Bradley Lake 83.32 26 P **P 07 59 09.2 -0.3**
BRSE Bradley Lake S 83.37 26 P **P 07 59 09.4 -0.3**
baz=238
SHLS Shalkode 83.42 316 *e*P **P 07 59 08.5 -2.0**
comp=Z,24nm,1.1s,baz=316
SHLS Shalkode 83.42 316 *e*P **P 07 59 08.5 -2.0**
SHLS pmax pmax
comp=Z,24nm,1.1s
N20K Mount Spurr 83.56 24 P **P 07 59 11.1 +0.3**
baz=236
M20K Styx River 83.58 23 IAms_20 IAms_20 08 29 40.3
comp=Z,845nm,22.0s
M20K Styx River 83.58 23 P **P 07 59 10.8 0.0**
baz=235
L20K Farewell, AK 83.63 23 P **P 07 59 11.0 0.0**
baz=235
F17K Baldwin Pennin 83.65 17 P **P 07 59 11.8 +0.8**
F17K IAmb IAmb 07 59 15.3
comp=Z,61nm,1.1s
F17K IAms_20 IAms_20 08 31 44.9
comp=Z,895nm,20.0s
F17K Baldwin Pennin 83.65 17 P **P 07 59 11.5 +0.5**
baz=227
H18K Honhosa River 83.69 19 P **P 07 59 11.2 -0.1**
baz=230
UZB Uzynbulak 83.72 316 *e*P **P 07 59 11.4 -0.6**
comp=Z,20nm,1.2s,baz=316
UZB Uzynbulak 83.72 316 *e*P **P 07 59 11.4 -0.6**
UZB pmax pmax
comp=Z,20nm,1.2s
CAPN Captain Cook N 83.75 25 P **P 07 59 11.1 -0.4**
baz=237
C16K Lisburne Hills 83.82 15 IAmb IAmb 07 59 17.3
comp=Z,82nm,1.6s
C16K IAms_20 IAms_20 08 30 57.2
comp=Z,771nm,21.0s
C16K Lisburne Hills 83.82 15 P **P 07 59 12.1 +0.3**
baz=223
J19K Poorman 83.90 21 IAmb IAmb 07 59 16.6
comp=Z,45nm,1.1s
J19K Poorman 83.90 21 P **P 07 59 12.6 +0.3**
baz=233,SNR=23
E17K Hotham Inlet 83.92 17 P **P 07 59 12.9 +0.5**
baz=227,SNR=49
GCSA Galena City Sc 83.93 20 P **P 07 59 12.5 +0.1**
baz=232,SNR=16
D17K Noatak River 84.00 16 P **P 07 59 13.3 +0.5**
baz=226,SNR=22
KPKS Kokpek 84.05 316 *e*P **P 07 59 13.0 -0.7**
comp=Z,32nm,1.1s,baz=316
KPKS Kokpek 84.05 316 *e*P **P 07 59 13.0 -0.7**

KPKS pmax pmax
comp=Z,32nm,1.1s
K20K Telida 84.07 22 P **P 07 59 13.5 +0.2**
baz=234
G18K Tagagawik 84.08 19 P **P 07 59 13.4 +0.1**
G18K IAmb IAmb 07 59 17.0
comp=Z,55nm,1.2s
G18K IAms_20 IAms_20 08 31 15.3
comp=Z,725nm,22.0s
G18K Tagagawik 84.08 19 P **P 07 59 13.2 -0.1**
baz=230,SNR=32
TARG Taragay, Kyrgy 84.10 314 P **P 07 59 13.3 -1.1**
TARG IAmb IAmb 07 59 18.2
comp=Z,56nm,1.2s
TARG Taragay, Kyrgy 84.10 314 P **P 07 59 13.3 -1.1**
TARG pmax pmax
comp=Z,56nm,1.2s
SATY Saty 84.11 315 *e*P **P 07 59 13.5 -0.6**
comp=Z,25nm,1.2s,baz=315
SATY Saty 84.11 315 *e*P **P 07 59 13.5 -0.6**
SATY pmax pmax
comp=Z,25nm,1.2s
SEW Seward 84.11 26 P **P 07 59 12.9 -0.6**
baz=239,SNR=13
ZHN Zhinishke 84.13 315 *e*P **P 07 59 13.4 -0.7**
baz=316
ZHN Zhinishke 84.13 315 *e*P **P 07 59 13.4 -0.7**
O22K Cooper Landing 84.19 25 P **P 07 59 13.5 -0.4**
baz=238
F18K Selawik 84.23 18 P **P 07 59 13.6 -0.3**
baz=229
SKT Skwentna 84.26 24 IAms_20 IAms_20 08 30 13.3
comp=Z,987nm,22.0s
SKT Skwentna 84.26 24 P **P 07 59 12.6 -1.7**
baz=237
ZAA0 Zalesovo Array 84.26 327 P **P 07 59 13.2 -1.2**
ZAA0 IAmb IAmb 07 59 16.6
comp=Z,98nm,1.4s
ZALV Zalesovo Beam 84.26 327 P **P 07 59 13.0 -1.4**
comp=Z,36nm,1.0s,baz=112,slow=5.1,SNR=35
ZALV PKPPKP **P'P'df 08 25 36.5 +5.0**
comp=Z,0.5nm,0.5s,baz=240,slow=4.8,SNR=1.2
ZALV LR LR 08 36 51.4
comp=Z,406nm,20.5s,baz=113,slow=36
comp=Z,36nm,1.0s
ZALV Zalesovo Beam 84.26 327 P **P 07 59 13.0 -1.4**
SUA Susitna One 84.29 24 P **P 07 59 13.2 -1.3**
baz=238
RDOG Red Dog Mine 84.30 16 IAmb IAmb 07 59 20.1
comp=Z,78nm,1.2s
RDOG IAms_20 IAms_20 08 34 18.9
comp=Z,697nm,20.0s
RDOG Red Dog Mine 84.30 16 P **P 07 59 14.7 +0.4**
baz=226,SNR=27
E18K Tukpahlearik C 84.50 17 P **P 07 59 15.4 +0.1**
E18K IAms_20 IAms_20 08 35 43.4
comp=Z,771nm,20.0s
E18K Tukpahlearik C 84.50 17 P **P 07 59 15.6 +0.2**
baz=228,SNR=18
RC01 Rabbit Creek A 84.50 25 P **P 07 59 15.4 -0.1**
RC01 IAmb IAmb 07 59 19.6
comp=Z,69nm,1.3s
RC01 IAms_20 IAms_20 08 30 12.9
comp=Z,756nm,22.0s
RC01 Rabbit Creek A 84.50 25 P **P 07 59 15.0 -0.5**
baz=238
PPLA Purkeypile 84.51 23 P **P 07 59 14.9 -0.8**
baz=236
C17K DeLong Mountai 84.52 15 P **P 07 59 15.4 -0.1**
baz=225,SNR=16
J20K Nowinta River 84.53 21 IAmb IAmb 07 59 21.5
comp=Z,64nm,1.4s
J20K IAms_20 IAms_20 08 35 56.3
comp=Z,617nm,20.0s
J20K Nowinta River 84.53 21 P **P 07 59 15.8 +0.3**
baz=234,SNR=21
H19K Roundabout Mou 84.56 19 P **P 07 59 16.0 +0.4**
baz=232,SNR=49
M22K Willow 84.70 24 P **P 07 59 16.9 +0.5**
M22K IAmb IAmb 07 59 19.3
comp=Z,67nm,1.2s
M22K IAms_20 IAms_20 08 30 38.0
comp=Z,718nm,21.0s
M22K Willow 84.70 24 P **P 07 59 16.2 -0.2**
baz=238,SNR=5.9
G19K Purcell Mounta 84.73 19 P **P 07 59 17.0 +0.4**
G19K IAmb IAmb 07 59 20.8
comp=Z,80nm,1.2s
G19K IAms_20 IAms_20 08 31 34.6
comp=Z,753nm,22.0s
G19K Purcell Mounta 84.73 19 P **P 07 59 16.9 +0.4**
baz=231,SNR=52
KSH Kashi 84.75 311 P **P 07 59 17.8 +0.4**
KSH sP pP 07 59 23.3 -0.3
KSH S **S 08 09 45.0 +0.3**
KSH pmax pmax
comp=Z,35nm,1.4s
KSH LR LR
comp=Z,770nm,19.8s
KSH LR LR
comp=Z,560nm,20.4s
KSH LR LR
comp=Z,460nm,22.1s
I20K Naaghedeneel 84.78 21 P **P 07 59 17.7 +1.0**
I20K IAmb IAmb 07 59 21.2
comp=Z,84nm,1.2s
I20K IAms_20 IAms_20 08 31 55.8
comp=Z,728nm,22.0s
I20K Naaghedeneel 84.78 21 P **P 07 59 17.4 +0.7**
baz=234,SNR=5.4
CAST Castle Rocks 84.84 22 P **P 07 59 16.2 -1.0**
baz=236
ARXS Arharly 84.88 316 *e*P **P 07 59 17.7 -0.2**
P23K Montague Islan 84.94 26 P **P 07 59 17.0 -0.7**
baz=241
F19K Shaleruckik Mo 84.96 18 P **P 07 59 17.5 -0.1**
F19K IAmb IAmb 07 59 21.4
comp=Z,43nm,1.1s
F19K IAms_20 IAms_20 08 31 52.4
comp=Z,812nm,22.0s
F19K Shaleruckik Mo 84.96 18 P **P 07 59 17.6 -0.1**
baz=231,SNR=46
PWL Port Wells 84.97 25 P **P 07 59 17.7 -0.1**
PWL IAmb IAmb 07 59 19.8
comp=Z,68nm,1.0s
PWL Port Wells 84.97 25 P **P 07 59 17.8 -0.1**
baz=240,SNR=31
CUT Chulitna 84.99 24 IAmb IAmb 07 59 22.1
comp=Z,37nm,1.1s
CUT IAms_20 IAms_20 08 31 10.7
comp=Z,651nm,21.0s
CUT Chulitna 84.99 24 P **P 07 59 17.0 -0.8**
baz=238
PMR Palmer 85.02 25 IAmb IAmb 07 59 21.4
comp=Z,65nm,1.6s
PMR Palmer 85.02 25 P **P 07 59 17.6 -0.4**
baz=239,SNR=11
CHUM Lake Minchumin 85.02 22 P **P 07 59 17.8 -0.2**
baz=236
H20K Anotleneega Mo 85.05 20 P **P 07 59 18.4 +0.3**
baz=233,SNR=29
MDOK Medeo 85.09 315 *e*P **P 07 59 18.6 -0.5**
baz=315
MDOK *e*S **SKSac 08 09 42.1 -1.0**
MDOK Medeo 85.09 315 *e*P **P 07 59 18.5 -0.5**
MDOK *e*S **SKSac 08 09 42.0 -1.0**
TNSS Tian-Shan 85.12 315 *e*P **P 07 59 18.6 -1.0**
baz=315
TNSS Tian-Shan 85.12 315 *e*P **P 07 59 18.5 -1.0**
Q23K Middleton Isla 85.14 27 P **P 07 59 18.6 0.0**
baz=242
C18K Utukok River 85.17 16 IAmb IAmb 07 59 24.2
comp=Z,71nm,1.4s
C18K IAms_20 IAms_20 08 33 57.0
comp=Z,825nm,21.0s
C18K Utukok River 85.17 16 P **P 07 59 18.4 -0.3**
baz=227,SNR=24
AAA Alma-Ata 85.19 315 *e*P **P 07 59 19.0 -0.5**
comp=Z,31nm,1.0s,baz=315
AAA Alma-Ata 85.19 315 *e*P **P 07 59 18.9 -0.5**
AAA pmax pmax
comp=Z,31nm,1.0s
GHO Glory Hole Cre 85.19 24 P **P 07 59 19.0 0.0**
GHO IAmb IAmb 07 59 27.2
comp=Z,36nm,1.1s
KNK Knik Glacier 85.20 25 IAmb IAmb 07 59 22.9

	comp=Z,56nm,1.4s							
KNK	Knik Glacier	85.20	25	P	P	07 59 19.1	+0.1	
	baz=240							
NIL	Nilore	85.24	305	P	P	07 59 19.1	-0.8	
NIL	Nilore	85.24	305	P	P	07 59 19.1	-0.8	
NIL				pmax	pmax			
	comp=Z,95nm,1.3s							
CHKK	Chushkaly	85.34	316	eP	P	07 59 19.4	-0.8	
	baz=316							
CHKK	Chushkaly	85.34	316	eP	P	07 59 19.3	-0.8	
ULHL	Ulahol	85.37	314	P	P	07 59 23.3	+2.8	
	SNR=8.9							
SEM	Semipalatinsk	85.45	323	eP	P	07 59 19.4	-1.4	
	comp=Z,28nm,1.2s,baz=323							
SEM	Semipalatinsk	85.45	323	eP	P	07 59 19.3	-1.4	
SEM				pmax	pmax			
	comp=Z,28nm,1.2s							
SML	Sawmill	85.45	25	IAMs_20	IAMs_20	08 31 05.0		
	comp=Z,878nm,22.0s							
SML	Sawmill	85.45	25	P	P	07 59 19.7	-0.6	
	baz=240,SNR=24							
B18K	Kokolik River	85.50	15	P	P	07 59 20.2	-0.1	
	baz=227							
GLI	Glacier Island	85.51	26	P	P	07 59 20.4	-0.1	
GLI				IAmb	IAmb	07 59 22.4		
	comp=Z,31nm,0.9s							
GLI				IAMs_20	IAMs_20	08 34 34.6		
	comp=Z,626nm,20.0s							
GLI	Glacier Island	85.51	26	P	P	07 59 20.5	-0.1	
	baz=241,SNR=13							
E19K	Redstone River	85.52	18	IAmb	IAmb	07 59 26.4		
	comp=Z,72nm,1.0s							
E19K	Redstone River	85.52	18	P	P	07 59 20.9	+0.4	
	baz=231,SNR=82							
HIN	Hinchinbrook I	85.53	26	IAmb	IAmb	07 59 24.6		
	comp=Z,45nm,1.3s							
HIN				IAMs_20	IAMs_20	08 34 36.2		
	comp=Z,686nm,20.0s							
BPAW	Bear Paw Mtn.	85.63	22	P	P	07 59 20.5	-0.5	
	baz=237,SNR=6.8							
M23K	Glacier View	85.70	25	P	P	07 59 21.5	0.0	
	baz=240							
FID	Port Fidalgo	85.71	26	P	P	07 59 21.8	+0.3	
FID				IAmb	IAmb	07 59 29.4		
	comp=Z,49nm,1.3s							
FID				IAMs_20	IAMs_20	08 34 51.3		
	comp=Z,684nm,21.0s							
IMAR	Indian Mountai	85.72	20	P	P	07 59 21.5	0.0	
F20K	Avaraart Lake	85.72	18	IAMs_20	IAMs_20	08 32 04.7		
	comp=Z,714nm,22.0s							
F20K	Avaraart Lake	85.72	18	P	P	07 59 21.7	+0.3	
	baz=232							
H21K	Melozitna Rive	85.85	20	IAMs_20	IAMs_20	08 32 50.2		
	comp=Z,898nm,22.0s							
H21K	Melozitna Rive	85.85	20	P	P	07 59 22.2	+0.1	
	baz=235,SNR=14							
SCM	Sheep Creek Mo	85.88	25	IAmb	IAmb	07 59 25.1		
	comp=Z,48nm,1.1s							
SCM	Sheep Creek Mo	85.88	25	P	P	07 59 21.6	-0.9	
	baz=241,SNR=15							
WAT1	Susitna Watana	85.89	24	P	P	07 59 21.7	-0.7	
	baz=239							
C19K	Lookout Ridge	85.91	16	P	P	07 59 22.8	+0.3	
C19K				IAmb	IAmb	07 59 26.8		
	comp=Z,66nm,1.1s							
C19K				IAMs_20	IAMs_20	08 34 21.5		
	comp=Z,722nm,20.0s							
C19K	Lookout Ridge	85.91	16	P	P	07 59 22.2	-0.2	
	baz=229,SNR=28							
D19K	Kuna River	85.92	17	P	P	07 59 22.4	0.0	
D19K				IAmb	IAmb	07 59 26.4		
	comp=Z,48nm,1.1s							
D19K	Kuna River	85.92	17	P	P	07 59 22.5	0.0	
	baz=230,SNR=23							
EYAK	Cordova Ski Ar	85.93	26	P	P	07 59 22.2	-0.4	
	baz=242							
TKM2	Tokmak 2	86.03	315	P	P	07 59 23.1	-0.7	
	SNR=38							
TKM2	Tokmak 2	86.03	315	iP	P	07 59 22.6	-1.2	
TKM2				pmax	pmax			
	comp=Z,73nm,1.4s							
RND	Reindeer	86.06	23	IAMs_20	IAMs_20	08 33 51.0		
	comp=Z,648nm,20.0s							
WAT6	Susitna Watana	86.08	24	P	P	07 59 22.9	-0.6	
	baz=240,SNR=18							
G21K	Allakaket	86.11	19	IAMs_20	IAMs_20	08 34 13.1		
	comp=Z,824nm,21.0s							
G21K	Allakaket	86.11	19	P	P	07 59 22.7	-0.7	
	baz=235,SNR=9.2							
MCK	McKinley	86.20	23	P	P	07 59 22.9	-1.0	
	baz=239,SNR=22							
MLY	Manley	86.22	21	P	P	07 59 23.0	-1.0	
	baz=237,SNR=29							
BWN	Browne	86.23	22	P	P	07 59 24.0	-0.1	
BWN				IAMs_20	IAMs_20	08 42 15.1		
	comp=Z,580nm,19.0s							
KAIM	Kayak Island	86.24	27	P	P	07 59 24.2	+0.1	
KAIM	Kayak Island	86.24	27	P	P	07 59 23.5	-0.6	
	baz=243							
A19K	Wainwright	86.26	15	P	P	07 59 23.0	-1.0	
	baz=227							
KLU	Klutina	86.30	25	P	P	07 59 24.8	+0.2	
KLU				IAmb	IAmb	07 59 27.5		
	comp=Z,44nm,1.0s							
KLU				IAMs_20	IAMs_20	08 31 34.6		
	comp=Z,720nm,22.0s							
KLU	Klutina	86.30	25	P	P	07 59 24.3	-0.2	
	baz=242,SNR=27							
E20K	Nigu River	86.33	17	P	P	07 59 24.9	+0.4	
	baz=232,SNR=40							
RAGM	Ragged Mountai	86.33	27	P	P	07 59 24.5	-0.2	
RAGM				IAmb	IAmb	07 59 31.8		
	comp=Z,49nm,1.3s							
KBK	Karagaybulak	86.41	314	P	P	07 59 25.6	0.0	
	SNR=6.8							
H22K	Ishtalitna Cre	86.47	20	P	P	07 59 25.0	-0.2	
	baz=237,SNR=16							
DHY	Denali Highway	86.47	24	P	P	07 59 25.1	-0.3	
DHY				IAMs_20	IAMs_20	08 32 36.0		
	comp=Z,629nm,20.0s							
DHY	Denali Highway	86.47	24	P	P	07 59 25.2	-0.3	
	baz=240,SNR=20							
D20K	Etivluk River	86.49	17	P	P	07 59 25.6	+0.3	
	baz=232,SNR=26							
M24K	Tolsona, Glenn	86.49	25	IAmb	IAmb	07 59 33.5		
	comp=Z,35nm,1.0s							
M24K	Tolsona, Glenn	86.49	25	P	P	07 59 25.0	-0.4	
	baz=242							
F21K	Alatna River	86.53	19	IAMs_20	IAMs_20	08 33 05.1		
	comp=Z,829nm,22.0s							
F21K	Alatna River	86.53	19	P	P	07 59 25.2	-0.3	
	baz=235,SNR=16							
KURK	Kurchatov	86.54	323	P	P	07 59 25.3	-0.5	
KURK				IAmb	IAmb	07 59 28.7		
	comp=Z,54nm,1.2s							
KURK	Kurchatov	86.54	323	deP	P	07 59 25.3	-0.5	
KURK				pmax	pmax			
	comp=Z,54nm,1.3s							
KURBB	Kurchatov Arra	86.56	323	P	P	07 59 24.8	-1.1	
	comp=Z,11nm,1.0s,baz=106,slow=4.0,SNR=26							
KURBB				LR	LR	08 38 12.2		
	comp=Z,298nm,20.9s,baz=144,slow=36							
	comp=Z,11nm,1.0s							
UCH	Uchtor	86.59	314	P	P	07 59 26.8	-0.1	
	SNR=47							
NEA2	Nenana	86.60	22	P	P	07 59 25.1	-0.8	
	baz=239,SNR=24							
BMRM	Bremner River	86.62	26	P	P	07 59 25.4	-0.7	
	baz=243,SNR=11							
CHMS	Chumysh	86.64	314	P	P	07 59 25.8	-0.8	
	SNR=13							
AAK	Ala-Archa	86.72	314	P	P	07 59 26.7	-0.5	
AAK				IAmb	IAmb	07 59 30.5		
	comp=Z,75nm,1.2s							
AAK	Ala-Archa	86.72	314	P	P	07 59 27.2	+0.1	
	comp=Z,33nm,1.1s,baz=116,slow=4.3,SNR=25							
	comp=Z,33nm,1.1s							
AAK	Ala-Archa	86.72	314	P	P	07 59 26.7	-0.5	
AAK				pmax	pmax			
	comp=Z,75nm,1.3s							
I23K	Minto, Yukon-K	86.78	21	P	P	07 59 26.4	-0.3	
I23K	Minto, Yukon-K	86.78	21	P	P	07 59 25.9	-0.8	
	baz=239							
SGDS	Sogindy	86.86	315	eP	P	07 59 26.6	-1.1	
	comp=Z,20nm,1.1s,baz=315							
SGDS	Sogindy	86.86	315	eP	P	07 59 26.6	-1.1	
SGDS				pmax	pmax			
	comp=Z,20nm,1.1s							
USP	Ospenovka	86.90	315	P	P	07 59 27.3	-0.6	
	SNR=41							
WRH	Wood River Hil	86.90	22	IAmb	IAmb	07 59 30.2		
	comp=Z,54nm,1.2s							
WRH				IAMs_20	IAMs_20	08 38 18.1		
	comp=Z,570nm,20.0s							
N25K	Chitina, Valde	86.92	26	IAmb	IAmb	07 59 34.8		
	comp=Z,97nm,1.8s							
N25K	Chitina, Valde	86.92	26	P	P	07 59 27.3	-0.3	
	baz=243,SNR=13							
G22K	Bettles	87.00	19	P	P	07 59 27.6	-0.1	
	baz=236							
HARP	HAARP	87.05	25	P	P	07 59 28.3	+0.2	
	baz=242							
SNH	Sunshine Point	87.06	27	P	P	07 59 28.6	+0.3	
SNH				IAmb	IAmb	07 59 35.7		
	comp=Z,76nm,1.3s							
SNH				IAMs_20	IAMs_20	08 40 02.7		
	comp=Z,582nm,20.0s							
H23K	Yukon River	87.07	21	P	P	07 59 28.2	+0.1	
H23K	Yukon River	87.07	21	P	P	07 59 27.8	-0.3	
	baz=238,SNR=26							
CCB	Clear Creek Bu	87.09	22	P	P	07 59 27.4	-0.8	
CCB				IAmb	IAmb	07 59 31.0		
	comp=Z,48nm,1.2s							
CCB				IAMs_20	IAMs_20	08 38 33.2		
	comp=Z,601nm,20.0s							
E21K	Killik River	87.09	18	P	P	07 59 28.2	-0.1	
E21K				IAmb	IAmb	07 59 34.1		
	comp=Z,52nm,1.3s							
E21K				IAMs_20	IAMs_20	08 34 05.9		
	comp=Z,823nm,21.0s							
E21K	Killik River	87.09	18	P	P	07 59 28.0	-0.2	
	baz=234							
MDM	Murphy Dome	87.09	22	P	P	07 59 26.8	-1.5	
MDM				IAmb	IAmb	07 59 31.1		
	comp=Z,46nm,1.2s							
MDM				IAMs_20	IAMs_20	08 37 15.2		
	comp=Z,613nm,20.0s							
F22K	John River	87.11	19	P	P	07 59 28.1	-0.2	
	baz=236							
B20K	Meade River	87.15	16	IAMs_20	IAMs_20	08 35 56.2		
	comp=Z,690nm,21.0s							
B20K	Meade River	87.15	16	P	P	07 59 28.2	-0.2	
	baz=231							
WAX	Waxell Ridge	87.17	27	IAmb	IAmb	07 59 35.2		
	comp=Z,55nm,1.3s							
WAX				IAMs_20	IAMs_20	08 31 11.5		
	comp=Z,714nm,22.0s							
CRQM	Cirque	87.17	27	IAmb	IAmb	07 59 36.0		
	comp=Z,62nm,1.3s							
CRQM				IAMs_20	IAMs_20	08 31 26.2		
	comp=Z,820nm,22.0s							
GLB	Gilahina Butte	87.18	26	IAmb	IAmb	07 59 35.7		
	comp=Z,89nm,1.6s							
GLB				IAMs_20	IAMs_20	08 33 19.8		
	comp=Z,666nm,22.0s							
PAX	Paxson	87.19	24	P	P	07 59 28.3	-0.6	
	baz=242,SNR=8.7							
COLA	College	87.19	22	P	P	07 59 28.0	-0.6	
COLA	College	87.19	22	P	P	07 59 28.0	-0.6	
	baz=240							
COLA	College	87.19	22	P	P	07 59 28.0	-0.6	
COLA				pmax	pmax			
	comp=Z,102nm,1.4s							
COLA				MLR	MLR			
	comp=Z,500nm,21.0s							
CRQE	Cirque	87.19	27	P	P	07 59 28.1	-0.9	
	baz=244							
EKS2	Erkin-Say	87.24	314	P	P	07 59 29.6	0.0	
	SNR=31							
VRDI	Verde Repeater	87.24	26	P	P	07 59 29.3	0.0	
VRDI				IAmb	IAmb	07 59 36.2		
	comp=Z,46nm,1.3s							
VRDI				IAMs_20	IAMs_20	08 32 17.4		
	comp=Z,949nm,22.0s							
C21K	Knifeblade Rid	87.28	17	P	P	07 59 28.6	-0.5	
	baz=233,SNR=10							
HDA	Harding Lake	87.30	23	P	P	07 59 28.8	-0.5	
HDA				IAmb	IAmb	07 59 32.2		
	comp=Z,62nm,1.4s							
HDA				IAMs_20	IAMs_20	08 32 46.6		
	comp=Z,724nm,22.0s							
HDA	Harding Lake	87.30	23	P	P	07 59 27.7	-1.6	
	baz=241,SNR=21							
TGL	Tana Glacier	87.31	27	IAmb	IAmb	07 59 36.5		
	comp=Z,86nm,1.5s							
TGL				IAMs_20	IAMs_20	08 31 28.3		
	comp=Z,742nm,22.0s							
G23K	Bananza Creek	87.38	20	IAMs_20	IAMs_20	08 33 36.5		
	comp=Z,734nm,21.0s							
G23K	Bananza Creek	87.38	20	P	P	07 59 29.1	-0.6	
	baz=238,SNR=25							
K24K	Donnelly Dome	87.46	23	P	P	07 59 29.2	-0.9	
	baz=242,SNR=6.4							
MESA	MESA	87.46	27	P	P	07 59 28.3	-2.1	
	baz=245							
ISLE	Juniper Island	87.47	27	P	P	07 59 31.1	+0.7	
ISLE				IAmb	IAmb	07 59 34.6		
	comp=Z,36nm,1.2s							
ISLE				IAMs_20	IAMs_20	08 36 32.3		
	comp=Z,570nm,20.0s							
POKR	Poker Plat Res	87.47	22	IAMs_20	IAMs_20	08 37 16.0		
	comp=Z,596nm,20.0s							
POKR	Poker Plat Res	87.47	22	P	P	07 59 28.7	-1.4	
	baz=240							
MCARA	McCarthy VSAT	87.50	26	P	P	07 59 31.3	+1.0	
MCARA				IAmb	IAmb	07 59 37.3		
	comp=Z,56nm,1.4s							
MCARA				IAMs_20	IAMs_20	08 32 14.2		
	comp=Z,717nm,22.0s							
MCARA	McCarthy VSAT	87.50	26	P	P	07 59 29.2	-1.1	
	baz=244							
IL31		87.50	22	P	P	07 59 29.1	-1.1	
IL31				IAmb	IAmb	07 59 32.7		
	comp=Z,64nm,1.4s							
ILAR	Eielson Array	87.50	22	P	P	07 59 28.6	-1.6	
	comp=Z,43nm,1.2s,baz=256,slow=4.8,SNR=89							
ILAR				LR	LR	08 39 23.6		
	comp=Z,290nm,18.2s,baz=250,slow=36							
	comp=Z,43nm,1.2s							
E22K	Anaktuvuk Pass	87.58	18	P	P	07 59 30.6	+0.1	
E22K				IAmb	IAmb	07 59 34.9		
	comp=Z,40nm,1.2s							
E22K				IAMs_20	IAMs_20	08 33 49.7		
	comp=Z,791nm,21.0s							
E22K	Anaktuvuk Pass	87.58	18	P	P	07 59 30.3	-0.2	
	baz=236							
COLD	Coldfoot	87.59	19	P	P	07 59 31.5	+0.9	
	baz=238,SNR=14							
B21K	Ikpikpuk River	87.61	17	P	P	07 59 31.2	+0.6	
B21K				IAMs_20	IAMs_20	08 35 49.5		
	comp=Z,779nm,19.0s							
B21K	Ikpikpuk River	87.61	17	P	P	07 59 31.2	+0.6	
	baz=234,SNR=9.0							
H24K	Noodor Dome	87.67	21	P	P	07 59 30.8	-0.3	
H24K	Noodor Dome	87.67	21	P	P	07 59 30.9	-0.2	
	baz=240,SNR=16							
BTLS	Baital	87.71	316	eP	P	07 59 30.8	-0.8	
	comp=Z,22nm,1.0s,baz=316							
BTLS	Baital	87.71	316	eP	P	07 59 30.8	-0.8	
BTLS				pmax	pmax			
	comp=Z,22nm,1.0s							
D22K	Ayikyak River	87.73	18	P	P	07 59 31.8	+0.6	
D22K				IAMs_20	IAMs_20	08 33 53.8		
	comp=Z,851nm,22.0s							
D22K	Ayikyak River	87.73	18	P	P	07 59 32.0	+0.7	
	baz=235,SNR=39							
GRNC	Granite Creek	87.78	27	IAmb	IAmb	07 59 38.2		
	comp=Z,75nm,1.5s							
TABL	Table Mountain	87.94	27	P	P	07 59 32.2	-0.5	
M26K	Nabesna, AK	87.95	25	IAmb	IAmb	07 59 38.9		
	comp=Z,40nm,1.3s							
M26K	Nabesna, AK	87.95	25	P	P	07 59 33.4	+0.9	
	baz=244,SNR=24							
J25K	Salcha River,	88.00	23	P	P	07 59 32.0	-0.7	
J25K	Salcha River,	88.00	23	P	P	07 59 32.2	-0.5	
	baz=242,SNR=84							
CTG	Chitna Glacier	88.06	27	P	P	07 59 33.3	+0.2	
	baz=246,SNR=14							
CTGM	Chitina Glacie	88.06	27	IAMs_20	IAMs_20	08 31 50.1		
	comp=Z,616nm,22.0s							
L26K	Log Cabin Wild	88.08	25	P	P	07 59 33.8	+0.7	
L26K				IAmb	IAmb	07 59 39.2		
	comp=Z,40nm,1.2s							
L26K	Log Cabin Wild	88.08	25	P	P	07 59 33.9	+0.9	
	baz=244,SNR=22							
A21K	Barrow	88.12	15	P	P	07 59 33.0	0.0	
	baz=232							
LOGN	Logan Glacier	88.16	27	IAmb	IAmb	07 59 40.8		
	comp=Z,38nm,1.2s							
PINM	Pinnacle	88.20	28	P	P	07 59 34.1	+0.3	
	baz=247							
E23K	Chandalar	88.23	19	P	P	07 59 34.0	+0.2	
	baz=238,SNR=28							
G24K	Hadweenzic Riv	88.24	21	IAmb	IAmb	07 59 37.9		
	comp=Z,34nm,1.2s							
G24K	Hadweenzic Riv	88.24	21	P	P	07 59 34.0	+0.3	
	baz=240,SNR=26							
SCRK	Sand Creek	88.24	24	P	P	07 59 33.8	-0.1	
SCRK				IAmb	IAmb	07 59 40.7		
	comp=Z,43nm,1.4s							
SCRK				IAMs_20	IAMs_20	08 40 47.6		
	comp=Z,563nm,20.0s							
SCRK	Sand Creek	88.24	24	P	P	07 59 33.9	-0.1	
	baz=244,SNR=21							
A22K	Sinclair Lake	88.34	15	P	P	07 59 34.2	+0.1	
	baz=233							
PRP	Porcupine Dome	88.36	22	P	P	07 59 33.8	-0.7	
PRP				IAMs_20	IAMs_20	08 37 41.7		
	comp=Z,569nm,20.0s							
PRP	Porcupine Dome	88.36	22	P	P	07 59 33.6	-0.9	
	baz=242							
B22K	Teshekpuk Lake	88.37	16	P	P	07 59 34.5	+0.3	
B22K				IAMs_20	IAMs_20	08 36 14.4		
	comp=Z,860nm,20.0s							
B22K	Teshekpuk Lake	88.37	16	P	P	07 59 34.1	-0.1	
	baz=235,SNR=8.3							
D23K	Nanushuk River	88.38	18	P	P	07 59 34.7	+0.4	
	baz=237,SNR=73							
M27K	Edge Creek, AK	88.40	25	P	P	07 59 35.1	+0.4	
	baz=245,SNR=64							
PNL	Peninsula	88.44	28	P	P	07 59 35.0	+0.1	
	baz=248							
O28M	Mount Upton	88.50	27	P	P	07 59 36.2	+0.8	
	baz=247,SNR=13							
F24K	Squaw Lake	88.51	20	IAmb	IAmb	07 59 39.7		
	comp=Z,45nm,1.2s							
F24K				IAMs_20	IAMs_20	08 34 55.5		
	comp=Z,744nm,20.0s							
F24K	Squaw Lake	88.51	20	P	P	07 59 35.8	+0.8	
	baz=240,SNR=34							
TOLK	Toolik Lake Re	88.55	18	P	P	07 59 35.6	+0.4	
TOLK				IAmb	IAmb	07 59 39.6		
	comp=Z,34nm,1.2s							
TOLK				IAMs_20	IAMs_20	08 34 33.4		
	comp=Z,822nm,22.0s							
TOLK	Toolik Lake Re	88.55	18	P	P	07 59 36.0	+0.8	
	baz=238,SNR=19							
E24K	Your Creek	88.60	19	P	P	07 59 35.7	+0.2	
E24K				IAMs_20	IAMs_20	08 34 21.8		
	comp=Z,684nm,21.0s							
E24K	Your Creek	88.60	19	P	P	07 59 35.5	0.0	
	baz=239							
H25L	Birch Creek	88.61	21	P	P	07 59 35.3	-0.1	
	baz=242,SNR=16							
J26L	Joseph Creek	88.64	23	IAMs_20	IAMs_20	08 40 22.2		
	comp=Z,664nm,19.0s							
J26L	Joseph Creek	88.64	23	P	P	07 59 36.2	+0.5	
	baz=244,SNR=26							
L27K	Beaver Creek,	88.72	25	P	P	07 59 36.8	+0.7	
L27K				IAmb	IAmb	07 59 40.9		
	comp=Z,70nm,1.3s							
L27K				IAMs_20	IAMs_20	08 33 04.3		
	comp=Z,612nm,21.0s							
L27K	Beaver Creek,	88.72	25	P	P	07 59 36.9	+0.8	
	baz=246,SNR=68							
BCAR	Beaver Creek A	88.74	25	P	P	07 59 37.0	+0.8	
G25K	Bearman Lake	88.75	21	P	P	07 59 36.7	+0.7	
	baz=242,SNR=40							
YUK3	Moose Creek	88.78	26	P	P	07 59 37.5	+0.9	
	baz=247,SNR=42							
KBL	Kabul	88.84	305	P	P	07 59 37.9	+0.3	
KBL	Kabul	88.84	305	P	P	07 59 37.9	+0.3	
KBL				pmax	pmax			
	comp=Z,12nm,0.9s							
GAR	Garm	88.85	310	P	P	07 59 36.5	-0.9	
C23K	Itkillik River	88.88	17	P	P	07 59 37.4	+0.8	
	baz=237,SNR=48							
YUK8	Steele Glacier	88.89	27	P	P	07 59 38.2	+1.0	
	baz=247,SNR=17							
FYU	Fort Yukon	88.96	21	IAmb	IAmb	07 59 42.1		
	comp=Z,61nm,1.1s							
K27K	Chicken	89.02	24	P	P	07 59 38.7	+1.3	
	baz=245							
D24K	Happy Valley	89.05	18	P	P	07 59 38.6	+1.2	
D24K				IAmb	IAmb	07 59 42.3		
	comp=Z,61nm,1.2s							
D24K	Happy Valley	89.05	18	P	P	07 59 38.2	+0.7	
	baz=239,SNR=16							
O29M	Mount Kennedy	89.06	28	IAmb	IAmb	07 59 42.9		
	comp=Z,52nm,1.2s							
O29M	Mount Kennedy	89.06	28	P	P	07 59 39.1	+1.3	
	baz=248,SNR=5.1							
I26K	Coal Creek Min	89.15	23	P	P	07 59 37.5	-0.6	
I26K				IAMs_20	IAMs_20	08 33 05.6		
	comp=Z,766nm,22.0s							
I26K	Coal Creek Min	89.15	23	P	P	07 59 37.9	-0.2	
	baz=244							
P29M	Windy Craggy	89.21	29	P	P	07 59 39.8	+1.3	
P29M				IAmb	IAmb	07 59 43.4		
	comp=Z,48nm,1.4s							
P29M				IAMs_20	IAMs_20	08 34 39.6		
	comp=Z,550nm,20.0s							
P29M	Windy Craggy	89.21	29	P	P	07 59 38.7	+0.2	
	baz=249							
F25K	Christian Rive	89.30	20	P	P	07 59 39.5	+0.7	
	baz=242,SNR=19							
S31K	Pelican	89.36	31	P	P	07 59 39.9	+0.7	
	baz=250							
C24K	Franklin Bluff	89.38	18	P	P	07 59 39.7	+0.7	
	baz=239							
YUK6	Outpost Mounta	89.39	27	P	P	07 59 40.3	+0.8	
	baz=249,SNR=9.3							
YUK4	Talbot Arm	89.41	27	P	P	07 59 40.7	+1.1	
	baz=248,SNR=34							
SIT	Sitka	89.53	32	IAmb	IAmb	07 59 45.0		
	comp=Z,44nm,1.4s							
SIT	Sitka	89.53	32	P	P	07 59 40.6	+0.7	
	baz=251							
BMAR	Burnt Mountain	89.59	20	P	P	07 59 40.7	+0.6	
G26K	Porcupine Rive	89.65	21	P	P	07 59 41.3	+1.0	
	baz=244,SNR=53							
KK31	Karatay Array	89.67	314	P	P	07 59 39.8	-1.2	
KK31				IAmb	IAmb	07 59 43.6		
	comp=Z,46nm,1.4s							
KK31	Karatay Array	89.67	314	P	P	07 59 39.8	-1.2	
KK31				pmax	pmax			
	comp=Z,46nm,1.5s							
KKAR	Karatay Array	89.67	314	P	P	07 59 40.1	-0.9	
KKAR	Karatay Array	89.67	314	IAmb	IAmb	07 59 43.6		
	comp=Z,46nm,1.4s							
KKAR	Karatay Array	89.67	314	P	P	07 59 40.1	-0.9	
EGAK	Eagle	89.70	23	P	P	07 59 41.2	+0.7	
EGAK				IAmb	IAmb	07 59 44.9		
	comp=Z,72nm,1.4s							
EGAK	Eagle	89.70	23	P	P	07 59 41.4	+

S32K	**Killisnoo**	**90.04**	**31**	IAmb	IAmb	07 59 48.0
	comp=Z,69nm,1.5s					
S32K	**Killisnoo**	**90.04**	**31**	P	**P**	**07 59 43.0 +0.7**
	baz=252					
DAWY	**Dawson**	**90.12**	**24**	P	**P**	**07 59 43.3 +0.6**
	baz=248,SNR=65					
CHM	**Chimkent**	**90.14**	**313**	*e*P	**P**	**07 59 42.5 -0.7**
	comp=Z,11nm,0.7s,baz=313					
CHM	**Chimkent**	**90.14**	**313**	*e*P	**P**	**07 59 42.5 -0.7**
CHM				pmax	pmax	
	comp=Z,11nm,0.7s					
H27K	**Steamboat Moun**	**90.15**	**22**	P	**P**	**07 59 43.5 +0.8**
	baz=246,SNR=52					
N30M	**Aishikik Lake**	**90.15**	**27**	P	**P**	**07 59 43.2 +0.3**
N30M				IAmb	IAmb	07 59 48.5
	comp=Z,51nm,1.4s					
N30M	**Aishikik Lake**	**90.15**	**27**	P	**P**	**07 59 43.8 +0.9**
	baz=250,SNR=23					
CRAG	**Craig**	**90.21**	**34**	P	**P**	**07 59 43.3 +0.2**
	baz=253					
L29M	**L29M**	**90.29**	**25**	P	**P**	**07 59 44.1 +0.7**
L29M				IAmb	IAmb	07 59 49.2
	comp=Z,71nm,1.3s					
L29M	**L29M**	**90.29**	**25**	P	**P**	**07 59 44.5 +1.1**
	baz=249,SNR=38					
SKAG	**Skagway**	**90.30**	**29**	IAmb	IAmb	07 59 50.0
	comp=Z,60nm,1.4s					
SKAG	**Skagway**	**90.30**	**29**	P	**P**	**07 59 43.9 +0.4**
	baz=251,SNR=7.1					
R32K	**Eaglecrest**	**90.33**	**31**	P	**P**	**07 59 44.0 +0.3**
	baz=252					
G27K	**Doyon Strip**	**90.35**	**21**	IAMs_20	IAMs_20	08 39 34.1
	comp=Z,559nm,20.0s					
G27K	**Doyon Strip**	**90.35**	**21**	P	**P**	**07 59 44.1 +0.5**
	baz=246,SNR=35					
O30N	**Mendenhall**	**90.37**	**28**	P	**P**	**07 59 44.5 +0.6**
O30N				IAmb	IAmb	07 59 50.2
	comp=Z,74nm,1.4s					
O30N	**Mendenhall**	**90.37**	**28**	P	**P**	**07 59 44.3 +0.4**
	baz=250,SNR=26					
U33K	**Whale Pass**	**90.40**	**33**	IAMs_20	IAMs_20	08 33 26.4
	comp=Z,705nm,20.0s					
U33K	**Whale Pass**	**90.40**	**33**	P	**P**	**07 59 44.4 +0.4**
	baz=253					
I28M	**Miner Creek**	**90.44**	**23**	P	**P**	**07 59 44.7 +0.5**
I28M				IAmb	IAmb	07 59 51.0
	comp=Z,71nm,1.6s					
I28M				IAMs_20	IAMs_20	08 39 56.7
	comp=Z,677nm,20.0s					
I28M	**Miner Creek**	**90.44**	**23**	P	**P**	**07 59 45.0 +0.8**
	baz=247,SNR=37					
C26K	**Camden Bay**	**90.62**	**18**	P	**P**	**07 59 45.6 +0.8**
	baz=243					
M30M	**Minto, Yukon**	**90.67**	**26**	IAmb	IAmb	07 59 50.8
	comp=Z,70nm,1.5s					
M30M	**Minto, Yukon**	**90.67**	**26**	P	**P**	**07 59 46.0 +0.8**
	baz=250,SNR=37					
T33K	**Petersburg**	**90.69**	**32**	P	**P**	**07 59 46.1 +0.8**
	baz=253					
J29N	**Klondike Camp**	**90.74**	**24**	P	**P**	**07 59 46.6 +1.0**
J29N				IAmb	IAmb	07 59 50.7
	comp=Z,86nm,1.5s					
J29N	**Klondike Camp**	**90.74**	**24**	P	**P**	**07 59 46.8 +1.2**
	baz=249					
N31M	**Braeburn, Yuko**	**90.75**	**27**	P	**P**	**07 59 46.4 +0.8**
N31M	**Braeburn, Yuko**	**90.75**	**27**	P	**P**	**07 59 46.5 +0.8**
	baz=251,SNR=24					
K29M	**Barlow Dome**	**90.81**	**25**	IAmb	IAmb	07 59 51.6
	comp=Z,78nm,1.4s					
K29M	**Barlow Dome**	**90.81**	**25**	P	**P**	**07 59 46.7 +0.8**
	baz=249,SNR=55					
C27K	**Jago River**	**90.86**	**19**	P	**P**	**07 59 46.7 +0.8**
	baz=244,SNR=33					
WRAK	**Wrangell Islan**	**90.90**	**33**	IAMs_20	IAMs_20	08 33 52.3
	comp=Z,754nm,20.0s					
WHY	**Whitehorse**	**90.90**	**28**	P	**P**	**07 59 47.1 +0.7**
WHY	**Whitehorse**	**90.90**	**28**	P	**P**	**07 59 46.5 +0.1**
	baz=252,SNR=8.2					
E27K	**Coleen River**	**90.94**	**20**	P	**P**	**07 59 46.3 0.0**
E27K				IAmb	IAmb	07 59 51.1
	comp=Z,63nm,1.3s					
E27K	**Coleen River**	**90.94**	**20**	P	**P**	**07 59 47.1 +0.7**
	baz=246,SNR=59					
V35K	**Ketchikan**	**90.99**	**34**	IAMs_20	IAMs_20	08 33 04.2
	comp=Z,700nm,20.0s					
I29M	**Ogilvie Camp,**	**91.04**	**23**	IAmb	IAmb	07 59 51.8
	comp=Z,54nm,1.4s					
I29M				IAMs_20	IAMs_20	08 34 41.5
	comp=Z,776nm,22.0s					
I29M	**Ogilvie Camp,**	**91.04**	**23**	P	**P**	**07 59 46.7 -0.2**
	baz=249,SNR=30					
P32M	**Atlin**	**91.12**	**30**	P	**P**	**07 59 47.2 -0.2**
P32M				IAMs_20	IAMs_20	08 34 15.4
	comp=Z,776nm,20.0s					
P32M	**Atlin**	**91.12**	**30**	P	**P**	**07 59 47.2 -0.2**
	baz=253					
F28M	**Old Crow**	**91.31**	**21**	P	**P**	**07 59 48.8 +0.7**
F28M	**Old Crow**	**91.31**	**21**	P	**P**	**07 59 48.1 0.0**
	baz=247,SNR=11					
H29M	**Whitestone**	**91.33**	**23**	IAMs_20	IAMs_20	08 37 23.1
	comp=Z,788nm,20.0s					
H29M	**Whitestone**	**91.33**	**23**	P	**P**	**07 59 48.5 +0.3**
	baz=249					
ELIB	**Princess Elisa**	**91.50**	**194**	*d*P	**P**	**07 59 49.2 0.0**
	comp=Z,14nm,1.5s					
J30M	**Hart River**	**91.55**	**24**	P	**P**	**07 59 50.1 +0.7**
J30M				IAmb	IAmb	07 59 55.7
	comp=Z,61nm,1.4s					
J30M				IAMs_20	IAMs_20	08 34 45.1
	comp=Z,594nm,22.0s					
J30M	**Hart River**	**91.55**	**24**	P	**P**	**07 59 49.6 +0.2**
	baz=250,SNR=33					
D27M	**Malcolm River**	**91.58**	**19**	P	**P**	**07 59 49.4 +0.1**
	baz=246,SNR=9.4					
M31M	**Drury Creek, Y**	**91.61**	**27**	IAMs_20	IAMs_20	08 37 27.9
	comp=Z,591nm,20.0s					
M31M	**Drury Creek, Y**	**91.61**	**27**	P	**P**	**07 59 49.6 0.0**
	baz=252,SNR=6.5					
Q32M	**Nakina River**	**91.65**	**30**	P	**P**	**07 59 50.5 +0.4**
Q32M				IAMs_20	IAMs_20	08 33 47.4
	comp=Z,798nm,21.0s					
Q32M	**Nakina River**	**91.65**	**30**	P	**P**	**07 59 49.9 -0.2**
	baz=254					
G29M	**Pine Creek**	**91.71**	**22**	P	**P**	**07 59 50.2 +0.2**
G29M				IAmb	IAmb	07 59 54.9
	comp=Z,49nm,1.6s					
G29M				IAMs_20	IAMs_20	08 35 34.2
	comp=Z,764nm,21.0s					
G29M	**Pine Creek**	**91.71**	**22**	P	**P**	**07 59 49.8 -0.2**
	baz=249,SNR=13					
P33M	**Teslin, Yukon**	**91.74**	**29**	IAMs_20	IAMs_20	08 34 56.6
	comp=Z,629nm,20.0s					
P33M	**Teslin, Yukon**	**91.74**	**29**	P	**P**	**07 59 49.9 -0.4**
	baz=253					
I30M	**Mount Dempster**	**91.75**	**24**	P	**P**	**07 59 50.1 -0.2**
I30M	**Mount Dempster**	**91.75**	**24**	P	**P**	**07 59 50.6 +0.3**
	baz=250,SNR=24					
E28M	**Babbage River**	**91.81**	**20**	P	**P**	**07 59 50.8 +0.4**
E28M				IAmb	IAmb	07 59 55.5
	comp=Z,57nm,1.5s					
E28M	**Babbage River**	**91.81**	**20**	P	**P**	**07 59 50.8 +0.4**
	baz=248,SNR=31					
N32M	**Quiet Lake**	**91.89**	**28**	P	**P**	**07 59 52.1 +1.2**
N32M				IAmb	IAmb	07 59 57.2
	comp=Z,47nm,1.4s					
N32M				IAMs_20	IAMs_20	08 35 39.4
	comp=Z,562nm,19.0s					
N32M	**Quiet Lake**	**91.89**	**28**	P	**P**	**07 59 51.1 +0.1**
	baz=253					
S34M	**Telegraph Cree**	**91.94**	**31**	P	**P**	**07 59 50.6 -0.6**
S34M				IAmb	IAmb	07 59 57.1
	comp=Z,47nm,1.4s					
S34M	**Telegraph Cree**	**91.94**	**31**	P	**P**	**07 59 51.0 -0.2**
	baz=255,SNR=12					
EPYK	**Eagle Plains**	**92.01**	**23**	P	**P**	**07 59 51.3 -0.1**
EPYK				IAmb	IAmb	07 59 55.5
	comp=Z,48nm,1.4s					
EPYK	**Eagle Plains**	**92.01**	**23**	P	**P**	**07 59 51.6 +0.2**
	baz=250,SNR=18					
U35K	**Hyder**	**92.02**	**34**	IAMs_20	IAMs_20	08 33 47.3
	comp=Z,677nm,20.0s					
FARO	**Faro, Yukon**	**92.08**	**27**	IAmb	IAmb	07 59 56.6
	comp=Z,32nm,1.4s					
FARO	**Faro, Yukon**	**92.08**	**27**	P	**P**	**07 59 51.3 -0.5**
	baz=253					
BVAR	**Borovoye Array**	**92.08**	**323**	P	**P**	**07 59 50.2 -1.7**
	comp=Z,7.6nm,0.8s,baz=106,slow=5.3,SNR=35					
BVAR				LR	LR	08 43 49.9
	comp=Z,305nm,18.1s,baz=87,slow=37					
	comp=Z,7.6nm,0.8s					
T35M	**Bob Quinn**	**92.16**	**33**	IAmb	IAmb	07 59 58.0
	comp=Z,52nm,1.4s					
T35M	**Bob Quinn**	**92.16**	**33**	P	**P**	**07 59 51.3 -1.0**
	baz=255					
BBB	**Bella Bella**	**92.22**	**37**	LR	LR	08 38 02.0
	comp=Z,458nm,18.7s,baz=260,slow=33					
E29M	**Blow River**	**92.29**	**21**	P	**P**	**07 59 52.5 -0.1**
E29M				IAmb	IAmb	07 59 58.1
	comp=Z,38nm,1.6s					
E29M	**Blow River**	**92.29**	**21**	P	**P**	**07 59 52.0 -0.6**
	baz=249,SNR=11					
D28M	**Stokes Point**	**92.35**	**20**	P	**P**	**07 59 52.3 -0.5**
	baz=248					
G30M	**tAoh Zraii Nji**	**92.40**	**22**	P	**P**	**07 59 52.8 -0.3**
G30M				IAmb	IAmb	07 59 57.5
	comp=Z,36nm,1.2s					
G30M				IAMs_20	IAMs_20	08 36 02.4
	comp=Z,725nm,22.0s					
G30M	**tAoh Zraii Nji**	**92.40**	**22**	P	**P**	**07 59 53.0 -0.2**
	baz=251,SNR=31					
R33M	**Jennings River**	**92.42**	**30**	IAmb	IAmb	07 59 59.3
	comp=Z,34nm,1.4s					
R33M				IAMs_20	IAMs_20	08 34 32.5
	comp=Z,680nm,20.0s					
R33M	**Jennings River**	**92.42**	**30**	P	**P**	**07 59 53.1 -0.4**
	baz=255,SNR=12					
KMPM	**Mount Pierce**	**92.53**	**50**	P	**P**	**07 59 53.4 -1.0**
DLBC	**Dease Lake**	**92.64**	**31**	P	**P**	**07 59 54.3 -0.2**
DLBC	**Dease Lake**	**92.64**	**31**	P	**P**	**07 59 53.7 -0.8**
	baz=256,SNR=11					
DLBC	**Dease Lake**	**92.64**	**31**	LR	LR	08 36 29.1
	comp=Z,875nm,19.7s,baz=274,slow=32					
KRPM	**Rodgers**	**92.73**	**49**	P	**P**	**07 59 54.6 -0.7**
F30M	**Barrier River**	**92.77**	**22**	P	**P**	**07 59 54.1 -0.7**
	baz=251,SNR=10					
KRMB	**Red Mountain**	**92.89**	**49**	IAmb	IAmb	08 00 03.2
	comp=Z,50nm,1.5s					
KHMM	**Horse Mountain**	**92.90**	**49**	P	**P**	**07 59 54.5 -1.8**
KSXB	**Camp Six Broad**	**92.97**	**48**	IAmb	IAmb	08 00 02.6
	comp=Z,30nm,1.5s					
HOPS	**Hopland Field**	**93.07**	**51**	P	**P**	**07 59 56.2 -0.7**
HOPS				IAMs_20	IAMs_20	08 36 44.0
	comp=Z,607nm,19.0s					
MCCM	**Marconi Confer**	**93.07**	**52**	IAMs_20	IAMs_20	08 37 10.1
	comp=Z,688nm,19.0s					
G31M	**Satah River**	**93.11**	**22**	P	**P**	**07 59 56.6 +0.3**
G31M	**Satah River**	**93.11**	**22**	P	**P**	**07 59 55.6 -0.7**
	baz=252,SNR=7.2					
L02F	**Cave Junction**	**93.24**	**48**	P	**P**	**07 59 57.8 +0.2**
GDXM	**Geysers**	**93.25**	**51**	P	**P**	**07 59 57.7 -0.1**
K02D	**Willamette Mer**	**93.27**	**47**	P	**P**	**07 59 57.9 +0.1**
K02D				IAmb	IAmb	08 00 03.3
	comp=Z,36nm,1.3s					
F31M	**Tsiigehtchic**	**93.46**	**22**	P	**P**	**07 59 57.7 -0.2**
F31M				IAmb	IAmb	08 00 03.0
	comp=Z,64nm,1.6s					
F31M	**Tsiigehtchic**	**93.46**	**22**	P	**P**	**07 59 57.6 -0.4**
	baz=253,SNR=11					
CBB	**Campbell River**	**93.47**	**40**	P	**P**	**07 59 58.0 -0.4**
O02D	**Mt. Diablo Mer**	**93.49**	**50**	IAMs_20	IAMs_20	08 39 09.0
	comp=Z,653nm,20.0s					
DBO	**Dodson Butte**	**93.65**	**47**	P	**P**	**08 00 00.2 +0.7**
DBO				IAmb	IAmb	08 00 05.2
	comp=Z,34nm,1.4s					
WTLY	**Watson Lake, Y**	**93.66**	**30**	P	**P**	**08 00 00.3 +1.2**
WTLY				IAmb	IAmb	08 00 04.5
	comp=Z,53nm,1.3s					
WTLY	**Watson Lake, Y**	**93.66**	**30**	P	**P**	**07 59 58.0 -1.1**
	baz=257,SNR=6.1					
I03D	**Drain, OR**	**93.68**	**46**	IAmb	IAmb	08 00 04.9
	comp=Z,47nm,1.2s					
HUMO	**Hull Mountain**	**93.77**	**48**	P	**P**	**08 00 00.7 +0.6**
HUMO				IAmb	IAmb	08 00 05.9
	comp=Z,28nm,1.2s					
INK	**Inuvik**	**93.79**	**21**	IAmb	IAmb	08 00 03.5
	comp=Z,32nm,1.3s					
INK	**Inuvik**	**93.79**	**21**	P	**P**	**07 59 58.9 -0.6**
	baz=253					
INK	**Inuvik**	**93.79**	**21**	LR	LR	08 37 36.5
	comp=Z,549nm,21.9s,baz=247,slow=33					
YBH	**Yreka Blue Hor**	**93.81**	**48**	IAmb	IAmb	08 00 06.2
	comp=Z,48nm,1.4s					
YBH	**Yreka Blue Hor**	**93.81**	**48**	LR	LR	08 34 54.7
	comp=Z,436nm,21.3s,baz=272,slow=31					
COR	**Corvallis**	**93.86**	**46**	P	**P**	**08 00 00.9 +0.6**
COR	**Corvallis**	**93.86**	**46**	P	**P**	**08 00 00.9 +0.6**
COR				pmax	pmax	
	comp=Z,146nm,1.9s					
F03A	**Seaside**	**93.92**	**44**	P	**P**	**08 00 01.7 +1.1**
NLWA	**Neilton Lookou**	**93.96**	**43**	P	**P**	**08 00 01.2 +0.4**
NLWA				IAmb	IAmb	08 00 06.4
	comp=Z,33nm,1.4s					
SAO	**San Andreas Ge**	**93.96**	**54**	IAmb	IAmb	08 00 07.1
	comp=Z,45nm,1.2s					
WISH	**Wishkah**	**93.98**	**43**	P	**P**	**08 00 01.2 +0.5**
WISH				IAmb	IAmb	08 00 06.8
	comp=Z,79nm,1.6s					
CLRS	**Cowichan Lake**	**94.04**	**41**	P	**P**	**08 00 00.6 -0.5**
RPN	**Rapa Nui**	**94.18**	**118**	LR	LR	08 35 27.6
	comp=Z,154nm,19.8s,baz=250,slow=31					
TGTN	**Hyland Airport**	**94.22**	**28**	P	**P**	**08 00 01.1 -0.6**
	baz=257,SNR=6.0					
H04D	**Lebanon**	**94.25**	**46**	P	**P**	**08 00 01.6 -0.5**
HRA	**Herat**	**94.33**	**304**	IAmb	IAmb	08 00 05.7
	comp=Z,43nm,1.5s					
I04A	**Tendick Farm,**	**94.36**	**46**	P	**P**	**08 00 03.1 +0.4**
I04A				IAmb	IAmb	08 00 07.8
	comp=Z,60nm,1.3s					
PMPB	**Monarch Peak**	**94.39**	**54**	P	**P**	**08 00 02.4 -0.7**
K04D	**Chiloquin, OR**	**94.65**	**48**	IAmb	IAmb	08 00 09.8
	comp=Z,61nm,1.3s					
H04A	**Detroit Lake**	**94.67**	**46**	IAmb	IAmb	08 00 08.9
	comp=Z,56nm,1.3s					
AFDM	**Forest Hills D**	**94.67**	**51**	P	**P**	**08 00 05.2 +0.9**
GNW	**Green Mountain**	**94.69**	**43**	IAmb	IAmb	08 00 10.2
	comp=Z,56nm,1.6s					
LIRD	**Liard River Hi**	**94.84**	**31**	P	**P**	**08 00 05.0 +0.5**
	baz=259					
SMMC	**Simmler**	**94.90**	**55**	P	**P**	**08 00 05.0 -0.4**
	baz=262,SNR=6.3					
NVL	**N'lazarevskaya**	**94.98**	**193**	*e*P	**P**	**08 00 03.0 -2.0**
NVL				pmax	pmax	
	comp=Z,14nm,1.3s					
NVL				MLR	MLR	
	comp=Z,814nm,15.0s					
SNCC	**San Nicolas Is**	**94.98**	**57**	P	**P**	**08 00 05.8 0.0**
	baz=262					
PKM	**Mcpherson Peak**	**94.99**	**56**	P	**P**	**08 00 05.8 -0.2**
	baz=262,SNR=5.7					
CMB	**Columbia Colle**	**94.99**	**52**	P	**P**	**08 00 05.8 +0.1**
CMB				IAmb	IAmb	08 00 11.6
	comp=Z,53nm,1.2s					
CMB				IAMs_20	IAMs_20	08 38 40.1
	comp=Z,543nm,20.0s					
CMB	**Columbia Colle**	**94.99**	**52**	P	**P**	**08 00 05.9 +0.1**
SBC	**Santa Barbara**	**95.00**	**56**	P	**P**	**08 00 05.8 0.0**
	baz=262					
SCZ2	**Santa Cruz Isl**	**95.00**	**57**	P	**P**	**08 00 05.6 -0.3**
	baz=262					
TOAD	**Toad River Com**	**95.18**	**31**	P	**P**	**08 00 06.3 +0.2**
	baz=260,SNR=6.4					
I05D	**Terrebonne, OR**	**95.21**	**46**	P	**P**	**08 00 07.6 +1.0**
LON	**Longmire**	**95.25**	**44**	IAmb	IAmb	08 00 11.5
	comp=Z,34nm,1.5s					
EMB	**Emerald Bay**	**95.35**	**52**	P	**P**	**08 00 05.7 -1.9**
G05A	**Wamic**	**95.36**	**45**	P	**P**	**08 00 07.2 0.0**
MPK	**Martis Peak**	**95.45**	**51**	P	**P**	**08 00 10.0 +1.8**
VOG	**Valley Oaks Go**	**95.54**	**54**	P	**P**	**08 00 08.2 -0.1**
	baz=262					
VES	**Vestal, Richgr**	**95.71**	**55**	P	**P**	**08 00 08.7 -0.3**
	baz=262					
SCI2	**San Clemente I**	**95.76**	**58**	P	**P**	**08 00 09.0 -0.3**
	baz=262					
ARVC	**Arvin**	**95.82**	**55**	P	**P**	**08 00 09.2 -0.4**
	baz=262					
WSAR	**Wadi Sarin**	**95.83**	**292**	LR	LR	08 50 53.5
	comp=Z,139nm,18.2s,baz=115,slow=40					
G06A	**Carlson Farm,**	**95.84**	**45**	IAmb	IAmb	08 00 15.3
	comp=Z,30nm,1.5s					
OSI	**Osito Audit: C**	**95.84**	**56**	P	**P**	**08 00 09.5 -0.2**
	baz=262					
CIS	**Catalina Islan**	**95.93**	**57**	P	**P**	**08 00 10.5 +0.4**
	baz=262					
KOTAN	**Kotaneelee Air**	**95.99**	**30**	P	**P**	**08 00 10.6 +0.9**
	baz=261					
PAHR	**Pah Rah Range**	**96.00**	**51**	P	**P**	**08 00 10.7 +0.2**
OMMB	**Old Mammoth Mi**	**96.02**	**53**	IAmb	IAmb	08 00 17.6
	comp=Z,61nm,1.6s					
FMP	**Fort Macarthur**	**96.07**	**57**	P	**P**	**08 00 10.9 +0.2**
	baz=262					
LTY	**Liberty**	**96.09**	**43**	IAmb	IAmb	08 00 15.4
	comp=Z,49nm,1.5s					
ISA	**Isabella, Lake**	**96.18**	**55**	P	**P**	**08 00 12.0 +0.7**
	baz=262					
PASC	**Pasadena Art C**	**96.22**	**57**	IAMs_20	IAMs_20	08 38 52.0
	comp=Z,664nm,20.0s					
MXC	**Moxie City**	**96.25**	**44**	IAmb	IAmb	08 00 16.4
	comp=Z,28nm,1.3s					
F07A	**Phinny Hill Vi**	**96.42**	**45**	P	**P**	**08 00 13.0 +1.0**
EDW2	**Edwards Air Fo**	**96.47**	**56**	P	**P**	**08 00 13.3 +0.7**
	baz=263					
I07A	**Izee**	**96.48**	**46**	IAmb	IAmb	08 00 18.8
	comp=Z,44nm,1.4s					
LHV	**Little Huntoon**	**96.49**	**52**	P	**P**	**08 00 12.7 +0.2**
TIN	**Tinemaha, Big**	**96.56**	**54**	P	**P**	**08 00 13.5 +0.5**
	baz=263					
CWC	**Cottonwood Cre**	**96.60**	**54**	P	**P**	**08 00 14.1 +0.8**
	baz=263					
BFSC	**Mount Baldy Ra**	**96.66**	**56**	P	**P**	**08 00 14.2 +0.7**
	baz=263					
NVAR	**Mina Array Bea**	**96.67**	**52**	P	**P**	**08 00 13.8 +0.1**
NVAR	**Mina Array Bea**	**96.67**	**52**	P	**P**	**08 00 14.8 +1.2**
	comp=Z,50nm,1.2s,baz=250,slow=6.5,SNR=32					
NVAR				PP	**PP**	**08 04 05.4 -3.1**
	comp=Z,0.1nm,0.4s,baz=250,slow=12,SNR=3.4					
NVAR				LR	LR	08 39 31.7
	comp=Z,414nm,19.1s,baz=270,slow=33					
WRGLY	**Wrigley**	**96.74**	**27**	IAmb	IAmb	08 00 17.8
	comp=Z,29nm,1.6s					
WRGLY	**Wrigley**	**96.74**	**27**	P	**P**	**08 00 13.5 +0.5**
	baz=262					
HAWA	**Hanford**	**96.75**	**44**	P	**P**	**08 00 14.2 +0.7**
LRMC	**Laurel Mtn Rad**	**96.80**	**55**	P	**P**	**08 00 14.3 +0.1**
	baz=263,SNR=8.9					
DSP	**Deep Springs**	**96.80**	**53**	IAmb	IAmb	08 00 20.3
	comp=Z,37nm,1.3s					
SNAA	**Sanae**	**96.83**	**188**	P	**P**	**08 00 14.1 +0.6**
SNAA	**Sanae**	**96.83**	**188**	⇑P	**P**	**08 00 16.2 +2.7**
	comp=Z,70nm,1.1s					
SNAA	**Sanae**	**96.83**	**188**	P	**P**	**08 00 15.8 +2.3**
	comp=Z,6.6nm,1.2s,baz=153,slow=3.9,SNR=5.8					
SNAA				PP	**PP**	**08 04 03.9 -4.1**
	comp=Z,3.5nm,1.1s,baz=171,slow=13,SNR=6.6					
SNAA				LR	LR	08 44 01.9
	comp=Z,2μm,18.2s,baz=179,slow=36					
	comp=Z,6.6nm,1.2s					
SNAA	**Sanae**	**96.83**	**188**	⇓*e*P	**P**	**08 00 14.1 +0.6**
SNAA				pmax	pmax	
	comp=Z,11nm,1.5s					
KVN	**Kaiserville**	**96.90**	**52**	P	**P**	**08 00 15.8 +1.1**
KVN	**Kaiserville**	**96.90**	**52**	P	**P**	**08 00 15.8 +1.1**
KVN				pmax	pmax	
	comp=Z,57nm,1.4s					
WVOR	**Wild Horse Val**	**96.91**	**48**	IAmb	IAmb	08 00 21.8
	comp=Z,41nm,1.5s					
WVOR				IAMs_20	IAMs_20	08 36 02.5
	comp=Z,494nm,21.0s					
109C	**Camp Elliot, M**	**96.95**	**58**	IAMs_20	IAMs_20	08 38 06.4
	comp=Z,573nm,20.0s					
109C	**Camp Elliot, M**	**96.95**	**58**	P	**P**	**08 00 15.0 +0.2**
	baz=263					
MURC	**Murrieta**	**96.96**	**57**	P	**P**	**08 00 14.6 -0.3**
	baz=263					
G08A	**Pilot Rock**	**97.02**	**45**	IAmb	IAmb	08 00 20.1
	comp=Z,41nm,1.5s					
MPMC	**Manual Prospec**	**97.02**	**55**	P	Pdif	08 00 15.9 +0.5
	baz=263,SNR=19					
B08A	**Colville Reser**	**97.12**	**42**	IAmb	IAmb	08 00 19.9
	comp=Z,37nm,1.4s					
GRAC	**Grapevine Rang**	**97.23**	**54**	P	**P**	**08 00 16.1 +0.1**
	baz=263					
BBRC	**Big Bear Solar**	**97.27**	**57**	P	**P**	**08 00 16.3 -0.2**
	baz=263					
MZP	**Montezuma Peak**	**97.30**	**53**	P	**P**	**08 00 16.2 -0.4**
MZP				IAmb	IAmb	08 00 22.4
	comp=Z,21nm,1.3s					
GMN	**Gold Mountain**	**97.35**	**53**	P	Pdif	08 00 17.8 +1.0
C36M	**Paulatuk**	**97.37**	**21**	P	Pdif	08 00 15.9 +0.1
	baz=262					
A36M	**Sachs Harbour**	**97.37**	**18**	P	**P**	**08 00 13.6 -2.1**
A36M				IAMs_20	IAMs_20	08 41 59.6
	comp=Z,528nm,20.0s					
A36M	**Sachs Harbour**	**97.37**	**18**	P	**P**	**08 00 15.1 -0.6**
	baz=261					
GSC	**Goldstone, Bar**	**97.49**	**56**	P	**P**	**08 00 16.9 -0.3**
	baz=263					
MONP2	**Monument Peak**	**97.52**	**58**	P	**P**	**08 00 17.4 -0.2**
	baz=263					
FURC	**Furnace Creek,**	**97.57**	**54**	P	Pdif	08 00 18.0 +0.5
	baz=264,SNR=16					
PFO	**Pinyon Flats O**	**97.57**	**57**	P	**P**	**08 00 17.5 -0.2**
PFO	**Pinyon Flats O**	**97.57**	**57**	P	Pdif	08 00 18.0 +0.2
	baz=263					
PFO	**Pinyon Flats O**	**97.57**	**57**	LR	LR	08 40 10.3
	comp=Z,353nm,18.2s,baz=272,slow=33					
PFO	**Pinyon Flats O**	**97.57**	**57**	P	**P**	**08 00 17.5 -0.2**
PFO				pmax	pmax	
	comp=Z,5.0nm,1.3s					
TPFO	**Pinon Flats**	**97.58**	**57**	P	Pdif	08 00 18.0 +0.2
	baz=263					
GWY	**Greenwater Val**	**97.70**	**55**	IAmb	IAmb	08 00 24.8
	comp=Z,19nm,1.4s					
E09A	**Wood Farm, Sta**	**97.72**	**44**	P	**P**	**08 00 17.9 0.0**
BMN	**Battle Mountai**	**97.74**	**50**	P	**P**	**08 00 16.8 -1.5**
BMN				IAmb	IAmb	08 00 24.3
	comp=Z,19nm,1.2s					
BMN	**Battle Mountai**	**97.74**	**50**	P	**P**	**08 00 16.8 -1.5**
BMN				pmax	pmax	
	comp=Z,19nm,1.2s					
IKP	**In-Ko-Pah, Jac**	**97.75**	**58**	P	Pdif	08 00 18.8 +0.2
	baz=263					
C09A	**Chrisman Ranch**	**97.77**	**43**	IAmb	IAmb	08 00 23.6
	comp=Z,38nm,1.4s					
WCT	**Wildcat Mounta**	**

PRN	**Pahroc Range**	99.11	54			**Pdif**	**08 00 24.1**	**-0.4**
PRN				IAmb	IAmb		08 00 31.6	
	comp=Z,20nm,1.2s							
V12A	**Nelson**	99.12	55			**Pdif**	**08 00 23.8**	**-0.7**
ELK	**Elko**	99.27	50			**Pdif**	**08 00 23.9**	**-1.4**
ELK				IAmb	IAmb		08 00 31.1	
	comp=Z,18nm,1.4s							
ELK				IAms_20	IAms_20		08 41 41.1	
	comp=Z,470nm,18.0s							
ELK	**Elko**	99.27	50	P		**Pdif**	**08 00 23.9**	**-1.4**
ELK				pmax	pmax			
	comp=Z,18nm,1.4s							
AKTO	**Aktyubinsk**	99.29	320	P		**Pdif**	**08 00 22.8**	**-2.0**
	comp=Z,1.5nm,0.6s,baz=77,slow=5.2,SNR=6.6							
AKTO				LR	LR		08 45 05.6	
	comp=Z,332nm,21.4s,baz=46,slow=35							
	comp=Z,1.5nm,0.6s							
ARU	**Arti**	99.37	326	P		**Pdif**	**08 00 22.9**	**-2.1**
	comp=Z,1.6nm,0.2s,baz=72,slow=7.2,SNR=5.9							
ARU				LR	LR		08 45 27.5	
	comp=Z,296nm,21.1s,baz=102,slow=36							
	comp=Z,1.6nm,0.2s							
ARU	**Arti**	99.37	326⇑	*e*P		**Pdif**	**08 00 24.8**	**-0.2**
ARU				pmax	pmax			
	comp=Z,9.0nm,1.2s							
Q12A	**Willow Creek R**	99.44	52	IAmb	IAmb		08 00 32.2	
	comp=Z,20nm,1.2s							
SPR3	**Spring Creek 3**	99.82	52	Pdif		**Pdif**	**08 00 29.0**	**+1.1**
SPR3				IAmb	IAmb		08 00 33.9	
	comp=Z,25nm,1.3s							
W13A	**Hualapai Mount**	99.84	56	Pdif		**Pdif**	**08 00 29.0**	**+1.0**
HLID	**Hailey**	100.10	47	Pdif		**Pdif**	**08 00 27.3**	**-1.5**
HLID				IAms_20	IAms_20		08 42 35.8	
	comp=Z,531nm,19.0s							
HLID	**Hailey**	100.10	47	P		**Pdif**	**08 00 29.0**	**+0.2**
	baz=266,SNR=19							
PSUT	**Pine Spring**	100.15	53	Pdif		**Pdif**	**08 00 28.9**	**-0.3**
214A	**Organ Pipe Nat**	100.46	59	P		**Pdif**	**08 00 30.0**	**-0.6**
	baz=265							
CCUT	**Cedar City**	100.47	54	Pdif		**Pdif**	**08 00 31.3**	**+0.6**
LCMT	**Little Creek M**	100.52	54	Pdif		**Pdif**	**08 00 32.1**	**+1.3**
MSO	**Missoula**	100.63	44	P		**Pdif**	**08 00 31.2**	**+0.1**
	baz=267							
DUG	**Dugway, Tooele**	101.07	51	IAms_20	IAms_20		08 45 51.0	
	comp=Z,454nm,19.0s							
DUG	**Dugway, Tooele**	101.07	51	P		**Pdif**	**08 00 33.6**	**+0.4**
	baz=267							
PKCU	**Pink Cliffs**	101.29	54	Pdif		**Pdif**	**08 00 34.3**	**-0.2**
SPUT	**South Promonto**	101.41	50	Pdif		**Pdif**	**08 00 34.0**	**-0.7**
WUAZ	**Wupatki**	101.92	56	IAms_20	IAms_20		08 47 56.9	
	comp=Z,437nm,19.0s							
BOZ	**Bozeman (W)**	102.18	45	P		**Pdif**	**08 00 38.5**	**+0.4**
	baz=268,SNR=7.5							
TUC	**Tucson**	102.20	59	IAms_20	IAms_20		08 43 55.6	
	comp=Z,550nm,19.0s							
TUC	**Tucson**	102.20	59	P		**Pdif**	**08 00 38.4**	**0.0**
	baz=266							
AHID	**Auburn Hatcher**	102.48	48	IAms_20	IAms_20		08 41 27.9	
	comp=Z,619nm,20.0s							
YHL	**Hebgen Lake**	102.48	46	Pdif		**Pdif**	**08 00 39.0**	**-0.5**
FXWY	**Fox Creek**	102.56	47	Pdif		**Pdif**	**08 00 38.1**	**-1.7**
LOHW	**Long Hollow**	102.87	47	IAms_20	IAms_20		08 44 07.0	
	comp=Z,443nm,21.0s							
H17A	**Grant Village**	102.90	47	P		**Pdif**	**08 00 41.6**	**+0.2**
	baz=269							
W18A	**Petrified Fore**	103.24	56	P		**Pdif**	**08 00 43.1**	**+0.1**
	baz=267							
EGMT	**Eagleton**	103.50	43	Pdif		**Pdif**	**08 00 43.8**	**+0.1**
EGMT	**Eagleton**	103.50	43	P		**Pdif**	**08 00 43.8**	**+0.1**
	baz=270,SNR=5.2							
BW06	**Boulder Array**	103.61	48	P		**Pdif**	**08 00 44.2**	**-0.4**
	baz=269							
PD31	**Pinedale Array**	103.61	48	Pdif		**Pdif**	**08 00 43.3**	**-1.3**
PDAR	**Pinedale Array**	103.61	48	Pdif		**Pdif**	**08 00 44.2**	**-0.4**
PDAR	**Pinedale Array**	103.61	48	Pdiff		**Pdif**	**08 00 44.4**	**-0.2**
	comp=Z,2.3nm,1.0s,baz=236,slow=1.6,SNR=13							
PDAR				PKiKP		**PP**	**08 04 56.6**	**-4.5**
	comp=Z,0.3nm,0.8s,baz=260,slow=7.4,SNR=4.6							
RLMT	**Red Lodge**	103.84	46	P		**Pdif**	**08 00 44.8**	**-0.7**
	baz=270							
MVCO	**Mesa Verde**	104.32	54	IAms_20	IAms_20		08 44 57.3	
	comp=Z,601nm,19.0s							
MVCO	**Mesa Verde**	104.32	54	P		**Pdif**	**08 00 47.4**	**-0.4**
	baz=268							
O20A	**White River Ci**	104.57	51	P		**Pdif**	**08 00 49.1**	**+0.2**
	baz=270							
Y22D	**IRIS PASSCAL I**	105.52	57	IAms_20	IAms_20		08 49 28.4	
	comp=Z,544nm,19.0s							
Y22D	**IRIS PASSCAL I**	105.52	57	P		**PKiKP**	**08 05 06.8**	**+0.1**
	baz=269							
SMCO	**Snowmass**	105.55	52	Pdif		**Pdif**	**08 00 52.9**	**-0.6**
S22A	**4UR Ranch, Cre**	105.65	54	P		**PKiKP**	**08 05 07.1**	**+0.1**
	baz=270							
BELG	**Belogornoye**	105.79	322	Pdiff		**Pdif**	**08 00 54.1**	**+0.5**
	comp=Z,13nm,0.9s,baz=35,slow=4.2,SNR=3.7							
BELG				PP		**PP**	**08 05 13.4**	**-3.1**
	comp=Z,11nm,0.8s,baz=170,slow=19,SNR=1.2							
K22A	**Casper**	105.85	48	P		**PKiKP**	**08 05 07.5**	**+0.4**
	baz=271							
ANMO	**Albuquerque**	105.92	56	P		**PKiKP**	**08 05 07.7**	**+0.3**
	baz=269							
LAO	**LASA Array**	105.93	44	Pdif		**Pdif**	**08 00 54.8**	**+0.2**
LAO				IAms_20	IAms_20		08 49 53.8	
	comp=Z,454nm,19.0s							
LAO	**LASA Array**	105.93	44	P		**PKiKP**	**08 05 07.6**	**+0.7**
	baz=273							
N23A	**Red Feather La**	106.32	50	P		**PKiKP**	**08 05 07.8**	**-0.3**
	baz=271							
PHWY	**Pilot Hill**	106.68	50	IAms_20	IAms_20		08 53 05.2	
	comp=Z,528nm,18.0s							
SDCO	**Great Sand Dun**	106.71	54	IAms_20	IAms_20		08 45 59.3	
	comp=Z,498nm,20.0s							
SDCO	**Great Sand Dun**	106.71	54	P		**PKiKP**	**08 05 08.8**	**-0.1**
	baz=270							
MNTX	**Cornudas Mount**	106.76	60	P		**PKiKP**	**08 05 09.1**	**+0.2**
	baz=269							
Q24A	**Divide**	106.97	52	P		**PKiKP**	**08 05 09.9**	**+0.5**
	baz=271							
DGMT	**Dagmar**	107.19	42	IAms_20	IAms_20		08 44 36.6	
	comp=Z,498nm,20.0s							
DGMT	**Dagmar**	107.19	42	P		**PKiKP**	**08 05 08.9**	**-0.3**
	baz=275							
BRIGG	**Briggsdale**	107.56	51	IAms_20	IAms_20		08 52 06.7	
	comp=Z,523nm,18.0s							
T25A	**Trinidad**	107.58	54	P		**PKiKP**	**08 05 10.5**	**0.0**
	baz=271							
RSSD	**Black Hills**	107.61	47	P		**PKiKP**	**08 05 10.1**	**-0.2**
	baz=273							
TXAR	**Lajitas Array**	108.19	62	Pdiff		**Pdif**	**08 01 06.0**	**+1.0**
	comp=Z,0.1nm,0.6s,baz=263,slow=4.5,SNR=1.8							
TXAR				PP		**PP**	**08 05 29.3**	**-5.8**
	comp=Z,1.5nm,1.1s,baz=356,slow=3.8,SNR=3.8							
TXAR				PKKP		**PKKPdf**	**08 16 37.4**	**-0.7**
	comp=Z,1.9nm,1.0s,baz=128,slow=6.2,SNR=16							
OGNE	**Ogallala**	109.28	50	IAms_20	IAms_20		08 48 15.1	
	comp=Z,415nm,20.0s							
ATD	**Arta Tunnel**	109.41	279	IAms_20	IAms_20		08 55 08.9	
	comp=Z,461nm,18.0s							
AMTX	**Amarillo**	109.85	56	IAms_20	IAms_20		08 47 06.8	
	comp=Z,445nm,20.0s							
MDND	**Maddock**	110.31	43	P		**PKiKP**	**08 05 15.1**	**+0.1**
	baz=278							
ARCES	**ARCESS Array B**	111.04	342	Pdif		**Pdif**	**08 01 18.4**	**+1.7**
ARCES	**ARCESS Array B**	111.04	342	Pdiff		**Pdif**	**08 01 18.1**	**+1.4**
	comp=Z,2.7nm,1.0s,baz=64,slow=8.2,SNR=7.1							
ARCES				PP		**PP**	**08 05 49.8**	**-4.5**
	comp=Z,1.0nm,0.8s,baz=326,slow=12,SNR=2.7							
ARCES	**ARCESS Array B**	111.04	342	*i* P		**Pdif**	**08 01 18.4**	**+1.7**
CBKS	**Cedar Bluff**	111.19	52	IAms_20	IAms_20		08 51 31.0	
	comp=Z,362nm,18.0s							
CBKS	**Cedar Bluff**	111.19	52	P		**PKiKP**	**08 05 17.1**	**+0.1**
	baz=274							
JCT	**Junction City**	111.55	61	IAms_20	IAms_20		08 51 37.2	
	comp=Z,519nm,18.0s							
JCT	**Junction City**	111.55	61	P		**PKiKP**	**08 05 17.9**	**0.0**
	baz=271							
ABTX	**Abilene, Hawle**	111.62	59	P		**PKiKP**	**08 05 17.9**	**0.0**
	baz=272							
OBN	**Obninsk**	111.81	326	*i* PKIKP		**PKiKP**	**08 05 17.7**	**+0.2**
OBN				*e*			08 05 56.4	
OBN				*e*PPP	PPP		08 08 21.1	
OBN				pmax	pmax			
	comp=Z,3.0nm,1.0s							
UNM	**Universidad Na**	111.93	73	IAms_20	IAms_20		08 53 54.5	
	comp=Z,327nm,18.0s							
833A	**Chaparral WMA,**	111.93	63	P		**PKiKP**	**08 05 18.5**	**-0.1**
	baz=271							
SOC	**Sochi**	112.00	313	*i* PKIKP		**PKiKP**	**08 05 14.9**	**-3.4**
SOC				*e*			08 05 57.7	
SOC				*e*PPP	PPP		08 08 19.4	
SOC				*e*PS	PS		**08 15 31.7**	**-3.8**
SOC				*e*SS	SS		08 21 38.7	-0.3
SOC				*e*SSS	SSS		08 25 45.0	
SOC				pmax	pmax			
	comp=Z,11nm,0.6s							
SOC				MLR	MLR			
	comp=Z,242nm,18.0s							
KIBK	**Kibwezi**	112.02	263	IAms_20	IAms_20		08 48 55.2	
	comp=Z,436nm,20.0s							
BGNE	**Belgrade**	112.16	49	P		**PKiKP**	**08 05 18.9**	**+0.2**
	baz=277							
WMOK	**Wichita Mounta**	112.24	57	IAms_20	IAms_20		08 55 25.1	
	comp=Z,423nm,19.0s							
WMOK	**Wichita Mounta**	112.24	57	P		**PKiKP**	**08 05 19.1**	**0.0**
	baz=274							
AGMN	**Agassiz Nation**	112.72	42	IAms_20	IAms_20		08 50 28.7	
	comp=Z,410nm,20.0s							
AGMN	**Agassiz Nation**	112.72	42	P		**PKiKP**	**08 05 19.9**	**+0.3**
	baz=281							
ECSD	**EROS Data Cent**	112.98	47	IAms_20	IAms_20		08 51 05.5	
	comp=Z,413nm,20.0s							
ECSD	**EROS Data Cent**	112.98	47	P		**PKiKP**	**08 05 20.1**	**-0.1**
	baz=279							
KMBO	**Kilima Mbogo**	113.03	265	IAms_20	IAms_20		08 48 56.1	
	comp=Z,546nm,20.0s							
ANN	**Anapa**	113.44	315	*i* PKIKP		**PKiKP**	**08 05 18.0**	**-3.0**
ANN				*e*			08 05 21.1	
ANN				*e*			08 06 10.9	
ANN				pmax	pmax			
	comp=Z,21nm,1.1s							
435B	**Jarrell**	113.45	61	IAms_20	IAms_20		08 47 30.5	
	comp=Z,403nm,20.0s							
KSU1	**Kansas State U**	113.59	52	IAms_20	IAms_20		08 50 02.4	
	comp=Z,406nm,21.0s							
KSU1	**Kansas State U**	113.59	52	P		**PKiKP**	**08 05 21.7**	**+0.2**
	baz=277							
OK048	**Pawnee Station**	113.61	55	IAms_20	IAms_20		08 54 53.1	
	comp=Z,421nm,20.0s							
TUL3	**Leonard**	114.58	55	IAms_20	IAms_20		08 55 15.0	
	comp=Z,491nm,19.0s							
TUL3	**Leonard**	114.58	55	P		**PKiKP**	**08 05 23.9**	**+0.4**
	baz=276							
EYMN	**Ely**	115.65	41	IAms_20	IAms_20		08 49 58.2	
	comp=Z,443nm,20.0s							
EYMN	**Ely**	115.65	41	P		**PKPdf**	**08 05 25.8**	**+0.6**
	baz=284							
SCIA	**State Center**	115.74	48	IAms_20	IAms_20		08 54 42.9	
	comp=Z,405nm,18.0s							
NATX	**Nacogdoches**	115.89	60	P		**PKiKP**	**08 05 26.3**	**+0.2**
	baz=274							
MIAR	**Mount Ida**	116.53	56	IAms_20	IAms_20		08 51 08.7	
	comp=Z,539nm,20.0s							
MIAR	**Mount Ida**	116.53	56	P		**PKPdf**	**08 05 27.2**	**-0.1**
	baz=276							
GHAJ	**Ghor Haditha**	116.61	300	IAms_20	IAms_20		08 57 31.4	
	comp=Z,399nm,20.0s							
MNK	**Minsk**	116.77	327	*i* PKIKP		**PKPdf**	**08 05 25.5**	**-1.6**
MNK				*i*			08 06 33.2	
MNK				*i* PPP	PPP		08 09 02.2	
MNK				*i*			08 12 37.2	
MNK				*i* SS	SS		08 22 41.3	+0.5
MNK				*i* SSS	SSS		08 26 58.9	
MNK				pmax	pmax			
	comp=N,15nm,0.9s							
MNK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
MNK				pmax	pmax			
	comp=E,14nm,0.9s							
MNK				MLR	MLR			
	comp=N,84nm,14.0s							
MNK				MLR	MLR			
	comp=Z,247nm,16.0s							
MNK				MLR	MLR			
	comp=E,136nm,19.0s							
WLAR	**White Oak Lake**	117.01	57	PKPdf		**PKPdf**	**08 05 27.5**	**-0.7**
R40A	**Maddies Statio**	117.07	52	PKPdf		**PKPdf**	**08 05 26.8**	**-1.4**
BR131	**Keskin Array S**	117.09	310⇓	*i*PKIKP		**PKPdf**	**08 05 25.7**	**-2.7**
BRTR	**Keskin Array B**	117.09	310	PKPdf		**PKPdf**	**08 05 26.1**	**-2.4**
BRTR	**Keskin Array B**	117.09	310	PKP		**PKiKP**	**08 05 30.1**	**+1.7**
	comp=E,0.8nm,0.8s,baz=76,slow=5.2,SNR=5.4							
BRTR				PP		**PP**	**08 06 35.1**	**-3.2**
	comp=E,0.3nm,0.3s,baz=93,slow=8.7,SNR=1.5							
AKASG	**Malin Array Be**	117.35	322	PP		**PP**	**08 06 37.5**	**-1.9**
	comp=E,4.7nm,0.9s,baz=62,slow=6.5,SNR=9.6							
AKBB	**Malin Array Si**	117.35	322⇑	*i*PKIKP		**PKiKP**	**08 05 29.0**	**+0.7**
KIEV	**Kiev**	117.36	322	IAms_20	IAms_20		08 58 42.7	
	comp=Z,496nm,20.0s							
COWI	**Conover**	117.68	43	IAms_20	IAms_20		08 54 21.2	
	comp=Z,412nm,20.0s							
JFWS	**Jewell Farm**	117.69	47	P		**PKiKP**	**08 05 29.5**	**+0.2**
	baz=283							
CCM	**Cathedral Cave**	117.90	52	IAms_20	IAms_20		08 53 20.6	
	comp=Z,433nm,20.0s							
CCM	**Cathedral Cave**	117.90	52	P		**PKPdf**	**08 05 29.3**	**-0.5**
	baz=280							
CSS	**Mathiatis**	118.08	304	IAms_20	IAms_20		09 01 39.8	
	comp=Z,370nm,22.0s							
HDIL	**Hopedale**	118.91	49	IAms_20	IAms_20		08 59 15.8	
	comp=Z,449nm,19.0s							
HDIL	**Hopedale**	118.91	49	P		**PKPdf**	**08 05 31.2**	**-0.4**
	baz=283							
VBMS	**Vicksburg**	119.34	59	P		**PKPdf**	**08 05 32.1**	**-0.6**
	baz=277							
L44A	**Lake County Fo**	119.54	47	IAms_20	IAms_20		08 52 06.3	
	comp=Z,449nm,20.0s							
L44A	**Lake County Fo**	119.54	47	P		**PKPdf**	**08 05 32.6**	**-0.3**
	baz=284							
HQIL	**Hanson Quary C**	119.68	47	IAms_20	IAms_20		08 53 47.0	
	comp=Z,422nm,20.0s							
OXF	**Oxford**	119.94	56	IAms_20	IAms_20		08 54 20.0	
	comp=Z,406nm,21.0s							
OXF	**Oxford**	119.94	56	P		**PKPdf**	**08 05 33.8**	**0.0**
	baz=279							
SFIN	**Lafayette**	120.58	49	P		**PKPdf**	**08 05 34.4**	**-0.5**
	baz=284							
BURAR	**Bucovina Array**	120.88	320	PKPdf		**PKPdf**	**08 05 33.7**	**-1.7**
NOA	**NORSAR Array B**	120.89	338	PKP		**PKPdf**	**08 05 34.1**	**-0.9**
	comp=Z,1.5nm,1.0s,baz=38,slow=2.0,SNR=3.1							
WVT	**Waverly**	120.94	54	IAms_20	IAms_20		09 05 21.0	
	comp=Z,336nm,20.0s							
WVT	**Waverly**	120.94	54	P		**PKPdf**	**08 05 35.0**	**-0.7**
	baz=281							
NC602	**NORSAR Array S**	120.98	338	PKPdf		**PKPdf**	**08 05 34.4**	**-0.6**
GLMI	**Grayling**	121.10	43	IAms_20	IAms_20		08 59 34.6	
	comp=Z,409nm,21.0s							
GLMI	**Grayling**	121.10	43	P		**PKPdf**	**08 05 35.4**	**-0.4**
	baz=289							
WCI	**Wyandotte Cave**	121.69	51	IAms_20	IAms_20		08 59 55.7	
	comp=Z,446nm,19.0s							
WCI	**Wyandotte Cave**	121.69	51	P		**PKPdf**	**08 05 35.8**	**-1.3**
	baz=283							
O48B	**Farmland**	122.05	48	IAms_20	IAms_20		09 02 20.8	
	comp=Z,434nm,18.0s							
O48B	**Farmland**	122.05	48	P		**PKPdf**	**08 05 37.2**	**-0.5**
	baz=286							
LRAL	**Lakeview Retre**	122.17	57	PKPdf		**PKPdf**	**08 05 37.6**	**-0.5**
LRAL	**Lakeview Retre**	122.17	57	P		**PKPdf**	**08 05 38.3**	**+0.1**
	baz=280							
TEIG	**Tepich**	122.21	72	IAms_20	IAms_20		08 48 15.8	
	comp=Z,336nm,21.0s							
BRAL	**Brewton**	122.41	59	IAms_20	IAms_20		08 59 17.9	
	comp=Z,404nm,21.0s							
BRAL	**Brewton**	122.41	59	P		**PKiKP**	**08 05 39.2**	**+0.4**
	baz=279							
AAM	**Ann Arbor**	122.55	46	P		**PKiKP**	**08 05 39.1**	**+0.3**
	baz=288							
P49A	**Miami Univ. Ec**	122.56	49	IAms_20	IAms_20		08 59 24.6	
	comp=Z,331nm,19.0s							
P49A	**Miami Univ. Ec**	122.56	49	P		**PKPdf**	**08 05 38.9**	**+0.2**
	baz=285							
LOT	**Lotru**	122.59	318	Pn	PKPdf		08 05 24.5	-14
GZR	**Gura Zlata**	123.26	318	Pg		**PKiKP**	**08 05 42.1**	**+1.9**
	comp=Z,6.7nm,1.4s							
ACSO	**Alum Creek Sta**	123.65	48	P		**PKPdf**	**08 05 40.4**	**-0.4**
	baz=287							
TZTN	**Tazewell**	124.22	52	IAms_20	IAms_20		08 55 46.7	
	comp=Z,443nm,20.0s							
TZTN	**Tazewell**	124.22	52	P		**PKPdf**	**08 05 41.4**	**-0.7**
	baz=284							
TKL	**Tuckaleechee C**	124.25	53	PKPdf		**PKPdf**	**08 05 41.6**	**-0.5**
TKL	**Tuckaleechee C**	124.25	53	PKIKP		**PKPdf**	**08 05 41.6**	**-0.5**
VLDQ	**Val d'Or**	124.40	37	PKPdf		**PKPdf**	**08 05 40.6**	**-1.4**
P52A	**Corning**	124.45	48	P		**PKPdf**	**08 05 41.8**	**-0.6**
	baz=288							
MORC	**Moravsky Berou**	124.56	325	*e*PKP		**PKPdf**	**08 05 42.1**	**-0.2**
MORC				*e*PP		**PP**	**08 07 27.3**	**-1.3**
JAVC	**Velka Javorina**	124.93	324	*e*PKP		**PKiKP**	**08 05 45.4**	**+2.0**
M53A	**WI Miller and**	124.93	46	IAms_20	IAms_20		08 52 49.8	
	comp=Z,336nm,21.0s							
M53A	**WI Miller and**	124.93	46	P		**PKiKP**	**08 05 43.6**	**0.0**
	baz=290							
O53A	**New Philadelph**	124.94	47	IAms_20	IAms_20		09 05 20.1	
	comp=Z,400nm,19.0s							
O53A	**New Philadelph**	124.94	47	P		**PKPdf**	**08 05 43.2**	**-0.1**
	baz=289							
GOGA	**Godfrey**	125.00	56	P		**PKiKP**	**08 05 43.9**	**0.0**
	baz=282							
N53A	**Lisbon**	125.03	47	PKPdf		**PKPdf**	**08 05 43.3**	**-0.1**
P53A	**Whipple**	125.04	48	PKPdf		**PKPdf**	**08 05 42.0**	**-1.5**
ERPA	**Erie**	125.18	45	IAms_20	IAms_20		08 56 49.2	
	comp=Z,372nm,20.0s							
ERPA	**Erie**	125.18	45	P		**PKPdf**	**08 05 43.5**	**-0.2**
	baz=291							
TIGA	**Tifton**	125.29	58	P		**PKPdf**	**08 05 43.9**	**-0.3**
	baz=281							
VRAC	**Vranov**	125.33	325	*e*PKP		**PKPdf**	**08 05 44.0**	**+0.2**
VRAC				*e*PP		**PP**	**08 07 33.1**	**-0.6**
KRUC	**Moravsky**	125.56	325	*e*PKP		**PKiKP**	**08 05 44.7**	**+0.1**
BRG	**Berggiesshubel**	125.95	328	Amp			08 05 49.2	
	comp=Z,12nm,1.2s							
BRG	**Berggiesshubel**	125.95	328	*e*PKIKP		**PKiKP**	**08 05 45.3**	**0.0**
BRG							08 07 40.0	
BRG				S			08 17 40.0	
BRG				S		**SS**	**08 24 31.0**	**-7.1**
BRG				pmax	pmax			
	comp=Z,12nm,1.2s							
BRG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BRG	**Berggiesshubel**	125.95	328	*e*PKP		**PKiKP**	**08 05 45.3**	**0.0**
SCHQ	**Schefferville**	126.11	26	PKP		**PKPdf**	**08 05 44.6**	**-0.5**
	comp=Z,4.8nm,1.0s,baz=248,slow=7.6,SNR=5.0							
MCWV	**Mont Chateau**	126.12	48	P		**PKiKP**	**08 05 46.1**	**+0.1**
	baz=289							
CLL	**Collm**	126.19	329	*i* PKIKP		**PKiKP**	**08 05 47.1**	**+1.4**
CLL				MLR	MLR			
	comp=Z,500nm,20.9s							
RONA	**Rosalia, Austr**	126.30	323	*i* pPKP		**PKiKP**	**08 05 48.2**	**+2.0**
	comp=Z,12nm,1.2s,SNR=5.2							
KMSC	**Kings Mountain**	126.31	53	P		**PKPdf**	**08 05 46.4**	**+0.3**
	baz=285							
R55A	**Marlinton**	126.36	49	PKPdf		**PKPdf**	**08 05 45.9**	**-0.2**
CONA	**Conrad Observa**	126.44	324	*e*pPKP		**PKiKP**	**08 05 48.8**	**+2.3**
	comp=Z,16nm,1.6s,SNR=7.1							
CONA				*e*PP		**PP**	**08 07 41.5**	**+0.2**
	comp=Z,9.5nm,1.5s							
BLA	**Blacksburg**	126.45	51	PKPdf		**PKPdf**	**08 05 44.4**	**-1.9**
BLA	**Blacksburg**	126.45	51	P		**PKPdf**	**08 05 46.2**	**-0.2**
	baz=287							
BLA	**Blacksburg**	126.45	51	PKIKP		**PKPdf**	**08 05 44.4**	**-1.9**
PUK	**Puka**	126.46	316	PKPdf		**PKPdf**	**08 05 44.5**	**-1.7**
TIR	**Tirane**	126.74	315	IAms_20	IAms_20		09 03 50.0	
	comp=Z,467nm,21.0s							
KOGS	**Kog**	126.93	322	Pg		**PKPdf**	**08 05 47.1**	**+0.2**
KOGS	**Kog**	126.93	322	*i* PKPdf		**PKPdf**	**08 05 47.1**	**+0.2**
ARSA	**Arzberg**	126.98	323	*e*pPKP		**PKiKP**	**08 05 49.9**	**+2.4**
	comp=Z,3.0nm,0.6s							
KHC	**Kasperske Hory**	127.11	326⇑	*i*PKIKP		**PKPdf**	**08 05 47.1**	**-0.1**
SSPA	**Standing Stone**	127.19	46	PKPdf		**PKPdf**	**08 05 47.6**	**0.0**
SSPA	**Standing Stone**	127.19	46	IAms_20	IAms_20		09 11 27.5	
	comp=Z,384nm,19.0s							
SSPA	**Standing Stone**	127.19	46	P		**PKPdf**	**08 05 47.5**	**0.0**
	baz=292							
GERES	**GERESS Array B**	127.19	326	PKP		**PKPdf**	**08 05 46.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=72,slow=5.7,SNR=4.8							
PTJ	**Puntijarka**	127.36	322	Pg		**PKiKP**	**08 05 51.1**	**+2.7**
MOA	**Molln**	127.40	324	*e*pPKP		**PKiKP**	**08 05 50.7**	**+2.4**
	comp=Z,9.0nm,1.5s							
MOA				*e*PP		**PP**	**08 07 43.9**	**-3.6**
	comp=Z,3.9nm,1.3s							
SOKA	**Soboth**	127.55	323	*e*PKiKP		**PKiKP**	**08 05 50.1**	**+1.3**
	comp=Z,15

OTAV	**Otavalo**	**130.03**	**98**	PKPdf	**PKPdf**	**08 05 52.5**	**-1.8**
OTAV	**Otavalo**	**130.03**	**98**	PKIKP	**PKPdf**	**08 05 52.5**	**-1.8**
BTNL	**Ternell**	**130.04**	**331**	*d*PKP	**PKiKP**	**08 05 55.1**	**+1.6**
DAVA	**Damuels**	**130.19**	**326**	*i* pPKP	**PKiKP**	**08 05 56.2**	**+2.1**
comp=Z,8.6nm,0.9s							
BHOU	**Houvegnez**	**130.26**	**331**	*d*PKP	**PKiKP**	**08 05 57.3**	**+3.3**
BCLA	**Clavier**	**130.55**	**332**	*d*PKP	**PKiKP**	**08 05 57.6**	**+3.2**
F63A	**Nahmakanta, Br**	**130.56**	**36**	PKPdf	**PKiKP**	**08 05 54.6**	**-0.1**
UCCT	**U. Connecticut**	**130.59**	**42**	PKPdf	**PKPdf**	**08 05 53.8**	**-0.2**
WLF	**Walferdange**	**130.65**	**330**	*d*PKP	**PKiKP**	**08 05 57.8**	**+3.0**
BGES	**Gesves**	**130.67**	**332**	*d*PKP	**PKiKP**	**08 05 55.9**	**+1.2**
PKME	**Peaks-Kenny Pk**	**130.69**	**37**	P	**PKPdf**	**08 05 54.3**	**+0.3**
baz=303							
HRV	**Adam Dziewonsk**	**130.69**	**41**	P	**PKPdf**	**08 05 54.6**	**+0.4**
baz=299							
CEL	**Celeste**	**130.75**	**313**	IAMs_20	IAMs_20	09 07 12.2	
comp=Z,372nm,22.0s							
BMRD	**Maredsous**	**130.88**	**332**	*d*PKP	**PKiKP**	**08 05 57.1**	**+1.9**
DOU	**Dourbes**	**131.10**	**332**	*d*PKP	**PKiKP**	**08 05 57.2**	**+1.5**
BATG	**Bathurst New B**	**131.34**	**33**	PKPdf	**PKPdf**	**08 05 54.8**	**-0.5**
PB18	**Visviri**	**131.74**	**124**	PKPdf	**PKPdf**	**08 05 55.7**	**-1.8**
EMMW	**East Machias**	**132.08**	**37**	IAMs_20	IAMs_20	09 02 44.2	
comp=Z,417nm,20.0s							
CZSB	**Cruzeiro do Su**	**133.25**	**110**	PKPdf	**PKPdf**	**08 05 59.0**	**-0.8**
LPAZ	**La Paz**	**133.51**	**124**	PKPdf	**PKiKP**	**08 06 02.0**	**-0.3**
LPAZ	**La Paz**	**133.51**	**124**	PKP	**PKiKP**	**08 06 02.0**	**-0.3**
comp=Z,22nm,1.3s,baz=141,slow=4.4,SNR=21							
LPAZ				SKPbc	**SKPab**	**08 09 33.2**	**+2.3**
comp=Z,2.1nm,1.1s,baz=184,slow=13,SNR=8.3							
LPAZ	**La Paz**	**133.51**	**124**	PKIKP	**PKiKP**	**08 06 02.0**	**-0.3**
CPUP	**Villa Florida**	**134.82**	**143**	PKPdf	**PKiKP**	**08 06 04.3**	**+0.4**
CPUP	**Villa Florida**	**134.82**	**143**	PKP	**PKPdf**	**08 06 03.3**	**+0.8**
comp=Z,6.0nm,1.1s,baz=146,slow=2.4,SNR=4.3							
CPUP	**Villa Florida**	**134.82**	**143**	PKIKP	**PKiKP**	**08 06 04.3**	**+0.4**
ROSC	**El Rosal**	**134.95**	**93**	PKP	**PKPdf**	**08 06 04.0**	**+0.5**
comp=Z,4.2nm,0.5s,baz=201,slow=14,SNR=2.6							
KEST	**Kesra**	**136.56**	**313**	PKP	**PKPdf**	**08 06 06.0**	**+0.4**
comp=Z,1.4nm,0.6s,baz=133,slow=1.9,SNR=1.6							
KEST				PP	**PP**	**08 08 42.2**	**-4.8**
comp=Z,0.9nm,0.4s,baz=25,slow=0.8,SNR=2.1							
SDV	**Santo Domingo**	**139.07**	**88**	PKPdf	**PKPdf**	**08 06 11.3**	**+0.4**
AQDB	**Aquidauana**	**140.14**	**139**	PKPdf	**PKPdf**	**08 06 11.9**	**-0.5**
BBSR	**BB Station**	**140.24**	**50**	IAMs_20	IAMs_20	09 12 53.7	
comp=Z,361nm,20.0s							
CART	**Cartagena**	**142.49**	**322**	IAMs_20	IAMs_20	09 07 25.0	
comp=Z,284nm,20.0s							
ESDC	**Sonseca Array**	**142.75**	**327**	PKhKP	PKPpre	08 06 12.7	
comp=Z,1.7nm,1.0s,baz=14,slow=3.7,SNR=8.6							
ESDC				PP	**PP**	**08 09 21.7**	**-2.8**
comp=Z,0.4nm,0.3s,baz=345,slow=3.7,SNR=4.0							
VAO	**Valinhos**	**143.01**	**152**	PKPdf	**PKPdf**	**08 06 17.4**	**-0.2**
POLO	**Lamas de Olo**	**143.35**	**333**	*e*PKPdf	PKPbc	08 06 15.7	+0.9
PVIS	**Viseu**	**143.93**	**332**	*e*PKPdf	**PKPdf**	**08 06 19.0**	**+0.3**
MTE	**Manteigas**	**144.01**	**331**	PKPdf	**PKPdf**	**08 06 18.5**	**-0.4**
MTE	**Manteigas**	**144.01**	**331**	*e*PKPdf	PKPbc	08 06 16.9	+0.2
MTE	**Manteigas**	**144.01**	**331**	*e*LR	LR	08 56 37.9	
comp=Z,537nm,20.0s							
PCBR	**Castelo Branco**	**144.42**	**331**	*e*PKPdf	PKPbc	08 06 18.1	+0.2
TAM	**Tamanrasset**	**144.42**	**296**	PKPdf	**PKPdf**	**08 06 19.5**	**-0.7**
TAM	**Tamanrasset**	**144.42**	**296**	PKIKP	**PKPdf**	**08 06 19.5**	**-0.7**
COI	**Coimbra**	**144.57**	**332**	*e*PKPdf	**PKPdf**	**08 06 19.9**	**+0.2**
PMRV	**Marv??o**	**144.70**	**330**	*e*PKPdf	**PKPab**	**08 06 18.5**	**-0.2**
PMRV	**Marv??o**	**144.70**	**330**	*e*LR	LR	08 57 20.1	
comp=Z,280nm,20.0s							
PCAS	**Casmilo, Conde**	**144.73**	**332**	*e*PKPdf	**PKPab**	**08 06 18.2**	**-0.6**
PESTR	**Estremoz**	**145.23**	**330**		**PKPbc**	**08 06 19.3**	**-1.3**
PESTR	**Estremoz**	**145.23**	**330**	*e*PKPdf	**PKPbc**	**08 06 19.2**	**-1.3**
PSBE	**So Bento**	**145.30**	**332**	*e*PKPdf	**PKPbc**	**08 06 20.3**	**-0.5**
PMTG	**Montargil**	**145.38**	**331**	*e*PKPdf	**PKPbc**	**08 06 19.5**	**-1.5**
SHEL	**Horse Pasture**	**145.47**	**222**	PKPbc	**PKPbc**	**08 06 21.6**	**-0.4**
SHEL	**Horse Pasture**	**145.47**	**222**	PKIKP	**PKPbc**	**08 06 21.6**	**-0.4**
PBAR	**Barrancos**	**145.48**	**328**	*e*PKPdf	**PKPbc**	**08 06 21.1**	**-0.2**
EVO	**Evora**	**145.70**	**330**	*e*PKPdf	**PKPdf**	**08 06 21.9**	**+0.2**
PBEJ	**Beja**	**146.01**	**329**	*e*PKPdf	**PKPab**	**08 06 25.0**	**+1.4**
MACA	**Manacapuru-AM**	**146.04**	**111**	PKPbc	**PKPdf**	**08 06 22.3**	**-0.7**
LIS	**Lisbon**	**146.10**	**331**	*e*PKP	**PKPbc**	**08 06 23.4**	**+0.1**
SMRT	**St. Maarten**	**146.11**	**72**	PKPbc	**PKPdf**	**08 06 21.6**	**-1.4**
SMRT				IAMs_20	IAMs_20	08 57 06.0	
comp=Z,292nm,18.0s							
PNCL	**Nicolau / Gran**	**146.28**	**330**	*e*PKPdf	**PKPdf**	**08 06 21.0**	**-1.7**
MESJ	**Messejana**	**146.33**	**329**	PKPbc	**PKPdf**	**08 06 23.3**	**+0.5**
MESJ	**Messejana**	**146.33**	**329**	*e*PKPdf	**PKPbc**	**08 06 24.0**	**0.0**
MESJ	**Messejana**	**146.33**	**329**	*e*PKP	**PKPbc**	**08 06 24.3**	**+0.3**
MESJ	**Messejana**	**146.33**	**329**	PKP2	**PKPdf**	**08 06 23.3**	**+0.5**
PCVE	**Castro Verde**	**146.40**	**329**	*e*PKPdf	**PKPbc**	**08 06 24.0**	**-0.2**
PVAQ	**Vaqueiros**	**146.41**	**328**	PKPbc	**PKPab**	**08 06 25.1**	**0.0**
PVAQ	**Vaqueiros**	**146.41**	**328**	*e*PKPdf	**PKPdf**	**08 06 22.5**	**-0.5**
PVAQ	**Vaqueiros**	**146.41**	**328**	*e*LR	LR	08 57 13.4	
comp=Z,223nm,22.0s							
PBDV	**Barranco-do-Ve**	**146.64**	**328**	*e*PKPdf	**PKPbc**	**08 06 24.6**	**-0.4**
PTEO	**Sao Teotonio**	**146.81**	**330**	*e*PKPdf	**PKPbc**	**08 06 25.2**	**-0.2**
MORF	**Marmelete**	**146.97**	**329**	PKPbc	**PKPbc**	**08 06 26.0**	**+0.1**
MORF	**Marmelete**	**146.97**	**329**	*e*PKPdf	**PKPab**	**08 06 27.3**	**0.0**
MORF	**Marmelete**	**146.97**	**329**	*e*PKP	**PKPab**	**08 06 26.8**	**-0.5**
MORF	**Marmelete**	**146.97**	**329**	PKP2	**PKPbc**	**08 06 26.0**	**+0.1**
PFVI	**Vila Bisbo**	**147.19**	**329**	*e*PKPdf	**PKPab**	**08 06 27.5**	**-0.6**
MDT	**Midelt**	**147.81**	**319**	PKPbc	**PKPbc**	**08 06 27.8**	**-0.7**
comp=Z,25nm,1.2s,baz=62,slow=3.6,SNR=18							
BOAV	**Boa Vista**	**147.96**	**101**	PKPbc	**PKPbc**	**08 06 29.3**	**0.0**
GDSD	**La Dsirade Is**	**148.27**	**75**	PKPbc	**PKPbc**	**08 06 29.6**	**-0.4**
BDFB	**Brasilia**	**148.55**	**143**	PKPbc	**PKPbc**	**08 06 30.8**	**-0.1**
comp=Z,15nm,0.8s,baz=192,slow=2.7,SNR=18							
AVE	**Averroes**	**149.24**	**323**	PKPbc	**PKiKP**	**08 06 33.3**	**0.0**
TOA0	**Torodi Ar. Sit**	**149.61**	**279**	PKPbc	**PKPbc**	**08 06 33.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**149.61**	**279**	PKPbc	**PKPbc**	**08 06 33.1**	**-0.3**
comp=Z,30nm,1.1s,baz=67,slow=4.8,SNR=36							
TORD				SKP		08 10 06.5	
comp=Z,2.0nm,1.2s,baz=35,slow=5.1,SNR=4.3							
MAL2	**Monte Alegre,**	**152.43**	**114**	PKPbc	**PKPbc**	**08 06 37.6**	**-2.5**
KIC	**Kosan Boka**	**155.60**	**264⇑**	*e*P	**PKPab**	**08 07 04.2**	**+0.4**
comp=Z,27nm,1.0s							
DBIC	**Dimbokro**	**155.77**	**264**	PKPdf	**PKPdf**	**08 06 35.8**	**-2.1**
DBIC					**PKPab**	**08 07 05.8**	**+1.4**
DBIC	**Dimbokro**	**155.77**	**264**	PKPab	**PKPab**	**08 07 04.3**	**-0.1**
comp=Z,18nm,1.1s,baz=128,slow=8.4,SNR=5.1							
DBIC	**Dimbokro**	**155.77**	**264**	PKIKP	**PKPdf**	**08 06 35.8**	**-2.1**
LIC	**Lamto**	**155.86**	**263⇑**	*e*P	**PKPab**	**08 07 05.4**	**+0.5**
comp=Z,26nm,0.9s							
TIC	**Toumodi**	**155.92**	**264⇑**	*e*P	**PKPab**	**08 07 05.7**	**+0.5**
comp=Z,25nm,1.0s							
MBO	**M'Bour**	**167.25**	**292**	PKPdf	**PKPdf**	**08 06 49.6**	**-0.2**
MBO				PKPab	**PKPab**	**08 07 52.4**	**-2.1**

IDC 30 07:48:42.8±2.9, 53°.51N×87°.69E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=25.4km s-min=14.3km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**286**	I	I	07 59 50.0	
0.3nm,1.0s,baz=101,slow=316,SNR=16							
ZALV	**Zalesovo Beam**	**1.76**	**286**	Pg	Pn	07 49 14.2	-0.4
2.1nm,0.3s,baz=101,slow=15,SNR=12							
ZALV				Lg	Lg	07 49 38.3	
4.4nm,0.3s,baz=106,slow=28,SNR=11							
KURBB	**Kurchatov Arra**	**6.35**	**247**	Pn	Pn	07 50 18.5	+1.0
0.1nm,0.3s,baz=64,slow=15,SNR=0.9							
KURBB				Lg	Lg	07 52 06.2	
0.2nm,0.3s,baz=60,slow=31,SNR=6.9							
0.7nm,0.2s							
MKAR	**Makanchi Array**	**7.56**	**209**	Pn	Pn	07 50 35.7	+1.4
0.2nm,0.3s,baz=29,slow=14,SNR=8.4							
MKAR				Sn	Sn	07 51 59.7	-1.0
0.2nm,0.3s,baz=29,slow=27,SNR=3.9							
MKAR				Lg	Lg	07 52 42.2	
0.1nm,0.3s,baz=32,slow=28,SNR=6.7							
0.3nm,0.3s							

IDC 30 07:55:18.7±2.8, 54°.16N×86°.49E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=22.4km s-min=13.1km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**259**	I	I	08 02 00.0	
baz=76,slow=314,SNR=1.8							
ZALV	**Zalesovo Beam**	**1.01**	**259**	Pg	Pg	07 55 36.6	-1.4
1.0nm,0.3s,baz=76,slow=17,SNR=9.7							
ZALV				Lg	Lg	07 55 52.6	
2.1nm,0.3s,baz=80,slow=30,SNR=16							
ZALV				Rg	Rg	07 55 58.2	
4.4nm,0.7s,baz=77,slow=29,SNR=14							
KURBB	**Kurchatov Arra**	**6.02**	**237**	Pn	Pn	07 56 50.2	+1.2
0.1nm,0.3s,baz=57,slow=14,SNR=1.6							
0.5nm,0.3s							
MKAR	**Makanchi Array**	**7.84**	**202**	Pn	Pn	07 57 15.1	+1.1
0.1nm,0.3s,baz=25,slow=13,SNR=7.7							
0.2nm,0.2s							

*NNC **30** 08:01:28.6±1.7, 44°.80N×82°.09E, h0km, mb2.7, mpv2.8, Error ellipse: s-maj=17.4km s-min=5.9km az=132.0, Suspected Mining explosion.*
*SOME **30** 08:01:29.2, 44°.85N×82°.05E, h25km*
ISC 30 08:01:26.9±1.4, 44°.85N±0°.08×82°.20E±0°.08, h0km, n11, σ0°56/19, 2C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.80**	**254**	*e*P	**Pb**	**08 02 00.4**	**-0.3**
2.0nm,0.2s							
DJR				*e*S	**Sn**	**08 02 22.7**	**0.0**
7.4nm,0.4s							
DJR	**Jarkent**	**1.80**	**254**	P	**Pg**	**08 02 00.8**	**-0.5**
4.3nm,0.2s							
DJR				S	**Sb**	**08 02 23.9**	**+0.2**
7.4nm,0.4s							
MK31	**Makanchi Array**	**1.95**	**2**	⇑P	**Pg**	**08 02 04.2**	**+0.1**
0.7nm,0.3s,baz=183,slow=14,SNR=38							
MK31				⇑S	**Sg**	**08 02 30.2**	**+0.9**
0.9nm,0.2s,baz=183,slow=27,SNR=18							
MAKZ	**Makanchi**	**1.97**	**356**	P	**Pg**	**08 02 04.0**	**-0.5**
0.1nm,0.2s,baz=183,slow=27							
MAKZ				S	**Sg**	**08 02 30.2**	**+0.2**
0.6nm,0.3s,baz=183,slow=27							
KNOS	**Konyrlen**	**2.21**	**258**	Pg	**Pb**	**08 02 06.7**	**-1.1**
1.1nm,0.4s							
KNOS				Lg	Lg	08 02 33.7	
6.4nm,0.3s							
SHLS	**Shalkode**	**2.60**	**230**	*e*P	**Pn**	**08 02 11.4**	**+1.1**
1.4nm,0.1s							
SHLS				*e*S	**Sn**	**08 02 41.9**	**-0.7**
17nm,0.3s							
BLB	**Baldybastay**	**2.77**	**256**	Pg	**Pb**	**08 02 17.3**	**0.0**
22nm,0.3s							
BLB				Lg	Lg	08 02 51.8	
6.7nm,0.3s							
KPKS	**Kokpek**	**2.88**	**243**	*e*P	**Pb**	**08 02 19.0**	**-0.2**
2.6nm,0.1s							
KPKS				*e*S	**Sb**	**08 02 54.8**	**-0.3**
18nm,0.3s							
KPKS	**Kokpek**	**2.88**	**243**	Pg	**Pb**	**08 02 19.0**	**-0.2**
2.4nm,0.1s							
KPKS				Lg	Lg	08 02 54.8	
18nm,0.3s							
ARXS	**Arharly**	**3.19**	**260**	*e*P	**Pb**	**08 02 24.2**	**-0.3**
1.9nm,0.3s							
ARXS				*e*S	**Sb**	**08 03 03.8**	**0.0**
3.6nm,0.5s							
ZSN	**Zaisan**	**3.19**	**35**	*e*P	**Pb**	**08 02 24.2**	**-0.3**
ZSN				*e*S	**Sb**	**08 03 03.3**	**-0.7**

*IDC **30** 08:03:01.2±1.7, 19°.19N×155°.25W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=64.5km s-min=34.1km az=148.0*
*HVO **30** 08:03:03.2±1.3, 19°.35N±0°.02×155°.12W±0°.02, h7km, ML4.1/55, mb4.5/16(NEIC), ML4.1/44(NEIC), Error ellipse: s-maj=2.9km s-min=1.3km az=134.0*
*NEIC **30** 08:03:03.0±1.5, 19°.34N±0°.02×155°.15W±0°.02, h15km±1km, Error ellipse: s-maj=3.2km s-min=1.4km az=134.0*
ISC 30 08:03:02.9±0.7, 19°.39N±0°.04×155°.14W±0°.02, h13km±3km, n67, σ1°14/81, mb4.3/12, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.02**	**109**		**Pg**	**08 03 05.1**	**-0.2**
STCH				Sg	**Sg**	**08 03 06.5**	**-0.4**
STCH				IAML		08 03 06.9	
comp=N,246μm,0.5s							
STCH				IAML		08 03 07.0	
comp=E,259μm,0.5s							
KNHH	**Kane Nui o Ham**	**0.03**	**247**		**Pg**	**08 03 05.3**	**-0.1**
NPOC	**North of Pu'u**	**0.03**	**86**		**Pg**	**08 03 06.8**	**+1.4**
JCUZ	**Jacuzzi**	**0.04**	**100**		**Pg**	**08 03 05.1**	**-0.4**
PUH	**Pauahi**	**0.07**	**257**		**Pg**	**08 03 05.8**	**+0.1**
PUH				Sg	**Sg**	**08 03 07.7**	**0.0**
PUH				IAML		08 03 08.1	
comp=E,75μm,0.8s							
PUH				IAML		08 03 08.3	
comp=N,155μm,0.7s							
BYL	**Byron's Ledge**	**0.11**	**281**		**Pg**	**08 03 06.6**	**+0.4**
BYL				Sg	**Sg**	**08 03 09.2**	**+0.7**
BYL				IAML		08 03 09.6	
comp=N,68μm,0.6s							
HATHI	**Halema'uma'u T**	**0.12**	**286**	Pg	**Pg**	**08 03 06.6**	**+0.4**
HATHI				Sg	**Sg**	**08 03 09.2**	**+0.6**
HATHI				IAML		08 03 10.8	
comp=E,49μm,0.7s							
HATHI				IAML		08 03 11.6	
comp=N,51μm,0.7s							
KKO	**Keanakako`i**	**0.12**	**273**		**Pg**	**08 03 06.6**	**+0.4**
KKO					**Sg**	**08 03 09.1**	**+0.5**
SBLHI	**Steaming Bluff**	**0.12**	**287**		**Pg**	**08 03 06.7**	**+0.4**
SBLHI					**Sg**	**08 03 09.4**	**+0.6**
RIM	**Rim**	**0.12**	**272**		**Pg**	**08 03 06.7**	**+0.4**
RIM					**Sg**	**08 03 09.3**	**+0.6**
UWB	**Uwekahuna B**	**0.13**	**285**		**Pg**	**08 03 06.9**	**+0.4**
UWB					**Sg**	**08 03 09.5**	**+0.6**
JOKA	**Jonika Flow**	**0.14**	**72**		**Pg**	**08 03 06.4**	**0.0**
JOKA				Sg	**Sg**	**08 03 08.7**	**-0.2**
JOKA				IAML		08 03 10.9	
comp=N,53μm,0.3s							
OBL	**Observatory Le**	**0.14**	**281**		**Pg**	**08 03 07.0**	**+0.5**
OBL					**Sg**	**08 03 10.3**	**+1.3**
SDHHI	**Sand Hill**	**0.14**	**270**		**Pg**	**08 03 07.0**	**+0.4**
SDHHI					**Sg**	**08 03 09.6**	**+0.4**
UWE	**Uwekahuna**	**0.15**	**282**		**Pg**	**08 03 06.6**	**0.0**
UWE				Sg	**Sg**	**08 03 10.5**	**+1.2**
UWE				IAML		08 03 12.6	
comp=E,43μm,0.8s							
RSD	**Rainshed**	**0.15**	**299**		**Pg**	**08 03 07.3**	**+0.6**
RSD				Sg	**Sg**	**08 03 10.3**	**+1.0**
RSD				IAML		08 03 10.9	
comp=N,55μm,0.5s							
RSD				IAML		08 03 13.9	
comp=E,43μm,0.7s							
WRMHI	**West Rim**	**0.15**	**276**		**Pg**	**08 03 07.1**	**+0.4**
WRMHI					**Sg**	**08 03 10.5**	**+1.1**
HLP	**Hilina Pali**	**0.18**	**239**		**Pg**	**08 03 07.5**	**+0.4**
HLP				Sg	**Sg**	**08 03 10.9**	**+0.8**
PAH	**Pahoa**	**0.21**	**61**	Pg	**Pg**	**08 03 07.8**	**+0.2**
MLH	**Mauna Loa**	**0.25**	**294**		**Pg**	**08 03 09.0**	**+0.6**
PHO	**Puu Honuaula**	**0.25**	**69**		**Pg**	**08 03 08.5**	**+0.2**
HTC	**Hot Caves**	**0.29**	**238**		**Pg**	**08 03 09.3**	**+0.4**
HMH	**Humu`ula Sheep**	**0.39**	**303**		**Pg**	**08 03 11.5**	**+0.7**
HMH					**Sg**	**08 03 17.4**	**+1.3**
MLOA	**Mauna Loa Obse**	**0.43**	**290**	Pg	**Pg**	**08 03 12.1**	**+0.4**
MLOA					**Sb**	**08 03 19.5**	**+0.2**
MLOA	**Mauna Loa Obse**	**0.43**	**290**		**Pg**	**08 03 12.4**	**+0.7**
MLOA					**Sb**	**08 03 19.8**	**+0.4**
MWH	**Moku'aweowe**	**0.44**	**282**		**Pg**	**08 03 12.2**	**+0.3**
MWH					**Sb**	**08 03 19.8**	**+0.2**
KHU	**Kahuku**	**0.47**	**252**	Pg	**Pg**	**08 03 12.0**	**-0.2**
KHU					**Sg**	**08 03 19.3**	**+0.7**
KHU				IAML		08 03 20.6	
comp=E,11μm,0.6s							
KHU				IAML		08 03 25.1	
comp=N,21μm,0.7s							
HPO	**Honuapo**	**0.49**	**232**	Pg	**Pg**	**08 03 12.4**	**-0.2**
HPO					**Sg**	**08 03 19.4**	**+0.2**
ALEP	**Alea Permanent**	**0.50**	**288**		**Pg**	**08 03 13.0**	**+0.2**
ALEP					**Sg**	**08 03 20.9**	**+1.4**
HUH	**Hualalai**	**0.72**	**294**		**Pg**	**08 03 16.7**	**-0.2**
HUH					**Sg**	**08 03 26.5**	**+0.1**
HPAH	**Hawaii Prepara**	**0.82**	**321**	Pg	**Pg**	**08 03 17.8**	**-1.2**
KKH	**Kailua Kona**	**0.87**	**288**	Pg	**Pb**	**08 03 18.1**	**-1.8**
MHA	**Mahukona**	**1.07**	**318**	Pn	**Pb**	**08 03 21.3**	**-2.0**
HLK	**Haleakala**	**1.71**	**323**	Pn	**Pn**	**08 03 30.0**	**-2.8**
KHLH	**Kahului Airpor**	**1.92**	**321**	Pn	**Pn**	**08 03 33.4**	**-2.0**
HON	**Honolulu**	**3.30**	**306**	Pn	**Pn**	**08 03 51.4**	**-2.9**
KIP	**Kipapa**	**3.37**	**307**	Pn	**Pn**	**08 03 52.1**	**-3.1**
KEKH	**Kekaha**	**5.00**	**302**	Pn	**Pn**	**08 04 15.8**	**-1.9**
H11N3	**WAKE ISLAND Hy**	**35.71**	**277**	T	T	08 47 07.1	
baz=85,slow=75							
H11N2	**WAKE ISLAND Hy**	**35.72**	**277**	T	T	08 47 08.0	
baz=85,slow=75							
H11N1	**WAKE ISLAND Hy**	**35.73**	**277**	T	T	08 47 08.5	
baz=85,slow=75							
H11S2	**WAKE ISLAND Hy**	**36.05**	**275**	T	T	08 47 32.5	
baz=83,slow=75,SNR=28							
H11S1	**WAKE ISLAND Hy**	**36.05**	**275**	T	T	08 47 31.8	
baz=83,slow=75,SNR=24							
H11S3	**WAKE ISLAND Hy**	**36.07**	**275**	T	T	08 47 33.7	
baz=83,slow=75,SNR=27							
BCPM	**Bancas Point**	**42.02**	**12**	P	**P**	**08 10 54.5**	**+0.7**
BCPM				IAmb	IAmb	08 11 23.3	
comp=Z,18nm,1.0s							
PDAR	**Pinedale Array**	**44.78**	**48**	P	**P**	**08 11 16.9**	**+0.2**
comp=Z,0.5nm,0.8s,baz=239,slow=6.2,SNR=4.3							
comp=Z,0.5nm,0.8s							
CCB	**Clear Creek Bu**	**45.49**	**4**	P	**P**	**08 11 22.2**	**+0.5**
ILAR	**Eielson Array**	**45.69**	**5**	P	**P**	**08 11 25.7**	**+2.4**
comp=Z,0.4nm,0.9s,baz=201,slow=7.4,SNR=3.4							
comp=Z,0.4nm,0.9s							
H18K	**Honhosa River**	**45.79**	**358**	P	**P**	**08 11 23.5**	**-0.6**
H18K				IAmb	IAmb	08 11 39.1	
comp=Z,6.2nm,1.4s							
EGAK	**Eagle**	**46.32**	**8**	P	**P**	**08 11 30.8**	**+2.6**
EGAK				IAmb	IAmb	08 11 54.8	
comp=Z,4.6nm,1.4s							
PRP	**Porcupine Dome**	**46.54**	**6**	P	**P**	**08 11 32.2**	**+2.1**
I30M	**Mount Dempster**	**47.47**	**11**	P	**P**	**08 11 39.2**	**+1.9**
I30M				IAmb	IAmb	08 11 41.4	
comp=Z,2.4nm,1.1s							
TX31	**Lajitas Ar. Si**	**47.60**	**68**	P	**P**	**08 11 40.1**	**+1.2**
TXAR	**Lajitas Array**	**47.60**	**68**	P	**P**	**08 11 39.6**	**+0.6**
TXAR	**Lajitas Array**	**47.60**	**68**	P	**P**	**08 11 41.3**	**+2.3**
comp=Z,0.9nm,0.6s,baz=253,slow=8.9,SNR=17							
comp=Z,0.9nm,0.6s							
F20K	**Avaraart Lake**	**47.64**	**360**	P	**P**	**08 11 40.3**	**+1.8**
ODSA	**Odessa**	**48.61**	**64**	P	**P**	**08 11 46.4**	**-0.3**
ODSA				IAmb	IAmb	08 11 49.8	
comp=Z,5.0nm,0.6s							
OGNE	**Ogallala**	**49.86**	**52**	P	**P**	**08 11 56.2**	**+0.1**
FW06	**Azle**	**52.84**	**63**	P	**P**	**08 12 20.3**	**+1.9**
FW06				IAmb	IAmb	08 12 39.4	
comp=Z,3.5nm,0.7s							
ERM	**Erimo**	**56.39**	**308**	P	**P**	**08 12 44.0**	**-0.1**
CCAR	**Cane Creek**	**57.65**	**62**	P	**P**	**08 12 53.7**	**+0.6**
G40A	**Rib Lake**	**58.94**	**48**	P	**P**	**08 13 03.0**	**+1.0**
G40A				IAmb	IAmb	08 13 03.5	
comp=Z,2.7nm,0.8s							
E46A	**Sault Ste Mari**	**63.08**	**47**	P	**P**	**08 13 31.1**	**+0.9**
E46A				IAmb	IAmb	08 13 58.4	
comp=Z,10nm,1.4s							
ASAR	**Alice Springs**	**81.33**	**241**	P	**P**	**08 15 19.0**	**-0.7**
comp=Z,0.2nm,0.6s,baz=72,slow=5.9,SNR=2.0							
comp=Z,0.2nm,0.6s							
H03N2	**Juan Fernandez**	**89.59**	**126**	T	T	09 54 59.9	
baz=298,slow=76,SNR=249							
H03N3	**Juan Fernandez**	**89.60**	**126**	T	T	09 55 00.0	
baz=298,slow=76,SNR=260							
H03N1	**Juan Fernandez**	**89.61**	**126**	T	T	09 55 01.3	
baz=298,slow=76,SNR=251							

KRSZO 30 08:04:32.1±2.5, 48°.70N×20°.88E, h0km, MLv1.6/2, Error ellipse: s-maj=20.6km s-min=7.9km az=11.0, Explosion. locality : Dvorniky-Vcelare Slovakia description : known quarry blast, Czech and Slovak Republics

| Code |

GLG1	Gilan-e-Gharb	0.47	35	Pg		Pg	08 42 34.6	-0.9
ILBA	Ilam Banvizeh	0.53	101	Pg		Pb	08 42 36.6	-1.2
ILBA				Sg		Sb	08 42 43.4	-2.1
IBDR	Badra baz=332	0.68	155	*e*Pg		Pn	08 42 42.0	+0.1
IBDR				*e*Sg		Sn	08 42 53.0	+0.4
IBDR				AML		AML	08 42 56.4	
	comp=N,2μm,0.9s							
IBDR				AML		AML	08 42 56.5	
	comp=E,2μm,0.8s							
KGS1	Ghasr-e-Shirin	0.78	1	Pg		Pb	08 42 41.5	-0.4
IGHG	Ghaleghazi	1.02	54	Pg		Pg	08 42 44.9	-0.9
IDHR	Dehrash	1.18	34	Pg		Pb	08 42 47.6	-1.2
KCHF	Cheshme Sefid,	1.33	65	Pg		Pb	08 42 50.5	-0.9
KCHF				Sg		Sg	08 43 10.8	+1.8
ILIN	Lien	1.65	44	Pg		Pg	08 42 56.8	-1.1
IKFM	Kafar-mosalman	1.90	96	Pn		Pb	08 43 00.4	-0.6
IBZA	Bozab	2.03	68	Pn		Pb	08 43 02.2	-1.2
SDS1	Sardasht. Az.	2.42	358	Pn		Pb	08 43 08.2	-1.7
HSAM	Samen	2.56	78	Pn		Pn	08 43 09.1	+1.1
IPIR	Pirpir	4.57	102	Pn		Pn	08 43 37.2	+1.4
IQOM	Qom	4.68	75	Pn		Pn	08 43 38.6	+1.5
ZNGN	Zangian	4.72	108	Pn		Pn	08 43 38.4	+0.7
QAMS	Qamsar	4.85	88	Pn		Pn	08 43 40.5	+1.1
IMRD	Marand	4.97	1	Pn		Pn	08 43 43.0	+1.8
IKLH	Kolahrood	5.03	93	Pn		Pn	08 43 43.7	+1.8
IVRN	Varamin	5.24	74	Pn		Pn	08 43 46.0	+1.3
KRSH	Karshahi	5.46	86	Pn		Pn	08 43 49.5	+1.7
ISFB	Sefidab	5.56	82	Pn		Pn	08 43 50.4	+1.2
IGAR	Gharneh	5.58	102	Pn		Pn	08 43 50.7	+1.1
IDMV	Damavand	5.63	69	Pn		Pn	08 43 50.9	+0.6
IZEF	Zefreh	5.71	97	Pn		Pn	08 43 53.0	+1.6
KLNJ	Kolanjah	5.76	116	Pn		Pn	08 43 53.3	+1.1
IRAM	Ramesheh	6.04	107	Pn		Pn	08 43 56.9	+1.1
DSBU	Dashti - Bushe	7.24	136	Pn		Pn	08 44 13.8	+1.7
AKASG	Malin Array Be comp=E,0.5nm,0.4s,baz=140,slow=9.6,SNR=6.6 comp=E,0.5nm,0.4s	20.76	330	P		P	08 47 06.8	-0.3
KURBB	Kurchatov Arra comp=E,0.4nm,0.3s,baz=246,slow=8.5,SNR=1.8 comp=E,0.4nm,0.3s	29.36	45	P		P	08 48 28.1	-1.1
MKAR	Makanchi Array comp=E,0.9nm,0.5s,baz=249,slow=8.6,SNR=14 comp=E,0.9nm,0.5s	30.61	54	P		P	08 48 40.9	+0.5
HFS	Hagfors comp=E,0.6nm,0.4s,baz=126,slow=7.5,SNR=5.8 comp=E,0.6nm,0.4s	33.63	331	P		P	08 49 06.9	+0.3
ZALV	Zalesovo Beam comp=E,0.8nm,0.5s,baz=266,slow=8.7,SNR=1.8 comp=E,0.8nm,0.5s	34.17	42	P		P	08 49 11.4	0.0
ILAR	Eielson Array comp=E,0.3nm,0.9s,baz=350,slow=5.4,SNR=2.4 comp=E,0.3nm,0.9s	81.34	5	P		P	08 54 43.8	+1.2

IDC 30 09:00:05.6±3.2, 54°.23N×87°.17E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=26.7km s-min=17.2km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.41	259	I	I	09 07 09.9	
	baz=78,slow=316,SNR=3.0						
ZALV	Zalesovo Beam	1.41	259	Pg	Pn	09 00 31.5	-1.0
	0.7nm,0.3s,baz=73,slow=19,SNR=3.5						
ZALV				Lg	Lg	09 00 51.1	
	0.8nm,0.3s,baz=78,slow=27,SNR=4.1						
KURBB	Kurchatov Arra	6.40	239	Pn	Pn	09 01 41.8	+0.8
	0.1nm,0.3s,baz=57,slow=14,SNR=4.5						
KURBB				Pg	Pb	09 01 55.3	-2.5
	0.1nm,0.3s,baz=57,slow=14,SNR=7.3						
KURBB				Lg	Lg	09 03 29.2	
	baz=54,slow=30,SNR=2.4 0.6nm,0.5s						
MKAR	Makanchi Array	8.07	205	Pn	Pn	09 02 04.8	+0.9
	0.1nm,0.3s,baz=26,slow=14,SNR=2.6						
MKAR				Sn	Sn	09 03 35.8	+0.1
	0.1nm,0.3s,baz=18,slow=26,SNR=5.0						
MKAR				Lg	Lg	09 04 20.5	
	0.1nm,0.3s,baz=16,slow=32,SNR=1.5 0.1nm,0.2s						

IDC 30 09:00:09.5±3.1, 52°.34N×35°.53E, h0km, mbtmp3.4/4, ML2.7/5, Error ellipse: s-maj=41.1km s-min=11.8km az=130.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	Obninsk	2.85	12	Pn	Pn	09 00 55.4	-0.8
	5.4nm,0.3s,baz=209,slow=17,SNR=1.4						
OBN				Lg	Lg	09 01 42.2	
	9.1nm,0.3s,baz=270,slow=2.0,SNR=8.4 16nm,0.5s						
AKASG	Malin Array Be	4.26	250	Pn	Pn	09 01 15.0	-0.6
	0.7nm,0.3s,baz=61,slow=14,SNR=2.2						
AKASG				Sn	Sn	09 02 04.0	-2.0
	1.4nm,0.3s,baz=63,slow=24,SNR=1.7						
AKASG				Lg	Lg	09 02 21.6	
	2.8nm,0.3s,baz=63,slow=29,SNR=5.4						
FINES	FINESS Array B	10.48	334	Pn	Pn	09 02 36.4	-4.4
	0.1nm,0.3s,baz=143,slow=13,SNR=1.4 1.4nm,0.8s						
HFS	Hagfors	14.38	311	Pn	Pn	09 03 25.7	-8.3
	baz=111,slow=14,SNR=1.2 1.1nm,0.8s						
ARCES	ARCESS Array B	17.89	349	P	Pn	09 04 18.4	-1.0
	baz=161,slow=12,SNR=1.8 0.4nm,0.5s						

*PDG **30** 09:28:11.5±0.0, 41°.96N×19°.16E, h16km, MD2.7/1, ML2.3/9, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
*RHSSO **30** 09:28:12.3±0.9, 41°.96N×19°.28E, h3km±2km, ML2.3/7*
*BEO **30** 09:28:12.4±0.4, 41°.94N×19°.11E, h5km±2km, ML2.0/9*
ISC 30 09:28:11.9±1.2, 41°.96N±0°.04×19°.18E±0°.03, h9km±8km, n33, σ0°89/60, 6C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRME	Dracevica, Mon	0.23	1	⇓*i*Pg	Pg	09 28 16.6	+0.1
DRME				*e*Sg	Sg	09 28 20.7	+1.1
DRME	Dracevica, Mon	0.23	1	⇑*i*Pg	Pg	09 28 16.5	+0.1
DRME				*i* Sg	Sg	09 28 20.6	+1.0
BUM	Brajici-Budva	0.40	328	⇑*i*Pg	Pg	09 28 19.3	-0.5
BUM				*i* Sg	Sg	09 28 25.8	+0.7
PDG	Podgorica	0.47	7	*e*Pg	Pg	09 28 20.5	-0.6
PDG				*e*Sg	Sb	09 28 28.3	-1.2
PDG	Podgorica	0.47	7	⇑*i*Pg	Pg	09 28 20.3	-0.8
PDG				*e*Sg	Sg	09 28 27.2	-0.1
PDG	Podgorica	0.47	7	⇓*i*Pg	Pg	09 28 20.7	-0.4
PDG				*i* Sg	Sb	09 28 28.6	-0.9
CEME	Cevo	0.62	342	⇓*i*Pg	Pg	09 28 23.1	-0.7
CEME				*i* Sg	Sb	09 28 33.0	-0.8
TIR	Tirane	0.80	140	*e*Pg	Pb	09 28 27.2	-0.7
TIR				*e*Sg	Sb	09 28 39.4	+0.6
NKME	Niksic	0.82	348	⇓*i*Pg	Pg	09 28 27.0	-0.8
NKME				*i* Sg	Sb	09 28 40.1	+0.4
PVY	Plav	0.86	42	⇓*i*Pg	Pg	09 28 27.8	-0.6
PVY				*i* Sg	Sb	09 28 41.6	+0.9
KOME	Kolasin	0.92	15	⇓*i*Pg	Pg	09 28 28.8	-0.9
KOME				*i* Sg	Sb	09 28 43.7	+1.1
TREB	Trebinje	0.97	321	*e*Pg	Pg	09 28 30.1	-0.5
TREB				*e*Sg	Sb	09 28 44.6	+0.6
TREB	Trebinje	0.97	321	⇑*i*Pg	Pb	09 28 30.6	-0.4
TREB				*e*Sg	Sn	09 28 44.9	-0.9
DBRK	Dubrovnik	1.04	313	*e*Pg	Pg	09 28 31.3	-0.6
DBRK				Sg	Sn	09 28 48.4	+0.9
BRY	Bratogost	1.05	333	⇑*i*Pg	Pb	09 28 32.0	-0.4
BRY				*e*Sg	Sb	09 28 46.8	+0.4
BRY	Bratogost	1.05	333	⇓*i*Pg	Pg	09 28 31.1	-1.0
BRY				*i* Sg	Sn	09 28 47.6	-0.3
KLINJ	Klinje	1.29	340	*e*Pg	Pg	09 28 35.9	-0.7
KLINJ				*e*Sg	Sn	09 28 53.9	+0.3
PLE	Pljevlja	1.38	6	⇓*i*Pg	Pn	09 28 37.1	-0.4
PLE				*i* Sg	Sn	09 28 57.7	+1.8
STON	Ston	1.43	310	*e*Pn	Pn	09 28 37.0	-0.9
STON	Ston	1.43	310	⇑*i*Pg	Pb	09 28 38.3	-0.3
STON				*e*Sg	Sg	09 28 59.2	+1.5
SJES	Sjenica	1.43	24	*e*Pg	Pn	09 28 37.9	-0.2
SJES				*e*Sg	Sg	09 28 59.7	+1.9
SJES	Sjenica	1.43	24	⇓*i*Pg	Pn	09 28 37.6	-0.5
SJES				*e*Sg	Sb	09 28 56.7	-0.4
SELS	Selova	1.91	48	*e*Pn	Pb	09 28 45.8	-1.1
SELS				*e*Sn	Sb	09 29 11.3	+0.5
BBLS	Lazi&#263i	1.91	5	*e*Pn	Pn	09 28 45.3	+0.5
BBLS				*e*Sn	Sg	09 29 12.0	-1.3
BBLS	Lazi&#263i	1.91	5	*e*Pn	Pn	09 28 45.6	+0.8
BBLS				*e*Sn	Sn	09 29 10.0	+1.0
MAKA	Makarska	2.07	311	*e*Pn	Pn	09 28 46.7	-0.2
HAPS	Han Pijesak,BI	2.13	356	*e*Pn	Pb	09 28 49.2	-1.6
HAPS				*e*Sn	Sn	09 29 15.8	+1.3
DIVS	Divibare	2.22	15	*e*Pn	Pn	09 28 48.9	-0.1
DIVS				*e*Sn	Sn	09 29 17.8	+1.2
KIJV	Kijevo	2.88	316	*e*Pn	Pn	09 28 57.8	-0.3
A050A	Klekovaca	3.18	323	*e*Pn	Pn	09 29 03.6	+1.4
A050A				*e*Sn	Sn	09 29 42.0	+1.8
MORI	Morici	3.18	308	*e*Pn	Pn	09 29 02.0	-0.1
DUGI	Dugi Otok	3.64	305	*e*Pn	Pn	09 29 08.7	+0.2
NVLJ	Novalja	4.08	311	*e*Pn	Pn	09 29 14.2	-0.3

*CRAAG **30** 09:32:38.2, 36°.84N×3°.61E, Ml3.3, Algerie 06km NE Zemmouri*
*MDD **30** 09:32:41.0±1.0, 36°.86N×3°.66E, h31km±44km, Mb4.2/6, M_mb3.6/7, Error ellipse: s-maj=22.9km s-min=5.4km az=138.0*
*LDG **30** 09:32:49.0±3.2, 37°.52N×3°.56E, h25km, Ml2.9/11, Error ellipse: s-maj=66.6km s-min=38.0km az=154.0*
ISC 30 09:32:36.9±0.9, 37°.00N±0°.05×3°.65E±0°.03, h12km, n37, σ2°57/47, 5C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKED	El Kharrouba	0.40	209	P	Pg	09 32 44.3	-0.5
ATKB	Taksebt	0.50	131	P	Pb	09 32 47.5	-0.1
ABA	Alger-Bouzarea	0.53	248	P	Pb	09 32 48.5	+0.3
ATKJ	Tikjda	0.67	146	P	Pb	09 32 50.5	-0.1
ABKD	Sidi Amar	1.18	247	P	Pb	09 32 57.7	-1.4
ATAF	Djebel Tarf	1.23	156	P	Pn	09 33 00.0	0.0
CAZD	Ain Tagrout	1.47	124	P	Pg	09 33 07.1	+2.1
EHRZ	Djelida	1.48	238	P	Pn	09 33 02.0	-1.4
EARB	Arib	1.50	243	P	Pg	09 33 05.9	+0.3
EDDR	Deurdeur	1.53	230	P	Pn	09 33 02.8	-1.3
SET	Setif	1.62	119	P	Pg	09 33 08.0	+0.1
EBNH	Beni Haoua	1.75	255	P	Pn	09 33 05.6	-1.4
DFRA	Djebel Bou Aff	1.84	104	P	Pb	09 33 10.8	+0.2
CJSR	Ain Djasser	2.17	121	P	Pb	09 33 16.6	+0.4
CDCN	Doucen	2.69	153	P	Pg	09 33 33.8	+5.4
EIBI	Ibiza	2.72	319	P	Pn	09 33 23.4	+2.9
EIBI				⇑*i*Vmb_V		09 33 24.0	
	243nm,SNR=1.4						
EIBI				S	Sn	09 33 53.4	+0.1
ETOS	Mallorca	2.84	347	P	Pn	09 33 24.6	+2.5
ETOS				⇑*i*Vmb_V		09 33 26.6	
	250nm,SNR=2.9						
ETOS				S	Sn	09 33 55.9	-0.4
EBEN2	Beniarda presa	3.47	300	P	Pn	09 33 33.1	+2.3
EVIV	Cofrentes, Val	4.39	302	P	Pn	09 33 46.5	+3.1
EVIV				⇑*i*Vmb_V		09 33 47.8	
	170nm,SNR=1.2						
EVIV				S	Sn	09 34 34.3	-0.2
ETOB	Tobarra	4.43	293	P	Pn	09 33 46.4	+2.4
ETOB				⇑*i*Vmb_V		09 33 47.7	
	194nm,SNR=1.5						
ETOB				S	Sn	09 34 33.6	-2.0
EMOS	Mosqueruela	4.66	317	P	Pn	09 33 49.3	+2.1
EMOS				S	Sn	09 34 40.4	-0.8
EPOB	Poblet	4.78	336	S	Sn	09 34 42.4	-1.8
EQES	Quesada	5.41	281	P	Pn	09 34 00.9	+3.4
EJON	La Jonquera	5.47	354	P	Pn	09 34 01.6	+3.3
EJON				⇑*i*Vmb_V		09 34 03.1	
	207nm,SNR=1.8						
MTLF	Montolieu	6.43	351	*e*Pn	Pn	09 34 12.0	+0.6
MTLF				*e*Sn	Sn	09 35 21.0	-3.6
	2.2nm,0.4s						
EPF	Esparros	6.54	338	*e*Pn	Pn	09 34 15.7	+2.8
LMR	La Mourre	6.69	18	*e*Pn	Pn	09 34 15.8	+0.8
LMR				*e*Sn	Sn	09 35 28.0	-3.1
	2.8nm,0.3s						
ETSF	Etsaut	6.72	333	*e*Sn	Sn	09 35 27.7	-4.2
	0.2nm,0.1s						
PGF	Pioggiola	6.90	35	*e*Pn	Pn	09 34 20.5	+2.5
PGF				*e*Sn	Sn	09 35 31.4	-5.1
	4.5nm,0.6s						
LASF	Ste Croix	7.07	1	*e*Pn	Pn	09 34 21.8	+1.6
LASF				*e*Sn	Sn	09 35 36.7	-3.8
	1.4nm,0.3s						
SMRF	Simiane la Rot	7.12	11	*e*Pn	Pn	09 34 23.1	+2.2
SMRF				*e*Sn	Sn	09 35 36.1	-5.6
	0.9nm,0.2s						
SJPF	Ste Jean	7.16	330	*e*Sn	Sn	09 35 38.6	-4.1
	3.1nm,0.5s						
SBF	Sospel	7.44	22	*e*Sn	Sn	09 35 45.7	-3.8
	3.7nm,0.3s						
VIVF	Saint-Julien-l	7.89	5	*e*Pn	Pn	09 34 33.9	+2.5
VIVF				*e*Sg	Sn	09 35 57.4	-3.2
	0.5nm,0.2s						
CAF	Calviac	8.01	352	*e*Pg	Pn	09 34 35.2	+2.1
AVF	Avril sur Loir	9.79	359	*e*Pg	Pn	09 35 00.9	+3.5
HAU	Haudompre	11.18	9	*e*Pg	Pn	09 35 19.1	+2.7

*SOME **30** 09:35:45.0, 41°.70N×83°.57E, h10km*
NNC 30 09:35:48.4±3.3, 41°.96N×83°.54E, h0km, mb3.6, mpv3.3, 2D, Error ellipse: s-maj=60.6km s-min=21.1km az=23.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	3.24	293	*e*P	Pn	09 36 42.5	+1.8
	6.9nm,0.2s						
SHLS				*e*S	Sb	09 37 23.9	-3.1
	52nm,0.4s						
SHLS	Shalkode	3.24	293	Pg	Pn	09 36 42.5	+1.8
	6.9nm,0.2s						
SHLS				Lg	Lg	09 37 23.9	
	50nm,0.5s						
UZB	Uzynbulak	3.54	291	*e*P	Pb	09 36 51.5	-0.5
	3.3nm,0.5s						
UZB				*e*S	Sg	09 37 39.4	-2.9
	7.2nm,0.3s						
UZB	Uzynbulak	3.54	291	Pg	Pb	09 36 51.5	-0.5
	3.3nm,0.5s						
UZB				Lg	Lg	09 37 39.4	
	7.2nm,0.3s						
DJR	Jarkent	3.63	312	*e*P	Pb	09 36 55.6	+2.2
	2.2nm,0.3s						
DJR				*e*S	Sg	09 37 45.9	+1.0
	1.6nm,0.2s						
KPKS	Kokpek	3.88	294	*e*P	Pb	09 36 58.1	+0.3
	3.1nm,0.3s						
KPKS				*e*S	Sg	09 37 51.0	-2.2
	16nm,0.3s						
KPKS	Kokpek	3.88	294	Pg	Pb	09 36 58.1	+0.3
	2.9nm,0.3s						
KPKS				Lg	Lg	09 37 50.9	
	16nm,0.3s						
BLB	Baldybastay	4.28	302	Pg	Pb	09 37 06.7	+2.1
	4.7nm,0.3s						
BLB				Lg	Lg	09 38 06.0	
	5.6nm,0.3s						
ARXS	Arharly	4.75	300	*e*P	Pb	09 37 15.8	+3.2
	1.5nm,0.5s						
ARXS				*e*S	Sg	09 38 22.1	+1.1
	5.5nm,0.5s						
ARXS	Arharly	4.75	300	Pg	Pb	09 37 15.8	+3.2
	1.5nm,0.5s						
ARXS				Lg	Lg	09 38 22.1	
	5.5nm,0.5s						
MDOK	Medeo	4.95	286	⇓Pg	Pg	09 37 22.5	-0.6
	0.7nm,0.4s						
MDOK				⇓Lg	Lg	09 38 25.1	
	5.8nm,0.6s						
TNSS	Tian-Shan	4.99	285	*e*P	Pb	09 37 19.1	+2.2
	1.5nm,0.4s						
TNSS				*e*S	Sg	09 38 26.6	-2.2
	3.0nm,0.5s						
TNSS	Tian-Shan	4.99	285	Pg	Pb	09 37 19.1	+2.2
	1.5nm,0.4s						
TNSS				Lg	Lg	09 38 26.6	
	3.0nm,0.5s						
KRBS	Karabastau	6.04	289	Pg	Pg	09 37 39.6	-4.5
	0.7nm,0.2s						
KRBS				Lg	Lg	09 38 59.9	
	1.3nm,0.5s						

IDC 30 09:36:27.7±3.8, 53°.61N×91°.27E, h0km, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=35.6km s-min=25.9km az=29.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.84	278	I	I	09 54 30.0	
	0.4nm,0.9s,baz=89,slow=314,SNR=6.1						
ZALV	Zalesovo Beam	3.84	278	Pn	Pn	09 37 30.0	+2.0
	1.0nm,0.3s,baz=96,slow=13,SNR=4.1						
ZALV				Lg	Lg	09 38 29.4	
	3.6nm,0.3s,baz=91,slow=24,SNR=9.8 1.7nm,0.3s						
KURBB	Kurchatov Arra	8.39	254	Pn	Pn	09 38 29.6	-0.8
	0.1nm,0.3s,baz=67,slow=15,SNR=3.5						
KURBB				Sn	Sn	09 40 04.5	-1.2
	0.1nm,0.3s,baz=67,slow=26,SNR=3.3						
KURBB				Lg	Lg	09 40 54.7	
	0.1nm,0.3s,baz=62,slow=34,SNR=3.2 0.4nm,0.3s						
MKAR	Makanchi Array	8.92	224	Pn	Pn	09 38 38.2	+0.4
	0.6nm,0.3s,baz=36,slow=12,SNR=6.3						
MKAR				Sn	Sn	09 40 19.9	+1.1
	0.2nm,0.3s,baz=40,slow=16,SNR=2.3						
MKAR				Lg	Lg	09 41 10.5	
	0.1nm,0.3s,baz=32,slow=21,SNR=3.3 0.5nm,0.5s						

*IDC **30** 09:54:14.1±1.4, 32°.93S×178°.28W, h0km, mb4.1/3, mbtmp4.1/4, ML3.7/1, Error ellipse: s-maj=38.6km s-min=35.4km az=103.0*
*WEL **30** 09:55:34.5, 38°.S±21°.×17°.8E±1°.4, h32km±14km, M2.2/13, ML2.4/14, MLv2.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=164.5*
ISC 30 09:54:19.1±1.4, 33°.0S±0°.1×178°.3W±0°.2, h32km, n27, σ0°78/28, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.33	210	P	Pn	09 55 36.9	+0.5
WMGZ	Waiomatatini S	5.50	208	P	Pn	09 55 40.5	+1.7
PKGZ	Pakihiroa	5.68	210	P	Pn	09 55 41.4	+0.2
HAZ	Te Kaha	5.72	213	P	Pn	09 55 42.8	+1.1
PUZ	Puketiti	5.78	208	P	Pn	09 55 42.1	-0.5
RUGZ	Raukumara Rang	5.94	212	P	Pn	09 55 45.6	+0.7
TWGZ	Tauwhareparae	5.99	209	P	Pn	09 55 45.7	+0.3
CNGZ	Carnagh Statio	6.16	206	P	Pn	09 55 47.6	-0.2
TKGZ	Te Karaka	6.26	209	P	Pn	09 55 49.0	-0.2
MWZ	Matawai	6.31	211	P	Pn	09 55 49.5	-0.4
URZ	Urewera	6.44	214	Pn	Pn	09 55 51.5	-0.1
	1.6nm,0.3s,baz=45,slow=7.1,SNR=26						
URZ				Sn	Sn	09 57 03.2	-0.7
	8.8nm,0.3s,baz=45,slow=20,SNR=9.6 3.9nm,0.3s						
URZ	Urewera	6.44	214	P	Pn	09 55 52.8	+1.3
MARZ	Manawahe	6.44	218	P	Pn	09 55 51.5	-0.1
RAGZ	Rawiri	6.49	211	P	Pn	09 55 51.8	-0.7
RIGZ	Rimuhau	6.53	208	P	Pn	09 55 52.9	+0.1
PRGZ	Paritu Road	6.67	207	P	Pn	09 55 54.3	-0.4
SNGZ	Shannon Statio	6.76	210	P	Pn	09 55 57.5	+1.4
MUGZ	Murupara	6.77	215	P	Pn	09 55 56.6	+0.3
MTHZ	Maungataniwha	7.04	213	P	Pn	09 56 01.4	+1.5
MRHZ	Matea Rd	7.22	215	P	Pn	09 56 02.5	+0.1
NMHZ	Naumai	7.26	212	P	Pn	09 56 04.5	+1.6
ASAR	Alice Springs	42.77	270	P	P	10 02 13.8	0.0
	1.2nm,0.5s,baz=112,slow=7.8,SNR=33 1.2nm,0.5s						
WRA	Warramunga Arr	44.00	275	P	P	10 02 23.4	-0.3
	2.7nm,0.5s,baz=114,slow=7.8,SNR=47 2.7nm,0.5s						
QSPA	South Pole Qui	57.12	180	P	P	10 04 02.2	-0.1
	1.6nm,1.1s,baz=86,slow=7.2,SNR=1.7 1.6nm,1.1s						
FINES	FINESS Array B	147.47	338	PKPbc	PKPbc	10 13 58.9	-0.1
	2.4nm,0.5s,baz=42,slow=4.3,SNR=16						
HFS	Hagfors	151.72	347	PKPbc	PKPbc	10 14 09.5	-0.1
	1.4nm,0.7s,baz=11,slow=3.1,SNR=2.4						
BRTR	Keskin Array B	153.51	294	PKPbc	PKiKP	10 14 14.6	0.0
	0.5nm,0.5s,baz=108,slow=4.0,SNR=3.8						

*IDC **30** 09:55:53.9±0.9, 22°.71S×170°.73E, h0km, mb4.1/8, mbtmp4.1/9, ML4.3/1, MS3.8/9, Error ellipse: s-maj=30.1km s-min=26.7km az=50.0*
*NEIC **30** 09:55:54.1±1.3, 22°.75S±0°.1×170°.69E±0°.08, h10km±1km, mb4.4/11, Error ellipse: s-maj=18.1km s-min=13.0km az=352.0*
*NOU **30** 09:56:02.6, 22°.16S×169°.95E, h0km, ML4.4/12, Southeast of Loyalty Islands*
ISC 30 09:55:58.2±0.6, 22°.59S±0°.08×170°.56E±0°.07, h33km, n51, σ2°00/44, mb4.4/17, MS3.7/6, 4C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.59	295	P	Pn	09 56 35.8	-2.0
PINNC	Pines Island,	2.88	269	P	Pn	09 56 42.2	+0.4
PINNC	Pines Island,	2.88	269		Pn	09 56 42.4	+0.6
YATNC	Mamie plateau,	3.44	278	P	Pn	09 56 48.5	-1.0
LIFNC	LIFOU	3.57	300	P	Pn	09 56 49.1	-2.3
LIFNC	LIFOU	3.57	300		Pn	09 56 49.4	-1.9
ONTNC	Ouen Toro	3.81	273	P	Pn	09 56 54.9	+0.3
ONTNC	Ouen Toro	3.81	273		Pn	09 56 54.8	+0.2
DZM	Mont Dzumac	3.84	277	P	Pn	09 56 55.2	0.0
DZM	Mont Dzumac	3.84	277		Pn	09 56 55.0	-0.1
DZM	Mont Dzumac	3.84	277	Pn	Pn	09 56 55.2	0.0
	21nm,0.3s,baz=124,slow=13,SNR=1825						
DZM				Sn	Sn	09 57 35.3	-4.0
	26nm,0.3s,baz=315,slow=20,SNR=12						
DZM				LR	LR	09 58 25.4	
	comp=Z,524nm,18.6s,baz=358,slow=38 40nm,0.3s						
NOUC	Port Laguerre	3.97	276	P	Pn	09 56 56.8	0.0
RTV	Rentapao	5.17	337	P	Pn	09 57 13.3	-0.1
DVP	Devils Point	5.32	335	P	Pn	09 57 14.2	-1.2
KOUNC	Koumac, New Ca	6.18	288	P	Pn	09 57 27.4	+0.2
KOUNC

comp=Z,1.3nm,1.0s
KSRS Korea Array 71.95 325 P **P 10 07 20.2 +1.9**
comp=Z,2.4nm,0.8s,baz=142,slow=6.5,SNR=9.1
comp=Z,2.4nm,0.8s
BELA Belgrano 2 78.67 175 P **P 10 07 55.3 -1.2**
CMAR Chiang Mai Arr 81.00 294 P **P 10 08 12.8 +2.7**
comp=Z,1.4nm,0.4s,baz=133,slow=5.1,SNR=8.1
comp=Z,1.4nm,0.4s
MA2 Magadan 83.46 350 LR LR 10 40 22.5
comp=Z,41nm,19.8s,baz=120,slow=32
SNAA Sanae 85.88 182 ⇑P **P 10 08 37.4 +3.0**
comp=Z,41nm,0.9s
SNAA Sanae 85.88 182 P **P 10 08 35.6 +1.1**
comp=Z,2.1nm,1.0s,baz=145,slow=6.7,SNR=5.1
comp=Z,2.1nm,1.0s
VNA3 Neumayer Olymp 86.42 180 ⇑P **P 10 08 40.4 +3.4**
comp=Z,3.6nm,0.8s
VNA2 Neumayer--Watz 86.73 181 ⇑P **P 10 08 42.2 +3.7**
comp=Z,3.2nm,0.8s,baz=183,slow=3.3
VNA1 Neumayer--Stat 87.02 180 ⇑P **P 10 08 41.3 +1.4**
comp=Z,0.7nm,0.2s
NVAR Mina Array Bea 90.10 48 P **P 10 08 56.8 +1.6**
comp=Z,0.2nm,0.5s,baz=222,slow=4.9,SNR=2.3
comp=Z,0.2nm,0.5s
SONM Songino Array 90.62 323 P **P 10 08 59.7 +2.4**
comp=Z,2.3nm,0.9s,baz=137,slow=4.1,SNR=9.8
comp=Z,2.3nm,0.9s
ILAR Eielson Array 93.05 17 P **P 10 09 08.2 +0.2**
comp=Z,0.3nm,0.7s,baz=237,slow=5.1,SNR=6.6
comp=Z,0.3nm,0.7s
EKA Eskdalemuir Ar 146.96 353 PKPbc **PKPab 10 15 38.7 +0.2**
comp=Z,4.6nm,0.7s,baz=338,slow=2.2,SNR=11
KHC Kasperske Hory 147.85 331 *e*PKP **PKPab 10 15 43.8 +1.5**

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*JMA **30** 10:05:29.0±0.3,44°N±2°×14°8E±°, h0km,MV4.0/32,SE OFF ETOROFU*
*SKHL **30** 10:05:31.0±0.2,44°.00N×148°.40E,h39km±8km,mb4.7/3*
ISC 30 10:05:26.1±3.9,43°.91N±0°.08×148°.5E±0°.1,h8km±18km, n19,σ1°56/34,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.23**	**269**	*e*P	**Pn**	**10 05 49.9**	**+0.4**
SHO				AMB	AMB	10 05 51.7	
180nm,0.2s							
SHO				*e*S	**Sg**	**10 06 04.3**	**-1.3**
SHO				A	A	10 06 06.7	
490nm,0.3s							
SHO				A	A	10 06 06.7	
1μm,0.3s							
KUR	**Kuril'sk**	**1.40**	**341**	*e*P	**Pn**	**10 05 52.5**	**+0.6**
KUR				AMB	AMB	10 05 53.2	
100nm,0.2s							
KUR				*e*S	**Sn**	**10 06 08.5**	**-2.0**
KUR				A	A	10 06 10.0	
360nm,0.2s							
KUR				A	A	10 06 10.0	
310nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.93**	**275**	*e*P	**Pn**	**10 05 59.7**	**+0.6**
YUK				AMB	AMB	10 06 00.7	
270nm,0.2s							
YUK				*e*S	**Sn**	**10 06 21.3**	**-2.2**
YUK				A	A	10 06 24.5	
700nm,0.4s							
YUK				A	A	10 06 24.5	
400nm,0.4s							
NEM2	**Nemuro 2**	**2.10**	**256**	P	**Pn**	**10 06 02.0**	**+0.7**
NEM2				*e*S	**Sn**	**10 06 25.8**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.10**	**256**	*e*P	**Pn**	**10 06 02.2**	**+0.7**
NMR				*e*S	**Sn**	**10 06 25.6**	**-2.2**
JRA	**Rausu**	**2.46**	**272**	P	**Pn**	**10 06 07.9**	**+1.4**
JRA				S	**Sn**	**10 06 37.2**	**+0.6**
JNSB	**Nemuroshibetsu**	**2.55**	**268**	P	**Pn**	**10 06 09.2**	**+1.5**
JNSB				S	**Sn**	**10 06 39.4**	**+0.5**
JKHN	**Kushirohamanak**	**2.59**	**252**	P	**Pn**	**10 06 09.3**	**+1.2**
JKHN				S	**Sn**	**10 06 37.8**	**-1.9**
JNK	**Nakash**	**2.78**	**265**	P	**Pn**	**10 06 12.1**	**+1.3**
JNK				*e*S	**Sn**	**10 06 43.3**	**-1.2**
AKK	**Akkeshi**	**2.83**	**253**	*e*P	**Pn**	**10 06 12.6**	**+1.1**
JAK	**Akkeshi**	**2.94**	**253**	P	**Pn**	**10 06 14.0**	**+1.0**
JAK				S	**Sn**	**10 06 46.4**	**-1.9**
JTKR	**Abashiri--Toko**	**3.34**	**273**	P	**Pn**	**10 06 20.3**	**+1.9**
JTKR				*e*S	**Sn**	**10 07 00.2**	**+1.9**
JAR	**Ashorobuto**	**3.51**	**262**	P	**Pn**	**10 06 23.2**	**+2.4**
JAR				S	**Sn**	**10 07 02.6**	**+0.1**
JOB	**Onbets**	**3.57**	**255**	P	**Pn**	**10 06 23.5**	**+1.9**
JOB				S	**Sn**	**10 07 04.0**	**+0.1**
JCH	**Churui**	**3.99**	**253**	P	**Pn**	**10 06 28.9**	**+1.5**
JCH				S	**Sn**	**10 07 13.1**	**-1.2**
JKK2	**Kamakawa 2**	**4.18**	**271**	*e*P	**Pn**	**10 06 32.5**	**+2.5**
JNBK	**Urakawa-nobuka**	**4.53**	**251**	P	**Pn**	**10 06 36.7**	**+1.8**
JNBK				*e*S	**Sn**	**10 07 26.5**	**-1.3**
JOT	**Ohata**	**6.07**	**248**	P	**Pn**	**10 06 57.3**	**+1.3**
JOT				*e*S	Sn	10 08 00.8	-4.7
JANG	**Nango**	**6.30**	**238**	P	**Pn**	**10 06 59.4**	**+0.2**
JANG				*e*S	Sn	10 08 05.0	-6.2

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*IDC **30** 10:21:35.8±0.5,27°.63S×71°.49W,h0km,mb5.0/8, mbtmp4.8/12,ML4.3/4,MS3.8/22,Error ellipse: s-maj=22.3km s-min=14.4km az=100.0*
*SJA **30** 10:21:36.0±0.8,27°.60S×71°.79W,h29km±3km,ML4.9, MW4.6*
*NEIC **30** 10:21:37.5±2.1,27°.63S±0°.04×71°.61W±0°.08,h10km±1km, mb4.9/56,Mwr4.4/35,Mwr4.5(GUC),Error ellipse: s-maj=12.2km s-min=7.2km az=267.0*
*VAO **30** 10:21:39.5±1.6,27°.64S×71°.62W,h26km±10km,mb4.3*
*MOS **30** 10:21:40.2±1.3,27°.55S×71°.43W,h33km,mb5.0/10,Error ellipse: s-maj=14.1km s-min=8.2km az=98.2*
*GUC **30** 10:21:41.8±0.8,27°.72S×71°.42W,h40km±6km,ML4.7*
ISC 30 10:21:36.0±1.7,27°.58S±0°.03×71°.79W±0°.04,h6km±10km, n250,σ1°76/260,mb5.0/41,MS3.8/19,12C-20D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.89**	**135**		**Pg**	**10 21 53.1**	**0.0**
AC04	**Llanos de Chal**	**0.89**	**135**	*e*P	**Pg**	**10 21 52.9**	**-0.2**
AC04	**Llanos de Chal**	**0.89**	**135**	||*i*P	**Pg**	**10 21 53.3**	**+0.2**
AC06	**Mina Casimiro**	**1.30**	**80**	Pn	**Pn**	**10 21 59.6**	**-1.0**
AC06	**Mina Casimiro**	**1.30**	**80**	||*i*P	**Pn**	**10 21 59.7**	**-1.0**
AC06				*i* S	**Sb**	**10 22 13.7**	**-4.0**
GO03	**Copiap**	**1.38**	**91**		**Pn**	**10 22 01.3**	**-0.6**
GO03	**Copiap**	**1.38**	**91**	*e*P	**Pn**	**10 22 01.0**	**-0.9**
GO03	**Copiap**	**1.38**	**91**	||*i*P	**Pn**	**10 22 01.1**	**-0.7**
GO03				*i* S	**Sb**	**10 22 15.9**	**-4.3**
GO03				IAML		10 22 18.5	
comp=N,26μm,0.8s							
LCO	**Las Campanas**	**1.72**	**146**		**Pn**	**10 22 06.5**	**-0.1**
LCO	**Las Campanas**	**1.72**	**146**	*e*P	**Pn**	**10 22 06.4**	**-0.3**
LCO				*e*S	**Sn**	**10 22 26.3**	**-2.8**
LCO				IAML		10 22 26.9	
comp=Z,33μm,0.3s							
LCO	**Las Campanas**	**1.72**	**146**	||*i*P	**Pn**	**10 22 06.4**	**-0.3**
LCO				*i* S	**Sn**	**10 22 25.5**	**-3.6**
LCO	**Las Campanas**	**1.72**	**146**	P	**Pn**	**10 22 06.6**	**-0.1**
AC01	**Pan de Azucar**	**1.78**	**37**		**Pn**	**10 22 07.6**	**+0.2**
AC01	**Pan de Azucar**	**1.78**	**37**	*e*P	**Pn**	**10 22 07.4**	**+0.1**
AC01				*e*S	**Sn**	**10 22 27.5**	**-2.8**
AC01	**Pan de Azucar**	**1.78**	**37**	||*i*P	**Pn**	**10 22 07.5**	**+0.2**
AC01				*i* S	**Sn**	**10 22 27.6**	**-2.6**
AC01				IAML		10 22 28.2	
comp=E,8μm,0.4s							
AC05	**El Transito**	**1.83**	**133**		**Pn**	**10 22 08.1**	**0.0**
AC05	**El Transito**	**1.83**	**133**	*e*P	**Pn**	**10 22 08.1**	**0.0**
AC05				*e*S	**Sn**	**10 22 28.6**	**-3.1**
AC05				IAML		10 22 29.5	
comp=Z,7μm,0.5s							
AC05	**El Transito**	**1.83**	**133**	||*i*P	**Pn**	**10 22 08.2**	**0.0**
AC05				*i* S	**Sn**	**10 22 27.7**	**-4.0**
AC05				IAML		10 22 31.6	
comp=N,16μm,0.7s							
CO05	**La Serena**	**2.38**	**168**		**Pn**	**10 22 15.3**	**-0.2**
CO05	**La Serena**	**2.38**	**168**	||*i*P	**Pn**	**10 22 15.3**	**-0.2**
CO05				*i* S	**Sn**	**10 22 41.8**	**-3.2**
CO05				IAML		10 22 51.6	
comp=E,9μm,0.5s							
GO04	**Tololo Observa**	**2.73**	**162**		**Pn**	**10 22 20.4**	**-0.1**
GO04	**Tololo Observa**	**2.73**	**162**	*e*P	**Pn**	**10 22 20.8**	**+0.2**
GO04				*e*S	**Sn**	**10 22 53.3**	**-0.6**
GO04	**Tololo Observa**	**2.73**	**162**	||*i*P	**Pn**	**10 22 20.6**	**+0.1**
GO04				*i* S	**Sn**	**10 22 51.0**	**-2.9**
CO01	**Juntas del Tor**	**2.81**	**148**		**Pn**	**10 22 22.5**	**+0.8**
CO01	**Juntas del Tor**	**2.81**	**148**	*e*P	**Pn**	**10 22 22.5**	**+0.8**
CO01				*e*S	**Sn**	**10 22 55.1**	**-1.0**
CO01				IAML		10 22 55.5	
comp=Z,4μm,0.8s							
CO01	**Juntas del Tor**	**2.81**	**148**	||*i*P	**Pn**	**10 22 22.6**	**+0.8**
CO01				*i* S	**Sn**	**10 22 53.3**	**-2.8**
CO01				IAML		10 22 56.0	
comp=E,7μm,0.2s							
CO06	**Fray Jorge**	**3.09**	**177**		**Pn**	**10 22 24.5**	**-0.7**
CO06	**Fray Jorge**	**3.09**	**177**	||*i*P	**Pn**	**10 22 24.5**	**-0.7**
CO06				*i* S	**Sn**	**10 22 58.0**	**-4.4**
CO06				IAML		10 22 59.8	
comp=E,3μm,0.3s							
GO02	**Mina Guanaco**	**3.11**	**40**	Pn	**Pn**	**10 22 26.9**	**+1.0**
GO02	**Mina Guanaco**	**3.11**	**40**	*e*P	**Pn**	**10 22 26.9**	**+1.0**
GO02				*e*S	**Sn**	**10 23 03.6**	**0.0**
GO02	**Mina Guanaco**	**3.11**	**40**	*e*P	**Pn**	**10 22 26.9**	**+1.0**
GO02				*i* S	**Sn**	**10 23 02.4**	**-1.2**
GO02				IAML		10 23 04.4	
comp=E,3μm,0.2s							
PB14	**IPOC Station P**	**3.20**	**23**	Pn	**Pn**	**10 22 26.9**	**-0.1**
PB14	**IPOC Station P**	**3.20**	**23**	*e*P	**Pn**	**10 22 26.9**	**-0.1**
PB14				*e*S	**Sn**	**10 23 02.9**	**-2.7**
PB14				IAML		10 23 05.9	
comp=Z,2μm,0.3s							
PB14	**IPOC Station P**	**3.20**	**23**	||*i*P	**Pn**	**10 22 26.9**	**-0.1**
PB14				*i* S	**Sn**	**10 23 02.5**	**-3.1**
PB14				IAML		10 23 03.6	
comp=E,2μm,0.4s							
AROD	**Rodeo**	**3.28**	**142**	*e*P	**Pn**	**10 22 30.8**	**+2.6**
AROD				*e*S	**Sn**	**10 23 08.2**	**+0.4**
VCA	**Vinchina**	**3.37**	**111**	*e*P	**Pn**	**10 22 32.9**	**+3.6**
VCA				*e*S	**Sn**	**10 23 13.1**	**+3.4**
VCA				IAML		10 23 20.6	
comp=Z,3μm,0.5s							
VCA	**Vinchina**	**3.37**	**111**	⇑P	**Pn**	**10 22 32.9**	**+3.6**
CO03	**El Pedregal**	**3.39**	**164**	Pn	**Pn**	**10 22 29.5**	**0.0**
CO03	**El Pedregal**	**3.39**	**164**	*e*P	**Pn**	**10 22 29.5**	**0.0**
CO03				*e*S	**Sn**	**10 23 07.1**	**-2.9**
CO03				IAML		10 23 10.6	
comp=Z,2μm,0.6s							
CO03	**El Pedregal**	**3.39**	**164**	||*i*P	**Pn**	**10 22 29.4**	**0.0**
CO03				IAML		10 23 08.7	
comp=E,3μm,0.2s							
ACDV	**Cuesta del Vie**	**3.49**	**138**	*e*P	**Pn**	**10 22 33.6**	**+2.8**
ACDV				*e*S	**Sn**	**10 23 16.1**	**+3.6**
ACDV				IAML		10 23 26.5	
comp=Z,1μm,0.8s							
CO02	**Combarbal**	**3.68**	**169**		**Pn**	**10 22 33.2**	**-0.3**
CO02	**Combarbal**	**3.68**	**169**	*e*P	**Pn**	**10 22 33.2**	**-0.3**
CO02				*e*S	**Sn**	**10 23 13.2**	**-4.0**
CO02				IAML		10 23 34.2	
comp=Z,2μm,0.5s							
CO02	**Combarbal**	**3.68**	**169**	*e*P	**Pn**	**10 22 33.2**	**-0.3**
CO02				*i* S	**Sn**	**10 23 13.0**	**-4.2**
ACCO	**Cerro Coronel**	**3.83**	**142**	*e*P	**Pn**	**10 22 38.6**	**+2.8**
ACCO				*e*S	**Sn**	**10 23 25.7**	**+4.4**
ACCO				IAML		10 23 40.5	
comp=Z,918nm,0.5s							
DOCA	**Reserva Natura**	**4.11**	**145**	*e*P	**Pn**	**10 22 42.3**	**+2.7**
DOCA				*e*S	**Sn**	**10 23 29.9**	**+1.8**
DOCA				IAML		10 23 34.9	
comp=Z,5μm,0.6s							
ACLC	**CERRO LA CRUZ**	**4.64**	**114**	*e*P	**Pn**	**10 22 48.5**	**+1.7**
ACLC				*e*S	**Sn**	**10 23 41.0**	**-0.1**
ACLC				IAML		10 24 02.2	
comp=Z,478nm,1.8s							
RTLS	**Leoncito**	**4.73**	**153**	*e*P	**Pn**	**10 22 51.2**	**+3.1**
RTLS				*e*S	**Sn**	**10 23 45.9**	**+2.5**
RTLS				IAML		10 24 02.4	
comp=Z,3μm,0.8s							
ZON	**Zonda**	**4.79**	**146**		**Pn**	**10 22 49.3**	**+0.5**
ZON	**Zonda**	**4.79**	**146**	P	**Pn**	**10 22 49.3**	**+0.5**
PB15	**IPOC Station P**	**4.83**	**26**		**Pn**	**10 22 50.3**	**+0.8**
PB15	**IPOC Station P**	**4.83**	**26**	*e*P	**Pn**	**10 22 50.5**	**+1.1**
PB15				*e*S	**Sn**	**10 23 44.7**	**-1.2**
PB15				IAML		10 23 50.0	
comp=Z,3μm,0.4s							
PB15	**IPOC Station P**	**4.83**	**26**	||*i*P	**Pn**	**10 22 50.1**	**+0.6**
PB15				*i* S	**Sn**	**10 23 43.2**	**-2.6**
AVFE	**Valle Fertil**	**4.88**	**130**	*e*P	**Pn**	**10 22 51.5**	**+1.6**
AVFE				*e*S	**Sn**	**10 23 45.5**	**-1.2**
AVFE				IAML		10 23 46.6	
comp=Z,1μm,0.7s							
VA06	**Catapilco**	**4.98**	**175**	Pn	**Pn**	**10 22 50.6**	**-0.7**
VA06	**Catapilco**	**4.98**	**175**	*e*P	**Pn**	**10 22 50.6**	**-0.7**
VA06				*i* S	**Sn**	**10 23 43.2**	**-6.0**
PB06	**IPOC Station P**	**5.25**	**23**	*e*P	**Pn**	**10 22 55.1**	**-0.1**
PB06				*e*S	**Sn**	**10 23 53.0**	**-3.2**
PB06				IAML		10 23 57.9	
comp=Z,339nm,0.3s							
PB06	**IPOC Station P**	**5.25**	**23**	||*i*P	**Pn**	**10 22 55.1**	**-0.1**
VA03	**San Esteban**	**5.28**	**169**	*e*P	**Pn**	**10 22 56.0**	**+0.5**
VA03				IAML		10 24 28.8	
comp=Z,641nm,0.5s							
VA03	**San Esteban**	**5.28**	**169**	*e*P	**Pn**	**10 22 55.8**	**+0.4**
VA03				*i* S	**Sn**	**10 23 50.1**	**-6.5**
PB04	**IPOC Station P**	**5.43**	**16**	Pn	**Pn**	**10 22 56.8**	**-0.9**
LVC	**Limon Verde**	**5.60**	**28**	Pn	**Pn**	**10 23 00.8**	**+0.8**
comp=Z,22nm,0.3s,baz=211,slow=9.5,SNR=304							
LVC				Sn	**Sn**	**10 24 03.4**	**-1.5**
comp=Z,86nm,0.3s,baz=165,slow=20,SNR=12							
LVC				LR	LR	10 25 26.2	
comp=Z,680nm,20.7s,baz=214,slow=42							
comp=Z,52nm,0.3s							
LVC	**Limon Verde**	**5.60**	**28**	*e*P	**Pn**	**10 23 00.5**	**+0.4**
LVC	**Limon Verde**	**5.60**	**28**	*e*P	**Pn**	**10 23 00.9**	**+0.8**
AF01	**San Pedro de A**	**5.65**	**36**		**Pn**	**10 23 02.2**	**+1.4**
H03N1	**Juan Fernandez**	**8.47**	**225**	Pn	**Pn**	**10 23 39.5**	**+0.5**
baz=112,slow=16							
H03N1				T	T	10 32 42.1	
baz=56,slow=71,SNR=568							
H03N2	**Juan Fernandez**	**8.49**	**225**	Pn	**Pn**	**10 23 40.4**	**+1.3**
baz=112,slow=16							
H03N2				T	T	10 32 46.0	
baz=56,slow=71,SNR=689							
H03N3	**Juan Fernandez**	**8.49**	**225**	Pn	**Pn**	**10 23 39.2**	**0.0**
baz=112,slow=16							
H03N3				Sn	**Sn**	**10 25 07.8**	**-7.5**
H03N3				T	T	10 32 35.2	
baz=56,slow=71,SNR=530							
H03S3	**Juan Fernandez**	**8.73**	**223**	Pn	**Pn**	**10 23 41.7**	**-0.8**
baz=308,slow=71							
H03S3				Sn	Sn	10 25 12.3	-8.8
baz=56,slow=72							
H03S1	**Juan Fernandez**	**8.74**	**223**	Pn	**Pn**	**10 23 41.5**	**-1.2**
baz=308,slow=71							
H03S1				Sn	**Sn**	**10 25 20.4**	**-1.0**
baz=56,slow=72							
H03S2	**Juan Fernandez**	**8.75**	**223**	Pn	**Pn**	**10 23 41.7**	**-1.0**
baz=308,slow=71							
H03S2				Sn	**Sn**	**10 25 20.0**	**-1.6**
baz=56,slow=72							
PB18	**Visviri**	**10.17**	**13**		**Pn**	**10 24 04.5**	**+1.5**
LPAZ	**La Paz**	**11.74**	**18**		**Pn**	**10 24 24.9**	**+0.3**
LPAZ	**La Paz**	**11.74**	**18**	Pn	**Pn**	**10 24 25.0**	**+0.4**
comp=Z,2.7nm,0.3s,baz=195,slow=6.5,SNR=79							
LPAZ				Sn	**Sn**	**10 26 31.3**	**-5.0**
comp=Z,0.4nm,0.3s,baz=214,slow=11,SNR=2.0							
LPAZ				LR	LR	10 29 21.2	
comp=Z,354nm,20.2s,baz=194,slow=40							
comp=Z,12nm,0.5s							
LPAZ	**La Paz**	**11.74**	**18**	*e*P	**Pn**	**10 24 24.9**	**+0.3**
LR03	**Panguipulli**	**12.03**	**182**		**Pn**	**10 24 25.7**	**-2.3**
PSAL	**Palomas, Salto**	**12.86**	**109**	*e*P	**Pn**	**10 24 37.0**	**-2.3**
CPUP	**Villa Florida**	**12.96**	**88**	Pn	**Pn**	**10 24 41.8**	**+1.1**
CPUP	**Villa Florida**	**12.96**	**88**	Pn	**Pn**	**10 24 39.2**	**-1.5**
comp=Z,0.1nm,0.3s,baz=253,slow=16,SNR=3.3							
CPUP				LR	LR	10 30 03.4	
comp=Z,366nm,19.9s,baz=260,slow=40							
comp=Z,1.1nm,0.7s							
CPUP	**Villa Florida**	**12.96**	**88**	P	**Pn**	**10 24 41.8**	**+1.1**
CPUP	**Villa Florida**	**12.96**	**88**	*e*P	**Pn**	**10 24 41.1**	**+0.3**
PLCA	**Paso Flores**	**13.16**	**176**	Pn	**Pn**	**10 24 42.5**	**-1.0**
PLCA	**Paso Flores**	**13.16**	**176**	Pn	**Pn**	**10 24 41.9**	**-1.5**
comp=Z,0.3nm,0.3s,baz=334,slow=13,SNR=12							
comp=Z,2.5nm,0.7s							
PLCA	**Paso Flores**	**13.16**	**176**	P	**Pn**	**10 24 42.5**	**-1.0**
TRQA	**Tornquist**	**13.30**	**144**		**Pn**	**10 24 44.5**	**-0.8**
TRQA	**Tornquist**	**13.30**	**144**	P	**Pn**	**10 24 44.5**	**-0.8**
LL04	**Puerto Octay**	**13.31**	**182**	Pn	Pn	10 24 41.9	-3.5
ITQB	**Itaqui**	**13.49**	**102**	Pn	**Pn**	**10 24 47.0**	**-0.9**
ITQB	**Itaqui**	**13.49**	**102**	*e*P	**Pn**	**10 24 46.8**	**-1.0**
MURT	**Porto Murtinho**	**14.18**	**69**	*e*P	**Pn**	**10 24 57.9**	**+0.5**
TBOT	**Tacuaremb**	**14.38**	**110**	*e*P	**Pn**	**10 24 59.7**	**-0.4**
BBSD	**Serra de San D**	**14.62**	**47**	*e*P	Pn	10 24 59.3	-4.1
LL01	**San Ignacio de**	**14.77**	**182**	Pn	**Pn**	**10 25 04.7**	**-0.7**
RODS	**Rosario do Sul**	**14.79**	**105**	*e*P	**Pn**	**10 25 03.6**	**-2.1**
SIV	**San Ignacio**	**15.22**	**43**	Pn	**Pn**	10 25 04.8	-6.8
comp=Z,0.1nm,0.3s,baz=236,slow=12,SNR=16							
CRSM	**Crissiumal (Br**	**15.75**	**94**	*e*P	**Pn**	**10 25 18.1**	**-0.4**
NNA	**Nana**	**16.22**	**342**	Pn	**Pn**	**10 25 25.5**	**+0.9**
NNA	**Nana**	**16.22**	**342**	Pn	**P**	**10 25 30.8**	**+3.1**
comp=Z,2.0nm,0.3s,baz=166,slow=17,SNR=10							
NNA				LR	LR	10 30 20.2	
comp=Z,425nm,21.2s,baz=168,slow=32							
NNA	**Nana**	**16.22**	**342**	P	**Pn**	**10 25 25.5**	**+0.9**
NNA				pmax	pmax		
comp=Z,34nm,0.9s							
CPSB	**Cacapava Do Su**	**16.30**	**104**	*e*P	**Pn**	**10 25 25.1**	**-0.5**
PLTB	**Pedras Altas**	**16.35**	**109**	Pn	**Pn**	**10 25 24.5**	**-1.7**
PLTB	**Pedras Altas**	**16.35**	**109**	*e*P	**Pn**	**10 25 25.1**	**-1.0**
PTLB	**Pontes e Lacer**	**16.85**	**47**	Pn	**Pn**	**10 25 30.9**	**-1.6**
PTLB	**Pontes e Lacer**	**16.85**	**47**	*e*P	**Pn**	**10 25 33.5**	**+1.0**
ITAB	**Concordia**	**17.46**	**93**	P	**Pn**	**10 25 40.7**	**+0.5**
ITAB				IAmb	IAmb	10 25 42.3	
comp=Z,85nm,1.6s							
ITAB	**Concordia**	**17.46**	**93**	*e*P	**Pn**	**10 25 40.0**	**-0.2**
RVDE	**Rio Verde (Bra**	**17.65**	**65**	*e*P	**Pn**	**10 25 43.1**	**+0.5**
TRCB	**Terra Rica**	**17.98**	**79**	P	**Pn**	**10 25 46.7**	**0.0**
TRCB	**Terra Rica**	**17.98**	**79**	*e*P	**Pn**	**10 25 46.9**	**+0.3**
VILB	**Vilhena**	**18.15**	**39**	*e*P	**Pn**	**10 25 49.3**	**+0.5**
ETMB	**Extrema**	**18.44**	**18**	P	**P**	**10 25 50.0**	**-2.3**
ETMB	**Extrema**	**18.44**	**18**	*e*P	**Pn**	**10 25 53.8**	**+1.5**
SALV	**Santo Antonio**	**18.91**	**55**	*e*P	**P**	**10 25 57.3**	**-0.2**
LDASE	**Londrina, Braz**	**19.12**	**82**	*e*P	**P**	**10 25 59.4**	**-0.4**
PCMB	**Pacaembu**	**19.58**	**77**	*e*P	**P**	**10 26 05.2**	**+0.4**
CZSB	**Cruzeiro do Su**	**19.76**	**357**	P	**Pn**	**10 26 09.0**	**+0.7**
CZSB				IAmb	IAmb	10 26 14.7	
comp=Z,93nm,1.1s							
CZSB	**Cruzeiro do Su**	**19.76**	**357**	*e*P	**Pn**	**10 26 08.7**	**+0.4**
SAML	**Samuel**	**20.24**	**25**	P	**P**	**10 26 12.8**	**+0.8**
SAML	**Samuel**	**20.24**	**25**	P	**P**	**10 26 12.8**	**+0.8**
SAML				pmax	pmax		
comp=Z,26nm,1.6s							
FRTB	**Fartura**	**20.50**	**83**	*e*P	**P**	**10 26 14.3**	**-0.6**
ITRB	**Iturama**	**21.12**	**73**	*e*P	**P**	**10 26 20.8**	**-0.8**
PDRB	**Porto dos Gac**	**21.26**	**45**	*e*P	**P**	**10 26 23.2**	**+0.1**
ATAH	**Atahualpa**	**21.28**	**342**	P	**P**	**10 26 29.1**	**+5.4**
comp=Z,21nm,1.0s,baz=160,slow=7.4,SNR=7.8							
ATAH				LR	LR	10 33 19.6	
comp=Z,185nm,21.1s,baz=172,slow=33							
ARAG	**Araguaiana, MT**	**21.97**	**62**	*e*P	**P**	**10 26 30.3**	**-0.4**
PET01	**Itanhaem-SP**	**22.28**	**87**	*e*P	**P**	**10 26 34.2**	**+0.2**
SPB	**Sao Paulo**	**22.32**	**85**	*e*P	**P**	**10 26 33.6**	**-0.8**
CLDB	**Colider**	**22.41**	**45**	*e*P	**P**	**10 26 35.6**	**+0.2**
VAO	**Valinhos**	**22.89**	**84**	P	**P**	**10 26 38.4**	**-2.2**
VAO	**Valinhos**	**22.89**	**84**	*e*P	**P**	**10 26 38.9**	**-1.7**
TBTG	**Tabatinga, AM**	**23.33**	**5**	P	**P**	**10 26 45.6**	**+0.6**
TBTG	**Tabatinga, AM**	**23.33**	**5**	*e*P	**P**	**10 26 47.5**	**+2.4**
IPMB	**Ipameri, GO**	**23.71**	**71**	*e*P	**P**	**10 26 46.5**	**-2.3**
SNDB	**Serra Nova Dou**	**24.70**	**55**	*e*P	**P**	**10 26 57.6**	**-0.4**
TEFE	**Tefe**	**24.89**	**17**	*e*P	**P**	**10 27 00.7**	**+1.0**
BDFB	**Brasilia**	**25.04**	**67**	P	**P**	**10 26 59.3**	**-1.9**
BDFB				IAmb	IAmb	10 27 01.5	
comp=Z,19nm,0.7s							
BDFB	**Brasilia**	**25.04**	**67**	P	**P**	**10 26 59.9**	**-1.4**
comp=Z,14nm,0.6s,baz=240,slow=9.5,SNR=18							
BDFB				LR	LR	10 38 25.2	
comp=Z,317nm,19.9s,baz=246,slow=41							
comp=Z,14nm,0.6s							
BDFB	**Brasilia**	**25.04**	**67**	P	**P**	**10 26 59.3**	**-1.9**
BDFB				pmax	pmax		
comp=Z,19nm,0.7s							
NPGB	**Novo Progresso**	**25.69**	**40**	*e*P	**P**	**10 27 06.8**	**-0.2**
MACA	**Manacapuru-AM**	**26.50**	**26**	P	**P**	**10 27 13.9**	**-0.4**
MACA				IAmb	IAmb	10 27 18.2	
comp=Z,21nm,0.6s							
MACA	**Manacapuru-AM**	**26.50**	**26**	*e*P	**P**	**10 27 15.2**	**+0.9**
SLOR	**San Lorenzo -**	**27.46**	**345**	P	**P**	**10 27 23.1**	**-0.4**
ANTS	**Antisana-Sarah**

TUL3	Leonard	67.09 339	P	P	10 32 31.0	+0.9
CCM	Cathedral Cave	67.79 344		P	10 32 35.7	+1.2
CCM			IAmb	IAmb	10 32 52.4	
	comp=Z,14nm,0.8s					
CCM	Cathedral Cave	67.79 344	P	P	10 32 35.7	+1.2
CCM			pmax	pmax		
	comp=Z,14nm,0.9s					
MSTX	Muleshoe	67.89 333	IAmb	IAmb	10 32 54.6	
	comp=Z,5.9nm,0.8s					
SMWD	Samnorwood	67.90 335	IAmb	IAmb	10 32 54.5	
	comp=Z,15nm,1.1s					
OK048	Pawnee Station	67.92 338	P	P	10 32 36.7	+1.3
S39A	Bolivar	68.00 342	IAmb	IAmb	10 32 54.5	
	comp=Z,16nm,1.0s					
SBA	Scott Base	69.39 191	P	P	10 32 46.1	+2.0
SBA			IAmb	IAmb	10 32 55.1	
	comp=Z,10nm,1.4s					
SBA	Scott Base	69.39 191	P	P	10 32 46.1	+2.0
SBA			pmax	pmax		
	comp=Z,10.0nm,1.4s					
ANMO	Albuquerque	70.30 330⇑	eP	P	10 32 53.7	+3.2
ANMO			pmax	pmax		
	comp=Z,2.0nm,2.2s					
VNDA	Vanda	70.42 191	P	P	10 32 52.1	+1.6
VNDA	Vanda	70.42 191	P	P	10 32 52.5	+2.0
	comp=Z,2.1nm,0.8s,baz=124,slow=6.0,SNR=17					
	comp=Z,2.1nm,0.8s					
VNDA	Vanda	70.42 191	P	P	10 32 52.1	+1.6
VNDA			pmax	pmax		
	comp=Z,4.0nm,1.1s					
LIC	Lamto	72.63 73⇑	eP	P	10 33 04.4	-0.4
	comp=Z,50nm,0.9s					
TIC	Toumodi	72.85 73⇑	eP	P	10 33 05.1	-1.0
	comp=Z,19nm,0.8s					
KIC	Kosan Boka	72.94 73⇑	eP	P	10 33 06.4	-0.3
	comp=Z,30nm,0.6s					
DBIC	Dimbokro	73.00 73	P	P	10 33 06.8	-0.2
DBIC	Dimbokro	73.00 73	P	P	10 33 06.7	-0.3
	comp=Z,21nm,0.6s,baz=249,slow=6.8,SNR=30					
DBIC			LR	LR	11 02 56.8	
	comp=Z,133nm,19.9s,baz=220,slow=34					
	comp=Z,21nm,0.6s					
DBIC	Dimbokro	73.00 73	P	P	10 33 06.8	-0.2
DBIC			pmax	pmax		
	comp=Z,49nm,1.2s					
SMCO	Snowmass	74.09 332	IAmb	IAmb	10 33 34.2	
	comp=Z,4.4nm,0.7s					
ECSD	EROS Data Cent	74.53 342	IAmb	IAmb	10 33 33.4	
	comp=Z,11nm,0.9s					
PDAR	Pinedale Array	78.16 333	P	P	10 33 38.2	+2.0
	comp=Z,0.4nm,0.8s,baz=120,slow=8.8,SNR=4.5					
ELK	Elko	79.04 328	LR	LR	11 03 31.4	
	comp=Z,79nm,20.8s,baz=160,slow=32					
MAW	Mawson	79.26 164	P	P	10 33 42.2	+0.4
	comp=Z,19nm,0.8s,baz=206,slow=6.1,SNR=37					
MAW			LR	LR	11 09 29.4	
	comp=Z,107nm,18.0s,baz=204,slow=36					
	comp=Z,19nm,0.8s					
LAO	LASA Array	80.22 337	IAmb	IAmb	10 34 05.8	
	comp=Z,8.8nm,0.9s					
TSUM	Tsumeb	80.81 107	P	P	10 33 49.7	-1.5
TSUM			IAmb	IAmb	10 33 52.2	
	comp=Z,8.0nm,0.9s					
TSUM	Tsumeb	80.81 107	LR	LR	11 05 09.7	
	comp=Z,132nm,19.8s,baz=152,slow=32					
TOA0	Torodi Ar. Sit	81.86 71	P	P	10 33 56.2	-0.4
TORD	Torodi Ar. Bea	81.86 71	P	P	10 33 56.4	-0.1
	comp=Z,33nm,0.6s,baz=276,slow=4.8,SNR=283					
	comp=Z,33nm,0.6s					
BOSA	Boshof	82.90 118	P	P	10 34 01.2	-0.9
	comp=Z,4.1nm,0.6s,baz=251,slow=4.1,SNR=7.8					
	comp=Z,4.1nm,0.6s					
NEW	Newport	85.74 332	LR	LR	11 10 40.6	
	comp=Z,66nm,18.3s,baz=96,slow=34					
CASY	Casey	86.42 181	P	P	10 34 19.3	+0.4
CASY			IAmb	IAmb	10 34 21.0	
	comp=Z,11nm,0.8s					
KEST	Kesra	99.00 54	LR	LR	11 21 00.1	
	comp=Z,94nm,19.8s,baz=260,slow=36					
STKA	Stephens Creek	112.86 211	‖ PKIKP	PKiKP	10 40 14.2	0.0
AKASG	Malin Array Be	117.60 45	PKP	PKPdf	10 40 21.5	-1.0
AKBB	Malin Array Si	117.60 45	‖ PKIKP	PKPdf	10 40 22.0	-0.5
OBN	Obninsk	122.52 40	ePKIKP	PKPdf	10 40 30.7	-1.1
OBN			e		10 42 11.7	
OBN			ePPP	PPP	10 44 43.6	
OBN			pmax	pmax		
	comp=Z,4.0nm,0.7s					
ASAR	Alice Springs	123.34 208	PKP	PKPdf	10 40 34.2	-0.4
	comp=Z,2.0nm,0.6s,baz=128,slow=1.6,SNR=42					
KIV	Kislovodsk	125.74 54	ePKIKP	PKPdf	10 40 38.5	0.0
KIV			pmax	pmax		
	comp=Z,4.0nm,1.0s					
KBZ	Khabaz	125.88 54	‖ PKIKP	PKiKP	10 40 42.3	+3.3
WRA	Warramunga Arr	126.41 211	PKP	PKPdf	10 40 40.5	0.0
	comp=Z,4.5nm,0.6s,baz=156,slow=1.7,SNR=81					
BILL	Bilibino	127.11 336	ePKIKP	PKiKP	10 40 41.8	+1.0
BILL			e		10 42 41.9	
BILL			pmax	pmax		
	comp=Z,3.0nm,1.0s					
SEY	Seymchan	134.49 333	PKP	PKiKP	10 40 56.1	+0.4
	comp=Z,1.5nm,0.7s,baz=36,slow=14,SNR=3.9					
ARU	Arti	134.61 36	PKP	PKiKP	10 40 55.8	-0.4
	comp=Z,3.2nm,0.4s,baz=282,slow=9.3,SNR=5.4					
ARU			PP	PP	10 43 25.3	-2.8
	comp=Z,6.9nm,0.3s,baz=280,slow=14,SNR=5.4					
ARU	Arti	134.61 36	i PKIKP	PKiKP	10 40 56.0	-0.2
ARU					10 43 27.5	
ARU			SS	SS	11 01 16.1	-3.8
AKTO	Aktyubinsk	135.85 45	PKP	PKPdf	10 40 58.1	+0.7
	comp=Z,0.8nm,0.4s,baz=278,slow=5.6,SNR=4.9					
YAK	Yakutsk	142.71 343⇑	ePKIKP	PKPdf	10 41 09.5	0.0
OTUK	Ortayu	145.42 44	PKIKP	PKPab	10 41 15.8	+0.9
KAPI	Kappang	145.73 201	PKPbc	PKPab	10 41 17.3	+0.4
	comp=Z,8.4nm,0.4s,baz=170,slow=5.6,SNR=7.9					
KAPI	Kappang	145.73 201	d PKP2	PKPab	10 41 17.7	+0.8
KK31	Karatay Array	145.89 53	i PKP2	PKPbc	10 41 16.3	0.0
YSS	Yuzh-Sakhalins	146.76 315	ePKIKP	PKPdf	10 41 17.2	+0.3
YSS			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KURK	Kurchatov	147.80 36	dePKIKP	PKPdf	10 41 19.7	+1.1
KURBB	Kurchatov Arra	147.81 36	PKPbc	PKPdf	10 41 20.1	+1.5
	comp=Z,7.4nm,0.6s,baz=305,slow=2.8,SNR=31					
ZALV	Zalesovo Beam	148.54 27	PKPbc	PKPdf	10 41 20.9	+1.2
	comp=Z,16nm,0.7s,baz=318,slow=2.0,SNR=28					
AAK	Ala-Archa	148.83 52	PKPbc	PKiKP	10 41 26.2	+0.2
	comp=Z,9.3nm,0.6s,baz=59,slow=1.5,SNR=10					
AAK	Ala-Archa	148.83 52	ePKIKP	PKPdf	10 41 22.5	+1.7
ZEA	Zeya	150.34 337	ePKIKP	PKPdf	10 41 24.0	+1.4
KSH	Kashi	150.77 58	PKPbc	PKPbc	10 41 30.0	+0.5
KLR	Kul'dur	151.79 326	‖ PKIKP	PKPbc	10 41 31.2	-0.1
MK31	Makanchi Array	152.03 40	c PKIKP	PKPbc	10 41 32.4	+0.4
MKAR	Makanchi Array	152.03 40	PKPbc	PKiKP	10 41 32.5	+0.2
	comp=Z,6.7nm,0.4s,baz=317,slow=2.0,SNR=74					
SONM	Songino Array	159.73 4	PKP	PKPdf	10 41 37.0	+1.3
	comp=Z,0.3nm,0.4s,baz=349,slow=1.5,SNR=4.6					
HHC	Hu-ho-hao-te	166.48 349	eP	PKPdf	10 41 38.0	-4.4
CMAR	Chiang Mai Arr	167.55 135	PKPab	PKPab	10 42 48.0	-1.4
	comp=Z,1.4nm,0.6s,baz=236,slow=5.2,SNR=7.9					
NJ2	Nanjing	169.74 298	eP	PKPdf	10 41 45.5	+0.7
NJ2			pmax	pmax		
	comp=Z,6.0nm,0.5s					
PZH	PanZhiHua	174.13 99	PKP	PKPdf	10 41 46.5	-0.7

*IDC **30** 10:22:11.4±7.8, 5°.73N×124°.61E, h460km±92km, mb2.8/4, mbtmp3.9/5, Error ellipse: s-maj=122.6km s-min=17.3km az=60.0*
*NEIC **30** 10:22:15.6±2.4, 5°.4N±0°.2×123°.9E±0°.2, h506km±14km, mb4.0/11, Error ellipse: s-maj=29.0km s-min=17.6km az=54.0*
ISC 30 10:22:14.8±0.9, **5°.5N**±0°.1×**124°.0E**±0°.1, **h500**km, **n21**, σ1§**38**/22, **mb3.4**/8, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	Lahad Datu	5.45	267	P	P	10 23 44.5	-1.5
KKM	Kota Kinabalu	7.73	274	P	P	10 24 06.3	-2.3
KAPI	Kappang	11.27	202	P	P	10 24 47.4	+1.7
	8.1nm,0.3s,baz=42,slow=10,SNR=7.2						
SBUM	Sibu	12.10	256	P	P	10 24 56.1	+1.6
SOEI	Soe	15.16	179	P	P	10 25 28.2	+1.3
KNRA	Kununurra	21.58	167	P	P	10 26 27.2	-0.6
KNRA				IAmb	IAmb	10 26 38.6	
	comp=Z,14nm,1.4s						
FITZ	Fitzroy Crossi	23.51	176	P	P	10 26 44.3	-0.9
WRA	Warramunga Arr	27.27	158	P	P	10 27 15.6	-2.9
WRA	Warramunga Arr	27.27	158	P	P	10 27 16.7	-1.8
	comp=Z,0.7nm,1.1s,baz=336,slow=9.5,SNR=5.4						
	comp=Z,0.7nm,1.1s						
AS31	Alice Springs	30.57	162	P	P	10 27 46.6	-0.7
AS31				IAmb	IAmb	10 28 23.0	
	comp=Z,1.7nm,1.2s						
ASAR	Alice Springs	30.58	162	P	P	10 27 46.6	-0.6
	comp=Z,0.4nm,0.3s,baz=339,slow=7.6,SNR=17						
ASAR				PcP	PcP	10 30 31.1	+0.3
	comp=Z,0.4nm,0.9s,baz=348,slow=3.4,SNR=2.7						
	comp=Z,0.4nm,0.3s						
MORW	Morawa	35.21	192	P	P	10 28 25.3	-1.2
MORW				IAmb	IAmb	10 28 57.7	
	comp=Z,14nm,1.1s						
FORT	Forrest	36.29	174	P	P	10 28 35.5	+0.1
HNR	Honiara	38.81	112	P	P	10 28 57.4	+1.0
BBOO	Buckleboo	39.80	164	P	P	10 29 04.0	-0.2
MK31	Makanchi Array	54.54	326	P	P	10 30 56.3	+1.1
MKAR	Makanchi Array	54.54	326	P	P	10 30 56.6	+1.4
MKAR	Makanchi Array	54.54	326	P	P	10 30 56.0	+0.8
	comp=Z,0.7nm,0.5s,baz=123,slow=7.1,SNR=8.8						
	comp=Z,0.7nm,0.5s						
KURBB	Kurchatov Arra	58.77	328	P	P	10 31 25.2	+0.9
	comp=Z,0.5nm,0.5s,baz=131,slow=6.7,SNR=5.6						
	comp=Z,0.5nm,0.5s						
KURK	Kurchatov	58.78	328	P	P	10 31 23.5	-0.8
KURK				IAmb	IAmb	10 31 25.9	
	comp=Z,1.7nm,0.7s						
ABKAR	Akbulak array	69.04	321	P	P	10 32 30.1	+0.3

*IDC **30** 10:35:57.5±1.0, 54°.85S×127°.76W, h0km, mb3.8/6, mbtmp3.8/6, MS4.0/23, Error ellipse: s-maj=33.8km s-min=19.2km az=100.0*
ISC 30 10:35:58.8±0.9, **54°.8S**±0°.1×**127°.6W**±0°.2, **h10**km, **n43**, σ1§**48**/11, **mb4.1**/9, **MS4.1**/23, **3C, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	30.73	33	LR	LR	10 51 46.6	
	comp=Z,126nm,18.2s,baz=244,slow=31						
PMSA	Palmer Station	32.09	134	LR	LR	10 52 04.9	
	comp=Z,443nm,21.9s,baz=100,slow=30						
VNDA	Vanda	33.07	202	P	P	10 42 34.9	+0.8
	0.6nm,0.9s,baz=104,slow=8.8,SNR=1.8						
VNDA				LR	LR	10 52 44.2	
	comp=Z,129nm,19.4s,baz=116,slow=30						
	0.6nm,0.9s						
QSPA	South Pole Qui	35.36	180	P	P	10 42 55.1	+1.0
	3.1nm,0.9s,baz=100,slow=8.1,SNR=8.3						
QSPA				S	S	10 48 29.3	+1.0
	0.7nm,0.9s,baz=70,slow=18,SNR=9.0						
QSPA				LR	LR	10 55 58.3	
	comp=Z,195nm,18.4s,baz=88,slow=34						
	3.1nm,0.9s						
H03S2	Juan Fernandez	39.65	78	T	T	11 25 44.7	
	baz=221,slow=74,SNR=19						
H03S1	Juan Fernandez	39.66	79	T	T	11 25 40.4	
	baz=221,slow=74,SNR=19						
H03S3	Juan Fernandez	39.67	79	T	T	11 25 39.6	
	baz=221,slow=74,SNR=17						
H03N3	Juan Fernandez	39.93	78	T	T	11 25 58.8	
	baz=223,slow=72,SNR=65						
H03N2	Juan Fernandez	39.94	78	T	T	11 25 57.8	
	baz=223,slow=72,SNR=81						
H03N1	Juan Fernandez	39.95	78	T	T	11 25 54.5	
	baz=223,slow=72,SNR=73						
RAR	Rarotonga	41.36	311	LR	LR	10 58 08.7	
	comp=Z,153nm,18.1s,baz=139,slow=32						
RAO	Raoul Island	43.98	285	LR	LR	10 57 09.9	
	comp=Z,59nm,21.4s,baz=151,slow=29						
VNA3	Neumayer Olymp	46.85	157	⇑P	P	10 44 25.5	-2.9
	comp=Z,1.3nm,0.8s						
VNA2	Neumayer--Watz	47.59	157	⇑P	P	10 44 33.1	-1.1
	comp=Z,1.0nm,0.6s,baz=249,slow=8.4						
VNA1	Neumayer--Stat	47.60	157	⇑P	P	10 44 26.8	-7.3
	comp=Z,1.5nm,0.7s						
SNAA	Sanae	48.00	160	LR	LR	11 04 31.9	
	comp=Z,208nm,18.1s,baz=221,slow=36						
CPUP	Villa Florida	57.66	91	LR	LR	11 07 08.4	
	comp=Z,229nm,18.2s,baz=218,slow=32						
LPAZ	La Paz	59.37	74	P	P	10 46 02.8	+0.9
	comp=Z,1.5nm,0.9s,baz=225,slow=1.4,SNR=5.3						
LPAZ				LR	LR	11 05 47.5	
	comp=Z,76nm,19.4s,baz=163,slow=30						
	comp=Z,1.5nm,0.9s						
ATAH	Atahualpa	61.60	59	LR	LR	11 06 23.4	
	comp=Z,177nm,21.6s,baz=219,slow=30						
BDFB	Brasilia	71.40	91	LR	LR	11 15 13.7	
	comp=Z,199nm,19.7s,baz=169,slow=33						
ROSC	El Rosal	73.96	56	LR	LR	11 13 49.4	
	comp=Z,149nm,19.6s,baz=144,slow=31						
JTS	Las Juntas de	74.10	44	LR	LR	11 13 22.2	
	comp=Z,82nm,18.2s,baz=132,slow=30						
ASAR	Alice Springs	75.68	249	P	P	10 47 44.2	-0.1
	comp=Z,0.5nm,1.0s,baz=150,slow=7.5,SNR=1.9						
	comp=Z,0.5nm,1.0s						
H01W1	Cape Leeuwin H	76.14	228	T	T	12 12 11.0	
	baz=147,slow=76,SNR=5.2						
H01W2	Cape Leeuwin H	76.15	228	T	T	12 12 12.0	
	baz=147,slow=76,SNR=4.6						
H01W3	Cape Leeuwin H	76.16	228	T	T	12 12 17.3	
	baz=147,slow=76,SNR=5.1						
WRA	Warramunga Arr	78.44	252	P	P	10 47 58.8	-1.0
	comp=Z,0.8nm,1.0s,baz=172,slow=4.8,SNR=3.2						
	comp=Z,0.8nm,1.0s						
SDV	Santo Domingo	79.26	58	LR	LR	11 19 47.5	
	comp=Z,82nm,19.6s,baz=68,slow=33						
MDP	Montagnes des	85.57	75	LR	LR	11 21 22.0	
	comp=Z,85nm,19.6s,baz=130,slow=32						
TXAR	Lajitas Array	86.31	21	P	P	10 48 41.5	+0.9
	comp=Z,0.5nm,1.0s,baz=187,slow=3.6,SNR=3.7						
	comp=Z,0.5nm,1.0s						
PFO	Pinyon Flats O	88.60	9	LR	LR	11 19 19.4	
	comp=Z,61nm,19.1s,baz=232,slow=29						
SUR	Sutherland	89.00	154	LR	LR	11 23 48.7	
	comp=Z,102nm,20.8s,baz=144,slow=32						
H11S2	WAKE ISLAND Hy	91.76	300	T	T	12 30 58.2	
	baz=148,slow=76,SNR=15						
H11S3	WAKE ISLAND Hy	91.78	300	T	T	12 30 56.2	
	baz=148,slow=76,SNR=12						
H11S1	WAKE ISLAND Hy	91.78	300	T	T	12 30 56.6	
	baz=148,slow=76,SNR=12						
NVAR	Mina Array Bea	93.22	7	LR	LR	11 23 08.1	
	comp=Z,47nm,18.1s,baz=176,slow=30						
BOSA	Boshof	93.69	156	LR	LR	11 27 36.0	
	comp=Z,80nm,19.2s,baz=205,slow=33						
YBH	Yreka Blue Hor	96.27	4	LR	LR	11 22 52.1	
	comp=Z,105nm,20.5s,baz=220,slow=29						
TKL	Tuckaleechee C	97.67	35	LR	LR	11 26 51.3	
	comp=Z,58nm,20.4s,baz=124,slow=31						
PDAR	Pinedale Array	98.43	13	LR	LR	11 25 34.7	
	comp=Z,32nm,20.9s,baz=199,slow=30						
KAPI	Kappang	98.68	248	LR	LR	11 33 35.2	
	comp=Z,208nm,18.2s,baz=188,slow=35						
ILAR	Eielson Array	120.18	351	PKP	PKPdf	10 54 46.7	-1.7
	comp=Z,0.3nm,0.8s,baz=197,slow=1.9,SNR=3.2						
SONM	Songino Array	146.27	281	PKPbc	PKPab	10 55 40.0	+0.4
	comp=Z,0.5nm,0.3s,baz=160,slow=4.6,SNR=2.6						

*HEL **30** 10:38:20.2±0.4, 67°.60N×34°.29E, h0km, ML2.2, Suspected explosion*
*KOLA **30** 10:38:21.3, 67°.67N×34°.25E, h0km, ML2.5, Error ellipse: s-maj=3.7km s-min=1.5km az=130.0, Murmansk region, Kirovsk district*
*BER **30** 10:38:26.2±1.4, 67°.84N×33°.50E, h0km, ML2.0, Suspected explosion*
ISC 30 10:38:20.7±1.0, **67°.69N**±0°.04×**34°.19E**±0°.04, **h0**km, **n29**, σ1§**02**/55, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	Lovozero	0.27	39	P	Pg	10 38 26.2	+0.4
LVZ				S	Sg	10 38 29.9	+0.5
LVZ	Lovozero	0.27	39	PG	Pg	10 38 26.2	+0.4
LVZ				SG	Sg	10 38 30.3	+0.9
APA	Apatity	0.33	249	P	Pg	10 38 27.0	+0.2
APA				S	Sg	10 38 31.8	+0.7
APA0	Apatity Array	0.47	260	P	Pg	10 38 29.2	-0.3
APA0				S	Sg	10 38 36.0	+0.4
TERR	Teriberka	1.56	12	P	Pn	10 38 48.8	-0.7
TERR				S	Sn	10 39 09.4	-1.0
VRF	Varrio	1.75	274	PG	Pn	10 38 52.1	-0.1
VRF				MSG		10 39 13.6	
	comp=Z,41nm,0.2s						
VRF				SG	Sn	10 39 14.5	-0.6
PRVG	Vayda Guba	2.19	341	P	Pb	10 39 00.5	-0.7
PRVG				S	Sb	10 39 28.9	+0.1
OLKF	Oulanka, Finla	2.33	236	PG	Pn	10 39 01.0	+0.8
OLKF				MSG		10 39 28.6	
	comp=Z,9.0nm,0.2s						
OLKF				SG	Sb	10 39 32.4	-0.4
RAJF	Raja-Jooseppi	2.34	292	PB	Pn	10 39 00.9	+0.6
RAJF				SN	Sn	10 39 31.0	+1.1
KU6	Riekki	2.38	227	PG	Pn	10 39 01.7	+0.8
KU6				MSG		10 39 29.6	
	comp=Z,9.0nm,0.2s						
KU6				SG	Sb	10 39 33.6	-0.7
MSF	Maaselka	2.71	231	PG	Pn	10 39 06.8	+1.3
	baz=53						
MSF				SG	Sb	10 39 42.3	-1.4
SGF	Sodankyl	2.95	269	PN	Pn	10 39 08.5	-0.2
	baz=81						
SGF				SB	Sb	10 39 49.9	-0.7
VADS	Vadso	3.00	327	P	Pn	10 39 09.8	+0.4
VADS				S	Sn	10 39 46.0	0.0
VADS	Vadso	3.00	327	eP	Pn	10 39 09.8	+0.4
VADS				ePg	Pb	10 39 14.1	-0.9
VADS				eSg	Sb	10 39 51.3	-0.8
VADS				IAML		10 40 03.2	
	comp=Z,11nm,0.4s						
KEV	Kevo	3.34	312	eP	Pn	10 39 14.8	+0.7
KEV	Kevo	3.34	312	PN	Pn	10 39 14.6	+0.6
	baz=127						
KEV				SN	Sn	10 39 55.0	+0.6
RNF	Rovaniemi	3.37	255	PN	Pn	10 39 14.6	+0.1
	baz=71						
RNF				SN	Sn	10 39 55.7	+0.6
RANF	Ranua	3.37	244	PN	Pn	10 39 14.8	+0.3
RANF				SG	Sb	10 40 02.7	0.0
ARCES	ARCESS Array B	3.68	304	P	Pn	10 39 19.1	+0.3
ARCES				S	Sn	10 40 01.9	-0.9
KLF	Kolari	3.96	268	PG	Pb	10 39 30.5	-0.8
KLF				SG	Sb	10 40 23.0	+3.3
HEF	Hetta	4.02	285	eP	Pn	10 39 23.2	-0.1
HEF				ePg	Pb	10 39 32.7	+0.5
HEF	Hetta	4.02	285	PN	Pn	10 39 23.3	-0.1
HEF				SN	Sn	10 40 11.7	+0.6
TOF	Tornio	4.21	252	PN	Pn	10 39 26.3	+0.3
TOF				SN	Sn	10 40 15.5	-0.3
KTK1	Kautokeino	4.27	293	ePg	Pb	10 39 36.5	+0.1
KTK1				eSg	Sb	10 40 30.2	+1.6
KTK1				IAML		10 40 35.2	
	comp=Z,12nm,0.3s						
KTK1	Kautokeino	4.27	293	PG	Pb	10 39 36.6	+0.1
KTK1				SN	Sn	10 40 17.8	+0.5
LANU	Lannavaara	4.63	280	PN	Pn	10 39 30.8	-0.9
LANU				SN	Sn	10 40 25.1	-1.0
KALU	Kalix	4.67	252	SN	Sn	10 40 26.8	-0.1
SALU	Saltoluokta	6.02	274	eP	Pn	10 39 50.1	-0.7
FAUS	Fauske	7.24	276	S	Sn	10 41 25.9	-4.5

*IDC **30** 10:38:52.1±0.7, 28°.17N×56°.94E, h0km, mb4.1/19, mbtmp4.1/21, ML4.3/2, MS3.6/24, Error ellipse: s-maj=18.0km s-min=16.0km az=80.0*
*DSN **30** 10:38:52.2±1.3, 28°.52N×57°.17E, h15km, ML4.3/12, Error ellipse: s-maj=17.1km s-min=11.0km az=90.0*
*TEH **30** 10:38:54.8, 28°.25N×57°.17E, h11km±22km, ML4.4*
*MOS **30** 10:38:55.1±1.4, 28°.07N×57°.02E, h33km, mb4.6/16, Error ellipse: s-maj=8.0km s-min=5.5km az=99.1*
*NEIC **30** 10:38:55.5±2.9, 28°.23N±0°.07×57°.0E±0°.1, h10km±1km, mb4.3/27, Error ellipse: s-maj=15.4km s-min=11.9km az=112.0*
*OMAN **30** 10:38:56.8±1.4, 28°.09N×57°.05E, h10km, mb5.2/11, ml4.4/20, ms3.0/2, Error ellipse: s-maj=14.5km s-min=10.6km az=25.0*
*SGS **30** 10:39:35.5, 26°.67N×54°.41E, h10km, Ml4.1*
ISC 30 10:38:55.3±1.3, **28°.24N**±0°.03×**57°.15E**±0°.03, **h17**km±8km, **n249**, σ1§**72**/260, **mb4.3**/59, **MS3.6**/24, **3C-6D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.57	120	Pg	Pg	10 39 05.7	-0.9
IBND	Bandar-abas	0.95	215	Pg	Pb	10 39 13.6	+0.2
IBND				Sg	Sn	10 39 28.4	+1.2
GENO	Geno	1.20	226	Pg	Pg	10 39 18.3	-0.3
GENO				Sg	Sn	10 39 35.6	+1.9
NGRK	Negar Kerman	1.45	345	Pg	Pg	10 39 22.4	-0.9
KBAM	BAM	1.45	52	Pg	Pb	10 39 21.4	-0.6
CHMN	Cheshme madani	1.65	12	Pg	Pb	10 39 25.2	-0.4
TVBK	TV Kerman	1.77	349	Pg	Pb	10 39 28.0	+0.4
KHGB	Koh Gabri	2.21	345	Pn	Pb	10 39 34.0	-1.0
KRM1	Kerman Provinc	2.26	3	Pn	Pb	10 39 34.4	-1.5
SHME	Shamm	2.36	203	eP	Pn	10 39 33.3	0.0
	SNR=79						
SHME				S	Sb	10 40 06.7	+0.5
SHME	Shamm	2.36	203	P	Pn	10 39 34.7	+1.3
	SNR=26						
SHME				S	Sn	10 40 01.5	-0.4
BANOM	Banah	2.43	198	eP	Pn	10 39 34.9	+0.6
	SNR=29						
BANOM	Banah	2.43	198	P	Pn	10 39 36.0	+1.7
BANOM				S	Sn	10 40 05.3	+1.6
LAR1	LAR	2.52	258	Pn	Pn	10 39 37.7	+2.1
ZRDN	Zarand Kerman	2.77	349	Pn	Pb	10 39 41.9	-2.7
MASF	Masafi	2.99	197	P	Pn	10 39 44.9	+2.9
MSFE	Esma-Masafi	3.00	197	i P	Pn	10 39 43.9	+1.7
	SNR=24						
UMQ	Umm Al-Quwin	3.01	207	P	Pn	10 39 44.1	+1.9
MDH	Madha	3.03	195	P	Pn	10 39 42.9	+0.4
MDH				S	Sn	10 40 20.5	+2.2
UOSS	Minazif	3.39	195	Pn	Pn	10 39 48.8	+1.3
UOSS	Minazif	3.39	195	i P	Pn	10 39 47.7	+0.2
	SNR=8.1

SNR=27
HOQ Hoqain 4.64 178 P Pn 10 40 03.8 -0.9
HOQ S Sn 10 40 57.5 -0.7
ICHK Chekchek 4.64 330 Pn Pn 10 40 07.0 +2.1
SRVN Saravan 4.72 99 Pn Pn 10 40 08.3 +2.3
ISAD Sadrabad 4.74 321 Pn Pn 10 40 09.0 +2.7
BIDO Bidbid 4.78 169 P Pn 10 40 05.7 -0.9
SNR=33
BIDO S Sn 10 41 00.0 -1.6
TPRV Parvadeh(Tabas 4.79 355 Pn Pn 10 40 09.9 +3.0
ARQ Araqi 4.91 187 P Pn 10 40 10.1 +1.6
SNR=120
ARQ S Sn 10 41 07.0 +1.9
JRN Qarnain Island 5.06 231 P Pn 10 40 10.7 +0.2
SNR=7.2
JRN S Sn 10 41 07.4 -1.1
IDAH Dahanechah 5.06 27 Pn Pn 10 40 13.2 +2.4
WSAR Wadi Sarin 5.15 165 Pn Pn 10 40 11.8 +0.1
25nm,0.3s,baz=336,slow=5.3,SNR=342
WSAR Sn Sn 10 41 07.1 -3.9
86nm,0.3s,baz=310,slow=17,SNR=16
WSAR LR LR 10 42 58.5
comp=Z,312nm,21.3s,baz=22,slow=48
53nm,0.3s
AHBU AHRAM 5.19 278 Pn Pn 10 40 14.0 +1.8
DSBU Dashti - Bushe 5.20 273 Pn Pn 10 40 14.2 +1.9
SMDO Samad 5.22 171 P Pn 10 40 12.6 -0.1
SNR=25
SMDO S Sn 10 41 12.0 -0.7
MZWR Madinat Zayed 5.34 214 P Sn 10 40 14.5 +0.1
MZWR S Sn 10 41 14.6 -0.9
AFRZ Afriz 5.41 17 Pn Pn 10 40 18.3 +2.9
IRAM Ramesheh 5.46 312 Pn Pn 10 40 18.8 +2.6
BSY Bisya 5.47 180 P Pn 10 40 17.6 +1.5
SNR=17
BSY S Sn 10 41 20.1 +1.3
KLNJ Kolanjah 5.57 301 Pn Pn 10 40 19.9 +2.1
GHWR Ruwais 5.74 223 P Pn 10 40 19.2 -0.5
GHWR S Sn 10 41 21.6 -3.6
ANAR Anarak 5.75 330 Pn Pn 10 40 22.7 +2.6
UMZA Um Al Zommool 5.79 199 P Pn 10 40 21.1 +0.6
WBK Wadi Bani Khal 5.84 163 P Pn 10 40 21.0 -0.3
SNR=27
WBK S Sn 10 41 24.1 -3.8
JMDO Jabal Madar 5.91 171 P Pn 10 40 23.0 +0.8
SNR=15
JMDO S Sn 10 41 27.7 -1.8
SHMA Al-Shehemyia 6.00 248 P Pn 10 40 24.6 +1.2
SNR=22
SHMA S Sn 10 41 29.9 -1.9
IGAR Gharneh 6.06 314 Pn Pn 10 40 26.9 +2.5
MZR Muzera 6.18 213 *i* P Pn 10 40 26.4 +0.6
SNR=8.0
MZR Muzera 6.18 213 P Pn 10 40 27.4 +1.6
MZR S Sn 10 41 31.8 -4.4
IZEF Zefreh 6.23 319 Pn Pn 10 40 28.9 +2.1
IBRJ Brojen 6.28 307 Pn Pn 10 40 29.4 +1.9
SAKB Bahrain 6.31 251 P Pn 10 40 28.6 +1.0
TRNA Turayna 6.36 238 P Pn 10 40 29.0 +0.6
SNR=36
TRNA S Sn 10 41 38.2 -2.5
JLN Jalan Bani Buh 6.40 161 P Pn 10 40 28.2 -0.7
SNR=13
JLN S Sn 10 41 38.1 -3.5
SLWR Sila 6.43 231 P Pn 10 40 29.2 -0.1
SMRA Abu-Samra 6.65 240 P Pn 10 40 33.4 +1.1
SNR=21
SMRA S Sn 10 41 45.7 -2.0
SHBH2 SHBH2 6.68 233 S Sn 10 41 15.2 -33
SHBH2 P Pn 10 40 32.4 -0.3
ZNGN Zangian 6.68 307 Pn Pn 10 40 35.7 +2.6
SHBH1 SHBH1 6.88 228 P Pn 10 40 33.9 -1.5
JHBN Jahan bin 6.88 307 Pn Pn 10 40 37.8 +2.1
IKLH Kolahrood 6.97 318 Pn Pn 10 40 39.5 +2.5
IPIR Pirpir 6.99 311 Pn Pn 10 40 39.4 +2.2
HOFOF Al Hofuf 7.07 248 P Pn 10 40 38.6 +0.6
KRSH Karshahi 7.15 324 Pn Pn 10 40 41.3 +2.0
MHTO MHTO 7.26 174 P Pn 10 40 41.1 +0.4
SNR=19
ISFB Sefidab 7.40 327 Pn Pn 10 40 45.3 +2.6
HRA Herat 7.52 34 Pn Pn 10 40 49.4 +4.9
SBZV Sabzevar 8.14 3 Pn Pn 10 40 55.1 +2.2
DQM DQM 8.28 177 P Pn 10 40 54.1 -0.7
KBD Kabd 8.36 279 P Pn 10 40 57.0 +1.2
RMAH Rumah 9.62 255 P Pn 10 41 12.3 -0.7
DOK Doka 9.97 197 P Pn 10 41 16.6 -1.3
SHAO Shalim 10.27 188 P Pn 10 41 21.4 -0.6
DMTO DMTO 10.67 191 P Pn 10 41 26.2 -1.3
WHFO Wadi Hawf 10.73 198 P Pn 10 41 27.4 -1.0
SNR=9.0
RBK Rabkut 11.02 195 P Pn 10 41 30.8 -1.6
ABTO Aybut 11.40 199 P Pn 10 41 35.4 -2.2
SNR=6.6
RAYN Ar Rayn 11.49 249 Pn Pn 10 41 35.3 -3.5
RAYN Ar Rayn 11.49 249 *i* P Pn 10 41 37.1 -1.6
SNR=8.0
RAYN Ar Rayn 11.49 249 P Pn 10 41 35.6 -3.2
RAYN Ar Rayn 11.49 249 P Pn 10 41 35.3 -3.5
GAR Garm 15.33 42 P P 10 42 35.3 -0.4
GAR IAmb IAmb 10 42 42.2
comp=Z,21nm,1.0s
GNI Garni 15.68 322 P Pn 10 42 36.6 +0.9
GNI IAmb IAmb 10 42 55.8
comp=Z,17nm,0.9s
GNI Garni 15.68 322 Pn Pn 10 42 37.2 +1.6
comp=Z,0.6nm,0.3s,baz=275,slow=18,SNR=1.9
GNI LR LR 10 49 31.1
comp=Z,140nm,18.9s,baz=138,slow=41
comp=Z,5.0nm,0.5s
GNI Garni 15.68 322 P Pn 10 42 36.6 +0.9
GNI pmax pmax
comp=Z,17nm,0.9s
DRK Karamyk 16.52 43 P P 10 42 50.3 +1.1
DRK IAmb IAmb 10 43 00.2
comp=Z,19nm,0.6s
DRK Karamyk 16.52 43 P P 10 42 50.3 +1.1
DRK pmax pmax
comp=Z,19nm,0.6s
MAK Makhachkala 16.63 335 *e*P Pn 10 42 43.8 -3.9
MAK *e*S Sn 10 45 47.4 -4.6
MAK pmax pmax
comp=Z,106nm,0.9s
MAK MLR MLR
comp=Z,132nm,16.0s
ASF Jabal al Asfar 17.94 288 P P 10 43 05.5 +0.9
comp=Z,2.9nm,0.6s,baz=37,slow=0.4,SNR=3.6
KK31 Karatay Array 18.34 33 P P 10 43 11.4 +2.4
KK31 Karatay Array 18.34 33 P P 10 43 11.4 +2.4
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 18.34 33 P P 10 43 10.9 +1.9
KKAR Karatay Array 18.34 33 P P 10 43 11.4 +2.4
KKAR IAmb IAmb 10 43 15.3
comp=Z,7.0nm,0.8s
KKAR Karatay Array 18.34 33 P P 10 43 10.9 +1.9
NCK Nalchik 18.73 328 *i* P Pn 10 43 16.7 +3.0
NCK pmax pmax
comp=Z,30nm,0.6s
ARPR Arapgir-MALATY 19.00 310 P P 10 43 15.4 -1.0
KSH Kashi 19.21 49 P P 10 43 15.8 -2.9
KSH pP Pn 10 43 20.0 +0.3
KSH pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 19.24 327 P Pn 10 43 21.3 +1.5
comp=Z,2.1nm,0.7s,baz=176,slow=11,SNR=3.6
MMAI Mount Meron Ar 19.30 290 P Pn 10 43 21.1 +0.4
comp=Z,1.2nm,0.4s,baz=88,slow=18,SNR=2.0
MMAI LR LR 10 52 33.4
comp=Z,228nm,18.4s,baz=56,slow=43
SHA1 Shidzhatmaz 19.36 327 *ce*P Pn 10 43 25.1 +3.6
EIL Elat 19.48 280 P Pn 10 43 25.2 +2.5
comp=Z,10nm,0.9s,baz=84,slow=10,SNR=6.1
EIL LR LR 10 52 59.9
comp=Z,118nm,19.9s,baz=74,slow=44
KIV Kislovodsk 19.51 327 *e*P Pn 10 43 25.8 +2.6
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,34nm,14.0s
AAK Ala-Archa 20.09 40 P Pn 10 43 29.8 -0.4
AAK IAmb IAmb 10 43 42.3
comp=Z,5.9nm,0.7s
AAK Ala-Archa 20.09 40 P P 10 43 29.1 +0.8
comp=Z,3.9nm,0.7s,baz=231,slow=13,SNR=3.9
AAK LR LR 10 52 28.4
comp=Z,92nm,19.2s,baz=188,slow=40
comp=Z,3.9nm,0.7s
AAK Ala-Archa 20.09 40⇓ *e*P Pn 10 43 30.4 +0.2
AAK pmax pmax
comp=Z,7.0nm,0.9s
NRN Naryn 20.26 45 P P 10 43 30.6 +0.3
NRN IAmb IAmb 10 43 44.8
comp=Z,18nm,1.2s
NRN Naryn 20.26 45 P P 10 43 30.6 +0.3
NRN pmax pmax
comp=Z,19nm,1.2s
VSLR Vesyoloye 20.51 322⇓ *e*P Pn 10 43 36.5 +1.6
VSLR pmax pmax
comp=Z,17nm,0.8s
BNN Bunyan 20.63 306 Pn 10 43 35.6 -0.8
SOC Sochi 20.77 322 *e*P P 10 43 33.8 -1.6
SOC *e*PPP PPP 10 44 02.3
SOC *e*S S 10 47 25.8 -0.7
SOC *e*SS SnSn 10 47 51.9 +5.2
SOC *e*SSS SSS 10 48 06.5
SOC MLR MLR
comp=Z,87nm,15.0s
BOOM Boomskoye usch 20.84 42 P Pn 10 43 38.6 -0.3
BOOM IAmb IAmb 10 43 41.0
comp=Z,9.6nm,1.0s
BOOM Boomskoye usch 20.84 42 P Pn 10 43 38.6 -0.3
BOOM pmax pmax
comp=Z,10.0nm,1.0s
AB31 Akbulak array 21.10 5 *i* P P 10 43 39.7 +0.8
ABKAR Akbulak array 21.10 5 P P 10 43 39.8 +0.9
ATD Arta Tunnel 21.35 222 LR LR 10 53 36.6
comp=Z,5.8nm,18.6s,baz=22,slow=42
TARG Taragay, Kyrgy 21.55 46 P P 10 43 46.8 +2.5
TARG IAmb IAmb 10 43 57.2
comp=Z,7.4nm,0.8s
TARG Taragay, Kyrgy 21.55 46 P P 10 43 46.8 +2.5
TARG pmax pmax
comp=Z,7.0nm,0.8s
AKTO Aktyubinsk 22.18 1 P P 10 43 51.7 +1.2
comp=Z,19nm,0.7s,baz=177,slow=9.0,SNR=38
AKTO LR LR 10 54 18.7
comp=Z,167nm,18.1s,baz=136,slow=42
comp=Z,19nm,0.7s
BR131 Keskin Array S 22.55 307 P P 10 43 55.2 +0.5
BR131 IAmb IAmb 10 43 56.7
comp=Z,10nm,0.9s
BR131 Keskin Array S 22.55 307 P P 10 43 55.2 +0.5
BR131 pmax pmax
comp=Z,11nm,0.9s
BRTR Keskin Array B 22.55 307 P P 10 43 54.4 -0.3
BRTR Keskin Array B 22.55 307 P P 10 43 55.7 +1.0
comp=Z,7.6nm,0.8s,baz=123,slow=10,SNR=37
BRTR LR LR 10 54 20.8
comp=Z,170nm,20.9s,baz=112,slow=41
BRTR Keskin Array B 22.55 307 P P 10 43 54.4 -0.3
ANN Anapa 22.80 322 *e*P P 10 44 01.4 +4.2
ANN pmax pmax
comp=Z,39nm,0.9s
BELG Belogornoye 25.15 346 LR LR 10 55 08.7
comp=Z,70nm,21.5s,baz=155,slow=39
VRH Novokhopyorsk 25.72 337 *e*P P 10 44 24.2 -0.4
VRH pmax pmax
comp=Z,15nm,0.6s
BRVK Borovoye 26.63 18 P P 10 44 33.3 +0.3
BRVK IAmb IAmb 10 44 34.4
comp=Z,4.2nm,0.8s
BRVK Borovoye 26.63 18 P P 10 44 33.3 +0.3
BRVK pmax pmax
comp=Z,4.0nm,0.8s
VORR Voronezh 27.00 335 *e*P P 10 44 33.8 -2.5
MK31 Makanchi Array 27.03 40 P P 10 44 36.8 +0.2
MK31 Makanchi Array 27.03 40 P P 10 44 36.8 +0.2
MK31 pmax pmax
comp=Z,3.0nm,1.2s
MKAR Makanchi Array 27.03 40 P P 10 44 37.5 +0.9
comp=Z,0.7nm,0.6s,baz=230,slow=8.7,SNR=4.3
comp=Z,0.7nm,0.6s
KURBB Kurchatov Arra 27.60 30 P P 10 44 42.4 +0.7
comp=Z,1.3nm,0.7s,baz=228,slow=8.6,SNR=8.6
KURBB LR LR 10 57 19.8
comp=Z,118nm,19.0s,baz=164,slow=40
comp=Z,1.3nm,0.7s
KURK Kurchatov 27.71 30⇑ *e*P P 10 44 42.7 +0.1
KURK pmax pmax
comp=Z,3.0nm,0.9s
PALK Pallekele 30.50 129 LR LR 10 56 15.7
comp=Z,172nm,19.7s,baz=196,slow=34
OBN Obninsk 30.71 337 *e*P P 10 45 10.1 +1.0
OBN *e* 10 46 14.4
OBN *e*PPP PPP 10 46 27.3
OBN *e* 10 48 05.4
OBN pmax pmax
comp=Z,10.0nm,0.3s
OBN MLR MLR
comp=Z,71nm,19.0s
AKASG Malin Array Be 30.80 324 P P 10 45 08.7 -1.4
comp=Z,3.1nm,0.7s,baz=132,slow=8.3,SNR=6.8
AKASG LR LR 11 00 30.1
comp=Z,76nm,18.9s,baz=54,slow=42
comp=Z,3.1nm,0.7s
AKBB Malin Array Si 30.80 324 P P 10 45 09.1 -0.9
AKBB Malin Array Si 30.80 324 *d* *i* P P 10 45 09.1 -0.9
AKBB pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 30.80 324 P P 10 45 09.0 -1.1
KIEV IAmb IAmb 10 45 09.7
comp=Z,7.2nm,0.8s
KIEV Kiev 30.80 324 P P 10 45 09.0 -1.1
KIEV pmax pmax
comp=Z,7.0nm,0.8s
ITM Ithomi 30.81 296 P P 10 45 10.2 -0.2
KIRV Kirov 30.81 352 LR LR 11 00 10.1
comp=Z,193nm,18.7s,baz=163,slow=41
BURAR Bucovina Array 31.44 317 P P 10 45 15.1 -0.7
ZAA0 Zalesovo Array 32.70 31 IAmb IAmb 10 45 27.6
comp=Z,4.7nm,0.8s
ZALV Zalesovo Beam 32.70 31 P P 10 45 26.8 +0.1
ZALV Zalesovo Beam 32.70 31 P P 10 45 26.9 +0.2
comp=Z,3.6nm,0.4s,baz=243,slow=9.4,SNR=13
comp=Z,3.6nm,0.4s
KOLS Kolonicke sedl 33.78 317 *e*P P 10 45 37.5 +1.2
KOLS pmax pmax
comp=Z,29nm,0.8s
KOLS Kolonicke sedl 33.78 317 *e*P P 10 45 37.5 +1.2
NACGM Naroch 34.52 329 *e*P P 10 45 36.3 -6.3
comp=N,524nm,0.9s,baz=128
VYHS Vyhne 35.72 315 *e*P P 10 45 54.1 +1.1
VYHS Vyhne 35.72 315 *e*P P 10 45 54.1 +1.1
OJC Ojcow 35.78 318 *e*P P 10 45 53.3 -0.2
JAVC Velka Javorina 36.57 315 *e*P P 10 46 01.1 +0.8
MODS Modra-Piesok 36.65 314 *e*P P 10 46 01.4 +0.4
MODS pmax pmax
comp=Z,34nm,1.7s
MODS Modra-Piesok 36.65 314 *e*P P 10 46 01.4 +0.4
VSU Vasula 36.84 334 *d* *i* P P 10 46 02.3 -0.1
VSU pmax pmax
comp=Z,18nm,0.8s
MORC Moravsky Berou 36.96 317 *e*P P 10 46 02.6 -1.0
RONA Rosalia, Austr 37.08 313 *i* P P 10 46 04.4 -0.3
comp=Z,4.9nm,0.7s
VRAC Vranov 37.38 315 *e*P P 10 46 07.3 +0.1
VRAC Vranov 37.38 315 LR LR 11 02 14.4
comp=Z,48nm,18.9s,baz=96,slow=38
CONA Conrad Observa 37.42 313 *i* P P 10 46 07.3 -0.3
comp=Z,2.2nm,0.7s
KRUC Moravsky 37.43 315 *e*P P 10 46 07.7 +0.2
OBKA Obir 37.91 310 *e*P P 10 46 12.5 +0.7
comp=Z,3.7nm,1.0s
CHVC Chvalec 38.14 317 *e*P P 10 46 13.1 -0.5
CHVC Chvalec 38.14 317 *e*P P 10 46 13.1 -0.5
MBAR Mbarara 38.26 226 LR LR 11 04 02.5
comp=Z,151nm,18.8s,baz=82,slow=40
MOA Molln 38.43 312 *i* P P 10 46 15.8 -0.3
comp=Z,5.2nm,0.7s
PRED Cave del Predi 38.56 310 IAmb IAmb 10 46 23.5
comp=Z,3.7nm,0.9s
BIOA Bad Ischl, Aus 38.80 312 *e*P P 10 46 18.8 -0.4
comp=Z,3.8nm,0.6s
KBA Koelnbreinsper 38.85 311 *i* P P 10 46 19.4 -0.4
comp=Z,4.5nm,0.9s
ZVC Zvikov 38.92 315 *e*P P 10 46 19.6 -0.5
GERES GERESS Array B 39.06 314 P P 10 46 20.0 -1.4
comp=Z,1.0nm,0.6s,baz=92,slow=7.3,SNR=4.0
comp=Z,1.0nm,0.6s
GERES GERESS Array B 39.06 314 P P 10 46 20.0 -1.4
FINES FINESS Array B 39.11 337 P P 10 46 21.1 -0.4
comp=Z,2.3nm,0.6s,baz=136,slow=7.8,SNR=12
comp=Z,2.3nm,0.6s
KHC Kasperske Hory 39.22 314 *e*P P 10 46 22.1 -0.6
KHC Kasperske Hory 39.22 314 *e*P P 10 46 22.1 -0.6
ABTA Abfaltersbach 39.34 310 *e*P P 10 46 23.3 -0.4
comp=Z,5.1nm,1.0s
LESA Schwarzleotal 39.37 311 *i* P P 10 46 23.0 -1.1
comp=Z,2.3nm,0.5s
CMAR Chiang Mai Arr 39.42 95 LR LR 11 05 24.8
comp=Z,78nm,18.1s,baz=260,slow=40
WTTA Wattenberg 40.03 311 *i* P P 10 46 28.4 -1.2
comp=Z,9.9nm,1.0s
WATA Walderalm 40.08 311 *i* P P 10 46 29.2 -0.8
comp=Z,7.2nm,0.8s
CLL Collm 40.20 317 *e*P P 10 46 30.0 -0.8
comp=Z,16nm,1.3s
CLL *ex* x 10 46 36.0
CLL Collm 40.20 317 *e*P P 10 46 30.0 -0.8
CLL *e* 10 46 36.0
CLL pmax pmax
comp=Z,16nm,1.3s
SQTA Sankt Quirin 40.31 311 *i* P P 10 46 30.6 -1.2
comp=Z,6.1nm,0.6s
MOTA Moosalm 40.40 311 *i* P P 10 46 31.3 -1.4
comp=Z,6.2nm,1.0s
BSD Bornholm Skovb 40.49 324 *i* P P 10 46 31.0 -2.1
BSD IAmb IAmb 10 46 32.1
comp=Z,11nm,0.7s
FETA Feichten 40.59 310 *i* P P 10 46 33.0 -1.3
comp=Z,10nm,1.0s
RETA Reutte 40.66 311 *e*P P 10 46 33.8 -0.9
comp=Z,0.1nm,0.1s
FUORN Ofenpass-Fuorn 40.83 310 P P 10 46 36.2 -0.2
DAVA Damuels 41.21 311 *i* P P 10 46 38.0 -1.3
comp=Z,7.9nm,0.6s
TUE Stuetta 41.43 309 P P 10 46 41.0 -0.3
TUE IAmb IAmb 10 46 54.0
comp=Z,3.8nm,0.8s
DEL Delary 41.58 325 *i* P P 10 46 40.6 -1.4
BORU Boraas 42.61 326 *i* P P 10 46 50.0 -0.4
SONM Songino Array 42.62 49 P P 10 46 53.1 +2.2
comp=Z,1.1nm,0.7s,baz=251,slow=9.0,SNR=2.5
SONM LR LR 11 06 20.3
comp=Z,120nm,19.2s,baz=221,slow=38
comp=Z,1.1nm,0.7s
SENIN Lac Senin/Sane 42.82 309 P P 10 46 51.7 -0.9
ULN Ulaanbaatar 43.06 49⇓ *e*P P 10 46 55.0 +0.6
ULN pmax pmax
comp=Z,3.0nm,0.7s
BNI Bardonecchia 43.11 307 IAmb IAmb 10 46 59.2
comp=Z,8.7nm,0.9s
HFS Hagfors 43.28 330 P P 10 46 55.3 -0.5
comp=Z,2.1nm,0.4s,baz=132,slow=8.5,SNR=17
HFS LR LR 11 08 01.5
comp=Z,99nm,19.3s,baz=92,slow=40
comp=Z,2.1nm,0.4s
XAN Xi'an 44.30 69 P P 10 46 56.5 -8.0
XAN pmax pmax
comp=Z,6.0nm,1.2s
NB2 NORSAR Subarra 44.78 330 P P 10 47 07.3 -0.6
comp=Z,0.8nm,0.7s,baz=115,slow=8.6
NOA NORSAR Array B 44.78 330 P P 10 47 05.7 -2.3
comp=Z,0.8nm,0.6s,baz=116,slow=7.9,SNR=4.4
NOA LR LR 11 08 55.9
comp=Z,62nm,19.9s,baz=250,slow=40
comp=Z,0.8nm,0.6s
ARCES ARCESS Array B 45.19 345 P P 10 47 10.7 -0.3
comp=Z,1.1nm,0.6s,baz=138,slow=6.4,SNR=5.5
ARCES LR LR 11 07 51.3
comp=Z,45nm,18.6s,baz=84,slow=38
comp=Z,1.1nm,0.6s
EKA Eskdalemuir Ar 50.51 320 P P 10 47 51.0 -1.4
comp=Z,0.4nm,0.3s,baz=106,slow=7.5,SNR=5.5
comp=Z,0.4nm,0.3s
EKA Eskdalemuir Ar 50.51 320 P P 10 47 51.0 -1.4
ESDC Sonseca Array 51.08 300 LR LR 11 13 45.3
comp=Z,57nm,18.6s,baz=261,slow=41
MDT Midelt 52.74 291 LR LR 11 16 56.6
comp=Z,101nm,18.6s,baz=222,slow=43
SPITS Spitsbergen Ar 53.25 350 P P 10 48 11.9 -0.6
comp=Z,19nm,1.1s,baz=125,slow=7.6,SNR=5.9
SPITS LR LR 11 15 06.6
comp=Z,66nm,18.3s,baz=98,slow=41
comp=Z,19nm,1.1s
TOA0 Torodi Ar. Sit 53.58 266 P P 10 48 14.2 -1.7
TOA0 IAmb IAmb 10 48 33.5
comp=Z,5.2nm,1.1s
TORD Torodi Ar. Bea 53.58 266 P P 10 48 14.2 -1.6
comp=Z,3.2nm,0.7s,baz=62,slow=7.6,SNR=24
comp=Z,3.2nm,0.7s
ZEA Zeya 56.15 42 *e*P P 10 48 34.3 +0.4
KSRS Korea Array 58.92 61 P P 10 48 57.0 +3.3
comp=Z,1.5nm,0.5s,baz=274,slow=7.5,SNR=7.9
KSRS Korea Array 58.92 61 P P 10 48 57.0 +3.3
KLR Kul'dur 59.40 47⇑ *e*P P 10 48 58.1 +1.3
KLR pmax pmax
comp=Z,6.0nm,2.0s
BORG Borgarnes 59.95 331 LR LR 11 18 49.0
comp=Z,47nm,18.1s,baz=150,slow=40
BOSA Boshof 64.25 211 P P 10 49 28.2 -1.6
comp=Z,1.2nm,0.5s,baz=26,slow=8.5,SNR=4.2
comp=Z,1.2nm,0.5s
SEY Seymchan 67.56 30⇓ *e*P P 10 49 50.4 -0.1
SEY pmax pmax
comp=Z,3.0nm,0.8s
BILL Bilibino 70.89 22 *e*P P 10 50 11.2 +0.1
BILL *e* 10 50 30.4
BILL *e* 10 52 45.4
BILL *e*PPP PPP 10 54 33.4
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL MLR MLR
comp=Z,62nm,18.0s
ILAR Eielson Array 85.42 10 P P 10 51 30.4 -1.3
comp=Z,0.3nm,0.6s,baz=321,slow=37,SNR=3.6
comp=Z,0.3nm,0.6s
WRA Warramunga Arr 88.60 113 P P 10 51 47.8 0.0
comp=Z,1.2nm,0.8s,baz=317,slow=4.1,SNR=9.5
comp=Z,1.2nm,0.8s
YKA Yellowknife Ar 89.34 356 LR LR 11 38 29.8
comp=Z,33nm,18.2s,baz=323,slow=40
ASAR Alice Springs 90.14 117 P P 10 51 55.0 0.0
comp=Z,0.3nm,0.6s,baz=302,slow=4.4,SNR=4.9
comp=Z,0.3nm,0.6s
ASAR Alice Springs 90.14 117 P P 10 51 55.0 0.0
QSPA South Pole Qui 118.08 180 PKP PKPdf 10 57 38.9 -1.7
comp=Z,0.9nm,1.0s,baz=270,slow=6.1,SNR=1.7

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*IDC **30** 10:51:28.7±1.3, 1°.81S×129°.44E, h0km, mb3.8/4, mbtmp3.9/6, ML3.8/2, MS3.4/1, Error ellipse: s-maj=39.2km s-min=21.7km az=74.0*
*DJA **30** 10:51:33.3±3.7, 2°.S±4°×12°.9E±°, h16km±34km, M3.7/8, MLv3.7/8*
ISC 30 10:51:31.9±1.0, 1°.83S±0°.08×129°.16E±0°.07, h10km, n14, σ2S63/14, mb3.9/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.53**	**189**	P		**Pn**		**10 52 00.3**	**+1.1**
LBMI	**Labuha**	**2.04**	**305**	P		**Pn**		**10 52 05.1**	**-1.2**
SWI	**Sorong**	**2.31**	**65**	P		**Pn**		**10 52 12.7**	**+2.8**
NLAI	**Namlea**	**2.49**	**236**	P		**Pn**		**10 52 13.7**	**+1.2**
BNDI	**Bandanaira**	**2.78**	**165**	P		**Pn**		**10 52 17.3**	**+0.8**
SANI	**Sanana**	**3.18**	**266**	P		**Pn**		**10 52 19.7**	**-2.3**
FAKI	**Fak Fak**	**3.27**	**109**	P		**Pn**		**10 52 25.7**	**+2.5**
KAPI	**Kappang**	**9.91**	**251**	Pn		**Pn**		**10 53 55.9**	**+1.4**
	0.8nm,0.3s,baz=96,slow=13,SNR=5.1								
KAPI				Sn		**Sn**		**10 55 51.7**	**+5.7**
	1.3nm,0.3s,baz=38,slow=17,SNR=2.4								
	14nm,0.9s								
WRA	**Warramunga Arr**	**18.70**	**165**	P		**P**		**10 55 47.0**	**-3.6**
	0.4nm,0.3s,baz=347,slow=12,SNR=20								
	0.8nm,0.5s								
ASAR	**Alice Springs**	**22.19**	**168**	P		**P**		**10 56 26.9**	**-1.6**
	3.1nm,0.7s,baz=347,slow=11,SNR=41								
	3.1nm,0.7s								
KSRS	**Korea Array**	**39.10**	**358**	LR		LR		11 17 40.0	
	comp=Z,46nm,18.1s,baz=230,slow=40								
SONM	**Songino Array**	**53.31**	**341**	P		**P**		**11 00 51.1**	**-0.1**
	0.5nm,0.4s,baz=153,slow=7.5,SNR=3.5								
	0.5nm,0.4s								
MKAR	**Makanchi Array**	**63.48**	**326**	P		**P**		**11 02 00.9**	**-1.4**
	0.3nm,0.4s,baz=106,slow=6.8,SNR=2.3								
	0.3nm,0.4s								
KURBB	**Kurchatov Arra**	**67.70**	**328**	P		**P**		**11 02 28.6**	**-0.8**

0.8nm,0.8s,baz=124,slow=6.5,SNR=5.7
0.8nm,0.8s

IDC 30 10:59:51.0±2.5, 19°42S×177°25W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=147.9km s-min=30.5km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.46**	**261**	P	P	11 08 12.2	-0.1
	0.5nm,0.5s,baz=99,slow=8.3,SNR=13						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**45.46**	**256**	P	P	11 08 12.2	-0.1
	0.9nm,0.8s,baz=94,slow=7.7,SNR=11						
	0.9nm,0.8s						
TXAR	**Lajitas Array**	**85.88**	**57**	P	P	11 12 33.6	+0.4
	0.1nm,0.6s,baz=206,slow=8.0,SNR=2.4						
	0.1nm,0.6s						
ILAR	**Eielson Array**	**87.11**	**13**	P	P	11 12 37.8	-0.5
	0.1nm,0.5s,baz=210,slow=3.5,SNR=1.5						
	0.1nm,0.5s						

*IDC **30** 11:27:26.8±2.6, 27°31S×177°84W, h126km±21km, mb3.6/6, mbtmp3.9/6, Error ellipse: s-maj=38.5km s-min=21.4km az=55.0*
*NEIC **30** 11:27:27.1±2.9, 27°5S±0°1×177°2W±0°2, h125km±10km, mb4.2/14, Error ellipse: s-maj=26.6km s-min=15.1km az=85.0*

ISC 30 11:27:28.5±0.9, 27°48S±0°09×177°4W±0°2, h145km, n26, σ1§92/27, mb4.0/12, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.83**	**195**	P	**Pn**	**11 27 58.4**	**-2.9**
	837nm,0.2s,baz=76,slow=9.9,SNR=34						
RAO				S	**Sn**	**11 28 25.7**	**-0.9**
	904nm,0.3s,baz=74,slow=22,SNR=8.9						
MSVF	**Nonsavu**	**10.57**	**336**		**Pn**	**11 29 54.8**	**-1.5**
PINNC	**Pines Island,**	**14.58**	**286**	P	**P**	**11 30 51.5**	**+1.1**
LIFNC	**LIFOU**	**15.54**	**292**	P	**P**	**11 31 04.2**	**+3.1**
ONTNC	**Ouen Toro**	**15.55**	**286**	P	**P**	**11 31 03.4**	**+2.3**
DZM	**Mont Dzumac**	**15.65**	**287**	P	**P**	**11 31 04.2**	**+1.8**
DZM				IAmb	IAmb	11 31 31.4	
	comp=Z,33nm,1.4s						
CTAO	**Charters Tower**	**33.99**	**275**	P	**P**	**11 33 60.0**	**+1.4**
AS31	**Alice Springs**	**43.90**	**264**	P	**P**	**11 35 21.7**	**+0.8**
ASAR	**Alice Springs**	**43.90**	**264**	P	**P**	**11 35 21.7**	**+0.8**
ASAR	**Alice Springs**	**43.90**	**264**	P	**P**	**11 35 16.9**	**-4.0**
	comp=Z,0.3nm,0.7s,baz=91,slow=7.4,SNR=1.7						
	comp=Z,0.3nm,0.7s						
WR0	**Warramunga Arr**	**44.44**	**269**	P	**P**	**11 35 25.8**	**+0.6**
WR0				IAmb	IAmb	11 35 34.1	
	comp=Z,8.9nm,1.2s						
WB2	**Warramunga Arr**	**44.61**	**269**	P	**P**	**11 35 27.2**	**+0.6**
WB2				IAmb	IAmb	11 35 48.6	
	comp=Z,13nm,1.5s						
WRAB	**Tennant Creek**	**44.61**	**269**	P	**P**	**11 35 25.0**	**-1.6**
WRAB				IAmb	IAmb	11 36 05.7	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**44.62**	**269**	P	**P**	**11 35 24.3**	**-2.3**
WRA	**Warramunga Arr**	**44.62**	**269**	P	**P**	**11 35 23.4**	**-3.3**
	comp=Z,0.5nm,0.7s,baz=104,slow=8.3,SNR=10						
	comp=Z,0.5nm,0.7s						
WB0	**Warramunga Arr**	**44.63**	**269**	P	**P**	**11 35 27.4**	**+0.7**
WB0				IAmb	IAmb	11 35 41.1	
	comp=Z,9.7nm,1.5s						
VNDA	**Vanda**	**51.05**	**186**	P	**P**	**11 36 16.9**	**+1.6**
VNDA				IAmb	IAmb	11 36 38.2	
	comp=Z,1.8nm,1.4s						
KNRA	**Kununurra**	**51.10**	**272**	P	**P**	**11 36 15.8**	**-0.7**
QSPA	**South Pole Qui**	**62.62**	**180**	P	**P**	**11 37 38.9**	**+1.7**
QSPA				IAmb	IAmb	11 38 13.5	
	comp=Z,2.8nm,1.1s						
QSPA	**South Pole Qui**	**62.62**	**180**	P	**P**	**11 37 38.9**	**+1.7**
	comp=Z,1.5nm,0.7s,baz=28,slow=0.5,SNR=14						
	comp=Z,1.5nm,0.7s						
MJAR	**Matsushiro Arr**	**76.17**	**325**	P	**P**	**11 38 59.0**	**-1.5**
	comp=Z,4.7nm,0.8s,baz=159,slow=5.8,SNR=11						
	comp=Z,4.7nm,0.8s						
SNAA	**Sanae**	**81.05**	**178**	P	**P**	**11 39 25.6**	**-1.3**
SNAA				IAmb	IAmb	11 39 37.4	
	comp=Z,4.9nm,1.5s						
KSRS	**Korea Array**	**82.49**	**319**	P	**P**	**11 39 33.7**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=133,slow=6.7,SNR=8.9						
	comp=Z,1.8nm,0.8s						
PLCA	**Paso Flores**	**84.09**	**133**	P	**P**	**11 39 45.0**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=180,slow=2.0,SNR=3.4						
	comp=Z,0.9nm,0.7s						
FINES	**FINESS Array B**	**142.57**	**342**	PKhKP	PKPpre	11 46 39.8	
	comp=Z,1.5nm,0.7s,baz=59,slow=6.7,SNR=3.9						
BRTR	**Keskin Array B**	**151.57**	**303**	PKPbc	**PKPbc**	**11 47 05.5**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=124,slow=4.1,SNR=1.8						
BRTR				PKPab	**PKPab**	**11 47 14.1**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=175,slow=1.8,SNR=3.8						

*NEIC **30** 11:34:03.2±1.2, 56°32N±0°06×156°32W±0°07, h65km±18km, Error ellipse: s-maj=8.8km s-min=5.5km az=173.0*
*AEIC **30** 11:34:04.2±1.0, 56°34N±0°03×156°31W±0°07, h66km±9km, ML3.0, ML3.2/60(NEIC), Error ellipse: s-maj=5.8km s-min=4.0km az=58.0*
*IDC **30** 11:34:07.9±4.7, 56°84N×156°17W, h86km±37km, mb3.2/5, mbtmp3.4/7, Error ellipse: s-maj=43.2km s-min=21.4km az=37.0*

ISC 30 11:34:04.2±1.2, 56°37N±0°07×156°27W±0°04, h60km±12km, n121, σ0§94/114, mb3.3/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNE	**Aniakchak Nort**	**1.13**	**300**		**Pn**	**11 34 23.2**	**-0.7**
ANNE					**Sn**	**11 34 37.5**	**-1.1**
SII	**Sitkinak Islan**	**1.18**	**80**	P	**Pn**	**11 34 23.7**	**-0.9**
SII	**Sitkinak Islan**	**1.18**	**80**		**Pn**	**11 34 24.6**	**0.0**
SII					**Sn**	**11 34 40.1**	**+0.4**
CHGN	**Chignik**	**1.19**	**268**		**Pn**	**11 34 23.7**	**-1.1**
PLK4	**Peulik 4**	**1.27**	**358**		**Pn**	**11 34 26.1**	**+0.2**
PLK4					**Sn**	**11 34 42.7**	**+0.6**
PLK4	**Peulik 4**	**1.27**	**358**	IAML		11 34 44.9	
	comp=N,384nm,0.5s						
PLK3	**Peulik 3**	**1.33**	**0**		**Pn**	**11 34 27.0**	**+0.4**
PLK3					**Sn**	**11 34 44.5**	**+1.2**
PLK2	**Peulik 2**	**1.40**	**359**		**Pn**	**11 34 27.8**	**+0.2**
PLK2					**Sn**	**11 34 45.9**	**+0.8**
PLK1	**Peulik 1**	**1.45**	**353**		**Pn**	**11 34 28.4**	**+0.2**
R18K	**Karluk**	**1.56**	**39**		**Pn**	**11 34 29.8**	**+0.1**
R18K					**Sn**	**11 34 49.1**	**+0.2**
R18K	**Karluk**	**1.56**	**39**	IAML		11 34 52.1	
	comp=E,256nm,0.4s						
R18K				IAML		11 34 53.1	
	comp=N,178nm,0.5s						
VNFG	**Fog Glacier, M**	**1.83**	**269**		**Pn**	**11 34 32.2**	**-1.2**
VNFG	**Fog Glacier, M**	**1.83**	**269**	IAML		11 35 01.3	
	comp=E,326nm,0.9s						
OHAK	**Old Harbor**	**1.85**	**61**	P	**Pn**	**11 34 33.2**	**-0.4**
OHAK	**Old Harbor**	**1.85**	**61**		**Pn**	**11 34 33.2**	**-0.4**
OHAK				IAML		11 34 56.4	
	comp=N,141nm,0.2s						
OHAK				IAML		11 34 56.5	
	comp=E,135nm,0.2s						
ANCK	**Angle Creek**	**1.89**	**13**		**Pn**	**11 34 34.0**	**-0.1**
CNTC	**Contact Creek**	**1.92**	**6**		**Pn**	**11 34 34.2**	**-0.4**
ACHA	**Angle Creek He**	**1.92**	**15**	Pn	**Pn**	**11 34 33.9**	**-0.7**
Q16K	**King Salmon**	**2.33**	**355**		**Pn**	**11 34 39.8**	**-0.3**
KAHG	**Katmai Hook Gl**	**2.33**	**23**		**Pn**	**11 34 40.1**	**-0.1**
KAHC	**Katmai Hardscr**	**2.39**	**16**		**Pn**	**11 34 40.7**	**-0.3**
CNBA	**Chernabura Isl**	**2.44**	**232**		**Pn**	**11 34 40.0**	**-1.6**
CNBA	**Chernabura Isl**	**2.44**	**232**	IAML		11 35 42.6	
	comp=N,66nm,3.1s						
KDAK	**Kodiak Island**	**2.46**	**53**		**Pn**	**11 34 41.2**	**-0.7**
KDAK	**Kodiak Island**	**2.46**	**53**	IAML		11 35 10.1	
	comp=N,78nm,0.2s						
KDAK				IAML		11 35 10.1	
	comp=N,91nm,0.2s						
KDAK	**Kodiak Island**	**2.46**	**53**	P	**Pn**	**11 34 41.3**	**-0.6**
	comp=N,32nm,0.3s,baz=244,slow=4.8,SNR=380						
KDAK				S	**Sn**	**11 35 09.4**	**-1.5**
	comp=N,10nm,0.3s,baz=154,slow=23,SNR=4.0						
SDPT	**Sand Point**	**2.58**	**248**		**Pn**	**11 34 42.3**	**-1.2**
SDPT	**Sand Point**	**2.58**	**248**	IAML		11 35 20.6	
	comp=N,137nm,3.2s						
SDPT				IAML		11 35 31.4	
	comp=E,134nm,2.3s						
P16K	**Nushagak River**	**2.83**	**342**		**Pn**	**11 34 46.4**	**-0.5**
P17K	**Kvichak River**	**2.84**	**358**		**Pn**	**11 34 46.5**	**-0.6**
Q19K	**Cape Douglas,**	**2.93**	**28**		**Pn**	**11 34 48.0**	**-0.3**
Q19K	**Cape Douglas,**	**2.93**	**28**	IAML		11 35 18.7	
	comp=E,97nm,1.5s						
Q19K				IAML		11 36 01.5	
	comp=N,66nm,1.5s						
SYI	**Shuyak Island**	**3.08**	**41**		**Pn**	**11 34 50.0**	**-0.3**
P18K	**Big Mountain,**	**3.08**	**10**		**Pn**	**11 34 49.5**	**-1.0**
PS1A	**Pavlof South-1**	**3.22**	**255**		**Pn**	**11 34 51.4**	**-0.9**
PS4A	**Pavlof South-4**	**3.31**	**254**		**Pn**	**11 34 52.0**	**-1.5**
S12K	**Black Hills**	**3.31**	**261**		**Pn**	**11 34 52.5**	**-1.1**
HAG	**Hague Volcano**	**3.34**	**254**		**Pn**	**11 34 53.1**	**-0.9**
O16K	**Kokwok River B**	**3.38**	**344**		**Pn**	**11 34 53.6**	**-0.8**
O15K	**Ungalikthiuk R**	**3.40**	**327**		**Pn**	**11 34 54.2**	**-0.6**
O17K	**Koliganek Bris**	**3.44**	**353**		**Pn**	**11 34 54.5**	**-0.8**
O18K	**Koktuh Hills**	**3.54**	**9**		**Pn**	**11 34 56.1**	**-0.6**
O14K	**Tigyukauivet M**	**3.94**	**319**		**Pn**	**11 35 01.3**	**-0.7**
O14K	**Tigyukauivet M**	**3.94**	**319**	IAML		11 37 04.8	
	comp=N,54nm,2.8s						
O14K				IAML		11 37 30.9	
	comp=E,34nm,2.8s						
O19K	**Port Alsworth**	**3.98**	**14**	Pn	**Pn**	**11 35 02.5**	**0.0**
O19K				IAML		11 35 48.1	
	comp=E,30nm,0.5s						
O19K				IAML		11 36 11.2	
	comp=N,34nm,0.5s						
ILSW	**Iliamna Southw**	**3.99**	**23**	Pn	**Pn**	**11 35 01.9**	**-1.0**
HOM	**Homer**	**4.12**	**35**		**Pn**	**11 35 04.0**	**-0.5**
CNPM	**China Poot**	**4.15**	**38**		**Pn**	**11 35 04.6**	**-0.5**
CNPM	**China Poot**	**4.15**	**38**	IAML		11 35 50.3	
	comp=N,26nm,0.4s						
CNPM				IAML		11 36 02.7	
	comp=E,20nm,3.1s						
N17K	**Nushagak Hills**	**4.20**	**354**		**Pn**	**11 35 05.0**	**-0.7**
N17K	**Nushagak Hills**	**4.20**	**354**	IAML		11 36 10.7	
	comp=E,16nm,3.1s						
N17K				IAML		11 36 37.0	
	comp=N,17nm,3.0s						
N15K	**Kwethluk River**	**4.31**	**334**		**Pn**	**11 35 07.3**	**0.0**
N15K	**Kwethluk River**	**4.31**	**334**	IAML		11 36 02.6	
	comp=N,36nm,3.0s						
N15K				IAML		11 37 12.7	
	comp=E,50nm,3.0s						
N18K	**Kilae Creek**	**4.33**	**3**	Pn	**Pn**	**11 35 07.2**	**-0.3**
N18K				IAML		11 36 24.8	
	comp=E,17nm,3.3s						
N18K				IAML		11 37 21.9	
	comp=N,15nm,3.5s						
BRLK	**Bradley Lake**	**4.45**	**38**	Pn	**Pn**	**11 35 07.5**	**-1.6**
BRSE	**Bradley Lake S**	**4.48**	**39**		**Pn**	**11 35 08.7**	**-0.8**
RSO	**Redoubt South**	**4.50**	**23**	Pn	**Pn**	**11 35 10.4**	**+0.4**
N19K	**Bonanza Creek**	**4.56**	**11**		**Pn**	**11 35 10.5**	**-0.1**
N19K	**Bonanza Creek**	**4.56**	**11**	IAML		11 36 21.9	
	comp=E,13nm,2.8s						
N19K				IAML		11 36 22.6	
	comp=N,13nm,2.7s						
N14K	**Kuskokwak Cree**	**4.58**	**323**		**Pn**	**11 35 10.5**	**-0.3**
M16K	**Timber Creek**	**4.88**	**344**		**Pn**	**11 35 14.3**	**-0.6**
M16K	**Timber Creek**	**4.88**	**344**	IAML		11 36 02.3	
	comp=N,25nm,2.9s						
M16K				IAML		11 37 05.9	
	comp=E,22nm,2.5s						
M15K	**Kasigluk River**	**4.92**	**334**		**Pn**	**11 35 15.0**	**-0.4**
M17K	**Holitna River**	**5.09**	**354**		**Pn**	**11 35 17.1**	**-0.7**
M17K	**Holitna River**	**5.09**	**354**	IAML		11 37 00.1	
	comp=E,28nm,2.6s						
M18K	**Stony River**	**5.14**	**2**		**Pn**	**11 35 18.2**	**-0.4**
SEW	**Seward**	**5.20**	**41**		**Pn**	**11 35 17.8**	**-1.5**
SPU	**Mount Spurr**	**5.30**	**23**	Pn	**Pn**	**11 35 21.8**	**+1.0**
M14K	**Bethel**	**5.31**	**328**		**Pn**	**11 35 20.5**	**-0.3**
M13K	**Dall Lake**	**5.50**	**320**		**Pn**	**11 35 23.4**	**0.0**
L16K	**Owhat River**	**5.61**	**344**	Pn	**Pn**	**11 35 24.9**	**0.0**
M19K	**Big River Lodg**	**5.64**	**9**	Pn	**Pn**	**11 35 24.8**	**-0.5**
M20K	**Styx River**	**5.76**	**15**	Pn	**Pn**	**11 35 27.6**	**+0.5**
RC01	**Rabbit Creek A**	**5.83**	**33**	Pn	**Pn**	**11 35 28.2**	**+0.2**
L18K	**Granite Mounta**	**5.88**	**358**		**Pn**	**11 35 27.7**	**-0.9**
L17K	**Donlin**	**5.88**	**351**		**Pn**	**11 35 28.1**	**-0.5**
L19K	**White Mountain**	**5.88**	**7**	Pn	**Pn**	**11 35 29.0**	**+0.3**
P23K	**Montague Islan**	**5.94**	**49**		**Pn**	**11 35 28.6**	**-0.9**
L15K	**Ungalak Mounta**	**5.97**	**335**		**Pn**	**11 35 29.1**	**-0.7**
L14K	**Kuka Creek**	**5.99**	**329**		**Pn**	**11 35 30.1**	**-0.1**
Q23K	**Middleton Isla**	**6.12**	**56**		**Pn**	**11 35 31.0**	**-0.9**
MID	**Middleton Isla**	**6.12**	**56**	P	**Pn**	**11 35 31.9**	**0.0**
PWL	**Port Wells**	**6.12**	**39**		**Pn**	**11 35 30.4**	**-1.6**
SKT	**Skwentna**	**6.13**	**21**	Pn	**Pn**	**11 35 31.2**	**-0.9**
PMR	**Palmer**	**6.41**	**32**	Pn	**Pn**	**11 35 34.5**	**-1.3**
K17K	**Iditarod**	**6.45**	**352**		**Pn**	**11 35 35.7**	**-0.8**
K15K	**Wolf Creek Mou**	**6.52**	**338**		**Pn**	**11 35 37.8**	**+0.4**
HIN	**Hinchinbrook I**	**6.54**	**48**		**Pn**	**11 35 36.1**	**-1.5**
GLI	**Glacier Island**	**6.59**	**43**		**Pn**	**11 35 36.0**	**-2.3**
GHO	**Glory Hole Cre**	**6.61**	**32**	Pn	**Pn**	**11 35 39.0**	**+0.3**
FID	**Port Fidalgo**	**6.75**	**45**		**Pn**	**11 35 38.3**	**-2.2**
EYAK	**Cordova Ski Ar**	**6.93**	**48**	P	**Pn**	**11 35 42.2**	**-0.8**
EYAK	**Cordova Ski Ar**	**6.93**	**48**		**Pn**	**11 35 41.5**	**-1.5**
K20K	**Telida**	**7.10**	**8**	Pn	**Pn**	**11 35 45.7**	**+0.3**
J18K	**Innoko River**	**7.12**	**358**	Pn	**Pn**	**11 35 45.3**	**-0.4**
SCM	**Sheep Creek Mo**	**7.16**	**36**		**Pn**	**11 35 45.1**	**-1.1**
J17K	**VABM Dome**	**7.19**	**350**		**Pn**	**11 35 45.8**	**-0.8**
KAIM	**Kayak Island**	**7.22**	**55**	Pn	**Pn**	**11 35 47.5**	**+0.6**
J16K	**Anvik River**	**7.27**	**344**	Pn	**Pn**	**11 35 46.0**	**-1.7**
RAGM	**Ragged Mountai**	**7.31**	**52**		**Pn**	**11 35 47.7**	**-0.5**
GOAT	**Goat Mountain**	**7.38**	**50**		**Pn**	**11 35 48.0**	**-1.2**
CAST	**Castle Rocks**	**7.38**	**15**	Pn	**Pn**	**11 35 48.9**	**-0.3**
J14K	**Nanvaranak Lak**	**7.39**	**333**	Pn	**Pn**	**11 35 49.2**	**0.0**
KLU	**Klutina**	**7.42**	**42**		**Pn**	**11 35 48.5**	**-1.2**
HMT	**Hamilton**	**7.46**	**53**		**Pn**	**11 35 49.1**	**-1.2**
SUCK	**Suckling Hills**	**7.57**	**55**	Pn	**Pn**	**11 35 53.0**	**+1.2**
J19K	**Poorman**	**7.66**	**2**	Pn	**Pn**	**11 35 52.5**	**-0.5**
M24K	**Tolsona, Glenn**	**7.74**	**38**	Pn	**Pn**	**11 35 53.8**	**-0.3**
J20K	**Nowinta River**	**7.91**	**7**	Pn	**Pn**	**11 35 55.4**	**-0.9**
SNH	**Sunshine Point**	**8.04**	**56**	Pn	**Pn**	**11 35 58.8**	**+0.5**
WAX	**Waxell Ridge**	**8.14**	**54**	Pn	**Pn**	**11 35 59.3**	**-0.3**
GLB	**Gilahina Butte**	**8.21**	**47**	Pn	**Pn**	**11 35 59.8**	**-0.7**
VRDI	**Verde Repeater**	**8.24**	**48**	Pn	**Pn**	**11 35 59.4**	**-1.7**
GRNC	**Granite Creek**	**8.76**	**54**	Pn	**Pn**	**11 36 07.7**	**-0.5**
H18K	**Honhosa River**	**8.88**	**354**	Pn	**Pn**	**11 36 08.8**	**-0.8**
ILAR	**Eielson Array**	**9.60**	**25**	P	**Pn**	**11 36 16.8**	**-2.7**
	comp=E,0.3nm,0.7s,baz=225,slow=12,SNR=5.3						
ILAR				S	Sn	11 37 56.4	-9.3
	comp=E,0.2nm,0.4s,baz=91,slow=32,SNR=4.8						
NVAR	**Mina Array Bea**	**30.81**	**109**	P	**P**	**11 40 16.8**	**+2.5**
	comp=E,0.3nm,0.7s,baz=333,slow=11,SNR=2.7						
	comp=E,0.3nm,0.7s						
PDAR	**Pinedale Array**	**32.53**	**95**	P	**P**	**11 40 29.1**	**-0.4**
	comp=E,0.3nm,0.6s,baz=314,slow=5.7,SNR=5.2						
	comp=E,0.3nm,0.6s						
TXAR	**Lajitas Array**	**45.57**	**104**	P	**P**	**11 42 19.9**	**+1.8**
	comp=E,0.2nm,0.7s,baz=316,slow=5.2,SNR=4.1						
	comp=E,0.2nm,0.7s						
SONM	**Songino Array**	**55.52**	**306**	P	**P**	**11 43 32.1**	**-0.8**
	comp=E,0.9nm,0.5s,baz=39,slow=6.4,SNR=3.9						
	comp=E,0.9nm,0.5s						
AKASG	**Malin Array Be**	**73.20**	**356**	P	**P**	**11 45 26.9**	**-1.3**
	comp=E,0.5nm,0.4s,baz=9.0,slow=6.5,SNR=2.5						
	comp=E,0.5nm,0.4s						

*IDC **30** 11:34:12.9±2.0, 2°23N×97°13E, h0km, mb3.7/6, mbtmp3.7/7, ML4.1/1, MS3.6/1, Error ellipse: s-maj=79.8km s-min=27.6km az=57.0*

ISC 30 11:34:17.2±1.8, 2°2N±0°2×97°2E±0°4, h28km, n17, σ1§40/7, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.24**	**6**	Pn	**Pn**	**11 38 04.0**	**+0.5**
	0.3nm,0.3s,baz=198,slow=11,SNR=7.6						
	0.8nm,0.5s						
H08S2	**Diego Garcia H**	**26.49**	**248**	T	T	12 06 34.0	
	baz=69,slow=75,SNR=122						
H08S3	**Diego Garcia H**	**26.49**	**248**	T	T	12 06 34.1	
	baz=69,slow=75,SNR=143						
H08S1	**Diego Carcia H**	**26.51**	**248**	T	T	12 06 35.2	
	baz=69,slow=75,SNR=154						
WRA	**Warramunga Arr**	**42.60**	**123**	P	**P**	**11 42 11.2**	**-0.2**
	0.4nm,0.6s,baz=300,slow=9.3,SNR=5.2						
	0.4nm,0.6s						
KSRS	**Korea Array**	**45.05**	**35**	LR	LR	12 01 21.4	
	comp=Z,72nm,18.3s,baz=215,slow=36						
SONM	**Songino Array**	**46.15**	**9**	P	**P**	**11 42 39.8**	**+0.4**
	0.3nm,0.4s,baz=187,slow=8.7,SNR=2.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**46.26**	**346**	P	**P**	**11 42 39.4**	**-0.8**
	0.8nm,0.7s,baz=160,slow=7.8,SNR=6.7						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**50.76**	**345**	P	**P**	**11 43 12.8**	**-1.9**
	0.1nm,0.3s,baz=160,slow=7.0,SNR=2.1						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**52.56**	**351**	P	**P**	**11 43 26.9**	**-1.2**
	1.0nm,0.5s,baz=180,slow=7.3,SNR=4.2						
	1.0nm,0.5s						
H04N2	**CROZET ISLANDS**	**62.59**	**214**	T	T	12 51 55.9	
	baz=53,slow=75,SNR=106						
H04N1	**CROZET ISLANDS**	**62.59**	**214**	T	T	12 51 56.5	
	baz=53,slow=75,SNR=112						
H04N3	**CROZET ISLANDS**	**62.60**	**214**	T	T	12 51 55.1	
	baz=53,slow=75,SNR=92						
H04S1	**CROZET ISLANDS**	**62.93**	**213**	T	T	12 52 19.0	
	baz=52,slow=75,SNR=26						
H04S3	**CROZET ISLANDS**	**62.94**	**213**	T	T	12 52 14.9	
	baz=52,slow=75,SNR=42						
H04S2	**CROZET ISLANDS**	**62.95**	**213**	T	T	12 52 15.2	
	baz=52,slow=75,SNR=27						
HFS	**Hagfors**	**84.84**	**330**	P	**P**	**11 46 50.5**	**+1.4**
	1.2nm,0.7s,baz=104,slow=6.1,SNR=7.6						
	1.2nm,0.7s						

IDC 30 11:43:54.5±8.0, 10°19S×151°22E, h73km±67km, mb3.1/3, mbtmp3.5/5, ML2.5/2, MS3.8/1, Error ellipse: s-maj=58.5km s-min=32.6km az=98.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.07**	**281**	P	Pn	11 44 53.2	-1.2
	4.0nm,0.3s,baz=105,slow=9.7,SNR=16						
PMG				S	Sn	11 45 42.4	+1.6
	26nm,1.0s,baz=157,slow=7.7,SNR=1.2						
	37nm,0.6s						
WRA	**Warramunga Arr**	**18.95**	**237**	P	P	11 48 08.6	-1.3
	baz=62,slow=12,SNR=6.4						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**21.27**	**229**	P	P	11 48 36.0	+1.0
	1.1nm,0.9s,baz=62,slow=10.0,SNR=7.1						
	1.1nm,0.9s						
URZ	**Urewera**	**36.34**	**145**	LR	LR	12 03 35.2	
	comp=Z,125nm,19.1s,baz=27,slow=32						
SONM	**Songino Array**	**70.09**	**330**	P	P	11 54 57.4	-1.6
	0.5nm,0.7s,baz=150,slow=6.1,SNR=2.5						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**87.71**	**22**	P	P	11 56 36.5	+1.7
	0.2nm,0.6s,baz=233,slow=4.4,SNR=1.8						
	0.2nm,0.6s						

NOU 30 12:00:10.7, 17°15S×167°86E, h23km, MLv3.9/15, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.65**	**151**	P	Pn	12 00 25.1	+0.6
RTV	**Rentapao**	**0.84**	**140**	P	Pn	12 00 27.0	-0.1
LIFNC	**LIFOU**	**3.66**	**189**	P	Pn	12 01 05.6	-0.3
MARNC	**Mare, Loyalty**	**4.31**	**178**	P	Pn	12 01 15.3	+0.4
KOUNC	**Koumac, New Ca**	**4.79**	**224**	P	Pn	12 01 21.8	+0.4
YATNC	**Mamie plateau,**	**4.97**	**190**	P	Pn	12 01 23.7	-0.2
DZM	**Mont Dzumac**	**5.07**	**195**	P	Pn	12 01 25.5	0.0
ONTNC	**Ouen Toro**	**5.30**	**194**	P	Pn	12 01 28.9	+0.4
PINNC	**Pines Island,**	**5.45**	**184**	P	Pn	12 01 30.8	+0.3

*GUC **30** 12:06:12.6±0.7, 22°26S×67°74W, h200km±8km, ML3.7*
*SCB **30** 12:06:12.6±1.0, 22°21S×67°50W, h156km±11km, ML3.5/3, MW3.4, Error ellipse: s-maj=6.2km s-min=2.5km az=0.0*

ISC 30 12:06:10.8±1.7, 22°24S±0°05×67°53W±0°05, h181km±16km, n20, σ1§20/31, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.65**	**285**	*e*P	**Pn**	**12 06 45.7**	**+1.2**
PB09				*i* S	**Sn**	**12 07 11.0**	**+0.4**
PB09	**IPOC Station P**	**1.65**	**285**	Pg	**Pn**	**12 06 45.6**	**+1.1**
YJA	**Yavi**	**1.86**	**88**	*e*P	**Pn**	**12 06 47.9**	**+0.9**
PB06	**IPOC Station P**	**1.95**	**256**	*e*P	**Pn**	**12 06 48.3**	**+0.7**
PB06				*e*S	**Sn**	**12 07 15.7**	**-0.3**
PB06				IAML		12 07 18.5	
	comp=E,121nm,0.3s						
MOCB	**Mochara**	**2.01**	**61**	Pg	**Pn**	**12 06 49.2**	**+0.6**
MOCB				Sg	**Sn**	**12 07 16.5**	**-1.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRWL	**Qaraoun**	**0.07**	**344**	*eP*	**Pg**	**12 32 50.2**	**+0.3**
RCY	**Rachaya**	**0.11**	**84**	*eP*	**Pg**	**12 32 51.2**	**+0.4**
RCY				*eS*	**Sg**	**12 32 53.0**	**+0.9**
NATI	**Neve Ativ**	**0.22**	**173**	P	**Pg**	**12 32 52.5**	**-0.4**
NATI	**Neve Ativ**	**0.22**	**173**	S	**Sg**	**12 32 56.9**	**+1.1**
DQRL	**Deir Qamar**	**0.25**	**333**	*eP*	**Pg**	**12 32 53.4**	**0.0**
GEM	**Giv'at Ha'Em**	**0.28**	**187**	P	**Pg**	**12 32 53.4**	**-0.4**
GEM	**Giv'at Ha'Em**	**0.28**	**187**	S	**Sg**	**12 32 59.2**	**+1.8**
BHL	**Bhannes**	**0.42**	**354**	*eP*	**Pg**	**12 32 56.5**	**-0.2**
KSHT	**Keshet**	**0.51**	**170**	P	**Pg**	**12 32 58.4**	**+0.1**
KSHT	**Keshet**	**0.51**	**170**	S	**Sb**	**12 33 07.4**	**-1.1**
MMC7	**Mount Meron ar**	**0.53**	**210**	P	**Pg**	**12 32 58.6**	**-0.2**
MMA0B	**Mount Meron ar**	**0.53**	**208**	P	**Pg**	**12 32 58.5**	**-0.3**
MMA0B	**Mount Meron ar**	**0.53**	**208**	S	**Sb**	**12 33 08.6**	**-0.5**
HNTI	**Hanita**	**0.60**	**228**	P	**Pg**	**12 33 00.2**	**+0.1**
HNTI	**Hanita**	**0.60**	**228**	S	**Sb**	**12 33 10.8**	**-0.2**
HWQ	**Hawqa**	**0.82**	**14**	*eP*	**Pg**	**12 33 03.7**	**-0.6**
HWQ				*eS*	**Sg**	**12 33 15.2**	**+0.3**
BEIL	**Beino**	**1.13**	**21**	*eP*	**Pg**	**12 33 09.3**	**-0.9**
HMDT	**Nahal Hemdat**	**1.24**	**187**	P	**Pg**	**12 33 11.2**	**-1.1**

*TAP **30** 12:39:52.8, 25°.39N×122°.26E, h267km, ML3.3, C*
*JMA **30** 12:39:55.0±0.2, 25°.N×3°.×122°.2E±0°.7, h234km±3km, MV3.6/16, TAIWAN REGION*
ISC 30 12:39:53.7±2.2, 25°.35N±0°.08×122°.19E±0°.04, h251km±13km, n72, σ0$71/121, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.29**	**339**	*eP*	**Pn**	**12 40 27.1**	**+0.9**
	baz=310						
SXI1	**Grass Mountain**	**0.38**	**228**	*eP*	**Pn**	**12 40 26.5**	**0.0**
	baz=241						
SXI1				*eS*	**S**	**12 40 53.2**	**+0.9**
	baz=241						
TWB1	**Santiao Chiao**	**0.39**	**208**	*eP*	**Pn**	**12 40 27.5**	**+1.0**
	baz=223						
TIPB	**Shuangxi**	**0.50**	**221**	*eP*	**Pn**	**12 40 27.6**	**+0.8**
	baz=223						
TWY	**Chenhua**	**0.54**	**262**	*eP*	**Pn**	**12 40 26.9**	**+0.1**
	baz=249						
TWA	**Mucha**	**0.66**	**236**	*eP*	**Pn**	**12 40 27.8**	**+0.5**
	baz=240						
TWA				*eS*	**S**	**12 40 53.8**	**+0.1**
	baz=240						
TATO	**Taipei**	**0.74**	**239**	P	**Pn**	**12 40 28.0**	**+0.5**
	baz=240						
TATO				S	**S**	**12 40 53.9**	**-0.2**
	baz=240						
TWE	**Neicheng**	**0.79**	**217**	P	**Pn**	**12 40 28.3**	**+0.5**
	baz=219						
TWE				*eS*	**S**	**12 40 54.7**	**+0.1**
	baz=219						
TWC	**Suao**	**0.80**	**203**	*eP*	**Pn**	**12 40 28.5**	**+0.6**
	baz=208						
TWC				*eS*	**S**	**12 40 53.6**	**-1.1**
	baz=208						
FUSB	**Fushanzhiwuyua**	**0.80**	**223**	P	**Pn**	**12 40 28.3**	**+0.3**
	baz=225						
FUSB				S	**S**	**12 40 54.2**	**-0.7**
	baz=225						
NDS	**Dongshan**	**0.83**	**211**	*eP*	**Pn**	**12 40 29.1**	**+1.1**
	baz=213						
NDS				*eS*	**S**	**12 40 55.4**	**+0.3**
	baz=213						
NWLT	**Wulai**	**0.85**	**227**	P	**Pn**	**12 40 28.1**	**0.0**
	baz=221						
NWLT				S	**S**	**12 40 54.3**	**-0.8**
	baz=221						
ENTT	**Nioudou**	**0.91**	**219**	P	**Pn**	**12 40 28.9**	**+0.5**
	baz=228						
ENTT				*eS*	**S**	**12 40 55.4**	**-0.2**
	baz=228						
EOS2	**EOS2**	**0.93**	**178**	*eP*	**Pn**	**12 40 29.2**	**+0.8**
	baz=189						
EOS2				*eS*	**S**	**12 40 55.8**	**+0.2**
	baz=189						
NDT	**Datong Townshi**	**0.97**	**219**	P	**Pn**	**12 40 29.0**	**+0.3**
	baz=227						
NDT				*eS*	**S**	**12 40 55.8**	**-0.4**
	baz=227						
EWUT	**Wuta**	**0.98**	**202**	P	**Pn**	**12 40 29.4**	**+0.6**
	baz=197						
EWUT				*eS*	**S**	**12 40 56.6**	**+0.3**
	baz=197						
YHNB	**Yeheng**	**1.00**	**227**	P	**Pn**	**12 40 28.8**	**-0.2**
	baz=223						
YHNB				*eS*	**S**	**12 40 55.4**	**-1.3**
	baz=223						
ENA	**Nanau**	**1.01**	**204**	P	**Pn**	**12 40 29.8**	**+0.8**
	baz=198						
ENA				*eS*	**S**	**12 40 56.6**	**0.0**
	baz=198						
NSK	**Sanguang**	**1.01**	**228**	P	**Pn**	**12 40 29.1**	**+0.1**
	baz=224						
NSK				S	**S**	**12 40 55.6**	**-1.1**
	baz=224						
LATG	**Datong**	**1.01**	**216**	⇓*i*P	**Pn**	**12 40 29.6**	**+0.5**
	baz=224						
LATG				S	**S**	**12 40 56.6**	**-0.3**
	baz=224						
EOS3	**EOS3**	**1.07**	**174**	*eP*	**Pn**	**12 40 29.7**	**+0.6**
	baz=183						
EOS3				*eS*	**S**	**12 40 56.8**	**-0.1**
	baz=183						
EAHA	**Aohua**	**1.10**	**202**	*eP*	**Pn**	**12 40 30.9**	**+1.4**
	baz=195						
JYNG	**Yonagunijimaku**	**1.13**	**142**	P	**Pn**	**12 40 30.0**	**+0.4**
JYNG				*eS*	**S**	**12 40 57.2**	**-0.7**
YOJ	**Yonaguni jima**	**1.16**	**140**	P	**Pn**	**12 40 29.9**	**+0.1**
	baz=151						
YOJ				*eS*	**S**	**12 40 57.2**	**-1.0**
	baz=151						
YOJ	**Yonaguni jima**	**1.16**	**140**	P	**Pn**	**12 40 29.9**	**+0.1**
NNS	**Nan Shan**	**1.17**	**219**	P	**Pn**	**12 40 30.6**	**+0.5**
	baz=218						
NNS				*eS*	**S**	**12 40 58.2**	**-0.4**
	baz=218						
NNSB	**Datong**	**1.18**	**219**	P	**Pn**	**12 40 30.4**	**+0.3**
	baz=216						
NNSB				S	**S**	**12 40 58.0**	**-0.7**
	baz=216						
NFF	**Wufeng Townshi**	**1.21**	**234**	*eP*	**Pn**	**12 40 30.2**	**+0.1**
	baz=230						
NFF				*eS*	**S**	**12 40 58.2**	**-0.6**
	baz=230						
EOS4	**EOS4**	**1.23**	**174**	*eP*	**Pn**	**12 40 30.4**	**+0.6**
	baz=177						
LIOB	**Emei**	**1.28**	**237**	P	**Pn**	**12 40 31.2**	**+0.6**
	baz=234						
LIOB				*eS*	**S**	**12 40 59.3**	**-0.3**
	baz=234						
NACB	**Ninganchiao**	**1.29**	**205**	*eP*	**Pn**	**12 40 30.3**	**-0.4**
	baz=215						
NACB				*eS*	**S**	**12 40 58.3**	**-1.5**
	baz=215						
NSTT	**Nanjuang**	**1.29**	**236**	P	**Pn**	**12 40 31.0**	**+0.3**
	baz=235						
NSTT				*eS*	**S**	**12 40 59.2**	**-0.6**
	baz=235						
ETLH	**Xiulin Townshi**	**1.31**	**209**	*eP*	**Pn**	**12 40 31.4**	**+0.5**
	baz=218						
ETLH				*eS*	**S**	**12 40 59.6**	**-0.6**
	baz=218						
TWD	**Chiawan**	**1.38**	**203**	*eP*	**Pn**	**12 40 31.3**	**+0.1**
	baz=213						
FUSS	**Fushou**	**1.40**	**218**	*eP*	**Pn**	**12 40 32.4**	**+0.6**
	baz=222						
FUSS				*eS*	**S**	**12 41 01.6**	**0.0**
	baz=222						
TWT	**Tachien**	**1.43**	**220**	P	**Pn**	**12 40 32.7**	**+0.8**
	baz=221						
TWT				*eS*	**S**	**12 41 01.6**	**-0.2**
	baz=221						
TDCB	**Techi**	**1.44**	**221**	P	**Pn**	**12 40 32.5**	**+0.7**
	baz=222						
TDCB				*eS*	**S**	**12 41 01.0**	**-0.9**
	baz=222						
WHF	**Hehuan Shan**	**1.47**	**215**	P	**Pn**	**12 40 33.3**	**+0.9**
	baz=214						
WHF				*eS*	**S**	**12 41 02.7**	**-0.2**
	baz=214						
LXIB	**Xiulin Townshi**	**1.50**	**208**	*eP*	**Pn**	**12 40 32.5**	**+0.1**
	baz=213						
LXIB				S	**S**	**12 41 01.8**	**-1.0**
	baz=213						
ETM	**Tongmen**	**1.52**	**205**	*eP*	**Pn**	**12 40 32.3**	**0.0**
	baz=212						
WHP	**Taichung City**	**1.56**	**227**	*eP*	**Pn**	**12 40 33.0**	**+0.4**
	baz=228						
CHGB	**Renai**	**1.58**	**216**	*eP*	**Pn**	**12 40 33.9**	**+0.8**
	baz=215						
CHGB				*eS*	**S**	**12 41 05.2**	**+1.2**
	baz=215						
TWQ1	**Liyutan**	**1.63**	**232**	*eP*	**Pn**	**12 40 33.5**	**+0.3**
	baz=227						
SHUL	**Shoufeng**	**1.66**	**200**	*eP*	**Pn**	**12 40 34.4**	**+1.0**
	baz=199						
SHUL				*eS*	**S**	**12 41 04.8**	**+0.1**
	baz=199						
WUSB	**Renai**	**1.67**	**216**	P	**Pn**	**12 40 34.2**	**+0.6**
	baz=214						
WUSB				S	**S**	**12 41 05.4**	**+0.4**
	baz=214						
OWD	**Renai**	**1.67**	**214**	*eP*	**Pn**	**12 40 34.5**	**+0.9**
	baz=212						
ESL	**Shilin**	**1.68**	**204**	*eP*	**Pn**	**12 40 33.0**	**-0.6**
	baz=210						
IRIF	**Iriomote-Funau**	**1.73**	**126**	P	**Pn**	**12 40 34.1**	**+0.2**
IRIF				S	**S**	**12 41 04.3**	**-1.3**
WCS	**Beigang Elemen**	**1.74**	**222**	*eP*	**Pn**	**12 40 34.5**	**+0.5**
	baz=224						
WCS				*eS*	**S**	**12 41 05.2**	**-0.5**
	baz=224						
WPL	**Puli Township**	**1.74**	**220**	*eP*	**Pn**	**12 40 35.2**	**+1.2**
	baz=227						
DPDB	**Guoxing**	**1.75**	**221**	*eP*	**Pn**	**12 40 34.4**	**+0.3**
	baz=228						
WARBT	**Fenglin Townsh**	**1.79**	**204**	*eP*	**Pn**	**12 40 34.2**	**-0.3**
	baz=201						
WARBT				*eS*	**S**	**12 41 05.3**	**-1.3**
	baz=201						
VWDT	**VWDT**	**1.86**	**211**	P	**Pn**	**12 40 36.1**	**+1.1**
	baz=213						
VWDT				*eS*	**S**	**12 41 08.2**	**+0.6**
	baz=213						
SMLT	**Sun Moon Lake**	**1.88**	**219**	*eP*	**Pn**	**12 40 35.8**	**+0.5**
	baz=220						
SMLT				S	**S**	**12 41 08.1**	**-0.1**
	baz=220						
WWF	**Wufeng**	**1.88**	**226**	*eP*	**Pn**	**12 40 35.4**	**+0.1**
	baz=232						
TYC	**Yuchr**	**1.88**	**220**	*eP*	**Pn**	**12 40 35.9**	**+0.6**
	baz=226						
SSLB	**Suanglung**	**1.92**	**216**	*eP*	**Pn**	**12 40 36.1**	**+0.4**
	baz=224						
SSLB				S	**S**	**12 41 07.5**	**-1.2**
	baz=224						
HATJ	**Hateruma jima**	**1.96**	**131**	S	**S**	**12 41 08.7**	**-0.4**
HGSD	**Ruisui**	**1.98**	**201**	*eP*	**Pn**	**12 40 36.8**	**+0.6**
	baz=200						
HGSD				*eS*	**S**	**12 41 10.2**	**+0.6**
	baz=200						
JKRS	**Kuro-shima**	**1.99**	**123**	P	**Pn**	**12 40 37.0**	**+0.7**
JKRS				S	**S**	**12 41 09.1**	**-0.6**
JIJ	**Ishigaki jima**	**2.03**	**119**	P	**Pn**	**12 40 36.8**	**+0.2**
JIJ				S	**S**	**12 41 08.6**	**-1.7**
WHYT	**Xinyi Township**	**2.05**	**217**	*eP*	**Pn**	**12 40 37.6**	**+0.7**
	baz=223						
WHYT				*eS*	**S**	**12 41 10.2**	**-0.6**
	baz=223						
JISG	**Ishigakijimahi**	**2.07**	**111**	P	**Pn**	**12 40 37.1**	**+0.2**
JISG				S	**S**	**12 41 09.8**	**-1.1**
YULB	**Yu-li**	**2.12**	**203**	*eP*	**Pn**	**12 40 37.1**	**-0.2**
	baz=205						
YULB				*eS*	**S**	**12 41 09.6**	**-2.3**
	baz=205						
TWF1	**Yuli**	**2.15**	**202**	*eP*	**Pn**	**12 40 39.3**	**+1.5**
	baz=204						
CHN5	**Tsauling**	**2.23**	**218**	*eP*	**Pn**	**12 40 38.8**	**+0.3**
	baz=220						
XPSS	**Dashiqiu**	**2.38**	**312**	P	**Pn**	**12 40 39.5**	**-0.3**
	baz=308						
JTJ	**Tarama**	**2.39**	**107**	P	**Pn**	**12 40 40.7**	**+0.8**
JTJ				S	**S**	**12 41 16.2**	**-0.2**
TPUB	**Ta-pu**	**2.49**	**215**	*eP*	**Pn**	**12 40 41.5**	**+0.4**
	baz=222						
JIRB	**Irabujima**	**2.76**	**100**	P	**Pn**	**12 40 44.2**	**+0.6**
JIRB				S	**S**	**12 41 22.6**	**-0.5**
JMJ2	**Miyako jima3**	**2.91**	**101**	P	**Pn**	**12 40 46.3**	**+1.0**
JMJ2				S	**S**	**12 41 25.8**	**-0.3**
JOGS	**Gusukube**	**2.98**	**101**	P	**Pn**	**12 40 47.0**	**+1.0**

*IDC **30** 13:20:31.9±2.2, 6°.14N×72°.41W, h178km±16km, mbtmp3.7/2, Error ellipse: s-maj=106.3km s-min=19.0km az=135.0*
*RSNC **30** 13:20:35.2±0.0, 7°.N±1°.×7°.3W±°, h143km±3km, M2.8, ML2.8*
ISC 30 13:20:31.3±1.1, 6°.86N±0°.03×73°.08W±0°.05, h160km±7km, n33, σ1$43/57, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.60**	**38**	P	**Pn**	**13 20 56.4**	**+1.5**
PAMC				S	**Sn**	**13 21 13.3**	**+0.4**
RUSC	**La Rusia**	**0.96**	**180**	P	**Pn**	**13 20 57.5**	**+0.2**
RUSC				S	**Sn**	**13 21 16.5**	**-0.7**
TAMC	**Tame, Arauca**	**1.34**	**108**	P	Pn	13 21 02.0	+1.9
TAMC				S	Sn	13 21 23.8	+1.6
OCAC	**Ocana**	**1.39**	**350**	P	**Pn**	**13 21 01.8**	**+1.1**
OCAC				S	**Sn**	**13 21 24.2**	**+0.9**
PTBC	**PUERTO BERRIO,**	**1.41**	**257**	P	**Pn**	**13 21 00.0**	**-0.7**
PTBC				S	**Sn**	**13 21 21.3**	**-2.0**
SPBC	**San Pablo de B**	**1.56**	**219**	P	**Pn**	**13 21 02.4**	**+0.1**
SPBC				S	**Sn**	**13 21 25.3**	**-0.9**
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	P	**Pn**	**13 21 05.9**	**+0.3**
ZARC				S	**Sn**	**13 21 32.5**	**+0.5**
NORC	**Norcasia**	**2.20**	**234**	P	**Pn**	**13 21 09.5**	**+0.1**
NORC				S	**Sn**	**13 21 38.0**	**-0.8**
CHIC	**Chingaza**	**2.31**	**196**	P	**Pn**	**13 21 11.6**	**+0.5**
CHIC				S	**Sn**	**13 21 41.0**	**-0.8**
ROSC	**El Rosal**	**2.36**	**212**	P	**Pn**	**13 21 12.8**	**+1.2**
	51nm,0.3s,baz=61,slow=21,SNR=20						
ROSC				S	**Sn**	**13 21 44.4**	**+1.7**
	83nm,0.3s,baz=126,slow=18,SNR=12						
ROSC	**El Rosal**	**2.36**	**212**	P	**Pn**	**13 21 13.3**	**+1.7**
ROSC				S	**Sn**	**13 21 43.9**	**+1.1**
UREC	**San Jos de Ur**	**2.59**	**290**	P	**Pn**	**13 21 13.4**	**-0.6**
UREC				S	**Sn**	**13 21 47.0**	**-0.1**
VILC	**Villavicencio,**	**2.80**	**193**	P	**Pn**	**13 21 17.3**	**+0.6**
VILC				S	**Sn**	**13 21 52.3**	**+0.3**
PTGC	**Puerto Gaitan,**	**2.81**	**160**	P	**Pn**	**13 21 16.8**	**+0.1**
PTGC				S	**Sn**	**13 21 50.1**	**-1.8**
CBOC	**Ciudad Bolivar**	**3.08**	**251**	P	**Pn**	**13 21 21.2**	**+1.0**
CBOC				S	**Sn**	**13 21 57.9**	**-0.3**
DBBC	**Dabeiba**	**3.12**	**273**	P	**Pn**	**13 21 21.0**	**+0.4**
DBBC				S	**Sn**	**13 21 56.9**	**-1.9**
SDV	**Santo Domingo**	**3.15**	**50**	P	Pn	13 21 23.6	+2.5
	11nm,0.3s,baz=233,slow=7.1,SNR=3.2						
SDV	**Santo Domingo**	**3.15**	**50**	P	Pn	13 21 23.4	+2.3
ARGC	**Ariguani, Magd**	**3.19**	**339**	P	**Pn**	**13 21 24.0**	**+2.5**
ARGC				S	**Sn**	**13 22 03.1**	**+2.6**
ANIL	**Santa Ana**	**3.30**	**225**	P	**Pn**	**13 21 25.0**	**+1.8**
ANIL				S	**Sn**	**13 22 04.7**	**+1.3**
PRAC	**Prado**	**3.61**	**210**	P	**Pn**	**13 21 27.3**	**+0.4**
PRAC				S	**Sn**	**13 22 09.3**	**-0.8**
APAC	**Apartado, Choc**	**3.62**	**287**	P	**Pn**	**13 21 27.3**	**+0.3**
APAC				S	**Sn**	**13 22 12.4**	**+2.2**
ORTC	**Ortega, Tolima**	**3.65**	**216**	P	**Pn**	**13 21 28.0**	**+0.7**
ORTC				S	**Sn**	**13 22 11.5**	**+0.6**
SJCC	**San Jacinto, C**	**3.66**	**326**	P	**Pn**	**13 21 27.7**	**+0.2**
SJCC				S	**Sn**	**13 22 08.8**	**-2.5**
PLMC	**San Jos del P**	**3.74**	**239**	P	**Pn**	**13 21 29.1**	**+0.6**
PLMC				S	**Sn**	**13 22 13.1**	**+0.1**
URMC	**La Uribe, Meta**	**3.82**	**200**	P	**Pn**	**13 21 30.9**	**+1.3**
URMC				S	**Sn**	**13 22 14.6**	**-0.4**
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	P	**Pn**	**13 21 34.1**	**+0.5**
CRJC				S	**Sn**	**13 22 22.3**	**0.0**
YOTC	**Yotoco, Valle**	**4.33**	**229**	P	**Pn**	**13 21 37.2**	**+0.9**
SMRC	**Santa Marta, M**	**4.42**	**345**	P	**Pn**	**13 21 39.4**	**+2.1**
SMRC				S	**Sn**	**13 22 26.7**	**-2.1**
CAPC	**Capurgana**	**4.59**	**293**	P	**Pn**	**13 21 38.5**	**-1.0**
CAPC				S	**Sn**	**13 22 31.1**	**-1.6**
MALC	**Bahia Malaga**	**5.10**	**236**	P	**Pn**	**13 21 48.6**	**+2.4**
MALC				S	**Sn**	**13 22 49.5**	**+4.7**
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	**PKPbc**	**13 40 00.1**	**-1.7**
	0.3nm,1.0s,baz=125,slow=3.9,SNR=1.5						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	**PKPbc**	**13 40 03.3**	**-1.4**
	0.4nm,1.0s,baz=104,slow=2.7,SNR=5.6						

*IDC **30** 13:34:22.1±0.5, 0°.48N×98°.36E, h0km, mb4.5/21, mbtmp4.5/22, ML4.6/1, MS3.7/19, Error ellipse: s-maj=20.4km s-min=12.6km az=69.0*
*MOS **30** 13:34:24.0±1.1, 0°.54N×98°.50E, h22km, mb5.0/29, Error ellipse: s-maj=11.2km s-min=5.5km az=104.8*
*BJI **30** 13:34:25.2±0.0, 0°.27N×98°.25E, h32km, mb4.8/67, mB5.1/25, Ms4.4/29, Ms7 4.1/28*
*DJA **30** 13:34:25.7±0.1, 1°N±1°.×9°8E±°, h10km, M5.1/25, mb5.1/25, mB5.5/8, MLv5.3/17, Mw4.8/6, Mw(mB)5.0/8*
*NEIC **30** 13:34:28.0±1.9, 0°.60N±0°.08×98°.26E±0°.07, h35km±1km, mb4.9/54, Error ellipse: s-maj=15.3km s-min=8.3km az=219.0*
ISC 30 13:34:28.4±0.4, 0°.50N±0°.04×98°.24E±0°.04, h38km±1km, h38km:pP-P, n270, σ1$80/255, mb4.9/101, MS4.0/33, 14C-9D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.55**	**176**	P	**Pn**	**13 34 37.0**	**-2.9**
PBSI				S	**Sn**	**13 34 46.2**	**-1.7**
GSI	**Gunungsitoli**	**1.04**	**320**	P	**Pn**	**13 34 44.8**	**-1.7**
GSI	**Gunungsitoli**	**1.04**	**320**		**Pn**	**13 34 44.8**	**-1.7**
GSI	**Gunungsitoli**	**1.04**	**320**	P	**Pn**	**13 34 44.9**	**-1.5**
GSI				S	**Sn**	**13 35 00.4**	**+0.7**
SISI	**Saibi**	**2.00**	**155**	P	**Pn**	**13 34 58.2**	**-1.5**
SISI				S	**Sn**	**13 35 26.9**	**+3.4**
PDSI	**Padang**	**2.63**	**122**	P	**Pn**	**13 35 09.5**	**+1.2**
PDSI				S	**Sn**	**13 35 39.9**	**+0.9**
SNSI	**Sinabang, Aceh**	**2.69**	**315**	P	**Pn**	**13 35 08.9**	**-0.3**
SNSI				S	**Sn**	**13 35 41.8**	**+1.2**
BKNI	**Bangkinang**	**2.80**	**94**	P	Pn	13 35 16.7	+6.0
BKNI	**Bangkinang**	**2.80**	**94**		**Pn**	**13 35 10.4**	**-0.3**
BKNI	**Bangkinang**	**2.80**	**94**	P	**Pn**	**13 35 10.6**	**-0.1**
BKNI				S	Sn	13 35 55.6	+12
KCSI	**Kotacane, Aceh**	**3.04**	**351**	P	**Pn**	**13 35 12.9**	**-1.1**
PPSI	**Pulau Pagai**	**3.69**	**151**	P	**Pn**	**13 35 24.2**	**+1.2**
PPSI				S	**Sn**	**13 36 07.3**	**+2.1**
MLSI	**Meulaboh, Aceh**	**4.17**	**334**	P	**Pn**	**13 35 28.5**	**-1.0**
LHMI	**Lhok Sumawe**	**4.87**	**345**	P	**Pn**	**13 35 40.9**	**+1.7**
LHMI	**Lhok Sumawe**	**4.87**	**345**	Pn	**Pn**	**13 35 37.2**	**-1.9**
LHMI	**Lhok Sumawe**	**4.87**	**345**	P	**Pn**	**13 35 37.2**	**-1.9**
KULM	**Kulim**	**5.33**	**27**	Pn	**Pn**	**13 35 43.8**	**-1.7**
BTDF	**Bukit Timah Da**	**5.60**	**81**	P	Pn	13 35 53.9	+4.8
JMBI	**JAMBI**	**5.80**	**111**	P	**Pn**	**13 35 53.8**	**+1.9**
TPRI	**Tanjung Pinang**	**6.30**	**86**	P	**Pn**	**13 35 57.5**	**-1.3**
	59nm,0.5s,3μm1.3nm						
MNAI	**Manna**	**6.75**	**136**	P	**Pn**	**13 36 04.3**	**-0.7**
MNAI	**Manna**	**6.75**	**136**	Pn	**Pn**	**13 36 04.1**	**-0.8**
MNAI	**Manna**	**6.75**	**136**	P	**Pn**	**13 36 03.7**	**-1.2**
	285nm,1.4s,1.9nm						
PMBI	**Palembang**	**7.36**	**118**	P	**Pn**	**13 36 12.4**	**-1.0**
	222nm,0.4s,1.9nm						
LWLI	**Liwa**	**7.99**	**133**	P	**Pn**	**13 36 20.6**	**-1.5**
	159nm,0.7s,1.0nm						
SRIT	**Nakonsritamara**	**8.15**	**10**		**Pn**	**13 36 22.2**	**-2.1**
BBJI	**Bungbulang**	**12.27**	**130**	P	**Pn**	**13 37 22.3**	**+1.5**
STKI	**Sintang**	**13.24**	**92**	P	**P**	**13 37 40.8**	**-2.4**
SBUM	**Sibu**	**14.11**	**82**	P	**P**	**13 37 52.8**	**-0.1**
YOGI	**Yogyakarta**	**14.59**	**125**	P	**Pn**	**13 37 52.6**	**+0.3**
	177nm,1.7s						
UBPT	**Khong Chiam**	**16.33**	**26**	P	**P**	**13 38 19.9**	**+2.4**
UBPT	**Khong Chiam**	**16.33**	**26**	Pn	**Pn**	**13 38 12.9**	**-2.1**
CM31	**Chiang Mai Arr**	**17.86**	**2**		**Pn**	**13 38 31.8**	**-2.2**
CMAR	**Chiang Mai Arr**	**17.86**	**2**		**Pn**	**13 38 31.2**	**-2.8**
CMAR	**Chiang Mai Arr**	**17.86**	**2**	P	**Pn**	**13 38 31.8**	**-2.3**
	0.8nm,0.3s,baz=195,slow=11,SNR=17						
CMAR				LR	LR	13 45 16.8	
	comp=Z,223nm,19.8s,baz=195,slow=37						
	2.2nm,0.6s						
PHRA	**Phrae**	**17.99**	**6**		**Pn**	**13 38 33.6**	**-2.1**
PHRA				IAmb	IAmb	13 38 39.4	
	comp=Z,50nm,0.8s						
JAGI	**Jajag, Banyuwa**	**18.19**	**120**	P	**P**	**13 38 38.1**	**0.0**
CHTO	**Chiang Mai**	**18.21**	**2**		**P**	**13 38 35.5**	**-2.9**
CHTO	**Chiang Mai**	**18.21**	**2**	P	**Pn**	**13 38 35.5**	**-2.9**
CHTO				pmax	pmax		
	comp=Z,15nm,0.8s						
PALK	**Pallekele**	**18.74**	**291**	LR	LR	13 45 36.6	
	comp=Z,163nm,21.6s,baz=210,slow=36						
PALK	**Pallekele**	**18.74**	**291**	*ce*P	**Pn**	**13 38 48.1**	**+3.2**
KKM	**Kota Kinabalu**	**18.76**	**73**	P	**P**	**13 38 43.1**	**-1.4**
KKM				IAmb	IAmb	13 38 50.8	
	comp=Z,43nm,0.6s						
SRBI	**Singaraja**	**18.95**	**117**	P	**Pn**	**13 38 48.4**	**+1.1**
	comp=Z,30nm,0.5s						
DNP	**Denpasar**	**19.21**	**119**	P	**Pn**	**13 38 50.3**	**-0.2**
MYLDM	**Lahad Datu**	**20.75**	**77**	P	**P**	**13 39 05.3**	**-0.9**
MYLDM				IAmb	IAmb	13 39 12.9	
	comp=Z,84nm,1.2s						
SLVN	**Son La**	**21.43**	**15**	P	**P**	**13 39 10.5**	**-2.9**
PLAI	**Plampang**	**21.56**	**116**	P	**P**	**13 39 14.0**	**-0.8**
	comp=Z,36nm,0.8s						
MPSI	**Mapaga**	**21.66**	**90**	P	**P**	**13 39 15.0**	**-0.9**
	comp=Z,39nm,0.9s						
SAIH	**SAIHA**	**22.45**	**347**	*eP*	**P**	**13 39 22.5**	**-1.9**
SAIH				IAmb	IAmb	13 39 28.4	
	comp=Z,39nm,0.7s						
TOLI2	**Tolitoli**	**22.55**	**88**	P	**P**	**13 39 22.4**	**-3.0**
MRSI	**Marisa**	**23.70**	**90**	P	**P**	**13 39 38.6**	**+1.6**
	comp=Z,82nm,0.7s,comp=Z,2μm						
TNCH	**TengChong**	**24.39**	**1**	*eP*	**P**	**13 39 44.5**	**+1.0**
TNCH				pP	pP	13 39 54.0	+

GYA Guiyang 27.05 17 ⇓P P 13 40 09.5 +2.0
GYA S **S** 13 44 44.0 +0.9
GYA pmax pmax
comp=Z,9.0nm,0.8s
GYA pmax pmax
comp=Z,150nm,9.6s
GYA LR LR
comp=Z,250nm,12.5s
GYA LR LR
comp=Z,200nm,9.2s
GYA LR LR
comp=Z,320nm,19.2s
ZIRO ZIRO 27.20 351 *e*P **P 13 40 08.4 -0.5**
GTK Tadong 28.23 342 *e*P **P 13 40 22.0 +4.0**
GTK IAmb IAmb 13 40 32.5
comp=Z,33nm,0.4s
ALBI Allahabad 29.33 328 *e*P **P 13 40 28.3 +0.5**
LSA Lhasa 29.81 348 P **P 13 40 31.8 -0.7**
LSA pmax pmax
comp=Z,10.0nm,0.7s
MBWA Marble Bar 30.08 137 P **P 13 40 37.8 +3.4**
LGTI Lohaghat 33.52 331 *e*P **P 13 41 05.8 +1.3**
WHN Wuhan 33.57 26 P P 13 41 08.8 +3.9
WHN pmax pmax
comp=Z,50nm,0.6s
PTH Pithoragarh 33.61 331 *e*P **P 13 41 05.4 -0.2**
XAN Xi'an 34.83 16 ⇑P **P 13 41 17.0 +1.1**
XAN pmax pmax
comp=Z,45nm,0.7s
XAN pmax pmax
comp=Z,73nm,5.2s
XAN LR LR
comp=Z,360nm,14.3s
XAN LR LR
comp=Z,410nm,13.6s
XAN LR LR
comp=Z,470nm,15.3s
LZH Lanzhou 35.79 8 ⇓P **P 13 41 25.8 +1.5**
LZH pP sP 13 41 37.3 -2.2
LZH pmax pmax
comp=Z,20nm,1.5s
LZH LR LR
comp=Z,340nm,12.0s
LZH LR LR
comp=Z,190nm,13.4s
LZH LR LR
comp=Z,210nm,14.1s
LYN LuoYang 36.39 20 P **P 13 41 31.3 +2.0**
LYN pP sP 13 41 41.3 -3.2
LYN pmax pmax
comp=Z,45nm,0.8s
LYN LR LR
comp=Z,290nm,12.4s
LYN LR LR
comp=Z,540nm,12.0s
LYN LR LR
comp=Z,310nm,13.4s
SMLA Simla 36.43 329 *e*P **P 13 41 31.0 +1.4**
SMLA IAmb IAmb 13 41 39.1
comp=Z,22nm,0.5s
NJ2 Nanjing 36.93 30 *e*P **P 13 41 35.3 +1.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
DHRM DHARAMSHALA 37.76 329 *e*P **P 13 41 43.0 +1.8**
DHRM IAmb IAmb 13 41 52.6
comp=Z,29nm,0.6s
NWAO Narrogin (SRO) 37.77 153 LR LR 13 58 22.0
comp=Z,120nm,18.1s,baz=234,slow=38
THN Thein Dam 38.21 328 *e*P **P 13 41 48.2 +3.5**
H01W3 Cape Leeuwin H 38.21 159 T T 14 21 59.1
baz=334
H01W2 Cape Leeuwin H 38.23 159 T T 14 22 03.1
baz=334,SNR=3.1
H01W1 Cape Leeuwin H 38.23 159 T T 14 22 01.9
baz=334
GTA Gaotai 38.75 2 P **P 13 41 51.0 +1.7**
GTA pP sP 13 42 04.0 -0.6
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA LR LR
comp=Z,69nm,11.6s
GTA LR LR
comp=Z,280nm,13.1s
GTA LR LR
comp=Z,120nm,18.7s
TIA Tai'an 39.62 24 P **P 13 41 59.8 +3.3**
TIA pmax pmax
comp=Z,17nm,0.8s
HNS HongShan 39.74 21 ⇓P **P 13 41 59.5 +2.1**
HNS pmax pmax
comp=Z,26nm,0.8s
NIL Nilore 40.46 327 P **P 13 42 02.6 -1.0**
NIL IAmb IAmb 13 42 21.2
comp=Z,13nm,0.7s
NIL Nilore 40.46 327 P **P 13 42 02.6 -1.0**
NIL pmax pmax
comp=Z,13nm,0.7s
WRA Warramunga Arr 40.78 122 P **P 13 42 03.0 -3.4**
comp=Z,4.0nm,0.8s,baz=301,slow=9.0,SNR=27
WRA PcP **PcP 13 44 07.0 -0.2**
comp=Z,1.4nm,0.3s,baz=311,slow=2.7,SNR=17
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 40.78 122 P **P 13 42 03.0 -3.4**
WRA 13 44 07.0
WRAB Tennant Creek 40.79 122 P **P 13 42 03.1 -3.4**
WRAB Tennant Creek 40.79 122 P **P 13 42 03.1 -3.4**
WRAB pmax pmax
comp=Z,7.0nm,0.7s
WB2 Warramunga Arr 40.79 122 P **P 13 42 03.0 -3.4**
WR0 Warramunga Arr 40.96 122 IAmb IAmb 13 42 10.0
comp=Z,10nm,0.7s
BTO Baotou 41.33 14 *e*P **P 13 42 14.0 +3.3**
BTO pP **sP 13 42 23.5 -2.5**
BTO sP **pP 13 42 28.0 +6.5**
BTO pmax pmax
comp=Z,18nm,0.6s
BTO pmax pmax
comp=Z,150nm,4.4s
BTO LR LR
comp=Z,340nm,18.8s
BTO LR LR
comp=Z,620nm,18.2s
BTO LR LR
comp=Z,360nm,17.0s
HHC Hu-ho-hao-te 41.94 15 *e*P **P 13 42 16.0 +0.3**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,99nm,3.5s
HHC LR LR
comp=Z,240nm,15.7s
HHC LR LR
comp=Z,130nm,14.7s
HHC LR LR
comp=Z,210nm,15.7s
FORT Forrest 42.08 140 P **P 13 42 16.5 -0.3**
FORT IAmb IAmb 13 42 22.1
comp=Z,25nm,0.6s
ASAR Alice Springs 42.15 127 P **P 13 42 14.2 -3.3**
comp=Z,2.4nm,0.7s,baz=302,slow=7.8,SNR=38
ASAR PcP **PcP 13 44 11.4 -0.2**
comp=Z,2.6nm,0.8s,baz=313,slow=3.2,SNR=9.2
comp=Z,2.4nm,0.7s
BJI Beijing 42.61 20 P **P 13 42 23.5 +2.5**
BJI pmax pmax
comp=Z,15nm,0.7s
DL2 Dalian 43.82 27 P **P 13 42 29.8 -1.0**
DL2 S **S 13 48 55.5 -3.6**
DL2 pmax pmax
comp=Z,170nm,3.9s
DL2 LR LR
comp=Z,190nm,19.9s
DL2 LR LR
comp=Z,250nm,20.1s
DL2 LR LR
comp=Z,150nm,24.0s
KSH Kashi 43.84 335 P P 13 42 36.0 +4.9
KSH pmax pmax
comp=Z,5.0nm,1.0s
WMQ Urumqi 44.15 349 *e*P **P 13 42 36.0 +2.6**
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,110nm,4.9s
JNU Nakatsue 44.65 40 P **P 13 42 36.5 -1.1**
JNU IAmb IAmb 13 42 52.3
comp=Z,36nm,1.3s
JNU Nakatsue 44.65 40 LR LR 14 01 36.6
comp=Z,46nm,19.2s,baz=208,slow=37
TJN Taejon 44.76 34 P **P 13 42 36.7 -1.6**
TJN Taejon 44.76 34 P **P 13 42 36.7 -1.6**
TARG Taragay, Kyrgy 45.00 338 IAmb IAmb 13 42 47.0
comp=Z,9.7nm,0.7s
NRN Naryn 45.44 336 IAmb IAmb 13 42 50.9
comp=Z,13nm,1.0s
SHLS Shalkode 45.68 341 *e*P **P 13 42 44.6 -1.1**
comp=Z,7.5nm,0.9s,baz=341
SHLS Shalkode 45.68 341 *e*P **P 13 42 44.6 -1.1**
SHLS pmax pmax
comp=Z,8.0nm,0.9s
KSAR Wonju Array Be 45.81 33 P **P 13 42 44.6 -2.1**
KSAR Wonju Array Be 45.81 33 P **P 13 42 44.6 -2.1**
UZB Uzynbulak 45.81 340 *e*P **P 13 42 46.7 -0.2**
comp=Z,4.5nm,0.5s,baz=340
UZB Uzynbulak 45.81 340 *e*P **P 13 42 46.6 -0.2**
UZB pmax pmax
comp=Z,4.0nm,0.5s
KSRS Korea Array 45.84 33 P **P 13 42 45.4 -1.6**
comp=Z,5.5nm,0.9s,baz=228,slow=7.5,SNR=26
comp=Z,5.5nm,0.9s
KS19 Wonju Array Si 45.85 33 P **P 13 42 44.0 -3.0**
SATY Saty 45.95 340 *e*P **P 13 42 47.9 0.0**
comp=Z,8.5nm,0.7s,baz=339
SATY Saty 45.95 340 *e*P **P 13 42 47.8 0.0**
SATY pmax pmax
comp=Z,9.0nm,0.7s
XLT XiLinHaoTe 46.05 18 *e*P **P 13 42 51.3 +2.8**
XLT pmax pmax
comp=Z,18nm,1.1s
XLT LR LR
comp=Z,14nm,13.5s
XLT LR LR
comp=Z,130nm,12.0s
XLT LR LR
comp=Z,150nm,19.1s
KPKS Kokpek 46.21 340 *e*P **P 13 42 49.8 -0.1**
baz=340
KPKS Kokpek 46.21 340 *e*P **P 13 42 49.7 -0.1**
BOOM Boomskoye usch 46.36 337 P **P 13 42 49.5 -1.6**
CHGR Chuyangaron 46.40 328 IAmb IAmb 13 43 21.4
comp=Z,17nm,0.7s
TNSS Tian-Shan 46.45 338 *e*P **P 13 42 52.1 0.0**
baz=338
TNSS Tian-Shan 46.45 338 *e*P **P 13 42 52.1 0.0**
SIMJ Simiganj 46.48 328 P **P 13 42 51.7 -0.5**
SIMJ IAmb IAmb 13 42 54.2
comp=Z,8.8nm,0.7s
SIMJ Simiganj 46.48 328 P **P 13 42 53.5 +1.4**
MDOK Medeo 46.52 339 *e*P **P 13 42 52.5 +0.1**
baz=338
MDOK Medeo 46.52 339 *e*P **P 13 42 52.5 +0.1**
AAA Alma-Ata 46.61 339 *e*P **P 13 42 53.0 0.0**
comp=Z,8.2nm,0.5s,baz=338
AAA Alma-Ata 46.61 339 *e*P **P 13 42 53.0 0.0**
AAA pmax pmax
comp=Z,8.0nm,0.5s
BTK Batken 46.62 331 P **P 13 42 54.3 +1.2**
AAK Ala-Archa 47.06 336 LR LR 14 03 52.7
comp=Z,118nm,21.0s,baz=164,slow=38
SNY Shenyang 47.06 26 ⇑P **P 13 42 59.3 +2.9**
SNY pmax pmax
comp=Z,42nm,0.9s
CHKK Chushkaly 47.14 339 *e*P **P 13 42 57.3 +0.3**
baz=339
CHKK Chushkaly 47.14 339 *e*P **P 13 42 57.3 +0.3**
ARXS Arharly 47.16 340 *e*P **P 13 42 58.6 +1.3**
SONM Songino Array 47.68 7 P **P 13 43 00.6 -0.7**
SONM IAmb IAmb 13 43 06.5
comp=Z,20nm,0.9s
SONM Songino Array 47.68 7 P **P 13 43 01.5 +0.2**
comp=Z,9.6nm,0.4s,baz=195,slow=9.1,SNR=39
comp=Z,9.6nm,0.4s
SONM Songino Array 47.68 7 P **P 13 43 00.6 -0.7**
SONM pmax pmax
comp=Z,20nm,0.9s
ULN Ulaanbaatar 47.79 8 ⇑*e*P **P 13 43 01.4 -0.8**
ULN pmax pmax
comp=Z,13nm,0.7s
ULN Ulaanbaatar 47.79 8 P **P 13 43 04.5 +2.2**
ULN pP **sP 13 43 14.6 -3.1**
MK31 Makanchi Array 48.17 345 IAmb IAmb 13 43 10.7
comp=Z,12nm,0.9s
MK31 Makanchi Array 48.17 345 *ce*P **P 13 43 04.6 -0.4**
MKAR Makanchi Array 48.17 345 P **P 13 43 04.3 -0.7**
MKAR Makanchi Array 48.17 345 P **P 13 43 04.7 -0.3**
comp=Z,12nm,0.7s,baz=160,slow=8.2,SNR=73
MKAR LR LR 14 08 44.8
comp=Z,49nm,18.0s,baz=178,slow=43
comp=Z,12nm,0.7s
MKAR Makanchi Array 48.17 345 P **P 13 43 04.3 -0.7**
MAKZ Makanchi 48.27 345 P **P 13 43 05.1 -0.6**
MAKZ IAmb IAmb 13 43 11.3
comp=Z,12nm,0.9s
MAKZ Makanchi 48.27 345 P **P 13 43 05.1 -0.6**
MAKZ pmax pmax
comp=Z,12nm,0.9s
MAKZ Makanchi 48.27 345 P **P 13 43 07.1 +1.4**
MAKZ sP **sP 13 43 20.6 -0.4**
IUG luzhnay 48.62 332 *e*P **P 13 43 09.2 +0.6**
comp=Z,9.2nm,0.7s,baz=332
IUG luzhnay 48.62 332 *e*P **P 13 43 09.2 +0.6**
IUG pmax pmax
comp=Z,9.0nm,0.7s
CHM Chimkent 48.95 332 *e*P **P 13 43 11.7 +0.6**
baz=332
CHM Chimkent 48.95 332 *e*P **P 13 43 11.6 +0.6**
KKAR Karatay Array 49.14 333 P **P 13 43 12.0 -0.5**
KKAR Karatay Array 49.14 333 P **P 13 43 12.0 -0.5**
BTLS Baital 49.25 337 *e*P **P 13 43 13.0 -0.3**
baz=337
BTLS Baital 49.25 337 *e*P **P 13 43 14.3 +1.0**
BTLS pmax pmax
comp=Z,5.0nm,1.5s
CN2 Changchun 49.46 26 *e*P **P 13 43 17.8 +2.9**
CN2 *ep*P sP 13 43 30.3 -0.1
CN2 *e*S **S 13 50 23.5 +3.7**
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 LR LR
comp=Z,50nm,13.0s
CN2 LR LR
comp=Z,110nm,13.0s
ZAK Zakamensk 49.88 4 *e*P **P 13 43 19.4 +1.3**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
MOY Mondy 51.03 2 *e*P P 13 43 31.5 +4.7
CTA Charters Tower 51.26 116 LR LR 14 11 02.6
comp=Z,11nm,18.4s,baz=287,slow=43
MJAR Matsushiro Arr 51.51 41 P **P 13 43 29.1 -1.5**
comp=Z,4.0nm,1.0s,baz=223,slow=6.8,SNR=6.7
comp=Z,4.0nm,1.0s
IRK Irkutsk 51.81 5 *e*P **P 13 43 34.8 +2.3**
IRK pmax pmax
comp=Z,35nm,1.5s
BNX BinXian 51.85 26 ⇓P **P 13 43 31.3 -1.6**
BNX pmax pmax
comp=Z,44nm,0.9s
MDJ Mudanjiang 51.98 28 P P 13 43 37.5 +3.6
MDJ S S 13 51 01.5 +6.9
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ LR LR
comp=Z,210nm,16.8s
MDJ LR LR
comp=Z,160nm,12.0s
MDJ LR LR
comp=Z,240nm,17.2s
SEM Semipalatinsk 52.03 345 *e*P **P 13 43 33.6 -0.9**
comp=Z,4.6nm,0.4s,baz=345
SEM Semipalatinsk 52.03 345 *e*P **P 13 43 33.5 -0.9**
SEM pmax pmax
comp=Z,5.0nm,0.4s
STKA Stephens Creek 52.12 132 P **P 13 43 34.2 -1.0**
STKA IAmb IAmb 13 43 50.4
comp=Z,14nm,1.9s
STKA Stephens Creek 52.12 132 P **P 13 43 33.9 -1.3**
comp=Z,7.4nm,0.7s,baz=320,slow=5.6,SNR=5.1
STKA LR LR 14 06 37.3
comp=Z,66nm,19.2s,baz=286,slow=37
comp=Z,7.4nm,0.7s
STKA Stephens Creek 52.12 132 P **P 13 43 34.2 -1.0**
STKA pmax pmax
comp=Z,15nm,1.9s
KURBB Kurchatov Arra 52.68 344 P **P 13 43 38.7 -0.2**
comp=Z,8.1nm,0.8s,baz=164,slow=7.4,SNR=50
KURBB LR LR 14 09 40.7
comp=Z,77nm,20.8s,baz=174,slow=40
comp=Z,8.1nm,0.8s
KURK Kurchatov 52.74 344 P **P 13 43 38.0 -1.4**
KURK IAmb IAmb 13 43 45.4
comp=Z,17nm,0.8s
KURK Kurchatov 52.74 344 *ce*P **P 13 43 39.8 +0.4**
KURK pmax pmax
comp=Z,20nm,0.9s
KURK Kurchatov 52.74 344 P **P 13 43 39.4 +0.1**
KURK pP **pP 13 43 49.5 -0.9**
KURK sP **sP 13 43 53.8 -1.0**
USA0B Ussuriysk Arra 52.84 30 ⇑*e*P **P 13 43 38.7 -1.5**
USRK Ussuriysk Ar. 52.84 30 P **P 13 43 38.6 -1.7**
USRK Ussuriysk Ar. 52.84 30 P **P 13 43 39.4 -0.9**
comp=Z,27nm,0.9s,baz=207,slow=3.8,SNR=25
comp=Z,27nm,0.9s
USRK Ussuriysk Ar. 52.84 30 P **P 13 43 38.6 -1.7**
ZALV Zalesovo Beam 54.41 350 P **P 13 43 50.7 -0.9**
ZALV Zalesovo Beam 54.41 350 P **P 13 43 51.2 -0.3**
comp=Z,18nm,0.6s,baz=171,slow=5.9,SNR=49
ZALV LR LR 14 09 35.9
comp=Z,45nm,18.4s,baz=183,slow=39
comp=Z,18nm,0.6s
ZALV Zalesovo Beam 54.41 350 P **P 13 43 50.7 -0.9**
HEH HeiHe 55.45 22 *e*P **P 13 44 00.0 +0.8**
HEH pmax pmax
comp=Z,6.0nm,0.7s
RAYN Ar Rayn 56.00 298 P **P 13 44 04.2 +0.5**
KLR Kul'dur 56.42 26 LR LR 14 12 00.4
comp=Z,110nm,18.1s,baz=216,slow=40
KLR Kul'dur 56.42 26 *c i*P **P 13 44 05.1 -1.0**
KLR pmax pmax
comp=Z,26nm,1.0s
BRVK Borovoye 57.31 340 P **P 13 44 12.4 0.0**
ZEA Zeya 58.23 20 *e*P **P 13 44 22.5 +3.7**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
BOD Bodaibo 58.51 10 *e*P **P 13 44 22.2 +1.5**
BOD pmax pmax
comp=Z,22nm,1.3s
ABKAR Akbulak array 58.62 332 P **P 13 44 20.1 -1.5**
ABKAR Akbulak array 58.62 332 IAmb IAmb 13 44 27.2
comp=Z,9.0nm,0.7s
CAN Canberra 59.18 132 P **P 13 44 29.9 +4.0**
GRNR Gornyy 59.61 27 ⇑*i*P **P 13 44 27.3 -1.2**
GRNR pmax pmax
comp=Z,2.0nm,0.9s
GRNR MLR MLR
comp=N,240nm,16.0s
GRNR MLR MLR
comp=Z,110nm,15.0s
YSS Yuzh-Sakhalins 60.34 34 *e*P **P 13 44 35.0 +1.4**
YSS pmax pmax
comp=Z,20nm,1.0s
H04N2 CROZET ISLANDS 61.79 215 T T 14 51 18.3
baz=55,slow=75,SNR=288
H04N1 CROZET ISLANDS 61.80 215 T T 14 51 18.8
baz=55,slow=75,SNR=314
H04N3 CROZET ISLANDS 61.81 215 T T 14 51 17.5
baz=55,slow=75,SNR=306
H04S1 CROZET ISLANDS 62.12 214 T T 14 52 09.1
baz=53,slow=75,SNR=97
H04S3 CROZET ISLANDS 62.13 214 T T 14 52 09.7
baz=53,slow=75,SNR=64
H04S2 CROZET ISLANDS 62.13 214 T T 14 52 11.4
baz=53,slow=75,SNR=63
SVE Sverdlovsk 63.72 338 *e*P **P 13 44 57.9 +1.9**
SVE pmax pmax
comp=Z,19nm,0.8s
ARU Arti 64.23 337 LR LR 14 16 22.9
comp=Z,70nm,20.2s,baz=136,slow=39
ARU Arti 64.23 337 *c i*P **P 13 44 57.7 -1.7**
ARU S **S 13 53 32.5 -1.7**
ARU SS **SS 13 57 44.5 +0.3**
ARU pmax pmax
comp=Z,3.0nm,0.8s
ARU Arti 64.23 337 P **P 13 45 00.5 +1.1**
comp=Z,9.7nm,1.2s
ARU Arti 64.23 337 P **P 13 45 03.7 +4.3**
KBZ Khabaz 65.28 319 P **P 13 45 04.7 -1.8**
comp=Z,3.6nm,0.7s,baz=117,slow=6.2,SNR=7.6
comp=Z,3.6nm,0.7s
KBZ Khabaz 65.28 319 ⇓*e*P **P 13 45 06.0 -0.5**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
SHA1 Shidzhatmaz 65.44 319 *ce*P **P 13 45 10.8 +2.9**
KIV Kislovodsk 65.51 319 *e*P **P 13 45 06.6 -1.6**
KIV pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 65.80 16 P **P 13 45 09.2 -0.3**
YAK Yakutsk 65.80 16 ⇓*e*P **P 13 45 09.3 -0.2**
YAK pmax pmax
comp=Z,28nm,0.8s
KIRV Kirov 69.38 335 *ce*P **P 13 45 33.2 +1.1**
BR131 Keskin Array S 70.35 312 ⇑*e*P **P 13 45 39.5 +0.8**
BRTR Keskin Array B 70.35 312 P **P 13 45 37.3 -1.4**
BRTR Keskin Array B 70.35 312 P **P 13 45 38.0 -0.7**
comp=Z,1.6nm,0.8s,baz=129,slow=7.7,SNR=9.2
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 70.35 312 P **P 13 45 37.3 -1.4**
BZK Bozkurt 70.73 315 P **P 13 45 39.8 -1.0**
PET Petropavlovsk 72.23 33 ⇓*e*P **P 13 45 52.1 +2.5**
PET pmax pmax
comp=Z,15nm,0.7s
MAW Mawson 72.28 193 P **P 13 45 50.0 +0.5**
comp=Z,0.7nm,0.3s,baz=55,slow=11,SNR=2.6
MAW LR LR 14 14 19.0
comp=Z,116nm,18.5s,baz=164,slow=33
comp=Z,0.7nm,0.3s
OBN Obninsk 73.76 328 *e*P **P 13 46 00.2 +1.6**
OBN *e* 13 46 14.4
OBN *e*PPP PPP 13 50 29.4
OBN pmax pmax
comp=Z,4.0nm,0.9s
SEY Seymchan 74.00 23 *de*P **P 13 45 58.6 -1.2**
SEY pmax pmax
comp=Z,11nm,0.7s
BOSA Boshof 75.34 240 P **P 13 46 08.0 -0.5**
comp=Z,4.9nm,1.0s,baz=104,slow=8.3,SNR=3.8
comp=Z,4.9nm,1.0s
BOSA Boshof 75.34 240 P **P 13 46 08.0 -0.5**
SORM Soroca 76.31 320 P **P 13 46 14.6 +1.2**
AK10 Malin Array Si 76.40 322 P **P 13 46 13.7 -0.2**
AKBB Malin Array Si 76.44 322 *i*P **P 13 46 14.4 +0.2**
AKBB pmax pmax
comp=Z,10.0nm,1.8s
LUBAR Lubar, Ukraine 77.14 321 P **P 13 46 17.4 -0.7**
MORS Morshin 79.41 320 P **P 13 46 30.7 0.0**
SUR Sutherland 79.66 237 P **P 13 46 33.7 +1.0**
KOLS Kolonicke sedl 80.42 320 *e*P **P 13 46 40.1 +3.8**
KOLS Kolonicke sedl 80.42 320 *e*P **P 13 46 40.0 +3.8**
FINES FINESS Array B 81.10 332 P **P 13 46 38.4 -1.1**
FINES FINESS Array B 81.10 332 P **P 13 46 39.2 -0.3**
comp=Z,2.8nm,0.7s,baz=107,slow=5.6,SNR=11
FINES LR LR 14 26 54.6
comp=Z,54nm,20.8s,baz=70,slow=39
comp=Z,2.8nm,0.7s
FINES FINESS Array B 81.10 332 P **P 13 46 38.4 -1.1**
BKZ Black Stump Fm 81.21 130 P **P 13 46 39.5 -1.2**
BILL Bilibino 81.44 21 *e*P **P 13 46 40.3 -1.0**
BILL *e* 13 49 45.6
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,75nm,19.0s
URZ Urewera 81.57 129 LR LR 14 25 06.2
comp=Z,72nm,20.8s,baz=32,slow=37
ARCES ARCESS Array B 83.54 340 P **P 13 46 52.0 -0.1**
comp=Z,1.4nm,0.6s,baz=76,slow=3.8,SNR=4.7
ARCES LR LR 14 28 05.7
comp=Z,48nm,19.2s,baz=152,slow=39
comp=Z,1.4nm,0.6s
VNDA Vanda 84.94 169 P **P 13 46 58.1 -1.1**
VNDA IAmb IAmb 13 47 06.3
comp=Z,14nm,1.9s
VNDA Vanda 84.94 169 P **P 13 46 58.0 -1.1**
comp=Z,0.9nm,0.8s,baz=298,slow=8.1,SNR=6.3
comp=Z,0.9nm,0.8s
VNDA Vanda 84.94 169 P **P 13 46 58.1 -1.1**
VNDA pmax pmax
comp=Z,14nm,2.0s
PRED Cave del Predi 85.96 316 P **P 13 47 04.0 -0.9**

PRED IAmb IAmb 13 47 07.5
comp=Z,3.2nm,0.7s
SBA Scott Base 86.04 169 P **P** **13 47 05.9 +1.3**
SBA IAmb IAmb 13 47 28.1
comp=Z,4.8nm,1.1s
SBA Scott Base 86.04 169 P **P** **13 47 05.9 +1.3**
SBA pmax pmax
comp=Z,5.0nm,1.2s
KHC Kasperske Hory 86.12 319⇓*e*P **P** **13 47 07.1 +1.5**
KHC pmax pmax
comp=Z,33nm,3.7s
HFS Hagfors 86.84 330 P **P** **13 47 08.6 -0.2**
comp=Z,3.1nm,0.7s,baz=120,slow=5.3,SNR=12
HFS LR LR 14 30 56.4
comp=Z,58nm,18.3s,baz=105,slow=39
comp=Z,3.1nm,0.7s
SPITS Spitsbergen Ar 87.84 348 P **P** **13 47 13.7 +0.3**
comp=Z,0.9nm,0.5s,baz=102,slow=12,SNR=4.8
SPITS LR LR 14 34 36.1
comp=Z,65nm,18.4s,baz=78,slow=41
comp=Z,0.9nm,0.5s
NB2 NORSAR Subarra 88.12 331 P **P** **13 47 14.2 -0.8**
comp=Z,9.4nm,1.7s,baz=96,slow=4.8
NOA NORSAR Array B 88.12 331 P **P** **13 47 14.2 -0.8**
comp=Z,0.9nm,0.7s,baz=96,slow=4.6,SNR=3.6
NOA LR LR 14 32 19.8
comp=Z,23nm,18.4s,baz=85,slow=39
comp=Z,0.9nm,0.7s
QSPA South Pole Qui 90.45 180 P **P** **13 47 26.5 +0.6**
comp=Z,2.7nm,1.0s,baz=246,slow=0.7,SNR=12
comp=Z,2.7nm,1.0s
G19K Purcell Mounta 95.46 23 P **P** **13 47 48.4 -0.5**
G19K IAmb IAmb 13 47 54.5
comp=Z,4.9nm,0.9s
F20K Avaraart Lake 95.76 22 P **P** **13 47 49.4 -0.9**
F20K IAmb IAmb 13 47 55.8
comp=Z,5.1nm,0.9s
H19K Roundabout Mou 95.86 24 P **P** **13 47 50.3 -0.4**
H19K IAmb IAmb 13 47 56.3
comp=Z,7.6nm,0.9s
F21K Alatna River 96.55 22 IAmb IAmb 13 47 59.9
comp=Z,2.9nm,0.9s
J19K Poorman 96.59 25 P **P** **13 47 53.5 -0.6**
J19K IAmb IAmb 13 48 00.0
comp=Z,7.7nm,1.1s
ULM Lac du Bonnet 128.02 11 PKP **PKPdf** **13 53 28.6 -1.9**
comp=Z,2.0nm,0.8s,baz=297,slow=2.7,SNR=3.6
NVAR Mina Array Bea 128.72 37 PKP **PKiKP** **13 53 33.4 +0.2**
comp=Z,1.5nm,0.8s,baz=258,slow=3.5,SNR=7.9
PDAR Pinedale Array 130.20 27 PKP **PKPdf** **13 53 35.1 -0.1**
comp=Z,0.4nm,0.6s,baz=174,slow=0.9,SNR=4.0
TXAR Lajitas Array 143.69 33 PKP PKPbc 13 53 57.2 -0.5
comp=Z,1.3nm,0.7s,baz=282,slow=1.1,SNR=9.8
JCT Junction City 144.73 28 PKPdf PKPbc 13 54 00.3 -0.6
JCT Junction City 144.73 28 PKiKP PKPbc 13 54 00.3 -0.6
CPUP Villa Florida 145.17 221 **PKPbc** **13 54 00.5 -1.9**
CPUP Villa Florida 145.17 221 PKPbc **PKPdf** **13 54 02.9 +0.1**
comp=Z,6.2nm,0.9s,baz=216,slow=2.0,SNR=8.0
CPUP Villa Florida 145.17 221 PKP2 **PKPbc** **13 54 00.5 -1.9**
Y49A Blount Mountai 145.54 7 PKPdf **PKPbc** **13 54 01.4 -1.9**
Y52A Lilburn 145.75 3 PKPbc **PKPdf** **13 54 02.9 -0.7**
LRAL Lakeview Retre 146.28 8 PKPdf **PKPdf** **13 54 04.0 -0.5**

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*SDD **30** 13:38:35.2±1.6, 19°.78N×66°.60W, h47km±175km, MD3.4, ML2.8, MW3.1*
*OSPL **30** 13:38:36.3±0.3, 19°.53N×66°.66W, h5km±6km, ML2.7*
*RSPR **30** 13:38:37.1, 19°.60N×66°.75W, h67km±10km, MD3.4/12*
ISC 30 13:38:34.5±2.1, 19°.60N±0°.09×66°.65W±0°.07, h19km±4km, n35, σ0ˢ56/42, 16C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.12**	**174**	⇑*e*P	**Pg**	**13 38 56.7**	**+0.5**
AGPR	**Aguadilla, PR**	**1.20**	**201**	⇑*e*P	**Pn**	**13 38 56.6**	**+0.1**
AGPR	**Aguadilla, PR**	**1.20**	**201**	*e*S	**Sn**	**13 39 12.9**	**+0.6**
AGPR	**Aguadilla, PR**	**1.20**	**201**	⇑*e*Pg	**Pn**	**13 38 56.5**	**+0.1**
AGPR				⇓*e*Sg	**Sb**	**13 39 12.2**	**+0.2**
AGPR				IAML		13 39 17.9	
	comp=N,94nm,0.2s						
AGPR	**Aguadilla, PR**	**1.20**	**201**	*i* P	**Pn**	**13 38 56.5**	**+0.1**
AGPR				IAML		13 39 09.6	
	comp=Z,58nm,0.7s						
AOPR	**Arecibo Observ**	**1.25**	**185**	⇑*e*P	**Pg**	**13 38 57.9**	**-0.8**
AOPR	**Arecibo Observ**	**1.25**	**185**	*e*S	**Sn**	**13 39 14.0**	**+0.7**
AOPR	**Arecibo Observ**	**1.25**	**185**	⇓*e*Pg	**Pg**	**13 38 58.0**	**-0.6**
AOPR				⇓*e*Sg	**Sg**	**13 39 15.5**	**+0.6**
AOPR				IAML		13 39 26.4	
	comp=N,175nm,0.2s						
UUPR	**Utuado, UPR, P**	**1.34**	**183**	⇑*e*P	**Pb**	**13 38 59.0**	**0.0**
UUPR	**Utuado, UPR, P**	**1.34**	**183**	*e*S	**Sb**	**13 39 16.5**	**+0.7**
GCPR	**Guaynabo City**	**1.39**	**157**	*e*S	**Sg**	**13 39 19.3**	**-0.2**
PRSN	**Puerto Rico Se**	**1.45**	**199**	*e*Pg	**Pn**	**13 39 00.3**	**+0.6**
PRSN				*e*Sg	**Sn**	**13 39 18.9**	**+0.6**
PRSN				IAML		13 39 24.2	
	comp=N,243nm,0.2s						
LSP	**Las Mesas**	**1.47**	**196**	⇓*e*P	**Pb**	**13 39 01.0**	**-0.4**
LSP	**Las Mesas**	**1.47**	**196**	*e*S	**Sn**	**13 39 19.3**	**+0.4**
CELP	**Cerrillos**	**1.51**	**178**	⇑*e*P	**Pb**	**13 39 01.7**	**-0.4**
CELP	**Cerrillos**	**1.51**	**178**	*e*S	**Sb**	**13 39 20.9**	**0.0**
CELP	**Cerrillos**	**1.51**	**178**	⇑*e*Pg	**Pb**	**13 39 01.6**	**-0.5**
CELP				⇑*e*Sg	**Sn**	**13 39 20.4**	**+0.4**
CELP				IAML		13 39 26.0	
	comp=N,63nm,0.2s						
OBIP	**Obispado Ponce**	**1.54**	**179**	⇑*e*P	**Pn**	**13 39 01.2**	**+0.1**
OBIP	**Obispado Ponce**	**1.54**	**179**	*e*S	**Sn**	**13 39 19.9**	**-0.7**
GBPR	**Guanica, Bosqu**	**1.63**	**188**	⇑*e*P	**Pb**	**13 39 03.9**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.63**	**188**	*e*S	**Sb**	**13 39 23.8**	**-0.4**
HUMP	**Col San Antoni**	**1.63**	**152**	⇑*e*P	**Pb**	**13 39 03.8**	**-0.2**
HUMP	**Col San Antoni**	**1.63**	**152**	*e*S	**Sb**	**13 39 24.4**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.64**	**196**	⇑*e*P	**Pb**	**13 39 03.3**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.64**	**196**	*e*S	**Sn**	**13 39 22.4**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.64**	**196**	⇓*e*Pg	**Pb**	**13 39 03.4**	**-0.8**
CRPR				IAML		13 39 25.4	
	comp=N,60nm,2.0s						
CRPR	**Cabo Rojo, PR**	**1.64**	**196**	*i* P	**Pn**	**13 39 03.0**	**+0.6**
CRPR				IAML		13 39 29.6	
	comp=Z,56nm,0.8s						
MLPR	**Magueyes Islan**	**1.66**	**193**	⇑*e*P	**Pn**	**13 39 02.6**	**-0.1**
MLPR	**Magueyes Islan**	**1.66**	**193**	*e*S	**Sn**	**13 39 23.6**	**+0.1**
MLPR	**Magueyes Islan**	**1.66**	**193**	⇓*e*Pg	**Pn**	**13 39 02.7**	**+0.1**
MLPR				⇓*e*Sg	**Sn**	**13 39 23.9**	**+0.4**
MLPR				IAML		13 39 26.7	
	comp=N,48nm,0.3s						
IGPR	**InterUniversit**	**1.70**	**162**	⇑*e*P	**Pb**	**13 39 04.7**	**-0.5**
IGPR	**InterUniversit**	**1.70**	**162**	*e*S	**Sb**	**13 39 25.7**	**-0.6**
PCDR	**Punta Cana, DR**	**1.96**	**237**	⇑*e*Pg	**Pn**	**13 39 06.7**	**-0.1**
PCDR				⇑*e*Sg	**Sn**	**13 39 30.8**	**-0.1**
PCDR				IAML		13 39 31.6	
	comp=N,178nm,1.1s						
PCDR	**Punta Cana, DR**	**1.96**	**237**	*i* P	**Pn**	**13 39 07.8**	**+0.9**
PCDR				IAML		13 39 31.6	
	comp=N,178nm,1.1s						
SDDR	**Presa de Saban**	**4.42**	**263**	*i* P	**Pn**	**13 39 42.0**	**+1.2**
SDDR				*e*S	**Sn**	**13 40 30.6**	**-1.3**
SDDR				IAML		13 40 37.6	
	comp=Z,13nm,0.6s						

IDC 30 13:41:53.1±1.3, 58°.13N×32°.18W, h0km, mb3.6/5, mbtmp3.6/5, MS3.5/12, Error ellipse: s-maj=41.1km s-min=27.8km az=19.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.25**	**324**	LR	LR	13 48 48.5	
	comp=Z,169nm,18.6s,baz=132,slow=34						
FRB	**Frobisher Bay**	**18.34**	**303**	LR	LR	13 52 17.4	
	comp=Z,152nm,18.1s,baz=118,slow=34						
SCHQ	**Schefferville**	**19.29**	**275**	LR	LR	13 52 16.0	
	comp=Z,156nm,21.1s,baz=85,slow=32						
NOA	**NORSAR Array B**	**21.86**	**64**	LR	LR	13 54 01.3	
	comp=Z,46nm,20.6s,baz=285,slow=33						
HFS	**Hagfors**	**23.26**	**65**	LR	LR	13 56 04.4	
	comp=Z,79nm,18.7s,baz=274,slow=37						
ESDC	**Sonseca Array**	**25.86**	**123**	LR	LR	13 55 58.6	
	comp=Z,50nm,19.6s,baz=311,slow=33						
GERES	**GERESS Array B**	**28.31**	**89**	LR	LR	13 59 38.5	
	comp=Z,99nm,18.3s,baz=344,slow=38						
VRAC	**Vranov**	**29.57**	**86**	LR	LR	14 00 32.3	
	comp=Z,93nm,18.4s,baz=302,slow=38						
SADO	**Sadowa**	**31.48**	**266**	LR	LR	14 00 18.9	
	comp=Z,103nm,20.0s,baz=64,slow=35						
TKL	**Tuckaleechee C**	**40.51**	**259**	LR	LR	14 05 14.2	
	comp=Z,127nm,19.6s,baz=24,slow=35						
ILAR	**Eielson Array**	**47.87**	**328**	P	P	13 50 32.5	+0.3
	1.4nm,0.9s,baz=32,slow=6.6,SNR=13						
ILAR				LR	LR	14 09 57.3	
	comp=Z,52nm,18.9s,baz=334,slow=35						
	1.4nm,0.9s						
PDAR	**Pinedale Array**	**48.79**	**287**	P	P	13 50 38.5	-1.4
	0.7nm,0.7s,baz=61,slow=9.2,SNR=6.8						
	0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**51.63**	**136**	P	P	13 51 01.2	-0.2
	0.6nm,0.7s,baz=344,slow=9.4,SNR=3.1						
	0.6nm,0.7s						
TEIG	**Tepich**	**55.30**	**251**	LR	LR	14 14 02.5	
	comp=Z,30nm,20.0s,baz=224,slow=35						
TXAR	**Lajitas Array**	**55.93**	**272**	P	P	13 51 33.8	+1.0
	0.3nm,0.9s,baz=40,slow=4.8,SNR=3.5						
	0.3nm,0.9s						
KURBB	**Kurchatov Arra**	**57.73**	**45**	P	P	13 51 45.0	-0.1
	0.9nm,1.1s,baz=318,slow=6.8,SNR=4.7						
	0.9nm,1.1s						

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*IDC **30** 13:43:26.5±1.2, 58°.16N×32°.28W, h0km, mb3.7/7, mbtmp3.7/7, MS3.4/2, Error ellipse: s-maj=38.0km s-min=23.9km az=18.0*
ISC 30 13:43:29.2±1.1, 58°.2N±0°.2×32°.3W±0°.2, h18km, n9, σ0ˢ63/8, mb3.8/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	**Midelt**	**31.51**	**131**	LR	LR	13 59 45.5	
	comp=Z,76nm,19.2s,baz=337,slow=31						
BRTR	**Keskin Array B**	**45.06**	**84**	P	**P**	**13 51 44.1**	**+0.3**
	0.4nm,0.7s,baz=316,slow=6.0,SNR=2.0						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**47.81**	**328**	P	**P**	**13 52 06.0**	**+1.0**
	1.5nm,0.9s,baz=34,slow=6.6,SNR=12						
ILAR				PcP	**PcP**	**13 53 33.2**	**-0.3**
	0.5nm,0.8s,baz=345,slow=3.1,SNR=4.5						
	1.5nm,0.9s						
PDAR	**Pinedale Array**	**48.72**	**287**	P	**P**	**13 52 12.1**	**-0.4**
	1.0nm,0.8s,baz=60,slow=8.8,SNR=8.5						
	1.0nm,0.8s						
MMAI	**Mount Meron Ar**	**51.04**	**89**	LR	LR	14 16 56.7	
	comp=Z,34nm,18.7s,baz=39,slow=39						
TORD	**Torodi Ar. Bea**	**51.70**	**136**	P	**P**	**13 52 35.2**	**+0.1**
	1.2nm,0.9s,baz=357,slow=8.9,SNR=4.3						
	1.2nm,0.9s						
KURBB	**Kurchatov Arra**	**57.76**	**45**	P	**P**	**13 53 18.6**	**0.0**
	0.6nm,0.8s,baz=323,slow=6.8,SNR=6.7						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**62.32**	**45**	P	**P**	**13 53 50.0**	**-0.1**
	0.4nm,0.6s,baz=321,slow=6.5,SNR=3.9						
	0.4nm,0.6s						
SONM	**Songino Array**	**69.01**	**28**	P	**P**	**13 54 32.5**	**-0.8**
	0.7nm,0.7s,baz=335,slow=6.4,SNR=3.4						
	0.7nm,0.7s						

IDC 30 13:48:00.5±1.5, 18°.63S×173°.54W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=61.3km s-min=33.9km az=167.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.05**	**259**	P	P	13 56 50.9	+1.1
	0.9nm,0.6s,baz=96,slow=8.4,SNR=27						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**49.05**	**255**	P	P	13 56 48.4	-1.4
	0.7nm,0.5s,baz=95,slow=6.6,SNR=33						
	0.7nm,0.5s						
QSPA	**South Pole Qui**	**71.44**	**180**	P	P	13 59 23.0	+0.3
	1.1nm,1.0s,baz=288,slow=6.4,SNR=2.1						
	1.1nm,1.0s						
TXAR	**Lajitas Array**	**82.52**	**56**	P	P	14 00 25.4	-0.1
	0.2nm,0.9s,baz=233,slow=4.3,SNR=2.5						
	0.2nm,0.9s						

IDC 30 13:59:04.0±1.5, 53°.70S×140°.25E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=254.4km s-min=24.4km az=79.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**25.18**	**169**	P	P	14 04 30.6	0.0
	0.5nm,0.8s,baz=320,slow=9.8,SNR=3.7						
	0.5nm,0.8s						
H01W1	**Cape Leeuwin H**	**26.26**	**305**	T	T	14 32 15.8	
	baz=142,slow=76,SNR=6.1						
H01W2	**Cape Leeuwin H**	**26.26**	**305**	T	T	14 32 16.1	
	baz=142,slow=76,SNR=6.0						
H01W3	**Cape Leeuwin H**	**26.27**	**305**	T	T	14 32 19.2	
	baz=142,slow=76,SNR=4.8						
ASAR	**Alice Springs**	**30.37**	**348**	P	P	14 05 17.6	+0.1
	0.5nm,0.6s,baz=167,slow=9.9,SNR=11						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**34.00**	**350**	P	P	14 05 49.2	-0.2
	0.6nm,0.7s,baz=175,slow=7.6,SNR=9.2						
	0.6nm,0.7s						

IDC 30 14:00:31.5±2.3, 0°.81S×127°.77E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=169.9km s-min=28.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.07**	**162**	P	Pn	14 05 08.2	-0.2
	0.4nm,0.7s,baz=341,slow=12,SNR=3.1						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**23.48**	**166**	P	P	14 05 42.0	-1.1
	0.3nm,0.6s,baz=345,slow=12,SNR=2.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**61.87**	**326**	P	P	14 10 52.8	0.0
	0.2nm,0.5s,baz=113,slow=9.5,SNR=4.3						
	0.2nm,0.5s						

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*NEIC **30** 14:03:32.6±1.8, 1°.01S±0°.04×127°.38E±0°.07, h10km±1km, mb4.6/25, Error ellipse: s-maj=12.9km s-min=6.2km az=72.0*
*DJA **30** 14:03:34.2±0.2, 1°.5±2°×12°7E±°, h10km, M4.3/18, mb4.5/6, mB5.2/2, MLv4.3/18, Mw(mB)4.5/2*
*IDC **30** 14:03:37.6±5.0, 1°.23S×127°.26E, h52km±49km, mb3.9/9, mbtmp4.2/11, ML4.2/2, MS3.7/3, Error ellipse: s-maj=34.9km s-min=15.1km az=61.0*
ISC 30 14:03:34.2±1.2, 1°.09S±0°.03×127°.35E±0°.06, h21km±10km, n77, σ1ˢ25/81, mb4.6/22, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.47**	**19**	P	**Pb**	**14 03 43.1**	**-0.6**
LBMI				S	**Sb**	**14 03 50.6**	**+0.4**
SANI	**Sanana**	**1.66**	**235**	P	**Pn**	**14 04 03.2**	**+1.1**
SANI	**Sanana**	**1.66**	**235**	P	**Pn**	**14 04 00.5**	**-1.6**
SANI				S	**Sn**	**14 04 23.8**	**+1.0**
TNTI	**Ternate**	**1.84**	**1**	P	**Pn**	**14 04 05.6**	**+0.9**
TNTI	**Ternate**	**1.84**	**1**		**Pn**	**14 04 03.0**	**-1.7**
TNTI	**Ternate**	**1.84**	**1**	P	**Pn**	**14 04 05.0**	**+0.3**
TNTI				S	**Sb**	**14 04 29.5**	**-0.4**
NLAI	**Namlea**	**2.15**	**187**	P	**Pn**	**14 04 09.1**	**+0.2**
NLAI				S	**Sn**	**14 04 37.0**	**+2.0**
MSAI	**Masohi**	**2.75**	**145**	P	**Pb**	**14 04 21.2**	**-1.4**
MSAI				S	**Sb**	**14 04 54.4**	**-1.5**
KMSI	**Cibinong**	**3.75**	**296**	P	**Pn**	**14 04 33.2**	**+2.4**
SWI	**Sorong**	**3.92**	**87**	P	**Pn**	**14 04 35.6**	**+2.4**
BNDI	**Bandanaira**	**4.26**	**143**	P	**Pn**	**14 04 40.5**	**+2.5**
LUWI	**Luwuk**	**4.57**	**270**	P	**Pn**	**14 04 42.1**	**-0.1**
LUWI	**Luwuk**	**4.57**	**270**		**Pn**	**14 04 41.0**	**-1.2**
LUWI	**Luwuk**	**4.57**	**270**	P	**Pn**	**14 04 41.5**	**-0.7**
FAKI	**Fak Fak**	**5.23**	**110**	P	**Pn**	**14 04 51.4**	**+0.2**
FAKI	**Fak Fak**	**5.23**	**110**	Pn	**Pn**	**14 04 51.3**	**0.0**
FAKI	**Fak Fak**	**5.23**	**110**	P	**Pn**	**14 04 52.9**	**+1.7**
	50nm,1.3s,0.3nm						
MRSI	**Marisa**	**5.62**	**286**	P	**Pn**	**14 04 57.6**	**+1.0**
	37nm,0.7s,2μm0.4nm						
BBSI	**Bau Bau**	**6.47**	**227**	P	**Pn**	**14 05 09.0**	**+0.7**
	40nm,1.1s,0.2nm						
TOLI2	**Tolitoli**	**6.92**	**288**	P	**Pn**	**14 05 15.6**	**+1.2**
TOLI2	**Tolitoli**	**6.92**	**288**		**Pn**	**14 05 15.0**	**+0.6**
MPSI	**Mapaga**	**7.58**	**281**	P	**Pn**	**14 05 24.1**	**+0.6**
	28nm,0.8s,0.1nm						
BNSI	**Bone**	**7.94**	**245**	P	**Pn**	**14 05 30.2**	**+1.7**
KAPI	**Kappang**	**8.53**	**243**		**Pn**	**14 05 38.0**	**+1.5**
KAPI	**Kappang**	**8.53**	**243**	P	**Pn**	**14 05 38.2**	**+1.7**
	3.5nm,0.3s,baz=56,slow=6.4,SNR=12						
KAPI				S	**Sn**	**14 07 09.8**	**-2.4**
	3.4nm,0.4s,baz=72,slow=20,SNR=1.3						
KAPI				LR	LR	14 09 22.2	
	comp=Z,191nm,19.6s,baz=322,slow=41						
	18nm,0.4s						
MYLDM	**Lahad Datu**	**10.81**	**305**		**Pn**	**14 06 08.2**	**+0.3**
DRS	**Darwin Rock St**	**11.81**	**163**	P	**Pn**	**14 06 23.1**	**+1.5**
MTN	**Manton Dam**	**12.27**	**162**	P	**Pn**	**14 06 29.3**	**+1.4**
MTN	**Manton Dam**	**12.27**	**162**		**Pn**	**14 06 30.0**	**+2.1**
KDU	**Kakadu**	**12.60**	**156**	P	**Pn**	**14 06 32.8**	**+0.5**
KNRA	**Kununurra**	**14.57**	**175**	Pn	**Pn**	**14 07 01.4**	**+2.1**
FITZ	**Fitzroy Crossi**	**16.99**	**186**		**P**	**14 07 32.2**	**-0.3**
WB0	**Warramunga Arr**	**19.81**	**160**	P	**P**	**14 08 02.9**	**-0.6**
WRAB	**Tennant Creek**	**19.95**	**160**	P	**P**	**14 08 04.6**	**-0.4**
WRA	**Warramunga Arr**	**19.95**	**160**	P	**P**	**14 08 03.9**	**-1.2**
	0.6nm,0.3s,baz=342,slow=12,SNR=28						
	1.6nm,0.4s						
WB2	**Warramunga Arr**	**19.96**	**160**	P	**P**	**14 08 04.4**	**-0.8**
WB2				IAmb	IAmb	14 08 10.9	
	comp=Z,7.8nm,0.7s						
WR0	**Warramunga Arr**	**20.04**	**160**	P	**P**	**14 08 05.8**	**-0.3**
COEN	**Coen**	**20.22**	**130**	P	Pn	14 08 09.7	-0.4
COEN	**Coen**	**20.22**	**130**	P	**P**	**14 08 07.9**	**-0.1**
COEN				IAmb	IAmb	14 08 10.7	
	comp=Z,22nm,0.9s						
QIS	**Mount Isa**	**22.76**	**149**	P	**P**	**14 08 37.0**	**+1.6**
AS31	**Alice Springs**	**23.33**	**165**	P	**P**	**14 08 42.1**	**+0.9**
ASAR	**Alice Springs**	**23.33**	**165**	P	**P**	**14 08 41.1**	**-0.1**
ASAR	**Alice Springs**	**23.33**	**165**	P	**P**	**14 08 40.1**	**-1.1**
	comp=Z,4.6nm,0.8s,baz=344,slow=11,SNR=32						
	comp=Z,4.6nm,0.8s						
WRKA	**Warakurna**	**23.83**	**178**	P	**P**	**14 08 47.7**	**+1.6**
YULB	**Yu-li**	**25.03**	**347**	P	**P**	**14 08 56.5**	**-0.5**
YULB				IAmb	IAmb	14 09 04.2	
	comp=Z,9.9nm,1.2s						
TPUB	**Ta-pu**	**25.11**	**345**	P	**P**	**14 08 58.0**	**+0.2**
TPUB				IAmb	IAmb	14 09 00.6	
	comp=Z,23nm,1.0s						
KULM	**Kulim**	**27.41**	**284**	P	**P**	**14 09 18.4**	**-0.2**
KULM				IAmb	IAmb	14 09 57.8	
	comp=Z,37nm,1.5s						
BBOO	**Buckleboo**	**32.61**	**166**	P	**P**	**14 10 06.7**	**+2.2**
STKA	**Stephens Creek**	**33.45**	**158**	P	**P**	**14 10 10.0**	**-1.9**
STKA	**Stephens Creek**	**33.45**	**158**	P	**P**	**14 10 09.9**	**-1.9**
	comp=Z,7.3nm,1.0s,baz=328,slow=14,SNR=4.8						
	comp=Z,7.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**34.02**	**306**	P	**P**	**14 10 15.8**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=133,slow=0.9,SNR=5.3						
	comp=Z,0.5nm,0.3s						
JHJ2	**Mitsune**	**35.99**	**18**	P	**P**	**14 10 35.0**	**+1.2**
ARMA	**Armidale**	**37.18**	**144**	P	**P**	**14 10 42.5**	**-1.6**
ARMA				IAmb	IAmb	14 11 01.6	
	comp=Z,16nm,1.4s						
KSRS	**Korea Array**	**38.35**	**1**	P	**P**	**14 10 55.0**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=176,slow=9.7,SNR=6.1						
	comp=Z,0.9nm,0.5s						
XAN	**Xi'an**	**38.99**	**335**	P	**P**	**14 10 59.5**	**+0.2**
XAN				pmax	pmax		
	comp=Z,15nm,0.7s						
CAN	**Canberra**	**39.58**	**152**	P	**P**	**14 11 04.2**	**0.0**
CAN				IAmb	IAmb	14 11 21.9	
	comp=Z,33nm,1.4s						
GTA	**Gaotai**	**47.55**	**331**	P	**P**	**14 12 09.8**	**+1.3**
GTA				pP	pwP	14 12 17.5	+0.7
GTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SONM	**Songino Array**	**52.03**	**342**	P	**P**	**14 12 43.1**	**+0.7**
SONM	**Songino Array**	**52.03**	**342**	P	**P**	**14 12 42.4**	**0.0**
	comp=Z,1.5nm,0.7s,baz=157,slow=8.5,SNR=8.1						
SONM				LR	LR	14 38 46.3	
	comp=Z,60nm,18.4s,baz=202,slow=40						
	comp=Z,1.5nm,0.7s						
TUWZ	**Tuamarina**	**58.06**	**140**	P	**P**	**14 13 26.6**	**+0.7**
MK31	**Makanchi Array**	**61.86**	**327**	P	**P**	**14 13 50.9**	**-1.1**
MK31				IAmb	IAmb	14 13 54.2	
	comp=Z,2.7nm,0.6s						
MKAR	**Makanchi Array**	**61.86**	**327**	P	**P**	**14 13 50.9**	**-1.1**
MKAR	**Makanchi Array**	**61.86**	**327**	P	**P**	**14 13 52.1**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=122,slow=8.5,SNR=36						
	comp=Z,3.2nm,0.6s						
KSH	**Kashi**	**61.91**	**317**	P	**P**	**14 13 54.5**	**+1.9**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MAKZ	**Makanchi**	**62.04**	**326**	P	**P**	**14 13 52.1**	**-1.1**
MAKZ				IAmb	IAmb	14 13 55.3	
	comp=Z,3.2nm,0.7s						
ZALV	**Zalesovo Beam**	**65.14**	**334**	P	**P**	**14 14 13.3**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=134,slow=4.2,SNR=4.5						
	comp=Z,1.1nm,0.6s						
GAR	**Garm**	**65.66**	**314**	P	**P**	**14 14 16.5**	**-0.8**
KURBB	**Kurchatov Arra**	**66.12**	**328**	P	**P**	**14 14 19.8**	**-0.1**
	comp=Z,4.9nm,0.6s,baz=126,slow=6.2,SNR=42						
	comp=Z,4.9nm,0.6s						
KURK	**Kurchatov**	**66.12**	**329**	P	**P**	**14 14 19.4**	**-0.5**
SEY	**Seymchan**	**66.57**	**12**	LR	LR	14 40 48.6	
	comp=Z,162nm,20.6s,baz=330,slow=33						
KKAR	**Karatay Array**	**67.18**	**318**	P	**P**	**14 14 26.1**	**-0.8**
BRVK	**Borovoye**	**71.75**	**328**	P	**P**	**14 14 54.2**	**-0.7**
BRVK				IAmb	IAmb	14 14 56.3	
	comp=Z,2.2nm,0.7s						
ABKAR	**Akbulak array**	**76.26**	**321**	P	**P**	**14 15 20.1**	**-1.2**
K17K	**Iditarod**	**83.83**	**27

*IDC **30** 14:12:12.9±1.4, 1°.19S×127°.16E, h0km, mb3.7/4, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=152.1km s-min=21.0km az=68.0*
*DJA **30** 14:12:15.6±0.6, 1°.S±2°.×12°.7E±°, h16km±6km, M3.8/13, mb4.1/2, MLv3.7/13*

ISC 30 14:12:14.7±0.8, 1°.05S±0°.04×127°.30E±0°.06, h10km, n15, σ0°.72/18, mb3.8/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.46**	**26**	P	**Pb**	**14 12 25.2**	**+0.4**
SANI	**Sanana**	**1.64**	**233**	P	**Pn**	**14 12 44.2**	**+0.5**
SANI				S	**Sn**	**14 13 05.1**	**+0.2**
TNTI	**Ternate**	**1.81**	**2**	P	**Pn**	**14 12 44.7**	**-1.2**
TNTI				S	**Sn**	**14 13 09.8**	**+0.8**
NLAI	**Namlea**	**2.19**	**185**	P	**Pn**	**14 12 51.3**	**+0.2**
NLAI				S	**Sn**	**14 13 17.5**	**-0.7**
MSAI	**Masohi**	**2.80**	**145**	P	**Pn**	**14 13 00.0**	**+0.4**
KMSI	**Cibinong**	**3.69**	**296**	P	**Pn**	**14 13 11.9**	**+0.1**
SWI	**Sorong**	**3.96**	**87**	P	**Pn**	**14 13 16.7**	**+1.1**
BNDI	**Bandanaira**	**4.32**	**143**	P	**Pn**	**14 13 20.8**	**+0.3**
LUWI	**Luwuk**	**4.53**	**270**	P	**Pn**	**14 13 23.5**	**+0.2**
MRSI	**Marisa**	**5.57**	**286**	P	**Pn**	**14 13 37.5**	**-0.1**
WRA	**Warramunga Arr**	**20.00**	**160**	P	**P**	**14 16 46.5**	**-1.2**
	0.1nm,0.3s,baz=342,slow=12,SNR=7.5 1.3nm,0.7s						
ASAR	**Alice Springs**	**23.38**	**165**	P	**P**	**14 17 22.5**	**-1.2**
	1.2nm,0.7s,baz=347,slow=12,SNR=9.9 1.2nm,0.7s						
SONM	**Songino Array**	**51.98**	**342**	P	**P**	**14 21 24.7**	**+0.4**
	0.4nm,0.5s,baz=148,slow=9.4,SNR=2.4 0.4nm,0.5s						
MKAR	**Makanchi Array**	**61.80**	**327**	P	**P**	**14 22 33.9**	**0.0**
	0.5nm,0.4s,baz=118,slow=8.2,SNR=10.0 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**66.06**	**328**	P	**P**	**14 23 01.8**	**+0.1**
	1.3nm,0.7s,baz=124,slow=5.6,SNR=7.8 1.3nm,0.7s						

IDC 30 14:37:58.9±2.0, 4°.43S×128°.05E, h0km, mb3.6/2, mbtmp3.2/4, ML3.0/2, Error ellipse: s-maj=186.2km s-min=27.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.59**	**159**	Pn	Pn	14 41 52.1	-1.1
	0.1nm,0.3s,baz=337,slow=13,SNR=1.9 0.3nm,0.8s						
ASAR	**Alice Springs**	**19.94**	**164**	P	P	14 42 33.2	+0.5
	baz=341,slow=10,SNR=4.2 0.3nm,0.9s						
MKAR	**Makanchi Array**	**65.03**	**327**	P	P	14 48 40.9	-0.1
	0.2nm,0.4s,baz=118,slow=7.9,SNR=6.7 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**69.32**	**329**	P	P	14 49 08.4	+0.2
	0.3nm,0.5s,baz=130,slow=6.3,SNR=1.7 0.3nm,0.5s						

IDC 30 14:38:36.4±2.0, 2°.71S×127°.66E, h0km, mb3.5/3, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=192.8km s-min=24.2km az=67.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.33**	**160**	P	P	14 42 52.5	0.0
	0.1nm,0.3s,baz=342,slow=12,SNR=2.0 0.3nm,0.5s						
ASAR	**Alice Springs**	**21.69**	**164**	P	P	14 43 29.1	+0.1
	0.5nm,0.6s,baz=346,slow=11,SNR=11 0.5nm,0.6s						
MKAR	**Makanchi Array**	**63.38**	**327**	P	P	14 49 07.8	+0.1
	0.3nm,0.3s,baz=125,slow=7.4,SNR=6.6 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**67.65**	**329**	P	P	14 49 35.0	-0.2
	0.4nm,0.4s,baz=115,slow=6.0,SNR=4.2 0.4nm,0.4s						

*CRAAG **30** 14:49:26.8, 37°.03N×3°.48E, Ml2.6, Algerie 30km Nw Zemmouri*
*MDD **30** 14:49:28.4±1.0, 36°.91N×3°.62E, h18km±8km, Mb3.8/4, M_mb3.0/4, Error ellipse: s-maj=8.0km s-min=4.3km az=144.0*

ISC 30 14:49:23.5±1.2, 36°.91N±0°.06×3°.64E±0°.05, h12km, n10, σ2°.35/14, 4C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKED	**El Kharrouba**	**0.31**	**215**	P	**Pn**	**14 49 35.8**	**+2.0**
ABA	**Alger-Bouzarea**	**0.49**	**258**	P	**Pn**	**14 49 37.0**	**+0.6**
ATKJ	**Tikjda**	**0.60**	**140**	P	**Pn**	**14 49 38.8**	**+0.8**
ADOR	**Douera**	**0.63**	**247**	P	**Pn**	**14 49 39.5**	**+1.1**
EMHD	**Djebel Mahouad**	**0.89**	**218**	P	**Pn**	**14 49 44.3**	**+2.3**
EIBI	**Ibiza**	**2.79**	**320**	Pn	**Pb**	**14 50 10.7**	**-2.5**
EIBI				⇑iVmb_V		14 50 13.7	
	192nm,SNR=1.3						
EIBI				Sn	**Sn**	**14 50 41.7**	**+0.3**
ETOS	**Mallorca**	**2.93**	**348**	Pn	**Pb**	**14 50 12.8**	**-2.8**
ETOS				⇑iVmb_V		14 50 16.3	
	190nm,SNR=1.8						
ETOS				Sn	**Sn**	**14 50 43.9**	**-1.2**
VSL	**Villasalto**	**5.21**	**58**	Pn	**Pn**	**14 50 44.1**	**+2.9**
VSL				Sn	**Sn**	**14 51 40.1**	**-1.1**
EQES	**Quesada**	**5.42**	**282**	Pn	**Pn**	**14 50 47.3**	**+3.1**
EQES				⇑iVmb_V		14 50 51.6	
	26nm,SNR=1.6						
EQES				Sn	**Sn**	**14 51 46.4**	**-0.1**
EJON	**La Jonquera**	**5.57**	**354**	Pn	**Pn**	**14 50 49.9**	**+3.8**
EJON				⇑iVmb_V		14 50 51.1	
	140nm,SNR=1.7						

*UPP **30** 15:36:52.0±0.1, 67°.85N×20°.20E, h0km, ML2.5, Confirmed Induced event*
*HEL **30** 15:36:52.3±0.2, 67°.83N×20°.20E, h0km, ML1.7, Suspected explosion*

ISC 30 15:36:52.6±0.9, 67°.86N±0°.03×20°.24E±0°.03, h0km, n26, σ1°.22/45, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.10**	**20**	P	**Pg**	**15 36 54.5**	**-0.2**
KUA				S	**Sg**	**15 36 56.0**	**0.0**
KOVU	**Salmi**	**0.37**	**355**	P	**Pg**	**15 36 59.3**	**-0.4**
KOVU				S	**Sg**	**15 37 04.2**	**-0.2**
LANU	**Lannavaara**	**0.69**	**73**	P	**Pg**	**15 37 05.5**	**-0.3**
LANU				S	**Sg**	**15 37 14.6**	**-0.1**
LANU	**Lannavaara**	**0.69**	**73**	PG	**Pg**	**15 37 05.5**	**-0.3**
LANU				SG	**Sg**	**15 37 14.3**	**-0.4**
MASU	**Masugnsbyn**	**0.78**	**120**	P	**Pg**	**15 37 06.9**	**-0.7**
SALU	**Saltoluokta**	**0.82**	**235**	P	**Pg**	**15 37 07.0**	**-1.3**
HEF	**Hetta**	**1.40**	**65**	*eP*	**Pg**	**15 37 18.0**	**-1.4**
HEF	**Hetta**	**1.40**	**65**	PG	**Pg**	**15 37 17.9**	**-1.4**
	baz=249						
HEF				MSG		15 37 35.1	
	comp=Z,5.5nm,0.2s						
HEF				SG	**Sg**	**15 37 36.1**	**-1.3**
KLF	**Kolari**	**1.56**	**112**	PG	**Pn**	**15 37 20.4**	**-1.2**
KLF				MSG		15 37 39.2	
	comp=Z,4.9nm,0.2s						
KLF				SN	**Sn**	**15 37 41.6**	**-0.8**
KTK1	**Kautokeino**	**1.60**	**42**	*eP*	**Pn**	**15 37 22.0**	**-0.2**
KTK1	**Kautokeino**	**1.60**	**42**	PN	**Pn**	**15 37 22.1**	**-0.2**
KTK1				SN	**Sg**	**15 37 43.3**	**-0.8**
TRO	**Tromso**	**1.85**	**346**	PG	**Pn**	**15 37 25.7**	**+0.2**
TRO				SG	**Sb**	**15 37 50.4**	**-0.5**
KALU	**Kalix**	**2.35**	**147**	PB	**Pn**	**15 37 32.6**	**+0.2**
KALU				SB	**Sn**	**15 38 03.3**	**+1.3**
TOF	**Tornio**	**2.40**	**136**	PB	**Pn**	**15 37 33.8**	**+0.7**
TOF				MSG		15 38 03.3	
	comp=Z,2.8nm,0.2s						
TOF				SG	**Sb**	**15 38 06.5**	**-0.2**
SGF	**Sodankyl**	**2.44**	**97**	PB	**Pn**	**15 37 34.1**	**+0.4**
SGF				SB	**Sn**	**15 38 05.2**	**+1.1**
ARA0	**ARCESS Array S**	**2.56**	**46**	SB	**Sn**	**15 38 07.9**	**+0.8**
RNF	**Rovaniemi**	**2.57**	**116**	PB	**Pn**	**15 37 36.5**	**+1.1**
	baz=306						
RNF				SB	**Sb**	**15 38 10.3**	**-1.4**
RAJF	**Raja-Jooseppi**	**3.08**	**75**	PN	**Pn**	**15 37 42.4**	**-0.1**
RAJF				SB	**Sb**	**15 38 24.7**	**-1.6**
KEV	**Kevo**	**3.11**	**49**	PN	**Pn**	**15 37 43.8**	**+1.0**
KEV				SN	**Sn**	**15 38 21.1**	**+0.4**
KEV				MSG		15 38 24.5	
	comp=Z,4.0nm,0.2s						
RANF	**Ranua**	**3.17**	**123**	PN	**Pn**	**15 37 44.0**	**+0.3**
	baz=312						
RANF				SG	**Sb**	**15 38 29.0**	**+0.1**
VRF	**Varrio**	**3.56**	**87**	PG	**Pb**	**15 37 56.4**	**0.0**
VRF				SG	**Sb**	**15 38 40.4**	**+0.3**
OUL	**Oulu**	**3.59**	**138**	PG	**Pb**	**15 37 57.4**	**+0.5**
OUL				SG	**Sb**	**15 38 41.6**	**+0.7**
OLKF	**Oulanka, Finla**	**3.90**	**109**	PN	**Pn**	**15 37 55.1**	**+1.4**
OLKF				SG	**Sb**	**15 38 52.2**	**+2.4**
MSF	**Maaselka**	**3.98**	**115**	SG	**Sg**	**15 38 56.8**	**-3.6**
UMAU	**Umeaa**	**4.00**	**177**	PN	**Pn**	**15 37 56.0**	**+1.0**
	baz=2.0						
KU6	**Riekki**	**4.22**	**111**	PG	**Pb**	**15 38 08.1**	**+0.5**
	baz=301						
KU6				SG	**Sb**	**15 39 03.2**	**+4.2**

IDC 30 16:24:33.1±370.0, 52°.46N×27°.18E, h0km, Error ellipse: s-maj=153.1km s-min=135.2km az=20.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**7.22**	**50**	I	I	17 08 20.0	
	baz=237,slow=323,SNR=0.5						
I26DE	**FREYUNG INFRAS**	**9.28**	**252**	I	I	17 20 00.0	
	baz=58,slow=323,SNR=0.4						
I37NO	**I37NO**	**17.15**	**350**	I	I	18 06 05.1	
	baz=162,slow=316,SNR=1.4						

*IDC **30** 16:38:17.9±1.8, 9°.30S×125°.29E, h0km, mb3.8/2, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=207.5km s-min=26.8km az=59.0*
*DJA **30** 16:38:24.0±1.0, 9°.S±3°.×12°.6E±°, h13km±8km, M4.1/10, mb4.3/5, MLv3.9/10*
*NEIC **30** 16:38:26.4±2.1, 9°.12S±0°.09×125°.84E±0°.05, h35km±2km, mb4.0/2, Error ellipse: s-maj=15.0km s-min=7.6km az=178.0*

ISC 30 16:38:24.9±0.8, 9°.19S±0°.07×125°.88E±0°.07, h35km, n33, σ2°.35/35, mb3.9/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.69**	**250**	P	**Pn**	**16 38 56.1**	**+4.1**
SOEI	**Soe**	**1.69**	**250**	Pn	**Pn**	**16 38 54.8**	**+2.8**
SOEI	**Soe**	**1.69**	**250**	P	**Pn**	**16 38 54.6**	**+2.6**
BATI	**Baumata**	**2.41**	**245**	P	**Pn**	**16 39 04.9**	**+3.0**
MMRI	**Maumere**	**3.64**	**278**	P	**Pn**	**16 39 21.6**	**+2.8**
MMRI	**Maumere**	**3.64**	**278**	Pn	**Pn**	**16 39 19.9**	**+1.1**
MMRI	**Maumere**	**3.64**	**278**	P	**Pn**	**16 39 19.5**	**+0.7**
EDFI	**Ende, Flores**	**4.16**	**276**	P	**Pn**	**16 39 26.4**	**+0.3**
BBSI	**Bau Bau**	**4.93**	**318**	P	**Pn**	**16 39 35.3**	**-1.2**
DRS	**Darwin Rock St**	**5.89**	**124**	P	**Pn**	**16 39 52.7**	**+2.9**
NLAI	**Namlea**	**6.03**	**12**	P	**Pn**	**16 39 51.4**	**-0.3**
	17nm,1.1s,0.1nm						
BSSI	**Bau Bau, Buton**	**6.13**	**299**	P	**Pn**	**16 39 51.6**	**-1.6**
	55nm,1.0s						
MTN	**Manton Dam**	**6.31**	**126**	P	**Pn**	**16 39 58.6**	**+3.0**
MTN	**Manton Dam**	**6.31**	**126**	Pn	**Pn**	**16 39 58.4**	**+2.8**
KNRA	**Kununurra**	**7.04**	**157**		**Pn**	**16 40 07.9**	**+2.4**
KDU	**Kakadu**	**7.35**	**119**	P	**Pn**	**16 40 12.5**	**+2.7**
FITZ	**Fitzroy Crossi**	**8.86**	**181**	P	**Pn**	**16 40 33.1**	**+2.5**
FITZ	**Fitzroy Crossi**	**8.86**	**181**	Pn	**Pn**	**16 40 32.8**	**+2.2**
FAKI	**Fak Fak**	**8.88**	**46**	P	**Pn**	**16 40 33.1**	**+2.2**
FAKI	**Fak Fak**	**8.88**	**46**	Pn	**Pn**	**16 40 32.4**	**+1.5**
FAKI	**Fak Fak**	**8.88**	**46**	P	**Pn**	**16 40 32.3**	**+1.4**
TOLI2	**Tolitoli**	**11.42**	**333**	P	**Pn**	**16 41 09.1**	**+3.4**
TOLI2	**Tolitoli**	**11.42**	**333**	Pn	**Pn**	**16 41 05.6**	**-0.1**
WB0	**Warramunga Arr**	**13.36**	**143**	Pn	**Pn**	**16 41 31.4**	**-0.7**
WRA	**Warramunga Arr**	**13.46**	**144**	Pn	**Pn**	**16 41 31.8**	**-1.8**
	0.4nm,0.3s,baz=319,slow=14,SNR=19						
WRA				Sn	**Sn**	**16 43 56.7**	**-5.3**
	0.2nm,0.3s,baz=312,slow=22,SNR=3.4 1.2nm,0.6s						
WRAB	**Tennant Creek**	**13.46**	**143**	Pn	**Pn**	**16 41 32.2**	**-1.4**
WB2	**Warramunga Arr**	**13.47**	**143**	Pn	**Pn**	**16 41 32.8**	**-0.9**
WR0	**Warramunga Arr**	**13.60**	**143**	Pn	**Pn**	**16 41 34.3**	**-1.1**
AS31	**Alice Springs**	**16.32**	**153**	Pn	**Pn**	**16 42 11.2**	**-0.3**
AS31				IAmb	IAmb	16 42 19.5	
	comp=Z,2.0nm,1.1s						
ASAR	**Alice Springs**	**16.32**	**153**	Pn	**Pn**	**16 42 11.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=332,slow=13,SNR=38						
ASAR				Sn	**Sn**	**16 45 14.0**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=322,slow=16,SNR=6.5 comp=Z,1.3nm,0.6s						
MANU	**Manus Island**	**22.52**	**73**	P	**P**	**16 43 22.5**	**+0.6**
MANU				IAmb	IAmb	16 43 52.5	
	comp=Z,46nm,1.3s						
STKA	**Stephens Creek**	**26.88**	**149**	P	**P**	**16 44 03.3**	**+0.7**
	comp=Z,3.3nm,1.0s,baz=328,slow=13,SNR=1.7 comp=Z,3.3nm,1.0s						
MKAR	**Makanchi Array**	**67.91**	**329**	P	**P**	**16 49 17.0**	**-3.0**
	comp=Z,0.3nm,0.5s,baz=144,slow=6.5,SNR=2.7 comp=Z,0.3nm,0.5s						

DJA 30 16:59:26.2±0.3, 8°.S±5°.×11°.6E±°, h10km, M4.0/12, mb4.4/2, MLv3.7/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.57**	**136**	P	Pb	16 59 37.9	-0.4
TWSI				S	Sg	16 59 45.0	+0.2
SRBI	**Singaraja**	**1.28**	**281**	P	Pn	16 59 48.6	-1.5
SRBI				S	Sb	17 00 05.9	-1.0
DNP	**Denpasar**	**1.30**	**255**	P	Pn	16 59 50.0	-0.5
PLAI	**Plampang**	**1.37**	**111**	P	Pn	16 59 51.7	+0.2
PLAI				S	Sg	17 00 10.5	0.0
ABJI	**Asem Bagus**	**2.29**	**283**	P	Pn	17 00 04.2	+0.2
JAGI	**Jajag, Banyuwa**	**2.31**	**266**	P	Pn	17 00 03.7	-0.6
BSSI	**Bau Bau, Buton**	**4.53**	**62**	P	Pn	17 00 33.4	-1.6
PWJI	**Pagerwojo**	**4.64**	**273**	P	Pn	17 00 37.6	+1.2
EDFI	**Ende, Flores**	**5.17**	**95**	P	Pn	17 00 43.1	-0.7
	13nm,0.8s,0.1nm						
UGM	**Wanagama**	**5.91**	**274**	P	Pn	17 00 54.7	+0.8

KRSC 30 17:08:26.3±1.5, 55°.43N×164°.81E, h52km±24km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.70**	**108**	*eP*	Pn	17 08 41.6	+1.4
BKI				*eS*	Sn	17 08 51.3	+1.1
KBTR	**Krutoberegovo**	**1.36**	**306**	*eP*	Pn	17 08 49.2	+0.3
KBTR				*eS*	Sn	17 09 05.3	-0.6
KBG	**Krutoberegovo**	**1.44**	**306**	*eP*	Pn	17 08 51.2	+1.2
KBG				*eS*	Sn	17 09 07.9	+0.1
ZLN	**Zelenaya**	**2.34**	**286**	*eP*	Pn	17 09 06.4	+4.1
ZLN				*eS*	Sn	17 09 34.8	+4.9
SRKR	**Sorokina**	**2.38**	**302**	*eP*	Pn	17 09 05.8	+2.9
SRKR				*eS*	Sn	17 09 34.2	+3.3
BZGR	**Bezymyannyi-Gr**	**2.38**	**284**	*eP*	Pn	17 09 06.8	+3.9
BZGR				*eS*	Sn	17 09 34.2	+3.2
CIRR	**Tsirk**	**2.39**	**288**	*eP*	Pn	17 09 07.2	+4.1
CIRR				*eS*	Sn	17 09 34.0	+2.7
BZP	**Bezymyannyi-Pe**	**2.46**	**283**	*eP*	Pn	17 09 07.0	+2.9
BZP				*eS*	Sn	17 09 36.1	+3.0
BZMR	**Bezymyannaya**	**2.50**	**283**	*eP*	Pn	17 09 08.3	+3.7
BZMR				*eS*	Sn	17 09 36.0	+2.2
BZWR	**Bezymyannyi-We**	**2.50**	**284**	*eP*	Pn	17 09 08.8	+4.2
BZWR				*eS*	Sn	17 09 37.6	+3.7
KLY	**Klyuchi**	**2.50**	**292**	*eP*	Pn	17 09 06.1	+1.6
KLY				*eS*	Sn	17 09 34.9	+1.2
KRSR	**Krestovskiy**	**2.52**	**290**	*eP*	Pn	17 09 08.0	+3.2
KRSR				*eS*	Sn	17 09 36.6	+2.3
TUMD	**Tumrok D**	**2.53**	**267**	*eP*	Pn	17 09 08.5	+3.7
TUMD				*eS*	Sn	17 09 37.1	+2.6
KIRR	**Kirishev**	**2.58**	**284**	*eP*	Pn	17 09 09.3	+3.6
KIRR				*eS*	Sn	17 09 39.4	+3.5
KMNR	**Kamenistaya**	**2.61**	**279**	*eP*	Pn	17 09 11.0	+4.9
KMNR				*eS*	Sn	17 09 41.2	+4.5
KPT	**Kopyto**	**2.65**	**284**	*eP*	Pn	17 09 10.3	+3.7
KPT				*eS*	Sn	17 09 41.8	+4.3
TUMR	**Tumrok**	**2.66**	**269**	*eP*	Pn	17 09 10.8	+4.0
TUMR				*eS*	Sn	17 09 43.0	+5.1
KOZ	**Kozyrevsk**	**2.86**	**285**	*eP*	Pn	17 09 13.8	+4.4
KOZ				*eS*	Sn	17 09 47.2	+4.7
SRDR	**Sredinnyy**	**3.00**	**289**	*eP*	Pn	17 09 15.0	+3.6
SRDR				*eS*	Sn	17 09 49.6	+3.5
ESO	**Esso**	**3.49**	**281**	*eP*	Pn	17 09 22.5	+4.5
OSSR	**Ossora**	**3.94**	**347**	*eP*	Pn	17 09 26.6	+2.4
SMAR	**Somma**	**4.13**	**241**	*eP*	Pn	17 09 31.1	+4.1
SMAR				*eS*	Sn	17 10 16.1	+2.0
UGLR	**Uglovaya**	**4.15**	**240**	*eP*	Pn	17 09 31.4	+4.3
UGLR				*eS*	Sn	17 10 16.6	+2.2
KRX	**Arik**	**4.15**	**243**	*eP*	Pn	17 09 31.4	+4.2
KRX				*eS*	Sn	17 10 16.5	+1.9
AVH	**Avacha**	**4.16**	**241**	*eP*	Pn	17 09 31.9	+4.6
AVH				*eS*	Sn	17 10 17.6	+3.0
KOK	**Koryaka**	**4.20**	**242**	*eP*	Pn	17 09 32.5	+4.7
DALK	**Dalny**	**4.29**	**238**	*eP*	Pn	17 09 32.6	+3.7
DALK				*eS*	Sn	17 10 19.6	+2.0
PET	**Petropavlovsk**	**4.34**	**239**	*eP*	Pn	17 09 33.7	+4.1
PET				*eS*	Sn	17 10 20.7	+1.8
GNL	**Ganaly**	**4.36**	**249**	*eP*	Pn	17 09 34.6	+4.6
PALN	**Palana**	**4.51**	**326**	*eP*	Pn	17 09 34.3	+2.4
MTVR	**Mutnovka**	**4.90**	**236**	*eP*	Pn	17 09 41.6	+4.2
MTVR				*eS*	Sn	17 10 34.5	+1.6
ASAK	**Asacha**	**5.10**	**236**	*eP*	Pn	17 09 45.0	+4.9
ASAK				*eS*	Sn	17 10 40.9	+3.2
KDTR	**Khodutka, Kamc**	**5.40**	**231**	*eP*	Pn	17 09 47.5	+3.3
KDTR				*eS*	Sn	17 10 44.3	-0.7
KMSK	**Kamenskaya**	**7.09**	**5**	*eP*	Pn	17 10 10.6	+3.3

*NOU **30** 17:42:25.5, 41°.73S×173°.80E, h0km, MLv3.6/7, South Island, New Zealand*
*WEL **30** 17:42:25.1±0.7, 42°.S±4°.×17°.4E±°, h50km±6km, M2.8/9, ML3.0/9, MLv2.8/9, Error ellipse: s-maj=0.0km s-min=0.0km az=5.9, confirmed*

ISC 30 17:42:26.7±1.3, 41°.80S±0°.04×173°.91E±0°.03, h52km±7km, n26, σ1°.11/40, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.09**	**343**	P	**Pn**	**17 42 34.6**	**-0.3**
BSWZ				S	**Sn**	**17 42 41.0**	**+0.5**
KEKS	**Kekerengu Vall**	**0.16**	**161**	S	**Sn**	**17 42 41.3**	**+0.2**
WDFS	**Ward Fire Stat**	**0.17**	**98**	S	**Sn**	**17 42 42.3**	**+1.2**
CMWZ	**Cape Campbell**	**0.23**	**76**	P	**Pn**	**17 42 35.8**	**+0.2**
CMWZ				S	**Sn**	**17 42 43.4**	**+1.6**
MGCS	**Blenheim Marlb**	**0.30**	**5**	S	**Sn**	**17 42 42.4**	**-0.2**
BWRS	**Waikakaho Road**	**0.36**	**359**	P	**Pn**	**17 42 36.3**	**-0.3**
TUWZ	**Tuamarina**	**0.38**	**3**	P	**Pn**	**17 42 36.7**	**-0.1**
TUWZ				S	**Sn**	**17 42 44.1**	**+0.1**
HAVS	**Havelock**	**0.54**	**350**	P	**Pn**	**17 42 38.3**	**-0.3**
HAVS				S	**Sn**	**17 42 46.9**	**-0.2**
MOLW	**Molesworth Sta**	**0.56**	**240**	P	**Pn**	**17 42 38.0**	**-1.0**
MOLW				S	**Sn**	**17 42 46.5**	**-1.3**
KIKS	**Kaikoura**	**0.64**	**195**	P	**Pn**	**17 42 38.8**	**-1.1**
TCW	**Tory Channel**	**0.65**	**25**	P	**Pn**	**17 42 39.5**	**-0.4**
TCW				S	**Sn**	**17 42 49.1**	**-0.5**
KHZ	**Kahutara**	**0.67**	**204**	P	**Pn**	**17 42 39.1**	**-1.1**
KHZ	**Kahutara**	**0.67**	**204**	P	**Pn**	**17 42 39.1**	**-1.1**
KHZ				S	**Sn**	**17 42 48.7**	**-1.3**
NNZ	**Nelson**	**0.71**	**325**	P	**Pn**	**17 42 39.6**	**-1.1**
NNZ				S	**Sn**	**17 42 50.1**	**-0.7**
THZ	**Tophouse**	**0.76**	**273**	P	**Pn**	**17 42 40.2**	**-1.1**
THZ				S	**Sn**	**17 42 50.5**	**-1.4**
SNZO	**South Karori**	**0.77**	**51**	P	**Pn**	**17 42 41.0**	**-0.5**
BHW	**Baring Head**	**0.82**	**61**	P	**Pn**	**17 42 41.2**	**-0.9**
BHW				S	**Sn**	**17 42 53.1**	**-0.3**
WEL	**Wellington**	**0.83**	**51**	P	**Pn**	**17 42 41.7**	**-0.5**
WEL				S	**Sn**	**17 42 53.4**	**-0.1**
MRNZ	**Matariki Terra**	**0.96**	**295**	P	**Pn**	**17 42 43.1**	**-0.8**
MRNZ				S	**Sn**	**17 42 56.1**	**-0.5**
PLWZ	**Palliser**	**1.03**	**77**	P	**Pn**	**17 42 43.5**	**-1.5**
PLWZ				S	**Sn**	**17 42 57.5**	**-0.9**
MSWZ	**Moikau Station**	**1.07**	**69**	P	**Pn**	**17 42 44.1**	**-1.4**
MSWZ				S	**Sn**	**17 42 58.4**	**-1.0**
QRZ	**Quartz Range**	**1.43**	**313**	P	**Pn**	**17 42 49.8**	**-0.5**
KHEZ	**Kahui Hut**	**2.51**	**2**	P	**Pn**	**17 43 07.0**	**+1.9**
RPZ	**Rata Peaks**	**2.84**	**227**	P	**Pn**	**17 43 12.3**	**+2.7**
HIZ	**Hauiti**	**3.37**	**13**	P	**Pn**	**17 43 17.7**	**+0.9**
ODZ	**Otahua Downs**	**4.02**	**215**	P	**Pn**	**17 43 28.3**	**+2.6**

*IDC **30** 17:44:03.5±9.7, 23°.33S×179°.41W, h426km±87km, mb3.3/5, mbtmp4.1/6, Error ellipse: s-maj=72.7km s-min=19.8km az=46.0*
*NEIC **30** 17:44:15.1±1.5, 24°.1S±0°.1×179°.8E±0°.1, h499km±10km, mb4.2/23, Error ellipse: s-maj=22.7km s-min=17.9km az=212.0*

ISC 30 17:44:13.9±0.6, 24°.05S±0°.10×179°.90E±0°.10, h500km, n37, σ1°.60/36, mb4.1/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.52**	**344**	P	**P**	**17 45 54.0**	**-1.5**
NIUE	**Niue**	**10.68**	**64**	P	**P**	**17 46 40.5**	**+2.0**
NIUE				S	S	17 48 29.6	-7.9
PINNC	**Pines Island,**	**11.54**	**275**	P	**P**	**17 46 51.1**	**+3.5**
URZ	**Urewera**	**14.36**	**189**	P	**P**	**17 47 17.7**	**+0.4**
	2.9nm,0.3s,baz=18,slow=2.6,SNR=9.2						
BKZ	**Black Stump Fm**	**15.34**	**190**	P	**P**	**17 47 25.9**	**-1.6**
BKZ				IAmb	IAmb	17 47 54.4	
	comp=Z,20nm,1.4s						
MRZ	**Mangatainoka R**	**16.95**	**191**	P	**P**	**17 47 42.3**	**-2.0**
EIDS	**Eidsvold**	**26.20**	**261**	P	**P**	**17 49 08.1

BRTR	**Keskin Array B**	**147.60**	**307**	PKPbc	**PKPdf**	**18 02 58.5**	**0.0**
	comp=Z,0.4nm,0.6s,baz=131,slow=6.5,SNR=2.6						
MMAI	**Mount Meron Ar**	**147.68**	**294**	PKPbc	**PKPbc**	**18 03 01.6**	**-0.7**
	comp=Z,1.9nm,0.4s,baz=73,slow=5.7,SNR=7.1						
KWP	**Kalwaria Pacla**	**148.86**	**331**	PKPdf	**PKPdf**	**18 03 00.7**	**+0.7**

*NEIC **30** 17:46:03.8±0.5, 19°.0N±0°.1×64°.7W±0°.1, h35km±2km, ML2.6/18, Md3.1/5(RSPR), Error ellipse: s-maj=19.1km s-min=14.4km az=138.0*
*RSPR **30** 17:46:04.3, 18°.97N×64°.72W, h64km±7km, MD3.1/5*
ISC 30 17:46:03.1±2.5, 19°.1N±0°.2×64°.73W±0°.07, h42km, n28, σ0§73/24, 6C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.40**	**229**	⇑*eP*	**Pn**	**17 46 26.1**	**0.0**
HUMP	**Col San Antoni**	**1.40**	**229**	*eS*	**Sn**	**17 46 43.5**	**0.0**
HUMP	**Col San Antoni**	**1.40**	**229**		**Sn**	**17 46 43.5**	**0.0**
HUMP	**Col San Antoni**	**1.40**	**229**		**Pn**	**17 46 26.3**	**+0.1**
HUMP	**Col San Antoni**	**1.40**	**229**	IAML		17 46 48.5	
	comp=E,85nm,0.2s						
HUMP				IAML		17 46 48.7	
	comp=N,95nm,0.2s						
GCPR	**Guaynabo City**	**1.49**	**240**		**Pn**	**17 46 27.4**	**+0.1**
IGPR	**InterUniversit**	**1.70**	**230**	⇑*eP*	**Pn**	**17 46 30.6**	**+0.3**
IGPR	**InterUniversit**	**1.70**	**230**	*eS*	**Sn**	**17 46 50.4**	**-0.4**
IGPR	**InterUniversit**	**1.70**	**230**		**Pn**	**17 46 30.6**	**+0.3**
IGPR					**Sn**	**17 46 50.4**	**-0.4**
IGPR	**InterUniversit**	**1.70**	**230**	IAML		17 47 00.2	
	comp=N,90nm,0.3s						
CELP	**Cerrillos**	**2.01**	**241**	⇑*eP*	**Pn**	**17 46 35.0**	**+0.5**
CELP	**Cerrillos**	**2.01**	**241**	*eS*	**Sn**	**17 46 58.7**	**+0.2**
CELP	**Cerrillos**	**2.01**	**241**		**Pn**	**17 46 35.0**	**+0.5**
CELP					**Sn**	**17 46 58.7**	**+0.2**
CELP	**Cerrillos**	**2.01**	**241**	IAML		17 47 09.1	
	comp=N,31nm,2.0s						
AOPR	**Arecibo Observ**	**2.04**	**250**	⇑*eP*	**Pn**	**17 46 35.3**	**+0.3**
AOPR	**Arecibo Observ**	**2.04**	**250**	*eS*	**Sn**	**17 46 59.7**	**+0.3**
AOPR	**Arecibo Observ**	**2.04**	**250**		**Sn**	**17 46 59.7**	**+0.3**
AOPR	**Arecibo Observ**	**2.04**	**250**		**Pn**	**17 46 34.7**	**-0.4**
AOPR	**Arecibo Observ**	**2.04**	**250**	IAML		17 47 27.7	
	comp=N,53nm,1.1s						
OBIP	**Obispado Ponce**	**2.05**	**241**	Pn	**Pn**	**17 46 32.3**	**-2.7**
OBIP				IAML		17 47 08.7	
	comp=N,40nm,2.1s						
UUPR	**Utuado, UPR, P**	**2.05**	**247**	Pn	**Pn**	**17 46 33.7**	**-1.3**
MLPR	**Magueyes Islan**	**2.45**	**244**	⇑*eP*	**Pn**	**17 46 41.0**	**+0.4**
MLPR	**Magueyes Islan**	**2.45**	**244**		**Pn**	**17 46 41.0**	**+0.4**
MLPR	**Magueyes Islan**	**2.45**	**244**	IAML		17 47 15.0	
	comp=E,31nm,2.3s						
MLPR				IAML		17 47 19.5	
	comp=N,31nm,2.2s						
CRPR	**Cabo Rojo, PR**	**2.49**	**245**	⇑*eP*	**Pn**	**17 46 41.4**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.49**	**245**		**Pn**	**17 46 41.4**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.49**	**245**	IAML		17 47 08.8	
	comp=N,37nm,2.1s						
CRPR				IAML		17 47 26.1	
	comp=E,30nm,2.7s						
ANBD	**Bethesda, Anti**	**3.46**	**125**	*eP*	**Pn**	**17 46 54.5**	**0.0**
ANBD				*eS*	Sn	17 47 00.1	-34

NNC 30 17:47:43.1±11.0, 37°.21N×70°.45E, h0km, mb3.9, mpv3.5, 4C, Error ellipse: s-maj=116.0km s-min=59.3km az=165.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.89**	**0**	⇑P	Pn	17 49 12.4	+0.8
	1.5nm,0.2s,baz=176,slow=12,SNR=25						
KK31				⇑S	Sn	17 50 23.9	+4.1
	0.9nm,0.4s,baz=184,slow=22,SNR=4.3						
TKM2	**Tokmak 2**	**6.93**	**33**	⇑P	Pn	17 49 27.0	+0.9
	2.0nm,0.6s						
TKM2				⇑S	Sn	17 50 45.3	-0.5
	1.1nm,0.7s						
AB31	**Akbulak array**	**14.25**	**331**	P	Pn	17 51 03.2	-2.9
	0.6nm,0.3s,baz=152,slow=12,SNR=47						

*NEIC **30** 17:54:53.6±0.6, 36°.522N±0°.010×98°.97W±0°.03, h5km±1km, Error ellipse: s-maj=4.4km s-min=2.7km az=288.0*
TUL 30 17:54:53.9±0.5, 36°.53N±0°.01×98°.97W±0°.03, h5km±4km, ML2.9, mb_Lg2.8/66(NEIC), ML3.0/10(NEIC), Error ellipse: s-maj=4.2km s-min=1.1km az=111.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	**Waynoka**	**0.11**	**18**	Pg	Pg	17 54 56.8	+0.6
NOKA				Sg	Sg	17 54 59.0	+1.2
NOKA				IAML		17 54 59.1	
	comp=E,6μm,0.4s						
NOKA				IAML		17 54 59.2	
	comp=N,9μm,0.3s						
U32A	**Winter Ranch,**	**0.15**	**189**	Pg	Pg	17 54 57.4	+0.3
U32A				Sg	Sg	17 55 00.1	+1.0
OK038	**West end E0370**	**0.19**	**106**		Pg	17 54 58.2	+0.5
OK038				IAML		17 55 01.9	
	comp=N,6μm,0.4s						
OK038				IAML		17 55 02.9	
	comp=N,3μm,0.3s						
ELIS	**Ellis County**	**0.59**	**218**	Pg	Pg	17 55 05.3	0.0
ELIS				IAML		17 55 21.5	
	comp=E,575nm,0.8s						
ELIS				IAML		17 55 22.9	
	comp=N,468nm,0.3s						
OK032	**Salt Plains WL**	**0.67**	**66**	Pg	Pg	17 55 06.3	-0.4
OK032				Sg	Sg	17 55 16.0	+0.5
CROK	**Carrier**	**0.80**	**92**		Pg	17 55 09.1	-0.1
KAN14	**Manchester OK**	**0.91**	**62**	Pg	Pg	17 55 11.2	-0.3
CSTR	**Hydro, Custer**	**0.92**	**165**	Pg	Pg	17 55 11.2	-0.3
GC02	**Grant County #**	**0.95**	**70**	Pg	Pg	17 55 11.9	-0.2
KAN05	**Bluff City Nor**	**1.05**	**57**		Pg	17 55 14.0	-0.1
KAN08	**Anthony NE Sta**	**1.06**	**49**	Pg	Pg	17 55 13.6	-0.6
KAN12	**Harper NE Stat**	**1.09**	**45**		Pg	17 55 14.3	-0.6
KAN17	**Caldwell West**	**1.09**	**62**		Pg	17 55 14.4	-0.5
KAN01	**Argonia South**	**1.15**	**57**		Pg	17 55 15.5	-0.5
KAN13	**South Haven SW**	**1.29**	**68**		Pn	17 55 17.8	-0.8
BLOK	**Blackwell**	**1.43**	**80**		Pn	17 55 20.2	-0.3
OK048	**Pawnee Station**	**1.64**	**93**		Pn	17 55 23.4	+0.1
SMWD	**Samnorwood**	**1.76**	**216**		Pn	17 55 25.4	+0.4
WMOK	**Wichita Mounta**	**1.80**	**175**	Pn	Pn	17 55 25.4	-0.1
R32A	**Long Quarter,**	**1.90**	**6**		Pn	17 55 27.6	+0.6
R32A				IAmb_Lg		17 55 54.8	
	comp=Z,47nm,0.9s						
DEOK	**Depew**	**2.12**	**108**		Pn	17 55 29.9	0.0
X34A	**Smith Ranch, M**	**2.14**	**154**		Pb	17 55 31.7	-1.4
X34A				IAmb_Lg		17 56 03.8	
	comp=Z,54nm,0.8s						
CBKS	**Cedar Bluff**	**2.36**	**345**		Pb	17 55 35.1	-1.8
CBKS				IAmb_Lg		17 56 12.5	
	comp=Z,44nm,0.8s						
TUL3	**Leonard**	**2.65**	**103**		Pn	17 55 36.4	-0.8
TUL3				IAmb_Lg		17 56 21.9	
	comp=Z,29nm,0.9s						
AMTX	**Amarillo**	**2.75**	**234**		Pn	17 55 39.3	+0.5
WTFS	**Witchita Falls**	**2.79**	**171**		Pn	17 55 38.5	-0.7
LOOK	**Love County**	**2.93**	**149**	IAmb_Lg		17 56 32.4	
	comp=Z,24nm,0.9s						
RTBA	**Rita Blanca**	**3.04**	**269**		Pn	17 55 43.2	+0.5
RTBA				IAmb_Lg		17 56 36.1	
	comp=Z,18nm,0.8s						
KSU1	**Kansas State U**	**3.17**	**35**	Pn	Pn	17 55 43.9	-0.5
KSU1				IAmb_Lg		17 56 35.9	
	comp=Z,18nm,0.7s						
RLO	**Rose Lookout**	**3.21**	**95**		Pb	17 55 52.5	+1.2
DKNS	**Dickens**	**3.28**	**210**		Pn	17 55 46.4	+0.5
DKNS				IAmb_Lg		17 56 39.5	
	comp=Z,19nm,0.8s						
APMT	**Aspermont**	**3.34**	**197**		Pn	17 55 47.1	+0.4
X37A	**Clayton**	**3.52**	**122**		Pn	17 55 48.5	-0.6
U38A	**Gravette**	**3.70**	**90**		Pn	17 55 51.0	-0.7
U38A				IAmb_Lg		17 56 51.7	
	comp=Z,22nm,0.7s						
FW06	**Azle**	**3.74**	**161**	Pn	Pn	17 55 51.8	-0.4
FW06				IAmb_Lg		17 57 00.3	
	comp=Z,25nm,1.0s						
PLPT	**Palo Pinto**	**3.75**	**172**		Pn	17 55 52.0	-0.4
SN07	**Snyder 07**	**3.78**	**205**	IAmb_Lg		17 56 57.2	
	comp=Z,23nm,0.9s						
ABTX	**Abilene, Hawle**	**3.94**	**188**		Pn	17 55 54.9	-0.1
SN05	**Snyder 5**	**3.97**	**204**	IAmb_Lg		17 57 07.2	
	comp=Z,17nm,0.7s						
MSTX	**Muleshoe**	**4.03**	**232**	IAmb_Lg		17 57 09.0	
	comp=Z,26nm,1.1s						
HHAR	**Hobbs**	**4.07**	**92**	IAmb_Lg		17 57 08.3	
	comp=Z,16nm,0.7s						
T25A	**Trinidad**	**4.41**	**280**	IAmb_Lg		17 57 18.0	
	comp=Z,24nm,0.7s						
Z38A	**Mt. Pleasant**	**4.62**	**134**	IAmb_Lg		17 57 26.0	
	comp=Z,21nm,0.8s						
S39A	**Bolivar**	**4.66**	**74**		Pn	17 56 03.9	-1.0
S39A				IAmb_Lg		17 57 20.9	
	comp=Z,24nm,0.8s						
MIAR	**Mount Ida**	**4.83**	**113**	IAmb_Lg		17 57 35.2	
	comp=Z,12nm,0.8s						
SGCY	**Sterling City**	**4.94**	**202**	IAmb_Lg		17 57 44.2	
	comp=Z,16nm,0.8s						
BRDY	**Brady**	**5.23**	**180**	Pn	Pn	17 56 12.6	-0.2
BRDY				IAmb_Lg		17 57 42.1	
	comp=Z,10nm,0.8s						
P38A	**Dawn**	**5.29**	**53**	IAmb_Lg		17 57 55.5	
	comp=Z,14nm,0.8s						
SDCO	**Great Sand Dun**	**5.36**	**285**	IAmb_Lg		17 57 50.8	
	comp=Z,14nm,1.1s						
MGMO	**Mountain Grove**	**5.41**	**81**	Pn	Pn	17 56 14.2	-1.1
MGMO				IAmb_Lg		17 57 46.7	
	comp=Z,21nm,0.7s						
Q24A	**Divide**	**5.46**	**298**	IAmb_Lg		17 57 48.3	
	comp=Z,13nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.57**	**95**	IAmb_Lg		17 57 51.8	
	comp=Z,9.3nm,0.8s						
R40A	**Maddies Statio**	**5.62**	**70**	Pn	Pn	17 56 17.3	-0.8
R40A				IAmb_Lg		17 57 51.2	
	comp=Z,20nm,1.1s						
UALR	**University of**	**5.67**	**106**	IAmb_Lg		17 57 59.8	
	comp=Z,11nm,0.8s						
MNHN	**Monahans**	**6.06**	**212**	IAmb_Lg		17 58 10.0	
	comp=Z,13nm,1.0s						
JCT	**Junction City**	**6.08**	**187**	IAmb_Lg		17 58 17.0	
	comp=Z,16nm,0.8s						
ISCO	**Idaho Springs**	**6.17**	**304**	IAmb_Lg		17 58 17.0	
	comp=Z,9.1nm,0.8s						
PHWY	**Pilot Hill**	**6.94**	**315**	IAmb_Lg		17 58 37.5	
	comp=Z,14nm,0.8s						
SCIA	**State Center**	**6.98**	**38**	IAmb_Lg		17 58 44.9	
	comp=Z,12nm,0.8s						

*IDC **30** 17:57:00.5±4.0, 18°.22S×176°.34W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=238.8km s-min=37.5km az=150.0*
ISC 30 17:57:05.2±5.4, 18°.S±3°×17°.6W±°, h35km, n6, σ0§79/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.58**	**260**	P	**P**	**18 05 29.9**	**-0.2**
	0.3nm,0.4s,baz=97,slow=6.1,SNR=18						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**46.65**	**255**	P	**P**	**18 05 30.9**	**+0.3**
	1.6nm,0.5s,baz=90,slow=8.9,SNR=85						
	1.6nm,0.5s						
ARCES	**ARCESS Array B**	**127.13**	**351**	PKP	**PKiKP**	**18 16 06.2**	**+0.5**
	0.5nm,0.4s,baz=7.1,slow=3.6,SNR=3.7						
EKA	**Eskdalemuir Ar**	**142.74**	**7**	PKP	**PKPdf**	**18 16 33.9**	**-0.7**
	0.3nm,0.4s,baz=326,slow=3.0,SNR=7.4						
BRTR	**Keskin Array B**	**146.57**	**316**	PKPbc	**PKPdf**	**18 16 41.3**	**-0.6**
	0.6nm,0.6s,baz=122,slow=4.2,SNR=3.4						
DAVOX	**Davos/Dischmat**	**151.23**	**351**	PKPbc	**PKiKP**	**18 16 56.6**	**+0.8**
	2.8nm,0.4s,baz=282,slow=3.6,SNR=6.3						

IDC 30 18:37:03.2±7.5, 17°.87S×176°.34W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=317.5km s-min=68.6km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.57**	**259**	P	P	18 45 33.2	0.0
	0.3nm,0.5s,baz=95,slow=7.5,SNR=10						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**46.70**	**254**	P	P	18 45 34.0	-0.2
	1.0nm,0.5s,baz=89,slow=8.2,SNR=36						
	1.0nm,0.5s						
BRTR	**Keskin Array B**	**146.14**	**316**	PKPbc	PKPdf	18 56 44.9	0.0
	0.3nm,0.6s,baz=85,slow=4.9,SNR=2.5						

*NDI **30** 18:37:51.7±1.7, 34°.23N×72°.10E, h30km, ML3.3, MW3.9, mb3.8(NEIC)*
*NEIC **30** 18:37:54.7±1.7, 33°.8N±0°.1×72°.66E±0°.06, h38km±15km, mb3.8/2, Error ellipse: s-maj=15.5km s-min=7.7km az=186.0*
ISC 30 18:37:57.0±1.0, 34°.03N±0°.08×72°.53E±0°.06, h34km, n19, σ1§83/27, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**0.71**	**122**	Pn	**Pn**	**18 38 07.3**	**-3.4**
JMU	**Jammu**	**2.38**	**123**	*eP*	**Pn**	**18 38 33.7**	**+0.1**
JMU				*eS*	**Sn**	**18 39 03.9**	**+2.3**
JMU				IAML		18 39 05.9	
	comp=E,332nm,0.5s						
JMU				IAML		18 39 11.8	
	comp=N,224nm,0.8s						
KBL	**Kabul**	**2.93**	**281**	Pn	**Pn**	**18 38 41.9**	**+0.5**
KBL				Sn	**Sn**	**18 39 17.9**	**+2.4**
THN	**Thein Dam**	**3.11**	**120**	*eP*	**Pn**	**18 38 45.2**	**+1.6**
THN				*eP*	**Pn**	**18 38 45.3**	**+1.6**
THN				*eS*	**Sn**	**18 39 22.9**	**+3.3**
THN				*eS*	**Sb**	**18 39 25.5**	**-3.6**
DHRM	**DHARAMSHALA**	**3.63**	**118**	*eP*	**Pn**	**18 38 51.9**	**+0.9**
DHRM				*eS*	**Sn**	**18 39 35.1**	**+2.3**
DHRM				IAML		18 39 47.1	
	comp=E,96nm,0.2s						
DHRM				IAML		18 39 49.5	
	comp=E,115nm,0.2s						
BHK	**Bhakra**	**4.19**	**127**	*ex*	x	18 39 10.6	
BHK				*ex*	x	18 39 10.7	
BHK				*eS*	**Sn**	**18 39 48.3**	**+2.1**
BHK				IAML		18 40 11.1	
	comp=E,59nm,0.6s						
BHK				IAML		18 40 11.3	
	comp=N,84nm,0.6s						
SMLA	**Simla**	**4.87**	**125**	*eP*	**Pn**	**18 39 07.5**	**-0.3**
SMLA				*eS*	**Sn**	**18 40 04.0**	**+1.0**
SMLA				IAML		18 40 08.3	
	comp=N,30nm,0.3s						
GAR	**Garm**	**5.27**	**341**	Pn	**Pn**	**18 39 14.1**	**+0.7**
CHGR	**Chuyangaron**	**5.36**	**330**	Pn	**Pn**	**18 39 15.0**	**+0.4**
SIMJ	**Simiganj**	**5.42**	**329**	Pn	**Pn**	**18 39 15.8**	**+0.3**
DRK	**Karamyk**	**5.47**	**354**	Pn	**Pn**	**18 39 16.2**	**-0.1**
BTK	**Batken**	**6.17**	**348**	Pn	**Pn**	**18 39 28.8**	**+3.0**
ARSB	**Arslanbob**	**7.29**	**3**	Pn	**Pn**	**18 39 41.1**	**0.0**
NRN	**Naryn**	**7.88**	**19**	Pn	**Pn**	**18 39 49.5**	**0.0**
BOOM	**Boomskoye usch**	**8.86**	**17**	Pn	**Pn**	**18 40 04.4**	**+1.7**
KK31	**Karatay Array**	**9.20**	**351**	Pn	**Pn**	**18 40 07.9**	**+0.7**
KKAR	**Karatay Array**	**9.20**	**351**	Pn	**Pn**	**18 40 07.5**	**+0.3**
KKAR				Sn	**Sn**	**18 41 48.6**	**-0.9**
ABKAR	**Akbulak array**	**17.84**	**332**		**Pn**	**18 42 01.9**	**-0.5**
ABKAR				IAmb	IAmb	18 42 34.3	
	comp=Z,0.9nm,0.9s						
PABE	**Paberze**	**39.57**	**318**	P	**P**	**18 45 23.1**	**-1.5**
PABE				IAmb	IAmb	18 45 24.1	
	comp=Z,6.8nm,0.4s						

ASRS 30 18:45:28.0±0.9, 52°N±3°×97°E±°, h9km, MLh3.5/5, Error ellipse: s-maj=9.6km s-min=4.2km az=115.0, confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**1.92**	**252**	Pg	Pg	18 46 05.9	+1.2
KZLR				Sg	Sg	18 46 33.8	+4.1
MINR	**Mina**	**3.18**	**325**	Pg	Pg	18 46 33.6	+4.7
MINR				Sg	Sg	18 47 18.1	+8.1
CERR	**Cheremushki**	**3.67**	**280**	Sg	Sg	18 47 28.9	+3.0
VEH	**Verkhnyaya Baz**	**4.38**	**285**	Pg	Pg	18 46 53.1	+1.3
VEH				Sg	Sg	18 47 52.9	+4.3
GZL	**Zheleznogorsk**	**4.52**	**332**	Pg	Pg	18 46 52.7	-1.8
GZL				Sg	Sg	18 47 57.1	+4.1
GZLN	**Zheleznogorsk**	**4.56**	**334**	Pg	Pg	18 46 53.3	-1.9
GZLN				Sg	Sg	18 47 57.6	+3.4
SHTK	**Zheleznogorsk-**	**4.56**	**333**	Pg	Pg	18 46 54.8	-0.5
SHTK				Sg	Sg	18 47 59.1	+4.7
TEL	**Teeli**	**4.66**	**256**	Pg	Pg	18 46 56.7	-0.6
TEL				Sg	Sg	18 47 59.1	+1.4

*IDC **30** 18:45:35.2±0.5, 34°.72S×71°.59W, h50km±4km, mb4.1/12, mbtmp4.3/16, MS3.6/9, Error ellipse: s-maj=21.3km s-min=12.6km az=87.0*
*GUC **30** 18:45:35.2±0.9, 34°.76S×71°.70W, h46km±3km, ML4.5*
*NEIC **30** 18:45:35.0±0.9, 34°.75S±0°.04×71°.74W±0°.07, h49km±7km, mb4.7/21, ML4.5(GUC), Error ellipse: s-maj=8.6km s-min=5.7km az=94.0*
ISC 30 18:45:34.8±0.5, 34°.76S±0°.03×71°.73W±0°.04, h51km±4km, n125, σ0§99/137, mb4.6/21, MS3.6/7, 6C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**0.30**	**213**		**Pn**	**18 45 43.9**	**-0.2**
GO05	**Huala**	**0.30**	**213**	⇑*iP*	**Pn**	**18 45 43.7**	**-0.3**
GO05				*eS*	**Sn**	**18 45 50.6**	**0.0**
BO03	**Pichilemu**	**0.32**	**324**	*eP*	**Pn**	**18 45 44.3**	**0.0**
BO03				*eS*	**Sn**	**18 45 51.0**	**+0.1**
BO03				IAML		18 45 52.1	
	comp=N,40μm,0.2s						
BO01	**Tunca**	**0.65**	**56**	Sn	**Sn**	**18 45 56.7**	**-0.8**
BO01	**Tunca**	**0.65**	**56**	⇓*iP*	**Pn**	**18 45 47.7**	**-0.3**
BO01				*eS*	**Sn**	**18 45 56.7**	**-0.8**
BO01				IAML		18 45 57.5	
	comp=N,29μm,0.2s						
BO02	**Sierra Bellavi**	**0.79**	**93**		**Pn**	**18 45 49.0**	**-0.8**
BO02	**Sierra Bellavi**	**0.79**	**93**	⇓*iP*	**Pn**	**18 45 49.3**	**-0.5**
BO02				*eS*	**Sn**	**18 46 00.1**	**-0.6**
MT01	**Popeta**	**0.98**	**24**	Sn	**Sn**	**18 46 05.1**	**-0.1**
MT01	**Popeta**	**0.98**	**24**	⇓*iP*	**Pn**	**18 45 52.3**	**0.0**
MT01				*eS*	**Sn**	**18 46 05.2**	**+0.1**
MT01				IAML		18 46 07.5	
	comp=E,16μm,0.2s						
ML02	**Panimavida**	**1.03**	**166**	Pn	**Pn**	**18 45 53.4**	**+0.4**
ML02	**Panimavida**	**1.03**	**166**	*eP*	**Pn**	**18 45 53.1**	**0.0**
ML02				*eS*	**Sn**	**18 46 06.6**	**+0.2**
VA05	**Santo Domingo**	**1.10**	**5**		**Pn**	**18 45 53.7**	**-0.2**
VA05	**Santo Domingo**	**1.10**	**5**	*iP*	**Pn**	**18 45 53.7**	**-0.2**
VA05				*eS*	**Sn**	**18 46 08.3**	**+0.1**
VA05				IAML		18 46 13.7	
	comp=N,21μm,0.4s						
MT09	**Talagante**	**1.16**	**32**		**Pn**	**18 45 55.0**	**+0.1**
MT09	**Talagante**	**1.16**	**32**	*eP*	**Pn**	**18 45 55.1**	**+0.3**
MT09				*eS*	**Sn**	**18 46 10.7**	**+1.0**
MT09				IAML		18 46 13.9	
	comp=N,22μm,0.2s						
BO04	**La Punta**	**1.21**	**51**		**Pn**	**18 45 55.3**	**-0.2**
BO04				Sn	**Sn**	**18 46 09.9**	**-0.8**
BO04	**La Punta**	**1.21**	**51**	*eP*	**Pn**	**18 45 55.2**	**-0.2**
BO04				*eS*	**Sn**	**18 46 10.8**	**0.0**
BO04				IAML		18 46 13.1	
	comp=N,16μm,0.2s						
MT12	**Pirque**	**1.42**	**44**	⇓*iP*	**Pn**	**18 45 58.5**	**+0.2**
MT12				*eS*	**Sn**	**18 46 16.3**	**+0.4**
MT12				IAML		18 46 19.7	
	comp=E,20μm,0.2s						
MT15	**Las Vizcachas**	**1.54**	**42**	⇓*iP*	**Pn**	**18 46 00.4**	**+0.4**
MT15				*eS*	**Sn**	**18 46 20.0**	**+1.1**
MT15				IAML		18 46 24.2	
	comp=E,19μm,0.2s						
LMEL	**Las Melosas**	**1.56**	**55**		**Pn**	**18 46 00.4**	**0.0**
LMEL	**Las Melosas**	**1.56**	**55**	⇓*iP*	**Pn**	**18 46 00.5**	**+0.2**
LMEL				*eS*	**Sn**	**18 46 21.3**	**+1.8**
LMEL				IAML		18 46 24.9	
	comp=N,9μm,0.1s						
MT13	**San Alfonso**	**1.57**	**50**		**Pn**	**18 46 00.5**	**+0.1**
MT13	**San Alfonso**	**1.57**	**50**	*eP*	**Pn**	**18 46 00.3**	**-0.1**
MT13				IAML		18 46 25.8	
	comp=E,8μm,0.4s						
MT02	**Curacav**	**1.58**	**18**		**Pn**	**18 46 00.7**	**+0.3**
MT02	**Curacav**	**1.58**	**18**	⇑*iP*	**Pn**	**18 46 00.8**	**+0.4**
MT02				*eS*	**Sn**	**18 46 21.0**	**+1.3**
MT02				IAML		18 46 23.7	
	comp=N,4μm,0.4s						
MT05	**Renca**	**1.59**	**31**	Pn	**Pn**	**18 46 02.2**	**+1.5**
MT05	**Renca**	**1.59**	**31**	*eP*	**Pn**	**18 46 02.5**	**+1.8**
MT05				*eS*	**Sn**	**18 46 23.2**	**+3.0**
MT05				IAML		18 46 29.5	
	comp=E,10μm,0.4s						
MT03	**Universidad Ad**	**1.62**	**39**		**Pn**	**18 46 00.9**	**-0.2**
MT03	**Universidad Ad**	**1.62**	**39**	*iP*	**Pn**	**18 46 01.3**	**+0.2**
MT03				*eS*	**Sn**	**18 46 22.9**	**+2.1**
MT03				IAML		18 46 27.0	
	comp=N,18μm,0.5s						
MT16	**CCHEN**	**1.67**	**37**		**Pn**	**18 46 01.8**	**+0.2**
MT16	**CCHEN**	**1.67**	**37**	*eP*	**Pn**	**18 46 01.9**	**+0.2**
MT16				*eS*	**Sn**	**18 46 22.3**	**+0.4**
MT16				IAML		18 46 31.3	
	comp=N,5μm,0.4s						
MT14	**Cerro Calın**	**1.69**	**36**	*eP*	**Pn**	**18 46 02.3**	**+0.4**
MT14				*eS*	**Sn**	**18 46 24.1**	**+1.6**
MT14				IAML		18 46 26.0	
	comp=N,11μm,0.4s						
VA01	**Torpederas**	**1.73**	**2**		**Pn**	**18 46 02.8**	**+0.2**
VA01	**Torpederas**	**1.73**	**2**	*eP*	**Pn**	**18 46 02.7**	**+0.2**
MT10	**Hacienda Santa**	**1.79**	**34**	*eP*	**Pn**	**18 46 03.9**	**+0.5**
MT10				IAML		18 46 31.1	
	comp=E,18μm,0.5s						
PEL	**Peldehue**	**1.83**	**29**	*eP*	**Pn**	**18 46 04.5**	**+0.5**
PEL				*eS*	**Sn**	**18 46 28.5**	**+2.5**
PEL				IAML		18 46 33.1	
	comp=E,6μm,0.3s	

PB14	IPOC Station P	10.16	7	Pn	Pn	18 47 53.4	-5.0	
AY02	Valle Explorad	11.76	185	Pn	Pn	18 48 20.6	+0.8	
PB06	IPOC Station P	12.16	10	Pn	Pn	18 48 25.3	-0.2	
LVC	Limon Verde	12.36	12	P	Pn	18 48 29.6	+1.2	
	comp=E,2.2nm,0.4s,baz=182,slow=6.3,SNR=2.6							
LVC				LR	LR	18 53 13.7		
	comp=E,142nm,18.4s,baz=212,slow=37							
PB01	IPOC Station P	13.81	9	P	P	18 48 55.5	+0.5	
CPUP	Villa Florida	14.97	60	P	Pn	18 49 03.6	+0.3	
	comp=E,1.0nm,0.5s,baz=235,slow=14,SNR=1.8							
ITAB	Concordia	18.39	71	P	P	18 49 43.0	-2.6	
LPAZ	La Paz	18.68	11	P	Pn	18 49 50.5	+0.3	
	comp=E,4.0nm,0.8s,baz=186,slow=7.7,SNR=12							
EFI	East Falkland	19.57	154	P	P	18 49 58.5	+0.2	
AQDB	Aquidauana	20.07	49	P	P	18 50 03.6	-0.4	
AQDB				IAmb	IAmb	18 50 04.3		
	comp=Z,27nm,0.6s							
USHA	Ushuaia	20.20	174	P	P	18 50 05.4	+0.2	
	comp=Z,41nm,0.5s,baz=235,slow=1.2,SNR=4.9							
	comp=Z,41nm,0.5s							
SIV	San Ignacio	21.00	30	P	P	18 50 13.1	-0.9	
	comp=Z,15nm,0.7s,baz=209,slow=8.9,SNR=55							
	comp=Z,15nm,0.7s							
SPB	Sao Paulo	23.90	69	P	P	18 50 43.6	-0.3	
SPB				IAmb	IAmb	18 51 02.8		
	comp=Z,26nm,1.2s							
VILB	Vilhena	24.10	29	P	P	18 50 45.7	-0.1	
VAO	Valinhos	24.58	68	P	P	18 50 48.9	-1.4	
ETMB	Extrema	25.34	13	P	P	18 50 57.2	+0.2	
ETMB				IAmb	IAmb	18 51 00.3		
	comp=Z,29nm,0.8s							
BDFB	Brasilia	28.56	54	P	P	18 51 24.2	-2.0	
	comp=Z,2.6nm,0.5s,baz=229,slow=11,SNR=2.6							
BDFB				LR	LR	19 03 32.5		
	comp=Z,165nm,21.0s,baz=166,slow=38							
	comp=Z,2.6nm,0.5s							
PMSA	Palmer Station	30.41	173	P	P	18 51 40.3	-1.6	
PMSA				IAmb	IAmb	18 52 07.4		
	comp=Z,29nm,1.5s							
RPN	Rapa Nui	32.99	273	LR	LR	19 01 41.7		
	comp=Z,88nm,21.2s,baz=212,slow=29							
VNA3	Neumayer Olymp	48.56	158	⇑P	P	18 54 13.0	+0.5	
	comp=Z,3.3nm,0.6s							
VNA2	Neumayer--Watz	49.22	157	⇑P	P	18 54 17.9	+0.3	
	comp=Z,2.8nm,0.6s,baz=282,slow=8.2							
SNAA	Sanae	50.79	158	P	P	18 54 29.7	+0.2	
SNAA	Sanae	50.79	158	⇑P	P	18 54 30.0	+0.4	
	comp=Z,75nm,0.9s							
SNAA	Sanae	50.79	158	P	P	18 54 29.9	+0.3	
	comp=Z,2.6nm,0.9s,baz=277,slow=6.8,SNR=9.1							
	comp=Z,2.6nm,0.9s							
TROLL	Troll, Antarti	52.49	158	⇑P	P	18 54 43.0	+0.6	
	comp=Z,128nm,0.6s							
QSPA	South Pole Qui	55.48	180		P	18 55 05.3	+1.0	
QSPA				IAmb	IAmb	18 55 24.6		
	comp=Z,5.2nm,0.9s							
QSPA	South Pole Qui	55.48	180	P	P	18 55 05.5	+1.3	
	comp=Z,4.5nm,0.9s,baz=313,slow=1.7,SNR=17							
QSPA				pP	pP	18 55 18.3	+0.1	
	comp=Z,2.5nm,0.6s,baz=221,slow=1.1,SNR=5.3							
	comp=Z,4.5nm,0.9s							
TXAR	Lajitas Array	70.52	331	P	P	18 56 45.6	+1.3	
	comp=Z,0.6nm,0.6s,baz=160,slow=9.1,SNR=13							
TXAR				pP	pP	18 56 58.7	-0.1	
	comp=Z,0.7nm,0.5s,baz=159,slow=7.9,SNR=12							
	comp=Z,0.6nm,0.6s							
W50A	Signal Mountai	70.75	348	IAmb	IAmb	18 56 46.5		
	comp=Z,7.8nm,0.8s							
SWET	Sewanee	70.87	348	IAmb	IAmb	18 56 47.3		
	comp=Z,7.6nm,0.8s							
WVT	Waverly	72.11	346	P	P	18 56 53.2	-0.4	
MAW	Mawson	72.38	163	P	P	18 56 55.8	+0.9	
	comp=Z,3.1nm,0.7s,baz=258,slow=7.9,SNR=6.1							
MAW				LR	LR	19 28 03.6		
	comp=Z,55nm,18.1s,baz=182,slow=35							
	comp=Z,3.1nm,0.7s							
LCAR	Lake Charles	72.76	344	IAmb	IAmb	18 56 58.2		
	comp=Z,8.8nm,1.2s							
SUR	Sutherland	74.24	119	LR	LR	19 22 46.6		
	comp=Z,39nm,21.5s,baz=144,slow=30							
OK048	Pawnee Station	74.61	339	P	P	18 57 07.7	-0.6	
P51A	Williamsport	74.61	351	P	P	18 57 07.4	-0.9	
CCM	Cathedral Cave	74.68	344	P	P	18 57 08.8	+0.1	
CCM				IAmb	IAmb	18 57 10.3		
	comp=Z,7.5nm,0.9s							
R40A	Maddies Statio	75.14	343	IAmb	IAmb	18 57 12.3		
	comp=Z,5.6nm,0.8s							
DBIC	Dimbokro	75.19	71	P	P	18 57 12.1	-0.2	
	comp=Z,9.5nm,0.8s,baz=227,slow=5.1,SNR=9.5							
DBIC				pP	pP	18 57 26.9	0.0	
	comp=Z,3.5nm,0.6s,baz=170,slow=5.8,SNR=2.1							
DBIC				LR	LR	19 26 54.7		
	comp=Z,31nm,20.9s,baz=122,slow=33							
	comp=Z,9.5nm,0.8s							
P40A	Paris	76.27	344	IAmb	IAmb	18 57 19.4		
	comp=Z,11nm,0.9s							
EMSC	East Mesa	78.47	324	P	P	18 57 28.9	-1.3	
TSUM	Tsumeb	78.77	106	LR	LR	19 30 29.4		
	comp=Z,27nm,19.0s,baz=72,slow=34							
BOSA	Boshof	79.50	117	P	P	18 57 36.4	0.0	
	comp=Z,6.4nm,0.6s,baz=273,slow=1.8,SNR=6.7							
BOSA				pP	pP	18 57 51.2	+0.1	
	comp=Z,4.7nm,1.0s,baz=351,slow=1.9,SNR=2.5							
	comp=Z,6.4nm,0.6s							
RPZ	Rata Peaks	83.23	220	LR	LR	19 26 17.8		
	comp=Z,123nm,20.2s,baz=125,slow=29							
TORD	Torodi Ar. Bea	84.23	70	P	P	18 58 01.2	0.0	
	comp=Z,4.1nm,0.8s,baz=261,slow=1.9,SNR=17							
	comp=Z,4.1nm,0.8s							
PDAR	Pinedale Array	84.55	333	P	P	18 58 02.1	-0.4	
	comp=Z,0.3nm,0.7s,baz=143,slow=7.7,SNR=2.5							
	comp=Z,0.3nm,0.7s							
NVAR	Mina Array Bea	84.65	325	P	P	18 58 04.8	+1.8	
	comp=Z,0.5nm,0.7s,baz=164,slow=7.5,SNR=2.8							
NVAR				pP	pP	18 58 18.6	+0.7	
	comp=Z,0.7nm,0.7s,baz=159,slow=5.8,SNR=3.7							
	comp=Z,0.5nm,0.7s							
WRA	Warramunga Arr	120.22	209	PKP	PKPdf	19 04 20.1	-0.6	
	comp=Z,0.8nm,1.1s,baz=158,slow=1.6,SNR=7.4							
BRTR	Keskin Array B	121.98	61	PKP	PKPdf	19 04 23.6	+0.1	
	comp=Z,0.7nm,0.7s,baz=206,slow=7.5,SNR=4.6							
BVAR	Borovoye Array	147.66	44	PKPbc	PKPbc	19 05 13.3	+0.2	
	comp=Z,3.6nm,0.8s,baz=305,slow=4.0,SNR=17							
BVAR				pPKPbc	pPKPbc	19 05 28.1	-0.4	
	comp=Z,2.0nm,0.6s,baz=297,slow=3.1,SNR=8.1							
KURBB	Kurchatov Arra	153.24	45	PKPbc	PKPbc	19 05 25.2	-1.3	
	comp=Z,1.0nm,0.6s,baz=300,slow=2.0,SNR=7.9							
KURBB				pPKPbc	sPKPdf	19 05 41.0	+1.0	
	comp=Z,0.6nm,0.3s,baz=304,slow=2.9,SNR=4.2							
ZALV	Zalesovo Beam	154.73	33	PKPbc	PKPbc	19 05 27.6	-2.0	
	comp=Z,0.7nm,0.5s,baz=289,slow=4.5,SNR=4.2							
MKAR	Makanchi Array	157.06	51	PKPab	PKPab	19 05 54.6	-0.5	
	comp=Z,0.8nm,0.8s,baz=306,slow=4.3,SNR=8.9							

*NEIC **30** 19:09:12.6±2.2,8°.10S±0°.09×114°.32E±0°.08,h200km±3km, mb4.4/33,Error ellipse: s-maj=14.5km s-min=10.5km az=214.0*

*DJA **30** 19:09:14.1±0.4,8°.S±6°×11°.4E±°,h188km±4km,M4.1/14, mb4.1/3,MLv4.1/14*

*IDC **30** 19:09:17.0±2.2,7°.92S×114°.31E,h239km±21km,mb3.7/16, mbtmp4.3/16,Error ellipse: s-maj=22.7km s-min=8.8km az=63.0*

ISC 30 19:09:12.7±0.5,**8°.08S**±0°.05×**114°.28E**±0°.05,**h203**km±5km, **n93**,σ1°**25**/104,**mb4.2**/30,**Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABJI	Asem Bagus	0.29	352	P	Pn	19 09 40.6	+1.1
ABJI				S	S	19 10 01.0	+0.4
JAGI	Jajag, Banyuwa	0.40	198	P	Pn	19 09 39.8	0.0
JAGI	Jajag, Banyuwa	0.40	198	Pn	Pn	19 09 39.6	-0.2
JAGI				Sn	S	19 09 59.6	-1.5
JAGI	Jajag, Banyuwa	0.40	198	P	Pn	19 09 39.8	0.0
JAGI				S	S	19 09 58.6	-2.6
SRBI	Singaraja	0.93	90	P	Pn	19 09 43.1	+0.8
SRBI				S	S	19 10 04.1	-0.9
DNP	Denpasar	1.10	123	P	Pn	19 09 44.0	+0.6
DNP				S	S	19 10 06.0	-1.1
GRJI	Gresik	2.13	303	P	Pn	19 09 54.2	+1.5
GRJI				S	S	19 10 25.9	+2.6
PWJI	Pagerwojo	2.45	271	P	Pn	19 09 56.6	+0.4
PWJI				S	S	19 10 28.3	-1.1
TWSI	Taliwang, Sumb	2.66	104	P	Pn	19 09 58.5	-0.1
TWSI				S	S	19 10 32.9	-0.8
BWJI	Bawean	2.74	324	P	Pn	19 10 00.8	+1.3
PLAI	Plampang	3.54	102	P	Pn	19 10 11.1	+2.1
PLAI	Plampang	3.54	102	P	Pn	19 10 09.4	+0.4
UGM	Wanagama	3.72	272	P	Pn	19 10 12.5	+1.3
UGM	Wanagama	3.72	272	Pn	Pn	19 10 12.4	+1.2
UGM	Wanagama	3.72	272	P	Pn	19 10 12.3	+1.2
SMRI	Semarang	3.94	285	P	Pn	19 10 15.6	+1.8
CMJI	Cimerak	5.78	273	P	Pn	19 10 38.4	+1.2
	38nm,0.9s						
BBJI	Bungbulang	6.59	275	P	Pn	19 10 48.4	+0.6
CNJI	Cibinong	7.12	276	P	Pn	19 10 55.7	+1.1
EDFI	Ende, Flores	7.37	96	P	Pn	19 10 55.7	-2.1
XMIS	Christmas Isla	8.84	254	Pn	Pn	19 11 16.4	-0.5
SOEI	Soe	10.01	100	Pn	Pn	19 11 30.4	-1.8
SBUM	Sibu	10.66	349	Pn	Pn	19 11 41.2	+0.8
TOLI2	Tolitoli	11.20	36	P	P	19 11 54.6	+1.3
TOLI2	Tolitoli	11.20	36	Pn	Pn	19 11 49.2	+1.8
MNAI	Manna	11.84	288	Pn	Pn	19 11 55.3	-0.3
MYLDM	Lahad Datu	13.83	18	Pn	Pn	19 12 18.4	-2.1
MBWA	Marble Bar	14.03	159	P	P	19 12 24.4	-0.2
MBWA	Marble Bar	14.03	159		Pn	19 12 21.9	-0.9
KKM	Kota Kinabalu	14.17	8		Pn	19 12 25.2	+0.5
PSA00	Pilbara Seismi	14.45	159	P	P	19 12 29.7	+0.4
PSA00	Pilbara Seismi	14.45	159	Pn	Pn	19 12 26.7	-1.3
GIRL	Giralia	14.48	180	P	P	19 12 30.0	+0.4
FITZ	Fitzroy Crossi	14.88	133	Pn	Pn	19 12 28.2	-5.1
KNRA	Kununurra	16.05	119	P	P	19 12 46.5	-0.6
MTN	Manton Dam	17.24	107	P	Pn	19 13 04.1	+2.4
MTN	Manton Dam	17.24	107	P	P	19 12 58.7	-1.4
MTN				IAmb	IAmb	19 13 40.0	
	comp=Z,23nm,1.4s						
KDU	Kakadu	18.47	106	P	Pn	19 13 18.0	+1.8
MEEK	Meekatharra	18.91	168	P	P	19 13 19.5	+1.3
KULM	Kulim	19.00	314	P	P	19 13 19.1	-0.2
GSI	Gunungsitoli	19.09	299	P	P	19 13 17.1	-3.2
MORW	Morawa	20.94	176	P	P	19 13 41.3	+1.4
MORW	Morawa	20.94	176	P	P	19 13 39.0	-0.9
MORW				IAmb	IAmb	19 14 12.3	
	comp=Z,22nm,1.2s						
WRKA	Warakurna	21.52	143	P	P	19 13 47.3	+1.2
BLDU	Ballidu	22.53	175	P	P	19 13 57.1	+1.5
WB0	Warramunga Arr	22.69	123	P	P	19 13 57.0	-0.1
WB0				IAmb	IAmb	19 14 07.7	
	comp=Z,4.3nm,0.9s						
WRA	Warramunga Arr	22.73	123	P	P	19 13 58.2	+0.8
	comp=Z,2.6nm,1.0s,baz=299,slow=12,SNR=22						
WRA				ScP	ScP	19 20 59.8	-1.5
	comp=Z,0.8nm,0.7s,baz=308,slow=1.8,SNR=4.8						
	comp=Z,2.6nm,1.0s						
WRAB	Tennant Creek	22.73	123	P	P	19 13 57.3	-0.2
WB2	Warramunga Arr	22.73	123	P	P	19 13 57.6	+0.1
WB2				IAmb	IAmb	19 14 07.8	
	comp=Z,14nm,1.4s						
AS31	Alice Springs	24.37	132	P	P	19 14 12.2	-0.2
ASAR	Alice Springs	24.37	132	P	P	19 14 13.6	+1.2
	comp=Z,4.9nm,0.7s,baz=307,slow=8.8,SNR=36						
ASAR				ScP	ScP	19 21 03.6	-2.1
	comp=Z,1.3nm,0.8s,baz=270,slow=1.8,SNR=7.7						
	comp=Z,4.9nm,0.7s						
AS01	Alice Springs	24.41	132	P	P	19 14 15.4	+2.7
FORT	Forrest	26.00	152	P	P	19 14 29.5	+2.6
FORT	Forrest	26.00	152	P	P	19 14 26.5	-0.4
OOD	Oodnadatta	28.18	137	P	P	19 14 47.8	+1.4
MULG	Mulgathing	28.83	143	P	P	19 14 53.6	+1.5
COEN	Coen	28.94	104	P	P	19 14 53.1	-0.2
COEN				IAmb	IAmb	19 14 57.8	
	comp=Z,21nm,1.4s						
PHRA	Phrae	29.83	332	P	P	19 15 01.8	+0.8
CMAR	Chiang Mai Arr	30.41	330	P	P	19 15 07.2	+1.1
	comp=Z,14nm,0.7s,baz=162,slow=8.7,SNR=68						
	comp=Z,14nm,0.7s						
CHTO	Chiang Mai	30.71	331	P	P	19 15 09.3	+0.5
CHTO				IAmb	IAmb	19 15 11.0	
	comp=Z,7.9nm,0.8s						
TPUB	Ta-pu	31.80	11	P	P	19 15 16.5	-1.8
BBOO	Buckleboo	31.83	144	P	P	19 15 19.2	+0.7
STKA	Stephens Creek	34.73	137	P	P	19 15 45.1	+1.6
STKA	Stephens Creek	34.73	137	P	P	19 15 44.9	+1.3
	comp=Z,4.7nm,0.4s,baz=313,slow=8.6,SNR=15						
	comp=Z,4.7nm,0.4s						
ENH	Enshi	38.41	353	P	P	19 16 14.2	-0.5
ENH				IAmb	IAmb	19 16 14.9	
	comp=Z,8.2nm,0.5s						
SHL	Shillong	39.92	328	P	P	19 16 27.3	-0.1
SHL				IAmb	IAmb	19 16 28.6	
	comp=Z,35nm,1.4s						
XAN	Xi'an	42.20	353	P	P	19 16 44.8	-0.9
XAN				pmax	pmax		
	comp=Z,13nm,0.8s						
KSRS	Korea Array	47.07	15	P	P	19 17 24.8	+0.8
	comp=Z,1.4nm,0.8s,baz=200,slow=8.1,SNR=5.9						
	comp=Z,1.4nm,0.8s						
GTA	Gaotai	49.12	345	*e*P	P	19 17 40.8	+0.9
GTA				pP	pP	19 17 46.5	-38
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MJAR	Matsushiro Arr	49.76	25	P	P	19 17 45.1	+0.5
	comp=Z,1.2nm,0.8s,baz=181,slow=8.2,SNR=4.0						
	comp=Z,1.2nm,0.8s						
SONM	Songino Array	56.11	354	P	P	19 18 30.5	-0.5
	comp=Z,1.7nm,0.3s,baz=175,slow=9.2,SNR=26						
	comp=Z,1.7nm,0.3s						
BOOM	Boomskoye usch	61.28	328	P	P	19 19 06.8	-0.1
BOOM				IAmb	IAmb	19 19 06.9	
	comp=Z,3.1nm,0.7s						
MK31	Makanchi Array	61.60	336	P	P	19 19 08.2	-0.5
MK31				IAmb	IAmb	19 19 08.9	
	comp=Z,3.4nm,0.8s						
MKAR	Makanchi Array	61.60	336	P	P	19 19 08.1	-0.6
	comp=Z,2.6nm,0.4s,baz=148,slow=7.0,SNR=63						
MKAR				PcP	PcP	19 19 48.1	-0.2
	comp=Z,0.7nm,0.7s,baz=163,slow=4.7,SNR=3.7						
	comp=Z,2.6nm,0.4s						
MAKZ	Makanchi	61.74	335	P	P	19 19 08.8	-0.8
ARSB	Arslanbob	62.07	326	P	P	19 19 11.3	-0.8
GAR	Garm	62.10	322	P	P	19 19 11.4	-0.9
GAR				IAmb	IAmb	19 19 12.1	
	comp=Z,5.8nm,0.5s						
BTK	Batken	62.48	323	P	P	19 19 14.1	-0.6
BTK				IAmb	IAmb	19 19 15.3	
	comp=Z,3.6nm,0.9s						
KKAR	Karatay Array	64.62	326	P	P	19 19 27.6	-0.9
KURBB	Kurchatov Arra	66.16	336	P	P	19 19 37.5	-0.8
	comp=Z,1.1nm,0.5s,baz=147,slow=5.3,SNR=10						
KURBB				PcP	PcP	19 20 06.1	-0.7
	comp=Z,0.6nm,0.6s,baz=136,slow=3.7,SNR=4.2						
	comp=Z,1.1nm,0.5s						
ZAA0	Zalesovo Array	66.61	342	P	P	19 19 39.5	-1.5
ZALV	Zalesovo Beam	66.61	342	P	P	19 19 39.5	-1.5
	comp=Z,2.1nm,0.5s,baz=142,slow=5.0,SNR=10.0						
	comp=Z,2.1nm,0.5s						
MAW	Mawson	68.55	199	P	P	19 19 54.1	+1.2
	comp=Z,1.9nm,0.7s,baz=34,slow=8.7,SNR=4.0						
	comp=Z,1.9nm,0.7s						
YAK	Yakutsk	70.92	8	P	P	19 20 06.1	-1.3
YAK				IAmb	IAmb	19 20 06.6	
	comp=Z,8.1nm,0.6s						
BVAR	Borovoye Array	71.35	334	P	P	19 20 09.4	-0.9
	comp=Z,3.0nm,0.7s,baz=140,slow=8.5,SNR=17						
	comp=Z,3.0nm,0.7s						
VNDA	Vanda	73.64	170	P	P	19 20 25.1	+1.7
	comp=Z,0.9nm,0.7s,baz=320,slow=6.3,SNR=8.1						
	comp=Z,0.9nm,0.7s						
ABKAR	Akbulak array	74.17	326	P	P	19 20 25.9	-1.1
ABKAR				IAmb	IAmb	19 20 27.0	
	comp=Z,5.7nm,0.8s						
QSPA	South Pole Qui	81.91	180	P	P	19 21 11.3	+1.9
	comp=Z,1.2nm,0.6s,baz=150,slow=0.8,SNR=12						
	comp=Z,1.2nm,0.6s						
KBZ	Khabaz	82.36	316	P	P	19 21 11.8	-0.1
	comp=Z,1.9nm,0.8s,baz=135,slow=4.3,SNR=2.7						
	comp=Z,1.9nm,0.8s						
BRTR	Keskin Array B	87.97	310	P	P	19 21 39.8	-0.3
	comp=Z,1.6nm,0.8s,baz=123,slow=7.4,SNR=12						
	comp=Z,1.6nm,0.8s						
NVAR	Mina Array Bea	123.99	49	PKP	PKiKP	19 27 48.5	+0.8
	comp=Z,0.8nm,0.7s,baz=247,slow=3.2,SNR=6.1						
TXAR	Lajitas Array	138.59	54	SKPab	SKPbc	19 31 30.6	0.0
	comp=Z,0.3nm,0.7s,baz=292,slow=2.8,SNR=4.1						
CPUP	Villa Florida	144.83	193	PKPbc	PKPdf	19 28 26.6	+0.4
	comp=Z,2.0nm,0.8s,baz=225,slow=1.9,SNR=4.1						

IDC 30 19:41:24.9±33.0,**48°.14N**×**153°.19E**,**h0**km,**mb3.8**/5, **mbtmp3.8**/5,**Error ellipse: s-maj=756.6km s-min=64.8km az=154.0,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	WAKE ISLAND Hy	30.43	154	T	T	20 18 04.6	
	baz=342,slow=74,SNR=4.2						
H11N1	WAKE ISLAND Hy	30.45	154	T	T	20 18 07.1	
	baz=342,slow=74,SNR=5.6						
H11N3	WAKE ISLAND Hy	30.45	154	T	T	20 18 04.8	
	baz=342						
H11S1	WAKE ISLAND Hy	31.54	155	T	T	20 19 23.5	
	baz=342,slow=76,SNR=228						
H11S3	WAKE ISLAND Hy	31.55	155	T	T	20 19 22.4	
	baz=342,slow=76,SNR=167						
H11S2	WAKE ISLAND Hy	31.55	155	T	T	20 19 25.2	
	baz=342,slow=76,SNR=87						
MKAR	Makanchi Array	46.36	296	P	P	19 49 52.4	-0.1
	0.2nm,0.5s,baz=63,slow=7.7,SNR=4.1						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	46.74	302	P	P	19 49 55.3	-0.1
	0.9nm,0.7s,baz=67,slow=9.0,SNR=6.4						
	0.9nm,0.7s						
FINES	FINESS Array B	62.81	334	P	P	19 51 51.6	0.0
	1.1nm,0.9s,baz=23,slow=7.5,SNR=5.8						
	1.1nm,0.9s						
NOA	NORSAR Array B	66.93	341	P	P	19 52 18.3	-0.3
	0.9nm,0.8s,baz=28,slow=6.4,SNR=3.6						
	0.9nm,0.8s						
HFS	Hagfors	67.18	339	P	P	19 52 20.5	+0.4
	2.0nm,0.8s,baz=20,slow=6.4,SNR=4.5						
	2.0nm,0.8s						

*IDC **30** 19:44:44.1±0.9,23°.83S×179°.74W,h502km±9km,mb3.9/17, mbtmp4.8/20,Error ellipse: s-maj=11.5km s-min=10.5km az=98.0*

*NEIC **30** 19:44:44.7±2.1,23°.8S±0°.1×179°.8W±0°.1,h509km±7km, mb4.7/182,Error ellipse: s-maj=16.0km s-min=14.3km az=136.0*

*NOU **30** 19:44:45.5,23°.82S×179°.60W,h539km,mb5.1/74,South of Fiji Islands*

ISC 30 19:44:45.1±0.4,**23°.92S**±0°.05×**179°.78W**±0°.05, **h518**km±4km,**h517**km:**pP-P**,**n461**,σ1°**28**/422,**mb4.7**/121, **10C-2D**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.57	163	P	P	19 46 18.3	+0.2
RAO	Raoul Island	5.57	163	P	P	19 46 17.3	-0.7
	162nm,0.3s,baz=91,slow=23,SNR=5.0						
RAO				S	S	19 47 30.8	-3.3
	258nm,0.4s,baz=90,slow=20,SNR=2.6						
MSVF	Nonsavu	6.48	341	P	P	19 46 26.9	-0.1
MSVF	Nonsavu	6.48	341	P	P	19 46 26.4	-0.6
NIUE	Niue	10.36	64	P	P	19 47 05.2	-1.3
NIUE	Niue	10.36	64	P	P	19 47 04.7	-1.8
NIUE					S	19 49 04.7	+2.0
LIFNC	LIFOU	12.41	282	P	P	19 47 28.4	+0.4
AFI	Afiamalu	12.50	39		P	19 47 26.0	-3.1
DZM	Mont Dzumac	12.82	276	P	P	19 47 34.3	+1.9
DZM	Mont Dzumac	12.82	276		P	19 47 32.1	-0.3
DZM	Mont Dzumac	12.82	276	P	P	19 47 33.6	+1.2
	8.1nm,0.5s,baz=211,slow=11,SNR=15						
DZM				ScP	ScP	19 55 11.1	+3.2
	8.1nm,0.8s,baz=160,slow=4.9,SNR=7.6						
TOZ	Tahuroa Road	14.35	195		P	19 47 48.4	+0.3
URZ	Urewera	14.54	190	P	P	19 47 47.7	-2.4
	22nm,0.7s,baz=357,slow=3.2,SNR=14						
URZ				S	S	19 50 19.4	-3.2
	52nm,0.9s,baz=274,slow=22,SNR=12						
KOUNC	Koumac, New Ca	15.13	280	P	P	19 47 55.2	-1.3
KOUNC				IAmb	IAmb	19 48 11.2	
	comp=Z,35nm,1.2s						
MTHZ	Maungataniwha	15.16	190	P	P	19 47 59.4	+2.8
HIZ	Hauiti	15.25	196	P	P	19 47 58.3	+0.8
BKZ	Black Stump Fm	15.53	191		P	19 47 58.6	-1.8
BKZ				IAmb	IAmb	19 48 03.7	
	comp=Z,12nm,0.6s						
BKZ	Black Stump Fm	15.53	191	P	P	19 47 59.5	-0.9
NTVZ	North Tongarir	15.62	193	P	P	19 48 03.0	+1.5
TMVZ	Te Maari	15.63	193	P	P	19 48 01.5	0.0
ETVZ	East Tongariro	15.65	193	P	P	19 48 01.8	+0.1
WTVZ	West Tongariro	15.65	193	P	P	19 48 02.2	+0.4
NNVZ	North Ngauruho	15.66	193	P	P	19 48 03.3	+1.3
OTVZ	Oturere	15.68	193	P	P	19 48 00.4	-1.7
NGZ	Ngauruhoe	15.71	193	P	P	19 48 03.1	+0.6
SNVZ	South Ngauruho	15.71	193	P	P	19 48 01.8	-0.7
KWHZ	Kaweka Forest	15.79	191	P	P	19 48 02.5	-0.7
WHVZ	Whangaehu Hut	15.81	193	P	P	19 48 03.4	-0.2
VR

GC1S Gold Coast 1 S 24.34 254 P **P** 19 49 23.3 +1.5
AUWSH Wavell State H 24.72 256 P **P** 19 49 26.8 +1.6
ARMA Armidale 26.20 249 P **P** 19 49 39.8 +1.4
ARMA Armidale 26.20 249 P **P** 19 49 39.7 +1.4
EIDS Eidsvold 26.50 261 P **P** 19 49 41.6 +0.6
EIDS Eidsvold 26.50 261 P **P** 19 49 41.1 +0.1
NTLH Newcastle Hard 26.56 244 P **P** 19 49 43.2 +1.8
AUPHS Peel High Scho 26.92 248 P **P** 19 49 45.6 +1.0
RK1H Rockhampton Ha 27.21 265 P **P** 19 49 47.8 +0.6
SYDH Sydney Hard Ro 27.54 242 P **P** 19 49 51.0 +1.1
WOLH Wollongong Har 27.59 241 P **P** 19 49 51.2 +0.9
AUUHS Ulladulla High 28.15 239 P **P** 19 49 56.2 +0.9
PPT Papeete 28.91 83 P **P** 19 50 01.8 -0.3
comp=Z,16nm,0.3s,baz=270,slow=1.0,SNR=2.4
comp=Z,16nm,0.3s
AUDCS Dubbo College 29.00 246 P **P** 19 50 03.5 +0.8
CNB Canberra Magne 29.02 240 P **P** 19 50 04.2 +1.3
AULRC Lightning Ridg 29.27 252 P **P** 19 50 05.8 +0.7
CAN Canberra 29.30 240 P **P** 19 50 06.4 +1.0
CAN Canberra 29.30 240 P **P** 19 50 05.7 +0.3
YNG Young 29.55 242 P **P** 19 50 08.5 +0.9
TV1H Townsville Har 31.38 272 P **P** 19 50 23.5 +0.1
CMSA Cobar Meteorol 31.39 248 P **P** 19 50 23.8 +0.4
CTA Charters Tower 31.67 270 P **P** 19 50 26.4 +0.4
CTAO Charters Tower 31.67 270 P **P** 19 50 26.4 +0.4
CTAO Charters Tower 31.67 270 P **P** 19 50 26.1 +0.1
QLP Quilpie 32.59 258 P **P** 19 50 33.8 +0.1
TOO Toolangi 32.60 237 P **P** 19 50 34.5 +0.8
TOO Toolangi 32.60 237 P **P** 19 50 34.2 +0.5
AUMAG Moama Anglican 32.85 240 P **P** 19 50 37.1 +1.4
TAU Tasmania Unive 33.07 227 P **P** 19 50 38.1 +0.6
GEXS Deakin Univers 33.68 236 P **P** 19 50 43.5 +0.7
BRAT Ballarat 33.80 238 P **P** 19 50 45.2 +1.4
MTSU Mount Surprise 33.94 273 P **P** 19 50 45.8 +0.6
PMG Port Moresby 34.69 289 P **P** 19 50 51.8 +0.3
PMG Port Moresby 34.69 289 P **P** 19 50 50.0 -1.5
STKA Stephens Creek 34.90 248 P **P** 19 50 53.7 +0.6
STKA Stephens Creek 34.90 248 P **P** 19 50 53.5 +0.4
comp=Z,20nm,0.6s,baz=94,slow=10,SNR=49
STKA PcP **PcP** 19 53 12.5 +1.1
comp=Z,3.3nm,0.8s,baz=121,slow=5.8,SNR=3.0
comp=Z,20nm,0.6s
ARPS Mount Arapiles 35.28 240 P **P** 19 50 56.9 +0.7
INKA Innaminka 35.63 255 P **P** 19 51 00.2 +1.0
COEN Coen 36.31 279 P **P** 19 51 05.5 +0.4
COEN Coen 36.31 279 P **P** 19 51 05.1 0.0
COEN IAmb IAmb 19 51 06.6
comp=Z,27nm,0.8s
HTT Hallett 37.25 246 P **P** 19 51 12.5 -0.1
QIS Mount Isa 37.65 267 P **P** 19 51 15.6 -0.4
LCRK Leigh Creek 37.76 251 P **P** 19 51 16.7 -0.1
PTPS Port Pirie 38.01 246 P **P** 19 51 19.1 +0.4
WHYH Whyalla 38.35 247 P **P** 19 51 21.4 -0.1
BBOO Buckleboo 39.62 247 P **P** 19 51 31.4 -0.4
OOD Oodnadatta 40.10 255 P **P** 19 51 36.2 +0.5
MULG Mulgathing 41.36 251 P **P** 19 51 45.1 -0.6
TABU Tabubil 41.84 290 P **P** 19 51 50.5 +0.7
AS01 Alice Springs 42.19 261 P **P** 19 51 52.4 0.0
ASAR Alice Springs 42.23 261 P **P** 19 51 52.9 +0.1
comp=Z,69nm,0.8s,baz=99,slow=6.9,SNR=506
ASAR ScP **ScP** 19 56 39.0 +2.8
comp=Z,8.0nm,0.9s,baz=109,slow=4.1,SNR=18
comp=Z,69nm,0.8s
WRAB Tennant Creek 42.59 266 P **P** 19 51 54.9 -0.8
WRA Warramunga Arr 42.60 266 P **P** 19 51 55.4 -0.4
comp=Z,134nm,0.7s,baz=103,slow=8.2,SNR=443
WRA ScP **ScP** 19 56 40.2 +2.5
comp=Z,8.0nm,0.9s,baz=100,slow=3.9,SNR=14
GENI Genyem 44.12 293 P **P** 19 52 07.4 -0.1
KDU Kakadu 46.49 275 P **P** 19 52 24.8 -0.9
FORT Forrest 46.49 250 P **P** 19 52 24.7 -0.8
FORT Forrest 46.49 250 P **P** 19 52 24.7 -0.8
WRKA Warakurna 47.03 257 P **P** 19 52 29.3 -0.5
MTN Manton Dam 47.65 274 P **P** 19 52 33.7 -0.8
MTN Manton Dam 47.65 274 IAmb IAmb 19 52 34.2
comp=Z,39nm,0.7s
DRS Darwin Rock St 48.01 275 P **P** 19 52 36.3 -0.9
FITZ Fitzroy Crossi 51.02 266 P **P** 19 52 59.3 -0.1
FITZ Fitzroy Crossi 51.02 266 P **P** 19 52 59.4 -0.1
SBA Scott Base 54.37 183 P **P** 19 53 24.7 +2.3
VNDA Vanda 54.38 185 P **P** 19 53 24.4 +2.0
comp=Z,2.6nm,0.7s,baz=4.7,slow=8.3,SNR=26
VNDA PcP **PcP** 19 54 19.3 +1.1
comp=Z,0.6nm,0.5s,baz=346,slow=4.2,SNR=1.6
comp=Z,2.6nm,0.7s
SOEI Soe 55.04 275 P **P** 19 53 28.7 +0.4
KLBR Kellerberrin 55.16 247 P **P** 19 53 28.4 -0.4
MEEK Meekatharra 55.30 253 P **P** 19 53 28.9 -0.9
PSA00 Pilbara Seismi 55.35 260 P **P** 19 53 29.3 -0.9
PSA00 Pilbara Seismi 55.35 260 P **P** 19 53 28.5 -1.7
PSA00 Pilbara Seismi 55.35 260 P **P** 19 53 29.3 -0.9
PSA00 IAmb IAmb 19 53 30.6
comp=Z,68nm,1.4s
NWAO Narrogin (SRO) 55.41 246 P **P** 19 53 29.7 -0.7
NWAO IAmb IAmb 19 53 44.5
comp=Z,75nm,1.4s
MBWA Marble Bar 55.56 260 P **P** 19 53 31.0 -0.7
MBWA Marble Bar 55.56 260 P **P** 19 53 30.9 -0.8
MBWA IAmb IAmb 19 53 31.9
comp=Z,82nm,1.0s
MUN Mundaring 56.41 246 P **P** 19 53 37.0 -0.4
MORW Morawa 57.05 250 P **P** 19 53 41.2 -0.7
MORW Morawa 57.05 250 P **P** 19 53 41.2 -0.7
MORW IAmb IAmb 19 53 42.3
comp=Z,46nm,0.7s
MMRI Maumere 57.32 275 P **P** 19 53 43.6 -0.3
MMRI Maumere 57.32 275 IAmb IAmb 19 53 44.2
comp=Z,76nm,0.9s
CASY Casey 60.18 206 P **P** 19 54 02.0 -0.3
BNSI Bone 60.96 279 P **P** 19 54 08.5 +0.2
PLAI Plampang 61.32 273 P **P** 19 54 10.3 -0.4
PLAI Plampang 61.32 273 P **P** 19 54 10.2 -0.4
TWSI Taliwang, Sumb 62.17 273 P **P** 19 54 15.7 -0.5
comp=Z,82nm,1.2s
TOLI2 Tolitoli 62.77 284 P **P** 19 54 18.9 -1.2
TOLI2 Tolitoli 62.77 284 P **P** 19 54 18.7 -1.4
MPSI Mapaga 63.21 283 P **P** 19 54 22.1 -0.8
comp=Z,81nm,0.8s,comp=Z,864nm
JAGI Jajag, Banyuwa 64.77 272 P **P** 19 54 31.3 -1.6
QSPA South Pole Qui 66.17 180 P **P** 19 54 41.6 +0.7
QSPA IAmb IAmb 19 54 43.1
comp=Z,12nm,0.9s
QSPA South Pole Qui 66.17 180 P **P** 19 54 42.3 +1.4
comp=Z,8.2nm,0.7s,baz=357,slow=0.9,SNR=44
QSPA pP **pwP** 19 56 29.4 -0.1
comp=Z,6.3nm,1.0s,baz=26,slow=6.2,SNR=4.9
comp=Z,8.2nm,0.7s
MYLDM Lahad Datu 66.69 287 P **P** 19 54 43.8 -1.1
MYLDM IAmb IAmb 19 55 18.6
comp=Z,23nm,1.1s
GRJI Gresik 66.89 273 P **P** 19 54 45.9 -0.2
PWJI Pagerwojo 67.09 271 P **P** 19 54 46.6 -0.7
comp=Z,81nm,0.7s
MTKI Muara Teweh, K 67.13 280 P **P** 19 54 47.4 -0.2
UGM Wanagama 68.30 271 P **P** 19 54 54.1 -0.7
JHJ2 Mitsune 68.55 324 P **P** 19 54 54.7 -1.1
STKI Sintang 70.65 279 P **P** 19 55 09.4 +0.6
SBUM Sibu 71.01 282 P **P** 19 55 10.4 -0.5
JOW Kunigami 71.15 312 P **P** 19 55 11.3 -0.2
JGF Kuroka 71.76 324 P **P** 19 55 12.9 -2.0
XMIS Christmas Isla 71.80 266 P **P** 19 55 14.3 -1.3
MJAR Matsushiro Arr 72.02 325 P **P** 19 55 16.2 -0.2
comp=Z,4.5nm,0.7s,baz=155,slow=5.6,SNR=15
comp=Z,4.5nm,0.7s
MAJO Matsushiro 72.03 325 P **P** 19 55 16.5 +0.1
MAJO Matsushiro 72.03 325 P **P** 19 55 14.6 -1.8
DBJI Dramaga 72.28 271 P **P** 19 55 18.7 +0.3
KSM Kuching 72.30 280 P **P** 19 55 18.3 -0.2
KSM Kuching 72.30 280 P **P** 19 55 17.7 -0.8
JMN Monobe 72.32 321 P **P** 19 55 17.0 -1.1
JMN IAmb IAmb 19 55 24.6
comp=Z,35nm,1.2s
YOJ Yonaguni jima 73.40 307 P **P** 19 55 24.5 0.0
YOJ Yonaguni jima 73.40 307 P **P** 19 55 22.0 -2.5
YOJ IAmb IAmb 19 55 25.2
comp=Z,50nm,1.1s
TWGBT Beinan 73.88 304 P **P** 19 55 25.5 -1.8
TWG Pinlang 73.89 304 P **P** 19 55 24.6 -2.7
TWG IAmb IAmb 19 55 27.4
comp=Z,12nm,0.6s
YULB Yu-li 74.04 305 P **P** 19 55 26.4 -1.9
YULB IAmb IAmb 19 55 27.9
comp=Z,18nm,1.4s

NACB Ninganchiao 74.28 306 P **P** 19 55 28.9 -0.6
TPUB Ta-pu 74.49 305 P **P** 19 55 29.7 -1.1
TPUB Ta-pu 74.49 305 P **P** 19 55 29.0 -1.8
TPUB IAmb IAmb 19 55 31.1
comp=Z,17nm,0.7s
SSLB Suanglung 74.53 305 P **P** 19 55 29.8 -1.2
SSLB Suanglung 74.53 305 P **P** 19 55 28.9 -2.1
SSLB IAmb IAmb 19 55 30.9
comp=Z,20nm,0.9s
YHNB Yeheng 74.72 306 **P** 19 55 31.6 -0.6
YHNB IAmb IAmb 19 55 32.6
comp=Z,19nm,0.9s
JKA Kamikawa-asahi 75.97 333 IAmb IAmb 19 55 45.0
comp=Z,18nm,1.3s
SMAI San Martin Ant 76.02 159 P **P** 19 55 39.6 +1.0
MAW Mawson 77.80 200 P **P** 19 55 49.3 +1.1
comp=Z,8.2nm,0.6s,baz=135,slow=6.6,SNR=18
comp=Z,8.2nm,0.6s
YSS Yuzh-Sakhalins 78.23 335 P **P** 19 55 48.9 -1.9
YSS IAmb IAmb 19 55 53.4
comp=Z,19nm,1.1s
KSRS Korea Array 78.39 320 P **P** 19 55 52.8 +0.9
comp=Z,4.6nm,0.7s,baz=135,slow=5.6,SNR=26
comp=Z,4.6nm,0.7s
NJ2 Nanjing 80.82 311 *e*P **P** 19 56 06.3 +1.5
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
USRK Ussuriysk Ar. 80.89 327 P **P** 19 56 06.0 +1.1
comp=Z,5.1nm,0.6s,baz=148,slow=4.0,SNR=14
comp=Z,5.1nm,0.6s
SCZ2 Santa Cruz Isl 81.14 47 P **P** 19 56 07.1 +0.6
baz=233
PKM Mcpherson Peak 81.55 46 P **P** 19 56 09.1 +0.3
baz=233
BCW Bitter Crk WRg 81.84 46 IAmb IAmb 19 56 12.3
comp=Z,15nm,0.8s
FMP Fort Macarthur 81.87 48 P **P** 19 56 10.7 +0.5
baz=234
KMPM Mount Pierce 82.31 40 IAmb IAmb 19 56 14.9
comp=Z,42nm,1.3s
MDJ Mudanjiang 82.39 326 P **P** 19 56 13.0 +0.4
MDJ pmax pmax
comp=Z,14nm,0.8s
MDJ Mudanjiang 82.39 326 IAmb IAmb 19 56 14.3
comp=Z,9.2nm,0.7s
VES Vestal, Richgr 82.59 46 P **P** 19 56 14.3 +0.5
baz=234
BFSC Mount Baldy Ra 82.61 48 P **P** 19 56 14.6 +0.5
baz=235
SLBS Sierra La Lagu 82.64 60 P **P** 19 56 15.2 +0.8
SLBS IAmb IAmb 19 56 16.5
comp=Z,13nm,0.8s
MONP2 Monument Peak 82.69 49 P **P** 19 56 15.1 +0.5
baz=236,SNR=9.7
EDW2 Edwards Air Fo 82.75 47 P **P** 19 56 15.5 +0.7
baz=234,SNR=5.6
IKP In-Ko-Pah, Jac 82.77 50 P **P** 19 56 16.2 +1.3
baz=236,SNR=7.1
ISA Isabella, Lake 82.89 46 IAmb IAmb 19 56 17.2
comp=Z,12nm,0.8s
ISA Isabella, Lake 82.89 46 P **P** 19 56 16.3 +0.9
baz=234,SNR=13
O02D Mt. Diablo Mer 82.94 40 IAmb IAmb 19 56 18.2
comp=Z,26nm,1.1s
PFO Pinyon Flats O 83.06 49 P **P** 19 56 15.3 -1.1
PFO Pinyon Flats O 83.06 49 P **P** 19 56 17.0 +0.6
baz=235
TPFO Pinon Flats 83.07 49 P **P** 19 56 16.9 +0.5
baz=235
ELIB Princess Elisa 83.07 187 *d*P **P** 19 56 15.9 0.0
comp=Z,3.8nm,0.0s
CMB Columbia Colle 83.08 43 IAmb IAmb 19 56 17.8
comp=Z,11nm,0.8s
SWSC Sam W. Stewart 83.15 50 P **P** 19 56 17.4 +0.8
baz=236
WHN Wuhan 83.17 308 P **P** 19 56 17.8 +1.0
WHN pmax pmax
comp=Z,36nm,0.8s
LRMC Laurel Mtn Rad 83.31 47 P **P** 19 56 18.1 +0.4
baz=234,SNR=5.4
ORV Oroville 83.32 41 IAmb IAmb 19 56 19.0
comp=Z,11nm,0.9s
KSXB Camp Six Broad 83.37 39 P **P** 19 56 18.9 +1.2
KSXB IAmb IAmb 19 56 20.1
comp=Z,9.7nm,0.8s
R17L Mt. Peulik Vol 83.58 12 P **P** 19 56 18.7 +0.5
baz=202
BELC Belle Mtn. Jos 83.60 49 P **P** 19 56 20.3 +1.2
baz=236,SNR=11
CWC Cottonwood Cre 83.60 46 P **P** 19 56 19.4 +0.3
baz=234
MPMC Manual Prospec 83.77 46 P **P** 19 56 20.2 +0.3
baz=235,SNR=7.2
BC3 Big Chuckawall 83.78 49 P **P** 19 56 21.1 +1.1
baz=236,SNR=7.2
GSC Goldstone, Bar 83.79 47 P **P** 19 56 20.7 +0.8
baz=235,SNR=7.2
HEC Hector,Ludlow 83.84 48 P **P** 19 56 20.7 +0.5
baz=235,SNR=5.4
GLA Glamis 83.89 50 IAmb IAmb 19 56 22.9
comp=Z,20nm,0.9s
GLA Glamis 83.89 50 P **P** 19 56 21.6 +1.1
baz=236,SNR=6.7
WAKR Walker 83.96 43 IAmb IAmb 19 56 22.8
comp=Z,12nm,1.0s
YBH Yreka Blue Hor 83.97 39 P **P** 19 56 21.7 +1.0
CN2 Changchun 84.02 324 *e*P **P** 19 56 21.0 +0.3
CN2 *e*S **S** 20 06 03.0 +1.3
CN2 pmax pmax
comp=Z,10.0nm,1.0s
HATC Hat Creek Radi 84.13 40 IAmb IAmb 19 56 23.4
comp=Z,19nm,0.8s
J01E Myrtle Point 84.20 37 IAmb IAmb 19 56 23.8
comp=Z,18nm,0.8s
Q17K Contact Creek 84.26 12 P **P** 19 56 21.6 -0.1
baz=202
GMRC Granite Mounta 84.27 48 P **P** 19 56 22.9 +0.5
baz=236,SNR=7.0
IRM Iron Mountain 84.28 49 P **P** 19 56 23.6 +1.3
baz=236,SNR=12
BNX BinXian 84.28 326 ⇑P **P** 19 56 22.0 0.0
BNX pmax pmax
comp=Z,10.0nm,0.8s
TROLL Troll, Antarti 84.32 181 ⇑P **P** 19 56 21.8 -0.3
comp=Z,212nm,0.6s
TROLL ⇑pP **pwP** 19 58 21.2 +3.7
comp=Z,117nm,0.8s
TIA Tai'an 84.39 314 P **P** 19 56 23.3 +0.5
TIA pmax pmax
comp=Z,25nm,1.0s
HUMO Hull Mountain 84.39 38 IAmb IAmb 19 56 25.1
comp=Z,16nm,1.2s
FURC Furnace Creek, 84.42 46 P **P** 19 56 23.3 +0.5
baz=235
TUQ Turquoise Moun 84.46 47 P **P** 19 56 24.3 +1.0
baz=236
DBO Dodson Butte 84.56 38 P **P** 19 56 24.2 +0.7
NVAR Mina Array Bea 84.63 44 P **P** 19 56 24.6 +0.5
comp=Z,3.4nm,0.8s,baz=222,slow=8.1,SNR=17
NVAR pP **pwP** 19 58 21.4 +2.1
comp=Z,1.4nm,0.9s,baz=228,slow=8.7,SNR=4.8
comp=Z,3.4nm,0.8s
SNAA Sanae 84.65 179 ⇑P **P** 19 56 22.9 -0.7
comp=Z,22nm,0.4s
SNAA Sanae 84.65 179 P **P** 19 56 23.1 -0.4
comp=Z,1.4nm,0.6s,baz=206,slow=9.5,SNR=8.2
comp=Z,1.4nm,0.6s
214A Organ Pipe Nat 84.72 52 P **P** 19 56 25.9 +1.3
baz=238
WCT Wildcat Mounta 84.76 46 IAmb IAmb 19 56 26.5
comp=Z,4.9nm,0.4s
VNA3 Neumayer Olymp 84.85 177 ⇑P **P** 19 56 23.8 -0.7
comp=Z,0.7nm,0.4s
VNA3 ⇑pP **pwP** 19 58 21.5 +1.7
comp=Z,3.4nm,0.8s
I03D Drain, OR 84.87 37 IAmb IAmb 19 56 26.9
comp=Z,10nm,0.8s
NEE2 Needles Airpor 84.97 49 P **P** 19 56 26.4 +0.8
baz=236
PDMCI Parker Dam,Lak 85.05 49 P **P** 19 56 26.5 +0.4
baz=237
TPNV Topopah Spring 85.10 46 P **P** 19 56 27.2 +0.7
baz=235,SNR=7.8
TPH Tonopah 85.11 45 IAmb IAmb 19 56 27.9
comp=Z,29nm,0.8s
VNA2 Neumayer--Watz 85.27 177 ⇑P **P** 19 56 26.4 -0.2
comp=Z,2.3nm,0.6s,baz=192,slow=4.0
VNA2 ⇑pP **pwP** 19 58 23.9 +1.6

comp=Z,2.5nm,0.9s,baz=178,slow=4.1
N15K Kwethluk River 85.32 10 P **P** 19 56 27.3 +0.6
baz=198
I04A Tendick Farm, 85.45 38 IAmb IAmb 19 56 29.3
comp=Z,20nm,1.5s
VNA1 Neumayer--Stat 85.50 177 ⇑pP pP 19 58 24.4 +4.0
comp=Z,2.8nm,0.8s
J05D Fort Rock, OR 85.80 39 IAmb IAmb 19 56 31.7
comp=Z,15nm,0.8s
S11A Rachel 85.82 46 IAmb IAmb 19 56 31.3
comp=Z,7.3nm,0.6s
O18K Koktuh Hills 85.87 12 P **P** 19 56 29.3 -0.1
baz=202
P19K Oil Pt 86.08 13 P **P** 19 56 30.1 -0.3
baz=204
PRN Pahroc Range 86.15 46 IAmb IAmb 19 56 33.5
comp=Z,8.0nm,0.8s
PINE Pine Mountain 86.28 38 IAmb IAmb 19 56 34.1
comp=Z,15nm,0.9s
TUC Tucson 86.37 52 P **P** 19 56 33.7 +1.1
TUC IAmb IAmb 19 56 35.2
comp=Z,15nm,0.8s
I05D Terrebonne, OR 86.39 38 IAmb IAmb 19 56 34.1
comp=Z,8.4nm,0.8s
ENH Enshi 86.61 305 IAmb IAmb 19 56 35.3
comp=Z,20nm,0.9s
HNS HongShan 86.66 313 *e*P **P** 19 56 35.0 +1.4
N19K Bonanza Creek 86.90 12 P **P** 19 56 34.2 -0.1
baz=203
319A Douglas 87.00 54 IAmb IAmb 19 56 38.3
comp=Z,24nm,1.0s
Q12A Willow Creek R 87.20 45 IAmb IAmb 19 56 37.9
comp=Z,7.0nm,0.9s
J14K Nanvaranak Lak 87.33 7 P **P** 19 56 36.8 +0.7
baz=195
G06A Carlson Farm, 87.34 37 IAmb IAmb 19 56 38.4
comp=Z,8.9nm,0.9s
HEH HeiHe 87.36 329 *e*P **P** 19 56 36.5 -0.1
HEH pmax pmax
comp=Z,5.0nm,0.7s
HEH pmax pmax
comp=Z,120nm,4.6s
KNB Kanab 87.42 48 IAmb IAmb 19 56 39.6
comp=Z,6.9nm,0.9s
U15A North Rim 87.47 48 IAmb IAmb 19 56 40.0
comp=Z,10nm,0.9s
GNW Green Mountain 87.63 35 IAmb IAmb 19 56 39.8
comp=Z,7.5nm,0.8s
P23K Montague Islan 87.72 16 P **P** 19 56 38.3 +0.2
baz=209
DUN6 Lazy B Ranch 87.73 53 IAmb IAmb 19 56 41.6
comp=Z,22nm,0.9s
L18K Granite Mounta 87.81 11 P **P** 19 56 38.6 +0.1
baz=201
D05A Enumclaw 87.83 35 IAmb IAmb 19 56 41.8
comp=Z,27nm,1.0s
M19K Big River Lodg 87.92 12 P **P** 19 56 38.9 -0.1
baz=203
PKCU Pink Cliffs 87.99 47 IAmb IAmb 19 56 43.0
comp=Z,14nm,0.9s
K17K Iditarod 88.01 10 P **P** 19 56 39.8 +0.4
baz=200
L19K White Mountain 88.09 11 IAmb IAmb 19 56 41.4
comp=Z,18nm,1.4s
L19K White Mountain 88.09 11 P **P** 19 56 39.3 -0.5
baz=203
RC01 Rabbit Creek A 88.13 14 P **P** 19 56 39.8 -0.1
baz=207
M20K Styx River 88.14 12 P **P** 19 56 39.5 -0.6
baz=204
SUA Susitna One 88.25 13 IAmb IAmb 19 56 41.3
comp=Z,12nm,0.8s
SUA Susitna One 88.25 13 P **P** 19 56 40.2 -0.5
baz=206
PWL Port Wells 88.25 15 IAmb IAmb 19 56 41.0
comp=Z,8.0nm,0.8s
PWL Port Wells 88.25 15 P **P** 19 56 40.4 -0.2
baz=209
G08A Pilot Rock 88.32 38 IAmb IAmb 19 56 43.2
comp=Z,12nm,0.9s
MXC Moxie City 88.36 36 IAmb IAmb 19 56 43.1
comp=Z,8.9nm,0.8s
MTPU Mount Pierson 88.40 47 IAmb IAmb 19 56 44.8
comp=Z,8.3nm,0.8s
J17K VABM Dome 88.54 9 P **P** 19 56 41.9 0.0
baz=199
L20K Farewell, AK 88.55 12 P **P** 19 56 41.8 -0.2
baz=204
SKT Skwentna 88.55 13 P **P** 19 56 42.1 +0.2
baz=206
GLI Glacier Island 88.56 15 IAmb IAmb 19 56 42.5
comp=Z,12nm,0.8s
GLI Glacier Island 88.56 15 P **P** 19 56 42.3 +0.3
baz=210
E07A Sunnyside 88.59 37 IAmb IAmb 19 56 44.4
comp=Z,13nm,0.8s
EYAK Cordova Ski Ar 88.61 16 P **P** 19 56 42.7 +0.6
baz=211
HAWA Hanford 88.66 37 IAmb IAmb 19 56 44.7
comp=Z,15nm,1.1s
121A Cookes Peak, D 88.67 53 IAmb IAmb 19 56 45.9
comp=Z,14nm,1.4s
121A Cookes Peak, D 88.67 53 P **P** 19 56 43.1 -0.3
baz=240
XAN Xi'an 88.91 308 ⇑P **P** 19 56 45.5 +1.2
XAN pmax pmax
comp=Z,22nm,0.7s
GHO Glory Hole Cre 88.92 14 IAmb IAmb 19 56 44.4
comp=Z,12nm,0.8s
E08A Dider Farm, El 88.98 37 IAmb IAmb 19 56 46.0
comp=Z,7.4nm,0.9s
MFID Camas Ranch 89.04 41 IAmb IAmb 19 56 46.5
comp=Z,12nm,0.9s
SML Sawmill 89.08 14 P **P** 19 56 44.8 +0.3
baz=208
DUG Dugway, Tooele 89.14 45 P **P** 19 56 45.7 +0.3
baz=237
CUT Chulitna 89.19 13 P **P** 19 56 45.6 +0.7
baz=207
BMRM Bremner River 89.26 16 P **P** 19 56 45.2 -0.1
baz=212
S31K Pelican 89.29 22 P **P** 19 56 46.5 +1.2
baz=219
MESA MESA 89.31 18 P **P** 19 56 46.2 +0.4
baz=214
K20K Telida 89.32 11 P **P** 19 56 45.9 +0.4
baz=203
SCM Sheep Creek Mo 89.34 15 IAmb IAmb 19 56 46.5
comp=Z,9.4nm,0.9s
SCM Sheep Creek Mo 89.34 15 P **P** 19 56 46.0 +0.3
baz=209
D08A Wollman Farm, 89.40 37 IAmb IAmb 19 56 48.0
comp=Z,8.6nm,0.9s
KMI Kunming 89.45 298 ⇓P **P** 19 56 48.8 +1.5
KMI pmax pmax
comp=Z,9.0nm,0.9s
F10A Beach Ranch, E 89.70 38 IAmb IAmb 19 56 48.7
comp=Z,7.1nm,0.8s
CMAR Chiang Mai Arr 89.72 290 P **P** 19 56 50.1 +1.8
comp=Z,7.4nm,0.9s,baz=139,slow=3.2,SNR=34
CMAR PP **PP** 20 00 29.6 -0.4
comp=Z,1.5nm,1.0s,baz=106,slow=4.8,SNR=4.8
comp=Z,7.4nm,0.9s
CAST Castle Rocks 89.74 12 P **P** 19 56 46.7 -0.7
baz=205
VRDI Verde Repeater 89.78 17 IAmb IAmb 19 56 48.9
comp=Z,8.5nm,1.2s
N25K Chitina, Valde 89.80 16 P **P** 19 56 48.5 +0.6
baz=212
M24K Tolsona, Glenn 89.85 15 P **P** 19 56 48.6 +0.5
baz=210
CHTO Chiang Mai 89.87 291 P **P** 19 56 50.1 +1.1
CHTO IAmb IAmb 19 56 51.3
comp=Z,16nm,0.9s
H17K Granite Mounta 89.89 8 P **P** 19 56 48.8 +0.7
baz=198
WAT6 Susitna Watana 89.90 14 P **P** 19 56 48.3 0.0
baz=209
VHRN Van Horn 89.93 56 IAmb IAmb 19 56 51.3
comp=Z,8.4nm,1.0s
SPUT South Promonto 89.97 44 IAmb IAmb 19 56 50.9
comp=Z,9.3nm,0.9s
HLID Hailey 89.98 41 IAmb IAmb 19 56 51.1
comp=Z,5.8nm,0.9s
HLID Hailey 89.98 41 P **P** 19 56 49.6 +0.4
baz=236
HVU Hansel Valley 90.01 44 IAmb IAmb 19 56 51.0
comp=Z,8.5nm,0.7s

MCARA	McCarthy VSAT	90.02	17	P	P	19 56 49.6	+0.8
	baz=213						
MNTX	Cornudas Mount	90.06	55	P	P	19 56 50.0	+0.3
	baz=242						
CTG	Chitna Glacier	90.13	18	P	P	19 56 49.7	+0.3
	baz=215						
TXAR	Lajitas Array	90.27	58	P	P	19 56 52.0	+1.2
	comp=Z,6.0nm,0.7s,baz=213,slow=6.4,SNR=79						
TXAR				pP	pP	19 58 45.8	+1.1
	comp=Z,0.9nm,1.0s,baz=230,slow=5.9,SNR=5.0						
	comp=Z,6.0nm,0.7s						
O28M	Mount Upton	90.30	18	P	P	19 56 51.2	+0.8
	baz=216						
RND	Reindeer	90.38	13	IAmb	IAmb	19 56 50.8	
	comp=Z,4.7nm,0.8s						
TCUT	Toone Canyon	90.53	45	IAmb	IAmb	19 56 53.6	
	comp=Z,18nm,0.9s						
HHC	Hu-ho-hao-te	90.57	315	eP	P	19 56 51.3	-0.7
HHC				pmax	pmax		
	comp=Z,53nm,3.9s						
HHC				pmax	pmax		
	comp=Z,24nm,0.5s						
HWUT	Hardware Ranch	90.69	44	IAmb	IAmb	19 56 53.6	
	comp=Z,6.3nm,0.7s						
P30M	Million Dollar	90.74	20	P	P	19 56 53.2	+1.0
	baz=218						
ALPN	Alpine	90.77	57	IAmb	IAmb	19 56 54.8	
	comp=Z,9.7nm,1.0s						
ANMO	Albuquerque	90.81	52	P	P	19 56 53.5	+0.2
ANMO				IAmb	IAmb	19 56 54.9	
	comp=Z,7.1nm,1.1s						
ANMO	Albuquerque	90.81	52	P	P	19 56 53.8	+0.5
	baz=241						
PZH	PanZhiHua	90.86	299	P	P	19 56 53.0	-0.7
PZH				pmax	pmax		
	comp=Z,20nm,1.4s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
H19K	Roundabout Mou	90.94	9	P	P	19 56 53.0	+0.1
	baz=201						
YUK3	Moose Creek	91.04	18	P	P	19 56 54.4	+0.6
	baz=216						
S34M	Telegraph Cree	91.04	24	P	P	19 56 54.4	+0.8
	baz=223						
M27K	Edge Creek, AK	91.14	17	P	P	19 56 54.2	+0.2
	baz=214						
H20K	Anotleneega Mo	91.16	10	P	P	19 56 54.6	+0.6
	baz=203						
F17K	Baldwin Pennin	91.17	7	P	P	19 56 54.6	+0.7
	baz=197						
P32M	Atlin	91.38	21	P	P	19 56 56.1	+1.0
	baz=221						
K24K	Donnelly Dome	91.41	14	P	P	19 56 55.0	-0.1
	baz=211						
G19K	Purcell Mounta	91.43	9	P	P	19 56 55.2	+0.1
	baz=201						
BTO	Baotou	91.45	314	eP	P	19 56 57.5	+1.5
BTO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BTO				pmax	pmax		
	comp=Z,230nm,5.5s						
MLY	Manley	91.46	12	P	P	19 56 55.4	0.0
	baz=206						
HDA	Harding Lake	91.67	14	P	P	19 56 56.0	-0.3
	baz=210						
E17K	Hotham Inlet	91.72	7	P	P	19 56 57.1	+0.7
	baz=196						
L27K	Beaver Creek,	91.73	16	P	P	19 56 57.1	+0.4
	baz=214						
DLBC	Dease Lake	91.83	24	P	P	19 56 58.3	+1.0
	baz=224						
S22A	4UR Ranch, Cre	91.90	49	IAmb	IAmb	19 57 00.0	
	comp=Z,5.0nm,0.9s						
S22A	4UR Ranch, Cre	91.90	49	P	P	19 56 58.3	-0.1
	baz=241						
SCRK	Sand Creek	91.97	15	P	P	19 56 58.0	+0.2
	baz=212						
F19K	Shaleruckik Mo	91.98	9	P	P	19 56 57.8	+0.1
	baz=200						
ILAR	Eielson Array	92.00	13	P	P	19 56 56.5	-1.4
	comp=Z,0.7nm,0.7s,baz=222,slow=6.1,SNR=7.2						
	comp=Z,0.7nm,0.7s						
MSO	Missoula	92.06	39	P	P	19 56 59.4	+0.7
	baz=237						
O20A	White River Ci	92.10	47	P	P	19 56 59.4	+0.3
	baz=240						
H22K	Ishtalitna Cre	92.12	11	P	P	19 56 58.8	+0.5
	baz=206						
M29M	Somme Creek	92.14	18	P	P	19 56 58.8	+0.1
	baz=217						
P33M	Teslin, Yukon	92.15	21	P	P	19 56 59.1	+0.4
	baz=222						
N31M	Braeburn, Yuko	92.17	19	P	P	19 56 59.1	+0.3
	baz=220						
J25K	Salcha River,	92.19	14	P	P	19 56 58.4	-0.4
	baz=211						
K27K	Chicken	92.47	16	P	P	19 57 00.3	+0.3
	baz=214						
J26L	Joseph Creek	92.51	15	IAmb	IAmb	19 57 01.9	
	comp=Z,5.6nm,1.2s						
J26L	Joseph Creek	92.51	15	P	P	19 57 00.7	+0.4
	baz=213						
BW06	Boulder Array	92.56	44	P	P	19 57 01.0	-0.3
	baz=240						
PDAR	Pinedale Array	92.56	44	P	P	19 57 01.4	+0.2
	comp=Z,2.4nm,0.7s,baz=216,slow=3.7,SNR=12						
	comp=Z,2.4nm,0.7s						
E19K	Redstone River	92.64	9	P	P	19 57 01.2	+0.5
	baz=201						
BOZ	Bozeman (W)	92.75	41	P	P	19 57 02.5	+0.6
	baz=238						
L29M	L29M	92.76	18	IAmb	IAmb	19 57 03.2	
	comp=Z,6.5nm,1.2s						
L29M	L29M	92.76	18	P	P	19 57 01.4	0.0
	baz=218						
SDCO	Great Sand Dun	92.82	50	P	P	19 57 02.0	-0.7
	baz=242						
C17K	DeLong Mountai	92.93	6	P	P	19 57 02.1	0.0
	baz=195						
F21K	Alatna River	92.97	10	P	P	19 57 03.2	+0.9
	baz=204						
DAWY	Dawson	93.19	17	P	P	19 57 03.8	+0.4
	baz=216						
I26K	Coal Creek Min	93.29	15	P	P	19 57 04.4	+0.7
	baz=213						
EGAK	Eagle	93.32	16	P	P	19 57 04.3	+0.4
	baz=215						
D19K	Kuna River	93.51	8	P	P	19 57 05.1	+0.4
	baz=200						
K29M	Barlow Dome	93.51	17	P	P	19 57 05.3	+0.3
	baz=218						
E20K	Nigu River	93.53	9	P	P	19 57 04.8	-0.1
	baz=202						
RLMT	Red Lodge	93.93	42	IAmb	IAmb	19 57 38.1	
	comp=Z,8.5nm,0.8s						
I28M	Miner Creek	94.17	16	P	P	19 57 07.7	-0.2
	baz=216						
J30M	Hart River	94.41	17	P	P	19 57 09.3	+0.3
	baz=219						
MMPY	Sheldon Lake,	94.43	20	P	P	19 57 09.5	+0.4
	baz=224						
G26K	Porcupine Rive	94.53	13	P	P	19 57 09.6	+0.3
	baz=213						
C21K	Knifeblade Rid	94.56	9	P	P	19 57 10.0	+0.5
	baz=203						
H29M	Whitestone	95.17	16	P	P	19 57 11.9	-0.4
	baz=218						
EPYK	Eagle Plains	95.71	16	P	P	19 57 14.6	-0.1
	baz=219						
G29M	Pine Creek	95.81	15	P	P	19 57 15.6	+0.4
	baz=218						
G31M	Satah River	96.76	16	P	P	19 57 19.2	-0.2
	baz=221						
SONM	Songino Array	97.25	319	P	P	19 57 22.8	+0.6
	comp=Z,0.3nm,0.5s,baz=132,slow=2.2,SNR=3.9						
SONM				PP	PP	20 01 30.3	+2.6
	comp=Z,0.9nm,1.1s,baz=116,slow=6.6,SNR=4.0						
	comp=Z,0.3nm,0.5s						
GTA	Gaotai	97.86	310	P	P	19 57 25.8	+0.6
GTA				pmax	pmax		
	comp=Z,2.0nm,1.8s						
GOGA	Godfrey	107.77	61	P	PKiKP	20 02 12.8	-0.8
	baz=253						
MKAR	Makanchi Array	112.31	313	PKP		20 05 08.6	
	comp=Z,0.7nm,0.8s,baz=117,slow=1.6,SNR=4.1						
MKAR				PKKPab	PKKPab	20 13 23.4	+0.6
	comp=Z,0.6nm,0.7s,baz=261,slow=2.4,SNR=7.0						
KURBB	Kurchatov Arra	115.39	316	PKP	PKPdf	20 02 26.5	-1.0
	comp=Z,0.6nm,0.5s,baz=105,slow=2.4,SNR=6.6						
KURBB				PP	PP	20 03 42.4	+3.6
	comp=Z,1.2nm,0.8s,baz=106,slow=7.3,SNR=6.5						
KURBB				SKP		20 05 13.4	
	comp=Z,0.2nm,0.2s,baz=131,slow=3.8,SNR=4.0						
BVAR	Borovoye Array	120.58	319	PKP	PKPdf	20 02 36.6	-0.9
	comp=Z,1.1nm,0.4s,baz=138,slow=1.9,SNR=7.8						
ARCES	ARCESS Array B	131.94	348	PKP	PKPdf	20 02 58.0	-0.7
	comp=Z,0.6nm,0.5s,baz=75,slow=1.4,SNR=9.2						
ARCES				SKPbc	SKPbc	20 05 37.0	+0.6
	comp=Z,5.0nm,0.8s,baz=45,slow=3.6,SNR=15						
FINES	FINESS Array B	138.53	342	PKhKP	PKPpre	20 03 01.9	
	comp=Z,1.1nm,0.9s,baz=69,slow=6.3,SNR=7.1						
FINES				PKP	PKPdf	20 03 11.3	+0.2
	comp=Z,0.7nm,0.5s,baz=116,slow=4.4,SNR=6.3						
FINES				SKPbc	SKPbc	20 05 57.3	+0.3
	comp=Z,7.1nm,0.7s,baz=64,slow=4.4,SNR=25						
NB2	NORSAR Subarra	142.13	351	PKP	PKPdf	20 03 13.0	-4.7
	comp=Z,0.2nm,0.6s,baz=10,slow=3.2						
NB2				SKPa		20 06 06.6	
	comp=Z,0.9nm,0.8s,baz=20,slow=2.7						
NOA	NORSAR Array B	142.13	351	PKhKP	PKPpre	20 03 13.8	
	comp=Z,0.5nm,0.7s,baz=22,slow=3.9,SNR=3.9						
NOA				SKPbc	SKPbc	20 06 07.0	+0.5
	comp=Z,1.2nm,0.8s,baz=14,slow=4.2,SNR=7.5						
HFS	Hagfors	142.60	349	PKhKP	PKPpre	20 03 14.7	
	comp=Z,2.3nm,0.3s,baz=64,slow=3.4,SNR=53						
HFS				SKPbc	SKPbc	20 06 07.6	+0.1
	comp=Z,3.4nm,0.8s,baz=112,slow=1.6,SNR=7.9						
ARPR	Arapgir-MALATY	144.44	304		PKPbc	20 03 20.6	-1.9
AKASG	Malin Array Be	145.09	327	PKPbc	PKPdf	20 03 23.2	+0.1
	comp=Z,3.8nm,0.5s,baz=43,slow=4.0,SNR=13						
AKASG				SKPbc	SKiKP	20 06 14.3	+0.2
	comp=Z,6.1nm,0.7s,baz=44,slow=2.9,SNR=11						
KIEV	Kiev	145.10	327		PKPdf	20 03 22.0	-1.1
KIEV	Kiev	145.10	327	PKP	PKPdf	20 03 22.9	-0.2
SUW	Suwalki	145.36	336	ePKP	PKPbc	20 03 24.2	-0.4
SUW	Suwalki	145.36	336		PKPdf	20 03 23.6	+0.1
GAZ	Gaziantep	145.73	301		PKPdf	20 03 23.0	-1.8
BNN	Bunyan	146.37	305	PKPbc	PKPbc	20 03 28.0	-0.2
BZK	Bozkurt	146.70	311		PKPbc	20 03 28.6	-0.1
SORM	Soroca	147.13	324	PKP	PKPbc	20 03 28.8	-0.9
ILGA	Ilgaz	147.24	310	PKPbc	PKPbc	20 03 30.8	+0.2
BRTR	Keskin Array B	147.75	307	PKPbc	PKPbc	20 03 31.5	-0.3
	comp=Z,2.9nm,0.7s,baz=138,slow=4.8,SNR=15						
BALJ	Balqa	147.79	293	PKPbc	PKPbc	20 03 31.5	-0.5
MMAI	Mount Meron Ar	147.89	294	PKPbc	PKiKP	20 03 33.2	-0.4
	comp=Z,15nm,0.6s,baz=81,slow=5.4,SNR=30						
EKA	Eskdalemuir Ar	148.52	4	PKPbc	PKPbc	20 03 32.5	-0.6
	comp=Z,0.4nm,0.3s,baz=334,slow=2.8,SNR=6.1						
KWP	Kalwaria Pacla	148.88	331	ePKP	PKPbc	20 03 34.3	+0.1
KWP	Kalwaria Pacla	148.88	331		PKPbc	20 03 34.0	-0.2
OJC	Ojcow	149.64	335	ePKP	PKPbc	20 03 35.9	0.0
KSP	Ksiaz	150.37	339	ePKP	PKiKP	20 03 38.0	-0.1
MORC	Moravsky Berou	150.84	337	ePKP	PKPbc	20 03 38.3	-0.5
MORC				e		20 03 48.4	
CLL	Collm	150.93	343	ePKPdf	PKPdf	20 03 33.0	+0.4
CLL				i PKPbc	PKPbc	20 03 38.8	-0.1
	comp=Z,4.0nm,0.7s						
CLL				i PKiKP	PKiKP	20 03 41.4	+2.1
CLL				i PKPab	PKPab	20 03 44.9	-3.7
	comp=Z,3.0nm,0.9s						
CLL				epPKPab	pPKPab	20 05 44.0	-0.1
GERES	GERESS Array B	152.94	340	PKPbc	PKPbc	20 03 43.2	-0.3
	comp=Z,0.4nm,0.6s,baz=18,slow=3.4,SNR=2.1						
GERES				PKPab	PKPab	20 03 56.3	-1.0
	comp=Z,0.1nm,0.3s,baz=23,slow=5.3,SNR=3.6						
ESDC	Sonseca Array	163.90	12	PKPab	PKPab	20 04 44.1	-1.0
	comp=Z,1.0nm,1.0s,baz=344,slow=4.3,SNR=5.8						
TORD	Torodi Ar. Bea	169.20	188	PKPab	PKPab	20 05 08.9	0.0
	comp=Z,1.3nm,0.6s,baz=149,slow=4.4,SNR=8.1						

*TIR **30** 19:48:33.7, 41°.46N×19°.59E, h31km±1km, Ml2.9*
*SKO **30** 19:48:33.0, 41°.39N×19°.31E, h0km*
*RHSSO **30** 19:48:35.3±0.7, 41°.38N×19°.35E, h6km±2km, ML3.0/9*
*PDG **30** 19:48:35.8±0.1, 41°.53N×19°.64E, h8km, ML2.9/10, Error ellipse: s-maj=0.3km s-min=0.7km az=0.0*
*BEO **30** 19:48:35.7±0.4, 41°.46N×19°.56E, h10km±2km, ML2.7/14*
ISC 30 19:48:34.0±1.1, **41°.44N**±0°.02×**19°.51E**±0°.02, **h13**km±9km, **n56**, σ**1**°**15**/102, **7C-12D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.28	108	P	Pb	19 48 40.5	-0.5
TIR	baz=117			S	Sb	19 48 44.7	-0.9
TIR	baz=117			AMP			
	comp=N,6.1nm,0.4s,baz=117						
TIR	Tirane	0.28	108	ePg	Pb	19 48 40.4	-0.5
TIR				eSg	Sb	19 48 45.2	-0.4
PUK	Puka	0.67	25	P	Pg	19 48 46.6	-0.4
PUK	baz=20			S	Sb	19 48 56.6	-0.2
PUK	baz=20			AMP			
	comp=N,2.0nm,0.2s,baz=20						
DRME	Dracevica, Mon	0.79	342	⇓iPg	Pb	19 48 49.5	0.0
DRME				eSg	Sn	19 49 02.4	-0.1
DRME	Dracevica, Mon	0.79	342	⇓iPg	Pb	19 48 49.6	0.0
DRME				i Sg	Sn	19 49 01.7	-0.8
BUM	Brajici-Budva	0.98	332	⇑iPg	Pn	19 48 53.6	+0.1
BUM				i Sg	Sn	19 49 08.6	+1.4
PDG	Podgorica	1.01	349	ePg	Pn	19 48 53.7	-0.1
PDG				eSg	Sn	19 49 08.0	+0.1
PDG	Podgorica	1.01	349	⇓iPg	Pb	19 48 53.5	+0.2
PDG				eSg	Sn	19 49 08.8	+0.9
PDG	Podgorica	1.01	349	⇑iPg	Pn	19 48 53.7	-0.1
PDG				i Sg	Sn	19 49 08.2	+0.3
BCI	Bajram Curri	1.02	24	P	Pg	19 48 52.6	-1.0
BCI	baz=21			S	Sb	19 49 06.6	-0.1
BCI	baz=21			AMP			
	comp=E,1.9nm,0.4s,baz=21						
OHR	Ohrid	1.03	108	i Pg	Pb	19 48 53.4	-0.3
OHR				i Sg	Sn	19 49 09.7	+1.3
CEME	Cevo	1.19	339	⇓iPg	Pn	19 48 57.2	+0.8
CEME				i Sg	Sn	19 49 15.5	+2.9
PVY	Plav	1.20	16	⇓iPg	Pb	19 48 56.0	-0.7
PVY				i Sg	Sn	19 49 13.3	+0.4
NKME	Niksic	1.39	343	⇑iPg	Pg	19 49 00.4	-0.3
NKME				i Sg	Sg	19 49 21.2	+2.4
KOME	Kolasin	1.41	0	⇑iPg	Pg	19 49 00.6	-0.5
KOME				i Sg	Sg	19 49 21.3	+1.8
BEY	Berane	1.46	11	i Pg	Pb	19 49 00.7	-0.3
IVA	Berane	1.46	11	⇓iPg	Pb	19 49 00.6	-0.5
IVA				i Sg	Sg	19 49 22.1	+1.1
TREB	Trebinje	1.54	326	ePg	Pg	19 49 03.0	-0.6
TREB				eSg	Sg	19 49 24.8	+1.2
TREB	Trebinje	1.54	326	⇓iPg	Pb	19 49 02.7	+0.3
TREB				eSg	Sg	19 49 23.6	0.0
FNA	Florina	1.56	114	P	Pb	19 49 02.3	-0.3
FNA	baz=115			S	Sb	19 49 22.5	+0.3
FNA	baz=115			AMP			
FNA	Florina	1.56	114	ePn	Pg	19 49 03.3	-0.5
FNA				eSn	Sg	19 49 24.6	+0.6
FNA	Florina	1.56	114	i Pg	Pg	19 49 03.3	-0.5
SCTE	Santa Cesarea	1.58	210	P	Pb	19 49 03.5	+0.5
SCTE	baz=213			S	Sg	19 49 25.5	+0.8
SCTE	baz=213			AMP			
SRN	Sarande	1.60	166	P	Pg	19 49 04.0	-0.7
SRN	baz=168			S	Sg	19 49 25.2	-0.3
SRN	baz=168			AMP			
BRY	Bratogost	1.63	334	⇓iPn	Pg	19 49 04.8	-0.5
BRY				eSn	Sg	19 49 26.6	+0.1
BRY	Bratogost	1.63	334	⇑iPn	Pg	19 49 04.6	-0.7
BRY				i Sn	Sg	19 49 28.8	+2.3
UPM	Unac-Piva	1.82	346	ePn	Pg	19 49 07.9	-1.0
UPM	Unac-Piva	1.82	346	⇓iPn	Pb	19 49 07.6	+0.3
SJES	Sjenica	1.85	11	ePg	Pg	19 49 08.4	-1.1
SJES				eSg	Sg	19 49 34.6	+1.0
SJES	Sjenica	1.85	11	⇑iPn	Pb	19 49 08.1	+0.3
SJES				eSn	Sg	19 49 32.7	-0.9
PLE	Pljevlja	1.89	357	⇓iPn	Pb	19 49 08.5	0.0
PLE				i Sn	Sg	19 49 34.1	-0.7
NOCI	Noci	1.96	251	P	Pb	19 49 09.2	-0.3
NOCI	baz=252						
STON	Ston	1.96	317	ePg	Pg	19 49 10.7	-0.9
STON				eSg	Sg	19 49 37.8	+0.7
STON	Ston	1.96	317	⇓iPn	Pb	19 49 08.4	-1.2
STON				eSn	Sb	19 49 33.5	-0.5
SELS	Selova	2.14	33	ePn	Pn	19 49 10.7	+1.2
SELS				eSn	Sn	19 49 36.9	+0.9
BBLS	Lazi&#263i	2.43	358	ePn	Pb	19 49 16.3	-1.2
BBLS				eSn	Sn	19 49 44.7	+1.7
BBLS	Lazi&#263i	2.43	358	ePn	Pb	19 49 17.4	-0.1
BBLS				eSn	Sb	19 49 47.4	0.0
DIVS	Divibare	2.68	7	ePn	Pb	19 49 19.8	-2.1
DIVS				eSn	Sn	19 49 50.3	+1.0
ZAPS	Zavoj	2.96	51	ePn	Pn	19 49 22.0	+1.4
ZAPS				eSn	Sn	19 49 55.5	-0.5
TEKS	Tekeris	3.11	0	ePn	Pb	19 49 26.6	-2.5
MDVR	Moldovita	3.71	25	ePn	Pn	19 49 31.9	+0.9
MDVR				eSn	Sn	19 50 14.4	-0.3
BLY	Banja Luka	3.72	334	ePn	Pn	19 49 33.6	+2.5
BLY				eSn	Sn	19 50 16.5	+1.7
FRGS	Fruska Gora	3.73	3	ePn	Pn	19 49 34.0	+2.8
A050A	Klekovaca	3.75	325	⇑iPn	Pn	19 49 33.9	+2.4
A050A				eSn	Sn	19 50 17.3	+1.8
A051A	Mrakovica	4.05	333	ePn	Pn	19 49 37.1	+1.4
A051A				eSn	Sn	19 50 24.2	+1.2
BZS	Buzias	4.45	19	ePn	Pn	19 49 41.5	+0.4
CRES	Cresnjev	5.28	328	ePn	Pn	19 49 53.4	+0.8
CRES				eSn	Sn	19 50 52.4	-0.9
CEY	Cerknica	5.67	321	⇓iPn	Pn	19 49 59.2	+1.3
CEY				eSn	Sn	19 51 02.2	-0.6
SKDS	Skadanscina	5.73	318	ePn	Pn	19 49 59.1	+0.4
SKDS				eSn	Sn	19 51 02.5	-1.8
SOKA	Soboth	6.15	330	i Pn	Pn	19 50 02.8	-1.8
SOKA	comp=E,0.5nm,0.3s			i Sn	Sn	19 51 12.7	-2.1
SOKA	comp=E,0.7nm,0.4s						
OBKA	Obir	6.20	326	i Pn	Pn	19 50 05.5	+0.2
OBKA	comp=E,0.3nm,0.2s			i Sn	Sn	19 51 16.3	+0.1
OBKA	comp=E,2.7nm,0.4s						
OBKA	Obir	6.20	326	ePn	Pn	19 50 06.7	+1.4
OBKA				eSn	Sn	19 51 15.6	-0.5
MYKA	Terra Mystica	6.69	323	i Sn	Sn	19 51 27.1	-1.0
	comp=E,1.7nm,0.4s						
ABTA	Abfaltersbach	7.31	319	ePn	Pn	19 50 19.5	-1.0
	comp=E,0.9nm,0.5s						
ABTA				i Sn	Sn	19 51 40.9	-2.5
	comp=E,2.4nm,0.4s						
WTTA	Wattenberg	8.11	319	i Pn	Pn	19 50 32.2	+0.8
	comp=E,0.8nm,0.2s						
WTTA				i Sn	Sn	19 52 00.6	-2.4
	comp=E,1.4nm,0.3s						
WATA	Walderalm	8.18	319	i Pn	Pn	19 50 33.2	+0.6
	comp=E,1.3nm,0.3s						

*IDC **30** 20:25:08.7±1.4, 0°.89S×127°.97E, h0km, mb3.7/4, mbtmp3.7/5, ML3.5/1, MS3.6/2, Error ellipse: s-maj=124.2km s-min=20.9km az=69.0*
*DJA **30** 20:25:10.4±2.3, 1°.5±15°.×12°.7E±1°.8, h10km, M3.7/3, MLv3.7/3*
ISC 30 20:25:11.8±1.3, **1°.1S**±0°.1×**127°.8E**±0°.3, **h19**km, **n9**, σ0°**76**/8, **mb3.8**/4, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	0.51	324	P	Pb	20 25 22.0	-0.1
LBMI				S	Sb	20 25 29.4	+0.3
SANI	Sanana	2.06	241	P	Pn	20 25 40.9	-4.6
NLAI	Namlea	2.28	198	P	Pn	20 25 48.5	0.0
WRA	Warramunga Arr	19.84	162	P	Pn	20 29 42.8	-0.5
	0.1nm,0.3s,baz=343,slow=12,SNR=4.5						
	0.6nm,0.6s						
ASAR	Alice Springs	23.25	166	P	P	20 30 19.0	+0.8
	1.0nm,0.7s,baz=346,slow=11,SNR=16						
ASAR				LR	LR	20 39 14.4	
	comp=Z,74nm,18.6s,baz=266,slow=36						
	1.0nm,0.7s						
SONM	Songino Array	52.14	342	P	P	20 34 21.9	+0.8
	0.4nm,0.7s,baz=156,slow=7.9,SNR=2.6						
	0.4nm,0.7s						
MKAR	Makanchi Array	62.09	326	P	P	20 35 30.8	-0.6
	0.7nm,0.4s,baz=123,slow=8.5,SNR=11						
	0.7nm,0.4s						
KURBB	Kurchatov Arra	66.33	328	P	P	20 35 58.1	-0.9
	1.1nm,0.5s,baz=127,slow=6.3,SNR=12						
	1.1nm,0.5s						
OBN	Obninsk	91.56	325	LR	LR	21 25 18.9	
	comp=Z,44nm,18.0s,baz=360,slow=39						

*IDC **30** 20:44:13.1±0.6, 47°.31N×154°.08E, h0km, mb4.5/26, mbtmp4.5/29, ML4.3/3, MS3.9/48, Error ellipse: s-maj=15.9km s-min=13.5km az=140.0*
*BJI **30** 20:44:13.0±0.0, 47°.35N×154°.03E, h12km, mb4.7/56, mB4.8/22, Ms4.5/36, Ms7 4.3/35*
*SKHL **30** 20:44:16.4±0.5, 47°.10N×154°.30E, h43km±7km, mb5.0/7, mbv5.0/2, ms4.3/4*
*MOS **30** 20:44:17.9±1.2, 47°.29N×153°.93E, h44km, mb5.2/51, Error ellipse: s-maj=7.0km s-min=4.7km az=112.7*
*NEIC **30** 20:44:20.4±1.5, 47°.6N±0°.1×153°.71E±0°.10, h35km±1km, mb4.7/150, Error ellipse: s-maj=18.8km s-min=8.1km az=152.0*
ISC 30 20:44:18.5±0.4, **47°.24N**±0°.05×**154°.00E**±0°.04, **h35**km, **n663**, σ**1**°**47**/607, **mb4.8**/188, **MS4.1**/67, **50C-31D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.72	21	i P	Pn	20 45 13.0	-0.3
SKR				AMB	AMB	20 45 14.6	
	220nm,0.6s						
SKR				i S	Sn	20 45 53.5	-2.3
SKR				A	A	20 45 56.7	
	3μm,0.6s						
SKR				A	A	20 45 56.7	
	2μm,0.6s						
SKR	Severo-Kuril's	3.72	21	⇑iPN	Pn	20 45 11.7	-1.6
SKR				i S	Sn	20 45 54.6	-1.2
SKR				pmax	pmax		
	comp=Z,221nm,0.6s						
SKR				smax	smax		
	comp=E,2μm,0.6s						
SKR				smax	smax		
	comp=N,3μm,0.7s						
SKR				MLR	MLR		
	comp=Z,1μm,13.0s						
KUR	Kuril'sk	4.71	247	eP	Pn	20 45 28.0	+1.1
KUR				AMB	AMB	20 45 37.2	
	comp=Z,160nm,0.4s						
KUR				eS	Sn	20 46 20.7	+0.5
KUR				A	A	20 46 41.4	
	comp=Z,410nm,0.5s						
KUR				A	A	20 46 41.4	
	comp=Z,310nm,0.5s

comp=E,51nm,0.5s
PET Petropavlovsk 6.51 26 Pn 20 45 49.1 -2.6
PET Sn **Sn 20 46 59.8 -5.0**
PET Petropavlovsk 6.51 26 *e*P **Pn 20 45 51.0 -0.7**
PET *e*S **Sn 20 47 02.9 -1.8**
PET A A 20 47 31.0
comp=E,280nm,1.0s
PET A A 20 47 31.0
comp=E,110nm,1.0s
PET Petropavlovsk 6.51 26 *e*PN **Pn 20 45 51.0 -0.7**
PET MLR MLR
comp=Z,400nm,15.0s
YUK Yuzh-Kuril'sk 6.54 244 *e*P **Pn 20 45 52.2 0.0**
YUK AMB AMB 20 46 07.7
comp=Z,150nm,0.5s
YUK *e*S **Sn 20 47 05.6 +0.1**
YUK A A 20 47 34.9
comp=Z,290nm,0.6s
YUK A A 20 47 34.9
comp=Z,390nm,0.6s
YUK Yuzh-Kuril'sk 6.54 244 *e*PN **Pn 20 45 52.6 +0.4**
YUK pmax pmax
comp=Z,145nm,0.5s
YUK pmax pmax
comp=N,134nm,0.4s
YUK pmax pmax
comp=E,127nm,0.4s
RUSJ Misakicho 6.89 246 PN **Pn 20 45 57.5 +0.6**
NMR Nemuro--Hokkai 7.00 239 *e*P **Pn 20 45 55.9 -2.5**
NMR Nemuro--Hokkai 7.00 239 *e*PN **Pn 20 45 55.5 -2.9**
YSS Yuzh-Sakhalins 7.68 272 Pn **Pn 20 46 04.9 -2.9**
YSS Yuzh-Sakhalins 7.68 272 *e*P **Pn 20 46 10.4 +2.6**
YSS AMB AMB 20 46 17.9
comp=E,200nm,4.0s
YSS AMS AMS 20 49 05.3
comp=E,400nm,14.0s
YSS AMS AMS 20 49 05.3
comp=E,1μm,14.0s
YSS AMS AMS 20 49 05.3
comp=E,2μm,14.0s
YSS Yuzh-Sakhalins 7.68 272 *e*PN Pn 20 46 11.9 +4.1
YSS *e*S **Sn 20 47 38.2 +4.7**
YSS pmax pmax
comp=Z,200nm,3.9s
YSS pmax pmax
comp=E,100nm,3.2s
YSS pmax pmax
comp=Z,40nm,0.8s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,400nm,14.0s
YSS MLR MLR
comp=E,1μm,15.0s
UGL Uglegorsk 8.19 287 *e*P **Pn 20 46 17.2 +2.5**
UGL AMB AMB 20 46 22.0
comp=E,100nm,1.0s
UGL *e*S **Sn 20 47 46.0 +0.1**
UGL AMS AMS 20 50 00.0
comp=E,1μm,14.0s
UGL AMS AMS 20 50 00.0
comp=E,1μm,14.0s
UGL AMS AMS 20 50 00.0
comp=E,2μm,14.0s
UGL Uglegorsk 8.19 287 *e*PN **Pn 20 46 17.2 +2.5**
UGL pmax pmax
comp=Z,100nm,1.0s
UGL MLR MLR
comp=E,1μm,12.0s
UGL MLR MLR
comp=N,1μm,14.0s
UGL MLR MLR
comp=Z,2μm,15.0s
TYV Tymovskoe 8.28 300 *e*P **Pn 20 46 18.7 +2.7**
TYV AMB AMB 20 46 27.6
comp=Z,100nm,3.0s
TYV *e*S **Sn 20 47 49.3 +1.0**
TYV AMS AMS 20 49 43.9
comp=Z,500nm,15.0s
TYV AMS AMS 20 49 43.9
comp=Z,600nm,15.0s
TYV AMS AMS 20 49 43.9
comp=Z,800nm,15.0s
TYV Tymovskoe 8.28 300 *e*PN Pn 20 46 22.8 +6.8
TYV *e*S Sn 20 47 58.4 +10
TYV pmax pmax
comp=Z,22nm,1.0s
TYV pmax pmax
comp=Z,100nm,3.3s
TYV smax smax
comp=N,100nm,3.9s
TYV smax smax
comp=N,5.0nm,1.3s
TYV smax smax
comp=E,5.0nm,1.3s
TYV MLR MLR
comp=Z,800nm,16.0s
TYV MLR MLR
comp=N,500nm,15.0s
TYV MLR MLR
comp=E,600nm,15.0s
JKA Kamikawa-asahi 8.57 253 Pn 20 46 21.3 +1.3
JKA Kamikawa-asahi 8.57 253 *e*P **Pn 20 46 21.5 +1.5**
ASAJ Asahikawa 8.57 253 Pn **Pn 20 46 21.5 +1.4**
comp=E,1.4nm,0.3s,baz=90,slow=14,SNR=20
ASAJ Sn **Sn 20 48 02.5 +7.1**
comp=E,0.4nm,0.3s,baz=315,slow=24,SNR=1.2
ASAJ LR LR 20 49 34.0
comp=E,289nm,19.1s,baz=78,slow=37
comp=E,19nm,0.7s
ERM Erimo 9.33 240 Pn 20 46 29.1 -1.2
ERM Erimo 9.33 240 PN **Pn 20 46 29.1 -1.2**
OKH Okha 9.47 316 *e*P **Pn 20 46 35.2 +2.9**
OKH *e*S **Sn 20 48 19.0 +1.7**
OKH AMS AMS 20 51 59.6
comp=E,800nm,13.0s
OKH AMS AMS 20 51 59.6
comp=E,900nm,13.0s
OKH AMS AMS 20 51 59.6
comp=E,900nm,13.0s
OKH Okha 9.47 316 *de*PN **Pn 20 46 28.0 -4.3**
OKH MLR MLR
comp=Z,900nm,13.0s
OKH MLR MLR
comp=E,900nm,12.0s
OKH MLR MLR
comp=N,800nm,14.0s
NKL Nikolayevsk 10.38 310 *e*P **Pn 20 46 47.6 +2.9**
JTM Tenmabayashi 11.32 240 Pn **Pn 20 46 55.2 -2.4**
GRNR Gornyy 12.07 293 ⇑*e*PN P 20 47 14.0 -6.2
GRNR pmax pmax
comp=Z,7.0nm,0.9s
GRNR MLR MLR
comp=E,630nm,15.0s
GRNR MLR MLR
comp=N,220nm,14.0s
GRNR MLR MLR
comp=Z,790nm,14.0s
MA2 Magadan 12.50 352 Pn **Pn 20 47 13.8 0.0**
comp=Z,0.8nm,0.3s,baz=149,slow=13,SNR=4.4
MA2 LR LR 20 52 39.2
comp=Z,453nm,18.1s,baz=164,slow=41
comp=Z,13nm,0.9s
SHEM Shemya Is, Ala 14.03 60 LR LR 20 53 36.0
comp=Z,143nm,19.0s,baz=294,slow=40
KLR Kul'dur 14.95 286 Pn **Pn 20 47 47.2 +0.1**
baz=96,slow=18,SNR=1.6
KLR LR LR 20 53 46.5
comp=Z,667nm,18.7s,baz=92,slow=38
KLR Kul'dur 14.95 286 *e*P **Pn 20 47 46.4 -0.7**
KLR Kul'dur 14.95 286⇓*e*P **P 20 47 51.3 -0.9**
KLR pmax pmax
comp=Z,8.0nm,1.0s
KLR MLR MLR
comp=Z,668nm,14.0s
USRK Ussuriysk Ar. 15.66 267 Pn **Pn 20 47 56.6 +0.2**
comp=Z,0.3nm,0.3s,baz=72,slow=11,SNR=8.8
USRK LR LR 20 53 48.5
comp=Z,403nm,18.8s,baz=77,slow=37
comp=Z,7.2nm,0.8s
MAJO Matsushiro 15.86 233 Pn Pn 20 47 50.5 -8.6
MAJO Matsushiro 15.86 233⇓*e*P **Pn 20 47 55.5 -3.5**
MAJO pmax pmax
comp=Z,21nm,0.9s
MJAR Matsushiro Arr 15.86 233 Pn **Pn 20 47 53.9 -5.1**
baz=28,slow=11,SNR=21
JGF Kuroka 17.02 233 Pn 20 48 09.9 -3.9

MDJ Mudanjiang 17.16 270 P **Pn 20 48 12.8 -2.6**
MDJ pmax pmax
comp=Z,7.0nm,1.4s
MDJ LR LR
comp=Z,470nm,16.5s
MDJ LR LR
comp=Z,500nm,16.1s
MDJ LR LR
comp=Z,830nm,15.8s
MDJ Mudanjiang 17.16 270 Pn 20 48 11.7 -3.7
INU Inuyama 17.39 233 Pn **Pn 20 48 15.1 -3.2**
HEH Heihe 17.75 290 *e*P **P 20 48 23.8 +0.6**
HEH pmax pmax
comp=Z,16nm,1.0s
HEH pmax pmax
comp=Z,320nm,3.7s
HEH LR LR
comp=Z,250nm,17.4s
HEH LR LR
comp=Z,700nm,17.2s
HEH LR LR
comp=Z,1μm,15.4s
JHJ Hachijo jima 2 17.76 222 LR LR 20 57 30.0
comp=Z,22nm,18.2s,baz=316,slow=45
ZEA Zeya 18.15 301 *e*P **P 20 48 28.9 +1.3**
ZEA Zeya 18.15 301 *e*P **P 20 48 28.9 +1.3**
ZEA *e*S **Sn 20 51 38.2 -11**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA pmax pmax
comp=E,100nm,4.0s
ZEA pmax pmax
comp=N,100nm,6.0s
ZEA pmax pmax
comp=Z,200nm,5.5s
ZEA MLR MLR
comp=E,300nm,14.0s
ZEA MLR MLR
comp=Z,400nm,15.0s
YAK Yakutsk 20.24 326 P **P 20 48 47.3 -3.1**
YAK IAmb IAmb 20 48 53.1
comp=Z,25nm,0.7s
YAK Yakutsk 20.24 326 P **P 20 48 49.3 -1.0**
comp=Z,30nm,0.8s,baz=120,slow=1.6,SNR=16
YAK LR LR 20 56 55.6
comp=Z,278nm,18.2s,baz=128,slow=38
comp=Z,30nm,0.8s
YAK Yakutsk 20.24 326 *e*P Pn 20 48 51.0 -1.5
YAK Yakutsk 20.24 326 *e*P Pn 20 48 51.0 -1.5
YAK *e* 20 49 07.7
YAK *e*S Sn 20 52 36.2 -2.9
YAK *e*SS **SnSn 20 52 58.3 +4.7**
YAK *e*SSS SSS 20 53 10.0
YAK pmax pmax
comp=Z,18nm,0.6s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,18nm,1.5s
YAK pmax pmax
comp=N,28nm,1.8s
YAK pmax pmax
comp=E,21nm,1.4s
YAK smax smax
comp=N,49nm,3.0s
YAK smax smax
comp=E,40nm,2.7s
YAK MLR MLR
comp=Z,270nm,15.0s
YAK MLR MLR
comp=N,93nm,14.0s
YAK MLR MLR
comp=E,154nm,14.0s
CN2 Changchun 20.25 271 *e*P Pn 20 48 50.5 -2.2
CN2 *e*PP **PnPn 20 49 10.8 +3.1**
CN2 *e*S **S 20 52 28.5 -7.2**
CN2 LR LR
comp=E,110nm,14.0s
CN2 LR LR
comp=E,250nm,14.0s
CN2 LR LR
comp=E,340nm,15.0s
KSRS Korea Array 21.52 252 P **P 20 49 05.5 +1.1**
comp=E,6.2nm,0.8s,baz=64,slow=9.4,SNR=27
KSRS LR LR 20 57 32.4
comp=E,108nm,18.1s,baz=55,slow=37
comp=E,6.2nm,0.8s
BILL Bilibino 21.78 12 P **P 20 49 04.8 -2.0**
BILL Bilibino 21.78 12 *e*P **P 20 49 07.2 +0.3**
BILL Bilibino 21.78 12 *de*P **P 20 49 07.2 +0.3**
BILL *e**SP **sP 20 49 25.8 +6.0**
BILL *e* 20 49 30.5
BILL *e* 20 53 08.4
BILL pmax pmax
comp=Z,9.0nm,0.9s
BILL MLR MLR
comp=Z,262nm,16.0s
INCN Inchon 22.35 254 P **P 20 49 12.7 -0.6**
INCN IAmb IAmb 20 49 47.1
comp=Z,46nm,1.4s
INCN Inchon 22.35 254 P **P 20 49 12.7 -0.6**
INCN pmax pmax
comp=Z,46nm,1.4s
JNU Nakatsue 22.49 239 P **P 20 49 14.5 -0.4**
JNU IAmb IAmb 20 49 17.0
comp=Z,28nm,1.0s
JNU Nakatsue 22.49 239 LR LR 20 59 22.6
comp=Z,132nm,18.2s,baz=44,slow=40
TJN Taejon 22.52 251⇓*e*P **P 20 49 15.4 +0.3**
DL2 Dalian 24.93 262 P **P 20 49 36.8 -1.4**
DL2 S **S 20 53 57.8 -1.4**
DL2 pmax pmax
comp=Z,20nm,1.0s
DL2 pmax pmax
comp=Z,220nm,5.3s
DL2 LR LR
comp=Z,300nm,14.2s
DL2 LR LR
comp=Z,240nm,12.9s
DL2 LR LR
comp=Z,300nm,13.1s
BOD Bodaibo 26.15 309 *e*P **P 20 49 47.7 -1.4**
BOD pmax pmax
comp=Z,13nm,1.4s
M11K Mekoryuk 26.45 46 P **P 20 49 51.6 -0.2**
baz=259
TIXI Tiksi 27.17 343 LR LR 21 01 57.3
comp=Z,341nm,18.3s,baz=151,slow=39
TNA Tin City 27.29 34 P **P 20 49 59.1 -0.1**
baz=247
SDPT Sand Point 29.14 57 P **P 20 50 16.0 +0.1**
baz=274
C16K Lisburne Hills 29.34 30 P **P 20 50 16.7 -0.7**
baz=246
H11N2 WAKE ISLAND Hy 29.39 155 T T 21 22 10.9
baz=340,slow=76,SNR=116
H11N1 WAKE ISLAND Hy 29.41 155 T T 21 22 12.1
baz=340,slow=76,SNR=79
H11N3 WAKE ISLAND Hy 29.41 155 T T 21 22 12.2
baz=340,slow=76,SNR=82
G16K Koyuk River 29.41 36 P **P 20 50 16.0 -2.1**
baz=254
N15K Kwethluk River 29.43 47 P **P 20 50 18.7 +0.2**
baz=266
O15K Ungalikthiuk R 29.50 49 P **P 20 50 19.0 0.0**
baz=268
S14K Fog Glacier 29.61 55 P **P 20 50 19.9 -0.3**
baz=273
J16K Anvik River 29.64 41 P **P 20 50 19.8 -0.4**
baz=260
I17K Unalakleet 29.72 39 P **P 20 50 20.4 -0.6**
baz=258
D17K Noatak River 29.89 31 P **P 20 50 22.1 -0.2**
baz=249
M16K Timber Creek 30.07 45 P **P 20 50 24.8 +0.7**
baz=265
N16K Nishlik Lake 30.11 46 P **P 20 50 24.2 -0.3**
baz=266
E17K Hotham Inlet 30.13 33 P **P 20 50 23.1 -1.4**
baz=252
F17K Baldwin Pennin 30.15 34 P **P 20 50 23.9 -0.8**
baz=254
C17K DeLong Mountai 30.15 30 P **P 20 50 24.6 -0.1**
baz=248
H17K Granite Mounta 30.29 37 P **P 20 50 25.5 -0.5**
baz=258
J17K VABM Dome 30.34 41 P **P 20 50 25.8 -0.5**
baz=261
HNS HongShan 30.39 266 ⇑P **P 20 50 27.3 +0.2**
HNS *e*S **S 20 55 28.3 +3.1**
HNS pmax pmax
comp=Z,11nm,1.3s
HNS LR LR
comp=Z,170nm,15.9s
HNS LR LR
comp=Z,260nm,16.7s
HNS LR LR
comp=Z,190nm,19.1s
O16K Kokwok River B 30.40 48 P **P 20 50 26.8 -0.2**
baz=268
H11S1 WAKE ISLAND Hy 30.49 156 T T 21 22 58.0
baz=343,slow=76,SNR=145
H11S3 WAKE ISLAND Hy 30.50 156 T T 21 22 50.3
baz=343,slow=76,SNR=118
L17K Donlin 30.51 43 P **P 20 50 27.7 -0.2**
baz=264
H11S2 WAKE ISLAND Hy 30.51 156 T T 21 22 51.6
baz=343,slow=76,SNR=117
K17K Iditarod 30.58 42 P **P 20 50 28.2 -0.4**
baz=263
E18K Tukpahlearik C 30.69 33 P **P 20 50 29.8 +0.3**
baz=253
NJ2 Nanjing 30.72 253 *e*P **P 20 50 31.8 +1.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
F18K Selawik 30.81 34 P **P 20 50 29.7 -0.8**
baz=255
C18K Utukok River 30.89 30 P **P 20 50 30.5 -0.9**
baz=250
N17K Nushagak Hills 30.90 46 P **P 20 50 31.9 +0.5**
baz=268
O17K Koliganek Bris 30.91 48 P **P 20 50 32.1 +0.6**
baz=269
B18K Kokolik River 30.95 29 P **P 20 50 31.3 -0.5**
baz=248
H18K Honhosa River 30.98 37 P **P 20 50 32.2 +0.2**
baz=259
G18K Tagagawik 31.02 36 P **P 20 50 31.7 -0.7**
G18K Tagagawik 31.02 36 P **P 20 50 32.9 +0.4**
baz=257
P17K Kvichak River 31.24 49 P **P 20 50 34.9 +0.6**
baz=271
L18K Granite Mounta 31.27 43 P **P 20 50 34.7 +0.1**
baz=265
ULN Ulaanbaatar 31.31 289 P **P 20 50 30.9 -4.4**
ULN Ulaanbaatar 31.31 289 *e*P **P 20 50 34.8 -0.6**
ULN Ulaanbaatar 31.31 289 *d*P **P 20 50 34.8 -0.6**
ULN pmax pmax
comp=Z,5.0nm,0.9s
J18K Innoko River 31.40 41 P **P 20 50 35.5 -0.3**
baz=263
A19K Wainwright 31.52 27 P **P 20 50 35.3 -1.3**
baz=248
Q17K Contact Creek 31.54 51 P **P 20 50 37.2 0.0**
baz=273
N18K Kilae Creek 31.55 46 P **P 20 50 37.3 +0.2**
baz=269
F19K Shaleruckik Mo 31.59 34 P **P 20 50 33.2 -4.2**
F19K Shaleruckik Mo 31.59 34 P **P 20 50 37.1 -0.3**
baz=257
C19K Lookout Ridge 31.60 30 P **P 20 50 35.8 -1.7**
C19K Lookout Ridge 31.60 30 P **P 20 50 36.9 -0.6**
baz=251
G19K Purcell Mounta 31.70 36 P **P 20 50 37.3 -1.1**
G19K Purcell Mounta 31.70 36 P **P 20 50 37.7 -0.7**
baz=258
SONM Songino Array 31.74 289 P **P 20 50 38.6 -0.5**
comp=Z,3.3nm,0.8s,baz=68,slow=8.4,SNR=24
SONM LR LR 21 04 30.3
comp=Z,384nm,18.1s,baz=76,slow=38
comp=Z,3.3nm,0.8s
TIY Taiyuan 31.77 268 *e*P **P 20 50 41.0 +1.6**
H19K Roundabout Mou 31.84 37 P **P 20 50 38.5 -1.0**
H19K IAmb IAmb 20 50 53.2
comp=Z,14nm,1.1s
H19K Roundabout Mou 31.84 37 P **P 20 50 38.8 -0.7**
baz=260,SNR=5.7
P18K Big Mountain, 31.86 49 P **P 20 50 39.6 -0.3**
baz=271
D19K Kuna River 31.91 31 P **P 20 50 40.1 -0.1**
D19K IAmb IAmb 20 50 54.2
comp=Z,9.0nm,1.1s
D19K Kuna River 31.91 31 P **P 20 50 39.0 -1.3**
baz=254,SNR=6.2
J19K Poorman 31.95 40 P **P 20 50 40.6 0.0**
J19K IAmb IAmb 20 50 53.8
comp=Z,9.5nm,1.1s
J19K Poorman 31.95 40 P **P 20 50 40.6 0.0**
baz=263
E19K Redstone River 31.95 33 P **P 20 50 40.9 +0.3**
E19K Redstone River 31.95 33 P **P 20 50 40.3 -0.3**
baz=256,SNR=6.9
Q18K Katmai Hardscr 31.99 50 P **P 20 50 41.1 -0.1**
baz=273
L19K White Mountain 32.12 43 P **P 20 50 42.5 +0.4**
baz=267
N19K Bonanza Creek 32.24 46 P **P 20 50 43.5 +0.2**
baz=270
M19K Big River Lodg 32.32 44 P **P 20 50 44.1 +0.2**
baz=268
R18K Karluk 32.34 52 P **P 20 50 45.2 +1.1**
baz=275
F20K Avaraart Lake 32.43 34 P **P 20 50 45.1 +0.4**
baz=258
H20K Anotleneega Mo 32.48 37 P **P 20 50 45.0 -0.2**
baz=262,SNR=5.3
D20K Etivluk River 32.50 31 P **P 20 50 45.4 -0.1**
baz=255,SNR=9.7
E20K Nigu River 32.53 32 P **P 20 50 45.8 0.0**
baz=256,SNR=9.6
K20K Telida 32.57 41 P **P 20 50 46.6 +0.5**
baz=266
L20K Farewell, AK 32.59 43 P **P 20 50 46.7 +0.4**
baz=268
J20K Nowinta River 32.61 40 P **P 20 50 46.8 +0.4**
J20K IAmb IAmb 20 51 00.2
comp=Z,8.2nm,1.1s
J20K Nowinta River 32.61 40 P **P 20 50 46.6 +0.2**
baz=265
B20K Meade River 32.70 29 P **P 20 50 47.0 -0.1**
baz=252
OHAK Old Harbor 32.99 53 P **P 20 50 51.1 +1.4**
baz=276
G21K Allakaket 33.19 36 P **P 20 50 51.7 +0.3**
G21K Allakaket 33.19 36 P **P 20 50 51.3 -0.1**
baz=262
C21K Knifeblade Rid 33.26 31 P **P 20 50 52.0 0.0**
baz=256,SNR=10
A21K Barrow 33.30 26 P **P 20 50 52.3 0.0**
baz=251
F21K Alatna River 33.32 34 **P 20 50 53.2 +0.6**
F21K Alatna River 33.32 34 P **P 20 50 53.2 +0.6**
baz=260
KDAK Kodiak Island 33.32 52 P **P 20 50 54.1 +1.5**
baz=276
KDAK Kodiak Island 33.32 52 LR LR 21 04 14.4
comp=Z,140nm,22.0s,baz=262,slow=36
H21K Melozitna Rive 33.35 37 P **P 20 50 53.2 +0.3**
H21K IAmb IAmb 20 51 07.2
comp=Z,11nm,1.1s
H21K Melozitna Rive 33.35 37 P **P 20 50 53.2 +0.3**
baz=264,SNR=8.7
E21K Killik River 33.38 32 P **P 20 50 53.0 -0.1**
baz=258
CHUM Lake Minchumin 33.39 40 P **P 20 50 53.3 +0.1**
baz=267
B21K Ikpikpuk River 33.44 30 P **P 20 50 53.9 +0.4**
baz=256
LYN LuoYang 33.46 263 ⇓P **P 20 50 55.3 +1.2**
LYN pmax pmax
comp=Z,30nm,0.6s
LYN LR LR
comp=Z,200nm,12.0s
LYN LR LR
comp=Z,460nm,12.7s
LYN LR LR
comp=Z,370nm,13.4s
CAST Castle Rocks 33.47 41 P **P 20 50 54.1 +0.2**
baz=268
SKT Skwentna 33.68 44 P **P 20 50 55.9 +0.1**
SKT IAmb IAmb 20 51 09.9
comp=Z,15nm,1.4s

A22K	Sinclair Lake	33.70	27	P	P	20 50 55.3	-0.5
	baz=253						
F22K	John River	33.87	34	P	P	20 50 57.2	-0.1
	baz=261						
D22K	Ayikyak River	33.93	31	P	P	20 50 58.6	+0.7
D22K				IAmb	IAmb	20 51 23.5	
	comp=Z,12nm,1.5s						
D22K	Ayikyak River	33.93	31	P	P	20 50 58.2	+0.4
	baz=259						
H22K	Ishtalitna Cre	33.97	37	P	P	20 50 58.6	+0.4
	baz=265						
BPAW	Bear Paw Mtn.	33.99	40	P	P	20 50 58.8	+0.4
BPAW				IAmb	IAmb	20 51 12.1	
	comp=Z,11nm,1.1s						
BPAW	Bear Paw Mtn.	33.99	40	P	P	20 50 58.6	+0.2
	baz=268,SNR=5.7						
G22K	Bettles	34.04	35	P	P	20 50 58.7	0.0
	baz=263,SNR=9.5						
SUA	Susitna One	34.05	45	P	P	20 50 59.4	+0.3
	baz=272						
E22K	Anaktuvuk Pass	34.11	33	P	P	20 50 59.5	0.0
	baz=261						
BRSE	Bradley Lake S	34.13	48	P	P	20 50 59.2	-0.5
	baz=274						
MLY	Manley	34.15	38	P	P	20 51 00.2	+0.3
MLY				IAmb	IAmb	20 51 13.8	
	comp=Z,9.6nm,1.1s						
MLY	Manley	34.15	38	P	P	20 50 59.8	-0.1
	baz=266,SNR=5.4						
GUMO	Guam	34.41	196	LR	LR	21 03 57.4	
	comp=Z,33nm,19.6s,baz=356,slow=34						
COLD	Coldfoot	34.58	35	P	P	20 51 03.0	-0.5
	baz=264						
G23K	Bananza Creek	34.59	35	P	P	20 51 03.9	+0.2
G23K	Bananza Creek	34.59	35	P	P	20 51 03.6	-0.1
	baz=265						
D23K	Nanushuk River	34.66	31	P	P	20 51 03.9	-0.2
	baz=261,SNR=6.1						
H23K	Yukon River	34.71	37	P	P	20 51 04.8	+0.1
H23K				IAmb	IAmb	20 51 18.9	
	comp=Z,12nm,1.2s						
H23K	Yukon River	34.71	37	P	P	20 51 04.4	-0.2
	baz=266						
I23K	Minto, Yukon-K	34.74	38	IAmb	IAmb	20 51 20.4	
	comp=Z,8.0nm,1.1s						
I23K	Minto, Yukon-K	34.74	38	P	P	20 51 04.5	-0.3
	baz=268						
SEW	Seward	34.75	47	P	P	20 51 04.5	-0.5
	baz=275						
C23K	Itkillik River	34.84	30	IAmb	IAmb	20 51 07.8	
	comp=Z,11nm,0.8s						
C23K	Itkillik River	34.84	30	P	P	20 51 04.8	-0.9
	baz=260,SNR=6.3						
NEA2	Nenana	34.84	39	IAmb	IAmb	20 51 12.4	
	comp=Z,9.1nm,0.7s						
NEA2	Nenana	34.84	39	P	P	20 51 05.1	-0.7
	baz=269,SNR=15						
MCK	McKinley	34.88	41	P	P	20 51 05.9	-0.3
	baz=270						
E23K	Chandalar	34.91	33	P	P	20 51 05.9	-0.5
	baz=263,SNR=10						
RND	Reindeer	34.92	41		P	20 51 06.5	0.0
RND				IAmb	IAmb	20 51 19.9	
	comp=Z,9.7nm,1.0s						
RND	Reindeer	34.92	41	P	P	20 51 06.5	0.0
RND				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TOLK	Toolik Lake Re	35.01	32	P	P	20 51 07.3	+0.1
TOLK				IAmb	IAmb	20 51 21.2	
	comp=Z,8.0nm,1.1s						
TOLK	Toolik Lake Re	35.01	32	P	P	20 51 06.2	-1.0
	baz=262,SNR=7.5						
WAT1	Susitna Watana	35.06	42	P	P	20 51 07.2	-0.5
	baz=272						
KNK	Knik Glacier	35.16	45	P	P	20 51 07.4	-1.1
KNK				IAmb	IAmb	20 51 21.9	
	comp=Z,22nm,1.2s						
SML	Sawmill	35.20	44	P	P	20 51 08.7	-0.2
SML	Sawmill	35.20	44	P	P	20 51 08.3	-0.6
	baz=273,SNR=11						
SML	Sawmill	35.20	44	P	P	20 51 08.7	-0.2
SML				pmax	pmax		
	comp=Z,29nm,0.8s						
MDM	Murphy Dome	35.22	39	IAmb	IAmb	20 51 22.7	
	comp=Z,8.2nm,0.9s						
PWL	Port Wells	35.25	46	P	P	20 51 09.1	-0.3
	baz=275						
WRH	Wood River Hil	35.26	39		P	20 51 09.4	+0.1
WRH				IAmb	IAmb	20 51 24.6	
	comp=Z,7.3nm,0.9s						
E24K	Your Creek	35.33	33	IAmb	IAmb	20 51 24.3	
	comp=Z,12nm,1.1s						
E24K	Your Creek	35.33	33	P	P	20 51 09.0	-1.0
	baz=264,SNR=14						
D24K	Happy Valley	35.35	31	IAmb	IAmb	20 51 11.9	
	comp=Z,9.7nm,0.8s						
D24K	Happy Valley	35.35	31	P	P	20 51 09.0	-1.0
	baz=262						
COLA	College	35.37	39*c*	*i*P	P	20 51 11.0	+0.7
COLA				pmax	pmax		
	comp=Z,11nm,0.6s						
H24K	Noodor Dome	35.40	37	IAmb	IAmb	20 51 24.7	
	comp=Z,11nm,1.3s						
H24K	Noodor Dome	35.40	37	P	P	20 51 10.1	-0.5
	baz=268						
WAT6	Susitna Watana	35.44	43	P	P	20 51 11.6	+0.4
	baz=273						
C24K	Franklin Bluff	35.48	30	P	P	20 51 10.6	-0.6
	baz=262						
M23K	Glacier View	35.48	44	P	P	20 51 11.8	+0.4
	baz=274						
F24K	Squaw Lake	35.51	34	P	P	20 51 12.1	+0.6
F24K	Squaw Lake	35.51	34	P	P	20 51 11.1	-0.4
	baz=266						
POKR	Poker Plat Res	35.56	38	P	P	20 51 11.6	-0.3
	baz=270						
DHY	Denali Highway	35.59	42	P	P	20 51 12.0	-0.4
DHY				IAmb	IAmb	20 51 26.0	
	comp=Z,12nm,1.1s						
DHY	Denali Highway	35.59	42	P	P	20 51 12.5	+0.1
	baz=272,SNR=7.4						
G24K	Hadweenzic Riv	35.60	36	IAmb	IAmb	20 51 26.9	
	comp=Z,19nm,1.1s						
G24K	Hadweenzic Riv	35.60	36	P	P	20 51 12.4	0.0
	baz=267,SNR=16						
SCM	Sheep Creek Mo	35.67	44	P	P	20 51 13.2	+0.2
	baz=274						
HDA	Harding Lake	35.76	40	IAmb	IAmb	20 51 27.0	
	comp=Z,10nm,1.0s						
HDA	Harding Lake	35.76	40	P	P	20 51 13.4	-0.2
	baz=271,SNR=5.7						
ILAR	Eielson Array	35.78	39	P	P	20 51 13.4	-0.4
	comp=Z,1.3nm,0.8s,baz=250,slow=7.5,SNR=21						
ILAR				LR	LR	21 06 06.0	
	comp=Z,110nm,21.1s,baz=292,slow=37						
	comp=Z,1.3nm,0.8s						
P23K	Montague Islan	35.78	47	P	P	20 51 13.7	-0.2
	baz=277						
TWG	Pinlang	35.91	239	P	P	20 51 16.0	+0.7
TWG				IAmb	IAmb	20 51 24.5	
	comp=Z,22nm,1.2s						
G25K	Bearman Lake	36.15	36	P	P	20 51 16.7	-0.3
	baz=268,SNR=5.5						
XAN	Xi'an	36.16	265	⇓P	P	20 51 17.8	+0.3
XAN				S	S	20 56 59.8	+4.9
XAN				pmax	pmax		
	comp=Z,35nm,0.9s						
XAN				pmax	pmax		
	comp=Z,100nm,5.2s						
XAN				LR	LR		
	comp=Z,540nm,16.7s						
XAN				LR	LR		
	comp=Z,340nm,14.8s						
XAN				LR	LR		
	comp=Z,650nm,14.8s						
M24K	Tolsona, Glenn	36.20	44	P	P	20 51 18.0	+0.5
	baz=275						
D25K	Kavik River	36.24	31	IAmb	IAmb	20 51 19.5	
	comp=Z,11nm,0.8s						
D25K	Kavik River	36.24	31	P	P	20 51 17.6	-0.1
	baz=265,SNR=19						
H25L	Birch Creek	36.25	36	P	P	20 51 18.0	+0.2
	baz=269						
PRP	Porcupine Dome	36.36	38	IAmb	IAmb	20 51 32.8	
	comp=Z,9.7nm,1.0s						
PRP	Porcupine Dome	36.36	38	P	P	20 51 18.2	-0.7
	baz=271						
KLU	Klutina	36.36	45	P	P	20 51 18.5	-0.4
KLU				IAmb	IAmb	20 51 32.8	
	comp=Z,16nm,1.2s						
F25K	Christian Rive	36.37	34	P	P	20 51 18.1	-0.8
	baz=268						
J25K	Salcha River,	36.44	39	P	P	20 51 18.9	-0.6
	baz=272,SNR=7.5						
PAX	Paxson	36.46	42	P	P	20 51 19.2	-0.6
	baz=274						
FYU	Fort Yukon	36.49	36	P	P	20 51 20.8	+1.0
FYU				IAmb	IAmb	20 51 34.5	
	comp=Z,22nm,1.0s						
C26K	Camden Bay	36.80	30	P	P	20 51 22.0	-0.5
	baz=265,SNR=6.5						
F26K	Sheenjek River	36.95	34	P	P	20 51 23.7	-0.1
	baz=269						
N25K	Chitina, Valde	36.98	44	P	P	20 51 24.3	+0.1
	baz=277						
BMRM	Bremner River	37.05	45	P	P	20 51 24.5	-0.3
	baz=278						
SCRK	Sand Creek	37.07	40	P	P	20 51 24.5	-0.5
SCRK	Sand Creek	37.07	40	P	P	20 51 24.5	-0.5
	baz=274						
G26K	Porcupine Rive	37.07	35	P	P	20 51 24.1	-0.6
	baz=270,SNR=11						
C27K	Jago River	37.20	31	P	P	20 51 25.1	-0.8
	baz=267,SNR=7.5						
J26L	Joseph Creek	37.22	39	P	P	20 51 25.8	-0.4
	baz=274						
KAIM	Kayak Island	37.28	47	P	P	20 51 27.3	+0.7
	baz=279						
L26K	Log Cabin Wild	37.43	42	P	P	20 51 29.2	+1.3
VRDI	Verde Repeater	37.58	45	IAmb	IAmb	20 51 43.0	
	comp=Z,9.9nm,1.1s						
M26K	Nabesna, AK	37.65	43	IAmb	IAmb	20 51 44.7	
	comp=Z,12nm,0.9s						
M26K	Nabesna, AK	37.65	43	P	P	20 51 30.1	+0.3
	baz=277						
CRQM	Cirque	37.79	45	P	P	20 51 30.5	-0.7
CRQE	Cirque	37.81	45	P	P	20 51 32.1	+0.8
	baz=279						
K27K	Chicken	37.90	40	P	P	20 51 32.3	+0.4
	baz=276						
G27K	Doyon Strip	37.91	36	P	P	20 51 32.3	+0.3
	baz=272						
E27K	Coleen River	37.92	33	P	P	20 51 32.1	+0.1
	baz=271,SNR=5.7						
I27K	Kandik River	37.98	37	P	P	20 51 32.1	-0.6
	baz=274						
H27K	Steamboat Moun	37.99	36	P	P	20 51 32.6	0.0
	baz=273						
ENH	Enshi	38.05	260	P	P	20 51 32.6	-1.0
ENH				IAmb	IAmb	20 51 34.3	
	comp=Z,24nm,1.5s						
L27K	Beaver Creek,	38.11	42	IAmb	IAmb	20 51 48.9	
	comp=Z,31nm,1.5s						
L27K	Beaver Creek,	38.11	42	P	P	20 51 33.1	-0.6
	baz=277,SNR=12						
D27M	Malcolm River	38.15	32	P	P	20 51 33.7	-0.3
	baz=270,SNR=7.1						
M27K	Edge Creek, AK	38.17	43	P	P	20 51 34.5	+0.1
	baz=278						
EGAK	Eagle	38.24	39	IAmb	IAmb	20 51 47.6	
	comp=Z,18nm,1.1s						
EGAK	Eagle	38.24	39	P	P	20 51 35.0	+0.3
	baz=276,SNR=10.0						
LZH	Lanzhou	38.48	272	*e*P	P	20 51 38.3	+1.1
LZH				sP	pwP	20 51 48.5	-1.8
LZH				PP	PP	20 53 05.5	0.0
LZH				pmax	pmax		
	comp=Z,32nm,1.4s						
LZH				LR	LR		
	comp=Z,230nm,14.1s						
LZH				LR	LR		
	comp=Z,230nm,14.1s						
LZH				LR	LR		
	comp=Z,370nm,14.4s						
F28M	Old Crow	38.58	34	P	P	20 51 37.1	-0.4
	baz=273						
CTG	Chitna Glacier	38.63	45	P	P	20 51 38.4	+0.2
	baz=280						
CTGM	Chitina Glacie	38.63	45	P	P	20 51 38.9	+0.6
CTGM				IAmb	IAmb	20 51 52.6	
	comp=Z,13nm,0.8s						
E28M	Babbage River	38.67	33	P	P	20 51 38.1	-0.3
	baz=272						
I28M	Miner Creek	38.70	38	IAmb	IAmb	20 51 52.5	
	comp=Z,12nm,1.1s						
I28M	Miner Creek	38.70	38	P	P	20 51 38.7	+0.1
	baz=276						
YUK3	Moose Creek	38.92	44	P	P	20 51 41.1	+0.4
	baz=280						
D28M	Stokes Point	38.95	31	P	P	20 51 40.6	+0.1
	baz=272						
DAWY	Dawson	39.08	40	P	P	20 51 41.4	-0.4
	baz=278						
O28M	Mount Upton	39.22	45	P	P	20 51 43.2	0.0
	baz=281						
H29M	Whitestone	39.27	36	IAmb	IAmb	20 51 57.3	
	comp=Z,11nm,0.9s						
H29M	Whitestone	39.27	36	P	P	20 51 43.0	-0.3
	baz=276,SNR=5.8						
E29M	Blow River	39.29	33	P	P	20 51 43.3	-0.1
	baz=274						
G29M	Pine Creek	39.34	35	IAmb	IAmb	20 51 46.6	
	comp=Z,9.3nm,0.8s						
G29M	Pine Creek	39.34	35	P	P	20 51 43.5	-0.4
	baz=276,SNR=6.5						
I29M	Ogilvie Camp,	39.38	38	P	P	20 51 44.2	-0.1
	baz=277						
GTA	Gaotai	39.49	279	P	P	20 51 46.0	+0.3
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GTA				LR	LR		
	comp=Z,260nm,15.9s						
GTA				LR	LR		
	comp=Z,150nm,16.7s						
GTA				LR	LR		
	comp=Z,220nm,14.3s						
M29M	Somme Creek	39.73	42	P	P	20 51 47.5	+0.1
	baz=281						
L29M	L29M	39.77	41	P	P	20 51 48.0	+0.4
	baz=280,SNR=7.3						
PNL	Peninsula	39.83	47	P	P	20 51 48.4	+0.3
	baz=283						
YUK4	Talbot Arm	39.85	44	P	P	20 51 49.0	+0.6
	baz=282						
EPYK	Eagle Plains	39.91	36	IAmb	IAmb	20 52 03.0	
	comp=Z,13nm,1.1s						
EPYK	Eagle Plains	39.91	36	P	P	20 51 49.1	+0.4
	baz=277,SNR=5.6						
K29M	Barlow Dome	39.92	40	P	P	20 51 48.1	-0.8
	baz=280						
G30M	tAoh Zraii Nji	40.04	35	P	P	20 51 49.9	+0.1
	baz=277						
YUK6	Outpost Mounta	40.06	45	P	P	20 51 50.3	+0.1
	baz=282						
O29M	Mount Kennedy	40.09	46	P	P	20 51 50.5	+0.2
	baz=283						
F30M	Barrier River	40.14	34	P	P	20 51 50.4	-0.1
	baz=277						
I30M	Mount Dempster	40.20	38		P	20 51 51.7	+0.5
I30M				IAmb	IAmb	20 52 05.2	
	comp=Z,11nm,1.0s						
I30M	Mount Dempster	40.20	38	P	P	20 51 51.5	+0.2
	baz=279,SNR=9.4						
J30M	Hart River	40.32	39	P	P	20 51 52.7	+0.5
	baz=280						
M30M	Minto, Yukon	40.47	42	P	P	20 51 53.2	-0.2
	baz=282						
N30M	Aishikik Lake	40.56	44	P	P	20 51 54.3	+0.1
	baz=283						
P29M	Windy Craggy	40.66	46	P	P	20 51 55.3	+0.4
	baz=284						
GULI	GuiLin	40.76	253	P	P	20 51 57.0	+0.8
GULI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
G31M	Satah River	40.81	35	P	P	20 51 56.2	+0.2
	baz=279						
INK	Inuvik	40.91	33	P	P	20 51 57.2	+0.4
INK	Inuvik	40.91	33	P	P	20 51 57.0	+0.2
	baz=278						
INK	Inuvik	40.91	33	P	P	20 51 57.2	+0.4
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
P30M	Million Dollar	40.92	46	P	P	20 51 57.4	+0.2
	baz=284						
N31M	Braeburn, Yuko	41.17	43	P	P	20 51 59.7	+0.6
N31M				IAmb	IAmb	20 52 14.0	
	comp=Z,16nm,1.1s						
O30N	Mendenhall	41.19	44	P	P	20 51 59.6	+0.3
	baz=284						
WHY	Whitehorse	41.79	44	P	P	20 52 04.6	+0.3
	baz=285						
S31K	Pelican	41.85	49	P	P	20 52 05.0	+0.4
	baz=287						
SKAG	Skagway	41.89	46	P	P	20 52 06.0	+1.0
	baz=286						
FARO	Faro, Yukon	42.11	42	P	P	20 52 06.6	-0.3
	baz=285						
GYA	Guiyang	42.41	258	⇓P	P	20 52 10.3	+0.5
GYA				pmax	pmax		
	comp=Z,18nm,0.9s						
ZALV	Zalesovo Beam	42.82	306	P	P	20 52 11.6	-1.0
	comp=Z,8.2nm,0.7s,baz=65,slow=7.2,SNR=40						
ZALV				PcP	PcP	20 54 03.5	+0.3
	comp=Z,1.9nm,0.8s,baz=90,slow=2.9,SNR=4.7						
ZALV				LR	LR	21 11 23.1	
	comp=Z,274nm,18.1s,baz=66,slow=38						
	comp=Z,8.2nm,0.7s						
S32K	Killisnoo	42.85	49	P	P	20 52 12.6	-0.2
	baz=289						
P33M	Teslin, Yukon	42.90	45	P	P	20 52 13.5	+0.2
P33M	Teslin, Yukon	42.90	45	P	P	20 52 13.1	-0.2
	baz=287						
MMPY	Sheldon Lake,	42.95	41	P	P	20 52 12.9	-0.8
	baz=286						
A36M	Sachs Harbour	43.14	27	IAmb	IAmb	20 52 17.9	
	comp=Z,16nm,0.9s						
A36M	Sachs Harbour	43.14	27	P	P	20 52 13.9	-1.1
	baz=281						
R33M	Jennings River	44.03	45	P	P	20 52 23.1	+0.5
R33M	Jennings River	44.03	45	P	P	20 52 22.7	+0.2
	baz=289						
C36M	Paulatuk	44.09	30		P	20 52 23.7	+1.0
C36M				IAmb	IAmb	20 52 24.6	
	comp=Z,8.2nm,0.8s						
C36M	Paulatuk	44.09	30	P	P	20 52 22.0	-0.6
	baz=285,SNR=10						
GOMU	GeErMu	44.54	278	P	P	20 52 27.3	+0.1
GOMU				pP	pP	20 52 31.0	-5.7
GOMU				sP	pwP	20 52 34.8	-5.3
GOMU				pmax	pmax		
	comp=Z,20nm,1.0s						
WMQ	Urumqi	45.31	291	*e*P	P	20 52 33.5	+0.6
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				LR	LR		
	comp=Z,280nm,16.9s						
WMQ				LR	LR		
	comp=Z,380nm,15.1s						
WMQ				LR	LR		
	comp=Z,230nm,18.5s						
ZSN	Zaisan	45.39	297	*e*P	P	20 52 32.3	-1.0
	baz=297						
ZSN				*e*S	S	20 59 11.2	-0.8
	baz=297						
ZSN	Zaisan	45.39	297	*e*P	P	20 52 32.3	-1.0
ZSN				*e*S	S	20 59 11.1	-0.8
PZH	PanZhiHua	45.68	262	P	P	20 52 37.8	+1.8
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.7s						
KMI	Kunming	45.93	260	⇑P	P	20 52 38.3	+0.2
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MK31	Makanchi Array	47.25	297	*c*eP	P	20 52 47.0	-1.0
MKAR	Makanchi Array	47.25	297	P	P	20 52 47.3	-0.7
	comp=Z,8.1nm,0.8s,baz=64,slow=7.7,SNR=88						
MKAR				PcP	PcP	20 54 18.8	0.0
	comp=Z,0.9nm,0.8s,baz=69,slow=3.6,SNR=2.8						
MKAR				LR	LR	21 13 09.0	
	comp=Z,110nm,18.8s,baz=350,slow=37						
	comp=Z,8.1nm,0.8s						
MAKZ	Makanchi	47.44	297	P	P	20 52 48.5	-0.9
MAKZ				IAmb	IAmb	20 52 50.0	
	comp=Z,9.8nm,1.1s						
MAKZ	Makanchi	47.44	297	P	P	20 52 48.5	-0.9
MAKZ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KURK	Kurchatov	47.60	304	P	P	20 52 48.7	-1.8
KURK	Kurchatov	47.60	304	*e*P	P	20 52 49.6	-1.0
KURK	Kurchatov	47.60	304	*c i*P	P	20 52 49.6	-1.0
KURK				pmax	pmax		
	comp=Z,37nm,0.8s						
KURBB	Kurchatov Arra	47.69	304	P	P	20 52 50.3	-1.0
	comp=Z,26nm,0.8s,baz=67,slow=8.5,SNR=143						
KURBB				PcP	PcP	20 54 20.1	-0.1
	comp=Z,1.9nm,0.9s,baz=62,slow=3.3,SNR=4.5						
KURBB				LR	LR	21 13 58.9	
	comp=Z,184nm,20.1s,baz=163,slow=37						
	comp=Z,26nm,0.8s						
TNCH	TengChong	48.83	263	P	P	20 53 01.5	+0.8
TNCH				pmax	pmax		
	comp=Z,20nm,1.0s						
RSD	Rainshed	49.50	106	P	P	20 53 11.8	+6.1
UWE	Uwekahuna	49.52	106	P	P	20 53 10.6	+4.7
WRMHI	West Rim	49.53	106	P	P	20 53 10.6	+4.6
UWB	Uwekahuna B	49.53	106	P	P	20 53 09.9	+4.0
OBL	Observatory Le	49.53	106	P	P	20 53 10.0	+4.1
SBLHI	Steaming Bluff	49.53	106	P	P	20 53 09.9	+4.0
HATHI	Halema'uma'u T	49.54	106	P	P	20 53 09.7	+3.6
SDHHI	Sand Hill	49.54	106	P	P	20 53 09.1	+3.1
BYL	Byron's Ledge	49.55	106	P	P	20 53 09.0	+3.0
RIM	Rim	49.55	106	P	P	20 53 09.1	+3.0
KKO	Keanakako`i	49.56	106	P	P	20 53 08.6	+2.5
NPOC	North of Pu'u	49.66	106	P	P	20 53 11.7	+4.8
JCUZ	Jacuzzi	49.67	106	P	P	20 53 11.8	+4.8
YKA	Yellowknife Ar	50.17	37	P	P	20 53 07.8	-2.3
	comp=Z,1.9nm,0.8s,baz=296,slow=7.7,SNR=5.1						
YKA				LR	LR	21 16 16.2	
	comp=Z,46nm,20.9s,baz=330,slow=38						
	comp=Z,1.9nm,0.8s						
SHLS	Shalkode	50.82	295	*e*P	P	20 53 12.7	-2.8
	baz=294						
SHLS	Shalkode	50.82	295	*e*P	P	20 53 12.9	-2.6
SHLS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LSA	Lhasa	50.85	273	P	P	20 53 18.5	+2.2
LSA				pmax	pmax		
	comp=Z,24nm,0.9s						
BVAR	Borovoye Array	51.01	309	P	P	20 53 15.2	-1.4
	comp=Z,4.0nm,0.3s,baz=53,slow=7.9,SNR=34						
BVAR				PcP	PcP	20 54 32.5	+0.2
	comp=Z,2.1nm,0.7s,baz=116,slow=3.4,SNR=4.2						
BVAR				LR	LR	21 16 43.6	
	comp=Z,218nm,18.8s,baz=64,slow=38						
	comp=Z,4.0nm,0.3s						
UZB	Uzynbulak	51.09	295	*e*P	P	20 53 16.8	-0.8
	comp=Z,5.4nm,0.9s,baz=295						
UZB	Uzynbulak	51.09	295	*e*P	P	20 53 16.7	-0.8
UZB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KPKS	Kokpek	51.13	295	*e*P	P	20 53 17.3	-0.5
	baz=295						
KPKS	Kokpek	51.13	295	*e*P	P	20 53 17.0	-0.8
KPKS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARXS	Arharly	51.26	296	*e*P	P	20 53 17.7	-1.0
ZHN	Zhinishke	51.45	295	*e*P	P	20 53 19.4	-0.8
	comp=Z,5.0nm,0.8s,baz=295						
ZHN	Zhinishke	51.45	295	*e*P	P	20 53 19.4	-0.8
ZHN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SATY	Saty	51.52	295	*e*P	P	20 53 20.1	-0.7
	baz=295						
SATY	Saty	51.52	295	*e*P	P	20 53 20.1	-0.7
CHKK	Chushkaly	51.97	296	*e*P	P	20 53 22.9	-1.0
	baz=297						
CHKK	Chushkaly	51.97	296	*e*P	P	20 53 22.9	-1.0
PHRA	Phrae	52.19	256	P	P	20 53 27.1	+1.3
MDOK	Medeo	52.30	296	*e*P	P	20 53 25.6	-1.0
	baz=296						
MDOK	Medeo	52.30	296	*e*P	P	20 53 25.6	-1.0
AAA	Alma-Ata	52.36	296	*e*P	P	20 53 25.9	-1.0
	comp=Z,5.9nm,0.4s,baz=296						
AAA	Alma-Ata	52.36	296	*e*P	P	20 53 25.9	-1.0
AAA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TNSS	Tian-Shan	52.43	296	*e*P	P	20 53 26.6	-1.4
	baz=296						
TNSS	Tian-Shan	52.43	296	*e*P	P	20 53 26.5	-1.4
CHTO	Chiang Mai	52.82

CHTO IAmb IAmb 20 53 33.0
comp=Z,8.3nm,0.9s
CHTO Chiang Mai 52.82 257 P **P** **20 53 30.7 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
SHL Shillong 52.99 269 P **P** **20 53 31.0 -0.9**
SHL IAmb IAmb 20 53 32.9
comp=Z,13nm,0.9s
SHL Shillong 52.99 269 P **P** **20 53 31.0 -0.9**
SHL pmax pmax
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 53.07 257 P **P** **20 53 32.7 +0.3**
comp=Z,3.2nm,0.9s,baz=34,slow=7.3,SNR=12
CMAR LR LR 21 20 07.7
comp=Z,56nm,18.1s,baz=60,slow=40
comp=Z,3.2nm,0.9s
BTLS Baital 53.10 299 *e*P **P** **20 53 31.2 -1.0**
baz=299
BTLS Baital 53.10 299 *e*P **P** **20 53 31.1 -1.1**
BTLS pmax pmax
comp=Z,3.0nm,1.1s
BOOM Boomskoye usch 53.35 296 IAmb IAmb 20 53 35.4
comp=Z,9.0nm,1.0s
SGDS Sogindy 53.62 297 *e*P **P** **20 53 35.6 -0.6**
comp=Z,9.3nm,1.1s,baz=297
SGDS Sogindy 53.62 297 *e*P **P** **20 53 35.6 -0.6**
SGDS pmax pmax
comp=Z,9.0nm,1.1s
SVE Sverdlovsk 53.88 317 *e*P **P** **20 53 37.9 +0.1**
SVE pmax pmax
comp=Z,23nm,0.9s
AAK Ala-Archa 54.16 296 P **P** **20 53 39.6 -0.7**
AAK IAmb IAmb 20 53 41.4
comp=Z,8.4nm,0.8s
AAK Ala-Archa 54.16 296 LR LR 21 18 03.9
comp=Z,280nm,18.1s,baz=49,slow=38
AAK Ala-Archa 54.16 296 *e*P **P** **20 53 40.0 -0.2**
AAK Ala-Archa 54.16 296*ce*P **P** **20 53 40.0 -0.2**
AAK pmax pmax
comp=Z,8.0nm,0.7s
KSH Kashi 55.02 293 P P 20 53 50.5 +4.0
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH LR LR
comp=Z,240nm,15.7s
KSH LR LR
comp=Z,350nm,14.6s
KSH LR LR
comp=Z,410nm,16.4s
ARU Arti 55.06 318 P **P** **20 53 45.1 -1.3**
ARU Arti 55.06 318 LR LR 21 19 31.0
comp=Z,134nm,19.1s,baz=46,slow=38
ARU Arti 55.06 318 *e*P **P** **20 53 45.4 -0.9**
ARU Arti 55.06 318*c i*P **P** **20 53 45.4 -0.9**
ARU *PP **pwP** **20 53 57.9 -1.3**
ARU 20 54 44.8
ARU 20 55 45.7
ARU S **S** **21 01 25.6 -0.5**
ARU SS **SS** **21 05 08.3 -1.1**
ARU pmax pmax
comp=Z,28nm,0.8s
ARU MLR MLR
comp=Z,133nm,14.0s
KKAR Karatay Array 56.29 299 IAmb IAmb 20 53 55.8
comp=Z,6.2nm,0.8s
HNR Honiara 56.67 173 LR LR 21 18 27.8
comp=Z,843nm,18.7s,baz=16,slow=36
YBH Yreka Blue Hor 56.98 62 LR LR 21 15 46.9
comp=Z,34nm,19.6s,baz=310,slow=33
APA Apatity 57.12 337*i*P **P** **20 53 58.5 -2.4**
APA pmax pmax
comp=Z,4.0nm,0.8s
IUG Iuzhnay 57.14 298 *e*P **P** **20 54 01.0 -0.6**
comp=Z,10nm,0.8s,baz=298
IUG Iuzhnay 57.14 298 *e*P **P** **20 54 01.0 -0.6**
IUG pmax pmax
comp=Z,10.0nm,0.8s
CHM Chimkent 57.29 299 *e*P **P** **20 54 02.1 -0.5**
baz=299
CHM Chimkent 57.29 299 *e*P **P** **20 54 02.0 -0.5**
ARCES ARCESS Array B 57.59 341 P **P** **20 54 03.0 -1.2**
comp=Z,0.7nm,0.4s,baz=34,slow=8.8,SNR=9.6
comp=Z,0.7nm,0.4s
KIRV Kirov 57.75 323 LR LR 21 20 57.3
comp=Z,77nm,18.7s,baz=50,slow=38
KIRV Kirov 57.75 323*ce*P **P** **20 54 04.8 -0.6**
BTK Batken 57.91 296 IAmb IAmb 20 54 08.1
comp=Z,9.1nm,0.8s
ABKAR Akbulak array 58.58 310 IAmb IAmb 20 54 11.9
comp=Z,8.9nm,0.9s
AKTO Aktyubinsk 58.85 312 LR LR 21 21 54.1
comp=Z,216nm,18.8s,baz=145,slow=38
MSF Maaselka 59.52 337 P **P** **20 54 18.2 +0.5**
MSF pmax pmax
comp=Z,9.0nm,0.9s
CHGR Chuyangaron 59.78 296 P **P** **20 54 19.9 -0.1**
CHGR pmax pmax
comp=Z,44nm,0.9s
SIMJ Simiganj 59.87 296 P **P** **20 54 19.8 -0.9**
SUMG Summit 60.17 4 P **P** **20 54 22.9 +0.4**
SUMG Summit 60.17 4 P **P** **20 54 22.9 +0.4**
SUMG pmax pmax
comp=Z,29nm,1.0s
NIL Nilore 60.33 289 P **P** **20 54 23.9 +0.1**
NIL Nilore 60.33 289 P **P** **20 54 23.9 +0.1**
NIL pmax pmax
comp=Z,20nm,1.0s
JOF Joensuu 61.16 334 *e*P **P** **20 54 28.7 -0.2**
VALR Valaam 62.48 333*c i*P **P** **20 54 37.6 -0.2**
VALR pmax pmax
comp=Z,11nm,0.9s
BELG Belogornoye 62.57 319 LR LR 21 23 10.2
comp=Z,89nm,20.1s,baz=62,slow=37
BELG Belogornoye 62.57 319*d i*P **P** **20 54 37.3 -1.2**
BELG pmax pmax
comp=Z,4.0nm,1.0s
VAF Ylistaro 63.48 338 *e*P **P** **20 54 44.7 +0.3**
KEF Keuruu 63.61 336 *e*P **P** **20 54 45.2 -0.1**
FINES FINESS Array B 63.85 335 P **P** **20 54 46.8 -0.1**
comp=Z,3.2nm,0.3s,baz=35,slow=7.4,SNR=92
comp=Z,3.2nm,0.3s
PDAR Pinedale Array 63.97 55 P **P** **20 54 48.5 +0.2**
comp=Z,0.4nm,0.7s,baz=292,slow=5.7,SNR=5.0
comp=Z,0.4nm,0.7s
FRB Frobisher Bay 64.39 19 LR LR 21 26 29.2
comp=Z,68nm,18.9s,baz=354,slow=39
SFJD Kangerlussuaq 64.56 10 LR LR 21 25 14.7
comp=Z,125nm,19.2s,baz=354,slow=38
OBN Obninsk 65.24 326 *e*P **P** **20 54 56.3 +0.2**
OBN Obninsk 65.24 326 *e*P **P** **20 54 56.3 +0.2**
OBN *e*PP **sP** **20 55 10.4 +0.5**
OBN *e*SP **pwP** **20 55 15.8 +6.7**
OBN *e* 20 55 28.7
OBN *e* 20 57 19.9
OBN pmax pmax
comp=Z,5.0nm,0.4s
OBN MLR MLR
comp=Z,104nm,18.0s
MEF Metsahovi 65.33 335 *e*P **P** **20 54 56.4 -0.2**
RAF Rauma 65.40 337 *e*P **P** **20 54 57.6 +0.6**
ARBE Arbavere 65.50 334 *e*P **P** **20 54 58.1 +0.5**
PFO Pinyon Flats O 65.93 66 LR LR 21 21 38.1
comp=Z,45nm,19.1s,baz=322,slow=34
VRH Novokhopyorsk 66.02 320 *e*P **P** **20 55 00.4 -0.7**
VRH pmax pmax
comp=Z,8.0nm,0.7s
VSU Vasula 66.06 333*de*P **P** **20 55 02.0 +0.8**
VSU pmax pmax
comp=Z,20nm,0.9s
LPSR Galich'ya Gora 66.18 323 *e*P **P** **20 54 59.8 -2.3**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
U15A North Rim 66.60 61 P **P** **20 55 05.9 +0.4**
U15A IAmb IAmb 20 55 09.0
comp=Z,6.3nm,1.0s
MTSE Matsula 66.74 334 *e*P **P** **20 55 05.6 0.0**
VORR Voronezh 66.75 322 *e*P **P** **20 55 06.3 +0.5**
VORR pmax pmax
comp=Z,18nm,0.5s
VSR Storozhevoye 67.10 322 *e*P **P** **20 55 06.2 -1.9**
VSR pmax pmax
comp=Z,10.0nm,1.1s
NB2 NORSAR Subarra 67.96 341 P **P** **20 55 13.4 0.0**
comp=Z,29nm,0.9s,baz=26,slow=6.5
NB2 NORSAR Subarra 67.96 341 P **P** **20 55 13.4 0.0**
baz=26,slow=6.5
NOA NORSAR Array B 67.96 341 P **P** **20 55 13.7 +0.3**
comp=Z,18nm,0.9s,baz=27,slow=6.3,SNR=68
NOA LR LR 21 29 25.8
comp=Z,110nm,18.1s,baz=15,slow=40
comp=Z,18nm,0.9s
HFS Hagfors 68.21 340 P **P** **20 55 15.1 +0.3**
comp=Z,35nm,0.8s,baz=54,slow=7.5,SNR=83
HFS LR LR 21 30 06.1
comp=Z,114nm,18.2s,baz=20,slow=40
comp=Z,35nm,0.8s
MNK Minsk 68.88 330 *i*P **P** **20 55 19.9 +0.7**
MNK *i* 20 57 52.5
MNK *i*PPP PPP 20 59 28.1
MNK *i*S **S** **21 04 25.8 +5.3**
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,43nm,0.9s
MNK pmax pmax
comp=N,22nm,0.9s
MNK MLR MLR
comp=N,59nm,12.0s
MNK MLR MLR
comp=Z,102nm,14.0s
MNK MLR MLR
comp=E,69nm,15.0s
WRA Warramunga Arr 69.18 200 P **P** **20 55 22.9 +1.5**
comp=E,2.3nm,1.0s,baz=18,slow=6.5,SNR=5.9
comp=E,2.3nm,1.0s
MAK Makhachkala 69.21 311 *e*P **P** **20 55 23.9 +2.5**
MAK *e* 20 58 02.2
MAK *e*PPP PPP 20 59 36.3
MAK *e*S **S** **21 04 30.9 +6.2**
MAK MLR MLR
comp=Z,350nm,14.0s
PABE Paberze 69.35 332 *e*P **P** **20 55 22.2 +0.1**
KONO Kongsberg 69.56 342 P **P** **20 55 22.4 -0.9**
KONO Kongsberg 69.56 342*d i*P **P** **20 55 24.7 +1.4**
KONO pmax pmax
comp=Z,25nm,1.1s
DZM Mont Dzumac 69.90 168 LR LR 21 21 54.9
comp=Z,70nm,18.6s,baz=14,slow=32
GOF Gofitskoye 69.90 315*ce*P **P** **20 55 26.4 +0.7**
SEKA Sheki 70.62 310 P **P** **20 55 28.1 -2.1**
NCK Nalchik 70.78 314⇑*e*P **P** **20 55 32.1 +1.0**
NCK pmax pmax
comp=Z,26nm,1.0s
SUW Suwalki 70.85 332 *e*P **P** **20 55 30.9 -0.4**
SUW Suwalki 70.85 332 *e*P **P** **20 55 30.7 -0.6**
KIV Kislovodsk 70.89 315 *e*P **P** **20 55 32.7 +0.9**
KIV Kislovodsk 70.89 315 *e*P **P** **20 55 32.7 +0.9**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,198nm,18.0s
KBZ Khabaz 70.95 314 P **P** **20 55 33.1 +1.0**
comp=Z,12nm,0.8s,baz=48,slow=4.3,SNR=27
KBZ LR LR 21 30 27.1
comp=Z,169nm,18.9s,baz=34,slow=39
comp=Z,12nm,0.8s
KBZ Khabaz 70.95 314 *e*P **P** **20 55 32.8 +0.7**
KBZ Khabaz 70.95 314*c i*P **P** **20 55 32.8 +0.7**
KBZ pmax pmax
comp=Z,17nm,0.9s
ANMO Albuquerque 71.06 59 LR LR 21 23 11.9
comp=Z,32nm,21.8s,baz=64,slow=33
SHA1 Shidzhatmaz 71.06 314*ce*P **P** **20 55 34.6 +1.5**
AKASG Malin Array Be 71.47 327 P **P** **20 55 34.7 -0.4**
comp=Z,8.6nm,0.6s,baz=35,slow=6.1,SNR=32
comp=Z,8.6nm,0.6s
AKBB Malin Array Si 71.47 327*c i*P **P** **20 55 34.7 -0.4**
AKBB pmax pmax
comp=Z,26nm,0.9s
KIEV Kiev 71.48 327⇑P **P** **20 55 34.8 -0.4**
KIEV Kiev 71.48 327 P **P** **20 55 34.2 -1.0**
KIEV Kiev 71.48 327 P **P** **20 55 34.2 -1.0**
KIEV pmax pmax
comp=Z,20nm,0.9s
KIEV Kiev 71.48 327 P **P** **20 55 34.2 -1.0**
comp=Z,105nm,0.9s
GANJ Ganja 71.49 310 P **P** **20 55 33.7 -1.8**
LKRN Lenkeran, Azer 71.58 307 P **P** **20 55 34.4 -1.6**
BSD Bornholm Skovb 72.35 337 *e*P **P** **20 55 40.9 +0.6**
VSLR Vesyoloye 72.53 316*d i*P **P** **20 55 42.5 +0.9**
VSLR pmax pmax
comp=Z,44nm,1.0s
SOC Sochi 72.59 316 *e*P **P** **20 55 41.4 -0.5**
SOC *e* 20 58 20.2
SOC *e*PPP PPP 21 00 05.5
SOC *e*S **S** **21 05 05.6 +1.6**
SOC *e*SS **SS** **21 09 45.7 +3.3**
SOC pmax pmax
comp=Z,10.0nm,0.6s
GNI Garni 72.67 311 P **P** **20 55 44.1 +1.4**
GNI Garni 72.67 311 LR LR 21 31 23.9
comp=Z,235nm,18.3s,baz=38,slow=39
GNI Garni 72.67 311 P **P** **20 55 44.1 +1.4**
GNI pmax pmax
comp=Z,15nm,0.8s
ANN Anapa 72.72 318 *e*P **P** **20 55 39.9 -2.8**
ANN *e*PP **pP** **20 55 53.1 +0.5**
ANN *e*S **S** **21 05 02.0 -3.4**
ANN pmax pmax
comp=Z,18nm,0.9s
ASAR Alice Springs 72.87 199 P **P** **20 55 43.2 -0.5**
comp=Z,2.5nm,0.8s,baz=10.0,slow=5.3,SNR=19
comp=Z,2.5nm,0.8s
NAX Nakhchivan 73.00 310 P **P** **20 55 42.8 -1.8**
PALK Pallekele 73.36 263 *i*P **P** **20 55 48.5 +1.5**
BEL Belsk 73.47 332 *e*P **P** **20 55 48.6 +1.6**
SORM Soroca 73.89 325⇑P **P** **20 55 49.2 -0.3**
SORM Soroca 73.89 325 P **P** **20 55 49.2 -0.3**
SIM Simferopol' 74.08 320 *e*P **P** **20 55 50.7 0.0**
SIM pmax pmax
comp=Z,21nm,1.0s
LVV L'vov 74.09 329 *e*P **P** **20 55 50.3 -0.4**
PURM Purcari 74.60 324⇑P **P** **20 55 54.3 +0.6**
MILM Milestii Mici 74.70 324⇑P **P** **20 55 54.1 -0.2**
MILM Milestii Mici 74.70 324 P **P** **20 55 54.0 -0.2**
KWP Kalwaria Pacla 74.71 330 *e*P **P** **20 55 55.2 +0.9**
OJC Ojcow 75.18 332 *e*P **P** **20 55 57.0 0.0**
OJC Ojcow 75.18 332 IAmb IAmb 20 55 58.8
comp=Z,18nm,1.0s
GURO Guroymak-BITLI 75.26 311 IAmb IAmb 20 56 00.5
comp=Z,12nm,1.0s
KOLS Kolonicke sedl 75.45 329 *e*P **P** **20 55 59.1 +0.5**
KOLS pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 75.45 329 *e*P **P** **20 55 59.1 +0.5**
BURAR Bucovina Array 75.51 327⇑P **P** **20 55 59.7 +0.6**
NIE Niedzica 75.71 331 *e*P **P** **20 56 02.6 +2.5**
KSP Ksiaz 75.73 334 *e*P **P** **20 56 00.8 +0.7**
CRVS Cervenica-Dubn 75.76 330 *e*P **P** **20 56 00.5 +0.1**
CRVS pmax pmax
comp=Z,15nm,1.1s
CRVS Cervenica-Dubn 75.76 330 *e*P **P** **20 56 00.5 +0.1**
TESR Tescani 75.89 326⇑P **P** **20 56 01.4 +0.3**
GHRR 75.96 325⇑P **P** **20 56 01.9 +0.3**
EKA Eskdalemuir Ar 76.00 347 P **P** **20 56 02.5 +0.9**
comp=Z,0.8nm,0.5s,baz=36,slow=5.2,SNR=4.7
comp=Z,0.8nm,0.5s
OSTC Ostas 76.00 334 AMS AMS 21 34 20.0
comp=Z,200nm,19.0s
CHVC Chvalec 76.03 334 *e*P **P** **20 56 03.1 +1.2**
CHVC Chvalec 76.03 334 *e*P **P** **20 56 03.1 +1.2**
UPC Upice 76.11 334 AMS AMS 21 34 40.0
comp=Z,200nm,17.3s
DPC Dobruska-Polom 76.16 334 *e*P **P** **20 56 03.7 +1.1**
DPC AMS AMS 21 34 30.0
comp=Z,200nm,18.4s
DPC Dobruska-Polom 76.16 334 *e*P **P** **20 56 03.7 +1.1**
DPC MLR MLR
comp=Z,200nm,18.4s
DPC Dobruska-Polom 76.16 334 P **P** **20 56 03.4 +0.8**
comp=Z,14nm,1.2s
LANS Liptovska Anna 76.21 331 *e*P **P** **20 56 05.5 +2.5**
LANS pmax pmax
comp=Z,12nm,0.9s
LANS Liptovska Anna 76.21 331 *e*P **P** **20 56 05.5 +2.5**
KRLC Kraliky 76.26 333 *e*P **P** **20 56 03.6 +0.4**
KRLC AMS AMS 21 36 20.0
comp=Z,200nm,13.0s
KRLC Kraliky 76.26 333 *e*P **P** **20 56 03.6 +0.4**
KRLC MLR MLR
comp=Z,200nm,13.0s
CLL Collm 76.27 336 *i*P **P** **20 56 03.2 +0.1**
CLL pmax pmax
comp=Z,34nm,0.9s
MORC Moravsky Berou 76.28 333⇑P **P** **20 56 04.0 +0.7**
MORC Moravsky Berou 76.28 333 IAmb IAmb 20 56 06.0
comp=Z,16nm,0.9s
MORC Moravsky Berou 76.28 333 *e*P **P** **20 56 04.1 +0.7**
MORC Moravsky Berou 76.28 333 P **P** **20 56 04.0 +0.7**
BRG Berggiesshubel 76.39 335 *e*P **P** **20 56 04.3 +0.4**
BRG Amp 20 56 06.2
comp=Z,9.5nm,1.0s
BRG Berggiesshubel 76.39 335 *e*P **P** **20 56 04.3 +0.4**
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG MLR MLR
comp=E,47nm,13.1s
BRG MLR MLR
comp=N,93nm,12.3s
BRG MLR MLR
comp=Z,165nm,15.8s
VRI Vrincioaia 76.39 325⇑P **P** **20 56 04.6 +0.6**
VRI Vrincioaia 76.39 325 P **P** **20 56 04.6 +0.6**
CFR Carcaliu 76.40 324⇑P **P** **20 56 04.8 +0.7**
CFR Carcaliu 76.40 324 P **P** **20 56 04.7 +0.7**
KECS Kecovo 76.45 330 *e*P **P** **20 56 06.5 +2.2**
KECS Kecovo 76.45 330 *e*P **P** **20 56 06.5 +2.2**
TURR Turia 76.51 326⇓P **P** **20 56 05.0 +0.3**
PVCC Panska Ves 76.52 335 AMS AMS 21 33 20.0
comp=Z,100nm,14.3s
TPGR Topolog 76.55 324⇑P **P** **20 56 05.6 +0.7**
OZUR 76.56 326⇑P **P** **20 56 05.3 +0.3**
COVR Voineasa-Covas 76.61 325⇓P **P** **20 56 05.6 +0.3**
RICC Richard 76.64 335 *e*P **P** **20 56 06.6 +1.3**
TXAR Lajitas Array 76.72 61 P **P** **20 56 06.3 0.0**
comp=Z,2.8nm,0.7s,baz=299,slow=4.0,SNR=35
comp=Z,2.8nm,0.7s
HSKC Hora Svate Kat 76.77 335 *e*P **P** **20 56 06.9 +0.8**
CJR Cluj-Napoca 76.86 327⇑P **P** **20 56 06.9 +0.2**
CJR Cluj-Napoca 76.86 327 P **P** **20 56 06.9 +0.2**
HARR Harsova 76.89 324⇑P **P** **20 56 07.8 +1.0**
HARR Harsova 76.89 324 P **P** **20 56 07.8 +1.0**
TLBR Topalu 76.96 324⇑P **P** **20 56 07.8 +0.6**
VYHS Vyhne 76.99 331 *e*P **P** **20 56 08.9 +1.6**
VYHS pmax pmax
comp=Z,14nm,1.0s
VYHS Vyhne 76.99 331 *e*P **P** **20 56 08.8 +1.5**
VRAC Vranov 76.99 333⇑P **P** **20 56 07.9 +0.5**
VRAC Vranov 76.99 333 *e*P **P** **20 56 08.3 +1.0**
VRAC Vranov 76.99 333 LR LR 21 34 49.2
comp=Z,182nm,18.6s,baz=20,slow=40
VRAC Vranov 76.99 333 P **P** **20 56 07.8 +0.5**
GOPC GO Pecny, Ondr 77.00 334 *e*P **P** **20 56 08.3 +0.9**
GOPC AMS AMS 21 33 40.0
comp=Z,200nm,20.3s
GOPC GO Pecny, Ondr 77.00 334 *e*P **P** **20 56 08.3 +0.9**
GOPC MLR MLR
comp=Z,200nm,20.3s
PRU Pruhonice 77.01 334 *e*P **P** **20 56 08.3 +0.9**
PRU AMS AMS 21 33 40.0
comp=Z,100nm,16.0s
PRU Pruhonice 77.01 334 *e*P **P** **20 56 08.3 +0.9**
PRU MLR MLR
comp=Z,100nm,16.0s
MLR Muntele Rosu 77.01 325⇓P **P** **20 56 07.8 +0.2**
MLR Muntele Rosu 77.01 325 P **P** **20 56 07.8 +0.2**
JAVC Velka Javorina 77.05 332 *e*P **P** **20 56 09.4 +1.7**
MARR Marisel-Cluj 77.07 328⇑P **P** **20 56 08.2 +0.3**
ISR Istrita 77.08 325⇑P **P** **20 56 07.6 -0.4**
ISR Istrita 77.08 325 P **P** **20 56 07.5 -0.4**
UOSS Minazif 77.11 293 P **P** **20 56 08.6 +0.2**
PSZ Piszkesteto 77.14 330⇑P **P** **20 56 08.9 +0.6**
PSZ Piszkesteto 77.14 330 IAmb IAmb 20 56 11.2
comp=Z,12nm,1.1s
PSZ Piszkesteto 77.14 330 P **P** **20 56 08.8 +0.6**
KRUC Moravsky 77.27 333 *e*P **P** **20 56 09.9 +1.0**
VOIR 77.40 326⇑P **P** **20 56 10.0 +0.2**
VOIR 77.40 326 P **P** **20 56 09.9 +0.2**
ICOR Ion Corvin 77.41 323⇓P **P** **20 56 10.2 +0.4**
SMOL Smolenice 77.43 332 *e*P **P** **20 56 11.7 +1.9**
SMOL pmax pmax
comp=Z,8.0nm,0.9s
MODS Modra-Piesok 77.60 332 *e*P **P** **20 56 13.4 +2.6**
MODS Modra-Piesok 77.60 332 *e*P **P** **20 56 13.3 +2.5**
ZVC Zvikov 77.60 334 *e*P **P** **20 56 10.8 +0.1**
SRO Srobarova 77.75 331 *e*P **P** **20 56 13.7 +2.1**
SRO pmax pmax
comp=Z,12nm,0.8s
SRO Srobarova 77.75 331 *e*P **P** **20 56 13.7 +2.1**
SIRR Siria 77.95 328⇑P **P** **20 56 13.3 +0.6**
KHC Kasperske Hory 78.06 335 IAmb IAmb 20 56 16.3
comp=Z,14nm,0.9s
KHC Kasperske Hory 78.06 335 *e*P **P** **20 56 14.0 +0.7**
KHC *ex* x 20 56 18.5
KHC AMS AMS 21 34 10.0
comp=Z,200nm,16.5s
KHC Kasperske Hory 78.06 335*c i*P **P** **20 56 14.0 +0.7**
KHC pmax pmax
comp=Z,35nm,1.0s
CKRC Cesky Krumlov 78.12 334 AMS AMS 21 34 20.0
comp=Z,100nm,17.1s
GRFO Grafenberg 78.22 336 P **P** **20 56 14.0 -0.1**
GRFO Grafenberg 78.22 336 P **P** **20 56 14.0 -0.1**
GRFO pmax pmax
comp=Z,28nm,0.9s
SURR Surduc 78.22 328⇑P **P** **20 56 14.6 +0.4**
GERES GERESS Array B 78.28 334 P **P** **20 56 14.9 +0.3**
comp=Z,2.7nm,0.8s,baz=32,slow=5.2,SNR=17
comp=Z,2.7nm,0.8s
GZR Gura Zlata 78.29 327⇑P **P** **20 56 14.8 0.0**
GZR Gura Zlata 78.29 327 P **P** **20 56 14.7 0.0**
COPA Copaceanca 78.43 325⇑P **P** **20 56 15.2 -0.2**
CONA Conrad Observa 78.44 333 *i*pP **P** **20 56 16.6 +1.1**
comp=Z,9.9nm,0.9s,SNR=9.4
BR131 Keskin Array S 78.44 317*d i*P **P** **20 56 17.1 +1.3**
BRTR Keskin Array B 78.44 317 P **P** **20 56 16.7 +0.9**
comp=Z,8.7nm,0.9s,baz=67,slow=3.8,SNR=45
BRTR LR LR 21 36 35.9
comp=Z,34nm,18.3s,baz=95,slow=40
comp=Z,8.7nm,0.9s
RONA Rosalia, Austr 78.50 332 *i*pP **P** **20 56 16.9 +1.1**
comp=Z,11nm,0.8s,SNR=9.7
BZS Buzias 78.52 328⇓P **P** **20 56 16.4 +0.5**
BZS Buzias 78.52 328 P **P** **20 56 16.4 +0.5**
BTNL Ternell 78.69 340 *d*P **P** **20 56 17.4 +0.6**
comp=Z,12nm,0.8s
MEM Membach 78.70 340 *d*P **P** **20 56 18.0 +1.2**
comp=Z,19nm,0.9s
ANTO Ankara 78.72 318 P **P** **20 56 16.3 -0.9**
ANTO Ankara 78.72 318 P **P** **20 56 16.3 -0.9**
ANTO pmax pmax
comp=Z,19nm,0.9s
BSTI Sart Tilman 78.82 340 *d*P **P** **20 56 19.1 +1.6**
comp=Z,4.5nm,0.9s
HERR Herculane 78.86 327⇑P **P** **20 56 18.0 +0.3**
BCLA Clavier 79.04 340 *d*P **P** **20 56 19.2 +0.6**
comp=Z,8.3nm,1.0s
MORH Mrgy, Hungar 79.04 330⇑P **P** **20 56 18.5 -0.2**
BGES Gesves 79.12 340 *d*P **P** **20 56 19.8 +0.7**
comp=Z,11nm,0.9s
ELND Elena 79.18 324⇑P **P** **20 56 19.3 -0.3**
MDVR Moldovita 79.20 328⇑P **P** **20 56 19.4 -0.3**
BMRD Maredsous 79.27 340 *d*P **P** **20 56 20.2 +0.3**
comp=Z,14nm,1.0s
RCHB Rochefort 79.30 340 *d*P **P** **20 56 20.7 +0.6**
comp=Z,9.3nm,0.9s
BIOA Bad Ischl, Aus 79.33 334 *e*pP **P** **20 56 21.9 +1.6**
comp=Z,12nm,1.0s,SNR=7.1
DOU Dourbes 79.50 341 *d*P **P** **20 56 22.2 +1.1**
FRGS Fruska Gora 79.56 329⇑P **P** **20 56 22.0 +0.4**
SOKA Soboth 79.81 333 *i*pP **P** **20 56 23.5 +0.5**
comp=Z,9.8nm,0.8s,SNR=9.7
PERS Pernice 79.82 333 *i*P **P** **20 56 23.4 +0.4**
RAR Rarotonga 79.83 137 LR LR 21 30 09.9
comp=Z,61nm,18.1s,baz=298,slow=34
LESA Schwarzleotal 79.86 334 *i*pP **P** **20 56 24.1 +0.8**
comp=Z,16nm,0.9s
KBA Koelnbreinsper 79.97 334 *i*pP **P** **20 56 25.1 +1.1**
comp=Z,26nm,0.9s,SNR=20
OBKA Obir 80.11 333 *e*pP **P** **20 56 26.7 +2.0**
comp=Z,7.2nm,0.9s
BOVS Bovan 80.19 327⇑P **P** **20 56 24.7 -0.3**
BFO Black Forest 80.23 338 P **P** **20 56 24.5 -0.7**
BFO IAmb IAmb 20 56 28.1
comp=Z,11nm,0.9s

BFO	**Black Forest**	80.23	338	P	**P**	**20 56 24.5**	**-0.7**
BFO				pmax	pmax		
comp=Z,11nm,0.9s							
RAO	**Raoul Island**	80.24	155	LR	LR	21 26 24.8	
comp=Z,87nm,19.4s,baz=130,slow=32							
WATA	**Walderalm**	80.25	335	*i* pP	**P**	**20 56 26.3**	**+0.8**
comp=Z,17nm,1.0s,SNR=9.6							
MYKA	**Terra Mystica**	80.28	334	*i* pP	**P**	**20 56 26.3**	**+0.8**
comp=Z,8.1nm,1.1s							
WTTA	**Wattenberg**	80.30	335	*i* pP	**P**	**20 56 26.8**	**+1.0**
comp=Z,25nm,0.8s,SNR=16							
RETA	**Reutte**	80.35	336	*i* pP	**P**	**20 56 26.8**	**+0.9**
comp=Z,9.3nm,0.9s,SNR=5.4							
MOTA	**Moosalm**	80.38	335	*i* pP	**P**	**20 56 27.8**	**+1.6**
comp=Z,26nm,1.0s							
CRES	**Cresnjev**	80.43	332	*i* P	**P**	**20 56 27.2**	**+0.9**
SQTA	**Sankt Quirin**	80.46	335	*i* pP	**P**	**20 56 28.3**	**+1.7**
comp=Z,19nm,1.0s,SNR=7.4							
PRED	**Cave del Predi**	80.47	333	IAmb	IAmb	20 56 30.3	
comp=Z,7.1nm,0.8s							
ABTA	**Abfaltersbach**	80.51	334	*i* pP	**P**	**20 56 28.6**	**+1.8**
comp=Z,12nm,1.0s,SNR=7.9							
ECH	**Echery**	80.64	338	IAmb	IAmb	20 56 28.8	
comp=Z,6.6nm,0.9s							
DAVA	**Damuels**	80.78	336	*e*pP	**P**	**20 56 29.0**	**+0.7**
comp=Z,14nm,0.9s,SNR=7.7							
FETA	**Feichten**	80.78	336	*i* pP	**P**	**20 56 30.0**	**+1.6**
comp=Z,7.3nm,0.9s,SNR=6.1							
RDO	**Rodhopi**	80.81	323	IAmb	IAmb	20 56 30.7	
comp=Z,15nm,0.9s							
STAL	**STALIGIAL**	80.89	334	IAmb	IAmb	20 56 30.4	
comp=Z,9.3nm,1.0s							
DAVOX	**Davos/Dischmat**	81.24	336	LR	LR	21 35 25.8	
comp=Z,90nm,20.3s,baz=20,slow=38							
FUORN	**Ofenpass-Fuorn**	81.28	336	IAmb	IAmb	20 56 34.6	
comp=Z,7.0nm,0.9s							
CTI	**Castel Tesino**	81.40	335	IAmb	IAmb	20 56 33.5	
comp=Z,7.9nm,0.9s							
TUE	**Stuetta**	81.67	336	IAmb	IAmb	20 56 36.5	
comp=Z,9.1nm,0.8s							
TUE	**Stuetta**	81.67	336	P	**P**	**20 56 33.8**	**+0.7**
comp=Z,50nm,0.8s							
PPT	**Papeete**	81.96	127	LR	LR	21 25 13.6	
comp=Z,83nm,21.1s,baz=319,slow=30							
PDG	**Podgorica**	82.13	328	⇓P	**P**	**20 56 35.5**	**+0.1**
PDG	**Podgorica**	82.13	328	IAmb	IAmb	20 56 36.9	
comp=Z,13nm,0.8s							
PUK	**Puka**	82.23	327	IAmb	IAmb	20 56 38.0	
comp=Z,6.7nm,0.8s							
TKL	**Tuckaleechee C**	82.59	44	LR	LR	21 34 15.7	
comp=Z,54nm,20.7s,baz=2.0,slow=36							
FNA	**Florina**	82.77	326	IAmb	IAmb	20 56 40.7	
comp=Z,5.3nm,0.8s							
MMAI	**Mount Meron Ar**	82.94	312	P	**P**	**20 56 40.9**	**+1.1**
comp=Z,13nm,0.9s,baz=37,slow=7.4,SNR=14							
MMAI				LR	LR	21 38 40.5	
comp=Z,161nm,18.0s,baz=20,slow=39							
comp=Z,13nm,0.9s							
BNI	**Bardonecchia**	83.70	337	P	**P**	**20 56 44.5**	**+0.9**
BNI				IAmb	IAmb	20 56 45.7	
comp=Z,5.5nm,0.9s							
BNI	**Bardonecchia**	83.70	337	P	**P**	**20 56 44.5**	**+0.9**
BNI				pmax	pmax		
comp=Z,6.0nm,0.9s							
CAMP	**Campotosto**	84.03	332	IAmb	IAmb	20 56 48.3	
comp=Z,13nm,1.0s							
INTR	**Introdacqua**	84.34	331	IAmb	IAmb	20 56 50.4	
comp=Z,6.9nm,0.9s							
RAYN	**Ar Rayn**	84.72	299	P	**P**	**20 56 49.1**	**+0.1**
RAYN	**Ar Rayn**	84.72	299	P	**P**	**20 56 49.1**	**+0.1**
RAYN				pmax	pmax		
comp=Z,13nm,0.9s							
EIL	**Elat**	85.84	310	LR	LR	21 39 52.0	
comp=Z,80nm,18.2s,baz=69,slow=39							
TIP	**Timpagrande**	85.89	328	IAmb	IAmb	20 56 55.8	
comp=Z,8.3nm,1.0s							
VAE	**Valguarnera**	88.24	329	LR	LR	21 41 16.7	
comp=Z,112nm,18.4s,baz=326,slow=39							
ESDC	**Sonseca Array**	91.26	343	P	**P**	**20 57 19.0**	**-1.2**
comp=Z,1.1nm,1.0s,baz=18,slow=5.5,SNR=5.0							
ESDC				LR	LR	21 44 38.0	
comp=Z,81nm,18.6s,baz=11,slow=40							
comp=Z,1.1nm,1.0s							
KEST	**Kesra**	91.53	332	P	**P**	**20 57 21.4**	**0.0**
comp=Z,5.3nm,1.0s,baz=43,slow=4.3,SNR=4.8							
comp=Z,5.3nm,1.0s							
ATD	**Arta Tunnel**	95.49	293	LR	LR	21 46 18.7	
comp=Z,6.4nm,18.3s,baz=294,slow=39							
MDT	**Midelt**	98.02	342	LR	LR	21 47 33.7	
comp=Z,35nm,18.6s,baz=176,slow=39							
H03N2	**Juan Fernandez**	138.15	90	T	T	23 37 19.9	
baz=311							
H03N1	**Juan Fernandez**	138.16	90	T	T	23 37 30.3	
baz=311							
H03N3	**Juan Fernandez**	138.16	90	T	T	23 37 27.6	
baz=311							
ELIB	**Princess Elisa**	146.50	205	*d*PKPdf	**PKPbc**	**21 03 53.5**	**-1.3**
CPUP	**Villa Florida**	147.70	61	PKPbc	**PKPbc**	**21 03 58.0**	**-1.2**
comp=Z,1.1nm,0.5s,baz=244,slow=4.3,SNR=2.0							
TROLL	**Troll, Antarti**	151.85	198	⇑PKPdf	**PKPbc**	**21 04 07.7**	**-0.6**
comp=Z,103nm,0.8s							
SNAA	**Sanae**	153.19	196	⇑PKPdf	**PKPbc**	**21 04 09.8**	**-1.3**
comp=Z,23nm,0.7s							
SNAA	**Sanae**	153.19	196	PKPbc	**PKPbc**	**21 04 09.2**	**-1.9**
comp=Z,0.7nm,0.7s,baz=198,slow=3.2,SNR=4.8							
VNA2	**Neumayer--Watz**	154.63	194	⇑PKPdf	**PKPbc**	**21 04 13.2**	**-1.0**
comp=Z,1.2nm,0.7s,baz=162,slow=1.0							
VNA3	**Neumayer Olymp**	154.70	192	⇓PKPdf	**PKPbc**	**21 04 12.4**	**-2.0**
comp=Z,0.6nm,0.7s							

IDC ***30*** *20:44:22.3±0.9, 32°.51S×179°.63E, h335km±9km, mb3.6/8, mbtmp4.5/12, Error ellipse: s-maj=15.8km s-min=10.6km az=102.0*

NEIC ***30*** *20:44:23.7±2.2, 32°.61S±0°.10×179°.7E±0°.2, h345km±11km, mb4.2/19, Error ellipse: s-maj=24.1km s-min=13.5km az=99.0*

WEL ***30*** *20:44:24.6±1.0, 33°.S±7°×18°.0W±1°.5, h326km±15km, M5.1/13, mB5.5/11, ML5.2/9, MLv5.2/13, Mw(mB)5.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=110.9, confirmed*

NOU ***30*** *20:44:59.0, 36°.58S×179°.93W, h307km, ML4.3/7, East of North Island, N.Z.*

ISC 30 20:44:22.9±0.5, 32°.64S±0°.05×179°.91E±0°.09, h350km, n107, σ1§96/119, mb4.2/19, 5C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Station**	**3.85**	**29**	P	**Pn**	**20 45 30.4**	**-0.1**
GLKZ				S	**S**	**20 46 23.8**	**-1.0**
RAO	**Raoul Island**	**3.86**	**29**	Pn	**Pn**	**20 45 31.6**	**+1.1**
RAO				Sn	**S**	**20 46 23.5**	**-1.5**
RAO	**Raoul Island**	**3.86**	**29**	P	**Pn**	**20 45 29.8**	**-0.8**
137nm,0.3s,baz=96,slow=20,SNR=2.6							
RAO				S	**S**	**20 46 23.5**	**-1.5**
191nm,0.3s,baz=65,slow=21,SNR=2.2							
MXZ	**Matakaoa Point**	**5.09**	**195**	P	**Pn**	**20 45 43.8**	**+0.5**
MXZ	**Matakaoa Point**	**5.09**	**195**		**Pn**	**20 45 43.7**	**+0.3**
MXZ				Sn	S	20 46 39.8	-8.6
MXZ	**Matakaoa Point**	**5.09**	**195**	P	**Pn**	**20 45 43.4**	**+0.1**
MXZ				S	**S**	**20 46 47.1**	**-1.3**
KUZ	**Kuaotunu**	**5.36**	**219**	P	**Pn**	**20 45 49.6**	**+3.2**
KUZ	**Kuaotunu**	**5.36**	**219**	P	**Pn**	**20 45 49.4**	**+3.0**
WSRZ	**White Island S**	**5.36**	**204**	P	**Pn**	**20 45 50.1**	**+3.7**
WSRZ				S	**S**	**20 46 54.6**	**+0.6**
WIZ	**White Island**	**5.36**	**204**	P	**Pn**	**20 45 49.3**	**+2.9**
HAZ	**Te Kaha**	**5.39**	**198**	P	**Pn**	**20 45 46.6**	**-0.2**
HAZ				S	**S**	**20 46 53.4**	**-1.2**
PUZ	**Puketiti**	**5.59**	**194**	P	**Pn**	**20 45 49.4**	**+0.5**
PUZ				S	**S**	**20 46 57.6**	**-1.1**
RUGZ	**Raukumara Rang**	**5.62**	**198**	P	**Pn**	**20 45 48.8**	**-0.7**
RUGZ				S	**S**	**20 46 55.5**	**-4.0**
WCZ	**Waipu Caves**	**5.66**	**233**	P	**Pn**	**20 45 52.2**	**+2.4**
WHRZ	**Whale Island**	**5.73**	**204**	P	**Pn**	**20 45 54.5**	**+3.8**
WHRZ				S	**S**	**20 47 05.4**	**+3.7**
TWGZ	**Tauwhareparae**	**5.75**	**195**	P	**Pn**	**20 45 51.4**	**+0.6**
TWGZ				S	**S**	**20 47 02.5**	**+0.5**
OUZ	**Omahuta**	**5.85**	**242**	P	**Pn**	**20 45 53.4**	**+1.5**
OPRZ	**Ohinepanea**	**5.88**	**207**	P	**Pn**	**20 45 55.4**	**+3.2**
CNGZ	**Carnagh Statio**	**6.00**	**193**	P	**Pn**	**20 45 54.6**	**+1.0**
MWZ	**Matawai**	**6.01**	**198**	P	**Pn**	**20 45 53.3**	**-0.4**
URZ	**Urewera**	**6.06**	**201**	P	**Pn**	**20 45 53.2**	**-1.1**
URZ	**Urewera**	**6.06**	**201**	P	**Pn**	**20 45 53.2**	**-1.1**
185nm,0.3s,baz=349,slow=3.1,SNR=117							
URZ				S	**S**	**20 47 05.2**	**-3.1**
166nm,0.3s,baz=21,slow=5.2,SNR=29							
URZ	**Urewera**	**6.06**	**201**	P	**Pn**	**20 45 53.1**	**-1.1**
RAGZ	**Rawiri**	**6.19**	**199**	P	**Pn**	**20 45 55.6**	**-0.2**
TOZ	**Tahuroa Road**	**6.23**	**214**		**Pn**	**20 45 58.6**	**+2.3**
TOZ	**Tahuroa Road**	**6.23**	**214**	P	**Pn**	**20 45 58.6**	**+2.3**
RTZ	**Ruatahuna**	**6.42**	**201**		**Pn**	**20 45 57.8**	**-0.8**
BKZ	**Black Stump Fm**	**7.08**	**202**	P	**Pn**	**20 46 04.8**	**-1.4**
BKZ	**Black Stump Fm**	**7.08**	**202**	P	**Pn**	**20 46 05.3**	**-0.9**
BKZ	**Black Stump Fm**	**7.08**	**202**		**Pn**	**20 46 05.7**	**-0.4**
HIZ	**Hauiti**	**7.16**	**214**	P	**Pn**	**20 46 10.8**	**+3.7**
HIZ	**Hauiti**	**7.16**	**214**	P	**Pn**	**20 46 11.7**	**+4.6**
HIZ	**Hauiti**	**7.16**	**214**		**Pn**	**20 46 09.2**	**+2.1**
KHEZ	**Kahui Hut**	**8.18**	**214**	P	**P**	**20 46 23.2**	**+1.1**
BFZ	**Birch Farm**	**8.55**	**199**	P	**Pn**	**20 46 22.3**	**-1.1**
BFZ	**Birch Farm**	**8.55**	**199**		**Pn**	**20 46 22.2**	**-1.3**
MRZ	**Mangatainoka R**	**8.73**	**202**		**Pn**	**20 46 23.3**	**-2.3**
MSWZ	**Moikau Station**	**9.52**	**202**	P	**Pn**	**20 46 32.7**	**-2.3**
SNZO	**South Karori**	**9.60**	**204**	P	**Pn**	**20 46 34.6**	**-1.4**
SNZO	**South Karori**	**9.60**	**204**	P	**Pn**	**20 46 34.5**	**-1.4**
BHW	**Baring Head**	**9.63**	**203**	P	**Pn**	**20 46 34.0**	**-2.3**
PLWZ	**Palliser**	**9.66**	**201**	P	**Pn**	**20 46 35.3**	**-1.4**
TCW	**Tory Channel**	**9.67**	**206**	P	**Pn**	**20 46 34.2**	**-2.6**
TUWZ	**Tuamarina**	**9.98**	**207**	P	**Pn**	**20 46 39.2**	**-1.3**
NNZ	**Nelson**	**10.03**	**210**	P	**Pn**	**20 46 38.6**	**-2.4**
TKNZ	**Takaka Hill**	**10.06**	**212**	P	**Pn**	**20 46 40.1**	**-1.3**
QRZ	**Quartz Range**	**10.09**	**214**	P	**Pn**	**20 46 40.3**	**-1.5**
CMWZ	**Cape Campbell**	**10.16**	**205**	Pn	**Pn**	**20 46 41.6**	**-1.0**
BSWZ	**Blackbirch Sta**	**10.26**	**206**	P	**Pn**	**20 46 42.0**	**-1.8**
MRNZ	**Matariki Terra**	**10.44**	**211**	P	**Pn**	**20 46 43.1**	**-2.9**
THZ	**Tophouse**	**10.68**	**210**		**Pn**	**20 46 45.9**	**-3.0**
KHZ	**Kahutara**	**10.99**	**206**	P	**Pn**	**20 46 50.1**	**-2.4**
KHZ	**Kahutara**	**10.99**	**206**	P	**Pn**	**20 46 50.5**	**-2.0**
KHZ	**Kahutara**	**10.99**	**206**		**Pn**	**20 46 49.4**	**-3.0**
DSZ	**Denniston Nort**	**11.15**	**213**	Pn	**Pn**	**20 46 51.4**	**-3.0**
GVZ	**Greta Valley S**	**11.65**	**206**	P	**Pn**	**20 46 59.1**	**-1.3**
LTZ	**Lake Taylor**	**11.79**	**209**		**Pn**	**20 46 58.1**	**-3.9**
AMCZ	**Amberley**	**11.97**	**206**		**P**	**20 47 02.2**	**-1.9**
INZ	**Inchbonnie**	**12.09**	**211**	Pn	**P**	**20 47 01.9**	**-3.4**
OXZ	**Oxford**	**12.34**	**208**		**P**	**20 47 03.8**	**-4.3**
MQZ	**McQueen's Vall**	**12.43**	**205**		**P**	**20 47 07.2**	**-1.9**
RPZ	**Rata Peaks**	**13.06**	**210**	P	**P**	**20 47 14.9**	**-1.2**
RPZ	**Rata Peaks**	**13.06**	**210**		**P**	**20 47 13.0**	**-3.1**
RPZ	**Rata Peaks**	**13.06**	**210**	P	**P**	**20 47 14.9**	**-1.2**
18nm,0.3s,baz=26,slow=4.3,SNR=22							
RPZ				S	S	20 49 29.1	-10
35nm,0.4s,baz=327,slow=21,SNR=24							
FOZ	**Fox Glacier**	**13.46**	**213**		**P**	**20 47 19.4**	**-1.1**
ODZ	**Otahua Downs**	**14.32**	**207**	P	**P**	**20 47 29.9**	**-0.1**
ODZ	**Otahua Downs**	**14.32**	**207**		**P**	**20 47 30.4**	**+0.4**
JCZ	**Jackson Bay**	**14.36**	**214**	P	**P**	**20 47 29.1**	**-1.3**
PINNC	**Pines Island,**	**14.88**	**309**	P	**P**	**20 47 36.0**	**-0.3**
MLZ	**Mavora Lakes**	**15.65**	**212**		**P**	**20 47 42.4**	**-2.0**
DZM	**Mont Dzumac**	**15.92**	**308**	P	**P**	**20 47 46.6**	**-1.1**
DZM				IAmb	IAmb	20 47 48.8	
comp=Z,12nm,0.9s							
DZM	**Mont Dzumac**	**15.92**	**308**	P	**P**	**20 47 46.8**	**-1.0**
comp=Z,9.2nm,0.8s,baz=129,slow=14,SNR=8.8							
LIFNC	**LIFOU**	**16.35**	**313**	P	**P**	**20 47 50.9**	**-1.3**
STKA	**Stephens Creek**	**32.30**	**261**	P	**P**	**20 50 20.6**	**+0.2**
STKA	**Stephens Creek**	**32.30**	**261**	P	**P**	**20 50 20.4**	**0.0**
comp=Z,1.9nm,0.6s,baz=91,slow=9.0,SNR=5.2							
comp=Z,1.9nm,0.6s							
CTAO	**Charters Tower**	**32.51**	**284**	P	**P**	**20 50 22.0**	**-0.3**
CTAO				IAmb	IAmb	20 50 27.7	
comp=Z,17nm,1.4s							
BBOO	**Buckleboo**	**36.70**	**258**	P	**P**	**20 50 56.7**	**-1.0**
COEN	**Coen**	**38.27**	**290**	P	**P**	**20 51 10.2**	**-0.8**
COEN				IAmb	IAmb	20 51 15.8	
comp=Z,33nm,1.4s							
AS31	**Alice Springs**	**41.27**	**270**	P	**P**	**20 51 34.1**	**-1.4**
ASAR	**Alice Springs**	**41.27**	**270**	P	**P**	**20 51 34.1**	**-1.4**
comp=Z,1.2nm,0.3s,baz=107,slow=7.8,SNR=33							
comp=Z,1.2nm,0.3s							
WB2	**Warramunga Arr**	**42.46**	**276**	P	**P**	**20 51 43.3**	**-1.7**
WB2				IAmb	IAmb	20 51 43.7	
comp=Z,6.7nm,0.5s							
WRAB	**Tennant Creek**	**42.47**	**276**	P	**P**	**20 51 43.1**	**-2.0**
WRAB				IAmb	IAmb	20 51 43.7	
comp=Z,3.9nm,0.6s							
WRA	**Warramunga Arr**	**42.47**	**276**	P	**P**	**20 51 43.2**	**-1.9**
comp=Z,4.1nm,0.4s,baz=113,slow=7.7,SNR=150							
comp=Z,4.1nm,0.4s							
WB0	**Warramunga Arr**	**42.51**	**276**	P	**P**	**20 51 43.7**	**-1.7**
WB0				IAmb	IAmb	20 51 44.1	
comp=Z,7.1nm,0.5s							
SBA	**Scott Base**	**45.68**	**184**	P	**P**	**20 52 13.1**	**+3.6**
VNDA	**Vanda**	**45.70**	**185**	P	**P**	**20 52 11.7**	**+2.1**
VNDA	**Vanda**	**45.70**	**185**	P	**P**	**20 52 12.2**	**+2.6**
comp=Z,0.6nm,0.6s,baz=359,slow=8.4,SNR=9.2							
comp=Z,0.6nm,0.6s							
MTN	**Manton Dam**	**48.64**	**282**	P	**P**	**20 52 32.7**	**-0.2**
MTN				IAmb	IAmb	20 52 58.5	
comp=Z,25nm,1.4s							
KNRA	**Kununurra**	**49.16**	**277**	P	**P**	**20 52 34.7**	**-2.1**
KNRA				IAmb	IAmb	20 52 56.2	
comp=Z,11nm,1.4s							
FITZ	**Fitzroy Crossi**	**50.63**	**273**	P	**P**	**20 52 46.0**	**-1.8**
CASY	**Casey**	**52.33**	**209**	P	**P**	**20 52 59.3**	**-0.2**
CASY				IAmb	IAmb	20 53 00.1	
comp=Z,3.1nm,0.7s							
QSPA	**South Pole Qui**	**57.48**	**180**	P	**P**	**20 53 38.9**	**+2.6**
QSPA				IAmb	IAmb	20 53 40.0	
comp=Z,12nm,0.8s							
QSPA	**South Pole Qui**	**57.48**	**180**	P	**P**	**20 53 38.8**	**+2.6**
comp=Z,9.9nm,0.5s,baz=31,slow=3.3,SNR=108							
comp=Z,9.9nm,0.5s							
TROLL	**Troll, Antarti**	**75.62**	**181**	⇑P	**P**	**20 55 31.2**	**+1.4**
comp=Z,77nm,0.4s							
SNAA	**Sanae**	**75.96**	**179**		**P**	**20 55 33.0**	**+1.4**
SNAA				IAmb	IAmb	20 55 33.9	
comp=Z,6.5nm,1.3s							
SNAA	**Sanae**	**75.96**	**179**	⇑P	**P**	**20 55 33.1**	**+1.4**
comp=Z,46nm,0.3s							
SNAA	**Sanae**	**75.96**	**179**	P	**P**	**20 55 32.6**	**+0.9**
comp=Z,2.2nm,0.5s,baz=187,slow=8.1,SNR=24							
comp=Z,2.2nm,0.5s							
VNA3	**Neumayer Olymp**	**76.19**	**177**	⇑P	**P**	**20 55 34.4**	**+1.6**
comp=Z,3.3nm,0.4s							
VNA2	**Neumayer--Watz**	**76.60**	**178**	⇑P	**P**	**20 55 36.9**	**+1.8**
comp=Z,9.4nm,0.6s,baz=180,slow=5.7							
VNA1	**Neumayer--Stat**	**76.84**	**177**	⇑P	**P**	**20 55 38.0**	**+1.6**
comp=Z,6.4nm,0.6s							
KSRS	**Korea Array**	**84.93**	**321**	P	**P**	**20 56 18.8**	**-0.3**
comp=Z,0.7nm,0.6s,baz=140,slow=5.1,SNR=2.4							
comp=Z,0.7nm,0.6s							
NVAR	**Mina Array Bea**	**91.08**	**44**	P	**P**	**20 56 50.6**	**+2.0**
comp=Z,0.8nm,0.7s,baz=234,slow=7.7,SNR=2.2							
comp=Z,0.8nm,0.7s							
FINES	**FINESS Array B**	**146.58**	**337**	PKPbc	**PKPdf**	**21 03 21.9**	**+1.3**
comp=Z,1.2nm,0.4s,baz=59,slow=3.6,SNR=19							
NB2	**NORSAR Subarra**	**150.64**	**349**	PKP	**PKPbc**	**21 03 32.7**	**-0.5**
comp=Z,0.4nm,0.5s,baz=19,slow=2.7							
NOA	**NORSAR Array B**	**150.64**	**349**	PKPbc	**PKPbc**	**21 03 33.1**	**-0.1**
comp=Z,0.6nm,0.5s,baz=17,slow=4.2,SNR=5.7							
HFS	**Hagfors**	**151.03**	**346**	PKPbc	**PKPbc**	**21 03 33.5**	**-0.5**
comp=Z,2.0nm,0.7s,baz=90,slow=1.4,SNR=5.4							
HFS				PKPab	**PKPab**	**21 03 41.9**	**-1.2**
comp=Z,1.2nm,0.8s,baz=76,slow=6.1,SNR=4.4							
TORD	**Torodi Ar. Bea**	**160.53**	**185**	PKPab	**PKPab**	**21 04 25.1**	**+0.2**
comp=Z,0.3nm,0.5s,baz=192,slow=3.2,SNR=6.1							

NEIC ***30*** *20:49:51.4±1.4, 47°.04N±0°.09×154°.5E±0°.2, h10km±1km, mb4.5/11, Error ellipse: s-maj=22.2km s-min=13.1km az=114.0*

IDC ***30*** *20:49:52.3±1.1, 47°.25N×154°.00E, h0km, mb4.0/20, mbtmp4.0/21, ML3.6/1, Error ellipse: s-maj=28.2km s-min=18.4km az=150.0*

MOS ***30*** *20:49:54.1±1.1, 47°.20N×154°.03E, h25km, mb4.6/13, Error ellipse: s-maj=11.8km s-min=8.6km az=101.8*

SKHL ***30*** *20:49:56.9±0.6, 47°.60N×153°.50E, h28km±5km, mb4.8/5*

ISC 30 20:49:53.3±0.7, 47°.22N±0°.08×154°.08E±0°.08, h10km, n87, σ1§69/91, mb4.4/36, 5C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.72**	**20**	*e*P	**Pn**	**20 50 50.5**	**-0.3**
SKR				AMB	AMB	20 50 54.4	
80nm,0.5s							
SKR				*e*S	**Sn**	**20 51 31.2**	**-3.5**
SKR				A	A	20 51 35.6	
480nm,0.5s							
SKR				A	A	20 51 35.6	
290nm,0.5s							
SKR	**Severo-Kuril's**	**3.72**	**20**	*e*PN	**Pn**	**20 50 50.8**	**0.0**
SKR				pmax	pmax		
comp=Z,77nm,0.5s							
SKR				MLR	MLR		
comp=Z,900nm,12.0s							
SKR				MLR	MLR		
comp=E,800nm,10.0s							
SKR				MLR	MLR		
comp=N,2μm,15.0s							
KUR	**Kuril'sk**	**4.74**	**248**	*e*PN	**Pn**	**20 51 05.6**	**+0.8**
KUR				AMB	AMB	20 51 08.1	
comp=N,70nm,0.4s							
KUR				*e*S	**Sn**	**20 51 55.4**	**-4.4**
KUR				A	A	20 52 09.5	
comp=N,110nm,0.5s							
KUR				A	A	20 52 09.5	
comp=N,180nm,0.5s							
KUR	**Kuril'sk**	**4.74**	**248**	*e*PN	**Pn**	**20 51 07.2**	**+2.4**
KUR				*e*S	**Sn**	**20 52 01.5**	**+1.7**
KUR				pmax	pmax		
comp=Z,67nm,0.5s							
KUR				pmax	pmax		
comp=N,37nm,0.3s							
KUR				pmax	pmax		
comp=E,24nm,0.2s							
KUR				smax	smax		
comp=E,178nm,0.5s							
KUR				smax	smax		
comp=N,113nm,0.6s							
KDTR	**Khodutka, Kamc**	**5.29**	**28**	*e*P	**Pn**	**20 51 12.3**	**+0.1**
KDTR				*e*S	**Sn**	**20 52 10.0**	**-3.2**
KDTR				A	A	20 52 11.5	
comp=N,50nm,0.3s							
KDTR				A	A	20 52 11.5	
comp=N,50nm,0.3s							
SHO	**Shikotan**	**6.09**	**239**	*e*P	**Pn**	**20 51 24.5**	**+1.2**
SHO				AMB	AMB	20 51 26.7	
comp=N,40nm,0.4s							
SHO				*e*S	**Sn**	**20 52 30.4**	**-2.6**
SHO				A	A	20 52 44.8	
comp=N,70nm,0.5s							
SHO				A	A	20 52 44.8	
comp=N,60nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**6.58**	**244**	*e*P	**Pn**	**20 51 30.6**	**+0.6**
YUK				AMB	AMB	20 51 31.4	
comp=N,190nm,0.4s							
YUK				*e*S	**Sn**	**20 52 41.0**	**-4.0**
YUK				A	A	20 52 46.0	
comp=N,140nm,0.6s							
YUK				A	A	20 52 46.0	
comp=N,140nm,0.6s							
NMR	**Nemuro--Hokkai**	**7.03**	**240**	*e*P	**Pn**	**20 51 35.2**	**-1.0**
NMR				*e*S	**Sn**	**20 52 50.6**	**-5.5**
TYV	**Tymovskoe**	**8.34**	**300**	*e*P	**Pn**	**20 51 51.5**	**-2.7**
JKA	**Kamikawa-asahi**	**8.61**	**253**	Pn	**Pn**	**20 51 59.4**	**+1.4**
JKA	**Kamikawa-asahi**	**8.61**	**253**	*e*P	**Pn**	**20 51 59.1**	**+1.2**
ASAJ	**Asahikawa**	**8.61**	**253**	Pn	**Pn**	**20 51 59.1**	**+1.1**
comp=N,0.8nm,0.3s,baz=15,slow=12,SNR=6.4							
ASAJ				Sn	**Sn**	**20 53 37.1**	**+2.0**
baz=290,slow=4.3,SNR=1.8							
comp=N,2.6nm,0.4s							
ERM	**Erimo**	**9.36**	**240**	Pn	**Pn**	**20 52 08.3**	**+0.1**
ERM				Sn	Sn	20 53 43.5	-10
ERM	**Erimo**	**9.36**	**240**	PN	**Pn**	**20 52 08.3**	**+0.1**
JTM	**Tenmabayashi**	**11.35**	**240**	Pn	**Pn**	**20 52 32.6**	**-2.9**
YAK	**Yakutsk**	**20.30**	**326**	*e*P	**P**	**20 54 30.6**	**+1.7**
YAK	**Yakutsk**	**20.30**	**326**	⇑*i*P	**P**	**20 54 30.6**	**+1.7**
YAK				pmax	pmax		
comp=Z,6.0nm,0.8s							
KSRS	**Korea Array**	**21.56**	**253**	P	**P**	**20 54 43.4**	**+0.5**
comp=Z,0.8nm,0.5s,baz=61,slow=10,SNR=4.4							
comp=Z,0.8nm,0.5s							
KSRS	**Korea Array**	**21.56**	**253**	*e*P	**P**	**20 54 44.6**	**+1.8**
KSRS	**Korea Array**	**21.56**	**253**	*e*P	**P**	**20 54 44.6**	**+1.8**
KSRS				pmax	pmax		
comp=Z,1.0nm,0.5s							
BILL	**

GAR IAmb IAmb 20 59 57.1
comp=Z,3.1nm,0.8s
CHGR Chuyangaron 59.84 296 P **P** **20 59 59.0 0.0**
CHGR Chuyangaron 59.84 296 P **P** **20 59 59.0 0.0**
CHGR pmax pmax
comp=Z,8.0nm,1.0s
SIMJ Simiganj 59.93 296 P **P** **20 59 58.2 -1.4**
SIMJ IAmb IAmb 21 00 00.6
comp=Z,2.6nm,0.8s
SUMG Summit 60.19 4 P **P** **21 00 01.8 +0.6**
SUMG Summit 60.19 4 P **P** **21 00 01.8 +0.6**
SUMG pmax pmax
comp=Z,10.0nm,1.4s
BELG Belogornoye 62.62 319*c iP* **P** **21 00 17.2 -0.2**
BELG pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 63.90 335 P **P** **21 00 26.1 +0.4**
comp=Z,1.7nm,0.4s,baz=33,slow=7.5,SNR=45
comp=Z,1.7nm,0.4s
OBN Obninsk 65.30 326 *eP* **P** **21 00 35.3 +0.4**
OBN Obninsk 65.30 326 *eP* **P** **21 00 35.3 +0.4**
OBN *e* 21 01 08.1
OBN *e* 21 02 59.4
OBN pmax pmax
comp=Z,3.0nm,0.9s
NB2 NORSAR Subarra 68.00 342 P **P** **21 00 53.0 +0.8**
comp=Z,1.0nm,0.6s,baz=26,slow=6.5
NOA NORSAR Array B 68.00 342 P **P** **21 00 53.0 +0.8**
comp=Z,3.1nm,0.9s,baz=26,slow=6.3,SNR=12
comp=Z,3.1nm,0.9s
NOA NORSAR Array B 68.00 342 P **P** **21 00 53.0 +0.8**
HFS Hagfors 68.25 340 P **P** **21 00 54.2 +0.5**
comp=Z,2.6nm,0.3s,baz=55,slow=5.6,SNR=42
comp=Z,2.6nm,0.3s
WRAB Tennant Creek 69.16 200 P **P** **21 00 56.1 -3.7**
WRAB IAmb IAmb 21 01 21.4
comp=Z,4.6nm,1.0s
WRAB Tennant Creek 69.16 200⇑*eP* **P** **21 00 58.9 -0.9**
WRAB pmax pmax
comp=Z,25nm,2.5s
KIV Kislovodsk 70.94 315 *eP* **P** **21 01 12.6 +1.8**
KIV Kislovodsk 70.94 315 *eP* **P** **21 01 12.6 +1.8**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KBZ Khabaz 71.01 314 P **P** **21 01 12.2 +1.2**
comp=Z,1.7nm,0.6s,baz=51,slow=4.7,SNR=4.7
comp=Z,1.7nm,0.6s
AKASG Malin Array Be 71.52 327 P **P** **21 01 13.9 -0.1**
comp=Z,2.2nm,0.4s,baz=34,slow=6.2,SNR=5.4
comp=Z,2.2nm,0.4s
ASAR Alice Springs 72.86 199 P **P** **21 01 22.1 -0.2**
comp=Z,0.3nm,0.6s,baz=15,slow=5.5,SNR=2.3
comp=Z,0.3nm,0.6s
EKA Eskdalemuir Ar 76.04 347 P **P** **21 01 40.6 +0.2**
comp=Z,0.5nm,0.5s,baz=30,slow=5.8,SNR=2.1
comp=Z,0.5nm,0.5s
CLL Collm 76.31 336 *i P* **P** **21 01 43.3 +1.3**
comp=Z,5.0nm,0.7s
CLL Collm 76.31 336 *i P* **P** **21 01 43.3 +1.3**
CLL pmax pmax
comp=Z,5.0nm,0.7s
TXAR Lajitas Array 76.69 61 P **P** **21 01 45.6 +0.9**
comp=Z,0.3nm,0.6s,baz=306,slow=4.2,SNR=4.7
comp=Z,0.3nm,0.6s
KHC Kasperske Hory 78.10 335⇓*eP* **P** **21 01 54.1 +1.9**
KHC pmax pmax
comp=Z,19nm,2.5s
GERES GERESS Array B 78.32 335 P **P** **21 01 53.8 +0.3**
comp=Z,0.3nm,0.5s,baz=2.5,slow=6.9,SNR=2.1
comp=Z,0.3nm,0.5s
BR131 Keskin Array S 78.50 317⇑*eP* **P** **21 01 56.6 +1.9**
BRTR Keskin Array B 78.50 317 P **P** **21 01 55.0 +0.4**
comp=Z,1.1nm,0.8s,baz=58,slow=3.5,SNR=7.0
comp=Z,1.1nm,0.8s
BRTR Keskin Array B 78.50 317 *eP* **P** **21 01 56.3 +1.6**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
MMAI Mount Meron Ar 83.00 312 P **P** **21 02 19.9 +1.1**
comp=Z,1.1nm,0.5s,baz=52,slow=6.7,SNR=3.6
comp=Z,1.1nm,0.5s
BI02 San Fabin de 145.11 89 PKPdf **PKPbc** **21 09 27.5 -2.7**

TUN 30 21:01:54.3, 34°.42N×9°.84E, h0km, MD3.1, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEDT	**Meda**	**0.32**	**168**	*i* P	Pg	21 01 59.9	-0.5
MEDT	**Meda**	**0.32**	**168**	*i* P	Pg	21 02 00.1	-0.4
BERT	**Berda**	**0.71**	**255**	*i* P	Pg	21 02 06.8	-1.1
SGNT	**Sidi Gnaou**	**0.76**	**178**	*i* P	Pg	21 02 09.4	+0.5
SGNT	**Sidi Gnaou**	**0.76**	**178**	*i* P	Pb	21 02 09.6	-0.8
TROT	**Trozza**	**1.15**	**350**	*i* P	Pg	21 02 15.3	-1.1
TROT	**Trozza**	**1.15**	**350**	*i* P	Pg	21 02 15.4	-1.1
TATN	**Tataouine**	**1.93**	**162**	*i* P	Pn	21 02 22.6	-5.8
KRIT	**Krib**	**2.01**	**342**	*i* P	Pn	21 02 27.8	-1.8
BLIT	**Baltah**	**2.40**	**343**	*i* P	Pg	21 02 49.6	+9.3

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*IDC **30** 21:10:54.0±1.8, 8°.88S×123°.59E, h0km, mb3.9/2, mbtmp3.8/4, ML3.9/2, Error ellipse: s-maj=212.4km s-min=29.1km az=57.0*
*DJA **30** 21:10:59.0±0.3, 9°.5±3°×12°.3E±°, h10km, M3.8/7, MLv3.8/7*
ISC 30 21:10:58.4±0.7, 9°.02S±0°.08×123°.18E±0°.08, h10km, n23, σ2°.20/23, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.01**	**292**	P	**Pb**	**21 11 18.7**	**+0.6**
MMRI	**Maumere**	**1.01**	**292**	P	**Pb**	**21 11 18.4**	**+0.3**
BATI	**Baumata**	**1.27**	**158**	P	**Pg**	**21 11 25.5**	**+2.6**
SOEI	**Soe**	**1.29**	**124**	P	**Pn**	**21 11 23.0**	**+0.3**
SOEI	**Soe**	**1.29**	**124**	P	**Pn**	**21 11 23.3**	**+0.6**
EDFI	**Ende, Flores**	**1.50**	**280**	P	**Pn**	**21 11 25.8**	**+0.3**
BBSI	**Bau Bau**	**3.56**	**350**	P	**Pn**	**21 11 54.2**	**+0.3**
PLAI	**Plampang**	**5.35**	**272**	P	**Pn**	**21 12 21.2**	**+2.8**
DRS	**Darwin Rock St**	**8.30**	**115**	P	**Pn**	**21 12 58.5**	**-0.5**
MTN	**Manton Dam**	**8.68**	**117**	P	**Pn**	**21 13 03.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**9.33**	**165**	P	**Pn**	**21 13 11.8**	**-1.3**
KDU	**Kakadu**	**9.82**	**113**	P	**Pn**	**21 13 18.7**	**-1.2**
TOLI2	**Tolitoli**	**10.35**	**347**	P	**Pn**	**21 13 30.4**	**+3.4**
WRA	**Warramunga Arr**	**15.30**	**136**	Pn	**Pn**	**21 14 29.1**	**-5.6**
	0.6nm,0.3s,baz=317,slow=14,SNR=30						
WRA				Sn	Sn	21 17 08.9	-16
	0.1nm,0.3s,baz=313,slow=23,SNR=1.4						
	0.8nm,0.3s						
WRKA	**Warakurna**	**16.66**	**164**	P	**Pn**	**21 14 50.9**	**-1.3**
ASAR	**Alice Springs**	**17.81**	**146**	P	**Pn**	**21 15 02.6**	**-4.0**
	0.4nm,0.3s,baz=318,slow=12,SNR=18						
ASAR				S	Sn	21 18 09.7	-16
	0.7nm,0.8s,baz=310,slow=22,SNR=3.9						
	0.4nm,0.3s						
AS01	**Alice Springs**	**17.84**	**146**	P	**Pn**	**21 15 06.3**	**-0.7**
QIS	**Mount Isa**	**19.56**	**128**	P	**P**	**21 15 27.4**	**+0.7**
COEN	**Coen**	**20.19**	**106**	P	**P**	**21 15 33.2**	**-0.3**
OOD	**Oodnadatta**	**22.09**	**149**	P	**P**	**21 15 55.1**	**+1.2**
MULG	**Mulgathing**	**23.47**	**156**	P	**P**	**21 16 08.5**	**+0.2**
MKAR	**Makanchi Array**	**66.43**	**331**	P	**P**	**21 21 46.0**	**-2.0**
	0.5nm,0.5s,baz=142,slow=7.3,SNR=11						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**70.60**	**337**	P	**P**	**21 22 10.9**	**-3.0**
	0.7nm,0.4s,baz=158,slow=7.0,SNR=4.2						
	0.7nm,0.4s						

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*IDC **30** 21:12:01.5±2.1, 47°.35N×154°.03E, h0km, mb3.8/11, mbtmp3.8/11, Error ellipse: s-maj=54.5km s-min=27.3km az=170.0*
ISC 30 21:12:06.4±1.9, 47°.4N±0°.3×154°.0E±0°.2, h31km, n18, σ0°.79/12, mb3.8/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.59**	**252**	P	**P**	**21 16 53.4**	**0.0**
	0.6nm,0.6s,baz=56,slow=11,SNR=2.3						
	0.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.51**	**155**	T	T	21 49 45.3	
	baz=342,slow=74						
H11N1	**WAKE ISLAND Hy**	**29.52**	**155**	T	T	21 50 09.1	
	baz=342,slow=74						
H11N3	**WAKE ISLAND Hy**	**29.53**	**155**	T	T	21 50 06.8	
	baz=342						
H11S1	**WAKE ISLAND Hy**	**30.61**	**156**	T	T	21 50 35.6	
	baz=343,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**30.62**	**156**	T	T	21 50 20.3	
	baz=343,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**30.63**	**156**	T	T	21 50 42.2	
	baz=343,slow=76,SNR=14						
SONM	**Songino Array**	**31.72**	**289**	P	**P**	**21 18 28.3**	**+1.0**
	0.2nm,0.5s,baz=69,slow=7.4,SNR=1.7						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**42.75**	**306**	P	**P**	**21 19 59.9**	**-0.6**
	0.8nm,0.6s,baz=78,slow=7.5,SNR=3.8						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**47.21**	**297**	P	**P**	**21 20 35.3**	**-0.8**
	0.7nm,0.8s,baz=66,slow=7.9,SNR=7.2						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**47.63**	**303**	P	**P**	**21 20 38.6**	**-0.6**
	2.0nm,0.7s,baz=70,slow=8.7,SNR=11						
	2.0nm,0.7s						
BVAR	**Borovoye Array**	**50.94**	**309**	P	**P**	**21 21 04.2**	**-0.4**
	0.5nm,0.3s,baz=54,slow=8.1,SNR=7.3						
	0.5nm,0.3s						
ARU	**Arti**	**54.97**	**318**	P	**P**	**21 21 33.0**	**-1.1**
	1.3nm,0.4s,baz=72,slow=6.4,SNR=5.1						
	1.3nm,0.4s						
FINES	**FINESS Array B**	**63.73**	**335**	P	**P**	**21 22 35.0**	**+0.5**
	0.8nm,0.7s,baz=38,slow=8.3,SNR=7.9						
	0.8nm,0.7s						
NB2	**NORSAR Subarra**	**67.83**	**341**	P	**P**	**21 23 01.5**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**67.83**	**341**	P	**P**	**21 23 01.8**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=26,slow=6.3,SNR=4.8						
	comp=Z,0.9nm,0.8s						
HFS	**Hagfors**	**68.08**	**340**	P	**P**	**21 23 03.5**	**+1.0**
	comp=Z,1.8nm,0.7s,baz=51,slow=4.7,SNR=7.6						
	comp=Z,1.8nm,0.7s						
TXAR	**Lajitas Array**	**76.63**	**61**	P	**P**	**21 23 54.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=297,slow=6.0,SNR=4.6						
	comp=Z,0.3nm,0.7s						

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*IDC **30** 21:16:27.7±4.5, 4°.24S×137°.03E, h0km, mb3.8/4, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=215.5km s-min=27.6km az=86.0*
ISC 30 21:16:33.5±4.7, 4°.5S±0°.1×137°.7E±°, h35km, n6, σ1°.11/8, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.48**	**188**	Pn	**Pn**	**21 20 08.5**	**-0.8**
	0.2nm,0.3s,baz=6.5,slow=13,SNR=0.9						
WRA				Sn	**Sn**	**21 22 59.1**	**-0.6**
	0.3nm,0.3s,baz=11,slow=22,SNR=4.6						
WRA				Lg	Lg	21 24 48.1	
	0.3nm,0.3s,baz=14,slow=27,SNR=4.7						
ASAR	**Alice Springs**	**19.20**	**188**	P	**Pn**	**21 20 57.4**	**+1.8**
	0.7nm,0.3s,baz=16,slow=10.0,SNR=29						
ASAR				S	**S**	**21 24 30.2**	**-0.1**
	0.7nm,0.8s,baz=16,slow=27,SNR=2.6						
ASAR				Lg	Lg	21 26 47.6	
	baz=7.3,slow=31,SNR=4.2						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**69.96**	**324**	P	**P**	**21 27 42.1**	**+0.7**
	0.8nm,0.6s,baz=116,slow=7.8,SNR=9.9						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**72.46**	**331**	P	**P**	**21 27 55.4**	**-0.9**
	0.6nm,0.6s,baz=125,slow=7.6,SNR=2.1						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**74.01**	**326**	P	**P**	**21 28 05.1**	**-0.4**
	0.2nm,0.4s,baz=121,slow=5.7,SNR=2.4						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**79.61**	**326**	P	**P**	**21 28 36.3**	**-0.7**
	1.2nm,0.8s,baz=104,slow=6.1,SNR=4.1						
	1.2nm,0.8s						

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*NNC **30** 21:18:34.0±4.4, 37°.15N×71°.61E, h200km±89km, mb2.5, mpv3.7, Error ellipse: s-maj=49.1km s-min=25.8km az=12.0*
ISC 30 21:18:34.1±3.7, 37°.2N±0°.2×71°.5E±0°.1, h200km, n10, σ0°.62/13, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.25**	**18**	P	**Pn**	**21 19 51.4**	**-0.6**
	SNR=32						
UCH	**Uchtor**	**5.57**	**23**	P	**Pn**	**21 19 55.8**	**-0.3**
	SNR=5.2						
EKS2	**Erkin-Say**	**5.77**	**17**	P	**Pn**	**21 19 58.8**	**+0.3**
	SNR=12						
AAK	**Ala-Archa**	**5.94**	**22**	⇑P	**Pn**	**21 20 00.6**	**0.0**
	2.3nm,0.4s						
AAK				⇑S	**Sn**	**21 21 08.5**	**-0.6**
	1.7nm,0.5s						
KK31	**Karatay Array**	**6.00**	**353**	P	**Pn**	**21 20 00.3**	**-1.0**
	4.6nm,0.4s,baz=180,slow=12,SNR=32						
KK31				⇓S	**Sn**	**21 21 11.5**	**+1.2**
	1.3nm,0.3s						
CHMS	**Chumysh**	**6.34**	**22**	P	**Pn**	**21 20 06.2**	**+0.4**
	SNR=5.5						
USP	**Ospenovka**	**6.52**	**19**	P	**Pn**	**21 20 07.9**	**-0.1**
	SNR=5.8						
TKM2	**Tokmak 2**	**6.56**	**27**	P	**Pn**	**21 20 09.1**	**+0.5**
	SNR=9.3						
TKM2	**Tokmak 2**	**6.56**	**27**	⇓P	**Pn**	**21 20 08.8**	**+0.1**
	2.7nm,0.5s						
TKM2				⇓S	**Sn**	**21 21 23.2**	**-0.4**
	0.9nm,0.6s						
AB31	**Akbulak array**	**14.74**	**329**	⇓P	**Pn**	**21 21 53.1**	**+0.2**
	0.2nm,0.3s						

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*NDI **30** 21:23:24.5±2.9, 29°.68N×89°.80E, h20km, ML3.6, MW3.5, mb4.0(NEIC)*
*IDC **30** 21:23:26.8±1.7, 29°.44N×90°.69E, h0km, mb3.4/6, mbtmp3.5/7, ML3.6/1, Error ellipse: s-maj=97.5km s-min=20.6km az=61.0*
*NEIC **30** 21:23:29.3±2.2, 29°.42N±0°.09×90°.34E±0°.04, h20km±7km, mb4.0/8, Error ellipse: s-maj=13.2km s-min=2.8km az=160.0*
ISC 30 21:23:27.8±0.6, 29°.40N±0°.05×90°.16E±0°.05, h10km, n29, σ2°.12/36, mb3.7/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**0.91**	**71**		**Pg**	**21 23 43.5**	**-1.9**
LSA				Sn	**Sb**	**21 23 55.9**	**-2.4**
GTK	**Tadong**	**2.49**	**214**	*e*P	**Pn**	**21 24 08.5**	**0.0**
GTK				*e*S	**Sn**	**21 24 34.2**	**-4.8**
GTK				IAML		21 24 45.2	
	comp=N,243nm,0.6s						
GTK				IAML		21 24 45.3	
	comp=E,320nm,0.6s						
GUWA	**GUWAHATI**	**3.47**	**157**	*e*P	**Pn**	**21 24 23.0**	**+1.2**
GUWA				*e*S	**Sn**	**21 25 06.6**	**+3.5**
GUWA				IAML		21 25 09.2	
	comp=E,204nm,0.6s						
GUWA				IAML		21 25 10.9	
	comp=N,210nm,0.4s						
ZIRO	**ZIRO**	**3.75**	**119**	*e*P	**Pn**	**21 24 27.7**	**+1.9**
ZIRO				*ex*	x	21 25 24.9	
ZIRO				IAML		21 25 26.7	
	comp=N,510nm,0.6s						
ZIRO				IAML		21 25 30.9	
	comp=E,318nm,0.3s						
SHL	**Shillong**	**4.11**	**158**	Pn	**Pn**	**21 24 29.2**	**-1.7**
SHL	**Shillong**	**4.11**	**158**	*e*P	**Pn**	**21 24 29.6**	**-1.3**
SHL				*e*S	**Sn**	**21 25 20.4**	**+1.2**
KOHI	**KOHIMA**	**5.07**	**135**	*e*P	**Pn**	**21 24 44.6**	**+0.6**
KOHI				*e*S	**Sn**	**21 25 44.6**	**+1.8**
KOHI				IAML		21 25 45.8	
	comp=E,54nm,0.8s						
KOHI				IAML		21 26 05.7	
	comp=N,45nm,0.4s						
IMP	**Imphal**	**5.67**	**143**	*e*P	**Pn**	**21 24 51.8**	**-0.3**
IMP				*e*S	**Sn**	**21 25 57.8**	**+0.5**
SAIH	**SAIHA**	**7.34**	**159**	*e*P	**Pn**	**21 25 14.5**	**-0.7**
GOMU	**GeErMu**	**7.83**	**29**	Pn	**Pn**	**21 25 25.8**	**+3.8**
GOMU				Sn	**Sn**	**21 26 45.3**	**-5.6**
GOMU				smax	smax		
	comp=N,9.0nm,0.5s						
GOMU				smax	smax		
	comp=E,4.0nm,0.4s						
PZH	**PanZhiHua**	**10.64**	**103**	P	**Pn**	**21 26 01.5**	**+1.1**
PZH				pmax	pmax		
	comp=Z,20nm,1.3s						
PZH				pmax	pmax		
	comp=Z,150nm,5.9s						
CMAR	**Chiang Mai Arr**	**13.53**	**142**	Pn	**Pn**	**21 26 37.5**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=318,slow=13,SNR=10						
	comp=Z,1.5nm,0.6s						
PHRA	**Phrae**	**14.22**	**138**	Pn	**Pn**	**21 26 49.5**	**+0.2**
WMQ	**Urumqi**	**14.53**	**353**	*e*P	**Pn**	**21 26 53.3**	**-0.2**
KSH	**Kashi**	**15.43**	**315**	P	**P**	**21 27 12.5**	**+2.2**
KSH				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ENH	**Enshi**	**16.79**	**82**	P	**Pn**	**21 27 23.8**	**+0.7**
ENH				IAmb	IAmb	21 27 25.5	
	comp=Z,6.4nm,1.0s						
MK31	**Makanchi Array**	**18.42**	**343**	P	**P**	**21 27 42.1**	**-1.0**
MAKZ	**Makanchi**	**18.51**	**342**	P	**P**	**21 27 43.1**	**-1.1**
BTK	**Batken**	**19.09**	**309**	P	**P**	**21 27 50.7**	**+0.1**
SIMJ	**Simiganj**	**19.78**	**303**	Pn	**P**	**21 28 00.8**	**+2.5**
HHC	**Hu-ho-hao-te**	**20.84**	**51**	*e*P	**P**	**21 28 09.8**	**0.0**
HHC				pmax	pmax		
	comp=Z,110nm,7.2s						
HHC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KURBB	**Kurchatov Arra**	**22.94**	**341**	P	**P**	**21 28 33.1**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=155,slow=9.8,SNR=3.9						
	comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**23.00**	**341**	P	**P**	**21 28 35.0**	**+2.5**
KURK				IAmb	IAmb	21 28 39.0	
	comp=Z,3.7nm,1.1s						
ZALV	**Zalesovo Beam**	**24.84**	**352**	P	**P**	**21 28 50.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=161,slow=9.2,SNR=1.8						
	comp=Z,0.4nm,0.5s						
ABKAR	**Akbulak array**	**30.34**	**319**	P	**P**	**21 29 40.8**	**+1.3**
ABKAR				IAmb	IAmb	21 30 12.2	
	comp=Z,3.7nm,1.5s						
FINES	**FINESS Array B**	**52.30**	**327**	P	**P**	**21 32 41.9**	**+2.7**
	comp=Z,0.7nm,0.7s,baz=108,slow=8.9,SNR=4.9						
	comp=Z,0.7nm,0.7s						
WRA	**Warramunga Arr**	**64.97**	**134**	P	**P**	**21 34 06.5**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=326,slow=6.6,SNR=5.2						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**67.48**	**137**	P	**P**	**21 34 22.5**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=318,slow=6.0,SNR=2.3						
	comp=Z,0.3nm,0.7s						
ILAR	**Eielson Array**	**76.24**	**22**	P	**P**	**21 35 16.5**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=297,slow=5.9,SNR=2.6						
	comp=Z,0.3nm,0.8s						

IDC 30 21:24:12.2±17.0, 46°.49N×154°.10E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=396.1km s-min=55.3km az=160.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**28.68**	**154**	T	T	22 02 07.7	
	baz=340,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.69**	**154**	T	T	22 02 25.5	
	baz=340,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.70**	**154**	T	T	22 02 02.7	
	baz=340,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.78**	**155**	T	T	22 03 01.8	
	baz=341						
H11S3	**WAKE ISLAND Hy**	**29.79**	**155**	T	T	22 02 31.2	
	baz=341,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.80**	**155**	T	T	22 02 28.8	
	baz=341,slow=74						
ZALV	**Zalesovo Beam**	**43.32**	**306**	P	P	21 32 14.8	-0.8
	0.8nm,0.5s,baz=58,slow=9.5,SNR=4.5						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**47.67**	**298**	P	P	21 32 50.6	+0.5
	0.6nm,0.8s,baz=69,slow=6.6,SNR=4.6						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**48.17**	**304**	P	P	21 32 53.9	-0.1
	1.3nm,0.6s,baz=69,slow=8.7,SNR=9.5						
	1.3nm,0.6s						
BVAR	**Borovoye Array**	**51.55**	**310**	P	P	21 33 19.7	0.0
	0.7nm,0.3s,baz=57,slow=6.6,SNR=4.8						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**64.57**	**335**	P	P	21 34 50.2	-0.4
	0.6nm,0.4s,baz=32,slow=7.1,SNR=14						
	0.6nm,0.4s						
NOA	**NORSAR Array B**	**68.69**	**342**	P	P	21 35 18.2	+1.1
	0.1nm,0.4s,baz=41,slow=4.6,SNR=3.4						
	0.1nm,0.4s						
HFS	**Hagfors**	**68.94**	**340**	P	P	21 35 18.4	-0.2
	1.7nm,0.6s,baz=49,slow=4.4,SNR=13						
	1.7nm,0.6s						
AKASG	**Malin Array Be**	**72.14**	**327**	P	P	21 35 38.2	-0.1
	0.6nm,0.3s,baz=34,slow=6.4,SNR=2.3						
	0.6nm,0.3s						

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*IDC **30** 21:24:41.6±1.0, 28°.95N×89°.87E, h0km, mb3.6/11, mbtmp3.6/13, ML3.8/2, MS3.3/3, Error ellipse: s-maj=42.7km s-min=17.7km az=57.0*
ISC 30 21:24:46.7±1.0, 29°.0N±0°.2×89°.9E±0°.2, h35km, n15, σ0°.52/13, mb3.6/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.33**	**140**	Pn	**Pn**	**21 27 53.2**	**-0.2**
	0.3nm,0.3s,baz=317,slow=13,SNR=11						
	2.7nm,0.6s						
AAK	**Ala-Archa**	**18.46**	**322**	LR	LR	21 37 31.2	
	comp=Z,84nm,18.2s,baz=172,slow=42						
MKAR	**Makanchi Array**	**18.78**	**344**	P	**P**	**21 29 03.0**	**+0.3**
	0.1nm,0.3s,baz=167,slow=9.7,SNR=6.6						
	0.9nm,0.6s						
SONM	**Songino Array**	**22.78**	**30**	P	**P**	**21 29 46.2**	**0.0**
	0.9nm,0.7s,baz=209,slow=9.9,SNR=3.5						
SONM				LR	LR	21 40 01.0	
	comp=Z,39nm,21.5s,baz=187,slow=40						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**23.28**	**341**	P	**P**	**21 29 50.3**	**-0.7**
	2.8nm,1.0s,baz=157,slow=9.3,SNR=7.6						
	2.8nm,1.0s						
ZALV	**Zalesovo Beam**	**25.25**	**353**	P	**P**	**21 30 09.1**	**-0.1**
	0.6nm,0.4s,baz=171,slow=10,SNR=4.6						
	0.6nm,0.4s						
ARU	**Arti**	**35.28**	**330**	LR	LR	21 46 17.1	
	comp=Z,71nm,19.1s,baz=160,slow=37						
FINES	**FINESS Array B**	**52.54**	**327**	P	**P**	**21 33 56.6**	**+0.4**
	1.5nm,0.8s,baz=106,slow=9.3,SNR=6.6						
	1.5nm,0.8s						
ARCES	**ARCESS Array B**	**54.26**	**337**	P	**P**	**21 34 09.5**	**+0.8**
	0.3nm,0.4s,baz=101,slow=6.3,SNR=4.9						
	0.3nm,0.4s						
HFS	**Hagfors**	**58.56**	**325**	P	**P**	**21 34 40.1**	**+0.6**
	2.9nm,1.1s,baz=115,slow=10,SNR=3.2						
	2.9nm,1.1s						
NOA	**NORSAR Array B**	**59.70**	**326**	P	**P**	**21 34 47.0**	**-0.4**
	0.3nm,0.7s,baz=85,slow=6.5,SNR=1.9						
	0.3nm,0.7s						
GERES	**GERESS Array B**	**60.02**	**312**	P	**P**	**21 34 49.5**	**-0.4**
	0.2nm,0.3s,baz=59,slow=9.6,SNR=2.1						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**64.83**	**133**	P	**P**	**21 35 23.0**	**+0.7**
	0.3nm,0.5s,baz=326,slow=6.6,SNR=5.2						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**67.31**	**136**	P	**P**	**21 35 38.2**	**0.0**
	0.2nm,0.6s,baz=336,slow=6.3,SNR=1.6						
	0.2nm,0.6s						
ILAR	**Eiel

YULB Yu-li 2.79 355 Pn **Pn 21 38 34.9 +1.3**
YULB Sn **Sn 21 39 06.8 +0.7**
TPUB Ta-pu 2.83 342 P **Pn 21 38 36.1 +2.0**
TPUB Ta-pu 2.83 342 Pn **Pn 21 38 35.6 +1.5**
TPUB Sn **Sn 21 39 05.8 -1.2**
SSLB Suanglung 3.23 350 P **Pn 21 38 41.9 +2.3**
SSLB Suanglung 3.23 350 Pn **Pn 21 38 41.3 +1.7**
SSLB Sn **Sn 21 39 16.7 -0.1**
NACB Ninganchiao 3.56 0 P **Pn 21 38 46.0 +1.9**
NACB Ninganchiao 3.56 0 Pn **Pn 21 38 45.3 +1.2**
HATJ Hateruma jima 4.01 30 P **Pn 21 38 52.5 +2.3**
HATJ *e*S **Sn 21 39 35.8 -0.2**
JYNG Yonagunijimaku 4.04 18 P **Pn 21 38 53.3 +2.7**
JYNG *e*S **Sn 21 39 37.0 +0.4**
YHNB Yeheng 4.06 357 P **Pn 21 38 54.7 +3.7**
YHNB Yeheng 4.06 357 Pn **Pn 21 38 53.2 +2.2**
YOJ Yonaguni jima 4.07 19 Pn **Pn 21 38 53.2 +2.2**
YOJ Yonaguni jima 4.07 19 P **Pn 21 38 54.9 +3.9**
YOJ S **Sn 21 39 37.4 +0.1**
IRIF Iriomote-Funau 4.21 28 P **Pn 21 38 55.3 +2.2**
IRIF S **Sn 21 39 40.7 -0.3**
JKRS Kuro-shima 4.26 31 P **Pn 21 38 55.6 +1.9**
JKRS *e*S **Sn 21 39 42.6 +0.4**
JIJ Ishigaki jima 4.43 32 P **Pn 21 38 57.3 +1.2**
JIJ S **Sn 21 39 43.5 -2.9**
JISG Ishigakijimahi 4.70 32 P **Pn 21 39 01.5 +1.7**
JISG S **Sn 21 39 51.9 -1.2**
KNMB Chin-men Tao 4.85 323 Pn **Pn 21 39 03.6 +1.8**
JTJ Tarama 4.95 35 *e*P **Pn 21 39 04.9 +1.8**
JTJ S **Sn 21 39 57.3 -1.8**
QZH Quanzhou 5.13 328 Pn **Pn 21 39 07.0 +1.3**
QZH Sn **Sn 21 39 56.5 -7.1**
QZH smax smax
comp=N,85nm,0.3s
QZH smax smax
comp=E,160nm,0.5s
HKPS Hong Kong Po S 7.13 285 Pn **Pn 21 39 35.8 +2.7**
JOW Kunigami 8.72 43 Pn **Pn 21 39 56.8 +1.9**
JOW Kunigami 8.72 43 Pn **Pn 21 39 56.2 +1.3**
comp=E,1.6nm,0.3s,baz=252,slow=16,SNR=1.5
JOW LR LR 21 42 20.9
comp=E,78nm,20.3s,baz=286,slow=31
comp=E,9.2nm,0.5s
DAV Davao City (W) 13.99 163 LR LR 21 46 46.8
comp=E,139nm,18.5s,baz=356,slow=39
JNU Nakatsue 14.97 32 LR LR 21 46 58.8
comp=E,70nm,19.9s,baz=202,slow=37
KSRS Korea Array 17.68 17 P **Pn 21 41 51.9 -2.4**
comp=E,0.2nm,0.3s,baz=195,slow=11,SNR=6.0
comp=E,1.2nm,0.6s
HNS HongShan 17.78 342 *e*P **P 21 41 57.8 +1.9**
PZH PanZhiHua 19.11 292 P **Pn 21 42 16.0 +4.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,230nm,7.8s
GTOI Gorontalo 19.89 176 P **Pn 21 42 20.2 -0.9**
JCJ Chichijima 19.91 67 LR LR 21 48 34.5
comp=Z,18nm,20.2s,baz=270,slow=32
MPSI Mapaga 20.20 185 P Pn 21 42 25.9 +1.1
comp=Z,26nm,0.9s
PHRA Phrae 20.23 268 P Pn 21 42 25.5 +0.3
JHJ Hachijo jima 2 20.43 49 LR LR 21 49 13.2
comp=Z,25nm,20.4s,baz=29,slow=33
CHTO Chiang Mai 21.39 269 P **P 21 42 37.6 +2.1**
CHTO IAmb IAmb 21 42 41.9
comp=Z,9.8nm,1.1s
CM31 Chiang Mai Arr 21.44 268 P **P 21 42 37.6 +1.6**
CM31 IAmb IAmb 21 42 43.3
comp=Z,15nm,1.1s
CMAR Chiang Mai Arr 21.44 268 P **P 21 42 39.3 +3.2**
comp=Z,5.3nm,0.9s,baz=66,slow=8.4,SNR=18
MJAR Matsushiro Arr 21.52 39 P **P 21 42 38.7 +1.9**
comp=Z,0.7nm,0.3s,baz=226,slow=9.5,SNR=1.7
comp=Z,0.7nm,0.3s
LUWI Luwuk 21.54 177 P **P 21 42 38.8 +1.8**
GUMO Guam 23.30 104 LR LR 21 50 10.8
comp=Z,22nm,20.3s,baz=288,slow=32
KULM Kulim 25.40 236 P **P 21 43 18.2 +3.2**
KULM IAmb IAmb 21 43 31.2
comp=Z,32nm,1.4s
LSA Lhasa 28.93 294 P **P 21 43 48.3 +1.1**
EDFI Ende, Flores 29.16 180 P **P 21 43 49.8 +1.0**
ASAJ Asahikawa 29.25 32 LR LR 21 56 03.3
comp=Z,46nm,19.1s,baz=240,slow=37
ULN Ulaanbaatar 29.63 340 P **P 21 43 53.6 +0.9**
SONM Songino Array 29.82 339 P **P 21 43 53.3 -1.1**
comp=Z,0.4nm,0.4s,baz=147,slow=8.5,SNR=5.0
SONM LR LR 21 57 14.1
comp=Z,77nm,19.7s,baz=149,slow=39
comp=Z,0.4nm,0.4s
FITZ Fitzroy Crossi 38.66 174 P **P 21 45 10.3 -0.6**
COEN Coen 40.37 147 P **P 21 45 24.1 -1.2**
MK31 Makanchi Array 41.21 319 P **P 21 45 32.4 +0.4**
MKAR Makanchi Array 41.21 319 P **P 21 45 31.9 0.0**
comp=Z,0.8nm,0.4s,baz=111,slow=9.4,SNR=16
comp=Z,0.8nm,0.4s
MAKZ Makanchi 41.41 319 P **P 21 45 33.8 +0.2**
PSA00 Pilbara Seismi 41.95 182 P **P 21 45 40.5 +2.3**
WB0 Warramunga Arr 42.03 162 P **P 21 45 37.3 -1.6**
WB0 IAmb IAmb 21 45 39.0
comp=Z,12nm,1.2s
WRAB Tennant Creek 42.17 162 P **P 21 45 38.5 -1.5**
WRAB IAmb IAmb 21 46 06.2
comp=Z,16nm,1.3s
WRA Warramunga Arr 42.18 162 P **P 21 45 38.7 -1.4**
comp=Z,3.1nm,0.5s,baz=345,slow=9.0,SNR=47
comp=Z,3.1nm,0.5s
WB2 Warramunga Arr 42.19 162 P **P 21 45 38.5 -1.6**
WB2 IAmb IAmb 21 45 39.8
comp=Z,6.6nm,0.8s
WR0 Warramunga Arr 42.26 162 P **P 21 45 39.4 -1.3**
WR0 IAmb IAmb 21 45 40.7
comp=Z,7.6nm,0.9s
H11N1 WAKE ISLAND Hy 42.44 83 T T 22 31 01.0
baz=279,slow=75,SNR=15
H11N2 WAKE ISLAND Hy 42.44 83 T T 22 31 03.8
baz=279,slow=75,SNR=16
H11N3 WAKE ISLAND Hy 42.45 83 T T 22 31 03.0
baz=279,slow=75,SNR=16
H11S3 WAKE ISLAND Hy 42.45 85 T T 22 30 57.2
baz=281,slow=74,SNR=45
H11S1 WAKE ISLAND Hy 42.47 85 T T 22 30 49.7
baz=281,slow=74,SNR=57
H11S2 WAKE ISLAND Hy 42.47 85 T T 22 30 50.7
baz=281,slow=74,SNR=38
ZAA0 Zalesovo Array 43.47 329 P **P 21 45 49.0 -1.2**
ZAA0 IAmb IAmb 21 45 50.7
comp=Z,3.1nm,0.7s
ZALV Zalesovo Beam 43.47 329 P **P 21 45 49.3 -0.8**
comp=Z,3.3nm,0.6s,baz=119,slow=7.9,SNR=16
ZALV LR LR 22 06 02.4
comp=Z,40nm,19.0s,baz=198,slow=39
comp=Z,3.3nm,0.6s
AAK Ala-Archa 45.03 310 LR LR 22 05 45.9
comp=Z,95nm,19.0s,baz=134,slow=37
KURK Kurchatov 45.11 322 P **P 21 46 03.0 -0.2**
KURBB Kurchatov Arra 45.12 322 P **P 21 46 03.3 -0.1**
comp=Z,1.6nm,0.6s,baz=117,slow=8.3,SNR=16
comp=Z,1.6nm,0.6s
AS31 Alice Springs 45.60 164 P **P 21 46 07.8 +0.3**
ASAR Alice Springs 45.60 164 P **P 21 46 07.2 -0.3**
comp=Z,1.8nm,0.4s,baz=344,slow=6.9,SNR=35
comp=Z,1.8nm,0.4s
CTA Charters Tower 47.10 148 LR LR 22 09 13.1
comp=Z,5.5nm,18.0s,baz=296,slow=40
CTAO Charters Tower 47.10 148 P **P 21 46 20.6 +1.3**
GAR Garm 47.47 304 P **P 21 46 22.8 +0.5**
GAR IAmb IAmb 21 46 25.1
comp=Z,6.8nm,1.0s
KK31 Karatay Array 47.99 310 P **P 21 46 25.9 -0.2**
KKAR Karatay Array 47.99 310 P **P 21 46 26.2 +0.2**
HNR Honiara 48.10 125 LR LR 22 06 00.9
comp=Z,349nm,18.1s,baz=342,slow=35
BVAR Borovoye Array 50.70 323 P **P 21 46 46.3 -0.3**
comp=Z,1.5nm,0.6s,baz=113,slow=11,SNR=8.8
comp=Z,1.5nm,0.6s
BRVK Borovoye 50.77 323 P **P 21 46 45.6 -1.5**
BRVK IAmb IAmb 21 46 48.6
comp=Z,3.2nm,0.7s
BBOO Buckleboo 54.88 165 P **P 21 47 16.4 -1.2**
STKA Stephens Creek 55.59 159 P **P 21 47 22.3 -0.4**
STKA IAmb IAmb 21 47 59.5
comp=Z,3.9nm,1.3s
STKA Stephens Creek 55.59 159 P **P 21 47 21.9 -0.8**
comp=Z,4.0nm,0.6s,baz=337,slow=5.7,SNR=9.4
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 56.24 316 P **P 21 47 26.4 -0.8**
ARU Arti 58.20 324 P **P 21 47 39.7 -1.2**
ARU IAmb IAmb 21 48 07.9
comp=Z,8.3nm,1.5s
K17K Iditarod 67.39 29 P **P 21 48 40.9 -1.1**
L18K Granite Mounta 68.15 30 P **P 21 48 46.4 -0.4**
L18K IAmb IAmb 21 49 14.0
comp=Z,10nm,1.4s
O18K Koktuh Hills 69.03 32 P **P 21 48 51.6 -0.7**
J20K Nowinta River 69.18 28 P **P 21 48 52.9 -0.3**
J20K IAmb IAmb 21 48 57.6
comp=Z,8.1nm,1.4s
K20K Telida 69.28 29 P **P 21 48 53.3 -0.5**
K20K IAmb IAmb 21 49 12.6
comp=Z,8.7nm,1.4s
D22K Ayikyak River 69.44 23 P **P 21 48 53.8 -1.0**
D22K IAmb IAmb 21 49 26.8
comp=Z,5.1nm,1.2s
H21K Melozitna Rive 69.64 26 P **P 21 48 55.2 -0.8**
H21K IAmb IAmb 21 48 57.7
comp=Z,7.2nm,1.5s
CAST Castle Rocks 70.17 29 P **P 21 48 58.6 -0.7**
CAST IAmb IAmb 21 49 21.2
comp=Z,4.1nm,1.2s
E24K Your Creek 71.06 23 P **P 21 49 02.9 -1.9**
F24K Squaw Lake 71.37 24 P **P 21 49 04.7 -1.9**
F24K IAmb IAmb 21 49 09.3
comp=Z,4.3nm,1.4s
D25K Kavik River 71.63 22 P **P 21 49 06.4 -1.7**
FIA1 FINESS Array S 74.72 330 P **P 21 49 25.4 -1.0**
FINES FINESS Array B 74.72 330 P **P 21 49 25.1 -1.3**
comp=Z,2.2nm,0.7s,baz=112,slow=8.8,SNR=8.2
FINES LR LR 22 24 21.8
comp=Z,43nm,18.3s,baz=80,slow=37
comp=Z,2.2nm,0.7s
I28M Miner Creek 74.93 25 P **P 21 49 27.1 -0.6**
I28M IAmb IAmb 21 49 54.3
comp=Z,5.3nm,1.5s
G29M Pine Creek 75.24 24 P **P 21 49 27.8 -1.6**
G29M IAmb IAmb 21 49 32.6
comp=Z,6.8nm,1.2s
H29M Whitestone 75.32 24 P **P 21 49 27.6 -2.2**
H29M IAmb IAmb 21 49 32.7
comp=Z,3.3nm,1.1s
BRTR Keskin Array B 75.61 307 P **P 21 49 31.1 -1.0**
comp=Z,0.8nm,0.7s,baz=111,slow=6.4,SNR=5.6
comp=Z,0.8nm,0.7s
I30M Mount Dempster 76.42 25 P **P 21 49 34.1 -2.1**
I30M IAmb IAmb 21 50 14.0
comp=Z,5.9nm,1.5s
M29M Somme Creek 76.45 28 P **P 21 49 36.1 -0.4**
M29M IAmb IAmb 21 50 01.6
comp=Z,4.2nm,1.2s
J30M Hart River 76.66 26 P **P 21 49 38.4 +0.8**
CSS Mathiatis 77.12 303 P **P 21 49 41.1 +0.5**
BUR08 Bucovina Ar. S 79.21 317 P **P 21 49 51.5 -0.6**
ELL Elmali 79.26 305 P **P 21 49 52.0 -0.7**
MLR Muntele Rosu 79.41 315 P **P 21 49 52.2 -1.0**
MLR IAmb IAmb 21 49 53.2
comp=Z,4.1nm,1.2s
HFS Hagfors 80.87 331 P **P 21 49 58.6 -2.0**
comp=Z,0.8nm,0.8s,baz=44,slow=8.5,SNR=2.0
HFS LR LR 22 27 58.4
comp=Z,41nm,19.1s,baz=83,slow=37
comp=Z,0.8nm,0.8s
NOA NORSAR Array B 81.56 333 P **P 21 50 02.8 -1.6**
comp=Z,0.4nm,0.8s,baz=66,slow=5.3,SNR=3.5
NOA LR LR 22 28 52.0
comp=Z,28nm,19.5s,baz=65,slow=38
comp=Z,0.4nm,0.8s
OJC Ojcow 81.66 321 P **P 21 50 04.0 -1.0**
OJC IAmb IAmb 21 50 05.8
comp=Z,5.2nm,0.7s
MORC Moravsky Berou 83.17 321 *e*P **P 21 50 09.9 -3.1**
JAVC Velka Javorina 83.46 320 *e*P **P 21 50 15.1 +0.5**
VRAC Vranov 83.93 321 *e*P **P 21 50 15.7 -1.2**
KRUC Moravsky 84.15 320 *e*P **P 21 50 14.7 -3.3**
YBH Yreka Blue Hor 94.14 43 LR LR 22 31 58.5
comp=Z,16nm,18.4s,baz=242,slow=34
ELIB Princess Elisa 111.97 199 *d*PP **PP 21 56 59.4 -6.1**

BJI ***30*** *21:44:16.9±0.0, 0˙.54S×.96˙.56E, h10km, mb4.6/46, mB4.8/14, Ms4.3/5, Ms7 4.2/5*
IDC ***30*** *21:44:21.9±0.6, 0˙.09N×.96˙.50E, h0km, mb4.4/22, mbtmp4.4/23, MLA.5/1, MS3.5/12, Error ellipse: s-maj=22.8km s-min=13.3km az=56.0*
NEIC ***30*** *21:44:24.0±2.0, 0˙.13N±0˙.08×96˙.59E±0˙.09, h10km±1km, mb4.7/39, Error ellipse: s-maj=16.2km s-min=12.3km az=244.0*
DJA ***30*** *21:44:25.9±0.5, 0˚N±3˚×9˚7E±˚, h50km±24km, M5.0/12, mB5.5/2, mb5.1/5, MLv5.0/12, Mw(mB)5.0/2*
ISC 30 21:44:26.8±0.4, 0˙.14N±0˙.05×96˙.69E±0˙.06, h32km, n163, σ1**22**/151**, mb4.7**/63**, MS3.7**/16**, 1C-3D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.46**	**37**	P	**Pn**	**21 44 50.5**	**-0.4**
GSI	**Gunungsitoli**	**1.46**	**37**	Pn	**Pn**	**21 44 50.0**	**-0.9**
GSI	**Gunungsitoli**	**1.46**	**37**	P	**Pn**	**21 44 50.3**	**-0.6**
GSI				S	**Sn**	**21 45 09.0**	**+0.1**
PBSI	**Pulau Batu**	**1.60**	**97**	P	**Pn**	**21 44 53.1**	**+0.2**
PBSI				S	**Sn**	**21 45 12.8**	**+0.3**
SNSI	**Sinabang, Aceh**	**2.28**	**351**	P	**Pn**	**21 45 00.3**	**-2.0**
SNSI				S	**Sn**	**21 45 26.3**	**-3.0**
SISI	**Saibi**	**2.81**	**121**	P	**Pn**	**21 45 09.1**	**-0.4**
SISI				S	**Sn**	**21 45 39.9**	**-2.3**
KCSI	**Kotacane, Aceh**	**3.53**	**18**	P	**Pn**	**21 45 18.2**	**-1.2**
KCSI				S	**Sn**	**21 45 58.7**	**-1.4**
PDSI	**Padang**	**3.92**	**105**	P	**Pn**	**21 45 24.8**	**+0.1**
MLSI	**Meulaboh, Aceh**	**4.11**	**356**	P	**Pn**	**21 45 25.2**	**-2.2**
BKNI	**Bangkinang**	**4.36**	**88**	P	**Pb**	**21 45 38.0**	**-4.6**
BKNI	**Bangkinang**	**4.36**	**88**	Pn	**Pn**	**21 45 32.0**	**+1.2**
PPSI	**Pulau Pagai**	**4.40**	**131**	P	**Pn**	**21 45 30.8**	**-0.5**
LHMI	**Lhok Sumawe**	**5.06**	**3**	Pn	**Pn**	**21 45 38.7**	**-1.8**
LHMI	**Lhok Sumawe**	**5.06**	**3**	P	**Pn**	**21 45 38.7**	**-1.8**
126nm,0.6s,1.6nm							
KULM	**Kulim**	**6.47**	**38**	Pn	**Pn**	**21 45 58.6**	**-1.2**
MNAI	**Manna**	**7.69**	**126**	Pn	**Pn**	**21 46 14.7**	**-1.9**
MNAI	**Manna**	**7.69**	**126**	P	**Pn**	**21 46 16.3**	**-0.4**
173nm,0.9s							
SBUM	**Sibu**	**15.70**	**81**	P	**P**	**21 48 10.2**	**+0.8**
DLV	**T Lat**	**16.57**	**45**	P	**P**	**21 48 19.7**	**+0.3**
UBPT	**Khong Chiam**	**17.37**	**30**	P	**P**	**21 48 27.4**	**-0.5**
UBPT	**Khong Chiam**	**17.37**	**30**		**P**	**21 48 27.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**18.34**	**7**	P	**Pn**	**21 48 39.7**	**+0.9**
0.6nm,0.3s,baz=197,slow=11,SNR=44							
13nm,0.9s							
PHRA	**Phrae**	**18.57**	**11**	P	**Pn**	**21 48 41.4**	**-0.3**
CHTO	**Chiang Mai**	**18.69**	**7**	P	**P**	**21 48 42.1**	**-0.4**
KKM	**Kota Kinabalu**	**20.35**	**73**	P	Pn	21 49 06.5	+3.4
32nm,1.2s							
KKM	**Kota Kinabalu**	**20.35**	**73**		**P**	**21 49 01.7**	**+0.8**
SLVN	**Son La**	**22.21**	**18**	P	**P**	**21 49 21.9**	**+1.1**
SLVN				IAmb	IAmb	21 49 34.0	
comp=Z,26nm,0.9s							
SAIH	**SAIHA**	**22.51**	**351**	*e*P	**P**	**21 49 24.3**	**+0.3**
SAIH				IAmb	IAmb	21 49 30.4	
comp=Z,37nm,0.7s							
KAPI	**Kappang**	**23.60**	**103**	LR	LR	21 59 41.4	
comp=Z,124nm,19.9s,baz=244,slow=39							
TOLI2	**Tolitoli**	**24.11**	**88**	P	**P**	**21 49 39.4**	**-0.5**
IMP	**Imphal**	**24.69**	**354**	*e*P	**P**	**21 49 45.5**	**+0.4**
IMP				IAmb	IAmb	21 49 48.9	
comp=Z,9.5nm,0.7s							
TNCH	**TengChong**	**24.81**	**4**	P	**P**	**21 49 48.5**	**+2.2**
TNCH				pP	pP	21 49 52.0	-2.0
TNCH				pmax	pmax		
comp=Z,19nm,0.7s							
H08S2	**Diego Garcia H**	**25.33**	**252**	T	T	22 17 08.6	
baz=73,slow=74							
H08S3	**Diego Garcia H**	**25.34**	**252**	T	T	22 17 40.0	
baz=73							
H08S1	**Diego Carcia H**	**25.35**	**252**	T	T	22 17 37.6	
baz=73,slow=74							
KMI	**Kunming**	**25.52**	**13**	⇓P	**P**	**21 49 54.8**	**+2.0**
KMI				pmax	pmax		
comp=Z,16nm,1.3s							
KMI				LR	LR		
comp=Z,170nm,10.8s							
KMI				LR	LR		
comp=Z,230nm,13.4s							
KMI				LR	LR		
comp=Z,270nm,13.8s							
KOHI	**KOHIMA**	**25.55**	**355**	*e*P	**P**	**21 49 53.6**	**+0.5**
KOHI				IAmb	IAmb	21 50 04.7	
comp=Z,21nm,0.7s							
SHL	**Shillong**	**25.70**	**350**	P	**P**	**21 49 54.8**	**+0.4**
SHL	**Shillong**	**25.70**	**350**	*e*P	**P**	**21 49 54.3**	**-0.1**
SHL				IAmb	IAmb	21 49 56.9	
comp=Z,43nm,0.6s							
SHL				*e*S	**S**	**21 54 26.7**	**+5.4**
BOK	**Bokaro**	**25.75**	**337**	*e*P	**P**	**21 49 56.3**	**+1.6**
BOK				IAmb	IAmb	21 49 58.1	
comp=Z,16nm,0.8s							
GUWA	**GUWAHATI**	**26.35**	**350**	*e*P	**P**	**21 50 01.0**	**+0.9**
PZH	**PanZhiHua**	**26.66**	**10**	P	**P**	**21 50 05.5**	**+2.5**
PZH				pmax	pmax		
comp=Z,20nm,0.9s							
PZH				pmax	pmax		
comp=Z,120nm,5.3s							
ZIRO	**ZIRO**	**27.37**	**355**	*e*P	**P**	**21 50 09.6**	**+0.1**
ZIRO				IAmb	IAmb	21 50 18.6	
comp=Z,22nm,0.9s							
DAV	**Davao City (W)**	**29.63**	**76**	LR	LR	22 02 57.7	
comp=Z,98nm,21.8s,baz=263,slow=37							
LSA	**Lhasa**	**29.87**	**350**	P	**P**	**21 50 33.5**	**+1.5**
LSA				pmax	pmax		
comp=Z,11nm,0.8s							
YULB	**Yu-li**	**33.25**	**44**	P	**P**	**21 51 04.4**	**+3.0**
YULB				IAmb	IAmb	21 51 17.6	
comp=Z,8.7nm,0.9s							
FITZ	**Fitzroy Crossi**	**33.74**	**124**	P	**P**	**21 51 05.9**	**+0.2**
KNRA	**Kununurra**	**35.35**	**118**	P	**P**	**21 51 19.0**	**-0.7**
KNRA				IAmb	IAmb	21 51 23.0	
comp=Z,8.0nm,0.9s							
XAN	**Xi'an**	**35.62**	**18**	P	**P**	**21 51 22.0**	**+0.2**
XAN				pmax	pmax		
comp=Z,19nm,0.8s							
XAN				LR	LR		
comp=Z,300nm,15.8s							
XAN				LR	LR		
comp=Z,270nm,13.9s							
XAN				LR	LR		
comp=Z,370nm,16.3s							
FAKI	**Fak Fak**	**35.67**	**95**	P	**P**	**21 51 21.9**	**-0.6**
SMLA	**Simla**	**35.95**	**331**	*e*P	**P**	**21 51 24.1**	**-0.4**
SMLA				IAmb	IAmb	21 51 28.1	
comp=Z,4.1nm,0.7s							
LYN	**LuoYang**	**37.28**	**22**	P	**P**	**21 51 37.5**	**+1.6**
LYN				pP	pP	21 51 41.3	-2.4
LYN				pmax	pmax		
comp=Z,25nm,0.6s							
LYN				LR	LR		
comp=Z,160nm,11.7s							
LYN				LR	LR		
comp=Z,120nm,14.1s							
DHRM	**DHARAMSHALA**	**37.29**	**331**	*e*P	**P**	**21 51 36.3**	**+0.1**
NJ2	**Nanjing**	**38.03**	**31**	*e*P	**P**	**21 51 44.3**	**+2.1**
NJ2				pmax	pmax		
comp=Z,6.0nm,0.5s							
H01W3	**Cape Leeuwin H**	**38.47**	**157**	T	T	22 33 06.3	
baz=333,slow=76,SNR=7.1							
H01W2	**Cape Leeuwin H**	**38.48**	**157**	T	T	22 33 07.7	
baz=333,slow=76,SNR=5.0							
H01W1	**Cape Leeuwin H**	**38.49**	**157**	T	T	22 33 16.1	
baz=333,slow=76,SNR=5.5							
GTA	**Gaotai**	**39.19**	**4**	P	**P**	**21 51 52.5**	**+0.5**
GTA				pP	sP	21 52 02.3	-0.8
GTA				pmax	pmax		
comp=Z,4.0nm,0.8s							
NIL	**Nilore**	**39.95**	**329**	P	**P**	**21 51 57.1**	**-1.2**
NIL				IAmb	IAmb	21 51 58.2	
comp=Z,15nm,0.7s							
HNS	**HongShan**	**40.64**	**22**	⇓P	**P**	**21 52 05.5**	**+1.6**
HNS				pmax	pmax		
comp=Z,21nm,0.9s							
WRA	**Warramunga Arr**	**41.92**	**121**	P	**P**	**21 52 15.1**	**+0.3**
comp=Z,2.5nm,0.8s,baz=306,slow=8.8,SNR=13							
WRA				PcP	**PcP**	**21 54 09.9**	**-0.2**
comp=Z,1.2nm,0.9s,baz=319,slow=3.2,SNR=3.5							
comp=Z,2.5nm,0.8s							
HHC	**Hu-ho-hao-te**	**42.72**	**17**	*e*P	**P**	**21 52 21.8**	**+0.8**
HHC				pmax	pmax		
comp=Z,17nm,0.5s							
HHC				pmax	pmax		
comp=Z,62nm,4.2s							
HHC				LR	LR		
comp=Z,92nm,13.3s							
ASAR	**Alice Springs**	**43.18**	**126**	P	**P**	**21 52 25.7**	**+0.7**
comp=Z,1.8nm,0.8s,baz=308,slow=7.8,SNR=12							
ASAR				PcP	**PcP**	**21 54 15.1**	**+0.8**
comp=Z,1.0nm,0.8s,baz=301,slow=2.6,SNR=4.6							
comp=Z,1.8nm,0.8s							
BJI	**Beijing**	**43.51**	**22**	P	**P**	**21 52 29.0**	**+1.7**
BJI				pP	**pP**	**21 52 32.5**	**-2.7**
BJI				pmax	pmax		
comp=Z,7.0nm,0.7s							
KSH	**Kashi**	**43.53**	**337**	P	**P**	**21 52 25.8**	**-1.8**
KSH				pP	pP	21 52 29.0	-6.5
KSH				sP	sP	21 52 33.5	-5.3
KSH				pmax	pmax		
comp=Z,6.0nm,0.9s							
WMQ	**Urumqi**	**44.23**	**351**	⇑P	**P**	**21 52 34.8**	**+1.7**
WMQ				sP	pP	21 52 41.0	0.0
WMQ				PcP	**PcP**	**21 54 20.5**	**+3.1**
WMQ				pmax	pmax		
comp=Z,15nm,0.9s							
WMQ				pmax	pmax		
comp=Z,73nm,4.3s							
NRN	**Naryn**	**45.17**	**338**	P	**P**	**21 52 41.6**	**+0.6**
NRN				IAmb	IAmb	21 52 42.6	
comp=Z,10.0nm,0.8s							
DRK	**Karamyk**	**45.28**	**333**	P	**P**	**21 52 42.0**	**+0.1**
CHGR	**Chuyangaron**	**45.91**	**330**	P	**P**	**21 52 45.4**	**-1.3**
CHGR				IAmb	IAmb	21 52 46.2	
comp=Z,11nm,0.9s							
JNU	**Nakatsue**	**45.94**	**41**	LR	LR	22 13 49.9	
comp=Z,35nm,18.2s,baz=216,slow=38							
SIMJ	**Simiganj**	**45.99**	**330**	P	**P**	**21 52 45.9**	**-1.4**
SIMJ				IAmb	IAmb	21 52 46.9	
comp=Z,5.4nm,0.8s							
BOOM	**Boomskoye usch**	**46.11**	**339**	P	**P**	**21 52 47.6**	**-0.6**
BOOM				IAmb	IAmb	21 52 49.8	
comp=Z,7.8nm,0.7s							
BTK	**Batken**	**46.20**	**332**	P	**P**	**21 52 48.9**	**+0.1**
ARSB	**Arslanbob**	**46.27**	**335**	P	**P**	**21 52 49.6**	**+0.1**
ARSB				IAmb	IAmb	21 52 51.2	
comp=Z,6.1nm,1.0s							
UCH	**Uchtor**	**46.42**	**337**	P	**P**	**21 52 51.8**	**+0.8**
SNR=15							
TKM2	**Tokmak 2**	**46.61**	**339**	P	**P**	**21 52 53.0**	**+0.9**
SNR=14							
AML	**Almayashu**	**46.66**	**336**	P	**P**	**21 52 54.0**	**+1.2**
SNR=8.3							
KSRS	**Korea Array**	**47.01**	**34**	P	**P**	**21 52 55.6**	**+0.5**
comp=Z,2.0nm,0.8s,baz=228,slow=9.3,SNR=5.8							
KSRS				LR	LR	22 14 41.5	
comp=Z,78nm,19.3s,baz=225,slow=39							
comp=Z,2.0nm,0.8s							
EKS2	**Erkin-Say**	**47.07**	**337**	P	**P**	**21 52 56.7**	**+1.0**
SNR=13							
USP	**Ospenovka**	**47.31**	**338**	P	**P**	**21 52 58.1**	**+0.6**
SNR=24							
MKAR	**Makanchi Array**	**48.15**	**347**	P	**P**	**21 53 04.3**	**+0.5**
comp=Z,8.3nm,0.6s,baz=158,slow=7.9,SNR=131							
comp=Z,8.3nm,0.6s							
MAKZ	**Makanchi**	**48.23**	**346**	P	**P**	**21 53 04.3**	**-0.2**
MAKZ				IAmb	IAmb	21 53 05.8	
comp=Z,6.4nm,0.8s							
SONM	**Songino Array**	**48.25**	**9**	P	**P**	**21 53 05.7**	**+0.9**
comp=Z,4.2nm,0.8s,baz=194,slow=9.5,SNR=23							
SONM				PcP	**PcP**	**21 54 32.1**	**+0.6**
comp=Z,1.7nm,0.7s,baz=197,slow=4.9,SNR=4.8							
SONM				LR	LR	22 15 05.8	
comp=Z,60nm,18.4s,baz=192,slow=38							
comp=Z,4.2nm,0.8s							
ULN	**Ulaanbaatar**	**48.38**	**9**	P	**P**	**21 53 05.7**	**-0.2**
KKAR	**Karatay Array**	**48.78**	**335**	P	**P**	**21 53 07.6**	**-1.2**
KKAR				IAmb	IAmb	21 53 10.4	
comp=Z,6.7nm,0.9s							
JCJ	**Chichijima**	**51.25**	**55**	LR	LR	22 14 43.3	
comp=Z,20nm,19.1s,baz=116,slow=35							
JHJ	**Hachijo jima 2**	**52.11**	**47**	LR	LR	22 16 40.0	
comp=Z,36nm,18.0s,baz=115,slow=37							
KURBB	**Kurchatov Arra**	**52.62**	**346**	P	**P**	**21 53 37.8**	**+0.3**

comp=Z,4.1nm,0.6s,baz=166,slow=6.8,SNR=37
comp=Z,4.1nm,0.6s
KURK Kurchatov 52.68 346 P P 21 53 37.9 -0.2
KURK IAmb IAmb 21 53 39.4
comp=Z,14nm,1.2s
MJAR Matsushiro Arr 52.81 42 P P 21 53 39.6 +0.3
comp=Z,1.5nm,0.8s,baz=226,slow=7.6,SNR=4.8
MJAR LR LR 22 15 40.6
comp=Z,26nm,21.5s,baz=207,slow=36
comp=Z,1.5nm,0.8s
BNX BinXian 52.86 27 ⇓P P 21 53 40.0 +0.6
BNX pmax pmax
comp=Z,13nm,0.6s
STKA Stephens Creek 53.04 131 P P 21 53 41.9 +0.9
comp=Z,4.1nm,0.9s,baz=305,slow=5.6,SNR=3.5
comp=Z,4.1nm,0.9s
USRK Ussuriysk Ar. 53.94 31 P P 21 53 48.2 +0.9
comp=Z,4.9nm,0.7s,baz=217,slow=4.5,SNR=11
comp=Z,4.9nm,0.7s
ZALV Zalesovo Beam 54.52 351 P P 21 53 51.9 +0.4
comp=Z,20nm,0.4s,baz=173,slow=6.9,SNR=104
BVAR Borovoye Array 57.08 341 P P 21 54 09.2 -0.6
comp=Z,5.6nm,0.7s,baz=149,slow=8.3,SNR=21
comp=Z,5.6nm,0.7s
KLR Kul'dur 57.42 27 LR LR 22 20 55.0
comp=Z,52nm,18.1s,baz=232,slow=38
ASAJ Asahikawa 59.81 37 LR LR 22 21 39.1
comp=Z,65nm,18.0s,baz=310,slow=37
H04N2 CROZET ISLANDS 60.61 214 T T 23 01 40.2
baz=54,slow=75,SNR=51
H04N1 CROZET ISLANDS 60.62 214 T T 23 01 40.8
baz=54,slow=75,SNR=50
H04N3 CROZET ISLANDS 60.63 214 T T 23 01 39.5
baz=54,slow=75,SNR=53
H04S1 CROZET ISLANDS 60.95 214 T T 23 02 06.3
baz=53,slow=76,SNR=10
H04S3 CROZET ISLANDS 60.96 214 T T 23 02 06.0
baz=53,slow=76,SNR=13
H04S2 CROZET ISLANDS 60.97 214 T T 23 02 10.6
baz=53,slow=76,SNR=11
GURO Guroymak-BITLI 62.93 314 P P 21 54 50.5 0.0
GURO IAmb IAmb 21 54 51.6
comp=Z,4.7nm,1.1s
ARU Arti 63.96 338 P P 21 54 55.5 -1.2
ARU IAmb IAmb 21 54 56.6
comp=Z,9.7nm,1.1s
ARU Arti 63.96 338 P P 21 54 55.9 -0.8
comp=Z,9.2nm,1.1s
KBZ Khabaz 64.54 320 P P 21 54 59.8 -0.9
comp=Z,2.7nm,0.8s,baz=136,slow=8.4,SNR=5.4
comp=Z,2.7nm,0.8s
EIL Elat 65.59 303 LR LR 22 26 17.1
comp=Z,46nm,18.2s,baz=69,slow=38
YAK Yakutsk 66.58 16 LR LR 22 28 33.9
comp=Z,39nm,18.4s,baz=230,slow=40
BRTR Keskin Array B 69.45 313 P P 21 55 30.9 -1.3
comp=Z,1.8nm,0.8s,baz=140,slow=7.0,SNR=13
comp=Z,1.8nm,0.8s
MDUB Mudurnu 71.46 313 P P 21 55 42.5 -2.0
AKASG Malin Array Be 75.78 323 P P 21 56 08.7 -0.8
comp=Z,2.3nm,0.6s,baz=90,slow=5.1,SNR=17
comp=Z,2.3nm,0.6s
KIEV Kiev 75.79 323 P P 21 56 07.9 -1.7
KIEV IAmb IAmb 21 56 09.3
comp=Z,7.9nm,0.8s
KIEV Kiev 75.79 323 P P 21 56 08.0 -1.6
MLR Muntele Rosu 76.48 317 P P 21 56 13.3 -0.6
MLR IAmb IAmb 21 56 14.7
comp=Z,9.8nm,1.0s
JOF Joensuu 78.88 335 eP P 21 56 26.2 -0.4
KOLS Kolonicke sedl 79.69 320 eP P 21 56 32.1 +0.7
PABE Paberze 80.16 327 eP P 21 56 33.5 -0.2
SUW Suwalki 80.24 325 P P 21 56 33.4 -0.8
SUW Suwalki 80.24 325 eP P 21 56 33.9 -0.3
FINES FINESS Array B 80.70 333 P P 21 56 35.8 -0.7
comp=Z,3.3nm,0.7s,baz=92,slow=5.8,SNR=24
comp=Z,3.3nm,0.7s
PBUR Paburge 81.40 327 eP P 21 56 40.4 +0.1
KEF Keuruu 81.45 333 eP P 21 56 40.0 -0.6
RAF Rauma 82.60 332 eP P 21 56 46.8 +0.2
VAF Ylistaro 82.67 334 eP P 21 56 47.0 +0.2
JAVC Velka Javorina 82.67 319 eP P 21 56 47.8 +0.5
MODS Modra-Piesok 82.86 319 eP P 21 56 48.3 +0.1
MORC Moravsky Berou 82.88 320 eP P 21 56 47.9 -0.5
ARCES ARCESS Array B 83.36 340 P P 21 56 50.4 0.0
comp=Z,1.3nm,0.4s,baz=103,slow=5.4,SNR=30
comp=Z,1.3nm,0.4s
VRAC Vranov 83.43 320 eP P 21 56 51.7 +0.5
KRUC Moravsky 83.53 319 eP P 21 56 49.8 -1.8
VNDA Vanda 84.89 169 P P 21 56 58.3 +0.3
comp=Z,1.2nm,1.0s,baz=303,slow=5.9,SNR=4.5
comp=Z,1.2nm,1.0s
PRED Cave del Predi 85.15 316 P P 21 56 57.7 -2.3
PRED IAmb IAmb 21 56 59.0
comp=Z,5.1nm,1.0s
GERES GERESS Array B 85.27 319 P P 21 57 00.8 +0.2
comp=Z,1.6nm,0.9s,baz=126,slow=3.8,SNR=9.5
comp=Z,1.6nm,0.9s
HFS Hagfors 86.38 330 P P 21 57 05.8 +0.1
comp=Z,3.7nm,0.6s,baz=119,slow=5.2,SNR=24
comp=Z,3.7nm,0.6s
CTI Castel Tesino 86.45 316 P P 21 57 05.5 -1.1
CTI IAmb IAmb 21 57 07.4
comp=Z,5.6nm,0.8s
FUORN Ofenpass-Fuorn 87.44 316 P P 21 57 11.0 -0.5
FUORN IAmb IAmb 21 57 12.0
comp=Z,4.2nm,1.1s
NB2 NORSAR Subarra 87.68 331 P P 21 57 11.3 -0.8
comp=Z,10.0nm,1.4s,baz=94,slow=5.1
NOA NORSAR Array B 87.68 331 P P 21 57 11.8 -0.2
comp=Z,2.9nm,0.9s,baz=95,slow=4.9,SNR=12
comp=Z,2.9nm,0.9s
KEST Kesra 87.76 306 P P 21 57 13.4 +0.3
comp=Z,5.4nm,1.0s,baz=157,slow=18,SNR=5.5
comp=Z,5.4nm,1.0s
QSPA South Pole Qui 90.09 180 P P 21 57 24.2 +0.7
comp=Z,3.5nm,1.2s,baz=279,slow=3.5,SNR=3.8
comp=Z,3.5nm,1.2s
TORD Torodi Ar. Bea 94.83 283 P P 21 57 46.4 +0.1
comp=Z,0.9nm,0.9s,baz=86,slow=5.9,SNR=4.5
comp=Z,0.9nm,0.9s
NVAR Mina Array Bea 129.94 36 PKP PKiKP 22 03 35.8 +1.1
comp=Z,0.3nm,0.5s,baz=201,slow=0.8,SNR=4.9
PDAR Pinedale Array 131.21 26 PKP PKiKP 22 03 37.2 0.0
comp=Z,0.2nm,0.4s,baz=34,slow=3.4,SNR=2.1
CPUP Villa Florida 143.88 222 PKP PKPbc 22 03 57.5 +0.1
comp=Z,6.1nm,1.2s,baz=45,slow=4.3,SNR=5.2
MIAR Mount Ida 144.18 15 PKPdf PKPab 22 03 57.9 +0.2
CPCT Cooper Cave 144.58 2 PKPdf PKPab 22 03 58.7 -0.4
MT08 Bocatoma Ro 144.59 199 PKPdf PKPab 22 03 59.6 +0.1
PLAL Pickwick Lake 144.78 7 PKPdf PKPab 22 03 58.5 -1.4
TX31 Lajitas Ar. Si 144.83 32 PKPdf PKPab 22 03 59.5 -0.9
TXAR Lajitas Array 144.83 32 PKP PKPdf 22 04 01.2 -0.2
comp=Z,2.7nm,0.8s,baz=262,slow=1.4,SNR=22
KMSC Kings Mountain 144.85 357 PKPdf PKPab 22 03 59.5 -0.6
BG3 Lake Jocassee 145.05 359 PKPab 22 04 00.2 -0.7
WLAR White Oak Lake 145.11 14 PKPbc 22 03 59.5 -1.6
SAND Sanderson 145.12 29 PKPbc PKPdf 22 04 01.8 0.0
CCAR Cane Creek 145.20 12 PKPbc PKPbc 22 04 01.0 -0.3
BIRD Birdtown, Kers 145.29 356 PKPbc PKPbc 22 04 01.4 -0.3
BRDY Brady 145.38 24 PKPbc 22 04 01.7 -0.4
HPIG 145.54 37 PKPdf PKPdf 22 04 01.4 -1.4
JCT Junction City 145.75 26 PKPbc 22 04 03.2 0.0
Y52A Lilburn 146.17 1 PKPdf 22 04 03.9 +0.4
DRIO Del Rio 146.28 28 PKPbc PKPbc 22 04 05.0 +0.1
HNDO Hondo 146.79 26 PKPbc PKPbc 22 04 06.4 0.0

IDC 30 22:20:54.5±2.9, 9°.40N×123°.47E, h0km, mb3.6/4, mbtmp3.6/4, MS2.7/1, Error ellipse: s-maj=339.8km s-min=24.1km az=64.0, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.12**	**138**	LR	LR	22 23 27.1	
	comp=Z,111nm,20.5s,baz=88,slow=49						
WRA	**Warramunga Arr**	**31.06**	**160**	P	P	22 27 13.2	-1.2
	0.4nm,0.8s,baz=340,slow=9.8,SNR=2.2						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**34.41**	**163**	P	P	22 27 44.6	+0.8
	0.3nm,0.7s,baz=338,slow=7.3,SNR=5.0						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**51.09**	**324**	P	P	22 29 57.6	-1.3
	0.3nm,0.6s,baz=132,slow=7.7,SNR=5.0						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**55.25**	**327**	P	P	22 30 30.7	+1.3
	1.5nm,0.2s,baz=126,slow=7.1,SNR=2.2						
	1.5nm,0.2s						

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*IDC **30** 22:22:52.3±1.7, 38°.12N×122°.33W, h0km, mbtmp3.1/6, ML3.3/6, Error ellipse: s-maj=19.8km s-min=11.8km az=47.0.*
*NEIC **30** 22:22:53.2±1.3, 38°.089N±0°.009×122°.41W±0°.01, h18km±1km, Error ellipse: s-maj=1.5km s-min=1.1km az=55.0*
*NCEDC **30** 22:22:53.5±1.2, 38°.083N±0°.008×122°.41W±0°.01, h12km±2km, Mwr3.7/4, ML3.3/102(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=58.0*
*NEIC **30** 22:22:53.5, 38°.09N×122°.40W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; M_{rr}-0.07; $M_{\theta\theta}$-2.99; $M_{\phi\phi}$3.06; $M_{r\theta}$-0.54; $M_{\theta\phi}$2.24; $M_{\phi r}$-0.59; Fault plane solution: M_o3.84000×10^14^ NP1:ϕ_s153.00000°, δ79.00000°, λ176.00000°. NP2:ϕ_s244.00000°, δ86.00000°, λ11.00000°. Principal axes: T 3.9318, Plg10.0000°, Azm109.0000°; N -0.1723, Plg78.0000°, Azm262.0000°; P -3.7595, Plg5.0000°, Azm18.0000°;*
ISC 30 22:22:53.4±0.8, 38°.07N±0°.02×122°.41W±0°.02, h18km±4km, n225, σ1$06/229, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNT	**Sears Point**	**0.11**	**344**		**Pb**	**22 22 56.9**	**+0.1**
SNT					**Sg**	**22 22 59.4**	**-0.3**
CPMM	**Point Molate**	**0.12**	**178**		**Pg**	**22 22 56.9**	**-0.4**
HERB	**Hercules**	**0.13**	**117**		**Sg**	**22 22 59.6**	**-0.4**
C067	**Fleetwood El S**	**0.14**	**135**		**Pb**	**22 22 57.4**	**+0.1**
CSPM	**San Pablo Ridg**	**0.14**	**145**		**Pg**	**22 22 57.3**	**-0.2**
C024	**33rd St Richmo**	**0.14**	**155**		**Pg**	**22 22 57.0**	**-0.5**
RFSB	**Richmond Field**	**0.17**	**159**		**Pg**	**22 22 57.4**	**-0.4**
CPIM	**Pinole Ridge**	**0.18**	**118**		**Pb**	**22 22 58.0**	**-0.1**
C011	**Colusa Avenue,**	**0.19**	**150**		**Pg**	**22 22 57.8**	**-0.3**
C008	**Spokane Avenue**	**0.20**	**152**		**Pg**	**22 22 58.0**	**-0.3**
C007	**Forest Lane Be**	**0.21**	**146**		**Pg**	**22 22 58.4**	**-0.1**
BL88	**Building 88, L**	**0.23**	**147**		**Pg**	**22 22 58.6**	**-0.2**
BRK	**Berkeley--Havi**	**0.23**	**149**		**Pg**	**22 22 58.6**	**-0.2**
BL67	**Building 67, L**	**0.23**	**147**		**Pg**	**22 22 58.8**	**-0.1**
VAK	**Adit at Lawren**	**0.23**	**146**		**Pg**	**22 22 58.7**	**-0.1**
CMSB	**University of**	**0.24**	**147**		**Pg**	**22 22 58.8**	**-0.1**
BKS	**Berkeley--Byer**	**0.24**	**144**		**Pg**	**22 22 58.9**	**-0.1**
CVPM	**Vollmer Peak**	**0.24**	**141**		**Pg**	**22 22 59.0**	**0.0**
C033	**Glashaus Lp Em**	**0.25**	**156**		**Pg**	**22 22 58.7**	**-0.3**
C018	**Christie Drive**	**0.25**	**112**		**Pb**	**22 22 59.3**	**-0.2**
C028	**Eucalyptus Rd**	**0.26**	**149**		**Pg**	**22 22 59.0**	**-0.2**
NGVM		**0.26**	**37**		**Pb**	**22 22 59.0**	**-0.5**
CYBM	**Yerba Buena Is**	**0.27**	**171**		**Pg**	**22 22 59.3**	**0.0**
CVS	**Carmenet Viney**	**0.27**	**353**		**Pg**	**22 22 59.1**	**-0.4**
JPRM	**Presidio of Sa**	**0.28**	**190**		**Pb**	**22 22 59.9**	**-0.1**
C005	**Mandana Bl Oak**	**0.30**	**152**		**Pg**	**22 22 59.7**	**-0.1**
NOLM	**Olema**	**0.30**	**264**		**Pb**	**22 23 00.1**	**-0.2**
C013	**Ascot Lane Oak**	**0.31**	**144**		**Pg**	**22 23 00.0**	**0.0**
C049	**Pacific Avenue**	**0.32**	**160**		**Pg**	**22 23 00.2**	**0.0**
CTAM	**Taylor**	**0.32**	**98**		**Pb**	**22 23 00.9**	**+0.4**
C064	**Brunell Drive**	**0.32**	**146**		**Pg**	**22 23 00.3**	**-0.1**
SMCB	**Saint Mary's C**	**0.34**	**134**		**Pg**	**22 23 00.5**	**0.0**
C010	**Sunflower Cour**	**0.34**	**112**		**Pb**	**22 23 00.9**	**-0.1**
CMCM	**Mills College**	**0.35**	**147**		**Pg**	**22 23 00.6**	**-0.1**
J061	**Lakeshore Driv**	**0.35**	**191**		**Pg**	**22 23 01.0**	**+0.3**
C058	**Eastshore Driv**	**0.35**	**155**		**Pg**	**22 23 00.8**	**+0.1**
C026	**Kell Court Ala**	**0.35**	**125**		**Pb**	**22 23 01.2**	**+0.1**
C044	**Maitland Drive**	**0.37**	**157**		**Pg**	**22 23 01.2**	**+0.1**
MCCM	**Marconi Confer**	**0.38**	**281**		**Pg**	**22 23 01.1**	**0.0**
MCCM				Sg	**Sg**	**22 23 06.5**	**0.0**
BGC	**Bolinger Road**	**0.38**	**133**		**Pg**	**22 23 01.4**	**+0.1**
NAPC	**Atlas Peak**	**0.39**	**19**		**Pg**	**22 23 01.2**	**-0.3**
JSBM	**San Bruno Moun**	**0.39**	**178**		**Pg**	**22 23 01.7**	**+0.1**
C047	**Rutherford Dri**	**0.40**	**128**		**Pb**	**22 23 01.9**	**0.0**
CSLM	**San Leandro Hi**	**0.42**	**146**		**Pg**	**22 23 01.9**	**-0.1**
CRPB	**Russellman Par**	**0.43**	**112**		**Pg**	**22 23 02.1**	**-0.1**
CLCB	**Lake Chabot**	**0.43**	**140**		**Pg**	**22 23 02.4**	**+0.1**
JMGM	**Milagra Ridge**	**0.44**	**186**		**Pg**	**22 23 02.6**	**+0.3**
C021	**Meadowview Dri**	**0.47**	**144**		**Pg**	**22 23 01.8**	**-1.0**
C055	**Cottonwood Ave**	**0.48**	**150**		**Pg**	**22 23 02.6**	**-0.5**
C045	**Hawkins Drive**	**0.48**	**132**		**Pb**	**22 23 03.6**	**+0.2**
NPRM	**Point Reyes**	**0.48**	**261**		**Pg**	**22 23 03.2**	**+0.1**
NPRM					**Sg**	**22 23 10.1**	**+0.4**
JCPM	**Coyote Point**	**0.49**	**171**		**Pg**	**22 23 03.5**	**+0.2**
SAC	**San Andreas**	**0.49**	**180**		**Pb**	**22 23 03.6**	**+0.1**
SAC					**Sb**	**22 23 10.8**	**+0.4**
HMR	**Hamilton Ranch**	**0.49**	**80**		**Pb**	**22 23 04.3**	**+0.8**
NADM	**Allendale**	**0.52**	**42**		**Pb**	**22 23 05.0**	**+1.0**
CMOB	**Morgan Territo**	**0.55**	**118**		**Pb**	**22 23 04.7**	**+0.2**
JCHM	**Cahill Ridge**	**0.56**	**177**		**Pg**	**22 23 04.8**	**+0.2**
C006	**Lk Pillsbury D**	**0.56**	**150**		**Pg**	**22 23 04.7**	**+0.2**
CYD1	**Coyote D'meter**	**0.57**	**154**		**Pg**	**22 23 04.6**	**-0.1**
CNIC	**Niles Canyon**	**0.58**	**142**		**Pg**	**22 23 05.0**	**0.0**
FARB	**Farallon Islan**	**0.60**	**231**		**Pg**	**22 23 05.4**	**+0.2**
C048	**Posada Way Fre**	**0.60**	**146**		**Pg**	**22 23 05.0**	**-0.3**
NHSM	**Mount Saint He**	**0.60**	**345**		**Pg**	**22 23 05.0**	**-0.5**
C015	**Bright Common**	**0.61**	**147**		**Pg**	**22 23 05.6**	**+0.1**
CVLM	**Vallecito**	**0.64**	**134**		**Pb**	**22 23 06.5**	**+0.4**
CBSNC	**Byron Hot Spri**	**0.66**	**112**		**Pb**	**22 23 06.5**	**+0.1**
C050	**Festivo Court**	**0.67**	**145**		**Pb**	**22 23 06.8**	**+0.3**
CBZL	**Buffer Zone**	**0.67**	**124**		**Pb**	**22 23 07.1**	**+0.5**
CBZL	**Buffer Zone**	**0.67**	**124**		**Pb**	**22 23 07.3**	**+0.7**
JRSC	**Jasper Ridge**	**0.68**	**168**		**Pg**	**22 23 06.9**	**+0.1**
WENL	**Wente Vineyard**	**0.69**	**131**		**Pb**	**22 23 07.2**	**+0.3**
CSAM	**Sandia**	**0.69**	**125**		**Pb**	**22 23 07.4**	**+0.5**
GAXM	**Alexander Vall**	**0.69**	**337**		**Pg**	**22 23 06.5**	**-0.5**
JSFB	**Stanford Teles**	**0.69**	**164**		**Pb**	**22 23 07.3**	**+0.3**
BGH	**Bear Gulch**	**0.73**	**175**		**Pg**	**22 23 07.7**	**-0.1**
NMTM	**Middletown**	**0.73**	**358**		**Pg**	**22 23 07.2**	**-0.5**
JFP	**Foothills Park**	**0.73**	**166**		**Pg**	**22 23 07.7**	**-0.1**
GBGM	**Boggs Mountain**	**0.77**	**344**		**Pb**	**22 23 08.1**	**-0.2**
GGPM	**Geyser Peak**	**0.77**	**334**		**Pg**	**22 23 08.1**	**-0.4**
JSJM	**St Joseph**	**0.78**	**161**		**Pg**	**22 23 08.7**	**0.0**
JBMM	**Black Mountain**	**0.78**	**165**		**Pg**	**22 23 08.3**	**-0.4**
GSSM	**Skaggs Springs**	**0.79**	**323**		**Pg**	**22 23 08.3**	**-0.4**
CALM	**Calaveras Res.**	**0.79**	**142**		**Pg**	**22 23 08.5**	**-0.4**
GDXM	**Geysers**	**0.79**	**338**	Pg	**Pg**	**22 23 07.9**	**-1.0**
GDXM				Sg	**Sg**	**22 23 18.6**	**-0.8**
C016	**Longford Drive**	**0.80**	**147**		**Pb**	**22 23 09.4**	**+0.5**
MNRC	**McLaughlin Min**	**0.81**	**358**		**Pb**	**22 23 08.8**	**-0.1**
GHCM	**House Creek**	**0.81**	**311**		**Pg**	**22 23 08.7**	**-0.6**
GSGM	**Seigler Mounta**	**0.83**	**344**		**Pb**	**22 23 09.1**	**-0.1**
C046	**N 16th Street**	**0.83**	**149**		**Pg**	**22 23 07.8**	**-1.9**
GCVM	**Cloverdale**	**0.84**	**326**		**Pg**	**22 23 09.2**	**-0.6**
CSTL	**Corral Hollow**	**0.84**	**121**		**Pg**	**22 23 09.4**	**-0.5**
CSTL	**Corral Hollow**	**0.84**	**121**		**Pg**	**22 23 09.5**	**-0.5**
CMM	**Mount Lewis**	**0.85**	**134**		**Pg**	**22 23 09.4**	**-0.6**
JPSM		**0.87**	**177**		**Pg**	**22 23 09.6**	**-0.9**
GPMM	**Pine Mountain**	**0.88**	**332**		**Pg**	**22 23 09.9**	**-0.7**
GRTM	**Round Top Moun**	**0.89**	**347**		**Pb**	**22 23 10.3**	**-0.1**
SCCB	**Santa Clara Co**	**0.90**	**151**		**Pg**	**22 23 10.4**	**-0.5**
JJOM	**Saint Joseph's**	**0.93**	**158**		**Pg**	**22 23 10.5**	**-1.0**
MHC	**Mount Hamilton**	**0.95**	**140**		**Pg**	**22 23 11.0**	**-1.0**
CMMM	**Mount Mocho**	**0.95**	**130**		**Pg**	**22 23 10.9**	**-1.1**
CCOB	**Coe Ranch Numb**	**1.00**	**144**		**Pb**	**22 23 12.2**	**0.0**
ARN	**Arnold Ranch**	**1.00**	**136**		**Pb**	**22 23 11.5**	**-0.9**
MTOS	**Mt Oso, Westle**	**1.03**	**123**		**Pb**	**22 23 11.7**	**-1.0**
HOPS	**Hopland Field**	**1.05**	**331**	Pg	**Pb**	**22 23 12.1**	**-1.0**
HOPS				IAML		22 23 34.7	
HOPS	comp=N,724nm,1.0s			IAML		22 23 38.6	
	comp=E,819nm,1.6s						
JLAB	**Laurel Hill**	**1.06**	**149**		**Pb**	**22 23 12.8**	**-0.5**
GBMM	**Baldy Mountain**	**1.07**	**357**		**Pb**	**22 23 12.7**	**-0.7**
CADM	**Anderson Res.**	**1.10**	**145**		**Pb**	**22 23 13.4**	**-0.6**
GGUM	**Gualala**	**1.16**	**313**		**Pb**	**22 23 13.5**	**-1.4**
HLPM	**Lions Peak**	**1.20**	**149**		**Pn**	**22 23 14.3**	**-1.0**
JELB	**Ellicott, Sant**	**1.23**	**158**		**Pn**	**22 23 15.3**	**-0.4**
GHS	**Gilroy Hot Spr**	**1.24**	**141**		**Pn**	**22 23 15.1**	**-0.9**
GTSM	**Trough Springs**	**1.25**	**353**		**Pn**	**22 23 15.2**	**-0.9**
SUTB	**Sutter Butte**	**1.25**	**23**		**Pn**	**22 23 13.6**	**-2.5**
GFC	**Funks Creek**	**1.25**	**4**		**Pn**	**22 23 15.5**	**-0.6**
OSUM	**Sutter Buttes**	**1.27**	**20**		**Pn**	**22 23 14.4**	**-1.9**
HCBM	**Chamberlain**	**1.29**	**152**		**Pn**	**22 23 15.6**	**-0.9**
HCOM	**Corn Cob Canyo**	**1.31**	**154**		**Pn**	**22 23 15.6**	**-1.2**
GWRM	**Wonder Ranch**	**1.33**	**329**		**Pn**	**22 23 16.0**	**-1.1**
HFEM	**San Felipe**	**1.35**	**143**		**Pn**	**22 23 16.5**	**-0.9**
ANZ	**Anzar Road**	**1.35**	**151**		**Pn**	**22 23 16.6**	**-0.8**
HPCM	**Pacheco Lake**	**1.36**	**138**		**Pn**	**22 23 16.9**	**-0.7**
SLD	**San Luis Dam**	**1.38**	**136**		**Pn**	**22 23 15.2**	**-2.6**
HTUM	**Tustin Road**	**1.39**	**154**		**Pn**	**22 23 16.9**	**-0.9**
HERM	**Elkhorn Road**	**1.39**	**156**		**Pn**	**22 23 16.8**	**-1.2**
PACP	**Pacheco Peak**	**1.39**	**140**		**Pn**	**22 23 17.4**	**-0.6**
AFDM	**Forest Hills D**	**1.43**	**52**		**Pn**	**22 23 17.3**	**-1.2**
AFDM				Sg	**Sn**	**22 23 35.0**	**-1.9**
OSTM	**Stimpson Lane**	**1.44**	**26**		**Pn**	**22 23 16.8**	**-1.9**
HSFM	**Saint Francis**	**1.45**	**150**		**Pn**	**22 23 18.5**	**-0.3**
GCK	**Clark Valley**	**1.47**	**359**		**Pn**	**22 23 19.0**	**-0.1**
GHMM	**Hull Mountain**	**1.48**	**344**		**Pn**	**22 23 19.4**	**+0.1**
FRP	**Fremont Peak**	**1.51**	**151**		**Pn**	**22 23 18.3**	**-1.4**
SAO	**San Andreas Ge**	**1.52**	**149**		**Pn**	**22 23 18.4**	**-1.3**
HMOM	**Monterey**	**1.52**	**165**		**Pn**	**22 23 18.6**	**-1.2**
PAM	**Palermo**	**1.54**	**27**		**Pn**	**22 23 18.2**	**-1.8**
BSLM	**Silva Ranch**	**1.55**	**146**		**Pn**	**22 23 19.8**	**-0.3**
BSRM	**Salinas Radio**	**1.57**	**153**		**Pn**	**22 23 19.1**	**-1.4**
GTC	**Three Chop Rid**	**1.60**	**326**		**Pn**	**22 23 19.9**	**-0.9**
CMB	**Columbia Colle**	**1.60**	**91**	Pn	**Pn**	**22 23 19.8**	**-1.1**
CMB				IAML		22 23 45.1	
	comp=E,252nm,0.7s						
CMB				IAML		22 23 51.7	
	comp=N,280nm,1.0s						
BPCNC	**Pine Canyon**	**1.62**	**157**		**Pn**	**22 23 20.3**	**-0.8**
ORV	**Oroville**	**1.64**	**25**	Pn	**Pn**	**22 23 19.3**	**-2.1**
SCZ	**Santa Cruz**	**1.68**	**151**		**Pn**	**22 23 20.6**	**-1.3**
BJOM	**Mount Johnson**	**1.69**	**148**		**Pn**	**22 23 21.0**	**-1.0**
OGOM	**Van Goodin Ran**	**1.70**	**21**		**Pn**	**22 23 20.8**	**-1.4**
MYLM	**Yosemite Lake**	**1.72**	**113**		**Pn**	**22 23 21.4**	**-1.2**
BJCM	**Johnson Can.**	**1.73**	**152**		**Pn**	**22 23 21.5**	**-1.1**
KPK	**Kanaka Peak**	**1.74**	**30**		**Pb**	**22 23 25.1**	**+0.2**
BPRM	**Ponciano Ridge**	**1.75**	**162**		**Pn**	**22 23 21.7**	**-1.3**
BVL	**Bear Valley**	**1.79**	**147**		**Pn**	**22 23 22.5**	**-0.9**
HAST	**Hastings Reser**	**1.82**	**157**		**Pn**	**22 23 22.6**	**-1.2**
BBGB	**Big Mountain B**	**1.85**	**143**	Pn	**Pn**	**22 23 23.5**	**-0.8**
KCPM	**Cahto Peak**	**1.85**	**331**	Pn	**Pn**	**22 23 23.7**	**-0.7**
KCPM				IAML		22 23 36.6	
	comp=N,256nm,0.6s						
KCPM				IAML		22 23 37.7	
	comp=E,274nm,0.4s						
BSMM	**Soledad Missio**	**1.86**	**155**		**Pn**	**22 23 23.8**	**-0.7**
KIPM	**Iron Peak**	**1.92**	**335**		**Pn**	**22 23 26.3**	**+0.9**
LRV	**Little Rabbit**	**1.99**	**145**		**Pn**	**22 23 26.1**	**-0.1**
EMB	**Emerald Bay**	**2.02**	**63**	Pn	**Pn**	**22 23 27.7**	**+0.8**
DONR	**Donner Summit**	**2.08**	**51**		**Pn**	**22 23 28.6**	**+0.9**
O02D	**Mt. Diablo Mer**	**2.12**	**352**	Pn	**Pn**	**22 23 28.3**	**+0.2**
PCCM	**Crazy Canyon**	**2.22**	**153**		**Pn**	**22 23 28.9**	**-0.5**
MPK	**Martis Peak**	**2.23**	**56**	Pn	**Pn**	**22 23 30.8**	**+1.0**
HULI	**Fort Hunter Li**	**2.25**	**155**		**Pn**	**22 23 29.3**	**-0.5**
PMPB	**Monarch Peak**	**2.26**	**145**	Pn	**Pn**	**22 23 29.4**	**-0.6**
O03E	**Paynes Creek**	**2.27**	**12**		**Pn**	**22 23 29.0**	**-1.1**
PAPM	**Alder Peak**	**2.31**	**158**		**Pn**	**22 23 29.9**	**-0.9**
PJUM	**Juniper Ridge**	**2.35**	**141**		**Pn**	**22 23 30.8**	**-0.4**
BABR	**Babbit Peak**	**2.36**	**49**		**Pn**	**22 23 33.1**	**+1.5**
KMRM	**Mail Ridge**	**2.37**	**335**	Pn	**Pn**	**22 23 31.6**	**+0.1**
KMRM				IAML		22 24 33.1	
	comp=E,138nm,1.4s						
KMRM				IAML		22 24 33.1	
	comp=N,115nm,1.7s						
PDRM	**Domengine Ranc**	**2.38**	**136**		**Pn**	**22 23 31.5**	**-0.1**
WAKR	**Walker**	**2.38**	**79**	Pn	**Pn**	**22 23 32.5**	**+0.8**
WAKR				IAML		22 24 08.6	
	comp=E,222nm,0.7s						
WAKR				IAML		22 24 09.0	
	comp=N,230nm,0.6s						
PPTM	**Peach Tree Val**	**2.38**	**145**		**Pn**	**22 23 31.7**	**0.0**
BEKR	**Beckworth**	**2.40**	**41**		**Pn**	**22 23 33.0**	**+0.9**
PNTR	**Pine Nut**	**2.43**	**64**	Pn	**Pn**	**22 23 33.5**	**+1.1**
PEAR	**Peavine Mounta**	**2.45**	**51**		**Pn**	**22 23 34.0**	**+1.2**
PSMM	**Smith Mountain**	**2.47**	**143**		**Pn**	**22 23 33.6**	**+0.6**
PHSB	**Hesperia Broad**	**2.50**	**154**		**Pn**	**22 23 32.6**	**-0.6**
KSMM	**Slide Mountain**	**2.52**	**328**		**Pn**	**22 23 32.9**	**-0.6**
PHPM	**Hope Ranch**	**2.54**	**145**		**Pn**	**22 23 33.2**	**-0.6**
PKD	**Bear Valley Ra**	**2.60**	**144**		**Pn**	**22 23 34.1**	**-0.5**
PVCM	**Vineyard Canyo**	**2.62**	**144**		**Pn**	**22 23 34.5**	**-0.4**
PSTM	**Stockdale Moun**	**2.63**	**144**		**Pn**	**22 23

BMN	**Battle Mountai**	**4.67 58**	Pn	**Pn**	**22 24 03.8**	**+0.6**
BMN			IAML		22 25 31.1	
	comp=E,16nm,1.2s					
BMN			IAML		22 25 32.0	
	comp=N,22nm,1.6s					
GWY	**Greenwater Val**	**4.96 111**	Pn	**Pn**	**22 24 07.9**	**+0.6**
GWY			IAML		22 26 17.8	
	comp=E,18nm,1.9s					
GWY			IAML		22 26 18.4	
	comp=N,17nm,1.6s					
DBO	**Dodson Butte**	**5.08 353**	Pn	**Pn**	**22 24 12.7**	**+3.9**
J01E	**Myrtle Point**	**5.21 348**	Pn	**Pn**	**22 24 14.0**	**+3.5**
J01E			IAML		22 25 18.7	
	comp=E,13nm,3.6s					
J01E			IAML		22 25 28.2	
	comp=N,11nm,3.7s					
GSC	**Goldstone, Bar**	**5.29 120**	Pn	**Pn**	**22 24 12.5**	**+0.9**
GSC			IAML		22 25 50.6	
	comp=E,14nm,0.8s					
GSC			IAML		22 25 54.9	
	comp=N,18nm,1.1s					
I03D	**Drain, OR**	**5.66 353**	Pn	**Pn**	**22 24 20.7**	**+4.1**
ELK	**Elko**	**6.16 62**	Pn	**Pn**	**22 24 25.6**	**+1.9**
	comp=N,0.5nm,0.3s,baz=267,slow=18,SNR=6.1					
ELK			Lg	Lg	22 26 01.2	
	comp=N,0.8nm,0.3s,baz=82,slow=10.0,SNR=8.7					
	comp=N,2.4nm,0.3s					
H04D	**Lebanon**	**6.45 358**	Pn	**Pn**	**22 24 31.8**	**+4.3**
PFO	**Pinyon Flats O**	**6.57 131**	Pn	**Pn**	**22 24 28.4**	**-0.9**
PFO	**Pinyon Flats O**	**6.57 131**	Pn	**Pn**	**22 24 30.4**	**+1.1**
	comp=N,0.4nm,0.3s,baz=317,slow=10.0,SNR=2.6					
	comp=N,0.9nm,0.3s					
H04A	**Detroit Lake**	**6.61 1**	Pn	**Pn**	**22 24 34.3**	**+4.6**
PDAR	**Pinedale Array**	**10.86 60**	Pn	**Pn**	**22 25 31.3**	**+3.1**
	baz=230,slow=14,SNR=1.6					
	comp=N,0.1nm,0.4s					
TXAR	**Lajitas Array**	**17.84 114**	P	**P**	**22 27 01.9**	**+0.3**
	baz=293,slow=12,SNR=5.2					
	comp=N,0.9nm,1.0s					

*NEIC **30** 22:43:31.5±2.2, 47.°47N±0.°02×122.°32W±0.°04, h30km±8km, Error ellipse: s-maj=4.0km s-min=1.3km az=61.0*

SEA 30 22:43:31.7±1.8, 47.°48N±0.°02×122.°29W±0.°02, h25km±6km, ML2.5/22, ML2.3/34(NEIC), Error ellipse: s-maj=3.3km s-min=2.1km az=188.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPL	**Maple valley S**	**0.07**	**102**		**Pb**	22 43 36.4	+0.2
MPL					Sb	22 43 40.6	+1.5
SP2	**Seward Park 2**	**0.08**	**21**		**Sb**	22 43 41.2	+2.0
VVHS	**Vashon High Sc**	**0.13**	**242**		**Pb**	22 43 36.7	+0.1
EARN	**East Ridge Ele**	**0.31**	**33**		**Pb**	22 43 39.0	+0.2
RATT	**Rattlesnake La**	**0.34**	**100**		**Pb**	22 43 38.5	-0.8
GMW	**Gold Mountain**	**0.34**	**281**		**Pb**	22 43 38.8	-0.6
GMW					Sb	22 43 44.8	+0.2
D05A	**Enumclaw**	**0.36**	**145**	Pg	Pb	22 43 40.2	+0.6
D05A					Sb	22 43 45.6	+0.6
D05A				IAML		22 43 46.2	
	comp=E,324nm,0.6s						
GNW	**Green Mountain**	**0.37**	**283**	Pg	Pb	22 43 38.8	-0.9
GNW				Sg	Sb	22 43 44.9	-0.4
GNW				IAML		22 43 45.4	
	comp=N,187nm,0.4s						
GNW				IAML		22 43 45.6	
	comp=E,248nm,0.2s						
BLH	**Bald Hill**	**0.40**	**26**		Pb	22 43 39.5	-0.6
GSM	**Grass Mountain**	**0.44**	**129**		Pb	22 43 40.3	-0.7
GHW	**Garrison Hill**	**0.44**	**178**		Pb	22 43 40.1	-0.8
B941	**Kapowsin**	**0.50**	**174**		Pb	22 43 40.8	-1.1
B941					Sb	22 43 48.0	-0.8
PCFR	**Pierce County**	**0.50**	**192**		Pb	22 43 41.2	-0.7
C04A	**Brinnon**	**0.52**	**297**		Sb	22 43 48.6	-0.7
B013	**Quilcene**	**0.53**	**308**		Pb	22 43 41.4	-1.0
B013					Sb	22 43 48.9	-0.8
B013	**Quilcene**	**0.53**	**308**		Pb	22 43 41.4	-1.0
HDW	**Hoodsport**	**0.54**	**288**		Pb	22 43 41.6	-1.1
HDW					Sb	22 43 49.7	-0.4
OBSR	**Observation Ro**	**0.67**	**151**		Pb	22 43 43.9	-1.0
FMW	**Mount Fremont**	**0.69**	**142**		Pb	22 43 44.2	-1.1
RCS	**Mount Rainier-**	**0.72**	**148**		Pb	22 43 44.9	-1.0
RCS					Sb	22 43 54.9	-0.5
REMR	**Mount Rainier-**	**0.73**	**155**		Pb	22 43 44.6	-1.3
JCW	**Jim Creek**	**0.75**	**19**		Pb	22 43 45.1	-1.1
RCM	**Mount Rainier-**	**0.75**	**149**		Pb	22 43 45.3	-1.1
RCM					Sb	22 43 55.6	-0.7
LON	**Longmire**	**0.80**	**156**		Pb	22 43 45.7	-1.3
LON	**Longmire**	**0.80**	**156**		Sb	22 43 56.4	-1.1
B017	**Montesano**	**0.99**	**241**		Pn	22 43 49.4	-0.5
B04A	**Port Angeles**	**1.00**	**306**		Pn	22 43 49.7	-0.4
WRW	**Wenatchee Ridg**	**1.02**	**68**		Pn	22 43 49.6	-0.9
KOSW	**Kosmos**	**1.02**	**176**		Pn	22 43 49.4	-1.1
OLQ	**Olympics--Lake**	**1.03**	**272**		Pb	22 43 50.6	-0.2
WISH	**Wishkah**	**1.07**	**251**	Pn	Pn	22 43 50.8	-0.3
WISH				IAML		22 44 09.2	
	comp=N,44nm,0.5s						
RPW	**Rockport**	**1.10**	**28**		Pn	22 43 50.8	-0.8
TDL	**Tradedollar La**	**1.13**	**177**		Pn	22 43 51.0	-1.1
ERK	**Elk Rock**	**1.18**	**182**		Pn	22 43 51.5	-1.2
B201	**Coldwater, Mou**	**1.18**	**179**		Pn	22 43 51.6	-1.0
TBM	**Table Mountain**	**1.19**	**105**		Pn	22 43 52.8	0.0
JRO	**Jston Ridge Ob**	**1.21**	**178**	Pn	Pn	22 43 51.9	-1.2
SLFW	**Sugar Loaf**	**1.22**	**76**		Pn	22 43 53.4	0.0
B202	**Windy Ridge, M**	**1.24**	**175**		Pn	22 43 52.5	-1.0
STD	**Studebaker Rid**	**1.25**	**178**		Pn	22 43 52.9	-0.7
NAC	**Naches**	**1.25**	**126**		Pn	22 43 53.5	-0.1
MCW	**Mount Constitu**	**1.25**	**343**		Pn	22 43 53.0	-0.6
BOLM	**Sugar Bowl**	**1.27**	**176**		Pn	22 43 53.8	-0.2
E03A	**Lebam**	**1.28**	**223**	Pn	Pn	22 43 53.1	-0.8
E03A				IAML		22 44 14.1	
	comp=E,82nm,0.7s						
SEPW	**September Lobe**	**1.29**	**177**		Pn	22 43 53.8	-0.4
FL2	**Flat Top 2**	**1.29**	**182**		Pn	22 43 53.3	-0.9
ESD	**East Dome**	**1.29**	**176**		Pn	22 43 54.2	0.0
SWF2	**Southwest Flan**	**1.31**	**178**		Pn	22 43 54.0	-0.5
EBG	**Ellensburg**	**1.31**	**115**		Pb	22 43 55.0	-0.5
MBW	**Mount Baker**	**1.33**	**11**		Pn	22 43 54.7	-0.1
JLK	**June Lake**	**1.34**	**176**		Pn	22 43 54.7	-0.1
CDFW	**Cedar Flats**	**1.38**	**173**		Pn	22 43 55.3	-0.1
AWST	**Adams West**	**1.39**	**165**		Pn	22 43 55.4	-0.1
B011	**North Saanich**	**1.40**	**327**		Pn	22 43 55.1	-0.5
PGC	**Sidney**	**1.40**	**327**	Pn	Pn	22 43 54.9	-0.7
PGC				IAML		22 44 14.7	
	comp=N,44nm,0.5s						
PGC				IAML		22 44 17.2	
	comp=E,35nm,0.6s						
SHUK	**Shuksan-Mt. Ba**	**1.43**	**16**		Pn	22 43 56.0	-0.2
NLW	**Nelson Butte**	**1.45**	**65**		Pb	22 43 57.3	-0.7
MTMW	**Mount Mitchell**	**1.46**	**178**		Pn	22 43 56.5	-0.1
RADR	**Rader Ridge**	**1.48**	**225**	Pn	Pn	22 43 56.5	-0.2
RADR				IAML		22 44 18.9	
	comp=E,57nm,0.4s						
RADR				IAML		22 44 23.5	
	comp=N,40nm,0.9s						
F04D	**Rainier, OR**	**1.49**	**200**	Pn	Pn	22 43 56.4	-0.4
YA2	**Yakima**	**1.54**	**128**		Pn	22 43 58.5	+0.9
F04A	**Amboy**	**1.55**	**183**		Pn	22 43 57.9	+0.2
CBSW	**Chelan Butte S**	**1.56**	**77**		Pb	22 43 59.2	-0.6
WTV	**Waterville**	**1.60**	**81**		Pb	22 44 00.1	-0.5
C03A	**Quillayute Air**	**1.60**	**288**	Pn	Pn	22 43 59.2	+0.8
C03A				IAML		22 44 17.5	
	comp=E,26nm,1.9s						
C03A				IAML		22 44 49.9	
	comp=N,24nm,2.0s						
MXC	**Moxie City**	**1.64**	**123**	Pn	Pn	22 43 59.6	+0.7
MXC				IAML		22 44 22.3	
	comp=N,41nm,0.8s						
MXC				IAML		22 44 22.3	
	comp=E,36nm,0.8s						
GOBB	**Galiano Island**	**1.68**	**331**		Pn	22 43 59.6	+0.2
F03A	**Seaside**	**1.78**	**210**	Pn	Pn	22 44 01.5	+0.6
HNBB	**Haney**	**1.81**	**354**		Pn	22 44 01.4	+0.1
CLRS	**Cowichan Lake**	**1.82**	**318**	Pn	Pn	22 44 02.0	+0.7
KMOR	**Kings Mountain**	**2.02**	**205**		Pn	22 44 04.6	+0.3
HAWA	**Hanford**	**2.18**	**119**	Pn	Pn	22 44 07.7	+1.3
HAWA				IAML		22 44 37.2	
	comp=E,16nm,0.5s						
TDH	**Tom, Dick, Har**	**2.22**	**171**		Pn	22 44 09.1	+2.0
SHB	**Sechelt**	**2.36**	**334**		Pn	22 44 10.5	+1.6
G06A	**Carlson Farm,**	**2.52**	**152**	Pn	Pn	22 44 11.3	+0.2
H04A	**Detroit Lake**	**2.80**	**178**	Pn	Pn	22 44 15.1	+0.2
H04A				IAML		22 45 09.5	
	comp=E,16nm,0.1s						
H04A				IAML		22 45 10.0	
	comp=N,9.7nm,0.3s						
H04D	**Lebanon**	**2.98**	**186**	Pn	Pn	22 44 17.3	0.0
H04D				IAML		22 45 37.8	
	comp=E,14nm,2.9s						
H04D				IAML		22 45 40.4	
	comp=N,11nm,3.6s						
PACB	**Port Alice, BC**	**4.52**	**313**		Pb	22 44 50.7	+0.4

IDC 30 23:05:18.1±15.0, 1.°50S×127.°36E, h0km, mb3.7/2, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=226.2km s-min=146.9km az=149.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.56**	**160**	P	Pn	23 09 48.6	-0.3
	0.4nm,0.3s,baz=339,slow=11,SNR=36						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**22.93**	**164**	P	P	23 10 22.9	-1.2
	0.4nm,0.3s,baz=344,slow=11,SNR=7.5						
	0.4nm,0.3s						
STKA	**Stephens Creek**	**33.07**	**157**	P	P	23 11 56.1	+0.5
	0.9nm,0.4s,baz=333,slow=11,SNR=3.4						
	0.9nm,0.4s						

*SDD **31** 00:53:41.7±1.2, 19.°62N×68.°07W, h19km±242km, MD3.4, ML2.3, MW3.0*
*RSPR **31** 00:53:42.7, 19.°16N×68.°65W, h100km±3km, MD3.2/5*
*NEIC **31** 00:53:42.1±1.9, 19.°49N±0.°08×68.°57W±0.°09, h35km±2km, ML2.6/12, Md3.2/5(RSPR), Error ellipse: s-maj=15.0km s-min=13.8km az=263.0*

ISC 31 00:53:43.9±2.4, 19.°3N±0.°1×68.°31W±0.°05, h13km±11km, n31, σ1.°29/37, 12C-5D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDR	**Miches**	**0.77**	**245**	⇑*e*Pg	Pn	00 54 01.9	+1.4
MIDR				⇓*e*Sg	**Sn**	**00 54 15.5**	**+3.5**
MIDR				IAML		00 54 21.1	
	comp=N,25nm,1.3s						
PCDR	**Punta Cana, DR**	**0.80**	**185**	⇑*e*P	**Pn**	**00 53 59.4**	**-1.6**
PCDR	**Punta Cana, DR**	**0.80**	**185**	*e*S	**Sn**	**00 54 12.7**	**0.0**
PCDR	**Punta Cana, DR**	**0.80**	**185**		**Pn**	**00 53 59.4**	**-1.6**
PCDR					**Sn**	**00 54 12.7**	**0.0**
PCDR	**Punta Cana, DR**	**0.80**	**185**	IAML		00 54 16.5	
	comp=N,135nm,1.8s						
AGPR	**Aguadilla, PR**	**1.42**	**126**	⇑*e*P	**Pg**	**00 54 11.0**	**-0.1**
AGPR	**Aguadilla, PR**	**1.42**	**126**	*e*S	**Sg**	**00 54 31.6**	**+2.0**
AGPR	**Aguadilla, PR**	**1.42**	**126**		**Pb**	**00 54 09.7**	**-0.5**
AGPR					**Sg**	**00 54 31.0**	**+1.4**
AGPR				IAML		00 54 45.3	
	comp=E,92nm,2.7s						
LSP	**Las Mesas**	**1.63**	**134**	⇑*e*P	**Pn**	**00 54 12.2**	**-0.1**
LSP	**Las Mesas**	**1.63**	**134**	*e*S	**Sn**	**00 54 34.0**	**+0.8**
LSP	**Las Mesas**	**1.63**	**134**		**Pn**	**00 54 12.2**	**-0.1**
LSP					**Sn**	**00 54 34.0**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.73**	**139**	⇓*e*P	**Pn**	**00 54 12.9**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.73**	**139**	*e*S	**Sn**	**00 54 36.9**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.73**	**139**		**Pn**	**00 54 12.9**	**-0.8**
CRPR					**Sn**	**00 54 36.9**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.73**	**139**	IAML		00 54 42.3	
	comp=N,39nm,2.9s						
CRPR				IAML		00 55 00.0	
	comp=E,38nm,2.1s						
CRPR	**Cabo Rojo, PR**	**1.73**	**139**	⇓*e*Pg	**Pb**	**00 54 14.1**	**-1.5**
CRPR				IAML		00 54 30.3	
	comp=E,43nm,2.4s						
CRPR				⇑*e*Sg	**Sn**	**00 54 37.6**	**+1.9**
CRPR				IAML		00 54 42.4	
	comp=N,50nm,2.4s						
CRPR				IAML		00 55 11.1	
	comp=N,54nm,1.9s						
AOPR	**Arecibo Observ**	**1.77**	**123**	⇑*e*P	**Pb**	**00 54 14.9**	**-1.3**
AOPR	**Arecibo Observ**	**1.77**	**123**	*e*S	**Sb**	**00 54 39.1**	**+0.8**
AOPR	**Arecibo Observ**	**1.77**	**123**		**Sb**	**00 54 39.1**	**+0.8**
AOPR	**Arecibo Observ**	**1.77**	**123**		**Pb**	**00 54 14.7**	**-1.5**
AOPR				IAML		00 54 29.8	
	comp=E,41nm,1.9s						
AOPR	**Arecibo Observ**	**1.77**	**123**	IAML		00 55 00.1	
	comp=N,42nm,2.3s						
AOPR	**Arecibo Observ**	**1.77**	**123**	⇑*e*Pg	**Pn**	**00 54 12.5**	**-1.8**
AOPR				⇑*e*Sg	**Sn**	**00 54 35.2**	**-1.4**
AOPR				IAML		00 54 41.1	
	comp=N,30nm,0.8s						
AOPR				IAML		00 54 47.6	
	comp=E,27nm,0.3s						
AOPR				IAML		00 54 59.6	
	comp=N,40nm,2.4s						
MLPR	**Magueyes Islan**	**1.80**	**138**	⇑*e*Pg	**Pn**	**00 54 13.7**	**-1.0**
MLPR				IAML		00 54 33.1	
	comp=N,24nm,1.9s						
MLPR				IAML		00 54 37.1	
	comp=E,22nm,3.0s						
MLPR				⇓*e*Sg	**Sn**	**00 54 38.5**	**+1.0**
MLPR				IAML		00 54 56.1	
	comp=N,32nm,3.0s						
UUPR	**Utuado, UPR, P**	**1.84**	**125**	⇑*e*P	**Pn**	**00 54 15.2**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.84**	**125**	*e*S	**Sb**	**00 54 41.0**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.84**	**125**		**Pn**	**00 54 15.2**	**-0.1**
UUPR					**Sb**	**00 54 41.0**	**+0.5**
CELP	**Cerrillos**	**2.06**	**127**	⇑*e*P	**Pn**	**00 54 17.2**	**-1.1**
CELP	**Cerrillos**	**2.06**	**127**	*e*S	**Sn**	**00 54 45.3**	**+1.5**
CELP	**Cerrillos**	**2.06**	**127**		**Pn**	**00 54 17.2**	**-1.1**
CELP	**Cerrillos**	**2.06**	**127**		**Sn**	**00 54 45.0**	**+1.2**
CELP	**Cerrillos**	**2.06**	**127**	⇓*e*Pg	**Pn**	**00 54 17.1**	**-1.1**
CELP				⇑*e*Sg	**Sn**	**00 54 44.4**	**+0.6**
CELP				IAML		00 54 51.5	
	comp=N,20nm,1.6s						

IDC 31 01:09:43.8±3.8, 5.°70S×150.°78E, h0km, mb3.2/2, mbtmp3.3/2, Error ellipse: s-maj=154.5km s-min=48.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.36**	**227**	P	P	01 14 33.0	+0.1
	0.7nm,0.6s,baz=53,slow=10,SNR=8.7						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**24.15**	**221**	P	P	01 15 01.6	-0.2
	0.3nm,0.5s,baz=55,slow=9.0,SNR=4.6						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.64**	**286**	PKPbc	PKPbc	01 29 33.4	-0.6
	0.4nm,0.4s,baz=61,slow=1.8,SNR=7.7						

*IDC **31** 01:12:50.9±1.4, 35.°44N×25.°78E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=45.0km s-min=9.9km az=162.0*
*ISK **31** 01:12:54.1, 35.°65N×25.°47E, h24km, ML3.1/16*
*AFAD **31** 01:12:54.5±0.0, 35.°62N×25.°79E, h6km±3km, ML2.7*
*ATH **31** 01:12:55.0, 35.°67N×25.°45E, h27km±1km, ML3.1/11, Error ellipse: s-maj=1.9km s-min=0.7km az=253.0*
*THE **31** 01:12:55.2, 35.°66N×25.°47E, h23km±2km, ML2.8/6, Error ellipse: s-maj=2.5km s-min=0.7km az=140.0*

ISC 31 01:12:54.9±1.0, 35.°65N±0.°02×25.°47E±0.°03, h26km±9km, n76, σ1.°20/98, mb3.5/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IACM	**Heraklion**	**0.47**	**223**	P	**Pn**	**01 13 05.3**	**-0.7**
IACM				S	**Sn**	**01 13 12.2**	**-1.2**
IACM	**Heraklion**	**0.47**	**223**	P	**Pn**	**01 13 05.1**	**-0.8**
IACM				S	**Sb**	**01 13 11.7**	**+0.4**
IACM				AML	AML	01 13 12.7	
	comp=N,17412μm,0.2s						
IACM				AML	AML	01 13 18.5	
	comp=E,19160μm,0.4s						
KSTL	**Kastelli Herak**	**0.47**	**223**	P	**Pb**	**01 13 04.8**	**+0.1**
KSTL				S	**Sb**	**01 13 11.9**	**+0.6**
	comp=E,1μm,0.3s						
KSTL	**Kastelli Herak**	**0.47**	**223**	P	**Pb**	**01 13 04.7**	**+0.1**
KSTL				S	**Sb**	**01 13 11.6**	**+0.3**
KSTL				AML	AML	01 13 13.2	
	comp=N,9690μm,0.3s						
KSTL				AML	AML	01 13 13.3	
	comp=E,2868μm,0.2s						
IDI	**Anoyia**	**0.59**	**233**	Pg	**Pb**	**01 13 06.5**	**-0.2**
IDI	**Anoyia**	**0.59**	**233**	P	**Pb**	**01 13 06.6**	**-0.2**
IDI				S	**Sb**	**01 13 14.8**	**0.0**
	comp=E,2μm,0.2s						
IDI	**Anoyia**	**0.59**	**233**	Pg	**Pb**	**01 13 06.7**	**-0.1**
	comp=E,71nm,0.3s,baz=260,slow=20,SNR=2859						
IDI				Lg	Lg	01 13 14.7	
	comp=E,309nm,0.3s,baz=351,slow=20,SNR=72						
IDI	**Anoyia**	**0.59**	**233**	P	**Pb**	**01 13 06.8**	**0.0**
IDI				S	**Sb**	**01 13 14.6**	**-0.2**
IDI				AML	AML	01 13 15.3	
	comp=N,4228μm,0.2s						
IDI				AML	AML	01 13 16.7	
	comp=E,5076μm,0.3s						
THR6	**Thira Island,**	**0.71**	**355**	P	**Pb**	**01 13 08.2**	**-0.4**
THR9	**Santorini-Faro**	**0.71**	**353**	P	**Pb**	**01 13 07.9**	**-0.8**
SANT	**Santorini**	**0.72**	**360**	Pg	**Pb**	**01 13 08.9**	**+0.1**
SANT				Sg	**Sn**	**01 13 19.6**	**-0.1**
SANT	**Santorini**	**0.72**	**360**	P	**Pb**	**01 13 09.0**	**+0.1**
SANT				S	**Sb**	**01 13 18.2**	**-0.2**
SANT				AML	AML	01 13 21.5	
	comp=E,3831μm,0.3s						
SANT				AML	AML	01 13 21.8	
	comp=N,1132μm,0.1s						
SNT5	**Nea Kammeni, S**	**0.75**	**356**	P	**Pb**	**01 13 08.6**	**-0.8**
SNT5				AML	AML	01 13 22.3	
	comp=E,6627μm,0.1s						
SNT5				AML	AML	01 13 23.9	
	comp=N,4401μm,0.2s						
THR8	**Santorini-Mono**	**0.76**	**1**	P	**Pb**	**01 13 08.4**	**-1.0**
THR3	**Thira Island,**	**0.76**	**356**	P	**Pb**	**01 13 08.9**	**-0.6**
THR3	**Thira Island,**	**0.76**	**356**	P	**Pb**	**01 13 08.9**	**-0.6**
SNT1	**Gialos, Santor**	**0.76**	**358**	P	**Pb**	**01 13 08.8**	**-0.7**
SNT1				S	**Sn**	**01 13 20.1**	**-0.6**
	comp=N,890nm,0.4s						
SNT1	**Gialos, Santor**	**0.76**	**358**	P	**Pb**	**01 13 08.8**	**-0.7**
SNT1				S	**Sb**	**01 13 18.8**	**-0.7**
SNT1				AML	AML	01 13 20.9	
	comp=E,1837μm,0.5s						
SNT1				AML	AML	01 13 21.2	
	comp=N,1712μm,0.3s						
THR5	**Thira Island,**	**0.77**	**353**	P	**Pb**	**01 13 09.0**	**-0.7**
SAP3	**Santorini-Thir**	**0.79**	**353**	P	**Pb**	**01 13 09.3**	**-0.7**
SAP3				S	**Sn**	**01 13 21.4**	**0.0**
	comp=N,4μm,0.2s						
SAP3	**Santorini-Thir**	**0.79**	**353**	P	**Pb**	**01 13 09.2**	**-0.7**
THR2	**Thira island,**	**0.80**	**358**	P	**Pb**	**01 13 09.4**	**-0.7**
TMBK	**Timbaki Herakl**	**0.81**	**225**	P	**Pn**	**01 13 10.4**	**-0.2**
TMBK				S	**Sn**	**01 13 22.3**	**+0.4**
TMBK	**Timbaki Herakl**	**0.81**	**225**	P	**Pn**	**01 13 10.4**	**-0.2**
ZKR	**Zakros**	**0.81**	**131**	Pg	**Pn**	**01 13 10.4**	**-0.3**
ZKR				Sg	**Sn**	**01 13 22.2**	**+0.3**
ZKR	**Zakros**	**0.81**	**131**	P	**Pn**	**01 13 10.4**	**-0.3**
ZKR				S	**Sn**	**01 13 21.2**	**-0.8**
	comp=N,622nm,0.2s						
ZKR	**Zakros**	**0.81**	**131**	P	**Pn**	**01 13 10.3**	**-0.3**
ZKR				S	**Sn**	**01 13 21.1**	**-0.8**
ZKR				AML	AML	01 13 22.8	
	comp=N,899μm,0.2s						
ZKR				AML	AML	01 13 23.0	
	comp=E,1575μm,0.2s						
CMBO	**Columbo, Santo**	**0.82**	**357**	P	**Pb**	**01 13 09.3**	**-1.2**
CMBO				AML	AML	01 13 24.4	
	comp=N,2563μm,0.3s						
CMBO				AML	AML	01 13 27.1	
	comp=E,1927μm,0.2s						
PRNS	**Prines Rethymn**	**0.84**	**250**	P	**Pb**	**01 13 10.6**	**-0.2**
PRNS				S	**Sn**	**01 13 23.7**	**+1.2**
	comp=E,765nm,0.4s						
CHAN	**Chania**	**1.17**	**264**	P	**Pn**	**01 13 14.7**	**-0.8**
IMMV	**Iera Moni Meta**	**1.23**	**262**	Pn	**Pn**	**01 13 16.2**	**-0.2**
IMMV	**Iera Moni Meta**	**1.23**	**262**	P	**Pn**	**01 13 15.6**	**-0.8**
IMMV	**Iera Moni Meta**	**1.23**	**262**	P	**Pn**	**01 13 15.8**	**-0.5**
IMMV				AML	AML	01 13 34.6	
	comp=N,1017μm,0.4s						
IMMV				AML	AML	01 13 40.5	
	comp=E,1077μm,0.4s						
MHLO	**Agia Marina, M**	**1.35**	**321**	P	**Pn**	**01 13 17.7**	**-0.4**
KARP	**Karpathos**	**1.39**	**94**	Pn	**Pn**	**01 13 18.1**	**-0.5**
KARP	**Karpathos**	**1.39**	**94**	P	**Pn**	**01 13 18.0**	**-0.5**
KARP	**Karpathos**	**1.39**	**94**	P	**Pn**	**01 13 17.8**	**-0.8**
KARP				AML	AML	01 13 37.1	
	comp=E,2141μm,0.4s						
KARP				AML	AML	01 13 38.7	
	comp=N,1050μm,0.2s						
GVD	**Gavdhos**	**1.39**	**235**	Pn	**Pn**	**01 13 18.8**	**+0.2**
GVD	**Gavdhos**	**1.39**	**235**	P	**Pb**	**01 13 19.9**	**-0.3**
GVD	**Gavdhos**	**1.39**	**235**	P	**Pb**	**01 13 19.7**	**-0.5**
RODP	**Rodopos**	**1.40**	**267**	Pn	**Pn**	**01 13 18.8**	**+0.1**
RODP	**Rodopos**	**1.40**	**267**	P	**Pn**	**01 13 18.2**	**-0.5**
APE	**Apeiranthos**	**1.42**	**2**	Pn	**Pn**	**01 13 18.3**	**-0.7**
APE	**Apeiranthos**	**1.42**	**2**	P	**Pn**	**01 13 17.6**	**-1.5**
KNDR	**Palaiochora Ch**	**1.51**	**255**	Pn	**Pn**	**01 13 20.9**	**+0.6**
KNDR	**Palaiochora Ch**	**1.51**	**255**	P	**Pn**	**01 13 21.0**	**+0.8**
KNDR				AML	AML	01 13 48.1	
	comp=E,686μm,0.3s						
KNDR				AML	AML	01 13 48.2	
	comp=N,756μm,0.3s						
ANKY	**Antikythira Is**	**1.77**	**278**	P	**Pn**	**01 13 22.9**	**-1.0**
DAT	**Datca**	**2.02**	**57**	Pn	**Pn**	**01 13 27.6**	**+0.2**
DAT	**Datca**	**2.02**	**57**	P	**Pn**	**01 13 27.8**	**+0.5**
BODT	**Bodrum**	**2.05**	**46**	Pn	**Pn**	**01 13 28.0**	**+0.3**
ARG	**Arkhangelos**	**2.23**	**75**	Pn	**Pn**	**01 13 30.8**	**+0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**18.78**	**319**	P	P	01 20 44.1	+0.3
	0.9nm,0.4s,baz=146,slow=7.6,SNR=8.0						
ZALV	**Zalesovo Beam**	**52.48**	**321**	P	P	01 25 21.3	-0.7
	0.5nm,0.5s,baz=96,slow=5.8,SNR=1.9						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**53.22**	**311**	P	P	01 25 27.0	-0.6
	0.3nm,0.5s,baz=98,slow=6.4,SNR=3.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**55.92**	**316**	P	P	01 25 46.6	+0.2
	1.2nm,0.4s,baz=96,slow=8.1,SNR=14						
	1.2nm,0.4s						
ILAR	**Eielson Array**	**59.98**	**28**	P	P	01 26 13.6	-0.1
	0.3nm,0.9s,baz=246,slow=6.8,SNR=2.9						
	0.3nm,0.9s						
BVAR	**Borovoye Array**	**60.99**	**319**	P	P	01 26 20.9	+0.2
	1.3nm,0.4s,baz=96,slow=7.4,SNR=9.7						
	1.3nm,0.4s						

*TEH **31** 01:17:22.2, 34.'60N×46.'27E, h6km±30km, ML3.5*
*IDC **31** 01:17:24.8±4.6, 34.'96N×45.'93E, h0km, mb3.6/5, mbtmp3.4/6, ML2.5/1, Error ellipse: s-maj=84.4km s-min=41.8km az=114.0*
ISC 31 01:17:23.2±1.0, 34.'77N±0.'04×46.'25E±0.'04, h9km±8km, n38, σ1§67/35, mb3.6/5, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.13**	**124**	Pg	**Pg**	**01 17 26.7**	**+0.4**
IDHR				Sg	**Sg**	**01 17 29.5**	**+1.0**
IGHG	**Ghaleghazi**	**0.52**	**149**	Pg	**Pg**	**01 17 31.2**	**-2.0**
ILIN	**Lien**	**0.60**	**76**	Pg	**Pb**	**01 17 35.6**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.61**	**244**	Pg	**Pg**	**01 17 34.3**	**-0.7**
GLG1	**Gilan-e-Gharb**	**0.72**	**203**	Pg	Pg	01 17 34.1	-3.0
KCHF	**Cheshme Sefid,**	**0.82**	**127**	Pg	**Pg**	**01 17 37.2**	**-1.8**
SNQR	**Sonqor, Kermar**	**1.14**	**85**	Pg	**Pn**	**01 17 45.5**	**0.0**
ILBA	**Ilam Banvizeh**	**1.15**	**182**	Pg	Pn	01 17 41.9	-3.6
IBZA	**Bozab**	**1.36**	**102**	Pg	**Pb**	**01 17 48.5**	**-0.5**
SDS1	**Sardasht. Az.**	**1.51**	**336**	Pg	**Pg**	**01 17 54.1**	**+2.0**
IKFM	**Kafar-mosalman**	**1.82**	**133**	Pg	**Pn**	**01 17 55.1**	**+0.4**
HSAM	**Samen**	**2.02**	**105**	Pn	**Pb**	**01 17 59.6**	**-0.6**
MAHB	**Mahabad**	**2.04**	**348**	Pn	**Pg**	**01 18 02.3**	**0.0**
IHSH	**Hashtrud**	**2.66**	**18**	Pn	**Pg**	**01 18 11.6**	**-2.5**
IAZR	**Azarshahr**	**2.91**	**356**	Pn	**Pb**	**01 18 14.8**	**-0.5**
ISRB	**Sarab**	**3.25**	**20**	Pn	**Pb**	**01 18 19.6**	**-1.6**
ISHB	**Shabestar**	**3.54**	**352**	Pn	**Pb**	**01 18 23.1**	**-3.0**
IHRS	**Heris**	**3.59**	**10**	Pn	**Pb**	**01 18 24.4**	**-2.6**
IMRD	**Marand**	**3.96**	**354**	Pn	**Pb**	**01 18 29.4**	**-3.7**
GAS1	**Astara - Iran**	**4.16**	**29**	Pn	Pb	01 18 31.3	-5.3
GRMI	**Germi**	**4.24**	**18**	Pn	Pb	01 18 32.8	-5.1
IPIR	**Pirpir**	**4.39**	**117**	Pn	**Pn**	**01 18 31.1**	**+0.8**
JHBN	**Jahan bin**	**4.47**	**123**	Pn	**Pn**	**01 18 32.5**	**+1.1**
IVRN	**Varamin**	**4.51**	**86**	Pn	**Pn**	**01 18 34.0**	**+2.3**
ZNGN	**Zangian**	**4.67**	**123**	Pn	**Pn**	**01 18 34.6**	**+0.4**
IDMV	**Damavand**	**4.80**	**79**	Pn	**Pn**	**01 18 38.5**	**+2.5**
KRSH	**Karshahi**	**4.93**	**98**	Pn	**Pn**	**01 18 40.5**	**+2.8**
IBRJ	**Brojen**	**5.07**	**123**	Pn	**Pn**	**01 18 40.3**	**+0.7**
IGAR	**Gharneh**	**5.38**	**114**	Pn	**Pn**	**01 18 44.7**	**+0.9**
IZEF	**Zefreh**	**5.39**	**109**	Pn	**Pn**	**01 18 46.0**	**+1.9**
KLNJ	**Kolanjah**	**5.85**	**128**	Pn	**Pn**	**01 18 50.9**	**+0.4**
IRAM	**Ramesheh**	**5.92**	**118**	Pn	**Pn**	**01 18 51.9**	**+0.6**
BRTR	**Keskin Array B**	**11.20**	**300**	Pn	**Pn**	**01 20 05.2**	**+1.6**
	baz=133,slow=14,SNR=1.6						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**29.63**	**340**	P	**P**	**01 23 29.4**	**+0.8**
	0.9nm,0.8s,baz=129,slow=13,SNR=3.5						
	0.9nm,0.8s						
HFS	**Hagfors**	**32.99**	**330**	P	**P**	**01 23 58.3**	**+0.2**
	0.7nm,0.4s,baz=135,slow=8.0,SNR=8.7						
	0.7nm,0.4s						
EKA	**Eskdalemuir Ar**	**39.47**	**317**	P	**P**	**01 24 54.1**	**+0.5**
	0.8nm,0.6s,baz=106,slow=9.0,SNR=4.6						
	0.8nm,0.6s						
ESDC	**Sonseca Array**	**39.86**	**292**	P	**P**	**01 24 56.9**	**-0.3**
	0.2nm,0.5s,baz=82,slow=9.2,SNR=3.3						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**45.60**	**253**	P	**P**	**01 25 45.5**	**+1.6**
	0.3nm,0.8s,baz=50,slow=5.6,SNR=2.9						
	0.3nm,0.8s						

*IDC **31** 01:25:46.1±2.5, 3.'01N×125.'40E, h198km±21km, mb3.6/13, mbtmp4.1/14, Error ellipse: s-maj=45.5km s-min=10.8km az=68.0*
*DJA **31** 01:25:46.2±0.6, 3.°N±5.°×12.°5E±.°, h191km±10km, M4.6/15, mB5.2/4, mb4.6/7, MLv4.6/15, Mw(mB)4.6/4*
*NEIC **31** 01:25:46.5±1.6, 2.90N±0.09×125.45E±0.09, h188km±8km, mb4.3/22, Error ellipse: s-maj=14.0km s-min=11.9km az=217.0*
ISC 31 01:25:46.7±0.5, 2.'89N±0.'06×125.'45E±0.'08, h200km, n80, σ1§68/86, mb4.0/23, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.84**	**138**	Pn	**Pn**	**01 26 33.8**	**-0.8**
TNTI				Sn	**Sn**	**01 27 09.8**	**-2.2**
TNTI	**Ternate**	**2.84**	**138**	P	**Pn**	**01 26 34.1**	**-0.5**
GTOI	**Gorontalo**	**3.31**	**227**	P	**Pn**	**01 26 40.1**	**0.0**
LBMI	**Labuha**	**4.06**	**150**	P	**Pn**	**01 26 48.7**	**-0.6**
DAV	**Davao City (W)**	**4.16**	**2**	S	**Sn**	**01 27 45.2**	**+4.5**
	266nm,0.4s,baz=336,slow=23,SNR=6.5						
MRSI	**Marisa**	**4.25**	**236**	P	**Pn**	**01 26 51.9**	**+0.3**
LUWI	**Luwuk**	**4.74**	**214**	Pn	**Pn**	**01 26 56.7**	**-1.1**
LUWI	**Luwuk**	**4.74**	**214**	P	**Pn**	**01 26 58.0**	**+0.2**
SANI	**Sanana**	**4.94**	**174**	P	**Pn**	**01 26 57.4**	**-2.9**
TOLI2	**Tolitoli**	**4.99**	**249**	Pn	**Pn**	**01 27 00.4**	**-0.6**
MPSI	**Mapaga**	**6.10**	**246**	P	**Pn**	**01 27 14.5**	**-0.8**
NLAI	**Namlea**	**6.31**	**165**	P	**Pn**	**01 27 17.0**	**-1.0**
	61nm,0.9s,5μm						
SWI	**Sorong**	**6.90**	**123**	P	**Pn**	**01 27 24.2**	**-1.5**
	55nm,0.7s,0.2nm						
MSAI	**Masohi**	**7.10**	**151**	P	**Pn**	**01 27 28.9**	**+0.6**
	178nm,0.9s,4μm0.8nm						
MYLDM	**Lahad Datu**	**7.30**	**288**	Pn	**Pn**	**01 27 31.6**	**+0.7**
FAKI	**Fak Fak**	**8.91**	**130**	Pn	**Pn**	**01 27 50.6**	**-1.4**
KAPI	**Kappang**	**9.70**	**216**	Pn	**Pn**	**01 28 02.3**	**+0.2**
KAPI	**Kappang**	**9.70**	**216**	P	**Pn**	**01 28 02.6**	**+0.5**
	65nm,0.8s,baz=33,slow=8.2,SNR=21						
SBUM	**Sibu**	**13.22**	**268**		**P**	**01 28 49.4**	**-0.6**
PLAI	**Plampang**	**13.93**	**213**	P	Pn	01 28 46.9	-9.0
JAGI	**Jajag, Banyuwa**	**15.95**	**225**	P	**Pn**	**01 29 24.2**	**+3.7**
MTN	**Manton Dam**	**16.62**	**160**		**P**	**01 29 27.3**	**-0.2**
KDU	**Kakadu**	**16.97**	**156**	P	P	01 29 18.0	-13
KNRA	**Kununurra**	**18.74**	**170**	P	**P**	**01 29 51.5**	**+0.9**
KNRA				IAmb	IAmb	01 29 52.6	
	comp=Z,9.7nm,0.7s						
TWG	**Pinlang**	**20.26**	**348**	P	**P**	**01 30 02.6**	**-4.3**
FITZ	**Fitzroy Crossi**	**20.86**	**179**	P	**P**	**01 30 12.2**	**-1.0**
WB0	**Warramunga Arr**	**24.17**	**159**	P	**P**	**01 30 44.7**	**-0.1**
WB0				IAmb	IAmb	01 30 46.4	
	comp=Z,9.2nm,1.1s						
WRA	**Warramunga Arr**	**24.31**	**159**	P	**P**	**01 30 46.9**	**+0.7**
WRA	**Warramunga Arr**	**24.31**	**159**	P	**P**	**01 30 46.6**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=343,slow=9.3,SNR=24						
WRA				S	**S**	**01 34 47.9**	**-2.7**
	comp=Z,2.1nm,0.7s,baz=338,slow=16,SNR=6.5						
WRA				ScP	**ScP**	**01 37 40.9**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=345,slow=3.4,SNR=8.3						
	comp=Z,1.4nm,0.5s						
WB2	**Warramunga Arr**	**24.32**	**159**	P	**P**	**01 30 46.3**	**+0.1**
WB2				IAmb	IAmb	01 30 52.3	
	comp=Z,3.7nm,0.6s						
WR0	**Warramunga Arr**	**24.40**	**159**	P	**P**	**01 30 47.2**	**+0.3**
WR0				IAmb	IAmb	01 30 57.9	
	comp=Z,3.4nm,0.6s						
MBWA	**Marble Bar**	**24.55**	**193**	P	**P**	**01 30 48.9**	**+0.6**
MBWA				IAmb	IAmb	01 30 50.7	
	comp=Z,15nm,0.8s						
PSA00	**Pilbara Seismi**	**24.92**	**192**	P	**P**	**01 30 46.8**	**-4.8**
PSA00	**Pilbara Seismi**	**24.92**	**192**	P	**P**	**01 30 52.1**	**+0.5**
PSA00				IAmb	IAmb	01 30 52.9	
	comp=Z,15nm,0.7s						
QIS	**Mount Isa**	**27.12**	**150**	P	**P**	**01 31 16.7**	**+5.3**
ASAR	**Alice Springs**	**27.65**	**163**	P	**P**	**01 31 16.7**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=339,slow=7.7,SNR=17						
ASAR				PcP	**PcP**	**01 34 28.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=343,slow=2.5,SNR=6.9						
ASAR				S	**S**	**01 35 43.4**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=343,slow=22,SNR=8.0						
ASAR				ScP	**SS**	**01 37 48.7**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=342,slow=2.9,SNR=1.9						
	comp=Z,1.1nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AS01	**Alice Springs**	**27.66**	**163**	P	**P**	**01 31 17.2**	**+1.0**
WRKA	**Warakurna**	**27.90**	**174**	P	**P**	**01 31 15.2**	**-3.1**
MEEK	**Meekatharra**	**30.09**	**192**	P	**P**	**01 31 37.9**	**+0.3**
OOD	**Oodnadatta**	**32.06**	**163**	P	**P**	**01 31 56.9**	**+2.1**
MORW	**Morawa**	**33.03**	**195**	P	**P**	**01 32 03.6**	**+0.3**
FORT	**Forrest**	**33.57**	**176**	P	**P**	**01 32 08.6**	**+0.7**
MULG	**Mulgathing**	**33.99**	**167**	P	**P**	**01 32 12.7**	**+1.1**
KMBL	**Kambalda**	**34.23**	**185**	P	**P**	**01 32 14.1**	**+0.5**
BLDU	**Ballidu**	**34.35**	**193**	P	**P**	**01 32 14.6**	**0.0**
KLBR	**Kellerberrin**	**35.06**	**191**	P	**P**	**01 32 21.0**	**+0.3**
LCRK	**Leigh Creek**	**35.32**	**161**	P	**P**	**01 32 24.7**	**+1.8**
BBOO	**Buckleboo**	**36.90**	**165**	P	**P**	**01 32 37.2**	**+0.9**
STKA	**Stephens Creek**	**37.83**	**157**	P	**P**	**01 32 44.6**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=336,slow=8.8,SNR=2.9						
	comp=Z,0.8nm,0.3s						
HTT	**Hallett**	**38.30**	**162**	P	**P**	**01 32 50.5**	**+2.4**
SONM	**Songino Array**	**47.70**	**343**	P	**P**	**01 34 03.2**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=163,slow=2.4,SNR=2.0						
SONM				PcP	**PcP**	**01 35 28.7**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=116,slow=3.4,SNR=2.9						
	comp=Z,0.4nm,0.6s						
MK31	**Makanchi Array**	**57.52**	**326**	P	**P**	**01 35 14.1**	**-1.2**
MKAR	**Makanchi Array**	**57.52**	**326**	P	**P**	**01 35 13.7**	**-1.5**
MKAR	**Makanchi Array**	**57.52**	**326**	P	**P**	**01 35 13.9**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=123,slow=7.7,SNR=30						
MKAR				PcP	**PcP**	**01 36 06.0**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=118,slow=4.4,SNR=15						
	comp=Z,1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**61.76**	**328**	P	**P**	**01 35 42.4**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=127,slow=6.6,SNR=7.6						
	comp=Z,0.6nm,0.4s						
BVAR	**Borovoye Array**	**67.33**	**328**	P	**P**	**01 36 18.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=134,slow=6.2,SNR=4.4						
	comp=Z,0.3nm,0.3s						
L18K	**Granite Mounta**	**81.80**	**28**	P	**P**	**01 37 45.0**	**+2.0**
L18K				IAmb	IAmb	01 37 45.5	
	comp=Z,1.9nm,0.8s						
C19K	**Lookout Ridge**	**81.97**	**20**	P	**P**	**01 37 45.8**	**+1.9**
C19K				IAmb	IAmb	01 37 58.0	
	comp=Z,2.5nm,1.1s						
D19K	**Kuna River**	**82.36**	**21**	P	**P**	**01 37 46.8**	**+0.9**
D19K				IAmb	IAmb	01 37 57.2	
	comp=Z,3.2nm,1.1s						
VNDA	**Vanda**	**82.76**	**173**	P	**P**	**01 37 48.5**	**+0.7**
VNDA	**Vanda**	**82.76**	**173**	P	**P**	**01 37 48.3**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=318,slow=6.9,SNR=17						
	comp=Z,1.1nm,0.4s						
J20K	**Nowinta River**	**83.23**	**26**	P	**P**	**01 37 51.8**	**+1.3**
IMAR	**Indian Mountai**	**83.62**	**24**	P	**P**	**01 37 53.6**	**+1.2**
SBA	**Scott Base**	**83.69**	**172**	P	**P**	**01 37 54.2**	**+1.7**
HOM	**Homer**	**83.93**	**30**	P	**P**	**01 37 57.3**	**+3.3**
SUA	**Susitna One**	**84.51**	**29**	P	**P**	**01 37 58.0**	**+0.9**
SUA				IAmb	IAmb	01 38 12.9	
	comp=Z,2.9nm,1.2s						
H24K	**Noodor Dome**	**86.02**	**24**	P	**P**	**01 38 05.2**	**+0.8**
BMAR	**Burnt Mountain**	**87.34**	**23**	P	**P**	**01 38 11.6**	**+0.9**
BCAR	**Beaver Creek A**	**88.70**	**27**	P	**P**	**01 38 18.6**	**+1.3**
ARCES	**ARCESS Array B**	**90.79**	**340**	P	**P**	**01 38 25.6**	**-1.2**
ARCES				IAmb	IAmb	01 38 29.8	
	comp=Z,3.8nm,1.1s						
ARCES	**ARCESS Array B**	**90.79**	**340**	P	**P**	**01 38 25.3**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=56,slow=8.8,SNR=4.2						
	comp=Z,1.3nm,0.8s						
FIA1	**FINESS Array S**	**91.96**	**332**	P	**P**	**01 38 30.8**	**-1.6**
FIA1				IAmb	IAmb	01 38 42.6	
	comp=Z,12nm,1.1s						
FINES	**FINESS Array B**	**91.96**	**332**	P	**P**	**01 38 30.5**	**-1.9**
FINES	**FINESS Array B**	**91.96**	**332**	P	**P**	**01 38 30.6**	**-1.7**
	comp=Z,1.5nm,0.7s,baz=57,slow=5.1,SNR=6.8						
	comp=Z,1.5nm,0.7s						
QSPA	**South Pole Qui**	**92.80**	**180**	P	**P**	**01 38 37.1**	**+0.9**
QSPA	**South Pole Qui**	**92.80**	**180**	P	**P**	**01 38 36.7**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=306,slow=0.7,SNR=14						
	comp=Z,0.7nm,0.5s						
HFS	**Hagfors**	**98.16**	**332**	P	**P**	**01 38 58.6**	**-2.0**
	comp=Z,0.5nm,0.5s,baz=131,slow=4.0,SNR=5.7						
	comp=Z,0.5nm,0.5s						
NOA	**NORSAR Array B**	**98.96**	**333**	P	**P**	**01 39 02.2**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=63,slow=1.8,SNR=3.9						
	comp=Z,0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**121.96**	**287**	PKP	**PKPdf**	**01 44 16.6**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=86,slow=2.3,SNR=8.9						
TXAR	**Laitas Array**	**123.12**	**52**	PKP	**PKPdf**	**01 44 18.9**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=204,slow=0.9,SNR=2.7						

*IDC **31** 01:34:28.9±0.7, 0.'58N×126.'12E, h0km, mb4.0/12, mbtmp4.1/13, ML3.8/1, Error ellipse: s-maj=46.7km s-min=14.2km az=71.0*
*DJA **31** 01:34:33.1±0.3, 1.°N±4.°×12.°6E±.°, h10km, M4.0/13, mb4.1/2, MLv4.0/13*
*NEIC **31** 01:34:36.7±0.8, 0.'6N±0.'1×126.'39E±0.'07, h59km±11km, mb4.3/10, Error ellipse: s-maj=17.3km s-min=9.5km az=174.0*
ISC 31 01:34:35.8±0.5, 0.'58N±0.'06×126.'29E±0.'05, h50km, n41, σ0§99/42, mb4.2/21, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.10**	**80**	Pn	**Pn**	**01 34 54.7**	**-0.2**
TNTI				Sn	**Sn**	**01 35 08.0**	**-1.0**
TNTI	**Ternate**	**1.10**	**80**	P	**Pn**	**01 34 54.4**	**-0.5**
LBMI	**Labuha**	**1.71**	**135**	P	**Pn**	**01 35 02.5**	**-0.8**
KMSI	**Cibinong**	**2.31**	**270**	P	**Pn**	**01 35 09.2**	**-2.2**
SANI	**Sanana**	**2.63**	**187**	P	**Pn**	**01 35 14.6**	**-1.3**
GTOI	**Gorontalo**	**3.28**	**271**	P	**Pn**	**01 35 25.0**	**+0.3**
LUWI	**Luwuk**	**3.87**	**245**	Pn	**Pn**	**01 35 34.9**	**+2.1**
LUWI	**Luwuk**	**3.87**	**245**	P	**Pn**	**01 35 33.4**	**+0.6**
NLAI	**Namlea**	**3.88**	**168**	P	**Pn**	**01 35 33.3**	**+0.3**
TOLI2	**Tolitoli**	**5.53**	**275**		**Pn**	**01 35 57.6**	**+1.9**
MPSI	**Mapaga**	**6.39**	**268**	P	**Pn**	**01 36 06.9**	**-0.6**
	7.8nm,0.9s,0.0nm						
FAKI	**Fak Fak**	**6.90**	**120**	P	**Pn**	**01 36 15.8**	**+1.3**
KAPI	**Kappang**	**8.57**	**230**	Pn	Pn	01 36 31.9	-5.5
	1.2nm,0.3s,baz=49,slow=20,SNR=2.9						
KAPI				Sn	Sn	01 38 04.4	-8.4
	1.7nm,0.3s,baz=244,slow=22,SNR=2.2						
	10nm,0.9s						
KSM	**Kuching**	**16.00**	**273**		**Pn**	**01 38 19.6**	**+1.9**
KSM				IAmb	IAmb	01 38 21.4	
	comp=Z,37nm,0.8s						
KNRA	**Kununurra**	**16.34**	**171**	Pn	**Pn**	**01 38 21.2**	**-0.7**
WB0	**Warramunga Arr**	**21.73**	**159**	P	**P**	**01 39 21.5**	**-1.5**
WB0				IAmb	IAmb	01 39 27.1	
	comp=Z,12nm,0.6s						
WRA	**Warramunga Arr**	**21.87**	**159**	P	**P**	**01 39 23.5**	**-1.1**
WRA	**Warramunga Arr**	**21.87**	**159**	P	**P**	**01 39 23.7**	**-0.9**
	comp=Z,5.1nm,0.5s,baz=338,slow=11,SNR=37						
	comp=Z,5.1nm,0.5s						
WB2	**Warramunga Arr**	**21.88**	**159**	P	**P**	**01 39 23.9**	**-0.8**
WB2				IAmb	IAmb	01 39 28.4	
	comp=Z,10.0nm,0.6s						
WR0	**Warramunga Arr**	**21.96**	**159**	P	**P**	**01 39 25.0**	**-0.5**
WR0				IAmb	IAmb	01 39 29.9	
	comp=Z,8.0nm,0.9s						
AS31	**Alice Springs**	**25.21**	**163**	P	**P**	**01 39 57.5**	**+0.3**
AS31				IAmb	IAmb	01 40 03.0	
	comp=Z,3.5nm,0.4s						
ASAR	**Alice Springs**	**25.21**	**163**	P	**P**	**01 39 57.1**	**0.0**
	comp=Z,2.2nm,0.3s,baz=336,slow=9.7,SNR=28						
	comp=Z,2.2nm,0.3s						
PZH	**PanZhiHua**	**34.96**	**319**	P	**P**	**01 41 24.5**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,200nm,7.3s						
STKA	**Stephens Creek**	**35.39**	**157**	P	**P**	**01 41 26.8**	**-0.2**
	comp=Z,2.6nm,0.4s,baz=323,slow=5.1,SNR=5.4						
	comp=Z,2.6nm,0.4s						
TIA	**Tai'an**	**36.46**	**347**	P	**P**	**01 41 37.5**	**+1.5**
TIA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KSRS	**Korea Array**	**36.72**	**2**	P	**P**	**01 41 37.4**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=183,slow=8.8,SNR=2.2						
	comp=Z,0.5nm,0.3s						
SHL	**Shillong**	**41.45**	**310**	P	**P**	**01 42 17.2**	**-1.0**
HHC	**Hu-ho-hao-te**	**42.25**	**343**	*eP*	**P**	**01 42 26.0**	**+1.6**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MDJ	**Mudanjiang**	**43.94**	**3**	P	**P**	**01 42 37.5**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SONM	**Songino Array**	**50.14**	**343**	P	**P**	**01 43 25.8**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=161,slow=6.7,SNR=2.6						
	comp=Z,0.4nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**59.90**	**327**	P	**P**	**01 44 36.3**	**-0.4**
MK31				IAmb	IAmb	01 44 38.3	
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**59.90**	**327**	P	**P**	**01 44 36.3**	**-0.3**
MKAR	**Makanchi Array**	**59.90**	**327**	P	**P**	**01 44 35.9**	**-0.8**
	comp=Z,1.8nm,0.4s,baz=123,slow=7.5,SNR=28						
MKAR				PcP	**PcP**	**01 45 22.5**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=110,slow=4.8,SNR=4.0						
	comp=Z,1.8nm,0.4s						
ZALV	**Zalesovo Beam**	**63.19**	**334**	P	**P**	**01 44 58.2**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=115,slow=6.7,SNR=2.6						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**64.15**	**328**	P	**P**	**01 45 04.8**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=126,slow=6.4,SNR=23						
	comp=Z,1.7nm,0.5s						
KURK	**Kurchatov**	**64.16**	**329**	P	**P**	**01 45 05.0**	**-0.1**
BVAR	**Borovoye Array**	**69.72**	**328**	P	**P**	**01 45 40.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=142,slow=7.2,SNR=5.7						
	comp=Z,0.6nm,0.5s						
VNDA	**Vanda**	**80.38**	**173**	P	**P**	**01 46 42.1**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=320,slow=6.6,SNR=2.8						
	comp=Z,0.5nm,0.8s						
QSPA	**South Pole Qui**	**90.51**	**180**	P	**P**	**01 47 32.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=242,slow=1.0,SNR=6.1						
	comp=Z,0.5nm,0.6s						
BRTR	**Keskin Array B**	**91.67**	**310**	P	**P**	**01 47 38.5**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=90,slow=10,SNR=3.8						
	comp=Z,0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**123.42**	**286**	PKP	**PKPdf**	**01 53 28.7**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=38,slow=2.9,SNR=5.1						

*IDC **31** 01:35:22.6±1.2, 60.'87S×153.'20E, h0km, mb4.1/6, mbtmp4.1/6, MS4.0/27, Error ellipse: s-maj=62.0km s-min=18.4km az=85.0*
*NEIC **31** 01:35:22.5±1.6, 60.'88S±0.'08×154.'6E±0.'3, h10km±1km, mb4.7/21, Error ellipse: s-maj=24.0km s-min=13.7km az=272.0*
*GCMT **31** 01:35:26.5±0.3, 60.'81S±0.'02×153.'42E±0.'04, h19km±1km, MW4.9/90, Moment Tensor Solution. s18,c20; s90,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.13±.13; $M_{\theta\theta}$1.55±.11; $M_{\phi\phi}$-1.68±.12; $M_{r\theta}$-0.66±.25; $M_{\theta\phi}$-2.10±.10; $M_{\phi r}$0.32±.27; Best double couple: $M_0$2.75100×10^{16} NP1:φ.250.00000°, δ79.00000°, λ169.00000°. NP2: φ.342.00000°, δ79.00000°, λ11.00000°. Principal axes: T 2.7870, Plg15.0000°, Azm206.0000°; N -0.0760, Plg75.0000°, Azm27.0000°; P -2.7140, Plg0.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 01:35:22.6±0.5, 60.'87S±0.'07×154.'4E±0.'1, h10km, n73, σ1§12/38, mb4.6/17, MS4.0/27, 5C, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**6.83**	**23**	Pn	**Pn**	**01 37 01.4**	**-1.3**
VNDA	**Vanda**	**16.91**	**174**		**Pn**	**01 39 16.6**	**-2.2**
VNDA	**Vanda**	**16.91**	**174**	Pn	**Pn**	**01 39 16.1**	**-2.8**
	0.5nm,0.3s,baz=346,slow=14,SNR=17						
VNDA				LR	LR	01 44 39.5	
	comp=Z,680nm,20.0s,baz=347,slow=33						
SBA	**Scott Base**	**17.53**	**171**	P	**Pn**	**01 39 25.5**	**-1.1**
CASY	**Casey**	**19.92**	**235**	P	**Pn**	**01 39 55.4

comp=Z,6.3nm,1.2s
PLCA Paso Flores 72.31 146 LR LR 02 14 02.5
comp=Z,100nm,18.1s,baz=258,slow=32
GUMO Guam 74.60 350 LR LR 02 15 16.9
comp=Z,30nm,21.0s,baz=238,slow=32
H03S2 Juan Fernandez 76.09 137 T T 03 11 34.3
baz=202,slow=74,SNR=48
H03S1 Juan Fernandez 76.10 137 T T 03 11 35.7
baz=202,slow=74,SNR=47
H03S3 Juan Fernandez 76.11 137 T T 03 11 35.3
baz=202,slow=74,SNR=61
H08S2 Diego Garcia H 79.44 273 T T 03 14 44.2
baz=149,slow=76,SNR=86
H08S1 Diego Carcia H 79.45 273 T T 03 14 49.7
baz=149,slow=76,SNR=59
H08S3 Diego Garcia H 79.46 273 T T 03 14 45.9
baz=149,slow=76,SNR=146
SUR Sutherland 79.68 219 LR LR 02 19 40.9
comp=Z,79nm,21.1s,baz=142,slow=34
H11S2 WAKE ISLAND Hy 79.70 12 T T 03 14 59.0
baz=188,slow=76,SNR=7.4
H11S3 WAKE ISLAND Hy 79.70 12 T T 03 14 58.8
baz=188,slow=76,SNR=6.7
H11S1 WAKE ISLAND Hy 79.71 12 T T 03 14 60.0
baz=188,slow=76,SNR=6.4
H11N1 WAKE ISLAND Hy 80.92 12 T T 03 16 30.6
baz=185
H11N3 WAKE ISLAND Hy 80.93 12 T T 03 16 31.8
baz=185
H11N2 WAKE ISLAND Hy 80.94 12 T T 03 16 33.1
baz=185
BOSA Boshof 81.74 224 LR LR 02 20 26.2
comp=Z,51nm,19.3s,baz=185,slow=33
OPO Ambohidratompo 82.04 246 LR LR 02 18 18.8
comp=Z,42nm,19.6s,baz=318,slow=32
JOHN Johnston Isla 82.55 35 P **P 01 47 44.9 -0.4**
JCJ Chichijima 88.21 349 LR LR 02 26 46.4
comp=Z,22nm,18.3s,baz=178,slow=35
PALK Pallekele 88.49 288 LR LR 02 20 43.6
comp=Z,109nm,19.5s,baz=160,slow=31
CMAR Chiang Mai Arr 90.65 309 LR LR 02 26 46.1
comp=Z,59nm,19.7s,baz=140,slow=34
TSUM Tsumeb 93.00 220 LR LR 02 28 01.1
comp=Z,60nm,20.5s,baz=150,slow=34
JHJ Hachijo jima 2 94.41 348 LR LR 02 27 00.4
comp=Z,35nm,21.6s,baz=225,slow=33
LPAZ La Paz 95.91 139 LR LR 02 25 11.8
comp=Z,75nm,18.7s,baz=176,slow=31
MJAR Matsushiro Arr 97.97 347 LR LR 02 32 31.4
comp=Z,31nm,18.3s,baz=170,slow=35
SIV San Ignacio 98.30 146 LR LR 02 30 20.0
comp=Z,67nm,19.6s,baz=123,slow=33
H06S1 SOCORRO T 108.40 85 T T 03 51 14.8
SNR=15
NVAR Mina Array Bea 121.43 67 PKP **PKiKP 01 54 18.8 +3.1**
comp=Z,0.5nm,0.7s,baz=206,slow=6.0,SNR=2.9
KURBB Kurchatov Arra 126.61 310 PKP **PKiKP 01 54 25.6 +0.4**
comp=Z,0.4nm,0.7s,baz=174,slow=1.2,SNR=2.3
AKASG Malin Array Be 148.48 276 PKPbc **PKPbc 01 55 07.6 -0.6**
comp=Z,0.4nm,0.5s,baz=103,slow=2.9,SNR=1.5

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*SJA **31** 01:39:51.1±0.7, 35°.37S×71°.37W, h92km±3km, ML3.6, MW3.6*
*GUC **31** 01:39:52.8±0.7, 35°.36S×71°.30W, h87km±3km, ML3.7*
*IDC **31** 01:39:54.0±3.6, 35°.51S×71°.42W, h98km±35km, mb3.3/3, mbtmp3.5/5, Error ellipse: s-maj=60.6km s-min=22.6km az=78.0*
ISC 31 01:39:52.8±0.8, 35°.37S±0°.03×71°.33W±0°.04, h85km±6km, n61, σ1§10/105, mb3.4/3, 6C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ML02	**Panimavida**	**0.40**	**191**	*eP*		**Pn**	**01 40 06.1**	**-0.1**
ML02				*eS*		**Sn**	**01 40 16.8**	**+0.6**
ML02				IAML			01 40 17.9	
	comp=Z,2μm,0.5s							
ML02	**Panimavida**	**0.40**	**191**	⇓*iP*		**Pn**	**01 40 06.1**	**-0.1**
ML02				*eS*		**Sn**	**01 40 16.4**	**+0.2**
ML02				IAML			01 40 17.2	
	comp=E,7μm,0.3s							
GO05	**Huala**	**0.61**	**306**	*eP*		**Pn**	**01 40 07.9**	**-0.1**
GO05				*eS*		**Sn**	**01 40 20.1**	**+0.6**
GO05	**Huala**	**0.61**	**306**	*eP*		**Pn**	**01 40 07.7**	**-0.3**
GO05				*i* S		**Sn**	**01 40 19.9**	**+0.5**
BO02	**Sierra Bellavi**	**0.73**	**38**	*eP*		**Pn**	**01 40 09.1**	**-0.2**
BO02				*eS*		**Sn**	**01 40 22.5**	**+1.0**
BO02				IAML			01 40 24.4	
	comp=Z,5μm,0.1s							
BO02	**Sierra Bellavi**	**0.73**	**38**	⇓*iP*		**Pn**	**01 40 09.1**	**-0.2**
BO02				*i* S		**Sn**	**01 40 21.8**	**+0.3**
BO02				IAML			01 40 23.5	
	comp=N,10μm,0.2s							
BO01	**Tunca**	**1.00**	**11**	*eP*		**Pn**	**01 40 11.8**	**-0.3**
BO01				*eS*		**Sn**	**01 40 26.8**	**+0.2**
BO01				IAML			01 40 27.3	
	comp=Z,784nm,0.2s							
BO01	**Tunca**	**1.00**	**11**	⇑*iP*		**Pn**	**01 40 11.8**	**-0.3**
BO01				*i* S		**Sn**	**01 40 26.2**	**-0.4**
BO01				IAML			01 40 27.2	
	comp=E,2μm,0.2s							
BO03	**Pichilemu**	**1.02**	**329**	⇑*iP*		**Pn**	**01 40 12.5**	**+0.1**
BO03				*i* S		**Sn**	**01 40 27.5**	**+0.5**
BO04	**La Punta**	**1.50**	**23**	*eP*		**Pn**	**01 40 18.2**	**-0.2**
BO04				*eS*		**Sn**	**01 40 37.1**	**-0.6**
MT01	**Popeta**	**1.51**	**2**	*eP*		**Pn**	**01 40 18.0**	**-0.4**
MT01				*eS*		**Sn**	**01 40 38.1**	**+0.4**
MT01				IAML			01 40 42.6	
	comp=Z,643nm,0.1s							
MT01	**Popeta**	**1.51**	**2**	⇑*iP*		**Pn**	**01 40 18.0**	**-0.4**
MT01				*i* S		**Sn**	**01 40 37.1**	**-0.6**
MT01				IAML			01 40 42.6	
	comp=E,1μm,0.2s							
MT09	**Talagante**	**1.62**	**10**	⇑*iP*		**Pn**	**01 40 19.5**	**-0.5**
MT09				*i* S		**Sn**	**01 40 39.9**	**-0.6**
MT09				IAML			01 40 40.6	
	comp=N,1μm,0.2s							
EDS3	**Malargue**	**1.62**	**105**	*eP*		**Pn**	**01 40 20.3**	**+0.3**
EDS3				*eS*		**Sn**	**01 40 37.2**	**-3.4**
VA05	**Santo Domingo**	**1.73**	**352**	⇑*iP*		**Pn**	**01 40 20.8**	**-0.4**
VA05				*i* S		**Sn**	**01 40 41.2**	**-1.7**
VA05				IAML			01 40 48.6	
	comp=E,1μm,0.3s							
MT12	**Pirque**	**1.76**	**22**	⇓*iP*		**Pn**	**01 40 21.6**	**-0.1**
MT12				*i* S		**Sn**	**01 40 42.3**	**-1.3**
MT12				IAML			01 40 47.4	
	comp=E,711nm,0.3s							
LMEL	**Las Melosas**	**1.78**	**32**	*eP*		**Pn**	**01 40 22.2**	**+0.1**
LMEL				*eS*		**Sn**	**01 40 46.7**	**+2.4**
LMEL				IAML			01 40 50.6	
	comp=Z,343nm,0.4s							
LMEL	**Las Melosas**	**1.78**	**32**	*eP*		**Pn**	**01 40 22.8**	**+0.7**
LMEL				*i* S		**Sn**	**01 40 46.5**	**+2.2**
LMEL				IAML			01 40 48.7	
	comp=N,709nm,0.2s							
MT13	**San Alfonso**	**1.84**	**28**	*eP*		**Pn**	**01 40 23.1**	**+0.3**
MT13				*eS*		**Sn**	**01 40 48.1**	**+2.5**
MT13				IAML			01 40 50.4	
	comp=Z,405nm,0.2s							
MT13	**San Alfonso**	**1.84**	**28**	*eP*		**Pn**	**01 40 23.4**	**+0.6**
MT13				*eS*		**Sn**	**01 40 47.1**	**+1.5**
MT15	**Las Vizcachas**	**1.90**	**21**	*eP*		**Pn**	**01 40 22.9**	**-0.6**
MT15				*eS*		**Sn**	**01 40 46.0**	**-0.8**
MT15				IAML			01 40 50.7	
	comp=E,740nm,0.2s							
MT03	**Universidad Ad**	**1.99**	**20**	*eP*		**Pn**	**01 40 25.4**	**+0.6**
MT03				*eS*		**Sn**	**01 40 50.0**	**+0.8**
MT03	**Universidad Ad**	**1.99**	**20**	*eP*		**Pn**	**01 40 25.1**	**+0.2**
MT03				*i* S		**Sn**	**01 40 48.7**	**-0.5**
MT03				IAML			01 40 56.1	
	comp=E,603nm,0.2s							
MT05	**Renca**	**2.04**	**14**	*eP*		**Pn**	**01 40 27.2**	**+1.8**
MT05				*eS*		**Sn**	**01 40 50.9**	**+0.7**
MT05				IAML			01 41 01.0	
	comp=Z,382nm,0.2s							
MT05	**Renca**	**2.04**	**14**	*eP*		**Pn**	**01 40 26.9**	**+1.5**
MT05				*eS*		**Sn**	**01 40 51.0**	**+0.9**
MT16	**CCHEN**	**2.05**	**19**	*eP*		**Pn**	**01 40 25.8**	**+0.2**
MT16				*i* S		**Sn**	**01 40 50.2**	**-0.4**
MT14	**Cerro Calıın**	**2.08**	**19**	*eP*		**Pn**	**01 40 26.0**	**+0.1**
MT14				*i* S		**Sn**	**01 40 50.9**	**-0.3**
MT14				IAML			01 40 56.7	
	comp=E,670nm,0.2s							
MT02	**Curacav**	**2.11**	**4**	*eP*		**Pn**	**01 40 26.2**	**-0.2**
MT02				*eS*		**Sn**	**01 40 52.0**	**0.0**
MT02				IAML			01 40 53.6	
	comp=Z,195nm,0.4s							
MT02	**Curacav**	**2.11**	**4**	⇑*iP*		**Pn**	**01 40 26.0**	**-0.3**
MT02				*i* S		**Sn**	**01 40 50.7**	**-1.3**
MT10	**Hacienda Santa**	**2.19**	**18**	*eP*		**Pn**	**01 40 27.8**	**+0.2**
MT10				*i* S		**Sn**	**01 40 53.9**	**-0.1**
MT10				IAML			01 40 59.4	
	comp=E,726nm,0.2s							
MT04	**Ro Olivares**	**2.19**	**27**	*eP*		**Pn**	**01 40 28.2**	**+0.5**
MT04				*eS*		**Sn**	**01 40 56.1**	**+1.9**
MT04	**Ro Olivares**	**2.19**	**27**	*eP*		**Pn**	**01 40 28.1**	**+0.5**
MT04				*eS*		**Sn**	**01 40 55.9**	**+1.7**
MT08	**Bocatoma Ro**	**2.21**	**30**	*eP*		**Pn**	**01 40 28.4**	**+0.6**
MT08				*eS*		**Sn**	**01 40 52.7**	**-1.8**
MT08	**Bocatoma Ro**	**2.21**	**30**	*eP*		**Pn**	**01 40 28.6**	**+0.7**
MT08				*eS*		**Sn**	**01 40 54.0**	**-0.5**
FCH	**Farellones**	**2.21**	**23**	*eP*		**Pn**	**01 40 28.1**	**+0.1**
FCH				*eS*		**Sn**	**01 40 54.9**	**+0.1**
FCH				IAML			01 40 58.4	
	comp=N,530nm,0.2s							
PEL	**Peldehue**	**2.29**	**14**	*eP*		**Pn**	**01 40 28.7**	**0.0**
PEL				*eS*		**Sn**	**01 40 56.5**	**+0.3**
PEL				IAML			01 41 00.0	
	comp=Z,239nm,0.2s							
VA01	**Torpederas**	**2.36**	**353**	*eP*		**Pn**	**01 40 28.9**	**-0.7**
VA01				*eS*		**Sn**	**01 40 52.2**	**-5.5**
VA01				IAML			01 41 01.1	
	comp=Z,132nm,0.8s							
ROC1	**El Roble**	**2.41**	**6**	*eP*		**Pn**	**01 40 30.4**	**0.0**
ROC1				*eS*		**Sn**	**01 41 00.5**	**+1.2**
ROCH	**El Roble**	**2.41**	**6**	*eP*		**Pn**	**01 40 30.4**	**-0.1**
ROCH				*i* S		**Sn**	**01 40 58.1**	**-1.2**
ROCH				IAML			01 41 02.1	
	comp=N,586nm,0.2s							
RFA	**San Rafael**	**2.42**	**76**	*eP*		**Pn**	**01 40 30.1**	**-0.3**
VA03	**San Esteban**	**2.68**	**14**	*eP*		**Pn**	**01 40 34.0**	**-0.1**
VA03				*eS*		**Sn**	**01 41 05.7**	**0.0**
VA03				IAML			01 41 07.7	
	comp=Z,239nm,0.1s							
AAGR	**Agrelo**	**3.08**	**43**	*eP*		**Pn**	**01 40 40.7**	**+1.3**
AAGR				*eS*		Sn	01 40 59.7	-16
ARCO	**CERRO ARCO**	**3.21**	**39**	*eP*		**Pn**	**01 40 40.7**	**-0.5**
ASAL	**Salagasta**	**3.46**	**37**	*eP*		**Pn**	**01 40 45.7**	**+1.2**
ASAL				*eS*		Sn	01 41 07.7	-17
RTLS	**Leoncito**	**3.95**	**26**	*eP*		**Pn**	**01 40 52.3**	**+1.0**
RTLS				IAML			01 41 45.7	
	comp=Z,51nm,0.6s							
CO02	**Combarbal**	**4.17**	**4**	*eP*		**Pn**	**01 40 53.4**	**-0.8**
CO02				*eS*		**Sn**	**01 41 40.2**	**-1.5**
CO02				IAML			01 41 44.2	
	comp=Z,138nm,0.1s							
GO06	**Curarrehue**	**4.21**	**182**	*eP*		**Pn**	**01 40 54.6**	**0.0**
GO06				*eS*		Sn	01 41 26.7	-16
ZON	**Zonda**	**4.41**	**31**	*eP*		**Pn**	**01 40 57.2**	**-0.2**
ZON				*eS*		**Sn**	**01 41 50.0**	**+2.4**
CO03	**El Pedregal**	**4.55**	**7**	*eP*		**Pn**	**01 40 59.2**	**-0.2**
CO03				*eS*		**Sn**	**01 41 50.0**	**-1.1**
CO03				*eS*			01 41 50.0	
CO03				IAML			01 41 50.6	
	comp=Z,97nm,0.1s							
DOCA	**Reserva Natura**	**4.80**	**24**	*eP*		**Pn**	**01 41 02.0**	**-0.9**
DOCA				*eS*		**Sn**	**01 41 58.3**	**+0.9**
PLCA	**Paso Flores**	**5.39**	**174**	P		**Pn**	**01 41 10.2**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=340,slow=13,SNR=11							
H03S1	**Juan Fernandez**	**6.43**	**282**	P		**Pn**	**01 41 25.1**	**+0.5**
	baz=89,slow=75,SNR=30							
H03S1				T		T	01 47 31.8	
	baz=106,slow=75,SNR=33							
H03S3	**Juan Fernandez**	**6.44**	**282**	P		**Pn**	**01 41 25.3**	**+0.6**
	baz=89,slow=75,SNR=56							
H03S3				T		T	01 47 17.2	
	baz=106,slow=75,SNR=52							
H03S2	**Juan Fernandez**	**6.45**	**282**	P		**Pn**	**01 41 25.1**	**+0.2**
	baz=89,slow=75,SNR=101							
H03S2				T		T	01 47 33.7	
	baz=106,slow=75,SNR=51							
H03N1	**Juan Fernandez**	**6.56**	**285**	P		**Pn**	**01 41 27.7**	**+1.3**
	baz=132,slow=24,SNR=40							
H03N1				T		T	01 47 46.4	
	baz=107							
H03N3	**Juan Fernandez**	**6.56**	**285**	P		**Pn**	**01 41 28.0**	**+1.6**
	baz=132,slow=24,SNR=22							
H03N3				T		T	01 47 47.4	
	baz=107							
H03N2	**Juan Fernandez**	**6.58**	**285**	P		**Pn**	**01 41 28.2**	**+1.7**
	baz=132,slow=24,SNR=29							
H03N2				T		T	01 47 44.9	
	baz=107							
LPAZ	**La Paz**	**19.22**	**9**	P		**Pn**	**01 44 12.6**	**0.0**
	comp=Z,0.9nm,0.6s,baz=186,slow=8.7,SNR=4.9							
SNAA	**Sanae**	**50.09**	**157**	P		**P**	**01 48 37.7**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=264,slow=5.8,SNR=15							
	comp=Z,1.3nm,0.9s							
TXAR	**Lajitas Array**	**71.22**	**330**	P		**P**	**01 51 03.0**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=157,slow=9.6,SNR=4.8							
	comp=Z,0.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**84.13**	**69**	P		**P**	**01 52 15.0**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=262,slow=5.4,SNR=1.4							
	comp=Z,0.4nm,0.9s							

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*CATAC **31** 01:50:34.5±0.6, 13°.28N×90°.03W, h24km±6km, ML4.0*
*SNET **31** 01:50:36.4±1.2, 13°.34N×89°.96W, h28km±4km, ML3.7*
*GCG **31** 01:50:38.3±0.6, 14°.71N×91°.03W, h127km±5km, MD3.7*
ISC 31 01:50:36.1±1.6, 13°.32N±0°.06×89°.99W±0°.04, h28km±12km, n51, σ0§58/75, 4C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.61**	**19**	*eP*		**Pb**	**01 50 48.4**	**-0.1**
NUBE	**Las Nubes**	**0.61**	**19**	*i* P		**Pb**	**01 50 48.2**	**-0.2**
NUBE				*i* S		**Sn**	**01 50 57.8**	**-0.4**
NUBE				IAML			01 50 58.3	
	comp=Z,4μm,1.0s							
CEVE	**Cerro Verde**	**0.61**	**35**	*eP*		**Pn**	**01 50 48.9**	**-0.4**
CEVE				IAML			01 51 00.4	
	comp=Z,9μm,0.4s							
CEVE	**Cerro Verde**	**0.61**	**35**	*i* P		**Pb**	**01 50 48.6**	**+0.1**
CEVE				*i* S		**Sn**	**01 50 58.6**	**+0.2**
CEVE				IAML			01 51 03.0	
	comp=Z,8μm,1.0s							
JAYA	**Jayaque - finc**	**0.62**	**57**	*eP*		**Pb**	**01 50 48.6**	**+0.1**
JAYA	**Jayaque - finc**	**0.62**	**57**	*i* P		**Pb**	**01 50 48.3**	**-0.2**
JAYA				*i* S		**Sn**	**01 50 58.8**	**+0.5**
JAYA				IAML			01 51 03.5	
	comp=Z,6μm,1.0s							
LALI	**Alcalda de L**	**0.67**	**75**	*eP*		**Pb**	**01 50 49.0**	**-0.3**
LALI				IAML			01 51 02.0	
	comp=Z,334nm,0.2s							
LALI	**Alcalda de L**	**0.67**	**75**	*i* P		**Pb**	**01 50 49.1**	**-0.1**
LALI				*i* S		**Sn**	**01 50 59.3**	**0.0**
LALI				IAML			01 51 03.3	
	comp=Z,350nm,1.0s							
LOAL	**Lomas de Alarc**	**0.70**	**16**	*eP*		**Pb**	**01 50 49.6**	**-0.2**
LOAL	**Lomas de Alarc**	**0.70**	**16**	*i* P		**Pb**	**01 50 49.7**	**-0.2**
LOAL				*i* S		**Sn**	**01 51 00.5**	**+0.2**
LOAL				IAML			01 51 04.1	
	comp=Z,10μm,1.0s							
CEDA	**San Andres**	**0.75**	**50**	*eP*		**Pb**	**01 50 50.0**	**-0.7**
CEDA	**San Andres**	**0.75**	**50**	*i* P		**Pb**	**01 50 50.1**	**-0.5**
CEDA				*i* S		**Sn**	**01 51 02.1**	**+0.7**
CEDA				IAML			01 51 05.0	
	comp=Z,7μm,1.0s							
PMON	**Piamonte**	**0.76**	**59**	*i* P		**Pb**	**01 50 50.6**	**-0.2**
PMON				*i* S		**Sn**	**01 51 02.3**	**+0.5**
PMON				IAML			01 51 07.0	
	comp=Z,3μm,1.0s							
MAGS	**Ministerio de**	**0.77**	**62**	*eP*		**Pb**	**01 50 50.6**	**-0.4**
ITCA	**Escuela Especi**	**0.77**	**63**	*eP*		**Pb**	**01 50 50.5**	**-0.5**
ITCA	**Escuela Especi**	**0.77**	**63**	*i* P		**Pb**	**01 50 50.4**	**-0.7**
ITCA				IAML			01 50 51.0	
	comp=Z,6μm,1.0s							
ITCA				*i* S		**Sb**	**01 51 01.8**	**+0.6**
UNIC	**Universidad Ca**	**0.78**	**33**	*i* P		**Pb**	**01 50 50.6**	**-0.6**
UNIC				IAML			01 50 51.1	
	comp=Z,2μm,1.0s							
UNIC				*i* S		**Sn**	**01 51 02.4**	**+0.1**
BOQS	**Boqueron**	**0.80**	**59**	*eP*		**Pb**	**01 50 51.2**	**-0.4**
BOQS				*eS*		**Sb**	**01 51 02.7**	**+0.5**
SNET	**Serv Nac Est T**	**0.82**	**64**	*i* P		**Pn**	**01 50 51.3**	**-0.6**
SNET				IAML			01 50 52.6	
	comp=Z,6μm,1.0s							
SNET				*i* S		**Sn**	**01 51 04.2**	**+1.0**
UEES	**Universidad Ev**	**0.82**	**61**	*i* P		**Pn**	**01 50 51.5**	**-0.5**
UEES				*i* S		**Sn**	**01 51 04.2**	**+0.8**
UEES				IAML			01 51 06.7	
	comp=Z,1μm,1.0s							
PANCS	**Alcalda de**	**0.83**	**70**	*i* P		**Pn**	**01 50 51.1**	**-1.0**
PANCS				*i* S		**Sb**	**01 51 03.3**	**+0.3**
PANCS				IAML			01 51 06.0	
	comp=Z,5μm,1.0s							
UTEC	**Universidad Te**	**0.85**	**64**	*i* P		**Pn**	**01 50 51.5**	**-0.9**
UTEC				IAML			01 50 52.9	
	comp=Z,2μm,1.0s							
UTEC				*i* S		**Sn**	**01 51 04.0**	**0.0**
LOMA	**Loma Larga**	**0.85**	**68**	*eP*		**Pn**	**01 50 51.7**	**-0.7**
LOMA	**Loma Larga**	**0.85**	**68**	*i* P		**Pn**	**01 50 51.8**	**-0.7**
LOMA				*i* S		**Sn**	**01 51 04.9**	**+0.8**
LOMA				IAML			01 51 08.2	
	comp=Z,2μm,1.0s							
QUEZ	**Alcaldia de Qu**	**0.86**	**54**	*i* P		**Pn**	**01 50 51.6**	**-0.9**
QUEZ				*i* S		**Sn**	**01 51 04.6**	**+0.4**
QUEZ				IAML			01 51 09.4	
	comp=Z,5μm,1.0s							
IGN	**Direccin Gen**	**0.88**	**64**	*i* P		**Pn**	**01 50 52.1**	**-0.7**
IGN				*i* S		**Sn**	**01 51 05.8**	**+1.0**
IGN				IAML			01 51 16.4	
	comp=Z,7μm,1.0s							
UDBS	**Universidad Do**	**0.90**	**64**	*i* P		**Pn**	**01 50 52.3**	**-0.7**
UDBS				IAML			01 50 53.9	
	comp=Z,1μm,1.0s							
UDBS				*i* S		**Sn**	**01 51 05.6**	**+0.5**
AEIL	**Aeropuerto Ilo**	**0.92**	**66**	*eP*		**Pn**	**01 50 53.2**	**-0.1**
AEIL				IAML			01 51 15.5	
	comp=Z,1μm,0.2s							
LFRS	**El Faro**	**0.95**	**71**	*eP*		**Pn**	**01 50 52.8**	**-0.9**
LFU	**La Fuente**	**0.95**	**63**	*eP*		**Pn**	**01 50 53.2**	**-0.5**
LFU				*eS*		**Sn**	**01 51 06.2**	**-0.2**
COEG	**Centro de Oper**	**1.11**	**74**	*eP*		**Pn**	**01 50 55.8**	**-0.2**
COEG				*eS*		**Sb**	**01 51 11.9**	**+0.9**
PCG	**Pacaya**	**1.22**	**330**	⇓*iP*		**Pn**	**01 50 57.8**	**+0.1**
MTO3	**Montecristo**	**1.23**	**29**	*eP*		**Pn**	**01 50 56.8**	**-1.0**
NBG	**Las Nubes**	**1.31**	**344**	⇑*iP*		**Pb**	**01 50 59.5**	**-0.7**
NBG				*eS*		**Sn**	**01 51 15.6**	**+0.1**
LLGN	**La Laguna**	**1.31**	**50**	*eP*		**Pn**	**01 50 58.5**	**-0.2**
FUG	**Fuego 3**	**1.40**	**324**	⇑*iP*		**Pn**	**01 50 59.8**	**-0.2**
COEB	**Comit de Eme**	**1.43**	**83**	*eP*		**Pn**	**01 50 59.9**	**-0.4**
COEB				IAML			01 51 21.1	
	comp=Z,363nm,0.3s							
PACA	**Pacayal**	**1.62**	**85**	*eP*		**Pn**	**01 51 03.4**	**+0.4**
PACA				IAML			01 51 31.7	
	comp=Z,3μm,0.3s							
LCY	**Lacayo**	**1.65**	**86**	*eP*		**Pn**	**01 51 03.5**	**+0.1**
JUCU	**Jucuarın**	**1.69**	**92**	*eP*		**Pn**	**01 51 03.3**	**-0.6**
JUCU				IAML			01 51 31.2	
	comp=Z,530nm,0.3s							
BLLM	**Bellamira**	**1.71**	**86**	*eP*		**Pn**	**01 51 04.0**	**-0.1**
MRL	**Marmol**	**1.77**	**9**	*eP*		**Pn**	**01 51 05.3**	**+0.1**
SULM	**Suchitepequez,**	**1.82**	**303**	⇑*iP*		Pn	01 50 58.1	-7.5
INTP	**Intipuca**	**1.88**	**94**	*eP*		**Pn**	**01 51 06.5**	**0.0**
INTP				IAML			01 51 34.9	
	comp=Z,6μm,1.5s							
LCND	**La Caada**	**2.04**	**90**	*eP*		**Pn**	**01 51 08.6**	**0.0**
STG3	**Santiaguito 3,**	**2.07**	**312**	⇑*iS*		**Pb**	**01 51 13.1**	**0.0**
CNCH	**Conchagua**	**2.10**	**91**	*eP*		**Pn**	**01 51 09.2**	**-0.4**
CNCH				*eS*		**Sn**	**01 51 35.9**	**+1.1**
CRIN	**San Cristobal**	**2.93**	**102**	*i* P		**Pn**	**01 51 19.3**	**-1.6**
CRIN				*i* S		**Sn**	**01 51 56.2**	**+1.0**
CRIN				IAML			01 52 20.6	
	comp=Z,490nm,1.0s							
CNGN	**Cerro Negro**	**3.31**	**104**	*i* P		**Pn**	**01 51 25.8**	**-0.3**
CNGN				*i* S		**Sn**	**01 52 04.6**	**0.0**
CNGN				IAML			01 52 16.0	
	comp=Z,150nm,1.0s							
LIMN	**Finca el Limon**	**3.53**	**94**	*i* P		**Pn**	**01 51 28.8**	**-0.5**
LIMN				IAML			01 51 31.7	
	comp=Z,63nm,1.0s							
BOAB	**BOACO BROADBAN**	**3.30**	**101**	*i* P		**Pn**	**01 51 38.8**	**-0.9**
BOAB				*i* S		**Sn**	**01 52 29.6**	**+0.6**
BOAB				IAML			01 53 30.8	
	comp=Z,61nm,1.0s							

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*IDC **31** 02:06:45.0±0.8, 21°.19S×68°.22W, h116km±9km, mb3.7/3, mbtmp3.9/7, Error ellipse: s-maj=26.4km s-min=9.2km az=108.0*
*GUC **31** 02:06:44.1±0.6, 21°.18S×68°.70W, h139km±5km, ML3.8*
*SJA **31** 02:06:44.8±1.4, 21°.05S×68°.49W, h100km, ML3.9, MW3.9*
*NEIC **31** 02:06:44.9±1.4, 21°.17S±0°.04×68°.63W±0°.08, h135km±7km, mb4.3/15, ML3.8(GUC), Error ellipse: s-maj=10.5km s-min=5.9km az=85.0*
*VAO **31** 02:06:46.5±0.5, 21°.22S×68°.23W, h120km±8km, mb4.1*
ISC 31 02:06:44.1±0.6, 21°.14S±0°.03×68°.53W±0°.05, h130km±6km, n85, σ1§51/110, mb4.1/6, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.93**	**225**			**Pn**	**02 07 07.3**	**+0.8**
PB09					Sn	**Sn**	**02 07 23.6**	**+0.1**
PB09	**IPOC Station P**	**0.93**	**225**	*eP*		**Pn**	**02 07 07.4**	**+0.9**
PB09				*eS*		**Sn**	**02 07 24.4**	**+0.8**
PB09				IAML			02 07 25.6	
	comp=Z,1μm,0.9s							
PB09	**IPOC Station P**	**0.93**	**225**	⇑*eP*		**Pn**	**02 07 07.3**	**+0.8**
PB09				*eS*		**Sn**	**02 07 24.3**	**+0.8**
PB09				IAML			02 07 25.8	
	comp=N,2μm,0.4s							
LVC

PB04				*e*S	Sn	02 07 41.6	-0.9
PB04				IAML		02 07 46.6	
comp=N,846nm,0.2s							
PB15	**IPOC Station P**	**2.23**	**203**		Pn	02 07 21.4	+0.3
PB15	**IPOC Station P**	**2.23**	**203**	*e*P	Pn	02 07 21.9	+0.8
PB15				*e*S	Sn	02 07 50.2	+0.7
PB15				IAML		02 07 54.8	
comp=Z,2μm,0.2s							
PB15	**IPOC Station P**	**2.23**	**203**	*e*P	Pn	02 07 21.7	+0.6
PB15				*e*S	Sn	02 07 49.9	+0.3
PB05	**IPOC Station P**	**2.30**	**222**		Pn	02 07 22.1	+0.2
YJA	**Yavi**	**2.99**	**111**	*e*P	Pn	02 07 33.5	+2.5
AP01	**Chacalluta**	**3.24**	**328**	Pn	Pn	02 07 33.1	-0.8
AP01	**Chacalluta**	**3.24**	**328**	*e*P	Pn	02 07 33.7	-0.2
AP01				*e*S	Sn	02 08 13.8	+1.4
AP01				IAML		02 08 23.4	
comp=Z,323nm,0.2s							
PB18	**Visviri**	**3.65**	**346**		Pn	02 07 41.2	+1.4
PB18	**Visviri**	**3.65**	**346**	*e*P	Pn	02 07 41.6	+1.9
PB18				IAML		02 08 40.2	
comp=E,99nm,0.4s							
PB14	**IPOC Station P**	**3.87**	**206**		Pn	02 07 41.1	-1.3
PB14	**IPOC Station P**	**3.87**	**206**	*e*P	Pn	02 07 42.1	-0.4
GO02	**Mina Guanaco**	**4.12**	**193**		Pn	02 07 45.1	-0.6
GO02	**Mina Guanaco**	**4.12**	**193**	*e*P	Pn	02 07 46.0	+0.3
GO02				*e*S	Sn	02 08 32.8	-0.7
GO02				IAML		02 08 34.8	
comp=Z,138nm,0.5s							
AZAP	**Zapla**	**4.43**	**134**	*e*P	Pn	02 07 51.6	+1.8
SLA	**San Lorenzo**	**4.52**	**142**	*e*P	Pn	02 07 53.7	+2.7
LPAZ	**La Paz**	**4.84**	**5**		Pn	02 07 58.0	+2.3
LPAZ	**La Paz**	**4.84**	**5**	*e*P	Pn	02 07 58.0	+2.3
LPAZ	**La Paz**	**4.84**	**5**	P	Pn	02 07 58.3	+2.5
comp=Z,3.6nm,0.3s,baz=193,slow=7.3,SNR=42							
LPAZ				S	Sn	02 08 52.5	+1.2
comp=Z,5.7nm,0.5s,baz=70,slow=12,SNR=2.0							
LPAZ	**La Paz**	**4.84**	**5**	*e*P	Pn	02 07 59.1	+3.4
ALOL	**LOMAS DE OLMED**	**4.98**	**123**	*e*P	Pn	02 07 57.7	+0.8
AC01	**Pan de Azucar**	**5.33**	**200**	*e*P	Pn	02 08 00.0	-1.6
AC01				*e*S	Sn	02 08 57.4	-4.6
AC01				IAML		02 09 18.9	
comp=Z,60nm,0.7s							
LCO	**Las Campanas**	**8.08**	**194**	Pn	Pn	02 08 35.0	-3.8
BBSD	**Serra de San D**	**8.46**	**64**	*e*P	Pn	02 08 43.8	+0.1
SIV	**San Ignacio**	**8.73**	**55**	P	Pn	02 08 45.5	-2.0
comp=Z,8.1nm,0.4s,baz=245,slow=11,SNR=37							
SIV				S	Sn	02 10 17.5	-6.9
comp=Z,1.0nm,0.5s,baz=137,slow=19,SNR=1.6							
MURT	**Porto Murtinho**	**10.19**	**95**	*e*P	Pn	02 09 05.5	-1.5
PTLB	**Pontes e Lacer**	**10.57**	**59**	*e*P	Pn	02 09 11.5	-0.6
VILB	**Vilhena**	**11.39**	**46**	*e*P	Pn	02 09 22.4	-0.7
CPUP	**Villa Florida**	**11.48**	**119**	P	Pn	02 09 23.2	-1.0
comp=Z,1.7nm,0.6s,baz=311,slow=15,SNR=3.7							
CPUP	**Villa Florida**	**11.48**	**119**	*e*P	Pn	02 09 23.3	-0.9
SALV	**Santo Antonio**	**13.24**	**69**	*e*P	Pn	02 09 47.3	+0.1
CZSB	**Cruzeiro do Su**	**13.93**	**343**	*e*P	P	02 10 01.8	+1.9
GO05	**Huala**	**14.13**	**191**	Pn	Pn	02 09 57.1	-1.4
CRSM	**Crissiumal (Br**	**14.64**	**118**	*e*P	Pn	02 10 05.0	+0.1
PDRB	**Porto dos Gac**	**14.76**	**52**	*e*P	P	02 10 07.7	-1.5
RODS	**Rosario do Sul**	**15.10**	**130**	*e*P	Pn	02 10 10.8	+0.1
ITAB	**Concordia**	**16.14**	**115**	P	P	02 10 25.1	+0.7
ITAB				IAmb	IAmb	02 10 26.1	
comp=Z,14nm,0.8s							
TRQA	**Tornquist**	**17.78**	**163**		P	02 10 42.5	+0.1
TRQA				IAmb	IAmb	02 11 06.2	
comp=Z,10nm,1.1s							
GO06	**Curarrehue**	**18.55**	**187**	Pn	Pn	02 10 51.8	-0.9
SNDB	**Serra Nova Dou**	**18.86**	**64**	*e*P	P	02 10 54.1	-0.2
NPGB	**Novo Progresso**	**18.94**	**44**	*e*P	Pn	02 10 57.0	-0.3
MACA	**Manacapuru-AM**	**19.44**	**24**		P	02 10 58.5	-2.1
MACA				IAmb	IAmb	02 11 03.3	
comp=Z,28nm,0.9s							
MACA	**Manacapuru-AM**	**19.44**	**24**	*e*P	Pn	02 11 02.3	-0.8
PLCA	**Paso Flores**	**19.60**	**185**	P	P	02 11 03.4	+1.1
PLCA	**Paso Flores**	**19.60**	**185**	P	Pn	02 11 04.0	-0.9
comp=Z,2.4nm,0.8s,baz=10,slow=14,SNR=6.7							
VAO	**Valinhos**	**20.07**	**99**	P	P	02 11 07.1	-0.4
VAO				IAmb	IAmb	02 11 14.1	
comp=Z,23nm,1.4s							
MAL2	**Monte Alegre,**	**23.60**	**38**	P	P	02 11 42.9	-0.5
MAL2				IAmb	IAmb	02 12 03.1	
comp=Z,18nm,0.9s							
BOAV	**Boa Vista**	**24.67**	**19**	P	P	02 11 53.1	+0.1
BOAV				IAmb	IAmb	02 11 54.9	
comp=Z,3.8nm,0.6s							
BAUV	**El Baul**	**29.90**	**1**	P	P	02 12 39.6	-0.2
BAUV				IAmb	IAmb	02 12 44.2	
comp=Z,24nm,1.5s							
OBIP	**Obispado Ponce**	**38.99**	**3**	P	P	02 13 56.9	-1.0
CELP	**Cerrillos**	**39.02**	**3**	P	P	02 13 58.2	0.0
SNAA	**Sanae**	**62.50**	**161**	P	P	02 16 54.0	+0.5
SNAA				IAmb	IAmb	02 17 29.6	
comp=Z,5.5nm,1.4s							
SNAA	**Sanae**	**62.50**	**161**	P	P	02 16 55.2	+1.6
comp=Z,0.7nm,0.7s,baz=256,slow=9.0,SNR=8.2							
comp=Z,0.7nm,0.7s							
DBIC	**Dimbokro**	**68.30**	**73**	P	P	02 17 31.0	-0.6
QSPA	**South Pole Qui**	**69.05**	**180**	P	P	02 17 38.0	+2.4
QSPA	**South Pole Qui**	**69.05**	**180**	P	P	02 17 38.4	+2.7
comp=Z,0.5nm,0.5s,baz=176,slow=3.2,SNR=2.0							
comp=Z,0.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**76.90**	**70**	P	P	02 18 22.9	+0.3
TORD				IAmb	IAmb	02 18 24.3	
comp=Z,2.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.90**	**70**	P	P	02 18 23.1	+0.5
comp=Z,2.9nm,0.6s,baz=250,slow=3.7,SNR=35							
comp=Z,2.9nm,0.6s							
WRA	**Warramunga Arr**	**133.44**	**210**	PKP	PKiKP	02 25 47.9	+0.8
comp=Z,0.6nm,1.1s,baz=174,slow=1.5,SNR=2.1							
ZALV	**Zalesovo Beam**	**141.48**	**25**	PKP	PKiKP	02 26 01.2	-1.1
comp=Z,0.8nm,0.5s,baz=318,slow=3.9,SNR=2.5							
MKAR	**Makanchi Array**	**145.14**	**36**	PKPbc	PKPdf	02 26 08.0	+1.7
comp=Z,1.9nm,0.6s,baz=323,slow=3.3,SNR=22							

*IDC **31** 02:09:15.5±1.9, 7°.10S×151°.19E, h0km, mb3.6/4, mbtmp3.7/5, ML1.5/1, MS2.9/1, Error ellipse: s-maj=86.6km s-min=25.2km az=128.0*

ISC 31 02:09:22.1±1.9, 7°.0S±0°.4×150°.9E±0°.4, h40km, n6, σ0s51/7, mb3.6/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.42**	**237**	Pn	Pn	02 10 27.4	+0.6
1.5nm,0.3s,baz=94,slow=13,SNR=1.4							
PMG				Sn	Sn	02 11 16.7	-0.3
3.1nm,0.3s,baz=274,slow=12,SNR=2.2							
PMG				LR	LR	02 11 49.6	
comp=Z,126nm,19.5s,baz=240,slow=34							
9.0nm,0.3s							
WRA	**Warramunga Arr**	**20.60**	**230**	P	P	02 13 57.3	-0.7
1.9nm,0.7s,baz=57,slow=11,SNR=23							
1.9nm,0.7s							
ASAR	**Alice Springs**	**23.28**	**223**	P	P	02 14 26.4	0.0
0.6nm,0.4s,baz=58,slow=9.2,SNR=6.6							
0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**84.37**	**322**	P	P	02 21 50.1	0.0
0.4nm,0.7s,baz=102,slow=4.3,SNR=3.1							
0.4nm,0.7s							
ILAR	**Eielson Array**	**84.89**	**22**	P	P	02 21 52.5	0.0
0.7nm,0.7s,baz=246,slow=5.5,SNR=9.4							
0.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.11**	**284**	PKPbc	PKPbc	02 29 07.0	-0.1
0.6nm,0.6s,baz=67,slow=5.0,SNR=8.5							

*IDC **31** 02:34:43.4±0.8, 56°.76S×140°.78W, h0km, mb4.2/8, mbtmp4.2/8, MS3.9/21, Error ellipse: s-maj=26.8km s-min=21.6km az=178.0*

*NEIC **31** 02:34:45.0±1.2, 56°.9S±0°.2×140°.9W±0°.3, h10km±2km, mb4.6/7, Error ellipse: s-maj=30.1km s-min=21.6km az=35.0*

*GCMT **31** 02:34:49.0±0.4, 57°.20S±0°.02×140°.77W±0°.04, h31km±1km, MW5.0/75, Moment Tensor Solution. s18,c18; s75,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.23±.27; Mθθ3.30±.23; Mφφ-2.07±.18; Mrθ0.19±.26; Mrφ2.21±.14; Mθφ-0.38±.23; Best double couple: M0=3.52800×10^16 NP1:φs294.00000°, δ81.00000°, λ-10.00000°. NP2: φs26.00000°, δ80.00000°, λ-171.00000°. Principal axes: T 4.0930, Plg1.0000°, Azm340.0000°; N -1.1300, Plg76.0000°, Azm72.0000°; P -2.9630, Plg14.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s.*

nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 31 02:34:45.1±0.7, 56°.8S±0°.1×140°.9W±0°.1, h10km, n65, σ1s96/35, mb4.6/14, MS4.0/21, 5D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**27.48**	**201**	P	P	02 40 30.1	-0.6
VNDA	**Vanda**	**28.39**	**203**	P	P	02 40 38.4	-0.6
VNDA	**Vanda**	**28.39**	**203**	P	P	02 40 38.8	-0.2
1.0nm,1.1s,baz=67,slow=7.7,SNR=2.4							
1.0nm,1.1s							
MSWZ	**Moikau Station**	**31.95**	**280**	P	P	02 41 09.9	-0.9
RPZ	**Rata Peaks**	**32.70**	**273**	LR	LR	02 52 04.2	
comp=Z,220nm,21.8s,baz=145,slow=32							
URZ	**Urewera**	**33.21**	**286**	LR	LR	02 51 40.2	
comp=Z,175nm,19.7s,baz=212,slow=31							
QSPA	**South Pole Qui**	**33.36**	**180**	P	P	02 41 24.4	+1.3
QSPA				IAmb	IAmb	02 41 25.5	
comp=Z,20nm,1.1s							
QSPA	**South Pole Qui**	**33.36**	**180**	P	P	02 41 24.4	+1.3
comp=Z,12nm,1.0s,baz=71,slow=5.7,SNR=22							
QSPA				LR	LR	02 53 05.4	
comp=Z,277nm,18.1s,baz=72,slow=33							
comp=Z,12nm,1.0s							
PMSA	**Palmer Station**	**36.07**	**135**	P	P	02 41 45.3	-0.9
PMSA				IAmb	IAmb	02 41 46.6	
comp=Z,8.0nm,1.1s							
PMSA	**Palmer Station**	**36.07**	**135**	LR	LR	02 51 59.2	
comp=Z,328nm,19.4s,baz=258,slow=29							
RPN	**Rapa Nui**	**37.18**	**50**	LR	LR	02 54 14.1	
comp=Z,46nm,18.2s,baz=232,slow=32							
RAR	**Rarotonga**	**38.19**	**331**	LR	LR	02 52 49.8	
comp=Z,225nm,19.8s,baz=156,slow=28							
PPT	**Papeete**	**39.71**	**347**	LR	LR	02 54 31.5	
comp=Z,140nm,19.5s,baz=168,slow=30							
COYC	**Coyhaique**	**42.75**	**105**	P	P	02 42 41.7	-0.5
NIUE	**Niue**	**43.44**	**318**	P	P	02 42 48.1	+0.1
PLCA	**Paso Flores**	**46.87**	**101**	P	P	02 43 14.4	-0.7
comp=Z,6.1nm,1.1s,baz=198,slow=9.2,SNR=3.9							
PLCA				LR	LR	02 57 23.2	
comp=Z,171nm,19.7s,baz=212,slow=29							
comp=Z,6.1nm,1.1s							
H03S2	**Juan Fernandez**	**47.29**	**88**	T	T	03 34 02.3	
baz=219,slow=74,SNR=121							
H03S1	**Juan Fernandez**	**47.29**	**88**	T	T	03 34 03.7	
baz=219,slow=74,SNR=127							
H03S3	**Juan Fernandez**	**47.31**	**88**	T	T	03 34 02.8	
baz=219,slow=74,SNR=141							
H03N3	**Juan Fernandez**	**47.58**	**88**	T	T	03 34 20.2	
baz=222,slow=72,SNR=98							
H03N2	**Juan Fernandez**	**47.58**	**88**	T	T	03 34 15.4	
baz=222,slow=72,SNR=250							
H03N1	**Juan Fernandez**	**47.59**	**88**	T	T	03 34 21.1	
baz=222,slow=72,SNR=71							
VNA3	**Neumayer Olymp**	**47.71**	**161**	⇓P	P	02 43 20.0	-1.3
comp=Z,5.6nm,0.8s							
VNA2	**Neumayer--Watz**	**48.38**	**161**	⇓P	P	02 43 25.7	-0.8
comp=Z,8.6nm,0.8s,baz=217,slow=8.8							
VNA1	**Neumayer--Stat**	**48.46**	**161**	⇓P	P	02 43 26.3	-0.7
comp=Z,9.8nm,0.9s							
SNAA	**Sanae**	**48.49**	**164**	P	P	02 43 26.4	-1.0
SNAA				IAmb	IAmb	02 43 26.7	
comp=Z,4.3nm,0.6s							
SNAA	**Sanae**	**48.49**	**164**	⇓P	P	02 43 26.5	-0.8
comp=Z,68nm,0.4s							
SNAA	**Sanae**	**48.49**	**164**	P	P	02 43 26.2	-1.1
comp=Z,3.0nm,0.5s,baz=213,slow=12,SNR=100							
SNAA				LR	LR	03 03 13.0	
comp=Z,86nm,18.4s,baz=241,slow=35							
comp=Z,3.0nm,0.5s							
TROLL	**Troll, Antarti**	**48.97**	**166**	⇓P	P	02 43 31.0	-0.1
comp=Z,171nm,0.6s							
BI02	**San Fabin de**	**49.40**	**97**	P	P	02 43 35.3	+0.5
BI02				IAmb	IAmb	02 43 38.9	
comp=Z,7.0nm,1.1s							
BO02	**Sierra Bellavi**	**51.05**	**96**	P	P	02 43 47.4	+0.1
BO02				IAmb	IAmb	02 43 52.5	
comp=Z,7.9nm,1.1s							
TRQA	**Tornquist**	**53.39**	**105**	P	P	02 44 03.3	-1.3
MAW	**Mawson**	**54.67**	**191**	P	P	02 44 14.2	+0.8
comp=Z,2.0nm,0.6s,baz=229,slow=17,SNR=5.0							
MAW				LR	LR	03 04 36.4	
comp=Z,91nm,18.6s,baz=160,slow=33							
comp=Z,2.0nm,0.6s							
STKA	**Stephens Creek**	**57.33**	**261**	LR	LR	03 05 53.7	
comp=Z,114nm,18.3s,baz=196,slow=33							
NNA	**Nana**	**65.91**	**74**	LR	LR	03 06 38.4	
comp=Z,144nm,20.4s,baz=213,slow=29							
LPAZ	**La Paz**	**67.07**	**85**	P	P	02 45 39.2	0.0
comp=Z,2.4nm,0.8s,baz=196,slow=5.2,SNR=9.7							
LPAZ				LR	LR	03 07 10.8	
comp=Z,123nm,20.6s,baz=216,slow=29							
comp=Z,2.4nm,0.8s							
ASAR	**Alice Springs**	**67.97**	**260**	P	P	02 45 44.8	+0.6
comp=Z,1.6nm,0.9s,baz=144,slow=6.5,SNR=9.1							
ASAR				LR	LR	03 11 25.6	
comp=Z,102nm,19.8s,baz=294,slow=32							
comp=Z,1.6nm,0.9s							
H01W1	**Cape Leeuwin H**	**68.99**	**238**	T	T	04 01 52.8	
baz=144,slow=76,SNR=11							
H01W2	**Cape Leeuwin H**	**69.00**	**238**	T	T	04 01 51.2	
baz=144,slow=76,SNR=13							
H01W3	**Cape Leeuwin H**	**69.01**	**238**	T	T	04 01 46.3	
baz=144,slow=76,SNR=38							
ATAH	**Atahualpa**	**69.18**	**70**	LR	LR	03 09 11.7	
comp=Z,75nm,18.3s,baz=227,slow=30							
WRA	**Warramunga Arr**	**70.73**	**263**	P	P	02 46 01.1	-0.1
comp=Z,1.8nm,1.0s,baz=148,slow=5.5,SNR=8.0							
comp=Z,1.8nm,1.0s							
H06S1	**SOCORRO T**	**79.31**	**29**	T	T	04 14 20.5	
SNR=10.0							
JTS	**Las Juntas de**	**81.06**	**56**	LR	LR	03 14 29.7	
comp=Z,57nm,19.2s,baz=187,slow=30							
SUR	**Sutherland**	**89.82**	**165**	LR	LR	03 22 33.8	
comp=Z,46nm,19.6s,baz=150,slow=32							
PFO	**Pinyon Flats O**	**92.40**	**20**	LR	LR	03 20 03.6	
comp=Z,72nm,19.3s,baz=222,slow=30							
BOSA	**Boshof**	**94.12**	**168**	LR	LR	03 26 12.6	
comp=Z,55nm,20.3s,baz=195,slow=33							
NVAR	**Mina Array Bea**	**96.77**	**18**	LR	LR	03 23 10.9	
comp=Z,55nm,20.4s,baz=162,slow=30							
YBH	**Yreka Blue Hor**	**99.35**	**14**	LR	LR	03 23 10.2	
comp=Z,62nm,21.2s,baz=178,slow=29							
H10S3	**ASCENSION HYDR**	**101.06**	**126**	T	T	04 41 32.0	
baz=207,slow=74,SNR=17							
H10S2	**ASCENSION HYDR**	**101.06**	**126**	T	T	04 41 42.1	
baz=13,slow=74,SNR=13							
H10N3	**ASCENSION HYDR**	**102.12**	**125**	T	T	04 42 51.6	
baz=206,slow=75,SNR=29							
H10N1	**ASCENSION HYDR**	**102.13**	**125**	T	T	04 42 56.3	
baz=206,slow=75,SNR=31							
H10N2	**ASCENSION HYDR**	**102.14**	**125**	T	T	04 42 57.8	
baz=206,slow=75,SNR=34							
ILAR	**Eielson Array**	**121.33**	**357**	PKP	PKiKP	02 53 37.8	+0.9
comp=Z,0.7nm,0.8s,baz=202,slow=1.5,SNR=4.0							
ESDC	**Sonseca Array**	**147.25**	**103**	PKPbc	PKPdf	02 54 26.2	+0.6
comp=Z,0.2nm,0.3s,baz=256,slow=2.4,SNR=4.4							
MKAR	**Makanchi Array**	**151.95**	**268**	PKPbc	PKPbc	02 54 39.0	-0.4
comp=Z,0.7nm,0.7s,baz=132,slow=4.1,SNR=4.4							
FETA	**Feichten**	**160.07**	**107**	*i* PKP	PKPab	02 55 23.8	+0.1
comp=Z,0.8nm,0.6s							
SQTA	**Sankt Quirin**	**160.44**	**107**	*e*PKP	PKPab	02 55 25.8	+0.5
comp=Z,0.7nm,0.3s							
WTTA	**Wattenberg**	**160.70**	**108**	*i* PKP	PKPab	02 55 25.7	-0.7
comp=Z,0.4nm,0.2s							
ABTA	**Abfaltersbach**	**160.82**	**110**	*i* PKP	PKPab	02 55 27.1	+0.3
comp=Z,0.7nm,0.4s							
LESA	**Schwarzleotal**	**161.34**	**109**	*i* PKP	PKPab	02 55 29.2	0.0
comp=Z,0.6nm,0.4s							
OBKA	**Obir**	**161.69**	**114**	*i* PKP	PKPab	02 55 33.8	+3.0
comp=Z,2.5nm,1.1s							
BVAR	**Borovoye Array**	**161.74**	**271**	PKPab	PKPab	02 55 29.9	-0.7
comp=Z,0.8nm,0.6s,baz=98,slow=2.9,SNR=4.7							
ARSA	**Arzberg**	**162.69**	**113**	*e*PKP	PKPab	02 55 38.0	+3.0
comp=Z,3.4nm,1.3s							

*IDC **31** 02:59:36.4±1.0, 19°.28N×65°.13W, h0km, mb3.6/8, mbtmp3.8/11, ML3.5/3, MS3.3/7, Error ellipse: s-maj=30.1km s-min=17.6km az=74.0*

*SDD **31** 02:59:37.0±2.3, 19°.64N×65°.24W, h18km±614km, MD4.2, ML3.8, MW3.8*

*NEIC **31** 02:59:39.0±1.0, 19°.06N±0°.06×64°.80W±0°.04, h21km±12km, ML3.9/30, Md3.6/20(RSPR), Error ellipse: s-maj=10.5km s-min=1.4km az=149.0*

*RSPR **31** 02:59:41.2, 19°.18N×64°.87W, h56km±13km, MD3.6/20*

ISC 31 02:59:38.8±0.7, 19°.12N±0°.06×64°.88W±0°.03, h25km, n87, σ2s10/92, mb3.6/8, MS3.1/5, 17C-10D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.34**	**224**	⇓*e*P	Pb	03 00 02.6	-0.6
HUMP	**Col San Antoni**	**1.34**	**224**	*e*S	Sb	03 00 20.8	+0.8
HUMP	**Col San Antoni**	**1.34**	**224**		Pb	03 00 02.6	-0.6
HUMP	**Col San Antoni**	**1.34**	**224**		Sb	03 00 20.3	+0.4
HUMP				IAML		03 00 23.9	
comp=E,2μm,0.2s							
HUMP				IAML		03 00 25.6	
comp=N,2μm,0.2s							
GCPR	**Guaynabo City**	**1.40**	**235**	⇓*e*P	Pb	03 00 03.7	-0.5
GCPR	**Guaynabo City**	**1.40**	**235**	*e*S	Sb	03 00 21.7	+0.1
GCPR	**Guaynabo City**	**1.40**	**235**		Pb	03 00 02.9	-1.3
GCPR	**Guaynabo City**	**1.40**	**235**		Sb	03 00 21.7	+0.1
IGPR	**InterUniversit**	**1.64**	**226**	⇓*e*P	Pb	03 00 07.0	-1.3
IGPR	**InterUniversit**	**1.64**	**226**	*e*S	Sb	03 00 28.4	0.0
IGPR	**InterUniversit**	**1.64**	**226**		Pb	03 00 07.0	-1.3
IGPR					Sb	03 00 28.4	0.0
IGPR	**InterUniversit**	**1.64**	**226**	IAML		03 00 34.1	
comp=E,2μm,0.3s							
IGPR				IAML		03 00 35.8	
comp=N,2μm,0.3s							
EMPR	**Esperanza - Ma**	**1.69**	**248**	⇑*e*P	Pb	03 00 08.2	-0.9
EMPR	**Esperanza - Ma**	**1.69**	**248**	*e*S	Sb	03 00 29.1	-0.8
EMPR	**Esperanza - Ma**	**1.69**	**248**		Pb	03 00 07.8	-1.4
EMPR	**Esperanza - Ma**	**1.69**	**248**		Sb	03 00 29.1	-0.8
CELP	**Cerrillos**	**1.92**	**237**	⇑*e*P	Pb	03 00 11.1	-1.9
CELP	**Cerrillos**	**1.92**	**237**	*e*S	Sb	03 00 35.7	-0.9
CELP	**Cerrillos**	**1.92**	**237**		Pb	03 00 11.0	-2.1
CELP				IAML		03 00 39.6	
comp=N,641nm,1.2s							
CELP	**Cerrillos**	**1.92**	**237**		Sb	03 00 35.7	-0.9
CELP	**Cerrillos**	**1.92**	**237**	⇑*e*Pg	Pb	03 00 11.2	-1.9
CELP				IAML		03 00 44.5	
comp=N,554nm,0.6s							
AOPR	**Arecibo Observ**	**1.94**	**247**	⇓*e*P	Pb	03 00 11.7	-1.7
AOPR	**Arecibo Observ**	**1.94**	**247**	*e*S	Sb	03 00 38.8	+1.6
AOPR	**Arecibo Observ**	**1.94**	**247**		Pb	03 00 11.0	-2.3
AOPR				IAML		03 00 45.6	
comp=N,1μm,0.7s							
AOPR	**Arecibo Observ**	**1.94**	**247**		Sb	03 00 38.8	+1.6
AOPR	**Arecibo Observ**	**1.94**	**247**	⇑*e*Pg	Pb	03 00 11.4	-1.9
AOPR				⇑*e*Sg	Sb	03 00 35.3	-1.8
AOPR				IAML		03 00 45.5	
comp=N,1μm,0.6s							
AOPR				IAML		03 00 50.0	
comp=E,3μm,0.3s							
AOPR	**Arecibo Observ**	**1.94**	**247**	*e*P	Pb	03 00 11.1	-2.3
UUPR	**Utuado, UPR, P**	**1.95**	**244**	⇑*e*P	Pb	03 00 11.1	-2.5
UUPR	**Utuado, UPR, P**	**1.95**	**244**	*e*S	Sb	03 00 35.5	-1.9
UUPR	**Utuado, UPR, P**	**1.95**	**244**		Pb	03 00 10.9	-2.7
UUPR	**Utuado, UPR, P**	**1.95**	**244**		Sb	03 00 35.5	-1.9
OBIP	**Obispado Ponce**	**1.96**	**237**	⇑*e*P	Pb	03 00 11.6	-2.1
OBIP	**Obispado Ponce**	**1.96**	**237**	*e*S	Sb	03 00 35.9	-1.9
OBIP	**Obispado Ponce**	**1.96**	**237**		Pb	03 00 11.2	-2.5
OBIP				IAML		03 00 40.2	
comp=E,1μm,0.7s							
OBIP				IAML		03 00 42.1	
comp=N,704nm,0.8s							
OBIP	**Obispado Ponce**	**1.96**	**237**		Sb	03 00 35.9	-1.9
SMRT	**St. Maarten**	**2.02**	**122**		Pn	03 00 10.3	-0.9
SMRT				IAML		03 00 43.3	
comp=E,930nm,0.4s							
SABA	**Saba**	**2.15**	**134**	*e*S	Sb	03 00 41.2	-2.2
AGPR	**Aguadilla, PR**	**2.21**	**253**	⇑*e*P	Pb	03 00 15.2	-2.9
AGPR	**Aguadilla, PR**	**2.21**	**253**	*e*S	Sb	03 00 42.2	-2.9
AGPR	**Aguadilla, PR**	**2.21**	**253**		Pn	03 00 14.8	+0.9
AGPR				IAML		03 00 52.5	
comp=N,762nm,0.6s							
AGPR				IAML		03 00 58.0	
comp=E,469nm,0.8s							
AGPR	**Aguadilla, PR**	**2.21**	**253**		Sb	03 00 42.2	-2.9
AGPR	**Aguadilla, PR**	**2.21**	**253**	⇑*e*Pg	Pb	03 00 15.2	-2.9
AGPR				⇓*e*Sg	Sn	03 00 40.8	+0.3
AGPR				IAML		03 00 45.6	
comp=E,429nm,0.3s							
AGPR				IAML		03 00 52.2	
comp=N,698nm,0.7s							
GBPR	**Guanica, Bosqu**	**2.21**	**239**	⇓*e

comp=N,31nm,19.0s,baz=110,slow=37
comp=N,0.4nm,0.5s
TXAR Lajitas Array 36.66 294 P **P 03 06 44.2 +0.5**
comp=N,0.3nm,0.7s,baz=115,slow=10,SNR=3.4
comp=N,0.3nm,0.7s
PDAR Pinedale Array 44.33 312 P **P 03 07 47.1 0.0**
comp=N,2.7nm,1.0s,baz=101,slow=9.3,SNR=12
PDAR LR LR 03 27 04.8
comp=N,31nm,18.9s,baz=195,slow=37
comp=N,2.7nm,1.0s
CPUP Villa Florida 45.77 171 P **P 03 08 01.2 +2.8**
comp=N,1.5nm,0.7s,baz=357,slow=7.4,SNR=4.5
CPUP LR LR 03 30 57.0
comp=N,82nm,18.8s,baz=215,slow=41
comp=N,1.5nm,0.7s
NVAR Mina Array Bea 49.91 304 P **P 03 08 30.0 -0.7**
comp=N,0.3nm,0.6s,baz=87,slow=9.1,SNR=3.1
comp=N,0.3nm,0.6s
YKA Yellowknife Ar 55.10 334 P **P 03 09 06.9 -1.6**
comp=N,0.4nm,0.6s,baz=116,slow=8.3,SNR=2.7
comp=N,0.4nm,0.6s
TORD Torodi Ar. Bea 63.91 84 P **P 03 10 13.9 +3.8**
comp=N,0.6nm,0.9s,baz=288,slow=8.1,SNR=2.2
comp=N,0.6nm,0.9s
ILAR Eielson Array 69.48 333 P **P 03 10 43.2 -1.6**
comp=N,0.4nm,0.9s,baz=96,slow=3.9,SNR=5.3
comp=N,0.4nm,0.9s

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*KRNET **31** 03:01:35.7±0.1, 40.°13N×71.°20E, h10km, mb2.4*
*SOME **31** 03:01:36.3, 40.°32N×71.°17E, h0km*
*ISU **31** 03:01:36.0, 40.°16N×71.°19E, h12km*
*NNC **31** 03:01:47.8±2.9, 40.°91N×71.°28E, h0km, mb3.0, mpv2.7,*
Error ellipse: s-maj=27.0km s-min=10.1km az=5.0
ISC 31 03:01:36.1±1.0, **40.°14N**±0.°03×**71.°21E**±0.°02, **h7**km±10km,
n21, σ1°**47**/39, **21C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMI	**Chimion**	**0.28**	**61**	P	**Pg**	**03 01 42.1**	**+0.6**
CHMI				S	**Sg**	**03 01 46.6**	**+1.4**
BTK	**Batken**	**0.31**	**255**	⇑*i*P	**Pg**	**03 01 41.5**	**-0.7**
	baz=57						
BTK				⇑*i*S	**Sg**	**03 01 46.0**	**-0.2**
	baz=57						
MINT	**Mingtut**	**0.37**	**332**	P	**Pg**	**03 01 43.4**	**0.0**
MINT				S	**Sg**	**03 01 48.9**	**+0.6**
FRG	**Fergana**	**0.50**	**62**	P	**Pg**	**03 01 46.3**	**+0.5**
FRG				S	**Sb**	**03 01 54.0**	**-0.8**
DRK	**Karamyk**	**0.80**	**145**	⇑*e*P	**Pg**	**03 01 51.3**	**-0.1**
	baz=44						
DRK				⇑*e*S	**Sg**	**03 02 02.0**	**+0.2**
	baz=44						
ANR	**Andizhan**	**1.07**	**55**	P	**Pb**	**03 01 56.7**	**-0.3**
ANR				S	**Sn**	**03 02 12.1**	**-0.7**
GAR	**Garm**	**1.33**	**212**	⇑*i*P	**Pb**	**03 02 01.0**	**-0.4**
	baz=11						
GAR				⇑*i*S	**Sg**	**03 02 19.2**	**+0.5**
	baz=11						
TRKS	**Terek-Say**	**1.39**	**358**	⇑*i*P	**Pn**	**03 02 01.2**	**-0.9**
	baz=59						
TRKS				⇑*i*S	**Sb**	**03 02 19.7**	**-0.9**
	baz=59						
SFK	**Sufi-Kurgan**	**1.77**	**93**	⇑*e*P	**Pb**	**03 02 08.7**	**-0.2**
	baz=93						
SFK				⇑*e*S	**Sg**	**03 02 33.0**	**+0.2**
	baz=93						
NZBK	**Nazarbek**	**1.92**	**305**	P	**Pb**	**03 02 11.6**	**+0.1**
NZBK				S	**Sg**	**03 02 37.9**	**0.0**
CHGR	**Chuyangaron**	**2.17**	**228**	⇑*i*P	**Pb**	**03 02 15.2**	**-0.5**
	baz=28						
CHGR				⇑*i*S	**Sb**	**03 02 43.7**	**+0.8**
	baz=28						
IUG	**luzhnay**	**2.20**	**337**	*e*P	**Pb**	**03 02 15.0**	**-1.2**
	21nm,0.3s						
IUG				*e*S	**Sb**	**03 02 42.5**	**-1.2**
	45nm,0.1s						
IUG	**luzhnay**	**2.20**	**337**	Pg	**Pb**	**03 02 15.0**	**-1.2**
	21nm,0.3s						
IUG				Lg	Lg	03 02 42.5	
	36nm,0.4s						
MNAS	**Manas**	**2.54**	**22**	⇓*i*P	**Pb**	**03 02 20.5**	**-1.7**
	baz=22						
MNAS				⇓*i*S	**Sb**	**03 02 53.4**	**-0.3**
	baz=22						
AML	**Almayashu**	**2.74**	**42**	⇑*e*P	**Pb**	**03 02 23.7**	**-1.9**
	baz=42						
AML				⇑*i*S	**Sb**	**03 02 58.4**	**-1.2**
	baz=42						
ARLS	**Aral**	**2.92**	**53**	⇑*e*P	**Pb**	**03 02 26.0**	**-2.6**
	baz=53						
ARLS				⇑*i*S	**Sb**	**03 03 02.6**	**-2.0**
	baz=53						
KK31	**Karatay Array**	**3.01**	**350**	⇑Pn	**Pn**	**03 02 26.4**	**+2.2**
	0.1nm,0.2s,baz=166,slow=12,SNR=26						
KK31				⇑Pg	**Pb**	**03 02 29.2**	**-0.8**
	0.9nm,0.3s,baz=162,slow=14,SNR=11						
KK31				⇑Lg	Lg	03 03 01.0	
	6.7nm,0.5s,baz=161,slow=27						
MRKS	**Merke**	**3.02**	**30**	*e*P	**Pb**	**03 02 30.7**	**+0.6**
	1.3nm,0.1s						
MRKS				*e*S	**Sb**	**03 03 09.3**	**+2.1**
	20nm,0.3s						
MRKS	**Merke**	**3.02**	**30**	Pg	**Pb**	**03 02 30.7**	**+0.6**
	2.7nm,0.4s						
MRKS				Lg	Lg	03 03 09.3	
	20nm,0.3s						
SGDS	**Sogindy**	**4.19**	**37**	Pg	**Pb**	**03 02 52.5**	**+2.4**
	0.9nm,0.3s						
SGDS				Lg	Lg	03 03 46.5	
	3.7nm,0.5s						
TKM2	**Tokmak 2**	**4.31**	**48**	⇑Pn	**Pb**	**03 02 47.5**	**-4.8**
	2.5nm,0.6s						
TKM2				⇑Sn	**Sn**	**03 03 35.4**	**+2.4**
	2.6nm,0.5s						

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*NEIC **31** 03:05:28.3±1.0, 19.°1N±0.°04×64.°86W±0.°09, h35km±2km,*
ML2.7/22, Md3.2/8(RSPR), Error ellipse: s-maj=14.9km
s-min=6.3km az=72.0
*RSPR **31** 03:05:29.7, 19.°13N×64.°87W, h58km±13km, MD3.1/8*
ISC 31 03:05:24.8±1.9, **19.°2N**±0.°1×**64.°83W**±0.°05, **h25**km, **n37**,
σ1°**25**/42, **3C-8D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.44**	**222**	⇓*e*P	**Pb**	**03 05 51.2**	**+0.2**
HUMP	**Col San Antoni**	**1.44**	**222**	*e*S	**Sb**	**03 06 08.9**	**-0.1**
HUMP	**Col San Antoni**	**1.44**	**222**		**Pb**	**03 05 50.8**	**-0.3**
HUMP				IAML		03 06 10.9	
	comp=N,82nm,0.4s						
HUMP				IAML		03 06 11.8	
	comp=E,88nm,0.3s						
HUMP	**Col San Antoni**	**1.44**	**222**		**Sb**	**03 06 08.9**	**-0.1**
GCPR	**Guaynabo City**	**1.49**	**233**	⇓*e*P	**Pb**	**03 05 51.9**	**-0.1**
GCPR	**Guaynabo City**	**1.49**	**233**	*e*S	**Sb**	**03 06 09.6**	**-0.8**
GCPR	**Guaynabo City**	**1.49**	**233**		**Pb**	**03 05 51.8**	**-0.1**
GCPR					**Sn**	**03 06 09.5**	**+0.7**
IGPR	**InterUniversit**	**1.74**	**224**	⇓*e*P	**Pb**	**03 05 55.5**	**-0.6**
IGPR	**InterUniversit**	**1.74**	**224**	*e*S	**Sb**	**03 06 16.2**	**-1.3**
IGPR	**InterUniversit**	**1.74**	**224**		**Pb**	**03 05 55.2**	**-0.9**
IGPR				IAML		03 06 20.9	
	comp=E,123nm,0.3s						
IGPR				IAML		03 06 22.5	
	comp=N,96nm,0.2s						
IGPR	**InterUniversit**	**1.74**	**224**		**Sb**	**03 06 16.2**	**-1.3**
EMPR	**Esperanza - Ma**	**1.77**	**246**	⇓*e*P	**Pb**	**03 05 56.5**	**-0.2**
EMPR	**Esperanza - Ma**	**1.77**	**246**	*e*S	**Sb**	**03 06 17.2**	**-1.3**
EMPR	**Esperanza - Ma**	**1.77**	**246**		**Pb**	**03 05 56.1**	**-0.6**
EMPR					**Sn**	**03 06 16.9**	**+1.2**
EMPR				IAML		03 06 49.0	
	comp=E,140nm,2.0s						
CELP	**Cerrillos**	**2.01**	**236**	⇓*e*P	**Pb**	**03 05 59.2**	**-1.6**
CELP	**Cerrillos**	**2.01**	**236**	*e*S	**Sb**	**03 06 24.4**	**-1.0**
CELP	**Cerrillos**	**2.01**	**236**		**Pb**	**03 05 59.2**	**-1.6**
CELP					**Sn**	**03 06 22.1**	**+0.5**
AOPR	**Arecibo Observ**	**2.02**	**245**	⇑*e*P	**Pb**	**03 05 59.7**	**-1.2**
AOPR	**Arecibo Observ**	**2.02**	**245**	*e*S	**Sb**	**03 06 24.1**	**-1.5**
AOPR	**Arecibo Observ**	**2.02**	**245**		**Pb**	**03 05 59.6**	**-1.2**
AOPR					**Sn**	**03 06 23.1**	**+1.2**
AOPR				IAML		03 06 42.6	
	comp=N,67nm,0.3s						
AOPR	**Arecibo Observ**	**2.02**	**245**	*e*P	**Pb**	**03 05 59.8**	**-1.2**
UUPR	**Utuado, UPR, P**	**2.03**	**242**	⇑*e*P	**Pb**	**03 06 00.7**	**-0.5**
UUPR	**Utuado, UPR, P**	**2.03**	**242**		**Pn**	**03 05 59.3**	**+1.8**
OBIP	**Obispado Ponce**	**2.05**	**236**	⇑*e*P	**Pb**	**03 05 59.9**	**-1.6**
OBIP	**Obispado Ponce**	**2.05**	**236**	*e*S	**Sn**	**03 06 22.6**	**0.0**
OBIP	**Obispado Ponce**	**2.05**	**236**		**Pn**	**03 05 59.1**	**+1.4**
OBIP				IAML		03 06 28.7	
	comp=E,35nm,1.3s						
AGPR	**Aguadilla, PR**	**2.29**	**251**	Pn	**Pn**	**03 06 03.3**	**+2.2**
AGPR				IAML		03 06 22.5	
	comp=E,86nm,2.4s						
LSP	**Las Mesas**	**2.38**	**245**	⇓*e*P	**Pn**	**03 06 02.1**	**-0.2**
LSP	**Las Mesas**	**2.38**	**245**		**Pn**	**03 06 02.1**	**-0.2**
MLPR	**Magueyes Islan**	**2.44**	**240**	⇓*e*P	**Pn**	**03 06 05.0**	**+1.9**
MLPR	**Magueyes Islan**	**2.44**	**240**	*e*S	**Sn**	**03 06 32.8**	**+0.6**
MLPR	**Magueyes Islan**	**2.44**	**240**		**Pn**	**03 06 04.7**	**+1.6**
MLPR				IAML		03 06 49.8	
	comp=N,39nm,2.7s						
MLPR				IAML		03 07 17.7	
	comp=E,33nm,2.6s						
CRPR	**Cabo Rojo, PR**	**2.48**	**241**	⇓*e*P	**Pb**	**03 06 06.6**	**-2.0**
CRPR	**Cabo Rojo, PR**	**2.48**	**241**	*e*S	**Sb**	**03 06 36.7**	**-2.0**
CRPR	**Cabo Rojo, PR**	**2.48**	**241**		**Pn**	**03 06 06.0**	**+2.4**
CRPR				IAML		03 06 26.7	
	comp=N,34nm,2.5s						
CRPR				IAML		03 06 36.3	
	comp=E,36nm,2.9s						
MBFL	**Flemmings, Mon**	**3.50**	**134**	*e*P	**Pn**	**03 06 19.3**	**+1.6**
ANBD	**Bethesda, Anti**	**3.62**	**126**	*e*P	**Pn**	**03 06 19.8**	**+0.4**
ANBD				*e*S	**Sn**	**03 07 01.0**	**-0.4**

NEIC 31 03:09:14.5±0.7, **38.°31N**±0.°02×**96.°94W**±0.°02, **h5**km±2km,
mb_Lg2.4/42, **Error ellipse: s-maj=4.3km s-min=3.0km**
az=318.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSU1	**Kansas State U**	**0.83**	**18**	Pg	Pg	03 09 29.4	-1.0
KSU1				Sg	Sg	03 09 40.5	-0.7
KS21	**Milan North St**	**1.18**	**209**	Pg	Pg	03 09 35.8	-1.3
KS21				Sg	Sg	03 09 50.9	-1.4
KAN09	**Caldwell North**	**1.29**	**205**	Pg	Pn	03 09 37.8	-1.4
KAN09				Sg	Sg	03 09 55.0	-1.1
KAN12	**Harper NE Stat**	**1.32**	**220**		Pn	03 09 38.1	-1.5
KAN12				Sg	Sg	03 09 55.5	-1.3
KAN01	**Argonia South**	**1.33**	**210**		Pn	03 09 38.1	-1.6
KAN01				IAmb_Lg		03 09 57.7	
	comp=Z,42nm,0.7s						
KAN08	**Anthony NE Sta**	**1.36**	**217**		Pn	03 09 38.7	-1.4
KAN13	**South Haven SW**	**1.37**	**198**		Pn	03 09 39.0	-1.3
R32A	**Long Quarter,**	**1.40**	**275**		Pn	03 09 39.3	-1.4
KAN05	**Bluff City Nor**	**1.41**	**212**		Pn	03 09 40.1	-0.8
KAN17	**Caldwell West**	**1.43**	**208**		Pn	03 09 40.1	-1.0
T35A	**Sooner Cattle**	**1.44**	**166**		Pn	03 09 40.5	-0.7
BLOK	**Blackwell**	**1.57**	**188**		Pn	03 09 42.4	-0.6
KAN14	**Manchester OK**	**1.58**	**211**	IAmb_Lg		03 10 05.9	
	comp=Z,19nm,0.7s						
OK051	**E0350 and S346**	**1.81**	**177**		Pn	03 09 45.9	-0.4
CBKS	**Cedar Bluff**	**2.25**	**284**	Pn	Pn	03 09 50.7	-1.7
RLO	**Rose Lookout**	**2.63**	**144**	Pn	Pn	03 09 56.4	-1.3
S39A	**Bolivar**	**2.92**	**101**	Pn	Pn	03 10 01.9	+0.2
S39A				IAmb_Lg		03 10 55.0	
	comp=Z,9.7nm,0.8s						
P38A	**Dawn**	**2.96**	**63**	Pn	Pn	03 10 01.6	-0.5
HHAR	**Hobbs**	**3.14**	**129**	Pn	Pn	03 10 03.6	-1.1
BGNE	**Belgrade**	**3.23**	**344**	Pn	Pn	03 10 05.5	-0.4
BGNE				IAmb_Lg		03 10 55.5	
	comp=Z,16nm,0.8s						
N38A	**Joes South For**	**3.79**	**48**	Pn	Pn	03 10 12.6	-0.9
N38A				IAmb_Lg		03 11 21.4	
	comp=Z,12nm,0.7s						
CCM	**Cathedral Cave**	**4.50**	**92**	IAmb_Lg		03 11 34.2	
	comp=Z,9.7nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.51**	**281**	IAmb_Lg		03 11 48.8	
	comp=Z,6.5nm,0.7s						
MIAR	**Mount Ida**	**4.64**	**143**	IAmb_Lg		03 11 50.7	
	comp=Z,8.4nm,1.0s						
T42A	**Van Buren**	**4.81**	**104**	IAmb_Lg		03 11 50.9	
	comp=Z,5.9nm,0.7s						
RTBA	**Rita Blanca**	**4.98**	**250**	Pn	Pn	03 10 29.7	-0.4
UALR	**University of**	**5.12**	**132**	IAmb_Lg		03 12 00.6	
	comp=Z,10nm,0.8s						
AMTX	**Amarillo**	**5.12**	**230**	IAmb_Lg		03 12 09.5	
	comp=Z,10nm,1.1s						
LCAR	**Lake Charles**	**5.13**	**114**	IAmb_Lg		03 12 11.3	
	comp=Z,6.9nm,1.0s						
PBMO	**Poplar Bluff**	**5.39**	**105**	IAmb_Lg		03 12 15.9	
	comp=Z,4.8nm,0.7s						
ECSD	**EROS Data Cent**	**5.42**	**2**	Pn	Pn	03 10 35.4	-0.6
ECSD				IAmb_Lg		03 12 14.3	
	comp=Z,5.1nm,1.1s						
L40A	**Anamosa**	**5.76**	**48**	IAmb_Lg		03 12 21.0	
	comp=Z,6.3nm,0.9s						
T25A	**Trinidad**	**6.04**	**261**	Pn	Pn	03 10 43.7	-1.0
HDIL	**Hopedale**	**6.33**	**67**	IAmb_Lg		03 12 41.1	
	comp=Z,7.7nm,0.8s						
N23A	**Red Feather La**	**7.41**	**293**	IAmb_Lg		03 13 11.6	
	comp=Z,3.5nm,0.8s						

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*NEIC **31** 03:09:16.5±1.6, 35.°00N±0.°01×97.°57W±0.°01, h10km±2km,*
Error ellipse: s-maj=3.1km s-min=2.1km az=80.0
TUL 31 03:09:16.6±0.9, **34.°99N**±0.°05×**97.°55W**±0.°03, **h5**km±3km,
ML2.1, **mb_Lg2.4**/58(NEIC), **ML2.3**/38(NEIC), **Error**
ellipse: s-maj=6.7km s-min=3.0km az=170.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.29**	**24**	Pg	Pg	03 09 22.6	+0.2
FNO				Sg	Sg	03 09 27.1	+0.8
OKCSW	**OKLAHOMA CITY**	**0.43**	**12**	Pg	Pb	03 09 26.3	-0.3
OKCSW				IAML		03 09 35.1	
	comp=N,236nm,0.8s						
X34A	**Smith Ranch, M**	**0.45**	**211**	Pg	Pg	03 09 26.1	+0.8
X34A					Sb	03 09 32.9	-1.2
X34A				IAML		03 09 37.0	
	comp=E,192nm,0.6s						
X34A				IAML		03 09 39.9	
	comp=N,184nm,0.5s						
OK029	**Liberty Lake**	**0.81**	**5**		Pg	03 09 32.2	0.0
LOOK	**Love County**	**1.04**	**163**		Pg	03 09 36.6	+0.1
LOOK				IAML		03 09 54.6	
	comp=E,90nm,0.3s						
LOOK				IAML		03 09 59.1	
	comp=N,95nm,0.3s						
WMOK	**Wichita Mounta**	**1.04**	**257**		Pg	03 09 35.5	-1.1
OK031	**S. Brethren Rd**	**1.12**	**31**		Pg	03 09 37.0	-1.1
OK031				IAML		03 09 58.0	
	comp=N,98nm,0.2s						
OK031				IAML		03 09 58.0	
	comp=N,72nm,0.5s						
CSTR	**Hydro, Custer**	**1.14**	**305**		Pg	03 09 37.5	-1.0
OK052	**Battle Ridge R**	**1.17**	**31**	Pg	Pg	03 09 37.4	-1.7
DEOK	**Depew**	**1.21**	**45**		Pg	03 09 38.6	-1.2
DEOK				IAML		03 10 11.5	
	comp=N,50nm,0.3s						
QUOK	**Quay**	**1.37**	**30**	Pg	Pn	03 09 40.8	-1.6
WTFS	**Witchita Falls**	**1.43**	**212**	Pg	Pn	03 09 41.7	-1.6
OK048	**Pawnee Station**	**1.51**	**19**		Pn	03 09 42.5	-1.8
CROK	**Carrier**	**1.55**	**347**		Pn	03 09 44.5	-0.4
Z35A	**Perchaven, San**	**1.67**	**171**		Pn	03 09 45.9	-0.6
Z35A				IAmb_Lg		03 10 11.5	
	comp=Z,19nm,1.2s						
TUL3	**Leonard**	**1.71**	**57**		Pn	03 09 47.4	+0.4
TUL3				IAmb_Lg		03 10 12.3	
	comp=Z,15nm,0.8s						
OK038	**West end E0370**	**1.78**	**327**		Pn	03 09 48.5	+0.5
U32A	**Winter Ranch,**	**1.82**	**320**	Pn	Pn	03 09 47.3	-1.4
X37A	**Clayton**	**1.84**	**102**		Pn	03 09 48.0	-0.8
OK032	**Salt Plains WL**	**1.89**	**344**	Pn	Pn	03 09 47.0	-2.5
FW03	**Perrin-Whitt E**	**1.99**	**193**	Pn	Pn	03 09 50.4	-0.5
FW06	**Azle**	**2.01**	**180**	Pn	Pn	03 09 51.8	+0.6
KAN01	**Argonia South**	**2.17**	**356**		Pn	03 09 53.2	-0.2
SMWD	**Samnorwood**	**2.21**	**274**	Pn	Pn	03 09 54.3	+0.3
SMWD				IAmb_Lg		03 10 32.7	
	comp=Z,14nm,0.9s						
PLPT	**Palo Pinto**	**2.26**	**197**	Pn	Pn	03 09 55.7	+1.0
PLPT				IAmb_Lg		03 10 29.3	
	comp=Z,10nm,0.7s						
FW07	**Weatherford**	**2.29**	**185**	Pn	Pn	03 09 55.8	+0.8
FW07				IAmb_Lg		03 10 29.8	
	comp=Z,16nm,0.9s						
FW16	**Waxahatchie**	**2.56**	**168**	IAmb_Lg		03 10 40.7	
	comp=Z,18nm,0.8s						
TREL	**Terrell**	**2.56**	**151**	Pn	Pn	03 09 59.1	+0.4
TREL				IAmb_Lg		03 10 44.4	
	comp=Z,16nm,0.9s						
FW14	**Alvarado**	**2.60**	**173**	IAmb_Lg		03 10 44.7	
	comp=Z,17nm,0.8s						
APMT	**Aspermont**	**2.70**	**233**		Pn	03 10 00.6	-0.1
Z38A	**Mt. Pleasant**	**2.74**	**128**	IAmb_Lg		03 10 47.4	
	comp=Z,12nm,0.9s						
WHTX	**Lake Whitney,**	**2.99**	**178**	IAmb_Lg		03 10 55.1	
	comp=Z,8.3nm,1.0s						
HHAR	**Hobbs**	**3.21**	**65**	IAmb_Lg		03 11 01.3	
	comp=Z,11nm,0.8s						
MIAR	**Mount Ida**	**3.30**	**97**	IAmb_Lg		03 11 04.9	
	comp=Z,9.8nm,0.9s						
SN07	**Snyder 07**	**3.36**	**237**	Pn	Pn	03 10 09.7	-0.1
AMTX	**Amarillo**	**3.40**	**269**	IAmb_Lg		03 11 08.2	
	comp=Z,7.8nm,0.8s						
POST	**Post**	**3.80**	**241**	IAmb_Lg		03 11 26.8	
	comp=Z,6.3nm,0.8s						
BRDY	**Brady**	**3.89**	**199**	Pn	Pn	03 10 17.0	-0.1
BRDY				IAmb_Lg		03 11 24.5	
	comp=Z,9.4nm,1.0s						
X40A	**Basin Creek Fa**	**3.92**	**96**	IAmb_Lg		03 11 25.4	
	comp=Z,10nm,0.8s						
CBKS	**Cedar Bluff**	**4.20**	**336**	IAmb_Lg		03 11 34.0	
	comp=Z,7.5nm,0.8s						
SGCY	**Sterling City**	**4.28**	**225**	IAmb_Lg		03 11 38.7	
	comp=Z,7.9nm,1.0s						
WHAR	**Wooly Hollow**	**4.32**	**84**	IAmb_Lg		03 11 44.3	
	comp=Z,9.8nm,1.0s						
S39A	**Bolivar**	**4.35**	**50**	IAmb_Lg		03 11 39.4	
	comp=Z,7.8nm,0.9s						
MSTX	**Muleshoe**	**4.43**	**258**	IAmb_Lg		03 11 39.0	
	comp=Z,5.3nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.52**	**77**	IAmb_Lg		03 11 37.1	
	comp=Z,9.6nm,0.8s						
MGMO	**Mountain Grove**	**4.79**	**62**	IAmb_Lg		03 11 50.0	
	comp=Z,8.0nm,0.9s						
OZNA	**Ozona**	**5.05**	**218**	IAmb_Lg		03 12 10.8	
	comp=Z,8.2nm,1.3s						
LCAR	**Lake Charles**	**5.33**	**76**	IAmb_Lg		03 12 03.4	
	comp=Z,4.9nm,0.8s						
R40A	**Maddies Statio**	**5.38**	**51**	IAmb_Lg		03 12 19.6	
	comp=Z,4.6nm,0.8s						
T42A	**Van Buren**	**5.62**	**67**	IAmb_Lg		03 12 26.2	
	comp=Z,5.0nm,0.8s						
HBAR	**Harrisburg**	**5.67**	**82**	IAmb_Lg		03 12 26.2	
	comp=Z,22nm,0.8s						
T25A	**Trinidad**	**5.96**	**293**	IAmb_Lg		03 12 26.4	
	comp=Z,6.3nm,0.9s						
DRIO	**Del Rio**	**6.13**	**206**	IAmb_Lg		03 12 31.9	
	comp=Z,4.1nm,0.7s						
FVM	**French Village**	**6.47**	**60**	IAmb_Lg		03 12 50.3	
	comp=Z,4.7nm,0.8s						
OXF	**Oxford**	**6.72**	**92**	IAmb_Lg		03 13 06.6	
	comp=Z,14nm,0.8s						

IDC 31 03:26:44.7±6.0, **6.°17S**×**140.°97E**, **h0**km, **mb3.6**/1,
mbtmp3.5/3, **ML2.9**/2, **Error ellipse: s-maj=214.3km**
s-min=36.1km az=93.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.13**	**205**	Pn	Pn	03 30 20.9	+1.1
	baz=21,slow=13,SNR=2.2						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**18.67**	**201**	P	P	03 31 03.9	-0.6
	0.1nm,0.3s,baz=30,slow=11,SNR=12						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**73.89**	**322**	P	P	03 38 21.7	+0.1
	0.5nm,0.8s,baz=107,slow=7.7,SNR=3.9						
	0.5nm,0.8s						

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*RSPR **31** 03:29:34.6, 19.°05N×64.°73W, h44km±25km*
*NEIC **31** 03:29:34.1±0.3, 18.°7N±0.°2×64.°55W±0.°08, h35km±2km,*
ML2.2/8, Md3.3/2(RSPR), Error ellipse: s-maj=38.7km
s-min=3.1km az=161.0
ISC 31 03:29:35.0±3.3, **18.°8N**±0.°3×**64.°69W**±0.°07, **h42**km, **n13**,
σ0°**54**/13, **1C-1D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.31**	**238**	⇓*e*P	**Pn**	**03 29 56.2**	**-0.6**
HUMP	**Col San Antoni**	**1.31**	**238**	*e*S	**Sn**	**03 30 13.8**	**+0.8**
HUMP	**Col San Antoni**	**1.31**	**238**		**Pn**	**03 29 56.2**	**-0.6**
HUMP					**Sn**	**03 30 13.8**	**+0.8**
GCPR	**Guaynabo City**	**1.43**	**248**	*e*S	**Sn**	**03 30 15.9**	**-0.2**
GCPR	**Guaynabo City**	**1.43**	**248**		**Sn**	**03 30 15.9**	**-0.2**
GCPR	**Guaynabo City**	**1.43**	**248**	Pn	**Pn**	**03 29 58.6**	**+0.2**
GCPR				IAML		03 30 11.2	
	comp=N,32nm,3.1s						
GCPR	**Guaynabo City**	**1.43**	**248**	IAML		03 30 29.8	
	comp=E,28nm,2.5s						
IGPR	**InterUniversit**	**1.61**	**237**	Pn	**Pn**	**03 30 00.1**	**-0.8**
IGPR				IAML		03 30 27.1	
	comp=E,23nm,0.3s						
CELP	**Cerrillos**	**1.95**	**247**	⇑*e*P	**Pn**	**03 30 05.6**	**-0.1**
CELP	**Cerrillos**	**1.95**	**247**	*e*S	**Sn**	**03 30 29.4**	**+0.4**
CELP	**Cerrillos**	**1.95**	**247**		**Pn**	**03 30 05.6**	**-0.1**
CELP					**Sn**	**03 30 29.4**	**+0.4**
CELP	**Cerrillos**	**1.95**	**247**	IAML		03 30 31.0	
	comp=E,16nm,3.0s						
ANBD	**Bethesda, Anti**	**3.30**	**122**	*e*P	**Pn**	**03 30 24.1**	**-0.1**

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*RSPR **31** 03:52:46.5, 19.°08N×64.°73W, h56km±16km*
NEIC 31 03:52:46.7±1.9, **19.°05N**±0.°07×**64.°92W**±0.°05, **h21**km±13km,
ML2.9/22, **Md2.7**/2(RSPR), **10C-4D, Error ellipse:**
s-maj=11.4km s-min=5.3km az=151.0, Virgin Islands

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

AGPR IAML 03 54 45.5
comp=E,127nm,2.9s
AGPR Aguadilla, PR 2.16 255 Sn 03 53 48.7 +1.2
LSP Las Mesas 2.24 247⇑ *eP* Pn 03 53 23.3 +0.8
LSP Las Mesas 2.24 247 *eS* Sb 03 53 53.5 -0.2
LSP Las Mesas 2.24 247 Pn 03 53 23.3 +0.8
LSP Sb 03 53 53.5 -0.2
MLPR Magueyes Islan 2.29 242‖ *eP* Pn 03 53 22.6 -0.5
MLPR Magueyes Islan 2.29 242 *eS* Sn 03 53 52.3 +1.6
MLPR Magueyes Islan 2.29 242 Pn 03 53 22.4 -0.8
MLPR IAML 03 54 29.7
comp=E,40nm,2.6s
MLPR Magueyes Islan 2.29 242 Sn 03 53 52.3 +1.6
CRPR Cabo Rojo, PR 2.33 244⇑ *eP* Pn 03 53 24.2 +0.5
CRPR Cabo Rojo, PR 2.33 244 *eS* Sn 03 53 53.9 +2.2
CRPR Cabo Rojo, PR 2.33 244 Pn 03 53 24.0 +0.3
CRPR IAML 03 53 57.5
comp=N,40nm,2.7s
MBFL Flemmings, Mon 3.45 131 *eP* Pn 03 53 36.8 -2.3
ANBD Bethesda, Anti 3.60 123 *eP* Pn 03 53 37.5 -3.8
ANBD *eS* Sn 03 54 18.6 -4.5
SDDR Presa de Saban 6.03 270⇑ *eP* Pn 03 54 14.4 -0.3
SDDR Presa de Saban 6.03 270 Pn 03 54 14.4 -0.3

*IDC **31** 03:52:50.6±1.1, 13°.50S×45°.79E, h0km, mb3.7/8, mbtmp3.8/9, ML3.3/1, MS3.6/12, Error ellipse: s-maj=37.6km s-min=25.6km az=130.0*

ISC 31 03:52:51.0±0.8, 13°.79S±0°.08×45°.8E±0°.1, h10km, n22, σ1°39/14, mb3.9/8, MS3.6/11, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**4.93**	**165**	Pn	**Pb**	**03 54 16.2**	**-1.5**
	0.9nm,0.3s,baz=334,slow=15,SNR=42						
OPO				Sn	**Sb**	**03 55 17.3**	**+0.2**
	0.8nm,0.3s,baz=263,slow=22,SNR=3.1						
MATP	**Matopo**	**17.81**	**246**	P	**P**	**03 57 01.9**	**+1.9**
	0.1nm,0.3s,baz=58,slow=12,SNR=12						
MATP				S	**Sn**	**04 00 16.8**	**-1.2**
	0.3nm,0.5s,baz=272,slow=19,SNR=1.2						
	3.6nm,0.9s						
MBAR	**Mbarara**	**19.86**	**310**	LR	LR	04 04 07.1	
	comp=Z,155nm,19.2s,baz=122,slow=34						
FURI	**Furi**	**23.63**	**342**	LR	LR	04 07 05.5	
	comp=Z,47nm,19.5s,baz=166,slow=37						
BOSA	**Boshof**	**24.13**	**229**	P	**P**	**03 58 10.4**	**+3.0**
	2.1nm,0.6s,baz=28,slow=15,SNR=12						
BOSA				LR	LR	04 08 08.9	
	comp=Z,56nm,19.2s,baz=41,slow=38						
	2.1nm,0.6s						
TSUM	**Tsumeb**	**27.58**	**255**	LR	LR	04 08 51.2	
	comp=Z,41nm,18.3s,baz=88,slow=35						
SUR	**Sutherland**	**29.39**	**227**	LR	LR	04 11 25.9	
	comp=Z,59nm,18.6s,baz=68,slow=38						
WSAR	**Wadi Sarin**	**38.88**	**19**	LR	LR	04 13 06.6	
	comp=Z,76nm,20.7s,baz=170,slow=32						
TORD	**Torodi Ar. Bea**	**51.25**	**300**	P	**P**	**04 01 54.8**	**-0.6**
	0.6nm,0.9s,baz=111,slow=7.9,SNR=1.9						
TORD				LR	LR	04 24 23.2	
	comp=Z,78nm,18.1s,baz=130,slow=37						
	0.6nm,0.9s						
DBIC	**Dimbokro**	**54.24**	**289**	LR	LR	04 24 45.3	
	comp=Z,51nm,18.6s,baz=80,slow=35						
NWAO	**Narrogin (SRO)**	**67.14**	**120**	LR	LR	04 27 37.5	
	comp=Z,139nm,19.6s,baz=72,slow=31						
MKAR	**Makanchi Array**	**68.61**	**26**	P	**P**	**04 03 53.9**	**-0.3**
	0.1nm,0.3s,baz=214,slow=6.7,SNR=1.7						
	0.1nm,0.3s						
ESDC	**Sonseca Array**	**70.51**	**321**	P	**P**	**04 04 05.4**	**-0.8**
	0.9nm,0.9s,baz=111,slow=4.2,SNR=2.7						
	0.9nm,0.9s						
ARU	**Arti**	**70.76**	**7**	LR	LR	04 37 28.3	
	comp=Z,48nm,18.2s,baz=152,slow=38						
KAPI	**Kappang**	**73.24**	**91**	LR	LR	04 34 44.1	
	comp=Z,67nm,18.3s,baz=44,slow=34						
FINES	**FINESS Array B**	**76.60**	**350**	P	**P**	**04 04 41.4**	**0.0**
	0.6nm,0.6s,baz=167,slow=6.6,SNR=4.5						
	0.6nm,0.6s						
HFS	**Hagfors**	**78.07**	**344**	P	**P**	**04 04 49.8**	**+0.1**
	1.1nm,0.6s,baz=146,slow=6.4,SNR=7.0						
	1.1nm,0.6s						
NOA	**NORSAR Array B**	**79.50**	**344**	P	**P**	**04 04 57.5**	**0.0**
	0.3nm,0.7s,baz=144,slow=7.6,SNR=3.6						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**84.04**	**109**	P	**P**	**04 05 24.2**	**+1.6**
	1.0nm,0.8s,baz=270,slow=4.7,SNR=2.5						
	1.0nm,0.8s						
CPUP	**Villa Florida**	**95.38**	**241**	LR	LR	04 48 35.0	
	comp=Z,35nm,20.4s,baz=218,slow=35						
TXAR	**Lajitas Array**	**147.81**	**304**	PKPbc	**PKPbc**	**04 12 36.2**	**-0.8**
	0.1nm,0.6s,baz=90,slow=3.2,SNR=2.6						
NVAR	**Mina Array Bea**	**151.71**	**333**	PKPbc	**PKiKP**	**04 12 46.7**	**-0.3**
	0.4nm,0.8s,baz=43,slow=4.1,SNR=2.1						

*NEIC **31** 03:53:42.4±0.7, 19°.14N±0°.08×64°.7W±0°.1, h35km±2km, ML2.8/16, Md3.3/9(RSPR), Error ellipse: s-maj=16.7km s-min=12.7km az=100.0*

RSPR 31 03:53:45.0, 19°.19N×64°.83W, h34km±33km, MD3.3/9, 4C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.42 223**⇑		*eP*	Pn	03 54 06.5	-2.0
HUMP	**Col San Antoni**	**1.42 223**		*eS*	Sn	03 54 24.7	-1.4
HUMP	**Col San Antoni**	**1.42 223**			Pn	03 54 06.7	-1.9
HUMP					Sn	03 54 24.9	-1.2
HUMP				IAML		03 54 25.9	
	comp=E,181nm,0.2s						
HUMP				IAML		03 54 29.1	
	comp=N,154nm,0.3s						
GCPR	**Guaynabo City**	**1.48 234**‖		*eP*	Pn	03 54 07.6	-1.6
GCPR	**Guaynabo City**	**1.48 234**		*eS*	Sn	03 54 25.3	-2.1
GCPR	**Guaynabo City**	**1.48 234**			Pn	03 54 07.6	-1.6
GCPR	**Guaynabo City**	**1.48 234**		IAML		03 54 30.3	
	comp=E,95nm,0.5s						
IGPR	**InterUniversit**	**1.72 225**‖		*eP*	Pn	03 54 11.4	-1.2
IGPR	**InterUniversit**	**1.72 225**		*eS*	Sn	03 54 32.5	-0.9
IGPR	**InterUniversit**	**1.72 225**			Pn	03 54 11.4	-1.2
EMPR	**Esperanza - Ma**	**1.76 247**⇑		*eP*	Pn	03 54 12.2	-1.0
EMPR	**Esperanza - Ma**	**1.76 247**		*eS*	Sn	03 54 33.0	-1.4
EMPR	**Esperanza - Ma**	**1.76 247**			Pn	03 54 12.2	-1.0
EMPR					Sn	03 54 34.2	-0.2
CELP	**Cerrillos**	**2.00 237**‖		*eP*	Pn	03 54 15.6	-0.8
CELP	**Cerrillos**	**2.00 237**		*eS*	Sn	03 54 39.1	-1.1
CELP	**Cerrillos**	**2.00 237**			Pn	03 54 15.7	-0.7
AOPR	**Arecibo Observ**	**2.01 246**		*eS*	Sn	03 54 39.4	-1.2
AOPR	**Arecibo Observ**	**2.01 246**			Sn	03 54 40.1	-0.5
OBIP	**Obispado Ponce**	**2.04 236**‖		*eP*	Pn	03 54 16.5	-0.4
OBIP	**Obispado Ponce**	**2.04 236**		*eS*	Sn	03 54 38.6	-2.6
OBIP	**Obispado Ponce**	**2.04 236**			Pn	03 54 15.9	-1.1
OBIP				IAML		03 54 46.5	
	comp=E,57nm,0.5s						
LSP	**Las Mesas**	**2.37 245**		*eS*	Sn	03 54 49.3	-0.1
LSP	**Las Mesas**	**2.37 245**			Sn	03 54 49.3	-0.1
MLPR	**Magueyes Islan**	**2.43 240**⇑		*eP*	Pn	03 54 20.3	-2.1
MLPR	**Magueyes Islan**	**2.43 240**		*eS*	Sn	03 54 49.0	-1.8
MLPR	**Magueyes Islan**	**2.43 240**			Pn	03 54 21.0	-1.4
MLPR				IAML		03 54 51.3	
	comp=E,37nm,1.5s						
MLPR				IAML		03 55 01.0	
	comp=N,40nm,2.3s						
CRPR	**Cabo Rojo, PR**	**2.46 242**⇑		*eP*	Pn	03 54 22.7	-0.1
CRPR	**Cabo Rojo, PR**	**2.46 242**		*eS*	Sn	03 54 49.9	-1.9
CRPR	**Cabo Rojo, PR**	**2.46 242**			Pn	03 54 22.3	-0.5
CRPR				IAML		03 55 04.2	
	comp=E,50nm,2.9s						
CRPR				IAML		03 55 55.0	
	comp=N,38nm,2.6s						

*NEIC **31** 03:56:25.0±1.5, 19°.3N±0°.2×65°.0W±0°.2, h35km±2km, ML2.1/6, Md3.1/3(RSPR), Error ellipse: s-maj=40.1km s-min=14.8km az=132.0*
*RSPR **31** 03:56:25.0, 19°.29N×64°.89W, h25km±12km, MD3.1/3*

ISC 31 03:56:17.7±3.1, 19°.5N±0°.2×64°.9W±0°.1, h23km, n13, σ1°18/13, 2C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.57 214**⇑		*eP*	**Pb**	**03 56 46.4**	**+0.3**
HUMP	**Col San Antoni**	**1.57 214**		*eS*	**Sb**	**03 57 05.2**	**-0.2**
HUMP	**Col San Antoni**	**1.57 214**			**Pb**	**03 56 47.0**	**+0.9**
HUMP				IAML		03 57 05.8	
	comp=E,19nm,0.9s						
HUMP	**Col San Antoni**	**1.57 214**			**Sb**	**03 57 05.2**	**-0.2**
IGPR	**InterUniversit**	**1.85 217**‖		*eP*	**Pb**	**03 56 51.9**	**+1.0**
IGPR	**InterUniversit**	**1.85 217**		*eS*	**Sb**	**03 57 12.8**	**-0.9**
IGPR	**InterUniversit**	**1.85 217**			**Pb**	**03 56 53.5**	**+2.7**
IGPR				IAML		03 57 05.0	
	comp=E,21nm,2.3s						
IGPR				IAML		03 57 24.1	
	comp=N,24nm,1.8s						
IGPR	**InterUniversit**	**1.85 217**			**Sb**	**03 57 12.8**	**-0.9**
CELP	**Cerrillos**	**2.08 229**⇑		*eP*	**Pb**	**03 56 55.2**	**+0.4**
CELP	**Cerrillos**	**2.08 229**		*eS*	**Sb**	**03 57 19.1**	**-1.1**
CELP	**Cerrillos**	**2.08 229**			**Pb**	**03 56 55.5**	**+0.7**
CELP				IAML		03 57 18.7	
	comp=N,20nm,2.9s						
CELP	**Cerrillos**	**2.08 229**			**Sb**	**03 57 19.1**	**-1.1**
ANBD	**Bethesda, Anti**	**3.84 128**		*eP*	**Pn**	**03 57 14.9**	**-0.6**

*IDC **31** 04:12:21.9±1.5, 16°.55N×94°.91W, h0km, mb3.5/3, mbtmp3.7/6, ML3.0/2, MS3.2/1, Error ellipse: s-maj=20.2km s-min=10.3km az=72.0*
*NEIC **31** 04:12:23.8±2.0, 16°.7N±0°.1×94°.96W±0°.04, h73km±17km, mb4.1/34, Error ellipse: s-maj=19.4km s-min=4.4km az=186.0*
*MEX **31** 04:12:24.4±1.3, 16°.45N×95°.06W, h49km±25km, MD4.3*
*CATAC **31** 04:12:29.5±0.8, 16°.56N×94°.74W, h35km±14km, MB4.9, mb4.3, ML4.4*

ISC 31 04:12:21.1±1.0, 16°.53N±0°.03×95°.07W±0°.02, h29km±8km, n88, σ2°51/111, mb4.1/8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.43**	**86**	*iP*	**Pb**	**04 12 29.1**	**-1.2**
NILT				*iS*	**Sb**	**04 12 35.6**	**-1.1**
CMIG	**Matias Romero**	**0.58**	**17**	Pg	**Pb**	**04 12 32.2**	**-0.6**
	448nm,0.3s,baz=200,slow=13,SNR=6112						
CMIG				Lg	Lg	04 12 40.3	
	2μm,0.3s,baz=198,slow=11,SNR=68						
CMIG	**Matias Romero**	**0.58**	**17**	*iP*	**Pb**	**04 12 32.3**	**-0.6**
CMIG				*iS*	**Sb**	**04 12 40.4**	**-0.5**
CARR	**Arriaga**	**1.14**	**104**	*iP*	**Pn**	**04 12 41.8**	**+0.6**
CARR				*iS*	**Sn**	**04 12 56.2**	**+0.3**
UXUV	**UXUV**	**1.18**	**48**	*eP*	**Pb**	**04 12 42.9**	**+0.1**
UXUV				*eS*	**Sb**	**04 12 58.9**	**+1.2**
HUIG	**Huatulco**	**1.26**	**233**	*eP*	**Pn**	**04 12 43.1**	**+0.4**
HUIG				*eS*	**Sn**	**04 12 58.1**	**-0.6**
NEUV	**Arroyo Zacate**	**1.37**	**329**	*eP*	**Pb**	**04 12 46.2**	**+0.1**
NEUV				*eS*	**Sb**	**04 13 05.2**	**+1.9**
PANG	**Puerto Angel**	**1.60**	**238**	*eP*	**Pb**	**04 12 49.4**	**-0.7**
PANG				*eS*	**Sb**	**04 13 09.6**	**-0.4**
TUIG	**Tuzandepetl**	**1.61**	**22**	*eP*	**Pb**	**04 12 50.4**	**+0.1**
TUIG				*eS*	**Sb**	**04 13 13.5**	**+3.3**
OXBJ	**Oaxaca**	**1.68**	**289**	*eP*	**Pb**	**04 12 51.1**	**-0.3**
OXBJ				*eS*	**Sb**	**04 13 13.5**	**+1.3**
VHO	**Vista Hermosa**	**1.69**	**289**	*eP*	**Pb**	**04 12 51.0**	**-0.6**
VHO				*eS*	**Sb**	**04 13 13.3**	**+0.8**
TGIG		**1.88**	**82**	*eP*	**Pb**	**04 12 54.2**	**-0.6**
TGIG				*eS*	**Sb**	**04 13 19.3**	**+1.4**
TGBT	**Tuxtla Gutierr**	**1.91**	**82**	*eP*	**Pb**	**04 12 55.9**	**+0.6**
TGBT				*eS*	**Sb**	**04 13 20.3**	**+1.6**
PCIG		**1.96**	**115**	*eP*	**Pn**	**04 12 53.7**	**+1.4**
PCIG				*eS*	**Sb**	**04 13 19.2**	**-0.8**
PMUV	**Sontecomapan**	**2.00**	**358**	*eP*	**Pn**	**04 12 55.1**	**+2.0**
PEIG	**Puerto Escondi**	**2.07**	**255**	*eP*	**Pn**	**04 12 55.7**	**+1.8**
PEIG				*eS*	**Sb**	**04 13 22.1**	**-1.2**
YOIG	**Yosondua**	**2.40**	**278**	*eP*	**Pb**	**04 13 03.2**	**-0.6**
YOIG				*eS*	**Sb**	**04 13 33.6**	**+0.5**
CCIG	**Comitan**	**2.82**	**95**		**Pn**	**04 13 05.9**	**+1.5**
CCIG	**Comitan**	**2.82**	**95**	*eP*	**Pn**	**04 13 06.7**	**+2.3**
CCIG				*eS*	**Sb**	**04 13 45.0**	**-0.2**
CCIG	**Comitan**	**2.82**	**95**	*iP*	**Pn**	**04 13 07.3**	**+2.8**
CCIG				*iS*	**Sn**	**04 13 37.2**	**-0.4**
CCIG				IAML		04 13 57.4	
	comp=Z,1μm,1.0s						
THIG		**3.14**	**121**	*eS*	**Sn**	**04 13 46.8**	**+1.5**
TLIG	**Tlapa**	**3.50**	**288**	Pn	**Pn**	**04 13 17.3**	**+3.5**
TLIG	**Tlapa**	**3.50**	**288**	*iP*	**Pb**	**04 13 27.3**	**+4.8**
TLIG				*iS*	**Sb**	**04 14 08.9**	**+4.2**
TLIG				IAML		04 14 20.5	
	comp=Z,760nm,1.0s						
HUEH	**Huehuetenango**	**3.63**	**109**		**Pn**	**04 13 16.5**	**+0.8**
HUEH	**Huehuetenango**	**3.63**	**109**	*iP*	**Pn**	**04 13 20.3**	**+4.6**
HUEH				*iS*	**Sn**	**04 13 59.7**	**+1.9**
RTAL	**Retalhuleu**	**3.81**	**121**		**Pn**	**04 13 20.6**	**+2.6**
RTAL	**Retalhuleu**	**3.81**	**121**	*iP*	**Pn**	**04 13 21.5**	**+3.5**
RTAL				*iS*	**Sn**	**04 14 03.5**	**+1.6**
RTAL				IAML		04 14 42.2	
	comp=Z,380nm,1.0s						
QUIS	**Sacapulas**	**4.02**	**107**	*iP*	Pn	04 13 26.3	+5.4
QUIS				IAML		04 14 32.6	
	comp=Z,830nm,1.0s						
SCIG	**Sabancuy**	**4.42**	**56**	*eS*	**Pn**	**04 13 28.8**	**+2.5**
APG	**El Apazote**	**4.68**	**108**	Pn	**Pn**	**04 13 31.9**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=214,slow=21,SNR=20						
APG				Pg		04 13 46.7	
	comp=Z,0.6nm,0.3s,baz=331,slow=15,SNR=15						
APG				Sn	**Sn**	**04 14 27.8**	**+4.1**
	comp=Z,2.2nm,0.3s,baz=240,slow=20,SNR=10						
APG				Lg	Lg	04 14 46.6	
	comp=Z,2.2nm,0.3s,baz=26,slow=16,SNR=7.0						
PETF	**Flores**	**5.00**	**85**		**Pn**	**04 13 36.2**	**+2.0**
PETF	**Flores**	**5.00**	**85**	*iP*	**Pn**	**04 13 37.8**	**+3.6**
PETF				*iS*	**Sn**	**04 14 32.0**	**+0.9**
PETF				IAML		04 15 16.2	
	comp=Z,250nm,1.0s						
NUBE	**Las Nubes**	**5.73**	**116**	*iP*	**Pn**	**04 13 48.3**	**+3.8**
NUBE				IAmb	IAmb	04 14 03.6	
	comp=Z,42nm,0.7s						
NUBE				IVmB_BB		04 14 25.2	
	comp=Z,1μm,1.0s						
NUBE				*iS*	**Sn**	**04 14 51.1**	**+1.6**
NUBE				IAML		04 15 36.5	
	comp=Z,79nm,1.0s						
MTO3	**Montecristo**	**5.89**	**110**		**Pn**	**04 13 48.6**	**+1.8**
MTO3	**Montecristo**	**5.89**	**110**	*iP*	**Pn**	**04 13 50.5**	**+3.7**
MTO3				IAmb	IAmb	04 14 13.4	
	comp=Z,11nm,1.0s						
MTO3				IAML		04 15 37.6	
	comp=Z,68nm,1.0s						
CEVE	**Cerro Verde**	**5.90**	**116**	*iP*	**Pn**	**04 13 51.4**	**+4.5**
CEVE				*iS*	**Sn**	**04 14 57.0**	**+3.3**
CEVE				IAML		04 15 16.7	
	comp=Z,110nm,1.0s						
JAYA	**Jayaque - finc**	**6.13**	**117**	*iP*	**Pn**	**04 13 53.4**	**+3.4**
JAYA				IAmb	IAmb	04 14 15.5	
	comp=Z,48nm,0.8s						
JAYA				*iS*	**Sn**	**04 15 01.0**	**+1.7**
JAYA				IAML		04 15 46.2	
	comp=Z,120nm,1.0s						
PMON	**Piamonte**	**6.22**	**116**	*iP*	Pn	04 13 56.3	+5.1
PMON				IAML		04 13 59.3	
	comp=Z,94nm,1.0s						
PMON				IVmB_BB		04 14 03.5	
	comp=Z,1μm,1.0s						
PMON				*iS*	**Sn**	**04 15 03.4**	**+2.0**
LOMA	**Loma Larga**	**6.38**	**116**	*iS*	**Sn**	**04 15 07.7**	**+2.4**
COEG	**Centro de Oper**	**6.64**	**115**	*iP*	**Pn**	**04 14 00.8**	**+3.9**
COEG				IAmb	IAmb	04 14 11.8	
	comp=Z,34nm,0.5s						
COEG				IVmB_BB		04 14 37.5	
	comp=Z,1μm,1.0s						
COEG				*iS*	**Sn**	**04 15 11.7**	**0.0**
COEG				IAML		04 15 25.0	
	comp=Z,48nm,1.0s						
SCLA	**Alcaldia de Sa**	**6.74**	**114**	*iP*	**Pn**	**04 14 02.0**	**+3.8**
SCLA				IAmb	IAmb	04 14 16.8	
	comp=Z,16nm,0.8s						
SCLA				IAML		04 16 18.8	
	comp=Z,28nm,1.0s						
COEB	**Comit de Eme**	**7.00**	**115**	*iS*	**Sn**	**04 15 22.8**	**+2.2**
TEIG	**Tepich**	**7.42**	**59**		**Pn**	**04 14 08.0**	**+0.5**
TEIG	**Tepich**	**7.42**	**59**	Pn	**Pn**	**04 14 08.5**	**+1.0**
	comp=Z,21nm,0.3s,baz=20,slow=1.4,SNR=50						
TEIG				Sn	**Sn**	**04 15 28.8**	**-1.9**
	comp=Z,8.4nm,0.3s,baz=122,slow=22,SNR=10						
TGUH	**Tegucigalpa,Un**	**7.91**	**107**	*iP*	**Pn**	**04 14 18.1**	**+3.7**
TGUH				IAmb	IAmb	04 14 28.5	
	comp=Z,17nm,0.9s						
TGUH				IAML		04 16 47.7	
	comp=Z,58nm,1.0s						
YUSH	**Yuscaran**	**8.34**	**107**	*iP*	**Pn**	**04 14 23.8**	**+3.5**
JTS	**Las Juntas de**	**11.63**	**121**	Pn	**Pn**	**04 15 08.3**	**+3.1**
	comp=Z,0.3nm,0.3s,baz=305,slow=10.0,SNR=2.5						
	comp=Z,1.9nm,0.4s						
833A	**Chaparral WMA,**	**12.40**	**342**		**Pn**	**04 15 15.4**	**-0.3**
LCR2	**La Lucha 2**	**12.71**	**121**	Pn	**Pn**	**04 15 21.5**	**+1.2**
435B	**Jarrell**	**14.37**	**351**	Pn	**Pn**	**04 15 42.6**	**-0.1**
TXAR	**Lajitas Array**	**14.99**	**330**	Pn	**P**	**04 15 59.2**	**+2.8**
	comp=Z,0.6nm,0.7s,baz=150,slow=11,SNR=1.3						
BRDY	**Brady**	**15.12**	**347**	Pn	**Pn**	**04 15 52.3**	**-0.5**
WHTX	**Lake Whitney,**	**15.54**	**352**	Pn	**Pn**	**04 15 57.2**	**-1.1**
WHTX				IAmb	IAmb	04 16 06.0	
	comp=Z,14nm,0.6s						
ALPN	**Alpine**	**15.86**	**332**	Pn	**Pn**	**04 16 01.2**	**-1.3**
ALPN				IAmb	IAmb	04 16 14.3	
	comp=Z,7.8nm,0.8s						
FW13	**Cleburne**	**15.90**	**353**		**Pn**	**04 16 02.1**	**-0.8**
FW13				IAmb	IAmb	04 16 10.9	
	comp=Z,15nm,0.6s						
FW07	**Weatherford**	**16.29**	**352**		**Pn**	**04 16 07.5**	**-0.4**
MNHN	**Monahans**	**16.32**	**336**	Pn	**Pn**	**04 16 07.0**	**-1.4**
MNHN				IAmb	IAmb	04 16 19.1	
	comp=Z,12nm,0.9s						
PLPT	**Palo Pinto**	**16.48**	**350**		**Pn**	**04 16 09.5**	**-0.7**
PLPT				IAmb	IAmb	04 16 33.2	
	comp=Z,8.3nm,0.7s						
ABTX	**Abilene, Hawle**	**16.55**	**346**		**Pn**	**04 16 11.4**	**+0.2**
ABTX				IAmb	IAmb	04 16 21.1	
	comp=Z,8.5nm,0.6s						
FW03	**Perrin-Whitt E**	**16.66**	**351**		**Pn**	**04 16 12.1**	**-0.5**
FW03				IAmb	IAmb	04 16 22.2	
	comp=Z,10nm,0.5s						
PECS	**Pecos**	**16.81**	**333**		**Pn**	**04 16 13.1**	**-1.4**
PECS				IAmb	IAmb	04 16 25.4	
	comp=Z,9.3nm,1.0s						
APMT	**Aspermont**	**17.33**	**346**		**Pn**	**04 16 20.2**	**-0.9**
APMT				IAmb	IAmb	04 16 40.1	
	comp=Z,4.8nm,0.6s						
WTFS	**Witchita Falls**	**17.43**	**351**		**Pn**	**04 16 19.8**	**-2.5**
LOOK	**Love County**	**17.49**	**354**		**Pn**	**04 16 20.3**	**-2.6**
DKNS	**Dickens**	**17.86**	**344**	P	**Pn**	**04 16 24.4**	**-3.2**
X37A	**Clayton**	**17.98**	**359**		**Pn**	**04 16 25.9**	**-3.2**
X37A				IAmb	IAmb	04 16 43.6	
	comp=Z,11nm,1.1s						
MIAR	**Mount Ida**	**17.99**	**4**		**Pn**	**04 16 25.9**	**-3.2**
OK031	**S. Brethren Rd**	**19.41**	**356**		**P**	**04 16 42.2**	**-2.8**
OK031				IAmb	IAmb	04 16 52.0	
	comp=Z,6.5nm,0.6s						
OK052	**Battle Ridge R**	**19.45**	**356**	P	**P**	**04 16 39.7**	**-5.7**
FCAR	**Ozark Folk Cen**	**19.46**	**7**	P	**P**	**04 16 41.4**	**-4.1**
OK048	**Pawnee Station**	**19.88**	**356**	P	**P**	**04 16 46.6**	**-3.5**
OK048				IAmb	IAmb	04 17 00.8	
	comp=Z,12nm,1.2s						
MGMO	**Mountain Grove**	**20.69**	**6**	P	**P**	**04 16 55.8**	**-3.1**
S39A	**Bolivar**	**21.13**	**4**	P	**P**	**04 16 58.3**	**-5.4**
TUC	**Tucson**	**21.21**	**321**	P	**P**	**04 17 01.6**	**-3.1**
R40A	**Maddies Statio**	**21.82**	**6**	P	**P**	**04 17 06.6**	**-4.4**
R40A				IAmb	IAmb	04 17 18.4	
	comp=Z,4.0nm,0.6s						
SDCO	**Great Sand Dun**	**23.05**	**338**	P	**P**	**04 17 21.7**	**-2.8**
SDCO				IAmb	IAmb	04 17 30.7	
	comp=Z,11nm,1.4s						
P40A	**Paris**	**23.07**	**6**	P	**P**	**04 17 22.0**	**-2.3**
P40A				IAmb	IAmb	04 17 29.8	
	comp=Z,14nm,1.4s						
S22A	**4UR Ranch, Cre**	**23.54**	**336**	P	**P**	**04 17 24.7**	**-4.7**
O49A	**Covington**	**25.35**	**19**	P	**P**	**04 17 41.8**	**-3.9**
MTPU	**Mount Pierson**	**26.19**	**328**	P	**P**	**04 17 48.5**	**-5.2**
JFWS	**Jewell Farm**	**26.61**	**8**	P	**P**	**04 17 53.1**	**-4.0**
JFWS				IAmb	IAmb	04 18 04.7	
	comp=Z,6.0nm,0.6s						
NVAR	**Mina Array Bea**	**29.86**	**322**	P	P	04 18 33.2	+6.8
	comp=Z,0.5nm,0.6s,baz=123,slow=9.8,SNR=4.9						
	comp=Z,0.5nm,0.6s						
AGMN	**Agassiz Nation**	**31.69**	**359**	P	**P**	**04 18 42.8**	**+0.7**
GDHS	**Morne Mazeau,**	**31.93**	**86**	P	**P**	**04 18 43.4**	**-1.3**
ULM	**Lac du Bonnet**	**33.64**	**359**	P	**P**	**04 19 00.3**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=164,slow=12,SNR=3.6						
NEW	**Newport**	**36.45**	**335**	LR	LR	04 35 19.0	
	comp=Z,37nm,18.6s,baz=62,slow=38						
YKA	**Yellowknife Ar**	**47.92**	**348**	P	**P**	**04 20 60.0**	**+3.4**
	comp=Z,0.7nm,0.7s,baz=155,slow=7.5,SNR=3.8						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**59.36**	**337**	P	P	04 22 26.6	+6.2
	comp=Z,0.2nm,0.7s,baz=116,slow=4.1,SNR=2.4						
	comp=Z,0.2nm,0.7s						

*NEIC **31** 04:14:34.4±1.0, 19°.1N±0°.1×64°.60W±0°.06, h35km±2km, ML3.2/24, Md3.2/14(RSPR), Error ellipse: s-maj=25.9km s-min=3.1km az=157.0*
*RSPR **31** 04:14:36.4, 19°.18N×64°.75W, h35km±31km, MD3.2/14*

**ISC 31 04:14:35.7±3.4, 19°.1N

MLPR	**Magueyes Islan**	**2.47 243**	*e*S	**Sn**	**04 15 42.3**	**-0.2**
MLPR	**Magueyes Islan**	**2.47 243**		**Pn**	**04 15 12.4**	**-1.1**
MLPR	**Magueyes Islan**	**2.47 243**		**Sn**	**04 15 42.3**	**-0.2**
MLPR	**Magueyes Islan**	**2.47 243**	IAML		04 15 44.6	
	comp=E,71nm,0.7s					
MLPR			IAML		04 15 50.7	
	comp=N,50nm,0.9s					
CRPR	**Cabo Rojo, PR**	**2.51 245**⇑	*e*P	**Pn**	**04 15 14.7**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.51 245**		**Sn**	**04 15 48.2**	**+4.7**
CRPR	**Cabo Rojo, PR**	**2.51 245**		**Pn**	**04 15 13.8**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.51 245**	IAML		04 15 57.3	
	comp=E,52nm,1.1s					
CRPR			IAML		04 16 09.2	
	comp=N,53nm,2.5s					
ANBD	**Bethesda, Anti**	**3.48 126**	*e*P	**Pn**	**04 15 27.7**	**+0.4**
ANBD			*e*S	**Sn**	**04 16 07.4**	**+0.2**
SDDR	**Presa de Saban**	**6.21 270**⇑	*e*P	**Pn**	**04 16 05.5**	**+0.5**
SDDR	**Presa de Saban**	**6.21 270**	*e*S	**Sn**	**04 17 14.7**	**-0.2**
SDDR	**Presa de Saban**	**6.21 270**		**Pn**	**04 16 05.1**	**+0.1**
SDDR	**Presa de Saban**	**6.21 270**	*e*P	**Pn**	**04 16 04.9**	**-0.2**
SDDR	**Presa de Saban**	**6.21 270**	*e*S	**Sn**	**04 17 14.7**	**-0.2**
SDDR	**Presa de Saban**	**6.21 270**	*e*P	**Sn**	**04 17 14.9**	**0.0**

*NEIC **31** 04:16:19.4±1.3, 18°.97N±0°.10×64°.6W±0°.1, h35km±2km, ML3.0/22, Md3.3/13(RSPR), Error ellipse: s-maj=18.4km s-min=14.5km az=140.0*
*RSPR **31** 04:16:19.9, 19°.08N×64°.66W, h36km±28km, MD3.3/13*
ISC 31 04:16:20.4±2.0, 19°.0N±0°.1×64°.73W±0°.05, h42km, n48, σ0s86/46, 8C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.36**	**232**⇑	*e*P	**Pn**	**04 16 42.1**	**-0.9**
HUMP	**Col San Antoni**	**1.36**	**232**	*e*S	**Sn**	**04 17 01.1**	**+1.2**
HUMP	**Col San Antoni**	**1.36**	**232**		**Pn**	**04 16 42.0**	**-0.9**
HUMP					**Sn**	**04 17 00.9**	**+1.1**
HUMP				IAML		04 17 05.5	
	comp=N,209nm,0.4s						
HUMP				IAML		04 17 07.2	
	comp=E,199nm,0.5s						
GCPR	**Guaynabo City**	**1.46**	**242**⇓	*e*P	**Pn**	**04 16 43.4**	**-0.9**
GCPR	**Guaynabo City**	**1.46**	**242**	*e*S	**Sn**	**04 17 01.8**	**-0.4**
GCPR	**Guaynabo City**	**1.46**	**242**		**Sn**	**04 17 01.6**	**-0.6**
GCPR				IAML		04 17 04.7	
	comp=E,119nm,0.3s						
GCPR	**Guaynabo City**	**1.46**	**242**		**Pn**	**04 16 43.4**	**-0.9**
IGPR	**InterUniversit**	**1.67**	**232**⇓	*e*P	**Pn**	**04 16 47.6**	**+0.5**
IGPR	**InterUniversit**	**1.67**	**232**	*e*S	**Sn**	**04 17 07.8**	**+0.5**
IGPR	**InterUniversit**	**1.67**	**232**		**Sn**	**04 17 07.8**	**+0.5**
IGPR	**InterUniversit**	**1.67**	**232**		**Pn**	**04 16 46.6**	**-0.6**
IGPR				IAML		04 17 19.7	
	comp=N,223nm,0.3s						
EMPR	**Esperanza - Ma**	**1.79**	**254**⇓	*e*P	**Pn**	**04 16 49.1**	**+0.3**
EMPR	**Esperanza - Ma**	**1.79**	**254**	*e*S	**Sn**	**04 17 11.3**	**+1.1**
EMPR	**Esperanza - Ma**	**1.79**	**254**		**Pn**	**04 16 48.5**	**-0.3**
EMPR	**Esperanza - Ma**	**1.79**	**254**		**Sn**	**04 17 11.3**	**+1.1**
EMPR	**Esperanza - Ma**	**1.79**	**254**	IAML		04 17 14.6	
	comp=E,197nm,0.5s						
EMPR				IAML		04 17 23.4	
	comp=N,197nm,0.9s						
CELP	**Cerrillos**	**1.98**	**243**⇑	*e*P	**Pn**	**04 16 51.5**	**0.0**
CELP	**Cerrillos**	**1.98**	**243**	*e*S	**Sn**	**04 17 15.6**	**+0.5**
CELP	**Cerrillos**	**1.98**	**243**		**Pn**	**04 16 51.2**	**-0.3**
CELP	**Cerrillos**	**1.98**	**243**		**Sn**	**04 17 15.6**	**+0.5**
CELP	**Cerrillos**	**1.98**	**243**	IAML		04 17 20.3	
	comp=N,71nm,0.4s						
CELP				IAML		04 17 21.3	
	comp=E,63nm,0.4s						
OBIP	**Obispado Ponce**	**2.02**	**242**⇑	*e*P	**Pn**	**04 16 51.9**	**-0.1**
OBIP	**Obispado Ponce**	**2.02**	**242**	*e*S	**Sn**	**04 17 14.6**	**-1.5**
OBIP	**Obispado Ponce**	**2.02**	**242**		**Pn**	**04 16 51.7**	**-0.3**
OBIP				IAML		04 17 24.7	
	comp=E,67nm,0.5s						
OBIP	**Obispado Ponce**	**2.02**	**242**		**Sn**	**04 17 14.6**	**-1.5**
AOPR	**Arecibo Observ**	**2.03**	**252**⇓	*e*P	**Pn**	**04 16 52.5**	**+0.3**
AOPR	**Arecibo Observ**	**2.03**	**252**	*e*S	**Sn**	**04 17 17.4**	**+1.1**
AOPR	**Arecibo Observ**	**2.03**	**252**		**Pn**	**04 16 52.0**	**-0.1**
AOPR	**Arecibo Observ**	**2.03**	**252**		**Sn**	**04 17 17.4**	**+1.1**
AOPR	**Arecibo Observ**	**2.03**	**252**	*e*P	**Pn**	**04 16 51.8**	**-0.4**
UUPR	**Utuado, UPR, P**	**2.03**	**249**⇑	*e*P	**Pn**	**04 16 52.2**	**0.0**
UUPR	**Utuado, UPR, P**	**2.03**	**249**		**Pn**	**04 16 51.9**	**-0.3**
AGPR	**Aguadilla, PR**	**2.32**	**257**⇑	*e*P	**Pn**	**04 16 55.6**	**-0.5**
AGPR	**Aguadilla, PR**	**2.32**	**257**	*e*S	**Sn**	**04 17 23.6**	**+0.1**
AGPR	**Aguadilla, PR**	**2.32**	**257**		**Pn**	**04 16 54.8**	**-1.3**
AGPR	**Aguadilla, PR**	**2.32**	**257**		**Sn**	**04 17 23.6**	**+0.1**
AGPR	**Aguadilla, PR**	**2.32**	**257**	IAML		04 17 29.5	
	comp=N,118nm,3.1s						
AGPR				IAML		04 17 50.7	
	comp=E,116nm,2.0s						
LSP	**Las Mesas**	**2.38**	**250**⇑	*e*P	**Pn**	**04 16 56.8**	**-0.3**
LSP	**Las Mesas**	**2.38**	**250**		**Pn**	**04 16 56.8**	**-0.3**
MLPR	**Magueyes Islan**	**2.43**	**245**⇑	*e*P	**Pn**	**04 16 56.4**	**-1.2**
MLPR	**Magueyes Islan**	**2.43**	**245**	*e*S	**Sn**	**04 17 26.9**	**+0.8**
MLPR	**Magueyes Islan**	**2.43**	**245**		**Pn**	**04 16 55.8**	**-1.8**
MLPR	**Magueyes Islan**	**2.43**	**245**		**Sn**	**04 17 26.9**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.47**	**247**⇑	*e*P	**Pn**	**04 16 58.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.47**	**247**	*e*S	**Sn**	**04 17 29.3**	**+2.3**
CRPR	**Cabo Rojo, PR**	**2.47**	**247**		**Pn**	**04 16 57.7**	**-0.5**
CRPR				IAML		04 17 31.9	
	comp=E,42nm,1.1s						
CRPR				IAML		04 17 57.0	
	comp=N,51nm,2.3s						
MBFL	**Flemmings, Mon**	**3.27**	**133**	*e*P	Pn	04 17 11.5	+2.3
ANBD	**Bethesda, Anti**	**3.42**	**124**	*e*P	**Pn**	**04 17 11.0**	**-0.2**
ANBD				*e*S	**Sn**	**04 17 50.9**	**+0.4**

*IDC **31** 04:29:17.1±0.9, 17°.64N×145°.74E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=49.9km s-min=21.5km az=109.0*
ISC 31 04:29:22.3±1.0, 17°.6N±0°.2×145°.7E±0°.3, h35km, n10, σ0s78/7, mb3.6/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**20.18**	**81**	T	T	04 55 16.6	
	baz=268						
H11N2	**WAKE ISLAND Hy**	**20.18**	**81**	T	T	04 55 12.8	
	baz=268						
H11N3	**WAKE ISLAND Hy**	**20.20**	**81**	T	T	04 55 13.8	
	baz=268						
WRA	**Warramunga Arr**	**38.96**	**197**	P	**P**	**04 36 45.5**	**+0.3**
	0.7nm,0.6s,baz=17,slow=8.2,SNR=19						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**42.62**	**196**	P	**P**	**04 37 15.2**	**-0.3**
	0.2nm,0.5s,baz=15,slow=13,SNR=5.0						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**62.13**	**318**	P	**P**	**04 39 39.9**	**+0.1**
	0.5nm,0.6s,baz=104,slow=7.8,SNR=4.5						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**64.61**	**26**	P	**P**	**04 39 55.9**	**-0.1**
	0.3nm,0.6s,baz=266,slow=4.6,SNR=5.1						
	0.3nm,0.6s						
YKA	**Yellowknife Ar**	**78.94**	**28**	P	**P**	**04 41 22.3**	**+0.3**
	0.6nm,0.7s,baz=292,slow=6.1,SNR=2.3						
	0.6nm,0.7s						
NVAR	**Mina Array Bea**	**83.80**	**52**	P	**P**	**04 41 49.5**	**+0.8**
	0.4nm,0.7s,baz=286,slow=7.0,SNR=4.4						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**88.57**	**45**	P	**P**	**04 42 10.9**	**-1.2**
	0.1nm,0.4s,baz=316,slow=2.5,SNR=1.4						
	0.1nm,0.4s						

JMA 31 04:29:36.6±0.4, 37°.1N±0°.8×14°2E±°, h43km±4km, MV3.1/29, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.79**	**290**	P	Pn	04 29 51.3	-0.1
ONAJ	**Iwakimizuishiy**	**0.81**	**270**	*e*P	Pn	04 29 51.0	-0.6
JMST	**Minamisoumatoc**	**0.96**	**310**	*e*P	Pn	04 29 53.8	+0.1
JMST				*e*S	Sn	04 30 05.4	-0.7
JFFD	**Fukushimafurud**	**1.00**	**270**	P	Pn	04 29 54.7	+0.5
JHO	**Hitachi**	**1.11**	**244**	*e*P	Pn	04 29 54.9	-0.8
JMM	**Marumori**	**1.11**	**314**	P	Pn	04 29 56.2	+0.5
JMM				*e*S	Sn	04 30 09.2	-0.6
JOTO	**OTAMA OYAMA**	**1.26**	**292**	P	Pn	04 29 59.2	+1.4
JIO	**Ouri**	**1.40**	**345**	P	Pn	04 29 59.8	+0.2
JOU	**Okura**	**1.55**	**325**	P	Pn	04 30 03.8	+2.0

IDC 31 04:30:24.4±2.8, 46°.70N×151°.95E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=81.5km s-min=32.5km az=10.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**29.56**	**150**	T	T	05 08 08.6	
	baz=340,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**29.57**	**151**	T	T	05 08 03.6	
	baz=340,slow=76,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**29.57**	**150**	T	T	05 08 08.1	
	baz=340,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**30.63**	**152**	T	T	05 09 27.2	
	baz=341,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**30.64**	**152**	T	T	05 09 28.3	
	baz=341,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**30.65**	**152**	T	T	05 09 27.2	
	baz=341,slow=76,SNR=12						
ILAR	**Eielson Array**	**37.09**	**39**	P	P	04 37 36.3	+0.3
	0.2nm,0.6s,baz=261,slow=7.1,SNR=6.1						
	0.2nm,0.6s						
NVAR	**Mina Array Bea**	**63.16**	**62**	P	P	04 40 53.0	-1.3
	0.2nm,0.5s,baz=296,slow=6.6,SNR=3.0						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**63.74**	**334**	P	P	04 40 56.8	-0.7
	1.0nm,0.9s,baz=32,slow=5.6,SNR=4.9						
	1.0nm,0.9s						
HFS	**Hagfors**	**68.22**	**339**	P	P	04 41 26.3	0.0
	0.5nm,0.4s,baz=36,slow=5.4,SNR=7.0						
	0.5nm,0.4s						
AKASG	**Malin Array Be**	**71.14**	**326**	P	P	04 41 45.1	+0.7
	0.3nm,0.3s,baz=37,slow=6.4,SNR=1.6						
	0.3nm,0.3s						
TXAR	**Lajitas Array**	**78.21**	**60**	P	P	04 42 26.7	+0.7
	0.3nm,0.6s,baz=292,slow=4.5,SNR=9.0						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**114.72**	**328**	PKP	PKiKP	04 49 07.0	-0.1
	0.1nm,0.3s,baz=331,slow=2.5,SNR=1.7						

*CATAC **31** 04:33:22.3±0.4, 8°.88N×84°.04W, h5km, ML4.0*
*UCR **31** 04:33:22.7±1.0, 8°.88N×84°.07W, h14km±18km, MW4.4*
*UPA **31** 04:33:23.4±1.2, 8°.91N×84°.01W, h10km±40km, MW4.3*
ISC 31 04:33:22.8±1.3, 8°.93N±0°.04×84°.01W±0°.04, h11km±10km, n51, σ0s95/69, 2C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	**0.40**	**65**	*i* P	**Pb**	**04 33 31.2**	**-0.7**
OCHAL				IAML		04 33 31.3	
	comp=Z,5μm,1.0s						
OCHAL				*i* S	**Sb**	**04 33 38.1**	**+0.1**
EDPN	**Palmar Norte**	**0.55**	**87**	*e*P	**Pg**	**04 33 33.7**	**+0.3**
LLNJ	**Naranjito**	**0.55**	**350**	*e*P	**Pg**	**04 33 33.5**	**0.0**
RITA	**Parrita**	**0.67**	**331**	*e*P	**Pb**	**04 33 36.2**	**-0.3**
ABE2	**San Pablo**	**0.77**	**357**	*e*P	**Pg**	**04 33 37.4**	**-0.3**
JIME	**Puerto Jimenez**	**0.78**	**120**	*e*P	**Pg**	**04 33 37.9**	**0.0**
LCR2	**La Lucha 2**	**0.81**	**0**	*i* P	**Pg**	**04 33 37.7**	**-0.7**
LCR2				*i* S	**Sn**	**04 33 51.2**	**-1.3**
LCR2				IAML		04 33 51.9	
	comp=Z,5μm,1.0s						
LCR2	**La Lucha 2**	**0.81**	**0**	*e*P	**Pg**	**04 33 37.9**	**-0.5**
DRK0	**Durika**	**0.82**	**66**⇓	*i*P	**Pg**	**04 33 38.4**	**-0.3**
DRK0				*e*S	**Sn**	**04 33 52.1**	**-0.7**
DRK0	**Durika**	**0.82**	**66**	*i* P	**Pg**	**04 33 38.4**	**-0.3**
DRK0				*i* S	**Sn**	**04 33 51.8**	**-1.1**
DRK0				IAML		04 33 53.3	
	comp=Z,11μm,1.0s						
DRK0	**Durika**	**0.82**	**66**	*e*P	**Pg**	**04 33 38.5**	**-0.3**
REPA	**Paraso**	**0.90**	**9**	*e*P	**Pb**	**04 33 41.0**	**+0.3**
AMPA	**Desamparados**	**0.96**	**357**	*e*P	**Pg**	**04 33 40.4**	**-1.0**
TRIO	**Tres Rios**	**0.97**	**1**	*e*P	**Pg**	**04 33 40.7**	**-0.8**
SJS3	**Mercedes San J**	**1.00**	**358**	*e*P	**Pg**	**04 33 41.5**	**-0.6**
SANTA	**Santa Ana**	**1.01**	**350**	*e*P	**Pg**	**04 33 41.2**	**-1.1**
CORON	**Coronado**	**1.04**	**0**	*e*P	**Pg**	**04 33 42.4**	**-0.4**
RAFA	**San Farael, Vo**	**1.04**	**11**	*i* P	**Pg**	**04 33 42.2**	**-0.7**
RAFA				*i* S	**Sn**	**04 33 58.4**	**0.0**
RAFA				IAML		04 33 59.1	
	comp=Z,20μm,1.0s						
RAFA	**San Farael, Vo**	**1.04**	**11**	*e*P	**Pg**	**04 33 42.3**	**-0.5**
VERB	**Verbena**	**1.05**	**17**	*e*P	**Pg**	**04 33 42.7**	**-0.4**
VICA	**Volcano Irazu**	**1.06**	**9**	*e*P	**Pg**	**04 33 42.6**	**-0.7**
HDC	**Heredia**	**1.07**	**354**	*e*P	**Pg**	**04 33 42.5**	**-0.9**
HDC3	**Heredia 3**	**1.07**	**355**	*i* P	**Pg**	**04 33 42.1**	**-1.3**
HDC3				*i* S	**Sn**	**04 33 58.6**	**-0.3**
HDC3				IAML		04 34 02.6	
	comp=Z,4μm,1.0s						
VTR0	**Volcan Turrial**	**1.11**	**13**	*e*P	**Pg**	**04 33 43.8**	**-0.4**
TCS1	**Tacares**	**1.14**	**345**	*i* P	**Pb**	**04 33 43.7**	**-1.0**
TCS1				IAML		04 34 10.1	
	comp=Z,15μm,1.0s						
TCS1	**Tacares**	**1.14**	**345**	*e*P	**Pb**	**04 33 43.7**	**-0.9**
CDITO	**Canoas**	**1.18**	**107**	*i* P	**Pb**	**04 33 43.9**	**-1.3**
CDITO				*i* S	**Sn**	**04 34 01.5**	**+0.1**
CDITO				IAML		04 34 05.9	
	comp=Z,1μm,1.0s						
LCOCO	**El Coco**	**1.23**	**21**	*e*P	**Pn**	**04 33 45.8**	**-0.2**
BRU2	**Volcan**	**1.31**	**96**⇑	*i*P	**Pn**	**04 33 46.5**	**-0.7**
BRU2				*e*S	**Sn**	**04 34 04.7**	**-0.1**
BRU2	**Volcan**	**1.31**	**96**	*i* P	**Pn**	**04 33 46.8**	**-0.4**
BRU2				*i* S	**Sg**	**04 34 07.0**	**+2.0**
BRU2				IAML		04 34 21.5	
	comp=Z,2μm,1.0s						
BRU2	**Volcan**	**1.31**	**96**	*e*P	**Pn**	**04 33 46.6**	**-0.7**
PTPM	**Petroterminale**	**1.33**	**123**	*e*P	**Pn**	**04 33 46.4**	**-1.0**
PTPM				*e*S	**Sg**	**04 34 05.7**	**0.0**
BRIBI	**Bribri**	**1.33**	**59**	*e*P	**Pg**	**04 33 50.0**	**+1.6**
CARI	**Cariari**	**1.45**	**11**	*e*P	**Pg**	**04 33 50.4**	**-0.2**
BCO2	**Palmira**	**1.48**	**98**⇑	*i*P	**Pn**	**04 33 49.1**	**-0.5**
BCO2				*e*S	**Sb**	**04 34 09.5**	**+0.2**
LNBQ3	**Los Naranjos,**	**1.56**	**95**	*e*P	**Pn**	**04 33 50.0**	**-0.6**
SOCE	**Pocosol**	**1.56**	**337**	*i* P	**Pn**	**04 33 50.0**	**-0.7**
SOCE				*i* S	**Sg**	**04 34 14.0**	**+0.8**
SOCE				IAML		04 34 15.9	
	comp=Z,2μm,1.0s						
CNI2	**El Empalme, Bo**	**1.59**	**72**	*e*P	**Pn**	**04 33 51.1**	**+0.1**
CNI2				*e*S	**Sn**	**04 34 10.2**	**-1.5**
DVD	**David**	**1.62**	**108**	*e*P	**Pn**	**04 33 51.2**	**-0.2**
DVD				*e*S	**Sn**	**04 34 12.0**	**-0.2**
JTS	**Las Juntas de**	**1.64**	**326**	*e*P	**Pn**	**04 33 49.4**	**-2.3**
LOCO3	**Loma Colorada,**	**1.66**	**108**	*e*P	**Pn**	**04 33 51.5**	**-0.3**
ARE1	**Arenal 1**	**1.67**	**335**	*e*P	**Pn**	**04 33 51.5**	**-0.7**
LOMA3	**Las Lomas, Chi**	**1.67**	**107**	*e*P	**Pn**	**04 33 52.0**	**-0.1**
INDI	**Punta indio, G**	**1.74**	**302**	*i* P	**Pn**	**04 33 53.9**	**+0.8**
INDI				*i* S	**Sn**	**04 34 16.4**	**+1.0**
INDI				IAML		04 34 29.2	
	comp=Z,330nm,1.0s						
CHGR2	**Aguacate**	**1.84**	**90**	*e*P	**Pn**	**04 33 54.2**	**-0.2**
CHGR2				*e*S	**Sn**	**04 34 17.3**	**-0.5**
GMAL	**Guarumal, Vera**	**2.98**	**113**	*e*P	**Pn**	**04 34 09.5**	**-0.6**
CHIT3	**Chitre**	**3.68**	**105**	*e*P	**Pn**	**04 34 20.1**	**+0.3**
BOAB	**BOACO BROADBAN**	**3.86**	**335**	*i* P	**Pn**	**04 34 23.8**	**+1.6**
BOAB				*i* S	**Sn**	**04 35 11.4**	**+3.8**
BOAB				IAML		04 35 34.1	
	comp=Z,62nm,1.0s						
AZU	**Azuero**	**3.86**	**107**	*e*P	**Pn**	**04 34 22.4**	**+0.1**
BCIP	**Isla Barro Col**	**4.13**	**86**	*e*P	**Pn**	**04 34 26.7**	**+0.9**
BCIP	**Isla Barro Col**	**4.13**	**86**	*i* P	**Pn**	**04 34 26.5**	**+0.6**
BCIP				IAML		04 34 58.9	
	comp=Z,130nm,1.0s						
BCIP				*i* S	**Sn**	**04 35 16.0**	**+1.8**

*IDC **31** 04:41:07.4±3.0, 25°.04S×178°.95W, h393km±29km, mb3.3/4, mbtmp4.2/6, Error ellipse: s-maj=40.2km s-min=23.9km az=6.0*
*NEIC **31** 04:41:09.0±1.8, 25°.3S±0°.1×178°.9W±0°.2, h408km±6km, mb4.3/17, Error ellipse: s-maj=22.1km s-min=15.6km az=75.0*
ISC 31 04:41:07.5±0.9, 25°.27S±0°.08×179°.0W±0°.1, h388km, n31, σ1s11/31, mb4.0/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.08**	**167**	P	**Pn**	**04 42 21.9**	**+2.4**
	142nm,0.3s,baz=99,slow=19,SNR=12						
RAO				S	**S**	**04 43 16.2**	**-1.7**
	132nm,0.3s,baz=81,slow=22,SNR=2.1						
MSVF	**Nonsavu**	**7.99**	**339**	P	**P**	**04 43 03.4**	**+0.5**
URZ	**Urewera**	**13.37**	**193**	P	**P**	**04 44 03.7**	**+1.3**
	4.0nm,0.4s,baz=346,slow=5.1,SNR=14						
URZ				S	**S**	**04 46 25.0**	**-2.3**
	12nm,0.6s,baz=334,slow=22,SNR=18						

DZM	**Mont Dzumac**	**13.72**	**280**	P	**P**	**04 44 06.3**	**-0.4**
RTZ	**Ruatahuna**	**13.74**	**193**	P	**P**	**04 44 07.5**	**+0.9**
MLZ	**Mavora Lakes**	**22.59**	**204**	P	**P**	**04 45 35.2**	**-1.0**
MLZ				IAmb	IAmb	04 46 00.4	
	comp=Z,46nm,1.4s						
EIDS	**Eidsvold**	**27.03**	**263**	P	**P**	**04 46 17.1**	**+0.9**
EIDS				IAmb	IAmb	04 46 45.2	
	comp=Z,10nm,1.5s						
CTAO	**Charters Tower**	**32.42**	**272**	P	**P**	**04 47 04.1**	**+0.8**
CTAO				IAmb	IAmb	04 47 05.6	
	comp=Z,9.3nm,0.6s						
STKA	**Stephens Creek**	**35.10**	**250**	P	**P**	**04 47 27.4**	**+1.4**
STKA	**Stephens Creek**	**35.10**	**250**	P	**P**	**04 47 27.0**	**+1.1**
	comp=Z,1.9nm,0.4s,baz=108,slow=15,SNR=7.4						
	comp=Z,1.9nm,0.4s						
BBOO	**Buckleboo**	**39.78**	**248**	P	**P**	**04 48 04.6**	**-0.1**
BBOO				IAmb	IAmb	04 48 26.4	
	comp=Z,72nm,1.5s						
ASAR	**Alice Springs**	**42.74**	**262**	P	**P**	**04 48 28.1**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=94,slow=7.4,SNR=17						
	comp=Z,1.2nm,0.4s						
WR0	**Warramunga Arr**	**43.06**	**267**	P	**P**	**04 48 30.4**	**-0.8**
WB2	**Warramunga Arr**	**43.24**	**267**	P	**P**	**04 48 32.2**	**-0.5**
WB2				IAmb	IAmb	04 48 45.3	
	comp=Z,9.4nm,1.4s						
WB0	**Warramunga Arr**	**43.25**	**268**	P	**P**	**04 48 32.3**	**-0.4**
WB0				IAmb	IAmb	04 49 08.6	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**43.25**	**267**	P	**P**	**04 48 32.0**	**-0.7**
WRA	**Warramunga Arr**	**43.25**	**267**	P	**P**	**04 48 32.1**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=99,slow=6.8,SNR=36						
	comp=Z,1.0nm,0.4s						
FORT	**Forrest**	**46.72**	**251**	P	**P**	**04 48 59.8**	**+0.3**
FORT				IAmb	IAmb	04 49 11.9	
	comp=Z,25nm,0.9s						
KNRA	**Kununurra**	**49.61**	**271**	P	**P**	**04 49 21.9**	**+0.4**
KNRA				IAmb	IAmb	04 49 40.3	
	comp=Z,11nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.65**	**266**	P	**P**	**04 49 37.1**	**+0.6**
GIRL	**Giralia**	**60.51**	**257**	P	**P**	**04 50 38.3**	**-0.1**
QSPA	**South Pole Qui**	**64.82**	**180**	P	**P**	**04 51 04.9**	**-1.1**
QSPA				IAmb	IAmb	04 51 32.1	
	comp=Z,5.5nm,1.4s						
QSPA	**South Pole Qui**	**64.82**	**180**	P	**P**	**04 51 06.9**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=183,slow=2.8,SNR=2.1						
	comp=Z,0.9nm,0.8s						
XMIS	**Christmas Isla**	**72.44**	**267**	P	**P**	**04 51 51.9**	**-1.4**
ADK	**Adak**	**76.84**	**1**	P	**P**	**04 52 17.0**	**-0.3**
SNAA	**Sanae**	**83.29**	**179**	P	**P**	**04 52 51.9**	**+0.5**
BVAR	**Borovoye Array**	**122.07**	**318**	PKP	**PKPdf**	**04 59 15.0**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=90,slow=1.4,SNR=2.2						
NOA	**NORSAR Array B**	**143.57**	**352**	PKP	PKPbc	04 59 53.5	-0.9
	comp=Z,0.4nm,0.8s,baz=16,slow=5.0,SNR=3.6						
HFS	**Hagfors**	**144.06**	**349**	PKP	PKPbc	04 59 55.1	-0.8
	comp=Z,2.5nm,0.4s,baz=64,slow=3.4,SNR=36						
AKASG	**Malin Array Be**	**146.62**	**327**	PKPbc	**PKPbc**	**05 00 02.2**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=54,slow=3.1,SNR=4.3						
BRTR	**Keskin Array B**	**149.13**	**306**	PKPbc	**PKPbc**	**05 00 10.4**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=78,slow=5.0,SNR=1.9						

NNC 31 04:50:04.1±3.1, 36°.87N×70°.68E, h0km, mb4.0, mpv3.8, 1C-1D, Error ellipse: s-maj=31.1km s-min=24.2km az=58.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.29**	**355**	Pg	Pn	04 51 30.6	+6.1
IUG				Lg	Lg	04 52 35.3	
MRKS	**Merke**	**6.18**	**18**	Pg	Pn	04 51 37.2	+0.5
	4.4nm,0.4s						
MRKS				Lg	Lg	04 52 46.8	
	6.1nm,0.4s						
KK31	**Karatay Array**	**6.22**	**359**	P	Pn	04 51 37.6	+0.4
	3.6nm,0.3s,baz=180,slow=13,SNR=77		

MKAR	Makanchi Array 0.2nm,0.5s,baz=95,slow=9.8,SNR=2.4 0.2nm,0.5s	62.22	316	P	P	05 17 08.5	-2.0
ILAR	Eielson Array 0.1nm,0.5s,baz=238,slow=5.2,SNR=4.2 0.1nm,0.5s	69.01	25	P	P	05 17 54.0	+0.1

DJA 31 05:12:12.6±1.0, 10°S±12°×11°3E±°, h10km, M3.8/9, mb3.9/1, MLv3.8/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.81	49	P	Pn	05 12 43.1	-0.8
PWJI	Pagerwojo	1.88	330	P	Pn	05 12 44.4	-0.4
ABJI	Asem Bagus	2.36	38	P	Pn	05 12 52.4	+1.0
DNP	Denpasar	2.61	68	P	Pn	05 12 54.6	-0.3
UGM	Wanagama	2.81	308	P	Pn	05 12 57.7	0.0
SRBI	Singaraja	2.88	57	P	Pn	05 13 00.1	+1.4
TWSI	Taliwang, Sumb	4.17	78	P	Pn	05 13 16.1	-0.3

*NEIC **31** 05:12:53.9±1.3, 36°.77N×0°.02×98°.70W±0°.02, h5km±1km, Error ellipse: s-maj=3.9km s-min=2.2km az=307.0*

TUL 31 05:12:54.7±1.3, 36°.78N±0°.02×98°.68W±0°.01, h11km±8km, ML3.2, mb_Lg2.7/89(NEIC), ML3.2/22(NEIC), Error ellipse: s-maj=3.1km s-min=0.9km az=162.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	Waynoka	0.25	235	Pg	Pg	05 13 00.2	+0.4
NOKA				Sg	Sg	05 13 04.0	+0.7
OK038	West end E0370	0.30	189	Pg	Pg	05 13 01.1	+0.2
OK038				IAML		05 13 06.0	
	3μm,0.2s						
OK038				IAML		05 13 10.4	
	3μm,0.2s						
OK032	Salt Plains WL	0.38	86	Pg	Pg	05 13 02.6	+0.3
OK032				Sg	Sg	05 13 08.2	+0.9
OK032				IAML		05 13 08.6	
	3μm,0.2s						
OK032				IAML		05 13 10.8	
	2μm,0.1s						
U32A	Winter Ranch,	0.47	213	Pg	Pg	05 13 04.0	0.0
U32A				Sg	Sg	05 13 10.6	+0.3
U32A				IAML		05 13 11.1	
	comp=E,2μm,0.3s						
KAN14	Manchester OK	0.60	73	Pg	Pg	05 13 06.6	+0.1
KAN14				Sg	Sg	05 13 15.1	+0.7
CROK	Carrier	0.62	116	Pg	Pg	05 13 06.9	+0.1
CROK				Sg	Sg	05 13 15.5	+0.4
CROK				IAML		05 13 15.9	
	comp=E,1μm,0.3s						
CROK				IAML		05 13 15.9	
	comp=N,2μm,0.3s						
GC02	Grant County #	0.66	83	Pg	Pg	05 13 07.6	0.0
KAN08	Anthony NE Sta	0.72	52	Pg	Pg	05 13 08.8	+0.1
KAN08				Sg	Sb	05 13 18.8	-0.5
KAN05	Bluff City Nor	0.73	63	Pg	Pg	05 13 08.9	+0.1
KAN05				Sg	Sb	05 13 18.9	-0.5
KAN12	Harper NE Stat	0.75	46	Pg	Pg	05 13 09.1	-0.2
KAN17	Caldwell West	0.78	70	Pg	Pg	05 13 09.8	-0.1
KAN17				Sg	Sg	05 13 20.4	+0.4
KAN01	Argonia South	0.83	63	Pg	Pg	05 13 10.6	-0.1
KAN09	Caldwell North	0.92	67		Pg	05 13 12.3	-0.2
KAN09				Sg	Sg	05 13 24.8	+0.2
ELIS	Ellis County	0.93	220		Pg	05 13 12.4	-0.2
ELIS				IAML		05 13 26.2	
	comp=N,713nm,0.2s						
ELIS				IAML		05 13 28.6	
	comp=E,899nm,0.2s						
KS21	Milan North St	0.96	58	Pg	Pg	05 13 13.1	-0.2
KAN13	South Haven SW	0.99	76	Pg	Pg	05 13 13.4	-0.5
CSTR	Hydro, Custer	1.13	180		Pb	05 13 15.7	-0.5
BLOK	Blackwell	1.18	90	Pg	Pb	05 13 16.5	-0.5
OK048	Pawnee Station	1.45	104	Pn	Pn	05 13 20.9	+0.1
R32A	Long Quarter,	1.64	359		Pb	05 13 24.4	-0.6
FNO	Franklin	1.84	145		Pn	05 13 26.5	+0.3
WMOK	Wichita Mounta	2.04	182	Pn	Pn	05 13 29.5	+0.6
SMWD	Samnorwood	2.10	218		Pn	05 13 30.9	+1.2
CBKS	Cedar Bluff	2.20	338	Pn	Pb	05 13 33.1	-1.4
X34A	Smith Ranch, M	2.28	162		Pn	05 13 33.4	+1.2
X34A				IAmb_Lg		05 14 09.4	
	comp=Z,31nm,0.8s						
TUL3	Leonard	2.49	109		Pn	05 13 36.3	+1.2
TUL3				IAmb_Lg		05 14 16.4	
	comp=Z,44nm,0.9s						
KSU1	Kansas State U	2.84	35	Pn	Pn	05 13 41.0	+1.1
KSU1				IAmb_Lg		05 14 26.2	
	comp=Z,22nm,0.8s						
WTFS	Witchita Falls	3.01	177	Pn	Pn	05 13 42.9	+0.6
RLO	Rose Lookout	3.01	101	Pn	Pn	05 13 43.2	+0.9
LOOK	Love County	3.04	156	Pn	Pn	05 13 43.6	+0.9
RTBA	Rita Blanca	3.28	265		Pn	05 13 46.1	0.0
X37A	Clayton	3.47	128	Pn	Pn	05 13 48.9	+0.3
U38A	Gravette	3.47	94		Pn	05 13 49.4	+0.7
DKNS	Dickens	3.61	211	Pn	Pn	05 13 52.2	+1.7
DKNS				IAmb_Lg		05 14 47.1	
	comp=Z,13nm,0.9s						
APMT	Aspermont	3.64	199	Pn	Pn	05 13 52.1	+1.1
KSCO	Kaye Shedlock'	3.83	307	IAmb_Lg		05 15 02.0	
	comp=Z,21nm,0.8s						
FW06	Azle	3.91	166	IAmb_Lg		05 14 56.8	
	comp=Z,12nm,1.0s						
SN07	Snyder 07	4.10	207	IAmb_Lg		05 15 06.9	
	comp=Z,13nm,0.7s						
ABTX	Abilene, Hawle	4.22	191	Pn	Pn	05 13 59.1	+0.1
POST	Post	4.37	213	IAmb_Lg		05 15 25.1	
	comp=Z,12nm,0.8s						
S39A	Bolivar	4.37	76		Pn	05 14 01.3	+0.3
S39A				IAmb_Lg		05 15 12.7	
	comp=Z,14nm,0.9s						
TREL	Terrell	4.57	151	IAmb_Lg		05 15 26.4	
	comp=Z,12nm,0.7s						
T25A	Trinidad	4.60	276	IAmb_Lg		05 15 19.9	
	comp=Z,23nm,0.9s						
BGNE	Belgrade	4.64	5		Pn	05 14 04.7	0.0
BGNE				IAmb_Lg		05 15 31.8	
	comp=Z,14nm,0.8s						
MIAR	Mount Ida	4.72	117	IAmb_Lg		05 15 29.4	
	comp=Z,12nm,0.8s						
P38A	Dawn	4.95	53	Pn	Pn	05 14 09.8	+0.8
P38A				IAmb_Lg		05 15 33.3	
	comp=Z,20nm,0.9s						
MGMO	Mountain Grove	5.15	84	IAmb_Lg		05 15 42.5	
	comp=Z,11nm,0.9s						
SGCY	Sterling City	5.25	203	IAmb_Lg		05 15 52.1	
	comp=Z,16nm,0.9s						
X40A	Basin Creek Fa	5.28	114	IAmb_Lg		05 15 49.4	
	comp=Z,12nm,1.0s						
R40A	Maddies Statio	5.32	72	IAmb_Lg		05 15 42.7	
	comp=Z,15nm,0.8s						
237A	Washetta, Mont	5.32	153	IAmb_Lg		05 15 57.6	
	comp=Z,17nm,1.2s						
WHAR	Wooly Hollow	5.39	104	IAmb_Lg		05 15 47.5	
	comp=Z,13nm,1.0s						
WLAR	White Oak Lake	5.50	122	IAmb_Lg		05 15 58.2	
	comp=Z,14nm,0.8s						
Q24A	Divide	5.56	295	IAmb_Lg		05 15 55.7	
	comp=Z,16nm,0.8s						
BRIGG	Briggsdale	5.82	312	IAmb_Lg		05 16 06.7	
	comp=Z,16nm,0.9s						
K30B	Basset	5.93	353		Pn	05 14 22.7	+0.2
K30B				IAmb_Lg		05 16 16.9	
	comp=Z,11nm,0.7s						
Z41A	Richland Creek	5.97	124	IAmb_Lg		05 16 15.1	
	comp=Z,12nm,0.7s						
435B	Jarrell	6.05	171	IAmb_Lg		05 16 17.7	
	comp=Z,12nm,0.8s						
CCM	Cathedral Cave	6.06	76	IAmb_Lg		05 16 13.7	
	comp=Z,12nm,0.8s						
T42A	Van Buren	6.09	85	IAmb_Lg		05 16 17.8	
	comp=Z,8.6nm,1.0s						
LCAR	Lake Charles	6.11	94	IAmb_Lg		05 16 17.3	
	comp=Z,7.8nm,1.0s						
ISCO	Idaho Springs	6.23	301	IAmb_Lg		05 16 17.1	
	comp=Z,7.0nm,0.7s						
PBMO	Poplar Bluff	6.62	88	IAmb_Lg		05 16 33.9	
	comp=Z,9.4nm,0.8s						
SCIA	State Center	6.65	38	IAmb_Lg		05 16 29.5	
	comp=Z,14nm,0.8s						
FVM	French Village	6.68	77	IAmb_Lg		05 16 25.0	
	comp=Z,8.2nm,0.8s						
PHWY	Pilot Hill	6.94	313	IAmb_Lg		05 16 37.9	
	comp=Z,6.9nm,0.8s						
N23A	Red Feather La	7.00	308	IAmb_Lg		05 16 38.5	
	comp=Z,13nm,0.8s						
CGM3	Cape Girardeau	7.24	83	IAmb_Lg		05 16 52.6	
	comp=Z,6.9nm,1.0s						
S44A	Carbondale	7.58	80	IAmb_Lg		05 16 55.1	
	comp=Z,10nm,0.7s						
VBMS	Vicksburg	8.13	122	IAmb_Lg		05 17 28.0	
	comp=Z,7.0nm,0.7s						
RWWY	Rawlins	8.23	309	IAmb_Lg		05 17 20.5	
	comp=Z,7.1nm,1.1s						
RSSD	Black Hills	8.39	333	IAmb_Lg		05 17 31.3	
	comp=Z,7.0nm,0.9s						
K22A	Casper	8.42	317	IAmb_Lg		05 17 31.0	
	comp=Z,10nm,1.0s						
JFWS	Jewell Farm	8.92	44	IAmb_Lg		05 17 40.7	
	comp=Z,7.9nm,0.8s						
F33A	5 Mile Ranch,	9.23	10	IAmb_Lg		05 17 51.9	
	comp=Z,4.2nm,1.2s						
I40A	Norwalk	9.40	38	IAmb_Lg		05 17 58.8	
	comp=Z,3.9nm,0.8s						

*ECX **31** 05:18:04.8±0.3, 30°.05N×114°.18W, h13km±4km, ML2.9*
*MEX **31** 05:18:06.1±0.4, 30°.04N×114°.12W, h10km, MD4.0*

ISC 31 05:18:02.0±1.7, 30°.05N±0°.04×114°.14W±0°.04, h7km±13km, n12,σ0°.77/21, 1C-6D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGB	San Luis Gonza	0.32	226	⇑eP	Pb	05 18 10.6	+0.5
SLGB				eS	Sb	05 18 14.8	-0.6
SLGB				IAML		05 18 17.3	
	comp=N,2μm,0.6s						
SLGB				⇓e		05 18 17.3	
SFX	San Felipe	1.16	328	i P	Pn	05 18 24.7	-0.1
SFX				i S	Sb	05 18 39.6	0.0
SFX	San Felipe	1.16	328	eP	Pn	05 18 24.6	-0.1
SFX				i S	Sb	05 18 40.0	+0.3
BAHB	Baha de los	1.21	155	eP	Pn	05 18 26.2	+0.8
BAHB				eS	Sn	05 18 41.1	-1.0
PPXB	Puerto Peasco	1.35	19	⇓eP	Pg	05 18 28.0	0.0
SPIG	San Pedro Mart	1.51	311	i P	Pn	05 18 30.6	-0.5
SPIG				eS	Sn	05 18 49.2	-0.9
SPIG	San Pedro Mart	1.51	311	⇓iP	Pg	05 18 30.6	-0.5
SPIG				eS	Sn	05 18 50.1	+0.1
SQX	San Quintin	1.59	290	eP	Pb	05 18 31.5	-0.3
SQX				eS	Sb	05 18 51.8	-0.3
SQX				IAML		05 18 56.1	
	comp=E,220nm,0.6s						
SQX				⇓e		05 18 56.1	
SQX				⇓e		05 18 56.2	
SQX				IAML		05 18 56.2	
	comp=N,170nm,0.4s						
PIX	Pinacate	1.61	21	⇓iP	Pb	05 18 32.0	-0.1
LAPR	La Primavera	1.64	74	eP	Pb	05 18 32.2	-0.4
LAPR				i S	Sn	05 18 52.1	-0.5
214A	Organ Pipe Nat	2.21	31	eP	Pn	05 18 40.6	+1.3
214A				eS	Sn	05 19 06.3	-0.6
TJIG	Tijuana	3.22	318	eP	Pn	05 18 55.0	+1.9

NEIC 31 05:20:38.1±1.5, 35°.09N±0°.01×97°.62W±0°.02, h5km±1km, mb_Lg1.7/8, ML1.7/20, Error ellipse: s-maj=3.3km s-min=1.9km az=139.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.24	46	Pg	Pg	05 20 43.4	+0.5
FNO				Sg	Sg	05 20 47.1	+1.0
FNO				IAML		05 20 51.6	
	comp=E,167nm,0.5s						
FNO				IAML		05 20 51.9	
	comp=N,99nm,0.7s						
X34A	Smith Ranch, M	0.52	200	Pg	Pg	05 20 48.4	+0.2
X34A				IAML		05 20 56.5	
	comp=N,60nm,0.9s						
ADOK	Arcadia Dam	0.59	19	Pg	Pb	05 20 50.7	-0.4
OK029	Liberty Lake	0.72	10	Pg	Pb	05 20 52.8	-0.4
OK029				IAML		05 21 11.7	
	comp=N,24nm,0.2s						
OK029				IAML		05 21 16.5	
	comp=N,26nm,0.6s						
WMOK	Wichita Mounta	1.02	250	Pg	Pg	05 20 57.0	-0.8
QUOK	Quay	1.31	34		Pn	05 21 02.4	-0.7
OK048	Pawnee Station	1.43	22		Pn	05 21 04.7	-0.1
CROK	Carrier	1.44	348		Pb	05 21 05.4	-0.1
OK051	E0350 and S346	1.55	24		Pn	05 21 06.7	+0.3
TUL3	Leonard	1.70	61		Pb	05 21 09.4	-0.5
ELIS	Ellis County	1.76	304	Pn	Pn	05 21 10.0	+0.6
OK032	Salt Plains WL	1.78	344	Pn	Pn	05 21 08.9	-0.6
X37A	Clayton	1.91	105	Pn	Pn	05 21 12.0	+0.6
SMWD	Samnorwood	2.15	271	Pn	Pb	05 21 16.9	-0.8
SMWD				IAmb_Lg		05 21 48.8	
	comp=Z,4.2nm,1.1s						
DKNS	Dickens	3.08	244	IAmb_Lg		05 22 20.4	
	comp=Z,3.6nm,0.8s						
HHAR	Hobbs	3.22	67	IAmb_Lg		05 22 20.8	
	comp=Z,1.6nm,0.7s						

DJA 31 05:34:14.1±0.5, 10°S±7°×11°3E±°, h10km, M4.3/12, mb4.5/5, mB6.0/1, MLv4.2/12, Mw(mB)5.7/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	Pagerwojo	1.88	332	P	Pn	05 34 45.4	-1.0
JAGI	Jajag, Banyuwa	1.89	50	P	Pn	05 34 45.7	-0.8
ABJI	Asem Bagus	2.43	39	P	Pn	05 34 53.8	-0.1
DNP	Denpasar	2.69	68	P	Pn	05 34 57.3	-0.1
UGM	Wanagama	2.78	309	P	Pn	05 34 59.2	+0.4
SRBI	Singaraja	2.96	57	P	Pn	05 35 00.9	-0.3
TWSI	Taliwang, Sumb	4.25	77	P	Pn	05 35 19.1	+0.2
CMJI	Cimerak	4.61	294	P	Pn	05 35 23.8	0.0
PLAI	Plampang 38nm,0.8s,0.2nm	5.09	81	P	Pn	05 35 30.6	0.0
JCJI	Jatiwangi	5.42	306	P	Pn	05 35 33.4	-1.6

*IDC **31** 05:44:14.7±2.3, 51°.49N×176°.89E, h0km, mb3.5/5, mbtmp3.7/7, ML4.3/2, MS2.3/1, Error ellipse: s-maj=61.6km s-min=19.1km az=15.0*
*NEIC **31** 05:44:14.7±2.0, 52°.0N±0°.1×176°.09E±0°.09, h35km±2km, mb3.9/5, ML3.7(AEIC), Error ellipse: s-maj=25.8km s-min=7.4km az=194.0*
*AEIC **31** 05:44:19.1±2.5, 51°.45N±0°.08×176°.83E±0°.06, h29km±7km, Error ellipse: s-maj=11.1km s-min=4.7km az=170.0*

ISC 31 05:44:15.9±2.2, 51°.5N±0°.2×176°.78E±0°.05, h12km±11km, n38,σ1°.63/42, mb3.5/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	Little Sitkin	1.19	65		Pg	05 44 39.1	+0.4
LSNW	Little Sitkin	1.20	64		Pg	05 44 39.2	+0.3
LSNW					Sn	05 44 54.8	+0.2
LSSE	Little Sitkin	1.21	66		Pg	05 44 39.4	+0.3
LSPA	Little Sitkin	1.22	65		Pg	05 44 39.6	+0.2
LSPA					Sn	05 44 55.5	+0.4
AMKA	Amchitka	1.58	92		Pn	05 44 43.9	+0.3
AMKA	Amchitka	1.58	92		Sn	05 45 02.2	-1.7
CESW	Semis' Southwe	1.79	74		Pb	05 44 47.9	-0.6
CEAP	Semis' Anvil P	1.82	71		Pb	05 44 48.7	-0.4
CEAP					Sb	05 45 11.7	-0.2
CERB	Semis' Cerberu	1.84	74		Pb	05 44 49.4	+0.1
CERB					Sb	05 45 11.6	-0.6
CEPE	Semis' Perret	1.86	73		Pb	05 44 49.1	-0.5
CEPE					Sb	05 45 13.7	+0.9
SHEM	Shemya Is, Ala 64nm,0.3s,baz=148,slow=19,SNR=36	2.09	309	Pn	Pb	05 44 53.3	-0.4
SHEM				Sn	Sb	05 45 19.9	+0.3
	71nm,0.3s,baz=273,slow=23,SNR=13						
SHEM				LR	LR	05 45 36.3	
	comp=Z,70nm,20.2s,baz=340,slow=38 108nm,0.3s						
GASW	Gareloi Southw	2.74	81		Sn	05 45 33.5	+1.0
GANE	Gareloi Northe	2.79	81		Pn	05 45 02.3	+2.0
GANE					Sb	05 45 37.6	-2.1
GAEA	Gareloi East	2.81	81		Pn	05 45 02.8	+2.3
TASE	Tanaga Southea	3.25	81		Pn	05 45 08.7	+2.0
TAFP	Tanaga Falls P	3.29	80		Pn	05 45 08.7	+1.6
TAFP					Sn	05 45 47.2	+1.1
KIKV	Kanaga Island	3.79	81		Pn	05 45 16.1	+2.1
KIWB	Kanaga Island	3.80	82		Pn	05 45 16.0	+1.9
ADK	Adak	4.09	81		Pn	05 45 19.6	+1.5
ADK					Sn	05 46 07.0	+1.1
ATKA	Atka Island	5.65	79		Pn	05 45 41.7	+2.3
ATKA					Sn	05 46 46.0	+1.9
CNBA	Chernabura Isl	14.55	67	Pn	Pn	05 47 40.6	-0.8
P19K	Oil Pt	18.70	52		P	05 48 31.1	-2.7
KDAK	Kodiak Island	18.72	58		P	05 48 31.3	-2.7
KDAK	Kodiak Island 1.1nm,0.3s,baz=289,slow=10,SNR=8.3 3.5nm,0.4s	18.72	58	P	P	05 48 31.8	-2.2
CNPM	China Poot	19.67	53	P	P	05 48 41.8	-2.6
CNPM				IAmb	IAmb	05 49 20.8	
	comp=Z,7.8nm,1.0s						
CAST	Castle Rocks	20.35	42	P	P	05 48 48.0	-3.7
CAST				IAmb	IAmb	05 48 54.2	
	comp=Z,3.7nm,0.7s						
BPAW	Bear Paw Mtn.	21.05	41	P	P	05 48 56.6	-2.7
ILAR	Eielson Array comp=Z,0.5nm,0.5s,baz=245,slow=8.2,SNR=10 comp=Z,0.5nm,0.5s	22.95	41	P	P	05 49 19.1	-0.5
H11N2	WAKE ISLAND Hy 32.60 baz=11,slow=76,SNR=56	197		T	T	06 26 10.0	
H11N3	WAKE ISLAND Hy 32.61 baz=11,slow=76,SNR=42	197		T	T	06 26 10.9	
H11N1	WAKE ISLAND Hy 32.62 baz=11,slow=76,SNR=43	197		T	T	06 26 11.4	
H11S1	WAKE ISLAND Hy 33.83 baz=11,slow=76,SNR=14	197		T	T	06 27 48.9	
H11S3	WAKE ISLAND Hy 33.84 baz=11,slow=76,SNR=8.0	197		T	T	06 27 28.8	
H11S2	WAKE ISLAND Hy 33.84 baz=11,slow=76,SNR=7.6	197		T	T	06 27 32.7	
NVAR	Mina Array Bea comp=Z,0.3nm,0.5s,baz=302,slow=7.3,SNR=4.6 comp=Z,0.3nm,0.5s	46.27	80	P	P	05 52 41.4	+0.2
PDAR	Pinedale Array comp=Z,0.4nm,0.8s,baz=347,slow=3.7,SNR=3.7 comp=Z,0.4nm,0.8s	48.90	70	P	P	05 53 03.6	+2.1
BVAR	Borovoye Array comp=Z,1.8nm,0.4s,baz=59,slow=6.6,SNR=10 comp=Z,1.8nm,0.4s	59.00	317	P	P	05 54 14.9	-0.1
TXAR	Lajitas Array comp=Z,0.3nm,0.6s,baz=298,slow=5.2,SNR=5.4 comp=Z,0.3nm,0.6s	61.36	78	P	P	05 54 31.6	+0.1

*IDC **31** 05:53:48.7±0.9, 36°.57N×138°.48E, h0km, mb3.8/5, mbtmp3.9/9, ML3.3/4, MS3.0/5, Error ellipse: s-maj=21.1km s-min=5.5km az=168.0*
*NIED **31** 05:53:50.4, 36°.62N×138°.37E, h0km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.28; $M_{\theta\theta}$0.23; $M_{\phi\phi}$-0.51; $M_{r\theta}$-0.60; $M_{\theta\phi}$-0.68; $M_{\phi r}$-0.19; Fault plane solution: $M_0$1.02000×10^{15} NP1: ϕ_s250.00000°, δ80.00000°, λ137.00000°. NP2: ϕ_s349.00000°, δ48.00000°, λ14.00000°.*
*JMA **31** 05:53:50.4±0.3, 36°.6N±0°.3×138°.4E±0°.3, h0km±2km, MV3.7/20, NEAR MATSUSHIRO*
JMA Felt III J1 at NEAR MATSUSHIRO .

ISC 31 05:53:50.3±1.0, 36°.59N±0°.05×138°.40E±0°.03, h7km±7km, n21,σ1°.13/23, mb3.9/5, 3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr 695nm,0.3s,baz=38,slow=17,SNR=5667	0.16	253	Pg	Pg	05 53 52.2	-1.4
MJAR				Lg	Lg	05 53 55.0	
	820nm,0.3s,baz=212,slow=12,SNR=62						
MAT	Matsushiro	0.16	254	i P	Pg	05 53 53.4	-0.2
MAT				S	Sg	05 53 55.5	-0.3
JGK	Kuni	0.20	97	⇓iP	Pg	05 53 55.4	+1.1
JNG	Nsakai	0.30	233	i P	Pg	05 53 56.3	0.0
JNG				S	Sg	05 54 00.3	+0.1
JRY	Ryogami san	0.70	144	i P	Pb	05 54 04.2	-0.7
JRY				S	Sb	05 54 14.2	-0.6
JKT	Katashina	0.71	75	i P	Pb	05 54 04.7	-0.4
JUON	Uonuma	0.81	40	i P	Pb	05 54 05.6	-1.3
JUON				S	Sg	05 54 16.2	-0.4
JTT	Ttatey	0.85	271	P	Pb	05 54 07.2	-0.3
JAG	Ashikaga	0.87	100	⇓iP	Pb	05 54 07.2	-0.5
JAG				⇓S	Sb	05 54 18.6	-0.9
JHJ	Hachijo jima 2 17nm,0.3s,baz=343,slow=19,SNR=3.8 38nm,0.4s	3.64	161	Pn	Pn	05 54 47.9	+0.8
JNU	Nakatsue 0.2nm,0.3s,baz=359,slow=5.3,SNR=3.8	7.08	243	Pn	Pn	05 55 36.3	+1.9
JNU				LR	LR	05 58 32.5	
	comp=Z,170nm,18.4s,baz=35,slow=40 14nm,0.9s						
KSRS	Korea Array 0.7nm,0.3s,baz=95,slow=13,SNR=6.0	8.42	279	Pn	Pn	05 55 54.6	+1.9
KSRS				LR	LR	05 58 59.6	
	comp=Z,69nm,18.7s,baz=105,slow=36 1.6nm,0.3s						
JCJ	Chichijima	9.99	160	LR	LR	05 59 21.7	
	comp=Z,46nm,19.4s,baz=352,slow=34						
KLR	Kul'dur 0.1nm,0.3s,baz=158,slow=13,SNR=8.6 5.9nm,1.1s	13.53	341	Pn	Pn	05 57 04.1	+1.5
SONM	Songino Array	26.05	306	LR	LR	06 09 28.9	
	comp=Z,56nm,19.7s,baz=218,slow=36						
CMAR	Chiang Mai Arr comp=Z,29nm,18.4s,baz=200,slow=40	39.05	253	LR	LR	06 19 49.1	
ILAR	Eielson Array 0.8nm,0.8s,baz=277,slow=7.2,SNR=4.6 0.8nm,0.8s	51.16	32	P	P	06 02 51.8	-1.8
WRA	Warramunga Arr 1.7nm,0.8s,baz=1.0,slow=7.5,SNR=11 1.7nm,0.8s	56.35	185	P	P	06 03 30.7	-1.4
ASAR	Alice Springs 0.4nm,0.4s,baz=8.7,slow=8.6,SNR=6.1 0.4nm,0.4s	60.08	185	P	P	06 03 57.3	-0.9
NOA	NORSAR Array B 0.9nm,0.9s,baz=41,slow=5.7,SNR=2.7 0.9nm,0.9s	73.64	336	P	P	06 05 23.6	-0.6
NVAR	Mina Array Bea 0.9nm,0.9s,baz=279,slow=6.1,SNR=4.8 0.9nm,0.9s	77.18	52	P	P	06 05 45.7	+0.5

*IDC **31** 05:55:23.8±0.6, 51°.52N×173°.93W, h0km, mb4.1/23, mbtmp4.1/25, ML3.9/2, MS3.5/18, Error ellipse: s-maj=21.8km s-min=12.5km az=0.0*
*AEIC **31** 05:55:26.7±1.8, 51°.32N±0°.04×173°.91W±0°.08, h16km±5km, Error ellipse: s-maj=7.3km s-min=5.2km az=86.0*
*MOS **31** 05:55:27.3±1.2, 51°.55N×173°.87W, h35km, mb4.6/13, Error ellipse: s-maj=13.9km s-min=9.6km az=94.1*
*NEIC **31** 05:55:29.4±1.7, 51°.39N±0°.03×173°.94W±0°.09, h40km±8km, mb4.1/109, ML4.0/6, ML3.8(AEIC), Error ellipse: s-maj=8.4km s-min=3.2km az=112.0*

ISC 31 05:55:29.3±0.5, 51°.46N±0°.08×173°.91W±0°.04, h35km, n204,σ1°.20/167, mb4.3/70, MS3.5/17, 6C-5D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.77	347		Pn	05 55 43.3	-0.3
ATKA				IAML		05 55 57.2

CLES Cleveland East 2.83 59 IAML 05 57 13.5
comp=E,781nm,1.0s
GANE Gareloi Northe 3.06 279 **Pn** **05 56 15.1 0.0**
NIKH Nikolski High 3.46 62 **Pn** **05 56 20.8 +0.2**
NIKH **Sn** **05 57 02.2 +1.9**
OKTU Okmok Mt. Tuli 4.08 59 **Pn** **05 56 30.7 +1.6**
AMKA Amchitka 4.25 272 **Pn** **05 56 31.2 -0.3**
MAPS Pakushin South 4.85 58 **Pn** **05 56 41.3 +1.6**
MGOD Makushin Gods 4.88 59 **Pn** **05 56 41.4 +1.2**
MSW Makushin Switc 4.98 58 **Pn** **05 56 43.1 +1.6**
UNV Unalaska Valle 5.10 59 **Pn** **05 56 44.8 +1.7**
P08K Saint George I 5.76 25 **Pn** **05 56 54.7 +2.6**
SHEM Shemya Is, Ala 7.50 284 Pn **Pn** **05 57 15.3 -0.7**
comp=E,0.8nm,0.3s,baz=18,slow=9.6,SNR=1.3
SHEM Sn **Sn** **05 58 42.3 +2.6**
comp=E,0.2nm,0.3s,baz=139,slow=23,SNR=1.2
comp=E,28nm,0.9s
PS1A Pavlof South-1 8.28 57 **Pn** **05 57 28.5 +1.8**
SDPT Sand Point 8.92 59 Pn **Pn** **05 57 37.1 +1.7**
CNBA Chernabura Isl 9.24 63 Pn **Pn** **05 57 40.7 +0.8**
CHGN Chignik 10.35 56 Pn **Pn** **05 57 55.6 +0.6**
O14K Tigyukauivet M 10.61 38 Pn Pn 05 58 02.0 +3.5
PLK4 Peulik 4 11.90 52 Pn **Pn** **05 58 17.7 +1.3**
O18K Koktuh Hills 13.45 44 Pn **Pn** **05 58 35.3 -2.1**
N18K Kilae Creek 13.61 40 Pn **Pn** **05 58 42.2 +2.6**
KDAK Kodiak Island 13.85 54 Pn **Pn** **05 58 41.2 -1.6**
KDAK Kodiak Island 13.85 54 Pn **Pn** **05 58 40.8 -1.9**
comp=E,1.5nm,0.3s,baz=282,slow=11,SNR=6.2
KDAK Kodiak Island 13.85 54 P **Pn** **05 58 41.2 -1.6**
N19K Bonanza Creek 14.26 41 **Pn** **05 58 49.3 +0.8**
J17K VABM Dome 14.34 28 Pn **P** **05 58 51.5 -4.6**
RSO Redoubt South 14.82 44 **Pn** **05 58 56.5 +0.3**
L19K White Mountain 14.90 37 Pn **Pn** **05 58 58.1 +0.9**
M19K Big River Lodg 14.91 38 Pn **P** **05 59 00.2 -2.3**
J18K Innoko River 15.11 31 Pn **Pn** **05 59 00.6 +0.8**
J18K IAmb IAmb 05 59 08.2
comp=Z,11nm,0.8s
H17K Granite Mounta 15.34 23 Pn **Pn** **05 59 02.9 +0.1**
H17K IAmb IAmb 05 59 41.2
comp=Z,10.0nm,1.1s
SUA Susitna One 16.16 43 Pn **Pn** **05 59 13.8 +0.2**
O22K Cooper Landing 16.18 47 Pn **Pn** **05 59 13.4 -0.3**
RC01 Rabbit Creek A 16.43 45 Pn **P** **05 59 17.8 -1.5**
RC01 IAmb IAmb 05 59 37.1
comp=Z,18nm,1.5s
GHO Glory Hole Cre 17.07 43 IAmb IAmb 05 59 26.7
comp=Z,11nm,0.5s
KNK Knik Glacier 17.12 45 IAmb IAmb 05 59 27.5
comp=Z,9.0nm,0.6s
E18K Tukpahlearik C 17.31 17 P **P** **05 59 27.8 -1.1**
SML Sawmill 17.34 43 Pn **P** **05 59 28.1 -1.4**
SML IAmb IAmb 05 59 39.5
comp=Z,19nm,1.4s
BPAW Bear Paw Mtn. 17.46 35 **P** **05 59 30.9 +0.2**
BPAW IAmb IAmb 05 59 33.9
comp=Z,8.7nm,0.8s
GLI Glacier Island 17.53 47 Pn **Pn** **05 59 29.4 -1.3**
GLI IAmb IAmb 05 59 36.0
comp=Z,7.7nm,0.7s
HIN Hinchinbrook I 17.65 49 Pn **Pn** **05 59 31.3 -0.8**
HIN IAmb IAmb 06 00 00.5
comp=Z,35nm,1.4s
FID Port Fidalgo 17.77 48 IAmb IAmb 05 59 36.0
comp=Z,9.2nm,0.5s
SCM Sheep Creek Mo 17.79 44 IAmb IAmb 05 59 35.2
comp=Z,13nm,0.5s
MLY Manley 18.11 33 **P** **05 59 38.2 +0.4**
MLY IAmb IAmb 05 59 42.6
comp=Z,24nm,1.1s
G21K Allakaket 18.25 26 IAmb IAmb 05 59 47.1
comp=Z,14nm,1.4s
C18K Utukok River 18.30 15 IAmb IAmb 05 59 48.4
comp=Z,10.0nm,0.9s
I23K Minto, Yukon-K 18.64 33 IAmb IAmb 05 59 47.9
comp=Z,31nm,1.3s
D19K Kuna River 18.72 18 IAmb IAmb 05 59 53.2
comp=Z,12nm,1.0s
MDM Murphy Dome 18.93 35 P **Pn** **05 59 46.3 -1.4**
C19K Lookout Ridge 18.98 16 IAmb IAmb 06 00 00.5
comp=Z,13nm,1.1s
H23K Yukon River 18.99 31 IAmb IAmb 05 59 52.4
comp=Z,14nm,1.3s
COLA College 19.02 35 *de*P **Pn** **05 59 49.5 +0.8**
COLA pmax pmax
comp=Z,7.0nm,1.1s
HDA Harding Lake 19.11 37 IAmb IAmb 05 59 50.0
comp=Z,27nm,1.2s
IL31 19.32 36 P **Pn** **05 59 51.0 -1.2**
ILAR Eielson Array 19.32 36 P **P** **05 59 50.1 -0.9**
ILAR Eielson Array 19.32 36 P **P** **05 59 48.9 -2.2**
comp=Z,0.9nm,0.3s,baz=236,slow=8.8,SNR=66
ILAR PcP **PcP** **06 04 11.5 -0.5**
comp=Z,0.2nm,0.7s,baz=160,slow=2.9,SNR=2.1
ILAR LR LR 06 07 51.0
comp=Z,74nm,18.9s,baz=226,slow=39
comp=Z,3.2nm,0.5s
VRDI Verde Repeater 19.32 48 P **P** **05 59 50.5 -0.9**
H24K Noodor Dome 19.55 33 IAmb IAmb 05 59 55.6
comp=Z,17nm,1.1s
E21K Killik River 19.57 22 P **Pn** **05 59 54.8 -0.5**
E21K IAmb IAmb 05 59 56.1
comp=Z,8.2nm,0.6s
MENT Mentasta 19.77 43 P **Pn** **05 59 56.2 -1.5**
MENT IAmb IAmb 06 00 18.5
comp=Z,5.3nm,0.6s
E22K Anaktuvuk Pass 19.87 24 P **Pn** **05 59 58.1 -0.8**
E22K IAmb IAmb 05 59 58.9
comp=Z,5.8nm,0.8s
M26K Nabesna, AK 19.89 45 IAmb IAmb 05 59 59.8
comp=Z,7.3nm,0.6s
G24K Hadweenzic Riv 20.18 31 IAmb IAmb 06 00 12.9
comp=Z,17nm,1.2s
PRP Porcupine Dome 20.20 35 IAmb IAmb 06 00 35.5
comp=Z,6.7nm,0.6s
D22K Ayikyak River 20.21 22 IAmb IAmb 06 00 02.7
comp=Z,9.4nm,0.6s
M27K Edge Creek, AK 20.37 45 IAmb IAmb 06 00 08.2
comp=Z,6.1nm,0.8s
LOGN Logan Glacier 20.38 50 P Pn 06 00 03.2 -1.8
J26L Joseph Creek 20.45 39 P **P** **06 00 03.2 -0.3**
F24K Squaw Lake 20.56 29 P **P** **06 00 04.1 -0.4**
F24K IAmb IAmb 06 00 38.6
comp=Z,9.6nm,1.4s
L27K Beaver Creek, 20.62 43 P Pn 06 00 06.0 -1.7
BCAR Beaver Creek A 20.64 43 P Pn 06 00 05.9 -2.0
TOLK Toolik Lake Re 20.82 25 P Pn 06 00 08.2 -1.8
FYU Fort Yukon 20.85 33 IAmb IAmb 06 00 13.6
comp=Z,8.6nm,0.8s
MA2 Magadan 21.36 306 LR LR 06 09 37.9
comp=Z,74nm,18.0s,baz=108,slow=40
D24K Happy Valley 21.37 25 IAmb IAmb 06 00 17.3
comp=Z,8.6nm,0.8s
O29M Mount Kennedy 21.46 52 IAmb IAmb 06 00 16.9
comp=Z,6.1nm,0.5s
BMAR Burnt Mountain 21.53 31 P **P** **06 00 15.4 +0.3**
P29M Windy Craggy 21.79 54 IAmb IAmb 06 00 54.4
comp=Z,13nm,1.1s
M29M Somme Creek 21.93 46 IAmb IAmb 06 00 31.9
comp=Z,3.2nm,0.6s
DAWY Dawson 21.98 42 P **P** **06 00 19.5 -0.4**
DAWY IAmb IAmb 06 00 35.8
comp=Z,3.7nm,0.7s
L29M L29M 22.24 45 P **P** **06 00 23.5 +0.8**
L29M IAmb IAmb 06 00 25.7
comp=Z,5.9nm,0.7s
I28M Miner Creek 22.25 38 IAmb IAmb 06 00 25.2
comp=Z,7.1nm,0.6s
K29M Barlow Dome 22.70 43 P **P** **06 00 27.5 -0.2**
E27K Coleen River 22.90 31 IAmb IAmb 06 00 31.1
comp=Z,6.0nm,1.1s
H29M Whitestone 23.14 37 IAmb IAmb 06 00 52.4
comp=Z,7.7nm,0.7s
J30M Hart River 23.41 42 IAmb IAmb 06 00 36.8
comp=Z,10.0nm,1.3s
G29M Pine Creek 23.54 35 IAmb IAmb 06 00 36.5
comp=Z,6.2nm,0.8s
I30M Mount Dempster 23.57 40 P **P** **06 00 35.2 -1.3**
I30M IAmb IAmb 06 00 37.6
comp=Z,6.6nm,0.8s
E28M Babbage River 23.77 31 P **P** **06 00 38.4 +0.2**
E28M IAmb IAmb 06 00 40.7
comp=Z,12nm,1.4s
G30M tAoh Zraii Nji 24.22 36 IAmb IAmb 06 00 42.6
comp=Z,9.7nm,1.3s
G31M Satah River 24.92 37 P **P** **06 00 48.1 -0.6**
G31M IAmb IAmb 06 01 11.8
comp=Z,3.5nm,0.9s
S34M Telegraph Cree 25.20 58 IAmb IAmb 06 01 10.6
comp=Z,12nm,1.2s
F31M Tsiigehtchic 25.29 36 IAmb IAmb 06 00 53.2
comp=Z,4.4nm,0.7s
INK Inuvik 25.66 34 P **P** **06 00 55.1 -0.2**
INK IAmb IAmb 06 00 56.6
comp=Z,3.7nm,0.7s
INK Inuvik 25.66 34 LR LR 06 11 59.1
comp=Z,64nm,19.8s,baz=216,slow=39
INK Inuvik 25.66 34 P **P** **06 00 55.1 -0.2**
INK pmax pmax
comp=Z,4.0nm,0.7s
DLBC Dease Lake 25.75 57 IAmb IAmb 06 01 01.6
comp=Z,5.8nm,1.0s
DLBC Dease Lake 25.75 57 LR LR 06 11 57.5
comp=Z,53nm,18.7s,baz=284,slow=39
BBB Bella Bella 27.96 70 LR LR 06 12 10.9
comp=Z,26nm,18.1s,baz=252,slow=36
YSS Yuzh-Sakhalins 28.35 278 *e*P **P** **06 01 20.3 +0.6**
YSS pmax pmax
comp=Z,20nm,0.4s
A36M Sachs Harbour 29.55 28 P **P** **06 01 29.4 -0.6**
A36M IAmb IAmb 06 01 31.7
comp=Z,3.3nm,0.9s
YAK Yakutsk 31.66 312 LR LR 06 14 57.6
comp=Z,127nm,18.1s,baz=180,slow=37
YKA Yellowknife Ar 32.94 47 PcP **PcP** **06 04 43.5 +0.1**
comp=Z,0.4nm,0.6s,baz=327,slow=3.0,SNR=2.4
YKA LR LR 06 17 04.1
comp=Z,111nm,18.9s,baz=306,slow=39
KLR Kul'dur 34.09 288 P **P** **06 02 08.8 -1.4**
comp=Z,2.5nm,0.5s,baz=59,slow=7.4,SNR=11
KLR LR LR 06 16 22.1
comp=Z,54nm,19.1s,baz=66,slow=37
comp=Z,2.5nm,0.5s
KLR Kul'dur 34.09 288⇑ *e*P **P** **06 02 09.2 -0.9**
KLR pmax pmax
comp=Z,2.0nm,0.6s
ZEA Zeya 34.93 297 *e*P **P** **06 02 14.8 -2.6**
H11N2 WAKE ISLAND Hy 35.08 213 T T 06 40 16.4
baz=21,slow=76,SNR=5.7
H11N3 WAKE ISLAND Hy 35.08 213 T T 06 40 18.1
baz=21,slow=76,SNR=7.3
H11N1 WAKE ISLAND Hy 35.09 213 T T 06 40 16.7
baz=21,slow=76,SNR=6.5
H11S1 WAKE ISLAND Hy 36.28 212 T T 06 41 31.8
baz=20,slow=76,SNR=21
H11S2 WAKE ISLAND Hy 36.29 212 T T 06 41 35.2
baz=20,slow=76,SNR=19
H11S3 WAKE ISLAND Hy 36.30 212 T T 06 41 35.9
baz=20,slow=76,SNR=9.9
USA0B Ussuriysk Arra 36.31 280 P **P** **06 02 28.9 -0.3**
USA0B Ussuriysk Arra 36.31 280 P **P** **06 02 29.0 -0.3**
USA0B pmax pmax
comp=Z,7.0nm,0.6s
USRK Ussuriysk Ar. 36.31 280 P **P** **06 02 28.9 -0.4**
USRK Ussuriysk Ar. 36.31 280 P **P** **06 02 28.6 -0.7**
comp=Z,7.2nm,0.5s,baz=55,slow=9.9,SNR=20
comp=Z,7.2nm,0.5s
USRK Ussuriysk Ar. 36.31 280 P **P** **06 02 28.9 -0.4**
BNX BinXian 38.32 285⇓ P **P** **06 02 45.5 -0.8**
BNX pmax pmax
comp=Z,4.0nm,0.5s
PNTR Pine Nut 39.29 86 P **P** **06 02 56.2 +1.5**
EGMT Eagleton 40.42 69 P **P** **06 03 03.3 -0.6**
EGMT IAmb IAmb 06 03 22.6
comp=Z,6.0nm,0.8s
NVAR Mina Array Bea 40.49 86 P **P** **06 03 06.2 +1.4**
comp=Z,0.6nm,0.7s,baz=295,slow=8.6,SNR=6.2
NVAR PcP **PcP** **06 05 07.7 +0.8**
comp=Z,0.4nm,0.7s,baz=297,slow=4.0,SNR=2.7
comp=Z,0.6nm,0.7s
KSRS Korea Array 42.70 274 P **P** **06 03 23.5 +1.0**
comp=Z,2.0nm,0.8s,baz=49,slow=9.2,SNR=9.6
comp=Z,2.0nm,0.8s
PDAR Pinedale Array 43.35 75 P **P** **06 03 28.4 +0.3**
comp=Z,0.6nm,0.6s,baz=320,slow=3.5,SNR=9.9
PDAR PcP **PcP** **06 05 15.9 -0.3**
comp=Z,0.4nm,0.8s,baz=210,slow=0.7,SNR=1.2
comp=Z,0.6nm,0.6s
U15A North Rim 45.48 84 P **P** **06 03 45.1 -0.1**
U15A IAmb IAmb 06 04 02.2
comp=Z,2.9nm,0.9s
ULM Lac du Bonnet 47.05 59 P **P** **06 03 57.0 0.0**
comp=Z,2.1nm,0.5s,baz=291,slow=7.8,SNR=7.8
comp=Z,2.1nm,0.5s
ULN Ulaanbaatar 48.94 299⇓ *i*P **P** **06 04 11.9 0.0**
ULN pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 49.32 299 P **P** **06 04 14.6 -0.1**
comp=Z,2.2nm,0.7s,baz=49,slow=7.8,SNR=13
SONM PcP **PcP** **06 05 37.1 +0.1**
comp=Z,0.6nm,0.8s,baz=116,slow=3.4,SNR=2.0
SONM LR LR 06 27 30.9
comp=Z,42nm,18.1s,baz=106,slow=39
comp=Z,2.2nm,0.7s
TIA Tai'an 50.18 281 P **P** **06 04 21.5 +0.2**
TIA pmax pmax
comp=Z,5.0nm,1.0s
HHC Hu-ho-hao-te 50.59 289 *e*P **P** **06 04 23.5 -1.0**
HHC sP pwP 06 04 41.5 +2.1
HHC pmax pmax
comp=Z,56nm,4.4s
HHC pmax pmax
comp=Z,8.0nm,0.6s
HNS HongShan 50.89 283⇓ P **P** **06 04 28.0 +1.4**
HNS pmax pmax
comp=Z,14nm,1.0s
FRB Frobisher Bay 51.32 33 LR LR 06 27 39.7
comp=Z,71nm,18.7s,baz=330,slow=38
G40A Rib Lake 53.07 61 P **P** **06 04 43.0 +0.2**
SFJD Kangerlussuaq 54.38 24 LR LR 06 31 36.1
comp=Z,36nm,18.1s,baz=328,slow=40
TXAR Lajitas Array 55.60 85 P **P** **06 05 00.7 -0.8**
comp=Z,0.3nm,0.6s,baz=298,slow=5.7,SNR=6.6
TXAR ScP **ScP** **06 09 58.0 +1.1**
comp=Z,0.2nm,0.8s,baz=248,slow=6.7,SNR=3.5
comp=Z,0.3nm,0.6s
ZALV Zalesovo Beam 56.16 316 PcP **PcP** **06 06 02.2 -0.2**
comp=Z,0.5nm,0.6s,baz=90,slow=2.9,SNR=3.8
ZALV LR LR 06 30 27.2
comp=Z,51nm,18.1s,baz=110,slow=38
GTA Gaotai 58.35 295 P **P** **06 05 20.8 -0.1**
GTA pP sP 06 05 34.5 +0.9
GTA pmax pmax
comp=Z,6.0nm,0.7s
ARCES ARCESS Array B 58.49 352 P **P** **06 05 20.2 -1.0**
comp=Z,1.5nm,0.7s,baz=34,slow=8.8,SNR=5.9
ARCES PcP **PcP** **06 06 11.4 0.0**
comp=Z,2.1nm,0.5s,baz=23,slow=4.9,SNR=8.7
ARCES LR LR 06 30 52.9
comp=Z,24nm,20.9s,baz=60,slow=36
comp=Z,1.5nm,0.7s
TRQ Mont Tremblant 60.60 52 P **P** **06 05 36.0 -0.2**
KURK Kurchatov 61.14 316⇑ *i*P **P** **06 05 39.5 -0.1**
KURK pmax pmax
comp=Z,3.0nm,0.5s
KURBB Kurchatov Arra 61.24 316 P **P** **06 05 39.7 -0.7**
comp=Z,2.1nm,0.5s,baz=47,slow=6.7,SNR=16
comp=Z,2.1nm,0.5s
L56A Greenwood 61.97 57 P **P** **06 05 45.3 -0.2**
MK31 Makanchi Array 62.34 311 P **P** **06 05 46.9 -0.9**
MK31 IAmb IAmb 06 05 48.4
comp=Z,2.7nm,1.4s
MK31 Makanchi Array 62.34 311 P **P** **06 05 46.9 -0.9**
MK31 pmax pmax
comp=Z,3.0nm,1.4s
MKAR Makanchi Array 62.34 311 P **P** **06 05 47.3 -0.6**
MKAR Makanchi Array 62.34 311 P **P** **06 05 47.1 -0.7**
comp=Z,0.9nm,0.4s,baz=48,slow=5.3,SNR=19
comp=Z,0.9nm,0.4s
MKAR Makanchi Array 62.34 311 P **P** **06 05 47.3 -0.6**
BVAR Borovoye Array 62.76 322 P **P** **06 05 49.8 -0.7**
comp=Z,2.7nm,0.4s,baz=57,slow=6.4,SNR=15
BVAR PcP **PcP** **06 06 29.0 +0.2**
comp=Z,3.4nm,0.8s,baz=57,slow=1.2,SNR=7.1
BVAR LR LR 06 36 23.5
comp=Z,91nm,18.2s,baz=64,slow=39
comp=Z,2.7nm,0.4s
SSPA Standing Stone 62.86 58 P **P** **06 05 52.0 +0.6**
L59A Walton 63.23 55 P **P** **06 05 54.8 +0.8**
H62A Milan 63.45 51 P **P** **06 05 55.6 +0.3**
ARU Arti 64.09 331c *i*P **P** **06 05 58.2 -1.1**
ARU *PP **sP** **06 06 12.2 +0.2**
ARU 06 06 33.3
ARU 06 08 17.1
ARU S **S** **06 14 29.6 -3.5**
ARU pmax pmax
comp=Z,7.0nm,1.7s
FINES FINESS Array B 66.32 350 P **P** **06 06 12.3 -1.3**
comp=Z,2.3nm,0.7s,baz=343,slow=4.4,SNR=8.3
FINES PcP **PcP** **06 06 43.1 -0.2**
comp=Z,0.9nm,0.5s,baz=29,slow=3.2,SNR=7.5
FINES LR LR 06 38 14.1
comp=Z,30nm,19.6s,baz=1.5,slow=39
comp=Z,2.3nm,0.7s
PZH PanZhiHua 66.33 283 P **P** **06 06 13.5 -0.9**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,130nm,5.9s
NOA NORSAR Array B 67.78 357 P **P** **06 06 22.4 -0.6**
comp=Z,0.3nm,0.5s,baz=3.9,slow=7.1,SNR=2.4
NOA LR LR 06 36 50.7
comp=Z,10nm,18.3s,baz=95,slow=37
comp=Z,0.3nm,0.5s
HFS Hagfors 68.59 356 P **P** **06 06 27.2 -0.8**
comp=Z,1.3nm,0.6s,baz=38,slow=2.6,SNR=14
comp=Z,1.3nm,0.6s
VSU Vasula 69.15 349⇑ *i*P **P** **06 06 31.0 -0.5**
VSU pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 69.67 326 P **P** **06 06 34.7 -0.1**
ABKAR IAmb IAmb 06 06 36.7
comp=Z,2.1nm,0.6s
KSH Kashi 70.86 310 P **P** **06 06 46.8 +4.3**
KSH pmax pmax
comp=Z,4.0nm,0.5s
CMAR Chiang Mai Arr 74.04 280 P **P** **06 07 03.2 +1.7**
comp=Z,1.4nm,0.4s,baz=25,slow=6.9,SNR=1.2
comp=Z,1.4nm,0.4s
AKASG Malin Array Be 76.34 345 P **P** **06 07 13.0 -1.2**
comp=Z,2.3nm,0.5s,baz=19,slow=6.2,SNR=9.3
comp=Z,2.3nm,0.5s
AKBB Malin Array Si 76.34 345 P **P** **06 07 12.7 -1.6**
AKBB Malin Array Si 76.34 345 P **P** **06 07 12.7 -1.6**
AKBB pmax pmax
comp=Z,5.0nm,0.6s
KIEV Kiev 76.35 345 P **P** **06 07 13.0 -1.3**
KIEV Kiev 76.35 345 P **P** **06 07 13.0 -1.3**
KIEV pmax pmax
comp=Z,4.0nm,0.6s
CLL Collm 77.44 356 *e*P **P** **06 07 21.0 +0.5**
CLL Collm 77.44 356 *e*P **P** **06 07 21.0 +0.5**
CRVS Cervenica-Dubn 79.16 350 *e*P **P** **06 07 31.6 +1.6**
CRVS Cervenica-Dubn 79.16 350 *e*P **P** **06 07 31.6 +1.6**
KHC Kasperske Hory 79.59 355⇑ *e*P **P** **06 07 32.7 +0.3**
KHC pmax pmax
comp=Z,10.0nm,1.2s
GERES GERESS Array B 79.86 355 P **P** **06 07 33.5 -0.5**
comp=Z,0.5nm,0.3s,baz=1.3,slow=4.3,SNR=3.7
GERES LR LR 06 44 38.5
comp=Z,28nm,18.2s,baz=64,slow=37
comp=Z,0.5nm,0.3s
BUR08 Bucovina Ar. S 79.92 347 IAmb IAmb 06 07 35.2
comp=Z,2.2nm,0.7s
KBZ Khabaz 79.97 334 P **P** **06 07 34.2 -0.2**
comp=Z,1.1nm,0.6s,baz=346,slow=4.2,SNR=2.4
comp=Z,1.1nm,0.6s
KBZ Khabaz 79.97 334⇑ *i*P **P** **06 07 34.6 +0.1**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
CONA Conrad Observa 80.64 353 *i* PcP **P** **06 07 39.2 +1.0**
comp=Z,2.5nm,0.6s
KBA Koelnbreinsper 81.65 355 *i* PcP **P** **06 07 44.8 +1.1**
comp=Z,6.2nm,0.6s
FETA Feichten 81.82 357 *i* PcP **P** **06 07 45.4 +0.8**
comp=Z,3.6nm,0.8s
SOKA Soboth 81.94 354 *i* PcP **P** **06 07 46.0 +0.9**
comp=Z,2.2nm,0.6s
OBKA Obir 82.14 354 *e*PcP **P** **06 07 47.0 +0.9**
comp=Z,2.1nm,0.5s
WRAB Tennant Creek 84.25 228⇓ *e*P **P** **06 07 58.4 +1.3**
WRAB pmax pmax
comp=Z,10.0nm,1.4s
WRA Warramunga Arr 84.27 228 P **P** **06 07 56.0 -1.2**
comp=Z,0.3nm,0.7s,baz=32,slow=5.9,SNR=4.8
comp=Z,0.3nm,0.7s
BRTR Keskin Array B 86.06 339 P **P** **06 08 06.6 +0.3**
comp=Z,0.7nm,0.5s,baz=40,slow=2.5,SNR=4.5
comp=Z,0.7nm,0.5s
ASAR Alice Springs 87.69 226 P **P** **06 08 12.7 -1.4**
comp=Z,0.5nm,0.8s,baz=23,slow=5.0,SNR=2.9
comp=Z,0.5nm,0.8s
ESDC Sonseca Array 88.82 8 P **P** **06 08 18.9 -0.5**
comp=Z,0.9nm,0.7s,baz=340,slow=4.0,SNR=7.3
comp=Z,0.9nm,0.7s
MDT Midelt 95.56 9 LR LR 06 54 29.6
comp=Z,48nm,18.1s,baz=238,slow=37
QSPA South Pole Qui 141.21 180 PKhKP PKPpre 06 14 48.0
comp=Z,0.9nm,0.8s,baz=230,slow=6.2,SNR=2.2
MAW Mawson 148.42 218 PKPbc **PKPdf** **06 15 08.7 +1.8**
comp=Z,1.4nm,0.5s,baz=90,slow=1.0,SNR=3.4
BOSA Boshof 153.03 320 PKPbc **PKPbc** **06 15 22.8 0.0**
comp=Z,1.5nm,0.5s,baz=6.6,slow=3.5,SNR=5.5
BOSA PKPab **PKPab** **06 15 34.2 0.0**
comp=Z,3.9nm,0.9s,baz=13,slow=3.6,SNR=4.7

STR 31 06:05:52.6±1.1, 49°N±3°×°±°, h0km, MLv1.7/10, Error ellipse: s-maj=0.0km s-min=0.0km az=72.6, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPP	**Oppenau**	**0.36**	**264**	Pg	Pg	06 05 59.1	-0.4
OPP	**Oppenau**	**0.36**	**264**	Sg	Sg	06 06 04.2	-0.1
BABA	**Baden-Baden-Ne**	**0.40**	**298**	Pg	Pg	06 05 59.4	-0.8
BABA	**Baden-Baden-Ne**	**0.40**	**298**	Sg	Sg	06 06 05.1	-0.4
SLE	**Schleitheim**	**0.79**	**192**	Pg	Pg	06 06 07.6	0.0
SLE	**Schleitheim**	**0.79**	**192**	Sg	Sb	06 06 20.0	-0.4
KIZ	**Kirchzarten**	**0.79**	**223**	Sg	Sg	06 06 19.2	+1.2
KIZ	**Kirchzarten**	**0.79**	**223**	Pg	Pg	06 06 07.9	+0.1
LEMB	**Lembach**	**0.81**	**308**	Pg	Pg	06 06 08.3	+0.1
LEMB				Sg	Sb	06 06 21.1	-0.1
FELD	**Feldberg im Sc**	**0.82**	**217**	Pg	Pg	06 06 08.5	+0.3
FELD	**Feldberg im Sc**	**0.82**	**217**	Sg	Sb	06 06 20.8	-0.5
HOHE	**HOHENGOEFT**	**0.83**	**279**	Pg	Pg	06 06 08.5	-0.1
VOGT	**Vogtsburg - To**	**0.84**	**238**	Sg	Sb	06 06 22.2	+0.4
VOGT	**Vogtsburg - To**	**0.84**	**238**	Pg	Pg	06 06 08.5	-0.1
CIEL	**Dossenheim-sur**	**0.95**	**289**	Pg	Pg	06 06 10.7	-0.2
CIEL				Sg	Sb	06 06 25.2	0.0
ENDD	**Endenburg**	**1.05**	**219**	Pg	Pg	06 06 12.5	-0.3
ENDD	**Endenburg**	**1.05**	**219**	Sg	Sg	06 06 26.8	+0.4
SULZ	**Cheisacher**	**1.09**	**203**	Pg	Pg	06 06 12.8	-0.6
SULZ	**Cheisacher**	**1.09**	**203**	Sg	Sg	06 06 28.0	+0.5
ECH	**Echery**	**1.09**	**254**	Pg	Pg	06 06 13.4	-0.1
ECH				Sg	Sb	06 06 28.8	-0.4
VOEL	**Voellerdingen**	**1.15**	**293**	Pg	Pb	06 06 15.3	-0.1
VOEL				Sg	Sb	06 06 31.2	+0.4

RSNC 31 06:12:59.5±0.0, 11°N±1°×7°4W±°, h57km±3km, M3.2, mb3.9, mB4.7, ML2.6, Mw(mB)4.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.67**	**82**	P	Pn	06 13 11.7	-1.6
CRJC				S	Sn	06 13 22.2	-1.2
SMRC	**Santa Marta, M**	**0.69**	**290**	P	Pn	06 13 11.8	-1.7
SMRC				S	Sn	06 13 22.5	-1.2
ARGC	**Ariguani, Magd**	**1.26**	**212**	P	Pn	06 13 20.0	-0.9
ARGC				S	Sn	06 13 35.8	-1.1
URIC	**Uribia, Colomb**	**1.72**	**63**	P	Pn	06 13 25.9	-1.2
URIC				P	Pn	06 13 25.9	-1.2
URIC				P		06 13 26.0	
URIC				S	Sn	06 13 47.5	-0.5
SJCC	**San Jacinto, C**	**1.90**	**237**	P	Pn	06 13 28.6	-1.0
SJCC				S	Sn	06 13 53.0	+0.6
OCAC	**Ocana**	**2.69**	**175**	P	Pn	06 13 38.9	-1.6
OCAC				S	Sn	06 14 11.8	-0.1
LCBC	**Los crdobas,**	**3.45**	**234**	P	Pn	06 13 52.6	+1.8
LCBC				S	Sn	06 14 30.7	+0.3
ZARC	**Zaragoza, Cauc**	**3.65**	**201**	P	Pn	06 13 52.9	-0.6
ZARC				S	Sn	06 14 37.6	+2.3
PAMC	**Pamplona, Colo**	**3.67**	**167**	P	Pn	06 13 53.4	-0.8
PAMC				S	Sn	06 14 35.2	-1.3
PTBC	**PUERTO BERRIO,**	**4.45**	**192**	P	Pn	06 14 04.3	-0.2
PTBC				P	Pn	06 14 04.3	-0.2
PTBC				S	Sn	06 14 56.4	+1.3

TAMC	Tame, Arauca	4.80 158	P	Pn	06 14 08.0	-1.3
TAMC			S	Sn	06 15 00.7	-2.9
RUSC	La Rusia	5.03 175	P	Pn	06 14 12.3	-0.6
	7.2nm,0.9s					
SPBC	San Pablo de B	5.27 186	P	Pn	06 14 15.4	-0.4
NORC	Norcasia	5.49 194	P	Pn	06 14 20.6	+1.8
	6.3nm,1.1s					
BCIP	Isla Barro Col	6.43 255	P	Pn	06 14 29.6	-2.0
	55nm,1.9s					
PRAC	Prado	7.29 190	P	Pn	06 14 45.3	+1.8

IDC 31 06:24:33.2±5.6, 5°.75S×147°.67E, h191km±51km, mb2.9/1, mbtmp3.6/3, Error ellipse: s-maj=101.1km s-min=50.8km az=120.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.67 188		P	Pn	06 25 32.1	+1.5
	6.5nm,0.3s,baz=310,slow=7.9,SNR=1.4						
PMG				S	Sn	06 26 15.6	0.0
	17nm,0.5s,baz=142,slow=23,SNR=7.4						
WRA	Warramunga Arr	19.16 221		P	P	06 28 42.4	+0.1
	1.8nm,0.7s,baz=49,slow=12,SNR=30						
ASAR	Alice Springs	22.20 215		P	P	06 29 14.4	+0.2
	1.0nm,0.7s,baz=50,slow=8.5,SNR=16						
	1.0nm,0.7s						
TORD	Torodi Ar. Bea	145.67 285		PKPbc	PKPdf	06 43 48.9	-0.9
	0.2nm,0.5s,baz=70,slow=4.6,SNR=1.3						

IDC 31 06:25:15.0±3.2, 54°.54N×86°.23E, h0km, mbtmp2.6/2, ML2.4/2, 3C, Error ellipse: s-maj=24.1km s-min=14.5km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.02 235		I	I	06 32 30.0	
	baz=52,slow=314,SNR=1.4						
ZAA0	Zalesovo Array	1.02 235		⇑P	Pg	06 25 33.0	-1.5
	0.1nm,0.3s,baz=50,slow=16						
ZAA0				⇑S	Sg	06 25 48.5	+0.8
	3.9nm,1.1s,baz=58,slow=15						
ZALV	Zalesovo Beam	1.02 235		Pg	Pg	06 25 33.4	-1.1
	1.0nm,0.3s,baz=50,slow=16,SNR=9.7						
ZALV				Lg	Lg	06 25 48.8	
	2.9nm,0.3s,baz=56,slow=28,SNR=13						
KURBB	Kurchatov Arra	6.12 233		Pn	Pn	06 26 47.8	+1.2
	0.1nm,0.3s,baz=50,slow=14,SNR=5.9						
KURBB				Lg	Lg	06 28 30.2	
	baz=41,slow=28,SNR=2.7						
	0.4nm,0.4s						
MK31	Makanchi Array	8.15 199		⇑P	Pn	06 27 13.2	-1.2
	0.3nm,0.7s,baz=35,slow=14,SNR=5.9						
MKAR	Makanchi Array	8.15 199		Pn	Pn	06 27 14.8	+0.3
	0.1nm,0.3s,baz=20,slow=14,SNR=2.5						
	0.1nm,0.3s						

IDC 31 06:30:32.6±3.0, 54°.20N×87°.08E, h0km, mbtmp2.6/2, ML2.3/2, 1C-1D, Error ellipse: s-maj=23.7km s-min=15.4km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.35 260		I	I	06 39 20.0	
	baz=78,slow=320,SNR=5.3						
ZAA0	Zalesovo Array	1.35 260		⇑P	Pg	06 30 57.2	-1.2
	0.4nm,0.8s,baz=89,slow=16						
ZAA0				⇓S	Sg	06 31 16.2	+0.2
	2.3nm,0.8s,baz=90,slow=15						
ZALV	Zalesovo Beam	1.35 260		Pg	Pg	06 30 57.5	-1.0
	0.7nm,0.3s,baz=77,slow=16,SNR=7.4						
ZALV				Lg	Lg	06 31 16.8	
	1.3nm,0.3s,baz=76,slow=29,SNR=10.0						
KURBB	Kurchatov Arra	6.34 239		Pn	Pn	06 32 07.8	+0.7
	baz=54,slow=13,SNR=1.8						
KURBB				Sn	Sn	06 33 19.0	-1.1
	baz=52,slow=22						
KURBB				Lg	Lg	06 33 52.8	
	baz=57,slow=31,SNR=2.8						
	0.4nm,0.4s						
MKAR	Makanchi Array	8.02 204		Pn	Pn	06 32 31.8	+1.6
	0.1nm,0.3s,baz=24,slow=14,SNR=2.3						
MKAR				Sn	Sn	06 34 00.6	-0.9
	baz=16,slow=22,SNR=3.4						
MKAR				Lg	Lg	06 34 45.5	
	baz=22,slow=32,SNR=2.6						
	0.1nm,0.4s						

*IDC **31** 06:51:38.8±1.1, 10°.39N×125°.04E, h0km, mb3.7/6, mbtmp3.7/6, MS3.2/9, Error ellipse: s-maj=73.2km s-min=19.6km az=72.0*

ISC 31 06:51:41.1±1.2, 10°.4N±0°.2×125°.1E±0°.5, h15km, n14, σ0°45/6, mb3.8/6, MS2.9/5, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.35 171		LR	LR	06 54 13.7	
	comp=Z,628nm,20.7s,baz=326,slow=46						
KAPI	Kappang	16.21 199		LR	LR	07 01 56.3	
	comp=Z,85nm,18.9s,baz=18,slow=38						
JOW	Kunigami	16.62 10		LR	LR	07 01 47.7	
	comp=Z,39nm,18.4s,baz=238,slow=37						
GUMO	Guam	19.62 79		LR	LR	07 01 57.7	
	comp=Z,30nm,21.7s,baz=287,slow=32						
CMAR	Chiang Mai Arr	26.52 291		LR	LR	07 07 52.2	
	comp=Z,28nm,18.9s,baz=245,slow=37						
KSRS	Korea Array	27.06 5		P	P	06 57 23.1	+0.2
	1.5nm,0.8s,baz=180,slow=10,SNR=6.0						
KSRS				LR	LR	07 08 12.0	
	comp=Z,22nm,19.6s,baz=240,slow=37						
	1.5nm,0.8s						
MJAR	Matsushiro Arr	28.61 22		LR	LR	07 07 57.5	
	comp=Z,27nm,19.2s,baz=220,slow=34						
WRA	Warramunga Arr	31.50 163		P	P	06 58 02.8	+0.2
	0.3nm,0.6s,baz=343,slow=9.4,SNR=2.6						
	0.3nm,0.6s						
ASAR	Alice Springs	34.94 166		P	P	06 58 32.5	-0.2
	0.5nm,0.6s,baz=345,slow=7.2,SNR=11						
	0.5nm,0.6s						
MKAR	Makanchi Array	51.21 323		P	P	07 00 44.4	+0.4
	0.9nm,0.7s,baz=126,slow=7.8,SNR=8.2						
	0.9nm,0.7s						
ZALV	Zalesovo Beam	53.95 332		P	P	07 01 03.5	-0.6
	0.7nm,0.4s,baz=110,slow=7.8,SNR=2.2						
	0.7nm,0.4s						
KURBB	Kurchatov Arra	55.30 326		P	P	07 01 13.8	-0.2
	0.9nm,0.6s,baz=120,slow=7.1,SNR=6.6						
	0.9nm,0.6s						
HFS	Hagfors	91.39 332		LR	LR	07 48 49.5	
	comp=Z,46nm,18.0s,baz=76,slow=38						
NOA	NORSAR Array B	92.12 334		LR	LR	07 48 37.2	
	comp=Z,24nm,18.8s,baz=95,slow=37						

*JMA **31** 06:56:52.4±0.2, 23°.2N±0°.2×121°.6E±0°.6, h6km±3km, MV3.5/14, TAIWAN REGION*

*ASIES **31** 06:56:54.5, 23°.19N×121°.37E, h18km, ML3.8, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.57; $M_{\theta\theta}$-0.81; $M_{\phi\phi}$-0.76; $M_{r\theta}$-0.43; $M_{\theta\phi}$-0.77; $M_{\phi r}$0.52; Fault plane solution: $M_0$1.70344×10^{21} NP1:ϕ_s26.71000°, δ49.51000°, λ63.07000°. NP2:ϕ_s244.74000°, δ47.31000°, λ117.94000°. Principal axes: T Plg69.8190°, Azm228.5500°; N Plg20.1450°, Azm44.9610°; P Plg1.1620°, Azm135.3870°;*

*TAP **31** 06:56:54.5, 23°.19N×121°.37E, h18km, ML3.8, B*

ISC 31 06:56:53.7±0.8, 23°.17N±0°.01×121°.44E±0°.02, h18km±2km, n132, σ0°88/211, 7C-17D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKH	Chenggong	0.04 297		⇑iP	Pg	06 56 57.9	+0.9
	baz=85						
CHKH				S	Sg	06 57 00.4	+1.2
	baz=85						
CHKT	Chengkung	0.10 222		⇑iP	Pg	06 56 58.5	+1.0
	baz=179						
CHKT				S	Sg	06 57 01.4	+1.5
	baz=179						
FULB	Fuli	0.14 281		⇑iP	Pg	06 56 58.2	+0.4
	baz=277						
FULB				S	Sg	06 57 01.8	+1.1
	baz=277						
EYUL	Yuli	0.21 328		⇑eP	Pg	06 56 59.6	+0.8
	baz=337						
EYUL				eS	Sg	06 57 03.8	+1.5
	baz=337						
EHD	Haiduan	0.21 264		⇓iP	Pg	06 56 59.3	+0.3
	baz=254						
EHD				eS	Sg	06 57 02.8	+0.3
	baz=254						
ECS	Chishang	0.21 249		⇓iP	Pg	06 57 00.1	+1.1
	baz=235						
ECS				S	Sg	06 57 03.9	+1.4
	baz=235						
TWF1	Yuli	0.22 324		⇓iP	Pg	06 56 59.6	+0.5
	baz=333						
TWF1				S	Sg	06 57 03.2	+0.5
	baz=333						
EDH	Donghe	0.23 212		⇓eP	Pb	06 57 00.0	+0.8
	baz=196						
EDH				S	Sb	06 57 04.1	+1.3
	baz=196						
YULB	Yu-li	0.25 330		P	Pb	06 56 59.8	+0.1
YULB	Yu-li	0.25 330		⇓iP	Pb	06 57 00.0	+0.3
	baz=332						
YULB				S	Sb	06 57 04.1	+0.5
	baz=332						
HGSD	Ruisui	0.32 358		⇑iP	Pg	06 57 01.1	+0.4
	baz=14						
HGSD				eS	Sn	06 57 08.2	-1.5
	baz=14						
EHYH	Wanrong	0.33 345		⇓iP	Pb	06 57 01.5	+0.3
	baz=341						
EHYH				i S	Sb	06 57 07.0	+0.9
	baz=341						
EHY	Hungye	0.35 342		⇓iP	Pg	06 57 01.4	+0.2
	baz=338						
EHY				eS	Sb	06 57 06.5	-0.2
	baz=338						
ELDTW	Lidau	0.39 273		⇓iP	Pg	06 57 01.4	-0.5
	baz=270						
ELDTW				S	Sg	06 57 05.8	-1.6
	baz=270						
LONT	Longtian	0.39 227		P	Pb	06 57 02.2	+0.1
	baz=229						
LONT				eS	Sg	06 57 07.2	0.0
	baz=229						
TWGBT	Beinan	0.48 223		P	Pg	06 57 03.3	-0.2
TWGBT	Beinan	0.48 223		⇑iP	Pg	06 57 03.4	-0.1
	baz=228						
TWGBT				S	Sg	06 57 09.8	-0.3
	baz=228						
EGFH	Guangfu	0.49 359		eP	Pg	06 57 04.2	+0.4
	baz=349						
TTN	Taitung	0.49 213		eP	Pb	06 57 04.7	+0.9
	baz=206						
TTN				eS	Sb	06 57 11.6	+0.8
	baz=206						
LDUT	Ludao	0.50 177		⇓eP	Pg	06 57 04.1	+0.3
	baz=170						
LDUT				eS	Sg	06 57 11.0	+0.5
	baz=170						
WARBT	Fenglin Townsh	0.55 355		i P	Pg	06 57 04.0	-0.7
	baz=358						
STYH	Taoyuan	0.61 270		⇓iP	Pg	06 57 05.3	-0.5
	baz=267						
STYH				i S	Sb	06 57 12.9	-1.0
	baz=267						
SHUL	Shoufeng	0.62 11		eP	Pg	06 57 07.0	+0.8
	baz=359						
SHUL				S	Sb	06 57 16.4	+2.0
	baz=359						
ESL	Shilin	0.64 360		eP	Pb	06 57 05.8	-0.5
	baz=353						
VWDT	VWDT	0.64 335		⇓P	Pg	06 57 06.2	-0.3
	baz=350						
VWDT				S	Sg	06 57 14.4	-0.6
	baz=350						
TEYL	Yanliau Villag	0.71 12		eP	Pg	06 57 08.8	+1.1
	baz=1.0						
TEYL				eS	Sn	06 57 20.1	+0.8
	baz=1.0						
ECL	Taimali	0.72 218		eP	Pb	06 57 06.8	-1.1
	baz=214						
WHYT	Xinyi Township	0.75 314		eP	Pg	06 57 08.3	-0.1
	baz=316						
WHYT				eS	Sg	06 57 17.8	-0.7
	baz=316						
SLGT	Liugui	0.75 256		eP	Pb	06 57 08.1	-0.1
	baz=258						
SLGT				eS	Sb	06 57 16.4	-1.8
	baz=258						
TPUB	Ta-pu	0.75 280		P	Pg	06 57 08.5	-0.1
TPUB	Ta-pu	0.75 280		⇓iP	Pg	06 57 08.4	-0.1
	baz=285						
TPUB				S	Sg	06 57 18.1	-0.4
	baz=285						
SSLB	Suanglung	0.76 324		P	Pb	06 57 08.1	-0.3
SSLB	Suanglung	0.76 324		⇓iP	Pb	06 57 08.0	-0.4
	baz=335						
SSLB				eS	Sb	06 57 16.5	-1.9
	baz=335						
WTP	Ta-pu	0.76 276		⇓iP	Pg	06 57 08.6	-0.1
	baz=274						
WTP				eS	Sg	06 57 18.1	-0.7
	baz=274						
SGST	Jiashian	0.79 264		⇓iP	Pb	06 57 08.1	-0.8
	baz=259						
SGST				eS	Sg	06 57 19.1	-0.7
	baz=259						
ETM	Tongmen	0.79 4		eP	Pb	06 57 08.1	-0.9
	baz=6.0						
WCKO	Fanlu	0.81 289		⇓eP	Pg	06 57 09.6	0.0
	baz=290						
OWD	Renai	0.81 343		eP	Pb	06 57 08.7	-0.7
	baz=345						
HWA	Hwalien	0.82 11		eP	Pb	06 57 09.4	0.0
	baz=359						
CHN1	Nanshi	0.84 271		⇓iP	Pn	06 57 10.2	-0.4
	baz=269						
CHN1				eS	Sn	06 57 21.3	-1.2
	baz=269						
LXIB	Xiulin Townshi	0.85 359		⇑P	Pb	06 57 08.8	-1.2
	baz=2.0						
LXIB				eS	Sb	06 57 21.4	+0.3
	baz=2.0						
SNST	Tainan City	0.87 273		i P	Pn	06 57 10.6	-0.4
	baz=272						
SNST				i S	Sn	06 57 22.6	-0.5
	baz=272						
TSMG	Majia	0.87 238		eP	Pb	06 57 09.6	-0.6
	baz=231						
TSMG				eS	Sb	06 57 19.7	-1.7
	baz=231						
WUSB	Renai	0.87 340		eP	Pb	06 57 09.8	-0.6
	baz=343						
WUSB				eS	Sb	06 57 20.4	-1.3
	baz=343						
TYC	Yuchr	0.90 324		i P	Pb	06 57 10.9	0.0
	baz=337						
TYC				eS	Sg	06 57 22.6	-0.7
	baz=337						
SCST	Cishan	0.92 252		eP	Pn	06 57 12.1	+0.5
	baz=249						
SCST				eS	Sn	06 57 26.4	+2.1
	baz=249						
TWD	Chiawan	0.92 9		eP	Pb	06 57 10.4	-0.6
	baz=360						
TWD				eS	Sg	06 57 24.1	+0.4
	baz=360						
CHGB	Renai	0.92 345		eP	Pb	06 57 11.1	-0.1
	baz=347						
CHGB				eS	Sg	06 57 23.4	-0.5
	baz=347						
WJS	Zhushan	0.92 315		eP	Pn	06 57 12.1	+0.4
	baz=316						
WJS				eS	Sn	06 57 25.6	+1.1
	baz=316						
MASBT	Mashibuluo	0.93 233		eP	Pb	06 57 10.7	-0.6
	baz=225						
TAW	Tawu	0.95 212		eP	Pb	06 57 10.3	-1.4
	baz=212						
WGK	Gukeng	0.95 303		P	Pn	06 57 12.7	+0.5
	baz=303						
WGK				eS	Sn	06 57 25.6	+0.3
	baz=303						
CHN2	Minshiung	0.95 292		P	Pn	06 57 12.6	+0.4
	baz=282						
CHN2				i S	Sn	06 57 26.5	+1.2
	baz=282						
EAST	Anshuo	0.95 215		eP	Pb	06 57 10.7	-1.1
	baz=212						
EAST				eS	Sb	06 57 23.6	-0.5
	baz=212						
TAWH	Dawu Township	0.97 212		P	Pb	06 57 10.8	-1.3
	baz=217						
TAWH				eS	Sb	06 57 22.9	-1.6
	baz=217						
WDLH	Douliu	0.97 302		i P	Pn	06 57 13.1	+0.7
	baz=302						
WDLH				eS	Sn	06 57 26.3	+0.5
	baz=302						
WHF	Hehuan Shan	0.98 351		eP	Pb	06 57 11.9	-0.6
	baz=3.0						
CHY	Chiayi	0.99 289		eP	Pn	06 57 13.0	+0.4
	baz=279						
CHY				eS	Sn	06 57 26.5	+0.4
	baz=279						
WNT	Mingjian	0.99 316		eP	Pn	06 57 13.3	+0.6
	baz=316						
WNT				eS	Sn	06 57 27.2	+1.1
	baz=316						
CHN3	Shinhua	0.99 265		eP	Pn	06 57 13.7	+1.0
	baz=272						
CHN3				eS	Sn	06 57 27.8	+1.5
	baz=272						
ETL	Fush Village	1.00 10		eP	Pb	06 57 13.3	+0.8
	baz=357						
TWM1	Shoushan	1.00 250		eP	Pn	06 57 13.9	+1.1
	baz=247						
TWM1				eS	Sn	06 57 28.1	+1.7
	baz=247						
WCS	Beigang Elemen	1.00 331		eP	Pn	06 57 13.1	+0.2
	baz=338						
NACB	Ninganchiao	1.01 8		P	Pb	06 57 11.4	-1.3
NACB	Ninganchiao	1.01 8		P	Pb	06 57 11.2	-1.4
	baz=10.0						
NACB				eS	Sb	06 57 24.2	-1.4
	baz=10.0						
ETLH	Xiulin Townshi	1.03 2		eP	Pb	06 57 11.7	-1.5
	baz=2.0						
SSHA	Shanhua	1.06 268		eP	Pn	06 57 13.5	-0.2
	baz=276						
ICHU	Yijhu	1.08 280		eP	Pg	06 57 14.8	+0.1
	baz=279						
ICHU				i S	Sn	06 57 30.1	+1.7
	baz=279						
WTK	Tuku	1.09 298		eP	Pg	06 57 14.9	0.0
	baz=298						
WTK				eS	Sn	06 57 29.9	+1.2
	baz=298						
SCZT	Fangliau	1.10 224		eP	Pb	06 57 13.7	-0.5
	baz=219						
SNJT	Kaohsiung City	1.10 248		P	Pg	06 57 15.9	+0.9
	baz=248						
SNJT				i S	Sg	06 57 33.4	+3.9
	baz=248						
TWT	Tachien	1.10 348		eP	Pb	06 57 14.0	-0.4
	baz=346						
TDCB	Techi	1.11 347		eP	Pb	06 57 14.0	-0.5
	baz=346						
LAY	Lan-yu	1.13 175		i P	Pn	06 57 13.1	-1.6
	baz=162						
LAY				eS	Sb	06 57 28.7	-0.5
	baz=162						
CHN8	Yiju	1.14 279		eP	Pg	06 57 15.6	-0.2
	baz=278						
CHN8				i S	Sg	06 57 31.9	+1.1
	baz=278						
SCLT	Jiali	1.14 270		eP	Pn	06 57 14.9	+0.1
	baz=269						
SCLT				eS	Sg	06 57 32.3	+1.4
	baz=269						
WSL	Shuilin Townsh	1.17 288		eP	Pg	06 57 16.2	-0.1
	baz=286						
WSL				i S	Sg	06 57 32.3	+0.7
	baz=286						
LYUB	Lan-yu	1.17 173		eP	Pn	06 57 12.6	-2.6
	baz=160						
EAHA	Aohua	1.19 13		eP	Pn	06 57 14.9	-0.5
	baz=358						
EAHA				eS	Sb	06 57 30.5	-0.2
	baz=358						
WHP	Taichung City	1.19 338		eP	Pg	06 57 16.5	-0.3
	baz=346						
WHP				eS	Sn	06 57 31.4	+0.1
	baz=346						
TCU	Taichung	1.20 324		eP	Pg	06 57 17.1	+0.2
	baz=324						
TCU				i S	Sg	06 57 33.2	+0.7
	baz=324						
WSF	Szhu	1.21 293		eP	Pg	06 57 16.4	-0.8
	baz=292						
WSF				eS	Sg	06 57 32.8	-0.2
	baz=292						
WRL	Guolierlin Hig	1.21 307		eP	Pg	06 57 16.6	-0.6
	baz=306						
WRL				eS	Sg	06 57 32.1	-1.1
	baz=306						
EOS4	EOS4	1.24 40		eP	Pn	06 57 16.0	+0.1
	baz=43						
EOS4				eS	Sn	06 57 31.7	-0.2
	baz=43						
TSCK	Chigu Township	1.24 269		P	Pg	06 57 17.3	-0.5
	baz=268						
TSCK				S	Sg	06 57 34.4	+0.3
	baz=268						
NNSB	Datong	1.25 358		eP	Pn	06 57 15.8	-0.7
	baz=8.0						
NNS	Nan Shan	1.26 357		eP	Pn	06 57 17.2	+0.6
	baz=8.0						
ENA	Nanau	1.28 12		eP	Pn	06 57 15.8	-1.0
	baz=359						
EWUT	Wuta	1.31 14		eP	Pn	06 57 18.1	+1.0
	baz=1.0						
EWUT				eS	Sn	06 57 34.4	+0.4
	baz=1.0						
TWQ1	Liyutan	1.32 333		eP	Pg	06 57 19.1	-0.2
	baz=333						
TWQ1				S	Sg	06 57 37.2	+0.6
	baz=333						
HEN	Hengchun	1.33 209		eP	Pn	06 57 18.0	+0.6
	baz=202						
TWKBT	Hengchun	1.35 205		eP	Pn	06 57 18.1	+0.3
	baz=198						
LATG	Datong	1.36 3		eP	Pn	06 57 17.0	-0.9
	baz=1.0						
EOS3	EOS3	1.37 36		eP	Pn	06 57 17.9	0.0
	baz=51						
EOS3				eS	Sn	06 57 35.1	-0.3
	baz=51						
WDJ	Dajia District	1.38 328		eP	Pg	06 57 19.6	-0.8
	baz=340						
WDJ				eS	Sg	06 57 38.9	+0.5
	baz=340						
NDT	Datong Townshi	1.43 3		eP	Pb	06 57 20.0	+0.2
	baz=14						
EOS2	EOS2	1.44 30		eP	Pn	06 57 20.1	+1.3
	baz=39						
ENTT	Nioudou	1.47 5		eP	Pn	06 57 19.0	-0.3
	baz=2.0						
NDS	Dongshan	1.48 10		eP	Pb	06 57 20.8	+0.1
	baz=6.0						
TWC	Suao	1.48 15		eP	Pn	06 57 20.7	+1.3
	baz=359						
NMLH	Miaoli	1.48 337		eP	Pg	06 57 21.7	-0.7
	baz=335						
NMLH				eS	Sg	06 57 41.6	-0.1
	baz=335						
NFF	Wufeng Townshi	1.48 349		eP	Pb	06 57 21.6	+0.8
	baz=347						
YHNB	Yeheng	1.49 358		eP	Pn	06 57 20.6	+0.8
	baz=8.0						
NSK	Sanguang	1.50 357		eP	Pn	06 57 20.2	+0.4
	baz=8.0						
NSTT	Nanjuang	1.51 345		eP	Pb	06 57 21.2	0.0
	baz=345						
NSTT				eS	Sb	06 57 40.6	+0.6
	baz=345						
LIOB	Emei	1.52 345		eP	Pb	06 57 22.0	+0.7
	baz=343						
FUSB	Fushanzhiwuyua	1.59 5		eP	Pn	06 57 21.0	0.0
	baz=2.0						
NWLT	Wulai	1.60 2		eP	Pn	06 57 21.3	+0.2
	baz=13						
WDGT	Dungji	1.64 273		eP	Pn	06 57 21.5	-0.1
	baz=272						
WDGT				eS	Sn	06 57 41.3	-0.9
	baz=272						
PNG	Penghu	1.77 283		eP	Pn	06 57 24.0	+0.5

	baz=282							
PNG				eS	Sb	06 57 45.8	-1.8	
	baz=282							
TWA	**Mucha**	**1.81**	**4**	eP	Pn	06 57 23.6	-0.3	
	baz=12							
TIPB	**Shuangxi**	**1.83**	**11**	eP	Pn	06 57 25.9	+1.6	
	baz=6.0							
VCHM	**Qimei**	**1.85**	**272**	eP	Pn	06 57 24.2	-0.3	
	baz=270							
VCHM				S	Sb	06 57 48.5	-1.3	
	baz=270							
JYNG	**Yonagunijimaku**	**1.88**	**47**	eP	Pn	06 57 25.5	+0.6	
JYNG				eS	Sn	06 57 48.2	+0.1	
YOJ	**Yonaguni jima**	**1.93**	**48**	eP	Pn	06 57 26.5	+0.8	
	baz=65							
YOJ				i S	Sn	06 57 50.1	+0.7	
	baz=65							
YOJ	**Yonaguni jima**	**1.93**	**48**	eP	Pn	06 57 25.9	+0.3	
YOJ				eS	Sn	06 57 49.9	+0.5	
SXI1	**Grass Mountain**	**1.96**	**12**	eP	Pn	06 57 27.2	+1.2	
	baz=6.0							
HATJ	**Hateruma jima**	**2.34**	**67**	P	Pn	06 57 31.3	0.0	
HATJ				eS	Sn	06 57 59.5	-0.2	
IRIF	**Iriomote-Funau**	**2.40**	**61**	eP	Pn	06 57 32.4	+0.3	
IRIF				eS	Sn	06 58 01.2	+0.2	
VWUC	**VWUC**	**2.56**	**315**	eP	Pn	06 57 33.9	-0.5	
	baz=314							
JKRS	**Kuro-shima**	**2.58**	**65**	eP	Pn	06 57 35.1	+0.4	
JKRS				eS	Sn	06 58 05.8	+0.2	
JIJ	**Ishigaki jima**	**2.75**	**64**	P	Pn	06 57 37.0	+0.1	
JIJ				eS	Sn	06 58 08.1	-1.6	
PTMZ	**Houxiangcun**	**2.82**	**312**	eP	Pn	06 57 37.6	-0.2	
	baz=312							
JISG	**Ishigakijimahi**	**2.98**	**61**	P	Pn	06 57 40.0	-0.1	
JISG				S	Sn	06 58 14.1	-1.3	
KNM	**Kinmen**	**3.02**	**295**	eP	Pn	06 57 41.6	+1.1	
	baz=294							
KNMB	**Chin-men Tao**	**3.07**	**295**	eP	Pn	06 57 40.9	-0.5	
	baz=295							
MATB	**Ma-tsu**	**3.26**	**336**	eP	Pn	06 57 44.1	+0.2	
	baz=332							
JTJ	**Tarama**	**3.33**	**63**	eP	Pn	06 57 45.0	+0.1	
JTJ				eS	Sn	06 58 23.0	-0.9	
MHZQ	**Yeshan**	**3.65**	**324**	eP	Pn	06 57 49.4	+0.1	
	baz=323							
LYJJ	**Jianjiangzhen**	**3.69**	**336**	eP	Pn	06 57 50.5	+0.7	
	baz=334							
DSXP	**Dongshan**	**3.72**	**279**	eP	Pn	06 57 51.4	+1.1	
	baz=279							
XPSS	**Dashiqiu**	**3.91**	**343**	eP	Pn	06 57 52.2	-0.6	
	baz=339							

*AEIC **31** 07:00:00.9±1.6, 56°.05N±0°.06×149°.6W±0°.1, h12km±6km,*
Error ellipse: s-maj=9.7km s-min=7.9km az=113.0
NEIC 31 06:59:57.3±1.6, 56°.07N±0°.09×149°.6W±0°.1, h22km±10km, ML3.0/30, ML2.7(AEIC), Error ellipse: s-maj=13.6km s-min=8.9km az=161.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.33**	**301**		Pn	07 00 34.1	-0.2
OHAK					Sn	07 01 00.6	-1.6
KDAK	**Kodiak Island**	**2.36**	**318**		Pn	07 00 34.7	0.0
KDAK	**Kodiak Island**	**2.36**	**318**		Sn	07 01 01.1	-2.0
SII	**Sitkinak Islan**	**2.59**	**283**		Sn	07 01 08.1	-0.5
SII	**Sitkinak Islan**	**2.59**	**283**	Pn	Pn	07 00 37.5	-0.4
SII	**Sitkinak Islan**	**2.59**	**283**	IAML		07 01 08.4	
	comp=E,72nm,0.8s						
SII				IAML		07 01 17.5	
	comp=N,62nm,1.1s						
SYI	**Shuyak Island**	**2.96**	**331**		Pn	07 00 42.8	-0.1
SYI					Sn	07 01 17.0	-0.6
R18K	**Karluk**	**3.05**	**302**		Pn	07 00 44.8	+0.7
R18K	**Karluk**	**3.05**	**302**	IAML		07 02 06.5	
	comp=E,37nm,0.5s						
R18K				IAML		07 02 07.6	
	comp=N,30nm,0.4s						
CNPM	**China Poot**	**3.57**	**347**		Pn	07 00 51.2	-0.2
CNPM					Sn	07 01 31.6	-1.3
Q19K	**Cape Douglas,**	**3.60**	**325**	Pn	Pn	07 00 52.9	+1.2
BRSE	**Bradley Lake S**	**3.73**	**351**		Pn	07 00 53.2	-0.4
BRSE					Sn	07 01 36.1	-0.8
KAHC	**Katmai Hardscr**	**3.90**	**314**		Pn	07 00 57.0	+1.1
PLK4	**Peulik 4**	**4.02**	**296**	Pn	Pn	07 00 57.1	-0.4
PLK4				IAML		07 02 30.3	
	comp=N,24nm,1.5s						
SEW	**Seward**	**4.05**	**1**		Pn	07 00 58.4	+0.5
P19K	**Oil Pt**	**4.08**	**333**		Pn	07 00 58.8	+0.4
P19K	**Oil Pt**	**4.08**	**333**	IAML		07 01 49.2	
	comp=N,26nm,0.8s						
P19K				IAML		07 03 13.6	
	comp=E,36nm,1.0s						
P23K	**Montague Islan**	**4.11**	**16**		Pn	07 00 59.5	+0.7
P23K					Sn	07 01 42.9	-3.3
O20K	**Slope Mountain**	**4.33**	**340**		Pn	07 01 01.7	-0.1
SLKM	**Skilak Lake**	**4.46**	**356**		Pn	07 01 03.2	-0.4
HIN	**Hinchinbrook I**	**4.64**	**20**		Pn	07 01 05.8	-0.3
HIN	**Hinchinbrook I**	**4.64**	**20**	IAML		07 01 49.1	
	comp=E,26nm,1.5s						
HIN				IAML		07 03 28.2	
	comp=N,19nm,1.1s						
EYAK	**Cordova Ski Ar**	**4.94**	**23**		Pn	07 01 10.1	+0.1
FID	**Port Fidalgo**	**4.98**	**18**	Pn	Pn	07 01 09.1	-1.5
FID				IAML		07 02 23.0	
	comp=N,8.5nm,1.5s						
FID				IAML		07 03 24.5	
	comp=E,8.8nm,1.1s						
RC01	**Rabbit Creek A**	**5.04**	**359**	Pn	Pn	07 01 11.0	-0.5
RC01				IAML		07 03 32.9	
	comp=N,6.7nm,1.0s						
RC01				IAML		07 03 36.6	
	comp=E,7.3nm,1.1s						
RAGM	**Ragged Mountai**	**5.06**	**29**	Pn	Pn	07 01 11.7	-0.1
SUCK	**Suckling Hills**	**5.07**	**35**		Pn	07 01 12.1	+0.1
SUCK	**Suckling Hills**	**5.07**	**35**	IAML		07 01 57.6	
	comp=E,20nm,1.5s						
HMT	**Hamilton**	**5.13**	**31**	Pn	Pn	07 01 12.8	0.0
NICHA	**Nichawak Mount**	**5.14**	**33**		Pn	07 01 12.9	0.0
N19K	**Bonanza Creek**	**5.40**	**334**		Pn	07 01 16.2	-0.3
SUA	**Susitna One**	**5.44**	**354**	Pn	Pn	07 01 17.9	+0.7
N18K	**Kilae Creek**	**5.68**	**327**		Pn	07 01 20.1	-0.2
GHO	**Glory Hole Cre**	**5.73**	**3**	Pn	Pn	07 01 21.7	+0.6
KLU	**Klutina**	**5.77**	**18**	Pn	Pn	07 01 19.6	-2.0
SKT	**Skwentna**	**6.01**	**351**	Pn	Pn	07 01 25.2	+0.4
N25K	**Chitina, Valde**	**6.13**	**23**	Pn	Pn	07 01 27.5	+0.9
TABL	**Table Mountain**	**6.26**	**42**	Pn	Pn	07 01 29.3	+0.8
M18K	**Stony River**	**6.32**	**332**		Pn	07 01 28.7	-0.3
PNI	**Peninsula**	**6.54**	**52**		Pn	07 01 32.5	+0.3
M16K	**Timber Creek**	**6.96**	**319**	Pn	Pn	07 01 39.1	+1.3
S31K	**Pelican**	**7.55**	**70**		Pn	07 01 45.4	-0.6
BPAW	**Bear Paw Mtn.**	**8.09**	**356**	Pn	Pn	07 01 53.9	+0.5

IDC 31 07:03:08.4±3.2, 53°.77N×86°.97E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=29.1km s-min=15.5km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**279**	I	I	07 11 24.3	
	baz=100,slow=314,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.29**	**279**	Pg	Pn	07 03 34.0	+0.4
	1.0nm,0.3s,baz=100,slow=17,SNR=1.7						
ZALV				Lg	Lg	07 03 49.5	
	1.7nm,0.3s,baz=94,slow=39,SNR=5.1						
KURBB	**Kurchatov Arra**	**6.07**	**242**	Pn	Pn	07 04 39.2	-0.1
	0.1nm,0.3s,baz=56,slow=13,SNR=2.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.60**	**205**	Pn	Pn	07 05 01.0	+0.7
	0.1nm,0.3s,baz=24,slow=15,SNR=2.6						
MKAR				Sn	Sn	07 06 28.2	+1.1
	0.1nm,0.3s,baz=18,slow=32,SNR=1.3						
	0.1nm,0.3s						

IDC 31 07:07:54.7±3.3, 57°.60S×149°.58E, h0km, mb3.7/3, mbtmp3.8/3, MS3.6/11, Error ellipse: s-maj=292.5km s-min=28.0km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.46**	**172**	P	P	07 12 33.2	0.0
	6.4nm,1.2s,baz=343,slow=12,SNR=8.2						
	6.4nm,1.2s						

URZ	**Urewera**	**26.43**	**55**	LR	LR	07 23 56.4	
	comp=Z,187nm,18.4s,baz=21,slow=36						
H01W1	**Cape Leeuwin H**	**32.80**	**298**	T	T	07 48 22.4	
	baz=144,slow=75,SNR=47						
H01W2	**Cape Leeuwin H**	**32.81**	**298**	T	T	07 48 22.5	
	baz=144,slow=75,SNR=33						
H01W3	**Cape Leeuwin H**	**32.82**	**298**	T	T	07 48 20.6	
	baz=144,slow=75,SNR=30						
NWAO	**Narrogin (SRO)**	**33.02**	**304**	LR	LR	07 25 38.7	
	comp=Z,98nm,19.2s,baz=198,slow=32						
ASAR	**Alice Springs**	**35.74**	**335**	P	P	07 14 55.0	-0.1
	0.6nm,0.5s,baz=163,slow=9.6,SNR=11						
	0.6nm,0.5s						
RAO	**Raoul Island**	**36.25**	**53**	LR	LR	07 29 03.6	
	comp=Z,151nm,20.2s,baz=123,slow=35						
CTA	**Charters Tower**	**37.54**	**355**	LR	LR	07 29 09.0	
	comp=Z,15nm,18.0s,baz=177,slow=34						
DZM	**Mont Dzumac**	**37.55**	**26**	LR	LR	07 27 44.8	
	comp=Z,149nm,19.4s,baz=226,slow=32						
MAW	**Mawson**	**37.80**	**219**	LR	LR	07 30 09.7	
	comp=Z,130nm,18.3s,baz=89,slow=35						
WRA	**Warramunga Arr**	**39.24**	**337**	P	P	07 15 24.6	-0.1
	0.7nm,0.8s,baz=163,slow=7.6,SNR=5.3						
	0.7nm,0.8s						
PMG	**Port Moresby**	**48.12**	**357**	LR	LR	07 35 24.8	
	comp=Z,90nm,18.2s,baz=186,slow=34						
SNAA	**Sanae**	**49.58**	**191**	LR	LR	07 38 01.2	
	comp=Z,55nm,18.7s,baz=250,slow=36						
H04S2	**CROZET ISLANDS**	**55.70**	**235**	T	T	08 17 43.2	
	baz=139,slow=75,SNR=7.7						
H04S1	**CROZET ISLANDS**	**55.70**	**235**	T	T	08 17 44.2	
	baz=139,slow=75,SNR=9.2						
H04S3	**CROZET ISLANDS**	**55.72**	**235**	T	T	08 17 42.7	
	baz=139,slow=75,SNR=9.0						
KAPI	**Kappang**	**57.42**	**324**	LR	LR	07 40 58.0	
	comp=Z,82nm,18.6s,baz=104,slow=34						
H08S2	**Diego Garcia H**	**76.66**	**277**	T	T	08 43 10.4	
	baz=147,slow=76,SNR=14						
H08S1	**Diego Carcia H**	**76.67**	**277**	T	T	08 43 07.6	
	baz=147,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**76.68**	**277**	T	T	08 43 03.5	
	baz=147,slow=76,SNR=29						
BOSA	**Boshof**	**82.27**	**227**	LR	LR	07 52 42.2	
	comp=Z,35nm,18.2s,baz=198,slow=33						
CMAR	**Chiang Mai Arr**	**86.62**	**313**	LR	LR	07 59 09.5	
	comp=Z,17nm,18.1s,baz=165,slow=36						

IDC 31 07:09:23.8±2.1, 3°.06N×127°.80E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=187.5km s-min=21.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.75**	**165**	P	P	07 14 37.0	-0.9
	1.3nm,0.5s,baz=343,slow=10.0,SNR=13						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**27.23**	**168**	P	P	07 15 09.8	+0.1
	0.3nm,0.3s,baz=340,slow=11,SNR=8.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**58.71**	**325**	P	P	07 19 23.9	+0.6
	0.3nm,0.5s,baz=122,slow=6.6,SNR=4.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**62.87**	**327**	P	P	07 19 51.8	+0.1
	0.4nm,0.7s,baz=124,slow=7.6,SNR=4.4						
	0.4nm,0.7s						

IDC 31 07:21:42.1±2.4, 24°.43S×174°.88W, h0km, mb3.6/3, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=159.1km s-min=29.1km az=162.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.29**	**80**	Pn	Pn	07 25 03.9	-1.9
	1.5nm,0.3s,baz=347,slow=20,SNR=2.9						
RAR				Sn	Sn	07 27 27.4	-18
	0.9nm,0.3s,baz=288,slow=20,SNR=2.2						
	9.5nm,0.6s						
ASAR	**Alice Springs**	**46.56**	**260**	P	P	07 30 12.1	+0.1
	0.5nm,0.8s,baz=97,slow=7.4,SNR=3.4						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**47.03**	**265**	P	P	07 30 15.1	-0.5
	0.9nm,0.6s,baz=103,slow=8.1,SNR=12						
	0.9nm,0.6s						
NVAR	**Mina Array Bea**	**81.96**	**41**	P	P	07 34 04.7	+0.6
	0.3nm,0.7s,baz=224,slow=8.7,SNR=4.1						
	0.3nm,0.7s						

*SNET **31** 07:53:51.4±1.0, 15°.30N×88°.92W, h5km±3km, ML2.7*
*CATAC **31** 07:53:51.2±0.3, 15°.33N×88°.84W, h5km, ML3.6*
ISC 31 07:53:50.8±1.5, 15°.30N±0°.04×88°.89W±0°.04, h8km±12km, n46, σ0°.70/69, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTO3	**Montecristo**	**1.01**	**207**	eP	**Pg**	**07 54 10.2**	**0.0**
MTO3				eS	**Sn**	**07 54 25.3**	**-0.6**
LLGN	**La Laguna**	**1.14**	**183**	eP	**Pb**	**07 54 11.9**	**-0.8**
LLGN				eS	**Sn**	**07 54 28.8**	**-0.1**
LLGN	**La Laguna**	**1.14**	**183**	i P	**Pb**	**07 54 11.7**	**-1.1**
LLGN				i S	**Sg**	**07 54 27.6**	**+0.2**
LLGN				IAML		07 54 32.2	
	comp=Z,330nm,1.0s						
INTHN	**La Esperanza I**	**1.25**	**142**	i P	**Pn**	**07 54 13.7**	**-1.0**
MARCA	**Marcala la Paz**	**1.41**	**144**	i P	**Pn**	**07 54 16.3**	**-0.6**
UNIC	**Universidad Ca**	**1.46**	**206**	eP	**Pn**	**07 54 17.6**	**0.0**
UNIC				eS	**Sg**	**07 54 37.7**	**-0.1**
UNIC	**Universidad Ca**	**1.46**	**206**	i P	**Pn**	**07 54 17.1**	**-0.4**
UNIC				i S	**Sg**	**07 54 37.9**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.54**	**214**	eP	**Pn**	**07 54 18.8**	**+0.2**
SLOZ				eS	**Sb**	**07 54 39.3**	**+0.1**
COMHN	**El Horno**	**1.55**	**123**	i P	**Pn**	**07 54 17.2**	**-1.7**
LOAL	**Lomas de Alarc**	**1.56**	**214**	i P	**Pn**	**07 54 19.5**	**+0.6**
LOAL				IAML		07 54 22.7	
	comp=Z,2μm,1.0s						
LOAL				i S	**Sg**	**07 54 41.8**	**+0.9**
CEDA	**San Andres**	**1.57**	**198**	eP	**Pn**	**07 54 19.3**	**+0.2**
PAVA	**Las Pavas**	**1.58**	**182**	eP	**Pn**	**07 54 19.4**	**+0.1**
PAVA				IAML		07 54 44.2	
	comp=Z,143nm,0.4s						
SNJE	**San Jose**	**1.59**	**206**	eP	**Pn**	**07 54 19.8**	**+0.4**
SNJE				eS	**Sg**	**07 54 42.2**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.60**	**174**	eP	**Pn**	**07 54 19.7**	**+0.2**
SCLA				IAML		07 54 50.4	
	comp=Z,27nm,0.3s						
SCLA	**Alcaldia de Sa**	**1.60**	**174**	i P	**Pn**	**07 54 19.9**	**+0.4**
SCLA				i S	**Sg**	**07 54 42.5**	**+0.2**
SCLA				IAML		07 55 22.6	
	comp=Z,530nm,1.0s						
UEES	**Universidad Ev**	**1.61**	**192**	eP	**Pn**	**07 54 20.0**	**+0.3**
UEES				IAML		07 54 45.8	
	comp=Z,141nm,0.4s						
CEVE	**Cerro Verde**	**1.63**	**206**	eP	**Pn**	**07 54 20.8**	**+0.8**
CEVE	**Cerro Verde**	**1.63**	**206**	i P	**Pb**	**07 54 20.9**	**-0.4**
CEVE				i S	**Sg**	**07 54 43.3**	**0.0**
CEVE				IAML		07 55 37.3	
	comp=Z,530nm,1.0s						
PMON	**Piamonte**	**1.63**	**195**	eP	**Pn**	**07 54 20.4**	**+0.4**
PMON	**Piamonte**	**1.63**	**195**	i P	**Pn**	**07 54 20.7**	**+0.7**
PMON				i S	**Sg**	**07 54 44.5**	**+1.1**
PMON				IAML		07 55 26.3	
	comp=Z,1μm,1.0s						
NUBE	**Las Nubes**	**1.64**	**212**	eP	**Pn**	**07 54 20.3**	**+0.2**
NUBE				eS	**Sg**	**07 54 43.6**	**+0.2**
NUBE	**Las Nubes**	**1.64**	**212**	i P	**Pn**	**07 54 20.5**	**+0.4**
NUBE				i S	**Sg**	**07 54 43.9**	**+0.4**
NUBE				IAML		07 55 32.8	
	comp=Z,590nm,1.0s						
SNET	**Serv Nac Est T**	**1.64**	**192**	i P	**Pb**	**07 54 21.0**	**-0.4**
SNET				i S	**Sg**	**07 54 43.7**	**+0.1**
SNET				IAML		07 55 21.3	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**1.67**	**189**	eP	**Pn**	**07 54 21.3**	**+0.8**
LOMA	**Loma Larga**	**1.67**	**189**	i P	**Pn**	**07 54 21.1**	**+0.6**
LOMA				i S	**Sg**	**07 54 45.1**	**+0.5**
LOMA				IAML		07 55 19.8	
	comp=Z,2μm,1.0s						
COEG	**Centro de Oper**	**1.67**	**180**	eP	**Pn**	**07 54 20.8**	**+0.3**
COEG				IAML		07 54 49.6	
	comp=Z,79nm,0.2s						
COEG	**Centro de Oper**	**1.67**	**180**	i P	**Pn**	**07 54 20.9**	**+0.4**
COEG				i S	**Sg**	**07 54 44.9**	**+0.2**
COEG				IAML		07 55 20.2	
	comp=Z,2μm,1.0s						
PQSS	**Presa 15 de Se**	**1.70**	**169**	eP	**Pn**	**07 54 21.0**	**+0.2**
PANCS	**Alcalda de**	**1.71**	**189**	i P	**Pb**	**07 54 22.7**	**+0.2**
PANCS				i S	**Sg**	**07 54 45.3**	**-0.3**
PANCS				IAML		07 55 21.2	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	**1.73**	**198**	eP	**Pn**	**07 54 21.7**	**+0.4**
JAYA				IAML		07 54 49.2	
	comp=Z,138nm,0.3s						
JAYA	**Jayaque - finc**	**1.73**	**198**	i P	**Pb**	**07 54 22.4**	**-0.5**
JAYA				i S	**Sg**	**07 54 46.8**	**+0.5**
JAYA				IAML		07 55 23.6	
	comp=Z,4μm,1.0s						
TECO	**Alcaldia de Te**	**1.76**	**176**	eP	**Pn**	**07 54 22.2**	**+0.5**
COEB	**Comit de Eme**	**1.83**	**169**	eP	**Pn**	**07 54 23.4**	**+0.7**
TECA	**Tecapa**	**1.84**	**168**	eP	**Pn**	**07 54 23.6**	**+0.7**
PETF	**Flores**	**1.86**	**330**	eP	**Pn**	**07 54 23.9**	**+0.9**
PETF				eS	**Sb**	**07 54 47.8**	**-0.7**
PETF	**Flores**	**1.86**	**330**	i P	**Pn**	**07 54 24.0**	**+1.0**
PETF				i S	**Sb**	**07 54 48.1**	**-0.3**
PETF				IAML		07 54 51.0	
	comp=Z,130nm,1.0s						
PACA	**Pacayal**	**1.91**	**163**	eP	**Pn**	**07 54 24.6**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.00**	**128**	eP	**Pn**	**07 54 25.5**	**+0.5**
TGUH				eS	**Sn**	**07 54 51.6**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.00**	**128**	i P	**Pn**	**07 54 25.3**	**+0.3**
TGUH				i S	**Sb**	**07 54 52.6**	**0.0**
TGUH				IAML		07 55 00.0	
	comp=Z,120nm,1.0s						
QUIS	**Sacapulas**	**2.12**	**270**	i P	**Pb**	**07 54 29.1**	**-0.5**
QUIS				IAML		07 55 06.1	
	comp=Z,260nm,1.0s						
LCND	**La Caada**	**2.21**	**154**	eP	**Pn**	**07 54 28.8**	**+1.1**
INTP	**Intipuca**	**2.25**	**159**	eP	**Pn**	**07 54 29.4**	**+1.1**
CNCH	**Conchagua**	**2.26**	**153**	eP	**Pn**	**07 54 29.8**	**+1.2**
YUSH	**Yuscaran**	**2.40**	**124**	eP	**Pn**	**07 54 31.8**	**+1.4**
YUSH				eS	**Sb**	**07 55 03.0**	**-1.0**
YUSH	**Yuscaran**	**2.40**	**124**	i P	**Pn**	**07 54 31.7**	**+1.3**
SOKI	**Kika Raxquin**	**2.47**	**259**	i P	**Pb**	**07 54 34.2**	**-1.6**
SOKI				IAML		07 55 08.4	
	comp=Z,190nm,1.0s						

SNET 31 07:54:53.0±1.0, 12°.94N×88°.89W, h33km±1km, ML3.3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.60**	**10**	eP	Pn	07 55 05.6	+0.3
TECO				eS	Sn	07 55 15.1	+1.2
COEB	**Comit de Eme**	**0.65**	**32**	eP	Pb	07 55 06.5	+0.3
COEB				eS	Sn	07 55 16.7	+1.4
TECA	**Tecapa**	**0.66**	**34**	eP	Pb	07 55 06.7	+0.4
TECA				eS	Sn	07 55 16.6	+0.9
SNVI	**San Vicente**	**0.67**	**4**	eP	Pb	07 55 06.8	+0.4
SNVI				eS	Sn	07 55 17.0	+1.3
COEG	**Centro de Oper**	**0.67**	**0**	eP	Pb	07 55 06.5	+0.1
COEG				eS	Sn	07 55 16.7	+0.9
LALI	**Alcalda de L**	**0.69**	**322**	eP	Pn	07 55 06.5	+0.1
LALI				eS	Sn	07 55 16.5	+0.5
JUCU	**Jucuarın**	**0.69**	**63**	eP	Pn	07 55 06.6	0.0
JUCU				eS	Sn	07 55 16.6	+0.4
JUCU				IAML		07 55 23.8	
	comp=Z,2μm,0.3s						
UESV	**Universidad de**	**0.70**	**8**	eP	Pb	07 55 07.0	+0.1
UESV				eS	Sn	07 55 17.5	+1.2
LFRS	**El Faro**	**0.70**	**346**	eP	Pb	07 55 06.9	0.0
LFRS				eS	Sn	07 55 17.2	+0.7
PANCS	**Alcalda de**	**0.72**	**337**	eP	Pb	07 55 07.1	0.0
LCY	**Lacayo**	**0.75**	**50**	eP	Pb	07 55 07.7	-0.1
PQSS	**Presa 15 de Se**	**0.75**	**25**	eP	Pb	07 55 07.9	+0.2
PQSS				eS	Sb	07 55 19.0	+1.4
PQSS				IAML		07 55 20.6	
	comp=Z,2μm,0.1s						
LOMA	**Loma Larga**	**0.75**	**338**	eP	Pn	07 55 07.5	+0.1
LOMA				eS	Sb	07 55 18.3	+0.5
PACA	**Pacayal**	**0.76**	**46**	eP	Pb	07 55 08.1	+0.2
PACA				eS	Sb	07 55 19.3	+1.3
RANC	**El Ranchito**	**0.76**	**50**	eP	Pb	07 55 07.8	-0.1
VSM	**San Miguel**	**0.77**	**51**	eP	Pb	07 55 08.2	+0.1
PAVA	**Las Pavas**	**0.77**	**356**	eP	Pb	07 55 08.1	0.0
SCLA	**Alcaldia de Sa**	**0.77**	**11**	eP	Pb	07 55 08.2	+0.1
BLLM	**Bellamira**	**0.80**	**52**	eP	Pn	07 55 08.2	+0.2
BLLM				eS	Sb	07 55 19.8	+0.6
SNET	**Serv Nac Est T**	**0.81**	**336**	eP	Pn	07 55 08.2	-0.1
UTEC	**Universidad Te**	**0.81**	**338**	eP	Pb	07 55 08.6	-0.2
UTEC				eS	Sb	07 55 20.6	+1.0
IGN	**Direccin Gen**	**0.81**	**340**	eP	Pn	07 55 08.5	+0.3
ITCA	**Escuela Especi**	**0.82**	**332**	eP	Pn	07 55 08.4	0.0
LFU	**La Fuente**	**0.83**	**344**	eP	Pb	07 55 09.0	-0.1
LFU				eS	Sb	07 55 21.0	+1.0
UESS	**Universidad de**	**0.83**	**338**	eP	Pn	07 55 08.6	+0.1
MAGS	**Ministerio de**	**0.83**	**332**	eP	Pn	07 55 08.5	0.0
UEES	**Universidad Ev**	**0.84**	**336**	eP	Pn	07 55 08.7	0.0
UEES				eS	Sb	07 55 20.3	-0.1
INTP	**Intipuca**	**0.85**	**73**	eP	Pn	07 55 08.6	-0.1
INTP				eS	Sn	07 55 20.0	0.0
INTP				IAML		07 55 22.4	
	comp=Z,428nm,0.2s						
PMON	**Piamonte**	**0.87**	**331**	eP	Pn	07 55 09.1	0.0
CNRM	**Centro Naciona**	**0.87**	**53**	eP	Pn	07 55 09.1	+0.1
PIC2	**El Picacho**	**0.88**	**336**	eP	Pn	07 55 09.6	+0.3
BOQS	**Boqueron**	**0.88**	**334**	eP	Pn	07 55 09.4

ANCK Angle Creek 10.09 52 Pn 08 02 54.1 -0.3

IDC 31 08:08:04.1±2.5, 54.00N×86.39E, h0km, mbtmp2.8/2, ML2.6/2, 1C-1D, Error ellipse: s-maj=20.6km s-min=12.5km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**267**	I	I	08 13 30.0	
baz=90,slow=316,SNR=2.0							
ZAA0	**Zalesovo Array**	**0.93**	**267**	⇓P	Pg	08 08 21.9	0.0
0.2nm,0.3s,baz=84,slow=12							
ZAA0				⇑S	Sn	08 08 37.5	-1.0
1.5nm,0.8s,baz=73,slow=28							
ZALV	**Zalesovo Beam**	**0.93**	**267**	Pg	Pg	08 08 20.2	-1.7
0.9nm,0.3s,baz=82,slow=17,SNR=7.4							
ZALV				Lg	Lg	08 08 35.9	
2.6nm,0.3s,baz=85,slow=28,SNR=10							
KURBB	**Kurchatov Arra**	**5.89**	**238**	Pn	Pn	08 09 33.4	+0.9
0.1nm,0.3s,baz=54,slow=13,SNR=2.0							
0.2nm,0.3s							
MK31	**Makanchi Array**	**7.68**	**202**	P	Pn	08 09 58.9	+1.8
baz=28,slow=14,SNR=10							
MKAR	**Makanchi Array**	**7.68**	**202**	Pn	Pn	08 09 58.5	+1.3
0.2nm,0.3s,baz=20,slow=13,SNR=8.3							
0.3nm,0.3s							

IDC 31 08:08:41.6±4.0, 53.84N×88.11E, h0km, mbtmp2.6/2, ML2.3/1, Error ellipse: s-maj=38.5km s-min=20.6km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.95**	**274**	I	I	08 21 16.5	
0.2nm,0.8s,baz=91,slow=317,SNR=15							
ZALV	**Zalesovo Beam**	**1.95**	**274**	Pg	Pn	08 09 16.4	+0.5
1.0nm,0.3s,baz=90,slow=12,SNR=5.2							
ZALV				Lg	Lg	08 09 43.6	
1.9nm,0.3s,baz=95,slow=26,SNR=6.4							
KURBB	**Kurchatov Arra**	**6.71**	**245**	Pn	Pn	08 10 22.1	+0.8
0.1nm,0.3s,baz=63,slow=14,SNR=1.7							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**7.98**	**210**	Pn	Pn	08 10 39.8	+1.1
0.1nm,0.3s,baz=20,slow=9.2,SNR=1.7							

*AEIC **31** 08:11:32.7±1.5, 52.73N±0.05×168.16W±0.08, h26km±8km, Error ellipse: s-maj=9.0km s-min=5.0km az=143.0*

NEIC 31 08:11:32.8±0.8, 52.72N±0.02×168.21W±0.08, h39km±21km, ML3.5/8, ML3.0(AEIC), **Error ellipse: s-maj=7.4km s-min=2.2km az=97.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.46**	**303**		Pn	08 11 42.8	-0.1
NIKH					Sn	08 11 50.1	+0.1
OKSP	**Okmok Steeple**	**0.53**	**355**		Pn	08 11 43.8	-0.2
OKSP					Sn	08 11 51.8	-0.1
OKCE	**Okmok Cone E**	**0.71**	**2**		Pn	08 11 46.6	+0.2
OKFG	**Magazine Ridge**	**0.71**	**15**		Pn	08 11 46.4	0.0
OKFG					Sn	08 11 56.5	+0.4
OKNC	**Okmok New Cone**	**0.74**	**4**		Pn	08 11 47.3	+0.6
OKWE	**Okmok W'ng Wal**	**0.75**	**359**		Pn	08 11 47.2	+0.3
CLCO	**Concord Point,**	**0.92**	**275**		Pn	08 11 49.2	0.0
CLES	**Cleveland East**	**1.03**	**276**		Pn	08 11 50.9	+0.3
CLES	**Cleveland East**	**1.03**	**276**	IAML		08 12 12.5	
comp=E,1μm,0.2s							
CLES				IAML		08 12 12.8	
comp=N,1μm,0.3s							
MAPS	**Pakushin South**	**1.33**	**35**		Pn	08 11 54.7	-0.1
MAPS					Sn	08 12 10.8	-0.4
MGOD	**Makushin Gods**	**1.34**	**36**		Pn	08 11 54.7	-0.3
MSW	**Makushin Switc**	**1.47**	**35**		Pn	08 11 56.9	+0.1
MSW					Sn	08 12 15.0	+0.2
UNV	**Unalaska Valle**	**1.52**	**42**		Pn	08 11 57.4	0.0
UNV					Sn	08 12 15.5	-0.5
MTBL	**Makushin Table**	**1.55**	**36**		Pn	08 11 58.5	+0.6
ZRO	**Akutan Zero**	**1.92**	**43**		Pn	08 12 03.6	+0.7
LVA	**Lava Point**	**1.94**	**41**	Pn	Pn	08 12 01.4	-1.8
LVA				IAML		08 12 38.4	
comp=E,296nm,0.6s							
AKGG	**Akutan Green G**	**1.99**	**41**		Pn	08 12 05.3	+1.4
AKSA	**Akutan Strait**	**2.07**	**46**		Pn	08 12 05.7	+0.8
ATKA	**Atka Island**	**3.70**	**264**	Pn	Pn	08 12 25.8	-1.5
ADK	**Adak**	**5.27**	**264**	Pn	Pn	08 12 50.7	+1.9
ADK				IAML		08 15 35.6	
comp=E,28nm,1.5s							
KIWB	**Kanaga Island**	**5.55**	**265**	Pn	Pn	08 12 51.1	-1.7
AMKA	**Amchitka**	**7.82**	**265**	Pn	Pn	08 13 23.6	-0.2

IDC 31 08:18:02.9±3.5, 54.41N×87.06E, h0km, mbtmp3.1/2, ML2.4/2, Error ellipse: s-maj=31.3km s-min=19.6km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**252**	I	I	08 26 28.7	
baz=68,slow=313,SNR=3.0							
ZALV	**Zalesovo Beam**	**1.40**	**251**	Pg	Pn	08 18 27.8	-1.8
0.8nm,0.3s,baz=68,slow=17,SNR=7.0							
ZALV				Lg	Lg	08 18 47.4	
0.9nm,0.3s,baz=74,slow=28,SNR=5.3							
KURBB	**Kurchatov Arra**	**6.44**	**237**	Pn	Pn	08 19 40.0	+1.1
0.1nm,0.3s,baz=56,slow=14,SNR=2.7							
2.6nm,0.2s							
MKAR	**Makanchi Array**	**8.21**	**204**	Pn	Pn	08 20 04.3	+1.1
0.1nm,0.3s,baz=23,slow=13,SNR=2.2							
0.1nm,0.3s							

*IDC **31** 08:26:34.3±2.5, 5.42S×105.64E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=155.0km s-min=25.0km az=52.0*

*DJA **31** 08:26:38.7±0.4, 7.5S±4.5×10.5E±.5, h10km, M4.2/11, MLv4.2/11*

ISC 31 08:26:36.3±1.1, 6.56S±0.08×104.71E±0.08, h10km, n27, σ2.00/18, mb3.6/4, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.05**	**349**	P	**Pg**	**08 26 58.1**	**+1.6**
KASI				S	**Sg**	**08 27 09.5**	**-0.7**
BLSI	**Bandar Lampung**	**1.30**	**24**	P	**Pn**	**08 27 00.1**	**-0.4**
SBJI	**Serang**	**1.48**	**73**	P	**Pn**	**08 27 03.5**	**+0.5**
LWLI	**Liwa**	**1.66**	**337**	P	**Pn**	**08 27 07.6**	**+2.0**
LWLI				S	**Sn**	**08 27 28.5**	**+1.4**
SKJI	**Sukabumi**	**1.89**	**104**	P	**Pn**	**08 27 11.0**	**+2.4**
SKJI				S	**Sb**	**08 27 35.4**	**+0.9**
DBJI	**Dramaga**	**2.03**	**90**	P	**Pn**	**08 27 12.1**	**+1.5**
CBJI	**Citeko**	**2.13**	**86**	P	**Pb**	**08 27 16.2**	**+1.2**
CNJI	**Cibinong**	**2.52**	**107**	P	**Pn**	**08 27 19.2**	**+2.0**
MNAI	**Manna**	**2.80**	**321**	P	**Pn**	**08 27 23.2**	**+2.1**
CMJI	**Cimerak**	**3.91**	**108**	P	**Pn**	**08 27 38.9**	**+2.5**
H01W3	**Cape Leeuwin H**	**29.50**	**164**	T	T	09 03 14.8	
baz=352,slow=74							
H01W2	**Cape Leeuwin H**	**29.51**	**164**	T	T	09 03 16.6	
baz=352							
H01W1	**Cape Leeuwin H**	**29.51**	**164**	T	T	09 03 15.9	
baz=352,slow=74							
WRA	**Warramunga Arr**	**31.69**	**118**	P	**P**	**08 32 58.5**	**-1.8**
0.4nm,0.7s,baz=300,slow=9.7,SNR=19							
WRA				PcP	**PcP**	**08 35 49.4**	**-2.9**
0.6nm,1.0s,baz=303,slow=2.1,SNR=5.0							
0.4nm,0.7s							
H08S2	**Diego Garcia H**	**31.98**	**266**	T	T	09 06 51.4	
baz=90,slow=75,SNR=16							
H08S3	**Diego Garcia H**	**31.99**	**266**	T	T	09 06 50.4	
baz=90,slow=75,SNR=31							
H08S1	**Diego Carcia H**	**32.00**	**266**	T	T	09 07 14.4	
baz=90,slow=75,SNR=21							
ASAR	**Alice Springs**	**32.80**	**124**	P	**P**	**08 33 08.9**	**-1.2**
0.5nm,0.6s,baz=298,slow=7.0,SNR=8.6							
0.5nm,0.6s							
STKA	**Stephens Creek**	**42.63**	**131**	P	**P**	**08 34 32.8**	**-0.3**
3.4nm,0.5s,baz=300,slow=8.1,SNR=12							
3.4nm,0.5s							
MKAR	**Makanchi Array**	**56.73**	**342**	P	P	08 36 15.0	-5.3
0.3nm,0.5s,baz=141,slow=9.0,SNR=6.6							
0.3nm,0.5s							
H04N2	**CROZET ISLANDS**	**60.13**	**220**	T	T	09 42 22.2	
baz=65,slow=75,SNR=58							
H04N1	**CROZET ISLANDS**	**60.14**	**220**	T	T	09 42 31.7	
baz=65,slow=75,SNR=62							
H04N3	**CROZET ISLANDS**	**60.14**	**220**	T	T	09 42 30.3	
baz=65,slow=75,SNR=65							
H04S1	**CROZET ISLANDS**	**60.33**	**219**	T	T	09 42 42.4	
baz=79							
H04S3	**CROZET ISLANDS**	**60.35**	**219**	T	T	09 42 49.2	
baz=79							
H04S2	**CROZET ISLANDS**	**60.35**	**219**	T	T	09 42 50.5	
baz=79							
TXAR	**Lajitas Array**	**144.95**	**46**	PKP	**PKPab**	**08 46 10.2**	**-3.6**
0.3nm,0.5s,baz=255,slow=0.8,SNR=12							

*BJI **31** 08:42:16.7±0.0, 37.14N×141.40E, h21km, mb5.0/83, mB5.3/78, Ms5.5/99, Ms7 5.4/96*

*IDC **31** 08:42:17.9±0.4, 37.17N×141.15E, h0km, mb5.1/29, mbtmp5.1/34, ML4.2/6, MS4.9/70, Error ellipse: s-maj=12.3km s-min=11.2km az=91.0*

*NEIC **31** 08:42:19.2, 37.15N×141.28E, h16km*

*NEIC **31** 08:42:19.2, 37.05N×141.53E, h16km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^17^Nm; M_{rr}-1.79; $M_{\theta\theta}$1.35; $M_{\phi\phi}$0.43; $M_{r\theta}$-0.78; $M_{\theta\phi}$0.62; $M_{\phi r}$-0.70; Fault plane solution: $M_0$2.02000×10^17^ NP1:ϕ_s55.89000°, δ60.64000°, λ-96.88000°. NP2:ϕ_s249.71000°, δ30.08000°, λ-77.98000°. Principal axes: T 1.9421, Plg15.0000°, Azm151.0000°; N 0.1516, Plg6.0000°, Azm59.0000°; P -2.0937, Plg73.0000°, Azm309.0000°;*

*NEIC **31** 08:42:20.6±1.5, 37.18N±0.04×141.10E±0.07, h11km±1km, mb5.6/221, Ms_20 4.9/299, Mww5.5/47 Error ellipse: s-maj=8.4km s-min=4.8km az=76.0*

*JMA **31** 08:42:20.2±0.1, 37.2N±0.2×141.2E±0.6, h21km, MD5.8/40, MW5.5/40, E OFF FUKUSHIMA PREF*

JMA Felt IV J1 at E OFF FUKUSHIMA PREF .

*NIED **31** 08:42:20.2, 37.16N×141.23E, h21km, MW5.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^17^Nm; M_{rr}-1.24; $M_{\theta\theta}$0.91; $M_{\phi\phi}$0.33; $M_{r\theta}$0.33; $M_{\theta\phi}$0.67; $M_{\phi r}$0.05; Fault plane solution: $M_0$1.34000×10^17^ NP1: ϕ_s243.00000°, δ52.00000°, λ-82.00000°. NP2:ϕ_s50.00000°, δ39.00000°, λ-100.00000°.*

*MOS **31** 08:42:20.7±1.0, 37.40N×141.14E, h22km, mb5.7/74, MS5.4/37 Error ellipse: s-maj=5.6km s-min=3.4km az=108.8*

*GCMT **31** 08:42:21.5±0.1, 37.21N±0.01×141.20E±0.01, h12km, MW5.5/165, Moment Tensor Solution. s132,c230; s165,c323; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; M_{rr}-1.74±.02; $M_{\theta\theta}$1.22±.02; $M_{\phi\phi}$0.51±.02; $M_{r\theta}$0.26±.04; $M_{\theta\phi}$0.84±.01; $M_{\phi r}$0.62±.05; Best double couple: $M_0$1.88600×10^17^ NP1:ϕ_s225.00000°, δ55.00000°, λ-103.00000°. NP2:ϕ_s68.00000°, δ37.00000°, λ-72.00000°. Principal axes: T 1.8710, Plg9.0000°, Azm325.0000°; N 0.0230, Plg11.0000°, Azm233.0000°; P -1.9010, Plg76.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **31** 08:42:24.3, 38.06N×142.41E, h20km±1km, mb5.1, Ms5.1, Hypocentre not reviewed by the ISC*

ISC 31 08:42:20.5±0.3, 37.17N±0.02×141.20E±0.02, h16km±1km, h16km:pP-P, n1726, σ1.74/1824, mb5.5/329, MS5.0/290, 47C-70D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.33**	**307**	*i* P	**Pb**	**08 42 27.5**	**-0.5**
JFK				S	**Sb**	**08 42 32.7**	**-0.3**
JFK	**Kawauchi**	**0.33**	**307**	A	A	08 42 27.5	
comp=E,472nm,5.6s,comp=N,433nm,3.5s							
ONAJ	**Iwakimizuishiy**	**0.33**	**258**	*i* P	**Pg**	**08 42 27.4**	**0.0**
ONAJ				S	**Sb**	**08 42 32.6**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.33**	**258**	A	A	08 42 27.4	
comp=E,381nm,0.3s,comp=N,351nm,2.5s							
JFFD	**Fukushimafurud**	**0.52**	**262**	*i* P	**Pb**	**08 42 30.7**	**-0.4**
JFFD				S	**Sb**	**08 42 38.3**	**-0.1**
JFFD	**Fukushimafurud**	**0.52**	**262**	A	A	08 42 30.7	
comp=E,206nm,4.6s,comp=N,228nm,3.8s							
JMST	**Minamisoumatoc**	**0.61**	**336**	*i* P	**Pg**	**08 42 32.2**	**-0.3**
JMST				S	**Sb**	**08 42 41.4**	**+0.3**
JMST	**Minamisoumatoc**	**0.61**	**336**	A	A	08 42 32.2	
comp=E,325nm,0.5s,comp=N,910nm,0.4s							
JHO	**Hitachi**	**0.75**	**222**	⇓*i* P	**Pg**	**08 42 33.9**	**-1.3**
JHO				⇓S	**Sg**	**08 42 44.1**	**-1.0**
JHO	**Hitachi**	**0.75**	**222**	A	A	08 42 33.9	
comp=E,157nm,11.4s,comp=N,133nm,4.1s							
JMM	**Marumori**	**0.77**	**335**	P	**Pb**	**08 42 35.3**	**-0.1**
JMM	**Marumori**	**0.77**	**335**		**Pg**	**08 42 35.0**	**-0.5**
JMM					**Sb**	**08 42 45.5**	**-0.1**
JMM	**Marumori**	**0.77**	**335**	*i* P	**Pg**	**08 42 34.9**	**-0.5**
JMM				S	**Sb**	**08 42 45.8**	**+0.2**
JMM	**Marumori**	**0.77**	**335**	A	A	08 42 34.9	
comp=E,227nm,0.7s,comp=N,387nm,0.5s							
JOTO	**OTAMA OYAMA**	**0.79**	**300**	*i* P	**Pb**	**08 42 36.0**	**+0.1**
JOTO				S	**Sb**	**08 42 47.2**	**+0.8**
JOTO	**OTAMA OYAMA**	**0.79**	**300**	A	A	08 42 36.0	
comp=E,389nm,1.2s,comp=N,656nm,1.8s							
JHYU	**Hitachinakayam**	**0.96**	**211**	A	A	08 42 37.9	
comp=E,116nm,10.1s,comp=N,112nm,3.6s							
JSB	**Shiboa**	**1.04**	**259**	⇓*i* P	**Pg**	**08 42 40.4**	**-0.2**
JSB				⇓S	**Sn**	**08 42 55.2**	**+0.5**
JSB	**Shiboa**	**1.04**	**259**	A	A	08 42 40.4	
comp=E,493nm,4.4s,comp=N,381nm,6.5s							
JYAR	**Yonezawaarcadi**	**1.12**	**312**	A	A	08 42 40.9	
comp=E,1μm,0.8s,comp=N,916nm,0.5s							
JIKH	**Ishinomakikobu**	**1.16**	**10**	A	A	08 42 41.2	
comp=E,275nm,3.3s,comp=N,141nm,2.7s							
JFY	**Yanaizu**	**1.22**	**282**	⇓P	**Pb**	**08 42 43.1**	**0.0**
JFY				⇓S	**Sg**	**08 42 59.7**	**-0.1**
JFY	**Yanaizu**	**1.22**	**282**	A	A	08 42 43.1	
comp=E,156nm,7.4s,comp=N,226nm,6.4s							
JYT	**Yasato**	**1.24**	**221**	A	A	08 42 42.5	
comp=E,212nm,0.4s,comp=N,80nm,1.9s							
JOU	**Okura**	**1.27**	**341**	A	A	08 42 43.2	
comp=E,529nm,2.1s,comp=N,800nm,1.0s							
JIO	**Ouri**	**1.29**	**5**	A	A	08 42 43.4	
comp=E,228nm,3.3s,comp=N,207nm,9.0s							
JIHU	**Itakohorinouch**	**1.32**	**205**	A	A	08 42 43.6	
comp=E,402nm,5.6s,comp=N,357nm,6.8s							
JYS	**Shirataka**	**1.38**	**320**	A	A	08 42 45.1	
comp=E,419nm,0.9s,comp=N,429nm,1.6s							
JOFO	**Osakifurukawao**	**1.45**	**351**	A	A	08 42 45.9	
comp=E,2μm,1.3s,comp=N,3μm,1.8s							
JAG	**Ashikaga**	**1.59**	**243**	A	A	08 42 47.9	
comp=E,65nm,4.2s,comp=N,71nm,5.0s							
JKT	**Katashina**	**1.61**	**256**	A	A	08 42 48.4	
comp=E,65nm,7.2s,comp=N,53nm,4.5s							
JNS	**Sasagawa**	**1.63**	**294**	A	A	08 42 48.8	
comp=E,191nm,1.3s,comp=N,167nm,0.9s							
JSMT	**Sammumatsuo**	**1.64**	**202**	A	A	08 42 48.4	
comp=E,370nm,4.0s,comp=N,506nm,4.6s							
JKMT	**Kesennumamotoy**	**1.65**	**7**	A	A	08 42 48.8	
comp=E,268nm,2.5s,comp=N,145nm,2.6s							
JUON	**Uonuma**	**1.71**	**272**	A	A	08 42 49.9	
comp=E,79nm,4.2s,comp=N,106nm,6.1s							
JMK	**Ichinoseki**	**1.78**	**1**	A	A	08 42 50.8	
comp=E,267nm,1.5s,comp=N,126nm,3.9s							
JYA	**Atsumi**	**1.84**	**321**	A	A	08 42 51.9	
comp=E,340nm,1.1s,comp=N,430nm,0.9s							
JYK	**Kaneyama**	**1.87**	**339**	A	A	08 42 52.2	
comp=E,176nm,1.7s,comp=N,287nm,2.6s							
TOK	**Tokyo**	**1.88**	**219**	A	A	08 42 52.1	
comp=E,188nm,7.6s,comp=N,211nm,6.4s							
JCN	**Nagara**	**1.92**	**205**	A	A	08 42 52.6	
comp=E,444nm,5.7s,comp=N,353nm,6.1s							
OFUJ	**Ofunato**	**1.94**	**11**	A	A	08 42 53.1	
comp=E,256nm,2.4s,comp=N,133nm,4.6s							
I30JP	**ISUMI INFRASON**	**1.99**	**201**	Pg	**Pn**	**08 42 53.4**	**0.0**
baz=27,slow=18							
I30JP				I	I	08 50 10.0	
baz=19,slow=321,SNR=1.9							
JAW	**Awa shima**	**2.01**	**310**	A	A	08 42 54.3	
comp=E,120nm,4.8s,comp=N,127nm,2.9s							
JIZZ	**Izumozaki**	**2.02**	**281**	A	A	08 42 54.4	
comp=E,647nm,5.7s,comp=N,366nm,5.4s							
JHU	**Hanno**	**2.03**	**230**	A	A	08 42 54.3	
comp=E,35nm,4.0s,comp=N,49nm,6.3s							
JYYZ	**Yamagatayuza**	**2.10**	**332**	A	A	08 42 55.5	
comp=E,594nm,2.4s,comp=N,772nm,2.6s							
JGK	**Kuni**	**2.14**	**254**	A	A	08 42 56.1	
comp=E,88nm,4.4s,comp=N,89nm,4.0s							
JKUC	**kamogawauchiur**	**2.16**	**202**	A	A	08 42 56.0	
comp=E,100nm,5.9s,comp=N,104nm,3.3s							
JRY	**Ryogami san**	**2.18**	**239**	A	A	08 42 56.5	
comp=E,32nm,5.2s,comp=N,44nm,6.3s							
JSGW	**Sagamiharawaka**	**2.24**	**226**	A	A	08 42 57.4	
comp=E,45nm,11.7s,comp=N,37nm,6.7s							
JRG	**Rokugo**	**2.27**	**349**	A	A	08 42 57.9	
comp=E,195nm,3.4s,comp=N,185nm,2.3s							
JOM	**Ohasama**	**2.30**	**2**	A	A	08 42 58.3	
comp=E,205nm,2.1s,comp=N,92nm,3.0s							
JYO	**Yokosk**	**2.30**	**213**	A	A	08 42 58.1	
comp=E,143nm,3.0s,comp=N,137nm,5.6s							
TATJ	**Tateyama 2**	**2.38**	**207**	A	A	08 42 59.2	
comp=E,146nm,4.4s,comp=N,177nm,5.2s							
JTB	**Tobi-shima**	**2.40**	**328**	A	A	08 42 59.9	
comp=E,101nm,3.0s,comp=N,115nm,4.9s							
JJN	**Nakama**	**2.43**	**269**	A	A	08 43 00.3	
comp=E,124nm,7.6s,comp=N,114nm,4.4s							
MIYJ	**Miyakonagasawa**	**2.45**	**11**	A	A	08 43 00.4	
comp=E,117nm,1.8s,comp=N,88nm,2.0s							
MJAR	**Matsushiro Arr**	**2.48**	**256**	Pn	**Pn**	**08 43 00.6**	**+0.4**
comp=N,15nm,0.3s,baz=93,slow=13,SNR=328							
MJAR				Sn	**Sb**	**08 43 33.7**	**-1.2**
comp=N,59nm,0.3s,baz=17,slow=19,SNR=3.5							
comp=N,93nm,0.3s							
MAJO	**Matsushiro**	**2.48**	**256**	P	**Pn**	**08 43 02.2**	**+2.0**
MAJO	**Matsushiro**	**2.48**	**256**	Pn	**Pn**	**08 43 00.9**	**+0.7**
MAJO	**Matsushiro**	**2.48**	**256**	P	**Pn**	**08 43 00.9**	**+0.7**
MJB9	**Matsu-Tunnel**	**2.48**	**256**	Pn	**Pn**	**08 43 01.1**	**+0.8**
JSD	**Sado**	**2.49**	**291**	P	**Pn**	**08 43 01.9**	**+1.6**
JSD	**Sado**	**2.49**	**291**	Pn	**Pn**	**08 43 00.2**	**-0.1**
JSD	**Sado**	**2.49**	**291**	A	A	08 43 01.2	
comp=E,40nm,3.0s,comp=N,54nm,5.8s							
JYW	**Yuwa**	**2.49**	**342**	A	A	08 43 01.2	
comp=E,377nm,1.3s,comp=N,358nm,1.5s							
JOD2	**Odawara 2**	**2.56**	**223**	A	A	08 43 01.8	
comp=E,41nm,3.9s,comp=N,68nm,5.7s							
JSZI	**Iwateshizukuis**	**2.58**	**356**	A	A	08 43 02.2	
comp=E,360nm,3.1s,comp=N,353nm,1.8s							
JNG	**Nsakai**	**2.60**	**254**	A	A	08 43 02.7	
comp=E,28nm,5.2s,comp=N,48nm,4.6s							
JYN	**Shimob**	**2.72**	**233**	A	A	08 43 04.2	
comp=E,41nm,7.8s,comp=N,51nm,7.5s							
JNT	**Takato**	**2.78**	**243**	A	A	08 43 05.3	
comp=E,46nm,7.6s,comp=N,29nm,4.7s							
JKZ	**Kuzumaki**	**2.81**	**2**	A	A	08 43 05.6	
comp=E,162nm,2.1s,comp=N,93nm,1.2s							
JTH	**Tanohata**	**2.81**	**10**	A	A	08 43 05.6	
comp=E,156nm,2.9s,comp=N,83nm,6.1s							
JHTM	**Izuhatsuma**	**2.83**	**219**	A	A	08 43 05.7	
comp=E,52nm,2.5s,comp=N,95nm,4.2s							
JFNN	**Fujinakano**	**2.83**	**227**	A	A	08 43 05.8	
comp=E,72nm,3.2s,comp=N,55nm,3.9s							
JIM2	**Oshima 3**	**2.84**	**211**	A	A	08 43 05.7	
comp=E,66nm,4.1s,comp=N,88nm,5.8s							
JAH	**Hinai**	**3.05**	**352**	A	A	08 43 09.0	
comp=E,112nm,2.2s,comp=N,104nm,4.3s							
JKEN	**Kujiedanarisaw**	**3.06**	**7**	A	A	08 43 09.1	
comp=E,285nm,3.4s,comp=N,236nm,1.1s							
JTHY	**Toshimahigashi**	**3.06**	**211**	A	A	08 43 09.0	
comp=E,64nm,4.7s,comp=N,90nm,5.8s							
JSZ	**Suzu**	**3.07**	**276**	A	A	08 43 09.5	
comp=E,48nm,8.3s,comp=N,50nm,4.0s							
JIZS	**Izushimoda**	**3.09**	**218**	A	A	08 43 09.4	
comp=E,18nm,3.0s,comp=N,29nm,4.1s							
JTT	**Ttatey**	**3.15**	**261**	A	A	08 43 10.6	
comp=E,68nm,2.8s,comp=N,59nm,3.4s							
JNTW	**Noshirotokiwa**	**3.20**	**346**	A	A	08 43 11.2	
comp=E,506nm,4.1s,comp=N,453nm,3.5s							
SHZ3	**Shizuoka 3**	**3.20**	**230**	A	A	08 43 11.1	
comp=E,28nm,4.2s,comp=N,43nm,3.7s							
JANG	**Nango**	**3.21**	**4**	A	A	08 43 11.3	
comp=E,149nm,2.3s,comp=N,80nm,2.6s							
JOG3	**Oga3**	**3.21**	**329**	A	A	08 43 07.7	
comp=E,189nm,2.6s,comp=N,272nm,2.5s							
JNIO	**Niijimaoohara**	**3.21**	**210**	A	A	08 43 11.1	
comp=E,45nm,3.7s,comp=N,64nm,5.3s							
JNY	**Yasuok**	**3.25**	**237**	A	A	08 43 11.8	
comp=E,29nm,8.0s,comp=N,46nm,8.6s							
JSKK	**Shikinejimakit**	**3.26**	**210**	A	A	08 43 11.8	
comp=E,36nm,2.6s,comp=N,34nm,10.6s							
JGN	**Niukaw**	**3.26**	**254**	A	A	08 43 12.1	
comp=E,16nm,4.0s,comp=N,23nm,3.8s							
JMYK	**Miyake Tsubota**	**3.38**	**204**	A	A	08 43 13.5	
comp=E,39nm,5.6s,comp=N,56nm,9.1s							
JKO	**Kozu shima**	**3.42**	**210**	A	A	08 43 14.0	
comp=E,72nm,3.8s,comp=N,41nm,3.3s							
JHG	**Hegura jima**	**3.47**	**283**	A	A	08 43 15.2	
comp=E,27nm,7.3s,comp=N,40nm,2.9s							
JGF	**Kuroka**	**3.47**	**244**	P	**Pn**	**08 43 16.1**	**+2.2**
JGF	**Kuroka**	**3.47**	**244**	Pn	**Pn**	**08 43 15.1**	**+1.3**
JSG	**Sagara**	**3.49**	**225**	P	**Pn**	**08 43 16.7**	**+2.6**
JSG	**Sagara**	**3.49**	**225**		**Pn**	**08 43 17.5**	**+3.4**
JSG	**Sagara**	**3.49**	**225**	A	A	08 43 15.1	
comp=E,82nm,5.0s,comp=N,72nm,9.5s							
JMKN	**Mikurajimanish**	**3.52**	**202**	A	A	08 43 15.5	
comp=E,36nm,6.3s,comp=N,35nm,5.8s							
JHHS	**Hirosakihyakuz**	**3.54**	**350**	A	A	08 43 16.0	
comp=E,196nm,6.2s,comp=N,238nm,2.2s							
JIW	**Iwasaki**	**3.54**	**345**	A	A	08 43 16.1	
comp=E,62n

ERM				pmax	pmax	
	comp=Z,644nm,1.3s					
JEM	**Erimo**	**5.07 17**	P		**Pn**	**08 43 35.5 -0.3**
JEM	**Erimo**	**5.07 17**	A		A	08 43 37.4
	comp=E,30nm,6.7s,comp=N,18nm,6.9s					
JOSM	**Okushiri--Mats**	**5.08 345**	A		A	08 43 37.8
	comp=E,28nm,3.6s,comp=N,25nm,4.1s					
JHE	**Heguri**	**5.13 242**	A		A	08 43 38.4
	comp=E,20nm,7.7s,comp=N,13nm,5.2s					
JKY	**Yasaka**	**5.15 254**	A		A	08 43 38.7
	comp=E,10.0nm,6.1s,comp=N,14nm,6.4s					
JNTK	**Naratenkawa**	**5.20 238**	A		A	08 43 39.3
	comp=E,10.0nm,9.0s,comp=N,10.0nm,4.5s					
JNBK	**Urakawa-nobuka**	**5.24 13**	A		A	08 43 39.9
	comp=E,36nm,2.8s,comp=N,40nm,4.6s					
JSHD	**Hidakashinhida**	**5.33 10**	A		A	08 43 41.0
	comp=E,74nm,3.8s,comp=N,64nm,3.3s					
JHST	**Hiyamasetana**	**5.34 349**	A		A	08 43 41.4
	comp=E,44nm,4.7s,comp=N,58nm,4.7s					
JTHR	**Tokachihiroo**	**5.37 17**	A		A	08 43 41.5
	comp=E,21nm,4.3s,comp=N,20nm,3.4s					
JMMH	**Miemihama**	**5.38 233**	A		A	08 43 41.8
	comp=E,7.0nm,4.9s,comp=N,7.0nm,9.6s					
JWY	**Kouya**	**5.43 239**	A		A	08 43 42.5
	comp=E,11nm,6.5s,comp=N,11nm,5.1s					
JIAM	**Iburiatsuma**	**5.47 6**	A		A	08 43 43.1
	comp=E,63nm,2.0s,comp=N,52nm,5.8s					
JKSM	**Kasumi**	**5.50 255**	A		A	08 43 43.7
	comp=E,9.0nm,7.7s,comp=N,9.0nm,5.7s					
JMIK	**Miki**	**5.51 247**	A		A	08 43 43.7
	comp=E,19nm,9.8s,comp=N,16nm,6.3s					
JSH	**Shimam**	**5.54 351**	A		A	08 43 44.1
	comp=E,35nm,3.8s,comp=N,29nm,3.8s					
JKS	**Kasai**	**5.59 249**	A		A	08 43 44.8
	comp=E,15nm,6.8s,comp=N,6.0nm,5.4s					
JTNC	**Tanabenakahech**	**5.65 235**	A		A	08 43 45.6
	comp=E,9.0nm,9.6s,comp=N,8.0nm,5.1s					
JEW	**Eniwo**	**5.67 2**	A		A	08 43 45.9
	comp=E,42nm,7.6s,comp=N,41nm,4.3s					
JBT2	**Biratori 2**	**5.67 9**	A		A	08 43 45.9
	comp=E,23nm,3.4s,comp=N,23nm,3.1s					
JCH	**Churui**	**5.69 16**	A		A	08 43 46.0
	comp=E,19nm,3.3s,comp=N,23nm,5.0s					
JAWN	**Awajishima-nag**	**5.77 244**	A		A	08 43 47.4
	comp=E,25nm,9.6s,comp=N,20nm,4.1s					
JWKM	**Wakayamakushim**	**5.79 232**	A		A	08 43 47.6
	comp=E,11nm,3.2s,comp=N,10.0nm,3.3s					
JOB	**Onbets**	**6.07 19**	A		A	08 43 51.4
	comp=E,26nm,4.4s,comp=N,22nm,4.1s					
JFR	**Furan**	**6.08 10**	A		A	08 43 51.6
	comp=E,14nm,8.7s,comp=N,14nm,1.6s					
JISS	**Ishikarishitsu**	**6.10 1**	A		A	08 43 51.9
	comp=E,61nm,3.1s,comp=N,70nm,4.6s					
JSK	**Shakotan**	**6.20 355**	A		A	08 43 53.4
	comp=E,26nm,5.5s,comp=N,22nm,4.8s					
JKR	**Kurayoshi**	**6.22 256**	A		A	08 43 53.7
	comp=E,12nm,5.5s,comp=N,9.0nm,9.9s					
JAB	**Ashibetsu**	**6.38 7**	A		A	08 43 55.8
	comp=E,25nm,1.9s,comp=N,34nm,3.6s					
JAK	**Akkeshi**	**6.41 24**	A		A	08 43 56.1
	comp=E,21nm,7.0s,comp=N,16nm,3.1s					
JAR	**Ashorobuto**	**6.43 17**	A		A	08 43 56.4
	comp=E,18nm,4.1s,comp=N,13nm,1.9s					
JMN	**Monobe**	**6.89 242**	P		**Pn**	**08 44 02.1 +1.3**
JMN	**Monobe**	**6.89 242**			**Pn**	**08 44 01.9 +1.1**
ASAJ	**Asahikawa**	**7.02 8**	Pn		**Pn**	**08 44 01.8 -0.7**
	comp=N,25nm,0.3s,baz=217,slow=11,SNR=64					
ASAJ			Sn		**Sn**	**08 45 21.9 -0.1**
	comp=N,44nm,0.3s,baz=152,slow=26,SNR=4.0					
ASAJ			LR		LR	08 46 56.3
	comp=N,9μm,20.4s,baz=256,slow=40					
	comp=N,69nm,0.4s					
JKA	**Kamikawa-asahi**	**7.02 8**	Pn		**Pn**	**08 44 01.3 -1.2**
NMR	**Nemuro--Hokkai**	**7.09 28**	*e*P		**Pn**	**08 44 01.2 -2.3**
NMR			*e*S		**Sn**	**08 45 17.1 -6.7**
RUSJ	**Misakicho**	**7.58 23**	*e*P		**Pn**	**08 44 09.2 -1.0**
RUSJ			*e*S		**Sn**	**08 45 30.8 -4.9**
YUK	**Yuzh-Kuril'sk**	**7.72 26**	*e*P		**Pn**	**08 44 10.9 -1.2**
YUK			*e*S		**Sn**	**08 45 32.9 -6.3**
YUK			pmax		pmax	
	comp=N,778nm,0.5s					
YUK			pmax		pmax	
	comp=Z,874nm,0.5s					
YUK			pmax		pmax	
	comp=E,551nm,0.3s					
YUK			pmax		pmax	
	comp=Z,1μm,0.7s					
YUK			smax		smax	
	comp=E,7μm,1.0s					
YUK			smax		smax	
	comp=N,4μm,1.4s					
YUK			MLR		MLR	
	comp=N,10μm,13.0s					
YUK			MLR		MLR	
	comp=Z,9μm,13.0s					
YUK			MLR		MLR	
	comp=E,6μm,12.0s					
SHO	**Shikotan**	**7.95 31**	*e*P		**Pn**	**08 44 13.1 -2.2**
SHO			*e*S		**Sn**	**08 45 36.7 -8.1**
SHO			pmax		pmax	
	comp=Z,92nm,0.4s					
SHO			pmax		pmax	
	comp=N,49nm,0.5s					
SHO			pmax		pmax	
	comp=E,104nm,0.5s					
SHO			pmax		pmax	
	comp=Z,300nm,1.1s					
SHO			smax		smax	
	comp=N,1μm,0.9s					
SHO			smax		smax	
	comp=E,1μm,1.1s					
SHO			MLR		MLR	
	comp=N,5μm,14.0s					
SHO			MLR		MLR	
	comp=Z,17μm,14.0s					
SHO			MLR		MLR	
	comp=E,2μm,9.0s					
TEY	**Ternei**	**8.59 338**	*e*P		**Pn**	**08 44 26.9 +2.9**
TEY			pmax		pmax	
	comp=N,170nm,1.2s					
TEY			pmax		pmax	
	comp=Z,170nm,1.2s					
TEY			pmax		pmax	
	comp=Z,800nm,3.8s					
TEY			pmax		pmax	
	comp=E,600nm,3.6s					
TEY			pmax		pmax	
	comp=N,1μm,3.5s					
TEY			MLR		MLR	
	comp=E,300nm,13.0s					
TEY			MLR		MLR	
	comp=N,400nm,14.0s					
TEY			MLR		MLR	
	comp=Z,400nm,11.0s					
VLA	**Vladivostok**	**9.28 313**	*i* P		**Pn**	**08 44 37.5 +4.0**
JNU	**Nakatsue**	**9.37 248**	P		**Pn**	**08 44 37.8 +3.0**
JNU	**Nakatsue**	**9.37 248**	Pn		**Pn**	**08 44 37.1 +2.3**
JNU	**Nakatsue**	**9.37 248**	Pn		**Pn**	**08 44 35.4 +0.5**
	comp=Z,1.3nm,0.3s,baz=48,slow=4.7,SNR=8.1					
	comp=Z,15nm,0.8s					
MSHR	**Mys Shultsa**	**9.42 308**	*i* P		**Pn**	**08 44 35.3 -0.2**
MSHR			pmax		pmax	
	comp=Z,15nm,0.6s					
KUR	**Kuril'sk**	**9.49 30**	*e*P		**Pn**	**08 44 34.6 -1.8**
KUR			*i* S		**Sn**	**08 46 16.1 -6.6**
KUR			pmax		pmax	
	comp=E,184nm,0.5s					
KUR			pmax		pmax	
	comp=Z,253nm,0.5s					
KUR			pmax		pmax	
	comp=N,84nm,0.4s					
KUR			smax		smax	
	comp=E,646nm,0.7s					
KUR			smax		smax	
	comp=N,354nm,0.5s					
KUR			smax		smax	
	comp=N,6μm,2.6s					
KUR			smax		smax	
	comp=E,3μm,2.1s					
KUR			MLR		MLR	
	comp=Z,7μm,10.0s					
PSTR	**Posyet**	**9.68 308**	*i* P		**Pn**	**08 44 39.1 +0.1**
YSS	**Yuzh-Sakhalins**	**9.85 6**	P		**Pn**	**08 44 40.9 -0.4**
YSS	**Yuzh-Sakhalins**	**9.85 6**	Pn		**Pn**	**08 44 40.1 -1.1**
YSS	**Yuzh-Sakhalins**	**9.85 6**	*be*P		**Pn**	**08 44 40.7 -0.6**
YSS			*e*S		**Sn**	**08 46 28.5 -2.9**
YSS			pmax		pmax	
	comp=Z,2μm,4.9s					
YSS			pmax		pmax	
	comp=N,1μm,2.8s					
YSS			pmax		pmax	
	comp=Z,220nm,0.9s					
YSS			smax		smax	
	comp=N,800nm,2.5s					
YSS			smax		smax	
	comp=E,2μm,3.8s					
YSS			smax		smax	
	comp=E,170nm,1.2s					
YSS			MLR		MLR	
	comp=Z,9μm,13.0s					
YSS			MLR		MLR	
	comp=N,8μm,15.0s					
USA0B	**Ussuriysk Arra**	**9.91 318**	*i* P		**Pn**	**08 44 44.0 +1.9**
USRK	**Ussuriysk Ar.**	**9.91 318**	Pn		Pn	08 44 46.9 +4.8
USRK	**Ussuriysk Ar.**	**9.91 318**	Pn		**Pn**	**08 44 45.9 +3.8**
	comp=N,7.3nm,0.3s,baz=130,slow=12,SNR=110					
USRK			LR		LR	08 48 16.8
	comp=N,11μm,20.6s,baz=127,slow=36					
USRK	**Ussuriysk Ar.**	**9.91 318**	P		Pn	08 44 46.9 +4.8
I45RU	**USSURIYSK INFR**	**9.91 318**	I		I	09 32 50.0
	baz=129,slow=313,SNR=1.4					
JCJ	**Chichijima**	**10.08 175**	P		**Pn**	**08 44 42.2 -2.4**
JCJ	**Chichijima**	**10.08 175**	Pn		**Pn**	**08 44 42.0 -2.6**
JCJ	**Chichijima**	**10.08 175**	Pn		Pn	08 44 37.1 -7.4
	comp=N,66nm,0.3s,baz=27,slow=5.3,SNR=30					
JCJ			Sn		Sn	08 46 23.0 -14
	comp=N,22nm,0.3s,baz=87,slow=23,SNR=2.2					
JCJ			LR		LR	08 48 53.9
	comp=N,13μm,21.4s,baz=350,slow=39					
KSRS	**Korea Array**	**10.58 276**	Pn		**Pn**	**08 44 54.9 +3.5**
	comp=N,0.9nm,0.3s,baz=91,slow=13,SNR=75					
KSRS			Sn		Sn	08 47 01.2 +12
	baz=122,slow=36					
KSRS			LR		LR	08 48 26.8
	comp=N,7μm,20.7s,baz=90,slow=35					
KSAR	**Wonju Array Be**	**10.61 275**	Pn		**Pn**	**08 44 55.3 +3.5**
KSAR	**Wonju Array Be**	**10.61 275**	P		**Pn**	**08 44 55.3 +3.5**
KS19	**Wonju Array Si**	**10.62 276**	Pn		**Pn**	**08 44 55.7 +3.7**
TJN	**Taejon**	**11.13 270**	P		**Pn**	**08 45 01.5 +2.6**
TJN	**Taejon**	**11.13 270**	Pn		**Pn**	**08 45 03.3 +4.4**
TJN	**Taejon**	**11.13 270**	P		**Pn**	**08 45 03.3 +4.4**
MDJ	**Mudanjiang**	**11.50 314**	P		**Pn**	**08 45 07.0 +3.0**
MDJ	**Mudanjiang**	**11.50 314**	P		**Pn**	**08 45 06.5 +2.5**
MDJ			PP		**PnPn**	**08 45 14.3 +2.6**
MDJ			S		**Sn**	**08 47 15.0 +2.9**
MDJ			SS		**SnSn**	**08 47 29.0 +5.0**
MDJ			pmax		pmax	
	comp=N,17nm,1.4s					
MDJ			LR		LR	
	comp=N,8μm,15.1s					
MDJ			LR		LR	
	comp=N,8μm,22.0s					
MDJ			LR		LR	
	comp=N,12μm,24.8s					
MDJ	**Mudanjiang**	**11.50 314**	Pn		**Pn**	**08 45 06.1 +2.1**
INCN	**Inchon**	**11.61 276**	P		**Pn**	**08 45 08.8 +3.4**
INCN	**Inchon**	**11.61 276**			**Pn**	**08 45 10.0 +4.6**
INCN	**Inchon**	**11.61 276**	P		**Pn**	**08 45 10.0 +4.6**
UGL	**Uglegorsk**	**11.92 3**	*e*P		**Pn**	**08 45 06.6 -3.0**
UGL			pmax		pmax	
	comp=Z,29nm,0.7s					
UGL			MLR		MLR	
	comp=E,8μm,14.0s					
UGL			MLR		MLR	
	comp=Z,9μm,14.0s					
UGL			MLR		MLR	
	comp=N,3μm,16.0s					
BNX	**BinXian**	**13.41 314**	⇓P		**Pn**	**08 45 31.0 +0.9**
BNX			sP		**P**	**08 45 38.0 -1.5**
BNX			S		**Sn**	**08 47 58.3 -0.5**
BNX			pmax		pmax	
	comp=N,16nm,1.3s					
BNX			pmax		pmax	
	comp=N,3μm,9.8s					
BNX			LR		LR	
	comp=N,6μm,13.6s					
BNX			LR		LR	
	comp=N,5μm,11.9s					
BNX			LR		LR	
	comp=N,7μm,14.1s					
CN2	**Changchun**	**13.69 304**	*e*P		**Pn**	**08 45 35.3 +1.5**
CN2			*es*P		P	08 45 43.3 +0.8
CN2			*e*S		**Sn**	**08 48 07.0 +1.5**
CN2			pmax		pmax	
	comp=N,20nm,0.8s					
CN2			pmax		pmax	
	comp=N,2μm,4.0s					
CN2			LR		LR	
	comp=N,12μm,12.0s					
CN2			LR		LR	
	comp=N,8μm,12.0s					
CN2			LR		LR	
	comp=N,8μm,13.0s					
TYV	**Tymovskoe**	**13.73 4**	*e*P		**Pn**	**08 45 33.7 -0.6**
TYV			*e*S		**Sn**	**08 48 07.9 +1.5**
TYV			pmax		pmax	
	comp=Z,25nm,0.8s					
TYV			pmax		pmax	
	comp=Z,800nm,3.5s					
TYV			smax		smax	
	comp=N,500nm,6.2s					
TYV			smax		smax	
	comp=E,900nm,6.2s					
TYV			MLR		MLR	
	comp=Z,5μm,16.0s					
KLR	**Kul'dur**	**13.87 333**	Pn		**Pn**	**08 45 36.8 +0.5**
	comp=Z,0.4nm,0.3s,baz=145,slow=11,SNR=8.0					
KLR			Sn		**Sn**	**08 48 10.9 +1.0**
	baz=233,slow=14					
KLR			LR		LR	08 50 52.0
	comp=Z,7μm,19.2s,baz=142,slow=37					
GRNR	**Gornyy**	**14.02 347**	*e*P		**Pn**	**08 45 36.7 -1.6**
SNY	**Shenyang**	**14.38 294**	⇓P		**Pn**	**08 45 44.5 +1.3**
SNY			S		**S**	**08 48 33.5 -8.7**
SNY			pmax		pmax	
	comp=Z,18nm,1.7s					
SNY			pmax		pmax	
	comp=Z,2μm,9.0s					
SNY			LR		LR	
	comp=Z,7μm,11.3s					
SNY			LR		LR	
	comp=Z,13μm,12.8s					
SNY			LR		LR	
	comp=Z,20μm,12.9s					
JOW	**Kunigami**	**15.03 230**	Pn		**Pn**	**08 45 52.6 +0.4**
	comp=Z,0.6nm,0.3s,baz=88,slow=13,SNR=1.9					
	comp=Z,15nm,0.9s					
DL2	**Dalian**	**15.52 282**	P		**Pn**	**08 45 59.8 +1.2**
DL2			S		**Sn**	**08 48 55.0 +4.9**
DL2			pmax		pmax	
	comp=Z,58nm,0.9s					
DL2			pmax		pmax	
	comp=Z,3μm,11.0s					
DL2			LR		LR	
	comp=Z,12μm,14.4s					
DL2			LR		LR	
	comp=Z,6μm,16.7s					
DL2			LR		LR	
	comp=Z,11μm,12.0s					
NKL	**Nikolayevsk**	**15.98 359**	*e*P		**Pn**	**08 46 03.6 -0.9**
NKL			*e*S		**Sn**	**08 48 55.7 -5.5**
NKL			pmax		pmax	
	comp=N,147nm,1.4s					
NKL			pmax		pmax	
	comp=E,186nm,1.4s					
NKL			pmax		pmax	
	comp=Z,221nm,1.6s					
NKL			smax		smax	
	comp=E,363nm,3.1s					
NKL			smax		smax	
	comp=N,396nm,2.4s					
NKL			MLR		MLR	
	comp=E,11μm,11.0s					
NKL			MLR		MLR	
	comp=N,31μm,12.0s					
NKL			MLR		MLR	
	comp=Z,24μm,12.0s					
HEH	**HeiHe**	**16.41 327**	*e*P		**Pn**	**08 46 08.0 -1.9**
HEH			pP		**P**	**08 46 10.5 -2.1**
HEH			S		**Sn**	**08 49 11.5 0.0**
HEH			SS		**SnSn**	**08 49 26.0 +1.4**
HEH			pmax		pmax	
	comp=Z,23nm,1.2s					
HEH			pmax		pmax	
	comp=Z,1μm,3.6s					
HEH			LR		LR	
	comp=Z,5μm,15.4s					
HEH			LR		LR	
	comp=Z,7μm,15.2s					
HEH			LR		LR	
	comp=Z,8μm,17.3s					
OKH	**Okha**	**16.43 4***c*	*i*P		**Pn**	**08 46 07.6 -2.5**
OKH			*i* S		**Sn**	**08 49 05.6 -6.3**
OKH			smax		smax	
	comp=N,400nm,8.4s					
OKH			MLR		MLR	
	comp=N,4μm,16.0s					
OKH			MLR		MLR	
	comp=Z,6μm,14.0s					
OKH			MLR		MLR	
	comp=E,14μm,13.0s					
SKR	**Severo-Kuril's**	**17.21 34**	*e*P		**Pn**	**08 46 18.2 -1.9**
SKR			pmax		pmax	
	comp=Z,1μm,3.2s					
SKR			MLR		MLR	
	comp=Z,4μm,15.0s					
SSE	**Sheshan**	**17.63 256**	P		**Pn**	**08 46 23.3 -2.1**
SSE			S		**Sn**	**08 49 39.5 -1.9**
SSE			pmax		pmax	
	comp=Z,14nm,0.7s					
SSE			pmax		pmax	
	comp=Z,660nm,10.6s					
SSE			LR		LR	
	comp=Z,2μm,11.7s					
SSE			LR		LR	
	comp=Z,3μm,11.4s					
NJ2	**Nanjing**	**19.07 261**	*e*P		**Pn**	**08 46 43.8 +0.8**
NJ2			pP		**sP**	**08 46 47.5 -1.3**
NJ2			sP		**pP**	**08 46 51.3 +4.5**
NJ2			S		**S**	**08 50 20.0 +1.9**
NJ2			pmax		pmax	
	comp=Z,7.0nm,0.6s					
NJ2			pmax		pmax	
	comp=Z,990nm,7.3s					
NJ2			LR		LR	
	comp=Z,7μm,14.5s					
NJ2			LR		LR	
	comp=Z,3μm,15.3s					
NJ2			LR		LR	
	comp=Z,6μm,15.9s					
ZEA	**Zeya**	**19.18 334**	*e*P		**P**	**08 46 39.5 -3.7**
ZEA			*e*S		**Sn**	**08 50 14.8 -3.9**
ZEA			pmax		pmax	
	comp=E,30nm,0.9s					
ZEA			pmax		pmax	
	comp=N,50nm,0.8s					
ZEA			pmax		pmax	
	comp=Z,80nm,0.7s					
ZEA			pmax		pmax	
	comp=E,400nm,6.5s					
ZEA			pmax		pmax	
	comp=N,600nm,5.7s					
ZEA			pmax		pmax	
	comp=Z,900nm,5.2s					
ZEA			smax		smax	
	comp=N,1μm,8.5s					
ZEA			MLR		MLR	
	comp=E,2μm,12.0s					
ZEA			MLR		MLR	
	comp=N,3μm,14.0s					
ZEA			MLR		MLR	
	comp=Z,2μm,13.0s					
TIA	**Tai'an**	**19.32 274**	P		**P**	**08 46 43.8 -1.1**
TIA			PP		**PnPn**	**08 47 08.5 +9.5**
TIA			S		**Sn**	**08 50 20.5 -1.9**
TIA			pmax		pmax	
	comp=Z,17nm,1.0s					
TIA			pmax		pmax	
	comp=Z,320nm,3.9s					
TIA			LR		LR	
	comp=Z,10μm,12.9s					
TIA			LR		LR	
	comp=Z,3μm,13.7s					
TIA			LR		LR	
	comp=Z,2μm,12.2s					
HIA	**Hailar**	**19.69 315**	P		**Pn**	**08 46 52.1 +1.8**
BJI	**Beijing**	**19.75 286**	P		**P**	**08 46 47.8 -1.7**
BJI			S		**S**	**08 50 31.3 -0.2**
BJI			pmax		pmax	
	comp=Z,13nm,1.5s					
BJI			pmax		pmax	
	comp=Z,500nm,7.6s					
BJI			LR		LR	
	comp=Z,1μm,16.0s					
BJI			LR		LR	
	comp=Z,2μm,12.5s					
BJI			LR		LR	
	comp=Z,3μm,12.3s					
BJT	**Baijiatuau**	**19.75 286**	P		**P**	**08 46 49.9 +0.3**
BJT	**Baijiatuau**	**19.75 286**	P		**P**	**08 46 47.2 -2.4**
BJT	**Baijiatuau**	**19.75 286**	P		**P**	**08 46 47.2 -2.4**
BJT			pmax		pmax	
	comp=Z,29nm,0.8s					
PET	**Petropavlovsk**	**19.99 32**	P		**Pn**	**08 46 53.2 -0.6**
PET	**Petropavlovsk**	**19.99 32**	P		**P**	**08 46 52.9 +0.8**
PET			IAmb		IAmb	08 46 58.6
	comp=Z,488nm,1.4s					
PET	**Petropavlovsk**	**19.99 32**κ	*i*P		**P**	**08 46 52.7 +0.7**
PET			*e*S		S	08 50 25.5 -11
PET			pmax		pmax	
	comp=Z,2μm,4.9s					
PET			pmax		pmax	
	comp=Z,1μm,10.1s					
PET			pmax		pmax	
	comp=Z,282nm,1.4s					
PET			MLR		MLR	
	comp=Z,3μm,14.0s					
PET			MLR		MLR	
	comp=Z,4μm,15.0s					
PET	**Petropavlovsk**	**19.99 32**	P		**P**	**08 46 51.6 -0.4**
	comp=Z,278nm,1.4s,comp=Z,3μm					
XLT	**XiLinHaoTe**	**20.20 297**	*e*P		**P**	**08 46 52.5 -2.0**
XLT			S		**S**	**08 50 32.5 -8.1**
XLT			pmax		pmax	
	comp=Z,84nm,1.0s					
XLT			LR		LR	
	comp=Z,1μm,11.6s					
XLT			LR		LR	
	comp=Z,5μm,16.5s					
XLT			LR		LR	
	comp=Z,8μm,15.3s					
HNS	**HongShan**	**21.06 279**	⇓P		**P**	**08 47 00.0 -3.8**
HNS			pP		**pP**	**08 47 06.8 -1.6**
HNS			PP		**PnPn**	**08 47 22.0 -0.8**
HNS			S		**S**	**08 50 50.8 -6.9**
HNS			pmax		pmax	
	comp=Z,71nm,1.1s					
HNS			pmax		pmax	
	comp=Z,450nm,4.1s					
HNS			LR		LR	
	comp=Z,1μm,13.1s					
HNS			LR		LR	
	comp=Z,10μm,12.4s					
HNS			LR		LR	
	comp=Z,12μm,12.8s					
SSLB	**Suanglung**	**21.90 238**	IAMs_20		IAMs_20	08 57 05.4
	comp=Z,3μm,19.0s					
YULB	**Yu-li**	**21.94 237**	P		**P**	**08 47 16.0 +2.7**
TPUB	**Ta-pu**	**22.45 238**	P		**P**	**08 47 21.0 +2.2**
TWGBT	**Beinan**	**22.48 236**	P		**P**	**08 47 21.4 +2.3**
TIY	**Taiyuan**	**22.81 280**	⇑P		**P**	**08 47 20.5 -2.2**
TIY			PP		**PnPn**	**08 47 53.8 +6.9**
TIY			S		**S**	**08 51 29.0 -2.3**
TIY			SS		**SnSn**	**08 52 06.8 +4.8**
TIY			pmax		pmax	
	comp=Z,340nm,4.5s					
TIY			LR		LR	
	comp=Z,2μm,12.8s					
TIY			LR		LR	
	comp=Z,9μm,13.7s					
TIY			LR		LR	
	comp=Z,11μm,12.2s					
QZH	**Quanzhou**	**22.82 244**	P		**P**	**08 47 22.5 -0.2**
QZH			S		**S**	**08 51 32.0 +0.7**
QZH			pmax		pmax	
	comp=Z,490nm,8.7s					
QZH			LR		LR	
	comp=Z,4μm,17.2s					
QZH			LR		LR	

comp=Z,5μm,17.2s
QZH LR LR
comp=Z,3μm,12.4s
WHN Wuhan 23.21 261 P **P** **08 47 26.5 -0.2**
WHN S **S** **08 51 28.5 -9.5**
WHN pmax pmax
comp=Z,63nm,1.0s
WHN pmax pmax
comp=Z,2μm,7.3s
WHN LR LR
comp=Z,9μm,9.6s
WHN LR LR
comp=Z,15μm,11.9s
WHN LR LR
comp=Z,20μm,12.7s
MA2 Magadan 23.26 12 P **P** **08 47 26.9 0.0**
MA2 Magadan 23.26 12 LR LR 08 56 20.4
comp=Z,2μm,20.9s,baz=202,slow=36
MA2 Magadan 23.26 12 *de*P **P** **08 47 26.3 -0.6**
MA2 pmax pmax
comp=Z,136nm,1.0s
MA2 Magadan 23.26 12 P **P** **08 47 25.7 -1.2**
comp=Z,215nm,0.9s,comp=Z,3μm
HHC Hu-ho-hao-te 23.27 288 *e*P **P** **08 47 21.8 -5.5**
HHC PP **PnPn** **08 47 55.3 +2.2**
HHC S **S** **08 51 28.8 -10**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,300nm,7.9s
HHC LR LR
comp=Z,5μm,11.3s
HHC LR LR
comp=Z,4μm,11.3s
HHC LR LR
comp=Z,3μm,11.8s
LYN LuoYang 23.40 272 P **P** **08 47 27.8 -0.7**
LYN sP sP 08 47 34.8 -0.5
LYN PP **PnPn** **08 47 57.8 +3.0**
LYN S **S** **08 51 39.0 -2.0**
LYN SS **SnSn** **08 52 26.0 +10**
LYN pmax pmax
comp=Z,27nm,1.0s
LYN pmax pmax
comp=Z,870nm,10.0s
LYN LR LR
comp=Z,6μm,12.7s
LYN LR LR
comp=Z,9μm,12.7s
LYN LR LR
comp=Z,14μm,13.7s
GUMO Guam 23.71 171 P **P** **08 47 32.1 +0.4**
GUMO Guam 23.71 171 P **P** **08 47 31.9 +0.2**
GUMO Guam 23.71 171 P **P** **08 47 31.9 +0.2**
GUMO pmax pmax
comp=Z,584nm,1.6s
BTO Baotou 24.45 288 *e*P **P** **08 47 37.0 -1.6**
BTO pP **pP** **08 47 42.8 -0.7**
BTO sP **sP** **08 47 45.5 0.0**
BTO PP **PnPn** **08 48 12.8 +3.6**
BTO S **S** **08 51 54.3 -3.7**
BTO sS **pS** **08 52 03.8 +0.6**
BTO SS **SnSn** **08 52 50.0 +8.0**
BTO pmax pmax
comp=Z,23nm,0.8s
BTO pmax pmax
comp=Z,940nm,7.7s
BTO LR LR
comp=Z,10μm,11.6s
BTO LR LR
comp=Z,6μm,12.0s
BTO LR LR
comp=Z,7μm,13.2s
CIT Chita 24.46 316 *e*P **P** **08 47 37.4 -1.2**
CIT *e* 08 48 17.0
CIT *e* 08 48 25.8
CIT *e* 08 51 51.6
CNSH ChangSha 25.35 258 P **P** **08 47 46.0 -0.7**
CNSH S **S** **08 52 11.8 -0.7**
CNSH pmax pmax
comp=Z,28nm,1.5s
CNSH LR LR
comp=Z,5μm,14.5s
CNSH LR LR
comp=Z,2μm,14.1s
CNSH LR LR
comp=Z,4μm,14.6s
YAK Yakutsk 25.90 348 P **P** **08 47 50.6 -0.8**
YAK IAmb IAmb 08 47 58.8
comp=Z,222nm,1.1s
YAK Yakutsk 25.90 348 LR LR 08 58 11.7
comp=Z,5μm,19.9s,baz=138,slow=37
YAK Yakutsk 25.90 348 *d i*P **P** **08 47 50.3 -1.1**
YAK *e**PP **sP** **08 48 02.3 +4.0**
YAK *e* 08 48 26.8
YAK *e* 08 51 17.8
YAK *e*S **S** **08 52 19.5 -1.0**
YAK *e*SS **SnSn** **08 53 18.1 +1.1**
YAK *e* 08 58 39.3
YAK pmax pmax
comp=Z,192nm,1.0s
YAK pmax pmax
comp=E,40nm,1.1s
YAK pmax pmax
comp=N,92nm,1.0s
YAK pmax pmax
comp=Z,132nm,1.0s
YAK smax smax
comp=E,429nm,2.1s
YAK smax smax
comp=N,351nm,2.0s
YAK MLR MLR
comp=Z,5μm,17.0s
YAK MLR MLR
comp=N,2μm,16.0s
YAK MLR MLR
comp=E,2μm,16.0s
XAN Xi'an 26.36 273 P **P** **08 47 54.0 -1.9**
XAN pP pP 08 47 59.3 -1.5
XAN S **S** **08 52 26.0 -2.5**
XAN sS sS 08 52 36.0 -0.8
XAN SS **SnSn** **08 53 36.8 +7.9**
XAN pmax pmax
comp=E,24nm,1.3s
XAN pmax pmax
comp=E,980nm,7.2s
XAN LR LR
comp=E,12μm,15.8s
XAN LR LR
comp=E,6μm,16.1s
XAN LR LR
comp=E,8μm,13.6s
SEY Seymchan 26.69 11 LR LR 08 58 30.8
comp=E,3μm,21.3s,baz=196,slow=36
SEY Seymchan 26.69 11 *ce*P **P** **08 47 58.0 -0.5**
SEY pmax pmax
comp=Z,168nm,1.3s
ULN Ulaanbaatar 27.14 304 P **P** **08 48 02.0 -0.9**
ULN Ulaanbaatar 27.14 304 P **P** **08 48 02.0 -0.9**
ULN pmax pmax
comp=Z,30nm,0.7s
ULN MLR MLR
comp=Z,2μm,18.0s
ENH Enshi 27.17 265 P **P** **08 48 05.2 +1.9**
ENH Enshi 27.17 265 P **P** **08 48 02.7 -0.6**
SONM Songino Array 27.57 304 P **P** **08 48 04.6 -2.1**
SONM Songino Array 27.57 304 P **P** **08 48 05.8 -1.0**
comp=Z,16nm,0.7s,baz=106,slow=8.7,SNR=62
SONM PcP **PcP** **08 51 24.7 +0.4**
comp=Z,2.8nm,0.6s,baz=110,slow=1.9,SNR=2.4
SONM LR LR 08 59 13.9
comp=Z,2μm,18.3s,baz=95,slow=37
comp=Z,16nm,0.7s
SONM Songino Array 27.57 304 P **P** **08 48 04.6 -2.1**
SONM pmax pmax
comp=Z,37nm,0.7s
SHEM Shemya Is, Ala 27.70 45 LR LR 08 59 12.5
comp=Z,571nm,18.8s,baz=266,slow=37
H11N2 WAKE ISLAND Hy 28.36 121 T T 09 17 49.0
baz=314,slow=75,SNR=7999
H11N1 WAKE ISLAND Hy 28.37 121 T T 09 17 49.6
baz=314,slow=75
H11N3 WAKE ISLAND Hy 28.38 121 T T 09 17 50.3
baz=314,slow=75,SNR=6164
WAKE Wake Island 28.50 122 IAMs_20 IAMs_20 08 58 28.8
comp=Z,3μm,20.0s

GULI GuiLin 28.77 255 ⇓P **P** **08 48 17.5 -0.1**
GULI S **S** **08 53 06.0 -0.5**
GULI pmax pmax
comp=Z,30nm,1.2s
GULI LR LR
comp=Z,4μm,13.6s
GULI LR LR
comp=Z,4μm,15.7s
GULI LR LR
comp=Z,5μm,14.1s
H11S1 WAKE ISLAND Hy 29.08 123 T T 09 18 43.0
baz=318
H11S3 WAKE ISLAND Hy 29.08 123 T T 09 19 32.1
baz=318,slow=74
H11S2 WAKE ISLAND Hy 29.09 123 T T 09 19 40.1
baz=318,slow=74
LZH Lanzhou 29.88 279 *e*P **P** **08 48 26.5 -0.9**
LZH sP pP 08 48 32.8 +0.4
LZH PP **PnPn** **08 49 24.5 +1.1**
LZH S **S** **08 53 21.0 -3.0**
LZH SS **SnSn** **08 54 56.5 +1.7**
LZH pmax pmax
comp=Z,200nm,5.8s
LZH LR LR
comp=Z,5μm,13.4s
LZH LR LR
comp=Z,7μm,13.7s
LZH LR LR
comp=Z,8μm,13.7s
IRK Irkutsk 29.88 312 *e*P **P** **08 48 25.8 -1.3**
IRK pmax pmax
comp=Z,62nm,0.4s
ZAK Zakamensk 30.05 308 *e*P **P** **08 48 28.0 -0.8**
ZAK pmax pmax
comp=Z,22nm,1.7s
AMKA Amchitka 30.38 50 P **P** **08 48 30.4 -1.1**
GYA Guiyang 31.07 260 ⇑P **P** **08 48 36.8 -1.3**
GYA S **S** **08 53 38.0 -4.9**
GYA pmax pmax
comp=Z,25nm,1.2s
GYA pmax pmax
comp=Z,380nm,8.5s
GYA LR LR
comp=Z,3μm,16.5s
GYA LR LR
comp=Z,2μm,16.2s
GYA LR LR
comp=Z,2μm,18.6s
CD2 Chengdu 31.50 270 P **P** **08 48 40.3 -1.4**
CD2 pP pP 08 48 46.8 +0.2
CD2 PP **PP** **08 49 50.3 -2.5**
CD2 S **S** **08 53 46.3 -3.0**
CD2 sS sS 08 53 59.8 +2.1
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,350nm,8.5s
CD2 LR LR
comp=Z,3μm,9.9s
CD2 LR LR
comp=Z,3μm,12.9s
CD2 LR LR
comp=Z,3μm,10.0s
MOY Mondy 31.72 310 *e*P **P** **08 48 43.3 -0.2**
MOY pmax pmax
comp=Z,14nm,1.3s
GTA Gaotai 32.36 287 *e*P **P** **08 48 48.8 -0.5**
GTA pP pP 08 48 54.5 +0.3
GTA PcP **PcP** **08 51 37.8 +1.0**
GTA S **S** **08 54 04.5 +1.7**
GTA sS sS 08 54 15.5 +4.6
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,320nm,8.4s
GTA LR LR
comp=Z,4μm,15.1s
GTA LR LR
comp=Z,3μm,17.1s
GTA LR LR
comp=Z,3μm,13.9s
KIWB Kanaga Island 32.64 50 P **P** **08 48 51.4 0.0**
QIZ Qiongzhong 32.83 245 P **P** **08 48 53.8 +0.4**
QIZ PP **PP** **08 50 07.8 +0.2**
QIZ S **S** **08 54 11.8 +1.7**
QIZ pmax pmax
comp=Z,400nm,7.1s
QIZ LR LR
comp=Z,3μm,17.6s
QIZ LR LR
comp=Z,3μm,18.0s
QIZ LR LR
comp=Z,3μm,12.4s
QIZ Qiongzhong 32.83 245 IAMs_20 IAMs_20 09 03 01.8
comp=Z,2μm,18.0s
ADK Adak 32.93 50 P **P** **08 48 53.5 -0.4**
ADK IAmb IAmb 08 49 00.5
comp=Z,184nm,1.5s
ADK Adak 32.93 50 P **P** **08 48 53.5 -0.4**
ADK pmax pmax
comp=Z,184nm,1.5s
ADK MLR MLR
comp=Z,1μm,20.0s
DAV Davao City (W) 33.17 209 IAMs_20 IAMs_20 09 01 14.1
comp=Z,2μm,20.0s
DAV Davao City (W) 33.17 209 LR LR 09 01 25.7
comp=Z,1μm,21.0s,baz=42,slow=35
BILL Bilibino 33.95 17 P **P** **08 49 02.3 -0.3**
BILL Bilibino 33.95 17 ⇓*e*P **P** **08 49 01.0 -1.6**
BILL *e* 08 50 19.6
BILL *i* S **S** **08 54 27.0 +0.5**
BILL pmax pmax
comp=Z,63nm,1.7s
BILL MLR MLR
comp=Z,1μm,18.0s
KMI Kunming 34.81 261 ⇓P **P** **08 49 09.8 -1.1**
KMI PP **PP** **08 50 29.5 -0.3**
KMI S **S** **08 54 35.5 -5.7**
KMI SS **SnSn** **08 56 56.5 +1.4**
KMI pmax pmax
comp=Z,26nm,1.3s
KMI pmax pmax
comp=Z,380nm,9.5s
KMI LR LR
comp=Z,2μm,12.6s
KMI LR LR
comp=Z,4μm,12.4s
KMI LR LR
comp=Z,4μm,12.3s
PZH PanZhiHua 34.95 264 P **P** **08 49 09.0 -2.9**
PZH PP **PP** **08 50 32.0 +0.9**
PZH S **S** **08 54 49.3 +6.3**
PZH SS **SnSn** **08 56 55.5 -2.6**
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,420nm,8.3s
PZH LR LR
comp=Z,5μm,14.7s
PZH LR LR
comp=Z,3μm,15.7s
PZH LR LR
comp=Z,3μm,13.7s
TIXI Tiksi 35.14 353 P **P** **08 49 12.4 -0.4**
TIXI Tiksi 35.14 353 IAMs_20 IAMs_20 09 03 11.7
comp=Z,3μm,22.0s
TIXI Tiksi 35.14 353 LR LR 09 04 17.2
comp=Z,3μm,19.6s,baz=171,slow=38
TIXI Tiksi 35.14 353 *i* P **P** **08 49 12.3 -0.5**
TIXI pmax pmax
comp=Z,12nm,0.7s
SLVN Son La 35.90 254 P **P** **08 49 19.9 -0.1**
SLVN IAMs_20 IAMs_20 09 04 39.3
comp=Z,2μm,19.0s
GOMU GeErMu 36.92 283 P **P** **08 49 29.3 +0.3**
GOMU pP sP 08 49 35.5 -0.5
GOMU sP pP 08 49 39.5 +5.5
GOMU PP **PP** **08 50 55.8 +2.7**
GOMU S **S** **08 55 06.5 -7.1**
GOMU pmax pmax
comp=Z,22nm,0.8s
GOMU LR LR
comp=Z,5μm,13.7s
GOMU LR LR
comp=Z,5μm,13.1s
GOMU LR LR

comp=Z,6μm,13.2s
SPIA Saint Paul Isl 37.58 42 P **P** **08 49 33.9 0.0**
baz=259
NIKH Nikolski High 37.82 49 P **P** **08 49 35.8 -0.2**
baz=266
P08K Saint George I 37.85 43 P **P** **08 49 36.2 0.0**
baz=261
MYLDM Lahad Datu 38.01 219 P **P** **08 49 39.2 +1.3**
MYLDM IAmb IAmb 08 50 31.4
comp=Z,88nm,1.1s
MYLDM IAMs_20 IAMs_20 09 03 25.9
comp=Z,2μm,19.0s
TNCH TengChong 38.20 264 ⇓P **P** **08 49 39.5 -0.2**
TNCH pP pP 08 49 42.5 -2.2
TNCH PP **PnPn** **08 51 09.3 +0.7**
TNCH S **S** **08 55 32.5 -0.4**
TNCH pmax pmax
comp=Z,75nm,0.9s
TNCH pmax pmax
comp=Z,460nm,4.2s
TNCH LR LR
comp=Z,3μm,15.8s
TNCH LR LR
comp=Z,2μm,14.8s
TNCH LR LR
comp=Z,2μm,16.1s
NONG Nongkai 38.39 251 P **P** **08 49 41.4 +0.3**
TNTI Ternate 38.41 203 P **P** **08 49 40.7 -0.5**
TNTI IAmb IAmb 08 49 59.9
comp=Z,461nm,2.0s
TNTI IAMs_20 IAMs_20 09 03 46.9
comp=Z,1μm,21.0s
TNTI Ternate 38.41 203 P **P** **08 49 41.0 -0.2**
comp=Z,84nm,1.6s,comp=Z,2μmcomp=Z,1μm
UBPT Khong Chiam 38.43 245 P **P** **08 49 41.9 +0.4**
UBPT Khong Chiam 38.43 245 P **P** **08 49 41.5 0.0**
DLV T Lat 38.61 238 P **P** **08 49 43.9 +0.7**
DLV T Lat 38.61 238 P **P** **08 49 43.0 -0.2**
GAMB Gambell 38.69 31 P **P** **08 49 44.2 +1.1**
baz=250
GAMB S **S** **08 55 41.8 +2.9**
baz=250
SWI Sorong 38.95 196 P **P** **08 49 45.8 0.0**
comp=Z,88nm,1.0s,comp=Z,1μm
UNV Unalaska Valle 39.28 48 P **P** **08 49 48.0 -0.2**
baz=267
UNV S **S** **08 55 50.9 +2.9**
baz=267
JAY Jayapura 39.48 181 P **P** **08 49 49.7 -0.6**
comp=Z,51nm,1.1s,comp=Z,1μm
GENI Genyem 39.57 182 P **P** **08 49 52.0 +1.0**
GENI Genyem 39.57 182 P **P** **08 49 51.2 +0.2**
comp=Z,120nm,0.9s,comp=Z,5μmcomp=Z,2μm
KMSI Cibinong 39.74 208 P **P** **08 49 53.4 +1.0**
GTOI Gorontalo 40.05 209 P **P** **08 49 53.9 -1.1**
comp=Z,70nm,1.1s,comp=Z,1μm
M11K Mekoryuk 40.26 38 P **P** **08 49 56.1 -0.1**
baz=259
PHRA Phrae 40.35 254 P **P** **08 49 57.7 +0.2**
PHRA IAmb IAmb 08 50 18.8
comp=Z,324nm,1.3s
TOLI2 Tolitoli 40.53 212 P **P** **08 49 58.6 -0.4**
TOLI2 Tolitoli 40.53 212 P **P** **08 49 58.0 -0.9**
MRSI Marisa 40.62 210 P **P** **08 49 59.9 +0.2**
comp=Z,134nm,1.8s,comp=Z,3μm
WMQ Urumqi 40.63 297 ⇑P **P** **08 50 01.3 +1.7**
WMQ pP sP 08 50 05.3 -1.3
WMQ sP pP 08 50 06.8 +2.2
WMQ S **S** **08 56 07.5 -1.2**
WMQ pmax pmax
comp=Z,55nm,0.9s
WMQ pmax pmax
comp=Z,690nm,3.9s
WMQ LR LR
comp=Z,10μm,12.7s
WMQ LR LR
comp=Z,2μm,17.5s
WMQ LR LR
comp=Z,3μm,18.5s
FAKI Fak Fak 40.74 194 IAMs_20 IAMs_20 09 03 49.6
comp=Z,2μm,20.0s
FAKI Fak Fak 40.74 194 P **P** **08 50 00.5 -0.2**
comp=Z,84nm,0.8s,comp=Z,2μmcomp=Z,1μm
TNA Tin City 40.82 30 P **P** **08 50 02.4 +1.6**
baz=252,SNR=11
TNA S **S** **08 56 15.3 +4.5**
baz=252
FALS False Pass 41.13 46 P **P** **08 50 04.5 +1.0**
baz=268
CHTO Chiang Mai 41.16 255 IAMs_20 IAMs_20 09 08 15.5
comp=Z,2μm,19.0s
CMAR Chiang Mai Arr 41.37 255 P **P** **08 50 05.3 -0.6**
comp=Z,2.3nm,0.8s,baz=44,slow=5.1,SNR=9.0
CMAR PcP **PcP** **08 52 04.8 +0.7**
comp=Z,3.2nm,0.6s,baz=35,slow=1.9,SNR=6.3
CMAR LR LR 09 08 08.2
comp=Z,1μm,18.3s,baz=55,slow=38
comp=Z,2.3nm,0.8s
F14K Arctic Creek 41.43 30 P **P** **08 50 07.3 +1.4**
baz=253,SNR=9.8
F14K S **S** **08 56 22.7 +2.7**
baz=253
SANI Sanana 41.50 203 P **P** **08 50 09.0 +2.1**
SANI Sanana 41.50 203 P **P** **08 50 06.1 -0.8**
comp=Z,141nm,1.3s,comp=Z,3μm
ANM Nome 41.57 32 P **P** **08 50 08.3 +1.3**
baz=255
ANM S **S** **08 56 25.7 +3.6**
baz=255
MPSI Mapaga 41.60 213 P **P** **08 50 07.9 +0.1**
comp=Z,55nm,2.4s,comp=Z,2μm
M13K Dall Lake 41.66 38 P **P** **08 50 08.2 +0.4**
M13K IAmb IAmb 08 50 11.4
comp=Z,266nm,1.6s
M13K Dall Lake 41.66 38 P **P** **08 50 09.1 +1.3**
baz=262
LUWI Luwuk 41.68 208 P **P** **08 50 06.9 -1.6**
LUWI IAmb IAmb 08 50 49.5
comp=Z,118nm,1.1s
ZAA0 Zalesovo Array 41.70 312 P **P** **08 50 07.8 -0.4**
ZALV Zalesovo Beam 41.70 312 P **P** **08 50 08.0 -0.2**
ZALV Zalesovo Beam 41.70 312 P **P** **08 50 07.5 -0.6**
comp=Z,53nm,0.7s,baz=92,slow=7.0,SNR=138
ZALV PcP **PcP** **08 52 04.6 0.0**
comp=Z,9.0nm,0.7s,baz=98,slow=2.1,SNR=2.2
ZALV LR LR 09 08 16.1
comp=Z,3μm,18.3s,baz=79,slow=37
comp=Z,53nm,0.7s
MSAI Masohi 41.90 199 P **P** **08 50 12.0 +1.8**
comp=Z,93nm,1.0s,comp=Z,3μm
S12K Black Hills 41.93 45 P **P** **08 50 09.6 -0.5**
baz=268
J14K Nanvaranak Lak 41.95 34 P **P** **08 50 10.9 +0.7**
J14K IAMs_20 IAMs_20 09 10 11.1
comp=Z,1μm,18.0s
J14K Nanvaranak Lak 41.95 34 P **P** **08 50 11.2 +1.1**
baz=259,SNR=7.4
J14K S **S** **08 56 27.9 +0.2**
baz=259
LSA Lhasa 42.03 275 P **P** **08 50 12.0 +0.2**
LSA LR LR
comp=Z,1μm,15.1s
LSA LR LR
comp=Z,1μm,17.6s
LSA LR LR
comp=Z,2μm,16.5s
LSA Lhasa 42.03 275 IAMs_20 IAMs_20 09 08 53.8
comp=Z,2μm,18.0s
ZSN Zaisan 42.07 303 *e*P **P** **08 50 11.1 -0.3**
comp=Z,33nm,0.6s,baz=302
ZSN *e*S **S** **08 56 30.9 +0.9**
baz=302
ZSN Zaisan 42.07 303 *e*P **P** **08 50 11.0 -0.3**
ZSN *e*S **S** **08 56 30.8 +0.9**
ZSN pmax pmax
comp=Z,33nm,0.6s
NAYO Nakonayok 42.10 248 P **P** **08 50 12.3 +0.4**
L14K Kuka Creek 42.12 37 P **P** **08 50 13.3 +1.8**
L14K Kuka Creek 42.12 37 P **P** **08 50 13.2 +1.6**
baz=262,SNR=7.7
F15K North Star Dit 42.16 30 P **P** **08 50 13.2 +1.3**
F15K IAmb IAmb 08 50 20.4
comp=Z,285nm,1.6s
F15K IAMs_20 IAMs_20 09 09 43.5
comp=Z,1μm,19.0s
F15K North Star Dit 42.16 30 P **P** **08 50 13.8 +2.0**
baz=255,SNR=17

F15K				S	S	08 56 34.3	+3.4
	baz=255						
TABU	**Tabubil**	**42.22**	**180**	P	P	08 50 14.3	+1.4
G15K	**Niukluk**	**42.23**	**31**	P	P	08 50 14.3	+1.9
	baz=256,SNR=10						
G15K				S	S	08 56 34.3	+2.5
	baz=256						
M14K	**Bethel**	**42.39**	**38**	P	P	08 50 14.5	+0.8
M14K				IAmb	IAmb	08 50 16.8	
	comp=Z,171nm,1.4s						
M14K	**Bethel**	**42.39**	**38**	P	P	08 50 15.2	+1.5
	baz=263,SNR=11						
N14K	**Kuskokwak Cree**	**42.42**	**39**	P	P	08 50 15.0	+0.9
	baz=264						
O14K	**Tigyukauivet M**	**42.57**	**40**	P	P	08 50 15.7	+0.5
	baz=265						
C16K	**Lisburne Hills**	**42.66**	**26**	P	P	08 50 16.7	+0.9
C16K	**Lisburne Hills**	**42.66**	**26**	P	P	08 50 16.8	+0.9
	baz=251,SNR=28						
C16K				S	S	08 56 37.8	-0.2
	baz=251						
L15K	**Ungalak Mounta**	**42.73**	**36**	P	P	08 50 18.0	+1.5
	baz=262						
K15K	**Wolf Creek Mou**	**42.80**	**35**	P	P	08 50 18.6	+1.5
K15K	**Wolf Creek Mou**	**42.80**	**35**	P	P	08 50 18.7	+1.6
	baz=262,SNR=5.3						
SDPT	**Sand Point**	**42.83**	**46**	P	P	08 50 16.5	-0.8
	baz=270						
H16K	**Elim**	**42.90**	**32**	P	P	08 50 18.9	+1.1
	baz=258,SNR=7.7						
H16K				S	S	08 56 45.8	+4.1
	baz=258						
M15K	**Kasigluk River**	**43.00**	**38**	P	P	08 50 20.3	+1.6
	baz=264,SNR=11						
G16K	**Koyuk River**	**43.01**	**31**	P	P	08 50 19.9	+1.1
G16K				IAMs_20	IAMs_20	09 09 55.0	
	comp=Z,1μm,18.0s						
G16K	**Koyuk River**	**43.01**	**31**	P	P	08 50 19.7	+1.0
	baz=258						
G16K				S	S	08 56 46.3	+3.0
	baz=258						
N15K	**Kwethluk River**	**43.24**	**39**	P	P	08 50 21.7	+1.0
N15K				IAmb	IAmb	08 50 23.6	
	comp=Z,128nm,1.4s						
N15K	**Kwethluk River**	**43.24**	**39**	P	P	08 50 22.0	+1.3
	baz=265,SNR=9.5						
D17K	**Noatak River**	**43.30**	**27**	P	P	08 50 22.7	+1.6
	baz=254,SNR=118						
D17K				S	S	08 56 42.0	-5.4
	baz=254						
O15K	**Ungalikthiuk R**	**43.31**	**40**	P	P	08 50 21.4	+0.2
	baz=266,SNR=10						
CHNA	**Chernabura Isl**	**43.34**	**46**	P	P	08 50 21.9	+0.3
	baz=271,SNR=5.2						
CNBA	**Chernabura Isl**	**43.34**	**46**	P	P	08 50 21.2	-0.4
CNBA				IAmb	IAmb	08 50 22.6	
	comp=Z,127nm,1.3s						
S14K	**Fog Glacier**	**43.35**	**44**	P	P	08 50 22.9	+1.2
	baz=270						
J16K	**Anvik River**	**43.37**	**34**	P	P	08 50 23.0	+1.3
J16K	**Anvik River**	**43.37**	**34**	P	P	08 50 23.4	+1.7
	baz=261,SNR=5.8						
J16K				S	S	08 56 52.4	+3.8
	baz=261						
I17K	**Unalakleet**	**43.43**	**33**	P	P	08 50 23.4	+1.3
I17K	**Unalakleet**	**43.43**	**33**	P	P	08 50 23.8	+1.7
	baz=261,SNR=9.3						
I17K				S	S	08 56 51.5	+2.1
	baz=261						
RDOG	**Red Dog Mine**	**43.46**	**27**	P	P	08 50 23.3	+0.9
RDOG				IAmb	IAmb	08 50 25.1	
	comp=Z,327nm,1.6s						
RDOG				IAMs_20	IAMs_20	09 10 51.7	
	comp=Z,1μm,18.0s						
RDOG	**Red Dog Mine**	**43.46**	**27**	P	P	08 50 23.9	+1.5
	baz=254,SNR=15						
RDOG				S	S	08 56 50.3	+0.5
	baz=254						
C17K	**DeLong Mountai**	**43.48**	**26**	P	P	08 50 24.0	+1.4
	baz=253,SNR=59						
C17K				S	S	08 56 51.9	+1.7
	baz=253						
E17K	**Hotham Inlet**	**43.61**	**28**	P	P	08 50 25.2	+1.7
	baz=256,SNR=30						
E17K				S	S	08 56 55.3	+3.2
	baz=256						
SBUM	**Sibu**	**43.64**	**225**	P	P	08 50 24.4	0.0
F17K	**Baldwin Pennin**	**43.69**	**29**	P	P	08 50 25.7	+1.6
F17K				IAmb	IAmb	08 50 32.3	
	comp=Z,341nm,2.0s						
F17K	**Baldwin Pennin**	**43.69**	**29**	P	P	08 50 26.1	+1.9
	baz=258,SNR=16						
F17K				S	S	08 56 54.0	+0.9
	baz=258						
L16K	**Owhat River**	**43.69**	**36**	P	P	08 50 25.3	+1.0
L16K				IAmb	IAmb	08 50 27.0	
	comp=Z,119nm,1.6s						
L16K	**Owhat River**	**43.69**	**36**	P	P	08 50 25.6	+1.4
	baz=264,SNR=9.8						
L16K				S	S	08 56 57.3	+4.0
	baz=264						
G17K	**Kiwalik Mounta**	**43.73**	**31**	P	P	08 50 26.3	+1.8
	baz=259,SNR=28						
G17K				S	S	08 56 54.8	+1.0
	baz=259						
M16K	**Timber Creek**	**43.87**	**37**	P	P	08 50 26.4	+0.6
M16K				IAmb	IAmb	08 50 28.6	
	comp=Z,165nm,1.6s						
M16K	**Timber Creek**	**43.87**	**37**	P	P	08 50 27.4	+1.6
	baz=265,SNR=8.5						
M16K				S	S	08 56 58.3	+2.3
	baz=265						
MK31	**Makanchi Array**	**43.90**	**302**	P	P	08 50 25.9	-0.3
MK31	**Makanchi Array**	**43.90**	**302**	P	P	08 50 25.9	-0.3
MK31				pmax	pmax		
	comp=Z,36nm,0.8s						
MKAR	**Makanchi Array**	**43.90**	**302**	P	P	08 50 25.9	-0.4
	comp=Z,34nm,0.8s,baz=89,slow=9.5,SNR=262						
MKAR				LR	LR	09 08 52.5	
	comp=Z,2μm,18.1s,baz=98,slow=36						
	comp=Z,34nm,0.8s						
N16K	**Nishlik Lake**	**43.92**	**38**	P	P	08 50 28.2	+2.0
	baz=266,SNR=13						
H17K	**Granite Mounta**	**43.94**	**32**	P	P	08 50 27.3	+1.1
H17K				IAmb	IAmb	08 50 35.6	
	comp=Z,118nm,1.6s						
H17K				IAMs_20	IAMs_20	09 10 28.4	
	comp=Z,987nm,19.0s						
H17K	**Granite Mounta**	**43.94**	**32**	P	P	08 50 27.9	+1.7
	baz=260,SNR=28						
H17K				S	S	08 56 59.3	+2.4
	baz=260						
CHGN	**Chignik**	**43.99**	**44**	P	P	08 50 28.5	+1.8
	baz=271						
J17K	**VABM Dome**	**44.07**	**34**	P	P	08 50 28.8	+1.5
J17K				IAmb	IAmb	08 50 35.0	
	comp=Z,153nm,1.4s						
J17K	**VABM Dome**	**44.07**	**34**	P	P	08 50 29.1	+1.8
	baz=263,SNR=30						
J17K				S	S	08 57 01.3	+2.5
	baz=263						
MAKZ	**Makanchi**	**44.11**	**302**	P	P	08 50 26.9	-1.0
MAKZ	**Makanchi**	**44.11**	**302**	P	P	08 50 26.9	-1.0
MAKZ				pmax	pmax		
	comp=Z,38nm,0.8s						
MAKZ				MLR	MLR		
	comp=Z,2μm,18.0s						
E18K	**Tukpahlearik C**	**44.15**	**28**	P	P	08 50 28.9	+0.9
E18K				IAMs_20	IAMs_20	09 11 10.1	
	comp=Z,1μm,19.0s						
E18K	**Tukpahlearik C**	**44.15**	**28**	P	P	08 50 29.8	+1.9
	baz=257,SNR=91						
E18K				S	S	08 57 03.3	+3.4
	baz=257						
B18K	**Kokolik River**	**44.21**	**25**	P	P	08 50 30.2	+1.8
	baz=254,SNR=26						
B18K				S	S	08 57 01.9	+1.2
	baz=254						
O16K	**Kokwok River B**	**44.21**	**40**	P	P	08 50 29.9	+1.4
O16K				IAmb	IAmb	08 50 31.3	
	comp=Z,94nm,1.3s						
O16K	**Kokwok River B**	**44.21**	**40**	P	P	08 50 30.1	+1.6
	baz=268,SNR=14						
O16K				S	S	08 57 03.8	+2.9
	baz=268						
C18K	**Utukok River**	**44.23**	**26**	P	P	08 50 29.3	+0.7
C18K	**Utukok River**	**44.23**	**26**	P	P	08 50 29.9	+1.3
	baz=255,SNR=100						
C18K				S	S	08 57 02.1	+0.9
	baz=255						
P16K	**Nushagak River**	**44.24**	**40**	P	P	08 50 30.7	+2.0
	baz=268,SNR=7.6						
L17K	**Donlin**	**44.29**	**36**	P	P	08 50 31.1	+2.1
	baz=265,SNR=16						
L17K				S	S	08 57 07.2	+5.2
	baz=265						
K17K	**Iditarod**	**44.34**	**35**	P	P	08 50 31.0	+1.5
K17K				IAmb	IAmb	08 50 32.7	
	comp=Z,87nm,1.1s						
K17K				IAMs_20	IAMs_20	09 11 44.2	
	comp=Z,1μm,18.0s						
K17K	**Iditarod**	**44.34**	**35**	P	P	08 50 31.5	+2.0
	baz=264,SNR=29						
K17K				S	S	08 57 05.3	+2.5
	baz=264						
F18K	**Selawik**	**44.35**	**29**	P	P	08 50 31.1	+1.7
	baz=259,SNR=51						
F18K				S	S	08 57 04.9	+2.2
	baz=259						
G18K	**Tagagawik**	**44.62**	**30**	P	P	08 50 33.0	+1.3
G18K				IAmb	IAmb	08 50 39.4	
	comp=Z,143nm,1.4s						
G18K	**Tagagawik**	**44.62**	**30**	P	P	08 50 33.0	+1.3
	baz=261,SNR=58						
G18K				S	S	08 57 08.4	+1.7
	baz=261						
H18K	**Honhosa River**	**44.62**	**32**	P	P	08 50 33.1	+1.4
H18K				IAmb	IAmb	08 50 34.5	
	comp=Z,188nm,1.6s						
H18K				IAMs_20	IAMs_20	09 10 48.5	
	comp=Z,1μm,19.0s						
H18K	**Honhosa River**	**44.62**	**32**	P	P	08 50 33.1	+1.4
	baz=262,SNR=35						
H18K				S	S	08 57 08.9	+2.1
	baz=262						
M17K	**Holitna River**	**44.64**	**37**	P	P	08 50 33.3	+1.4
M17K				IAmb	IAmb	08 50 35.0	
	comp=Z,65nm,0.9s						
M17K	**Holitna River**	**44.64**	**37**	P	P	08 50 33.6	+1.7
	baz=266,SNR=16						
A19K	**Wainwright**	**44.69**	**24**	P	P	08 50 33.9	+1.7
	baz=254,SNR=10						
A19K				S	S	08 57 09.0	+1.4
	baz=254						
N17K	**Nushagak Hills**	**44.71**	**38**	P	P	08 50 33.9	+1.4
N17K				IAmb	IAmb	08 50 35.8	
	comp=Z,148nm,1.4s						
N17K	**Nushagak Hills**	**44.71**	**38**	P	P	08 50 34.3	+1.8
	baz=267,SNR=14						
N17K				S	S	08 57 11.1	+2.9
	baz=267						
SEM	**Semipalatinsk**	**44.72**	**307**	*e*P	P	08 50 32.1	-0.9
	comp=Z,20nm,0.9s,baz=307						
SEM				LR	LR	09 09 53.6	
	comp=Z,2μm,14.0s,baz=307						
SEM	**Semipalatinsk**	**44.72**	**307**	*e*P	P	08 50 32.1	-0.9
SEM				pmax	pmax		
	comp=Z,20nm,0.9s						
SEM				MLR	MLR		
	comp=Z,2μm,14.0s						
O17K	**Koliganek Bris**	**44.73**	**39**	P	P	08 50 34.3	+1.8
	baz=268						
O17K				S	S	08 57 10.3	+1.9
	baz=268						
C19K	**Lookout Ridge**	**44.91**	**26**	IAMs_20	IAMs_20	09 10 27.0	
	comp=Z,1μm,19.0s						
C19K	**Lookout Ridge**	**44.91**	**26**	P	P	08 50 35.8	+1.7
	baz=256,SNR=101						
C19K				S	S	08 57 12.2	+1.2
	baz=256						
Q16K	**King Salmon**	**44.93**	**41**	P	P	08 50 35.6	+1.4
	baz=270						
L18K	**Granite Mounta**	**45.05**	**36**	P	P	08 50 37.1	+2.0
	baz=266,SNR=16						
L18K				S	S	08 57 15.6	+2.6
	baz=266						
P17K	**Kvichak River**	**45.05**	**40**	P	P	08 50 36.4	+1.3
	baz=269						
MTKI	**Muara Teweh, K**	**45.08**	**219**	P	P	08 50 36.7	+0.8
R17L	**Mt. Peulik Vol**	**45.09**	**42**	P	P	08 50 35.6	0.0
	baz=271						
F19K	**Shaleruckik Mo**	**45.12**	**29**	P	P	08 50 36.7	+1.0
	baz=261						
F19K				S	S	08 57 14.8	+0.8
	baz=261						
J18K	**Innoko River**	**45.13**	**34**	P	P	08 50 37.1	+1.3
	baz=265,SNR=16						
J18K				S	S	08 57 16.3	+2.0
	baz=265						
GCSA	**Galena City Sc**	**45.19**	**32**	P	P	08 50 36.9	+0.7
	baz=264						
GCSA				S	S	08 57 17.7	+2.7
	baz=264						
G19K	**Purcell Mounta**	**45.29**	**30**	P	P	08 50 37.9	+0.9
G19K				IAmb	IAmb	08 50 39.4	
	comp=Z,79nm,1.4s						
G19K	**Purcell Mounta**	**45.29**	**30**	P	P	08 50 38.1	+1.1
	baz=262,SNR=30						
G19K				S	S	08 57 18.0	+1.5
	baz=262						
D19K	**Kuna River**	**45.30**	**27**	P	P	08 50 38.7	+1.6
	baz=259						
D19K				S	S	08 57 18.5	+1.9
	baz=259						
Q17K	**Contact Creek**	**45.34**	**41**	P	P	08 50 38.2	+0.6
	baz=271,SNR=6.1						
N18K	**Kilae Creek**	**45.35**	**38**	P	P	08 50 38.8	+1.2
N18K				IAmb	IAmb	08 50 41.0	
	comp=Z,207nm,1.6s						
N18K	**Kilae Creek**	**45.35**	**38**	P	P	08 50 39.0	+1.3
	baz=268,SNR=19						
N18K				S	S	08 57 19.9	+2.3
	baz=268						
M18K	**Stony River**	**45.41**	**37**	P	P	08 50 39.9	+1.9
	baz=268,SNR=17						
M18K				S	S	08 57 20.4	+2.0
	baz=268						
E19K	**Redstone River**	**45.44**	**28**	IAMs_20	IAMs_20	09 11 51.0	
	comp=Z,1μm,19.0s						
E19K	**Redstone River**	**45.44**	**28**	P	P	08 50 39.7	+1.6
	baz=260,SNR=60						
E19K				S	S	08 57 21.0	+2.4
	baz=260						
H19K	**Roundabout Mou**	**45.47**	**31**	P	P	08 50 40.0	+1.6
	baz=263,SNR=80						
H19K				S	S	08 57 19.4	+0.4
	baz=263						
KSM	**Kuching**	**45.52**	**226**	P	P	08 50 40.1	+0.7
ACHA	**Angle Creek He**	**45.63**	**41**	P	P	08 50 39.9	0.0
J19K	**Poorman**	**45.66**	**33**	IAMs_20	IAMs_20	09 11 44.1	
	comp=Z,1μm,18.0s						
J19K	**Poorman**	**45.66**	**33**	P	P	08 50 41.2	+1.2
	baz=265,SNR=47						
J19K				S	S	08 57 20.9	-1.0
	baz=265						
P18K	**Big Mountain,**	**45.67**	**40**	P	P	08 50 41.6	+1.4
	baz=270,SNR=12						
P18K				S	S	08 57 23.3	+1.1
	baz=270						
O18K	**Koktuh Hills**	**45.68**	**39**	P	P	08 50 42.0	+1.8
	baz=270,SNR=14						
O18K				S	S	08 57 25.3	+3.0
	baz=270						
KURK	**Kurchatov**	**45.71**	**308**	P	P	08 50 40.1	-0.5
KURK				IAmb	IAmb	08 50 41.4	
	comp=Z,114nm,0.8s						
KURK	**Kurchatov**	**45.71**	**308**	P	P	08 50 40.5	-0.1
KURK	**Kurchatov**	**45.71**	**308**	P	P	08 50 40.1	-0.5
KURK				pmax	pmax		
	comp=Z,114nm,0.9s						
KURBB	**Kurchatov Arra**	**45.78**	**308**	P	P	08 50 40.6	-0.5
	comp=Z,54nm,0.7s,baz=84,slow=8.6,SNR=237						
KURBB				LR	LR	09 10 14.2	
	comp=Z,3μm,20.1s,baz=91,slow=37						
	comp=Z,54nm,0.7s						
KURBB	**Kurchatov Arra**	**45.78**	**308**	P	P	08 50 39.9	-1.2
BNSI	**Bone**	**45.79**	**210**	P	P	08 50 41.3	-0.2
	comp=Z,134nm,2.4s,comp=Z,2μm						
Q18K	**Katmai Hardscr**	**45.79**	**41**	P	P	08 50 41.2	0.0
	baz=271						
D20K	**Etivluk River**	**45.88**	**27**	P	P	08 50 43.2	+1.5
	baz=260,SNR=113						
D20K				S	S	08 57 23.6	-1.4
	baz=260						
L19K	**White Mountain**	**45.90**	**36**	P	P	08 50 43.4	+1.4
	baz=268,SNR=20						
L19K				S	S	08 57 28.0	+2.5
	baz=268						
B20K	**Meade River**	**45.94**	**25**	P	P	08 50 42.9	+0.8
B20K	**Meade River**	**45.94**	**25**	P	P	08 50 43.7	+1.6
	baz=258,SNR=68						
B20K				S	S	08 57 25.4	-0.3
	baz=258						
F20K	**Avaraart Lake**	**45.95**	**29**	P	P	08 50 43.5	+1.3
	baz=262,SNR=28						
F20K				S	S	08 57 26.0	+0.1
	baz=262						
E20K	**Nigu River**	**45.96**	**27**	P	P	08 50 43.8	+1.5
	baz=261,SNR=46						
E20K				S	S	08 57 28.8	+2.7
	baz=261						
N19K	**Bonanza Creek**	**46.05**	**38**	P	P	08 50 44.3	+1.1
N19K				IAmb	IAmb	08 50 54.8	
	comp=Z,61nm,1.3s						
N19K	**Bonanza Creek**	**46.05**	**38**	P	P	08 50 44.9	+1.7
	baz=270,SNR=13						
N19K				S	S	08 57 29.1	+1.4
	baz=270						
TARA	**Tarawa**	**46.10**	**133**	P	P	08 50 44.6	+0.6
TARA	**Tarawa**	**46.10**	**133**	P	P	08 50 44.6	+0.6
TARA				IAmb	IAmb	08 50 51.3	
	comp=Z,157nm,1.6s						
TARA				IAMs_20	IAMs_20	09 06 01.0	
	comp=Z,2μm,22.0s						
M19K	**Big River Lodg**	**46.11**	**36**	P	P	08 50 45.5	+1.9
	baz=269,SNR=9.8						
M19K				S	S	08 57 31.0	+2.6
	baz=269						
H20K	**Anotleneega Mo**	**46.11**	**31**	P	P	08 50 44.9	+1.3
	baz=265,SNR=35						
H20K				S	S	08 57 29.1	+0.7
	baz=265						
R18K	**Karluk**	**46.12**	**42**	P	P	08 50 43.0	-0.7
	baz=273						
O19K	**Port Alsworth**	**46.13**	**39**	P	P	08 50 44.9	+1.3
	baz=270						
O19K				S	S	08 57 31.6	+3.0
	baz=270						
I20K	**Naaghedeneel**	**46.22**	**32**	P	P	08 50 45.7	+1.4
I20K				IAmb	IAmb	08 50 51.9	
	comp=Z,145nm,1.2s						
I20K	**Naaghedeneel**	**46.22**	**32**	P	P	08 50 46.2	+1.9
	baz=266,SNR=24						
K20K	**Telida**	**46.31**	**34**	P	P	08 50 46.8	+1.7
	baz=268,SNR=50						
K20K				S	S	08 57 34.4	+3.1
	baz=268						
J20K	**Nowinta River**	**46.32**	**33**	P	P	08 50 46.5	+1.3
J20K				IAmb	IAmb	08 50 53.2	
	comp=Z,77nm,1.1s						
J20K				IAMs_20	IAMs_20	09 12 21.7	
	comp=Z,996nm,19.0s						
J20K	**Nowinta River**	**46.32**	**33**	P	P	08 50 46.9	+1.7
	baz=267,SNR=53						
J20K				S	S	08 57 34.0	+2.7
	baz=267						
SII	**Sitkinak Islan**	**46.33**	**44**	P	P	08 50 45.2	-0.2
	baz=274						
L20K	**Farewell, AK**	**46.37**	**36**	P	P	08 50 47.4	+1.8
	baz=268,SNR=25						
L20K				S	S	08 57 35.3	+3.2
	baz=268						
A21K	**Barrow**	**46.40**	**23**	P	P	08 50 46.4	+0.7
	baz=257						
KAPI	**Kappang**	**46.49**	**210**	P	P	08 50 47.2	+0.2
KAPI	**Kappang**	**46.49**	**210**	P	P	08 50 47.4	+0.4
KAPI	**Kappang**	**46.49**	**210**	LR	LR	09 10 47.7	
	comp=Z,619nm,19.8s,baz=36,slow=37						
KAPI	**Kappang**	**46.49**	**210**	P	P	08 50 47.6	+0.6
KAPI				P	P	08 50 47.6	+0.6
KAPI	**Kappang**	**46.49**	**210**	P	P	08 50 47.4	+0.4
KAPI				pmax	pmax		
	comp=Z,209nm,1.5s						
Q19K	**Cape Douglas,**	**46.49**	**40**	P	P	08 50 46.8	+0.2
	baz=272						
C21K	**Knifeblade Rid**	**46.61**	**26**	P	P	08 50 49.2	+1.9
	baz=261,SNR=60						
C21K				S	S	08 57 36.3	+0.9
	baz=261						
IMAR	**Indian Mountai**	**46.62**	**31**	P	P	08 50 48.4	+0.9
SHLS	**Shalkode**	**46.62**	**298**	*e*P	P	08 50 45.3	-2.8
	comp=Z,10nm,0.6s,baz=297						
SHLS				*e*S	S	08 57 33.1	-3.4
	baz=297						
SHLS	**Shalkode**	**46.62**	**298**	*e*P	P	08 50 45.2	-2.8
SHLS				*e*S	S	08 57 33.1	-3.4
SHLS				pmax	pmax		
	comp=Z,11nm,0.6s						
PMG	**Port Moresby**	**46.66**	**172**	LR	LR	09 10 36.4	
	comp=Z,465nm,18.1s,baz=9.0,slow=36						
P19K	**Oil Pt**	**46.68**	**39**	P	P	08 50 48.9	+0.8
P19K				IAmb	IAmb	08 50 50.6	
	comp=Z,122nm,1.2s						
P19K	**Oil Pt**	**46.68**	**39**	P	P	08 50 49.3	+1.2
	baz=272,SNR=8.0						
P19K				S	S	08 57 38.3	+1.6
	baz=272						
M20K	**Styx River**	**46.71**	**36**	P	P	08 50 50.3	+2.0
	baz=270,SNR=19						
M20K				S	S	08 57 39.9	+2.7
	baz=270						
B21K	**Ikpikpuk River**	**46.74**	**26**	P	P	08 50 49.8	+1.5
B21K	**Ikpikpuk River**	**46.74**	**26**	P	P	08 50 50.1	+1.8
	baz=261,SNR=109						
B21K				S	S	08 57 39.2	+2.0
	baz=261						
SURA	**Surathani**	**46.74**	**244**	P	P	08 50 49.6	+0.6
G21K	**Allakaket**	**46.77**	**30**	P	P	08 50 49.6	+0.9
G21K				IAmb	IAmb	08 50 51.5	
	comp=Z,128nm,1.5s						
G21K	**Allakaket**	**46.77**	**30**	P	P	08 50 50.1	+1.5
	baz=265,SNR=65						
G21K				S	S	08 57 40.8	+3.1
	baz=265						
OHAK	**Old Harbor**	**46.77**	**43**	P	P	08 50 49.3	+0.5
OHAK	**Old Harbor**	**46.77**	**43**	P	P	08 50 49.0	+0.3
OHAK				IAmb	IAmb	08 50 50.2	
	comp=Z,53nm,1.0s						
OHAK	**Old Harbor**	**46.77**	**43**	P	P	08 50 49.2	+0.5
	baz=274,SNR=17						
OHAK				S	S	08 57 38.5	+0.6
	baz=274						
E21K	**Killik River**	**46.80**	**27**	IAMs_20	IAMs_20	09 12 56.7	
	comp=Z,892nm,18.0s						
E21K	**Killik River**	**46.80**	**27**	P	P	08 50 49.9	+1.0
	baz=263						
E21K				S	S	08 57 40.5	+2.4
	baz=263						
F21K	**Alatna River**	**46.84**	**29**	P	P	08 50 50.4	+1.1
	baz=264,SNR=37						
F21K				S	S	08 57 40.0	+1.1
	baz=264						
A22K	**Sinclair Lake**	**46.86**	**24**	P	P	08 50 51.0	+1.7
	baz=259,SNR=7.3						
A22K				S	S	08 57 37.7	-1.1
	baz=259						
RSO	**Redoubt South**	**46.90**	**38**	P	P	08 50 51.2	+1.2
TDK	**Taldyqorghan**	**46.92**	**300**	*e*P	P	08 50 49.9	-0.3
	comp=Z,17nm,0.5s,baz=300						
TDK				LR	LR	09 12 04.4	
	comp=Z,2μm,14.3s,baz=300						
TDK	**Taldyqorghan**	**46.92**	**300**	*e*P	P	08 50 49.8	-0.3
TDK				pmax	pmax		
	comp=Z,17nm,0.5s						
TDK				MLR	MLR		
	comp=Z,2μm,14.0s						
UZB	**Uzynbulak**	**46.94**	**298**	*e*P	P	08 50 50.2	-0.4
	comp=Z,14nm,0.9s,baz=298						
UZB				*e*S	S	08 57 41.9	+0.9
	baz=298						
UZB	**Uzynbulak**	**46.94**	**298**	*e*P	P	08 50 50.1	-0.4
UZB				*e*S	S	08 57 41.9	+0.9
UZB				pmax	pmax		
	comp=Z,13nm,0.9s						
O20K	**Slope Mountain**	**46.98**	**39**	P	P	08 50 51.6	+1.2
	baz=272,SNR=9.3						
H21K	**Melozitna Rive**	**46.99**	**31**	P	P	08 50 51.9	+1.5
	baz=266,SNR=74						
H21K				S	S	08 57 43.4	+2.5
	baz=266						
KPKS	**Kokpek**	**47.09**	**298**	*e*P	P	08 50 51.3	-0.3
	baz=298						

KPKS					*e*S		**S**	**08 57 44.0 +0.9**
	baz=298							
KPKS	**Kokpek**	**47.09**	**298**		*e*P		**P**	**08 50 51.3 -0.3**
KPKS					*e*S		**S**	**08 57 44.0 +0.9**
KDAK	**Kodiak Island**	**47.11**	**42**		P		**P**	**08 50 51.4 -0.1**
KDAK	**Kodiak Island**	**47.11**	**42**		P		**P**	**08 50 51.6 +0.2**
	baz=274							
KDAK					S		**S**	**08 57 44.0 +1.2**
	baz=274							
KDAK	**Kodiak Island**	**47.11**	**42**	*i*	P		**P**	**08 50 51.6 +0.2**
KDAK					pmax		pmax	
	comp=Z,84nm,0.7s							
CHUM	**Lake Minchumin**	**47.12**	**34**		P		**P**	**08 50 53.0 +1.6**
	baz=269							
CHUM					S		**S**	**08 57 44.9 +2.2**
	baz=269							
SRIT	**Nakonsritamara**	**47.15**	**244**		P		**P**	**08 50 53.6 +1.4**
N20K	**Mount Spurr**	**47.15**	**37**		P		**P**	**08 50 53.7 +1.8**
	baz=271,SNR=19							
N20K					S		**S**	**08 57 45.7 +2.2**
	baz=271							
SPCR	**Spurr Chakacha**	**47.15**	**37**		P		P	08 50 40.7 -11
	baz=271,SNR=16							
PPLA	**Purkeypile**	**47.16**	**35**		P		**P**	**08 50 53.6 +1.7**
	baz=270							
PPLA					S		**S**	**08 57 45.7 +2.1**
	baz=270							
Q20K	**Shuyak Island**	**47.16**	**41**		P		**P**	**08 50 52.2 +0.4**
	baz=273,SNR=16							
SYI	**Shuyak Island**	**47.16**	**41**		P		**P**	**08 50 52.1 +0.3**
CAST	**Castle Rocks**	**47.21**	**34**		P		**P**	**08 50 53.8 +1.7**
	baz=269							
CAST					S		**S**	**08 57 46.6 +2.4**
	baz=269							
SPU	**Mount Spurr**	**47.23**	**37**		P		**P**	**08 50 53.1 +0.7**
SPU					IAmb		IAmb	08 50 55.1
	comp=Z,104nm,1.2s							
B22K	**Teshekpuk Lake**	**47.26**	**25**		IAMs_20		IAMs_20	09 12 21.0
	comp=Z,1μm,20.0s							
B22K	**Teshekpuk Lake**	**47.26**	**25**		P		**P**	**08 50 53.9 +1.5**
	baz=262,SNR=15							
B22K					S		**S**	**08 57 47.4 +2.9**
	baz=262							
D22K	**Ayikyak River**	**47.32**	**27**		P		**P**	**08 50 54.9 +1.9**
	baz=264							
D22K					S		**S**	**08 57 48.3 +2.8**
	baz=264							
F22K	**John River**	**47.37**	**29**		P		**P**	**08 50 55.3 +1.9**
	baz=265							
F22K					S		**S**	**08 57 48.7 +2.4**
	baz=265							
SATY	**Saty**	**47.40**	**298**		*e*P		**P**	**08 50 53.9 -0.2**
	baz=298							
SATY	**Saty**	**47.40**	**298**		*e*P		**P**	**08 50 53.8 -0.2**
SKT	**Skwentna**	**47.47**	**36**		P		**P**	**08 50 54.5 +0.4**
SKT	**Skwentna**	**47.47**	**36**		P		**P**	**08 50 54.9 +0.7**
	baz=271,SNR=19							
SKT					S		**S**	**08 57 51.4 +3.6**
	baz=271							
HOM	**Homer**	**47.49**	**39**		P		**P**	**08 50 54.9 +0.6**
HOM	**Homer**	**47.49**	**39**		P		**P**	**08 50 54.7 +0.4**
	baz=273							
HOM					S		**S**	**08 57 47.3 -0.8**
	baz=273							
ARXS	**Arharly**	**47.51**	**299**		*e*P		**P**	**08 50 54.0 -0.8**
E22K	**Anaktuvuk Pass**	**47.56**	**28**		IAMs_20		IAMs_20	09 13 12.9
	comp=Z,938nm,18.0s							
E22K	**Anaktuvuk Pass**	**47.56**	**28**		P		**P**	**08 50 56.4 +1.6**
	baz=265							
E22K					S		**S**	**08 57 52.1 +3.0**
	baz=265							
H22K	**Ishtalitna Cre**	**47.59**	**31**		P		**P**	**08 50 57.0 +1.9**
	baz=268,SNR=46							
H22K					S		**S**	**08 57 50.9 +1.4**
	baz=268							
G22K	**Bettles**	**47.59**	**30**		P		**P**	**08 50 56.0 +1.0**
	baz=266,SNR=77							
G22K					S		**S**	**08 57 49.0 -0.3**
	baz=266							
CAPN	**Captain Cook N**	**47.68**	**38**		P		**P**	**08 50 57.3 +1.5**
	baz=272							
CAPN					S		**S**	**08 57 52.6 +1.8**
	baz=272							
CNPM	**China Poot**	**47.70**	**40**		P		**P**	**08 50 56.4 +0.3**
CNPM					IAmb		IAmb	08 50 57.8
	comp=Z,50nm,1.0s							
BPAW	**Bear Paw Mtn.**	**47.70**	**33**		P		**P**	**08 50 56.9 +0.8**
BPAW					IAmb		IAmb	08 50 59.0
	comp=Z,143nm,1.8s							
BPAW	**Bear Paw Mtn.**	**47.70**	**33**		P		**P**	**08 50 57.4 +1.4**
	baz=270,SNR=29							
MLY	**Manley**	**47.83**	**32**		P		**P**	**08 50 58.4 +1.5**
MLY	**Manley**	**47.83**	**32**		P		**P**	**08 50 58.4 +1.5**
	baz=269,SNR=67							
MLY					S		**S**	**08 57 56.0 +3.1**
	baz=269							
SUA	**Susitna One**	**47.85**	**37**		P		**P**	**08 50 57.8 +0.5**
SUA					IAmb		IAmb	08 51 05.6
	comp=Z,61nm,1.0s							
SUA	**Susitna One**	**47.85**	**37**		P		**P**	**08 50 57.8 +0.5**
	baz=272,SNR=39							
SUA					S		**S**	**08 57 55.3 +1.8**
	baz=272							
BRLK	**Bradley Lake**	**47.87**	**39**		P		**P**	**08 50 58.4 +1.1**
BRLK					IAmb		IAmb	08 50 59.9
	comp=Z,48nm,1.0s							
BRSE	**Bradley Lake S**	**47.94**	**39**		P		**P**	**08 50 57.8 -0.1**
	baz=274,SNR=16							
CUT	**Chulitna**	**48.05**	**36**		P		**P**	**08 50 58.9 +0.3**
CUT	**Chulitna**	**48.05**	**36**		P		**P**	**08 50 59.0 +0.3**
	baz=272,SNR=7.5							
D23K	**Nanushuk River**	**48.05**	**27**		P		**P**	**08 51 00.3 +1.8**
	baz=265,SNR=53							
D23K					S		**S**	**08 57 58.6 +2.8**
	baz=265							
COLD	**Coldfoot**	**48.12**	**29**		P		**P**	**08 51 00.5 +1.4**
	baz=268,SNR=28							
COLD					S		**S**	**08 57 59.6 +2.8**
	baz=268							
FIS	**Fire Island**	**48.12**	**37**		P		**P**	**08 51 00.5 +1.3**
M22K	**Willow**	**48.14**	**37**		P		**P**	**08 50 59.6 +0.3**
M22K					IAmb		IAmb	08 51 01.3
	comp=Z,37nm,0.8s							
M22K	**Willow**	**48.14**	**37**		P		**P**	**08 50 58.4 -0.9**
	baz=272,SNR=9.2							
C23K	**Itkillik River**	**48.15**	**26**		IAMs_20		IAMs_20	09 13 12.6
	comp=Z,1μm,19.0s							
C23K	**Itkillik River**	**48.15**	**26**		P		**P**	**08 51 01.1 +1.8**
	baz=265							
C23K					S		**S**	**08 57 59.0 +1.7**
	baz=265							
G23K	**Bananza Creek**	**48.17**	**30**		P		**P**	**08 51 00.9 +1.4**
G23K					IAmb		IAmb	08 51 02.3
	comp=Z,124nm,1.8s							
G23K	**Bananza Creek**	**48.17**	**30**		P		**P**	**08 51 00.9 +1.4**
	baz=268,SNR=45							
G23K					S		**S**	**08 57 57.7 0.0**
	baz=268							
CHKK	**Chushkaly**	**48.18**	**299**		*e*P		**P**	**08 50 59.8 -0.3**
	baz=299							
CHKK	**Chushkaly**	**48.18**	**299**		*e*P		**P**	**08 50 59.7 -0.3**
TARG	**Taragay, Kyrgy**	**48.19**	**296**		P		**P**	**08 51 00.5 -0.1**
TARG					IAmb		IAmb	08 51 08.5
	comp=Z,62nm,0.8s							
TARG	**Taragay, Kyrgy**	**48.19**	**296**		P		**P**	**08 51 00.5 -0.1**
TARG					pmax		pmax	
	comp=Z,62nm,0.8s							
MDOK	**Medeo**	**48.33**	**298**		*e*P		**P**	**08 51 01.0 -0.3**
	baz=298							
MDOK					*e*S		**S**	**08 58 01.4 +0.5**
	baz=298							
MDOK					LR		LR	09 13 08.1
	comp=Z,2μm,12.3s,baz=298							
MDOK	**Medeo**	**48.33**	**298**		*e*P		**P**	**08 51 01.0 -0.3**
MDOK					*e*S		**S**	**08 58 01.3 +0.5**
MDOK					MLR		MLR	
	comp=Z,2μm,12.0s							
H23K	**Yukon River**	**48.34**	**31**		P		**P**	**08 51 02.1 +1.2**
H23K	**Yukon River**	**48.34**	**31**		P		**P**	**08 51 02.9 +2.0**
	baz=269,SNR=99							
H23K					S		**S**	**08 58 01.8 +1.7**
	baz=269							
RC01	**Rabbit Creek A**	**48.36**	**37**		P		**P**	**08 51 02.0 +0.9**
RC01					IAmb		IAmb	08 51 02.8
	comp=Z,96nm,1.1s							
RC01	**Rabbit Creek A**	**48.36**	**37**		P		**P**	**08 51 01.5 +0.4**
	baz=273,SNR=35							
RC01					S		**S**	**08 58 01.5 +1.1**
	baz=273							
BWN	**Browne**	**48.37**	**33**		P		**P**	**08 51 03.0 +1.9**
E23K	**Chandalar**	**48.38**	**28**		P		**P**	**08 51 03.0 +1.8**
	baz=267,SNR=148							
E23K					S		**S**	**08 58 04.0 +3.2**
	baz=267							
O22K	**Cooper Landing**	**48.40**	**38**		P		**P**	**08 51 01.8 +0.4**
	baz=274,SNR=14							
O22K					S		**S**	**08 58 02.3 +1.3**
	baz=274							
AAA	**Alma-Ata**	**48.41**	**298**		*e*P		**P**	**08 51 01.8 0.0**
	comp=Z,12nm,0.4s,baz=298							
AAA	**Alma-Ata**	**48.41**	**298**		*e*P		**P**	**08 51 01.8 0.0**
AAA					pmax		pmax	
	comp=Z,11nm,0.4s							
I23K	**Minto, Yukon-K**	**48.41**	**32**		P		**P**	**08 51 02.9 +1.5**
	baz=270,SNR=41							
I23K					S		**S**	**08 58 02.4 +1.4**
	baz=270							
TOLK	**Toolik Lake Re**	**48.43**	**27**		P		**P**	**08 51 02.4 +0.8**
TOLK					IAMs_20		IAMs_20	09 14 15.0
	comp=Z,889nm,19.0s							
TOLK	**Toolik Lake Re**	**48.43**	**27**		P		**P**	**08 51 03.0 +1.5**
	baz=267,SNR=43							
TOLK					S		**S**	**08 58 04.8 +3.5**
	baz=267							
TNSS	**Tian-Shan**	**48.43**	**298**		*e*P		**P**	**08 51 02.0 -0.4**
	baz=298							
TNSS	**Tian-Shan**	**48.43**	**298**		*e*P		**P**	**08 51 02.0 -0.4**
NEA2	**Nenana**	**48.54**	**33**		P		**P**	**08 51 03.6 +1.2**
NEA2	**Nenana**	**48.54**	**33**		P		**P**	**08 51 03.8 +1.4**
	baz=271,SNR=67							
NEA2					S		**S**	**08 58 06.2 +3.3**
	baz=271							
SEW	**Seward**	**48.56**	**39**		P		**P**	**08 51 03.5 +0.9**
	baz=274,SNR=19							
SEW					S		**S**	**08 58 04.5 +1.2**
	baz=274							
MCK	**McKinley**	**48.62**	**34**		P		**P**	**08 51 03.8 +0.8**
	baz=272,SNR=20							
MCK					S		**S**	**08 58 04.9 +0.8**
	baz=272							
PMR	**Palmer**	**48.62**	**37**		P		**P**	**08 51 03.6 +0.6**
PMR	**Palmer**	**48.62**	**37**		P		**P**	**08 51 03.3 +0.2**
PMR					IAmb		IAmb	08 51 04.6
	comp=Z,112nm,1.3s							
PMR	**Palmer**	**48.62**	**37**		P		**P**	**08 51 03.2 +0.2**
	baz=274,SNR=45							
PMR					S		**S**	**08 58 05.9 +1.8**
	baz=274							
PMR	**Palmer**	**48.62**	**37**		P		**P**	**08 51 03.3 +0.2**
PMR					pmax		pmax	
	comp=Z,112nm,1.3s							
RND	**Reindeer**	**48.66**	**34**		P		**P**	**08 51 03.9 +0.4**
RND					IAMs_20		IAMs_20	09 13 40.3
	comp=Z,1μm,19.0s							
RND	**Reindeer**	**48.66**	**34**		P		**P**	**08 51 03.9 +0.4**
RND					pmax		pmax	
	comp=Z,246nm,1.6s							
RND					MLR		MLR	
	comp=Z,1μm,19.0s							
GHO	**Glory Hole Cre**	**48.71**	**36**		P		**P**	**08 51 04.6 +0.8**
D24K	**Happy Valley**	**48.73**	**27**		P		**P**	**08 51 05.2 +1.4**
D24K	**Happy Valley**	**48.73**	**27**		P		**P**	**08 51 05.5 +1.7**
	baz=267,SNR=54							
D24K					S		**S**	**08 58 05.7 +0.3**
	baz=267							
KULM	**Kulim**	**48.74**	**239**		IAMs_20		IAMs_20	09 12 43.5
	comp=Z,1μm,18.0s							
C24K	**Franklin Bluff**	**48.80**	**26**		P		**P**	**08 51 06.0 +1.6**
	baz=267							
C24K					S		**S**	**08 58 11.0 +4.5**
	baz=267							
E24K	**Your Creek**	**48.81**	**28**		P		**P**	**08 51 05.2 +0.7**
E24K					IAMs_20		IAMs_20	09 14 23.0
	comp=Z,2μm,18.0s							
E24K	**Your Creek**	**48.81**	**28**		P		**P**	**08 51 06.1 +1.6**
	baz=268,SNR=113							
E24K					S		**S**	**08 58 07.3 +0.6**
	baz=268							
WAT1	**Susitna Watana**	**48.82**	**35**		P		**P**	**08 51 04.9 +0.2**
	baz=273							
WAT1					S		**S**	**08 58 07.4 +0.4**
	baz=273							
MDM	**Murphy Dome**	**48.89**	**32**		P		**P**	**08 51 06.4 +1.2**
MMRI	**Maumere**	**48.91**	**205**		P		**P**	**08 51 05.1 -0.7**
	comp=Z,111nm,0.9s,comp=Z,4μm							
KNK	**Knik Glacier**	**48.95**	**37**		P		**P**	**08 51 06.5 +0.9**
KNK					IAmb		IAmb	08 51 15.9
	comp=Z,63nm,1.0s							
KNK	**Knik Glacier**	**48.95**	**37**		P		**P**	**08 51 06.6 +0.9**
	baz=274,SNR=13							
KNK					S		**S**	**08 58 11.2 +2.4**
	baz=274							
WRH	**Wood River Hil**	**48.97**	**33**		P		**P**	**08 51 06.4 +0.7**
SML	**Sawmill**	**48.99**	**36**		P		**P**	**08 51 06.8 +0.9**
SML					IAmb		IAmb	08 51 07.5
	comp=Z,61nm,0.9s							
SML	**Sawmill**	**48.99**	**36**		P		**P**	**08 51 06.8 +0.9**
	baz=274,SNR=33							
SML					S		**S**	**08 58 11.9 +2.6**
	baz=274							
SML	**Sawmill**	**48.99**	**36**		P		**P**	**08 51 06.8 +0.9**
SML					pmax		pmax	
	comp=Z,61nm,0.9s							
F24K	**Squaw Lake**	**49.02**	**29**		P		**P**	**08 51 07.0 +0.8**
F24K	**Squaw Lake**	**49.02**	**29**		P		**P**	**08 51 07.6 +1.5**
	baz=269,SNR=33							
F24K					S		**S**	**08 58 13.6 +3.9**
	baz=269							
H24K	**Noodor Dome**	**49.02**	**31**		P		**P**	**08 51 07.3 +1.1**
H24K					IAmb		IAmb	08 51 09.5
	comp=Z,180nm,1.7s							
H24K	**Noodor Dome**	**49.02**	**31**		P		**P**	**08 51 08.1 +1.9**
	baz=271,SNR=59							
H24K					S		**S**	**08 58 12.2 +2.4**
	baz=271							
PWL	**Port Wells**	**49.05**	**38**		P		**P**	**08 51 06.7 +0.3**
PWL					IAmb		IAmb	08 51 13.1
	comp=Z,81nm,1.0s							
PWL	**Port Wells**	**49.05**	**38**		P		**P**	**08 51 06.6 +0.1**
	baz=275,SNR=30							
PWL					S		**S**	**08 58 11.5 +1.3**
	baz=275							
COLA	**College**	**49.06**	**32**		P		**P**	**08 51 07.3 +1.0**
COLA	**College**	**49.06**	**32**		P		**P**	**08 51 07.7 +1.3**
COLA					IAmb		IAmb	08 51 14.3
	comp=Z,53nm,0.9s							
COLA	**College**	**49.06**	**32**		P		**P**	**08 51 07.7 +1.3**
	baz=272							
COLA					S		**S**	**08 58 12.4 +2.3**
	baz=272							
COLA	**College**	**49.06**	**32**		P		**P**	**08 51 07.7 +1.3**
COLA					pmax		pmax	
	comp=Z,53nm,0.9s							
CCB	**Clear Creek Bu**	**49.08**	**33**		P		**P**	**08 51 07.1 +0.5**
CCB					IAmb		IAmb	08 51 15.4
	comp=Z,93nm,1.6s							
G24K	**Hadweenzic Riv**	**49.18**	**30**		P		**P**	**08 51 08.5 +1.2**
G24K	**Hadweenzic Riv**	**49.18**	**30**		P		**P**	**08 51 09.3 +2.0**
	baz=270,SNR=76							
G24K					S		**S**	**08 58 12.5 +0.6**
	baz=270							
WAT6	**Susitna Watana**	**49.21**	**35**		P		**P**	**08 51 08.5 +0.7**
	baz=274,SNR=20							
WAT6					S		**S**	**08 58 13.2 +0.5**
	baz=274							
POKR	**Poker Plat Res**	**49.23**	**32**		P		**P**	**08 51 09.7 +2.0**
	baz=272,SNR=51							
POKR					S		**S**	**08 58 15.2 +2.6**
	baz=272							
M23K	**Glacier View**	**49.27**	**36**		P		**P**	**08 51 08.8 +0.7**
	baz=274,SNR=24							
M23K					S		**S**	**08 58 15.1 +1.7**
	baz=274							
SOEI	**Soe**	**49.31**	**202**		P		**P**	**08 51 08.9 0.0**
SOEI	**Soe**	**49.31**	**202**		P		**P**	**08 51 08.8 -0.2**
SOEI	**Soe**	**49.31**	**202**		P		**P**	**08 51 08.1 -0.8**
DHY	**Denali Highway**	**49.35**	**35**		P		**P**	**08 51 09.4 +0.6**
DHY					IAMs_20		IAMs_20	09 14 04.5
	comp=Z,1μm,18.0s							
DHY	**Denali Highway**	**49.35**	**35**		P		**P**	**08 51 09.5 +0.6**
	baz=274,SNR=18							
DHY					S		**S**	**08 58 16.6 +1.9**
	baz=274							
TKM2	**Tokmak 2**	**49.41**	**298**		P		**P**	**08 51 10.2 +0.5**
	SNR=36							
TKM2	**Tokmak 2**	**49.41**	**298**	*i*	P		**P**	**08 51 10.1 +0.4**
TKM2					pmax		pmax	
	comp=Z,58nm,1.0s							
SCM	**Sheep Creek Mo**	**49.46**	**36**		P		**P**	**08 51 10.7 +1.1**
SCM					IAmb		IAmb	08 51 11.3
	comp=Z,56nm,0.8s							
SCM	**Sheep Creek Mo**	**49.46**	**36**		P		**P**	**08 51 10.4 +0.8**
	baz=275,SNR=26							
SCM					S		**S**	**08 58 17.9 +1.8**
	baz=275							
SCM	**Sheep Creek Mo**	**49.46**	**36**		P		**P**	**08 51 10.7 +1.1**
SCM					pmax		pmax	
	comp=Z,56nm,0.8s							
HDA	**Harding Lake**	**49.46**	**33**		P		**P**	**08 51 09.8 +0.2**
HDA					IAmb		IAmb	08 51 11.1
	comp=Z,52nm,0.8s							
HDA	**Harding Lake**	**49.46**	**33**		P		**P**	**08 51 09.6 +0.1**
	baz=273,SNR=47							
HDA					S		**S**	**08 58 15.6 -0.3**
	baz=273							
HDA					S		**S**	**08 58 15.6 -0.3**
	baz=273							
IL31		**49.47**	**32**		P		**P**	**08 51 09.8 +0.3**
IL31					IAmb		IAmb	08 51 11.2
	comp=Z,49nm,0.8s							
ILAR	**Eielson Array**	**49.47**	**32**		P		**P**	**08 51 09.6 0.0**
ILAR	**Eielson Array**	**49.47**	**32**		P		**P**	**08 51 09.8 +0.3**
	comp=Z,31nm,0.7s,baz=269,slow=6.4,SNR=436							
	comp=Z,31nm,0.7s							
NRN	**Naryn**	**49.57**	**296**		P		**P**	**08 51 11.3 +0.2**
NRN					IAMs_20		IAMs_20	09 10 14.4
	comp=Z,2μm,22.0s							
NRN	**Naryn**	**49.57**	**296**		P		**P**	**08 51 11.3 +0.2**
NRN					pmax		pmax	
	comp=Z,18nm,0.9s							
HNR	**Honiara**	**49.58**	**155**		IAMs_20		IAMs_20	09 10 58.0
	comp=Z,1μm,21.0s							
HNR	**Honiara**	**49.58**	**155**		LR		LR	09 09 35.4
	comp=Z,13μm,21.4s,baz=330,slow=33							
P23K	**Montague Islan**	**49.60**	**39**		P		**P**	**08 51 11.5 +1.0**
	baz=276,SNR=8.2							
D25K	**Kavik River**	**49.61**	**26**		IAMs_20		IAMs_20	09 14 03.1
	comp=Z,1μm,19.0s							
D25K	**Kavik River**	**49.61**	**26**		P		**P**	**08 51 11.9 +1.3**
	baz=269,SNR=82							
D25K					S		**S**	**08 58 19.9 +2.0**
	baz=269							
GLI	**Glacier Island**	**49.66**	**38**		P		**P**	**08 51 11.6 +0.6**
GLI	**Glacier Island**	**49.66**	**38**		P		**P**	**08 51 11.6 +0.6**
	baz=276,SNR=12							
GLI					S		**S**	**08 58 20.8 +2.1**
	baz=276							
G25K	**Bearman Lake**	**49.72**	**30**		P		**P**	**08 51 13.6 +2.2**
	baz=272,SNR=38							
G25K					S		**S**	**08 58 25.0 +5.6**
	baz=272							
H25L	**Birch Creek**	**49.85**	**30**		P		**P**	**08 51 14.6 +2.2**
	baz=272							
H25L					S		**S**	**08 58 23.2 +1.9**
	baz=272							
F25K	**Christian Rive**	**49.88**	**29**		P		**P**	**08 51 14.8 +2.1**
	baz=271,SNR=70							
F25K					S		**S**	**08 58 25.3 +3.5**
	baz=271							
BTLS	**Baital**	**49.90**	**301⇑**	*e*	P		**P**	**08 51 12.6 -0.5**
	baz=301							
BTLS				*e*	S		**S**	**08 58 23.2 +0.7**
	baz=301							
BTLS	**Baital**	**49.90**	**301**	*ce*	P		**P**	**08 51 12.6 -0.5**
BTLS				*e*	S		**S**	**08 58 23.2 +0.7**
BATI	**Baumata**	**49.92**	**203**		P		**P**	**08 51 13.9 +0.4**
	comp=Z,96nm,0.8s							
SGDS	**Sogindy**	**49.94**	**299**	*e*	P		**P**	**08 51 13.3 -0.2**
	baz=299							
SGDS	**Sogindy**	**49.94**	**299**	*e*	P		**P**	**08 51 13.3 -0.2**
KBK	**Karagaybulak**	**49.95**	**298**		P		**P**	**08 51 14.3 +0.6**
	SNR=8.5							
M24K	**Tolsona, Glenn**	**49.98**	**36**		P		**P**	**08 51 15.0 +1.4**
	baz=276,SNR=15							
M24K					S		**S**	**08 58 20.9 -2.4**
	baz=276							
HIN	**Hinchinbrook I**	**50.00**	**38**		P		**P**	**08 51 14.7 +1.0**
PRP	**Porcupine Dome**	**50.01**	**31**		P		**P**	**08 51 14.2 +0.4**
PRP					IAMs_20		IAMs_20	09 14 48.9
	comp=Z,864nm,18.0s							
PRP	**Porcupine Dome**	**50.01**	**31**		P		**P**	**08 51 15.3 +1.5**
	baz=273,SNR=42							
PRP					S		**S**	**08 58 25.3 +1.5**
	baz=273							
K24K	**Donnelly Dome**	**50.01**	**34**		P		**P**	**08 51 14.2 +0.5**
	baz=274,SNR=19							
K24K					S		**S**	**08 58 26.3 +2.6**
	baz=274							
FYU	**Fort Yukon**	**50.08**	**30**		P		**P**	**08 51 15.7 +1.6**
USP	**Ospenovka**	**50.08**	**299**		P		**P**	**08 51 14.7 0.0**
	SNR=8.4							
C26K	**Camden Bay**	**50.12**	**26**		P		**P**	**08 51 16.4 +1.9**
	baz=270,SNR=24							
C26K					S		**S**	**08 58 26.1 +1.2**
	baz=270							
J25K	**Salcha River,**	**50.13**	**33**		P		**P**	**08 51 14.1 -0.6**
	baz=274,SNR=16							
J25K					S		**S**	**08 58 24.8 -0.5**
	baz=274							
KLU	**Klutina**	**50.16**	**37**		P		**P**	**08 51 15.9 +1.0**
KLU					IAmb		IAmb	08 51 22.4
	comp=Z,62nm,1.0s							
KLU	**Klutina**	**50.16**	**37**		P		**P**	**08 51 16.0 +1.1**
	baz=276,SNR=26							
KLU					S		**S**	**08 58 29.3 +3.4**
	baz=276							
KSH	**Kashi**	**50.20**	**294**		P		**P**	**08 51 19.5 +3.9**
KSH					pP		sP	08 51 25.0 +2.3
KSH					sP		pP	08 51 29.0 +8.3
KSH					S		**S**	**08 58 34.0 +7.0**
KSH					pmax		pmax	
	comp=Z,23nm,1.2s							
KSH					pmax		pmax	
	comp=Z,600nm,5.8s							
KSH					LR		LR	
	comp=Z,6μm,19.6s							
KSH					LR		LR	
	comp=Z,5μm,19.2s							
KSH					LR		LR	
	comp=Z,4μm,19.9s							
Q23K	**Middleton Isla**	**50.20**	**39**		S		**S**	**08 58 30.1 +3.9**
	baz=278							
OTUK	**Ortayu**	**50.21**	**306**		P		**P**	**08 51 12.7 -2.7**
PAX	**Paxson**	**50.22**	**35**		P		**P**	**08 51 16.1 +0.7**
	baz=275,SNR=19							
PAX					S		**S**	**08 58 28.3 +1.6**
	baz=275							
KDU	**Kakadu**	**50.26**	**191**		P		**P**	**08 51 16.0 0.0**
KDU	**Kakadu**	**50.26**	**191**		P		**P**	**08 51 15.9 -0.2**
	comp=Z,83nm,1.1s,SNR=8.9							
AAK	**Ala-Archa**	**50.27**	**298**		P		**P**	**08 51 16.3 +0.1**
AAK	**Ala-Archa**	**50.27**	**298**	*i*	P		**P**	**08 51 16.1 -0.1**
	SNR=6.9							
AAK	**Ala-Archa**	**50.27**	**298**		LR		LR	09 13 46.2
	comp=Z,4μm,19.3s,baz=78,slow=38							
AAK	**Ala-Archa**	**50.27**	**298**	*ce*	P		**P**	**08 51 16.7 +0.5**
AAK					pmax		pmax

baz=273,SNR=137
F26K S **S** **08 58 32.4 +2.7**
baz=273
C27K **Jago River** **50.55 26** P **P** **08 51 19.4 +1.7**
baz=271,SNR=51
C27K S **S** **08 58 33.1 +2.2**
baz=271
G26K **Porcupine River** **50.63 29** P **P** **08 51 20.5 +2.2**
baz=274,SNR=48
G26K S **S** **08 58 34.7 +2.6**
baz=274
MTN **Manton Dam** **50.64 193** P **P** **08 51 18.2 -0.7**
MTN **Manton Dam** **50.64 193** P **P** **08 51 18.9 0.0**
MTN IAmb IAmb 08 51 27.0
comp=Z,63nm,0.9s
MTN **Manton Dam** **50.64 193** P **P** **08 51 18.7 -0.2**
comp=Z,89nm,1.1s,SNR=10
PLAI **Plampang** **50.75 210** P **P** **08 51 18.0 -1.8**
N25K **Chitina, Valde** **50.78 36** P **P** **08 51 20.7 +1.1**
N25K **Chitina, Valde** **50.78 36** P **P** **08 51 21.1 +1.5**
baz=277,SNR=14
N25K S **S** **08 58 38.6 +4.2**
baz=277
SCRK **Sand Creek** **50.79 33** P **P** **08 51 20.1 +0.4**
baz=276,SNR=91
SCRK S **S** **08 58 36.3 +1.7**
baz=276
BMRM **Bremner River** **50.85 37** P **P** **08 51 21.7 +1.5**
baz=278,SNR=24
BMRM S **S** **08 58 38.7 +3.2**
baz=278
COEN **Coen** **50.88 178** P **P** **08 51 21.6 +0.9**
COEN **Coen** **50.88 178** P **P** **08 51 20.6 -0.2**
comp=Z,33nm,1.7s,SNR=2.9
RAGM **Ragged Mountai** **50.90 38** IAms_20 IAms_20 09 16 19.9
comp=Z,1µm,19.0s
J26L **Joseph Creek** **50.92 33** P **P** **08 51 20.7 +0.1**
baz=276,SNR=31
J26L S **S** **08 58 37.3 +1.0**
baz=276
AML **Almayashu** **50.99 298** P **P** **08 51 22.6 +0.7**
SNR=18
I26K **Coal Creek Min** **51.02 32** IAms_20 IAms_20 09 15 20.5
comp=Z,978nm,18.0s
I26K **Coal Creek Min** **51.02 32** P **P** **08 51 21.3 0.0**
baz=276
I26K S **S** **08 58 39.9 +2.4**
baz=276
MENT **Mentasta** **51.02 35** P **P** **08 51 22.5 +1.2**
MENT **Mentasta** **51.02 35** P **P** **08 51 22.6 +1.2**
MENT IAmb IAmb 08 51 30.7
comp=Z,85nm,1.0s
TWSI **Taliwang, Sumb** **51.04 212** P **P** **08 51 20.4 -1.5**
KAIM **Kayak Island** **51.09 39** P **P** **08 51 23.0 +1.1**
KAIM **Kayak Island** **51.09 39** P **P** **08 51 23.4 +1.5**
baz=279
GLB **Gilahina Butte** **51.17 37** P **P** **08 51 23.3 +0.7**
GLB IAmb IAmb 08 51 25.5
comp=Z,84nm,1.4s
L26K **Log Cabin Wild** **51.18 35** IAms_20 IAms_20 09 15 26.9
comp=Z,1µm,18.0s
L26K **Log Cabin Wild** **51.18 35** P **P** **08 51 24.2 +1.7**
baz=277,SNR=72
L26K S **S** **08 58 41.6 +1.7**
baz=277
E27K **Coleen River** **51.38 28** IAms_20 IAms_20 09 15 39.1
comp=Z,1µm,19.0s
E27K **Coleen River** **51.38 28** P **P** **08 51 25.9 +1.9**
baz=275,SNR=65
E27K S **S** **08 58 45.0 +2.4**
baz=275
M26K **Nabesna, AK** **51.42 35** IAms_20 IAms_20 09 16 08.4
comp=Z,776nm,19.0s
M26K **Nabesna, AK** **51.42 35** P **P** **08 51 26.1 +1.6**
baz=278,SNR=41
M26K S **S** **08 58 46.2 +2.9**
baz=278
G27K **Doyon Strip** **51.48 30** P **P** **08 51 26.4 +1.7**
baz=276,SNR=30
G27K S **S** **08 58 45.7 +1.8**
baz=276
D27M **Malcolm River** **51.53 26** IAms_20 IAms_20 09 15 24.0
comp=Z,954nm,19.0s
D27M **Malcolm River** **51.53 26** P **P** **08 51 26.9 +1.7**
baz=274,SNR=34
D27M S **S** **08 58 46.5 +1.9**
baz=274
MCARA **McCarthy VSAT** **51.55 37** P **P** **08 51 27.1 +1.8**
baz=279,SNR=14
MCARA S **S** **08 58 48.1 +3.1**
baz=279
H27K **Steamboat Moun** **51.59 30** P **P** **08 51 27.8 +2.2**
baz=276,SNR=65
H27K S **S** **08 58 52.1 +6.6**
baz=276
K27K **Chicken** **51.62 33** P **P** **08 51 27.3 +1.5**
baz=277,SNR=54
K27K S **S** **08 58 48.6 +2.8**
baz=277
CRQE **Cirque** **51.62 37** P **P** **08 51 27.6 +1.6**
baz=279,SNR=15
I27K **Kandik River** **51.62 31** P **P** **08 51 27.2 +1.3**
baz=277,SNR=15
I27K S **S** **08 58 47.7 +1.7**
baz=277
BGLC **Bering Glacier** **51.63 38** P **P** **08 51 27.8 +2.0**
baz=280
TGL **Tana Glacier** **51.74 37** IAms_20 IAms_20 09 15 04.0
comp=Z,818nm,20.0s
WAX **Waxell Ridge** **51.78 38** IAms_20 IAms_20 09 17 34.2
comp=Z,998nm,18.0s
L27K **Beaver Creek,** **51.86 34** IAms_20 IAms_20 09 16 13.0
comp=Z,797nm,19.0s
L27K **Beaver Creek,** **51.86 34** P **P** **08 51 29.4 +1.8**
baz=278,SNR=75
L27K S **S** **08 58 50.9 +1.6**
baz=278
BCAR **Beaver Creek A** **51.88 34** P **P** **08 51 29.3 +1.5**
EGAK **Eagle** **51.92 32** P **P** **08 51 28.6 +0.6**
EGAK **Eagle** **51.92 32** P **P** **08 51 28.6 +0.6**
baz=278,SNR=53
EGAK S **S** **08 58 52.7 +2.8**
baz=278
M27K **Edge Creek, AK** **51.94 35** IAms_20 IAms_20 09 16 13.3
comp=Z,915nm,19.0s
M27K **Edge Creek, AK** **51.94 35** P **P** **08 51 30.0 +1.6**
baz=279,SNR=55
M27K S **S** **08 58 53.8 +3.2**
baz=279
ISLE **Juniper Island** **52.01 37** IAms_20 IAms_20 09 15 23.0
comp=Z,764nm,19.0s
F28M **Old Crow** **52.09 28** P **P** **08 51 30.8 +1.6**
F28M IAmb IAmb 08 51 32.7
comp=Z,138nm,1.6s
F28M **Old Crow** **52.09 28** P **P** **08 51 31.1 +1.8**
baz=277,SNR=44
F28M S **S** **08 58 54.4 +2.2**
baz=277
E28M **Babbage River** **52.10 27** P **P** **08 51 30.5 +1.2**
E28M IAmb IAmb 08 51 37.8
comp=Z,184nm,1.9s
E28M IAms_20 IAms_20 09 16 19.2
comp=Z,833nm,19.0s
E28M **Babbage River** **52.10 27** P **P** **08 51 31.3 +1.9**
baz=276,SNR=37
E28M S **S** **08 58 54.5 +2.1**
baz=276
MESA **MESA** **52.27 38** IAms_20 IAms_20 09 15 35.0
comp=Z,853nm,20.0s
MESA **MESA** **52.27 38** P **P** **08 51 32.3 +1.3**
baz=280,SNR=11
D28M **Stokes Point** **52.31 26** P **P** **08 51 32.7 +1.9**
baz=276
D28M S **S** **08 58 57.5 +2.3**
baz=276
I28M **Miner Creek** **52.34 31** IAms_20 IAms_20 09 16 12.4
comp=Z,901nm,18.0s
I28M **Miner Creek** **52.34 31** P **P** **08 51 32.9 +1.6**
baz=278,SNR=111
I28M S **S** **08 58 59.1 +3.2**
baz=278
CTG **Chitna Glacier** **52.43 37** P **P** **08 51 33.5 +1.5**
baz=280,SNR=10
CTGM **Chitina Glacie** **52.43 37** IAms_20 IAms_20 09 15 46.0
comp=Z,723nm,20.0s
LOGN **Logan Glacier** **52.62 37** IAms_20 IAms_20 09 15 51.0
comp=Z,818nm,20.0s
YUK3 **Moose Creek** **52.70 36** P **P** **08 51 35.3 +1.2**
baz=280,SNR=30
PWJI **Pagerwojo** **52.71 218** P **P** **08 51 32.8 -1.6**
E29M **Blow River** **52.73 27** IAms_20 IAms_20 09 16 47.7
comp=Z,1µm,20.0s
E29M **Blow River** **52.73 27** P **P** **08 51 36.0 +2.0**
baz=278,SNR=73
E29M S **S** **08 58 59.1 -1.8**
baz=278
DAWY **Dawson** **52.78 33** P **P** **08 51 35.6 +1.1**
baz=280,SNR=27
DAWY S **S** **08 59 05.2 +3.3**
baz=280
H29M **Whitestone** **52.86 30** P **P** **08 51 36.8 +1.8**
H29M IAmb IAmb 08 51 52.6
comp=Z,96nm,1.2s
H29M **Whitestone** **52.86 30** P **P** **08 51 36.8 +1.8**
baz=279,SNR=39
H29M S **S** **08 59 07.6 +4.8**
baz=279
G29M **Pine Creek** **52.89 29** P **P** **08 51 37.5 +2.3**
baz=279,SNR=76
G29M S **S** **08 59 07.8 +4.6**
baz=279
KK31 **Karatay Array** **52.91 300** P **P** **08 51 34.9 -0.8**
KK31 **Karatay Array** **52.91 300** P **P** **08 51 34.9 -0.8**
KK31 pmax pmax
comp=Z,51nm,1.3s
KKAR **Karatay Array** **52.91 300** P **P** **08 51 35.1 -0.6**
KKAR **Karatay Array** **52.91 300** P **P** **08 51 35.1 -0.6**
KKAR pmax pmax
comp=Z,51nm,1.3s
O28M **Mount Upton** **53.02 37** P **P** **08 51 38.0 +1.4**
baz=282,SNR=11
O28M S **S** **08 59 09.3 +3.6**
baz=282
I29M **Ogilvie Camp,** **53.02 31** IAms_20 IAms_20 09 16 33.6
comp=Z,659nm,18.0s
I29M **Ogilvie Camp,** **53.02 31** P **P** **08 51 37.7 +1.5**
baz=280,SNR=147
I29M S **S** **08 59 07.9 +2.8**
baz=280
YUK8 **Steele Glacier** **53.12 36** P **P** **08 51 38.7 +1.5**
baz=282
PINM **Pinnacle** **53.12 38** P **P** **08 51 38.3 +1.2**
baz=282
J29N **Klondike Camp** **53.22 32** P **P** **08 51 39.4 +1.7**
J29N **Klondike Camp** **53.22 32** P **P** **08 51 39.6 +1.8**
baz=280,SNR=5.8
BRLS **Borolday** **53.40 300** *e*P **P** **08 51 40.3 +0.9**
baz=300
BRLS **Borolday** **53.40 300** *e*P **P** **08 51 40.2 +0.9**
M29M **Somme Creek** **53.49 35** IAms_20 IAms_20 09 17 06.1
comp=Z,761nm,18.0s
M29M **Somme Creek** **53.49 35** P **P** **08 51 41.9 +2.1**
baz=282,SNR=51
M29M S **S** **08 59 14.1 +2.4**
baz=282
EPYK **Eagle Plains** **53.49 30** P **P** **08 51 41.5 +1.8**
baz=280,SNR=131
EPYK S **S** **08 59 08.0 -3.4**
baz=280
L29M **L29M** **53.51 34** P **P** **08 51 42.2 +2.3**
baz=282,SNR=118
L29M S **S** **08 59 12.4 +0.6**
baz=282
IUG **Iuzhnay** **53.56 299** *e*P **P** **08 51 40.3 -0.3**
comp=Z,16nm,0.8s,baz=299
IUG **Iuzhnay** **53.56 299** *e*P **P** **08 51 40.3 -0.3**
IUG pmax pmax
comp=Z,16nm,0.8s
G30M **tAoh Zraii Nji** **53.58 29** P **P** **08 51 41.5 +1.2**
baz=280,SNR=116
G30M S **S** **08 59 12.9 +0.2**
baz=280
K29M **Barlow Dome** **53.63 33** P **P** **08 51 42.7 +1.9**
baz=281,SNR=74
K29M S **S** **08 59 15.2 +1.5**
baz=281
YUK4 **Talbot Arm** **53.63 36** P **P** **08 51 42.6 +1.6**
baz=282,SNR=16
F30M **Barrier River** **53.64 28** P **P** **08 51 42.7 +2.1**
baz=280,SNR=58
F30M S **S** **08 59 13.3 0.0**
baz=280
PNL **Peninsula** **53.64 38** P **P** **08 51 42.2 +1.4**
PNL **Peninsula** **53.64 38** P **P** **08 51 42.4 +1.6**
baz=283,SNR=6.5
GSI **Gunungsitoli** **53.72 239** P **P** **08 51 42.1 +0.1**
GSI **Gunungsitoli** **53.72 239** P **P** **08 51 41.2 -0.8**
comp=Z,148nm,1.4s
BTK **Batken** **53.74 296** P **P** **08 51 41.0 -0.9**
CHM **Chimkent** **53.80 299** *e*P **P** **08 51 41.1 -1.2**
comp=Z,12nm,0.6s,baz=299
CHM LR LR 09 15 11.8
comp=Z,516nm,13.0s,baz=299
CHM **Chimkent** **53.80 299** *e*P **P** **08 51 41.9 -0.4**
CHM pmax pmax
comp=Z,12nm,0.6s
CHM MLR MLR
comp=Z,516nm,13.0s
I30M **Mount Dempster** **53.85 31** P **P** **08 51 44.0 +1.7**
baz=281,SNR=307
I30M S **S** **08 59 18.6 +2.1**
baz=281
KNRA **Kununurra** **53.85 195** P **P** **08 51 42.6 -0.1**
KNRA IAmb IAmb 08 51 44.0
comp=Z,40nm,0.8s
KNRA **Kununurra** **53.85 195** P **P** **08 51 42.6 -0.1**
comp=Z,58nm,0.8s,SNR=12
YUK6 **Outpost Mounta** **53.86 37** P **P** **08 51 44.6 +2.0**
baz=283,SNR=18
YUK6 S **S** **08 59 20.5 +3.6**
baz=283
LEM **Lembang** **53.86 223** P **P** **08 51 42.4 -0.7**
comp=Z,94nm,1.0s
O29M **Mount Kennedy** **53.90 37** IAms_20 IAms_20 09 17 46.9
comp=Z,928nm,20.0s
O29M **Mount Kennedy** **53.90 37** P **P** **08 51 45.0 +2.2**
baz=283,SNR=30
O29M S **S** **08 59 20.4 +3.1**
baz=283
J30M **Hart River** **54.00 32** P **P** **08 51 43.9 +0.4**
J30M **Hart River** **54.00 32** P **P** **08 51 45.1 +1.6**
baz=282,SNR=44
J30M S **S** **08 59 21.5 +3.0**
baz=282
M30M **Minto, Yukon** **54.22 34** P **P** **08 51 46.1 +1.0**
M30M **Minto, Yukon** **54.22 34** P **P** **08 51 47.2 +2.1**
baz=283,SNR=37
M30M S **S** **08 59 23.2 +1.7**
baz=283
N30M **Aishikik Lake** **54.34 36** IAms_20 IAms_20 09 17 11.6
comp=Z,702nm,20.0s
N30M **Aishikik Lake** **54.34 36** P **P** **08 51 47.9 +1.9**
baz=284,SNR=12
N30M S **S** **08 59 25.9 +2.8**
baz=284
INK **Inuvik** **54.34 27** P **P** **08 51 46.4 +0.6**
INK IAmb IAmb 08 51 48.3
comp=Z,116nm,1.5s
INK **Inuvik** **54.34 27** P **P** **08 51 46.9 +1.1**
baz=282,SNR=56
INK S **S** **08 59 25.0 +2.2**
baz=282
INK **Inuvik** **54.34 27** LR LR 09 18 01.5
comp=Z,707nm,18.6s,baz=303,slow=39
INK **Inuvik** **54.34 27** P **P** **08 51 46.4 +0.6**
INK pmax pmax
comp=Z,116nm,1.5s
G31M **Satah River** **54.35 29** P **P** **08 51 46.6 +0.8**
G31M IAmb IAmb 08 51 48.3
comp=Z,152nm,1.5s
G31M **Satah River** **54.35 29** P **P** **08 51 46.9 +1.1**
baz=282,SNR=44
G31M S **S** **08 59 26.4 +3.6**
baz=282
NIL **Nilore** **54.41 288** P **P** **08 51 46.7 -0.2**
NIL IAmb IAmb 08 51 58.4
comp=Z,55nm,1.1s
NIL **Nilore** **54.41 288** P **P** **08 51 46.7 -0.2**
NIL pmax pmax
comp=Z,55nm,1.1s
F31M **Tsiigehtchic** **54.44 28** IAms_20 IAms_20 09 18 01.9
comp=Z,872nm,19.0s
F31M **Tsiigehtchic** **54.44 28** P **P** **08 51 47.4 +0.9**
baz=282,SNR=69
F31M S **S** **08 59 24.7 +0.7**
baz=282
P29M **Windy Craggy** **54.47 38** IAms_20 IAms_20 09 18 12.9
comp=Z,697nm,19.0s
P29M **Windy Craggy** **54.47 38** P **P** **08 51 49.3 +2.5**
baz=284,SNR=22
P29M S **S** **08 59 27.3 +2.5**
baz=284
GAR **Garm** **54.49 295** P **P** **08 51 47.0 -0.4**
GAR IAmb IAmb 08 52 00.1
comp=Z,52nm,0.7s
P30M **Million Dollar** **54.72 37** P **P** **08 51 51.1 +2.4**
baz=284
SVE **Sverdlovsk** **54.93 319***c* *i*P **P** **08 51 50.6 +0.4**
SVE pmax pmax
comp=Z,87nm,1.2s
SVE MLR MLR
comp=Z,3µm,13.0s
N31M **Braeburn, Yuko** **54.94 36** IAms_20 IAms_20 09 17 37.5
comp=Z,684nm,18.0s
N31M **Braeburn, Yuko** **54.94 36** P **P** **08 51 52.5 +2.2**
baz=284,SNR=34
N31M S **S** **08 59 31.7 +0.5**
baz=284
O30N **Mendenhall** **54.98 36** P **P** **08 51 52.4 +1.8**
baz=285,SNR=16
O30N S **S** **08 59 35.7 +4.0**
baz=285
MTSU **Mount Surprise** **55.08 176** P **P** **08 51 52.2 +0.5**
PLBC **Pleasant Camp** **55.19 38** P **P** **08 51 53.9 +1.9**
baz=285,SNR=17
PLBC S **S** **08 59 39.5 +5.2**
baz=285
M31M **Drury Creek, Y** **55.40 35** P **P** **08 51 55.1 +1.5**
M31M IAmb IAmb 08 52 03.0
comp=Z,61nm,1.2s
M31M **Drury Creek, Y** **55.40 35** P **P** **08 51 55.3 +1.7**
baz=285,SNR=27
M31M S **S** **08 59 41.0 +3.8**
baz=285
CHGR **Chuyangaron** **55.45 295** P **P** **08 51 54.5 +0.2**
CHGR **Chuyangaron** **55.45 295** P **P** **08 51 54.6 +0.2**
CHGR pmax pmax
comp=Z,193nm,0.8s
WHY **Whitehorse** **55.58 36** P **P** **08 51 57.0 +2.0**
baz=286,SNR=24
WHY S **S** **08 59 42.3 +2.5**
baz=286
S31K **Pelican** **55.66 40** P **P** **08 51 57.6 +2.1**
baz=286
SKAG **Skagway** **55.69 38** P **P** **08 51 57.7 +2.0**
SKAG **Skagway** **55.69 38** P **P** **08 51 57.9 +2.2**
baz=286,SNR=11
SKAG S **S** **08 59 42.7 +1.6**
baz=286
R31K **City Hall, Gus** **55.78 39** P **P** **08 51 58.1 +1.8**
baz=287
FARO **Faro, Yukon** **55.86 34** P **P** **08 51 58.5 +1.6**
baz=286,SNR=31
FARO S **S** **08 59 44.4 +0.9**
baz=286
ARU **Arti** **56.15 318** P **P** **08 51 58.8 -0.2**
ARU IAmb IAmb 08 52 24.6
comp=Z,78nm,1.0s
ARU **Arti** **56.15 318** LR LR 09 18 16.2
comp=Z,2µm,19.6s,baz=72,slow=38
ARU **Arti** **56.15 318***ce*P **P** **08 51 58.2 -0.8**
ARU pmax pmax
comp=Z,61nm,0.8s
ARU **Arti** **56.15 318** P **P** **08 51 58.0 -1.0**
comp=Z,88nm,1.1s,comp=Z,1µm
A36M **Sachs Harbour** **56.20 22** P **P** **08 52 00.3 +1.2**
A36M IAmb IAmb 08 52 16.8
comp=Z,52nm,0.9s
A36M **Sachs Harbour** **56.20 22** P **P** **08 52 00.5 +1.4**
baz=286,SNR=41
A36M S **S** **08 59 49.9 +2.5**
baz=286
N32M **Quiet Lake** **56.29 36** P **P** **08 52 01.5 +1.5**
baz=287,SNR=6.6
N32M S **S** **08 59 51.1 +2.0**
baz=287
TV1H **Townsville Har** **56.37 174** P **P** **08 52 01.9 +1.0**
SIT **Sitka** **56.40 41** P **P** **08 52 02.6 +1.9**
SIT **Sitka** **56.40 41** P **P** **08 52 02.9 +2.2**
baz=288
R32K **Eaglecrest** **56.44 39** IAms_20 IAms_20 09 19 38.2
comp=Z,857nm,19.0s
R32K **Eaglecrest** **56.44 39** P **P** **08 52 03.1 +2.1**
baz=288,SNR=6.1
P32M **Atlin** **56.45 37** P **P** **08 52 03.0 +1.9**
baz=287,SNR=16
JIS **Juneau Island** **56.51 39** P **P** **08 52 03.3 +1.8**
JIS **Juneau Island** **56.51 39** IAms_20 IAms_20 09 19 48.0
comp=Z,866nm,19.0s
S32K **Killisnoo** **56.66 40** P **P** **08 52 04.4 +1.8**
baz=288,SNR=6.2
P33M **Teslin, Yukon** **56.69 37** P **P** **08 52 04.9 +2.0**
baz=288,SNR=36
P33M S **S** **08 59 55.9 +1.3**
baz=288
FITZ **Fitzroy Crossi** **56.90 198** P **P** **08 52 04.6 0.0**
FITZ **Fitzroy Crossi** **56.90 198** P **P** **08 52 04.7 +0.1**
comp=Z,656nm,1.3s,SNR=5.1
WB0 **Warramunga Arr** **56.99 188** P **P** **08 52 04.6 -0.7**
WB0 IAmb IAmb 08 52 12.3
comp=Z,173nm,1.7s
CTA **Charters Tower** **57.15 174** LR LR 09 19 20.3
comp=Z,12nm,18.2s,baz=340,slow=39
CTAO **Charters Tower** **57.15 174** P **P** **08 52 06.4 0.0**
CTAO **Charters Tower** **57.15 174** P **P** **08 52 06.4 0.0**
CTAO pmax pmax
comp=Z,18nm,1.1s
WRAB **Tennant Creek** **57.16 188** P **P** **08 52 05.7 -0.8**
WRAB IAmb IAmb 08 52 13.6
comp=Z,130nm,1.8s
WRAB **Tennant Creek** **57.16 188** P **P** **08 52 05.7 -0.8**
WRAB pmax pmax
comp=Z,130nm,1.8s
WR0 **Warramunga Arr** **57.17 187** P **P** **08 52 05.8 -0.8**
WR0 IAmb IAmb 08 52 13.6
comp=Z,174nm,1.8s
WB2 **Warramunga Arr** **57.17 188** P **P** **08 52 05.8 -0.7**
WB2 IAmb IAmb 08 52 13.7
comp=Z,151nm,1.8s
WRA **Warramunga Arr** **57.17 188** P **P** **08 52 05.2 -1.4**
WRA **Warramunga Arr** **57.17 188** P **P** **08 52 05.8 -0.8**
comp=Z,21nm,0.8s,baz=4.1,slow=7.3,SNR=99
WRA LR LR 09 16 44.2
comp=Z,362nm,18.4s,baz=7.0,slow=36
comp=Z,21nm,0.8s
WRA **Warramunga Arr** **57.17 188** P **P** **08 52 05.2 -1.4**
WRA pmax pmax
comp=Z,16nm,1.9s
WB1 **Warramunga Ar.** **57.19 188** P **P** **08 52 06.5 -0.2**
KBL **Kabul** **57.21 291** P **P** **08 52 06.2 -1.0**
KBL IAmb IAmb 08 53 14.3
comp=Z,80nm,1.6s
KBL **Kabul** **57.21 291** P **P** **08 52 06.9 -0.3**
KBL **Kabul** **57.21 291** P **P** **08 52 06.2 -1.0**
KBL pmax pmax
comp=Z,80nm,1.6s
Q32M **Nakina River** **57.35 38** IAms_20 IAms_20 09 19 20.1
comp=Z,882nm,19.0s
Q32M **Nakina River** **57.35 38** P **P** **08 52 09.5 +1.8**
baz=289,SNR=9.5
C36M **Paulatuk** **57.38 25** P **P** **08 52 08.4 +0.9**
baz=289,SNR=31
C36M S **S** **09 00 05.8 +2.7**
baz=289
QIS **Mount Isa** **57.44 182** P **P** **08 52 07.9 -0.6**
QIS **Mount Isa** **57.44 182** P **P** **08 52 07.5 -1.0**
comp=Z,28nm,1.5s,SNR=6.5
T33K **Petersburg** **57.71 40** P **P** **08 52 12.3 +2.3**
baz=290
AB31 **Akbulak array** **57.72 310** *i* P **P** **08 52 08.9 -1.4**
ABKAR **Akbulak array** **57.72 310** P **P** **08 52 09.8 -0.5**
ABKAR **Akbulak array** **57.72 310** P **P** **08 52 09.4 -0.8**
R33M **Jennings River** **57.84 37** P **P** **08 52 13.2 +2.2**
R33M IAmb IAmb 08 52 19.9
comp=Z,104nm,1.7s
R33M **Jennings River** **57.84 37** P **P** **08 52 13.3 +2.2**
baz=290,SNR=18
R33M S **S** **09 00 11.9 +2.1**
baz=290
U33K **Whale Pass** **57.85 41** P **P** **08 52 13.2 +2.2**
baz=290
HYB **Hyderabad** **58.04 268** *e*P **P** **08 52 13.3 +0.3**

CRAG	**Craig**	**58.08**	**42**	P	**P**	**08 52 15.3**	**+2.7**
	baz=290						
S34M	**Telegraph Cree**	**58.26**	**39**	IAMs_20	IAMs_20	09 19 57.3	
	comp=Z,629nm,20.0s						
S34M	**Telegraph Cree**	**58.26**	**39**	P	**P**	**08 52 16.1**	**+2.3**
	baz=290,SNR=15						
S34M				S	**S**	**09 00 17.2**	**+2.2**
	baz=290						
TGTN	**Hyland Airport**	**58.37**	**34**	P	**P**	**08 52 16.5**	**+1.9**
	baz=290,SNR=18						
TGTN				S	**S**	**09 00 17.4**	**+1.0**
	baz=290						
AKTO	**Aktyubinsk**	**58.46**	**312**	LR	LR	09 18 44.4	
	comp=Z,2µm,18.0s,baz=69,slow=37						
WTLY	**Watson Lake, Y**	**58.62**	**36**	P	**P**	**08 52 18.2**	**+1.8**
WTLY				IAmb	IAmb	08 52 25.9	
	comp=Z,163nm,1.7s						
WTLY	**Watson Lake, Y**	**58.62**	**36**	P	**P**	**08 52 18.2**	**+1.8**
	baz=291						
DLBC	**Dease Lake**	**58.62**	**38**	P	**P**	**08 52 17.4**	**+0.9**
DLBC	**Dease Lake**	**58.62**	**38**	P	**P**	**08 52 18.9**	**+2.4**
	baz=291,SNR=26						
DLBC				S	**S**	**09 00 23.5**	**+3.5**
	baz=291						
DLBC	**Dease Lake**	**58.62**	**38**	LR	LR	09 21 45.2	
	comp=Z,357nm,18.3s,baz=313,slow=40						
V35K	**Ketchikan**	**58.93**	**42**	P	**P**	**08 52 20.1**	**+1.5**
	baz=291						
V35K				S	**S**	**09 00 28.9**	**+5.2**
	baz=291						
T35M	**Bob Quinn**	**59.04**	**40**	IAMs_20	IAMs_20	09 21 06.9	
	comp=Z,864nm,20.0s						
T35M	**Bob Quinn**	**59.04**	**40**	P	**P**	**08 52 22.2**	**+2.8**
	baz=292,SNR=23						
U35K	**Hyder**	**59.55**	**41**	IAMs_20	IAMs_20	09 21 31.7	
	comp=Z,570nm,19.0s						
U35K	**Hyder**	**59.55**	**41**	P	**P**	**08 52 24.5**	**+1.6**
	baz=292						
WRGLY	**Wrigley**	**59.82**	**31**	P	**P**	**08 52 26.3**	**+1.7**
	baz=293,SNR=14						
WRGLY				S	**S**	**09 00 37.3**	**+2.2**
	baz=293						
HOPEN	**Hopen**	**59.87**	**346**	*e*P	**P**	**08 52 25.1**	**+0.4**
HOPEN				IAmb	IAmb	08 52 26.4	
	comp=Z,365nm,1.6s						
HOPEN				*e*S	**S**	**09 00 36.0**	**+0.7**
HOPEN				IAMs_20	IAMs_20	09 19 19.2	
	comp=Z,2µm,20.3s						
KIRV	**Kirov**	**60.04**	**323**	LR	LR	09 20 59.4	
	comp=Z,2µm,18.4s,baz=72,slow=39						
KIRV	**Kirov**	**60.04**	**323**	*ce*P	**P**	**08 52 26.2**	**+0.1**
EUNU	**Eureka**	**60.08**	**9**	P	**P**	**08 52 25.9**	**-0.3**
EUNU				IAmb	IAmb	08 52 27.1	
	comp=Z,32nm,0.8s						
LIRD	**Liard River Hi**	**60.15**	**36**	P	**P**	**08 52 29.3**	**+2.4**
	baz=293,SNR=5.3						
LIRD				S	**S**	**09 00 43.3**	**+3.8**
	baz=293						
SPA0	**Spitsbergen Ar**	**60.36**	**349**	*e*P	**P**	**08 52 28.3**	**+0.2**
SPA0				IAmb	IAmb	08 52 28.9	
	comp=Z,54nm,1.1s						
SPA0				*e*S	**S**	**09 00 41.4**	**-0.3**
SPA0				IAMs_20	IAMs_20	09 17 42.8	
	comp=Z,2µm,22.9s						
SPITS	**Spitsbergen Ar**	**60.36**	**349**	P	**P**	**08 52 28.4**	**+0.2**
	comp=Z,12nm,0.6s,baz=78,slow=6.1,SNR=14						
SPITS				LR	LR	09 19 43.7	
	comp=Z,2µm,20.9s,baz=0.5,slow=37						
	comp=Z,12nm,0.6s						
GRNB	**Grenville Isla**	**60.38**	**43**	P	**P**	**08 52 29.4**	**+0.7**
KBS	**Kingsbay**	**60.49**	**350**	IAMs_20	IAMs_20	09 21 52.4	
	comp=Z,944nm,18.0s						
KBS	**Kingsbay**	**60.49**	**350**	*e*P	**P**	**08 52 29.9**	**+0.9**
KBS				IAmb	IAmb	08 52 30.7	
	comp=Z,70nm,0.8s						
KBS				*e*S	**S**	**09 00 44.1**	**+0.7**
KBS				IAMs_20	IAMs_20	09 21 47.2	
	comp=Z,909nm,17.2s						
KBS	**Kingsbay**	**60.49**	**350**	*ce*P	**P**	**08 52 29.7**	**+0.7**
KBS				pmax	pmax		
	comp=Z,60nm,0.6s						
KBS	**Kingsbay**	**60.49**	**350**	*i* P	**P**	**08 52 28.5**	**-0.5**
TOAD	**Toad River Com**	**60.78**	**36**	P	**P**	**08 52 33.0**	**+1.7**
	baz=294,SNR=13						
TOAD				S	**S**	**09 00 50.0**	**+2.3**
	baz=294						
KOTAN	**Kotaneelee Air**	**60.81**	**35**	P	**P**	**08 52 32.9**	**+1.5**
	baz=294						
KOTAN				S	**S**	**09 00 51.1**	**+3.2**
	baz=294						
RK1H	**Rockhampton Ha**	**60.87**	**170**	P	**P**	**08 52 32.5**	**+0.4**
AS01	**Alice Springs**	**60.89**	**188**	P	**P**	**08 52 32.1**	**-0.3**
AS31	**Alice Springs**	**60.90**	**188**	P	**P**	**08 52 31.9**	**-0.5**
ASAR	**Alice Springs**	**60.90**	**188**	P	**P**	**08 52 32.1**	**-0.3**
	comp=Z,9.7nm,0.8s,baz=10,slow=6.9,SNR=78						
ASAR				LR	LR	09 18 49.1	
	comp=Z,464nm,19.7s,baz=4.5,slow=36						
	comp=Z,9.7nm,0.8s						
ASPA	**Alice Springs**	**60.90**	**188**	P	**P**	**08 52 32.2**	**-0.2**
	comp=Z,6.4nm,0.6s,SNR=9.0						
NOR	**Nord**	**60.91**	**356**	*i* P	**P**	**08 52 30.2**	**-1.6**
NOR				IAmb	IAmb	08 52 32.5	
	comp=Z,44nm,0.9s						
HSPB	**Hornsund (broa**	**61.28**	**348**	*e*P	**P**	**08 52 35.0**	**+0.7**
HSPB				*ep*P	**sP**	**08 52 40.2**	**-1.3**
HSPB				*e*S	**S**	**09 00 54.4**	**+1.0**
HSPB				*e*ScS	**ScS**	**09 02 28.9**	**+4.5**
HSPB				*e*L	L	09 18 30.7	
	comp=Z,2µm,23.8s						
MBWA	**Marble Bar**	**61.45**	**203**	P	**P**	**08 52 36.1**	**-0.1**
MBWA	**Marble Bar**	**61.45**	**203**	P	**P**	**08 52 36.2**	**+0.1**
MBWA	**Marble Bar**	**61.45**	**203**	P	**P**	**08 52 36.0**	**-0.1**
	comp=Z,46nm,1.0s,SNR=4.1						
MBWA	**Marble Bar**	**61.45**	**203**	P	**P**	**08 52 36.0**	**-0.1**
PSA00	**Pilbara Seismi**	**61.80**	**203**	P	**P**	**08 52 38.3**	**-0.2**
PSA00	**Pilbara Seismi**	**61.80**	**203**	P	**P**	**08 52 38.4**	**-0.2**
PSA00				IAmb	IAmb	08 53 35.5	
	comp=Z,43nm,1.4s						
PSA00	**Pilbara Seismi**	**61.80**	**203**	P	**P**	**08 52 38.2**	**-0.3**
	comp=Z,25nm,1.4s,SNR=2.5						
LVZ	**Lovozero**	**61.92**	**336**	P	**P**	**08 52 38.4**	**-0.5**
LVZ				IAmb	IAmb	08 52 39.8	
	comp=Z,32nm,1.0s						
LVZ	**Lovozero**	**61.92**	**336**	*ce*P	**P**	**08 52 38.3**	**-0.6**
LVZ				pmax	pmax		
	comp=Z,46nm,1.7s						
LVZ	**Lovozero**	**61.92**	**336**	P	**P**	**08 52 38.1**	**-0.8**
	comp=Z,41nm,1.6s,comp=Z,728nm						
BBB	**Bella Bella**	**62.09**	**44**	P	**P**	**08 52 41.1**	**+0.9**
BBB	**Bella Bella**	**62.09**	**44**	LR	LR	09 22 34.4	
	comp=Z,148nm,18.7s,baz=318,slow=39						
PALK	**Pallekele**	**62.23**	**257**	LR	LR	09 20 50.7	
	comp=Z,709nm,20.2s,baz=148,slow=37						
BJO1	**Bjornoya**	**62.29**	**345**	*e*P	**P**	**08 52 41.0**	**-0.1**
BJO1				IAmb	IAmb	08 52 41.9	
	comp=Z,34nm,0.7s						
BJO1				*e*S	**S**	**09 01 05.2**	**-1.1**
BJO1				IAMs_20	IAMs_20	09 20 44.3	
	comp=Z,2µm,17.4s						
HRA	**Herat**	**62.30**	**294**	P	**P**	**08 52 42.4**	**+0.2**
VADS	**Vadso**	**62.38**	**339**	*e*P	**P**	**08 52 41.9**	**+0.1**
VADS				IAmb	IAmb	08 52 42.9	
	comp=Z,212nm,1.5s						
VADS				*e*S	**S**	**09 01 08.4**	**+0.9**
VADS				IAMs_20	IAMs_20	09 19 41.8	
	comp=Z,2µm,24.5s						
APA	**Apatity**	**62.49**	**336**	||*i*P	**P**	**08 52 41.6**	**-1.1**
APA				*i* S	**S**	**09 01 08.0**	**-1.0**
APA				*i* PS	**PnS**	**09 01 33.0**	**+8.4**
APA				pmax	pmax		
	comp=Z,27nm,0.8s						
ADZR	**Andozero**	**62.56**	**331**	*e*P	**P**	**08 52 39.8**	**-3.3**
ADZR				*e*		08 53 17.4	
ADZR				pmax	pmax		
	comp=Z,36nm,0.9s						
HOLB	**Holberg**	**62.75**	**46**	P	**P**	**08 52 45.3**	**+0.6**
EIDS	**Eidsvold**	**62.90**	**170**	P	**P**	**08 52 46.5**	**+0.7**
EIDS	**Eidsvold**	**62.90**	**170**	P	**P**	**08 52 46.2**	**+0.4**
EIDS	**Eidsvold**	**62.90**	**170**	P	**P**	**08 52 46.3**	**+0.5**
	comp=Z,27nm,1.4s,SNR=6.9						
WRKA	**Warakurna**	**63.06**	**193**	P	**P**	**08 52 46.8**	**-0.1**
WRKA	**Warakurna**	**63.06**	**193**	P	**P**	**08 52 46.7**	**-0.1**
	comp=Z,47nm,1.7s,SNR=5.4						
KEV	**Kevo**	**63.26**	**339**	P	**P**	**08 52 47.7**	**0.0**
KEV				IAmb	IAmb	08 52 48.6	
	comp=Z,50nm,1.0s						
KEV	**Kevo**	**63.26**	**339**	P	**P**	**08 52 47.7**	**0.0**
KEV				pmax	pmax		
	comp=Z,50nm,1.0s						
KEV				MLR	MLR		
	comp=Z,2µm,18.0s						
QLP	**Quilpie**	**63.48**	**177**	P	**P**	**08 52 49.3**	**-0.3**
QLP	**Quilpie**	**63.48**	**177**	P	**P**	**08 52 49.5**	**-0.1**
	comp=Z,73nm,2.3s,SNR=7.7						
NOUC	**Port Laguerre**	**63.53**	**154**	P	**P**	**08 52 51.4**	**+1.4**
DZM	**Mont Dzumac**	**63.55**	**154**	P	**P**	**08 52 52.0**	**+1.7**
DZM	**Mont Dzumac**	**63.55**	**154**	P	**P**	**08 52 51.3**	**+1.0**
DZM				IAmb	IAmb	08 52 53.3	
	comp=Z,48nm,1.0s						
DZM	**Mont Dzumac**	**63.55**	**154**	LR	LR	09 18 22.5	
	comp=Z,1µm,21.1s,baz=330,slow=34						
BELG	**Belogornoye**	**63.59**	**317**	LR	LR	09 21 48.7	
	comp=Z,928nm,19.5s,baz=61,slow=37						
BELG	**Belogornoye**	**63.59**	**317**	*c i* P	**P**	**08 52 49.2**	**-0.9**
BELG				pmax	pmax		
	comp=Z,16nm,0.8s						
HAMF	**Hammerfest**	**63.63**	**341**	*e*P	**P**	**08 52 50.0**	**-0.1**
HAMF				IAmb	IAmb	08 52 50.3	
	comp=Z,41nm,0.8s						
HAMF				*e*S	**S**	**09 01 22.6**	**-0.5**
HAMF				IAMs_20	IAMs_20	09 26 39.5	
	comp=Z,1µm,15.1s						
YATNC	**Mamie plateau,**	**63.70**	**153**	P	**P**	**08 52 53.3**	**+2.2**
YKA	**Yellowknife Ar**	**63.78**	**30**	P	**P**	**08 52 51.5**	**+0.2**
YKA	**Yellowknife Ar**	**63.78**	**30**	P	**P**	**08 52 51.6**	**+0.3**
	comp=Z,6.3nm,0.7s,baz=296,slow=6.4,SNR=22						
YKA				LR	LR	09 22 49.0	
	comp=Z,373nm,20.1s,baz=313,slow=38						
	comp=Z,6.3nm,0.7s						
ARCES	**ARCESS Array B**	**63.81**	**339**	P	**P**	**08 52 51.5**	**+0.1**
ARCES				IAmb	IAmb	08 52 52.3	
	comp=Z,34nm,0.9s						
ARCES	**ARCESS Array B**	**63.81**	**339**	P	**P**	**08 52 51.5**	**+0.1**
	comp=Z,17nm,0.7s,baz=54,slow=8.1,SNR=89						
ARCES				LR	LR	09 23 43.4	
	comp=Z,1µm,20.9s,baz=59,slow=39						
	comp=Z,17nm,0.7s						
INKA	**Innaminka**	**64.57**	**180**	P	**P**	**08 52 56.9**	**+0.2**
CBB	**Campbell River**	**64.60**	**45**	P	**P**	**08 52 57.6**	**+0.7**
CBB				IAmb	IAmb	08 53 21.4	
	comp=Z,46nm,1.5s						
KTK1	**Kautokeino**	**64.77**	**339**	*e*P	**P**	**08 52 57.5**	**-0.2**
KTK1				IAmb	IAmb	08 52 58.7	
	comp=Z,288nm,1.9s						
KTK1				*e*S	**S**	**09 01 37.5**	**+0.2**
KTK1				IAMs_20	IAMs_20	09 22 20.9	
	comp=Z,2µm,20.4s						
OOD	**Oodnadatta**	**64.83**	**185**	P	**P**	**08 52 58.8**	**+0.4**
MSF	**Maaselka**	**64.86**	**335**	P	**P**	**08 52 58.5**	**+0.2**
TULEG	**Thule**	**64.99**	**7**	P	**P**	**08 52 59.0**	**0.0**
TULEG	**Thule**	**64.99**	**7**	*i* P	**P**	**08 52 57.6**	**-1.3**
TULEG				IAmb	IAmb	08 52 59.5	
	comp=Z,188nm,1.7s						
OZB	**Mount Ozzard**	**65.03**	**47**	P	**P**	**08 53 00.6**	**+0.8**
OZB				IAmb	IAmb	08 53 02.5	
	comp=Z,78nm,1.6s						
AUWSH	**Wavell State H**	**65.18**	**168**	P	**P**	**08 53 01.7**	**+0.9**
NEEM	**North Greenlan**	**65.40**	**3**	*i* P	**P**	**08 53 00.9**	**-1.1**
NEEM				IAmb	IAmb	08 53 03.3	
	comp=Z,851nm,2.6s						
TRO	**Tromso**	**65.53**	**341**	*e*P	**P**	**08 53 02.4**	**-0.2**
TRO				IAmb	IAmb	08 53 03.4	
	comp=Z,52nm,1.0s						
TRO				*e*S	**S**	**09 01 46.8**	**+0.2**
TRO				IAMs_20	IAMs_20	09 27 53.0	
	comp=Z,2µm,13.8s						
DAG	**Danmarks Havn**	**65.62**	**355**	P	**P**	**08 53 02.3**	**-0.8**
DAG	**Danmarks Havn**	**65.62**	**355**	*i* P	**P**	**08 53 02.0**	**-1.1**
DAG				*i* P	**P**	**08 53 02.0**	**-1.1**
DAG				*i* P	**P**	**08 53 02.0**	**-1.1**
DAG				IAmb	IAmb	08 53 03.6	
	comp=Z,65nm,0.8s						
JOF	**Joensuu**	**65.76**	**332**	*e*P	**P**	**08 53 03.9**	**-0.3**
CLRS	**Cowichan Lake**	**65.89**	**46**	P	**P**	**08 53 06.1**	**+0.9**
CLRS				IAmb	IAmb	08 53 13.0	
	comp=Z,60nm,1.4s						
C03A	**Quillayute Air**	**66.06**	**47**	P	**P**	**08 53 07.7**	**+1.3**
NLWA	**Neilton Lookou**	**66.75**	**47**	P	**P**	**08 53 12.4**	**+1.6**
VALR	**Valaam**	**66.83**	**331**	*d i* P	**P**	**08 53 10.6**	**-0.4**
VALR				pmax	pmax		
	comp=Z,65nm,0.9s						
BRLDA	**Berland Lookou**	**66.85**	**39**	P	**P**	**08 53 12.2**	**+0.7**
MOS	**Moscow**	**67.04**	**323**	*e*P	**P**	**08 53 10.0**	**-2.5**
MOS				*e*		08 55 39.7	
MOS				*e*S	**S**	**09 02 01.7**	**-3.6**
MOS				pmax	pmax		
	comp=Z,153nm,1.7s						
MOS				pmax	pmax		
	comp=Z,400nm,2.0s						
MOS				MLR	MLR		
	comp=Z,2µm,14.0s						
GNW	**Green Mountain**	**67.27**	**47**	P	**P**	**08 53 15.6**	**+1.5**
GNW				IAmb	IAmb	08 53 17.5	
	comp=Z,73nm,1.4s						
LCRK	**Leigh Creek**	**67.32**	**183**	P	**P**	**08 53 15.5**	**+1.1**
E03A	**Lebam**	**67.36**	**48**	P	**P**	**08 53 16.4**	**+1.7**
E03A				IAmb	IAmb	08 53 17.8	
	comp=Z,113nm,1.5s						
VRH	**Novokhopyorsk**	**67.36**	**318**	*e*P	**P**	**08 53 12.7**	**-1.9**
VRH				pmax	pmax		
	comp=Z,80nm,0.7s						
VRH				MLR	MLR		
	comp=Z,3µm,14.0s						
MULG	**Mulgathing**	**67.43**	**187**	P	**P**	**08 53 15.9**	**+0.8**
STEI	**Steigen**	**67.68**	**341**	*e*P	**P**	**08 53 16.2**	**-0.1**
STEI				IAmb	IAmb	08 53 16.8	
	comp=Z,16nm,0.7s						
STEI				*e*S	**S**	**09 02 13.6**	**+0.9**
STEI				IAMs_20	IAMs_20	09 28 06.3	
	comp=Z,1µm,15.3s						
KULLO	**Kullorsuaq**	**67.86**	**5**	*i* P	**P**	**08 53 15.0**	**-2.3**
KULLO				IAmb	IAmb	08 53 24.0	
	comp=Z,68nm,1.3s						
OBN	**Obninsk**	**67.89**	**323**	LR	LR	09 25 53.2	
	comp=Z,956nm,18.3s,baz=40,slow=38						
OBN	**Obninsk**	**67.89**	**323**	*d i* P	**P**	**08 53 17.3**	**-0.5**
OBN				*e*		08 53 46.4	
OBN				*e*		08 55 50.6	
OBN				*i* S	**S**	**09 02 11.5**	**-3.9**
OBN				*i* SS	**SS**	**09 06 30.7**	**-5.6**
OBN				pmax	pmax		
	comp=Z,41nm,0.9s						
OBN				MLR	MLR		
	comp=Z,2µm,16.0s						
OBN	**Obninsk**	**67.89**	**323**	P	**P**	**08 53 16.7**	**-1.1**
	comp=Z,81nm,1.6s,comp=Z,1µm						
ARMA	**Armidale**	**67.94**	**170**	P	**P**	**08 53 19.5**	**+1.0**
ARMA	**Armidale**	**67.94**	**170**	P	**P**	**08 53 18.8**	**+0.3**
ARMA	**Armidale**	**67.94**	**170**	P	**P**	**08 53 19.4**	**+1.0**
	comp=Z,23nm,1.8s,SNR=3.7						
LOF	**Lofoten**	**67.98**	**341**	*e*P	**P**	**08 53 17.7**	**-0.5**
LOF				IAmb	IAmb	08 53 19.2	
	comp=Z,18nm,0.9s						
LOF				*e*S	**S**	**09 02 16.6**	**+0.4**
LOF				IAMs_20	IAMs_20	09 20 44.2	
	comp=Z,1µm,24.6s						
FAUS	**Fauske**	**68.07**	**340**	*e*P	**P**	**08 53 18.8**	**0.0**
FAUS				IAmb	IAmb	08 53 19.7	
	comp=Z,56nm,0.7s						
FAUS				*e*S	**S**	**09 02 17.4**	**+0.2**
FAUS				IAMs_20	IAMs_20	09 26 32.0	
	comp=Z,2µm,19.9s						
LPSR	**Galich'ya Gora**	**68.09**	**320**	*e*P	**P**	**08 53 17.8**	**-1.4**
LPSR				pmax	pmax		
	comp=Z,80nm,0.7s						
LPSR				MLR	MLR		
	comp=Z,4µm,19.0s						
G03D	**McMinnville, O**	**68.22**	**49**	P	**P**	**08 53 21.8**	**+1.7**
G03D				IAmb	IAmb	08 53 23.4	
	comp=Z,116nm,1.5s						
MAK	**Makhachkala**	**68.24**	**308**	*c i* P	**P**	**08 53 16.8**	**-3.5**
MAK				*e*		08 55 53.5	
MAK				*e*PPP	PPP	08 57 28.0	
MAK				*e*S	**S**	**09 02 18.8**	**-1.3**
MAK				*e*SS	**SS**	**09 06 42.6**	**+0.1**
MAK				pmax	pmax		
	comp=Z,157nm,1.5s						
MAK				MLR	MLR		
	comp=Z,2µm,13.0s						
VORR	**Voronezh**	**68.45**	**319**	*e*P	**P**	**08 53 20.9**	**-0.5**
VORR				pmax	pmax		
	comp=Z,120nm,1.0s						
CMSA	**Cobar Meteorol**	**68.48**	**176**	P	**P**	**08 53 22.7**	**+1.0**
CMSA	**Cobar Meteorol**	**68.48**	**176**	P	**P**	**08 53 22.8**	**+1.0**
	comp=Z,45nm,1.7s,SNR=4.1						
KEF	**Keuruu**	**68.60**	**333**	*e*P	**P**	**08 53 21.9**	**-0.3**
FIA1	**FINESS Array S**	**68.61**	**332**	P	**P**	**08 53 21.5**	**-0.8**
FINES	**FINESS Array B**	**68.61**	**332**	P	**P**	**08 53 22.2**	**-0.1**
FINES	**FINESS Array B**	**68.61**	**332**	P	**P**	**08 53 22.1**	**-0.2**
	comp=Z,46nm,0.7s,baz=60,slow=7.5,SNR=167						
FINES				LR	LR	09 25 37.1	
	comp=Z,1µm,19.1s,baz=32,slow=38						
	comp=Z,46nm,0.7s						
FINES	**FINESS Array B**	**68.61**	**332**	P	**P**	**08 53 22.2**	**-0.1**
STKA	**Stephens Creek**	**68.69**	**180**	P	**P**	**08 53 23.6**	**+0.6**
STKA	**Stephens Creek**	**68.69**	**180**	P	**P**	**08 53 22.7**	**-0.3**
STKA	**Stephens Creek**	**68.69**	**180**	P	**P**	**08 53 23.1**	**+0.1**
	comp=Z,5.0nm,1.6s,SNR=2.2						
STKA	**Stephens Creek**	**68.69**	**180**	P	**P**	**08 53 23.5**	**+0.6**
	comp=Z,8.2nm,0.8s,baz=347,slow=8.9,SNR=9.3						
STKA				LR	LR	09 22 56.8	
	comp=Z,720nm,21.3s,baz=353,slow=36						
	comp=Z,8.2nm,0.8s						
STKA	**Stephens Creek**	**68.69**	**180**	P	**P**	**08 53 22.7**	**-0.3**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FORT	**Forrest**	**68.70**	**192**	P	**P**	**08 53 23.6**	**+0.5**
FORT	**Forrest**	**68.70**	**192**	P	**P**	**08 53 23.1**	**0.0**
FORT				IAmb	IAmb	08 53 31.1	
	comp=Z,55nm,0.7s						
FORT	**Forrest**	**68.70**	**192**	P	**P**	**08 53 23.5**	**+0.4**
	comp=Z,94nm,0.8s,SNR=5.3						
VSR	**Storozhevoye**	**68.72**	**319**	*e*P	**P**	**08 53 22.0**	**-1.1**
VSR				pmax	pmax		
	comp=Z,60nm,0.6s						
VSR				MLR	MLR		
	comp=Z,4µm,15.0s						
VORD	**Divnogorie**	**68.79**	**318**	*e*P	**P**	**08 53 22.7**	**-0.8**
VORD				pmax	pmax		
	comp=Z,50nm,0.7s						
VORD				MLR	MLR		
	comp=Z,1µm,12.0s						
VAF	**Ylistaro**	**68.80**	**335**	*e*P	**P**	**08 53 23.4**	**0.0**
B08A	**Colville Reser**	**68.86**	**45**	P	**P**	**08 53 24.9**	**+0.7**
B08A				IAmb	IAmb	08 53 26.7	
	comp=Z,67nm,1.4s						
J01E	**Myrtle Point**	**68.87**	**51**	P	**P**	**08 53 25.6**	**+1.4**
HOOD	**Mount Hood Mea**	**69.13**	**49**	P	**P**	**08 53 27.5**	**+1.5**
H04A	**Detroit Lake**	**69.15**	**49**	P	**P**	**08 53 27.3**	**+1.3**
MOR8	**Moi Rana**	**69.18**	**340**	*e*P	**P**	**08 53 24.3**	**-1.4**
MOR8				IAmb	IAmb	08 53 25.4	
	comp=Z,69nm,0.7s						
MOR8				*e*S	**S**	**09 02 28.6**	**-1.9**
MOR8				IAMs_20	IAMs_20	09 24 03.1	
	comp=Z,1µm,17.5s						
KONS	**Konsvik**	**69.30**	**340**	*e*P	**P**	**08 53 26.0**	**-0.5**
KONS				IAmb	IAmb	08 53 27.4	
	comp=Z,32nm,0.9s						
KONS				*e*S	**S**	**09 02 35.0**	**+3.1**
AUDCS	**Dubbo College**	**69.39**	**173**	P	**P**	**08 53 28.3**	**+1.0**
STOK	**Stokkvaagen**	**69.45**	**340**	IAmb	IAmb	08 53 27.5	
	comp=Z,32nm,1.1s						
STOK				*e*P	**P**	**08 53 27.5**	**+0.1**
STOK				*e*S	**S**	**09 02 33.1**	**-0.6**
GOF	**Gofitskoye**	**69.88**	**312**	*ce*P	**P**	**08 53 30.7**	**+0.3**
ARBE	**Arbavere**	**69.93**	**331**	*e*P	**P**	**08 53 30.9**	**+0.4**
JMIC	**Jan Mayen**	**69.98**	**350**	*e*P	**P**	**08 53 33.0**	**+2.4**
MORW	**Morawa**	**69.99**	**203**	P	**P**	**08 53 30.7**	**-0.5**
	comp=Z,42nm,2.1s,SNR=2.4						
E08A	**Dider Farm, El**	**70.03**	**46**	P	**P**	**08 53 32.0**	**+0.7**
E08A				IAmb	IAmb	08 53 34.1	
	comp=Z,122nm,1.8s						
MEF	**Metsahovi**	**70.04**	**332**	*e*P	**P**	**08 53 30.6**	**-0.5**
JCC	**Jacoby Creek,**	**70.04**	**54**	P	**P**	**08 53 32.9**	**+1.4**
NEW	**Newport**	**70.15**	**44**	IAMs_20	IAMs_20	09 27 57.0	
	comp=Z,403nm,18.0s						
NEW	**Newport**	**70.15**	**44**	P	**P**	**08 53 33.2**	**+1.1**
	baz=304,SNR=23						
NEW				S	**S**	**09 02 42.5**	**-0.1**
	baz=304						
NEW	**Newport**	**70.15**	**44**	LR	LR	09 29 05.7	
	comp=Z,199nm,18.1s,baz=334,slow=40						
VSU	**Vasula**	**70.25**	**329**	*ce*P	**P**	**08 53 32.5**	**+0.1**
VSU				pmax	pmax		
	comp=Z,138nm,1.7s						
RAF	**Rauma**	**70.47**	**333**	*e*P	**P**	**08 53 34.1**	**+0.4**
SUMG	**Summit**	**70.55**	**360**	P	**P**	**08 53 35.1**	**+0.5**
SUMG	**Summit**	**70.55**	**360**	*i* P	**P**	**08 53 34.0**	**-0.6**
SUMG				IAmb	IAmb	08 53 36.0	
	comp=Z,85nm,1.1s						
JLN	**Jalan Bani Buh**	**70.65**	**283**	P	**P**	**08 53 36.0**	**+0.5**
JLN				P	**P**	**08 53 36.0**	**+0.5**
WSAR	**Wadi Sarin**	**70.67**	**285**	LR	LR	09 29 22.6	
	comp=Z,710nm,18.1s,baz=96,slow=40						
KBZ	**Khabaz**	**70.69**	**311**	P	**P**	**08 53 35.5**	**+0.2**
	comp=Z,43nm,0.8s,baz=52,slow=3.5,SNR=98						
KBZ				LR	LR	09 25 48.4	
	comp=Z,1µm,20.0s,baz=50,slow=37						
	comp=Z,43nm,0.8s						
KBZ	**Khabaz**	**70.69**	**311**	*de*P	**P**	**08 53 35.4**	**0.0**
KBZ				pmax	pmax		
	comp=Z,57nm,0.9s						
KIV	**Kislovodsk**	**70.69**	**311**	⇑P	**P**	**08 53 36.3**	**+0.8**
KIV	**Kislovodsk**	**70.69**	**311**	*i* P	**P**	**08 53 36.0**	**+0.5**
	SNR=15						
KIV	**Kislovodsk**	**70.69**	**311**	P	**P**	**08 53 35.7**	**+0.2**
KIV	

GNI	**Garni**	**71.49 307**	LR	LR	09 27 15.9	
	comp=Z,860nm,18.0s,baz=71,slow=38					
GNI	**Garni**	**71.49 307**	P	**P**	**08 53 41.0**	**+0.5**
GNI			P	**P**	**08 53 41.0**	**+0.5**
GNI	**Garni**	**71.49 307**	P	**P**	**08 53 41.1**	**+0.5**
GNI			pmax	pmax		
	comp=Z,90nm,1.4s					
GNI			MLR	MLR		
	comp=Z,1μm,22.0s					
GNI	**Garni**	**71.49 307**	P	**P**	**08 53 41.1**	**+0.5**
	comp=Z,30nm,0.8s,comp=Z,614nm					
JMDO	**Jabal Madar**	**71.55 284**	P	**P**	**08 53 40.4**	**-0.5**
JMDO			P	**P**	**08 53 40.4**	**-0.5**
UOSS	**Minazif**	**71.60 288**	*i* P	**P**	**08 53 41.5**	**+0.2**
	SNR=9.1					
UOSS	**Minazif**	**71.60 288**	P	**P**	**08 53 40.9**	**-0.4**
UOSS			P	**P**	**08 53 40.9**	**-0.4**
HATD	**Hatta, Dubai**	**71.72 288**	*i* P	**P**	**08 53 42.2**	**+0.2**
	SNR=13					
HATD	**Hatta, Dubai**	**71.72 288**	P	**P**	**08 53 42.2**	**+0.2**
	SNR=13					
SOHO	**SOHO**	**71.79 287**	*i* P	**P**	**08 53 42.3**	**-0.1**
	SNR=9.5					
SOHO	**SOHO**	**71.79 287**	P	**P**	**08 53 42.1**	**-0.3**
SOHO			P	**P**	**08 53 42.1**	**-0.3**
ASHO	**Ashiyiah**	**71.86 287**	*i* P	**P**	**08 53 42.6**	**-0.2**
	SNR=8.5					
ASHO	**Ashiyiah**	**71.86 287**	P	**P**	**08 53 42.2**	**-0.7**
	SNR=8.5					
ASHO			P	**P**	**08 53 42.2**	**-0.7**
	SNR=8.5					
BMO	**Blue Mountains**	**71.96 47**	P	**P**	**08 53 44.1**	**+0.8**
BMO			IAMs_20	IAMs_20	09 29 55.1	
	comp=Z,401nm,18.0s					
BMO	**Blue Mountains**	**71.96 47**	P	**P**	**08 53 44.1**	**+0.8**
BMO			pmax	pmax		
	comp=Z,26nm,0.9s					
BMO			MLR	MLR		
	comp=Z,400nm,18.0s					
BSY	**Bisya**	**72.04 285**	P	**P**	**08 53 44.0**	**0.0**
BSY			P	**P**	**08 53 44.0**	**0.0**
FAQ	**Al Faqa, Dubai**	**72.18 288**	*i* P	**P**	**08 53 44.4**	**-0.3**
	SNR=6.3					
FAQ	**Al Faqa, Dubai**	**72.18 288**	P	**P**	**08 53 44.7**	**-0.1**
FAQ			P	**P**	**08 53 44.7**	**-0.1**
ARQ	**Araqi**	**72.24 286**	P	**P**	**08 53 44.9**	**-0.3**
	SNR=6.5					
ARQ			P	**P**	**08 53 44.9**	**-0.3**
	SNR=6.5					
MNK	**Minsk**	**72.29 326**	*i* P	**P**	**08 53 42.4**	**-2.5**
MNK			*i*		08 54 00.3	
MNK			*i*		08 56 22.6	
MNK			*i* PPP	PPP	08 58 06.6	
MNK			*i* S	**S**	**09 03 05.8**	**-1.2**
MNK			*i*		09 03 48.7	
MNK			*i* SS	**SS**	**09 07 44.4**	**+0.4**
MNK			pmax	pmax		
	comp=Z,65nm,0.9s					
MNK			pmax	pmax		
	comp=E,12nm,0.9s					
MNK			pmax	pmax		
	comp=N,26nm,1.0s					
MNK			MLR	MLR		
	comp=Z,2μm,14.0s					
MNK			MLR	MLR		
	comp=E,523nm,14.0s					
MNK			MLR	MLR		
	comp=N,434nm,14.0s					
ORV	**Oroville**	**72.36 54**	P	**P**	**08 53 46.0**	**+0.5**
ORV			IAmb	IAmb	08 53 47.8	
	comp=Z,92nm,1.8s					
ORV	**Oroville**	**72.36 54**	P	**P**	**08 53 46.1**	**+0.5**
ORV			pmax	pmax		
	comp=Z,92nm,1.8s					
ISAL	**Salakas**	**72.37 327**	*e*P	**P**	**08 53 46.9**	**+1.5**
MHTO	**MHTO**	**72.41 283**	P	**P**	**08 53 46.3**	**+0.1**
MHTO			P	**P**	**08 53 46.3**	**+0.1**
ALNE	**Al Ain**	**72.43 287**	P	**P**	**08 53 46.4**	**+0.2**
ALNE			P	**P**	**08 53 46.4**	**+0.2**
ASUD	**Al Ashush, Dub**	**72.44 288**	*i* P	**P**	**08 53 46.4**	**+0.1**
	SNR=8.8					
ASUD	**Al Ashush, Dub**	**72.44 288**	P	**P**	**08 53 46.9**	**+0.6**
ASUD			P	**P**	**08 53 46.9**	**+0.6**
TBLU	**Trondheim**	**72.56 339**	*e*P	**P**	**08 53 45.6**	**-0.7**
TBLU			IAmb	IAmb	08 53 45.9	
	comp=Z,53nm,0.9s					
TBLU			*e*S	**S**	**09 03 09.3**	**-0.6**
SOC	**Sochi**	**72.68 312**	*e*P	**P**	**08 53 46.6**	**-0.8**
SOC			*e*		08 56 27.3	
SOC			*e*PPP	PPP	08 58 08.3	
SOC			*e*S	**S**	**09 03 13.8**	**+1.9**
SOC			*e*SS	**SS**	**09 07 48.1**	**-2.5**
SOC			*e*SSS	SSS	09 11 00.8	
SOC			pmax	pmax		
	comp=Z,24nm,0.6s					
SOC			MLR	MLR		
	comp=Z,2μm,20.0s					
MSO	**Missoula**	**72.74 44**	P	**P**	**08 53 48.6**	**+0.7**
	baz=306,SNR=20					
MSO			S	**S**	**09 03 13.1**	**+0.3**
	baz=306					
AFDM	**Forest Hills D**	**73.03 54**	P	**P**	**08 53 49.9**	**+0.2**
AFDM			IAmb	IAmb	08 53 52.3	
	comp=Z,72nm,1.8s					
OVMT	**Ovando**	**73.12 43**	P	**P**	**08 53 50.6**	**+0.4**
NWAO	**Narrogin (SRO)**	**73.23 201**	LR	LR	09 25 56.7	
	comp=Z,294nm,20.5s,baz=40,slow=36					
ANN	**Anapa**	**73.31 314**	*e*P	**P**	**08 53 49.5**	**-1.6**
ANN			*e*S	**S**	**09 03 17.3**	**-1.7**
ANN			pmax	pmax		
	comp=Z,109nm,1.6s					
ANN			MLR	MLR		
	comp=Z,834nm,15.0s					
PABE	**Paberze**	**73.33 328**	*e*P	**P**	**08 53 51.4**	**+0.3**
UMZA	**Um Al Zommool**	**73.62 286**	P	**P**	**08 53 52.8**	**-0.5**
UMZA			P	**P**	**08 53 52.8**	**-0.5**
FFC	**Flin Flon**	**73.68 33**	P	**P**	**08 53 53.7**	**+0.6**
FFC			pmax	pmax		
	comp=Z,107nm,1.4s					
DOMB	**Dombas**	**73.86 339**	*e*P	**P**	**08 53 54.2**	**+0.2**
DOMB			IAmb	IAmb	08 53 54.7	
	comp=Z,54nm,1.0s					
DOMB			*e*S	**S**	**09 03 28.4**	**+3.6**
DOMB			IAMs_20	IAMs_20	09 29 12.2	
	comp=Z,3μm,19.5s					
MOL	**Molde**	**73.87 340**	*e*P	**P**	**08 53 54.6**	**+0.5**
HFS	**Hagfors**	**73.89 336**	P	**P**	**08 53 54.4**	**+0.1**
	comp=Z,19nm,0.9s,baz=58,slow=6.1,SNR=38					
HFS			LR	LR	09 28 57.9	
	comp=Z,2μm,19.1s,baz=28,slow=38					
	comp=Z,19nm,0.9s					
FCC	**Fort Churchill**	**73.96 26**	P	**P**	**08 53 54.5**	**-0.1**
FCC			IAmb	IAmb	08 53 56.2	
	comp=Z,115nm,1.3s					
FCC	**Fort Churchill**	**73.96 26**	P	**P**	**08 53 54.5**	**-0.1**
FCC			pmax	pmax		
	comp=Z,115nm,1.3s					
NB2	**NORSAR Subarra**	**74.00 337**	P	**P**	**08 53 54.8**	**-0.1**
	comp=Z,313nm,2.0s,baz=39,slow=6.2					
NB2	**NORSAR Subarra**	**74.00 337**	P	**P**	**08 53 54.8**	**-0.1**
	baz=39,slow=6.2					
NOA	**NORSAR Array B**	**74.00 337**	P	**P**	**08 53 54.9**	**-0.1**
	comp=Z,22nm,0.8s,baz=39,slow=5.9,SNR=98					
NOA			LR	LR	09 28 49.2	
	comp=Z,2μm,21.6s,baz=40,slow=38					
	comp=Z,22nm,0.8s					
ICESG	**Greenland Ices**	**74.05 0**	*i* P	**P**	**08 53 54.9**	**-0.6**
ICESG			IAmb	IAmb	08 53 57.1	
	comp=Z,72nm,1.1s					
AKASG	**Malin Array Be**	**74.09 322**	P	**P**	**08 53 55.0**	**-0.6**
AKASG			IAmb	IAmb	08 53 55.8	
	comp=Z,44nm,0.8s					
AKASG	**Malin Array Be**	**74.09 322**	P	**P**	**08 53 55.1**	**-0.4**
	comp=Z,14nm,0.4s,baz=48,slow=6.0,SNR=143					
AKASG			LR	LR	09 28 45.4	
	comp=Z,1μm,19.6s,baz=46,slow=38					
	comp=Z,14nm,0.4s					
AKASG	**Malin Array Be**	**74.09 322**	P	**P**	**08 53 55.0**	**-0.6**
AKASG			pmax	pmax		
	comp=Z,44nm,0.8s					
AKBB	**Malin Array Si**	**74.09 322**	P	**P**	**08 53 55.0**	**-0.5**
AKBB			IAmb	IAmb	08 53 55.8	
	comp=Z,47nm,0.8s					
AKBB	**Malin Array Si**	**74.09 322**	P	**P**	**08 53 55.0**	**-0.5**
AKBB			pmax	pmax		
	comp=Z,47nm,0.8s					
KIEV	**Kiev**	**74.10 322**	⇑P	**P**	**08 53 55.6**	**-0.1**
KIEV	**Kiev**	**74.10 322**	P	**P**	**08 53 55.1**	**-0.6**
KIEV			IAmb	IAmb	08 53 55.8	
	comp=Z,42nm,0.8s					
KIEV	**Kiev**	**74.10 322**	*i* P	**P**	**08 53 54.9**	**-0.7**
	SNR=13					
KIEV	**Kiev**	**74.10 322**	P	**P**	**08 53 55.5**	**-0.1**
KIEV	**Kiev**	**74.10 322**	P	**P**	**08 53 54.6**	**-1.0**
	comp=Z,323nm,0.8s,comp=Z,4μm					
NC602	**NORSAR Array S**	**74.13 337**	*e*P	**P**	**08 53 55.3**	**-0.3**
NC602			IAmb	IAmb	08 53 55.7	
	comp=Z,37nm,1.1s					
NC602			*e*S	**S**	**09 03 26.5**	**-1.3**
NC602			IAMs_20	IAMs_20	09 28 45.8	
	comp=Z,1μm,16.3s					
JRN	**Qarnain Island**	**74.15 289**	P	**P**	**08 53 55.9**	**-0.4**
JRN			P	**P**	**08 53 55.9**	**-0.4**
EGMT	**Eagleton**	**74.28 41**	IAMs_20	IAMs_20	09 31 14.2	
	comp=Z,531nm,20.0s					
EGMT	**Eagleton**	**74.28 41**	P	**P**	**08 53 57.8**	**+0.9**
	baz=308,SNR=34					
HLID	**Hailey**	**74.41 47**	P	**P**	**08 53 59.2**	**+1.4**
	baz=307,SNR=34					
HLID			S	**S**	**09 03 33.7**	**+1.9**
	baz=307					
SUW	**Suwalki**	**74.68 327**	*e*P	**P**	**08 53 58.7**	**-0.2**
SUW			*e*S	**S**	**09 03 32.9**	**-1.3**
SUW			*e*L	L	09 23 39.0	
	comp=Z,878nm,29.0s					
SUW	**Suwalki**	**74.68 327**	*e*P	**P**	**08 53 58.9**	**-0.1**
MZR	**Muzera**	**74.75 287**	*i* P	**P**	**08 53 59.3**	**-0.6**
	SNR=10.0					
MZR	**Muzera**	**74.75 287**	P	**P**	**08 53 59.5**	**-0.4**
MZR			P	**P**	**08 53 59.5**	**-0.4**
BOZ	**Bozeman (W)**	**74.76 44**	IAMs_20	IAMs_20	09 30 43.1	
	comp=Z,537nm,18.0s					
BOZ	**Bozeman (W)**	**74.76 44**	P	**P**	**08 54 00.9**	**+1.1**
	baz=308,SNR=72					
BOZ			S	**S**	**09 03 34.8**	**-0.9**
	baz=308					
SOEG	**Soedalen**	**74.80 357**	*i* P	**P**	**08 53 59.1**	**-0.3**
SOEG			IAmb	IAmb	08 54 00.7	
	comp=Z,23nm,0.8s					
OSL	**Oslo**	**75.01 337**	*e*P	**P**	**08 54 01.0**	**+0.3**
OSL			IAmb	IAmb	08 54 01.4	
	comp=Z,68nm,1.1s					
OSL			*e*S	**S**	**09 03 38.4**	**+0.9**
MDPB	**Devils Postpil**	**75.01 54**	P	**P**	**08 54 02.5**	**+1.0**
LHV	**Little Huntoon**	**75.02 53**	P	**P**	**08 54 02.5**	**+1.4**
NVAR	**Mina Array Bea**	**75.04 53**	P	**P**	**08 54 03.0**	**+1.3**
	comp=Z,10nm,0.7s,baz=289,slow=5.6,SNR=88					
NVAR			LR	LR	09 25 39.5	
	comp=Z,156nm,18.2s,baz=319,slow=35					
	comp=Z,10nm,0.7s					
SHMA	**Al-Shehemyia**	**75.05 291**	P	**P**	**08 54 01.0**	**-0.5**
SIM	**Simferopol'**	**75.11 315**	*e*P	**P**	**08 54 01.8**	**+0.2**
SIM			*PP	**pP**	**08 54 07.0**	**+0.1**
SIM			*e*S	**S**	**09 03 38.0**	**-1.3**
SIM			pmax	pmax		
	comp=Z,46nm,0.8s					
SIM			pmax	pmax		
	comp=Z,113nm,8.8s					
SKAR	**Skarslia**	**75.16 338**	*e*P	**P**	**08 54 02.3**	**+0.6**
SKAR			IAmb	IAmb	08 54 02.8	
	comp=Z,48nm,1.1s					
SKAR			*e*S	**S**	**09 03 40.2**	**+0.8**
MLAC	**Mammoth, Mammo**	**75.17 54**	P	**P**	**08 54 04.2**	**+1.8**
	baz=306					
SAKB	**Bahrain**	**75.30 291**	P	**P**	**08 54 02.7**	**-0.4**
FOO	**Floro**	**75.35 340**	*e*P	**P**	**08 54 03.0**	**+0.4**
FOO			IAmb	IAmb	08 54 03.5	
	comp=Z,79nm,1.2s					
FOO			*e*S	**S**	**09 03 43.8**	**+2.5**
HYA	**Hoyanger**	**75.39 339**	IAmb	IAmb	08 54 04.2	
	comp=Z,307nm,2.0s					
HYA			*e*P	**P**	**08 54 04.8**	**+1.9**
HYA			*e*S	**S**	**09 03 39.3**	**-2.4**
HYA			IAMs_20	IAMs_20	09 25 33.4	
	comp=Z,1μm,27.9s					
TRNA	**Turayna**	**75.49 290**	P	**P**	**08 54 03.5**	**-0.6**
SLWR	**Sila**	**75.51 289**	P	**P**	**08 54 03.8**	**-0.5**
SLWR			P	**P**	**08 54 03.8**	**-0.5**
VOG	**Valley Oaks Go**	**75.57 55**	P	**P**	**08 54 05.4**	**+1.0**
	baz=306					
KBD	**Kabd**	**75.58 296**	P	**P**	**08 54 04.3**	**-0.3**
KONO	**Kongsberg**	**75.59 337**	*e*P	**P**	**08 54 04.7**	**+0.6**
KONO			IAmb	IAmb	08 54 06.2	
	comp=Z,24nm,0.9s					
KONO			*e*S	**S**	**09 03 42.0**	**-2.0**
KONO			*e*SS	**SS**	**09 08 38.4**	**+4.5**
KONO			IAMs_20	IAMs_20	09 29 17.4	
	comp=Z,2μm,21.4s					
KONO	**Kongsberg**	**75.59 337**	*ce*P	**P**	**08 54 04.2**	**+0.1**
KONO			pmax	pmax		
	comp=Z,71nm,2.5s					
SMMC	**Simmler**	**75.75 56**	P	**P**	**08 54 07.2**	**+1.7**
	baz=306					
SFJD	**Kangerlussuaq**	**75.77 5**	LR	LR	09 30 44.6	
	comp=Z,655nm,18.1s,baz=355,slow=38					
SMRA	**Abu-Samra**	**75.78 290**	P	**P**	**08 54 05.2**	**-0.6**
SUE	**Sulen**	**75.87 340**	IAmb	IAmb	08 54 06.5	
	comp=Z,55nm,1.1s					
SUE			*e*P	**P**	**08 54 07.5**	**+1.8**
SUE			*e*S	**S**	**09 03 44.0**	**-3.1**
TIN	**Tinemaha, Big**	**75.89 54**	P	**P**	**08 54 08.0**	**+1.5**
	baz=306					
YPP	**Pitchstone Pla**	**76.04 45**	P	**P**	**08 54 09.5**	**+2.1**
YPP			IAmb	IAmb	08 54 22.8	
	comp=Z,142nm,2.0s					
VES	**Vestal, Richgr**	**76.05 56**	P	**P**	**08 54 07.7**	**+0.5**
	baz=306,SNR=23					
MZP	**Montezuma Peak**	**76.06 53**	P	**P**	**08 54 07.9**	**+0.3**
LKWY	**Lake**	**76.09 44**	IAMs_20	IAMs_20	09 31 48.1	
	comp=Z,733nm,19.0s					
H17A	**Grant Village**	**76.09 45**	P	**P**	**08 54 10.6**	**+3.0**
	baz=309,SNR=53					
PKM	**Mcpherson Peak**	**76.12 57**	P	**P**	**08 54 09.5**	**+1.7**
	baz=306,SNR=8.2					
SORM	**Soroca**	**76.18 321**	⇑P	**P**	**08 54 07.4**	**-0.2**
SORM	**Soroca**	**76.18 321**	P	**P**	**08 54 07.4**	**-0.2**
SORM	**Soroca**	**76.18 321**	P	**P**	**08 54 06.9**	**-0.7**
	comp=Z,65nm,0.8s,comp=Z,977nm					
BER	**Bergen**	**76.27 339**	*e*P	**P**	**08 54 08.7**	**+0.8**
ODD1	**Odda**	**76.28 338**	*e*P	**P**	**08 54 09.0**	**+0.9**
ODD1			*e*S	**S**	**09 03 53.3**	**+1.5**
CWC	**Cottonwood Cre**	**76.35 55**	P	**P**	**08 54 10.0**	**+0.9**
	baz=306					
RLMT	**Red Lodge**	**76.36 43**	IAMs_20	IAMs_20	09 33 08.3	
	comp=Z,512nm,19.0s					
RLMT	**Red Lodge**	**76.36 43**	P	**P**	**08 54 10.6**	**+1.5**
	baz=309,SNR=24					
RAO	**Raoul Island**	**76.39 144**	LR	LR	09 21 32.5	
	comp=Z,436nm,20.0s,baz=52,slow=31					
SBC	**Santa Barbara**	**76.44 57**	P	**P**	**08 54 10.7**	**+1.3**
	baz=306					
DIKM	**Dikmen**	**76.47 312**	⇓P	**P**	**08 54 10.3**	**+0.8**
DIKM	**Dikmen**	**76.47 312**	P	**P**	**08 54 10.0**	**+0.5**
	comp=Z,52nm,0.7s,comp=Z,783nm					
GRAC	**Grapevine Rang**	**76.49 54**	P	**P**	**08 54 11.3**	**+1.6**
	baz=306,SNR=24					
DY2G	**Dye2**	**76.52 3**	*i* P	**P**	**08 54 08.6**	**-1.0**
DY2G			IAmb	IAmb	08 54 16.2	
	comp=Z,268nm,1.7s					
ISA	**Isabella, Lake**	**76.55 55**	P	**P**	**08 54 10.7**	**+0.6**
	baz=306,SNR=11					
DMTO	**DMTO**	**76.60 282**	P	**P**	**08 54 10.0**	**-0.6**
ARVC	**Arvin**	**76.63 56**	P	**P**	**08 54 11.6**	**+1.1**
	baz=306,SNR=5.4					
KIS	**Kishinev**	**76.68 319**	⇓*e*P	**P**	**08 54 10.0**	**-0.5**
KIS			*e*L	L	09 23 06.0	
KIS			LRM	MLR	09 30 59.0	
	comp=Z,1μm,16.0s					
KIS	**Kishinev**	**76.68 319**	*de*P	**P**	**08 54 10.0**	**-0.5**
KIS			MLR	MLR		
	comp=Z,1μm,17.0s					
KIS			MLR	MLR		
	comp=N,1μm,16.0s					
KIS			MLR	MLR		
	comp=E,600nm,15.0s					
FRB	**Frobisher Bay**	**76.68 13**	LR	LR	09 32 32.4	
	comp=E,642nm,18.1s,baz=348,slow=39					
DOK	**Doka**	**76.72 283**	P	**P**	**08 54 10.6**	**-0.6**
BLS5	**Blasjo**	**76.73 338**	*e*P	**P**	**08 54 08.9**	**-1.7**
MILM	**Milestii Mici**	**76.73 319**	⇓*i*P	**P**	**08 54 10.0**	**-0.8**
	comp=E,410nm,4.1s					
MILM	**Milestii Mici**	**76.73 319**	*e*PcP	**PcP**	**08 54 22.0**	**-0.1**
MILM	**Milestii Mici**	**76.73 319**	*e*PP	PP	08 57 01.0	-1.9
MILM			*e*S	**S**	**09 03 53.0**	**-4.1**
MILM	**Milestii Mici**	**76.73 319**	*d i*P	**P**	**08 54 10.0**	**-0.8**
MILM			*e*		08 54 22.0	
MILM			*e*		08 57 01.0	
MILM			*e*S	**S**	**09 03 53.0**	**-4.1**
MILM			*e*PS	**PnS**	**09 04 32.0**	**-3.5**
MILM			pmax	pmax		
	comp=Z,410nm,4.1s					
MILM			MLR	MLR		
	comp=Z,3μm,16.0s					
MILM			MLR	MLR		
	comp=N,2μm,15.5s					
MILM			MLR	MLR		
	comp=E,1μm,15.4s					
SCZ2	**Santa Cruz Isl**	**76.76 57**	P	**P**	**08 54 12.3**	**+1.0**
	baz=306					
DGMT	**Dagmar**	**76.84 38**	IAMs_20	IAMs_20	09 32 12.6	
	comp=Z,398nm,18.0s					
DGMT	**Dagmar**	**76.84 38**	P	**P**	**08 54 12.0**	**+0.5**
	baz=312,SNR=17					
MPMC	**Manual Prospec**	**76.96 55**	P	**P**	**08 54 13.6**	**+1.0**
	baz=307,SNR=28					
LAO	**LASA Array**	**76.98 41**	P	**P**	**08 54 13.4**	**+1.0**
LAO	**LASA Array**	**76.98 41**	P	**P**	**08 54 13.6**	**+1.2**
	baz=311,SNR=19					
OSI	**Osito Audit: C**	**77.00 56**	P	**P**	**08 54 14.2**	**+1.5**
	baz=306					
BZK	**Bozkurt**	**77.02 313**	⇓P	**P**	**08 54 13.2**	**+0.6**
BZK	**Bozkurt**	**77.02 313**	P	**P**	**08 54 12.6**	**+0.1**
BZK	**Bozkurt**	**77.02 313**	P	**P**	**08 54 12.6**	**+0.1**
	comp=Z,82nm,0.6s,comp=Z,754nm					
HOMB	**Homborsund**	**77.03 337**	*e*P	**P**	**08 54 12.1**	**-0.1**
HOMB			IAmb	IAmb	08 54 12.6	
	comp=Z,61nm,1.4s					
HOMB			*e*PP	**PP**	**08 57 05.5**	**+0.5**
HOMB			*e*S	**S**	**09 04 00.0**	**+0.2**
FURC	**Furnace Creek,**	**77.12 54**	P	**P**	**08 54 14.7**	**+1.5**
	baz=307,SNR=18					
LVV	**L'vov**	**77.17 324**	*e*P	**P**	**08 54 13.3**	**+0.1**
LVV			*e*		08 57 06.7	
LVV			*e*S	**S**	**09 03 58.5**	**-3.3**
LVV			*e*PS	**PnS**	**09 04 42.2**	**+1.3**
LVV			pmax	pmax		
	comp=Z,120nm,1.5s					
LVV			MLR	MLR		
	comp=N,2μm,16.0s					
LVV			MLR	MLR		
	comp=Z,3μm,16.0s					
LVV			MLR	MLR		
	comp=E,3μm,15.0s					
LRMC	**Laurel Mtn Rad**	**77.18 55**	P	**P**	**08 54 14.7**	**+0.9**
	baz=307,SNR=8.4					
TPNV	**Topopah Spring**	**77.23 53**	P	**P**	**08 54 15.2**	**+1.1**
	baz=307,SNR=39					
BEL	**Belsk**	**77.24 327**	*e*P	**P**	**08 54 14.3**	**+0.7**
BEL			*e*S	**S**	**09 04 04.7**	**+2.3**
BEL			*e*L	L	09 25 10.3	
	comp=E,975nm,22.8s					
BSD	**Bornholm Skovb**	**77.25 332**	*e*P	**P**	**08 54 13.6**	**0.0**
BSD	**Bornholm Skovb**	**77.25 332**	*i* P	**P**	**08 54 11.4**	**-2.2**
BSD			IAmb	IAmb	08 54 14.3	
	comp=Z,75nm,1.3s					
KMY	**Karmoy**	**77.26 338**	*e*P	**P**	**08 54 14.9**	**+1.3**
KMY			IAmb	IAmb	08 54 17.2	
	comp=Z,26nm,0.9s					
KMY			*e*S	**S**	**09 04 03.5**	**+1.2**
KMY			*e*SS	**SS**	**09 09 03.2**	**+4.1**
HWUT	**Hardware Ranch**	**77.26 47**	IAMs_20	IAMs_20	09 33 08.4	
	comp=Z,376nm,18.0s					
SNCC	**San Nicolas Is**	**77.27 58**	P	**P**	**08 54 14.3**	**+0.1**
	baz=306					
EDW2	**Edwards Air Fo**	**77.33 56**	P	**P**	**08 54 15.7**	**+1.2**
	baz=307,SNR=16					
DUG	**Dugway, Tooele**	**77.40 49**	IAMs_20	IAMs_20	09 33 34.0	
	comp=Z,371nm,18.0s					
DUG	**Dugway, Tooele**	**77.40 49**	P	**P**	**08 54 16.4**	**+1.5**
	baz=308,SNR=36					
DUG	**Dugway, Tooele**	**77.40 49**	P	**P**	**08 54 16.1**	**+1.2**
WHFO	**Wadi Hawf**	**77.40 283**	P	**P**	**08 54 14.4**	**-0.7**
DECC	**Green Verdugo**	**77.48 57**	P	**P**	**08 54 16.2**	**+0.9**
	baz=307					
BORG	**Borgarnes**	**77.49 352**	LR	LR	09 28 45.9	
	comp=Z,397nm,21.4s,baz=12,slow=36					
ANGG	**Ammassalik, Gr**	**77.54 360**	*i* P	**P**	**08 54 13.5**	**-1.5**
PASC	**Pasadena Art C**	**77.62 57**	IAMs_20	IAMs_20	09 25 11.3	
	comp=Z,394nm,19.0s					
BW06	**Boulder Array**	**77.69 45**	P	**P**	**08 54 17.3**	**+0.7**
	baz=310,SNR=27					
PDAR	**Pinedale Array**	**77.69 45**	P	**P**	**08 54 17.1**	**+0.5**
	comp=Z,8.6nm,0.7s,baz=268,slow=2.0,SNR=121					
	comp=Z,8.6nm,0.7s					
COP	**Copenhagen**	**77.73 333**	*i* P	**P**	**08 54 15.0**	**-1.2**
COP			IAmb	IAmb	08 54 17.4	
	comp=Z,117nm,1.1s					
GOET	**G??ttrup**	**77.78 335**	*i* P	**P**	**08 54 16.4**	**-0.1**
GOET			IAmb	IAmb	08 54 18.1	
	comp=Z,78nm,0.8s					
VLDR	**Vladesti**	**77.82 319**	⇓P	**P**	**08 54 17.5**	**+0.5**
FMP	**Fort Macarthur**	**77.82 57**	P	**P**	**08 54 18.4**	**+1.2**
	baz=307					
SHOC	**Shoshone, Teco**	**77.85 54**	P	**P**	**08 54 18.4**	**+1.1**
	baz=307					
GSC	**Goldstone, Bar**	**77.86 55**	P	**P**	**08 54 18.6**	**+1.1**
	baz=307,SNR=14					
TLCR		**77.86 318**	⇑P	**P**	**08 54 17.3**	**+0.1**
TLCR		**77.86 318**	P	**P**	**08 54 17.3**	**+0.1**
VARL	**Varlezi**	**77.91 319**	⇑P	**P**	**08 54 18.2**	**+0.8**
KWP	**Kalwaria Pacla**	**77.92 324**	*e*P	**P**	**08 54 18.0**	**+0.6**
KWP			*e*S	**S**	**09 04 12.0**	**+2.0**
KWP			*e*L	L	09 23 28.8	
	comp=Z,761nm,34.8s					
KWP	**Kalwaria Pacla**	**77.92 324**	P	**P**	**08 54 17.9**	**+0.4**
	comp=Z,127nm,1.9s,comp=Z,2μm					
CIS	**Catalina Islan**	**77.93 57**	P	**P**	**08 54 18.5**	**+0.7**
	baz=307					
BFSC	**Mount Baldy Ra**	**77.93 56**	P	**P**	**08 54 18.3**	**+0.3**
	baz=307,SNR=11					
RRX	**Edison Barstow**	**77.99 55**	P	**P**	**08 54 19.5**	**+1.3**
	baz=307					
GIUM	**Giurgiulesti**	**77.99 319**	⇓P	**P**	**08 54 18.4**	**+0.5**
BUR08	**Bucovina Ar. S**	**78.09 322**	P	**P**	**08 54 18.6**	**0.0**
SCI2	**San Clemente I**	**78.09 58**	P	**P**	**08 54 19.4**	**+0.7**
	baz=307					
ABTO	**Aybut**	**78.10 283**	P	**P**	**08 54 18.2**	**-0.9**
BURAR	**Bucovina Array**	**78.10 322**	⇓P	**P**	**08 54 19.2**	**+0.6**
BURAR	**Bucovina Array**	**78.10 322**	P	**P**	**08 54 18.9**	**+0.3**
BURAR	**Bucovina Array**	**78.10 322**	P	**P**	**08 54 18.9**	**+0.3**
JURR	**Jurilovca**	**78.11 318**	⇓P	**P**	**08 54 19.4**	**+0.9**
TESR	**Tescani**	**78.12 320**	⇓P	**P**	**08

MURC Murrieta 78.62 57 P **P 08 54 22.6 +0.9**
baz=307,SNR=8.8
BR131 Keskin Array S 78.63 311 P **P 08 54 21.8 0.0**
BR131 Keskin Array S 78.63 311 P **P 08 54 21.8 0.0**
BR131 pmax pmax
comp=Z,17nm,1.0s
BRTR Keskin Array B 78.63 311 P **P 08 54 21.5 -0.3**
BRTR Keskin Array B 78.63 311 P **P 08 54 21.6 -0.1**
comp=Z,7.3nm,0.6s,baz=97,slow=4.7,SNR=41
BRTR LR LR 09 33 53.9
comp=Z,656nm,18.2s,baz=60,slow=39
comp=Z,7.3nm,0.6s
BR106 Keskin Array S 78.64 311 P **P 08 54 21.7 -0.1**
comp=Z,10nm,0.7s,comp=Z,111nm
BR105 Keskin Array S 78.65 311 P **P 08 54 21.8 -0.1**
comp=Z,13nm,0.8s,comp=Z,131nm
HARR Harsova 78.66 318 ⇑P **P 08 54 21.8 +0.1**
HARR Harsova 78.66 318 P **P 08 54 21.7 +0.1**
TLBR Topalu 78.70 318 ⇑P **P 08 54 22.5 +0.7**
MFTR Murfatlar 78.74 317 ⇓P **P 08 54 22.2 +0.2**
TURR Turia 78.75 320 ⇑P **P 08 54 23.3 +1.1**
OJC Ojcow 78.83 326 *e*P **P 08 54 22.9 +0.4**
OJC *e*S **S 09 04 19.6 0.0**
OJC *e*L L 09 30 03.8
comp=Z,957nm,19.8s
OJC Ojcow 78.83 326 P **P 08 54 22.8 +0.3**
comp=Z,78nm,1.6s,comp=Z,1µm
OZUR 78.84 320 ⇑P **P 08 54 24.1 +1.4**
ARCR ARCALIA 78.89 322 ⇓P **P 08 54 23.8 +0.9**
GMRC Granite Mounta 78.92 55 P **P 08 54 24.7 +1.3**
baz=308,SNR=14
NEHR Nehoiu 79.03 319 ⇓P **P 08 54 24.6 +0.8**
ANTO Ankara 79.05 312 ⇑P **P 08 54 24.6 +0.7**
ANTO Ankara 79.05 312 P **P 08 54 24.6 +0.7**
ANTO Ankara 79.05 312 P **P 08 54 24.2 +0.2**
comp=Z,17nm,0.8s,comp=Z,270nm
RDMU Red Mountain 79.09 47 P **P 08 54 25.8 +1.4**
RDMU IAmb IAmb 08 54 27.1
comp=Z,150nm,1.5s
PFO Pinyon Flats O 79.11 56 P **P 08 54 25.6 +1.1**
baz=308,SNR=12
PFO Pinyon Flats O 79.11 56 LR LR 09 25 01.4
comp=Z,226nm,19.9s,baz=317,slow=32
ISR Istrita 79.11 319 ⇓P **P 08 54 25.4 +1.2**
ISR Istrita 79.11 319 P **P 08 54 25.3 +1.2**
ISR Istrita 79.11 319 P **P 08 54 24.9 +0.7**
comp=Z,59nm,0.8s,comp=Z,1µm
109C Camp Elliot, M 79.11 57 P **P 08 54 25.2 +0.8**
baz=307
TPFO Pinon Flats 79.11 56 P **P 08 54 25.3 +0.8**
baz=308,SNR=10
ICOR Ion Corvin 79.11 318 ⇑P **P 08 54 25.4 +1.3**
DOPR Dopca 79.13 320 ⇓P **P 08 54 25.2 +0.9**
MLR Muntele Rosu 79.17 320 ⇑P **P 08 54 25.7 +1.1**
MLR Muntele Rosu 79.17 320 LR LR 09 32 46.3
comp=Z,2µm,18.9s,baz=45,slow=38
MLR Muntele Rosu 79.17 320 P **P 08 54 25.7 +1.1**
MLR Muntele Rosu 79.17 320 P **P 08 54 24.4 -0.2**
comp=Z,22nm,1.6s,comp=Z,499nm
BELC Belle Mtn. Jos 79.17 56 P **P 08 54 25.4 +0.6**
baz=308,SNR=6.0
NIE Niedzica 79.18 325 *e*P **P 08 54 25.9 +1.4**
NIE *e*pP **sP 08 54 31.3 -0.4**
NIE *e*L L 09 33 17.2
NIE Niedzica 79.18 325 P **P 08 54 25.7 +1.2**
comp=Z,22nm,1.4s,comp=Z,408nm
K22A Casper 79.47 44 P **P 08 54 27.0 +0.7**
baz=311,SNR=15
ULM Lac du Bonnet 79.48 33 P **P 08 54 26.1 +0.1**
comp=Z,23nm,1.0s,baz=311,slow=6.0,SNR=12
ULM LR LR 09 32 17.6
comp=Z,259nm,18.2s,baz=334,slow=38
comp=Z,23nm,1.0s
MDND Maddock 79.50 37 P **P 08 54 27.4 +1.1**
baz=315,SNR=7.6
CJR Cluj-Napoca 79.52 322 ⇓P **P 08 54 27.4 +0.9**
CJR Cluj-Napoca 79.52 322 P **P 08 54 27.3 +0.9**
MONP2 Monument Peak 79.57 57 P **P 08 54 28.0 +0.9**
baz=308,SNR=12
NEE2 Needles Airpor 79.61 54 P **P 08 54 28.0 +1.0**
baz=308
IRM Iron Mountain 79.64 55 P **P 08 54 28.3 +1.1**
baz=308,SNR=6.5
VOIR 79.67 320 ⇑P **P 08 54 28.1 +0.8**
VOIR 79.67 320 P **P 08 54 28.0 +0.8**
VOIR 79.67 320 P **P 08 54 27.3 0.0**
comp=Z,13nm,1.2s,comp=Z,418nm
RUE Ruedersdorf 79.69 330 *e*P 08 54 27.6
baz=37,slow=5.2
RUE *e*pP 08 54 33.2
RWWY Rawlins 79.72 45 IAms_20 IAms_20 09 35 36.3
comp=Z,426nm,19.0s
BC3 Big Chuckawall 79.75 56 P **P 08 54 28.8 +0.9**
baz=308,SNR=7.3
LANS Liptovska Anna 79.75 325 *e*P **P 08 54 29.0 +1.4**
LANS pmax pmax
comp=Z,15nm,1.1s
LANS Liptovska Anna 79.75 325 *e*P **P 08 54 29.0 +1.4**
KECS Kecovo 79.77 324 *e*P **P 08 54 27.8 +0.2**
KECS pmax pmax
comp=Z,24nm,0.9s
KECS Kecovo 79.77 324 *e*P **P 08 54 27.8 +0.2**
MARR Marisel-Cluj 79.78 322 ⇑P **P 08 54 28.6 +0.8**
RSSD Black Hills 79.84 42 P **P 08 54 28.9 +0.5**
baz=313
OKC Ostrava-Krasne 79.84 327 *e*P **P 08 54 28.2 +0.2**
OKC AMS AMS 09 33 40.0
comp=Z,2µm,13.8s
OKC Ostrava-Krasne 79.84 327 *e*P **P 08 54 28.2 +0.2**
OKC MLR MLR
comp=Z,2µm,13.8s
BSEG Bad Segeberg 79.86 333 *e*P 08 54 28.0
comp=Z,18nm,0.9s,baz=37,slow=5.2
BSEG *e*pP 08 54 33.5
KSP Ksiaz 79.90 328 *e*P **P 08 54 28.8 +0.5**
KSP *e*pP **sP 08 54 34.3 -1.2**
KSP *e*S **S 09 04 31.7 +0.8**
KSP *e*L L 09 30 39.2
comp=Z,957nm,23.5s
KSP Ksiaz 79.90 328 P **P 08 54 28.5 +0.2**
comp=Z,53nm,1.1s,comp=Z,855nm
DRGR 79.90 322 ⇓P **P 08 54 29.0 +0.5**
DRGR 79.90 322 P **P 08 54 29.0 +0.5**
IKP In-Ko-Pah, Jac 79.92 57 P **P 08 54 30.0 +1.1**
baz=308,SNR=12
ARR Arges 79.93 320 ⇓P **P 08 54 30.1 +1.4**
SWSC Sam W. Stewart 79.95 56 P **P 08 54 29.9 +1.0**
baz=308
PRD Provadia 79.97 317 *i* P **P 08 54 29.1 +0.3**
NEF NEVSHA 79.97 317 *i* P **P 08 54 29.4 +0.6**
RMX La Rumorosa 79.97 57 P **P 08 54 29.9 +0.7**
RMX IAmb IAmb 08 54 32.2
comp=Z,124nm,1.7s
CCX Cicese 80.03 58 P **P 08 54 30.3 +1.0**
CCX IAmb IAmb 08 54 31.8
comp=Z,108nm,1.8s
O20A White River Ci 80.14 47 P **P 08 54 31.1 +1.0**
baz=311,SNR=19
MORC Moravsky Berou 80.15 327 ⇑P **P 08 54 30.7 +0.9**
MORC Moravsky Berou 80.15 327 *e*P **P 08 54 30.1 +0.4**
MORC Moravsky Berou 80.15 327 P **P 08 54 30.6 +0.9**
CHVC Chvalec 80.19 328 *e*P **P 08 54 30.1 +0.2**
CHVC *e*P **pP 08 54 30.6 -4.6**
CHVC AMS AMS 09 34 00.0
comp=Z,2µm,15.1s
CHVC Chvalec 80.19 328 *e*P **P 08 54 30.1 +0.2**
CHVC MLR MLR
comp=Z,2µm,15.1s
PDMCI Parker Dam,Lak 80.20 54 P **P 08 54 31.4 +1.2**
baz=308,SNR=9.4
DPC Dobruska-Polom 80.25 328 *e*P **P 08 54 30.7 +0.5**
DPC *e*S **S 09 04 34.6 -0.2**
DPC AMS AMS 09 34 20.0
comp=Z,3µm,13.7s
DPC Dobruska-Polom 80.25 328 *e*P **P 08 54 30.7 +0.5**
DPC *e*S **S 09 04 34.6 -0.2**
DPC MLR MLR
comp=Z,3µm,13.7s
DPC Dobruska-Polom 80.25 328 P **P 08 54 30.8 +0.5**
comp=Z,34nm,1.9s,comp=Z,753nm
KRLC Kraliky 80.26 327 *e*P **P 08 54 30.4 +0.1**
KRLC AMS AMS 09 34 30.0
comp=Z,2µm,13.8s
KRLC Kraliky 80.26 327 *e*P **P 08 54 30.4 +0.1**
KRLC MLR MLR
comp=Z,2µm,13.8s
UPC Upice 80.27 328 *e*P **P 08 54 31.0 +0.7**
UPC AMS AMS 09 34 20.0
comp=Z,2µm,12.8s
UPC Upice 80.27 328 *e*P **P 08 54 31.0 +0.7**
UPC MLR MLR
comp=Z,2µm,12.8s
LOT Lotru 80.31 321 ⇓P **P 08 54 31.2 +0.5**
MAUC Maruska 80.33 326 *e*P **P 08 54 30.4 -0.3**
RAR Rarotonga 80.38 126 LR LR 09 26 27.2
comp=Z,658nm,18.9s,baz=310,slow=33
PSZ Piszkesteto 80.45 324 ⇓P **P 08 54 32.3 +0.8**
PSZ Piszkesteto 80.45 324 P **P 08 54 32.2 +0.8**
VYHS Vyhne 80.52 325 *e*P **P 08 54 32.3 +0.6**
VYHS pmax pmax
comp=Z,32nm,1.1s
VYHS Vyhne 80.52 325 *e*P **P 08 54 32.3 +0.6**
GLA Glamis 80.53 56 P **P 08 54 33.5 +1.4**
baz=308,SNR=9.1
SZH Strazhitsa 80.67 318 *i* P **P 08 54 32.5 -0.1**
JAVC Velka Javorina 80.77 326 *e*P **P 08 54 34.3 +1.2**
FLTG Flechtingen 80.79 332 *e*P 08 54 32.8
comp=Z,20nm,0.8s,baz=37,slow=5.2
SIRR Siria 80.79 322 ⇑P **P 08 54 33.7 +0.5**
BRG Berggiesshubel 80.85 329 ⇓*i*P **P 08 54 33.7 +0.3**
BRG Amp 08 54 35.6
comp=Z,33nm,1.1s
BRG Berggiesshubel 80.85 329 P P 08 54 39.3 +5.9
BRG Amp 08 54 42.0
comp=Z,25nm,1.1s
BRG Berggiesshubel 80.85 329 ⇓*i*P **P 08 54 33.6 +0.3**
BRG 08 54 39.2
BRG S **S 09 04 41.0 +0.1**
BRG pmax pmax
comp=Z,33nm,1.1s
BRG MLR MLR
comp=E,1µm,15.4s
BRG MLR MLR
comp=N,2µm,16.2s
BRG MLR MLR
comp=Z,2µm,16.6s
BRG Berggiesshubel 80.85 329 *e*P 08 54 33.5
comp=Z,13nm,0.8s,baz=37,slow=5.2
BRG *e*pP 08 54 39.1
GZR Gura Zlata 80.85 321 ⇓P **P 08 54 33.8 +0.1**
GZR Gura Zlata 80.85 321 P **P 08 54 33.7 +0.1**
PVCC Panska Ves 80.86 329 *e*P **P 08 54 34.1 +0.7**
PVCC Panska Ves 80.86 329 *e*P **P 08 54 34.1 +0.7**
CLL Collm 80.89 330 ⇓*i*P **P 08 54 33.6 0.0**
CLL *i* *PP **pP 08 54 39.0 +0.1**
CLL *e*S **S 09 04 39.0 -2.4**
CLL pmax pmax
comp=Z,50nm,1.0s
CLL Collm 80.89 330 P **P 08 54 33.2 -0.4**
comp=Z,54nm,1.1s,comp=Z,826nm
JMB Yambol 80.89 317 *i* P **P 08 54 34.3 +0.5**
CLL Collm 80.89 330 *e*P 08 54 33.6
comp=Z,27nm,0.9s,baz=37,slow=5.2
VRAC Vranov 80.91 327 ⇑P **P 08 54 35.0 +1.2**
VRAC Vranov 80.91 327 *e*P **P 08 54 34.1 +0.3**
VRAC Vranov 80.91 327 LR LR 09 34 14.1
comp=Z,1µm,18.2s,baz=28,slow=38
VRAC Vranov 80.91 327 P **P 08 54 35.0 +1.2**
AGMN Agassiz Nation 80.92 35 IAms_20 IAms_20 09 35 43.4
comp=Z,430nm,20.0s
AGMN Agassiz Nation 80.92 35 P **P 08 54 33.6 -0.2**
baz=317,SNR=22
SURR Surduc 80.92 322 ⇓P **P 08 54 34.4 +0.6**
ELND Elena 80.95 318 ⇑P **P 08 54 34.3 +0.2**
N23A Red Feather La 80.96 45 P **P 08 54 36.1 +1.5**
baz=312,SNR=27
VLAD Vladila 80.99 319 ⇓P **P 08 54 34.3 0.0**
NRDL Niedersach Rie 81.08 332 *e*P 08 54 34.6
comp=Z,10nm,0.9s,baz=37,slow=5.2
SMOL Smolenice 81.14 326 *e*P **P 08 54 36.2 +1.2**
SMOL pmax pmax
comp=Z,20nm,1.0s
SRE Strehaia 81.15 320 ⇑P **P 08 54 36.2 +1.0**
SRE Strehaia 81.15 320 P **P 08 54 36.1 +1.0**
Y14A Wickenburg 81.17 54 P **P 08 54 36.1 +0.6**
Y14A IAmb IAmb 08 54 38.3
comp=Z,143nm,2.0s
KRUC Moravsky 81.19 327 *e*P **P 08 54 35.6 +0.4**
GOPC GO Pecny, Ondr 81.23 328 *e*P **P 08 54 36.3 +0.8**
GOPC AMS AMS 09 34 50.0
comp=Z,2µm,13.7s
GOPC GO Pecny, Ondr 81.23 328 *e*P **P 08 54 36.3 +0.8**
GOPC MLR MLR
comp=Z,2µm,13.7s
SRO Srobarova 81.25 325 *e*P **P 08 54 36.7 +1.1**
SRO pmax pmax
comp=Z,44nm,0.7s
SRO Srobarova 81.25 325 *e*P **P 08 54 36.6 +1.0**
PRA Prague 81.26 329 *e*P **P 08 54 36.6 +1.0**
PRA AMS AMS 09 35 00.0
comp=Z,2µm,14.8s
PRA Prague 81.26 329 *e*P **P 08 54 36.6 +1.0**
PRA MLR MLR
comp=Z,2µm,14.8s
HSKC Hora Svate Kat 81.26 329 *e*P **P 08 54 35.4 -0.2**
HSKC AMS AMS 09 33 20.0
comp=Z,2µm,16.2s
BZS Buzias 81.27 322 ⇓P **P 08 54 35.6 -0.1**
BZS Buzias 81.27 322 P **P 08 54 35.6 -0.1**
PRU Pruhonice 81.28 328 *e*P **P 08 54 36.2 +0.5**
PRU *e*S **S 09 04 45.7 +0.3**
PRU AMS AMS 09 35 00.0
comp=Z,2µm,13.8s
PRU Pruhonice 81.28 328 *e*P **P 08 54 36.2 +0.5**
PRU *e*S **S 09 04 45.7 +0.3**
PRU MLR MLR
comp=Z,2µm,13.8s
MODS Modra-Piesok 81.31 326 *e*P **P 08 54 37.0 +1.1**
MODS pmax pmax
comp=Z,474nm,2.6s
MODS Modra-Piesok 81.31 326 *e*P **P 08 54 37.0 +1.1**
HERR Herculane 81.39 321 ⇑P **P 08 54 36.6 +0.2**
113A Mohawk Valley, 81.40 55 P **P 08 54 37.5 +0.9**
113A IAmb IAmb 08 54 44.3
comp=Z,92nm,2.0s
TREC Trest 81.40 327 AMS AMS 09 35 00.0
comp=Z,2µm,14.1s
NEUB Neuenburg 81.46 331 *e*P 08 54 36.4
comp=Z,25nm,0.9s,baz=37,slow=5.2
CLZ Clausthal 81.50 332 *e*P 08 54 37.0
comp=Z,20nm,0.9s,baz=37,slow=5.2
ZST Bratislava 81.52 326 *e*P **P 08 54 37.8 +0.8**
ZST pmax pmax
comp=Z,264nm,2.0s
ZST Bratislava 81.52 326 *e*P **P 08 54 37.8 +0.8**
IVI Ivigtut 81.67 5 *i* P **P 08 54 36.3 -1.2**
IVI IAmb IAmb 08 54 38.2
comp=Z,40nm,1.2s
MMAI Mount Meron Ar 81.75 305 P **P 08 54 38.5 -0.1**
comp=Z,23nm,0.8s,baz=55,slow=7.2,SNR=24
MMAI LR LR 09 34 02.6
comp=Z,868nm,20.3s,baz=346,slow=38
comp=Z,23nm,0.8s
MPEP Malo Peshtene 81.79 319 *i* P **P 08 54 39.1 +0.6**
TANN Tannenbergstha 81.81 330 *e*P 08 54 38.2
comp=Z,4.4nm,0.9s,baz=37,slow=5.2
MDVR Moldovita 81.82 321 ⇓P **P 08 54 38.8 +0.1**
CSS Mathiatis 81.84 308 P **P 08 54 38.9 -0.1**
comp=Z,40nm,0.7s,comp=Z,752nm
ISCO Idaho Springs 81.88 46 IAms_20 IAms_20 09 38 10.5
comp=Z,457nm,19.0s
ISCO Idaho Springs 81.88 46 P **P 08 54 40.8 +1.3**
baz=312,SNR=20
GTTG Gottingen 81.89 332 *e*P 08 54 38.6
comp=Z,16nm,0.9s,baz=37,slow=5.2
MVCO Mesa Verde 81.89 49 IAms_20 IAms_20 09 36 17.4
comp=Z,351nm,19.0s
MVCO Mesa Verde 81.89 49 P **P 08 54 40.8 +1.2**
baz=311,SNR=29
MOX Moxa 81.96 330 *e*P 08 54 39.2
comp=Z,8.7nm,0.9s,baz=37,slow=5.2
MOX *e*L 09 38 23.3
comp=Z,1µm,18.1s
URZ Urewera 82.05 152 LR LR 09 26 55.7
comp=Z,376nm,20.6s,baz=36,slow=33
MPLH Magyarpolny 82.08 325 P **P 08 54 39.8 -0.2**
comp=Z,83nm,1.2s,comp=Z,2µm
PLD Plovdiv 82.09 318 *i* P **P 08 54 41.0 +0.9**
IBBN Ibbenburen 82.09 333 *e*P 08 54 39.7
comp=Z,28nm,0.8s,baz=37,slow=5.2
PGB Panagyurishte 82.14 318 *i* P **P 08 54 41.8 +1.3**
SUSD Miller 82.24 39 P **P 08 54 41.5 +0.6**
baz=316,SNR=6.3
RONA Rosalia, Austr 82.25 326 *i* P **P 08 54 41.9 +0.9**
comp=Z,32nm,0.9s,SNR=16
CKRC Cesky Krumlov 82.27 328 *e*S **S 09 04 56.3 +0.6**
CKRC AMS AMS 09 35 30.0
comp=Z,2µm,14.4s
CONA Conrad Observa 82.27 326 *i* P **P 08 54 41.9 +0.8**
comp=Z,28nm,1.1s,SNR=23
MORH Mrgy, Hungar 82.27 324 ⇓P **P 08 54 41.0 0.0**
MORH Mrgy, Hungar 82.27 324 P **P 08 54 40.4 -0.6**
comp=Z,17nm,2.0s,comp=Z,364nm
MANZ Manzenberg 82.28 330 *e*P 08 54 41.3
comp=Z,2.4nm,0.9s,baz=37,slow=5.2
KHC Kasperske Hory 82.34 328 *e*P **P 08 54 41.3 -0.1**
KHC *e*pP **PcP 08 54 46.7 +0.1**
KHC *e*PP **PP 08 57 48.0 -1.4**
KHC *e*S **S 09 04 55.2 -1.3**
KHC AMS AMS 09 35 30.0
comp=Z,2µm,14.0s
KHC Kasperske Hory 82.34 328 *e*P **P 08 54 41.3 -0.1**
KHC *e* 08 54 46.7
KHC *e*S **S 09 04 55.2 -1.3**
KHC MLR MLR
comp=Z,2µm,14.0s
KHC Kasperske Hory 82.34 328 P **P 08 54 41.3 -0.1**
comp=Z,39nm,1.0s,comp=Z,653nm
ROTZ Rotzenmuhle 82.41 329 *e*P 08 54 42.0
comp=Z,2.8nm,0.9s,baz=37,slow=5.2
UBBA Unterbreizbach 82.45 331 *e*P 08 54 41.5
baz=37,slow=5.2
FRGS Fruska Gora 82.49 322 ⇓P **P 08 54 42.6 +0.4**
FRGS Fruska Gora 82.49 322 P **P 08 54 42.2 0.0**
comp=Z,48nm,0.9s,comp=Z,772nm
W18A Petrified Fore 82.50 51 P **P 08 54 44.0 +1.4**
baz=311
GERES GERESS Array B 82.51 328 P **P 08 54 42.2 -0.1**
comp=Z,5.0nm,0.6s,baz=35,slow=4.9,SNR=16
GERES LR LR 09 35 37.1
comp=Z,1µm,19.3s,baz=32,slow=39
comp=Z,5.0nm,0.6s
GEC2 GERESS Array S 82.51 328 *e*P 08 54 42.6
comp=Z,10nm,0.9s,baz=37,slow=5.2
214A Organ Pipe Nat 82.54 56 P **P 08 54 43.7 +0.9**
baz=309,SNR=12
S22A 4UR Ranch, Cre 82.54 48 P **P 08 54 44.6 +1.6**
baz=312,SNR=34
VTS Vitosha 82.57 319 *i* P **P 08 54 43.9 +1.1**
WET Wettzell 82.62 329 *e*P 08 54 43.2
comp=Z,12nm,1.0s,baz=37,slow=5.2
BOVS Bovan 82.64 320 ⇑P **P 08 54 42.5 -0.5**
Q24A Divide 82.71 46 P **P 08 54 45.0 +1.1**
baz=313,SNR=6.8
GHAJ Ghor Haditha 82.72 304 IAms_20 IAms_20 09 35 41.0
comp=Z,680nm,18.0s
KASTN Kahler Asten 82.75 332 *e*P 08 54 43.0
comp=Z,11nm,1.0s,baz=37,slow=5.2
KASTN *e*pP 08 54 48.9
GRF Grafenberg Arr 82.87 330 *e*L 09 38 35.1
comp=Z,594nm,19.0s
ARSA Arzberg 82.93 326 *i* P **P 08 54 44.7 +0.2**
comp=Z,16nm,1.1s,SNR=9.0
EKA Eskdalemuir Ar 82.95 340 P **P 08 54 44.4 +0.1**
comp=Z,8.4nm,0.8s,baz=25,slow=4.9,SNR=14
comp=Z,8.4nm,0.8s
MOA Molln 83.03 327 *i* P **P 08 54 45.9 +0.9**
comp=Z,26nm,1.2s,SNR=8.1
OGNE Ogallala 83.10 43 P **P 08 54 45.9 +0.4**
OGNE IAms_20 IAms_20 09 34 34.5
comp=Z,377nm,19.0s
OGNE Ogallala 83.10 43 P **P 08 54 46.2 +0.6**
baz=314
EYMN Ely 83.12 33 P **P 08 54 45.4 0.0**
EYMN Ely 83.12 33 IAms_20 IAms_20 09 35 09.3
comp=Z,375nm,21.0s
EYMN Ely 83.12 33 P **P 08 54 45.5 +0.1**
baz=320,SNR=38
KKB Krupnik 83.17 318 *i* P **P 08 54 46.7 +0.9**
KOGS Kog 83.21 325 *i* P **P 08 54 45.7 -0.2**
SDCO Great Sand Dun 83.32 47 IAms_20 IAms_20 09 37 41.8
comp=Z,346nm,19.0s
SDCO Great Sand Dun 83.32 47 P **P 08 54 48.4 +1.3**
baz=313,SNR=28
PEHC Pehcevo 83.33 318 *i* P **P 08 54 46.5 -0.3**
BIOA Bad Ischl, Aus 83.42 327 *i* P **P 08 54 47.4 +0.4**
comp=Z,16nm,0.6s,SNR=8.9
TNS Taunus Mts 83.53 332 *e*P 08 54 47.5
comp=Z,5.2nm,0.9s,baz=37,slow=5.2
SOKA Soboth 83.59 326 *i* P **P 08 54 47.9 0.0**
comp=Z,46nm,1.1s,SNR=36
TUC Tucson 83.64 54 IAms_20 IAms_20 09 38 18.3
comp=Z,318nm,19.0s
TUC Tucson 83.64 54 P **P 08 54 49.5 +1.0**
baz=310
RJOB Jochberg 83.75 328 *e*P 08 54 48.9
comp=Z,18nm,0.8s,baz=37,slow=5.2
AHRW Bad Neuenahr-A 83.78 333 *e*P 08 54 48.6
comp=Z,13nm,1.0s,baz=37,slow=5.2
VAY Valandovo 83.83 318 *i* P **P 08 54 49.3 +0.2**
ECSD EROS Data Cent 83.92 38 IAms_20 IAms_20 09 38 05.9
comp=Z,374nm,19.0s
ECSD EROS Data Cent 83.92 38 P **P 08 54 49.8 +0.2**
baz=317,SNR=38
OBKA Obir 83.93 326 *i* P **P 08 54 49.9 +0.2**
comp=Z,12nm,1.1s
SKO Skopje 83.96 319 *i* P **P 08 54 50.8 +0.9**
KBA Koelnbreinsper 84.02 327 *e*P **P 08 54 50.1 -0.2**
comp=Z,21nm,0.9s,SNR=15
LESA Schwarzleotal 84.04 328 *i* P **P 08 54 50.6 +0.3**
comp=Z,26nm,1.1s
FUR Furstenfeldbru 84.05 329 *e*P 08 54 50.4
comp=Z,35nm,0.8s,baz=37,slow=5.2
BTNL Ternell 84.09 333 *d*P **P 08 54 49.8 -0.5**
comp=Z,12nm,1.0s
KSCO Kaye Shedlock' 84.11 45 P **P 08 54 51.4 +0.5**
KSCO Kaye Shedlock' 84.11 45 P **P 08 54 51.5 +0.7**
baz=314,SNR=7.1
MEM Membach 84.11 333 *d*P **P 08 54 50.2 -0.2**
comp=Z,15nm,0.8s
E38A The Farm, Brul 84.12 33 P **P 08 54 50.5 -0.1**
EIL Elat 84.16 303 LR LR 09 34 52.3
comp=Z,594nm,19.9s,baz=66,slow=38
MYKA Terra Mystica 84.24 327 *i* P **P 08 54 50.7 -0.5**
comp=Z,15nm,1.2s,SNR=7.6
BSTI Sart Tilman 84.29 333 *d*P **P 08 54 51.7 +0.3**
LJU Ljubljana 84.30 326 *i* P **P 08 54 51.1 -0.4**
LJU *e*S **SKSac 09 05 10.4 -4.0**
BHOU Houvegnez 84.32 333 *d*P **P 08 54 51.8 +0.3**
T25A Trinidad 84.37 47 P **P 08 54 53.5 +1.2**
baz=313,SNR=23
BOJS Bojanci 84.38 325 *e*P **P 08 54 51.5 -0.3**
STU Stuttgart 84.41 330 *e*P 08 54 52.2
comp=Z,60nm,0.9s,baz=37,slow=5.2
BCLA Clavier 84.52 333 *d*P **P 08 54 52.0 -0.5**
CEY Cerknica 84.58 326 *i* P **P 08 54 52.3 -0.7**
CEY *e*PP **PP 08 58 14.6 +6.9**
WATA Walderalm 84.58 328 *i* P **P 08 54 53.1 0.0**
comp=Z,9.4nm,0.8s
WTTA Wattenberg 84.61 328 *i* P **P 08 54 53.0 -0.3**
comp=Z,16nm,1.3s,SNR=6.3
SPMN Marine on St. 84.62 35 P **P 08 54 53.2 +0.2**
baz=320,SNR=11
BGES Gesves 84.63 334 *d*P **P 08 54 53.2 +0.1**
ANMO Albuquerque 84.63 50 IAms_20 IAms_20 09 37 58.6
comp=Z,400nm,18.0s
ANMO Albuquerque 84.63 50 P **P 08 54 55.1 +1.5**
baz=312
ANMO Albuquerque 84.63 50 *d i* P **P 08 54 54.2 +0.6**
ANMO pmax pmax
comp=Z,13nm,1.1s
ABTA Abfaltersbach 84.64 327 *i* P **P 08 54 52.4 -0.9**
comp=Z,13nm,1.0s,SNR=6.1
MOTA Moosalm 84.77 329 *i* P **P 08 54 54.2 +0.2**
comp=Z,28nm,1.4s
RCHB Rochefort 84.77 333 *d*P **P 08 54 52.8 -1.0**
RETA Reutte 84.80 329 *i* P **P 08 54 54.3 +0.3**
comp=Z,38nm,1.0s,SNR=13
BMRD Maredsous 84.81 334 *d*P **P 08 54 53.6 -0.3**
comp=Z,17nm,1.4s
SQTA Sankt Quirin 84.82 328 *i* P **P 08 54 54.6 +0.3**
comp=Z,7.3nm,0.8s
BGNE Belgrade 84.83 41 P **P 08 54 54.6 +0.3**
baz=317,SNR=5.4
WLF Walferdange 84.84 333 *d*P **P 08 54 54.4 +0.2**
PPT Papeete 84.85 116 LR LR 09 29 27.2
comp=Z,414nm,18.9s,baz=307,slow=33

UBR Ueberruh 84.91 329 *e*P 08 54 54.7
baz=37,slow=5.2
OHR Ohrid 84.92 319 *i* P **P** 08 54 55.0 +0.2
Y22D IRIS PASSCAL I 84.93 51 IAMs_20 IAMs_20 09 36 51.6
comp=Z,300nm,18.0s
Y22D IRIS PASSCAL I 84.93 51 P **P** 08 54 56.3 +1.2
baz=312
RPZ Rata Peaks 84.95 159 LR LR 09 26 49.9
comp=Z,717nm,21.5s,baz=308,slow=31
KIJV Kijevo 84.98 323 *i* P **P** 08 54 54.8 -0.1
RICI Ricice 85.01 323 *i* P **P** 08 54 54.3 -0.8
DOU Dourbes 85.04 334 *d*P **P** 08 54 55.0 -0.2
BFO Black Forest 85.10 331 P **P** 08 54 55.4 -0.1
BFO IAmb IAmb 08 54 56.8
comp=Z,36nm,0.9s
BFO Black Forest 85.10 331 P **P** 08 54 55.4 -0.1
BFO pmax pmax
comp=Z,36nm,0.9s
BFO Black Forest 85.10 331 *e*P 08 54 55.6
comp=Z,26nm,0.9s,baz=37,slow=5.2
BFO *e*pP 08 55 01.6
FETA Feichten 85.18 329 *i* P **P** 08 54 56.0 -0.1
comp=Z,18nm,1.0s,SNR=8.5
319A Douglas 85.22 54 P **P** 08 54 57.1 +0.6
319A IAmb IAmb 08 54 59.1
comp=Z,109nm,1.7s
MAKA Makarska 85.22 323 *i* P **P** 08 54 55.3 -0.8
KARP Karpathos 85.25 312 P **P** 08 54 56.1 -0.3
KARP IAMs_20 IAMs_20 09 40 16.6
comp=Z,459nm,19.0s
KARP Karpathos 85.25 312 P **P** 08 54 56.2 -0.3
comp=Z,91nm,0.9s,comp=Z,2μm
SCHQ Schefferville 85.25 16 P **P** 08 54 56.5 +0.4
comp=Z,23nm,0.9s,baz=356,slow=5.5,SNR=20
SCHQ LR LR 09 35 26.0
comp=Z,426nm,19.4s,baz=348,slow=37
comp=Z,23nm,0.9s
DAVA Damuels 85.32 329 *i* P **P** 08 54 56.7 -0.1
comp=Z,38nm,1.0s,SNR=13
121A Cookes Peak, D 85.41 52 P **P** 08 54 59.0 +1.4
baz=312,SNR=22
MORI Morici 85.41 324 *i* P **P** 08 54 56.4 -0.7
DUGI Dugi Otok 85.62 324 *i* P **P** 08 54 56.8 -1.4
SANT Santorini 85.69 313 IAMs_20 IAMs_20 09 35 27.2
comp=Z,678nm,22.0s
DAVOX Davos/Dischmat 85.72 329 LR LR 09 36 49.0
comp=Z,2μm,18.3s,baz=336,slow=38
CBKS Cedar Bluff 85.85 43 P **P** 08 54 59.2 -0.2
baz=316
TUE Stuetta 86.19 329 P **P** 08 55 00.5 -0.7
comp=Z,67nm,1.4s
F42A Maple Grove Fa 86.26 32 P **P** 08 55 01.4 +0.1
R32A Long Quarter, 86.69 43 P **P** 08 55 02.6 -1.0
R32A IAmb IAmb 08 55 04.8
comp=Z,80nm,1.9s
IDI Anoyia 86.77 313 LR LR 09 39 25.6
comp=Z,387nm,18.8s,baz=18,slow=40
SCIA State Center 86.94 37 IAMs_20 IAMs_20 09 37 46.9
comp=Z,401nm,21.0s
SCIA State Center 86.94 37 P **P** 08 55 05.7 +1.0
baz=320,SNR=8.1
SENIN Lac Senin/Sane 87.11 330 P **P** 08 55 05.2 -0.5
ITM Ithomi 87.13 316 P **P** 08 55 04.8 -1.0
ZCCA Zocca 87.19 327 P **P** 08 55 07.0 +1.1
ZCCA IAmb IAmb 08 55 28.9
comp=Z,52nm,1.3s
FDMO Fiordimonte 87.27 325 P **P** 08 55 06.4 +0.1
FDMO IAmb IAmb 08 55 12.9
comp=Z,68nm,1.3s
KSU1 Kansas State U 87.32 41 IAMs_20 IAMs_20 09 35 05.2
comp=Z,307nm,19.0s
KSU1 Kansas State U 87.32 41 P **P** 08 55 06.8 +0.2
baz=318,SNR=7.7
MNTX Cornudas Mount 87.48 52 P **P** 08 55 08.3 +0.7
baz=313,SNR=11
MSTX Muleshoe 87.52 48 P **P** 08 55 08.0 +0.2
baz=314
AMTX Amarillo 87.53 47 P **P** 08 55 08.7 +0.9
baz=315
JFWS Jewell Farm 87.57 35 IAMs_20 IAMs_20 09 37 21.3
comp=Z,490nm,19.0s
JFWS Jewell Farm 87.57 35 P **P** 08 55 07.7 -0.1
baz=322,SNR=8.2
ELIS Ellis County 87.99 45 P **P** 08 55 10.6 +0.6
TIP Timpagrande 88.43 320 P **P** 08 55 11.4 -0.6
comp=Z,16nm,1.1s,comp=Z,406nm
GLMI Grayling 88.48 31 IAMs_20 IAMs_20 09 33 11.2
comp=Z,440nm,19.0s
GLMI Grayling 88.48 31 P **P** 08 55 13.1 +1.1
baz=325,SNR=14
OK048 Pawnee Station 89.11 43 IAMs_20 IAMs_20 09 40 58.8
comp=Z,458nm,18.0s
L44A Lake County Fo 89.21 34 IAMs_20 IAMs_20 09 34 19.7
comp=Z,353nm,20.0s
L44A Lake County Fo 89.21 34 P **P** 08 55 15.5 0.0
baz=323
LPIG La Paz 89.27 60 LR LR 09 30 21.8
comp=Z,119nm,18.6s,baz=310,slow=32
WMOK Wichita Mounta 89.31 45 IAMs_20 IAMs_20 09 40 49.1
comp=Z,550nm,19.0s
WMOK Wichita Mounta 89.31 45 P **P** 08 55 16.7 +0.6
baz=316,SNR=20
OK052 Battle Ridge R 89.50 43 IAMs_20 IAMs_20 09 41 08.0
comp=Z,403nm,19.0s
HQIL Hanson Quary C 89.54 34 IAMs_20 IAMs_20 09 33 15.4
comp=Z,336nm,20.0s
CEL Celeste 89.57 320 P **P** 08 55 16.4 -0.9
comp=Z,43nm,1.0s,comp=Z,462nm
ATD Arta Tunnel 89.67 284 IAMs_20 IAMs_20 09 42 17.3
comp=Z,390nm,19.0s
ATD Arta Tunnel 89.67 284 LR LR 09 41 16.6
comp=Z,9.5nm,18.6s,baz=28,slow=40
SLBS Sierra La Lagu 89.79 60 IAMs_20 IAMs_20 09 27 55.8
comp=Z,495nm,19.0s
HDIL Hopedale 89.86 36 IAMs_20 IAMs_20 09 38 44.0
comp=Z,445nm,20.0s
HDIL Hopedale 89.86 36 P **P** 08 55 18.8 +0.2
baz=322
TUL3 Leonard 90.11 43 IAMs_20 IAMs_20 09 43 01.2
comp=Z,317nm,18.0s
TUL3 Leonard 90.11 43 P **P** 08 55 20.5 +0.7
baz=318,SNR=14
TXAR Lajitas Array 90.17 52 P **P** 08 55 21.1 +0.7
comp=Z,8.1nm,0.7s,baz=302,slow=3.0,SNR=156
TXAR PP **PP** 08 58 53.4 0.0
comp=Z,1.2nm,1.1s,baz=285,slow=3.5,SNR=1.8
comp=Z,8.1nm,0.7s
ABTX Abilene, Hawle 90.32 47 P **P** 08 55 21.7 +0.8
baz=316,SNR=18
SADO Sadowa 90.66 27 LR LR 09 40 38.1
comp=Z,545nm,19.3s,baz=50,slow=39
CCM Cathedral Cave 90.86 39 IAMs_20 IAMs_20 09 41 55.8
comp=Z,357nm,20.0s
CCM Cathedral Cave 90.86 39 P **P** 08 55 23.7 +0.4
baz=321
VAE Valguarnera 90.92 320 LR LR 09 40 38.8
comp=Z,1μm,18.3s,baz=37,slow=38
AAM Ann Arbor 90.96 32 IAMs_20 IAMs_20 09 42 25.7
comp=Z,505nm,19.0s
AAM Ann Arbor 90.96 32 P **P** 08 55 23.8 +0.2
baz=326
SFIN Lafayette 91.02 35 P **P** 08 55 24.1 +0.2
baz=324,SNR=5.1
LMQ La Malbaie 91.07 21 IAMs_20 IAMs_20 09 39 32.3
comp=Z,397nm,19.0s
JCT Junction City 91.76 49 IAMs_20 IAMs_20 09 42 19.3
comp=Z,280nm,18.0s
JCT Junction City 91.76 49 P **P** 08 55 28.2 +0.5
baz=316,SNR=10
OLIL Olney 91.86 36 IAMs_20 IAMs_20 09 42 01.4
comp=Z,417nm,20.0s
O48B Farmland 91.99 34 IAMs_20 IAMs_20 09 39 38.2
comp=Z,563nm,20.0s
O48B Farmland 91.99 34 P **P** 08 55 28.9 +0.4
baz=325,SNR=9.3
WHTX Lake Whitney, 92.06 47 P **P** 08 55 29.4 +0.5
baz=317,SNR=11
H06N1 SOCORRO T-PHAS 92.18 64 T T 10 37 38.8
SNR=51
MIAR Mount Ida 92.33 42 P **P** 08 55 30.9 +0.7
baz=319,SNR=21
LONY Lake Ozonia 92.39 25 P **P** 08 55 30.3 0.0
baz=332
ERPA Erie 92.60 29 IAMs_20 IAMs_20 09 39 41.0
comp=Z,457nm,19.0s
ERPA Erie 92.60 29 P **P** 08 55 31.9 +0.7
baz=328

CEST Esterri de Car 92.62 332 IAMs_20 IAMs_20 09 42 58.6
comp=Z,1μm,19.0s
P49A Miami Univ. Ec 92.77 34 IAMs_20 IAMs_20 09 40 12.0
comp=Z,535nm,20.0s
P49A Miami Univ. Ec 92.77 34 P **P** 08 55 32.4 +0.2
baz=325,SNR=5.9
435B Jarrell 92.86 47 IAMs_20 IAMs_20 09 43 26.4
comp=Z,296nm,19.0s
435B Jarrell 92.86 47 P **P** 08 55 33.2 +0.5
baz=317
M53A WI Miller and 92.90 30 IAMs_20 IAMs_20 09 36 02.0
comp=Z,456nm,20.0s
M53A WI Miller and 92.90 30 P **P** 08 55 33.2 +0.5
baz=328
ACSO Alum Creek Sta 92.95 32 IAMs_20 IAMs_20 09 43 28.6
comp=Z,369nm,18.0s
ACSO Alum Creek Sta 92.95 32 P **P** 08 55 33.3 +0.3
baz=326
F63A Nahmakanta, Br 93.10 21 IAMs_20 IAMs_20 09 41 19.0
comp=Z,591nm,20.0s
WCI Wyandotte Cave 93.12 36 IAMs_20 IAMs_20 09 40 52.2
comp=Z,368nm,18.0s
WCI Wyandotte Cave 93.12 36 P **P** 08 55 34.1 +0.4
baz=324
VT1 Waterbury 93.24 24 IAMs_20 IAMs_20 09 37 19.7
comp=Z,625nm,21.0s
PKME Peaks-Kenny Pk 93.45 21 P **P** 08 55 35.5 +0.4
baz=336,SNR=8.6
833A Chaparral WMA, 93.55 50 P **P** 08 55 36.9 +1.0
baz=316,SNR=5.6
LBNH Lisbon 93.59 23 IAMs_20 IAMs_20 09 37 06.6
comp=Z,397nm,20.0s
LBNH Lisbon 93.59 23 P **P** 08 55 36.1 +0.3
baz=334
O53A New Philadelph 93.68 31 IAMs_20 IAMs_20 09 43 41.8
comp=Z,516nm,18.0s
O53A New Philadelph 93.68 31 P **P** 08 55 36.0 -0.3
baz=328
P52A Corning 93.81 32 IAMs_20 IAMs_20 09 42 11.4
comp=Z,548nm,19.0s
P52A Corning 93.81 32 P **P** 08 55 36.5 -0.4
baz=327
NATX Nacogdoches 93.83 45 IAMs_20 IAMs_20 09 45 15.8
comp=Z,358nm,19.0s
NATX Nacogdoches 93.83 45 P **P** 08 55 37.8 +0.7
baz=319
HNH Hanover 93.95 24 IAMs_20 IAMs_20 09 42 34.3
comp=Z,471nm,18.0s
BINY Binghamton 94.03 27 IAMs_20 IAMs_20 09 42 02.7
comp=Z,531nm,20.0s
BINY Binghamton 94.03 27 P **P** 08 55 38.0 +0.1
baz=331
WVT Waverly 94.06 38 P **P** 08 55 38.0 -0.1
baz=323
FURI Furi 94.51 285 IAMs_20 IAMs_20 09 43 00.6
comp=Z,591nm,21.0s
FURI Furi 94.51 285 LR LR 09 43 11.8
comp=Z,422nm,19.8s,baz=23,slow=39
OXF Oxford 94.55 40 IAMs_20 IAMs_20 09 44 20.5
comp=Z,408nm,19.0s
OXF Oxford 94.55 40 P **P** 08 55 40.3 -0.1
baz=322
SSPA Standing Stone 94.68 29 IAMs_20 IAMs_20 09 43 29.1
comp=Z,479nm,19.0s
SSPA Standing Stone 94.68 29 P **P** 08 55 41.1 +0.3
baz=330
MCWV Mont Chateau 94.74 31 IAMs_20 IAMs_20 09 45 25.8
comp=Z,534nm,19.0s
MCWV Mont Chateau 94.74 31 P **P** 08 55 41.4 +0.3
baz=328
KEST Kesra 94.81 323 P **P** 08 55 41.6 -0.1
comp=Z,5.6nm,1.1s,baz=187,slow=4.7,SNR=4.9
KEST LR LR 09 42 08.8
comp=Z,1μm,20.8s,baz=7.5,slow=38
comp=Z,5.6nm,1.1s
PLAL Pickwick Lake 94.85 39 IAMs_20 IAMs_20 09 42 44.4
comp=Z,429nm,21.0s
143A Socs Landing, 94.91 42 IAMs_20 IAMs_20 09 41 44.5
comp=Z,364nm,19.0s
L61B Northampton 94.95 24 IAMs_20 IAMs_20 09 41 10.9
comp=Z,514nm,21.0s
L61B Northampton 94.95 24 P **P** 08 55 42.6 +0.6
baz=334
HRV Adam Dziewonsk 95.26 24 IAMs_20 IAMs_20 09 41 34.0
comp=Z,441nm,20.0s
HRV Adam Dziewonsk 95.26 24 P **P** 08 55 43.5 0.0
baz=334
WES Weston 95.45 24 IAMs_20 IAMs_20 09 45 04.9
comp=Z,519nm,19.0s
TZTN Tazewell 95.75 35 IAMs_20 IAMs_20 09 46 11.9
comp=Z,508nm,18.0s
TZTN Tazewell 95.75 35 P **P** 08 55 46.2 +0.4
baz=326
VBMS Vicksburg 95.76 42 IAMs_20 IAMs_20 09 43 49.6
comp=Z,387nm,20.0s
VBMS Vicksburg 95.76 42 P **P** 08 55 46.3 +0.4
baz=321
PAL Palisades 95.82 26 P **P** 08 55 46.1 +0.1
baz=333
PBRG Bragança 96.12 336 *e*PP **PP** 08 59 44.8 +5.5
M65A Busby, Falmout 96.41 23 P **P** 08 55 48.8 +0.1
baz=335
BLA Blacksburg 96.57 32 IAMs_20 IAMs_20 09 43 56.5
comp=Z,440nm,20.0s
BLA Blacksburg 96.57 32 P **P** 08 55 49.7 0.0
baz=328
PCAB Cabril 96.61 337 *e*PP PP 08 59 59.6 +17
LRAL Lakeview Retre 96.94 39 IAMs_20 IAMs_20 09 45 40.6
comp=Z,485nm,19.0s
LRAL Lakeview Retre 96.94 39 P **P** 08 55 50.3 -1.0
baz=323
CBN Corbin Frederi 96.98 30 IAMs_20 IAMs_20 09 42 06.0
comp=Z,476nm,20.0s
CBN Corbin Frederi 96.98 30 P **P** 08 55 50.9 -0.5
baz=330
ESDC Sonseca Array 97.09 334 P **P** 08 55 51.5 -0.5
comp=Z,1.3nm,0.7s,baz=17,slow=4.3,SNR=12
ESDC LR LR 09 44 07.5
comp=Z,1μm,21.0s,baz=22,slow=38
comp=Z,1.3nm,0.7s
MTE Manteigas 97.65 336 *e*PP **PP** 08 59 56.4 +5.3
MTE Manteigas 97.65 336 *e*SS SS 09 13 30.5 -27
MTE Manteigas 97.65 336 *e*LR LR 09 29 44.4
comp=Z,935nm,20.0s
KMSC Kings Mountain 97.91 34 P **P** 08 55 54.6 -1.1
baz=327
COI Coimbra 98.10 337 *e*PP **PP** 08 59 58.5 +4.1
PCAS Casmilo, Conde 98.27 337 *e*PP **PP** 08 59 57.3 +1.5
GOGA Godfrey 98.36 36 IAMs_20 IAMs_20 09 47 43.2
comp=Z,478nm,18.0s
GOGA Godfrey 98.36 36 P **P** 08 55 57.0 -0.7
baz=326
BRAL Brewton 98.40 40 P **P** 08 55 56.4 -1.5
baz=323
PMRV Marv??o 98.48 336 *e*PP **PP** 08 59 58.8 +1.4
PMRV Marv??o 98.48 336 *e*LR LR 09 30 36.1
comp=Z,1μm,22.0s
PESTR Estremoz 99.05 336 *e*PP **PP** 09 00 03.3 +1.5
PMTG Montargil 99.08 336 *e*PP **PP** 09 00 07.8 +5.9
352A Blakely 99.23 39 IAMs_20 IAMs_20 09 40 22.6
comp=Z,297nm,20.0s
CNNC Cliffs of the 99.32 32 P **Pdif** 08 56 00.6 -1.4
baz=330
EVO Evora 99.50 336 *e*PP **PP** 09 00 11.7 +6.5
PBAR Barrancos 99.50 335 *e*PP **PP** 09 00 08.7 +3.5
TIGA Tifton 99.92 38 P **Pdif** 08 56 03.7 -1.0
baz=325
NHSC New Hope 100.14 34 P **Pdif** 08 56 05.4 -0.2
baz=328
MESJ Messejana 100.19 336 *e*PP **PP** 09 00 17.3 +6.8
MESJ Messejana 100.19 336 *e*PP **PP** 09 00 11.6 +1.1
MESJ IAMs_20 IAMs_20 09 43 04.8
comp=Z,2μm,21.8s
Y60A Bolivia 100.24 32 IAMs_20 IAMs_20 09 44 45.8
comp=Z,320nm,20.0s
PVAQ Vaqueiros 100.42 335 *e*PP **PP** 09 00 18.1 +5.9
PVAQ Vaqueiros 100.42 335 *e*LR LR 09 31 31.7
comp=Z,1μm,22.0s
PBDV Barranco-do-Ve 100.64 335 *e*PP **PP** 09 00 16.5 +2.6
PFVI Vila Bisbo 101.03 336 *e*PP **PP** 09 00 21.1 +4.3
KMBO Kilima Mbogo 101.79 278 IAMs_20 IAMs_20 09 40 06.7
comp=Z,354nm,22.0s
DWPF Disney Wildern 103.72 38 IAMs_20 IAMs_20 09 47 09.1
comp=Z,449nm,20.0s
DWPF Disney Wildern 103.72 38 P **Pdif** 08 56 20.8 -0.8
baz=326
060A Indiantown 105.14 38 IAMs_20 IAMs_20 09 49 41.0
comp=Z,450nm,20.0s

PMOZ Porto Moniz, M 107.51 341 *e*LR LR 09 34 16.5
comp=Z,459nm,22.0s
VNDA Vanda 115.12 175 PKP **PKiKP** **09 00 59.3 -0.2**
comp=Z,1.8nm,0.8s,baz=309,slow=4.3,SNR=16
SBA Scott Base 115.80 174 **PKiKP** **09 01 00.9 +0.1**
SBA Scott Base 115.80 174 PKIKP **PKiKP** **09 01 00.9 +0.1**
TORD Torodi Ar. Bea 117.11 315 PKP **PKPdf** **09 01 04.5 -0.8**
comp=Z,0.8nm,0.5s,baz=52,slow=2.7,SNR=5.6
TORD PP **PP** **09 02 10.9 -3.5**
comp=Z,2.5nm,0.8s,baz=37,slow=9.5,SNR=4.2
LSZ Lusaka 117.31 271 IAMs_20 IAMs_20 09 58 09.2
comp=Z,365nm,20.0s
MAW Mawson 119.59 206 PKP **PKPdf** **09 01 08.2 -0.1**
comp=Z,1.7nm,0.7s,baz=17,slow=8.1,SNR=3.7
SDV Santo Domingo 125.33 40 PKPdf **PKPdf** **09 01 21.2 -0.2**
SDV Santo Domingo 125.33 40 *e*P **PKiKP** **09 01 21.8 +0.1**
DBIC Dimbokro 126.07 317 PKP **PKPdf** **09 01 21.7 -0.8**
comp=Z,3.5nm,0.7s,baz=316,slow=2.7,SNR=5.6
BOSA Boshof 126.43 259 PKPdf **PKPdf** **09 01 22.2 -0.7**
BOSA Boshof 126.43 259 PKP **PKPdf** **09 01 22.4 -0.5**
comp=Z,8.9nm,0.9s,baz=98,slow=1.4,SNR=14
BAUV El Baul 126.57 37 PKPdf **PKPdf** **09 01 22.9 -0.6**
ROSC El Rosal 126.69 46 PKP **PKPdf** **09 01 23.4 -0.8**
comp=Z,9.7nm,0.6s,baz=303,slow=5.4,SNR=6.1
QSPA South Pole Qui 126.91 180 **PKPdf** **09 01 22.1 -0.5**
QSPA South Pole Qui 126.91 180 PKP **PKPdf** **09 01 21.8 -0.7**
comp=Z,10nm,0.9s,baz=320,slow=1.5,SNR=28
OTAV Otavalo 127.78 54 PKPdf **PKiKP** **09 01 26.7 -0.2**
OTAV Otavalo 127.78 54 PKIKP **PKiKP** **09 01 26.7 -0.2**
TSUM Tsumeb 127.92 274 PKPdf **PKPdf** **09 01 26.1 +0.1**
ELIB Princess Elisa 133.47 202 *d*PKPdf **PKPdf** **09 01 34.7 -0.3**
TBTG Tabatinga, AM 136.53 49 **PKPdf** **09 01 42.1 -0.1**
CZSB Cruzeiro do Su 137.51 55 PKPdf **PKPdf** **09 01 43.8 -0.3**
NNA Nana 137.71 64 **PKPdf** **09 01 45.0 +0.5**
NNA Nana 137.71 64 PKIKP **PKPdf** **09 01 45.0 +0.5**
TROLL Troll, Antarti 139.31 198 ⇑PKPdf PKPpre 09 01 36.5
comp=Z,241nm,0.8s
MACA Manacapuru-AM 140.63 36 PKPdf **PKPdf** **09 01 49.2 -0.6**
SNAA Sanae 140.83 197 ⇑PKPdf PKPdf 09 01 40.4 -8.0
comp=Z,148nm,0.7s
SNAA Sanae 140.83 197 PKhKP PKPpre 09 01 40.9
comp=Z,3.4nm,0.7s,baz=138,slow=2.4,SNR=24
VNA2 Neumayer--Watz 142.40 196 ⇑PKPdf **PKPdf** **09 01 46.7 -4.5**
comp=Z,16nm,0.6s,baz=124,slow=2.4
VNA3 Neumayer Olymp 142.65 195 ⇑PKPdf **PKPdf** **09 01 47.3 -4.4**
comp=Z,10nm,0.7s
VNA1 Neumayer--Stat 142.80 196 ⇑PKPdf **PKPdf** **09 01 47.6 -4.2**
comp=Z,14nm,0.9s
SAML Samuel 144.27 44 PKPbc 09 01 54.4 0.0
SAML Samuel 144.27 44 PKIKP PKPbc 09 01 54.4 0.0
SMAI San Martin Ant 145.21 162 **PKPdf** **09 01 56.6 +0.5**
PB18 Visviri 146.72 62 **PKPab** **09 02 04.2 +0.4**
LPAZ La Paz 146.77 59 **PKPbc** **09 02 02.8 -0.1**
LPAZ La Paz 146.77 59 PKPbc **PKPbc** **09 02 02.3 -0.6**
comp=Z,42nm,0.6s,baz=343,slow=3.2,SNR=234
LPAZ La Paz 146.77 59 PKP2 **PKPbc** **09 02 02.8 -0.1**
H03N2 Juan Fernandez 147.21 96 T T 11 46 28.7
baz=291,slow=76,SNR=428
H03N3 Juan Fernandez 147.22 96 T T 11 46 29.7
baz=291,slow=76,SNR=540
H03N1 Juan Fernandez 147.22 96 T T 11 46 29.9
baz=291,slow=76,SNR=327
TA02 Huaiquique 147.97 67 **PKPdf** **09 02 02.2 -0.1**
TA01 Diego Aracena 148.12 67 **PKPdf** **09 02 01.4 -1.2**
TA01 PKPbc **PKPbc** **09 02 06.3 +0.6**
RCBR Riachuelo 148.69 354 PKPbc **PKPbc** **09 02 06.9 -0.6**
comp=Z,9.4nm,1.0s,baz=63,slow=20,SNR=5.4
VILB Vilhena 149.21 44 PKPdf **PKPdf** **09 02 04.6 +0.1**
VILB PKPbc **PKiKP** **09 02 10.0 0.0**
LVC Limon Verde 150.28 69 PKPbc **PKiKP** **09 02 12.1 -0.3**
comp=Z,34nm,0.8s,baz=273,slow=2.2,SNR=23
SIV San Ignacio 151.12 49 PKPbc **PKPbc** **09 02 13.4 0.0**
comp=Z,48nm,0.7s,baz=290,slow=1.7,SNR=105
GO02 Mina Guanaco 151.19 74 PKPdf **PKPdf** **09 02 05.4 -2.3**
GO02 **sPKPdf** **09 02 14.6 -0.5**
GO02 PKPab **PKPab** **09 02 21.5 0.0**
PTLB Pontes e Lacer 151.83 45 PKPdf **PKPdf** **09 02 08.9 +0.4**
PTLB PKPbc **PKiKP** **09 02 15.2 -0.1**
MT13 San Alfonso 154.19 92 PKPdf **PKPdf** **09 02 10.2 -1.4**
MT13 **PKiKP** **09 02 20.3 +0.5**
MT13 PKPab **PKPab** **09 02 35.4 +1.7**
MT08 Bocatoma Ro 154.32 91 PKPdf **PKPdf** **09 02 10.6 -1.3**
MT08 **PKiKP** **09 02 21.4 +1.1**
MT08 PKPab **PKPab** **09 02 36.4 +2.0**
ZON Zonda 154.76 86 PKPdf **PKPdf** **09 02 12.9 +0.6**
ZON **PKiKP** **09 02 21.6 +0.5**
ZON PKPab **PKPab** **09 02 37.2 +1.1**
ZON Zonda 154.76 86 PKIKP **PKPdf** **09 02 13.0 +0.6**
ZON PKP **PKiKP** **09 02 21.6 +0.5**
PLCA Paso Flores 155.12 108 PKP **PKPdf** **09 02 13.4 +0.8**
comp=Z,1.0nm,0.6s,baz=323,slow=7.0,SNR=1.6
PLCA PKPab **PKPab** **09 02 36.4 -1.1**
comp=Z,6.0nm,0.8s,baz=273,slow=3.4,SNR=8.3
BDFB Brasília 157.05 23 PKP **PKPdf** **09 02 15.3 -0.6**
comp=Z,1.3nm,0.4s,baz=97,slow=23,SNR=2.1
BDFB PKPab **PKPab** **09 02 45.8 -0.3**
comp=Z,3.1nm,0.7s,baz=352,slow=5.7,SNR=6.7
AQDB Aquidauana 157.79 46 PKPdf **PKPdf** **09 02 16.5 -0.1**
AQDB PKPab **PKPab** **09 02 49.4 +0.2**
CPUP Villa Florida 160.93 61 PKPdf **PKPdf** **09 02 18.8 -1.2**
CPUP **PKPab** **09 03 02.2 -0.5**
CPUP Villa Florida 160.93 61 PKP **PKPdf** **09 02 19.0 -1.0**
comp=Z,1.9nm,0.9s,baz=50,slow=2.7,SNR=4.0
CPUP PKPab **PKPab** **09 03 02.4 -0.4**
comp=Z,1.2nm,0.6s,baz=293,slow=4.9,SNR=4.8
TRQA Tornquist 161.62 100 PKPdf **PKPdf** **09 02 19.8 -0.7**
TRQA PKPab **PKPab** **09 03 06.0 +0.4**
TRQA Tornquist 161.62 100 PKIKP **PKPdf** **09 02 19.8 -0.7**
TRQA PKP **PKPab** **09 03 06.0 +0.4**
ITAB Concordia 165.00 52 PKPdf **PKPdf** **09 02 22.8 -1.2**
ITAB **PKPab** **09 03 20.8 +0.2**
PLTB Pedras Altas 166.65 71 **PKPdf** **09 02 25.6 +0.4**
PLTB **PKPab** **09 03 27.9 +0.1**

AFAD 31 08:52:20.8±0.0, 37°.12N×36°.98E, h7km±7km, ML1.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCB	**Kahramanmara**	**0.23**	**346**	P	Pg	08 52 22.4	-3.0
HCB				S	Sg	08 52 28.3	-0.2
KHMR	**Kahramanmara**	**0.23**	**346**	P	Pg	08 52 24.6	-0.8
KHMR				S	Sg	08 52 30.9	+2.4
KHMR				*i* AML	AML	08 52 37.0	
comp=Z,34nm,0.4s							
KUZU	**Kuzuini**	**0.36**	**167**	P	Pg	08 52 27.7	-0.1
KUZU				S	Sb	08 52 34.3	-1.0
KUZU				*i* AML	AML	08 52 40.0	
comp=Z,34nm,0.7s							
KAHM	**Kahramanmaras,**	**0.39**	**1**	P	Pg	08 52 29.0	+0.5
KAHM				*i* AML	AML	08 52 40.0	
comp=Z,16nm,0.6s							
GZT	**Gaziantep**	**0.52**	**63**	P	Pg	08 52 28.2	-2.7
GZT				S	Sg	08 52 38.6	+0.8
NZIP	**Nizip/Gaziante**	**0.56**	**98**	P	Pn	08 52 35.8	+0.5
NZIP				S	Sn	08 52 48.6	+3.7
AKCA	**Adyaman/G¶ll**	**0.88**	**40**	P	Pg	08 52 33.3	-4.4
AKCA				S	Sg	08 52 42.5	-6.6

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*IDC **31** 08:57:46.3±0.9, 20°.15N×145°.91E, h0km, mb4.0/12, mbtmp4.0/14, ML3.7/2, MS3.9/1, Error ellipse: s-maj=31.6km s-min=16.1km az=84.0*
*NEIC **31** 08:57:54.5±1.8, 20°.11N±0°.07×145°.63E±0°.07, h57km±8km, mb4.5/36, Error ellipse: s-maj=11.0km s-min=9.5km az=214.0*

ISC 31 08:57:53.2±0.6, 20°.10N±0°.06×145°.6E±0°.1, h50km, n58, σ1§03/58, mb4.4/28, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.51**	**187**	Pn	**Pn**	**08 59 28.1**	**+1.6**
GUMO	**Guam**	**6.51**	**187**	Pn	**Pn**	**08 59 24.0**	**-2.4**
6.9nm,0.3s,baz=34,slow=3.6,SNR=2.8							
GUMO				Sn	**Sn**	**09 00 42.2**	**+2.7**
6.8nm,0.3s,baz=328,slow=24,SNR=1.6							
97nm,1.1s							
JCJ	**Chichijima**	**7.65**	**336**	Pn	**Pn**	**08 59 42.1**	**0.0**
JGF	**Kuroka**	**17.08**	**336**		**P**	**09 01 50.5**	**+0.9**
JMN	**Monobe**	**17.14**	**325**		**P**	**09 01 51.4**	**+1.2**
JMN				IAmb	IAmb	09 02 06.7	
comp=Z,68nm,1.4s							
MJAR	**Matsushiro Arr**	**17.63**	**340**	P	**Pn**	**09 01 53.9**	**-1.3**

comp=Z,0.1nm,0.3s,baz=160,slow=10,SNR=5.1
comp=Z,3.3nm,0.7s
JNU Nakatsue 18.48 318 P P 09 02 05.5 +0.4
JNU IAmb IAmb 09 02 08.7
comp=Z,57nm,1.5s
KSRS Korea Array 23.17 322 P P 09 02 56.4 +0.9
comp=Z,2.8nm,0.8s,baz=153,slow=8.9,SNR=17
comp=Z,2.8nm,0.8s
KSAR Wonju Array Be 23.19 322 P P 09 02 55.9 +0.3
KS19 Wonju Array Si 23.24 322 P P 09 02 55.5 -0.6
USA0B Ussuriysk Arra 26.59 338 P P 09 03 27.3 +0.6
SBUM Sibu 37.03 246 P P 09 04 57.3 -1.2
SBUM IAmb IAmb 09 04 59.2
comp=Z,4.5nm,0.8s
SLVN Son La 38.97 279 P P 09 05 13.5 -1.4
SLVN IAmb IAmb 09 05 37.0
comp=Z,12nm,1.4s
KSM Kuching 39.17 246 P P 09 05 14.4 -2.1
KNRA Kununurra 39.23 206 P P 09 05 15.3 -1.5
KNRA IAmb IAmb 09 05 32.7
comp=Z,7.5nm,1.1s
WB0 Warramunga Arr 41.12 196 P P 09 05 34.2 +1.7
WB0 IAmb IAmb 09 06 04.0
comp=Z,11nm,1.4s
WR0 Warramunga Arr 41.27 196 P P 09 05 33.0 -0.7
WR0 IAmb IAmb 09 05 37.3
comp=Z,8.8nm,1.3s
WRAB Tennant Creek 41.29 196 P P 09 05 34.5 +0.6
WRAB IAmb IAmb 09 05 40.4
comp=Z,16nm,1.4s
WB2 Warramunga Arr 41.30 196 P P 09 05 35.2 +1.2
WB2 IAmb IAmb 09 05 55.8
comp=Z,11nm,1.4s
WRA Warramunga Arr 41.30 196 P P 09 05 35.7 +1.7
WRA Warramunga Arr 41.30 196 P P 09 05 34.8 +0.8
comp=Z,1.7nm,0.7s,baz=20,slow=9.0,SNR=19
comp=Z,1.7nm,0.7s
SONM Songino Array 42.03 320 P P 09 05 42.0 +2.1
comp=Z,0.8nm,0.5s,baz=132,slow=7.7,SNR=3.1
comp=Z,0.8nm,0.5s
FITZ Fitzroy Crossi 42.73 209 P P 09 05 47.5 +1.9
AS31 Alice Springs 44.98 195 P P 09 06 03.8 +0.2
ASAR Alice Springs 44.98 195 P P 09 06 04.4 +0.7
comp=Z,0.4nm,0.7s,baz=12,slow=6.3,SNR=6.2
comp=Z,0.4nm,0.7s
GIRL Giralia 52.39 217 P P 09 06 59.5 -1.1
TIXI Tiksi 52.48 353 LR LR 09 30 58.1
comp=Z,105nm,19.1s,baz=202,slow=38
N15K Kwethluk River 55.23 30 P P 09 07 20.9 0.0
PLK4 Peulik 4 56.23 33 P P 09 07 29.3 +1.1
ZALV Zalesovo Beam 56.88 322 P P 09 07 32.5 -0.3
comp=Z,0.7nm,0.3s,baz=92,slow=7.3,SNR=1.9
comp=Z,0.7nm,0.3s
K17K Iditarod 56.98 27 P P 09 07 32.9 -0.4
MKAR Makanchi Array 57.46 313 P P 09 07 37.0 -0.1
MKAR Makanchi Array 57.46 313 P P 09 07 38.1 +1.1
comp=Z,0.5nm,0.6s,baz=89,slow=8.9,SNR=4.2
comp=Z,0.5nm,0.6s
H18K Honhosa River 57.88 24 P P 09 07 39.7 0.0
H18K IAmb IAmb 09 08 15.3
comp=Z,8.0nm,1.4s
E18K Tukpahlearik C 58.02 22 P P 09 07 40.7 +0.1
E18K IAmb IAmb 09 08 05.1
comp=Z,6.6nm,1.4s
KDAK Kodiak Island 58.23 34 P P 09 07 42.6 +0.4
H19K Roundabout Mou 58.77 24 P P 09 07 45.7 -0.1
H19K IAmb IAmb 09 07 47.6
comp=Z,3.5nm,1.1s
C19K Lookout Ridge 59.12 20 P P 09 07 48.5 +0.3
CAST Castle Rocks 59.88 27 P P 09 07 53.4 -0.3
IMAR Indian Mountai 59.97 24 P P 09 07 54.2 0.0
H21K Melozitna Rive 60.24 25 P P 09 07 56.0 0.0
H21K IAmb IAmb 09 08 16.1
comp=Z,5.1nm,1.5s
KURBB Kurchatov Arra 60.25 317 P P 09 07 57.0 +0.7
comp=Z,0.9nm,0.5s,baz=92,slow=7.8,SNR=21
comp=Z,0.9nm,0.5s
BPAW Bear Paw Mtn. 60.54 27 P P 09 07 57.6 -0.5
BPAW IAmb IAmb 09 07 58.4
comp=Z,2.5nm,0.8s
D22K Ayikyak River 61.32 21 P P 09 08 03.6 +0.3
D22K IAmb IAmb 09 08 20.2
comp=Z,8.1nm,1.4s
MDM Murphy Dome 61.91 26 P P 09 08 07.1 -0.3
BMAR Burnt Mountain 63.87 24 P P 09 08 20.9 +0.6
BVAR Borovoye Array 65.37 320 P P 09 08 30.9 +0.6
comp=Z,2.4nm,0.4s,baz=95,slow=8.0,SNR=12
comp=Z,2.4nm,0.4s
BRVK Borovoye 65.43 320 P P 09 08 31.5 +0.7
BRVK IAmb IAmb 09 08 33.0
comp=Z,2.7nm,0.8s
I28M Miner Creek 65.43 26 P P 09 08 30.9 +0.3
BKZ Black Stump Fm 65.64 154 P P 09 08 31.6 -0.7
KKAR Karatay Array 65.84 309 P P 09 08 34.0 +0.4
L29M L29M 66.05 29 P P 09 08 35.1 +0.5
L29M IAmb IAmb 09 08 53.5
comp=Z,4.6nm,1.2s
G31M Satah River 67.81 25 P P 09 08 45.0 -0.6
G31M IAmb IAmb 09 09 10.7
comp=Z,7.5nm,1.4s
ABKAR Akbulak array 72.29 317 P P 09 09 13.3 -0.1
YKA Yellowknife Ar 76.79 28 P P 09 09 38.6 -0.6
comp=Z,1.2nm,0.7s,baz=291,slow=6.1,SNR=3.7
comp=Z,1.2nm,0.7s
ARCES ARCESS Array B 81.15 342 P P 09 10 04.2 +1.1
comp=Z,1.2nm,0.7s,baz=62,slow=8.7,SNR=5.8
comp=Z,1.2nm,0.7s
NVAR Mina Array Bea 82.33 52 P P 09 10 09.4 -0.8
comp=Z,0.8nm,0.7s,baz=259,slow=6.6,SNR=8.8
comp=Z,0.8nm,0.7s
FINES FINESS Array B 85.60 335 P P 09 10 25.9 -0.1
comp=Z,1.1nm,0.5s,baz=64,slow=6.3,SNR=7.0
comp=Z,1.1nm,0.5s

IDC 31 08:58:47.8±1.6, 54°.62N×83°.76E, h0km, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=13.8km s-min=9.7km az=9.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**137**	I	I	09 04 30.0	
baz=317,slow=322,SNR=3.8							
ZALV	**Zalesovo Beam**	**0.92**	**137**	Pg	Pg	08 59 04.6	-0.7
2.7nm,0.3s,baz=319,slow=15,SNR=14							
ZALV				Lg	Lg	08 59 18.4	
6.4nm,0.3s,baz=315,slow=29,SNR=23							
KURBB	**Kurchatov Arra**	**5.12**	**221**	Pn	Pn	09 00 05.7	+0.1
0.1nm,0.3s,baz=41,slow=13,SNR=4.9							
KURBB				Lg	Lg	09 01 28.6	
0.1nm,0.3s,baz=43,slow=32,SNR=4.9							
0.7nm,0.5s							
MKAR	**Makanchi Array**	**7.89**	**187**	Pn	Pn	09 00 44.0	+0.3
0.1nm,0.3s,baz=13,slow=12,SNR=2.5							
MKAR				Sn	Sn	09 02 13.8	+0.1
0.1nm,0.3s,baz=8.0,slow=22,SNR=1.8							
MKAR				Lg	Lg	09 02 59.7	
0.1nm,0.3s,baz=8.8,slow=23,SNR=2.2							
0.2nm,0.5s							
BVAR	**Borovoye Array**	**8.07**	**264**	Pn	Pn	09 00 45.3	-0.9
0.1nm,0.3s,baz=70,slow=14,SNR=5.1							
1.2nm,0.5s							

*IDC **31** 09:08:56.7±0.7, 52°.78N×167°.15W, h0km, mb4.3/30, mbtmp4.3/31, ML3.9/1, MS4.1/1, Error ellipse: s-maj=20.8km s-min=11.3km az=178.0*
*AEIC **31** 09:08:57.3±3.0, 52°.45N±0°.05×166°.74W±0°.07, h25km±4km, Error ellipse: s-maj=8.0km s-min=5.5km az=142.0*
*NEIC **31** 09:08:57.6±2.1, 52°.63N±0°.05×166°.90W±0°.07, h10km±3km, mb4.4/170, ML4.1/12, ML4.0(AEIC), Error ellipse: s-maj=7.4km s-min=5.7km az=204.0*

ISC 31 09:08:57.9±1.6, 52°.61N±0°.06×166°.87W±0°.04, h13km±9km, n355, σ15/15/331, mb4.5/100, 3C-2D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.02**	**322**		**Pb**	**09 09 17.4**	**0.0**
OKFG					**Sn**	**09 09 33.9**	**+1.8**
OKTU	**Okmok Mt. Tuli**	**1.05**	**318**		**Pg**	**09 09 17.6**	**-0.5**
OKCE	**Okmok Cone E**	**1.13**	**317**		**Pn**	**09 09 19.4**	**-0.1**
OKCE					**Sn**	**09 09 37.8**	**+2.8**
OKNC	**Okmok New Cone**	**1.14**	**319**		**Pb**	**09 09 19.2**	**-0.2**
OKNC					**Sn**	**09 09 37.4**	**+2.3**
OKWR	**Okmok West Rim**	**1.15**	**316**		**Pn**	**09 09 19.9**	**0.0**
MGOD	**Makushin Gods**	**1.19**	**360**		**Pg**	**09 09 20.4**	**-0.3**
OKWE	**Okmok W'ng Wal**	**1.20**	**317**		**Pb**	**09 09 20.0**	**-0.4**
MAPS	**Pakushin South**	**1.20**	**358**		**Pg**	**09 09 20.6**	**-0.3**
MAPS					**Sn**	**09 09 38.8**	**+2.2**
UNV	**Unalaska Valle**	**1.25**	**10**	P	**Pg**	**09 09 21.5**	**-0.5**
UNV	**Unalaska Valle**	**1.25**	**10**		**Pg**	**09 09 21.4**	**-0.5**
NIKH	**Nikolski High**	**1.26**	**287**	P	**Pn**	**09 09 20.9**	**-0.3**
NIKH	**Nikolski High**	**1.26**	**287**		**Sg**	**09 09 38.5**	**0.0**
NIKH	**Nikolski High**	**1.26**	**287**		**Pn**	**09 09 20.6**	**-0.6**
MNAT	**Makushin Natee**	**1.28**	**5**		**Pb**	**09 09 21.8**	**0.0**
MNAT					**Sg**	**09 09 40.1**	**+1.0**
MSW	**Makushin Switc**	**1.31**	**2**		**Pb**	**09 09 22.2**	**-0.1**
MTBL	**Makushin Table**	**1.36**	**5**		**Pb**	**09 09 23.2**	**-0.1**
MTBL					**Sg**	**09 09 42.6**	**+0.8**
ZRO	**Akutan Zero**	**1.57**	**19**		**Pb**	**09 09 26.2**	**-0.7**
AKBBA	**Akutan Broad B**	**1.59**	**20**		**Pn**	**09 09 26.3**	**+0.5**
AKRB	**Akutan Reef Bi**	**1.59**	**17**		**Pb**	**09 09 26.5**	**-0.7**
LVA	**Lava Point**	**1.63**	**17**	Pn	**Pn**	**09 09 26.6**	**+0.2**
LVA				IAML		09 10 07.0	
comp=E,2μm,0.7s							
AKGG	**Akutan Green G**	**1.67**	**18**		**Pn**	**09 09 27.4**	**+0.5**
CLCO	**Concord Point,**	**1.75**	**277**		**Pn**	**09 09 27.3**	**-0.6**
CLCO					**Sb**	**09 09 50.9**	**-0.7**
CLES	**Cleveland East**	**1.85**	**278**		**Pn**	**09 09 28.1**	**-1.2**
CLES				IAML		09 09 58.7	
comp=E,2μm,0.7s							
CLES				IAML		09 10 11.9	
comp=N,2μm,0.7s							
WESE	**West Dahl East**	**2.31**	**35**		**Pn**	**09 09 36.0**	**+0.3**
SSLS	**Shishaldin Sou**	**2.71**	**38**		**Pn**	**09 09 41.2**	**0.0**
ISLZ	**Isanotski Laza**	**2.83**	**40**		**Pn**	**09 09 41.9**	**-0.9**
PS1A	**Pavlof South-1**	**4.13**	**45**		**Pn**	**09 10 02.5**	**+1.8**
S12K	**Black Hills**	**4.19**	**40**	Pn	**Pn**	**09 10 03.2**	**+1.7**
S12K				IAML		09 11 19.5	
comp=E,144nm,2.0s							
S12K				IAML		09 11 22.8	
comp=N,162nm,2.4s							
KOKL	**Mount Kliuchef**	**4.49**	**269**		**Pn**	**09 10 07.1**	**+1.4**
ATKA	**Atka Island**	**4.51**	**268**	P	**Pn**	**09 10 06.8**	**+1.0**
ATKA	**Atka Island**	**4.51**	**268**		**Pn**	**09 10 06.5**	**+0.7**
ATKA				IAML		09 10 59.5	
comp=N,150nm,0.5s							
SDPT	**Sand Point**	**4.66**	**51**	Pn	**Pn**	**09 10 09.0**	**+1.1**
CNBA	**Chernabura Isl**	**4.86**	**60**	Pn	**Pn**	**09 10 11.1**	**+0.4**
SPIA	**Saint Paul Isl**	**4.97**	**338**	P	**Pn**	**09 10 15.0**	**+2.8**
SPIA	**Saint Paul Isl**	**4.97**	**338**		**Pn**	**09 10 12.0**	**-0.2**
GSTR	**Great Sitkin T**	**5.66**	**268**	Pn	**Pn**	**09 10 21.1**	**-0.5**
GSCK	**Great Sitkin C**	**5.73**	**268**		**Pn**	**09 10 23.7**	**+1.0**
ADK	**Adak**	**6.08**	**267**	P	**Pn**	**09 10 28.5**	**+1.2**
ADK	**Adak**	**6.08**	**267**	Pn	**Pn**	**09 10 28.8**	**+1.4**
CHGN	**Chignik**	**6.16**	**50**	Pn	**Pn**	**09 10 30.4**	**+1.9**
KIRH	**Kanaga Island**	**6.32**	**268**		**Pn**	**09 10 32.0**	**+1.3**
KIWB	**Kanaga Island**	**6.37**	**267**		**Pn**	**09 10 32.3**	**+1.0**
TASE	**Tanaga Southea**	**6.91**	**268**		**Pn**	**09 10 40.5**	**+1.6**
GAEA	**Gareloi East**	**7.35**	**268**		**Pn**	**09 10 45.9**	**+1.0**
O14K	**Tigyukauivet M**	**7.36**	**23**	Pn	**Pn**	**09 10 46.4**	**+1.4**
GANE	**Gareloi Northe**	**7.36**	**269**		**Pn**	**09 10 45.9**	**+0.8**
PLK4	**Peulik 4**	**7.84**	**46**	Pn	**Pn**	**09 10 55.2**	**+3.5**
M13K	**Dall Lake**	**8.06**	**13**	Pn	**Pn**	**09 10 55.2**	**+0.7**
CEPE	**Semis' Perret**	**8.29**	**271**		**Pn**	**09 10 58.7**	**+0.8**
SII	**Sitkinak Islan**	**8.36**	**57**	P	**Pn**	**09 10 59.5**	**+0.8**
CESW	**Semis' Southwe**	**8.36**	**271**		**Pn**	**09 10 59.3**	**+0.7**
N15K	**Kwethluk River**	**8.45**	**24**	Pn	**Pn**	**09 11 00.2**	**+0.2**
O16K	**Kokwok River B**	**8.54**	**32**	Pn	**Pn**	**09 11 02.6**	**+1.5**
M14K	**Bethel**	**8.59**	**16**	Pn	**Pn**	**09 11 01.1**	**-0.8**
AMKA	**Amchitka**	**8.63**	**267**	Pn	**Pn**	**09 11 03.2**	**+0.9**
OHAK	**Old Harbor**	**9.08**	**54**	P	**Pn**	**09 11 08.7**	**+0.2**
OHAK	**Old Harbor**	**9.08**	**54**	Pn	**Pn**	**09 11 08.8**	**+0.2**
P18K	**Big Mountain,**	**9.40**	**39**	Pn	**Pn**	**09 11 15.1**	**+2.0**
M16K	**Timber Creek**	**9.47**	**24**	Pn	**Pn**	**09 11 13.8**	**-0.2**
N17K	**Nushagak Hills**	**9.55**	**30**	Pn	**Pn**	**09 11 14.3**	**-0.8**
KDAK	**Kodiak Island**	**9.66**	**52**	Pn	**Pn**	**09 11 16.6**	**+0.1**
KDAK	**Kodiak Island**	**9.66**	**52**	Pn	**Pn**	**09 11 16.3**	**-0.2**
comp=N,1.3nm,0.3s,baz=233,slow=4.3,SNR=27							
KDAK				Sn	**Sn**	**09 12 59.3**	**-5.5**
comp=N,0.3nm,0.3s,baz=238,slow=21,SNR=1.7							
O18K	**Koktuh Hills**	**9.72**	**37**	Pn	**Pn**	**09 11 18.4**	**+1.1**
Q19K	**Cape Douglas,**	**9.76**	**44**	Pn	**Pn**	**09 11 17.8**	**-0.1**
L16K	**Owhat River**	**9.96**	**21**	Pn	**Pn**	**09 11 20.0**	**-0.6**
K15K	**Wolf Creek Mou**	**10.12**	**14**	Pn	**Pn**	**09 11 22.4**	**-0.4**
SYI	**Shuyak Island**	**10.14**	**48**	Pn	**Pn**	**09 11 24.3**	**+1.2**
M17K	**Holitna River**	**10.19**	**26**	Pn	**Pn**	**09 11 23.3**	**-0.4**
P19K	**Oil Pt**	**10.36**	**42**	Pn	**Pn**	**09 11 25.7**	**-0.4**
SVW2	**Sparrevohn**	**10.50**	**31**	Pn	**Pn**	**09 11 27.1**	**-0.8**
ILSW	**Iliamna Southw**	**10.60**	**40**	Pn	**Pn**	**09 11 28.7**	**-0.8**
N19K	**Bonanza Creek**	**10.65**	**35**	Pn	**Pn**	**09 11 30.0**	**-0.2**
RSO	**Redoubt South**	**11.05**	**39**	Pn	**Pn**	**09 11 36.6**	**+0.9**
L18K	**Granite Mounta**	**11.07**	**26**	Pn	**Pn**	**09 11 37.1**	**+1.4**
K17K	**Iditarod**	**11.11**	**21**	Pn	**Pn**	**09 11 37.1**	**+0.9**
CNPM	**China Poot**	**11.13**	**45**	Pn	**Pn**	**09 11 36.1**	**-0.5**
J16K	**Anvik River**	**11.20**	**15**	Pn	**Pn**	**09 11 36.8**	**-0.8**
M19K	**Big River Lodg**	**11.48**	**31**	Pn	**Pn**	**09 11 40.8**	**-0.6**
L19K	**White Mountain**	**11.55**	**29**	Pn	**Pn**	**09 11 43.1**	**+0.7**
J17K	**VABM Dome**	**11.56**	**18**	Pn	**Pn**	**09 11 41.2**	**-1.3**
SPU	**Mount Spurr**	**11.78**	**37**	Pn	**Pn**	**09 11 44.3**	**-1.1**
M20K	**Styx River**	**11.87**	**33**		**Pn**	**09 11 46.0**	**-0.8**
J18K	**Innoko River**	**12.12**	**22**	Pn	**Pn**	**09 11 49.1**	**-1.0**
SUA	**Susitna One**	**12.44**	**38**	Pn	**Pn**	**09 11 54.9**	**+0.3**
SKT	**Skwentna**	**12.49**	**35**	Pn	**Pn**	**09 11 54.2**	**-1.0**
RC01	**Rabbit Creek A**	**12.61**	**41**	Pn	**Pn**	**09 11 55.0**	**-1.9**
K20K	**Telida**	**12.70**	**27**	Pn	**Pn**	**09 11 56.4**	**-1.6**
J19K	**Poorman**	**12.82**	**23**	Pn	**Pn**	**09 12 00.3**	**+0.6**
H17K	**Granite Mounta**	**12.86**	**13**	Pn	**Pn**	**09 11 59.5**	**-0.8**
G16K	**Koyuk River**	**13.02**	**8**	Pn	**Pn**	**09 12 01.4**	**-1.1**
PWL	**Port Wells**	**13.06**	**43**		**Pn**	**09 12 02.1**	**-0.9**
PMR	**Palmer**	**13.14**	**40**	Pn	**Pn**	**09 12 05.2**	**+1.2**
F15K	**North Star Dit**	**13.18**	**4**	Pn	**Pn**	**09 12 02.2**	**-2.4**
H18K	**Honhosa River**	**13.30**	**16**	Pn	**Pn**	**09 12 06.8**	**+0.5**
CAST	**Castle Rocks**	**13.32**	**30**	Pn	**Pn**	**09 12 05.8**	**-0.7**
GHO	**Glory Hole Cre**	**13.32**	**39**		**Pn**	**09 12 08.0**	**+1.3**
J20K	**Nowinta River**	**13.34**	**25**	Pn	**Pn**	**09 12 07.2**	**+0.5**
SML	**Sawmill**	**13.58**	**40**	Pn	**Pn**	**09 12 08.8**	**-1.2**
HIN	**Hinchinbrook I**	**13.64**	**47**	Pn	**Pn**	**09 12 09.6**	**-1.3**
I20K	**Naaghedeneel**	**13.77**	**23**	Pn	**Pn**	**09 12 11.7**	**-0.9**
KTH	**Kantishna Hill**	**13.78**	**31**		**Pn**	**09 12 13.3**	**+0.5**
FID	**Port Fidalgo**	**13.80**	**46**	Pn	**Pn**	**09 12 11.8**	**-1.3**
G18K	**Tagagawik**	**13.95**	**14**	Pn	**Pn**	**09 12 15.6**	**+0.5**
SCM	**Sheep Creek Mo**	**13.99**	**41**		**Pn**	**09 12 14.4**	**-1.2**
BPAW	**Bear Paw Mtn.**	**14.16**	**29**	Pn	**Pn**	**09 12 16.8**	**-1.1**
RND	**Reindeer**	**14.36**	**34**	Pn	**Pn**	**09 12 19.9**	**-0.9**
KLU	**Klutina**	**14.39**	**44**		**Pn**	**09 12 19.2**	**-2.0**
G19K	**Purcell Mounta**	**14.43**	**16**	Pn	**Pn**	**09 12 22.7**	**+1.1**
RAGM	**Ragged Mountai**	**14.46**	**49**	Pn	**Pn**	**09 12 20.7**	**-1.4**
M24K	**Tolsona, Glenn**	**14.60**	**41**		**Pn**	**09 12 22.5**	**-1.5**
DHY	**Denali Highway**	**14.68**	**37**	Pn	**Pn**	**09 12 26.3**	**+1.2**
H21K	**Melozitna Rive**	**14.88**	**23**	Pn	**Pn**	**09 12 26.8**	**-1.0**
MLY	**Manley**	**14.92**	**27**	Pn	**Pn**	**09 12 27.0**	**-1.4**
IMAR	**Indian Mountai**	**14.94**	**21**		**Pn**	**09 12 29.1**	**+0.6**
N25K	**Chitina, Valde**	**15.01**	**44**	Pn	**Pn**	**09 12 27.7**	**-1.8**
N25K				IAmb	IAmb	09 12 40.8	
comp=Z,11nm,1.1s							
NEA2	**Nenana**	**15.10**	**30**	Pn	**Pn**	**09 12 31.6**	**+0.9**
E18K	**Tukpahlearik C**	**15.17**	**9**	Pn	**Pn**	**09 12 30.6**	**-1.0**
GLB	**Gilahina Butte**	**15.27**	**46**	Pn	**Pn**	**09 12 32.4**	**-0.7**
GLB				IAmb	IAmb	09 12 41.7	
comp=Z,20nm,1.0s							
WRH	**Wood River Hil**	**15.32**	**32**	Pn	**Pn**	**09 12 30.9**	**-2.6**
WAX	**Waxell Ridge**	**15.32**	**50**	Pn	**Pn**	**09 12 32.8**	**-1.0**
VRDI	**Verde Repeater**	**15.34**	**47**	Pn	**Pn**	**09 12 34.4**	**+0.3**
I23K	**Minto, Yukon-K**	**15.40**	**29**		**Pn**	**09 12 35.0**	**+0.3**
I23K				IAmb	IAmb	09 12 38.8	
comp=Z,8.2nm,0.7s							
CCB	**Clear Creek Bu**	**15.53**	**32**		**Pn**	**09 12 35.8**	**-0.5**
MCARA	**McCarthy VSAT**	**15.60**	**46**	Pn	**Pn**	**09 12 35.8**	**-1.5**
MCARA				IAmb	IAmb	09 12 45.6	
comp=Z,33nm,1.0s							
MDM	**Murphy Dome**	**15.61**	**30**		**Pn**	**09 12 36.1**	**-1.3**
ISLE	**Juniper Island**	**15.62**	**50**		**Pn**	**09 12 36.6**	**-1.0**
ISLE				IAmb	IAmb	09 13 13.1	
comp=Z,18nm,0.8s							
HDA	**Harding Lake**	**15.65**	**33**		**Pn**	**09 12 36.9**	**-1.1**
COLA	**College**	**15.67**	**31**	P	**P**	**09 12 40.4**	**-1.8**
COLA	**College**	**15.67**	**31**		**Pn**	**09 12 36.5**	**-1.6**
COLA				IAmb	IAmb	09 13 13.6	
comp=Z,20nm,1.3s							
H23K	**Yukon River**	**15.85**	**27**	Pn	**Pn**	**09 12 40.1**	**-0.4**
IL31		**15.91**	**32**		**Pn**	**09 12 40.4**	**-0.8**
ILAR	**Eielson Array**	**15.91**	**32**	Pn	**Pn**	**09 12 40.9**	**-0.4**
comp=Z,0.4nm,0.3s,baz=223,slow=11,SNR=9.4							
comp=Z,12nm,0.3s							
GRNC	**Granite Creek**	**15.93**	**49**	Pn	**Pn**	**09 12 40.9**	**-0.9**
GRNC				IAmb	IAmb	09 12 50.7	
comp=Z,18nm,0.6s							
MENT	**Mentasta**	**16.00**	**41**	Pn	**Pn**	**09 12 42.1**	**-0.4**
M26K	**Nabesna, AK**	**16.04**	**43**	Pn	**Pn**	**09 12 43.0**	**0.0**
TABL	**Table Mountain**	**16.12**	**51**	Pn	**Pn**	**09 12 43.4**	**-0.9**
TABL				IAmb	IAmb	09 13 10.0	
comp=Z,24nm,0.8s							
L26K	**Log Cabin Wild**	**16.19**	**41**		**Pn**	**09 12 44.2**	**-0.7**
L26K				IAmb	IAmb	09 12 49.6	
comp=Z,18nm,0.6s							
LOGN	**Logan Glacier**	**16.31**	**50**	Pn	**Pn**	**09 12 45.2**	**-1.3**
LOGN				IAmb	IAmb	09 12 53.4	
comp=Z,24nm,1.0s							
J25K	**Salcha River,**	**16.32**	**34**		**Pn**	**09 12 45.4**	**-1.1**
H24K	**Noodor Dome**	**16.33**	**28**	Pn	**Pn**	**09 12 46.2**	**-0.5**
SCRK	**Sand Creek**	**16.44**	**37**	Pn	**Pn**	**09 12 48.0**	**-0.2**
SCRK				IAmb	IAmb	09 12 51.6	
comp=Z,19nm,0.5s							
M27K	**Edge Creek, AK**	**16.49**	**44**		**Pn**	**09 12 48.0**	**-0.8**
M27K				IAmb	IAmb	09 13 05.2	
comp=Z,19nm,0.9s							
PNL	**Peninsula**	**16.77**	**54**	P	**P**	**09 12 54.4**	**0.0**
BCAR	**Beaver Creek A**	**16.84**	**42**		**Pn**	**09 12 51.8**	**-1.3**
J26L	**Joseph Creek**	**16.89**	**36**		**Pn**	**09 12 54.0**	**+0.2**
J26L				IAmb	IAmb	09 12 59.9	
comp=Z,14nm,0.9s							
C19K	**Lookout Ridge**	**16.90**	**9**	IAmb	IAmb	09 13 36.6	
comp=Z,24nm,1.5s							
K27K	**Chicken**	**17.19**	**39**		**Pn**	**09 12 56.8**	**-0.7**
O29M	**Mount Kennedy**	**17.31**	**52**	IAmb	IAmb	09 13 21.0	
comp=Z,21nm,0.9s							
F24K	**Squaw Lake**	**17.57**	**24**	P	**Pn**	**09 13 02.7**	**+0.5**
P29M	**Windy Craggy**	**17.58**	**55**	IAmb	IAmb	09 13 37.5	
comp=Z,15nm,0.8s							
FYU	**Fort Yukon**	**17.61**	**29**	P	**P**	**09 13 03.2**	**-0.5**
FYU				IAmb	IAmb	09 13 46.5	
comp=Z,23nm,1.4s							
D22K	**Ayikyak River**	**17.65**	**17**	Pn	**Pn**	**09 13 01.9**	**-1.3**
E24K	**Your Creek**	**17.85**	**23**	Pn	**Pn**	**09 13 04.1**	**-1.6**
EGAK	**Eagle**	**17.91**	**37**		**Pn**	**09 13 04.9**	**-1.5**
B21K	**Ikpikpuk River**	**17.99**	**14**		**Pn**	**09 13 07.5**	**+0.1**
B21K				IAmb	IAmb	09 13 17.9	
comp=Z,13nm,0.7s							
M29M	**Somme Creek**	**17.99**	**46**	P	**Pn**	**09 13 07.4**	**-0.2**
M29M				IAmb	IAmb	09 13 14.0	
comp=Z,32nm,1.2s							
TOLK	**Toolik Lake Re**	**18.05**	**21**		**Pn**	**09 13 07.4**	**-0.8**
TOLK				IAmb	IAmb	09 13 18.9	
comp=Z,23nm,0.7s							
DAWY	**Dawson**	**18.25**	**40**	P	**P**	**09 13 11.7**	**+0.9**
N30M	**Aishikik Lake**	**18.31**	**49**	P	**P**	**09 13 11.7**	**+0.2**
N30M				IAmb	IAmb	09 13 38.8	
comp=Z,19nm,0.8s							
L29M	**L29M**	**18.38**	**44**		**Pn**	**09 13 12.1**	**-0.1**
L29M				IAmb	IAmb	09 13 16.0	
comp=Z,13nm,0.5s							
BMAR	**Burnt Mountain**	**18.39**	**28**	P	**Pn**	**09 13 11.9**	**-0.4**
O30N	**Mendenhall**	**18.62**	**52**	P	**Pn**	**09 13 17.5**	**+2.4**
O30N				IAmb	IAmb	09 13 32.4	
comp=Z,37nm,0.9s							
D24K	**Happy Valley**	**18.63**	**20**		**P**	**09 13 14.4**	**-0.5**
D24K				IAmb	IAmb	09 13 23.3	
comp=Z,14nm,0.8s							
I28M	**Miner Creek**	**18.70**	**36**	IAmb	IAmb	09 13 19.1	
comp=Z,8.5nm,0.6s							
SKAG	**Skagway**	**18.77**	**56**	P	**Pn**	**09 13 19.9**	**+3.0**
SKAG	**Skagway**	**18.77**	**56**	IAmb	IAmb	09 13 29.8	
comp=Z,22nm,0.8s							
B22K	**Teshekpuk Lake**	**18.82**	**14**	IAmb	IAmb	09 13 24.9	
comp=Z,36nm,1.2s							
C23K	**Itkillik River**	**18.85**	**17**	IAmb	IAmb	09 13 25.5	
comp=Z,58nm,1.4s							
G27K	**Doyon Strip**	**18.87**	**31**	P	**P**	**09 13 16.8**	**-0.8**
J29N	**Klondike Camp**	**18.88**	**40**	IAmb	IAmb	09 13 26.1	
comp=Z,12nm,0.4s							
K29M	**Barlow Dome**	**18.91**	**42**	P	**Pn**	**09 13 19.9**	**+1.2**
K29M				IAmb	IAmb	09 13 20.9	
comp=Z,19nm,0.5s							
N31M	**Braeburn, Yuko**	**18.93**	**50**	IAmb	IAmb	09 13 38.9	
comp=Z,40nm,0.9s							
JIS	**Juneau Island**	**19.15**	**60**	P	**Pn**	**09 13 22.3**	**+0.8**
WHY	**Whitehorse**

comp=Z,6.9nm,0.6s
RLMT Red Lodge 37.72 78 IAmb IAmb 09 16 23.0
comp=Z,4.5nm,1.1s
KLR Kul'dur 37.82 290 P **P** **09 16 11.7 -2.1**
comp=Z,0.8nm,0.3s,baz=33,slow=10,SNR=4.4
comp=Z,0.8nm,0.3s
PRN Pahroc Range 38.78 92 P **P** **09 16 24.9 +2.8**
PD31 Pinedale Array 38.85 81 P **P** **09 16 24.5 +1.7**
PD31 IAmb IAmb 09 16 54.6
comp=Z,5.3nm,1.2s
PDAR Pinedale Array 38.85 81 P **P** **09 16 24.3 +1.4**
PDAR Pinedale Array 38.85 81 P **P** **09 16 24.8 +1.9**
comp=Z,1.2nm,0.6s,baz=297,slow=3.6,SNR=17
comp=Z,1.2nm,0.6s
P18A Preston Nutter 40.31 86 P **P** **09 16 35.7 +0.6**
P18A IAmb IAmb 09 17 09.1
comp=Z,9.4nm,1.4s
USRK Ussuriysk Ar. 40.33 283 P **P** **09 16 33.6 -1.3**
comp=Z,1.2nm,0.5s,baz=56,slow=9.4,SNR=7.0
comp=Z,1.2nm,0.5s
SRU San Rafael Swe 40.46 86 P **P** **09 16 36.1 -0.1**
O20A White River Ci 41.21 83 IAmb IAmb 09 17 07.2
comp=Z,5.6nm,0.8s
MAJO Matsushiro 41.23 270 P **P** **09 16 41.1 -1.3**
MAJO IAmb IAmb 09 16 45.3
comp=Z,11nm,0.8s
MJAR Matsushiro Arr 41.23 270 P **P** **09 16 42.6 +0.2**
comp=Z,4.0nm,0.8s,baz=40,slow=6.7,SNR=9.1
comp=Z,4.0nm,0.8s
MJB9 Matsu-Tunnel 41.23 270 P **P** **09 16 41.2 -1.2**
MJB9 IAmb IAmb 09 16 45.3
comp=Z,11nm,0.8s
BNX BinXian 42.16 288 ⇑P **P** **09 16 49.0 -0.8**
BNX pmax pmax
comp=Z,5.0nm,0.5s
ULM Lac du Bonnet 42.68 64 P **P** **09 16 55.1 +1.1**
comp=Z,0.8nm,0.3s,baz=301,slow=10,SNR=1.1
comp=Z,0.8nm,0.3s
S22A 4UR Ranch, Cre 43.57 85 P **P** **09 17 03.2 +1.5**
AGMN Agassiz Nation 43.74 66 P **P** **09 17 02.7 +0.1**
AGMN IAmb IAmb 09 17 28.8
comp=Z,3.1nm,0.8s
NEEM North Greenlan 44.33 16 *i* P **P** **09 17 07.0 -0.4**
NEEM IAmb IAmb 09 17 08.1
comp=Z,15nm,1.0s
KULLO Kullorsuaq 44.86 21 *i* P **P** **09 17 13.2 +1.9**
KULLO IAmb IAmb 09 17 26.9
comp=Z,9.6nm,0.9s
NOR Nord 45.08 6 *i* P **P** **09 17 12.1 -0.9**
NOR IAmb IAmb 09 17 13.8
comp=Z,6.1nm,1.2s
T25A Trinidad 45.43 84 IAmb IAmb 09 17 34.6
comp=Z,10nm,1.2s
KSRS Korea Array 46.89 278 P **P** **09 17 27.4 -0.3**
comp=Z,4.8nm,0.8s,baz=54,slow=7.5,SNR=23
KSRS PcP **PcP** **09 19 01.8 +1.5**
comp=Z,0.4nm,0.5s,baz=70,slow=4.8,SNR=2.4
comp=Z,4.8nm,0.8s
KSAR Wonju Array Be 46.92 278 P **P** **09 17 27.8 -0.2**
I37A Lemond, Waseca 47.62 69 P **P** **09 17 34.1 +0.7**
NUUG Nuugaatsiaq 47.68 23 *i* P **P** **09 17 33.7 +0.3**
NUUG IAmb IAmb 09 17 38.1
comp=Z,9.8nm,0.9s
DAG Danmarks Havn 49.31 9 *i* P **P** **09 17 44.0 -2.0**
DAG IAmb IAmb 09 17 46.1
comp=Z,12nm,0.7s
VHRN Van Horn 49.38 91 IAmb IAmb 09 18 09.7
comp=Z,7.8nm,1.4s
SPITS Spitsbergen Ar 49.46 359 P **P** **09 17 46.0 -1.0**
comp=Z,1.7nm,0.4s,baz=68,slow=4.8,SNR=6.4
comp=Z,1.7nm,0.4s
SUMG Summit 50.09 18 P **P** **09 17 53.4 +1.0**
SUMG Summit 50.09 18 *i* P **P** **09 17 51.8 -0.6**
SUMG IAmb IAmb 09 17 54.3
comp=Z,13nm,1.0s
WMOK Wichita Mounta 50.43 82 IAmb IAmb 09 17 56.8
comp=Z,2.5nm,1.1s
TX31 Lajitas Ar. Si 51.22 91 IAmb IAmb 09 18 03.5
comp=Z,2.7nm,0.8s
TXAR Lajitas Array 51.22 91 P **P** **09 18 02.7 +1.6**
TXAR Lajitas Array 51.22 91 P **P** **09 18 02.9 +1.8**
comp=Z,1.5nm,0.5s,baz=305,slow=5.7,SNR=31
comp=Z,1.5nm,0.5s
P40A Paris 51.25 73 IAmb IAmb 09 18 01.6
comp=Z,7.2nm,0.8s
DBG Daneborg 51.39 11 *i* P **P** **09 18 00.6 -1.1**
DBG IAmb IAmb 09 18 01.7
comp=Z,13nm,0.7s
SFJD Kangerlussuaq 51.48 27 P **P** **09 18 02.9 +0.5**
SFJD Kangerlussuaq 51.48 27 *i* P **P** **09 18 03.1 +0.7**
SFJD IAmb IAmb 09 18 04.7
comp=Z,12nm,0.9s
SAND Sanderson 51.72 89 P **P** **09 18 06.6 +1.8**
SAND IAmb IAmb 09 18 06.7
comp=Z,3.6nm,1.0s
ULN Ulaanbaatar 52.12 302 P **P** **09 18 07.4 -0.3**
HDIL Hopedale 52.17 70 P **P** **09 18 08.0 0.0**
SONM Songino Array 52.48 302 P **P** **09 18 09.8 -0.6**
SONM IAmb IAmb 09 18 11.1
comp=Z,3.1nm,1.1s
SONM Songino Array 52.48 302 P **P** **09 18 09.6 -0.7**
comp=Z,1.1nm,0.4s,baz=57,slow=6.8,SNR=8.5
comp=Z,1.1nm,0.4s
BRDY Brady 52.68 86 P **P** **09 18 12.1 +0.2**
BRDY IAmb IAmb 09 18 12.9
comp=Z,3.1nm,1.0s
TIA Tai'an 54.17 285 P **P** **09 18 23.0 +0.2**
TIA pmax pmax
comp=Z,10.0nm,0.9s
HHC Hu-ho-hao-te 54.25 292 *eP* **P** **09 18 24.5 +1.1**
HHC sP pwP 09 18 35.0 +3.6
HHC pmax pmax
comp=Z,160nm,6.7s
HHC pmax pmax
comp=Z,6.0nm,0.5s
833A Chaparral WMA, 54.55 89 P **P** **09 18 27.2 +1.6**
833A IAmb IAmb 09 18 27.6
comp=Z,6.1nm,0.9s
WLAR White Oak Lake 54.56 79 P **P** **09 18 27.0 +1.4**
HNS HongShan 54.78 287 ⇓P **P** **09 18 28.3 +1.2**
HNS pmax pmax
comp=Z,36nm,0.8s
T47A Sharon Grove 55.83 72 P **P** **09 18 34.7 -0.1**
T47A IAmb IAmb 09 18 35.4
comp=Z,6.3nm,1.0s
IVI Ivigtut 56.51 31 P **P** **09 18 40.5 +1.3**
IVI Ivigtut 56.51 31 *i* P **P** **09 18 40.4 +1.2**
IVI IAmb IAmb 09 18 41.5
comp=Z,30nm,1.2s
ARCES ARCESS Array B 57.83 355 P **P** **09 18 48.4 -0.1**
ARCES ARCESS Array B 57.83 355 P **P** **09 18 48.1 -0.4**
comp=Z,1.4nm,0.4s,baz=23,slow=7.9,SNR=26
ARCES PcP **PcP** **09 19 41.0 +0.2**
comp=Z,1.0nm,0.6s,baz=38,slow=4.6,SNR=3.8
ARCES LR LR 09 45 36.3
comp=Z,143nm,18.4s,baz=112,slow=38
comp=Z,1.4nm,0.4s
J58A Remsen 58.00 59 P **P** **09 18 50.2 +0.2**
LYN LuoYang 58.06 286 P **P** **09 18 51.8 +1.2**
LYN pmax pmax
comp=Z,28nm,0.6s
NCB Newcomb 58.13 58 P **P** **09 18 51.0 0.0**
NCB IAmb IAmb 09 19 26.1
comp=Z,6.8nm,1.1s
ZALV Zalesovo Beam 58.26 319 P **P** **09 18 51.3 -0.4**
ZALV Zalesovo Beam 58.26 319 P **P** **09 18 50.3 -1.4**
comp=Z,1.3nm,0.4s,baz=35,slow=7.9,SNR=4.9
comp=Z,1.3nm,0.4s
J59A Piesco 58.33 59 P **P** **09 18 52.6 +0.2**
J59A IAmb IAmb 09 18 59.9
comp=Z,11nm,1.4s
LVZ Lovozero 58.74 351 P **P** **09 18 54.6 -0.3**
F64A Sherman 59.74 53 P **P** **09 19 01.6 -0.5**
WUPA West Chester U 60.24 62 P **P** **09 19 04.8 -0.7**
WUPA IAmb IAmb 09 19 06.1
comp=Z,6.7nm,1.2s
XAN Xi'an 60.48 288 P **P** **09 19 07.5 +0.1**
XAN pmax pmax
comp=Z,21nm,0.9s
SSLB Suanglung 60.74 271 P **P** **09 19 08.8 -0.4**
LMN Caledonia Moun 61.46 51 P **P** **09 19 13.9 +0.1**
LZH Lanzhou 61.91 293 ⇑P **P** **09 19 18.5 +1.3**
LZH pP pwP 09 19 23.3 -1.9
LZH pmax pmax
comp=Z,21nm,1.4s
KURBB Kurchatov Arra 63.30 320 P **P** **09 19 25.8 -0.3**
comp=Z,2.3nm,0.8s,baz=46,slow=7.3,SNR=22
comp=Z,2.3nm,0.8s
JOF Joensuu 63.93 351 *eP* **P** **09 19 29.9 -0.1**
BVAR Borovoye Array 64.38 326 P **P** **09 19 32.8 -0.4**
comp=Z,2.9nm,0.6s,baz=63,slow=7.3,SNR=10
comp=Z,2.9nm,0.6s
BRVK Borovoye 64.39 326 P **P** **09 19 33.2 0.0**
VAF Yilstarc 64.44 355 *eP* **P** **09 19 33.0 -0.3**
MK31 Makanchi Array 64.73 315 P **P** **09 19 34.5 -1.1**
MK31 IAmb IAmb 09 19 35.4
comp=Z,2.7nm,0.8s
MKAR Makanchi Array 64.73 315 P **P** **09 19 34.2 -1.4**
MKAR Makanchi Array 64.73 315 P **P** **09 19 34.6 -1.0**
comp=Z,3.1nm,0.7s,baz=44,slow=5.7,SNR=34
comp=Z,3.1nm,0.7s
MAKZ Makanchi 64.86 315 P **P** **09 19 35.7 -0.7**
ARU Arti 65.08 334 P **P** **09 19 37.7 +0.1**
KEF Keuruu 65.19 354 *eP* **P** **09 19 37.7 -0.5**
FIA1 FINESS Array S 65.82 353 P **P** **09 19 42.0 -0.3**
FINES FINESS Array B 65.83 353 P **P** **09 19 41.7 -0.6**
comp=Z,8.2nm,0.5s,baz=23,slow=7.0,SNR=72
comp=Z,8.2nm,0.5s
NC303 NORSAR Array S 66.50 1 P **P** **09 19 47.1 +0.4**
RAF Rauma 66.50 355 *eP* **P** **09 19 46.6 0.0**
NC405 NORSAR Array S 66.62 1 P **P** **09 19 46.9 -0.6**
NB2 NORSAR Subarra 66.69 1 P **P** **09 19 47.9 0.0**
comp=Z,2.1nm,0.6s,baz=1.0,slow=6.9
NOA NORSAR Array B 66.69 1 P **P** **09 19 47.9 0.0**
comp=Z,1.3nm,0.4s,baz=359,slow=6.1,SNR=7.8
comp=Z,1.3nm,0.4s
MEF Metsahovi 67.16 354 *eP* **P** **09 19 50.9 0.0**
HFS Hagfors 67.61 360 P **P** **09 19 53.1 -0.7**
comp=Z,8.2nm,0.4s,baz=29,slow=3.4,SNR=110
comp=Z,8.2nm,0.4s
ARBE Arbavere 67.82 353 *eP* **P** **09 19 55.4 +0.3**
PZH PanZhiHua 70.21 288 P **P** **09 20 10.5 -0.2**
PZH pmax pmax
comp=Z,20nm,0.9s
KMI Kunming 70.68 286 ⇑P P 09 20 19.0 +5.4
KMI pmax pmax
comp=Z,11nm,0.9s
BOOM Boomskoye usch 70.90 316 P **P** **09 20 14.2 -0.5**
ABKAR Akbulak array 71.02 330 P **P** **09 20 14.6 -0.5**
AAK Ala-Archa 71.38 317 P **P** **09 20 17.3 -0.3**
AAK Ala-Archa 71.38 317 P **P** **09 20 17.2 -0.4**
comp=Z,5.6nm,0.6s,baz=66,slow=3.5,SNR=8.5
comp=Z,5.6nm,0.6s
EKA Eskdalemuir Ar 71.58 10 P **P** **09 20 17.9 -0.4**
comp=Z,3.1nm,0.7s,baz=349,slow=4.6,SNR=9.5
comp=Z,3.1nm,0.7s
PABE Paberze 71.88 354 P **P** **09 20 20.7 +0.6**
PABE Paberze 71.88 354 *eP* **P** **09 20 20.5 +0.5**
KK31 Karatay Array 72.61 320 P **P** **09 20 24.8 0.0**
KK31 IAmb IAmb 09 20 25.5
comp=Z,4.0nm,0.9s
KKAR Karatay Array 72.61 320 P **P** **09 20 24.8 +0.1**
TGUH Tegucigalpa,Un 72.65 90 P **P** **09 20 24.1 -1.4**
KSH Kashi 73.32 314 P **P** **09 20 33.0 +3.8**
KSH pP pwP 09 20 37.5 +0.4
KSH pmax pmax
comp=Z,13nm,0.5s
GAR Garm 76.16 318 P **P** **09 20 45.6 0.0**
AKASG Malin Array Be 76.17 350 P **P** **09 20 44.9 -0.4**
comp=Z,6.4nm,0.6s,baz=14,slow=5.6,SNR=14
comp=Z,6.4nm,0.6s
AKBB Malin Array Si 76.17 350 P **P** **09 20 44.9 -0.4**
KIEV Kiev 76.17 350 P **P** **09 20 45.0 -0.3**
AK05 Malin Array Si 76.25 350 P **P** **09 20 45.7 0.0**
CLL Collm 76.45 0 *i* P **P** **09 20 47.2 +0.3**
comp=Z,6.0nm,1.0s
CHGR Chuyangaron 76.92 318 P **P** **09 20 50.1 +0.2**
BMRD Maredsous 77.22 5 *dP* **P** **09 20 52.4 +1.2**
comp=Z,6.3nm,0.8s
MORC Moravsky Berou 77.92 357 *eP* **P** **09 20 55.1 -0.1**
CMAR Chiang Mai Arr 78.05 285 P **P** **09 20 55.5 -0.8**
comp=Z,1.1nm,0.6s,baz=34,slow=7.4,SNR=6.5
comp=Z,1.1nm,0.6s
VRAC Vranov 78.41 358 *eP* **P** **09 20 58.8 +0.9**
KOLS Kolonicke sedl 78.53 354 *eP* **P** **09 20 59.5 +0.9**
KHC Kasperske Hory 78.63 360 P **P** **09 20 59.5 +0.4**
KRUC Moravsky 78.66 358 *eP* **P** **09 21 00.0 +0.7**
JAVC Velka Javorina 78.83 357 *eP* **P** **09 21 01.8 +1.5**
GERES GERESS Array B 78.92 360 P **P** **09 21 00.6 -0.2**
comp=Z,0.6nm,0.4s,baz=6.8,slow=2.5,SNR=2.1
comp=Z,0.6nm,0.4s
VYHS Vyhne 79.15 356 *eP* **P** **09 21 03.2 +1.2**
MODS Modra-Piesok 79.33 357 *eP* **P** **09 21 05.0 +2.0**
BUR08 Bucovina Ar. S 79.59 352 P **P** **09 21 04.6 +0.1**
BUR08 IAmb IAmb 09 21 06.2
comp=Z,6.9nm,1.4s
BURAR Bucovina Array 79.62 352 P **P** **09 21 04.5 -0.2**
BURAR IAmb IAmb 09 21 06.1
comp=Z,2.4nm,0.8s
PSZ Piszkesteto 79.68 355 P **P** **09 21 06.1 +1.1**
PSZ IAmb IAmb 09 21 07.2
comp=Z,7.5nm,1.1s
CONA Conrad Observa 79.81 358 *i* P **P** **09 21 06.4 +0.7**
comp=Z,1.8nm,0.4s
RONA Rosalia, Austr 80.03 358 *i* pP **P** **09 21 08.9 +2.1**
comp=Z,8.7nm,1.9s
MOTA Moosalm 80.41 1 *i* P **P** **09 21 10.2 +1.2**
comp=Z,9.7nm,1.2s
WATA Walderalm 80.42 1 *eP* **P** **09 21 10.3 +1.2**
comp=Z,3.6nm,0.6s
KBL Kabul 80.49 316 P **P** **09 21 09.0 -0.8**
WTTA Wattenberg 80.49 1 *eP* **P** **09 21 10.9 +1.4**
comp=Z,4.7nm,0.5s
ARSA Arzberg 80.49 358 *i* P **P** **09 21 11.0 +1.7**
comp=Z,4.7nm,1.0s
SQTA Sankt Quirin 80.53 1 *i* P **P** **09 21 11.1 +1.5**
comp=Z,9.3nm,1.0s
KBZ Khabaz 80.67 339 P **P** **09 21 10.8 +0.6**
comp=Z,1.0nm,0.5s,baz=160,slow=1.4,SNR=5.0
comp=Z,1.0nm,0.5s
KBA Koelnbreinsper 80.69 360 *i* P **P** **09 21 12.0 +1.5**
comp=Z,5.6nm,0.6s
FETA Feichten 80.72 2 *i* P **P** **09 21 12.2 +1.5**
comp=Z,4.0nm,0.7s
ABTA Abfaltersbach 81.02 0 *i* PcP **P** **09 21 13.8 +1.6**
comp=Z,5.6nm,1.0s
SOKA Soboth 81.07 359 *ePcP* **P** **09 21 14.1 +1.6**
comp=Z,0.9nm,0.2s
MYKA Terra Mystica 81.14 360 *i* PcP **P** **09 21 14.4 +1.6**
comp=Z,1.6nm,0.4s
TUE Stuetta 81.24 3 P **P** **09 21 14.8 +1.2**
TUE IAmb IAmb 09 21 16.0
comp=Z,5.2nm,1.0s
OBKA Obir 81.25 359 *eP* **P** **09 21 14.2 +0.8**
comp=Z,6.5nm,0.7s
BRTR Keskin Array B 86.33 344 P **P** **09 21 39.5 -0.1**
comp=Z,1.6nm,0.8s,baz=48,slow=1.8,SNR=9.4
comp=Z,1.6nm,0.8s
ESDC Sonseca Array 86.90 13 P **P** **09 21 41.7 -0.6**
comp=Z,0.8nm,0.7s,baz=343,slow=4.7,SNR=6.1
comp=Z,0.8nm,0.7s
WRA Warramunga Arr 88.37 234 P **P** **09 21 49.4 0.0**
comp=Z,0.5nm,0.8s,baz=31,slow=5.6,SNR=3.7
comp=Z,0.5nm,0.8s
H03N2 Juan Fernandez 114.60 113 T T 11 32 56.2
baz=322,slow=77,SNR=4.4
H03N1 Juan Fernandez 114.62 113 T T 11 33 00.4
baz=322,slow=77,SNR=3.8
H03N3 Juan Fernandez 114.62 113 T T 11 32 57.1
baz=322,slow=77,SNR=6.1

*MOS **31** 09:20:17.2±1.2, 44°.33N×148°.39E, h91km, mb4.4/24, Error ellipse: s-maj=7.9km s-min=6.6km az=86.1*
*SKHL **31** 09:20:18.6±0.4, 44°.30N×148°.40E, h94km±5km, mb5.1/7, msha6.5/3*
*JMA **31** 09:20:18.3±0.3, 44°N±2°×14°8E±°, h0km, MV4.9/33, SE OFF ETOROFU*
*IDC **31** 09:20:19.0±2.3, 44°.45N×148°.21E, h90km±20km, mb3.8/19, mbtmp4.1/23, Error ellipse: s-maj=15.4km s-min=13.0km az=116.0*
*NEIC **31** 09:20:21.3±1.2, 44°.53N±0°.09×148°.2E±0°.1, h97km±8km, mb4.5/125, Error ellipse: s-maj=13.9km s-min=11.4km az=132.0*
ISC 31 09:20:17.7±0.7,**44°.35N**±0°.04×**148°.41E**±0°.05,**h77**km±6km,
n452,σ1$**24**/472,**mb4.5**/108,**4C-3D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.97**	**337**	*i* P	**Pn**	**09 20 37.2**	**+1.1**
KUR				AMB	AMB	09 20 37.6	
2μm,0.4s
KUR *i* S **Sn** **09 20 51.1 +1.2**
KUR A A 09 20 52.7
11μm,0.5s
KUR A A 09 20 52.7
11μm,0.5s
KUR A A 09 20 53.2
17μm,2.0s
KUR A A 09 20 53.2
12μm,2.0s
KUR Kuril'sk 0.97 337 *d* PN **Pn** **09 20 37.0 +0.9**
KUR *i* S **Sn** **09 20 50.7 +0.8**
KUR pmax pmax
comp=Z,3μm,0.4s
KUR pmax pmax
comp=E,648nm,0.3s
KUR smax smax
comp=E,11μm,0.5s
KUR smax smax
comp=N,6μm,0.3s
KUR smax smax
comp=N,17μm,2.0s
KUR smax smax
comp=E,12μm,2.1s
SHO Shikotan 1.23 248 *eP* **Pn** **09 20 39.9 +0.5**
SHO AMB AMB 09 20 40.1
comp=E,130nm,0.1s
SHO *e*S **Sn** **09 20 55.0 -0.8**
SHO A A 09 20 55.7
comp=E,8μm,0.3s
SHO A A 09 20 55.7
comp=E,6μm,0.3s
SHO Shikotan 1.23 248 *e*PN **Pn** **09 20 39.8 +0.4**
SHO *e*S **Sn** **09 20 54.9 -0.8**
SHO pmax pmax
comp=N,43nm,0.1s
SHO pmax pmax
comp=E,47nm,0.1s
SHO pmax pmax
comp=Z,129nm,0.1s
SHO smax smax
comp=N,8μm,0.4s
SHO smax smax
comp=E,6μm,0.2s
YUK Yuzh-Kuril'sk 1.86 261 *eP* **Pn** **09 20 48.5 +0.9**
YUK AMB AMB 09 20 50.6
comp=E,490nm,0.2s
YUK *e*S **Sn** **09 21 10.8 +0.5**
YUK A A 09 21 12.3
comp=E,4μm,0.4s
YUK A A 09 21 12.3
comp=E,7μm,0.4s
YUK Yuzh-Kuril'sk 1.86 261 *e*PN **Pn** **09 20 48.5 +0.9**
YUK *e*S **Sn** **09 21 10.8 +0.5**
YUK pmax pmax
comp=E,442nm,0.2s
YUK pmax pmax
comp=Z,494nm,0.2s
YUK pmax pmax
comp=N,280nm,0.1s
YUK smax smax
comp=N,4μm,0.2s
YUK smax smax
comp=E,7μm,0.5s
NEM2 Nemuro 2 2.17 244 P **Pn** **09 20 51.8 +0.2**
NEM2 S **Sn** **09 21 16.1 -1.5**
NMR Nemuro--Hokkai 2.17 244 *eP* **Pn** **09 20 52.0 +0.3**
NMR *e*S **Sn** **09 21 16.8 -1.0**
NMR Nemuro--Hokkai 2.17 244 *e*PN **Pn** **09 20 52.0 +0.3**
NMR *e*S **Sn** **09 21 16.4 -1.4**
RUSJ Misakicho 2.29 265 *e*PN **Pn** **09 20 55.3 +2.0**
RUSJ *e*S **Sn** **09 21 22.3 +1.8**
JRA Rausu 2.40 261 *i* P **Pn** **09 20 56.6 +1.8**
JRA S **Sn** **09 21 25.0 +1.7**
JNSB Nemuroshibetsu 2.52 258 P **Pn** **09 20 58.4 +1.9**
JNSB *e*S **Sn** **09 21 27.1 +0.9**
JKHN Kushirohamanak 2.67 243 *i* P **Pn** **09 20 59.1 +0.6**
JKHN S **Sn** **09 21 28.7 -1.2**
JNK Nakash 2.77 255 *i* P **Pn** **09 21 00.9 +1.1**
JNK S **Sn** **09 21 32.4 +0.1**
AKK Akkeshi 2.91 244 *eP* **Pn** **09 21 02.2 +0.5**
JAK Akkeshi 3.01 245 P **Pn** **09 21 03.5 +0.4**
JAK *e*S **Sn** **09 21 36.4 -1.7**
JTKR Abashiri--Toko 3.26 265 P **Pn** **09 21 08.2 +1.8**
JAR Ashorobuto 3.52 254 P **Pn** **09 21 11.9 +1.9**
JAR *e*S **Sn** **09 21 51.2 +0.7**
JCH Churui 4.06 247 P **Pn** **09 21 18.0 +0.7**
JCH S **Sn** **09 22 02.0 -1.6**
JKK2 Kamakawa 2 4.11 265 P **Pn** **09 21 20.2 +2.2**
JKA Kamikawa-asahi 4.18 269 Pn **Pn** **09 21 20.9 +1.9**
JKA Sn **Sn** **09 22 05.8 -0.8**
JKA Kamikawa-asahi 4.18 269 *eP* **Pn** **09 21 20.3 +1.3**
ASAJ Asahikawa 4.18 269 P **Pn** **09 21 20.3 +1.3**
comp=E,19nm,0.5s,baz=83,slow=17,SNR=33
ASAJ S **Sn** **09 22 05.8 -0.8**
comp=E,33nm,0.6s,baz=321,slow=16,SNR=3.5
ERM Erimo 4.49 241 **Sn** **09 21 24.9 +1.7**
ERM Sn **Sn** **09 22 15.7 +1.5**
ERM Erimo 4.49 241 PN **Pn** **09 21 24.9 +1.7**
ERM 09 22 15.7
JNBK Urakawa-nobuka 4.62 245 *i* P **Pn** **09 21 25.3 +0.4**
JSS Shosan 4.70 273 *eP* Pn 09 21 30.0 +3.9
YSS Yuzh-Sakhalins 4.75 305 Pn **Pn** **09 21 28.0 +1.3**
YSS Yuzh-Sakhalins 4.75 305 *eP* **Pn** **09 21 28.5 +1.8**
YSS AMB AMB 09 21 30.1
comp=E,50nm,0.6s
YSS *e*S **Sn** **09 22 19.0 -1.4**
YSS Yuzh-Sakhalins 4.75 305 *e*PN **Pn** **09 21 28.5 +1.8**
YSS *e*S **Sn** **09 22 19.0 -1.4**
YSS pmax pmax
comp=Z,50nm,0.7s
YSS pmax pmax
comp=N,30nm,0.6s
YSS pmax pmax
comp=E,40nm,0.8s
YSS smax smax
comp=N,60nm,0.7s
YSS smax smax
comp=E,60nm,0.8s
JEW Eniwo 5.28 256 P **Pn** **09 21 36.2 +2.3**
JOT Ohata 6.17 244 P **Pn** **09 21 46.0 -0.1**
JOT S **Sn** **09 22 50.5 -4.6**
JANG Nango 6.47 235 P **Pn** **09 21 48.6 -1.6**
JANG S **Sn** **09 22 56.1 -6.5**
JOSM Okushiri--Mats 6.91 254 P **Pn** **09 21 57.4 +1.2**
JOSM S **Sn** **09 23 12.7 -0.6**
TYV Tymovskoe 7.59 331 *eP* **Pn** **09 22 08.0 +2.5**
TYV *e*S **Sn** **09 23 29.5 -0.4**
TYV Tymovskoe 7.59 331 *e*PN **Pn** **09 22 09.8 +4.3**
TYV *e*S Sn 09 23 39.9 +10
TYV pmax pmax
comp=Z,11nm,0.7s
TYV pmax pmax
comp=Z,100nm,3.8s
TYV smax smax
comp=N,4.0nm,1.2s
TYV smax smax
comp=E,6.0nm,1.2s
JMK Ichinoseki 7.62 227 *eP* **Pn** **09 22 04.7 -1.2**
JMK *e*S **Sn** **09 23 24.6 -6.0**
SKR Severo-Kuril's 8.21 37 *eP* **Pn** **09 22 14.3 +0.4**
SKR AMB AMB 09 22 15.2
comp=E,60nm,0.5s
SKR *e*S **Sn** **09 23 42.3 -2.6**
SKR Severo-Kuril's 8.21 37 *e*PN **Pn** **09 22 14.2 +0.4**
SKR pmax pmax
comp=Z,56nm,0.5s
SKR pmax pmax
comp=Z,500nm,6.7s
SKR MLR MLR
comp=Z,1μm,13.0s
KDTR Khodutka, Kamc 9.87 37 *eP* **Pn** **09 22 37.2 +0.7**
KDTR *e*S **Sn** **09 24 23.0 -2.5**
NKL Nikolayevsk 10.18 333 *eP* **Pn** **09 22 42.8 +2.1**
MJA0 Matsu Arr-Jizo 10.98 228 *e*PN **Pn** **09 22 51.3 -0.5**
MAJO Matsushiro 11.00 228 *i* PN **Pn** **09 22 50.3 -1.8**
MJAR Matsushiro Arr 11.00 228 P **Pn** **09 22 51.4 -0.7**
comp=Z,4.6nm,0.7s,baz=28,slow=14,SNR=19
MJAR S **Sn** **09 24 50.0 -3.3**
comp=Z,0.8nm,0.4s,baz=318,slow=28,SNR=1.2
USA0B Ussuriysk Arra 11.78 275 *i* PN **Pn** **09 23 03.5 +0.9**
JGF Kuroka 12.16 228 Pn **Pn** **09 23 06.9 -1.0**
KLR Kul'dur 12.41 299 *eP* **Pn** **09 23 11.1 -0.1**
KLR Kul'dur 12.41 299 *i* PN **Pn** **09 23 11.1 -0.1**

KLR pmax pmax
comp=Z,1.0nm,0.9s
MA2 Magadan 15.32 5 Pn **Pn 09 23 47.7 -1.5**
MA2 IAmb IAmb 09 24 02.2
comp=Z,55nm,1.4s
MA2 Magadan 15.32 5 P **Pn 09 23 48.6 -0.6**
comp=Z,6.2nm,0.5s,baz=186,slow=12,SNR=6.0
MA2 Magadan 15.32 5 *e*P **Pn 09 23 47.7 -1.5**
MA2 Magadan 15.32 5 P **Pn 09 23 47.7 -1.5**
MA2 pmax pmax
comp=Z,55nm,1.4s
ZEA Zeya 16.70 312 *e*P **Pn 09 24 04.3 -2.2**
ZEA Zeya 16.70 312 *i* P **P 09 24 07.2 -0.4**
JCJ Chichijima 17.93 198 P **Pn 09 24 24.8 +3.1**
SEY Seymchan 18.77 6 P **P 09 24 28.8 -1.5**
comp=Z,10nm,0.7s,baz=189,slow=11,SNR=13
SEY Seymchan 18.77 6 *i* P **P 09 24 28.9 -1.4**
SEY pmax pmax
comp=Z,17nm,1.1s
YAK Yakutsk 20.83 335 P **P 09 24 50.0 -2.7**
YAK Yakutsk 20.83 335 P **P 09 24 50.1 -2.5**
comp=Z,54nm,0.5s,baz=105,slow=1.2,SNR=8.7
YAK Yakutsk 20.83 335 *e*P **P 09 24 49.6 -3.0**
YAK *e**PP **pP 09 25 12.6 +4.2**
YAK *e*S **S 09 28 36.1 -4.3**
YAK *e* 09 28 56.8
YAK *e* 09 36 10.6
YAK pmax pmax
comp=Z,48nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK smax smax
comp=N,42nm,1.8s
TIA Tai'an 25.10 262 P **P 09 25 38.3 +3.2**
TIA pmax pmax
comp=Z,4.0nm,0.7s
BILL Bilibino 25.54 16 *e*P **P 09 25 37.9 -0.8**
BILL Bilibino 25.54 16 ||*e*P **P 09 25 37.9 -0.8**
BILL *e* 09 26 13.7
BILL *e*S **S 09 30 08.0 +7.6**
BILL pmax pmax
comp=Z,12nm,1.3s
BILL MLR MLR
comp=Z,177nm,15.0s
NJ2 Nanjing 26.12 252 *e*P **P 09 25 45.5 +1.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
HHC Hu-ho-hao-te 27.20 276 *e*P **P 09 25 53.5 -0.6**
HHC pmax pmax
comp=Z,200nm,8.0s
HHC pmax pmax
comp=Z,12nm,0.5s
H11N2 WAKE ISLAND Hy 28.98 142 T T 09 57 05.1
baz=333,slow=76,SNR=216
H11N1 WAKE ISLAND Hy 28.99 142 T T 09 57 08.9
baz=333,slow=76,SNR=232
H11N3 WAKE ISLAND Hy 29.00 142 T T 09 57 09.2
baz=333,slow=76,SNR=296
SONM Songino Array 29.09 292 P **P 09 26 10.3 -0.6**
comp=Z,0.4nm,0.4s,baz=64,slow=10,SNR=3.1
comp=Z,0.4nm,0.4s
H11S1 WAKE ISLAND Hy 29.98 143 T T 09 58 24.1
baz=334,slow=76,SNR=485
H11S3 WAKE ISLAND Hy 29.98 143 T T 09 58 22.6
baz=334,slow=76,SNR=399
H11S2 WAKE ISLAND Hy 29.99 143 T T 09 58 25.5
baz=334,slow=76,SNR=353
YULB Yu-li 30.48 236 P **P 09 26 24.2 +0.9**
YULB IAmb IAmb 09 26 44.1
comp=Z,12nm,1.3s
KNMB Chin-men Tao 31.46 241 P **P 09 26 34.2 +2.3**
J14K Nanvaranak Lak 32.94 39 P **P 09 26 45.9 +1.5**
J14K Nanvaranak Lak 32.94 39 P **P 09 26 44.6 +0.3**
baz=259
F15K North Star Dit 33.19 34 P **P 09 26 46.9 +0.3**
F15K IAmb IAmb 09 27 22.7
comp=Z,9.1nm,1.1s
M14K Bethel 33.38 43 P **P 09 26 49.5 +1.3**
C16K Lisburne Hills 33.77 29 P **P 09 26 52.0 +0.4**
C16K IAmb IAmb 09 26 54.5
comp=Z,5.2nm,0.8s
C16K Lisburne Hills 33.77 29 P **P 09 26 51.7 +0.1**
baz=249
K15K Wolf Creek Mou 33.79 40 P **P 09 26 51.5 -0.3**
G16K Koyuk River 34.03 35 P **P 09 26 52.9 -1.0**
G16K IAmb IAmb 09 27 18.9
comp=Z,15nm,1.4s
N15K Kwethluk River 34.25 44 P **P 09 26 58.1 +2.3**
J16K Anvik River 34.36 38 P **P 09 26 58.5 +1.8**
J16K IAmb IAmb 09 27 41.6
comp=Z,13nm,1.4s
D17K Noatak River 34.38 30 P **P 09 26 56.8 -0.1**
baz=252
I17K Unalakleet 34.42 37 P **P 09 26 57.6 +0.4**
I17K Unalakleet 34.42 37 P **P 09 26 57.7 +0.4**
baz=260
C17K DeLong Mountai 34.60 29 P **P 09 26 58.8 0.0**
baz=251,SNR=8.0
E17K Hotham Inlet 34.67 32 P **P 09 26 60.0 +0.6**
baz=255
L16K Owhat River 34.68 41 P **P 09 27 00.6 +1.1**
L16K Owhat River 34.68 41 P **P 09 27 00.2 +0.7**
baz=265
F17K Baldwin Pennin 34.73 33 P **P 09 26 58.8 -1.0**
F17K IAmb IAmb 09 27 03.1
comp=Z,10nm,1.0s
F17K Baldwin Pennin 34.73 33 P **P 09 27 00.5 +0.7**
baz=256
G17K Kiwalik Mounta 34.75 35 P **P 09 27 00.5 +0.4**
baz=258,SNR=6.0
M16K Timber Creek 34.87 43 P **P 09 27 02.3 +1.2**
M16K Timber Creek 34.87 43 P **P 09 27 02.0 +0.9**
baz=266
N16K Nishlik Lake 34.93 44 P **P 09 27 02.2 +0.6**
baz=267
H17K Granite Mounta 34.94 36 P **P 09 27 02.4 +0.7**
H17K IAmb IAmb 09 27 09.1
comp=Z,3.7nm,0.7s
H17K Granite Mounta 34.94 36 P **P 09 27 02.1 +0.3**
baz=260
J17K VABM Dome 35.06 38 P **P 09 27 04.1 +1.4**
J17K IAmb IAmb 09 27 05.3
comp=Z,9.8nm,1.2s
J17K VABM Dome 35.06 38 P **P 09 27 03.2 +0.4**
baz=263
E18K Tukpahlearik C 35.22 31 P **P 09 27 04.9 +0.9**
E18K Tukpahlearik C 35.22 31 P **P 09 27 05.0 +0.9**
baz=256
O16K Kokwok River B 35.23 45 P **P 09 27 06.2 +1.9**
L17K Donlin 35.27 41 P **P 09 27 05.1 +0.5**
baz=265
K17K Iditarod 35.33 40 P **P 09 27 06.2 +1.1**
K17K IAmb IAmb 09 27 07.2
comp=Z,9.5nm,1.1s
K17K Iditarod 35.33 40 P **P 09 27 05.5 +0.5**
baz=264
C18K Utukok River 35.34 29 P **P 09 27 05.7 +0.4**
C18K Utukok River 35.34 29 P **P 09 27 05.4 +0.2**
baz=253,SNR=6.1
B18K Kokolik River 35.36 28 P **P 09 27 05.1 -0.1**
baz=252
F18K Selawik 35.39 33 P **P 09 27 06.2 +0.8**
baz=258
H18K Honhosa River 35.63 36 P **P 09 27 09.0 +1.4**
H18K Honhosa River 35.63 36 P **P 09 27 08.1 +0.5**
baz=261,SNR=7.8
M17K Holitna River 35.63 42 P **P 09 27 09.4 +1.8**
M17K Holitna River 35.63 42 P **P 09 27 08.6 +1.0**
baz=267
G18K Tagagawik 35.64 34 P **P 09 27 08.8 +1.1**
G18K Tagagawik 35.64 34 P **P 09 27 08.1 +0.4**
baz=260,SNR=10
N17K Nushagak Hills 35.71 44 P **P 09 27 09.3 +0.9**
baz=269
O17K Koliganek Bris 35.74 45 P **P 09 27 09.3 +0.7**
baz=270
A19K Wainwright 35.87 27 P **P 09 27 09.8 +0.2**
baz=251
L18K Granite Mounta 36.03 41 P **P 09 27 13.3 +2.2**
L18K Granite Mounta 36.03 41 P **P 09 27 12.0 +0.9**
baz=267
C19K Lookout Ridge 36.03 29 P **P 09 27 11.4 +0.3**
C19K IAmb IAmb 09 27 13.9
comp=Z,5.4nm,0.7s
C19K Lookout Ridge 36.03 29 P **P 09 27 12.2 +1.1**
baz=254
P17K Kvichak River 36.08 46 P **P 09 27 12.2 +0.7**
baz=271
J18K Innoko River 36.12 39 P **P 09 27 12.6 +0.7**
J18K IAmb IAmb 09 27 13.9
comp=Z,4.7nm,0.9s
J18K Innoko River 36.12 39 P **P 09 27 12.6 +0.7**
baz=265
F19K Shaleruckik Mo 36.16 33 P **P 09 27 13.0 +0.8**
F19K IAmb IAmb 09 27 13.4
comp=Z,4.9nm,0.7s
F19K Shaleruckik Mo 36.16 33 P **P 09 27 12.5 +0.3**
baz=259
G19K Purcell Mounta 36.31 34 P **P 09 27 13.8 +0.4**
G19K IAmb IAmb 09 27 19.1
comp=Z,4.3nm,0.7s
G19K Purcell Mounta 36.31 34 P **P 09 27 14.2 +0.8**
baz=261
N18K Kilae Creek 36.35 43 P **P 09 27 14.7 +0.8**
baz=270
Q17K Contact Creek 36.39 47 P **P 09 27 15.1 +0.8**
baz=273
D19K Kuna River 36.40 30 P **P 09 27 14.4 +0.2**
D19K IAmb IAmb 09 27 21.5
comp=Z,6.7nm,0.9s
D19K Kuna River 36.40 30 P **P 09 27 14.7 +0.5**
baz=257
M18K Stony River 36.41 42 P **P 09 27 15.2 +0.9**
baz=268
H19K Roundabout Mou 36.48 35 P **P 09 27 15.9 +1.1**
H19K Roundabout Mou 36.48 35 P **P 09 27 15.8 +1.0**
baz=262,SNR=22
E19K Redstone River 36.49 32 P **P 09 27 15.7 +0.7**
E19K Redstone River 36.49 32 P **P 09 27 16.1 +1.1**
baz=259,SNR=15
J19K Poorman 36.65 38 P **P 09 27 17.1 +0.8**
J19K IAmb IAmb 09 27 18.2
comp=Z,8.3nm,0.9s
J19K Poorman 36.65 38 P **P 09 27 17.3 +0.9**
baz=265,SNR=6.4
P18K Big Mountain, 36.69 45 P **P 09 27 16.8 0.0**
baz=272
O18K Koktuh Hills 36.69 45 P **P 09 27 17.8 +1.0**
baz=271
Q18K Katmai Hardscr 36.83 47 P **P 09 27 17.7 -0.4**
baz=273
L19K White Mountain 36.89 41 P **P 09 27 19.7 +1.3**
L19K IAmb IAmb 09 27 22.3
comp=Z,14nm,1.4s
L19K White Mountain 36.89 41 P **P 09 27 18.9 +0.5**
baz=268
D20K Etivluk River 36.98 30 P **P 09 27 19.5 +0.4**
baz=258,SNR=8.5
F20K Avaraart Lake 37.00 33 P **P 09 27 20.1 +0.9**
F20K Avaraart Lake 37.00 33 P **P 09 27 19.9 +0.7**
baz=261
E20K Nigu River 37.04 31 P **P 09 27 19.5 -0.2**
baz=259,SNR=16
N19K Bonanza Creek 37.05 43 P **P 09 27 20.3 +0.4**
baz=271
B20K Meade River 37.10 28 P **P 09 27 20.8 +0.8**
B20K Meade River 37.10 28 P **P 09 27 20.0 0.0**
baz=256,SNR=8.6
M19K Big River Lodg 37.10 41 P **P 09 27 21.1 +0.9**
baz=269
H20K Anotleneega Mo 37.12 35 P **P 09 27 20.9 +0.6**
baz=264,SNR=7.8
R18K Karluk 37.20 48 P **P 09 27 21.5 +0.5**
baz=275
I20K Naaghedeneel 37.22 36 P **P 09 27 21.9 +0.8**
baz=265
K20K Telida 37.30 39 P **P 09 27 23.9 +2.1**
K20K IAmb IAmb 09 27 36.2
comp=Z,8.6nm,1.5s
K20K Telida 37.30 39 P **P 09 27 22.3 +0.4**
baz=268
J20K Nowinta River 37.31 38 P **P 09 27 23.1 +1.2**
J20K IAmb IAmb 09 27 24.2
comp=Z,9.0nm,0.9s
J20K Nowinta River 37.31 38 P **P 09 27 22.6 +0.7**
baz=266,SNR=5.6
L20K Farewell, AK 37.35 40 P **P 09 27 22.7 +0.3**
baz=269
Q19K Cape Douglas, 37.53 46 P **P 09 27 24.5 +0.6**
baz=274
IMAR Indian Mountai 37.64 35 P **P 09 27 25.6 +0.9**
M20K Styx River 37.70 41 P **P 09 27 25.1 -0.2**
M20K Styx River 37.70 41 P **P 09 27 26.1 +0.7**
baz=270
P19K Oil Pt 37.70 45 P **P 09 27 26.0 +0.7**
baz=273
C21K Knifeblade Rid 37.72 29 P **P 09 27 25.6 +0.3**
baz=259,SNR=6.3
G21K Allakaket 37.80 34 P **P 09 27 27.1 +1.1**
G21K Allakaket 37.80 34 P **P 09 27 26.2 +0.2**
baz=264,SNR=13
OHAK Old Harbor 37.85 49 P **P 09 27 27.2 +0.6**
baz=276
B21K Ikpikpuk River 37.87 29 P **P 09 27 27.9 +1.4**
B21K Ikpikpuk River 37.87 29 P **P 09 27 26.5 0.0**
baz=259,SNR=9.8
E21K Killik River 37.88 31 P **P 09 27 27.7 +0.9**
E21K Killik River 37.88 31 P **P 09 27 26.9 +0.2**
baz=261
F21K Alatna River 37.89 33 P **P 09 27 27.9 +1.1**
F21K Alatna River 37.89 33 P **P 09 27 27.0 +0.2**
baz=263,SNR=7.7
O20K Slope Mountain 37.99 44 P **P 09 27 27.5 -0.3**
baz=273
H21K Melozitna Rive 38.00 35 P **P 09 27 28.9 +1.2**
H21K IAmb IAmb 09 27 29.8
comp=Z,6.3nm,0.9s
H21K Melozitna Rive 38.00 35 P **P 09 27 27.0 -0.7**
baz=266,SNR=9.5
CHUM Lake Minchumin 38.10 38 P **P 09 27 28.5 -0.1**
baz=268
PPLA Purkeypile 38.14 40 P **P 09 27 28.7 -0.4**
baz=270
KDAK Kodiak Island 38.18 48 P **P 09 27 29.7 +0.4**
baz=276
CAST Castle Rocks 38.20 39 P **P 09 27 31.0 +1.6**
CAST IAmb IAmb 09 27 32.0
comp=Z,5.0nm,0.7s
CAST Castle Rocks 38.20 39 P **P 09 27 29.4 -0.1**
baz=269
Q20K Shuyak Island 38.20 47 P **P 09 27 29.8 +0.3**
baz=275
B22K Teshekpuk Lake 38.41 28 P **P 09 27 31.5 +0.4**
B22K IAmb IAmb 09 27 34.4
comp=Z,9.4nm,0.9s
B22K Teshekpuk Lake 38.41 28 P **P 09 27 30.9 -0.2**
baz=259
D22K Ayikyak River 38.42 30 P **P 09 27 31.9 +0.7**
D22K IAmb IAmb 09 27 35.8
comp=Z,3.3nm,0.6s
D22K Ayikyak River 38.42 30 P **P 09 27 31.6 +0.4**
baz=262
F22K John River 38.42 32 P **P 09 27 31.3 0.0**
baz=264
HOM Homer 38.51 45 P **P 09 27 31.9 -0.1**
baz=274
H22K Ishtalitna Cre 38.60 35 P **P 09 27 33.1 +0.3**
baz=267,SNR=8.8
G22K Bettles 38.63 33 P **P 09 27 32.6 -0.3**
baz=265
E22K Anaktuvuk Pass 38.63 31 P **P 09 27 33.6 +0.5**
E22K Anaktuvuk Pass 38.63 31 P **P 09 27 33.4 +0.4**
baz=264
CAPN Captain Cook N 38.68 43 P **P 09 27 34.1 +0.7**
baz=274
BPAW Bear Paw Mtn. 38.70 38 P **P 09 27 35.0 +1.4**
BPAW Bear Paw Mtn. 38.70 38 P **P 09 27 33.6 0.0**
baz=269
KTH Kantishna Hill 38.72 39 P **P 09 27 35.7 +1.8**
KTH IAmb IAmb 09 27 36.3
comp=Z,5.9nm,0.8s
MLY Manley 38.83 36 P **P 09 27 35.9 +1.2**
MLY Manley 38.83 36 P **P 09 27 35.8 +1.0**
baz=268,SNR=6.0
SUA Susitna One 38.84 42 P **P 09 27 35.8 +0.8**
baz=273
BRSE Bradley Lake S 38.95 45 P **P 09 27 36.8 +1.0**
baz=275
M22K Willow 39.13 41 P **P 09 27 36.5 -0.6**
baz=273
D23K Nanushuk River 39.15 30 P **P 09 27 37.6 +0.4**
baz=264
COLD Coldfoot 39.16 33 P **P 09 27 38.1 +0.7**
baz=266,SNR=7.3
G23K Bananza Creek 39.20 34 P **P 09 27 39.0 +1.2**
G23K IAmb IAmb 09 27 39.9
comp=Z,6.0nm,0.9s
G23K Bananza Creek 39.20 34 P **P 09 27 38.1 +0.3**
baz=267,SNR=9.7
C23K Itkillik River 39.28 29 P **P 09 27 38.4 0.0**
C23K IAmb IAmb 09 27 41.3
comp=Z,5.1nm,0.7s
C23K Itkillik River 39.28 29 P **P 09 27 38.4 0.0**
baz=263
RC01 Rabbit Creek A 39.35 43 P **P 09 27 39.4 +0.4**
baz=274
H23K Yukon River 39.35 35 P **P 09 27 40.7 +1.7**
H23K IAmb IAmb 09 27 41.5
comp=Z,7.7nm,0.8s
H23K Yukon River 39.35 35 P **P 09 27 39.0 -0.1**
baz=269,SNR=9.9
O22K Cooper Landing 39.40 43 P **P 09 27 40.3 +0.8**
baz=275
I23K Minto, Yukon-K 39.41 36 P **P 09 27 40.7 +1.2**
I23K IAmb IAmb 09 27 45.2
comp=Z,12nm,1.3s
I23K Minto, Yukon-K 39.41 36 P **P 09 27 39.7 +0.2**
baz=270
E23K Chandalar 39.45 31 P **P 09 27 40.3 +0.4**
baz=266,SNR=8.5
TOLK Toolik Lake Re 39.51 31 P **P 09 27 41.2 +0.8**
TOLK Toolik Lake Re 39.51 31 P **P 09 27 40.6 +0.2**
baz=265
NEA2 Nenana 39.53 37 P **P 09 27 41.7 +1.2**
NEA2 IAmb IAmb 09 27 42.5
comp=Z,7.0nm,0.8s
NEA2 Nenana 39.53 37 P **P 09 27 40.9 +0.3**
baz=271,SNR=9.1
SEW Seward 39.57 44 P **P 09 27 41.4 +0.6**
baz=276
MCK McKinley 39.60 38 P **P 09 27 42.4 +1.2**
baz=272
PMR Palmer 39.61 42 P **P 09 27 42.4 +1.2**
baz=274
RND Reindeer 39.65 39 P **P 09 27 42.3 +0.7**
RND Reindeer 39.65 39 P **P 09 27 42.3 +0.7**
RND pmax pmax
comp=Z,5.0nm,1.0s
GHO Glory Hole Cre 39.70 41 P **P 09 27 43.4 +1.3**
GHO IAmb IAmb 09 27 52.0
comp=Z,5.6nm,0.9s
WAT1 Susitna Watana 39.81 40 P **P 09 27 43.7 +0.8**
baz=273
D24K Happy Valley 39.83 30 P **P 09 27 43.4 +0.4**
D24K Happy Valley 39.83 30 P **P 09 27 44.1 +1.1**
baz=265,SNR=8.5
E24K Your Creek 39.87 31 P **P 09 27 44.5 +1.1**
E24K IAmb IAmb 09 27 46.6
comp=Z,12nm,1.1s
E24K Your Creek 39.87 31 P **P 09 27 44.5 +1.1**
baz=267,SNR=16
MDM Murphy Dome 39.89 36 P **P 09 27 44.7 +1.1**
MDM IAmb IAmb 09 27 45.5
comp=Z,5.8nm,0.8s
C24K Franklin Bluff 39.93 29 P **P 09 27 44.3 +0.6**
baz=265
KNK Knik Glacier 39.94 42 P **P 09 27 44.9 +0.9**
baz=275
WRH Wood River Hil 39.96 37 P **P 09 27 44.7 +0.6**
SML Sawmill 39.97 41 P **P 09 27 45.0 +0.7**
baz=275
H24K Noodor Dome 40.04 35 P **P 09 27 46.1 +1.3**
H24K IAmb IAmb 09 27 47.2
comp=Z,8.4nm,1.1s
H24K Noodor Dome 40.04 35 P **P 09 27 45.6 +0.9**
baz=270,SNR=7.4
PWL Port Wells 40.05 43 P **P 09 27 45.7 +0.8**
PWL IAmb IAmb 09 27 58.8
comp=Z,9.1nm,1.3s
PWL Port Wells 40.05 43 P **P 09 27 46.0 +1.0**
baz=276
COLA College 40.05 37 P **P 09 27 45.8 +1.0**
COLA College 40.05 37 P **P 09 27 45.3 +0.5**
baz=271
COLA College 40.05 37 P **P 09 27 45.8 +1.0**
COLA pmax pmax
comp=Z,8.0nm,0.6s
F24K Squaw Lake 40.07 32 P **P 09 27 45.9 +0.8**
F24K Squaw Lake 40.07 32 P **P 09 27 46.2 +1.1**
baz=268,SNR=6.2
CCB Clear Creek Bu 40.08 37 P **P 09 27 46.0 +0.9**
WAT6 Susitna Watana 40.20 40 P **P 09 27 47.0 +0.8**
baz=274
G24K Hadweenzic Riv 40.21 34 P **P 09 27 47.7 +1.5**
G24K IAmb IAmb 09 27 48.6
comp=Z,8.2nm,0.8s
G24K Hadweenzic Riv 40.21 34 P **P 09 27 46.7 +0.5**
baz=270,SNR=10
POKR Poker Plat Res 40.23 36 P **P 09 27 46.5 +0.2**
POKR IAmb IAmb 09 27 48.7
comp=Z,10nm,0.9s
POKR Poker Plat Res 40.23 36 P **P 09 27 46.6 +0.2**
baz=271,SNR=5.9
M23K Glacier View 40.26 41 P **P 09 27 47.4 +0.7**
baz=275
DHY Denali Highway 40.33 39 P **P 09 27 48.8 +1.4**
DHY IAmb IAmb 09 27 48.8
comp=Z,3.5nm,0.6s
DHY Denali Highway 40.33 39 P **P 09 27 48.3 +1.0**
baz=274
SCM Sheep Creek Mo 40.45 41 P **P 09 27 49.6 +1.4**
SCM IAmb IAmb 09 27 58.8
comp=Z,13nm,1.2s
SCM Sheep Creek Mo 40.45 41 P **P 09 27 49.4 +1.1**
baz=275
SCM Sheep Creek Mo 40.45 41 P **P 09 27 49.6 +1.4**
SCM pmax pmax
comp=Z,13nm,1.2s
HDA Harding Lake 40.46 37 P **P 09 27 48.5 +0.4**
HDA IAmb IAmb 09 27 49.4
comp=Z,4.5nm,0.6s
HDA Harding Lake 40.46 37 P **P 09 27 49.0 +0.9**
baz=273
IL31 40.47 37 P **P 09 27 48.5 +0.3**
ILAR Eielson Array 40.47 37 P **P 09 27 49.2 +0.9**
ILAR Eielson Array 40.47 37 P **P 09 27 48.9 +0.6**
comp=Z,3.2nm,0.8s,baz=262,slow=6.7,SNR=34
comp=Z,3.2nm,0.8s
P23K Montague Islan 40.60 44 P **P 09 27 50.3 +0.9**
baz=278
D25K Kavik River 40.71 30 P **P 09 27 50.8 +0.5**
D25K IAmb IAmb 09 27 52.7
comp=Z,7.3nm,0.8s
D25K Kavik River 40.71 30 P **P 09 27 51.0 +0.7**
baz=267,SNR=15
G25K Bearman Lake 40.76 34 P **P 09 27 50.8 +0.2**
baz=271,SNR=5.7
H25L Birch Creek 40.88 34 P **P 09 27 51.9 +0.3**
baz=272
F25K Christian Rive 40.93 32 P **P 09 27 52.3 +0.2**
baz=270,SNR=6.8
M24K Tolsona, Glenn 40.96 41 P **P 09 27 53.1 +0.6**
baz=276
K24K Donnelly Dome 41.00 38 P **P 09 27 53.4 +0.7**
baz=274
PRP Porcupine Dome 41.02 35 IAmb IAmb 09 27 55.0
comp=Z,6.6nm,0.8s
PRP Porcupine Dome 41.02 35 P **P 09 27 53.4 +0.4**
baz=273,SNR=12
J25K Salcha River, 41.13 37 P **P 09 27 54.1 +0.3**
baz=274
KLU Klutina 41.15 42 P **P 09 27 54.1 +0.1**
baz=277
PAX Paxson 41.21 39 P **P 09 27 55.1 +0.6**
baz=276
C26K Camden Bay 41.25 29 P **P 09 27 54.8 +0.2**
baz=268
BMAR Burnt Mountain 41.34 33 P **P 09 27 56.6 +1.1**
EYAK Cordova Ski Ar 41.35 43 P **P 09 27 56.4 +0.8**
baz=278
PZH PanZhiHua 41.38 260 P **P 09 27 57.3 +0.9**
PZH pmax pmax
comp=Z,20nm,0.8s
HARP HAARP 41.41 40 P **P 09 27 56.6 +0.6**
baz=276
F26K Sheenjek River 41.51 32 P **P 09 27 57.4 +0.6**
baz=271,SNR=8.2
C27K Jago River 41.66 29 P **P 09 27 58.4 +0.4**

baz=270,SNR=10
G26K Porcupine Rive 41.67 33 P P 09 27 58.7 +0.6
baz=272,SNR=10
N25K Chitina, Valde 41.76 41 P P 09 28 00.2 +1.2
baz=278
SCRK Sand Creek 41.78 38 P P 09 27 59.7 +0.5
baz=276
BMRM Bremner River 41.85 42 P P 09 28 00.4 +0.7
baz=279
J26L Joseph Creek 41.91 37 P P 09 28 00.7 +0.5
baz=276
MENT Mentasta 42.01 39 P P 09 28 02.9 +1.9
I26K Coal Creek Min 42.02 36 P P 09 28 01.3 +0.3
baz=275
KAIM Kayak Island 42.10 44 P P 09 28 02.9 +1.2
baz=280
L26K Log Cabin Wild 42.16 39 P P 09 28 03.8 +1.6
L26K IAmb IAmb 09 28 04.7
comp=Z,9.4nm,1.4s
L26K Log Cabin Wild 42.16 39 P P 09 28 03.4 +1.2
baz=277,SNR=5.1
M26K Nabesna, AK 42.41 40 P P 09 28 04.0 -0.2
M26K IAmb IAmb 09 28 07.7
comp=Z,7.1nm,1.1s
M26K Nabesna, AK 42.41 40 P P 09 28 05.8 +1.6
baz=278,SNR=6.6
E27K Coleen River 42.45 31 P P 09 28 06.1 +1.5
baz=273
G27K Doyon Strip 42.51 33 P P 09 28 06.8 +1.7
G27K Doyon Strip 42.51 33 P P 09 28 05.7 +0.6
baz=275
K27K Chicken 42.61 38 IAmb IAmb 09 28 08.1
comp=Z,10nm,0.9s
K27K Chicken 42.61 38 P P 09 28 06.7 +0.9
baz=277
H27K Steamboat Moun 42.61 34 P P 09 28 06.5 +0.6
baz=275,SNR=8.7
BGLC Bering Glacier 42.63 43 P P 09 28 06.7 +0.8
baz=280
I27K Kandik River 42.63 35 P P 09 28 06.9 +0.8
baz=276
D27M Malcolm River 42.64 30 P P 09 28 06.3 +0.3
baz=273,SNR=5.5
L27K Beaver Creek, 42.85 39 IAmb IAmb 09 28 18.1
comp=Z,8.4nm,1.1s
L27K Beaver Creek, 42.85 39 P P 09 28 08.5 +0.8
baz=278,SNR=10.0
EGAK Eagle 42.91 36 P P 09 28 08.8 +0.6
EGAK IAmb IAmb 09 28 09.6
comp=Z,5.2nm,0.8s
EGAK Eagle 42.91 36 P P 09 28 09.1 +0.8
baz=277,SNR=8.6
M27K Edge Creek, AK 42.93 40 P P 09 28 10.1 +1.5
M27K Edge Creek, AK 42.93 40 P P 09 28 09.4 +0.8
baz=279
F28M Old Crow 43.14 32 IAmb IAmb 09 28 12.5
comp=Z,4.9nm,0.7s
F28M Old Crow 43.14 32 P P 09 28 10.8 +0.7
baz=275,SNR=7.5
E28M Babbage River 43.19 31 P P 09 28 10.9 +0.5
baz=274,SNR=8.4
MESA MESA 43.27 43 P P 09 28 12.2 +0.7
baz=282
I28M Miner Creek 43.35 35 P P 09 28 12.5 +0.7
baz=278,SNR=18
CTG Chitna Glacier 43.42 42 P P 09 28 12.8 +0.3
baz=281
DAWY Dawson 43.77 37 P P 09 28 16.5 +1.2
DAWY Dawson 43.77 37 P P 09 28 15.8 +0.6
baz=280
E29M Blow River 43.81 31 P P 09 28 16.8 +1.4
E29M IAmb IAmb 09 28 17.8
comp=Z,6.5nm,0.8s
E29M Blow River 43.81 31 P P 09 28 16.2 +0.8
baz=276,SNR=9.5
H29M Whitestone 43.89 34 IAmb IAmb 09 28 18.6
comp=Z,7.4nm,0.9s
H29M Whitestone 43.89 34 P P 09 28 17.3 +1.2
baz=278,SNR=7.4
G29M Pine Creek 43.93 33 P P 09 28 18.2 +1.8
G29M IAmb IAmb 09 28 19.3
comp=Z,9.6nm,0.8s
G29M Pine Creek 43.93 33 P P 09 28 16.8 +0.4
baz=278,SNR=9.1
I29M Ogilvie Camp, 44.03 35 IAmb IAmb 09 28 19.4
comp=Z,9.6nm,0.8s
I29M Ogilvie Camp, 44.03 35 P P 09 28 18.3 +1.0
baz=279,SNR=14
PINM Pinnacle 44.12 43 P P 09 28 19.1 +1.0
baz=283
M29M Somme Creek 44.48 39 P P 09 28 21.8 +0.9
baz=282
L29M L29M 44.50 38 IAmb IAmb 09 28 24.9
comp=Z,11nm,1.5s
L29M L29M 44.50 38 P P 09 28 22.2 +1.2
baz=282
EPYK Eagle Plains 44.52 34 P P 09 28 22.6 +1.5
EPYK Eagle Plains 44.52 34 P P 09 28 22.4 +1.3
baz=279,SNR=9.5
YUK4 Talbot Arm 44.62 41 P P 09 28 23.6 +1.4
baz=283
G30M tAoh Zraii Nji 44.62 33 P P 09 28 23.2 +1.3
G30M IAmb IAmb 09 28 24.0
comp=Z,8.7nm,0.8s
G30M tAoh Zraii Nji 44.62 33 P P 09 28 23.0 +1.0
baz=279,SNR=13
K29M Barlow Dome 44.63 37 P P 09 28 23.7 +1.5
K29M IAmb IAmb 09 28 25.3
comp=Z,11nm,1.4s
K29M Barlow Dome 44.63 37 P P 09 28 23.6 +1.5
baz=281,SNR=6.9
PNL Peninsula 44.64 43 P P 09 28 23.5 +1.4
baz=284
F30M Barrier River 44.70 32 P P 09 28 23.2 +0.7
baz=279,SNR=17
YUK6 Outpost Mounta 44.84 42 P P 09 28 23.9 -0.1
baz=283
I30M Mount Dempster 44.86 35 P P 09 28 24.4 +0.5
baz=281,SNR=26
O29M Mount Kennedy 44.89 42 P P 09 28 24.1 -0.2
baz=284
J30M Hart River 45.00 36 P P 09 28 26.6 +1.5
J30M IAmb IAmb 09 28 27.3
comp=Z,9.5nm,1.4s
J30M Hart River 45.00 36 P P 09 28 24.9 -0.2
baz=282,SNR=5.6
MK31 Makanchi Array 45.12 298 P P 09 28 26.1 0.0
MK31 IAmb IAmb 09 28 26.7
comp=Z,4.1nm,0.6s
MK31 Makanchi Array 45.12 298 P P 09 28 26.1 0.0
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 45.12 298 P P 09 28 25.9 -0.3
MKAR Makanchi Array 45.12 298 P P 09 28 25.5 -0.6
comp=Z,3.8nm,0.6s,baz=78,slow=8.2,SNR=29
comp=Z,3.8nm,0.6s
MKAR Makanchi Array 45.12 298 *eP* **P 09 28 26.0 -0.1**
MKAR Makanchi Array 45.12 298 *eP* **P 09 28 26.0 -0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
M30M Minto, Yukon 45.21 39 P P 09 28 26.9 +0.3
baz=283
MAKZ Makanchi 45.31 298 P P 09 28 27.6 -0.1
MAKZ Makanchi 45.31 298 P P 09 28 27.6 -0.1
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
N30M Aishikik Lake 45.33 41 P P 09 28 27.6 -0.1
baz=284
G31M Satah River 45.39 33 IAmb IAmb 09 28 29.8
comp=Z,5.7nm,0.7s
G31M Satah River 45.39 33 P P 09 28 28.5 +0.5
baz=281,SNR=7.3
INK Inuvik 45.43 31 P P 09 28 29.1 +0.9
INK IAmb IAmb 09 28 29.9
comp=Z,5.5nm,0.7s
INK Inuvik 45.43 31 P P 09 28 28.4 +0.2
baz=280,SNR=9.4
INK Inuvik 45.43 31 P P 09 28 29.1 +0.9
INK pmax pmax
comp=Z,6.0nm,0.7s
P29M Windy Craggy 45.46 43 P P 09 28 30.8 +2.1
P29M Windy Craggy 45.46 43 P P 09 28 30.0 +1.3
baz=285
F31M Tsiigehtchic 45.50 32 P P 09 28 29.8 +1.1
F31M IAmb IAmb 09 28 30.6
comp=Z,7.9nm,0.8s
F31M Tsiigehtchic 45.50 32 P P 09 28 29.9 +1.1
baz=281,SNR=12
P30M Million Dollar 45.72 42 P P 09 28 31.3 +0.6
baz=285
KURK Kurchatov 45.95 304 P P 09 28 32.0 -0.6
KURK Kurchatov 45.95 304 *eP* **P 09 28 32.8 +0.2**
KURK Kurchatov 45.95 304 *i P* **P 09 28 32.8 +0.2**
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURBB Kurchatov Arra 46.04 304 P P 09 28 31.4 -1.8
comp=Z,1.7nm,0.7s,baz=74,slow=8.8,SNR=5.9
comp=Z,1.7nm,0.7s
M31M Drury Creek, Y 46.38 39 P P 09 28 37.4 +1.5
baz=285
WHY Whitehorse 46.57 41 P P 09 28 37.8 +0.3
baz=286
FARO Faro, Yukon 46.85 39 P P 09 28 39.8 +0.2
baz=286
P32M Atlin 47.44 42 P P 09 28 44.9 +0.8
baz=288
A36M Sachs Harbour 47.45 25 IAmb IAmb 09 28 46.2
comp=Z,5.8nm,0.7s
A36M Sachs Harbour 47.45 25 P P 09 28 44.2 +0.3
baz=284,SNR=7.6
P33M Teslin, Yukon 47.68 41 P P 09 28 47.1 +1.0
baz=288
C36M Paulatuk 48.53 28 P P 09 28 52.5 +0.2
baz=287,SNR=7.1
R33M Jeivings River 48.83 42 P P 09 28 55.6 +0.6
baz=290
U33K Whale Pass 48.90 47 P P 09 28 56.5 +1.2
baz=292
CRAG Craig 49.13 48 P P 09 28 57.8 +0.7
baz=292
DLBC Dease Lake 49.62 43 P P 09 29 02.0 +1.0
baz=292
BVAR Borovoye Array 49.83 309 P P 09 29 01.6 -0.9
comp=Z,1.4nm,0.8s,baz=31,slow=6.9,SNR=3.9
comp=Z,1.4nm,0.8s
BRVK Borovoye 49.88 309 *eP* **P 09 29 03.1 +0.2**
BRVK Borovoye 49.88 309 *i P* **P 09 29 03.1 +0.2**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
T35M Bob Quinn 50.05 45 P P 09 29 04.7 +0.5
baz=293
KOTAN Kotaneelee Air 51.80 40 P P 09 29 18.0 +0.8
baz=295
ARSB Arslanbob 53.55 295 P P 09 29 31.7 +1.1
ARSB Arslanbob 53.55 295 P P 09 29 31.7 +1.1
ARSB pmax pmax
comp=Z,2.0nm,1.1s
KK31 Karatay Array 54.24 298 P P 09 29 34.9 -0.5
KK31 Karatay Array 54.24 298 P P 09 29 34.9 -0.5
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 54.24 298 P P 09 29 35.3 -0.1
KKAR Karatay Array 54.24 298 P P 09 29 35.0 -0.4
KKAR IAmb IAmb 09 29 36.2
comp=Z,1.6nm,0.7s
KKAR Karatay Array 54.24 298 P P 09 29 35.0 -0.4
KKAR pmax pmax
comp=Z,2.0nm,0.7s
ARU Arti 54.53 317 *eP* **P 09 29 36.3 -1.0**
ARU Arti 54.53 317 *c i P* **P 09 29 36.3 -1.0**
ARU *PP **pP** 09 29 55.9 -0.7
ARU 09 30 44.9
ARU 09 31 37.3
ARU S **S** 09 37 09.9 -0.5
ARU SS **SS** 09 40 51.3 -1.9
ARU pmax pmax
comp=Z,2.0nm,0.4s
YKA Yellowknife Ar 54.80 34 P P 09 29 40.1 +1.0
comp=Z,0.9nm,0.6s,baz=304,slow=6.6,SNR=4.4
comp=Z,0.9nm,0.6s
ABKAR Akbulak array 57.40 309 P P 09 29 57.2 -0.7
CHGR Chuyangaron 57.45 294 P P 09 29 58.6 +0.2
CHGR Chuyangaron 57.45 294 P P 09 29 58.7 +0.2
CHGR pmax pmax
comp=Z,10.0nm,0.8s
ARCES ARCESS Array B 59.00 340 P P 09 30 06.5 -2.2
comp=Z,1.0nm,0.7s,baz=46,slow=8.7,SNR=7.1
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 59.00 340 *eP* **P 09 30 07.2 -1.6**
NEW Newport 61.26 49 P P 09 30 25.4 +0.9
baz=306
FINES FINESS Array B 64.75 333 P P 09 30 46.0 -1.3
FINES FINESS Array B 64.75 333 P P 09 30 45.8 -1.6
comp=Z,8.1nm,0.5s,baz=36,slow=7.4,SNR=51
comp=Z,8.1nm,0.5s
WRA Warramunga Arr 65.26 195 P P 09 30 50.6 -0.5
comp=Z,1.6nm,0.7s,baz=15,slow=6.8,SNR=10
comp=Z,1.6nm,0.7s
OBN Obninsk 65.37 324 *eP* **P 09 30 52.2 +0.7**
OBN Obninsk 65.37 324⇓ *eP* **P 09 30 52.2 +0.7**
OBN *e* 09 31 21.7
OBN *e* 09 33 13.8
OBN *eS* S 09 39 47.8 +19
OBN pmax pmax
comp=Z,4.0nm,0.7s
BOZ Bozeman (W) 65.86 49 P P 09 30 54.4 -0.7
BOZ Bozeman (W) 65.86 49 P P 09 30 54.4 -0.7
BOZ pmax pmax
comp=Z,2.0nm,0.7s
NVAR Mina Array Bea 66.49 59 P P 09 30 59.0 -0.3
comp=Z,0.3nm,0.5s,baz=294,slow=6.6,SNR=4.2
comp=Z,0.3nm,0.5s
PDAR Pinedale Array 68.83 51 P P 09 31 14.3 +0.4
comp=Z,0.2nm,0.5s,baz=284,slow=0.7,SNR=2.5
comp=Z,0.2nm,0.5s
ASAR Alice Springs 68.97 194 P P 09 31 15.6 +1.0
comp=Z,0.9nm,0.6s,baz=9.8,slow=5.7,SNR=16
comp=Z,0.9nm,0.6s
NB201 NORSAR Array S 69.34 339 P P 09 31 15.7 -0.8
NB201 IAmb IAmb 09 31 25.5
comp=Z,18nm,1.5s
NB2 NORSAR Subarra 69.37 339 P P 09 31 15.5 -1.2
comp=Z,1.6nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 69.37 339 P P 09 31 15.6 -1.2
comp=Z,1.5nm,0.5s,baz=31,slow=6.7,SNR=21
comp=Z,1.5nm,0.5s
NOA NORSAR Array B 69.37 339 *eP* **P 09 31 15.5 -1.2**
NOA pmax pmax
comp=Z,1.0nm,0.4s
HFS Hagfors 69.49 338 P P 09 31 15.9 -1.5
comp=Z,1.6nm,0.5s,baz=45,slow=4.6,SNR=15
comp=Z,1.6nm,0.5s
KIV Kislovodsk 70.04 312 *eP* **P 09 31 21.6 +0.4**
KIV Kislovodsk 70.04 312 *eP* **P 09 31 21.6 +0.4**
KIV pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 70.08 312 P P 09 31 19.7 -1.6
comp=Z,5.1nm,0.8s,baz=79,slow=4.6,SNR=11
comp=Z,5.1nm,0.8s
KBZ Khabaz 70.08 312 *eP* **P 09 31 21.9 +0.6**
KBZ Khabaz 70.08 312 *i P* **P 09 31 21.9 +0.6**
KBZ pmax pmax
comp=Z,2.0nm,1.1s
AKASG Malin Array Be 71.63 324 P P 09 31 29.4 -1.2
comp=Z,4.3nm,0.7s,baz=37,slow=6.0,SNR=12
comp=Z,4.3nm,0.7s
AKASG Malin Array Be 71.63 324 *eP* **P 09 31 29.9 -0.7**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
KWP Kalwaria Pacla 75.11 327 P P 09 31 51.6 +0.5
KWP IAmb IAmb 09 31 52.5
comp=Z,10nm,1.1s
KWP Kalwaria Pacla 75.11 327 P P 09 31 51.6 +0.5
KWP pmax pmax
comp=Z,10.0nm,1.1s
BUR08 Bucovina Ar. S 75.67 324 P P 09 31 54.8 +0.4
BUR08 IAmb IAmb 09 31 55.5
comp=Z,4.1nm,0.6s
BURAR Bucovina Array 75.69 324 P P 09 31 54.6 +0.1
STKA Stephens Creek 76.11 186 *eP* **P 09 31 59.0 +2.2**
STKA pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 77.20 333 *i P* **P 09 32 02.8 -0.1**
comp=Z,7.0nm,0.6s
CLL Collm 77.20 333 *i P* **P 09 32 02.8 -0.1**
CLL pmax pmax
comp=Z,7.0nm,0.6s
BRTR Keskin Array B 77.79 314 P P 09 32 06.6 0.0
comp=Z,1.2nm,0.7s,baz=90,slow=3.5,SNR=7.7
comp=Z,1.2nm,0.7s
BRTR Keskin Array B 77.79 314 *eP* **P 09 32 07.9 +1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
EKA Eskdalemuir Ar 77.81 344 P P 09 32 06.1 -0.1
comp=Z,0.3nm,0.3s,baz=26,slow=6.6,SNR=2.4
comp=Z,0.3nm,0.3s
GERES GERESS Array B 79.08 331 P P 09 32 11.9 -1.5
GERES GERESS Array B 79.08 331 P P 09 32 11.9 -1.5
SOKA Soboth 80.45 330 *i P* **P 09 32 19.8 -1.1**
comp=Z,3.2nm,1.2s
KBA Koelnbreinsper 80.72 331 *i P* **P 09 32 21.2 -1.2**
comp=Z,4.5nm,0.7s
MYKA Terra Mystica 81.00 330 *i P* **P 09 32 22.4 -1.4**
comp=Z,2.7nm,0.7s
WATA Walderalm 81.10 332 *eP* **P 09 32 23.4 -1.0**
comp=Z,5.0nm,0.6s
WTTA Wattenberg 81.14 332 *eP* **P 09 32 24.4 -0.3**
comp=Z,4.2nm,0.6s
RETA Reutte 81.24 332 *eP* **P 09 32 23.4 -1.6**
comp=Z,3.9nm,0.8s
MOTA Moosalm 81.25 332 *i P* **P 09 32 22.7 -2.5**
comp=Z,2.4nm,0.7s
TX31 Lajitas Ar. Si 81.56 57 P P 09 32 27.9 +0.7
TXAR Lajitas Array 81.56 57 P P 09 32 28.0 +0.9
TXAR Lajitas Array 81.56 57 P P 09 32 27.6 +0.5
comp=Z,0.6nm,0.5s,baz=298,slow=3.9,SNR=18
comp=Z,0.6nm,0.5s
TXAR Lajitas Array 81.56 57 P P 09 32 28.0 +0.9
FETA Feichten 81.66 332 *i P* **P 09 32 27.8 +0.4**
comp=Z,3.8nm,1.3s
TROLL Troll, Antarti 147.85 199 ⇑PKPbc PKiKP 09 39 52.7 -1.8
comp=Z,102nm,0.7s
VNA2 Neumayer↔Watz 150.81 196 ⇑PKPbc PKiKP 09 40 00.5 +0.1
comp=Z,2.5nm,0.7s,baz=184,slow=1.9
VNA3 Neumayer Olymp 150.98 194 ⇑PKPbc PKiKP 09 40 00.6 -0.1
comp=Z,1.6nm,0.8s

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*KRNET **31** 09:21:12.9±0.1, 41°.20N×78°.82E, h20km, mb3.0*
*SOME **31** 09:21:13.0, 41°.22N×78°.67E, h0km*
*NNC **31** 09:21:18.2±1.5, 41°.42N×79°.26E, h4km±11km, mb4.0,*
mpv3.7, Error ellipse: s-maj=17.7km s-min=9.8km az=98.0
ISC 31 09:21:16.4±2.1, 41°21N±0°08×78°71E±0°06, h8km±12km,
n50, σ1§74/76, 15C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.86**	**307**	⇑*iP*	**Pb**	**09 21 30.6**	**-3.2**
TARG	baz=5.0			⇑*iS*	**Sb**	**09 21 43.8**	**-1.8**
PRZ	**Przheval'sk**	**1.29**	**350**	⇓*eP*	**Pn**	**09 21 37.9**	**-3.0**
PRZ	baz=47			⇓*eS*	**Sn**	**09 21 55.9**	**-2.6**
KDJ	**Kajisay**	**1.47**	**309**	⇑*eP*	**Pn**	**09 21 41.1**	**-2.3**
KDJ	baz=8.0			⇑*iS*	**Sn**	**09 22 01.5**	**-1.4**
SATY	**Saty**	**1.86**	**353**	*eP*	**Pn**	**09 21 49.3**	**+0.6**
SATY	35nm,0.4s			*eS*	**Sb**	**09 22 15.5**	**+1.4**
SATY	**Saty**	**1.86**	**353**	Lg	Lg	09 22 15.5	
UZB	103nm,0.2s **Uzynbulak**	**1.95**	**7**	*eP*	**Pn**	**09 21 49.9**	**0.0**
UZB	24nm,0.4s			*eS*	**Sb**	**09 22 16.6**	**-0.1**
UZB	78nm,0.3s **Uzynbulak**	**1.95**	**7**	Pg	**Pn**	**09 21 49.9**	**0.0**
UZB	24nm,0.4s			Lg	Lg	09 22 16.6	
SHLS	78nm,0.3s **Shalkode**	**2.02**	**16**	*eP*	**Pb**	**09 21 54.3**	**+0.8**
SHLS	34nm,0.4s			*eS*	**Sg**	**09 22 24.1**	**+2.7**
NRN	176nm,0.5s **Naryn**	**2.06**	**277**	⇑*eP*	**Pn**	**09 21 51.2**	**-0.3**
NRN	baz=77			⇑*iS*	**Sb**	**09 22 18.8**	**-1.2**
ULHL	**Ulahol**	**2.12**	**300**	⇓*iP*	**Pn**	**09 21 52.3**	**0.0**
ULHL	baz=99			⇓*iS*	**Sb**	**09 22 21.1**	**-0.6**
TNSS	**Tian-Shan**	**2.25**	**325**	*eP*	**Pb**	**09 21 56.3**	**-1.2**
TNSS	28nm,0.3s			*eS*	**Sb**	**09 22 27.6**	**+1.9**
TNSS	**Tian-Shan**	**2.25**	**325**	Pg	**Pb**	**09 21 56.3**	**-1.2**
TNSS	28nm,0.3s			Lg	Lg	09 22 28.2	
KPKS	50nm,0.4s **Kokpek**	**2.25**	**359**	*eP*	**Pb**	**09 21 55.9**	**-1.4**
KPKS	29nm,0.4s			*eS*	**Sb**	**09 22 27.1**	**+1.6**
KPKS	136nm,0.5s **Kokpek**	**2.25**	**359**	Pg	**Pb**	**09 21 55.9**	**-1.4**
KPKS	29nm,0.4s			Lg	Lg	09 22 27.1	
MDOK	136nm,0.5s **Medeo**	**2.31**	**328**	*eP*	**Pb**	**09 21 57.1**	**-1.3**
MDOK	41nm,0.5s			*eS*	**Sb**	**09 22 28.9**	**+1.8**
MDOK	85nm,0.5s **Medeo**	**2.31**	**328**	Pg	**Pb**	**09 21 57.1**	**-1.3**
MDOK	41nm,0.5s			Pn	**Pg**	**09 21 58.1**	**-2.5**
MDOK	33nm,0.6s			Lg	Lg	09 22 28.9	
MDOK	85nm,0.5s			Sn	**Sb**	**09 22 29.0**	**+1.8**
KOTS	123nm,0.6s **Kotyrbulak**	**2.34**	**330**	*eP*	**Pb**	**09 21 57.9**	**-1.1**
KOTS	47nm,0.5s			*eS*	**Sb**	**09 22 30.5**	**+2.3**
KOTS	179nm,0.4s **Kotyrbulak**	**2.34**	**330**	Pg	**Pb**	**09 21 57.9**	**-1.1**
KOTS	47nm,0.5s			Lg	Lg	09 22 30.5	
KNDC	179nm,0.4s **Almaty**	**2.39**	**328**	⇑Pn	**Pb**	**09 21 58.9**	**-0.8**
KNDC	92nm,0.7s			⇑Sn	**Sb**	**09 22 30.7**	**+1.4**
BOOM	386nm,1.0s **Boomskoye usch**	**2.43**	**303**	⇓*iP*	**Pn**	**09 21 56.4**	**-0.2**
BOOM	baz=2.0			⇓*iS*	**Sn**	**09 22 26.9**	**+0.2**
MTBS	baz=2.0 **Maitube**	**2.56**	**319**	*eP*	**Pb**	**09 22 01.6**	**-1.0**
MTBS	18nm,0.3s			*eS*	**Sb**	**09 22 36.5**	**+2.2**
MTBS	56nm,0.5s **Maitube**	**2.56**	**319**	Pg	**Pb**	**09 22 01.6**	**-1.0**
MTBS	18nm,0.3s			Lg	Lg	09 22 36.5	
KST	56nm,0.5s **Kastek**	**2.74**	**313**	*eP*	**Pb**	**09 22 04.7**	**-1.1**
KST	27nm,0.6s			*eS*	**Sb**	**09 22 41.8**	**+2.2**
KST	61nm,0.6s **Kastek**	**2.74**	**313**	Pg	**Pb**	**09 22 04.7**	**-1.1**
KST	27nm,0.6s			Lg	Lg	09 22 41.8	
TKM2	61nm,0.6s **Tokmak 2**	**2.88**	**307**	P	**Pb**	**09 22 05.7**	**-2.5**
TKM2	SNR=8.3 **Tokmak 2**	**2.88**	**307**	⇑Pn	**Pb**	**09 22 07.7**	**-0.5**
TKM2	12nm,0.8s			⇑Sn	**Sb**	**09 22 46.6**	**+2.9**
TKM2	38nm,0.5s **Tokmak 2**	**2.88**	**307**	⇑*eP*	**Pn**	**09 22 02.4**	**-0.4**
TKM2	baz=7.0			⇑*iS*	**Sn**	**09 22 38.5**	**+0.8**
BLB	**Baldybastay**	**2.89**	**357**	Pg	**Pb**	**09 22 06.7**	**-1.5**
BLB	42nm,0.4s			Lg	Lg	09 22 45.9	
KTBS	123nm,0.5s **Karatobe**	**2.92**	**330**	*eP*	**Pb**	**09 22 07.9**	**-0.8**
KTBS	16nm,0.5s			*eS*	**Sb**	**09 22 47.5**	**+3.0**
KTBS	99nm,0.6s **Karatobe**	**2.92**	**330**	Pg	**Pb**	**09 22 07.9**	**-0.8**
KTBS	16nm,0.5s			Lg	Lg	09 22 47.5	
CHKK	99nm,0.6s **Chushkaly**	**2.93**	**335**	*eP*	**Pb**	**09 22 08.4**	**-0.5**
CHKK	12nm,0.5s			*eS*	**Sb**	**09 22 48.3**	**+3.4**
	125nm,0.6s						

CHKK	**Chushkaly**	**2.93 335**	Pg	**Pb**	**09 22 08.5**	**-0.5**
	12nm,0.5s					
CHKK			Lg	Lg	09 22 48.3	
	125nm,0.6s					
DGS	**Degeres**	**2.98 314**	*eP*	**Pb**	**09 22 08.7**	**-1.1**
	36nm,0.5s					
DGS			*eS*	**Sb**	**09 22 49.1**	**+2.7**
	26nm,0.5s					
DGS	**Degeres**	**2.98 314**	Pg	**Pb**	**09 22 08.7**	**-1.1**
	36nm,0.5s					
DGS			Lg	Lg	09 22 49.1	
	26nm,0.5s					
ARXS	**Arharly**	**3.07 348**	*eP*	**Pb**	**09 22 10.0**	**-1.3**
	15nm,0.6s					
ARXS			*eS*	**Sb**	**09 22 50.9**	**+2.0**
	79nm,0.5s					
ARXS	**Arharly**	**3.07 348**	Lg	Lg	09 22 51.7	
	79nm,0.5s					
KBK	**Karagaybulak**	**3.16 298**	P	**Pb**	**09 22 13.0**	**+0.1**
	SNR=8.3					
KNOS	**Konyrlen**	**3.16 6**	Lg	Lg	09 22 54.2	
	73nm,0.5s					
DJR	**Jarkent**	**3.22 14**	*eP*	**Pb**	**09 22 12.7**	**-1.1**
	4.6nm,0.3s					
DJR			*eS*	**Sb**	**09 22 56.0**	**+2.8**
	55nm,0.5s					
DJR	**Jarkent**	**3.22 14**	Pg	**Pb**	**09 22 12.7**	**-1.1**
	4.6nm,0.3s					
DJR			Lg	Lg	09 22 56.0	
	55nm,0.5s					
KRBS	**Karabastau**	**3.35 319**	*eP*	**Pb**	**09 22 13.7**	**-2.3**
	7.8nm,0.3s					
KRBS			*eS*	**Sb**	**09 22 57.5**	**+0.6**
	20nm,1.0s					
ARLS	**Aral**	**3.36 283**	⇓*eP*	**Pn**	**09 22 08.8**	**-0.5**
	baz=82					
ARLS			⇓*eS*	**Sn**	**09 22 49.3**	**-0.2**
	baz=82					
CHMS	**Chumysh**	**3.45 303**	⇑Pn	**Pb**	**09 22 16.9**	**-0.8**
	7.6nm,1.0s					
CHMS			⇓Sn	**Sb**	**09 23 01.9**	**+2.2**
	12nm,0.6s					
AAK	**Ala-Archa**	**3.46 296**	P	**Pb**	**09 22 17.9**	**0.0**
	SNR=7.3					
AAK	**Ala-Archa**	**3.46 296**	Pn	**Pb**	**09 22 17.7**	**-0.2**
	6.1nm,0.5s					
AAK			Sn	**Sb**	**09 23 03.7**	**+3.6**
	20nm,0.8s					
AML	**Almayashu**	**3.87 285**	P	**Pg**	**09 22 29.2**	**-1.3**
	SNR=5.4					
EKS2	**Erkin-Say**	**3.96 293**	P	**Pb**	**09 22 27.9**	**+1.5**
	SNR=8.7					
MRKS	**Merke**	**4.37 292**	*eP*	**Pb**	**09 22 32.9**	**-0.5**
	1.7nm,0.1s					
MRKS			*eS*	**Sb**	**09 23 30.4**	**+4.1**
	5.4nm,0.2s					
MRKS	**Merke**	**4.37 292**	Lg	Lg	09 23 30.1	
	3.7nm,0.6s					
KK31	**Karatay Array**	**6.38 290**	Pn	Pn	09 22 58.0	+7.3
	1.2nm,0.7s,baz=108,slow=16,SNR=6.1					
KK31			⇑Pg	**Pg**	**09 23 20.7**	**+2.1**
	1.4nm,0.6s,baz=100,slow=15,SNR=4.4					
KK31			⇑Lg	Lg	09 24 50.6	
	2.1nm,0.7s,baz=105,slow=32					

*FUNV **31** 09:24:49.0, 10.90N×62.10W, h4km, MW3.9*
*TRN **31** 09:24:51.4, 11.06N×62.21W, h99km, MD3.7, North of Paria peninsula.*

ISC 31 09:24:51.0±1.4, 11.08N±0.04×62.23W±0.05, h99km±14km, n26, σ0.89/48, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.60**	**129**	*eP*	**Pn**	**09 25 07.9**	**+0.4**
TCE				*eS*	**Sn**	**09 25 20.4**	**+0.5**
TRN	**Trinidad (W)**	**0.91**	**118**	*eP*	**Pn**	**09 25 10.9**	**+0.5**
TRN				*eS*	**Sn**	**09 25 24.0**	**-1.0**
TPP	**Pointe-a-Pierr**	**1.07**	**135**	*eP*	**Pn**	**09 25 12.5**	**+0.4**
TPP				*eS*	**Sn**	**09 25 27.5**	**-0.6**
GRFF	**Grenada Fort F**	**1.08**	**26**	*eP*	**Pn**	**09 25 12.3**	**0.0**
GRFF				*eS*	**Sn**	**09 25 28.0**	**-0.3**
GRGR	**Grenville**	**1.19**	**28**	*eP*	**Pn**	**09 25 13.7**	**+0.2**
GRGR				*eS*	**Sn**	**09 25 30.9**	**+0.3**
GRW	**Mount Saint Ca**	**1.21**	**27**	*eP*	**Pn**	**09 25 14.7**	**+0.8**
GRW				*eS*	**Sn**	**09 25 31.4**	**+0.3**
GRHS	**Sauteurs**	**1.28**	**27**	*eP*	**Pn**	**09 25 14.5**	**-0.1**
GRHS				*eS*	**Sn**	**09 25 32.0**	**-0.3**
TBH	**Brigand Hill**	**1.28**	**117**	*eP*	**Pn**	**09 25 14.3**	**-0.3**
GRSS	**Sisters**	**1.36**	**26**	*eP*	**Pn**	**09 25 15.8**	**+0.3**
GRSS				*eS*	**Sn**	**09 25 34.5**	**+0.5**
TPR	**Prospect**	**1.43**	**85**	*eP*	**Pn**	**09 25 17.9**	**+1.5**
TPR				*eS*	**Sn**	**09 25 34.9**	**-0.6**
GCMP	**Grenada, Carri**	**1.61**	**29**	*eP*	**Pn**	**09 25 18.4**	**-0.2**
GCMP				*eS*	**Sn**	**09 25 38.9**	**-0.6**
SVOC	**Richmond Hill,**	**2.29**	**25**	*e*	**Pn**	**09 25 28.2**	**+0.9**
SVOC				*eS*	**Sn**	**09 25 55.4**	**+0.3**
SVT	**Saint Vincent**	**2.29**	**25**	*eP*	**Pn**	**09 25 27.4**	**0.0**
SVT				*eS*	**Sn**	**09 25 55.1**	**-0.1**
SVB	**Belmont**	**2.38**	**23**	*eP*	**Pn**	**09 25 29.6**	**+1.0**
SVB				*eS*	**Sn**	**09 25 57.8**	**+0.4**
PCRV	**Puerto La Cruz**	**2.53**	**250**	*eP*	**Pn**	**09 25 31.0**	**+0.5**
PCRV				*eS*	**Sn**	**09 26 00.7**	**-0.2**
PCRV	**Puerto La Cruz**	**2.53**	**250**	*eP*	**Pn**	**09 25 31.6**	**+1.0**
PCRV				*eS*	**Sn**	**09 26 01.4**	**+0.5**
SLBI	**Saint Lucia, B**	**3.18**	**23**	*eP*	**Pn**	**09 25 38.8**	**-0.3**
SLBI				*eS*	**Sn**	**09 26 16.2**	**0.0**
BBGH	**Gun Hill**	**3.32**	**52**	*eP*	**Pn**	**09 25 42.5**	**+1.4**
BBGH				*eS*	**Sn**	**09 26 18.5**	**-1.3**
BIM	**Bigot**	**3.60**	**18**	*eP*	**Pn**	**09 25 45.0**	**+0.1**
BIM				*eS*	**Sn**	**09 26 25.8**	**-0.7**
SVN	**Savane Anatole**	**3.88**	**15**	*eP*	**Pn**	**09 25 48.7**	**0.0**
TACV	**Tcata**	**4.81**	**259**	*eP*	**Pn**	**09 26 01.7**	**+0.5**
TACV				*eS*	**Sn**	**09 26 56.4**	**+0.6**
BENV	**Beln**	**5.40**	**259**	*eP*	**Pn**	**09 26 09.9**	**+0.8**
BENV				*eS*	**Sn**	**09 27 10.4**	**+0.3**
CACV	**CAICARA DEL OR**	**5.50**	**231**	*eP*	Pn	09 26 04.7	-5.8
CACV				*eS*	Sn	09 27 01.2	-11
ANBD	**Bethesda, Anti**	**5.96**	**4**	*eP*	**Pn**	**09 26 17.3**	**+0.6**
ANBD				*eS*	**Sn**	**09 27 21.7**	**-1.8**
BAUV	**El Baul**	**6.11**	**250**	*eP*	**Pn**	**09 26 17.9**	**-0.8**
BAUV				*eS*	**Sn**	**09 27 25.1**	**-2.2**
BAUV	**El Baul**	**6.11**	**250**	*eP*	**Pn**	**09 26 18.6**	**-0.2**
BAUV				*eS*	**Sn**	**09 27 24.2**	**-3.1**

*NNC **31** 09:35:57.0±2.9, 53.58N×87.97E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=23.0km s-min=13.6km az=58.0, Suspected Mining explosion.*
*IDC **31** 09:35:58.1±3.1, 53.58N×87.83E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=25.2km s-min=17.6km az=59.0*

ISC 31 09:35:57.7±3.7, 53.7N±0.1×87.9E±0.2, h0km, n8, σ0.68/12, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**280**	I	I	09 47 40.0	
	baz=98,slow=314,SNR=17						
ZAA0	**Zalesovo Array**	**1.85**	**280**	⇑Pn	**Pn**	**09 36 30.6**	**0.0**
	0.4nm,0.5s						
ZAA0				⇑Sn	**Sb**	**09 36 56.2**	**+0.1**
	4.2nm,0.8s						
ZALV	**Zalesovo Beam**	**1.85**	**280**	Pg	**Pn**	**09 36 30.6**	**-0.1**
	2.1nm,0.3s,baz=97,slow=16,SNR=17						
ZALV				Lg	Lg	09 36 55.8	
	0.8nm,0.3s,baz=104,slow=26,SNR=3.9						
KURK	**Kurchatov**	**6.43**	**246**	⇑Pn	**Pn**	**09 37 33.3**	**-0.2**
	1.2nm,0.6s						
KURK				⇓Sn	**Sn**	**09 38 48.4**	**+0.9**
	1.4nm,0.4s						
KURK				⇑Lg	Lg	09 39 21.7	
	6.2nm,0.9s						
KURBB	**Kurchatov Arra**	**6.52**	**246**	Pn	**Pn**	**09 37 35.2**	**+0.4**
	0.1nm,0.3s,baz=64,slow=15,SNR=7.3						
KURBB				Sn	**Sn**	**09 38 48.2**	**-1.6**
	0.2nm,0.3s,baz=66,slow=28,SNR=4.7						
KURBB				Lg	Lg	09 39 23.4	
	0.2nm,0.3s,baz=61,slow=32,SNR=6.4						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**6.52**	**246**	⇑Pn	**Pn**	**09 37 35.2**	**+0.4**
	1.2nm,0.5s,baz=63,slow=14						
KURBB				⇓Sn	**Sn**	**09 38 49.8**	**0.0**
	6.1nm,1.0s,baz=67,slow=25						
KURBB				⇑Lg	Lg	09 39 23.4	
	6.1nm,0.8s,baz=67,slow=25						
MK31	**Makanchi Array**	**7.76**	**210**	⇑Pn	**Pn**	**09 37 51.3**	**-0.5**
	0.2nm,0.5s,baz=29,slow=12,SNR=3.9						
MK31				⇓Sn	**Sn**	**09 39 20.4**	**+0.1**
	0.2nm,0.4s,baz=31,slow=22						
MK31				⇓Lg	Lg	09 40 01.7	
	5.1nm,1.3s						
MKAR	**Makanchi Array**	**7.76**	**210**	Pn	**Pn**	**09 37 52.1**	**+0.4**
	0.1nm,0.3s,baz=21,slow=12,SNR=2.3						
MKAR				Lg	Lg	09 39 57.9	
	0.1nm,0.3s,baz=41,slow=30,SNR=7.2						
	0.2nm,0.4s						

JMA 31 09:41:15.2±0.3, 37.2N±0.7×14.1E±., h18km±1km, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFFD	**Fukushimafurud**	**0.52**	**260**	P	Pg	09 41 25.2	-0.4

*IDC **31** 09:41:17.3±1.3, 37.14N×141.36E, h0km, mb3.4/4, mbtmp3.4/6, ML2.6/2, MS3.5/1, Error ellipse: s-maj=29.4km s-min=21.9km az=120.0*
*JMA **31** 09:41:20.1±0.1, 37.2N±0.2×141.2E±0.7, h21km, MV3.2/38, E OFF FUKUSHIMA PREF*

ISC 31 09:41:18.6±2.0, 37.16N±0.05×141.33E±0.08, h9km±11km, n20, σ0.86/19, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.42**	**300**	P	**Pg**	**09 41 27.2**	**+0.5**
JFK				S	**Sg**	**09 41 32.4**	**+0.1**
JFFD	**Fukushimafurud**	**0.62**	**264**	P	**Pg**	**09 41 30.8**	**+0.3**
JMST	**Minamisoumatoc**	**0.67**	**328**	P	**Pg**	**09 41 31.8**	**+0.3**
JMST				S	**Sg**	**09 41 40.4**	**+0.3**
JHO	**Hitachi**	**0.82**	**228**	P	**Pb**	**09 41 34.0**	**-1.0**
JMM	**Marumori**	**0.82**	**329**	P	**Pb**	**09 41 34.4**	**-0.7**
JMM				S	**Sb**	**09 41 45.1**	**-1.3**
JOTO	**OTAMA OYAMA**	**0.89**	**297**	P	**Pb**	**09 41 35.8**	**-0.4**
JOTO				S	**Sb**	**09 41 46.8**	**-1.4**
JSB	**Shiboa**	**1.14**	**261**	P	**Pn**	**09 41 40.6**	**-0.1**
MJAR	**Matsushiro Arr**	**2.58**	**257**	Pn	**Pn**	**09 42 01.6**	**+1.1**
	0.3nm,0.3s,baz=81,slow=15,SNR=11						
MJAR				Sn	**Sn**	**09 42 33.5**	**+1.5**
	0.5nm,0.3s,baz=94,slow=28,SNR=2.7						
	3.7nm,0.6s						
ASAJ	**Asahikawa**	**7.02**	**8**	Pn	**Pn**	**09 43 01.5**	**0.0**
	0.2nm,0.3s,baz=60,slow=20,SNR=1.8						
ASAJ				Sn	**Sn**	**09 44 22.5**	**+1.1**
	0.2nm,0.3s,baz=32,slow=30,SNR=1.5						
	3.1nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	10 16 45.0	
	baz=314,slow=75,SNR=69						
H11N1	**WAKE ISLAND Hy**	**28.28**	**121**	T	T	10 16 47.2	
	baz=314,slow=75,SNR=83						
H11N3	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	10 16 51.1	
	baz=314,slow=75,SNR=70						
H11S1	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	10 17 43.2	
	baz=316,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	10 17 39.4	
	baz=316,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**29.00**	**123**	T	T	10 17 42.6	
	baz=316,slow=76,SNR=17						
MKAR	**Makanchi Array**	**43.99**	**302**	P	**P**	**09 49 26.4**	**+0.1**
	0.8nm,1.0s,baz=82,slow=9.9,SNR=3.9						
	0.8nm,1.0s						
KURBB	**Kurchatov Arra**	**45.87**	**308**	P	**P**	**09 49 40.5**	**-0.6**
	0.4nm,0.7s,baz=86,slow=8.5,SNR=4.7						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**49.43**	**32**	P	**P**	**09 50 09.1**	**+0.6**
	0.3nm,0.8s,baz=272,slow=8.3,SNR=4.7						
	0.3nm,0.8s						
ARU	**Arti**	**56.22**	**318**	LR	LR	10 14 47.6	
	comp=Z,47nm,20.7s,baz=320,slow=36						
WRA	**Warramunga Arr**	**57.17**	**188**	P	**P**	**09 51 05.5**	**-0.4**
	0.4nm,0.7s,baz=4.8,slow=7.3,SNR=10						
	0.4nm,0.7s						

*NEIC **31** 09:46:58.2±0.6, 36.75N±0.01×98.05W±0.01, h4km±2km, Error ellipse: s-maj=1.9km s-min=0.9km az=139.0*

TUL 31 09:46:58.3±0.7, 36.76N±0.01×98.06W±0.01, h7km±2km, ML2.6, mb_Lg2.6/94(NEIC), ML2.8/58(NEIC), Error ellipse: s-maj=1.9km s-min=0.8km az=140.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.13**	**288**	Pg	Pg	09 47 01.5	+0.4
OK032				Sg	Sg	09 47 03.8	+0.9
OK032				IAML		09 47 05.5	
	4μm,0.2s						
GC02	**Grant County #**	**0.18**	**61**		Pg	09 47 02.5	+0.6
GC02				Sg	Sg	09 47 05.2	+0.8
KAN14	**Manchester OK**	**0.21**	**21**	Pg	Pg	09 47 03.1	+0.6
KAN14				Sg	Sg	09 47 06.3	+1.0
KAN14				IAML		09 47 06.5	
	comp=N,2μm,0.2s						
CROK	**Carrier**	**0.27**	**167**		Pg	09 47 03.8	+0.2
CROK				Sg	Sg	09 47 07.7	+0.6
CROK				IAML		09 47 09.7	
	comp=N,2μm,0.4s						
CROK				IAML		09 47 12.7	
	comp=E,2μm,0.3s						
KAN17	**Caldwell West**	**0.36**	**40**		Pg	09 47 05.9	+0.5
KAN17				Sg	Sg	09 47 11.1	+0.9
KAN17				IAML		09 47 11.4	
	comp=N,2μm,0.3s						
KAN17				IAML		09 47 11.5	
	comp=E,2μm,0.3s						
KAN05	**Bluff City Nor**	**0.37**	**23**	Pg	Pg	09 47 06.2	+0.5
KAN05				Sg	Sg	09 47 11.2	+0.7
KAN01	**Argonia South**	**0.46**	**31**		Pg	09 47 07.5	+0.4
KAN01				Sg	Sg	09 47 13.9	+0.8
KAN01				IAML		09 47 14.2	
	comp=E,571nm,0.5s						
KAN08	**Anthony NE Sta**	**0.47**	**8**	Pg	Pg	09 47 07.9	+0.6
KAN08				Sg	Sg	09 47 14.6	+1.1
KAN08				IAML		09 47 14.7	
	comp=E,578nm,0.8s						
KAN08				IAML		09 47 16.4	
	comp=N,519nm,0.3s						
KAN09	**Caldwell North**	**0.51**	**43**		Pg	09 47 08.5	+0.3
KAN09				Sg	Sg	09 47 15.7	+0.8
KAN13	**South Haven SW**	**0.53**	**62**		Pg	09 47 08.8	+0.3
KAN13				Sg	Sg	09 47 16.0	+0.6
KAN13				IAML		09 47 16.3	
	comp=N,454nm,0.4s						
KAN13				IAML		09 47 22.7	
	comp=E,462nm,0.3s						
KAN12	**Harper NE Stat**	**0.53**	**5**		Pg	09 47 09.2	+0.5
KAN12				Sg	Sg	09 47 16.7	+1.1
KS21	**Milan North St**	**0.61**	**31**	IAML		09 47 19.0	
	comp=E,422nm,0.4s						
KS21				IAML		09 47 19.1	
	comp=E,518nm,0.5s						
KS21	**Milan North St**	**0.61**	**31**	Pg	Pg	09 47 10.4	+0.4
KS21				Sg	Sg	09 47 19.1	+1.0
OK038	**West end E0370**	**0.62**	**243**		Pg	09 47 10.4	+0.1
OK038				Sg	Sg	09 47 19.0	+0.7
OK038				IAML		09 47 21.3	
	comp=E,892nm,0.3s						
OK038				IAML		09 47 32.5	
	comp=E,793nm,0.4s						
BLOK	**Blackwell**	**0.68**	**90**		Pg	09 47 11.3	0.0
BLOK				Sg	Sg	09 47 20.4	+0.3
BLOK				IAML		09 47 23.1	
	comp=E,427nm,0.2s						
NOKA	**Waynoka**	**0.71**	**260**		Pg	09 47 12.1	0.0
NOKA				Sg	Sg	09 47 21.9	+0.5
NOKA				IAML		09 47 29.7	
	comp=E,320nm,0.2s						
NOKA				IAML		09 47 37.9	
	comp=N,330nm,0.3s						
U32A	**Winter Ranch,**	**0.85**	**243**		Pg	09 47 14.5	-0.2
U32A				Sg	Sg	09 47 26.3	+0.6
OK048	**Pawnee Station**	**0.96**	**111**	Pg	Pg	09 47 16.5	-0.3
OK048				Sg	Sg	09 47 29.1	-0.1
OK048				IAML		09 47 31.9	
	comp=N,185nm,0.4s						
OK051	**E0350 and S346**	**1.01**	**104**	Pg	Pg	09 47 17.5	-0.3
OK051				Sg	Sg	09 47 30.8	-0.2
OK051				IAML		09 47 37.0	
	comp=N,415nm,0.2s						
OK029	**Liberty Lake**	**1.08**	**153**	Pg	Pg	09 47 18.6	-0.5
CSTR	**Hydro, Custer**	**1.23**	**205**	Pg	Pg	09 47 21.5	-0.4
QUOK	**Quay**	**1.24**	**118**		Pb	09 47 21.6	-0.5
ADOK	**Arcadia Dam**	**1.24**	**153**		Pb	09 47 21.6	-0.5
T35A	**Sooner Cattle**	**1.25**	**83**	Pg	Pb	09 47 21.7	-0.5
T35A				IAML		09 47 42.8	
	comp=E,148nm,0.3s						
T35A				IAML		09 47 45.4	
	comp=N,126nm,0.3s						
OK052	**Battle Ridge R**	**1.27**	**127**		Pn	09 47 21.9	-0.6
OK031	**S. Brethren Rd**	**1.27**	**129**		Pn	09 47 21.9	-0.7
OK031				IAML		09 47 40.3	
	comp=N,218nm,0.1s						
OK031				IAML		09 47 40.3	
	comp=N,180nm,0.2s						
ELIS	**Ellis County**	**1.30**	**238**		Pn	09 47 22.8	-0.2
ELIS				IAML		09 47 45.7	
	comp=E,273nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**1.45**	**160**	Pg	Pn	09 47 25.0	+0.1
OKCSW				IAmb_Lg		09 47 44.5	
	comp=Z,26nm,1.0s						
DEOK	**Depew**	**1.56**	**126**		Pn	09 47 26.6	+0.2
FNO	**Franklin**	**1.59**	**160**		Pn	09 47 27.2	+0.2
R32A	**Long Quarter,**	**1.73**	**343**		Pb	09 47 30.2	-0.3
R32A				IAmb_Lg		09 47 56.6	
	comp=Z,29nm,0.8s						
TUL3	**Leonard**	**2.02**	**114**	Pn	Pn	09 47 33.6	+0.8
TUL3				IAmb_Lg		09 48 05.6	
	comp=Z,33nm,0.8s						
WMOK	**Wichita Mounta**	**2.11**	**196**	Pn	Pn	09 47 34.9	+0.9
WMOK				IAmb_Lg		09 48 07.7	
	comp=Z,17nm,0.7s						
X34A	**Smith Ranch, M**	**2.17**	**175**	Pn	Pn	09 47 35.3	+0.4
X34A				IAmb_Lg		09 48 09.7	
	comp=Z,21nm,0.7s						
SMWD	**Samnorwood**	**2.43**	**228**	Pn	Pn	09 47 39.7	+1.2
CBKS	**Cedar Bluff**	**2.44**	**327**	Pn	Pn	09 47 40.2	+1.5
RLO	**Rose Lookout**	**2.52**	**103**	Pn	Pn	09 47 40.8	+1.1
KSU1	**Kansas State U**	**2.60**	**26**	Pn	Pn	09 47 41.3	+0.5
LOOK	**Love County**	**2.86**	**165**	Pn	Pn	09 47 44.6	+0.3
U38A	**Gravette**	**2.97**	**95**	Pn	Pn	09 47 45.5	-0.4
U38A				IAmb_Lg		09 48 35.2	
	comp=Z,14nm,0.8s						
WTFS	**Witchita Falls**	**3.01**	**186**	Pn	Pn	09 47 47.2	+0.7
X37A	**Clayton**	**3.08**	**134**	Pn	Pn	09 47 47.0	-0.4
X37A				IAmb_Lg		09 48 43.7	
	comp=Z,14nm,0.9s						
HHAR	**Hobbs**	**3.35**	**97**		Pn	09 47 51.8	+0.6
Z35A	**Perchaven, San**	**3.49**	**169**	Pn	Pn	09 47 52.5	-0.5
AMTX	**Amarillo**	**3.49**	**239**	Pn	Pn	09 47 53.9	+0.7
AMTX				IAmb_Lg		09 48 56.0	
	comp=Z,14nm,0.8s						
RTBA	**Rita Blanca**	**3.78**	**266**	Pn	Pn	09 47 57.1	-0.1
FW06	**Azle**	**3.81**	**174**	Pn	Pn	09 47 57.1	-0.3
APMT	**Aspermont**	**3.83**	**207**	Pn	Pn	09 47 56.9	-0.8
DKNS	**Dickens**	**3.88**	**218**	IAmb_Lg		09 49 11.6	
	comp=Z,14nm,0.7s						
S39A	**Bolivar**	**3.89**	**75**	Pn	Pn	09 47 58.6	+0.1
KSCO	**Kaye Shedlock'**	**4.25**	**303**	IAmb_Lg		09 49 25.5	
	comp=Z,12nm,0.7s						
MIAR	**Mount Ida**	**4.27**	**120**	Pn	Pn	09 48 03.3	-0.4
MIAR				IAmb_Lg		09 49 15.7	
	comp=Z,16nm,1.1s						
Z38A	**Mt. Pleasant**	**4.31**	**143**	IAmb_Lg		09 49 16.6	
	comp=Z,15nm,0.8s						
ABTX	**Abilene, Hawle**	**4.33**	**198**	IAmb_Lg		09 49 15.2	
	comp=Z,7.4nm,0.8s						
TREL	**Terrell**	**4.34**	**158**	IAmb_Lg		09 49 21.3	
	comp=Z,9.4nm,0.9s						
SN05	**Snyder 5**	**4.52**	**212**	IAmb_Lg		09 49 23.3	
	comp=Z,14nm,0.8s						
P38A	**Dawn**	**4.57**	**50**	IAmb_Lg		09 49 32.3	
	comp=Z,12nm,0.7s						
POST	**Post**	**4.65**	**218**	IAmb_Lg		09 49 26.4	
	comp=Z,12nm,0.9s						
MGMO	**Mountain Grove**	**4.65**	**83**	Pn	Pn	09 48 09.9	+0.9
MGMO				IAmb_Lg		09 49 32.1	
	comp=Z,8.2nm,0.7s						
X40A	**Basin Creek Fa**	**4.82**	**117**	Pn	Pn	09 48 12.7	+1.4
X40A				IAmb_Lg		09 49 36.4	
	comp=Z,13nm,0.7s						
R40A	**Maddies Statio**	**4.85**	**70**	Pn	Pn	09 48 11.3	-0.4
R40A				IAmb_Lg		09 49 34.6	
	comp=Z,9.9nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.87**	**99**	Pn	Pn	09 48 11.9	-0.1
FCAR				IAmb_Lg		09 49 34.2	
	comp=Z,10.0nm,0.7s						
WHAR	**Wooly Hollow**	**4.90**	**106**	IAmb_Lg		09 49 40.3	
	comp=Z,10nm,0.9s						
UALR	**University of**	**5.05**	**111**	IAmb_Lg		09 49 43.9	
	comp=Z,13nm,0.9s						
WLAR	**White Oak Lake**	**5.08**	**126**	IAmb_Lg		09 49 51.1	
	comp=Z,8.3nm,0.8s						
OGNE	**Ogallala**	**5.20**	**325**	IAmb_Lg		09 49 55.9	
	comp=Z,12nm,0.8s						
SGCY	**Sterling City**	**5.46**	**209**	IAmb_Lg		09 49 57.6	
	comp=Z,9.9nm,0.9s						
P40A	**Paris**	**5.48**	**58**	IAmb_Lg		09 49 56.8	
	comp=Z,11nm,0.9s						
BRDY	**Brady**	**5.52**	**188**	IAmb_Lg		09 49 59.4	
	comp=Z,6.5nm,0.8s						
Z41A	**Richland Creek**	**5.55**	**128**	IAmb_Lg		09 50 02.3	
	comp=Z,12nm,0.8s						
CCM	**Cathedral Cave**	**5.57**	**75**	IAmb_Lg		09 50 00.4	
	comp=Z,7.6nm,1.0s						
LCAR	**Lake Charles**	**5.61**	**95**	IAmb_Lg		09 49 57.7	
	comp=Z,7.4nm,0.8s						
CCAR	**Cane Creek**	**5.87**	**117**	IAmb_Lg		09 50 10.2	
	comp=Z,11nm,0.9s						
435B	**Jarrell**	**5.98**	**176**	IAmb_Lg		09 50 15.7	
	comp=Z,9.0nm,0.8s						
Q24A	**Divide**	**6.03**	**294**	IAmb_Lg		09 50 16.3	
	comp=Z,8.6nm,0.7s						
PBMO	**Poplar Bluff**	**6.12**	**88**	IAmb_Lg		09 50 15.4	
	comp=Z,8.7nm,0.9s						
FVM

PAX				Sn	Sb	09 51 46.0	-2.0
BALM	**Baldy**	**1.43**	**173**	P	Pn	09 51 29.2	-1.2
BALM				Sn	Sb	09 51 48.3	-1.1
KIAG	**Kiagna River**	**1.54**	**174**	Pn	Pn	09 51 31.1	-0.9
KIAG				Sn	Sn	09 51 52.1	-0.3
K27K	**Chicken**	**1.61**	**10**	Pn	Pn	09 51 33.2	+0.3
K27K				Sn	Sn	09 51 54.1	+0.1
CTGM	**Chitina Glacie**	**1.62**	**156**	Pn	Pn	09 51 32.2	-1.0
CTGM				Sn	Sn	09 51 54.1	-0.4
GRNC	**Granite Creek**	**1.78**	**165**	Pn	Pn	09 51 35.5	+0.2
GRNC				Sn	Sn	09 51 58.4	-0.1
LOGN	**Logan Glacier**	**1.82**	**153**	Pn	Pn	09 51 35.4	-0.5
LOGN				Sn	Sb	09 52 00.2	-0.6
M29M	**Somme Creek**	**1.97**	**88**	Pn	Pn	09 51 36.7	-1.2
M29M				Sn	Sn	09 52 02.3	-0.8
O28M	**Mount Upton**	**2.06**	**143**	Pn	Pn	09 51 38.9	-0.5
O28M				Sn	Sn	09 52 05.0	-0.6
TABL	**Table Mountain**	**2.15**	**159**	Pn	Pn	09 51 40.3	-0.2
L29M	**L29M**	**2.20**	**70**	Pn	Pn	09 51 40.3	-0.8
L29M				Sn	Sn	09 52 09.3	+0.6
DAWY	**Dawson**	**2.21**	**41**	Pn	Pn	09 51 39.9	-1.2
DAWY				Sn	Sn	09 52 08.9	+0.1
YUK4	**Talbot Arm**	**2.21**	**118**	Pn	Pn	09 51 40.8	-0.6
EGAK	**Eagle**	**2.44**	**16**	Pn	Pn	09 51 44.2	0.0
EGAK				Sg	Sb	09 52 20.1	+1.7
J25K	**Salcha River,**	**2.48**	**332**	Pn	Pn	09 51 44.4	-0.5
J25K				Sn	Sn	09 52 14.4	-1.1
YUK6	**Outpost Mounta**	**2.56**	**124**	Pn	Pn	09 51 44.6	-1.5
YUK5	**Granite Creek**	**2.65**	**118**	Pn	Pn	09 51 46.6	-0.6
YUK5				Sg	Sb	09 52 25.7	+1.0
K29M	**Barlow Dome**	**2.74**	**57**	Pn	Pn	09 51 48.3	-0.2
K29M				Sg	Sb	09 52 27.7	+0.6
M30M	**Minto, Yukon**	**2.74**	**85**	Pn	Pn	09 51 47.6	-0.8
M30M				Pg	Pb	09 51 52.7	-0.6
M30M				Sg	Sb	09 52 27.4	+0.2
N30M	**Aishikik Lake**	**2.83**	**108**	Pn	Pn	09 51 48.5	-1.2
N30M				Sg	Sb	09 52 31.6	+1.9
J29N	**Klondike Camp**	**2.85**	**43**	Sg	Sb	09 52 31.1	+0.9
I26K	**Coal Creek Min**	**2.88**	**356**	Pn	Pn	09 51 50.4	+0.2
I26K				Sg	Sb	09 52 31.7	+0.7
I27K	**Kandik River**	**3.21**	**8**	Pn	Pn	09 51 54.5	-0.3
I27K				Sg	Sg	09 52 44.1	-2.5
I28M	**Miner Creek**	**3.25**	**21**	Pn	Pn	09 51 54.9	-0.6
I28M				Sg	Sg	09 52 46.5	-1.5
N31M	**Braeburn, Yuko**	**3.41**	**103**	Pn	Pn	09 51 56.9	-0.6
N31M				Sg	Sg	09 52 50.8	-2.3
J30M	**Hart River**	**3.56**	**50**	Pn	Pn	09 51 59.1	-0.7
J30M				Sn	Sn	09 52 39.8	-2.5
O30N	**Mendenhall**	**3.58**	**115**	Pn	Pn	09 51 57.8	-2.1
H27K	**Steamboat Moun**	**3.83**	**7**	Pn	Pn	09 52 03.0	-0.4
H27K				Sg	Sb	09 53 02.4	+3.9
I30M	**Mount Dempster**	**3.95**	**42**	Pn	Pn	09 52 04.3	-0.7
I30M				Sn	Sn	09 52 50.0	-1.8
WHY	**Whitehorse**	**4.15**	**112**	Pn	Pn	09 52 07.2	-0.6
WHY				Sg	Sg	09 53 12.7	-4.2
H29M	**Whitestone**	**4.23**	**25**	Pn	Pn	09 52 07.1	-1.7
H29M				Sg	Sg	09 53 15.0	-4.4
G27K	**Doyon Strip**	**4.40**	**5**	Pn	Pn	09 52 10.7	-0.5
G27K				Sg	Sb	09 53 19.0	+4.1
G26K	**Porcupine Rive**	**4.54**	**355**	Pn	Pn	09 52 13.0	-0.1
G26K				Sn	Sn	09 53 04.9	-1.4
G26K				Sg	Sb	09 53 23.8	+4.8
G25K	**Bearman Lake**	**4.58**	**343**	Pn	Pn	09 52 13.1	-0.4
G25K				Sn	Sn	09 53 05.2	-1.8
G25K				Sg	Sb	09 53 25.1	+5.3
P33M	**Teslin, Yukon**	**5.26**	**111**	Sg	Sg	09 53 46.5	-6.0
F26K	**Sheenjek River**	**5.30**	**354**	Sg	Sg	09 53 47.5	-6.4
F25K	**Christian Rive**	**5.32**	**348**	Sg	Sb	09 53 46.6	+5.5

*NAO **31** 09:51:04.7,35.°08N×24.°47E,h33km,mb3.9*
*IDC **31** 09:51:19.6±1.1,36.°73N×21.°39E,h0km,mb3.7/11, mbtmp3.7/19,ML3.4/7,MS3.5/4,Error ellipse: s-maj=20.5km s-min=15.4km az=6.0*
*NEIC **31** 09:51:22.0±1.2,36.°72N±0.°02×21.°28E±0.°05,h10km±1km, mb4.3/18,Error ellipse: s-maj=6.9km s-min=3.5km az=276.0*
*MED_RC **31** 09:51:22.0±0.4,36.°64N×21.°27E,h30km±1km,MW4.5/14, Moment Tensor Solution.Mantle waves: s14,c19; Duration: 1s0 Moment tensor: Scale 1015Nm; Mrr-0.48±1.32; Mθθ-5.38±.73; Mφφ5.87±.74; Mrθ0.88±.54; Mθφ2.12±.41; Mφr0.07±.42; Best double couple: Mo6.08000×1015 NP1:φs235.00000°,δ85.00000°, λ-8.00000°. NP2:φs326.00000°,δ82.00000°, λ-175.00000°. Principal axes: T 6.2600, Plg2.0000°, Azm280.0000°; N -0.3600, Plg81.0000°, Azm23.0000°; P -5.9000, Plg9.0000°, Azm190.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*THE **31** 09:51:22.6,36.°68N×21.°30E,h0km±2km,ML3.8/5 Error ellipse: s-maj=2.3km s-min=0.9km az=188.0*
*ATH **31** 09:51:23.0,36.°72N×21.°32E,h9km±1km,ML3.8/16, Manual Solution by F.Xalaris This location: 2020/06/30 07:16:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*TIR **31** 09:51:26.2,37.°18N×20.°67E,h16km±6km,Ml3.6*

ISC 31 09:51:22.7±1.1,36.°73N±0.°03×21.°29E±0.°03,h18km±7km, n160,σ1°33/188,mb4.1/21,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.40**	**65**	P	**Pg**	**09 51 30.6**	**-0.4**
PYL				S	**Sg**	**09 51 36.6**	**0.0**
	15μm,0.4s						
PYL	**PYLOS**	**0.40**	**65**	P	**Pg**	**09 51 30.6**	**-0.4**
PYL				S	**Sg**	**09 51 36.0**	**-0.6**
ITM	**Ithomi**	**0.68**	**48**	Pg	**Pg**	**09 51 35.4**	**-0.8**
ITM				Sg	**Sg**	**09 51 45.0**	**-0.2**
ITM	**Ithomi**	**0.68**	**48**	P	**Pg**	**09 51 35.8**	**-0.4**
ITM				S	**Sg**	**09 51 45.1**	**-0.2**
AMT	**Artemida-Makis**	**0.87**	**23**	P	**Pb**	**09 51 39.7**	**+0.3**
AMT				S	**Sb**	**09 51 52.1**	**+1.3**
LTHK	**Lithakia**	**1.04**	**340**	P	**Pg**	**09 51 42.8**	**-0.2**
LTHK				S	**Sn**	**09 51 59.1**	**+2.4**
	3μm,0.4s						
LTHK	**Lithakia**	**1.04**	**340**	P	**Pn**	**09 51 43.2**	**+0.7**
LTHK				S	**Sn**	**09 51 58.0**	**+1.3**
DRO	**Drossia**	**1.27**	**15**	P	**Pn**	**09 51 46.1**	**+0.4**
DRO				S	**Sn**	**09 52 06.1**	**+3.8**
	4μm,0.5s						
DRO	**Drossia**	**1.27**	**15**	P	**Pb**	**09 51 46.6**	**+0.5**
DRO				S	**Sn**	**09 52 03.8**	**+1.5**
VLI	**Veliai**	**1.32**	**90**	P	**Pb**	**09 51 47.4**	**+0.3**
VLI				S	**Sn**	**09 52 04.5**	**+0.9**
RLS	**Riolos of Patr**	**1.34**	**6**	P	**Pb**	**09 51 47.8**	**+0.5**
RLS				S	**Sg**	**09 52 05.9**	**-0.1**
MNVA	**Monemvasia**	**1.41**	**91**	P	**Pg**	**09 51 49.9**	**+0.1**
MNVA				S	**Sg**	**09 52 07.2**	**-1.1**
RTZL	**Ratzakli, Kefa**	**1.41**	**343**	P	**Pb**	**09 51 49.1**	**+0.6**
RTZL				S	**Sg**	**09 52 10.2**	**+1.9**
GUR	**Goura**	**1.47**	**35**	P	**Pn**	**09 51 49.5**	**+1.0**
GUR				S	**Sg**	**09 52 12.1**	**+1.8**
	3μm,0.5s						
GUR	**Goura**	**1.47**	**35**	P	**Pb**	**09 51 49.8**	**+0.1**
GUR				S	**Sb**	**09 52 08.9**	**+0.8**
KLV	**Kalavryta, Ach**	**1.48**	**27**	P	**Pb**	**09 51 50.4**	**+0.6**
KLV				S	**Sb**	**09 52 09.2**	**+0.8**
PSDA	**Pessada-Kefalo**	**1.49**	**338**	P	**Pb**	**09 51 50.6**	**+0.6**
PSDA				S	**Sg**	**09 52 13.0**	**+2.0**
PSDA	**Pessada-Kefalo**	**1.49**	**338**	P	**Pb**	**09 51 50.3**	**+0.3**
VLS	**Valsamata**	**1.55**	**339**	P	**Pb**	**09 51 51.3**	**+0.3**
VLS				S	**Sb**	**09 52 11.7**	**+1.4**
KRND	**KRANIDI**	**1.63**	**66**	P	**Pn**	**09 51 51.7**	**+1.1**
KRND	**KRANIDI**	**1.63**	**66**	P	**Pn**	**09 51 51.7**	**+1.1**
KRND				S	**Sn**	**09 52 12.5**	**+1.4**
ALIK	**Aliki, Aigiali**	**1.67**	**23**	P	**Pb**	**09 51 53.2**	**+0.3**
DMLN	**Damoulianata-K**	**1.68**	**335**	P	**Pb**	**09 51 53.0**	**-0.1**
DMLN				S	**Sg**	**09 52 16.6**	**-0.2**
	2μm,0.7s						
DMLN	**Damoulianata-K**	**1.68**	**335**	P	**Pn**	**09 51 52.8**	**+1.6**
EPID	**Epidavros**	**1.71**	**58**	P	**Pn**	**09 51 53.0**	**+1.2**
EPID	**Epidavros**	**1.71**	**58**	P	**Pn**	**09 51 53.0**	**+1.2**
EFP	**Efpalio**	**1.77**	**16**	P	**Pb**	**09 51 55.0**	**+0.3**
KALE	**Kalithea**	**1.79**	**22**	P	**Pb**	**09 51 55.5**	**+0.4**
FSK	**Fiskardo**	**1.82**	**342**	P	**Pb**	**09 51 55.4**	**-0.2**
FSK	**Fiskardo**	**1.82**	**342**	P	**Pb**	**09 51 55.4**	**-0.2**
FSK				S	**Sn**	**09 52 18.2**	**+2.3**
ANKY	**Antikythira Is**	**1.84**	**117**	P	**Pn**	**09 51 54.8**	**+1.3**
ANKY	**Antikythira Is**	**1.84**	**117**	P	**Pn**	**09 51 54.6**	**+1.2**
ANKY				S	**Sn**	**09 52 17.1**	**+0.8**
LOUT	**Loutraki**	**1.84**	**46**	P	**Pn**	**09 51 55.0**	**+1.5**
LOUT	**Loutraki**	**1.84**	**46**	P	**Pn**	**09 51 55.2**	**+1.7**
PVO	**Paravola**	**1.90**	**6**	P	**Pb**	**09 51 56.9**	**0.0**
LKD2	**Lefkada island**	**2.12**	**347**	P	**Pn**	**09 51 58.8**	**+1.5**
	baz=0.0						
LKD2				S	**Sn**	**09 52 19.2**	**-4.1**
	baz=0.0						
LKD2				AMP			
	comp=E,3.2nm,0.8s,baz=0.0						
LKD2	**Lefkada island**	**2.12**	**347**	P	**Pn**	**09 51 59.4**	**+2.0**
RODP	**Rodopos**	**2.31**	**119**	P	**Pn**	**09 52 01.3**	**+1.3**
AGG	**Agios Georgios**	**2.44**	**19**	Pn	**Pn**	**09 52 02.0**	**+0.3**
GVD	**Gavdhos**	**2.95**	**129**	P	**Pn**	**09 52 09.8**	**+1.0**
GVD				S	**Sn**	**09 52 44.7**	**+0.9**
KEK	**Kerkira**	**3.20**	**339**	Pn	**Pn**	**09 52 13.9**	**+1.7**
IDI	**Anoyia**	**3.25**	**115**	Pn	**Pn**	**09 52 13.7**	**+0.7**
IDI	**Anoyia**	**3.25**	**115**	Pn	**Pn**	**09 52 12.8**	**-0.2**
	comp=E,3.0nm,0.3s,baz=300,slow=15,SNR=1.3						
IDI				Sn	**Sn**	**09 52 51.0**	**-0.4**
	comp=E,7.3nm,0.3s,baz=320,slow=23,SNR=5.9						
IDI				LR	LR	09 53 49.1	
	comp=E,476nm,19.1s,baz=270,slow=47						
SRN	**Sarande**	**3.31**	**343**	P	**Pn**	**09 52 14.7**	**+1.0**
	baz=350						
SRN				S	**Sn**	**09 52 48.8**	**-3.7**
	baz=350						
SANT	**Santorini**	**3.38**	**95**	Pn	**Pn**	**09 52 16.1**	**+1.4**
VLO	**Vlora**	**3.99**	**340**	Pn	**Pn**	**09 52 23.0**	**-0.1**
SCTE	**Santa Cesarea**	**4.01**	**327**	P	**Pn**	**09 52 23.9**	**+0.6**
	baz=330						
SCTE				S	**Sn**	**09 53 06.2**	**-3.6**
	baz=330						
SCTE				AMP			
	comp=N,0.1nm,0.3s,baz=330						
SCTE	**Santa Cesarea**	**4.01**	**327**		**Pn**	**09 52 24.4**	**+1.1**
FNA	**Florina**	**4.05**	**1**	P	**Pn**	**09 52 26.4**	**+2.5**
	baz=8.0						
FNA				S	**Sn**	**09 53 12.8**	**+1.8**
	baz=8.0						
FNA				AMP			
	comp=E,0.2nm,0.6s,baz=8.0						
FNA	**Florina**	**4.05**	**1**	Pn	**Pn**	**09 52 24.3**	**+0.3**
TIP	**Timpagrande**	**4.34**	**306**	Pn	**Pn**	**09 52 28.9**	**+1.0**
CEL	**Celeste**	**4.55**	**291**		**Pn**	**09 52 32.4**	**+1.5**
TIR	**Tirane**	**4.75**	**347**	Pn	**Pn**	**09 52 34.0**	**+0.6**
KARP	**Karpathos**	**4.90**	**102**	Pn	**Pn**	**09 52 35.9**	**+0.4**
NOCI	**Noci**	**5.23**	**322**	P	**Pn**	**09 52 41.1**	**+1.1**
	baz=324						
NOCI				S	**Sn**	**09 53 35.8**	**-4.2**
	baz=324						
CUC	**Castrocucco**	**5.40**	**309**	Pn	**Pn**	**09 52 42.9**	**+0.5**
PUK	**Puka**	**5.42**	**349**	P	**Pn**	**09 52 44.8**	**+2.0**
	baz=354						
PUK				S	**Sn**	**09 53 45.5**	**+0.8**
	baz=354						
PUK				AMP			
	comp=E,0.5nm,0.7s,baz=354						
PUK	**Puka**	**5.42**	**349**		**Pn**	**09 52 43.5**	**+0.8**
RDO	**Rodhopi**	**5.52**	**36**	Pn	**Pn**	**09 52 43.6**	**-0.4**
WDD	**Wied Dalam**	**5.54**	**263**	Pn	**Pn**	**09 52 44.2**	**0.0**
VAE	**Valguarnera**	**5.55**	**280**	Pn	**Pn**	**09 52 47.2**	**+2.7**
	comp=E,16nm,0.3s,baz=66,slow=11,SNR=4.4						
VAE				Sn	**Sn**	**09 53 51.4**	**+3.5**
	comp=E,18nm,0.3s,baz=269,slow=18,SNR=3.0						
	comp=E,32nm,0.3s						
RAFF	**Raffo Rosso**	**5.57**	**277**	Pn	**Pn**	**09 52 44.9**	**+0.2**
ALN	**Alexandroupoli**	**5.58**	**40**		**Pn**	**09 52 45.3**	**+0.4**
DRME	**Dracevica, Mon**	**5.69**	**344**	*e*Pn	**Pn**	**09 52 47.1**	**+0.7**
PDG	**Podgorica**	**5.91**	**345**		**Pn**	**09 52 49.8**	**+0.4**
PDG	**Podgorica**	**5.91**	**345**	*e*Pn	**Pn**	**09 52 49.9**	**+0.5**
BALB	**Balikesir**	**5.95**	**59**	Pn	**Pn**	**09 52 50.1**	**+0.1**
TREB	**Trebinje**	**6.40**	**340**	*e*Pn	**Pn**	**09 52 54.9**	**-1.2**
DBRK	**Dubrovnik**	**6.41**	**339**	*e*Pn	**Pn**	**09 52 56.0**	**-0.3**
CLTB	**Caltabellotta**	**6.50**	**280**	Pn	**Pn**	**09 52 57.7**	**+0.1**
BRY	**Bratogost**	**6.52**	**342**	*e*Pn	**Pn**	**09 52 56.9**	**-1.0**
SJES	**Sjenica**	**6.60**	**352**	*e*Pn	**Pn**	**09 52 59.8**	**+0.7**
SGRT	**San Giovanni R**	**6.61**	**321**	P	**Pn**	**09 53 00.2**	**+1.0**
	baz=322						
SGRT	**San Giovanni R**	**6.61**	**321**		**Pn**	**09 52 59.2**	**+0.1**
UPM	**Unac-Piva**	**6.72**	**345**	*e*Pn	**Pn**	**09 53 01.0**	**+0.3**
STON	**Ston**	**6.73**	**337**	*e*Pn	**Pn**	**09 53 00.1**	**-0.5**
STON	**Ston**	**6.73**	**337**	*e*Pn	**Pn**	**09 53 00.0**	**-0.6**
PAOL	**Paolisi**	**6.78**	**311**	Pn	**Pn**	**09 52 60.0**	**-1.4**
BBLS	**Lazi&#263i**	**7.28**	**349**	*e*Pn	Pb	09 53 20.2	-8.3
MAKA	**Makarska**	**7.33**	**335**	*e*Pn	**Pn**	**09 53 09.5**	**+0.7**
HVAR	**Hvar**	**7.44**	**332**	*e*Pn	**Pn**	**09 53 10.4**	**0.0**
INTR	**Introdacqua**	**7.78**	**315**	Pn	**Pn**	**09 53 14.9**	**-0.2**
TEKS	**Tekeris**	**7.93**	**351**	*e*Pn	**Pn**	**09 53 16.8**	**-0.3**
ZIRJ	**Zirje**	**8.15**	**330**	*e*Pn	**Pn**	**09 53 20.3**	**+0.1**
KIJV	**Kijevo**	**8.17**	**334**	*e*Pn	**Pn**	**09 53 20.9**	**+0.5**
MORI	**Morici**	**8.31**	**331**	*e*Pn	**Pn**	**09 53 23.2**	**+0.9**
CAMP	**Campotosto**	**8.40**	**316**	Pn	**Pn**	**09 53 23.4**	**-0.3**
A050A	**Klekovaca**	**8.55**	**336**	*e*Pn	**Pn**	**09 53 26.7**	**+1.0**
BLY	**Banja Luka**	**8.60**	**340**	*e*Pn	**Pn**	**09 53 27.6**	**+1.3**
DUGI	**Dugi Otok**	**8.67**	**329**	*e*Pn	**Pn**	**09 53 28.1**	**+0.8**
NRCA	**Norcia**	**8.76**	**317**		**Pn**	**09 53 27.5**	**-1.1**
GUMA	**Gualdo di Mace**	**8.79**	**318**		**Pn**	**09 53 28.9**	**-0.1**
UDBI	**Udbina**	**8.85**	**333**	*e*Pn	**Pn**	**09 53 32.0**	**+2.2**
FDMO	**Fiordimonte**	**8.91**	**318**		**Pn**	**09 53 28.6**	**-2.0**
A051A	**Mrakovica**	**8.92**	**340**	*e*Pn	**Pn**	**09 53 30.1**	**-0.6**
VIRC	**Vir**	**8.92**	**330**	*e*Pn	**Pn**	**09 53 30.5**	**-0.2**
NVLJ	**Novalja**	**9.22**	**330**	*e*Pn	**Pn**	**09 53 35.2**	**+0.4**
MLR	**Muntele Rosu**	**9.43**	**20**	Pn	**Pn**	**09 53 36.8**	**-1.0**
MLR	**Muntele Rosu**	**9.43**	**20**	Pn	**Pn**	**09 53 38.8**	**+1.0**
	comp=E,0.1nm,0.3s,baz=151,slow=12,SNR=2.1						
	comp=E,2.0nm,0.6s						
VSL	**Villasalto**	**9.78**	**290**	Pn	**Pn**	**09 53 40.8**	**-1.8**
CSS	**Mathiatis**	**9.94**	**97**	Pn	**Pn**	**09 53 42.8**	**-1.9**
CASP	**Castiglione de**	**10.05**	**310**	Pn	**Pn**	**09 53 46.2**	**0.0**
CRES	**Cresnjev**	**10.09**	**336**	*e*Pn	**Pn**	**09 53 46.2**	**-0.6**
BRTR	**Keskin Array B**	**10.17**	**69**	Pn	**Pn**	**09 53 47.5**	**-0.5**
BRTR	**Keskin Array B**	**10.17**	**69**	Pn	**Pn**	**09 53 49.6**	**+1.7**
	comp=E,0.1nm,0.3s,baz=243,slow=13,SNR=1.8						
BRTR				LR	LR	09 58 37.2	
	comp=E,233nm,18.2s,baz=273,slow=43						
	comp=E,0.3nm,0.5s						
SKDS	**Skadanscina**	**10.37**	**330**	*e*Pn	**Pn**	**09 53 50.6**	**-0.1**
CEY	**Cerknica**	**10.38**	**332**	*e*Pn	**Pn**	**09 53 51.9**	**+1.2**
SOKA	**Soboth**	**10.98**	**337**	*i* Pn	**Pn**	**09 53 59.7**	**+0.6**
	comp=E,1.8nm,0.4s						
OBKA	**Obir**	**10.99**	**335**	*i* Pn	**Pn**	**09 54 01.1**	**+1.9**
	comp=E,1.9nm,0.5s						
OBKA	**Obir**	**10.99**	**335**	*e*Pn	**Pn**	**09 54 03.6**	**+4.4**
ARSA	**Arzberg**	**11.35**	**340**	*i* Pn	**Pn**	**09 54 04.8**	**+0.7**
	comp=E,2.1nm,0.5s						
MYKA	**Terra Mystica**	**11.42**	**332**	*i* Pn	**Pn**	**09 54 08.1**	**+3.1**
	comp=E,1.2nm,0.5s						
KBA	**Koelnbreinsper**	**11.91**	**333**	*i* Pn	Pn	09 54 16.9	+5.1
	comp=E,5.1nm,1.3s						
ABTA	**Abfaltersbach**	**11.96**	**330**	*i* Pn	**Pn**	**09 54 13.3**	**+0.9**
	comp=E,1.5nm,0.5s						
LESA	**Schwarzleotal**	**12.45**	**332**	*e*Pn	**Pn**	**09 54 21.3**	**+2.3**
	comp=E,4.0nm,0.7s						
FETA	**Feichten**	**12.94**	**326**	*e*Pn	**Pn**	**09 54 24.6**	**-1.3**
	comp=E,4.2nm,0.9s						
DAVOX	**Davos/Dischmat**	**13.15**	**323**	Pn	**Pn**	**09 54 29.8**	**+1.0**
	comp=E,0.5nm,0.3s,baz=162,slow=20,SNR=2.7						
DAVOX				Sn	**Sn**	**09 56 51.2**	**-3.5**
	comp=E,0.3nm,0.3s,baz=342,slow=21,SNR=2.0						
	comp=E,1.0nm,0.4s						
EIL	**Elat**	**13.42**	**118**	Pn	**Pn**	**09 54 32.0**	**-0.4**
	comp=E,0.3nm,0.3s,baz=0.4,slow=11,SNR=2.1						
EIL				Sn	Sn	09 56 50.9	-10
	comp=E,0.6nm,0.3s,baz=87,slow=15,SNR=4.0						
	comp=E,2.4nm,0.7s						
GRA1	**Grafenberg Arr**	**14.87**	**334**	Pn	**Pn**	**09 54 51.9**	**-0.2**
GRFO	**Grafenberg**	**14.87**	**334**	Pn	**Pn**	**09 54 51.6**	**-0.4**
AKASG	**Malin Array Be**	**15.09**	**20**	Pn	**Pn**	**09 54 53.6**	**-1.3**
	comp=E,0.4nm,0.3s,baz=211,slow=11,SNR=1.4						
	comp=E,0.2nm,0.3s						
CLL	**Collm**	**15.73**	**341**	*es*P	**P**	**09 55 09.0**	**+1.8**
CLL				*es*PP		09 55 18.0	
KBZ	**Khabaz**	**17.89**	**60**	P	**Pn**	**09 55 29.6**	**-1.0**
	comp=E,0.2nm,0.3s,baz=240,slow=10,SNR=5.8						
	comp=E,2.1nm,0.6s						
GNI	**Garni**	**18.68**	**72**	LR	LR	10 03 56.7	
	comp=E,120nm,18.9s,baz=256,slow=41						
ESDC	**Sonseca Array**	**20.04**	**286**	P	**P**	**09 55 54.9**	**0.0**
	comp=E,0.7nm,0.6s,baz=79,slow=10,SNR=5.3						
	comp=E,0.7nm,0.6s						
MESJ	**Messejana**	**23.46**	**282**	P	**P**	**09 56 32.9**	**+1.6**
MESJ				IAmb	IAmb	09 56 49.6	
	comp=Z,13nm,1.2s						
HFS	**Hagfors**	**23.93**	**351**	P	**P**	**09 56 34.7**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=155,slow=11,SNR=11						
	comp=Z,2.9nm,0.8s						
NC602	**NORSAR Array S**	**24.82**	**349**	P	**P**	**09 56 44.1**	**+0.5**
NC602				IAmb	IAmb	09 57 10.4	
	comp=Z,3.8nm,0.8s						
FINES	**FINESS Array B**	**24.92**	**5**	P	**P**	**09 56 44.4**	**-0.2**
FINES	**FINESS Array B**	**24.92**	**5**	P	**P**	**09 56 43.5**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=168,slow=12,SNR=7.8						
	comp=Z,2.0nm,0.6s						
FIA1	**FINESS Array S**	**24.92**	**5**	P	**P**	**09 56 44.7**	**+0.1**
NAO01	**NORSAR Array S**	**25.03**	**348**	P	**P**	**09 56 45.3**	**-0.3**
NAO01				IAmb	IAmb	09 57 07.6	
	comp=Z,8.8nm,1.1s						
NC405	**NORSAR Array S**	**25.15**	**349**	P	**P**	**09 56 45.8**	**-0.9**
NB201	**NORSAR Array S**	**25.16**	**349**	P	**P**	**09 56 46.5**	**-0.2**
NB2	**NORSAR Subarra**	**25.16**	**348**	P	**P**	**09 56 45.9**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**25.16**	**348**	P	**P**	**09 56 46.1**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=157,slow=9.1,SNR=6.2						
	comp=Z,0.7nm,0.7s						
NBO00	**NORSAR Array S**	**25.22**	**348**	P	**P**	**09 56 47.7**	**+0.3**
NBO00				IAmb	IAmb	09 57 30.2	
	comp=Z,14nm,1.3s						
NC204	**NORSAR Array S**	**25.46**	**348**	P	**P**	**09 56 49.4**	**-0.1**
NC204				IAmb	IAmb	09 57 01.8	
	comp=Z,9.9nm,1.2s						
TORD	**Torodi Ar. Bea**	**29.32**	**222**	P	**P**	**09 57 23.8**	**-0.7**
TORD				IAmb	IAmb	09 57 36.0	
	comp=Z,4.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**29.32**	**222**	P	**P**	**09 57 24.4**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=44,slow=11,SNR=2.5						
	comp=Z,0.6nm,0.9s						
ABKAR	**Akbulak array**	**30.58**	**54**	P	**P**	**09 57 34.3**	**-1.1**
FURI	**Furi**	**31.89**	**146**	LR	LR	10 12 30.7	
	comp=Z,146nm,18.7s,baz=359,slow=40						
ARCES	**ARCESS Array B**	**32.95**	**3**	P	**P**	**09 57 56.3**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=185,slow=9.9,SNR=1.8						
	comp=Z,0.7nm,0.7s						
BVAR	**Borovoye Array**	**37.60**	**48**	P	**P**	**09 58 35.5**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=272,slow=9.5,SNR=4.3						
	comp=Z,1.0nm,0.5s						
KK31	**Karatay Array**	**37.84**	**65**	P	**P**	**09 58 38.4**	**0.0**
KKAR	**Karatay Array**	**37.84**	**65**	P	**P**	**09 58 38.0**	**-0.4**
DBIC	**Dimbokro**	**38.27**	**225**	P	**P**	**09 58 41.8**	**-0.4**
DBIC				IAmb	IAmb	09 59 11.7	
	comp=Z,14nm,1.1s						
GAR	**Garm**	**38.40**	**71**	P	**P**	**09 58 43.7**	**+0.4**
GAR				IAmb	IAmb	09 59 05.3	
	comp=Z,5.3nm,0.7s						
KURBB	**Kurchatov Arra**	**42.62**	**52**	P	**P**	**09 59 15.7**	**-2.1**
	comp=Z,2.0nm,0.7s,baz=283,slow=8.4,SNR=14						
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**42.67**	**52**	P	**P**	**09 59 18.2**	**0.0**
MAKZ	**Makanchi**	**45.34**	**57**	P	**P**	**09 59 38.9**	**-0.9**
MAKZ				IAmb	IAmb	09 59 53.9	
	comp=Z,2.9nm,1.2s						
MK31	**Makanchi Array**	**45.55**	**57**	P	**P**	**09 59 40.3**	**-1.1**
MKAR	**Makanchi Array**	**45.55**	**57**	P	**P**	**09 59 40.1

KNRA	Kununurra	53.02	269	P	P	10 05 14.7	-0.9
KNRA				IAmb	IAmb	10 05 16.5	
comp=Z,16nm,0.9s							
SBA	Scott Base	53.09	185	P	P	10 05 15.6	+0.5
SBA				IAmb	IAmb	10 05 29.7	
comp=Z,16nm,1.3s							
SBA				PcP	PcP	10 06 25.8	+2.5
VNDA	Vanda	53.19	186	P	P	10 05 18.6	+2.7
VNDA	Vanda	53.19	186	P	P	10 05 17.2	+1.3
comp=Z,2.1nm,0.9s,baz=9.0,slow=6.6,SNR=14							
comp=Z,2.1nm,0.9s							
FITZ	Fitzroy Crossi	55.04	265	P	P	10 05 28.8	-1.5
MBWA	Marble Bar	59.37	260	P	P	10 06 00.7	-0.2
MBWA				IAmb	IAmb	10 06 01.5	
comp=Z,11nm,0.9s							
QSPA	South Pole Qui	64.58	180	P	P	10 06 35.6	+0.2
comp=Z,7.7nm,1.0s,baz=34,slow=2.1,SNR=18							
comp=Z,7.7nm,1.0s							
KAPI	Kappang	65.34	276	LR	LR	10 35 33.6	
comp=Z,78nm,18.1s,baz=29,slow=36							
MJAR	Matsushiro Arr	75.74	323	P	P	10 07 43.9	-0.1
comp=Z,1.5nm,0.8s,baz=347,slow=26,SNR=1.8							
comp=Z,1.5nm,0.8s							
MAW	Mawson	77.73	199	P	P	10 07 55.1	+0.4
comp=Z,3.2nm,0.9s,baz=116,slow=11,SNR=5.4							
comp=Z,3.2nm,0.9s							
SHEM	Shemya Is, Ala	78.46	353	LR	LR	10 35 47.9	
comp=Z,41nm,21.4s,baz=140,slow=30							
LPIG	La Paz	79.85	57	LR	LR	10 34 17.2	
comp=Z,44nm,21.0s,baz=6.0,slow=29							
PFO	Pinyon Flats O	81.08	46	LR	LR	10 36 23.1	
comp=Z,44nm,20.5s,baz=18,slow=30							
H03S2	Juan Fernandez	81.08	123	T	T	11 36 43.2	
baz=243,slow=74,SNR=4.9							
ISA	Isabella, Lake	81.09	44	P	P	10 08 14.3	+0.7
ISA				IAmb	IAmb	10 08 26.1	
comp=Z,8.6nm,1.1s							
H03S1	Juan Fernandez	81.09	123	T	T	11 36 48.2	
baz=243,slow=74,SNR=5.1							
H03S3	Juan Fernandez	81.10	123	T	T	11 36 44.6	
baz=243,slow=74,SNR=5.1							
CMB	Columbia Colle	81.48	41	P	P	10 08 15.2	-0.3
CMB				IAmb	IAmb	10 08 28.0	
comp=Z,8.3nm,1.2s							
O02D	Mt. Diablo Mer	81.55	38	P	P	10 08 17.3	+1.4
O02D				IAmb	IAmb	10 08 29.3	
comp=Z,12nm,1.1s							
GSC	Goldstone, Bar	81.91	45	P	P	10 08 18.2	+0.2
GSC				IAmb	IAmb	10 08 29.6	
comp=Z,8.2nm,1.2s							
MDPB	Devils Postpil	81.99	42	P	P	10 08 18.4	-0.2
MDPB				IAmb	IAmb	10 08 31.0	
comp=Z,6.4nm,1.0s							
KSRS	Korea Array	82.31	318	P	P	10 08 20.6	+0.8
comp=Z,1.3nm,0.8s,baz=133,slow=5.7,SNR=6.5							
KSRS				LR	LR	10 40 42.0	
comp=Z,18nm,20.1s,baz=285,slow=33							
comp=Z,1.3nm,0.8s							
KSAR	Wonju Array Be	82.33	318	P	P	10 08 21.9	+2.0
KS19	Wonju Array Si	82.38	318	P	P	10 08 22.5	+2.2
L02F	Cave Junction	82.48	36	P	P	10 08 22.0	+1.3
DSP	Deep Springs	82.50	43	P	P	10 08 21.4	+0.6
DSP				IAmb	IAmb	10 08 33.0	
comp=Z,6.5nm,1.0s							
MPK	Martis Peak	82.52	40	P	P	10 08 22.6	+1.3
GWY	Greenwater Val	82.55	44	P	P	10 08 21.0	-0.4
GWY				IAmb	IAmb	10 08 32.9	
comp=Z,6.9nm,1.2s							
PNTR	Pine Nut	82.64	40	P	P	10 08 22.5	+0.6
PNTR				IAmb	IAmb	10 08 33.8	
comp=Z,10nm,0.9s							
YBH	Yreka Blue Hor	82.67	37	P	P	10 08 20.8	-1.0
HATC	Hat Creek Radi	82.73	38	P	P	10 08 22.7	+0.6
TROLL	Troll, Antarti	82.73	179	⇑P	P	10 08 21.8	-0.1
comp=Z,349nm,1.1s							
LHV	Little Huntoon	82.74	42	P	P	10 08 22.8	+0.7
LHV				IAmb	IAmb	10 08 34.4	
comp=Z,7.5nm,1.0s							
SNAA	Sanae	82.94	178	⇑P	P	10 08 22.8	0.0
comp=Z,39nm,0.8s							
SNAA	Sanae	82.94	178	P	P	10 08 22.5	-0.3
comp=Z,1.9nm,0.9s,baz=190,slow=8.3,SNR=6.8							
comp=Z,1.9nm,0.9s							
WCT	Wildcat Mounta	82.96	44	P	P	10 08 23.9	+0.5
NVAR	Mina Array Bea	82.97	42	P	P	10 08 23.7	+0.1
NVAR	Mina Array Bea	82.97	42	P	P	10 08 23.4	-0.3
comp=Z,3.1nm,0.9s,baz=224,slow=10.0,SNR=21							
comp=Z,3.1nm,0.9s							
VNA3	Neumayer Olymp	82.98	175	⇑P	P	10 08 22.8	-0.2
comp=Z,3.9nm,0.7s							
MZP	Montezuma Peak	83.06	43	P	P	10 08 23.0	-1.2
NV11	Mina Array Sit	83.06	42	P	P	10 08 23.9	-0.1
NV11				IAmb	IAmb	10 08 35.8	
comp=Z,8.7nm,1.1s							
HUMO	Hull Mountain	83.14	36	P	P	10 08 24.8	+0.6
HUMO				IAmb	IAmb	10 08 36.7	
comp=Z,11nm,1.4s							
PAHR	Pah Rah Range	83.17	40	P	P	10 08 25.1	+0.5
PAHR				IAmb	IAmb	10 08 36.3	
comp=Z,5.4nm,1.0s							
TPH	Tonopah	83.40	42	P	P	10 08 26.4	+0.6
V12A	Nelson	83.42	45	P	P	10 08 26.2	+0.3
V12A				IAmb	IAmb	10 08 37.8	
comp=Z,7.7nm,1.1s							
VNA2	Neumayer--Watz	83.45	176	⇑P	P	10 08 25.6	+0.2
comp=Z,4.2nm,0.9s,baz=191,slow=5.1							
KVN	Kaiserville	83.50	41	P	P	10 08 26.4	+0.1
KVN				IAmb	IAmb	10 08 37.9	
comp=Z,5.8nm,1.0s							
Y14A	Wickenburg	83.56	48	P	P	10 08 27.1	+0.6
VNA1	Neumayer--Stat	83.66	176	⇑P	P	10 08 26.1	-0.3
comp=Z,6.0nm,0.9s							
W13A	Hualapai Mount	83.67	46	P	P	10 08 27.5	+0.2
SHPR	Sheep Range	83.70	45	P	P	10 08 28.0	+0.7
TUC	Tucson	84.12	50	P	P	10 08 30.1	+0.6
TUC				IAmb	IAmb	10 08 41.6	
comp=Z,6.4nm,1.1s							
PRN	Pahroc Range	84.33	44	P	P	10 08 31.1	+0.6
J05D	Fort Rock, OR	84.53	36	P	P	10 08 31.9	+0.5
J05D				IAmb	IAmb	10 08 43.4	
comp=Z,7.4nm,0.9s							
USRK	Ussuriysk Ar.	84.53	325	P	P	10 08 31.8	+0.6
comp=Z,4.3nm,1.0s,baz=103,slow=2.5,SNR=6.2							
comp=Z,4.3nm,1.0s							
X16A	Lo Mia Camp, P	84.89	48	IAmb	IAmb	10 08 46.2	
comp=Z,5.7nm,1.0s							
NJ2	Nanjing	85.03	309	*e*P	P	10 08 35.5	+1.6
NJ2				pmax	pmax		
comp=Z,7.0nm,0.5s							
PINE	Pine Mountain	85.03	36	IAmb	IAmb	10 08 46.0	
comp=Z,8.2nm,0.9s							
I05D	Terrebonne, OR	85.19	36	P	P	10 08 34.8	+0.2
I05D				IAmb	IAmb	10 08 45.8	
comp=Z,5.8nm,1.0s							
LCMT	Little Creek M	85.23	45	P	P	10 08 35.7	+0.7
LCMT				IAmb	IAmb	10 08 47.2	
comp=Z,5.9nm,0.9s							
WVOR	Wild Horse Val	85.38	38	P	P	10 08 36.2	+0.5
WVOR				IAmb	IAmb	10 08 47.4	
comp=Z,5.0nm,1.0s							
DUN6	Lazy B Ranch	85.44	51	P	P	10 08 37.0	+0.8
Q12A	Willow Creek R	85.47	43	P	P	10 08 36.8	+0.6
Q12A				IAmb	IAmb	10 08 48.0	
comp=Z,4.8nm,0.8s							
U15A	North Rim	85.50	46	IAmb	IAmb	10 08 49.0	
comp=Z,7.6nm,0.9s							
KNB	Kanab	85.50	45	P	P	10 08 37.2	+0.8
KNB				IAmb	IAmb	10 08 48.8	
comp=Z,10nm,1.1s							
ELK	Elko	86.27	41	LR	LR	10 40 14.0	
comp=Z,54nm,19.3s,baz=18,slow=31							
VHRN	Van Horn	87.43	54	IAmb	IAmb	10 08 57.5	
comp=Z,6.7nm,0.9s							
TX31	Lajitas Ar. Si	87.65	56	IAmb	IAmb	10 08 59.2	
comp=Z,6.8nm,1.1s							
TXAR	Lajitas Array	87.65	56	P	P	10 08 47.0	-0.1
TXAR	Lajitas Array	87.65	56	P	P	10 08 46.8	-0.3
comp=Z,2.5nm,0.9s,baz=213,slow=8.7,SNR=26							
comp=Z,2.5nm,0.9s							
LENM	Lemitar	87.81	50	P	P	10 08 46.8	-1.1
CN2	Changchun	87.81	321	*e*P	P	10 08 48.8	+1.5
CN2				pmax	pmax		
comp=Z,10.0nm,0.8s							
CRNM	Carthage	87.86	51	P	P	10 08 48.5	+0.5
BNX	BinXian	87.97	324	⇑P	P	10 08 48.8	+0.7
BNX				pmax	pmax		
comp=Z,8.0nm,1.0s							
MPU	Maple Canyon	88.03	43	P	P	10 08 48.3	-0.5
SRU	San Rafael Swe	88.20	45	P	P	10 08 49.9	+0.3
SRU				IAmb	IAmb	10 09 01.6	
comp=Z,7.2nm,1.0s							
ALPN	Alpine	88.21	55	P	P	10 08 49.0	-0.8
ALPN				IAmb	IAmb	10 09 01.1	
comp=Z,5.8nm,1.0s							
TIA	Tai'an	88.52	312	P	P	10 08 51.0	+0.1
TIA				pmax	pmax		
comp=Z,5.0nm,1.0s							
ANMO	Albuquerque	88.58	50	P	P	10 08 51.5	-0.1
ANMO				IAmb	IAmb	10 09 03.2	
comp=Z,4.9nm,0.8s							
ANMO	Albuquerque	88.58	50	LR	LR	10 40 12.7	
comp=Z,34nm,21.6s,baz=103,slow=30							
RC01	Rabbit Creek A	88.74	12	P	P	10 08 50.9	-0.4
MA2	Magadan	89.29	343	LR	LR	10 48 07.4	
comp=Z,25nm,18.2s,baz=199,slow=35							
DRIO	Del Rio	90.00	57	IAmb	IAmb	10 09 09.0	
comp=Z,9.2nm,1.0s							
OZNA	Ozona	90.35	56	IAmb	IAmb	10 09 09.6	
comp=Z,9.5nm,1.1s							
SMCO	Snowmass	90.52	46	P	P	10 09 00.7	-0.1
SMCO				IAmb	IAmb	10 09 12.7	
comp=Z,5.1nm,1.0s							
SNOW	Snow King Moun	90.57	41	P	P	10 08 59.8	-0.9
MSTX	Muleshoe	90.67	52	P	P	10 09 00.2	-1.0
IMW	Indian Meadow	90.71	41	P	P	10 09 00.8	-0.6
SDCO	Great Sand Dun	90.73	48	P	P	10 09 01.1	-0.6
BPMT	Black Pine Rid	90.79	38	P	P	10 09 01.2	-0.5
PDAR	Pinedale Array	90.89	42	P	P	10 09 01.4	-0.7
PDAR	Pinedale Array	90.89	42	P	P	10 09 02.0	-0.2
comp=Z,1.0nm,0.9s,baz=205,slow=3.1,SNR=7.8							
PDAR				LR	LR	10 42 02.9	
comp=Z,19nm,21.0s,baz=24,slow=30							
comp=Z,1.0nm,0.9s							
RND	Reindeer	91.04	12	P	P	10 09 02.1	0.0
BRDY	Brady	92.12	56	P	P	10 09 06.9	-1.0
BRDY				IAmb	IAmb	10 09 18.4	
comp=Z,3.4nm,1.0s							
BCAR	Beaver Creek A	92.17	15	P	P	10 09 08.1	+0.7
ABTX	Abilene, Hawle	92.28	55	P	P	10 09 08.2	-0.4
ABTX				IAmb	IAmb	10 09 19.4	
comp=Z,6.0nm,0.9s							
HDA	Harding Lake	92.30	12	P	P	10 09 06.5	-1.4
HDA				IAmb	IAmb	10 09 19.2	
comp=Z,4.3nm,0.8s							
CCB	Clear Creek Bu	92.36	11	P	P	10 09 07.6	-0.5
COLA	College	92.56	11	P	P	10 09 08.8	-0.2
ILAR	Eielson Array	92.64	12	P	P	10 09 08.8	-0.7
comp=Z,0.9nm,0.9s,baz=221,slow=5.1,SNR=7.6							
comp=Z,0.9nm,0.9s							
J25K	Salcha River,	92.79	12	P	P	10 09 10.4	+0.2
J25K				IAmb	IAmb	10 09 21.8	
comp=Z,3.6nm,0.9s							
J26L	Joseph Creek	93.05	13	IAmb	IAmb	10 09 24.4	
comp=Z,5.9nm,0.9s							
PLPT	Palo Pinto	93.36	55	P	P	10 09 13.1	-0.4
BRLDA	Berland Lookou	93.59	30	P	P	10 09 12.9	-1.3
BRLDA				IAmb	IAmb	10 09 26.6	
comp=Z,6.5nm,1.1s							
WTFS	Witchita Falls	93.69	54	P	P	10 09 14.9	-0.1
K29M	Barlow Dome	93.85	16	P	P	10 09 15.6	+0.4
K29M				IAmb	IAmb	10 09 27.3	
comp=Z,6.0nm,1.1s							
WMOK	Wichita Mounta	93.92	53	P	P	10 09 15.0	-1.1
CMAR	Chiang Mai Arr	94.16	288	P	P	10 09 15.6	-2.0
CMAR	Chiang Mai Arr	94.16	288	P	P	10 09 17.6	+0.1
comp=Z,0.7nm,0.3s,baz=180,slow=1.6,SNR=1.7							
comp=Z,0.7nm,0.3s							
HHC	Hu-ho-hao-te	94.66	313	*e*P	P	10 09 20.5	+1.0
HHC				pP	pwP	10 09 26.0	-3.7
HHC				pmax	pmax		
comp=Z,50nm,6.2s							
HHC				pmax	pmax		
comp=Z,12nm,0.5s							
RSSD	Black Hills	95.00	43	P	P	10 09 19.6	-1.5
PZH	PanZhiHua	95.28	297	P	P	10 09 23.0	+0.3
PZH				pmax	pmax		
comp=Z,20nm,0.8s							
PZH				pmax	pmax		
comp=Z,200nm,8.7s							
MKAR	Makanchi Array	116.46	311	PKP	PKPdf	10 14 40.3	-1.7
comp=Z,0.9nm,0.9s,baz=79,slow=2.6,SNR=6.0							
KURBB	Kurchatov Arra	119.43	315	PKP	PKPdf	10 14 46.5	-1.0
comp=Z,0.4nm,0.3s,baz=72,slow=1.9,SNR=7.0							
BVAR	Borovoye Array	124.53	318	PKP	PKPdf	10 14 56.4	-0.8
comp=Z,1.0nm,0.6s,baz=123,slow=3.3,SNR=5.8							
KBZ	Khabaz	144.14	310	PKP	PKPab	10 15 31.9	+0.2
comp=Z,1.2nm,0.7s,baz=56,slow=3.6,SNR=3.9							
NOA	NORSAR Array B	144.21	355	PKP	PKPab	10 15 30.7	-0.7
comp=Z,0.1nm,0.3s,baz=13,slow=2.4,SNR=2.1							
HFS	Hagfors	144.85	352	PKP	PKPab	10 15 32.9	-0.9
comp=Z,5.5nm,0.9s,baz=343,slow=3.1,SNR=8.8							
AKASG	Malin Array Be	148.62	330	PKPbc	PKPdf	10 15 43.4	+2.1
comp=Z,2.0nm,0.7s,baz=42,slow=3.3,SNR=7.8							
BRTR	Keskin Array B	152.01	308	PKPbc	PKPbc	10 15 53.6	-0.2
comp=Z,2.1nm,0.8s,baz=112,slow=1.9,SNR=12							
MMAI	Mount Meron Ar	152.33	293	PKPbc	PKPbc	10 15 55.0	+0.3
comp=Z,0.5nm,0.3s,baz=31,slow=8.6,SNR=3.9							
CLL	Collm	153.49	348	*e*PKPbc	PKPbc	10 15 57.0	+0.5
comp=Z,5.0nm,1.1s							
CLL				*e*(pPKPbc)		10 16 00.0	
CLL				*i* PKPab	PKPab	10 16 07.2	-1.5
comp=Z,6.0nm,1.1s							
TORD	Torodi Ar. Bea	167.36	166	PKPab	PKPab	10 17 09.3	-0.6
comp=Z,0.8nm,0.8s,baz=201,slow=3.6,SNR=3.5							

*NNC **31** 09:59:09.2±3.1,53°.36N×87°.31E,h0km,mb2.5,mpv2.3,*
Error ellipse: s-maj=22.2km s-min=15.5km az=96.0,
Suspected Mining explosion.

IDC 31 09:59:08.4±3.1,53°.50N×87°.61E,h0km,mbtmp2.8/2,
ML2.6/2,2C-2D,Error ellipse: s-maj=27.6km
s-min=15.5km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.72	286	I	I	10 10 07.9	
0.1nm,0.8s,baz=101,slow=318,SNR=2.7							
ZAA0	Zalesovo Array	1.72	286	⇑Pn	Pn	09 59 38.4	-1.2
0.4nm,0.5s,baz=106,slow=16							
ZAA0				⇓Sn	Sn	10 00 00.9	-1.3
0.5nm,0.3s,baz=113,slow=25							
ZALV	Zalesovo Beam	1.72	286	Pg	Pn	09 59 39.1	-0.4
0.9nm,0.3s,baz=102,slow=16,SNR=11							
ZALV				Lg	Lg	10 00 03.4	
2.9nm,0.3s,baz=106,slow=30,SNR=16							
KURK	Kurchatov	6.20	247	⇓Lg	Lg	10 02 19.4	
7.5nm,1.2s							
KURBB	Kurchatov Arra	6.30	246	Pn	Pn	10 00 42.9	+0.5
0.1nm,0.3s,baz=65,slow=14,SNR=2.5							
KURBB				Lg	Lg	10 02 25.7	
baz=63,slow=33,SNR=8.4							
0.3nm,0.3s							
KURBB	Kurchatov Arra	6.30	246	⇑Lg	Lg	10 02 22.4	
6.0nm,0.8s							
MK31	Makanchi Array	7.53	209	P	Pn	10 00 58.2	-1.2
0.3nm,0.5s,baz=283,slow=4.1,SNR=8.4							
MKAR	Makanchi Array	7.53	209	Pn	Pn	10 01 00.8	+1.5
0.2nm,0.3s,baz=30,slow=14,SNR=6.5							
MKAR				Lg	Lg	10 03 07.2	
0.1nm,0.3s,baz=29,slow=33,SNR=5.8							
0.3nm,0.4s							

SJA 31 09:59:45.8±0.7,22°.94S×66°.21W,h258km±5km,ML3.5,
MW3.4,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	Yavi	1.00	40	*e*P	Pn	10 00 23.3	+1.0
YJA				*e*S	S	10 00 49.9	-1.0
AZAP	Zapla	1.65	141	*e*P	Pn	10 00 26.7	+0.4
SLA	San Lorenzo	1.88	160	*e*P	Pn	10 00 28.8	+0.7
LVC	Limon Verde	2.51	277	*e*P	Pn	10 00 34.3	+0.1
LVC				*e*S	S	10 01 10.9	-1.5
PB15	IPOC Station P	3.02	264	*e*S	S	10 01 19.2	-2.3
PB06	IPOC Station P	3.11	274	*e*P	Pn	10 00 40.8	+0.6
PB06				*e*S	S	10 01 21.2	-2.0
PB06				IAML		10 01 25.4	
comp=Z,44nm,0.2s							
PB04	IPOC Station P	3.69	279	*e*P	Pn	10 00 46.9	+0.3
PB04				*e*S	S	10 01 31.6	-3.3
PB04				IAML		10 01 35.2	
comp=Z,61nm,0.1s							
GO02	Mina Guanaco	3.80	234	*e*P	Pn	10 00 47.4	-0.6
GO02				*e*S	S	10 01 34.5	-2.8
PB14	IPOC Station P	4.19	246	*e*P	Pn	10 00 52.5	0.0
PB14				*e*S	S	10 01 41.4	-4.1
PB14				IAML		10 01 44.4	
comp=Z,30nm,0.4s							
HMBC	Humberstone	4.33	307	*e*P	Pn	10 00 54.3	+0.3
TA01	Diego Aracena	4.38	302	*e*P	Pn	10 00 55.0	+0.6
TA01				*e*S	S	10 01 46.1	-3.1
TA01				IAML		10 01 49.6	
comp=Z,25nm,0.4s							
AC01	Pan de Azucar	5.11	231	*e*P	Pn	10 01 02.1	-1.1
AC01				IAML		10 02 21.4	
comp=Z,25nm,2.9s							

*IDC **31** 10:22:07.5±4.5,19°.32N×155°.20W,h0km,mb3.7/3,*
mbtmp3.7/3,Error ellipse: s-maj=112.6km s-min=18.4km
az=8.0
*NEIC **31** 10:22:07.0±1.7,19°.412N±0°.009×155°.248W±0°.007,*
h8km±1km,Error ellipse: s-maj=1.3km s-min=0.9km
az=175.0
*HVO **31** 10:22:07.1±1.8,19°.407N±0°.009×155°.261W±0°.006,*
h0km±3km,ML3.6/37,ML3.3/29(NEIC),Error ellipse:
s-maj=1.4km s-min=0.7km az=161.0

ISC 31 10:22:07.5±0.8,19°.42N±0°.03×155°.25W±0°.02,h4km±4km,
n33,σ0=84/47,mb3.7/3,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATHI	Halema'uma'u T	0.01	278	Pg	Pg	10 22 08.0	-0.4
HATHI				Sg	Sg	10 22 08.3	-0.8
BYL	Byron's Ledge	0.01	215	Pg	Pg	10 22 07.8	-0.7
BYL				Sg	Sg	10 22 08.0	-1.1
SBLHI	Steaming Bluff	0.01	289		Pg	10 22 08.8	+0.3
UWB	Uwekahuna B	0.02	276		Pg	10 22 09.1	+0.6
KKO	Keanakako`i	0.03	208		Pg	10 22 08.5	-0.1
OBL	Observatory Le	0.03	261		Pg	10 22 09.1	+0.5
RIM	Rim	0.03	217		Pg	10 22 08.7	0.0
UWE	Uwekahuna	0.04	269	Pg	Pg	10 22 08.5	-0.2
UWE				Sg	Sg	10 22 09.1	-0.4
RSD	Rainshed	0.05	330	Pg	Pg	10 22 09.2	+0.4
RSD				IAML		10 22 09.5	
comp=E,8μm,0.8s							
RSD				Sg	Sg	10 22 09.9	+0.1
RSD				IAML		10 22 09.9	
comp=N,15μm,0.5s							
WRMHI	West Rim	0.05	251		Pg	10 22 09.8	+1.0
SDHHI	Sand Hill	0.05	230		Pg	10 22 09.7	+0.8
PUH	Pauahi	0.06	144	Pg	Pg	10 22 09.2	+0.3
PUH				Sg	Sg	10 22 10.3	+0.4
KNHH	Kane Nui o Ham	0.09	118	Pg	Pg	10 22 09.2	-0.2
STCH	Steam Cracks	0.13	107	Pg	Pg	10 22 09.2	-0.8
STCH					Sg	10 22 11.3	-0.5
STCH				IAML		10 22 13.2	
comp=E,14μm,0.5s							
STCH				IAML		10 22 13.8	
comp=N,10μm,0.6s							
HLP	Hilina Pali	0.14	203		Pg	10 22 09.0	-1.2
HLP				Sg	Sg	10 22 11.1	-1.0
HLP				IAML		10 22 12.8	
comp=N,11μm,1.1s							
HLP				IAML		10 22 13.0	
comp=E,10μm,0.7s							
NPOC	North of Pu'u	0.14	102		Pg	10 22 11.0	+0.7
MLH	Mauna Loa	0.14	300	Pg	Pg	10 22 10.6	0.0
MLH				IAML		10 22 14.2	
comp=E,12μm,0.8s							
MLH				IAML		10 22 14.5	
comp=N,7μm,0.7s							
JCUZ	Jacuzzi	0.15	105		Pg	10 22 11.1	+0.6
HTC	Hot Caves	0.23	217		Pg	10 22 12.7	+0.7
JOKA	Jonika Flow	0.23	87		Pg	10 22 11.8	-0.3
JOKA				Sg	Sg	10 22 13.4	-1.8
JOKA				IAML		10 22 18.1	
comp=N,8μm,0.9s							
JOKA				IAML		10 22 19.9	
comp=E,5μm,1.3s							
HMH	Humu'ula Sheep	0.28	310		Pb	10 22 13.8	-1.5
HMH					Sg	10 22 16.0	-0.8
MLOA	Mauna Loa Obse	0.33	290	Pg	Pg	10 22 13.1	-0.8
MLOA				IAML		10 22 22.0	
comp=N,7μm,1.1s							
MWH	Moku'aweowe	0.33	281	Pg	Pg	10 22 13.3	-0.8
MWH				Sg	Sg	10 22 17.5	-1.0
KHU	Kahuku	0.38	243		Pg	10 22 14.2	-0.8
KHU					Sg	10 22 20.8	+0.7
ALEP	Alea Permanent	0.39	288		Pb	10 22 17.2	0.0
ALEP					Sg	10 22 21.3	+1.0
POHA	Pohakuloa	0.42	322	Pg	Pg	10 22 16.2	+0.4
POHA				IAML		10 22 24.4	
comp=N,6μm,1.0s							
HPO	Honuapo	0.44	221	Pg	Pg	10 22 15.1	-0.8
HPO					Sb	10 22 23.7	-1.0
HUH	Hualalai	0.61	296		Pg	10 22 19.1	-0.2
I59US	HAWAII INFRASO	0.63	286	Pg	Pb	10 22 21.2	+0.1
baz=119,slow=39							
I59US				I	I	10 26 10.0	
baz=107,slow=315,SNR=2.7							
HPAH	Hawaii Prepara	0.74	325	Pg	Pg	10 22 20.9	-0.8
HPAH					Sg	10 22 29.3	-1.9
PDAR	Pinedale Array	44.84	48	P	P	10 30 23.5	+0.4
comp=N,1.1nm,1.0s,baz=246,slow=6.3,SNR=6.0							
comp=N,1.1nm,1.0s							
ILAR	Eielson Array	45.67	5	P	P	10 30 30.4	+1.4
comp=N,0.8nm,1.0s,baz=190,slow=6.2,SNR=6.2							
comp=N,0.8nm,1.0s							
TXAR	Lajitas Array	47.69	68	P	P	10 30 46.3	+0.7
comp=N,1.7nm,0.9s,baz=250,slow=6.7,SNR=14							
comp=N,1.7nm,0.9s							

*NEIC **31** 10:28:51.7±1.1,19°.416N±0°.007×155°.293W±0°

STCH				IAML		10 28 58.8	
	comp=E,700nm,0.4s						
HMH	**Humu'ula Sheep**	**0.27**	**316**	Pg	Pg	10 28 57.1	+0.2
HMH				Sg	Sg	10 29 00.1	-0.3
HMH				IAML		10 29 04.0	
	comp=N,394nm,1.2s						
HMH				IAML		10 29 04.8	
	comp=E,343nm,0.8s						
JOKA	**Jonika Flow**	**0.27**	**85**	Pg	Pg	10 28 56.7	-0.2
JOKA				Sg	Sg	10 29 00.9	+0.6
JOKA				IAML		10 29 01.0	
	comp=E,403nm,1.2s						
MLOA	**Mauna Loa Obse**	**0.30**	**295**	Pg	Pg	10 28 56.6	-1.0
MLOA				IAML		10 29 02.2	
	comp=E,345nm,1.0s						
MWH	**Moku'aweowe**	**0.30**	**284**	Pg	Pg	10 28 58.1	+0.5
PAH	**Pahoa**	**0.33**	**75**	Pg	Pg	10 28 57.7	-0.4
KHU	**Kahuku**	**0.35**	**242**	Pg	Pg	10 28 58.1	-0.4
HPO	**Honuapo**	**0.41**	**218**	Pg	Pg	10 28 59.4	-0.1
POHA	**Pohakuloa**	**0.42**	**326**	Pg	Pg	10 28 59.6	-0.2
HUH	**Hualalai**	**0.59**	**298**	Pg	Pg	10 29 02.8	-0.2
HPAH	**Hawaii Prepara**	**0.73**	**328**	Pg	Pg	10 29 05.2	-0.5

*NEIC **31** 10:29:08.3±1.2, 19°.404N±0°.007×155°.287W±0°.007, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.2km az=92.0*
*HVO **31** 10:29:08.2±1.5, 19°.413N±0°.006×155°.285W±0°.007, h1km±3km, ML3.7/47, ML3.5/43(NEIC), Error ellipse: s-maj=0.9km s-min=0.9km az=167.0*
*IDC **31** 10:29:10.4±2.1, 19°.66N×155°.38W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=72.0km s-min=15.7km az=164.0*

ISC 31 10:29:08.5±0.8, 19°.42N±0°.02×155°.30W±0°.02, h3km±4km, n40, σ0§85/48, mb3.7/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.00**	**150**		**Pg**	**10 29 09.1**	**-0.3**
UWE				Sg	**Sg**	**10 29 09.9**	**0.0**
OBL	**Observatory Le**	**0.01**	**123**		**Pg**	**10 29 09.2**	**-0.2**
UWB	**Uwekahuna B**	**0.02**	**88**		**Pg**	**10 29 09.7**	**+0.3**
WRMHI	**West Rim**	**0.02**	**196**		**Pg**	**10 29 09.7**	**+0.3**
SBLHI	**Steaming Bluff**	**0.03**	**83**		**Pg**	**10 29 10.0**	**+0.5**
HATHI	**Halema'uma'u T**	**0.03**	**92**		**Pg**	**10 29 09.3**	**-0.3**
HATHI				Sg	**Sg**	**10 29 09.6**	**-0.6**
SDHHI	**Sand Hill**	**0.03**	**179**		**Pg**	**10 29 10.2**	**+0.6**
BYL	**Byron's Ledge**	**0.04**	**110**		**Pg**	**10 29 09.3**	**-0.3**
BYL				Sg	**Sg**	**10 29 10.1**	**-0.2**
RIM	**Rim**	**0.04**	**146**		**Pg**	**10 29 09.8**	**+0.2**
KKO	**Keanakako`i**	**0.04**	**134**		**Pg**	**10 29 10.1**	**+0.4**
RSD	**Rainshed**	**0.04**	**22**		**Pg**	**10 29 09.4**	**-0.3**
RSD				Sg	**Sg**	**10 29 10.3**	**-0.2**
PUH	**Pauahi**	**0.09**	**124**		**Pg**	**10 29 10.6**	**+0.2**
PUH					**Pg**	**10 29 10.6**	**+0.2**
PUH				IAML		10 29 11.6	
	comp=E,9μm,0.7s						
PUH				IAML		10 29 11.6	
	comp=N,12μm,0.5s						
MLH	**Mauna Loa**	**0.11**	**309**		**Pg**	**10 29 10.6**	**-0.3**
MLH				Sg	**Sg**	**10 29 11.9**	**-0.5**
MLH				IAML		10 29 12.7	
	comp=E,13μm,0.5s						
MLH				IAML		10 29 14.5	
	comp=N,13μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.13**	**111**		**Pg**	**10 29 10.5**	**-0.6**
HLP	**Hilina Pali**	**0.13**	**186**		**Pg**	**10 29 10.4**	**-0.7**
HLP				Sg	**Sg**	**10 29 11.9**	**-0.9**
HLP				IAML		10 29 14.1	
	comp=E,27μm,0.9s						
HLP				IAML		10 29 14.2	
	comp=N,30μm,0.7s						
STCH	**Steam Cracks**	**0.17**	**103**		**Pg**	**10 29 11.3**	**-0.5**
STCH				Sg	**Sg**	**10 29 12.4**	**-1.6**
STCH				IAML		10 29 14.8	
	comp=E,23μm,0.7s						
STCH				IAML		10 29 16.3	
	comp=N,14μm,0.6s						
NPOC	**North of Pu'u**	**0.18**	**100**		**Pg**	**10 29 12.2**	**+0.2**
JCUZ	**Jacuzzi**	**0.19**	**102**		**Pg**	**10 29 12.3**	**+0.1**
HTC	**Hot Caves**	**0.21**	**208**		**Pg**	**10 29 13.1**	**+0.5**
HMH	**Humu'ula Sheep**	**0.25**	**315**		**Pg**	**10 29 13.5**	**0.0**
HMH				IAML		10 29 21.8	
	comp=N,12μm,0.6s						
JOKA	**Jonika Flow**	**0.27**	**88**		**Pg**	**10 29 13.2**	**-0.6**
JOKA				IAML		10 29 21.2	
	comp=N,6μm,0.9s						
JOKA				IAML		10 29 22.0	
	comp=E,8μm,1.5s						
MLOA	**Mauna Loa Obse**	**0.29**	**293**	Pg	**Pg**	**10 29 13.8**	**-0.5**
MLOA				IAML		10 29 20.2	
	comp=N,8μm,0.9s						
MLOA				IAML		10 29 20.5	
	comp=E,9μm,0.5s						
MWH	**Moku'aweowe**	**0.29**	**282**		**Pg**	**10 29 14.4**	**0.0**
PAH	**Pahoa**	**0.34**	**78**	Pg	**Pg**	**10 29 14.8**	**-0.2**
ALEP	**Alea Permanent**	**0.35**	**290**		**Pg**	**10 29 15.7**	**+0.3**
ALEP					**Sb**	**10 29 22.1**	**-1.5**
KHU	**Kahuku**	**0.35**	**240**		**Pg**	**10 29 15.2**	**-0.2**
KHU				IAML		10 29 22.7	
	comp=N,4μm,0.8s						
KHU				Sg	**Sb**	**10 29 22.7**	**-0.9**
KHU				IAML		10 29 23.4	
	comp=E,5μm,1.5s						
POHA	**Pohakuloa**	**0.40**	**326**	Pg	**Pg**	**10 29 16.7**	**+0.3**
POHA	**Pohakuloa**	**0.40**	**326**	Sg	**Sg**	**10 29 22.7**	**+1.1**
HPO	**Honuapo**	**0.41**	**216**		**Pg**	**10 29 16.7**	**+0.2**
HPO					**Sb**	**10 29 23.8**	**-1.3**
HUH	**Hualalai**	**0.57**	**297**		**Pg**	**10 29 19.7**	**+0.1**
I59US	**HAWAII INFRASO**	**0.59**	**287**	Pg	**Pg**	**10 29 19.8**	**-0.1**
	baz=118,slow=43						
I59US				I	I	10 33 00.0	
	baz=108,slow=318,SNR=4.5						
HPAH	**Hawaii Prepara**	**0.71**	**328**		**Pg**	**10 29 21.9**	**-0.3**
HPAH					**Sg**	**10 29 31.1**	**-0.5**
HPAH				IAML		10 29 43.5	
	comp=E,3μm,0.5s						
KHLH	**Kahului Airpor**	**1.81**	**324**	Pn	**Pn**	**10 29 38.1**	**-2.5**
H11N3	**WAKE ISLAND Hy**	**35.56**	**277**	T	T	11 13 12.3	
	baz=82						
H11N2	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	11 13 13.0	
	baz=82						
H11N1	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	11 13 13.6	
	baz=82						
H02S1	**DAWSON INLET T**	**38.06**	**22**	T	T	11 16 25.7	
PDAR	**Pinedale Array**	**44.87**	**48**	P	**P**	**10 37 27.5**	**+3.0**
	comp=E,0.2nm,0.6s,baz=241,slow=5.0,SNR=4.2						
	comp=E,0.2nm,0.6s						
ILAR	**Eielson Array**	**45.67**	**5**	P	**P**	**10 37 30.1**	**-0.2**
	comp=E,0.9nm,1.0s,baz=193,slow=8.3,SNR=5.2						
	comp=E,0.9nm,1.0s						
TXAR	**Lajitas Array**	**47.73**	**68**	P	**P**	**10 37 48.5**	**+1.5**
	comp=E,2.0nm,0.9s,baz=253,slow=7.5,SNR=16						
	comp=E,2.0nm,0.9s						

*NEIC **31** 10:29:59.5±1.3, 19°.401N±0°.008×155°.309W±0°.006, h5km±1km, Error ellipse: s-maj=1.7km s-min=1.3km az=115.0*
*HVO **31** 10:29:59.8±1.7, 19°.402N±0°.005×155°.290W±0°.006, h0km±4km, ML4.1/11, ML3.5/28(NEIC), Error ellipse: s-maj=0.9km s-min=0.8km az=214.0*
*IDC **31** 10:30:01.1±6.6, 19°.27N×155°.36W, h0km, mb3.5/3, mbtmp3.5/3, MS3.1/1, Error ellipse: s-maj=155.6km s-min=16.2km az=15.0*

ISC 31 10:30:01.1±0.9, 19°.40N±0°.04×155°.32W±0°.03, h10km, n37, σ2§31/42, mb3.4/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.02**	**69**		**Pg**	**10 30 01.1**	**-2.0**
SDHHI	**Sand Hill**	**0.03**	**109**		**Pg**	**10 30 01.4**	**-1.7**
UWE	**Uwekahuna**	**0.04**	**50**	Pg	**Pg**	**10 30 00.8**	**-2.4**
UWE				Sg	**Sg**	**10 30 01.4**	**-3.2**
OBL	**Observatory Le**	**0.04**	**62**		**Pg**	**10 30 01.3**	**-1.9**
RIM	**Rim**	**0.04**	**94**		**Pg**	**10 30 01.2**	**-2.0**
UWB	**Uwekahuna B**	**0.05**	**58**		**Pg**	**10 30 01.9**	**-1.3**
KKO	**Keanakako`i**	**0.05**	**91**		**Pg**	**10 30 01.5**	**-1.8**
SBLHI	**Steaming Bluff**	**0.06**	**61**		**Pg**	**10 30 02.3**	**-1.0**
BYL	**Byron's Ledge**	**0.06**	**77**	Pg	**Pg**	**10 30 00.6**	**-2.8**
BYL				Sg	**Sg**	**10 30 01.5**	**-3.5**
HATHI	**Halema'uma'u T**	**0.06**	**67**	Pg	**Pg**	**10 30 00.4**	**-3.0**
HATHI				Sg	**Sg**	**10 30 01.9**	**-3.1**
RSD	**Rainshed**	**0.08**	**33**	Pg	**Pg**	**10 30 01.1**	**-2.4**
RSD				Sg	**Sg**	**10 30 02.0**	**-3.3**
HLP	**Hilina Pali**	**0.10**	**173**		**Sg**	**10 30 05.2**	**-0.5**
HLP	**Hilina Pali**	**0.10**	**173**	Pg	**Pg**	**10 30 01.7**	**-2.1**
HLP				IAML		10 30 02.9	
	comp=N,33μm,2.2s						
HLP				IAML		10 30 04.0	
	comp=E,27μm,0.9s						
PUH	**Pauahi**	**0.10**	**104**	Pg	**Pg**	**10 30 01.2**	**-2.6**
PUH				Sg	**Sg**	**10 30 03.0**	**-2.7**
PUH				IAML		10 30 03.2	
	comp=E,17μm,0.8s						
PUH				IAML		10 30 03.6	
	comp=N,28μm,1.0s						
MLH	**Mauna Loa**	**0.11**	**328**	Pg	**Pg**	**10 30 02.1**	**-1.9**
MLH				Sg	**Sg**	**10 30 03.9**	**-2.3**
MLH				IAML		10 30 06.0	
	comp=N,15μm,1.1s						
MLH				IAML		10 30 06.2	
	comp=E,10μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.14**	**97**	Pg	**Pg**	**10 30 01.7**	**-2.8**
STCH	**Steam Cracks**	**0.19**	**94**		**Pg**	**10 30 02.7**	**-2.4**
STCH					**Sg**	**10 30 05.3**	**-2.5**
STCH				IAML		10 30 06.7	
	comp=E,20μm,1.2s						
NPOC	**North of Pu'u**	**0.20**	**92**		**Pg**	**10 30 04.1**	**-1.2**
JCUZ	**Jacuzzi**	**0.21**	**94**		**Pg**	**10 30 06.7**	**+1.3**
JCUZ					**Sg**	**10 30 09.8**	**+1.3**
HMH	**Humu'ula Sheep**	**0.25**	**323**	Pg	**Pg**	**10 30 05.2**	**-1.2**
HMH				IAML		10 30 06.9	
	comp=N,15μm,1.3s						
HMH				Sg	**Sg**	**10 30 08.6**	**-1.4**
HMH				IAML		10 30 13.2	
	comp=E,13μm,0.8s						
MWH	**Moku'aweowe**	**0.27**	**288**	Pg	**Pg**	**10 30 04.7**	**-2.1**
MLOA	**Mauna Loa Obse**	**0.28**	**300**	Pg	**Pg**	**10 30 05.3**	**-1.5**
MLOA				IAML		10 30 12.1	
	comp=E,13μm,1.7s						
JOKA	**Jonika Flow**	**0.30**	**83**	Pg	**Pg**	**10 30 04.9**	**-2.3**
JOKA				IAML		10 30 10.1	
	comp=E,16μm,1.9s						
PAH	**Pahoa**	**0.37**	**75**	Pg	**Pg**	**10 30 05.1**	**-3.3**
HPO	**Honuapo**	**0.38**	**215**	Pg	**Pg**	**10 30 05.8**	**-2.7**
POHA	**Pohakuloa**	**0.41**	**331**	Pg	**Pg**	**10 30 07.0**	**-2.2**
HUH	**Hualalai**	**0.56**	**301**	Pg	**Pg**	**10 30 10.5**	**-1.6**
I59US	**HAWAII INFRASO**	**0.57**	**290**	Pg	**Pb**	**10 30 12.6**	**-0.7**
	baz=118,slow=43						
I59US				I	I	10 34 06.8	
	baz=107,slow=316						
KKH	**Kailua Kona**	**0.71**	**291**	Pg	**Pg**	**10 30 12.7**	**-2.0**
HPAH	**Hawaii Prepara**	**0.72**	**331**	Pg	**Pg**	**10 30 13.7**	**-1.4**
H11N3	**WAKE ISLAND Hy**	**35.54**	**277**	T	T	11 14 18.0	
	baz=84,slow=74,SNR=13						
H11N2	**WAKE ISLAND Hy**	**35.55**	**277**	T	T	11 14 07.7	
	baz=84,slow=74						
H11N1	**WAKE ISLAND Hy**	**35.56**	**277**	T	T	11 14 19.2	
	baz=84,slow=74,SNR=9.8						
H02S1	**DAWSON INLET T**	**38.09**	**22**	T	T	11 17 31.9	
PDAR	**Pinedale Array**	**44.91**	**48**	P	**P**	**10 38 18.5**	**+2.2**
	comp=E,0.2nm,0.5s,baz=272,slow=8.0,SNR=2.2						
PDAR				LR	LR	10 52 46.1	
	comp=E,23nm,21.6s,baz=74,slow=30						
	comp=E,0.2nm,0.5s						
ILAR	**Eielson Array**	**45.70**	**5**	P	**P**	**10 38 24.4**	**+2.5**
	comp=E,0.4nm,0.8s,baz=201,slow=6.0,SNR=4.5						
	comp=E,0.4nm,0.8s						
TXAR	**Lajitas Array**	**47.76**	**68**	P	**P**	**10 38 40.9**	**+2.1**
	comp=E,1.7nm,0.9s,baz=257,slow=7.1,SNR=9.5						
	comp=E,1.7nm,0.9s						

*IDC **31** 10:31:45.0±1.0, 13°.13N×58°.41E, h0km, mb3.9/11, mbtmp3.9/12, ML3.7/1, MS3.4/4, Error ellipse: s-maj=28.8km s-min=21.0km az=43.0*
*NEIC **31** 10:31:46.0±1.3, 13°.0N±0°.1×58°.9E±0°.2, h10km±2km, mb4.4/15, Error ellipse: s-maj=24.7km s-min=18.6km az=86.0*

ISC 31 10:31:45.9±0.8, 13°.1N±0°.1×58°.7E±0°.1, h10km, n36, σ1§55/31, mb4.2/19, MS3.5/4, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**10.06**	**360**	Pn	**Pn**	**10 34 09.8**	**-0.8**
	0.6nm,0.3s,baz=204,slow=13,SNR=11						
WSAR				Sn	Sn	10 35 51.4	-12
	baz=100,slow=11						
	3.6nm,0.8s						
UOSS	**Minazif**	**11.99**	**349**	Pn	**Pn**	**10 34 38.5**	**+1.6**
RAYN	**Ar Rayn**	**16.23**	**311**	Pn	**Pn**	**10 35 32.2**	**-2.0**
FURI	**Furi**	**20.09**	**260**	LR	LR	10 43 14.1	
	comp=Z,65nm,18.3s,baz=170,slow=35						
PALK	**Pallekele**	**22.41**	**103**	P	**P**	**10 36 41.7**	**-3.3**
PALK				IAmb	IAmb	10 37 21.3	
	comp=Z,42nm,1.3s						
LODK	**Lodwar**	**25.00**	**249**	P	**P**	**10 37 09.2**	**-1.1**
LODK				IAmb	IAmb	10 37 15.8	
	comp=Z,22nm,1.5s						
KMBO	**Kilima Mbogo**	**25.55**	**238**	P	**P**	**10 37 16.1**	**+0.6**
KMBO				IAmb	IAmb	10 37 20.9	
	comp=Z,6.2nm,1.0s						
KIBK	**Kibwezi**	**25.62**	**235**	P	**P**	**10 37 15.9**	**0.0**
KIBK				IAmb	IAmb	10 37 18.1	
	comp=Z,7.2nm,0.9s						
BRTR	**Keskin Array B**	**34.49**	**325**	P	**P**	**10 38 35.6**	**+1.2**
BRTR	**Keskin Array B**	**34.49**	**325**	P	**P**	**10 38 34.4**	**0.0**
	comp=Z,1.7nm,0.9s,baz=133,slow=10,SNR=7.8						
	comp=Z,1.7nm,0.9s						
BR131	**Keskin Array S**	**34.49**	**325**	P	**P**	**10 38 34.3**	**0.0**
BR131				IAmb	IAmb	10 38 37.7	
	comp=Z,2.3nm,0.9s						
ELL	**Elmali**	**34.90**	**317**	P	**P**	**10 38 39.2**	**+1.3**
ABKAR	**Akbulak array**	**36.04**	**1**	P	**P**	**10 38 46.4**	**-1.0**
ABKAR				IAmb	IAmb	10 38 52.4	
	comp=Z,2.7nm,1.0s						
MK31	**Makanchi Array**	**38.98**	**26**	P	**P**	**10 39 12.8**	**+0.4**
MKAR	**Makanchi Array**	**38.98**	**26**	P	**P**	**10 39 12.8**	**+0.5**
MKAR	**Makanchi Array**	**38.98**	**26**	P	**P**	**10 39 14.8**	**+2.5**
	comp=Z,0.3nm,0.5s,baz=210,slow=9.2,SNR=4.5						
	comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**40.74**	**19**	P	**P**	**10 39 29.2**	**+2.3**
	comp=Z,0.7nm,0.2s,baz=213,slow=8.4,SNR=4.0						
	comp=Z,0.7nm,0.2s						
KURK	**Kurchatov**	**40.85**	**19**	P	**P**	**10 39 29.5**	**+1.8**
CEL	**Celeste**	**45.43**	**311**	P	**P**	**10 40 06.0**	**+0.8**
CEL				IAmb	IAmb	10 40 21.1	
	comp=Z,12nm,1.2s						
ZAA0	**Zalesovo Array**	**45.65**	**21**	P	**P**	**10 40 04.5**	**-2.0**
ZAA0				IAmb	IAmb	10 40 22.4	
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**45.65**	**21**	P	**P**	**10 40 04.8**	**-1.7**
ZALV	**Zalesovo Beam**	**45.65**	**21**	P	**P**	**10 40 08.2**	**+1.7**
	comp=Z,1.9nm,0.5s,baz=230,slow=7.4,SNR=7.3						
ZALV				LR	LR	11 00 18.4	
	comp=Z,40nm,19.1s,baz=251,slow=38						
	comp=Z,1.9nm,0.5s						
FINES	**FINESS Array B**	**53.69**	**341**	P	**P**	**10 41 08.3**	**+0.6**
FINES	**FINESS Array B**	**53.69**	**341**	P	**P**	**10 41 08.0**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=134,slow=11,SNR=7.1						
	comp=Z,2.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**55.41**	**277**	P	**P**	**10 41 21.4**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=71,slow=8.9,SNR=4.3						
	comp=Z,1.0nm,0.9s						
HFS	**Hagfors**	**57.31**	**335**	P	**P**	**10 41 32.5**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=139,slow=7.7,SNR=4.9						
HFS				LR	LR	11 09 31.1	
	comp=Z,49nm,20.4s,baz=216,slow=40						
	comp=Z,0.7nm,0.6s						
KEV	**Kevo**	**60.00**	**348**	P	**P**	**10 41 53.3**	**+1.0**
KEV				IAmb	IAmb	10 41 56.3	
	comp=Z,5.4nm,0.9s						
ARCES	**ARCESS Array B**	**60.14**	**347**	P	**P**	**10 41 54.1**	**+0.8**
ARCES	**ARCESS Array B**	**60.14**	**347**	P	**P**	**10 41 52.2**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=152,slow=7.9,SNR=4.5						
	comp=Z,1.7nm,0.8s						
ESDC	**Sonseca Array**	**60.74**	**308**	P	**P**	**10 41 55.9**	**-2.2**
	comp=Z,0.7nm,0.7s,baz=92,slow=5.1,SNR=6.9						
	comp=Z,0.7nm,0.7s						
H01W3	**Cape Leeuwin H**	**70.98**	**134**	T	T	12 00 43.6	
	baz=303,slow=76						
H01W2	**Cape Leeuwin H**	**70.98**	**134**	T	T	12 00 45.7	
	baz=303,slow=76						
H01W1	**Cape Leeuwin H**	**71.00**	**134**	T	T	12 00 42.9	
	baz=303,slow=76						
WRA	**Warramunga Arr**	**81.33**	**113**	P	**P**	**10 44 05.5**	**+2.3**
	comp=Z,0.8nm,0.9s,baz=298,slow=4.3,SNR=8.9						
	comp=Z,0.8nm,0.9s						
ASAR	**Alice Springs**	**82.06**	**116**	P	**P**	**10 44 08.8**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=290,slow=5.6,SNR=13						
	comp=Z,1.1nm,0.7s						
PMG	**Port Moresby**	**90.62**	**99**	LR	LR	11 28 13.3	
	comp=Z,27nm,18.9s,baz=146,slow=37						

*IDC **31** 10:37:23.4±3.0, 52°.21N×174°.19E, h0km, mb3.5/6, mbtmp3.5/6, MS3.5/1, Error ellipse: s-maj=84.3km s-min=28.3km az=1.0*
*NEIC **31** 10:37:29.6±1.9, 52°.4N±0°.2×174°.31E±0°.09, h35km±2km, mb3.8/30, Error ellipse: s-maj=30.7km s-min=4.4km az=196.0*

ISC 31 10:37:29.8±1.3, 52°.4N±0°.2×174°.4E±0°.1, h38km, n51, σ1§20/45, mb3.8/15, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**3.24**	**106**	Pn	**Pn**	**10 38 19.0**	**+1.1**
AMKA				Sn	**Sn**	**10 38 55.4**	**+0.2**
KIWB	**Kanaga Island**	**5.27**	**93**	Pn	**Pn**	**10 38 45.4**	**-0.5**
ADK	**Adak**	**5.55**	**92**	Pn	**Pn**	**10 38 49.2**	**-0.5**
J18K	**Innoko River**	**18.75**	**43**	P	**P**	**10 41 42.0**	**-3.1**
H18K	**Honhosa River**	**18.85**	**37**	P	**P**	**10 41 46.8**	**+0.6**
G18K	**Tagagawik**	**19.13**	**35**	P	**P**	**10 41 50.0**	**+0.8**
G18K				IAmb	IAmb	10 42 31.9	
	comp=Z,6.9nm,1.4s						
OHAK	**Old Harbor**	**19.15**	**63**	P	**P**	**10 41 47.8**	**-1.6**
E18K	**Tukpahlearik C**	**19.38**	**30**	P	**P**	**10 41 51.8**	**-0.2**
J19K	**Poorman**	**19.40**	**42**	P	**P**	**10 41 50.3**	**-2.0**
J19K				IAmb	IAmb	10 42 12.7	
	comp=Z,5.8nm,1.4s						
H19K	**Roundabout Mou**	**19.73**	**37**	P	**P**	**10 41 55.0**	**-0.8**
H19K				IAmb	IAmb	10 42 24.2	
	comp=Z,8.8nm,1.4s						
F19K	**Shaleruckik Mo**	**19.93**	**33**	P	**P**	**10 41 57.1**	**-0.9**
F19K				IAmb	IAmb	10 42 13.0	
	comp=Z,4.3nm,1.3s						
C18K	**Utukok River**	**20.01**	**26**	P	**P**	**10 41 58.8**	**0.0**
C18K				IAmb	IAmb	10 42 04.3	
	comp=Z,9.1nm,1.5s						
J20K	**Nowinta River**	**20.07**	**42**	P	**P**	**10 42 00.7**	**+1.2**
J20K				IAmb	IAmb	10 42 03.1	
	comp=Z,3.9nm,0.8s						
E19K	**Redstone River**	**20.45**	**32**	P	**P**	**10 42 06.1**	**+2.5**
E19K				IAmb	IAmb	10 42 09.6	
	comp=Z,4.5nm,1.4s						
IMAR	**Indian Mountai**	**20.94**	**37**	P	**P**	**10 42 08.7**	**-0.2**
F21K	**Alatna River**	**21.58**	**34**	P	**P**	**10 42 17.3**	**+1.5**
F21K				IAmb	IAmb	10 42 27.7	
	comp=Z,5.7nm,1.5s						
B20K	**Meade River**	**21.98**	**26**	P	**P**	**10 42 23.0**	**+3.0**
B20K				IAmb	IAmb	10 42 26.2	
	comp=Z,3.8nm,1.0s						
E21K	**Killik River**	**22.02**	**31**	P	**P**	**10 42 19.8**	**-0.7**
SML	**Sawmill**	**22.04**	**50**	P	**P**	**10 42 21.1**	**+0.2**
SML				IAmb	IAmb	10 42 24.9	
	comp=Z,3.2nm,0.7s						
E22K	**Anaktuvuk Pass**	**22.57**	**33**	P	**P**	**10 42 26.8**	**+0.4**
E22K				IAmb	IAmb	10 43 02.0	
	comp=Z,3.6nm,1.4s						
D22K	**Ayikyak River**	**22.65**	**31**	P	**P**	**10 42 27.8**	**+0.6**
WRH	**Wood River Hil**	**22.67**	**43**	P	**P**	**10 42 27.3**	**-0.2**
WRH				IAmb	IAmb	10 42 36.5	
	comp=Z,6.0nm,1.5s						
MDM	**Murphy Dome**	**22.74**	**42**	P	**P**	**10 42 29.5**	**+1.3**
H24K	**Noodor Dome**	**23.13**	**40**	P	**P**	**10 42 32.5**	**+0.3**
HDA	**Harding Lake**	**23.14**	**44**	P	**P**	**10 42 32.9**	**+0.6**
ILAR	**Eielson Array**	**23.25**	**43**	P	**P**	**10 42 34.1**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=246,slow=7.4,SNR=6.8						
	comp=Z,0.3nm,0.7s						
TOLK	**Toolik Lake Re**	**23.54**	**33**	P	**P**	**10 42 38.3**	**+2.1**
TOLK				IAmb	IAmb	10 42 49.4	
	comp=Z,3.2nm,1.1s						
J26L	**Joseph Creek**	**24.60**	**44**	P	**P**	**10 42 45.7**	**-0.3**
J26L				IAmb	IAmb	10 42 57.1	
	comp=Z,3.9nm,1.4s						
BMAR	**Burnt Mountain**	**24.86**	**37**	P	**P**	**10 42 46.6**	**-1.7**
L27K	**Beaver Creek,**	**25.19**	**48**	P	**P**	**10 42 51.8**	**+0.4**
BCAR	**Beaver Creek A**	**25.21**	**48**	P	**P**	**10 42 52.6**	**+1.1**
EGAK	**Eagle**	**25.66**	**44**	P	**P**	**10 42 56.0**	**+0.4**
DAWY	**Dawson**	**26.35**	**46**	P	**P**	**10 43 03.2**	**+1.3**
DAWY				IAmb	IAmb	10 43 13.6	
	comp=Z,4.5nm,1.4s						
M29M	**Somme Creek**	**26.71**	**49**	P	**P**	**10 43 06.4**	**+1.1**
M29M				IAmb	IAmb	10 43 30.6	
	comp=Z,3.4nm,1.4s						
G31M	**Satah River**	**28.71**	**40**	P	**P**	**10 43 24.6**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**33.12**	**193**	T	T	11 19 03.0	
	baz=8.4,slow=76,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**33.13**	**193**	T	T	11 19 03.7	
	baz=8.4,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**33.14**	**193**	T	T	11 19 01.7	
	baz=8.4,slow=76,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**34.35**	**193**	T	T	11 20 33.2	
	baz=8.1,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**34.37**	**193**	T	T	11 20 37.3	
	baz=8.1,slow=76,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**34.37**	**193**	T	T	11 20 34.4	
	baz=8.1,slow=

	baz=242							
PCYT	**Pengchaiyu**	**0.88**	**318**	*e*P	**Pg**	**10**	**42**	**03.6 -0.5**
	baz=328							
PCYT				*e*S	**Sg**	**10**	**42**	**15.9 +0.2**
	baz=328							
ILA	**Ilan**	**0.91**	**257**	*e*P	**Pn**	**10**	**42**	**06.8 +1.9**
	baz=253							
ILA				*e*S	**Sg**	**10**	**42**	**17.0 +0.2**
	baz=253							
EOS4	**EOS4**	**0.93**	**203**	*i* P	**Pg**	**10**	**42**	**05.5 +0.5**
	baz=190							
EOS4				S	**Sn**	**10**	**42**	**17.5 0.0**
	baz=190							
NDS	**Dongshan**	**0.98**	**250**	*e*P	**Pb**	**10**	**42**	**04.6 -0.9**
	baz=246							
NDS				*e*S	**Sg**	**10**	**42**	**18.8 -0.1**
	baz=246							
TWE	**Neicheng**	**0.99**	**255**	P	**Pb**	**10**	**42**	**05.0 -0.7**
	baz=252							
TWE				*e*S	**Sn**	**10**	**42**	**20.7 +1.1**
	baz=252							
EWUT	**Wuta**	**1.01**	**239**	P	**Pg**	**10**	**42**	**07.1 +0.5**
	baz=235							
EWUT				S	**Sg**	**10**	**42**	**19.5 -0.4**
	baz=235							
ENA	**Nanau**	**1.05**	**239**	*i* P	**Pb**	**10**	**42**	**05.8 -0.8**
	baz=235							
ENA				S	**Sb**	**10**	**42**	**20.2 +0.1**
	baz=235							
YM08	**YM08**	**1.05**	**282**	*e*P	**Pg**	**10**	**42**	**07.2 -0.1**
	baz=280							
YM08				*e*S	**Sn**	**10**	**42**	**20.8 -0.3**
	baz=280							
FUSB	**Fushanzhiwuyua**	**1.05**	**258**	P	**Pg**	**10**	**42**	**07.5 +0.1**
	baz=255							
FUSB				*e*S	**Sg**	**10**	**42**	**21.5 +0.2**
	baz=255							
YM01	**YM01**	**1.06**	**279**	*e*P	**Pg**	**10**	**42**	**07.9 +0.4**
	baz=277							
ENTT	**Nioudou**	**1.10**	**252**	*i* P	**Pb**	**10**	**42**	**07.6 0.0**
	baz=237							
ENTT				S	**Sg**	**10**	**42**	**23.1 +0.2**
	baz=237							
ANP	**Anpu**	**1.11**	**281**	P	**Pg**	**10**	**42**	**08.3 -0.2**
	baz=279							
ANP				*e*S	**Sb**	**10**	**42**	**22.1 +0.1**
	baz=279							
IRIF	**Iriomote-Funau**	**1.12**	**125**	P	**Pg**	**10**	**42**	**08.5 -0.1**
NWLT	**Wulai**	**1.13**	**260**	*i* P	**Pg**	**10**	**42**	**08.7 -0.1**
	baz=257							
NDT	**Datong Townshi**	**1.16**	**251**	*i* P	**Pg**	**10**	**42**	**09.9 +0.4**
	baz=236							
NDT				*e*S	**Sn**	**10**	**42**	**24.1 +0.3**
	baz=236							
LATG	**Datong**	**1.17**	**248**	P	**Pn**	**10**	**42**	**08.1 -0.6**
	baz=233							
LATG				*e*S	**Sg**	**10**	**42**	**26.1 +0.9**
	baz=233							
YHNB	**Yeheng**	**1.26**	**256**	P	**Pg**	**10**	**42**	**12.5 +1.1**
YHNB	**Yeheng**	**1.26**	**256**	P	**Pb**	**10**	**42**	**10.5 +0.2**
	baz=253							
YHNB				*e*S	**Sn**	**10**	**42**	**26.7 +0.3**
	baz=253							
NSK	**Sanguang**	**1.28**	**257**	*i* P	**Pg**	**10**	**42**	**11.9 +0.2**
	baz=267							
NSK				S	**Sg**	**10**	**42**	**28.4 0.0**
	baz=267							
NACB	**Ninganchiao**	**1.30**	**232**	P	**Pg**	**10**	**42**	**12.3 +0.1**
NACB	**Ninganchiao**	**1.30**	**232**	P	**Pg**	**10**	**42**	**11.9 -0.3**
	baz=240							
NACB				*e*S	**Sb**	**10**	**42**	**27.9 +0.5**
	baz=240							
NNSB	**Datong**	**1.34**	**246**	P	**Pg**	**10**	**42**	**12.4 -0.5**
	baz=243							
NNSB				S	**Sn**	**10**	**42**	**27.7 -0.6**
	baz=243							
NNS	**Nan Shan**	**1.34**	**247**	*i* P	**Pg**	**10**	**42**	**13.0 +0.1**
	baz=243							
NNS				S	**Sn**	**10**	**42**	**28.3 -0.1**
	baz=243							
ETLH	**Xiulin Townshi**	**1.37**	**236**	P	**Pg**	**10**	**42**	**13.6 +0.1**
	baz=243							
ETLH				*e*S	**Sg**	**10**	**42**	**31.2 0.0**
	baz=243							
NFF	**Wufeng Townshi**	**1.50**	**257**	P	**Pg**	**10**	**42**	**15.3 -0.6**
	baz=265							
NFF				*e*S	**Sb**	**10**	**42**	**33.5 +0.4**
	baz=265							
LXIB	**Xiulin Townshi**	**1.53**	**232**	P	**Pb**	**10**	**42**	**14.6 -0.3**
	baz=211							
LXIB				*e*S	**Sg**	**10**	**42**	**35.4 -1.0**
	baz=211							
WHF	**Hehuan Shan**	**1.57**	**238**	*i* P	**Pg**	**10**	**42**	**16.5 -0.7**
	baz=248							
WHF				S	**Sb**	**10**	**42**	**35.6 +0.2**
	baz=248							
TWT	**Tachien**	**1.58**	**243**	P	**Pg**	**10**	**42**	**17.1 -0.5**
	baz=240							
TWT				*e*S	**Sg**	**10**	**42**	**38.1 -0.1**
	baz=240							
LIOB	**Emei**	**1.59**	**258**	*e*P	**Pg**	**10**	**42**	**17.0 -0.6**
	baz=255							
LIOB				*e*S	**Sb**	**10**	**42**	**36.1 +0.5**
	baz=255							
SHUL	**Shoufeng**	**1.59**	**222**	P	**Pg**	**10**	**42**	**16.7 -1.0**
	baz=218							
SHUL				*e*S	**Sb**	**10**	**42**	**35.1 -0.5**
	baz=218							
TDCB	**Techi**	**1.60**	**243**	P	**Pb**	**10**	**42**	**16.4 +0.3**
	baz=240							
TDCB				*e*S	**Sb**	**10**	**42**	**36.4 +0.4**
	baz=240							
NSTT	**Nanjuang**	**1.60**	**258**	*e*P	**Pb**	**10**	**42**	**16.7 +0.6**
	baz=255							
NSTT				*e*S	**Sb**	**10**	**42**	**36.2 +0.1**
	baz=255							
CHGB	**Renai**	**1.68**	**237**	P	**Pg**	**10**	**42**	**18.7 -0.7**
	baz=245							
CHGB				*e*S	**Sg**	**10**	**42**	**40.8 -0.6**
	baz=245							
WARBT	**Fenglin Townsh**	**1.75**	**224**	P	**Pb**	**10**	**42**	**17.6 -1.0**
	baz=221							
WARBT				S	**Sn**	**10**	**42**	**39.0 +0.6**
	baz=221							
WUSB	**Renai**	**1.76**	**236**	P	**Pb**	**10**	**42**	**19.2 +0.3**
	baz=215							
WUSB				S	**Sb**	**10**	**42**	**40.8 0.0**
	baz=215							
VWDT	**VWDT**	**1.89**	**230**	P	**Pb**	**10**	**42**	**21.5 +0.5**
	baz=211							
VWDT				*e*S	**Sb**	**10**	**42**	**44.0 -0.3**
	baz=211							
HGSD	**Ruisui**	**1.90**	**219**	P	**Pb**	**10**	**42**	**20.5 -0.6**
	baz=201							
HGSD				*e*S	**Sn**	**10**	**42**	**42.3 +0.4**
	baz=201							
EHY	**Hungye**	**1.95**	**221**	P	**Pn**	**10**	**42**	**19.0 -0.2**
	baz=218							
EHY				*e*S	**Sn**	**10**	**42**	**42.8 -0.4**
	baz=218							
SSLB	**Suanglung**	**2.00**	**234**	P	**Pg**	**10**	**42**	**25.1 -0.4**
SSLB	**Suanglung**	**2.00**	**234**	P	**Pb**	**10**	**42**	**23.1 +0.1**
	baz=241							
SSLB				S	**Sb**	**10**	**42**	**46.5 -1.0**
	baz=241							
YULB	**Yu-li**	**2.05**	**220**	P	**Pg**	**10**	**42**	**26.4 +0.1**
YULB	**Yu-li**	**2.05**	**220**	P	**Pn**	**10**	**42**	**21.1 +0.5**
	baz=216							
YULB				*e*S	**Sn**	**10**	**42**	**45.8 +0.1**
	baz=216							
WHYT	**Xinyi Township**	**2.13**	**234**	P	**Pb**	**10**	**42**	**25.1 0.0**
	baz=215							
WHYT				*e*S	**Sn**	**10**	**42**	**49.2 +1.4**
	baz=215							
EDH	**Donghe**	**2.38**	**213**	P	**Pn**	**10**	**42**	**25.8 +0.6**
	baz=210							
EDH				*e*S	**Sn**	**10**	**42**	**52.6 -1.3**
	baz=210							

IDC ***31*** *10:48:19.0±4.0, 36°.09N×71°.25E, h52km±35km, mb3.8/16, mbtmp4.1/20, ML4.0/5, Error ellipse: s-maj=22.9km s-min=14.7km az=9.0*
MOS ***31*** *10:48:23.7±1.0, 36°.39N×71°.34E, h98km, mb4.4/17, Error ellipse: s-maj=6.9km s-min=3.5km az=81.8*
BJI ***31*** *10:48:23.7±0.0, 36°.42N×71°.35E, h91km, mb4.6/20, mB4.8/4*

NEIC ***31*** *10:48:25.6±2.3, 36°.40N±0°.06×71°.19E±0°.07, h101km±3km, mb4.4/25, Error ellipse: s-maj=8.6km s-min=8.2km az=126.0*
NNC ***31*** *10:48:26.8±1.4, 36°.99N×70°.89E, h0km, mb4.7, mpv4.7, Error ellipse: s-maj=11.5km s-min=10.6km az=54.0*
ISC 31 10:48:24.8±0.4, 36°.36N±0°.04×71°.25E±0°.04, h100km, n194, σ1§90/224, mb4.3/39, 19C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.56**	**225**	Pn	**Pn**	**10 49 05.7**	**+0.9**
KBL	**Kabul**	**2.56**	**225**	PN	**Pn**	**10 49 05.7**	**+0.9**
GAR	**Garm**	**2.74**	**345**	Pn	**Pn**	**10 49 06.4**	**-0.8**
CHGR	**Chuyangaron**	**2.83**	**325**	Pn	**Pn**	**10 49 08.0**	**-0.4**
CHGR	**Chuyangaron**	**2.83**	**325**	PN	**Pn**	**10 49 08.0**	**-0.4**
SIMJ	**Simiganj**	**2.91**	**323**	Pn	**Pn**	**10 49 09.1**	**-0.4**
DRK	**Karamyk**	**3.15**	**8**		**Pn**	**10 49 12.6**	**-0.2**
DRK	**Karamyk**	**3.15**	**8**	PN	**Pn**	**10 49 12.6**	**-0.2**
NIL	**Nilore**	**3.16**	**148**		**Pn**	**10 49 14.6**	**+1.9**
NIL	**Nilore**	**3.16**	**148**	PN	**Pn**	**10 49 14.6**	**+1.9**
BTK	**Batken**	**3.71**	**355**		**Pn**	**10 49 20.6**	**+0.4**
BTK	**Batken**	**3.71**	**355**	PN	**Pn**	**10 49 20.6**	**+0.4**
JMU	**Jammu**	**4.72**	**139**	*e*P	**Pn**	**10 49 33.9**	**+0.3**
JMU				*e*S	**Sn**	**10 50 24.7**	**-2.5**
JMU				IAML		10 50 28.4	
	comp=E,863nm,0.3s						
JMU				IAML		10 50 28.5	
	comp=N,1μm,0.6s						
KSH	**Kashi**	**4.89**	**48**	P	Pn	10 49 32.0	-4.1
KSH				S	Sn	10 50 19.5	-12
KSH				smax	smax		
	comp=N,700nm,0.5s						
KSH				smax	smax		
	comp=N,180nm,0.7s						
ARSB	**Arslanbob**	**5.14**	**15**		**Pn**	**10 49 39.6**	**+0.1**
ARSB	**Arslanbob**	**5.14**	**15**	PN	**Pn**	**10 49 39.6**	**+0.1**
TRKS	**Terek-Say**	**5.17**	**359**	PN	**Pn**	**10 49 39.0**	**-0.9**
THN	**Thein Dam**	**5.38**	**135**	*e*P	**Pn**	**10 49 43.2**	**+0.5**
THN				*e*P	**Pn**	**10 49 43.4**	**+0.7**
THN				*e*S	**Sn**	**10 50 40.8**	**-2.5**
THN				*e*S	**Sn**	**10 50 40.9**	**-2.5**
THN				IAML		10 50 44.0	
	comp=E,618nm,0.2s						
THN				IAML		10 50 44.7	
	comp=N,501nm,0.2s						
DHRM	**DHARAMSHALA**	**5.85**	**133**	*e*P	**Pn**	**10 49 49.1**	**-0.1**
DHRM				*e*S	**Sn**	**10 50 51.1**	**-4.1**
DHRM				IAML		10 50 54.0	
	comp=E,936nm,0.2s						
DHRM				IAML		10 50 54.2	
	comp=N,1μm,0.3s						
IUG	**Iuzhnay**	**5.86**	**351**	*e*P	**Pn**	**10 49 49.5**	**+0.2**
	comp=N,5.6nm,0.5s,baz=350						
IUG	**Iuzhnay**	**5.86**	**351**	Pg	**Pn**	**10 49 49.1**	**-0.1**
	comp=N,62nm,0.2s						
IUG				Lg	Lg	10 50 53.2	
	comp=N,237nm,0.6s						
IUG	**Iuzhnay**	**5.86**	**351**	*e*PN	**Pn**	**10 49 49.4**	**+0.2**
IUG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ARLS	**Aral**	**5.99**	**23**	PN	**Pn**	**10 49 51.1**	**0.0**
AML	**Almayashu**	**6.07**	**17**	P	**Pn**	**10 49 52.5**	**+0.2**
	SNR=85						
CHM	**Chimkent**	**6.09**	**348**	*e*P	**Pn**	**10 49 52.8**	**+0.6**
	comp=Z,8.1nm,0.6s,baz=347						
CHM	**Chimkent**	**6.09**	**348**	*e*PN	**Pn**	**10 49 52.8**	**+0.6**
CHM				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NRN	**Naryn**	**6.28**	**35**	Pn	**Pn**	**10 49 54.5**	**-0.6**
NRN	**Naryn**	**6.28**	**35**	PN	**Pn**	**10 49 54.5**	**-0.6**
UCH	**Uchtor**	**6.38**	**22**	P	**Pn**	**10 49 56.9**	**+0.3**
	SNR=74						
BHK	**Bhakra**	**6.54**	**137**	*e*P	**Pn**	**10 49 58.6**	**+0.2**
BHK				*e*P	**Pn**	**10 49 58.6**	**+0.2**
BHK				*e*S	**Sn**	**10 51 07.2**	**-4.4**
BHK				IAML		10 51 09.5	
	comp=N,340nm,0.3s						
BHK				IAML		10 51 10.7	
	comp=E,356nm,0.3s						
BHK				*e*S	**Sn**	**10 51 11.7**	**+0.2**
MRKS	**Merke**	**6.56**	**13**	Pg	**Pn**	**10 49 59.1**	**+0.4**
	comp=E,29nm,0.3s						
MRKS				Lg	Lg	10 51 11.9	
	comp=E,92nm,0.5s						
EKS2	**Erkin-Say**	**6.59**	**16**	P	**Pn**	**10 49 59.9**	**+0.7**
	SNR=54						
BRLS	**Borolday**	**6.75**	**351**	*e*P	**Pn**	**10 49 57.6**	**-3.7**
	baz=349						
BRLS	**Borolday**	**6.75**	**351**	*e*PN	**Pn**	**10 49 57.5**	**-3.7**
AAK	**Ala-Archa**	**6.75**	**21**	P	**Pn**	**10 50 02.3**	**+0.9**
	SNR=39						
AAK	**Ala-Archa**	**6.75**	**21**	Pn	**Pn**	**10 50 02.2**	**+0.8**
AAK	**Ala-Archa**	**6.75**	**21**	P	**Pn**	**10 50 01.1**	**-0.3**
	comp=E,21nm,0.3s,baz=204,slow=7.8,SNR=54						
AAK				S	**Sn**	**10 51 15.9**	**-1.0**
	comp=E,17nm,0.4s,baz=337,slow=22,SNR=1.4						
AAK	**Ala-Archa**	**6.75**	**21**	⇓P	**Pn**	**10 50 01.4**	**0.0**
	comp=E,41nm,0.7s						
AAK				⇑S	**Sn**	**10 51 15.1**	**-1.8**
	comp=E,49nm,0.6s						
AAK	**Ala-Archa**	**6.75**	**21**	PN	**Pn**	**10 50 01.4**	**0.0**
KK31	**Karatay Array**	**6.76**	**355**	Pn	**Pn**	**10 50 01.3**	**-0.2**
KK31	**Karatay Array**	**6.76**	**355**	⇑P	**Pn**	**10 50 01.2**	**-0.2**
	comp=E,22nm,0.3s,baz=176,slow=12,SNR=621						
KK31				⇓S	**Sn**	**10 51 13.3**	**-3.6**
	comp=E,11nm,0.3s,baz=176,slow=19						
KK31	**Karatay Array**	**6.76**	**355**	PN	**Pn**	**10 50 01.2**	**-0.2**
KKAR	**Karatay Array**	**6.76**	**355**		**Pn**	**10 50 01.1**	**-0.3**
KKAR	**Karatay Array**	**6.76**	**355**	Pn	**Pn**	**10 50 01.1**	**-0.3**
KKAR	**Karatay Array**	**6.76**	**355**	PN	**Pn**	**10 50 01.1**	**-0.3**
KBK	**Karagaybulak**	**6.91**	**23**	P	**Pn**	**10 50 04.7**	**+1.1**
	SNR=10						
BOOM	**Boomskoye usch**	**7.12**	**29**	Pn	**Pn**	**10 50 06.5**	**+0.1**
BOOM	**Boomskoye usch**	**7.12**	**29**	PN	**Pn**	**10 50 06.5**	**+0.1**
CHMS	**Chumysh**	**7.16**	**21**	P	**Pn**	**10 50 07.3**	**+0.5**
	SNR=29						
CHMS	**Chumysh**	**7.16**	**21**	⇑P	**Pn**	**10 50 07.2**	**+0.4**
	comp=E,70nm,0.9s						
CHMS				⇑S	**Sn**	**10 51 23.6**	**-3.0**
	comp=E,38nm,0.7s						
CHMS	**Chumysh**	**7.16**	**21**	PN	**Pn**	**10 50 07.2**	**+0.4**
HNLY	**HANLEY**	**7.30**	**117**	*e*P	**Pn**	**10 50 07.2**	**-2.1**
HNLY				*e*S	Sn	10 51 20.5	-10
HNLY				IAML		10 51 27.3	
	comp=E,48nm,0.9s						
HNLY				IAML		10 51 27.8	
	comp=N,31nm,0.7s						
USP	**Ospenovka**	**7.34**	**19**	P	**Pn**	**10 50 09.3**	**0.0**
	SNR=14						
TKM2	**Tokmak 2**	**7.36**	**26**	P	**Pn**	**10 50 10.2**	**+0.4**
	SNR=84						
TKM2	**Tokmak 2**	**7.36**	**26**	⇑P	**Pn**	**10 50 10.1**	**+0.4**
	comp=N,38nm,0.5s						
TKM2	**Tokmak 2**	**7.36**	**26**	PN	**Pn**	**10 50 10.5**	**+0.8**
TARG	**Taragay, Kyrgy**	**7.40**	**42**	Pn	**Pn**	**10 50 10.3**	**-0.1**
TARG	**Taragay, Kyrgy**	**7.40**	**42**	PN	**Pn**	**10 50 10.4**	**-0.1**
KLP	**Kalpa**	**7.55**	**128**	*e*P	**Pn**	**10 50 10.8**	**-1.6**
KLP				*e*S	Sn	10 51 28.5	-8.1
KLP				IAML		10 51 32.0	
	comp=E,307nm,0.6s						
KLP				IAML		10 51 32.5	
	comp=N,229nm,0.3s						
SGDS	**Sogindy**	**7.55**	**19**	*e*P	**Pn**	**10 50 11.8**	**-0.4**
	comp=N,4.2nm,1.0s,baz=19						
SGDS	**Sogindy**	**7.55**	**19**	*e*PN	**Pn**	**10 50 11.7**	**-0.4**
SGDS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HRA	**Herat**	**7.61**	**258**	Pn	**Pn**	**10 50 14.8**	**+1.5**
TNSS	**Tian-Shan**	**7.99**	**32**	*e*P	**Pn**	**10 50 17.5**	**-0.9**
	baz=31						
TNSS	**Tian-Shan**	**7.99**	**32**	*e*PN	**Pn**	**10 50 17.4**	**-0.9**
AAA	**Alma-Ata**	**8.11**	**31**	*e*P	**Pn**	**10 50 19.3**	**-0.6**
	baz=31						
AAA	**Alma-Ata**	**8.11**	**31**	*e*PN	**Pn**	**10 50 19.2**	**-0.6**
MDOK	**Medeo**	**8.13**	**32**	*e*P	**Pn**	**10 50 19.5**	**-0.6**
	baz=31						
MDOK	**Medeo**	**8.13**	**32**	⇑P	**Pn**	**10 50 21.1**	**+1.0**
	comp=Z,16nm,0.6s						
MDOK	**Medeo**	**8.13**	**32**	PN	**Pn**	**10 50 21.8**	**+1.7**
PRZ	**Przheval'sk**	**8.25**	**40**	Pn	**Pn**	**10 50 21.6**	**-0.1**
PRZ	**Przheval'sk**	**8.25**	**40**	PN	**Pn**	**10 50 21.6**	**-0.1**
SATY	**Saty**	**8.67**	**37**	*e*P	**Pn**	**10 50 26.7**	**-0.7**
	comp=Z,4.1nm,0.8s,baz=37						
SATY	**Saty**	**8.67**	**37**	*e*PN	**Pn**	**10 50 26.7**	**-0.7**
SATY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHKK	**Chushkaly**	**8.68**	**29**	*e*P	**Pn**	**10 50 26.8**	**-0.7**
	baz=28						
CHKK	**Chushkaly**	**8.68**	**29**	*e*PN	**Pn**	**10 50 26.7**	**-0.7**
BTLS	**Baital**	**8.93**	**13**	*e*P	**Pn**	**10 50 30.1**	**-0.7**
	baz=12						
BTLS	**Baital**	**8.93**	**13**	*e*PN	**Pn**	**10 50 30.1**	**-0.7**
JOSI	**Joshimath**	**9.03**	**127**	*e*S	Sn	10 52 04.7	-7.9
JOSI				IAML		10 52 08.5	
	comp=N,248nm,0.3s						
JOSI				IAML		10 52 10.8	
	comp=E,204nm,0.3s						
UZB	**Uzynbulak**	**9.04**	**39**	*e*P	**Pn**	**10 50 31.6**	**-1.0**
	comp=E,5.0nm,0.9s,baz=39						
UZB	**Uzynbulak**	**9.04**	**39**	*e*PN	**Pn**	**10 50 31.5**	**-1.0**
UZB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KPKS	**Kokpek**	**9.11**	**37**	*e*P	**Pn**	**10 50 32.8**	**-0.6**
	comp=Z,8.2nm,0.9s,baz=37						
KPKS	**Kokpek**	**9.11**	**37**	*e*P	**Pn**	**10 50 32.7**	**-0.6**
KPKS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NDI	**New Delhi**	**9.16**	**145**	*e*S	Sn	10 52 08.6	-6.7
SHLS	**Shalkode**	**9.28**	**40**	*e*P	**Pn**	**10 50 38.2**	**+2.6**
	baz=42						
SHLS	**Shalkode**	**9.28**	**40**	*e*P	**Pn**	**10 50 38.2**	**+2.6**
KUDL	**Kundal**	**9.31**	**150**	*e*P	**Pn**	**10 50 33.3**	**-2.8**
KUDL				*e*S	Sn	10 52 09.8	-9.2
KUDL				IAML		10 52 12.5	
	comp=E,35nm,0.5s						
KUDL				IAML		10 52 15.3	
	comp=N,34nm,0.4s						
ARXS	**Arharly**	**9.31**	**31**	*e*P	**Pn**	**10 50 33.8**	**-2.3**
PTH	**Pithoragarh**	**10.14**	**129**	*e*P	**Pn**	**10 50 45.0**	**-2.5**
PTH				*e*S	Sn	10 52 29.0	-10
PTH				IAML		10 52 37.1	
	comp=E,47nm,0.3s						
PTH				IAML		10 52 37.6	
	comp=N,37nm,0.2s						
TDK	**Taldyqorghan**	**10.20**	**30**	*e*P	**Pn**	**10 50 47.0**	**-1.2**
	baz=30						
TDK	**Taldyqorghan**	**10.20**	**30**	*e*P	**Pn**	**10 50 46.9**	**-1.2**
LGTI	**Lohaghat**	**10.22**	**130**	*e*P	Pn	10 50 44.8	-3.7
LGTI				*e*S	Sn	10 52 29.1	-12
LGTI				IAML		10 52 36.4	
	comp=E,58nm,0.6s						
AJM	**Ajmer**	**10.26**	**163**	*e*S	Sn	10 52 34.9	-7.5
OTUK	**Ortayu**	**11.91**	**4**	⇓P	**Pn**	**10 51 08.1**	**-3.0**
	comp=E,3.7nm,0.6s						
OTUK				⇑S	**Sn**	**10 53 19.5**	**-2.4**
	comp=E,8.9nm,0.8s						
OTUK	**Ortayu**	**11.91**	**4**	P	**Pn**	**10 51 08.1**	**-3.0**
OTUK				S	**Sn**	**10 53 19.5**	**-2.4**
JHNI	**Jhansi**	**12.53**	**148**	*e*P	**Pn**	**10 51 16.5**	**-2.9**
JHNI				*e*S	Sn	10 53 26.6	-11
MAKZ	**Makanchi**	**13.16**	**34**		**Pn**	**10 51 25.6**	**-2.0**
MAKZ	**Makanchi**	**13.16**	**34**	⇓P	**Pn**	**10 51 30.1**	**+2.5**
	comp=E,12nm,1.1s						
MAKZ	**Makanchi**	**13.16**	**34**	P	**Pn**	**10 51 25.6**	**-2.0**
MK31	**Makanchi Array**	**13.29**	**35**	Pn	**Pn**	**10 51 27.3**	**-2.1**
MK31	**Makanchi Array**	**13.29**	**35**	⇑P	**Pn**	**10 51 31.4**	**+2.0**
	comp=E,1.5nm,0.4s,baz=204,slow=8.4,SNR=27						
MK31	**Makanchi Array**	**13.29**	**35**	*ce*P	**Pn**	**10 51 27.8**	**-1.6**
MKAR	**Makanchi Array**	**13.29**	**35**	Pn	**Pn**	**10 51 28.4**	**-1.0**
MKAR	**Makanchi Array**	**13.29**	**35**	P	**Pn**	**10 51 27.4**	**-2.0**
	comp=E,0.3nm,0.3s,baz=228,slow=13,SNR=24						
	comp=E,6.3nm,1.0s						
WMQ	**Urumqi**	**14.62**	**54**	*e*P	**Pn**	**10 51 47.0**	**+0.4**
WMQ				pmax	pmax		
	comp=E,58nm,0.7s						
ZSN	**Zaisan**	**15.00**	**38**	*e*P	**Pn**	**10 51 51.3**	**0.0**
	baz=38						
ZSN	**Zaisan**	**15.00**	**38**	*e*P	**Pn**	**10 51 51.3**	**0.0**
KURBB	**Kurchatov Arra**	**15.20**	**18**	P	**Pn**	**10 51 53.9**	**+0.1**
	comp=E,0.6nm,0.3s,baz=206,slow=10,SNR=14						
	comp=E,3.0nm,0.5s						
KURK	**Kurchatov**	**15.30**	**18**	Pn	**Pn**	**10 51 55.6**	**+0.5**
KURK	**Kurchatov**	**15.30**	**18**	P	**Pn**	**10 51 55.6**	**+0.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AB31	**Akbulak array**	**15.31**	**331**	P	**Pn**	**10 51 54.3**	**-0.9**
	comp=Z,1.7nm,0.3s,baz=142,slow=13,SNR=109						
AB31				⇑S	**Sn**	**10 54 37.5**	**-6.6**
	comp=Z,4.8nm,0.5s						
AB31	**Akbulak array**	**15.31**	**331**	P	**Pn**	**10 51 54.3**	**-0.9**
AB31				S	**Sn**	**10 54 37.9**	**-6.2**
ABKAR	**Akbulak array**	**15.31**	**331**	Pn	**Pn**	**10 51 53.4**	**-1.8**
SEM	**Semipalatinsk**	**15.48**	**22**	*e*P	**Pn**	**10 51 57.7**	**+0.1**
	baz=22						
SEM	**Semipalatinsk**	**15.48**	**22**	*e*P	**Pn**	**10 51 57.7**	**+0.1**
BVAR	**Borovoye Array**	**16.68**	**358**	P	**Pn**	**10 52 11.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=163,slow=10,SNR=10						
BVAR				S	**Sn**	**10 55 18.4**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=161,slow=25,SNR=3.2						
	comp=E,1.6nm,0.3s						
BRVK	**Borovoye**	**16.71**	**358**	Pn	**Pn**	**10 52 11.0**	**-1.6**
BRVK	**Borovoye**	**16.71**	**358**	*ce*P	**Pn**	**10 52 12.4**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**17.00**	**330**	P	**Pn**	**10 52 15.5**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=136,slow=10,SNR=22						
AKTO				S	**Sn**	**10 55 14.6**	**-10**
	comp=Z,3.9nm,0.6s,baz=148,slow=19,SNR=2.6						
	comp=Z,16nm,0.7s						
UOSS	**Minazif**	**17.21**	**233**	P	**Pn**	**10 52 19.1**	**+0.1**
UOSS				IAmb	IAmb	10 52 49.8	
	comp=Z,26nm,1.3s						
LSA	**Lhasa**	**17.95**	**106**	P	**P**	**10 52

comp=Z,10.0nm,1.1s
RAYN Ar Rayn 25.63 247 P P 10 53 44.5 -0.6
RAYN Ar Rayn 25.63 247 P P 10 53 44.5 -0.6
RAYN pmax pmax
comp=Z,4.0nm,1.0s
LZH Lanzhou 26.23 81 *e*P **P 10 53 55.0 +4.4**
LZH pP pP 10 54 17.0 +3.0
LZH pmax pmax
comp=Z,28nm,1.4s
KIRV Kirov 26.46 334 *ce*P **P 10 53 54.3 +2.2**
PZH PanZhiHua 27.71 102 P **P 10 54 06.0 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,190nm,7.9s
SONM Songino Array 28.25 55 P **P 10 54 08.8 +0.3**
comp=Z,0.5nm,0.4s,baz=259,slow=9.3,SNR=2.7
comp=Z,0.5nm,0.4s
BRTR Keskin Array B 29.67 288 P **P 10 54 21.5 +0.4**
comp=Z,0.5nm,0.5s,baz=122,slow=11,SNR=2.7
comp=Z,0.5nm,0.5s
OBN Obninsk 30.18 319⇑ *e*P **P 10 54 27.7 +2.5**
OBN *e* 10 55 30.4
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,49nm,17.0s
HHC Hu-ho-hao-te 31.62 69 *e*P **P 10 54 40.3 +2.0**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,120nm,6.2s
AK05 Malin Array Si 33.19 309 P **P 10 54 50.8 -0.9**
AK05 IAmb IAmb 10 54 54.6
comp=Z,11nm,1.1s
AKASG Malin Array Be 33.19 309 P **P 10 54 52.5 +0.8**
comp=Z,1.1nm,0.5s,baz=81,slow=7.4,SNR=10
comp=Z,1.1nm,0.5s
AKBB Malin Array Si 33.19 309 P **P 10 54 52.8 +1.1**
AKBB IAmb IAmb 10 54 54.2
comp=Z,3.6nm,0.7s
AKBB Malin Array Si 33.19 309 P **P 10 54 52.8 +1.1**
AKBB pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 33.20 309 P **P 10 54 52.8 +1.0**
KIEV IAmb IAmb 10 54 54.2
comp=Z,3.2nm,0.7s
KIEV Kiev 33.20 309 P **P 10 54 52.8 +1.0**
KIEV pmax pmax
comp=Z,3.0nm,0.7s
MNK Minsk 34.74 315 *i* P **P 10 55 04.0 -1.1**
comp=E,14nm,0.8s
MNK *i* P **P 10 55 04.0 -1.1**
comp=N,23nm,0.8s
MNK *i* P **P 10 55 04.0 -1.1**
comp=Z,43nm,0.7s,baz=103
MNK *i* pP **pP 10 55 24.8 -4.0**
MNK *i* PP **PnPn 10 56 23.0 -1.4**
MNK *i* S **S 11 00 28.2 +0.4**
MNK *i* sS **sS 11 01 04.8 -4.5**
MNK *i* SS **SnSn 11 02 51.7 +0.2**
MNK *i* LQ LQ 11 05 47.1
MNK *i* LR LR 11 08 43.7
MNK *i* LRM MLR 11 10 22.9
comp=Z,62nm,20.4s
MNK *i* LRM MLR 11 10 55.1
comp=N,363nm,21.4s
MNK *i* LRM MLR 11 11 02.9
comp=E,130nm,19.5s
MNK Minsk 34.74 315 *i* P **P 10 55 03.9 -1.1**
MNK *i* *PP **pP 10 55 24.7 -4.0**
MNK *i* 10 56 23.0
MNK *i* S **S 11 00 28.2 +0.4**
MNK *i* *SS **sS 11 01 04.7 -4.5**
MNK *i* SS **SnSn 11 02 51.6 +0.2**
MNK pmax pmax
comp=E,14nm,0.8s
MNK pmax pmax
comp=Z,43nm,0.7s
MNK pmax pmax
comp=N,23nm,0.8s
MNK MLR MLR
comp=Z,62nm,20.0s
MNK MLR MLR
comp=N,363nm,21.0s
MNK MLR MLR
comp=E,130nm,20.0s
MLR Muntele Rosu 35.02 299 P **P 10 55 09.1 +1.3**
MLR Muntele Rosu 35.02 299 P **P 10 55 09.1 +1.3**
MLR pmax pmax
comp=Z,14nm,1.0s
NACGM Naroch 35.46 316 *e*P **P 10 55 07.8 -3.4**
comp=N,1μm,0.8s,baz=102
BURAR Bucovina Array 35.53 303 P **P 10 55 14.6 +2.5**
BURAR Bucovina Array 35.53 303 P **P 10 55 14.6 +2.5**
BURAR pmax pmax
comp=Z,3.0nm,0.9s
BUR08 Bucovina Ar. S 35.54 303 P **P 10 55 11.0 -1.2**
BUR08 IAmb IAmb 10 55 15.7
comp=Z,3.1nm,0.9s
VOIR 35.66 299 P **P 10 55 16.3 +3.1**
VOIR pmax pmax
comp=Z,3.0nm,1.4s
TIA Tai'an 36.71 76 P **P 10 55 21.0 -1.2**
TIA pmax pmax
comp=Z,2.0nm,0.3s
KOLS Kolonicke sedl 37.52 305 P **P 10 55 31.9 +3.0**
FIA1 FINESS Array S 37.71 326 P **P 10 55 32.1 +1.8**
FINES FINESS Array B 37.71 326 P **P 10 55 32.3 +2.0**
FINES FINESS Array B 37.71 326 P **P 10 55 30.9 +0.6**
comp=Z,3.2nm,0.7s,baz=126,slow=9.7,SNR=9.4
comp=Z,3.2nm,0.7s
FINES FINESS Array B 37.71 326 P **P 10 55 32.3 +2.0**
MSF Maaselka 38.41 334 P **P 10 55 37.7 +1.6**
MSF pmax pmax
comp=Z,6.0nm,1.1s
OJC Ojcow 39.15 307 P **P 10 55 43.4 +0.9**
OJC IAmb IAmb 10 55 46.2
comp=Z,5.9nm,1.0s
OJC Ojcow 39.15 307 P **P 10 55 43.4 +0.9**
OJC pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 41.35 338 P **P 10 56 01.2 +0.8**
comp=Z,1.9nm,0.5s,baz=116,slow=8.2,SNR=21
comp=Z,1.9nm,0.5s
HFS Hagfors 43.30 322 P **P 10 56 17.2 +0.9**
comp=Z,4.4nm,0.5s,baz=98,slow=11,SNR=21
comp=Z,4.4nm,0.5s
CLL Collm 43.44 309 *i* P **P 10 56 19.5 +2.0**
comp=Z,5.0nm,0.8s
CLL *e*pP **pP 10 56 43.0 +1.0**
CLL Collm 43.44 309 *i* P **P 10 56 19.5 +2.0**
CLL *e**PP **pP 10 56 43.0 +1.0**
CLL pmax pmax
comp=Z,5.0nm,0.8s
NC303 NORSAR Array S 44.56 323 P **P 10 56 27.9 +1.5**
NB201 NORSAR Array S 44.58 323 P **P 10 56 26.9 +0.4**
NB2 NORSAR Subarra 44.62 323 P **P 10 56 27.5 +0.6**
comp=Z,3.2nm,0.6s,baz=95,slow=7.9
NOA NORSAR Array B 44.62 323 P **P 10 56 27.8 +1.0**
comp=Z,2.2nm,0.5s,baz=97,slow=7.7,SNR=16
comp=Z,2.2nm,0.5s
KS19 Wonju Array Si 44.68 71 P **P 10 56 26.9 -0.8**
KS19 IAmb IAmb 10 57 03.0
comp=Z,13nm,1.4s
KSAR Wonju Array Be 44.71 71 P **P 10 56 29.1 +1.2**
KSAR Wonju Array Be 44.71 71 P **P 10 56 29.1 +1.2**
KSRS Korea Array 44.74 71 P **P 10 56 27.5 -0.6**
comp=Z,0.3nm,0.3s,baz=256,slow=6.6,SNR=2.2
comp=Z,0.3nm,0.3s
NC204 NORSAR Array S 44.85 323 P **P 10 56 29.9 +1.2**
CTI Castel Tesino 44.92 302 P **P 10 56 30.9 +1.3**
CTI IAmb IAmb 10 56 32.5
comp=Z,2.8nm,0.7s
CTI Castel Tesino 44.92 302 P **P 10 56 30.9 +1.3**
CTI pmax pmax
comp=Z,3.0nm,0.7s
KBS Kingsbay 48.80 347 *ce*P **P 10 57 01.8 +2.7**
KBS pmax pmax
comp=Z,13nm,1.7s
BILL Bilibino 58.65 26⇑ *e*P **P 10 58 13.4 +2.3**
BILL *e* 10 59 06.5
BILL *e* 11 00 24.1
BILL pmax pmax
comp=Z,9.0nm,1.5s
BILL MLR MLR
comp=Z,48nm,18.0s
TORD Torodi Ar. Bea 65.92 269 P **P 10 58 59.0 -1.3**
comp=Z,1.0nm,0.4s,baz=52,slow=6.4,SNR=13
comp=Z,1.0nm,0.4s
INK Inuvik 74.01 9 P **P 10 59 51.1 +2.1**
comp=Z,0.5nm,0.5s,baz=333,slow=3.5,SNR=4.3
comp=Z,0.5nm,0.5s
BOSA Boshof 77.77 220 P **P 11 00 10.2 -0.8**
comp=Z,2.5nm,0.7s,baz=32,slow=3.1,SNR=5.0
comp=Z,2.5nm,0.7s
WRA Warramunga Arr 81.75 122 P **P 11 00 31.4 -1.2**
comp=Z,0.3nm,0.5s,baz=324,slow=4.9,SNR=16
comp=Z,0.3nm,0.5s
ASAR Alice Springs 84.01 125 P **P 11 00 43.0 -1.2**
comp=Z,0.2nm,0.6s,baz=316,slow=5.2,SNR=1.5
comp=Z,0.2nm,0.6s

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*NOU **31** 10:57:36.4, 23°.16S×176°.93W, h51^{km}, mb5.0/28, South of Fiji Islands*
*NEIC **31** 10:58:39.2±2.2, 24°.22S±0°.09×179°.93W±0°.09, h484^{km}±6^{km}, mb4.4/47, Error ellipse: s-maj=14.8km s-min=9.4km az=215.0*
*IDC **31** 10:58:40.1±1.3, 24°.24S×179°.99W, h505^{km}±13^{km}, mb3.5/17, mbtmp4.4/20, Error ellipse: s-maj=13.9km s-min=12.4km az=58.0*
ISC 31 10:58:39.6±0.4, **24°.23S**±0°.06×**179°.99W**±0°.07, **h500**^{km}, **n122**, σ1^{s}**18**/125, **mb4.3**/46, **5D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.33**	**160**	P	**P**	**11 00 08.8**	**-0.7**
RAO	**Raoul Island**	**5.33**	**160**	P	**P**	**11 00 10.8**	**+1.4**
141nm,0.3s,baz=78,slow=20,SNR=2.2							
MSVF	**Nonsavu**	**6.72**	**344**	P	**P**	**11 00 24.4**	**+1.2**
MSVF	**Nonsavu**	**6.72**	**344**	P	**P**	**11 00 24.3**	**+1.1**
15nm,0.4s,baz=182,slow=6.4,SNR=64							
NIUE	**Niue**	**10.67**	**63**	P	**P**	**11 01 03.0**	**-1.1**
PINNC	**Pines Island,**	**11.65**	**275**	P	**P**	**11 01 18.1**	**+3.7**
LIFNC	**LIFOU**	**12.29**	**284**	P	**P**	**11 01 20.9**	**-0.4**
ONTNC	**Ouen Toro**	**12.61**	**276**	P	**P**	**11 01 23.7**	**-1.0**
DZM	**Mont Dzumac**	**12.67**	**277**	P	**P**	**11 01 27.7**	**+2.4**
DZM	**Mont Dzumac**	**12.67**	**277**	P	**P**	**11 01 26.1**	**+0.7**
13nm,0.7s,baz=220,slow=21,SNR=15							
AFI	**Afiamalu**	**12.87**	**39**	P	**P**	**11 01 23.6**	**-3.9**
TOZ	**Tahuroa Road**	**14.00**	**195**	P	**P**	**11 01 38.9**	**-0.2**
URZ	**Urewera**	**14.20**	**189**	S	**S**	**11 04 08.4**	**-2.6**
27nm,0.9s,baz=109,slow=22,SNR=12							
RPZ	**Rata Peaks**	**20.78**	**199**	P	**P**	**11 02 45.0**	**-0.2**
7.3nm,0.5s,baz=9.5,slow=6.1,SNR=1.8							
7.3nm,0.5s							
WHZ	**Wether Hill Ro**	**23.71**	**201**	P	**P**	**11 03 12.0**	**+0.6**
HNR	**Honiara**	**24.14**	**304**	P	**P**	**11 03 15.0**	**-0.7**
ARMA	**Armidale**	**25.92**	**250**	P	**P**	**11 03 31.7**	**+0.3**
ARMA				IAmb	IAmb	11 03 33.3	
comp=Z,21nm,1.4s							
EIDS	**Eidsvold**	**26.27**	**261**	P	**P**	**11 03 35.3**	**+0.9**
EIDS				IAmb	IAmb	11 03 35.9	
comp=Z,11nm,0.7s							
TARA	**Tarawa**	**26.35**	**344**	P	**P**	**11 03 35.2**	**+0.1**
CAN	**Canberra**	**28.99**	**240**	P	**P**	**11 03 59.6**	**+1.5**
CAN				IAmb	IAmb	11 04 00.2	
comp=Z,35nm,1.4s							
CTA	**Charters Tower**	**31.49**	**271**	P	**P**	**11 04 20.6**	**+0.7**
comp=Z,3.7nm,0.4s,baz=94,slow=10,SNR=130							
comp=Z,3.7nm,0.4s							
CTAO	**Charters Tower**	**31.49**	**271**	P	**P**	**11 04 21.0**	**+1.0**
TOO	**Toolangi**	**32.28**	**237**	P	**P**	**11 04 27.0**	**+0.5**
TOO	**Toolangi**	**32.28**	**237**	P	**P**	**11 04 27.6**	**+1.0**
TOO				IAmb	IAmb	11 05 05.1	
comp=Z,27nm,1.2s							
TAU	**Tasmania Unive**	**32.72**	**227**	P	**P**	**11 04 29.3**	**-0.8**
TAU	**Tasmania Unive**	**32.72**	**227**	P	**P**	**11 04 29.8**	**-0.3**
MTSU	**Mount Surprise**	**33.77**	**273**	P	**P**	**11 04 38.2**	**-1.2**
STKA	**Stephens Creek**	**34.61**	**249**	P	**P**	**11 04 46.8**	**+0.5**
STKA	**Stephens Creek**	**34.61**	**249**	P	**P**	**11 04 46.7**	**+0.5**
STKA	**Stephens Creek**	**34.61**	**249**	P	**P**	**11 04 46.4**	**+0.1**
comp=Z,5.4nm,0.5s,baz=92,slow=10,SNR=27							
comp=Z,5.4nm,0.5s							
PMG	**Port Moresby**	**34.61**	**290**	P	**P**	**11 04 47.1**	**+0.7**
PMG	**Port Moresby**	**34.61**	**290**	P	**P**	**11 04 46.6**	**+0.1**
comp=Z,27nm,0.7s,baz=105,slow=3.8,SNR=6.1							
comp=Z,27nm,0.7s							
INKA	**Innaminka**	**35.37**	**256**	P	**P**	**11 04 54.1**	**+1.5**
COEN	**Coen**	**36.18**	**280**	P	**P**	**11 04 55.2**	**-4.3**
COEN	**Coen**	**36.18**	**280**	P	**P**	**11 04 59.0**	**-0.6**
COEN				IAmb	IAmb	11 05 39.3	
comp=Z,19nm,1.4s							
HTT	**Hallett**	**36.95**	**246**	P	**P**	**11 05 05.8**	**+0.1**
QIS	**Mount Isa**	**37.45**	**267**	P	**P**	**11 05 09.8**	**-0.2**
LCRK	**Leigh Creek**	**37.48**	**251**	P	**P**	**11 05 10.3**	**+0.2**
BBOO	**Buckleboo**	**39.33**	**247**	P	**P**	**11 05 24.5**	**-0.6**
BBOO	**Buckleboo**	**39.33**	**247**	P	**P**	**11 05 24.8**	**-0.3**
OOD	**Oodnadatta**	**39.83**	**255**	P	**P**	**11 05 30.0**	**+0.8**
MULG	**Mulgathing**	**41.08**	**251**	P	**P**	**11 05 38.7**	**-0.5**
AS01	**Alice Springs**	**41.95**	**261**	P	**P**	**11 05 46.3**	**0.0**
AS31	**Alice Springs**	**41.99**	**261**	P	**P**	**11 05 46.5**	**0.0**
AS31				IAmb	IAmb	11 05 48.6	
comp=Z,4.3nm,0.4s							
ASAR	**Alice Springs**	**41.99**	**261**	P	**P**	**11 05 45.8**	**-0.8**
ASAR	**Alice Springs**	**41.99**	**261**	P	**P**	**11 05 46.5**	**-0.1**
comp=Z,7.0nm,0.6s,baz=94,slow=6.9,SNR=162							
ASAR				ScP	**ScP**	**11 10 32.9**	**-0.1**
comp=Z,1.8nm,0.9s,baz=106,slow=3.9,SNR=9.2							
comp=Z,7.0nm,0.6s							
WR0	**Warramunga Arr**	**42.21**	**267**	P	**P**	**11 05 47.9**	**-0.4**
WR0				IAmb	IAmb	11 05 48.0	
comp=Z,11nm,0.5s							
WB2	**Warramunga Arr**	**42.38**	**266**	P	**P**	**11 05 49.1**	**-0.5**
WB2				IAmb	IAmb	11 05 49.8	
comp=Z,18nm,0.8s							
WRAB	**Tennant Creek**	**42.39**	**267**	P	**P**	**11 05 49.3**	**-0.4**
WRAB				IAmb	IAmb	11 05 49.9	
comp=Z,25nm,1.1s							
WB0	**Warramunga Arr**	**42.39**	**267**	P	**P**	**11 05 49.1**	**-0.6**
WRA	**Warramunga Arr**	**42.40**	**266**	P	**P**	**11 05 49.1**	**-0.7**
WRA	**Warramunga Arr**	**42.40**	**266**	P	**P**	**11 05 49.2**	**-0.6**
comp=Z,17nm,0.5s,baz=98,slow=8.3,SNR=264							
WRA				ScP	**ScP**	**11 10 35.2**	**+0.6**
comp=Z,3.5nm,0.9s,baz=100,slow=4.1,SNR=13							
comp=Z,17nm,0.5s							
FORT	**Forrest**	**46.21**	**250**	P	**P**	**11 06 18.2**	**-1.0**
FORT	**Forrest**	**46.21**	**250**	P	**P**	**11 06 18.1**	**-1.0**
KDU	**Kakadu**	**46.33**	**276**	P	**P**	**11 06 19.7**	**-0.5**
WRKA	**Warakurna**	**46.78**	**258**	P	**P**	**11 06 23.1**	**-0.5**
MTN	**Manton Dam**	**47.49**	**275**	P	**P**	**11 06 28.2**	**-0.8**
MTN				IAmb	IAmb	11 07 10.2	
comp=Z,28nm,1.5s							
DRS	**Darwin Rock St**	**47.85**	**275**	P	**P**	**11 06 31.1**	**-0.7**
KNRA	**Kununurra**	**48.70**	**270**	P	**P**	**11 06 38.1**	**0.0**
KNRA				IAmb	IAmb	11 06 38.7	
comp=Z,22nm,0.8s							
FITZ	**Fitzroy Crossi**	**50.81**	**266**	P	**P**	**11 06 53.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**50.81**	**266**	P	**P**	**11 06 53.9**	**+0.3**
SBA	**Scott Base**	**54.05**	**183**	P	**P**	**11 07 18.1**	**+2.2**
VNDA	**Vanda**	**54.05**	**185**	P	**P**	**11 07 16.3**	**+0.3**
comp=Z,0.4nm,0.6s,baz=360,slow=7.0,SNR=5.8							
comp=Z,0.4nm,0.6s							
KLBR	**Kellerberrin**	**54.87**	**247**	P	**P**	**11 07 22.0**	**-0.5**
MEEK	**Meekatharra**	**55.03**	**254**	P	**P**	**11 07 22.8**	**-0.9**
PSA00	**Pilbara Seismi**	**55.12**	**260**	P	**P**	**11 07 23.7**	**-0.7**
PSA00	**Pilbara Seismi**	**55.12**	**260**	P	**P**	**11 07 23.1**	**-1.3**
PSA00				IAmb	IAmb	11 08 06.0	
comp=Z,26nm,1.4s							
MBWA	**Marble Bar**	**55.33**	**260**	P	**P**	**11 07 25.3**	**-0.6**
MBWA	**Marble Bar**	**55.33**	**260**	P	**P**	**11 07 25.3**	**-0.6**
MBWA				IAmb	IAmb	11 07 26.3	
comp=Z,13nm,0.9s							
BLDU	**Ballidu**	**55.91**	**248**	P	**P**	**11 07 29.0**	**-0.8**
MORW	**Morawa**	**56.77**	**250**	P	**P**	**11 07 35.3**	**-0.5**
MORW	**Morawa**	**56.77**	**250**	P	**P**	**11 07 35.2**	**-0.5**
MORW				IAmb	IAmb	11 07 35.8	
comp=Z,10nm,0.7s							
LUWI	**Luwuk**	**59.91**	**284**	P	**P**	**11 07 56.9**	**-0.4**
PLAI	**Plampang**	**61.15**	**273**	P	**P**	**11 08 05.2**	**-0.2**
TOLI2	**Tolitoli**	**62.67**	**285**	P	**P**	**11 08 14.3**	**-1.1**
TOLI2	**Tolitoli**	**62.67**	**285**	P	**P**	**11 08 15.8**	**+0.5**
TOLI2				IAmb	IAmb	11 08 16.7	
comp=Z,5.3nm,0.6s							
QSPA	**South Pole Qui**	**65.85**	**180**	P	**P**	**11 08 35.6**	**+0.7**
QSPA				IAmb	IAmb	11 08 36.3	
comp=Z,5.6nm,0.8s							
QSPA	**South Pole Qui**	**65.85**	**180**	P	**P**	**11 08 35.4**	**+0.5**
comp=Z,5.0nm,0.6s,baz=12,slow=0.7,SNR=54							
comp=Z,5.0nm,0.6s							
KKM Kota Kinabalu 69.01 287 P **P 11 08 55.4 +0.3**							
KKM IAmb IAmb 11 09 30.5							
comp=Z,27nm,1.5s							
JOW Kunigami 71.22 312 P **P 11 09 08.8 +0.9**							
JOW IAmb IAmb 11 09 25.9							
comp=Z,26nm,1.1s							
MJAR Matsushiro Arr 72.17 326 P **P 11 09 13.0 -0.3**							
comp=Z,1.3nm,0.7s,baz=165,slow=5.8,SNR=5.0							
comp=Z,1.3nm,0.7s							
SSLB Suanglung 74.56 305 P **P 11 09 26.2 -1.0**							
SSLB IAmb IAmb 11 09 27.2							
comp=Z,9.7nm,1.0s							
SMAI San Martin Ant 75.79 159 P **P 11 09 34.4 +1.1**							
SMAI IAmb IAmb 11 09 34.9							
comp=Z,8.5nm,0.8s							
KSRS Korea Array 78.51 320 P **P 11 09 48.9 +0.3**							
comp=Z,0.9nm,0.7s,baz=138,slow=3.6,SNR=4.7							
comp=Z,0.9nm,0.7s							
NJ2 Nanjing 80.88 311 *e*P **P 11 10 04.5 +3.3**							
NJ2 pmax pmax							
comp=Z,8.0nm,0.5s							
USRK Ussuriysk Ar. 81.05 327 P **P 11 10 03.2 +1.4**							
USRK Ussuriysk Ar. 81.05 327 P **P 11 10 02.0 +0.2**							
comp=Z,1.6nm,0.6s,baz=62,slow=4.5,SNR=4.5							
comp=Z,1.6nm,0.6s							
ELIB Princess Elisa 82.74 187 *d*P **P 11 10 09.6 -0.7**							
comp=Z,2.1nm,0.8s							
SLBS Sierra La Lagu 82.96 60 P **P 11 10 13.4 +1.3**							
SLBS IAmb IAmb 11 10 13.9							
comp=Z,5.0nm,0.8s							
O02D Mt. Diablo Mer 83.30 40 P **P 11 10 15.4 +2.0**							
KRMB Red Mountain 83.51 39 P **P 11 10 16.0 +1.5**							
KRMB IAmb IAmb 11 10 32.0							
comp=Z,13nm,1.4s							
TROLL Troll, Antarti 84.00 181 ⇓P **P 11 10 16.0 -0.6**							
comp=Z,194nm,0.4s							
SNAA Sanae 84.34 179 P **P 11 10 17.3 -0.8**							
SNAA IAmb IAmb 11 10 23.6							
comp=Z,7.4nm,1.5s							
SNAA Sanae 84.34 179 ⇓P **P 11 10 16.6 -1.6**							
comp=Z,30nm,0.5s							
SNAA Sanae 84.34 179 P **P 11 10 17.1 -1.0**							
comp=Z,1.2nm,0.6s,baz=187,slow=2.4,SNR=25							
comp=Z,1.2nm,0.6s							
TIA Tai'an 84.47 314 P **P 11 10 20.0 +0.8**							
TIA pmax pmax							
comp=Z,5.0nm,0.8s							
VNA3 Neumayer Olymp 84.55 177 ⇓P **P 11 10 18.3 -0.8**							
comp=Z,5.8nm,1.0s							
COYC Coyhaique 84.64 138 P **P 11 10 21.6 +1.5**							
COYC IAmb IAmb 11 10 21.9							
comp=Z,10nm,0.7s							
GRAC Grapevine Rang 84.75 46 P **P 11 10 22.4 +1.7**							
VNA2 Neumayer--Watz 84.96 178 ⇓P **P 11 10 20.5 -0.6**							
comp=Z,4.4nm,0.6s,baz=195,slow=5.3							
NVAR Mina Array Bea 84.98 44 P **P 11 10 22.1 +0.1**							
comp=Z,0.6nm,0.8s,baz=228,slow=7.0,SNR=4.8							
comp=Z,0.6nm,0.8s							
TPNV Topopah Spring 85.45 46 P **P 11 10 25.0 +0.8**							
PINE Pine Mountain 86.64 38 P **P 11 10 30.5 +0.7**							
TUC Tucson 86.71 52 P **P 11 10 29.3 -1.0**							
I05D Terrebonne, OR 86.76 38 P **P 11 10 31.1 +0.9**							
PLCA Paso Flores 88.03 134 P **P 11 10 36.2 -0.2**							
comp=Z,1.6nm,0.9s,baz=262,slow=3.6,SNR=3.4							
comp=Z,1.6nm,0.9s							
G08A Pilot Rock 88.68 38 P **P 11 10 39.7 +0.5**							
CMAR Chiang Mai Arr 89.65 290 P **P 11 10 44.5 +0.3**							
comp=Z,0.5nm,0.4s,baz=107,slow=3.6,SNR=4.9							
comp=Z,0.5nm,0.4s							
HVU Hansel Valley 90.37 44 P **P 11 10 48.1 +1.0**							
HVU IAmb IAmb 11 10 48.5							
comp=Z,1.9nm,0.8s							
TX31 Lajitas Ar. Si 90.60 58 P **P 11 10 49.1 +0.7**							
TXAR Lajitas Array 90.60 58 P **P 11 10 49.5 +1.1**							
TXAR Lajitas Array 90.60 58 P **P 11 10 49.0 +0.6**							
comp=Z,1.5nm,0.7s,baz=210,slow=6.6,SNR=22							
comp=Z,1.5nm,0.7s							
HHC Hu-ho-hao-te 90.66 315 *e*P **P 11 10 44.8 -3.7**							
HHC pmax pmax							
comp=Z,44nm,4.2s							
HHC pmax pmax							
comp=Z,9.0nm,0.6s							
PZH PanZhiHua 90.85 299 P **P 11 10 52.0 +2.3**							
PZH pmax pmax							
comp=Z,20nm,0.8s							
PZH pmax pmax							
comp=Z,200nm,4.8s							
PDAR Pinedale Array 92.92 44 P **P 11 10 58.8 -0.2**							
comp=Z,0.4nm,0.8s,baz=178,slow=4.5,SNR=3.8							
comp=Z,0.4nm,0.8s							
FINES FINESS Array B 138.76 341 SKPbc **SKPbc 11 19 54.3 -1.0**							
comp=Z,2.1nm,0.6s,baz=60,slow=3.4,SNR=11							
HFS Hagfors 142.87 349 PKhKP PKPpre 11 17 11.8							
comp=Z,0.8nm,0.4s,baz=46,slow=4.2,SNR=11							
AKASG Malin Array Be 145.25 327 SKPbc **SKPbc 11 20 09.9 -1.9**							
comp=Z,1.9nm,0.7s,baz=52,slow=4.1,SNR=4.2							
BRTR Keskin Array B 147.78 307 PKPdf **PKPdf 11 17 24.6 +0.2**							
BRTR PKPbc **PKPbc 11 17 27.8 -0.3**							
BRTR PKPab **PKPab 11 17 32.5 +0.1**							
BRTR Keskin Array B 147.78 307 PKPbc **PKPbc 11 17 27.6 -0.6**							
comp=Z,0.9nm,0.6s,baz=139,slow=3.4,SNR=2.5							
ESDC Sonseca Array 164.24 11 PKPab **PKPab 11 18 41.5 -1.2**							
comp=Z,1.0nm,0.7s,baz=290,slow=3.7,SNR=4.9							
TORD Torodi Ar. Bea 168.86 189 PKPab **PKPab 11 19 02.2 -1.4**							
comp=Z,0.7nm,0.7s,baz=192,slow=2.8,SNR=4.1							

IDC 31 10:59:59.1±3.7, **4°.19S**×**145°.01E**, **h0**^{km}, **mb3.2**/2, **mbtmp3.2**/3, **ML3.4**/1, **Error ellipse: s-maj=112.7km s-min=32.9km az=98.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.80**	**213**	P	P	11 04 19.2	-1.1
0.1nm,0.3s,baz=33,slow=10,SNR=8.7							
0.3nm,0.6s							
ASAR	**Alice Springs**	**22.13**	**208**	P	P	11 04 55.6	-1.0
0.2nm,0.6s,baz=29,slow=11,SNR=2.0							
0.2nm,0.6s							
MKAR	**Makanchi Array**	**74.85**	**321**	P	P	11 11 42.6	+0.9
0.4nm,0.5s,baz=97,slow=7.3,SNR=4.9							
0.4nm,0.5s							

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*HEL **31** 11:30:42.1±0.1, 63°.97N×28°.11E, h0^{km}, ML1.4, Explosion*
*IDC **31** 11:30:43.6±2.1, 63°.92N×28°.16E, h0^{km}, mbtmp2.5/2, ML1.5/2, Error ellipse: s-maj=49.0km s-min=11.1km az=96.0*
ISC 31 11:30:42.0±0.8, **63°.96N**±0°.03×**28°.09E**±0°.04, **h0**^{km}, **n25**, σ1^{s}**07**/36, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.58**	**192**	PG	**Pg**	**11 30 53.2**	**0.0**
baz=8.0							
NIF				SG	**Sg**	**11 31 00.3**	**-0.3**
RMF	**Romuvaara**	**0.85**	**71**	PG	**Pg**	**11 30 57.7**	**-0.7**
RMF				MSG		11 31 08.0	
comp=Z,6.0nm,0.2s							
OUL	**Oulu**	**1.48**	**321**	PG	**Pn**	**11 31 09.0**	**-0.9**
SUF	**Sumiainen**	**1.52**	**216**	PN	**Pn**	**11 31 10.2**	**-0.2**
baz=35							
SUF				MSG		11 31 28.2	
comp=Z,1.8nm,0.2s							
OUF	**Merijarvi**	**1.53**	**287**	PG	**Pn**	**11 31 09.8**	**-0.8**
OUF				MSG		11 31 28.0	
comp=Z,2.8nm,0.2s							
OUF				SN	**Sn**	**11 31 29.6**	**-1.4**
OBF4	**Vikkela, Lumij**	**1.56**	**305**	PG	**Pn**	**11 31 10.5**	**-0.4**
OBF4				MSG		11 31 28.8	
comp=Z,2.0nm,0.2s							
OBF0	**Syolatti, P

comp=Z,1.5nm,0.2s
OBF8 SG **Sb** **11 31 47.5 +0.9**
RANF Ranua 2.14 346 PG **Pn** **11 31 19.9 +1.0**
RANF SG **Sn** **11 31 47.7 +1.5**
KU6 Riekki 2.21 19 PG **Pn** **11 31 21.1 +1.1**
baz=202
KU6 MSG 11 31 47.1
comp=Z,0.8nm,0.2s
KEF Keuruu 2.32 221 PG **Pb** **11 31 24.0 -0.7**
KEF MSG 11 31 51.3
comp=Z,2.7nm,0.2s
KEF SG **Sb** **11 31 53.6 -0.2**
OLKF Oulanka, Finla 2.44 13 PB **Pn** **11 31 24.8 +1.7**
OLKF MSG 11 31 53.6
comp=Z,1.5nm,0.2s
RUF Ruokolahti 2.57 171 PG **Pb** **11 31 28.1 -0.8**
baz=351
RUF MSG 11 31 58.5
comp=Z,1.7nm,0.2s
RUF SG **Sb** **11 32 01.3 +0.2**
VAF Ylistaro 2.60 252 PG **Pn** **11 31 28.1 +2.9**
VAF MSG 11 31 59.1
comp=Z,1.4nm,0.2s
VAF SG **Sb** **11 32 01.5 -0.3**
FIA0 FINESS Array S 2.69 201 PG **Pb** **11 31 30.1 -0.8**
FIA0 MSG 11 32 01.9
comp=Z,0.9nm,0.2s
FIA0 SG **Sb** **11 32 04.1 -0.3**
FINES FINESS Array B 2.69 201 Pn **Pn** **11 31 29.2 +2.8**
comp=Z,0.1nm,0.3s,baz=21,slow=16,SNR=5.5
FINES Sn **Sb** **11 32 03.7 -0.7**
comp=Z,0.4nm,0.3s,baz=24,slow=24,SNR=7.8
comp=Z,0.9nm,0.5s
UMAU Umeaa 3.27 272 PN **Pn** **11 31 34.4 -0.1**
baz=83
VJF Virojoki 3.44 184 SN **Sn** **11 32 17.7 -0.5**
ERTU Ertsjaerv 3.60 319 PN **Pn** **11 31 40.1 +1.1**
KLF Kolari 3.71 334 SN **Sn** **11 32 24.9 +0.1**
ARCES ARCESS Array B 5.70 351 Pn **Pn** **11 32 09.1 +1.3**
baz=170,slow=11,SNR=1.6
ARCES Lg Lg 11 33 42.8
comp=Z,0.1nm,0.3s,baz=172,slow=33,SNR=6.7
comp=Z,0.9nm,0.8s
I37NO I37NO 6.38 328 I I 12 07 35.0
baz=140,slow=314,SNR=3.7

KRSC 31 11:31:31.8±1.2, 49°.16N×156°.43E, h6km±17km, MI4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.54**	**353**	*eP*	Pn	11 31 59.2	-0.5
SKR				*eS*	Sn	11 32 19.1	-0.8
KDTR	**Khodutka, Kamc**	**2.85**	**21**	*eP*	Pn	11 32 19.7	+1.9
KDTR				*eS*	Sn	11 32 54.8	+2.5
ASAK	**Asacha**	**3.36**	**16**	*eP*	Pn	11 32 28.0	+3.2
ASAK				*eS*	Sb	11 33 08.9	-3.9
MTVR	**Mutnovka**	**3.50**	**18**	*eP*	Pn	11 32 30.3	+3.4
MTVR				*eS*	Sb	11 33 12.9	-4.2
GRL	**Gorelyy**	**3.55**	**16**	*eP*	Pn	11 32 30.5	+3.0
GRL				*eS*	Sb	11 33 14.2	-4.1
APC	**Apacha**	**3.79**	**7**	*eP*	Pn	11 32 34.8	+4.1
KRMR	**Karymshinskiy**	**3.83**	**16**	*eP*	Pn	11 32 35.1	+4.0
KRMR				*eS*	Sb	11 33 21.6	-4.6
PET	**Petropavlovsk**	**4.11**	**19**	*eP*	Pn	11 32 38.7	+3.6
PET				*eS*	Sn	11 33 27.6	+4.1
DALK	**Dalny**	**4.14**	**20**	*eP*	Pn	11 32 38.9	+3.4
DALK				*eS*	Sn	11 33 28.2	+4.1
UGLR	**Uglovaya**	**4.32**	**19**	*eP*	Pn	11 32 42.4	+4.3
UGLR				*eS*	Sn	11 33 33.6	+4.8
AVH	**Avacha**	**4.36**	**19**	*eP*	Pn	11 32 43.4	+4.8
AVH				*eS*	Sn	11 33 35.3	+5.7
KOK	**Koryaka**	**4.36**	**18**	*eP*	Pn	11 32 43.4	+4.8
SMAR	**Somma**	**4.37**	**19**	*eP*	Pn	11 32 43.5	+4.6
KRER	**Koryakskii**	**4.39**	**18**	*eP*	Pn	11 32 44.1	+4.9
SPN	**Mys Shipunski**	**4.54**	**28**	*eP*	Pn	11 32 44.7	+3.7
GNL	**Ganaly**	**4.64**	**11**	*eP*	Pn	11 32 46.0	+3.6
TUMR	**Tumrok**	**6.54**	**19**	*eP*	Pn	11 33 12.8	+4.3
KPT	**Kopyto**	**7.20**	**17**	*eP*	Pn	11 33 22.1	+4.6
BZP	**Bezymyannyi-Pe**	**7.21**	**19**	*eP*	Pn	11 33 22.3	+4.6

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*IDC **31** 11:45:57.8±3.6, 30°.55S×178°.16W, h61km±37km, mb3.6/4, mbtmp3.9/4, Error ellipse: s-maj=37.8km s-min=32.3km az=121.0*

ISC 31 11:45:56.7±1.4, 30°.6S±0°.1×178°.2W±0°.2, h50km, n12, σ0§72/7, mb3.7/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.37**	**9**	P	**Pn**	**11 46 19.8**	**+0.3**
	186nm,0.3s,baz=76,slow=19,SNR=1.2						
RAO				S	**Sn**	**11 46 36.5**	**0.0**
	633nm,0.3s,baz=247,slow=23,SNR=8.6						
STKA	**Stephens Creek**	**34.30**	**257**	P	**P**	**11 52 39.1**	**+0.7**
	5.9nm,1.1s,baz=244,slow=4.9,SNR=3.0						
	5.9nm,1.1s						
ASAR	**Alice Springs**	**42.97**	**267**	P	**P**	**11 53 50.7**	**-0.4**
	0.5nm,0.5s,baz=108,slow=6.7,SNR=6.3						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**43.98**	**272**	P	**P**	**11 53 58.9**	**-0.4**
	0.8nm,0.4s,baz=110,slow=8.0,SNR=15						
	0.8nm,0.4s						
QSPA	**South Pole Qui**	**59.50**	**180**	P	**P**	**11 55 54.7**	**+0.2**
	0.3nm,0.6s,baz=0.0,slow=2.0,SNR=2.0						
	0.3nm,0.6s						
H03S2	**Juan Fernandez**	**80.46**	**124**	T	T	13 27 07.7	
	baz=238,slow=74						
H03S1	**Juan Fernandez**	**80.47**	**124**	T	T	13 27 10.3	
	baz=238,slow=74						
H03S3	**Juan Fernandez**	**80.47**	**124**	T	T	13 27 07.4	
	baz=238,slow=74						
H03N3	**Juan Fernandez**	**80.65**	**123**	T	T	13 27 20.6	
	baz=242						
H03N2	**Juan Fernandez**	**80.65**	**123**	T	T	13 27 21.2	
	baz=242,slow=74						
H03N1	**Juan Fernandez**	**80.67**	**123**	T	T	13 27 17.3	
	baz=242,slow=74						
FINES	**FINESS Array B**	**145.30**	**340**	PKPbc	**PKPbc**	**12 05 26.9**	**-1.0**
	1.2nm,0.5s,baz=42,slow=2.3,SNR=11						

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*HEL **31** 12:21:40.1±0.2, 68°.09N×33°.33E, h0km, ML1.8, Explosion*
*KOLA **31** 12:21:41.3, 68°.06N×33°.40E, h0km, ML2.1, Error ellipse: s-maj=4.5km s-min=3.0km az=80.0, Olenegorsk City, Mines*
*IDC **31** 12:21:42.2±2.7, 67°.99N×32°.81E, h0km, mbtmp2.6/2, ML1.8/2, Error ellipse: s-maj=29.1km s-min=12.2km az=68.0*

ISC 31 12:21:38.9±0.8, 68°.03N±0°.03×33°.51E±0°.03, h0km, n27, σ1§35/47, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.45**	**107**	P	**Pb**	**12 21 49.8**	**-0.1**
LVZ				S	**Sb**	**12 21 57.5**	**+0.3**
LVZ	**Lovozero**	**0.45**	**107**	PG	**Pb**	**12 21 49.7**	**-0.1**
LVZ				SG	**Sb**	**12 21 57.0**	**-0.1**
APA	**Apatity**	**0.47**	**185**	P	**Pb**	**12 21 49.6**	**-0.4**
APA				S	**Sb**	**12 21 56.5**	**-1.0**
APA0	**Apatity Array**	**0.47**	**205**	P	**Pg**	**12 21 48.9**	**+1.0**
APA0				S	**Sb**	**12 21 56.0**	**-1.5**
TERR	**Teriberka**	**1.31**	**26**	P	**Pg**	**12 22 03.5**	**-0.5**
TERR				S	**Sb**	**12 22 21.6**	**-0.2**
VRF	**Varrio**	**1.50**	**261**	PG	**Pn**	**12 22 06.4**	**-0.7**
	baz=79						
VRF				MSG		12 22 23.6	
	comp=Z,8.6nm,0.2s						
VRF				SN	**Sg**	**12 22 27.1**	**0.0**
PRVG	**Vayda Guba**	**1.79**	**345**	P	**Pb**	**12 22 12.8**	**+0.3**
PRVG				S	**Sg**	**12 22 36.3**	**+0.1**
RAJF	**Raja-Jooseppi**	**1.98**	**285**	PG	**Pn**	**12 22 14.4**	**+0.7**
RAJF				SG	**Sn**	**12 22 38.4**	**-0.9**
OLKF	**Oulanka, Finla**	**2.35**	**225**	PG	**Pb**	**12 22 21.3**	**-0.8**
OLKF				MSG		12 22 49.5	
	comp=Z,4.0nm,0.2s						
OLKF				SG	**Sb**	**12 22 51.6**	**0.0**
KU6	**Riekki**	**2.46**	**217**	PB	**Pb**	**12 22 23.0**	**-1.0**
KU6				MSG		12 22 53.2	
	comp=Z,3.2nm,0.2s						
KU6				SG	**Sb**	**12 22 56.6**	**+1.7**
VADS	**Vadso**	**2.57**	**327**	P	**Pn**	**12 22 21.9**	**+0.2**
VADS				S	**Sn**	**12 22 53.9**	**+0.2**
SGF	**Sodankyl**	**2.72**	**261**	PB	**Pn**	**12 22 25.8**	**+2.0**
SGF				SB	**Sb**	**12 23 00.3**	**-2.0**
MSF	**Maaselka**	**2.76**	**222**	PG	**Pb**	**12 22 28.4**	**-0.6**
MSF				SG	**Sb**	**12 23 04.0**	**+0.6**
KEV	**Kevo**	**2.92**	**309**	PB	**Pn**	**12 22 27.7**	**+1.2**
KEV				SB	**Sn**	**12 23 02.2**	**-0.1**
KEV				MSG		12 23 03.5	
	comp=Z,4.7nm,0.2s						
RNF	**Rovaniemi**	**3.24**	**247**	PN	**Pn**	**12 22 32.3**	**+1.4**
RNF				SN	**Sn**	**12 23 11.1**	**+1.1**
ARA0	**ARCESS Array S**	**3.28**	**301**	PB	**Pn**	**12 22 33.3**	**+1.8**
	baz=110						
ARA0				SG	**Sb**	**12 23 15.4**	**-2.8**
ARCES	**ARCESS Array B**	**3.28**	**301**	P	**Pn**	**12 22 31.9**	**+0.5**
ARCES				S	**Sn**	**12 23 11.4**	**+0.4**
ARCES	**ARCESS Array B**	**3.28**	**301**	Pn	**Pn**	**12 22 31.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=118,slow=13,SNR=15						
ARCES				Sn	**Sn**	**12 23 10.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=120,slow=21,SNR=2.3						
ARCES				Lg	Lg	12 23 18.2	
	comp=Z,0.6nm,0.3s,baz=112,slow=36,SNR=6.4						
	comp=Z,0.2nm,0.3s						
RANF	**Ranua**	**3.32**	**236**	PB	**Pn**	**12 22 35.0**	**+2.9**
RANF				SG	**Sb**	**12 23 20.6**	**+1.0**
HEF	**Hetta**	**3.69**	**280**	PN	**Pn**	**12 22 37.1**	**0.0**
	baz=94						
KLF	**Kolari**	**3.73**	**262**	PG	**Pb**	**12 22 46.3**	**+0.6**
	baz=71						
KTK1	**Kautokeino**	**3.90**	**289**	SG	**Sb**	**12 23 39.0**	**+2.7**
LANU	**Lannavaara**	**4.32**	**276**	PN	**Pn**	**12 22 47.8**	**+2.0**
LANU				SG	**Sb**	**12 23 49.0**	**+0.7**
ERTU	**Ertsjaerv**	**4.63**	**257**	PN	**Pn**	**12 22 49.7**	**-0.4**
ERTU				SN	**Sn**	**12 23 42.3**	**-2.1**
I37NO	**I37NO**	**5.56**	**288**	I	I	12 53 50.0	
	baz=94,slow=314,SNR=5.0						
FAUS	**Fauske**	**6.96**	**273**	S	**Sn**	**12 24 37.5**	**-4.1**
FINES	**FINESS Array B**	**7.33**	**209**	Pn	**Pn**	**12 23 26.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=2.2						
FINES				Lg	Lg	12 25 24.6	
	comp=Z,0.1nm,0.3s,baz=27,slow=28,SNR=4.3						
	comp=Z,1.2nm,0.8s						

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*IDC **31** 12:31:21.7±2.7, 9°.55S×112°.61E, h0km, mb3.1/3, mbtmp3.1/3, MS3.3/1, Error ellipse: s-maj=138.2km s-min=29.2km az=47.0*
*DJA **31** 12:31:23.9±0.5, 10°S±6°×11°3E±°, h10km, M4.0/10, mb4.0/5, MLv4.0/10*

ISC 31 12:31:23.8±1.4, 9°.8S±0°.1×112°.74E±0°.08, h10km, n12, σ1§48/11, mb3.0/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.91**	**47**	P	**Pn**	**12 31 55.7**	**-0.6**
PWJI	**Pagerwojo**	**1.98**	**332**	P	**Pn**	**12 31 57.1**	**-0.2**
ABJI	**Asem Bagus**	**2.46**	**37**	P	**Pn**	**12 32 05.5**	**+1.5**
UGM	**Wanagama**	**2.87**	**310**	P	**Pn**	**12 32 10.6**	**+0.9**
SRBI	**Singaraja**	**2.96**	**56**	P	**Pn**	**12 32 11.3**	**+0.4**
TWSI	**Taliwang, Sumb**	**4.22**	**76**	P	**Pn**	**12 32 28.9**	**+0.8**
PLAI	**Plampang**	**5.06**	**80**	P	**Pn**	**12 32 40.8**	**+1.1**
	28nm,1.3s,0.2nm						
WBSI	**Waikabubak, Su**	**5.66**	**89**	P	**Pn**	**12 32 58.6**	**-1.8**
WRA	**Warramunga Arr**	**23.16**	**118**	P	**P**	**12 36 32.4**	**+1.7**
	0.2nm,0.5s,baz=293,slow=11,SNR=2.2						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**24.48**	**127**	P	**P**	**12 36 44.6**	**+1.3**
	0.3nm,0.7s,baz=304,slow=9.7,SNR=6.0						
	0.3nm,0.7s						
JOW	**Kunigami**	**39.39**	**22**	LR	LR	12 56 21.2	
	comp=Z,45nm,19.7s,baz=184,slow=38						
MKAR	**Makanchi Array**	**62.53**	**337**	P	**P**	**12 41 45.8**	**-2.0**
	0.2nm,0.4s,baz=164,slow=6.8,SNR=3.6						
	0.2nm,0.4s						

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*IDC **31** 12:40:23.8±1.2, 0°.71N×98°.44E, h0km, mb4.1/10, mbtmp4.1/11, ML4.4/1, MS3.3/2, Error ellipse: s-maj=44.9km s-min=18.7km az=56.0*
*NEIC **31** 12:40:31.1±1.2, 0°.70N±0°.09×98°.55E±0°.06, h48km±8km, mb4.6/27, Error ellipse: s-maj=13.7km s-min=8.0km az=200.0*
*DJA **31** 12:40:32.1±0.9, 1°N±2°×9°8E±°, h18km±9km, M4.6/13, mb5.0/2, MLv4.4/13*

ISC 31 12:40:31.8±0.5, 0°.91N±0°.05×98°.55E±0°.05, h50km, n69, σ1§36/62, mb4.4/23, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.99**	**196**	P	**Pn**	**12 40 49.2**	**-0.2**
PBSI				S	**Sn**	**12 41 05.5**	**+3.1**
GSI	**Gunungsitoli**	**1.05**	**292**	Pn	**Pn**	**12 40 50.6**	**+0.4**
GSI	**Gunungsitoli**	**1.05**	**292**	P	**Pn**	**12 40 50.3**	**+0.2**
GSI				S	**Sn**	**12 41 03.9**	**+0.2**
SISI	**Saibi**	**2.29**	**166**	P	**Pn**	**12 41 08.2**	**+1.2**
BKNI	**Bangkinang**	**2.56**	**103**	Pn	**Pn**	**12 41 09.4**	**-1.4**
BKNI	**Bangkinang**	**2.56**	**103**	P	**Pn**	**12 41 13.0**	**+2.2**
PDSI	**Padang**	**2.63**	**133**	P	**Pn**	**12 41 14.0**	**+2.2**
SNSI	**Sinabang, Aceh**	**2.67**	**304**	P	**Pn**	**12 41 14.5**	**+2.1**
KCSI	**Kotacane, Aceh**	**2.71**	**343**	P	**Pn**	**12 41 14.2**	**+1.3**
PPSI	**Pulau Pagai**	**3.93**	**158**	P	**Pn**	**12 41 30.7**	**+1.1**
MLSI	**Meulaboh, Aceh**	**3.96**	**327**	P	**Pn**	**12 41 31.0**	**+0.9**
LHMI	**Lhok Sumawe**	**4.58**	**340**	Pn	**Pn**	**12 41 40.1**	**+1.6**
LHMI	**Lhok Sumawe**	**4.58**	**340**	P	**Pn**	**12 41 41.2**	**+2.7**
KULM	**Kulim**	**4.83**	**26**	Pn	**Pn**	**12 41 44.0**	**+2.0**
MNAI	**Manna**	**6.84**	**140**	P	**Pn**	**12 42 11.1**	**+1.5**
	194nm,1.1s						
CMAR	**Chiang Mai Arr**	**17.44**	**1**	P	**Pn**	**12 44 32.1**	**+0.4**
	0.4nm,0.3s,baz=192,slow=10,SNR=7.1						
CMAR				LR	LR	12 51 09.1	
	comp=Z,62nm,18.7s,baz=250,slow=37						
	1.2nm,0.5s						
PHRA	**Phrae**	**17.56**	**5**	Pn	**Pn**	**12 44 33.1**	**0.0**
PHRA				IAmb	IAmb	12 44 58.2	
	comp=Z,64nm,1.5s						
SHL	**Shillong**	**25.34**	**346**	P	**P**	**12 45 54.5**	**+0.2**
SHL				IAmb	IAmb	12 45 55.7	
	comp=Z,20nm,0.6s						
H08S2	**Diego Garcia H**	**27.34**	**251**	T	T	13 13 40.5	
	baz=72,slow=75,SNR=44						
H08S3	**Diego Garcia H**	**27.34**	**251**	T	T	13 13 47.9	
	baz=72,slow=75,SNR=43						
H08S1	**Diego Garcia H**	**27.36**	**251**	T	T	13 13 42.7	
	baz=72,slow=75,SNR=41						
WB0	**Warramunga Arr**	**40.71**	**122**	P	**P**	**12 48 04.1**	**-3.8**
WRA	**Warramunga Arr**	**40.74**	**123**	P	**P**	**12 48 06.5**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=304,slow=9.0,SNR=4.3						
	comp=Z,0.6nm,0.8s						
WRAB	**Tennant Creek**	**40.75**	**123**	P	**P**	**12 48 06.5**	**-1.7**
WRAB				IAmb	IAmb	12 48 50.1	
	comp=Z,8.5nm,1.3s						
WB2	**Warramunga Arr**	**40.75**	**123**	P	**P**	**12 48 06.6**	**-1.6**
WB2				IAmb	IAmb	12 48 11.4	
	comp=Z,10nm,1.3s						
WR0	**Warramunga Arr**	**40.92**	**122**	P	**P**	**12 48 07.0**	**-2.6**
ASAR	**Alice Springs**	**42.15**	**128**	P	**P**	**12 48 16.4**	**-3.3**
ASAR	**Alice Springs**	**42.15**	**128**	P	**P**	**12 48 17.6**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=304,slow=8.0,SNR=7.4						
ASAR				PcP	**PcP**	**12 50 14.0**	**+0.5**
	comp=Z,0.3nm,0.9s,baz=316,slow=2.6,SNR=2.0						
	comp=Z,0.4nm,0.7s						
TARG	**Taragay, Kyrgy**	**44.74**	**338**	P	**P**	**12 48 41.8**	**+1.1**
KSAR	**Wonju Array Be**	**45.31**	**33**	P	**P**	**12 48 45.3**	**+0.5**
KSRS	**Korea Array**	**45.34**	**33**	P	**P**	**12 48 45.0**	**0.0**
	comp=Z,3.8nm,0.7s,baz=224,slow=8.8,SNR=23						
	comp=Z,3.8nm,0.7s						
KS19	**Wonju Array Si**	**45.34**	**33**	P	**P**	**12 48 45.5**	**+0.4**
KS19				IAmb	IAmb	12 48 45.8	
	comp=Z,6.1nm,0.9s						
AAK	**Ala-Archa**	**46.81**	**336**	LR	LR	13 12 12.5	
	comp=Z,52nm,18.2s,baz=182,slow=41						
RER	**Riviere de l'E**	**47.23**	**240**	P	**P**	**12 48 59.1**	**-1.2**
SONM	**Songino Array**	**47.23**	**7**	P	**P**	**12 49 01.7**	**+1.7**
SONM	**Songino Array**	**47.23**	**7**	P	**P**	**12 49 00.2**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=193,slow=8.7,SNR=9.3						
	comp=Z,1.9nm,0.5s						
MK31	**Makanchi Array**	**47.86**	**345**	P	**P**	**12 49 05.4**	**+0.7**
MKAR	**Makanchi Array**	**47.86**	**345**	P	**P**	**12 49 05.2**	**+0.5**
MKAR	**Makanchi Array**	**47.86**	**345**	P	**P**	**12 49 04.8**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=157,slow=8.7,SNR=21						
	comp=Z,1.5nm,0.5s						
KK31	**Karatay Array**	**48.92**	**333**	P	**P**	**12 49 13.3**	**+0.4**
KK31				IAmb	IAmb	12 49 14.0	
	comp=Z,3.7nm,1.4s						
KKAR	**Karatay Array**	**48.92**	**333**	P	**P**	**12 49 12.9**	**0.0**
USA0B	**Ussuriysk Arra**	**52.34**	**30**	P	**P**	**12 49 39.5**	**+0.9**
USA0B				IAmb	IAmb	12 50 09.9	
	comp=Z,8.7nm,0.8s						
KURBB	**Kurchatov Arra**	**52.37**	**344**	P	**P**	**12 49 38.7**	**0.0**
	comp=Z,1.7nm,0.2s,baz=160,slow=7.4,SNR=9.8						
	comp=Z,1.7nm,0.2s						
KURK	**Kurchatov**	**52.43**	**344**	P	**P**	**12 49 39.5**	**+0.3**
KURK				IAmb	IAmb	12 49 40.3	
	comp=Z,5.6nm,1.0s						
RABL	**Rabaul**	**53.81**	**96**	P	**P**	**12 49 47.9**	**-2.2**
ZAA0	**Zalesovo Array**	**54.07**	**350**	P	**P**	**12 49 51.4**	**+0.2**
ZAA0				IAmb	IAmb	12 49 52.1	
	comp=Z,7.1nm,1.1s						
ZALV	**Zalesovo Beam**	**54.07**	**350**	P	**P**	**12 49 51.3**	**+0.2**
ZALV	**Zalesovo Beam**	**54.07**	**350**	P	**P**	**12 49 51.1**	**0.0**
	comp=Z,4.3nm,0.5s,baz=177,slow=6.2,SNR=23						
	comp=Z,4.3nm,0.5s						
BRVK	**Borovoye**	**57.04**	**340**	P	**P**	**12 50 12.4**	**-0.1**
BRVK				IAmb	IAmb	12 50 12.7	
	comp=Z,3.1nm,0.8s						
ABKAR	**Akbulak array**	**58.41**	**331**	P	**P**	**12 50 22.0**	**-0.2**
H04N2	**CROZET ISLANDS**	**62.30**	**215**	T	T	13 57 21.8	
	baz=55,slow=75						
H04N1	**CROZET ISLANDS**	**62.31**	**215**	T	T	13 57 36.5	
	baz=55,slow=75						
H04N3	**CROZET ISLANDS**	**62.32**	**215**	T	T	13 57 20.9	
	baz=55,slow=75						
H04S1	**CROZET ISLANDS**	**62.62**	**214**	T	T	13 58 17.9	
	baz=54						
H04S3	**CROZET ISLANDS**	**62.63**	**214**	T	T	13 58 15.2	
	baz=54						
H04S2	**CROZET ISLANDS**	**62.64**	**214**	T	T	13 58 17.2	
	baz=54						
KBZ	**Khabaz**	**65.18**	**319**	P	**P**	**12 51 07.5**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=130,slow=4.6,SNR=3.6						
	comp=Z,1.4nm,0.6s						
FINES	**FINESS Array B**	**80.88**	**332**	P	**P**	**12 52 40.2**	**-0.1**
ARCES	**ARCESS Array B**	**83.26**	**340**	P	**P**	**12 52 52.7**	**0.0**
	comp=Z,0.9nm,0.9s,baz=122,slow=2.6,SNR=4.0						
	comp=Z,0.9nm,0.9s						
GERES	**GERESS Array B**	**85.92**	**319**	P	**P**	**12 53 07.2**	**+0.5**
HFS	**Hagfors**	**86.64**	**330**	P	**P**	**12 53 09.2**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=126,slow=7.3,SNR=4.3						
	comp=Z,0.9nm,0.5s						
C18K	**Utukok River**	**92.90**	**21**	P	**P**	**12 53 39.9**	**+0.8**
J16K	**Anvik River**	**94.07**	**26**	P	**P**	**12 53 45.1**	**+0.5**
H19K	**Roundabout Mou**	**95.36**	**24**	P	**P**	**12 53 51.3**	**+1.0**
H19K				IAmb	IAmb	12 54 34.3	
	comp=Z,4.9nm,1.3s						
E21K	**Killik River**	**95.53**	**21**	P	**P**	**12 53 51.4**	**+0.2**
E21K				IAmb	IAmb	12 54 16.0	
	comp=Z,2.6nm,1.4s						
J18K	**Innoko River**	**95.75**	**26**	P	**P**	**12 53 52.4**	**+0.2**
G21K	**Allakaket**	**96.26**	**23**	P	**P**	**12 53 55.1**	**+0.6**
G21K				IAmb	IAmb	12 54 24.2	
	comp=Z,4.8nm,1.5s						
IMAR	**Indian Mountai**	**96.32**	**23**	P	**P**	**12 53 55.0**	**+0.3**
H21K	**Melozitna Rive**	**96.79**	**23**	P	**P**	**12 53 58.1**	**+1.2**
H21K				IAmb	IAmb	12 54 33.0	
	comp=Z,3.7nm,1.4s						

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*NEIC **31** 12:44:34.5±1.5, 55°.99N±0°.08×149°.6W±0°.1, h10km±2km, ML3.6/60, ML3.3(AEIC), Error ellipse: s-maj=13.2km s-min=9.8km az=169.0*
*AEIC **31** 12:44:38.3±1.8, 56°.02N±0°.08×149°.5W±0°.1, h3km±7km, Error ellipse: s-maj=12.6km s-min=8.4km az=163.0*

ISC 31 12:44:34.7±1.9, 56°.0N±0°.1×149°.64W±0°.06, h10km, n160, σ0§92/168, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.35**	**302**	Pn	**Pn**	**12 45 13.7**	**+0.5**
OHAK					**Sn**	**12 45 40.1**	**-1.9**
OHAK	**Old Harbor**	**2.35**	**302**	P	**Pn**	**12 45 13.7**	**+0.5**
	baz=119						
OHAK				S	**Sn**	**12 45 40.1**	**-1.9**
	baz=119						
KDAK	**Kodiak Island**	**2.39**	**319**		**Pn**	**12 45 14.0**	**+0.3**
KDAK	**Kodiak Island**	**2.39**	**319**		**Sn**	**12 45 41.1**	**-1.9**
SII	**Sitkinak Islan**	**2.59**	**284**	Pn	**Pn**	**12 45 17.2**	**+0.6**
SII					**Sn**	**12 45 48.1**	**0.0**
SII				IAML		12 45 49.0	
	comp=E,316nm,0.7s						
SII				IAML		12 45 53.9	
	comp=N,289nm,0.7s						
SII	**Sitkinak Islan**	**2.59**	**284**	S	**Sn**	**12 45 47.8**	**-0.4**
	baz=100						
SYI	**Shuyak Island**	**2.99**	**331**		**Pn**	**12 45 22.4**	**+0.4**
SYI					**Sn**	**12 45 57.2**	**-0.7**
Q20K	**Shuyak Island**	**2.99**	**331**	P	**Pn**	**12 45 22.4**	**+0.4**
	baz=148						
Q20K				S	**Sn**	**12 45 57.0**	**-0.8**
	baz=148						
R18K	**Karluk**	**3.06**	**302**		**Pn**	**12 45 24.2**	**+1.2**
R18K					**Sn**	**12 46 00.1**	**+0.3**
R18K				IAML		12 46 07.6	
	comp=E,120nm,0.5s						
R18K				IAML		12 46 13.3	
	comp=N,134nm,0.6s						
R18K	**Karluk**	**3.06**	**302**	P	**Pn**	**12 45 24.1**	**+1.0**
	baz=118						
R18K				S	**Sn**	**12 45 60.0**	**+0.2**
	baz=118						
CNPM	**China Poot**	**3.61**	**347**	Pn	**Pn**	**12 45 30.3**	**-0.3**
CNPM				IAML		12 46 13.7	
	comp=E,51nm,0.6s						
CNPM					**Sn**	**12 46 13.7**	**+0.5**
Q19K	**Cape Douglas,**	**3.62**	**325**		**Pn**	**12 45 32.3**	**+1.5**
Q19K	**Cape Douglas,**	**3.62**	**325**	P	**Pn**	**12 45 32.1**	**+1.3**
	baz=141						
BRSE	**Bradley Lake S**	**3.77**	**351**		**Pn**	**12 45 32.5**	**-0.3**
BRSE	**Bradley Lake S**	**3.77**	**351**	P	**Pn**	**12 45 32.5**	**-

O18K	Koktuh Hills	4.85	325	P	Pn	12 45 48.0	+0.4
	baz=139						
PWL	Port Wells	4.89	7		Pn	12 45 48.2	0.0
PWL				IAML		12 46 43.2	
	comp=E,24nm,0.5s						
PWL				IAML		12 46 59.6	
	comp=N,31nm,0.7s						
PWL	Port Wells	4.89	7	P	Pn	12 45 48.0	-0.2
	baz=188						
CHGN	Chignik	4.92	277	Pn	Pn	12 45 48.2	-0.3
CHGN				IAML		12 46 51.8	
	comp=N,56nm,1.0s						
CHGN				IAML		12 46 51.8	
	comp=E,40nm,0.4s						
EYAK	Cordova Ski Ar	4.97	23		Pn	12 45 49.2	-0.1
EYAK	Cordova Ski Ar	4.97	23	P	Pn	12 45 49.5	+0.2
	baz=205						
FID	Port Fidalgo	5.02	18		Pn	12 45 50.4	+0.5
FID				IAML		12 46 50.6	
	comp=N,26nm,1.0s						
FID				IAML		12 46 51.4	
	comp=E,26nm,0.9s						
GLI	Glacier Island	5.04	14	Pn	Pn	12 45 50.7	+0.4
GLI				IAML		12 46 41.9	
	comp=N,18nm,1.0s						
GLI				IAML		12 47 03.9	
	comp=E,24nm,0.8s						
RC01	Rabbit Creek A	5.08	359		Pn	12 45 50.9	+0.2
RC01				IAML		12 47 00.4	
	comp=E,25nm,0.8s						
RAGM	Ragged Mountai	5.10	29		Pn	12 45 51.4	+0.3
SUCK	Suckling Hills	5.11	35	Pn	Pn	12 45 51.7	+0.5
SUCK				IAML		12 46 59.7	
	comp=E,48nm,1.2s						
SUCK				IAML		12 47 07.5	
	comp=N,46nm,0.9s						
FIS	Fire Island	5.14	357	Pn	Pn	12 45 53.0	+1.5
HMT	Hamilton	5.17	31	Pn	Pn	12 45 53.0	+0.9
NICHA	Nichawak Mount	5.18	33		Pn	12 45 52.4	+0.3
GOAT	Goat Mountain	5.25	28		Pn	12 45 53.7	+0.6
BGLC	Bering Glacier	5.31	37		Pn	12 45 54.4	+0.5
BGLC	Bering Glacier	5.31	37	P	Pn	12 45 54.4	+0.5
	baz=222						
SPU	Mount Spurr	5.32	347	Pn	Pn	12 45 54.3	+0.2
GRIN	Grindle Hills	5.42	35		Pn	12 45 55.7	+0.3
N19K	Bonanza Creek	5.43	334	Pn	Pn	12 45 55.5	-0.1
N19K	Bonanza Creek	5.43	334	P	Pn	12 45 55.2	-0.5
	baz=149						
KNK	Knik Glacier	5.43	6	Pn	Pn	12 45 55.8	+0.2
SUA	Susitna One	5.48	354	Pn	Pn	12 45 56.3	-0.1
SUA	Susitna One	5.48	354	P	Pn	12 45 56.8	+0.4
	baz=173						
SNH	Sunshine Point	5.50	38	Pn	Pn	12 45 56.1	-0.6
KHIT	Khitrov Hills	5.56	35		Pn	12 45 57.6	+0.1
PMR	Palmer	5.59	2	Pn	Pn	12 45 57.5	-0.1
STLK	Strandline Lak	5.60	349		Pn	12 45 57.5	-0.6
BMRM	Bremner River	5.61	26		Pn	12 45 58.0	-0.1
BMRM	Bremner River	5.61	26	P	Pn	12 45 58.2	+0.1
	baz=210						
WAX	Waxell Ridge	5.70	36		Pn	12 45 59.2	-0.1
N18K	Kilae Creek	5.71	327	Pn	Pn	12 45 59.8	+0.4
O16K	Kokwok River B	5.76	312	Pn	Pn	12 46 01.5	+1.4
GHO	Glory Hole Cre	5.77	3		Pn	12 46 01.2	+0.9
BARK	Barkley Ridge	5.79	38		Pn	12 46 00.6	0.0
CNBA	Chernabura Isl	5.80	262	Pn	Pn	12 46 01.4	+0.8
KLU	Klutina	5.81	18		Pn	12 46 01.3	+0.4
KLU	Klutina	5.81	18	P	Pn	12 46 01.3	+0.4
	baz=200						
MESA	MESA	5.82	41	Pn	Pn	12 46 01.9	+0.8
SML	Sawmill	5.83	6		Pn	12 46 01.7	+0.5
CRQM	Cirque	5.84	33		Pn	12 46 01.3	-0.1
TGL	Tana Glacier	5.94	34		Pn	12 46 02.4	-0.2
SCM	Sheep Creek Mo	5.94	11		Pn	12 46 04.8	+2.1
SCM	Sheep Creek Mo	5.94	11	P	Pn	12 46 03.2	+0.5
	baz=192						
ISLE	Juniper Island	5.98	37		Pn	12 46 03.3	+0.1
BAGL	Bagley Icefiel	5.99	39		Pn	12 46 03.1	0.0
N17K	Nushagak Hills	6.01	322	Pn	Pn	12 46 04.5	+0.9
SKT	Skwentna	6.05	351		Pn	12 46 05.2	+1.1
VRDI	Verde Repeater	6.13	29	Pn	Pn	12 46 05.6	+0.2
M20K	Styx River	6.14	344		Pn	12 46 05.6	+0.2
SDPT	Sand Point	6.17	268	Pn	Pn	12 46 05.3	-0.4
N25K	Chitina, Valde	6.17	23	Pn	Pn	12 46 05.9	+0.1
N25K	Chitina, Valde	6.17	23	P	Pn	12 46 06.4	+0.5
	baz=207						
KIAG	Kiagna River	6.21	35		Pn	12 46 06.8	+0.3
GLB	Gilahina Butte	6.22	27		Pn	12 46 05.7	-0.7
GRNC	Granite Creek	6.28	38		Pn	12 46 07.7	+0.3
TABL	Table Mountain	6.30	42		Pn	12 46 08.5	+0.8
M18K	Stony River	6.35	332		Pn	12 46 07.9	-0.2
M18K	Stony River	6.35	332	P	Pn	12 46 07.9	-0.2
	baz=146						
M24K	Tolsona, Glenn	6.35	15		Pn	12 46 08.9	+0.6
MCARA	McCarthy VSAT	6.38	30		Pn	12 46 08.0	-0.6
M19K	Big River Lodg	6.38	339	Pn	Pn	12 46 08.8	+0.1
PTPK	Patty Peak	6.38	33		Pn	12 46 08.8	-0.1
PCA	Pinnacle	6.43	47		Pn	12 46 09.6	+0.3
PINM	Pinnacle	6.43	47	P	Pn	12 46 09.5	+0.1
	baz=234						
PNL	Peninsula	6.57	52		Pn	12 46 11.4	+0.2
PNL	Peninsula	6.57	52	P	Pn	12 46 11.4	+0.2
	baz=240						
CTGM	Chitina Glacie	6.59	38		Pn	12 46 09.9	-1.7
LOGN	Logan Glacier	6.61	40		Pn	12 46 13.0	+1.1
BCPM	Bancas Point	6.61	49		Pn	12 46 12.3	+0.5
L19K	White Mountain	6.73	339	Pn	Pn	12 46 16.0	+2.6
M17K	Holitna River	6.74	326		Pn	12 46 14.6	+1.0
M17K	Holitna River	6.74	326	P	Pn	12 46 14.3	+0.7
	baz=139						
O28M	Mount Upton	6.87	42		Pn	12 46 15.7	+0.1
O28M	Mount Upton	6.87	42	P	Pn	12 46 15.7	+0.1
	baz=230						
N15K	Kwethluk River	6.92	311	Pn	Pn	12 46 18.5	+2.5
O14K	Tigyukauivet M	7.03	302	Pn	Pn	12 46 17.1	-0.4
DHY	Denali Highway	7.16	8		Pn	12 46 20.1	+0.7
L18K	Granite Mounta	7.19	333		Pn	12 46 18.6	-1.1
L18K	Granite Mounta	7.19	333	P	Pn	12 46 19.2	-0.4
	baz=146						
O29M	Mount Kennedy	7.25	49		Pn	12 46 18.8	-1.8
O29M	Mount Kennedy	7.25	49	P	Pn	12 46 20.5	-0.1
	baz=238						
P29M	Windy Craggy	7.30	55	Pn	Pn	12 46 21.6	+0.3
RND	Reindeer	7.41	3		Pn	12 46 23.2	+0.4
M27K	Edge Creek, AK	7.49	29		Pn	12 46 26.3	+2.4
CAST	Castle Rocks	7.51	352	Pn	Pn	12 46 26.0	+1.9
MENT	Mentasta	7.55	21		Pn	12 46 24.6	-0.2
S31K	Pelican	7.57	70		Pn	12 46 23.1	-1.8
S31K	Pelican	7.57	70	P	Pn	12 46 24.1	-0.8
	baz=261						
KTH	Kantishna Hill	7.58	356		Pn	12 46 24.7	-0.4
L16K	Owhat River	7.64	322	Pn	Pn	12 46 26.7	+0.8
K20K	Telida	7.68	345	Pn	Pn	12 46 26.0	-0.4
L26K	Log Cabin Wild	7.71	22		Pn	12 46 26.2	-0.6
L27K	Beaver Creek,	8.09	26	Pn	Pn	12 46 30.7	-1.3
BCAR	Beaver Creek A	8.10	26	Pn	Pn	12 46 31.2	-1.0
BPAW	Bear Paw Mtn.	8.12	356	Pn	Pn	12 46 33.4	+0.9
J18K	Innoko River	8.27	337	Pn	Pn	12 46 34.0	-0.4
S32K	Killisnoo	8.40	74	Pn	Pn	12 46 34.7	-1.6
SCRK	Sand Creek	8.46	17	Pn	Pn	12 46 37.4	+0.2
M13K	Dall Lake	8.46	307	Pn	Pn	12 46 38.5	+1.4
J20K	Nowinta River	8.48	346	Pn	Pn	12 46 37.3	0.0
N30M	Aishikik Lake	8.49	45	Pn	Pn	12 46 38.3	+0.8
HDA	Harding Lake	8.51	8	Pn	Pn	12 46 39.6	+1.7
R32K	Eaglecrest	8.52	68	Pn	Pn	12 46 38.0	0.0
J19K	Poorman	8.53	342	Pn	Pn	12 46 38.3	+0.3
O30N	Mendenhall	8.55	51	Pn	Pn	12 46 39.1	+0.7
NEA2	Nenana	8.60	2		Pn	12 46 40.3	+1.3
M29M	Somme Creek	8.60	37	Pn	Pn	12 46 40.4	+1.3
L14K	Kuka Creek	8.62	313	Pn	Pn	12 46 41.0	+1.7
CCB	Clear Creek Bu	8.69	5		Pn	12 46 42.5	+2.2
J25K	Salcha River,	8.87	12	Pn	Pn	12 46 43.9	+1.2
IL31		8.88	8		Pn	12 46 43.5	+0.8
MDM	Murphy Dome	8.99	4		Pn	12 46 44.8	+0.5
J26L	Joseph Creek	9.01	17	Pn	Pn	12 46 46.4	+1.6
N31M	Braeburn, Yuko	9.03	47	Pn	Pn	12 46 45.8	+0.8
WHY	Whitehorse	9.03	53		Pn	12 46 44.5	-0.6
I23K	Minto, Yukon-K	9.15	1	Pn	Pn	12 46 48.6	+2.0
L29M	L29M	9.18	35		Pn	12 46 49.0	+1.9
H21K	Melozitna Rive	9.78	352	Pn	Pn	12 46 56.5	+1.3
P33M	Teslin, Yukon	9.82	58	Pn	Pn	12 46 55.8	-0.1
K29M	Barlow Dome	9.90	33		Pn	12 46 58.6	+1.6
G23K	Bananza Creek	10.72	359	Pn	Pn	12 47 09.4	+1.3
FYU	Fort Yukon	10.78	9	Pn	Pn	12 47 06.8	-2.0
J30M	Hart River	10.79	32	Pn	Pn	12 47 11.3	+2.2
F20K	Avaraart Lake	11.42	348	Pn	Pn	12 47 19.5	+1.9

*NEIC **31** 12:46:09.5±1.4, 38°.24S±0°.04×72°.7W±0°.1, h68km±9km, mb4.5/4, ML4.0(GUC), Error ellipse: s-maj=11.6km s-min=5.0km az=85.0*
*GUC **31** 12:46:11.3±0.6, 38°.22S×72°.46W, h60km±6km, ML4.0*

ISC 31 12:46:10.1±0.9, 38°.21S±0°.06×72°.59W±0°.07, h66km, n55, σt 23/57, 2C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LC02	Puerto Saavedr	0.85	227		Pn	12 46 22.9	-3.7
LC02	Puerto Saavedr	0.85	227	eP	Pn	12 46 28.5	+2.0
LC02				eS	Sn	12 46 42.8	+4.1
LC02				IAML		12 46 45.3	
	comp=N,10μm,0.4s						
LC02				⇓e		12 46 55.9	
BI04	Isla Mocha	1.04	259	eP	Pn	12 46 30.7	+1.8
LR03	Panguipulli	1.43	172		Pn	12 46 33.5	-0.6
LR03	Panguipulli	1.43	172	eP	Pn	12 46 34.5	+0.5
LR03				IAML		12 46 57.8	
	comp=E,3μm,0.3s						
GO06	Curarrehue	1.62	148		Pn	12 46 37.2	+0.5
GO06	Curarrehue	1.62	148	⇑eP	Pn	12 46 37.2	+0.5
GO06				eS	Sn	12 46 57.0	+0.2
LR04	Corral	1.79	201	Pn	Pn	12 46 39.9	+1.0
LR04	Corral	1.79	201	eP	Pn	12 46 40.0	+1.1
LR04				IAML		12 47 11.2	
	comp=E,2μm,0.3s						
BI02	San Fabin de	1.87	34	Pn	Pn	12 46 41.8	+1.8
LR05	Currie	2.06	167		Pn	12 46 42.0	-0.5
LR05	Currie	2.06	167	eP	Pn	12 46 43.1	+0.6
LR05				IAML		12 47 11.4	
	comp=E,2μm,1.0s						
ML02	Panimavida	2.62	21		Pn	12 46 51.8	+1.7
ML02	Panimavida	2.62	21	eP	Pn	12 46 50.9	+0.7
LL04	Puerto Octay	2.70	177	Pn	Pn	12 46 50.1	-1.0
LL03	Petrohue	2.92	177		Pn	12 46 52.8	-1.5
PLCA	Paso Flores	2.97	149		Pn	12 46 55.8	+0.9
GO05	Huala	3.24	10		Pn	12 46 57.6	-1.0
GO05	Huala	3.24	10	eP	Pn	12 46 59.7	+1.0
GO05				IAML		12 47 50.4	
	comp=E,779nm,0.2s						
LL05	Los Muermos	3.26	192	Pn	Pn	12 46 55.5	-3.3
BO02	Sierra Bellavi	3.71	24	eP	Pn	12 47 06.5	+1.4
BO01	Tunca	4.00	18		Pn	12 47 09.0	0.0
LL06	Loncomilla	4.08	191	Pn	Pn	12 47 08.0	-1.9
LL01	San Ignacio de	4.16	178		Pn	12 47 10.8	-0.3
MT01	Popeta	4.47	14		Pn	12 47 15.9	+0.5
MT01	Popeta	4.47	14	eP	Pn	12 47 15.9	+0.5
BO04	La Punta	4.51	21		Pn	12 47 16.6	+0.6
BO04	La Punta	4.51	21	eP	Pn	12 47 16.3	+0.4
MT09	Talagante	4.61	17		Pn	12 47 17.5	0.0
VA05	Santo Domingo	4.62	10	Pn	Pn	12 47 16.8	-0.5
LL07	Hotel Espejo d	4.66	188	Pn	Pn	12 47 17.8	-0.2
LMEL	Las Melosas	4.77	25		Pn	12 47 19.9	+0.3
MT13	San Alfonso	4.83	23		Pn	12 47 20.5	0.0
GO07	Milladeo Hill,	4.96	189	Pn	Pn	12 47 21.3	-0.8
MT03	Universidad Ad	5.00	20	Pn	Pn	12 47 22.6	-0.1
LL02	Futaleuf	5.00	174		Pn	12 47 20.9	-1.7
MT05	Renca	5.04	18	Pn	Pn	12 47 22.7	-0.6
MT16	CCHEN	5.06	20	Pn	Pn	12 47 23.6	+0.1
MT02	Curacav	5.08	14		Pn	12 47 23.6	-0.2
MT02	Curacav	5.08	14	⇑eP	Pn	12 47 23.3	-0.4
MT08	Bocatoma Ro	5.20	24	Pn	Pn	12 47 24.8	-0.7
VA01	Torpederas	5.24	9	Pn	Pn	12 47 25.8	0.0
VA03	San Esteban	5.69	18		Pn	12 47 32.4	+0.2
VA06	Catapilco	5.74	11	Pn	Pn	12 47 33.0	+0.3
CO03	El Pedregal	7.52	13	Pn	Pn	12 47 57.3	+0.1
CO06	Fray Jorge	7.56	6	Pn	Pn	12 47 57.3	-0.4
GO04	Tololo Observa	8.16	11	Pn	Pn	12 48 05.3	-0.7
TRQA	Tornquist	8.36	92	Pn	Pn	12 48 09.0	+0.4
CO01	Juntas del Tor	8.47	15	Pn	Pn	12 48 10.8	+0.4
AC05	El Transito	9.55	12	Pn	Pn	12 48 24.2	-0.8
AC04	Llanos de Chal	10.06	8	Pn	Pn	12 48 31.3	-0.6
EFI	East Falkland	16.89	147		Pn	12 50 01.9	-0.1
LPAZ	La Paz	22.19	11	P	P	12 51 00.8	-0.8
SNAA	Sanae	47.88	156	P	P	12 54 41.5	+0.4
SNAA				IAmb	IAmb	12 54 42.9	
	comp=Z,7.3nm,1.4s						
QSPA	South Pole Qui	52.03	180	P	P	12 55 11.4	-1.4
QSPA				IAmb	IAmb	12 55 31.9	
	comp=Z,7.3nm,1.4s						

IDC 31 13:03:05.7±2.5, 6°.89S×129°.40E, h0km, mb3.3/1, mbtmp3.3/3, ML2.7/2, Error ellipse: s-maj=154.7km s-min=33.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.84	160	Pn	Pn	13 06 22.6	-0.6
	baz=342,slow=13,SNR=1.7						
WRA				Sn	Sn	13 08 54.0	-3.7
	0.1nm,0.3s,baz=345,slow=26,SNR=6.8 0.7nm,1.1s						
ASAR	Alice Springs	17.23	166	P	Pn	13 07 08.4	+0.4
	0.1nm,0.3s,baz=356,slow=11,SNR=7.4 0.5nm,0.7s						
MKAR	Makanchi Array	67.81	327	P	P	13 14 05.6	0.0
	0.2nm,0.5s,baz=140,slow=7.0,SNR=2.1 0.2nm,0.5s						

*SJA **31** 13:38:29.8±0.7, 21°.33S×66°.75W, h241km±5km, ML3.9, MW3.8*
*SCB **31** 13:38:30.6±1.3, 21°.51S×66°.66W, h238km±10km, ML3.6/2, MW3.8, Error ellipse: s-maj=6.2km s-min=5.2km az=0.0*
*NEIC **31** 13:38:31.7±0.5, 21°.41S±0°.09×66°.79W±0°.10, h231km±13km, mb4.2/6, Error ellipse: s-maj=15.6km s-min=9.5km az=129.0*
*IDC **31** 13:38:32.4±1.2, 21°.23S×66°.74W, h228km±17km, mb3.5/2, mbtmp4.0/7, Error ellipse: s-maj=28.2km s-min=12.8km az=111.0*

ISC 31 13:38:30.9±0.7, 21°.39S±0°.04×66°.78W±0°.04, h232km±7km, n73, σt 34/88, mb4.0/3, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	Mochara	1.07	83	Pg	Pn	13 39 06.0	+1.0
MOCB				Sg	S	13 39 30.9	-0.6
MOCB				IAML		13 39 32.2	
	375nm,0.4s						
YJA	Yavi	1.41	124	eP	Pn	13 39 08.2	+0.9
YJA				eS	S	13 39 36.1	+0.4
LVC	Limon Verde	2.32	238		Pn	13 39 16.0	+0.6
LVC	Limon Verde	2.32	238	eP	Pn	13 39 16.3	+1.0
LVC				eS	S	13 39 49.9	-0.3
LVC	Limon Verde	2.32	238	P	Pn	13 39 16.3	+1.0
	57nm,0.5s,baz=42,slow=6.8,SNR=102						
LVC				S	S	13 39 49.3	-0.9
	48nm,0.4s,baz=102,slow=20,SNR=20						
PB09	IPOC Station P	2.33	260		Pn	13 39 16.1	+0.8
PB09	IPOC Station P	2.33	260	eP	Pn	13 39 15.4	+0.2
PB09				eS	S	13 39 51.9	+2.0
PB09	IPOC Station P	2.33	260	Pg	Pn	13 39 16.5	+1.3
PB01	IPOC Station P	2.55	277	Pn	Pn	13 39 17.9	+0.4
GO01	Chusmiza	2.84	307		Pn	13 39 22.0	+1.0
GO01	Chusmiza	2.84	307	eP	Pn	13 39 22.6	+1.5
GO01	Chusmiza	2.84	307	Pg	Pn	13 39 22.7	+1.7
PB06	IPOC Station P	2.90	243	Pn	Pn	13 39 21.5	+0.2
PB06	IPOC Station P	2.90	243	eP	Pn	13 39 22.3	+0.9
PB06				eS	S	13 40 00.6	-0.3
PB06				IAML		13 40 01.9	
	comp=Z,160nm,0.2s						
SOEO	Opoqueri	3.00	340	Pg	Pn	13 39 25.4	+2.6
PB15	IPOC Station P	3.08	234		Pn	13 39 23.9	+0.6
PB15	IPOC Station P	3.08	234	eP	Pn	13 39 24.2	+0.8
PB15				eS	S	13 40 04.2	-0.3
PB15	IPOC Station P	3.08	234	Pg	Pn	13 39 24.2	+0.8
AZAP	Zapla	3.23	151	eP	Pn	13 39 25.8	+0.7
AZAP				eS	S	13 40 07.0	-0.8
AZAP				IAML		13 40 12.2	
	comp=Z,76nm,0.4s						
PB04	IPOC Station P	3.27	253	Pn	Pn	13 39 25.9	+0.5
PB04	IPOC Station P	3.27	253	eP	Pn	13 39 25.6	+0.1
PB04				eS	S	13 40 06.7	-1.6
PB04				IAML		13 40 10.7	
	comp=Z,156nm,0.3s						
TA01	Diego Aracena	3.28	284	Pn	Pn	13 39 25.3	-0.1
TA01	Diego Aracena	3.28	284	eP	Pn	13 39 25.6	+0.1
TA01				eS	S	13 40 06.5	-1.8
TA01				IAML		13 40 07.7	
	comp=Z,74nm,0.2s						
TA02	Huaiquique	3.33	289	Pn	Pn	13 39 26.2	+0.2
TA02	Huaiquique	3.33	289	eP	Pn	13 39 26.8	+0.8
TA02				eS	S	13 40 07.5	-1.8
TA02				IAML		13 40 09.2	
	comp=Z,404nm,0.1s						
SOET	ToroToro	3.38	16	Pg	Pn	13 39 28.6	+1.5
PB05	IPOC Station P	3.49	245		Pn	13 39 28.4	+0.4
PB05	IPOC Station P	3.49	245	eP	Pn	13 39 28.0	0.0
PB05				eS	S	13 40 10.9	-2.0
PB05				IAML		13 40 17.2	
	comp=Z,124nm,0.5s						
AOEA	Aiquile	3.51	25	Pg	Pn	13 39 29.5	+1.0
AOEA	Aiquile	3.51	25	Pg	Pn	13 39 30.1	+1.6
AOEA				Sg	S	13 40 14.1	+0.4
AOEA				IAML		13 40 15.1	
	comp=Z,50nm,0.7s						
SLA	San Lorenzo	3.52	161	eP	Pn	13 39 30.1	+1.8
ALOL	LOMAS DE OLMED	3.54	134	eP	Pn	13 39 28.3	-0.1
GO02	Mina Guanaco	4.56	214		Pn	13 39 41.3	+0.4
GO02	Mina Guanaco	4.56	214	eP	Pn	13 39 41.6	+0.7
GO02				eS	S	13 40 34.2	-2.1
SOEJ	Jacaque	4.59	343	Pg	Pn	13 39 44.9	+3.2
PB14	IPOC Station P	4.64	225		Pn	13 39 42.0	0.0
PB14	IPOC Station P	4.64	225	eP	Pn	13 39 42.4	+0.4
PB14				eS	S	13 40 22.4	-16
PB14				IAML		13 40 37.2	
	comp=Z,163nm,0.2s						
BBOE	La Paz, Chanca	4.69	346	Pg	Pn	13 39 46.0	+3.0
BBOD	La Paz, Gloria	5.03	340	Pg	Pn	13 39 49.9	+2.8
LPAZ	La Paz	5.23	346		Pn	13 39 50.4	+0.6
LPAZ	La Paz	5.23	346	eP	Pn	13 39 52.0	+2.3
LPAZ	La Paz	5.23	346	P	Pn	13 39 51.1	+1.4
	comp=Z,15nm,0.4s,baz=145,slow=8.6,SNR=62						
LPAZ				S	S	13 40 50.5	-1.7
	comp=Z,9.5nm,0.8s,baz=158,slow=19,SNR=5.1						
LPAZ	La Paz	5.23	346	Pg	Pn	13 39 51.8	+2.1
AC01	Pan de Azucar	5.89	216	Pn	Pn	13 39 56.5	-0.7
AC06	Mina Casimiro	6.78	208	Pn	Pn	13 40 06.6	-1.9
GO03	Copiap	6.93	206	Pn	Pn	13 40 09.1	-1.4
BBSD	Serra de San D	7.17	55	Pg	Pn	13 40 13.4	-0.2
SIV	San Ignacio	7.62	46	P	Pn	13 40 18.9	-0.5
	comp=Z,6.7nm,0.6s,baz=225,slow=12,SNR=29						
SIV				S	S	13 41 34.2	-12
	comp=Z,2.0nm,0.6s,baz=248,slow=13,SNR=3.5						
SIV	San Ignacio	7.62	46	Pg	Pn	13 40 19.2	-0.2
AC04	Llanos de Chal	7.83	209	Pn	Pn	13 40 19.5	-2.4
AC05	El Transito	8.06	202	Pn	Pn	13 40 23.7	-1.4
LCO	Las Campanas	8.38	204	Pn	Pn	13 40 27.5	-1.7
MURT	Porto Murtinho	8.54	93	Pg	Pn	13 40 30.8	-0.3
CO01	Juntas del Tor	9.06	199	Pn	Pn	13 40 37.6	-0.3
ETMB	Extrema	11.52	3	Pn	Pn	13 41 09.6	+0.6
VA03	San Esteban	11.81	196	Pn	Pn	13 41 12.0	-0.7
MT02	Curacav	12.44	197	Pn	Pn	13 41 20.5	+0.2
SAML	Samuel	12.85	16	Pn	P	13 41 26.2	-1.8
MT09	Talagante	12.89	196	Pn	Pn	13 41 26.2	+0.1
MT01	Popeta	13.04	197	Pn	Pn	13 41 28.1	+0.3
BO01	Tunca	13.50	195		P	13 41 36.3	+1.2
BO02	Sierra Bellavi	13.81	194	P	P	13 41 39.0	+0.4
TRQA	Tornquist	17.12	167	P	P	13 42 14.4	-0.6
TRQA				IAmb	IAmb	13 42 15.6	
	comp=Z,23nm,1.4s						
VAO	Valinhos	18.42	99	P	Pn	13 42 29.8	-2.6
GO06	Curarrehue	18.57	191	P	P	13 42 32.0	+1.1
GO06				IAmb	IAmb	13 42 33.8	
	comp=Z,7.8nm,0.7s						
BDFB	Brasilia	18.68	75	P	Pn	13 42 33.9	-1.8
	comp=Z,3.0nm,0.5s,baz=253,slow=5.4,SNR=4.6						
PLCA	Paso Flores	19.55	189	P	Pn	13 42 45.3	-0.2
	comp=Z,1.4nm,0.4s,baz=352,slow=10,SNR=11						
QSPA	South Pole Qui	68.80	180	P	P	13 49 12.2	+2.2
QSPA				IAmb	IAmb	13 49 51.4	
	comp=Z,5.7nm,1.4s						
QSPA	South Pole Qui	68.80	180	P	P	13 49 13.0	+3.0
	comp=Z,0.4nm,0.5s,baz=135,slow=8.6,SNR=11						
	comp=Z,0.4nm,0.5s						
TOA0	Torodi Ar. Sit	75.45	69	P	P	13 49 50.1	+0.1
TOA0				IAmb	IAmb	13 49 51.6	
	comp=Z,2.5nm,0.7s						
TORD	Torodi Ar. Bea	75.45	69	P	P	13 49 50.2	+0.2
TORD	Torodi Ar. Bea	75.45	69	P	P	13 49 50.8	+0.8
	comp=Z,1.8nm,0.6s,baz=249,slow=3.7,SNR=14						
	comp=Z,1.8nm,0.6s						
MKAR	Makanchi Array	144.36	37	PKP	PKPdf	13 57

	baz=21						
TWF1	**Yuli**	**0.85**	**58**	P	Pn	13 41 36.9	-0.2
	baz=58						
TWF1				S	Sn	13 41 48.9	-0.6
	baz=58						
EYUL	**Yuli**	**0.87**	**59**	P	Pb	13 41 36.8	+0.4
	baz=59						
EYUL				S	Sn	13 41 49.1	-0.7
	baz=59						
YULB	**Yu-li**	**0.87**	**56**	*e*P	Pn	13 41 37.4	-0.1
	baz=56						
YULB				*e*S	Sb	13 41 48.9	+0.8
	baz=56						
HGSD	**Ruisui**	**1.03**	**55**	*e*S	Sn	13 41 55.7	+2.0
	baz=55						
WARBT	**Fenglin Townsh**	**1.14**	**45**	*e*P	Pb	13 41 41.0	-0.1
	baz=44						
WARBT				*e*S	Sn	13 41 57.2	+0.6
	baz=44						
WUSB	**Renai**	**1.22**	**27**	*i* P	Pn	13 41 42.2	-0.1
	baz=27						
WUSB				*e*S	Sb	13 41 57.7	-0.4
	baz=27						

TAP 31 13:41:19.2, 22.°22N×120.°88E, h20km, ML1.7, 1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLIU	**Shizi**	**0.08**	**269**	*e*P	Pg	13 41 22.3	-0.6
	baz=268						
SLIU				*e*S	Sg	13 41 23.8	-1.7
	baz=268						
TAWH	**Dawu Township**	**0.12**	**3**	*i* P	Pg	13 41 23.8	+0.5
	baz=5.0						
TAWH				*e*S	Sg	13 41 26.4	+0.3
	baz=5.0						
TAW	**Tawu**	**0.14**	**6**	P	Pg	13 41 24.2	+0.6
	baz=1.0						
TAW				*e*S	Sg	13 41 27.1	+0.6
	baz=1.0						
EAST	**Anshuo**	**0.17**	**349**	⇓P	Pg	13 41 24.6	+0.6
	baz=353						
EAST				*e*S	Sg	13 41 28.9	+1.7
	baz=353						
SMST	**Manzhou Townsh**	**0.20**	**192**	*i* P	Pg	13 41 24.6	+0.2
	baz=191						
SMST				S	Sg	13 41 28.6	+0.7
	baz=191						
HEN	**Hengchun**	**0.25**	**212**	*e*P	Pg	13 41 26.0	+0.9
	baz=210						
HEN				*i* S	Sg	13 41 30.1	+1.1
	baz=210						
TWK1	**Hengchun**	**0.28**	**194**	P	Pb	13 41 25.2	-0.3
	baz=192						
TWK1				S	Sg	13 41 30.8	+0.8
	baz=192						
TWKBT	**Hengchun**	**0.28**	**193**	P	Pg	13 41 26.1	+0.5
	baz=192						
TWKBT				*i* S	Sg	13 41 31.0	+1.0
	baz=192						
SCZT	**Fangliau**	**0.29**	**302**	*e*P	Pb	13 41 26.6	+0.9
	baz=303						
SCZT				*i* S	Sg	13 41 31.1	+1.0
	baz=303						
ECL	**Taimali**	**0.38**	**10**	*e*P	Pb	13 41 28.5	+1.1
	baz=10.0						
ECL				*e*S	Sn	13 41 35.3	-1.2
	baz=10.0						
ECL	**Taimali**	**0.38**	**10**	*e*P	Pb	13 41 28.4	+1.0
	baz=126						
TWGBT	**Beinan**	**0.62**	**17**	P	Pb	13 41 30.9	-0.6
	baz=33						
TWGBT				S	Sg	13 41 40.6	+0.5
	baz=33						
TWGBT	**Beinan**	**0.62**	**17**	*i* P	Pb	13 41 30.6	-0.9
	baz=99						
TWGBT				*e*S	Sg	13 41 40.3	+0.2
	baz=99						
TWG	**Pinlang**	**0.62**	**16**	P	Pb	13 41 31.1	-0.4
	baz=33						
TWG				S	Sg	13 41 41.0	+0.8
	baz=33						
TWG	**Pinlang**	**0.62**	**16**	*i* P	Pb	13 41 30.6	-0.9
	baz=99						
LYUB	**Lan-yu**	**0.69**	**108**	*e*P	Pb	13 41 30.7	-1.8
	baz=94						
LYUB				*e*S	Sg	13 41 42.8	+0.8
	baz=94						
LDUT	**Ludao**	**0.71**	**50**	*e*P	Pg	13 41 33.6	+0.4
	baz=42						
LDUT				*e*S	Sn	13 41 44.2	-0.3
	baz=42						
LONT	**Longtian**	**0.72**	**19**	*e*P	Pb	13 41 31.4	-1.7
	baz=33						
LONT				*e*S	Sg	13 41 43.4	+0.2
	baz=33						
LONT	**Longtian**	**0.72**	**19**	*i* P	Pb	13 41 31.5	-1.7
	baz=89						
EDH	**Donghe**	**0.85**	**27**	*i* P	Pb	13 41 34.6	-0.6
	baz=31						
EDH				*e*S	Sn	13 41 48.0	+0.1
	baz=31						
EDH	**Donghe**	**0.85**	**27**	*e*P	Pb	13 41 34.9	-0.3
	baz=84						
FULB	**Fuli**	**1.05**	**21**	*e*P	Pb	13 41 36.4	-2.4
	baz=36						
HGSD	**Ruisui**	**1.36**	**21**	*e*P	Pn	13 41 41.4	-1.8
	baz=42						
HGSD	**Ruisui**	**1.36**	**21**	*e*P	Pn	13 41 41.0	-2.1
	baz=55						

AFAD 31 13:41:20.1±0.0, 37.°58N×38.°49E, h7km±4km, ML1.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.19**	**234**	P	Pg	13 41 24.2	+0.2
ATAB				*i* AML	AML	13 41 27.0	
	comp=N,359nm,0.1s						
ATAB				*i* AML	AML	13 41 27.0	
	comp=E,810nm,0.1s						
ATAB				S	Sg	13 41 27.1	+0.6
AZEY	**Adyaman-Merk**	**0.30**	**321**	P	Pg	13 41 26.3	+0.3
AZEY				S	Sg	13 41 30.8	+0.9
AZEY				*i* AML	AML	13 41 32.0	
	comp=N,52nm,0.2s						
AZEY				*i* AML	AML	13 41 32.0	
	comp=E,66nm,0.6s						
HANM	**anlurfa/Hi**	**0.31**	**90**	P	Pg	13 41 26.5	+0.2
HANM				*i* AML	AML	13 41 31.0	
	comp=N,139nm,0.3s						
HANM				*i* AML	AML	13 41 31.0	
	comp=E,40nm,0.5s						
HANM				S	Sg	13 41 31.2	+0.8
NARI	**Adyaman-Kaht**	**0.37**	**36**	P	Pg	13 41 27.5	+0.1
NARI				S	Sg	13 41 32.7	+0.4
NARI				*i* AML	AML	13 41 33.0	
	comp=E,26nm,0.2s						
NARI				*i* AML	AML	13 41 36.0	
	comp=N,28nm,0.4s						
AKCA	**Adyaman/G¶l**	**0.67**	**289**	P	Pg	13 41 32.3	-0.7
AKCA				S	Sb	13 41 43.6	-0.1
AKCA				*i* AML	AML	13 41 47.0	
	comp=E,25nm,0.3s						
AKCA				*i* AML	AML	13 41 50.0	
	comp=N,32nm,0.5s						
SURC	**SANLIURFA_SURC**	**0.71**	**172**	P	Pg	13 41 34.2	+0.5
SURC				S	Sb	13 41 44.6	-0.2
SURC				*i* AML	AML	13 41 47.0	
	comp=N,13nm,0.4s						
SURC				*i* AML	AML	13 41 50.0	
	comp=E,24nm,0.3s						
GZT	**Gaziantep**	**0.77**	**253**	P	Pb	13 41 35.8	-0.1
GZT				S	Sn	13 41 48.5	-0.9
GZT				*i* AML	AML	13 41 49.0	
	comp=N,30nm,0.4s						
GZT				*i* AML	AML	13 41 49.0	
	comp=E,36nm,0.5s						
NZIP	**Nizip/Gaziante**	**0.84**	**231**	P	Pn	13 41 38.0	-0.4
NZIP				S	Sb	13 41 49.8	+1.2
NZIP				*i* AML	AML	13 41 51.0	
	comp=N,32nm,0.4s						
NZIP				*i* AML	AML	13 41 51.0	
	comp=E,42nm,0.3s						
ELZG	**Elazig**	**0.99**	**23**	P	Pb	13 41 39.5	-0.3
ELZG				S	Sb	13 41 54.1	+0.9
ELZG				*i* AML	AML	13 41 58.0	
	comp=N,11nm,0.3s						
ELZG				*i* AML	AML	13 41 58.0	
	comp=E,26nm,0.4s						
ELBS	**KAHRAMANMARAS**	**1.30**	**305**	S	Sn	13 42 05.9	+3.4

ISK 31 13:41:59.4, 38.°28N×37.°10E, h4km, ML2.1/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	**Darende-Malaty**	**0.42**	**45**	Pg	Pg	13 42 08.3	+0.8
DARE				Sg	Sg	13 42 14.6	+1.6
SARI	**SarD1z-Kayseri**	**0.56**	**284**	Pg	Pg	13 42 10.6	+0.5
SARI				Sg	Sb	13 42 19.2	-1.0
KMRS	**Kahramanmaras**	**0.79**	**192**	Pg	Pb	13 42 15.1	-0.6
KOZT	**Kozan**	**1.29**	**232**	Pn	Pb	13 42 24.6	+0.4
PTK	**Pertek**	**1.90**	**70**	Pn	Pn	13 42 33.5	+0.8

SJA ***31*** *13:44:01.6±0.9, 28.°83S×71.°43W, h45km±13km, ML3.7, MW3.8*
GUC ***31*** *13:44:03.3±0.8, 28.°97S×71.°35W, h46km±8km, ML3.7*
ISC 31 13:44:01.0±1.4, 28.°87S±0.°03×71.°55W±0.°06, h17km±9km, n33, σ1°20/50, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.76**	**101**	*i* P	**Pg**	**13 44 16.0**	**+0.2**
LCO				*i* S	**Sg**	**13 44 26.1**	**+0.2**
LCO				IAML		13 44 26.1	
	comp=Z,9μm,0.2s						
LCO	**Las Campanas**	**0.76**	**101**	*e*P	**Pg**	**13 44 15.1**	**-0.7**
LCO				*i* S	**Sg**	**13 44 24.4**	**-1.5**
AC04	**Llanos de Chal**	**0.79**	**32**	*i* P	**Pg**	**13 44 18.1**	**+1.8**
AC04				IAML		13 44 31.5	
	comp=Z,4μm,0.2s						
AC04	**Llanos de Chal**	**0.79**	**32**	⇑*i* P	**Pg**	**13 44 18.2**	**+1.8**
AC04				IAML		13 44 30.1	
	comp=E,6μm,0.2s						
CO05	**La Serena**	**1.08**	**166**	*e*P	**Pg**	**13 44 21.4**	**-0.5**
CO05				*e*S	**Sg**	**13 44 34.2**	**-1.8**
CO05				IAML		13 44 36.5	
	comp=N,3μm,0.3s						
GO04	**Tololo Observa**	**1.45**	**153**	*i* P	**Pn**	**13 44 27.0**	**+0.3**
GO04				*i* S	**Sb**	**13 44 45.9**	**-0.1**
GO04	**Tololo Observa**	**1.45**	**153**	⇑*i* P	**Pn**	**13 44 26.7**	**0.0**
GO04				IAML		13 44 45.4	
	comp=E,4μm,0.3s						
CO01	**Juntas del Tor**	**1.68**	**131**	*i* P	**Pn**	**13 44 30.2**	**+0.3**
CO01				IAML		13 44 50.2	
	comp=Z,2μm,0.2s						
CO01				*i* S	**Sn**	**13 44 50.4**	**-0.8**
CO01	**Juntas del Tor**	**1.68**	**131**	*e*P	**Pn**	**13 44 29.8**	**-0.1**
CO01				*i* S	**Sn**	**13 44 49.6**	**-1.5**
CO01				IAML		13 44 50.4	
	comp=N,3μm,0.2s						
GO03	**Copiap**	**1.72**	**43**	*i* P	**Pn**	**13 44 29.6**	**-0.7**
GO03				*i* S	**Sn**	**13 44 50.1**	**-1.8**
GO03	**Copiap**	**1.72**	**43**	⇑*e*P	**Pn**	**13 44 30.3**	**0.0**
GO03				IAML		13 44 56.0	
	comp=E,1μm,0.4s						
CO06	**Fray Jorge**	**1.80**	**182**	*e*P	**Pn**	**13 44 31.6**	**+0.3**
CO06				*i* S	**Sn**	**13 44 52.3**	**-1.4**
CO06				IAML		13 44 59.5	
	comp=E,736nm,0.2s						
AC06	**Mina Casimiro**	**1.84**	**35**	*e*P	**Pn**	**13 44 32.5**	**+0.6**
AC06				*i* S	**Sn**	**13 44 53.8**	**-1.0**
AC06				IAML		13 44 56.7	
	comp=E,765nm,0.1s						
CO03	**El Pedregal**	**2.10**	**159**	*i* P	**Pn**	**13 44 36.0**	**+0.5**
CO03				*i* S	**Sn**	**13 45 01.6**	**+0.4**
CO03				IAML		13 45 16.8	
	comp=Z,377nm,0.3s						
CO03	**El Pedregal**	**2.10**	**159**	*e*P	**Pn**	**13 44 36.0**	**+0.5**
CO03				IAML		13 45 03.7	
	comp=E,781nm,0.4s						
AROD	**Rodeo**	**2.22**	**126**	*i* P	**Pn**	**13 44 38.9**	**+1.5**
AROD				*i* S	**Sn**	**13 45 04.7**	**+0.1**
CO02	**Combarbal**	**2.37**	**169**	*i* P	**Pn**	**13 44 39.5**	**+0.3**
CO02				*i* S	**Sn**	**13 45 09.0**	**+0.9**
CO02				IAML		13 45 20.6	
	comp=Z,613nm,0.3s						
CO02	**Combarbal**	**2.37**	**169**	*e*P	**Pn**	**13 44 39.6**	**+0.3**
ACDV	**Cuesta del Vie**	**2.48**	**122**	*i* P	**Pn**	**13 44 42.6**	**+1.8**
ACDV				IAML		13 45 19.1	
	comp=Z,256nm,0.6s						
ACCO	**Cerro Coronel**	**2.75**	**129**	*i* P	**Pn**	**13 44 46.8**	**+2.0**
ACCO				*i* S	**Sn**	**13 45 18.1**	**+0.3**
ACCO				IAML		13 45 23.8	
	comp=Z,236nm,0.5s						
AC01	**Pan de Azucar**	**2.84**	**17**	*i* P	**Pn**	**13 44 45.3**	**-0.3**
AC01				IAML		13 45 34.2	
	comp=Z,222nm,0.5s						
AC01	**Pan de Azucar**	**2.84**	**17**	⇑*i* P	**Pn**	**13 44 45.1**	**-0.5**
VCA	**Vinchina**	**2.94**	**88**	*i* P	**Pn**	**13 44 49.7**	**+2.6**
VCA				IAML		13 45 34.0	
	comp=Z,155nm,0.2s						
DOCA	**Reserva Natura**	**2.98**	**135**	*i* P	**Pn**	**13 44 49.2**	**+1.3**
DOCA				IAML		13 45 37.8	
	comp=Z,437nm,0.6s						
RTLS	**Leoncito**	**3.51**	**147**	*i* P	**Pn**	**13 44 57.8**	**+2.8**
RTLS				*i* S	**Sn**	**13 45 37.5**	**+1.2**
RTLS				IAML		13 45 53.5	
	comp=Z,443nm,0.5s						
VA03	**San Esteban**	**3.97**	**168**	*i* P	**Pn**	**13 45 02.0**	**+0.8**
VA03				IAML		13 46 09.5	
	comp=Z,112nm,0.3s						
AVFE	**Valle Fertil**	**3.98**	**118**	*i* P	**Pn**	**13 45 02.6**	**+1.3**
AVFE				*i* S	**Sn**	**13 45 46.2**	**-1.4**
AVFE				IAML		13 46 10.0	
	comp=Z,114nm,0.7s						
ACLC	**CERRO LA CRUZ**	**4.06**	**99**	*i* P	**Pn**	**13 45 03.1**	**+0.6**
ACLC				*i* S	**Sn**	**13 45 48.1**	**-1.7**
ACLC				IAML		13 45 48.4	
	comp=Z,54nm,0.5s						
GO02	**Mina Guanaco**	**4.09**	**26**	*i* P	**Pn**	**13 45 03.1**	**0.0**
ASAL	**Salagasta**	**4.38**	**148**	*i* P	**Pn**	**13 45 08.5**	**+1.6**
ASAL				IAML		13 46 26.1	
	comp=Z,55nm,1.0s						
ACHE	**Chepes**	**4.81**	**120**	*i* P	**Pn**	**13 45 13.5**	**+0.6**
CYA	**Choya**	**5.07**	**87**	*i* P	**Pn**	**13 45 16.2**	**0.0**
CYA				IAML		13 46 46.0	
	comp=Z,11nm,1.2s						
LMEL	**Las Melosas**	**5.09**	**167**	*e*P	**Pn**	**13 45 18.3**	**+1.6**
LMEL				*i* S	**Sn**	**13 46 15.3**	**+0.1**

IDC ***31*** *13:46:44.2±0.9, 17.°49N×94.°08W, h142km±10km, mb3.2/5, mbtmp3.7/6, Error ellipse: s-maj=34.2km s-min=14.6km az=173.0*
MEX ***31*** *13:46:45.2±1.1, 17.°22N×94.°27W, h166km±7km, MD4.2*
ISC 31 13:46:44.2±0.8, 17.°25N±0.°05×94.°22W±0.°04, h160km±6km, n28, σ1°80/49, mb3.3/5, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UXUV	**UXUV**	**0.10**	**47**	*i* P	**Pn**	**13 47 06.2**	**+0.7**
UXUV				*i* S	**Sn**	**13 47 21.3**	**-0.4**
CMIG	**Matias Romero**	**0.66**	**256**	P	**Pn**	**13 47 07.9**	**+0.5**
	876nm,0.3s,baz=73,slow=6.2,SNR=2358						
CMIG				S	**Sn**	**13 47 24.9**	**-0.3**
	468nm,0.4s,baz=331,slow=19,SNR=61						
CMIG	**Matias Romero**	**0.66**	**256**	*i* P	**Pn**	**13 47 08.1**	**+0.6**
CMIG				*e*S	**Sn**	**13 47 25.1**	**-0.1**
NILT	**Santiago Nilte**	**0.78**	**209**	*i* P	**Pn**	**13 47 09.0**	**+0.7**
NILT				*i* S	**Sn**	**13 47 27.4**	**+0.7**
CARR	**Arriaga**	**1.04**	**164**	*i* P	**Pn**	**13 47 11.4**	**+1.2**
CARR				*i* S	**Sn**	**13 47 30.6**	**+0.4**
TGIG		**1.15**	**114**	*i* P	**Pn**	**13 47 11.5**	**+0.3**
PMUV	**Sontecomapan**	**1.55**	**326**	*i* P	**Pn**	**13 47 15.4**	**+0.4**
PMUV				*e*S	**Sn**	**13 47 38.0**	**-0.9**
NEUV	**Arroyo Zacate**	**1.58**	**287**	*e*P	**Pn**	**13 47 15.2**	**0.0**
NEUV				*e*S	**Sn**	**13 47 37.9**	**-1.3**
PCIG		**1.81**	**148**	*e*P	**Pn**	**13 47 18.4**	**+0.6**
PCIG				*e*S	**Sn**	**13 47 43.1**	**-0.6**
CCIG	**Comitan**	**2.22**	**116**	*e*P	**Pn**	**13 47 22.2**	**-0.4**
CCIG				*e*S	**Sn**	**13 47 51.4**	**-0.7**
HUIG	**Huatulco**	**2.34**	**231**	*i* P	**Pn**	**13 47 22.1**	**-1.8**
HUIG				*e*S	**Sn**	**13 47 53.0**	**-1.5**
OXBJ	**Oaxaca**	**2.40**	**266**	*e*P	**Pn**	**13 47 26.7**	**+1.9**
OXBJ				*e*S	**Sn**	**13 47 57.4**	**+1.2**
VHO	**Vista Hermosa**	**2.41**	**266**	*e*P	**Pn**	**13 47 26.1**	**+1.2**
VHO				*e*S	**Sn**	**13 47 57.4**	**+1.1**
PANG	**Puerto Angel**	**2.68**	**234**	*e*P	**Pn**	**13 47 25.7**	**-2.2**
PANG				*e*S	**Sn**	**13 47 59.6**	**-2.2**
TOIG	**Toxpalan**	**2.84**	**288**	*e*P	**Pn**	**13 47 30.9**	**+0.9**
TOIG				*e*S	**Sn**	**13 48 04.2**	**-1.3**
YOIG	**Yosondua**	**3.21**	**263**	*e*P	**Pn**	**13 47 35.0**	**+0.2**
YOIG				*e*S	**Sn**	**13 48 11.5**	**-2.5**
TPIG	**Tehuac#an**	**3.21**	**292**	*e*P	**Pn**	**13 47 35.3**	**+0.6**
TPIG				*e*S	**Sn**	**13 48 12.5**	**-1.4**
JAUV	**Jalcomulco**	**3.23**	**311**	*e*P	**Pn**	**13 47 35.0**	**+0.2**
JAUV				*e*S	**Sn**	**13 48 11.6**	**-2.7**
HLIG	**Huajuapan de L**	**3.47**	**280**	*e*P	**Pn**	**13 47 38.8**	**+0.8**
HLIG				*e*S	**Sn**	**13 48 18.4**	**-1.4**
PNIG	**Pinotepa**	**3.84**	**258**	*e*P	**Pn**	**13 47 41.2**	**-1.4**
PNIG				*e*S	**Sn**	**13 48 25.2**	**-2.9**
APG	**El Apazote**	**4.25**	**121**	P	**Pn**	**13 47 48.4**	**+0.3**
	0.5nm,0.7s,baz=321,slow=16,SNR=5.1						
APG				S	Sn	13 48 28.1	-10
	3.3nm,0.7s,baz=324,slow=15,SNR=9.7						
PPM	**Popocatepetl**	**4.56**	**294**	*e*P	**Pn**	**13 47 55.6**	**+3.1**
PPM				*e*S	**Sn**	**13 48 40.0**	**-5.7**
TEIG	**Tepich**	**6.36**	**61**	P	**Pn**	**13 48 13.8**	**-1.9**
	8.6nm,0.5s,baz=242,slow=2.3,SNR=9.2						
TEIG				S	**Sn**	**13 49 22.1**	**-5.5**
	7.1nm,0.4s,baz=218,slow=18,SNR=1.6						
PDAR	**Pinedale Array**	**28.59**	**336**	P	**P**	**13 52 25.5**	**-0.1**
	0.1nm,0.3s,baz=134,slow=9.1,SNR=1.6						
	0.1nm,0.3s						
NVAR	**Mina Array Bea**	**29.82**	**320**	P	**P**	**13 52 39.2**	**+2.8**
	0.4nm,0.6s,baz=127,slow=9.4,SNR=3.5						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**47.39**	**347**	P	**P**	**13 55 01.8**	**-0.2**
	1.9nm,0.8s,baz=149,slow=8.0,SNR=5.1						
	1.9nm,0.8s						
ILAR	**Eielson Array**	**59.02**	**337**	P	**P**	**13 56 27.5**	**+0.6**
	0.2nm,0.6s,baz=141,slow=4.2,SNR=5.8						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**83.72**	**18**	P	**P**	**13 58 54.6**	**-0.3**
	0.9nm,0.5s,baz=290,slow=3.5,SNR=7.4						
	0.9nm,0.5s						

IDC 31 13:50:17.5±1.7, 2.°17S×146.°29E, h0km, mb3.6/3, mbtmp3.7/3, MS3.1/6, Error ellipse: s-maj=120.0km s-min=28.9km az=118.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.24**	**173**	LR	LR	13 55 10.7	
	comp=Z,84nm,20.1s,baz=168,slow=40						
WRA	**Warramunga Arr**	**21.17**	**213**	P	P	13 55 05.3	+0.7
	1.6nm,0.9s,baz=34,slow=11,SNR=12						
	1.6nm,0.9s						
DAV	**Davao City (W)**	**22.62**	**294**	LR	LR	14 04 43.7	
	comp=Z,62nm,18.4s,baz=107,slow=38						
ASAR	**Alice Springs**	**24.50**	**208**	P	P	13 55 38.4	-0.4
	1.9nm,0.6s,baz=41,slow=7.2,SNR=32						
ASAR				LR	LR	14 04 45.1	
	comp=Z,98nm,21.9s,baz=12,slow=35						
	1.9nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**28.72**	**43**	T	T	14 25 57.0	
	baz=222,slow=75,SNR=191						
H11S2	**WAKE ISLAND Hy**	**28.73**	**44**	T	T	14 25 56.3	
	baz=222,slow=75,SNR=136						
H11S1	**WAKE ISLAND Hy**	**28.74**	**43**	T	T	14 25 57.6	
	baz=222,slow=75,SNR=146						
H11N1	**WAKE ISLAND Hy**	**29.70**	**42**	T	T	14 27 12.9	
	baz=221,slow=76,SNR=90						
H11N2	**WAKE ISLAND Hy**	**29.72**	**42**	T	T	14 27 14.1	
	baz=221,slow=76,SNR=140						
H11N3	**WAKE ISLAND Hy**	**29.72**	**42**	T	T	14 27 11.7	
	baz=221,slow=76,SNR=151						
JOW	**Kunigami**	**33.67**	**330**	LR	LR	14 08 13.8	
	comp=Z,21nm,21.6s,baz=295,slow=32						
MSVF	**Nonsavu**	**34.80**	**118**	LR	LR	14 10 24.9	
	comp=Z,52nm,18.6s,baz=236,slow=35						
KSRS	**Korea Array**	**42.95**	**338**	LR	LR	14 14 22.8	
	comp=Z,16nm,19.4s,baz=235,slow=34						
ILAR	**Eielson Array**	**82.27**	**23**	P	P	14 02 40.5	0.0
	0.5nm,0.9s,baz=251,slow=5.5,SNR=5.3						
	0.5nm,0.9s						

CATAC ***31*** *13:50:43.7±0.7, 13.°09N×90.°01W, h9km±4km, ML3.6*
SNET ***31*** *13:50:44.5±1.1, 13.°09N×89.°96W, h14km±7km, ML3.4*
ISC 31 13:50:42.9±2.2, 13.°06N±0.°08×90.°01W±0.°06, h11km±10km, n39, σ0°46/56, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.80**	**57**	*e*P	**Pg**	**13 50 59.0**	**+0.6**
LALI	**Alcalda de L**	**0.80**	**57**	*i* P	**Pg**	**13 50 58.3**	**0.0**
LALI				*i* S	**Sb**	**13 51 09.5**	**-0.1**
LALI				IAML		13 51 12.0	
	comp=Z,420nm,1.0s						
JAYA	**Jayaque - finc**	**0.81**	**43**	⇓*e*P	**Pg**	**13 50 59.0**	**+0.5**
JAYA				*e*S	**Sb**	**13 51 09.6**	**-0.5**
JAYA				IAML		13 51 12.9	
	comp=Z,3μm,0.2s						
JAYA	**Jayaque - finc**	**0.81**	**43**	*i* P	**Pg**	**13 50 59.2**	**+0.7**
JAYA				*i* S	**Sb**	**13 51 10.0**	**-0.1**
JAYA				IAML		13 51 11.6	
	comp=Z,7μm,1.0s						
CEVE	**Cerro Verde**	**0.85**	**26**	*e*P	**Pg**	**13 50 59.6**	**+0.2**
CEVE				IAML		13 51 21.7	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**0.85**	**26**	*i* P	**Pg**	**13 50 59.8**	**+0.3**
CEVE				IAML		13 51 21.6	
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	**0.86**	**26**	*e*P	**Pg**	**13 50 59.8**	**+0.2**
SBLS				*e*S	**Sb**	**13 51 12.2**	**+0.4**
NUBE	**Las Nubes**	**0.87**	**15**	*e*P	**Pg**	**13 50 59.7**	**-0.1**
NUBE	**Las Nubes**	**0.87**	**15**	*i* P	**Pg**	**13 50 59.7**	**-0.1**
NUBE				*i* S	**Sg**	**13 51 11.4**	**+0.3**
NUBE				IAML		13 51 11.8	
	comp=Z,1μm,1.0s						
SNJE	**San Jose**	**0.90**	**26**	*e*P	**Pg**	**13 51 00.3**	**0.0**
RTR	**El Retiro**	**0.91**	**23**	*e*P	**Pg**	**13 51 00.6**	**+0.1**
ITCA	**Escuela Especi**	**0.94**	**49**	*i* P	**Pn**	**13 51 02.7**	**+0.5**
ITCA				*i* S	**Sn**	**13 51 15.1**	**-0.6**
ITCA				IAML		13 51 16.4	
	comp=Z,3μm,1.0s						
PMON	**Piamonte**	**0.94**	**46**	*i* P	**Pg**	**13 51 01.3**	**+0.2**
PMON				*i* S	**Sb**	**13 51 14.6**	**+0.8**
PMON				IAML		13 51 23.4	
	comp=Z,3μm,1.0s						
CEDA	**San Andres**	**0.95**	**39**	*e*P	**Pg**	**13 51 00.9**	**-0.4**
CEDA	**San Andres**	**0.95**	**39**	*i* P	**Pg**	**13 51 01.3**	**0.0**
CEDA				*i* S	**Sb**	**13 51 14.7**	**+0.5**
CEDA				IAML		13 51 21.1	
	comp=Z,7μm,1.0s						
LOAL	**Lomas de Alarc**	**0.96**	**13**	*i* P	**Pg**	**13 51 01.7**	**+0.2**
LOAL				*i* S	**Sb**	**13 51 14.7**	**+0.3**
LOAL				IAML

PQSS	**Presa 15 de Se**	**1.52**	**68**	*i* P	**Pn**	**13 51 10.1**	**+0.1**
PQSS				*i* S	**Sn**	**13 51 30.0**	**+0.2**
PQSS				IAML		13 51 34.3	
	comp=Z,390nm,1.0s						
TECA	**Tecapa**	**1.53**	**73**	*e*P	**Pn**	**13 51 10.6**	**+0.2**
PACA	**Pacayal**	**1.69**	**76**	*e*P	**Pn**	**13 51 13.5**	**+1.0**
PACA	**Pacayal**	**1.69**	**76**	*i* P	**Pb**	**13 51 14.9**	**+0.7**
PACA				IAML		13 51 37.9	
	comp=Z,3μm,1.0s						
LCY	**Lacayo**	**1.71**	**78**	*e*P	**Pn**	**13 51 13.0**	**+0.2**
BLLM	**Bellamira**	**1.77**	**77**	*e*P	**Pn**	**13 51 13.8**	**+0.3**
LCND	**La Caada**	**2.08**	**83**	*e*P	**Pn**	**13 51 18.2**	**+0.4**
LCND				*e*S	**Sn**	**13 51 43.6**	**-0.1**
LCND				IAML		13 51 50.0	
	comp=Z,251nm,0.4s						
CNCH	**Conchagua**	**2.13**	**84**	*e*P	**Pn**	**13 51 19.0**	**+0.4**
CNCH				IAML		13 51 54.4	
	comp=Z,416nm,0.4s						
CNCH	**Conchagua**	**2.13**	**84**	*i* P	**Pn**	**13 51 19.4**	**+0.8**
CNCH				IAML		13 51 58.1	
	comp=Z,520nm,1.0s						
SOKI	**Kika Raxquin**	**2.21**	**323**	*i* P	**Pn**	**13 51 19.6**	**-0.4**
SOKI				IAML		13 51 55.5	
	comp=Z,280nm,1.0s						

*NOU **31** 14:04:36.6, 41˚.05S×173˚.95E, h67km, MLv3.6/11, South Island, New Zealand*
*WEL **31** 14:04:37.4±0.5, 41˚S±4˚×17˚4E±˚, h48km±6km, M3.2/12, ML3.5/12, MLv3.2/12, Error ellipse: s-maj=0.0km s-min=0.0km az=8.2, confirmed*
ISC 31 14:04:36.6±1.4, 41˚.01S±0˚.04×173˚.90E±0˚.03, h70km±8km, n36, σ0$68/54, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.21**	**4**	P	**Pn**	**14 04 46.9**	**-0.4**
DUWZ				S	**Sn**	**14 04 54.5**	**-0.5**
HAVS	**Havelock**	**0.27**	**199**	P	**Pn**	**14 04 47.5**	**-0.1**
TCW	**Tory Channel**	**0.34**	**125**	P	**Pn**	**14 04 48.6**	**+0.5**
TCW				S	**Sn**	**14 04 56.7**	**+0.3**
TUWZ	**Tuamarina**	**0.42**	**176**	P	**Pn**	**14 04 49.4**	**+0.8**
TUWZ				S	**Sn**	**14 04 57.9**	**+0.5**
BWRS	**Waikakaho Road**	**0.43**	**180**	P	**Pn**	**14 04 48.9**	**+0.2**
BWRS				S	**Sn**	**14 04 57.6**	**+0.1**
NNZ	**Nelson**	**0.45**	**243**	P	**Pn**	**14 04 48.9**	**0.0**
NNZ				S	**Sn**	**14 04 57.9**	**+0.1**
MGCS	**Blenheim Marlb**	**0.49**	**176**	P	**Pn**	**14 04 48.9**	**-0.4**
MGCS				S	**Sn**	**14 04 58.3**	**-0.3**
NCBS	**Nelson Council**	**0.53**	**241**	P	**Pn**	**14 04 48.8**	**-0.9**
NCBS				S	**Sn**	**14 04 58.5**	**-0.8**
NLMS	**Nelson Nelmac**	**0.54**	**242**	P	**Pn**	**14 04 48.8**	**-0.9**
NLMS				S	**Sn**	**14 04 58.7**	**-0.6**
MKBS	**Makara Bunker**	**0.64**	**110**	P	**Pn**	**14 04 51.4**	**+0.6**
MKVS	**Makara Village**	**0.66**	**113**	P	**Pn**	**14 04 50.1**	**-0.9**
SNZO	**South Karori**	**0.67**	**116**	P	**Pn**	**14 04 51.4**	**+0.3**
MOTS	**Motueka DOC wo**	**0.69**	**260**	P	**Pn**	**14 04 51.7**	**+0.4**
MOTS				S	**Sn**	**14 05 03.0**	**+0.9**
BTWS	**Nelson Brightw**	**0.69**	**237**	P	**Pn**	**14 04 50.6**	**-0.8**
BTWS				S	**Sn**	**14 05 02.0**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.70**	**182**	P	**Pn**	**14 04 52.4**	**+0.9**
BSWZ				S	**Sn**	**14 05 03.8**	**+1.3**
WEL	**Wellington**	**0.71**	**113**	P	**Pn**	**14 04 52.0**	**+0.4**
WEL				S	**Sn**	**14 05 03.1**	**+0.6**
TKNZ	**Takaka Hill**	**0.71**	**268**	P	**Pn**	**14 04 51.8**	**+0.2**
TKNZ				S	**Sn**	**14 05 03.0**	**+0.3**
KIW	**Kapiti Island**	**0.78**	**79**	P	**Pn**	**14 04 52.8**	**+0.4**
CAW	**Cannon Point**	**0.88**	**96**	P	**Pn**	**14 04 53.8**	**+0.2**
CAW				S	**Sn**	**14 05 06.6**	**+0.3**
OGWZ	**Otaki Gorge**	**0.98**	**79**	P	**Pn**	**14 04 55.0**	**+0.2**
QRZ	**Quartz Range**	**1.06**	**280**	P	**Pn**	**14 04 55.5**	**-0.3**
QRZ	**Quartz Range**	**1.06**	**280**	P	**Pn**	**14 04 55.6**	**-0.2**
QRZ				S	**Sn**	**14 05 09.6**	**-0.5**
THZ	**Tophouse**	**1.06**	**225**	P	**Pn**	**14 04 56.7**	**+0.9**
THZ				S	**Sn**	**14 05 11.9**	**+1.6**
MSWZ	**Moikau Station**	**1.09**	**112**	P	**Pn**	**14 04 56.2**	**0.0**
MSWZ				S	**Sn**	**14 05 10.1**	**-0.8**
PLWZ	**Palliser**	**1.16**	**119**	P	**Pn**	**14 04 57.0**	**-0.1**
PLWZ				S	**Sn**	**14 05 11.6**	**-0.9**
OHWZ	**Ohakea**	**1.34**	**54**	P	**Pn**	**14 04 59.7**	**+0.3**
KHZ	**Kahutara**	**1.43**	**191**	P	**Pn**	**14 05 01.2**	**+0.6**
WAZ	**Wanganui**	**1.50**	**34**	P	**Pn**	**14 05 02.4**	**+0.8**
KHEZ	**Kahui Hut**	**1.72**	**3**	P	**Pn**	**14 05 05.5**	**+1.0**
BFZ	**Birch Farm**	**1.81**	**80**	P	**Pn**	**14 05 05.1**	**-0.5**
HIZ	**Hauiti**	**2.60**	**17**	P	**Pn**	**14 05 17.5**	**+1.1**
BKZ	**Black Stump Fm**	**2.71**	**48**	P	**Pn**	**14 05 16.5**	**-1.4**
RPZ	**Rata Peaks**	**3.43**	**217**	P	**Pn**	**14 05 26.8**	**-0.8**
ODZ	**Otahua Downs**	**4.68**	**210**	P	**Pn**	**14 05 44.5**	**-0.2**
JCZ	**Jackson Bay**	**4.86**	**229**	P	**Pn**	**14 05 47.2**	**-0.1**
CTZ	**Chatham Island**	**7.53**	**114**	P	**Pn**	**14 06 22.9**	**-0.7**

*IDC **31** 14:11:27.1±1.2, 34˚.63N×73˚.19E, h0km, mb3.6/5, mbtmp3.5/6, ML3.0/1, Error ellipse: s-maj=35.3km s-min=29.9km az=80.0*
ISC 31 14:11:32.9±1.2, 34˚.7N±0˚.1×73˚.3E±0˚.2, h35km, n8, σ1$40/9, mb3.5/4, 1C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**8.65**	**346**	⇓P	**Pn**	**14 13 36.0**	**+0.5**
	0.7nm,0.3s,baz=160,slow=12,SNR=14						
KK31				⇑S	**Sn**	**14 15 10.1**	**-1.8**
	1.3nm,0.4s,baz=160,slow=21						
MKAR	**Makanchi Array**	**13.86**	**27**	Pn	**Pn**	**14 14 46.9**	**+0.1**
	0.1nm,0.3s,baz=217,slow=12,SNR=1.3						
	0.1nm,0.3s						
AB31	**Akbulak array**	**17.55**	**330**	P	**P**	**14 15 37.9**	**+2.4**
	0.3nm,0.6s,baz=135,slow=15,SNR=4.9						
ZALV	**Zalesovo Beam**	**20.88**	**19**	P	**P**	**14 16 11.1**	**-0.7**
	1.6nm,0.5s,baz=216,slow=11,SNR=8.7						
	1.6nm,0.5s						
ARCES	**ARCESS Array B**	**43.50**	**338**	P	**P**	**14 19 33.0**	**+0.5**
	1.3nm,0.8s,baz=105,slow=8.9,SNR=2.3						
	1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**67.56**	**271**	P	**P**	**14 22 24.9**	**-1.3**
	0.3nm,0.5s,baz=38,slow=6.2,SNR=4.0						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**79.47**	**123**	P	**P**	**14 23 35.8**	**-0.2**
	0.2nm,0.8s,baz=306,slow=7.3,SNR=1.1						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**81.71**	**126**	P	**P**	**14 23 48.0**	**+0.1**
	0.3nm,0.8s,baz=310,slow=5.7,SNR=2.1						
	0.3nm,0.8s						

*IDC **31** 14:22:31.5±1.5, 38˚.44N×21˚.60E, h0km, mb3.8/8, mbtmp3.7/9, ML2.7/1, MS2.3/2, Error ellipse: s-maj=30.1km s-min=26.5km az=135.0*
*NEIC **31** 14:22:38.7±2.4, 38˚.27N±0˚.04×21˚.60E±0˚.06, h35km±2km, mb4.1/3, Error ellipse: s-maj=9.2km s-min=5.4km az=131.0*
*ATH **31** 14:22:39.0, 38˚.29N×21˚.61E, h27km±1km, ML3.2/14, Error ellipse: s-maj=1.3km s-min=0.8km az=130.0*
*THE **31** 14:22:39.2, 38˚.30N×21˚.63E, h28km, ML3.2/11, Error ellipse: s-maj=0.9km s-min=0.5km az=80.0*
ISC 31 14:22:37.3±0.8, 38˚.33N±0˚.02×21˚.60E±0˚.02, h34km±2km, n102, σ1$52/139, mb3.9/11, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.16**	**107**	P	**Pb**	**14 22 44.1**	**+0.5**
UPR				S	**Sb**	**14 22 48.8**	**+0.9**
EFP	**Efpalio**	**0.26**	**68**	P	**Pb**	**14 22 45.4**	**+0.8**
EFP				S	**Sb**	**14 22 51.0**	**+1.3**
	9μm,0.3s						
EFP	**Efpalio**	**0.26**	**68**	P	**Pb**	**14 22 45.5**	**+0.8**
EFP				S	**Sb**	**14 22 51.0**	**+1.3**
EFP				AML	AML	14 22 52.6	
	comp=N,18768μm,0.3s						
EFP				AML	AML	14 22 53.8	
	comp=E,14478μm,0.4s						
RLS	**Riolos of Patr**	**0.29**	**201**	P	**Pb**	**14 22 45.6**	**+0.6**
RLS				S	**Sb**	**14 22 52.1**	**+1.9**
	comp=E,3μm,0.3s						
RLS	**Riolos of Patr**	**0.29**	**201**	P	**Pb**	**14 22 45.5**	**+0.6**
RLS				S	**Sb**	**14 22 51.5**	**+1.3**
RLS				AML	AML	14 22 53.3	
	comp=E,6409μm,0.2s						
RLS				AML	AML	14 22 54.4	
	comp=N,6402μm,0.4s						
PVO	**Paravola**	**0.29**	**349**	P	**Pn**	**14 22 46.5**	**+1.6**
PVO				S	**Sb**	**14 22 52.9**	**+2.6**
PVO	**Paravola**	**0.29**	**349**	P	**Pn**	**14 22 46.6**	**+1.6**
PVO				S	**Sb**	**14 22 53.0**	**+2.7**
ANX	**Ano Chora**	**0.37**	**44**	P	**Pb**	**14 22 47.0**	**+0.9**
ANX				S	**Sn**	**14 22 54.1**	**+2.1**
	comp=N,4μm,0.4s						
ANX	**Ano Chora**	**0.37**	**44**	P	**Pb**	**14 22 47.0**	**+0.9**
ANX				S	**Sb**	**14 22 52.6**	**+0.5**
ANX				AML	AML	14 22 56.3	
	comp=N,7721μm,0.4s						
ANX				AML	AML	14 22 56.5	
	comp=E,8946μm,0.3s						
DRO	**Drossia**	**0.39**	**167**	P	**Pb**	**14 22 46.7**	**+0.4**
DRO				S	**Sb**	**14 22 53.3**	**+0.8**
	comp=E,8μm,0.2s						
DRO	**Drossia**	**0.39**	**167**	P	**Pb**	**14 22 46.7**	**+0.4**
DRO				S	**Sb**	**14 22 53.1**	**+0.7**
DRO				AML	AML	14 22 56.5	
	comp=E,17306μm,0.2s						
DRO				AML	AML	14 22 57.0	
	comp=N,14547μm,0.3s						
ALIK	**Aliki, Aigiali**	**0.41**	**99**	P	**Pb**	**14 22 47.0**	**+0.4**
ALIK				S	**Sb**	**14 22 54.2**	**+1.2**
KALE	**Kalithea**	**0.43**	**82**	P	**Pb**	**14 22 47.5**	**+0.5**
KALE				S	**Sb**	**14 22 54.9**	**+1.2**
	comp=N,5μm,0.2s						
KALE	**Kalithea**	**0.43**	**82**	P	**Pb**	**14 22 47.5**	**+0.5**
KALE				S	**Sb**	**14 22 54.8**	**+1.2**
KALE				AML	AML	14 22 56.9	
	comp=N,8442μm,0.3s						
KALE				AML	AML	14 22 57.0	
	comp=E,9579μm,0.3s						
KLV	**Kalavryta, Ach**	**0.52**	**123**	P	**Pb**	**14 22 48.7**	**+0.4**
KLV				S	**Sb**	**14 22 57.1**	**+1.2**
	comp=E,688nm,0.6s						
KLV	**Kalavryta, Ach**	**0.52**	**123**	P	**Pb**	**14 22 48.7**	**+0.4**
EVR	**Evrytania**	**0.61**	**16**	P	**Pb**	**14 22 51.8**	**+2.0**
EVR	**Evrytania**	**0.61**	**16**	P	**Pb**	**14 22 51.9**	**+2.2**
RTZL	**Ratzakli, Kefa**	**0.70**	**249**	P	**Pb**	**14 22 52.1**	**+1.0**
RTZL				S	**Sb**	**14 23 03.6**	**+3.1**
GUR	**Goura**	**0.71**	**123**	P	**Pn**	**14 22 51.6**	**+0.7**
GUR				S	**Sn**	**14 23 02.1**	**+1.3**
	comp=E,2μm,0.4s						
GUR	**Goura**	**0.71**	**123**	P	**Pn**	**14 22 51.6**	**+0.7**
GUR				S	**Sn**	**14 23 02.0**	**+1.3**
GUR				AML	AML	14 23 04.5	
	comp=N,3930μm,0.3s						
GUR				AML	AML	14 23 07.8	
	comp=E,2850μm,0.5s						
EVGI	**Lefkada island**	**0.79**	**292**	P	**Pb**	**14 22 53.4**	**+0.7**
EVGI				S	**Sb**	**14 23 06.4**	**+3.2**
	comp=E,2μm,0.3s						
EVGI	**Lefkada island**	**0.79**	**292**	P	**Pb**	**14 22 53.3**	**+0.7**
EVGI				S	**Sb**	**14 23 05.5**	**+2.3**
NYDR	**Nydri-Lefkada**	**0.80**	**299**	P	**Pb**	**14 22 53.5**	**+0.7**
NYDR	**Nydri-Lefkada**	**0.80**	**299**	P	**Pb**	**14 22 53.0**	**+0.9**
NYDR				S	**Sb**	**14 23 05.1**	**+1.7**
VLS	**Valsamata**	**0.81**	**259**	P	**Pb**	**14 22 53.3**	**+0.4**
VLS				S	**Sb**	**14 23 06.0**	**+2.4**
	comp=E,1μm,0.3s						
VLS	**Valsamata**	**0.81**	**259**	P	**Pb**	**14 22 53.4**	**+0.5**
VLS				S	**Sb**	**14 23 05.0**	**+1.4**
VLS				AML	AML	14 23 08.6	
	comp=E,2092μm,0.4s						
VLS				AML	AML	14 23 10.2	
	comp=N,2194μm,0.3s						
FSK	**Fiskardo**	**0.82**	**279**	P	**Pb**	**14 22 53.7**	**+0.5**
FSK				S	**Sb**	**14 23 07.3**	**+3.3**
	comp=N,2μm,0.2s						
FSK	**Fiskardo**	**0.82**	**279**	P	**Pb**	**14 22 53.6**	**+0.5**
FSK				S	**Sb**	**14 23 04.8**	**+0.8**
FSK				AML	AML	14 23 09.2	
	comp=N,2293μm,0.3s						
FSK				AML	AML	14 23 10.4	
	comp=E,3981μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.83**	**255**	P	**Pb**	**14 22 53.6**	**+0.4**
PSDA				S	**Sb**	**14 23 06.9**	**+2.8**
	comp=E,2μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.83**	**255**	P	**Pb**	**14 22 53.7**	**+0.5**
PSDA				S	**Sb**	**14 23 06.0**	**+2.0**
LTHK	**Lithakia**	**0.86**	**224**	P	**Pb**	**14 22 54.6**	**+0.7**
LTHK	**Lithakia**	**0.86**	**224**	P	**Pb**	**14 22 54.5**	**+0.7**
LKD2	**Lefkada island**	**0.87**	**302**	P	**Pb**	**14 22 54.9**	**+1.0**
LKD2	**Lefkada island**	**0.87**	**302**	P	**Pb**	**14 22 55.0**	**+1.0**
LKD2				S	**Sb**	**14 23 08.4**	**+3.1**
LKD2				AML	AML	14 23 13.2	
	comp=E,1858μm,0.4s						
LKD2				AML	AML	14 23 14.5	
	comp=N,2424μm,0.7s						
DRAG	**Dragano-Lefkad**	**0.88**	**294**	P	**Pb**	**14 22 56.0**	**+1.9**
DRAG	**Dragano-Lefkad**	**0.88**	**294**	P	**Pb**	**14 22 55.5**	**+1.5**
DRAG				S	**Sb**	**14 23 05.7**	**+0.2**
TSLK	**Tsoukalades, L**	**0.89**	**304**	P	**Pb**	**14 22 55.4**	**+1.1**
TSLK	**Tsoukalades, L**	**0.89**	**304**	P	**Pb**	**14 22 55.3**	**+1.0**
TSLK				S	**Sb**	**14 23 06.5**	**+0.6**
TSLK				AML	AML	14 23 18.0	
	comp=E,1341μm,0.3s						
TSLK				AML	AML	14 23 18.4	
	comp=N,1604μm,0.3s						
AGG	**Agios Georgios**	**0.90**	**39**	P	**Pb**	**14 22 55.2**	**+0.8**
AGG				Sn	**Sb**	**14 23 08.0**	**+1.7**
AGG	**Agios Georgios**	**0.90**	**39**	P	**Pb**	**14 22 55.3**	**+0.8**
AGG	**Agios Georgios**	**0.90**	**39**	P	**Pb**	**14 22 55.5**	**+1.0**
AGG				S	**Sb**	**14 23 08.2**	**+1.9**
AGG				AML	AML	14 23 10.6	
	comp=E,3664μm,0.4s						
AGG				AML	AML	14 23 11.5	
	comp=N,4678μm,0.3s						
AXAR	**Agios Charalam**	**0.94**	**62**	P	**Pb**	**14 22 55.7**	**+0.5**
AXAR	**Agios Charalam**	**0.94**	**62**	P	**Pb**	**14 22 55.7**	**+0.5**
AXAR				S	**Sn**	**14 23 08.0**	**+1.7**
AXAR				AML	AML	14 23 13.9	
	comp=E,5167μm,0.4s						
AXAR				AML	AML	14 23 15.2	
	comp=N,4676μm,0.6s						
DMLN	**Damoulianata-K**	**0.97**	**265**	P	**Pb**	**14 22 56.0**	**+0.4**
DMLN	**Damoulianata-K**	**0.97**	**265**	P	**Pb**	**14 22 56.2**	**+0.6**
DMLN				S	**Sb**	**14 23 09.2**	**+1.1**
LOUT	**Loutraki**	**1.14**	**107**	P	**Pn**	**14 22 58.2**	**+1.4**
LOUT	**Loutraki**	**1.14**	**107**	P	**Pn**	**14 22 58.0**	**+1.2**
ITM	**Ithomi**	**1.18**	**167**	Pn	**Pn**	**14 22 59.1**	**+1.7**
ITM	**Ithomi**	**1.18**	**167**	P	**Pn**	**14 22 59.1**	**+1.7**
ITM	**Ithomi**	**1.18**	**167**	P	**Pb**	**14 22 59.7**	**+0.6**
THL	**Klokotos Trika**	**1.28**	**15**	P	**Pb**	**14 23 01.8**	**+1.0**
THL	**Klokotos Trika**	**1.28**	**15**	P	**Pb**	**14 23 01.8**	**+1.0**
THL				S	**Sb**	**14 23 17.2**	**+0.3**
THL				AML	AML	14 23 22.4	
	comp=E,1929μm,0.7s						
THL				AML	AML	14 23 22.8	
	comp=N,771μm,0.4s						
VIL2	**Platees**	**1.32**	**95**	P	**Pn**	**14 23 01.0**	**+1.7**
VILL	**Villia**	**1.36**	**96**	P	**Pn**	**14 23 01.1**	**+1.2**
EPID	**Epidavros**	**1.40**	**120**	P	**Pn**	**14 23 02.0**	**+1.6**
EPID	**Epidavros**	**1.40**	**120**	P	**Pn**	**14 23 02.1**	**+1.6**
EPID				S	**Sn**	**14 23 18.2**	**+0.5**
PYL	**PYLOS**	**1.44**	**175**	P	**Pn**	**14 23 03.0**	**+2.1**
TYRN	**Tyrnavos**	**1.47**	**20**	P	**Pn**	**14 23 03.9**	**-0.1**
ATHU	**Athens Univers**	**1.76**	**101**	P	**Pn**	**14 23 06.8**	**+1.4**
ATHU				S	**Sn**	**14 23 27.7**	**+1.1**
ATHU				AML	AML	14 23 31.2	
	comp=N,872μm,0.4s						
ATHU				AML	AML	14 23 31.4	
	comp=E,226μm,0.3s						
VLY	**Voula,Athens**	**1.80**	**105**	P	**Pn**	**14 23 07.3**	**+1.4**
PTL	**Penteli**	**1.81**	**98**	P	**Pn**	**14 23 07.4**	**+1.4**
LIT	**Litokhoron**	**1.90**	**21**	P	**Pn**	**14 23 09.7**	**+2.4**
KEK	**Kerkira**	**1.97**	**315**	Pn	**Pn**	**14 23 10.2**	**+2.0**
KBN	**Korca**	**2.38**	**345**	Pn	**Pb**	**14 23 17.5**	**-1.9**
FNA	**Florina**	**2.46**	**356**		**Pn**	**14 23 17.6**	**+2.6**
OHR	**Ohrid**	**2.85**	**348**	*i* Pn	**Pn**	**14 23 23.7**	**+3.4**
TIR	**Tirane**	**3.30**	**337**	Pn	**Pn**	**14 23 29.4**	**+3.0**
TIP	**Timpagrande**	**3.88**	**284**		**Pn**	**14 23 35.9**	**+1.4**
PUK	**Puka**	**3.93**	**341**	Pn	**Pn**	**14 23 37.2**	**+1.9**
CEL	**Celeste**	**4.49**	**271**	Pn	**Pn**	**14 23 43.3**	**+0.4**
CUC	**Castrocucco**	**4.79**	**292**		**Pn**	**14 23 49.6**	**+2.6**
STON	**Ston**	**5.42**	**328**	*e*Pn	**Pn**	**14 23 55.6**	**0.0**
SGRT	**San Giovanni R**	**5.64**	**309**	Pn	**Pn**	**14 23 59.8**	**+1.0**
MAKA	**Makarska**	**6.05**	**326**	*e*Pn	**Pn**	**14 24 04.4**	**+0.2**
RICI	**Ricice**	**6.17**	**328**	*e*Pn	**Pn**	**14 24 06.1**	**+0.2**
HVAR	**Hvar**	**6.22**	**323**	*e*Pn	**Pn**	**14 24 07.1**	**+0.4**
KIJV	**Kijevo**	**6.89**	**327**	*e*Pn	**Pn**	**14 24 16.1**	**+0.2**
INTR	**Introdacqua**	**6.94**	**304**	Pn	**Pn**	**14 24 18.9**	**+2.3**
MORI	**Morici**	**7.09**	**323**	*e*Pn	**Pn**	**14 24 19.0**	**+0.4**
DUGI	**Dugi Otok**	**7.50**	**321**	*e*Pn	**Pn**	**14 24 24.5**	**+0.3**
DUGI				Sn	**Sn**	**14 25 43.8**	**-4.3**
UDBI	**Udbina**	**7.58**	**327**	*e*Pn	**Pn**	**14 24 26.1**	**+0.7**
UDBI				Sn	**Sn**	**14 25 48.0**	**-2.1**
VIRC	**Vir**	**7.73**	**323**	*e*Pn	**Pn**	**14 24 27.9**	**+0.7**
MLR	**Muntele Rosu**	**7.86**	**23**	LR	LR	14 27 40.5	
	comp=E,28nm,21.9s,baz=198,slow=40						
NRCA	**Norcia**	**7.87**	**308**	Pn	**Pn**	**14 24 31.6**	**+2.3**
NVLJ	**Novalja**	**8.02**	**323**	*e*Pn	**Pn**	**14 24 31.9**	**+0.7**
RIY	**Rijeka**	**8.77**	**325**	*e*Pn	**Pn**	**14 24 43.4**	**+1.8**
BRJN	**Brijuni**	**8.81**	**321**	*e*Pn	**Pn**	**14 24 42.2**	**+0.1**
BRTR	**Keskin Array B**	**9.48**	**78**	Pn	**Pn**	**14 24 52.3**	**+0.9**
	comp=E,0.1nm,0.3s,baz=259,slow=13,SNR=1.7						
	comp=E,0.4nm,0.6s						
VRAC	**Vranov**	**11.55**	**343**	LR	LR	14 29 47.7	
	comp=E,10nm,19.2s,baz=308,slow=38						
HFS	**Hagfors**	**22.39**	**350**	P	**P**	**14 27 31.3**	**-1.2**
	comp=E,0.9nm,0.5s,baz=156,slow=13,SNR=6.1						
	comp=E,0.9nm,0.5s						
FINES	**FINESS Array B**	**23.31**	**5**	P	**P**	**14 27 38.8**	**-3.1**
	comp=E,0.4nm,0.3s,baz=172,slow=8.8,SNR=6.1						
	comp=E,0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**30.69**	**221**	P	**P**	**14 28 48.7**	**-0.2**
	comp=E,0.3nm,0.6s,baz=9.8,slow=9.4,SNR=1.7						
	comp=E,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**31.34**	**3**	P	**P**	**14 28 52.7**	**-1.4**
	comp=E,1.9nm,0.9s,baz=191,slow=11,SNR=4.0						
	comp=E,1.9nm,0.9s						
SPITS	**Spitsbergen Ar**	**40.02**	**358**	P	**P**	**14 30 06.1**	**-2.3**
	comp=E,3.9nm,0.9s,baz=212,slow=14,SNR=4.1						
	comp=E,3.9nm,0.9s						
KURBB	**Kurchatov Arra**	**41.46**	**54**	P	**P**	**14 30 19.1**	**-1.5**
	comp=E,0.2nm,0.3s,baz=282,slow=9.0,SNR=1.8						
	comp=E,0.2nm,0.3s						
MK31	**Makanchi Array**	**44.50**	**59**	P	**P**	**14 30 44.2**	**-1.1**
MK31				IAmb	IAmb	14 30 55.5	
	comp=Z,2.3nm,1.4s						
MKAR	**Makanchi Array**	**44.50**	**59**	P	**P**	**14 30 44.2**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=274,slow=7.8,SNR=21						
	comp=Z,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**44.96**	**48**	P	**P**	**14 30 47.3**	**-1.4**
ZALV	**Zalesovo Beam**	**44.96**	**48**	P	**P**	**14 30 47.1**	**-1.6**
	comp=Z,1.2nm,0.4s,baz=279,slow=7.8,SNR=6.4						
	comp=Z,1.2nm,0.4s						
E29M	**Blow River**	**72.50**	**352**	P	**P**	**14 34 00.5**	**+0.5**
E29M				IAmb	IAmb	14 34 31.2	
	comp=Z,2.6nm,1.1s						
E19K	**Redstone River**	**74.53**	**360**	P	**P**	**14 34 12.2**	**+0.2**
E19K				IAmb	IAmb	14 34 28.9	
	comp=Z,7.6nm,1.5s						

*IDC **31** 14:23:20.1±1.9, 21˚.68N×143˚.06E, h266km±18km, mb3.1/9, mbtmp3.9/12, Error ellipse: s-maj=42.7km s-min=13.1km az=81.0*
ISC 31 14:23:18.7±1.3, 21˚.6N±0˚.1×143˚.0E±0˚.4, h250km, n13, σ0$96/14, mb3.5/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.53**	**353**	P	**Pn**	**14 24 41.6**	**+0.5**
	15nm,0.3s,baz=215,slow=18,SNR=9.5						
JCJ				S	**S**	**14 25 47.3**	**+0.5**
	39nm,0.4s,baz=264,slow=23,SNR=14						
JHJ	**Hachijo jima 2**	**11.83**	**347**	P	**Pn**	**14 26 00.8**	**+0.7**
	28nm,0.6s,baz=75,slow=20,SNR=1.5						
MJAR	**Matsushiro Arr**	**15.47**	**346**	P	**Pn**	**14 26 44.8**	**+0.3**
	1.3nm,0.5s,baz=171,slow=10,SNR=7.7						
KSRS	**Korea Array**	**20.48**	**324**	P	**P**	**14 27 37.4**	**-0.4**
	0.5nm,0.7s,baz=141,slow=8.3,SNR=2.3						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**42.12**	**192**	P	**P**	**14 30 47.5**	**+0.6**
	1.5nm,0.6s,baz=14,slow=8.3,SNR=29						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**45.83**	**192**	P	**P**	**14 31 16.9**	**+0.7**
	0.3nm,0.6s,baz=17,slow=13,SNR=9.2						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**54.17**	**322**	P	**P**	**14 32 18.3**	**+0.1**
	0.3nm,0.3s,baz=144,slow=3.2,SNR=1.8						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**54.62**	**313**	P	**P**	**14 32 22.3**	**+0.6**
	0.2nm,0.6s,baz=82,slow=8.8,SNR=2.2						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**57.46**	**317**	P	**P**	**14 32 41.6**	**-0

MAS3 Al N del Volca 1.54 1 *i* P **Pn 14 25 51.6 -0.4**
MAS3 IAML 14 26 32.6
comp=Z,5μm,1.0s
SOCE Pocosol 1.55 93 Pn 14 25 50.5 -1.7
R0529 La Mascota 1.64 358 *i* P **Pb 14 25 54.5 -1.7**
R0529 IAML 14 26 05.3
comp=Z,3μm,1.0s
RB28C Hialeah 1.64 357 *i* P **Pn 14 25 53.9 +0.5**
RB28C IAML 14 25 56.2
comp=Z,5μm,1.0s
TISN Laguna Tiscapa 1.66 357 *i* P **Pb 14 25 54.8 -1.7**
TISN IAML 14 26 32.3
comp=Z,240nm,1.0s
R4DEC Barrio San Lui 1.66 358 *i* P **Pb 14 25 54.4 -2.2**
R4DEC *i* P **Pn 14 25 54.1 +0.4**
R4DEC IAML 14 26 02.4
comp=Z,3μm,1.0s
R4DEC IAML 14 26 02.5
comp=Z,3μm,1.0s
R4DEC *i* S **Sb 14 26 16.9 -0.2**
WILN Americas 2 1.67 0 *i* P **Pn 14 25 54.7 +0.8**
WILN *i* S **Sb 14 26 17.8 +0.4**
WILN IAML 14 26 47.1
comp=Z,2μm,1.0s
SAPS Ciudad Sandino 1.69 353 *i* P **Pn 14 25 54.6 +0.4**
SAPS IAML 14 26 27.2
comp=Z,4μm,1.0s
APQ2 Apoyeque 1.71 356 *i* P **Pn 14 25 55.2 +0.8**
APQ2 *i* S **Sb 14 26 18.2 -0.4**
APQ2 IAML 14 26 23.1
comp=Z,4μm,1.0s
COPN Copaltepe 1.74 347 *i* P **Pn 14 25 55.8 +1.0**
COPN IAML 14 26 33.4
comp=Z,3μm,1.0s
COVE Coope Vega, Sa 1.78 82 *i* P **Pb 14 25 57.6 -0.9**
COVE IAML 14 26 36.6
comp=Z,3μm,1.0s
ACON Acoyapa 1.79 34 Pn 14 25 56.1 +0.6
ACON Acoyapa 1.79 34 *i* P **Pb 14 25 56.3 -2.4**
ACON *i* S **Sb 14 26 21.0 +0.3**
ACON IAML 14 26 27.0
comp=Z,3μm,1.0s
ACON Acoyapa 1.79 34 *i* P **Pb 14 25 56.2 -2.5**
APQ3 Volcan Apoyequ 1.79 354 *i* P **Pn 14 25 56.5 +1.0**
APQ3 *i* S **Sb 14 26 19.4 -1.5**
APQ3 IAML 14 26 26.3
comp=Z,3μm,1.0s
HUEN 1.85 1 *i* P **Pn 14 25 56.9 +0.6**
HUEN IAML 14 25 59.1
comp=Z,2μm,1.0s
HUEN *i* S **Sb 14 26 22.6 +0.1**
ITAL Pital 1.89 91 *e* P **Pb 14 25 59.0 -1.4**
TCS1 Tacares 1.91 103 *i* P **Pb 14 25 59.9 -1.0**
TCS1 IAML 14 26 34.1
comp=Z,20μm,1.0s
TCS1 Tacares 1.91 103 *e* P **Pb 14 25 59.1 -1.8**
LEVN Ruinas Leon Vi 1.96 348 *i* P **Pn 14 25 57.4 -0.4**
MOM2 El Cardon 1.97 352 *i* P **Pn 14 25 58.4 +0.5**
MOM2 IAML 14 26 08.0
comp=Z,2μm,1.0s
MOM2 *i* S **Sb 14 26 23.7 -2.2**
BOAB BOACO BROADBAN 2.03 15 Pn 14 25 59.4 +0.7
BOAB BOACO BROADBAN 2.03 15 *i* P **Pn 14 25 59.3 +0.6**
BOAB *i* S **Sb 14 26 27.9 +0.3**
BOAB IAML 14 26 40.5
comp=Z,1μm,1.0s
MACN El Madrono 2.03 347 *i* P **Pn 14 25 59.3 +0.4**
MACN IAML 14 26 07.6
comp=Z,1μm,1.0s
CNGN Cerro Negro 2.07 346 Pn 14 25 59.7 +0.3
CNGN Cerro Negro 2.07 346 *i* P **Pn 14 26 00.0 +0.6**
CNGN IAML 14 26 19.4
comp=Z,1μm,1.0s
HDC Heredia 2.10 103 Pn 14 26 00.6 +0.7
HDC Heredia 2.10 103 *i* P **Pb 14 26 01.5 -2.6**
HDC IAML 14 26 48.1
comp=Z,3μm,1.0s
HDC Heredia 2.10 103 *e* P **Pb 14 26 02.0 -2.1**
HDC3 Heredia 3 2.10 103 *i* P **Pb 14 26 04.5 +0.3**
PLRN Geotermica Pol 2.17 345 *i* P **Pn 14 26 00.0 -0.7**
ABE2 San Pablo 2.24 110 *e* P **Pn 14 26 03.5 +1.6**
CVIMO Finca Echandi 2.26 101 *e* P **Pb 14 26 04.1 -2.8**
LCR2 La Lucha 2 2.27 109 Pn 14 26 03.2 +0.9
LCR2 La Lucha 2 2.27 109 *i* P **Pn 14 26 04.1 +1.8**
LCR2 IAML 14 26 48.1
comp=Z,990nm,1.0s
LCR2 La Lucha 2 2.27 109 *e* P **Pn 14 26 03.7 +1.4**
PKGN Cerro Pekin 2.31 341 *i* P **Pn 14 26 02.6 0.0**
PKGN IAML 14 26 41.0
comp=Z,4μm,1.0s
CRIN San Cristobal 2.36 339 Pn 14 26 03.6 +0.2
CRIN San Cristobal 2.36 339 *e* P **Pn 14 26 03.9 +0.4**
CRIN San Cristobal 2.36 339 *i* P **Pn 14 26 03.1 -0.4**
CRIN IAML 14 26 46.8
comp=Z,3μm,1.0s
CRIN San Cristobal 2.36 339 *e* P **Pn 14 26 03.6 +0.1**
ESPN Las Esperanzas 2.52 47 Pn 14 26 05.9 +0.3
ESPN Las Esperanzas 2.52 47 *i* P **Pn 14 26 06.5 +0.9**
ESPN IAML 14 26 54.1
comp=Z,2μm,1.0s
LIMN Finca el Limon 2.58 356 *i* P **Pn 14 26 07.2 +0.8**
LIMN IAML 14 26 56.0
comp=Z,880nm,1.0s
BLUN Bluefields 2.82 57 *i* P **Pn 14 26 09.8 +0.2**
BLUN IAML 14 26 50.3
comp=Z,1μm,1.0s
OCHAL Ojochal 2.86 118 *i* P **Pb 14 26 13.5 -3.5**
OCHAL IAML 14 27 20.3
comp=Z,540nm,1.0s
SOMN Somoto 2.95 352 *i* P **Pn 14 26 13.9 +2.3**
SOMN IAML 14 26 14.5
comp=Z,200nm,1.0s
DRK0 Durika 3.15 112 *i* P **Pn 14 26 15.5 +1.2**
DRK0 IAML 14 27 11.3
comp=Z,2μm,1.0s
CNCH Conchagua 3.21 330 *e* P **Pn 14 26 16.0 +0.8**
CNCH *e* S **Sn 14 26 47.1 -5.4**
CNCH IAML 14 26 58.9
comp=Z,1μm,0.4s
CNCH Conchagua 3.21 330 *i* P **Pn 14 26 16.0 +0.8**
CNCH IAML 14 27 01.2
comp=Z,1μm,1.0s
LCND La Caada 3.27 330 *e* P **Pn 14 26 16.5 +0.7**
LCND *e* S **Sn 14 26 47.8 -6.0**
LCND IAML 14 27 01.5
comp=Z,341nm,0.3s
LCND La Caada 3.27 330 *i* P **Pn 14 26 16.4 +0.6**
LCND *i* S **Sn 14 26 53.9 +0.2**
LCND IAML 14 27 02.9
comp=Z,360nm,1.0s
JUCU Jucuarın 3.42 324 *e* P **Pn 14 26 19.1 +1.2**
JUCU *e* S **Sn 14 26 52.2 -5.2**
JUCU IAML 14 27 00.5
comp=Z,275nm,0.3s
YUSH Yuscaran 3.51 350 *e* P **Pn 14 26 20.8 +1.5**
YUSH Yuscaran 3.51 350 *i* P **Pn 14 26 20.7 +1.4**
LCY Lacayo 3.58 325 *e* P **Pn 14 26 21.5 +1.3**
RANC El Ranchito 3.58 325 *e* P **Pn 14 26 21.9 +1.6**
PACA Pacayal 3.63 325 *e* P **Pn 14 26 22.5 +1.5**
PACA *e* S **Sn 14 26 58.4 -4.5**
PACA IAML 14 27 12.1
comp=Z,2μm,0.3s
PACA Pacayal 3.63 325 *i* P **Pn 14 26 22.4 +1.5**
PACA *i* S **Sn 14 27 04.5 +1.6**
PACA IAML 14 27 25.6
comp=Z,3μm,1.0s
TGUH Tegucigalpa,Un 3.71 344 Pn 14 26 23.4 +1.3
TGUH Tegucigalpa,Un 3.71 344 *i* P **Pn 14 26 24.0 +1.9**
TGUH *i* S **Sn 14 27 06.1 +1.2**
TGUH IAML 14 27 06.3
comp=Z,350nm,1.0s
PQSS Presa 15 de Se 3.89 324 *e* P **Pn 14 26 25.8 +1.4**
PQSS IAML 14 27 15.4
comp=Z,43nm,0.2s
PQSS Presa 15 de Se 3.89 324 *i* P **Pn 14 26 26.0 +1.6**
PQSS *i* S **Sn 14 27 09.0 -0.1**
PQSS IAML 14 27 14.2
comp=Z,100nm,1.0s
LFRS El Faro 4.20 318 *e* P **Pn 14 26 29.9 +1.2**
JAYA Jayaque - finc 4.49 315 *e* P **Pn 14 26 33.6 +0.9**
JAYA *e* S **Sn 14 27 18.6 -5.5**
JAYA Jayaque - finc 4.49 315 *i* P **Pn 14 26 34.5 +1.8**
JAYA IAML 14 27 28.0
comp=Z,540nm,1.0s

NUBE Las Nubes 4.89 315 *e* P **Pn 14 26 39.3 +1.1**
NUBE IAML 14 27 37.8
comp=Z,77nm,0.5s
NUBE Las Nubes 4.89 315 *i* P **Pn 14 26 39.8 +1.6**
NUBE IAML 14 27 37.0
comp=Z,220nm,1.0s
MTO3 Montecristo 4.98 322 Pn 14 26 41.0 +1.5
MTO3 Montecristo 4.98 322 *e* P **Pn 14 26 40.8 +1.2**
MTO3 Montecristo 4.98 322 *i* P **Pn 14 26 40.4 +0.9**
MTO3 IAML 14 27 39.3
comp=Z,48nm,1.0s
APG El Apazote 6.13 318 Pn **Pn 14 26 58.1 +2.6**
comp=Z,0.1nm,0.3s,baz=136,slow=7.8,SNR=12
APG Sn **Sn 14 28 11.0 +6.3**
baz=99,slow=19,SNR=1.5
CCIG Comitan 8.17 316 Pn 14 27 26.6 +3.2
TEIG Tepich 9.90 349 Pn Pn 14 27 42.0 -4.9
comp=Z,0.3nm,0.3s,baz=133,slow=22,SNR=1.7
TEIG LR LR 14 31 56.5
comp=Z,639nm,18.8s,baz=202,slow=42
comp=Z,8.2nm,1.0s
CMIG Matias Romero 10.70 309 Pn **Pn 14 27 59.5 +1.7**
comp=Z,1.3nm,0.3s,baz=120,slow=11,SNR=13
CMIG Sn **Sn 14 30 00.8 +4.1**
comp=Z,0.2nm,0.3s,baz=78,slow=19,SNR=1.3
comp=Z,3.5nm,0.3s
NMDO Nuevo Mundo 14.73 46 Pn **Pn 14 28 53.2 +0.2**
BAUV El Baul 17.96 93 P 14 29 35.9 +1.3
ATAH Atahualpa 19.14 156 LR LR 14 36 15.2
comp=Z,249nm,19.8s,baz=328,slow=33
HBVL Hebbronville 20.26 326 Pn 14 30 03.0 +1.2
PCRV Puerto La Cruz 21.21 89 P **P 14 30 08.3 -1.9**
comp=Z,1.6nm,0.4s,baz=321,slow=6.5,SNR=1.3
comp=Z,1.6nm,0.4s
833A Chaparral WMA, 21.65 327 P **P 14 30 17.1 +2.4**
833A IAmb IAmb 14 30 19.2
comp=Z,16nm,0.7s
152A Waverly Hall 22.13 3 P **P 14 30 19.4 -0.4**
LRAL Lakeview Retre 22.46 358 P **P 14 30 24.4 +1.0**
LRAL IAmb IAmb 14 30 26.7
comp=Z,18nm,0.8s
NATX Nacogdoches 22.58 341 P **P 14 30 26.1 +1.4**
GOGA Godfrey 22.96 6 IAmb IAmb 14 30 30.5
comp=Z,9.2nm,0.6s
DRIO Del Rio 23.17 326 P **P 14 30 32.9 +2.1**
Y52A Lilburn 23.36 4 P **P 14 30 32.9 +0.3**
Y52A IAmb IAmb 14 30 34.1
comp=Z,22nm,1.0s
JCT Junction City 23.59 329 P **P 14 30 35.4 +0.4**
BRDY Brady 23.87 332 P **P 14 30 37.3 -0.3**
BRDY IAmb IAmb 14 30 39.5
comp=Z,11nm,0.7s
X48A Hartselle 23.88 358 P **P 14 30 37.9 +0.3**
X48A IAmb IAmb 14 30 38.9
comp=Z,8.2nm,0.7s
HODGE Hodges 23.92 8 IAmb IAmb 14 30 39.7
comp=Z,12nm,0.7s
FPAL Fort Paine 23.96 1 P **P 14 30 38.2 -0.2**
FPAL IAmb IAmb 14 30 41.7
comp=Z,10.0nm,0.8s
OXF Oxford 24.10 353 P **P 14 30 38.9 -0.8**
NNA Nana 24.18 157 LR LR 14 39 06.3
comp=Z,74nm,18.8s,baz=352,slow=33
PLAL Pickwick Lake 24.45 356 P **P 14 30 43.4 +0.5**
PLAL IAmb IAmb 14 30 44.1
comp=Z,14nm,0.8s
PAULI Pauline 24.56 9 IAmb IAmb 14 30 45.7
comp=Z,18nm,0.8s
BG3 Lake Jocassee 24.58 6 IAmb IAmb 14 30 46.0
comp=Z,17nm,0.8s
OZNA Ozona 24.62 328 P **P 14 30 45.4 +0.8**
SWET Sewanee 24.63 1 P **P 14 30 44.1 -0.5**
SWET IAmb IAmb 14 30 45.9
comp=Z,18nm,0.9s
UALR University of 24.83 348 P **P 14 30 45.2 -1.1**
TXAR Lajitas Array 24.87 321 P **P 14 30 48.3 +1.4**
TXAR Lajitas Array 24.87 321 P **P 14 30 48.5 +1.6**
comp=Z,4.5nm,0.6s,baz=143,slow=8.1,SNR=18
TXAR PcP **PcP 14 34 25.0 +2.5**
comp=Z,1.0nm,0.8s,baz=159,slow=11,SNR=3.8
comp=Z,4.5nm,0.6s
TX31 Lajitas Ar. Si 24.88 321 P **P 14 30 48.1 +1.2**
TX31 IAmb IAmb 14 30 49.7
comp=Z,6.5nm,0.8s
PLPT Palo Pinto 24.88 335 P **P 14 30 46.9 +0.1**
PLPT IAmb IAmb 14 30 49.7
comp=Z,8.1nm,0.6s
MIAR Mount Ida 24.89 345 P **P 14 30 46.0 -0.9**
KMSC Kings Mountain 24.95 9 IAmb IAmb 14 30 49.2
comp=Z,18nm,0.8s
V48A Smith Brothers 25.16 359 IAmb IAmb 14 30 49.7
comp=Z,10nm,0.8s
TKL Tuckaleechee C 25.16 5 LR LR 14 41 02.9
comp=Z,99nm,18.9s,baz=229,slow=38
V53A Saluda 25.27 6 IAmb IAmb 14 30 54.5
comp=Z,12nm,0.7s
ABTX Abilene, Hawle 25.29 333 IAmb IAmb 14 30 53.3
comp=Z,15nm,0.7s
WHAR Wooly Hollow 25.32 348 IAmb IAmb 14 30 51.1
comp=Z,16nm,1.0s
X37A Clayton 25.43 342 IAmb IAmb 14 30 53.2
comp=Z,9.0nm,0.6s
WVT Waverly 25.58 357 P **P 14 30 52.0 -1.1**
WTFS Witchita Falls 25.77 336 IAmb IAmb 14 30 57.8
comp=Z,12nm,0.7s
MNHN Monahans 25.82 326 IAmb IAmb 14 30 57.9
comp=Z,10nm,0.8s
FCAR Ozark Folk Cen 25.87 349 IAmb IAmb 14 30 57.1
comp=Z,9.1nm,0.7s
LCAR Lake Charles 25.87 351 IAmb IAmb 14 30 55.3
comp=Z,8.9nm,0.9s
U49A Red Boiling Sp 25.92 1 IAmb IAmb 14 30 56.7
comp=Z,12nm,0.8s
APMT Aspermont 26.10 333 IAmb IAmb 14 31 01.1
comp=Z,9.0nm,0.8s
T47A Sharon Grove 26.41 358 IAmb IAmb 14 31 00.6
comp=Z,14nm,0.8s
POST Post 26.53 330 IAmb IAmb 14 31 04.7
comp=Z,8.0nm,0.7s
LPIG La Paz 26.66 304 LR LR 14 42 19.1
comp=Z,62nm,20.7s,baz=52,slow=38
WMOK Wichita Mounta 26.75 336 IAmb IAmb 14 31 07.3
comp=Z,15nm,0.8s
DKNS Dickens 26.75 332 IAmb IAmb 14 31 07.4
comp=Z,6.4nm,0.7s
T42A Van Buren 26.80 351 IAmb IAmb 14 31 04.1
comp=Z,8.0nm,0.8s
CGM3 Cape Girardeau 26.89 354 IAmb IAmb 14 31 05.5
comp=Z,6.7nm,0.8s
U38A Gravette 26.89 345 IAmb IAmb 14 31 05.0
comp=Z,8.1nm,0.8s
S51A Beattyville 27.14 5 IAmb IAmb 14 31 08.5
comp=Z,15nm,0.8s
WCI Wyandotte Cave 27.63 360 P **P 14 31 10.4 -1.2**
SMWD Samnorwood 27.66 335 IAmb IAmb 14 31 16.0
comp=Z,8.1nm,0.7s
R49A Shelbyville 27.71 2 IAmb IAmb 14 31 12.3
comp=Z,12nm,0.8s
CCM Cathedral Cave 27.83 351 P **P 14 31 11.4 -2.0**
CCM IAmb IAmb 14 31 12.9
comp=Z,9.1nm,1.0s
MSTX Muleshoe 27.89 330 IAmb IAmb 14 31 16.0
comp=Z,9.1nm,0.7s
ETMB Extrema 28.31 135 P **P 14 31 19.8 +1.9**
P38A Dawn 29.75 349 IAmb IAmb 14 31 30.4
comp=Z,7.1nm,0.7s
ACSO Alum Creek Sta 29.77 5 IAmb IAmb 14 31 32.9
comp=Z,11nm,0.8s
O52A Adamsville 29.77 7 IAmb IAmb 14 31 30.9
comp=Z,12nm,0.9s
LPAZ La Paz 32.04 146 LR LR 14 46 16.2
comp=Z,72nm,18.6s,baz=294,slow=39
X16A Lo Mia Camp, P 33.17 320 P **P 14 32 02.8 +2.0**
MDP Montagnes des 33.65 97 LR LR 14 46 55.8
comp=Z,109nm,19.7s,baz=313,slow=39
SADO Sadowa 34.70 9 LR LR 14 46 49.7
comp=Z,131nm,18.4s,baz=211,slow=38
HMU Henry Mountain 35.12 325 IAmb IAmb 14 32 27.6
comp=Z,4.0nm,1.0s
COWI Conover 35.59 356 IAmb IAmb 14 32 20.6
comp=Z,3.4nm,0.6s
SRU San Rafael Swe 35.83 327 IAmb IAmb 14 32 26.3
comp=Z,3.7nm,1.0s
PDAR Pinedale Array 38.08 332 P **P 14 32 43.0 0.0**
comp=Z,1.1nm,0.7s,baz=127,slow=11,SNR=13
PDAR PcP **PcP 14 34 58.4 +0.6**
comp=Z,0.4nm,0.7s,baz=134,slow=3.9,SNR=4.3
comp=Z,1.1nm,0.7s
HWUT Hardware Ranch 38.19 329 IAmb IAmb 14 32 45.9
comp=Z,4.5nm,0.9s
AGMN Agassiz Nation 38.56 350 IAmb IAmb 14 32 45.2
comp=Z,6.6nm,0.6s
NVAR Mina Array Bea 39.99 319 P **P 14 33 01.0 +2.0**
NVAR Mina Array Bea 39.99 319 P **P 14 33 01.9 +2.9**
comp=Z,4.2nm,0.7s,baz=134,slow=7.5,SNR=30
NVAR PcP **PcP 14 35 06.2 +2.3**
comp=Z,2.2nm,0.8s,baz=152,slow=4.0,SNR=9.4
comp=Z,4.2nm,0.7s
LHV Little Huntoon 40.02 319 P **P 14 33 02.0 +3.1**
LHV IAmb IAmb 14 33 03.4
comp=Z,7.8nm,0.8s
KVN Kaiserville 40.23 320 P **P 14 33 02.4 +1.5**
ULM Lac du Bonnet 40.45 350 P **P 14 32 59.0 -3.3**
comp=Z,3.7nm,0.7s,baz=157,slow=8.9,SNR=5.4
ULM LR LR 14 51 29.6
comp=Z,56nm,18.5s,baz=181,slow=39
comp=Z,3.7nm,0.7s
YERR Yerington 40.91 320 P **P 14 33 08.8 +2.2**
YERR IAmb IAmb 14 33 10.2
comp=Z,5.3nm,0.7s
HLID Hailey 41.06 328 P **P 14 33 08.9 +1.2**
WVOR Wild Horse Val 42.61 324 IAmb IAmb 14 33 22.5
comp=Z,5.2nm,0.8s
RPN Rapa Nui 43.61 211 LR LR 14 46 56.5
comp=Z,53nm,20.9s,baz=52,slow=29
YBH Yreka Blue Hor 44.65 321 LR LR 14 56 04.5
comp=Z,46nm,18.5s,baz=152,slow=41
PINE Pine Mountain 44.78 324 IAmb IAmb 14 33 40.0
comp=Z,3.5nm,0.8s
I04A Tendick Farm, 45.64 323 IAmb IAmb 14 33 47.1
comp=Z,4.2nm,0.8s
NEW Newport 45.72 331 LR LR 14 56 03.9
comp=Z,38nm,19.6s,baz=157,slow=41
BDFB Brasília 45.85 124 P **P 14 33 48.1 +1.5**
comp=Z,2.6nm,0.7s,baz=270,slow=7.1,SNR=3.3
BDFB LR LR 14 55 23.8
comp=Z,108nm,18.8s,baz=300,slow=39
comp=Z,2.6nm,0.7s
G05A Wamic 45.88 326 IAmb IAmb 14 33 49.4
comp=Z,6.1nm,0.8s
H04A Detroit Lake 46.03 324 P **P 14 33 48.7 +1.1**
H04A IAmb IAmb 14 33 50.0
comp=Z,5.6nm,0.7s
SCHQ Schefferville 46.83 15 P **P 14 33 50.8 -2.8**
comp=Z,1.9nm,0.5s,baz=236,slow=9.7,SNR=4.0
SCHQ LR LR 14 54 10.4
comp=Z,64nm,18.1s,baz=260,slow=38
comp=Z,1.9nm,0.5s
PLCA Paso Flores 52.97 165 P P 14 34 49.0 +8.6
comp=Z,1.8nm,1.0s,baz=6.4,slow=7.2,SNR=3.2
comp=Z,1.8nm,1.0s
BBB Bella Bella 53.63 329 LR LR 15 00 57.9
comp=Z,60nm,18.5s,baz=132,slow=40
FRB Frobisher Bay 54.64 10 LR LR 14 58 50.9
comp=Z,150nm,18.1s,baz=216,slow=37
YKA Yellowknife Ar 55.83 345 P **P 14 34 58.7 -2.2**
comp=Z,1.1nm,0.7s,baz=134,slow=7.1,SNR=5.0
YKA LR LR 15 02 10.1
comp=Z,45nm,18.3s,baz=118,slow=40
comp=Z,1.1nm,0.7s
DLBC Dease Lake 58.21 335 LR LR 15 04 36.1
comp=Z,70nm,18.2s,baz=125,slow=41
SFJD Kangerlussuaq 61.28 15 LR LR 15 02 13.2
comp=Z,94nm,19.6s,baz=210,slow=37
BCAR Beaver Creek A 65.55 336 P **P 14 36 06.8 -0.4**
L27K Beaver Creek, 65.56 336 IAmb IAmb 14 36 08.1
comp=Z,2.1nm,0.8s
J26L Joseph Creek 66.89 337 IAmb IAmb 14 36 23.5
comp=Z,3.8nm,1.1s
ILAR Eielson Array 68.31 336 P **P 14 36 23.8 -0.9**
comp=Z,1.2nm,0.8s,baz=136,slow=5.0,SNR=13
comp=Z,1.2nm,0.8s
BPAW Bear Paw Mtn. 69.74 335 P **P 14 36 32.4 -1.2**
BPAW Bear Paw Mtn. 69.74 335 IAmb IAmb 14 36 33.8
comp=Z,4.8nm,0.8s
MLY Manley 69.94 336 P **P 14 36 34.4 -0.4**
MLY IAmb IAmb 14 36 35.2
comp=Z,4.0nm,0.7s
G23K Bananza Creek 70.23 338 IAmb IAmb 14 36 37.2
comp=Z,2.8nm,1.1s
F21K Alatna River 71.68 338 IAmb IAmb 14 36 46.5
comp=Z,5.1nm,0.9s
H19K Roundabout Mou 72.38 336 IAmb IAmb 14 36 50.6
comp=Z,5.5nm,1.0s
MDT Midelt 77.37 59 LR LR 15 08 28.6
comp=Z,59nm,18.9s,baz=339,slow=34
ESDC Sonseca Array 77.44 52 P **P 14 37 17.4 -2.0**
comp=Z,0.5nm,0.5s,baz=278,slow=6.5,SNR=6.3
ESDC LR LR 15 10 33.0
comp=Z,40nm,18.0s,baz=262,slow=35
comp=Z,0.5nm,0.5s
ADK Adak 82.15 321 P P 14 37 37.0 -7.6
NOA NORSAR Array B 84.48 29 LR LR 15 11 45.1
comp=Z,16nm,20.9s,baz=105,slow=33
HFS Hagfors 85.88 30 LR LR 15 13 25.1
comp=Z,27nm,18.3s,baz=283,slow=34
DAVOX Davos/Dischmat 86.58 43 LR LR 15 10 14.5
comp=Z,26nm,20.5s,baz=257,slow=31
FINES FINESS Array B 91.18 26 LR LR 15 18 12.7
comp=Z,40nm,18.5s,baz=234,slow=35
AKASG Malin Array Be 97.41 35 LR LR 15 23 12.0
comp=Z,33nm,18.3s,baz=230,slow=36
MKAR Makanchi Array 122.06 9 PKP **PKPdf 14 44 18.3 -0.2**
comp=Z,0.1nm,0.4s,baz=304,slow=0.5,SNR=1.6
KSRS Korea Array 122.59 328 PKP **PKiKP 14 44 21.2 +1.3**
comp=Z,1.4nm,0.6s,baz=8.4,slow=1.6,SNR=9.3
ASAR Alice Springs 139.64 246 PKhKP PKPpre 14 44 48.8
comp=Z,0.2nm,0.5s,baz=121,slow=3.6,SNR=1.8
ASAR PKP **PKiKP 14 44 55.5 +0.8**
comp=Z,0.4nm,0.7s,baz=88,slow=2.5,SNR=5.0
WRA Warramunga Arr 139.86 252 PKhKP PKPpre 14 44 54.1
comp=Z,0.7nm,0.7s,baz=95,slow=2.7,SNR=2.8
CMAR Chiang Mai Arr 150.81 350 PKP **PKPdf 14 45 12.9 +1.4**
comp=Z,4.3nm,1.2s,baz=304,slow=2.0,SNR=4.9
CMAR PKPbc **PKiKP 14 45 17.7 -0.1**
comp=Z,1.4nm,0.6s,baz=340,slow=3.0,SNR=4.4
CMAR PKPab **sPKPdf 14 45 24.9 +0.4**
comp=Z,1.1nm,0.6s,baz=333,slow=3.2,SNR=5.2

IDC 31 14:28:42.6±2.0, 3°.16S×147°.78E, h0km, mb3.4/3, mbtmp3.4/3, MS3.5/1, Error ellipse: s-maj=156.3km s-min=31.5km az=120.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.22**	**217**	P	P	14 33 29.6	-0.6
	0.9nm,0.8s,baz=43,slow=11,SNR=7.6						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**24.40**	**212**	P	P	14 34 03.4	+0.4
	1.7nm,0.9s,baz=40,slow=7.2,SNR=29						
	1.7nm,0.9s						
DZM	**Mont Dzumac**	**26.11**	**138**	LR	LR	14 43 09.2	
	comp=Z,104nm,18.4s,baz=296,slow=33						
H11S3	**WAKE ISLAND Hy**	**28.46**	**40**	T	T	15 04 20.6	
	baz=222,slow=76,SNR=116						
H11S2	**WAKE ISLAND Hy**	**28.47**	**40**	T	T	15 04 21.4	
	baz=222,slow=76,SNR=93						
H11S1	**WAKE ISLAND Hy**	**28.48**	**40**	T	T	15 04 22.2	
	baz=222,slow=76,SNR=89						
H11N1	**WAKE ISLAND Hy**	**29.49**	**39**	T	T	15 05 36.3	
	baz=221,slow=76,SNR=41						
H11N3	**WAKE ISLAND Hy**	**29.50**	**39**	T	T	15 05 37.7	
	baz=221,slow=76,SNR=94						
H11N2	**WAKE ISLAND Hy**	**29.50**	**39**	T	T	15 05 37.1	
	baz=221,slow=76,SNR=118						
ILAR	**Eielson Array**	**82.58**	**23**	P	P	14 41 07.3	-0.1
	0.2nm,0.7s,baz=246,slow=4.5,SNR=2.5						
	0.2nm,0.7s						

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*MOS **31** 14:36:04.8±1.1, 37°.11N×36°.01E, h11km, mb4.2/14, Error ellipse: s-maj=8.2km s-min=5.1km az=85.5*
*IDC **31** 14:36:04.7±0.8, 37°.12N×35°.97E, h0km, mb4.0/14, mbtmp3.9/21, ML3.5/7, MS3.3/22, Error ellipse: s-maj=15.7km s-min=13.1km az=135.0*
*NEIC **31** 14:36:05.8±1.1, 37°.00N±0°.06×36°.08E±0°.04, h6km±4km, mb4.3/35, Error ellipse: s-maj=8.6km s-min=4.8km az=163.0*
*AFAD **31** 14:36:05.9±0.0, 37°.02N×36°.08E, h10km±4km, MW4.1*
*ISK **31** 14:36:05.1, 37°.03N×36°.07E, h7km, ML4.0/34*
*GII **31** 14:36:09.2±0.5, 37°.03N×36°.08E, h10km, mB4.3/3, Md4.1/4, Mws4.2, confirmed*

GRAL ***31*** *14:36:14.9☉0.3,36°.54N×36°.99E,h33km☉25km,MD4.1*
NIC ***31*** *14:36:14.6,36°.74N×35°.76E,h10km☉31km,Ml3.8/9*
ISC 31 14:36:05.5±1.0,**37°.08N**±0°.02×**36°.09E**±0°.01,**h5**km±6km,
n285,σ1**876**/341,**mb4.3**/47,**MS3.2**/15,**7C-2D,Turkey**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.28**	**255**	Pg	**Pg**	**14 36 11.1**	**+0.1**
YURE	**YUREGIR**	**0.45**	**235**	P	**Pg**	**14 36 14.5**	**+0.3**
YURE				S	**Sg**	**14 36 21.6**	**+1.7**
KOZT	**Kozan**	**0.45**	**332**	Pg	**Pg**	**14 36 14.7**	**+0.5**
KOZT				Sg	**Sb**	**14 36 22.8**	**-0.1**
HASA	**Hatay-Hassa-Ha**	**0.46**	**136**	P	**Pg**	**14 36 14.6**	**+0.2**
HASA				S	**Sg**	**14 36 20.3**	**0.0**
KAMA	**Osmaniye**	**0.47**	**77**	P	**Pb**	**14 36 15.4**	**-1.0**
KAMA				S	**Sb**	**14 36 21.5**	**-2.2**
ANDN	**Andirin**	**0.54**	**22**	P	**Pb**	**14 36 16.7**	**-0.8**
ANDN				S	**Sb**	**14 36 25.9**	**+0.3**
AKO	**Adana**	**0.64**	**307**	P	**Pg**	**14 36 18.0**	**+0.2**
AKO				S	**Sg**	**14 36 26.9**	**+0.8**
HCB	**Kahramanmara**	**0.70**	**68**	P	**Pb**	**14 36 20.6**	**+0.3**
HCB				S	**Sb**	**14 36 30.4**	**+0.2**
KHMR	**Kahramanmara**	**0.70**	**68**	P	**Pb**	**14 36 20.1**	**-0.2**
KHMR				P	**Pn**	**14 36 20.6**	**-1.5**
KHMR				S	**Sb**	**14 36 30.1**	**-0.2**
KHMR				S	**Sn**	**14 36 30.2**	**-3.2**
TAHT	**Tahtakopru-Hat**	**0.71**	**174**	Pg	**Pg**	**14 36 18.5**	**-0.6**
TAHT				Sg	**Sg**	**14 36 27.3**	**-1.0**
KMRS	**Kahramanmaras**	**0.77**	**57**	Pg	**Pb**	**14 36 21.3**	**-0.1**
KMRS				Sg	**Sn**	**14 36 33.3**	**-1.8**
KAHM	**Kahramanmaras,**	**0.84**	**59**	P	**Pb**	**14 36 22.8**	**+0.2**
KAHM				S	**Sn**	**14 36 35.1**	**-1.6**
KUZU	**Kuzuini**	**0.85**	**111**	P	**Pg**	**14 36 22.5**	**+0.7**
KUZU				S	**Sb**	**14 36 34.6**	**+0.1**
SAIM	**ADANA**	**0.89**	**360**	P	**Pn**	**14 36 24.3**	**-0.5**
SAIM				S	**Sn**	**14 36 38.2**	**+0.1**
GAZ	**Gaziantep**	**0.90**	**84**	Pg	**Pb**	**14 36 23.6**	**-0.1**
GAZ				Sg	**Sn**	**14 36 36.7**	**-1.6**
GAZ	**Gaziantep**	**0.90**	**84**		**Pb**	**14 36 23.3**	**-0.4**
GAZ				Sg	**Sb**	**14 36 34.6**	**-1.4**
KHMN	**Narli-Kahraman**	**0.91**	**70**	Pg	**Pb**	**14 36 23.7**	**0.0**
KHMN				Sg	**Sn**	**14 36 37.1**	**-1.3**
RHAN	**Hatay/Reyhanl**	**0.92**	**153**	P	**Pg**	**14 36 23.1**	**-0.1**
RHAN				S	**Sg**	**14 36 35.6**	**+0.5**
DED	**Mersin**	**1.04**	**264**	P	**Pg**	**14 36 23.7**	**-1.8**
DED				S	**Sg**	**14 36 40.9**	**+2.0**
CMRD	**Camardi-Nigde**	**1.05**	**304**	Pg	**Pg**	**14 36 24.4**	**-1.2**
GULE	**Gulek**	**1.07**	**281**	P	**Pg**	**14 36 24.8**	**-1.2**
GULE				S	**Sn**	**14 36 44.2**	**+1.7**
YAHY	**KAYSERI_Yahyal**	**1.16**	**331**	P	**Pb**	**14 36 26.4**	**-1.8**
YAHY				S	**Sg**	**14 36 43.5**	**+0.5**
GZT	**Gaziantep**	**1.21**	**77**	P	**Pn**	**14 36 28.9**	**-0.3**
GZT				S	**Sn**	**14 36 45.8**	**-0.2**
NZIP	**Nizip/Gaziante**	**1.27**	**91**	P	**Pb**	**14 36 29.4**	**-0.5**
NZIP				S	**Sn**	**14 36 47.3**	**-0.1**
SARI	**SarD1z-Kayseri**	**1.35**	**11**	Pn	**Pg**	**14 36 31.7**	**+0.3**
SARI				Sn	**Sn**	**14 36 51.2**	**+1.7**
NIDE	**Nigde/Merkez-G**	**1.39**	**312**	P	**Pn**	**14 36 30.6**	**-1.1**
NIDE				S	**Sg**	**14 36 51.7**	**+1.6**
AKCA	**Adyaman/G¶l**	**1.46**	**60**	P	**Pg**	**14 36 34.1**	**+0.6**
AKCA				S	**Sg**	**14 36 54.3**	**+2.0**
ELBS	**KAHRAMANMARAS**	**1.49**	**33**	P	**Pg**	**14 36 36.4**	**+2.3**
ELBS				S	**Sg**	**14 36 54.6**	**+1.1**
NIG	**Nigde**	**1.56**	**312**	Pn	**Pn**	**14 36 33.4**	**-0.7**
KERG	**Konya-Eregli**	**1.60**	**283**	P	**Pn**	**14 36 34.0**	**-0.6**
KERG				S	**Sn**	**14 36 56.2**	**+0.5**
KIZK	**Mersin**	**1.67**	**250**	Pn	**Pn**	**14 36 35.1**	**-0.3**
KIZK	**Mersin**	**1.67**	**250**	P	**Pn**	**14 36 34.7**	**-0.7**
KIZK				S	**Sn**	**14 36 57.0**	**-0.3**
BNN	**Bunyan**	**1.78**	**354**	Pn	**Pn**	**14 36 37.4**	**+0.4**
BNN	**Bunyan**	**1.78**	**354**		**Pn**	**14 36 37.0**	**0.0**
ATAB	**Bozova**	**1.80**	**77**	P	**Pg**	**14 36 39.9**	**-0.1**
ATAB				S	**Sg**	**14 37 05.1**	**+1.7**
DARE	**Darende-Malaty**	**1.85**	**36**	Pn	**Pb**	**14 36 38.7**	**-1.2**
GUNE	**Kayseri**	**1.85**	**349**	P	**Pn**	**14 36 38.5**	**+0.4**
GUNE				S	**Sg**	**14 37 08.6**	**+3.5**
SLFK	**Silifke-Mersin**	**1.85**	**249**	Pn	**Pn**	**14 36 37.7**	**-0.2**
BSIR	**Belisirma, Guz**	**1.85**	**310**	P	**Pn**	**14 36 37.7**	**-0.4**
BSIR				S	**Sb**	**14 37 03.6**	**+0.1**
AZEY	**Adyaman-Merk**	**1.87**	**66**	P	**Pb**	**14 36 38.8**	**-1.3**
AZEY				S	**Sg**	**14 37 06.1**	**+0.6**
SILI	**Silifke-Mersin**	**1.88**	**248**	Pn	**Pn**	**14 36 38.1**	**-0.2**
CUGUR	**Gurin_SVAS**	**1.89**	**29**	P	**Pb**	**14 36 39.5**	**-1.0**
CUGUR				S	**Sg**	**14 37 08.2**	**+2.0**
AKCD	**Akcadag**	**1.89**	**50**	P	**Pb**	**14 36 40.1**	**-0.5**
AKCD				S	**Sg**	**14 37 06.8**	**+0.5**
AVNS	**Nevsehir-Avano**	**1.98**	**331**	P	**Pn**	**14 36 40.0**	**+0.2**
AVNS				S	**Sg**	**14 37 09.0**	**-0.2**
YESY	**Yesilyurt**	**1.99**	**291**	Pn	**Pn**	**14 36 40.3**	**+0.3**
KEBE	**Keben-Mersin**	**2.01**	**252**	Pn	**Pn**	**14 36 40.1**	**0.0**
SURC	**SANLIURFA_SURC**	**2.03**	**95**	P	**Pg**	**14 36 43.9**	**-0.5**
SURC				S	**Sg**	**14 37 11.4**	**+0.7**
KARG	**Kargicak-Mersi**	**2.11**	**246**	Pn	**Pn**	**14 36 41.2**	**-0.2**
IKL	**Isikli**	**2.11**	**247**	Pn	**Pn**	**14 36 41.2**	**-0.2**
TISA	**Tisan-Mersin**	**2.15**	**245**	Pn	**Pn**	**14 36 41.9**	**0.0**
YESI	**Yesilovacik-Me**	**2.16**	**247**	Pn	**Pn**	**14 36 41.8**	**-0.3**
MAYA	**Malatya/Merkez**	**2.23**	**55**	P	**Pn**	**14 36 43.8**	**+0.6**
MAYA				S	**Sg**	**14 37 18.9**	**+1.7**
GULN	**MERSIN_Gulnar**	**2.23**	**247**	P	**Pn**	**14 36 41.9**	**-1.2**
GULN				S	**Sn**	**14 37 08.0**	**-3.1**
AKKU	**Akkuyu-Mersin**	**2.24**	**246**	Pn	**Pn**	**14 36 43.2**	**0.0**
CUAYA	**Sivas-Altinyay**	**2.24**	**13**	P	**Pb**	**14 36 44.8**	**-1.7**
CUAYA				S	**Sg**	**14 37 17.6**	**+0.1**
AKK2	**Akkuyu-Mersin**	**2.25**	**246**	Pn	**Pn**	**14 36 43.6**	**+0.2**
AKK1	**Akkuyu-Mersin**	**2.25**	**246**	Pn	**Pn**	**14 36 43.2**	**-0.2**
KRMN	**Karaman**	**2.26**	**273**	Pn	**Pn**	**14 36 44.2**	**+0.6**
NARI	**Adyaman-Kaht**	**2.27**	**69**	P	**Pg**	**14 36 49.4**	**+0.3**
NARI				S	**Sg**	**14 37 18.6**	**+0.1**
HANM	**anlurfa/Hi**	**2.28**	**77**	P	**Pn**	**14 36 43.6**	**-0.2**
HANM				S	**Sg**	**14 37 18.0**	**-0.8**
OREN	**Orenkoy-Mersin**	**2.29**	**248**	Pn	**Pn**	**14 36 43.9**	**0.0**
SANL	**SANLIURFA_Merk**	**2.32**	**87**	P	**Pn**	**14 36 44.0**	**-0.4**
SANL				S	**Sg**	**14 37 19.7**	**-0.3**
SULT	**Sultanhani-AKS**	**2.33**	**299**	Pn	**Pn**	**14 36 45.2**	**+0.7**
KOZK	**Kozakli-Nevseh**	**2.33**	**336**	Pn	**Pn**	**14 36 45.7**	**+1.1**
CUSAR	**Sarkisla-SIVAS**	**2.34**	**3**	P	**Pn**	**14 36 45.6**	**+0.9**
CUSAR				S	**Sg**	**14 37 20.7**	**+0.1**
YORU	**Yoruktepe-Mers**	**2.35**	**248**	Pn	**Pn**	**14 36 44.9**	**+0.1**
SIRC	**Yozgat**	**2.37**	**342**	P	**Pn**	**14 36 45.4**	**+0.3**
SIRC				S	**Sg**	**14 37 22.7**	**+1.1**
MCUR	**KIREHR**	**2.41**	**330**	P	**Pn**	**14 36 44.4**	**-1.4**
MCUR				S	**Sg**	**14 37 23.1**	**+0.1**
AKSY	**AKSARAY - Alti**	**2.42**	**311**	P	**Pn**	**14 36 47.7**	**+2.0**
AKSY				S	**Sg**	**14 37 24.9**	**+1.7**
CUKAN	**kangal_SIVAS**	**2.48**	**26**	P	**Pg**	**14 36 51.8**	**-1.2**
CUKAN				S	**Sg**	**14 37 24.0**	**-1.2**
BEIL	**Beino**	**2.54**	**178**	*eP*	**Pn**	**14 36 46.9**	**-0.4**
BEIL				*eS*	Sn	14 37 10.7	-7.9
YAYX	**Yaylak**	**2.58**	**317**	Pn	**Pn**	**14 36 48.7**	**+0.7**
YOZ	**Yozgat**	**2.62**	**347**	Pn	**Pn**	**14 36 49.9**	**+1.2**
PARAL	**Paralimni**	**2.67**	**219**	P	**Pn**	**14 36 50.6**	**+1.6**
PARAL				S	**Sn**	**14 37 22.0**	**+0.3**
PARAL				AML	AML	14 37 32.4	
	2.6nm,1.0s						
PARAL				AML	AML	14 38 00.7	
	1.6nm,1.3s						
ARPR	**Arapgir-MALATY**	**2.68**	**41**	Pn	**Pb**	**14 36 51.5**	**-2.5**
ARPR	**Arapgir-MALATY**	**2.68**	**41**		**Pn**	**14 36 49.8**	**+0.4**
ELZG	**Elazig**	**2.69**	**57**	P	**Pb**	**14 36 51.7**	**-2.6**
ELZG				S	**Sg**	**14 37 32.1**	**0.0**
SERE	**Sereflikochisa**	**2.73**	**314**	Pn	**Pn**	**14 36 51.3**	**+1.2**
HWQ	**Hawqa**	**2.80**	**182**	*eP*	**Pn**	**14 36 51.4**	**+0.3**
MVOU	**Mavrovouni**	**2.87**	**225**	S	**Sn**	**14 37 26.3**	**-0.3**
MVOU				AML	AML	14 37 34.9	
	1.1nm,1.0s						
MVOU				AML	AML	14 37 42.4	
	0.8nm,0.7s						
ATHAL	**Athalassa**	**2.92**	**229**	S	**Sn**	**14 37 27.5**	**-0.4**
ATHAL				AML	AML	14 37 52.5	
	2.9nm,1.1s						
ATHAL				AML	AML	14 38 14.2	
	2.1nm,1.2s						
SVSK	**Karacayir**	**2.92**	**14**	Pn	**Pn**	**14 36 53.5**	**+1.0**
KAMT	**Kaman**	**2.95**	**321**	Pn	**Pn**	**14 36 53.9**	**+0.8**
ILIC	**ilic-Erzincan**	**3.07**	**39**	Pn	**Pn**	**14 36 55.9**	**+1.2**
CSS	**Mathiatis**	**3.08**	**227**	Pn	**Pn**	**14 36 51.8**	**-2.9**
CSS	**Mathiatis**	**3.08**	**227**	P	**Pn**	**14 36 52.6**	**-2.2**
CSS	**Mathiatis**	**3.08**	**227**	S	**Sn**	**14 37 34.4**	**+2.4**
CSS	**Mathiatis**	**3.08**	**227**	P	**Pn**	**14 36 56.8**	**+2.0**
CSS	**Mathiatis**	**3.08**	**227**	P	**Pn**	**14 36 56.8**	**+2.0**
CSS				S	**Sn**	**14 37 31.2**	**-0.7**
CSS				AML	AML	14 37 42.4	
	1.1nm,1.0s						
CSS				AML	AML	14 37 53.4	
	0.7nm,1.0s						
PTK	**Pertek**	**3.17**	**54**	Pn	**Pn**	**14 36 57.5**	**+1.2**
BHL	**Bhannes**	**3.19**	**187**	*eP*	**Pn**	**14 36 57.2**	**+0.8**
ZAHL	**Zahle**	**3.22**	**183**	*eP*	**Pn**	**14 36 57.1**	**+0.2**
ASGA	**Asgata**	**3.25**	**226**	P	**Pn**	**14 36 59.1**	**+2.0**
ASGA				S	**Sn**	**14 37 35.4**	**-0.8**
ASGA				AML	AML	14 37 46.0	
	1.3nm,1.6s						
ASGA				AML	AML	14 37 48.4	
	1.4nm,1.0s						
TOKT	**Tokat**	**3.25**	**6**	Pn	**Pn**	**14 36 59.1**	**+1.9**
BRTR	**Keskin Array B**	**3.27**	**325**	Pn	**Pn**	**14 36 57.7**	**+0.2**
	1.3nm,0.3s,baz=153,slow=14,SNR=43						
	15nm,1.0s						
BRTR	**Keskin Array B**	**3.27**	**325**	P	**Pn**	**14 36 57.8**	**+0.3**
DIYA	**Diyarbakir**	**3.31**	**74**	P	**Pg**	**14 37 08.9**	**-0.1**
DIYA				S	**Sg**	**14 37 52.6**	**+0.6**
TROD	**Troodos**	**3.37**	**232**	P	**Pn**	**14 37 00.9**	**+1.9**
TROD				AML	AML	14 37 50.0	
	1.6nm,1.1s						
TROD				AML	AML	14 37 52.3	
	1.6nm,1.1s						
DQRL	**Deir Qamar**	**3.40**	**187**	*eP*	**Pn**	**14 37 00.2**	**+1.0**
MAZI	**Mazidag**	**3.50**	**83**	Pn	**Pn**	**14 37 02.0**	**+1.4**
QRWL	**Qaraoun**	**3.54**	**186**	*eP*	**Pn**	**14 37 01.8**	**+0.6**
QRWL				*eS*	**Sn**	**14 37 36.4**	**-7.1**
RCY	**Rachaya**	**3.58**	**183**	*eP*	**Pn**	**14 37 01.8**	**0.0**
NATA	**Nata**	**3.67**	**232**	P	**Pn**	**14 37 05.7**	**+2.8**
NATA				AML	AML	14 37 54.5	
	4.2nm,1.2s						
NATA				AML	AML	14 37 58.0	
	3.9nm,0.9s						
AKMS	**Akamas**	**3.67**	**237**	P	**Pn**	**14 37 05.8**	**+2.8**
AKMS				S	**Sn**	**14 37 46.5**	**-0.2**
AKMS				AML	AML	14 37 51.6	
	2.5nm,1.7s						
AKMS				AML	AML	14 37 55.5	
	2.5nm,1.1s						
ERZN	**Erzincan**	**3.80**	**48**	Pn	**Pn**	**14 37 06.5**	**+1.8**
ANTO	**Ankara**	**3.80**	**318**	Pn	**Pn**	**14 37 06.3**	**+1.6**
ANTO	**Ankara**	**3.80**	**318**	P	**Pn**	**14 37 06.3**	**+1.6**
NATI	**Neve Ativ**	**3.82**	**184**	P	**Pn**	**14 37 07.8**	**+2.8**
GEM	**Giv'at Ha'Em**	**3.88**	**185**	P	**Pn**	**14 37 08.9**	**+3.1**
GEM	**Giv'at Ha'Em**	**3.88**	**185**	P	**Pn**	**14 37 08.9**	**+3.1**
GEM	**Giv'at Ha'Em**	**3.88**	**185**	S	**Sn**	**14 37 53.1**	**+1.5**
HNTI	**Hanita**	**4.06**	**191**	S	**Sn**	**14 37 57.4**	**+1.2**
HNTI	**Hanita**	**4.06**	**191**	P	**Pn**	**14 37 10.3**	**+2.0**
MMC7	**Mount Meron ar**	**4.09**	**188**	P	**Pn**	**14 37 11.1**	**+2.4**
KSHT	**Keshet**	**4.10**	**183**	P	**Pn**	**14 37 12.1**	**+3.3**
MMA0	**Mount Meron ar**	**4.10**	**188**	P	**Pn**	**14 37 12.1**	**+3.3**
MMA0B	**Mount Meron ar**	**4.10**	**188**	P	**Pn**	**14 37 11.3**	**+2.5**
MMA0B	**Mount Meron ar**	**4.10**	**188**	S	**Sn**	**14 37 58.2**	**+1.0**
MMAI	**Mount Meron Ar**	**4.10**	**188**	Pn	**Pn**	**14 37 09.2**	**+0.4**
	13nm,0.3s,baz=358,slow=14,SNR=19						
MMAI				Sn	**Sn**	**14 38 00.4**	**+3.2**
	23nm,0.3s,baz=350,slow=23,SNR=1.8						
MMAI				LR	LR	14 38 24.6	
	comp=Z,72nm,22.0s,baz=218,slow=34						
	17nm,0.4s						
BLGI	**Bet Lehem HaGe**	**4.40**	**190**	P	**Pn**	**14 37 15.7**	**+2.8**
OFRI	**`Ofer**	**4.54**	**192**	S	**Sn**	**14 38 09.2**	**+1.0**
OFRI	**`Ofer**	**4.54**	**192**	P	**Pn**	**14 37 16.7**	**+1.7**
MMLI	**Mount Malkishu**	**4.67**	**187**	S	**Sn**	**14 38 13.7**	**+2.5**
MMLI	**Mount Malkishu**	**4.67**	**187**	P	**Pn**	**14 37 19.2**	**+2.5**
MMLI	**Mount Malkishu**	**4.67**	**187**	P	**Pn**	**14 37 19.9**	**+3.2**
MMLI				S	**Sn**	**14 38 12.1**	**+1.0**
MMLI				AML	AML	14 38 43.2	
	0.5nm,1.3s						
MMLI				AML	AML	14 38 58.5	
	0.4nm,1.0s						
QRNJ	**Al-Qirein**	**4.75**	**185**	P	**Pn**	**14 37 21.1**	**+3.3**
HMDT	**Nahal Hemdat**	**4.84**	**186**	P	**Pn**	**14 37 22.4**	**+3.4**
HMDT	**Nahal Hemdat**	**4.84**	**186**	P	**Pn**	**14 37 22.1**	**+3.1**
SLTI	**Sal'it**	**4.91**	**190**	P	**Pn**	**14 37 22.7**	**+2.8**
SLTI	**Sal'it**	**4.91**	**190**	P	**Pn**	**14 37 21.5**	**+1.5**
ELL	**Elmali**	**4.96**	**268**	Pn	**Pn**	**14 37 20.3**	**-0.5**
ELL	**Elmali**	**4.96**	**268**	P	**Pn**	**14 37 20.3**	**-0.5**
ELL	**Elmali**	**4.96**	**268**	P	**Pn**	**14 37 25.1**	**+4.3**
HSUJ	**Al Zarqa**	**4.97**	**179**	P	**Pn**	**14 37 25.2**	**+4.4**
SNOP	**Sinop**	**4.98**	**352**	Pn	**Pn**	**14 37 23.0**	**+2.1**
BALJ	**Balqa**	**5.00**	**184**	Pn	**Pn**	**14 37 18.7**	**-2.5**
BALJ	**Balqa**	**5.00**	**184**	P	**Pn**	**14 37 25.3**	**+4.1**
BZK	**Bozkurt**	**5.13**	**342**	Pn	**Pn**	**14 37 24.9**	**+1.9**
DSI	**Dead Sea**	**5.53**	**186**	P	**Pn**	**14 37 32.3**	**+3.8**
DSI	**Dead Sea**	**5.53**	**186**	P	**Pn**	**14 37 30.7**	**+2.2**
AMAZ	**Amatzia**	**5.62**	**190**	P	**Pn**	**14 37 33.2**	**+3.5**
YTIR	**Yattir**	**5.76**	**188**	P	**Pn**	**14 37 33.9**	**+2.2**
MSBI	**Mazada**	**5.79**	**186**	P	**Pn**	**14 37 35.6**	**+3.7**
LISJ	**El Lisan**	**5.85**	**185**	P	**Pn**	**14 37 36.1**	**+3.3**
KZIT	**Kziot**	**6.32**	**193**	P	**Pn**	**14 37 41.6**	**+2.3**
KZIT	**Kziot**	**6.32**	**193**	P	**Pn**	**14 37 41.2**	**+1.8**
KZIT	**Kziot**	**6.32**	**193**	S	**Sn**	**14 38 53.2**	**+1.3**
ARG	**Arkhangelos**	**6.46**	**265**	Pn	**Pn**	**14 37 41.9**	**+0.7**
ARG	**Arkhangelos**	**6.46**	**265**	P	**Pn**	**14 37 41.9**	**+0.7**
ZFRI	**Zfri**	**6.56**	**187**	P	**Pn**	**14 37 45.3**	**+2.8**
PRNI	**Paran**	**6.77**	**188**	P	**Pn**	**14 37 49.0**	**+3.4**
PRNI	**Paran**	**6.77**	**188**	P	**Pn**	**14 37 48.7**	**+3.2**
VSLR	**Vesyoloye**	**7.05**	**24**	*i P*	**Pn**	**14 37 51.0**	**+1.7**
HRFI	**Mount Harif**	**7.08**	**187**	P	**Pn**	**14 37 52.6**	**+2.8**
MBRI	**Mt Berech**	**7.33**	**188**	P	**Pn**	**14 37 56.5**	**+3.2**
KARP	**Karpathos**	**7.37**	**261**	Pn	**Pn**	**14 37 53.5**	**-0.3**
GNI	**Garni**	**7.43**	**63**	LR	LR	14 41 06.9	
	comp=Z,158nm,20.1s,baz=252,slow=40						
GNI	**Garni**	**7.43**	**63**	*i P*	**Pn**	**14 37 54.5**	**-0.2**
GNI				pmax	pmax		
	comp=Z,22nm,1.6s						
EIL	**Elat**	**7.45**	**188**	Pn	**Pn**	**14 37 55.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=34,slow=16,SNR=2.3						
EIL				Sn	**Sn**	**14 39 24.6**	**+4.8**
	comp=Z,0.1nm,0.3s,baz=100,slow=17,SNR=1.9						
EIL				LR	LR	14 40 55.5	
	comp=Z,116nm,19.2s,baz=54,slow=39						
	comp=Z,3.0nm,0.6s						
SHA1	**Shidzhatmaz**	**8.32**	**35**	*i P*	**Pn**	**14 38 09.0**	**+2.0**
KBZ	**Khabaz**	**8.43**	**36**	Pn	**Pn**	**14 38 10.2**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=158,slow=5.4,SNR=1.9						
KBZ				LR	LR	14 41 31.8	
	comp=Z,125nm,21.2s,baz=250,slow=39						
	comp=Z,0.9nm,0.5s						
APE	**Apeiranthos**	**8.44**	**273**	*i P*	**Pn**	**14 38 07.9**	**-0.6**
KIV	**Kislovodsk**	**8.50**	**34**	*eP*	**Pn**	**14 38 11.4**	**+2.0**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,32nm,10.0s						
SANT	**Santorini**	**8.56**	**268**	Pn	**Pn**	**14 38 10.0**	**-0.1**
IDI	**Anoyia**	**9.23**	**262**	Pn	**Pn**	**14 38 17.9**	**-1.4**
	comp=Z,4.0nm,0.3s,baz=87,slow=17,SNR=23						
IDI				Sn	**Sn**	**14 39 56.6**	**-6.9**
	comp=Z,0.4nm,0.3s,baz=90,slow=20,SNR=2.2						
	comp=Z,30nm,0.6s						
MAK	**Makhachkala**	**10.54**	**53**	*eP*	**Pn**	**14 38 33.6**	**-3.5**
MAK				*eS*	**Sn**	**14 40 31.1**	**-4.3**
MAK				pmax	pmax		
	comp=Z,85nm,1.0s						
MAK				MLR	MLR		
	comp=Z,211nm,10.0s						
MILM	**Milestii Mici**	**11.21**	**333**	*eP*	**Pn**	**14 38 47.5**	**+1.2**
	comp=Z,50nm,1.1s						
MILM				*eL*	L	14 45 29.0	
MILM				LRM	MLR	14 45 50.0	
	comp=Z,200nm,11.5s						
MILM	**Milestii Mici**	**11.21**	**333**	*eP*	**Pn**	**14 38 47.5**	**+1.2**
MILM				pmax	pmax		
	comp=Z,50nm,1.2s						
MILM				MLR	MLR		
	comp=Z,200nm,11.5s						
MLR	**Muntele Rosu**	**11.34**	**321**	LR	LR	14 43 59.3	
	comp=Z,211nm,21.6s,baz=124,slow=42						
VORD	**Divnogorie**	**14.07**	**8**	*eP*	**Pn**	**14 39 24.2**	**-1.1**
VORD				pmax	pmax		
	comp=Z,5.0nm,0.5s						
VSR	**Storozhevoye**	**14.30**	**8**	*eP*	**Pn**	**14 39 27.0**	**-1.5**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KIEV	**Kiev**	**14.47**	**342**	P	**P**	**14 39 38.0**	**+0.2**
KIEV	**Kiev**	**14.47**	**342**	P	**P**	**14 39 38.0**	**+0.2**
AKASG	**Malin Array Be**	**14.48**	**342**	Pn	**Pn**	**14 39 31.1**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=170,slow=13,SNR=1.7						
AKASG				LR	LR	14 46 29.9	
	comp=Z,89nm,19.5s,baz=120,slow=43						
	comp=Z,0.2nm,0.3s						
AKBB	**Malin Array Si**	**14.48**	**342**	P	**P**	**14 39 38.2**	**+0.4**
AKBB	**Malin Array Si**	**14.48**	**342**	P	**P**	**14 39 38.2**	**+0.4**
KWP	**Kalwaria Pacla**	**15.84**	**327**	P	**P**	**14 39 53.7**	**+0.7**
KWP				IAmb	IAmb	14 39 59.2	
	comp=Z,16nm,1.0s						
KWP	**Kalwaria Pacla**	**15.84**	**327**	P	**P**	**14 39 53.7**	**+0.7**
KWP				pmax	pmax		
	comp=Z,17nm,1.0s						
LANS	**Liptovska Anna**	**17.06**	**320**	*eP*	**P**	**14 40 13.2**	**+6.6**
LANS	**Liptovska Anna**	**17.06**	**320**	*eP*	**P**	**14 40 13.2**	**+6.6**
BELG	**Belogornoye**	**17.33**	**24**	LR	LR	14 47 34.3	
	comp=Z,67nm,20.2s,baz=209,slow=40						
BELG	**Belogornoye**	**17.33**	**24**	*i P*	**P**	**14 40 08.8**	**-0.6**
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MODS	**Modra-Piesok**	**17.79**	**315**	*eP*	**P**	**14 40 16.6**	**+2.0**
MODS	**Modra-Piesok**	**17.79**	**315**	*eP*	**P**	**14 40 16.6**	**+2.0**
ZST	**Bratislava**	**17.80**	**315**	*eP*	**P**	**14 40 18.5**	**+3.9**
ZST	**Bratislava**	**17.80**	**315**	*eP*	**P**	**14 40 18.5**	**+3.9**
OBN	**Obninsk**	**18.04**	**1¶**	*eP*	**P**	**14 40 18.8**	**+1.6**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,52nm,14.0s						
MNK	**Minsk**	**18.31**	**345**	*i P*	**Pn**	**14 40 18.1**	**-2.0**
	comp=E,2.0nm,0.6s						
MNK				*i P*	**Pn**	**14 40 18.1**	**-2.0**
	comp=N,5.0nm,0.6s						
MNK				*i P*	**Pn**	**14 40 18.1**	**-2.0**
	comp=Z,6.0nm,0.6s,baz=159						
MNK				*i* PP	**PnPn**	**14 40 29.7**	**-1.7**
MNK				*i* S	**Sn**	**14 43 44.2**	**-0.6**
MNK				*i* SS	**SnSn**	**14 43 59.4**	**+0.9**
MNK				*i* LR	LR	14 46 33.9	
MNK				*i* LRM	MLR	14 48 31.7	
	comp=Z,63nm,19.4s						
MNK				*i* LRM	MLR	14 48 59.2	
	comp=E,82nm,21.9s						
MNK				*i* LRM	MLR	14 49 00.0	
	comp=N,235nm,20.8s						
MNK	**Minsk**	**18.31**	**345**	*i P*	**Pn**	**14 40 18.1**	**-2.0**
MNK				*i* S	**Sn**	**14 43 44.2**	**-0.6**
MNK				pmax	pmax		
	comp=N,5.0nm,0.6s						
MNK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.6s						
MNK				MLR	MLR		
	comp=Z,63nm,19.0s						
MNK				MLR	MLR		
	comp=E,82nm,22.0s						
MNK				MLR	MLR		
	comp=N,235nm,21.0s						
FDMO	**Fiordimonte**	**18.56**	**296**	P	**P**	**14 40 23.5**	**+0.4**
VRAC	**Vranov**	**18.68

comp=Z,3.3nm,0.7s,baz=162,slow=8.4,SNR=12
ARCES LR LR 14 57 01.3
comp=Z,25nm,18.2s,baz=116,slow=38
comp=Z,3.3nm,0.7s
ARCES ARCESS Array B 33.02 353 P **P** **14 42 40.9 -0.3**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 33.06 52 *ce*P **P** **14 42 43.4 +1.6**
KURK pmax pmax
comp=Z,4.0nm,1.3s
KEV Kevo 33.10 354 P **P** **14 42 42.4 +0.5**
KEV Kevo 33.10 354 P **P** **14 42 42.4 +0.5**
KEV pmax pmax
comp=Z,18nm,1.4s
MAKZ Makanchi 35.05 59 P **P** **14 42 59.5 +0.4**
MAKZ Makanchi 35.05 59 P **P** **14 42 59.5 +0.4**
MAKZ pmax pmax
comp=Z,3.0nm,1.2s
MK31 Makanchi Array 35.26 59 **P** **14 43 00.5 -0.5**
MK31 Makanchi Array 35.26 59 P **P** **14 43 00.5 -0.5**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 35.26 59 P **P** **14 43 01.5 +0.5**
comp=Z,1.8nm,0.8s,baz=276,slow=6.0,SNR=16
comp=Z,1.8nm,0.8s
ZAA0 Zalesovo Array 37.24 47 P **P** **14 43 18.1 +0.3**
ZALV Zalesovo Beam 37.24 47 P **P** **14 43 18.1 +0.3**
comp=Z,2.0nm,0.7s,baz=263,slow=9.4,SNR=9.6
ZALV LR LR 15 00 59.8
comp=Z,45nm,19.1s,baz=200,slow=40
comp=Z,2.0nm,0.7s
MBAR Mbarara 37.82 189 *ce*P **P** **14 43 22.8 -0.4**
MBAR pmax pmax
comp=Z,11nm,2.5s
TORD Torodi Ar. Bea 38.88 241 P **P** **14 43 30.6 -1.4**
comp=Z,1.4nm,0.9s,baz=51,slow=11,SNR=7.6
comp=Z,1.4nm,0.9s
WMQ Urumqi 39.31 64 *e*P **P** **14 43 35.5 +0.1**
WMQ pP sP 14 43 39.8 +2.1
WMQ sP pP 14 43 44.0 +7.0
WMQ pmax pmax
comp=Z,40nm,0.7s
SPB2 Spitsbergen Ar 42.03 354 P **P** **14 43 58.2 +0.8**
BORG Borgarnes 43.36 328 *i* P **P** **14 44 06.1 -2.2**
SONM Songino Array 51.30 54 LR LR 15 09 26.3
comp=Z,93nm,19.1s,baz=260,slow=39
ULN Ulaanbaatar 51.72 54 *i* P **P** **14 45 14.8 +1.1**
ULN pmax pmax
comp=Z,1.0nm,0.8s
PZH PanZhiHua 55.81 81 P **P** **14 45 44.3 +0.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,7.8s
EUNU Eureka 58.90 350 P **P** **14 46 04.5 -0.4**
KLR Kul'dur 66.32 45 *i* P **P** **14 46 56.2 +1.4**
KLR pmax pmax
comp=Z,5.0nm,2.2s
BILL Bilibino 68.76 18⇓ *e*P **P** **14 47 12.1 +2.1**
BILL *e* 14 49 47.8
BILL pmax pmax
comp=Z,14nm,2.0s
BILL MLR MLR
comp=Z,53nm,17.0s
B20K Meade River 72.78 5 P **P** **14 47 35.3 +0.9**
C23K Itkillik River 73.28 2 P **P** **14 47 38.2 +0.9**
C19K Lookout Ridge 73.49 6 P **P** **14 47 39.0 +0.3**
C19K IAmb IAmb 14 48 01.4
comp=Z,5.6nm,1.4s
E27K Coleen River 75.03 359 P **P** **14 47 48.4 +0.8**
E27K IAmb IAmb 14 47 55.5
comp=Z,3.7nm,1.1s
E24K Your Creek 75.11 2 P **P** **14 47 48.8 +0.7**
F21K Alatna River 75.76 4 P **P** **14 47 52.4 +0.6**
F21K IAmb IAmb 14 47 53.4
comp=Z,1.9nm,0.8s
F20K Avaraart Lake 75.80 5 P **P** **14 47 52.3 +0.3**
F20K IAmb IAmb 14 48 02.8
comp=Z,2.3nm,1.2s
BMAR Burnt Mountain 75.81 0 P **P** **14 47 53.4 +1.3**
G27K Doyon Strip 76.42 359 P **P** **14 47 56.5 +0.9**
G27K IAmb IAmb 14 47 57.6
comp=Z,1.8nm,0.7s
G19K Purcell Mounta 76.60 5 P **P** **14 47 57.1 +0.5**
G19K IAmb IAmb 14 47 57.9
comp=Z,2.6nm,0.7s
G18K Tagagawik 76.72 6 P **P** **14 47 57.3 +0.1**
G18K IAmb IAmb 14 48 07.4
comp=Z,5.0nm,1.4s
IMAR Indian Mountai 76.98 4 P **P** **14 47 59.1 +0.4**
H21K Melozitna Rive 77.36 4 P **P** **14 48 01.7 +0.8**
H21K IAmb IAmb 14 48 16.5
comp=Z,4.6nm,1.2s
I28M Miner Creek 77.75 358 P **P** **14 48 03.4 +0.2**
I28M IAmb IAmb 14 48 19.2
comp=Z,5.3nm,1.4s
YKA Yellowknife Ar 78.00 347 P **P** **14 48 02.7 -1.8**
comp=Z,1.0nm,0.8s,baz=34,slow=5.6,SNR=4.2
comp=Z,1.0nm,0.8s
MLY Manley 78.08 3 P **P** **14 48 05.7 +0.7**
MDM Murphy Dome 78.23 2 P **P** **14 48 06.2 +0.4**
MDM IAmb IAmb 14 48 07.6
comp=Z,3.5nm,1.2s
EGAK Eagle 78.45 359 P **P** **14 48 07.9 +1.0**
EGAK IAmb IAmb 14 48 11.4
comp=Z,4.0nm,1.2s
ILAR Eielson Array 78.45 1 P **P** **14 48 06.8 -0.1**
comp=Z,0.3nm,0.8s,baz=337,slow=6.2,SNR=4.9
comp=Z,0.3nm,0.8s
CCB Clear Creek Bu 78.56 2 P **P** **14 48 07.4 -0.1**
CCB IAmb IAmb 14 48 08.3
comp=Z,2.5nm,0.8s
J20K Nowinta River 78.75 5 P **P** **14 48 09.1 +0.5**
J20K IAmb IAmb 14 48 15.3
comp=Z,5.3nm,1.2s
J19K Poorman 78.83 5 P **P** **14 48 10.0 +0.9**
J19K IAmb IAmb 14 48 52.8
comp=Z,6.2nm,1.5s
K20K Telida 79.57 5 P **P** **14 48 13.7 +0.5**
K20K IAmb IAmb 14 48 25.3
comp=Z,6.0nm,1.5s
SADO Sadowa 79.71 319 LR LR 15 23 44.3
comp=Z,14nm,18.8s,baz=8.0,slow=36
BCAR Beaver Creek A 80.18 359 P **P** **14 48 17.4 +0.9**
M29M Somme Creek 80.72 357 P **P** **14 48 20.3 +0.8**
M29M IAmb IAmb 14 48 22.4
comp=Z,2.7nm,0.8s
N19K Bonanza Creek 82.07 5 P **P** **14 48 27.4 +0.8**
PDAR Pinedale Array 94.59 335 LR LR 15 32 59.9
comp=Z,15nm,18.3s,baz=48,slow=36
ELK Elko 98.21 338 LR LR 15 35 13.6
comp=Z,22nm,20.0s,baz=0.0,slow=36

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*NNC **31** 14:42:33.9±2.7, 37°.73N×71°.13E, h0km, mb4.1, mpv4.4,*
Error ellipse: s-maj=25.2km s-min=19.5km az=109.0
ISC 31 14:42:33.1±4.0, **37°.5N**±0°.3×**71°.7E**±0°.2, **h100**km, **n11,**
σ0°60/12, 2C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.86**	**345**	Pg	**Pn**	**14 43 44.0**	**0.0**
	22nm,0.2s						
IUG				Lg	Lg	14 44 39.6	
	41nm,0.3s						
AML	**Almayashu**	**4.90**	**17**	P	**Pn**	**14 43 45.0**	**+0.1**
	SNR=55						
UCH	**Uchtor**	**5.22**	**23**	P	**Pn**	**14 43 49.3**	**+0.1**
	SNR=15						
MRKS	**Merke**	**5.40**	**12**	Pg	**Pn**	**14 43 51.7**	**+0.4**
	12nm,0.3s						
MRKS				Lg	Lg	14 44 54.7	
	15nm,0.3s						
EKS2	**Erkin-Say**	**5.43**	**16**	P	**Pn**	**14 43 52.4**	**+0.7**
	SNR=6.1						
AAK	**Ala-Archa**	**5.59**	**21**	P	**Pn**	**14 43 54.6**	**+0.8**
	SNR=7.3						
KK31	**Karatay Array**	**5.71**	**351**	⇑P	**Pn**	**14 43 55.8**	**+0.4**
	8.1nm,0.3s,baz=178,slow=13,SNR=90						
KK31				⇑S	**Sn**	**14 44 59.5**	**-0.2**
	3.7nm,0.3s,baz=174,slow=22						
CHMS	**Chumysh**	**6.00**	**22**	P	**Pn**	**14 43 59.5**	**+0.2**
	SNR=5.1						
USP	**Ospenovka**	**6.17**	**19**	P	**Pn**	**14 44 00.4**	**-1.3**
	SNR=5.2						
TKM2	**Tokmak 2**	**6.20**	**27**	P	**Pn**	**14 44 02.2**	**-0.1**
	SNR=8.7						
AB31	**Akbulak array**	**14.56**	**328**	P	**Pn**	**14 45 53.8**	**-0.1**
	0.1nm,0.3s,baz=138,slow=14,SNR=6.2						

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*ISN **31** 15:10:01.5±0.6, 33°.72N×45°.61E, h25km, ML2.2*
TEH 31 15:10:00.7, 33°.79N×45°.56E, h12km±**999**km, **ML2.5,**
Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.43**	**42**	Pg	Pg	15 10 09.4	+0.1
GLG1				Sg	Sb	15 10 16.4	-0.5
ILBA	**Ilam Banvizeh**	**0.56**	**107**	Pg	Pg	15 10 11.9	+0.2
IBDR	**Badra**	**0.74**	**155**	*e*Pg	Pg	15 10 14.0	-1.1
	baz=336						
IBDR				*e*Sg	Sg	15 10 24.0	-0.9
IBDR				AML	AML	15 10 33.4	
	comp=N,95nm,0.6s						
IBDR				AML	AML	15 10 43.1	
	comp=E,113nm,0.6s						
IDHR	**Dehrash**	**1.14**	**37**	Pg	Pn	15 10 23.5	+0.8
ILIN	**Lien**	**1.61**	**45**	Pg	Pb	15 10 31.0	+0.4
SNQR	**Sonqor, Kerman**	**2.01**	**58**	Pn	Pb	15 10 37.9	+0.5

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*HEL **31** 15:27:14.9±0.2, 67°.55N×33°.99E, h0km, ML1.8, Explosion*
*BER **31** 15:27:15.9±1.8, 67°.52N×34°.06E, h0km, ML1.8, Suspected explosion*
*KOLA **31** 15:27:15.7, 67°.63N×33°.95E, h0km, ML2.2, Error ellipse: s-maj=3.3km s-min=1.8km az=120.0, Khibiny, mines Koashva, Nyurkpakh*
*IDC **31** 15:27:19.8±2.8, 67°.68N×33°.21E, h0km, mbtmp2.7/2, ML2.0/2, Error ellipse: s-maj=36.2km s-min=13.6km az=63.0*
ISC 31 15:27:16.0±0.9, **67°.71N**±0°.04×**33°.82E**±0°.04, **h0**km, **n32,**
σ1°13/53, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.21**	**229**	P	**Pg**	**15 27 19.1**	**-0.8**
APA0	**Apatity Array**	**0.33**	**253**	S	**Sg**	**15 27 27.4**	**+0.9**
LVZ	**Lovozero**	**0.37**	**58**	P	**Pg**	**15 27 22.3**	**-0.8**
LVZ				S	**Sg**	**15 27 28.3**	**+0.4**
LVZ	**Lovozero**	**0.37**	**58**	PG	**Pg**	**15 27 22.2**	**-0.8**
LVZ				SG	**Sg**	**15 27 29.2**	**+1.3**
TERR	**Teriberka**	**1.58**	**17**	P	**Pn**	**15 27 44.8**	**-0.4**
TERR				S	**Sb**	**15 28 06.2**	**-0.2**
VRF	**Varrio**	**1.60**	**273**	PG	**Pn**	**15 27 45.0**	**-0.6**
	baz=95						
VRF				MSG		15 28 05.2	
	comp=Z,14nm,0.2s						
VRF				SG	**Sn**	**15 28 05.9**	**-1.0**
PRVG	**Vayda Guba**	**2.13**	**345**	S	**Sb**	**15 28 21.8**	**-0.7**
RAJF	**Raja-Jooseppi**	**2.21**	**293**	PB	**Pn**	**15 27 53.8**	**0.0**
RAJF				SN	**Sb**	**15 28 22.9**	**-1.6**
OLKF	**Oulanka, Finla**	**2.22**	**233**	PG	**Pn**	**15 27 54.3**	**+0.3**
OLKF				MSG		15 28 19.7	
	comp=Z,4.5nm,0.2s						
KU6	**Riekki**	**2.29**	**224**	PG	**Pn**	**15 27 54.8**	**-0.2**
	baz=45						
KU6				MSG		15 28 21.0	
	comp=Z,3.0nm,0.2s						
KU6				SG	**Sn**	**15 28 25.4**	**+1.5**
MSF	**Maaselka**	**2.61**	**229**	PG	**Pn**	**15 28 00.9**	**+1.6**
MSF				SG	**Sb**	**15 28 35.5**	**-0.6**
SGF	**Sodankyl**	**2.81**	**268**	PG	**Pb**	**15 28 06.2**	**-0.8**
	baz=87						
SGF				SB	**Sb**	**15 28 39.2**	**-2.6**
VADS	**Vadso**	**2.91**	**328**	P	**Pn**	**15 28 03.5**	**+0.1**
VADS				S	**Sn**	**15 28 38.6**	**-0.5**
VADS	**Vadso**	**2.91**	**328**	*e*P	**Pn**	**15 28 04.1**	**+0.6**
VADS				*e*S	**Sn**	**15 28 40.3**	**+1.2**
VADS				IAML		15 28 49.2	
	comp=Z,9.6nm,0.4s						
KEV	**Kevo**	**3.22**	**313**	*e*P	**Pn**	**15 28 08.6**	**+0.9**
KEV				*e*S	**Sn**	**15 28 47.5**	**+0.7**
KEV	**Kevo**	**3.22**	**313**	PN	**Pn**	**15 28 08.5**	**+0.8**
KEV				SN	**Sn**	**15 28 47.9**	**+1.1**
RNF	**Rovaniemi**	**3.24**	**254**	PN	**Pn**	**15 28 07.8**	**-0.2**
	baz=70						
RANF	**Ranua**	**3.25**	**242**	PB	**Pn**	**15 28 08.4**	**+0.3**
RANF				SG	**Sb**	**15 28 55.2**	**+0.6**
ARA0	**ARCESS Array S**	**3.55**	**305**	PN	**Pn**	**15 28 12.2**	**-0.1**
	baz=121						
ARA0				SN	**Sn**	**15 28 54.8**	**-0.2**
ARCES	**ARCESS Array B**	**3.55**	**305**	P	**Pn**	**15 28 12.2**	**-0.2**
ARCES				S	**Sn**	**15 28 55.0**	**+0.1**
ARCES	**ARCESS Array B**	**3.55**	**305**	Pn	**Pn**	**15 28 12.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=122,slow=13,SNR=39						
ARCES				Sn	**Sn**	**15 28 55.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=121,slow=21,SNR=7.9						
ARCES				Lg	Lg	15 29 06.0	
	comp=Z,1.0nm,0.3s,baz=124,slow=32,SNR=11						
	comp=Z,1.2nm,0.4s						
KLF	**Kolari**	**3.82**	**267**	PN	**Pn**	**15 28 15.7**	**-0.3**
KLF				SG	**Sb**	**15 29 14.5**	**+3.6**
RMF	**Romuvaara**	**3.85**	**206**	PN	**Pn**	**15 28 14.9**	**-1.4**
HEF	**Hetta**	**3.88**	**285**	*e*P	**Pn**	**15 28 16.7**	**-0.1**
HEF				*e*S	**Sn**	**15 29 02.3**	**-0.6**
HEF	**Hetta**	**3.88**	**285**	PN	**Pn**	**15 28 17.6**	**+0.8**
HEF				SN	**Sn**	**15 29 03.8**	**+0.9**
TOF	**Tornio**	**4.08**	**251**	PG	**Pb**	**15 28 29.2**	**+0.6**
KTK1	**Kautokeino**	**4.13**	**293**	*e*P	**Pn**	**15 28 21.6**	**+1.4**
KTK1				*e*Pg	**Pb**	**15 28 30.8**	**+1.3**
KTK1				*e*S	**Sn**	**15 29 08.2**	**-1.0**
KTK1				IAML		15 29 24.7	
	comp=Z,3.4nm,0.5s						
KTK1	**Kautokeino**	**4.13**	**293**	SN	**Sn**	**15 29 08.3**	**-0.8**
LANU	**Lannavaara**	**4.48**	**280**	PN	**Pn**	**15 28 24.4**	**-0.6**
LANU				SN	**Sn**	**15 29 18.6**	**+0.7**
I37NO	**I37NO**	**5.78**	**291**	I	I	16 02 30.0	
	baz=97,slow=315,SNR=1.2						
FAUS	**Fauske**	**7.10**	**276**	S	**Sn**	**15 30 18.6**	**-3.5**
FINES	**FINESS Array B**	**7.11**	**212**	Pn	**Pn**	**15 29 01.8**	**+0.7**
	baz=29,slow=12,SNR=1.1						
FINES				Lg	Lg	15 30 49.8	
	comp=Z,0.1nm,0.3s,baz=23,slow=29,SNR=2.1						
	comp=Z,0.8nm,0.9s						

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*VIE **31** 16:10:02.0±0.5, 51°.60N×16°.09E, h0km, mb2.4/3, ml2.8/2,*
Error ellipse: s-maj=7.5km s-min=3.2km az=64.0,
Suspected Mining induced.
*IPEC **31** 16:10:02.1±0.2, 51°.62N×16°.07E, h1km, ML2.4/4, Error ellipse: s-maj=1.7km s-min=1.1km az=28.0*
*PRU **31** 16:10:04.7, 51°.52N×15°.98E, h0km*
ISC 31 16:10:01.8±1.3, **51°.63N**±0°.06×**16°.01E**±0°.03, **h0**km, **n25,**
σ0°69/48, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.80**	**167**	*e*Pg	**Pg**	**16 10 17.4**	**+0.3**
KSP				*e*Sg	**Sg**	**16 10 27.5**	**-0.1**
CHVC	**Chvalec**	**1.04**	**178**	*e*PG	**Pb**	**16 10 22.2**	**-0.4**
CHVC				*e*SG	**Sg**	**16 10 35.1**	**0.0**
UPC	**Upice**	**1.12**	**180**	*e*PG	**Pb**	**16 10 23.7**	**-0.3**
UPC				*e*SG	**Sg**	**16 10 37.5**	**-0.2**
	comp=Z,98nm,0.3s						
DPC	**Dobruska-Polom**	**1.29**	**171**	*e*PG	**Pg**	**16 10 26.1**	**-0.4**
DPC				*e*SG	**Sg**	**16 10 42.7**	**-0.5**
	comp=Z,21nm,0.2s						
PVCC	**Panska Ves**	**1.43**	**220**	*e*PG	**Pb**	**16 10 29.3**	**+0.1**
PVCC				*e*SG	**Sg**	**16 10 47.5**	**0.0**
	comp=Z,121nm,0.2s						
BRG	**Berggiesshubel**	**1.50**	**241**	Pg	**Pg**	**16 10 30.5**	**-0.1**
BRG				Sg	**Sn**	**16 10 50.4**	**+0.2**
BRG				Amp		16 10 51.5	
	comp=Z,46nm,0.3s						
KRLC	**Kraliky**	**1.63**	**162**	*e*PG	**Pn**	**16 10 31.4**	**-0.3**
PRU	**Pruhonice**	**1.88**	**210**	*e*PG	**Pn**	**16 10 35.0**	**-0.2**
PRU				*e*SG	**Sb**	**16 11 00.5**	**-0.6**
	comp=Z,26nm,0.6s						
CLL	**Collm**	**1.91**	**262**	*i* Pn	**Pn**	**16 10 35.2**	**-0.3**
	comp=Z,7.0nm,0.3s						
CLL				*i* Pg	**Pg**	**16 10 38.4**	**+0.1**
CLL				*i* x	x	16 10 42.1	
CLL				*i* x	x	16 10 58.3	
CLL				*i* Sg	**Sg**	**16 11 02.9**	**-0.1**
	comp=Z,17nm,0.4s						
HSKC	**Hora Svate Kat**	**1.92**	**239**	*e*PG	**Pb**	**16 10 37.3**	**-0.3**
HSKC				*e*SG	**Sb**	**16 11 02.1**	**0.0**
	comp=Z,24nm,0.5s						
MORC	**Moravsky Berou**	**2.09**	**152**	*e*Pn	**Pn**	**16 10 37.8**	**-0.3**
	baz=334						
MORC				*e*Sg	**Sb**	**16 11 06.8**	**-0.3**
	comp=Z,25nm,0.5s,baz=334						
OKC	**Ostrava-Krasne**	**2.25**	**142**	*e*SG	**Sb**	**16 11 12.3**	**+0.7**
VRAC	**Vranov**	**2.35**	**171**	*e*Pn	**Pn**	**16 10 41.6**	**0.0**
	baz=352						
VRAC				*e*Sg	**Sb**	**16 11 15.3**	**+0.8**
	comp=Z,20nm,0.5s,baz=352						
KRUC	**Moravsky**	**2.58**	**174**	*e*Pn	**Pn**	**16 10 44.7**	**0.0**
	baz=356						
KRUC				*e*Sg	**Sb**	**16 11 22.2**	**+1.2**
	comp=Z,9.5nm,0.4s,baz=356						
KRUC	**Moravsky**	**2.58**	**174**	*e*PN	**Pn**	**16 10 44.8**	**0.0**
KRUC				*e*SG	**Sb**	**16 11 22.3**	**+1.2**
OJC	**Ojcow**	**2.78**	**119**	*e*Pg	**Pg**	**16 10 55.8**	**+0.7**
OJC				*e*Sg	**Sg**	**16 11 30.8**	**-0.3**
KHC	**Kasperske Hory**	**2.94**	**213**	*e*PN	**Pn**	**16 10 49.8**	**0.0**
KHC				*e*PG	**Pb**	**16 10 55.8**	**+0.7**
KHC				*e*SN	**Sn**	**16 11 25.1**	**-0.7**
KHC				*e*SG	**Sg**	**16 11 34.1**	**-2.1**
	comp=Z,9.2nm,0.3s						
JAVC	**Velka Javorina**	**2.97**	**158**	*e*PN	**Pn**	**16 10 50.1**	**-0.1**
CKRC	**Cesky Krumlov**	**3.01**	**202**	*e*PG	**Pb**	**16 10 57.2**	**+0.9**
CKRC				*e*SG	**Sb**	**16 11 36.0**	**+2.4**
	comp=Z,11nm,0.5s						
LANS	**Liptovska Anna**	**3.32**	**137**	*e*PG	**Pg**	**16 11 04.7**	**-0.7**
LANS				*e*SG	**Sg**	**16 11 47.3**	**-1.2**
MODS	**Modra-Piesok**	**3.36**	**165**	*e*PG	**Pg**	**16 11 06.3**	**+0.2**
MODS				*e*SG	**Sg**	**16 11 49.3**	**-0.3**
NIE	**Niedzica**	**3.52**	**127**	*e*Pg	**Pg**	**16 11 09.0**	**-0.2**
NIE				*e*Sg	**Sg**	**16 11 54.6**	**-0.2**
VYHS	**Vyhne**	**3.62**	**149**	*e*PN	**Pn**	**16 10 59.6**	**+0.4**
VYHS				*e*PG	**Pg**	**16 11 10.4**	**-0.8**
CONA	**Conrad Observa**	**3.70**	**182**	*e*Pn	**Pn**	**16 11 00.4**	**+0.1**
	comp=Z,0.8nm,0.4s						
MOA	**Molln**	**3.94**	**197**	*e*Pn	**Pn**	**16 11 03.9**	**+0.3**
	comp=Z,2.0nm,0.3s						

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*SJA **31** 16:18:00.1±0.7, 24°.04S×69°.48W, h92km±6km, ML3.5, MW3.5*
*GUC **31** 16:18:01.1±0.8, 24°.06S×69°.50W, h90km±6km, ML3.6*
ISC 31 16:18:00.8±1.5, **24°.05S**±0°.03×**69°.52W**±0°.06, **h96**km±12km,
n26, σ1°25/44, 1C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.84**	**3**	*e*P	**Pn**	**16 18 18.9**	**-0.6**
PB15				*e*S	**Sn**	**16 18 32.7**	**-0.8**
PB15	**IPOC Station P**	**0.84**	**3**	*e*P	**Pn**	**16 18 19.1**	**-0.4**
PB15				*e*S	**Sn**	**16 18 32.6**	**-0.9**
PB14	**IPOC Station P**	**0.99**	**234**	*e*P	**Pn**	**16 18 21.7**	**+0.5**
PB14				*e*S	**Sn**	**16 18 38.6**	**+2.2**
PB14	**IPOC Station P**	**0.99**	**234**	⇑*i*P	**Pn**	**16 18 21.5**	**+0.4**
PB14				*e*S	**Sn**	**16 18 36.2**	**-0.2**
GO02	**Mina Guanaco**	**1.11**	**183**	*e*P	**Pn**	**16 18 22.7**	**+0.1**
GO02				*e*S	**Sn**	**16 18 39.5**	**+0.6**
GO02	**Mina Guanaco**	**1.11**	**183**	⇓*i*P	**Pn**	**16 18 22.5**	**0.0**
GO02				*e*S	**Sn**	**16 18 38.4**	**-0.4**
GO02				IAML		16 18 39.5	
	comp=N,1μm,0.6s						
PB06	**IPOC Station P**	**1.34**	**358**	*e*P	**Pn**	**16 18 25.1**	**0.0**
PB06				*e*S	**Sn**	**16 18 43.8**	**+0.4**
PB06				IAML		16 18 44.0	
	comp=Z,1μm,0.1s						
PB06	**IPOC Station P**	**1.34**	**358**	⇓*i*P	**Pn**	**16 18 25.2**	**+0.1**
PB06				*e*S	**Sn**	**16 18 42.8**	**-0.6**
PB06				IAML		16 18 44.1	
	comp=E,2μm,0.1s						
PB05	**IPOC Station P**	**1.34**	**332**	*e*P	**Pn**	**16 18 25.5**	**+0.4**
PB05				*e*S	**Sn**	**16 18 44.1**	**+0.7**
PB05				IAML		16 18 47.7	
	comp=Z,545nm,0.5s						
PB05	**IPOC Station P**	**1.34**	**332**	*e*P	**Pn**	**16 18 25.5**	**+0.4**
PB05				*e*S	**Sn**	**16 18 43.7**	**+0.2**
PB05				IAML		16 18 46.0	
	comp=E,2μm,0.3s						
LVC	**Limon Verde**	**1.54**	**22**	*e*P	**Pn**	**16 18 27.7**	**0.0**
LVC				*e*S	**Sn**	**16 18 48.4**	**+0.3**
LVC				IAML		16 18 49.1	
	comp=Z,220nm,0.7s						
LVC	**Limon Verde**	**1.54**	**22**	*e*P	**Pn**	**16 18 27.7**	**0.0**
LVC				*e*S	**Sn**	**16 18 47.8**	**-0.3**
LVC				IAML		16 18 49.2	
	comp=Z,2μm,0.2s						
AF01	**San Pedro de A**	**1.65**	**49**	*e*P	**Pn**	**16 18 28.9**	**-0.2**
AF01				IAML		16 18 52.6	
	comp=Z,720nm,0.1s						
AF01	**San Pedro de A**	**1.65**	**49**	*e*P	**Pn**	**16 18 29.4**	**+0.3**
AF01				*e*S	**Sn**	**16 18 50.6**	**+0.2**
AF01				IAML		16 18 51.7	
	comp=E,1μm,0.3s						
PB04	**IPOC Station P**	**1.80**	**341**	*e*P	**Pn**	**16 18 31.0**	**+0.1**
PB04				*e*S	**Sn**	**16 18 53.8**	**+0.1**
PB04				IAML		16 18 59.5	
	comp=Z,309nm,0.2s						
PB04	**IPOC Station P**	**1.80**	**341**	*e*P	**Pn**	**16 18 30.8**	**-0.1**
PB04				*e*S	**Sn**	**16 18 52.6**	**-1.1**
PB04				IAML		16 19 01.3	
	comp=E,470nm,0.1s						
PB09	**IPOC Station P**	**2.26**	**7**	*e*P	**Pn**	**16 18 37.3**	**+0.5**
PB09				*e*S	**Sn**	**16 19 06.1**	**+1.8**
PB09				IAML		16 19 14.8	
	comp=Z,142nm,0.5s						
PB09	**IPOC Station P**	**2.26**	**7**	*i* P	**Pn**	**16 18 37.4**	**+0.5**
AC01	**Pan de Azucar**	**2.31**	**205**	*e*P	**Pn**	**16 18 37.7**	**+0.4**
AC01				*e*S	**Sn**	**16 18 59.1**	**-6.0**
AC01	**Pan de Azucar**	**2.31**	**205**	*e*P	**Pn**	**16 18 37.7**	**+0.4**
PB01	**IPOC Station P**	**2.99**	**1**	*e*P	**Pn**	**16 18 46.3**	**-0.2**
PB01				*e*S	Sn	16 19 05.1	-17
PB01				IAML		16 19 12.2	
	comp=Z,138nm,0.2s						
PB01	**IPOC Station P**	**2.99**	**1**	*e*P	**Pn**	**16 18 46.1**	**-0.4**
AC06	**Mina Casimiro**	**3.38**	**193**	*e*P	**Pn**	**16 18 54.3**	**+2.7**
TA01	**Diego Aracena**	**3.52**	**350**	*e*P	**Pn**	**16 18 52.1**	**-1.4**
TA01				*e*S	Sn	16 19 20.9	-13
TA01				IAML		16 19 56.9	
	comp=Z,53nm,0.5s						
GO03	**Copiap**	**3.59**	**190**	*e*P	**Pn**	**16 18 55.1**	**+0.7**
GO01	**Chusmiza**	**4.37**	**4**	*e*P	**Pn**	**16 19 04.9**	**-0.6**
GO01				*e*S	**Sn**	**16 19 56.4**	**+0.9**

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*SOME **31** 16:19:41.9, 40°.32N×77°.70E, h0km*
*NNC **31** 16:19:43.6±2.1, 40°.11N×78°.38E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=16.3km s-min=14.6km az=34.0
*KRNET **31** 16:19:43.4±0.1, 40°.30N×77°.62E, mb2.5*
ISC 31 16:19:42.3±2.4, **40°.1N**±0°.1×**77°.75E**±0°.05, **h10**km, **n45,**
σ1°30/69, 19C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.87**	**315**	⇑*e*P	**Pn**	**16 20 15.0**	**+0.3**
	baz=12						
NRN				⇑*i*S	**Sn**	**16 20 38.3**	**-0.3**
	baz=12						
KDJ	**Kajisay**	**2.06**	**348**	⇑*e*P	**Pb**	**16 20 18.0**	**-1.9**
	baz=50						
KDJ				⇑*i*S	**Sn**	**16 20 43.4**	**+0.4**
	baz=50						
PRZ	**Przheval'sk**	**2.42**	**11**	⇑*e*P	**Pb**	**16 20 24.3**	**-1.7**
	baz=15						
PRZ				⇑*e*S	**Sb**	**16 20 54.7**	**-1.2**
	baz=15						
ULHL	**Ulahol**	**2.42**	**332**	⇑*i*P	**Pb**	**16 20 23.7**	**-2.3**
	baz=32						

TNSS				*e*S		**Sb**	**16 21 12.6 +0.2**
	21nm,0.4s						
TNSS	**Tian-Shan**	**2.98 349**		Pg		**Pb**	**16 20 34.8 -1.0**
	10nm,0.3s						
TNSS				Lg		Lg	16 21 13.1
	24nm,0.8s						
MDOK	**Medeo**	**3.09 350**		*e*P		**Pb**	**16 20 37.0 -0.4**
	5.5nm,0.5s						
MDOK				*e*S		**Sb**	**16 21 16.4 +1.1**
	28nm,0.8s						
MDOK	**Medeo**	**3.09 350**	⇑	Pn		**Pb**	**16 20 36.7 -0.8**
	5.9nm,0.7s						
MDOK				Pg		**Pb**	**16 20 36.7 -0.8**
	5.5nm,0.5s						
MDOK				Sn		**Sb**	**16 21 15.7 +0.4**
	32nm,0.7s						
MDOK				Lg		Lg	16 21 16.4
	28nm,0.8s						
ARLS	**Aral**	**3.13 305**	⇑	*e*P		**Pn**	**16 20 33.3 +1.5**
	baz=3.0						
ARLS			⇑	*e*S		**Sn**	**16 21 10.1 +0.8**
	baz=3.0						
KOTS	**Kotyrbulak**	**3.15 351**		*e*P		**Pb**	**16 20 38.4 -0.2**
	5.1nm,0.3s						
KOTS				*e*S		**Sb**	**16 21 18.5 +1.4**
	65nm,0.4s						
KOTS	**Kotyrbulak**	**3.15 351**		Pg		**Pb**	**16 20 38.4 -0.2**
	5.1nm,0.3s						
KOTS				Lg		Lg	16 21 18.5
	65nm,0.4s						
KNDC	**Almaty**	**3.16 349**	⇑	Pn		**Pb**	**16 20 36.3 -2.2**
	18nm,0.4s						
KNDC			⇓	Sn		**Sb**	**16 21 17.3 +0.3**
	59nm,0.6s						
MTBS	**Maitube**	**3.17 342**		*e*P		**Pb**	**16 20 38.2 -0.7**
	3.6nm,0.1s						
MTBS				*e*S		**Sb**	**16 21 18.5 +0.9**
	21nm,0.2s						
MTBS	**Maitube**	**3.17 342**		Pg		**Pb**	**16 20 38.1 -0.7**
	4.1nm,0.3s						
MTBS				Lg		Lg	16 21 18.9
	15nm,0.4s						
UZB	**Uzynbulak**	**3.17 17**		*e*P		**Pb**	**16 20 38.5 -0.4**
	4.0nm,0.4s						
UZB				*e*S		**Sb**	**16 21 18.8 +1.1**
	14nm,0.2s						
UZB	**Uzynbulak**	**3.17 17**		Pg		**Pb**	**16 20 38.5 -0.4**
	4.0nm,0.4s						
UZB				Lg		Lg	16 21 18.8
	9.0nm,0.4s						
KST	**Kastek**	**3.22 336**		*e*P		**Pb**	**16 20 39.3 -0.4**
	3.4nm,0.2s						
KST				*e*S		**Sb**	**16 21 20.3 +1.3**
	20nm,0.5s						
KST	**Kastek**	**3.22 336**		Pg		**Pb**	**16 20 39.2 -0.5**
	4.1nm,0.7s						
KST				Lg		Lg	16 21 20.4
	20nm,0.5s						
UCH	**Uchtor**	**3.23 312**	⇑	*e*P		**Pn**	**16 20 35.4 +1.9**
	baz=10.0						
UCH			⇑	*i*S		**Sn**	**16 21 13.1 +0.8**
	baz=10.0						
TKM2	**Tokmak 2**	**3.24 331**	⇓	Pn		**Pb**	**16 20 39.7 -0.3**
	5.8nm,0.7s						
TKM2			⇑	Sn		**Sb**	**16 21 21.7 +2.1**
	16nm,0.7s						
TKM2	**Tokmak 2**	**3.24 331**	⇑	*i*P		**Pn**	**16 20 35.1 +1.7**
	baz=31						
TKM2			⇑	*i*S		**Sn**	**16 21 12.6 +0.5**
	baz=31						
SHLS	**Shalkode**	**3.30 22**		*e*P		**Pg**	**16 20 43.5 -2.0**
	7.0nm,0.3s						
SHLS				*e*S		**Sg**	**16 21 27.4 -0.8**
	28nm,0.8s						
SHLS	**Shalkode**	**3.30 22**		Pg		**Pg**	**16 20 43.7 -1.8**
	7.1nm,0.5s						
SHLS				Lg		Lg	16 21 27.4
	28nm,0.8s						
KURS	**Kuram**	**3.38 5**		*e*P		**Pb**	**16 20 42.3 -0.1**
	3.1nm,0.2s						
KURS				*e*S		**Sb**	**16 21 25.5 +1.9**
	12nm,0.6s						
KURS	**Kuram**	**3.38 5**		Pg		**Pb**	**16 20 42.0 -0.4**
	3.7nm,0.8s						
KURS				Lg		Lg	16 21 25.5
	12nm,0.6s						
KPKS	**Kokpek**	**3.42 11**		*e*P		**Pb**	**16 20 43.0 0.0**
	2.7nm,0.2s						
KPKS				*e*S		**Sb**	**16 21 26.6 +1.9**
	14nm,0.3s						
KPKS	**Kokpek**	**3.42 11**		Pg		**Pb**	**16 20 43.0 0.0**
	2.7nm,0.2s						
KPKS				Lg		Lg	16 21 26.8
	14nm,0.3s						
DGS	**Degeres**	**3.46 335**		*e*P		**Pb**	**16 20 43.6 -0.1**
	4.5nm,0.6s						
DGS				*e*S		**Sb**	**16 21 27.7 +1.9**
	18nm,0.6s						
DGS	**Degeres**	**3.46 335**		Pg		**Pb**	**16 20 43.6 -0.1**
	4.5nm,0.6s						
DGS				Lg		Lg	16 21 28.0
	18nm,0.6s						
AAK	**Ala-Archa**	**3.52 317**	⇑	Pn		**Pb**	**16 20 43.6 -1.1**
	4.5nm,0.6s						
AAK			⇓	Sn		**Sg**	**16 21 32.4 -2.9**
	35nm,1.3s						
CHMS	**Chumysh**	**3.66 323**	⇓	Pn		**Pb**	**16 20 45.3 -1.7**
	2.6nm,0.5s						
CHMS			⇑	Sn		**Sb**	**16 21 34.2 +2.7**
	5.9nm,0.5s						
KTBS	**Karatobe**	**3.68 348**		*e*P		**Pb**	**16 20 47.3 -0.2**
	2.2nm,0.4s						
KTBS				*e*S		**Sb**	**16 21 34.0 +1.8**
	18nm,0.6s						
KTBS	**Karatobe**	**3.68 348**		Lg		Lg	16 21 34.0
	18nm,0.6s						
CHKK	**Chushkaly**	**3.78 352**		*e*P		**Pb**	**16 20 48.6 -0.5**
	1.6nm,0.1s						
CHKK				*e*S		**Sb**	**16 21 36.4 +1.4**
	27nm,0.4s						
CHKK	**Chushkaly**	**3.78 352**		Lg		Lg	16 21 36.4
	27nm,0.4s						
KRBS	**Karabastau**	**3.90 337**		*e*P		**Pb**	**16 20 50.8 -0.4**
	2.5nm,0.2s						
KRBS				*e*S		**Sb**	**16 21 40.0 +1.5**
	13nm,0.6s						
KRBS	**Karabastau**	**3.90 337**		Lg		Lg	16 21 40.4
	13nm,0.6s						
BLB	**Baldybastay**	**4.02 7**		Lg		Lg	16 21 44.1
	13nm,0.4s						
ARXS	**Arharly**	**4.10 1**		*e*P		**Pb**	**16 20 54.4 -0.2**
	1.6nm,0.5s						
ARXS				*e*S		**Sb**	**16 21 46.1 +2.0**
	23nm,0.6s						
ARXS	**Arharly**	**4.10 1**		Lg		Lg	16 21 46.1
	23nm,0.6s						
DJR	**Jarkent**	**4.48 19**		*e*P		**Pb**	**16 21 01.2 +0.2**
	1.8nm,0.2s						
DJR				*e*S		**Sb**	**16 21 57.9 +2.8**
	3.8nm,0.2s						
DJR	**Jarkent**	**4.48 19**		Lg		Lg	16 21 57.9
	4.0nm,0.5s						

*IDC **31** 16:32:17.3±0.8, 41°.02S×91°.94W, h0km, mb3.9/7, mbtmp4.0/8, ML3.3/1, MS3.7/27, Error ellipse: s-maj=50.9km s-min=19.6km az=80.0*
*NEIC **31** 16:32:18.9±1.4, 41°.03S±0°.09×91°.58W±0°.05, h10km±1km, mb4.8/79, Error ellipse: s-maj=16.4km s-min=4.7km az=196.0*
ISC 31 16:32:18.6±0.5, 41°.02S±0°.08×91°.61W±0°.09, h10km, n123, σ0s82/92, mb4.8/44, MS3.6/26, 1D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.36**	**59**	T	T	16 48 10.1	
	baz=230,slow=73,SNR=236						
H03S1	**Juan Fernandez**	**12.37**	**59**	T	T	16 48 11.5	
	baz=230,slow=73,SNR=288						
H03S3	**Juan Fernandez**	**12.38**	**59**	T	T	16 48 10.5	
	baz=230,slow=73,SNR=244						
H03N3	**Juan Fernandez**	**12.61**	**57**	T	T	16 48 27.0	
	baz=231,slow=71,SNR=358						
H03N2	**Juan Fernandez**	**12.61**	**57**	T	T	16 48 24.1	
	baz=231,slow=71,SNR=358						
H03N1	**Juan Fernandez**	**12.62**	**57**	T	T	16 48 30.2	
	baz=231,slow=71,SNR=398						
AY02	**Valle Explorad**	**14.37 118**		Pn		**Pn**	**16 35 42.1 +0.1**
LL03	**Petrohue**	**14.49 97**		Pn		**Pn**	**16 35 43.6 0.0**
LL02	**Futaleuf**	**14.83 105**		Pn		**Pn**	**16 35 46.4 -1.8**
GO06	**Curarrehue**	**15.43 91**		Pn		**Pn**	**16 35 56.7 +0.3**
PLCA	**Paso Flores**	**15.93 96**		Pn		**P**	**16 36 07.3 +0.8**
	baz=266,slow=13,SNR=3.1						
PLCA				LR		LR	16 40 47.3
	comp=Z,553nm,18.1s,baz=277,slow=32						
	6.6nm,1.3s						
MT09	**Talagante**	**17.89 73**				**Pn**	**16 36 27.2 -0.3**
RPN	**Rapa Nui**	**20.14 308**		LR		LR	16 42 24.7
	comp=Z,255nm,18.8s,baz=130,slow=30						
ZON	**Zonda**	**20.71 70**		Pn		**P**	**16 37 01.1 +2.0**
GO02	**Mina Guanaco**	**24.20 56**		P		**P**	**16 37 34.0 -1.6**
GO02				IAmb		IAmb	16 37 39.1
	comp=Z,77nm,1.9s						
LVC	**Limon Verde**	**26.50 53**		LR		LR	16 45 40.0
	comp=Z,258nm,20.6s,baz=224,slow=30						
PB09	**IPOC Station P**	**26.92 51**		P		**P**	**16 38 01.1 +1.0**
PMSA	**Palmer Station**	**28.57 156**		LR		LR	16 46 16.7
	comp=Z,136nm,19.9s,baz=42,slow=29						
ESPZ	**Base Esperanza**	**30.21 149**		P		**P**	**16 38 27.9 -0.9**
NNA	**Nana**	**31.70 28**		LR		LR	16 48 04.0
	comp=Z,117nm,20.5s,baz=186,slow=30						
CPUP	**Villa Florida**	**31.84 73**		LR		LR	16 50 09.3
	comp=Z,150nm,20.0s,baz=221,slow=33						
LPAZ	**La Paz**	**31.93 46**		LR		LR	16 47 47.4
	comp=Z,23nm,19.4s,baz=212,slow=29						
ATAH	**Atahualpa**	**35.74 23**		LR		LR	16 50 30.9
	comp=Z,80nm,19.8s,baz=244,slow=30						
SIV	**San Ignacio**	**36.31 56**		LR		LR	16 53 23.9
	comp=Z,137nm,19.2s,baz=294,slow=35						
AQDB	**Aquidauana**	**36.68 67**		P		**P**	**16 39 25.4 -0.2**
AQDB				IAmb		IAmb	16 39 26.6
	comp=Z,26nm,1.4s						
PTLB	**Pontes e Lacer**	**37.94 57**		P		**P**	**16 39 36.3 0.0**
SAML	**Samuel**	**40.67 46**		P		**P**	**16 39 57.6 -1.5**
OTAV	**Otavalo**	**42.77 20**		P		**P**	**16 40 17.6 +0.8**
BELA	**Belgrano 2**	**43.43 165**		P		**P**	**16 40 21.6 +0.6**
BDFB	**Brasilia**	**45.32 69**		LR		LR	16 59 01.4
	comp=Z,192nm,18.2s,baz=234,slow=35						
QSPA	**South Pole Qui**	**49.21 180**		P		**P**	**16 41 07.5 +0.8**
	comp=Z,0.8nm,0.5s,baz=190,slow=1.3,SNR=22						
	comp=Z,0.8nm,0.5s						
SNAA	**Sanae**	**51.29 156**		P		**P**	**16 41 22.6 +0.3**
SNAA				IAmb		IAmb	16 41 57.3
	comp=Z,22nm,2.0s						
SNAA	**Sanae**	**51.29 156**		P		**P**	**16 41 23.2 +0.9**
	comp=Z,0.7nm,0.7s,baz=270,slow=8.7,SNR=3.1						
	comp=Z,0.7nm,0.7s						
JTS	**Las Juntas de**	**51.42 8**		LR		LR	16 57 15.9
	comp=Z,59nm,21.8s,baz=172,slow=29						
SBA	**Scott Base**	**52.65 195**		P		**P**	**16 41 32.7 +0.5**
SBA				IAmb		IAmb	16 41 39.9
	comp=Z,9.4nm,1.1s						
SDV	**Santo Domingo**	**53.29 26**		P		**P**	**16 41 37.0 -0.8**
SDV				IAmb		IAmb	16 41 38.8
	comp=Z,10nm,1.2s						
SDV	**Santo Domingo**	**53.29 26**		LR		LR	17 01 11.7
	comp=Z,53nm,20.1s,baz=67,slow=32						
VNDA	**Vanda**	**53.75 195**		P		**P**	**16 41 40.8 +0.4**
VNDA	**Vanda**	**53.75 195**		P		**P**	**16 41 40.6 +0.2**
	comp=Z,1.5nm,1.0s,baz=109,slow=6.4,SNR=5.4						
VNDA				LR		LR	17 00 09.3
	comp=Z,38nm,19.1s,baz=142,slow=31						
	comp=Z,1.5nm,1.0s						
BAUV	**El Baul**	**54.25 29**		P		**P**	**16 41 44.0 -0.7**
PPT	**Papeete**	**54.62 277**		LR		LR	16 59 43.3
	comp=Z,38nm,20.9s,baz=356,slow=30						
CMIG	**Matias Romero**	**57.90 356**		LR		LR	17 01 20.4
	comp=Z,36nm,18.7s,baz=194,slow=30						
MDP	**Montagnes des**	**58.11 48**		LR		LR	17 04 23.3
	comp=Z,78nm,21.1s,baz=172,slow=33						
ELIB	**Princess Elisa**	**58.55 161**		*d*P		**P**	**16 42 15.0 +0.1**
RAR	**Rarotonga**	**60.15 267**		LR		LR	17 01 26.4
	comp=Z,50nm,21.8s,baz=192,slow=29						
RCBR	**Riachuelo**	**60.65 71**		LR		LR	17 08 11.0
	comp=Z,34nm,18.0s,baz=331,slow=35						
URZ	**Urewera**	**67.05 239**		LR		LR	17 05 14.9
	comp=Z,125nm,18.7s,baz=210,slow=30						
MCQ	**Macquarie Isla**	**67.41 217**		P		**P**	**16 43 12.7 -1.1**
MRNZ	**Matariki Terra**	**67.98 234**		P		**P**	**16 43 18.4 +0.6**
FOZ	**Fox Glacier**	**68.49 231**		P		**P**	**16 43 21.1 +0.3**
HPIG		**68.86 347**		P		**P**	**16 43 24.3 +0.9**
MAW	**Mawson**	**69.98 170**		P		**P**	**16 43 29.2 -0.5**
	comp=Z,1.8nm,0.7s,baz=199,slow=9.4,SNR=3.8						
	comp=Z,1.8nm,0.7s						
HNDO	**Hondo**	**70.56 353**		P		**P**	**16 43 34.2 +0.6**
TX31	**Lajitas Ar. Si**	**70.89 349**		P		**P**	**16 43 35.7 0.0**
TX31				IAmb		IAmb	16 43 43.9
	comp=Z,9.6nm,1.2s						
TXAR	**Lajitas Array**	**70.89 349**		P		**P**	**16 43 35.9 +0.2**
TXAR	**Lajitas Array**	**70.89 349**		P		**P**	**16 43 35.4 -0.3**
	comp=Z,1.2nm,0.9s,baz=160,slow=7.7,SNR=9.0						
	comp=Z,1.2nm,0.9s						
SAND	**Sanderson**	**71.29 350**		P		**P**	**16 43 38.5 +0.4**
SAND				IAmb		IAmb	16 43 40.9
	comp=Z,9.0nm,1.5s						
ALPN	**Alpine**	**71.91 349**		P		**P**	**16 43 41.9 0.0**
ALPN				IAmb		IAmb	16 43 49.7
	comp=Z,6.2nm,0.9s						
OZNA	**Ozona**	**72.12 351**		P		**P**	**16 43 42.9 -0.2**
OZNA				IAmb		IAmb	16 43 50.5
	comp=Z,12nm,1.1s						
PLPT	**Palo Pinto**	**73.73 354**		P		**P**	**16 43 52.3 -0.2**
APMT	**Aspermont**	**74.40 353**		P		**P**	**16 43 56.0 -0.4**
APMT				IAmb		IAmb	16 44 03.3
	comp=Z,10nm,0.9s						
TUC	**Tucson**	**75.09 343**		P		**P**	**16 44 01.0 +0.5**
TUC				IAmb		IAmb	16 44 09.0
	comp=Z,10.0nm,1.1s						
MIAR	**Mount Ida**	**75.22 358**		P		**P**	**16 44 00.2 -0.9**
MIAR				IAmb		IAmb	16 44 08.3
	comp=Z,7.6nm,1.2s						
AMTX	**Amarillo**	**76.10 351**		P		**P**	**16 44 07.2 +0.9**
AMTX				IAmb		IAmb	16 44 14.0
	comp=Z,12nm,0.9s						
TKL	**Tuckaleechee C**	**76.65 7**		LR		LR	17 13 29.2
	comp=Z,28nm,20.5s,baz=144,slow=32						
LCAR	**Lake Charles**	**76.72 0**		P		**P**	**16 44 09.2 -0.4**
LCAR				IAmb		IAmb	16 44 16.2
	comp=Z,10nm,1.4s						
ANMO	**Albuquerque**	**76.82 348**		P		**P**	**16 44 10.3 -0.2**
ANMO	**Albuquerque**	**76.82 348**		LR		LR	17 14 02.4
	comp=Z,18nm,18.6s,baz=252,slow=33						
WVT	**Waverly**	**76.86 3**		P		**P**	**16 44 11.1 +0.7**
WVT				IAmb		IAmb	16 45 50.5
	comp=Z,20nm,1.8s						
Y14A	**Wickenburg**	**77.15 342**		P		**P**	**16 44 12.6 +0.4**
Y14A				IAmb		IAmb	16 44 20.1
	comp=Z,5.5nm,1.0s						
PFO	**Pinyon Flats O**	**77.72 339**		LR		LR	17 09 58.8
	comp=Z,26nm,21.3s,baz=149,slow=29						
MGMO	**Mountain Grove**	**77.80 359**		P		**P**	**16 44 15.5 -0.3**
MGMO				IAmb		IAmb	16 44 22.7
	comp=Z,5.9nm,1.1s						
S39A	**Bolivar**	**78.35 359**		P		**P**	**16 44 18.2 -0.5**
S39A				IAmb		IAmb	16 44 25.6
	comp=Z,12nm,1.2s						
T25A	**Trinidad**	**78.67 350**		P		**P**	**16 44 21.4 +0.6**
T25A				IAmb		IAmb	16 44 29.4
	comp=Z,23nm,1.6s						
CCM	**Cathedral Cave**	**78.70 0**		P		**P**	**16 44 17.4 -3.2**
CCM				IAmb		IAmb	16 44 27.6
	comp=Z,15nm,1.1s						
MSVF	**Nonsavu**	**78.83 256**		LR		LR	17 10 28.6
	comp=Z,54nm,20.3s,baz=136,slow=29						
V12A	**Nelson**	**79.31 341**		P		**P**	**16 44 23.5 -0.7**
U15A	**North Rim**	**79.38 343**		P		**P**	**16 44 25.7 +0.9**
SDCO	**Great Sand Dun**	**79.42 349**		P		**P**	**16 44 25.8 +0.8**
SHPR	**Sheep Range**	**80.12 341**		P		**P**	**16 44 29.4 +0.8**
P40A	**Paris**	**80.17 360**		P		**P**	**16 44 28.3 -0.3**
P40A				IAmb		IAmb	16 44 35.4
	comp=Z,14nm,1.1s						
HMU	**Henry Mountain**	**80.51 345**		P		**P**	**16 44 30.6 -0.2**
HMU				IAmb		IAmb	16 44 38.9
	comp=Z,15nm,1.3s						
CCUT	**Cedar City**	**80.69 343**		P		**P**	**16 44 32.7 +0.9**
PRN	**Pahroc Range**	**80.95 341**				**P**	**16 44 33.9 +0.8**
PRN				IAmb		IAmb	16 44 42.1
	comp=Z,21nm,1.7s						
SMCO	**Snowmass**	**81.04 348**		P		**P**	**16 44 35.5 +1.6**
SMCO				IAmb		IAmb	16 44 44.4
	comp=Z,11nm,1.1s						
GMN	**Gold Mountain**	**81.41 340**		P		**P**	**16 44 36.2 +0.5**
Q16A	**Castle Valley**	**81.54 345**		P		**P**	**16 44 37.0 +0.8**
Q16A				IAmb		IAmb	16 44 44.7
	comp=Z,22nm,1.6s						
SRU	**San Rafael Swe**	**81.60 345**		P		**P**	**16 44 37.2 +0.7**
TMUT	**Trail Mountain**	**81.91 345**		P		**P**	**16 44 38.7 +0.4**
TMUT				IAmb		IAmb	16 44 46.8
	comp=Z,16nm,1.3s						
NLU	**North Lily Min**	**82.72 344**		P		**P**	**16 44 43.5 +1.1**
NVAR	**Mina Array Bea**	**82.75 339**		P		**P**	**16 44 43.0 +0.4**
NVAR	**Mina Array Bea**	**82.75 339**		P		**P**	**16 44 43.3 +0.7**
	comp=Z,0.9nm,0.9s,baz=161,slow=5.0,SNR=7.0						
	comp=Z,0.9nm,0.9s						
RYN	**Ryan**	**83.00 339**		P		**P**	**16 44 44.6 +0.8**
RYN				IAmb		IAmb	16 47 40.1
	comp=Z,4.0nm,0.7s						
DUG	**Dugway, Tooele**	**83.11 344**		P		**P**	**16 44 44.5 +0.1**
KVN	**Kaiserville**	**83.28 340**		P		**P**	**16 44 45.2 -0.1**
KVN				IAmb		IAmb	16 44 53.3
	comp=Z,6.1nm,1.1s						
ELK	**Elko**	**84.17 342**				**P**	**16 44 50.5 +0.6**
ELK				IAmb		IAmb	16 44 57.8
	comp=Z,5.7nm,1.1s						
HWUT	**Hardware Ranch**	**84.21 345**		P		**P**	**16 44 50.1 +0.1**
HWUT				IAmb		IAmb	16 44 57.7
	comp=Z,8.4nm,1.1s						
DZM	**Mont Dzumac**	**84.32 246**		LR		LR	17 18 40.1
	comp=Z,92nm,18.2s,baz=127,slow=33						
K22A	**Casper**	**84.38 349**		P		**P**	**16 44 52.3 +1.5**
ECSD	**EROS Data Cent**	**84.49 356**		P		**P**	**16 44 50.7 -0.4**
HVU	**Hansel Valley**	**84.62 344**		P		**P**	**16 44 51.5 -0.6**
HVU				IAmb		IAmb	16 44 59.0
	comp=Z,5.4nm,1.0s						
PD31	**Pinedale Array**	**84.97 347**		P		**P**	**16 44 53.4 -0.5**
PDAR	**Pinedale Array**	**84.97 347**		P		**P**	**16 44 53.4 -0.5**
PDAR	**Pinedale Array**	**84.97 347**		P		**P**	**16 44 54.0 +0.2**
	comp=Z,2.2nm,0.8s,baz=162,slow=5.6,SNR=16						
	comp=Z,2.2nm,0.8s						
REDW	**Red Top Meadow**	**85.78 346**		P		**P**	**16 44 58.3 +0.4**
TPAW	**Teton Pass**	**85.92 346**		P		**P**	**16 44 58.9 +0.2**
LOHW	**Long Hollow**	**85.97 346**		P		**P**	**16 44 59.1 +0.3**
LOHW				IAmb		IAmb	16 45 06.7
	comp=Z,7.3nm,1.1s						
FXWY	**Fox Creek**	**86.08 346**		P		**P**	**16 44 59.0 -0.3**
FXWY				IAmb		IAmb	16 45 06.8
	comp=Z,6.4nm,1.0s						
SADO	**Sadowa**	**86.14 9**		LR		LR	17 17 59.4
	comp=Z,42nm,19.5s,baz=288,slow=32						
IMW	**Indian Meadow**	**86.31 346**		P		**P**	**16 45 00.3 -0.3**
IMW				IAmb		IAmb	16 45 08.0
	comp=Z,6.4nm,1.0s						
FLWY	**Flagg Ranch**	**86.45 346**		P		**P**	**16 45 01.3 +0.1**
HLID	**Hailey**	**86.67 344**		P		**P**	**16 45 02.6 +0.3**
HLID				IAmb		IAmb	16 45 10.5
	comp=Z,6.0nm,1.1s						
YBH	**Yreka Blue Hor**	**87.06 337**		LR		LR	17 15 31.3
	comp=Z,24nm,19.1s,baz=206,slow=30						
YHH	**Holmes Hill**	**87.16 346**		P		**P**	**16 45 05.2 +0.5**
RLMT	**Red Lodge**	**87.21 348**		P		**P**	**16 45 05.0 +0.2**
RLMT				IAmb		IAmb	16 45 12.5
	comp=Z,6.9nm,1.1s						
KIP	**Kipapa**	**87.44 301**		P		**P**	**16 45 06.1 -0.2**
BOZ	**Bozeman (W)**	**88.08 346**		P		**P**	**16 45 10.3 +1.3**
BOZ				IAmb		IAmb	16 45 16.7
	comp=Z,11nm,1.6s						
F63A	**Nahmakanta, Br**	**88.66 16**		P		**P**	**16 45 12.4 +0.9**
G08A	**Pilot Rock**	**89.35 341**		P		**P**	**16 45 15.3 +0.4**
G08A				IAmb		IAmb	16 45 23.4
	comp=Z,11nm,1.4s						
DBIC	**Dimbokro**	**91.88 83**		LR		LR	17 25 22.4
	comp=Z,33nm,18.0s,baz=205,slow=35						
YAK	**Yakutsk**	**147.63 324**				**PKPdf**	**16 51 59.5 +0.1**
KSRS	**Korea Array**	**149.36 276**		PKPbc		**PKPbc**	**16 52 06.5 -0.9**
	comp=Z,0.4nm,0.7s,baz=112,slow=2.2,SNR=5.1						
KSAR	**Wonju Array Be**	**149.38 276**				**PKPbc**	**16 52 05.6 -1.9**

*GII **31** 16:33:46.8±0.4, 33°.093N±0°.001×34°.939E±0°.001, h7km, Md1.9/8, Mws2.1/5, confirmed*
*GRAL **31** 16:33:46.7±0.3, 33°.00N×34°.88E, h20km±68km, MD3.0*
ISC 31 16:33:46.8±1.3, 33°.08N±0°.04×34°.94E±0°.07, h17km, n32, σ0s50/34, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.20**	**88**	P	**Pg**	**16 33 52.4**	**+0.7**
HNTI	**Hanita**	**0.20**	**88**	S	**Sg**	**16 33 55.5**	**+0.6**
MMC7	**Mount Meron ar**	**0.39**	**98**	P	**Pg**	**16 33 54.9**	**+0.1**
MMA0B	**Mount Meron ar**	**0.40**	**99**	S	**Sg**	**16 34 01.1**	**+0.5**
MMA0B	**Mount Meron ar**	**0.40**	**99**	P	**Pg**	**16 33 55.0**	**0.0**
BLGI	**Bet Lehem HaGe**	**0.41**	**148**	S	**Sb**	**16 34 01.8**	**+0.4**
BLGI	**Bet Lehem HaGe**	**0.41**	**148**	P	**Pb**	**16 33 55.5**	**0.0**
OFRI	**`Ofer**	**0.46**	**175**	S	**Sb**	**16 34 03.4**	**+0.5**
OFRI	**`Ofer**	**0.46**	**175**	P	**Pb**	**16 33 56.2**	**-0.2**
GEM	**Giv'at Ha'Em**	**0.62**	**78**	S	**Sg**	**16 34 07.6**	**+0.2**
GEM	**Giv'at Ha'Em**	**0.62**	**78**	P	**Pg**	**16 33 58.9**	**-0.2**
NATI	**Neve Ativ**	**0.69**	**74**	S	**Sb**	**16 34 09.6**	**-0.2**
NATI	**Neve Ativ**	**0.69**	**74**	P	**Pb**	**16 33 60.0**	**-0.5**
KSHT	**Keshet**	**0.74**	**97**	S	**Sb**	**16 34 11.2**	**0.0**
KSHT	**Keshet**	**0.74**	**97**	P	**Pb**	**16 34 00.9**	**-0.4**
MMLI	**Mount Malkishu**	**0.76**	**147**	S	**Sg**	**16 34 12.0**	**+0.3**
MMLI	**Mount Malkishu**	**0.76**	**147**	P	**Pb**	**16 34 01.2**	**-0.3**
QRWL	**Qaraoun**	**0.78**	**53**	*e*P	**Pb**	**16 34 01.8**	**-0.2**
DQRL	**Deir Qamar**	**0.82**	**40**	*e*P	**Pb**	**16 34 02.5**	**-0.1**
DQRL				*e*S	**Sb**	**16 34 14.3**	**+0.8**
SLTI	**Sal'it**

comp=N,19μm,1.1s
STCH Steam Cracks 0.17 108 Pg 16 40 08.8 +0.2
STCH IAML 16 40 11.6
comp=E,23μm,1.1s
STCH IAML 16 40 12.3
comp=N,11μm,0.8s
NPOC North of Pu'u 0.18 104 Pg 16 40 08.8 -0.1
NPOC Sg 16 40 11.2 -0.1
JCUZ Jacuzzi 0.19 106 Pg 16 40 09.0 -0.1
HTC Hot Caves 0.22 207 Pg 16 40 09.8 +0.1
HMH Humu'ula Sheep 0.24 312 Pg 16 40 11.0 +0.7
HMH IAML 16 40 17.1
comp=E,8μm,1.3s
JOKA Jonika Flow 0.27 91 Pg 16 40 11.0 +0.3
JOKA IAML 16 40 15.5
comp=E,6μm,1.0s
MLOA Mauna Loa Obse 0.29 290 Pg **Pg 16 40 11.6 +0.5**
MLOA IAML 16 40 20.3
comp=N,10μm,0.6s
MWH Moku'aweowe 0.29 279 Pg 16 40 11.7 +0.5
PAH Pahoa 0.33 80 Pg **Pg 16 40 12.3 +0.5**
ALEP Alea Permanent 0.35 287 Pg 16 40 12.3 0.0
KHU Kahuku 0.36 238 Sb 16 40 19.5 -1.2
KHU Kahuku 0.36 238 Pg **Pg 16 40 12.3 -0.1**
POHA Pohakuloa 0.39 325 Sg 16 40 18.7 +0.4
POHA Pohakuloa 0.39 325 Pg **Pg 16 40 13.3 +0.3**
POHA IAML 16 40 23.6
comp=N,9μm,0.6s
POHA IAML 16 40 27.8
comp=N,11μm,0.9s
HPO Honuapo 0.43 216 Pg 16 40 13.3 -0.3
HUH Hualalai 0.57 296 Pg 16 40 16.2 -0.2
I59US HAWAII INFRASO 0.59 285 Pg **Pg 16 40 16.5 -0.2**
baz=117,slow=47
HPAH Hawaii Prepara 0.70 327 Pg **Pg 16 40 18.1 -0.9**
MHA Mahukona 0.94 322 Pg **Pg 16 40 21.6 -1.9**
KHLH Kahului Airpor 1.80 324 Pn **Pn 16 40 34.0 -3.3**
H11N3 WAKE ISLAND Hy 35.57 277 T T 17 24 08.5
baz=84,slow=73,SNR=11
H11N2 WAKE ISLAND Hy 35.58 277 T T 17 24 11.6
baz=84,slow=73,SNR=7.7
H11N1 WAKE ISLAND Hy 35.59 277 T T 17 24 08.9
baz=84,slow=73,SNR=5.3
NVAR Mina Array Bea 37.17 51 P **P 16 47 20.7 +2.7**
comp=N,0.3nm,0.7s,baz=226,slow=9.8,SNR=2.3
comp=N,0.3nm,0.7s
H02S1 DAWSON INLET T 38.05 22 T T 17 27 22.0
SNR=9.9
PDAR Pinedale Array 44.86 48 P **P 16 48 22.6 +1.4**
comp=N,0.2nm,0.5s,baz=276,slow=9.5,SNR=2.2
comp=N,0.2nm,0.5s
WRH Wood River Hil 45.27 4 P 16 48 23.1 -0.8
ILAR Eielson Array 45.66 5 P **P 16 48 27.2 +0.3**
comp=N,1.3nm,1.0s,baz=193,slow=8.1,SNR=6.7
comp=N,1.3nm,1.0s
I28M Miner Creek 47.10 9 P **P 16 48 38.2 -0.2**
TXAR Lajitas Array 47.72 68 P **P 16 48 44.6 +0.8**
comp=N,1.9nm,0.9s,baz=251,slow=7.8,SNR=8.6
comp=N,1.9nm,0.9s
G29M Pine Creek 48.75 9 P **P 16 48 51.3 +0.2**

IDC 31 16:44:36.9±3.2, 13°.00N×122°.39E, h0km, mb3.5/4, mbtmp3.5/4, MS3.5/1, Error ellipse: s-maj=366.0km s-min=22.8km az=64.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.79**	**160**	P	P	16 51 29.3	-0.1
	0.6nm,0.9s,baz=341,slow=8.3,SNR=3.6						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**38.15**	**163**	P	P	16 51 58.0	-0.1
	0.3nm,0.6s,baz=340,slow=7.4,SNR=7.4						
ASAR				LR	LR	17 10 25.2	
	comp=Z,66nm,18.0s,baz=146,slow=41						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**47.57**	**323**	P	P	16 53 15.1	+0.8
	0.4nm,0.8s,baz=132,slow=8.3,SNR=3.7						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**51.68**	**326**	P	P	16 53 44.7	-0.8
	0.3nm,0.2s,baz=123,slow=8.9,SNR=6.2						
	0.3nm,0.2s						

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*JSN **31** 16:59:19.3±0.3, 17°.95N×79°.86W, h34km±9km, MD4.6*
*SSNC **31** 16:59:31.0±0.9, 18°.45N×78°.97W, h2km±6km, MD3.4, ML2.9*

ISC 31 16:59:28.3±2.5, 18°.4N±0°.1×79°.0W±0°.1, h10km, n9, σ1§90/16, 1C, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**1.41**	**97**	*e*P	**Pn**	**16 59 53.8**	**-0.3**
MTDJ	**Mount Denham**	**1.41**	**97**	*e*P	Pn	16 59 52.1	-1.9
MTDJ				*e*S	**Sn**	**17 00 12.0**	**-0.8**
MTDJ				IAML		17 00 16.4	
	211nm,0.6s						
MTDJ				IAML		17 00 16.4	
	comp=Z,198nm,0.5s						
STH	**Stony Hill**	**2.11**	**99**	*e*P	**Pn**	**17 00 03.1**	**-0.6**
STH				*i* S	**Sb**	**17 00 35.9**	**+3.0**
STH	**Stony Hill**	**2.11**	**99**	*e*P	**Pn**	**17 00 02.4**	**-1.3**
STH				*e*S	**Sn**	**17 00 29.0**	**-1.1**
MARVS	**Santiago de Cu**	**3.33**	**61**	*e*P	**Pn**	**17 00 21.3**	**+0.8**
RCC	**Rio Carpintero**	**3.50**	**63**	*e*P	**Pn**	**17 00 21.7**	**-1.1**
RCC				*e*S	**Sn**	**17 01 02.0**	**-2.3**
MGV	**Manicaragua**	**3.79**	**346**	*e*P	**Pn**	**17 00 27.3**	**+0.4**
MGV				*e*S	**Sn**	**17 01 10.3**	**-1.3**
QMBU	**Quimbuelo**	**4.34**	**65**	*i* P	**Pn**	**17 00 35.5**	**+1.1**
QMBU				*e*P	**Pn**	**17 00 35.5**	**+1.1**
QMBU				⇑*e*P	**Pn**	**17 00 35.5**	**+1.1**
QMBU				*e*S	**Sn**	**17 01 21.6**	**-3.5**
MASC	**Masc**	**4.83**	**68**	*e*P	**Pn**	**17 00 44.3**	**+3.1**

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*NOU **31** 17:40:44.3, 41°.87S×174°.50E, h12km, MLv3.7/10, Cook Strait, New Zealand*
*WEL **31** 17:40:45.4±0.6, 42°.S±2°.×17°.4E±°, h8km±4km, M3.4/10, ML3.6/10, MLv3.4/10, Error ellipse: s-maj=0.0km s-min=0.0km az=106.2, confirmed*

ISC 31 17:40:45.3±0.8, 41°.68S±0°.03×174°.27E±0°.03, h17km±5km, n28, σ1§04/41, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**212**	P	**Pg**	**17 40 48.5**	**-0.1**
CMWZ				S	**Sg**	**17 40 51.0**	**+0.1**
SEDS	**Seddon Fire St**	**0.14**	**275**	P	**Pg**	**17 40 49.0**	**-0.4**
SEDS				S	**Sg**	**17 40 51.6**	**-0.5**
WDFS	**Ward Fire Stat**	**0.17**	**214**	P	**Pg**	**17 40 49.9**	**+0.1**
WDFS				S	**Sg**	**17 40 53.7**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.29**	**264**	P	**Pg**	**17 40 51.4**	**-0.3**
BSWZ				S	**Sg**	**17 40 55.8**	**-0.2**
MGCS	**Blenheim Marlb**	**0.30**	**306**	P	**Pg**	**17 40 50.1**	**-1.6**
MGCS				S	**Sg**	**17 40 54.8**	**-1.4**
KEKS	**Kekerengu Vall**	**0.34**	**218**	P	**Pb**	**17 40 52.9**	**-0.1**
TUWZ	**Tuamarina**	**0.35**	**316**	P	**Pg**	**17 40 52.8**	**+0.1**
TUWZ				S	**Sg**	**17 40 58.0**	**+0.3**
BWRS	**Waikakaho Road**	**0.37**	**312**	P	**Pg**	**17 40 52.7**	**-0.2**
BWRS				S	**Sg**	**17 40 58.0**	**-0.1**
TCW	**Tory Channel**	**0.47**	**1**	P	**Pg**	**17 40 54.4**	**-0.4**
TCW				S	**Sg**	**17 41 01.1**	**-0.2**
SNZO	**South Karori**	**0.50**	**41**	P	**Pb**	**17 40 55.5**	**-0.1**
BHW	**Baring Head**	**0.53**	**59**	P	**Pn**	**17 40 56.2**	**-1.8**
WEL	**Wellington**	**0.55**	**43**	P	**Pb**	**17 40 56.4**	**0.0**
WEL				S	**Sb**	**17 41 04.6**	**+0.6**
PLWZ	**Palliser**	**0.75**	**81**	P	**Pn**	**17 41 00.8**	**-0.4**
MSWZ	**Moikau Station**	**0.78**	**70**	P	**Pn**	**17 41 01.1**	**-0.5**
MSWZ				S	**Sn**	**17 41 14.3**	**+1.4**
NNZ	**Nelson**	**0.81**	**305**	P	**Pg**	**17 41 00.3**	**-0.8**
CAW	**Cannon Point**	**0.83**	**46**	P	**Pn**	**17 41 01.3**	**-0.9**
CAW				S	**Sb**	**17 41 13.2**	**+1.0**
KHZ	**Kahutara**	**0.91**	**216**	P	**Pn**	**17 41 03.0**	**-0.3**
KHZ	**Kahutara**	**0.91**	**216**	P	**Pn**	**17 41 03.2**	**-0.1**
KHZ				S	**Sn**	**17 41 17.4**	**+1.4**
DUWZ	**D'Urville Isla**	**0.92**	**343**	P	**Pg**	**17 41 02.1**	**-1.1**
DUWZ				S	**Sg**	**17 41 13.7**	**-1.6**
THZ	**Tophouse**	**1.02**	**265**	P	**Pg**	**17 41 04.1**	**-1.0**
QRZ	**Quartz Range**	**1.57**	**303**	P	**Pn**	**17 41 13.5**	**+1.2**
BFZ	**Birch Farm**	**1.80**	**57**	P	**Pn**	**17 41 14.5**	**-1.0**
KHEZ	**Kahui Hut**	**2.40**	**355**	P	**Pb**	**17 41 27.7**	**-0.3**
BKZ	**Black Stump Fm**	**3.04**	**35**	P	**Pn**	**17 41 31.9**	**-0.7**
RPZ	**Rata Peaks**	**3.12**	**228**	P	**Pn**	**17 41 32.6**	**-1.1**
HIZ	**Hauiti**	**3.20**	**8**	P	**Pn**	**17 41 38.1**	**+3.3**
URZ	**Urewera**	**4.06**	**33**	P	**Pn**	**17 41 47.5**	**+0.9**
ODZ	**Otahua Downs**	**4.27**	**217**	P	**Pn**	**17 41 48.1**	**-1.4**

NOU 31 17:47:15.9, 19°.49S×169°.03E, h0km, MLv3.5/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.78**	**341**	P	Pn	17 47 48.4	+0.4
DVP	**Devils Point**	**1.93**	**335**	P	Pn	17 47 50.0	0.0
LIFNC	**LIFOU**	**2.11**	**232**	P	Pn	17 47 51.8	-0.7
YATNC	**Mamie plateau,**	**3.25**	**218**	P	Pn	17 48 07.7	-0.4
PINNC	**Pines Island,**	**3.44**	**205**	P	Pn	17 48 10.9	+0.1
DZM	**Mont Dzumac**	**3.53**	**223**	P	Pn	17 48 12.3	+0.2
NOUC	**Port Laguerre**	**3.64**	**224**	P	Pn	17 48 14.4	+0.8
KOUNC	**Koumac, New Ca**	**4.58**	**256**	P	Pn	17 48 26.8	+0.3

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*BJI **31** 17:59:45.0±0.0, 19°.30N×155°.08W, h8km, mb4.6/23, mB5.6/32, Ms5.0/37, Ms7 4.9/36*
*HVO **31** 17:59:46.0±1.0, 19°.4N±0°.2×155°.3W±0°.1, h1km±6km, ML4.1/47, mb4.7/52(NEIC), ML3.9/41(NEIC), Mww5.3/28(NEIC), Error ellipse: s-maj=24.9km s-min=17.6km az=166.0*
*NEIC **31** 17:59:46.6±1.0, 19°.4N±0°.2×155°.3W±0°.1, h4km±5km, Error ellipse: s-maj=24.6km s-min=17.9km az=163.0*
*NEIC **31** 17:59:46, 19°.31N×155°.39W, h12km, Moment Tensor Solution. Duration: 2§2 Moment tensor: Scale 10^{17}Nm; M_{rr}=1.01; $M_{\theta\theta}$0.51; $M_{\phi\phi}$0.50; $M_{r\theta}$-0.43; $M_{\theta\phi}$0.50; $M_{r\phi}$0.05; Fault plane solution: $M_0$1.09000×10^{17} NP1:ϕ_s61.89000°, δ55.01000°, λ-70.55000°. NP2:ϕ_s210.26000°, δ39.42000°, λ-115.44000°. Principal axes: T 1.0438, Plg8.0000°, Azm138.0000°; N 0.0994, Plg16.0000°, Azm230.0000°; P -1.1432, Plg72.0000°, Azm22.0000°;*
*NEIC **31** 17:59:46, 19°.41N×155°.29W, h12km*
*IDC **31** 17:59:48.7±1.2, 19°.67N×155°.35W, h0km, mb3.9/10, mbtmp3.9/10, MS4.4/66, Error ellipse: s-maj=40.8km s-min=13.6km az=160.0*
*GCMT **31** 17:59:54.0±0.1, 19°.41N±0°.01×155°.15W±0°.01, h12km, MW5.2/151, Moment Tensor Solution. s95,c146; s151,c274; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.95±.01; $M_{\theta\theta}$0.53±.01; $M_{\phi\phi}$0.41±.01; $M_{r\theta}$0.24±.03; $M_{\theta\phi}$0.35±.01; $M_{\phi r}$-0.17±.03; Best double couple: $M_0$0.92800×10^{17} NP1:ϕ_s244.00000°, δ49.00000°, λ-71.00000°. NP2:ϕ_s36.00000°, δ44.00000°, λ-111.00000°. Principal axes: T 0.8330, Plg3.0000°, Azm321.0000°; N 0.1900, Plg14.0000°, Azm51.0000°; P -1.0240, Plg76.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 17:59:47.2±0.9, 19°.45N±0°.03×155°.28W±0°.03, h5km±4km, n187, σ2§05/133, mb4.7/48, MS4.5/86, 2C-1D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSD	**Rainshed**	**0.01**	**360**		**Pg**	**17 59 47.5**	**-0.8**
SBLHI	**Steaming Bluff**	**0.03**	**160**		**Pg**	**17 59 47.8**	**-0.5**
UWB	**Uwekahuna B**	**0.03**	**180**		**Pg**	**17 59 47.5**	**-0.8**
HATHI	**Halema'uma'u T**	**0.03**	**152**		**Pg**	**17 59 47.0**	**-1.4**
UWE	**Uwekahuna**	**0.04**	**204**		**Pg**	**17 59 46.7**	**-1.7**
OBL	**Observatory Le**	**0.04**	**189**		**Pg**	**17 59 47.5**	**-0.9**
BYL	**Byron's Ledge**	**0.04**	**157**		**Pg**	**17 59 46.9**	**-1.6**
WRMHI	**West Rim**	**0.05**	**204**		**Pg**	**17 59 48.0**	**-0.6**
KKO	**Keanakako`i**	**0.06**	**168**		**Pg**	**17 59 48.1**	**-0.6**
RIM	**Rim**	**0.06**	**176**		**Pg**	**17 59 47.0**	**-1.7**
SDHHI	**Sand Hill**	**0.07**	**194**		**Pg**	**17 59 48.5**	**-0.3**
PUH	**Pauahi**	**0.10**	**143**		**Pg**	**17 59 48.2**	**-1.1**
PUH				IAML		17 59 49.5	
	comp=E,25μm,1.3s						
PUH				IAML		17 59 49.6	
	comp=N,20μm,0.5s						
MLH	**Mauna Loa**	**0.11**	**292**		**Pg**	**17 59 49.5**	**-0.1**
MLH				IAML		17 59 52.6	
	comp=E,27μm,0.7s						
MLH				IAML		17 59 52.6	
	comp=N,21μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.13**	**125**		**Pg**	**17 59 49.1**	**-0.7**
HLP	**Hilina Pali**	**0.16**	**190**		**Pg**	**17 59 49.4**	**-1.0**
HLP	**Hilina Pali**	**0.16**	**190**	IAML		17 59 52.0	
	comp=N,41μm,1.1s						
HLP				IAML		17 59 52.4	
	comp=E,34μm,0.5s						
STCH	**Steam Cracks**	**0.16**	**115**		**Pg**	**17 59 49.6**	**-0.8**
STCH				IAML		17 59 53.5	
	comp=E,50μm,1.0s						
STCH				IAML		17 59 53.9	
	comp=N,39μm,1.0s						
HTC	**Hot Caves**	**0.24**	**208**		**Pg**	**17 59 50.8**	**-1.1**
HMH	**Humu'ula Sheep**	**0.24**	**308**		**Pg**	**17 59 51.9**	**-0.1**
HMH				IAML		17 59 58.4	
	comp=N,22μm,0.6s						
HMH				IAML		17 59 59.6	
	comp=E,29μm,0.7s						
JOKA	**Jonika Flow**	**0.26**	**94**		**Pg**	**17 59 51.7**	**-0.5**
JOKA				IAML		17 59 58.0	
	comp=E,13μm,1.2s						
JOKA				IAML		17 59 59.1	
	comp=N,23μm,1.2s						
MLOA	**Mauna Loa Obse**	**0.29**	**286**		**Pg**	**17 59 52.6**	**-0.4**
MLOA				IAML		18 00 01.3	
	comp=N,17μm,1.1s						
MLOA				IAML		18 00 02.4	
	comp=E,29μm,1.7s						
MWH	**Moku'aweowe**	**0.30**	**276**		**Pg**	**17 59 52.7**	**-0.5**
PAH	**Pahoa**	**0.32**	**82**		**Pg**	**17 59 52.6**	**-0.8**
KHU	**Kahuku**	**0.38**	**237**		**Pg**	**17 59 53.4**	**-1.2**
KHU				IAML		18 00 03.1	
	comp=N,14μm,0.8s						
KHU				IAML		18 00 03.7	
	comp=E,22μm,2.7s						
POHA	**Pohakuloa**	**0.39**	**322**		**Pg**	**17 59 54.3**	**-0.5**
HPO	**Honuapo**	**0.45**	**216**		**Pg**	**17 59 54.5**	**-1.3**
HUH	**Hualalai**	**0.57**	**294**		**Pg**	**17 59 57.3**	**-1.0**
I59US	**HAWAII INFRASO**	**0.60**	**283**	Pg	**Pg**	**17 59 58.2**	**-0.4**
	baz=149,slow=7.0						
I59US				I	I	18 03 04.5	
	comp=E,0.1nm,0.9s,baz=107,slow=319,SNR=4.6						
HPAH	**Hawaii Prepara**	**0.70**	**326**		**Pg**	**17 59 58.7**	**-1.9**
KKH	**Kailua Kona**	**0.73**	**286**	Pg	**Pg**	**17 59 59.1**	**-2.1**
MHA	**Mahukona**	**0.94**	**321**		**Pg**	**18 00 02.7**	**-2.6**
HLK	**Haleakala**	**1.59**	**325**	Pn	**Pn**	**18 00 12.9**	**-3.3**
KHLH	**Kahului Airpor**	**1.80**	**323**	Pn	**Pn**	**18 00 15.4**	**-3.5**
KPA	**Kalaupapa**	**2.36**	**317**		**Pn**	**18 00 22.1**	**-4.5**
KIP	**Kipapa**	**3.23**	**308**	Pn	**Pn**	**18 00 37.9**	**-0.7**
JCC	**Jacoby Creek,**	**34.12**	**45**	P	**P**	**18 06 31.4**	**-1.6**
SAO	**San Andreas Ge**	**34.23**	**53**	P	**P**	**18 06 32.4**	**-1.7**
SAO				IAmb	IAmb	18 06 40.4	
	comp=Z,16nm,1.1s						
KRPM	**Rodgers**	**34.30**	**44**	P	**P**	**18 06 34.0**	**-0.6**
KRPM				IAmb	IAmb	18 07 24.7	
	comp=Z,20nm,1.1s						
KHMM	**Horse Mountain**	**34.35**	**45**	P	**P**	**18 06 34.2**	**-1.0**
PMPB	**Monarch Peak**	**34.53**	**54**	P	**P**	**18 06 35.5**	**-1.3**
KRMB	**Red Mountain**	**34.55**	**44**	P	**P**	**18 06 36.5**	**-0.5**
KRMB				IAmb	IAmb	18 06 58.3	
	comp=Z,12nm,1.3s						
J01E	**Myrtle Point**	**35.38**	**41**	P	**P**	**18 06 43.6**	**-0.3**
J01E				IAmb	IAmb	18 07 22.1	
	comp=Z,17nm,1.3s						
YBH	**Yreka Blue Hor**	**35.44**	**44**	LR	LR	18 17 16.6	
	comp=Z,190nm,21.8s,baz=257,slow=30						
H11N3	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	18 43 55.6	
	baz=84,slow=74,SNR=93						
H11N2	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	18 43 56.3	
	baz=84,slow=74,SNR=70						
H11N1	**WAKE ISLAND Hy**	**35.60**	**277**	T	T	18 43 56.2	
	baz=84,slow=74,SNR=42						
HATC	**Hat Creek Radi**	**35.85**	**46**	P	**P**	**18 06 46.7**	**-1.4**
HATC				IAmb	IAmb	18 07 56.4	
	comp=Z,21nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**35.92**	**275**	T	T	18 44 20.3	
	baz=82,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hy**	**35.92**	**275**	T	T	18 44 18.8	
	baz=82,slow=74,SNR=14						
H11S3	**WAKE ISLAND Hy**	**35.93**	**275**	T	T	18 44 19.9	
	baz=82,slow=74,SNR=16						
WAKR	**Walker**	**36.35**	**51**	P	**P**	**18 06 51.1**	**-1.5**
WAKR				IAmb	IAmb	18 07 31.2	
	comp=Z,33nm,1.9s						
OMMB	**Old Mammoth Mi**	**36.36**	**52**	P	**P**	**18 06 51.8**	**-1.0**
OMMB				IAmb	IAmb	18 07 05.2	
	comp=Z,22nm,1.8s						
ELS	**Elsinore Mount**	**36.48**	**59**	P	**P**	**18 06 52.3**	**-1.2**
I04A	**Tendick Farm,**	**36.66**	**41**	P	**P**	**18 06 54.0**	**-0.9**
I04A				IAmb	IAmb	18 07 26.6	
	comp=Z,29nm,1.9s						
YERR	**Yerington**	**36.67**	**50**	P	**P**	**18 06 53.5**	**-1.8**
CBX	**Cerro Bola**	**36.83**	**62**	P	**P**	**18 06 55.6**	**-1.0**
H04D	**Lebanon**	**36.84**	**40**	P	**P**	**18 06 56.0**	**-0.3**
H04D				IAmb	IAmb	18 07 08.0	
	comp=Z,26nm,1.6s						
PAHR	**Pah Rah Range**	**36.84**	**49**	P	**P**	**18 06 55.8**	**-0.9**
PAHR				IAmb	IAmb	18 07 08.9	
	comp=Z,16nm,1.4s						
DSP	**Deep Springs**	**37.06**	**53**	P	**P**	**18 06 57.6**	**-0.7**
RYN	**Ryan**	**37.06**	**51**	P	**P**	**18 06 57.6**	**-0.9**
RYN				IAmb	IAmb	18 07 07.9	
	comp=Z,19nm,1.8s						
F03A	**Seaside**	**37.13**	**37**	P	**P**	**18 06 58.2**	**-0.6**
J05D	**Fort Rock, OR**	**37.14**	**43**	P	**P**	**18 06 59.6**	**+0.5**
NVAR	**Mina Array Bea**	**37.16**	**51**	P	**P**	**18 06 59.4**	**0.0**
NVAR	**Mina Array Bea**	**37.16**	**51**	P	**P**	**18 07 01.1**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=240,slow=11,SNR=4.3						
NVAR				LR	LR	18 19 36.8	
	comp=Z,257nm,18.3s,baz=254,slow=32						
	comp=Z,0.8nm,0.8s						
PPT	**Papeete**	**37.21**	**171**	LR	LR	18 18 21.4	
	comp=Z,1μm,20.0s,baz=359,slow=30						
PFO	**Pinyon Flats O**	**37.26**	**60**	LR	LR	18 19 25.4	
	comp=Z,157nm,19.5s,baz=256,slow=32						
NV11	**Mina Array Sit**	**37.27**	**52**	P	**P**	**18 06 59.1**	**-1.2**
GSC	**Goldstone, Bar**	**37.37**	**57**	P	**P**	**18 07 00.8**	**-0.4**
FUNA	**Funafuti**	**37.49**	**224**	P	**P**	**18 07 00.0**	**-2.1**
KVN	**Kaiserville**	**37.52**	**51**	P	**P**	**18 07 01.6**	**-0.9**
GWY	**Greenwater Val**	**37.71**	**56**	P	**P**	**18 07 03.1**	**-1.0**
WCT	**Wildcat Mounta**	**37.91**	**55**	P	**P**	**18 07 05.1**	**-0.6**
H02S1	**DAWSON INLET T**	**38.03**	**22**	T	T	18 47 14.1	
	SNR=48						
KDAK	**Kodiak Island**	**38.33**	**2**	LR	LR	18 19 15.8	
	comp=Z,985nm,21.5s,baz=207,slow=31						
BBB	**Bella Bella**	**38.95**	**27**	LR	LR	18 19 21.8	
	comp=Z,243nm,20.1s,baz=230,slow=30						
RAR	**Rarotonga**	**40.65**	**186**	LR	LR	18 20 33.0	
	comp=Z,606nm,20.2s,baz=0.5,slow=30						
SHEM	**Shemya Is, Ala**	**40.83**	**332**	LR	LR	18 20 51.4	
	comp=Z,1μm,21.9s,baz=136,slow=31						
N19K	**Bonanza Creek**	**41.32**	**1**	P	**P**	**18 07 33.7**	**-0.1**
N19K				IAmb	IAmb	18 07 41.2	
	comp=Z,17nm,1.1s						
LPIG	**La Paz**	**41.88**	**75**	LR	LR	18 20 09.0	
	comp=Z,414nm,21.2s,baz=264,slow=29						
NEW	**Newport**	**42.09**	**38**	LR	LR	18 21 02.7	
	comp=Z,154nm,21.2s,baz=230,slow=30						
DLBC	**Dease Lake**	**43.08**	**19**	LR	LR	18 21 14.9	
	comp=Z,608nm,22.0s,baz=232,slow=30						
M26K	**Nabesna, AK**	**43.75**	**8**	P	**P**	**18 07 53.2**	**-0.3**
M26K				IAmb	IAmb	18 08 00.2	
	comp=Z,7.0nm,0.8s						
KTH	**Kantishna Hill**	**44.17**	**3**	P	**P**	**18 07 56.7**	**-0.1**
L27K	**Beaver Creek,**	**44.55**	**9**	P	**P**	**18 07 59.7**	**-0.1**
BCAR	**Beaver Creek A**	**44.55**	**9**	P	**P**	**18 07 59.6**	**-0.3**
PDAR	**Pinedale Array**	**44.84**	**48**	P	**P**	**18 08 03.4**	**+0.7**
	comp=Z,2.1nm,1.0s,baz=251,slow=4.5,SNR=9.8						
	comp=Z,2.1nm,1.0s						
WRH	**Wood River Hil**	**45.25**	**4**		**P**	**18 08 04.8**	**-0.5**
WRH				IAmb	IAmb	18 08 12.1	
	comp=Z,17nm,1.2s						
HDA	**Harding Lake**	**45.28**	**5**	P	**P**	**18 08 04.5**	**-1.1**
HDA				IAmb	IAmb	18 08 11.4	
	comp=Z,16nm,1.5s						
MSVF	**Nonsavu**	**45.30**	**217**	LR	LR	18 23 41.7	
	comp=Z,360nm,19.7s,baz=11,slow=32						
CCB	**Clear Creek Bu**	**45.44**	**5**	P	**P**	**18 08 07.2**	**+0.3**
CCB				IAmb	IAmb	18 08 12.8	
	comp=Z,5.8nm,1.0s						
J25K	**Salcha River,**	**45.62**	**6**	P	**P**	**18 08 08.6**	**+0.3**
J25K				IAmb	IAmb	18 08 14.5	
	comp=Z,7.0nm,0.9s						
ILAR	**Eielson Array**	**45.64**	**5**	P	**P**	**18 08 07.9**	**-0.6**
ILAR	**Eielson Array**	**45.64**	**5**	P	**P**	**18 08 09.0**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=194,slow=7.2,SNR=14						
ILAR				LR	LR	18 24 11.5	
	comp=Z,431nm,19.6s,baz=186,slow=32						
	comp=Z,1.8nm,0.7s						
ANMO	**Albuquerque**	**45.64**	**60**	LR	LR	18 24 29.1	
	comp=Z,174nm,18.9s,baz=353,slow=32						
MLY	**Manley**	**45.65**	**3**		**P**	**18 08 07.7**	**-0.9**
J26L	**Joseph Creek**	**45.70**	**7**	P	**P**	**18 08 08.9**	**-0.2**
J26L				IAmb	IAmb	18 08 31.3	
	comp=Z,6.8nm,1.1s						
MDM	**Murphy Dome**	**45.72**	**4**	P	**P**	**18 08 08.5**	**-0.6**
I23K	**Minto, Yukon-K**	**45.84**	**3**	P	**P**	**18 08 09.9**	**-0.1**
I23K				IAmb	IAmb	18 08 15.7	
	comp=Z,6.9nm,1.1s						
H19K	**Roundabout Mou**	**46.06**	**359**	P	**P**	**18 08 11.1**	**-0.5**
PRP	**Porcupine Dome**	**46.49**	**6**	P	**P**	**18 08 14.3**	**-1.0**
PRP				IAmb	IAmb	18 08 18.8	
	comp=Z,8.7nm,1.3s						
H24K	**Noodor Dome**	**46.62**	**4**	P	**P**	**18 08 15.6**	**-0.6**
H24K				IAmb	IAmb	18 08 22.0	
	comp=Z,6.0nm,1.1s						
I30M	**Mount Dempster**	**47.44**	**11**	P	**P**	**18 08 21.8**	**-0.8**
I30M				IAmb	IAmb	18 08 29.0	
	comp=Z,5.3nm,0.9s						
G24K	**Hadweenzic Riv**	**47.50**	**4**	P	**P**	**18 08 22.3**	**-0.7**
TXAR	**Lajitas Array**	**47.70**	**68**	P	**P**	**18 08 27.6**	**+2.3**
	comp=Z,4.0nm,0.7s,baz=251,slow=8.0,SNR=16						
TXAR				LR	LR	18 24 27.6	
	comp=Z,77nm,21.8s

RPN	Rapa Nui	64.24 135	LR	LR	18 31 00.6	
	comp=Z,536nm,21.4s,baz=306,slow=29					
USRK	Ussuriysk Ar.	64.44 310	LR	LR	18 33 32.9	
	comp=Z,548nm,20.7s,baz=88,slow=32					
KLR	Kul'dur	64.46 316	LR	LR	18 33 34.6	
	comp=Z,397nm,21.0s,baz=108,slow=32					
YAK	Yakutsk	66.00 330	LR	LR	18 35 27.3	
	comp=Z,887nm,21.9s,baz=97,slow=32					
MDJ	Mudanjiang	66.13 311	P	P	18 10 39.5	+3.8
MDJ			pmax	pmax		
	comp=Z,9.0nm,2.3s					
MDJ			pmax	pmax		
	comp=Z,510nm,7.2s					
MDJ			LR	LR		
	comp=Z,410nm,17.9s					
MDJ			LR	LR		
	comp=Z,330nm,20.6s					
MDJ			LR	LR		
	comp=Z,1μm,24.7s					
JNU	Nakatsue	66.40 298	LR	LR	18 38 56.2	
	comp=Z,323nm,18.2s,baz=84,slow=35					
SADO	Sadowa	66.83 49	LR	LR	18 38 28.2	
	comp=Z,46nm,18.6s,baz=299,slow=35					
TIXI	Tiksi	67.23 341	LR	LR	18 39 36.8	
	comp=Z,322nm,19.6s,baz=144,slow=36					
JTS	Las Juntas de	68.20 86	LR	LR	18 33 14.0	
	comp=Z,317nm,21.4s,baz=293,slow=29					
CN2	Changchun	69.18 310	eP	P	18 10 55.0	+0.1
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
JOW	Kunigami	69.74 292	LR	LR	18 35 05.4	
	comp=Z,155nm,21.2s,baz=84,slow=30					
SNY	Shenyang	70.82 309	⇓P	P	18 11 07.0	+1.9
SNY			pmax	pmax		
	comp=Z,5.0nm,0.4s					
SNY			pmax	pmax		
	comp=Z,260nm,7.8s					
SNY			LR	LR		
	comp=Z,160nm,12.2s					
SNY			LR	LR		
	comp=Z,340nm,22.6s					
SNY			LR	LR		
	comp=Z,550nm,23.6s					
FRB	Frobisher Bay	71.31 28	LR	LR	18 38 18.1	
	comp=Z,109nm,21.6s,baz=338,slow=32					
DL2	Dalian	72.81 306	P	P	18 11 19.8	+2.7
DL2			S	SKiKP	18 20 48.0	-3.8
DL2			pmax	pmax		
	comp=Z,10.0nm,1.2s					
DL2			pmax	pmax		
	comp=Z,580nm,6.3s					
DL2			LR	LR		
	comp=Z,200nm,20.4s					
DL2			LR	LR		
	comp=Z,300nm,21.0s					
DL2			LR	LR		
	comp=Z,700nm,29.0s					
NJ2	Nanjing	76.55 299	eP	P	18 11 37.5	-1.4
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.5s					
TIA	Tai'an	76.90 304	P	P	18 11 43.0	+2.2
TIA			PP	PP	18 14 35.0	+1.4
TIA			S	S	18 21 38.5	+8.9
TIA			SS	SS	18 26 29.3	+3.7
TIA			pmax	pmax		
	comp=Z,3.0nm,0.5s					
TIA			pmax	pmax		
	comp=Z,420nm,6.1s					
TIA			LR	LR		
	comp=Z,290nm,16.5s					
TIA			LR	LR		
	comp=Z,190nm,14.4s					
TIA			LR	LR		
	comp=Z,190nm,12.9s					
DAV	Davao City (W)	77.47 273	LR	LR	18 39 32.5	
	comp=Z,265nm,21.7s,baz=74,slow=31					
SFJD	Kangerlussuaq	77.84 23	LR	LR	18 42 06.1	
	comp=Z,293nm,21.8s,baz=300,slow=33					
HNS	HongShan	78.46 306	⇑P	P	18 11 50.8	+1.3
HNS			eS	S	18 21 49.0	+2.6
HNS			SKS	SKSac	18 22 02.5	-2.8
HNS			pmax	pmax		
	comp=Z,600nm,7.8s					
HNS			LR	LR		
	comp=Z,150nm,17.5s					
HNS			LR	LR		
	comp=Z,390nm,22.3s					
HNS			LR	LR		
	comp=Z,440nm,25.0s					
QZH	Quanzhou	78.66 293	P	P	18 11 54.8	+4.0
QZH			pmax	pmax		
	comp=Z,410nm,9.2s					
QZH			LR	LR		
	comp=Z,340nm,21.6s					
QZH			LR	LR		
	comp=Z,300nm,22.7s					
WRA	Warramunga Arr	79.29 244	P	P	18 11 57.5	+3.1
	comp=Z,0.4nm,0.8s,baz=72,slow=4.6,SNR=2.3					
WRA			LR	LR	18 41 53.1	
	comp=Z,306nm,21.9s,baz=30,slow=32					
	comp=Z,0.4nm,0.8s					
HHC	Hu-ho-hao-te	79.85 310	eP	P	18 11 59.5	+2.3
HHC			eS	S	18 22 01.3	0.0
HHC			SS	SS	18 27 13.5	+3.5
HHC			pmax	pmax		
	comp=Z,12nm,0.6s					
HHC			pmax	pmax		
	comp=Z,330nm,6.0s					
HHC			LR	LR		
	comp=Z,190nm,15.7s					
HHC			LR	LR		
	comp=Z,350nm,18.4s					
HHC			LR	LR		
	comp=Z,580nm,18.6s					
ROSC	El Rosal	79.89 88	LR	LR	18 39 10.3	
	comp=Z,168nm,19.8s,baz=254,slow=30					
ATAH	Atahualpa	80.12 101	LR	LR	18 41 10.1	
	comp=Z,257nm,18.2s,baz=299,slow=31					
LYN	LuoYang	81.01 303	P	P	18 12 05.8	+2.4
LYN			sS	sS	18 22 22.5	+5.7
LYN			SS	SS	18 27 35.5	+8.1
LYN			pmax	pmax		
	comp=Z,560nm,8.6s					
LYN			LR	LR		
	comp=Z,190nm,11.3s					
LYN			LR	LR		
	comp=Z,600nm,21.0s					
LYN			LR	LR		
	comp=Z,790nm,21.6s					
SONM	Songino Array	81.22 318	P	P	18 12 05.9	+1.4
	comp=Z,0.3nm,0.4s,baz=65,slow=4.3,SNR=1.7					
SONM			LR	LR	18 46 03.2	
	comp=Z,440nm,20.8s,baz=68,slow=34					
	comp=Z,0.3nm,0.4s					
ASAR	Alice Springs	81.25 241	P	P	18 12 07.0	+2.1
	comp=Z,0.4nm,0.8s,baz=62,slow=5.4,SNR=4.5					
ASAR			LR	LR	18 42 41.5	
	comp=Z,153nm,21.4s,baz=54,slow=32					
	comp=Z,0.4nm,0.8s					
SDV	Santo Domingo	82.08 83	LR	LR	18 41 37.1	
	comp=Z,120nm,21.9s,baz=272,slow=30					
SPITS	Spitsbergen Ar	82.45 2	LR	LR	18 44 55.1	
	comp=Z,179nm,21.3s,baz=328,slow=33					
NNA	Nana	83.29 105	LR	LR	18 40 11.9	
	comp=Z,315nm,21.5s,baz=278,slow=29					
XAN	Xi'an	83.96 304	P	P	18 12 20.3	+1.4
XAN			pmax	pmax		
	comp=Z,7.0nm,1.3s					
XAN			pmax	pmax		
	comp=Z,430nm,6.5s					
XAN			LR	LR		
	comp=Z,360nm,19.9s					
XAN			LR	LR		
	comp=Z,480nm,19.4s					
XAN			LR	LR		
	comp=Z,830nm,19.9s					
JMIC	Jan Mayen	86.90 10	LR	LR	18 48 15.1	
	comp=Z,121nm,21.7s,baz=346,slow=34					
LZH	Lanzhou	87.14 307	eP	P	18 12 39.0	+4.1
LZH			S	SKSac	18 23 08.5	+5.0
LZH			pmax	pmax		
	comp=Z,250nm,5.8s					
LZH			LR	LR		
	comp=Z,200nm,12.4s					
LZH			LR	LR		
	comp=Z,380nm,15.8s					
LZH			LR	LR		
	comp=Z,260nm,14.4s					
QIZ	Qiongzhong	88.20 289	P	P	18 12 37.5	-2.6
QIZ			S	S	18 23 23.5	-2.2
QIZ			SS	SS	18 29 12.5	-1.8
QIZ			pmax	pmax		
	comp=Z,320nm,6.1s					
QIZ			LR	LR		
	comp=Z,150nm,18.6s					
QIZ			LR	LR		
	comp=Z,320nm,22.0s					
QIZ			LR	LR		
	comp=Z,290nm,24.5s					
GYA	Guiyang	88.39 297	⇑P	P	18 12 42.0	+1.0
GYA			S	S	18 23 24.0	-3.6
GYA			pmax	pmax		
	comp=Z,6.0nm,1.3s					
GYA			pmax	pmax		
	comp=Z,300nm,6.6s					
GYA			LR	LR		
	comp=Z,160nm,21.0s					
GYA			LR	LR		
	comp=Z,220nm,22.9s					
GYA			LR	LR		
	comp=Z,300nm,21.1s					
GTA	Gaotai	88.78 312	P	P	18 12 44.3	+1.7
GTA			pmax	pmax		
	comp=Z,2.0nm,1.5s					
GTA			pmax	pmax		
	comp=Z,360nm,7.6s					
GTA			LR	LR		
	comp=Z,260nm,19.1s					
GTA			LR	LR		
	comp=Z,660nm,19.5s					
GTA			LR	LR		
	comp=Z,510nm,23.9s					
BORG	Borgarnes	88.96 18	LR	LR	18 49 16.7	
	comp=Z,111nm,21.8s,baz=329,slow=33					
CD2	Chengdu	89.14 302	P	P	18 12 41.0	-3.4
CD2			SKS	SKSac	18 23 10.0	-5.4
CD2			S	SKKSac	18 23 30.0	+2.8
CD2			SS	SS	18 29 24.3	-3.2
CD2			pmax	pmax		
	comp=Z,270nm,6.3s					
CD2			LR	LR		
	comp=Z,330nm,16.6s					
CD2			LR	LR		
	comp=Z,400nm,17.2s					
CD2			LR	LR		
	comp=Z,380nm,16.3s					
H03N2	Juan Fernandez	89.73 126	T	T	19 52 02.4	
	baz=298,slow=76,SNR=8.1					
H03N3	Juan Fernandez	89.74 126	T	T	19 51 51.8	
	baz=298,slow=76,SNR=6.9					
H03N1	Juan Fernandez	89.75 126	T	T	19 51 53.7	
	baz=298,slow=76,SNR=8.8					
ZALV	Zalesovo Beam	90.63 329	P	P	18 12 52.4	+1.6
	comp=Z,0.2nm,0.3s,baz=43,slow=3.0,SNR=3.9					
ZALV			LR	LR	18 51 32.5	
	comp=Z,501nm,20.5s,baz=66,slow=34					
	comp=Z,0.2nm,0.3s					
ARCES	ARCESS Array B	91.26 360	LR	LR	18 49 17.8	
	comp=Z,157nm,21.6s,baz=14,slow=33					
PZH	PanZhiHua	92.46 299	P	P	18 12 58.0	-2.0
PZH			S	S	18 24 00.8	-4.3
PZH			pmax	pmax		
	comp=Z,20nm,0.9s					
PZH			pmax	pmax		
	comp=Z,150nm,5.9s					
PZH			LR	LR		
	comp=Z,190nm,18.6s					
PZH			LR	LR		
	comp=Z,250nm,18.6s					
PZH			LR	LR		
	comp=Z,210nm,24.5s					
LPAZ	La Paz	92.70 106	LR	LR	18 46 54.4	
	comp=Z,184nm,21.7s,baz=284,slow=30					
LVC	Limon Verde	94.09 112	LR	LR	18 45 11.5	
	comp=Z,358nm,20.6s,baz=284,slow=29					
WMQ	Urumqi	94.70 320	eP	P	18 13 10.3	+0.4
WMQ			LR	LR		
	comp=Z,440nm,14.9s					
WMQ			LR	LR		
	comp=Z,290nm,19.9s					
WMQ			LR	LR		
	comp=Z,340nm,21.5s					
TNCH	TengChong	95.71 299	eP	P	18 13 11.5	-3.5
TNCH			S	S	18 24 28.0	-5.8
TNCH			pmax	pmax		
	comp=Z,6.0nm,0.9s					
TNCH			LR	LR		
	comp=Z,190nm,17.4s					
TNCH			LR	LR		
	comp=Z,170nm,17.9s					
TNCH			LR	LR		
	comp=Z,510nm,23.8s					
KURBB	Kurchatov Arra	95.72 329	LR	LR	18 54 13.5	
	comp=Z,479nm,21.9s,baz=124,slow=34					
MKAR	Makanchi Array	96.15 324	LR	LR	18 53 58.1	
	comp=Z,359nm,21.7s,baz=78,slow=34					
CMAR	Chiang Mai Arr	98.01 293	LR	LR	18 57 00.8	
	comp=Z,147nm,19.3s,baz=55,slow=35					
NWAO	Narrogin (SRO)	98.30 238	LR	LR	18 56 32.5	
	comp=Z,58nm,21.0s,baz=154,slow=35					
PLCA	Paso Flores	98.59 130	LR	LR	18 47 39.1	
	comp=Z,428nm,21.1s,baz=274,slow=29					
SIV	San Ignacio	99.04 104	LR	LR	18 53 21.7	
	comp=Z,343nm,18.2s,baz=300,slow=32					
NOA	NORSAR Array B	99.05 7	LR	LR	18 55 48.4	
	comp=Z,116nm,20.7s,baz=330,slow=34					
ARU	Arti	99.22 342	LR	LR	18 58 53.3	
	comp=Z,450nm,21.4s,baz=43,slow=36					
KIRV	Kirov	99.62 347	LR	LR	19 01 12.4	
	comp=Z,310nm,19.8s,baz=27,slow=37					
HFS	Hagfors	100.19 6	LR	LR	18 55 46.9	
	comp=Z,180nm,21.8s,baz=344,slow=34					
KHC	Kasperske Hory	111.01 8	eSP	SP	18 28 29.5	+0.4
KHC			AMS	AMS	19 05 50.0	
	comp=Z,200nm,19.9s					
CKRC	Cesky Krumlov	111.41 7	AMS	AMS	19 05 20.0	
	comp=Z,200nm,23.4s					

*DNK **31** 18:21:23.2±1.9, 51°.54N×16°.24E, h18km±83km, ML2.6*
*IPEC **31** 18:21:24.8±0.2, 51°.61N×16°.09E, h1km, ML2.5/4, Error ellipse: s-maj=1.8km s-min=1.1km az=29.0*
*VIE **31** 18:21:24.9±0.6, 51°.60N×16°.09E, h0km, mb2.5/5, ml2.8/4, Error ellipse: s-maj=7.5km s-min=3.9km az=57.0, Suspected Mining induced.*
*IDC **31** 18:21:26.7±1.0, 51°.61N×15°.78E, h0km, mbtmp3.1/5, ML2.8/5, Error ellipse: s-maj=20.0km s-min=9.4km az=117.0*
*PRU **31** 18:21:27.4, 51°.51N×15°.99E, h0km*
ISC 31 18:21:23.5±0.7, 51°.68N±0°.03×16°.04E±0°.03, h0km, n41, σ0°.90/76, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.86	169	i Pg	Pg	18 21 40.1	+0.2
KSP				eSg	Sg	18 21 50.1	-0.9
CHVC	Chvalec	1.10	179	ePG	Pg	18 21 44.7	+0.2
CHVC				eSG	Sg	18 21 58.0	-0.7
	comp=Z,43nm,0.4s						
UPC	Upice	1.18	181	ePG	Pg	18 21 46.0	-0.1
UPC				eSG	Sg	18 21 59.3	-2.0
	comp=Z,138nm,0.3s						
DPC	Dobruska-Polom	1.35	172	ePG	Pg	18 21 49.0	-0.3
DPC				eSG	Sg	18 22 05.9	-0.9
	comp=Z,34nm,0.3s						
PVCC	Panska Ves	1.48	219	ePG	Pb	18 21 52.2	+0.3
PVCC				eSG	Sb	18 22 10.8	-0.5
	comp=Z,127nm,0.6s						
BRG	Berggiesshubel	1.54	239	Pg	Pg	18 21 53.2	0.0
BRG				Sg	Sn	18 22 13.2	+0.2
BRG				Amp		18 22 14.0	
	comp=N,70nm,0.4s						
KRLC	Kraliky	1.68	163	ePG	Pn	18 21 54.3	+0.1
KRLC				eSG	Sn	18 22 15.2	-1.2
	comp=N,54nm,0.5s						
PRA	Prague	1.91	213	ePN	Pn	18 21 57.3	0.0
CLL	Colm	1.93	260	i Pn	Pn	18 21 58.0	+0.3
	comp=Z,12nm,0.4s						
CLL				ePg	Pg	18 22 01.0	+0.4
CLL				i x	x	18 22 05.0	
CLL				ex	x	18 22 22.0	
CLL				i Sg	Sg	18 22 25.6	0.0
	comp=Z,21nm,0.5s						
PRU	Pruhonice	1.94	210	ePN	Pn	18 21 57.7	-0.1
PRU				ePG	Pb	18 22 00.0	+0.2
PRU				eSG	Sb	18 22 23.6	-1.0
	comp=Z,29nm,0.4s						
HSKC	Hora Svate Kat	1.96	238	ePG	Pb	18 22 00.1	-0.1
HSKC				eSG	Sb	18 22 25.2	0.0
	comp=Z,34nm,0.6s						
MORC	Moravsky Berou	2.13	153	ePn	Pn	18 22 00.4	0.0
	baz=334						
MORC				eSg	Sn	18 22 29.1	+1.4
	comp=Z,28nm,0.5s,baz=334						
MORC	Moravsky Berou	2.13	153	ePN	Pn	18 22 00.5	0.0
MORC				eSG	Sb	18 22 29.2	-0.9
OKC	Ostrava-Krasne	2.28	143	ePG	Pb	18 22 06.2	+0.6
OKC				eSG	Sb	18 22 35.5	+1.2
VRAC	Vranov	2.40	171	ePn	Pn	18 22 04.2	+0.1
	baz=352						
VRAC				eSg	Sb	18 22 37.4	-0.4
	comp=Z,24nm,0.5s,baz=352						
VRAC	Vranov	2.40	171	ePN	Pn	18 22 04.3	+0.1
VRAC				eSG	Sb	18 22 37.5	-0.4
ZVC	Zvikov	2.54	208	eSG	Sb	18 22 42.6	+1.0
	comp=Z,17nm,0.4s						
KRUC	Moravsky	2.63	175	ePn	Pn	18 22 07.5	+0.3
	baz=356						
KRUC				eSg	Sb	18 22 44.9	+0.5
	comp=Z,26nm,0.8s,baz=356						
KRUC	Moravsky	2.63	175	ePN	Pn	18 22 07.6	+0.3
KRUC				eSG	Sb	18 22 45.0	+0.5
OJC	Ojcow	2.79	120	ePg	Pg	18 22 17.8	+0.8
OJC				eSg	Sg	18 22 53.8	+0.6
KHC	Kasperske Hory	3.00	213	ePN	Pn	18 22 12.4	0.0
KHC				ePG	Pb	18 22 18.3	+0.5
KHC				eSN	Sn	18 22 47.9	-1.1
KHC				eSG	Sb	18 22 56.9	+1.9
	comp=Z,13nm,0.3s						
JAVC	Velka Javorina	3.02	159	ePN	Pn	18 22 12.7	+0.1
CKRC	Cesky Krumlov	3.07	202	ePN	Pn	18 22 14.0	+0.7
CKRC				ePG	Pb	18 22 19.9	+0.8
CKRC				eSG	Sb	18 22 58.8	+1.7
	comp=Z,15nm,0.5s						
GERES	GERESS Array B	3.21	209	Pn	Pn	18 22 16.2	+0.9
	comp=Z,0.8nm,0.3s,baz=31,slow=13,SNR=13						
GERES				Pg	Pb	18 22 22.8	+1.3
	comp=Z,1.6nm,0.3s,baz=29,slow=18,SNR=16						
GERES				Lg	Lg	18 23 01.7	
	comp=Z,3.6nm,0.3s,baz=30,slow=24,SNR=6.2						
	comp=Z,1.7nm,0.4s						
LANS	Liptovska Anna	3.35	138	ePG	Pg	18 22 26.5	-1.3
LANS				eSG	Sg	18 23 10.1	-1.1
MODS	Modra-Piesok	3.41	166	ePG	Pg	18 22 28.9	+0.1
MODS				eSG	Sg	18 23 12.4	-0.6
BSD	Bornholm Skovb	3.50	349	i P	Pn	18 22 19.3	+0.1
BSD				i S	Sn	18 23 01.1	-0.1
BSD				IAML		18 23 04.9	
	comp=Z,1.4nm,0.2s						
NIE	Niedzica	3.54	128	ePg	Pg	18 22 31.5	+0.2
NIE				eSg	Sg	18 23 15.9	-1.2
VYHS	Vyhne	3.67	149	ePN	Pn	18 22 22.0	+0.5
VYHS				ePG	Pg	18 22 33.1	-0.7
VYHS				eSG	Sg	18 23 19.4	-1.8
CONA	Conrad Observa	3.76	182	ePn	Pn	18 22 23.1	+0.3
	comp=Z,0.7nm,0.2s						
RONA	Rosalia, Austr	3.99	177	ePn	Pn	18 22 25.2	-0.8
	comp=Z,0.2nm,0.2s						
MOA	Molln	4.01	197	ePn	Pn	18 22 26.4	+0.2
	comp=Z,2.7nm,0.3s						
LUNU	Lund	4.25	340	i P	Pn	18 22 30.0	+0.6
LUNU				i S	Sn	18 23 19.1	-0.5
COP	Copenhagen	4.55	333	i S	Sn	18 23 26.9	-0.1
COP				IAML		18 23 44.5	
	comp=Z,18nm,0.2s						
BJUU	Bjuv	4.75	339	i P	Pn	18 22 36.6	+0.4
BJUU				i S	Sn	18 23 28.6	-3.3
KBA	Koelnbreinsper	4.93	202	ePn	Pn	18 22 39.7	+0.7
	comp=Z,0.3nm,0.3s						
DEL	Delary	4.96	346	i P	Pn	18 22 40.0	+0.8
DEL				i S	Sn	18 23 35.2	-2.1
AKASG	Malin Array Be	8.34	92	Pn	Pn	18 23 27.2	+1.5
	comp=Z,0.9nm,0.3s,baz=282,slow=12,SNR=3.4						
	comp=Z,0.3nm,0.4s						
HFS	Hagfors	8.57	352	Pn	Pn	18 23 30.0	+1.3
	comp=Z,0.1nm,0.3s,baz=174,slow=16,SNR=3.2						
	comp=Z,2.4nm,0.9s						
FINES	FINESS Array B	11.23	25	Pn	Pn	18 24 05.6	+0.6
	comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=1.4						
	comp=Z,0.2nm,0.3s						
EKA	Eskdalemuir Ar	11.99	295	Pn	Pn	18 24 15.3	-0.2
	baz=104,slow=13						
	comp=Z,0.1nm,0.3s						

*IDC **31** 18:23:22.1±1.3, 3°.04S×148°.15E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=55.7km s-min=23.1km az=112.0*
*NEIC **31** 18:23:23.2±0.8, 2°.84S±0°.07×147°.9E±0°.2, h10km±2km, mb4.1/7, Error ellipse: s-maj=28.7km s-min=6.8km az=69.0.*
ISC 31 18:23:25.5±0.9, 2°.91S±0°.07×147°.8E±0°.2, h22km, n23, σ1°.22/18, mb4.0/10, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	0.95	335		Pn	18 23 42.2	-1.4
MANU					Sb	18 23 53.6	-1.9
PMG	Port Moresby	6.49	185	Pn	Pn	18 24 58.8	-1.0
COEN	Coen	11.88	202	Pn	Pn	18 26 13.6	-0.2
WB0	Warramunga Arr	21.25	217	P	P	18 28 10.6	+0.2
WB0				IAmb	IAmb	18 28 16.3	
	comp=Z,8.7nm,1.1s						
WR0	Warramunga Arr	21.31	216	P	P	18 28 11.0	0.0
WR0				IAmb	IAmb	18 28 17.8	
	comp=Z,9.2nm,1.1s						
WB2	Warramunga Arr	21.41	217	P	P	18 28 12.1	0.0
WRA	Warramunga Arr	21.42	217	P	P	18 28 12.6	+0.4
	comp=Z,5.5nm,0.8s,baz=43,slow=11,SNR=32						
	comp=Z,5.5nm,0.8s						
EIDS	Eidsvold	22.56	172	P	P	18 28 23.1	-1.3
EIDS				IAmb	IAmb	18 28 31.0	
	comp=Z,6.1nm,1.1s						
KNRA	Kununurra	22.62	235	P	P	18 28 25.8	+0.7
KNRA				IAmb	IAmb	18 28 40.8	
	comp=Z,5.9nm,0.9s						
AS31	Alice Springs	24.61	212	P	P	18 28 43.5	-1.1
ASAR	Alice Springs	24.62	212	P	P	18 28 44.1	-0.5
ASAR	Alice Springs	24.62	212	P	P	18 28 45.6	+1.1
	comp=Z,2.8nm,0.8s,baz=35,slow=7.2,SNR=25						
	comp=Z,2.8nm,0.8s						
FITZ	Fitzroy Crossi	26.43	234	P	P	18 29 00.7	-0.2
H11S3	WAKE ISLAND Hy	28.27	40	T	T	18 58 59.5	
	baz=223,slow=76,SNR=140						
H11S2	WAKE ISLAND Hy	28.28	41	T	T	18 58 58.8	
	baz=223,slow=76,SNR=147						
H11S1	WAKE ISLAND Hy	28.29	40	T	T	18 58 59.6	
	baz=223,slow=76,SNR=151						
H11N1	WAKE ISLAND Hy	29.29	39	T	T	19 00 18.6	
	baz=221,slow=76,SNR=33						
H11N3	WAKE ISLAND Hy	29.31	39	T	T	19 00 16.7	
	baz=221,slow=76,SNR=48						
H11N2	WAKE ISLAND Hy	29.31	39	T	T	19 00 16.8	
	baz=221,slow=76,SNR=55						
KSRS	Korea Array	44.19	337	P	P	18 31 35.2	+2.3
	comp=Z,0.6nm,0.7s,baz=137,slow=9.7,SNR=4.3						
	comp=Z,0.6nm,0.7s						
MKAR	Makanchi Array	75.63	320	P	P	18 35 11.3	+2.3
	comp=Z,1.3nm,1.2s,baz=108,slow=3.2,SNR=3.7						
	comp=Z,1.3nm,1.2s						
ILAR	Eielson Array	82.35	23	P	P	18 35 45.0	-0.4
	comp=Z,0.5nm,0.8s,baz=251,slow=5.6,SNR=6.4						
	comp=Z,0.5nm,0.8s						
NVAR	Mina Array Bea	94.87	52	P	P	18 36 46.3	-0.2
	comp=Z,0.1nm,0.3s,baz=260,slow=4.5,SNR=1.7						
	comp=Z,0.1nm,0.3s						

IDC 31 18:39:44.6±59.0, 20°.63S×175°.50W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=1094.0km s-min=178.1km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.84	245	P	P	18 47 19.8	-0.2
	1.6nm,0.8s,baz=69,slow=8.6,SNR=1.7						
	1.6nm,0.8s						

ASAR	**Alice Springs**	**46.76 257**	P	P	18 48 15.1	-1.0
	0.2nm,0.5s,baz=93,slow=6.6,SNR=5.7					
	0.2nm,0.5s					
WRA	**Warramunga Arr**	**46.90 262**	P	P	18 48 17.8	+0.6
	0.6nm,0.4s,baz=97,slow=8.3,SNR=30					
	0.6nm,0.4s					

*JMA **31** 18:42:16.0±0.1,24.°2N±0.°8×122.°4E±0.°3,h56km±2km,*
MV3.3/19,TAIWAN REGION
*TAP **31** 18:42:16.3,24.°31N×122.°38E,h58km,ML4.0,C*
ISC 31 18:42:16.4±1.2,24.°29N±0.°02×122.°39E±0.°02,h57km±5km,
n186,σ1°39/349,1C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS3	**EOS3**	**0.07**	**264**	*i*	P		**Pn**	**18 42 25.1**	**+0.4**
	baz=250								
EOS3					S		**Sn**	**18 42 32.0**	**+1.2**
	baz=250								
EOS4	**EOS4**	**0.19**	**202**	*i*	P		**Pn**	**18 42 24.9**	**-0.1**
	baz=201								
EOS4					*e*S		**Sn**	**18 42 31.7**	**+0.6**
	baz=201								
EOS2	**EOS2**	**0.19**	**310**		P		**Pn**	**18 42 25.7**	**+0.4**
	baz=286								
EOS2				*i*	S		**Sn**	**18 42 32.8**	**+1.1**
	baz=286								
JYNG	**Yonaguni jima**	**0.53**	**73**	*i*	P		**Pn**	**18 42 28.4**	**0.0**
JYNG					S		**Sn**	**18 42 37.1**	**0.0**
ESAO	**Su ao**	**0.57**	**299**	*i*	P		**Pn**	**18 42 28.8**	**-0.2**
	baz=298								
ESAO				*e*S			**Sn**	**18 42 37.4**	**-0.7**
	baz=298								
EWUT	**Wuta**	**0.58**	**285**	*e*P			**Pn**	**18 42 29.0**	**-0.1**
	baz=283								
EWUT				*e*S			**Sn**	**18 42 37.7**	**-0.5**
	baz=283								
TWC	**Suao**	**0.59**	**302**		P		**Pn**	**18 42 28.6**	**-0.5**
	baz=302								
TWC				*i*	S		**Sn**	**18 42 37.1**	**-1.2**
	baz=302								
YOJ	**Yonaguni jima**	**0.59**	**73**		P		**Pn**	**18 42 29.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.59**	**73**	*i*	P		**Pn**	**18 42 29.1**	**-0.1**
	baz=75								
YOJ					S		**Sn**	**18 42 38.4**	**0.0**
	baz=75								
YOJ	**Yonaguni jima**	**0.59**	**73**	*i*	P		**Pn**	**18 42 29.1**	**-0.1**
YOJ					S		**Sn**	**18 42 38.1**	**-0.3**
EHP	**Heping Village**	**0.59**	**272**	*e*P			**Pn**	**18 42 29.4**	**+0.1**
	baz=272								
EHP				*e*S			**Sn**	**18 42 39.2**	**+0.6**
	baz=272								
EAHA	**Aohua**	**0.60**	**274**	*e*P			**Pn**	**18 42 29.6**	**+0.4**
	baz=278								
EAHA				*i*	S		**Sn**	**18 42 39.4**	**+0.8**
	baz=278								
ENA	**Nanau**	**0.61**	**283**	*e*P			**Pn**	**18 42 29.4**	**0.0**
	baz=288								
ENA				*e*S			**Sn**	**18 42 38.8**	**0.0**
	baz=288								
EGS		**0.69**	**323**	*e*P			**Pn**	**18 42 30.1**	**-0.2**
	baz=323								
EGS				*e*S			**Sn**	**18 42 41.6**	**+1.1**
	baz=323								
NDS	**Dongshan**	**0.70**	**299**	*e*P			**Pn**	**18 42 30.8**	**+0.2**
	baz=297								
NDS				*e*S			**Sn**	**18 42 41.1**	**+0.2**
	baz=297								
ETL	**Fush Village**	**0.72**	**259**		P		**Pn**	**18 42 30.4**	**-0.3**
	baz=257								
ETL				*e*S			**Sn**	**18 42 40.6**	**-0.6**
	baz=257								
NACB	**Ninganchiao**	**0.74**	**261**		P		**Pn**	**18 42 30.3**	**-0.7**
NACB	**Ninganchiao**	**0.74**	**261**	*i*	P		**Pn**	**18 42 30.5**	**-0.5**
	baz=259								
NACB				*i*	S		**Sn**	**18 42 41.0**	**-0.6**
	baz=259								
ILA	**Ilan**	**0.75**	**309**	*e*P			**Pn**	**18 42 30.7**	**-0.4**
	baz=317								
ILA					S		**Sn**	**18 42 42.0**	**+0.1**
	baz=317								
TWD	**Chiawan**	**0.76**	**254**	*i*	P		**Pn**	**18 42 30.6**	**-0.6**
	baz=243								
TWD				*i*	S		**Sn**	**18 42 41.2**	**-0.9**
	baz=243								
HWA	**Hwalien**	**0.79**	**247**	*e*P			**Pn**	**18 42 31.4**	**-0.1**
	baz=244								
HWA				*e*S			**Sn**	**18 42 43.2**	**+0.5**
	baz=244								
TWE	**Neicheng**	**0.79**	**303**	*i*	P		**Pn**	**18 42 31.7**	**+0.1**
	baz=309								
TWE				*i*	S		**Sn**	**18 42 42.6**	**-0.1**
	baz=309								
TWB1	**Santiao Chiao**	**0.80**	**333**	*i*	P		**Pn**	**18 42 31.3**	**-0.5**
	baz=322								
TWB1				*i*	S		**Sn**	**18 42 42.0**	**-1.1**
	baz=322								
LATG	**Datong**	**0.83**	**287**	*i*	P		**Pn**	**18 42 32.2**	**0.0**
	baz=286								
LATG					S		**Sn**	**18 42 44.0**	**+0.2**
	baz=286								
ENTT	**Nioudou**	**0.83**	**295**	*i*	P		**Pn**	**18 42 32.5**	**+0.3**
	baz=287								
ENTT				*i*	S		**Sn**	**18 42 44.1**	**+0.4**
	baz=287								
ETLH	**Xiulin Townshi**	**0.84**	**264**	*i*	P		**Pn**	**18 42 32.1**	**-0.2**
	baz=256								
ETLH				*i*	S		**Sn**	**18 42 43.8**	**-0.2**
	baz=256								
TEYL	**Yanliau Villag**	**0.84**	**240**		P		**Pn**	**18 42 31.8**	**-0.5**
	baz=233								
TEYL				*e*S			**Sn**	**18 42 43.6**	**-0.3**
	baz=233								
TIPB	**Shuangxi**	**0.85**	**323**	*i*	P		**Pn**	**18 42 32.0**	**-0.4**
	baz=322								
TIPB				*i*	S		**Sn**	**18 42 44.1**	**-0.1**
	baz=322								
NDT	**Datong Townshi**	**0.86**	**291**	*e*P			**Pn**	**18 42 33.1**	**+0.6**
	baz=283								
NDT				*i*	S		**Sn**	**18 42 44.8**	**+0.5**
	baz=283								
FUSB	**Fushanzhiwuyua**	**0.87**	**302**	*i*	P		**Pn**	**18 42 33.1**	**+0.4**
	baz=310								
FUSB					S		**Sn**	**18 42 45.2**	**+0.5**
	baz=310								
ETM	**Tongmen**	**0.89**	**249**	*e*P			**Pn**	**18 42 32.2**	**-0.6**
	baz=246								
ETM				*e*S			**Sn**	**18 42 43.9**	**-1.1**
	baz=246								
SHUL	**Shoufeng**	**0.91**	**237**	*e*P			**Pn**	**18 42 33.1**	**-0.1**
	baz=230								
SHUL					S		**Sn**	**18 42 45.8**	**+0.3**
	baz=230								
SXI1	**Grass Mountain**	**0.93**	**330**	*i*	P		**Pn**	**18 42 33.1**	**-0.3**
	baz=329								
SXI1				*e*S			**Sn**	**18 42 45.5**	**-0.5**
	baz=329								
NNSB	**Datong**	**0.93**	**278**	*i*	P		**Pn**	**18 42 33.5**	**-0.1**
	baz=277								
NNSB				*e*S			**Sn**	**18 42 46.2**	**0.0**
	baz=277								
LXIB	**Xiulin Townshi**	**0.94**	**253**	*i*	P		**Pn**	**18 42 33.2**	**-0.5**
	baz=251								
LXIB				*e*S			**Sn**	**18 42 45.4**	**-0.9**
	baz=251								
NNS	**Nan Shan**	**0.94**	**279**	*i*	P		**Pn**	**18 42 33.6**	**-0.1**
	baz=269								
NNS					S		**Sn**	**18 42 46.0**	**-0.4**
	baz=269								
NWLT	**Wulai**	**0.94**	**301**	*i*	P		**Pn**	**18 42 34.2**	**+0.5**
	baz=306								
NWLT				*i*	S		**Sn**	**18 42 46.6**	**+0.3**
	baz=306								
NWF	**Wu-fen Shan**	**0.95**	**324**	*e*P			**Pn**	**18 42 33.8**	**0.0**
	baz=324								
NWF				*i*	S		**Sn**	**18 42 45.9**	**-0.7**
	baz=324								
WFSB	**Wu-fen Shan**	**0.95**	**324**		P		**Pn**	**18 42 33.7**	**-0.1**
	baz=324								
WFSB					S		**Sn**	**18 42 46.1**	**-0.4**
	baz=324								
ESL	**Shilin**	**1.00**	**242**	*e*P			**Pn**	**18 42 33.6**	**-0.8**
	baz=240								
YHNB	**Yeheng**	**1.00**	**292**		P		**Pn**	**18 42 34.6**	**+0.2**
YHNB	**Yeheng**	**1.00**	**292**	*i*	P		**Pn**	**18 42 34.8**	**+0.4**
	baz=282								
YHNB				*e*S			**Sn**	**18 42 48.7**	**+0.9**
	baz=282								
TWA	**Mucha**	**1.00**	**313**	*i*	P		**Pn**	**18 42 34.4**	**0.0**
	baz=323								
TWA					S		**Sn**	**18 42 47.6**	**-0.2**
	baz=323								
NSK	**Sanguang**	**1.02**	**292**	*i*	P		**Pn**	**18 42 34.9**	**+0.3**
	baz=282								
NSK				*i*	S		**Sn**	**18 42 47.9**	**-0.2**
	baz=282								
TNOU	**National Taiwa**	**1.02**	**327**	*e*P			**Pn**	**18 42 34.2**	**-0.5**
	baz=326								
TNOU				*e*S			**Sn**	**18 42 47.3**	**-0.8**
	baz=326								
NHDH	**Xindian Distri**	**1.03**	**310**	*i*	P		**Pn**	**18 42 34.5**	**-0.3**
	baz=319								
NHDH					S		**Sn**	**18 42 48.7**	**+0.3**
	baz=319								
WHF	**Hehuan Shan**	**1.04**	**262**	*i*	P		**Pn**	**18 42 34.9**	**-0.4**
	baz=250								
WHF				*e*S			**Sn**	**18 42 49.1**	**-0.1**
	baz=250								
FUSS	**Fushou**	**1.05**	**268**	*e*P			**Pn**	**18 42 35.8**	**+0.5**
	baz=266								
FUSS					S		**Sn**	**18 42 49.0**	**-0.2**
	baz=266								
TATO	**Taipei**	**1.07**	**310**		P		**Pn**	**18 42 35.1**	**-0.1**
EGFH	**Guangfu**	**1.08**	**235**	*e*P			**Pn**	**18 42 34.8**	**-0.7**
	baz=227								
EGFH					S		**Sn**	**18 42 48.6**	**-0.9**
	baz=227								
WARBT	**Fenglin Townsh**	**1.08**	**238**	*i*	P		**Pn**	**18 42 34.7**	**-0.8**
	baz=246								
WARBT				*e*S			**Sn**	**18 42 48.4**	**-1.2**
	baz=246								
TAP	**Taipei**	**1.10**	**313**	*e*P			**Pn**	**18 42 35.5**	**-0.2**
	baz=323								
TAP					S		**Sn**	**18 42 49.6**	**-0.3**
	baz=323								
TWT	**Tachien**	**1.11**	**268**	*e*P			**Pn**	**18 42 37.0**	**+1.0**
	baz=266								
TWT				*i*	S		**Sn**	**18 42 50.5**	**0.0**
	baz=266								
TDCB	**Techi**	**1.13**	**268**	*i*	P		**Pn**	**18 42 36.7**	**+0.5**
	baz=267								
TDCB				*e*S			**Sn**	**18 42 50.6**	**-0.2**
	baz=267								
YM01	**YM01**	**1.13**	**319**	*e*P			**Pn**	**18 42 35.7**	**-0.4**
	baz=318								
YM01				*i*	S		**Sn**	**18 42 50.1**	**-0.7**
	baz=318								
CHGB	**Renai**	**1.14**	**258**		P		**Pn**	**18 42 36.4**	**0.0**
	baz=248								
CHGB				*i*	S		**Sn**	**18 42 51.1**	**-0.1**
	baz=248								
YM08	**YM08**	**1.15**	**321**	*i*	P		**Pn**	**18 42 35.7**	**-0.7**
	baz=320								
YM08				*i*	S		**Sn**	**18 42 49.8**	**-1.5**
	baz=320								
OWD	**Renai**	**1.16**	**253**	*e*P			**Pn**	**18 42 36.5**	**-0.1**
	baz=252								
OWD				*e*S			**Sn**	**18 42 50.5**	**-1.2**
	baz=252								
ANP	**Anpu**	**1.19**	**318**	*e*P			**Pn**	**18 42 36.5**	**-0.4**
	baz=318								
ANP				*e*S			**Sn**	**18 42 51.1**	**-1.2**
	baz=318								
HGSD	**Ruisui**	**1.19**	**228**	*i*	P		**Pn**	**18 42 36.3**	**-0.6**
	baz=221								
HGSD					S		**Sn**	**18 42 51.9**	**-0.3**
	baz=221								
TWS1	**Kuangyinshan**	**1.20**	**312**	*i*	P		**Pn**	**18 42 36.9**	**-0.1**
	baz=322								
TWS1				*e*S			**Sn**	**18 42 52.1**	**-0.1**
	baz=322								
WUSB	**Renai**	**1.20**	**256**	*e*P			**Pn**	**18 42 37.3**	**+0.1**
	baz=247								
WUSB				*i*	S		**Sn**	**18 42 52.6**	**0.0**
	baz=247								
NFF	**Wufeng Townshi**	**1.21**	**286**		P		**Pn**	**18 42 37.8**	**+0.6**
	baz=285								
NFF					S		**Sn**	**18 42 53.1**	**+0.4**
	baz=285								
TWY	**Chenhua**	**1.22**	**324**	*e*P			**Pn**	**18 42 36.9**	**-0.3**
	baz=323								
TWY				*e*S			**Sn**	**18 42 52.6**	**-0.1**
	baz=323								
IRIF	**Iriomote-Funau**	**1.22**	**88**	*i*	P		**Pn**	**18 42 37.1**	**-0.1**
IRIF					S		**Sn**	**18 42 52.7**	**-0.1**
NTST	**Danshui**	**1.22**	**315**	*e*P			**Pn**	**18 42 37.1**	**-0.2**
	baz=325								
NTY	**Taoyuan**	**1.22**	**305**	*e*P			**Pn**	**18 42 37.7**	**+0.4**
	baz=315								
NTY				*e*S			**Sn**	**18 42 53.5**	**+0.7**
	baz=315								
EHYH	**Wanrong**	**1.25**	**231**		P		**Pn**	**18 42 37.4**	**-0.2**
	baz=239								
EHYH				*e*S			**Sn**	**18 42 52.2**	**-1.3**
	baz=239								
EHY	**Hungye**	**1.26**	**232**	*e*P			**Pn**	**18 42 37.0**	**-0.8**
	baz=230								
EHY				*e*S			**Sn**	**18 42 52.1**	**-1.6**
	baz=230								
VWDT	**VWDT**	**1.27**	**245**	*i*	P		**Pn**	**18 42 38.1**	**+0.2**
	baz=243								
VWDT				*e*S			**Sn**	**18 42 54.1**	**+0.2**
	baz=243								
NJD	**Zhudong**	**1.27**	**291**	*e*P			**Pn**	**18 42 39.0**	**+1.1**
	baz=289								
NJD				*e*S			**Sn**	**18 42 56.1**	**+2.1**
	baz=289								
NCU	**National Centr**	**1.29**	**302**	*e*P			**Pn**	**18 42 36.5**	**-1.7**
	baz=301								
NCU				*e*S			**Sn**	**18 42 53.5**	**-0.9**
	baz=301								
NCUH	**Zhongli**	**1.29**	**302**	*e*P			**Pn**	**18 42 38.7**	**+0.5**
	baz=301								
ECBN	**Changbin**	**1.30**	**222**	*e*P			**Pn**	**18 42 37.9**	**-0.5**
	baz=212								
ECBN				*e*S			**Sn**	**18 42 53.5**	**-1.3**
	baz=212								
LIOB	**Emei**	**1.30**	**286**	*i*	P		**Pn**	**18 42 39.3**	**+0.9**
	baz=285								
LIOB				*i*	S		**Sn**	**18 42 56.7**	**+1.8**
	baz=285								
HATJ	**Hateruma jima**	**1.31**	**100**	*i*	P		**Pn**	**18 42 39.1**	**+0.6**
HATJ					S		**Sn**	**18 42 56.5**	**+1.5**
NSTT	**Nanjuang**	**1.31**	**285**		P		**Pn**	**18 42 39.3**	**+0.8**
	baz=284								
NSTT				*i*	S		**Sn**	**18 42 56.4**	**+1.3**
	baz=284								
WHP	**Taichung City**	**1.32**	**270**		P		**Pn**	**18 42 39.9**	**+1.2**
	baz=261								
WHP				*e*S			**Sn**	**18 42 56.2**	**+0.8**
	baz=261								
HSN1	**Hsinchu**	**1.34**	**291**	*e*P			**Pn**	**18 42 38.9**	**0.0**
	baz=303								
HSN1				*e*S			**Sn**	**18 42 56.9**	**+1.1**
	baz=303								
YULB	**Yu-li**	**1.35**	**228**		P		**Pn**	**18 42 38.3**	**-0.7**
YULB	**Yu-li**	**1.35**	**228**	*e*P			**Pn**	**18 42 38.4**	**-0.7**
	baz=238								
YULB				*e*S			**Sn**	**18 42 54.7**	**-1.2**
	baz=238								
EYUL	**Yuli**	**1.36**	**226**	*e*P			**Pn**	**18 42 39.0**	**-0.2**
	baz=236								
EYUL					S		**Sn**	**18 42 55.8**	**-0.4**
	baz=236								
PCYT	**Pengchaiyu**	**1.36**	**348**	*e*P			**Pn**	**18 42 39.3**	**+0.1**
	baz=337								
PCYT				*e*S			**Sn**	**18 42 58.5**	**+2.2**
	baz=337								
DPDB	**Guoxing**	**1.36**	**259**	*e*P			**Pn**	**18 42 40.1**	**+0.8**
	baz=252								
DPDB				*e*S			**Sn**	**18 42 57.9**	**+1.4**
	baz=252								
TWF1	**Yuli**	**1.37**	**227**	*e*P			**Pn**	**18 42 38.8**	**-0.5**
	baz=236								
TWF1					S		**Sn**	**18 42 55.0**	**-1.6**
	baz=236								
WCS	**Beigang Elemen**	**1.37**	**260**	*i*	P		**Pn**	**18 42 40.1**	**+0.8**
	baz=253								
WCS				*e*S			**Sn**	**18 42 57.5**	**+1.0**
	baz=253								
SBCB	**Hsinchu**	**1.38**	**291**	*e*P			**Pn**	**18 42 40.4**	**+1.1**
	baz=303								
SBCB				*e*S			**Sn**	**18 42 58.5**	**+1.9**
	baz=303								
SSLB	**Suanglung**	**1.41**	**249**		P		**Pn**	**18 42 40.0**	**+0.1**
	baz=248								
SSLB				*e*S			**Sn**	**18 42 56.7**	**-0.7**
	baz=248								
NHW	**Xinwu Township**	**1.42**	**300**	*e*P			**Pn**	**18 42 40.1**	**+0.2**
	baz=299								
NHW				*e*S			**Sn**	**18 42 58.6**	**+1.0**
	baz=299								
SMLT	**Sun Moon Lake**	**1.43**	**254**	*i*	P		**Pn**	**18 42 40.8**	**+0.6**
	baz=246								
SMLT					S		**Sn**	**18 42 58.3**	**+0.3**
	baz=246								
CHKH	**Chenggong**	**1.43**	**220**	*e*P			**Pn**	**18 42 39.4**	**-0.7**
	baz=211								
CHKH					S		**Sn**	**18 42 56.0**	**-1.9**
	baz=211								
TYC	**Yuchr**	**1.46**	**255**	*i*	P		**Pn**	**18 42 41.1**	**+0.7**
	baz=247								
TYC				*e*S			**Sn**	**18 42 58.4**	**-0.1**
	baz=247								
JKRS	**Kuro-shima**	**1.48**	**92**	*i*	P		**Pn**	**18 42 41.0**	**+0.3**
JKRS					S		**Sn**	**18 42 59.6**	**+0.6**
TWQ1	**Liyutan**	**1.48**	**272**		P		**Pn**	**18 42 42.0**	**+1.2**
	baz=271								
TWQ1				*e*S			**Sn**	**18 43 01.5**	**+2.4**
	baz=271								
NMLH	**Miaoli**	**1.48**	**280**		P		**Pn**	**18 42 41.8**	**+1.0**
	baz=278								
NMLH				*e*S			**Sn**	**18 43 00.3**	**+1.2**
	baz=278								
FULB	**Fuli**	**1.48**	**223**	*e*P			**Pn**	**18 42 40.2**	**-0.7**
	baz=213								
FULB				*e*S			**Sn**	**18 42 58.0**	**-1.2**
	baz=213								
NSY	**Sanyi**	**1.49**	**275**	*e*P			**Pn**	**18 42 42.3**	**+1.3**
	baz=274								
NSY				*e*S			**Sn**	**18 43 01.1**	**+1.6**
	baz=274								
CHKT	**Chengkung**	**1.52**	**219**	*i*	P		**Pn**	**18 42 40.2**	**-1.1**
	baz=210								
CHKT				*e*S			**Sn**	**18 42 56.9**	**-3.1**
	baz=210								
WHYT	**Xinyi Township**	**1.53**	**247**	*i*	P		**Pn**	**18 42 42.4**	**+0.9**
	baz=246								
WHYT				*i*	S		**Sn**	**18 43 00.8**	**+0.5**
	baz=246								
EHD	**Haiduan**	**1.58**	**224**	*e*P			**Pn**	**18 42 41.4**	**-0.7**
	baz=233								
EHD				*e*S			**Sn**	**18 43 00.3**	**-1.1**
	baz=233								
WJS	**Zhushan**	**1.59**	**253**	*e*P			**Pn**	**18 42 44.5**	**+2.2**
	baz=248								
WJS					S		**Sn**	**18 43 04.6**	**+2.7**
	baz=248								
JIJ	**Ishigaki jima**	**1.60**	**87**	*i*	P		**Pn**	**18 42 42.0**	**-0.3**
JIJ					S		**Sn**	**18 43 01.4**	**-0.6**
WDJ	**Dajia District**	**1.60**	**272**	*e*P			**Pn**	**18 42 43.7**	**+1.3**
	baz=271								
WDJ				*e*S			**Sn**	**18 43 03.9**	**+1.9**
	baz=271								
ECS	**Chishang**	**1.61**	**222**	*e*P			**Pn**	**18 42 42.5**	**-0.1**
	baz=232								
ECS				*e*S			**Sn**	**18 43 02.6**	**+0.4**
	baz=232								
WNT1	**Nantou City**	**1.61**	**257**	*e*P			**Pn**	**18 42 43.9**	**+1.3**
	baz=255								
WNT1				*e*S			**Sn**	**18 43 05.0**	**+2.7**
	baz=255								
WNT	**Mingjian**	**1.62**	**256**	*e*P			**Pn**	**18 42 44.6**	**+2.0**
	baz=254								
WNT				*e*S			**Sn**	**18 43 04.7**	**+2.3**
	baz=254								
EDH	**Donghe**	**1.65**	**217**	*e*P			**Pn**	**18 42 42.3**	**-0.8**
	baz=210								
EDH				*i*	S		**Sn**	**18 43 01.3**	**-2.0**
	baz=210								
ELDTW	**Lidau**	**1.67**	**229**	*e*P			**Pn**	**18 42 43.2**	**-0.4**
	baz=227								
ELDTW				*e*S			**Sn**	**18 43 02.5**	**-1.5**
	baz=227								
WYL	**Yuanlin Townsh**	**1.69**	**259**	*e*P			**Pn**	**18 42 44.7**	**+1.1**
	baz=258								
WYL				*e*S			**Sn**	**18 43 06.4**	**+2.2**
	baz=258								
CHN5	**Tsauling**	**1.72**	**247**	*i*	P		**Pn**	**18 42 45.6**	**+1.5**
	baz=236								
CHN5				*i*	S		**Sn**	**18 43 06.7**	**+1.8**
	baz=236								
JISG	**Ishigakijimahi**	**1.77**	**80**	*i*	P		**Pn**	**18 42 44.4**	**-0.4**
JISG					S		**Sn**	**18 43 05.3**	**-0.9**
WGK	**Gukeng**	**1.78**	**251**	*e*P			**Pn**	**18 42 46.6**	**+1.8**
	baz=249								
WGK				*i*	S		**Sn**	**18 43 08.6**	**+2.2**
	baz=249								
WDLH	**Douliu**	**1.80**	**251**	*i*	P		**Pn**	**18 42 46.9**	**+1.8**
	baz=249								
WDLH					S		**Sn**	**18 43 09.1**	**+2.2**
	baz=249								
LONT	**Longtian**	**1.80**	**220**	*e*P			**Pn**	**18 42 44.6**	**-0.6**
	baz=228								
LONT				*e*S			**Sn**	**18 43 05.9**	**-1.0**
	baz=228								
LDUT	**Ludao**	**1.82**	**208**	*i*	P		**Pn**	**18 42 44.4**	**-1.1**
	baz=207								
LDUT					S		**Sn**	**18 43 05.1**	**-2.3**
	baz=207								
WCKO	**Fanlu**	**1.85**	**243**		P		**Pn**	**18 42 47.5**	**+1.7**
	baz=241								
WCKO				*i*	S		**Sn**	**18 43 09.6**	**+1.5**
	baz=241								
STYH	**Taoyuan**	**1.86**	**233**	*i*	P		**Pn**	**18 42 46.8**	**+0.9**
	baz=225								
STYH					S		**Sn**	**18 43 08.9**	**+0.7**
	baz=225								
WRL	**Guolierlin Hig**	**1.88**	**258**	*e*P			**Pn**	**18 42 47.2**	**+1.0**
	baz=257								
WRL				*i*	S		**Sn**	**18 43 09.7**	**+0.8**
	baz=257								
TPUB	**Ta-pu**	**1.89**	**239**		P		**Pn**	**18 42 47.5**	**+1.1**
TPUB	**Ta-pu**	**1.89**	**239**		P		**Pn**	**18 42 47.9**	**+1.5**
	baz=237								
TPUB				*i*	S		**Sn**	**18 43 11.2**	**+2.0**
	baz=237								
TWGBT	**Beinan**	**1.90**	**220**		P		**Pn**	**18 42 45.6**	**-0.9**
TWGBT	**Beinan**	**1.90**	**220**	*i*	P		**Pn**	**18 42 45.6**	**-0.9**
	baz=226								
TWGBT					S		**Sn**	**18 43 08.2**	**-1.2**
	baz=226								
RLNB	**Erlin**	**1.90**	**258**	*e*P			**Pn**	**18 42 48.0**	**+1.5**
	baz=257								
RLNB				*e*S			**Sn**	**18 43 11.5**	**+2.2**
	baz=257								
TWG	**Pinlang**	**1.90**	**220**	*i*	P		**Pn**	**18 42 45.6**	**-1.0**
	baz=226								
TWG				*e*S			**Sn**	**18 43 08.1**	**-1.4**
	baz=226								
CHN2	**Minshiung**	**1.91**	**247**	*e*P			**Pn**	**18 42 48.8**	**+2.2**
	baz=246								
CHN2				*e*S			**Sn**	**18 43 12.8**	**+3.2**
	baz=246								
TTN	**Taitung**	**1.91**	**217**	*e*P			**Pn**	**18 42 46.1**	**-0.5**
	baz=209								
TTN				*e*S			**Sn**	**18 43 08.9**	**-0.7**
	baz=209								
WTK	**Tuku**	**1.93**	**252**	*e*P			**Pn**	**18 42 48.2**	**+1.3**
	baz=251								
WTK				*i

SGST	**Jiashian**	**2.05 234**	*e*P	**Pn**	**18 42 49.1**	**+0.5**
	baz=233					
SGST			*e*S	**Sn**	**18 43 14.5**	**+1.4**
	baz=233					
SLGT	**Liugui**	**2.06 231**	*i* P	**Pn**	**18 42 50.1**	**+1.4**
	baz=239					
SLGT			S	**Sn**	**18 43 15.8**	**+2.5**
	baz=239					
WSF	**Szhu**	**2.09 252**	*e*P	**Pn**	**18 42 50.3**	**+1.2**
	baz=262					
WSF			*i* S	**Sn**	**18 43 15.5**	**+1.5**
	baz=262					
WSL	**Shuilin Townsh**	**2.12 249**	*e*P	**Pn**	**18 42 51.1**	**+1.5**
	baz=248					
WSL			S	**Sn**	**18 43 17.6**	**+2.8**
	baz=248					
JTJ	**Tarama**	**2.13 80**	P	**Pn**	**18 42 50.1**	**+0.5**
JTJ			S	**Sn**	**18 43 14.8**	**-0.2**
ECL	**Taimali**	**2.15 218**	*e*P	**Pn**	**18 42 49.0**	**-0.9**
	baz=223					
ECL			*e*S	**Sn**	**18 43 13.0**	**-2.3**
	baz=223					
ICHU	**Yijhu**	**2.15 245**	*e*P	**Pn**	**18 42 51.2**	**+1.3**
	baz=243					
ICHU			*e*S	**Sn**	**18 43 17.2**	**+1.9**
	baz=243					
CHN8	**Yiju**	**2.21 245**	*e*P	**Pn**	**18 42 52.5**	**+1.7**
	baz=233					
CHN8			*i* S	**Sn**	**18 43 18.9**	**+2.0**
	baz=233					
CHN3	**Shinhua**	**2.22 237**	*e*S	**Sn**	**18 43 21.4**	**+4.2**
	baz=248					
SSD	**Sandimen**	**2.23 227**	*e*P	**Pn**	**18 42 51.1**	**+0.1**
	baz=225					
SSD			*e*S	**Sn**	**18 43 20.3**	**+2.8**
	baz=225					
SCST	**Cishan**	**2.24 232**	*i* P	**Pn**	**18 42 53.6**	**+2.5**
	baz=241					
SCST			S	**Sn**	**18 43 20.3**	**+2.8**
	baz=241					
SSHA	**Shanhua**	**2.25 240**	*e*S	**Sn**	**18 43 20.8**	**+3.0**
	baz=238					
TSMG	**Majia**	**2.25 226**	*e*P	**Pn**	**18 42 52.8**	**+1.5**
	baz=224					
TSMG			*e*S	**Sn**	**18 43 20.3**	**+2.3**
	baz=224					
SCLT	**Jiali**	**2.30 242**	*e*S	**Sn**	**18 43 21.3**	**+2.1**
	baz=240					
MASBT	**Mashibuluo**	**2.33 224**	*e*P	**Pn**	**18 42 53.0**	**+0.6**
	baz=222					
MASBT			*e*S	**Sn**	**18 43 22.2**	**+2.5**
	baz=222					
TWM1	**Shoushan**	**2.33 231**	*e*P	**Pn**	**18 42 55.7**	**+3.4**
	baz=241					
TAW	**Tawu**	**2.37 216**	*e*P	**Pn**	**18 42 49.8**	**-3.1**
	baz=214					
TAW			S	**Sn**	**18 43 18.9**	**-1.8**
	baz=214					
EAST	**Anshuo**	**2.37 217**	*e*P	**Pn**	**18 42 52.6**	**-0.4**
	baz=216					
LAY	**Lan-yu**	**2.38 199**	*e*P	**Pn**	**18 42 51.5**	**-1.5**
	baz=198					
LAY			*e*S	**Sn**	**18 43 17.1**	**-3.8**
	baz=198					
TAWH	**Dawu Township**	**2.39 216**	*e*P	**Pn**	**18 42 53.4**	**+0.2**
	baz=214					
TAWH			*e*S	**Sn**	**18 43 19.5**	**-1.8**
	baz=214					
LYUB	**Lan-yu**	**2.40 198**	*e*P	**Pn**	**18 42 51.8**	**-1.6**
	baz=201					
LYUB			*e*S	**Sn**	**18 43 17.0**	**-4.5**
	baz=201					
TSCK	**Chigu Township**	**2.40 242**	*e*P	**Pn**	**18 42 54.8**	**+1.5**
	baz=241					
TSCK			*e*S	**Sn**	**18 43 22.3**	**+0.7**
	baz=241					
SNJT	**Kaohsiung City**	**2.43 231**	*e*P	**Pn**	**18 42 57.9**	**+4.1**
	baz=230					
SNJT			*e*S	**Sn**	**18 43 28.0**	**+5.6**
	baz=230					
SCZT	**Fangliau**	**2.51 221**	P	**Pn**	**18 42 56.0**	**+1.1**
	baz=217					
SCZT			*e*S	**Sn**	**18 43 27.6**	**+3.3**
	baz=217					
SLIU	**Shizi**	**2.54 216**	*e*P	**Pn**	**18 42 54.9**	**-0.3**
	baz=214					
SLIU			*e*S	**Sn**	**18 43 23.8**	**-1.1**
	baz=214					
KAU	**Kaohsiung**	**2.57 229**	*e*P	**Pn**	**18 42 55.7**	**0.0**
	baz=227					
JIRB	**Irabujima**	**2.59 78**	*e*P	**Pn**	**18 42 56.8**	**+0.9**
JIRB			*e*S	**Sn**	**18 43 26.4**	**+0.4**
JIKM	**Ikemajima**	**2.67 76**	*e*P	**Pn**	**18 42 57.9**	**+0.8**
JIKM			*e*S	**Sn**	**18 43 29.2**	**+1.0**
SMST	**Manzhou Townsh**	**2.68 213**	*e*S	**Sn**	**18 43 27.1**	**-1.3**
	baz=211					
JMJ	**Miyako jima 2**	**2.69 78**	⇓P	**Pn**	**18 42 59.4**	**+2.1**
	baz=80					
JMJ			*e*S	**Sn**	**18 43 30.3**	**+1.6**
	baz=80					
TWP	**Hsiaoliuchiu**	**2.69 224**	*e*S	**Sn**	**18 43 35.1**	**+6.4**
	baz=222					
PNG	**Penghu**	**2.70 255**	*e*P	**Pn**	**18 42 57.5**	**+0.2**
	baz=254					
PNG			*e*S	**Sn**	**18 43 27.0**	**-1.8**
	baz=254					
PHUB	**P'eng-hu**	**2.70 254**	*e*P	**Pn**	**18 42 57.6**	**+0.3**
	baz=253					
PHUB			*i* S	**Sn**	**18 43 26.9**	**-1.9**
	baz=253					
WDGT	**Dungji**	**2.71 248**	*i* P	**Pn**	**18 42 58.4**	**+0.9**
	baz=247					
WDGT			*e*S	**Sn**	**18 43 28.4**	**-0.7**
	baz=247					
JMJ2	**Miyako jima3**	**2.71 80**	*e*P	**Pn**	**18 42 58.6**	**+1.0**
JMJ2			*e*S	**Sn**	**18 43 30.0**	**+0.9**
HEN	**Hengchun**	**2.74 214**	*e*P	**Pn**	**18 42 59.2**	**+1.2**
	baz=217					
HEN			*e*S	**Sn**	**18 43 30.9**	**+1.0**
	baz=217					
TWKBT	**Hengchun**	**2.76 212**	P	**Pn**	**18 42 58.5**	**+0.3**
	baz=211					
TWKBT			*e*S	**Sn**	**18 43 30.6**	**+0.2**
	baz=211					
TWK1	**Hengchun**	**2.76 212**	*e*P	**Pn**	**18 43 00.8**	**+2.6**
	baz=211					
TWK1			*e*S	**Sn**	**18 43 30.5**	**+0.2**
	baz=211					
VWUC	**VWUC**	**2.77 285**	*e*P	**Pn**	**18 42 57.8**	**-0.5**
	baz=284					
VWUC			*e*S	**Sn**	**18 43 27.8**	**-2.8**
	baz=284					
JOGS	**Gusukube**	**2.78 80**	*e*P	**Pn**	**18 42 60.0**	**+1.4**
MATB	**Ma-tsu**	**2.89 310**	*e*P	**Pn**	**18 42 59.6**	**-0.4**
	baz=309					
MATB			*e*S	**Sn**	**18 43 31.8**	**-1.7**
	baz=309					
MSUT	**Lienchiang**	**2.91 310**	P	**Pn**	**18 43 00.3**	**-0.1**
	baz=309					
MSUT			*e*S	**Sn**	**18 43 32.8**	**-1.3**
	baz=309					
VCHM	**Qimei**	**2.92 249**	*e*P	**Pn**	**18 43 01.2**	**+0.8**
	baz=248					
VCHM			*e*S	**Sn**	**18 43 34.1**	**-0.2**
	baz=248					
PTMZ	**Houxiangcun**	**3.07 285**	⇑*e*P	**Pn**	**18 43 01.8**	**-0.6**
	baz=284					
PTMZ			*e*S	**Sn**	**18 43 35.0**	**-3.0**
	baz=284					
LYJJ	**Jianjiangzhen**	**3.27 314**	*e*P	**Pn**	**18 43 04.6**	**-0.6**
	baz=313					
LYJJ			*e*S	**Sn**	**18 43 41.6**	**-1.3**
	baz=313					
XPSS	**Dashiqiu**	**3.29 323**	*e*P	**Pn**	**18 43 04.1**	**-1.4**
	baz=322					
XPSS			*e*S	**Sn**	**18 43 42.4**	**-1.1**
	baz=322					
MHZQ	**Yeshan**	**3.54 301**	*e*P	**Pn**	**18 43 08.5**	**-0.3**
	baz=301					
MHZQ			*e*S	**Sn**	**18 43 46.8**	**-2.6**
	baz=301					
KNM	**Kinmen**	**3.61 273**	*e*P	**Pn**	**18 43 11.0**	**+1.1**
	baz=271					
KNM			*e*S	**Sn**	**18 43 53.0**	**+1.6**
	baz=271					
KNMB	**Chin-men Tao**	**3.66 273**	*e*P	**Pn**	**18 43 10.0**	**-0.5**
	baz=272					
KNMB			*e*S	**Sn**	**18 43 49.6**	**-2.8**
	baz=272					
ZPLA	**Ao Xicun**	**4.26 266**	*i* P	**Pn**	**18 43 19.2**	**+0.5**
	baz=258					
ZPLA			*e*S	**Sn**	**18 44 04.8**	**-2.4**
	baz=258					
DSXP	**Dongshan**	**4.58 264**	*e*P	**Pn**	**18 43 22.9**	**-0.2**
	baz=263					
SXFK	**Yanhouchang**	**4.78 297**	*e*P	**Pn**	**18 43 25.6**	**-0.4**
	baz=297					
SXFK			*e*S	**Sn**	**18 44 17.1**	**-3.0**
	baz=297					

*NEIC **31** 18:44:34.5±1.0, 34°.067N±0°.008×97°.36W±0°.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.9km az=67.0*
TUL 31 18:44:34.9±1.4, **34°.06N**±0°.01×**97°.38W**±0°.02, **h5**km±5km, **ML2.9, mb_Lg2.9**/101(NEIC), **ML3.1**/22(NEIC), **Error ellipse: s-maj=2.5km s-min=1.7km az=95.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOOK	**Love County**	**0.18**	**112**	Pg	Pg	18 44 40.4	+1.9
LOOK				IAML		18 44 44.9	
	comp=N,3μm,0.2s						
X34A	**Smith Ranch, M**	**0.66**	**325**	Pg	Pg	18 44 48.0	+0.4
X34A				Sg	Sg	18 44 56.1	0.0
X34A				IAML		18 45 02.0	
	comp=E,611nm,0.9s						
Z35A	**Perchaven, San**	**0.73**	**172**		Pg	18 44 49.3	+0.3
Z35A				Sg	Sb	18 44 59.9	-0.7
Z35A				IAML		18 45 03.4	
	comp=N,578nm,0.6s						
Z35A				IAML		18 45 04.6	
	comp=E,485nm,0.4s						
WTFS	**Witchita Falls**	**0.95**	**252**	Pg	Pg	18 44 52.4	-0.6
WTFS				Sg	Sg	18 45 05.2	-0.2
FW06	**Azle**	**1.09**	**188**		Pb	18 44 56.2	0.0
FW06				Sg	Sb	18 45 11.2	+0.3
FW03	**Perrin-Whitt E**	**1.17**	**210**		Pg	18 44 56.9	-0.4
FW03				Sg	Sg	18 45 12.2	-0.2
FW03				IAML		18 45 21.4	
	comp=E,612nm,0.3s						
FNO	**Franklin**	**1.20**	**359**	Pg	Pg	18 44 56.8	-1.0
FNO				Sg	Sg	18 45 12.7	-0.7
FNO				IAML		18 45 15.8	
	comp=E,457nm,0.2s						
WMOK	**Wichita Mounta**	**1.34**	**301**	Pg	Pn	18 44 57.8	-2.5
OKCSW	**OKLAHOMA CITY**	**1.34**	**358**		Pn	18 44 59.5	-0.8
OKCSW				IAML		18 45 22.0	
	comp=E,500nm,0.2s						
OKCSW				IAML		18 45 22.8	
	comp=N,415nm,0.4s						
FW07	**Weatherford**	**1.40**	**194**		Pg	18 45 01.6	0.0
PLPT	**Palo Pinto**	**1.47**	**212**	Pg	Pn	18 45 01.9	-0.1
ADOK	**Arcadia Dam**	**1.59**	**0**		Pn	18 45 04.0	+0.2
FW16	**Waxahatchie**	**1.62**	**165**		Pn	18 45 04.2	0.0
FW16				IAmb_Lg		18 45 28.2	
	comp=Z,46nm,1.0s						
FW14	**Alvarado**	**1.66**	**175**		Pn	18 45 04.5	-0.2
FW13	**Cleburne**	**1.70**	**181**		Pn	18 45 05.2	-0.1
TREL	**Terrell**	**1.71**	**140**		Pn	18 45 05.6	+0.3
OK029	**Liberty Lake**	**1.73**	**358**		Pn	18 45 06.1	+0.4
X37A	**Clayton**	**1.75**	**72**	Pn	Pn	18 45 06.3	+0.5
CSTR	**Hydro, Custer**	**1.91**	**326**		Pn	18 45 08.3	+0.1
DEOK	**Depew**	**1.92**	**22**	Pn	Pn	18 45 08.5	+0.2
OK031	**S. Brethren Rd**	**1.94**	**13**		Pn	18 45 08.8	+0.3
OK052	**Battle Ridge R**	**1.99**	**14**		Pn	18 45 10.0	+0.8
WHTX	**Lake Whitney,**	**2.06**	**182**		Pn	18 45 10.3	+0.1
WHTX				IAmb_Lg		18 45 43.3	
	comp=Z,37nm,0.7s						
Z38A	**Mt. Pleasant**	**2.15**	**111**		Pn	18 45 11.8	+0.4
QUOK	**Quay**	**2.18**	**14**		Pn	18 45 11.9	+0.1
TUL3	**Leonard**	**2.26**	**35**	Pn	Pn	18 45 13.5	+0.6
TUL3				IAmb_Lg		18 45 52.2	
	comp=Z,43nm,0.9s						
ABTX	**Abilene, Hawle**	**2.37**	**234**		Pn	18 45 15.5	+1.0
ABTX				IAmb_Lg		18 45 56.5	
	comp=Z,52nm,0.9s						
OK048	**Pawnee Station**	**2.38**	**9**		Pn	18 45 15.0	+0.4
APMT	**Aspermont**	**2.40**	**253**		Pn	18 45 16.2	+1.3
237A	**Washetta, Mont**	**2.44**	**147**	Pn	Pn	18 45 16.6	+1.2
237A				IAmb_Lg		18 45 54.6	
	comp=Z,43nm,0.9s						
OK051	**E0350 and S346**	**2.48**	**10**		Pn	18 45 17.4	+1.4
CROK	**Carrier**	**2.49**	**349**		Pn	18 45 16.6	+0.5
SMWD	**Samnorwood**	**2.58**	**295**		Pn	18 45 17.4	0.0
ELIS	**Ellis County**	**2.61**	**321**	Pn	Pn	18 45 18.1	+0.4
ELIS				IAmb_Lg		18 45 56.6	
	comp=Z,52nm,0.7s						
OK038	**West end E0370**	**2.66**	**336**		Pn	18 45 17.3	-1.1
U32A	**Winter Ranch,**	**2.67**	**331**	Pn	Pn	18 45 17.8	-0.7
U32A				IAmb_Lg		18 46 05.3	
	comp=Z,24nm,0.8s						
BLOK	**Blackwell**	**2.70**	**3**		Pn	18 45 18.1	-0.9
GC02	**Grant County #**	**2.81**	**352**		Pn	18 45 19.7	-0.9
OK032	**Salt Plains WL**	**2.82**	**346**		Pn	18 45 20.7	+0.1
RLO	**Rose Lookout**	**2.85**	**42**	Pn	Pn	18 45 21.3	+0.1
RLO				IAmb_Lg		18 46 06.9	
	comp=Z,14nm,0.8s						
NOKA	**Waynoka**	**2.87**	**334**		Pn	18 45 21.0	-0.3
KAN14	**Manchester OK**	**2.93**	**351**	Pn	Pn	18 45 22.4	+0.2
T35A	**Sooner Cattle**	**2.94**	**14**	Pn	Pn	18 45 21.3	-0.9
KAN13	**South Haven SW**	**2.95**	**358**		Pn	18 45 20.9	-1.5
DKNS	**Dickens**	**2.97**	**263**		Pn	18 45 21.7	-1.1
KAN17	**Caldwell West**	**3.00**	**354**		Pn	18 45 21.3	-1.7
KAN05	**Bluff City Nor**	**3.07**	**353**	Pn	Pn	18 45 24.0	-0.1
KAN09	**Caldwell North**	**3.08**	**356**		Pn	18 45 23.6	-0.5
BRDY	**Brady**	**3.08**	**207**		Pn	18 45 24.1	-0.1
SN07	**Snyder 07**	**3.09**	**253**		Pn	18 45 24.2	-0.2
SN07				IAmb_Lg		18 46 14.5	
	comp=Z,46nm,0.7s						
KAN01	**Argonia South**	**3.10**	**354**		Pn	18 45 23.1	-1.4
SN05	**Snyder 5**	**3.16**	**249**		Pn	18 45 24.1	-1.2
SN05				IAmb_Lg		18 46 22.8	
	comp=Z,51nm,0.8s						
MIAR	**Mount Ida**	**3.19**	**80**	Pn	Pn	18 45 24.8	-0.9
MIAR				IAmb_Lg		18 46 18.3	
	comp=Z,30nm,0.8s						
NATX	**Nacogdoches**	**3.24**	**134**		Pn	18 45 26.9	+0.5
435B	**Jarrell**	**3.27**	**183**		Pn	18 45 27.2	+0.4
U38A	**Gravette**	**3.41**	**45**	Pn	Pn	18 45 29.0	+0.2
U38A				IAmb_Lg		18 46 29.5	
	comp=Z,20nm,0.8s						
WLAR	**White Oak Lake**	**3.57**	**95**	IAmb_Lg		18 46 32.9	
	comp=Z,32nm,0.8s						
POST	**Post**	**3.58**	**255**		Pn	18 45 31.3	+0.2
HHAR	**Hobbs**	**3.59**	**51**	Pn	Pn	18 45 31.5	+0.4
AMTX	**Amarillo**	**3.65**	**284**	Pn	Pn	18 45 33.1	+1.0
X40A	**Basin Creek Fa**	**3.79**	**82**		Pn	18 45 34.1	+0.1
SGCY	**Sterling City**	**3.81**	**237**		Pn	18 45 35.3	+1.0
SGCY				IAmb_Lg		18 46 45.1	
	comp=Z,43nm,0.8s						
Z41A	**Richland Creek**	**3.90**	**101**	IAmb_Lg		18 46 47.3	
	comp=Z,36nm,0.8s						
JCT	**Junction City**	**4.12**	**211**		Pn	18 45 38.7	+0.2
WHAR	**Wooly Hollow**	**4.37**	**72**		Pn	18 45 42.3	+0.4
OZNA	**Ozona**	**4.45**	**226**	Pn	Pn	18 45 42.9	-0.2
OZNA				IAmb_Lg		18 47 05.4	
	comp=Z,23nm,0.7s						
MSTX	**Muleshoe**	**4.48**	**270**	Pn	Pn	18 45 43.7	+0.1
R32A	**Long Quarter,**	**4.49**	**347**		Pn	18 45 43.4	-0.2
R32A				IAmb_Lg		18 47 07.1	
	comp=Z,22nm,0.9s						
ODSA	**Odessa**	**4.75**	**247**		Pn	18 45 46.2	-1.1
ODSA				IAmb_Lg		18 47 15.4	
	comp=Z,28nm,1.1s						
HNDO	**Hondo**	**4.80**	**200**		Pn	18 45 47.7	-0.1
S39A	**Bolivar**	**4.90**	**41**	Pn	Pn	18 45 49.0	-0.2
S39A				IAmb_Lg		18 47 18.3	
	comp=Z,19nm,1.0s						
RTBA	**Rita Blanca**	**4.99**	**300**		Pn	18 45 50.4	-0.1
KSU1	**Kansas State U**	**5.07**	**7**		Pn	18 45 50.7	-0.8
KSU1				IAmb_Lg		18 47 26.1	
	comp=Z,24nm,0.8s						
CBKS	**Cedar Bluff**	**5.11**	**339**	IAmb_Lg		18 47 29.9	
	comp=Z,14nm,0.7s						
MGMO	**Mountain Grove**	**5.18**	**52**		Pn	18 45 52.0	-1.1
MGMO				IAmb_Lg		18 47 20.8	
	comp=Z,14nm,0.8s						
MNHN	**Monahans**	**5.28**	**241**		Pn	18 45 53.7	-0.9
MNHN				IAmb_Lg		18 47 27.6	
	comp=Z,25nm,0.8s						
DRIO	**Del Rio**	**5.38**	**212**	Pn	Pn	18 45 54.6	-1.2
DRIO				IAmb_Lg		18 47 30.1	
	comp=Z,28nm,0.8s						
SAND	**Sanderson**	**5.74**	**226**	Pn	Pn	18 45 60.0	-0.9
SAND				IAmb_Lg		18 47 49.4	
	comp=Z,20nm,0.7s						
R40A	**Maddies Statio**	**5.91**	**43**		Pn	18 46 02.9	-0.2
T42A	**Van Buren**	**5.92**	**58**		Pn	18 46 03.2	0.0
833A	**Chaparral WMA,**	**5.97**	**197**	IAmb_Lg		18 47 50.0	
	comp=Z,24nm,0.9s						
PECS	**Pecos**	**6.09**	**246**		Pn	18 46 06.8	+1.1
PECS				IAmb_Lg		18 47 57.9	
	comp=Z,16nm,0.8s						
PBMO	**Poplar Bluff**	**6.29**	**62**	IAmb_Lg		18 48 10.6	
	comp=Z,17nm,0.7s						
P38A	**Dawn**	**6.35**	**28**	IAmb_Lg		18 48 11.8	
	comp=Z,17nm,0.7s						
CCM	**Cathedral Cave**	**6.37**	**49**	IAmb_Lg		18 48 06.6	
	comp=Z,9.7nm,0.7s						
ALPN	**Alpine**	**6.45**	**237**	IAmb_Lg		18 48 02.2	
	comp=Z,10nm,0.7s						
KSCO	**Kaye Shedlock'**	**6.50**	**321**	IAmb_Lg		18 48 15.7	
	comp=Z,16nm,0.8s						
FVM	**French Village**	**6.86**	**53**	IAmb_Lg		18 48 30.2	
	comp=Z,7.8nm,1.0s						
P40A	**Paris**	**6.94**	**37**	IAmb_Lg		18 48 29.8	
	comp=Z,20nm,0.9s						
CGM3	**Cape Girardeau**	**7.07**	**61**	IAmb_Lg		18 48 20.7	
	comp=Z,7.6nm,0.7s						
TX31	**Lajitas Ar. Si**	**7.13**	**230**	Pn	Pn	18 46 19.3	-0.7
VHRN	**Van Horn**	**7.21**	**245**	IAmb_Lg		18 48 33.4	
	comp=Z,18nm,1.1s						
S44A	**Carbondale**	**7.53**	**59**	IAmb_Lg		18 48 40.9	
	comp=Z,10.0nm,0.7s						
ANMO	**Albuquerque**	**7.55**	**279**	IAmb_Lg		18 48 46.0	
	comp=Z,18nm,0.9s						
OGNE	**Ogallala**	**7.80**	**333**	IAmb_Lg		18 48 59.1	
	comp=Z,14nm,0.8s						
Q44A	**Meyer Farm, Va**	**8.29**	**52**	IAmb_Lg		18 49 12.6	
	comp=Z,13nm,1.0s						
P43A	**Skaggs, Pawnee**	**8.41**	**46**	IAmb_Lg		18 49 06.1	
	comp=Z,14nm,0.9s						
ISCO	**Idaho Springs**	**8.73**	**313**	IAmb_Lg		18 49 17.2	
	comp=Z,7.8nm,0.9s						
PHWY	**Pilot Hill**	**9.65**	**321**	IAmb_Lg		18 50 06.6	
	comp=Z,7.4nm,1.0s						

*IDC **31** 18:52:33.4±1.3, 23°.43N×143°.92E, h0km, mb3.5/6, mbtmp3.5/7, ML3.4/1, Error ellipse: s-maj=46.8km s-min=21.0km az=83.0*
ISC 31 18:52:35.0±1.3, **23°.7N**±0°.1×**143°.8E**±0°.3, **h10**km, **n8, σ2°45/9, mb3.7/6, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.71**	**338**	Pn	**Pn**	**18 53 30.2**	**-2.2**
	5.3nm,0.3s,baz=121,slow=19,SNR=6.4						
JCJ				Sn	**Sn**	**18 54 13.8**	**-2.4**
	14nm,0.3s,baz=108,slow=23,SNR=9.0						
KSRS	**Korea Array**	**19.34**	**319**	P	**Pn**	**18 57 05.2**	**+3.7**
	0.1nm,0.3s,baz=144,slow=11,SNR=1.6						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.30**	**193**	P	**P**	**19 00 43.6**	**-1.6**
	0.7nm,0.5s,baz=18,slow=9.3,SNR=18						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**48.01**	**192**	P	**P**	**19 01 12.8**	**-1.7**
	0.5nm,0.7s,baz=14,slow=8.4,SNR=8.2						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**53.03**	**321**	P	**P**	**19 01 53.2**	**+1.2**
	0.3nm,0.3s,baz=101,slow=8.5,SNR=1.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**53.79**	**312**	P	**P**	**19 01 59.2**	**+1.3**
	0.1nm,0.4s,baz=89,slow=7.4,SNR=2.1						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**56.48**	**316**	P	**P**	**19 02 18.6**	**+1.5**
	0.5nm,0.7s,baz=96,slow=8.8,SNR=5.0						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**60.06**	**28**	P	**P**	**19 02 43.0**	**+1.0**
	0.3nm,0.7s,baz=250,slow=5.3,SNR=4.3						
	0.3nm,0.7s						

KRSC 31 19:01:33.1±1.2, **53°.86N**×**169°.03E, h60**km±35km, **Ml4.0, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.23**	**308**	*e*P	Pn	19 02 08.9	+1.3
BKI				*e*S	Sn	19 02 37.1	+3.1
KBTR	**Krutoberegovo**	**4.28**	**306**	*e*P	Pn	19 02 38.2	+2.7
TUMD	**Tumrok D**	**5.20**	**288**	*e*P	Pn	19 02 51.6	+3.4
TUMD				*e*S	Sn	19 03 51.1	+4.3
BZGR	**Bezymyannyi-Gr**	**5.24**	**297**	*e*P	Pn	19 02 52.5	+3.6
BZGR				*e*S	Sn	19 03 49.9	+2.0
BZP	**Bezymyannyi-Pe**	**5.31**	**296**	*e*P	Pn	19 02 53.9	+4.0
BZP				*e*S	Sn	19 03 52.4	+2.6
BZMR	**Bezymyannaya**	**5.35**	**296**	*e*P	Pn	19 02 53.8	+3.5
BZMR				*e*S	Sn	19 03 54.3	+3.7
BZWR	**Bezymyannyi-We**	**5.35**	**297**	*e*P	Pn	19 02 54.3	+3.8
BZWR				*e*S	Sn	19 03 54.4	+3.7
TUMR	**Tumrok**	**5.36**	**289**	*e*P	Pn	19 02 54.4	+3.9
TUMR				*e*S	Sn	19 03 54.6	+3.7
KRSR	**Krestovskiy**	**5.41**	**299**	*e*P	Pn	19 02 55.5	+4.3
KRSR				*e*S	Sn	19 03 55.5	+3.4
KMNR	**Kamenistaya**	**5.43**	**294**	*e*P	Pn	19 02 55.4	+4.0
KMNR				*e*S	Sn	19 03 54.4	+1.9
KIRR	**Kirishev**	**5.43**	**296**	*e*P	Pn	19 02 54.8	+3.3
KIRR				*e*S	Sn	19 03 55.6	+3.0
SPN	**Mys Shipunski**	**5.43**	**266**	*e*P	Pn	19 02 54.8	+3.4
SPN				*e*S	Sn	19 03 55.4	+2.9
KPT	**Kopyto**	**5.50**	**296**	*e*P	Pn	19 02 56.4	+4.0
KPT				*e*S	Sn	19 03 57.8	+3.6
KOZ	**Kozyrevsk**	**5.71**	**296**	*e*P	Pn	19 02 59.6	+4.3
KOZ				*e*S	Sn	19 04 03.9	+4.5
NLC	**Nalytchevo**	**5.82**	**267**	*e*P	Pn	19 03 00.0	+3.4
NLC				*e*S	Sn	19 04 06.2	+4.3
SRDR	**Sredinnyy**	**5.88**	**298**	*e*P	Pn	19 03 02.0	+4.3
SRDR				*e*S	Sn	19 04 07.5	+3.9
UGLR	**Uglovaya**	**6.12**	**268**	*e*P	Pn	19 03 05.0	+4.1
UGLR				*e*S	Sn	19 04 14.1	+4.6
SMAR	**Somma**	**6.12**	**269**	*e*P	Pn	19 03 04.4	+3.4
SMAR				*e*S	Sn	19 04 13.6	+3.8
KRER	**Kory

JAYA	**Jayaque - finc**	**0.79**	**45**	*i* P		**Pb**	**19 19 55.0**	**+0.8**
JAYA				*i* S		**Sn**	**19 20 05.9**	**-1.2**
JAYA				IAML			19 20 09.6	
	comp=Z,9μm,1.0s							
CEVE	**Cerro Verde**	**0.83**	**28**	*e*P		**Pb**	**19 19 55.7**	**+0.8**
CEVE	**Cerro Verde**	**0.83**	**28**	*i* P		**Pn**	**19 19 56.2**	**+0.2**
CEVE				*i* S		**Sn**	**19 20 08.4**	**+0.2**
CEVE				IAML			19 20 19.8	
	comp=Z,3μm,1.0s							
SBLS	**San Blas**	**0.84**	**27**	*e*P		**Pn**	**19 19 55.9**	**-0.3**
SBLS				*e*S		**Sn**	**19 20 08.0**	**-0.5**
NUBE	**Las Nubes**	**0.84**	**16**	*e*P		**Pb**	**19 19 55.5**	**+0.4**
NUBE	**Las Nubes**	**0.84**	**16**	*i* P		**Pn**	**19 19 55.9**	**-0.2**
NUBE				*i* S		**Sn**	**19 20 07.4**	**-0.9**
NUBE				IAML			19 20 10.2	
	comp=Z,2μm,1.0s							
SNJE	**San Jose**	**0.88**	**27**	*e*P		**Pb**	**19 19 56.1**	**+0.4**
RTR	**El Retiro**	**0.89**	**24**	*e*P		**Pn**	**19 19 56.6**	**-0.1**
RTR				*e*S		**Sn**	**19 20 09.7**	**+0.3**
PMON	**Piamonte**	**0.93**	**48**	*i* P		**Pn**	**19 19 57.3**	**+0.1**
PMON				*i* S		**Sn**	**19 20 10.3**	**0.0**
PMON				IAML			19 20 12.8	
	comp=Z,5μm,1.0s							
ITCA	**Escuela Especi**	**0.93**	**51**	*i* P		**Pn**	**19 19 57.4**	**+0.2**
ITCA				*i* S		**Sn**	**19 20 10.9**	**+0.5**
ITCA				IAML			19 20 22.2	
	comp=Z,4μm,1.0s							
LOAL	**Lomas de Alarc**	**0.94**	**14**	*i* P		**Pn**	**19 19 57.4**	**+0.1**
LOAL				IAML			19 19 58.2	
	comp=Z,4μm,1.0s							
LOAL				*i* S		**Sn**	**19 20 10.8**	**+0.3**
CEDA	**San Andres**	**0.94**	**40**	*e*P		**Pg**	**19 19 57.0**	**+0.1**
CEDA				*e*S		**Sn**	**19 20 09.8**	**-0.6**
CEDA	**San Andres**	**0.94**	**40**	*i* P		**Pg**	**19 19 56.9**	**+0.1**
CEDA				*i* S		**Sn**	**19 20 11.3**	**+0.8**
CEDA				IAML			19 20 16.7	
	comp=Z,5μm,1.0s							
SLOZ	**Alcaldia de Sa**	**0.96**	**14**	*e*P		**Pg**	**19 19 57.5**	**+0.2**
BOQS	**Boqueron**	**0.97**	**48**	*e*P		**Pg**	**19 19 57.7**	**+0.2**
BOQS				*e*S		**Sn**	**19 20 11.6**	**+0.1**
PANCS	**Alcalda de**	**0.97**	**57**	*i* P		**Pb**	**19 19 57.3**	**+0.1**
PANCS				*i* S		**Sg**	**19 20 10.3**	**0.0**
PANCS				IAML			19 20 12.7	
	comp=Z,7μm,1.0s							
SNET	**Serv Nac Est T**	**0.97**	**52**	*e*P		**Pn**	**19 19 58.0**	**+0.2**
UEES	**Universidad Ev**	**0.99**	**50**	*e*P		**Pg**	**19 19 58.1**	**+0.4**
UEES	**Universidad Ev**	**0.99**	**50**	*i* P		**Pn**	**19 19 58.5**	**+0.5**
UEES				*i* S		**Sn**	**19 20 13.0**	**+1.2**
UEES				IAML			19 20 16.9	
	comp=Z,2μm,1.0s							
LOMA	**Loma Larga**	**1.00**	**56**	*e*P		**Pb**	**19 19 58.0**	**+0.3**
LOMA				*e*S		**Sb**	**19 20 09.2**	**-1.5**
LOMA	**Loma Larga**	**1.00**	**56**	*i* P		**Pg**	**19 19 58.1**	**+0.1**
LOMA				IAML			19 20 12.5	
	comp=Z,2μm,1.0s							
QUEZ	**Alcaldia de Qu**	**1.04**	**44**	*i* P		**Pn**	**19 19 59.3**	**+0.6**
QUEZ				*i* S		**Sn**	**19 20 13.3**	**+0.2**
QUEZ				IAML			19 20 22.0	
	comp=Z,5μm,1.0s							
UDBS	**Universidad Do**	**1.05**	**53**	*i* P		**Pg**	**19 19 59.2**	**+0.2**
UDBS				*i* S		**Sn**	**19 20 12.5**	**-0.8**
UDBS				IAML			19 20 16.9	
	comp=Z,2μm,1.0s							
LFRS	**El Faro**	**1.08**	**60**	*e*P		**Pb**	**19 19 59.1**	**+0.1**
LFRS				*e*S		**Sg**	**19 20 12.9**	**-0.7**
LFU	**La Fuente**	**1.10**	**53**	*e*P		**Pb**	**19 19 59.8**	**+0.3**
COEG	**Centro de Oper**	**1.23**	**64**	*e*P		**Pn**	**19 20 01.5**	**+0.1**
COEG	**Centro de Oper**	**1.23**	**64**	*i* P		**Pn**	**19 20 01.4**	**+0.1**
COEG				*i* S		**Sg**	**19 20 18.4**	**-0.1**
COEG				IAML			19 20 22.5	
	comp=Z,1μm,1.0s							
SNVI	**San Vicente**	**1.27**	**65**	*e*P		**Pn**	**19 20 02.1**	**+0.2**
TECO	**Alcaldia de Te**	**1.29**	**69**	*e*P		**Pn**	**19 20 02.0**	**0.0**
TECO	**Alcaldia de Te**	**1.29**	**69**	*i* P		**Pn**	**19 20 02.1**	**0.0**
TECO				*i* S		**Sb**	**19 20 17.3**	**-1.7**
TECO				IAML			19 20 22.5	
	comp=Z,800nm,1.0s							
UESV	**Universidad de**	**1.32**	**65**	*i* P		**Pn**	**19 20 02.7**	**+0.1**
UESV				*i* S		**Sg**	**19 20 20.7**	**-0.6**
UESV				IAML			19 20 26.4	
	comp=Z,750nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.40**	**64**	*e*P		**Pn**	**19 20 04.3**	**+0.6**
MTO3	**Montecristo**	**1.46**	**26**	*e*P		**Pb**	**19 20 05.5**	**-0.1**
MTO3	**Montecristo**	**1.46**	**26**	*i* P		**Pn**	**19 20 05.2**	**+0.6**
MTO3				IAML			19 20 07.3	
	comp=Z,560nm,1.0s							
MTO3				*i* S		**Sg**	**19 20 25.2**	**-0.5**
LLGN	**La Laguna**	**1.50**	**44**	*i* P		**Pn**	**19 20 05.4**	**+0.3**
LLGN				*i* S		**Sg**	**19 20 26.4**	**-0.6**
LLGN				IAML			19 20 29.0	
	comp=Z,680nm,1.0s							
COEB	**Comit de Eme**	**1.51**	**74**	*e*P		**Pn**	**19 20 05.4**	**+0.2**
COEB	**Comit de Eme**	**1.51**	**74**	*i* P		**Pn**	**19 20 05.4**	**+0.2**
COEB				*i* S		**Sb**	**19 20 25.2**	**-0.2**
COEB				IAML			19 20 34.2	
	comp=Z,420nm,1.0s							
NBG	**Las Nubes**	**1.53**	**348**	*e*P		**Pg**	**19 20 07.9**	**-0.2**
TECA	**Tecapa**	**1.54**	**74**	*e*P		**Pn**	**19 20 06.8**	**+1.2**
FUG	**Fuego 3**	**1.57**	**330**	*e*P		**Pn**	**19 20 06.2**	**+0.1**
FUG				*e*P		**Pb**	**19 20 06.6**	**-0.9**
FUG				*e*S		**Sn**	**19 20 24.6**	**-1.7**
PACA	**Pacayal**	**1.70**	**77**	*e*P		**Pb**	**19 20 09.4**	**-0.2**
PACA	**Pacayal**	**1.70**	**77**	*i* P		**Pb**	**19 20 09.5**	**-0.2**
PACA				IAML			19 20 38.8	
	comp=Z,5μm,1.0s							
LCY	**Lacayo**	**1.71**	**79**	*e*P		**Pn**	**19 20 09.0**	**+1.0**
LCY				*e*S		**Sb**	**19 20 31.5**	**+0.2**
RANC	**El Ranchito**	**1.72**	**78**	*i* P		**Pn**	**19 20 08.8**	**+0.6**
RANC				*i* S		**Sb**	**19 20 32.2**	**+0.6**
RANC				IAML			19 20 39.9	
	comp=Z,480nm,1.0s							
JUCU	**Jucuarˌn**	**1.74**	**84**	*e*P		**Pn**	**19 20 09.1**	**+0.8**
BLLM	**Bellamira**	**1.77**	**78**	*e*P		**Pn**	**19 20 09.6**	**+0.7**
MRL	**Marmol**	**2.01**	**9**	*e*P		**Pb**	**19 20 15.4**	**+0.4**
LCND	**La Caada**	**2.09**	**84**	*e*P		**Pn**	**19 20 13.9**	**+0.8**
LCND				*e*S		**Sb**	**19 20 40.8**	**-1.2**
LCND	**La Caada**	**2.09**	**84**	*i* P		**Pn**	**19 20 13.9**	**+0.8**
LCND				*i* S		**Sn**	**19 20 40.5**	**+1.7**
LCND				IAML			19 20 43.6	
	comp=Z,390nm,1.0s							
CNCH	**Conchagua**	**2.14**	**85**	*e*P		**Pn**	**19 20 14.6**	**+0.7**
CNCH	**Conchagua**	**2.14**	**85**	*i* P		**Pn**	**19 20 15.3**	**+1.4**
CNCH				*i* S		**Sn**	**19 20 41.9**	**+1.6**
CNCH				IAML			19 20 47.6	
	comp=Z,1μm,1.0s							
SOKI	**Kika Raxquin**	**2.19**	**322**	*i* P		**Pn**	**19 20 16.9**	**+2.1**
SOKI				*i* S		**Sn**	**19 20 42.4**	**+0.6**
SOKI				IAML			19 20 51.4	
	comp=Z,300nm,1.0s							
STG3	**Santiaguito 3,**	**2.21**	**317**	*e*P		**Pn**	**19 20 16.2**	**+1.3**
PKGN	**Cerro Pekin**	**3.00**	**98**	*i* P		**Pn**	**19 20 26.0**	**+0.4**
PKGN				*i* S		**Sn**	**19 20 59.9**	**-1.4**
PKGN				IAML			19 21 05.8	
	comp=Z,530nm,1.0s							
CNGA	**Al SSO del Vol**	**3.29**	**100**	*i* P		**Pn**	**19 20 28.2**	**-1.5**
CNGA				*i* S		**Sn**	**19 21 06.1**	**-2.5**
CNGA				IAML			19 21 15.9	
	comp=Z,150nm,1.0s							
MACN	**El Madrono**	**3.32**	**100**	*i* P		**Pn**	**19 20 29.7**	**-0.4**
MACN				*i* S		**Sn**	**19 21 07.7**	**-1.7**
MACN				IAML			19 21 15.9	
	comp=Z,78nm,1.0s							
SOMN	**Somoto**	**3.33**	**84**	*i* P		**Pn**	**19 20 32.3**	**+1.9**
SOMN				IAML			19 20 34.7	
	comp=Z,44nm,1.0s							
COPN	**Copaltepe**	**3.47**	**105**	*i* P		**Pn**	**19 20 33.8**	**+1.7**
COPN				IAML			19 21 08.9	
	comp=Z,65nm,1.0s							
LIMN	**Finca el Limon**	**3.56**	**90**	*i* P		**Pn**	**19 20 34.7**	**+1.2**
LIMN				IAML			19 21 26.5	
	comp=Z,74nm,1.0s							

*IDC **31** 19:24:38.6±2.3, 37.°21N×141.°52E, h0km, mb3.3/3, mbtmp3.4/5, ML2.9/2, Error ellipse: s-maj=42.4km s-min=29.6km az=71.0*
*JMA **31** 19:24:42.5±0.1, 37.°2N±0.°2×141.°2E±0.°6, h21km, MV3.4/40, E OFF FUKUSHIMA PREF*
ISC 31 19:24:41.8±3.9, 37.°15N±0.°04×141.°21E±0.°08, h15km±26km, n23, σ0°66/22, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.33**	**262**	P	**Pb**	**19 24 49.5**	**+0.1**
ONAJ				S	**Sb**	**19 24 54.6**	**+0.1**
JFK	**Kawauchi**	**0.34**	**310**	P	**Pb**	**19 24 49.6**	**0.0**
JFK				S	**Sb**	**19 24 54.7**	**-0.2**
JFFD	**Fukushimafurud**	**0.52**	**264**	*i* P	**Pb**	**19 24 52.9**	**+0.2**
JFFD				*e*S	**Sb**	**19 24 60.0**	**0.0**
JMST	**Minamisoumatoc**	**0.63**	**336**	P	**Pb**	**19 24 54.4**	**-0.1**
JMST				*e*S	**Sb**	**19 25 03.2**	**+0.1**
JHO	**Hitachi**	**0.74**	**224**	P	**Pb**	**19 24 56.0**	**-0.4**
JHO				*e*S	**Sb**	**19 25 06.5**	**+0.2**
JMM	**Marumori**	**0.79**	**336**	P	**Pb**	**19 24 56.9**	**-0.3**
JOTO	**OTAMA OYAMA**	**0.81**	**301**	*i* P	**Pn**	**19 24 58.1**	**-0.5**
JOTO				*e*S	**Sb**	**19 25 09.2**	**+0.9**
JSB	**Shiboa**	**1.04**	**260**	P	**Pn**	**19 25 02.8**	**+0.9**
JFY	**Yanaizu**	**1.23**	**283**	*i* P	**Pn**	**19 25 05.3**	**+0.9**
MJAR	**Matsushiro Arr**	**2.48**	**257**	Pn	**Pb**	**19 25 24.5**	**-1.6**
	0.8nm,0.3s,baz=77,slow=16,SNR=23						
MJAR				Sn	**Sb**	**19 25 56.6**	**+0.1**
	0.7nm,0.3s,baz=45,slow=57,SNR=2.5 4.1nm,0.4s						
JHJ	**Hachijo jima 2**	**4.18**	**197**	Pn	**Pn**	**19 25 46.3**	**+1.1**
	4.4nm,0.3s,baz=120,slow=22,SNR=5.4						
JHJ				Sn	**Sn**	**19 26 33.1**	**-0.6**
	4.2nm,0.3s,baz=104,slow=22,SNR=2.4 15nm,0.2s						
H11N2	**WAKE ISLAND Hy**	**28.35**	**121**	T	T	20 00 10.3	
	baz=314,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.36**	**121**	T	T	20 00 10.7	
	baz=314,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**28.37**	**121**	T	T	20 00 19.2	
	baz=314,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	20 01 09.1	
	baz=314,slow=76,SNR=9.6						
H11S3	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	20 01 14.5	
	baz=314,slow=76,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**29.08**	**123**	T	T	20 01 14.5	
	baz=314,slow=76,SNR=6.5						
MKAR	**Makanchi Array**	**43.92**	**302**	P	**P**	**19 32 48.1**	**+0.2**
	0.1nm,0.5s,baz=88,slow=9.7,SNR=1.8 0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**45.80**	**308**	P	**P**	**19 33 03.2**	**+0.4**
	0.6nm,0.6s,baz=80,slow=8.8,SNR=1.8 0.6nm,0.6s						
WRA	**Warramunga Arr**	**57.15**	**188**	P	**P**	**19 34 27.4**	**-0.6**
	0.3nm,0.7s,baz=2.6,slow=7.4,SNR=2.6 0.3nm,0.7s						
H03N2	**Juan Fernandez**	**147.20**	**96**	T	T	22 29 10.7	
	baz=292						
H03N3	**Juan Fernandez**	**147.21**	**96**	T	T	22 29 13.9	
	baz=292						
H03N1	**Juan Fernandez**	**147.22**	**96**	T	T	22 29 03.0	
	baz=292						

*NEIC **31** 19:28:50.2±1.2, 35.°05N±0.°01×97.°575W±0.°010, h5km±1km, Error ellipse: s-maj=2.7km s-min=2.4km az=157.0*
TUL 31 19:28:51.1±1.3, 35.°05N±0.°02×97.°59W±0.°02, h7km±4km, ML2.2, mb_Lg2.3/39(NEIC), ML2.3/38(NEIC), Error ellipse: s-maj=2.3km s-min=2.2km az=135.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.26**	**36**	Pg	Pb	19 28 57.6	-0.6
FNO				Sg	Sg	19 28 59.5	-0.2
FNO				IAML		19 29 04.1	
	comp=E,540nm,0.5s						
OKCSW	**OKLAHOMA CITY**	**0.38**	**19**	Pg	Pg	19 28 59.1	+0.6
OKCSW				IAML		19 29 09.2	
	comp=N,197nm,0.5s						
X34A	**Smith Ranch, M**	**0.49**	**205**	Pg	Pg	19 29 00.9	+0.4
OK029	**Liberty Lake**	**0.76**	**8**	Pg	Pg	19 29 05.2	-0.5
OK029				IAML		19 29 19.4	
	comp=N,72nm,0.5s						
WMOK	**Wichita Mounta**	**1.03**	**253**	Pg	Pg	19 29 09.8	-1.0
CSTR	**Hydro, Custer**	**1.08**	**304**	Pg	Pg	19 29 11.7	-0.1
OK031	**S. Brethren Rd**	**1.09**	**34**	Pg	Pg	19 29 11.1	-0.9
LOOK	**Love County**	**1.10**	**162**	Pg	Pg	19 29 12.0	-0.3
LOOK				IAML		19 29 32.9	
	comp=E,97nm,0.2s						
OK052	**Battle Ridge R**	**1.14**	**34**	Pg	Pg	19 29 11.8	-1.2
DEOK	**Depew**	**1.19**	**48**	Pg	Pg	19 29 12.9	-1.1
DEOK				IAML		19 29 34.0	
	comp=E,68nm,0.3s						
DEOK				IAML		19 29 38.5	
	comp=N,57nm,0.3s						
QUOK	**Quay**	**1.33**	**32**		Pn	19 29 14.4	-1.8
OK048	**Pawnee Station**	**1.46**	**21**		Pn	19 29 17.4	-0.5
WTFS	**Witchita Falls**	**1.47**	**210**		Pn	19 29 17.3	-0.7
CROK	**Carrier**	**1.49**	**348**		Pn	19 29 18.0	-0.4
OK051	**E0350 and S346**	**1.58**	**23**		Pn	19 29 19.2	-0.3
TUL3	**Leonard**	**1.70**	**59**	Pg	Pn	19 29 21.6	+0.3
OK038	**West end E0370**	**1.71**	**327**		Pn	19 29 21.9	+0.5
Z35A	**Perchaven, San**	**1.73**	**171**		Pn	19 29 21.6	0.0
BLOK	**Blackwell**	**1.74**	**10**	Pn	Pn	19 29 22.4	+0.6
U32A	**Winter Ranch,**	**1.76**	**320**	Pn	Pn	19 29 22.4	+0.3
ELIS	**Ellis County**	**1.81**	**305**	Pn	Pb	19 29 23.7	-0.8
GC02	**Grant County #**	**1.81**	**353**	Pn	Pn	19 29 22.8	0.0
OK032	**Salt Plains WL**	**1.83**	**344**	Pn	Pn	19 29 23.5	+0.6
X37A	**Clayton**	**1.88**	**103**	Pn	Pn	19 29 24.0	+0.3
NOKA	**Waynoka**	**1.93**	**326**	Pn	Pn	19 29 24.6	+0.3
KAN14	**Manchester OK**	**1.93**	**351**	Pn	Pn	19 29 23.9	-0.6
KAN13	**South Haven SW**	**1.96**	**3**	Pn	Pn	19 29 25.4	+0.5
FW03	**Perrin-Whitt E**	**2.04**	**191**	Pn	Pn	19 29 26.3	+0.4
FW03				IAmb_Lg		19 29 56.9	
	comp=Z,17nm,0.8s						
T35A	**Sooner Cattle**	**2.06**	**25**	Pn	Pn	19 29 26.7	+0.5
FW06	**Azle**	**2.07**	**179**	IAmb_Lg		19 30 00.8	
	comp=Z,15nm,0.7s						
KAN09	**Caldwell North**	**2.09**	**359**	Pn	Pn	19 29 26.8	+0.2
KAN09				IAmb_Lg		19 30 00.2	
	comp=Z,14nm,0.8s						
KAN01	**Argonia South**	**2.11**	**356**	Pn	Pn	19 29 27.5	+0.7
SMWD	**Samnorwood**	**2.18**	**272**	Pn	Pn	19 29 26.8	-1.1
SMWD				IAmb_Lg		19 30 04.3	
	comp=Z,9.6nm,0.9s						
PLPT	**Palo Pinto**	**2.31**	**195**	Pn	Pn	19 29 30.0	+0.4
RLO	**Rose Lookout**	**2.37**	**61**	Pn	Pn	19 29 29.8	-0.6
RLO				IAmb_Lg		19 30 11.2	
	comp=Z,14nm,0.8s						
APMT	**Aspermont**	**2.71**	**231**	Pn	Pn	19 29 36.3	+1.1
HHAR	**Hobbs**	**3.21**	**66**	IAmb_Lg		19 30 41.1	
	comp=Z,11nm,0.9s						
MIAR	**Mount Ida**	**3.34**	**97**	Pn	Pn	19 29 44.7	+1.0
SN07	**Snyder 07**	**3.37**	**236**	IAmb_Lg		19 30 44.5	
	comp=Z,8.5nm,0.9s						
AMTX	**Amarillo**	**3.37**	**268**	Pn	Pn	19 29 43.7	-0.6
SN05	**Snyder 5**	**3.49**	**233**	IAmb_Lg		19 30 44.9	
	comp=Z,7.5nm,0.7s						
POST	**Post**	**3.80**	**240**	IAmb_Lg		19 30 57.6	
	comp=Z,5.9nm,0.7s						
BRDY	**Brady**	**3.93**	**198**	Pn	Pn	19 29 51.6	-0.4
BRDY				IAmb_Lg		19 31 00.2	
	comp=Z,6.6nm,1.0s						
X40A	**Basin Creek Fa**	**3.95**	**97**	IAmb_Lg		19 31 05.5	
	comp=Z,5.1nm,0.9s						
KSU1	**Kansas State U**	**4.12**	**11**	IAmb_Lg		19 31 12.8	
	comp=Z,7.5nm,0.8s						
CBKS	**Cedar Bluff**	**4.14**	**336**	IAmb_Lg		19 31 13.7	
	comp=Z,7.0nm,0.8s						
WHAR	**Wooly Hollow**	**4.35**	**85**	IAmb_Lg		19 31 18.6	
	comp=Z,5.2nm,0.9s						
MSTX	**Muleshoe**	**4.42**	**257**	IAmb_Lg		19 31 22.8	
	comp=Z,6.5nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.54**	**78**	IAmb_Lg		19 31 23.0	
	comp=Z,4.3nm,0.7s						
OZNA	**Ozona**	**5.08**	**217**	Pn	Pn	19 30 07.2	-0.5
P38A	**Dawn**	**5.60**	**34**	IAmb_Lg		19 31 48.0	
	comp=Z,5.0nm,0.9s						
SAND	**Sanderson**	**6.36**	**218**	Pn	Pn	19 30 23.7	-1.7
SAND				IAmb_Lg		19 32 30.0	
	comp=Z,4.2nm,1.1s						
PECS	**Pecos**	**6.41**	**237**	IAmb_Lg		19 32 18.0	
	comp=Z,3.9nm,0.8s						
ALPN	**Alpine**	**6.91**	**229**	IAmb_Lg		19 32 41.8	
	comp=Z,3.1nm,0.9s						

*IDC **31** 19:28:58.8±0.8, 54.°03S×146.°73W, h0km, mb4.2/8, mbtmp4.2/8, MS3.7/10, Error ellipse: s-maj=26.4km s-min=21.8km az=42.0*
*NEIC **31** 19:28:58.5±1.4, 53.°9S±0.°2×146.°1W±0.°3, h10km±2km, mb4.5/18, Error ellipse: s-maj=33.0km s-min=23.4km az=35.0*
ISC 31 19:29:00.3±0.8, 54.°1S±0.°2×146.°6W±0.°1, h10km, n55, σ0°88/38, mb4.4/14, MS3.7/10, 4C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTZ	**Chatham Island**	**22.13**	**286**	P	**P**	**19 33 55.4**	**-0.4**
PLWZ	**Palliser**	**28.16**	**281**	P	**P**	**19 34 53.5**	**+1.0**
BFZ	**Birch Farm**	**28.16**	**283**	P	**P**	**19 34 52.8**	**+0.3**
URZ	**Urewera**	**29.31**	**288**	LR	LR	19 43 38.9	
	comp=Z,176nm,20.5s,baz=211,slow=30						
NNZ	**Nelson**	**29.47**	**279**	P	**P**	**19 35 05.8**	**+1.6**
VNDA	**Vanda**	**29.74**	**200**	P	**P**	**19 35 06.7**	**+0.4**
VNDA	**Vanda**	**29.74**	**200**	P	**P**	**19 35 07.2**	**+1.0**
	0.7nm,0.8s,baz=69,slow=4.9,SNR=5.3						
VNDA				PcP	**PcP**	**19 38 10.0**	**+0.5**
	0.3nm,0.8s,baz=138,slow=0.4,SNR=1.9						
VNDA				LR	LR	19 43 45.6	
	comp=Z,50nm,19.2s,baz=336,slow=30 0.7nm,0.8s						
RAR	**Rarotonga**	**34.32**	**338**	LR	LR	19 45 21.9	
	comp=Z,74nm,19.8s,baz=186,slow=29						
QSPA	**South Pole Qui**	**36.08**	**180**	P	**P**	**19 36 01.3**	**-0.5**
QSPA				IAmb	IAmb	19 36 03.5	
	comp=Z,3.6nm,0.8s						
QSPA	**South Pole Qui**	**36.08**	**180**	P	**P**	**19 36 02.9**	**+1.1**
	comp=Z,3.4nm,0.9s,baz=82,slow=2.1,SNR=13						
QSPA				PcP	**PcP**	**19 38 28.0**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=91,slow=2.2,SNR=6.6 comp=Z,3.4nm,0.9s						
RPN	**Rapa Nui**	**38.32**	**60**	LR	LR	19 48 23.6	
	comp=Z,49nm,20.3s,baz=178,slow=30						
BELA	**Belgrano 2**	**42.00**	**163**	P	**P**	**19 36 50.3**	**-0.7**
BELA				IAmb	IAmb	19 36 52.4	
	comp=Z,6.4nm,1.0s						
MSVF	**Nonsavu**	**45.37**	**309**	LR	LR	19 52 17.0	
	comp=Z,81nm,19.0s,baz=160,slow=31						
CASY	**Casey**	**46.71**	**213**	P	**P**	**19 37 29.2**	**+0.5**
DZM	**Mont Dzumac**	**47.57**	**293**	LR	LR	19 55 10.0	
	comp=Z,80nm,18.2s,baz=92,slow=33						
H03S2	**Juan Fernandez**	**50.63**	**95**	T	T	20 32 46.5	
	baz=222,slow=74,SNR=8.3						
H03S1	**Juan Fernandez**	**50.63**	**95**	T	T	20 32 47.0	
	baz=222,slow=74,SNR=6.4						
H03S3	**Juan Fernandez**	**50.65**	**95**	T	T	20 32 45.9	
	baz=222,slow=74,SNR=8.0						
H03N3	**Juan Fernandez**	**50.90**	**95**	T	T	20 32 52.3	
	baz=226,slow=72,SNR=23						
H03N2	**Juan Fernandez**	**50.91**	**95**	T	T	20 32 51.3	
	baz=226,slow=72,SNR=26						
H03N1	**Juan Fernandez**	**50.92**	**95**	T	T	20 32 51.3	
	baz=226,slow=72,SNR=32						
VNA3	**Neumayer Olymp**	**51.29**	**164**	⇑P	P	19 38 11.3	+7.4
SNAA	**Sanae**	**51.97**	**166**	P	**P**	**19 38 08.2**	**-0.7**
SNAA				IAmb	IAmb	19 38 09.4	
	comp=Z,14nm,1.3s						
SNAA	**Sanae**	**51.97**	**166**	⇑P	**P**	**19 38 07.6**	**-1.3**
SNAA	**Sanae**	**51.97**	**166**	P	**P**	**19 38 08.4**	**-0.6**
	comp=Z,3.3nm,0.6s,baz=224,slow=6.6,SNR=12 comp=Z,3.3nm,0.6s						
VNA1	**Neumayer--Stat**	**52.04**	**164**	⇑P	**P**	**19 38 09.1**	**-0.3**
TROLL	**Troll, Antarti**	**52.35**	**168**	⇑P	**P**	**19 38 11.9**	**0.0**
	comp=Z,422nm,1.1s						
EIDS	**Eidsvold**	**53.73**	**276**	P	**P**	**19 38 22.4**	**-0.1**
EIDS				IAmb	IAmb	19 38 25.1	
	comp=Z,2.6nm,0.8s						
STKA	**Stephens Creek**	**54.49**	**263**	P	**P**	**19 38 28.9**	**+1.0**
STKA	**Stephens Creek**	**54.49**	**263**	P	**P**	**19 38 28.6**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=92,slow=11,SNR=3.6 comp=Z,3.3nm,0.9s						
MAW	**Mawson**	**56.66**	**193**	P	**P**	**19 38 43.4**	**+0.4**
	comp=Z,4.8nm,0.9s,baz=172,slow=3.3,SNR=10 comp=Z,4.8nm,0.9s						
BBOO	**Buckleboo**	**57.03**	**258**	P	**P**	**19 38 46.9**	**+0.7**
AS31	**Alice Springs**	**65.12**	**264**	P	**P**	**19 39 39.8**	**-1.5**
AS31				IAmb	IAmb	19 39 41.0	
	comp=Z,1.9nm,0.8s						
ASAR	**Alice Springs**	**65.12**	**264**	P	**P**	**19 39 40.1**	**-1.2**
	comp=Z,5.5nm,0.8s,baz=137,slow=6.3,SNR=55 comp=Z,5.5nm,0.8s						
H01W1	**Cape Leeuwin H**	**67.54**	**241**	T	T	20 53 40.0	
	baz=140,slow=76,SNR=6.1						
H01W2	**Cape Leeuwin H**	**67.55**	**241**	T	T	20 53 38.9	
	baz=140,slow=76,SNR=5.9						
H01W3	**Cape Leeuwin H**	**67.56**	**

	baz=190						
VLO				S	Sn	19 35 25.3	+1.6
	baz=190						
KBN	**Korca**	**1.22**	**135**	P	**Pg**	**19 35 14.1**	**+1.1**
	baz=135						
KBN				S	**Sn**	**19 35 30.4**	**+1.7**
	baz=135						
BEY	**Berane**	**1.39**	**7**	*i* Pg	**Pg**	**19 35 16.4**	**+0.1**
FNA	**Florina**	**1.48**	**118**	P	**Pg**	**19 35 16.9**	**-1.1**
	baz=118						
FNA				S	**Sg**	**19 35 37.4**	**+0.2**
	baz=118						
FNA	**Florina**	**1.48**	**118**	*e*Pg	**Pg**	**19 35 16.9**	**-1.1**
FNA				*e*Sg	**Sg**	**19 35 37.0**	**-0.2**
FNA	**Florina**	**1.48**	**118**	*i* Pg	**Pg**	**19 35 17.1**	**-0.8**
FNA				*i* Sg	**Sg**	**19 35 37.9**	**+0.7**
TREB	**Trebinje**	**1.56**	**322**	*e*Pg	**Pb**	**19 35 17.3**	**-0.9**
TREB				*e*Sg	**Sg**	**19 35 38.8**	**-1.0**
DBRK	**Dubrovnik**	**1.63**	**317**	*e*Pn	**Pb**	**19 35 19.1**	**-0.2**
DBRK				Sn	**Sb**	**19 35 40.1**	**+0.4**
SRN	**Sarande**	**1.63**	**170**	P	**Pg**	**19 35 22.5**	**+1.8**
	baz=172						
SRN				S	**Sg**	**19 35 42.7**	**+0.8**
	baz=172						
BRY	**Bratogost**	**1.64**	**330**	*e*Pn	**Pb**	**19 35 19.6**	**0.0**
BRY				*e*Sn	**Sb**	**19 35 41.1**	**+1.0**
SJES	**Sjenica**	**1.79**	**8**	*e*Pg	**Pb**	**19 35 22.8**	**+0.7**
SJES				*e*Sg	**Sg**	**19 35 48.3**	**+1.3**
SJES	**Sjenica**	**1.79**	**8**	⇑*i*Pn	**Pb**	**19 35 22.4**	**+0.3**
SJES				*e*Sn	**Sg**	**19 35 47.2**	**+0.2**
UPM	**Unac-Piva**	**1.80**	**342**	*e*Pn	**Pb**	**19 35 22.4**	**0.0**
UPM				*e*Sn	**Sb**	**19 35 45.8**	**+0.9**
KLINJ	**Klinje**	**1.86**	**335**	*e*Pn	**Pb**	**19 35 22.2**	**-1.1**
KLINJ				*e*Sn	**Sb**	**19 35 46.9**	**+0.5**
STON	**Ston**	**2.00**	**314**	*e*Pn	**Pn**	**19 35 23.2**	**+0.3**
STON				*e*Sn	**Sb**	**19 35 49.0**	**-1.5**
STON	**Ston**	**2.00**	**314**	*e*Pn	**Pn**	**19 35 22.8**	**-0.1**
STON	**Ston**	**2.00**	**314**	*e*Pn	**Pn**	**19 35 23.0**	**+0.1**
STON				*e*Sn	**Sn**	**19 35 47.9**	**+0.1**
RUDO	**Rudo**	**2.14**	**355**	*e*Pn	**Pb**	**19 35 27.7**	**-0.3**
RUDO				*e*Sn	**Sb**	**19 35 55.2**	**+0.7**
BOSS	**Bosilegrad**	**2.34**	**64**	*e*Pn	**Pb**	**19 35 29.5**	**-1.9**
BBLS	**Lazi&#263i**	**2.38**	**356**	*e*Pn	**Pb**	**19 35 31.0**	**-1.3**
BBLS				*e*Sn	**Sb**	**19 36 00.2**	**-1.4**
BBLS	**Lazi&#263i**	**2.38**	**356**	*e*Pn	**Pb**	**19 35 31.2**	**-1.1**
BBLS				*e*Sn	**Sb**	**19 36 00.8**	**-0.8**
GRUS	**Gruza**	**2.52**	**18**	*e*Pn	**Pn**	**19 35 32.0**	**+1.9**
MAKA	**Makarska**	**2.65**	**314**	*e*Pn	**Pn**	**19 35 31.8**	**-0.1**
RICI	**Ricice**	**2.73**	**318**	*e*Pn	**Pn**	**19 35 33.2**	**+0.2**
ZAPS	**Zavoj**	**2.84**	**50**	*e*Pn	**Pn**	**19 35 36.1**	**+1.6**
ZAPS				*e*Sn	**Sn**	**19 36 10.0**	**+1.4**
VTS	**Vitosha**	**2.90**	**66**	*e*Pn	**Pn**	**19 35 36.6**	**+1.2**
HVAR	**Hvar**	**2.91**	**306**	*e*Pn	**Pn**	**19 35 34.6**	**-0.8**
KLJV	**Kijevo**	**3.47**	**318**	*e*Pn	**Pn**	**19 35 43.3**	**+0.2**
ZIRJ	**Zirje**	**3.67**	**308**	*e*Pn	**Pn**	**19 35 45.6**	**-0.2**
MORI	**Morici**	**3.75**	**311**	*e*Pn	**Pn**	**19 35 47.0**	**0.0**
A050A	**Klekovaca**	**3.77**	**324**	*e*Pn	**Pn**	**19 35 48.0**	**+0.7**
A050A				*e*Sn	**Sn**	**19 36 31.6**	**+0.1**
A051A	**Mrakovica**	**4.05**	**331**	*e*Pn	**Pn**	**19 35 51.3**	**+0.1**
A051A				*e*Sn	**Sn**	**19 36 38.3**	**-0.2**
DUGI	**Dugi Otok**	**4.21**	**308**	*e*Pn	**Pn**	**19 35 53.1**	**-0.1**
VIRC	**Vir**	**4.39**	**311**	*e*Pn	**Pn**	**19 35 55.6**	**-0.1**
NVLJ	**Novalja**	**4.66**	**313**	*e*Pn	**Pn**	**19 35 59.2**	**-0.2**
BOJS	**Bojanci**	**5.13**	**323**	*e*Pn	**Pn**	**19 36 05.8**	**-0.1**
BOJS				*e*Sn	**Sn**	**19 37 03.9**	**-1.1**
CRES	**Cresnjev**	**5.29**	**326**	*e*Pn	**Pn**	**19 36 08.1**	**-0.1**
CRES				*e*Sn	**Sn**	**19 37 08.1**	**-0.9**
CEY	**Cerknica**	**5.69**	**320**	*e*Pn	**Pn**	**19 36 13.6**	**-0.1**
SKDS	**Skadanscina**	**5.76**	**317**	*e*Sn	**Sn**	**19 37 17.7**	**-2.9**

*IDC **31** 19:52:20.6±2.3, 36°.88N×3°.57E, h0km, mb3.0/1, mbtmp3.3/3, ML3.4/2, MS2.8/1, Error ellipse: s-maj=47.2km s-min=24.5km az=23.0*
*CRAAG **31** 19:52:21.8, 36°.91N×3°.59E, Ml3.7, Algerie 13km Nw Zemmouri*
*MDD **31** 19:52:24.5±0.8, 36°.94N×3°.60E, h17km±8km, Mb4.0/13, M_mb3.3/13, Error ellipse: s-maj=8.1km s-min=3.4km az=137.0*
*LDG **31** 19:52:25.4±0.4, 36°.99N×3°.65E, h10km, Ml3.0/17, Error ellipse: s-maj=9.2km s-min=5.1km az=154.0*

ISC 31 19:52:21.1±0.9, 37°.01N±0°.05×3°.64E±0°.04, h12km, n63, σ2§40/94, 11C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.52**	**247**	P	**Pg**	**19 52 31.8**	**+0.4**
ADOR	**Douera**	**0.67**	**239**	P	**Pg**	**19 52 34.8**	**+0.5**
ACHR	**Chrea**	**0.84**	**226**	P	**Pg**	**19 52 37.2**	**-0.3**
ADJB	**Djebel Djouab**	**0.86**	**191**	P	**Pg**	**19 52 37.3**	**-0.5**
EMHD	**Djebel Mahouad**	**0.98**	**214**	P	**Pg**	**19 52 39.5**	**-0.5**
AKET	**Djebel Ketaf**	**0.98**	**168**	P	**Pg**	**19 52 39.6**	**-0.4**
ABKD	**Sidi Amar**	**1.17**	**246**	P	**Pb**	**19 52 42.0**	**-1.2**
SET	**Setif**	**1.63**	**119**	P	**Pn**	**19 52 51.0**	**+1.2**
EIBI	**Ibiza**	**2.71**	**319**	Pn	**Pn**	**19 53 06.9**	**+2.4**
EIBI				Sn	**Sn**	**19 53 36.0**	**-1.2**
EIBI	**Ibiza**	**2.71**	**319**	P	**Pn**	**19 53 06.2**	**+1.8**
EIBI				⇑*i*Vmb_V		19 53 14.0	
	285nm,SNR=3.3						
EIBI				S	**Sn**	**19 53 37.8**	**+0.6**
ETOS	**Mallorca**	**2.83**	**447**	Pn	**Pn**	**19 53 08.4**	**+2.2**
ETOS				Sn	**Sn**	**19 53 38.7**	**-1.5**
ETOS	**Mallorca**	**2.83**	**447**	P	**Pn**	**19 53 08.2**	**+2.1**
ETOS				⇑*i*Vmb_V		19 53 12.3	
	452nm,SNR=8.1						
ETOS				S	**Sn**	**19 53 39.7**	**-0.5**
EBEN2	**Beniarda presa**	**3.46**	**300**	P	**Pn**	**19 53 16.4**	**+1.7**
EBEN2				⇑*i*Vmb_V		19 53 23.7	
	197nm,SNR=1.9						
EBEN2				S	**Sn**	**19 53 54.0**	**-1.6**
ECOL	**Islas Columbre**	**3.70**	**322**	P	**Pn**	**19 53 19.8**	**+1.7**
ECOL				S	**Sn**	**19 54 01.2**	**-0.4**
CART	**Cartagena**	**3.74**	**280**	Pn	**Pn**	**19 53 18.4**	**-0.2**
CART				Sn	**Sn**	**19 53 59.7**	**-2.9**
EZAR	**Zarzadilla de**	**4.33**	**283**	P	**Pn**	**19 53 27.1**	**+0.2**
EZAR				S	**Sn**	**19 54 15.6**	**-1.7**
EVIV	**Cofrentes, Val**	**4.37**	**302**	P	**Pn**	**19 53 29.3**	**+1.9**
EVIV				⇑*i*Vmb_V		19 53 31.0	
	272nm,SNR=3.5						
EVIV				S	**Sn**	**19 54 16.6**	**-1.8**
ETOB	**Tobarra**	**4.42**	**293**	Pn	**Pn**	**19 53 29.8**	**+1.8**
ETOB	**Tobarra**	**4.42**	**293**	P	**Pn**	**19 53 29.8**	**+1.8**
ETOB				⇑*i*Vmb_V		19 53 33.6	
	191nm,SNR=4.6						
ETOB				S	**Sn**	**19 54 19.6**	**+0.1**
ECHE	**Chera**	**4.44**	**307**	Pn	**Pn**	**19 53 31.0**	**+2.7**
ECHE	**Chera**	**4.44**	**307**	P	**Pn**	**19 53 30.9**	**+2.5**
ECHE				⇑*i*Vmb_V		19 53 39.1	
	215nm,SNR=2.5						
EMOS	**Mosqueruela**	**4.64**	**317**	P	**Pn**	**19 53 33.1**	**+1.9**
EMOS				⇑*i*Vmb_V		19 53 40.7	
	107nm,SNR=2.3						
EMOS				S	**Sn**	**19 54 24.1**	**-1.1**
ERTA	**Horta de San J**	**4.71**	**328**	S	**Sn**	**19 54 24.8**	**-1.7**
EPOB	**Poblet**	**4.77**	**336**	P	**Pn**	**19 53 35.2**	**+2.4**
EPOB				⇑*i*Vmb_V		19 53 41.3	
	107nm,SNR=2.6						
EPOB				S	**Sn**	**19 54 26.3**	**-1.8**
KEST	**Kesra**	**4.78**	**104**	Pn	**Pn**	**19 53 34.8**	**+1.7**
	2.1nm,0.3s,baz=269,slow=1.8,SNR=57						
KEST				Sn	**Sn**	**19 54 30.1**	**+1.7**
	1.5nm,0.3s,baz=182,slow=16,SNR=3.6						
	4.2nm,0.3s						
EBER	**Berja**	**5.23**	**271**	Sn	**Sn**	**19 54 35.0**	**-4.5**
EBER				Pn	**Pn**	**19 53 39.1**	**-0.2**
EBER	**Berja**	**5.23**	**271**	P	**Pn**	**19 53 40.4**	**+1.1**
EBER				⇑*i*Vmb_V		19 53 42.4	
	72nm,SNR=1.7						
EBER				S	**Sn**	**19 54 38.0**	**-1.5**
EQES	**Quesada**	**5.40**	**280**	P	**Pn**	**19 53 43.8**	**+2.3**
EQES				⇑*i*Vmb_V		19 53 47.7	
	111nm,SNR=2.3						
EQES				S	**Sn**	**19 54 44.5**	**+0.9**
EJON	**La Jonquera**	**5.46**	**354**	Pn	**Pn**	**19 53 45.3**	**+3.0**
EJON				Sn	**Sn**	**19 54 42.3**	**-2.8**
EJON	**La Jonquera**	**5.46**	**354**	P	**Pn**	**19 53 45.3**	**+3.0**
EALB	**Alboran**	**5.48**	**261**	Sn	**Sn**	**19 54 40.5**	**-5.0**
DGI	**Dorgali Grotta**	**5.72**	**53**	S	**Sn**	**19 54 49.9**	**-1.6**
MTLF	**Montolieu**	**6.42**	**351**	*e*Pn	**Pn**	**19 53 58.6**	**+3.2**
MTLF				*e*Sn	**Sn**	**19 55 06.6**	**-2.0**
	3.9nm,0.5s						
EPF	**Esparros**	**6.52**	**338**	*e*Pn	**Pn**	**19 54 00.9**	**+4.0**
EPF				*e*Sn	**Sn**	**19 55 09.2**	**-2.1**
	1.6nm,0.4s						
ESDC	**Sonseca Array**	**6.54**	**296**	Pn	**Pn**	**19 53 58.6**	**+1.5**
	0.3nm,0.3s,baz=112,slow=13,SNR=9.8						
ESDC				Sn	**Sn**	**19 55 13.2**	**+1.6**
	0.2nm,0.3s,baz=114,slow=23,SNR=0.8						
	2.3nm,0.9s						
LMR	**La Mourre**	**6.69**	**18**	*e*Pn	**Pn**	**19 54 00.8**	**+1.7**
LMR				*e*Sn	**Sn**	**19 55 13.4**	**-1.9**
	3.3nm,0.2s						
ETSF	**Etsaut**	**6.71**	**333**	*e*Pn	**Pn**	**19 54 02.1**	**+2.6**
ETSF				*e*Sn	**Sn**	**19 55 13.9**	**-1.9**
	1.4nm,0.3s						
PAB	**San Pablo**	**6.77**	**294**	P	**Pn**	**19 54 01.4**	**+1.1**
PAB				⇑*i*Vmb_V		19 54 09.5	
	67nm,SNR=1.7						
PGF	**Pioggiola**	**6.90**	**35**	*e*Pn	**Pn**	**19 54 04.8**	**+2.6**
PGF				*e*Sn	**Sn**	**19 55 17.0**	**-3.7**
	1.1nm,0.3s						
LASF	**Ste Croix**	**7.06**	**1**	*e*Pn	**Pn**	**19 54 06.2**	**+1.9**
LASF				*e*Sn	**Sn**	**19 55 21.5**	**-3.0**
	1.5nm,0.3s						
SMRF	**Simiane la Rot**	**7.11**	**11**	*e*Pn	**Pn**	**19 54 08.5**	**+3.5**
SMRF				*e*Sn	**Sn**	**19 55 25.3**	**-0.5**
	0.4nm,0.2s						
SJPF	**Ste Jean**	**7.14**	**330**	*e*Pn	**Pn**	**19 54 08.4**	**+3.0**
SJPF				*e*Sn	**Sn**	**19 55 24.5**	**-2.0**
	2.1nm,0.4s						
SBF	**Sospel**	**7.43**	**22**	*e*Pn	**Pn**	**19 54 11.1**	**+1.7**
SBF				*e*Sn	**Sn**	**19 55 30.9**	**-2.8**
	3.9nm,0.4s						
VIVF	**Saint-Julien-l**	**7.88**	**5**	*e*Pn	**Pn**	**19 54 18.0**	**+2.5**
VIVF				*e*Sn	**Sn**	**19 55 41.7**	**-2.9**
	0.7nm,0.3s						
CAF	**Calviac**	**8.00**	**352**	*e*Pn	**Pn**	**19 54 19.3**	**+2.2**
MBDF	**Montbardon**	**8.07**	**16**	*e*Pn	**Pn**	**19 54 19.4**	**+1.2**
MBDF				*e*Sn	**Sn**	**19 55 43.9**	**-5.5**
	4.7nm,0.8s						
LFF	**La Frestale**	**8.22**	**345**	*e*Pn	**Pn**	**19 54 23.4**	**+3.3**
LFF				*e*Sn	**Sn**	**19 55 50.3**	**-2.6**
	2.2nm,0.3s						
RJF	**Les Rejaudoux**	**8.44**	**350**	*e*Pn	**Pn**	**19 54 25.4**	**+2.2**
LPG	**La Plagne**	**8.80**	**14**	*e*Pn	**Pn**	**19 54 32.3**	**+3.9**
LPG				*e*Sn	**Sn**	**19 56 01.9**	**-5.7**
	1.4nm,0.3s						
LPL	**La Plagne**	**8.81**	**14**	*e*Pn	**Pn**	**19 54 30.8**	**+2.3**
LPL				*e*Sn	**Sn**	**19 56 04.6**	**-3.2**
	1.3nm,0.3s						
TCF	**Toulx Ste Croi**	**9.33**	**354**	*e*Pn	**Pn**	**19 54 38.2**	**+2.8**
BGF	**Bois d'Agland**	**9.56**	**357**	*e*Pn	**Pn**	**19 54 41.7**	**+3.2**
SMF	**Signal de Mont**	**9.63**	**1**	*e*Pn	**Pn**	**19 54 42.9**	**+3.4**
CABF	**La Chapelle**	**9.77**	**10**	*e*Pn	**Pn**	**19 54 44.6**	**+3.2**
AVF	**Avril sur Loir**	**9.78**	**359**	*e*Pn	**Pn**	**19 54 44.2**	**+2.7**
AVF				*e*Sn	**Sn**	**19 56 28.7**	**-2.4**
	0.9nm,0.3s						
MFF	**Saint Martin d**	**9.99**	**345**	*e*Pn	**Pn**	**19 54 46.9**	**+2.5**
SSF	**Saint Saulge**	**10.04**	**359**	*e*Pn	**Pn**	**19 54 48.8**	**+3.6**
HYF	**Humbligny**	**10.28**	**356**	*e*P	Pn	19 54 56.1	+7.7
HINF	**Hinteralfeld**	**11.06**	**11**	*e*Pn	**Pn**	**19 55 00.8**	**+1.7**
QUIF	**Quistinic**	**11.99**	**337**	*e*Pn	**Pn**	**19 55 14.7**	**+2.9**
SGMF	**Saint Gilles**	**12.12**	**340**	*e*Pn	**Pn**	**19 55 14.4**	**+0.8**
VRAC	**Vranov**	**15.48**	**33**	LR	LR	20 01 22.6	
	comp=Z,37nm,19.4s,baz=184,slow=35						
TORD	**Torodi Ar. Bea**	**23.82**	**185**	P	**P**	**19 57 34.0**	**0.0**
	0.2nm,0.4s,baz=353,slow=9.9,SNR=2.1						
	0.2nm,0.4s						

*IDC **31** 19:55:10.9±3.5, 53°.62N×169°.29E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=118.8km s-min=36.0km az=179.0*
*KRSC **31** 19:55:17.1±1.6, 53°.71N×168°.89E, h30km±45km, Ml4.1*

ISC 31 19:55:17.0±1.2, 53°.72N±0°.08×169°.38E±0°.08, h35km, n38, σ1§68/55, mb3.5/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.48**	**308**	*e*P	**Pn**	**19 55 53.3**	**-1.5**
BKI				*e*S	**Sn**	**19 56 22.7**	**-1.2**
BZGR	**Bezymyannyi-Gr**	**5.49**	**297**	*e*P	**Pn**	**19 56 39.0**	**+2.7**
BZGR				*e*S	**Sn**	**19 57 37.7**	**-0.5**
BZP	**Bezymyannyi-Pe**	**5.56**	**297**	*e*P	**Pn**	**19 56 38.8**	**+1.5**
BZP				*e*S	**Sn**	**19 57 39.0**	**-1.0**
BZMR	**Bezymyannaya**	**5.60**	**297**	*e*P	**Pn**	**19 56 40.9**	**+3.1**
BZMR				*e*S	**Sn**	**19 57 41.7**	**+0.9**
BZWR	**Bezymyannyi-We**	**5.60**	**297**	*e*P	**Pn**	**19 56 39.2**	**+1.3**
BZWR				*e*S	**Sn**	**19 57 42.0**	**+1.0**
TUMR	**Tumrok**	**5.60**	**290**	*e*P	**Pn**	**19 56 39.2**	**+1.4**
TUMR				*e*S	**Sn**	**19 57 41.8**	**+0.8**
SPN	**Mys Shipunski**	**5.63**	**267**	*e*P	**Pn**	**19 56 39.0**	**+0.9**
SPN				*e*S	**Sn**	**19 57 40.2**	**-1.3**
KRSR	**Krestovskiy**	**5.66**	**300**	*e*P	**Pn**	**19 56 40.1**	**+1.5**
KRSR				*e*S	**Sn**	**19 57 42.8**	**+0.5**
KMNR	**Kamenistaya**	**5.68**	**295**	*e*P	**Pn**	**19 56 41.0**	**+2.2**
KIRR	**Kirishev**	**5.68**	**297**	*e*P	**Pn**	**19 56 39.9**	**+1.0**
KIRR				*e*S	**Sn**	**19 57 40.9**	**-2.1**
KPT	**Kopyto**	**5.75**	**297**	*e*P	**Pn**	**19 56 40.5**	**+0.7**
KPT				*e*S	**Sn**	**19 57 42.9**	**-1.6**
NLC	**Nalytchevo**	**6.02**	**269**	*e*P	**Pn**	**19 56 44.6**	**+1.1**
NLC				*e*S	**Sn**	**19 57 49.4**	**-1.7**
SRDR	**Sredinnyy**	**6.14**	**299**	*e*P	**Pn**	**19 56 47.7**	**+2.6**
SRDR				*e*S	**Sn**	**19 57 54.3**	**+0.3**
UGLR	**Uglovaya**	**6.33**	**270**	*e*P	**Pn**	**19 56 49.5**	**+1.7**
UGLR				*e*S	**Sn**	**19 57 57.9**	**-0.8**
SMAR	**Somma**	**6.33**	**270**	*e*P	**Pn**	**19 56 50.2**	**+2.3**
SMAR				*e*S	**Sn**	**19 57 56.3**	**-2.7**
KRER	**Koryakskii**	**6.36**	**271**	*e*P	**Pn**	**19 56 49.8**	**+1.6**
KRER				*e*S	**Sn**	**19 57 57.3**	**-2.3**
AVH	**Avacha**	**6.37**	**270**	*e*P	**Pn**	**19 56 50.2**	**+1.9**
DALK	**Dalny**	**6.40**	**268**	*e*P	**Pn**	**19 56 50.5**	**+1.9**
KRX	**Arik**	**6.41**	**271**	*e*P	**Pn**	**19 56 50.5**	**+1.6**
KRX				*e*S	**Sn**	**19 57 58.4**	**-2.5**
KOK	**Koryaka**	**6.42**	**271**	*e*P	**Pn**	**19 56 50.7**	**+1.6**
PET	**Petropavlovsk**	**6.46**	**268**	*e*P	**Pn**	**19 56 51.5**	**+2.1**
PET				*e*S	**Sn**	**19 58 00.4**	**-1.4**
ESO	**Esso**	**6.55**	**294**	*e*P	**Pn**	**19 56 51.5**	**+0.7**
GNL	**Ganaly**	**6.79**	**274**	*e*P	**Pn**	**19 56 56.5**	**+2.3**
GNL				*e*S	**Sn**	**19 58 10.5**	**+0.3**
KRMR	**Karymshinskiy**	**6.81**	**267**	*e*P	**Pn**	**19 56 56.4**	**+2.2**
KRMR				*e*S	**Sn**	**19 58 10.8**	**+0.4**
MTVR	**Mutnovka**	**6.86**	**264**	*e*P	**Pn**	**19 56 56.8**	**+1.8**
MTVR				*e*S	**Sn**	**19 58 10.4**	**-1.4**
GRL	**Gorelyy**	**6.90**	**265**	*e*P	**Pn**	**19 56 58.3**	**+2.6**
GRL				*e*S	**Sn**	**19 58 12.0**	**-1.0**
ASAK	**Asacha**	**7.05**	**264**	*e*P	**Pn**	**19 56 59.7**	**+2.1**
ASAK				*e*S	**Sn**	**19 58 15.6**	**-0.9**
KDTR	**Khodutka, Kamc**	**7.12**	**259**	*e*P	**Pn**	**19 57 00.2**	**+1.7**
KDTR				*e*S	**Sn**	**19 58 15.9**	**-2.2**
SKR	**Severo-Kuril's**	**8.70**	**255**	*e*P	**Pn**	**19 57 21.3**	**+1.3**
ILAR	**Eielson Array**	**24.40**	**46**	P	**P**	**20 00 31.6**	**-0.1**
	0.3nm,0.6s,baz=256,slow=7.3,SNR=4.3						
	0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**33.98**	**184**	T	T	20 38 16.7	
	baz=2.6,slow=76,SNR=634						
H11N3	**WAKE ISLAND Hy**	**33.99**	**184**	T	T	20 38 12.7	
	baz=2.6,slow=76,SNR=492						
H11N1	**WAKE ISLAND Hy**	**34.00**	**184**	T	T	20 38 16.6	
	baz=2.6,slow=76,SNR=376						
H11S1	**WAKE ISLAND Hy**	**35.20**	**184**	T	T	20 39 48.1	
	baz=2.8,slow=76,SNR=306						
H11S3	**WAKE ISLAND Hy**	**35.22**	**184**	T	T	20 39 49.2	
	baz=2.8,slow=76,SNR=168						
H11S2	**WAKE ISLAND Hy**	**35.22**	**184**	T	T	20 39 49.6	
	baz=2.8,slow=76,SNR=371						
MKAR	**Makanchi Array**	**52.77**	**300**	P	**P**	**20 04 27.4**	**-0.8**
	0.3nm,0.6s,baz=54,slow=7.3,SNR=4.0						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**65.19**	**74**	P	**P**	**20 05 54.5**	**-0.2**
	0.3nm,0.5s,baz=305,slow=5.4,SNR=2.9						
	0.3nm,0.5s						

*DJA **31** 20:02:08.8±0.5, 10°.5S±5°.5×11°.0E±°, h10km, M4.4/15, mb4.6/8, mB5.3/1, MLv4.4/15, Mw(mB)4.7/1*
*IDC **31** 20:02:09.2±1.1, 10°.10S×109°.83E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=52.4km s-min=19.4km az=53.0*

ISC 31 20:02:10.5±0.9, 10°.2S±0°.1×109°.7E±0°.1, h10km, n24, σ1§11/21, mb3.9/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**2.40**	**20**	P	**Pn**	**20 02 49.5**	**-0.5**
YOGI	**Yogyakarta**	**2.43**	**14**	P	**Pn**	**20 02 50.7**	**+0.4**
CMJI	**Cimerak**	**2.70**	**332**	P	**Pn**	**20 02 52.4**	**-1.6**
PWJI	**Pagerwojo**	**2.99**	**44**	P	**Pn**	**20 02 58.6**	**+0.6**
SMRI	**Semarang**	**3.21**	**13**	P	**Pn**	**20 03 03.0**	**+2.0**
CNJI	**Cibinong**	**3.84**	**318**	P	**Pn**	**20 03 09.3**	**-0.4**
LEM	**Lembang**	**3.93**	**328**	P	**Pn**	**20 03 11.3**	**+0.2**
JAGI	**Jajag, Banyuwa**	**4.70**	**69**	P	**Pn**	**20 03 21.5**	**-0.1**
ABJI	**Asem Bagus**	**5.06**	**62**	P	**Pn**	**20 03 27.6**	**+1.1**
	68nm,0.8s,0.5nm						
SRBI	**Singaraja**	**5.82**	**69**	P	**Pn**	**20 03 34.7**	**-2.3**
	41nm,1.1s,0.2nm						
KASI	**Kota Agung**	**6.94**	**312**	P	**Pn**	**20 03 52.3**	**-0.1**
	18nm,0.6s,0.2nm						
TWSI	**Taliwang, Sumb**	**7.22**	**79**	P	**Pn**	**20 03 55.5**	**-0.7**
	22nm,1.0s,0.1nm						
LWLI	**Liwa**	**7.60**	**312**	P	**Pn**	**20 04 01.9**	**+0.3**
	36nm,0.7s,2μm						
PLAI	**Plampang**	**8.07**	**81**	P	**Pn**	**20 04 06.4**	**-1.5**
	34nm,1.1s						
MNAI	**Manna**	**8.86**	**310**	P	**Pn**	**20 04 16.7**	**-2.0**
WRA	**Warramunga Arr**	**25.65**	**115**	P	**P**	**20 07 40.0**	**-0.7**
	0.6nm,0.6s,baz=286,slow=11,SNR=10						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**26.68**	**123**	P	**P**	**20 07 50.0**	**-0.1**
	2.5nm,0.7s,baz=298,slow=8.0,SNR=32						
	2.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.39**	**339**	P	**P**	**20 08 23.4**	**+0.5**
	2.3nm,0.8s,baz=172,slow=8.2,SNR=7.3						
	2.3nm,0.8s						
STKA	**Stephens Creek**	**36.53**	**131**	P	**P**	**20 09 17.2**	**+0.7**
	1.4nm,0.6s,baz=279,slow=19,SNR=3.7						
	1.4nm,0.6s						
H08S2	**Diego Garcia H**	**36.84**	**271**	T	T	20 48 52.3	
	baz=96						
H08S3	**Diego Garcia H**	**36.85**	**271**	T	T	20 48 47.7	
	baz=96						
H08S1	**Diego Carcia H**	**36.86**	**271**	T	T	20 49 02.1	
	baz=96						
MKAR	**Makanchi Array**	**61.79**	**339**	P	**P**	**20 12 29.1**	**-0.4**
	0.3nm,0.4s,baz=155,slow=7.4,SNR=8.6						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**79.82**	**180**	P	**P**	**20 14 19.4**	**+0.4**
	1.5nm,1.0s,baz=331,slow=1.5,SNR=5.6						
	1.5nm,1.0s						

DJA 31 20:03:46.0±1.2, 0°.S±3°.×12°.3E±°, h35km±22km, M3.7/7, mb3.8/2, MLv3.6/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.03**	**358**	P	Pn	20 04 05.5	+1.5
GTOI				S	Sn	20 04 20.8	+3.6
KMSI	**Cibinong**	**1.34**	**44**	P	Pn	20 04 07.7	-0.6
KMSI				S	Sn	20 04 26.6	+1.7
MRSI	**Marisa**	**1.41**	**308**	P	Pn	20 04 08.6	-0.6
MPSI	**Mapaga**	**3.24**	**283**	P	Pn	20 04 35.3	+1.0
BNSI	**Bone**	**4.94**	**216**	P	Pn	20 04 59.1	+1.3
BNSI				S	Sn	20 05 54.0	+0.2

*IDC **31** 20:28:49.6±0.5, 1°.82S×100°.40E, h0km, mb4.5/24, mbtmp4.5/25, ML4.5/1, MS3.5/24, Error ellipse: s-maj=21.8km s-min=12.4km az=53.0*
*BJI **31** 20:28:52.8±0.0, 2°.27S×100°.35E, h68km, mb4.8/56, mB4.9/18, Ms4.2/10, Ms7 4.0/10*
*MOS **31** 20:28:54.7±0.8, 1°.77S×100°.45E, h50km, mb5.1/59, Error ellipse: s-maj=10.5km s-min=4.5

PZH	PanZhiHua	28.17	3	P	P	20 34 47.8	+3.2
PZH				pmax	pmax		
comp=Z,10.0nm,0.9s							
PZH				pmax	pmax		
comp=Z,130nm,4.7s							
H08S2	Diego Garcia H	28.39	257	T	T	21 03 41.4	
baz=80							
H08S3	Diego Garcia H	28.39	257	T	T	21 03 47.0	
baz=80,slow=74							
H08S1	Diego Carcia H	28.41	257	T	T	21 03 55.3	
baz=80,slow=74							
SHL	Shillong	28.43	344	P	P	20 34 45.9	-1.0
SHL				IAmb	IAmb	20 34 47.6	
comp=Z,16nm,0.8s							
SHL	Shillong	28.43	344	P	P	20 34 45.9	-1.0
SHL				pmax	pmax		
comp=Z,16nm,0.8s							
GYA	Guiyang	28.74	12	⇓P	P	20 34 49.5	-0.1
GYA				pP	pP	20 35 05.3	+1.9
GYA				S	S	20 39 38.0	+2.6
GYA				pmax	pmax		
comp=Z,13nm,0.8s							
GYA				pmax	pmax		
comp=Z,160nm,5.4s							
GYA				LR	LR		
comp=Z,120nm,7.7s							
GYA				LR	LR		
comp=Z,100nm,7.0s							
GYA				LR	LR		
comp=Z,88nm,13.0s							
FITZ	Fitzroy Crossi	29.60	125	P	P	20 34 56.1	-1.1
FITZ	Fitzroy Crossi	29.60	125	P	P	20 34 55.6	-1.6
KNRA	Kununurra	31.18	118	P	P	20 35 08.6	-2.6
TPUB	Ta-pu	31.80	37	P	P	20 35 17.0	+0.5
TPUB				IAmb	IAmb	20 35 18.2	
comp=Z,23nm,0.8s							
YULB	Yu-li	32.27	38	P	P	20 35 20.9	+0.2
YULB				IAmb	IAmb	20 35 26.9	
comp=Z,48nm,1.8s							
SSLB	Suanglung	32.36	37	P	P	20 35 21.9	+0.4
SSLB				IAmb	IAmb	20 35 23.1	
comp=Z,8.7nm,0.7s							
LSA	Lhasa	32.55	345	P	P	20 35 25.0	+1.4
LSA				pmax	pmax		
comp=Z,19nm,1.0s							
LSA	Lhasa	32.55	345	P	P	20 35 24.5	+0.9
LSA				IAmb	IAmb	20 35 26.1	
comp=Z,47nm,1.4s							
LSA	Lhasa	32.55	345	P	P	20 35 24.5	+0.9
LSA				pmax	pmax		
comp=Z,47nm,1.4s							
CD2	Chengdu	32.69	5	P	P	20 35 25.5	+1.2
CD2				S	S	20 40 34.0	-3.0
CD2				pmax	pmax		
comp=Z,10.0nm,0.6s							
CD2				pmax	pmax		
comp=Z,100nm,5.1s							
NACB	Ninganchiao	33.03	37	P	P	20 35 27.4	+0.1
NACB				IAmb	IAmb	20 35 31.4	
comp=Z,17nm,1.1s							
ENH	Enshi	33.06	15	P	P	20 35 26.0	-1.5
ENH				IAmb	IAmb	20 35 27.3	
comp=Z,13nm,0.8s							
ENH	Enshi	33.06	15	P	P	20 35 26.5	-1.0
NWAO	Narrogin (SRO)	34.77	155	P	P	20 35 41.4	-1.0
NWAO	Narrogin (SRO)	34.77	155	LR	LR	20 47 52.7	
comp=Z,80nm,20.2s,baz=283,slow=33							
NWAO	Narrogin (SRO)	34.77	155	P	P	20 35 41.4	-1.0
NWAO				pmax	pmax		
comp=Z,81nm,1.3s							
H01W3	Cape Leeuwin H	35.32	160	T	T	21 12 56.9	
baz=335							
H01W2	Cape Leeuwin H	35.33	160	T	T	21 12 52.5	
baz=335							
H01W1	Cape Leeuwin H	35.33	160	T	T	21 12 53.5	
baz=335							
XAN	Xi'an	36.55	12	⇑P	P	20 35 56.3	-1.3
XAN				pmax	pmax		
comp=Z,49nm,0.6s							
XAN				pmax	pmax		
comp=Z,150nm,4.1s							
WB0	Warramunga Arr	37.73	121	P	P	20 36 06.1	-1.7
WB0				IAmb	IAmb	20 36 08.2	
comp=Z,16nm,1.3s							
WRA	Warramunga Arr	37.76	121	P	P	20 36 06.2	-1.8
comp=Z,3.8nm,0.7s,baz=302,slow=9.4,SNR=52							
WRA				PcP	PcP	20 38 24.2	0.0
comp=Z,1.2nm,0.6s,baz=311,slow=2.4,SNR=6.2							
comp=Z,3.8nm,0.7s							
WRAB	Tennant Creek	37.76	121	*i* P	P	20 36 07.3	-0.8
WRAB				pmax	pmax		
comp=Z,5.0nm,0.8s							
WB2	Warramunga Arr	37.77	121	P	P	20 36 06.9	-1.3
WB2				IAmb	IAmb	20 36 07.6	
comp=Z,6.5nm,0.6s							
LZH	Lanzhou	37.83	5	⇓P	P	20 36 08.3	-0.3
LZH				pP	sP	20 36 26.5	-2.4
LZH				pmax	pmax		
comp=Z,18nm,1.4s							
LZH				LR	LR		
comp=Z,190nm,13.1s							
LZH				LR	LR		
comp=Z,150nm,13.4s							
LZH				LR	LR		
comp=Z,180nm,12.7s							
LYN	LuoYang	37.90	16	⇑P	P	20 36 09.3	+0.3
LYN				pmax	pmax		
comp=Z,88nm,0.6s							
LYN				LR	LR		
comp=Z,230nm,13.7s							
LYN				LR	LR		
comp=Z,170nm,14.8s							
LYN				LR	LR		
comp=Z,260nm,15.1s							
WR0	Warramunga Arr	37.94	121	P	P	20 36 07.8	-1.7
WR0				IAmb	IAmb	20 36 08.7	
comp=Z,7.8nm,0.7s							
NJ2	Nanjing	37.95	26	*e*P	P	20 36 11.3	+1.9
NJ2				pP	sP	20 36 27.3	-2.5
NJ2				pmax	pmax		
comp=Z,7.0nm,0.5s							
FORT	Forrest	38.94	141	P	P	20 36 18.9	+1.0
ASAR	Alice Springs	39.05	127	P	P	20 36 18.0	-1.0
ASAR	Alice Springs	39.05	127	P	P	20 36 18.2	-0.7
comp=Z,13nm,0.7s,baz=300,slow=8.0,SNR=155							
ASAR				PcP	PcP	20 38 28.6	+0.4
comp=Z,2.1nm,0.7s,baz=315,slow=2.6,SNR=11							
comp=Z,13nm,0.7s							
AS31	Alice Springs	39.05	127	P	P	20 36 17.7	-1.2
JOW	Kunigami	39.16	41	LR	LR	20 51 00.3	
comp=Z,50nm,21.4s,baz=350,slow=34							
TIA	Tai'an	40.91	21	P	P	20 36 32.8	-1.3
TIA				pmax	pmax		
comp=Z,7.0nm,0.6s							
GTA	Gaotai	41.02	359	P	P	20 36 34.5	-0.6
GTA				pP	pP	20 36 50.5	+1.4
GTA				PcP	PcP	20 38 34.5	+0.2
GTA				pmax	pmax		
comp=Z,3.0nm,1.1s							
HNS	HongShan	41.20	17	⇓P	P	20 36 37.0	+0.6
HNS				pmax	pmax		
comp=Z,20nm,0.8s							
NIL	Nilore	43.55	326	P	P	20 36 55.6	-0.1
NIL				IAmb	IAmb	20 36 56.7	
comp=Z,29nm,0.8s							
NIL	Nilore	43.55	326	P	P	20 36 55.6	-0.1
NIL				pmax	pmax		
comp=Z,29nm,0.8s							
NIL	Nilore	43.55	326	P	P	20 36 55.9	+0.2
NIL				pP	sP	20 37 14.5	-1.3
HHC	Hu-ho-hao-te	43.66	12	*e*P	P	20 37 00.8	+4.3
HHC				sP	sP	20 37 22.3	+5.3
HHC				pmax	pmax		
comp=Z,15nm,0.6s							
HHC				pmax	pmax		
comp=Z,110nm,5.6s							
HHC				LR	LR		
comp=Z,140nm,15.4s							
HHC				LR	LR		
comp=Z,160nm,15.5s							
BJT	Baijiatuau	44.06	17	P	P	20 36 59.5	0.0
BJT	Baijiatuau	44.06	17	P	P	20 36 59.5	0.0
BJT				pmax	pmax		
comp=Z,14nm,1.1s							
BJI	Beijing	44.08	17	P	P	20 37 00.0	+0.3
BJI				pmax	pmax		
comp=Z,8.0nm,0.6s							
BJI				LR	LR		
comp=Z,93nm,14.4s							
BJI				LR	LR		
comp=Z,53nm,14.0s							
BJI				LR	LR		
comp=Z,92nm,15.7s							
JNU	Nakatsue	45.11	37	P	P	20 37 08.8	+0.7
JNU				IAmb	IAmb	20 38 40.0	
comp=Z,78nm,1.9s							
JNU	Nakatsue	45.11	37	LR	LR	20 56 34.8	
comp=Z,47nm,18.6s,baz=211,slow=37							
KSAR	Wonju Array Be	46.63	30	P	P	20 37 20.1	+0.2
KSAR	Wonju Array Be	46.63	30	P	P	20 37 20.2	+0.2
KSRS	Korea Array	46.66	30	P	P	20 37 19.9	-0.2
comp=Z,3.9nm,0.7s,baz=222,slow=8.2,SNR=24							
KSRS				LR	LR	20 57 23.6	
comp=Z,26nm,19.3s,baz=235,slow=37							
comp=Z,3.9nm,0.7s							
KSRS	Korea Array	46.66	30	P	P	20 37 20.0	-0.2
KS19	Wonju Array Si	46.66	30	P	P	20 37 19.6	-0.7
KS19				IAmb	IAmb	20 38 09.0	
comp=Z,56nm,1.9s							
GUMO	Guam	46.67	69	LR	LR	20 59 26.9	
comp=Z,13nm,18.9s,baz=245,slow=39							
WMQ	Urumqi	46.83	347	*e*P	P	20 37 23.0	+1.5
WMQ				pP	pP	20 37 39.3	+3.6
WMQ				pmax	pmax		
comp=Z,36nm,0.9s							
WMQ				pmax	pmax		
comp=Z,130nm,4.7s							
KSH	Kashi	46.83	334	P	P	20 37 21.0	-0.7
KSH				pmax	pmax		
comp=Z,7.0nm,0.9s							
WUS	Wushi	46.94	338	P	P	20 37 23.5	+1.0
WUS				pP	sP	20 37 42.1	-0.8
TARG	Taragay, Kyrgy	47.93	337	P	P	20 37 31.8	+1.2
TARG				IAmb	IAmb	20 37 33.1	
comp=Z,17nm,0.8s							
TARG	Taragay, Kyrgy	47.93	337	P	P	20 37 31.8	+1.2
TARG				pmax	pmax		
comp=Z,17nm,0.8s							
CTA	Charters Tower	48.33	115	LR	LR	21 01 48.9	
comp=Z,4.5nm,19.6s,baz=260,slow=41							
CTAO	Charters Tower	48.33	115	P	P	20 37 32.3	-1.3
PRZ	Przheval'sk	48.35	338	P	P	20 37 35.2	+1.7
PRZ	Przheval'sk	48.35	338	P	P	20 37 35.2	+1.7
PRZ				pmax	pmax		
comp=Z,40nm,0.9s							
NRN	Naryn	48.40	335	P	P	20 37 34.6	+0.5
NRN				IAmb	IAmb	20 37 36.1	
comp=Z,24nm,0.9s							
NRN				PcP	PcP	20 39 00.2	+0.3
NRN	Naryn	48.40	335	P	P	20 37 34.6	+0.5
NRN				pmax	pmax		
comp=Z,24nm,0.9s							
SHLS	Shalkode	48.56	340	*e*P	P	20 37 34.1	-1.0
comp=Z,9.7nm,0.7s,baz=340							
SHLS	Shalkode	48.56	340	*e*P	P	20 37 34.0	-1.0
SHLS				pmax	pmax		
comp=Z,10.0nm,0.7s							
UZB	Uzynbulak	48.70	339	*e*P	P	20 37 36.3	+0.1
comp=Z,4.5nm,0.5s,baz=339							
UZB	Uzynbulak	48.70	339	*e*P	P	20 37 36.3	+0.1
UZB				pmax	pmax		
comp=Z,4.0nm,0.5s							
DRK	Karamyk	48.74	330	P	P	20 37 37.8	+1.1
DRK	Karamyk	48.74	330	P	P	20 37 37.8	+1.1
DRK				pmax	pmax		
comp=Z,42nm,1.0s							
SATY	Saty	48.85	339	*e*P	P	20 37 37.5	+0.2
comp=Z,11nm,0.8s,baz=339							
SATY	Saty	48.85	339	*e*P	P	20 37 37.4	+0.2
SATY				pmax	pmax		
comp=Z,11nm,0.8s							
ULHL	Ulahol	48.98	336	P	P	20 37 39.9	+1.4
SNR=5.4							
STKA	Stephens Creek	48.99	132	P	P	20 37 37.9	-0.5
STKA				IAmb	IAmb	20 37 59.1	
comp=Z,14nm,2.0s							
STKA	Stephens Creek	48.99	132	P	P	20 37 38.7	+0.3
comp=Z,4.1nm,0.8s,baz=319,slow=6.3,SNR=6.2							
STKA				LR	LR	20 59 13.4	
comp=Z,73nm,20.3s,baz=213,slow=37							
comp=Z,4.1nm,0.8s							
STKA	Stephens Creek	48.99	132	P	P	20 37 37.9	-0.5
STKA				pmax	pmax		
comp=Z,14nm,2.0s							
KPKS	Kokpek	49.10	339	*e*P	P	20 37 39.3	+0.1
comp=Z,11nm,0.9s,baz=339							
KPKS	Kokpek	49.10	339	*e*P	P	20 37 39.3	+0.1
KPKS				pmax	pmax		
comp=Z,11nm,0.9s							
GAR	Garm	49.13	329	P	P	20 37 38.9	-0.5
GAR				IAmb	IAmb	20 37 41.5	
comp=Z,14nm,0.8s							
BOOM	Boomskoye usch	49.31	336	P	P	20 37 41.7	+0.8
BOOM	Boomskoye usch	49.31	336	P	P	20 37 41.7	+0.8
BOOM				pmax	pmax		
comp=Z,22nm,0.8s							
TNSS	Tian-Shan	49.38	337	*e*P	P	20 37 41.4	-0.3
baz=338							
TNSS	Tian-Shan	49.38	337	*e*P	P	20 37 41.3	-0.3
MDOK	Medeo	49.45	338	*e*P	P	20 37 42.0	+0.2
baz=338							
MDOK	Medeo	49.45	338	*e*P	P	20 37 42.0	+0.2
CHGR	Chuyangaron	49.48	328	P	P	20 37 41.4	-0.8
CHGR				PcP	PcP	20 39 04.4	+0.8
CHGR	Chuyangaron	49.48	328	P	P	20 37 41.6	-0.5
CHGR				pmax	pmax		
comp=Z,40nm,0.9s							
AAA	Alma-Ata	49.53	337	*e*P	P	20 37 42.7	+0.2
comp=Z,9.4nm,0.8s,baz=338							
AAA	Alma-Ata	49.53	337	*e*P	P	20 37 42.6	+0.2
AAA				pmax	pmax		
comp=Z,9.0nm,0.8s							
SIMJ	Simiganj	49.56	328	P	P	20 37 41.3	-1.5
SIMJ				IAmb	IAmb	20 37 44.2	
comp=Z,24nm,1.0s							
SIMJ				PcP	PcP	20 39 04.8	+0.9
SIMJ	Simiganj	49.56	328	P	P	20 37 42.5	-0.3
SIMJ				PcP	PcP	20 39 05.2	+1.3
ARSB	Arslanbob	49.63	333	P	P	20 37 44.0	+0.7
ARSB				IAmb	IAmb	20 37 45.4	
comp=Z,11nm,0.9s							
ARSB				PcP	PcP	20 39 05.1	+1.0
ARSB	Arslanbob	49.63	333	P	P	20 37 44.0	+0.7
ARSB				pmax	pmax	20 39 05.1	
comp=Z,11nm,0.9s							
UCH	Uchtor	49.68	335	P	P	20 37 45.3	+1.3
SNR=20							
SONM	Songino Array	49.71	5	P	P	20 37 43.7	-0.1
SONM				IAmb	IAmb	20 37 45.0	
comp=Z,9.1nm,0.8s							
SONM	Songino Array	49.71	5	P	P	20 37 44.1	+0.3
comp=Z,11nm,0.7s,baz=187,slow=9.5,SNR=22							
SONM				PcP	PcP	20 39 03.9	-0.3
comp=Z,2.1nm,0.5s,baz=184,slow=2.6,SNR=2.9							
comp=Z,11nm,0.7s							
SONM	Songino Array	49.71	5	P	P	20 37 43.7	-0.1
SONM				pmax	pmax		
comp=Z,9.0nm,0.8s							
ULN	Ulaanbaatar	49.81	6	P	P	20 37 44.2	-0.3
ULN				IAmb	IAmb	20 37 45.5	
comp=Z,6.8nm,0.9s							
ULN				PcP	PcP	20 39 03.5	-1.1
ULN	Ulaanbaatar	49.81	6	*ce*P	P	20 37 44.8	+0.3
ULN				pmax	pmax		
comp=Z,7.0nm,1.0s							
TKM2	Tokmak 2	49.81	336	P	P	20 37 45.7	+1.0
SNR=58							
KBK	Karagaybulak	49.85	336	P	P	20 37 46.8	+1.8
SNR=8.9							
AML	Almayashu	49.96	334	P	P	20 37 47.0	+0.9
SNR=8.1							
AAK	Ala-Archa	50.03	335	P	P	20 37 47.0	+0.7
AAK				IAmb	IAmb	20 37 48.6	
comp=Z,8.4nm,0.7s							
AAK	Ala-Archa	50.03	335	LR	LR	21 01 15.2	
comp=Z,48nm,18.3s,baz=164,slow=39							
AAK	Ala-Archa	50.03	335	P	P	20 37 47.0	+0.7
AAK				pmax	pmax		
comp=Z,8.0nm,0.7s							
AAK	Ala-Archa	50.03	335	P	P	20 37 47.6	+1.3
CHKK	Chushkaly	50.06	338	*e*P	P	20 37 46.5	+0.1
baz=338							
CHKK	Chushkaly	50.06	338	*e*P	P	20 37 46.4	+0.1
ARXS	Arharly	50.06	339	*e*P	P	20 37 46.2	-0.2
FRU1	Bishkek	50.11	335	P	P	20 37 46.8	0.0
FRU1	Bishkek	50.11	335	P	P	20 37 46.8	0.0
FRU1				pmax	pmax		
comp=Z,30nm,0.9s							
CHMS	Chumysh	50.22	336	P	P	20 37 48.5	+0.9
SNR=8.6							
EKS2	Erkin-Say	50.35	335	P	P	20 37 50.3	+1.6
SNR=69							
TDK	Taldyqorghan	50.54	340	*e*P	P	20 37 50.3	+0.3
comp=Z,9.7nm,0.7s,baz=340							
TDK	Taldyqorghan	50.54	340	*e*P	P	20 37 50.2	+0.3
TDK				pmax	pmax		
comp=Z,10.0nm,0.7s							
USP	Ospenovka	50.55	336	P	P	20 37 50.9	+0.8
SNR=41							
SGDS	Sogindy	50.64	336	*e*P	P	20 37 51.0	+0.2
baz=336							
SGDS	Sogindy	50.64	336	*e*P	P	20 37 50.5	-0.3
SGDS				pmax	pmax		
comp=Z,23nm,3.4s							
ZSN	Zaisan	50.90	346	*e*P	P	20 37 53.2	+0.6
comp=Z,10nm,0.8s,baz=347							
ZSN	Zaisan	50.90	346	*e*P	P	20 37 53.2	+0.6
ZSN				pmax	pmax		
comp=Z,10.0nm,0.8s							
MK31	Makanchi Array	50.95	344	P	P	20 37 53.0	0.0
MK31				IAmb	IAmb	20 37 54.2	
comp=Z,20nm,0.8s							
MK31	Makanchi Array	50.95	344	P	P	20 37 53.0	0.0
MK31				pmax	pmax		
comp=Z,20nm,0.8s							
MKAR	Makanchi Array	50.95	344	P	P	20 37 52.9	-0.1
MKAR	Makanchi Array	50.95	344	P	P	20 37 53.4	+0.4
comp=Z,23nm,0.6s,baz=147,slow=7.9,SNR=272							
MKAR				LR	LR	21 03 26.1	
comp=Z,55nm,18.0s,baz=129,slow=41							
comp=Z,23nm,0.6s							
MKAR	Makanchi Array	50.95	344	P	P	20 37 52.9	-0.1
MAKZ	Makanchi	51.05	344	P	P	20 37 53.4	-0.4
MAKZ				IAmb	IAmb	20 37 54.9	
comp=Z,15nm,0.8s							
MAKZ	Makanchi	51.05	344	P	P	20 37 53.4	-0.4
MAKZ				pmax	pmax		
comp=Z,15nm,0.9s							
MAKZ	Makanchi	51.05	344	P	P	20 37 53.8	+0.1
MAKZ				PcP	PcP	20 39 10.9	+1.9
IUG	Iuzhnay	51.65	331	*e*P	P	20 37 58.5	0.0
comp=Z,8.7nm,0.8s,baz=332							
IUG	Iuzhnay	51.65	331	*e*P	P	20 37 58.4	0.0
IUG				pmax	pmax		
comp=Z,9.0nm,0.8s							
MAJO	Matsushiro	51.88	39	P	P	20 37 59.9	-0.3
MAJO				IAmb	IAmb	20 38 54.4	
comp=Z,25nm,1.9s							
MAJO	Matsushiro	51.88	39	P	P	20 37 59.9	-0.3
MAJO				pmax	pmax		
comp=Z,25nm,2.0s							
MJB9	Matsu-Tunnel	51.88	39	P	P	20 37 59.9	-0.3
MJB9				IAmb	IAmb	20 38 54.4	
comp=Z,24nm,1.9s							
MJAR	Matsushiro Arr	51.88	39	P	P	20 38 00.3	+0.1
comp=Z,2.0nm,0.8s,baz=224,slow=6.6,SNR=5.9							
MJAR				LR	LR	21 00 32.1	
comp=Z,36nm,18.2s,baz=178,slow=37							
comp=Z,2.0nm,0.8s							
CHM	Chimkent	51.99	331	*e*P	P	20 38 00.9	+0.1
comp=Z,4.3nm,0.8s,baz=331							
CHM	Chimkent	51.99	331	*e*P	P	20 38 00.9	+0.1
CHM				pmax	pmax		
comp=Z,4.0nm,0.8s							
KK31	Karatay Array	52.16	332	P	P	20 38 01.2	-0.9
KK31	Karatay Array	52.16	332	P	P	20 38 01.2	-0.9
KK31				pmax	pmax		
comp=Z,4.0nm,0.9s							
KKAR	Karatay Array	52.16	332	P	P	20 38 01.3	-0.8
KKAR	Karatay Array	52.16	332	P	P	20 38 01.7	-0.4
KKAR	Karatay Array	52.16	332	P	P	20 38 01.3	-0.8
KKAR				pmax	pmax		
comp=Z,4.0nm,0.9s							
BTLS	Baital	52.19	337	*e*P	P	20 38 02.4	+0.1
baz=337							
BTLS	Baital	52.19	337	*e*P	P	20 38 01.8	-0.5
BRLS	Boroldoy	52.42	332	*e*P	P	20 38 03.2	-0.8
baz=332							
BRLS	Boroldoy	52.42	332	*e*P	P	20 38 02.5	-1.5
BRLS				pmax	pmax		
comp=Z,12nm,1.8s							
BNX	BinXian	53.04	23	⇓P	P	20 38 08.3	-0.2
BNX				pmax	pmax		
comp=Z,14nm,0.7s							
USA0B	Ussuriysk Arra	53.80	28	P	P	20 38 14.0	-0.1
USA0B	Ussuriysk Arra	53.80	28	P	P	20 38 14.0	-0.1
USA0B				pmax	pmax		
comp=Z,22nm,0.7s							
USRK	Ussuriysk Ar.	53.80	28	P	P	20 38 14.0	-0.1
USRK	Ussuriysk Ar.	53.80	28	P	P	20 38 14.4	+0.3
comp=Z,23nm,0.6s,baz=226,slow=4.5,SNR=42							
USRK				LR	LR	21 03 30.7	
comp=Z,81nm,18.2s,baz=203,slow=39							
comp=Z,23nm,0.6s							
USRK	Ussuriysk Ar.	53.80	28	P	P	20 38 14.0	-0.1
SEM	Semipalatinsk	54.80	344	*e*P	P	20 38 21.5	-0.2
comp=Z,7.6nm,0.7s,baz=344							
SEM	Semipalatinsk	54.80	344	*e*P	P	20 38 21.4	-0.2
SEM				pmax	pmax		
comp=Z,8.0nm,0.7s							
KURBB	Kurchatov Arra	55.47	343	P	P	20 38 26.4	+0.2
comp=Z,13nm,0.7s,baz=160,slow=7.1,SNR=90							
comp=Z,13nm,0.7s							
KURK	Kurchatov	55.53	343	P	P	20 38 26.2	-0.3
KURK	Kurchatov	55.53	343	*ce*P	P	20 38 26.9	+0.4
KURK				pmax	pmax		
comp=Z,58nm,1.7s							
KURK	Kurchatov	55.53	343	P	P	20 38 26.7	+0.2
KURK				pP	sP	20 38 45.7	-1.4
HEH	HeiHe	56.80	20	*e*P	P	20 38 35.3	-0.3
HEH				pmax	pmax		
comp=Z,6.0nm,0.9s							
ZAA0	Zalesovo Array	57.05	349	P	P	20 38 36.8	-0.5
ZALV	Zalesovo Beam	57.05	349	P	P	20 38 36.7	-0.6
ZALV	Zalesovo Beam	57.05	349	P	P	20 38 37.1	-0.1
comp=Z,45nm,0.8s,baz=171,slow=5.5,SNR=169							
comp=Z,45nm,0.8s							
ZALV	Zalesovo Beam	57.05	349	P	P	20 38 36.7	-0.6
KLR	Kul'dur	57.60	24	LR	LR	21 06 08.5	
comp=Z,83nm,18.3s,baz=222,slow=39							
KLR	Kul'dur	57.60	24	*ce*P	P	20 38 41.4	+0.1
KLR				pmax	pmax		
comp=Z,9.0nm,0.8s							
RAYN	Ar Rayn	58.98	299	P	P	20 38 51.9	+0.4
RAYN				pP	sP	20 39 11.4	-0.5
RAYN				PcP	PcP	20 39 41.4	+1.2
ASAJ	Asahikawa	59.23	34	P	P	20 38 53.4	+0.6
ASAJ				pmax	pmax		
comp=Z,49nm,1.5s							
JKA	Kamikawa-asahi	59.23	34	P	P	20 38 53.4	+0.6
HNR	Honiara	59.69	100	LR	LR	21 08 40.0	
comp=Z,655nm,18.2s,baz=184,slow=40							
ZEA	Zeya	59.70	18	*e*P	P	20 38 56.1	+0.3
ZEA				pmax	pmax		
comp=Z,10.0nm,0.7s							
BRVK	Borovoye	60.20	340	P	P	20 38 58.5	-0.8
BRVK				IAmb	IAmb	20 39 18.6	
comp=Z,9.5nm,1.1s							
BRVK	Borovoye	60.20	340	*ce*P	P	20 38 59.0	-0.2
BRVK				pmax	pmax		
comp=Z,7.0nm,0.8s							
BRVK	Borovoye	60.20	340	P	P	20 38 58.8	-0.4
BRVK				pP	sP	20 39 17.9	-2.0
BOD	Bodaibo	60.43	8	*e*P	P	20 39 00.8	+0.1
BOD				pmax	pmax		
comp=Z,12nm,1.0s							
YSS	Yuzh-Sakhalins	61.11	32	P	P	20 39 04.5	-1.0
YSS				IAmb	IAmb	20 39 06.5	
comp=Z,31nm,1.5s							
YSS	Yuzh-Sakhalins	61.11	32	*ce*P	P	20 39 06.6	+1.1
YSS				pmax	p

baz=58,slow=75,SNR=173
H04S1 CROZET ISLANDS 61.47 216 T T 21 45 00.7
baz=57,slow=75,SNR=22
H04S3 CROZET ISLANDS 61.48 216 T T 21 45 00.3
baz=57,slow=75,SNR=43
H04S2 CROZET ISLANDS 61.49 216 T T 21 45 01.6
baz=57,slow=75,SNR=19
ABKAR Akbulak array 61.66 331 P **P** **20 39 08.4 -0.7**
ABKAR Akbulak array 61.66 331 P **P** **20 39 08.5 -0.7**
ABKAR IAmb IAmb 20 39 09.9
comp=Z,18nm,0.8s
SVE Sverdlovsk 66.65 337 *e*P **P** **20 39 42.1 +0.3**
SVE pmax pmax
comp=Z,23nm,0.9s
GURO Guroymak-BITLI 66.94 313 P **P** **20 39 43.2 -1.0**
KARS Kars 67.01 316 P **P** **20 39 43.4 -1.2**
KARS Kars 67.01 316 P **P** **20 39 43.4 -1.2**
KARS pmax pmax
comp=Z,39nm,0.5s
ARU Arti 67.18 336 P **P** **20 39 43.9 -1.3**
ARU IAmb IAmb 20 40 05.4
comp=Z,13nm,1.1s
ARU Arti 67.18 336*d i*P **P** **20 39 44.6 -0.6**
ARU *PP **pP** **20 40 01.8 +1.8**
ARU 20 40 11.2
ARU 20 42 11.5
ARU S **S** **20 48 37.2 +1.6**
ARU SS **SS** **20 52 53.9 -2.0**
ARU pmax pmax
comp=Z,15nm,1.2s
ARU Arti 67.18 336 P **P** **20 39 44.5 -0.6**
comp=Z,12nm,1.1s
ARU Arti 67.18 336 P **P** **20 39 44.8 -0.4**
ARU pP **sP** **20 40 04.2 -1.8**
ARU sP **PcP** **20 40 12.9 0.0**
MARD Mardin 67.40 312 P **P** **20 39 46.8 -0.4**
MARD IAmb IAmb 20 39 48.8
comp=Z,15nm,1.2s
YAK Yakutsk 67.46 14 P **P** **20 39 45.4 -1.4**
YAK Yakutsk 67.46 14 LR LR 21 11 55.5
comp=Z,43nm,18.9s,baz=227,slow=38
YAK Yakutsk 67.46 14 *e*P **P** **20 39 45.3 -1.4**
YAK *e**PP **pP** **20 40 01.3 -0.5**
YAK *e* 20 40 11.6
YAK *e*S **S** **20 48 37.3 -1.3**
YAK *e**SS **sS** **20 49 08.7 +4.5**
YAK *e* 20 49 37.1
YAK *e*SS **SS** **20 52 57.2 -2.6**
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK smax smax
comp=E,29nm,2.8s
YAK smax smax
comp=N,27nm,2.6s
YAK Yakutsk 67.46 14 P **P** **20 39 45.6 -1.2**
YAK pP **sP** **20 40 05.8 -2.1**
KBZ Khabaz 68.42 319 P **P** **20 39 53.5 +0.3**
comp=N,8.9nm,0.8s,baz=121,slow=4.9,SNR=20
comp=N,8.9nm,0.8s
SHA1 Shidzhatmaz 68.58 319*ce*P **P** **20 39 53.1 -1.4**
KIV Kislovodsk 68.65 319 P **P** **20 39 53.5 -1.3**
KIV IAmb IAmb 20 39 56.3
comp=Z,9.3nm,1.0s
KIV Kislovodsk 68.65 319 *e*P **P** **20 39 55.4 +0.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 68.65 319 P **P** **20 39 55.2 +0.4**
KIV Kislovodsk 68.65 319 P **P** **20 39 55.1 +0.4**
MMAI Mount Meron Ar 70.24 306 P **P** **20 40 06.5 +1.7**
comp=Z,4.3nm,0.7s,baz=104,slow=7.0,SNR=7.7
comp=Z,4.3nm,0.7s
SKR Severo-Kuril's 70.49 34*ce*P **P** **20 40 06.3 +0.5**
KIRV Kirov 72.36 335*ce*P **P** **20 40 16.8 -0.1**
VRH Novokhopyorsk 72.38 326 *e*P **P** **20 40 16.7 -0.5**
VRH pmax pmax
comp=Z,35nm,0.7s
MA2 Magadan 72.69 24 LR LR 21 14 12.3
comp=Z,30nm,18.3s,baz=210,slow=38
PET Petropavlovsk 72.98 32*ce*P **P** **20 40 21.2 +0.4**
PET pmax pmax
comp=Z,18nm,1.0s
BR131 Keskin Array S 73.48 312 P **P** **20 40 22.7 -1.5**
BR131 Keskin Array S 73.48 312 P **P** **20 40 22.7 -1.5**
BR131 pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 73.48 312 P **P** **20 40 23.2 -1.0**
BRTR Keskin Array B 73.48 312 P **P** **20 40 23.7 -0.5**
comp=Z,2.4nm,0.8s,baz=140,slow=7.8,SNR=16
comp=Z,2.4nm,0.8s
BRTR Keskin Array B 73.48 312 P **P** **20 40 23.2 -1.0**
VORD Divnogorie 73.66 325 *e*P **P** **20 40 22.3 -2.5**
VORD pmax pmax
comp=Z,10.0nm,0.7s
ILGA Ilgaz 73.81 314 P **P** **20 40 25.8 -0.5**
ILGA IAmb IAmb 20 40 47.5
comp=Z,22nm,1.2s
VSR Storozhevoye 73.84 325 *e*P **P** **20 40 23.1 -2.8**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORR Voronezh 74.00 325 *e*P P 20 40 22.1 -4.7
VORR pmax pmax
comp=Z,55nm,0.5s
SEY Seymchan 75.30 22*ce*P **P** **20 40 34.9 +0.8**
SEY pmax pmax
comp=Z,9.0nm,1.3s
TIXI Tiksi 75.60 9 P **P** **20 40 35.0 -0.6**
TIXI IAmb IAmb 20 40 35.1
comp=Z,28nm,1.1s
TIXI Tiksi 75.60 9 LR LR 21 17 31.9
comp=Z,75nm,19.4s,baz=196,slow=39
TIXI Tiksi 75.60 9 P **P** **20 40 35.0 -0.6**
TIXI pmax pmax
comp=Z,28nm,1.2s
BOSA Boshof 76.09 241 LR LR 21 10 36.2
comp=Z,52nm,18.3s,baz=55,slow=33
MOS Moscow 76.53 329 *e*P **P** **20 40 39.9 -1.3**
MOS pmax pmax
comp=Z,35nm,0.7s
OBN Obninsk 76.83 328*ce*P **P** **20 40 43.0 +0.1**
OBN *e* 20 40 55.6
OBN *e* 20 43 35.4
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,28nm,15.0s
BKZ Black Stump Fm 78.10 130 P **P** **20 40 50.4 -0.1**
BKZ IAmb IAmb 20 40 50.9
comp=Z,11nm,1.0s
BFZ Birch Farm 78.11 131 P **P** **20 40 49.1 -1.4**
IDI Anoyia 79.24 306 P **P** **20 40 57.3 +0.5**
IDI IAmb IAmb 20 41 09.2
comp=Z,20nm,1.3s
SORM Soroca 79.44 320 ⇑P **P** **20 40 57.8 +0.3**
SORM Soroca 79.44 320 ⇑P **P** **20 40 57.8 +0.3**
AKASG Malin Array Be 79.57 322 P **P** **20 40 57.6 -0.5**
comp=Z,0.2nm,0.3s,baz=86,slow=4.6,SNR=4.5
comp=Z,0.2nm,0.3s
AKBB Malin Array Si 79.57 322*ce*P **P** **20 40 58.1 -0.1**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
VRI Vrincioaia 79.97 317 ⇑P **P** **20 41 01.1 +0.5**
VRI Vrincioaia 79.97 317 ⇑P **P** **20 41 01.1 +0.5**
TESR Tescani 80.17 318 ⇑P **P** **20 41 02.3 +0.7**
SUR Sutherland 80.23 238 LR LR 21 10 30.1
comp=Z,55nm,18.4s,baz=143,slow=31
MLR Muntele Rosu 80.43 317 ⇓P **P** **20 41 04.4 +1.2**
MLR Muntele Rosu 80.43 317 P **P** **20 41 03.3 +0.2**
MLR Muntele Rosu 80.43 317 P **P** **20 41 03.3 +0.2**
MLR pmax pmax
comp=Z,5.0nm,0.8s
VOIR 81.03 316 ⇓P **P** **20 41 05.8 -0.5**
VOIR 81.03 316 ⇓P **P** **20 41 05.8 -0.5**
BURAR Bucovina Array 81.37 319 ⇓P **P** **20 41 09.4 +1.3**
BURAR Bucovina Array 81.37 319 P **P** **20 41 08.5 +0.4**
MNK Minsk 81.38 326 *i* P P 20 41 00.4 -7.4
MNK *i **PP pP 20 41 24.0 +0.9
MNK *i* S S 20 51 04.4 -10
MNK *i* SSS SSS 20 59 51.0
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK pmax pmax
comp=E,3.0nm,0.6s
MNK pmax pmax
comp=N,5.0nm,0.6s
MNK MLR MLR
comp=N,32nm,17.0s
MNK MLR MLR
comp=Z,91nm,19.0s
MNK MLR MLR
comp=E,19nm,16.0s
BUR08 Bucovina Ar. S 81.39 319 P **P** **20 41 08.8 +0.6**
LIT Litokhoron 81.91 311 P **P** **20 41 10.4 -0.6**
LIT IAmb IAmb 20 41 11.3
comp=Z,7.5nm,0.7s
LIT Litokhoron 81.91 311 P **P** **20 41 10.5 -0.6**
LIT pmax pmax
comp=Z,7.0nm,0.7s
JOF Joensuu 82.21 334 *e*P **P** **20 41 12.2 +0.2**
VNDA Vanda 82.28 169 P **P** **20 41 12.9 +0.7**
comp=Z,0.5nm,0.7s,baz=305,slow=5.3,SNR=3.8
comp=Z,0.5nm,0.7s
TSUM Tsumeb 82.61 251 LR LR 21 14 41.7
comp=Z,40nm,18.3s,baz=101,slow=33
VSU Vasula 83.04 329*ce*P **P** **20 41 16.9 +0.5**
VSU pmax pmax
comp=Z,5.0nm,0.6s
SURR Surduc 83.11 316 ⇑P **P** **20 41 17.6 +0.6**
BZS Buzias 83.44 316 ⇑P **P** **20 41 19.1 +0.3**
BZS Buzias 83.44 316 ⇑P **P** **20 41 19.1 +0.3**
KOLS Kolonicke sedl 83.56 320 *e*P **P** **20 41 21.0 +1.7**
KOLS pmax pmax
comp=Z,11nm,0.8s
KOLS Kolonicke sedl 83.56 320 *e*P **P** **20 41 21.0 +1.7**
ARBE Arbavere 83.66 330 *e*P **P** **20 41 20.5 +0.9**
PABE Paberze 83.81 326 P **P** **20 41 20.3 -0.1**
PABE IAmb IAmb 20 41 21.9
comp=Z,17nm,1.0s
PABE Paberze 83.81 326 *e*P **P** **20 41 20.7 +0.3**
KEK Kerkira 83.91 310 P **P** **20 41 21.2 -0.1**
KEK IAmb IAmb 20 42 51.5
comp=Z,29nm,1.2s
SUW Suwalki 83.95 325 P **P** **20 41 20.9 -0.3**
SUW Suwalki 83.95 325 *e*P **P** **20 41 21.1 -0.1**
SUW Suwalki 83.95 325 P **P** **20 41 20.9 -0.3**
SUW pmax pmax
comp=Z,47nm,1.2s
FIA1 FINESS Array S 84.12 332 P **P** **20 41 22.2 +0.3**
FIA1 IAmb IAmb 20 41 23.1
comp=Z,16nm,1.1s
FINES FINESS Array B 84.12 332 P **P** **20 41 21.8 -0.1**
FINES FINESS Array B 84.12 332 P **P** **20 41 22.2 +0.4**
comp=Z,2.8nm,0.6s,baz=104,slow=5.4,SNR=31
comp=Z,2.8nm,0.6s
FINES FINESS Array B 84.12 332 P **P** **20 41 21.8 -0.1**
PUK Puka 84.14 312 P **P** **20 41 22.1 -0.5**
PUK IAmb IAmb 20 42 51.3
comp=Z,13nm,1.3s
MTSE Matsula 84.58 329 *e*P **P** **20 41 24.8 +0.6**
MEF Metsahovi 84.62 331 *e*P **P** **20 41 24.6 +0.2**
KEF Keuruu 84.85 333 *e*P **P** **20 41 25.9 +0.3**
PSZ Piszkesteto 84.96 318 P **P** **20 41 26.2 -0.3**
PSZ Piszkesteto 84.96 318 P **P** **20 41 26.2 -0.3**
PSZ pmax pmax
comp=Z,3.0nm,0.8s
PBUR Paburge 85.04 326 *e*P **P** **20 41 27.5 +0.8**
OJC Ojcow 85.35 321 P **P** **20 41 28.4 +0.1**
OJC Ojcow 85.35 321 P **P** **20 41 28.5 +0.1**
OJC pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 85.74 319 *e*P **P** **20 41 31.4 +1.0**
VYHS Vyhne 85.74 319 *e*P **P** **20 41 31.4 +1.0**
KEV Kevo 85.97 340 P **P** **20 41 29.9 -1.1**
KEV Kevo 85.97 340 P **P** **20 41 29.9 -1.1**
KEV pmax pmax
comp=Z,47nm,1.9s
VAF Ylistaro 86.04 333 *e*P **P** **20 41 32.5 +1.0**
RAF Rauma 86.06 331 *e*P **P** **20 41 32.5 +0.9**
TIP Timpagrande 86.19 309 P **P** **20 41 33.9 +1.0**
TIP IAmb IAmb 20 43 27.7
comp=Z,11nm,1.3s
ARCES ARCESS Array B 86.42 340 P **P** **20 41 33.2 -0.1**
ARCES ARCESS Array B 86.42 340 P **P** **20 41 33.3 0.0**
comp=Z,1.3nm,0.5s,baz=103,slow=5.4,SNR=24
comp=Z,1.3nm,0.5s
ARCES ARCESS Array B 86.42 340 P **P** **20 41 33.2 -0.1**
ARCES pmax pmax
comp=Z,40nm,2.0s
SOKA Soboth 88.11 317 *e*P **P** **20 41 42.4 +0.4**
comp=Z,3.3nm,1.1s
QSPA South Pole Qui 88.16 180 **P** **20 41 42.5 +0.7**
QSPA IAmb IAmb 20 44 24.2
comp=Z,22nm,1.9s
QSPA South Pole Qui 88.16 180 P **P** **20 41 42.8 +1.0**
comp=Z,0.6nm,0.6s,baz=344,slow=0.1,SNR=7.3
QSPA LR LR 21 17 58.1
comp=Z,31nm,21.8s,baz=218,slow=34
comp=Z,0.6nm,0.6s
PRED Cave del Predi 89.10 316 P **P** **20 41 47.2 +0.6**
PRED IAmb IAmb 20 41 48.2
comp=Z,3.4nm,0.9s
BRG Berggiesshubel 89.14 321 *e*P **P** **20 41 47.5 +0.9**
BRG Amp 20 41 49.8
comp=Z,3.5nm,1.0s
BRG Berggiesshubel 89.14 321 *e*P **P** **20 41 47.5 +0.9**
BRG pmax pmax
comp=Z,4.0nm,1.0s
GEC2 GERESS Array S 89.16 319 P **P** **20 41 47.4 +0.5**
GEC2 IAmb IAmb 20 41 49.0
comp=Z,14nm,1.8s
GERES GERESS Array B 89.16 319 P **P** **20 41 46.6 -0.3**
GERES GERESS Array B 89.16 319 P **P** **20 41 47.2 +0.3**
comp=Z,0.3nm,0.3s,baz=131,slow=5.5,SNR=7.7
comp=Z,0.3nm,0.3s
GERES GERESS Array B 89.16 319 P **P** **20 41 46.6 -0.3**
CLL Collm 89.75 321 P **P** **20 41 49.8 +0.3**
CLL IAmb IAmb 20 41 51.1
comp=Z,2.5nm,0.6s
CLL Collm 89.75 321 *i* P **P** **20 41 49.6 +0.1**
CLL *e*(sP) **sP** **20 42 14.0 +3.3**
CLL Collm 89.75 321 P **P** **20 41 49.8 +0.3**
CLL pmax pmax
comp=Z,3.0nm,0.6s
LESA Schwarzleotal 89.76 317 *e*P **P** **20 41 49.6 -0.2**
comp=Z,1.2nm,0.4s
ABTA Abfaltersbach 89.84 317 *e*P **P** **20 41 50.0 -0.2**
comp=Z,0.2nm,0.2s
HFS Hagfors 89.90 330 P **P** **20 41 50.6 +0.6**
comp=Z,1.6nm,0.6s,baz=143,slow=3.7,SNR=14
comp=Z,1.6nm,0.6s
CTI Castel Tesino 90.41 316 P **P** **20 41 53.5 +0.6**
CTI IAmb IAmb 20 41 54.8
comp=Z,5.8nm,0.9s
CTI Castel Tesino 90.41 316 P **P** **20 41 53.5 +0.6**
CTI pmax pmax
comp=Z,6.0nm,0.9s
WATA Walderalm 90.51 317 *e*P **P** **20 41 52.8 -0.5**
comp=Z,0.6nm,0.3s
SPITS Spitsbergen Ar 90.52 348 P **P** **20 41 51.8 -0.8**
comp=Z,1.6nm,0.5s,baz=116,slow=11,SNR=1.8
SPITS LR LR 21 29 21.1
comp=Z,25nm,18.1s,baz=88,slow=40
comp=Z,1.6nm,0.5s
SQTA Sankt Quirin 90.75 317 *e*PcP **P** **20 41 54.9 +0.4**
comp=Z,0.9nm,0.2s
MOTA Moosalm 90.83 317 *e*PcP **P** **20 41 55.3 +0.5**
comp=Z,0.7nm,0.3s
RETA Reutte 91.06 317 *e*PcP **P** **20 41 56.2 +0.4**
comp=Z,1.6nm,0.6s
FETA Feichten 91.07 317 *e*PcP **P** **20 41 57.4 +1.4**
comp=Z,0.8nm,0.5s
NB2 NORSAR Subarra 91.16 331 P **P** **20 41 55.9 0.0**
comp=Z,0.8nm,0.7s,baz=94,slow=4.6
NOA NORSAR Array B 91.16 331 P **P** **20 41 55.9 0.0**
comp=Z,1.3nm,0.8s,baz=94,slow=4.7,SNR=6.5
NOA LR LR 21 26 59.7
comp=Z,19nm,18.4s,baz=95,slow=38
comp=Z,1.3nm,0.8s
DAVA Damuels 91.66 317 *e*P **P** **20 41 58.6 -0.1**
comp=Z,3.0nm,0.6s
KEST Kesra 91.89 306 P **P** **20 42 01.9 +1.9**
comp=Z,5.7nm,0.9s,baz=260,slow=5.2,SNR=5.5
comp=Z,5.7nm,0.9s
J16K Anvik River 95.66 27 P **P** **20 42 16.8 +0.3**
G19K Purcell Mounta 96.70 24 P **P** **20 42 21.1 -0.1**
H19K Roundabout Mou 97.08 24 P **P** **20 42 22.4 -0.5**
PINE Pine Mountain 124.41 35 PKPpre 20 47 38.9
TXAR Lajitas Array 144.31 38 PKP **PKPab** **20 48 26.9 +1.0**
comp=Z,7.1nm,0.6s,baz=270,slow=1.1,SNR=52
CPUP Villa Florida 144.71 216 PKP **PKPab** **20 48 27.8 +0.5**
comp=Z,3.8nm,0.7s,baz=118,slow=5.6,SNR=7.3

SJA ***31*** *20:35:19.4±0.6,24°.51S×68°.62W,h143km±9km,ML4.9, MW4.6*
NEIC ***31*** *20:35:21.0±2.9,24°.40S±0°.04×68°.47W±0°.07,h69km±4km, mb4.8/55,Mww4.8/11,Mwr4.9(GUC),Error ellipse: s-maj=9.5km s-min=5.4km az=73.0*
NEIC ***31*** *20:35:21.6,24°.29S×68°.81W,h80km,Moment Tensor Solution. Duration: 1s2 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.95; $M_{\theta\theta}$0.50; $M_{\phi\phi}$0.45; $M_{r\theta}$0.36; $M_{\theta\phi}$-1.22; $M_{\phi r}$-0.92; Fault plane solution: $M_0$1.72000×1016 NP1: ϕ_s338.31000°,δ67.53000°,λ-60.75000°. NP2: ϕ_s102.62000°,δ36.27000°,λ-139.75000°. Principal axes: T 1.9814, Plg17.0000°, Azm47.0000°; N -0.5326, Plg27.0000°, Azm146.0000°; P -1.4488, Plg57.0000°, Azm288.0000°;*
NEIC ***31*** *20:35:21.6,24°.39S×68°.48W,h80km*
VAO ***31*** *20:35:23.3±0.5,24°.33S×68°.32W,h90km±4km,mb5.1*
GUC ***31*** *20:35:23.3±0.6,24°.40S×68°.70W,h118km±8km,ML4.8*
IDC ***31*** *20:35:24.8±0.5,24°.26S×68°.43W,h106km±4km,mb4.2/13, mbtmp4.5/19,MS3.4/12,Error ellipse: s-maj=15.4km s-min=7.0km az=71.0*
PPT ***31*** *20:35:25.3±0.3,24°.31S×68°.61W,h91km±3km,mb4.9/16, MLv5.5/6,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
GCMT ***31*** *20:35:28.0±0.5,24°.30S±0°.03×68°.72W±0°.03,h125km±5km, MW4.8/71,Moment Tensor Solution. s16,c16; s71,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.46±.09; $M_{\theta\theta}$0.38±.12; $M_{\phi\phi}$1.08±.15; $M_{r\theta}$0.35±.07; $M_{\theta\phi}$-1.57±.11; $M_{\phi r}$-1.18±.08; Best double couple: $M_0$2.31000×10^{16} NP1:ϕ_s341.00000°,δ64.00000°,λ-66.00000°. NP2: ϕ_s116.00000°,δ35.00000°,λ-129.00000°. Principal axes: T 2.6580, Plg16.0000°, Azm53.0000°; N -0.6940, Plg21.0000°, Azm150.0000°; P -1.9630, Plg63.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 20:35:23.6±0.3,24°.31S±0°.03×68°.67W±0°.04,h105km±2km, h105km:pP-P,n240,σ2s10/279,mb4.7/39,3C, Chile-Argentina border region

Code	Station Name	Δ° AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**1.32 326**	Pn		**Pn**	**20 35 49.5**	**+1.2**
PB15	**IPOC Station P**	**1.32 326**	*e*S		**Sn**	**20 36 10.4**	**+3.5**
PB15	**IPOC Station P**	**1.32 326**	*e*P		**Pn**	**20 35 49.5**	**+1.2**
PB15			*e*S		**Sn**	**20 36 09.4**	**+2.5**
PB14	**IPOC Station P**	**1.61 258**			**Pn**	**20 35 51.8**	**0.0**
PB14			Sn		**Sn**	**20 36 12.9**	**-0.4**
PB14	**IPOC Station P**	**1.61 258**	*e*P		**Pn**	**20 35 52.1**	**+0.3**
PB14			*e*S		**Sn**	**20 36 14.4**	**+1.1**
PB14			IAML			20 36 18.9	
	comp=Z,8μm,0.7s						
PB14	**IPOC Station P**	**1.61 258**	⇑*i*P		**Pn**	**20 35 52.0**	**+0.1**
PB14			*e*S		**Sn**	**20 36 13.3**	**0.0**
LVC	**Limon Verde**	**1.71 352**			**Pn**	**20 35 54.4**	**+1.2**
LVC			Sn		**Sn**	**20 36 16.3**	**+0.8**
LVC	**Limon Verde**	**1.71 352**	*e*P		**Pn**	**20 35 54.3**	**+1.2**
LVC			*e*S		**Sn**	**20 36 20.3**	**+4.8**
LVC	**Limon Verde**	**1.71 352**	P		**Pn**	**20 35 54.6**	**+1.5**
	comp=Z,2μm,0.3s,baz=160,slow=11,SNR=355						
LVC			S		**Sn**	**20 36 16.1**	**+0.6**
	comp=Z,4μm,0.3s,baz=241,slow=11,SNR=47						
LVC	**Limon Verde**	**1.71 352**	*e*P		**Pn**	**20 35 54.2**	**+1.1**
LVC			*e*S		**Sn**	**20 36 17.6**	**+2.1**
LVC	**Limon Verde**	**1.71 352**	*e*P		**Pn**	**20 35 54.3**	**+1.1**
PB06	**IPOC Station P**	**1.80 332**			**Pn**	**20 35 54.9**	**+0.8**
PB06			Sn		**Sn**	**20 36 18.9**	**+1.7**
PB06	**IPOC Station P**	**1.80 332**	*e*P		**Pn**	**20 35 55.1**	**+1.0**
PB06			*e*S		**Sn**	**20 36 21.2**	**+4.0**
PB06			IAML			20 36 23.9	
	comp=Z,5μm,0.3s						
PB06	**IPOC Station P**	**1.80 332**	*e*P		**Pn**	**20 35 55.3**	**+1.2**
PB06			*e*S		**Sn**	**20 36 19.4**	**+2.2**
PB06			IAML			20 36 24.4	
	comp=N,7μm,0.2s						
PB05	**IPOC Station P**	**2.02 316**			**Pn**	**20 35 57.9**	**+1.1**
PB05			Sn		**Sn**	**20 36 22.6**	**+0.4**
PB05	**IPOC Station P**	**2.02 316**	*e*P		**Pn**	**20 35 57.6**	**+0.7**
PB05			*e*S		**Sn**	**20 36 24.4**	**+2.2**
PB05			IAML			20 36 29.9	
	comp=Z,4μm,1.2s						
PB05	**IPOC Station P**	**2.02 316**	*e*P		**Pn**	**20 35 57.7**	**+0.9**
PB05			*e*S		**Sn**	**20 36 23.7**	**+1.5**
PB05			IAML			20 36 32.4	
	comp=E,7μm,0.5s						
PB04	**IPOC Station P**	**2.39 325**			**Pn**	**20 36 01.9**	**+0.2**
PB04			Sn		**Sn**	**20 36 28.1**	**-2.8**
PB04	**IPOC Station P**	**2.39 325**	*e*P		**Pn**	**20 36 02.1**	**+0.3**
PB04			*e*S		**Sn**	**20 36 35.4**	**+4.5**
PB04			IAML			20 36 47.0	
	comp=Z,4μm,0.3s						
PB04	**IPOC Station P**	**2.39 325**	*e*P		**Pn**	**20 36 02.4**	**+0.7**
PB04			*i* S		**Sn**	**20 36 29.2**	**-1.7**
PB04			IAML			20 36 44.9	
	comp=N,6μm,0.3s						
PB09	**IPOC Station P**	**2.56 348**			**Pn**	**20 36 05.4**	**+1.5**
PB09			Sn		**Sn**	**20 36 32.5**	**-2.2**
PB09	**IPOC Station P**	**2.56 348**	*e*P		**Pn**	**20 36 05.8**	**+1.9**
PB09			*e*S		**Sn**	**20 36 38.6**	**+3.9**
PB09			IAML			20 37 12.3	
	comp=Z,3μm,1.1s						
PB09	**IPOC Station P**	**2.56 348**	*e*P		**Pn**	**20 36 05.9**	**+2.0**
PB09			IAML			20 36 44.4	
	comp=N,4μm,0.4s						
SLA	**San Lorenzo**	**2.91 99**	*e*P		**Pn**	**20 36 10.6**	**+2.1**
SLA			*e*S		**Sn**	**20 36 49.6**	**+6.7**
FSA	**Cafayete**	**3.02 127**	*e*P		**Pn**	**20 36 06.2**	**-3.8**
FSA			*e*S		Sn	20 36 29.8	-16
AZAP	**Zapla**	**3.29 89**	*e*P		**Pn**	**20 36 15.7**	**+2.1**
PB01	**IPOC Station P**	**3.34 347**			**Pn**	**20 36 14.9**	**+0.7**
PB01	**IPOC Station P**	**3.34 347**	*e*P		**Pn**	**20 36 14.7**	**+0.5**
PB01			*e*S		**Sn**	**20 36 46.2**	**-6.9**
PB01			IAML			20 37 20.1	
	comp=Z,2μm,0.9s						
PB01	**IPOC Station P**	**3.34 347**	*e*P		**Pn**	**20 36 14.9**	**+0.7**
AC06	**Mina Casimiro**	**3.39 206**			**Pn**	**20 36 13.0**	**-1.8**
AC06			Sn		**Sn**	**20 36 51.3**	**-3.0**
AC06	**Mina Casimiro**	**3.39 206**	*e*P		**Pn**	**20 36 13.2**	**-1.6**
GO03	**Copiap**	**3.56 203**			**Pn**	**20 36 15.7**	**-1.4**
YJA	**Yavi**	**3.59 54**	*e*P		**Pn**	**20 36 20.8**	**+2.9**
PATCX	**Punta Patache**	**3.74 338**			**Pn**	**20 36 18.8**	**-0.6**
TA01	**Diego Aracena**	**3.98 339**			**Pn**	**20 36 22.0**	**-0.6**
TA01	**Diego Aracena**	**3.98 339**	*e*P		**Pn**	**20 36 22.1**	**-0.6**
TA01			IAML			20 37 34.2	
	comp=Z,1μm,0.4s						
TA01	**Diego Aracena**	**3.98 339**	*e*P		**Pn**	**20 36 22.1**	**-0.6**
PX03	**IPOC Station P**	**3.99 347**	*e*P		**Pn**	**20 36 25.4**	**+2.5**
HMBC	**Humberstone**	**4.17 344**	Pn		**Pn**	**20 36 24.6**	**-0.7**
TA02	**Huaiquique**	**4.24 341**			**Pn**	**20 36 26.3**	**0.0**
TA02			Sn		**Sn**	**20 37 13.0**	**-1.8**
VCA	**Vinchina**	**4.43 175**	*e*P		**Pn**	**20 36 29.4**	**+0.6**
VCA			*e*S		**Sn**	**20 37 24.3**	**+5.0**
VCA	**Vinchina**	**4.43 175**	*i* S		**Sn**	**20 37 18.0**	**-1.4**
AC04	**Llanos de Chal**	**4.44 209**	Pn		**Pn**	**20 36 25.6**	**-3.2**
GO01	**Chusmiza**	**4.65 354**	Pn		**Pn**	**20 36 32.2**	**+0.1**
AC05	**El Transito**	**4.73 197**	Pn		**Pn**	**20 36 31.2**	**-1.7**
CYA	**Choya**	**4.85 149**	*e*P		**Pn**	**20 36 36.2**	**+1.8**
CYA			*e*S		**Sn**	**20 36 36.2**	**+1.8**
CYA			*e*S		**Sn**	**20 37 31.7**	**+2.3**
CYA	**Choya**	**4.85 149**	*e*P		**Pn**	**20 36 34.6**	**+0.2**
CYA			*i* S		**Sn**	**20 37 28.4**	**-1.0**
LCO	**Las Campanas**	**5.02 201**			**Pn**	**20 36 34.2**	**-2.7**
LCO	**Las Campanas**	**5.02 201**	*e*P		Pn	20 36 29.1	-7.8
LCO			*e*S		**Sn**	**20 37 31.4**	**-2.5**
LCO			IAML			20 37 43.4	
	comp=Z,2μm,0.8s						
LCO	**Las Campanas**	**5.02 201**	*e*P		**Pn**	**20 36 34.4**	**-2.6**
ACLC	**CERRO LA CRUZ**	**5.32 164**	*e*P		**Pn**	**20 36 41.1**	**+0.2**
ACLC			*e*S		**Sn**	**20 37 43.5**	**+2.4**
CO01	**Juntas del Tor**	**5.79 192**			**Pn**	**20 36 46.0**	**-1.3**
CO05	**La Serena**	**6.04 202**			**Pn**	**20 36 46.7**	**-3.7**
AP01	**Chacalluta**	**6.11 345**			**Pn**	**20 36 49.9**	**-1.6**
GO04	**Tololo Observa**	**6.14 198**			**Pn**	**20 36 49.3**	**-2.7**
PB18	**Visviri**	**6.73 353**			**Pn**	**20 36 59.3**	**-1.1**
CO03	**El Pedregal**	**6.75 195**			**Pn**	**20 36 56.2**	**-3.9**

CO06	Fray Jorge	6.86	202	Pn	Pn	20 36 56.6	-5.1
CO02	Combarbal	7.17	196		Pn	20 37 01.9	-4.0
ZON	Zonda	7.21	180		Pn	20 37 04.5	-1.9
LPAZ	La Paz	8.00	4		Pn	20 37 16.9	-0.9
LPAZ	La Paz	8.00	4	P	Pn	20 37 19.0	+1.3
	comp=Z,30nm,0.3s,baz=161,slow=3.7,SNR=44						
LPAZ				LR	LR	20 41 23.2	
	comp=Z,142nm,19.6s,baz=196,slow=45						
LPAZ	La Paz	8.00	4	eP	Pn	20 37 17.6	-0.1
VA06	Catapilco	8.54	195		Pn	20 37 19.5	-4.9
VA03	San Esteban	8.58	191		Pn	20 37 21.3	-3.8
MT02	Curacav	9.18	193		Pn	20 37 27.6	-5.5
MT08	Bocatoma Ro	9.18	187		Pn	20 37 29.5	-3.8
MT05	Renca	9.23	191	Pn	Pn	20 37 30.3	-3.6
MT16	CCHEN	9.23	190		Pn	20 37 29.6	-4.2
MT03	Universidad Ad	9.29	190		Pn	20 37 30.8	-3.9
MT13	San Alfonso	9.51	188		Pn	20 37 33.4	-4.2
PAPY	Pozo Azul	9.53	91	eP	Pn	20 37 33.5	-4.4
LMEL	Las Melosas	9.60	188		Pn	20 37 35.5	-3.5
MT09	Talagante	9.65	192	Pn	Pn	20 37 34.4	-5.2
VA05	Santo Domingo	9.66	195	Pn	Pn	20 37 34.9	-4.7
MT01	Popeta	9.78	193		Pn	20 37 35.5	-5.8
BO04	La Punta	9.79	190		Pn	20 37 37.0	-4.5
BO01	Tunca	10.26	191		Pn	20 37 41.7	-6.1
BBSD	Serra de San D	10.34	48	eP	Pn	20 37 44.3	-4.7
CPUP	Villa Florida	10.45	103		Pn	20 37 43.7	-6.7
CPUP	Villa Florida	10.45	103	P	Pn	20 37 47.7	-2.8
	comp=Z,8.6nm,0.7s,baz=288,slow=11,SNR=12						
CPUP	Villa Florida	10.45	103	eP	Pn	20 37 44.9	-5.6
MURT	Porto Murtinho	10.52	78	eP	Pn	20 37 49.4	-2.0
BO02	Sierra Bellavi	10.61	190		Pn	20 37 47.1	-5.5
SIV	San Ignacio	10.92	42	P	Pn	20 37 54.3	-2.7
	comp=Z,116nm,0.5s,baz=229,slow=10.0,SNR=122						
SIV				S	Sn	20 39 49.7	-7.5
	comp=Z,5.8nm,0.6s,baz=317,slow=23,SNR=0.8						
GO05	Huala	11.03	194	Pn	Pn	20 37 53.2	-5.0
PSAL	Palomas, Salto	11.89	127	eP	Pn	20 38 04.5	-5.2
ITQB	Itaqui	11.99	119	Pn	Pn	20 38 04.5	-6.5
ITQB	Itaqui	11.99	119	eP	Pn	20 38 04.7	-6.3
BI02	San Fabin de	12.51	190		Pn	20 38 13.4	-4.6
PTLB	Pontes e Lacer	12.57	47		Pn	20 38 15.2	-3.6
PTLB	Pontes e Lacer	12.57	47	eP	Pn	20 38 15.3	-3.4
AQDB	Aquidauana	12.59	75		Pn	20 38 16.2	-2.8
AQDB	Aquidauana	12.59	75	eP	Pn	20 38 15.1	-3.9
RODS	Rosario do Sul	13.39	120	eP	Pn	20 38 25.2	-4.3
CRSM	Crissiumal (Br	13.54	107	eP	Pn	20 38 27.4	-4.0
RVDE	Rio Verde (Bra	13.80	70	eP	Pn	20 38 31.0	-3.9
VILB	Vilhena	13.85	37		Pn	20 38 33.5	-2.1
VILB	Vilhena	13.85	37	eP	Pn	20 38 33.1	-2.5
NNA	Nana	14.50	326	P	Pn	20 38 45.7	+1.7
	comp=Z,3.0nm,0.3s,baz=346,slow=20,SNR=1.3						
ETMB	Extrema	14.60	10	P	Pn	20 38 41.6	-3.6
ALGR	Alto Alegre (B	14.69	111	eP	Pn	20 38 42.5	-3.8
SALV	Santo Antonio	14.77	58	eP	Pn	20 38 44.5	-2.8
TRCB	Terra Rica	14.78	87	Pn	Pn	20 38 44.9	-2.6
TRCB	Terra Rica	14.78	87	eP	Pn	20 38 43.6	-3.9
CPSB	Cacapava Do Su	14.84	118	eP	Pn	20 38 45.3	-2.6
TRQA	Tornquist	14.84	159	P	Pn	20 38 48.4	+0.3
PTGB	Pitanga	15.12	95	eP	Pn	20 38 49.3	-2.4
ITAB	Concordia	15.18	105	P	Pn	20 38 53.6	+1.2
ITAB	Concordia	15.18	105	eP	Pn	20 38 49.4	-3.0
PLTB	Pedras Altas	15.22	123	Pn	Pn	20 38 50.6	-2.3
PLTB	Pedras Altas	15.22	123	eP	Pn	20 38 50.9	-2.1
GO06	Curarrehue	15.41	188	P	Pn	20 38 52.2	-3.2
LR04	Corral	16.03	193	P	Pn	20 38 59.1	-3.8
LR05	Currie	16.12	189	P	Pn	20 39 04.2	+0.2
SAML	Samuel	16.15	20	P	Pn	20 39 01.8	-2.8
SAML	Samuel	16.15	20	eP	Pn	20 39 01.6	-3.0
PLCA	Paso Flores	16.45	185	P	Pn	20 39 07.9	-0.3
PLCA	Paso Flores	16.45	185	P	P	20 39 08.8	-0.3
	comp=Z,5.2nm,0.9s,baz=8.7,slow=11,SNR=10						
PLCA	Paso Flores	16.45	185	eP	P	20 39 09.3	+0.2
LL04	Puerto Octay	16.85	190	P	Pn	20 39 12.1	-0.9
CZSB	Cruzeiro do Su	16.94	346	P	Pn	20 39 13.9	-0.4
CZSB	Cruzeiro do Su	16.94	346	eP	Pn	20 39 14.8	+0.5
LL01	San Ignacio de	18.29	189	P	P	20 39 29.1	0.0
LL06	Loncomilla	18.32	192	P	P	20 39 29.8	+0.2
LL02	Futaleuf	19.01	187	P	P	20 39 36.7	-0.4
SPB	Sao Paulo	19.42	92	P	P	20 39 39.9	-1.8
SPB				IAmb	IAmb	20 39 41.7	
	comp=Z,46nm,1.1s						
SPB	Sao Paulo	19.42	92	eP	P	20 39 39.5	-2.2
ATAH	Atahualpa	19.46	330	P	Pn	20 39 45.8	+1.0
	comp=Z,5.6nm,1.0s,baz=169,slow=17,SNR=2.4						
RCLB	Rio Claro- Sao	19.50	89	eP	P	20 39 40.0	-2.6
PET01	Itanhaem-SP	19.50	94	eP	P	20 39 39.8	-2.8
VA02	Valinhos	19.92	91	P	P	20 39 45.8	-1.4
VAO	Valinhos	19.92	91	eP	P	20 39 44.4	-2.9
TBTG	Tabatinga, AM	20.04	356	P	P	20 39 48.5	0.0
IPMB	Ipameri, GO	20.08	76	eP	P	20 39 46.8	-2.2
BDFB	Brasilia	21.22	70	P	P	20 39 59.2	-2.1
BDFB				IAmb	IAmb	20 40 01.1	
	comp=Z,33nm,0.7s						
BDFB	Brasilia	21.22	70	P	P	20 39 59.4	-1.9
	comp=Z,15nm,0.4s,baz=240,slow=12,SNR=33						
	comp=Z,15nm,0.4s						
COYC	Coyhaique	21.39	187	P	P	20 40 02.8	0.0
COYC				IAmb	IAmb	20 40 05.0	
	comp=Z,26nm,1.1s						
MACA	Manacapuru-AM	22.39	21	P	P	20 40 12.2	-1.4
AY03	Cochrane	23.11	187	P	P	20 40 19.7	-0.6
AY03				IAmb	IAmb	20 40 35.4	
	comp=Z,93nm,1.9s						
DIAM	Diamantina, MG	24.02	80	eP	P	20 40 27.7	-1.5
GO08	Villa O'Higgin	24.30	186	P	P	20 40 30.7	-0.4
GO08				IAmb	IAmb	20 40 36.8	
	comp=Z,31nm,1.1s						
JANB	Januaria	24.68	73	eP	P	20 40 33.1	-1.9
SMTB	Santa Maria do	25.32	56	eP	P	20 40 39.4	-1.4
SDBA	SAO DESIDERIO	25.42	66	eP	P	20 40 40.0	-1.7
PRPB	Parauapebas	25.55	48	eP	P	20 40 41.1	-1.7
BOAV	Boa Vista	27.70	18	P	P	20 41 02.1	0.0
BOAV				IAmb	IAmb	20 41 05.2	
	comp=Z,17nm,0.6s						
BOAV	Boa Vista	27.70	18	eP	P	20 41 02.1	0.0
EFI	East Falkland	28.51	166	P	P	20 41 08.0	-0.9
MCPB	Macapa, AP	28.74	36	eP	P	20 41 10.9	-0.4
ROSC	El Rosal	29.49	348	LR	LR	20 53 14.3	
	comp=Z,80nm,19.0s,baz=144,slow=36						
SDV	Santo Domingo	33.05	356	LR	LR	20 58 01.6	
	comp=Z,47nm,18.9s,baz=258,slow=41						
MDP	Montagnes des	33.14	30	LR	LR	20 56 49.9	
	comp=Z,81nm,19.1s,baz=48,slow=39						
MPGF	Montagnes des	33.15	30	P	P	20 41 50.5	+0.3
NBPB	Pedra_Branca-C	33.60	61	eP	P	20 41 53.1	-1.1
RCBR	Riachuelo	36.43	65	P	P	20 42 18.6	+0.1
RCBR				IAmb	IAmb	20 42 27.6	
	comp=Z,21nm,1.5s						
RCBR	Riachuelo	36.43	65	P	P	20 42 19.4	+0.9
RCBR				pP	pP	20 42 43.2	-0.4
OBIP	Obispado Ponce	42.15	3		P	20 43 05.4	-0.4
CELP	Cerrillos	42.18	3	P	P	20 43 04.5	-1.5
MTO3	Montecristo	43.46	330	P	P	20 43 18.0	+1.3
SMAI	San Martin Ant	43.84	179	P	P	20 43 20.0	+1.1
SMAI				IAmb	IAmb	20 44 02.8	
	comp=Z,27nm,1.3s						
TEIG	Tepich	48.21	335	P	P	20 43 55.0	+1.3
BELA	Belgrano 2	55.95	172	P	P	20 44 50.5	+0.1
BELA				IAmb	IAmb	20 44 52.5	
	comp=Z,13nm,1.4s						
SACV	Santiago Islan	58.82	53	P	P	20 45 12.0	+0.6
SNAA	Sanae	59.56	160	P	P	20 45 15.8	0.0
SNAA				IAmb	IAmb	20 45 56.0	
	comp=Z,6.6nm,0.9s						
SNAA	Sanae	59.56	160	⇑P	P	20 45 16.7	+0.8
	comp=Z,49nm,0.5s						
SNAA	Sanae	59.56	160	P	P	20 45 16.1	+0.3
	comp=Z,1.8nm,0.6s,baz=299,slow=7.3,SNR=8.6						
SNAA				pP	pP	20 45 41.5	-1.5
	comp=Z,1.6nm,0.7s,baz=248,slow=9.2,SNR=2.4						
	comp=Z,1.8nm,0.6s						
BIRD	Birdtown, Kers	59.69	349	P	P	20 45 18.2	+1.2
BIRD				IAmb	IAmb	20 45 19.3	
	comp=Z,7.9nm,0.9s						
Z47A	Carrollton	60.11	341	P	P	20 45 20.9	+1.1
Z47A				IAmb	IAmb	20 45 47.9	
	comp=Z,11nm,0.6s						
TROLL	Troll, Antarti	61.28	160	⇑P	P	20 45 28.5	+0.9
	comp=Z,1.0nm,0.1s						
TKL	Tuckaleechee C	61.33	346	LR	LR	21 15 36.2	
	comp=Z,28nm,18.4s,baz=96,slow=39						
WVT	Waverly	62.78	343	P	P	20 45 38.4	+0.6
WVT				sP	PcP	20 46 15.2	-0.2
SAND	Sanderson	62.79	327	P	P	20 45 38.9	+0.8
SAND				sP	pP	20 46 05.9	+1.0
SAND				PcP	sP	20 46 17.3	+0.6
SAND				IAmb	IAmb	20 46 18.4	
	comp=Z,7.9nm,0.9s						
TXAR	Lajitas Array	63.06	326	P	P	20 45 41.9	+1.9
	comp=Z,0.9nm,0.7s,baz=138,slow=8.1,SNR=7.0						
TXAR				pP	pP	20 46 07.5	+0.7
	comp=Z,1.8nm,1.0s,baz=134,slow=8.9,SNR=5.0						
TXAR				sP	sP	20 46 19.2	+0.6
	comp=Z,1.1nm,0.7s,baz=140,slow=9.0,SNR=5.0						
	comp=Z,0.9nm,0.7s						
MIAR	Mount Ida	63.13	337	P	P	20 45 40.5	+0.3
MIAR				IAmb	IAmb	20 46 09.2	
	comp=Z,5.4nm,0.9s						
VHRN	Van Horn	64.91	326	P	P	20 45 53.0	+0.9
VHRN				sP	pP	20 46 20.0	+1.0
VHRN				PcP	sP	20 46 30.8	0.0
VHRN				IAmb	IAmb	20 46 32.4	
	comp=Z,8.5nm,0.8s						
CCM	Cathedral Cave	65.56	341	P	P	20 45 56.3	+0.3
CCM				sP	pP	20 46 22.9	0.0
CCM				PcP	sP	20 46 33.5	-1.1
CCM				IAmb	IAmb	20 46 35.1	
	comp=Z,9.3nm,0.9s						
CCM	Cathedral Cave	65.56	341	P	P	20 45 56.4	+0.4
CCM				pP	pP	20 46 23.2	+0.3
CCM				sP	sP	20 46 33.6	-1.1
S39A	Bolivar	65.89	339	P	P	20 45 58.8	+0.7
S39A					pP	20 46 25.4	+0.3
S39A				IAmb	IAmb	20 46 27.1	
	comp=Z,12nm,0.8s						
S39A				PcP	sP	20 46 36.1	-0.7
QSPA	South Pole Qui	65.89	180	P	P	20 45 59.4	+1.4
QSPA	South Pole Qui	65.89	180	P	P	20 45 59.4	+1.4
	comp=Z,18nm,0.5s,baz=161,slow=1.3,SNR=147						
	comp=Z,18nm,0.5s						
QSPA	South Pole Qui	65.89	180	P	P	20 45 59.5	+1.5
QSPA				pP	pP	20 46 26.9	+1.2
QSPA				PcP	PcP	20 46 29.8	+1.7
QSPA				sP	sP	20 46 39.1	+1.3
MSTX	Muleshoe	66.42	329	P	P	20 46 02.6	+1.0
MSTX					pP	20 46 28.9	+0.2
MSTX				IAmb	IAmb	20 46 41.5	
	comp=Z,8.9nm,0.9s						
121A	Cookes Peak, D	67.74	325	P	P	20 46 11.5	+1.3
121A				IAmb	IAmb	20 46 14.2	
	comp=Z,16nm,1.4s						
ANMO	Albuquerque	68.97	327	P	P	20 46 19.6	+1.7
ANMO					pP	20 46 46.3	+1.3
ANMO	Albuquerque	68.97	327	P	P	20 46 20.5	+2.6
ANMO				pP	pP	20 46 47.4	+2.4
ANMO				sP	sP	20 46 58.1	+1.4
TUC	Tucson	69.19	323	P	P	20 46 22.1	+3.0
TUC				pP	pP	20 46 48.4	+2.1
TUC				sP	sP	20 46 59.4	+1.3
DBIC	Dimbokro	69.34	72	P	P	20 46 20.2	-0.2
	comp=Z,9.4nm,0.8s,baz=282,slow=1.5,SNR=9.5						
DBIC				LR	LR	21 16 38.4	
	comp=Z,36nm,19.2s,baz=196,slow=36						
	comp=Z,9.4nm,0.8s						
DBIC	Dimbokro	69.34	72	P	P	20 46 20.9	+0.5
I42A	Draeger Farm,	70.37	345	P	P	20 46 27.1	+1.1
I42A					pP	20 46 52.8	-0.6
I42A				IAmb	IAmb	20 46 54.8	
	comp=Z,11nm,0.8s						
TRQ	Mont Tremblant	70.40	356	P	P	20 46 26.8	+0.6
TRQ				pP	PcP	20 46 46.2	-0.8
TRQ				IAmb	IAmb	20 46 50.2	
	comp=Z,8.2nm,0.7s						
SDCO	Great Sand Dun	70.77	330	P	P	20 46 29.9	+0.9
SDCO					pP	20 46 58.1	+1.7
ECSD	EROS Data Cent	72.41	339	P	P	20 46 39.1	+0.8
SBA	Scott Base	73.12	191	P	P	20 46 44.0	+1.9
V12A	Nelson	73.98	322	P	P	20 46 49.9	+2.0
VNDA	Vanda	74.13	190	P	P	20 46 49.5	+1.4
VNDA	Vanda	74.13	190	P	P	20 46 49.4	+1.4
	comp=Z,3.0nm,0.9s,baz=128,slow=3.4,SNR=14						
	comp=Z,3.0nm,0.9s						
SRU	San Rafael Swe	74.25	327	P	P	20 46 51.6	+2.2
CCUT	Cedar City	74.52	325	P	P	20 46 52.9	+1.9
CCUT				IAmb	IAmb	20 46 55.5	
	comp=Z,7.0nm,0.9s						
CCUT				sP	pP	20 47 20.8	+2.2
MSU	Marysvale	74.62	326	P	P	20 46 53.4	+1.8
SHPR	Sheep Range	74.72	323	P	P	20 46 54.6	+2.4
PPT2	Papeete2	74.90	257	eLR	LR	21 10 06.1	
	comp=Z,156nm,35.8s						
GWY	Greenwater Val	75.33	322	P	P	20 46 57.8	+2.1
GWY				IAmb	IAmb	20 46 59.2	
	comp=Z,5.1nm,0.8s						
GWY					pP	20 47 24.4	+1.1
PSUT	Pine Spring	75.50	325	P	P	20 46 57.8	+1.1
PSUT				IAmb	IAmb	20 47 00.1	
	comp=Z,9.1nm,0.6s						
DUG	Dugway, Tooele	76.22	327	P	P	20 47 02.3	+1.7
PDAR	Pinedale Array	76.65	330	P	P	20 47 04.2	+1.1
	comp=Z,0.7nm,0.4s,baz=131,slow=8.2,SNR=12						
PDAR				LR	LR	21 24 46.1	
	comp=Z,39nm,18.2s,baz=50,slow=39						
	comp=Z,0.7nm,0.4s						
HWUT	Hardware Ranch	76.68	328	P	P	20 47 05.0	+1.7
HWUT				sP	pP	20 47 31.6	+0.6
HWUT				IAmb	IAmb	20 49 59.0	
	comp=Z,14nm,1.1s						
ULM	Lac du Bonnet	78.05	343	P	P	20 47 11.1	+0.6
	comp=Z,6.7nm,0.6s,baz=141,slow=4.7,SNR=8.6						
	comp=Z,6.7nm,0.6s						
TORD	Torodi Ar. Bea	78.10	70	P	P	20 47 12.1	+0.5
	comp=Z,10.0nm,0.6s,baz=264,slow=6.0,SNR=86						
TORD				pP	pP	20 47 39.5	0.0
	comp=Z,9.7nm,1.0s,baz=258,slow=1.6,SNR=4.6						
TORD				LR	LR	21 19 14.0	
	comp=Z,21nm,21.2s,baz=108,slow=34						
	comp=Z,10.0nm,0.6s						
IMW	Indian Meadow	78.16	330	P	P	20 47 13.8	+2.3
FLWY	Flagg Ranch	78.20	330	IAmb	IAmb	20 47 15.5	
	comp=Z,8.0nm,0.8s						
RLMT	Red Lodge	78.39	332	IAmb	IAmb	20 47 16.0	
	comp=Z,4.4nm,0.7s						
TSUM	Tsumeb	79.03	106	P	P	20 47 16.8	0.0
TSUM				IAmb	IAmb	20 47 20.5	
	comp=Z,13nm,0.9s						
HLID	Hailey	79.53	328	P	P	20 47 21.1	+2.2
HLID				IAmb	IAmb	20 47 22.9	
	comp=Z,6.9nm,0.8s						
HLID				sP	pP	20 47 47.6	+0.7
BPMT	Black Pine Rid	81.25	330	P	P	20 47 29.9	+1.7
MAW	Mawson	81.59	163	P	P	20 47 30.2	+0.8
	comp=Z,8.0nm,0.8s,baz=206,slow=5.1,SNR=14						
	comp=Z,8.0nm,0.8s						
BMO	Blue Mountains	81.89	327	P	P	20 47 33.2	+1.8
BMO				sP	pP	20 48 00.8	+1.2
BOSA	Boshof	81.94	118	P	P	20 47 32.8	+0.5
	comp=Z,2.4nm,0.5s,baz=270,slow=3.5,SNR=13						
	comp=Z,2.4nm,0.5s						
MDT	Midelt	83.38	50	LR	LR	21 24 16.3	
	comp=Z,24nm,18.5s,baz=118,slow=35						
ESDC	Sonseca Array	87.68	44	P	P	20 48 01.1	+0.7
	comp=Z,0.6nm,0.8s,baz=215,slow=4.2,SNR=3.1						
ESDC				LR	LR	21 24 40.7	
	comp=Z,23nm,19.2s,baz=204,slow=34						
	comp=Z,0.6nm,0.8s						
YKA	Yellowknife Ar	93.90	340	P	P	20 48 28.6	-0.2
	comp=Z,1.2nm,0.8s,baz=143,slow=4.2,SNR=3.2						
	comp=Z,1.2nm,0.8s						
BORG	Borgarnes	96.00	18	LR	LR	21 30 46.4	
	comp=Z,11nm,19.0s,baz=262,slow=35						
DAVOX	Davos/Dischmat	99.96	43	LR	LR	21 31 26.5	
	comp=Z,30nm,19.6s,baz=254,slow=34						
CLL	Collm	103.63	40	ePPdif	pPdif	20 49 33.0	-8.6
CLL				ePP	PP	20 53 30.0	-0.8
ASAR	Alice Springs	127.52	206	PKP	PKiKP	20 54 17.9	+0.3
	comp=Z,2.5nm,0.6s,baz=133,slow=1.8,SNR=37						
ASAR				pPKP	pPKPdf	20 54 47.4	+0.3
	comp=Z,1.0nm,0.7s,baz=151,slow=2.3,SNR=4.1						
WRA	Warramunga Arr	130.63	209	PKP	PKiKP	20 54 23.8	-0.2
	comp=Z,1.4nm,0.3s,baz=154,slow=1.7,SNR=51						
SEY	Seymchan	132.75	336	PKP	PKPdf	20 54 26.2	+0.6
	comp=Z,1.6nm,0.5s,baz=355,slow=2.8,SNR=4.2						
KURBB	Kurchatov Arra	143.52	35	PKP	PKPdf	20 54 45.0	-0.7
	comp=Z,0.9nm,0.6s,baz=313,slow=3.2,SNR=4.6						
ZALV	Zalesovo Beam	144.37	27	PKP	PKPdf	20 54 47.2	+0.1
	comp=Z,5.8nm,0.7s,baz=312,slow=4.1,SNR=26						
ZALV				pPKP	pPKPdf	20 55 16.1	-1.0
	comp=Z,5.8nm,0.8s,baz=295,slow=3.1,SNR=5.3						
KSH	Kashi	146.62	54	PKPbc	PKPbc	20 54 53.8	+0.5
KSH				pPKP	pPKPdf	20 55 23.0	+1.4
MKAR	Makanchi Array	147.72	39	PKPbc	PKPdf	20 54 54.8	+1.7
	comp=Z,3.8nm,0.6s,baz=303,slow=3.1,SNR=35						
MKAR				pPKPbc	pPKPdf	20 55 24.8	+1.8
	comp=Z,8.2nm,0.9s,baz=323,slow=3.0,SNR=10						
ASAJ	Asahikawa	147.75	316	PKPbc	PKiKP	20 54 58.1	+0.1
	comp=Z,10nm,0.8s,baz=123,slow=26,SNR=3.0						
KLR	Kul'dur	150.42	332	PKPbc	PKiKP	20 55 03.8	+0.4
	comp=Z,2.9nm,0.5s,baz=6.6,slow=3.2,SNR=10						
KLR				pPKPbc	pPKPbc	20 55 33.2	+0.8
	comp=Z,1.6nm,0.5s,baz=14,slow=3.6,SNR=3.1						
HEH	HeiHe	151.24	338	eP	PKiKP	20 55 05.5	+0.5
HEH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WMQ	Urumqi	152.56	39	ePKPbc	PKPdf	20 54 58.5	-2.3
MJAR	Matsushiro Arr	153.91	304	PKPbc	PKiKP	20 55 12.6	+1.5
	comp=Z,0.7nm,0.5s,baz=354,slow=11,SNR=4.4						
MJAR				PKPab	PKPab	20 55 26.8	+2.2
	comp=Z,2.7nm,0.9s,baz=72,slow=1.2,SNR=8.6						
SONM	Songino Array	156.20	8	PKPbc	PKPdf	20 55 14.5	+8.7
	comp=Z,0.8nm,0.4s,baz=191,slow=4.4,SNR=2.0						
KSRS	Korea Array	160.69	317	PKP	PKPdf	20 55 13.3	+2.0
	comp=Z,0.3nm,0.3s,baz=132,slow=1.9,SNR=4.9						
KSRS				PKPab	PKPab	20 55 54.6	+1.0
	comp=Z,0.9nm,0.6s,baz=47,slow=4.6,SNR=4.7						
HHC	Hu-ho-hao-te	163.51	359	eP	PKPdf	20 55 10.3	-4.0
PZH	PanZhiHua	171.06	74	PKP	PKPdf	20 55 17.3	-2.9

*SSNC **31** 20:39:01.8±1.3, 19°.83N×73°.16W, h5^{km}±6^{km}, MD3.1, ML2.5*
*SDD **31** 20:39:02.6±0.9, 19°.56N×73°.09W, h20^{km}±78^{km}, MD3.3, ML2.6, MW3.4*
*OSPL **31** 20:39:02.7±2.4, 20°.05N×73°.07W, h85^{km}±42^{km}, ML2.5*

ISC 31 20:39:00.2±1.2, 19°.80N±0°.07×73°.10W±0°.04, h18^{km}±6^{km}, n18, σ1^{s}.04/32, 6C-3D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	Masc	1.13	290	eP	Pg	20 39 21.7	-0.4
MASC				eS	Sg	20 39 36.5	-0.3
MASC				IAML		20 39 39.1	
	comp=E,128nm,0.2s						
MASC				IAML		20 39 39.8	
	comp=N,193nm,0.3s						
MASC	Masc	1.13	290	i P	Pg	20 39 21.8	-0.2
MASC				eS	Sg	20 39 37.0	+0.2
MASC				IAML		20 39 39.1	
	comp=Z,111nm,0.2s						
MCDR	Montecristi	1.36	86	⇑ePg	Pg	20 39 26.4	-0.2
MCDR				⇓eSg	Sg	20 39 45.0	+0.6
MCDR				IAML		20 39 45.7	
	comp=N,252nm,0.3s						
MCDR				IAML		20 39 46.7	
	comp=E,142nm,0.1s						
PAPH	Port-au-Prince	1.48	149	⇓ePg	Pn	20 39 24.9	-1.0
PAPH				⇑eSg	Sn	20 39 41.6	-3.3
PAPH				IAML		20 39 52.0	
	comp=E,84nm,0.2s						
PAPH				IAML		20 40 01.7	
	comp=N,125nm,0.3s						
PAPH	Port-au-Prince	1.48	149	eS	Sg	20 39 49.5	+1.5
PAPH				IAML		20 39 54.4	
	comp=Z,20nm,0.2s						
QMBU	Quimbuelo	1.66	284	eP	Pn	20 39 28.7	+0.3
QMBU				eS	Sn	20 39 48.3	-1.0
QMBU				IAML		20 39 52.6	
	comp=E,193nm,0.3s						
QMBU				IAML		20 39 53.8	
	comp=N,135nm,0.3s						
JIDR	Jimani	1.76	138	⇑ePg	Pn	20 39 29.6	-0.2
JIDR				⇑eSg	Sn	20 39 50.0	-1.7
JIDR				IAML		20 40 09.0	
	comp=E,43nm,1.3s						
JIDR				IAML		20 40 25.1	
	comp=N,37nm,1.8s						
SDDR	Presa de Saban	1.90	115	⇓ePg	Pb	20 39 33.9	-0.5
SDDR				⇓e		20 39 33.9	
SDDR				⇑eSg	Sn	20 39 56.0	+0.8
SDDR				IAML		20 40 08.1	
	comp=E,31nm,0.3s						
SDDR				IAML		20 40 11.4	
	comp=N,49nm,3.2s						
SDDR	Presa de Saban	1.90	115	eP	Pb	20 39 33.5	-0.9
SDDR				eS	Sb	20 39 57.9	+0.2
SDDR	Presa de Saban	1.90	115

CELP	**Cerrillos**	**2.12 253**	*e*S	Sn	20 58 31.1	+0.5
CELP	**Cerrillos**	**2.12 253**		Pn	20 58 05.4	-0.1
CELP	**Cerrillos**	**2.12 253**		Sn	20 58 31.1	+0.5
CELP	**Cerrillos**	**2.12 253**⇑	*e*Pg	Pn	20 58 06.2	+0.7
OBIP	**Obispado Ponce**	**2.15 252**	Pn	Pn	20 58 04.8	-1.1
OBIP			IAML		20 58 36.5	
	comp=E,49nm,0.5s					
OBIP			IAML		20 58 59.4	
	comp=N,37nm,2.6s					
UUPR	**Utuado, UPR, P**	**2.20 259**		Pn	20 58 07.7	+1.1
AOPR	**Arecibo Observ**	**2.21 261**⇑	*e*P	Pn	20 58 07.2	+0.3
AOPR	**Arecibo Observ**	**2.21 261**	*e*S	Sn	20 58 33.6	+0.6
AOPR	**Arecibo Observ**	**2.21 261**		Pn	20 58 06.2	-0.7
AOPR			IAML		20 58 40.0	
	comp=N,88nm,0.3s					
AOPR	**Arecibo Observ**	**2.21 261**		Sn	20 58 33.6	+0.6
AOPR	**Arecibo Observ**	**2.21 261**	*e*Pg	Pn	20 58 07.3	+0.4
AOPR			IAML		20 58 41.9	
	comp=E,157nm,0.3s					
AOPR			IAML		20 58 49.8	
	comp=N,67nm,0.3s					
AGPR	**Aguadilla, PR**	**2.53 265**	*e*Sg	Sn	20 58 38.4	-2.5
AGPR			IAML		20 58 41.5	
	comp=E,65nm,1.2s					
AGPR			IAML		20 58 42.1	
	comp=N,107nm,2.2s					
LSP	**Las Mesas**	**2.56 259**⇑	*e*P	Pn	20 58 11.7	+0.1
LSP	**Las Mesas**	**2.56 259**	*e*S	Sn	20 58 40.0	-1.5
LSP	**Las Mesas**	**2.56 259**		Pn	20 58 11.7	+0.1
LSP				Sn	20 58 40.0	-1.5
MLPR	**Magueyes Islan**	**2.57 254**	Pn	Pn	20 58 11.2	-0.5
MLPR			IAML		20 58 34.0	
	comp=E,37nm,2.6s					
MLPR			IAML		20 58 43.3	
	comp=N,45nm,2.9s					
CRPR	**Cabo Rojo, PR**	**2.62 255**⇑	*e*P	Pn	20 58 12.8	+0.5
CRPR	**Cabo Rojo, PR**	**2.62 255**	*e*S	Sn	20 58 42.2	-0.8
CRPR	**Cabo Rojo, PR**	**2.62 255**		Pn	20 58 09.8	-2.6
CRPR			IAML		20 58 32.8	
	comp=N,45nm,2.8s					
CRPR	**Cabo Rojo, PR**	**2.62 255**		Sn	20 58 42.2	-0.8
CRPR	**Cabo Rojo, PR**	**2.62 255**	IAML		20 58 47.2	
	comp=E,35nm,2.6s					
CRPR	**Cabo Rojo, PR**	**2.62 255**	*e*Pg	Pn	20 58 12.6	+0.2
CRPR		⇑	*e*Sg	Sn	20 58 43.6	+0.6
CRPR			IAML		20 58 50.2	
	comp=N,41nm,2.1s					
CRPR			IAML		20 58 50.5	
	comp=E,40nm,1.4s					

*NEIC **31** 20:58:09.7±1.0, 5°.3S±0°.1×147°.1E±0°.2, h171km±13km, mb4.3/11, Error ellipse: s-maj=26.5km s-min=13.3km az=119.0*
*IDC **31** 20:58:11.9±2.2, 5°.61S×147°.04E, h188km±17km, mb3.3/4, mbtmp4.1/6, Error ellipse: s-maj=32.4km s-min=16.4km az=118.0*

ISC 31 20:58:12.4±1.3, 5°.6S±0°.1×147°.2E±0°.2, h195km, n21, σ1⅊15/25, mb4.3/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.77 180**			**Pn**	**20 59 11.1**	**-0.1**
PMG				Sn	**Sn**	**20 59 55.0**	**-2.4**
PMG	**Port Moresby**	**3.77 180**		P	**Pn**	**20 59 11.2**	**0.0**
	85nm,0.3s,baz=15,slow=10,SNR=83						
PMG				S	**Sn**	**20 59 55.9**	**-1.5**
	51nm,0.4s,baz=136,slow=18,SNR=6.8						
COEN	**Coen**	**9.19 205**		Pn	**Pn**	**21 00 22.5**	**+1.2**
COEN				Sn	**Sn**	**21 02 04.5**	**+0.4**
MTN	**Manton Dam**	**17.39 244**			**P**	**21 02 01.6**	**-0.4**
MTN				IAmb	IAmb	21 02 20.6	
	comp=Z,11nm,1.0s						
WB0	**Warramunga Arr**	**18.79 220**		P	**P**	**21 02 17.8**	**+0.6**
WB0				IAmb	IAmb	21 02 22.5	
	comp=Z,6.6nm,0.6s						
WR0	**Warramunga Arr**	**18.83 220**		P	**P**	**21 02 18.4**	**+0.7**
WRAB	**Tennant Creek**	**18.93 220**		P	**P**	**21 02 19.4**	**+0.5**
WRAB				IAmb	IAmb	21 02 20.1	
	comp=Z,18nm,1.1s						
WB2	**Warramunga Arr**	**18.94 220**		P	**P**	**21 02 19.4**	**+0.5**
WRA	**Warramunga Arr**	**18.95 220**		P	**P**	**21 02 18.2**	**-0.7**
WRA	**Warramunga Arr**	**18.95 220**		P	**P**	**21 02 19.3**	**+0.3**
	comp=Z,5.1nm,0.2s,baz=41,slow=11,SNR=242						
WRA				S	**S**	**21 05 41.9**	**-2.0**
	comp=Z,2.9nm,0.8s,baz=41,slow=20,SNR=7.2						
KNRA	**Kununurra**	**20.66 240**		P	**P**	**21 02 35.7**	**-1.6**
KNRA				IAmb	IAmb	21 02 39.0	
	comp=Z,4.8nm,0.6s						
AS31	**Alice Springs**	**22.04 214**		P	**P**	**21 02 52.5**	**+0.9**
AS31				IAmb	IAmb	21 02 57.6	
	comp=Z,4.0nm,0.4s						
ASAR	**Alice Springs**	**22.04 214**		P	**P**	**21 02 52.2**	**+0.6**
ASAR	**Alice Springs**	**22.04 214**		P	**P**	**21 02 52.5**	**+1.0**
	comp=Z,3.4nm,0.3s,baz=46,slow=9.1,SNR=77						
ASAR				S	**S**	**21 06 41.5**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=31,slow=16,SNR=4.1						
	comp=Z,3.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**24.43 238**		P	**P**	**21 03 12.9**	**-0.4**
ARMA	**Armidale**	**25.03 171**		P	**P**	**21 03 20.7**	**+1.9**
ARMA				IAmb	IAmb	21 03 54.2	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**26.65 191**		P	P	21 03 42.1	+8.9
	comp=Z,6.7nm,1.0s,baz=353,slow=9.0,SNR=9.2						
VNDA	**Vanda**	**72.29 177**		P	**P**	**21 09 16.9**	**+0.8**
VNDA	**Vanda**	**72.29 177**		P	**P**	**21 09 16.9**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=316,slow=4.3,SNR=7.3						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**77.32 320**		P	**P**	**21 09 44.1**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=97,slow=7.3,SNR=2.8						
	comp=Z,0.1nm,0.4s						
QSPA	**South Pole Qui**	**84.35 180**		P	**P**	**21 10 22.1**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=160,slow=1.7,SNR=6.8						
	comp=Z,0.4nm,0.4s						

*TEH **31** 21:04:06.3, 36°.40N×45°.33E, h5km, ML2.8*
*AFAD **31** 21:04:08.7±0.0, 37°.95N×45°.90E, h124km±4km, ML2.4*
*ISN **31** 21:04:08.8±2.0, 36°.07N×45°.36E, h25km, ML2.5*

ISC 31 21:04:07.1±0.9, 36°.39N±0°.03×45°.32E±0°.04, h10km, n18, σ1⅊87/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDS1	**Sardasht. Az.**	**0.28 151**		Pg	**Pg**	**21 04 11.8**	**-1.0**
MAHB	**Mahabad**	**0.49 40**		Pg	**Pg**	**21 04 16.2**	**-0.5**
YOVA	**Hakkari_Yksek**	**1.45 326**		P	**Pg**	**21 04 35.3**	**+0.3**
YOVA				S	**Sg**	**21 04 56.3**	**+2.5**
YOVA				*i* AML	AML	21 05 00.0	
	comp=E,40nm,1.1s						
YOVA				*i* AML	AML	21 05 07.0	
	comp=N,23nm,0.7s						
HAKT	**HAKKARI**	**1.74 313**		P	**Pb**	**21 04 39.0**	**-0.3**
HAKT				S	**Sg**	**21 05 04.5**	**+1.5**
IDHR	**Dehrash**	**1.90 152**		Pn	**Pb**	**21 04 41.1**	**-0.9**
ISHB	**Shabestar**	**1.90 7**		Pn	**Pb**	**21 04 41.0**	**-1.1**
ILIN	**Lien**	**1.99 137**		Pn	**Pg**	**21 04 43.7**	**-1.6**
IGHG	**Ghaleghazi**	**2.30 153**		Pn	**Pb**	**21 04 47.3**	**-1.5**
GLG1	**Gilan-e-Gharb**	**2.32 168**		Pn	**Pb**	**21 04 47.9**	**-1.3**
IMRD	**Marand**	**2.34 7**		Pn	**Pb**	**21 04 47.7**	**-1.8**
SNQR	**Sonqor, Kerman**	**2.42 128**		Pn	**Pb**	**21 04 50.0**	**-1.0**
SIRN	**Sirnak**	**2.58 296**		P	**Pb**	**21 04 52.1**	**-1.4**
SIRN				S	**Sg**	**21 05 28.5**	**-1.4**
PERV	**Siirt/Pervari-**	**2.71 306**		P	**Pb**	**21 04 56.1**	**+0.3**
PERV				S	**Sg**	**21 05 32.0**	**-2.1**
PERV				*i* AML	AML	21 05 41.0	
	comp=N,28nm,0.6s						
PERV				*i* AML	AML	21 05 49.0	
	comp=E,18nm,0.5s						
ILBA	**Ilam Banvizeh**	**2.85 165**		Pn	**Pn**	**21 04 54.7**	**+1.9**
MAKU	**Maku**	**3.00 351**		Pn	**Pb**	**21 04 57.7**	**-3.1**
SRTM	**Siirt_Merkez**	**3.15 302**		P	**Pb**	**21 05 03.3**	**+0.1**
SRTM				S	**Sg**	**21 05 45.7**	**-2.6**
SRTM				*i* AML	AML	21 06 03.0	
	comp=N,11nm,0.7s						
SRTM				*i* AML	AML	21 06 06.0	
	comp=E,9.2nm,0.5s						
IBDR	**Badra**	**3.31 171**	*e*Pg		**Pn**	**21 05 00.0**	**+1.0**
	baz=351						
IBDR				*e*Sg	**Sn**	**21 05 41.0**	**+2.6**
IBDR				AML	AML	21 05 42.4	
	comp=N,1.6nm,0.5s						
MARD	**Mardin**	**3.76 286**		P	**Pg**	**21 05 15.8**	**-3.3**
MARD				S	**Sb**	**21 06 02.1**	**+2.8**
MARD				*i* AML	AML	21 06 19.0	
	comp=N,19nm,0.5s						
MARD				*i* AML	AML	21 06 19.0	
	comp=N,12nm,0.7s						

TAP 31 21:29:58.9, 24°.63N×121°.66E, h59km, ML2.0, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDS	**Dongshan**	**0.05 87**		*e*P	Pn	21 30 07.1	-0.6
NDS	baz=86			*e*S	Sn	21 30 14.1	0.0
	baz=86						
ENTT	**Nioudou**	**0.09 276**		*i* P	Pn	21 30 07.7	-0.1
ENTT	baz=274			S	Sn	21 30 14.2	0.0
	baz=274						
TWE	**Neicheng**	**0.09 3**		P	Pn	21 30 07.9	+0.1
TWE	baz=12			S	Sn	21 30 14.7	+0.5
	baz=12						
NDT	**Datong Townshi**	**0.14 258**		P	Pn	21 30 07.8	-0.2
NDT	baz=258			S	Sn	21 30 14.5	0.0
	baz=258						
FUSB	**Fushanzhiwuyua**	**0.14 332**		P	Pn	21 30 07.8	-0.3
FUSB	baz=332			*e*S	Sn	21 30 14.1	-0.6
	baz=332						
LATG	**Datong**	**0.16 232**	⇑	*i* P	Pn	21 30 08.0	-0.2
LATG	baz=232			S	Sn	21 30 14.8	-0.1
	baz=232						
TWC	**Suao**	**0.17 97**		P	Pn	21 30 07.9	-0.1
TWC	baz=97			*e*S	Sn	21 30 14.6	-0.1
	baz=97						
NWLT	**Wulai**	**0.21 315**		P	Pn	21 30 07.9	-0.4
NWLT	baz=315			S	Sn	21 30 14.5	-0.7
	baz=315						
EWUT	**Wuta**	**0.21 150**		*e*P	Pn	21 30 07.6	-0.7
ENA	**Nanau**	**0.21 160**		*e*P	Pn	21 30 07.3	-1.1
	baz=158						
YHNB	**Yeheng**	**0.26 278**		*i* P	Pn	21 30 08.7	0.0
YHNB	baz=278			S	Sn	21 30 15.7	-0.2
	baz=278						
NSK	**Sanguang**	**0.28 279**		P	Pn	21 30 08.5	-0.4
NSK	baz=278			*e*S	Sn	21 30 15.5	-0.5
	baz=278						
EGS		**0.33 49**		*e*P	Pn	21 30 09.9	+0.8
EGS	baz=50			*e*S	Sn	21 30 18.1	+1.6
	baz=50						
NNS	**Nan Shan**	**0.33 234**		P	Pn	21 30 09.1	-0.2
NNS	baz=232			S	Sn	21 30 16.3	-0.4
	baz=232						
NNSB	**Datong**	**0.33 232**		P	Pn	21 30 09.0	-0.3
NNSB	baz=231			S	Sn	21 30 16.3	-0.5
	baz=231						
TIPB	**Shuangxi**	**0.37 24**		P	Pn	21 30 09.5	-0.1
TIPB	baz=23			*e*S	Sn	21 30 17.2	-0.1
	baz=23						
ETLH	**Xiulin Townshi**	**0.45 201**		P	Pn	21 30 09.5	-0.9
ETLH	baz=201			*e*S	Sn	21 30 17.7	-1.1
	baz=201						
NACB	**Ninganchiao**	**0.46 188**		*e*P	Pn	21 30 08.9	-1.5
NACB	baz=187			*e*S	Sn	21 30 17.0	-1.7
	baz=187						
NFF	**Wufeng Townshi**	**0.49 270**		*e*S	Sn	21 30 18.9	-0.5
TWS1	**Kuangyinshan**	**0.52 335**		P	Pn	21 30 10.8	-0.2
TWS1	baz=335			S	Sn	21 30 20.3	+0.6
	baz=335						
YM01	**YM01**	**0.52 351**		P	Pn	21 30 10.6	-0.5
YM01	baz=350			*e*S	Sn	21 30 19.4	-0.5
	baz=350						
FUSS	**Fushou**	**0.54 225**		P	Pn	21 30 11.6	+0.1
FUSS	baz=224			S	Sn	21 30 20.7	0.0
	baz=224						
EOS2	**EOS2**	**0.56 112**		*e*P	Pn	21 30 12.4	+1.1
TWT	**Tachien**	**0.58 230**		P	Pn	21 30 12.3	+0.4
TWT	baz=230			*e*S	Sn	21 30 21.5	+0.2
	baz=230						
LIOB	**Emei**	**0.59 272**		*e*S	Sn	21 30 21.2	0.0
TDCB	**Techi**	**0.59 231**		P	Pn	21 30 12.2	+0.2
TDCB	baz=230			S	Sn	21 30 21.5	0.0
	baz=230						
WHF	**Hehuan Shan**	**0.60 217**		*e*P	Pn	21 30 12.2	-0.2
WHF	baz=216			*e*S	Sn	21 30 21.6	-0.6
	baz=216						
LXIB	**Xiulin Townshi**	**0.65 201**		*e*S	Sn	21 30 21.1	-1.6
EOS3	**EOS3**	**0.69 120**		*e*P	Pn	21 30 13.2	+0.4
EOS3	baz=119			*e*S	Sn	21 30 24.8	+1.8
	baz=119						
CHGB	**Renai**	**0.72 218**		*e*P	Pn	21 30 13.4	-0.2
CHGB	baz=218			*e*S	Sn	21 30 24.3	0.0
	baz=218						
EOS4	**EOS4**	**0.79 130**		*e*S	Sn	21 30 25.2	+0.5
WUSB	**Renai**	**0.81 218**		*e*P	Pn	21 30 14.4	-0.2
	baz=217						
DPDB	**Guoxing**	**0.90 229**		P	Pn	21 30 16.2	+0.6
	baz=228						
WARBT	**Fenglin Townsh**	**0.94 196**		*e*P	Pn	21 30 15.7	-0.5
	baz=195						
VWDT	**VWDT**	**0.99 209**		*e*P	Pn	21 30 16.8	0.0
	baz=208						
TYC	**Yuchr**	**1.03 226**		*e*S	Sn	21 30 31.9	+0.9
	baz=225						
SSLB	**Suanglung**	**1.06 218**		*e*S	Sn	21 30 32.5	+0.8
	baz=217						
HGSD	**Ruisui**	**1.15 191**		*e*P	Pn	21 30 19.2	+0.2
	baz=190						
WHYT	**Xinyi Township**	**1.19 219**		*e*S	Sn	21 30 36.4	+1.7
	baz=218						
YULB	**Yu-li**	**1.28 195**		*e*P	Pn	21 30 19.4	-1.2
	baz=195						

JMA 31 21:30:49.8±0.1, 24°.2N±0°.3×123°.8E±0°.4, h17km±1km, MV0.7/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10 334**		P	Pb	21 30 53.4	0.0
IRIF				*e*S	Sg	21 30 56.1	+0.2
HATJ	**Hateruma jima**	**0.19 172**		*i* P	Pg	21 30 54.4	-0.1
JKRS	**Kuro-shima**	**0.21 91**		P	Pg	21 30 54.8	-0.1
JKRS				*e*S	Sg	21 30 58.4	+0.1
JIJ	**Ishigaki jima**	**0.35 70**		*e*P	Pg	21 30 57.2	-0.1
JIJ				*e*S	Sg	21 31 01.8	-0.5
JISG	**Ishigakijimahi**	**0.59 55**		*e*P	Pg	21 31 01.4	-0.2

*RHSSO **31** 21:30:55.9±0.5, 43°.18N×20°.32E, h5km±2km, ML2.8/14*
*PDG **31** 21:30:56.8±0.3, 43°.16N×20°.24E, h5km±1km, MD2.8/4, ML2.7/10, Error ellipse: s-maj=0.5km s-min=1.0km az=0.0*
*BEO **31** 21:30:56.3±0.2, 43°.14N×20°.36E, h0km, ML2.8/13*

ISC 31 21:30:56.1±1.0, 43°.16N±0°.02×20°.30E±0°.02, h5km±9km, n98, σ1⅊12/144, 28C-17D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJES	**Sjenica**	**0.26 292**		*e*Pg	**Pg**	**21 31 01.5**	**+0.4**
SJES				*e*Sg	**Sg**	**21 31 05.5**	**+1.0**
SJES	**Sjenica**	**0.26 292**⇑		*i*Pg	**Pg**	**21 31 01.5**	**+0.4**
SJES				*e*Sg	**Sg**	**21 31 05.3**	**+0.8**
IVA	**Berane**	**0.42 226**⇓		*i*Pg	**Pg**	**21 31 04.3**	**+0.2**
IVA				*i* Sg	**Sg**	**21 31 09.8**	**+0.2**
SELS	**Selova**	**0.60 84**		*e*Pg	**Pg**	**21 31 07.0**	**-0.6**
SELS				*e*Sg	**Sg**	**21 31 15.2**	**-0.2**
PVY	**Plav**	**0.62 204**⇓		*i*Pg	**Pg**	**21 31 07.9**	**-0.1**
PVY				*i* Sg	**Sg**	**21 31 16.7**	**+0.6**
KOME	**Kolasin**	**0.66 242**⇑		*i*Pg	**Pg**	**21 31 08.3**	**-0.4**
KOME				*i* Sg	**Sg**	**21 31 17.6**	**+0.4**
PLE	**Pljevlja**	**0.69 284**⇓		*i*Pg	**Pg**	**21 31 09.2**	**0.0**
PLE				*i* Sg	**Sg**	**21 31 18.8**	**+0.6**
GRUS	**Gruza**	**0.78 22**		*e*Pg	**Pg**	**21 31 11.2**	**+0.1**
GRUS				*e*Sg	**Sg**	**21 31 21.9**	**+0.6**
RUDO	**Rudo**	**0.82 304**⇓		*i*Pg	**Pg**	**21 31 10.2**	**-1.5**
RUDO				*e*Sg	**Sg**	**21 31 22.5**	**+0.2**
BBLS	**Lazi&#263i**	**0.96 317**		*e*Pg	**Pg**	**21 31 13.6**	**-0.8**
BBLS				*e*Sg	**Sb**	**21 31 28.7**	**+0.5**
BBLS	**Lazi&#263i**	**0.96 317**		*e*Pg	**Pg**	**21 31 12.2**	**-2.2**
BBLS				*e*Sg	**Sg**	**21 31 26.5**	**-0.3**
DIVS	**Divibare**	**0.96 347**		*e*Pg	**Pg**	**21 31 14.1**	**-0.4**
DIVS				*e*Sg	**Sg**	**21 31 26.5**	**-0.4**
UPM	**Unac-Piva**	**1.02 273**⇑		*i*Pg	**Pg**	**21 31 15.1**	**-0.6**
UPM				*e*Sg	**Sg**	**21 31 28.8**	**-0.1**
UPM	**Unac-Piva**	**1.02 273**⇓		*i*Pg	**Pg**	**21 31 15.2**	**-0.5**
UPM				*i* Sg	**Sg**	**21 31 29.4**	**+0.5**
TRUS	**Trudelj**	**1.06 4**		*e*Pg	**Pg**	**21 31 16.0**	**-0.4**
TRUS				*e*Sg	**Sb**	**21 31 31.6**	**+0.4**
PDG	**Podgorica**	**1.06 227**⇑		P	**Pg**	**21 31 15.6**	**-0.8**
PDG	**Podgorica**	**1.06 227**		*e*Pg	**Pg**	**21 31 15.7**	**-0.7**
PDG				*e*Sg	**Sg**	**21 31 29.5**	**-0.7**
PDG	**Podgorica**	**1.06 227**⇑		*i*Pg	**Pg**	**21 31 15.1**	**-1.3**
PDG				*e*Sg	**Sg**	**21 31 29.5**	**-0.7**
PDG	**Podgorica**	**1.06 227**		*e*Pg	**Pg**	**21 31 15.4**	**-1.0**
PDG				*i* Sg	**Sg**	**21 31 30.8**	**+0.6**
NKME	**Niksic**	**1.07 249**⇑		*i*Pg	**Pg**	**21 31 15.7**	**-0.8**
NKME				*i* Sg	**Sb**	**21 31 31.7**	**+0.4**
BOVS	**Bovan**	**1.13 65**		*e*Pg	**Pg**	**21 31 16.6**	**-1.1**
BOVS				*e*Sg	**Sg**	**21 31 31.5**	**-0.8**
CEME	**Cevo**	**1.19 239**⇓		*i*Pg	**Pg**	**21 31 17.6**	**-1.3**
CEME				*i* Sg	**Sb**	**21 31 35.5**	**+0.6**
KLINJ	**Klinje**	**1.25 271**		*e*Pg	**Pg**	**21 31 19.1**	**-1.0**
KLINJ				*e*Sg	**Sg**	**21 31 35.8**	**-0.6**
DRME	**Dracevica, Mon**	**1.28 220**		*e*Pg	**Pg**	**21 31 19.6**	**-0.9**
DRME				*e*Sg	**Sg**	**21 31 37.0**	**-0.1**
DRME	**Dracevica, Mon**	**1.28 220**⇑		*i*Pg	**Pg**	**21 31 19.8**	**-0.7**
DRME				*i* Sg	**Sn**	**21 31 39.5**	**+1.4**
SVIS	**Svilajnac**	**1.28 31**		*e*Pg	**Pb**	**21 31 21.5**	**+0.8**
SVIS				*e*Sg	**Sn**	**21 31 39.2**	**+0.9**
BRY	**Bratogost**	**1.32 259**		*e*Pg	**Pn**	**21 31 20.1**	**-1.2**
BRY				*e*Sg	**Sg**	**21 31 37.6**	**-0.8**
BRY	**Bratogost**	**1.32 259**⇑		*i*Pg	**Pn**	**21 31 20.4**	**-0.9**
BRY				*i* Sg	**Sn**	**21 31 40.5**	**+1.2**
HAPS	**Han Pijesak,Bl**	**1.34 314**⇑		*i*Pg	**Pn**	**21 31 20.2**	**-1.5**
HAPS				*e*Sg	**Sg**	**21 31 38.2**	**-1.1**
BUM	**Brajici-Budva**	**1.35 231**⇑		*i*Pg	**Pn**	**21 31 20.9**	**-0.7**
BUM				*i* Sg	**Sn**	**21 31 41.1**	**+1.1**
TEKS	**Tekeris**	**1.49 338**		*e*Pg	**Pn**	**21 31 24.0**	**+0.4**
TEKS				*e*Sg	**Sg**	**21 31 45.0**	**+1.0**
TEKS	**Tekeris**	**1.49 338**		*e*Pg	**Pn**	**21 31 23.1**	**-0.5**
TEKS				*e*Sg	**Sn**	**21 31 43.5**	**0.0**
TREB	**Trebinje**	**1.50 253**		*e*Pg	**Pn**	**21 31 23.6**	**-0.1**
TREB				*e*Sg	**Sn**	**21 31 44.2**	**+0.6**
AVAS	**Avala Beograd**	**1.54 6**		*e*Pg	**Pn**	**21 31 23.0**	**-1.2**
AVAS				*e*Sg	**Sn**	**21 31 44.1**	**-0.5**
ZAGS	**Zajecar**	**1.55 65**		*e*Pg	**Pn**	**21 31 23.0**	**-1.3**
ZAGS				*e*Sg	**Sn**	**21 31 44.3**	**-0.5**
KUBS	**Kucevo**	**1.60 38**		*e*Sg	**Sn**	**21 31 45.7**	**-0.3**
DBRK	**Dubrovnik**	**1.66 253**		*e*Pn	**Pb**	**21 31 27.2**	**+0.1**
DBRK				Sn	**Sg**	**21 31 51.5**	**+2.2**
ZAPS	**Zavoj**	**1.71 86**		*e*Pg	**Pn**	**21 31 26.0**	**-0.6**
ZAPS				*e*Sg	**Sn**	**21 31 49.1**	**+0.3**
BOSS	**Bosilegrad**	**1.74 112**		*e*Pg	**Pn**	**21 31 26.1**	**-0.8**
BOSS				*e*Sg	**Sn**	**21 31 48.3**	**-1.2**
MDVR	**Moldovita**	**1.91 32**	⇑	P	**Pn**	**21 31 29.2**	**-0.2**
STON	**Ston**	**1.93 262**		*e*Pn	**Pb**	**21 31 31.7**	**0.0**
STON				*e*Sn	**Sb**	**21 31 57.6**	**+1.5**
STON	**Ston**	**1.93 262**		*e*Pn	**Pb**	**21 31 31.5**	**-0.2**
STON	**Ston**	**1.93 262**		*e*Pn	**Pn**	**21 31 29.2**	**-0.3**
STON				*e*Sn	**Sn**	**21 31 54.7**	**+0.5**
FRGS	**Fruska Gora**	**2.02 350**⇓		P	**Pn**	**21 31 30.1**	**-0.8**
FRGS	**Fruska Gora**	**2.02 350**⇑		*i*Pn	**Pn**	**21 31 29.9**	**-1.0**
FRGS				*e*Sn	**Sn**	**21 31 55.6**	**-1.0**
OHR	**Ohrid**	**2.08 170**		*i* Pn	**Pb**	**21 31 33.5**	**-0.9**
PUNG	**Punghina**	**2.21 59**	⇑	P	**Pn**	**21 31 34.2**	**+0.8**
VTS	**Vitosha**	**2.22 103**		*e*Pn	**Pn**	**21 31 34.0**	**+0.2**
VTS				*e*Sn	**Sn**	**21 31 59.7**	**-2.0**
DOB	**Doboj**	**2.23 315**		*e*Pn	**Pn**	**21 31 33.2**	**-0.5**
RMGR	**Halanga-Turnu**	**2.29 48**	⇓	P	**Pg**	**21 31 39.5**	**-0.4**
HERR	**Herculane**	**2.30 41**	⇓	P	**Pn**	**21 31 35.7**	**+1.1**
BANR	**Banloc**	**2.30 15**	⇑	P	**Pn**	**21 31 34.3**	**-0.3**
RICI	**Ricice**	**2.33 279**		*e*Pn	**Pb**	**21 31 37.4**	**-1.2**
PEHC	**Pehcevo**	**2.37 125**		*i* Pn	**Pn**	**21 31 35.3**	**-0.4**
BAIL	**Bailesti**	**2.37 68**	⇑	P	**Pg**	**21 31 44.4**	**+2.9**
MAKA	**Makarska**	**2.40 274**		*e*Pn	**Pn**	**21 31 37.5**	**+1.5**
BZS	**Buzias**	**2.63 21**	⇓	P	**Pn**	**21 31 39.2**	**0.0**
BLY	**Banja Luka**	**2.75 306**⇑		*i*Pn	**Pn**	**21 31 41.1**	**+0.2**
BLY				*e*Sn	**Sn**	**21 32 14.8**	**+0.3**
HVAR	**Hvar**	**2.82 272**		*e*Pn	**Pn**	**21 31 42.5**	**+0.7**
GZR	**Gura Zlata**	**2.85 38**	⇑	P	**Pn**	**21 31 43.6**	**+1.3**
SURR	**Surduc**	**2.90 26**	⇑	P	**Pn**	**21 31 44.6**	**+1.7**
KJIV	**Kijevo**	**2.95 288**		*e*Pn	**Pn**	**21 31 45.7**	**+2.0**
A050A	**Klekovaca**	**3.03 297**⇑		*i*Pn	**Pn**	**21 31 44.8**	**0.0**
A050A				*e*Sn	**Sn**	**21 32 21.3**	**-0.2**
A051A	**Mrakovica**	**3.06 308**⇑		*i*Pn	**Pn**	**21 31 44.7**	**-0.5**
A051A				*e*Sn

WRA	**Warramunga Arr**	**21.50**	**227**	P	P	21 42 28.4	+0.1
	1.1nm,0.6s,baz=54,slow=10,SNR=16						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**24.28**	**221**	P	P	21 42 57.0	0.0
	1.1nm,0.7s,baz=54,slow=9.3,SNR=16						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**83.67**	**22**	P	P	21 50 07.9	-0.1
	0.3nm,0.6s,baz=260,slow=5.4,SNR=2.9						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.82**	**286**	PKPbc	PKPbc	21 57 27.9	-0.5
	0.2nm,0.4s,baz=94,slow=2.1,SNR=4.3						

*IDC **31** 21:37:33.5±1.2, 35°.99N×70°.27E, h0km, mb3.8/7, mbtmp3.9/9, ML3.5/2, Error ellipse: s-maj=25.6km s-min=24.9km az=155.0*
*NEIC **31** 21:37:44.4±1.4, 36°.14N±0°.02×70°.60E±0°.07, h107km±8km, mb4.1/11, Error ellipse: s-maj=8.8km s-min=2.3km az=103.0*
*NNC **31** 21:37:48.5±2.1, 36°.79N×70°.53E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=18.2km s-min=14.9km az=145.0*
ISC 31 21:37:43.5±0.7, 36°.10N±0°.06×70.72E±0°.06, h110km, n56, σ2°06/66, mb4.1/10, 5C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.07**	**222**	Pn	**Pn**	**21 38 18.8**	**+1.1**
CHGR	**Chuyangaron**	**2.84**	**334**		**Pn**	**21 38 27.1**	**-0.3**
CHGR				Sn	**Sn**	**21 38 58.2**	**-3.0**
SIMJ	**Simiganj**	**2.89**	**332**		**Pn**	**21 38 28.1**	**-0.2**
SIMJ				Sn	**Sn**	**21 38 58.4**	**-4.3**
GAR	**Garm**	**2.91**	**354**		**Pn**	**21 38 29.0**	**+0.6**
NIL	**Nilore**	**3.21**	**139**		**Pn**	**21 38 34.3**	**+1.9**
DRK	**Karamyk**	**3.48**	**14**		**Pn**	**21 38 37.7**	**+1.6**
BTK	**Batken**	**3.95**	**1**	Pn	**Pn**	**21 38 43.8**	**+1.6**
KSH	**Kashi**	**5.38**	**49**	Pn	**Pn**	**21 39 00.5**	**-1.0**
KSH				Sn	**Sn**	**21 39 55.0**	**-7.3**
KSH				smax	smax		
	comp=N,340nm,0.7s						
KSH				smax	smax		
	comp=E,200nm,0.8s						
ARSB	**Arslanbob**	**5.51**	**18**	Pn	**Pn**	**21 39 03.7**	**+0.4**
DHRM	**DHARAMSHALA**	**6.01**	**128**	*e*P	**Pn**	**21 39 11.1**	**+0.9**
DHRM				*e*S	**Sn**	**21 40 16.5**	**-1.4**
DHRM				IAML		21 40 19.2	
	comp=E,326nm,0.4s						
DHRM				IAML		21 40 19.4	
	comp=N,166nm,0.2s						
IUG	**Iuzhnay**	**6.06**	**355**	Pg	**Pn**	**21 39 11.4**	**+0.7**
	comp=N,28nm,0.4s						
IUG				Lg	Lg	21 40 16.7	
	comp=N,276nm,0.4s						
NRN	**Naryn**	**6.74**	**36**	Pn	**Pn**	**21 39 20.1**	**0.0**
KK31	**Karatay Array**	**7.00**	**359**		**Pn**	**21 39 23.1**	**-0.2**
KK31	**Karatay Array**	**7.00**	**359**	⇓P	**Pn**	**21 39 23.1**	**-0.2**
	comp=N,4.3nm,0.3s,baz=179,slow=13						
KK31				⇓S	**Sn**	**21 40 36.0**	**-5.3**
	comp=N,33nm,0.5s,baz=179,slow=23						
KKAR	**Karatay Array**	**7.00**	**359**		**Pn**	**21 39 23.4**	**+0.1**
KKAR	**Karatay Array**	**7.00**	**359**		**Pn**	**21 39 23.4**	**+0.1**
AAK	**Ala-Archa**	**7.15**	**23**	Pn	**Pn**	**21 39 26.4**	**+0.9**
AAK	**Ala-Archa**	**7.15**	**23**	Pn	**Pn**	**21 39 27.0**	**+1.4**
	comp=N,1.8nm,0.3s,baz=201,slow=2.6,SNR=5.7						
AAK				Sn	**Sn**	**21 40 44.3**	**-1.0**
	comp=N,2.8nm,0.3s,baz=116,slow=21,SNR=11						
	comp=N,8.4nm,0.3s						
AAK	**Ala-Archa**	**7.15**	**23**	P	**Pn**	**21 39 25.8**	**+0.2**
	comp=N,4.2nm,0.3s						
AAK				⇑S	**Sn**	**21 40 43.9**	**-1.4**
	comp=N,26nm,0.6s						
SMLA	**Simla**	**7.32**	**131**	*e*P	**Pn**	**21 39 27.6**	**0.0**
SMLA				*e*S	**Sn**	**21 40 46.1**	**-3.0**
SMLA				*i* S	**Sn**	**21 40 46.1**	**-3.0**
SMLA				IAML		21 40 49.3	
	comp=N,119nm,0.2s						
SMLA				IAML		21 40 51.5	
	comp=E,106nm,0.5s						
BOOM	**Boomskoye usch**	**7.55**	**31**	Pn	**Pn**	**21 39 32.2**	**+1.2**
CHMS	**Chumysh**	**7.56**	**23**	⇑P	**Pn**	**21 39 32.2**	**+1.3**
	comp=E,8.1nm,0.6s						
CHMS				⇑S	**Sn**	**21 40 54.1**	**-0.9**
	comp=E,19nm,0.7s						
TKM2	**Tokmak 2**	**7.78**	**27**	⇑P	**Pn**	**21 39 35.3**	**+1.1**
	comp=E,9.8nm,0.7s						
TKM2				⇑S	**Sn**	**21 41 00.7**	**-0.1**
	comp=E,14nm,0.9s						
TARG	**Taragay, Kyrgy**	**7.88**	**42**	Pn	**Pn**	**21 39 37.2**	**+1.6**
SGDS	**Sogindy**	**7.93**	**21**	Pg	**Pn**	**21 39 38.3**	**+2.2**
	comp=E,7.2nm,0.6s						
SGDS				Lg	Lg	21 41 02.5	
	comp=E,18nm,0.5s						
DGS	**Degeres**	**8.12**	**27**	Pg	**Pn**	**21 39 40.0**	**+1.3**
	comp=E,3.1nm,0.8s						
DGS				Lg	Lg	21 41 05.2	
	comp=E,3.7nm,0.7s						
MDOK	**Medeo**	**8.58**	**33**	P	**Pn**	**21 39 48.0**	**+3.2**
	comp=E,6.0nm,0.9s						
PRZ	**Przheval'sk**	**8.72**	**41**	Pn	**Pn**	**21 39 47.4**	**+0.6**
MAKZ	**Makanchi**	**13.61**	**35**	Pn	**Pn**	**21 40 52.8**	**+0.9**
MKAR	**Makanchi Array**	**13.75**	**35**	Pn	**Pn**	**21 40 55.4**	**+1.8**
MKAR	**Makanchi Array**	**13.75**	**35**	Pn	**Pn**	**21 40 54.1**	**+0.4**
	comp=E,0.1nm,0.3s,baz=224,slow=16,SNR=7.2						
	comp=E,1.1nm,0.8s						
WMQ	**Urumqi**	**15.11**	**54**	*e*P	**Pn**	**21 41 12.5**	**+1.3**
AB31	**Akbulak array**	**15.33**	**332**	P	**P**	**21 41 17.8**	**+1.9**
	comp=E,1.9nm,0.4s,baz=157,slow=12,SNR=81						
ABKAR	**Akbulak array**	**15.33**	**332**	Pn	**Pn**	**21 41 12.6**	**-1.1**
ABKAR	**Akbulak array**	**15.33**	**332**	Pn	**Pn**	**21 41 13.2**	**-0.5**
ABKAR				IAmb	IAmb	21 41 13.9	
	comp=Z,5.1nm,0.6s						
KURBB	**Kurchatov Arra**	**15.57**	**19**	Pn	**Pn**	**21 41 10.7**	**-6.1**
	baz=34,slow=10,SNR=2.6						
BRVK	**Borovoye**	**16.96**	**359**		**Pn**	**21 41 32.8**	**-1.0**
ZAA0	**Zalesovo Array**	**20.37**	**24**	P	**P**	**21 42 12.7**	**+1.5**
ZAA0				IAmb	IAmb	21 42 14.5	
	comp=Z,4.0nm,0.6s						
ZALV	**Zalesovo Beam**	**20.37**	**24**	P	**P**	**21 42 12.0**	**+0.9**
ZALV	**Zalesovo Beam**	**20.37**	**24**	P	**P**	**21 42 12.9**	**+1.7**
	comp=Z,3.9nm,0.6s,baz=219,slow=11,SNR=18						
	comp=Z,3.9nm,0.6s						
SHL	**Shillong**	**20.95**	**114**	P	**P**	**21 42 18.6**	**+0.8**
SHL				IAmb	IAmb	21 42 23.0	
	comp=Z,4.9nm,0.6s						
PZH	**PanZhiHua**	**28.08**	**101**	P	**P**	**21 43 28.0**	**+3.0**
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,130nm,5.2s						
HHC	**Hu-ho-hao-te**	**32.12**	**69**	*e*P	**P**	**21 44 00.0**	**-0.4**
HHC				pmax	pmax		
	comp=Z,79nm,6.9s						
HHC				pmax	pmax		
	comp=Z,20nm,0.5s						
TIA	**Tai'an**	**37.19**	**76**	P	**P**	**21 44 40.5**	**-3.5**
TIA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
FINES	**FINESS Array B**	**37.69**	**326**	P	**P**	**21 44 48.4**	**+0.6**
FINES	**FINESS Array B**	**37.69**	**326**	P	**P**	**21 44 50.1**	**+2.3**
	comp=Z,0.6nm,0.6s,baz=116,slow=8.7,SNR=4.8						
	comp=Z,0.6nm,0.6s						
LVZ	**Lovozero**	**37.75**	**339**	P	**P**	**21 44 48.2**	**-0.1**
ARCES	**ARCESS Array B**	**41.43**	**338**	P	**P**	**21 45 19.9**	**+1.2**
ARCES				IAmb	IAmb	21 45 22.8	
	comp=Z,3.5nm,0.9s						
ARCES	**ARCESS Array B**	**41.43**	**338**	P	**P**	**21 45 21.2**	**+2.5**
	comp=Z,1.4nm,0.6s,baz=114,slow=8.5,SNR=6.4						
	comp=Z,1.4nm,0.6s						
HFS	**Hagfors**	**43.24**	**322**	P	**P**	**21 45 35.4**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=105,slow=9.7,SNR=8.9						
	comp=Z,1.2nm,0.6s						
NC303	**NORSAR Array S**	**44.51**	**324**	P	**P**	**21 45 44.7**	**+1.0**
NOA	**NORSAR Array B**	**44.56**	**323**	P	**P**	**21 45 45.4**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=97,slow=7.9,SNR=3.3						
	comp=Z,0.4nm,0.5s						
TOA0	**Torodi Ar. Sit**	**65.48**	**269**	P	**P**	**21 48 16.1**	**+0.9**
TOA0				IAmb	IAmb	21 48 33.1	
	comp=Z,6.0nm,1.4s						
TORD	**Torodi Ar. Bea**	**65.48**	**269**	P	**P**	**21 48 15.2**	**0.0**
TORD	**Torodi Ar. Bea**	**65.48**	**269**	P	**P**	**21 48 15.3**	**0.0**
	comp=Z,0.2nm,0.5s,baz=60,slow=5.8,SNR=2.3						
	comp=Z,0.2nm,0.5s						
WRA	**Warramunga Arr**	**81.97**	**122**	P	P	21 49 57.2	+5.8
	comp=Z,1.1nm,0.3s,baz=325,slow=4.9,SNR=51						
	comp=Z,1.1nm,0.3s						

*IDC **31** 21:37:48.2±2.6, 4°.34N×124°.18E, h552km±24km, mb3.2/7, mbtmp4.2/7, Error ellipse: s-maj=255.8km s-min=11.7km az=64.0*
*NEIC **31** 21:37:49.4±1.1, 3°.7N±0°.1×122°.8E±0°.2, h553km±9km, mb4.1/14, Error ellipse: s-maj=31.1km s-min=10.5km az=54.0*
ISC 31 21:37:48.4±0.7, 3°.7N±0°.1×122°.9E±0°.2, h550km, n30, σ0°93/34, mb3.9/13, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**3.35**	**219**	P	**P**	**21 39 05.4**	**-0.3**
MYLDM	**Lahad Datu**	**4.61**	**288**	P	**P**	**21 39 16.5**	**+1.5**
TNT1	**Ternate**	**5.36**	**123**	P	**P**	**21 39 21.4**	**+0.1**
KKM	**Kota Kinabalu**	**7.03**	**289**	P	**P**	**21 39 34.8**	**-2.1**
SOEI	**Soe**	**13.47**	**174**	P	**P**	**21 40 42.7**	**+0.4**
JAGI	**Jajag, Banyuwa**	**14.93**	**216**	P	**P**	**21 40 57.5**	**+0.2**
MTN	**Manton Dam**	**18.39**	**154**	P	**P**	**21 41 29.5**	**-0.5**
MTN				IAmb	IAmb	21 41 48.9	
	comp=Z,15nm,1.1s						
KNRA	**Kununurra**	**20.14**	**163**	P	**P**	**21 41 45.8**	**0.0**
KNRA				IAmb	IAmb	21 41 47.1	
	comp=Z,6.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.86**	**173**	P	**P**	**21 42 01.0**	**-0.3**
WB0	**Warramunga Arr**	**25.95**	**155**	P	**P**	**21 42 37.1**	**-0.5**
WB0				IAmb	IAmb	21 42 38.1	
	comp=Z,5.4nm,1.0s						
WRA	**Warramunga Arr**	**26.08**	**155**	P	**P**	**21 42 37.3**	**-1.5**
WRA	**Warramunga Arr**	**26.08**	**155**	P	**P**	**21 42 38.3**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=336,slow=9.7,SNR=23						
WRA				S	**S**	**21 46 29.2**	**-2.6**
	comp=Z,0.8nm,1.2s,baz=320,slow=16,SNR=2.0						
WRA				ScP	**ScP**	**21 48 34.9**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=343,slow=3.1,SNR=7.5						
	comp=Z,2.2nm,0.3s						
AS31	**Alice Springs**	**29.27**	**159**	P	**P**	**21 43 06.8**	**+0.1**
AS31				IAmb	IAmb	21 43 09.0	
	comp=Z,1.5nm,0.5s						
ASAR	**Alice Springs**	**29.27**	**159**	P	**P**	**21 43 06.6**	**-0.1**
ASAR	**Alice Springs**	**29.27**	**159**	P	**P**	**21 43 07.3**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=343,slow=7.1,SNR=31						
ASAR				ScP	**ScP**	**21 48 45.2**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=336,slow=2.8,SNR=3.0						
	comp=Z,1.9nm,0.5s						
FORT	**Forrest**	**34.67**	**172**	P	**P**	**21 43 52.9**	**+0.4**
SHL	**Shillong**	**36.84**	**309**	P	**P**	**21 44 10.7**	**0.0**
SHL				IAmb	IAmb	21 44 11.4	
	comp=Z,5.3nm,0.9s						
BBOO	**Buckleboo**	**38.43**	**162**	P	**P**	**21 44 23.8**	**+0.4**
STKA	**Stephens Creek**	**39.63**	**155**	P	**P**	**21 44 33.7**	**+0.6**
STKA	**Stephens Creek**	**39.63**	**155**	P	**P**	**21 44 33.6**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=316,slow=6.8,SNR=6.1						
	comp=Z,1.9nm,0.6s						
CAN	**Canberra**	**45.93**	**150**	P	**P**	**21 45 23.9**	**+1.6**
CAN				IAmb	IAmb	21 45 39.0	
	comp=Z,27nm,1.3s						
MK31	**Makanchi Array**	**55.42**	**327**	P	**P**	**21 46 31.8**	**+0.6**
MKAR	**Makanchi Array**	**55.42**	**327**	P	**P**	**21 46 31.9**	**+0.8**
MKAR	**Makanchi Array**	**55.42**	**327**	P	**P**	**21 46 32.2**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=124,slow=7.9,SNR=21						
MKAR				PcP	**PcP**	**21 47 23.3**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=127,slow=3.5,SNR=4.3						
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**58.90**	**335**	P	**P**	**21 46 54.2**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=154,slow=8.0,SNR=2.6						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**59.71**	**329**	P	**P**	**21 47 00.8**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=134,slow=6.8,SNR=12						
	comp=Z,0.9nm,0.5s						
KURK	**Kurchatov**	**59.72**	**329**	P	**P**	**21 47 00.9**	**+0.7**
KURK				IAmb	IAmb	21 47 01.3	
	comp=Z,2.9nm,0.5s						
ABKAR	**Akbulak array**	**69.74**	**322**	P	**P**	**21 48 03.6**	**+0.2**
ABKAR	**Akbulak array**	**69.74**	**322**	P	**P**	**21 48 03.6**	**+0.2**
ABKAR				IAmb	IAmb	21 48 04.4	
	comp=Z,3.0nm,1.4s						
FINES	**FINESS Array B**	**90.01**	**332**	P	**P**	**21 49 48.4**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=131,slow=8.1,SNR=3.4						
	comp=Z,1.3nm,0.9s						

ROM 31 21:58:16.1±0.1, 41°.519N±0°.004×13°.086E±0°.004, h7km, ML1.9/30, 2C-1D, Error ellipse: s-maj=0.4km s-min=0.2km az=204.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LATB	**Latina**	**0.10**	**255**	⇑P	Pg	21 58 18.8	+0.5
LATB				S	Sg	21 58 20.2	+0.4
LATB				AML	AML		
	comp=E,522μm,0.6s						
LATB				AML	AML		
	comp=N,402μm,0.4s						
GIUL	**Giuliano Di Ro**	**0.13**	**73**	⇓P	Pg	21 58 19.7	+0.7
GIUL				S	Sg	21 58 21.7	+0.8
GIUL				AML	AML		
	comp=E,1380μm,0.7s						
GIUL				AML	AML		
	comp=E,1380μm,1.3s						
GIUL				AML	AML		
	comp=N,1755μm,0.5s						
RCAV	**Rocca di Cave**	**0.34**	**342**	P	Pb	21 58 23.9	-0.7
RCAV				S	Sb	21 58 29.8	-0.5
RCAV				AML	AML		
	comp=E,316μm,0.8s						
RCAV				AML	AML		
	comp=N,420μm,1.5s						
RCAV				AML	AML		
	comp=E,316μm,1.2s						
LIK	**San Giovanni I**	**0.35**	**92**	P	Pg	21 58 23.8	+0.8
LIK				S	Sb	21 58 30.1	-0.4
LIK				AML	AML		
	comp=E,600μm,0.3s						
LIK				AML	AML		
	comp=N,708μm,0.4s						
LIK				AML	AML		
	comp=N,708μm,0.4s						
RDP	**Rocca di Papa**	**0.37**	**311**	P	Pb	21 58 24.3	-0.7
RDP				S	Sb	21 58 30.4	-0.5
LRP	**Arpino**	**0.40**	**71**	P	Pg	21 58 24.4	+0.6
LRP				S	Sb	21 58 30.8	-0.9
LRP				AML	AML		
	comp=E,286μm,0.3s						
LRP				AML	AML		
	comp=N,222μm,1.2s						
LRP				AML	AML		
	comp=E,286μm,1.7s						
RMP	**Rome, Mte Porz**	**0.41**	**316**	P	Pb	21 58 25.1	-0.6
RMP				S	Sb	21 58 31.7	-0.4
RMP				AML	AML		
	comp=E,305μm,1.3s						
RMP				AML	AML		
	comp=N,500μm,0.4s						
RMP				AML	AML		
	comp=E,305μm,0.7s						
CERT	**Cerreto**	**0.44**	**350**	P	Pg	21 58 25.3	+0.7
CERT				S	Sb	21 58 32.4	-0.6
CERT				AML	AML		
	comp=E,318μm,1.0s						
CERT				AML	AML		
	comp=N,220μm,0.9s						
CERT				AML	AML		
	comp=E,318μm,1.0s						
CERT				AML	AML		
	comp=N,220μm,1.1s						
POFI	**Posta Fibreno**	**0.51**	**67**	P	Pg	21 58 26.6	+0.6
POFI				S	Sb	21 58 34.6	-0.4
POFI				AML	AML		
	comp=E,190μm,1.2s						
POFI				AML	AML		
	comp=N,132μm,0.2s						
POFI				AML	AML		
	comp=E,190μm,0.8s						
VVLD	**Villa Vallelon**	**0.53**	**49**	⇑P	Pg	21 58 26.9	+0.5
VVLD				S	Sb	21 58 35.1	-0.7
VVLD				AML	AML		
	comp=E,202μm,0.3s						
VVLD				AML	AML		
	comp=N,198μm,0.3s						
MCI	**Monte Cassino**	**0.55**	**93**	P	Pb	21 58 27.5	-0.5
MCI				S	Sb	21 58 35.6	-0.6
MCI				AML	AML		
	comp=E,429μm,0.4s						
MCI				AML	AML		
	comp=N,408μm,0.2s						
MCI				AML	AML		
	comp=E,429μm,1.6s						
PTQR	**Pietraquaria**	**0.56**	**25**	P	Pg	21 58 27.3	+0.5
PTQR				S	Sb	21 58 36.0	-0.3
PTQR				AML	AML		
	comp=E,106μm,1.3s						
PTQR				AML	AML		
	comp=N,126μm,0.2s						
PTQR				AML	AML		
	comp=E,106μm,0.7s						
MTCE	**Montecelio**	**0.56**	**333**	P	Pg	21 58 27.6	+0.6
MTCE				S	Sb	21 58 36.1	-0.5
CERA	**Filignano**	**0.70**	**83**	P	Pb	21 58 30.2	-0.5
VENT	**Ventotene**	**0.77**	**161**	P	Pg	21 58 31.1	+0.2
VENT				S	Sb	21 58 42.6	+0.2
RNI2	**Rionero Sannit**	**0.82**	**77**	P	Pb	21 58 32.4	-0.3
FAGN	**Fagnano**	**0.83**	**26**	P	Pg	21 58 32.0	-0.1
SRES	**S.Oreste - Sor**	**0.84**	**329**	P	Pb	21 58 32.6	-0.3
MIDA	**Miranda**	**0.89**	**82**	P	Pg	21 58 33.0	-0.1

ROM 31 21:59:06.5±0.1, 42°.876N±0°.003×12°.766E±0°.005, h10km, ML0.9/4, 1C-2D, Error ellipse: s-maj=0.4km s-min=0.2km az=73.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.16**	**38**	P	Pg	21 59 10.8	+0.6
CESI				S	Sg	21 59 13.8	+1.1
CESI				AML	AML		
	comp=E,47μm,0.2s						
CESI				AML	AML		
	comp=E,47μm,1.8s						
CESI				AML	AML		
	comp=N,91μm,0.3s						
ASSB	**Assisi San Ben**	**0.18**	**335**	⇑P	Pg	21 59 11.1	+0.6
ASSB				S	Sg	21 59 14.2	+1.0
ASSB				AML	AML		
	comp=E,65μm,0.2s						
ASSB				AML	AML		
	comp=N,48μm,0.2s						
GAVE	**Gavelli**	**0.21**	**153**	⇓P	Pg	21 59 11.6	+0.7
GAVE				S	Sg	21 59 15.2	+1.3
NRCA	**Norcia**	**0.26**	**99**	⇓P	Pg	21 59 12.4	+0.6
NRCA				S	Sb	21 59 16.6	-1.2
ARRO	**Arrone**	**0.30**	**180**	P	Pg	21 59 13.0	+0.6
ARRO				S	Sb	21 59 18.0	-0.8
ATCC	**AVT- Casa Cast**	**0.32**	**343**	P	Pb	21 59 13.7	-0.6

*NEIC **31** 21:59:09.3±1.6, 55°.8S±0°.1×27°.9W±0°.2, h35km±2km, mb4.8/23, Error ellipse: s-maj=21.1km s-min=16.8km az=218.0*
*IDC **31** 21:59:15.9±2.3, 55°.79S×27°.96W, h98km±19km, mb4.2/8, mbtmp4.6/9, MS3.5/23, Error ellipse: s-maj=22.6km s-min=14.0km az=70.0*
ISC 31 21:59:10.2±0.4, 55°.76S±0°.07×27°.96W±0°.09, h50km, n71, σ1°84/59, mb4.8/18, MS3.6/22, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.13**	**283**	Pn	**Pn**	**22 00 24.5**	**+0.2**
VNA1	**Neumayer--Stat**	**17.23**	**158**	⇑P	**P**	**22 03 08.5**	**+0.8**
	comp=Z,24nm,1.0s						
VNA3	**Neumayer Olymp**	**17.41**	**160**	⇑P	**P**	**22 03 11.7**	**+1.8**
	comp=Z,37nm,0.7s						
SNAA	**Sanae**	**19.18**	**156**	P	**Pn**	**22 03 29.6**	**-1.0**
SNAA				IAmb	IAmb	22 03 33.7	
	comp=Z,82nm,1.3s						
SNAA	**Sanae**	**19.18**	**156**	⇑P	**Pn**	**22 03 30.3**	**-0.3**
	comp=Z,809nm,0.5s						
SNAA	**Sanae**	**19.18**	**156**	P	**Pn**	**22 03 30.3**	**-0.3**
	comp=Z,36nm,0.6s,baz=305,slow=10.0,SNR=166						
SNAA				LR	LR	22 09 37.4	
	comp=Z,113nm,19.7s,baz=250,slow=32						
PMSA	**Palmer Station**	**19.77**	**228**	P	**P**	**22 03 30.5**	**-5.1**
	comp=Z,2.7nm,0.5s,baz=356,slow=21,SNR=7.6						
TROLL	**Troll, Antarti**	**20.70**	**154**	⇑P	Pn	22 03 46.7	-2.0
	comp=Z,2μm,0.5s						
SMAI	**San Martin Ant**	**21.71**	**220**	P	**P**	**22 03 57.4**	**+0.9**
BELA	**Belgrano 2**	**22.34**	**184**	P	**P**	**22 04 02.2**	**-1.0**
BELA				IAmb	IAmb	22 04 22.5	
	comp=Z,49nm,1.3s						
TRQA	**Tornquist**	**28.81**	**294**	P	**P**	**22 05 04.5**	**+1.1**
TRQA				IAmb	IAmb	22 05 12.3	
	comp=Z,35nm,1.7s						
PLTB	**Pedras Altas**	**29.98**	**312**	P	**P**	**22 05 14.7**	**+0.9**
PLTB				IAmb	IAmb	22 06 13.4	
	comp=Z,59nm,1.9s						
PLCA	**Paso Flores**	**31.52**	**280**	LR	LR	22 16 15.3	
	comp=Z,95nm,22.0s,baz=132,slow=32						
QSPA	**South Pole Qui**	**34.49**	**180**	P	**P**	**22 05 53.9**	**+0.8**
QSPA	**South Pole Qui**	**34.49**	**180**	P	**P**	**22 05 54.1**	**+1.0**
	comp=Z,9.2nm,0.6s,baz=184,slow=2.4,SNR=94						
QSPA				ScP	**ScP**	**22 12 01.1**	**-6.5**
	comp=Z,0.8nm,0.8s,baz=354,slow=1.1,SNR=1.4						
QSPA				LR	LR	22 18 58.6	
	comp=Z,82nm,21.7s,baz=193,slow=34						
	comp=Z,9.2nm,0.6s						
QSPA	**South Pole Qui**	**34.49**	**180**	P	**P**	**22 05 53.9**	**+0.8**
QSPA				sP	**sP**	**22 06 12.8**	**+1.6**
CPUP	**Villa Florida**	**36.30**	**312**	P	**P**	**22 06 08.9**	**+0.2**
CPUP	**Villa Florida**	**36.30**	**312**	P	**P**	**22 06 09.1**	**+0.4**
	comp=Z,6.9nm,0.6s,baz=151,slow=7.3,SNR=16						
CPUP				LR	LR	22 19 41.4	
	comp=Z,104nm,20.4s,baz=198,slow=34						
	comp=Z,6.9nm,0.6s						
CPUP	**Villa Florida**	**36.30**	**312**	P	**P**	**22 06 09.1**	**+0.4**
CPUP				pP	**pwP**	**22 06 21.9**	**-3.2**
CPUP				sP	**sP**	**22 06 28.0**	**+1.7**
MT09	**Talagante**	**36.81**	**288**	P	**P**	**22 06 14.3**	**+1.1**
AC05	**El Transito**	**40.31**	**294**	P	**P**	**22 06 42.6**	**0.0**
AC05				IAmb	IAmb	22 06 58.7	
	comp=Z,21nm,0.9s						
MAW	**Mawson**	**40.64**	**144**	P	**P**	**22 06 45.4**	**+0.7**
	comp=Z,5.8nm,0.7s,baz=234,slow=8.5,SNR=18						
MAW				LR	LR	22 20 55.4	
	comp=Z,50nm,21.9s,baz=252,slow=32						
	comp=Z,5.8nm,0.7s						
BDFB	**Brasilia**	**42.90**	**331**	LR	LR	22 22 23.2	
	comp=Z,101nm,20.4s,baz=155,slow=32						
GO02	**Mina Guanaco**	**42.98**	**298**		**P**	**22 07 05.1**	**+0.4**
GO02				IAmb	IAmb	22 07 21.7	
	comp=Z,35nm,1.4s						
LVC	**Limon Verde**	**44.78**	**301**	LR	LR	22 27 09.1	
	com

LPAZ La Paz 49.86 306 P **P** **22 07 59.9 +0.9**
comp=Z,2.6nm,0.6s,baz=163,slow=5.2,SNR=10
LPAZ LR LR 22 30 27.8
comp=Z,37nm,18.4s,baz=229,slow=38
comp=Z,2.6nm,0.6s
LPAZ La Paz 49.86 306 P **P** **22 07 59.7 +0.7**
LPAZ pP **pwP** **22 08 13.8 -0.7**
LPAZ sP **sP** **22 08 20.0 +2.5**
SAML Samuel 54.29 315 P **P** **22 08 31.1 -0.1**
CASY Casey 54.32 161 P **P** **22 08 31.2 +0.3**
CASY IAmb IAmb 22 08 32.6
comp=Z,9.9nm,0.9s
CASY Casey 54.32 161 P **P** **22 08 31.4 +0.5**
MAL2 Monte Alegre, 57.62 328 P **P** **22 08 55.2 +0.2**
NNA Nana 57.73 299 LR LR 22 34 06.8
comp=Z,22nm,20.3s,baz=160,slow=36
BOAV Boa Vista 63.79 323 P **P** **22 09 36.3 -0.7**
BOAV IAmb IAmb 22 10 53.1
comp=Z,18nm,1.5s
MDP Montagnes des 63.98 332 LR LR 22 35 25.7
comp=Z,36nm,20.1s,baz=129,slow=34
DBIC Dimbokro 65.09 25 P **P** **22 09 46.2 +0.8**
DBIC Dimbokro 65.09 25 P **P** **22 09 46.2 +0.8**
comp=Z,3.2nm,0.6s,baz=175,slow=5.7,SNR=4.9
DBIC LR LR 22 32 58.0
comp=Z,24nm,19.3s,baz=212,slow=31
comp=Z,3.2nm,0.6s
DBIC Dimbokro 65.09 25 P **P** **22 09 46.4 +1.0**
BBTS Babate 70.81 12 LR LR 22 33 51.2
comp=Z,41nm,19.1s,baz=328,slow=29
ROSC El Rosal 71.36 310 LR LR 22 42 04.8
comp=Z,36nm,20.8s,baz=94,slow=36
PCRV Puerto La Cruz 72.45 322 LR LR 22 42 07.2
comp=Z,33nm,20.8s,slow=36
TOA0 Torodi Ar. Sit 73.02 30 P **P** **22 10 35.7 +1.2**
TOA0 IAmb IAmb 22 10 36.4
comp=Z,6.6nm,0.7s
TORD Torodi Ar. Bea 73.02 30 P **P** **22 10 35.6 +1.1**
TORD Torodi Ar. Bea 73.02 30 P **P** **22 10 35.8 +1.2**
comp=Z,5.8nm,0.6s,baz=174,slow=6.7,SNR=80
TORD LR LR 22 35 38.5
comp=Z,65nm,21.4s,baz=156,slow=30
comp=Z,5.8nm,0.6s
SDV Santo Domingo 73.50 316 LR LR 22 42 06.6
comp=Z,76nm,21.7s,baz=100,slow=35
FURI Furi 84.56 66 LR LR 22 48 02.4
comp=Z,18nm,18.5s,baz=205,slow=35
MDT Midelt 90.46 19 LR LR 22 45 49.1
comp=Z,23nm,18.3s,baz=157,slow=31
STKA Stephens Creek 92.25 171 LR LR 22 50 38.8
comp=Z,67nm,19.7s,baz=203,slow=33
ESDC Sonseca Array 97.24 18 LR LR 22 50 58.0
comp=Z,32nm,19.6s,baz=194,slow=32
ASAR Alice Springs 99.39 163 LR LR 22 55 50.3
comp=Z,54nm,18.7s,baz=158,slow=34
FINES FINESS Array B 124.33 28 PKP **PKPdf** **22 18 01.1 -0.7**
comp=Z,0.7nm,0.7s,baz=251,slow=4.3,SNR=4.6
ARCES ARCESS Array B 130.84 22 PKP **PKPdf** **22 18 13.4 -0.7**
comp=Z,0.7nm,0.7s,baz=226,slow=3.6,SNR=1.3
MKAR Makanchi Array 137.21 72 SKPbc **SKPbc** **22 21 50.1 -5.4**
comp=Z,0.5nm,0.8s,baz=245,slow=2.7,SNR=3.8
KURBB Kurchatov Arra 137.57 65 PKP **PKiKP** **22 18 28.1 -1.1**
comp=Z,0.2nm,0.6s,baz=245,slow=4.0,SNR=2.0
KURBB SKPbc **SKPbc** **22 21 50.6 -5.7**
comp=Z,0.3nm,0.7s,baz=225,slow=3.7,SNR=4.7
ILAR Eielson Array 149.60 312 PKPbc **PKPbc** **22 18 52.0 -0.5**
comp=Z,3.8nm,0.8s,baz=116,slow=1.5,SNR=33
SONM Songino Array 151.14 87 PKPbc **PKPbc** **22 18 55.3 -1.6**
comp=Z,1.9nm,0.5s,baz=230,slow=2.7,SNR=3.9

IDC 31 22:13:06.7±2.0, 6°41S×129°15E, h0km, mb4.1/1, mbtmp3.8/3, ML3.4/2, Error ellipse: s-maj=121.1km s-min=32.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.37**	**160**	Pn	Pn	22 16 31.0	-0.5
	0.1nm,0.3s,baz=339,slow=13,SNR=3.0						
WRA				Sn	Sn	22 18 58.4	-13
	0.4nm,0.3s,baz=346,slow=24,SNR=6.4						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**17.76**	**166**	Pn	Pn	22 17 15.8	+0.3
	0.5nm,0.3s,baz=345,slow=9.7,SNR=34						
ASAR				Sn	Sn	22 20 20.4	-14
	baz=352,slow=19,SNR=1.2						
	2.4nm,0.5s						
MKAR	**Makanchi Array**	**67.27**	**327**	P	P	22 24 03.2	0.0
	0.9nm,0.5s,baz=117,slow=8.3,SNR=13						
	0.9nm,0.5s						

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*NIED **31** 22:21:34.0, 24°72N×125°40E, h47km, MW3.7, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}0.89; $M_{\theta\theta}$-0.35; $M_{\phi\phi}$-0.54; $M_{r\theta}$3.31; $M_{\theta\phi}$-0.79; $M_{\phi r}$2.34; Fault plane solution: $M_0$4.20000×10^{14} NP1:ϕ_s55.00000°, δ83.00000°, λ95.00000°. NP2:ϕ_s200.00000°, δ9.00000°, λ56.00000°.*
*JMA **31** 22:21:34.0±0.1, 24°7N±0°7×125°4E±0°6, h47km, MV3.6/11, NEAR MIYAKOJIMA ISLAND*
JMA Felt II J1 at NEAR MIYAKOJIMA ISLAND .
*IDC **31** 22:21:42.8±5.2, 25°76N×125°49E, h80km±53km, mb3.4/10, mbtmp3.7/11, ML2.8/1, MS2.8/3, Error ellipse: s-maj=44.7km s-min=23.0km az=65.0*

ISC 31 22:21:33.6±1.2, 24°7N±0°1×125°50E±0°07, h45km±6km, n30, σ1§12/36, mb3.7/10, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.10**	**296**	P	**Pn**	**22 21 41.2**	**+0.4**
JOGS				S	**Sn**	**22 21 46.4**	**+0.6**
JMJ2	**Miyako jima3**	**0.16**	**279**	*i* P	**Pn**	**22 21 41.3**	**+0.2**
JMJ2				S	**Sn**	**22 21 46.4**	**+0.1**
JMJ	**Miyako jima 2**	**0.21**	**297**	P	**Pn**	**22 21 41.0**	**-0.5**
JIKM	**Ikemajima**	**0.31**	**312**	*i* P	**Pn**	**22 21 42.3**	**0.0**
JIKM				*e*S	**Sn**	**22 21 48.4**	**-0.1**
JIRB	**Irabujima**	**0.32**	**290**	*i* P	**Pn**	**22 21 42.2**	**-0.3**
JIRB				*e*S	**Sn**	**22 21 47.9**	**-0.7**
JTJ	**Tarama**	**0.73**	**264**	P	**Pn**	**22 21 46.5**	**-1.1**
JTJ				S	**Sn**	**22 21 56.9**	**-0.7**
JISG	**Ishigakijimahi**	**1.09**	**263**	P	**Pn**	**22 21 52.1**	**-0.4**
JISG				S	**Sn**	**22 22 06.2**	**-0.3**
JIJ	**Ishigaki jima**	**1.29**	**254**	P	**Pn**	**22 21 55.3**	**+0.2**
JIJ				S	**Sn**	**22 22 11.4**	**+0.2**
JKRS	**Kuro-shima**	**1.44**	**251**	P	**Pn**	**22 21 56.9**	**-0.4**
JKRS				S	**Sn**	**22 22 17.5**	**+2.5**
IRIF	**Iriomote-Funau**	**1.66**	**257**	P	**Pn**	**22 22 00.4**	**+0.1**
HATJ	**Hateruma jima**	**1.68**	**247**	P	**Pn**	**22 22 01.4**	**+0.8**
YOJ	**Yonaguni jima**	**2.28**	**264**	P	**Pn**	**22 22 08.9**	**+0.1**
JOW	**Kunigami**	**3.27**	**49**	P	**Pn**	**22 22 24.2**	**+1.8**
	3.0nm,0.3s,baz=136,slow=30,SNR=6.8						
JOW				S	**Sn**	**22 22 57.0**	**-3.1**
	11nm,0.3s,baz=120,slow=24,SNR=1.6						
	8.4nm,0.4s						
YHNB	**Yeheng**	**3.75**	**270**	P	**Pn**	**22 22 31.4**	**+2.3**
YULB	**Yu-li**	**4.06**	**252**	P	**Pn**	**22 22 31.5**	**-1.8**
SSLB	**Suanglung**	**4.25**	**258**	P	**Pn**	**22 22 36.1**	**+0.2**
TWGBT	**Beinan**	**4.47**	**246**	P	**Pn**	**22 22 37.0**	**-1.9**
TPUB	**Ta-pu**	**4.67**	**253**	P	**Pn**	**22 22 42.2**	**+0.5**
KSRS	**Korea Array**	**12.87**	**9**	LR	LR	22 29 34.7	
	comp=Z,17nm,19.9s,baz=240,slow=40						
MJAR	**Matsushiro Arr**	**16.06**	**40**	LR	LR	22 31 45.1	
	comp=Z,17nm,20.8s,baz=202,slow=39						
MKAR	**Makanchi Array**	**40.75**	**314**	P	**P**	**22 29 10.1**	**-0.2**
	0.5nm,0.5s,baz=104,slow=11,SNR=9.5						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**42.01**	**325**	P	**P**	**22 29 19.0**	**-1.5**
	0.5nm,0.5s,baz=133,slow=8.1,SNR=2.7						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**44.29**	**318**	P	**P**	**22 29 38.4**	**-0.5**
	0.2nm,0.4s,baz=109,slow=11,SNR=1.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**45.22**	**168**	P	P	22 30 00.1	+14
	1.6nm,0.9s,baz=351,slow=8.7,SNR=6.7						
	1.6nm,0.9s						
KBZ	**Khabaz**	**68.20**	**309**	P	**P**	**22 32 30.8**	**+1.2**
	1.4nm,0.7s,baz=80,slow=6.1,SNR=3.8						
	1.4nm,0.7s						
FINES	**FINESS Array B**	**72.95**	**330**	P	**P**	**22 32 58.5**	**+0.4**
	0.6nm,0.5s,baz=64,slow=4.4,SNR=7.1						
FINES				LR	LR	23 06 46.2	
	comp=Z,29nm,18.7s,baz=227,slow=38						
	0.6nm,0.5s						
AKASG	**Malin Array Be**	**75.07**	**319**	P	**P**	**22 33 10.6**	**-0.1**
	0.6nm,0.4s,baz=60,slow=7.7,SNR=2.3						
	0.6nm,0.4s						
BRTR	**Keskin Array B**	**76.00**	**307**	P	**P**	**22 33 16.7**	**+0.2**
	0.8nm,0.9s,baz=57,slow=4.6,SNR=4.3						
	0.8nm,0.9s						
HFS	**Hagfors**	**78.99**	**332**	P	**P**	**22 33 32.8**	**+0.2**
	0.7nm,0.5s,baz=73,slow=6.3,SNR=2.2						
	0.7nm,0.5s						
NOA	**NORSAR Array B**	**79.56**	**333**	P	**P**	**22 33 35.7**	**-0.1**
	0.1nm,0.4s,baz=80,slow=4.6,SNR=2.2						
	0.1nm,0.4s						

IDC 31 22:39:57.0±2.2, 10°17S×154°45E, h0km, mb3.8/5, mbtmp3.8/5, MS3.3/1, Error ellipse: s-maj=54.2km s-min=40.2km az=110.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.51**	**137**	LR	LR	22 49 14.6	
	comp=Z,98nm,19.9s,baz=300,slow=34						
WRA	**Warramunga Arr**	**21.69**	**241**	P	P	22 44 50.5	+0.9
	5.1nm,0.9s,baz=65,slow=10,SNR=21						
	5.1nm,0.9s						
ASAR	**Alice Springs**	**23.75**	**233**	P	P	22 45 10.8	-0.5
	1.0nm,0.8s,baz=62,slow=11,SNR=5.9						
	1.0nm,0.8s						
STKA	**Stephens Creek**	**24.66**	**207**	P	P	22 45 18.5	-1.1
	3.7nm,0.9s,baz=47,slow=11,SNR=4.3						
	3.7nm,0.9s						
QSPA	**South Pole Qui**	**79.83**	**180**	P	P	22 52 08.3	+1.1
	1.1nm,0.9s,baz=323,slow=5.1,SNR=2.7						
	1.1nm,0.9s						
MKAR	**Makanchi Array**	**85.42**	**319**	P	P	22 52 36.2	-0.3
	0.7nm,0.9s,baz=94,slow=4.3,SNR=3.6						
	0.7nm,0.9s						

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*NEIC **31** 22:50:46.9±1.5, 35°05N±0°02×97°58W±0°01, h5km±2km, Error ellipse: s-maj=3.0km s-min=3.0km az=150.0*

TUL 31 22:50:47.4±1.3, 35°05N±0°02×97°59W±0°02, h5km±6km, ML2.2, mb_Lg2.4/57(NEIC), ML2.4/37(NEIC), Error ellipse: s-maj=2.9km s-min=2.1km az=110.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.26**	**38**		Pg	22 50 53.2	+0.8
FNO				Sg	Sg	22 50 55.8	-0.1
FNO				IAML		22 51 00.6	
	comp=E,693nm,0.5s						
X34A	**Smith Ranch, M**	**0.49**	**204**	Pg	Pg	22 50 57.6	+0.7
OK029	**Liberty Lake**	**0.75**	**9**		Pg	22 51 01.9	0.0
WMOK	**Wichita Mounta**	**1.02**	**253**		Pg	22 51 05.9	-1.2
CSTR	**Hydro, Custer**	**1.07**	**304**		Pb	22 51 08.2	-0.2
OK031	**S. Brethren Rd**	**1.09**	**34**	Pg	Pg	22 51 07.5	-0.8
LOOK	**Love County**	**1.11**	**162**	Pg	Pg	22 51 08.4	-0.3
LOOK				IAML		22 51 29.4	
	comp=N,106nm,0.2s						
LOOK				IAML		22 51 29.9	
	comp=E,119nm,0.2s						
OK052	**Battle Ridge R**	**1.14**	**34**		Pg	22 51 08.4	-0.9
DEOK	**Depew**	**1.19**	**48**	Pg	Pg	22 51 09.3	-0.9
DEOK				IAML		22 51 34.0	
	comp=N,98nm,0.3s						
QUOK	**Quay**	**1.33**	**33**		Pn	22 51 11.4	-1.2
OK048	**Pawnee Station**	**1.46**	**21**		Pn	22 51 13.9	-0.5
WTFS	**Witchita Falls**	**1.47**	**210**		Pn	22 51 13.7	-0.9
CROK	**Carrier**	**1.48**	**348**		Pn	22 51 14.5	-0.3
OK038	**West end E0370**	**1.70**	**327**	Pg	Pn	22 51 17.2	-0.6
TUL3	**Leonard**	**1.70**	**59**		Pn	22 51 17.2	-0.5
BLOK	**Blackwell**	**1.73**	**10**		Pn	22 51 18.0	-0.2
Z35A	**Perchaven, San**	**1.74**	**171**	Pn	Pn	22 51 18.0	-0.3
Z35A				IAmb_Lg		22 51 41.5	
	comp=Z,16nm,0.9s						
U32A	**Winter Ranch,**	**1.75**	**320**	Pn	Pn	22 51 18.6	+0.2
ELIS	**Ellis County**	**1.80**	**305**	Pn	Pn	22 51 19.7	+0.6
GC02	**Grant County #**	**1.81**	**353**		Pn	22 51 19.3	+0.1
OK032	**Salt Plains WL**	**1.82**	**344**		Pn	22 51 19.4	0.0
X37A	**Clayton**	**1.89**	**104**		Pn	22 51 20.5	+0.2
KAN14	**Manchester OK**	**1.92**	**351**		Pn	22 51 21.7	+0.8
KAN13	**South Haven SW**	**1.96**	**3**		Pn	22 51 21.5	+0.2
KAN13				IAmb_Lg		22 51 50.1	
	comp=Z,18nm,0.8s						
KAN17	**Caldwell West**	**1.99**	**356**		Pn	22 51 22.6	+0.8
FW03	**Perrin-Whitt E**	**2.04**	**191**	Pn	Pn	22 51 23.0	+0.5
T35A	**Sooner Cattle**	**2.06**	**25**	Pn	Pn	22 51 22.7	0.0
FW06	**Azle**	**2.08**	**179**	IAmb_Lg		22 51 54.6	
	comp=Z,13nm,0.7s						
KAN09	**Caldwell North**	**2.08**	**359**		Pn	22 51 23.8	+0.8
PLPT	**Palo Pinto**	**2.31**	**195**		Pn	22 51 26.2	0.0
RLO	**Rose Lookout**	**2.37**	**61**	Pn	Pn	22 51 27.0	0.0
RLO				IAmb_Lg		22 52 07.7	
	comp=Z,19nm,0.8s						
Z38A	**Mt. Pleasant**	**2.81**	**129**	IAmb_Lg		22 52 18.0	
	comp=Z,13nm,0.8s						
U38A	**Gravette**	**2.95**	**61**	Pn	Pn	22 51 35.0	0.0
DKNS	**Dickens**	**3.08**	**244**	IAmb_Lg		22 52 32.8	
	comp=Z,18nm,0.7s						
HHAR	**Hobbs**	**3.22**	**67**	IAmb_Lg		22 52 37.6	
	comp=Z,13nm,0.7s						
MIAR	**Mount Ida**	**3.34**	**98**		Pn	22 51 41.2	+0.9
MIAR				IAmb_Lg		22 52 36.5	
	comp=Z,7.6nm,0.9s						
SN07	**Snyder 07**	**3.37**	**235**	IAmb_Lg		22 52 42.9	
	comp=Z,11nm,0.8s						
R32A	**Long Quarter,**	**3.48**	**345**	IAmb_Lg		22 52 42.4	
	comp=Z,9.8nm,0.8s						
SN05	**Snyder 5**	**3.49**	**233**	IAmb_Lg		22 52 45.6	
	comp=Z,8.1nm,0.8s						
KSU1	**Kansas State U**	**4.12**	**11**	IAmb_Lg		22 53 09.3	
	comp=Z,9.1nm,0.8s						
CBKS	**Cedar Bluff**	**4.13**	**336**	IAmb_Lg		22 53 00.3	
	comp=Z,7.6nm,0.8s						
435B	**Jarrell**	**4.26**	**180**	IAmb_Lg		22 53 07.7	
	comp=Z,12nm,0.8s						
UALR	**University of**	**4.32**	**92**	IAmb_Lg		22 53 09.1	
	comp=Z,7.9nm,0.7s						
S39A	**Bolivar**	**4.34**	**51**	IAmb_Lg		22 53 07.3	
	comp=Z,7.0nm,0.8s						
WHAR	**Wooly Hollow**	**4.35**	**85**	IAmb_Lg		22 53 08.0	
	comp=Z,6.6nm,0.8s						
MSTX	**Muleshoe**	**4.41**	**257**	IAmb_Lg		22 53 08.7	
	comp=Z,5.6nm,0.8s						
OZNA	**Ozona**	**5.08**	**217**	IAmb_Lg		22 53 37.5	
	comp=Z,6.1nm,0.9s						
LCAR	**Lake Charles**	**5.35**	**77**	IAmb_Lg		22 53 49.0	
	comp=Z,6.1nm,1.2s						
R40A	**Maddies Statio**	**5.36**	**51**	IAmb_Lg		22 53 38.5	
	comp=Z,5.5nm,0.8s						
T42A	**Van Buren**	**5.62**	**68**	IAmb_Lg		22 53 50.8	
	comp=Z,6.6nm,0.9s						
HNDO	**Hondo**	**5.69**	**195**	IAmb_Lg		22 53 47.9	
	comp=Z,5.6nm,1.0s						
T25A	**Trinidad**	**5.90**	**293**	IAmb_Lg		22 54 04.8	
	comp=Z,4.4nm,0.8s						
SAND	**Sanderson**	**6.36**	**218**	IAmb_Lg		22 54 24.7	
	comp=Z,3.8nm,0.9s						
CGM3	**Cape Girardeau**	**6.80**	**68**	IAmb_Lg		22 54 22.8	
	comp=Z,6.7nm,0.8s						
VHRN	**Van Horn**	**7.53**	**238**	IAmb_Lg		22 54 55.2	
	comp=Z,4.9nm,1.2s						
N23A	**Red Feather La**	**8.80**	**314**	IAmb_Lg		22 55 34.3	
	comp=Z,4.6nm,1.1s						

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*CNRM **31** 23:36:15.9, 40°29N×16°85W, h650km*
*MDD **31** 23:37:46.3±0.8, 38°26N×9°32W, h0km, mb_Lg1.9/2, Error ellipse: s-maj=6.4km s-min=3.5km az=81.0*
*SFS **31** 23:37:46.7, 38°24N×9°38W, h0km, ML1.7/8, ML2.2/6, MLv1.5/8*

INMG 31 23:37:46.2±1.5, 38°22N×9°47W, h7km±4km, ML1.5, Error ellipse: s-maj=5.7km s-min=2.2km az=80.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNCL	**Nicolau / Gran**	**0.75**	**98**	*e*P	Pg	23 37 59.0	-1.5
PNCL				*e*S	Sg	23 38 10.4	+0.2
PNCL				A	A	23 38 13.3	
	7.9nm,0.5s						
PNCL	**Nicolau / Gran**	**0.75**	**98**	Pg	Pg	23 37 59.0	-1.6
PMAFR	**Mafra**	**0.75**	**11**	*e*P	Pg	23 38 00.1	-0.5
PMAFR				*e*S	Sg	23 38 10.7	+0.3
PMAFR				A	A	23 38 12.0	
	20nm,0.4s						
PTEO	**Sao Teotonio**	**0.89**	**139**	*e*P	Pg	23 38 02.1	-1.2
PTEO				*e*S	Sg	23 38 14.8	-0.1
PTEO				A	A	23 38 15.7	
	10nm,1.0s						
MESJ	**Messejana**	**1.05**	**111**	*e*P	Pg	23 38 04.7	-1.7
MESJ				*e*S	Sg	23 38 19.4	-0.7
MESJ				A	A	23 38 22.0	
	3.4nm,0.3s						
MORF	**Marmelete**	**1.12**	**145**	*e*P	Pg	23 38 06.7	-0.9
MORF				*e*S	Sg	23 38 21.6	-0.5
MORF				A	A	23 38 23.1	
	11nm,0.2s						
EVO	**Evora**	**1.18**	**74**	*e*P	Pg	23 38 07.8	-1.1
EVO				*e*S	Sg	23 38 24.0	-0.3
EVO				A	A	23 38 25.6	
	4.5nm,0.1s						
EVO	**Evora**	**1.18**	**74**	Sg	Sg	23 38 21.6	-2.6
EVO				Pg	Pg	23 38 07.7	-1.2
PFVI	**Vila Bisbo**	**1.20**	**155**	*e*P	Pg	23 38 08.3	-0.9
PFVI				*e*S	Sg	23 38 24.0	-0.7
PFVI				A	A	23 38 28.6	
	11nm,0.5s						
PFVI	**Vila Bisbo**	**1.20**	**155**	Pg	Pg	23 38 07.9	-1.2
PFVI	**Vila Bisbo**	**1.20**	**155**	P	Pg	23 38 08.3	-0.9
PCVE	**Castro Verde**	**1.27**	**117**	*e*P	Pn	23 38 08.7	-1.7
PCVE				*e*S	Sb	23 38 25.6	-1.4
PCVE				A	A	23 38 27.8	
	4.0nm,0.6s						
PCVE	**Castro Verde**	**1.27**	**117**	Pg	Pn	23 38 08.6	-1.7
PCVE				Sg	Sb	23 38 25.2	-1.8
PBEJ	**Beja**	**1.27**	**98**	*e*S	Sb	23 38 25.6	-1.5
PBEJ				A	A	23 38 31.1	
	2.2nm,0.2s						
PMTG	**Montargil**	**1.29**	**48**	*e*P	Pn	23 38 08.9	-1.7
PMTG				*e*S	Sb	23 38 26.0	-1.6
PMTG				A	A	23 38 26.7	
	4.5nm,0.4s						
PSBE	**So Bento**	**1.40**	**22**	*e*P	Pn	23 38 11.9	-0.2
PSBE				*e*S	Sb	23 38 30.5	-0.1
PBDV	**Barranco-do-Ve**	**1.56**	**128**	*e*Pg	Pn	23 38 14.2	-0.2
PBDV				*e*Sg	Sg	23 38 36.1	-0.2
PBDV				A	A	23 38 38.8	
	5.1nm,0.7s						
PBDV	**Barranco-do-Ve**	**1.56**	**128**	Pn	Pn	23 38 13.6	-0.8
PESTR	**Estremoz**	**1.61**	**66**	*e*Pg	Pn	23 38 15.1	+0.1
PESTR				*e*Sg	Sn	23 38 35.5	-0.5
PESTR				A	A	23 38 37.2	
	3.6nm,0.7s						
PESTR	**Estremoz**	**1.61**	**66**	P	Pn	23 38 10.4	-4.7
PVAQ	**Vaqueiros**	**1.61**	**120**	*e*Pg	Pn	23 38 14.3	-0.7
PVAQ				*e*Sg	Sg	23 38 37.4	-0.4
PVAQ				A	A	23 38 39.3	
	3.3nm,0.7s						
PVAQ	**Vaqueiros**	**1.61**	**120**	Pn	Pn	23 38 14.3	-0.7
PVAQ				Sn	Sn	23 38 35.9	0.0
PVAQ	**Vaqueiros**	**1.61**	**120**	P	Pn	23 38 13.4	-1.6
EGRO	**El Granado**	**1.71**	**113**	Pn	Pn	23 38 15.4	-1.0
EGRO	**El Granado**	**1.71**	**113**	Pg	Pn	23 38 15.6	-0.8
EGRO				Sg	Sn	23 38 37.8	-0.7
EGRO				*i* Vmb_Lg		23 38 43.8	
PBAR	**Barrancos**	**1.91**	**91**	*e*Pn	Pn	23 38 18.2	-1.0
PBAR	**Barrancos**	**1.91**	**91**	*e*Pg	Pb	23 38 20.9	-0.5
PBAR				*e*Sg	Sg	23 38 47.1	-0.5
PBAR				A	A	23 38 52.5	
	1.8nm,0.4s						
PBAR	**Barrancos**	**1.91**	**91**	Pn	Pn	23 38 17.7	-1.5
PCAS	**Casmilo, Conde**	**1.98**	**22**	*e*Sg	Sg	23 38 49.1	-0.7
EBAD	**Badajoz**	**2.00**	**74**	Pg	Pn	23 38 19.6	-0.8
EBAD				Sg	Sn	23 38 44.7	-0.9
EBAD				*i* Vmb_Lg		23 38 49.2	
PMRV	**Marv??o**	**2.02**	**53**	*e*Pn	Pn	23 38 18.4	-2.3
PMRV				*e*Sg	Sb	23 38 49.1	+0.5

ISC 31 23:39:32.6±1.1, 27°20N±0°06×112°08W±0°08, h10km, n4, σ0§63/8, 2C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.19**	**310**	*e*P	**Pg**	**23 39 36.5**	**-0.1**
SRIG				*e*S	**Sg**	**23 39 39.5**	**+0.2**
SRIG				⇑*e*		23 39 39.8	
SRIG				IAML		23 39 39.8	
	comp=N,2μm,0.2s						
SRIG				IAML		23 39 43.0	
	comp=E,2μm,0.3s						
SRIG				⇓*e*		23 39 43.0	
SNIRB	**San Nicol¡s**	**0.81**	**144**	*e*P	**Pn**	**23 39 49.7**	**-0.3**
SNIRB				*e*S	**Sn**	**23 40 02.9**	**+0.7**
SNIRB				IAML		23 40 03.0	
	comp=E,323nm,0.2s						
SNIRB				*e*		23 40 03.0	
SNIRB				IAML		23 40 03.8	
	comp=N,153nm,0.1s						
SNIRB				⇑*e*		23 40 03.8	
GUYB	**Guaymas**	**1.28**	**57**	*e*P	**Pn**	**23 39 56.2**	**-0.3**
GUYB				*e*S	**Sn**	**23 40 14.4**	**+0.7**
UAGRB	**Rancho Ultima**	**1.79**	**155**	*e*P	**Pn**	**23 40 03.9**	**+0.3**
UAGRB				*e*S	**Sb**	**23 40 27.3**	**-0.8**

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*IDC **31** 23:48:27.4±0.9, 9°70S×123°22E, h0km, mb4.0/6, mbtmp4.0/8, ML4.0/2, MS2.8/3, Error ellipse: s-maj=63.0km s-min=19.3km az=72.0*
*DJA **31** 23:48:37.8±0.5, 10°5S±4°×12°3E±°, h50km±12km, M4.4/8, mb4.8/2, mB5.2/1, MLv4.2/8, Mw(mB)4.5/1*

ISC 31 23:48:35.9±0.8, 9°97S±0°09×123°04E±0°07, h50km, n17, σ2§55/16, mb4.0/6, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.66**	**111**	P	**Pn**	**23 48 50.9**	**+1.7**
BATI				S	**Sn**	**23 49 03.3**	**+4.5**
SOEI	**Soe**	**1.23**	**80**	P	**Pn**	**23 48 58.2**	**+1.4**
SOEI				S	**Sn**	**23 49 13.7**	**+1.3**
MMRI	**Maumere**	**1.54**	**329**	P	**Pn**	**23 49 01.6**	**+0.6**
MMRI				S	**Sn**	**23 49 21.7**	**+1.8**
BSSI	**Bau Bau, Buton**	**4.56**	**326**	P	**Pn**	**23 49 44.8**	**+2.4**
PLAI	**Plampang**	**5.31**	**282**	P	**Pn**	**23 49 55.0**	**+2.3**
	100nm,0.4s,2μm						
KAPI	**Kappang**	**5.90**	**326**	Pn	**Pn**	**23 50 03.8**	**+3.0**
	2.6nm,0.3s,baz=150,slow=11,SNR=11						
BNSI	**
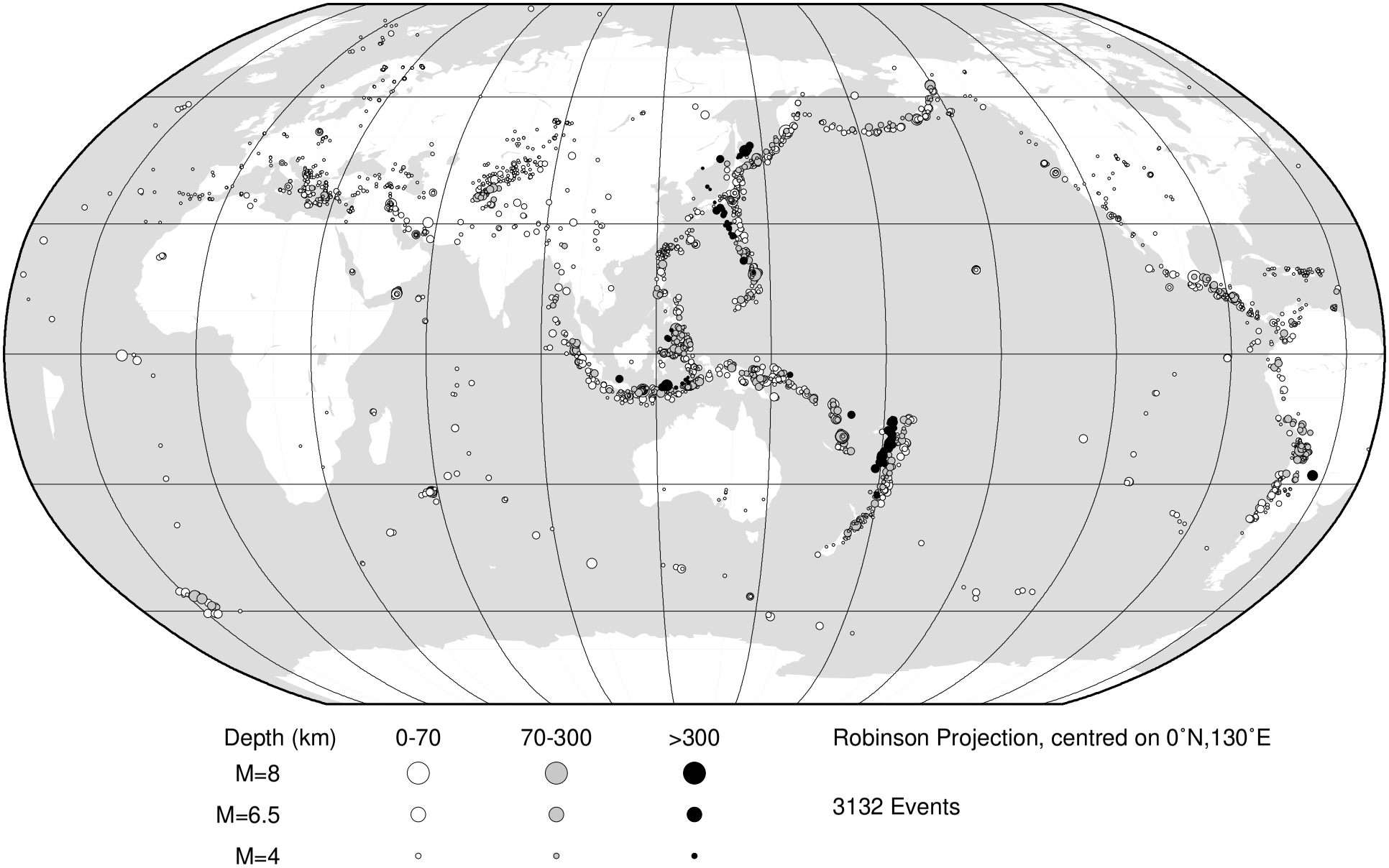
ISC Computed Locations for July 2018